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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:06:57.3±1.8**, 17°.74S×167°.34E, h0km, mb3.9**/4**, mb1 4.1**/5**, mb1mx3.7**/46**, mbtmp3.9**/5**, ML3.5**/1**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.6**/40**, Error ellipse: s-maj=54.6km s-min=30.1km az=128.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.39	191	Pn	Pn	00 08 04.0	-1.5
	2.8nm,0.3s,baz=62,slow=15,SNR=16						
DZM				Sn	Sn	00 08 49.9	-7.5
	4.6nm,0.3s,baz=145,slow=21,SNR=6.8						
STKA	Stephens Creek	27.19	234	P	P	00 12 44.5	+1.7
	3.5nm,0.9s,baz=95,slow=12,SNR=3.5						
WRA	Warramunga Arr	31.28	261	P	P	00 13 18.5	-0.8
	1.0nm,1.1s,baz=90,slow=8.2,SNR=5.1						
ASAR	Alice Springs	31.78	254	P	P	00 13 23.4	-0.3
	0.5nm,0.4s,baz=78,slow=8.4,SNR=5.4						
FITZ	Fitzroy Crossi	39.62	263	LR	LR	00 31 09.5	
	comp=Z,53nm,18.7s,baz=90,slow=37						
ILAR	Eielson Array	89.35	18	P	P	00 19 55.3	0.0
	0.7nm,0.7s,baz=240,slow=4.9,SNR=10						

---

*BJI **01** 00:15:57.3, 37°.45N×144°.33E, h9km, mb4.5/54, mB4.8/37, Ms4.3/46, Ms7 4.0/44*

*IDC **01** 00:15:57.0±0.5, 37°.17N×144°.23E, h0km, mb4.4/30, mb1 4.6/36, mb1mx4.5/70, mbtmp4.5/36, ML4.6/5, MS3.7/16, Ms1 3.7/16, ms1mx3.4/61, Error ellipse: s-maj=14.2km s-min=12.0km az=117.0*

*ISCJB **01** 00:15:58.5±0.2, 37°.36N±0°.03×144°.06E±0°.02, h10km, mb4.7/107, MS4.0/28, Error ellipse: s-maj=4.0km s-min=2.5km az=171.6*

*JMA **01** 00:16:00.8±0.3, 37°.29N×143°.98E, h48km, M4.6*

*NIED **01** 00:16:00, 37°.20N×144°.00E, h8km, Mw4.5 Best double couple: M0 6.71000×10^15 NP1:φs 46.00000°, δ41.00000°, λ-39.00000°. NP2:φs 167.00000°, δ66.00000°, λ-124.00000°.*

*NEIC **01** 00:16:01.1±1.6, 37°.21N×144°.15E, h22km±11km, mb5.0/27, Error ellipse: s-maj=6.0km s-min=4.2km az=141.0*

NEIC Felt at Sendai.

*MOS **01** 00:16:02.1±1.0, 37°.67N×144°.05E, h24km, mb4.9/54, Error ellipse: s-maj=7.4km s-min=3.8km az=105.7*

ISC 01 00:15:58.6±1.4**, 37°.32N**±0°.05×**144°.24E**±0°.04**, h6**km±8km**, n401, σ1.70**/439**, mb4.7**/121**, MS4.0**/28**, 54C-8D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.55	297	P	Pn	00 16 38.9	-1.6
JIO				eS	Sn	00 17 06.5	-5.4
JFK	Kawauchi	2.68	272	P	Pn	00 16 39.9	-2.4
OFUJ	Ofunato	2.68	312	P	Pn	00 16 40.8	-1.5
OFUJ				eS	Sn	00 17 10.1	-5.0
ONAJ	Iwakimizuishiy	2.76	267	P	Pn	00 16 40.6	-2.7
ONAJ				S	Sn	00 17 10.5	-6.5
JMM	Marumori	2.79	282	P	Pn	00 16 41.5	-2.3
JMM				eS	Sn	00 17 11.7	-6.1
JMK	Ichinoseki	2.89	305	P	Pn	00 16 43.7	-1.4
MIYJ	Miyakonagasawa	2.95	321	P	Pn	00 16 44.2	-1.8
MIYJ				eS	Sn	00 17 16.2	-5.5
JOU	Okura	3.02	291	P	Pn	00 16 45.6	-1.3
JHO	Hitachi	3.02	258	P	Pn	00 16 44.0	-3.0
JFT	Otama	3.11	275	P	Pn	00 16 46.9	-1.3
JOM	Ohasama	3.16	314	P	Pn	00 16 47.8	-1.1
JOM				eS	Sn	00 17 22.5	-4.4
CHOJ	Chosi	3.17	240	P	Pn	00 16 46.4	-2.5
CHOJ				eS	Sn	00 17 21.2	-5.8
JTH	Tanohata	3.21	325	P	Pn	00 16 48.3	-1.2
JYT	Yasato	3.42	253	P	Pn	00 16 49.5	-3.0
JYS	Shirataka	3.43	287	P	Pn	00 16 52.0	-0.6
JYS				eS	Sn	00 17 30.1	-3.4
JYK	Kaneyama	3.45	299	P	Pn	00 16 51.8	-1.1
JSB	Shiboa	3.47	266	P	Pn	00 16 51.8	-1.3
JKZ	Kuzumaki	3.50	320	P	Pn	00 16 52.7	-0.9
JKZ				eS	Sn	00 17 31.6	-3.8
JRG	Rokugo	3.51	307	P	Pn	00 16 52.9	-0.8
JRG				eS	Sn	00 17 34.0	-1.6
JFY	Yanaizu	3.61	273	P	Pn	00 16 53.9	-1.2
JFY				eS	Sn	00 17 35.3	-2.8
ERM	Erimo	4.76	350	ePn	Pn	00 17 09.9	-1.0
ERM				eS	Sn	00 17 56.4	-10
ERM	Erimo	4.76	350	ceP	Pn	00 17 10.1	-0.8
ERM				pmax	pmax		
	comp=Z,141nm,0.7s						
MJAR	Matsushiro Arr	4.89	263	Pn	Pn	00 17 11.7	-1.0
	comp=Z,91nm,0.3s,baz=88,slow=14,SNR=610						
MJAR				Sn	Sn	00 18 05.2	-4.5
	comp=Z,19nm,0.3s,baz=96,slow=26,SNR=7.1						
MJAR				LR	LR	00 19 51.5	
	comp=Z,637nm,19.7s,baz=85,slow=48						
MAJO	Matsushiro	4.89	263	ePn	Pn	00 17 12.2	-0.5
MAJO				eS	Sn	00 18 07.2	-2.5
MAJO	Matsushiro	4.89	263	c iP	Pn	00 17 12.0	-0.7
MAT	Matsushiro	4.89	263	P	Pn	00 17 12.1	-0.6
MAT				S	Sn	00 18 05.9	-3.8
MJB9	Matsu-Tunnel	4.90	263	ePn	Pn	00 17 12.2	-0.5
JHJ2	Mitsune	5.54	222	ePn	Pn	00 17 21.0	-0.6
JHJ2				eS	Sn	00 18 16.5	-9.1
JHJ	Hachijo jima 2	5.55	222	Pn	Pn	00 17 19.4	-2.4
	comp=Z,63nm,0.3s,baz=349,slow=22,SNR=7.3						
JHJ				Sn	Sn	00 18 15.2	-11
	comp=Z,192nm,0.3s,baz=240,slow=23,SNR=7.8						
JHJ				LR	LR	00 20 09.1	
	comp=Z,283nm,18.3s,baz=105,slow=46						
INU	Inuyama	6.15	254	ePn	Pn	00 17 29.7	-0.3
GLVR	Golovnino	6.49	8	eP	Pn	00 17 32.6	-1.9
GLVR				eS	Sn	00 18 42.6	-6.2
GRPR	Tuman	6.77	9	eP	Pn	00 17 36.4	-2.0
GRPR				eS	Sn	00 18 48.7	-7.1
YUK	Yuzh-Kuril'sk	6.82	10	d iP	Pn	00 17 36.9	-2.2
YUK				i S	Sn	00 18 49.8	-7.3
YUK				pmax	pmax		
	comp=Z,655nm,0.4s						
YUK				pmax	pmax		
	comp=N,289nm,0.3s						
YUK				pmax	pmax		
	comp=E,284nm,0.2s						
YUK				MLR	MLR		
	comp=Z,740nm,9.0s						
LAGR	Lagunnoye	6.83	9	eP	Pn	00 17 37.5	-1.8
LAGR				eS	Sn	00 18 50.0	-7.3
SHO	Shikotan	6.83	16	d iP	Pn	00 17 35.7	-3.6
SHO				i S	Sn	00 18 48.4	-9.0
SHO				pmax	pmax		
	comp=Z,536nm,0.5s						
SHO				pmax	pmax		
	comp=N,509nm,0.4s						
SHO				pmax	pmax		
	comp=E,289nm,0.3s						
ASAJ	Asahikawa	6.91	350	Pn	Pn	00 17 40.0	-0.3
	comp=E,32nm,0.3s,baz=194,slow=10,SNR=65						
ASAJ				Sn	Sn	00 18 55.1	-4.0
	comp=E,8.5nm,0.3s,baz=132,slow=23,SNR=5.7						
ASAJ	Asahikawa	6.91	350	ePn	Pn	00 17 39.7	-0.6
ASAJ				eS	Sn	00 18 55.9	-3.2
KUR	Kuril'sk	8.37	18	i P	Pn	00 17 58.5	-1.8
KUR				i S	Sn	00 19 28.1	-6.9
KUR				pmax	pmax		
	comp=N,61nm,0.3s						
KUR				pmax	pmax		
	comp=E,71nm,0.3s						
KUR				pmax	pmax		
	comp=Z,246nm,0.3s						
KUR				smax	smax		
	comp=N,216nm,0.5s						
KUR				smax	smax		
	comp=E,142nm,0.5s						
KUR				MLR	MLR		
	comp=Z,613nm,11.0s						
TEY	Ternei	9.62	326	eP	Pn	00 18 17.0	-0.5
YSS	Yuzh-Sakhalins	9.69	354	ePn	Pn	00 18 17.7	-0.8
	comp=Z,37nm,0.6s						
YSS	Yuzh-Sakhalins	9.69	354	⇓eP	Pn	00 18 17.6	-0.8
YSS				eS	Sn	00 20 10.3	+2.7
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax	smax		
	comp=N,30nm,0.6s						
CBIJ	Chichi jima	10.34	190	ePn	Pn	00 18 21.9	-5.6
CBIJ				eS	Sn	00 20 01.9	-22
JCJ	Chichijima	10.34	190	Pn	Pn	00 18 22.0	-5.4
	baz=107,slow=19						
JCJ				Sn	Sn	00 20 06.8	-17
	comp=N,22nm,0.3s,baz=125,slow=22,SNR=6.3						
USRK	Ussuriysk Ar.	11.55	310	Pn	Pn	00 18 44.7	+0.7
	comp=N,1.8nm,0.3s,baz=113,slow=15,SNR=15						
USRK				LR	LR	00 22 41.6	
	comp=N,368nm,21.0s,baz=113,slow=35						
JNU	Nakatsue	11.70	253	Pn	Pn	00 18 45.3	-0.8
	comp=N,0.9nm,0.3s,baz=51,slow=7.3,SNR=7.7						
JNU	Nakatsue	11.70	253	ePn	Pn	00 18 45.5	-0.6
KSRS	Korea Array	12.98	276	Pn	Pn	00 19 04.2	+0.6
	comp=N,1.9nm,0.3s,baz=86,slow=14,SNR=20						
KSRS				LR	LR	00 23 24.1	
	comp=N,275nm,20.9s,baz=82,slow=34						
KS01	Wonju Array Si	13.00	276	ePn	Pn	00 19 05.3	+1.5
KS15	Wonju Array Si	13.01	276	ePn	Pn	00 19 05.5	+1.6
KSAR	Wonju Array Be	13.01	276	Pn	Pn	00 19 04.2	+0.2
KSAR	Wonju Array Be	13.01	276	P	Pn	00 19 04.2	+0.2
MDJ	Mudanjiang	13.24	308	P	Pn	00 19 07.7	+0.6
MDJ				pP	P	00 19 09.4	-7.7
MDJ				sP		00 19 10.9	
MDJ				S	Sn	00 21 36.7	+2.1
MDJ				sS	S	00 21 38.3	-21
MDJ				ScS	ScS	00 31 48.2	+0.5
MDJ				pmax	pmax		
	comp=N,13nm,0.6s						
MDJ				pmax	pmax		
	comp=N,180nm,3.3s						
MDJ				LR	LR		
	comp=N,640nm,15.5s						
MDJ				LR	LR		
	comp=N,550nm,17.1s						
MDJ				LR	LR		
	comp=N,470nm,15.9s						
TJN	Taejon	13.55	271	ceP	Pn	00 19 12.5	+1.2
TYV	Tymovskoe	13.59	356	eP	Pn	00 19 12.2	+0.5
TYV				pmax	pmax		
	comp=Z,12nm,0.6s						
GRNR	Gornyy	14.56	340	eP	Pn	00 19 21.2	-3.9
KLR	Kul'dur	14.96	327	Pn	Pn	00 19 30.1	-0.4
	comp=Z,0.1nm,0.3s,baz=141,slow=11,SNR=15						
KLR				LR	LR	00 25 27.9	
	comp=Z,16nm,18.7s,baz=146,slow=38						
KLR	Kul'dur	14.96	327	c iP	Pn	00 19 29.0	-1.4
CN2	Changchun	15.67	300	eP	Pn	00 19 36.1	-3.7
NKL	Nikolayevsk	16.03	352	eP	Pn	00 19 43.6	-0.8
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
NKL				MLR	MLR		
	comp=Z,500nm,13.0s						
DL2	Dalian	17.86	282	P	Pn	00 20 08.5	+0.9
DL2				S	Sn	00 23 31.7	+4.7
DL2				pmax	pmax		
	comp=Z,21nm,0.5s						
DL2				pmax	pmax		
	comp=Z,89nm,6.5s						
DL2				LR	LR		
	comp=Z,380nm,11.4s						
DL2				LR	LR		
	comp=Z,290nm,14.3s						
PEA0B	Petropavlovsk-	18.37	26	eP	Pn	00 20 09.4	-4.4
	comp=Z,204nm,1.8s						
PETK	Petropavlovsk-	18.37	26	P	Pn	00 20 11.4	-2.4
	comp=Z,0.4nm,0.3s,baz=188,slow=9.0,SNR=4.9						
ZEA	Zeya	20.19	330	eP	P	00 20 34.8	+1.0
ZEA				pmax	pmax		
	comp=N,21nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,28nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,500nm,15.0s						
ZEA				MLR	MLR		
	comp=E,300nm,12.0s						
ZEA				MLR	MLR		
	comp=N,300nm,13.0s						
HIA	Hailar	21.36	312	i P	P	00 20 45.0	-1.5
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NJ2	Nanjing	21.50	263	eP	P	00 20 48.4	+0.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJI	Beijing	22.04	286	P	P	00 20 52.9	-1.0
BJI				S	S	00 24 57.9	+0.6
BJI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJI				LR	LR		
	comp=Z,510nm,16.4s						
BJI				LR	LR		
	comp=Z,240nm,12.5s						
BJI				LR	LR		
	comp=Z,290nm,22.7s						
MA2	Magadan	22.67	9	P	P	00 21 01.3	+0.9
	comp=Z,4.4nm,0.4s,baz=186,slow=9.8,SNR=10						
MA2				LR	LR	00 29 45.4	
	comp=Z,97nm,19.9s,baz=190,slow=36						
MA2	Magadan	22.67	9	ceP	P	00 21 01.6	+1.2
GUMO	Guam	23.64	178	LR	LR	00 29 15.1	
	comp=Z,79nm,20.1s,baz=79,slow=34						
YULB	Yu-li	24.10	241	eP	P	00 21 14.2	-0.8
HHC	Hu-ho-hao-te	25.52	288	eP	P	00 21 27.5	-0.5
HHC				PP	PnPn	00 22 06.4	+3.1
HHC				S	S	00 25 52.9	-3.0
HHC				SS	SnSn	00 26 52.9	+4.5
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
HHC				LR	LR		
	comp=Z,370nm,16.2s						
HHC				LR	LR		
	comp=Z,150nm,17.4s						
HHC				LR	LR		
	comp=Z,340nm,16.2s						
WHN	Wuhan	25.64	264	⇓P	P	00 21 32.8	+3.9
WHN				LR	LR		
	comp=Z,720nm,13.0s						
WHN				LR	LR		
	comp=Z,550nm,11.1s						
WHN				LR	LR		
	comp=Z,610nm,15.0s						
SEY	Seymchan	26.13	8	P	P	00 21 34.6	+1.5
	comp=Z,27nm,0.6s,baz=190,slow=7.5,SNR=96						
SEY	Seymchan	26.13	8	ceP	P	00 21 34.7	+1.6
YAK	Yakutsk	26.34	345	P	P	00 21 35.1	+0.1
	comp=Z,11nm,0.4s,baz=204,slow=9.1,SNR=5.7						
YAK				LR	LR	00 32 53.7	
	comp=Z,287nm,18.2s,baz=112,slow=38						
YAK	Yakutsk	26.34	345	eP	P	00 21 34.9	-0.2
	comp=Z,31nm,0.9s						
YAK	Yakutsk	26.34	345	eP	P	00 21 34.8	-0.2
YAK				e*PP	pP	00 21 37.3	+0.5
YAK				e		00 22 08.9	
YAK				ePPP	PPP	00 22 26.5	
YAK				e		00 25 08.9	
YAK				eS	S	00 26 09.1	+1.0
YAK				e*SS	sS	00 26 16.9	+5.8
YAK				eSS	SnSn	00 27 11.2	+3.4
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.6s						
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
YAK				smax	smax		
	comp=N,15nm,1.4s						
YAK				MLR	MLR		
	comp=Z,279nm,18.0s						
YAK				MLR	MLR		
	comp=E,59nm,14.0s						
YAK				MLR	MLR		
	comp=N,328nm,15.0s						
H11N2	WAKE ISLAND Hy	26.41	125	T	T	00 48 37.0	
	baz=320,slow=74,SNR=177						
H11N1	WAKE ISLAND Hy	26.42	125	T	T	00 49 16.1	
	SNR=74						
H11N3	WAKE ISLAND Hy	26.43	125	T	T	00 48 38.5	
	baz=314,slow=74,SNR=90						
H11S1	WAKE ISLAND Hy	27.18	127	T	T	00 49 24.9	
	baz=323,slow=74,SNR=25						
H11S3	WAKE ISLAND Hy	27.18	128	T	T	00 50 04.9	
	SNR=26						
H11S2	WAKE ISLAND Hy	27.19	127	T	T	00 49 31.3	
	baz=7.0,slow=74,SNR=35						
BOD	Bodaibo	28.53	326	eP	P	00 21 54.1	-0.6
BOD				pmax	pmax		
	comp=Z,12nm,1.3s						
XAN	Xi'an	28.77	274	P	P	00 21 58.8	+1.6
XAN				pP	sP	00 22 02.8	+3.1
XAN				PP	PnPn	00 22 49.3	+1.7
XAN				S	S	00 26 40.7	-6.5
XAN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN				LR	LR		
	comp=Z,280nm,16.3s						
XAN				LR	LR		
	comp=Z,150nm,14.6s						
XAN				LR	LR		
	comp=Z,210nm,16.3s						
ULN	Ulaanbaatar	29.08	303	eP	P	00 22 00.7	+0.8
	comp=Z,30nm,1.8s						
ULN	Ulaanbaatar	29.08	303	eP	P	00 22 00.7	+0.8
ULN				pmax	pmax		
	comp=Z,30nm,1.8s						
SONA1	Songino Array	29.51	303	eP	P	00 22 03.9	+0.2
SONM	Songino Array	29.51	303	P	P	00 22 04.5	+0.8
	comp=Z,1.6nm,0.5s,baz=108,slow=8.9,SNR=13						
SONM				PcP	PcP	00 25 08.2	-0.7
	comp=Z,0.5nm,0.4s,baz=120,slow=2.0,SNR=4.1						
SONM				LR	LR	00 33 56.4	
	comp=Z,148nm,18.3s,baz=322,slow=36						
ENH	Enshi	29.60	267	eP	P	00 22 04.9	+0.3
	comp=Z,19nm,0.8s						
ZAK	Zakamensk	31.88	307	eP	P	00 22 24.8	+0.3
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LZH	Lanzhou	32.24	280	eP	P	00 22 30.2	+2.3
LZH				pP	sP	00 22 34.2	+3.7
LZH				sP	pP	00 22 37.3	+7.6
LZH				ePP	PnPn	00 23 37.0	+3.2
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,97nm,4.4s						
LZH				LR	LR		
	comp=Z,170nm,12.7s						
LZH				LR	LR		
	comp=Z,150nm,11.2s						
LZH				LR	LR		
	comp=Z,230nm,14.8s						
BILL	Bilibino	33.14	15	d iP	P	00 22 35.7	+0.4
BILL				e		00 23 41.2	
BILL				e		00 25 16.5	
BILL				pmax	pmax		
	comp=Z,33nm,1.2s						
BILL				MLR	MLR		
	comp=Z,127nm,18.0s						
GYA	Guiyang	33.49	262	⇑iP	P	00 22 42.4	+3.5
GYA				PP	PnPn	00 23 51.2	+1.3
GYA				PcP	PcP	00 25 22.0	+2.1
GYA				S	S	00 28 00.4	-0.9
GYA				ScP	ScP	00 29 04.5	-0.4
GYA				SS	SnSn	00 30 02.8	-0.1
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=Z,540nm,17.2s						
GYA				LR	LR		
	comp=Z,490nm,17.8s						
GYA				LR	LR		
	comp=Z,510nm,18.0s						
CD2	Chengdu	33.93	271	eP	P	00 22 42.0	-0.6
CD2				pP	sP	00 22 48.7	+3.6
CD2				sP	pP	00 22 51.7	+7.3
CD2				S	S	00 28 05.3	-2.5
CD2				sS	sS	00 28 16.8	+6.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,550nm,18.6s						
CD2				LR	LR		
	comp=Z,370nm,14.7s						
CD2				LR	LR		
	comp=Z,400nm,14.2s						
GTA	Gaotai	34.63	287	eP	P	00 22 48.9	+0.2
GTA				pP	pP	00 22 53.0	+2.5
GTA				sP	sP	00 22 56.4	+5.1
GTA				S	S	00 28 15.6	-3.1
GTA				sS	pS	00 28 23.2	+2.6
GTA				SS	SnSn	00 30 26.8	-3.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,55nm,6.7s						
GTA				LR	LR		
	comp=Z,330nm,16.2s						
GTA				LR	LR		
	comp=Z,230nm,17.6s						
GTA				LR	LR		
	comp=Z,210nm,19.2s						
QIZ	Qiongzhong	35.12	248	P	P	00 22 54.5	+1.6
QIZ				S	S	00 28 25.0	-1.2
QIZ				pmax	pmax		
	comp=Z,14nm,2.5s						
QIZ				LR	LR		
	comp=Z,260nm,18.2s						
QIZ				LR	LR		
	comp=Z,160nm,15.7s						
TIXI	Tiksi	35.31	352	ceP	P	00 22 52.2	-1.8
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
KMI	Kunming	37.24	263	P	P	00 23 11.8	+0.5
KMI				pP	sP	00 23 20.8	+7.0
KMI				S	S	00 29 00.0	+1.0
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,41nm,3.2s						
KMI				LR	LR		
	comp=Z,210nm,17.5s						
KMI				LR	LR		
	comp=Z,150nm,22.1s						
KMI				LR	LR		
	comp=Z,220nm,18.5s						
WMQ	Urumqi	42.72	297	P	P	00 23 58.6	+2.1
WMQ				pP	sP	00 24 02.6	+3.6
WMQ				pmax	pmax		
	comp=Z,72nm,3.9s						
WMQ				LR	LR		
	comp=Z,290nm,22.3s						
WMQ				LR	LR		
	comp=Z,220nm,22.3s						
WMQ				LR	LR		
	comp=Z,230nm,24.5s						
ZAA0	Zalesovo Array	43.39	312	eP	P	00 24 02.0	+0.3
ZALV	Zalesovo Beam	43.39	312	P	P	00 24 01.6	-0.1
	comp=Z,1.4nm,0.5s,baz=76,slow=6.3,SNR=11						
ZALV				PcP	PcP	00 25 49.1	-0.9
	comp=Z,6.0nm,0.7s,baz=90,slow=2.8,SNR=11						
ZALV				LR	LR	00 42 32.2	
	comp=Z,84nm,19.0s,baz=72,slow=37						
CHTO	Chiang Mai	43.55	258	eP	P	00 24 01.5	-1.9
	comp=Z,7.1nm,1.0s						
CHTO	Chiang Mai	43.55	258	eP	P	00 24 01.5	-1.9
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CMAR	Chiang Mai Arr	43.76	257	P	P	00 24 04.8	-0.2
	comp=Z,2.2nm,0.3s,baz=45,slow=7.3,SNR=6.6						
CMAR				LR	LR	00 44 07.7	
	comp=Z,64nm,19.4s,baz=42,slow=39						
CMAR	Chiang Mai Arr	43.76	257	ceP	P	00 24 05.1	+0.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SVW2	Sparrevohn	43.93	37	eP	P	00 24 08.1	+2.2
	comp=Z,29nm,1.4s						
KDAK	Kodiak Island	45.38	42	ceP	P	00 24 17.7	+0.3
SPU	Mount Spurr	45.64	37	eP	P	00 24 21.4	+1.9
CAST	Castle Rocks	45.72	34	eP	P	00 24 22.2	+2.0
	comp=Z,69nm,2.0s						
MK01	Makanchi Array	45.88	302	eP	P	00 24 21.5	-0.2
MK31	Makanchi Array	45.88	302	eP	P	00 24 21.7	0.0
MK31	Makanchi Array	45.88	302	eP	P	00 24 21.7	0.0
MKAR	Makanchi Array	45.88	302	P	P	00 24 21.6	-0.1
	comp=Z,2.1nm,0.7s,baz=86,slow=9.6,SNR=31						
MKAR	Makanchi Array	45.88	302	i P	P	00 24 21.8	+0.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAKZ	Makanchi	46.09	302	eP	P	00 24 23.2	-0.1

MAKZ Makanchi 46.09 302 *e*P **P 00 24 23.2 -0.1**
KTH Kantishna Hill 46.25 34 *e*P **P 00 24 25.9 +1.5**
comp=Z,31nm,1.3s
MLY Manley 46.41 32 *e*P **P 00 24 26.8 +1.2**
comp=Z,21nm,1.2s
RND Reindeer 47.17 34 *e*P **P 00 24 31.3 -0.3**
comp=Z,33nm,1.3s
RND Reindeer 47.17 34 *e*P **P 00 24 31.3 -0.3**
RND pmax pmax
comp=Z,33nm,1.3s
MDM Murphy Dome 47.47 32 *e*P **P 00 24 35.6 +1.7**
comp=Z,27nm,1.1s
KURK Kurchatov 47.53 308 *e*P **P 00 24 34.4 -0.1**
comp=Z,8.6nm,0.6s
KURK Kurchatov 47.53 308*ce*P **P 00 24 34.6 +0.1**
KURK pmax pmax
comp=Z,20nm,1.0s
KURBB Kurchatov Arra 47.60 308 P **P 00 24 34.9 -0.1**
comp=Z,3.6nm,0.5s,baz=82,slow=8.2,SNR=32
DHY Denali Highway 47.84 35 *e*P **P 00 24 38.4 +1.4**
comp=Z,53nm,2.0s
HDA Harding Lake 48.02 33 *e*P **P 00 24 38.7 +0.6**
comp=Z,10nm,0.6s
IL1 Eielson Array 48.04 33 *e*P **P 00 24 38.3 0.0**
ILAR Eielson Array 48.04 33 P **P 00 24 38.5 +0.2**
comp=Z,4.6nm,0.6s,baz=258,slow=5.9,SNR=73
ILAR Eielson Array 48.04 33 P **P 00 24 38.5 +0.2**
ILAR pmax pmax
comp=Z,6.0nm,0.8s
ILB Eielson Array 48.04 33 *e*P **P 00 24 38.9 +0.6**
TAPN Taplejung 48.17 275 *e*P P 00 24 46.4 +6.3
comp=Z,8.4nm,0.4s
KLU Klutina 48.59 37 *e*P **P 00 24 44.1 +1.4**
comp=Z,41nm,1.5s
ODAN Odare 48.64 275 *e*P **P 00 24 46.4 +2.7**
comp=Z,7.6nm,0.4s
RAMN Ramite 49.23 275 *e*P **P 00 24 47.8 -0.4**
comp=Z,25nm,0.8s
JIRN Jiri 49.23 276 *e*P **P 00 24 49.2 +0.8**
BMRM Bremner River 49.26 38 *e*P **P 00 24 49.5 +1.7**
comp=Z,53nm,1.4s
DOT Dot Lake 49.31 34 *e*P **P 00 24 48.7 +0.6**
comp=Z,59nm,1.6s
GUN Gumba 49.37 277 *e*P **P 00 24 49.4 0.0**
comp=Z,16nm,0.3s
PKI Pulchoki 49.89 277 *e*P **P 00 24 49.9 -3.5**
comp=Z,5.6nm,0.5s
KKN Kakani 49.90 277 *e*P **P 00 24 49.9 -3.4**
comp=Z,14nm,0.5s
DMN Daman 50.12 277 *e*P P 00 24 50.9 -4.1
comp=Z,6.3nm,0.4s
DAWY Dawson 51.33 33 *e*P **P 00 25 04.9 +1.5**
comp=Z,0.8nm,0.5s
MTN Manton Dam 51.39 196 *e*P **P 00 25 03.3 -1.0**
comp=Z,27nm,0.8s
BVAR Borovoye Array 52.05 313 P **P 00 25 08.9 +0.1**
comp=Z,1.7nm,0.4s,baz=72,slow=9.5,SNR=13
BVAR PcP **PcP 00 26 20.6 -0.3**
comp=Z,3.4nm,0.6s,baz=84,slow=4.8,SNR=5.5
BVAR LR LR 00 47 52.9
comp=Z,67nm,19.4s,baz=72,slow=37
OTUK Ortayu 52.08 306 P **P 00 25 09.9 +0.7**
OTUK pmax pmax
comp=Z,4.0nm,1.5s
BRVK Borovoye 52.10 313 *i* P **P 00 25 09.1 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,1.9s
AAK Ala-Archa 52.33 299 *e*P **P 00 25 11.7 +0.3**
comp=Z,0.4nm,0.4s
AAK Ala-Archa 52.33 299 *i* P **P 00 25 11.0 -0.4**
AAK pmax pmax
comp=Z,1.0nm,1.0s
KSH Kashi 52.34 295 P **P 00 25 15.2 +3.8**
KSH sP sP 00 25 22.8 +8.8
KSH ScP **ScP 00 30 21.7 +1.6**
KSH S **S 00 32 39.9 +2.4**
KSH SS **SS 00 36 16.2 +1.4**
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH pmax pmax
comp=Z,180nm,6.2s
KSH LR LR
comp=Z,300nm,13.1s
KSH LR LR
comp=Z,310nm,8.2s
KSH LR LR
comp=Z,480nm,16.6s
HYT Haines Junctio 52.72 37 *e*P **P 00 25 14.5 +0.6**
comp=Z,49nm,1.4s
INK Inuvik 53.10 27 *e*P **P 00 25 17.2 +0.8**
comp=Z,10nm,0.6s
INK Inuvik 53.10 27 *e*P **P 00 25 17.2 +0.8**
INK pmax pmax
comp=Z,10.0nm,0.6s
MNAS Manas 53.77 299 P **P 00 25 22.6 +0.7**
MNAS pmax pmax
comp=Z,6.0nm,0.9s
SFK Sufi-Kurgan 53.94 296 P **P 00 25 24.0 +0.7**
SFK pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 54.93 301 *e*P **P 00 25 29.2 -1.0**
comp=Z,0.6nm,0.3s
KKAR Karatay Array 54.93 301 *e*P **P 00 25 29.2 -1.0**
KKAR pmax pmax
comp=Z,1.0nm,0.3s
LEM Lembang 55.66 226 LR LR 00 51 44.8
comp=Z,55nm,18.1s,baz=310,slow=39
SVE Sverdlovsk 56.42 319 *e*P **P 00 25 41.8 +1.1**
SVE pmax pmax
comp=Z,15nm,0.8s
ARU Arti 57.63 319 *e*P **P 00 25 49.2 0.0**
comp=Z,11nm,0.7s
ARU Arti 57.63 319*d i*P **P 00 25 49.4 +0.1**
ARU 00 26 40.0
ARU 00 27 56.8
ARU S **S 00 33 49.1 +1.4**
ARU SS **SS 00 37 38.9 +1.7**
ARU pmax pmax
comp=Z,28nm,1.7s
WRAB Tennant Creek 57.70 191 *e*P **P 00 25 47.5 -2.5**
comp=Z,11nm,0.6s
WRAB Tennant Creek 57.70 191*ce*P **P 00 25 51.3 +1.2**
WRAB pmax pmax
comp=Z,54nm,2.5s
WRA Warramunga Arr 57.71 191 P **P 00 25 47.8 -2.3**
comp=Z,8.3nm,0.5s,baz=12,slow=7.3,SNR=62
FITZ Fitzroy Crossi 57.84 201 P **P 00 25 49.7 -1.3**
comp=Z,3.1nm,0.5s,baz=26,slow=8.5,SNR=13
ABKAR Akbulak array 59.47 311 *e*P **P 00 26 02.1 -0.1**
AKTO Aktyubinsk 60.15 313 P **P 00 26 06.9 0.0**
comp=Z,3.2nm,0.8s,baz=61,slow=10,SNR=8.0
AKTO LR LR 00 53 16.0
comp=Z,82nm,18.1s,baz=351,slow=37
HYB Hyderabad 60.46 270 *i* P **P 00 26 09.0 -0.5**
AS01 Alice Springs 61.43 191 *e*P **P 00 26 13.4 -2.3**
AS31 Alice Springs 61.43 191 *e*P **P 00 26 15.4 -0.4**
comp=Z,2.5nm,0.6s
ASAR Alice Springs 61.43 191 P **P 00 26 13.7 -2.1**
comp=Z,2.1nm,0.5s,baz=7.3,slow=6.9,SNR=21
YKA Yellowknife Ar 62.42 31 P **P 00 26 22.0 0.0**
comp=Z,1.1nm,0.7s,baz=300,slow=6.5,SNR=14
YKA PcP **PcP 00 27 01.1 -0.3**
comp=Z,0.5nm,0.5s,baz=294,slow=4.0,SNR=8.8
YKA Yellowknife Ar 62.42 31*ce*P **P 00 26 22.2 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
TULEG Thule 64.51 8 *e*P **P 00 26 34.8 -0.8**
ARCES ARCESS Array B 64.51 340 P **P 00 26 35.2 -0.5**
comp=Z,2.9nm,0.6s,baz=56,slow=8.0,SNR=7.4
ARCES LR LR 00 59 14.8
comp=Z,166nm,18.7s,baz=356,slow=40
KLMR Klimovskoe 64.71 328 *e*P **P 00 26 34.9 -2.2**
KLMR *e* 00 27 09.1
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 64.71 328 *e*P **P 00 26 35.0 -2.2**
KLMR AMP 00 26 38.2
comp=Z,18nm,1.4s
KLMR *e*PcP **PcP 00 27 09.2 -1.6**
KLMR PP PP 00 28 51.8 -7.1
GEYT Alibeck 65.66 300 P **P 00 26 43.5 -0.3**
comp=Z,1.1nm,0.8s,baz=52,slow=9.5,SNR=3.9
VRH Novokhopyorsk 68.87 319 *e*P **P 00 27 03.3 -0.5**
VRH pmax pmax
comp=Z,10.0nm,1.4s
OBN Obninsk 69.20 324⇑ *e*P **P 00 27 06.3 +0.5**
OBN *e* 00 27 14.1
OBN 00 27 30.0
OBN pmax pmax
comp=Z,37nm,2.5s
OBN MLR MLR
comp=Z,115nm,17.0s
LPSR Galich'ya Gora 69.52 321 *e*P **P 00 27 08.2 +0.4**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
FIA1 FINESS Array S 69.60 333 *e*P **P 00 27 08.4 +0.3**
FINES FINESS Array B 69.60 333 P **P 00 27 08.0 -0.1**
comp=Z,3.9nm,0.5s,baz=43,slow=8.5,SNR=41
FINES FINESS Array B 69.60 333*ce*P **P 00 27 08.3 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.5s
VSR Storozhevoye 70.19 320 *e*P **P 00 27 11.7 -0.3**
VSR pmax pmax
comp=Z,10.0nm,1.1s
JMIC Jan Mayen 70.24 351 LR LR 00 58 22.3
comp=Z,22nm,18.3s,baz=80,slow=36
SUMG Summit 70.39 1 *i* P **P 00 27 14.3 +1.0**
comp=Z,7.9nm,0.8s
SUMG Summit 70.39 1 *e*P **P 00 27 14.4 +1.0**
comp=Z,5.0nm,0.7s
SUMG Summit 70.39 1 *e*P **P 00 27 14.4 +1.0**
SUMG pmax pmax
comp=Z,5.0nm,0.7s
BEKR Beckworth 70.87 54 *e*P **P 00 27 18.1 +1.5**
MSO Missoula 70.93 45 P **P 00 27 17.8 +1.0**
baz=304
VSU Vasula 71.34 331*ce*P **P 00 27 19.8 +1.0**
VSU pmax pmax
comp=Z,67nm,1.7s
GOF Gofitskoye 71.57 313⇑ *e*P **P 00 27 19.5 -1.0**
FFC Flin Flon 72.23 34 *e*P **P 00 27 24.4 +0.1**
FFC Flin Flon 72.23 34 *e*P **P 00 27 24.4 +0.1**
LRM Limekiln Ridge 72.35 46 *e*P **P 00 27 25.7 +0.2**
KIV Kislovodsk 72.41 312 *e*P **P 00 27 26.4 +0.7**
KIV Kislovodsk 72.41 312 *e*P **P 00 27 27.1 +1.4**
KIV pmax pmax
comp=Z,19nm,1.0s
KBZ Khabaz 72.41 312 P **P 00 27 26.6 +1.0**
comp=Z,5.9nm,0.8s,baz=80,slow=2.7,SNR=14
HLID Hailey 72.51 48 P **P 00 27 27.2 +0.7**
baz=305
KVN Kaiserville 72.78 54 *e*P **P 00 27 29.9 +1.8**
KVN Kaiserville 72.78 54 *e*P **P 00 27 29.9 +1.8**
BOZ Bozeman (W) 72.95 45 P **P 00 27 29.5 +0.5**
baz=306
BOZ Bozeman (W) 72.95 45 *e*P **P 00 27 29.3 +0.3**
BOZ Bozeman (W) 72.95 45 *e*P **P 00 27 29.3 +0.3**
WSAR Wadi Sarin 72.96 286 LR LR 01 02 47.5
comp=Z,85nm,19.6s,baz=194,slow=38
NV01 Mina Array Si 73.00 55 *e*P **P 00 27 30.3 +0.8**
NVAR Mina Array Bea 73.00 55 P **P 00 27 31.2 +1.8**
comp=Z,3.6nm,0.7s,baz=290,slow=6.5,SNR=9.4
IZAR Zarasai 73.36 329 *e*P **P 00 27 31.3 +0.3**
IZAR IAmb IAmb 00 27 32.3
comp=Z,4.0nm,0.7s
IDID Didziasalis 73.45 328 *e*P **P 00 27 31.8 +0.3**
IDID IAmb IAmb 00 27 32.9
comp=Z,5.8nm,0.8s
ISAL Salakas 73.53 329 *e*P **P 00 27 32.3 +0.3**
ISAL IAmb IAmb 00 27 33.5
comp=Z,8.4nm,0.8s
IIGN Ignalina 73.64 328 *e*P **P 00 27 33.0 +0.3**
IIGN IAmb IAmb 00 27 34.1
comp=Z,7.7nm,0.9s
H17A Grant Village 74.27 46 P **P 00 27 39.7 +2.8**
baz=307
FXWY Fox Creek 74.46 47 *e*P **P 00 27 40.0 +2.0**
HFS Hagfors 74.74 337 P **P 00 27 39.2 +0.2**
comp=Z,2.5nm,0.4s,baz=64,slow=6.6,SNR=19
NB2 NORSAR Subarra 74.78 338 P **P 00 27 38.8 -0.4**
comp=Z,26nm,1.4s,baz=40,slow=5.9
NB2 NORSAR Subarra 74.78 338 P **P 00 27 38.8 -0.4**
NB2 pmax pmax
comp=Z,22nm,1.4s
NB2 NORSAR Subarra 74.78 338 P **P 00 27 38.8 -0.4**
baz=40,slow=5.9
NOA NORSAR Array B 74.78 338 P **P 00 27 39.0 -0.2**
comp=Z,0.7nm,0.4s,baz=39,slow=5.7,SNR=22
NOA NORSAR Array B 74.78 338 P **P 00 27 39.0 -0.2**
NOA pmax pmax
comp=Z,3.0nm,0.5s
R11A Troy Canyon, C 74.80 53 P **P 00 27 41.1 +1.1**
baz=306
RCWM Renegade Canyo 74.84 56 *e*P **P 00 27 43.2 +3.1**
EDW2 Edwards Air Fo 75.22 57 P **P 00 27 43.1 +0.7**
baz=305
LAO LASA Array 75.27 42 *e*P **P 00 27 42.8 +0.4**
AKASG Malin Array Be 75.43 323 P **P 00 27 42.7 -0.4**
comp=Z,6.8nm,0.6s,baz=44,slow=6.5,SNR=26
AKBB Malin Array Si 75.43 323 *e*P **P 00 27 43.4 +0.3**
AKBB Malin Array Si 75.43 323 *e*P **P 00 27 43.4 +0.3**
AK11 Malin Array Si 75.48 323 *e*P **P 00 27 43.9 +0.5**
PDAR Pinedale Array 75.84 47 P **P 00 27 46.4 +0.4**
comp=Z,0.9nm,0.5s,baz=320,slow=0.5,SNR=11
SUW Suwalki 75.84 329 *e*P **P 00 27 46.3 +0.9**
SUW Suwalki 75.84 329 *e*P **P 00 27 46.8 +1.4**
SUW Suwalki 75.84 329 *e*P **P 00 27 46.3 +0.9**
P17A Butcher Ranch, 77.16 50 *e*P **P 00 27 54.7 +1.4**
KNB Kanab 77.35 53 *e*P **P 00 27 55.9 +1.4**
KNB Kanab 77.35 53 *e*P **P 00 27 55.9 +1.4**
SRU San Rafael Swe 77.51 50 *e*P **P 00 27 56.8 +1.4**
SRU San Rafael Swe 77.51 50 *e*P **P 00 27 56.8 +1.4**
SORM Soroca 77.58 322⇑ *i*P **P 00 27 55.2 -0.1**
SORM Soroca 77.58 322 ⇑P **P 00 27 55.5 +0.2**
HORU Horodok 77.77 324 P **P 00 27 56.1 -0.3**
BEL Belsk 78.42 328 *e*P **P 00 28 01.6 +1.7**
BEL Belsk 78.42 328 *e*P **P 00 28 01.6 +1.7**
LVV L'vov 78.46 325 *e*P **P 00 28 00.8 +0.6**
GKP Gorka Klasztor 78.79 331 *e*P **P 00 28 02.3 +0.4**
GKP Gorka Klasztor 78.79 331 *e*P **P 00 28 02.3 +0.4**
PRAR RASCA 79.16 322⇑ *i*P **P 00 28 04.5 +0.4**
A33A Warroad 79.16 35 P **P 00 28 04.3 +0.2**
baz=316
KWP Kalwaria Pacla 79.19 326 *e*P **P 00 28 05.5 +1.2**
KWP Kalwaria Pacla 79.19 326 *e*P **P 00 28 05.1 +0.8**
KWP Kalwaria Pacla 79.19 326 *e*P **P 00 28 05.1 +0.8**
BUR08 Bucovina Ar. S 79.45 323 *e*P **P 00 28 06.4 +0.6**
BUR04 Bucovina Ar. S 79.47 323 *e*P **P 00 28 06.0 0.0**
BURAR Bucovina Array 79.47 323⇑ *i*P **P 00 28 06.8 +0.9**
BURAR Bucovina Array 79.47 323 ⇑P **P 00 28 06.2 +0.3**
TESR Tescani 79.54 322⇑ *i*P **P 00 28 06.2 0.0**
VRI Vrincioaia 79.95 321⇑ *i*P **P 00 28 09.5 +1.0**
VRI Vrincioaia 79.95 321 ⇑P **P 00 28 09.4 +1.0**
STHS Stebnicka Huta 80.00 326 *e*P **P 00 28 09.8 +1.1**
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 80.00 326 *e*P **P 00 28 09.8 +1.1**
OJC Ojcow 80.04 327 *e*P **P 00 28 09.6 +0.7**
OJC Ojcow 80.04 327 *e*P **P 00 28 09.2 +0.4**
OJC Ojcow 80.04 327 *e*P **P 00 28 09.2 +0.4**
UZH Uzhgorod 80.11 325*c i*P **P 00 28 10.0 +0.8**
UZH *e* 00 28 16.6
ARCR ARCALIA 80.25 323⇑ *i*P **P 00 28 11.9 +1.8**
CRVS Cervenica-Dubn 80.28 326 *e*P **P 00 28 10.7 +0.5**
CRVS Cervenica-Dubn 80.28 326 *e*P **P 00 28 10.7 +0.5**
BRTR Keskin Array B 80.33 313 P **P 00 28 11.2 +0.3**
comp=Z,1.1nm,0.5s,baz=100,slow=3.5,SNR=13
BRTR Keskin Array B 80.33 313*ce*P **P 00 28 12.0 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
TRPA Tarpa 80.36 325⇑ *e*P **P 00 28 11.8 +1.2**
NIE Niedzica 80.42 327 *e*P **P 00 28 12.1 +1.1**
NIE Niedzica 80.42 327 *e*P **P 00 28 12.0 +1.1**
MLR Muntele Rosu 80.60 321⇑ *i*P **P 00 28 13.4 +1.2**
MLR Muntele Rosu 80.60 321 ⇑P **P 00 28 12.9 +0.7**
BR231 Keskin MP Arra 80.76 313 *e*P **P 00 28 11.9 -1.2**
CJR Cluj-Napoca 80.88 323⇑ *i*P **P 00 28 14.0 +0.4**
CJR Cluj-Napoca 80.88 323 ⇑P **P 00 28 13.9 +0.4**
LANS Liptovska Anna 80.98 327 *e*P **P 00 28 15.4 +1.4**
LANS Liptovska Anna 80.98 327 *e*P **P 00 28 15.4 +1.4**
KSP Ksiaz 81.02 330 *e*P **P 00 28 15.1 +1.0**
KSP Ksiaz 81.02 330 *e*P **P 00 28 15.1 +1.0**
KECS Kecovo 81.03 326 *e*P **P 00 28 14.9 +0.7**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 81.03 326 *e*P **P 00 28 14.9 +0.7**
VOIR 81.09 322⇑ *i*P **P 00 28 15.6 +0.9**
VOIR 81.09 322 ⇓P **P 00 28 15.1 +0.4**
DRGR 81.25 324⇑ *i*P **P 00 28 16.3 +0.8**
DRGR 81.25 324⇑ P **P 00 28 16.2 +0.8**
MORC Moravsky Berou 81.33 328⇑ *i*P **P 00 28 16.3 +0.5**
MORC Moravsky Berou 81.33 328 *e*P **P 00 28 16.3 +0.5**
MORC Moravsky Berou 81.33 328 ⇑P **P 00 28 16.3 +0.5**
ARR Arges 81.34 322⇑ *i*P **P 00 28 17.6 +1.6**
DPC Dobruska-Polom 81.39 329 *e*P **P 00 28 17.0 +0.8**
DPC *es*P **PcP 00 28 28.4 +6.1**
DPC Dobruska-Polom 81.39 329 *e*P **P 00 28 17.0 +0.8**
DPC *e* 00 28 28.4
UPC Upice 81.40 330 *e*P **P 00 28 17.1 +1.0**
UPC Upice 81.40 330 *e*P **P 00 28 17.1 +1.0**
PSZ Piszkesteto 81.71 326⇑ *i*P **P 00 28 19.1 +1.1**
PSZ Piszkesteto 81.71 326⇑ *e*P **P 00 28 19.1 +1.1**
PSZ Piszkesteto 81.71 326 *e*P **P 00 28 19.1 +1.1**
PSZ Piszkesteto 81.71 326 ⇑P **P 00 28 19.0 +1.1**
VYHS Vyhne 81.75 327 *e*P **P 00 28 19.0 +1.0**
VYHS pmax pmax
comp=Z,6.0nm,1.2s
VYHS Vyhne 81.75 327 *e*P **P 00 28 19.0 +1.0**
BRG Berggiesshubel 81.93 331 *i* P **P 00 28 19.5 +0.6**
comp=Z,10nm,0.9s
BRG Berggiesshubel 81.93 331 *i* P **P 00 28 19.5 +0.6**
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG MLR MLR
comp=N,234nm,18.8s
BRG MLR MLR
comp=E,209nm,14.8s
BRG MLR MLR
comp=Z,359nm,15.8s
CLL Collm 81.95 332⇑ *i*P **P 00 28 19.2 +0.2**
comp=Z,17nm,0.8s
CLL *e* 00 28 22.0
CLL Collm 81.95 332 *e*P **P 00 28 18.0 -1.0**
CLL Collm 81.95 332⇑ *i*P **P 00 28 19.2 +0.2**
CLL pmax pmax
comp=Z,17nm,0.8s
PVCC Panska Ves 81.96 330 *e*P **P 00 28 19.7 +0.6**
PVCC Panska Ves 81.96 330 *e*P **P 00 28 19.7 +0.6**
VRAC Vranov 82.08 328⇑ *i*P **P 00 28 20.6 +0.8**
VRAC Vranov 82.08 328 ⇑P **P 00 28 20.2 +0.4**
ECSD EROS Data Cent 82.28 40 P **P 00 28 20.5 -0.4**
baz=315
SMOL Smolenice 82.34 328 *e*P **P 00 28 22.1 +1.0**
SMOL Smolenice 82.34 328 *e*P **P 00 28 22.1 +1.0**
GOPC GO Pecny, Ondr 82.35 330 *e*P **P 00 28 21.4 +0.2**
GOPC *ex* x 00 28 32.2
GOPC GO Pecny, Ondr 82.35 330 *e*P **P 00 28 21.4 +0.2**
GOPC *e* 00 28 32.2
PRU Pruhonice 82.39 330 *e*P **P 00 28 21.2 -0.2**
PRU Pruhonice 82.39 330 *e*P **P 00 28 21.2 -0.2**
H35A Sunnyside Ranc 82.48 38 P **P 00 28 21.8 -0.1**
baz=316
SRO Srobarova 82.49 327 *e*P **P 00 28 23.1 +1.2**
SRO Srobarova 82.49 327 *e*P **P 00 28 23.1 +1.2**
MODS Modra-Piesok 82.52 327 *e*P **P 00 28 22.1 0.0**
MODS Modra-Piesok 82.52 327 *e*P **P 00 28 22.1 0.0**
TREC Trest 82.55 329 *e*P **P 00 28 21.8 -0.5**
TREC Trest 82.55 329 *e*P **P 00 28 21.8 -0.5**
BZS Buzias 82.63 323⇑ *i*P **P 00 28 23.0 +0.3**
BZS Buzias 82.63 323 ⇑P **P 00 28 23.0 +0.3**
ANMO Albuquerque 82.66 51 *e*P **P 00 28 24.7 +1.4**
ANMO Albuquerque 82.66 51*ce*P **P 00 28 24.8 +1.4**
ANMO pmax pmax
comp=Z,5.0nm,1.7s
MOX Moxa 83.00 332 P **P 00 28 25.5 +0.9**
MOX pmax pmax
comp=Z,8.0nm,1.4s
NKC Novy Kostel 83.02 331 *e*P **P 00 28 25.6 +0.9**
NKC Novy Kostel 83.02 331 *e*P **P 00 28 25.6 +0.9**
MDVR Moldovita 83.19 323⇑ *i*P **P 00 28 26.0 +0.3**
SOP Sopron 83.36 327⇑ *e*P **P 00 28 27.5 +1.1**
SOP Sopron 83.36 327 P **P 00 28 27.8 +1.4**
KHC Kasperske Hory 83.46 330 *e*P **P 00 28 26.6 -0.4**
KHC *es*P **PcP 00 28 38.7 +7.4**
KHC Kasperske Hory 83.46 330 *e*P **P 00 28 27.4 +0.4**
comp=Z,2.0nm,0.6s
KHC Kasperske Hory 83.46 330 *e*P **P 00 28 27.4 +0.4**
KHC pmax pmax
comp=Z,2.0nm,0.6s
CONA Conrad Observa 83.46 328 *e*PcP **P 00 28 27.9 +0.8**
comp=Z,5.0nm,0.6s
EKA Eskdalemuir Ar 83.59 342 P **P 00 28 28.0 +0.6**
comp=Z,1.3nm,0.5s,baz=32,slow=5.0,SNR=8.1
MMAI Mount Meron Ar 83.62 307 P **P 00 28 29.2 +1.0**
comp=Z,3.3nm,0.6s,baz=35,slow=5.3,SNR=4.8
GEC2 GERESS Array S 83.63 330 *e*P **P 00 28 28.3 +0.4**
GEC2 GERESS Array S 83.63 330 *e*P **P 00 28 28.3 +0.4**
GERES GERESS Array B 83.63 330 P **P 00 28 27.4 -0.5**
comp=Z,2.9nm,0.5s,baz=38,slow=6.1,SNR=36
GEA0 GERESS Array S 83.64 330 *e*P **P 00 28 27.6 -0.4**
GRFO Grafenberg 83.93 331 *e*P **P 00 28 30.2 +0.9**
GRFO Grafenberg 83.93 331 *e*P **P 00 28 30.2 +0.9**
VTS Vitosha 84.06 320⇑ *i*P **P 00 28 31.1 +0.8**
VTS Vitosha 84.06 320 *e*P **P 00 28 30.9 +0.6**
VTS Vitosha 84.06 320 *e*P **P 00 28 30.9 +0.6**
ARSA Arzberg 84.13 328 *e*PcP **P 00 28 31.0 +0.5**
comp=Z,2.4nm,0.7s
SOKA Soboth 84.79 328 *e*PcP **P 00 28 34.5 +0.6**
comp=Z,3.0nm,0.5s,SNR=7.3
BEBN Eben Emael 85.00 335 ⇓P **P 00 28 34.5 -0.2**
comp=Z,5.3nm,0.5s
MEM Membach 85.04 335 ⇑P **P 00 28 35.2 +0.3**
MEM Membach 85.04 335 P **P 00 28 36.1 +1.2**
OBKA Obir 85.13 328 *i* PcP **P 00 28 36.5 +0.9**
comp=Z,2.6nm,0.7s
KBA Koelnbreinsper 85.18 329 *i* PcP **P 00 28 36.6 +0.7**
comp=Z,1.7nm,0.6s
WTTA Wattenberg 85.73 330 *e*PcP **P 00 28 41.1 +2.5**
comp=Z,1.8nm,0.3s
ABTA Abfaltersbach 85.79 329 *e*P **P 00 28 38.0 -0.8**
comp=Z,0.4nm,0.2s
MOTA Moosalm 85.88 330 *e*PcP **P 00 28 39.8 +0.5**
comp=Z,1.8nm,0.6s
RETA Reutte 85.90 330 *i* PcP **P 00 28 40.0 +0.6**
comp=Z,2.9nm,0.6s
BAIF Baives 86.12 335 *e*P **P 00 28 39.9 -0.4**
BAIF pmax pmax
comp=Z,20nm,1.6s
BFO Black Forest 86.13 332 *e*P **P 00 28 40.5 0.0**
comp=Z,5.5nm,1.0s
BFO Black Forest 86.13 332*ce*P **P 00 28 41.0 +0.6**
FETA Feichten 86.29 330 *e*PcP **P 00 28 42.2 +0.8**
comp=Z,0.8nm,0.5s
DAVA Damuels 86.41 331 *e*PcP **P 00 28 42.4 +0.4**
comp=Z,4.9nm,0.8s
CDF Champ du Feu 86.45 333 *e*P **P 00 28 41.7 -0.4**
FUORN Ofenpass-Fuorn 86.80 330 *e*P **P 00 28 44.1 0.0**
T36A Boggs Farm, Ca 87.45 44 P **P 00 28 47.1 0.0**
baz=316
Q39A Willow Grove F 87.56 41 P **P 00 28 47.7 +0.2**
baz=318
P40A Paris 87.68 40 P **P 00 28 47.7 -0.4**
baz=318
Q40A Laux Farm, Aux 88.07 40 P **P 00 28 50.6 +0.6**
baz=318
TXAR Lajitas Array 88.14 54 P **P 00 28 50.3 -0.4**
comp=Z,1.4nm,0.6s,baz=306,slow=3.1,SNR=20
R40A Maddies Statio 88.49 41 P **P 00 28 51.7 -0.3**
baz=318
P42A Winchester 88.50 39 P **P 00 28 51.7 -0.3**
baz=320
LDF La Druitiere 88.78 337 *e*P **P 00 28 52.6 -0.5**
LDF pmax pmax
comp=Z,12nm,1.3s
LPL La Plagne 89.09 332 *e*P **P 00 28 55.5 +0.6**
LPL pmax pmax
comp=Z,3.0nm,0.6s
LPG La Plagne 89.09 332 *e*P **P 00 28 55.5 +0.4**
LPG pmax pmax
comp=Z,2.0nm,0.5s
SMF Signal de Mont 89.18 334 *e*P **P 00 28 56.9 +1.8**
SMF pmax pmax
comp=Z,1.0nm,0.6s
GRR Gorron 89.19 338 *e*P **P 00 28 54.8 -0.3**
GRR pmax pmax
comp=Z,5.0nm,0.8s
AVF Avril sur Loir 89.22 334 *e*P **P 00 28 54.9 -0.4**
AVF pmax pmax
comp=Z,14nm,1.0s
V39A Pettigrew 89.57 43 P **P 00 28 57.1 -0.1**
baz=318
U40A Yellville 89.62 43 P **P 00 28 56.7 -0.6**
baz=318

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORIF	**Oris-en-Rattie**	**89.91**	**332**	*e*P	**P**	**00 29 01.7**	**+3.0**
ORIF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
P46A	**Rosedale**	**90.02**	**37**	P	**P**	**00 28 57.7**	**-1.4**
	baz=322						
V40A	**Witts Springs**	**90.04**	**43**	P	**P**	**00 28 58.5**	**-0.9**
	baz=318						
TCF	**Toulx Ste Croi**	**90.05**	**335**	P	**P**	**00 28 59.2**	**0.0**
TCF				pmax	pmax		
	comp=Z,20nm,2.0s						
T42A	**Van Buren**	**90.05**	**41**	P	**P**	**00 28 59.1**	**-0.3**
	baz=319						
X39A	**Fountain Ranch**	**90.28**	**45**	P	**P**	**00 29 00.1**	**-0.4**
	baz=317						
QUIF	**Quistinic**	**90.30**	**339**	*e*P	**P**	**00 28 59.6**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,25nm,1.6s						
VIVF	**Saint-Julien-l**	**90.42**	**333**	*e*P	**P**	**00 29 00.5**	**-0.4**
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
V41A	**Mountainview**	**90.42**	**43**	P	**P**	**00 29 00.3**	**-0.8**
	baz=318						
MIAR	**Mount Ida**	**90.56**	**44**	P	**P**	**00 29 01.4**	**-0.3**
	baz=318						
MIAR	**Mount Ida**	**90.56**	**44**	*e*P	**P**	**00 29 01.7**	**-0.1**
MIAR	**Mount Ida**	**90.56**	**44**	*e*P	**P**	**00 29 01.7**	**-0.1**
RJF	**Les Rejaudoux**	**91.15**	**335**	*e*P	**P**	**00 29 04.3**	**0.0**
RJF				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CAF	**Calviac**	**91.29**	**334**	*e*P	**P**	**00 29 05.3**	**+0.3**
CAF				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LFF	**La Frestale**	**91.73**	**335**	*e*P	**P**	**00 29 07.2**	**+0.2**
LFF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
V47A	**Nunnelly**	**92.82**	**40**	P	**P**	**00 29 11.6**	**-0.6**
	baz=321						
ETSF	**Etsaut**	**93.97**	**335**	*e*P	**P**	**00 29 17.5**	**0.0**
ETSF				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ESDC	**Sonseca Array**	**98.00**	**336**	P	**P**	**00 29 35.3**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=356,slow=4.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**118.69**	**318**	PKP	**PKPdf**	**00 34 46.2**	**-1.9**
	comp=Z,0.1nm,0.4s,baz=41,slow=2.7,SNR=5.4						
LPAZ	**La Paz**	**144.58**	**63**	PKP	**PKPab**	**00 35 35.7**	**0.0**
	comp=Z,1.2nm,0.6s,baz=347,slow=4.2,SNR=6.2						

*ISCJB **01** 00:21:25.4±0.7, 19.°16S±0.°05×69.°65W±0.°09, h122km±5km, mb3.5/2, Error ellipse: s-maj=14.8km s-min=8.5km az=178.0*

*GUC **01** 00:21:26.3±0.7, 19.°22S×69.°63W, h113km±3km, ML3.5*

*IDC **01** 00:21:31.5±1.5, 13.°55S×67.°87W, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.4/38, mbtmp3.4/3, ML2.3/1, Error ellipse: s-maj=57.9km s-min=27.3km az=96.0*

ISC 01 00:21:25.8±1.0, **19.°18S**±0.°05×**69.°66W**±0.°10, **h119**km±7km, **n10**, σ**1.§13**/16, **3C, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.08**	**51**	*e*P	**Pn**	**00 21 42.5**	**+0.1**
MNMC				*e*S	**Sn**	**00 21 54.7**	**-0.3**
MNMC				IAML		00 21 55.7	
	comp=N,6μm,0.2s						
PB11	**IPOC Station P**	**0.57**	**179**	*e*P	**Pn**	**00 21 44.5**	**+0.1**
PB11				*e*S	**Sn**	**00 21 58.0**	**-0.3**
PSGC	**Pisagua**	**0.60**	**226**	⇑*i*P	**Pn**	**00 21 45.0**	**+0.5**
PSGC				*e*S	**Sn**	**00 21 58.5**	**0.0**
PSGC				IAML		00 21 59.1	
	comp=N,3μm,0.5s						
PB12	**IPOC Station P**	**0.85**	**312**	⇑*i*P	**Pn**	**00 21 47.0**	**+0.5**
PB12				*i* S	**Sn**	**00 22 02.4**	**+0.4**
PB08	**IPOC Station P**	**1.07**	**153**	*e*P	**Pn**	**00 21 49.1**	**+0.3**
PB08				*e*S	**Sn**	**00 22 06.1**	**-0.1**
PB08				IAML		00 22 06.6	
	comp=N,594nm,0.4s						
PB01	**IPOC Station P**	**1.86**	**175**	*e*P	**Pn**	**00 21 58.0**	**+0.5**
PB01				IAML		00 22 23.1	
	comp=E,429nm,0.3s						
PB02	**IPOC Station P**	**2.14**	**186**	⇑*e*P	**Pn**	**00 22 01.8**	**+0.8**
LPAZ	**La Paz**	**3.23**	**27**	Pn	**Pn**	**00 22 17.6**	**+1.9**
	comp=E,0.4nm,0.3s,baz=183,slow=7.2,SNR=9.6						
LPAZ				Sn	**Sn**	**00 22 52.0**	**-2.1**
	comp=E,0.6nm,0.3s,baz=211,slow=10,SNR=4.8						
TORD	**Torodi Ar. Bea**	**77.26**	**71**	P	**P**	**00 33 08.8**	**+1.3**
	comp=E,0.6nm,0.5s,baz=247,slow=5.4,SNR=6.1						
YKA	**Yellowknife Ar**	**88.78**	**341**	P	**P**	**00 34 03.7**	**-1.9**
	comp=E,0.2nm,0.6s,baz=137,slow=4.5,SNR=3.8						

*IDC **01** 00:42:03.0±1.9, 0.°34N×97.°40E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/60, mbtmp3.7/8, ML4.0/1, MS2.9/1, Ms1 3.1/1, ms1mx2.5/46, Error ellipse: s-maj=61.3km s-min=20.3km az=59.0*

*DJA **01** 00:42:03.8±0.9, 0°N±5°×9°7E±°, h98km±13km, M3.6/3, MLv3.6/3*

*ISCJB **01** 00:42:04.8±0.9, 0.°36N±0.°06×97.°26E±0.°08, h29km, mb3.6/8, Error ellipse: s-maj=13.2km s-min=5.8km az=145.3*

ISC 01 00:42:06.1±1.1, **0.°29N**±0.°07×**97.°22E**±0.°10, **h29**km, **n17**, σ**1.§29**/19, **mb3.7**/8, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.07**	**20**	P	**Pn**	**00 42 25.0**	**-0.1**
GSI				S	**Sb**	**00 42 41.2**	**+1.6**
PBSI	**Pulau Batu**	**1.12**	**108**	P	**Pn**	**00 42 24.3**	**-1.6**
MNSI	**Mandailing Nat**	**2.42**	**78**	P	**Pn**	**00 42 43.8**	**+0.1**
MNSI				S	**Sn**	**00 43 10.9**	**-1.4**
SISI	**Saibi**	**2.47**	**131**	S	**Sn**	**00 43 12.7**	**-1.0**
TPTI		**2.95**	**359**	P	**Pn**	**00 42 49.6**	**-1.4**
TPTI				S	**Sn**	**00 43 23.2**	**-2.2**
PSI	**Prapat**	**3.02**	**34**	Pn	Pb	00 43 06.7	+7.4
	2.1nm,0.3s,baz=145,slow=13,SNR=5.7						
MLSI	**Meulaboh, Aceh**	**4.03**	**348**	S	**Sn**	**00 43 50.0**	**-2.2**
CMAR	**Chiang Mai Arr**	**18.13**	**5**	P	**Pn**	**00 46 15.3**	**-0.6**
	0.2nm,0.3s,baz=195,slow=10,SNR=11						
CMAR				LR	LR	00 52 56.5	
	comp=Z,35nm,18.5s,baz=165,slow=36						
WRA	**Warramunga Arr**	**41.55**	**121**	P	**P**	**00 49 51.7**	**+0.2**
	0.6nm,0.8s,baz=305,slow=8.7,SNR=4.1						
ASAR	**Alice Springs**	**42.84**	**126**	P	**P**	**00 50 02.1**	**+0.1**
	0.5nm,0.9s,baz=292,slow=8.4,SNR=4.1						
KSRS	**Korea Array**	**46.58**	**34**	P	**P**	**00 50 31.2**	**-0.3**
	0.6nm,0.4s,baz=218,slow=9.0,SNR=3.6						
SONM	**Songino Array**	**48.02**	**8**	P	**P**	**00 50 44.0**	**+1.3**
	0.8nm,0.8s,baz=192,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**48.12**	**346**	P	**P**	**00 50 44.7**	**+1.3**
	1.0nm,0.7s,baz=158,slow=8.0,SNR=15						
KURBB	**Kurchatov Arra**	**52.60**	**345**	P	**P**	**00 51 18.4**	**+1.2**
	0.7nm,0.8s,baz=166,slow=6.8,SNR=11						
ZALV	**Zalesovo Beam**	**54.45**	**351**	P	**P**	**00 51 31.9**	**+1.2**
	0.9nm,0.4s,baz=179,slow=7.4,SNR=8.1						
KLR	**Kul'dur**	**57.05**	**26**	P	**P**	**00 51 49.6**	**+0.1**
	0.1nm,0.7s,baz=236,slow=7.3,SNR=3.3						
TXAR	**Lajitas Array**	**144.42**	**32**	PKP	**PKPdf**	**01 01 40.1**	**-0.5**
	0.2nm,0.9s,baz=335,slow=4.0,SNR=2.7						

*IDC **01** 00:43:26.9±0.6, 7.°46N×36.°13W, h0km, mb4.2/28, mb1 4.3/28, mb1mx4.2/62, mbtmp4.2/28, ML5.0/1, MS4.3/46, Ms1 4.3/46, ms1mx4.2/59, Error ellipse: s-maj=19.8km s-min=11.2km az=158.0*

*ISCJB **01** 00:43:28.0±0.3, 7.°25N±0.°07×36.°00W±0.°05, h15km, mb4.4/65, MS4.4/55, Error ellipse: s-maj=10.5km s-min=5.1km az=152.4*

*GCMT **01** 00:43:29.1±0.1, 7.°56N×36.°32W, h19km, MW5.3/116, Moment Tensor Solution. s88,c145; s116,c223; Duration: 1.§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.03±.02; $M_{\theta\theta}$-0.04±.02; $M_{\phi\phi}$0.06±.02; $M_{r\theta}$0.13±.04; $M_{\theta\phi}$-1.21±.02; $M_{\phi r}$0.00±.04; Best double couple: $M_0$1.21800×10^{17} NP1:ϕ_s271.00000°, δ90.00000°, λ-174.00000°. NP2:ϕ_s181.00000°, δ84.00000°, λ0.00000°. Principal axes: T 1.2330, Plg4.0000°, Azm46.0000°; N -0.0300, Plg84.0000°, Azm275.0000°; P -1.2030, Plg5.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 00:43:29.1±0.4, 7.°29N×36.°00W, h10km, mb4.8/30 Error ellipse: s-maj=12.6km s-min=7.5km az=155.0*

ISC 01 00:43:29.3±0.4, **7.°19N**±0.°06×**36.°07W**±0.°08, **h15**km, **n149**, σ**2.§49**/119, **mb4.5**/66, **MS4.5**/57, **1C, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.93**	**179**	Pn	**Pn**	**00 46 36.1**	**+3.4**
	8.7nm,0.3s,baz=0.9,slow=15,SNR=30						
RCBR				Sn	**Sn**	**00 48 53.8**	**-2.7**
	6.6nm,0.3s,baz=89,slow=19,SNR=8.9						
RCBR	**Riachuelo**	**12.93**	**179**	*e*Pn	**Pn**	**00 46 36.7**	**+4.0**
RCBR				*e*Sn	**Sn**	**00 48 51.8**	**-4.7**
SACV	**Santiago Islan**	**14.46**	**57**	*e*Pn	Pn	00 46 45.7	-7.9
BBTS	**Babate**	**20.55**	**67**	P	Pn	00 48 12.5	+2.7
	39nm,1.0s,baz=254,slow=3.4,SNR=3.9						
BBTS				LR	LR	00 54 03.0	
	comp=Z,1μm,21.3s,baz=254,slow=31						
PTGA	**Pitinga**	**25.11**	**253**	P	**P**	**00 48 53.0**	**-0.8**
	12nm,0.7s,baz=86,slow=12,SNR=18						
PTGA				LR	LR	00 57 57.8	
	comp=Z,1μm,21.8s,baz=72,slow=35						
H10N3	**ASCENSION HYDR**	**26.18**	**124**	T	T	01 16 57.7	
	baz=304,slow=75,SNR=30						
H10N2	**ASCENSION HYDR**	**26.18**	**124**	T	T	01 16 48.7	
	baz=304,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**26.20**	**124**	T	T	01 16 48.6	
	baz=304,slow=75,SNR=23						
H10S3	**ASCENSION HYDR**	**26.69**	**127**	T	T	01 17 22.2	
	baz=306,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**26.69**	**127**	T	T	01 17 22.4	
	baz=306,slow=75,SNR=12						
H10S2	**ASCENSION HYDR**	**26.70**	**127**	T	T	01 17 23.5	
	baz=306,slow=75,SNR=14						
PMOZ	**Porto Moniz, M**	**30.95**	**32**	*e*LR	LR	00 57 17.7	
	638nm,22.0s						
PMOZ	**Porto Moniz, M**	**30.95**	**32**	*e*T	T	01 21 23.2	
FUL	**Funchal**	**30.97**	**33**	*e*T	T	01 21 20.8	
DBIC	**Dimbokro**	**30.98**	**89**	P	**P**	**00 49 48.4**	**+2.0**
	6.0nm,1.1s,baz=267,slow=8.6,SNR=4.0						
DBIC				LR	LR	00 59 43.8	
	comp=Z,281nm,18.3s,baz=244,slow=32						
DBIC	**Dimbokro**	**30.98**	**89**	*e*P	**P**	**00 49 47.6**	**+1.2**
	15nm,1.3s						
PMAR	**Madeira**	**31.02**	**32**	*e*T	T	01 21 18.0	
SJG	**San Juan**	**31.24**	**293**	LR	LR	00 59 37.8	
	comp=Z,916nm,19.7s,baz=102,slow=31						
SAML	**Samuel**	**31.42**	**240**	*e*P	**P**	**00 49 50.6**	**+0.4**
	9.7nm,0.8s						
KOWA	**Kowa**	**32.27**	**74**	P	**P**	**00 49 57.3**	**-0.5**
	7.2nm,0.8s,baz=267,slow=15,SNR=11						
KOWA				LR	LR	01 01 02.8	
	comp=Z,748nm,21.6s,baz=228,slow=33						
SDV	**Santo Domingo**	**34.26**	**275**	P	**P**	**00 50 16.1**	**+0.8**
	3.8nm,0.6s,baz=63,slow=7.1,SNR=5.5						
PAMC	**Pamplona, Colo**	**36.33**	**273**	*e*P	**P**	**00 50 33.9**	**+0.4**
RUSC	**La Rusia**	**36.79**	**270**	*e*P	**P**	**00 50 38.8**	**+1.4**
	14nm,1.3s						
CHIC	**Chingaza**	**37.54**	**268**	*e*P	**P**	**00 50 47.9**	**+4.1**
TOA0	**Torodi Ar. Sit**	**37.61**	**78**	*e*P	**P**	**00 50 43.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**37.61**	**78**	P	**P**	**00 50 43.1**	**-0.7**
	4.0nm,1.0s,baz=271,slow=9.8,SNR=12						
TORD				LR	LR	01 03 51.5	
	comp=Z,846nm,21.4s,baz=270,slow=33						
ROSC	**El Rosal**	**38.11**	**269**	P	**P**	**00 50 48.4**	**-0.1**
	3.7nm,0.4s,baz=76,slow=11,SNR=3.4						
ROSC				LR	LR	01 06 52.9	
	comp=Z,679nm,19.2s,baz=72,slow=37						
PRAC	**Prado**	**38.79**	**267**	*e*P	**P**	**00 50 56.6**	**+2.7**
	88nm,1.8s						
RREF	**El Recreo**	**39.12**	**269**	*e*P	**P**	**00 50 55.8**	**-1.5**
CPUP	**Villa Florida**	**39.19**	**211**	LR	LR	01 07 02.4	
	comp=Z,1μm,18.9s,baz=30,slow=36						
HELC	**Santa Helena**	**39.20**	**271**	*e*P	**P**	**00 50 59.3**	**+1.6**
	34nm,1.2s						
PBDV	**Barranco-do-Ve**	**39.36**	**36**	*e*P	**P**	**00 50 57.7**	**-0.6**
LPAZ	**La Paz**	**39.38**	**233**	P	**P**	**00 50 60.0**	**+0.6**
	18nm,0.8s,baz=72,slow=3.4,SNR=23						
LPAZ				LR	LR	01 06 37.6	
	comp=Z,763nm,18.5s,baz=40,slow=35						
LPAZ	**La Paz**	**39.38**	**233**	P	**P**	**00 50 60.0**	**+0.6**
	17nm,0.8s						
PVAQ	**Vaqueiros**	**39.59**	**36**	*e*S	**S**	**00 57 04.0**	**+1.3**
PVAQ				*e*LQ	LQ	01 00 05.4	
PVAQ				*e*LR	LR	01 01 14.4	
	566nm,22.0s						
EVO	**Evora**	**40.19**	**35**	*e*P	**P**	**00 51 08.0**	**+2.8**
PCON	**Cinco Dias**	**40.46**	**265**	*e*P	**P**	**00 51 08.4**	**0.0**
PBAR	**Barrancos**	**40.51**	**36**	*e*P	**P**	**00 51 07.8**	**0.0**
SOTA	**Rioblanco**	**40.70**	**265**	*e*P	**P**	**00 51 09.1**	**-1.2**
PMRV	**Marv??o**	**41.16**	**34**	*e*P	**P**	**00 51 12.6**	**-0.6**
PMRV				*e*S	**S**	**00 57 28.3**	**+2.2**
PMRV				*e*LQ	LQ	01 00 23.9	
PMRV				*e*LR	LR	01 01 40.2	
	523nm,20.0s						
GCUF	**Volcan Galeras**	**41.57**	**264**	*e*P	**P**	**00 51 13.8**	**-3.7**
MTE	**Manteigas**	**41.75**	**33**	*e*P	**P**	**00 51 18.9**	**+0.8**
MTE				*e*S	**S**	**00 57 35.3**	**+0.4**
MTE				*e*LQ	LQ	01 00 32.6	
MTE				*e*LR	LR	01 02 16.9	
	787nm,22.0s						
MTE	**Manteigas**	**41.75**	**33**	*e*P	**P**	**00 51 18.7**	**+0.6**
	21nm,1.1s						
PVIS	**Viseu**	**41.79**	**33**	*e*P	**P**	**00 51 17.3**	**-1.0**
MNMC	**Minye Minye**	**42.14**	**231**	*e*P	**P**	**00 51 21.8**	**+0.1**
	13nm,0.9s						
PGAV	**Gavieira, Arco**	**42.49**	**31**	*e*P	**P**	**00 51 23.9**	**-0.2**
PGAV				*e*S	**S**	**00 57 38.8**	**-7.0**
PGAV				*e*LQ	LQ	01 00 50.4	
PGAV				*e*LR	LR	01 02 42.5	
	607nm,22.0s						
MVO	**Moncorvo**	**42.57**	**33**	*e*P	**P**	**00 51 24.1**	**-0.6**
MVO				*e*S	**S**	**00 57 42.5**	**-4.4**
MVO				*e*LQ	LQ	01 00 48.6	
MVO				*e*LR	LR	01 01 38.2	
	727nm,20.0s						
OTAV	**Otavalo**	**42.83**	**263**	*e*P	**P**	**00 51 27.2**	**-0.4**
	18nm,1.4s						
TAM	**Tamanrasset**	**42.88**	**64**	*e*P	**P**	**00 51 28.5**	**+0.8**
	17nm,2.0s						
PBRG	**Braganca**	**43.17**	**32**	*e*P	**P**	**00 51 30.5**	**+0.9**
ESDC	**Sonseca Array**	**43.30**	**37**	P	**P**	**00 51 28.9**	**-1.8**
	1.0nm,0.8s,baz=241,slow=8.5,SNR=6.7						
ESDC				LR	LR	01 06 15.8	
	comp=Z,433nm,20.5s,baz=245,slow=32						
ES19	**SONSECA Array**	**43.36**	**37**	*e*P	**P**	**00 51 30.6**	**-0.5**
JTS	**JuntasAbangare**	**48.38**	**277**	LR	LR	01 13 26.2	
	comp=Z,130nm,18.4s,baz=163,slow=37						
IP04	**Greensprings**	**48.86**	**315**	*e*P	**P**	**00 52 14.7**	**+0.3**
	9.8nm,0.6s						
KEST	**Kesra**	**50.28**	**49**	P	**P**	**00 52 25.8**	**+0.3**
	6.7nm,1.0s,baz=198,slow=4.4,SNR=6.7						
KEST	**Kesra**	**50.28**	**49**	*e*P	**P**	**00 52 25.2**	**-0.2**
	14nm,0.9s						
SSB	**Saint Sauveur**	**51.69**	**36**	*e*P	**P**	**00 52 36.2**	**+0.4**
	8.7nm,1.0s						
TKL	**Tuckaleechee C**	**51.98**	**310**	LR	LR	01 09 23.4	
	comp=Z,385nm,21.6s,baz=118,slow=30						
SCHQ	**Schefferville**	**53.51**	**338**	P	**P**	**00 52 48.8**	**-0.4**
	3.9nm,0.6s,baz=131,slow=7.9,SNR=10						
SCHQ				LR	LR	01 11 32.2	
	comp=Z,240nm,20.6s,baz=150,slow=32						
EKA	**Eskdalemuir Ar**	**54.69**	**22**	P	**P**	**00 52 58.6**	**+1.0**
	2.2nm,0.9s,baz=225,slow=7.0,SNR=2.7						
EKA				LR	LR	01 10 49.8	
	comp=Z,280nm,21.9s,baz=235,slow=30						
DAVOX	**Davos/Dischmat**	**55.64**	**37**	P	**P**	**00 53 03.0**	**-2.0**
	3.8nm,0.9s,baz=278,slow=9.0,SNR=7.3						
DAVOX				LR	LR	01 14 11.2	
	comp=Z,680nm,19.8s,baz=260,slow=33						
DAVA	**Damuels**	**55.89**	**36**	*e*P	**P**	**00 53 05.2**	**-1.6**
FETA	**Feichten**	**56.26**	**37**	*e*P	**P**	**00 53 08.3**	**-1.0**
	1.9nm,0.9s						
RETA	**Reutte**	**56.51**	**36**	*e*P	**P**	**00 53 10.4**	**-0.7**
	1.2nm,0.6s						
MOTA	**Moosalm**	**56.64**	**37**	*i* P	**P**	**00 53 11.9**	**-0.1**
	0.1nm,0.2s						
WTTA	**Wattenberg**	**56.92**	**37**	*i* P	**P**	**00 53 13.7**	**-0.4**
	2.4nm,0.4s						
ABTA	**Abfaltersbach**	**57.20**	**38**	*e*P	**P**	**00 53 16.1**	**+0.2**
	1.9nm,0.8s						
PLCA	**Paso Flores**	**57.27**	**211**	P	**P**	**00 53 18.6**	**+2.1**
	1.6nm,0.9s,baz=333,slow=6.0,SNR=3.2						
PLCA				LR	LR	01 18 36.0	
	comp=Z,924nm,18.2s,baz=74,slow=37						
KBA	**Koelnbreinsper**	**57.86**	**38**	*e*P	**P**	**00 53 24.4**	**+3.7**
	0.7nm,0.4s						
GRFO	**Grafenberg**	**57.88**	**34**	*e*P	**P**	**00 53 20.8**	**+0.2**
	21nm,1.4s						
OBKA	**Obir**	**58.35**	**39**	*e*P	P	00 53 28.7	+4.6
	1.4nm,0.6s						
BORG	**Borgarnes**	**58.41**	**7**	LR	LR	01 09 54.7	
	comp=Z,142nm,21.0s,baz=192,slow=27						
SOKA	**Soboth**	**58.72**	**39**	*e*pP	**P**	**00 53 30.3**	**+3.6**
	1.1nm,0.4s						
NKC	**Novy Kostel**	**58.84**	**34**	*e*S	**S**	**01 01 39.8**	**+7.4**
NKC				AMS	AMS	01 14 50.0	
	comp=Z,400nm,18.0s						
GEA0	**GERESS Array S**	**58.89**	**36**	*e*P	**P**	**00 53 27.1**	**-0.6**
GERES	**GERESS Array B**	**58.89**	**36**	P	**P**	**00 53 26.2**	**-1.6**
	1.1nm,0.9s,baz=236,slow=7.0,SNR=6.6						
GERES				LR	LR	01 15 16.7	
	comp=Z,455nm,21.8s,baz=253,slow=32						
KHC	**Kasperske Hory**	**58.95**	**36**	*e*P	**P**	**00 53 30.8**	**+2.7**
KHC				*e*x	x	00 53 43.7	
KHC				*e*S	**S**	**01 01 25.8**	**-8.1**
KHC				AMS	AMS	01 13 50.0	
	comp=Z,500nm,20.0s						
CLL	**Collm**	**59.68**	**33**	*e*S	**S**	**01 01 48.0**	**+4.8**
CLL				*e*SS	SS	01 05 54.0	+15
CLL				Lm	MLR	01 14 00.0	
	comp=N,200nm,19.6s						
CLL				Lm	MLR	01 14 00.0	
	comp=E,300nm,20.8s						
CLL				Lm	MLR	01 14 00.0	
	comp=Z,400nm,21.2s						
CONA	**Conrad Observa**	**59.77**	**38**	*e*P	**P**	**00 53 37.6**	**+3.7**
	comp=Z,0.2nm,0.2s						
PRU	**Pruhonice**	**59.91**	**35**	*e*S	**S**	**01 01 50.9**	**+4.7**
PRU				AMS	AMS	01 13 30.0	
	comp=Z,400nm,18.7s						
BRG	**Berggiesshubel**	**59.99**	**34**	SS	**S**	**01 01 51.0**	**+3.8**
GOPC	**GO Pecny, Ondr**	**60.01**	**35**	*e*S	**S**	**01 01 53.5**	**+5.9**
GOPC				AMS	AMS	01 13 10.0	
	comp=Z,400nm,17.5s						
TREC	**Trest**	**60.14**	**36**	*e*P	**P**	**00 53 35.7**	**-0.6**
TREC				AMS	AMS	01 14 40.0	
	comp=Z,600nm,18.6s						
VRAC	**Vranov**	**60.80**	**37**	P	**P**	**00 53 41.5**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=232,slow=5.2,SNR=3.1						
DIVS	**Divibare**	**60.96**	**43**	*e*P	**P**	**00 53 41.8**	**-0.3**
	comp=Z,18nm,1.4s						
FRB	**Frobisher Bay**	**61.08**	**344**	P	**P**	**00 53 39.8**	**-2.6**
	comp=Z,2.9nm,0.8s,baz=332,slow=6.2,SNR=7.6						
DPC	**Dobruska-Polom**	**61.09**	**35**	*e*S	**S**	**01 02 05.9**	**+4.5**
DPC				AMS	AMS	01 14 20.0	
	comp=Z,400nm,20.0s						
SPMN	**Marine on St.**	**61.80**	**318**	*e*P	**P**	**00 53 48.1**	**+0.5**
	comp=Z,2.7nm,0.5s						
OKC	**Ostrava-Krasne**	**61.94**	**37**	AMS	AMS	01 16 20.0	
	comp=Z,400nm,17.0s						
IDI	**Anoyia**	**62.25**	**54**	LR	LR	01 21 15.3	
	comp=Z,232nm,21.7s,baz=276,slow=36						
SCO	**Scoresbysund**	**63.87**	**5**	*i* P	**P**	**00 54 01.6**	**+0.7**
NB2	**NORSAR Subarra**	**64.14**	**23**	P	**P**	**00 54 04.2**	**+1.3**
	comp=Z,13nm,1.2s,baz=234,slow=6.9						
NOA	**NORSAR Array B**	**64.14**	**23**	P	**P**	**00 54 03.5**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=233,slow=6.8,SNR=2.9						
NOA				LR	LR	01 17 03.5	
	comp=Z,355nm,21.7s,baz=240,slow=32						
HFS	**Hagfors**	**64.63**	**25**	P	**P**	**00 54 06.0**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=226,slow=6.0,SNR=6.6						
HFS				LR	LR	01 17 51.7	
	comp=Z,369nm,21.2s,baz=242,slow=32						
SUMG	**Summit**	**65.34**	**359**	*i* P	**P**	**00 54 12.3**	**+1.3**
	comp=Z,5.5nm,0.8s						
SUMG	**Summit**	**65.34**	**359**	*e*P	**P**	**00 54 12.0**	**+0.9**
	comp=Z,21nm,1.1s						
MLR	**Muntele Rosu**	**65.42**	**43**	LR	LR	01 22 22.7	
	comp=Z,87nm,19.5s,baz=268,slow=36						
MLR	**Muntele Rosu**	**65.42**	**43**	*e*P	**P**	**00 54 11.4**	**-0.3**
	comp=Z,34nm,1.4s						
ULM	**Lac du Bonnet**	**65.44**	**322**	P	**P**	**00 54 10.9**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=98,slow=8.7,SNR=3.8						
ULM				LR	LR	01 17 30.6	
	comp=Z,259nm,21.5s,baz=95,slow=31						
TXAR	**Lajitas Array**	**67.00**	**299**	P	**P**	**00 54 19.4**	**-2.8**
	comp=Z,0.3nm,0.6s,baz=103,slow=7.5,SNR=6.4						
TXAR				LR	LR	01 22 59.3	
	comp=Z,106nm,20.8s,baz=0.0,slow=36						
TX31	**Lajitas Ar. Si**	**67.00**	**299**	*e*P	**P**	**00 54 22.0**	**-0.2**
FCC	**Fort Churchill**	**67.67**	**331**	*e*P	**P**	**00 54 24.4**	**-1.2**
	comp=Z,10nm,1.0s						
MNTX	**Cornudas Mount**	**68.67**	**301**	*e*P	**P**	**00 54 35.5**	**+3.0**
	comp=Z,8.3nm,1.5s						
AKASG	**Malin Array Be**	**68.92**	**38**	P	**P**	**00 54 31.4**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=259,slow=5.4,SNR=3.5						
AKASG				LR	LR	01 23 24.2	
	comp=Z,103nm,19.5s,baz=270,slow=35						
BOSA	**Boshof**	**68.94**	**124**	LR	LR	01 18 13.3	
	comp=Z,321nm,21.1s,baz=288,slow=30						
BR231	**Keskin MP Arra**	**69.20**	**50**	*e*P	**P**	**00 54 37.7**	**+1.9**
BRTR	**Keskin Array B**	**69.85**	**50**	P	**P**	**00 54 39.4**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=230,slow=3.1,SNR=6.9						
BRTR				LR	LR	01 25 07.6	
	comp=Z,255nm,21.8s,baz=228,slow=36						
FFC	**Flin Flon**	**70.36**	**326**	*e*P	**P**	**00 54 44.2**	**+1.7**
	comp=Z,19nm,1.5s						
MMAI	**Mount Meron Ar**	**70.59**	**58**	LR	LR	01 27 11.3	
	comp=Z,138nm,20.9s,baz=40,slow=37						
FINES	**FINESS Array B**	**70.62**	**27**	P	**P**	**00 54 42.1**	**-1.8**
	comp=Z,1.8nm,0.6s,baz=11,slow=1.9,SNR=9.4						
FINES				LR	LR	01 22 34.4	
	comp=Z,398nm,20.3s,baz=245,slow=33						
TULEG	**Thule**	**71.56**	**352**	*e*P	**P**	**00 54 52.0**	**+2.7**
	comp=Z,7.7nm,1.0s						
LPIG	**La Paz**	**72.74**	**293**	LR	LR	01 25 08.1	
	comp=Z,138nm,22.0s,baz=40,slow=34						
PDAR	**Pinedale Array**	**73.04**	**312**	P	**P**	**00 54 56.2**	**-2.9**
	comp=Z,0.3nm,0.6s,baz=88,slow=2.9,SNR=2.7						
ARCES	**ARCESS Array B**	**73.59**	**19**	P	**P**	**00 54 59.2**	**-2.4**
	comp=Z,2.5nm,0.8s,baz=241,slow=5.0,SNR=3.2						
ARCES				LR	LR	01 23 20.7	
	comp=Z,146nm,19.5s,baz=249,slow=33						
KMBO	**Kilima Mbogo**	**73.60**	**93**	LR	LR	01 24 05.2	
	comp=Z,131nm,22.0s,baz=276,slow=33						
MOOW	**Moose Ponds**	**74.00**	**313**	*e*P	**P**	**00 55 06.9**	**+2.1**
	comp=Z,5.8nm,1.0s						
REDW	**Red Top Meadow**	**74.04**	**313**	*e*P	**P**	**00 55 08.1**	**+3.1**
	comp=Z,9.7nm,1.0s						
AHID	**Auburn Hatcher**	**74.17**	**312**	*e*P	**P**	**00 55 08.5**	**+2.8**
	comp=Z,11nm,1.2s						
FXWY	**Fox Creek**	**74.19**	**313**	*e*P	**P**	**00 55 07.8**	**+1.9**
	comp=Z,7.4nm,1.1s						
JLU	**Jordanelle**	**74.26**	**310**	*e*P	**P**	**00 55 05.4**	**-1.0**
	comp=Z,30nm,1.8s						
HWUT	**Hardware Ranch**	**74.42**	**311**	*e*P	**P**	**00 55 07.8**	**+0.5**
	comp=Z,9.9nm,0.8s						
MSU	**Marysvale**	**74.69**	**308**	*e*P	**P**	**00 55 11.0**	**+2.1**
RES	**Resolute Bay**	**75.15**	**346**	P	**P**	**00 55 12.9**	**+2.4**
	comp=Z,2.2nm,0.9s,baz=94,slow=7.3,SNR=5.6						
CCUT	**Cedar City**	**75.59**	**307**	*e*P	**P**	**00 55 14.4**	**+0.3**
	comp=Z,3.7nm,0.8s						
SPITS	**Spitsbergen Ar**	**75.74**	**10**	LR	LR	01 21 49.5	
	comp=Z,150nm,20.0s,baz=165,slow=30						
HLID	**Hailey**	**76.64**	**313**	*e*P	**P**	**00 55 22.2**	**+2.2**
	comp=Z,13nm,1.6s						
KLMR	**Klimovskoe**	**76.74**	**29**	*e*P	P	00 55 12.6	-7.3
KLMR				AMP		00 55 35.8	
	comp=Z,30nm,1.3s						
KLMR				LQ	LQ	01 17 03.7	
KLMR				LQ	LQ	01 17 03.7	
KLMR				LR	LR	01 18 05.8	
KLMR				AMP		01 27 57.1	
	comp=Z,132nm,12.9s						
KLMR				LRM	MLR	01 28 04.2	
KBZ	**Khabaz**	**77.10**	**47**	P	**P**	**00 55 20.1**	**-2.1**
	comp=Z,1.6nm,1.0s,baz=270,slow=2.0,SNR=2.3						
KBZ				LR	LR	01 32 23.5	
	comp=Z,124nm,18.8s,baz=284,slow=38						
YKA	**Yellowknife Ar**	**78.37**	**332**	P	**P**	**00 55 26.1**	**-2.8**
	comp=Z,0.9nm,0.6s,baz=100,slow=5.7,SNR=15						
YKA				LR	LR	01 27 11.6	
	comp=Z,33nm,20.4s,baz=180,slow=34						
GNI	**Garni**	**78.39**	**51**	LR	LR	01 31 19.1	
	comp=Z,187nm,21.8s,baz=276,slow=37						
RPN	**Rapa Nui**	**78.57**	**241**	LR	LR	01 26 24.1	
	comp=Z,225nm,21.9s,baz=82,slow=33						
NEW	**Newport**	**78.72**	**318**	LR	LR	01 25 56.8	
	comp=Z,199nm,20.6s,baz=92,slow=32						
NVAR	**Mina Array Bea**	**79.50**	**308**	P	**P**	**00 55 36.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=111,slow=4.0,SNR=2.9						
NVAR				LR	LR	01 31 23.8	
	comp=Z,96nm,18.0s,baz=270,slow=36						
YBH	**Yreka Blue Hor**	**82.77**	**311**	LR	LR	01 28 38.2	
	comp=Z,260nm,21.7s,baz=98,slow=33						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AKTO	Aktyubinsk	87.11	40	LR	LR	01 34 27.9	
	comp=Z,133nm,19.8s,baz=295,slow=35						
GEYT	Alibeck	88.92	52	LR	LR	01 38 51.9	
	comp=Z,77nm,20.4s,baz=280,slow=37						
WSAR	Wadi Sarin	91.49	66	LR	LR	01 39 31.1	
	comp=Z,236nm,19.1s,baz=288,slow=37						
SYO	Syowa Base	91.57	160⇑	eX	P	00 56 47.0	+12
ILAR	Eielson Array	92.22	336	P	P	00 56 38.7	+0.4
	comp=Z,0.2nm,0.8s,baz=59,slow=3.7,SNR=2.6						
ILAR				LR	LR	01 37 08.7	
	comp=Z,331nm,18.1s,baz=78,slow=35						
BVAR	Borovoye Array	94.06	36	LR	LR	01 37 36.2	
	comp=Z,218nm,20.2s,baz=286,slow=35						
KDAK	Kodiak Island	97.61	331	LR	LR	01 38 43.6	
	comp=Z,120nm,21.9s,baz=65,slow=34						
RKT	Rikitea	100.95	248	eLR	LR	01 30 20.5	
	comp=Z,610nm,27.0s						
KSH	Kashi	102.08	47	eP	Pdif	00 57 23.1	-0.6
KSH				pP	pPdif	00 57 28.1	-0.6
KSH				PP	PP	01 01 36.1	+1.0
KSH				SKS		01 08 01.1	
KSH				S	SKKSac	01 09 00.0	+19
KSH				LR	LR		
	comp=Z,92nm,9.0s						
KSH				LR	LR		
	comp=Z,170nm,11.0s						
KSH				LR	LR		
	comp=Z,280nm,9.0s						
TBI	Tubuai	114.27	248	eLR	LR	01 36 31.0	
	comp=Z,376nm,29.8s						
PPT2	Papeete2	114.51	254	eLR	LR	01 36 36.3	
	comp=Z,254nm,27.0s						
LZH	Lanzhou	122.82	38	ePKP	PKPdf	01 02 22.0	-3.6
LZH				LR	LR		
	comp=Z,160nm,15.4s						
LZH				LR	LR		
	comp=Z,200nm,19.2s						
HHC	Hu-ho-hao-te	123.69	29	ePKP	PKPdf	01 02 21.8	-5.2
HHC				SKS	SKSdf	01 09 32.3	-6.5
HHC				SS	SS	01 20 54.0	-1.8
HHC				AMB	AMB		
	comp=Z,25nm,5.4s						
HHC				LR	LR		
	comp=Z,190nm,16.2s						
HHC				LR	LR		
	comp=Z,220nm,19.9s						
CD2	Chengdu	126.02	43	PKP	PKPdf	01 02 31.0	-0.7
NJ2	Nanjing	134.23	30	ePKP	PKPdf	01 02 48.6	+1.5

*DDA **01** 00:56:43.9, 36.96N×27.41E, h9km, Ml2.7*
*ISCJB **01** 00:56:44.7±0.8, 36.97N±0.04×27.44E±0.04, h1km±6km, Error ellipse: s-maj=7.7km s-min=4.0km az=34.0*
*ISK **01** 00:56:44.3, 37.02N×27.46E, h3km, ML2.7/8*
*CSEM **01** 00:56:45.4±0.2, 37.04N×27.45E, h6km±1km, ML2.7, Error ellipse: s-maj=4.3km s-min=2.6km az=18.0*
ISC 01 00:56:43.2±0.9**, 36.97N**±0.04×**27.51E**±0.03**, h12**km±6km**, n32, σ1.51**/49**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.11	330	i P	Pb	00 56 47.2	-0.1
BDRM				i S	Sg	00 56 48.9	+0.5
BDRM	Kayabasi	0.11	330	P	Pb	00 56 47.2	-0.1
BDRM				S	Sg	00 56 48.9	+0.5
BODT	Bodrum	0.19	300	PG	Pg	00 56 47.3	-0.1
BODT				SG	Sg	00 56 49.8	-0.5
BODT	Bodrum	0.19	300	ePg	Pg	00 56 47.3	-0.1
BODT				eSg	Sg	00 56 49.8	-0.5
YKAV	Yalikavak-Bodr	0.24	310	PG	Pg	00 56 48.7	+0.4
YKAV				SG	Sg	00 56 51.9	+0.1
YKAV	Yalikavak-Bodr	0.24	310	ePg	Pg	00 56 48.7	+0.4
YKAV				eSg	Sg	00 56 51.9	+0.1
MRSB	Marmaris-Mugla	0.60	114	PG	Pn	00 56 57.9	+0.3
MRSB				SG	Sn	00 57 07.9	+0.6
MRSB	Marmaris-Mugla	0.60	114	ePg	Pn	00 56 57.9	+0.3
MRSB				eSg	Sn	00 57 07.9	+0.6
YER	Yerkesik	0.64	75	PG	Pn	00 56 58.1	0.0
YER	Yerkesik	0.64	75	ePg	Pn	00 56 58.1	0.0
AYDN	Tasoluk	0.75	23	i P	Pn	00 56 58.5	-1.1
AYDN				i S	Sn	00 57 09.3	-1.7
AYDN	Tasoluk	0.75	23	P	Pn	00 56 58.5	-1.1
AYDN				S	Sn	00 57 09.3	-1.7
GCAM	G?zelcaml?	0.76	343	PG	Pb	00 56 58.6	+0.2
GCAM	G?zelcaml?	0.76	343	i P	Pg	00 56 57.8	-0.2
GCAM				i S	Sn	00 57 10.8	-0.4
GCAM	G?zelcaml?	0.76	343	P	Pg	00 56 57.8	-0.2
GCAM	G?zelcaml?	0.76	343	ePg	Pb	00 56 58.6	+0.2
TURN	Turunc	0.88	96	PG	Pg	00 56 58.1	-2.0
TURN				SG	Sg	00 57 08.2	-3.4
TURN	Turunc	0.88	96	i P	Pg	00 56 58.0	-2.1
TURN				i S	Sg	00 57 08.3	-3.3
DGB	˜zmir	1.19	335	i P	Pn	00 57 04.8	-0.9
DGB				i S	Sg	00 57 23.8	+2.2
TAVA	DENIZLI_Tavas	1.22	66	i P	Pg	00 57 09.3	+2.6
TAVA				i S	Sg	00 57 26.7	+4.1
TAVA	DENIZLI_Tavas	1.22	66	P	Pg	00 57 09.3	+2.6
TAVA				S	Sg	00 57 26.7	+4.1
ZEY	˜zmir	1.50	328	i P	Pb	00 57 10.6	-0.3
ZEY				i S	Sg	00 57 33.3	+1.8
URLA	Izmir	1.57	333	PN	Pg	00 57 12.9	-0.4
URLA	Izmir	1.57	333	ePn	Pg	00 57 12.9	-0.4
APE	Apeiranthos	1.59	274	PN	Pb	00 57 13.5	+1.0
APE	Apeiranthos	1.59	274	ePn	Pb	00 57 13.5	+1.0
KULA	Kula-Manisa	1.79	30	PN	Pg	00 57 16.7	-0.9
KULA	Kula-Manisa	1.79	30	ePn	Pg	00 57 16.7	-0.9
AKAS	Kas	1.84	113	PN	Pg	00 57 19.3	+0.9
AKAS	Kas	1.84	113	ePn	Pg	00 57 19.3	+0.9
ELL	Elmali	1.93	96	PN	Pg	00 57 19.8	-0.5
ELL	Elmali	1.93	96	ePn	Pg	00 57 19.8	-0.5

*BJI **01** 00:59:58.9, 17.90S×167.94E, h16km, mb4.7/30, mB5.0/20, Ms4.8/12, Ms7 4.6/12*
*NEIC **01** 00:59:60.0±3.1, 17.89S×167.45E, h5km±3km, mb5.1/31, Error ellipse: s-maj=14.5km s-min=9.7km az=143.0*
*IDC **01** 00:59:59.3±0.8, 17.91S×167.49E, h0km, mb4.5/12, mb1 4.8/14, mb1mx4.5/45, mbtmp4.6/14, ML4.5/2, MS4.0/15, Ms1 4.0/15, ms1mx3.7/40, Error ellipse: s-maj=27.3km s-min=18.1km az=136.0*
*ISCJB **01** 01:00:01.7±0.3, 17.95S±0.04×167.42E±0.05, h23km, mb4.9/49, MS4.2/17, Error ellipse: s-maj=7.5km s-min=5.6km az=19.5*
ISC 01 01:00:02.7±0.4**, 17.96S**±0.05×**167.54E**±0.07**, h23**km**, n134, σ1.62**/129**, mb5.0**/47**, MS4.0**/17**, 3C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.22	194	Pn	Pn	01 01 05.9	+0.1
	18nm,0.3s,baz=50,slow=9.7,SNR=180						
DZM				Sn	Sn	01 01 53.4	-1.1
	36nm,0.3s,baz=290,slow=20,SNR=9.1						
DZM				LR	LR	01 02 37.9	
	comp=Z,2µm,19.4s,baz=80,slow=37						
DZM	Mont Dzumac	4.22	194	ePn	Pn	01 01 06.0	+0.1
	254nm,0.6s						
DZM				eSn	Sn	01 01 52.4	-2.1
	935nm,0.7s						
DZM				eLR	LR	01 02 00.0	
	2µm,24.0s						
DZM	Mont Dzumac	4.22	194	ePn	Pn	01 01 05.9	+0.1
DZM				eSn	Sn	01 01 53.7	-0.8
HNR	Honiara	11.23	318	Pn	Pn	01 02 41.2	-0.7
	5.6nm,0.3s,baz=169,slow=8.8,SNR=2.5						
HNR				LR	LR	01 06 02.0	
	comp=Z,627nm,20.1s,baz=150,slow=32						
HNR	Honiara	11.23	318	eP	Pn	01 02 48.0	+6.0
FUNA	Funafuti	14.71	52	ePn	Pn	01 03 25.2	-4.3
LHI	Lord Howe Isla	15.54	208	ePn	Pn	01 03 37.6	-2.8
	75nm,1.0s						
EIDS	Eidsvold	16.97	241	P	P	01 04 00.5	0.0
	baz=18,SNR=5.8						
EIDS	Eidsvold	16.97	241	ePn	Pn	01 03 58.1	-0.7
	62nm,1.4s						
RMQ	Roma	19.33	241	P	Pn	01 04 29.2	+1.5
	baz=20,SNR=22						
CTA	Charters Tower	20.23	261	P	P	01 04 36.5	0.0
	44nm,1.1s,baz=81,slow=12,SNR=16						
CTA	Charters Tower	20.23	261	P	P	01 04 37.2	+0.7
	baz=21						
CTAO	Charters Tower	20.23	261	eP	P	01 04 37.1	+0.6
	71nm,1.1s						
RABL	Rabaul	20.34	310	eP	P	01 04 35.3	-2.4
	171nm,0.4s						
MGCD	Mangrove Creek	21.18	221	P	P	01 04 49.0	+2.4
	baz=22,SNR=8.1						
PMG	Port Moresby	21.53	291	eP	P	01 04 50.3	-0.2
	34nm,1.3s						
URZ	Urewera	21.89	159	LR	LR	01 12 38.7	
	comp=Z,306nm,18.3s,baz=340,slow=35						
MTSU	Mount Surprise	22.08	266	P	P	01 04 56.6	+0.2
	baz=23,SNR=17						
BKZ	Black Stump Fm	22.52	162	eP	P	01 05 02.7	+1.7
	19nm,0.9s						
QLP	Quilpie	23.18	244	P	P	01 05 07.9	-0.1
	baz=24,SNR=37						
YNG	Young	23.60	223	P	P	01 05 14.0	+1.9
	baz=24,SNR=8.3						
CNB	Canberra Magne	23.66	219	P	P	01 05 14.5	+1.9
	baz=24,SNR=13						
COEN	Coen	23.75	276	P	P	01 05 12.9	-0.7
	baz=24,SNR=5.1						
COEN	Coen	23.75	276	eP	P	01 05 13.3	-0.4
	23nm,1.2s						
CAN	Canberra	23.88	220	eP	P	01 05 13.6	-1.2
	181nm,1.5s						
CMSA	Cobar Meteorol	23.95	232	P	P	01 05 16.3	+0.9
	baz=24,SNR=22						
THZ	Tophouse	24.17	170	eP	P	01 05 18.5	+1.2
	108nm,1.4s						
OXZ	Oxford	25.58	172	eP	P	01 05 29.8	-0.3
	141nm,1.9s						
RPZ	Rata Peaks	25.85	174	LR	LR	01 14 41.1	
	comp=Z,270nm,19.3s,baz=340,slow=34						
LBZ	Lake Benmore	26.45	176	eP	P	01 05 38.4	+0.4
	93nm,1.6s						
QIS	Mount Isa	26.49	260	P	P	01 05 38.7	+0.1
	baz=27,SNR=3.4						
STKA	Stephens Creek	27.22	234	P	P	01 05 45.9	+0.9
	46nm,0.9s,baz=58,slow=8.2,SNR=43						
STKA				LR	LR	01 16 06.0	
	comp=Z,173nm,19.7s,baz=49,slow=36						
STKA	Stephens Creek	27.22	234	P	P	01 05 46.0	+0.9
	baz=28,SNR=11						
STKA	Stephens Creek	27.22	234	eP	P	01 05 46.0	+0.9
	22nm,1.1s						
TOO	Toolangi	27.49	220	P	P	01 05 48.5	+1.0
	baz=28						
HTT	Hallett	29.91	233	P	P	01 06 09.8	+0.7
	baz=30,SNR=4.8						
RAR	Rarotonga	30.94	101	LR	LR	01 16 15.0	
	comp=Z,201nm,21.8s,baz=254,slow=32						
WR0	Warramunga Arr	31.25	261	P	P	01 06 19.4	-1.5
	baz=32						
WB2	Warramunga Arr	31.43	261	eP	P	01 06 20.6	-1.9
WRAB	Tennant Creek	31.43	261	eP	P	01 06 20.7	-1.8
	18nm,1.0s						
WR1	Warramunga Arr	31.44	261	eP	P	01 06 20.4	-2.2
	14nm,0.9s						
WRA	Warramunga Arr	31.44	261	P	P	01 06 20.4	-2.2
	9.9nm,0.9s,baz=90,slow=8.8,SNR=47						
WRA				LR	LR	01 17 55.7	
	comp=Z,377nm,21.2s,baz=80,slow=34						
AS01	Alice Springs	31.86	254	eP	P	01 06 25.3	-1.1
AS31	Alice Springs	31.90	254	eP	P	01 06 25.4	-1.3
	4.9nm,0.6s						
ASAR	Alice Springs	31.90	254	P	P	01 06 24.9	-1.8
	9.4nm,0.6s,baz=80,slow=8.5,SNR=107						
ASAR				LR	LR	01 18 46.9	
	comp=Z,532nm,18.8s,baz=92,slow=35						
BBOO	Buckleboo	31.91	236	P	P	01 06 27.0	+0.3
	baz=32,SNR=13						
BBOO	Buckleboo	31.91	236	eP	P	01 06 26.9	+0.3
	64nm,0.9s						
WRKA	Warakurna	37.09	252	P	P	01 07 10.6	-1.0
	baz=38,SNR=5.2						
KNRA	Kununurra	37.14	268	P	P	01 07 10.3	-1.8
	baz=38,SNR=5.3						
FORT	Forrest	37.97	243	P	P	01 07 18.7	-0.2
	baz=38,SNR=9.5						
FORT	Forrest	37.97	243	eP	P	01 07 18.5	-0.4
	421nm,0.8s						
FITZ	Fitzroy Crossi	39.78	263	P	P	01 07 33.4	-0.9
	baz=40,SNR=8.7						
FITZ	Fitzroy Crossi	39.78	263	eP	P	01 07 33.3	-0.9
	40nm,1.0s						
XMAS	Kiritimati	39.80	64	eP	P	01 07 33.3	-1.2
	72nm,0.9s						
TBI	Tubuai	40.48	105	eLR	LR	01 18 53.7	
	347nm,28.5s						
PPT2	Papeete2	40.77	96	eLR	LR	01 19 00.5	
	587nm,27.2s						
BATI	Baumata	43.16	274	LR	LR	01 25 16.4	
	comp=Z,157nm,20.5s,baz=151,slow=35						
KMBL	Kambalda	43.30	243	P	P	01 08 02.4	-0.6
	baz=44,SNR=5.9						
MBWA	Marble Bar	45.03	258	eP	P	01 08 14.9	-2.1
	29nm,0.9s						
MEEK	Meekatharra	45.86	250	P	P	01 08 23.1	-0.4
	baz=46,SNR=7.2						
KLBR	Kellerberrin	46.83	243	P	P	01 08 30.0	-1.0
	baz=47,SNR=7.5						
LUWI	Luwuk	47.06	286	eP	P	01 08 28.7	-4.3
	52nm,1.1s						
NWAO	Narrogin (SRO)	47.38	242	P	P	01 08 35.0	-0.4
	baz=48,SNR=6.7						
NWAO				P	P	01 08 35.0	-0.4
	baz=48,SNR=6.7						
NWAO	Narrogin (SRO)	47.38	242	eP	P	01 08 35.0	-0.4
	191nm,1.8s						
TAOE	Nuku Hiva Isla	51.54	87	eLR	LR	01 24 01.7	
	397nm,24.6s						
JAGI	Jajag, Banyuwa	52.67	273	eP	P	01 09 13.7	-2.0
	38nm,1.3s						
LEM	Lembang	59.34	273	LR	LR	01 37 24.6	
	comp=Z,100nm,18.1s,baz=144,slow=38						
NJ2	Nanjing	68.17	317	eP	P	01 11 02.0	+0.7
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
PSI	Prapat	70.62	280	eP	P	01 11 15.2	-1.9
	34nm,1.3s						
SKNT	Sakolnakorn	71.53	295	P	P	01 11 22.1	-0.3
	8.6nm,1.0s						
QSPA	South Pole Qui	72.09	180	eP	P	01 11 27.1	+2.0
	12nm,1.0s						
CN2	Changchun	72.53	329	eP	P	01 11 27.2	-0.6
CN2				esP	pP	01 11 34.2	-1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
UTHA	Uthaitani	74.89	292	P	P	01 11 44.6	+2.4
	2.7nm,1.2s,131nm						
NANT	Nan	75.14	296	P	P	01 11 45.7	+2.1
	3.7nm,1.3s,102nm						
PHRA	Phrae	75.42	295	P	P	01 11 46.6	+1.4
	77nm,1.2s,57µm						
LAMP	Lampang	75.94	295	P	P	01 11 50.6	+2.4
	4.9nm,1.0s						
KMI	Kunming	76.23	302	P	P	01 11 51.6	+1.6
KMI				sP	sP	01 12 01.2	+1.0
KMI				pmax	pmax		
	comp=Z,17nm,1.2s						
CM01	Chiang Mai Arr	76.48	295	eP	P	01 11 52.3	+1.0
CM31	Chiang Mai Arr	76.51	295	eP	P	01 11 53.0	+1.5
CMAR	Chiang Mai Arr	76.51	295	P	P	01 11 53.0	+1.5
	4.5nm,0.8s,baz=126,slow=4.4,SNR=26						
CMMT	Chiang Mai	76.65	295	P	P	01 11 52.4	+0.1
	12nm,1.3s						
CHTO	Chiang Mai	76.65	295	P	P	01 11 53.5	+1.2
	52nm,1.3s						
CHTO	Chiang Mai	76.65	295	eP	P	01 11 53.0	+0.8
	31nm,1.6s						
CMAI	Chiengmai2	77.03	296	P	P	01 11 56.1	+1.5
	852nm,1.1s,114µm						
CD2	Chengdu	78.18	308	eP	P	01 12 00.5	-0.1
CD2				pP	pP	01 12 05.8	-2.3
CD2				sP	PcP	01 12 07.8	-2.3
CD2				S	S	01 21 55.2	+1.0
CD2				SS	SS	01 26 58.3	+1.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=N,330nm,20.6s						
CD2				LR	LR		
	comp=Z,360nm,22.0s						
HHC	Hu-ho-hao-te	78.20	320	eP	P	01 12 02.7	+2.1
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,86nm,5.6s						
LZH	Lanzhou	80.68	313	eP	P	01 12 15.5	+1.2
LZH				pP	PcP	01 12 20.6	-0.4
LZH				sP	sP	01 12 23.5	-1.0
LZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SEY	Seymchan	81.50	353	P	P	01 12 18.4	+0.6
	0.5nm,0.2s,baz=124,slow=6.6,SNR=3.3						
GTA	Gaotai	85.08	314	eP	P	01 12 37.8	+0.8
GTA				pP	PcP	01 12 42.0	+1.8
GTA				sP	pP	01 12 44.8	+0.2
GTA				S	S	01 23 07.6	+2.2
GTA				sS	pS	01 23 15.5	+0.6
GTA				SS	SS	01 28 43.0	+3.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,51nm,5.2s						
GTA				LR	LR		
	comp=N,130nm,18.1s						
GTA				LR	LR		
	comp=E,140nm,16.6s						
GTA				LR	LR		
	comp=Z,230nm,20.2s						
SONA0	Songino Array	85.23	324	eP	P	01 12 36.6	-0.9
SONM	Songino Array	85.23	324	P	P	01 12 36.6	-1.0
	1.1nm,1.0s,baz=144,slow=3.5,SNR=4.9						
SONM				LR	LR	01 49 44.5	
	comp=Z,173nm,22.0s,baz=340,slow=35						
SONA1	Songino Array	85.23	324	eP	P	01 12 37.9	+0.3
SYO	Syowa Base	85.70	197⇓	eP	P	01 12 39.4	-0.1
CAST	Castle Rocks	86.99	17	eP	P	01 12 45.4	-0.3
	7.7nm,1.0s						
YBH	Yreka Blue Hor	87.51	45	LR	LR	01 44 07.7	
	comp=Z,75nm,20.1s,baz=262,slow=30						
CMB	Columbia Colle	87.52	49	eP	P	01 12 50.6	+1.6
	6.3nm,1.0s						
NV01	Mina Array Sit	89.17	49	eP	P	01 12 56.5	-0.5
NVAR	Mina Array Bea	89.17	49	P	P	01 12 56.5	-0.5
	1.4nm,0.9s,baz=225,slow=8.5,SNR=5.9						
IL1	Eielson Array	89.50	18	eP	P	01 12 57.0	-0.6
ILAR	Eielson Array	89.50	18	P	P	01 12 57.0	-0.6
	1.2nm,0.7s,baz=232,slow=4.8,SNR=14						
ILB	Eielson Array	89.50	18	eP	P	01 12 57.0	-0.6
LPIG	La Paz	90.32	65	LR	LR	01 46 02.4	
	comp=Z,100nm,19.3s,baz=226,slow=31						
SNAA	Sanae	90.36	183	P	P	01 13 02.8	+1.0
	4.7nm,0.9s,baz=158,slow=5.3,SNR=8.3						
SNAA	Sanae	90.36	183	eP	P	01 13 03.3	+1.5
	7.7nm,1.0s						
NIHS	Ingelmoor High	90.51	39	eP	P	01 13 03.5	+0.8
C09A	Chrisman Ranch	92.95	41	eP	P	01 13 11.7	-2.4
	29nm,0.2s						
WMQ	Urumqi	95.16	314	P	P	01 13 26.9	+2.5
WMQ				sP	pP	01 13 32.7	+0.7
WMQ				pmax	pmax		
	comp=Z,76nm,3.7s						
WMQ				LR	LR		
	comp=N,580nm,19.5s						
WMQ				LR	LR		
	comp=E,440nm,23.9s						
WMQ				LR	LR		
	comp=Z,460nm,23.9s						
MCID	Moose Creek	96.26	46	eP	P	01 13 33.5	+4.0
PDAR	Pinedale Array	96.93	47	LR	LR	01 58 01.3	
	comp=Z,34nm,18.0s,baz=264,slow=36						
LTX	Lajitas	97.58	62	eP	Pdif	01 13 36.1	+0.2
TXAR	Lajitas Array	97.58	62	P	Pdif	01 13 36.1	+0.2
	0.7nm,1.0s,baz=318,slow=1.7,SNR=3.5						
TXAR				LR	LR	01 53 06.8	
	comp=Z,39nm,18.0s,baz=0.0,slow=33						
MK32	Makanchi Array	99.70	316	eP	Pdif	01 13 45.8	+1.1
MKAR	Makanchi Array	99.70	316	P	Pdif	01 13 45.8	+1.1
	0.3nm,0.9s,baz=122,slow=5.2,SNR=2.2						
YKA	Yellowknife Ar	100.28	27	P	Pdif	01 13 46.9	+0.1
	0.3nm,0.8s,baz=252,slow=4.4,SNR=5.8						
YKB5	Yellowknife Ar	100.28	27	ePdif	Pdif	01 13 46.9	+0.1
KSH	Kashi	102.38	308	P	Pdif	01 14 00.1	+3.1
KSH				S	Sdif	01 25 40.0	+0.2
KSH				pmax	pmax		
	comp=Z,22nm,1.8s						
KSH				LR	LR		
	comp=N,460nm,15.3s						
KSH				LR	LR		
	comp=E,250nm,14.4s						
KSH				LR	LR		
	comp=Z,240nm,11.4s						
MOA	Molln	143.05	330	pPKiKP	PKPdf	01 19 39.5	+4.7
	3.5nm,1.1s						
OBKA	Obir	143.84	328	esPKiKP	PKPdf	01 19 43.5	+7.2
	9.5nm,1.4s						
KBA	Koelnbreinsper	144.03	330	ePKiKP	PKiKP	01 19 40.4	+0.1
	5.6nm,1.1s						
ABTA	Abfaltersbach	144.67	330	PKPdf	PKPbc	01 19 37.1	+0.5
	8.9nm,1.1s						
MOTA	Moosalm	144.88	332	pPKPdf	PKPdf	01 19 38.8	+0.6
	9.5nm,1.1s						
RETA	Reutte	144.93	332	sPKPdf	PKPdf	01 19 39.6	+1.4
	6.4nm,1.2s						
WLF	Walferdange	144.99	339	⇑PKPbc	PKPbc	01 19 38.9	+1.6
WLF				⇑PKPab	PKPab	01 19 49.8	+12
WLF	Walferdange	144.99	339	ePKPdf	PKPdf	01 19 39.3	+1.2
DOU	Dourbes	145.13	341	⇑PKP	PKPdf	01 19 49.1	+11
BFO	Black Forest	145.29	335	ePKPbc	PKPdf	01 19 39.7	+1.0
FETA	Feichten	145.30	332	sPKPbc	PKPdf	01 19 39.7	+0.7
	18nm,1.0s						
DAVA	Damuels	145.47	333	pPKPdf	PKPdf	01 19 40.2	+1.0
	5.0nm,0.9s						
FUORN	Ofenpass-Fuorn	145.81	332	ePKPdf	PKPab	01 19 42.0	+1.2
BNI	Bardonecchia	148.60	334	ePKPbc	PKPbc	01 19 49.8	+1.6
ESDC	Sonseca Array	157.14	343	PKPab	PKPab	01 20 27.0	-0.5
	0.6nm,0.8s,baz=5.0,slow=2.2,SNR=4.9						
TOA0	Torodi Ar. Sit	165.55	253	ePKPdf	PKPdf	01 20 07.1	+0.7
TORD	Torodi Ar. Bea	165.55	253	PKP	PKPdf	01 20 06.7	+0.2
	1.3nm,1.0s,baz=133,slow=0.5,SNR=5.5						
TORD				PKPab	PKPab	01 21 04.3	-0.8
	1.3nm,0.9s,baz=109,slow=4.1,SNR=5.4						
TOA1	Torodi Ar. Sit	165.56	253	ePKPdf	PKPdf	01 20 06.7	+0.2
TOA1				ePKPab	PKPab	01 21 04.3	-0.8

*ISCJB **01** 01:03:05.8±0.3, 64.00N±0.03×21.83W±0.04, h15km±4km, Error ellipse: s-maj=4.3km s-min=2.8km az=177.6*
*CSEM **01** 01:03:06.6, 64.00N×21.81W, h4km, ML3.6, After REY*
*REY **01** 01:03:06.6, 64.00N×21.81W, h4km*
ISC 01 01:03:04.7±0.8**, 64.00N**±0.02×**21.81W**±0.02**, h18**km±3km**, n57, σ0.81**/109**, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAS	Kald??rsel	0.03	315	P	Pg	01 03 07.6	-0.3
	baz=327						
IKAS				S	Sg	01 03 08.9	-1.1
	baz=327						
IKAS	Kald??rsel	0.03	315	P	Pg	01 03 07.6	-0.3
IKAS				S	Sg	01 03 08.9	-1.1
ISAN	Sandskeio	0.12	63	P	Pg	01 03 09.4	+0.8
	baz=61						
ISAN				S	Sg	01 03 11.8	+0.7
	baz=61						
ISAN	Sandskeio	0.12	63	P	Pg	01 03 09.4	+0.8
ISAN				S	Sg	01 03 11.8	+0.7
IKRI	Krysuvik	0.17	223	P	Pg	01 03 10.1	+0.8
	baz=224						
IKRI				S	Sg	01 03 12.9	+0.6
	baz=224						
IKRI	Krysuvik	0.17	223	P	Pg	01 03 10.1	+0.8
IKRI				S	Sg	01 03 12.9	+0.6
IBJA	Bjarnastaoir	0.23	104	P	Pg	01 03 11.2	+1.1
	baz=103						
IBJA				S	Sg	01 03 14.9	+1.2
	baz=103						
IBJA	Bjarnastaoir	0.23	104	P	Pg	01 03 11.2	+1.1
IBJA				S	Sg	01 03 14.9	+1.2
IVOG	Vogar	0.26	263	P	Pg	01 03 11.8	+1.2
	baz=264						
IVOG				S	Sg	01 03 16.2	+1.6
	baz=264						
IVOG	Vogar	0.26	263	P	Pg	01 03 11.8	+1.2
IVOG				S	Sg	01 03 16.2	+1.6
IKRO	Krokur	0.32	72	S	Sb	01 03 17.6	+0.8
	baz=71						
IKRO				P	Pb	01 03 12.7	+0.8
	baz=71						
IKRO	Krokur	0.32	72	P	Pb	01 03 12.7	+0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKRO				S	Sb	01 03 17.5	+0.8
IHEI	Heioarbar	0.32	52	S	Sb	01 03 17.5	+0.7
	baz=51						
IHEI				P	Pb	01 03 12.8	+0.9
	baz=51						
IHEI	Heioarbar	0.32	52	P	Pb	01 03 12.8	+0.9
IHEI				S	Sb	01 03 17.5	+0.7
IKUD	Kuludalsa	0.32	355	P	Pn	01 03 12.8	-1.7
	baz=355						
IKUD				S	Sb	01 03 17.7	+0.9
	baz=355						
IKUD	Kuludalsa	0.32	355	P	Pn	01 03 12.8	-1.7
IKUD				S	Sb	01 03 17.7	+0.9
IGRV	Grindav??k	0.32	243	P	Pn	01 03 12.6	-1.9
	baz=244						
IGRV				S	Sb	01 03 17.3	+0.5
	baz=244						
IGRV	Grindav??k	0.32	243	P	Pn	01 03 12.6	-1.9
IGRV				S	Sb	01 03 17.3	+0.5
INYL	Nylenda	0.41	266	S	Sb	01 03 20.2	+0.8
	baz=267						
INYL				P	Pn	01 03 14.2	-1.5
	baz=267						
INYL	Nylenda	0.41	266	P	Pn	01 03 14.2	-1.5
INYL				S	Sb	01 03 20.2	+0.8
IASM	Asmuli	0.55	107	S	Sg	01 03 24.4	+1.2
	baz=107						
IASM				P	Pn	01 03 16.6	-1.1
	baz=107						
IASM	Asmuli	0.55	107	P	Pn	01 03 16.6	-1.1
IASM				S	Sg	01 03 24.4	+1.2
ISAU	Saurbar	0.61	91	P	Pn	01 03 17.6	-1.0
	baz=90						
ISAU				S	Sg	01 03 26.3	+1.2
	baz=90						
ISAU	Saurbar	0.61	91	P	Pn	01 03 17.6	-1.0
ISAU				S	Sg	01 03 26.3	+1.2
IGYG	Gygjarholskot	0.75	68	P	Pn	01 03 19.9	-0.6
	baz=67						
IGYG				S	Sn	01 03 30.5	-0.9
	baz=67						
IGYG	Gygjarholskot	0.75	68	P	Pn	01 03 19.9	-0.6
IGYG				S	Sn	01 03 30.5	-0.9
IASB	`sbjarnarst	0.78	15	P	Pn	01 03 20.2	-0.6
	baz=16						
IASB				S	Sn	01 03 31.0	-1.0
	baz=16						
IASB	`sbjarnarst	0.78	15	P	Pn	01 03 20.2	-0.6
IASB				S	Sn	01 03 31.0	-1.0
IHAU	Haukadalur	0.81	92	P	Pn	01 03 21.0	-0.3
	baz=91						
IHAU				S	Sn	01 03 32.3	-0.6
	baz=91						
IHAU	Haukadalur	0.81	92	P	Pn	01 03 21.0	-0.3
IHAU				S	Sn	01 03 32.3	-0.6
IVES	Vestmannaeyjar	0.88	129	P	Pn	01 03 22.1	-0.2
	baz=129						
IVES				S	Sn	01 03 34.0	-0.5
	baz=129						
IVES	Vestmannaeyjar	0.88	129	P	Pn	01 03 22.0	-0.2
IVES				S	Sn	01 03 34.0	-0.5
IMJO	Mjoaskard	0.94	93	S	Sn	01 03 36.7	+0.5
	baz=93						
IMJO				P	Pg	01 03 23.4	+0.3
	baz=93						
IMJO	Mjoaskard	0.94	93	P	Pg	01 03 23.4	+0.3
IMJO				S	Sn	01 03 36.7	+0.5
ISMJ	Smjorgil	1.01	108	P	Pg	01 03 24.2	0.0
	baz=108						
ISMJ				S	Sg	01 03 38.2	+0.7
	baz=108						
ISMJ	Smjorgil	1.01	108	P	Pg	01 03 24.2	0.0
ISMJ				S	Sg	01 03 38.2	+0.7
IESK	Eystri-Skogar	1.15	114	P	Pb	01 03 25.9	-0.2
	baz=113						
IESK				S	Sg	01 03 41.5	-0.6
	baz=113						
IESK	Eystri-Skogar	1.15	114	P	Pb	01 03 25.9	-0.2
IESK				S	Sg	01 03 41.5	-0.6
IGOD	Go??abunga	1.16	106	P	Pg	01 03 26.7	-0.4
	baz=106						
IGOD				S	Sg	01 03 41.7	-0.5
	baz=106						
IGOD	Go??abunga	1.16	106	P	Pg	01 03 26.7	-0.4
IGOD				S	Sg	01 03 41.7	-0.5
IALF	Alftagrof	1.27	113	P	Pb	01 03 28.0	-0.2
	baz=112						
IALF				S	Sg	01 03 45.9	-0.1
	baz=112						
IALF	Alftagrof	1.27	113	P	Pb	01 03 28.0	-0.2
IALF				S	Sg	01 03 45.9	-0.1
IVAT	Vatnsfell	1.28	80	S	Sg	01 03 45.8	-0.4
	baz=80						
IVAT				P	Pb	01 03 28.7	+0.3
	baz=80						
IVAT	Vatnsfell	1.28	80	P	Pb	01 03 28.7	+0.3
IVAT				S	Sg	01 03 45.8	-0.4
IHVE	Hveravellir	1.30	47	S	Sg	01 03 46.5	-0.4
	baz=47						
IHVE				P	Pb	01 03 28.7	0.0
	baz=47						
IHVE	Hveravellir	1.30	47	P	Pb	01 03 28.7	0.0
IHVE				S	Sg	01 03 46.5	-0.4
IHVO	Lagu-Hvolar	1.40	109	P	Pb	01 03 30.0	-0.3
	baz=108						
IHVO				S	Sg	01 03 49.5	-0.4
	baz=108						
IHVO	Lagu-Hvolar	1.40	109	P	Pb	01 03 30.0	-0.3
IHVO				S	Sg	01 03 49.5	-0.4
ISNB	Snabyli	1.43	99	P	Pb	01 03 31.0	+0.1
	baz=99						
ISNB				S	Sg	01 03 50.7	-0.2
	baz=99						
ISNB	Snabyli	1.43	99	P	Pb	01 03 31.0	+0.1
ISNB				S	Sg	01 03 50.7	-0.2
IRJU	Rjupnafell	1.44	104	P	Pb	01 03 30.7	-0.4
	baz=104						
IRJU				S	Sg	01 03 50.8	-0.6
	baz=104						
IRJU	Rjupnafell	1.44	104	P	Pb	01 03 30.7	-0.4
IRJU				S	Sg	01 03 50.8	-0.6
IJOK	Jokulheimar	1.60	77	P	Pb	01 03 33.8	0.0
	baz=77						
IJOK	Jokulheimar	1.60	77	P	Pb	01 03 33.8	0.0
IKAL	Kalfafell	1.82	90	P	Pb	01 03 37.2	-0.2
	baz=90						
IKAL	Kalfafell	1.82	90	P	Pb	01 03 37.2	-0.2
SCO	Scoresbysund	6.51	360	*i* P	Pn	01 04 39.4	-0.1
SCO				*i* S	Sb	01 06 04.5	-10

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*ISN **01** 01:12:51.8±0.7, 30°.49N×47°.76E, h0km±4km, ML3.1*
*CSEM **01** 01:12:55.2±1.5, 30°.83N×47°.88E, h10km, ML3.2, Error ellipse: s-maj=40.9km s-min=10.6km az=159.0*
TEH 01 01:12:52.7, 30°.45N×47°.99E, h10km, ML3.1, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NSR	Nassriya	1.69	290	*e*Pg	Pb	01 13 23.0	-0.8
	baz=112,SNR=9.0						
NSR				*i* Sg	Sb	01 13 45.0	-0.1
	SNR=9.0						
SHGR	Shooshtar-Gavs	1.79	23	*e*Pg	Pn	01 13 22.5	-1.2
SHGR				*e*Sg	Sn	01 13 43.7	-2.9
IPIR	Pirpir	3.33	47	*e*Pn	Pn	01 13 44.8	-0.4
IPIR				*e*Sn	Sn	01 14 23.1	-1.9
IPIR				*e*AMB	AMB	01 14 36.9	
	comp=Z,522nm,0.3s						
KHMZ	Khomeyn	3.68	27	*e*Pn	Pn	01 13 49.2	-0.7
IRAM	Ramesheh	4.00	69	*e*Pn	Pn	01 13 54.0	-0.4
IRAM				*e*AMB	AMB	01 14 45.5	
	comp=Z,171nm,0.2s						
IKLH	Kolahrood	4.19	46	*e*Pn	Pn	01 13 56.6	-0.3
IKLH				*e*AMB	AMB	01 15 12.5	
	comp=Z,465nm,0.5s						
IZEF	Zefreh	4.43	56	*e*Pn	Pn	01 13 59.2	-1.1
IZEF				*e*AMB	AMB	01 15 07.4	
	comp=Z,108nm,0.4s						
ASAO	Ashtian	4.43	22	*e*Pn	Pn	01 13 59.8	-0.5

IDC 01 01:16:34.3±3.3, 51°.68N×96°.07E, h0km, mb1 2.7/1, mb1mx2.6/72, mbtmp2.7/1, ML2.8/1, Error ellipse: s-maj=52.5km s-min=19.5km az=16.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	7.19	293	Pg	Pg	01 18 45.9	-5.9
	0.2nm,0.3s,baz=109,slow=12,SNR=3.3						
ZALV				Lg	Lg	01 20 19.6	
	0.7nm,0.3s,baz=118,slow=20,SNR=9.1						
SONM	Songino Array	7.71	116	Pg	Pb	01 18 53.4	+4.6
	0.1nm,0.3s,baz=300,slow=18,SNR=4.9						
SONM				Lg	Lg	01 20 38.1	
	0.7nm,0.3s,baz=297,slow=29,SNR=7.7						
MKAR	Makanchi Array	10.25	247	Pn	Pn	01 19 03.4	+0.9
	0.1nm,0.3s,baz=56,slow=16,SNR=5.0						
MKAR				Lg	Lg	01 21 56.7	
	0.1nm,0.3s,baz=53,slow=31,SNR=3.7						
KURBB	Kurchatov Arra	11.07	271	Lg	Lg	01 22 22.8	
	0.0nm,0.3s,baz=80,slow=36,SNR=4.4						

DJA 01 01:25:33.9±0.5, 0°S±4°×12°3E±°, h141km±6km, M4.4/6, mB4.9/1, mb4.8/1, MLv4.3/6, Mw(mB)4.2/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUWI	Luwuk	0.93	186	P	Pn	01 25 58.1	+0.9
LUWI				S	Sn	01 26 15.9	+0.9
MRSI	Marisa	1.10	302	P	Pn	01 25 58.6	-0.1
MRSI				S	Sn	01 26 17.1	-0.5
KMSI	Cibinong	1.30	59	P	Pn	01 26 02.4	+1.7
MPSI	Mapaga	3.00	279	P	Pn	01 26 21.0	0.0
MPSI				S	Sn	01 26 57.9	+0.6
SANI	Sanana	3.67	122	P	Pn	01 26 27.6	-1.9
SANI				S	Sn	01 27 09.0	-3.7
TTSI	Tana Toraja	4.22	226	P	Pn	01 26 37.7	+0.9
NLAI	Namlea	5.25	126	P	Pn	01 26 50.8	+0.3
NLAI				S	Sn	01 27 50.9	+0.7

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*ISCJB **01** 01:39:01.5±2.2, 36°.34N±0°.04×142°.26E±0°.09, h28km±19km, mb3.7/5, Error ellipse: s-maj=12.2km s-min=6.4km az=8.0*
*IDC **01** 01:39:01.8±2.6, 35°.87N×141°.92E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/65, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=82.0km s-min=26.7km az=62.0*
*JMA **01** 01:39:02.1±0.1, 36°.34N×142°.20E, h71km±3km, M3.2*
ISC 01 01:39:03.0±3.9, 36°.35N±0°.05×142°.3E±0°.1, h23km±26km, n24, σ1s62/24, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	1.30	241	P	Pn	01 39 24.3	-1.4
CHOJ				*e*S	Sn	01 39 40.9	-1.5
JHO	Hitachi	1.39	282	P	Pn	01 39 25.2	-1.7
JHO				S	Sn	01 39 42.7	-1.8
ONAJ	Iwakimizuishiy	1.39	303	P	Pn	01 39 25.6	-1.5
JFK	Kawauchi	1.51	313	P	Pn	01 39 27.1	-1.5
JMM	Marumori	1.92	323	P	Pn	01 39 32.8	-1.4
JMM				S	Sn	01 39 56.2	-1.4
JFT	Otama	1.93	308	P	Pn	01 39 33.4	-1.0
JFT				*e*S	Sn	01 39 56.0	-2.0
BSO1	Boso 1	1.98	212	*e*S	Sn	01 39 57.5	-1.0
BSO3	Boso 3	2.10	223	*e*S	Sn	01 40 00.2	-1.4
JIO	Ouri	2.23	341	P	Pn	01 39 37.2	-1.2
JIO				*e*S	Sn	01 40 03.5	-1.7
JAG	Ashikaga	2.26	273	P	Pn	01 39 37.7	-1.3
JOU	Okura	2.38	328	P	Pn	01 39 39.8	-0.8
MJAR	Matsushiro Arr	3.27	275	Pn	Pn	01 39 52.2	-0.6
	3.3nm,0.3s,baz=119,slow=7.3,SNR=16						
MJAR				Sn	Sb	01 40 40.8	+1.2
	baz=119,slow=27,SNR=3.1						
MAT	Matsushiro	3.27	275	P	Pn	01 39 52.9	+0.1
MAT				*e*S	Sn	01 40 31.2	+0.2
H11N2	WAKE ISLAND Hy	27.21	121	T	T	02 13 21.2	
	baz=313,slow=75,SNR=7.0						
H11N1	WAKE ISLAND Hy	27.22	121	T	T	02 13 18.5	
	baz=313,slow=75,SNR=6.8						
H11N3	WAKE ISLAND Hy	27.23	121	T	T	02 13 13.7	
	baz=313,slow=75,SNR=4.7						
H11S1	WAKE ISLAND Hy	27.92	123	T	T	02 14 11.0	
	baz=314,slow=75,SNR=3.4						
H11S3	WAKE ISLAND Hy	27.92	123	T	T	02 14 04.7	
	baz=314,slow=75,SNR=3.6						
H11S2	WAKE ISLAND Hy	27.93	123	T	T	02 14 17.0	
	baz=314,slow=75,SNR=3.3						
SONM	Songino Array	28.73	305	P	P	01 44 59.4	+0.8
	0.8nm,0.8s,baz=112,slow=8.0,SNR=5.8						
ZALV	Zalesovo Beam	42.88	313	P	P	01 47 03.9	+4.6
	0.5nm,0.4s,baz=77,slow=6.4,SNR=2.4						
MKAR	Makanchi Array	45.06	303	P	P	01 47 19.3	+2.3
	0.6nm,0.6s,baz=90,slow=7.8,SNR=10						
KURBB	Kurchatov Arra	46.96	309	P	P	01 47 35.0	+3.2
	0.8nm,0.2s,baz=81,slow=7.9,SNR=5.5						
WRA	Warramunga Arr	56.48	189	P	P	01 48 41.9	-1.3
	0.6nm,1.1s,baz=6.4,slow=7.3,SNR=2.8						

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*ISCJB **01** 01:41:10.5±0.2, 4°.34N±0°.02×76°.53W±0°.03, h119km±2km, mb4.4/44, Error ellipse: s-maj=4.4km s-min=3.3km az=28.4*
*NEIC **01** 01:41:11.2±0.4, 4°.21N×76°.54W, h117km±3km, mb4.7/39, ML4.3(RSNC), Error ellipse: s-maj=4.7km s-min=4.5km az=55.0*
NEIC Felt [III] at Armenia, Chinchina and Santa Rosa de Cabal; [II] at Cali and Pereira. Also felt at Buga, Dos Quebradas, El Cairo, Ibague, Libano, Manizales, Mariquita, Montenegro, Neiva, Roncesvalles, Trujillo and Tulua.
*RSNC **01** 01:41:12.7±1.0, 4°.37N×76°.55W, h94km±5km, ML4.5, Mw4.8*
*IDC **01** 01:41:13.7±0.8, 4°.37N×76°.43W, h134km±5km, mb4.1/18, mb1 4.2/26, mb1mx4.1/46, mbtmp4.6/26, MS3.3/4, Ms1 3.3/4, ms1mx2.9/39, Error ellipse: s-maj=12.7km s-min=8.2km az=12.0*
ISC 01 01:41:11.7±0.5, 4°.34N±0°.03×76°.55W±0°.03, h116km±4km, h117km:pP-P, n163, σ1s82/198, mb4.4/45, 1C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOTC	Yotoco, Valle	0.41	149	*e*P	Pn	01 41 27.3	-1.6
YOTC				*e*S	Sn	01 41 38.6	-3.2
YOTC				*i*		01 41 40.7	
	comp=Z,8μm,0.2s						
PLMC	San Jos^' del	0.63	26	*e*P	Pn	01 41 28.4	-1.8
PLMC				*e*S	Sn	01 41 40.1	-4.1
HORQ	Saladito	0.85	185	*e*P	Pn	01 41 31.0	-1.3
HORQ				*e*S	Sn	01 41 46.3	-1.6
HORQ				*i*		01 41 49.5	
	comp=Z,7μm,0.4s						
ANIL	Santa Ana	1.16	82	*e*P	Pn	01 41 34.1	-1.2
ANIL				*e*S	Sn	01 41 50.6	-2.7
TOLC	Tolima	1.25	79	*e*P	Pn	01 41 35.3	-1.1
TOLC				*e*S	Sn	01 41 52.8	-2.4
RREF	El Recreo	1.33	65	*e*P	Pn	01 41 36.7	-0.9
RREF				*e*S	Sn	01 41 55.9	-1.2
RREF				*i*		01 42 00.7	
	comp=Z,3μm,0.4s						
GUYC	Guyana, Colomb	1.46	53	*e*P	Pn	01 41 38.5	-0.4
GUYC				*e*S	Sn	01 41 56.9	-2.6
GUYC				*i*		01 42 04.4	
	comp=Z,7μm,0.5s						
MARP	Paez Belalcaza	1.60	158	*e*P	Pn	01 41 40.5	+0.1
MARP				*i*		01 41 42.7	
	comp=Z,6μm,0.3s						
MARP				*e*S	Sn	01 42 01.7	-0.4
PRAC	Prado	1.77	110	*e*Pn	Pn	01 41 40.8	-1.4
PRAC				*e*Sn	Sn	01 42 03.7	-1.8
PRAC	Prado	1.77	110	*e*P	Pn	01 41 41.8	-0.4
PRAC				*e*S	Sn	01 42 04.7	-0.8
POPC	Popayan, Colom	1.79	184	*e*P	Pn	01 41 42.2	-0.4
POPC				*e*S	Sn	01 42 05.3	-0.8
POPC				*i*		01 42 08.0	
	comp=Z,9μm,0.3s						
BETC	Betania	1.98	146	*e*P	Pn	01 41 44.9	0.0
BETC				*e*S	Sn	01 42 09.5	-0.7
PCON	Cinco Dias	2.00	176	*e*P	Pn	01 41 46.0	+0.5
PCON				*e*S	Sn	01 42 11.5	+0.2
PCON				*i*		01 42 17.2	
	comp=Z,5μm,0.7s						
SOLC	Bahia Solano	2.06	336	*e*P	Pn	01 41 45.5	-0.3
NORC	Norcasia	2.08	54	*e*P	Pn	01 41 45.6	-0.4
NORC				*e*S	Sn	01 42 10.2	-2.0
HELC	Santa Helena	2.11	29	*e*Pn	Pn	01 41 45.6	-1.0
HELC				*e*Sn	Sn	01 42 10.3	-3.1
HELC	Santa Helena	2.11	29	*e*P	Pn	01 41 45.4	-1.3
HELC				*e*S	Sn	01 42 11.7	-1.8
SOTA	Rioblanco	2.19	181	⇓*i*P	Pn	01 41 47.8	-0.1
SOTA				*i*		01 42 24.0	
	comp=Z,5μm,0.5s						
ROSC	El Rosal	2.28	77	P	Pn	01 41 50.2	+1.3
	comp=Z,196nm,0.3s,baz=341,slow=4.5,SNR=270						
ROSC				S	Sn	01 42 18.4	+1.0
	comp=Z,83nm,0.3s,baz=220,slow=23,SNR=9.7						
ROSC				LR	LR	01 42 45.2	
	comp=Z,569nm,19.2s,baz=232,slow=42						
ROSC	El Rosal	2.28	77	*e*Pn	Pn	01 41 49.8	+0.9
ROSC				*e*		01 42 11.6	
ROSC				*e*		01 42 45.2	
DBBC	Dabeiba	2.69	7	*e*P	Pn	01 41 54.2	+0.3
CRUC	La Cruz	2.78	188	*e*P	Pn	01 41 55.5	+0.2
SJAC	San Juan de Ar	2.80	112	*i* P	Pn	01 41 55.4	0.0
VILC	Villavicencio,	2.86	94	*e*P	Pn	01 41 56.9	+0.7
VILC				*i*		01 41 59.1	
	comp=Z,3μm,0.5s						
FLOC	Florencia	2.88	162	*e*P	Pn	01 41 56.2	-0.1
FLOC				*i*		01 42 32.4	
	comp=Z,2μm,0.3s						
PTBC	PUERTO BERRIO,	3.03	44	*e*P	Pn	01 41 57.4	-0.9
PTBC				*e*S	Sn	01 42 32.9	-1.3
TUMC	Tumaco	3.31	221	*e*Pn	Pn	01 42 00.1	-1.8
TUMC				*e*Sn	Sn	01 42 34.1	-6.6
ZARC	Zaragoza, Cauc	3.56	28	*e*P	Pn	01 42 04.4	-1.0
ZARC				*i*		01 42 54.1	
	comp=Z,972nm,0.5s						
RUSC	La Rusia	3.79	66	*e*Pn	Pn	01 42 08.9	+0.1
RUSC				*e*Sn	Sn	01 42 55.4	+2.5
RUSC	La Rusia	3.79	66	*e*P	Pn	01 42 09.5	+0.7
RUSC				*e*S	Sn	01 42 52.7	-0.3
RUSC				*i*		01 42 57.2	
	comp=Z,452nm,0.8s						
BRRC	Barranca, Sant	3.95	46	*e*P	Pn	01 42 09.4	-1.1
BRRC				*i*		01 43 10.3	
	comp=Z,375nm,0.6s						
YOPC	Yopal, Colombi	4.24	76	*e*P	Pn	01 42 14.9	+0.3
YOPC				*e*S	Sn	01 43 03.3	+0.1
CAPC	Capurgana	4.34	350	*e*P	Pn	01 42 15.1	-0.7
CAPC				*i*		01 42 18.6	
	comp=Z,917nm,0.4s						
OTAV	Otavalo	4.49	205	*e*Pn	Pn	01 42 15.7	-2.5
OTAV				*e*Sn	Sn	01 43 03.2	-6.5
PAMC	Pamplona, Colo	4.86	52	*e*P	Pn	01 42 22.6	-0.6
MAPC	Malpelo	5.05	266	*e*P	Pn	01 42 25.4	0.0
BCIP	Isla Barro Col	5.80	326	*e*Pn	Pn	01 42 35.1	-0.4
BCIP				*e*Sn	Sn	01 43 35.1	-5.7
SDV	Santo Domingo	7.42	52	P	Pn	01 42 56.8	-0.7
	comp=Z,13nm,0.3s,baz=262,slow=5.6,SNR=36						
SDV				S	Sn	01 44 16.5	-3.8
	comp=Z,16nm,0.3s,baz=17,slow=21,SNR=7.5						
SDV	Santo Domingo	7.42	52	*e*Pn	Pn	01 42 56.5	-1.0
SDV				*e*Sn	Sn	01 44 17.4	-2.8
JTS	JuntasAbangare	10.21	306	P	Pn	01 43 38.1	+2.9
	comp=Z,0.7nm,0.3s,baz=83,slow=5.7,SNR=3.9						
JTS				S	Sn	01 45 31.0	+3.1
	comp=Z,0.9nm,0.3s,baz=356,slow=19,SNR=2.3						
JTS				LR	LR	01 46 57.5	
	comp=Z,87nm,21.3s,baz=158,slow=33						
JTS	JuntasAbangare	10.21	306	Pn	Pn	01 43 36.3	+1.1
ATAH	Atahualpa	11.54	189	P	Pn	01 43 56.2	+2.8
	comp=Z,0.7nm,0.3s,baz=53,slow=8.1,SNR=9.9						
PCRV	Puerto La Cruz	13.17	63	P	Pn	01 44 15.9	+1.6
	comp=Z,0.7nm,0.3s,baz=217,slow=7.1,SNR=3.0						
PCRV				S	Sn	01 46 34.8	-4.7
	comp=Z,0.4nm,0.3s,baz=174,slow=18,SNR=2.8						
MTDJ	Mount Denham	13.84	356	*e*Pn	P	01 44 26.5	-1.1
PAYG	Puerto Ayora	14.60	250	*e*Pn	Pn	01 44 30.2	-2.5
SDDR	Presa de Saban	15.44	19	*e*Pn	P	01 44 46.3	+1.0
	comp=Z,59nm,1.3s						
GTBY	Guantanamo Bay	15.56	5	*e*Pn	P	01 44 45.8	-0.7
	comp=Z,138nm,1.8s						
WBCY	West Bay, Gran	15.68	343	*e*Pn	Pn	01 44 45.7	-0.5
	comp=Z,771nm,1.9s						
NNA	Nana	16.22	181	P	P	01 44 55.1	+1.2
	comp=Z,5.2nm,0.3s,baz=355,slow=11,SNR=24						
MPR	Mayaguez	16.58	33	*e*Pn	Pn	01 44 52.2	-5.2
	comp=Z,141nm,1.8s						
GRGR	Grenville	16.65	61	*e*Pn	Pn	01 44 58.0	-0.2
	comp=Z,257nm,1.1s						
SJG	San Juan	17.06	36	P	P	01 45 03.4	+0.3
	comp=Z,3.3nm,0.3s,baz=151,slow=8.5,SNR=7.7						
SJG	San Juan	17.06	36	*e*P	P	01 45 03.4	+0.3
	comp=Z,20nm,0.8s						
PTGA	Pitinga	17.32	107	P	P	01 45 05.8	-0.3
	comp=Z,5.0nm,0.3s,baz=297,slow=18,SNR=36						
PTGA	Pitinga	17.32	107	*e*P	P	01 45 05.8	-0.3
	comp=Z,20nm,0.6s						
CBYP	Canovanas	17.36	36	*e*P	Pn	01 45 08.0	+1.1
	comp=Z,55nm,1.2s						
MTP	Monte Pirata	17.41	37	*e*P	P	01 45 02.9	-4.0
	comp=Z,21nm,0.7s						
SVB	Belmont	17.52	59	*e*P	P	01 45 08.0	-0.3
	comp=Z,92nm,0.8s						
STVI	Saint Thomas	17.96	38	*e*P	P	01 45 13.6	+0.6
	comp=Z,188nm,1.8s						
TRMF	Trois Ilets	18.33	55	*e*P	Pn	01 45 20.5	+2.0
PCM	Pelee Case Pet	18.35	54	*e*P	Pn	01 45 18.2	-0.6
PML	Morne Lenard	18.35	55	*e*P	Pn	01 45 19.8	+1.0
FDF	Fort de France	18.35	55	*e*P	P	01 45 17.6	+0.2
	comp=Z,224nm,1.5s						
FDF	Fort de France	18.35	55	*e*P	Pn	01 45 19.6	+0.7
ZAM	Aeronautique	18.37	55	*e*P	Pn	01 45 20.9	+1.9
BAMF	Morne Balai	18.40	54	*e*P	Pn	01 45 22.4	+3.0
LPMF	Morne Lapointe	18.42	55	*e*P	Pn	01 45 20.8	+1.2
MVM	Montagne Vaucl	18.47	56	*e*P	Pn	01 45 20.4	+0.2
SAML	Samuel	18.76	135	*e*P	P	01 45 20.9	-0.9
SAML				*e*Pn	Pn	01 45 21.7	-1.9
SMRT	St. Maarten	18.97	43	*e*P	P	01 45 23.8	-0.3
	comp=Z,117nm,0.6s						
ANWB	Willy Bob	19.61	46	*e*P	P	01 45 29.6	-1.5
	comp=Z,87nm,0.8s						
LPAZ	La Paz	22.12	158	P	P	01 45 56.1	-2.5
	comp=Z,4.9nm,0.5s,baz=309,slow=8.1,SNR=17						
LPAZ				LR	LR	01 56 10.2	
	comp=Z,111nm,19.2s,baz=236,slow=40						
LPAZ	La Paz	22.12	158	*e*P	P	01 45 56.3	-2.2
	comp=Z,5.5nm,0.7s						
LPAZ				*e*		01 56 10.2	
MNMC	Minye Minye	24.30	164	*e*P	P	01 46 17.9	-0.9
	comp=Z,66nm,0.8s						
PB11	IPOC Station P	24.89	164	*e*P	P	01 46 23.6	-0.3
	comp=Z,51nm,0.8s						
PB01	IPOC Station P	26.16	165	*e*P	P	01 46 32.9	-2.5
	comp=Z,26nm,0.9s						
PB04	IPOC Station P	27.24	167	*e*P	P	01 46 43.6	-1.5
	comp=Z,42nm,0.9s						
LRAL	Lakeview Retre	30.17	342	*e*P	P	01 47 10.5	-0.5
	comp=Z,6.8nm,0.5s						
ABTX	Abilene, Hawle	35.48	325	*e*P	P	01 47 57.8	+0.7
	comp=Z,5.3nm,0.6s						
HHAR	Hobbs	35.59	335	*e*P	P	01 47 58.1	0.0
	comp=Z,4.1nm,0.8s						
LTX	Lajitas	35.74	317	*e*P	P	01 47 59.9	+0.3
LTX				*e*pP	pP	01 48 28.8	+3.3
TXAR	Lajitas Array	35.74	317	P	P	01 47 59.9	+0.3
	comp=Z,0.2nm,0.6s,baz=128,slow=7.9,SNR=4.2						
TXAR				pP	pP	01 48 28.8	+3.3
	comp=Z,0.4nm,0.7s,baz=130,slow=9.5,SNR=4.8						
MSTX	Muleshoe	38.26	324	*e*P	P	01 48 21.5	+0.6
	comp=Z,11nm,1.1s						
121A	Cookes Peak, D	40.50	318	*e*P	P	01 48 40.8	+1.3
	comp=Z,5.8nm,1.0s						
SDCO	Great Sand Dun	42.48	325	*e*P	P	01 48 57.9	+2.1
	comp=Z,3.2nm,0.8s						
SDCO				*e*pP	pP	01 49 28.1	+5.7
W18A	Petrified Fore	43.35	319	*e*pP	pP	01 49 34.0	+4.6
PHWY	Pilot Hill	45.00	329	*e*pP	pP	01 49 45.2	+2.4
PLCA	Paso Flores	45.19	174	P	P	01 49 17.4	+0.4
	comp=Z,11nm,0.7s,baz=14,slow=9.1,SNR=45						
PLCA				LR	LR	02 07 39.2	
	comp=Z,36nm,20.4s,baz=167,slow=35						
PLCA	Paso Flores	45.19	174	*e*P	P	01 49 17.5	+0.4
	comp=Z,13nm,0.8s						
PLCA				*e*		02 07 39.2	
RSSD	Black Hills	46.43	333	*e*P	P	01 49 28.6	+1.6
	comp=Z,4.7nm,0.8s						
PD31	Pinedale Array	48.19	327	*e*P	P	01 49 41.5	+0.8

PD31 epP pP 01 50 13.2 +5.4
PDAR Pinedale Array 48.19 327 P P 01 49 41.5 +0.8
comp=Z,0.6nm,0.6s,baz=125,slow=9.7,SNR=8.2
PDAR pP pP 01 50 13.3 +5.4
comp=Z,0.5nm,0.6s,baz=125,slow=7.8,SNR=3.8
ULM Lac du Bonnet 48.57 344 P P 01 49 41.9 -1.3
comp=Z,3.3nm,0.4s,baz=156,slow=8.9,SNR=19
YNR Norris Junctio 50.12 329 *e*P P 01 49 53.8 -1.6
comp=Z,11nm,1.1s
NV01 Mina Array Sit 50.89 318 *e*P P 01 50 02.5 +1.2
NV01 epP pP 01 50 33.3 +4.6
NV01 *e*PcP PcP 01 51 17.1 +0.9
NVAR Mina Array Bea 50.89 318 P P 01 50 02.5 +1.2
comp=Z,1.2nm,0.6s,baz=129,slow=6.5,SNR=7.4
NVAR pP pP 01 50 33.3 +4.6
comp=Z,0.9nm,0.7s,baz=114,slow=9.0,SNR=3.0
NVAR PcP PcP 01 51 17.2 +0.9
comp=Z,0.7nm,0.5s,baz=134,slow=3.9,SNR=3.6
SCHQ Schefferville 50.96 7 P P 01 50 01.8 +0.6
comp=Z,4.9nm,0.6s,baz=186,slow=7.4,SNR=15
SCHQ Schefferville 50.96 7 *e*P P 01 50 01.8 +0.6
comp=Z,7.5nm,0.8s
JELB Ellicott, Sant 52.61 314 *e*P P 01 50 14.7 +1.0
SWID South Whidbey 58.53 326 *e*P P 01 50 57.6 +1.7
YKA Yellowknife Ar 64.46 342 P P 01 51 34.6 -0.9
comp=Z,2.9nm,0.6s,baz=134,slow=6.3,SNR=60
YKB5 Yellowknife Ar 64.46 342 *e*P P 01 51 34.6 -0.9
YKW3 Yellowknife Ar 64.52 342 *e*P P 01 51 35.1 -0.8
comp=Z,4.3nm,0.8s
MORF Marmelete 69.85 52 *e*P P 01 52 10.6 +0.4
PNCL Nicolau / Gran 70.09 51 *e*P P 01 52 12.1 +0.6
PESTR Estremoz 70.95 50 *e*P P 01 52 16.8 0.0
PVIS Viseu 71.06 48 *e*P P 01 52 17.3 -0.1
TIC Toumodi 71.19 84 *e*P P 01 52 16.9 -1.8
LIC Lamto 71.20 85 *e*P P 01 52 17.2 -1.5
comp=Z,18nm,0.5s
PMRV Marv??o 71.20 50 *e*P P 01 52 18.8 +0.5
POLO Lamas de Olo 71.26 48 *e*P P 01 52 19.0 +0.3
PBAR Barrancos 71.26 51 *e*P P 01 52 18.6 0.0
DBIC Dimbokro 71.35 84 P P 01 52 18.2 -1.4
comp=Z,8.6nm,0.7s,baz=251,slow=6.5,SNR=21
DBIC Dimbokro 71.35 84 *e*P P 01 52 18.5 -1.1
comp=Z,9.1nm,0.6s
KIC Kosan Boka 71.48 85 *e*P P 01 52 19.1 -1.3
comp=Z,14nm,0.5s
MVO Moncorvo 71.78 48 *e*P P 01 52 21.8 0.0
KOWA Kowa 72.03 76 P P 01 52 23.1 -0.5
comp=Z,12nm,0.5s,baz=272,slow=7.2,SNR=80
SUMG Summit 72.06 11 ⇑*i*P P 01 52 23.3 +0.1
comp=Z,9.3nm,0.6s
SUMG Summit 72.06 11 *e*P P 01 52 23.3 +0.1
comp=Z,9.7nm,0.6s
PAB San Pablo 73.55 50 *e*P P 01 52 32.6 +0.3
comp=Z,19nm,1.7s
ESDC Sonseca Array 73.86 50 P P 01 52 34.1 +0.1
comp=Z,2.8nm,0.8s,baz=256,slow=5.8,SNR=20
ES19 SONSECA Array 73.91 50 *e*P P 01 52 34.1 -0.3
INK Inuvik 74.23 341 P P 01 52 35.4 -0.1
comp=Z,1.2nm,0.5s,baz=102,slow=5.1,SNR=6.4
INK Inuvik 74.23 341 *e*P P 01 52 35.4 -0.1
comp=Z,21nm,2.0s
EKA Eskdalemuir Ar 77.03 34 P P 01 52 51.3 -0.4
comp=Z,3.0nm,0.6s,baz=261,slow=4.5,SNR=13
TOA1 Torodi Ar. Sit 77.59 78 *e*P P 01 52 54.5 -1.3
TOA0 Torodi Ar. Sit 77.60 78 *e*P P 01 52 54.3 -1.4
TORD Torodi Ar. Bea 77.60 78 P P 01 52 54.5 -1.3
comp=Z,2.8nm,0.6s,baz=285,slow=6.7,SNR=65
ILAR Eielson Array 77.78 336 P P 01 52 55.6 -0.2
comp=Z,1.4nm,0.6s,baz=118,slow=4.2,SNR=23
ILB Eielson Array 77.78 336 *e*P P 01 52 55.6 -0.2
TAM Tamanrasset 81.04 68 *e*P P 01 53 14.8 +0.3
comp=Z,4.9nm,0.7s
WLF Walferdange 81.99 41 *e*P P 01 53 19.0 +0.3
comp=Z,8.2nm,0.8s
VSL Villasalto 84.13 51 *e*P P 01 53 30.7 +0.7
comp=Z,14nm,0.8s
KEST Kesra 84.17 55 P P 01 53 30.6 +0.3
comp=Z,5.2nm,0.8s,baz=290,slow=2.7,SNR=7.7
KEST Kesra 84.17 55 *e*P P 01 53 30.6 +0.3
comp=Z,6.6nm,0.8s
DAVA Damuels 84.42 43 *e*P P 01 53 30.3 -1.2
comp=Z,2.5nm,0.7s
FETA Feichten 85.00 43 *e*P P 01 53 34.1 -0.3
comp=Z,3.2nm,1.1s
RETA Reutte 85.02 43 *e*PcP P 01 53 35.7 +1.3
comp=Z,4.2nm,1.5s
NB200 NORSAR Array S 85.15 29 *e*P P 01 53 34.8 0.0
NOA NORSAR Array B 85.15 29 P P 01 53 34.8 0.0
comp=Z,1.4nm,0.8s,baz=269,slow=5.0,SNR=3.1
ABTA Abfaltersbach 86.23 44 *e*P P 01 53 39.1 -1.4
comp=Z,4.3nm,1.0s
CLL Collm 86.37 39 *e*P P 01 53 40.0 -0.9
SPA0 Spitsbergen Ar 86.39 12 *e*P P 01 53 40.8 +0.2
SPITS Spitsbergen Ar 86.39 12 P P 01 53 40.8 +0.2
comp=Z,10nm,0.9s,baz=151,slow=3.7,SNR=4.3
GEA0 GERESS Array S 86.94 41 *e*P P 01 53 43.6 -0.2
GEC2 GERESS Array S 86.94 41 *e*P P 01 53 44.2 +0.4
comp=Z,3.3nm,1.1s
GERES GERESS Array B 86.94 41 P P 01 53 44.2 +0.4
comp=Z,1.4nm,0.8s,baz=276,slow=3.9,SNR=11
MOA Molln 87.37 42 *e*P P 01 53 44.2 -1.7
comp=Z,4.1nm,1.1s
FIA0 FINESS Array S 92.23 28 *e*P P 01 54 07.5 -0.8
FINES FINESS Array B 92.23 28 P P 01 54 07.5 -0.8
comp=Z,0.9nm,0.7s,baz=284,slow=5.6,SNR=4.3
MK32 Makanchi Array 125.76 18 *e*PKPdf **PKPdf** 01 59 58.9 -1.0
MKAR Makanchi Array 125.76 18 PKP **PKPdf** 01 59 58.9 -1.0
comp=Z,0.5nm,0.4s,baz=304,slow=2.4,SNR=17
SONA0 Songino Array 127.99 357 *e*PKPdf **PKPdf** 02 00 04.0 -0.3
SONM Songino Array 127.99 357 PKP **PKPdf** 02 00 04.0 -0.3
comp=Z,0.5nm,0.8s,baz=14,slow=2.0,SNR=2.9
KSH Kashi 129.55 28 *e*PKP **PKPdf** 02 00 07.0 -0.5
KSH sPKP 02 00 45.1
KSH PP **PP** 02 02 22.1 +4.3
KSH SS SS 02 19 33.1 +2.3
KSH AMB AMB
comp=Z,87nm,4.9s
KSH LR LR
comp=Z,40nm,10.8s
KSH LR LR
comp=Z,88nm,11.6s
KSH LR LR
comp=Z,71nm,9.1s
WMQ Urumqi 130.01 15 *e*PKP **PKPdf** 02 00 09.2 +1.0
HHC Hu-ho-hao-te 134.42 351 *e*PKP **PKPdf** 02 00 15.9 -0.8
NJ2 Nanjing 140.96 339 *e*PKP **PKPdf** 02 00 28.9 +0.1
AS31 Alice Springs 144.89 234 *e*PKPbc PKPbc 02 00 34.2 -1.2
ASAR Alice Springs 144.90 234 PKPbc PKPbc 02 00 34.3 -1.1
comp=Z,2.5nm,0.7s,baz=120,slow=4.0,SNR=23
CD2 Chengdu 144.95 360 PKPbc **PKPab** 02 00 35.0 -0.4
WR1 Warramunga Arr 146.15 240 *e*PKPdf **PKPdf** 02 00 38.4 +0.2
WRA Warramunga Arr 146.15 240 PKPbc **PKPdf** 02 00 38.4 +0.2
comp=Z,1.9nm,0.5s,baz=112,slow=3.1,SNR=34

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*IDC **01** 01:41:26.0±0.9, 22.°12N×121.°86E, h0km, mb4.0/11, mb1 4.0/11, mb1mx3.7/62, mbtmp4.0/11, Error ellipse: s-maj=62.1km s-min=17.8km az=64.0*
*ISCJB **01** 01:41:39.9±0.3, 22.°14N±0.°02×121.°49E±0.°04, h114km±2km, mb4.0/18, Error ellipse: s-maj=5.8km s-min=3.5km az=27.1*
*TAP **01** 01:41:40.9, 22.°16N×121.°53E, h100km, ML4.2, C*
*NEIC **01** 01:41:40.5±0.0, 22.°17N×121.°54E, h102km, mb4.5/8, After TAP.*
NEIC Recorded [1 TAP] in Kaohsiung, Tainan and Taitung.

ISC 01 01:41:40.6±0.8, 22.°16N±0.°04×121.°50E±0.°05, h107km±5km, n133, σ0°89/180, mb4.0/18, 6C-19D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu** baz=168	**0.13**	**160**	⇑*i*P		**Pn**	**01 41 55.1**	**-0.4**
LAY				*i* S		**Sn**	**01 42 05.4**	**-1.2**
TAW	**Tawu** baz=289	**0.60**	**289**	*e*P		**Pn**	**01 41 57.7**	**-0.1**
TAW				*e*S		**Sn**	**01 42 10.5**	**-0.2**
TSEB	**Hengchuen, Pin** baz=248	**0.62**	**245**	⇑*i*P		**Pn**	**01 41 59.1**	**+1.1**
TSEB				*i* S		**Sn**	**01 42 12.5**	**+1.6**
EAST	**Anshuo** baz=290	**0.65**	**290**	*e*P		**Pn**	**01 41 58.6**	**+0.4**
EAST				S		**Sn**	**01 42 11.3**	**-0.2**
ECL	**Taimali** baz=316	**0.67**	**311**	*e*P		**Pn**	**01 41 58.5**	**+0.1**
TTN	**Taitung** baz=321	**0.68**	**331**	*e*P		**Pn**	**01 41 59.4**	**+1.0**
TTN				*e*S		**Sn**	**01 42 12.8**	**+0.9**
TWKBT	**Hengchun** baz=252	**0.68**	**251**	⇑*i*P		**Pn**	**01 41 59.1**	**+0.7**
TWKBT				S		**Sn**	**01 42 12.0**	**+0.1**
TWK1	**Hengchun** baz=252	**0.68**	**252**	⇑*i*P		**Pn**	**01 41 59.2**	**+0.7**
TWK1				*i* S		**Sn**	**01 42 12.6**	**+0.6**
HEN	**Hengchun** baz=268	**0.73**	**258**	*e*P		**Pn**	**01 41 59.3**	**+0.4**
HEN				*e*S		**Sn**	**01 42 13.4**	**+0.8**
TWGBT	**Beinan** baz=323	**0.76**	**329**	⇓*i*P		**Pn**	**01 41 59.3**	**+0.1**
TWGBT				S		**Sn**	**01 42 12.7**	**-0.6**
TWG	**Pinlang** baz=323	**0.77**	**329**	*i* P		**Pn**	**01 41 59.3**	**0.0**
TWG				*i* S		**Sn**	**01 42 12.5**	**-0.8**
TWG	**Pinlang**	**0.77**	**329**	*e*Pn		**Pn**	**01 41 59.2**	**-0.1**
TWG				*e*Sn		**Sn**	**01 42 12.6**	**-0.8**
SCZT	**Fangliau** baz=284	**0.84**	**285**	⇑*i*P		**Pn**	**01 42 00.3**	**+0.3**
SCZT				S		**Sn**	**01 42 13.9**	**-0.7**
MASBT	**Mashibuluo** baz=299	**0.92**	**299**	⇓*i*P		**Pn**	**01 42 01.3**	**+0.5**
MASBT				S		**Sn**	**01 42 15.1**	**-0.8**
SSPT	**Xinbi** baz=290	**0.92**	**291**	*e*P		**Pn**	**01 42 01.5**	**+0.8**
SSPT				S		**Sn**	**01 42 17.1**	**+1.1**
CHKT	**Chengkung** baz=348	**0.94**	**352**	⇓P		**Pn**	**01 42 01.1**	**+0.2**
CHKT				*i* S		**Sn**	**01 42 16.6**	**+0.3**
SSD	**Sandimen** baz=297	**0.99**	**306**	⇓*i*P		**Pn**	**01 42 02.1**	**+0.6**
SSD				*e*S		**Sn**	**01 42 16.9**	**-0.3**
FULB	**Fuli** baz=343	**1.05**	**349**	*e*P		**Pn**	**01 42 02.4**	**+0.2**
FULB				*e*S		**Sn**	**01 42 19.9**	**+1.5**
WLCH	**Liuqiu** baz=281	**1.06**	**281**	*e*P		**Pn**	**01 42 03.8**	**+1.7**
TWP	**Hsiaoliuchiu** baz=280	**1.07**	**280**	*e*P		**Pn**	**01 42 04.0**	**+1.7**
ELDTW	**Lidau** baz=337	**1.12**	**336**	*e*P		**Pn**	**01 42 03.0**	**0.0**
SLGT	**Liugui** baz=306	**1.15**	**317**	P		**Pn**	**01 42 04.0**	**+0.8**
SLGT				*e*S		**Sn**	**01 42 20.8**	**+0.6**
KAU	**Kaohsiung** baz=291	**1.18**	**290**	*e*P		**Pn**	**01 42 04.1**	**+0.7**
TWM1	**Shoushan** baz=303	**1.20**	**304**	⇓*i*P		**Pn**	**01 42 05.2**	**+1.5**
TWM1				S		**Sn**	**01 42 23.1**	**+1.9**
TWF1	**Yuli** baz=343	**1.20**	**351**	*e*P		**Pn**	**01 42 03.8**	**0.0**
TWF1				*e*S		**Sn**	**01 42 21.9**	**+0.6**
STYT	**Tauyuan** baz=317	**1.21**	**326**	⇓*i*P		**Pn**	**01 42 04.8**	**+0.8**
STYT				S		**Sn**	**01 42 22.3**	**+0.7**
YULB	**Yu-li**	**1.24**	**351**	*e*Pn		**Pn**	**01 42 04.1**	**-0.1**
YULB				*e*Sn		**Sn**	**01 42 22.5**	**+0.4**
WSSB	**Gushan** baz=293	**1.25**	**293**	⇓*i*P		**Pn**	**01 42 05.5**	**+1.2**
WSSB				*e*S		**Sn**	**01 42 23.6**	**+1.4**
SGST	**Jiashian** baz=317	**1.25**	**317**	⇓*i*P		**Pn**	**01 42 05.2**	**+0.9**
SGST				S		**Sn**	**01 42 22.2**	**-0.1**
HGSD	**Ruisui** baz=358	**1.33**	**357**	⇓P		**Pn**	**01 42 05.5**	**+0.3**
EHY	**Hungye** baz=345	**1.35**	**353**	P		**Pn**	**01 42 05.7**	**+0.2**
EHY				S		**Sn**	**01 42 23.7**	**-0.6**
WTP	**Ta-pu** baz=314	**1.36**	**323**	⇓*i*P		**Pn**	**01 42 06.3**	**+0.7**
WTP				S		**Sn**	**01 42 24.8**	**+0.3**
CHN1	**Nanshi** baz=318	**1.36**	**319**	⇓*i*P		**Pn**	**01 42 06.2**	**+0.5**
CHN1				*e*S		**Sn**	**01 42 24.6**	**0.0**
CHN3	**Shinhua** baz=311	**1.39**	**311**	*e*P		**Pn**	**01 42 07.1**	**+1.2**
TPUB	**Ta-pu** baz=315	**1.39**	**325**	⇓*i*P		**Pn**	**01 42 06.6**	**+0.6**
TPUB				S		**Sn**	**01 42 25.2**	**0.0**
TPUB	**Ta-pu**	**1.39**	**325**	*e*Pn		**Pn**	**01 42 06.5**	**+0.6**
TPUB				*e*Sn		**Sn**	**01 42 24.5**	**-0.8**
YUS	**Yu-Shan** baz=328	**1.42**	**339**	⇓*i*P		**Pn**	**01 42 07.8**	**+1.0**
YUS				S		**Sn**	**01 42 27.2**	**+0.7**
TAI1	**Yung-k'ang** baz=307	**1.47**	**307**	*e*P		**Pn**	**01 42 07.2**	**+0.4**
TAI1				*e*S		**Sn**	**01 42 27.4**	**+0.7**
ALS	**Alishan** baz=325	**1.49**	**335**	⇓*i*P		**Pn**	**01 42 08.0**	**+0.5**
ALS				*e*S		**Sn**	**01 42 28.8**	**+1.1**
EGFH	**Guangfu** baz=350	**1.50**	**357**	*e*P		**Pn**	**01 42 07.6**	**+0.3**
SCLT	**Jiali** baz=310	**1.58**	**310**	*e*P		**Pn**	**01 42 08.7**	**+0.6**
SCLT				S		**Sn**	**01 42 29.8**	**+0.7**
CHN5	**Tsauling** baz=324	**1.62**	**332**	⇓P		**Pn**	**01 42 09.1**	**+0.3**
CHN5				*e*S		**Sn**	**01 42 30.8**	**+0.6**
ESL	**Shilin** baz=352	**1.65**	**358**	*e*P		**Pn**	**01 42 09.5**	**+0.4**
CHY	**Chiayi** baz=317	**1.66**	**323**	*e*P		**Pn**	**01 42 09.3**	**+0.1**
CHY				*e*S		**Sn**	**01 42 31.7**	**+0.7**
WLGB	**Puzi** baz=313	**1.72**	**320**	*e*P		**Pn**	**01 42 09.7**	**-0.2**
WLGB				*e*S		**Sn**	**01 42 32.3**	**+0.1**
ENLB	**Shoufeng** baz=8.0	**1.74**	**3**	*e*P		**Pn**	**01 42 10.5**	**+0.3**
WGK	**Gukeng** baz=330	**1.75**	**330**	*e*P		**Pn**	**01 42 10.3**	**0.0**
WDLH	**Douliu** baz=329	**1.76**	**330**	*e*P		**Pn**	**01 42 10.3**	**-0.1**
WJS	**Zhushan** baz=336	**1.80**	**337**	*e*P		**Pn**	**01 42 11.5**	**+0.5**
WJS				*e*S		**Sn**	**01 42 34.4**	**+0.3**
HWA	**Hwalien** baz=7.0	**1.81**	**3**	*e*P		**Pn**	**01 42 11.9**	**+0.8**
OWD	**Renai** baz=341	**1.81**	**350**	*e*P		**Pn**	**01 42 12.2**	**+1.0**
OWD				*e*S		**Sn**	**01 42 35.0**	**+0.4**
TYC	**Yuchr** baz=341	**1.84**	**341**	⇓P		**Pn**	**01 42 11.8**	**+0.4**
WNT	**Mingjian** baz=336	**1.87**	**336**	*e*P		**Pn**	**01 42 12.4**	**+0.6**
WSF	**Szhu** baz=313	**1.89**	**321**	*e*P		**Pn**	**01 42 11.9**	**-0.1**
WSF				*e*S		**Sn**	**01 42 35.7**	**-0.3**
TWD	**Chiawan** baz=354	**1.91**	**3**	*e*P		**Pn**	**01 42 12.5**	**+0.1**
CHGB	**Renai** baz=341	**1.92**	**351**	*e*P		**Pn**	**01 42 13.3**	**+0.6**
CHGB				*e*S		**Sn**	**01 42 36.8**	**-0.2**
DPDB	**Guoxing** baz=335	**1.94**	**344**	P		**Pn**	**01 42 13.2**	**+0.4**
WHF	**Hehuan Shan** baz=356	**1.99**	**354**	⇓P		**Pn**	**01 42 14.3**	**+0.5**
WHF				*e*S		**Sn**	**01 42 39.1**	**+0.1**
NACB	**Ninganchiao** baz=355	**2.01**	**2**	*e*P		**Pn**	**01 42 13.6**	**0.0**
NACB	**Ninganchiao**	**2.01**	**2**	*e*Pn		**Pn**	**01 42 13.1**	**-0.5**
NACB				*e*Sn		**Sn**	**01 42 38.5**	**-0.2**
RLNB	**Erlin** baz=328	**2.02**	**329**	*e*P		**Pn**	**01 42 14.1**	**+0.4**
WDGT	**Dungji** baz=303	**2.02**	**303**	⇓*i*P		**Pn**	**01 42 13.5**	**-0.2**
WDGT				*e*S		**Sn**	**01 42 37.1**	**-2.0**
WTCT	**Ta-ch'eng** baz=333	**2.04**	**327**	*e*P		**Pn**	**01 42 14.1**	**+0.2**
WCHH	**Zhanghua** baz=335	**2.10**	**336**	*e*P		**Pn**	**01 42 15.2**	**+0.4**
TWT	**Tachien** baz=344	**2.11**	**352**	*e*P		**Pn**	**01 42 16.3**	**+1.3**
TDCB	**Techi** baz=344	**2.11**	**351**	*e*P		**Pn**	**01 42 16.0**	**+1.0**
TCU	**Taichung** baz=330	**2.12**	**339**	*e*P		**Pn**	**01 42 15.8**	**+0.7**
NNSB	**Datong** baz=2.0	**2.26**	**357**	*e*P		**Pn**	**01 42 17.9**	**+0.9**
NNSB				*e*S		**Sn**	**01 42 45.2**	**+0.5**
NNSH	**Datong** baz=1.0	**2.26**	**357**	*e*P		**Pn**	**01 42 17.8**	**+0.8**
ENA	**Nanau** baz=5.0	**2.27**	**5**	*e*P		**Pn**	**01 42 17.4**	**+0.4**
NANB	**Nanao** baz=5.0	**2.27**	**6**	*e*P		**Pn**	**01 42 17.3**	**+0.4**
NNS	**Nan Shan** baz=2.0	**2.27**	**357**	*e*P		**Pn**	**01 42 18.4**	**+1.3**
NNS				*e*S		**Sn**	**01 42 45.8**	**+0.7**
PNG	**Penghu** baz=303	**2.28**	**308**	⇓P		**Pn**	**01 42 16.7**	**-0.3**
TWQ1	**Liyutan** baz=343	**2.28**	**343**	*e*P		**Pn**	**01 42 17.4**	**+0.4**
ENAH	**Nanao** baz=6.0	**2.30**	**7**	*e*P		**Pn**	**01 42 17.2**	**-0.1**
PTSB	**Yuanli** baz=342	**2.39**	**342**	*e*P		**Pn**	**01 42 19.3**	**+0.8**
EOS1	**EOS1** baz=19	**2.45**	**13**	*e*P		**Pn**	**01 42 19.7**	**+0.5**
NMLH	**Miaoli** baz=344	**2.46**	**345**	*e*P		**Pn**	**01 42 19.8**	**+0.5**
TWC	**Suao** baz=14	**2.46**	**7**	P		**Pn**	**01 42 20.4**	**+1.0**
ENTT	**Nioudou** baz=1.0	**2.47**	**1**	*e*P		**Pn**	**01 42 21.1**	**+1.5**
YHNB	**Yeheng** baz=357	**2.50**	**357**	*e*P		**Pn**	**01 42 21.4**	**+1.4**
YHNB	**Yeheng**	**2.50**	**357**	*e*Pn		**Pn**	**01 42 21.6**	**+1.5**
YHNB				*e*Sn		**Sn**	**01 42 51.1**	**+0.9**
LIOB	**Emei** baz=340	**2.52**	**350**	*e*P		**Pn**	**01 42 20.4**	**+0.2**
TWE	**Neicheng** baz=357	**2.55**	**3**	*e*P		**Pn**	**01 42 21.2**	**+0.6**
NWLT	**Wulai** baz=360	**2.61**	**360**	*e*P		**Pn**	**01 42 23.1**	**+1.7**
NWLT				*e*S		**Sn**	**01 42 53.9**	**+1.3**
YOJ	**Yonaguni jima** baz=30	**2.68**	**31**	*e*P		**Pn**	**01 42 22.8**	**+0.6**
YOJ	**Yonaguni jima**	**2.68**	**31**	*e*Pn		**Pn**	**01 42 23.0**	**+0.8**
YOJ				*e*Sn		**Sn**	**01 42 56.6**	**+2.3**
TATO	**Taipei** baz=359	**2.80**	**360**	*e*P		**Pn**	**01 42 25.4**	**+1.4**
TATO	**Taipei**	**2.80**	**360**	*e*Pn		**Pn**	**01 42 24.7**	**+0.8**
TATO				*e*Sn		**Sn**	**01 42 59.0**	**+1.8**
TIPB	**Shuangxi** baz=355	**2.81**	**6**	*e*P		**Pn**	**01 42 24.7**	**+0.5**
TIPB				*e*S		**Sn**	**01 42 58.6**	**+1.0**
TWB1	**Santiao Chiao** baz=8.0	**2.87**	**9**	*e*P		**Pn**	**01 42 25.5**	**+0.7**
NWF	**Wu-fen Shan** baz=352	**2.91**	**5**	*e*P		**Pn**	**01 42 26.8**	**+1.3**
NWF				*e*S		**Sn**	**01 43 00.3**	**+0.4**
WFSB	**Wu-fen Shan** baz=352	**2.91**	**5**	*e*P		**Pn**	**01 42 26.8**	**+1.5**
YM04	**YM04**	**2.98**	**1**	*e*P		**Pn**	**01 42 26.5**	**+0.2**
YM10	**YM10** baz=1.0	**2.98**	**1**	*e*P		**Pn**	**01 42 26.8**	**+0.5**
YM07	**YM07** baz=351	**3.00**	**2**	*e*P		**Pn**	**01 42 26.7**	**0.0**
YM03	**YM03**	**3.01**	**1**	*e*P		**Pn**	**01 42 28.0**	**+1.4**
KNM	**Kinmen** baz=308	**3.61**	**309**	*e*P		**Pn**	**01 42 35.4**	**+0.8**
QZH	**Quanzhou**	**3.85**	**317**	⇑*i*Pn		**Pn**	**01 42 37.4**	**-0.5**
QZH						**Sn**	**01 43 19.8**	**-2.4**
VDOS	**Pratas Island** baz=252	**4.68**	**253**	*e*P		**Pn**	**01 42 51.1**	**+2.0**
SONA0	**Songino Array**	**28.34**	**338**	*e*P		**P**	**01 47 24.2**	**-0.3**
SONM	**Songino Array** 0.5nm,0.3s,baz=159,slow=10,SNR=13	**28.34**	**338**	P		**P**	**01 47 24.2**	**-0.3**
SONA1	**Songino Array**	**28.35**	**338**	*e*P		**P**	**01 47 24.7**	**+0.1**
WMQ	**Urumqi**	**35.28**	**316**	*e*P		**P**	**01 48 29.0**	**+3.7**
MK01	**Makanchi Array**	**39.99**	**317**	*e*P		**P**	**01 49 05.7**	**+0.9**
MK31	**Makanchi Array**	**40.01**	**317**	*e*P		**P**	**01 49 06.0**	**+1.1**
MK32	**Makanchi Array**	**40.01**	**317**	*e*P		**P**	**01 49 05.9**	**+1.0**
MK32				*e*PcP		**PcP**	**01 51 06.8**	**-1.2**
MKAR	**Makanchi Array** 1.1nm,0.4s,baz=106,slow=9.5,SNR=25	**40.01**	**317**	P		**P**	**01 49 05.9**	**+1.0**
MKAR				PcP		**PcP**	**01 51 06.8**	**-1.2**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=101,slow=2.9,SNR=4.5	**40.01**	**317**	*e*P		**P**	**01 49 06.0**	**+1.0**
MKAR				PcP		**PcP**	**01 51 06.8**	**-1.2**
MAKZ	**Makanchi** 13nm,0.9s	**40.21**	**317**	*e*P		**P**	**01 49 07.1**	**+0.4**
ZAA0	**Zalesovo Array** 1.9nm,0.8s	**42.10**	**328**	*e*P		**P**	**01 49 22.3**	**+0.4**
ZALV	**Zalesovo Beam** 4.9nm,0.6s	**42.10**	**328**	P		**P**	**01 49 22.0**	**0.0**
ZALV	**Zalesovo Beam** 4.7nm,0.4s,baz=117,slow=8.1,SNR=15	**42.10**	**328**	P		**P**	**01 49 21.9**	**-0.1**
ZAA1	**Zalesovo Array**	**42.11**	**328**	*e*P		**P**	**01 49 22.0**	**0.0**
H11S3	**WAKE ISLAND Hy** baz=284,slow=75,SNR=5.7	**42.41**	**86**	T		T	02 35 03.6	
H11S1	**WAKE ISLAND Hy** baz=284,slow=75,SNR=5.7	**42.42**	**86**	T		T	02 35 05.3	
H11S2	**WAKE ISLAND Hy** baz=284,slow=75,SNR=5.4	**42.43**	**86**	T		T	02 35 04.9	
WR1	**Warramunga Arr** 18nm,1.6s	**43.68**	**162**	*e*P		P	01 49 32.0	-3.0
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=345,slow=8.4,SNR=8.6	**43.68**	**162**	P		P	01 49 32.0	-3.1
WB2	**Warramunga Arr** 21nm,1.7s	**43.69**	**162**	*e*P		P	01 49 32.4	-2.7
KURK	**Kurchatov** 12nm,1.9s	**43.84**	**321**	*e*P		**P**	**01 49 36.7**	**+0.7**
KURBB	**Kurchatov Arra** 1.1nm,0.2s,baz=119,slow=9.5,SNR=6.7	**43.85**	**321**	P		**P**	**01 49 36.7**	**+0.6**
AS31	**Alice Springs** 1.9nm,1.1s	**47.12**	**164**	*e*P		P	01 49 59.9	-2.3
ASAR	**Alice Springs** 0.2nm,0.3s,baz=350,slow=7.2,SNR=4.7	**47.12**	**164**	P		P	01 49 59.9	-2.3
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=95,slow=7.8,SNR=6.1	**49.43**	**322**	P		**P**	**01 50 19.8**	**+0.2**
ABKAR	**Akbulak array** 14nm,1.0s	**55.07**	**315**	*e*P		**P**	**01 51 02.1**	**+0.8**
FIA0	**FINESS Array S**	**73.34**	**330**	*e*P		**P**	**01 52 59.7**	**-0.7**
FINES	**FINESS Array B** 1.8nm,0.8s,baz=45,slow=6.7,SNR=10	**73.34**	**330**	P		**P**	**01 52 59.7**	**-0.7**
BR101	**Keskin Array S**	**74.61**	**307**	*e*P		**P**	**01 53 07.5**	**-1.0**
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=64,slow=9.8,SNR=3.6	**74.61**	**307**	P		**P**	**01 53 07.5**	**-1.0**
HFS	**Hagfors** 1.7nm,0.7s,baz=57,slow=5.3,SNR=4.0	**79.47**	**331**	P		**P**	**01 53 34.2**	**-0.9**
YKB5	**Yellowknife Ar**	**84.71**	**23**	*e*P		**P**	**01 54 01.3**	**-1.1**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=321,slow=4.8,SNR=3.7	**84.71**	**23**	P		**P**	**01 54 01.3**	**-1.1**

MAN 01 01:41:46.9, 9.°28N×122.°93E, h18km, mb3.8, ML2.6, MS2.1, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.81	149	⇑iP	Pb	01 42 01.5	0.0
GUIM	Jordan	1.38	346	eP	Pn	01 42 10.7	+0.3
GUIM				eS	Sb	01 42 29.1	+0.5
PAGZ	Pagadian	1.49	163	eP	Pn	01 42 12.2	+0.3
PAGZ				eS	Sn	01 42 15.7	-15

NIED ***01*** *02:12:00, 35.°30N×141.°20E, h23km, Mw4.7 Best double couple: $M_0$1.31000×10^{16} NP1:ϕ_s313.00000°, δ40.00000°, λ174.00000°. NP2:ϕ_s48.00000°, δ86.00000°, λ50.00000°.*

JMA ***01*** *02:12:26.3±0.1, 35.°26N×141.°21E, h37km±2km, M4.7*

JMA Felt II J1.

ISCJB ***01*** *02:12:27.3±0.6, 35.°18N±0.°02×141.°06E±0.°04, h32km±3km, mb4.7/134, MS4.1/48, Error ellipse: s-maj=5.1km s-min=4.0km az=16.3*

MOS ***01*** *02:12:28.5±1.0, 35.°20N×141.°04E, h42km, mb4.9/68, MS4.0/18, Error ellipse: s-maj=10.0km s-min=4.9km az=120.4*

BJI ***01*** *02:12:29.8, 35.°32N×140.°92E, h61km, mb4.7/40, mB4.9/28, Ms4.5/29, Ms7 4.2/27*

IDC ***01*** *02:12:30.0±1.7, 35.°18N×140.°96E, h41km±16km, mb4.1/30, mb1 4.3/33, mb1mx4.1/66, mbtmp4.4/33, ML4.2/2, MS4.0/42, Ms1 4.0/42, ms1mx3.9/61, Error ellipse: s-maj=14.4km s-min=9.0km az=95.0*

NEIC ***01*** *02:12:30.3±0.8, 35.°17N×140.°94E, h42km±7km, mb4.8/66, Error ellipse: s-maj=5.7km s-min=4.8km az=112.0*

NEIC Recorded [2 JMA] in Chiba.

ISC 01 02:12:27.5±0.7**, 35.°24N**±0.°03×**141.°02E**±0.°04**, h23km**±5km**, n334, σ1.°79**/324**, mb4.7**/137**, MS4.1**/48**, 21C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.48	344	⇓P	Pb	02 12 37.1	-0.3
CHOJ				S	Sb	02 12 44.9	+0.8
KTR	Katsuura	0.58	261	P	Pb	02 12 40.5	+1.4
BSO1	Boso 1	0.58	183	⇑P	Pn	02 12 38.6	-1.3
BSO3	Boso 3	0.60	224	⇑P	Pn	02 12 40.3	-0.1
BSO4	Boso 4	0.61	246	⇑P	Pn	02 12 41.0	+0.3
JIM2	Oshima 3	1.40	249	P	Pn	02 12 50.9	-0.8
JHJ2	Mitsune	2.34	205	ePn	Pn	02 13 05.5	+0.9
JHJ2				eSn	Sn	02 13 29.0	-3.6
JHJ	Hachijo jima 2	2.35	206	P	Pn	02 13 05.7	+1.0
	194nm,0.3s,baz=275,slow=22,SNR=13						
JHJ				S	Sn	02 13 31.9	-0.9
	280nm,0.3s,baz=84,slow=23,SNR=7.6						
JHJ				LR	LR	02 14 14.6	
	comp=Z,1µm,21.8s,baz=104,slow=46						
MJAR	Matsushiro Arr	2.62	301	P	Pn	02 13 10.9	+2.4
	31nm,0.3s,baz=130,slow=9.9,SNR=134						
MJAR				S	Sb	02 13 44.8	-0.9
	34nm,0.3s,baz=47,slow=21,SNR=6.2						
MJAR				LR	LR	02 14 33.4	
	comp=Z,3µm,19.3s,baz=125,slow=48						
MAJO	Matsushiro	2.63	301	ePn	Pn	02 13 10.6	+2.1
MAJO				eSn	Sn	02 13 34.2	-5.5
MAJO	Matsushiro	2.63	301	c iP	Pn	02 13 11.0	+2.5
MAT	Matsushiro	2.63	301	P	Pn	02 13 11.1	+2.6
MAT				eS	Sb	02 13 46.4	+0.6
MJB9	Matsu-Tunnel	2.63	301	ePn	Pn	02 13 11.3	+2.7
INU	Inuyama	3.27	273	ePn	Pn	02 13 19.0	+1.6
ERM	Erimo	6.97	13	ePn	Pn	02 14 05.9	-2.2
ERM				eSn	Sn	02 15 23.5	-3.2
ERM	Erimo	6.97	13	ceP	Pn	02 14 07.6	-0.6
ERM				pmax	pmax		
	comp=Z,42nm,1.2s						
CBIJ	Chichi jima	8.18	173	ePn	Pn	02 14 22.8	-2.1
CBIJ				eSn	Sn	02 15 52.3	-4.2
JCJ	Chichijima	8.18	173	P	Pn	02 14 22.8	-2.0
	baz=300,slow=14						
JCJ				S	Sn	02 15 52.3	-4.2
	comp=Z,8.8nm,0.3s,baz=294,slow=20,SNR=2.1						
JNU	Nakatsue	8.66	259	P	Pn	02 14 35.9	+4.4
	comp=Z,0.5nm,0.3s,baz=96,slow=8.9,SNR=3.7						
JNU				LR	LR	02 18 22.6	
	comp=Z,980nm,18.6s,baz=104,slow=41						
JNU	Nakatsue	8.66	259	ePn	Pn	02 14 33.0	+1.5
ASAJ	Asahikawa	8.95	7	P	Pn	02 14 32.3	-3.0
	comp=Z,6.1nm,0.3s,baz=206,slow=8.3,SNR=13						
ASAJ				S	Sn	02 16 10.1	-5.2
	comp=Z,0.8nm,0.3s,baz=90,slow=19,SNR=2.3						
ASAJ	Asahikawa	8.95	7	ePn	Pn	02 14 32.6	-2.7
ASAJ				eSn	Sn	02 16 10.1	-5.2
YUK	Yuzh-Kuril'sk	9.54	22	eP	Pn	02 14 37.4	-6.1
YUK				pmax	pmax		
	comp=Z,57nm,0.6s						
YUK				pmax	pmax		
	comp=N,82nm,0.5s						
YUK				pmax	pmax		
	comp=E,37nm,0.5s						
YUK				MLR	MLR		
	comp=E,1µm,15.0s						
YUK				MLR	MLR		
	comp=Z,723nm,15.0s						
SHO	Shikotan	9.72	26	eP	Pn	02 14 41.0	-4.8
SHO				pmax	pmax		
	comp=E,25nm,0.8s						
SHO				pmax	pmax		
	comp=Z,55nm,0.8s						
SHO				pmax	pmax		
	comp=N,58nm,0.5s						
TEY	Ternei	10.35	342	eP	Pn	02 15 03.5	+9.0
TEY				MLR	MLR		
	comp=Z,1µm,14.0s						
KSRS	Korea Array	10.79	286	P	Pn	02 15 05.4	+4.8
	comp=Z,0.8nm,0.3s,baz=100,slow=14,SNR=24						
KSRS				LR	LR	02 19 27.5	
	comp=Z,1µm,18.5s,baz=102,slow=39						
KS01	Wonju Array Si	10.82	286	ePn	Pn	02 15 05.3	+4.4
KS15	Wonju Array Si	10.82	286	ePn	Pn	02 15 06.2	+5.2
KSAR	Wonju Array Be	10.82	286	P	Pn	02 15 05.4	+4.4
KSAR	Wonju Array Be	10.82	286	P	Pn	02 15 05.4	+4.4
KUR	Kuril'sk	11.27	26	eP	Pn	02 15 05.8	-1.2
KUR				pmax	pmax		
	comp=Z,52nm,0.6s						
USRK	Ussuriysk Ar.	11.32	325	P	Pn	02 15 09.4	+1.5
	comp=Z,0.5nm,0.3s,baz=124,slow=12,SNR=8.9						
USRK				LR	LR	02 19 23.1	
	comp=Z,1µm,18.5s,baz=132,slow=36						
YSS	Yuzh-Sakhalins	11.78	6	ePn	Pn	02 15 12.2	-1.8
YSS	Yuzh-Sakhalins	11.78	6	⇑eP	Pn	02 15 11.8	-2.2
YSS				eS	Sn	02 17 21.6	-3.0
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax	smax		
	comp=E,30nm,0.4s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
CN2	Changchun	14.73	310	eP	Pn	02 15 55.3	+0.9
CN2				eS	Sn	02 18 33.1	-3.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,800nm,14.0s						
CN2				LR	LR		
	comp=Z,600nm,14.0s						
CN2				LR	LR		
	comp=Z,600nm,15.0s						
KLR	Kul'dur	15.56	337	P	Pn	02 16 03.0	-2.3
	comp=Z,0.1nm,0.3s,baz=146,slow=9.3,SNR=14						
KLR	Kul'dur	15.56	337	iP	Pn	02 16 06.1	+0.8
TYV	Tymovskoe	15.66	4	eP	Pn	02 16 04.2	-2.4
TYV				e		02 18 51.6	
TYV				pmax	pmax		
	comp=Z,32nm,1.4s						
TYV				MLR	MLR		
	comp=N,1µm,14.0s						
TYV				MLR	MLR		
	comp=Z,1µm,14.0s						
GRNR	Gornyy	15.88	349	eP	Pn	02 16 06.1	-3.3
DL2	Dalian	15.90	289	P	Pn	02 16 12.8	+3.0
DL2				pmax	pmax		
	comp=Z,44nm,0.6s						
NKL	Nikolayevsk	17.91	359	eP	Pn	02 16 35.8	+0.9
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
OKH	Okha	18.36	4	eP	Pn	02 16 47.4	+7.0
OKH				eS	Sn	02 19 58.4	-6.2
BJT	Baijiatuau	20.23	291	eP	P	02 16 57.0	-3.9
	comp=Z,23nm,0.6s						
BJT	Baijiatuau	20.23	291	eP	P	02 16 57.0	-3.9
BJT				pmax	pmax		
	comp=Z,23nm,0.6s						
YULB	Yu-li	20.81	241	eP	P	02 17 06.5	-0.9
	comp=Z,27nm,1.5s						
ZEA	Zeya	20.87	337	eP	P	02 17 06.9	-0.9
ZEA				i		02 21 10.0	
ZEA				pmax	pmax		
	comp=N,35nm,1.0s						
ZEA				pmax	pmax		
	comp=E,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,41nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,16.0s						
ZEA				MLR	MLR		
	comp=E,400nm,12.0s						
ZEA				MLR	MLR		
	comp=N,500nm,16.0s						
HIA	Hailar	20.98	318	eP	P	02 17 06.3	-2.8
	comp=N,9.6nm,0.6s						
HIA	Hailar	20.98	318	iP	P	02 17 10.1	+1.0
HIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PEA0B	Petropavlovsk-	21.41	28	eP	P	02 17 14.7	+1.2
	comp=Z,75nm,1.4s						
PETK	Petropavlovsk-	21.41	28	P	P	02 17 14.5	+0.9
	comp=Z,4.0nm,0.8s,baz=206,slow=9.6,SNR=2.9						
PETK				LR	LR	02 26 00.4	
	comp=Z,184nm,19.7s,baz=211,slow=38						
PETK	Petropavlovsk-	21.41	28	eP	P	02 17 12.8	-0.8
PEA1	Petropavlovsk-	21.41	28	eP	P	02 17 14.5	+0.9
HHC	Hu-ho-hao-te	23.80	292	eP	P	02 17 35.8	-2.9
HHC				pP	pP	02 17 49.8	+4.3
HHC				sP	sP	02 17 58.5	+10
HHC				S	S	02 21 38.7	-14
HHC				sS	pS	02 22 03.4	+3.1
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,4.8s						
HHC				LR	LR		
	comp=Z,180nm,10.0s						
HHC				LR	LR		
	comp=Z,340nm,11.1s						
HHC				LR	LR		
	comp=Z,340nm,13.4s						
CLNS	Chul'man	24.21	338	eP	P	02 17 42.9	+0.7
CLNS				pmax	pmax		
	comp=Z,24nm,1.2s						
CLNS				pmax	pmax		
	comp=N,24nm,1.4s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.2s						
CLNS				MLR	MLR		
	comp=E,400nm,14.0s						
CLNS				MLR	MLR		
	comp=N,527nm,16.0s						
CLNS				MLR	MLR		
	comp=Z,489nm,15.0s						
MA2	Magadan	25.17	12	P	P	02 17 51.8	+0.9
	comp=Z,15nm,0.8s,baz=201,slow=9.3,SNR=15						
MA2	Magadan	25.17	12	ceP	P	02 17 51.0	+0.1
XAN	Xi'an	26.38	277	P	P	02 18 01.0	-1.1
XAN				pmax	pmax		
	comp=Z,14nm,1.1s						
XAN				pmax	pmax		
	comp=Z,99nm,3.3s						
XAN				LR	LR		
	comp=Z,570nm,16.3s						
XAN				LR	LR		
	comp=Z,590nm,17.3s						
XAN				LR	LR		
	comp=Z,530nm,16.2s						
ENH	Enshi	26.91	268	eP	P	02 18 06.0	-1.0
	comp=Z,27nm,0.6s						
H11N2	WAKE ISLAND Hy	27.56	117	T	T	02 47 14.5	
	baz=310,slow=75,SNR=493						
H11N1	WAKE ISLAND Hy	27.57	117	T	T	02 47 25.3	
	baz=310,slow=75,SNR=670						
H11N3	WAKE ISLAND Hy	27.58	117	T	T	02 47 10.4	
	baz=310,slow=75,SNR=531						
WAKE	Wake Island	27.67	118	eP	P	02 18 13.4	-0.4
	comp=Z,165nm,1.2s						
YAK	Yakutsk	27.75	349	P	P	02 18 14.8	+0.7
	comp=Z,26nm,0.5s,baz=179,slow=2.7,SNR=6.0						
YAK	Yakutsk	27.75	349	eP	P	02 18 15.2	+1.1
	comp=Z,39nm,0.7s						
YAK	Yakutsk	27.75	349	eP	P	02 18 14.8	+0.7
YAK				e*PP	pP	02 18 21.9	+0.8
YAK				ePPP	PPP	02 19 04.8	
YAK				eS	S	02 22 50.2	-5.0
YAK				e*SS	pS	02 23 05.8	+3.4
YAK				eSSS	SSS	02 24 19.7	
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				smax	smax		
	comp=E,35nm,3.0s						
YAK				smax	smax		
	comp=N,145nm,4.3s						
YAK				MLR	MLR		
	comp=E,402nm,22.0s						
YAK				MLR	MLR		
	comp=N,807nm,18.0s						
YAK				MLR	MLR		
	comp=Z,623nm,18.0s						
ULN	Ulaanbaatar	28.14	307	eP	P	02 18 17.9	0.0
	comp=Z,33nm,1.8s						
ULN	Ulaanbaatar	28.14	307	iP	P	02 18 18.4	+0.5
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
H11S1	WAKE ISLAND Hy	28.20	120	T	T	02 48 06.1	
	baz=312,slow=76,SNR=4210						
H11S3	WAKE ISLAND Hy	28.20	120	T	T	02 48 06.1	
	baz=312,slow=76,SNR=2684						
H11S2	WAKE ISLAND Hy	28.22	120	T	T	02 48 07.8	
	baz=312,slow=76,SNR=2928						
SONA1	Songino Array	28.56	307	eP	P	02 18 21.8	+0.1
SONA0	Songino Array	28.56	307	eP	P	02 18 21.5	-0.1
SONM	Songino Array	28.56	307	P	P	02 18 21.5	-0.1
	comp=Z,4.7nm,0.8s,baz=112,slow=8.8,SNR=27						
SONM				LR	LR	02 30 16.3	
	comp=Z,463nm,18.3s,baz=118,slow=37						
SEY	Seymchan	28.61	11	P	P	02 18 22.5	+0.7
	comp=Z,2.0nm,0.3s,baz=198,slow=7.7,SNR=6.7						
SEY	Seymchan	28.61	11	ceP	P	02 18 22.9	+1.1
BOD	Bodaibo	28.90	330	eP	P	02 18 24.1	-0.3
BOD				pmax	pmax		
	comp=Z,15nm,0.9s						
LZH	Lanzhou	30.10	283	eP	P	02 18 39.3	+3.8
LZH				pmax	pmax		
	comp=Z,18nm,0.9s						
ZAK	Zakamensk	31.16	311	eP	P	02 18 43.1	-1.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TLY	Talaya	31.30	313	eP	P	02 18 49.0	+3.3
TLY				eS	S	02 23 52.9	+1.8
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,348nm,17.0s						
GTA	Gaotai	32.83	290	eP	P	02 18 59.0	-0.4
GTA				S	S	02 24 06.6	-8.8
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,63nm,4.8s						
GTA				LR	LR		
	comp=Z,320nm,17.3s						
GTA				LR	LR		
	comp=Z,310nm,17.6s						
GTA				LR	LR		
	comp=Z,310nm,18.3s						
BILL	Bilibino	35.84	16	eP	P	02 19 22.0	-3.0
BILL				ePPP	PPP	02 20 54.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TIXI	Tiksi	37.03	354	P	P	02 19 35.1	0.0
	comp=Z,5.7nm,0.5s,baz=128,slow=4.9,SNR=9.0						
FAKI	Fak Fak	38.84	194	eP	P	02 19 50.0	-0.9
	comp=Z,14nm,0.9s						
CM31	Chiang Mai Arr	40.76	257	eP	P	02 20 05.0	-2.0
CMAR	Chiang Mai Arr	40.76	257	P	P	02 20 05.0	-2.0
	comp=Z,1.4nm,0.5s,baz=50,slow=7.6,SNR=5.2						
CMAR				LR	LR	02 40 00.2	
	comp=Z,185nm,18.7s,baz=48,slow=40						
CMAR	Chiang Mai Arr	40.76	257	ceP	P	02 20 05.8	-1.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAA0	Zalesovo Array	42.91	314	eP	P	02 20 24.6	+0.5
	comp=Z,9.7nm,0.6s						
ZAA1	Zalesovo Array	42.91	314	eP	P	02 20 24.4	+0.3
ZALV	Zalesovo Beam	42.91	314	P	P	02 20 24.4	+0.3
	comp=Z,11nm,0.6s,baz=98,slow=6.7,SNR=30						
ZALV				LR	LR	02 39 07.6	
	comp=Z,149nm,18.5s,baz=71,slow=37						
ZALV	Zalesovo Beam	42.91	314	eP	P	02 20 24.0	-0.1
NVS	Novosibirsk	43.86	315	⇓iP	P	02 20 32.6	+0.8
NVS				pmax	pmax		
	comp=Z,17nm,1.2s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,12nm,1.4s						
MK01	Makanchi Array	44.82	304	eP	P	02 20 39.8	+0.1
MK31	Makanchi Array	44.82	304	eP	P	02 20 40.2	+0.6
MK31	Makanchi Array	44.82	304	eP	P	02 20 40.2	+0.6
MK32	Makanchi Array	44.82	304	eP	P	02 20 40.1	+0.4
MKAR	Makanchi Array	44.82	304	P	P	02 20 40.1	+0.4
	comp=E,8.5nm,0.9s,baz=84,slow=9.1,SNR=45						
MKAR				LR	LR	02 40 10.4	
	comp=E,330nm,18.6s,baz=85,slow=37						
MKAR	Makanchi Array	44.82	304	eP	P	02 20 40.2	+0.6
	comp=E,51nm,0.8s						
MAKZ	Makanchi	45.03	304	eP	P	02 20 42.0	+0.7
	comp=E,12nm,0.9s						
MAKZ	Makanchi	45.03	304	eP	P	02 20 42.0	+0.7
MAKZ				pmax	pmax		
	comp=Z,12nm,0.9s						
ODAN	Odare	46.23	275	eP	P	02 20 50.8	-0.5
	comp=Z,6.8nm,0.2s						
KURK	Kurchatov	46.80	309	eP	P	02 20 55.3	+0.2
	comp=Z,33nm,0.8s						
KURK	Kurchatov	46.80	309	ceP	P	02 20 55.1	-0.1
KURK				pmax	pmax		
	comp=Z,26nm,0.8s						
RAMN	Ramite	46.83	276	eP	P	02 20 56.0	-0.1
	comp=Z,34nm,0.7s						
KURBB	Kurchatov Arra	46.87	309	P	P	02 20 55.8	+0.1
	comp=Z,15nm,0.6s,baz=85,slow=8.2,SNR=64						
JIRN	Jiri	46.88	277	eP	P	02 20 56.6	0.0
GUN	Gumba	47.03	277	eP	P	02 20 57.0	-0.7
	comp=Z,46nm,0.9s						
PDGK	Podgornoye	47.35	299	P	P	02 21 00.2	+0.5
PDGK				pmax	pmax		
	comp=Z,27nm,0.6s						
SOEI	Soe	47.47	203	eP	P	02 20 57.9	-2.9
	comp=Z,23nm,0.7s						
PKI	Pulchoki	47.55	277	eP	P	02 21 01.6	-0.1
	comp=Z,12nm,0.7s						
PKIN	Phulchoki	47.56	277	eP	P	02 21 01.5	-0.2
	comp=Z,22nm,0.6s						
KKN	Kakani	47.57	277	eP	P	02 21 01.5	-0.2
	comp=Z,17nm,0.5s						
DMN	Daman	47.78	277	eP	P	02 21 03.4	-0.1
	comp=Z,24nm,0.9s						
HNR	Honiara	47.90	154	LR	LR	02 42 24.7	
	comp=Z,86nm,19.0s,baz=334,slow=38						
BATI	Baumata	48.09	203	LR	LR	02 41 04.0	
	comp=Z,88nm,20.3s,baz=352,slow=36						
DANN	Dangsing	48.58	279	eP	P	02 21 09.7	+0.1
KDAK	Kodiak Island	48.66	41	eP	P	02 21 08.1	-1.3
	comp=Z,131nm,1.8s						
KDAK	Kodiak Island	48.66	41	eP	P	02 21 08.1	-1.3
KDAK				pmax	pmax		
	comp=Z,131nm,1.8s						
MTN	Manton Dam	48.73	193	eP	P	02 21 10.2	-0.2
	comp=Z,16nm,0.9s						
PPLA	Purkeypile	48.83	34	eP	P	02 21 11.2	+0.4
	comp=Z,48nm,2.0s						
CAST	Castle Rocks	48.89	33	eP	P	02 21 12.1	+0.9
	comp=Z,19nm,1.8s						
KOLN	Koldanda	48.94	278	eP	P	02 21 12.8	+0.5
	comp=Z,16nm,0.7s						
COEN	Coen	48.97	177	eP	P	02 21 13.0	+0.8
	comp=Z,8.7nm,0.8s						
PYUN	Piuthan	49.30	279	eP	P	02 21 15.9	+0.8
	comp=Z,41nm,0.7s						
TKM2	Tokmak 2	50.22	300	P	P	02 21 23.3	+1.4
	SNR=25						
MDM	Murphy Dome	50.61	31	eP	P	02 21 25.4	+1.1
	comp=Z,24nm,1.6s						
KZA	Kyzart	50.68	299	P	P	02 21 27.8	+2.1
	SNR=9.8						
KBK	Karagaybulak	50.75	299	P	P	02 21 26.8	+1.0
	SNR=16						
CCB	Clear Creek Bu	50.79	32	eP	P	02 21 25.9	+0.3
	comp=Z,7.4nm,1.5s						
KSH	Kashi	50.86	295	P	P	02 21 30.5	+3.8
KSH				PcP	PcP	02 22 46.9	+3.8
KSH				S	S	02 28 36.4	-5.3
KSH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,80nm,7.4s						
KSH				LR	LR		
	comp=Z,79nm,8.0s						
KSH				LR	LR		
	comp=Z,120nm,8.3s						
KSH				LR	LR		
	comp=Z,150nm,9.5s						
FRU	Bishkek	50.94	300	eP	P	02 21 27.0	-0.1
FRU				e		02 21 41.0	
AAK	Ala-Archa	51.08	300	P	P	02 21 29.0	+0.7
	SNR=9.1						
AAK	Ala-Archa	51.08	300	eP	P	02 21 29.2	+0.9
	comp=Z,46nm,1.9s						
AAK	Ala-Archa	51.08	300	eP	P	02 21 29.2	+0.9
AAK				pmax	pmax		
	comp=Z,46nm,1.9s						
UCH	Uchtor	51.17	299	P	P	02 21 30.9	+1.5
	SNR=5.3						
IL1	Eielson Array	51.19	32	eP	P	02 21 30.7	+2.2
ILAR	Eielson Array	51.19	32	P	P	02 21 28.3	-0.2
	comp=Z,1.1nm,0.6s,baz=264,slow=5.7,SNR=17						
ILB	Eielson Array	51.19	32	eP	P	02 21 28.9	+0.3
OTUK	Ortayu	51.23	307	P	P	02 21 29.5	+0.3
OTUK				pmax	pmax		
	comp=Z,17nm,0.7s						
BVA0	Borovoye Array	51.55	313	iP	P	02 21 31.3	-0.2
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVAR	Borovoye Array	51.55	313	P	P	02 21 31.7	+0.2
	comp=Z,2.3nm,0.6s,baz=85,slow=8.0,SNR=19						
BVAR				LR	LR	02 44 29.1	
	comp=Z,130nm,19.7s,baz=81,slow=37						
BRVK	Borovoye	51.61	313	eP	P	02 21 32.6	+0.7
	comp=Z,7.6nm,0.9s						
BRVK	Borovoye	51.61	313	eP	P	02 21 32.6	+0.7
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
UGM	Wanagama	51.67	220	eP	P	02 21 30.3	-2.5
	comp=Z,30nm,0.9s						
AML	Almayashu	51.78	299	P	P	02 21 35.3	+1.4
	SNR=22						
KLU	Klutina	51.80	36	eP	P	02 21 33.6	+0.3
	comp=Z,34nm,1.6s						
LEM	Lembang	52.35	224	LR	LR	02 45 34.6	
	comp=Z,76nm,18.9s,baz=90,slow=38						
DOT	Dot Lake	52.48	33	eP	P	02 21 37.5	-0.7
	comp=Z,6.3nm,0.9s						
MNAS	Manas	52.53	300	P	P	02 21 39.7	+0.6
MNAS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SFK	Sufi-Kurgan	52.53	297	P	P	02 21 40.0	+0.7
SFK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GSI	Gunungsitoli	52.61	240	eP	P	02 21 40.1	+0.3
	comp=Z,42nm,1.2s						
MENT	Mentasta	52.70	34	eP	P	02 21 39.7	-0.2
	comp=Z,6.0nm,0.5s						
EGAK	Eagle	53.63	31	eP	P	02 21 46.5	-0.2
	comp=Z,16nm,1.8s						
KK31	Karatay Array	53.76	301	iP	P	02 21 48.3	+0.3
KK31				pmax	pmax		
	comp=Z,23nm,1.3s						
KKAR	Karatay Array	53.76	301	eP	P	02 21 48.8	+0.8
KKAR	Karatay Array	53.76	301	eP	P	02 21 48.8	+0.8

DAWY Dawson 54.49 32 *e*P P 02 21 53.6 +0.6
comp=Z,6.9nm,1.5s
FITZ Fitzroy Crossi 55.02 198 *e*P P 02 21 57.3 +0.1
comp=Z,8.8nm,0.7s
WRAB Tennant Creek 55.23 188 *e*P P 02 21 58.4 -0.3
comp=Z,12nm,0.8s
WRAB Tennant Creek 55.23 188 *ce*P P 02 21 58.2 -0.6
WRAB pmax pmax
comp=Z,41nm,1.0s
WR1 Warramunga Arr 55.24 188 *e*P P 02 21 58.0 -0.9
comp=Z,13nm,0.7s
WRA Warramunga Arr 55.24 188 P P 02 21 58.0 -0.9
comp=Z,9.9nm,0.5s,baz=4.5,slow=7.6,SNR=103
WRA LR LR 02 43 58.6
comp=Z,92nm,21.5s,baz=265,slow=34
WRA Warramunga Arr 55.24 188 P P 02 21 58.0 -0.9
WRA pmax pmax
comp=Z,10.0nm,0.5s
WC3 Warramunga Arr 55.25 188 *e*P P 02 21 58.5 -0.5
comp=Z,17nm,0.9s
INK Inuvik 56.13 27 P P 02 22 05.6 +0.9
comp=Z,0.7nm,0.6s,baz=292,slow=6.9,SNR=3.1
INK Inuvik 56.13 27 *e*P P 02 22 05.6 +0.9
comp=Z,5.9nm,1.1s
SVE Sverdlovsk 56.29 319 *e*P P 02 22 06.9 +0.9
SVE pmax pmax
comp=Z,18nm,1.0s
ARU Arti 57.50 319 LR LR 02 47 17.7
comp=Z,92nm,18.4s,baz=106,slow=36
ARU Arti 57.50 319 *e*P P 02 22 14.8 +0.2
comp=Z,42nm,1.5s
ARU Arti 57.50 319 *c i*P P 02 22 14.6 0.0
ARU 02 24 20.7
ARU S S 02 30 12.1 +1.6
ARU SS SS 02 34 00.4 +0.5
ARU pmax pmax
comp=Z,17nm,1.0s
KBL Kabul 57.77 292 *e*P P 02 22 17.3 +0.1
comp=Z,13nm,1.2s
KBL Kabul 57.77 292 *e*P P 02 22 17.3 +0.1
KBL pmax pmax
comp=Z,13nm,1.2s
AB31 Akbulak array 58.86 311 *i*P P 02 22 24.0 -0.2
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 58.86 311 *e*P P 02 22 24.4 +0.1
comp=Z,70nm,0.6s
AS01 Alice Springs 58.96 188 *e*P P 02 22 24.9 -0.3
AS31 Alice Springs 58.97 188 *e*P P 02 22 27.4 +2.2
comp=Z,3.3nm,0.6s
ASAR Alice Springs 58.97 188 P P 02 22 24.9 -0.3
comp=Z,5.1nm,0.7s,baz=17,slow=9.2,SNR=38
ASAR LR LR 02 46 23.8
comp=Z,105nm,21.7s,baz=20,slow=34
MBWA Marble Bar 59.61 203 *e*P P 02 22 27.5 -2.1
comp=Z,20nm,1.0s
AKTO Aktyubinsk 59.64 313 P P 02 22 29.7 +0.1
comp=Z,3.8nm,0.7s,baz=64,slow=12,SNR=15
AKTO LR LR 02 49 36.4
comp=Z,197nm,18.7s,baz=63,slow=37
DZM Mont Dzumac 61.89 153 LR LR 02 51 45.3
comp=Z,92nm,18.4s,baz=348,slow=38
SPA0 Spitsbergen Ar 62.22 349 *e*P P 02 22 49.7 +3.0
SPITS Spitsbergen Ar 62.22 349 LR LR 02 51 33.5
comp=Z,155nm,20.3s,baz=170,slow=38
RES Resolute Bay 64.42 14 *e*P P 02 23 01.6 +0.3
comp=Z,8.4nm,0.8s
RES Resolute Bay 64.42 14 *e*P P 02 23 01.6 +0.3
RES pmax pmax
comp=Z,8.0nm,0.8s
GEYT Alibeck 64.43 300 P P 02 23 02.3 +0.2
comp=Z,3.9nm,0.9s,baz=56,slow=5.6,SNR=9.1
GEYT LR LR 02 53 10.6
comp=Z,200nm,18.7s,baz=325,slow=38
KLMR Klimovskoe 65.10 328 *e*P P 02 23 02.3 -3.7
KLMR pmax pmax
comp=Z,11nm,1.4s
KLMR Klimovskoe 65.10 328 *e*P P 02 23 02.4 -3.6
KLMR AMP 02 23 08.3
comp=Z,11nm,1.4s
YKA Yellowknife Ar 65.52 30 P P 02 23 08.9 +0.2
comp=Z,0.5nm,0.9s,baz=298,slow=6.1,SNR=4.4
YKB5 Yellowknife Ar 65.52 30 *e*P P 02 23 08.9 +0.2
ARA0 ARCESS Array S 65.56 340 *e*P P 02 23 09.0 +0.1
ARCES ARCESS Array B 65.56 340 P P 02 23 09.0 +0.1
comp=Z,5.0nm,0.9s,baz=52,slow=7.9,SNR=5.7
ARCES ARCESS Array B 65.56 340 *e*P P 02 23 09.3 +0.5
ARCES ARCESS Array B 65.56 340 *e*P P 02 23 09.3 +0.5
XMAS Kiritimati 65.78 106 *e*P P 02 23 12.0 +1.0
comp=Z,177nm,1.4s
AFI Afiamalu 66.25 129 LR LR 02 49 08.7
comp=Z,59nm,18.8s,baz=28,slow=33
STKA Stephens Creek 66.76 179 P P 02 23 18.1 +1.2
comp=Z,3.0nm,0.8s,baz=334,slow=9.6,SNR=2.6
STKA Stephens Creek 66.76 179 *e*P P 02 23 18.1 +1.2
comp=Z,11nm,1.9s
FORT Forrest 66.79 192 *e*P P 02 23 17.8 +0.8
comp=Z,490nm,1.2s
TULEG Thule 66.92 7 *e*P P 02 23 19.4 +2.0
comp=Z,7.6nm,1.2s
JOF Joensuu 67.39 332 P P 02 23 22.3 +1.7
JOF pmax pmax
comp=Z,14nm,1.8s
OBN Obninsk 69.34 324⇑ *e*P P 02 23 33.8 +0.9
OBN *e* 02 23 46.6
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,172nm,15.0s
VSR Storozhevoye 70.07 319 *i*P P 02 23 38.7 +1.2
VSR pmax pmax
comp=Z,7.0nm,1.2s
FIA1 FINESS Array S 70.25 332 *e*P P 02 23 38.3 -0.1
comp=Z,11nm,0.9s
FIA0 FINESS Array S 70.25 332 *e*P P 02 23 38.3 -0.1
FIA0 FINESS Array S 70.25 332 *e*P P 02 23 38.3 -0.1
FINES FINESS Array B 70.25 332 P P 02 23 38.3 -0.1
comp=Z,2.2nm,0.6s,baz=84,slow=6.5,SNR=14
FINES LR LR 02 59 18.9
comp=Z,152nm,18.8s,baz=32,slow=40
WSAR Wadi Sarin 71.03 285 LR LR 02 59 45.3
comp=Z,89nm,18.3s,baz=55,slow=40
GOF Gofitskoye 71.05 312⇑ *e*P P 02 23 43.3 -0.3
GOF pmax pmax
comp=Z,30nm,1.4s
YBH Yreka Blue Hor 71.70 52 *e*P P 02 23 47.8 +0.1
comp=Z,26nm,1.5s
YBH Yreka Blue Hor 71.70 52 *e*P P 02 23 47.8 +0.1
YBH pmax pmax
comp=Z,26nm,1.5s
KBZ Khabaz 71.83 311 P P 02 23 49.4 +1.1
comp=Z,6.5nm,0.9s,baz=93,slow=8.0,SNR=4.8
KBZ LR LR 02 57 31.1
comp=Z,98nm,19.2s,baz=48,slow=38
KIV Kislovodsk 71.84 311 *e*P P 02 23 50.2 +1.7
comp=Z,20nm,1.0s
KIV Kislovodsk 71.84 311 *e*P P 02 23 49.7 +1.2
KIV pmax pmax
comp=Z,23nm,1.1s
SUMG Summit 72.48 360 *e*P P 02 23 52.4 +0.2
comp=Z,8.4nm,0.9s
SUMG Summit 72.48 360 *e*P P 02 23 52.4 +0.2
SUMG pmax pmax
comp=Z,8.0nm,0.9s
GNI Garni 72.52 307 LR LR 02 57 13.8
comp=Z,100nm,19.9s,baz=62,slow=37
GNI Garni 72.52 307 *e*P P 02 23 56.3 +3.6
comp=Z,12nm,1.0s
GNI Garni 72.52 307 *i*P P 02 23 54.9 +2.1
GNI pmax pmax
comp=Z,52nm,1.5s
IZAR Zarasai 73.75 328 *e*P P 02 24 00.1 +0.6
IZAR IAmb IAmb 02 24 02.6
comp=Z,3.1nm,0.9s
IDID Didziasalis 73.81 327 *e*P P 02 24 00.5 +0.7
IDID IAmb IAmb 02 24 01.9
comp=Z,3.3nm,0.6s
ISAL Salakas 73.92 328 *e*P P 02 24 01.1 +0.6
ISAL IAmb IAmb 02 24 01.6
comp=Z,5.5nm,0.7s
IIGN Ignalina 74.01 327 *e*P P 02 24 01.7 +0.7
IIGN IAmb IAmb 02 24 03.2
comp=Z,3.4nm,0.7s
ANN Anapa 74.55 314 *e*P P 02 23 54.5 -10
ANN pmax pmax
comp=Z,70nm,1.3s

FFC Flin Flon 75.39 32 *e*P P 02 24 10.4 +1.4
comp=Z,6.0nm,1.1s
FFC Flin Flon 75.39 32 *e*P P 02 24 10.4 +1.4
FFC pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 75.52 322 P P 02 24 09.7 -0.1
comp=Z,3.3nm,0.6s,baz=48,slow=6.1,SNR=19
AKASG LR LR 03 00 22.1
comp=Z,320nm,18.7s,baz=25,slow=38
AKASG Malin Array Be 75.52 322 *ce*P P 02 24 09.6 -0.2
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 75.52 322 *e*P P 02 24 09.7 -0.1
comp=Z,6.3nm,0.6s
AKBB Malin Array Si 75.52 322 *e*P P 02 24 09.7 -0.1
AKBB pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 75.53 322 *e*P P 02 24 09.1 -0.8
comp=Z,5.0nm,0.6s
KIEV Kiev 75.53 322 *i*P P 02 24 07.9 -2.0
KIEV pmax pmax
comp=Z,4.0nm,1.0s
HFS Hagfors 75.59 336 P P 02 24 10.1 0.0
comp=Z,3.0nm,0.7s,baz=46,slow=6.2,SNR=13
HFS LR LR 02 59 51.3
comp=Z,194nm,20.4s,baz=36,slow=38
LRM Limekiln Ridge 75.66 44 *e*P P 02 24 12.3 +1.2
NC204 NORSAR Array S 75.68 338 *e*P P 02 24 11.3 +0.6
NC204 *e*pP **pP** 02 24 14.2 -3.9
NB2 NORSAR Subarra 75.72 337 P P 02 24 10.9 0.0
comp=Z,5.4nm,0.7s,baz=41,slow=5.9
NB200 NORSAR Array S 75.72 337 *e*P P 02 24 11.0 +0.2
NOA NORSAR Array B 75.72 337 P P 02 24 11.0 +0.2
comp=Z,2.7nm,0.6s,baz=46,slow=5.1,SNR=11
NOA LR LR 03 00 27.8
comp=Z,219nm,20.4s,baz=50,slow=38
BOZ Bozeman (W) 76.26 44 *e*P P 02 24 17.3 +2.9
comp=Z,11nm,1.6s
BOZ Bozeman (W) 76.26 44 *e*P P 02 24 17.3 +2.9
BOZ pmax pmax
comp=Z,11nm,1.6s
NV01 Mina Array Sit 76.33 53 *e*P P 02 24 17.4 +2.4
NVAR Mina Array Bea 76.33 53 P P 02 24 15.5 +0.5
comp=Z,1.2nm,0.6s,baz=288,slow=6.0,SNR=6.8
SORM Soroca 77.57 321 ⇑P P 02 24 21.6 +0.1
SFJD Kangerlussuaq 77.70 5 LR LR 03 02 43.1
comp=Z,72nm,18.0s,baz=338,slow=39
R11A Troy Canyon, C 78.12 51 *e*P P 02 24 27.8 +2.7
comp=Z,14nm,2.0s
PD31 Pinedale Array 79.16 45 *e*P P 02 24 31.1 +0.4
PDAR Pinedale Array 79.16 45 P P 02 24 30.5 -0.2
comp=Z,0.8nm,0.6s,baz=273,slow=2.5,SNR=9.5
PDAR Pinedale Array 79.16 45 *e*P P 02 24 30.2 -0.5
RAR Rarotonga 79.38 125 LR LR 02 54 02.9
comp=Z,105nm,22.0s,baz=271,slow=31
KWP Kalwaria Pacla 79.40 324 *e*P P 02 24 32.8 +1.2
comp=Z,138nm,1.0s
KWP Kalwaria Pacla 79.40 324 *e*P P 02 24 32.8 +1.2
BUR08 Bucovina Ar. S 79.51 322 *e*P P 02 24 33.4 +1.0
BURAR Bucovina Array 79.52 322 ⇑P P 02 24 33.4 +1.0
BUR04 Bucovina Ar. S 79.52 322 *e*P P 02 24 33.1 +0.6
BR101 Keskin Array S 79.80 312 *e*P P 02 24 35.6 +1.5
BR131 Keskin Array S 79.80 312 *e*P P 02 24 36.7 +2.6
BRTR Keskin Array B 79.80 312 P P 02 24 35.6 +1.5
comp=Z,1.3nm,0.8s,baz=26,slow=3.8,SNR=4.8
BRTR LR LR 03 06 01.7
comp=Z,60nm,18.5s,baz=46,slow=40
BRTR Keskin Array B 79.80 312 *ce*P P 02 24 36.0 +1.8
BRTR pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 80.24 325 *e*P P 02 24 36.7 +0.5
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 80.24 325 *e*P P 02 24 36.7 +0.5
BR231 Keskin MP Arra 80.25 312 *e*P P 02 24 36.1 -0.4
OJC Ojcow 80.35 326 *e*P P 02 24 37.7 +1.0
comp=Z,8.3nm,1.0s
OJC Ojcow 80.35 326 *e*P P 02 24 37.7 +1.0
OJC pmax pmax
comp=Z,8.0nm,1.0s
LDFC Landfair 80.35 54 *e*P P 02 24 40.5 +3.3
comp=Z,14nm,1.3s
LCMT Little Creek M 80.41 51 *e*P P 02 24 40.2 +2.6
comp=Z,12nm,1.7s
P17A Buncher Ranch, 80.48 48 *e*P P 02 24 41.3 +3.4
comp=Z,8.2nm,1.3s
MLR Muntele Rosu 80.55 320 LR LR 03 03 24.8
comp=Z,45nm,18.2s,baz=56,slow=38
KNB Kanab 80.68 51 *e*P P 02 24 40.2 +1.2
comp=Z,12nm,1.2s
KNB Kanab 80.68 51 *e*P P 02 24 40.2 +1.2
KNB pmax pmax
comp=Z,12nm,1.2s
SRU San Rafael Swe 80.84 48 *e*P P 02 24 43.3 +3.5
comp=Z,4.3nm,0.6s
SRU San Rafael Swe 80.84 48 *e*P P 02 24 43.3 +3.5
SRU pmax pmax
comp=Z,4.0nm,0.6s
RAYN Ar Rayn 81.04 292 *e*P P 02 24 41.6 +0.6
comp=Z,15nm,1.6s
DRGR 81.34 322 ⇓P P 02 24 42.8 +0.6
DPC Dobruska-Polom 81.81 328 *e*P P 02 24 45.6 +1.1
DPC *ex* x 02 24 53.1
DPC Dobruska-Polom 81.81 328 *e*P P 02 24 45.6 +1.1
DPC *e* 02 24 53.1
VYHS Vyhne 82.02 325 *e*P P 02 24 46.7 +1.0
VYHS Vyhne 82.02 325 *e*P P 02 24 46.7 +1.0
PVCC Panska Ves 82.43 329 *e*P P 02 24 48.8 +1.1
PVCC Panska Ves 82.43 329 *e*P P 02 24 48.8 +1.1
BRG Berggiesshubel 82.43 329 *e*P P 02 24 51.2 +3.5
comp=Z,3.6nm,1.0s
BRG Berggiesshubel 82.43 329 *e*P P 02 24 51.2 +3.5
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG MLR MLR
comp=N,215nm,15.0s
BRG MLR MLR
comp=E,202nm,19.9s
BRG MLR MLR
comp=Z,238nm,16.6s
CLL Collm 82.49 330 *i*P P 02 24 48.0 0.0
comp=Z,5.0nm,0.7s
CLL LmH 03 04 00.0
comp=N,100nm,19.5s
CLL LmH 03 04 00.0
comp=E,100nm,18.5s
CLL Collm 82.49 330 *i*P P 02 24 48.0 0.0
CLL pmax pmax
comp=Z,5.0nm,0.7s
PV01 Paradox Valley 82.64 48 *e*P P 02 24 50.8 +1.4
BZS Buzias 82.70 322 ⇑P P 02 24 49.9 +0.7
MMAI Mount Meron Ar 82.74 305 LR LR 03 05 04.7
comp=Z,99nm,21.1s,baz=20,slow=38
GOPC GO Pecny, Ondr 82.79 328 AMS AMS 03 06 10.0
comp=Z,200nm,15.2s
PRU Pruhonice 82.84 328 *e*P P 02 24 51.2 +1.3
PRU AMS AMS 03 06 20.0
comp=Z,300nm,16.7s
PRU Pruhonice 82.84 328 *e*P P 02 24 51.2 +1.3
PRU MLR MLR
comp=Z,300nm,16.7s
X16A Lo Mia Camp, P 83.15 53 *e*P P 02 24 54.1 +2.0
comp=Z,6.4nm,1.3s
KHC Kasperske Hory 83.90 328 *e*P P 02 24 55.9 +0.5
KHC *ex* x 02 25 02.9
KHC Kasperske Hory 83.90 328 *e*P P 02 24 56.1 +0.7
comp=Z,7.0nm,1.6s
KHC Kasperske Hory 83.90 328 *e*P P 02 24 56.1 +0.7
KHC pmax pmax
comp=Z,7.0nm,1.6s
VTS Vitosha 83.95 319 ⇓P P 02 24 54.6 -1.4
GEC2 GERESS Array S 84.06 328 *e*P P 02 24 56.5 +0.2
comp=Z,8.2nm,1.5s
GEC2 GERESS Array S 84.06 328 *e*P P 02 24 56.6 +0.2
GEC2 pmax pmax
comp=Z,8.0nm,1.5s
GERES GERESS Array B 84.06 328 P P 02 24 56.5 +0.2
comp=Z,1.0nm,0.6s,baz=29,slow=5.4,SNR=11
GERES LR LR 03 06 32.9
comp=Z,139nm,18.1s,baz=20,slow=39
GEA0 GERESS Array S 84.07 328 *e*P P 02 24 56.2 -0.1
PPT Papeete 84.13 116 LR LR 02 53 42.4
comp=Z,84nm,21.3s,baz=256,slow=29
GRFO Grafenberg 84.46 330 *e*P P 02 24 57.1 -1.1
comp=Z,5.9nm,0.8s
GRFO Grafenberg 84.46 330 *e*P P 02 24 57.1 -1.1
GRFO pmax pmax
comp=Z,6.0nm,0.8s
EKA Eskdalemuir Ar 84.71 340 LR LR 03 06 38.3
comp=Z,87nm,19.7s,baz=5.0,slow=38
ANMO Albuquerque 85.99 50 *ce*P P 02 25 06.8 +0.4
ANMO pmax pmax
comp=Z,5.0nm,2.5s
BFO Black Forest 86.71 331 *e*P P 02 25 10.1 +0.7
comp=Z,10nm,1.3s
BFO Black Forest 86.71 331 *ce*P P 02 25 10.0 +0.5
CDF Champ du Feu 87.06 331 *e*P P 02 25 10.8 -0.5
CDF pmax pmax
comp=Z,5.0nm,1.1s
SCHQ Schefferville 87.15 16 P P 02 25 13.4 +1.9
comp=Z,3.2nm,1.0s,baz=325,slow=4.4,SNR=6.4
SCHQ Schefferville 87.15 16 *e*P P 02 25 13.4 +1.9
comp=Z,4.3nm,0.8s
FUORN Ofenpass-Fuorn 87.26 328 *e*P P 02 25 13.4 +1.0
comp=Z,22nm,1.8s
DAVOX Davos/Dischmat 87.30 329 LR LR 03 07 20.6
comp=Z,150nm,18.1s,baz=30,slow=38
SSF Saint Saulge 89.63 332 *e*P P 02 25 23.5 +0.2
SSF pmax pmax
comp=Z,5.0nm,1.1s
LPG La Plagne 89.63 330 *e*P P 02 25 25.9 +2.1
LPG pmax pmax
comp=Z,2.0nm,0.7s
LDF La Druitiere 89.64 335 *e*P P 02 25 24.0 +0.7
LDF pmax pmax
comp=Z,22nm,2.0s
SMF Signal de Mont 89.85 332 *e*P P 02 25 26.5 +2.1
SMF pmax pmax
comp=Z,2.0nm,0.7s
AVF Avril sur Loir 89.91 332 *e*P P 02 25 24.7 0.0
AVF pmax pmax
comp=Z,24nm,1.7s
ATD Arta Tunnel 90.00 284 LR LR 03 08 13.2
comp=Z,30nm,21.1s,baz=14,slow=37
GRR Gorron 90.06 336 *e*P P 02 25 26.3 +1.0
GRR pmax pmax
comp=Z,9.0nm,1.2s
ORIF Oris-en-Rattie 90.46 330 *e*P P 02 25 30.0 +2.6
ORIF pmax pmax
comp=Z,4.0nm,1.0s
ROSF Rostrenen 90.90 337 *e*P P 02 25 29.9 +0.7
ROSF pmax pmax
comp=Z,21nm,1.5s
MFF Saint Martin d 91.35 334 *e*P P 02 25 31.4 0.0
MFF pmax pmax
comp=Z,11nm,1.5s
TX31 Lajitas Ar. Si 91.47 52 *e*P P 02 25 33.1 +0.7
LTX Lajitas 91.47 52 *e*P P 02 25 33.4 +1.0
LTX Lajitas 91.47 52 *e*P P 02 25 33.4 +1.0
TXAR Lajitas Array 91.47 52 P P 02 25 33.4 +1.0
comp=Z,0.8nm,0.7s,baz=292,slow=3.8,SNR=9.2
RJF Les Rejaudoux 91.85 333 *e*P P 02 25 33.8 +0.1
RJF pmax pmax
comp=Z,18nm,1.7s
CAF Calviac 91.97 332 *e*P P 02 25 34.6 +0.3
CAF pmax pmax
comp=Z,6.0nm,1.3s
VAE Valguarnera 92.31 320 LR LR 03 12 40.8
comp=Z,79nm,18.8s,baz=310,slow=39
LFF La Frestale 92.45 333 *e*P P 02 25 36.7 +0.2
LFF pmax pmax
comp=Z,29nm,2.1s
KEST Kesra 96.25 322 LR LR 03 13 44.8
comp=Z,121nm,18.5s,baz=266,slow=38
ESDC Sonseca Array 98.75 333 LR LR 03 14 41.2
comp=Z,84nm,19.2s,baz=50,slow=38
TOA1 Torodi Ar. Sit 118.35 314 *e*PKPdf **PKPdf** 02 31 12.4 -1.2
TORD Torodi Ar. Bea 118.35 314 PKP **PKPdf** 02 31 12.4 -1.2
comp=Z,0.6nm,1.0s,baz=34,slow=1.7,SNR=5.4
SAML Samuel 145.74 46 *e*PKPdf **PKPdf** 02 32 05.1 +0.4
LPAZ La Paz 147.85 62 PKPbc **PKPbc** 02 32 11.7 -0.2
comp=Z,2.2nm,0.6s,baz=269,slow=4.9,SNR=11
LPAZ La Paz 147.85 62 *e*PKPbc **PKPbc** 02 32 13.8 +2.0
LPAZ La Paz 147.85 62 *e*PKP2 **PKPbc** 02 32 13.9 +2.0

*ISK **01** 02:19:52.5, 38˚.11N×42˚.64E, h5km, ML2.6/4*
*ISCJB **01** 02:19:54.0±0.5, 38˚.05N±0˚.03×42˚.66E±0˚.04, h10km, Error ellipse: s-maj=4.8km s-min=3.8km az=146.0*
*CSEM **01** 02:19:53.3±0.3, 38˚.05N×42˚.68E, h5km, ML2.5, Error ellipse: s-maj=6.0km s-min=4.9km az=151.0*
*DDA **01** 02:19:53.6, 38˚.02N×42˚.65E, h7km, Ml2.5*
ISC 01 02:19:54.2±0.8, **38˚.05N**±0˚.03×**42˚.63E**±0˚.02, **h10**km, **n25, σ1s43/44, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.43**	**51**	*i*	P		**Pg**	**02 20 02.7**	**0.0**
GEVA					S		**Sb**	**02 20 10.6**	**0.0**
GEVA	**Gevas**	**0.43**	**51**		P		**Pg**	**02 20 02.7**	**0.0**
GEVA					S		**Sb**	**02 20 10.6**	**0.0**
SRTM	**Siirt_Merkez**	**0.56**	**265**	*i*	P		**Pg**	**02 20 05.3**	**+0.2**
SRTM					S		**Sg**	**02 20 12.8**	**+0.3**
SRTM	**Siirt_Merkez**	**0.56**	**265**		P		**Pg**	**02 20 05.3**	**+0.2**
SRTM					S		**Sg**	**02 20 12.8**	**+0.3**
SIRT	**Sirnak**	**0.56**	**196**		PG		**Pb**	**02 20 05.2**	**-1.0**
SIRT					SG		**Sb**	**02 20 14.4**	**+0.1**
SIRT	**Sirnak**	**0.56**	**196**	*e*	Pg		**Pb**	**02 20 05.2**	**-1.0**
SIRT				*e*	Sg		**Sb**	**02 20 14.4**	**+0.1**
GURO	**Guroymak-BITLI**	**0.69**	**317**		PG		**Pg**	**02 20 05.5**	**-2.1**
GURO					SG		**Sg**	**02 20 15.1**	**-1.5**
GURO	**Guroymak-BITLI**	**0.69**	**317**	*e*	Pg		**Pg**	**02 20 05.5**	**-2.1**
GURO				*e*	Sg		**Sg**	**02 20 15.1**	**-1.5**
ADCV	**BITLIS_Adilcev**	**0.77**	**5**	*i*	P		**Pg**	**02 20 08.8**	**-0.2**
ADCV				*i*	S		**Sb**	**02 20 20.3**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.77**	**5**		P		**Pg**	**02 20 08.8**	**-0.2**
ADCV					S		**Sb**	**02 20 20.3**	**0.0**
TVAN	**Van**	**0.78**	**51**	*i*	P		**Pg**	**02 20 07.9**	**-1.3**
TVAN				*i*	S		**Sn**	**02 20 26.2**	**+2.9**
TVAN	**Van**	**0.78**	**51**		P		**Pg**	**02 20 07.9**	**-1.3**
TVAN					S		**Sn**	**02 20 26.2**	**+2.9**
VANB	**Van**	**0.81**	**47**		PG		**Pg**	**02 20 07.2**	**-2.6**
VANB	**Van**	**0.81**	**47**	*e*	Pg		**Pg**	**02 20 07.2**	**-2.6**
BTMN	**Batman**	**1.09**	**262**	*i*	P		**Pn**	**02 20 15.1**	**-0.4**
BTMN				*i*	S		**Sn**	**02 20 30.6**	**-0.1**
BTMN	**Batman**	**1.09**	**262**		P		**Pn**	**02 20 15.1**	**-0.4**
BTMN					S		**Sn**	**02 20 30.6**	**-0.1**
CUKT	**Cukurca**	**1.11**	**135**		PN		**Pg**	**02 20 14.4**	**-1.1**
CUKT	**Cukurca**	**1.11**	**135**	*i*	P		**Pg**	**02 20 13.9**	**-1.6**
CUKT				*i*	S		**Sn**	**02 20 34.2**	**+2.9**
CUKT	**Cukurca**	**1.11**	**135**		P		**Pg**	**02 20 13.9**	**-1.6**
CUKT	**Cukurca**	**1.11**	**135**	*e*	Pn		**Pg**	**02 20 14.4**	**-1.1**
CUKT					S		**Sn**	**02 20 34.2**	**+2.9**
BNGL	**BINGOL**	**1.47**	**308**	*i*	P		**Pg**	**02 20 22.6**	**+0.1**
BNGL				*i*	S		**Sg**	**02 20 44.6**	**+3.0**
HANI	**Diyarbakir_Han**	**1.80**	**283**	*i*	P		**Pn**	**02 20 25.3**	**0.0**
HANI				*i*	S		**Sb**	**02 20 50.2**	**+0.4**
HANI	**Diyarbakir_Han**	**1.80**	**283**		P		**Pn**	**02 20 25.3**	**0.0**
HANI					S		**Sb**	**02 20 50.2**	**+0.4**
MAZI	**Mazidag**	**1.83**	**252**		PN		**Pn**	**02 20 26.1**	**+0.4**
MAZI	**Mazidag**	**1.83**	**252**	*e*	Pn		**Pn**	**02 20 26.1**	**+0.4**

*ISCJB **01** 02:24:20.9±0.8, 37˚.50N±0˚.03×30˚.94E±0˚.06, h12km±6km, Error ellipse: s-maj=8.0km s-min=5.0km az=24.6*
*CSEM **01** 02:24:20.5±0.3, 37˚.52N×30˚.95E, h5km, ML2.5, Error ellipse: s-maj=8.2km s-min=5.0km az=122.0*
*DDA **01** 02:24:20.8, 37˚.56N×30˚.89E, h7km, Ml2.3*
*ISK **01** 02:24:21.2, 37˚.49N×30˚.90E, h5km, ML2.5/3*
ISC 01 02:24:21.3±1.2, **37˚.55N**±0˚.03×**30˚.89E**±0˚.04, **h3**km±11km, **n21, σ0s85/34, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.26**	**249**		PG		**Pg**	**02 24 26.4**	**+0.1**
BCK					SG		**Sg**	**02 24 30.8**	**+1.2**
BCK	**Bucak**	**0.26**	**249**	*e*	Pg		**Pg**	**02 24 26.4**	**+0.1**
BCK				*e*	Sg		**Sg**	**02 24 30.8**	**+1.2**
ISP	**Isparta**	**0.40**	**313**		PG		**Pb**	**02 24 30.7**	**-0.4**
ISP					SG		**Sb**	**02 24 36.9**	**-0.7**
ISP	**Isparta**	**0.40**	**313**	*e*	Pg		**Pb**	**02 24 30.7**	**-0.4**
ISP				*e*	Sg		**Sb**	**02 24 36.9**	**-0.7**
BAGO	**Egridir - ISPA**	**0.45**	**350**	*i*	P		**Pg**	**02 24 30.3**	**+0.4**
BAGO				*i*	S		**Sb**	**02 24 38.9**	**-0.1**
BRDR	**BURDUR-Merkez**	**0.67**	**283**	*i*	P		**Pg**	**02 24 33.2**	**-1.1**
BRDR				*i*	S		**Sb**	**02 24 45.0**	**-0.5**
BRDR	**BURDUR-Merkez**	**0.67**	**283**		P		**Pg**	**02 24 33.2**	**-1.1**
BRDR					S		**Sb**	**02 24 45.0**	**-0.5**

ANTB	Antalya	0.68	196	PG	Pg	02 24 33.7	-0.6
ANTB	Antalya	0.68	196	ePg	Pg	02 24 33.7	-0.6
KORT	Korkueli	0.70	218	PG	Pg	02 24 34.4	-0.3
KORT	Korkueli	0.70	218	iP	Pg	02 24 33.9	-0.8
KORT				iS	Sb	02 24 45.6	-0.7
KORT	Korkueli	0.70	218	P	Pg	02 24 33.9	-0.8
KORT	Korkueli	0.70	218	ePg	Pg	02 24 34.4	-0.3
KORT				S	Sb	02 24 45.6	-0.7
DOGA	KONYA_Doganhis	0.83	48	iP	Pg	02 24 36.6	-0.6
DOGA				iS	Sg	02 24 48.8	+0.9
DOGA	KONYA_Doganhis	0.83	48	P	Pg	02 24 36.6	-0.6
DOGA				S	Sg	02 24 48.8	+0.9
SHUT	Suhut-Afyon	1.03	345	PN	Pn	02 24 42.5	-0.3
SHUT	Suhut-Afyon	1.03	345	ePn	Pn	02 24 42.5	-0.3
ELL	Elmali	1.12	225	PN	Pg	02 24 42.6	-0.2
ELL	Elmali	1.12	225	ePn	Pg	02 24 42.6	-0.2
BOLV	Bolvadin	1.17	2	iP	Pg	02 24 42.5	-1.2
BOLV				iS	Sn	02 25 02.9	+1.8
BOLV	Bolvadin	1.17	2	P	Pg	02 24 42.5	-1.2
BOLV				S	Sn	02 25 02.9	+1.8

*CSEM **01** 02:30:58.5, 32.°23N×46.°65E, h18km, ML3.5, After THR*
TEH 01 02:31:10.2, 32.°64N×47.°14E, h15km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	1.06	34	ePg	Pb	02 31 29.4	-0.9
IKFM				eSg	Sb	02 31 43.2	-0.8
IKFM				eAMB	AMB	02 31 55.9	
	comp=Z,99nm,0.2s						
SHGR	Shooshtar-Gavs	1.51	110	ePn	Pn	02 31 30.9	-5.8
SHGR				eSg	Sn	02 31 56.0	-0.1
IKOM	Komasi	1.56	12	ePn	Pn	02 31 37.4	-0.2
IKOM				eAMB	AMB	02 32 06.0	
	comp=Z,4µm,0.2s						
IGHG	Ghaleghazi	1.75	344	ePn	Pn	02 31 39.5	-0.7
IGHG				eSg	Sb	02 32 05.1	+1.1
IGHG				eAMB	AMB	02 32 16.5	
	comp=Z,3µm,0.4s						
IVIS	Veis	1.89	353	ePn	Pn	02 31 43.3	+1.2
IVIS				eSg	Sg	02 32 09.7	-1.5
IVIS				eAMB	AMB	02 32 23.4	
	comp=Z,1µm,0.3s						
SNGE	Sanandaj	2.45	4	eP	Pn	02 31 46.3	-3.6
SNGE				eSg	Sg	02 32 29.6	+0.6
KHMZ	Khomeyn	2.61	64	ePn	Pn	02 31 49.9	-2.1
ASAO	Ashtian	3.07	51	ePn	Pn	02 31 56.3	-2.1
IPIR	Pirpir	3.17	88	ePn	Pn	02 31 59.9	+0.1
IPIR				eAMB	AMB	02 32 42.8	
	comp=Z,338nm,0.3s						
QAM	Ghamsar	3.78	72	eAMB	AMB	02 32 29.1	
	comp=Z,299nm,0.3s						
QAM				ePn	Pn	02 32 08.6	+0.5
IKLH	Kolahrood	3.79	79	eAMB	AMB	02 32 09.8	
	comp=Z,229nm,0.1s						
IKLH				ePn	Pn	02 32 08.3	-0.1
IZEF	Zefreh	4.38	85	ePn	Pn	02 32 15.6	-0.9
IZEF				eAMB	AMB	02 32 29.7	
	comp=Z,63nm,0.1s						
IRAM	Ramesheh	4.52	99	ePn	Pn	02 32 17.3	-1.1
IRAM				eAMB	AMB	02 33 16.9	
	comp=Z,61nm,0.2s						

*NIED **01** 02:45:00, 23.°70N×121.°60E, h26km, Mw3.6 Best double couple: M₀3.01000×10¹⁴ NP1:φs75.00000°, δ45.00000°, λ-167.00000°. NP2:φs336.00000°, δ81.00000°, λ-46.00000°.*
*IDC **01** 02:45:39.4±0.9, 23.°74N×121.°87E, h0km, mb3.6/11, mb1 3.8/11, mb1mx3.5/57, mbtmp3.6/11, MS3.5/3, Ms1 3.5/3, ms1mx2.7/59, Error ellipse: s-maj=37.0km s-min=18.1km az=64.0*
*JMA **01** 02:45:41.8±0.1, 23.°73N×121.°55E, h0km, M3.7*
*ISCJB **01** 02:45:43.4±0.2, 23.°77N±0.°01×121.°50E±0.°01, h21km±2km, mb3.6/11, MS3.4/3, Error ellipse: s-maj=2.4km s-min=1.6km az=32.3*
*TAP **01** 02:45:43.2, 23.°79N×121.°43E, h18km, ML4.2, B*
ISC 01 02:45:43.6±0.7, **23.°77N**±0.°01×**121.°48E**±0.°02, **h18**km±4km, **n122, σ0.s93**/173, **mb3.6**/11, **MS3.4**/3, **16C-14D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	Shilin	0.06	316	⇑iP	Pg	02 45 46.6	-0.3
	baz=32						
ESL				iS	Sg	02 45 48.5	-0.5
	baz=32						
EGFH	Guangfu	0.11	204	⇓iP	Pg	02 45 47.2	-0.1
	baz=179						
EGFH				iS	Sg	02 45 49.7	-0.1
	baz=179						
ENLB	Shoufeng	0.17	41	⇑iP	Pg	02 45 48.7	+0.6
	baz=50						
ENLB				eS	Sg	02 45 52.8	+1.7
	baz=50						
HWA	Hwalien	0.24	30	eP	Pb	02 45 49.5	+0.1
	baz=38						
HWA				eS	Sg	02 45 54.4	+1.6
	baz=38						
HGSD	Ruisui	0.28	190	⇓iP	Pg	02 45 49.8	0.0
	baz=185						
HGSD				eS	Sg	02 45 55.8	+1.8
	baz=185						
EHY	Hungye	0.30	208	⇓iP	Pg	02 45 49.2	-0.8
	baz=197						
EHY				S	Sg	02 45 54.2	-0.3
	baz=197						
TWD	Chiawan	0.33	19	⇑P	Pg	02 45 50.2	-0.3
	baz=30						
TWD				S	Sg	02 45 55.2	0.0
	baz=30						
OWD	Renai	0.33	304	⇑P	Pg	02 45 49.8	-0.9
	baz=306						
OWD				iS	Sg	02 45 53.9	-1.6
	baz=306						
CHGB	Renai	0.40	316	⇓iP	Pg	02 45 51.3	-0.6
	baz=327						
CHGB				iS	Sg	02 45 56.2	-1.4
	baz=327						
TWF1	Yuli	0.45	202	⇑iP	Pg	02 45 52.1	-0.6
	baz=197						
TWF1				S	Sg	02 45 58.7	-0.2
	baz=197						
SMLT	Sun Moon Lake	0.54	282	⇓iP	Pb	02 45 53.4	-1.3
	baz=287						
SMLT				iS	Sb	02 45 60.0	-2.2
	baz=287						
TWT	Tachien	0.55	330	⇓iP	Pb	02 45 54.2	-0.7
	baz=333						
TWT				S	Sb	02 46 00.3	-2.2
	baz=333						
YUS	Yu-Shan	0.56	240	⇑iP	Pb	02 45 54.3	-0.9
	baz=235						
YUS				S	Sb	02 46 01.5	-1.4
	baz=235						
TDCB	Techi	0.56	329	⇓iP	Pb	02 45 54.2	-0.8
	baz=332						
TDCB				eS	Sb	02 46 00.6	-2.2
	baz=332						
DPDB	Guoxing	0.57	297	⇓iP	Pb	02 45 54.0	-1.1
	baz=303						
DPDB				S	Sb	02 46 00.8	-2.1
	baz=303						
FULB	Fuli	0.59	197	eP	Pb	02 45 55.4	-0.1
	baz=201						
FULB				eS	Sg	02 46 04.8	+1.5
	baz=201						
NNSB	Datong	0.66	352	⇑iP	Pb	02 45 56.0	-0.7
	baz=6.0						
NNSB				S	Sb	02 46 04.3	-1.3
	baz=6.0						
NNSH	Datong	0.66	352	eP	Pb	02 45 55.9	-0.8
	baz=5.0						
NNSH				S	Sb	02 46 04.3	-1.3
	baz=5.0						
ALS	Alishan	0.67	247	⇑iP	Pb	02 45 56.2	-0.7
	baz=244						
ALS				S	Sb	02 46 04.2	-1.8
	baz=244						
NNS	Nan Shan	0.67	352	⇑iP	Pb	02 45 56.2	-0.7
	baz=6.0						
NNS				S	Sb	02 46 04.8	-1.1
	baz=6.0						
CHKT	Chengkung	0.68	189	eP	Pb	02 45 56.0	-0.9
	baz=172						
CHKT				eS	Sb	02 46 06.2	+0.3
	baz=172						
WJS	Zhushan	0.69	274	eP	Pb	02 45 57.0	0.0
	baz=273						
WJS				S	Sb	02 46 07.0	+0.7
	baz=273						
ENA	Nanau	0.70	20	⇑P	Pb	02 45 56.0	-1.3
	baz=25						
ELDTW	Lidau	0.72	216	⇑P	Pb	02 45 56.4	-1.3
	baz=205						
ELDTW				eS	Sb	02 46 05.9	-1.3
	baz=205						
WNT	Mingjian	0.73	278	⇓iP	Pb	02 45 57.9	0.0
	baz=280						
WNT				eS	Sb	02 46 07.7	0.0
	baz=280						
ENAH	Nanao	0.74	24	eP	Pb	02 45 56.8	-1.2
	baz=28						
CHN5	Tsauling	0.75	257	⇑iP	Pb	02 45 58.0	-0.3
	baz=248						
CHN5				eS	Sb	02 46 08.1	-0.1
	baz=248						
TCU	Taichung	0.82	297	⇓eP	Pb	02 45 59.7	+0.3
	baz=300						
TCU				eS	Sb	02 46 10.9	+0.7
	baz=300						
WGK	Gukeng	0.84	264	eP	Pb	02 45 59.5	-0.3
	baz=262						
WGK				eS	Sb	02 46 11.5	+0.7
	baz=262						
WDLH	Douliu	0.86	265	eP	Pb	02 45 59.7	-0.4
	baz=262						
ENTT	Nioudou	0.87	5	eP	Pb	02 45 59.2	-1.0
	baz=20						
WCHH	Zhanghua	0.90	290	eP	Pb	02 46 00.4	-0.3
	baz=289						
WCHH				eS	Sg	02 46 13.4	+0.5
	baz=289						
STYT	Tauyuan	0.90	228	⇑iP	Pb	02 46 00.3	-0.4
	baz=224						
STYT				eS	Sb	02 46 11.9	-0.4
	baz=224						
YHNB	Yeheng	0.90	354	eP	Pb	02 45 60.0	-0.8
	baz=357						
YHNB				S	Sb	02 46 11.5	-0.9
	baz=357						
TWC	Suao	0.90	22	eP	Pb	02 45 59.2	-1.5
	baz=20						
TWC				eS	Sb	02 46 12.7	+0.3
	baz=20						
TPUB	Ta-pu	0.91	239	⇑iP	Pb	02 46 00.6	-0.3
	baz=236						
TPUB				S	Sb	02 46 12.2	-0.4
	baz=236						
CHN4	Tsaushan	0.91	243	⇑P	Pb	02 46 01.0	0.0
	baz=230						
CHN4				eS	Sb	02 46 13.7	+1.0
	baz=230						
NSY	Sanyi	0.92	315	⇓eP	Pb	02 46 01.5	+0.5
	baz=316						
NSY				eS	Sb	02 46 13.8	+0.9
	baz=316						
CHN2	Minshiung	0.95	256	eP	Pb	02 46 02.0	+0.5
	baz=253						
WTP	Ta-pu	0.95	237	eP	Pb	02 46 01.3	-0.2
	baz=234						
WTP				eS	Sg	02 46 14.9	+0.4
	baz=234						
NSTT	Nanjuang	0.96	333	⇓P	Pb	02 46 01.6	-0.1
	baz=336						
NSTT				S	Sb	02 46 13.4	-0.7
	baz=336						
TWE	Neicheng	0.96	10	eP	Pb	02 46 01.8	+0.1
	baz=27						
LIOB	Emei	0.97	334	⇓iP	Pb	02 46 01.9	+0.1
	baz=337						
LIOB				eS	Sb	02 46 14.5	+0.2
	baz=337						
PTSB	Yuanli	0.97	314	⇓iP	Pb	02 46 02.4	+0.4
	baz=315						
PTSB				eS	Sn	02 46 15.7	-0.1
	baz=315						
EOS1	EOS1	0.98	37	eP	Pb	02 46 01.7	-0.3
	baz=26						
NMLH	Miaoli	0.99	321	eP	Pb	02 46 02.7	+0.5
	baz=322						
NMLH				eS	Sb	02 46 15.6	+0.7
	baz=322						
SLBB	Yuanshan	0.99	8	eP	Pb	02 46 00.9	-1.4
	baz=24						
NWLT	Wulai	1.00	1	eP	Pb	02 46 02.2	-0.2
	baz=14						
NWLT				eS	Sb	02 46 14.3	-1.1
	baz=14						
CHY	Chiayi	1.00	254	eP	Pb	02 46 01.7	-0.7
	baz=265						
TWG	Pinlang	1.02	202	eP	Pb	02 46 01.0	-1.7
	baz=185						
TWGBT	Beinan	1.02	201	eP	Pb	02 46 01.8	-0.9
	baz=185						
RLNB	Erlin	1.03	277	eP	Pb	02 46 02.3	-0.6
	baz=276						
RLNB				eS	Sb	02 46 16.7	+0.6
	baz=276						
CHN1	Nanshi	1.05	236	⇑P	Pb	02 46 03.2	-0.1
	baz=234						
CHN1				eS	Sn	02 46 18.0	+0.3
	baz=234						
SGST	Jiashian	1.07	230	eP	Pb	02 46 03.6	-0.1
	baz=228						
SGST				eS	Sn	02 46 18.6	+0.4
	baz=228						
SLGT	Liugui	1.09	225	eP	Pn	02 46 03.6	-0.4
	baz=220						
WLTB	Daxi	1.10	349	eP	Pn	02 46 04.4	+0.3
	baz=359						
WLTB				eS	Sn	02 46 18.8	0.0
	baz=359						
WTCT	Ta-ch'eng	1.10	275	eP	Pn	02 46 03.0	-1.1
	baz=273						
WTCT				eS	Sb	02 46 18.4	+0.3
	baz=273						
WLGB	Puzi	1.12	255	eP	Pn	02 46 04.4	+0.1
	baz=252						
NTC	Toucheng	1.12	17	eP	Pn	02 46 03.3	-1.2
	baz=21						
HSN	Hsinchu	1.13	336	eP	Pb	02 46 05.1	+0.5
	baz=322						
HSN				eS	Sg	02 46 21.2	+1.0
	baz=322						
EGS		1.15	21	eP	Pn	02 46 04.4	-0.4
	baz=26						
WSF	Szhu	1.16	264	eP	Pn	02 46 05.3	+0.4
	baz=261						
TATO	Taipei	1.20	0	eP	Pn	02 46 04.5	-1.0
	baz=18						
TATO				eS	Sn	02 46 21.6	+0.3
	baz=18						
NCUH	Zhongli	1.22	347	eP	Pn	02 46 06.3	+0.5
	baz=6.0						
CHN8	Yiju	1.24	250	eP	Pn	02 46 05.5	-0.5
	baz=248						
CHN8				eS	Sn	02 46 22.8	+0.5
	baz=248						
ECL	Taimali	1.26	203	eP	Pn	02 46 05.6	-0.8
	baz=184						
SSD	Sandimen	1.28	217	eP	Pn	02 46 06.4	-0.2
	baz=212						
TWB1	Santiao Chiao	1.32	21	eP	Pn	02 46 06.2	-0.9
	baz=25						
SCLT	Jiali	1.32	244	eP	Pn	02 46 06.8	-0.3
	baz=240						
NWF	Wu-fen Shan	1.32	12	eP	Pn	02 46 06.4	-0.9
	baz=16						
WFSB	Wu-fen Shan	1.32	12	eP	Pn	02 46 06.2	-1.0
	baz=16						
TWS1	Kuangyinshan	1.32	358	eP	Pn	02 46 07.5	+0.3
	baz=14						
TWS1				eS	Sg	02 46 27.0	+0.5
	baz=14						
TWM1	Shoushan	1.35	226	eP	Pg	02 46 09.9	+0.2
	baz=237						
YM04	YM04	1.38	2	eP	Pn	02 46 07.5	-0.5
	baz=25						
YM10	YM10	1.38	3	eP	Pn	02 46 07.7	-0.4
	baz=26						
SGLT	Jiouru	1.38	221	eP	Pg	02 46 10.7	+0.5
	baz=206						
NTST	Danshui	1.39	359	eP	Pn	02 46 08.0	-0.1
	baz=22						
MASBT	Mashibuluo	1.39	214	eP	Pn	02 46 08.0	-0.1
	baz=205						
YM03	YM03	1.40	2	eP	Pn	02 46 08.5	+0.1
	baz=19						
YM03				eS	Sb	02 46 27.7	+0.8
	baz=19						
EAST	Anshuo	1.50	203	eP	Pn	02 46 09.4	-0.2
	baz=186						
JYNG	Yonagunijimaku	1.50	63	P	Pn	02 46 09.3	-0.4
JYNG				S	Sn	02 46 28.7	-0.1
TWY	Chenhua	1.50	4	eP	Pb	02 46 10.8	-0.2
	baz=26						
TAW	Tawu	1.50	201	eP	Pn	02 46 09.4	-0.3
	baz=184						
SSPT	Xinbi	1.53	213	eP	Pb	02 46 11.4	-0.1
	baz=200						
YOJ	Yonaguni jima	1.56	64	eP	Pn	02 46 10.1	-0.3
	baz=64						
YOJ				eS	Sb	02 46 30.8	-0.6
	baz=64						
YOJ	Yonaguni jima	1.56	64	P	Pn	02 46 10.2	-0.3
YOJ				S	Sb	02 46 31.4	0.0
WSSB	Gushan	1.59	225	eP	Pn	02 46 11.6	+0.7
	baz=217						
SCZT	Fangliau	1.60	210	eP	Pn	02 46 11.7	+0.7
	baz=203						
LAY	Lan-yu	1.73	178	eP	Pn	02 46 10.4	-2.3
	baz=173						
WDGT	Dungji	1.74	253	eP	Pn	02 46 11.7	-1.3
	baz=252						
PHUB	P'eng-hu	1.77	262	eP	Pn	02 46 12.5	-0.8
	baz=260						
PHUB				eS	Sn	02 46 35.1	-0.2
	baz=260						
PNG	Penghu	1.77	264	eP	Pn	02 46 12.9	-0.5
	baz=262						
PNG				eS	Sn	02 46 36.2	+0.7
	baz=262						
TWK1	Hengchun	1.92	199	eP	Pn	02 46 17.1	+1.6
	baz=185						
TWKBT	Hengchun	1.92	199	eP	Pn	02 46 16.2	+0.7
	baz=185						
HATJ	Hateruma jima	2.15	82	P	Pn	02 46 18.2	-0.4
HATJ				S	Sn	02 46 44.5	-0.3
JKRS	Kuro-shima	2.36	78	P	Pn	02 46 21.4	-0.1
JKRS				S	Sn	02 46 50.6	+0.6
JIJ	Ishigaki jima	2.51	76	P	Pn	02 46 22.8	-0.7
JIJ				S	Sn	02 46 52.8	-0.8
JISG	Ishigakijimahi	2.71	72	P	Pn	02 46 25.6	-0.7
JISG				S	Sn	02 46 59.0	+0.3
KNM	Kinmen	2.85	284	eP	Pn	02 46 29.1	+0.8
	baz=268						
JTJ	Tarama	3.07	73	eS	Sn	02 47 09.0	+1.5
JIRB	Irabujima	3.53	72	P	Pn	02 46 38.1	+0.5
JIKM	Ikemajima	3.62	71	S	Sn	02 47 22.1	+0.9
KSRS	Korea Array	14.72	21	Pn	Pn	02 49 13.6	+2.7
	baz=198,slow=11,SNR=4.1						
CMAR	Chiang Mai Arr	21.67	260	P	P	02 50 35.8	+2.3
	0.8nm,0.4s,baz=65,slow=9.3,SNR=5.0						
SONM	Songino Array	26.85	337	P	P	02 51 24.0	+0.7
	0.6nm,0.6s,baz=156,slow=9.7,SNR=6.2						
SONM				LR	LR	03 02 43.3	
	comp=Z,61nm,19.8s,baz=32,slow=38						
PSI	Prapat	30.17	230	LR	LR	03 05 18.0	
	comp=Z,82nm,18.0s,baz=334,slow=39						
MKAR	Makanchi Array	38.82	316	P	P	02 53 07.3	-0.2
	0.7nm,0.6s,baz=105,slow=11,SNR=8.3						
ZALV	Zalesovo Beam	40.74	327	P	P	02 53 23.3	0.0
	1.1nm,0.5s,baz=116,slow=10,SNR=4.3						
H11N1	WAKE ISLAND Hy	42.24	86	T	T	03 38 40.5	
	baz=283,slow=75,SNR=14						
H11N2	WAKE ISLAND Hy	42.24	86	T	T	03 38 36.4	
	baz=283,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy	42.26	86	T	T	03 38 39.8	
	baz=283,slow=75,SNR=14						
H11S3	WAKE ISLAND Hy	42.36	88	T	T	03 38 47.6	
	baz=284,slow=75,SNR=22						
H11S1	WAKE ISLAND Hy	42.37	88	T	T	03 38 44.5	
	baz=284,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	42.38	88	T	T	03 38 44.7	
	baz=284,slow=75,SNR=15						
KURBB	Kurchatov Arra	42.60	320	P	P	02 53 39.2	+0.7
	0.7nm,0.5s,baz=112,slow=9.6,SNR=5.5						
WRA	Warramunga Arr	45.22	163	P	P	02 53 57.1	-2.9
	0.4nm,0.5s,baz=345,slow=8.7,SNR=5.9						
BVAR	Borovoye Array	48.16	321	P	P	02 54 22.9	+0.2
	0.6nm,0.5s,baz=111,slow=8.0,SNR=3.0						
ASAR	Alice Springs	48.67	165	P	P	02 54 24.6	-2.3
	0.3nm,0.5s,baz=340,slow=6.5,SNR=4.1						
FINES	FINESS Array B	71.94	330	P	P	02 57 05.9	+0.3
	0.3nm,0.3s,baz=48,slow=5.7,SNR=6.3						
BRTR	Keskin Array B	73.63	307	P	P	02 57 17.5	+1.1
	0.7nm,0.9s,baz=0.8,slow=26,SNR=3.3						
AFI	Afiamalu	75.20	113	LR	LR	03 28 53.1	
	comp=Z,33nm,18.5s,baz=64,slow=35						
YKA	Yellowknife Ar	83.24	23	P	P	02 58 06.9	-1.8
	0.2nm,0.6s,baz=309,slow=4.6,SNR=3.5						

IDC 01 02:45:59.4±10.0, **18.°67N**×**145.°63E**, **h287**km±107km, **mb3.1**/7, **mb1 3.2**/7, **mb1mx2.9**/54, **mbtmp3.7**/7, **Error ellipse: s-maj=33.8km s-min=21.0km az=83.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.94	197	P	P	02 53 06.3	-0.2
	0.4nm,0.4s,baz=14,slow=8.5,SNR=15						
SONM	Songino Array	43.12	321	P	P	02 53 31.8	-0.3
	0.3nm,0.5s,baz=131,slow=8.1,SNR=4.0						
MKAR	Makanchi Array	58.44	314	P	P	02 55 26.2	+0.6
	0.5nm,0.6s,baz=95,slow=7.2,SNR=7.2						
MKAR				PcP	PcP	02 56 13.7	+0.7
	0.1nm,0.5s,baz=98,slow=4.4,SNR=2.7						
KURBB	Kurchatov Arra	61.30	318	P	P	02 55 44.6	-0.2
	0.6nm,0.4s,baz=94,slow=7.8,SNR=13						
ILAR	Eielson Array	63.70	26	P	P	02 56 00.5	0.0
	0.1nm,0.5s,baz=248,slow=4.8,SNR=3.3						
BVAR	Borovoye Array	66.45	320	P	P	02 56 18.3	0.0
	1.2nm,0.6s,baz=101,slow=7.6,SNR=5.2						
FINES	FINESS Array B	86.88	335	P	P	02 58 10.2	-1.5
	0.4nm,0.4s,baz=64,slow=6.3,SNR=6.8						

*SJA **01** 02:58:42.1±1.2, 32.°82S×71.°60W, h40km±94km, ML3.0, MW3.1*
*GUC **01** 02:58:46.7±0.6, 32.°59S×71.°31W, h36km±23km, ML3.0*
ISC 01 02:58:44.9±2.3, **32.°76S**±0.°06×**71.°64W**±0.°09, **h1**km±14km, **n15, σ0.s86**/22, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCH	Cerro Calan	1.12	125	eP	Pg	02 59 06.4	0.0
CLCH				eS	Sg	02 59 21.3	+0.4
CLCH				IAML		02 59 27.6	
	comp=E,365nm,0.2s						
ANTU	Antumapu	1.16	134	eP	Pg	02 59 07.5	+0.3
ANTU				eS	Sg	02 59 23.2	+0.9
FSR	Penalolen	1.17	128	eP	Pg	02 59 07.2	-0.2
FSR				eS	Sg	02 59 22.4	-0.2
FCH	Farellones	1.26	117	eP	Pg	02 59 08.3	-0.8
FCH				eS	Sg	02 59 24.6	-0.9
FCH				IAML		02 59 24.8	
	comp=N,414nm,0.3s						
LMEL	Las Melosas	1.62	132	eP	Pn	02 59 14.3	-0.4
LMEL				eS	Sn	02 59 35.6	-0.6
LMEL				IAML		02 59 40.3	
	comp=N,762nm,0.4s						
AUSP	Uspallata	1.98	75	eP	Pn	02 59 19.7	-0.1
AUSP				eS	Sb	02 59 48.0	+0.9
RTLS	Leoncito	2.20	65	eP	Pn	02 59 22.9	0.0
RTLS				eS	Sb	02 59 53.3	-0.3
RTLS				IAML		02 59 57.6	
	comp=Z,50nm,0.4s						
GO05	HualaæØ	2.25	186	eP	Pn	02 59 23.7	+0.3
GO04	Tololo Observa	2.68	16	eP	Pn	02 59 27.8	-1.6
RTCV	Cerro Valdivia	2.77	72	eP	Pn	02 59 31.1	+0.7
AMOG	MOGNA	3.23	57	eP	Pn	02 59 36.8	-0.1
ACAN	Cantantal	3.79	84	eP	Pn	02 59 44.6	+0.1
AGUA	GUANDACOL	4.24	40	eP	Pn	02 59 52.5	+1.9
APLL	PUNTA DE LOS L	4.96	63	eP	Pn	03 00 00.0	-0.5
VCA	Vinchina	4.98	37	eP	Pn	03 00 02.5	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VCA				IAML		03 01 39.9	
	comp=Z,15nm,0.6s						

PGC 01 03:08:41.4±1.4**, 50°.47N**×**130°.11W, h10**km**, MLSn2.9**/10**, Mw3.5**/10**, 191km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.27**	**81**	P	Pn	03 09 03.1	-2.2
HOLB				Sn	Sb	03 09 18.1	-3.8
BPBC	**Brooks Peninsu**	**1.53**	**101**	P	Pn	03 09 06.4	-2.4
PACB	**Port Alice, BC**	**1.67**	**90**	Pn	Pn	03 09 07.7	-3.0
PACB				Sn	Sn	03 09 27.8	-4.3
PHC	**Port Hardy**	**1.72**	**81**	Pn	Pn	03 09 09.7	-1.7
PHC				Sn	Sn	03 09 29.7	-3.7
MAYB	**Maynard**	**1.88**	**91**	Pn	Pn	03 09 11.9	-1.8
EDB	**Eliza Dome**	**2.01**	**106**	Pn	Pn	03 09 13.3	-2.1
BBB	**Bella Bella**	**2.13**	**35**	Pn	Pn	03 09 15.5	-1.5
BBB				Sn	Sn	03 09 39.3	-4.1
WOSB	**Woss**	**2.29**	**96**	Pn	Pn	03 09 18.0	-1.3
BNB	**Barry Inlet**	**2.35**	**335**	Pn	Pn	03 09 18.2	-1.9
NCRB	**Newcastle Ridg**	**2.59**	**90**	Pn	Pn	03 09 22.0	-1.5
GDR	**Gold River**	**2.71**	**103**	Pn	Pn	03 09 23.1	-1.9
SPLB	**Strathcona Par**	**2.92**	**100**	Pn	Pn	03 09 26.4	-1.5
CBB	**Campbell River**	**3.07**	**96**	Pn	Pn	03 09 28.7	-1.3

*NIED **01** 03:25:00, 36°.80N×141°.30E, h11km, Mw4.2 Best double couple: M₀1.98000×10¹⁵ NP1:φs167.00000°, δ63.00000°, λ-160.00000°. NP2:φs68.00000°, δ72.00000°, λ-28.00000°.*
*IDC **01** 03:25:09.4±0.6, 36°.83N×141°.16E, h0km, mb4.0/21, mb1 4.1/25, mb1mx4.0/71, mbtmp4.0/25, ML3.5/4, MS3.1/6, Ms1 3.2/6, ms1mx2.8/65, Error ellipse: s-maj=16.1km s-min=14.1km az=132.0*
*ISCJB **01** 03:25:10.6±0.8, 36°.79N±0°.03×141°.34E±0°.04, h22km±5km, mb4.3/47, MS3.6/5, Error ellipse: s-maj=6.5km s-min=4.1km az=33.5*
*JMA **01** 03:25:12.4±0.1, 36°.84N×141°.20E, h38km±1km, M4.3*
JMA Felt II J1.
*MOS **01** 03:25:13.4±3.2, 36°.30N×141°.24E, h25km, mb4.7/22, Error ellipse: s-maj=13.7km s-min=7.0km az=115.2*
*NEIC **01** 03:25:16.0±0.7, 36°.75N×141°.16E, h50km±6km, mb4.6/16, Error ellipse: s-maj=5.7km s-min=5.3km az=102.0*
NEIC Recorded [2 JMA] in Fukushima and Ibaraki.
ISC 01 03:25:13.4±0.8**, 36°.81N**±0°.04×**141°.24E**±0°.05**, h26**km±5km**, n130, σ1s44**/111**, mb4.3**/48**, MS3.5**/5**, 6C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**310**	P	**Pb**	**03 25 21.7**	**-1.3**
ONAJ				S	**Sb**	**03 25 28.1**	**-1.4**
JHO	**Hitachi**	**0.57**	**250**	P	**Pn**	**03 25 23.5**	**-2.4**
JHO				S	**Sb**	**03 25 31.5**	**-1.1**
JFK	**Kawauchi**	**0.63**	**333**	P	**Pb**	**03 25 24.0**	**-1.8**
JFK				S	**Sn**	**03 25 31.9**	**-4.0**
JFT	**Otama**	**1.01**	**315**	P	**Pn**	**03 25 30.6**	**-1.3**
JYT	**Yasato**	**1.02**	**236**	P	**Pn**	**03 25 30.3**	**-1.7**
JYT				S	**Sn**	**03 25 43.1**	**-2.4**
JMM	**Marumori**	**1.11**	**342**	P	**Pn**	**03 25 31.1**	**-2.2**
MJAR	**Matsushiro Arr**	**2.45**	**265**	Pn	**Pn**	**03 25 51.6**	**-0.1**
	7.2nm,0.3s,baz=89,slow=15,SNR=55						
MJAR				Sn	**Sn**	**03 26 22.1**	**+1.3**
	35nm,0.3s,baz=280,slow=34,SNR=7.7						
MJAR				LR	LR	03 26 40.2	
	comp=Z,85nm,18.4s,baz=105,slow=38						
MAJO	**Matsushiro**	**2.45**	**265**	*e*Pn	**Pn**	**03 25 52.4**	**+0.7**
MAJO				*e*Sn	**Sn**	**03 26 20.3**	**-0.5**
MAJO	**Matsushiro**	**2.45**	**265**	*i* P	**Pn**	**03 25 53.8**	**+2.1**
MAT	**Matsushiro**	**2.45**	**265**	P	**Pn**	**03 25 52.2**	**+0.5**
MAT				S	**Sn**	**03 26 23.1**	**+2.3**
MJB9	**Matsu-Tunnel**	**2.45**	**265**	*e*Pn	**Pn**	**03 25 52.7**	**+0.9**
MJB9				*e*Sn	**Sb**	**03 26 25.6**	**-1.0**
INU	**Inuyama**	**3.72**	**248**	*e*Pn	**Pn**	**03 26 11.0**	**+1.9**
INU				*e*Sn	**Sn**	**03 26 49.5**	**-2.5**
JHJ2	**Mitsune**	**3.87**	**198**	*e*Pn	**Pn**	**03 26 10.2**	**-0.9**
JHJ2				*e*Sn	**Sn**	**03 26 55.3**	**-0.5**
JHJ	**Hachijo jima 2**	**3.87**	**198**	Pn	**Pn**	**03 26 10.2**	**-1.0**
	15nm,0.3s,baz=75,slow=20,SNR=2.5						
JHJ				Sn	Sn	03 26 48.2	-7.6
	41nm,0.3s,baz=54,slow=19,SNR=4.2						
ERM	**Erimo**	**5.41**	**15**	*e*Pn	**Pn**	**03 26 30.6**	**-1.6**
ERM				*e*Sn	**Sn**	**03 27 34.0**	**+0.4**
ERM	**Erimo**	**5.41**	**15**	*i* P	**Pn**	**03 26 32.2**	**-0.1**
ASAJ	**Asahikawa**	**7.37**	**8**	Pn	**Pn**	**03 26 57.2**	**-2.0**
	1.4nm,0.3s,baz=248,slow=12,SNR=6.1						
ASAJ				Sn	Sn	03 28 29.6	+7.5
	0.8nm,0.3s,baz=331,slow=19,SNR=2.2						
YUK	**Yuzh-Kuril'sk**	**8.03**	**25**	*e*P	**Pn**	**03 27 07.1**	**-1.2**
YUK				pmax	pmax		
	comp=Z,86nm,0.5s						
YUK				pmax	pmax		
	comp=E,36nm,0.4s						
YUK				pmax	pmax		
	comp=N,46nm,0.6s						
SHO	**Shikotan**	**8.24**	**29**	*e*P	**Pn**	**03 27 10.1**	**-1.1**
SHO				pmax	pmax		
	comp=Z,17nm,0.4s						
JNU	**Nakatsue**	**9.26**	**250**	LR	LR	03 31 11.9	
	comp=Z,148nm,20.8s,baz=129,slow=39						
USRK	**Ussuriysk Ar.**	**10.20**	**319**	Pn	Pn	03 27 41.9	+3.8
	comp=Z,0.2nm,0.3s,baz=138,slow=15,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**10.20**	**6**	*e*P	Pn	03 27 45.5	+7.5
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
KSRS	**Korea Array**	**10.65**	**277**	Pn	**Pn**	**03 27 46.9**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=89,slow=14,SNR=7.9						
KSRS				LR	LR	03 31 27.1	
	comp=Z,89nm,18.3s,baz=126,slow=36						
KS15	**Wonju Array Si**	**10.68**	**277**	*e*Pn	**Pn**	**03 27 46.9**	**+2.3**
KSAR	**Wonju Array Be**	**10.68**	**277**	Pn	**Pn**	**03 27 46.9**	**+2.3**
KLR	**Kul'dur**	**14.21**	**334**	Pn	**P**	**03 28 38.6**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=153,slow=9.3,SNR=5.0						
KLR				LR	LR	03 33 16.8	
	comp=Z,4.7nm,19.7s,baz=304,slow=34						
KLR	**Kul'dur**	**14.21**	**334**	*i* P	**P**	**03 28 39.2**	**-0.7**
PETK	**Petropavlovsk-**	**19.95**	**30**	P	**Pn**	**03 29 44.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=226,slow=9.9,SNR=2.8						
PETK				LR	LR	03 37 04.3	
	comp=Z,46nm,21.7s,baz=174,slow=36						
PEA1	**Petropavlovsk-**	**19.96**	**30**	*e*P	**Pn**	**03 29 44.3**	**-0.9**
HIA	**Hailar**	**19.96**	**315**	*i* P	**Pn**	**03 29 50.2**	**+4.9**
HIA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TPUB	**Ta-pu**	**22.29**	**239**	*e*P	**P**	**03 30 07.1**	**-1.7**
	comp=Z,57nm,1.5s						
MA2	**Magadan**	**23.60**	**12**	P	**P**	**03 30 21.7**	**-0.2**
	comp=Z,2.5nm,0.3s,baz=211,slow=12,SNR=4.3						
MA2	**Magadan**	**23.60**	**12**	*ce*P	P	03 30 30.9	+9.0
YAK	**Yakutsk**	**26.26**	**348**	*i* P	P	03 30 54.4	+8.3
YAK				pmax	pmax		
	comp=Z,15nm,1.0s						
SEY	**Seymchan**	**27.04**	**11**	P	**P**	**03 30 53.6**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=197,slow=6.5,SNR=7.6						
SEY	**Seymchan**	**27.04**	**11**	*ce*P	P	03 31 03.7	+11
ULN	**Ulaanbaatar**	**27.36**	**305**	*e*P	**P**	**03 30 57.2**	**+0.7**
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**27.36**	**305**	*ce*P	**P**	**03 31 02.7**	**+6.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BOD	**Bodaibo**	**27.64**	**328**	*e*P	P	03 31 04.9	+6.2
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONA1	**Songino Array**	**27.79**	**304**	*e*P	**P**	**03 31 00.6**	**+0.3**
SONA0	**Songino Array**	**27.80**	**304**	*e*P	**P**	**03 30 59.2**	**-1.1**
SONM	**Songino Array**	**27.80**	**304**	P	**P**	**03 30 59.2**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=103,slow=8.9,SNR=14						
H11N2	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	04 00 30.9	
	baz=313,slow=75,SNR=696						
H11N1	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	04 00 31.6	
	baz=313,slow=75,SNR=867						
H11N3	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	04 00 34.5	
	baz=313,slow=75,SNR=586						
H11S1	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	04 01 24.6	
	baz=315,slow=75,SNR=396						
H11S3	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	04 01 22.8	
	baz=315,slow=75,SNR=395						
H11S2	**WAKE ISLAND Hy**	**28.87**	**122**	T	T	04 01 26.8	
	baz=315,slow=75,SNR=232						
TLY	**Talaya**	**30.37**	**311**	*e*P	**P**	**03 31 23.5**	**+0.5**
	comp=Z,8.5nm,0.6s						
TLY	**Talaya**	**30.37**	**311**	*e*P	P	03 31 30.5	+7.5
TLY				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,98nm,19.0s						
BILL	**Bilibino**	**34.28**	**16**	*e*P	P	03 32 04.7	+7.7
BILL				*e*		03 33 21.1	
BILL				*e*PPP	PPP	03 33 33.6	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TIXI	**Tiksi**	**35.50**	**353**	*e*P	P	03 32 16.5	+9.1
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.30**	**255**	LR	LR	03 51 40.7	
	comp=Z,41nm,18.0s,baz=344,slow=39						
ZAA1	**Zalesovo Array**	**41.96**	**313**	*e*P	**P**	**03 33 01.4**	**-0.5**
ZALV	**Zalesovo Beam**	**41.96**	**313**	P	**P**	**03 33 01.4**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=100,slow=6.6,SNR=9.1						
ZALV	**Zalesovo Beam**	**41.96**	**313**	*e*P	**P**	**03 33 01.8**	**-0.1**
MK01	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**03 33 19.2**	**-0.3**
MK31	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**03 33 19.4**	**-0.1**
MK31	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**03 33 19.4**	**-0.1**
MK32	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**03 33 19.2**	**-0.2**
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**03 33 19.2**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=89,slow=10.0,SNR=30						
MKAR	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**03 33 19.4**	**-0.2**
	comp=Z,37nm,0.7s						
MAKZ	**Makanchi**	**44.33**	**302**	*e*P	**P**	**03 33 21.0**	**-0.1**
	comp=Z,5.6nm,0.8s						
MAKZ	**Makanchi**	**44.33**	**302**	*e*P	**P**	**03 33 21.0**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov**	**45.96**	**308**	*e*P	**P**	**03 33 33.7**	**-0.3**
	comp=Z,20nm,1.0s						
KURK	**Kurchatov**	**45.96**	**308**	*ce*P	P	03 33 40.9	+6.9
KURK				pmax	pmax		
	comp=Z,94nm,1.2s						
KURBB	**Kurchatov Arra**	**46.03**	**308**	P	**P**	**03 33 33.8**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=82,slow=8.5,SNR=26						
MDM	**Murphy Dome**	**49.18**	**32**	*e*P	**P**	**03 34 00.6**	**+1.7**
	comp=Z,11nm,1.2s						
IL1	**Eielson Array**	**49.76**	**32**	*e*P	**P**	**03 34 03.4**	**+0.2**
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**03 34 03.4**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=268,slow=6.3,SNR=18						
ILB	**Eielson Array**	**49.76**	**32**	*e*P	**P**	**03 34 03.7**	**+0.5**
AAK	**Ala-Archa**	**50.47**	**298**	*i* P	P	03 34 17.0	+7.8
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**50.62**	**312**	P	**P**	**03 34 09.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=95,slow=7.5,SNR=4.8						
BRVK	**Borovoye**	**50.68**	**312**	*e*P	**P**	**03 34 11.0**	**+0.6**
	comp=Z,5.6nm,0.9s						
BRVK	**Borovoye**	**50.68**	**312**	*ce*P	P	03 34 18.2	+7.9
BRVK				pmax	pmax		
	comp=Z,22nm,1.2s						
KKAR	**Karatay Array**	**53.12**	**300**	*e*P	**P**	**03 34 29.1**	**+0.4**
	comp=Z,7.8nm,1.2s						
KKAR	**Karatay Array**	**53.12**	**300**	*e*P	**P**	**03 34 29.1**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SVE	**Sverdlovsk**	**55.22**	**319**	*e*P	P	03 34 51.8	+8.0
ARU	**Arti**	**56.44**	**319**	*e*P	**P**	**03 34 52.3**	**-0.2**
	comp=Z,3.7nm,0.6s						
ARU	**Arti**	**56.44**	**319**	*d i*P	P	03 34 59.2	+6.7
ARU						03 36 59.5	
ARU				S	S	03 42 48.4	+6.8
ARU				SS	**SS**	**03 46 32.2**	**+3.9**
ARU				pmax	pmax		
	comp=Z,12nm,1.0s						
WRAB	**Tennant Creek**	**56.81**	**188**	*e*P	**P**	**03 34 54.8**	**-0.7**
	comp=Z,6.3nm,1.2s						
WRAB	**Tennant Creek**	**56.81**	**188**	*e*P	**P**	**03 34 54.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WB2	**Warramunga Arr**	**56.82**	**188**	*e*P	**P**	**03 34 53.7**	**-1.9**
WR1	**Warramunga Arr**	**56.82**	**188**	*e*P	**P**	**03 34 55.0**	**-0.6**
	comp=Z,10.0nm,1.3s						
WRA	**Warramunga Arr**	**56.82**	**188**	P	**P**	**03 34 55.0**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=4.9,slow=7.2,SNR=20						
ABKAR	**Akbulak array**	**57.98**	**310**	*e*P	**P**	**03 35 02.5**	**-1.0**
	comp=Z,1.5nm,0.6s						
AS31	**Alice Springs**	**60.55**	**188**	*e*P	**P**	**03 35 21.6**	**+0.1**
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**60.55**	**188**	P	**P**	**03 35 21.6**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=17,slow=5.8,SNR=8.4						
GEYT	**Alibeck**	**63.82**	**299**	P	**P**	**03 35 44.1**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=22,slow=8.0,SNR=3.0						
KLMR	**Klimovskoe**	**63.87**	**328**	*e*P	P	03 35 50.2	+6.9
KLMR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KLMR	**Klimovskoe**	**63.87**	**328**	*e*P	P	03 35 50.2	+6.9
KLMR				AMP		03 35 52.0	
	comp=Z,7.0nm,0.7s						
YKA	**Yellowknife Ar**	**64.07**	**30**	P	**P**	**03 35 44.5**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=299,slow=6.4,SNR=5.5						
YKB5	**Yellowknife Ar**	**64.07**	**30**	*e*P	**P**	**03 35 44.5**	**-0.1**
ARA0	**ARCESS Array S**	**64.16**	**339**	*e*P	**P**	**03 35 44.3**	**-0.8**
ARCES	**ARCESS Array B**	**64.16**	**339**	P	**P**	**03 35 44.3**	**-0.8**
	comp=Z,5.3nm,1.1s,baz=57,slow=7.4,SNR=4.8						
VRH	**Novokhopyorsk**	**67.65**	**318**	*e*P	P	03 36 14.0	+6.1
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
OBN	**Obninsk**	**68.19**	**323**	⇓*e*P	P	03 36 18.3	+7.1
OBN				*e*		03 36 24.7	
OBN				*e*		03 46 14.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,37nm,15.0s						
LPSR	**Galich'ya Gora**	**68.38**	**320**	*e*P	P	03 36 19.7	+7.3
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FIA0	**FINESS Array S**	**68.95**	**332**	*e*P	**P**	**03 36 15.1**	**-0.7**
FIA0	**FINESS Array S**	**68.95**	**332**	*e*P	**P**	**03 36 15.1**	**-0.7**
FINES	**FINESS Array B**	**68.95**	**332**	P	**P**	**03 36 15.1**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=39,slow=7.7,SNR=6.3						
VSR	**Storozhevoye**	**69.01**	**319**	*e*P	P	03 36 23.9	+7.5
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VSU	**Vasula**	**70.58**	**330**	*ce*P	P	03 36 32.8	+6.9
VSU				pmax	pmax		
	comp=Z,65nm,2.5s						
KIV	**Kislovodsk**	**70.95**	**311**	*e*P	P	03 36 37.5	+8.9
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KIV				MLR	MLR		
	comp=Z,26nm,18.0s						
HFS	**Hagfors**	**74.23**	**336**	P	**P**	**03 36 47.1**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=45,slow=6.5,SNR=4.5						
HFS				LR	LR	04 13 18.1	
	comp=Z,47nm,19.4s,baz=53,slow=39						
AKASG	**Malin Array Be**	**74.39**	**322**	P	**P**	**03 36 47.8**	**-0.9**
	comp=Z,0.2nm,0.2s,baz=44,slow=5.7,SNR=5.0						
AKASG	**Malin Array Be**	**74.39**	**322**	*i* P	P	03 36 56.7	+8.0
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKBB	**Malin Array Si**	**74.39**	**322**	*e*P	**P**	**03 36 47.8**	**-0.9**
	comp=Z,5.5nm,0.9s						
AKBB	**Malin Array Si**	**74.39**	**322**	*e*P	**P**	**03 36 47.8**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NV01	**Mina Array Sit**	**75.24**	**53**	*e*P	**P**	**03 36 55.6**	**+1.4**
NVAR	**Mina Array Bea**	**75.24**	**53**	P	**P**	**03 36 55.6**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=298,slow=5.9,SNR=6.9						
PD31	**Pinedale Array**	**77.92**	**45**	*e*P	**P**	**03 37 09.7**	**+0.4**
PDAR	**Pinedale Array**	**77.92**	**45**	P	**P**	**03 37 09.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=211,slow=1.7,SNR=4.6						
BR101	**Keskin Array S**	**78.89**	**311**	*e*P	**P**	**03 37 14.5**	**-0.1**
BRTR	**Keskin Array B**	**78.89**	**311**	P	**P**	**03 37 14.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=38,slow=7.6,SNR=3.2						
STHS	**Stebnicka Huta**	**79.06**	**325**	*e*P	P	03 37 24.7	+10
DPC	**Dobruska-Polom**	**80.57**	**328**	*e*P	P	03 37 28.5	+5.1
DPC				*e*PCP	pP	03 37 32.1	+0.3
VYHS	**Vyhne**	**80.83**	**325**	*e*P	P	03 37 30.8	+6.0
CLL	**Collm**	**81.22**	**330**	*i* P	**P**	**03 37 26.2**	**-0.6**
CLL				*i* PcP	**pP**	**03 37 34.9**	**-0.2**
	comp=Z,7.0nm,1.3s						
CLL				*e*pP	**sP**	**03 37 41.0**	**+2.8**
KHC	**Kasperske Hory**	**82.66**	**328**	*e*P	**P**	**03 37 34.5**	**+0.1**
KHC				*e*PCP	**PcP**	**03 37 40.8**	**+1.4**
KHC				*e*x	x	03 37 43.8	
KHC	**Kasperske Hory**	**82.66**	**328**	*e*P	**P**	**03 37 34.5**	**+0.1**
KHC				*e*		03 37 40.8	
KHC				*e*		03 37 43.8	
GEC2	**GERESS Array S**	**82.83**	**328**	*e*P	**P**	**03 37 34.7**	**-0.7**
	comp=Z,1.9nm,0.8s						
GEC2	**GERESS Array S**	**82.83**	**328**	*e*P	**P**	**03 37 34.7**	**-0.7**
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**82.83**	**328**	P	**P**	**03 37 34.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=28,slow=6.0,SNR=3.9						
LTX	**Lajitas**	**90.37**	**52**	*e*P	**P**	**03 38 13.4**	**+0.7**
LTX	**Lajitas**	**90.37**	**52**	*e*P	**P**	**03 38 13.4**	**+0.7**
TXAR	**Lajitas Array**	**90.37**	**52**	P	**P**	**03 38 13.4**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=310,slow=2.3,SNR=6.9						
TOA1	**Torodi Ar. Sit**	**117.39**	**315**	*e*PKPdf	**PKPdf**	**03 43 56.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**117.39**	**315**	PKP	**PKPdf**	**03 43 56.1**	**-1.0**
	comp=Z,0.3nm,1.0s,baz=34,slow=3.0,SNR=3.6						
LPAZ	**La Paz**	**146.93**	**60**	PKPbc	**PKPbc**	**03 44 55.2**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=343,slow=2.0,SNR=9.4						

*NIED **01** 03:36:00, 35°.30N×141°.20E, h23km, Mw4.1 Best double couple: M₀1.84000×10¹⁵ NP1:φs331.00000°, δ39.00000°, λ-168.00000°. NP2:φs232.00000°, δ83.00000°, λ-51.00000°.*
*JMA **01** 03:36:25.0±0.1, 35°.27N×141°.22E, h33km±3km, M3.9*
*ISCJB **01** 03:36:26.2±0.5, 35°.24N±0°.04×141°.16E±0°.06, h33km, mb3.8/15, MS3.3/6, Error ellipse: s-maj=7.2km s-min=5.3km az=179.9*
*IDC **01** 03:36:30.5±2.0, 35°.18N×140°.87E, h56km±18km, mb3.6/15, mb1 3.8/18, mb1mx3.6/74, mbtmp3.9/18, ML3.1/3, MS3.3/9, Ms1 3.3/9, ms1mx3.0/58, Error ellipse: s-maj=20.7km s-min=11.2km az=86.0*
ISC 01 03:36:27.6±0.6**, 35°.31N**±0°.05×**141°.05E**±0°.06**, h33**km**, n42, σ1s38**/33**, mb3.9**/15**, MS3.4**/6**, 2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.42**	**338**	⇓P	**Pb**	**03 36 35.8**	**-1.2**
CHOJ				S	**Sb**	**03 36 43.3**	**-0.2**
KTR	**Katsuura**	**0.62**	**255**	S	**Sn**	**03 36 49.3**	**+0.4**
BSO1	**Boso 1**	**0.66**	**185**	P	**Pn**	**03 36 37.4**	**-2.6**
BSO4	**Boso 4**	**0.67**	**242**	P	**Pb**	**03 36 39.9**	**-0.9**
BSO3	**Boso 3**	**0.67**	**222**	⇓P	**Pn**	**03 36 39.2**	**-1.3**
JCN	**Nagara**	**0.70**	**279**	P	**Pb**	**03 36 41.3**	**-0.2**
JYT	**Yasato**	**1.15**	**323**	P	**Pn**	**03 36 47.0**	**-0.4**
JHJ	**Hachijo jima 2**	**2.42**	**206**	P	**Pn**	**03 37 05.2**	**+0.3**
	38nm,0.3s,baz=44,slow=13,SNR=5.2						
JHJ				S	**Sn**	**03 37 32.2**	**-1.2**
	70nm,0.3s,baz=84,slow=19,SNR=4.4						
JHJ				LR	LR	03 38 11.0	
	comp=Z,321nm,19.9s,baz=95,slow=45						
MJAR	**Matsushiro Arr**	**2.62**	**299**	P	**Pn**	**03 37 09.4**	**+1.8**
	8.6nm,0.3s,baz=290,slow=6.4,SNR=64						
MJAR				S	**Sb**	**03 37 45.3**	**-0.2**
	4.7nm,0.3s,baz=205,slow=23,SNR=5.3						
MJAR				LR	LR	03 38 13.7	
	comp=Z,216nm,22.0s,baz=130,slow=41						
MAT	**Matsushiro**	**2.62**	**299**	P	**Pn**	**03 37 09.7**	**+2.1**
MAT				*e*S	**Sb**	**03 37 43.6**	**-2.0**
JCJ	**Chichijima**	**8.24**	**173**	P	**Pn**	**03 38 25.6**	**+0.8**
	8.0nm,0.3s,baz=288,slow=20,SNR=4.5						
ASAJ	**Asahikawa**	**8.88**	**7**	P	**Pn**	**03 38 30.7**	**-2.8**
	1.9nm,0.3s,baz=235,slow=16,SNR=7.5						
KSRS	**Korea Array**	**10.80**	**285**	P	Pn	03 39 04.5	+4.6
	0.1nm,0.3s,baz=97,slow=14,SNR=7.9						
KSRS				LR	LR	03 43 16.0	
	comp=Z,198nm,19.7s,baz=95,slow=38						
KLR	**Kul'dur**	**15.51**	**337**	P	**P**	**03 40 04.9**	**-2.8**
	0.0nm,0.3s,baz=144,slow=7.7,SNR=3.8						
GUMO	**Guam**	**21.90**	**170**	LR	LR	03 48 15.2	
	comp=Z,48nm,19.9s,baz=112,slow=32						
MA2	**Magadan**	**25.10**	**12**	P	**P**	**03 41 51.4**	**+2.4**
	2.4nm,0.3s,baz=185,slow=11,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**27.56**	**117**	T	T	04 11 13.0	
	baz=310,slow=75,SNR=123						
H11N1	**WAKE ISLAND Hy**	**27.57**	**117**	T	T	04 11 13.6	
	baz=310,slow=75,SNR=160						
H11N3	**WAKE ISLAND Hy**	**27.58**	**117**	T	T	04 11 12.5	
	baz=310,slow=75,SNR=119						
YAK	**Yakutsk**	**27.69**	**348**	LR	LR	03 53 21.8	
	comp=Z,122nm,19.3s,baz=100,slow=36						
H11S1	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	04 12 00.8	
	baz=312,slow=75,SNR=494						
H11S3	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	04 12 00.5	
	baz=312,slow=75,SNR=518						
H11S2	**WAKE ISLAND Hy**	**28.23**	**120**	T	T	04 12 01.7	
	baz=312,slow=75,SNR=403						
SEY	**Seymchan**	**28.54**	**11**	P	P	03 42 22.6	+2.8
	0.4nm,0.4s,baz=159,slow=7.8,SNR=4.4						
SONM	**Songino Array**	**28.54**	**307**	P	**P**	**03 42 21.1**	**+0.8**
	0.5nm,0.5s,baz=116,slow=9.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**42.88**	**314**	P	**P**	**03 44 22.9**	**+0.4**
	1.8nm,0.6s,baz=91,slow=8.1,SNR=6.3						
MKAR	**Makanchi Array**	**44.81**	**304**	P	**P**	**03 44 38.4**	**+0.2**
	1.3nm,0.7s,baz=87,slow=9.2,SNR=15						
MKAR				LR	LR	04 03 11.1	
	comp=Z,46nm,20.7s,baz=58,slow=36						
KURBB	**Kurchatov Arra**	**46.85**	**309**	P	**P**	**03 44 54.3**	**+0.1**
	2.6nm,0.6s,baz=85,slow=8.1,SNR=21						
ILAR	**Eielson Array**	**51.11**	**32**	P	**P**	**03 45 27.1**	**+0.5**
	0.2nm,0.6s,baz=264,slow=5.6,SNR=5.3						
BVAR	**Borovoye Array**	**51.53**	**313**	P	**P**	**03 45 29.3**	**-0.7**
	0.3nm,0.4s,baz=76,slow=6.3,SNR=4.1						
WRA	**Warramunga Arr**	**55.31**	**188**	P	**P**	**03 45 56.8**	**-1.2**
	2.7nm,0.5s,baz=3.4,slow=7.5,SNR=29						
ASAR	**Alice Springs**	**59.04**	**188**	P	**P**	**03 46 24.2**	**-0.2**
	1.1nm,0.7s,baz=15,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**59.62**	**313**	LR	LR	04 12 59.7	
	comp=Z,37nm,21.5s,baz=5.7,slow=37						
SPITS	**Spitsbergen Ar**	**62.16**	**349**	LR	LR	04 18 11.8	
	comp=Z,26nm,18.2s,baz=180,slow=40						
FINES	**FINESS Array B**	**70.20**	**332**	P	**P**	**03 47 37.1**	**+0.4**
	0.9nm,0.8s,baz=73,slow=4.8,SNR=3.7						
AKASG	**Malin Array Be**	**75.48**	**322**	P	**P**	**03 48 07.8**	**-0.5**
	0.3nm,0.4s,baz=46,slow=6.2,SNR=3.3						
NB2	**NORSAR Subarra**	**75.66**	**337**	P	**P**	**03 48 10.2**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=42,slow=6.2						
NOA	**NORSAR Array B**	**75.66**	**337**	P	**P**	**03 48 10.0**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=43,slow=5.4,SNR=3.8						
PDAR	**Pinedale Array**	**79.09**	**45**	P	**P**	**03 48 30.6**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=331,slow=1.9,SNR=3.6						
MLR	**Muntele Rosu**	**80.51**	**320**	LR	LR	04 27 02.5	
	comp=Z,11nm,18.7s,baz=18,slow=38						
TXAR	**Lajitas Array**	**91.41**	**52**	P	**P**	**03 49 32.2**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=326,slow=4.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**118.33**	**314**	PKP	**PKPdf**	**03 55 11.8**	**-0.4**
	comp=Z,0.6nm,1.1s,baz=112,slow=2.9,SNR=2.4						

*ISCJB **01** 03:51:47.9±0.3, 61°.71N±0°.02×151°.11W±0°.05, h81km±4km, mb3.0/1, Error ellipse: s-maj=3.8km s-min=3.1km az=37.7*
*IDC **01** 03:51:48.1±1.3, 61°.38N×149°.68W, h0km, mb3.2/1, mb1 3.3/4, mb1mx3.0/77, mbtmp3.0/4, ML2.8/3, Error ellipse: s-maj=34.7km s-min=11.4km az=109.0*
*NEIC **01** 03:51:49.8±0.0, 61°.70N×151°.15W, h67km, ML3.3(AEIC), After AEIC.*
ISC 01 03:51:49.0±0.9**, 61°.71N**±0°.03×**151°.12W**±0°.03**, h70**km±6km**, n79, σ1s25**/96**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.31**	**144**	P	**Pn**	**03 52 00.7**	**+0.3**
SUA				S	**Sn**	**03 52 09.4**	**+0.7**
SKT	**Skwentna**	**0.33**	**324**	P	**Pn**	**03 52 00.2**	**-0.2**
SKT				S	**Sn**	**03 52 09.0**	**+0.2**
STLK	**Strandline Lak**	**0.40**	**238**	P	**Pn**	**03 52 00.8**	**-0.2**
SPCP	**Crater Peak Br**	**0.67**	**228**	P	**Pn**	**03 52 03.4**	**-0.3**
SPCP				S	**Sn**	**03 52 14.1**	**-0.4**
SPU	**Mount Spurr**	**0.70**	**220**	*e*Pn	**Pn**	**03 52 03.5**	**-0.4**
SPU				*e*Sn	**Sn**	**03 52 14.7**	**-0.2**
FIB	**Fire Island**	**0.71**	**140**	P	**Pn**	**03 52 05.1**	**+1.2**
CKL	**Chakachamna La**	**0.78**	**229**	P	**Pn**	**03 52 04.4**	**-0.5**
SPWE	**Spurr West**	**0.82**	**238**	P	**Pn**	**03 52 05.1**	**-0.2**
RC01	**Rabbit Creek A**	**0.91**	**133**	P	**Pn**	**03 52 06.6**	**+0.3**
RC01				S	**Sn**	**03 52 20.9**	**+1.6**
PMR	**Palmer**	**0.96**	**96**	P	**Pn**	**03 52 06.9**	**0.0**
PMR				S	**Sn**	**03 52 20.7**	**+0.5**
GHO	**Glory Hole Cre**	**1.05**	**86**	P	**Pn**	**03 52 08.5**	**+0.4**
GHO				S	**Sn**	**03 52 24.0**	**+1.6**
SLKM	**Skilak Lake**	**1.29**	**160**	P	**Pn**	**03 52 10.8**	**-0.3**
PPLA	**Purkeypile**	**1.29**	**338**	P	**Pn**	**03 52 11.2**	**0.0**
PPLA				S	**Sn**	**03 52 27.9**	**-0.1**
KNK	**Knik Glacier**	**1.31**	**102**	P	**Pn**	**03 52 11.6**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SML	Sawmill	1.33	85	P	Pn	03 52 11.8	+0.1
SML				S	Sn	03 52 29.6	+0.8
DFR	Drift River	1.36	215	P	Pn	03 52 11.8	-0.3
DFR				S	Sn	03 52 30.0	+0.6
RDJH	Redoubt Jeurge	1.39	217	P	Pn	03 52 12.5	-0.1
RSO	Redoubt South	1.48	213	ePn	Pn	03 52 12.4	-1.5
RSO				eSn	Sn	03 52 33.2	+0.6
RDWB	Redoubt West	1.49	215	P	Pn	03 52 13.6	-0.2
RED	Redoubt Volcan	1.53	212	P	Pn	03 52 14.1	-0.2
CAST	Castle Rocks	1.77	346	P	Pn	03 52 17.6	+0.1
TRF	Thorofare Moun	1.79	12	P	Pn	03 52 18.4	+0.5
SCM	Sheep Creek Mo	1.81	84	P	Pn	03 52 18.1	0.0
SEW	Seward	1.81	152	P	Pn	03 52 19.3	+1.3
KTH	Kantishna Hill	1.85	3	P	Pn	03 52 19.5	+0.9
ILW	Iliamna West	1.93	212	P	Pn	03 52 19.9	+0.1
IVE	Iliamna Volcan	1.94	209	P	Pn	03 52 20.4	+0.6
BRLK	Bradley Lake	1.96	177	P	Pn	03 52 19.7	-0.4
RND	Reindeer	2.00	31	P	Pn	03 52 21.0	+0.4
ILS	Iliamna Low So	2.00	209	P	Pn	03 52 21.5	+0.8
HOM	Homer	2.08	187	ePn	Pn	03 52 22.1	+0.5
HOM				eSn	Sn	03 52 48.1	+1.6
GLI	Glacier Island	2.12	111	P	Pn	03 52 21.0	-1.1
DHY	Denali Highway	2.22	50	P	Pn	03 52 23.9	+0.2
SVW2	Sparrevohn	2.23	256	P	Pn	03 52 23.0	-0.7
MCK	McKinley	2.26	25	P	Pn	03 52 25.2	+1.1
JPK	Jack Peak	2.27	105	P	Pn	03 52 23.4	-0.9
BPAW	Bear Paw Mtn.	2.40	1	P	Pn	03 52 26.1	+0.1
FID	Port Fidalgo	2.44	111	P	Pn	03 52 25.3	-1.3
KLU	Klutina	2.50	93	P	Pn	03 52 26.6	-0.8
TT01	Tatalina	2.58	300	P	Pn	03 52 28.1	-0.3
AUW	Augustine West	2.62	207	P	Pn	03 52 29.4	+0.5
DIV	Divide	2.64	100	ePn	Pn	03 52 28.1	-1.1
DIV				eSn	Sn	03 52 59.8	-0.4
PS11	TAPS Pump St11	2.70	80	P	Pn	03 52 30.9	+0.9
EYAK	Cordova Ski Ar	2.86	112	ePn	Pn	03 52 33.0	+0.8
EYAK				eSn	Sn	03 53 05.0	-0.3
HARP	HAARP	2.90	73	P	Pn	03 52 33.5	+0.8
PAX	Paxson	2.92	62	P	Pn	03 52 33.8	+0.7
PS10	TAPS Pump St10	3.02	53	P	Pn	03 52 36.5	+2.2
CDD	Cape Douglas	3.06	205	P	Pn	03 52 35.4	+0.5
BMRM	Bremner River	3.23	101	ePn	Pn	03 52 42.5	+5.2
BMRM				eSn	Sn	03 53 12.9	-1.6
HDA	Harding Lake	3.31	33	P	Pn	03 52 38.9	+0.6
CCB	Clear Creek Bu	3.31	26	P	Pn	03 52 38.1	-0.1
MLY	Manley	3.34	3	P	Pn	03 52 39.0	+0.4
RAGM	Ragged Mountai	3.41	110	ePn	Pn	03 52 38.5	-1.2
PS08	TAPS Pump Stn8	3.45	33	P	Pn	03 52 40.9	+0.7
COLA	College	3.50	24	P	Pn	03 52 41.0	+0.1
MDM	Murphy Dome	3.51	21	P	Pn	03 52 41.3	+0.3
KAPH	Katmai Pasha	3.52	209	P	Pn	03 52 42.0	+0.8
ILAR	Eielson Array	3.62	30	Pn	Pn	03 52 43.3	+0.8
	4.2nm,0.3s,baz=219,slow=14,SNR=240						
ILAR				Sn	Sn	03 53 23.6	-0.3
	10nm,0.3s,baz=216,slow=20,SNR=12						
ILB	Eielson Array	3.62	30	P	Pn	03 52 42.6	+0.1
IL1	Eielson Array	3.62	30	ePn	Pn	03 52 42.4	-0.1
MENT	Mentasta	3.67	67	ePn	Pn	03 52 43.6	+0.4
DOT	Dot Lake	3.79	56	ePn	Pn	03 52 45.4	+0.6
KDAK	Kodiak Island	4.01	191	Pn	Pn	03 52 46.3	-1.5
	1.2nm,0.3s,baz=54,slow=7.1,SNR=53						
KDAK				Sn	Sn	03 53 29.8	-3.7
	3.0nm,0.3s,baz=280,slow=22,SNR=8.8						
KDAK	Kodiak Island	4.01	191	P	Pn	03 52 46.6	-1.3
PS06	TAPS Pump Stn6	4.20	8	P	Pn	03 52 51.3	+0.8
CAHL	Cahill	4.23	212	P	Pn	03 52 52.3	+1.3
ISLE	Juniper Island	4.40	101	P	Pn	03 52 52.7	-0.6
IM3	Indian Mountai	4.44	346	P	Pn	03 52 53.9	+0.1
BCA3	Beaver Creek A	4.55	69	P	Pn	03 52 55.5	+0.2
OHAK	Old Harbor	4.64	195	P	Pn	03 52 55.0	-1.4
OHAK				eSn	Sn	03 53 56.5	+7.6
PS05	TAPS Pump Stn5	5.12	2	P	Pn	03 53 04.5	+1.5
EGAK	Eagle	5.45	51	P	Pn	03 53 08.1	+0.6
FYU	Fort Yukon	5.51	25	ePn	Pn	03 53 10.5	+2.2
COLD	Coldfoot	5.55	4	P	Pn	03 53 09.9	+1.0
DAWY	Dawson	5.86	61	P	Pn	03 53 13.2	+0.1
BM3	Burnt Mountain	6.38	23	P	Pn	03 53 21.6	+1.4
YKA	Yellowknife Ar	16.96	71	Pn	Pn	03 55 39.1	-2.2
	0.0nm,0.3s,baz=287,slow=13,SNR=2.8						
YKB5	Yellowknife Ar	16.96	71	ePn	Pn	03 55 39.1	-2.2
TXAR	Lajitas Array	44.78	114	P	P	03 59 56.4	+0.9
	0.2nm,0.6s,baz=336,slow=4.2,SNR=3.2						

PGC 01 03:53:18.7±0.3, 49.°34N×127.°27W, h10km, MLSn3.0/33, Mw3.6/33, 92km Wsw of Gold R., Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETB	Estevan Point	0.48	85	P	Pg	03 53 28.4	+0.4
EDB	Eliza Dome	0.55	10	P	Pg	03 53 29.1	-0.2
EDB				S	Sg	03 53 36.1	-0.4
NC89	ODP889	0.72	157	P	Pb	03 53 33.0	-0.2
NC89				S	Sg	03 53 41.0	-0.9
BPBC	Brooks Peninsu	0.88	339	P	Pg	03 53 34.8	-0.9
TOFB	Tofino	0.91	101	P	Pg	03 53 33.7	-2.5
GDR	Gold River	0.92	61	P	Pg	03 53 34.3	-2.1
GDR				S	Sg	03 53 45.2	-3.1
WOSB	Woss	0.94	28	P	Pg	03 53 35.0	-1.8
WOSB				S	Sg	03 53 47.2	-1.9
MAYB	Maynard	1.07	3	P	Pg	03 53 37.3	-2.0
PACB	Port Alice, BC	1.11	353	P	Pb	03 53 36.8	-3.2
SPLB	Strathcona Par	1.19	61	P	Pb	03 53 37.9	-3.4
B012	Ucluelet	1.21	109	P	Pn	03 53 38.8	-2.8
OZB	Mount Ozzard	1.23	107	P	Pn	03 53 39.2	-2.7
NCRB	Newcastle Ridg	1.32	36	P	Pn	03 53 41.1	-2.3
MWAB	Mount Washingt	1.34	72	P	Pn	03 53 40.1	-3.5
PHC	Port Hardy	1.38	356	P	Pn	03 53 41.9	-2.0
CBB	Campbell River	1.42	60	P	Pn	03 53 42.0	-2.5
CBB				Sn	Sn	03 53 59.4	-3.9
HOLB	Holberg	1.42	337	P	Pn	03 53 42.4	-2.2
B928	Bamfield	1.49	109	P	Pn	03 53 43.1	-2.4
NC27	ODP1027	1.61	192	Pn	Pn	03 53 45.6	-1.1
NC27				Sn	Sn	03 54 03.8	-3.6
B927	Port Alberni	1.61	93	Pn	Pn	03 53 44.9	-2.2
NCHR	NEPTUNE Canada	1.82	222	Pn	Pn	03 53 48.9	-0.8
KEMF	NEPTUNE Canada	1.84	222	Pn	Pn	03 53 49.0	-1.1
TXB	Texada	1.88	78	Pn	Pn	03 53 48.5	-2.4
GHNB	Nanoose	1.98	90	Pn	Pn	03 53 49.5	-2.7
YOUB	Youbou, Lake C	2.02	101	Pn	Pn	03 53 50.2	-2.6
B926	Mesachie Lake	2.13	103	Pg	Pn	03 53 55.2	+1.0
NLLB	Nanaimo Lost L	2.15	92	Pn	Pn	03 53 52.5	-2.1
NLLB				Pg	Pb	03 53 55.7	-2.0
SHB	Sechelt	2.23	82	Pn	Pn	03 53 53.7	-2.1
OFR	Olym-F Res Ctr	2.37	125	Sn	Sn	03 54 22.9	-3.7
BPCB	Bare Point	2.38	99	Pn	Pn	03 53 56.1	-1.6
BPCB				Pg	Pb	03 54 00.2	-1.3
LZB	Mount Lazard	2.38	106	Pn	Pn	03 53 55.6	-2.2
GOBB	Galiano Island	2.50	98	Pn	Pn	03 53 57.2	-2.1
BIB	Bowen Island	2.59	87	Pn	Pn	03 53 58.1	-2.5
BIB				Pg	Pb	03 54 04.1	-1.1
B009	North Saanich	2.61	104	Pn	Pn	03 53 59.1	-1.7
PGC	Sidney	2.61	104	Pg	Pb	03 54 05.3	-0.2
B011	North Saanich	2.61	104	Pn	Pn	03 53 59.7	-1.1
PA05	PA05 Willingdo	2.61	104	Pn	Pn	03 53 58.4	-2.5
WPB	Watts Point	2.67	82	Pn	Pn	03 53 59.9	-1.8
SNB	Saturna Island	2.75	100	Pg	Pb	03 54 08.8	+0.8
VGZ	Gonzales	2.76	108	Pg	Pb	03 54 09.1	+1.0
WSLR	Whistler	2.93	73	Pn	Pn	03 54 04.0	-1.4
MCW	Mount Constitu	2.99	101	Pn	Pn	03 54 05.2	-1.0
BLN	Blyn Mountain	3.14	113	Pn	Pn	03 54 07.2	-1.1
HDW	Hoodsport	3.27	119	Pn	Pn	03 54 08.5	-1.6
VDB	Vedder Mountai	3.40	93	Pn	Pn	03 54 09.8	-2.0
MBW	Mount Baker	3.57	97	Pn	Pn	03 54 12.4	-1.9
LLLB	Lillooet	3.70	68	Pn	Pn	03 54 14.5	-1.4
LLLB				Pg	Pb	03 54 24.5	+0.3
E03A	Lebam	3.74	137	Pn	Pn	03 54 15.0	-1.4
B06A	Marblemount	3.90	100	Pg	Pb	03 54 26.7	-0.8
UBRB	Upper Baezaeko	4.09	28	Pn	Pn	03 54 20.6	-0.7
LTY	Liberty	4.87	113	Pn	Pn	03 54 32.0	0.0

*ISCJB **01** 04:18:20.9±0.8, 16.°32S±0.°08×120.°65E±0.°06, h10km, mb3.4/1, Error ellipse: s-maj=11.1km s-min=8.2km az=160.9*
*IDC **01** 04:18:22.5±2.5, 16.°13S×120.°70E, h0km, mb3.5/1, mb1 4.2/4, mb1mx3.6/46, mbtmp4.0/4, ML4.0/3, Error ellipse: s-maj=46.9km s-min=34.7km az=52.0*
*AUST **01** 04:18:27.0±2.5, 16.°50S×120.°64E, h33km, Error ellipse: s-maj=41.4km s-min=6.1km az=153.0*
ISC 01 04:18:22.4±0.9, 16.°29S±0.°07×120.°63E±0.°07, h10km, n10, σ2.s79/15, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.73	26	Pn	Pn	04 20 01.6	+0.3
	2.0nm,0.3s,baz=169,slow=5.2,SNR=4.1						
BATI				Sn	Sn	04 21 14.6	-3.5
	0.3nm,0.3s,baz=90,slow=19,SNR=1.8						
KNRA	Kununurra	7.84	87	P	Pn	04 20 20.1	+3.4
	baz=7.8,SNR=10						
KNRA				S	Sn	04 21 46.2	+0.6
	baz=7.8						
GIRL	Giralia	8.74	223	P	Pn	04 20 29.9	+1.0
	baz=8.6						
GIRL				S	Sn	04 22 04.4	-3.1
	baz=8.6						
MEEK	Meekatharra	10.47	190	P	Pn	04 20 54.0	+1.3
	baz=10,SNR=11						
WRKA	Warakurna	11.28	142	P	Pn	04 21 07.0	+3.2
	baz=11,SNR=3.3						
MORW	Morawa	13.40	198	P	Pn	04 21 31.8	-1.1
	baz=13						
WC1	Warramunga Arr	13.52	108	P	Pn	04 21 35.3	+0.8
	baz=13						
WRA	Warramunga Arr	13.53	108	Pn	Pn	04 21 34.6	0.0
	1.7nm,0.3s,baz=283,slow=14,SNR=118						
WRA				Sn	Sn	04 23 59.0	-6.1
	1.2nm,0.3s,baz=283,slow=24,SNR=7.2						
ASAR	Alice Springs	14.47	123	Pn	Pn	04 21 50.0	+2.5
	0.3nm,0.3s,baz=302,slow=12,SNR=16						
ASAR				Sn	Sn	04 24 27.2	-0.8
	1.1nm,0.3s,baz=303,slow=23,SNR=11						
MKAR	Makanchi Array	71.64	333	P	P	04 29 45.1	+0.9
	0.3nm,0.6s,baz=137,slow=7.9,SNR=3.7						

*ISCJB **01** 04:48:11.8±0.9, 50.°52N±0.°06×130.°17W±0.°08, h14km, mb3.8/1, MS3.2/1, Error ellipse: s-maj=9.9km s-min=5.3km az=34.1*
*PGC **01** 04:48:12.1±3.6, 50.°36N×130.°32W, h10km, MLSn3.1/11, Mw3.8/11, 208km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **01** 04:48:15.9±2.8, 50.°57N×129.°63W, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.2/70, mbtmp3.3/4, ML3.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/73, Error ellipse: s-maj=36.1km s-min=20.4km az=76.0*
ISC 01 04:48:13.1±1.4, 50.°44N±0.°09×130.°18W±0.°07, h14km, n21, σ1.s90/26, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.33	80	P	Pn	04 48 36.0	-1.3
HOLB				S	Sn	04 48 51.6	-3.1
BPBC	Brooks Peninsu	1.57	99	Pn	Pn	04 48 39.2	-1.4
PACB	Port Alice, BC	1.72	89	Pn	Pn	04 48 40.4	-2.2
PACB				Sn	Sn	04 49 03.9	-0.5
PHC	Port Hardy	1.78	80	Pn	Pn	04 48 42.5	-0.8
PHC				Sn	Sn	04 49 03.5	-2.2
MAYB	Maynard	1.93	90	Pn	Pn	04 48 44.5	-1.1
EDB	Eliza Dome	2.05	105	Pn	Pn	04 48 45.8	-1.3
BBB	Bella Bella	2.18	36	Pn	Pn	04 48 47.9	-1.0
	2.9nm,0.3s,baz=228,slow=16,SNR=28						
BBB				Sn	Sn	04 49 12.7	-3.0
	14nm,0.3s,baz=72,slow=19,SNR=17						
BBB	Bella Bella	2.18	36	Pn	Pn	04 48 48.2	-0.7
WOSB	Woss	2.33	95	Pn	Pn	04 48 50.5	-0.7
BNB	Barry Inlet	2.36	336	Pn	Pn	04 48 49.8	-1.6
NCRB	Newcastle Ridg	2.64	89	Pn	Pn	04 48 54.6	-0.7
GDR	Gold River	2.75	102	Pn	Pn	04 48 55.7	-1.1
SPLB	Strathcona Par	2.96	99	Pn	Pn	04 48 58.5	-1.2
DIB	Dawson Inlet,	3.12	334	Pn	Pn	04 49 00.2	-1.6
DIB				Sn	Sn	04 49 35.9	-2.8
CBB	Campbell River	3.12	96	Pn	Pn	04 49 01.7	-0.1
CBB				Sn	Sn	04 49 37.1	-1.8
UBRB	Upper Baezaeko	4.53	55	Pn	Pn	04 49 22.3	+1.0
UBRB				Sn	Sn	04 50 14.2	+0.6
YKA	Yellowknife Ar	14.78	29	Pn	Pn	04 51 36.9	-4.5
	0.0nm,0.3s,baz=222,slow=12,SNR=5.1						
PDAR	Pinedale Array	16.08	111	Pn	P	04 52 01.6	-0.6
	0.1nm,0.3s,baz=303,slow=11,SNR=3.7						
ILAR	Eielson Array	16.84	335	Pn	P	04 52 14.4	+4.2
	0.0nm,0.3s,baz=142,slow=12,SNR=6.4						
ULM	Lac du Bonnet	21.79	77	P	P	04 53 06.8	+2.5
	3.4nm,0.8s,baz=288,slow=9.5,SNR=5.2						
CMIG	Matias Romero	43.64	127	LR	LR	05 15 03.8	
	comp=Z,34nm,20.2s,baz=290,slow=37						

MAN 01 04:50:29, 9.°87N×122.°96E, h10km, mb4.3, ML3.1, MS2.9, 1C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.59	153	⇑iP	Pg	04 50 40.9	+0.4
SNPH				iS	Sb	04 50 50.2	+0.4
TBP	Tagbilaran	0.90	101	eP	Pb	04 50 47.2	+0.4
TBP				iS	Sn	04 50 60.0	-1.0
LLP	Lapu-Lapu	1.08	66	eP	Pb	04 50 45.5	-4.4
LLP				eS	Sg	04 51 03.9	-0.1
DCPH	Dipolog City	1.33	163	⇓eP	Pn	04 50 53.8	+0.1
DCPH				eS	Sg	04 51 12.8	+0.8
RCP	Roxas	1.70	353	⇓eP	Pn	04 50 59.2	+0.5
MSLP	Maasin	1.89	82	eP	Pn	04 51 01.5	+0.2
MSLP				eS	Sb	04 51 27.6	+0.4

*ISCJB **01** 05:01:01.0±0.6, 50.°52N±0.°04×130.°09W±0.°07, h10km, mb3.8/1, MS3.1/1, Error ellipse: s-maj=7.1km s-min=4.4km az=144.5*
*NEIC **01** 05:01:02.5±0.0, 50.°46N×130.°20W, h10km, MW4.1(OTT), After OTT.*
*PGC **01** 05:01:02.6±2.1, 50.°46N×130.°20W, h10km, MLSn3.4/28, Mw4.1, 198km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **01** 05:01:07.6±2.7, 50.°65N×129.°50W, h0km, mb3.7/1, mb1 3.7/4, mb1mx3.2/75, mbtmp3.5/4, ML3.3/3, MS3.2/3, Ms1 3.2/3, ms1mx2.5/75, Error ellipse: s-maj=34.4km s-min=20.1km az=75.0*
ISC 01 05:01:05.3±1.2, 50.°55N±0.°06×129.°92W±0.°07, h10km, n117, σ1.s75/117, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.14	85	P	Pn	05 01 25.1	-2.2
HOLB				S	Sb	05 01 40.7	-1.3
HOLB	Holberg	1.14	85	P	Pn	05 01 25.1	-2.2
HOLB				S	Sb	05 01 40.7	-1.3
BPBC	Brooks Peninsu	1.43	105	P	Pn	05 01 28.0	-3.3
BPBC	Brooks Peninsu	1.43	105	P	Pn	05 01 28.0	-3.3
PACB	Port Alice, BC	1.55	93	P	Pn	05 01 29.5	-3.4
PHC	Port Hardy	1.59	84	P	Pn	05 01 31.7	-1.7
PHC				S	Sn	05 01 52.3	-1.7
PHC	Port Hardy	1.59	84	P	Pn	05 01 31.7	-1.7
PHC				S	Sn	05 01 52.3	-1.7
MAYB	Maynard	1.76	94	P	Pn	05 01 33.7	-2.2
MAYB				Sn	Sn	05 01 57.1	-1.4
MAYB	Maynard	1.76	94	P	Pn	05 01 33.7	-2.2
MAYB				Sn	Sn	05 01 57.1	-1.4
EDB	Eliza Dome	1.92	110	P	Pn	05 01 35.2	-2.7
EDB	Eliza Dome	1.92	110	P	Pn	05 01 35.2	-2.7
BBB	Bella Bella	1.99	34	Pn	Pn	05 01 37.4	-1.5
	4.3nm,0.3s,baz=50,slow=6.0,SNR=41						
BBB				Sn	Sn	05 02 00.8	-3.0
	31nm,0.3s,baz=97,slow=17,SNR=14						
BBB	Bella Bella	1.99	34	Pn	Pn	05 01 37.2	-1.7
BBB				Sn	Sn	05 02 01.7	-2.1
BBB	Bella Bella	1.99	34	ePn	Pn	05 01 37.6	-1.3
BBB				eSn	Sn	05 02 04.0	+0.2
WOSB	Woss	2.18	99	Pn	Pn	05 01 39.9	-1.7
WOSB	Woss	2.18	99	Pn	Pn	05 01 39.9	-1.7
BNB	Barry Inlet	2.33	331	Pn	Pn	05 01 39.3	-4.3
BNB	Barry Inlet	2.33	331	Pn	Pn	05 01 39.3	-4.3
NCRB	Newcastle Ridg	2.47	92	Pn	Pn	05 01 44.0	-1.7
NCRB	Newcastle Ridg	2.47	92	Pn	Pn	05 01 44.0	-1.7
GDR	Gold River	2.62	106	Pn	Pn	05 01 45.3	-2.2
GDR	Gold River	2.62	106	Pn	Pn	05 01 45.3	-2.2
BCBC	Bella Coola	2.69	46	Sn	Sn	05 02 19.8	-1.3
SPLB	Strathcona Par	2.82	102	Pn	Pn	05 01 47.8	-2.5
CBB	Campbell River	2.96	98	Pn	Pn	05 01 51.1	-1.2
CBB	Campbell River	2.96	98	Pn	Pn	05 01 51.1	-1.2
DIB	Dawson Inlet,	3.09	330	ePn	Pn	05 01 49.4	-4.6
B927	Port Alberni	3.56	110	Pn	Pn	05 01 59.2	-1.3
B927	Port Alberni	3.56	110	Pn	Pn	05 01 59.7	-0.8
TXB	Texada	3.63	102	Pn	Pn	05 01 59.7	-1.8
TXB	Texada	3.63	102	Pn	Pn	05 01 59.7	-1.8
GHNB	Nanoose	3.88	107	Pn	Pn	05 02 03.7	-1.1
SHB	Sechelt	4.01	101	Pn	Pn	05 02 05.2	-1.6
SHB	Sechelt	4.01	101	Pn	Pn	05 02 05.2	-1.6
YOUB	Youbou, Lake C	4.02	112	Pn	Pn	05 02 04.9	-2.0
YOUB	Youbou, Lake C	4.02	112	Pn	Pn	05 02 04.9	-2.0
NLLB	Nanaimo Lost L	4.06	107	Pn	Pn	05 02 05.3	-2.1
NLLB	Nanaimo Lost L	4.06	107	Pn	Pn	05 02 05.3	-2.1
OCP	Olym-Cheeka Pk	4.13	121	Pn	Pn	05 02 07.1	-1.2
OCP	Olym-Cheeka Pk	4.13	121	Pn	Pn	05 02 07.1	-1.2
B926	Mesachie Lake	4.14	113	Pn	Pn	05 02 07.3	-1.1
UBRB	Upper Baezaeko	4.32	55	Pn	Pn	05 02 10.9	-0.1
UBRB	Upper Baezaeko	4.32	55	Pn	Pn	05 02 10.9	-0.1
WPB	Watts Point	4.41	99	Pn	Pn	05 02 11.3	-0.9
WPB	Watts Point	4.41	99	Pn	Pn	05 02 11.3	-0.9
LZB	Mount Lazard	4.42	114	Pn	Pn	05 02 11.1	-1.2
LZB	Mount Lazard	4.42	114	Pn	Pn	05 02 11.1	-1.2
BIB	Bowen Island	4.42	103	Pn	Pn	05 02 11.2	-1.1
BIB	Bowen Island	4.42	103	Pn	Pn	05 02 11.2	-1.1
GOBB	Galiano Island	4.45	109	Pn	Pn	05 02 11.7	-1.1
GOBB	Galiano Island	4.45	109	Pn	Pn	05 02 13.2	+0.4
WSLR	Whistler	4.50	93	Pn	Pn	05 02 13.2	-0.3
WSLR	Whistler	4.50	93	Pn	Pn	05 02 13.2	-0.3
PGC	Sidney	4.62	112	Pn	Pn	05 02 13.1	-1.9
PGC	Sidney	4.62	112	ePn	Pn	05 02 14.8	-0.2
B011	North Saanich	4.62	112	Pn	Pn	05 02 12.7	-2.4
PA12	PA12 Sannich	4.62	112	Pn	Pn	05 02 13.2	-1.8
PA04	PA04 Cage	4.62	112	Pn	Pn	05 02 12.7	-2.3
PA05	PA05 Willingdo	4.62	112	Pn	Pn	05 02 12.8	-2.3
VGZ	Gonzales	4.80	114	Pn	Pn	05 02 16.4	-1.1
VGZ	Gonzales	4.80	114	Pn	Pn	05 02 16.4	-1.1
MCW	Mount Constitu	4.97	109	Pn	Pn	05 02 18.9	-1.1
MCW	Mount Constitu	4.97	109	Pn	Pn	05 02 18.9	-1.1
NLWA	Neilton Lookou	5.09	126	ePn	Pn	05 02 20.5	-1.0
LLLB	Lillooet	5.12	86	Pn	Pn	05 02 21.8	-0.2
LLLB	Lillooet	5.12	86	Pn	Pn	05 02 21.8	-0.2
BLN	Blyn Mountain	5.21	117	Pn	Pn	05 02 22.6	-0.7
BLN	Blyn Mountain	5.21	117	Pn	Pn	05 02 22.6	-0.7
VDB	Vedder Mountai	5.29	104	Pn	Pn	05 02 24.0	-0.2
VDB	Vedder Mountai	5.29	104	Pn	Pn	05 02 24.0	-0.2
CRAG	Craig	5.29	340	ePn	Pn	05 02 21.3	-2.9
HDW	Hoodsport	5.36	120	Pn	Pn	05 02 23.4	-2.0
HDW	Hoodsport	5.36	120	Pn	Pn	05 02 23.4	-2.0
SMW	South Mountain	5.41	124	Pn	Pn	05 02 24.8	-1.2
SMW	South Mountain	5.41	124	Pn	Pn	05 02 24.8	-1.2
MBW	Mount Baker	5.50	106	Pn	Pn	05 02 27.1	-0.2
MBW	Mount Baker	5.50	106	Pn	Pn	05 02 27.1	-0.2
JCW	Jim Creek	5.73	111	Pn	Pn	05 02 29.6	-0.8
JCW	Jim Creek	5.73	111	Pn	Pn	05 02 29.6	-0.8
B06A	Marblemount	5.86	107	Pn	Pn	05 02 31.2	-0.8
B06A	Marblemount	5.86	107	ePn	Pn	05 02 32.6	+0.6
D05A	Enumclaw	6.22	120	ePn	Pn	05 02 38.7	+1.6
GPW	Glacier Peak	6.23	110	Pn	Pn	05 02 36.2	-1.3
GPW	Glacier Peak	6.23	110	Pn	Pn	05 02 36.2	-1.3
FMW	Mount Fremont	6.55	120	Pn	Pn	05 02 40.6	-1.1
FMW	Mount Fremont	6.55	120	Pn	Pn	05 02 40.6	-1.1
LON	Longmire	6.58	122	Pn	Pn	05 02 41.2	-0.9
LON	Longmire	6.58	122	Pn	Pn	05 02 41.2	-0.9
PNT	Penticton	6.76	97	Pn	Pn	05 02 44.2	-0.4
PNT	Penticton	6.76	97	Pn	Pn	05 02 44.2	-0.4
LTY	Liberty	6.93	115	Pn	Pn	05 02 46.1	-0.8
LTY	Liberty	6.93	115	Pn	Pn	05 02 46.1	-0.8
LTY				eSn	Sn	05 04 17.6	+12
LTY				eSg	Sb	05 04 32.1	+3.6
B08A	Colville Reser	7.24	104	Pn	Pn	05 02 50.6	-0.5
B08A	Colville Reser	7.24	104	ePn	Pn	05 02 51.9	+0.7
DLBC	Dease Lake	7.90	360	Pn	Pn	05 02 59.8	-0.4
DLBC	Dease Lake	7.90	360	ePn	Pn	05 03 00.7	+0.5
D08A	Wollman Farm,	8.06	111	ePn	Pn	05 03 02.3	0.0
C09A	Chrisman Ranch	8.11	105	ePn	Pn	05 03 03.6	+0.6
NEW	Newport	8.65	100	LR	LR	05 06 16.6	
	comp=Z,160nm,19.2s,baz=267,slow=37						
F10A	Beach Ranch, E	9.62	114	ePn	Pn	05 03 23.6	-0.2
BMO	Blue Mountains	10.23	119	ePn	Pn	05 03 32.1	0.0
WHY	Whitehorse	10.51	346	ePn	Pn	05 03 35.2	-0.7
JTMT	Jette	10.62	99	ePn	Pn	05 03 36.7	-0.8
YKA	Yellowknife Ar	14.59	29	Pn	Pn	05 04 30.0	-1.6
	0.0nm,0.3s,baz=219,slow=12,SNR=4.5						
PD31	Pinedale Array	15.96	111	ePn	P	05 04 56.7	+3.0
PDAR	Pinedale Array	15.96	111	Pn	P	05 04 52.0	-1.6
	0.1nm,0.3s,baz=302,slow=8.6,SNR=7.1						
ILAR	Eielson Array	16.81	334	Pn	P	05 05 05.0	+2.4
	0.0nm,0.3s,baz=142,slow=9.1,SNR=11						
MSU	Marysvale	17.41	127	ePn	Pn	05 04 58.1	-10
INK	Inuvik	17.90	356	LR	LR	05 12 20.1	
	comp=Z,91nm,20.4s,baz=176,slow=38						
ULM	Lac du Bonnet	21.60	78	P	P	05 05 57.7	+2.7
	2.8nm,0.7s,baz=268,slow=11,SNR=5.2						
H11N2	WAKE ISLAND Hy	58.03	262	T	T	06 13 36.8	
	baz=42,slow=76,SNR=105						
H11N3	WAKE ISLAND Hy	58.03	262	T	T	06 13 35.7	
	baz=42,slow=76,SNR=102						
H11N1	WAKE ISLAND Hy	58.04	262	T	T	06 13 38.2	
	baz=42,slow=76,SNR=119						
H11S1	WAKE ISLAND Hy	59.06	262	T	T	06 14 56.0	
	baz=44,slow=71,SNR=5.7						
H11S2	WAKE ISLAND Hy	59.07	262	T	T	06 14 58.4	
	baz=44,slow=71,SNR=6.2						
H11S3	WAKE ISLAND Hy	59.08	262	T	T	06 14 58.1	
	baz=44,slow=71,SNR=5.0						
KSRS	Korea Array	68.94	304	LR	LR	05 40 24.1	
	comp=Z,12nm,19.5s,baz=214,slow=34						

IDC 01 05:07:44.0±3.2, 54.°49N×87.°14E, h0km, mb1 3.0/2, mb1mx2.8/74, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=27.7km s-min=17.8km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.46	249	i		05 14 56.1	
	baz=69,slow=336,SNR=8.2						
ZALV	Zalesovo Beam	1.46	249	Pg	Pn	05 08 09.1	-2.5
	1.8nm,0.3s,baz=68,slow=16,SNR=14						
ZALV				Lg	Lg	05 08 30.8	
	2.2nm,0.3s,baz=71,slow=26,SNR=5.9						
KURBB	Kurchatov Arra	6.52	237	Pn	Pn	05 09 21.6	+0.6
	0.1nm,0.3s,baz=53,slow=14,SNR=11						
MKAR	Makanchi Array	8.29	204	Pn	Pn	05 09 46.8	+1.4
	0.1nm,0.3s,baz=25,slow=13,SNR=6.2						
MKAR				Sn	Sn	05 11 18.8	-0.9
	0.1nm,0.3s,baz=20,slow=26,SNR=5.2						
MKAR				Lg	Lg	05 12 11.2	
	0.0nm,0.3s,baz=22,slow=28,SNR=3.2						

*TIR **01** 05:08:56.8, 41.°38N×19.°85E, h34km, ML3.1*
*ATH **01** 05:08:58.2, 41.°39N×19.°79E, h20km±1km, ML2.2/2, Error ellipse: s-maj=4.9km s-min=1.7km az=25.0*
*PDG **01** 05:08:59.5±0.3, 41.°50N×19.°87E, h10km, ML2.4/8, Error ellipse: s-maj=0.5km s-min=1.0km az=0.0*
*BEO **01** 05:08:59.5±0.5, 41.°47N×20.°08E, h1km±6km, M2.3/9*
*CSEM **01** 05:09:00.0±0.2, 41.°42N×19.°82E, h20km, ML3.1, Error ellipse: s-maj=7.0km s-min=3.1km az=64.0*
*ISCJB **01** 05:09:00.1±0.4, 41.°42N±0.°02×19.°85E±0.°03, h19km±3km, Error ellipse: s-maj=5.0km s-min=2.3km az=147.6*
ISC 01 05:08:59.7±0.9, 41.°45N±0.°02×19.°87E±0.°02, h18km±3km, n69, σ0.s89/131, 10C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.10	182	iPG	Pg	05 09 02.9	-0.5
TIR				iSG	Sg	05 09 07.2	+1.2
TIR	Tirane	0.10	182	ePg	Pg	05 09 02.5	-0.9
TIR				eSg	Sg	05 09 06.8	+0.9
TIR	Tirane	0.10	182	iPg	Pg	05 09 02.9	-0.5
TIR				eSg	Sg	05 09 06.8	+0.9
PHP	Peshkopia	0.49	61	iPG	Pg	05 09 08.4	-1.2
PHP				iSG	Sb	05 09 17.3	+0.7
PUK	Puka	0.59	2	iPG	Pb	05 09 10.4	-1.1
PUK				iSG	Sb	05 09 21.0	+1.4
PUK	Puka	0.59	2	iPg	Pb	05 09 10.4	-1.1
PUK				iSg	Sb	05 09 21.0	+1.4
ULC	Ulcinj	0.69	318	⇑iPg	Pb	05 09 12.1	-1.2
ULC				eSg	Sb	05 09 21.8	-0.7
ULC	Ulcinj	0.69	318	⇑iPg	Pb	05 09 12.1	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ULC				eSg	Sb	05 09 21.8	-0.7
OHR	Ohrid	0.78	116	ePg	Pn	05 09 17.0	+1.1
OHR				i Sg	Sn	05 09 26.5	-0.6
OHR				eLg	Lg	05 09 27.2	
	comp=E,28nm,0.6s						
OHR				eLg	Lg	05 09 29.8	
	comp=N,40nm,0.5s						
DRME	Dracevica, Mon	0.90	325⇓	iPg	Pb	05 09 15.9	-0.8
DRME				eSg	Sg	05 09 29.0	0.0
DRME	Dracevica, Mon	0.90	325⇓	iPg	Pb	05 09 15.9	-0.8
DRME				eSg	Sg	05 09 29.0	0.0
KRUS	Krusevo	1.04	94	i Pg	Pb	05 09 18.6	-0.6
KRUS				i Sg	Sg	05 09 33.6	0.0
PDG	Podgorica	1.08	335	ePg	Pb	05 09 19.9	+0.1
PDG				eSg	Sg	05 09 35.1	+0.3
PDG	Podgorica	1.08	335	ePg	Pb	05 09 19.9	+0.1
PDG				eSg	Sg	05 09 35.1	+0.3
TTG	Podgorica	1.08	335⇓	iPg	Pb	05 09 18.9	-0.9
TTG				eSg	Sg	05 09 35.2	+0.4
BUM	Brajici-Budva	1.12	320⇑	iPg	Pn	05 09 19.2	-1.3
BUM				eSg	Sg	05 09 36.3	+0.2
BUM	Brajici-Budva	1.12	320⇑	iPg	Pn	05 09 19.2	-1.3
BUM				eSg	Sg	05 09 36.3	+0.2
PVY	Plav	1.14	3⇑	iPg	Pn	05 09 19.2	-1.7
PVY				eSg	Sg	05 09 37.0	+0.1
PVY	Plav	1.14	3⇑	iPg	Pn	05 09 19.2	-1.7
PVY				eSg	Sg	05 09 37.0	+0.1
BIA	Bitola	1.18	111	i Pg	Pb	05 09 21.7	+0.1
BIA				i Sg	Sg	05 09 38.6	+0.6
CEME	Cevo	1.30	327⇓	iPg	Pn	05 09 22.6	-0.5
CEME				eSg	Sg	05 09 42.4	+0.4
CEME	Cevo	1.30	327⇓	iPg	Pn	05 09 22.6	-0.5
CEME				eSg	Sg	05 09 42.4	+0.4
FNA	Florina	1.32	120	i PG	Pn	05 09 23.0	-0.3
FNA				i SG	Sb	05 09 41.0	+0.4
FNA	Florina	1.32	120	P	Pn	05 09 22.8	-0.4
FNA				S	Sg	05 09 42.0	-0.4
FNA				AML	AML	05 09 43.0	
	comp=E,331μm,0.6s						
FNA				AML	AML	05 09 43.0	
	comp=N,444μm,0.6s						
FNA	Florina	1.32	120	i Pg	Pn	05 09 23.0	-0.3
FNA	Florina	1.32	120	P	Pn	05 09 23.2	-0.1
FNA				i Sg	Sb	05 09 41.0	+0.4
FNA				S	Sg	05 09 42.1	-0.4
NEST	Nestorio	1.37	139	P	Pb	05 09 24.4	-0.4
NEST				S	Sb	05 09 42.2	+0.2
NEST				AML	AML	05 09 46.9	
	comp=E,60μm,0.5s						
NEST				AML	AML	05 09 47.0	
	comp=N,80μm,0.4s						
NEST	Nestorio	1.37	139	P	Pb	05 09 24.2	-0.6
NEST				S	Sb	05 09 42.4	+0.4
BEY	Berane	1.42	1⇑	iPg	Pn	05 09 25.1	+0.4
BEY				eSg	Sg	05 09 46.3	+0.7
IVA	Berane	1.42	1⇑	iPg	Pn	05 09 25.1	+0.4
IVA				eSg	Sg	05 09 46.3	+0.7
KOME	Kolasin	1.42	349⇓	iPg	Pb	05 09 25.4	-0.4
KOME				eSg	Sg	05 09 46.4	+0.7
KOME	Kolasin	1.42	349⇓	iPg	Pb	05 09 25.4	-0.4
KOME				eSg	Sg	05 09 46.4	+0.7
HCY	Herceg Novi	1.43	315⇓	iPg	Pn	05 09 24.6	-0.1
HCY				eSg	Sg	05 09 46.8	+0.9
HCY	Herceg Novi	1.43	315⇓	iPg	Pn	05 09 24.6	-0.1
HCY				eSg	Sg	05 09 46.8	+0.9
NKME	Niksic	1.48	333⇓	iPg	Pn	05 09 25.6	+0.1
NKME				eSg	Sg	05 09 47.6	0.0
NKME	Niksic	1.48	333⇓	iPg	Pn	05 09 25.6	+0.1
NKME				eSg	Sg	05 09 47.6	0.0
PENT	Pentalofos	1.58	142	P	Pn	05 09 26.9	0.0
PENT				S	Sb	05 09 48.5	+0.4
PENT	Pentalofos	1.58	142	P	Pn	05 09 26.9	0.0
PENT				S	Sb	05 09 48.3	+0.2
BRY	Bratogost	1.75	326⇓	iPn	Pb	05 09 30.9	-0.5
BRY				eSn	Sb	05 09 54.8	+1.6
BRY	Bratogost	1.75	326⇓	iPn	Pb	05 09 30.9	-0.5
BRY				eSn	Sb	05 09 54.8	+1.6
SJES	Sjenica	1.81	2	ePn	Pb	05 09 32.4	0.0
SJES				eSn	Sb	05 09 55.9	+1.1
SJES	Sjenica	1.81	2	ePn	Pb	05 09 32.4	0.0
SJES				eSn	Sb	05 09 55.9	+1.1
SGD	Sagiada	1.86	171	P	Pn	05 09 31.3	+0.7
SGD	Sagiada	1.86	171	P	Pn	05 09 30.8	+0.2
KPRO	Kipourio	1.88	142	P	Pn	05 09 31.5	+0.6
KPRO				S	Sb	05 09 55.5	-1.1
KPRO	Kipourio	1.88	142	P	Pn	05 09 31.3	+0.3
KPRO				S	Sb	05 09 55.4	-1.2
PLE	Pljevlja	1.91	349⇑	iPn	Pn	05 09 32.6	+1.1
PLE				eSn	Sb	05 09 58.4	+0.8
PLE	Pljevlja	1.91	349⇑	iPn	Pn	05 09 32.6	+1.1
PLE				eSn	Sb	05 09 58.4	+0.8
IGT	Igoumenitsa	1.95	169	P	Pn	05 09 30.7	-1.2
IGT				S	Sn	05 09 55.7	-0.2
IGT	Igoumenitsa	1.95	169	P	Pn	05 09 31.2	-0.7
IGT				S	Sn	05 09 55.9	0.0
SELS	Selova	2.00	27	ePn	Pn	05 09 32.4	-0.1
IVAS	Ivanjica	2.13	6	ePn	Pb	05 09 36.4	-1.5
IVAS				eSn	Sb	05 10 02.5	-1.5
IVAS	Ivanjica	2.13	6	ePn	Pb	05 09 36.4	-1.5
IVAS				eSn	Sb	05 10 02.5	-1.5
THL	Klokotos Trika	2.50	138	P	Pn	05 09 40.1	+0.8
THL				S	Sn	05 10 10.9	+1.6
THL	Klokotos Trika	2.50	138	P	Pn	05 09 40.0	+0.6
THL				S	Sn	05 10 10.7	+1.4
GRUS	Gruza	2.52	14	ePn	Pn	05 09 40.2	+0.6
GRUS	Gruza	2.52	14	ePn	Pn	05 09 40.2	+0.6
DIVS	Divibare	2.65	2	ePn	Pn	05 09 42.6	+1.0
DIVS				eSn	Sn	05 10 14.9	+1.7
DIVS	Divibare	2.65	2	ePn	Pn	05 09 42.6	+1.0
DIVS				eSn	Sn	05 10 14.9	+1.7
ZAPS	Zavoj	2.74	47	ePn	Pn	05 09 43.9	+1.1
ZAPS				eSn	Sn	05 10 16.3	+0.8
ZAPS	Zavoj	2.74	47	ePn	Pn	05 09 43.9	+1.1
ZAPS				eSn	Sn	05 10 16.3	+0.8
ZAGS	Zajecar	2.93	36	ePn	Pn	05 09 44.7	-0.7
ZAGS				eSn	Sn	05 10 20.1	-0.1
ZAGS	Zajecar	2.93	36	ePn	Pn	05 09 44.7	-0.7
ZAGS				eSn	Sn	05 10 20.1	-0.1
AGG	Agios Georgios	3.07	141	P	Pn	05 09 47.8	+0.5
AGG				S	Sn	05 10 24.1	+0.4
AGG	Agios Georgios	3.07	141	P	Pn	05 09 47.9	+0.6
AGG				S	Sn	05 10 24.3	+0.7
TEKS	Tekeris	3.11	356	ePn	Pn	05 09 50.5	+2.7
TEKS	Tekeris	3.11	356	ePn	Pn	05 09 50.5	+2.7
KUBS	Kucevo	3.24	24	ePn	Pn	05 09 48.8	-0.9
KUBS				eSn	Sn	05 10 27.0	-0.8
KUBS	Kucevo	3.24	24	ePn	Pn	05 09 48.8	-0.9
KUBS				eSn	Sn	05 10 27.0	-0.8

*ISCJB **01** 05:11:21.5±0.9, 24°.05N±0°.02×122°.28E±0°.01, h11^{km}±6^{km}, Error ellipse: s-maj=3.0km s-min=2.2km az=163.9*
*TAP **01** 05:11:21.9, 24°.11N×122°.29E, h27^{km}, ML3.2, D*
*JMA **01** 05:11:22.0±0.1, 24°.01N×122°.26E, h26^{km}±3^{km}, M2.7*
ISC 01 05:11:20.1±1.1**, 24°.05N**±0°.02×**122°.28E**±0°.02**, h10**^{km}±9^{km}**, n47, σ0^{s}53**/92**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ENAH	Nanao	0.58	313	eP	Pb	05 11 32.8	+0.4
	baz=306						
ENAH				S	Sb	05 11 41.3	+0.6
	baz=306						
ENA	Nanau	0.61	307	eP	Pb	05 11 33.3	+0.4
	baz=309						
ENA				S	Sb	05 11 42.5	+0.8
	baz=309						
TWD	Chiawan	0.62	273	eP	Pn	05 11 34.2	-0.8
	baz=267						
TWD				S	Sb	05 11 43.3	+1.4
	baz=267						
NACB	Ninganchiao	0.63	281	eP	Pn	05 11 34.5	-0.7
	baz=261						
NACB				eS	Sb	05 11 43.6	+1.4
	baz=261						
ENLB	Shoufeng	0.63	256	eP	Pn	05 11 35.1	-0.1
	baz=241						
ENLB				S	Sn	05 11 45.4	0.0
	baz=241						
TWC	Suao	0.68	325	P	Pb	05 11 34.0	0.0
	baz=321						
TWC				S	Sb	05 11 43.1	-0.4
	baz=321						
JYNG	Yonagunijimaku	0.73	57	P	Pn	05 11 36.1	-0.4
JYNG				eS	Sn	05 11 47.2	-0.5
YOJ	Yonaguni jima	0.78	59	P	Pn	05 11 37.5	+0.2
YOJ				eS	Sn	05 11 48.4	-0.7
EGS		0.85	338	eP	Pn	05 11 37.9	-0.2
	baz=328						
EGS				eS	Sb	05 11 49.2	+0.8
	baz=328						
TWE	Neicheng	0.86	320	eP	Pb	05 11 37.5	+0.2
	baz=323						
TWE				eS	Sb	05 11 49.2	+0.3
	baz=323						
ENTT	Nioudou	0.87	312	eP	Pn	05 11 38.0	-0.5
	baz=308						
ENTT				S	Sn	05 11 50.3	-1.0
	baz=308						
NTC	Toucheng	0.90	333	eP	Pn	05 11 38.6	-0.2
	baz=329						
NTC				eS	Sn	05 11 50.7	-1.1
	baz=329						
NNSH	Datong	0.90	295	eP	Pn	05 11 38.7	-0.2
	baz=290						
NNSH				eS	Sb	05 11 50.4	+0.4
	baz=290						
NNS	Nan Shan	0.91	295	eP	Pn	05 11 38.9	-0.2
	baz=291						
NNS				eS	Sb	05 11 51.1	+0.8
	baz=291						
SLBB	Yuanshan	0.91	320	i P	Pn	05 11 38.9	-0.1
	baz=322						
SLBB				S	Sn	05 11 51.5	-0.7
	baz=322						
WHF	Hehuan Shan	0.93	276	P	Pb	05 11 39.0	+0.4
	baz=261						
WHF				S	Sb	05 11 51.5	+0.3
	baz=261						
TWB1	Santiao Chiao	0.99	345	eP	Pn	05 11 39.6	-0.4
	baz=341						
TWB1				eS	Sb	05 11 52.3	-0.1
	baz=341						
TIPB	Shuangxi	1.00	336	i P	Pg	05 11 39.3	-0.1
	baz=332						
TIPB				S	Sg	05 11 51.6	-0.9
	baz=332						
CHGB	Renai	1.01	271	eP	Pn	05 11 40.5	0.0
	baz=256						
CHGB				eS	Sn	05 11 54.3	-0.6
	baz=256						
NWLT	Wulai	1.01	316	eP	Pn	05 11 40.9	+0.5
	baz=312						
NWLT				eS	Sb	05 11 53.6	+0.6
	baz=312						
OWD	Renai	1.01	265	eP	Pn	05 11 40.6	+0.1
	baz=262						
OWD				eS	Sb	05 11 53.4	+0.1
	baz=262						
TWT	Tachien	1.02	281	eP	Pn	05 11 41.9	+1.2
	baz=267						
TWT				eS	Sn	05 11 54.8	-0.5
	baz=267						
YHNB	Yeheng	1.02	307	eP	Pn	05 11 40.7	+0.1
	baz=291						
YHNB				eS	Sn	05 11 54.7	-0.5
	baz=291						
EHY	Hungye	1.03	238	eP	Pn	05 11 41.5	+0.8
	baz=228						
EHY				eS	Sb	05 11 53.6	0.0
	baz=228						
TWA	Mucha	1.12	326	eP	Pg	05 11 41.6	0.0
	baz=322						
TWA				eS	Sn	05 11 57.7	+0.3
	baz=322						
TWF1	Yuli	1.14	232	eP	Pn	05 11 42.2	+0.1
	baz=247						
TWF1				eS	Sn	05 11 58.3	+0.5
	baz=247						
DPDB	Guoxing	1.23	269	eP	Pg	05 11 44.2	+0.3
	baz=259						
DPDB				eS	Sn	05 12 00.6	+0.3
	baz=259						
FULB	Fuli	1.24	227	eP	Pn	05 11 43.1	-0.5
	baz=214						
FULB				eS	Sb	05 11 59.7	0.0
	baz=214						
SMLT	Sun Moon Lake	1.27	263	eP	Pb	05 11 44.3	+0.1
	baz=261						
SMLT				eS	Sn	05 12 00.9	-0.3
	baz=261						
YM10	YM10	1.27	329	eP	Pb	05 11 44.5	+0.1
	baz=340						
YM10				eS	Sb	05 12 00.9	+0.1
	baz=340						
LIOB	Emei	1.29	297	eP	Pg	05 11 45.6	+0.6
	baz=294						
LIOB				eS	Sg	05 12 01.8	0.0
	baz=294						
NSTT	Nanjuang	1.30	297	eP	Pg	05 11 45.8	+0.7
	baz=293						
NSTT				eS	Sg	05 12 01.9	0.0
	baz=293						
TWS1	Kuangyinshan	1.30	323	eP	Pb	05 11 44.9	+0.2
	baz=337						
TYC	Yuchr	1.31	264	eP	Pg	05 11 45.1	-0.1
	baz=262						
TYC				eS	Sg	05 12 02.0	-0.2
	baz=262						
YUS	Yu-Shan	1.34	245	P	Pg	05 11 45.9	0.0
	baz=244						
YUS				eS	Sb	05 12 02.3	-0.6
	baz=244						
IRIF	Iriomote-Funau	1.36	78	P	Pg	05 11 46.4	+0.2
IRIF				eS	Sg	05 12 04.2	+0.3
HATJ	Hateruma jima	1.40	90	P	Pg	05 11 46.9	-0.1
HATJ				eS	Sg	05 12 05.1	-0.1
TWQ1	Liyutan	1.40	282	eP	Pb	05 11 46.1	-0.4
	baz=280						
TWQ1				eS	Sn	05 12 04.3	-0.1
	baz=280						
ELDTW	Lidau	1.44	234	eP	Pg	05 11 48.1	+0.3
	baz=221						
ELDTW				eS	Sn	05 12 04.2	-1.2
	baz=221						
ALS	Alishan	1.45	248	eP	Pg	05 11 48.1	0.0
	baz=247						
ALS				S	Sn	05 12 05.8	-0.1
	baz=247						
CHN5	Tsauling	1.53	253	eP	Pg	05 11 49.1	-0.4
	baz=252						
CHN5				eS	Sg	05 12 09.0	-0.5
	baz=252						
JKRS	Kuro-shima	1.59	83	P	Pb	05 11 49.7	0.0
JKRS				eS	Sg	05 12 10.5	-0.9
CHN4	Tsaushan	1.69	246	eP	Pg	05 11 52.2	-0.5
	baz=246						
CHN4				eS	Sb	05 12 13.2	+0.4
	baz=246						
WTP	Ta-pu	1.72	243	eP	Pb	05 11 52.4	+0.5
	baz=242						
WTP				eS	Sb	05 12 13.0	-0.6
	baz=242						
JIJ	Ishigaki jima	1.73	79	P	Pn	05 11 50.8	+0.5
JIJ				eS	Sn	05 12 12.7	+0.2
CHN1	Nanshi	1.82	242	eP	Pb	05 11 54.0	+0.4
	baz=242						
CHN1				eS	Sb	05 12 16.0	-0.5
	baz=242						
JISG	Ishigakijimahi	1.93	74	eS	Sn	05 12 18.1	+0.7

*PGC **01** 05:15:14.2±3.9, 50°.51N×130°.05W, h10^{km}, MLSn3.3/22, Mw3.9/22, 187km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **01** 05:15:16.9±2.7, 50°.59N×129°.56W, h0^{km}, mb3.7/1, mb1 3.6/4, mb1mx3.2/77, mbtmp3.4/4, ML3.1/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/71, Error ellipse: s-maj=35.1km s-min=20.7km az=75.0*
ISC 01 05:15:13.0±2.1**, 50°.55N**±0°.07×**130°.00W**±0°.06**, h2**^{km}±13^{km}**, n37, σ1^{s}76**/40**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.19	85	P	Pg	05 15 35.7	-0.2
HOLB				S	Sg	05 15 49.7	-1.6
BPBC	Brooks Peninsu	1.48	105	P	Pn	05 15 38.5	-2.2
PACB	Port Alice, BC	1.60	93	Pn	Pn	05 15 40.1	-2.2
PACB				Sn	Sn	05 15 59.4	-4.2
PHC	Port Hardy	1.64	84	Pn	Pn	05 15 42.1	-0.8
PHC				Sn	Sn	05 16 01.6	-2.9
MAYB	Maynard	1.81	94	Pn	Pn	05 15 44.2	-1.1
EDB	Eliza Dome	1.97	109	Pn	Pn	05 15 45.8	-1.6
BBB	Bella Bella	2.02	35	Pn	Pn	05 15 47.8	-0.3
	4.6nm,0.3s,baz=54,slow=5.3,SNR=69						
BBB				Sn	Sn	05 16 11.6	-2.2
	35nm,0.3s,baz=11,slow=17,SNR=18						
BBB	Bella Bella	2.02	35	Pn	Pn	05 15 47.6	-0.3
BBB				Sn	Sn	05 16 10.8	-3.0
WOSB	Woss	2.23	99	Pn	Pn	05 15 50.3	-0.7
BNB	Barry Inlet	2.30	332	Pn	Pn	05 15 50.5	-1.5
BNB				Sn	Sn	05 16 16.8	-4.1
NCRB	Newcastle Ridg	2.52	92	Pn	Pn	05 15 54.4	-0.7
GDR	Gold River	2.67	105	Pn	Pn	05 15 55.9	-1.0
BCBC	Bella Coola	2.73	47	Pn	Pn	05 15 58.2	+0.4
SPLB	Strathcona Par	2.87	102	Pn	Pn	05 15 58.4	-1.4
CBB	Campbell River	3.02	98	Pn	Pn	05 16 01.6	-0.1
DIB	Dawson Inlet,	3.07	331	Pn	Pn	05 16 01.4	-1.0
OZB	Mount Ozzard	3.33	117	Pn	Pn	05 16 06.0	-0.1
TXB	Texada	3.68	101	Pn	Pn	05 16 10.4	-0.5
GHNB	Nanoose	3.93	106	Pn	Pn	05 16 14.5	+0.2
SHB	Sechelt	4.06	101	Pn	Pn	05 16 15.8	-0.4
YOUB	Youbou, Lake C	4.07	112	Pn	Pn	05 16 16.4	+0.1
B926	Mesachie Lake	4.18	112	Pn	Pn	05 16 18.1	+0.3
UBRB	Upper Baezaeko	4.36	55	Pn	Pn	05 16 22.3	+2.0
UBRB				Sn	Sn	05 17 12.2	+0.5
WPB	Watts Point	4.46	99	Pn	Pn	05 16 21.5	-0.1
LZB	Mount Lazard	4.46	113	Pn	Pn	05 16 22.2	+0.5
GOBB	Galiano Island	4.50	108	Pn	Pn	05 16 23.2	+1.0
WSLR	Whistler	4.55	93	Pn	Pn	05 16 23.1	+0.1
PGC	Sidney	4.66	112	Pn	Pn	05 16 24.3	0.0
LLLB	Lillooet	5.17	86	Pn	Pn	05 16 32.1	+0.6
NEW	Newport	8.70	100	LR	LR	05 20 36.8	
	comp=Z,103nm,18.5s,baz=249,slow=38						
YKA	Yellowknife Ar	14.62	29	Pn	Pn	05 18 39.9	-0.7
	0.0nm,0.3s,baz=219,slow=12,SNR=3.4						
YKA				LR	LR	05 24 18.5	
	comp=Z,8.5nm,18.7s,baz=180,slow=37						
PDAR	Pinedale Array	16.01	111	Pn	Pn	05 19 01.8	+2.4
	0.0nm,0.3s,baz=309,slow=9.4,SNR=5.2						
ILAR	Eielson Array	16.78	334	Pn	P	05 19 14.6	+3.3
	0.0nm,0.3s,baz=147,slow=11,SNR=9.7						
ULM	Lac du Bonnet	21.65	78	P	P	05 20 07.0	+2.6
	2.3nm,0.6s,baz=272,slow=14,SNR=4.4						
H11N2	WAKE ISLAND Hy	57.98	262	T	T	06 27 46.3	
	baz=42,slow=76,SNR=139						
H11N3	WAKE ISLAND Hy	57.98	262	T	T	06 27 46.4	
	baz=42,slow=76,SNR=174						
H11N1	WAKE ISLAND Hy	57.99	262	T	T	06 27 47.6	
	baz=42,slow=76,SNR=109						

*ISCJB **01** 05:16:20.8±0.8, 38°.59N±0°.04×43°.21E±0°.06, h13^{km}±9^{km}, Error ellipse: s-maj=8.3km s-min=6.0km az=173.7*
*DDA **01** 05:16:20.7, 38°.58N×43°.19E, h11^{km}, Ml2.6*
*CSEM **01** 05:16:20.7, 38°.58N×43°.19E, h11^{km}, ML2.6, After DDA*
ISC 01 05:16:20.8±1.2**, 38°.59N**±0°.03×**43°.18E**±0°.04**, h1**^{km}±12^{km}**, n13, σ1^{s}80**/24**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	88	PG	Pg	05 16 24.4	+0.4
TVAN	Van	0.19	109	i P	Pg	05 16 24.4	-0.1
TVAN				i S	Sg	05 16 28.4	+1.5
TVAN	Van	0.19	109	P	Pg	05 16 24.4	-0.1
TVAN				S	Sg	05 16 28.4	+1.5
GEVA	Gevas	0.29	199	i P	Pg	05 16 25.6	-0.9
GEVA				i S	Sb	05 16 32.2	-2.2
GEVA	Gevas	0.29	199	P	Pg	05 16 25.6	-0.9
GEVA				S	Sb	05 16 32.2	-2.2
ADCV	BITLIS_Adilcev	0.42	301	i P	Pg	05 16 28.8	-0.1
ADCV				i S	Sb	05 16 36.4	-1.6
ADCV	BITLIS_Adilcev	0.42	301	P	Pg	05 16 28.8	-0.1
ADCV				S	Sb	05 16 36.4	-1.6
AGRB	Hanur-Agry	0.99	352	ePG	Pg	05 16 39.7	-0.2
AGRB				eSG	Sn	05 16 54.8	-2.1
EKAR	Karacoban	1.10	308	i P	Pg	05 16 42.1	+0.2
EKAR				i S	Sn	05 17 02.9	+3.5
EKAR	Karacoban	1.10	308	P	Pg	05 16 42.1	+0.2
EKAR				S	Sn	05 17 02.9	+3.5
SRTM	Siirt_Merkez	1.16	239	i P	Pb	05 16 42.5	-1.2
SRTM				i S	Sn	05 17 02.7	+2.0
SRTM	Siirt_Merkez	1.16	239	P	Pb	05 16 42.5	-1.2
SRTM				S	Sn	05 17 02.7	+2.0
SIRT	Sirnak	1.23	209	ePG	Pg	05 16 46.5	+2.0

IDC 01 05:33:18.4±27.0**, 23°.44S**×**172°.88W, h0**^{km}**, mb4.1**/4**, mb1 4.3**/4**, mb1mx3.9**/39**, mbtmp4.1**/4**, Error ellipse: s-maj=508.8km s-min=154.8km az=78.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.01	267	P	P	05 40 38.6	+0.1
	2.0nm,0.3s,baz=96,slow=12,SNR=4.5						
STKA	Stephens Creek	40.95	248	P	P	05 41 02.6	-0.4
	7.8nm,1.2s,baz=98,slow=13,SNR=3.6						
ASAR	Alice Springs	48.54	258	P	P	05 42 03.8	+0.1
	0.3nm,0.3s,baz=96,slow=7.7,SNR=7.9						
WRA	Warramunga Arr	48.95	263	P	P	05 42 06.5	-0.3
	1.2nm,0.6s,baz=104,slow=8.0,SNR=13						

MEX 01 05:33:29.0±0.7**, 18°.66N**×**102°.71W, h4**^{km}±7^{km}**, MD3.6, Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.71	239	i P	Pg	05 33 41.6	-1.0
MMIG				i S	Sg	05 33 51.8	0.0
EZ5V		1.18	314	i P	Pg	05 33 48.2	-3.4
EZ5V				eS	Sg	05 34 04.6	-2.3
ZIIG	Zihuatanejo	1.58	131	i P	Pn	05 33 54.5	-3.2
ZIIG				eS	Sn	05 34 13.3	-5.4
MOIG	Morelia	1.76	54	eP	Pn	05 33 56.8	-3.7
MOIG				eS	Sn	05 34 18.7	-4.8
SFJM	Santa Fe	1.85	350	i P	Pn	05 33 54.4	-7.3
SFJM				i S	Sn	05 34 17.0	-8.6
ARIG	Puente Sto Nin	2.27	99	eP	Pn	05 34 04.9	-2.5
ARIG				i S	Sn	05 34 30.8	-5.0
CJM	Chamela	2.36	291	eP	Pn	05 34 05.2	-3.4
CJM				i S	Sn	05 34 33.0	-5.0

MEX 01 05:39:02.0±0.5**, 16°.24N**×**98°.19W, h3**^{km}±3^{km}**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.16	23	i P	Pg	05 39 04.9	-0.3
PNIG				i S	Sg	05 39 07.3	0.0
TLIG	Tlapa	1.36	345	eP	Pn	05 39 24.4	-3.6
TLIG				eS	Sg	05 39 41.1	-4.7
VHO	Vista Hermosa	1.62	59	eP	Pn	05 39 27.7	-4.0
VHO				i S	Sn	05 39 48.7	-4.6
HUIG	Huatulco	2.06	103	i P	Pn	05 39 33.5	-4.0
HUIG				i S	Sn	05 39 59.8	-4.0
CAIG	El Cayaco	2.15	292	i P	Pn	05 39 35.7	-3.0
CAIG				i S	Sn	05 40 00.9	-5.0

*IDC **01** 05:51:40.8±1.2, 51°.57N×96°.29E, h0^{km}, mb4.0/1, mb1 3.3/3, mb1mx3.0/76, mbtmp3.3/3, ML2.5/2, MS2.8/1, Ms1 3.0/1, ms1mx2.1/71, Error ellipse: s-maj=30.3km s-min=11.4km az=174.0*
*MOS **01** 05:51:41.4±2.7, 51°.56N×96°.26E, h10^{km}, mb4.1/1, Error ellipse: s-maj=68.8km s-min=37.4km az=158.0*
ISC 01 05:51:42.5±1.3**, 51°.7N**±0°.2×**96°.22E**±0°.09**, h10**^{km}**, n10, σ1^{s}08**/8**, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORL	Orlik	2.36	68	ePN	Pb	05 52 24.0	-1.2
ORL				e		05 52 54.9	
ORL				pmax	pmax		
	comp=Z,43nm,0.4s						
ORL				smax	smax		
	comp=N,207nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARS	**Arshan**	**3.86**	**84**	ePN	**Pb**	**05 52 51.4**	**+0.8**
ARS				e		05 53 42.7	
ARS				pmax	pmax		
	comp=Z,46nm,0.3s						
ARS				smax	smax		
	comp=E,224nm,0.9s						
TLY	**Talaya**	**4.62**	**87**	Pg	**Pb**	**05 53 02.2**	**-1.4**
	comp=E,0.0nm,0.3s,baz=284,slow=13,SNR=15						
TLY				Lg	Lg	05 54 04.1	
	comp=E,0.0nm,0.3s,baz=185,slow=6.8,SNR=3.6						
TLY	**Talaya**	**4.62**	**87**	ePN	**Pb**	**05 53 04.4**	**+0.8**
TLY				e		05 54 04.6	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.4s						
IRK	**Irkutsk**	**5.01**	**81**	ePN	**Pb**	**05 53 11.0**	**+0.8**
IRK				e		05 54 15.8	
IRK				pmax	pmax		
	comp=Z,168nm,0.2s						
IRK				smax	smax		
	comp=E,206nm,0.3s						
ZALV	**Zalesovo Beam**	**7.26**	**292**	Pn	**Pn**	**05 53 29.0**	**+0.5**
	comp=E,0.2nm,0.3s,baz=88,slow=10,SNR=3.2						
ZALV				Pg	Pb	05 53 55.1	+6.6
	comp=E,0.3nm,0.3s,baz=113,slow=13,SNR=4.5						
ZALV				Lg	Lg	05 55 20.2	
	comp=E,0.9nm,0.3s,baz=119,slow=27,SNR=10						
SONM	**Songino Array**	**7.64**	**117**	Pg	Pb	05 53 57.7	+2.6
	comp=E,0.3nm,0.3s,baz=299,slow=17,SNR=6.1						
SONM				Lg	Lg	05 55 40.0	
	comp=E,1.0nm,0.3s,baz=297,slow=29,SNR=17						
MKAR	**Makanchi Array**	**10.35**	**247**	Pn	**Pn**	**05 54 10.5**	**-0.4**
	comp=E,0.1nm,0.3s,baz=70,slow=14,SNR=3.7						
MKAR				Pg		05 54 52.5	
	comp=E,0.1nm,0.3s,baz=67,slow=16,SNR=5.5						
MKAR				Lg	Lg	05 57 01.9	
	comp=E,0.1nm,0.3s,baz=60,slow=28,SNR=3.3						
TIXI	**Tiksi**	**24.70**	**24**	P	**P**	**05 57 03.4**	**+0.1**
	comp=E,1.1nm,0.3s,baz=214,slow=4.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**33.25**	**175**	LR	LR	06 11 57.0	
	comp=E,14nm,18.3s,baz=230,slow=37						

MEX 01 05:54:07.5±0.5**, 16.°28N×98.°13W, h7**km±3km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.11**	**3**	i P	Pg	05 54 09.3	-0.7
PNIG				i S	Sg	05 54 11.7	0.0
TLIG	**Tlapa**	**1.34**	**342**	eP	Pn	05 54 28.7	-4.2
TLIG				eS	Sb	05 54 45.4	-5.2
VHO	**Vista Hermosa**	**1.56**	**59**	eP	Pn	05 54 31.9	-4.0
VHO				eS	Sn	05 54 51.6	-4.8
HUIG	**Huatulco**	**2.01**	**104**	eP	Pn	05 54 38.8	-3.1
HUIG				i S	Sn	05 55 02.6	-4.8
MEIG	**Mezcala**	**2.17**	**319**	i P	Pn	05 54 41.4	-2.7
MEIG				i S	Sn	05 55 06.9	-4.5
CAIG	**El Cayaco**	**2.18**	**291**	i P	Pn	05 54 41.8	-2.5
CAIG				i S	Sn	05 55 07.6	-4.0
PLIG	**Platanillo**	**2.48**	**328**	eP	Pn	05 54 45.2	-3.2
PLIG				i S	Sn	05 55 14.6	-4.3

MEX 01 06:10:25.7±0.6**, 14.°46N×92.°66W, h49**km±16km**, MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		**0.59**	**41**	eP	Pn	06 10 36.8	-1.2
THIG				i S	Sn	06 10 45.1	-1.6
PCIG		**1.34**	**337**	eP	Pn	06 10 46.8	-1.3
PCIG				i S	Sn	06 11 02.6	-2.2
CCIG	**Comitan**	**1.88**	**16**	i P	Pn	06 10 54.6	-0.9
CCIG				eS	Sn	06 11 16.5	-1.6
TGIG		**2.34**	**349**	i P	Pn	06 11 00.9	-0.9
TGIG				i S	Sn	06 11 27.8	-1.6

*IDC **01** 06:21:18.6±6.1, 6.°41S×149.°92E, h74km±46km, mb3.3/4, mb1 3.7/5, mb1mx3.3/45, mbtmp3.8/5, ML2.5/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/22, Error ellipse: s-maj=78.3km s-min=33.5km az=112.0*

ISC 01 06:21:15.7±2.9**, 6.°3S**±0.°4**×150.°0E**±0.°6**, h43**km**, n7, σ0s.88**/7**, mb3.3**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.19**	**223**	P	**Pn**	**06 22 18.0**	**+0.8**
	23nm,0.3s,baz=37,slow=6.1,SNR=40						
PMG				S	**Sn**	**06 23 04.8**	**-0.1**
	16nm,0.3s,baz=126,slow=18,SNR=8.6						
PMG				LR	LR	06 24 07.0	
	comp=Z,129nm,20.8s,baz=82,slow=42						
WRA	**Warramunga Arr**	**20.40**	**227**	P	**P**	**06 25 48.2**	**-0.9**
	8.4nm,0.6s,baz=51,slow=11,SNR=46						
ASAR	**Alice Springs**	**23.20**	**220**	P	**P**	**06 26 18.0**	**-1.0**
	1.0nm,0.4s,baz=53,slow=8.9,SNR=18						
DAV	**Davao City (W)**	**27.80**	**298**	LR	LR	06 37 25.0	
	comp=Z,35nm,21.9s,baz=114,slow=35						
MKAR	**Makanchi Array**	**79.68**	**320**	P	**P**	**06 33 19.1**	**+0.2**
	0.1nm,0.4s,baz=116,slow=3.4,SNR=2.7						
KURBB	**Kurchatov Arra**	**83.31**	**323**	P	**P**	**06 33 37.6**	**-0.3**
	0.2nm,0.7s,baz=108,slow=4.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.10**	**285**	PKPbc	**PKPdf**	**06 40 55.1**	**+0.5**
	0.5nm,0.3s,baz=65,slow=2.3,SNR=12						

IDC 01 06:24:33.3±3.1**, 53.°42N×87.°51E, h0**km**, mb1 2.5**/2**, mb1mx2.5**/63**, mbtmp2.5**/2**, ML2.4**/2**, Error ellipse: s-maj=29.1km s-min=15.8km az=58.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.68**	**290**	Pg	Pn	06 25 03.7	-0.3
	0.8nm,0.3s,baz=110,slow=13,SNR=6.3						
ZALV				Lg	Lg	06 25 26.5	
	0.8nm,0.3s,baz=107,slow=24,SNR=3.0						
I46RU	**ZALESOVO INFRA**	**1.69**	**290**	i		06 35 10.0	
	baz=107,slow=336,SNR=2.6						
KURBB	**Kurchatov Arra**	**6.21**	**247**	Pn	Pn	06 26 06.4	+0.3
	0.1nm,0.3s,baz=62,slow=14,SNR=6.6						
KURBB				Lg	Lg	06 27 51.2	
	0.0nm,0.3s,baz=67,slow=36,SNR=3.5						
MKAR	**Makanchi Array**	**7.43**	**209**	Pn	Pn	06 26 24.5	+1.6
	0.1nm,0.3s,baz=29,slow=15,SNR=5.1						
MKAR				Lg	Lg	06 28 27.9	
	0.0nm,0.3s,baz=32,slow=28,SNR=3.6						

*ISK **01** 06:38:04.7, 38.°59N×30.°31E, h5km, ML2.2/4*
*ISCJB **01** 06:38:05.3±0.6, 38.°63N±0.°03×30.°32E±0.°04, h7km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=44.9*
*CSEM **01** 06:38:05.4±0.2, 38.°61N×30.°34E, h12km, ML2.2, Error ellipse: s-maj=3.8km s-min=3.6km az=162.0*
*DDA **01** 06:38:05.2, 38.°62N×30.°33E, h7km, Ml2.6*

ISC 01 06:38:05.5±0.9**, 38.°62N**±0.°02**×30.°34E**±0.°02**, h11**km±8km**, n24, σ0s.71**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.18**	**113**	PG	**Pg**	**06 38 09.5**	**0.0**
SHUT				SG	**Sg**	**06 38 11.9**	**-0.3**
SHUT	**Suhut-Afyon**	**0.18**	**113**	ePg	**Pg**	**06 38 09.5**	**0.0**
SHUT				eSg	**Sg**	**06 38 11.9**	**-0.3**
KZIL	**AFYON_Kizioren**	**0.40**	**203**	i P	**Pg**	**06 38 13.6**	**+0.2**
KZIL				i S	**Sg**	**06 38 19.3**	**+0.6**
KZIL	**AFYON_Kizioren**	**0.40**	**203**	P	**Pg**	**06 38 13.6**	**+0.2**
KZIL				S	**Sg**	**06 38 19.3**	**+0.6**
BOLV	**Bolvadin**	**0.49**	**79**	i P	**Pg**	**06 38 15.4**	**+0.3**
BOLV				i S	**Sb**	**06 38 22.7**	**-0.7**
BOLV	**Bolvadin**	**0.49**	**79**	P	**Pg**	**06 38 15.4**	**+0.3**
BOLV				S	**Sb**	**06 38 22.7**	**-0.7**
KHAL	**Karahalli**	**0.71**	**249**	i P	**Pb**	**06 38 20.0**	**-0.1**
KHAL				i S	**Sb**	**06 38 30.2**	**+0.3**
KHAL	**Karahalli**	**0.71**	**249**	P	**Pb**	**06 38 20.0**	**-0.1**
KHAL				S	**Sb**	**06 38 30.2**	**+0.3**
ISP	**Isparta**	**0.81**	**170**	PG	**Pg**	**06 38 20.3**	**-0.9**
ISP				SG	**Sg**	**06 38 31.5**	**-0.3**
ISP	**Isparta**	**0.81**	**170**	ePg	**Pg**	**06 38 20.3**	**-0.9**
ISP				eSg	**Sg**	**06 38 31.5**	**-0.3**
GDZ	**Gediz**	**0.82**	**305**	i P	**Pg**	**06 38 20.2**	**-1.1**
GDZ				i S	**Sg**	**06 38 31.5**	**-0.5**
GDZ	**Gediz**	**0.82**	**305**	P	**Pg**	**06 38 20.2**	**-1.1**
GDZ				S	**Sg**	**06 38 31.5**	**-0.5**
BRDR	**BURDUR-Merkez**	**0.95**	**193**	i P	**Pg**	**06 38 23.6**	**-0.2**
BRDR				i S	**Sg**	**06 38 36.1**	**-0.2**
BRDR	**BURDUR-Merkez**	**0.95**	**193**	P	**Pg**	**06 38 23.6**	**-0.2**
BRDR				S	**Sg**	**06 38 36.1**	**-0.2**
ESKT	**Eskisehir**	**0.98**	**24**	i P	**Pb**	**06 38 24.8**	**+0.2**
ESKT				i S	**Sg**	**06 38 37.2**	**0.0**
SEYT	**Eskypehyr**	**0.98**	**24**	P	**Pb**	**06 38 24.8**	**+0.2**
SEYT				S	**Sg**	**06 38 37.2**	**0.0**
TVSB	**Tavsanli**	**1.07**	**321**	PN	**Pb**	**06 38 26.2**	**0.0**
TVSB				SN	**Sb**	**06 38 41.1**	**+0.8**
TVSB	**Tavsanli**	**1.07**	**321**	ePn	**Pb**	**06 38 26.2**	**0.0**
TVSB				eSn	**Sb**	**06 38 41.1**	**+0.8**
DOGA	**KONYA_Doganhis**	**1.16**	**116**	i P	**Pg**	**06 38 25.9**	**-2.0**
DOGA				i S	**Sb**	**06 38 43.8**	**+0.8**
DOGA	**KONYA_Doganhis**	**1.16**	**116**	P	**Pg**	**06 38 25.9**	**-2.0**
DOGA				S	**Sb**	**06 38 43.8**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.23**	**48**	PN	**Pn**	**06 38 29.8**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.23**	**48**	ePn	**Pn**	**06 38 29.8**	**+0.9**
KULA	**Kula-Manisa**	**1.32**	**266**	PN	**Pn**	**06 38 30.1**	**+0.1**
KULA	**Kula-Manisa**	**1.32**	**266**	ePn	**Pn**	**06 38 30.1**	**+0.1**

*ISCJB **01** 06:44:24.6±2.0, 38.°19S±0.°04×73.°8W±0.°1, h26km±13km, mb4.7/9, MS3.7/11, Error ellipse: s-maj=15.4km s-min=6.9km az=170.5*
*GUC **01** 06:44:26.0±0.6, 38.°28S×73.°78W, h22km±5km, ML4.2*
*IDC **01** 06:44:27.5±1.3, 38.°17S×73.°32W, h26km±5km, mb4.0/6, mb1 4.1/8, mb1mx3.9/30, mbtmp4.1/8, ML4.1/2, MS3.6/11, Ms1 3.6/11, ms1mx3.4/24, Error ellipse: s-maj=36.1km s-min=15.9km az=69.0*
*NEIC **01** 06:44:27.0±0.0, 38.°33S×73.°59W, h35km, mb4.2/5, ML4.1(GUC), After GUC.*
NEIC Felt [II] at Puerto Saavedra.

ISC 01 06:44:26.5±0.9**, 38.°21S**±0.°05**×73.°63W**±0.°08**, h26**km±5km**:pP-P, n44, σ0s.95**/44**, mb4.6**/9**, MS3.7**/11**, 2C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**0.96**	**123**	⇑iP	**Pb**	**06 44 43.9**	**-0.6**
TMU				eS	**Sn**	**06 44 58.2**	**+1.0**
TMU				IAML		06 45 00.1	
	comp=N,6μm,0.4s						
VLCH	**Valdivia**	**1.62**	**170**	eP	**Pn**	**06 44 52.7**	**-0.7**
VLCH				eS	**Sn**	**06 45 12.0**	**-1.5**
CCHI	**Chillan**	**2.03**	**38**	eP	**Pn**	**06 44 58.6**	**-0.4**
CCHI				i S	**Sb**	**06 45 27.8**	**+0.4**
CCHI				IAML		06 45 32.4	
	comp=E,4μm,0.3s						
GO06	**Curarrehue**	**2.17**	**130**	⇑iP	**Pn**	**06 45 02.1**	**+1.0**
GO06				eS	**Sb**	**06 45 30.4**	**-1.3**
GO06				IAML		06 45 37.8	
	comp=N,1μm,0.5s						
COCH	**Cobquecura**	**2.18**	**18**	IAML		06 45 44.7	
	comp=E,717nm,0.6s						
PLCA	**Paso Flores**	**3.47**	**138**	Pn	**Pn**	**06 45 19.4**	**+0.5**
	comp=E,3.7nm,0.3s,baz=332,slow=10,SNR=136						
PLCA				Pg	**Pb**	**06 45 26.9**	**-0.4**
	comp=E,30nm,0.3s,baz=334,slow=12,SNR=67						
PLCA				Lg	Lg	06 46 13.2	
	comp=E,34nm,0.3s,baz=80,slow=21,SNR=5.4						
PLCA	**Paso Flores**	**3.47**	**138**	ePn	**Pn**	**06 45 19.9**	**+1.0**
PLCA				eLg	Lg	06 46 13.2	
GO05	**HualaæØ**	**3.48**	**24**	ePn	**Pn**	**06 45 17.9**	**-1.1**
GO05	**HualaæØ**	**3.48**	**24**	IAML		06 46 20.8	
	comp=E,575nm,0.4s						
CHRN	**Cochrane**	**9.06**	**176**	ePn	**Pn**	**06 46 36.7**	**+1.1**
TRQA	**Tornquist**	**9.18**	**93**	ePn	**Pn**	**06 46 38.0**	**+0.7**
CPUP	**Villa Florida**	**18.14**	**54**	P	**Pn**	**06 48 33.5**	**-3.2**
	comp=E,0.2nm,0.3s,baz=194,slow=14,SNR=4.7						
CPUP	**Villa Florida**	**18.14**	**54**	ePn	**Pn**	**06 48 35.4**	**-1.2**
	comp=E,21nm,1.8s						
PB11	**IPOC Station P**	**18.71**	**12**	eP	**Pn**	**06 48 45.3**	**+1.6**
	comp=E,24nm,1.0s						
MNMC	**Minye Minye**	**19.33**	**12**	eP	**P**	**06 48 49.8**	**-0.5**
	comp=E,19nm,1.0s						
LPAZ	**La Paz**	**22.37**	**14**	P	**P**	**06 49 22.0**	**-1.4**
	comp=E,3.9nm,1.2s,baz=190,slow=6.8,SNR=5.0						
LPAZ	**La Paz**	**22.37**	**14**	eP	**P**	**06 49 24.1**	**+0.7**
	comp=E,5.1nm,1.0s						
NNA	**Nana**	**26.27**	**353**	LR	LR	06 58 04.6	
	comp=E,58nm,18.8s,baz=182,slow=31						
RPN	**Rapa Nui**	**31.84**	**280**	LR	LR	07 00 04.7	
	comp=E,174nm,18.5s,baz=126,slow=29						
SNAA	**Sanae**	**48.21**	**156**	P	**P**	**06 53 04.9**	**+0.4**
	comp=E,4.4nm,1.0s,baz=288,slow=8.0,SNR=8.2						
SNAA				pP	**pP**	**06 53 12.5**	**0.0**
	comp=E,3.3nm,0.9s,baz=311,slow=11,SNR=3.7						
SNAA				LR	LR	07 13 52.8	
	comp=E,69nm,18.2s,baz=319,slow=37						
SNAA	**Sanae**	**48.21**	**156**	eP	**P**	**06 53 05.3**	**+0.8**
SNAA				epP	**pP**	**06 53 13.0**	**+0.6**
JTS	**JuntasAbangare**	**49.40**	**345**	LR	LR	07 08 32.5	
	comp=E,39nm,20.3s,baz=182,slow=29						
RKT	**Rikitea**	**53.97**	**267**	eLR	LR	07 09 44.0	
	comp=E,129nm,25.0s						
TAOE	**Nuku Hiva Isla**	**66.15**	**278**	eLR	LR	07 15 27.0	
	comp=E,96nm,24.5s						
PPT2	**Papeete2**	**68.44**	**264**	eLR	LR	07 16 23.0	
	comp=E,98nm,24.5s						
LPIG	**La Paz**	**70.90**	**325**	LR	LR	07 19 19.4	
	comp=E,76nm,21.6s,baz=80,slow=30						
TXAR	**Lajitas Array**	**72.83**	**333**	P	**P**	**06 55 54.0**	**+1.1**
	comp=E,0.4nm,0.9s,baz=149,slow=5.1,SNR=3.9						
TXAR				LR	LR	07 22 28.1	
	comp=E,44nm,19.5s,baz=0.0,slow=31						
LIC	**Lamto**	**77.33**	**72**	eP	**P**	**06 56 18.9**	**-0.3**
	comp=E,32nm,1.0s						
TIC	**Toumodi**	**77.61**	**71**	eP	**P**	**06 56 20.5**	**-0.3**
KIC	**Kosan Boka**	**77.63**	**72**	eP	**P**	**06 56 20.8**	**-0.1**
	comp=E,16nm,0.8s						
DBIC	**Dimbokro**	**77.75**	**71**	P	**P**	**06 56 21.6**	**+0.1**
	comp=E,3.8nm,0.6s,baz=188,slow=7.8,SNR=8.2						
DBIC				LR	LR	07 27 26.1	
	comp=E,29nm,19.0s,baz=159,slow=33						
DBIC	**Dimbokro**	**77.75**	**71**	eP	**P**	**06 56 20.9**	**-0.6**
	comp=E,13nm,1.2s						
BOSA	**Boshof**	**79.25**	**118**	LR	LR	07 31 09.2	
	comp=E,24nm,18.7s,baz=205,slow=35						
KOWA	**Kowa**	**83.54**	**66**	P	**P**	**06 56 52.9**	**+0.4**
	comp=E,2.2nm,0.5s,baz=229,slow=4.7,SNR=6.2						
KOWA				pP	**pP**	**06 57 00.4**	**-0.4**
	comp=E,2.5nm,0.6s,baz=235,slow=7.7,SNR=3.7						
KOWA				LR	LR	07 31 09.0	
	comp=E,52nm,19.9s,baz=210,slow=34						
TOA0	**Torodi Ar. Sit**	**86.84**	**71**	eP	**P**	**06 57 08.4**	**-0.6**
TOA0				epP	**pP**	**06 57 17.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**86.84**	**71**	P	**P**	**06 57 08.8**	**-0.3**
	comp=E,2.0nm,0.9s,baz=228,slow=4.8,SNR=10						
TORD				pP	**pP**	**06 57 18.1**	**+0.7**
	comp=E,1.7nm,0.8s,baz=235,slow=4.1,SNR=7.0						
TORD				LR	LR	07 35 52.7	
	comp=E,16nm,18.1s,baz=265,slow=36						
TOA1	**Torodi Ar. Sit**	**86.84**	**71**	eP	**P**	**06 57 08.8**	**-0.3**
TOA1				epP	**pP**	**06 57 18.1**	**+0.7**
YERR	**Yerington**	**87.51**	**326**	eP	**P**	**06 57 12.6**	**+0.7**
	comp=E,182nm,0.6s						
DZM	**Mont Dzumac**	**97.72**	**234**	LR	LR	07 34 11.0	
	comp=E,93nm,18.9s,baz=344,slow=30						
ABKAR	**Akbulak array**	**145.20**	**56**	ePKPbc	**PKPbc**	**07 04 01.1**	**+0.2**
BRVK	**Borovoye**	**151.09**	**47**	ePKPbc	**PKPbc**	**07 04 17.0**	**+0.5**
BVAR	**Borovoye Array**	**151.16**	**47**	PKPbc	**PKPbc**	**07 04 17.3**	**+0.5**
	comp=E,1.2nm,0.5s,baz=336,slow=3.2,SNR=9.0						
MK32	**Makanchi Array**	**160.34**	**56**	ePKPdf	**PKPdf**	**07 04 22.3**	**-1.0**
MKAR	**Makanchi Array**	**160.34**	**56**	PKP	**PKPdf**	**07 04 22.3**	**-1.0**
	comp=E,0.7nm,0.9s,baz=333,slow=2.3,SNR=4.2						

NNC 01 06:49:21.6±11.0**, 40.°35N×76.°31E, h0**km**, mb3.6, mpv3.2, 5C-1D, Error ellipse: s-maj=84.8km s-min=51.5km az=111.0, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.18**	**262**	⇑Pn	Pb	06 50 00.9	-1.1
	3.7nm,0.3s						
SFK				⇓Sn	Sn	06 50 27.9	+0.8
	27nm,0.6s						
MNAS	**Manas**	**3.57**	**308**	⇑Pn	Pn	06 50 15.9	-2.5
	6.8nm,0.5s						
MNAS				⇑Sn	Sn	06 51 04.5	+3.2
	6.4nm,0.8s						
KK31	**Karatay Array**	**5.13**	**304**	⇑Pn	Pn	06 50 37.5	-2.2
	0.8nm,0.2s,baz=140,slow=13,SNR=15						
KK31				⇑Sn	Sn	06 51 38.8	-1.0
	0.8nm,0.3s,baz=138,slow=23,SNR=8.2						

IDC 01 07:01:18.5±3.3**, 54.°61N×83.°45E, h0**km**, mb1 2.8**/1**, mb1mx2.8**/62**, mbtmp2.8**/1**, ML2.7**/1**, Error ellipse: s-maj=24.5km s-min=14.1km az=151.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**129**	i		07 07 40.1	
	baz=308,slow=335,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.04**	**129**	Pg	Pg	07 01 38.0	-0.5
	0.7nm,0.3s,baz=315,slow=16,SNR=7.4						
ZALV				Lg	Lg	07 01 53.3	
	4.1nm,0.3s,baz=311,slow=28,SNR=30						
KURBB	**Kurchatov Arra**	**4.99**	**219**	Lg	Lg	07 03 52.7	
	0.0nm,0.3s,baz=44,slow=32,SNR=4.4						
MKAR	**Makanchi Array**	**7.86**	**186**	Pn	Pn	07 03 14.4	+0.4
	0.1nm,0.3s,baz=10,slow=12,SNR=5.3						

IDC 01 07:05:57.9±1.6**, 4.°90S×157.°25W, h0**km**, mb3.6**/7**, mb1 4.0**/7**, mb1mx3.8**/41**, mbtmp3.6**/7**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.6**/37**, Error ellipse: s-maj=89.5km s-min=20.8km az=141.0, Line Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**14.66**	**150**	LR	LR	07 13 33.1	
	comp=Z,98nm,21.4s,baz=34,slow=31						
RAR	**Rarotonga**	**16.40**	**188**	T	T	07 26 19.7	
	2.6nm,0.3s,baz=330,slow=12,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**42.45**	**304**	T	T	07 59 34.6	
	baz=122						
H11S1	**WAKE ISLAND Hy**	**42.47**	**304**	T	T	07 59 34.7	
	baz=122						
H11S3	**WAKE ISLAND Hy**	**42.47**	**304**	T	T	07 59 34.7	
	baz=122						
NVAR	**Mina Array Bea**	**56.21**	**36**	P	P	07 15 39.8	-0.4
	0.4nm,0.7s,baz=251,slow=7.5,SNR=3.0						
TXAR	**Lajitas Array**	**61.63**	**53**	P	P	07 16 18.1	+0.2
	0.3nm,0.7s,baz=226,slow=6.8,SNR=3.7						
PDAR	**Pinedale Array**	**64.12**	**37**	P	P	07 16 34.2	-0.2
	0.7nm,0.8s,baz=223,slow=7.0,SNR=4.8						
WRA	**Warramunga Arr**	**68.06**	**251**	P	P	07 17 00.2	+0.3
	0.6nm,0.6s,baz=81,slow=5.8,SNR=10						
ASAR	**Alice Springs**	**68.68**	**247**	P	P	07 17 03.6	-0.3
	0.3nm,0.7s,baz=100,slow=4.1,SNR=3.0						
ILAR	**Eielson Array**	**69.91**	**5**	P	P	07 17 10.4	-0.2
	0.3nm,0.8s,baz=190,slow=5.9,SNR=3.4						
YKA	**Yellowknife Ar**	**74.62**	**19**	P	P	07 17 39.2	+0.5
	0.6nm,0.7s,baz=224,slow=5.7,SNR=14						

*IDC **01** 07:09:18.7±1.8, 35.°42N×141.°61E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.5/62, mbtmp3.8/5, ML3.5/3, MS3.1/2, Ms1 3.2/2, ms1mx2.4/63, Error ellipse: s-maj=46.6km s-min=27.1km az=82.0*
*ISCJB **01** 07:09:21.7±1.3, 35.°32N±0.°05×141.°4E±0.°1, h25km, mb3.8/2, MS3.6/1, Error ellipse: s-maj=14.9km s-min=6.0km az=159.4*
*JMA **01** 07:09:23.3±0.1, 35.°35N×141.°22E, h24km±2km, M3.3*

ISC 01 07:09:21.4±1.2**, 35.°39N**±0.°05**×141.°29E**±0.°09**, h25**km**, n14, σ1s.66**/17**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.47**	**312**	P	**Pn**	**07 09 32.8**	**+0.2**
CHOJ				S	**Sn**	**07 09 39.4**	**-0.7**
BSO1	**Boso 1**	**0.77**	**200**	P	**Pn**	**07 09 36.6**	**+0.4**
KTR	**Katsuura**	**0.83**	**254**	P	**Pb**	**07 09 37.9**	**+0.7**
BSO3	**Boso 3**	**0.86**	**228**	P	**Pb**	**07 09 38.2**	**+0.6**
BSO4	**Boso 4**	**0.88**	**244**	P	**Pb**	**07 09 38.6**	**+0.8**
JCN	**Nagara**	**0.89**	**272**	P	**Pb**	**07 09 39.3**	**+1.1**
JYT	**Yasato**	**1.23**	**314**	P	**Pb**	**07 09 44.7**	**+0.8**
JYT				eS	**Sb**	**07 10 00.7**	**+1.4**
JHJ	**Hachijo jima 2**	**2.58**	**209**	Pn	**Pb**	**07 10 04.2**	**-2.8**
	25nm,0.3s,baz=143,slow=20,SNR=2.9						
JHJ				Sn	**Sn**	**07 10 31.0**	**-1.1**
	29nm,0.3s,baz=90,slow=20,SNR=3.1						
MJAR	**Matsushiro Arr**	**2.75**	**296**	Pn	**Pb**	**07 10 07.1**	**-2.8**
	3.0nm,0.3s,baz=110,slow=7.3,SNR=13						
MJAR				LR	LR	07 11 31.1	
	comp=Z,99nm,18.8s,baz=45,slow=45						
MAT	**Matsushiro**	**2.76**	**296**	P	**Pb**	**07 10 07.9**	**-2.1**
MAT				eS	**Sb**	**07 10 41.3**	**-2.0**
ASAJ	**Asahikawa**	**8.78**	**6**	Pn	**Pn**	**07 11 25.8**	**-0.8**
	0.8nm,0.3s,baz=165,slow=16,SNR=2.4						
WRA	**Warramunga Arr**	**55.42**	**188**	P	**P**	**07 18 54.6**	**+0.9**
	1.1nm,0.7s,baz=2.5,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**59.14**	**188**	P	**P**	**07 19 22.3**	**+2.3**
	0.4nm,0.7s,baz=10.0,slow=7.0,SNR=3.5						
ESDC	**Sonseca Array**	**98.72**	**334**	LR	LR	08 10 18.8	
	comp=Z,23nm,21.2s,baz=265,slow=37						

JMA 01 07:10:02.7±0.1**, 38.°48N×144.°58E, h39**km**, M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.35**	**286**	P	Pn	07 10 40.2	+1.4
OFUJ				eS	Sn	07 11 08.2	+1.8
MIYJ	**Miyakonagasawa**	**2.41**	**298**	P	Pn	07 10 40.5	+0.9
MIYJ				eS	Sn	07 11 08.8	+0.9
JMK	**Ichinoseki**	**2.67**	**281**	eS	Sn	07 11 16.2	+2.0
JOM	**Ohasama**	**2.75**	**292**	P	Pn	07 10 45.9	+1.7
JOM				eS	Sn	07 11 17.9	+1.7
JOU	**Okura**	**3.08**	**269**	eS	Sn	07 11 26.4	+2.1
JRG	**Rokugo**	**3.21**	**288**	eS	Sn	07 11 30.6	+3.0
JFT	**Otama**	**3.49**	**255**	eS	Sn	07 11 36.9	+2.5
JTM	**Tenmabayashi**	**3.56**	**311**	eS	Sn	07 11 36.8	+0.7
JCH	**Churui**	**4.23**	**348**	P	Pn	07 11 03.7	-0.9
JCH				eS	Sn	07 11 50.9	-1.8
NEM2	**Nemuro 2**	**4.96**	**10**	P	Pn	07 11 11.6	-3.0
JRY	**Ryogami san**	**5.15**	**243**	P	Pn	07 11 18.7	+1.4
JRY				eS	Sn	07 12 14.8	-0.8
JTKR	**Abashiri--Toko**	**5.51**	**355**	P	Pn	07 11 20.5	-1.6
JTKR				eS	Sn	07 12 19.9	-4.3

*KRNET **01** 07:10:24.2±0.1, 40.°63N×70.°86E, h19km, mb3.2*
*ISCJB **01** 07:10:26.0±0.9, 40.°60N±0.°06×70.°85E±0.°05, h10km, Error ellipse: s-maj=8.2km s-min=5.0km az=6.9*
*NNC **01** 07:10:38.4±2.0, 41.°52N×71.°30E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=20.1km s-min=12.7km az=49.0*
*SOME **01** 07:10:38.1, 41.°20N×71.°10E, h25km*

ISC 01 07:10:25.9±1.3**, 40.°65N**±0.°07**×70.°76E**±0.°04**, h10**km**, n23, σ1s.89**/40**, 15C-21D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**1.31**	**302**	⇓iP	**Pg**	**07 10 49.7**	**-1.3**
	baz=1.0						
TAS				⇓iS	**Sg**	**07 11 09.2**	**+1.2**
	baz=1.0						
ARK	**Arkit**	**1.47**	**38**	⇓iP	**Pn**	**07 10 51.3**	**-1.2**
	baz=36						
ARK				⇓iS	**Sn**	**07 11 10.5**	**-1.3**
	baz=36						
ARSB	**Arslanbob**	**1.81**	**67**	⇓iP	**Pn**	**07 10 56.6**	**-0.7**
	baz=66						
ARSB				⇓iS	**Sn**	**07 11 20.0**	**-0.4**
	baz=66						
CHM	**Chimkent**	**1.89**	**333**	eP	Pg	07 11 06.5	+4.5
	73nm,0.2s						
CHM				eS	**Sg**	**07 11 27.9**	**+1.5**
	528nm,0.3s						
TOKL	**Toktogul**	**2.05**	**50**	⇑eP	**Pn**	**07 11 00.7**	**+0.2**
	baz=49						
TOKL				⇑iS	**Sb**	**07 11 26.8**	**-2.0**
	baz=49						
SFK	**Sufi-Kurgan**	**2.19**	**106**	⇓Pg	Pg	07 11 21.9	+14
	4.9nm,0.3s						
SFK				⇑Lg	Lg	07 11 49.7	
	20nm,0.3s						
SFK	**Sufi-Kurgan**	**2.19**	**106**	⇓iP	**Pn**	**07 11 02.3**	**-0.3**
	baz=6.0						
SFK				⇓iS	**Sn**	**07 11 30.2**	**+0.4**
	baz=6.0						
MNAS	**Manas**	**2.26**	**35**	⇑Pn	**Pn**	**07 11 03.4**	**0.0**
	10nm,0.3s						

MNAS				⇓Lg	Lg	07 11 23.9	
	20nm,0.3s						
MNAS	Manas	2.26	35	⇓iP	Pn	07 11 03.4	0.0
	baz=33						
MNAS				⇓iS	Sb	07 11 32.7	-2.2
	baz=33						
KK31	Karatay Array	2.46	356	⇓Pn	Pb	07 11 09.9	-0.3
	5.2nm,0.3s,baz=169,slow=12,SNR=208						
KK31				⇑Lg	Lg	07 11 32.6	
	11nm,0.3s,baz=168,slow=32,SNR=13						
AML	Almayashu	2.66	55	⇓eP	Pn	07 11 09.0	-0.2
	baz=54						
AML				⇓iS	Sn	07 11 42.5	+0.8
	baz=54						
MRKS	Merke	2.79	41	eP	Pg	07 11 19.0	-0.4
	11nm,0.6s						
MRKS				eS	Sb	07 11 49.3	-1.0
	76nm,0.3s						
EKS2	Erkin-Say	3.03	47	⇑eP	Pn	07 11 14.3	+0.3
	baz=46						
EKS2				⇑eS	Sn	07 11 51.0	+0.6
	baz=46						
UCH	Uchtor	3.23	60	⇑eP	Pn	07 11 17.4	+0.3
	baz=59						
UCH				⇑iS	Sn	07 11 56.5	+0.6
	baz=59						
AAK	Ala-Archa	3.43	53	⇓Pn	Pn	07 11 19.9	+0.3
	2.0nm,0.4s						
AAK				⇓Pg	Pb	07 11 26.6	-0.3
	3.0nm,0.4s						
AAK				⇓Lg	Lg	07 12 03.1	
	8.9nm,0.6s						
AAK	Ala-Archa	3.43	53	⇑iP	Pn	07 11 19.9	+0.3
	baz=53						
AAK				⇑iS	Sn	07 12 00.7	+0.3
	baz=53						
KZA	Kyzart	3.67	66	⇓iP	Pn	07 11 23.2	+0.1
	baz=65						
KZA				⇓iS	Sn	07 12 06.3	-0.3
	baz=65						
USP	Ospenovka	3.83	46	⇑iP	Pn	07 11 25.2	+0.3
	baz=45						
USP				⇑iS	Sn	07 12 10.0	+0.1
	baz=45						
TKM2	Tokmak 2	4.27	56	⇑Pn	Pn	07 11 32.0	+0.8
	1.7nm,0.5s						
TKM2				⇓Pg	Pb	07 11 41.6	+0.4
	2.2nm,0.6s						
TKM2				⇑Lg	Lg	07 12 29.6	
	8.2nm,0.7s						
DGS	Degeres	4.55	54	eP	Pg	07 11 50.2	-2.8
	2.1nm,0.5s						
DGS				eS	Sb	07 12 44.6	+3.8
	9.3nm,0.4s						
KST	Kastek	4.56	57	eP	Pg	07 11 51.0	-2.4
	2.8nm,1.0s						
KST				eS	Sb	07 12 45.7	+4.5
	8.3nm,0.8s						
MDOK	Medeo	5.32	60	eP	Pg	07 12 03.8	-4.0
	3.5nm,0.9s						
MDOK				eS	Sb	07 13 08.4	+5.3
	6.0nm,1.0s						
CHKK	Chushkaly	5.62	53	eP	Pg	07 12 08.6	-5.0
	1.1nm,0.8s						
CHKK				eS	Sb	07 13 15.8	+4.2
	5.6nm,0.3s						

*KRNET **01** 07:14:02.2±0.1, 40°.62N×70°.88E, h1km, mb2.7*
*ISCJB **01** 07:14:03.5±1.0, 40°.51N±0°.06×70°.80E±0°.05, h10km, Error ellipse: s-maj=8.9km s-min=5.3km az=6.0*
*SOME **01** 07:14:04.1, 40°.58N×71°.17E, h10km*
*NNC **01** 07:14:15.2±3.2, 41°.25N×70°.89E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=24.7km s-min=20.7km az=43.0*
ISC 01 07:14:03.2±1.4**, 40°.59N**±0°.06×**70°.83E**±0°.04**, h10km, n20,** σ**1s.88**/35**, 22C-11D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	Tashkent	1.38	303	⇓iP	Pn	07 14 28.0	-0.6
	baz=1.0						
TAS				⇓iS	Sg	07 14 48.4	+0.7
	baz=1.0						
ARK	Arkit	1.48	35	⇑eP	Pn	07 14 29.3	-0.7
	baz=35						
ARK				⇑iS	Sn	07 14 48.9	-0.6
	baz=35						
ARSB	Arslanbob	1.79	65	⇑eP	Pb	07 14 35.4	-0.7
	baz=66						
ARSB				⇑iS	Sg	07 14 59.5	-1.2
	baz=66						
TOKL	Toktogul	2.05	48	⇑iP	Pb	07 14 38.9	-1.6
	baz=48						
TOKL				⇑iS	Sb	07 15 05.8	-0.3
	baz=48						
SFK	Sufi-Kurgan	2.12	105	⇑Pg	Pg	07 14 59.4	+16
	2.5nm,0.4s						
SFK				⇑Lg	Lg	07 15 30.1	
	21nm,0.6s						
SFK	Sufi-Kurgan	2.12	105	⇑iP	Pb	07 14 39.9	-2.0
	baz=6.0						
SFK				⇑iS	Sb	07 15 07.7	-0.7
	baz=6.0						
MNAS	Manas	2.28	33	⇑Pn	Pb	07 14 43.9	-0.5
	2.7nm,0.3s						
MNAS				⇑Sn	Sb	07 15 11.9	-0.8
	15nm,0.8s						
MNAS	Manas	2.28	33	⇑iP	Pb	07 14 43.3	-1.2
	baz=33						
MNAS				⇑iS	Sb	07 15 13.4	+0.7
	baz=33						
KK31	Karatay Array	2.52	355	⇑Pn	Pb	07 14 47.7	-0.9
	1.7nm,0.3s,baz=166,slow=14,SNR=22						
KK31				⇓Lg	Lg	07 15 14.9	
	3.1nm,0.2s,baz=166,slow=30,SNR=12						
AML	Almayashu	2.65	54	⇓eP	Pn	07 14 46.7	+0.3
	baz=54						
AML				⇓iS	Sb	07 15 22.5	-1.2
	baz=54						
MRKS	Merke	2.81	39	eP	Pb	07 14 51.7	-1.8
	3.7nm,0.4s						
MRKS				eS	Sb	07 15 27.3	-0.6
	28nm,0.4s						
EKS2	Erkin-Say	3.03	46	⇑eP	Pn	07 14 53.2	+1.9
	baz=46						
EKS2				⇑iS	Sb	07 15 31.2	-3.2
	baz=46						
UCH	Uchtor	3.22	58	⇑iP	Pn	07 14 56.0	+1.8
	baz=58						
UCH				⇑iS	Sn	07 15 35.8	+2.9
	baz=58						
AAK	Ala-Archa	3.43	52	⇑Pn	Pb	07 15 03.0	-1.0
	3.5nm,1.0s						
AAK				⇓Lg	Lg	07 15 48.6	
	4.6nm,0.8s						
AAK	Ala-Archa	3.43	52	⇓iP	Pn	07 14 59.0	+2.2
	baz=52						
AAK				⇓iS	Sn	07 15 40.5	+2.9
	baz=52						
KZA	Kyzart	3.65	64	⇓eP	Pn	07 15 01.7	+1.6
	baz=65						
KZA				⇓iS	Sn	07 15 45.9	+2.6
	baz=65						
TKM2	Tokmak 2	4.26	55	⇑Pn	Pb	07 15 19.1	+0.8
	4.5nm,1.4s						
TKM2				⇑Lg	Lg	07 16 17.5	
	3.7nm,0.7s						
DGS	Degeres	4.54	53	eP	Pb	07 15 21.3	-1.8
	1.3nm,0.4s						
DGS				eS	Sb	07 16 19.4	+1.5
	3.2nm,0.5s						
KST	Kastek	4.55	56	eP	Pb	07 15 24.5	+1.3
	0.9nm,0.3s						
KST				⇓iS	Sg	07 16 24.6	-4.8
	4.3nm,0.8s						
KUU	Kurty	5.26	49	eP	Pb	07 15 34.4	-0.7
	0.5nm,0.4s						
KUU				eS	Sb	07 16 41.9	+3.6
	3.9nm,0.6s						

*NNC **01** 07:16:19.9±0.7, 49°.97N×78°.60E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=9.3km s-min=3.2km az=81.0, Suspected Mining explosion.*
IDC 01 07:16:19.4±1.4**, 49°.96N**×**78°.58E, h0km, mb1 2.8**/2**, mb1mx2.7**/61**, mbtmp2.8**/2**, ML2.4**/2**, 7C-5D, Error ellipse: s-maj=17.6km s-min=8.0km az=70.0, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.67	357	Pg	Pg	07 16 32.5	+0.3
	1.9nm,0.3s,baz=167,slow=18,SNR=58						
KURBB				Lg	Lg	07 16 41.6	
	3.1nm,0.3s,baz=177,slow=32,SNR=40						
KURBB	Kurchatov Arra	0.67	357	⇑P	Pg	07 16 32.8	+0.6
	12nm,0.3s						
KURBB				S	Sg	07 16 42.0	+1.2
	64nm,0.5s						
KURK	Kurchatov	0.76	2	⇑P	Pg	07 16 34.2	+0.3
	6.5nm,0.4s						
KURK				⇓S	Sb	07 16 45.1	-1.3
	12nm,0.5s						
MAKZ	Makanchi	3.88	143	⇑Pg	Pb	07 17 29.3	+0.5
	1.9nm,0.8s						
MAKZ				⇓Lg	Lg	07 18 20.9	
	4.6nm,0.6s						
MK31	Makanchi Array	4.02	141	⇓Pn	Pn	07 17 25.0	+2.8
	0.1nm,0.2s,baz=16,slow=3.6,SNR=32						
MK31				⇑Pg	Pg	07 17 34.1	-2.3
	0.5nm,0.3s,baz=323,slow=14,SNR=11						
MK31				⇑Lg	Lg	07 18 26.4	
	4.3nm,0.5s,baz=323,slow=27,SNR=13						
MKAR	Makanchi Array	4.02	141	Pn	Pn	07 17 22.6	+0.4
	0.2nm,0.3s,baz=321,slow=10,SNR=39						
MKAR				Lg	Lg	07 18 26.9	
	1.4nm,0.3s,baz=322,slow=29,SNR=16						
I46RU	ZALESOVO INFRA	5.55	42	i		07 49 30.0	
	baz=224,slow=341,SNR=2.2						
ZALV	Zalesovo Beam	5.55	42	Pn	Pn	07 17 44.0	+0.8
	0.7nm,0.3s,baz=230,slow=14,SNR=4.2						
BVA0	Borovoye Array	5.97	304	⇑Sn	Sn	07 19 00.5	+2.6
	2.3nm,0.8s						
BVA0				⇓Lg	Lg	07 19 28.4	
	2.3nm,0.7s						
BRVK	Borovoye	6.04	304	⇑Sn	Sn	07 19 01.3	+1.7
	2.2nm,0.7s						
BRVK				⇓Lg	Lg	07 19 31.1	
	1.3nm,0.6s						

IDC 01 07:18:12.5±2.9**, 53°.76N**×**88°.12E, h0km, mb1 3.3**/2**, mb1mx3.0**/65**, mbtmp3.3**/2**, ML2.9**/2**, Error ellipse: s-maj=24.5km s-min=16.6km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.97	277	i		07 31 10.0	
	baz=93,slow=338,SNR=9.1						
ZALV	Zalesovo Beam	1.97	277	Pn	Pn	07 18 47.5	+0.5
	3.5nm,0.3s,baz=97,slow=16,SNR=36						
ZALV				Lg	Lg	07 19 14.1	
	7.9nm,0.3s,baz=96,slow=28,SNR=21						
KURBB	Kurchatov Arra	6.68	246	Pn	Pn	07 19 52.0	+0.1
	0.3nm,0.3s,baz=61,slow=14,SNR=10						
KURBB				Sn	Sn	07 21 08.8	+0.3
	baz=62,slow=16						
MKAR	Makanchi Array	7.91	210	Pn	Pn	07 20 09.9	+1.2
	0.1nm,0.3s,baz=27,slow=13,SNR=3.1						
MKAR				Sn	Sn	07 21 38.2	-0.6
	0.2nm,0.3s,baz=30,slow=22,SNR=5.6						
MKAR				Lg	Lg	07 22 23.4	
	0.1nm,0.3s,baz=26,slow=34,SNR=2.9						

IDC 01 07:27:04.1±2.7**, 21°.72N**×**142°.63E, h221km**±38km**, mb3.3**/5**, mb1 3.4**/6**, mb1mx2.9**/70**, mbtmp4.0**/6**, Error ellipse: s-maj=118.7km s-min=15.8km az=81.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.37	356	P	Pn	07 28 23.5	-0.1
	27nm,0.3s,baz=90,slow=20,SNR=13						
JCJ				S	S	07 29 22.0	-4.7
	3.1nm,0.3s,baz=270,slow=20,SNR=2.7						
WRA	Warramunga Arr	42.19	192	P	P	07 34 35.0	-0.3
	0.9nm,0.5s,baz=11,slow=8.0,SNR=14						
ASAR	Alice Springs	45.90	191	P	P	07 35 05.0	+0.1
	0.3nm,0.6s,baz=15,slow=12,SNR=5.8						
KURBB	Kurchatov Arra	57.16	317	P	P	07 36 28.0	+0.3
	1.0nm,0.4s,baz=94,slow=7.6,SNR=9.3						
BVAR	Borovoye Array	62.32	319	P	P	07 37 03.2	+0.3
	1.1nm,0.5s,baz=82,slow=7.5,SNR=5.8						
FINES	FINESS Array B	82.94	334	P	P	07 39 03.0	-0.9
	0.6nm,0.4s,baz=73,slow=10,SNR=4.5						

*ISCJB **01** 07:31:59.5±0.8, 48°.67N±0°.08×77°.5E±0°.1, h0km, Error ellipse: s-maj=12.9km s-min=7.2km az=36.3*
*NNC **01** 07:32:01.0±0.7, 48°.66N×77°.71E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=8.2km s-min=7.1km az=68.0, Suspected Mining explosion.*
*IDC **01** 07:32:01.3±1.3, 48°.67N×77°.67E, h0km, mb1 2.7/4, mb1mx2.6/74, mbtmp2.7/4, ML2.3/4, Error ellipse: s-maj=18.7km s-min=10.0km az=45.0*
ISC 01 07:32:00.7±1.1**, 48°.68N**±0°.06×**77°.72E**±0°.05**, h0km, n10,** σ**1s.07**/12**, 9C-3D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.01	15	Pn	Pb	07 32 37.4	-0.9
	0.8nm,0.3s,baz=200,slow=16,SNR=49						
KURBB				Lg	Lg	07 33 05.0	
	0.6nm,0.3s,baz=200,slow=27,SNR=12						
KURBB	Kurchatov Arra	2.01	15	⇓Pn	Pn	07 32 36.8	+0.9
	14nm,0.7s						
KURBB				⇑Lg	Lg	07 33 04.3	
	28nm,0.6s						
KURK	Kurchatov	2.12	16	⇓Pn	Pn	07 32 38.4	+1.0
	9.6nm,0.7s						
KURK				⇑Lg	Lg	07 33 09.0	
	17nm,0.8s						
MAKZ	Makanchi	3.43	122	⇑Pn	Pn	07 32 56.0	+0.6
	2.9nm,1.4s						
MAKZ				⇑Lg	Lg	07 33 51.0	
	3.0nm,0.6s						
OTUK	Ortayu	3.61	265	⇑Pn	Pn	07 32 58.1	+0.1
	2.1nm,1.0s						
OTUK				⇑Pg	Pb	07 33 05.3	-0.1
	4.0nm,0.7s						
OTUK				⇑Lg	Lg	07 33 56.1	
	12nm,0.8s						
MK31	Makanchi Array	3.62	120	⇑Pn	Pn	07 32 59.3	+1.3
	1.1nm,0.7s,baz=307,slow=9.6,SNR=14						
MK31				⇑Pg	Pb	07 33 04.3	-1.2
	0.3nm,0.3s,baz=302,slow=16,SNR=13						
MK31				⇓Lg	Lg	07 33 54.4	
	1.4nm,0.4s,baz=311,slow=27,SNR=5.1						
MKAR	Makanchi Array	3.62	120	Pn	Pn	07 32 59.3	+1.3
	0.2nm,0.3s,baz=300,slow=12,SNR=22						
MKAR				Lg	Lg	07 33 51.8	
	0.7nm,0.3s,baz=302,slow=27,SNR=19						
BVAR	Borovoye Array	6.36	316	Pn	Pn	07 33 35.9	+0.2
	0.2nm,0.3s,baz=121,slow=14,SNR=2.8						
BVAR				Sn	Sn	07 34 48.1	-0.9
	0.3nm,0.3s,baz=132,slow=26,SNR=5.2						
BVAR				Lg	Lg	07 35 19.3	
	0.2nm,0.3s,baz=143,slow=29,SNR=2.9						
ZALV	Zalesovo Beam	6.90	37	Pn	Pn	07 33 44.4	+1.4
	0.2nm,0.3s,baz=223,slow=17,SNR=3.1						
I46RU	ZALESOVO INFRA	6.90	37	i		08 13 55.2	
	baz=221,slow=344,SNR=3.1						

*ISK **01** 07:40:53.8, 38°.77N×26°.90E, h3km, ML2.8/3*
*DDA **01** 07:40:54.1, 38°.78N×26°.80E, h7km, Ml2.5*
*ISCJB **01** 07:40:55.1±0.5, 38°.77N±0°.02×26°.80E±0°.06, h11km±5km, Error ellipse: s-maj=8.0km s-min=3.9km az=8.0*
*CSEM **01** 07:40:55.1±0.2, 38°.79N×26°.81E, h10km, ML2.8, Error ellipse: s-maj=6.3km s-min=4.2km az=127.0*
ISC 01 07:40:54.4±0.8**, 38°.78N**±0°.02×**26°.83E**±0°.04**, h15km**±5km**, n24,** σ**0s.69**/40**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	Foˆ§a	0.11	230	PG	Pg	07 40 57.6	-0.1
FOCM				SG	Sg	07 40 59.9	+0.1
FOCM	Foˆ§a	0.11	230	ePg	Pg	07 40 57.6	-0.1
FOCM				eSg	Sg	07 40 59.9	+0.1
CAND	Candarli	0.17	352	PG	Pg	07 40 57.9	-0.7
CAND				SG	Sg	07 41 02.4	+0.9
KRBN	Karaburun	0.29	230	PG	Pb	07 41 01.3	0.0
KRBN	Karaburun	0.29	230	ePg	Pb	07 41 01.3	0.0
URLA	Izmir	0.46	204	PG	Pg	07 41 03.3	-0.3
URLA	Izmir	0.46	204	iP	Pg	07 41 02.8	-0.8
URLA				iS	Sg	07 41 09.8	0.0
URLA	Izmir	0.46	204	P	Pg	07 41 02.8	-0.8
URLA	Izmir	0.46	204	ePg	Pg	07 41 03.3	-0.3
URLA				S	Sg	07 41 09.8	0.0
CHOS	Chios island	0.73	237	PG	Pn	07 41 09.8	-0.4
CHOS	Chios island	0.73	237	ePg	Pn	07 41 09.8	-0.4
DGB	˜zmir	0.73	177	iP	Pg	07 41 07.7	-0.9
DGB				iS	Sb	07 41 18.9	+0.3
AKHS	Akhisar	0.77	82	iP	Pn	07 41 10.2	-0.6
AKHS				iS	Sn	07 41 21.1	-1.0
AKHS	Akhisar	0.77	82	P	Pn	07 41 10.2	-0.6
AKHS				S	Sn	07 41 21.1	-1.0
SIGR	SIGRI	0.88	300	PG	Pn	07 41 12.2	0.0
SIGR	SIGRI	0.88	300	ePg	Pn	07 41 12.2	0.0
STEP	BALIKESIR_Sava	0.91	49	iP	Pn	07 41 12.7	0.0
STEP				iS	Sn	07 41 25.9	+0.3
STEP	BALIKESIR_Sava	0.91	49	P	Pn	07 41 12.7	0.0
STEP				S	Sn	07 41 25.9	+0.3
BAYC	CANAKKALE_Bayr	0.98	347	iP	Pn	07 41 13.5	-0.2
BAYC				iS	Sb	07 41 26.9	+0.9
BAYC	CANAKKALE_Bayr	0.98	347	P	Pn	07 41 13.5	-0.2
BAYC				S	Sb	07 41 26.9	+0.9
BALY	Balya	1.14	32	iP	Pg	07 41 15.3	-1.0
BALY				iS	Sn	07 41 31.9	+0.7
BALY	Balya	1.14	32	P	Pg	07 41 15.3	-1.0
BALY				S	Sn	07 41 31.9	+0.7
AYDN	Tasoluk	1.39	143	iP	Pg	07 41 22.7	+1.6
AYDN				iS	Sg	07 41 38.7	-0.5
AYDN	Tasoluk	1.39	143	P	Pg	07 41 22.7	+1.6
AYDN				S	Sg	07 41 38.7	-0.5

WEL 01 07:52:42.8, 45°S±4°×**16°8E**±°**, h5km, ML3.7**/12**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.24	77	P	Pg	07 52 49.1	+1.6
MSZ	Milford Sound	0.24	77	S	Sg	07 52 52.9	+2.2
MLZ	Mavora Lakes	0.74	150	P	Pb	07 52 58.1	-0.2
MLZ	Mavora Lakes	0.74	150	S	Sb	07 53 09.5	+0.9
DCZ	Deep Cove	0.80	203	P	Pg	07 52 57.7	-0.6
DCZ	Deep Cove	0.80	203	S	Sg	07 53 08.4	-0.2
WKZ	Wanaka	1.02	96	P	Pb	07 53 03.2	+0.3
JCZ	Jackson Bay	1.07	53	P	Pb	07 53 03.8	-0.2
JCZ	Jackson Bay	1.07	53	S	Sb	07 53 18.7	+0.4
WHZ	Wether Hill Ro	1.19	168	P	Pg	07 53 05.4	-0.3
EAZ	Earnscleugh	1.32	113	P	Pg	07 53 08.2	+0.1
PYZ	Puysegur Point	1.58	204	P	Pn	07 53 10.3	-1.2
LBZ	Lake Benmore	1.88	80	P	Pb	07 53 16.8	-0.8
TUZ	Tuapeka	1.89	131	P	Pb	07 53 16.9	-0.9
FOZ	Fox Glacier	1.99	54	P	Pn	07 53 15.7	-1.5
SYZ	Scrubby Hill	2.11	150	P	Pn	07 53 19.8	+1.1
APZ	The Paps	2.12	173	P	Pn	07 53 19.7	+0.7
ODZ	Otahua Downs	2.19	99	P	Pn	07 53 21.0	+1.1
HHSZ	Highcliff Hill	2.41	120	P	Pb	07 53 24.9	-1.8
RPZ	Rata Peaks	2.68	69	P	Pn	07 53 27.1	+0.4
WVZ	Waitaha Valley	2.81	55	P	Pn	07 53 26.4	-1.9
INZ	Inchbonnie	3.43	56	P	Pn	07 53 35.6	-1.3
MQZ	McQueen's Vall	3.78	76	P	Pn	07 53 41.1	-0.5
LTZ	Lake Taylor	3.91	62	P	Pn	07 53 42.6	-0.9
DSZ	Denniston Nort	4.28	47	P	Pn	07 53 46.9	-1.8
THZ	Tophouse	4.88	54	P	Pn	07 53 56.4	-0.5
QRZ	Quartz Range	5.33	45	P	Pn	07 54 01.2	-1.7
BSWZ	Blackbirch Sta	5.49	59	P	Pn	07 54 07.4	+2.2
NNZ	Nelson	5.50	52	P	Pn	07 54 04.7	-0.7
TUWZ	Tuamarina	5.70	57	P	Pn	07 54 08.7	+0.7
TCW	Tory Channel	6.03	57	P	Pn	07 54 13.0	+0.4
CAW	Cannon Point	6.57	59	P	Pn	07 54 18.8	-1.2
KIW	Kapiti Island	6.62	57	P	Pn	07 54 20.5	-0.3
WAZ	Wanganui	7.40	50	P	Pn	07 54 31.9	+0.5

*ISCJB **01** 07:57:20.7±0.9, 4°.31S±0°.04×81°.18W±0°.09, h35km, mb3.6/4, Error ellipse: s-maj=13.1km s-min=5.4km az=174.2*
*IGQ **01** 07:57:23.5±1.7, 5°S±14°×8°0W±3°9, h12km, mB5.0/1, mb4.4/2, MLv4.6/1, Mw(mB)4.3/1*
*IDC **01** 07:57:24.5±4.4, 4°.00S×80°.57W, h43km±53km, mb3.3/4, mb1 3.7/7, mb1mx3.4/48, mbtmp3.7/7, ML3.8/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/19, Error ellipse: s-maj=82.7km s-min=26.7km az=49.0*
ISC 01 07:57:23.0±0.9**, 4°.29S**±0°.06×**81°.1W**±0°.1**, h35km, n23,** σ**1s.71**/26**, mb3.5**/4**, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	3.71	42	P	Pn	07 58 16.6	-1.9
BMAS	Trigal station	3.81	43	P	Pn	07 58 18.2	-1.4
BPAT	Tungurahua Vol	3.84	44	P	Pn	07 58 18.6	-1.5
POND	Pondoa	3.89	43	P	Pn	07 58 19.7	-1.0
ATAH	Atahualpa	3.90	137	P	Pn	07 58 21.8	+0.9
	7.3nm,0.3s,baz=358,slow=7.5,SNR=45						
ATAH				S	Sn	07 59 04.6	-1.2
	25nm,0.3s,baz=126,slow=21,SNR=9.0						
ATAH				LR	LR	07 59 51.5	
	comp=Z,102nm,20.7s,baz=279,slow=39						
BULB	Ulba Tungurahu	3.91	44	P	Pn	07 58 19.7	-1.2
BRUN	Tungurahua Vol	3.92	43	P	Pn	07 58 22.5	+1.5
ILLI	Illinizas Sur	4.27	34	P	Pn	07 58 26.7	+0.7
BNAS	Cotopaxi Volca	4.45	36	P	Pn	07 58 28.4	-0.1
BREF	Cotopaxi Volca	4.47	37	P	Pn	07 58 29.8	+0.8
BTAM	Cotopaxi Volca	4.49	37	P	Pn	07 58 30.2	+1.1
BVC2	Cotopaxi Volca	4.50	37	P	Pn	07 58 28.8	-0.5
VC1	Cotopaxi 1	4.52	37	P	Pn	07 58 32.6	+3.2
COTA	Cotacachi	5.36	31	S	Sn	07 59 44.2	+2.3
URCU	Urcuqui	5.49	31	P	Pn	07 58 42.1	-0.6
YAHU	Yahuarcocha	5.53	33	P	Pn	07 58 45.9	+2.6
NNA	Nana	8.73	151	P	Pn	07 59 28.1	+1.1
	1.8nm,0.3s,baz=326,slow=7.3,SNR=4.9						
NNA				S	Sn	08 01 07.8	+3.5
	2.0nm,0.3s,baz=246,slow=18,SNR=2.6						
LPAZ	La Paz	17.45	134	P	Pn	08 01 23.6	-0.8
	0.1nm,0.3s,baz=345,slow=12,SNR=3.1						
PDAR	Pinedale Array	53.46	334	P	P	08 06 38.6	-1.4
	0.3nm,0.8s,baz=116,slow=8.2,SNR=3.7						
ULM	Lac du Bonnet	55.80	349	P	P	08 06 57.0	+0.4
	1.6nm,0.7s,baz=170,slow=6.1,SNR=2.9						
YKA	Yellowknife Ar	71.32	344	P	P	08 08 39.2	+0.4
	0.2nm,0.5s,baz=144,slow=6.4,SNR=3.4						
TORD	Torodi Ar. Bea	83.97	76	P	P	08 09 47.8	-2.7
	0.3nm,0.6s,baz=281,slow=5.2,SNR=2.8						
TORD				pP	pP	08 10 00.2	-1.2
	0.3nm,0.5s,baz=280,slow=4.6,SNR=3.7						
WRA	Warramunga Arr	137.66	234	PKP	PKPdf	08 16 46.0	+1.5
	0.2nm,0.5s,baz=112,slow=2.2,SNR=5.4						

*SOME **01** 07:58:35.4, 39°.35N×75°.02E, h30km*
*KRNET **01** 07:58:36.4±0.1, 39°.40N×75°.22E, mb3.2*
*NNC **01** 07:58:38.1±1.9, 39°.35N×75°.11E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=14.9km s-min=6.6km az=167.0*
ISC 01 07:58:39.5±1.7**, 39°.63N**±0°.08×**75°.09E**±0°.03**, h10km, n39,** σ**2s.14**/72**, 31C-15D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.28	288	⇓P	Pn	07 59 03.8	+0.2
	15nm,0.3s						
SFK				⇑S	Sn	07 59 24.0	+2.9
	146nm,0.7s						
SFK	Sufi-Kurgan	1.28	288	⇓iP	Pn	07 59 03.9	+0.2
	baz=95						
SFK				⇓iS	Sn	07 59 23.9	+2.9
	baz=95						
NRN	Naryn	1.94	21	⇑iP	Pb	07 59 14.5	-0.6
	baz=16						
NRN				⇑iS	Sg	07 59 42.3	+0.5
	baz=16						
ARSB	Arslanbob	2.34	317	⇑eP	Pb	07 59 21.3	-0.5
	baz=19						
ARSB				⇑iS	Sg	07 59 54.2	-0.4
	baz=19						
KZA	Kyzart	2.45	3	P	Pb	07 59 24.6	+0.7
	SNR=9.5						
KZA	Kyzart	2.45	3	⇑eP	Pb	07 59 23.1	-0.8
	baz=0.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KZA				⇑iS	**Sg**	**07 59 57.5**	**-0.9**
	baz=0.0						
UCH	**Uchtor**	**2.64**	**351**	P	**Pb**	**07 59 26.8**	**-0.3**
	SNR=12						
UCH	**Uchtor**	**2.64**	**351**	⇑eP	**Pb**	**07 59 25.4**	**-1.7**
	baz=49						
UCH				⇑iS	**Sg**	**08 00 01.9**	**-2.3**
	baz=49						
AML	**Almayashu**	**2.72**	**338**	P	**Pb**	**07 59 28.4**	**0.0**
	SNR=21						
AML	**Almayashu**	**2.72**	**338**	⇑iP	**Pb**	**07 59 26.7**	**-1.7**
	baz=37						
AML				⇑iS	**Sb**	**08 00 03.9**	**+1.9**
	baz=37						
ULHL	**Ulahol**	**2.76**	**18**	⇑iP	**Pb**	**07 59 26.2**	**-2.9**
	baz=15						
ULHL				⇑iS	**Sb**	**08 00 02.9**	**-0.1**
	baz=15						
BOOM	**Boomskoye usch**	**2.93**	**12**	⇑iP	**Pb**	**07 59 29.0**	**-3.0**
	baz=10.0						
BOOM				⇑iS	**Sb**	**08 00 08.0**	**0.0**
	baz=10.0						
TARG	**Taragay, Kyrgy**	**2.95**	**44**	⇓eP	**Pn**	**07 59 27.0**	**+0.2**
	baz=39						
TARG				⇓iS	**Sb**	**08 00 04.6**	**-4.0**
	baz=39						
KDJ	**Kajisay**	**2.96**	**32**	⇑eP	**Pn**	**07 59 28.0**	**+1.2**
	baz=28						
KDJ				⇑iS	**Sb**	**08 00 06.1**	**-2.7**
	baz=28						
KBK	**Karagaybulak**	**3.03**	**358**	P	**Pb**	**07 59 32.5**	**-1.1**
	SNR=14						
KBK	**Karagaybulak**	**3.03**	**358**	⇓iP	**Pb**	**07 59 31.0**	**-2.6**
	baz=56						
KBK				⇓iS	**Sb**	**08 00 10.4**	**-0.4**
	baz=56						
AAK	**Ala-Archa**	**3.04**	**352**	⇓Pn	**Pb**	**07 59 33.5**	**-0.4**
	11nm,0.6s						
AAK				⇓Sn	**Sb**	**08 00 12.8**	**+1.7**
	22nm,1.2s						
AAK	**Ala-Archa**	**3.04**	**352**	P	**Pb**	**07 59 33.9**	**0.0**
	SNR=13						
AAK	**Ala-Archa**	**3.04**	**352**	⇑eP	**Pb**	**07 59 31.2**	**-2.6**
	baz=51						
AAK				⇑iS	**Sb**	**08 00 10.8**	**-0.3**
	baz=51						
EKS2	**Erkin-Say**	**3.19**	**342**	⇓eP	**Pb**	**07 59 33.4**	**-2.9**
	baz=42						
EKS2				⇓iS	**Sb**	**08 00 14.9**	**-0.4**
	baz=42						
ARK	**Arkit**	**3.22**	**313**	⇑eP	**Pn**	**07 59 32.8**	**+2.6**
	baz=15						
ARK				⇑iS	**Sb**	**08 00 14.3**	**-1.8**
	baz=15						
TKM2	**Tokmak 2**	**3.31**	**6**	⇓Pn	**Pb**	**07 59 35.7**	**-2.8**
	10nm,0.4s						
TKM2				⇑Sn	**Sb**	**08 00 19.9**	**+0.9**
	23nm,0.7s						
TKM2				⇑Lg	Lg	08 00 31.7	
	14nm,0.7s						
TKM2	**Tokmak 2**	**3.31**	**6**	P	**Pb**	**07 59 36.0**	**-2.5**
	SNR=42						
CHMS	**Chumysh**	**3.38**	**356**	P	**Pb**	**07 59 38.1**	**-1.4**
	SNR=6.6						
MRKS	**Merke**	**3.42**	**336**	eP	**Pb**	**07 59 38.8**	**-1.4**
	14nm,0.7s						
MRKS				eS	**Sb**	**08 00 23.6**	**+1.8**
	5.6nm,0.6s						
MNAS	**Manas**	**3.46**	**326**	⇓Pn	**Pb**	**07 59 38.9**	**-2.1**
	1.7nm,0.5s						
MNAS				⇑Pg	**Pg**	**07 59 43.2**	**-2.7**
	4.2nm,0.4s						
MNAS				⇑Lg	Lg	08 00 34.2	
	7.5nm,0.6s						
MNAS	**Manas**	**3.46**	**326**	⇑eP	**Pn**	**07 59 36.7**	**+3.1**
	baz=27						
MNAS				⇑iS	**Sb**	**08 00 21.0**	**-2.2**
	baz=27						
KST	**Kastek**	**3.48**	**11**	eP	**Pb**	**07 59 40.2**	**-1.0**
	6.0nm,0.6s						
KST				eS	**Sb**	**08 00 25.5**	**+1.9**
	22nm,0.6s						
IZV	**Izvestkoviy**	**3.60**	**18**	eP	**Pb**	**07 59 44.7**	**+1.4**
	11nm,0.7s						
IZV				eS	**Sg**	**08 00 33.8**	**-1.2**
	40nm,0.7s						
MTBS	**Maitube**	**3.64**	**16**	eP	**Pb**	**07 59 46.0**	**+2.0**
	3.0nm,0.2s						
MTBS				eS	**Sg**	**08 00 36.5**	**0.0**
	8.9nm,0.6s						
DGS	**Degeres**	**3.65**	**8**	eP	**Pb**	**07 59 44.6**	**+0.5**
	9.0nm,0.6s						
DGS				eS	**Sg**	**08 00 33.6**	**-3.1**
	9.3nm,0.7s						
TNSS	**Tian-Shan**	**3.69**	**22**	eP	**Pb**	**07 59 46.7**	**+1.7**
	9.5nm,0.4s						
TNSS				eS	**Sg**	**08 00 36.8**	**-1.1**
	12nm,0.5s						
MDOK	**Medeo**	**3.83**	**22**	⇓Pn	**Pn**	**07 59 40.3**	**+1.7**
	2.4nm,0.5s						
MDOK				⇑Pg	**Pg**	**07 59 51.9**	**-1.0**
	5.2nm,0.6s						
MDOK				⇓Lg	Lg	08 00 45.8	
	18nm,0.8s						
SATY	**Saty**	**4.24**	**35**	eP	**Pg**	**07 59 58.4**	**-2.4**
	8.4nm,0.8s						
SATY				eS	**Sg**	**08 00 56.9**	**+1.2**
	7.2nm,1.1s						
KUU	**Kurty**	**4.37**	**12**	eP	**Pb**	**07 59 58.7**	**+2.4**
	2.9nm,0.1s						
KUU				eS	**Sg**	**08 00 57.5**	**-2.2**
	8.3nm,0.8s						
CHKK	**Chushkaly**	**4.46**	**18**	eP	**Pb**	**08 00 00.6**	**+2.7**
	2.9nm,0.7s						
CHKK				eS	**Sg**	**08 01 00.3**	**-2.3**
	8.2nm,0.5s						
KK31	**Karatay Array**	**4.89**	**317**	⇑Pn	**Pn**	**07 59 56.0**	**+2.8**
	2.3nm,0.7s,baz=128,slow=14,SNR=15						
KK31				Pg	**Pg**	**08 00 09.6**	**-3.6**
	1.0nm,0.4s,baz=129,slow=18,SNR=14						
KK31				⇑Sn	**Sn**	**08 00 56.2**	**+6.5**
	1.2nm,0.5s						
KK31				⇑Lg	Lg	08 01 20.3	
	6.4nm,0.8s,baz=131,slow=27,SNR=5.3						
MNBS	**Baschi**	**5.09**	**28**	eP	**Pb**	**08 00 11.7**	**+2.9**
	2.0nm,0.7s						
MNBS				eS	**Sg**	**08 01 19.3**	**-3.6**
	4.7nm,0.3s						
BRLS	**Borolday**	**5.21**	**312**	eP	**Pg**	**08 00 16.1**	**-3.3**
	0.5nm,0.2s						
BRLS				eS	**Sg**	**08 01 27.5**	**+0.6**
	3.7nm,0.9s						

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*ISCJB **01** 08:00:52.9±0.2, 62°.94N±0°.02×148°.38W±0°.05, h79km±3km, mb3.5/8, Error ellipse: s-maj=3.7km s-min=3.1km az=170.6*
*IDC **01** 08:00:52.0±1.4, 62°.90N×148°.53W, h55km±14km, mb3.3/8, mb1 3.5/12, mb1mx3.3/81, mbtmp3.5/12, MS2.3/1, Ms1 2.4/1, ms1mx2.1/35, Error ellipse: s-maj=17.7km s-min=9.5km az=107.0*
*NEIC **01** 08:00:53.7±0.0, 62°.93N×148°.41W, h65km, ML3.5(AEIC), After AEIC.*
ISC 01 08:00:53.5±0.8**, 62°.92N**±0°.03×**148°.41W**±0°.03**, h69**km±7km**, n86,** σ1s.00/96**, mb3.5**/8**, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DHY	**Denali Highway**	**0.50**	**71**	P	**Pn**	**08 01 06.4**	**+0.1**
DHY				S	**Sn**	**08 01 15.9**	**+0.2**
RND	**Reindeer**	**0.53**	**338**	P	**Pn**	**08 01 06.6**	**+0.1**
RND				S	**Sn**	**08 01 16.2**	**+0.1**
HUR	**Hurricane**	**0.57**	**276**	P	**Pn**	**08 01 06.7**	**-0.1**
MCK	**McKinley**	**0.85**	**344**	P	**Pn**	**08 01 10.6**	**+0.5**
MCK				S	**Sn**	**08 01 23.1**	**+0.8**
TRF	**Thorofare Moun**	**1.01**	**303**	P	**Pn**	**08 01 12.3**	**+0.2**
TRF				S	**Sn**	**08 01 26.6**	**+0.7**
SML	**Sawmill**	**1.12**	**178**	P	**Pn**	**08 01 13.2**	**-0.2**
SML				S	**Sn**	**08 01 28.1**	**-0.2**
GHO	**Glory Hole Cre**	**1.18**	**192**	P	**Pn**	**08 01 14.1**	**-0.1**
GHO				S	**Sn**	**08 01 29.5**	**-0.2**
SCM	**Sheep Creek Mo**	**1.20**	**155**	P	**Pn**	**08 01 14.5**	**0.0**
PS10	**TAPS Pump St10**	**1.30**	**66**	P	**Pn**	**08 01 17.1**	**+1.4**
KTH	**Kantishna Hill**	**1.30**	**300**	P	**Pn**	**08 01 16.5**	**+0.7**
KTH				S	**Sn**	**08 01 33.3**	**+0.7**
PAX	**Paxson**	**1.34**	**87**	P	**Pn**	**08 01 17.1**	**+0.7**
PMR	**Palmer**	**1.38**	**195**	P	**Pn**	**08 01 16.8**	**+0.1**
KNK	**Knik Glacier**	**1.51**	**181**	P	**Pn**	**08 01 19.4**	**+0.8**
HARP	**HAARP**	**1.59**	**108**	P	**Pn**	**08 01 21.0**	**+1.5**
PS11	**TAPS Pump St11**	**1.60**	**121**	P	**Pn**	**08 01 20.9**	**+1.3**
HDA	**Harding Lake**	**1.63**	**23**	P	**Pn**	**08 01 20.5**	**+0.5**
BPAW	**Bear Paw Mtn.**	**1.66**	**317**	P	**Pn**	**08 01 20.3**	**-0.1**
PPLA	**Purkeypile**	**1.73**	**271**	P	**Pn**	**08 01 21.9**	**+0.3**
SKT	**Skwentna**	**1.73**	**238**	P	**Pn**	**08 01 21.7**	**+0.3**
CAST	**Castle Rocks**	**1.74**	**288**	P	**Pn**	**08 01 21.5**	**-0.1**
CCB	**Clear Creek Bu**	**1.75**	**8**	P	**Pn**	**08 01 21.7**	**0.0**
PS08	**TAPS Pump Stn8**	**1.77**	**23**	P	**Pn**	**08 01 22.4**	**+0.4**
SUA	**Susitna One**	**1.83**	**218**	P	**Pn**	**08 01 23.8**	**+1.0**
KLU	**Klutina**	**1.85**	**140**	P	**Pn**	**08 01 23.7**	**+0.7**
RC01	**Rabbit Creek A**	**1.94**	**199**	P	**Pn**	**08 01 25.7**	**+1.5**
FIB	**Fire Island**	**1.95**	**206**	P	**Pn**	**08 01 26.4**	**+2.2**
COLA	**College**	**1.98**	**7**	P	**Pn**	**08 01 25.0**	**+0.4**
ILAR	**Eielson Array**	**1.98**	**19**	P	**Pn**	**08 01 24.9**	**+0.2**
	5.6nm,0.3s,baz=200,slow=14,SNR=149						
ILAR				S	**Sn**	**08 01 47.7**	**-0.8**
	19nm,0.3s,baz=199,slow=22,SNR=25						
ILAR				LR	LR	08 02 13.0	
	comp=Z,58nm,18.4s,baz=16,slow=40						
MDM	**Murphy Dome**	**2.05**	**2**	P	**Pn**	**08 01 26.1**	**+0.4**
JPK	**Jack Peak**	**2.06**	**155**	P	**Pn**	**08 01 26.4**	**+0.5**
VMT	**TAPS TI Valdez**	**2.08**	**152**	P	**Pn**	**08 01 26.5**	**+0.4**
DOT	**Dot Lake**	**2.09**	**68**	P	**Pn**	**08 01 27.2**	**+0.9**
GLM	**Gilmore Dome**	**2.12**	**12**	P	**Pn**	**08 01 27.1**	**+0.4**
GLI	**Glacier Island**	**2.14**	**163**	P	**Pn**	**08 01 27.2**	**+0.3**
MENT	**Mentasta**	**2.14**	**87**	P	**Pn**	**08 01 28.0**	**+1.1**
STLK	**Strandline Lak**	**2.15**	**230**	P	**Pn**	**08 01 28.2**	**+1.1**
DIV	**Divide**	**2.19**	**144**	ePn	**Pn**	**08 01 27.2**	**-0.4**
DIV				eSn	**Sn**	**08 01 53.7**	**0.0**
MLY	**Manley**	**2.35**	**335**	P	**Pn**	**08 01 30.3**	**+0.4**
SPCP	**Crater Peak Br**	**2.42**	**228**	P	**Pn**	**08 01 32.8**	**+1.9**
CKL	**Chakachamna La**	**2.53**	**229**	P	**Pn**	**08 01 34.9**	**+2.5**
SPWE	**Spurr West**	**2.56**	**232**	P	**Pn**	**08 01 35.1**	**+2.5**
SLKM	**Skilak Lake**	**2.57**	**200**	P	**Pn**	**08 01 34.0**	**+1.2**
BMRM	**Bremner River**	**2.66**	**136**	P	**Pn**	**08 01 34.2**	**+0.2**
EYAK	**Cordova Ski Ar**	**2.69**	**151**	P	**Pn**	**08 01 35.0**	**+0.6**
SEW	**Seward**	**2.87**	**190**	P	**Pn**	**08 01 38.2**	**+1.4**
PS06	**TAPS Pump Stn6**	**3.00**	**350**	P	**Pn**	**08 01 39.7**	**+1.1**
BCA3	**Beaver Creek A**	**3.02**	**84**	P	**Pn**	**08 01 39.5**	**+0.5**
DFR	**Drift River**	**3.10**	**223**	P	**Pn**	**08 01 42.2**	**+2.2**
RDWB	**Redoubt West**	**3.23**	**223**	P	**Pn**	**08 01 44.1**	**+2.3**
RED	**Redoubt Volcan**	**3.26**	**222**	P	**Pn**	**08 01 44.3**	**+2.1**
BRLK	**Bradley Lake**	**3.39**	**202**	P	**Pn**	**08 01 44.9**	**+1.0**
NICHA	**Nichawak Mount**	**3.43**	**140**	P	**Pn**	**08 01 45.2**	**+0.8**
TT01	**Tatalina**	**3.48**	**273**	P	**Pn**	**08 01 44.9**	**-0.3**
KHIT	**Khitrov Hills**	**3.50**	**133**	P	**Pn**	**08 01 46.5**	**+1.1**
SUCK	**Suckling Hills**	**3.62**	**140**	P	**Pn**	**08 01 47.5**	**+0.5**
ISLE	**Juniper Island**	**3.70**	**126**	P	**Pn**	**08 01 47.9**	**-0.4**
EGAK	**Eagle**	**3.71**	**57**	P	**Pn**	**08 01 49.3**	**+1.1**
SVW2	**Sparrevohn**	**3.85**	**245**	P	**Pn**	**08 01 50.2**	**+0.1**
IM3	**Indian Mountai**	**3.85**	**325**	P	**Pn**	**08 01 50.6**	**+0.5**
FYU	**Fort Yukon**	**3.90**	**19**	P	**Pn**	**08 01 52.1**	**+1.2**
DAWY	**Dawson**	**4.20**	**70**	P	**Pn**	**08 01 55.7**	**+0.7**
RKAV	**Rock Avalanche**	**4.28**	**125**	P	**Pn**	**08 01 56.7**	**+0.6**
AUNW	**Augustine NWes**	**4.32**	**217**	P	**Pn**	**08 01 58.2**	**+1.6**
AUW	**Augustine West**	**4.33**	**217**	P	**Pn**	**08 01 57.9**	**+1.3**
COLD	**Coldfoot**	**4.39**	**351**	P	**Pn**	**08 01 58.5**	**+1.0**
CHX	**Chaix Hills**	**4.52**	**126**	P	**Pn**	**08 01 59.8**	**+0.5**
SAMH	**Samovar Hills**	**4.60**	**124**	P	**Pn**	**08 02 01.9**	**+1.4**
BM3	**Burnt Mountain**	**4.79**	**18**	P	**Pn**	**08 02 03.9**	**+0.9**
BCPM	**Bancas Point**	**5.15**	**121**	P	**Pn**	**08 02 09.0**	**+1.0**
YUK5	**Granite Creek**	**5.28**	**105**	P	**Pn**	**08 02 09.6**	**-0.3**
PNL	**Peninsula**	**5.43**	**123**	P	**Pn**	**08 02 12.3**	**+0.6**
KDAK	**Kodiak Island**	**5.56**	**204**	P	**Pn**	**08 02 13.0**	**-0.4**
	0.2nm,0.3s,baz=65,slow=9.6,SNR=23						
KDAK				S	**Sn**	**08 03 12.7**	**-3.1**
	2.6nm,0.3s,baz=170,slow=17,SNR=11						
KDAK	**Kodiak Island**	**5.56**	**204**	P	**Pn**	**08 02 13.1**	**-0.4**
OHAK	**Old Harbor**	**6.21**	**205**	P	**Pn**	**08 02 22.2**	**-0.3**
WHY	**Whitehorse**	**6.80**	**103**	P	**Pn**	**08 02 31.8**	**+1.2**
INK	**Inuvik**	**8.18**	**42**	P	**Pn**	**08 02 49.5**	**+0.3**
	0.2nm,0.3s,baz=230,slow=12,SNR=2.9						
YKA	**Yellowknife Ar**	**15.41**	**76**	P	**Pn**	**08 04 26.0**	**-0.4**
	0.1nm,0.3s,baz=286,slow=10,SNR=12						
SEY	**Seymchan**	**26.13**	**297**	P	**P**	**08 06 20.0**	**-0.5**
	0.5nm,0.4s,baz=90,slow=17,SNR=5.4						
PDAR	**Pinedale Array**	**30.23**	**113**	P	**P**	**08 06 57.4**	**-0.2**
	0.5nm,0.8s,baz=298,slow=3.2,SNR=5.3						
TXAR	**Lajitas Array**	**44.17**	**118**	P	**P**	**08 08 56.0**	**+0.7**
	0.4nm,0.6s,baz=329,slow=6.7,SNR=6.9						
SONM	**Songino Array**	**54.82**	**307**	P	**P**	**08 10 16.2**	**+0.2**
	0.5nm,0.8s,baz=24,slow=5.6,SNR=4.0						
EKA	**Eskdalemuir Ar**	**59.01**	**22**	P	**P**	**08 10 45.2**	**-0.2**
	0.7nm,0.6s,baz=359,slow=7.4,SNR=2.8						
BVAR	**Borovoye Array**	**60.45**	**334**	P	**P**	**08 10 55.2**	**-0.2**
	0.4nm,0.5s,baz=34,slow=10,SNR=3.4						
KURK	**Kurchatov**	**60.79**	**328**	P	**P**	**08 10 59.0**	**+1.3**
KURBB	**Kurchatov Arra**	**60.90**	**328**	P	**P**	**08 10 59.0**	**+0.6**
	0.2nm,0.7s,baz=28,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**63.46**	**324**	P	**P**	**08 11 14.6**	**-1.1**
	0.3nm,0.6s,baz=35,slow=4.4,SNR=4.4						

IDC 01 08:14:10.9±7.6**, 22°.68S**×**177°.78W, h0**km**, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.5**/41**, mbtmp3.7**/2**, MS3.5**/14**, Ms1 3.5**/14**, ms1mx3.4**/41**, Error ellipse: s-maj=318.4km s-min=58.8km az=147.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.61**	**269**	LR	LR	08 20 58.0	
	comp=Z,62nm,20.9s,baz=82,slow=28						
DZM	**Mont Dzumac**	**14.61**	**269**	eLR	LR	08 21 17.1	
	622nm,26.1s						
RPZ	**Rata Peaks**	**22.93**	**201**	LR	LR	08 27 22.9	
	comp=Z,309nm,18.1s,baz=36,slow=34						
HNR	**Honiara**	**25.08**	**298**	LR	LR	08 28 29.5	
	comp=Z,207nm,21.6s,baz=145,slow=34						
TBI	**Tubuai**	**26.06**	**97**	eLQ	LQ	08 24 30.2	
	623nm,25.8s						
TBI				eLR	LR	08 25 37.0	
	308nm,27.5s						
TBI	**Tubuai**	**26.06**	**97**	eT	T	08 44 28.7	
	24nm,0.3s						
PAE	**Paea**	**26.91**	**84**	eT	T	08 46 28.5	
	7.1nm,0.2s						
PPT2	**Papeete2**	**26.94**	**84**	eLQ	LQ	08 24 57.2	
	388nm,25.0s						
PPT2				eLR	LR	08 26 26.9	
	234nm,25.0s						
PPT2	**Papeete2**	**26.94**	**84**	eT	T	08 46 32.0	
	6.6nm,0.3s						
PPT	**Papeete**	**26.94**	**84**	LR	LR	08 27 21.0	
	comp=Z,114nm,20.0s,baz=238,slow=29						
TVO	**Taravao**	**27.18**	**85**	eT	T	08 46 46.5	
	1.3nm,0.3s						
PMG	**Port Moresby**	**36.08**	**286**	LR	LR	08 34 27.2	
	comp=Z,104nm,18.7s,baz=120,slow=34						
STKA	**Stephens Creek**	**37.08**	**247**	LR	LR	08 34 32.5	
	comp=Z,67nm,19.9s,baz=32,slow=33						
RKT	**Rikitea**	**39.33**	**99**	eLR	LR	08 31 49.9	
	216nm,26.0s						
RKT	**Rikitea**	**39.33**	**99**	eT	T	09 00 48.2	
	3.7nm,0.4s						
ASAR	**Alice Springs**	**44.26**	**259**	P	P	08 22 23.6	+1.0
	1.2nm,1.0s,baz=98,slow=8.0,SNR=5.5						
WRA	**Warramunga Arr**	**44.54**	**264**	P	P	08 22 23.4	-1.4
	1.4nm,0.9s,baz=100,slow=8.4,SNR=5.4						
WRA				LR	LR	08 40 42.6	
	comp=Z,45nm,18.6s,baz=105,slow=36						
GUMO	**Guam**	**51.36**	**311**	LR	LR	08 43 12.4	
	comp=Z,74nm,21.4s,baz=72,slow=34						
SIJI	**Sorong**	**54.02**	**286**	LR	LR	08 45 51.4	
	comp=Z,95nm,18.7s,slow=35						
VNDA	**Vanda**	**55.77**	**185**	LR	LR	08 43 37.1	
	comp=Z,54nm,19.0s,baz=285,slow=32						
BATI	**Baumata**	**57.20**	**272**	LR	LR	08 47 28.0	
	comp=Z,57nm,20.4s,baz=67,slow=35						
RPN	**Rapa Nui**	**61.56**	**109**	LR	LR	08 47 59.9	
	comp=Z,7.8nm,18.7s,baz=320,slow=33						
KSRS	**Korea Array**	**78.65**	**319**	LR	LR	08 55 59.6	
	comp=Z,19nm,21.6s,baz=90,slow=32						
PLCA	**Paso Flores**	**87.63**	**133**	LR	LR	08 56 14.5	
	comp=Z,45nm,21.9s,baz=252,slow=29						
AKASG	**Malin Array Be**	**145.00**	**330**	PKPbc	PKPbc	08 33 48.5	-0.7
	0.2nm,0.3s,baz=39,slow=3.6,SNR=3.2						

IDC 01 08:18:12.6±25.0**, 21°.20S**×**68°.58E, h0**km**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.3**/62**, mbtmp3.5**/3**, MS3.6**/2**, Ms1 3.6**/2**, ms1mx2.8**/40**, Error ellipse: s-maj=830.4km s-min=40.6km az=55.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.99**	**16**	T	T	08 35 38.0	
	baz=196,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**14.00**	**16**	T	T	08 35 36.0	
	baz=196,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**14.01**	**16**	T	T	08 35 35.6	
	baz=196,slow=76,SNR=11						
FITZ	**Fitzroy Crossi**	**53.59**	**97**	LR	LR	08 46 24.7	
	comp=Z,86nm,20.7s,baz=306,slow=32						
ASAR	**Alice Springs**	**59.96**	**106**	P	P	08 28 20.8	-0.4
	0.3nm,0.7s,baz=262,slow=6.5,SNR=3.4						
WRA	**Warramunga Arr**	**61.16**	**102**	P	P	08 28 29.9	+0.4
	0.7nm,0.9s,baz=259,slow=7.0,SNR=4.5						
DAV	**Davao City (W)**	**62.59**	**70**	LR	LR	08 55 55.6	
	comp=Z,27nm,18.0s,baz=354,slow=36						
MKAR	**Makanchi Array**	**68.80**	**10**	P	P	08 29 18.5	0.0
	0.6nm,0.8s,baz=206,slow=5.3,SNR=5.7						

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*IDC **01** 08:34:57.8±1.9, 4°.52S×153°.09E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/41, mbtmp3.8/6, ML1.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/40, Error ellipse: s-maj=79.2km s-min=22.0km az=123.0*
*ISCJB **01** 08:35:04.0±1.6, 4°.6S±0°.3×153°.0E±0°.3, h55km, mb3.6/5, MS3.0/1, Error ellipse: s-maj=63.9km s-min=11.7km az=39.8*
ISC 01 08:35:05.2±2.0**, 4°.6S**±0°.4×**153°.1E**±0°.4**, h55**km**, n8,** σ0s.49/8**, mb3.5**/5**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.55**	**231**	Pn	**Pn**	**08 36 52.3**	**-0.4**
	0.9nm,0.3s,baz=260,slow=18,SNR=2.1						
PMG				Sn	**Sn**	**08 38 17.5**	**+0.5**
	5.1nm,0.3s,baz=139,slow=8.8,SNR=7.0						
DZM	**Mont Dzumac**	**21.66**	**144**	LR	LR	08 47 29.1	
	comp=Z,51nm,18.2s,baz=40,slow=35						
WRA	**Warramunga Arr**	**23.76**	**229**	P	**P**	**08 40 12.4**	**-0.5**
	1.4nm,0.6s,baz=54,slow=9.8,SNR=22						
ASAR	**Alice Springs**	**26.46**	**222**	P	**P**	**08 40 37.8**	**+0.3**
	0.5nm,0.7s,baz=56,slow=9.2,SNR=8.9						
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**08 47 10.6**	**-0.3**
	0.5nm,0.8s,baz=122,slow=5.4,SNR=4.0						
ILAR	**Eielson Array**	**81.89**	**22**	P	**P**	**08 47 18.4**	**-0.1**
	0.4nm,0.9s,baz=250,slow=3.9,SNR=4.7						
BVAR	**Borovoye Array**	**89.26**	**323**	P	**P**	**08 47 55.6**	**+0.3**
	1.1nm,0.5s,baz=115,slow=6.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**150.50**	**289**	PKPbc	**PKPbc**	**08 54 52.5**	**+0.5**
	1.5nm,0.8s,baz=87,slow=2.2,SNR=9.0						

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*KRNET **01** 08:43:50.1±0.1, 40°.60N×70°.86E, h21km, mb2.9*
*ISCJB **01** 08:43:51.9±1.1, 40°.60N±0°.07×70°.80E±0°.05, h10km±10km, Error ellipse: s-maj=11.9km s-min=5.5km az=19.5*
*SOME **01** 08:43:53.1, 40°.78N×70°.98E, h5km*
*NNC **01** 08:43:56.7±1.9, 40°.89N×71°.03E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=18.5km s-min=10.1km az=53.0*
ISC 01 08:43:52.5±1.9**, 40°.66N**±0°.07×**70°.80E**±0°.04**, h10**km±15km**, n20,** σ1s.09/36**, 19C-16D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**1.32**	**301**	⇑iP	**Pn**	**08 44 16.4**	**-0.7**
	baz=2.0						
TAS				⇑iS	**Sb**	**08 44 34.8**	**+0.3**
	baz=2.0						
ARK	**Arkit**	**1.44**	**37**	⇓eP	**Pn**	**08 44 17.2**	**-1.5**
	baz=35						
ARK				⇓iS	**Sn**	**08 44 37.6**	**-0.1**
	baz=35						
ARSB	**Arslanbob**	**1.78**	**67**	⇑eP	**Pn**	**08 44 21.9**	**-1.6**
	baz=65						
ARSB				⇑eS	**Sb**	**08 44 46.4**	**-1.4**
	baz=65						
TOKL	**Toktogul**	**2.02**	**50**	⇓eP	**Pn**	**08 44 26.4**	**-0.3**
	baz=48						
TOKL				⇓iS	**Sb**	**08 44 53.4**	**-1.1**
	baz=48						
SFK	**Sufi-Kurgan**	**2.17**	**107**	⇑Pg	**Pg**	**08 44 35.2**	**+1.1**
	5.8nm,0.6s						
SFK				⇓Lg	Lg	08 45 04.6	
	50nm,0.8s						
SFK	**Sufi-Kurgan**	**2.17**	**107**	⇑iP	**Pn**	**08 44 28.9**	**0.0**
	baz=5.0						
SFK				⇑iS	**Sn**	**08 44 55.4**	**-0.5**
	baz=5.0						
MNAS	**Manas**	**2.23**	**35**	⇓Pn	**Pb**	**08 44 31.2**	**-1.8**
	5.3nm,0.3s						
MNAS				⇓Lg	Lg	08 45 00.4	
	23nm,0.8s						
MNAS	**Manas**	**2.23**	**35**	⇑iP	**Pn**	**08 44 30.3**	**+0.7**
	baz=33						
MNAS				⇑iS	**Sb**	**08 44 59.8**	**-0.9**
	baz=33						
KK31	**Karatay Array**	**2.45**	**355**	⇑Pn	**Pb**	**08 44 35.9**	**-0.8**
	2.3nm,0.3s,baz=174,slow=12,SNR=68						
KK31				⇓Lg	Lg	08 45 08.3	
	6.4nm,0.3s,baz=171,slow=33,SNR=13						
BRLS	**Borolday**	**2.47**	**343**	eP	**Pn**	**08 44 33.4**	**+0.5**
	1.4nm,0.6s						
BRLS				eS	**Sn**	**08 45 03.9**	**+0.7**
	26nm,0.4s						
AML	**Almayashu**	**2.63**	**55**	⇓iP	**Pn**	**08 44 34.8**	**-0.6**
	baz=53						
AML				⇓iS	**Sn**	**08 45 09.0**	**+1.5**
	baz=53						
MRKS	**Merke**	**2.76**	**40**	eP	**Pb**	**08 44 40.4**	**-1.7**
	8.5nm,0.3s						
MRKS				eS	**Sb**	**08 45 15.4**	**-0.7**
	43nm,0.4s						
EKS2	**Erkin-Say**	**3.00**	**47**	⇓iP	**Pn**	**08 44 41.4**	**+1.2**
	baz=46						
EKS2				⇓iS	**Sn**	**08 45 17.7**	**+1.5**
	baz=46						
UCH	**Uchtor**	**3.20**	**60**	⇓eP	**Pn**	**08 44 43.5**	**+0.2**
	baz=58						
UCH				⇓iS	**Sn**	**08 45 22.7**	**+1.0**
	baz=58						
AAK	**Ala-Archa**	**3.40**	**53**	⇓Pn	**Pn**	**08 44 45.4**	**-0.4**
	1.2nm,0.4s						
AAK				⇑Pg	**Pb**	**08 44 52.6**	**-0.4**
	1.4nm,0.4s						
AAK				⇑Lg	Lg	08 45 38.4	
	5.4nm,0.6s						
AAK	**Ala-Archa**	**3.40**	**53**	⇑eP	**Pn**	**08 44 46.7**	**+0.9**
	baz=52						
AAK				⇑iS	**Sn**	**08 45 27.3**	**+1.0**
	baz=52						
KZA	**Kyzart**	**3.64**	**66**	⇑eP	**Pn**	**08 44 49.8**	**+0.6**
	baz=64						
KZA				⇑iS	**Sn**	**08 45 33.2**	**+0.8**
	baz=64						
KBK	**Karagaybulak**	**3.69**	**56**	⇑iP	**Pn**	**08 44 50.8**	**+1.0**
	baz=55						
KBK				⇑iS	**Sn**	**08 45 34.0**	**+0.5**
	baz=55						
TKM2	**Tokmak 2**	**4.24**	**56**	⇑Pg	**Pb**	**08 45 06.5**	**-0.8**
	3.8nm,1.0s						
TKM2				⇓Lg	Lg	08 46 01.8	
	6.4nm,0.8s						
DGS	**Degeres**	**4.52**	**54**	eP	**Pb**	**08 45 10.7**	**-1.3**
	1.8nm,0.7s						
DGS				eS	**Sb**	**08 46 08.8**	**+2.3**
	6.2nm,0.4s						

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*NERS **01** 08:50:52.9, 65°.89N×173°.83W, h0km, MLV3.6, MPV4.6*
*IDC **01** 08:50:53.9±0.7, 65°.67N×174°.24W, h0km, mb4.1/22, mb1 4.2/25, mb1mx4.0/75, mbtmp4.1/25, ML4.1/3, MS3.6/35, Ms1 3.6/35, ms1mx3.4/75, Error ellipse: s-maj=23.0km s-min=11.1km az=11.0*
*ISCJB **01** 08:50:54.2±0.2, 65°.71N±0°.03×173°.89W±0°.04, h10km, mb4.3/59, MS3.6/35, Error ellipse: s-maj=5.1km s-min=2.3km az=11.8*
*MOS **01** 08:50:54.6±1.1, 65°.65N×173°.90W, h12km, mb4.6/31, Error ellipse: s-maj=12.8km s-min=8.2km az=105.6*
*NEIC **01** 08:50:55.5±0.2, 65°.63N×174°.16W, h10km, mb4.5/28, Error ellipse: s-maj=7.5km s-min=3.0km az=193.0*
ISC 01 08:50:56.1±0.4**, 65°.70N**±0°.06×**174°.04W**±0°.04**, h10**km**, n203,** σ1s.55/209**, mb4.4**/59**, MS3.6**/35**, 11C-4D, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	Gambell	2.18	152	ePn	Pn	08 51 29.5	-2.8
GAMB				eSn	Sn	08 51 59.8	+0.5
BILL	Bilibino	8.09	296	eP	Pn	08 52 53.6	+0.2
BILL				Pmax		08 52 54.3	
	30nm,1.6s						
BILL				e		08 53 21.4	
BILL				eS	Sn	08 54 13.6	-11
BILL				Sgmax		08 54 53.9	
	2µm,1.4s						
BILL				Sgmax		08 54 53.9	
	720nm,1.6s						
BILL				eSg	Sg	08 55 06.4	-8.8
BILL				eLQ	LQ	08 55 20.7	
BILL				LRmax		08 55 52.0	
	1µm,9.0s						
BILL	Bilibino	8.09	296	d iP	Pn	08 52 51.9	-1.5
BILL				pmax	pmax		
	comp=Z,15nm,1.2s						
BILL				MLR	MLR		
	comp=Z,788nm,15.0s						
TT01	Tatalina	8.31	101	ePn	Pn	08 52 56.6	+0.2
IM3	Indian Mountai	8.32	79	ePn	Pn	08 52 56.2	-0.4
SPIA	Saint Paul Isl	8.74	166	ePn	Pn	08 53 01.3	-1.1
SPIA				eSn	Sn	08 54 43.2	+2.4
SVW2	Sparrevohn	9.46	111	ePn	Pn	08 53 12.1	-0.2
COLD	Coldfoot	9.63	70	ePn	Pn	08 53 14.4	-0.2
COLD				eSn	Sn	08 54 59.6	-3.0
CAST	Castle Rocks	9.70	94	ePn	Pn	08 53 14.7	-0.9
MLY	Manley	9.73	83	ePn	Pn	08 53 15.2	-0.7
PPLA	Purkeypile	9.88	96	ePn	Pn	08 53 18.1	0.0
PPLA				eSn	Sn	08 55 07.6	-1.3
BPAW	Bear Paw Mtn.	9.90	89	ePn	Pn	08 53 18.0	-0.3
KTH	Kantishna Hill	10.13	92	ePn	Pn	08 53 21.2	-0.2
KTH				eSn	Sn	08 55 14.7	-0.3
TRF	Thorofare Moun	10.43	92	ePn	Pn	08 53 25.1	-0.5
MDM	Murphy Dome	10.78	82	ePn	Pn	08 53 30.7	+0.4
MDM				eSn	Sn	08 55 31.1	+0.2
SPU	Mount Spurr	10.80	105	ePn	Pn	08 53 31.2	+0.6
MCK	McKinley	10.88	89	ePn	Pn	08 53 31.4	-0.3
MCK	McKinley	10.88	89	eP	Pn	08 53 31.4	-0.3
COLA	College	10.96	82	eP	Pn	08 53 32.2	-0.5
COLA	College	10.96	82	⇑iP	Pn	08 53 32.2	-0.5
RND	Reindeer	11.04	90	ePn	Pn	08 53 33.4	-0.5
RND	Reindeer	11.04	90	eP	Pn	08 53 33.4	-0.5
CCB	Clear Creek Bu	11.04	83	ePn	Pn	08 53 33.1	-0.8
CCB				eSn	Sn	08 55 36.3	-0.9
SUA	Susitna One	11.17	101	ePn	Pn	08 53 36.5	+0.8
ILAR	Eielson Array	11.38	82	Pn	Pn	08 53 36.3	-2.2
	comp=Z,0.6nm,0.3s,baz=283,slow=14,SNR=55						
ILAR				Sn	Sn	08 55 43.1	-2.5
	comp=Z,0.6nm,0.3s,baz=284,slow=25,SNR=8.3						
ILAR				LR	LR	08 58 40.7	
	comp=Z,69nm,19.9s,baz=300,slow=41						
ILAR	Eielson Array	11.38	82	eP	Pn	08 53 37.4	-1.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILB	Eielson Array	11.38	82	ePn	Pn	08 53 37.4	-1.1
ILB				eSn	Sn	08 55 44.4	-1.2
IL1	Eielson Array	11.38	82	ePn	Pn	08 53 37.4	-1.2
IL1				eSn	Sn	08 55 44.4	-1.2
FYU	Fort Yukon	11.65	73	ePn	Pn	08 53 44.1	+2.0
PMR	Palmer	11.76	99	ePn	Pn	08 53 45.1	+1.4
PMR				eSn	Sn	08 55 56.7	+1.9
PMR	Palmer	11.76	99	eP	Pn	08 53 45.1	+1.4
PMR				e		08 55 56.7	
RC01	Rabbit Creek A	11.79	102	ePn	Pn	08 53 45.1	+1.0
RC01				eSn	Sn	08 55 57.6	+2.2
DHY	Denali Highway	11.79	91	ePn	Pn	08 53 44.3	+0.1
SML	Sawmill	11.98	97	ePn	Pn	08 53 47.6	+0.9
SML				eSn	Sn	08 55 57.5	-2.7
SML	Sawmill	11.98	97	eP	Pn	08 53 47.6	+0.9
SML				e		08 55 57.5	
CHGN	Chignik	12.05	134	ePn	Pn	08 53 45.6	-2.0
SCM	Sheep Creek Mo	12.38	96	ePn	Pn	08 53 54.3	+2.1
SCM	Sheep Creek Mo	12.38	96	eP	Pn	08 53 54.3	+2.1
PAX	Paxson	12.62	89	ePn	Pn	08 53 57.0	+1.5
PAX	Paxson	12.62	89	eP	Pn	08 53 57.0	+1.5
KDAK	Kodiak Island	12.83	118	Pn	Pn	08 53 57.1	-1.2
	comp=Z,0.4nm,0.3s,baz=9.7,slow=6.7,SNR=20						
KDAK	Kodiak Island	12.83	118	ePn	Pn	08 53 56.7	-1.5
DOT	Dot Lake	12.93	85	ePn	Pn	08 53 59.3	-0.4
KLU	Klutina	13.13	96	ePn	Pn	08 54 04.4	+1.9
MENT	Mentasta	13.36	88	ePn	Pn	08 54 07.0	+1.5
EGAK	Eagle	13.72	79	ePn	Pn	08 54 09.4	-1.0
DAWY	Dawson	14.69	80	ePn	Pn	08 54 24.9	+1.3
SEY	Seymchan	14.71	275	Pn	Pn	08 54 23.0	-0.9
	comp=Z,0.2nm,0.3s,baz=163,slow=19,SNR=5.8						
SEY	Seymchan	14.71	275	eP	Pn	08 54 25.6	+1.7
SEY				Pmax		08 54 33.1	
	comp=Z,10.0nm,1.1s						
SEY				eS	Sn	08 57 06.4	-0.2
SEY				e		08 58 32.4	
SEY				LRmax		08 59 54.7	
	comp=Z,460nm,12.0s						
SEY	Seymchan	14.71	275	ceP	Pn	08 54 26.5	+2.6
TLAR	Talaya	15.57	269	eP	Pn	08 54 36.6	+1.2
TLAR				Pmax		08 54 36.6	
	comp=Z,10.0nm,1.2s						
TLAR				eLQ	LQ	08 59 11.4	
INK	Inuvik	15.83	62	Pn	Pn	08 54 39.3	+0.6
	comp=Z,0.3nm,0.3s,baz=297,slow=15,SNR=18						
INK	Inuvik	15.83	62	ePn	Pn	08 54 39.5	+0.8
	comp=Z,10nm,0.8s						
INK				eSn	Sn	08 57 30.8	-3.1
INK	Inuvik	15.83	62	eP	Pn	08 54 39.5	+0.8
INK				e		08 57 30.8	
INK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PCA	Pinnacle	16.22	94	ePn	Pn	08 54 41.6	-2.3
	comp=Z,67nm,1.4s						
SUUS	Susuman	16.51	277	eP	Pn	08 54 47.4	-0.1
SUUS				Pmax		08 54 51.1	
	comp=Z,30nm,1.3s						
SUUS				eS	S	08 57 58.1	-4.3
SUUS				eLQ	LQ	08 59 37.6	
SUUS				LRmax		09 01 04.6	
	comp=Z,20nm,6.0s						
MGD	Magadan 1	16.85	267	eP	Pn	08 54 52.4	+0.7
MGD				Pmax		08 54 54.9	
	comp=Z,30nm,1.0s						
MGD				eLQ	LQ	09 00 13.9	
MA2	Magadan	17.11	266	Pn	Pn	08 54 53.4	-1.5
	comp=Z,0.2nm,0.3s,baz=43,slow=12,SNR=3.7						
MA2				LR	LR	09 01 50.4	
	comp=Z,191nm,18.2s,baz=54,slow=39						
MA2	Magadan	17.11	266	eP	Pn	08 54 54.5	-0.5
MA2				Pmax		08 54 56.1	
	comp=Z,10.0nm,1.4s						
MA2				eS	Sn	08 57 59.9	-5.1
MA2				e		08 59 57.6	
MA2				LRmax		09 02 07.5	
	comp=Z,210nm,7.0s						
MA2	Magadan	17.11	266	ceP	Pn	08 54 56.0	+1.0
OCHR	Omchak	17.17	274	eP	Pn	08 54 56.7	+0.9
OCHR				Pmax		08 54 58.0	
	comp=Z,40nm,1.0s						
OCHR				eL	L	09 00 03.3	
PETK	Petropavlovsk-	18.91	242	LR	LR	09 03 06.8	
	comp=Z,201nm,18.9s,baz=18,slow=39						
TIXI	Tiksi	20.82	312	P	P	08 55 36.2	-1.0
	comp=Z,21nm,0.8s,baz=91,slow=12,SNR=10						
TIXI				LR	LR	09 04 04.7	
	comp=Z,96nm,18.1s,baz=166,slow=38						
TIXI	Tiksi	20.82	312	⇑iP	P	08 55 38.0	+0.8
YAK	Yakutsk	24.34	288	P	P	08 56 12.5	-1.0
	comp=Z,12nm,0.3s,baz=126,slow=2.5,SNR=13						
YAK				LR	LR	09 05 49.7	
	comp=Z,170nm,19.0s,baz=90,slow=37						
YAK	Yakutsk	24.34	288	eP	P	08 56 14.1	+0.5
	comp=Z,76nm,1.0s						
YAK	Yakutsk	24.34	288	eP	P	08 56 13.5	0.0
YAK				e*PP	sP	08 56 22.4	+4.6
YAK				eS	S	09 00 36.8	+4.5
YAK				eSSS	SSS	09 01 35.4	
YAK				pmax	pmax		
	comp=Z,53nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,25nm,1.1s						
YAK				MLR	MLR		
	comp=Z,386nm,16.0s						
YAK				MLR	MLR		
	comp=E,179nm,15.0s						
YAK				MLR	MLR		
	comp=N,311nm,20.0s						
YKA	Yellowknife Ar	25.31	69	P	P	08 56 22.2	-0.2
	comp=N,1.3nm,0.8s,baz=301,slow=8.7,SNR=18						
YKA				PcP	PcP	08 59 54.4	-0.2
	comp=N,0.2nm,0.6s,baz=296,slow=3.5,SNR=3.8						
NKL	Nikolayevsk	25.57	263	eP	P	08 56 25.0	+0.3
RES	Resolute Bay	26.06	36	P	P	08 56 29.5	+0.5
	comp=N,4.0nm,1.1s,baz=264,slow=10.0,SNR=5.3						
RES				LR	LR	09 08 30.6	
	comp=N,76nm,19.3s,baz=242,slow=40						
BBB	Bella Bella	26.55	98	LR	LR	09 06 39.8	
	comp=N,165nm,18.6s,baz=194,slow=36						
EDM	Edmonton	31.87	83	eP	P	08 57 21.0	0.0
	comp=N,12nm,1.1s						
EDM	Edmonton	31.87	83	eP	P	08 57 21.0	0.0
EDM				pmax	pmax		
	comp=Z,12nm,1.1s						
KLR	Kul'dur	32.21	266	P	P	08 57 21.6	-2.3
	comp=Z,0.1nm,0.8s,baz=21,slow=8.3,SNR=8.2						
KLR	Kul'dur	32.21	266	⇓iP	P	08 57 24.1	+0.2
NEW	Newport	34.08	92	eP	P	08 57 36.6	-3.8
	comp=Z,6.8nm,1.1s						
NEW	Newport	34.08	92	eP	P	08 57 36.6	-3.8
NEW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
D08A	Wollman Farm,	34.30	96	eP	P	08 57 41.7	-0.5
	comp=Z,40nm,1.8s						
E07A	Sunnyside	34.31	97	eP	P	08 57 41.2	-1.2
	comp=Z,32nm,1.6s						
E08A	Dider Farm, El	34.69	96	eP	P	08 57 44.9	-0.7
	comp=Z,37nm,1.9s						
SPITS	Spitsbergen Ar	36.21	356	LR	LR	09 13 25.3	
	comp=Z,72nm,18.2s,baz=135,slow=37						
YBH	Yreka Blue Hor	37.13	105	LR	LR	09 11 24.0	
	comp=Z,84nm,18.7s,baz=320,slow=33						
BOZ	Bozeman (W)	38.48	90	eP	P	08 58 17.9	-0.2
	comp=Z,5.8nm,1.0s						
BOZ	Bozeman (W)	38.48	90	eP	P	08 58 17.9	-0.2
BOZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HLID	Hailey	38.99	95	eP	P	08 58 22.6	+0.3
	comp=Z,3.7nm,1.1s						
YHB	Horse Butte	39.35	91	eP	P	08 58 24.9	-0.5
	comp=Z,12nm,1.4s						
YHH	Holmes Hill	39.46	90	eP	P	08 58 26.9	+0.5
	comp=Z,4.5nm,1.1s						
H17A	Grant Village	39.89	90	eP	P	08 58 28.9	-1.1
	comp=Z,3.7nm,1.0s						
FXWY	Fox Creek	40.33	91	eP	P	08 58 34.4	+0.8
	comp=Z,7.4nm,1.7s						
HVU	Hansel Valley	41.14	95	eP	P	08 58 40.8	+0.6
	comp=Z,4.5nm,1.1s						
HVU	Hansel Valley	41.14	95	eP	P	08 58 40.8	+0.6
HVU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ULM	Lac du Bonnet	41.19	73	P	P	08 58 42.2	+1.8
	comp=Z,2.1nm,0.8s,baz=324,slow=6.8,SNR=4.8						
ULM				LR	LR	09 16 26.0	
	comp=Z,79nm,20.1s,baz=4.5,slow=37						
ULM	Lac du Bonnet	41.19	73	eP	P	08 58 44.5	+4.1
ULM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PD31	Pinedale Array	41.65	91	eP	P	08 58 44.9	+0.3
PDAR	Pinedale Array	41.65	91	P	P	08 58 44.5	-0.1
	comp=Z,2.3nm,1.0s,baz=337,slow=3.4,SNR=10						
PDAR				LR	LR	09 15 36.0	
	comp=Z,124nm,21.1s,baz=330,slow=36						
TLY	Talaya	41.68	292	eP	P	08 58 44.3	-0.1
TLY				pmax	pmax		
	comp=Z,6.0nm,2.0s						
TLY				MLR	MLR		
	comp=Z,195nm,19.0s						
NV01	Mina Array Sit	41.71	103	eP	P	08 58 45.2	+0.1
NVAR	Mina Array Bea	41.71	103	P	P	08 58 43.5	-1.5
	comp=Z,1.1nm,0.8s,baz=294,slow=6.9,SNR=5.7						
NVAR				LR	LR	09 16 31.3	
	comp=Z,70nm,20.1s,baz=80,slow=37						
TCUT	Toone Canyon	42.26	94	eP	P	08 58 50.1	+0.6
	comp=Z,12nm,1.2s						
NLU	North Lily Min	42.96	95	eP	P	08 58 55.9	+0.7
	comp=Z,6.5nm,1.3s						
ULN	Ulaanbaatar	43.39	286	c iP	P	08 59 00.2	+1.7
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
PSUT	Pine Spring	43.43	98	eP	P	08 58 59.3	+0.3
	comp=Z,4.8nm,1.1s						
KSRS	Korea Array	43.48	259	LR	LR	09 18 04.0	
	comp=Z,60nm,18.2s,baz=22,slow=38						
SONA1	Songino Array	43.67	286	eP	P	08 59 00.2	-0.4
SONA0	Songino Array	43.68	286	eP	P	08 59 00.5	-0.3
SONM	Songino Array	43.68	286	P	P	08 59 00.5	-0.3
	comp=Z,2.1nm,0.8s,baz=37,slow=7.6,SNR=17						
SONM				LR	LR	09 17 06.3	
	comp=Z,85nm,18.6s,baz=359,slow=36						
SONM	Songino Array	43.68	286	eP	P	08 59 02.6	+1.8
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
P18A	Preston Nutter	43.99	94	eP	P	08 59 04.8	+1.2
	comp=Z,10nm,1.3s						
SRU	San Rafael Swe	44.31	95	eP	P	08 59 06.4	+0.4
	comp=Z,8.0nm,1.1s						
SRU	San Rafael Swe	44.31	95	eP	P	08 59 06.4	+0.4
SRU				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ARA0	ARCESS Array S	44.35	350	eP	P	08 59 05.9	+0.2
ARCES	ARCESS Array B	44.35	350	P	P	08 59 05.9	+0.2
	comp=Z,4.5nm,1.1s,baz=7.8,slow=9.8,SNR=3.5						
KIP	Kipapa	45.48	159	⇓iP	P	08 59 14.9	-0.3
JNU	Nakatsue	46.06	253	LR	LR	09 19 36.9	
	comp=Z,53nm,18.4s,baz=123,slow=38						
ZAA1	Zalesovo Array	46.60	307	eP	P	08 59 22.5	-1.2
ZAA0	Zalesovo Array	46.60	307	eP	P	08 59 23.7	0.0
	comp=Z,9.6nm,1.0s						
ZALV	Zalesovo Beam	46.60	307	P	P	08 59 22.5	-1.2
	comp=Z,5.6nm,0.8s,baz=32,slow=7.0,SNR=17						
ZALV				LR	LR	09 21 10.8	
	comp=Z,98nm,19.1s,baz=66,slow=39						
ZALV	Zalesovo Beam	46.60	307	eP	P	08 59 22.3	-1.5
S22A	4UR Ranch, Cre	47.00	92	eP	P	08 59 28.8	+1.4
	comp=Z,8.7nm,1.4s						
HHC	Hu-ho-hao-te	47.34	277	eP	P	08 59 30.1	+0.3
HHC				PP	PP	09 01 20.6	-0.1
HHC				S	S	09 06 21.6	-1.7
HHC	Hu-ho-hao-te	47.34	277	SS	SS	09 09 42.0	-8.2
SCHQ	Schefferville	47.80	48	LR	LR	09 21 24.6	
	comp=Z,123nm,18.8s,baz=335,slow=38						
ANMO	Albuquerque	49.55	94	⇑eP	P	08 59 45.9	-1.1
ANMO				i *PP	pP	08 59 48.6	-1.6
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KLMR	Klimovskoe	51.31	340	eP	P	08 59 56.8	-2.9
KLMR				pmax	pmax		
	comp=Z,17nm,1.3s						
KLMR	Klimovskoe	51.31	340	eP	P	08 59 56.8	-2.9
KLMR				AMP		09 00 02.2	
	comp=Z,17nm,1.3s						
KURK	Kurchatov	51.37	309	eP	P	08 59 60.0	-0.3
KURK	Kurchatov	51.37	309	ceP	P	09 00 00.5	+0.2
KURK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KURBB	Kurchatov Arra	51.48	309	P	P	08 59 60.0	-1.1
	comp=Z,2.1nm,0.6s,baz=38,slow=7.0,SNR=14						
BVAR	Borovoye Array	51.86	316	P	P	09 00 03.3	-0.7
	comp=Z,2.7nm,0.8s,baz=39,slow=9.3,SNR=10						
BVAR				LR	LR	09 23 58.1	
	comp=Z,90nm,19.7s,baz=37,slow=38						
BRVK	Borovoye	51.86	316	ceP	P	09 00 04.7	+0.8
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARU	Arti	51.88	326	c iP	P	09 00 04.6	+0.6
ARU						09 01 57.5	
ARU				S	S	09 07 28.0	+1.9
ARU				SS	SS	09 11 01.3	-0.6
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
FINES	FINESS Array B	52.29	348	LR	LR	09 26 10.2	
	comp=Z,32nm,18.6s,baz=16,slow=40						
MNTX	Cornudas Mount	52.81	95	eP	P	09 00 09.6	-1.7
	comp=Z,5.5nm,1.4s						
GTA	Gaotai	53.33	285	eP	P	09 00 16.3	+1.1
GTA				pP	sP	09 00 20.4	+0.8
GTA				sP	pP	09 00 23.8	+5.4
NOA	NORSAR Array B	53.51	357	LR	LR	09 22 34.7	
	comp=Z,31nm,20.0s,baz=10.0,slow=36						
MK31	Makanchi Array	53.54	304	eP	P	09 00 15.7	-0.8
MK31	Makanchi Array	53.54	304	eP	P	09 00 15.7	-0.8
MK32	Makanchi Array	53.54	304	eP	P	09 00 16.2	-0.2
MKAR	Makanchi Array	53.54	304	P	P	09 00 16.2	-0.2
	comp=Z,1.0nm,0.6s,baz=49,slow=8.3,SNR=11						
MKAR				LR	LR	09 24 17.9	
	comp=Z,49nm,18.1s,baz=14,slow=38						
MKAR	Makanchi Array	53.54	304	eP	P	09 00 15.8	-0.7
	comp=Z,18nm,1.2s						
MK01	Makanchi Array	53.55	304	eP	P	09 00 16.1	-0.5
MAKZ	Makanchi	53.63	304	eP	P	09 00 17.3	+0.1
	comp=Z,3.4nm,0.8s						
MAKZ	Makanchi	53.63	304	eP	P	09 00 17.3	+0.1
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMQ	Urumqi	54.19	298	P	P	09 00 22.6	+1.3
WMQ				pP	sP	09 00 27.2	+1.5
HFS	Hagfors	54.34	355	P	P	09 00 22.7	+0.6
	comp=Z,1.6nm,0.7s,baz=84,slow=5.9,SNR=3.3						
HFS				LR	LR	09 22 19.5	
	comp=Z,36nm,21.8s,baz=28,slow=35						
VSU	Vasula	55.17	347	⇑iP	P	09 00 29.3	+1.2
VSU				pmax	pmax		
	comp=Z,17nm,1.0s						
TX31	Lajitas Ar. Si	55.59	95	eP	P	09 00 31.1	-0.6
LTX	Lajitas	55.59	95	eP	P	09 00 31.1	-0.5
LTX	Lajitas	55.59	95	eP	P	09 00 31.2	-0.5
TXAR	Lajitas Array	55.59	95	P	P	09 00 31.1	-0.5
	comp=Z,0.8nm,0.9s,baz=295,slow=4.2,SNR=6.5						
TXAR				LR	LR	09 26 34.4	
	comp=Z,78nm,18.9s,baz=0.0,slow=38						
JCT	Junction City	56.19	90	eP	P	09 00 35.2	-0.6
	comp=Z,4.4nm,0.8s						
JCT	Junction City	56.19	90	eP	P	09 00 35.3	-0.6
JCT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN	Obninsk	57.28	340	⇑eP	P	09 00 45.2	+2.0
OBN				e		09 00 48.9	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,69nm,15.0s						
LPIG	La Paz	57.52	104	LR	LR	09 23 19.3	
	comp=Z,57nm,18.4s,baz=339,slow=34						
ABKAR	Akbulak array	58.11	321	eP	P	09 00 48.0	-1.1
	comp=Z,42nm,0.8s						
TKL	Tuckaleechee C	58.21	73	LR	LR	09 28 02.5	
	comp=Z,59nm,18.9s,baz=330,slow=38						
EKA	Eskdalemuir Ar	59.09	6	P	P	09 00 55.0	-0.9
	comp=Z,2.4nm,0.6s,baz=9.6,slow=4.7,SNR=8.3						
CD2	Chengdu	59.10	277	eP	P	09 00 54.5	-1.8
AAK	Ala-Archa	59.82	307	LR	LR	09 29 08.8	
	comp=Z,85nm,21.3s,baz=9.5,slow=38						
AAK	Ala-Archa	59.82	307	eP	P	09 01 02.7	+1.4
	comp=Z,11nm,1.2s						
AAK	Ala-Archa	59.82	307	eP	P	09 01 02.7	+1.4
AAK				pmax	pmax		
	comp=Z,11nm,1.2s						
KSH	Kashi	62.12	305	eP	P	09 01 21.5	+4.5
AKASG	Malin Array Be	62.56	344	P	P	09 01 17.6	-1.9
	comp=Z,1.7nm,0.6s,baz=16,slow=6.7,SNR=8.3						
AKASG				LR	LR	09 33 49.0	
	comp=Z,35nm,18.2s,baz=25,slow=41						
AKASG	Malin Array Be	62.56	344	eP	P	09 01 19.3	-0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KIEV	Kiev	62.56	344	⇓iP	P	09 01 19.5	-0.1
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	Collm	63.20	355	eP	P	09 01 24.0	+0.2
CLL				LmV		11 35 00.0	
	comp=Z,100nm,19.9s						
BRG	Berggiesshubel	63.59	354	eP	P	09 01 27.7	+1.3
	comp=Z,6.7nm,1.1s						
BRG	Berggiesshubel	63.59	354	eP	P	09 01 27.7	+1.3
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
DPC	Dobruska-Polom	64.01	353	eP	P	09 01 31.4	+2.2
DPC	Dobruska-Polom	64.01	353	eP	P	09 01 31.4	+2.2
PRU	Pruhonice	64.45	354	eP	P	09 01 36.2	+4.1
PRU	Pruhonice	64.45	354	eP	P	09 01 36.2	+4.1
LANS	Liptovska Anna	65.01	350	eP	P	09 01 38.4	+2.6
LANS	Liptovska Anna	65.01	350	eP	P	09 01 38.4	+2.6
CRVS	Cervenica-Dubn	65.11	349	eP	P	09 01 38.1	+1.7
CRVS	Cervenica-Dubn	65.11	349	eP	P	09 01 38.1	+1.7
KHC	Kasperske Hory	65.35	355	eP	P	09 01 40.3	+2.3
KHC	Kasperske Hory	65.35	355	eP	P	09 01 40.3	+2.3
KECS	Kecovo	65.60	349	eP	P	09 01 41.5	+2.0
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KECS	Kecovo	65.60	349	eP	P	09 01 41.5	+2.0
GEC2	GERESS Array S	65.63	354	eP	P	09 01 39.4	-0.5
	comp=Z,4.3nm,1.1s						
GEC2	GERESS Array S	65.63	354	eP	P	09 01 39.4	-0.5
GEC2				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GERES	GERESS Array B	65.63	354	P	P	09 01 38.1	-1.8
	comp=Z,1.5nm,0.8s,baz=7.6,slow=4.0,SNR=8.9						
GERES	GERESS Array B	65.63	354	eP	P	09 01 39.5	-0.4
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GEA0	GERESS Array S	65.64	354	eP	P	09 01 39.4	-0.5
VYHS	Vyhne	65.70	351	eP	P	09 01 42.2	+1.9
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VYHS	Vyhne	65.70	351	eP	P	09 01 42.2	+1.9
BUR04	Bucovina Ar. S	66.04	346	eP	P	09 01 41.5	-1.0
KIV	Kislovodsk	67.03	332	eP	P	09 01 50.1	+1.2
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV				MLR	MLR		
	comp=Z,37nm,17.0s						
DAVOX	Davos/Dischmat	67.81	357	LR	LR	09 31 05.5	
	comp=Z,19nm,20.7s,baz=66,slow=36						
MLR	Muntele Rosu	68.06	345	LR	LR	09 34 06.9	
	comp=Z,13nm,19.7s,baz=334,slow=38						
GEYT	Alibeck	69.11	318	P	P	09 02 00.8	-1.2
	comp=Z,3.0nm,0.8s,baz=349,slow=2.3,SNR=4.6						
GNI	Garni	70.28	329	LR	LR	09 39 28.7	
	comp=Z,40nm,18.1s,baz=34,slow=42						
CMAR	Chiang Mai Arr	72.13	275	P	P	09 02 19.4	-1.2
	comp=Z,0.6nm,0.3s,baz=15,slow=6.8,SNR=5.0						
CMAR				LR	LR	09 36 41.8	
	comp=Z,52nm,18.3s,baz=188,slow=38						
CMAR	Chiang Mai Arr	72.13	275	i P	P	09 02 21.2	+0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BR101	Keskin Array S	72.73	338	eP	P	09 02 23.4	-0.7
BRTR	Keskin Array B	72.73	338	P	P	09 02 23.4	-0.7
	comp=Z,2.1nm,1.0s,baz=53,slow=4.9,SNR=4.6						
BRTR				LR	LR	09 38 31.6	
	comp=Z,24nm,19.4s,baz=54,slow=39						
BRTR	Keskin Array B	72.73	338	eP	P	09 02 24.4	+0.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ESDC	Sonseca Array	74.67	8	P	P	09 02 35.0	-0.3
	comp=Z,0.2nm,0.4s,baz=1.0,slow=6.0,SNR=5.7						
IDI	Anoyia	78.27	344	LR	LR	09 41 42.8	
	comp=Z,17nm,19.3s,baz=352,slow=39						
HYB	Hyderabad	81.22	293	i P	P	09 03 12.0	0.0
SDV	Santo Domingo	87.42	74	LR	LR	09 45 21.7	
	comp=Z,42nm,19.1s,baz=68,slow=37						
DZM	Mont Dzumac	88.76	198	LR	LR	09 44 23.2	
	comp=Z,52nm,18.1s,baz=30,slow=36						

IDC 01 08:53:14.0±4.3, 53.74N×90.63E, h0km, mb1 2.5/3, mb1mx2.5/72, mbtmp2.5/3, ML2.0/3, Error ellipse: s-maj=43.3km s-min=26.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.45	276	i		09 16 40.0	
	baz=89,slow=340,SNR=5.4						
ZALV	Zalesovo Beam	3.45	276	Pn	Pn	08 54 10.8	+1.9
	0.3nm,0.3s,baz=95,slow=15,SNR=2.4						
ZALV				Lg	Lg	08 55 05.2	
	0.5nm,0.3s,baz=96,slow=29,SNR=6.9						
KURBB	Kurchatov Arra	8.06	252	Pn	Pn	08 55 10.6	-1.7
	0.1nm,0.3s,baz=64,slow=15,SNR=4.6						
MKAR	Makanchi Array	8.76	221	Pn	Pn	08 55 23.7	+1.7
	0.0nm,0.3s,baz=27,slow=12,SNR=2.1						
MKAR				Lg	Lg	08 57 51.0	

0.0nm,0.3s,baz=40,slow=32,SNR=3.1

*JMA **01** 09:05:34.6±0.2,24˚.31N×121˚.88E,h45km±3km,M1.9*
*ISCJB **01** 09:05:35.6±0.3,24˚.39N±0˚.01×121˚.98E±0˚.02,h18km±5km, Error ellipse: s-maj=3.0km s-min=2.1km az=24.2*
*TAP **01** 09:05:35.2,24˚.40N×121˚.94E,h17km,ML3.2,D*

ISC 01 09:05:34.6±0.9,**24˚.41N**±0˚.02×**122˚.00E**±0˚.02,**h18**km±2km, **n58,**σ0.9**57**/114**,1C-3D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENAH	**Nanao** baz=292	**0.18**	**285**	⇓*i*P	**Pg**	**09 05 39.6**	**+0.3**
ENAH				S	**Sg**	**09 05 42.7**	**+0.3**
	baz=292						
NANB	**Nanao** baz=278	**0.23**	**276**	P	**Pg**	**09 05 40.1**	**+0.1**
NANB				S	**Sg**	**09 05 43.9**	**+0.2**
	baz=278						
ENA	**Nanau** baz=278	**0.23**	**276**	*i* P	**Pb**	**09 05 40.2**	**0.0**
ENA				S	**Sb**	**09 05 43.8**	**+0.1**
	baz=278						
TWC	**Suao** baz=341	**0.24**	**327**	⇓*i*P	**Pg**	**09 05 40.9**	**+0.6**
TWC				*i* S	**Sg**	**09 05 45.0**	**+0.8**
	baz=341						
ILA	**Ilan** baz=335	**0.42**	**328**	P	**Pb**	**09 05 44.1**	**+0.5**
ILA				S	**Sb**	**09 05 50.4**	**+0.6**
	baz=335						
NACB	**Ninganchiao** baz=234	**0.43**	**238**	*e*P	**Pg**	**09 05 43.3**	**-0.2**
NACB				*e*S	**Sb**	**09 05 50.3**	**+0.3**
	baz=234						
TWE	**Neicheng** baz=323	**0.43**	**316**	⇓*i*P	**Pb**	**09 05 43.8**	**-0.1**
TWE				*i* S	**Sb**	**09 05 50.2**	**+0.1**
	baz=323						
EGS		**0.44**	**352**	P	**Pn**	**09 05 44.7**	**-1.4**
EGS				*e*S	**Sb**	**09 05 51.0**	**+0.7**
ENTT	**Nioudou** baz=305	**0.46**	**301**	P	**Pg**	**09 05 44.0**	**0.0**
ENTT				*i* S	**Sb**	**09 05 50.6**	**-0.1**
	baz=305						
NTC	**Toucheng** baz=347	**0.47**	**341**	*e*P	**Pb**	**09 05 44.8**	**+0.4**
NTC				*e*S	**Sb**	**09 05 52.0**	**+0.9**
	baz=347						
SLBB	**Yuanshan** baz=322	**0.48**	**317**	*e*P	**Pb**	**09 05 44.9**	**+0.3**
SLBB				*e*S	**Sb**	**09 05 51.9**	**+0.6**
	baz=322						
TWD	**Chiawan** baz=223	**0.49**	**229**	*e*P	**Pg**	**09 05 44.2**	**-0.4**
TWD				*e*S	**Sg**	**09 05 51.8**	**+0.6**
	baz=223						
NNSB	**Datong** baz=273	**0.56**	**273**	*e*P	**Pb**	**09 05 45.6**	**-0.3**
NNSB				*e*S	**Sb**	**09 05 53.2**	**-0.4**
	baz=273						
NNSH	**Datong** baz=273	**0.56**	**273**	*e*P	**Pb**	**09 05 45.6**	**-0.4**
NNSH				*e*S	**Sb**	**09 05 52.9**	**-0.7**
	baz=273						
NNS	**Nan Shan** baz=274	**0.57**	**274**	P	**Pb**	**09 05 45.5**	**-0.6**
NNS				*i* S	**Sb**	**09 05 52.9**	**-1.0**
	baz=274						
NWLT	**Wulai** baz=313	**0.58**	**310**	*e*P	**Pb**	**09 05 46.1**	**-0.1**
NWLT				S	**Sb**	**09 05 53.7**	**-0.5**
	baz=313						
TIPB	**Shuangxi** baz=349	**0.59**	**345**	*i* P	**Pg**	**09 05 46.0**	**-0.4**
TIPB				*i* S	**Sg**	**09 05 54.2**	**0.0**
	baz=349						
TWB1	**Santiao Chiao** baz=5.0	**0.60**	**359**	*i* P	**Pn**	**09 05 47.5**	**-0.8**
TWB1				S	**Sn**	**09 05 56.0**	**-1.5**
	baz=5.0						
ENLB	**Shoufeng** baz=211	**0.62**	**216**	P	**Pg**	**09 05 47.2**	**+0.3**
ENLB				*e*S	**Sg**	**09 05 56.2**	**+1.1**
	baz=211						
YHNB	**Yeheng** baz=297	**0.62**	**295**	*e*P	**Pb**	**09 05 46.8**	**-0.2**
YHNB				*e*S	**Sb**	**09 05 54.8**	**-0.6**
	baz=297						
TWA	**Mucha** baz=331	**0.69**	**327**	*e*P	**Pg**	**09 05 48.5**	**+0.3**
TWA				*e*S	**Sg**	**09 05 58.1**	**+0.8**
	baz=331						
NWF	**Wu-fen Shan** baz=348	**0.69**	**344**	P	**Pn**	**09 05 49.0**	**-0.7**
NWF				S	**Sn**	**09 05 59.0**	**-1.0**
	baz=348						
WFSB	**Wu-fen Shan** baz=347	**0.69**	**344**	*e*P	**Pn**	**09 05 49.1**	**-0.4**
WFSB				*e*S	**Sn**	**09 05 58.6**	**-1.2**
	baz=347						
WHF	**Hehuan Shan** baz=247	**0.72**	**249**	⇑*i*P	**Pb**	**09 05 48.1**	**-0.7**
WHF				*i* S	**Sb**	**09 05 58.3**	**-0.1**
	baz=247						
TATO	**Taipei** baz=324	**0.73**	**321**	*e*P	**Pn**	**09 05 49.5**	**-0.6**
TATO				*e*S	**Sg**	**09 05 59.2**	**+0.4**
	baz=324						
TAP1	**Taipei** baz=328	**0.76**	**326**	*e*P	**Pn**	**09 05 50.3**	**-0.2**
TAP1				*e*S	**Sn**	**09 06 00.9**	**-0.6**
	baz=328						
TWT	**Tachien** baz=257	**0.76**	**259**	*e*P	**Pg**	**09 05 49.8**	**+0.2**
TWT				*i* S	**Sb**	**09 05 59.8**	**+0.2**
	baz=257						
TDCB	**Techi** baz=258	**0.78**	**259**	*e*P	**Pb**	**09 05 49.6**	**-0.2**
TDCB				*e*S	**Sb**	**09 05 59.6**	**-0.4**
	baz=258						
ESL	**Shilin** baz=217	**0.78**	**221**	*e*P	**Pb**	**09 05 48.9**	**-0.8**
ESL				*e*S	**Sg**	**09 06 01.5**	**+1.1**
	baz=217						
WLTB	**Daxi** baz=305	**0.81**	**304**	*e*S	**Sg**	**09 06 01.3**	**0.0**
CHGB	**Renai** baz=244	**0.83**	**246**	*e*P	**Pb**	**09 05 50.1**	**-0.5**
CHGB				*e*S	**Sb**	**09 06 01.1**	**-0.3**
	baz=244						
YM07	**YM07** baz=339	**0.84**	**336**	*e*P	**Pg**	**09 05 50.7**	**-0.4**
YM07				*e*S	**Sn**	**09 06 03.1**	**-0.4**
	baz=339						
YM10	**YM10** baz=335	**0.85**	**332**	P	**Pn**	**09 05 52.2**	**+0.5**
YM10				S	**Sn**	**09 06 03.5**	**-0.2**
	baz=335						
JYNG	**Yonagunijimaku**	**0.87**	**87**	P	**Pn**	**09 05 52.1**	**+0.2**
JYNG				S	**Sn**	**09 06 05.2**	**+1.1**
TWS1	**Kuangyinshan** baz=326	**0.87**	**323**	*e*P	**Pn**	**09 05 52.9**	**+1.0**
TWS1				S	**Sn**	**09 06 04.9**	**+0.7**
	baz=326						
OWD	**Renai** baz=237	**0.87**	**239**	*e*P	**Pb**	**09 05 50.3**	**-1.1**
OWD				*e*S	**Sb**	**09 06 02.6**	**-0.1**
	baz=237						
YM03	**YM03** baz=335	**0.88**	**332**	*e*P	**Pn**	**09 05 52.8**	**+0.7**
YM03				*e*S	**Sn**	**09 06 04.2**	**-0.3**
	baz=335						
NTST	**Danshui** baz=329	**0.91**	**327**	*e*P	**Pn**	**09 05 52.9**	**+0.4**
NTST				*e*S	**Sn**	**09 06 04.6**	**-0.5**
	baz=329						
LIOB	**Emei** baz=286	**0.93**	**285**	P	**Pn**	**09 05 52.6**	**-0.2**
LIOB				S	**Sg**	**09 06 05.1**	**+0.1**
	baz=286						
YOJ	**Yonaguni jima**	**0.93**	**86**	P	**Pn**	**09 05 53.3**	**+0.6**
YOJ				S	**Sn**	**09 06 06.7**	**+1.2**
NCU	**National Centr** baz=309	**0.93**	**308**	*e*P	**Pb**	**09 05 51.7**	**-0.5**
NCU				*e*S	**Sg**	**09 06 04.9**	**0.0**
	baz=309						
NSTT	**Nanjuang** baz=285	**0.93**	**284**	P	**Pn**	**09 05 52.7**	**-0.2**
NSTT				*e*S	**Sb**	**09 06 04.4**	**0.0**
	baz=285						
TWY	**Chenhua** baz=340	**0.94**	**338**	P	**Pg**	**09 05 53.6**	**+0.6**
TWY				*e*S	**Sn**	**09 06 06.1**	**+0.2**
	baz=340						
SBCB	**Hsinchu** baz=294	**1.00**	**293**	*e*P	**Pb**	**09 05 53.1**	**-0.3**
SBCB				*e*S	**Sb**	**09 06 06.7**	**+0.5**
	baz=294						
HSN	**Hsinchu** baz=296	**1.01**	**293**	*e*P	**Pb**	**09 05 53.7**	**0.0**
HSN				*e*S	**Sn**	**09 06 07.2**	**-0.6**
	baz=296						
DPDB	**Guoxing** baz=248	**1.04**	**249**	*e*P	**Pb**	**09 05 54.2**	**-0.1**
DPDB				*e*S	**Sb**	**09 06 07.9**	**+0.3**
	baz=248						
HGSD	**Ruisui** baz=207	**1.05**	**210**	*e*P	**Pg**	**09 05 55.0**	**0.0**
HGSD				*e*S	**Sg**	**09 06 09.2**	**+0.5**
	baz=207						
EHY	**Hungye** baz=211	**1.09**	**215**	*e*P	**Pn**	**09 05 54.7**	**-0.3**
EHY				*e*S	**Sn**	**09 06 09.6**	**+0.1**
	baz=211						
NMLH	**Miaoli** baz=277	**1.11**	**277**	*e*P	**Pb**	**09 05 55.7**	**+0.4**
NMLH				*e*S	**Sn**	**09 06 10.4**	**+0.4**
	baz=277						
TWQ1	**Liyutan** baz=267	**1.12**	**267**	*e*P	**Pb**	**09 05 55.9**	**+0.5**
TWQ1				*e*S	**Sn**	**09 06 10.8**	**+0.5**
	baz=267						
SMLT	**Sun Moon Lake** baz=241	**1.13**	**243**	*e*P	**Pn**	**09 05 55.1**	**-0.5**
SMLT				*e*S	**Sn**	**09 06 11.0**	**+0.3**
	baz=241						
TYC	**Yuchr** baz=243	**1.15**	**245**	*e*P	**Pn**	**09 05 55.5**	**-0.3**
TYC				*e*S	**Sn**	**09 06 11.3**	**+0.2**
	baz=243						
FULB	**Fuli** baz=206	**1.36**	**208**	*e*P	**Pb**	**09 05 59.6**	**0.0**
FULB				*e*S	**Sb**	**09 06 17.4**	**+0.7**
	baz=206						
CHN5	**Tsauling** baz=235	**1.45**	**237**	*e*P	**Pb**	**09 06 00.8**	**-0.3**
CHN5				*e*S	**Sn**	**09 06 19.1**	**+0.5**
	baz=235						
IRIF	**Iriomote-Funau**	**1.58**	**92**	P	**Pb**	**09 06 02.5**	**-0.8**
IRIF				S	**Sb**	**09 06 23.3**	**+0.3**
CHN4	**Tsaushan** baz=229	**1.66**	**231**	*e*P	**Pb**	**09 06 04.0**	**-0.6**
JKRS	**Kuro-shima**	**1.84**	**95**	P	**Pb**	**09 06 06.8**	**-1.0**
JKRS				S	**Sb**	**09 06 29.9**	**-0.6**
JIJ	**Ishigaki jima**	**1.96**	**91**	P	**Pb**	**09 06 08.7**	**-1.1**
JIJ				S	**Sn**	**09 06 31.5**	**+0.5**

IDC 01 09:14:47.2±3.3,**54˚.15N**×**87˚.39E**,**h0**km,**mb1 2.6**/2, **mb1mx2.6**/69,**mbtmp2.6**/2,**ML2.4**/2,**Error ellipse: s-maj=30.0km s-min=17.8km az=56.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=78,slow=339,SNR=1.1	**1.53**	**264**	*i*		09 24 16.3	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=85,slow=13,SNR=5.6	**1.53**	**264**	Pg	Pn	09 15 15.5	-0.2
ZALV				Lg	Lg	09 15 36.0	
	0.6nm,0.3s,baz=82,slow=21,SNR=3.7						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=55,slow=13,SNR=2.9	**6.47**	**241**	Pn	Pn	09 16 23.8	+0.2
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=31,slow=14,SNR=4.0	**8.05**	**206**	Pn	Pn	09 16 46.9	+1.6
MKAR				Sn	Sn	09 18 15.6	-1.4
	0.1nm,0.3s,baz=26,slow=21,SNR=4.5						

*IDC **01** 09:20:01.6±1.4, 1˚.07S×126˚.76E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.5/62,mbtmp3.7/5,ML3.1/1,Error ellipse: s-maj=46.3km s-min=23.1km az=62.0*
*DJA **01** 09:20:03.5±0.7,1˚.S±6˚×12˚.7E±˚,h14km±8km,M3.5/5, mb3.9/1,MLv3.3/5*
*ISCJB **01** 09:20:04.7±0.9,0˚.89S±0˚.07×126˚.88E±0˚.07,h34km, mb3.8/3,Error ellipse: s-maj=13.6km s-min=6.4km az=135.7*

ISC 01 09:20:05.7±1.2,**0˚.87S**±0˚.09×**126˚.86E**±0˚.08,**h34**km,**n9,** σ1.**960**/12,**mb3.8**/3,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.69**	**70**	P	**Pn**	**09 20 17.1**	**-1.9**
LBMI				S	**Sn**	**09 20 27.0**	**-1.5**
SANI	**Sanana**	**1.46**	**216**	P	**Pn**	**09 20 28.7**	**-1.0**
SANI				S	**Sn**	**09 20 48.2**	**+0.6**
NLAI	**Namlea**	**2.37**	**174**	P	**Pn**	**09 20 42.0**	**-0.2**
NLAI				S	**Sn**	**09 21 09.8**	**-0.2**
SIJI	**Sorong** 1.0nm,0.3s,baz=330,slow=20,SNR=2.5	**4.41**	**90**	Pn	**Pn**	**09 21 12.2**	**+1.9**
FAKI	**Fak Fak**	**5.76**	**111**	P	**Pn**	**09 21 30.6**	**+1.7**
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=340,slow=12,SNR=9.3	**20.32**	**159**	P	**P**	**09 24 37.5**	**-1.7**
ASAR	**Alice Springs** 0.8nm,0.6s,baz=342,slow=7.6,SNR=18	**23.67**	**164**	P	**P**	**09 25 12.7**	**-1.7**
STKA	**Stephens Creek** 3.3nm,1.0s,baz=307,slow=10,SNR=3.0	**33.84**	**157**	P	**P**	**09 26 45.0**	**-0.1**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=126,slow=7.3,SNR=1.9	**61.41**	**327**	P	**P**	**09 30 20.6**	**+1.9**

*IDC **01** 09:23:57.5±1.1,51˚.47N×95˚.97E,h0km,mb4.3/1, mb1 3.4/4,mb1mx3.1/80,mbtmp3.4/4,ML2.3/1,Error ellipse: s-maj=28.7km s-min=11.1km az=173.0*
*MOS **01** 09:24:00.9±3.3,51˚.73N×96˚.24E,h14km,mb4.0/2,Error ellipse: s-maj=29.3km s-min=14.6km az=161.6*

ISC 01 09:23:59.3±0.9,**51˚.8N**±0˚.1×**96˚.04E**±0˚.06,**h10**km,**n19,** σ2.**916**/21,**3C-2D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HVS	**Khovu-Aksy**	**1.62**	**246**	*d* iPN	**Pn**	**09 24 26.1**	**-1.9**
ORL	**Orlik**	**2.43**	**71**	*e*PN	**Pn**	**09 24 41.2**	**+2.0**
ORL				*e*		09 25 11.7	
ORL				pmax	pmax		
	comp=Z,50nm,0.5s						
ORL				smax	smax		
	comp=N,164nm,0.6s						
MOY	**Mondy**	**3.08**	**91**	*e*PN	**Pb**	**09 24 52.7**	**-1.6**
MOY				*e*		09 25 32.6	
MOY				pmax	pmax		
	comp=Z,42nm,0.4s						
MOY				smax	smax		
	comp=N,174nm,1.0s						
ARS	**Arshan**	**3.96**	**86**	*e*PN	**Pb**	**09 25 09.8**	**+0.6**
ARS				*e*		09 26 00.5	
ARS				pmax	pmax		
	comp=Z,28nm,0.4s						
ARS				smax	smax		
	comp=E,380nm,0.6s						
TLY	**Talaya** comp=E,0.0nm,0.3s,baz=291,slow=17,SNR=3.2	**4.73**	**89**	Pg	**Pb**	**09 25 22.5**	**+0.3**
TLY				Lg	Lg	09 26 23.8	
	baz=197,slow=14						
TLY	**Talaya**	**4.73**	**89**	*e*PN	**Pb**	**09 25 23.0**	**+0.7**
TLY				*e*		09 26 23.8	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
IRK	**Irkutsk**	**5.10**	**82**	*e*PN	**Pb**	**09 25 29.4**	**+0.8**
IRK				*e*		09 26 33.6	
IRK				pmax	pmax		
	comp=Z,148nm,0.1s						
IRK				smax	smax		
	comp=N,185nm,0.5s						
TRG	**Tyrgan**	**6.39**	**78**	*e*PN	**Pn**	**09 25 37.0**	**+3.4**
TRG				*e*		09 25 54.6	
TRG				*e*		09 27 12.6	
TRG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TRG				smax	smax		
	comp=N,62nm,1.4s						
ZALV	**Zalesovo Beam** comp=N,0.3nm,0.3s,baz=104,slow=10,SNR=3.6	**7.12**	**292**	Pn	**Pn**	**09 25 43.1**	**-0.2**
ZALV				Lg	Lg	09 27 39.1	
	comp=N,1.5nm,0.3s,baz=108,slow=26,SNR=12						
SONM	**Songino Array** comp=N,0.3nm,0.3s,baz=307,slow=18,SNR=9.2	**7.79**	**117**	Pg	**Pb**	**09 26 16.1**	**+1.6**
SONM				Lg	Lg	09 28 00.9	
	comp=N,1.0nm,0.3s,baz=299,slow=29,SNR=18						
MKAR	**Makanchi Array** baz=46,slow=16,SNR=2.1	**10.29**	**246**	Pn	Pn	09 26 23.5	-3.4
MKAR				Lg	Lg	09 29 20.9	
	comp=N,0.2nm,0.3s,baz=58,slow=27,SNR=4.3						
KURK	**Kurchatov**	**10.97**	**271**	P	**Pn**	**09 26 36.8**	**+0.6**
KURBB	**Kurchatov Arra** baz=83,slow=16,SNR=4.4	**11.05**	**271**	Pn	**Pn**	**09 26 36.8**	**-0.5**
KURBB				Lg	Lg	09 29 45.0	
	comp=N,0.0nm,0.3s,baz=78,slow=34,SNR=4.6						
ARU	**Arti**	**22.24**	**297**	⇑*i*P	**P**	**09 28 57.6**	**+1.6**
ARU				*i* PP	**pP**	**09 28 59.9**	**+1.1**
ARU				*i* SP		09 29 02.5	
ARU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KLR	**Kul'dur**	**22.71**	**82**	⇓*e*P	**P**	**09 28 56.0**	**-5.0**
TIXI	**Tiksi**	**24.64**	**24**	P	**P**	**09 29 21.5**	**+1.9**
	comp=Z,3.5nm,0.5s,baz=239,slow=3.8,SNR=11						
TIXI	**Tiksi**	**24.64**	**24**	⇑*i*P	**P**	**09 29 20.8**	**+1.2**
TIXI				*i* *PP	**pP**	**09 29 23.8**	**+1.2**
TIXI				*i* *SP	**sP**	**09 29 25.0**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MA2	**Magadan**	**30.98**	**54**	*e*P	**P**	**09 30 13.0**	**-3.4**
SEY	**Seymchan**	**31.29**	**47**	⇑*e*P	**P**	**09 30 15.9**	**-3.1**

IDC 01 09:24:17.5±1.6,**3˚.47S**×**144˚.67E**,**h0**km,**mb3.6**/2, **mb1 4.0**/4,**mb1mx3.4**/49,**mbtmp3.8**/4,**ML3.2**/2,**MS3.3**/3, **Ms1 3.3**/3,**ms1mx2.7**/40,**Error ellipse: s-maj=47.2km s-min=25.3km az=102.0,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 4.7nm,0.3s,baz=308,slow=12,SNR=9.3	**6.40**	**157**	Pn	Pn	09 25 53.4	+0.3
PMG				Sn	Sn	09 27 05.2	-1.7
	1.3nm,0.3s,baz=125,slow=22,SNR=9.0						
PMG				LR	LR	09 28 44.9	
	comp=Z,235nm,19.4s,baz=344,slow=42						
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=31,slow=11,SNR=21	**19.23**	**211**	P	P	09 28 43.0	-0.4
ASAR	**Alice Springs** 2.2nm,0.6s,baz=37,slow=8.8,SNR=34	**22.62**	**206**	P	P	09 29 20.6	+0.5
ASAR				LR	LR	09 39 26.9	
	comp=Z,78nm,19.2s,baz=33,slow=40						
KSRS	**Korea Array** comp=Z,24nm,18.2s,baz=182,slow=34	**43.59**	**341**	LR	LR	09 49 09.2	
ILAR	**Eielson Array** 0.3nm,0.7s,baz=255,slow=5.5,SNR=3.1	**84.09**	**24**	P	P	09 36 50.0	0.0

*ISCJB **01** 09:25:25.1±0.6,46˚.84N±0˚.08×152˚.9E±0˚.1,h40km, mb3.8/11,MS3.0/2,Error ellipse: s-maj=14.3km s-min=4.0km az=137.8*
*MOS **01** 09:25:26.1±0.9,46˚.85N×152˚.83E,h56km,mb4.5/4,Error ellipse: s-maj=17.4km s-min=8.7km az=54.9*
*SKHL **01** 09:25:28.0±1.1,46˚.80N×152˚.81E,h69km±8km,mb5.4/4, msh4.7/4*
*IDC **01** 09:25:29.6±2.6,46˚.93N×152˚.84E,h66km±23km,mb3.5/12, mb1 3.7/16,mb1mx3.5/74,mbtmp3.8/16,MS2.6/6, Ms1 2.6/6,ms1mx2.4/56,Error ellipse: s-maj=27.3km s-min=14.8km az=160.0*

ISC 01 09:25:26.3±0.8,**46˚.69N**±0˚.10×**153˚.13E**±0˚.09,**h40**km,**n46,** σ2.**900**/48,**mb3.7**/11,**1C-1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.95**	**250**	*i* P	**Pn**	**09 26 24.5**	**+0.3**
KUR				AMB	AMB	09 26 25.5	
	220nm,2.5s						
KUR				AMB	AMB	09 26 26.7	
	67nm,0.5s						
KUR				*i* S	**Sn**	**09 27 08.0**	**-1.2**
KUR				A	A	09 27 11.5	
	620nm,2.5s						
KUR				A	A	09 27 11.5	
	200nm,2.5s						
KUR				A	A	09 27 27.4	
	450nm,0.7s						
KUR				A	A	09 27 27.4	
	480nm,0.7s						
KUR	**Kuril'sk**	**3.95**	**250**	*c* iPN	**Pn**	**09 26 25.0**	**+0.8**
KUR				pmax	pmax		
	comp=Z,67nm,0.5s						
KUR				pmax	pmax		
	comp=E,19nm,0.1s						
KUR				pmax	pmax		
	comp=N,19nm,0.2s						
SKR	**Severo-Kuril's**	**4.46**	**25**	*e*P	**Pn**	**09 26 33.0**	**+1.7**
SKR				AMB	AMB	09 26 36.2	
	comp=N,298nm,2.0s						
SKR				AMB	AMB	09 26 37.2	
	comp=N,65nm,0.6s						
SKR				*e*S	**Sn**	**09 27 21.7**	**-0.1**
SKR				A	A	09 27 25.2	
	comp=N,372nm,3.0s						
SKR				A	A	09 27 25.2	
	comp=N,255nm,3.0s						
SKR				A	A	09 27 30.6	
	comp=N,116nm,0.5s						
SKR				A	A	09 27 30.6	
	comp=N,78nm,0.5s						
SKR	**Severo-Kuril's**	**4.46**	**25**	*e*PN	**Pn**	**09 26 32.8**	**+1.5**
SKR				*e*S	**Sn**	**09 27 20.1**	**-1.7**
SKR				pmax	pmax		
	comp=Z,106nm,0.9s						
SKR				smax	smax		
	comp=E,122nm,1.0s						
SKR				smax	smax		
	comp=N,84nm,0.5s						
SHO	**Shikotan**	**5.26**	**240**	*e*P	**Pn**	**09 26 41.5**	**-0.8**
SHO				AMB	AMB	09 26 45.7	
	comp=N,23nm,0.4s						
SHO				AMB	AMB	09 26 49.4	
	comp=N,240nm,3.0s						
SHO				*e*S	**Sn**	**09 27 37.7**	**-4.0**
SHO				A	A	09 28 04.7	
	comp=N,200nm,3.0s						
SHO				A	A	09 28 04.7	
	comp=N,230nm,3.0s						
SHO				A	A	09 28 08.4	
	comp=N,179nm,0.6s						
SHO				A	A	09 28 08.4	
	comp=N,164nm,0.6s						
SHO	**Shikotan**	**5.26**	**240**	*e*PN	**Pn**	**09 26 40.4**	**-1.9**
SHO				*i* S	**Sn**	**09 27 42.0**	**+0.3**
SHO				pmax	pmax		
	comp=Z,62nm,0.6s						
SHO				pmax	pmax		
	comp=E,42nm,0.5s						
SHO				pmax	pmax		
	comp=N,26nm,0.6s						
SHO				smax	smax		
	comp=E,139nm,0.6s						
SHO				smax	smax		
	comp=N,93nm,0.4s						
PAU	**Pauzhetka**	**5.36**	**26**	*e*P	**Pn**	**09 26 46.7**	**+3.1**
PAU				AMB	AMB	09 26 48.2	
	comp=N,137nm,0.7s						
PAU				*e*S	**Sn**	**09 27 44.8**	**+0.8**
PAU				A	A	09 27 53.8	
	comp=N,182nm,0.6s						
PAU				A	A	09 27 53.8	
	comp=N,132nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.77**	**245**	*i* P	**Pn**	**09 26 49.8**	**+0.6**
YUK				AMB	AMB	09 26 52.5	
	comp=N,98nm,0.5s						
YUK				AMB	AMB	09 26 55.4	
	comp=N,580nm,2.0s						
YUK				*e*S	**Sn**	**09 27 51.1**	**-3.0**
YUK				A	A	09 27 53.0	
	comp=N,600nm,2.0s						
YUK				A	A	09 27 53.0	
	comp=N,800nm,2.0s						
YUK				A	A	09 28 16.0	
	comp=N,197nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK				A	A	09 28 16.0	
	comp=N,103nm,0.4s						
YUK	Yuzh-Kuril'sk	5.77	245	d iPN	Pn	09 26 50.0	+0.8
YUK				eS	Sn	09 28 00.1	+6.0
YUK				pmax	pmax		
	comp=E,61nm,0.5s						
YUK				pmax	pmax		
	comp=Z,98nm,0.5s						
YUK				pmax	pmax		
	comp=N,18nm,0.2s						
YUK				smax	smax		
	comp=E,197nm,0.4s						
YUK				smax	smax		
	comp=N,103nm,0.3s						
LAGR	Lagunnoye	5.80	246	eP	Pn	09 26 49.3	-0.4
LAGR	Lagunnoye	5.80	246	ePN	Pn	09 26 49.3	-0.4
LAGR				eS	Sn	09 27 59.4	+4.4
GRPR	Tuman	5.84	245	eP	Pn	09 26 50.8	+0.5
GRPR	Tuman	5.84	245	ePN	Pn	09 26 50.8	+0.5
GRPR				eS	Sn	09 28 00.9	+4.9
GLVR	Golovnino	6.13	244	eP	Pn	09 26 54.2	0.0
GLVR	Golovnino	6.13	244	ePN	Pn	09 26 54.2	0.0
GLVR				eS	Sn	09 28 07.3	+4.3
PETK	Petropavlovsk-	7.07	23	P	Pn	09 27 07.2	+0.1
	comp=N,0.3nm,0.3s,baz=176,slow=11,SNR=6.9						
PETK				LR	LR	09 29 40.2	
	comp=N,39nm,19.1s,baz=47,slow=36						
YSS	Yuzh-Sakhalins	7.12	276	ePN	Pn	09 27 11.8	+4.0
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ASAJ	Asahikawa	7.84	255	P	Pn	09 27 19.6	+1.8
	comp=Z,0.9nm,0.3s,baz=87,slow=18,SNR=11						
TYV	Tymovskoe	8.08	305	eP	Pn	09 27 20.0	-0.9
MA2	Magadan	12.98	355	P	Pn	09 28 27.7	-0.3
	comp=Z,0.9nm,0.3s,baz=149,slow=15,SNR=4.1						
MA2				LR	LR	09 33 06.3	
	comp=Z,36nm,22.0s,baz=84,slow=36						
KLR	Kul'dur	14.54	288	LR	LR	09 34 13.1	
	comp=Z,4.4nm,19.6s,baz=294,slow=37						
USRK	Ussuriysk Ar.	15.04	268	P	Pn	09 28 55.9	0.0
	comp=Z,0.3nm,0.3s,baz=72,slow=9.4,SNR=4.9						
MJAR	Matsushiro Arr	15.05	233	P	P	09 28 59.1	-1.7
	comp=Z,0.2nm,0.3s,baz=38,slow=8.3,SNR=5.0						
KSRS	Korea Array	20.79	253	P	P	09 30 04.3	+0.5
	comp=Z,1.2nm,0.8s,baz=60,slow=7.6,SNR=6.2						
KSRS				LR	LR	09 38 44.6	
	comp=Z,11nm,18.1s,baz=200,slow=38						
H11N2	WAKE ISLAND Hy	29.16	153	T	T	10 02 43.5	
	baz=340,slow=76,SNR=146						
H11N1	WAKE ISLAND Hy	29.18	153	T	T	10 03 03.9	
	baz=340,slow=76,SNR=104						
H11N3	WAKE ISLAND Hy	29.18	153	T	T	10 03 05.1	
	baz=340,slow=76,SNR=90						
H11S1	WAKE ISLAND Hy	30.25	154	T	T	10 04 23.1	
	baz=340,slow=76,SNR=88						
H11S3	WAKE ISLAND Hy	30.26	154	T	T	10 04 07.2	
	baz=340,slow=76,SNR=115						
H11S2	WAKE ISLAND Hy	30.27	154	T	T	10 04 11.2	
	baz=340,slow=76,SNR=95						
SONM	Songino Array	31.36	289	LR	LR	09 44 26.0	
	comp=Z,39nm,18.2s,baz=34,slow=36						
TLY	Talaya	32.21	297	LR	LR	09 44 54.9	
	comp=Z,31nm,21.9s,baz=0.5,slow=36						
ILAR	Eielson Array	36.59	39	P	P	09 32 28.7	+0.7
	comp=Z,0.3nm,0.8s,baz=279,slow=4.8,SNR=4.1						
INK	Inuvik	41.70	32	P	P	09 33 10.7	+0.2
	comp=Z,0.6nm,0.4s,baz=192,slow=7.3,SNR=4.3						
MKAR	Makanchi Array	46.98	297	P	P	09 33 51.7	-1.4
	comp=Z,0.3nm,0.4s,baz=60,slow=7.4,SNR=4.0						
MKAR				PcP	PcP	09 35 23.8	-1.1
	comp=Z,0.4nm,0.8s,baz=85,slow=1.9,SNR=4.3						
KURK	Kurchatov	47.40	304	P	P	09 33 54.5	-1.8
KURBB	Kurchatov Arra	47.50	304	P	P	09 33 54.5	-2.5
	comp=Z,0.4nm,0.3s,baz=70,slow=8.2,SNR=2.8						
YKA	Yellowknife Ar	50.97	37	P	P	09 34 23.6	+0.3
	comp=Z,0.3nm,0.4s,baz=299,slow=7.2,SNR=9.5						
NVAR	Mina Array Bea	62.45	62	P	P	09 35 46.4	+0.8
	comp=Z,0.5nm,0.7s,baz=293,slow=12,SNR=2.8						
FINES	FINESS Array B	64.10	335	P	P	09 35 54.1	-1.6
	comp=Z,1.5nm,0.4s,baz=30,slow=6.4,SNR=16						
PDAR	Pinedale Array	64.77	54	P	P	09 36 01.3	+0.5
	comp=Z,0.3nm,0.7s,baz=236,slow=1.6,SNR=3.5						
NB2	NORSAR Subarra	68.29	341	P	P	09 36 21.6	-1.0
	comp=Z,2.3nm,0.6s,baz=31,slow=6.5						
NOA	NORSAR Array B	68.29	341	P	P	09 36 21.1	-1.5
	comp=Z,1.5nm,0.6s,baz=30,slow=6.6,SNR=6.0						
HFS	Hagfors	68.52	340	P	P	09 36 22.9	-1.1
	comp=Z,4.0nm,0.6s,baz=46,slow=6.4,SNR=17						
TXAR	Lajitas Array	77.51	61	P	P	09 37 18.2	+0.4
	comp=Z,0.4nm,0.5s,baz=302,slow=4.8,SNR=15						
PLCA	Paso Flores	148.19	95	PKPbc	PKPbc	09 45 07.2	-0.2
	comp=Z,1.7nm,1.0s,baz=297,slow=4.1,SNR=4.0						

IDC 01 09:39:05.7±3.0, 53°.86N×86°.50E, h0km, mb1 2.4/1, mb1mx2.4/69, mbtmp2.4/1, ML2.4/1, Error ellipse: s-maj=22.7km s-min=13.6km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	276	i		09 41 35.1	
	baz=96,slow=339,SNR=0.8						
ZALV	Zalesovo Beam	1.00	276	Pg	Pg	09 39 23.9	-0.9
	1.7nm,0.3s,baz=82,slow=16,SNR=8.9						
ZALV				Lg	Lg	09 39 39.8	
	2.1nm,0.3s,baz=94,slow=30,SNR=7.9						
MKAR	Makanchi Array	7.56	203	Pn	Pn	09 40 58.6	+1.4
	0.1nm,0.3s,baz=24,slow=12,SNR=4.4						

KRSC 01 09:42:11.9±1.8, 50°.97N×157°.84E, h48km±22km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.81	308	eP	Pn	09 42 28.7	+1.6
PAU				eS	Sn	09 42 39.5	+1.4
KDTR	Khodutka, Kamc	0.85	10	eP	Pn	09 42 29.6	+2.0
KDTR				eS	Sn	09 42 41.1	+2.0
SKR	Severo-Kuril's	1.13	256	eP	Pn	09 42 31.8	+0.5
SKR				eS	Sn	09 42 45.0	-0.6
RUS	Russkaya	1.52	16	eP	Pn	09 42 38.6	+1.9
RUS				eS	Sn	09 42 56.9	+1.6
MTVR	Mutnovka	1.53	8	eP	Pn	09 42 39.2	+2.3
MTVR				eS	Sn	09 42 57.9	+2.2
KRMR	Karymshinskiy	1.87	5	eP	Pn	09 42 44.9	+3.5
KRMR				eS	Sn	09 43 08.0	+4.2
APC	Apacha	2.00	348	eP	Pn	09 42 46.0	+2.8
APC				eS	Sn	09 43 09.7	+2.7
PET	Petropavlovsk	2.12	14	eP	Pn	09 42 46.8	+2.0
PET				eS	Sn	09 43 11.3	+1.4
DALK	Dalny	2.14	15	eP	Pn	09 42 47.9	+2.8
DALK				eS	Sn	09 43 13.1	+2.7
UGLR	Uglovaya	2.32	15	eP	Pn	09 42 51.2	+3.4
AVH	Avacha	2.36	13	eP	Pn	09 42 52.3	+4.0
SMAR	Somma	2.37	14	eP	Pn	09 42 52.8	+4.3
KOK	Koryaka	2.38	12	eP	Pn	09 42 52.6	+4.1
NLC	Nalytchevo	2.39	22	eS	Sn	09 43 17.1	+0.5
SDLR	Sedlovina	2.40	15	eP	Pn	09 42 51.7	+2.9
SDLR				eS	Sn	09 43 19.4	+2.4
KRX	Arik	2.44	12	eP	Pn	09 42 53.7	+4.3
SPN	Mys Shipunski	2.52	32	eP	Pn	09 42 52.3	+1.9
SPN				eS	Sn	09 43 20.6	+0.7
GNL	Ganaly	2.73	1	eP	Pn	09 42 56.7	+3.4
KBTR	Krutoberegovo	6.03	28	eP	Pn	09 43 42.1	+3.7

IDC 01 09:54:47.0±3.4, 53°.67N×87°.99E, h0km, mb1 3.1/2, mb1mx3.0/64, mbtmp3.1/2, ML2.4/2, Error ellipse: s-maj=33.5km s-min=19.2km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.90	280	i		10 07 22.1	
	baz=97,slow=339,SNR=1.7						
ZALV	Zalesovo Beam	1.90	280	Pn	Pn	09 55 20.7	0.0
	0.8nm,0.3s,baz=101,slow=15,SNR=7.8						
ZALV				Lg	Lg	09 55 48.0	
	2.1nm,0.3s,baz=97,slow=26,SNR=10						
KURBB	Kurchatov Arra	6.58	246	Pn	Pn	09 56 24.7	-0.2
	0.1nm,0.3s,baz=57,slow=14,SNR=2.8						
MKAR	Makanchi Array	7.79	210	Pn	Pn	09 56 43.5	+1.8
	0.1nm,0.3s,baz=29,slow=13,SNR=4.2						

IDC 01 09:58:26.2±2.5, 0°.65N×96°.58E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/62, mbtmp3.8/6, ML4.6/1, Error ellipse: s-maj=92.5km s-min=26.9km az=58.0
ISCJB 01 09:58:30.6±1.1, 1°.12N±0°.08×97°.06E±0°.07, h25km, mb3.7/5, Error ellipse: s-maj=12.6km s-min=9.5km az=28.4
DJA 01 09:58:33.7±1.3, 1°N±7°×9°7E±°, h22km±4km, M3.8/5, MLv3.8/5
ISC 01 09:58:32.7±1.3, 1°.1N±0°.1×97°.14E±0°.09, h25km, n12, σ1s39/11, mb4.0/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.47	69	P	Pb	09 58 42.7	+0.3
GSI				S	Sb	09 58 48.6	-0.4
TPTI		2.11	1	P	Pn	09 59 05.9	-0.6
TPTI				S	Sn	09 59 30.6	-1.4
MNSI	Mandailing Nat	2.46	98	P	Pn	09 59 11.2	-0.1
CMAR	Chiang Mai Arr	17.31	6	P	P	10 02 37.2	+3.2
	0.8nm,0.3s,baz=195,slow=10,SNR=4.9						
H08S2	Diego Garcia H	26.08	250	T	T	10 31 05.1	
	baz=71,slow=75,SNR=528						
H08S3	Diego Garcia H	26.09	250	T	T	10 31 05.4	
	baz=71,slow=75,SNR=492						
H08S1	Diego Carcia H	26.10	250	T	T	10 31 06.5	
	baz=71,slow=75,SNR=568						
WRA	Warramunga Arr	42.05	122	P	P	10 06 21.9	-0.9
	0.3nm,0.5s,baz=303,slow=8.8,SNR=3.1						
SONM	Songino Array	47.21	8	P	P	10 07 04.5	+0.9
	0.8nm,0.6s,baz=196,slow=9.2,SNR=6.8						
MKAR	Makanchi Array	47.29	346	P	P	10 07 03.9	-0.3
	0.3nm,0.5s,baz=149,slow=9.0,SNR=4.7						
ZALV	Zalesovo Beam	53.62	351	P	P	10 07 52.2	+0.4
	0.9nm,0.3s,baz=166,slow=7.3,SNR=2.9						
ARCES	ARCESS Array B	82.58	340	P	P	10 10 52.3	-1.0
	0.7nm,0.6s,baz=59,slow=0.7,SNR=3.8						

BEO 01 10:02:32.1±1.3, 43°.33N×23°.54E, h0km, M1.4/3, Mining explosion., Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAPS	Zavoj	0.66	265	eSg	Sg	10 02 53.2	-0.2
VTS	Vitosha	0.78	198	ePg	Pg	10 02 46.1	-0.9
VTS				eSg	Sg	10 02 56.4	-0.6
ZAGS	Zajecar	1.07	297	ePg	Pg	10 02 50.9	-1.6
ZAGS				eSg	Sg	10 03 05.7	-0.6

ISCJB 01 10:03:48.4±0.6, 45°.51N±0°.03×26°.35E±0°.03, h125km±4km, Error ellipse: s-maj=4.5km s-min=3.7km az=4.8
CSEM 01 10:03:48.9±0.2, 45°.51N×26°.34E, h123km±2km, MD3.6, Error ellipse: s-maj=3.3km s-min=2.8km az=4.0
BUC 01 10:03:48.7±0.9, 45°.54N×26°.33E, h129km±8km, MD3.6/4, Error ellipse: s-maj=5.8km s-min=4.8km az=324.0
BEO 01 10:03:49.7±1.3, 45°.50N×25°.73E, h0km, M2.8/5
ISC 01 10:03:47.3±1.3, 45°.50N±0°.03×26°.33E±0°.02, h137km±6km, n107, σ1s17/168, 74C-21D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.27	268	⇑iP	Pn	10 04 06.6	+0.2
MLR	Muntele Rosu	0.27	268	⇑iP	Pn	10 04 06.6	+0.2
MLR				iS	Sn	10 04 20.2	-0.6
MLR	Muntele Rosu	0.27	268	⇑iP	Pn	10 04 06.6	+0.2
MLR				iS	Sn	10 04 20.2	-0.6
ISR	Istrita	0.41	158	⇑iP	Pn	10 04 07.3	+0.5
ISR	Istrita	0.41	158	⇑iP	Pn	10 04 07.3	+0.5
ISR				iS	Sn	10 04 21.6	0.0
ISR	Istrita	0.41	158	⇑iP	Pn	10 04 07.3	+0.5
ISR				iS	Sn	10 04 21.6	0.0
PLOR	Plostina	0.41	33	⇑iP	Pn	10 04 06.8	0.0
PLOR	Plostina	0.41	33	⇑iP	Pn	10 04 06.8	0.0
PLOR				iS	Sn	10 04 20.0	-1.6
PLOR	Plostina	0.41	33	P	Pn	10 04 06.7	0.0
PLOR				iS	Sn	10 04 20.0	-1.6
VRI	Vrincioaia	0.46	37	⇑iP	Pn	10 04 07.2	+0.2
VRI	Vrincioaia	0.46	37	⇑iP	Pn	10 04 07.2	+0.2
VRI				iS	Sn	10 04 20.5	-1.5
VRI	Vrincioaia	0.46	37	⇑iP	Pn	10 04 07.2	+0.2
VRI				S	Sn	10 04 20.4	-1.5
GRER		0.47	105	⇑iP	Pn	10 04 08.3	+1.3
GRER		0.47	105	⇑iP	Pn	10 04 08.3	+1.3
GRER		0.47	105	⇑iP	Pn	10 04 08.3	+1.3
SECR		0.50	202	⇑iP	Pn	10 04 08.1	+0.9
SECR		0.50	202	⇑iP	Pn	10 04 08.1	+0.9
SECR				iS	Sn	10 04 22.2	-0.1
SECR		0.50	202	⇑iP	Pn	10 04 08.1	+0.9
SECR				iS	Sn	10 04 22.2	-0.1
ODBI	Odobesti	0.57	63	⇑iP	Pn	10 04 08.7	+1.2
ODBI	Odobesti	0.57	63	⇑iP	Pn	10 04 08.7	+1.2
ODBI				iS	Sn	10 04 22.6	-0.3
ODBI	Odobesti	0.57	63	⇑iP	Pn	10 04 08.7	+1.2
ODBI				iS	Sn	10 04 22.6	-0.3
PLAR	PLOIESTI	0.63	200	⇑iP	Pn	10 04 08.9	+1.0
PLAR	PLOIESTI	0.63	200	⇑iP	Pn	10 04 08.9	+1.0
PLAR				iS	Sn	10 04 23.1	-0.4
PLAR	PLOIESTI	0.63	200	⇑iP	Pn	10 04 08.9	+1.0
PLAR				iS	Sn	10 04 23.1	-0.4
PETR	Petresti	0.67	71	⇑iP	Pn	10 04 09.0	+0.8
PETR	Petresti	0.67	71	⇑iP	Pn	10 04 09.0	+0.8
PETR				iS	Sn	10 04 23.4	-0.6
PETR	Petresti	0.67	71	⇑iP	Pn	10 04 09.0	+0.8
PETR				iS	Sn	10 04 23.4	-0.6
PGOR	Pogoanele	0.76	142	⇑iP	Pn	10 04 09.7	+0.9
PGOR	Pogoanele	0.76	142	⇑iP	Pn	10 04 09.7	+0.9
PGOR				iS	Sn	10 04 25.4	+0.3
PGOR	Pogoanele	0.76	142	⇑iP	Pn	10 04 09.7	+0.9
PGOR				iS	Sn	10 04 25.4	+0.3
DOPR	Dopca	0.81	306	⇑iP	Pn	10 04 09.6	+0.4
DOPR	Dopca	0.81	306	⇑iP	Pn	10 04 09.6	+0.4
DOPR				iS	Sn	10 04 24.6	-1.3
DOPR	Dopca	0.81	306	⇑iP	Pn	10 04 09.6	+0.4
DOPR				iS	Sn	10 04 24.6	-1.3
SULR		0.83	184	⇑iP	Pn	10 04 10.4	+1.0
SULR		0.83	184	⇑iP	Pn	10 04 10.4	+1.0
SULR				iS	Sn	10 04 26.1	0.0
SULR		0.83	184	⇑iP	Pn	10 04 10.4	+1.0
SULR				iS	Sn	10 04 26.1	0.0
VOIR		0.90	266	⇑iP	Pn	10 04 10.7	+0.6
VOIR		0.90	266	⇑iP	Pn	10 04 10.7	+0.6
VOIR				iS	Sn	10 04 26.1	-1.3
VOIR		0.90	266	⇑iP	Pn	10 04 10.7	+0.6
VOIR				iS	Sn	10 04 26.1	-1.3
MTUR	Matau	0.93	253	⇑iP	Pn	10 04 11.2	+0.8
MTUR	Matau	0.93	253	⇑iP	Pn	10 04 11.2	+0.8
MTUR	Matau	0.93	253	⇑iP	Pn	10 04 11.2	+0.8
TESR	Tescani	1.03	12	⇑iP	Pn	10 04 11.2	+0.1
TESR	Tescani	1.03	12	⇑iP	Pn	10 04 11.2	+0.1
TESR	Tescani	1.03	12	⇑iP	Pn	10 04 11.2	+0.1
TESR				S	Sn	10 04 26.5	-2.8
BUC1	Bucharest	1.18	191	⇓iP	Pn	10 04 13.7	+1.2
BUC1				S	Sn	10 04 31.5	-0.1
BUC1	Bucharest	1.18	191	⇓iP	Pn	10 04 13.7	+1.2
BUC1				iS	Sn	10 04 31.5	-0.1
BUC1	Bucharest	1.18	191	⇓iP	Pn	10 04 13.7	+1.2
BUC1				iS	Sn	10 04 31.5	-0.1
ARR	Arges	1.20	264	⇑iP	Pn	10 04 14.2	+1.4
ARR	Arges	1.20	264	⇑iP	Pn	10 04 14.2	+1.4
ARR				iS	Sn	10 04 31.4	-0.8
ARR	Arges	1.20	264	⇑iP	Pn	10 04 14.2	+1.4
ARR				iS	Sn	10 04 31.4	-0.8
SGRR	Singureni	1.30	191	⇑iP	Pn	10 04 14.8	+1.0
SGRR	Singureni	1.30	191	⇑iP	Pn	10 04 14.8	+1.0
SGRR				iS	Sn	10 04 33.4	-0.6
SGRR	Singureni	1.30	191	⇑iP	Pn	10 04 14.8	+1.0
SGRR				iS	Sn	10 04 33.4	-0.6
CFR	Carcaliu	1.32	104	⇑iP	Pn	10 04 14.3	+0.4
CFR				S	Sn	10 04 32.7	-1.4
CFR	Carcaliu	1.32	104	⇑iP	Pn	10 04 14.3	+0.4
CFR				iS	Sn	10 04 32.7	-1.4
CFR	Carcaliu	1.32	104	⇑iP	Pn	10 04 14.3	+0.4
CFR				iS	Sn	10 04 32.7	-1.4
GIUM	Giurgiulesti	1.32	90	⇑iP	Pn	10 04 15.3	+1.4
GIUM	Giurgiulesti	1.32	90	⇑iP	Pn	10 04 15.3	+1.4
GIUM				iS	Sn	10 04 33.9	-0.3
GIUM	Giurgiulesti	1.32	90	⇑iP	Pn	10 04 15.3	+1.4
GIUM				iS	Sn	10 04 33.9	-0.3
HUMR	Humele	1.37	225	⇑iP	Pn	10 04 15.3	+0.9
HUMR	Humele	1.37	225	⇑iP	Pn	10 04 15.3	+0.9
HUMR				iS	Sn	10 04 34.8	-0.3
HUMR	Humele	1.37	225	⇑iP	Pn	10 04 15.3	+0.9
HUMR				iS	Sn	10 04 34.8	-0.3
HARR	Harsova	1.40	125	⇑iP	Pn	10 04 15.5	+0.8
HARR	Harsova	1.40	125	⇑iP	Pn	10 04 15.5	+0.8
HARR	Harsova	1.40	125	⇑iP	Pn	10 04 15.5	+0.8
TLB	Topalu	1.52	126	⇓iP	Pn	10 04 16.9	+0.8
TLB	Topalu	1.52	126	⇓iP	Pn	10 04 16.9	+0.8
TLB				iS	Sn	10 04 36.9	-1.1
TLB	Topalu	1.52	126	⇓iP	Pn	10 04 16.9	+0.8
TLB				iS	Sn	10 04 36.9	-1.1
LEOM	Leova	1.65	53	⇑iP	Pn	10 04 18.2	+0.7
LEOM	Leova	1.65	53	⇑iP	Pn	10 04 18.2	+0.7
LEOM				iS	Sn	10 04 39.7	-0.9
LEOM	Leova	1.65	53	⇑iP	Pn	10 04 18.2	+0.7
LEOM				S	Sn	10 04 39.8	-0.9
CVDA	Cernavoda	1.69	133	⇓iP	Pn	10 04 19.2	+1.3
CVDA	Cernavoda	1.69	133	⇓iP	Pn	10 04 19.2	+1.3
CVDA				iS	Sn	10 04 41.3	0.0
CVDA	Cernavoda	1.69	133	⇓iP	Pn	10 04 19.2	+1.3
CVDA				iS	Sn	10 04 41.3	0.0
TLCR		1.78	99	⇓iP	Pn	10 04 20.1	+1.1
TLCR		1.78	99	⇓iP	Pn	10 04 20.1	+1.1
TLCR				iS	Sn	10 04 42.4	-0.9
TLCR		1.78	99	⇓iP	Pn	10 04 20.1	+1.1
TLCR				iS	Sn	10 04 42.4	-0.9
LOT	Lotru	1.80	269	⇑iP	Pn	10 04 21.0	+1.6
LOT	Lotru	1.80	269	⇑iP	Pn	10 04 21.0	+1.6
LOT				iS	Sn	10 04 43.6	-0.4
LOT	Lotru	1.80	269	⇑iP	Pn	10 04 21.0	+1.6
LOT				iS	Sn	10 04 43.6	-0.4
TIRR	Tirgusor	1.81	125	⇓iP	Pn	10 04 20.3	+0.9
TIRR	Tirgusor	1.81	125	⇓iP	Pn	10 04 20.3	+0.9
TIRR				iS	Sn	10 04 43.1	-0.8
TIRR	Tirgusor	1.81	125	⇓iP	Pn	10 04 20.3	+0.9
TIRR				iS	Sn	10 04 43.1	-0.8
BUR01	Bucovina Ar. S	2.25	340	P	Pn	10 04 26.8	+2.1
BURAR	Bucovina Array	2.25	340	⇑iP	Pn	10 04 27.2	+2.5
BURAR				S	Sn	10 04 53.9	+0.4
BURAR	Bucovina Array	2.25	340	⇑iP	Pn	10 04 27.2	+2.5
BURAR				iS	Sn	10 04 53.9	+0.4
BURAR	Bucovina Array	2.25	340	⇑iP	Pn	10 04 27.2	+2.5
BURAR				iS	Sn	10 04 53.9	+0.4
CJR	Cluj-Napoca	2.25	303	⇓iP	Pn	10 04 26.0	+1.3
CJR	Cluj-Napoca	2.25	303	⇓iP	Pn	10 04 26.0	+1.3
CJR	Cluj-Napoca	2.25	303	⇓iP	Pn	10 04 26.0	+1.3
SRE	Strehaia	2.37	250	S	Sn	10 04 55.7	-0.3
SRE	Strehaia	2.37	250	iS	Sn	10 04 55.7	-0.3
SRE	Strehaia	2.37	250	iS	Sn	10 04 55.7	-0.3
DRGR		2.83	298	ePg	Pn	10 04 32.9	+1.0
DRGR				eSg	Sn	10 05 08.5	+2.1
DRGR		2.83	298	⇓iP	Pn	10 04 33.0	+1.0
DRGR		2.83	298	⇓iP	Pn	10 04 33.0	+1.0
DRGR		2.83	298	⇓iP	Pn	10 04 33.0	+1.0
DRGR				eSg	Sn	10 05 08.5	+2.1
SORM	Soroca	2.98	27	⇑iP	Pn	10 04 34.3	+0.5
SORM	Soroca	2.98	27	⇑iP	Pn	10 04 34.3	+0.5
SORM				iS	Sn	10 05 07.5	-2.2
SORM	Soroca	2.98	27	⇑iP	Pn	10 04 34.3	+0.5
SORM				iS	Sn	10 05 07.5	-2.2
ZAGS	Zajecar	3.38	241	ePn	Pn	10 04 39.1	+0.1
ZAGS				eSn	Sn	10 05 14.0	-5.0
ZAGS	Zajecar	3.38	241	ePn	Pn	10 04 39.1	+0.1
ZAPS	Zavoj	3.46	231	ePn	Pn	10 04 41.9	+1.7
ZAPS				eSn	Sn	10 05 18.2	-2.9
ZAPS	Zavoj	3.46	231	ePn	Pn	10 04 41.9	+1.7
KUBS	Kucevo	3.48	253	ePn	Pn	10 04 38.3	-2.1
KUBS				eSn	Sn	10 05 17.7	-3.7
KUBS	Kucevo	3.48	253	ePn	Pn	10 04 38.3	-2.1

ISCJB 01 10:14:06.9±0.7, 59°.30N±0°.03×27°.47E±0°.08, h0km, Error ellipse: s-maj=5.8km s-min=3.4km az=15.9
CSEM 01 10:14:08.3±0.4, 59°.32N×27°.49E, h2km, ML1.8, Error ellipse: s-maj=8.7km s-min=4.8km az=107.0, Mining explosion.
IDC 01 10:14:10.7±1.2, 59°.50N×27°.66E, h0km, mb1 3.1/5, mb1mx3.0/66, mbtmp3.1/5, ML2.4/4, Error ellipse: s-maj=18.9km s-min=10.7km az=81.0
ISC 01 10:14:07.6±0.9, 59°.30N±0°.03×27°.57E±0°.05, h0km, n30, σ1s04/53, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARBE	Arbavere	0.82	280	P	Pg	10 14 23.6	+0.2
ARBE				S	Sg	10 14 34.2	+0.2
ARBE	Arbavere	0.82	280	eP	Pg	10 14 23.6	+0.2
ARBE				eS	Sg	10 14 34.2	+0.2
VSU	Vasula	0.94	208	eP	Pg	10 14 25.6	-0.1
	SNR=68						
VSU				S	Sg	10 14 37.4	-0.5
VSU	Vasula	0.94	208	eP	Pg	10 14 25.5	-0.1
VSU				eS	Sg	10 14 37.5	-0.5
VJF	Virojoki	1.25	360	P	Pg	10 14 30.6	-0.8
VJF				Sb	Sg	10 14 47.4	-0.1
VJF	Virojoki	1.25	360	eP	Pg	10 14 30.7	-0.8
VJF				MSG		10 14 46.5	
	comp=Z,8.2nm,0.2s						
VJF				eSB	Sg	10 14 47.5	-0.1
PVF	Pernaja	1.52	326	Pg	Pn	10 14 36.2	+0.2
PVF				Sb	Sg	10 14 55.9	-0.4
PVF	Pernaja	1.52	326	ePG	Pn	10 14 36.2	+0.2
PVF				MSG		10 14 54.1	
	comp=Z,7.3nm,0.2s						
PVF				eSB	Sg	10 14 55.9	-0.4
MEF	Metsahovi	1.85	301	Pg	Pb	10 14 42.3	0.0
MEF				Sg	Sb	10 15 06.2	+0.2
MEF	Metsahovi	1.85	301	ePG	Pb	10 14 42.3	0.0
MEF				eSG	Sb	10 15 06.2	+0.2
MEF				MSG		10 15 08.4	
	comp=Z,6.7nm,0.1s						
MTSE	Matsula	2.03	255	Pb	Pb	10 14 44.6	-0.7
MTSE	Matsula	2.03	255	eP	Pb	10 14 44.9	-0.4
	SNR=51						
MTSE				Sg	Sb	10 15 11.5	+0.5
MTSE	Matsula	2.03	255	ePB	Pb	10 14 44.6	-0.7
MTSE				eSG	Sb	10 15 11.6	+0.5
FIA0	FINESS Array S	2.28	342	ePB	Pb	10 14 48.5	-1.0
FIA0				eS	Sn	10 15 16.1	+0.9
FIA0				eSG	Sb	10 15 19.0	+0.8
FIA0				MSG		10 15 20.7	
	comp=Z,3.2nm,0.1s						
FIA1	FINESS Array S	2.28	342	P	Pn	10 14 47.2	+0.8
FIA1				S	Sn	10 15 15.9	+0.8
FIA1				Sg	Sb	10 15 19.0	+0.8
FIA1	FINESS Array S	2.28	342	eP	Pn	10 14 47.2	+0.8
FIA1				ePB	Pb	10 14 48.5	-1.0
FIA1				eS	Sn	10 15 15.9	+0.8
FIA1				eSG	Sb	10 15 19.0	+0.8
FINES	FINESS Array B	2.28	342	Pn	Pn	10 14 47.1	+0.7
	comp=Z,1.2nm,0.3s,baz=156,slow=15,SNR=31						
FINES				Sn	Sn	10 15 16.1	+0.9
	comp=Z,1.9nm,0.3s,baz=159,slow=24,SNR=21						
KAF	Kangasniemi	2.89	348	ePB	Pb	10 14 58.4	-1.6
KAF				MSG		10 15 33.7	
	comp=Z,2.5nm,0.2s						
KAF				eSG	Sb	10 15 37.6	+1.8
KEF	Keuruu	3.17	336	MSG		10 15 41.7	
	comp=Z,2.2nm,0.2s						
KEF				eSG	Sb	10 15 45.9	+2.0
SLIT	Slitere, Latvi	3.24	241	eP	Pn	10 14 59.8	+0.2
	SNR=51						
SLIT				eS	Sn	10 15 37.8	-1.0
	comp=Z,105nm,0.6s,SNR=51						
SLIT	Slitere, Latvi	3.24	241	eS	Sn	10 15 39.4	+0.5
RAF	Rauma	3.38	303	P	Pn	10 15 03.4	+1.9
RAF				eS	Sn	10 15 40.6	-1.6
	comp=Z,4.5nm,0.6s,SNR=51						
RAF	Rauma	3.38	303	eP	Pn	10 15 03.5	+1.9
AAL	Aland	3.94	286	eSG	Sg	10 16 10.1	-3.7
JOF	Joensuu	4.06	25	P	Pn	10 15 11.8	+0.9
JOF	Joensuu	4.06	25	eP	Pn	10 15 11.9	+0.9
HFS	Hagfors	7.07	283	Pn	Pn	10 15 52.3	+0.1
	comp=Z,0.1nm,0.3s,baz=84,slow=13,SNR=2.2						
NOA	NORSAR Array B	8.34	289	Pn	Pn	10 16 09.8	+0.2
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=2.7						
AKASG	Malin Array Be	8.67	173	Pn	Pn	10 16 14.7	+0.6
	comp=Z,0.7nm,0.3s,baz=350,slow=13,SNR=2.9						
ARCES	ARCESS Array B	10.32	356	Pn	Pn	10 16 34.6	-2.1

comp=Z,0.1nm,0.3s,baz=171,slow=13,SNR=3.8

ISCJB ***01*** *10:14:20.2±0.6, 37°.68S±0°.04×177°.14E±0°.06, h179km±4km, mb3.1/2, Error ellipse: s-maj=8.4km s-min=5.1km az=154.7*
WEL ***01*** *10:14:22.3, 38°S±2°×17°7E±°, h155km±3km*
NEIC ***01*** *10:14:23.6±0.0, 37°.56S×177°.14E, h139km, ML4.2(WEL), After WEL.*
IDC ***01*** *10:14:23.5±1.0, 37°.73S×176°.49E, h135km±24km, mb3.0/2, mb1 3.3/3, mb1mx3.2/40, mbtmp3.6/3, Error ellipse: s-maj=60.1km s-min=22.8km az=131.0*
ISC 01 10:14:19.3±1.3**, 37°.66S**±0°.05×**177°.14E**±0°.05**, h176**km±7km**, n192,** σ1^{s}**77**/193**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	White Island	0.14	16	P	Pn	10 14 41.9	-0.7
WHRZ	Whale Island	0.24	214	P	Pn	10 14 43.4	+0.6
WHRZ	Whale Island	0.24	214	S	Sn	10 15 02.1	+1.2
MARZ	Manawahe	0.49	229	P	Pn	10 14 44.5	+0.9
MARZ	Manawahe	0.49	229	S	Sn	10 15 01.9	-0.5
OPRZ	Ohinepanea	0.50	248	Pn	Pn	10 14 44.0	+0.5
OPRZ				Sn	Sn	10 14 60.0	-2.2
OPRZ	Ohinepanea	0.50	248	P	Pn	10 14 44.0	+0.5
OPRZ	Ohinepanea	0.50	248	S	Sn	10 15 00.5	-1.7
HAZ	Te Kaha	0.52	101	P	Pn	10 14 43.8	+0.2
HAZ	Te Kaha	0.52	101	S	Sn	10 14 59.7	-2.6
RUGZ	Raukumara Rang	0.52	126	P	Pn	10 14 43.8	0.0
RUGZ	Raukumara Rang	0.52	126	P	Pn	10 14 43.8	0.0
RUGZ	Raukumara Rang	0.52	126	S	Sn	10 14 59.8	-2.9
EDRZ	Edgecumbe	0.55	215	P	Pn	10 14 45.0	+1.1
URZ	Urewera	0.60	182	P	Pn	10 14 44.7	+0.8
	107nm,0.3s,baz=251,slow=4.8,SNR=915						
URZ				S	Sn	10 15 01.6	-1.6
	32nm,0.3s,baz=156,slow=20,SNR=7.3						
URZ	Urewera	0.60	182	Pn	Pn	10 14 44.4	+0.4
URZ	Urewera	0.60	182	P	Pn	10 14 44.8	+0.8
URZ	Urewera	0.60	182	S	Sn	10 15 01.6	-1.6
LIRZ	Lichensteins R	0.69	240	P	Pn	10 14 45.8	+1.3
TGRZ	Tauranga	0.70	264	Pn	Pn	10 14 45.3	+0.7
TGRZ	Tauranga	0.70	264	P	Pn	10 14 45.1	+0.6
MKRZ	Makatiti	0.72	228	P	Pn	10 14 49.0	+4.3
MWZ	Matawai	0.74	156	Pn	Pn	10 14 45.9	+1.1
MWZ	Matawai	0.74	156	P	Pn	10 14 46.0	+1.1
MWZ	Matawai	0.74	156	S	Sn	10 15 04.0	-0.6
OMRZ	Omania	0.76	234	P	Pn	10 14 46.3	+1.3
TARZ	Mount Tarawera	0.77	221	Pn	Pn	10 14 46.7	+1.7
TARZ	Mount Tarawera	0.77	221	P	Pn	10 14 46.8	+1.7
PKGZ	Pakihiroa	0.78	107	P	Pn	10 14 46.1	+1.1
KARZ	Kaharoa	0.80	243	P	Pn	10 14 46.4	+1.2
RRRZ	Republican Roa	0.84	216	Pn	Pn	10 14 46.9	+1.5
RRRZ	Republican Roa	0.84	216	P	Pn	10 14 47.0	+1.5
TWGZ	Tauwhareparae	0.84	128	Pn	Pn	10 14 47.0	+1.6
TWGZ	Tauwhareparae	0.84	128	P	Pn	10 14 47.2	+1.7
HLRZ	Highlands Stat	0.86	226	P	Pn	10 14 47.3	+1.7
RAGZ	Rawiri	0.86	166	Pn	Pn	10 14 47.1	+1.4
RAGZ	Rawiri	0.86	166	P	Pn	10 14 47.1	+1.4
MUGZ	Murupara	0.87	200	P	Pn	10 14 47.0	+1.3
NGRZ	Ngongotaha	0.88	239	P	Pn	10 14 47.5	+1.8
UTU	Utuhina	0.91	235	P	Pn	10 14 47.9	+2.0
MXZ	Matakaoa Point	0.93	84	Pn	Pn	10 14 46.7	+0.8
MXZ	Matakaoa Point	0.93	84	P	Pn	10 14 46.8	+0.8
TKGZ	Te Karaka	0.96	145	Pn	Pn	10 14 47.7	+1.5
TKGZ	Te Karaka	0.96	145	P	Pn	10 14 47.7	+1.5
HSRZ	Hossack Road	0.96	227	P	Pn	10 14 48.5	+2.2
RTZ	Ruatahuna	0.96	188	P	Pn	10 14 47.7	+1.4
PUZ	Puketiti	0.97	115	Pn	Pn	10 14 47.5	+1.1
PUZ	Puketiti	0.97	115	P	Pn	10 14 47.6	+1.2
HRRZ	Handcock Road	1.00	223	P	Pn	10 14 48.4	+1.9
WMGZ	Waiomatatini S	1.02	99	Pn	Pn	10 14 48.0	+1.3
WMGZ	Waiomatatini S	1.02	99	P	Pn	10 14 48.0	+1.3
PRRZ	Plateau Road	1.03	215	Pn	Pn	10 14 48.4	+1.7
PRRZ	Plateau Road	1.03	215	P	Pn	10 14 48.5	+1.7
GRRZ	Galatos Road	1.07	229	P	Pn	10 14 48.9	+1.8
ALRZ	Allen Road	1.10	215	Pn	Pn	10 14 49.1	+1.8
ALRZ	Allen Road	1.10	215	P	Pn	10 14 49.3	+1.9
SNGZ	Shannon Statio	1.13	172	Pn	Pn	10 14 49.6	+2.0
SNGZ	Shannon Statio	1.13	172	P	Pn	10 14 49.6	+2.0
RIGZ	Rimuhau	1.15	155	P	Pn	10 14 50.1	+2.3
WPRZ	Whakapapatarin	1.16	222	P	Pn	10 14 50.0	+2.2
CNGZ	Carnagh Statio	1.18	135	Pn	Pn	10 14 50.4	+2.4
CNGZ	Carnagh Statio	1.18	135	P	Pn	10 14 50.3	+2.4
MTHZ	Maungataniwha	1.22	191	P	Pn	10 14 50.2	+1.9
RAHZ	Arahi	1.26	182	P	Pn	10 14 51.0	+2.3
TOZ	Tahuroa Road	1.30	266	Pn	Pn	10 14 50.4	+1.4
TOZ	Tahuroa Road	1.30	266	P	Pn	10 14 50.8	+1.7
MRHZ	Matea Rd	1.30	206	P	Pn	10 14 50.9	+1.8
KUTZ	Kaahu Road	1.33	231	P	Pn	10 14 51.7	+2.4
PRGZ	Paritu Road	1.39	155	Pn	Pn	10 14 52.0	+2.2
PRGZ	Paritu Road	1.39	155	P	Pn	10 14 52.0	+2.2
WHHZ	Waihua	1.42	177	P	Pn	10 14 52.5	+2.5
KNZ	Kokohu	1.42	163	Pn	Pn	10 14 52.4	+2.3
KNZ	Kokohu	1.42	163	P	Pn	10 14 52.4	+2.3
KUZ	Kuaotunu	1.46	308	Pn	Pn	10 14 50.4	0.0
KUZ	Kuaotunu	1.46	308	P	Pn	10 14 50.8	+0.3
NMHZ	Naumai	1.46	190	Pn	Pn	10 14 53.1	+2.5
NMHZ	Naumai	1.46	190	P	Pn	10 14 53.2	+2.7
HATZ	Hinemaiaia	1.48	214	P	Pn	10 14 52.8	+2.1
WATZ	Wairara	1.53	226	P	Pn	10 14 53.6	+2.5
BKZ	Black Stump Fm	1.59	199	Pn	Pn	10 14 53.5	+1.8
BKZ	Black Stump Fm	1.59	199	P	Pn	10 14 53.6	+1.8
ARHZ	Aropaoanui	1.61	184	Pn	Pn	10 14 54.5	+2.6
ARHZ	Aropaoanui	1.61	184	P	Pn	10 14 54.5	+2.6
MHGZ	Mahia Peninsul	1.61	158	Pn	Pn	10 14 54.6	+2.7
MHGZ	Mahia Peninsul	1.61	158	P	Pn	10 14 54.6	+2.7
MKAZ	Moumakai	1.67	289	Pn	Pn	10 14 53.7	+1.1
MKAZ	Moumakai	1.67	289	P	Pn	10 14 54.1	+1.5
MCHZ	McNeill Hill	1.82	191	Pn	Pn	10 14 56.6	+2.6
MCHZ	McNeill Hill	1.82	191	P	Pn	10 14 56.6	+2.6
WIAZ	Waiheke Island	1.82	298	P	Pn	10 14 55.5	+1.4
KWHZ	Kaweka Forest	1.85	198	P	Pn	10 14 56.9	+2.4
KBAZ	Karaka Road Bo	1.88	287	P	Pn	10 14 56.9	+2.2
ETAZ	East Tamaki Re	1.90	291	Pn	Pn	10 14 56.8	+1.8
ETAZ	East Tamaki Re	1.90	291	P	Pn	10 14 56.8	+1.8
TWVZ	Taurewa	1.94	223	P	Pn	10 14 57.8	+2.3
GRZ	Great Barrier	1.95	316	P	Pn	10 14 56.2	+0.7
COVZ	Chateau Observ	1.99	219	P	Pn	10 14 59.1	+3.1
HIZ	Hauiti	2.00	244	P	Pn	10 14 59.0	+3.0
CKHZ	Cape Kidnapper	2.00	181	Pn	Pn	10 14 58.5	+2.5
CKHZ	Cape Kidnapper	2.00	181	P	Pn	10 14 58.5	+2.5
BHHZ	Black Hill Sta	2.01	205	P	Pn	10 14 58.2	+2.0
FWVZ	Far West T-bar	2.02	218	Pn	Pn	10 14 58.8	+2.3
FWVZ	Far West T-bar	2.02	218	P	Pn	10 14 58.9	+2.3
WHVZ	Whangaehu Hut	2.03	216	Pn	Pn	10 14 59.0	+2.4
WHVZ	Whangaehu Hut	2.03	216	P	Pn	10 14 58.7	+2.1
MOVZ	Moawhango	2.06	212	Pn	Pn	10 14 58.4	+1.6
MOVZ	Moawhango	2.06	212	P	Pn	10 14 58.4	+1.6
WNVZ	Wahianoa	2.06	216	Pn	Pn	10 14 59.0	+2.1
EPAZ	Eden Park BICE	2.07	291	P	Pn	10 14 58.9	+2.1
KRHZ	Kereru	2.07	197	P	Pn	10 14 58.8	+1.9
AWAZ	Awhitu Peninsu	2.08	286	P	Pn	10 14 58.8	+1.9
HBAZ	Herne Bay Bore	2.09	292	P	Pn	10 14 58.9	+2.0
ABAZ	Army Bay	2.13	299	P	Pn	10 14 59.2	+1.8
KAHZ	Kahuranaki	2.14	185	Pn	Pn	10 15 00.1	+2.5
KAHZ	Kahuranaki	2.14	185	P	Pn	10 15 00.2	+2.5
PKVZ	Pokaka	2.15	220	Pn	Pn	10 15 00.1	+2.3
PKVZ	Pokaka	2.15	220	P	Pn	10 15 00.1	+2.3
MTVZ	Mangateitei	2.17	217	Pn	Pn	10 15 00.5	+2.5
MTVZ	Mangateitei	2.17	217	P	Pn	10 15 00.4	+2.5
WTAZ	Waiatarua	2.17	289	P	Pn	10 15 00.0	+2.0
RVAZ	Riverhead Bore	2.23	293	P	Pn	10 15 00.4	+1.8
PNHZ	Pukenui	2.37	198	Pn	Pn	10 15 02.0	+1.8
PNHZ	Pukenui	2.37	198	P	Pn	10 15 02.1	+1.9
VRZ	Vera Road	2.38	231	P	Pn	10 15 04.9	+4.6
PXZ	Pawanui	2.38	185	Pn	Pn	10 15 02.3	+2.1
PXZ	Pawanui	2.38	185	P	Pn	10 15 02.4	+2.1
WPHZ	Waipukurau	2.46	193	Pn	Pn	10 15 03.1	+1.9
WPHZ	Waipukurau	2.46	193	P	Pn	10 15 03.2	+1.9
TSZ	Takapari Road	2.57	201	Pn	Pn	10 15 04.1	+1.6
TSZ	Takapari Road	2.57	201	P	Pn	10 15 03.9	+1.4
PRHZ	Porangahau	2.63	188	Pn	Pn	10 15 05.1	+1.8
PRHZ	Porangahau	2.63	188	P	Pn	10 15 05.3	+2.1
WAZ	Wanganui	2.69	218	P	Pn	10 15 06.5	+2.5
DVHZ	Dannevirke	2.74	196	Pn	Pn	10 15 06.0	+1.4
DVHZ	Dannevirke	2.74	196	P	Pn	10 15 06.0	+1.4
WCZ	Waipu Caves	2.83	307	P	Pn	10 15 07.1	+1.5
ANWZ	Angora Road	2.84	190	P	Pn	10 15 07.8	+2.0
POWZ	Post Office Ro	2.93	201	Pn	Pn	10 15 08.3	+1.5
POWZ	Post Office Ro	2.93	201	P	Pn	10 15 08.3	+1.5
PRWZ	Pori Road	3.03	197	Pn	Pn	10 15 09.8	+1.7
PRWZ	Pori Road	3.03	197	P	Pn	10 15 09.8	+1.7
BFZ	Birch Farm	3.10	193	P	Pn	10 15 10.3	+1.4
MRZ	Mangatainoka R	3.23	202	Pn	Pn	10 15 11.6	+1.1
MRZ	Mangatainoka R	3.23	202	P	Pn	10 15 11.6	+1.1
TIWZ	Tintock	3.26	197	Pn	Pn	10 15 12.3	+1.4
TIWZ	Tintock	3.26	197	P	Pn	10 15 12.4	+1.4
CPWZ	Castlepoint	3.33	192	Pn	Pn	10 15 13.7	+2.0
CPWZ	Castlepoint	3.33	192	P	Pn	10 15 13.9	+2.2
HOWZ	Holdsworth Sta	3.47	201	Pn	Pn	10 15 14.4	+0.8
HOWZ	Holdsworth Sta	3.47	201	P	Pn	10 15 14.4	+0.8
OGWZ	Otaki Gorge	3.51	205	Pn	Pn	10 15 15.0	+1.1
OGWZ	Otaki Gorge	3.51	205	P	Pn	10 15 15.0	+1.1
TMWZ	Te Maipa	3.58	195	Pn	Pn	10 15 16.1	+1.2
TMWZ	Te Maipa	3.58	195	P	Pn	10 15 16.1	+1.2
KIW	Kapiti Island	3.64	208	Pn	Pn	10 15 16.5	+0.9
KIW	Kapiti Island	3.64	208	P	Pn	10 15 16.5	+0.9
MTW	Mount Morrison	3.72	199	Pn	Pn	10 15 17.3	+0.7
MTW	Mount Morrison	3.72	199	P	Pn	10 15 17.3	+0.7
OUZ	Omahuta	3.75	309	P	Pn	10 15 19.0	+1.8
CAW	Cannon Point	3.80	204	Pn	Pn	10 15 18.2	+0.6
CAW	Cannon Point	3.80	204	P	Pn	10 15 18.3	+0.6
TRWZ	Traveller	3.90	196	Pn	Pn	10 15 19.9	+0.9
TRWZ	Traveller	3.90	196	P	Pn	10 15 19.8	+0.9
PAWZ	Paruwai Farm	3.95	199	Pn	Pn	10 15 20.0	+0.5
PAWZ	Paruwai Farm	3.95	199	P	Pn	10 15 20.0	+0.5
MSWZ	Moikau Station	4.03	201	Pn	Pn	10 15 20.9	+0.3
MSWZ	Moikau Station	4.03	201	P	Pn	10 15 20.9	+0.3
WEL	Wellington	4.06	206	Pn	Pn	10 15 21.5	+0.6
PLWZ	Palliser	4.17	200	Pn	Pn	10 15 22.8	+0.4
PLWZ	Palliser	4.17	200	P	Pn	10 15 22.6	+0.2
TCW	Tory Channel	4.18	211	Pn	Pn	10 15 22.8	+0.3
TCW	Tory Channel	4.18	211	P	Pn	10 15 22.8	+0.3
TUWZ	Tuamarina	4.50	212	Pn	Pn	10 15 26.8	+0.2
TUWZ	Tuamarina	4.50	212	P	Pn	10 15 26.8	+0.2
NNZ	Nelson	4.59	218	Pn	Pn	10 15 28.6	+0.7
NNZ	Nelson	4.59	218	P	Pn	10 15 28.3	+0.5
BSWZ	Blackbirch Sta	4.77	211	P	Pn	10 15 30.9	+0.8
QRZ	Quartz Range	4.78	227	Pn	Pn	10 15 30.4	+0.2
QRZ	Quartz Range	4.78	227	P	Pn	10 15 30.5	+0.2
THZ	Tophouse	5.24	217	P	Pn	10 15 36.4	+0.2
KHZ	Kahutara	5.50	209	P	Pn	10 15 39.6	0.0
LTZ	Lake Taylor	6.33	215	Pn	Pn	10 15 48.9	-1.6
LTZ	Lake Taylor	6.33	215	P	Pn	10 15 48.9	-1.6
INZ	Inchbonnie	6.68	219	P	Pn	10 15 55.3	+0.3
OXZ	Oxford	6.87	213	Pn	Pn	10 15 56.5	-1.0
OXZ	Oxford	6.87	213	P	Pn	10 15 56.5	-1.0
RPZ	Rata Peaks	7.61	215	P	Pn	10 16 07.4	0.0
	0.4nm,0.3s,baz=45,slow=16,SNR=9.8						
RPZ				S	Sn	10 17 28.2	-4.7
	1.3nm,0.3s,baz=144,slow=19,SNR=13						
RPZ	Rata Peaks	7.61	215	P	Pn	10 16 07.6	+0.1
ODZ	Otahua Downs	8.85	211	Pn	Pn	10 16 23.6	-0.1
ASAR	Alice Springs	39.38	278	P	P	10 21 35.9	+3.9
	0.7nm,1.1s,baz=119,slow=6.8,SNR=4.8						
WRA	Warramunga Arr	41.06	283	P	P	10 21 49.8	+4.0
	0.3nm,0.6s,baz=121,slow=8.4,SNR=5.5						
FINES	FINESS Array B	150.15	332	PKPbc	PKPab	10 33 56.6	+1.7
	2.2nm,1.0s,baz=48,slow=4.5,SNR=4.2						

ISCJB ***01*** *10:15:53.7±1.0, 27°.92S±0°.08×177°.1W±0°.2, h10km, mb3.7/4, MS3.7/13, Error ellipse: s-maj=21.0km s-min=9.1km az=23.8*
IDC ***01*** *10:15:54.5±1.3, 27°.93S×177°.13W, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.8/45, mbtmp4.0/6, ML4.2/2, MS3.7/16, Ms1 3.7/16, ms1mx3.5/34, Error ellipse: s-maj=35.0km s-min=25.0km az=135.0*
ISC 01 10:15:55.4±1.0**, 28°.0S**±0°.1×**177°.1W**±0°.2**, h10**km**, n35,** σ**1^{s}56**/10**, mb3.7**/4**, MS3.7**/13**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.47	208	Pn	Pn	10 16 21.2	-0.8
	2μm,0.3s,baz=105,slow=4.8,SNR=79						
RAO				Sn	Sn	10 16 39.4	-1.9
	2μm,0.3s,baz=90,slow=23,SNR=22						
URZ	Urewera	11.36	204	Pn	Pn	10 18 27.8	-10
	0.3nm,0.3s,baz=59,slow=7.5,SNR=5.4						
URZ				Sn	Sn	10 20 31.8	-13
	1.1nm,0.3s,baz=163,slow=20,SNR=6.0						
AFI	Afiamalu	14.83	21	Pn	Pn	10 19 24.0	-1.4
	1.6nm,0.3s,baz=214,slow=15,SNR=3.1						
DZM	Mont Dzumac	15.99	288	Pn	Pn	10 19 39.3	-1.3
	0.5nm,0.3s,baz=126,slow=18,SNR=52						
DZM				LR	LR	10 23 40.7	
	comp=Z,123nm,20.3s,baz=96,slow=29						
DZM	Mont Dzumac	15.99	288	*e*LR	LR	10 23 00.2	
	159nm,25.2s						
RAR	Rarotonga	17.14	71	LR	LR	10 25 00.4	
	comp=Z,233nm,19.3s,baz=256,slow=32						
RPZ	Rata Peaks	18.39	208	LR	LR	10 27 36.9	
	comp=Z,229nm,19.7s,baz=32,slow=38						
TBI	Tubuai	25.34	86	*e*LR	LR	10 27 34.3	
	237nm,27.8s						
PAE	Paea	27.32	74	*e*T	T	10 49 37.7	
	5.4nm,0.3s						
PPT2	Papeete2	27.36	74	*e*LR	LR	10 28 27.3	
	435nm,27.2s						
PPT2	Papeete2	27.36	74	*e*T	T	10 49 40.9	
	2.9nm,0.3s						
PPT	Papeete	27.37	74	LR	LR	10 29 22.5	
	comp=Z,106nm,20.5s,baz=244,slow=30						
HNR	Honiara	28.38	306	LR	LR	10 32 02.9	
	comp=Z,77nm,19.6s,baz=186,slow=34						
STKA	Stephens Creek	35.84	253	P	P	10 22 56.8	+1.5
	1.6nm,0.8s,baz=127,slow=15,SNR=2.0						
STKA				LR	LR	10 37 06.8	
	comp=Z,156nm,18.1s,baz=41,slow=36						
TAOE	Nuku Hiva Isla	39.68	69	*e*LR	LR	10 34 20.4	
	240nm,24.8s						
ASAR	Alice Springs	44.06	264	P	P	10 24 05.3	+1.5
	0.4nm,0.6s,baz=96,slow=7.0,SNR=12						
WRA	Warramunga Arr	44.83	269	P	P	10 24 09.7	-0.2
	0.4nm,0.4s,baz=110,slow=7.9,SNR=10						
VNDA	Vanda	50.60	186	LR	LR	10 43 15.0	
	comp=Z,41nm,20.8s,baz=18,slow=32						
GUMO	Guam	55.32	313	LR	LR	10 47 01.5	
	comp=Z,30nm,21.1s,baz=104,slow=34						
MAW	Mawson	74.86	200	LR	LR	11 00 28.7	
	comp=Z,83nm,18.4s,baz=74,slow=36						
SNAA	Sanae	80.57	178	LR	LR	11 02 37.8	
	comp=Z,33nm,18.6s,baz=173,slow=35						
PLCA	Paso Flores	83.61	133	LR	LR	10 56 36.3	
	comp=Z,30nm,20.3s,baz=233,slow=29						
PETK	Petropavlovsk-	83.64	345	LR	LR	10 57 08.9	
	comp=Z,48nm,21.1s,baz=119,slow=30						
YBH	Yreka Blue Hor	85.64	38	LR	LR	10 58 55.7	
	comp=Z,24nm,21.8s,baz=197,slow=30						
NVAR	Mina Array Bea	85.93	42	LR	LR	10 58 57.2	
	comp=Z,112nm,21.7s,baz=96,slow=30						
TXAR	Lajitas Array	90.42	57	P	P	10 28 57.3	-0.2
	0.4nm,1.0s,baz=238,slow=5.0,SNR=3.5						
TXAR				LR	LR	11 01 34.2	
	comp=Z,35nm,21.1s,baz=0.0,slow=30						
PDAR	Pinedale Array	93.84	43	LR	LR	11 04 01.0	
	comp=Z,90nm,20.2s,baz=236,slow=31						
H10S3	ASCENSION HYDR	139.58	153	T	T	13 11 38.1	
	baz=204,slow=74						
H10S2	ASCENSION HYDR	139.59	153	T	T	13 11 55.3	
	baz=204						
H10S1	ASCENSION HYDR	139.60	153	T	T	13 11 45.7	
	baz=204,slow=74						
H10N3	ASCENSION HYDR	140.66	152	T	T	13 12 44.5	
	baz=205,slow=74						
H10N1	ASCENSION HYDR	140.66	152	T	T	13 13 22.0	
	baz=205,slow=74						
H10N2	ASCENSION HYDR	140.67	152	T	T	13 12 58.9	
	baz=205						
AKASG	Malin Array Be	149.76	326	PKPbc	PKPbc	10 35 46.2	+1.0
	0.5nm,0.5s,baz=46,slow=3.8,SNR=4.4						
TORD	Torodi Ar. Bea	165.23	176	PKPab	PKPab	10 36 59.7	+1.9
	0.4nm,0.6s,baz=169,slow=3.7,SNR=3.0						

IDC 01 10:16:37.2±2.2**, 3°.90S**×**129°.11E, h0**km**, mb3.0**/2**, mb1 3.3**/3**, mb1mx3.0**/59**, mbtmp3.1**/3**, ML3.1**/1**, Error ellipse: s-maj=152.3km s-min=28.7km az=68.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.74	163	Pn	Pn	10 20 32.1	-1.3
	0.1nm,0.3s,baz=342,slow=12,SNR=6.0						
ASAR	Alice Springs	20.19	167	P	P	10 21 14.3	+0.6
	0.3nm,0.4s,baz=344,slow=11,SNR=5.7						
MKAR	Makanchi Array	65.16	326	P	P	10 27 20.2	0.0
	0.2nm,0.8s,baz=123,slow=5.3,SNR=2.5						

JMA ***01*** *10:26:09.6±0.3, 31°.83N×138°.13E, h450km±4km, M3.4*
ISCJB ***01*** *10:26:10.2±0.4, 31°.92N±0°.04×138°.29E±0°.07, h450km, mb3.1/9, Error ellipse: s-maj=8.0km s-min=5.5km az=169.7*
IDC ***01*** *10:26:12.5±1.0, 31°.82N×137°.81E, h409km±12km, mb2.8/9, mb1 3.1/13, mb1mx2.9/68, mbtmp3.7/13, Error ellipse: s-maj=16.7km s-min=12.6km az=88.0*
ISC 01 10:26:11.2±0.9**, 31°.86N**±0°.08×**138°.26E**±0°.09**, h450**km**, n38,** σ**2^{s}02**/45**, mb3.1**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.77	47	P	P	10 27 09.7	-0.7
JHCJ				S	S	10 27 57.0	-1.6
JHJ	Hachijo jima 2	1.80	45	P	P	10 27 10.6	+0.1
	103nm,0.3s,baz=81,slow=23,SNR=14						
JHJ				S	S	10 27 53.9	-4.9
	15nm,0.3s,baz=60,slow=20,SNR=2.9						
JHJ2	Mitsune	1.81	46	P	P	10 27 10.2	-0.4
TTO2	TONANKAI O.B.S	2.14	331	P	P	10 27 11.7	-0.3
JWZ	Kozaga	2.72	308	P	P	10 27 14.0	-2.1
JIE	Ise	2.84	333	P	P	10 27 16.0	-0.9
JKN2	Miekihoku	2.90	325	P	P	10 27 15.9	-1.5
JHMK	Hamakita	2.98	352	P	P	10 27 17.3	-0.5
HMMJ	Hamamatsu 2	3.02	352	P	P	10 27 17.4	-0.8
HMMJ				S	S	10 28 08.5	-4.4
JWY	Kouya	3.25	317	P	P	10 27 18.7	-1.4
JOD2	Odawara 2	3.46	11	P	P	10 27 21.1	-0.6
JOD2				*e*S	S	10 28 17.5	-1.7
BSO3	Boso 3	3.48	32	P	P	10 27 20.8	-0.7
JNY	Yasuok	3.50	355	P	P	10 27 21.0	-1.1
JNY				*e*S	S	10 28 16.4	-3.5
BSO4	Boso 4	3.57	29	P	P	10 27 21.8	-0.6
BSO4				S	S	10 28 18.8	-1.7
BSO1	Boso 1	3.60	39	P	P	10 27 22.4	+0.3
BSO1				S	S	10 28 18.0	-2.1
JYN	Shimob	3.63	4	P	P	10 27 23.3	+0.1
JHU	Hanno	4.07	12	P	P	10 27 26.0	-0.8
JRY	Ryogami san	4.18	7	P	P	10 27 27.7	-0.1
JRY				*e*S	S	10 28 28.0	-2.3
JYT	Yasato	4.64	20	P	P	10 27 31.0	-1.0
JAG	Ashikaga	4.66	12	P	P	10 27 31.1	-1.1
MJAR	Matsushiro Arr	4.67	359	P	P	10 27 31.5	-0.8
	0.8nm,0.3s,baz=178,slow=9.6,SNR=9.7						
MJAR				S	S	10 28 33.4	-5.1
	0.2nm,0.3s,baz=197,slow=13,SNR=3.2						
JTO	Tosashimizu	4.73	284	P	P	10 27 31.1	-1.8
JHO	Hitachi	5.11	21	P	P	10 27 35.9	-0.6
CBIJ	Chichi jima	5.85	143	P	P	10 27 43.3	-0.8
CBIJ				*e*S	S	10 28 58.0	-1.9
JCJ	Chichijima	5.85	143	P	P	10 27 44.7	+0.6
	5.8nm,0.3s,baz=357,slow=23,SNR=7.7						
JCJ				S	S	10 28 55.8	-4.1
	23nm,0.3s,baz=285,slow=20,SNR=9.6						
JFK	Kawauchi	5.90	21	P	P	10 27 44.7	+0.3
JMK	Ichinoseki	7.47	18	P	P	10 28 01.0	+0.2
JMK				S	S	10 29 28.4	-2.3
KSRS	Korea Array	10.18	306	P	P	10 28 29.9	-0.1
	0.5nm,0.3s,baz=120,slow=9.7,SNR=20						
KLR	Kul'dur	18.03	346	P	P	10 29 56.6	+2.7
	0.0nm,0.3s,baz=153,slow=9.0,SNR=4.0						
CMAR	Chiang Mai Arr	37.80	259	P	P	10 32 48.1	+0.3
	0.5nm,0.4s,baz=56,slow=7.1,SNR=4.6						
MKAR	Makanchi Array	44.86	306	P	P	10 33 46.1	+2.3
	0.3nm,0.5s,baz=98,slow=8.7,SNR=4.5						
KURBB	Kurchatov Arra	47.30	312	P	P	10 34 04.4	+2.0
	0.4nm,0.4s,baz=93,slow=8.6,SNR=5.5						
WRA	Warramunga Arr	51.65	185	P	P	10 34 39.6	+4.7
	0.3nm,0.3s,baz=360,slow=7.6,SNR=9.8						
BVAR	Borovoye Array	52.25	315	P	P	10 34 41.6	+2.7
	0.6nm,0.5s,baz=90,slow=7.7,SNR=3.8						
ILAR	Eielson Array	55.26	30	P	P	10 35 06.0	+5.9
	0.5nm,0.8s,baz=282,slow=7.3,SNR=8.2						
ASAR	Alice Springs	55.37	185	P	P	10 35 05.3	+3.8
	0.2nm,0.7s,baz=18,slow=10,SNR=4.1						
INK	Inuvik	60.17	25	P	P	10 35 40.1	+6.5
	1.2nm,0.5s,baz=270,slow=6.1,SNR=5.3						
YKA	Yellowknife Ar	69.58	28	P	P	10 36 39.8	+6.4
	0.3nm,0.5s,baz=302,slow=6.5,SNR=7.7						

IDC ***01*** *10:43:52.6±1.3, 14°.01N×92°.88W, h0km, mb3.8/5, mb1 4.1/8, mb1mx3.8/46, mbtmp3.8/8, ML3.4/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/39, Error ellipse: s-maj=72.3km s-min=21.6km az=57.0*
NEIC ***01*** *10:43:56.5±0.0, 14°.00N×93°.23W, h17km, mb4.3/11, MD4.0(MEX), After MEX.*
MEX ***01*** *10:43:56.5±0.6, 14°.00N×93°.23W, h17km±103km, MD4.0*
ISCJB ***01*** *10:43:58.6±0.6, 14°.19N±0°.05×93°.08W±0°.05, h37km, mb4.1/12, MS3.4/4, Error ellipse: s-maj=7.8km s-min=6.3km az=28.1*
ISC 01 10:43:59.1±0.8**, 14°.18N**±0°.07×**93°.11W**±0°.06**, h37**km**, n48,** σ**1^{s}61**/49**, mb4.2**/12**, MS3.4**/4**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		1.09	49	*i* P	Pn	10 44 15.7	-2.2
THIG				*i* S	Sn	10 44 31.9	+0.1
THIG		1.09	49	*e*Pn	Pn	10 44 15.7	-2.2
THIG				*e*Sn	Sn	10 44 31.9	+0.1
PCIG		1.52	356	*e*P	Pn	10 44 22.1	-1.7
PCIG				*e*S	Sn	10 44 42.2	-0.1
PCIG		1.52	356	*e*Pn	Pn	10 44 22.1	-1.7
PCIG				*e*Sn	Sn	10 44 42.2	-0.1
CCIG	Comitan	2.29	24	*e*P	Pn	10 44 34.7	+0.1
CCIG				*i* S	Sn	10 45 02.5	+0.8
CCIG	Comitan	2.29	24	*e*Pn	Pn	10 44 34.7	+0.1
CCIG				*e*Sn	Sn	10 45 02.5	+0.8
TGIG		2.58	360	*e*P	Pn	10 44 37.3	-1.1
TGIG				*i* S	Sn	10 45 08.8	+0.2
TGIG		2.58	360	*e*Pn	Pn	10 44 37.3	-1.1
TGIG				*e*Sn	Sn	10 45 08.8	+0.2
CMIG	Matias Romero	3.36	330	Pn	Pn	10 44 48.2	-0.9
	5.2nm,0.3s,baz=165,slow=14,SNR=37						
CMIG				Sn	Sn	10 45 28.7	+1.0
	7.4nm,0.3s,baz=98,slow=12,SNR=6.2						
CMIG				LR	LR	10 46 04.0	
	comp=Z,211nm,19.0s,baz=162,slow=36						
SNET	Serv Nac Est T	3.80	97	*e*Pn	Pn	10 44 55.8	+0.5
TGUH	Tegucigalpa,Un	5.67	91	*e*Pn	Pn	10 45 22.7	+1.9
JTS	JuntasAbangare	8.86	115	Pn	Pn	10 45 58.4	-6.3
	0.2nm,0.3s,baz=250,slow=12,SNR=2.0						
HPIG		17.28	319	*e*Pn	P	10 48 00.4	+1.5
	24nm,1.9s						
JCT	Junction City	17.35	340	*e*Pn	P	10 48 00.2	+0.7
	16nm,1.7s						
LTX	Lajitas	17.97	329	*e*P	P	10 48 09.0	+2.6
TXAR	Lajitas Array	17.97	329	P	P	10 48 09.0	+2.6
	0.0nm,0.3s,baz=151,slow=9.9,SNR=11						
TX31	Lajitas Ar. Si	17.97	329	*e*P	P	10 48 08.5	+2.1
TX31				*e*P	Pn	10 48 08.7	+2.5
MNTX	Cornudas Mount	20.75	329	*e*P	Pn	10 48 38.9	-0.4
	2.9nm,0.9s						
OK022	N3560 Road, Pr	21.50	352	*e*P	P	10 48 47.0	+2.2
	9.2nm,0.8s						
SDV	Santo Domingo	22.64	101	P	P	10 48 57.2	-0.1
	5.1nm,0.8s,baz=355,slow=8.7,SNR=6.4						
SDV	Santo Domingo	22.64	101	*e*P	P	10 48 57.8	+0.4
	12nm,1.3s						
319A	Douglas	22.64	322	*e*P	P	10 48 59.3	+2.1
	5.2nm,0.9s						
TKL	Tuckaleechee C	22.98	20	LR	LR	10 59 48.9	
	comp=Z,81nm,18.4s,baz=188,slow=42						
BNM	Barren Site	23.35	331	*e*P	P	10 49 06.7	+2.2
LAZ	Ladron	23.80	330	*e*P	P	10 49 08.4	-0.3
MHTCO	State Highway	25.08	338	*e*P	P	10 49 23.1	+2.6
	8.8nm,1.1s						
TMUT	Trail Mountain	29.66	331	*e*P	P	10 50 04.2	+2.5
	7.3nm,0.9s						
REDW	Red Top Meadow	32.83	336	*e*pP	pP	10 50 36.5	-3.4
NV01	Mina Array Sit	32.86	322	*e*P	P	10 50 30.9	+1.2
NVAR	Mina Array Bea	32.86	322	P	P	10 50 30.9	+1.2
	0.9nm,0.9s,baz=132,slow=10,SNR=4.4						
YHB	Horse Butte	34.13	337	*e*pP	pP	10 50 52.2	+0.9
CPIM	Pinole Ridge	35.03	318	*e*pP	pP	10 51 00.6	+1.7
ULM	Lac du Bonnet	36.04	357	P	P	10 50 52.9	-3.9

1.8nm,0.9s,baz=193,slow=14,SNR=3.0
LBFM Black Fox Moun 36.84 323 ePcP PcP 10 53 23.9 -1.5
RPN Rapa Nui 43.98 201 LR LR 11 05 17.1
comp=Z,44nm,21.0s,baz=34,slow=29
YKA Yellowknife Ar 50.61 347 P P 10 52 54.4 +0.3
2.1nm,0.7s,baz=151,slow=7.5,SNR=38
YKB5 Yellowknife Ar 50.61 347 eP P 10 52 54.0 0.0
YKW3 Yellowknife Ar 50.67 347 eP P 10 52 55.4 +0.9
5.8nm,1.0s
PLCA Paso Flores 58.51 160 P P 10 53 48.8 -3.0
0.9nm,0.8s,baz=346,slow=12,SNR=3.6
PLCA Paso Flores 58.51 160 eP P 10 53 48.8 -3.0
17nm,1.7s
INK Inuvik 59.96 344 P P 10 54 01.4 +0.1
1.3nm,0.7s,baz=116,slow=7.0,SNR=3.3
INK Inuvik 59.96 344 eP P 10 54 01.4 +0.1
21nm,1.9s
ILAR Eielson Array 62.25 337 P P 10 54 17.7 +0.7
0.7nm,1.0s,baz=132,slow=3.3,SNR=5.5
ILB Eielson Array 62.25 337 eP P 10 54 17.7 +0.7
NOA NORSAR Array B 84.50 28 LR LR 11 32 14.7
comp=Z,15nm,20.9s,baz=0.0,slow=34
HFS Hagfors 85.97 29 LR LR 11 36 41.2
comp=Z,22nm,18.2s,baz=9.5,slow=37
CM31 Chiang Mai Arr 145.46 340 ePKPdf PKPab 11 03 34.4 0.0
CMAR Chiang Mai Arr 145.46 340 PKPbc PKPab 11 03 34.4 0.0
0.7nm,0.5s,baz=343,slow=2.8,SNR=5.6

IDC 01 11:01:25.3±2.5**, 19°06N×39°13E, h0km, mb3.5**/4**, mb1 3.5**/4**, mb1mx3.3**/60**, mbtmp3.5**/4**, Error ellipse: s-maj=70.2km s-min=28.4km az=153.0, Red Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
BRTR Keskin Array B 21.13 348 P P 11 06 11.8 -0.1
0.8nm,0.8s,baz=170,slow=8.8,SNR=2.4
TORD Torodi Ar. Bea 36.40 266 P P 11 08 31.7 -0.1
1.0nm,0.9s,baz=74,slow=8.0,SNR=6.4
MKAR Makanchi Array 44.77 42 P P 11 09 40.4 -0.3
0.5nm,0.8s,baz=234,slow=6.9,SNR=3.9
ZALV Zalesovo Beam 49.28 34 P P 11 10 15.9 +0.1
0.4nm,0.3s,baz=256,slow=5.8,SNR=2.6

MEX 01 11:06:38.9±0.3**, 14°07N×93°22W, h10km, MD3.6, Near coast of Chiapas**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PCIG 1.62 0 eP Pn 11 07 03.7 -3.9
PCIG eS Sn 11 07 24.0 -4.6
CCIG Comitan 2.43 25 eP Pn 11 07 15.3 -3.6
CCIG i S Sn 11 07 44.8 -4.1
TGIG 2.69 2 eP Pn 11 07 20.4 -2.0
TGIG i S Sn 11 07 51.6 -3.5

BJI 01 11:19:42.7, 0°74N×97°27E, h35km, mb4.8/48, mB4.9/33, Ms4.7/31, Ms7 4.4/29
IDC 01 11:19:43.0±0.7, 1°23N×97°11E, h0km, mb4.4/22, mb1 4.4/24, mb1mx4.2/64, mbtmp4.4/24, ML4.4/2, MS3.9/26, Ms1 3.9/26, ms1mx3.6/66, Error ellipse: s-maj=23.8km s-min=12.3km az=47.0
ISCJB 01 11:19:45.7±0.3, 1°22N±0°03×97°06E±0°03, h28km, mb4.6/61, MS4.1/34, Error ellipse: s-maj=5.4km s-min=3.4km az=43.1
DJA 01 11:19:46.5±1.0, 1°N±3°×9°7E±°, h22km±6km, M4.8/14, mB4.9/2, mb4.9/6, MLv4.8/14, Mw(mB)4.2/2
MOS 01 11:19:47.3±0.9, 1°24N×97°13E, h42km, mb4.9/20, Error ellipse: s-maj=10.6km s-min=6.6km az=98.4
NEIC 01 11:19:48.0±1.0, 1°24N×97°08E, h34km±6km, mb4.8/20, Error ellipse: s-maj=7.3km s-min=4.2km az=46.0
KLM 01 11:19:49.5, 1°36N×97°05E, h53km, mb4.7
ISC 01 11:19:47.5±0.4**, 1°25N**±0°05×**97°02E**±0°05**, h28km, n196,** σ1^s**42**/201**, mb4.7**/65**, MS4.0**/35**, 16C-6D, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GSI Gunungsitoli 0.56 84 P Pb 11 19 58.1 -0.7
GSI S Sn 11 20 07.4 -0.5
GSI Gunungsitoli 0.56 84 ePg Pb 11 19 58.5 -0.3
GSI eSg Sb 11 20 05.7 -0.8
TPTI 2.01 4 P Pn 11 20 18.0 -1.6
TPTI S Sn 11 20 42.1 -1.7
KCSI Kotacane, Aceh 2.38 18 P Pn 11 20 24.6 -0.2
PSI Prapat 2.45 51 Pn Pb 11 20 39.4 +8.4
0.4nm,0.3s,baz=180,slow=12,SNR=2.4
PSI Prapat 2.45 51 ePn Pn 11 20 24.5 -1.3
PSI Pn Pb 11 20 39.4 +8.4
PSI Prapat 2.45 51 eP Pn 11 20 24.5 -1.3
MNSI Mandailing Nat 2.60 100 P Pn 11 20 27.2 -0.5
TSI Tuntungan 2.72 34 P Pn 11 20 29.5 +0.1
MLSI Meulaboh, Aceh 3.06 348 P Pn 11 20 32.9 -1.2
SISI Saibi 3.29 141 P Pn 11 20 36.5 -0.7
LHMI Lhok Sumawe 3.96 359 P Pn 11 20 47.0 +0.6
LHMI Lhok Sumawe 3.96 359 ePn Pn 11 20 46.3 -0.2
PDSI Padang 4.05 122 P Pn 11 20 47.8 +0.1
BKNI Bangkinang 4.12 103 P Pn 11 20 49.0 +0.4
BKNI Bangkinang 4.12 103 ePn Pn 11 20 48.2 -0.4
SDSI Sungai Dareh 4.91 116 P Pn 11 20 59.5 0.0
PPSI Pulau Pagai 4.98 143 P Pn 11 21 01.8 +1.4
266nm,1.6s,1.2nm
IPM Ipoh 5.13 51 ⇑P Pn 11 21 03.3 +0.7
IPM Ipoh 5.13 51 ePn Pn 11 21 02.8 +0.2
KULM Kulim 5.41 42 ⇓P Pn 11 21 06.3 -0.1
KULM Kulim 5.41 42 ePn Pn 11 21 05.7 -0.7
KGM Kluang 6.34 83 ⇑P Pn 11 21 19.4 +0.2
PKDT Phuket 6.73 11 P Pn 11 21 22.5 -2.1
16nm,0.4s,2μm0.1nm
MASI Maura Aman, Be 6.80 130 P Pn 11 21 26.1 +0.6
128nm,1.1s,0.9nm
MYKOM Kota Tinggi 6.85 85 ⇓P Pn 11 21 27.1 +1.0
MYKOM Kota Tinggi 6.85 85 ePn Pn 11 21 26.2 0.0
SKLT Songkhla 6.89 31 P Pn 11 21 25.5 -1.3
99nm,1.2s
TRTT Trang 7.07 22 P Pn 11 21 26.6 -2.6
26nm,0.5s,382nm0.1nm
JMBI JAMBI 7.21 113 P Pn 11 21 31.1 0.0
214nm,0.4s
KTGM Kuala Trenggan 7.33 56 ⇑P Pn 11 21 31.9 -0.9
SURT Suratani 7.86 13 P Pn 11 21 37.9 -2.2
11nm,0.8s,0.0nm
MDSI Maura Dua 9.14 129 P Pn 11 21 56.6 -1.0
PBA Port Blair 11.18 338 eP Pn 11 22 22.7 -2.9
PBA IAmb IAmb 11 22 23.1
comp=Z,29nm,0.5s
DGPR DIGLIPUR 12.53 341 eP Pn 11 22 44.3 +0.2
DGPR IAmb IAmb 11 22 46.4
comp=Z,6.5nm,0.9s
CHBT CHBT 12.58 24 P P 11 22 58.5 +2.5
NAYO Nakonayok 13.66 18 P P 11 23 08.5 +0.5
UTHA Uthaitani 14.42 9 P P 11 23 16.0 -0.5
SBUM Sibu 15.24 85 ⇓P Pn 11 23 22.1 +1.2
SBUM Sibu 15.24 85 ePn Pn 11 23 20.7 -0.2
comp=Z,75nm,2.0s
CHAI Chaiyaphum 15.36 18 P P 11 23 26.3 -0.7
PHIT Phitsanulok 16.19 12 P P 11 23 35.8 -0.3
comp=Z,16nm,1.0s,comp=Z,212nm
SKNT Sakolnakorn 17.07 23 P Pn 11 23 43.7 -0.6
comp=Z,7.4nm,1.1s
CM01 Chiang Mai Arr 17.17 6 ePn Pn 11 23 45.3 -0.3
CM31 Chiang Mai Arr 17.21 6 ePn Pn 11 23 45.1 -0.9
CMAR Chiang Mai Arr 17.21 6 P Pn 11 23 44.8 -1.3
comp=Z,0.9nm,0.3s,baz=198,slow=11,SNR=19
CMAR LR LR 11 30 54.9
comp=Z,410nm,18.9s,baz=196,slow=39
CMAR Chiang Mai Arr 17.21 6 ceP P 11 23 47.4 0.0
CMAR pmax pmax
comp=Z,7.0nm,0.8s
PALK Pallekele 17.34 291 P P 11 23 48.9 0.0
comp=Z,0.6nm,0.3s,baz=119,slow=19,SNR=3.6
PALK Pallekele 17.34 291 ePn Pn 11 23 48.0 +0.3
comp=Z,39nm,1.6s
PALK Pallekele 17.34 291 eP Pn 11 23 48.0 +0.3
PALK pmax pmax
comp=Z,39nm,1.6s
LAMP Lampang 17.36 8 P P 11 23 50.6 +1.5
comp=Z,4.1nm,1.1s
PHRA Phrae 17.43 10 P Pn 11 23 49.0 +0.2
comp=Z,72nm,0.8s,comp=Z,3μm
CMMT Chiang Mai 17.56 6 P Pn 11 23 50.4 0.0
comp=Z,11nm,1.0s,comp=Z,376nm
CHTO Chiang Mai 17.56 6 P P 11 23 51.3 0.0
comp=Z,47nm,1.2s,comp=Z,1μm
CHTO Chiang Mai 17.56 6 ePn Pn 11 23 49.0 -1.5
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 17.56 6 eP Pn 11 23 49.0 -1.5
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CMAI Chiengmai2 18.68 6 P Pn 11 24 06.5 +2.2
comp=Z,74nm,1.1s
KKM Kota Kinabalu 19.73 76 eP P 11 24 14.4 -0.9
comp=Z,24nm,0.8s
VIS Vishakhapatnam 21.19 321 eP P 11 24 29.5 -1.5
TRD Trivandrum 21.24 291 eP P 11 24 30.2 -1.4
QIZ Qiongzhong 21.69 35 P P 11 24 36.2 -0.1
QIZ LR LR
comp=Z,450nm,13.7s
QIZ LR LR
comp=Z,520nm,13.2s
QIZ LR LR
comp=Z,370nm,12.3s
MYLDM Lahad Datu 21.79 79 eP P 11 24 37.4 -0.1
comp=Z,39nm,1.1s
HYB Hyderabad 24.25 313 eP P 11 25 02.7 +0.3
KMI Kunming 24.37 13 P P 11 25 04.2 +0.5
KMI pP pP 11 25 10.5 -1.4
KMI sP sP 11 25 14.3 -1.0
KMI S S 11 29 28.7 +6.9
KMI sS sS 11 29 41.6 +6.4
KMI pmax pmax
comp=Z,55nm,1.3s
KMI pmax pmax
comp=Z,200nm,3.3s
KMI LR LR
comp=Z,1μm,16.0s
KMI LR LR
comp=Z,770nm,14.3s
KMI LR LR
comp=Z,2μm,13.5s
SHL Shillong 24.68 349 ⇑iP P 11 25 06.5 0.0
SHL eS S 11 29 26.0 -0.7
BOK Bokaro 24.88 335 eP P 11 25 09.7 +1.6
H08S2 Diego Garcia H 26.01 250 T T 11 52 15.9
baz=70,slow=75
H08S3 Diego Garcia H 26.02 250 T T 11 52 16.3
baz=70,slow=75,SNR=4360
H08S1 Diego Carcia H 26.03 250 T T 11 52 17.5
baz=70,slow=75,SNR=6501
GYA Guiyang 26.73 20 ⇓iP P 11 25 24.3 -0.6
GYA pP sP 11 25 36.4 -0.2
GYA PcP PcP 11 28 50.0 +1.9
GYA S S 11 30 00.1 +1.0
GYA sS sS 11 30 15.0 +2.3
GYA SS SnSn 11 31 12.3 +8.3
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,110nm,4.7s
GYA LR LR
comp=Z,510nm,15.2s
GYA LR LR
comp=Z,460nm,15.8s
GYA LR LR
comp=Z,500nm,15.0s
GOA Goa 26.91 303 eP P 11 25 26.0 -0.6
GOA IAmb IAmb 11 25 26.9
comp=Z,29nm,0.2s
ODAN Odare 27.10 341 eP P 11 25 29.9 +1.5
comp=Z,49nm,0.7s
JBP Jabalpur 27.36 324 eP P 11 25 30.9 +0.5
JBP ex x 11 30 39.1
RAMN Ramite 27.45 339 eP P 11 25 33.4 +1.9
comp=Z,27nm,0.6s
TAPN Taplejung 27.45 342 eP P 11 25 33.1 +1.5
comp=Z,136nm,1.0s
JIRN Jiri 28.24 339 eP P 11 25 40.1 +1.3
PKI Pulchoki 28.45 338 eP P 11 25 41.5 +1.0
PKIN Phulchoki 28.45 338 eP P 11 25 41.9 +1.3
comp=Z,14nm,0.5s
POO Poona 28.49 308 eP P 11 25 41.0 +0.2
POO IAmb IAmb 11 25 44.9
comp=Z,6.9nm,0.3s
GUN Gumba 28.58 339 eP P 11 25 43.1 +1.3
comp=Z,30nm,0.5s
DMN Daman 28.59 337 eP P 11 25 43.4 +1.6
KKN Kakani 28.69 338 eP P 11 25 43.9 +1.3
comp=Z,45nm,1.0s
BATI Baumata 28.85 114 LR LR 11 39 12.2
comp=Z,439nm,20.3s,baz=300,slow=41
DAV Davao City (W) 29.05 78 LR LR 11 39 17.4
comp=Z,193nm,19.5s,baz=188,slow=40
KOLN Koldanda 29.34 335 eP P 11 25 49.8 +1.4
comp=Z,22nm,0.6s
PYUN Piuthan 29.89 335 eP P 11 25 55.0 +1.8
CD2 Chengdu 30.19 12 P P 11 25 56.8 +1.2
CD2 pP sP 11 26 05.7 -1.6
CD2 sP pP 11 26 09.7 +5.8
CD2 S S 11 30 56.0 +2.7
CD2 sS sS 11 31 11.2 +4.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,820nm,12.9s
CD2 LR LR
comp=Z,2μm,14.1s
CD2 LR LR
comp=Z,1μm,14.1s
ENH Enshi 31.20 21 eP P 11 26 03.2 -1.3
comp=Z,28nm,0.6s
YULB Yu-li 32.23 45 eP P 11 26 13.7 0.0
comp=Z,13nm,0.8s
XAN Xi'an 34.47 18 ⇑P P 11 26 31.8 -1.4
XAN pP pP 11 26 41.1 -0.3
XAN sP sP 11 26 45.6 +0.7
XAN S S 11 32 02.6 +2.6
XAN pmax pmax
comp=Z,19nm,1.0s
XAN pmax pmax
comp=Z,91nm,3.4s
XAN LR LR
comp=Z,600nm,14.1s
XAN LR LR
comp=Z,360nm,16.3s
XAN LR LR
comp=Z,750nm,15.9s
SMLA Simla 35.17 330 eP P 11 26 39.1 0.0
SMLA IAmb IAmb 11 26 45.9
comp=Z,10nm,1.0s
LZH Lanzhou 35.24 10 eP P 11 26 40.2 +0.3
LZH pP sP 11 26 51.6 0.0
LZH sP pP 11 26 57.6 +9.4
LZH pmax pmax
comp=Z,17nm,0.9s
DHRM DHARAMSHALA 36.51 330 eP P 11 26 50.9 0.0
DHRM IAmb IAmb 11 26 56.6
comp=Z,13nm,0.6s
NJ2 Nanjing 36.92 32 eP P 11 26 54.4 +0.3
NJ2 pmax pmax
comp=Z,16nm,0.7s
GTA Gaotai 38.07 4 eP P 11 27 04.1 +0.2
GTA pP pP 11 27 13.4 +1.1
GTA sP sP 11 27 18.0 +2.3
GTA S S 11 32 57.2 +2.1
GTA sS sS 11 33 14.8 +6.0
GTA SS SnSn 11 35 39.9 +0.7
GTA pmax pmax
comp=Z,12nm,0.8s
GTA pmax pmax
comp=Z,80nm,6.2s
GTA LR LR
comp=Z,330nm,12.4s
GTA LR LR
comp=Z,250nm,13.1s
GTA LR LR
comp=Z,430nm,14.5s
H01W3 Cape Leeuwin H 39.35 158 T T 12 08 51.2
baz=333,slow=76,SNR=29
H01W2 Cape Leeuwin H 39.37 158 T T 12 08 51.3
baz=333,slow=76,SNR=30
H01W1 Cape Leeuwin H 39.37 158 T T 12 08 49.5
baz=333,slow=76,SNR=22
HHC Hu-ho-hao-te 41.57 17 eP P 11 27 35.1 +2.1
HHC PP PnPn 11 29 15.0 +0.8
HHC S S 11 33 48.9 +1.5
HHC SS SS 11 36 49.4 -3.5
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,85nm,5.4s
HHC LR LR
comp=Z,490nm,14.9s
HHC LR LR
comp=Z,510nm,12.4s
HHC LR LR
comp=Z,460nm,17.4s
WRA Warramunga Arr 42.21 122 P P 11 27 37.2 -1.3
comp=Z,4.5nm,0.6s,baz=301,slow=9.0,SNR=63
WRA PcP PcP 11 29 31.9 -0.5
comp=Z,0.5nm,0.5s,baz=310,slow=2.7,SNR=4.3
WRA LR LR 11 45 05.7
comp=Z,155nm,21.2s,baz=290,slow=36
WRA Warramunga Arr 42.21 122 ceP P 11 27 37.5 -0.9
WRA pmax pmax
comp=Z,6.0nm,0.6s
WRAB Tennant Creek 42.22 122 eP P 11 27 37.8 -0.7
comp=Z,6.3nm,0.6s
WRAB Tennant Creek 42.22 122 eP P 11 27 37.8 -0.7
WRAB pmax pmax
comp=Z,6.0nm,0.6s
WB2 Warramunga Arr 42.22 122 eP P 11 27 37.0 -1.5
WB2 eP P 11 27 37.5 -1.0
BJT Baijiatuau 42.34 22 eP P 11 27 39.4 +0.2
comp=Z,13nm,0.6s
BJT Baijiatuau 42.34 22 eP P 11 27 39.4 +0.2
BJT pmax pmax
comp=Z,13nm,0.6s
BJI Beijing 42.36 22 P P 11 27 39.7 +0.4
BJI pmax pmax
comp=Z,21nm,0.8s
KSH Kashi 42.66 336 eP P 11 27 44.0 +2.1
KSH sP sP 11 27 58.0 +4.3
KSH S S 11 34 04.4 +0.8
KSH sS sS 11 34 20.2 +2.8
KSH SS SS 11 37 09.5 -5.0
KSH pmax pmax
comp=Z,6.0nm,1.3s
KSH pmax pmax
comp=Z,38nm,4.6s
KSH LR LR
comp=Z,62nm,5.0s
KSH LR LR
comp=Z,91nm,6.5s
KSH LR LR
comp=Z,130nm,6.4s
WMQ Urumqi 43.20 350 P P 11 27 47.5 +1.3
WMQ pP pP 11 27 55.2 +0.6
WMQ sP sP 11 28 00.4 +2.4
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,260nm,5.3s
WMQ LR LR
comp=Z,260nm,34.3s
WMQ LR LR
comp=Z,380nm,27.1s
WMQ LR LR
comp=Z,220nm,25.3s
ASAR Alice Springs 43.56 127 P P 11 27 48.8 -0.7
comp=Z,3.5nm,0.7s,baz=296,slow=8.0,SNR=38
ASAR PcP PcP 11 29 37.1 +0.2
comp=Z,0.6nm,0.6s,baz=296,slow=2.8,SNR=3.8
AS01 Alice Springs 43.60 127 eP P 11 27 48.6 -1.1
SFK Sufi-Kurgan 44.12 334 P P 11 27 55.6 +1.7
SFK pmax pmax
comp=Z,10.0nm,1.2s
TJN Taejon 44.84 35 ⇓iP P 11 27 59.2 -0.1
JNU Nakatsue 44.89 41 P P 11 27 58.5 -1.3
comp=Z,6.7nm,0.8s,baz=254,slow=6.9,SNR=4.9
JNU LR LR 11 49 22.1
comp=Z,187nm,18.4s,baz=302,slow=40
KS15 Wonju Array Si 45.88 35 eP P 11 28 07.3 -0.3
KSAR Wonju Array Be 45.88 35 P P 11 28 07.2 -0.4
KSAR Wonju Array Be 45.88 35 P P 11 28 07.2 -0.4
AAK Ala-Archa 45.89 337 LR LR 11 50 40.0
comp=Z,147nm,18.7s,baz=140,slow=40
KS01 Wonju Array Si 45.91 35 eP P 11 28 07.0 -0.9
KSRS Korea Array 45.91 35 P P 11 28 07.2 -0.7
comp=Z,8.7nm,0.9s,baz=221,slow=8.9,SNR=30
KSRS LR LR 11 47 41.9
comp=Z,148nm,18.9s,baz=238,slow=37
MNAS Manas 46.58 335 P P 11 28 14.9 +1.7
MNAS pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 47.11 9 P P 11 28 17.4 +0.1
comp=Z,5.5nm,0.7s,baz=189,slow=9.3,SNR=45
SONM PcP PcP 11 29 49.1 +0.3
comp=Z,1.9nm,0.6s,baz=191,slow=4.6,SNR=6.0
SONM LR LR 11 50 32.9
comp=Z,301nm,19.1s,baz=189,slow=39
SONA1 Songino Array 47.13 9 eP P 11 28 17.3 -0.1
MK01 Makanchi Array 47.13 346 eP P 11 28 17.8 +0.5
MK31 Makanchi Array 47.16 346 eP P 11 28 18.0 +0.5
MK31 Makanchi Array 47.16 346 eP P 11 28 18.6 +1.1
MKAR Makanchi Array 47.16 346 P P 11 28 18.0 +0.5
comp=Z,4.8nm,0.5s,baz=160,slow=9.1,SNR=125
MKAR LR LR 11 51 20.7
comp=Z,92nm,20.6s,baz=142,slow=40
MKAR Makanchi Array 47.16 346 eP P 11 28 18.0 +0.5
comp=Z,45nm,0.6s
MKAR Makanchi Array 47.16 346 eP P 11 28 18.0 +0.5
MKAR pmax pmax
comp=Z,45nm,0.6s
MAKZ Makanchi 47.24 346 eP P 11 28 18.6 +0.4
comp=Z,5.5nm,0.6s
MAKZ Makanchi 47.24 346 eP P 11 28 18.6 +0.4
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 47.24 9 eP P 11 28 18.5 +0.1
comp=Z,3.6nm,0.7s
ULN Ulaanbaatar 47.24 9 c iP P 11 28 18.6 +0.3
ULN pmax pmax
comp=Z,9.0nm,1.7s
KKAR Karatay Array 47.94 334 eP P 11 28 24.1 +0.5
KKAR Karatay Array 47.94 334 eP P 11 28 24.2 +0.5
ZAK Zakamensk 49.24 5 eP P 11 28 32.5 -1.2
ZAK pmax pmax
comp=Z,3.0nm,1.4s
CN2 Changchun 49.34 27 eP P 11 28 32.4 -2.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
TLY Talaya 50.56 5 LR LR 11 53 08.5
comp=Z,273nm,18.8s,baz=96,slow=40
TLY Talaya 50.56 5 eP P 11 28 44.4 +0.8
comp=Z,4.4nm,0.6s
TLY Talaya 50.56 5 eP P 11 28 44.4 +0.8
TLY pmax pmax
comp=Z,4.0nm,0.6s
PMG Port Moresby 51.04 103 P P 11 28 46.3 -1.5
comp=Z,4.8nm,0.8s,baz=281,slow=16,SNR=3.7
PMG LR LR 11 52 47.1
comp=Z,88nm,18.3s,baz=275,slow=39
PMG Port Moresby 51.04 103 ⇑iP P 11 28 46.9 -0.8
PMG i *PP pP 11 28 56.7 +0.4
PMG pmax pmax
comp=Z,15nm,0.9s
GEYT Alibeck 51.06 320 P P 11 28 48.8 +1.2
comp=Z,1.2nm,0.5s,baz=54,slow=44,SNR=2.4
OTUK Ortayu 51.44 339 P P 11 28 50.6 +0.4
OTUK pmax pmax
comp=Z,17nm,0.9s
KURBB Kurchatov Arra 51.64 345 P P 11 28 52.0 +0.4
comp=Z,3.4nm,0.5s,baz=164,slow=6.5,SNR=16
KURK Kurchatov 51.70 345 P P 11 28 52.0 -0.1
KURK Kurchatov 51.70 345 c iP P 11 28 52.7 +0.6
KURK i *SP sP 11 29 07.0 +3.0
KURK pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 51.78 42 P P 11 28 51.2 -1.7
comp=Z,1.4nm,0.7s,baz=225,slow=6.6,SNR=6.3
MJAR LR LR 11 54 49.3
comp=Z,78nm,18.5s,baz=235,slow=41
CTA Charters Tower 52.68 116 P P 11 28 58.9 -1.0
comp=Z,3.7nm,0.9s,baz=265,slow=12,SNR=3.0
USRK Ussuriysk Ar. 52.82 31 P P 11 29 00.7 +0.2
comp=Z,10nm,0.9s,baz=228,slow=5.3,SNR=16
ZAA0 Zalesovo Array 53.49 351 eP P 11 29 05.7 +0.4
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 53.49 351 P P 11 29 05.5 +0.3
comp=Z,15nm,0.5s,baz=174,slow=6.8,SNR=53
ZALV LR LR 11 56 55.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,118nm,18.8s,baz=178,slow=42						
STKA	Stephens Creek	53.52	132	P	P	11 29 06.1	+0.2
	comp=Z,2.7nm,0.6s,baz=315,slow=12,SNR=11						
STKA				LR	LR	11 54 01.1	
	comp=Z,238nm,21.2s,baz=309,slow=38						
NVS	Novosibirsk	54.60	350	eP	P	11 29 13.0	-0.3
NVS				pmax	pmax		
	comp=Z,4.0nm,0.4s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
BVAR	Borovoye Array	56.15	341	P	P	11 29 24.5	0.0
	comp=E,3.8nm,0.5s,baz=142,slow=9.6,SNR=14						
BVAR				LR	LR	11 56 13.0	
	comp=E,123nm,21.4s,baz=139,slow=39						
BRVK	Borovoye	56.21	341	eP	P	11 29 25.1	+0.1
	comp=E,4.9nm,0.7s						
BRVK	Borovoye	56.21	341	eP	P	11 29 25.1	+0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KLR	Kul'dur	56.29	27	c iP	P	11 29 25.7	+0.1
KLR				i *PP	pP	11 29 34.5	+0.2
ABKAR	Akbulak array	57.39	332	eP	P	11 29 33.3	-0.1
	comp=Z,60nm,0.8s						
BOD	Bodaibo	58.00	11	eP	P	11 29 36.9	-0.6
BOD				pmax	pmax		
	comp=Z,12nm,1.9s						
EIDS	Eidsvold	58.55	121	eP	P	11 29 41.8	-0.3
	comp=Z,8.8nm,0.6s						
AKTO	Aktyubinsk	59.11	332	P	P	11 29 45.4	0.0
	comp=Z,1.4nm,0.4s,baz=114,slow=8.4,SNR=7.6						
YSS	Yuzh-Sakhalins	60.41	34	eP	P	11 29 53.9	-0.5
YSS				e		11 30 02.7	
YSS				e		11 30 34.5	
YSS				e		11 32 08.0	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
GNI	Garni	61.14	316	⇓eP	P	11 29 59.8	0.0
GNI				pmax	pmax		
	comp=Z,75nm,1.3s						
ARU	Arti	63.07	337	LR	LR	12 00 24.7	
	comp=Z,77nm,18.1s,baz=122,slow=39						
ARU	Arti	63.07	337	eP	P	11 30 11.8	-0.4
	comp=Z,24nm,1.7s						
ARU	Arti	63.07	337	c iP	P	11 30 11.5	-0.7
ARU						11 30 47.8	
ARU						11 32 27.2	
ARU				S	S	11 38 42.4	+1.3
ARU				SS	SS	11 42 43.7	-3.6
ARU				pmax	pmax		
	comp=Z,12nm,1.7s						
KIV	Kislovodsk	64.16	319	eP	P	11 30 20.9	+1.2
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YAK	Yakutsk	65.43	16	eP	P	11 30 27.0	-0.5
	comp=Z,48nm,1.3s						
YAK	Yakutsk	65.43	16	eP	P	11 30 24.3	-3.2
YAK				pmax	pmax		
	comp=Z,23nm,1.1s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.4s						
YAK				MLR	MLR		
	comp=E,121nm,15.0s						
YAK				MLR	MLR		
	comp=Z,293nm,18.0s						
YAK				MLR	MLR		
	comp=N,349nm,19.0s						
MMAI	Mount Meron Ar	65.73	306	LR	LR	12 00 39.9	
	comp=N,59nm,18.2s,baz=105,slow=37						
BRTR	Keskin Array B	68.95	312	P	P	11 30 50.1	-0.4
	comp=N,1.2nm,0.8s,baz=99,slow=9.7,SNR=3.9						
BRTR	Keskin Array B	68.95	312	c eP	P	11 30 52.9	+2.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MA2	Magadan	71.37	26	i P	P	11 31 04.5	-0.3
OBN	Obninsk	72.49	328	LR	LR	12 07 25.3	
	comp=Z,60nm,19.1s,baz=89,slow=40						
OBN	Obninsk	72.49	328	⇑eP	P	11 31 12.0	+0.5
OBN				e		11 31 27.1	
OBN				S	S	11 40 30.0	-3.8
OBN				pmax	pmax		
	comp=Z,15nm,0.4s						
TIXI	Tiksi	73.17	10	LR	LR	12 05 12.2	
	comp=Z,65nm,18.4s,baz=198,slow=37						
TIXI	Tiksi	73.17	10	eP	P	11 31 14.2	-1.1
	comp=Z,7.1nm,1.1s						
TIXI	Tiksi	73.17	10	⇑iP	P	11 31 14.4	-0.9
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SEY	Seymchan	73.79	23	⇑iP	P	11 31 19.1	0.0
BOSA	Boshof	74.65	240	LR	LR	11 58 47.8	
	comp=Z,94nm,21.9s,baz=58,slow=31						
AKASG	Malin Array Be	75.11	322	P	P	11 31 26.4	-0.7
	comp=Z,0.4nm,0.3s,baz=81,slow=6.7,SNR=5.5						
MLR	Muntele Rosu	75.91	317	LR	LR	12 12 04.7	
	comp=Z,11nm,18.1s,baz=237,slow=41						
VSU	Vasula	78.72	330	eP	P	11 31 48.1	+0.9
FINES	FINESS Array B	79.88	333	P	P	11 31 53.3	-0.1
	comp=Z,1.2nm,0.5s,baz=76,slow=5.9,SNR=6.1						
BILL	Bilibino	81.19	21	eP	P	11 32 01.1	+0.8
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ARCES	ARCESS Array B	82.43	340	P	P	11 32 07.1	+0.2
	comp=Z,0.8nm,0.4s,baz=96,slow=4.3,SNR=16						
ARCES				LR	LR	12 13 28.5	
	comp=Z,98nm,19.3s,baz=90,slow=39						
GERES	GERESS Array B	84.66	319	P	P	11 32 20.0	+1.1
	comp=Z,0.3nm,0.5s,baz=64,slow=4.5,SNR=3.5						
HFS	Hagfors	85.59	330	P	P	11 32 23.2	+0.1
	comp=Z,6.4nm,1.1s,baz=118,slow=8.3,SNR=3.2						
HFS				LR	LR	12 14 19.8	
	comp=Z,53nm,18.1s,baz=79,slow=38						
SPITS	Spitsbergen Ar	86.87	348	LR	LR	12 18 20.5	
	comp=Z,71nm,18.6s,baz=185,slow=40						
NOA	NORSAR Array B	86.88	331	LR	LR	12 16 15.7	
	comp=Z,55nm,18.8s,baz=90,slow=39						
KEST	Kesra	87.39	306	P	P	11 32 32.7	0.0
	comp=Z,3.5nm,0.5s,baz=90,slow=1.0,SNR=5.5						
SNAA	Sanae	94.28	198	LR	LR	12 11 34.4	
	comp=Z,36nm,18.9s,baz=348,slow=33						
PDAR	Pinedale Array	130.08	26	PKP	PKPdf	11 38 53.0	-2.5
	comp=Z,0.1nm,0.3s,baz=272,slow=2.3,SNR=3.5						
TXAR	Lajitas Array	143.72	31	PKP	PKPab	11 39 17.9	+0.3
	comp=Z,0.3nm,0.5s,baz=184,slow=0.5,SNR=11						
HPIG		144.46	36	ePKPdf	PKPdf	11 39 22.0	-0.4

*IDC **01** 11:20:15.0±1.5, 36°.82N×141°.10E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/65, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=33.2km s-min=24.8km az=138.0*
*ISCJB **01** 11:20:16.1±1.5, 36°.51N±0°.06×141°.20E±0°.08, h22km±9km, mb3.2/2, Error ellipse: s-maj=12.5km s-min=7.4km az=35.3*
*JMA **01** 11:20:16.7±0.1, 36°.49N×141°.15E, h43km±2km, M3.1*
ISC 01 11:20:16.3±2.1**, 36°.53N**±0°.06×**141°.18E**±0°.09**, h11**km±11km**, n15,** σ**1s.52**/16**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.50	279	P	Pg	11 20 27.2	+1.1
JHO				S	Sg	11 20 34.5	+1.7
ONAJ	Iwakimizuishiy	0.65	332	P	Pg	11 20 29.5	+0.6
ONAJ				eS	Sg	11 20 38.6	+1.1
JYT	Yasato	0.85	250	P	Pg	11 20 31.8	-1.0
JYT				S	Sg	11 20 41.9	-2.0
JFK	Kawauchi	0.87	344	P	Pg	11 20 32.6	-0.5
JFK				S	Sg	11 20 44.0	-0.5
JFT	Otama	1.20	326	P	Pn	11 20 38.4	-0.5
JFT				S	Sg	11 20 53.5	-1.4
MJAR	Matsushiro Arr	2.40	271	Pn	Pn	11 20 55.2	-0.2
	3.5nm,0.3s,baz=84,slow=9.0,SNR=45						
MJAR				Sn	Sn	11 21 22.6	-2.1
	4.2nm,0.3s,baz=83,slow=31,SNR=7.9						
MAT	Matsushiro	2.40	271	P	Pn	11 20 55.2	-0.3
MAT				S	Sn	11 21 25.9	+1.1
H11N2	WAKE ISLAND Hy	28.05	120	T	T	11 55 48.6	
	baz=314						
H11N1	WAKE ISLAND Hy	28.06	120	T	T	11 55 48.6	
	baz=314						
H11N3	WAKE ISLAND Hy	28.07	120	T	T	11 55 47.5	
	baz=314						
H11S1	WAKE ISLAND Hy	28.75	122	T	T	11 56 45.6	
	baz=314						
H11S3	WAKE ISLAND Hy	28.75	122	T	T	11 56 46.1	
	baz=314						
H11S2	WAKE ISLAND Hy	28.76	122	T	T	11 56 45.6	
	baz=314						
ILAR	Eielson Array	50.02	32	P	P	11 29 08.9	-1.4
	0.2nm,0.7s,baz=277,slow=5.3,SNR=3.4						
WRA	Warramunga Arr	56.54	188	P	P	11 30 01.2	+2.5
	0.2nm,0.9s,baz=1.2,slow=7.8,SNR=3.2						

*IDC **01** 11:20:27.7±1.6, 17°.88S×167°.39E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/42, mbtmp4.2/9, ML4.2/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/39, Error ellipse: s-maj=40.4km s-min=24.5km az=119.0*
*ISCJB **01** 11:20:29.7±1.2, 18°.00S±0°.07×167°.3E±0°.2, h23km, mb4.1/6, MS3.1/1, Error ellipse: s-maj=26.1km s-min=10.1km az=179.5*
ISC 01 11:20:31.0±1.1**, 17°.96S**±0°.09×**167°.3E**±0°.2**, h23**km**, n15,** σ**1s.24**/14**, mb4.1**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.17	191	Pn	Pn	11 21 33.6	+0.2
	3.8nm,0.3s,baz=77,slow=8.4,SNR=130						
DZM				Sn	Sn	11 22 19.9	-1.6
	7.0nm,0.3s,baz=323,slow=22,SNR=14						
DZM				LR	LR	11 23 05.6	
	comp=Z,170nm,18.7s,baz=238,slow=37						
HNR	Honiara	11.08	319	Pn	Pn	11 23 06.8	-1.3
	5.2nm,0.3s,baz=148,slow=12,SNR=2.0						
HNR				LR	LR	11 26 58.6	
	comp=Z,66nm,18.4s,baz=80,slow=35						
CTA	Charters Tower	20.02	261	P	Pn	11 25 03.5	-0.7
	4.8nm,0.8s,baz=88,slow=13,SNR=5.4						
PMG	Port Moresby	21.32	291	LR	LR	11 31 56.9	
	comp=Z,73nm,18.8s,baz=132,slow=32						
STKA	Stephens Creek	27.04	234	P	P	11 26 13.8	+2.1
	7.6nm,0.8s,baz=60,slow=8.7,SNR=11						
WRA	Warramunga Arr	31.22	261	P	P	11 26 48.6	-0.4
	2.3nm,0.9s,baz=85,slow=8.5,SNR=20						
ASAR	Alice Springs	31.69	254	P	P	11 26 53.1	0.0
	1.7nm,0.4s,baz=82,slow=8.2,SNR=57						
CMAR	Chiang Mai Arr	76.31	295	P	P	11 32 20.6	+2.0
	1.3nm,0.6s,baz=130,slow=3.9,SNR=8.8						
SONM	Songino Array	85.10	324	P	P	11 33 05.9	+0.8
	0.3nm,0.4s,baz=143,slow=5.0,SNR=3.2						
ILAR	Eielson Array	89.57	18	P	P	11 33 25.3	-0.9
	0.7nm,0.7s,baz=239,slow=4.7,SNR=9.2						
OBKA	Obir	143.72	328	ePKPdf	PKPbc	11 40 02.3	+0.5
	5.6nm,1.1s						
ABTA	Abfaltersbach	144.56	330	ePKPdf	PKPdf	11 40 05.0	-0.8
	4.1nm,1.3s						
MOTA	Moosalm	144.78	332	ePKPbc	PKPab	11 40 04.3	-0.9
	1.2nm,0.5s						
FETA	Feichten	145.19	332	ePKPdf	PKPdf	11 40 07.1	+0.1
	3.9nm,0.7s						
DAVA	Damuels	145.37	333	ePKPab	PKPdf	11 40 07.9	+0.6
	10.0nm,1.2s						

*NNC **01** 11:30:36.4±2.4, 44°.37N×82°.78E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=22.7km s-min=9.5km az=124.0*
*SOME **01** 11:30:37.1, 44°.27N×82°.78E, h10km*
ISC 01 11:30:37.2±2.8**, 44°.38N**±0°.08×**82°.8E**±0°.1**, h17**km**, n6,** σ**0s.79**/9**, 5C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.99	243	eP	Pb	11 31 14.1	+1.1
	9.9nm,0.2s						
KTMS				eS	Sg	11 31 40.6	-0.7
	11nm,0.2s						
DJR	Jarkent	2.15	270	eP	Pg	11 31 17.6	-0.8
	10nm,0.4s						
DJR				eS	Sg	11 31 46.9	+0.5
	5.0nm,0.3s						
MK31	Makanchi Array	2.44	352	⇑Pg	Pb	11 31 21.1	+0.5
	0.2nm,0.2s,baz=177,slow=16,SNR=23						
MK31				⇑Lg	Lg	11 31 54.4	
	0.9nm,0.2s,baz=171,slow=28,SNR=6.6						
MAKZ	Makanchi	2.50	347	⇑Pg	Pb	11 31 21.9	+0.4
	0.7nm,0.5s						
MAKZ				⇑Lg	Lg	11 31 56.8	
	1.1nm,0.5s						
KAPS	Kapalarasan	2.60	292	eP	Pg	11 31 26.4	-0.7
	1.2nm,0.3s						
KAPS				eS	Sg	11 32 01.4	+0.5
	2.6nm,0.4s						
PDGK	Podgornoye	2.60	247	⇑Pg	Pb	11 31 23.8	+0.3
	1.5nm,0.5s						
PDGK				⇓Lg	Lg	11 31 59.5	
	3.4nm,0.4s						

IDC 01 11:32:12.1±7.7**, 17°.22S**×**176°.37W, h0**km**, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.5**/47**, mbtmp3.6**/3**, MS4.4**/1**, Ms1 4.4**/1**, ms1mx2.7**/35**, Error ellipse: s-maj=334.7km s-min=39.7km az=142.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	12.06	186	LR	LR	11 38 52.0	
	comp=Z,2μm,21.2s,baz=26,slow=33						
WRA	Warramunga Arr	46.67	259	P	P	11 40 44.4	+1.5
	0.3nm,0.3s,baz=90,slow=8.4,SNR=25						
ASAR	Alice Springs	46.85	254	P	P	11 40 42.5	-1.8
	0.3nm,0.4s,baz=94,slow=7.0,SNR=12						
ILAR	Eielson Array	84.80	12	P	P	11 44 47.9	0.0
	0.7nm,1.1s,baz=198,slow=5.7,SNR=3.4						

IDC 01 11:41:32.6±3.2**, 54°.21N**×**87°.35E, h0**km**, mb1 2.4**/1**, mb1mx2.3**/67**, mbtmp2.4**/1**, ML2.4**/1**, Error ellipse: s-maj=29.5km s-min=19.3km az=41.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.52	261	i		11 51 15.6	
	baz=79,slow=336,SNR=4.4						
ZALV	Zalesovo Beam	1.52	261	Pg	Pn	11 42 00.2	-0.8
	0.6nm,0.3s,baz=79,slow=16,SNR=8.9						
ZALV				Lg	Lg	11 42 21.3	
	0.7nm,0.3s,baz=75,slow=22,SNR=5.3						
KURBB	Kurchatov Arra	6.48	240	Pn	Pn	11 43 09.7	+0.4
	0.1nm,0.3s,baz=54,slow=14,SNR=3.9						
KURBB				Lg	Lg	11 44 56.4	
	baz=60,slow=31,SNR=2.5						
MKAR	Makanchi Array	8.10	205	Pn	Pn	11 43 32.6	+1.2
	baz=24,slow=11,SNR=2.3						

IDC 01 11:43:40.2±999.0**, 56°.86N**×**35°.74E, h0**km**, Error ellipse: s-maj=1106.0km s-min=20.6km az=99.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	0.83	99	i		11 48 10.0	
	baz=281,slow=289,SNR=1.4						
I31KZ	AKTYUBINSK INF	14.68	107	i		13 14 20.0	
	baz=303,slow=343,SNR=0.4						
I46RU	ZALESOVO INFRA	27.54	75	i		14 32 50.0	
	baz=296,slow=333,SNR=1.4						

*NNC **01** 11:53:03.9±1.6, 54°.42N×86°.31E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=39.1km s-min=8.1km az=156.0*
IDC 01 11:53:06.0±2.4**, 54°.19N**×**86°.36E, h0**km**, mb1 3.7**/2**, mb1mx3.1**/66**, mbtmp3.7**/2**, ML2.6**/2**, 5C-3D, Error ellipse: s-maj=18.2km s-min=11.1km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.94	256	i		11 58 35.8	
	baz=75,slow=333,SNR=14						
ZAA0	Zalesovo Array	0.94	256	⇓P	Pg	11 53 22.7	-1.3
	2.5nm,0.6s						
ZAA0				⇓S	Sg	11 53 36.8	+0.7
	19nm,0.9s						
ZALV	Zalesovo Beam	0.94	256	Pg	Pg	11 53 22.7	-1.3
	1.4nm,0.3s,baz=73,slow=17,SNR=19						
ZALV				Lg	Lg	11 53 37.9	
	8.5nm,0.3s,baz=78,slow=29,SNR=53						
ZALV				Rg	Rg	11 53 44.0	
	3.8nm,0.4s,baz=168,slow=40,SNR=26						
KURK	Kurchatov	5.87	237	⇑Pn	Pn	11 54 34.6	+0.4
	4.1nm,1.3s						
KURK				⇑Lg	Lg	11 56 12.5	
	3.7nm,1.0s						
KURBB	Kurchatov Arra	5.97	236	Pn	Pn	11 54 36.0	+0.4
	0.1nm,0.3s,baz=54,slow=14,SNR=19						
KURBB				Sn	Sn	11 55 43.6	-1.1
	baz=45,slow=33,SNR=2.5						
KURBB				Lg	Lg	11 56 16.3	
	0.0nm,0.3s,baz=52,slow=34,SNR=6.2						
KURBB	Kurchatov Arra	5.97	236	⇑Pn	Pn	11 54 36.6	+1.0
	5.4nm,1.4s						
KURBB				⇓Lg	Lg	11 56 16.0	
	8.4nm,1.3s						
MK31	Makanchi Array	7.84	201	⇑Pn	Pn	11 55 02.2	+0.9
	0.6nm,0.8s,baz=21,slow=14,SNR=9.3						
MK31				⇑Lg	Lg	11 57 19.0	
	6.1nm,1.3s,baz=29,slow=31,SNR=6.0						
MKAR	Makanchi Array	7.84	201	Pn	Pn	11 55 02.5	+1.2
	0.1nm,0.3s,baz=23,slow=13,SNR=11						
MKAR				Sn	Sn	11 56 31.6	+0.9
	0.0nm,0.3s,baz=20,slow=4.6,SNR=3.2						
MKAR				Lg	Lg	11 57 14.2	
	0.0nm,0.3s,baz=25,slow=27,SNR=12						

IDC 01 12:37:00.2±531.0**, 55°.99N**×**4°.35E, h0**km**, Error ellipse: s-maj=307.7km s-min=176.4km az=138.0, North Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	9.15	137	i		13 30 40.0	
	baz=324,slow=315,SNR=1.2						
I43RU	DUBNA INFRASON	18.13	74	i		14 26 10.0	
	baz=284,slow=328,SNR=0.4						
I48TN	KESRA INFRASON	20.47	168	i		14 46 10.0	
	baz=350,slow=318,SNR=0.2						

DJA 01 12:56:38.1±0.4**, 7°S**±2°×**13°0E**±°**, h197**km±6km**, M4.2**/13**, mb4.1**/7**, mB4.6**/4**, MLv4.3**/13**, Mw(mB)3.9**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.85	139	P	Pn	12 57 16.0	+1.2
SAUI				S	Sn	12 57 43.7	+0.2
BNDI	Bandanaira	2.05	355	P	Pn	12 57 17.5	+0.5
BNDI				S	Sn	12 57 47.5	+0.2
MSAI	Masohi	3.41	340	P	Pn	12 57 33.3	+0.7
AAI	Ambon	3.43	327	P	Pn	12 57 33.5	+0.7
FAKI	Fak Fak	4.23	31	P	Pn	12 57 42.9	+0.2
FAKI				S	Sn	12 58 31.1	-2.4
NLAI	Namlea	4.45	318	P	Pn	12 57 46.6	+1.1
KMPI	Kaimana, Papua	4.63	51	P	Pn	12 57 48.1	+0.3
SWI	Sorong	5.80	12	P	Pn	12 58 02.3	-0.5
SANI	Sanana	6.07	318	P	Pn	12 58 06.6	+0.3
	17nm,0.7s,656nm						
LBMI	Labuha	6.44	336	P	Pn	12 58 10.7	-0.4
	39nm,1.2s						
SOEI	Soe	6.56	241	P	Pn	12 58 12.3	-0.5
	32nm,0.8s						
BATI	Baumata	7.30	240	P	Pn	12 58 21.4	-0.9

*CSEM **01** 13:01:24.1, 58°.08N×11°.88E, h0km, ML1.2, Mining explosion. After UPP*
UPP 01 13:01:24.1, 58°.08N×**11°.88E, h0**km**, ML1.2, Mining explosion., Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TJOU	Tjoern	0.14	250	P	Pg	13 01 27.0	+0.2
TJOU				S	Sg	13 01 28.9	+0.2
VANU	Vaenersborg	0.42	14	P	Pg	13 01 32.2	0.0
VANU				S	Sg	13 01 38.2	+0.5
BORU	Boraas	0.65	133	P	Pg	13 01 36.5	-0.1
FKPU	Falk	0.98	85	P	Pg	13 01 42.2	-0.7
STRU	Stroemstad	1.02	339	P	Pg	13 01 43.0	-0.7
NASU	Vaermlandsnaes	1.09	38	P	Pg	13 01 44.2	-0.8
FABU	Falkenberg	1.17	157	P	Pg	13 01 45.6	-1.0

*NAO **01** 13:02:22.1±2.4, 77°.87N×8°.11E, h2km±24km, ML2.3*
*CSEM **01** 13:02:23.0±0.6, 77°.86N×8°.51E, h15km, ML1.8, Error ellipse: s-maj=12.8km s-min=4.9km az=97.0*
*BER **01** 13:02:25.5±1.8, 77°.79N×8°.57E, h15km±21km, ML1.8, ML2.3(NAO)*
ISC 01 13:02:23.4±2.3**, 77°.78N**±0°.07×**8°.8E**±0°.2**, h10**km**, n12,** σ**0s.83**/15**, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRBA	Barentsburg A	1.17	73	Pg	Pn	13 02 46.9	+1.2
	SNR=92						
BRBA				Lg	Lg	13 03 02.6	
	SNR=90						
KBS	Kingsbay	1.31	27	Pg	Pg	13 02 47.8	-0.7
KBS				Lg	Lg	13 03 03.6	
KBS	Kingsbay	1.31	27	Pg	Pg	13 02 47.8	-0.7
KBS				Lg	Lg	13 03 03.6	
KBS				eSg	Sn	13 03 04.1	-1.2
	SNR=92						
KBS	Kingsbay	1.31	27	eP	Pg	13 02 47.9	-0.7
KBS				ePg	Pb	13 02 48.9	+0.8
KBS				eSg	Sn	13 03 04.1	-1.2
KBS				IAML		13 03 06.8	
	comp=Z,22nm,0.3s						
SPA0	Spitsbergen Ar	1.63	72	Pg	Pg	13 02 54.6	+0.1
	baz=257,slow=16						
SPA0				Lg	Lg	13 03 17.8	
	baz=257,slow=28						
SPA0	Spitsbergen Ar	1.63	72	Pg	Pg	13 02 54.6	+0.1
	SNR=91						
SPA0				Lg	Lg	13 03 17.8	
	SNR=9.5						
SPA0	Spitsbergen Ar	1.63	72	Pg	Pg	13 02 54.6	+0.1
	baz=257,slow=16						
SPA0				Lg	Lg	13 03 17.8	
	baz=257,slow=28						
HSPB	Hornsund (broa	1.67	115	Pn	Pb	13 02 53.3	-0.7
HSPB	Hornsund (broa	1.67	115	eP	Pb	13 02 53.4	-0.6
HSP	Hornsund	1.67	114	Pn	Pb	13 02 53.3	-0.8
ARA0	ARCESS Array S	9.46	142	Pn	Pn	13 04 39.9	+0.4
	baz=331,slow=12						
ARA0	ARCESS Array S	9.46	142	Pn	Pn	13 04 39.9	+0.4
	baz=331,slow=12						

*IDC **01** 13:18:40.4±1.1, 66°.12N×173°.83W, h0km, mb3.6/11, mb1 3.8/13, mb1mx3.5/88, mbtmp3.7/13, ML3.1/2, MS3.2/6, Ms1 3.2/6, ms1mx2.7/78, Error ellipse: s-maj=46.0km s-min=14.3km az=17.0*
*MOS **01** 13:18:40.2±1.5, 66°.10N×173°.51W, h13km, mb3.9/10, Error ellipse: s-maj=32.6km s-min=18.6km az=122.3*
*NERS **01** 13:18:52.2, 65°.70N×173°.80W, h10km, MLV3.4, MPV4.2*
ISC 01 13:18:41.5±0.7**, 66°.3N**±0°.2×**173°.89W**±0°.06**, h10**km**, n26,** σ**2s.39**/24**, mb3.6**/12**, MS3.2**/4**, 4C, Near north coast of eastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BILL	Bilibino	7.92	292	eP	Pn	13 20 35.8	-0.7
BILL				Pmax		13 20 38.8	
	10.0nm,1.8s						
BILL				eS	Sn	13 22 01.7	-4.2
BILL				eSg	Sg	13 22 50.8	-4.4
BILL				eL	L	13 22 51.8	
BILL				Sgmax		13 22 58.0	
	580nm,1.6s						
BILL				Sgmax		13 22 58.0	
	140nm,1.0s						
BILL				LRmax		13 22 58.1	
	330nm,8.0s						
ILAR	Eielson Array	11.26	85	Pn	Pn	13 21 21.3	-1.0
	baz=283,slow=14,SNR=1.7						
ILAR				Sn	Sn	13 23 25.2	-2.8
	0.0nm,0.3s,baz=288,slow=14,SNR=3.2						
KDAK	Kodiak Island	13.05	120	Pn	Pn	13 21 44.3	-2.3
	0.2nm,0.3s,baz=324,slow=19,SNR=3.0						
KDAK				LR	LR	13 26 46.6	
	comp=Z,120nm,20.8s,baz=329,slow=38						

SEY	**Seymchan**	**14.73**	**273**	Pn	**Pn**	**13 22 10.0**	**+0.4**
	0.0nm,0.3s,baz=62,slow=16,SNR=3.8						
SEY	**Seymchan**	**14.73**	**273**	*e*	Pn	13 22 01.9	-7.7
SEY				*e*L	L	13 26 24.3	
SUUS	**Susuman**	**16.51**	**276**	*e*P	**P**	**13 22 34.3**	**-1.1**
SUUS				Pmax		13 22 34.9	
	10.0nm,1.5s						
SUUS				*e*		13 27 20.4	
OCHR	**Omchak**	**17.19**	**273**	*e*P	**Pn**	**13 22 40.0**	**-1.5**
OCHR				*e*		13 26 42.0	
OCHR				*e*		13 27 52.2	
MA2	**Magadan**	**17.22**	**264**	P	**P**	**13 22 46.5**	**+3.2**
	0.3nm,0.3s,baz=46,slow=12,SNR=3.7						
MA2				LR	LR	13 29 17.2	
	comp=Z,59nm,18.0s,baz=8.0,slow=37						
MA2	**Magadan**	**17.22**	**264**	*e*		13 27 42.5	
TIXI	**Tiksi**	**20.50**	**310**	P	Pn	13 23 21.0	-0.3
	1.3nm,0.4s,baz=61,slow=3.7,SNR=6.0						
TIXI	**Tiksi**	**20.50**	**310**	*ce*P	Pn	13 23 22.0	+0.7
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
YAK	**Yakutsk**	**24.23**	**287**	P	**P**	**13 23 58.3**	**+0.4**
	comp=Z,4.0nm,0.3s,baz=295,slow=23,SNR=7.7						
YAK				LR	LR	13 34 14.1	
	comp=Z,97nm,18.3s,baz=81,slow=38						
YKA	**Yellowknife Ar**	**25.06**	**70**	P	**P**	**13 24 06.8**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=301,slow=8.7,SNR=16						
RES	**Resolute Bay**	**25.58**	**37**	LR	LR	13 36 35.0	
	comp=Z,24nm,18.2s,baz=157,slow=42						
SPITS	**Spitsbergen Ar**	**35.66**	**356**	LR	LR	13 39 59.2	
	comp=Z,36nm,18.6s,baz=25,slow=36						
PDAR	**Pinedale Array**	**41.60**	**92**	P	**P**	**13 26 29.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=320,slow=5.1,SNR=5.3						
PDAR				LR	LR	13 45 31.8	
	comp=Z,62nm,20.2s,baz=358,slow=39						
SONM	**Songino Array**	**43.58**	**286**	P	**P**	**13 26 46.5**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=30,slow=5.3,SNR=5.5						
ZALV	**Zalesovo Beam**	**46.32**	**307**	P	**P**	**13 27 08.5**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=28,slow=6.9,SNR=7.5						
KURK	**Kurchatov**	**51.07**	**309**	*ce*P	**P**	**13 27 45.7**	**+2.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURBB	**Kurchatov Arra**	**51.17**	**309**	P	**P**	**13 27 45.9**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=30,slow=7.7,SNR=5.1						
KURBB				PP	**PP**	**13 29 45.5**	**+4.9**
	comp=Z,1.0nm,1.0s,baz=34,slow=10,SNR=4.3						
BVAR	**Borovoye Array**	**51.50**	**316**	P	**P**	**13 27 48.9**	**+2.2**
	comp=Z,0.7nm,0.9s,baz=46,slow=4.3,SNR=4.5						
BRVK	**Borovoye**	**51.50**	**316**	*ce*P	**P**	**13 27 49.5**	**+2.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MKAR	**Makanchi Array**	**53.28**	**304**	P	**P**	**13 28 00.2**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=64,slow=5.5,SNR=4.1						
MKAR	**Makanchi Array**	**53.28**	**304**	*ce*P	**P**	**13 28 00.8**	**+0.8**
TXAR	**Lajitas Array**	**55.58**	**95**	P	**P**	**13 28 15.7**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=307,slow=4.6,SNR=4.4						
AKASG	**Malin Array Be**	**62.05**	**344**	P	**P**	**13 29 02.4**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=16,slow=6.7,SNR=3.5						

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*ISCJB **01** 13:24:56.8±0.2, 24.°52N±0.°02×122.°83E±0.°01, h95km±3km, mb3.6/11, Error ellipse: s-maj=3.6km s-min=2.1km az=170.8*

*JMA **01** 13:24:57.1±0.1, 24.°46N×122.°79E, h93km±1km, M3.8*

*TAP **01** 13:24:57.6, 24.°51N×122.°82E, h89km, ML4.4, C*

*IDC **01** 13:25:04.5±4.7, 24.°70N×122.°90E, h172km±48km, mb3.3/11, mb1 3.5/12, mb1mx3.2/76, mbtmp3.8/12, Error ellipse: s-maj=20.2km s-min=12.9km az=74.0*

ISC 01 13:24:56.4±0.7**, 24.°51N**±0.°03×**122.°83E**±0.°02**, h94**km±5km**, n122,** σ1.s**36**/190**, mb3.6**/11**, 27C-6D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.12**	**120**	P	**Pn**	**13 25 10.4**	**+0.8**
JYNG				S	**Sn**	**13 25 20.1**	**+0.6**
YOJ	**Yonaguni jima**	**0.17**	**107**	⇑*i*P	**Pn**	**13 25 10.7**	**+0.9**
	baz=105						
YOJ				S	**Sn**	**13 25 20.0**	**+0.3**
	baz=105						
YOJ	**Yonaguni jima**	**0.17**	**107**	P	**Pn**	**13 25 10.6**	**+0.9**
YOJ				S	**Sn**	**13 25 20.3**	**+0.6**
EOS1	**EOS1**	**0.64**	**274**	⇓P	**Pn**	**13 25 13.6**	**+0.9**
	baz=273						
EOS1				*e*S	**Sn**	**13 25 25.7**	**+0.8**
	baz=273						
IRIF	**Iriomote-Funau**	**0.84**	**102**	P	**Pn**	**13 25 15.8**	**+1.2**
IRIF				S	**Sn**	**13 25 28.8**	**+0.5**
TWC	**Suao**	**0.90**	**276**	⇑P	**Pn**	**13 25 15.9**	**+0.6**
	baz=280						
TWC				S	**Sn**	**13 25 29.1**	**-0.3**
	baz=280						
TWB1	**Santiao Chiao**	**0.91**	**303**	*e*P	**Pn**	**13 25 16.0**	**+0.6**
	baz=298						
TWB1				*e*S	**Sn**	**13 25 29.3**	**-0.5**
	baz=298						
ENAH	**Nanao**	**0.93**	**266**	*e*P	**Pn**	**13 25 16.3**	**+0.7**
	baz=259						
NTC	**Toucheng**	**0.97**	**291**	*e*P	**Pn**	**13 25 17.1**	**+1.0**
	baz=290						
HATJ	**Hateruma jima**	**0.99**	**117**	P	**Pn**	**13 25 17.9**	**+1.6**
HATJ				S	**Sn**	**13 25 32.1**	**+0.8**
ENA	**Nanau**	**1.00**	**266**	⇓*e*P	**Pn**	**13 25 17.2**	**+0.9**
	baz=264						
ENA				*e*S	**Sn**	**13 25 32.1**	**+0.7**
	baz=264						
ILA	**Ilan**	**1.02**	**285**	*e*P	**Pn**	**13 25 17.4**	**+0.8**
	baz=283						
ILA				*e*S	**Sn**	**13 25 32.5**	**+0.7**
	baz=283						
TIPB	**Shuangxi**	**1.02**	**297**	⇑*e*P	**Pn**	**13 25 16.6**	**-0.1**
	baz=292						
TWE	**Neicheng**	**1.08**	**281**	⇑*i*P	**Pn**	**13 25 18.3**	**+1.0**
	baz=280						
TWE				*e*S	**Sn**	**13 25 33.1**	**+0.1**
	baz=280						
JKRS	**Kuro-shima**	**1.11**	**104**	P	**Pn**	**13 25 19.2**	**+1.6**
JKRS				S	**Sn**	**13 25 34.6**	**+1.1**
NWF	**Wu-fen Shan**	**1.11**	**300**	⇑*i*P	**Pn**	**13 25 18.9**	**+1.3**
	baz=292						
NWF				S	**Sn**	**13 25 33.8**	**+0.1**
	baz=292						
WFSB	**Wu-fen Shan**	**1.11**	**300**	⇑P	**Pn**	**13 25 18.9**	**+1.3**
	baz=292						
WFSB				S	**Sn**	**13 25 33.9**	**+0.4**
	baz=292						
ENTT	**Nioudou**	**1.16**	**277**	⇓P	**Pn**	**13 25 19.6**	**+1.4**
	baz=276						
JIJ	**Ishigaki jima**	**1.20**	**97**	P	**Pn**	**13 25 19.8**	**+1.1**
JIJ				S	**Sn**	**13 25 35.6**	**+0.1**
TWD	**Chiawan**	**1.21**	**249**	⇑*i*P	**Pn**	**13 25 19.1**	**+0.3**
	baz=248						
TWD				S	**Sn**	**13 25 34.9**	**-0.7**
	baz=248						
TWA	**Mucha**	**1.23**	**293**	⇑*i*P	**Pn**	**13 25 20.2**	**+1.1**
	baz=283						
TWA				S	**Sn**	**13 25 36.0**	**-0.2**
	baz=283						
HWA	**Hwalien**	**1.24**	**245**	P	**Pn**	**13 25 20.0**	**+0.8**
	baz=243						
HWA				*e*S	**Sn**	**13 25 36.6**	**+0.3**
	baz=243						
NWLT	**Wulai**	**1.24**	**283**	*e*P	**Pn**	**13 25 20.4**	**+1.2**
	baz=290						
ENLB	**Shoufeng**	**1.28**	**242**	⇑*i*P	**Pn**	**13 25 20.3**	**+0.7**
	baz=235						
ENLB				S	**Sn**	**13 25 37.3**	**+0.2**
	baz=235						
TATO	**Taipei**	**1.31**	**291**	*e*P	**Pn**	**13 25 21.0**	**+1.0**
	baz=282						
TATO				*e*S	**Sn**	**13 25 37.6**	**-0.2**
	baz=282						
TAP	**Taipei**	**1.32**	**294**	*e*P	**Pn**	**13 25 21.1**	**+1.1**
	baz=283						
TAP				*e*S	**Sn**	**13 25 38.6**	**+0.7**
	baz=283						
YM08	**YM08**	**1.32**	**301**	*e*P	**Pn**	**13 25 21.1**	**+1.0**
	baz=293						
YM10	**YM10**	**1.32**	**299**	*e*P	**Pn**	**13 25 21.3**	**+1.1**
	baz=292						
YM10				*e*S	**Sn**	**13 25 38.3**	**+0.1**
	baz=292						
NNSH	**Datong**	**1.32**	**267**	*e*P	**Pn**	**13 25 21.0**	**+0.7**
	baz=260						
NNS	**Nan Shan**	**1.33**	**267**	⇑*e*P	**Pn**	**13 25 21.1**	**+0.7**
	baz=259						
NNS				*e*S	**Sn**	**13 25 38.1**	**-0.5**
	baz=259						
YHNB	**Yeheng**	**1.34**	**277**	⇑*i*P	**Pn**	**13 25 21.7**	**+1.3**
	baz=276						
YHNB				*e*S	**Sn**	**13 25 39.0**	**+0.4**
	baz=276						
YM04	**YM04**	**1.34**	**299**	*e*P	**Pn**	**13 25 21.6**	**+1.1**
	baz=289						
YM04				*e*S	**Sn**	**13 25 38.8**	**+0.3**
	baz=289						
JISG	**Ishigakijimahi**	**1.35**	**86**	P	**Pn**	**13 25 21.6**	**+1.2**
JISG				S	**Sn**	**13 25 39.2**	**+0.6**
YM03	**YM03**	**1.35**	**300**	*e*P	**Pn**	**13 25 21.9**	**+1.3**
	baz=289						
TWY	**Chenhua**	**1.35**	**304**	*e*P	**Pn**	**13 25 21.9**	**+1.3**
	baz=303						
TWY				*e*S	**Sn**	**13 25 40.7**	**+1.9**
	baz=303						
TWS1	**Kuangyinshan**	**1.41**	**295**	*e*P	**Pn**	**13 25 22.6**	**+1.4**
	baz=287						
TWS1				*e*S	**Sn**	**13 25 40.8**	**+0.7**
	baz=287						
NTST	**Danshui**	**1.42**	**298**	*e*P	**Pn**	**13 25 22.7**	**+1.4**
	baz=289						
NTST				*e*S	**Sn**	**13 25 40.8**	**+0.7**
	baz=289						
ESL	**Shilin**	**1.46**	**242**	⇑P	**Pn**	**13 25 22.0**	**+0.2**
	baz=246						
ESL				*e*S	**Sn**	**13 25 39.9**	**-1.2**
	baz=246						
WHF	**Hehuan Shan**	**1.48**	**256**	⇑P	**Pn**	**13 25 23.2**	**+0.7**
	baz=261						
WHF				*e*S	**Sn**	**13 25 41.4**	**-0.7**
	baz=261						
WLTB	**Daxi**	**1.48**	**284**	*e*P	**Pn**	**13 25 23.6**	**+1.5**
	baz=289						
WLTB				*e*S	**Sn**	**13 25 42.8**	**+1.3**
	baz=289						
TWT	**Tachien**	**1.53**	**261**	*e*P	**Pn**	**13 25 24.6**	**+1.6**
	baz=259						
TWT				*e*S	**Sn**	**13 25 43.6**	**+0.6**
	baz=259						
TDCB	**Techi**	**1.55**	**261**	⇑*e*P	**Pn**	**13 25 24.5**	**+1.4**
	baz=259						
TDCB				*e*S	**Sn**	**13 25 43.2**	**-0.1**
	baz=259						
NCU	**National Centr**	**1.56**	**287**	*e*P	**Pn**	**13 25 24.6**	**+1.5**
	baz=286						
NCU				*e*S	**Sn**	**13 25 44.7**	**+1.2**
	baz=286						
NCUH	**Zhongli**	**1.57**	**287**	*e*P	**Pn**	**13 25 24.1**	**+0.9**
	baz=287						
CHGB	**Renai**	**1.58**	**254**	⇑*i*P	**Pn**	**13 25 24.6**	**+1.1**
	baz=246						
CHGB				*e*S	**Sn**	**13 25 43.9**	**-0.2**
	baz=246						
OWD	**Renai**	**1.61**	**250**	P	**Pn**	**13 25 24.7**	**+0.8**
	baz=246						
LIOB	**Emei**	**1.66**	**275**	⇑*i*P	**Pn**	**13 25 25.8**	**+1.4**
	baz=273						
LIOB				*e*S	**Sn**	**13 25 46.0**	**+0.4**
	baz=273						
NSTT	**Nanjuang**	**1.67**	**274**	*e*P	**Pn**	**13 25 25.9**	**+1.4**
	baz=273						
NSTT				*e*S	**Sn**	**13 25 46.3**	**+0.4**
	baz=273						
SBCB	**Hsinchu**	**1.71**	**280**	*e*P	**Pn**	**13 25 26.2**	**+1.2**
	baz=279						
EHY	**Hungye**	**1.71**	**234**	⇑P	**Pn**	**13 25 25.3**	**+0.3**
	baz=242						
JTJ	**Tarama**	**1.71**	**85**	P	**Pn**	**13 25 26.2**	**+1.3**
JTJ				S	**Sn**	**13 25 47.5**	**+0.8**
HSN	**Hsinchu**	**1.72**	**280**	*e*P	**Pn**	**13 25 26.3**	**+1.1**
	baz=280						
DPDB	**Guoxing**	**1.80**	**255**	⇑*i*P	**Pn**	**13 25 27.9**	**+1.6**
	baz=250						
DPDB				*e*S	**Sn**	**13 25 50.2**	**+1.2**
	baz=250						
TWF1	**Yuli**	**1.82**	**231**	⇑*i*P	**Pn**	**13 25 26.9**	**+0.5**
	baz=239						
TWF1				*e*S	**Sn**	**13 25 48.7**	**-0.6**
	baz=239						
NMLH	**Miaoli**	**1.86**	**271**	*e*P	**Pn**	**13 25 28.2**	**+1.3**
	baz=270						
SMLT	**Sun Moon Lake**	**1.87**	**251**	⇑P	**Pn**	**13 25 28.6**	**+1.4**
	baz=246						
SMLT				*e*S	**Sn**	**13 25 50.6**	**-0.1**
	baz=246						
TWQ1	**Liyutan**	**1.89**	**266**	*e*P	**Pn**	**13 25 28.7**	**+1.4**
	baz=264						
TWQ1				*e*S	**Sn**	**13 25 51.6**	**+0.8**
	baz=264						
NSY	**Sanyi**	**1.89**	**268**	*e*P	**Pn**	**13 25 29.0**	**+1.6**
	baz=267						
TYC	**Yuchr**	**1.90**	**252**	⇑P	**Pn**	**13 25 28.9**	**+1.4**
	baz=246						
TYC				*e*S	**Sn**	**13 25 51.7**	**+0.5**
	baz=246						
FULB	**Fuli**	**1.92**	**227**	⇑*i*P	**Pn**	**13 25 28.0**	**+0.3**
	baz=221						
FULB				*e*S	**Sn**	**13 25 51.0**	**-0.7**
	baz=221						
PTSB	**Yuanli**	**1.94**	**269**	*e*P	**Pn**	**13 25 29.2**	**+1.3**
	baz=268						
CHKT	**Chengkung**	**1.94**	**224**	⇑*i*P	**Pn**	**13 25 28.1**	**0.0**
	baz=220						
CHKT				*e*S	**Sn**	**13 25 49.9**	**-2.2**
	baz=220						
YUS	**Yu-Shan**	**2.00**	**240**	P	**Pn**	**13 25 30.5**	**+1.3**
	baz=232						
YUS				*e*S	**Sn**	**13 25 53.0**	**-1.1**
	baz=232						
TCU	**Taichung**	**2.00**	**260**	*e*P	**Pn**	**13 25 30.3**	**+1.5**
	baz=269						
WJS	**Zhushan**	**2.04**	**251**	*e*P	**Pn**	**13 25 31.8**	**+2.5**
	baz=249						
WJS				*e*S	**Sn**	**13 25 56.6**	**+2.2**
	baz=249						
WNT	**Mingjian**	**2.06**	**253**	*e*P	**Pn**	**13 25 31.6**	**+2.1**
	baz=263						
ALS	**Alishan**	**2.10**	**242**	*e*P	**Pn**	**13 25 32.0**	**+1.6**
	baz=235						
ALS				*e*S	**Sn**	**13 25 57.0**	**+0.7**
	baz=235						
ELDTW	**Lidau**	**2.12**	**232**	⇑P	**Pn**	**13 25 31.0**	**+0.5**
	baz=226						
WCHH	**Zhanghua**	**2.12**	**259**	*e*P	**Pn**	**13 25 31.6**	**+1.3**
	baz=266						
JIRB	**Irabujima**	**2.15**	**81**	P	**Pn**	**13 25 31.9**	**+1.2**
JIRB				*e*S	**Sn**	**13 25 57.3**	**+0.3**
CHN5	**Tsauling**	**2.17**	**246**	*e*P	**Pn**	**13 25 33.2**	**+2.1**
	baz=238						
CHN5				S	**Sn**	**13 25 59.9**	**+2.3**
	baz=238						
WGK	**Gukeng**	**2.23**	**249**	*e*P	**Pn**	**13 25 34.1**	**+2.3**
	baz=247						
WGK				*e*S	**Sn**	**13 26 01.8**	**+2.9**
	baz=247						
JIKM	**Ikemajima**	**2.23**	**79**	P	**Pn**	**13 25 33.3**	**+1.5**
JIKM				S	**Sn**	**13 25 59.9**	**+1.0**
WDLH	**Douliu**	**2.25**	**249**	*e*P	**Pn**	**13 25 34.1**	**+2.1**
	baz=260						
JMJ	**Miyako jima 2**	**2.26**	**82**	*e*P	**Pn**	**13 25 33.6**	**+1.4**
	baz=82						
JMJ	**Miyako jima 2**	**2.26**	**82**	*e*S	**Sn**	**13 26 00.1**	**+0.6**
STYT	**Tauyuan**	**2.33**	**235**	⇑*i*P	**Pn**	**13 25 34.9**	**+1.8**
	baz=235						
TWG	**Pinlang**	**2.33**	**224**	⇑*e*P	**Pn**	**13 25 33.3**	**+0.1**
	baz=230						
TWG				*e*S	**Sn**	**13 25 59.6**	**-1.6**
	baz=230						
RLNB	**Erlin**	**2.34**	**255**	*e*P	**Pn**	**13 25 34.6**	**+1.3**
	baz=262						
TPUB	**Ta-pu**	**2.35**	**240**	*e*P	**Pn**	**13 25 34.9**	**+1.5**
	baz=232						
TPUB				*e*S	**Sn**	**13 26 02.6**	**+0.9**
	baz=232						
CHN4	**Tsaushan**	**2.35**	**241**	*e*P	**Pn**	**13 25 35.4**	**+2.0**
	baz=233						
CHN4				*e*S	**Sn**	**13 26 04.1**	**+2.3**
	baz=233						
JOGS	**Gusukube**	**2.35**	**83**	P	**Pn**	**13 25 35.1**	**+1.7**
JOGS				*e*S	**Sn**	**13 26 02.7**	**+0.9**
CHN2	**Minshiung**	**2.37**	**246**	*e*P	**Pn**	**13 25 36.1**	**+2.6**
	baz=239						
WTP	**Ta-pu**	**2.39**	**239**	⇑P	**Pn**	**13 25 35.7**	**+1.8**
	baz=237						
WTP				*e*S	**Sn**	**13 26 03.8**	**+1.1**
	baz=237						
WTCT	**Ta-ch'eng**	**2.42**	**255**	*e*P	**Pn**	**13 25 34.9**	**+0.6**
	baz=253						
WTCT				*e*S	**Sn**	**13 26 03.6**	**+0.3**
	baz=253						
CHY	**Chiayi**	**2.42**	**246**	*e*P	**Pn**	**13 25 36.2**	**+1.9**
	baz=245						
CHN1	**Nanshi**	**2.49**	**238**	⇓P	**Pn**	**13 25 37.3**	**+2.1**
	baz=237						
CHN1				*e*S	**Sn**	**13 26 06.2**	**+1.1**
	baz=237						
SGST	**Jiashian**	**2.50**	**236**	⇓P	**Pn**	**13 25 38.1**	**+2.6**
	baz=235						
SGST				*e*S	**Sn**	**13 26 07.0**	**+1.7**
	baz=235						
SLGT	**Liugui**	**2.51**	**233**	*e*P	**Pn**	**13 25 38.0**	**+2.5**
	baz=224						
SLGT				*e*S	**Sn**	**13 26 07.7**	**+2.3**
	baz=224						
WLGB	**Puzi**	**2.54**	**247**	*e*P	**Pn**	**13 25 37.0**	**+1.2**
	baz=256						
WLGB				*e*S	**Sn**	**13 26 07.1**	**+1.1**
	baz=256						
WSF	**Szhu**	**2.54**	**251**	*e*P	**Pn**	**13 25 37.3**	**+1.4**
	baz=259						
WSF				*e*S	**Sn**	**13 26 07.6**	**+1.4**
	baz=259						
ECL	**Taimali**	**2.57**	**223**	*e*P	**Pn**	**13 25 36.1**	**-0.2**
	baz=228						
SSD	**Sandimen**	**2.68**	**229**	*e*P	**Pn**	**13 25 39.2**	**+1.5**
	baz=227						
SSD				*e*S	**Sn**	**13 26 11.2**	**+1.7**
	baz=227						
LAY	**Lan-yu**	**2.73**	**206**	⇓*e*P	**Pn**	**13 25 38.1**	**-0.3**
	baz=200						
LAY				*e*S	**Sn**	**13 26 07.9**	**-2.8**
	baz=200						
MASBT	**Mashibuluo**	**2.77**	**227**	P	**Pn**	**13 25 40.5**	**+1.6**
	baz=224						
MASBT				*e*S	**Sn**	**13 26 12.6**	**+1.0**
	baz=224						
TWM1	**Shoushan**	**2.78**	**233**	*e*P	**Pn**	**13 25 42.1**	**+3.1**
	baz=232						
TAW	**Tawu**	**2.79**	**220**	*e*P	**Pn**	**13 25 39.7**	**+0.5**
	baz=225						
EAST	**Anshuo**	**2.79**	**221**	*e*P	**Pn**	**13 25 39.3**	**0.0**
	baz=225						
SSPT	**Xinbi**	**2.90**	**226**	*e*P	**Pn**	**13 25 43.2**	**+2.6**
	baz=224						
SCZT	**Fangliau**	**2.94**	**224**	*e*P	**Pn**	**13 25 42.6**	**+1.3**
	baz=223						
WSSB	**Gushan**	**3.00**	**232**	*e*P	**Pn**	**13 25 45.2**	**+3.1**
	baz=232						
WLCH	**Liuqiu**	**3.12**	**227**	*e*P	**Pn**	**13 25 47.9**	**+4.4**
	baz=226						
TWP	**Hsiaoliuchiu**	**3.13**	**227**	*e*P	**Pn**	**13 25 47.7**	**+4.0**
	baz=227						
PNG	**Penghu**	**3.14**	**253**	*e*P	**Pn**	**13 25 43.9**	**0.0**
	baz=252						
TSEB	**Hengchuen, Pin**	**3.15**	**215**	*e*P	**Pn**	**13 25 45.5**	**+1.5**
	baz=222						
HEN	**Hengchun**	**3.15**	**218**	*e*P	**Pn**	**13 25 45.4**	**+1.3**
	baz=218						
WDGT	**Dungji**	**3.16**	**247**	*e*P	**Pn**	**13 25 45.1**	**+0.9**
	baz=246						
TWKBT	**Hengchun**	**3.16**	**216**	*e*P	**Pn**	**13 25 45.1**	**+0.9**
	baz=215						
TWKBT				*e*S	**Sn**	**13 26 22.3**	**+1.2**
	baz=215						
TWK1	**Hengchun**	**3.16**	**217**	*e*P	**Pn**	**13 25 45.2**	**+1.0**
	baz=216						
KNM	**Kinmen**	**4.01**	**270**	*e*P	**Pn**	**13 25 57.5**	**+1.9**
	baz=268						
KSRS	**Korea Array**	**13.62**	**17**	P	**P**	**13 28 09.4**	**-1.7**
	2.9nm,0.3s,baz=197,slow=11,SNR=70						
USRK	**Ussuriysk Ar.**	**21.02**	**19**	P	**P**	**13 29 32.4**	**0.0**
	2.8nm,0.5s,baz=206,slow=11,SNR=6.9						
CMAR	**Chiang Mai Arr**	**23.02**	**259**	P	**P**	**13 29 55.5**	**+1.9**
	0.5nm,0.4s,baz=57,slow=9.2,SNR=5.4						
ASAJ	**Asahikawa**	**25.36**	**35**	P	**P**	**13 30 13.5**	**-1.1**
	1.9nm,0.3s,baz=239,slow=10,SNR=11						
SONM	**Songino Array**	**26.68**	**335**	P	**P**	**13 30 26.0**	**-0.7**
	0.8nm,0.8s,baz=155,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**39.16**	**315**	P	**P**	**13 32 14.2**	**-0.7**
	0.2nm,0.4s,baz=108,slow=10,SNR=6.9						
ZALV	**Zalesovo Beam**	**40.80**	**326**	P	**P**	**13 32 27.1**	**-1.3**
	0.5nm,0.5s,baz=134,slow=6.2,SNR=2.7						
WRA	**Warramunga Arr**	**45.58**	**165**	P	**P**	**13 33 08.2**	**+1.0**
	2.8nm,0.7s,baz=346,slow=8.5,SNR=22						
BVAR	**Borovoye Array**	**48.38**	**320**	P	**P**	**13 33 28.4**	**-0.3**
	0.3nm,0.6s,baz=97,slow=4.9,SNR=2.3						
ASAR	**Alice Springs**	**49.08**	**167**	P	**P**	**13 33 36.2**	**+1.9**
	0.4nm,0.3s,baz=349,slow=7.3,SNR=20						
FINES	**FINESS Array B**	**71.92**	**330**	P	**P**	**13 36 08.4**	**-0.8**
	1.9nm,1.0s,baz=84,slow=5.7,SNR=6.2						
YKA	**Yellowknife Ar**	**82.08**	**23**	P	**P**	**13 37 04.4**	**-1.7**
	0.2nm,0.5s,baz=308,slow=5.3,SNR=7.2						

IDC 01 13:25:44.0±703.0**, 53.°87N**×**2.°25E, h0**km**, Error ellipse: s-maj=361.5km s-min=193.2km az=107.0, North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.75**	**120**	*i*		14 20 30.0	
	baz=308,slow=316,SNR=3.5						
I48TN	**KESRA INFRASON**	**18.73**	**162**	*i*		15 25 30.0	
	baz=348,slow=315,SNR=0.7						
I43RU	**DUBNA INFRASON**	**19.98**	**68**	*i*		15 31 00.0	
	baz=277,slow=326,SNR=0.7						

IDC 01 13:27:53.5±999.0**, 56.°91N**×**34.°82E, h0**km**, Error ellipse: s-maj=813.5km s-min=32.9km az=97.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**1.33**	**97**	*i*		13 35 40.0	
	baz=280,slow=292,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**15.18**	**106**	*i*		15 00 50.0	
	baz=303,slow=345,SNR=0.5						
I46RU	**ZALESOVO INFRA**	**28.01**	**75**	*i*		16 20 10.0	
	baz=296,slow=334,SNR=2.4						

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*ISCJB **01** 13:41:04.2±1.1, 3.°62S±0.°10×149.°6E±0.°3, h33km, mb3.8/8, MS3.3/7, Error ellipse: s-maj=37.9km s-min=9.6km az=16.8*

*IDC **01** 13:41:09.8±5.1, 3.°78S×149.°67E, h75km±48km, mb3.5/8, mb1 3.8/9, mb1mx3.5/44, mbtmp3.8/9, ML1.1/1, MS3.3/9, Ms1 3.3/9, ms1mx3.1/28, Error ellipse: s-maj=44.8km s-min=27.4km az=120.0*

ISC 01 13:41:06.2±1.1**, 3.°6S**±0.°1×**149.°6E**±0.°3**, h35**km**, n21,** σ1.s**41**/12**, mb3.9**/8**, MS3.4**/7**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.31**	**203**	P	**Pn**	**13 42 39.2**	**+2.4**
	0.3nm,0.3s,baz=351,slow=5.8,SNR=4.1						
PMG				S	**Sn**	**13 43 46.5**	**-1.2**
	0.1nm,0.3s,baz=337,slow=13,SNR=1.0						
PMG				LR	LR	13 44 37.8	
	comp=Z,124nm,21.7s,baz=68,slow=34						
HNR	**Honiara**	**11.80**	**120**	LR	LR	13 48 21.4	
	comp=Z,177nm,20.5s,baz=310,slow=37						
WRA	**Warramunga Arr**	**22.08**	**221**	P	**P**	**13 45 57.0**	**-1.4**
	5.2nm,1.0s,baz=43,slow=10,SNR=20						
DZM	**Mont Dzumac**	**24.61**	**140**	LR	LR	13 54 46.0	
	comp=Z,146nm,19.7s,baz=254,slow=34						
ASAR	**Alice Springs**	**25.11**	**216**	P	**P**	**13 46 26.4**	**-1.5**
	3.6nm,1.0s,baz=52,slow=8.4,SNR=17						
DAV	**Davao City (W)**	**26.21**	**294**	LR	LR	13 56 09.6	
	comp=Z,35nm,21.6s,baz=232,slow=34						
H11S3	**WAKE ISLAND Hy**	**27.61**	**37**	T	T	14 16 43.4	
	baz=213						
H11S2	**WAKE ISLAND Hy**	**27.62**	**37**	T	T	14 16 47.8	
	baz=213						
H11S1	**WAKE ISLAND Hy**	**27.63**	**37**	T	T	14 16 41.6	
	baz=213						
STKA	**Stephens Creek**	**29.17**	**194**	LR	LR	13 59 39.6	
	comp=Z,147nm,18.1s,baz=26,slow=38						
JNU	**Nakatsue**	**40.56**	**336**	LR	LR	14 02 57.6	
	comp=Z,22nm,20.3s,baz=123,slow=32						
USRK	**Ussuriysk Ar.**	**50.10**	**344**	LR	LR	14 07 09.8	
	comp=Z,34nm,21.5s,baz=169,slow=31						
CMAR	**Chiang Mai Arr**	**54.48**	**296**	P	**P**	**13 50 30.9**	**+0.1**
	0.4nm,0.3s,baz=96,slow=5.0,SNR=1.6						
SONM	**Songino Array**	**63.60**	**329**	P	**P**	**13 51 35.3**	**+1.6**

	0.3nm,0.5s,baz=144,slow=6.6,SNR=3.1						
SONM				LR	LR	14 21 04.5	
	comp=Z,23nm,18.5s,baz=208,slow=38						
MKAR	Makanchi Array	77.31	319	P	P	13 52 56.5	-0.8
	0.1nm,0.3s,baz=122,slow=5.4,SNR=1.9						
ZALV	Zalesovo Beam	78.37	327	LR	LR	14 29 21.8	
	comp=Z,18nm,18.8s,baz=68,slow=37						
ILAR	Eielson Array	82.22	23	P	P	13 53 22.6	-0.8
	1.4nm,0.7s,baz=246,slow=4.9,SNR=16						
BVAR	Borovoye Array	86.35	324	P	P	13 53 44.9	+0.2
	0.5nm,0.8s,baz=66,slow=4.9,SNR=2.0						
YKA	Yellowknife Ar	95.80	28	P	P	13 54 29.0	+0.4
	0.7nm,0.8s,baz=273,slow=4.6,SNR=12						
TORD	Torodi Ar. Bea	146.91	289	PKPbc	PKPbc	14 00 45.5	-0.5
	1.2nm,0.7s,baz=71,slow=3.1,SNR=7.9						
KOWA	Kowa	151.82	294	PKPbc	PKPbc	14 00 57.0	-1.4
	0.5nm,0.3s,baz=90,slow=10,SNR=1.8						

IDC 01 13:42:06.6±1.9, 12°.93N×91°.42E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/69, mbtmp3.5/7, ML3.7/1, Error ellipse: s-maj=61.7km s-min=22.9km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.09	52	Pn	Pn	13 44 20.0	+0.8
	0.2nm,0.3s,baz=225,slow=8.7,SNR=1.4						
CMAR				Sn	Sn	13 45 45.5	-17
	0.3nm,0.3s,baz=240,slow=27,SNR=5.3						
H08S3	Diego Garcia H	27.77	224	T	T	14 17 39.2	
	baz=42,slow=75,SNR=12						
H08S2	Diego Garcia H	27.77	224	T	T	14 17 44.8	
	baz=42,slow=75,SNR=11						
H08S1	Diego Carcia H	27.79	224	T	T	14 17 43.2	
	baz=42,slow=75,SNR=11						
MKAR	Makanchi Array	34.62	349	P	P	13 48 56.9	-0.7
	0.4nm,0.5s,baz=163,slow=8.9,SNR=6.9						
SONM	Songino Array	36.98	17	P	P	13 49 17.3	-0.6
	0.3nm,0.5s,baz=198,slow=8.0,SNR=2.2						
KURBB	Kurchatov Arra	39.04	347	P	P	13 49 36.1	+1.2
	0.4nm,0.7s,baz=161,slow=8.1,SNR=3.7						
WRA	Warramunga Arr	53.39	127	P	P	13 51 28.3	-0.1
	0.5nm,0.5s,baz=299,slow=9.8,SNR=7.5						
ASAR	Alice Springs	55.21	131	P	P	13 51 41.8	+0.1
	0.6nm,0.7s,baz=307,slow=7.2,SNR=3.7						
ILAR	Eielson Array	91.07	21	P	P	13 55 12.2	-0.6
	0.2nm,0.7s,baz=308,slow=4.4,SNR=1.7						

KRSC 01 13:50:24.6±1.6, 49°.16N×157°.19E, h15km±37km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.67	336	eP	Pn	13 50 53.0	-0.3
SKR				eS	Sn	13 51 14.5	0.0
PAU	Pauzhetka	2.32	354	eP	Pb	13 51 04.3	-1.8
PAU				eS	Sb	13 51 33.3	-1.3
KDTR	Khodutka, Kamc	2.71	12	eP	Pn	13 51 09.9	+2.3
KDTR				eS	Sb	13 51 43.8	-2.0
RUS	Russkaya	3.38	14	eP	Pn	13 51 20.1	+3.3
MTVR	Mutnovka	3.38	10	eP	Pn	13 51 20.4	+3.4
DALK	Dalny	4.00	14	eP	Pn	13 51 28.3	+3.0
DALK				eS	Sn	13 52 15.2	+3.4
UGLR	Uglovaya	4.18	14	eP	Pn	13 51 31.7	+3.8
AVH	Avacha	4.22	13	eP	Pn	13 51 32.6	+4.2
SMAR	Somma	4.23	13	eP	Pn	13 51 33.7	+5.0
KOK	Koryaka	4.23	12	eP	Pn	13 51 32.5	+3.9
SDLR	Sedlovina	4.26	14	eP	Pn	13 51 32.2	+3.2
KRX	Arik	4.30	12	eP	Pn	13 51 33.7	+4.1
GNL	Ganaly	4.56	6	eP	Pn	13 51 37.7	+4.5

*IDC **01** 13:57:37.3±9.6, 8°.73S×112°.83E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.2/61, mbtmp3.7/3, Error ellipse: s-maj=158.2km s-min=125.9km az=159.0*
*ISCJB **01** 13:57:53.6±0.8, 9°.48S±0°.06×113°.99E±0°.05, h31km, mb3.5/3, Error ellipse: s-maj=8.8km s-min=6.3km az=28.7*
*DJA **01** 13:57:56.6±1.0, 9°S±5°×11°4E±°, h29km±8km, M3.6/10, MLv3.6/10*
ISC 01 13:57:54.6±1.1, 9°.44S±0°.08×114°.01E±0°.05, h31km, n12, σ0s.88/16, mb3.5/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	0.97	8	P	Pn	13 58 11.8	-0.3
JAGI				S	Sn	13 58 24.1	-0.7
IGBI	Denpasar	1.28	61	P	Pn	13 58 16.7	+0.4
IGBI				S	Sn	13 58 31.7	-0.6
GMJI	Gumukmas	1.28	334	P	Pn	13 58 17.2	+0.8
GMJI				S	Sn	13 58 31.8	-0.7
ABJI	Asem Bagus	1.64	8	P	Pn	13 58 21.9	+0.6
BLJI	Banyuglugur	1.73	346	P	Pn	13 58 24.2	+1.7
SRBI	Singaraja	1.79	42	P	Pn	13 58 24.7	+1.3
KMMI	Kalianget	2.37	359	P	Pn	13 58 32.0	+0.7
PWJI	Pagerwojo	2.60	303	P	Pn	13 58 35.1	+0.7
PWJI				S	Sn	13 59 03.9	-1.1
PCJI	Pacitan	3.06	294	P	Pn	13 58 41.5	+0.7
WRA	Warramunga Arr	22.24	120	P	P	14 02 49.1	+0.1
	0.2nm,0.4s,baz=295,slow=12,SNR=7.1						
ASAR	Alice Springs	23.70	129	P	P	14 03 03.5	-0.4
	1.0nm,0.6s,baz=301,slow=8.9,SNR=27						
STKA	Stephens Creek	33.94	135	P	P	14 04 35.0	-0.2
	4.4nm,1.0s,baz=308,slow=12,SNR=3.6						

*IDC **01** 14:07:48.6±1.1, 51°.25N×96°.19E, h0km, mb3.8/1, mb1 3.3/5, mb1mx3.1/71, mbtmp3.3/5, ML2.7/4, Error ellipse: s-maj=44.3km s-min=11.3km az=175.0*
*MOS **01** 14:07:50.9±2.4, 51°.83N×95°.62E, h10km, mb4.0/4, Error ellipse: s-maj=9.8km s-min=8.5km az=1.9*
ISC 01 14:07:48.7±0.7, 51°.82N±0°.07×95°.96E±0°.05, h10km, n33, σ2s.65/27, mb3.8/3, 5C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TDJR	Todzha	0.59	9	PG	Pg	14 07 58.9	-1.2
KZLR	Kyzyl	0.94	264	PG	Pg	14 08 03.1	-3.7
HVS	Khovu-Aksy	1.57	245d	iPG	Pn	14 08 14.3	-2.4
ERNS	Erzin	1.64	198	PN	Pn	14 08 14.3	-3.3
ORL	Orlik	2.48	72	ePN	Pn	14 08 30.6	+1.4
ORL				pmax	pmax		
	comp=Z,101nm,0.6s						
CERR	Cheremushki	2.97	292	PN	Pb	14 08 38.3	-3.4
MOY	Mondy	3.13	91	ePN	Pn	14 08 42.1	+3.9
MOY				e		14 09 24.3	
MOY				pmax	pmax		
	comp=Z,69nm,0.5s						
MOY				smax	smax		
	comp=N,239nm,0.8s						
MINR	Mina	3.26	342	PN	Pb	14 08 44.8	-1.8
TEL	Teeli	3.69	260	PN	Pn	14 08 46.1	+0.3
ARS	Arshan	4.01	86	ePN	Pn	14 08 58.4	+8.2
ARS				e		14 09 50.8	
ARS				pmax	pmax		
	comp=Z,99nm,0.5s						
ARS				smax	smax		
	comp=E,532nm,0.8s						
LUZB	Luzhba, Kemero	4.67	296	PN	Pn	14 09 02.4	+3.2
TLY	Talaya	4.78	89	Pg	Pn	14 09 11.3	+11
	comp=E,0.0nm,0.3s,baz=242,slow=14,SNR=16						
TLY				Lg	Lg	14 10 13.6	
	comp=E,0.0nm,0.3s,baz=246,slow=13,SNR=3.2						
TLY	Talaya	4.78	89	ePN	Pb	14 09 12.0	-0.5
TLY				e		14 10 13.4	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZAK	Zakamensk	4.83	104	ePN	Pn	14 09 11.9	+10
ZAK				e		14 10 15.6	
ZAK				pmax	pmax		
	comp=Z,29nm,1.0s						
ZAK				smax	smax		
	comp=N,158nm,1.2s						
TASR	Tashtagol	5.05	284	PN	Pb	14 09 19.4	+2.4
IRK	Irkutsk	5.15	82	ePN	Pb	14 09 18.7	-0.1
IRK				pmax	pmax		
	comp=Z,56nm,0.2s						
ULGR	Ulagan, Altay	5.17	260	PN	Pn	14 09 11.1	+5.0
AKAR	Aktash	5.47	257	PN	Pn	14 09 13.1	+2.8
ZALV	Zalesovo Beam	7.07	292	Pn	Pn	14 09 36.7	+4.6
	comp=Z,0.3nm,0.3s,baz=110,slow=13,SNR=4.7						
ZALV				Lg	Lg	14 11 25.9	
	comp=Z,1.1nm,0.3s,baz=111,slow=24,SNR=10						
OGRR	Ongureny	7.30	71	eP	Pn	14 09 33.9	-1.4
OGRR				pmax	pmax		
	comp=Z,12nm,0.8s						
SONM	Songino Array	7.84	116	Pg	Pb	14 10 06.3	+1.7
	comp=Z,0.4nm,0.3s,baz=303,slow=18,SNR=9.5						
SONM				Lg	Lg	14 11 51.2	
	comp=Z,1.5nm,0.3s,baz=309,slow=30,SNR=14						
MKAR	Makanchi Array	10.24	246	Pn	Pn	14 10 15.6	0.0
	comp=Z,0.1nm,0.3s,baz=62,slow=12,SNR=5.4						
MKAR				Pg		14 10 50.3	
	comp=Z,0.1nm,0.3s,baz=62,slow=14,SNR=3.7						
MKAR				Lg	Lg	14 13 04.2	
	comp=Z,0.2nm,0.3s,baz=61,slow=27,SNR=2.5						
MKAR	Makanchi Array	10.24	246	i P	Pn	14 10 18.8	+3.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	10.92	271	P	Pn	14 10 28.3	+3.4
KURBB	Kurchatov Arra	11.00	271	Pn	Pn	14 10 28.3	+2.4
	comp=Z,0.0nm,0.3s,baz=72,slow=15,SNR=2.7						
KURBB				Lg	Lg	14 13 32.1	
	comp=Z,0.0nm,0.3s,baz=76,slow=32,SNR=7.9						
BVAR	Borovoye Array	15.62	285	Pn	P	14 11 31.6	-1.3
	comp=Z,0.1nm,0.3s,baz=67,slow=11,SNR=2.7						
BRVK	Borovoye	15.68	285	⇑iP	P	14 11 32.9	-0.7
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YAK	Yakutsk	20.80	47	eP	P	14 12 27.6	-2.1
YAK				i SP		14 12 31.9	
YAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	Arti	22.20	297c	iP	P	14 12 46.1	+1.3
ARU						14 13 09.7	
ARU				S	S	14 16 50.2	+1.2
ARU				SS	SnSn	14 17 19.5	+3.9
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KLR	Kul'dur	22.76	82	⇑eP	P	14 12 47.3	-3.6
TIXI	Tiksi	24.67	24	⇑iP	P	14 13 08.0	-1.2
TIXI				i *PP	pP	14 13 10.4	-1.8
TIXI				i *SP	sP	14 13 11.4	-2.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TJN	Taejon	27.06	112	⇑eP	P	14 13 27.9	-3.2
BRTR	Keskin Array B	43.82	279	P	P	14 15 59.0	+4.2
	comp=Z,1.3nm,0.9s,baz=70,slow=6.9,SNR=4.2						

*IDC **01** 14:17:19.6±7.1, 8°.02S×123°.57E, h136km±80km, mb3.0/1, mb1 3.4/4, mb1mx3.0/56, mbtmp3.7/4, Error ellipse: s-maj=198.1km s-min=33.3km az=50.0*
*ISCJB **01** 14:17:21.3±0.8, 8°.78S±0°.09×122°.68E±0°.05, h174km±5km, mb3.1/1, Error ellipse: s-maj=15.6km s-min=6.6km az=16.7*
*DJA **01** 14:17:22.8±0.6, 9°S±5°×12°3E±°, h160km±5km, M3.6/8, mB5.1/1, mb3.6/1, MLv3.5/8, Mw(mB)4.4/1*
ISC 01 14:17:21.8±1.1, 8°.8S±0°.1×122°.69E±0°.06, h174km±8km, n11, σ0s.97/20, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	0.49	293	P	Pn	14 17 46.5	+0.6
MMRI				S	Sn	14 18 04.0	-0.4
EDFI	Ende, Flores	0.99	274	P	Pn	14 17 49.9	+0.9
EDFI				S	Sn	14 18 08.5	-1.5
BATI	Baumata	1.67	145	P	Pn	14 17 56.0	+1.0
	41nm,0.3s,baz=348,slow=1.7,SNR=49						
BATI				S	Sn	14 18 19.2	-1.7
	50nm,0.3s,baz=143,slow=20,SNR=7.5						
BATI	Baumata	1.67	145	P	Pn	14 17 56.1	+1.0
BATI				S	Sn	14 18 20.8	-0.1
SOEI	Soe	1.81	121	P	Pn	14 17 57.0	+0.4
SOEI				S	Sn	14 18 23.5	0.0
BASI	Baing, Sumba	2.50	236	P	Pn	14 18 04.9	+0.7
BASI				S	Sn	14 18 37.9	+0.7
WBSI	Waikabubak, Su	3.36	256	P	Pn	14 18 14.9	+0.2
WBSI				S	Sn	14 18 54.7	-1.2
PLAI	Plampang	4.86	270	P	Pn	14 18 35.0	+1.1
PLAI				S	Sn	14 19 29.5	-0.8
WRA	Warramunga Arr	15.78	136	P	Pn	14 20 54.4	-0.5
	0.7nm,0.3s,baz=313,slow=14,SNR=12						
WRA				S	S	14 23 40.5	-10
	0.1nm,0.3s,baz=314,slow=23,SNR=2.0						
ASAR	Alice Springs	18.25	145	P	Pn	14 21 25.0	+0.7
	0.5nm,0.3s,baz=333,slow=14,SNR=21						
ASAR				S	S	14 24 40.5	-1.4
	0.0nm,0.3s,baz=313,slow=22,SNR=2.3						
MKAR	Makanchi Array	66.03	331	P	P	14 27 49.8	0.0
	0.2nm,0.6s,baz=151,slow=5.2,SNR=2.7						

*IDC **01** 14:26:40.2±1.2, 51°.48N×96°.01E, h0km, mb3.8/2, mb1 3.5/6, mb1mx3.2/77, mbtmp3.5/6, ML2.9/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/65, Error ellipse: s-maj=32.2km s-min=12.4km az=0.0*
*ISCJB **01** 14:26:41.8±0.6, 51°.43N±0°.07×95°.68E±0°.08, h10km, mb3.6/3, Error ellipse: s-maj=10.8km s-min=6.9km az=6.5*
*MOS **01** 14:26:43.3±1.8, 51°.51N×95°.61E, h12km, mb3.8/3, Error ellipse: s-maj=11.3km s-min=8.7km az=23.1*
ISC 01 14:26:44.1±0.8, 51°.64N±0°.08×95°.73E±0°.05, h10km, n33, σ2s.19/29, mb3.6/3, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZLR	Kyzyl	0.80	275	PG	Pg	14 26 56.9	-2.6
HVS	Khovu-Aksy	1.37	249c	iPG	Pg	14 27 07.4	-2.9
ERNS	Erzin	1.43	195	PG	Pn	14 27 05.4	-4.7
ORL	Orlik	2.67	69	ePN	Pn	14 27 23.4	-3.9
ORL				pmax	pmax		
	comp=Z,46nm,0.5s						
CERR	Cheremushki	2.92	296	PN	Pn	14 27 31.0	+0.5
MOY	Mondy	3.28	87	ePN	Pn	14 27 34.3	-1.3
MOY				e		14 28 15.5	
MOY				pmax	pmax		
	comp=Z,52nm,0.7s						
MOY				smax	smax		
	comp=N,258nm,0.8s						
MINR	Mina	3.39	345	PN	Pb	14 27 42.4	-1.9
TEL	Teeli	3.52	262	PN	Pn	14 27 39.6	+0.7
ARS	Arshan	4.17	84	ePN	Pn	14 27 51.4	+3.7
ARS				e		14 28 43.4	
ARS				pmax	pmax		
	comp=Z,33nm,0.5s						
ARS				smax	smax		
	comp=E,346nm,0.8s						
LUZB	Luzhba, Kemero	4.62	299	PN	Pn	14 27 54.6	+0.6
TLY	Talaya	4.93	86	Pg	Pn	14 28 03.3	+5.1
	comp=E,0.0nm,0.3s,baz=287,slow=14,SNR=4.3						
TLY				Lg	Lg	14 29 06.3	
	comp=E,0.1nm,0.3s,baz=118,slow=16,SNR=11						
TLY	Talaya	4.93	86	⇑iPN	Pn	14 28 02.9	+4.7
TASR	Tashtagol	4.96	286	PN	Pb	14 28 12.0	+1.1
AKAR	Aktash	5.29	259	PN	Pn	14 28 05.8	+2.5
IRK	Irkutsk	5.32	80	ePN	Pn	14 28 10.8	+7.3
IRK				e		14 29 15.9	
IRK				pmax	pmax		
	comp=Z,62nm,0.1s						
IRK				smax	smax		
	comp=N,224nm,1.1s						
CHBI	Chibit, Altay	5.37	259	PN	Pn	14 28 06.0	+1.8
TRG	Tyrgan	6.62	76	ePN	Pn	14 28 13.4	-8.1
TRG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZALV	Zalesovo Beam	7.01	294	Pn	Pn	14 28 28.1	+1.4
	comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=6.1						
ZALV				Pg	Pb	14 28 46.9	+1.1
	comp=Z,0.6nm,0.3s,baz=108,slow=15,SNR=7.3						
ZALV				Lg	Lg	14 30 21.2	
	comp=Z,0.9nm,0.3s,baz=107,slow=24,SNR=6.5						
ZALV	Zalesovo Beam	7.01	294	i PN	Pn	14 28 29.2	+2.5
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OGRR	Ongureny	7.49	70	eP	Pn	14 28 28.0	-5.3
OGRR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM	Songino Array	7.89	115	Pg	Pb	14 29 00.4	-0.5
	comp=Z,0.4nm,0.3s,baz=300,slow=19,SNR=5.8						
SONM				Lg	Lg	14 30 44.7	
	comp=Z,1.4nm,0.3s,baz=300,slow=29,SNR=21						
ULN	Ulaanbaatar	8.25	113	eP	Pn	14 28 44.7	+0.9
MKAR	Makanchi Array	10.04	246	Pn	Pn	14 29 07.8	-0.5
	comp=Z,0.1nm,0.3s,baz=52,slow=19,SNR=7.6						
MKAR				Lg	Lg	14 31 57.9	
	comp=Z,0.2nm,0.3s,baz=47,slow=28,SNR=4.2						
MKAR	Makanchi Array	10.04	246	i P	Pn	14 29 12.8	+4.5
KURK	Kurchatov	10.79	272	P	Pn	14 29 17.9	-0.5
KURBB	Kurchatov Arra	10.86	271	Pn	Pn	14 29 17.9	-1.6
	comp=Z,0.1nm,0.3s,baz=76,slow=16,SNR=3.0						
KURBB				Lg	Lg	14 32 24.1	
	comp=Z,0.1nm,0.3s,baz=90,slow=34,SNR=4.3						
BVAR	Borovoye Array	15.53	285	Pn	Pn	14 30 20.3	-2.7
	comp=Z,0.1nm,0.3s,baz=94,slow=15,SNR=2.6						
BRVK	Borovoye	15.59	285	eP	Pn	14 30 23.5	-0.2
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AAK	Ala-Archa	16.97	246	LR	LR	14 36 45.9	
	comp=Z,29nm,18.0s,baz=130,slow=36						
ARU	Arti	22.16	297	P	P	14 31 40.3	+0.6
	comp=Z,2.1nm,0.4s,baz=92,slow=8.6,SNR=6.3						
ARU	Arti	22.16	297d	iP	P	14 31 40.4	+0.6
ARU						14 32 01.2	
ARU				S	S	14 35 45.4	+1.8
ARU				SS	SnSn	14 36 13.7	+3.8
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTO	Aktyubinsk	23.58	282	P	P	14 31 53.6	-1.0
	comp=Z,1.2nm,0.6s,baz=64,slow=12,SNR=7.2						
TIXI	Tiksi	24.89	24	⇑iP	P	14 32 07.9	+1.3
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*KRNET **01** 14:28:33.4±0.1, 40°.57N×70°.48E, mb2.3*
*NNC **01** 14:28:34.8±3.7, 40°.65N×70°.95E, h0km, mb2.6, mpv2.2, Error ellipse: s-maj=38.7km s-min=19.2km az=46.0*
ISC 01 14:28:33.6±2.5, 40°.59N±0°.09×70°.50E±0°.06, h26km±22km, n10, σ0s.66/17, 11C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAS	Tashkent	1.18	309	⇑iP	Pn	14 28 54.8	+0.2
	baz=11						
TAS				⇑iS	Sn	14 29 09.6	-0.2
	baz=11						
TOKL	Toktogul	2.24	52	⇑iP	Pn	14 29 09.6	+0.5
	baz=52						
TOKL				⇑iS	Sn	14 29 36.3	+0.3
	baz=52						
SFK	Sufi-Kurgan	2.37	103	⇑Pg	Pn	14 29 11.9	+0.9
	0.8nm,0.6s						
SFK				⇓Lg	Lg	14 29 39.6	
	2.1nm,0.3s						
SFK	Sufi-Kurgan	2.37	103	⇑iP	Pn	14 29 11.0	0.0
	baz=2.0						
SFK				⇑iS	Sn	14 29 38.8	-0.5
	baz=2.0						
MNAS	Manas	2.42	38	⇓Pn	Pn	14 29 12.8	+1.1
	1.5nm,0.8s						
MNAS				⇓Lg	Lg	14 29 42.1	
	2.4nm,0.3s						
MNAS	Manas	2.42	38	⇓iP	Pn	14 29 11.8	+0.1
	baz=38						
MNAS				⇓iS	Sn	14 29 40.6	+0.1
	baz=38						
KK31	Karatay Array	2.51	0	⇑Pn	Pb	14 29 17.8	-0.3
	0.8nm,0.3s,baz=183,slow=16,SNR=7.2						
KK31				⇑Lg	Lg	14 29 50.5	
	0.9nm,0.3s,baz=177,slow=26,SNR=7.5						
AML	Almayashu	2.85	56	⇑eP	Pn	14 29 18.2	+0.3
	baz=56						
AML				⇑iS	Sn	14 29 50.9	-0.7
	baz=56						
EKS2	Erkin-Say	3.21	49	⇓eP	Pn	14 29 23.1	+0.6
	baz=49						
EKS2				⇓eS	Sn	14 29 59.4	-0.6
	baz=49						
UCH	Uchtor	3.43	60	⇓iP	Pn	14 29 26.5	+0.6
	baz=60						
UCH				⇓iS	Sn	14 30 04.9	-1.0
	baz=60						

IDC 01 14:43:48.5±999.0, 56°.83N×36°.62E, h0km, Error ellipse: s-maj=967.0km s-min=8.7km az=107.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	0.34	107	i		14 45 30.0	
	baz=288,slow=285,SNR=0.5						
I31KZ	AKTYUBINSK INF	14.20	108	i		16 11 20.0	
	baz=304,slow=344,SNR=0.3						
I46RU	ZALESOVO INFRA	27.08	75	i		17 30 50.0	
	baz=296,slow=334,SNR=1.4						

*IDC **01** 14:49:28.9±0.6, 15°.31S×173°.68W, h0km, mb4.3/12, mb1 4.5/14, mb1mx4.2/49, mbtmp4.3/14, ML4.0/2, MS3.3/13, Ms1 3.3/13, ms1mx3.1/37, Error ellipse: s-maj=27.0km s-min=15.1km az=142.0*
*ISCJB **01** 14:49:29.2±0.4, 15°.24S±0°.10×173°.79W±0°.08, h10km, mb4.3/16, MS3.3/11, Error ellipse: s-maj=15.2km s-min=8.8km az=150.5*
*NEIC **01** 14:49:31.8±0.4, 15°.25S×173°.76W, h10km, mb4.3/3, Error ellipse: s-maj=23.7km s-min=10.0km az=142.0*
ISC 01 14:49:30.7±0.5, 15°.3S±0°.1×173°.7W±0°.1, h10km, n85, σ0s.88/73, mb4.3/16, MS3.3/11, 7C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.32	55	Pn	Pn	14 50 08.2	-0.7
	156nm,0.3s,baz=192,slow=3.8,SNR=176						
AFI				Sn	Sn	14 50 29.8	-7.7
	246nm,0.3s,baz=152,slow=22,SNR=21						
AFI				LR	LR	14 50 53.9	
	comp=Z,375nm,21.0s,baz=211,slow=37						
RAR	Rarotonga	14.51	116	Pn	Pn	14 52 56.7	+0.5
	1.4nm,0.3s,baz=198,slow=3.2,SNR=3.2						
DZM	Mont Dzumac	19.96	247	LR	LR	15 00 38.5	
	comp=Z,96nm,22.0s,baz=85,slow=34						
DZM	Mont Dzumac	19.96	247	eLR	LR	14 59 12.3	
	176nm,26.4s						
PPT	Papeete	23.27	99	LR	LR	15 02 03.7	
	comp=Z,26nm,18.4s,baz=204,slow=32						
PPT2	Papeete2	23.28	99	eLR	LR	15 00 02.9	
	139nm,27.2s						
TBI	Tubuai	24.25	113	eLR	LR	15 00 35.3	
	184nm,31.0s						
URZ	Urewera	24.30	198	P	P	14 54 48.8	+0.4
	7.8nm,0.7s,baz=268,slow=3.3,SNR=11						
HNR	Honiara	26.35	280	LR	LR	15 04 54.1	
	comp=Z,18nm,20.5s,baz=82,slow=35						
STKA	Stephens Creek	43.84	240	P	P	14 57 36.7	-0.5
	4.7nm,1.0s,baz=71,slow=9.8,SNR=6.0						
STKA				LR	LR	15 15 48.2	
	comp=Z,36nm,18.5s,baz=205,slow=36						
STKA	Stephens Creek	43.84	240	eP	P	14 57 36.7	-0.5
	11nm,1.9s						
WB2	Warramunga Arr	49.56	257	eP	P	14 58 21.6	-0.6
WRAB	Tennant Creek	49.56	257	eP	P	14 58 22.1	-0.1
	1.0nm,0.6s						
WR1	Warramunga Arr	49.57	257	eP	P	14 58 22.1	-0.2
	5.3nm,0.8s						
WRA	Warramunga Arr	49.57	257	P	P	14 58 22.1	-0.3
	3.9nm,0.6s,baz=92,slow=7.4,SNR=124						
AS01	Alice Springs	49.81	252	eP	P	14 58 23.6	-0.6
AS31	Alice Springs	49.85	252	eP	P	14 58 24.3	-0.2
	6.0nm,0.7s						
ASAR	Alice Springs	49.85	252	P	P	14 58 24.4	-0.2
	22nm,0.7s,baz=88,slow=8.0,SNR=274						
GUMO	Guam	49.99	303	LR	LR	15 18 52.5	
	comp=Z,16nm,18.0s,baz=108,slow=35						
MJAR	Matsushiro Arr	68.63	320	LR	LR	15 24 30.1	
	comp=Z,21nm,20.6s,baz=230,slow=31						
PETK	Petropavlovsk-	72.40	342	P	P	15 00 57.3	+0.5
	4.2nm,0.8s,baz=139,slow=11,SNR=3.9						
PEA1	Petropavlovsk-	72.41	342	eP	P	15 00 57.3	+0.4
MDYM	Dry Creek	73.54	42	eP	P	15 01 05.6	+1.2
YBH	Yreka Blue Hor	73.68	37	P	P	15 01 05.0	+0.2
	2.9nm,0.8s,baz=173,slow=8.1,SNR=2.7						
NVAR	Mina Array Bea	74.44	42	P	P	15 01 09.4	-0.1
	1.4nm,0.8s,baz=224,slow=11,SNR=8.4						
QSPA	South Pole Qui	74.78	180	eP	P	15 01 11.9	+0.9
	14nm,1.2s						
KSRS	Korea Array	75.84	316	LR	LR	15 30 12.0	
	comp=Z,10nm,21.0s,baz=200,slow=32						
LEM	Lembang	77.33	266	LR	LR	15 36 52.8	
	comp=Z,60nm,18.0s,baz=277,slow=37						
TXAR	Lajitas Array	80.80	56	P	P	15 01 45.7	+0.7
	0.7nm,0.7s,baz=236,slow=7.2,SNR=6.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TXAR				LR	LR	15 33 02.8	
	comp=Z,21nm,18.1s,baz=0.0,slow=32						
SEY	Seymchan	82.30	345	P	P	15 01 52.8	+0.7
	0.6nm,0.3s,baz=265,slow=23,SNR=7.1						
ILAR	Eielson Array	82.37	11	P	P	15 01 52.0	-0.4
	0.8nm,0.5s,baz=228,slow=5.8,SNR=20						
ILB	Eielson Array	82.37	11	eP	P	15 01 52.0	-0.4
PD31	Pinedale Array	82.37	42	eP	P	15 01 53.3	+0.1
PDAR	Pinedale Array	82.37	42	P	P	15 01 53.0	-0.3
	1.0nm,0.5s,baz=220,slow=3.4,SNR=10						
PLCA	Paso Flores	89.84	132	LR	LR	15 34 19.6	
	comp=Z,12nm,19.5s,baz=233,slow=30						
YKA	Yellowknife Ar	90.09	23	P	P	15 02 30.1	-0.4
	0.3nm,0.5s,baz=232,slow=4.6,SNR=5.2						
ULM	Lac du Bonnet	94.02	39	LR	LR	15 39 31.0	
	comp=Z,34nm,18.4s,baz=345,slow=32						
SONM	Songino Array	94.53	318	LR	LR	15 42 03.9	
	comp=Z,27nm,18.8s,baz=140,slow=33						
ARCES	ARCESS Array B	124.43	352	PKP	PKPdf	15 08 28.8	-0.7
	2.6nm,0.7s,baz=46,slow=3.5,SNR=7.0						
FINES	FINESS Array B	131.74	347	PKP	PKPdf	15 08 42.9	-0.7
	0.5nm,0.5s,baz=52,slow=3.1,SNR=6.4						
HFS	Hagfors	134.87	355	PKP	PKPdf	15 08 48.6	-1.0
	2.0nm,0.8s,baz=50,slow=9.6,SNR=2.6						
AKASG	Malin Array Be	140.09	337	PKP	PKPdf	15 08 59.0	-0.4
	0.5nm,0.5s,baz=342,slow=6.8,SNR=3.4						
CLL	Collm	143.64	353	i PKPdf	PKPdf	15 09 05.8	0.0
DPC	Dobruska-Polom	144.06	349	ePKP	PKPab	15 09 05.3	+1.2
MORC	Moravsky Berou	144.37	347	⇑iP	PKPab	15 09 05.1	-0.2
VRAC	Vranov	145.01	348	⇑iP	PKPbc	15 09 08.8	+1.2
DOPR	Dopca	145.44	336	⇓iP	PKPbc	15 09 07.9	-1.2
MLR	Muntele Rosu	145.61	335	PKPbc	PKPdf	15 09 10.4	+0.8
	2.0nm,0.7s,baz=155,slow=11,SNR=6.2						
MLR	Muntele Rosu	145.61	335	⇑iP	PKPdf	15 09 10.6	+1.0
ISR	Istrita	145.67	334	⇑iP	PKPdf	15 09 10.5	+0.9
KHC	Kasperske Hory	145.70	351	ePKP	PKPdf	15 09 09.9	+0.4
KHC	Kasperske Hory	145.70	351	ePKPdf	PKPdf	15 09 09.7	+0.2
DRGR		145.70	340	⇓iP	PKPdf	15 09 09.6	0.0
BR101	Keskin Array S	145.85	321	ePKPdf	PKPdf	15 09 10.7	+0.4
BR131	Keskin Array S	145.85	321	ePKPdf	PKPdf	15 09 11.1	+0.8
BRTR	Keskin Array B	145.85	321	PKPbc	PKPdf	15 09 10.7	+0.4
	3.4nm,0.7s,baz=95,slow=2.5,SNR=15						
GEC2	GERESS Array S	145.96	351	ePKPdf	PKPdf	15 09 10.6	+0.5
GERES	GERESS Array B	145.96	351	PKPbc	PKPdf	15 09 10.6	+0.5
	2.2nm,0.6s,baz=26,slow=3.9,SNR=19						
GEA0	GERESS Array S	145.97	351	ePKPdf	PKPdf	15 09 10.2	+0.1
VOIR		146.01	336	⇓iP	PKPbc	15 09 11.9	+0.9
BR231	Keskin MP Arra	146.30	322	ePKPdf	PKPdf	15 09 11.4	+0.4
CONA	Conrad Observa	146.47	348	i PKPbc	PKPdf	15 09 11.9	+1.0
	3.2nm,0.6s						
LOT	Lotru	146.49	337	⇑iP	PKPdf	15 09 12.3	+1.2
SIRR	Siria	146.51	341	⇑iP	PKPbc	15 09 12.8	+0.5
MOA	Molln	146.84	350	i PKPbc	PKPdf	15 09 13.0	+1.6
	4.3nm,0.7s						
BZS	Buzias	147.10	340	⇑iP	PKPbc	15 09 14.3	+0.3
HERR	Herculane	147.47	338	⇓iP	PKPbc	15 09 15.2	+0.1
RETA	Reutte	147.65	354	i PKPbc	PKPbc	15 09 15.5	-0.1
	2.9nm,0.7s						
KBA	Koelnbreinsper	147.73	351	i PKPbc	PKPbc	15 09 15.9	-0.1
	3.4nm,0.6s						
WTTA	Wattenberg	147.78	353	i PKPbc	PKPbc	15 09 15.9	-0.2
	7.2nm,0.6s						
SOKA	Soboth	147.83	349	i PKPbc	PKPdf	15 09 15.3	+2.1
	5.0nm,0.8s						
DAVA	Damuels	147.93	355	i PKPbc	PKPbc	15 09 16.5	0.0
MYKA	Terra Mystica	148.12	350	i PKPbc	PKPdf	15 09 16.1	+2.4
	4.5nm,0.5s						
ABTA	Abfaltersbach	148.18	352	i PKPbc	PKPdf	15 09 16.5	+2.7
	4.7nm,0.7s						
MMAI	Mount Meron Ar	148.24	309	PKPbc	PKPbc	15 09 18.2	+0.6
	3.8nm,0.8s,baz=46,slow=4.2,SNR=3.0						
DAVOX	Davos/Dischmat	148.43	355	PKPbc	PKPbc	15 09 18.2	+0.3
	6.0nm,0.6s,baz=348,slow=9.0,SNR=11						
FUORN	Ofenpass-Fuorn	148.56	355	ePKPbc	PKPbc	15 09 18.9	+0.6
TUE	Stuetta	148.78	356	ePKPbc	PKPbc	15 09 19.6	+0.8
DIVS	Divibare	148.98	341	ePKPbc	PKPbc	15 09 19.2	0.0
SENIN	Lac Senin/Sane	148.98	359	ePKPbc	PKPbc	15 09 19.9	+0.6
SSB	Saint Sauveur	150.04	2	ePKPbc	PKPbc	15 09 22.0	+0.2
BNI	Bardonecchia	150.30	359	ePKPbc	PKPbc	15 09 23.6	+1.0
IDI	Anoyia	153.99	323	PKPbc	PKPbc	15 09 28.9	-2.2
	31nm,1.1s,baz=56,slow=18,SNR=2.1						
ESDC	Sonseca Array	154.08	18	PKPbc	PKPbc	15 09 31.3	+0.2
	0.7nm,0.7s,baz=313,slow=3.2,SNR=4.9						
TORD	Torodi Ar. Bea	175.09	115	PKP	PKPdf	15 09 40.2	-1.7
	0.4nm,0.8s,baz=284,slow=1.2,SNR=2.6						
TORD				PKPab	PKPab	15 11 15.5	-1.8
	0.4nm,0.7s,baz=232,slow=4.7,SNR=2.7						
TORD				PP	PP	15 15 09.1	-0.8
	0.4nm,0.8s,baz=276,slow=5.7,SNR=2.6						

*NIED **01** 14:49:00, 37°.00N×141°.10E, h53^{km}, Mw4.2 Best double couple: Mo1.94000×10^{15} NP1:φs213.00000°, δ26.00000°, λ98.00000°. NP2:φs24.00000°, δ65.00000°, λ86.00000°.*
*MOS **01** 14:49:52.5±1.0, 37°.12N×141°.18E, h50^{km}, mb4.4/25, Error ellipse: s-maj=9.0km s-min=6.1km az=100.3*
*ISCJB **01** 14:49:52.2±0.5, 37°.04N±0°.03×141°.23E±0°.05, h53^{km}±3^{km}, mb4.2/41, MS3.3/7, Error ellipse: s-maj=7.3km s-min=4.0km az=35.3*
*JMA **01** 14:49:53.6±0.1, 37°.01N×141°.14E, h51^{km}±1^{km}, M4.1*
JMA Felt III J1.
*IDC **01** 14:49:54.2±0.6, 37°.04N×141°.13E, h52^{km}±5^{km}, mb3.8/28, mb1 3.9/32, mb1mx3.8/69, mbtmp4.1/32, MS3.1/9, Ms1 3.1/9, ms1mx2.8/60, Error ellipse: s-maj=11.2km s-min=7.8km az=131.0*
*NEIC **01** 14:49:55.2±0.7, 37°.11N×141°.08E, h59^{km}±5^{km}, mb4.7/8, Error ellipse: s-maj=7.8km s-min=5.4km az=121.0*
NEIC Recorded [3 JMA] in Fukushima.
ISC 01 14:49:53.7±0.6**, 37°.05N**±0°.04×**141°.19E**±0°.05**, h49**^{km}±4^{km}**, h49**^{km}**:pP-P, n123,** σ**1^{s}29**/141**, mb4.2**/41**, MS3.4**/7**, 5C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.32	280	P	Pn	14 50 02.6	-0.4
ONAJ				S	Sn	14 50 08.9	-0.7
JFK	Kawauchi	0.41	322	P	Pn	14 50 03.8	-0.1
JFK				S	Sn	14 50 10.8	-0.4
JHO	Hitachi	0.66	229	P	Pn	14 50 05.9	-1.0
JHO				S	Sn	14 50 14.5	-1.9
JFT	Otama	0.83	305	P	Pn	14 50 09.7	+0.6
JFT				S	Sn	14 50 20.9	+0.5
JMM	Marumori	0.88	339	P	Pn	14 50 09.7	-0.1
JMM				S	Sn	14 50 21.5	0.0
JFY	Yanaizu	1.24	287	P	Pn	14 50 14.7	0.0
JOU	Okura	1.38	343	P	Pn	14 50 17.0	+0.4
JIO	Ouri	1.41	5	P	Pn	14 50 17.1	+0.1
JIO				eS	Sn	14 50 33.9	-0.5
JYS	Shirataka	1.47	323	P	Pn	14 50 18.3	+0.4
JAG	Ashikaga	1.52	247	P	Pn	14 50 18.0	-0.6
JAG				eS	Sn	14 50 35.9	-1.3
MJAR	Matsushiro Arr	2.44	259	P	Pn	14 50 31.3	+0.1
	21nm,0.3s,baz=85,slow=14,SNR=166						
MJAR				S	Sn	14 51 00.3	+0.5
	11nm,0.3s,baz=52,slow=16,SNR=6.2						
MJAR				LR	LR	14 51 47.2	
	comp=Z,252nm,21.9s,baz=80,slow=48						
MAJO	Matsushiro	2.44	259	ePn	Pn	14 50 32.0	+0.8
MAJO				eSn	Sn	14 51 00.3	+0.5
MAJO	Matsushiro	2.44	259	eP	Pn	14 50 32.0	+0.8
MAJO				e		14 51 00.3	
MAT	Matsushiro	2.44	259	P	Pn	14 50 32.0	+0.8
MAT				S	Sn	14 51 01.0	+1.1
MJB9	Matsu-Tunnel	2.45	259	ePn	Pn	14 50 32.1	+0.9
INU	Inuyama	3.77	245	ePn	Pn	14 50 50.9	+1.5
JHJ	Hachijo jima 2	4.08	197	P	Pn	14 50 54.5	+0.8
	54nm,0.3s,baz=60,slow=23,SNR=7.1						
JHJ				S	Sn	14 51 38.2	-2.0
	40nm,0.3s,baz=61,slow=23,SNR=6.4						
ERM	Erimo	5.19	16	⇓iP	Pn	14 51 08.6	-0.2
ASAJ	Asahikawa	7.14	8	P	Pn	14 51 35.4	-0.2
	2.3nm,0.3s,baz=208,slow=14,SNR=40						
ASAJ				S	Sn	14 52 55.9	+0.5
	1.6nm,0.3s,baz=58,slow=19,SNR=4.3						
YUK	Yuzh-Kuril'sk	7.83	26	c iP	Pn	14 51 45.2	+0.2
YUK				i S	Sn	14 53 08.3	-3.9
YUK				pmax	pmax		
	comp=N,38nm,0.9s						
YUK				pmax	pmax		
	comp=Z,75nm,0.9s						
YUK				pmax	pmax		
	comp=E,59nm,0.8s						
SHO	Shikotan	8.06	30	eP	Pn	14 51 48.0	-0.1
SHO				i S	Sn	14 53 09.6	-8.1
SHO				pmax	pmax		
	comp=E,24nm,1.0s						
SHO				pmax	pmax		
	comp=Z,46nm,1.0s						
SHO				pmax	pmax		
	comp=N,18nm,0.8s						
KUR	Kuril'sk	9.60	30	eP	Pn	14 52 09.2	0.0
KUR				eS	Sn	14 53 51.0	-4.6
KUR				pmax	pmax		
	comp=Z,14nm,0.8s						
KUR				pmax	pmax		
	comp=N,5.0nm,0.3s						
KUR				pmax	pmax		
	comp=E,11nm,0.8s						
CBIJ	Chichi jima	9.96	175	P	Pn	14 52 08.5	-5.7
CBIJ				S	Sn	14 53 53.8	-11
JCJ	Chichijima	9.96	175	P	Pn	14 52 08.5	-5.7
	comp=E,7.2nm,0.3s,baz=266,slow=16,SNR=3.8						
JCJ				S	Sn	14 53 53.8	-11
	comp=E,3.9nm,0.3s,baz=292,slow=19,SNR=3.6						
USRK	Ussuriysk Ar.	9.99	318	P	Pn	14 52 14.7	+0.1
	comp=E,0.2nm,0.3s,baz=129,slow=11,SNR=2.5						
KSRS	Korea Array	10.58	276	P	Pn	14 52 25.3	+2.6
	baz=90,slow=14,SNR=2.5						
KSRS				LR	LR	14 56 23.8	
	comp=E,83nm,19.2s,baz=146,slow=37						
KSAR	Wonju Array Be	10.62	276	P	Pn	14 52 25.3	+2.2
KSAR	Wonju Array Be	10.62	276	P	Pn	14 52 25.3	+2.2
MDJ	Mudanjiang	11.58	314	Pn	Pn	14 52 35.3	-1.0
	comp=E,11nm,1.1s						
KLR	Kul'dur	13.98	334	P	Pn	14 53 08.1	-0.8
	comp=E,0.0nm,0.3s,baz=163,slow=17,SNR=2.3						
ZEA	Zeya	19.29	334	i P	P	14 54 14.1	-0.2
PETK	Petropavlovsk-	19.77	30	LR	LR	15 01 56.8	
	comp=E,20nm,20.2s,baz=197,slow=36						
HHC	Hu-ho-hao-te	23.30	289	eP	P	14 54 55.8	-1.5
HHC				eS	S	14 59 00.9	-5.3
MA2	Magadan	23.38	12	P	P	14 54 57.5	-0.3
	comp=E,1.0nm,0.2s,baz=192,slow=9.9,SNR=8.2						
MA2				LR	LR	15 04 10.1	
	comp=E,17nm,20.0s,baz=274,slow=37						
MA2	Magadan	23.38	12	⇓iP	P	14 54 58.6	+0.8
YAK	Yakutsk	26.02	348	P	P	14 55 20.4	-1.5
	comp=E,4.3nm,0.3s,baz=120,slow=1.2,SNR=5.8						
YAK	Yakutsk	26.02	348	eP	P	14 55 20.6	-1.2
	comp=E,9.9nm,0.9s						
YAK	Yakutsk	26.02	348	⇓iP	P	14 55 21.4	-0.4
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SEY	Seymchan	26.81	11	P	P	14 55 30.6	+1.6
	comp=Z,1.5nm,0.8s,baz=229,slow=12,SNR=4.7						
SEY	Seymchan	26.81	11	eP	P	14 55 31.0	+2.0
ULN	Ulaanbaatar	27.20	304	eP	P	14 55 31.5	-1.3
	comp=Z,56nm,1.1s						
ULN	Ulaanbaatar	27.20	304	⇑iP	P	14 55 33.4	+0.6
SONA0	Songino Array	27.63	304	eP	P	14 55 35.7	-0.9
SONM	Songino Array	27.63	304	P	P	14 55 35.7	-0.9
	comp=Z,1.2nm,0.6s,baz=103,slow=8.3,SNR=9.8						
SONM				PcP	PcP	14 58 53.4	+0.4
	comp=Z,0.4nm,0.5s,baz=106,slow=3.6,SNR=2.5						
H11N2	WAKE ISLAND Hy	28.31	120	T	T	15 25 40.2	
	baz=313,slow=75,SNR=225						
H11N1	WAKE ISLAND Hy	28.32	121	T	T	15 25 39.3	
	baz=313,slow=75,SNR=213						
H11N3	WAKE ISLAND Hy	28.33	120	T	T	15 25 41.0	
	baz=313,slow=75,SNR=152						
H11S1	WAKE ISLAND Hy	29.02	123	T	T	15 26 41.4	
	baz=315,slow=76,SNR=117						
H11S3	WAKE ISLAND Hy	29.02	123	T	T	15 26 40.5	
	baz=315,slow=76,SNR=96						
H11S2	WAKE ISLAND Hy	29.03	123	T	T	15 26 41.7	
	baz=315,slow=76,SNR=84						
TLY	Talaya	30.19	311	LR	LR	15 07 11.7	
	comp=Z,36nm,18.9s,baz=144,slow=34						
TIXI	Tiksi	35.26	353	P	P	14 56 42.7	-0.4
	comp=Z,1.2nm,0.3s,baz=185,slow=4.3,SNR=4.8						
TIXI	Tiksi	35.26	353	eP	P	14 56 43.5	+0.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CMAR	Chiang Mai Arr	41.33	255	P	P	14 57 35.0	+0.2
	comp=Z,0.5nm,0.7s,baz=36,slow=8.8,SNR=5.5						
CMAR	Chiang Mai Arr	41.33	255	ceP	P	14 57 36.5	+1.7
ZAA0	Zalesovo Array	41.77	312	eP	P	14 57 38.0	0.0
	comp=Z,5.0nm,0.6s						
ZAA1	Zalesovo Array	41.77	312	eP	P	14 57 37.7	-0.3
ZALV	Zalesovo Beam	41.77	312	P	P	14 57 37.7	-0.3
	comp=Z,3.9nm,0.5s,baz=95,slow=6.1,SNR=19						
ZALV				PcP	PcP	14 59 33.2	-0.2
	comp=Z,1.0nm,0.5s,baz=138,slow=2.6,SNR=3.5						
ZALV				LR	LR	15 15 51.4	
	comp=Z,44nm,19.1s,baz=64,slow=37						
MK01	Makanchi Array	43.96	302	eP	P	14 57 55.5	-0.4
MK31	Makanchi Array	43.96	302	eP	P	14 57 55.8	-0.1
MK31	Makanchi Array	43.96	302	eP	P	14 57 55.8	-0.1
MK32	Makanchi Array	43.96	302	eP	P	14 57 55.9	0.0
MKAR	Makanchi Array	43.96	302	P	P	14 57 55.9	0.0
	comp=Z,1.5nm,0.6s,baz=89,slow=9.6,SNR=21						
MKAR				PcP	PcP	14 59 41.0	+0.1
	comp=Z,0.7nm,0.8s,baz=64,slow=3.5,SNR=3.5						
MKAR				LR	LR	15 15 46.4	
	comp=Z,58nm,18.4s,baz=102,slow=35						
MKAR	Makanchi Array	43.96	302	eP	P	14 57 55.8	-0.1
	comp=Z,11nm,0.6s						
MKAR				PcP	PcP	14 59 41.0	+0.1
MAKZ	Makanchi	44.17	302	eP	P	14 57 57.8	+0.3
	comp=Z,1.9nm,0.9s						
MAKZ	Makanchi	44.17	302	eP	P	14 57 57.8	+0.3
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TAPN	Taplejung	45.76	274	eP	P	14 58 10.8	0.0
KURK	Kurchatov	45.78	308	eP	P	14 58 10.0	-0.2
KURK	Kurchatov	45.78	308	eP	P	14 58 10.0	-0.2
KURBB	Kurchatov Arra	45.85	308	P	P	14 58 09.8	-1.0
	comp=Z,3.6nm,0.6s,baz=84,slow=8.1,SNR=14						
ODAN	Odare	46.23	273	eP	P	14 58 14.3	-0.1
PDGK	Podgornoye	46.61	298	P	P	14 58 17.2	+0.1
PDGK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
RAMN	Ramite	46.82	274	eP	P	14 58 19.1	0.0
	comp=Z,17nm,0.7s						
JIRN	Jiri	46.84	275	eP	P	14 58 19.4	+0.1
GUN	Gumba	46.98	276	eP	P	14 58 20.3	-0.1
PKI	Pulchoki	47.50	275	eP	P	14 58 23.8	-0.6
KKN	Kakani	47.51	276	eP	P	14 58 24.3	0.0
	comp=Z,12nm,0.7s						
DANN	Dangsing	48.47	277	eP	P	14 58 32.3	+0.4
KOLN	Koldanda	48.85	277	eP	P	14 58 34.7	0.0
PYUN	Piuthan	49.19	277	eP	P	14 58 37.3	0.0
	comp=Z,28nm,1.0s						
ILAR	Eielson Array	49.58	32	P	P	14 58 40.5	+1.0
	comp=Z,0.4nm,0.6s,baz=261,slow=5.4,SNR=7.7						
ILAR				pP	pP	14 58 52.6	-0.2
	comp=Z,0.7nm,0.7s,baz=267,slow=5.6,SNR=4.7						
ILB	Eielson Array	49.58	32	eP	P	14 58 40.5	+1.0
OTUK	Ortayu	50.27	306	P	P	14 58 44.2	-0.8
OTUK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BVAR	Borovoye Array	50.43	312	P	P	14 58 44.5	-1.6
	comp=Z,1.4nm,0.5s,baz=74,slow=7.6,SNR=9.3						
BVAR				PcP	PcP	15 00 03.8	0.0
	comp=Z,1.3nm,0.6s,baz=78,slow=4.4,SNR=6.2						
BRVK	Borovoye	50.49	312	⇑iP	P	14 58 47.3	+0.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MNAS	Manas	51.77	299	P	P	14 58 56.6	+0.1
MNAS				pmax	pmax		
	comp=Z,3.0nm,1.5s						
SFK	Sufi-Kurgan	51.87	295	P	P	14 58 54.3	-3.1
ARU	Arti	56.23	318	eP	P	14 59 28.3	-0.3
	comp=Z,7.3nm,0.7s						
ARU	Arti	56.23	318	d iP	P	14 59 28.6	0.0
ARU						15 00 22.9	
ARU				S	S	15 07 14.6	+0.1
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WR1	Warramunga Arr	57.05	188	eP	P	14 59 34.3	-0.4
	comp=Z,14nm,1.5s						
WRA	Warramunga Arr	57.05	188	P	P	14 59 34.3	-0.4
	comp=Z,0.5nm,0.5s,baz=4.3,slow=7.3,SNR=4.7						
WRA				pP	pP	14 59 49.1	+0.8
	comp=Z,2.2nm,0.7s,baz=5.2,slow=7.3,SNR=7.4						
ABKAR	Akbulak array	57.79	310	eP	P	14 59 39.0	-0.8
	comp=Z,21nm,0.6s						
AKTO	Aktyubinsk	58.53	312	P	P	14 59 44.1	-0.8
	comp=Z,1.4nm,0.6s,baz=100,slow=11,SNR=7.1						
ASAR	Alice Springs	60.77	188	P	P	15 00 01.5	+0.9
	comp=Z,0.5nm,0.9s,baz=7.2,slow=7.2,SNR=2.6						
ASAR				pP	pP	15 00 15.9	+1.6
	comp=Z,1.1nm,0.7s,baz=15,slow=7.7,SNR=6.4						
GEYT	Alibeck	63.67	299	P	P	15 00 20.5	+0.4
	comp=Z,1.5nm,0.7s,baz=35,slow=5.3,SNR=3.2						
YKA	Yellowknife Ar	63.89	30	P	P	15 00 22.1	+1.2
	comp=Z,0.5nm,0.8s,baz=305,slow=6.9,SNR=9.2						
YKA				pP	pP	15 00 36.1	+1.4
	comp=Z,0.3nm,0.7s,baz=301,slow=6.5,SNR=3.4						
ARA0	ARCESS Array S	63.92	339	eP	P	15 00 21.4	+0.3
ARCES	ARCESS Array B	63.92	339	P	P	15 00 21.4	+0.3
	comp=Z,2.3nm,0.8s,baz=52,slow=7.9,SNR=9.1						
ARCES				LR	LR	15 30 03.1	
	comp=Z,37nm,20.9s,baz=356,slow=38						
SUF	Sumiainen	67.89	333	P	P	15 00 46.3	-0.4
SUF				pmax	pmax		
	comp=Z,15nm,2.8s						
OBN	Obninsk	67.98	323	⇓eP	P	15 00 47.4	+0.1
OBN				e		15 01 01.8	
OBN						15 01 16.0	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FIA0	FINESS Array S	68.72	332	eP	P	15 00 51.5	-0.4
FIA0	FINESS Array S	68.72	332	eP	P	15 00 51.5	-0.4
FINES	FINESS Array B	68.72	332	P	P	15 00 51.5	-0.4
	comp=Z,3.7nm,0.7s,baz=46,slow=8.2,SNR=14						
FINES	FINESS Array B	68.72	332	ceP	P	15 00 51.9	0.0
FINES				e*SP	pP	15 01 05.5	-0.3
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBZ	Khabaz	70.76	311	P	P	15 01 04.6	-0.1
	comp=Z,2.6nm,0.8s,baz=55,slow=4.1,SNR=3.8						
KIV	Kislovodsk	70.76	311	eP	P	15 01 07.1	+2.2
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,28nm,18.0s						
HFS	Hagfors	74.00	336	P	P	15 01 24.0	+0.2
	comp=Z,0.7nm,0.3s,baz=61,slow=6.8,SNR=9.5						
NB2	NORSAR Subarra	74.11	337	P	P	15 01 24.3	-0.1
	comp=Z,2.6nm,0.7s,baz=40,slow=6.2						
NB2	NORSAR Subarra	74.11	337	P	P	15 01 23.8	-0.6
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB200	NORSAR Array S	74.11	337	eP	P	15 01 24.6	+0.1
NOA	NORSAR Array B	74.11	337	P	P	15 01 24.6	+0.1
	comp=Z,2.6nm,0.7s,baz=40,slow=5.8,SNR=9.1						
AKASG	Malin Array Be	74.18	322	P	P	15 01 24.5	-0.4
	comp=Z,1.2nm,0.4s,baz=46,slow=6.3,SNR=7.9						
AKASG				LR	LR	15 34 50.3	
	comp=Z,19nm,20.2s,baz=225,slow=36						
FRB	Frobisher Bay	76.80	13	P	P	15 01 40.2	+0.5
FRB				pmax	pmax		
	comp=Z,9.0nm,1.6s						
PDAR	Pinedale Array	77.79	45	P	P	15 01 47.0	+1.0
	comp=Z,0.4nm,0.8s,baz=119,slow=1.9,SNR=3.4						
PDAR				pP	pP	15 02 01.3	+1.2
	comp=Z,0.4nm,0.6s,baz=248,slow=4.0,SNR=2.7						
BR101	Keskin Array S	78.71	311	eP	P	15 01 51.6	+0.6
BRTR	Keskin Array B	78.71	311	P	P	15 01 51.6	+0.6
	comp=Z,1.7nm,1.0s,baz=153,slow=27,SNR=3.1						
MMAI	Mount Meron Ar	81.81	305	P	P	15 02 07.2	-0.5
	comp=Z,1.1nm,0.4s,baz=46,slow=10,SNR=2.2						
KHC	Kasperske Hory	82.44	328	eP	P	15 02 10.9	+0.2
KHC	Kasperske Hory	82.44	328	eP	P	15 02 10.9	+0.2
GERES	GERESS Array B	82.61	328	P	P	15 02 11.6	0.0
	comp=Z,0.8nm,0.4s,baz=40,slow=6.5,SNR=8.1						
EKA	Eskdalemuir Ar	83.06	340	P	P	15 02 14.4	+0.7
	comp=Z,0.5nm,0.5s,baz=27,slow=6.4,SNR=3.4						
BFO	Black Forest	85.20	331	i P	P	15 02 25.7	+0.9
TXAR	Lajitas Array	90.26	52	P	P	15 02 49.8	+0.3
	comp=Z,0.3nm,0.5s,baz=303,slow=1.6,SNR=4.0						

*IDC **01** 15:02:22.8±2.9, 13°.63N×90°.48W, h0^{km}, mb3.6/4, mb1 4.0/6, mb1mx3.7/41, mbtmp3.6/6, ML3.9/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/36, Error ellipse: s-maj=135.6km s-min=29.4km az=42.0*
*MEX **01** 15:02:29.6±0.3, 13°.49N×92°.13W, h22^{km}±19^{km}, MD3.8*
ISC 01 15:02:24.1±2.1**, 13°.9N**±0°.5×**90°.4W**±0°.5**, h10**^{km}**, n11,** σ**2^{s}41**/9**, mb3.7**/4**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.95	324	eP	Pn	15 03 10.7	-0.5
CCIG				i S	Sn	15 03 42.4	-4.4
PCIG		3.32	303	eP	Pn	15 03 05.8	-10
PCIG				i S	Sn	15 03 34.3	-21
TGIG		3.93	317	i P	Pn	15 03 19.3	-5.3
TGIG				i S	Sn	15 03 57.7	-13
JTS	JuntasAbangare	6.37	124	Pn	Pn	15 03 55.8	-2.3
	1.2nm,0.3s,baz=253,slow=17,SNR=4.0						
TXAR	Lajitas Array	19.71	323	P	P	15 06 53.5	-0.5
	0.1nm,0.3s,baz=142,slow=10,SNR=6.7						
TKL	Tuckaleechee C	22.48	14	LR	LR	15 16 25.4	
	comp=Z,11nm,18.2s,baz=9.0,slow=37						
PDAR	Pinedale Array	33.21	334	P	P	15 09 03.0	+1.5
	0.4nm,0.8s,baz=137,slow=5.7,SNR=3.3						
NVAR	Mina Array Bea	34.78	320	P	P	15 09 15.9	+0.7
	1.0nm,0.7s,baz=134,slow=8.9,SNR=6.5						
YKA	Yellowknife Ar	51.52	346	P	P	15 11 32.0	+2.2
	1.1nm,0.6s,baz=149,slow=7.6,SNR=25						
ILAR	Eielson Array	63.58	336	P	P	15 12 56.0	+1.1
	0.3nm,0.9s,baz=134,slow=5.1,SNR=4.2						
CMAR	Chiang Mai Arr	146.59	344	PKPbc	PKPab	15 22 08.7	+0.9
	0.5nm,0.6s,baz=328,slow=3.7,SNR=5.9						

*ISCJB **01** 15:05:16.0±0.3, 46°.01N±0°.02×12°.32E±0°.02, h9^{km}±3^{km}, Error ellipse: s-maj=3.9km s-min=2.4km az=178.4*
*CSEM **01** 15:05:16.4±0.1, 46°.00N×12°.32E, h8^{km}, ML2.6/13, Error ellipse: s-maj=3.3km s-min=2.0km az=172.0*
*ROM **01** 15:05:16.3±0.2, 46°.00N×12°.32E, h5^{km}, Md2.4/17, Ml1.9/12, Error ellipse: s-maj=2.5km s-min=1.3km az=179.0*
*VIE **01** 15:05:16.1±0.3, 45°.98N×12°.29E, h9^{km}±4^{km}, mb1.6/9, ML2.3/13, Error ellipse: s-maj=3.1km s-min=1.3km az=11.0*
ISC 01 15:05:16.5±0.8**, 46°.00N**±0°.02×**12°.33E**±0°.01**, h7**^{km}±5^{km}**, n74,** σ**0^{s}64**/110**, 3C-3D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAE	Caneva	0.07	88	ePg	Pg	15 05 18.2	-0.2
CAE				eSg	Sg	15 05 19.9	+0.1
CAE	Caneva	0.07	88	⇑ePg	Pg	15 05 18.2	-0.2
CAE				eSg	Sg	15 05 19.9	+0.1
POLC	Polcenigo	0.12	79	Pg	Pg	15 05 19.0	-0.1
POLC				Sg	Sg	15 05 21.7	+0.8
	1μm,0.4s						
POLC	Polcenigo	0.12	79	Pg	Pg	15 05 19.0	-0.1
POLC				Sg	Sg	15 05 21.7	+0.8
	1μm,0.4s						
POLC	Polcenigo	0.12	79	⇑ePg	Pg	15 05 19.0	-0.1
POLC				eSg	Sg	15 05 21.5	+0.6
VARN	Col Varnada, M	0.16	266	⇓ePg	Pg	15 05 19.7	0.0
VARN				eSg	Sg	15 05 22.7	+0.7
MLNI	Malnisio	0.24	53	ePg	Pg	15 05 20.8	-0.5
MLNI				eSg	Sg	15 05 24.7	+0.1
MLNI	Malnisio	0.24	53	⇑ePg	Pg	15 05 20.8	-0.5
MLNI				eSg	Sg	15 05 24.7	+0.1
CSO	Casso	0.27	359	ePg	Pg	15 05 20.9	-1.0
CSO				eSg	Sg	15 05 24.8	-0.7
CSO	Casso	0.27	359	⇓ePg	Pg	15 05 20.9	-1.0
CSO				eSg	Sg	15 05 24.8	-0.7
CIMO	Cimolais	0.32	14	ePg	Pg	15 05 21.5	-1.2
CIMO				eSg	Sg	15 05 25.9	-1.0
CIMO	Cimolais	0.32	14	⇓ePg	Pg	15 05 21.5	-1.2
CIMO				eSg	Sg	15 05 25.9	-1.0
AGOR	Agordo	0.34	325	Pg	Pg	15 05 23.1	-0.1
AGOR				Sg	Sg	15 05 27.8	+0.1
	48nm,0.4s						
AGOR	Agordo	0.34	325	ePg	Pg	15 05 22.2	-1.0
AGOR				eSg	Sg	15 05 27.3	-0.4
STAL	STALIGIAL	0.37	46	Pg	Pg	15 05 23.9	+0.2
	122nm,0.3s						
STAL	STALIGIAL	0.37	46	Pg	Pg	15 05 23.9	+0.2
	122nm,0.3s						
CGRP	Cima Grappa	0.39	252	Pg	Pg	15 05 23.8	-0.3
CGRP				Sg	Sg	15 05 29.8	+0.6
	47nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CGRP	Cima Grappa	0.39	252	Pg	Pg	15 05 23.8	-0.3
CGRP				Sg	Sg	15 05 29.8	+0.6
	47nm,0.6s						
CGRP	Cima Grappa	0.39	252	ePg	Pg	15 05 23.8	-0.3
CGRP				eSg	Sg	15 05 29.9	+0.7
FVI	Forni Avoltri	0.67	28	Pg	Pb	15 05 30.7	+0.2
	19nm,0.2s						
FVI	Forni Avoltri	0.67	28	Pg	Pb	15 05 30.7	+0.2
	19nm,0.2s						
PANI	Panarotta	0.69	274	ePg	Pg	15 05 29.2	-0.6
VINO	Villanova	0.71	69	Pg	Pg	15 05 30.2	+0.1
VINO				Sg	Sb	15 05 41.2	+0.1
	17nm,0.5s						
VINO	Villanova	0.71	69	Pg	Pg	15 05 30.2	+0.1
VINO				Sg	Sb	15 05 41.2	+0.1
	17nm,0.5s						
VINO	Villanova	0.71	69	ePg	Pg	15 05 29.7	-0.4
ZOU	Zoufplan	0.71	39	ePg	Pg	15 05 30.2	0.0
TEOL	Teolo	0.79	216	Pg	Pb	15 05 32.9	+0.3
TEOL	Teolo	0.79	216	Pg	Pb	15 05 32.9	+0.3
KOSI	Kohlern	0.80	305	Pg	Pg	15 05 32.2	+0.3
KOSI				Sg	Sb	15 05 43.8	-0.2
	24nm,0.5s						
KOSI	Kohlern	0.80	305	Pg	Pg	15 05 32.2	+0.3
KOSI				Sg	Sb	15 05 43.8	-0.2
	24nm,0.5s						
PTCC	Patocco-Chiusa	0.82	60	Pg	Pb	15 05 32.7	-0.3
PTCC	Patocco-Chiusa	0.82	60	Pg	Pb	15 05 32.7	-0.3
SABO	M.te Sabotino	0.89	91	Pg	Pb	15 05 34.1	-0.1
SABO	M.te Sabotino	0.89	91	Pg	Pb	15 05 34.1	-0.1
SABO	M.te Sabotino	0.89	91	ePg	Pb	15 05 34.0	-0.2
APPI	Appiano	0.90	302	Pg	Pb	15 05 34.0	-0.4
APPI				Sg	Sn	15 05 48.1	-0.8
	35nm,0.3s						
APPI	Appiano	0.90	302	Pg	Pb	15 05 34.0	-0.4
APPI				Sg	Sn	15 05 48.1	-0.8
	35nm,0.3s						
ROVR	Roverˆ¤ Verone	0.95	248	Pg	Pb	15 05 35.1	-0.2
ROVR	Roverˆ¤ Verone	0.95	248	Pg	Pb	15 05 35.1	-0.2
RISI	Rein	0.96	350	Pg	Pb	15 05 35.2	-0.3
	27nm,0.2s						
RISI	Rein	0.96	350	Pg	Pb	15 05 35.2	-0.3
	27nm,0.2s						
OZOL	Ozolo	0.97	295	ePg	Pg	15 05 34.6	-0.6
OZOL	Ozolo	0.97	295	ePg	Pg	15 05 34.6	-0.6
ACOM	Acomizza, Ital	0.98	56	Pg	Pg	15 05 35.6	+0.2
ACOM				Sg	Sn	15 05 50.3	-0.9
ACOM	Acomizza, Ital	0.98	56	Pg	Pg	15 05 35.6	+0.2
ACOM				Sg	Sn	15 05 50.3	-0.9
MYKA	Terra Mystica	1.10	55	ePg	Pn	15 05 38.2	-0.2
	1.1nm,0.1s						
MYKA				Sg	Sn	15 05 53.7	-0.2
	13nm,0.4s,SNR=7.2						
ROSI	Rosskopf	1.12	326	Pg	Pg	15 05 38.0	0.0
	32nm,0.3s						
ROSI	Rosskopf	1.12	326	Pg	Pg	15 05 38.0	0.0
	32nm,0.3s						
MAGA	Magasa	1.21	260	Pg	Pn	15 05 39.7	-0.2
	76nm,0.6s						
MAGA	Magasa	1.21	260	Pg	Pn	15 05 39.7	-0.2
	76nm,0.6s						
CARE	Lago del Cares	1.21	291	ePg	Pg	15 05 38.9	-0.8
CARE	Lago del Cares	1.21	291	ePg	Pg	15 05 38.9	-0.8
MABI	Malga Bissina	1.27	273	Pg	Pn	15 05 40.5	-0.2
MABI	Malga Bissina	1.27	273	Pg	Pn	15 05 40.5	-0.2
SKDS	Skadanscina	1.27	111	i Pn	Pn	15 05 39.7	-0.9
SKDS				i Sn	Sn	15 05 57.5	-0.4
	comp=Z,11nm,0.1s						
KBA	Koelnbreinsper	1.28	33	Pg	Pg	15 05 41.7	+0.6
	comp=Z,1.4nm,0.1s,SNR=6.9						
KBA				Sg	Sn	15 05 59.2	+0.7
	comp=Z,7.3nm,0.2s,SNR=8.4						
KBA	Koelnbreinsper	1.28	33	ePg	Pg	15 05 41.7	+0.6
	comp=Z,1.4nm,0.1s,SNR=6.9						
KBA				Sg	Sn	15 05 59.2	+0.7
	comp=Z,7.3nm,0.2s,SNR=8.4						
WTTA	Wattenberg	1.35	340	Pg	Pg	15 05 43.3	+1.0
	comp=Z,1.3nm,0.2s						
WTTA				Sg	Sn	15 06 02.1	+2.0
	comp=Z,8.2nm,0.3s						
WTTA	Wattenberg	1.35	340	Pg	Pg	15 05 43.3	+1.0
	comp=Z,1.3nm,0.2s						
WTTA				Sg	Sn	15 06 02.1	+2.0
	comp=Z,8.2nm,0.3s						
MOSI	Grossmontoni	1.38	297	Pg	Pg	15 05 43.0	+0.1
	comp=Z,86nm,0.3s						
MOSI	Grossmontoni	1.38	297	Pg	Pg	15 05 43.0	+0.1
	comp=Z,86nm,0.3s						
WATA	Walderalm	1.43	339	Pg	Pg	15 05 44.6	+0.7
	comp=Z,2.0nm,0.1s						
WATA	Walderalm	1.43	339	Pg	Pg	15 05 44.6	+0.7
	comp=Z,2.0nm,0.1s						
FETA	Feichten	1.50	313	Pn	Pn	15 05 44.2	+0.3
	comp=Z,1.3nm,0.2s						
FETA				Sg	Sg	15 06 04.4	-0.3
	comp=Z,4.1nm,0.3s						
FETA	Feichten	1.50	313	Pn	Pn	15 05 44.2	+0.3
	comp=Z,1.3nm,0.2s						
FETA				Sg	Sg	15 06 04.4	-0.3
	comp=Z,4.1nm,0.3s						
MOTA	Moosalm	1.58	328	Pg	Pg	15 05 47.6	+0.8
	comp=Z,0.5nm,0.1s						
MOTA	Moosalm	1.58	328	Pg	Pg	15 05 47.6	+0.8
	comp=Z,0.5nm,0.1s						
OBKA	Obir	1.62	71	Pg	Pg	15 05 47.4	-0.1
	comp=Z,0.7nm,0.2s						
OBKA				Sn	Sb	15 06 07.7	+0.3
	comp=Z,6.3nm,0.3s,SNR=5.4						
RETA	Reutte	1.83	325	Pg	Pg	15 05 51.4	-0.2
	comp=Z,1.7nm,0.2s						
RETA				Sg	Sg	15 06 16.8	+1.4
	comp=Z,6.1nm,0.5s,SNR=5.0						
RETA	Reutte	1.83	325	Pg	Pg	15 05 51.4	-0.2
	comp=Z,1.7nm,0.2s						
RETA				Sg	Sg	15 06 16.8	+1.4
	comp=Z,6.1nm,0.5s,SNR=5.0						
OZLJ	Ozalj	2.23	99	Sn	Sb	15 06 25.7	+0.9
OZLJ	Ozalj	2.23	99	Sn	Sb	15 06 25.7	+0.9
NVLJ	Novalja	2.30	128	Sn	Sn	15 06 22.2	-1.1
NVLJ	Novalja	2.30	128	Sn	Sn	15 06 22.1	-1.1

MAN 01 15:06:30, 10°.04N×123°.03E, h30km, mb4.2, ML3.0, MS2.7, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.72	164	⇑iP	Pn	15 06 45.4	+1.1
SNPH				i S	Sn	15 06 55.6	+1.3
GUIM	Jordan	0.72	323	eP	Pn	15 06 44.7	+0.5
GUIM				eS	Sn	15 06 56.1	+1.8
MSLP	Maasin	1.80	87	eP	Pn	15 06 59.7	+0.6
MSLP				eS	Sn	15 07 22.5	+1.6

IDC 01 15:10:24.6±2.2, 18°.75S×167°.18E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/34, mbtmp3.4/4, ML2.2/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/29, Error ellipse: s-maj=49.9km s-min=31.8km az=109.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.38	192	Pn	Pn	15 11 20.0	+1.3
	0.2nm,0.3s,baz=24,slow=20,SNR=1.7						
DZM				Sn	Sn	15 11 59.9	+0.3
	1.3nm,0.3s,baz=162,slow=20,SNR=2.4						
AFI	Afiamalu	20.75	80	LR	LR	15 21 50.7	
	comp=Z,107nm,21.1s,baz=246,slow=33						
WRA	Warramunga Arr	30.99	262	P	P	15 16 42.4	-1.5
	0.4nm,1.1s,baz=108,slow=7.9,SNR=3.1						
ASAR	Alice Springs	31.36	255	P	P	15 16 48.7	+1.4
	0.4nm,0.7s,baz=83,slow=8.7,SNR=5.7						
NWAO	Narrogin (SRO)	46.71	242	LR	LR	15 39 04.4	
	comp=Z,47nm,19.6s,slow=37						
ILAR	Eielson Array	90.36	18	P	P	15 23 27.0	-0.2
	0.4nm,0.8s,baz=238,slow=4.3,SNR=2.4						

IDC 01 15:20:06.8±3.9, 15°.89S×173°.52W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/42, mbtmp3.4/4, ML3.2/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/17, Error ellipse: s-maj=236.9km s-min=24.8km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.59	41	Pn	Pn	15 20 48.9	-1.1
	4.9nm,0.3s,baz=181,slow=1.5,SNR=14						
AFI				Sn	Sn	15 21 16.0	-6.3
	42nm,0.3s,baz=146,slow=17,SNR=12						
DZM	Mont Dzumac	19.91	249	LR	LR	15 30 48.6	
	comp=Z,76nm,19.1s,baz=46,slow=32						
HNR	Honiara	26.66	281	LR	LR	15 34 53.4	
	comp=Z,126nm,18.8s,baz=111,slow=33						
WRA	Warramunga Arr	49.62	257	P	P	15 29 01.8	+1.2
	0.3nm,0.8s,baz=96,slow=6.7,SNR=1.9						
ASAR	Alice Springs	49.85	252	P	P	15 29 00.9	-1.3
	1.5nm,1.2s,baz=87,slow=7.3,SNR=8.1						
NVAR	Mina Array Bea	74.77	42	P	P	15 31 50.0	+0.8
	0.5nm,0.7s,baz=235,slow=8.7,SNR=3.6						

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*IDC **01** 15:31:06.6±10.0, 3°.99S×105°.64E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.4/60, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=222.5km s-min=95.5km az=86.0*
*NEIC **01** 15:31:12.0±1.2, 6°.12S×104°.76E, h10km, mb4.4/4, Error ellipse: s-maj=71.4km s-min=15.7km az=215.0*
*DJA **01** 15:31:17.8±0.3, 6°S±3°×10°5E±°, h10km, M3.8/10, MLv3.8/10*
*ISCJB **01** 15:31:18.4±0.5, 6°.14S±0°.07×105°.45E±0°.08, h26km, mb4.1/6, Error ellipse: s-maj=13.8km s-min=5.0km az=142.0*
ISC 01 15:31:18.9±0.9, 6°.18S±0°.07×105°.32E±0°.06, h26km, n23, σ1s68/25, mb4.0/6, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGJI	Cibinong	0.57	139	P	Pb	15 31 28.4	-1.9
CGJI				S	Sb	15 31 36.3	-1.8
BLSI	Bandar Lampung	0.81	355	P	Pb	15 31 32.3	-2.1
SBJI	Serang	0.81	86	P	Pb	15 31 30.8	-3.6
KASI	Kota Agung	1.04	309	P	Pn	15 31 37.8	0.0
KLI	Kotabumi	1.39	341	P	Pb	15 31 43.4	-0.7
SKJI	Sukabumi	1.48	124	P	Pn	15 31 43.8	0.0
LWLI	Liwa	1.70	313	P	Pb	15 31 48.8	-0.8
MDSI	Maura Dua	2.03	326	P	Pb	15 31 53.8	-1.3
CNJI	Cibinong	2.12	122	P	Pn	15 31 52.4	-0.3
LEM	Lembang	2.38	106	Pn	Pb	15 32 00.8	-0.3
	19nm,0.3s,baz=217,slow=10.0,SNR=35						
LEM				Sn	Sb	15 32 34.8	+4.7
	baz=17,slow=19,SNR=1.6						
LEM	Lembang	2.38	106	Pg	Pb	15 32 00.3	-0.8
CISI	Cisompet, Garu	2.83	119	P	Pn	15 32 02.8	+0.3
CISI	Cisompet, Garu	2.83	119	ePn	Pn	15 32 02.1	-0.5
CISI				eSn	Sn	15 32 37.5	+1.6
MNAI	Manna	2.96	307	ePn	Pn	15 31 52.7	-12
PPBI	Pangkal Pinang	4.08	12	P	Pn	15 32 19.4	-0.2
WRA	Warramunga Arr	31.33	119	P	P	15 37 37.4	-0.1
	0.6nm,0.4s,baz=303,slow=8.9,SNR=11						
WR1	Warramunga Arr	31.33	119	eP	P	15 37 37.4	-0.1
	13nm,1.4s						
WRAB	Tennant Creek	31.34	119	eP	P	15 37 34.8	-2.7
	26nm,1.8s						
AS31	Alice Springs	32.52	125	eP	P	15 37 48.0	+0.1
	1.7nm,1.1s						
ASAR	Alice Springs	32.52	125	P	P	15 37 48.2	+0.3
	0.7nm,0.7s,baz=306,slow=8.0,SNR=19						
AS01	Alice Springs	32.56	125	eP	P	15 37 49.3	+1.0
STKA	Stephens Creek	42.43	132	P	P	15 39 12.9	+1.3
	1.9nm,0.4s,baz=304,slow=8.2,SNR=10						
STKA	Stephens Creek	42.43	132	eP	P	15 39 11.9	+0.2
	7.8nm,1.9s						

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*ISCJB **01** 15:37:20.0±1.0, 30°.20S±0°.03×69°.86W±0°.05, h112km±11km, Error ellipse: s-maj=7.5km s-min=5.2km az=164.9*
*GUC **01** 15:37:19.8±0.4, 30°.12S×69°.96W, h113km±3km, ML3.0*
*SJA **01** 15:37:20.1±0.6, 30°.28S×69°.74W, h119km±10km, ML2.9, MW3.3*
ISC 01 15:37:20.8±1.7, 30°.20S±0°.04×69°.87W±0°.05, h106km±16km, n13, σ0s92/24, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO04	Tololo Observa	0.81	272	⇑iP	Pn	15 37 39.9	-0.1
GO04				eS	Sn	15 37 55.2	+0.8
GO04				IAML		15 37 57.2	
	comp=N,795nm,0.5s						
TLL	Tololo Astrono	0.81	272	eP	Pn	15 37 39.8	-0.2
TLL				eP	Sn	15 37 55.1	+0.6
LCO	Las Campanas	1.39	328	eP	Pn	15 37 45.7	-0.6
LCO				eS	Sn	15 38 05.4	-0.2
LCO				IAML		15 38 06.3	
	comp=E,376nm,0.2s						
AGUA	GUANDACOL	1.39	60	eP	Pn	15 37 46.8	+0.7
AGUA				eS	Sn	15 38 06.3	+0.9
AMOG	MOGNA	1.40	122	eP	Pn	15 37 45.7	-0.5
AMOG				eS	Sn	15 38 04.8	-0.7
RTLL	Cerro Villicun	1.65	134	⇓eP	Pn	15 37 48.1	-1.1
RTLL				eS	Sn	15 38 09.6	-1.3
RTLL				IAML		15 38 10.5	
	comp=Z,83nm,0.4s						
RTLS	Leoncito	1.67	163	eP	Pn	15 37 49.8	+0.1
RTLS				eS	Sn	15 38 11.8	+0.1
RTLS				IAML		15 38 13.1	
	comp=Z,59nm,0.2s						
VCA	Vinchina	2.06	45	eP	Pn	15 37 55.0	+0.5
VCA				IAML		15 38 24.1	
	comp=Z,196nm,0.5s						
VCA	Vinchina	2.06	45	⇓iP	Pn	15 37 54.9	+0.5
VCA				eS	Sn	15 38 21.8	+1.6
VCA				IAML		15 38 24.7	
	comp=E,143nm,0.4s						
AUSP	Uspallata	2.06	169	eP	Pn	15 37 54.9	+0.2
ASAL	Salagasta	2.54	160	eP	Pn	15 38 00.5	-0.2
ASAL				eS	Sn	15 38 30.1	-1.3
GO03	Copiap	2.61	353	eP	Pn	15 38 00.8	-0.8
GO03				eS	Sn	15 38 31.6	-1.5
GO03				IAML		15 38 36.7	
	comp=E,47nm,0.2s						
LMEL	Las Melosas	3.65	184	eP	Pn	15 38 16.2	+0.8
LMEL				eS	Sn	15 38 59.4	+1.6

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*ISCJB **01** 16:05:29.8±0.2, 39°.44N±0°.01×74°.28E±0°.02, h10km, mb4.5/81, MS3.6/27, Error ellipse: s-maj=2.6km s-min=2.0km az=165.0*
*KRNET **01** 16:05:30.8±0.1, 39°.63N×74°.26E, mb4.6*
*SOME **01** 16:05:31.0, 39°.63N×74°.32E, h10km, MS4.3*
*BJI **01** 16:05:31.8, 39°.77N×74°.18E, h15km, mb4.3/16, mB4.4/19, ML4.5/6, Ms4.2/20, Ms7 4.0/18*
*NNC **01** 16:05:32.9±1.5, 39°.74N×74°.27E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=15.2km s-min=4.6km az=0.0*
*MOS **01** 16:05:34.4±1.2, 39°.67N×74°.31E, h38km, mb4.7/43, Error ellipse: s-maj=6.7km s-min=4.4km az=104.5*
*IDC **01** 16:05:34.5±2.9, 39°.61N×74°.42E, h33km±22km, mb4.1/27, mb1 4.2/33, mb1mx3.9/76, mbtmp4.3/33, ML3.5/6, MS3.7/26, Ms1 3.7/26, ms1mx3.5/70, Error ellipse: s-maj=14.2km s-min=11.1km az=165.0*
*NEIC **01** 16:05:36.2±0.7, 39°.70N×74°.37E, h43km±7km, mb4.7/43, Error ellipse: s-maj=5.8km s-min=4.8km az=191.0*
ISC 01 16:05:31.4±0.6, 39°.47N±0°.03×74°.33E±0°.02, h10km±3km, n321, σ1s90/374, mb4.6/83, MS3.7/27, 33C-57D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.83	311	⇓P	Pg	16 05 45.0	-2.6
	650nm,0.4s						
SFK				⇑S	Sg	16 05 54.9	-3.5
	3µm,0.3s						
SFK	Sufi-Kurgan	0.83	311	P	Pg	16 05 45.0	-2.6
SFK				S	Sg	16 05 54.9	-3.5
SFK				pmax	pmax		
	comp=Z,650nm,0.4s						
SFK				smax	smax		
	comp=N,3µm,0.3s						
SFK	Sufi-Kurgan	0.83	311	⇑iP	Pg	16 05 44.9	-2.6
	baz=4.0						
SFK				⇑iS	Sg	16 05 54.7	-3.7
	baz=4.0						
KSH	Kashi	1.27	87	⇑iPg	Pb	16 05 53.0	-2.6
KSH				Sg	Sg	16 06 08.5	-3.9
KSH				smax	smax		
	comp=N,6µm,0.4s						
KSH				smax	smax		
	comp=N,4µm,0.5s						
ARSB	Arslanbob	2.12	331	⇓iP	Pn	16 06 06.9	-0.1
	baz=30						
ARSB				⇓iS	Sn	16 06 33.3	-0.2
	baz=30						
NRN	Naryn	2.34	33	⇓iP	Pn	16 06 10.4	+0.1
	baz=35						
NRN				⇓iS	Sn	16 06 40.2	+1.0
	baz=35						
KZA	Kyzart	2.70	15	P	Pn	16 06 16.1	+0.8
	SNR=156						
KZA	Kyzart	2.70	15	⇓iP	Pn	16 06 15.5	+0.2
	baz=17						
KZA				⇓iS	Sn	16 06 48.6	+0.4
	baz=17						
AML	Almayashu	2.70	350	P	Pn	16 06 15.0	-0.2
	SNR=102						
AML	Almayashu	2.70	350	⇓iP	Pn	16 06 15.1	-0.2
	baz=50						
AML				⇓iS	Sn	16 06 48.1	-0.2
	baz=50						
TOKL	Toktogul	2.70	336	⇓eP	Pn	16 06 15.1	+0.1
	baz=36						
TOKL				⇓eS	Sn	16 06 47.6	-0.3
	baz=36						
UCH	Uchtor	2.76	3	P	Pn	16 06 16.2	+0.1
	SNR=846						
UCH	Uchtor	2.76	3	⇓iP	Pn	16 06 16.5	+0.4
	baz=4.0						
UCH				⇓iS	Sn	16 06 49.9	+0.2
	baz=4.0						
ARK	Arkit	2.94	323	⇓eP	Pn	16 06 18.3	0.0
	baz=22						
ARK				⇓eS	Sn	16 06 53.0	-0.7
	baz=22						
ULHL	Ulahol	3.13	27	P	Pn	16 06 22.2	+1.2
	SNR=73						
ULHL	Ulahol	3.13	27	⇓iP	Pn	16 06 21.8	+0.8
	baz=29						
ULHL				⇓iS	Sn	16 06 59.1	+0.5
	baz=29						
AAK	Ala-Archa	3.17	2	Pn	Pn	16 06 22.2	+0.7
	comp=N,144nm,0.3s,baz=160,slow=7.1,SNR=248						
AAK				Lg	Lg	16 07 04.3	
	comp=N,81nm,0.3s,baz=296,slow=22,SNR=11						
AAK				LR	LR	16 07 47.5	
	comp=N,2µm,20.5s,baz=189,slow=44						
AAK	Ala-Archa	3.17	2	⇓Pn	Pn	16 06 22.1	+0.7
	comp=N,347nm,0.4s						
AAK				⇓Lg	Lg	16 07 04.0	
	comp=N,644nm,0.6s						
AAK	Ala-Archa	3.17	2	P	Pn	16 06 21.9	+0.4
	SNR=634						
AAK	Ala-Archa	3.17	2	⇓iP	Pn	16 06 22.1	+0.7
	baz=3.0						
AAK				⇓iS	Sn	16 06 59.5	+0.1
	baz=3.0						
EKS2	Erkin-Say	3.21	353	P	Pn	16 06 22.6	+0.5
	SNR=72						
EKS2	Erkin-Say	3.21	353	⇓iP	Pn	16 06 22.5	+0.4
	baz=53						
EKS2				⇓iS	Sn	16 07 00.2	-0.4
	baz=53						
KBK	Karagaybulak	3.22	8	P	Pn	16 06 23.1	+0.9
	SNR=254						
KBK	Karagaybulak	3.22	8	⇓iP	Pn	16 06 23.1	+0.9
	baz=9.0						
KBK				⇓iS	Sn	16 07 01.1	+0.4
	baz=9.0						
BOOM	Boomskoye usch	3.25	22	⇑eP	Pn	16 06 23.4	+0.7
	baz=23						
BOOM				⇑iS	Sn	16 07 01.5	-0.1
	baz=23						
MNAS	Manas	3.31	336	⇑Pn	Pn	16 06 23.2	-0.3
	comp=N,109nm,0.5s						
MNAS				⇓Lg	Lg	16 07 08.1	
	comp=N,882nm,0.6s						
MNAS	Manas	3.31	336	PN	Pn	16 06 23.2	-0.3
MNAS				pmax	pmax		
	comp=Z,109nm,0.5s						
MNAS	Manas	3.31	336	⇓iP	Pn	16 06 23.4	-0.1
	baz=36						
MNAS				⇓iS	Sn	16 07 02.9	-0.1
	baz=36						
FRU1	Bishkek	3.34	4	⇓iP	Pn	16 06 24.1	+0.3
	baz=5.0						
FRU1				⇓iS	Sn	16 07 03.0	-0.7
	baz=5.0						
FRU	Bishkek	3.37	4	⇓iPN	Pn	16 06 24.5	+0.4
FRU				i S	Sn	16 07 09.0	+4.8
FRU				pmax	pmax		
	comp=Z,960nm,1.4s						
FRU				smax	smax		
	comp=E,2µm,1.8s						
FRU				smax	smax		
	comp=E,6µm,2.5s						
MRKS	Merke	3.38	346	⇑iP	Pn	16 06 26.0	+1.7
	comp=E,62nm,0.4s						
MRKS				⇓iS	Sn	16 07 05.1	+0.6
	comp=E,658nm,0.5s						
KDJ	Kajisay	3.43	38	⇓iP	Pn	16 06 26.8	+1.7
	baz=41						
KDJ				⇓iS	Sn	16 07 07.4	+1.5
	baz=41						
CHMS	Chumysh	3.54	5	P	Pn	16 06 26.9	+0.5
	SNR=70						
CHMS	Chumysh	3.54	5	⇓iP	Pn	16 06 27.1	+0.6
	baz=6.0						
CHMS				⇓iS	Sn	16 07 08.1	-0.3
	baz=6.0						
TKM2	Tokmak 2	3.58	15	⇓Pn	Pn	16 06 27.9	+0.8
	comp=E,95nm,0.4s						
TKM2				⇓Lg	Lg	16 07 16.5	
	comp=E,304nm,0.6s						
TKM2	Tokmak 2	3.58	15	P	Pn	16 06 28.0	+0.8
	SNR=236						
TKM2	Tokmak 2	3.58	15	PN	Pn	16 06 27.9	+0.8
TKM2				pmax	pmax		
	comp=Z,95nm,0.4s						
TKM2	Tokmak 2	3.58	15	⇓iP	Pn	16 06 28.0	+0.8
	baz=17						
TKM2				⇓iS	Sn	16 07 09.5	-0.1
	baz=17						
KST	Kastek	3.78	19	eP	Pn	16 06 31.8	+2.0
	comp=Z,46nm,0.4s						
KST				⇓iS	Sn	16 07 16.6	+2.2
	comp=Z,1µm,0.7s						
USP	Ospenovka	3.80	2	P	Pn	16 06 30.7	+0.7
	SNR=47						
USP	Ospenovka	3.80	2	⇑iP	Pn	16 06 30.8	+0.8
	baz=3.0						
USP				⇑iS	Sn	16 07 13.9	-0.8
	baz=3.0						
DGS	Degeres	3.92	16	eP	Pb	16 06 38.9	-1.8
	comp=Z,387nm,0.6s						
DGS				eS	Sb	16 07 27.6	-0.6
	comp=Z,658nm,0.8s						
IZV	Izvestkoviy	3.96	25	eP	Pb	16 06 39.6	-1.7
	comp=Z,818nm,0.6s						
IZV				eS	Sb	16 07 26.9	-2.4
	comp=Z,814nm,1.1s						
MTBS	Maitube	3.98	23	⇓iP	Pn	16 06 34.4	+1.8
	comp=Z,299nm,0.7s						
MTBS				⇓iS	Sn	16 07 21.0	+1.6
	comp=Z,301nm,0.6s						
TNSS	Tian-Shan	4.07	28	eP	Pb	16 06 42.5	-0.9
	comp=Z,321nm,0.4s						
TNSS				eS	Sb	16 07 34.6	+1.6
	comp=Z,393nm,0.6s						
DZA	Taraz	4.10	327	eP	Pn	16 06 37.5	+3.3
	comp=Z,161nm,0.4s						
DZA				eS	Sn	16 07 26.1	+4.0
	comp=Z,482nm,0.5s						
AAA	Alma-Ata	4.21	27	eP	Pb	16 06 44.8	-0.8
	comp=Z,946nm,0.7s						
AAA				eS	Sb	16 07 37.8	+1.2
	comp=Z,1µm,1.0s						
AAA	Alma-Ata	4.21	27	ePN	Pb	16 06 44.8	-0.8
AAA				pmax	pmax		
	comp=Z,747nm,0.7s						
MDOK	Medeo	4.22	28	⇑Pn	Pn	16 06 37.1	+1.2
	comp=Z,62nm,0.7s						
MDOK				⇑Pg	Pb	16 06 44.8	-1.0
	comp=Z,337nm,0.7s						
MDOK				⇓Lg	Lg	16 07 38.0	
	comp=Z,1µm,1.4s						
MDOK	Medeo	4.22	28	eP	Pb	16 06 44.8	-1.0

comp=Z,288nm,1.1s
MDOK eS Sb **16 07 36.8 -0.1**
comp=Z,458nm,1.2s
KNDC Almaty 4.24 27 ⇑Pn Pn **16 06 38.1 +2.0**
comp=Z,170nm,0.7s
KNDC ⇑Pg Pb **16 06 45.4 -0.6**
comp=Z,796nm,0.8s
KNDC ⇓Lg Lg 16 07 39.3
comp=Z,2µm,1.3s
TAS Tashkent 4.27 297 ⇑Pn Pn **16 06 36.4 -0.1**
comp=Z,284nm,0.6s
TAS ⇓Lg Lg 16 07 41.3
comp=Z,2µm,0.5s
TAS Tashkent 4.27 297 PN Pn **16 06 36.4 -0.1**
TAS pmax pmax
comp=Z,284nm,0.6s
TAS Tashkent 4.27 297 ⇑*i*P Pn **16 06 37.9 +1.4**
baz=96
TAS ⇑*i*S Sn **16 07 26.5 0.0**
baz=96
KOTS Kotyrbulak 4.30 28 *e*P Pb **16 06 45.5 -1.7**
KOTS eS Sb **16 07 39.9 +0.5**
CHM Chimkent 4.57 310 *e*P Pb **16 06 52.1 +0.3**
comp=Z,207nm,0.2s
CHM eS Sb **16 07 49.8 +2.9**
comp=Z,853nm,0.5s
KTBS Karatobe 4.59 22 *e*P Pb **16 06 51.6 -0.5**
comp=Z,179nm,0.9s
KTBS eS Sb **16 07 49.2 +1.7**
comp=Z,441nm,0.9s
KK31 Karatay Array 4.63 323 ⇑Pn Pn **16 06 41.1 -0.3**
comp=Z,12nm,0.3s,baz=132,slow=13,SNR=188
KK31 ⇑Pg Pb **16 06 55.3 +2.6**
comp=Z,56nm,0.5s,baz=141,slow=14,SNR=30
KK31 ⇑Sn Sn **16 07 34.5 -0.8**
comp=Z,100nm,0.5s,baz=152,slow=18,SNR=16
KK31 ⇓Lg Lg 16 07 50.7
comp=Z,96nm,0.5s,baz=131,slow=27,SNR=4.3
KK31 Karatay Array 4.63 323 PN Pn **16 06 41.8 +0.4**
KK31 pmax pmax
comp=Z,13nm,0.4s
KKAR Karatay Array 4.63 323 *e*Pn Pn **16 06 41.3 -0.1**
KKAR *e*Sn Sn **16 07 31.9 -3.4**
KKAR Karatay Array 4.63 323 *e*PN Pn **16 06 41.3 -0.1**
KUU Kurty 4.67 18 ⇑*i*P Pb **16 06 51.1 -2.3**
comp=Z,117nm,0.4s
KUU eS Sb **16 07 49.9 +0.3**
comp=Z,419nm,1.1s
SATY Saty 4.72 39 *e*P Pb **16 06 54.9 +0.6**
comp=Z,433nm,0.9s
SATY eS Sb **16 07 54.5 +3.1**
comp=Z,427nm,1.2s
CHKK Chushkaly 4.81 24 ⇓*i*P Pb **16 06 55.4 -0.5**
comp=Z,76nm,1.0s
CHKK ⇓*i*S Sb **16 07 54.4 +0.6**
comp=Z,166nm,0.5s
BRLS Borolday 4.91 318 *e*P Pb **16 06 59.9 +2.5**
comp=Z,2.8nm,0.4s
BRLS eS Sb **16 08 03.4 +6.8**
comp=Z,209nm,1.1s
KURS Kuram 4.94 34 *e*P Pb **16 06 58.5 +0.4**
comp=Z,92nm,1.8s
KURS ⇓*i*S Sb **16 08 00.0 +2.4**
comp=Z,194nm,1.4s
UZB Uzynbulak 5.10 42 *e*P Pb **16 06 60.0 -0.8**
comp=Z,144nm,1.3s
UZB eS Sb **16 08 03.5 +1.3**
comp=Z,129nm,1.6s
KPKS Kokpek 5.16 38 *e*P Pb **16 07 01.3 -0.5**
comp=Z,165nm,1.3s
KPKS eS Sb **16 08 05.8 +1.8**
comp=Z,332nm,0.9s
ARXS Arharly 5.41 28 *e*P Pb **16 07 05.4 -0.7**
comp=Z,188nm,0.8s
ARXS eS Sb **16 08 14.3 +3.2**
comp=Z,142nm,0.6s
PDGK Podgornoye 5.47 44 ⇓Pn Pn **16 06 53.7 +0.6**
comp=Z,18nm,0.7s
PDGK ⇓Pg Pb **16 07 07.3 +0.2**
comp=Z,316nm,1.4s
PDGK ⇓Lg Lg 16 08 24.5
comp=Z,446nm,1.3s
PDGK Podgornoye 5.47 44 PN Pn **16 06 53.7 +0.6**
PDGK pmax pmax
comp=Z,18nm,0.7s
MNBS Baschi 5.52 32 *e*P Pb **16 07 07.1 -0.8**
comp=Z,120nm,0.6s
MNBS eS Sb **16 08 16.1 +1.9**
comp=Z,243nm,1.1s
CHCP Chirah Chowk 5.86 189 P Pb 16 07 07.3 -6.4
CEP Cherat 5.96 200 P Pb 16 07 08.0 -7.5
CEP S Sb **16 08 20.0 -7.0**
TDK Taldyqorghan 6.30 27 *e*P Pb **16 07 20.9 -0.3**
comp=Z,139nm,0.6s
TDK eS Sb **16 08 40.5 +3.9**
comp=Z,356nm,1.2s
DJR Jarkent 6.34 38 *e*P Pb **16 07 23.7 +1.9**
comp=Z,72nm,0.6s
DJR eS Sb **16 08 43.5 +5.8**
comp=Z,118nm,1.4s
KBL Kabul 6.49 222 *e*Pn Pn 16 07 14.5 +7.4
KBL *e*Sn Sn 16 08 31.1 +10
KBL Kabul 6.49 222 *e*PN Pn 16 07 14.5 +7.4
KBL *e* 16 08 31.1
THW Thamme Wali 6.98 198 P Pn 16 07 20.3 +6.5
DHRM DHARAMSHALA 7.38 167 *e*P Pn 16 07 24.9 +5.5
SARP Sargodha 7.65 191 P Pn 16 07 29.6 +6.7
SMLA Simla 8.64 164 *e*P Pn 16 07 41.1 +4.6
OTUK Ortayu 8.89 351 ⇑Pn Pn **16 07 37.2 -2.7**
comp=Z,7.9nm,0.7s
OTUK ⇓Lg Lg 16 10 06.0
comp=Z,90nm,1.0s
OTUK Ortayu 8.89 351 P Pn **16 07 37.2 -2.7**
OTUK pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 9.22 35 ⇑Pn Pn **16 07 41.8 -2.6**
comp=Z,10nm,1.4s
MAKZ ⇑Pg 16 08 19.3
comp=Z,30nm,1.4s
MAKZ ⇑Lg Lg 16 10 19.4
comp=Z,46nm,1.6s
MAKZ Makanchi 9.22 35 *e*Pn Pn **16 07 45.8 +1.4**
MAKZ Makanchi 9.22 35 *e*P Pn **16 07 45.8 +1.4**
MK31 Makanchi Array 9.35 36 *e*Pn Pn **16 07 46.4 +0.2**
MK31 Makanchi Array 9.35 36 *e*P Pn **16 07 46.4 +0.2**
MK32 Makanchi Array 9.35 36 *e*Pn Pn **16 07 47.3 +1.1**
MK32 *e*Lg Lg 16 10 20.4
MKAR Makanchi Array 9.35 36 Pn Pn **16 07 47.3 +1.1**
comp=Z,3.1nm,0.3s,baz=214,slow=14,SNR=5.2
MKAR Lg Lg 16 10 20.4
baz=218,slow=21,SNR=2.5
MKAR Makanchi Array 9.35 36 *e*Pn Pn **16 07 46.4 +0.2**
MKAR Lg Lg 16 10 20.4
MKAR Makanchi Array 9.35 36 *e*P Pn **16 07 46.4 +0.2**
DDI Dehra Dun 9.62 160 *e*P Pn 16 07 54.7 +4.6
WMQ Urumqi 10.90 62 P Pn **16 08 09.5 +1.9**
WMQ S Sn **16 10 15.3 +5.7**
WMQ SS SnSn **16 10 27.9 +6.6**
WMQ LR LR
comp=Z,870nm,15.3s
WMQ LR LR
comp=Z,550nm,15.9s
WMQ LR LR
comp=Z,870nm,14.5s
KURBB Kurchatov Arra 11.54 13 Pn Pn **16 08 12.8 -3.3**
comp=Z,0.1nm,0.3s,baz=201,slow=12,SNR=8.6
KURBB Lg Lg 16 11 29.1
comp=Z,0.2nm,0.3s,baz=202,slow=30,SNR=9.1
KURK Kurchatov 11.64 14 *e*Pn Pn 16 08 12.8 -4.7
KURK *e*Lg Lg 16 11 29.1
KURK Kurchatov 11.64 14 ⇑*i*P Pn **16 08 18.3 +0.8**
KURK pmax pmax
comp=Z,22nm,1.2s
GEYT Alibeck 12.76 268 Pn Pn **16 08 31.3 -1.6**
comp=Z,1.4nm,0.3s,baz=103,slow=9.1,SNR=10
GEYT Sn Sn **16 10 51.5 -3.5**
comp=Z,1.1nm,0.3s,baz=72,slow=23,SNR=4.1
PYUN Piuthan 13.43 145 *e*P Pn **16 08 42.9 +0.7**
comp=Z,71nm,0.3s
PYUN eS Sn **16 11 08.7 -2.9**
PYUN Piuthan 13.43 145 *e*P Pn **16 08 43.1 +0.9**
comp=Z,71nm,0.3s
DANN Dangsing 13.57 142 *e*P Pn **16 08 44.8 +0.6**
DANN Dangsing 13.57 142 *e*P Pn **16 08 44.2 0.0**
BVAR Borovoye Array 13.83 350 Pn Pn **16 08 43.9 -3.4**
comp=Z,1.0nm,0.3s,baz=155,slow=14,SNR=24
BVAR Lg Lg 16 12 43.3
comp=Z,0.7nm,0.3s,baz=180,slow=22,SNR=3.5
BVAR LR LR 16 14 07.3
comp=Z,566nm,20.1s,baz=168,slow=37
BRVK Borovoye 13.87 350 *e*Pn Pn **16 08 44.3 -3.6**
BRVK Borovoye 13.87 350 ⇑*i*P Pn **16 08 47.7 -0.3**
KOLN Koldanda 13.98 144 *e*P Pn **16 08 49.9 +0.1**
comp=Z,63nm,0.4s
KOLN eS Sn **16 11 23.4 -1.8**
KOLN Koldanda 13.98 144 *e*P Pn **16 08 50.2 +0.4**
comp=Z,63nm,0.4s
ABKAR Akbulak array 14.17 318 *e*Pn Pn 16 08 48.3 -3.8
GKN Gorkha 14.28 140 *e*P Pn **16 08 53.5 -0.3**
GKN Gorkha 14.28 140 *e*P Pn **16 08 53.6 -0.3**
KKN Kakani 14.78 139 *e*P Pn **16 08 59.7 -1.0**
comp=Z,32nm,0.4s
KKN eS Sn **16 11 40.9 -3.8**
KKN Kakani 14.78 139 *e*P Pn **16 08 59.7 -1.0**
comp=Z,32nm,0.4s
DMN Daman 14.84 140 *e*P Pn **16 09 00.8 -0.8**
comp=Z,34nm,0.4s
DMN eS Sn **16 11 42.5 -3.7**
DMN Daman 14.84 140 *e*P Pn **16 09 00.8 -0.8**
comp=Z,34nm,0.4s
GUN Gumba 15.00 137 *e*P Pn **16 09 02.7 -1.1**
comp=Z,48nm,0.4s
GUN Gumba 15.00 137 *e*P Pn **16 09 02.7 -1.1**
comp=Z,48nm,0.4s
PKIN Phulchoki 15.01 139 *e*P Pn **16 09 03.1 -0.8**
comp=Z,33nm,0.4s
PKIN eS Sn **16 11 47.1 -3.4**
PKIN Phulchoki 15.01 139 *e*P Pn **16 09 03.2 -0.7**
comp=Z,33nm,0.4s
PKI Pulchoki 15.03 139 *e*P Pn **16 09 03.1 -1.1**
comp=Z,29nm,0.3s
PKI Pulchoki 15.03 139 *e*P Pn **16 09 03.0 -1.1**
comp=Z,29nm,0.3s
JIRN Jiri 15.36 136 *e*P Pn **16 09 08.0 -0.7**
comp=Z,93nm,0.4s
JIRN eS Sn **16 11 53.7 -5.3**
JIRN Jiri 15.36 136 *e*P Pn **16 09 07.9 -0.7**
comp=Z,93nm,0.4s
AKTO Aktyubinsk 15.88 319 Pn Pn **16 09 11.8 -3.1**
comp=Z,1.0nm,0.3s,baz=117,slow=12,SNR=14
AKTO Sn Sn 16 12 01.9 -9.1
comp=Z,0.3nm,0.3s,baz=78,slow=8.6,SNR=2.7
AKTO LR LR 16 15 37.0
comp=Z,568nm,18.9s,baz=134,slow=38
ZAA0 Zalesovo Array 16.14 23 *e*Pn Pn **16 09 14.9 -3.3**
comp=Z,7.7nm,0.9s
ZALV Zalesovo Beam 16.14 23 Pn Pn **16 09 15.9 -2.3**
comp=Z,0.9nm,0.3s,baz=203,slow=13,SNR=18
ZALV Lg Lg 16 14 01.4
comp=Z,0.1nm,0.3s,baz=208,slow=25,SNR=6.2
ZALV LR LR 16 15 35.1
comp=Z,516nm,18.6s,baz=247,slow=38
ZALV Zalesovo Beam 16.14 23 *e*Pn Pn **16 09 15.2 -3.0**
ZALV Lg Lg 16 14 01.4
RAMN Ramite 16.15 137 *e*P Pn **16 09 17.0 -1.7**
comp=Z,45nm,0.4s
RAMN eS Sn **16 12 12.4 -5.6**
RAMN Ramite 16.15 137 *e*P Pn **16 09 17.2 -1.5**
comp=Z,45nm,0.4s
ZAA1 Zalesovo Array 16.15 23 *e*Pn Pn **16 09 15.9 -2.4**
ZAA1 *e*PcP PcP 16 14 01.4 -12
ZAA1 *e* 16 15 35.1
BHPL Bhopal 16.39 170 *e*P P **16 09 25.8 +1.3**
TAPN Taplejung 16.44 133 *e*P Pn **16 09 21.3 -1.2**
comp=Z,26nm,0.5s
TAPN Taplejung 16.44 133 *e*P Pn **16 09 21.2 -1.2**
comp=Z,26nm,0.5s
NVS Novosibirsk 16.50 18 *e*P Pn **16 09 20.2 -2.6**
ODAN Odare 16.64 135 *e*P P **16 09 24.3 -3.2**
comp=Z,42nm,0.5s
ODAN eS Sn **16 12 23.3 -6.7**
ODAN Odare 16.64 135 *e*P Pn **16 09 23.9 -1.1**
comp=Z,42nm,0.5s
LSA Lhasa 16.91 120 *e*Pn P **16 09 31.6 +0.9**
comp=Z,6.0nm,0.9s
LSA Lhasa 16.91 120 *e*P P **16 09 31.6 +0.9**
LSA pmax pmax
comp=Z,6.0nm,0.9s
JBP Jabalpur 16.95 162 ⇓*e*P P **16 09 32.1 +1.5**
JBP AMB AMB 16 09 32.8
comp=Z,37nm,1.0s
JBP *ex* x 16 12 27.2
BOK Bokaro 18.44 145 *e*P P **16 09 47.7 +0.6**
SVE Sverdlovsk 19.56 337 *e*P Pn **16 10 02.1 +1.7**
SVE pmax pmax
comp=Z,22nm,1.3s
GTA Gaotai 19.67 82 *e*P Pn **16 10 02.7 +0.6**
GTA pP sP 16 10 10.1 +5.4
GTA sP pP 16 10 15.3 +12
GTA S Sn **16 13 40.0 -3.0**
GTA sS pS 16 13 51.1 -4.0
GTA SS SnSn **16 14 07.5 +10**
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA pmax pmax
comp=Z,75nm,6.7s
GTA LR LR
comp=Z,270nm,10.0s
GTA LR LR
comp=Z,300nm,10.5s
GTA LR LR
comp=Z,230nm,12.1s
ARU Arti 19.90 334 P P **16 10 03.7 +0.8**
comp=Z,0.0nm,0.3s,baz=137,slow=5.1,SNR=8.6
ARU Lg Lg 16 16 02.4
comp=Z,0.0nm,0.3s,baz=98,slow=22,SNR=5.4
ARU LR LR 16 17 59.4
comp=Z,399nm,18.3s,baz=134,slow=38
ARU Arti 19.90 334 *e*P P **16 10 03.0 +0.1**
comp=Z,15nm,0.9s
ARU Lg Lg 16 16 02.4
ARU Arti 19.90 334 *d*iP P **16 10 03.2 +0.3**
ARU S S **16 13 45.3 -1.4**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU MLR MLR
comp=Z,375nm,13.0s
SHL Shillong 20.23 128 *e*P Pn 16 10 09.0 +0.2
SHL IAmb IAmb 16 10 09.5
comp=Z,7.1nm,0.5s
POO Poona 20.87 181 *e*P Pn 16 10 16.6 +0.4
WSAR Wadi Sarin 20.96 224 P Pn 16 10 15.7 -1.5
comp=Z,3.2nm,0.5s,baz=76,slow=4.5,SNR=14
WSAR LR LR 16 20 20.2
comp=Z,116nm,19.5s,baz=78,slow=42
UOSS Minazif 21.03 232 *e*P P **16 10 16.8 +1.4**
comp=Z,11nm,0.9s
GROC Groznyy 21.70 289 *e*P P **16 10 22.8 +0.4**
GROC *e* 16 10 43.7
GROC *e*S S **16 14 24.9 +2.4**
GROC pmax pmax
comp=Z,40nm,1.0s
MOY Mondy 22.16 48 *e*P P **16 10 28.1 +0.7**
MOY pmax pmax
comp=Z,34nm,2.0s
HYB Hyderabad 22.28 169 *i*P P **16 10 33.0 +4.2**
GNI Garni 22.69 281 P P **16 10 33.6 +0.3**
comp=Z,3.5nm,0.5s,baz=37,slow=20,SNR=2.0
GNI LR LR 16 21 15.2
comp=Z,49nm,18.2s,baz=76,slow=41
GNI Garni 22.69 281 ⇑*i*P P **16 10 34.1 +0.8**
GNI pmax pmax
comp=Z,62nm,1.2s
SOKR Solikamsk 23.00 337 *c*iP P **16 10 38.8 +2.8**
SOKR pmax pmax
comp=Z,51nm,1.3s
SOKR MLR MLR
comp=Z,348nm,16.0s
VIS Vishakhapatnam 23.04 158 *e*P P **16 10 38.9 +2.1**
ZAK Zakamensk 23.08 52 *e*P P **16 10 36.6 -0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
AKH Akhalkalaki 23.49 285 *e*P P **16 10 41.5 0.0**
comp=Z,11nm,1.0s
AKH Akhalkalaki 23.49 285 *e*P P **16 10 41.5 0.0**
AKH pmax pmax
comp=Z,11nm,1.0s
LZH Lanzhou 23.52 89 *e*P P 16 10 49.5 +7.6
LZH pP sP 16 11 01.3 +15
LZH sP pP 16 11 08.0 +23
LZH PP PnPn 16 11 18.0 +10
LZH *e*S S **16 14 57.1 +1.2**
LZH sS Sn 16 15 24.5 +8.9
LZH SS SnSn 16 15 49.0 +17
TLY Talaya 23.70 49 LR LR 16 19 47.6
comp=Z,62nm,20.9s,baz=248,slow=36
TLY Talaya 23.70 49 *e*P P **16 10 42.1 -1.2**
comp=Z,9.8nm,1.5s
TLY Talaya 23.70 49 *e*P P **16 10 43.2 -0.1**
TLY *e*S S **16 14 55.7 -2.5**
TLY pmax pmax
comp=Z,7.0nm,1.4s
TLY MLR MLR
comp=Z,245nm,14.0s
GOF Gofitskoye 23.73 294 ⇑*e*P P **16 10 44.8 +1.3**
GOF pmax pmax
comp=Z,27nm,1.3s
KBZ Khabaz 23.81 291 P P **16 10 46.0 +1.7**
comp=Z,0.7nm,0.6s,baz=75,slow=19,SNR=3.1
KBZ LR LR 16 21 50.5
comp=Z,113nm,20.3s,baz=66,slow=41
KIV Kislovodsk 23.96 291 *e*P P **16 10 46.9 +1.0**
comp=Z,14nm,0.8s
KIV Kislovodsk 23.96 291 *e*P P **16 10 46.1 +0.2**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,47nm,14.0s
GEVA Gevas 24.31 277 *e*P P **16 10 51.5 +2.3**
comp=Z,9.1nm,0.8s
SONA0 Songino Array 24.52 60 *e*P P **16 10 50.5 -0.6**
SONM Songino Array 24.52 60 P P **16 10 50.5 -0.6**
comp=Z,0.5nm,0.6s,baz=263,slow=10,SNR=6.0
SONM LR LR 16 21 15.2
comp=Z,557nm,20.4s,baz=249,slow=39
SONM Songino Array 24.52 60 *e*P P **16 10 51.8 +0.7**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONA1 Songino Array 24.53 59 *e*P P **16 10 48.7 -2.5**
ULN Ulaanbaatar 24.97 60 *e*P P **16 10 54.7 -0.4**
ULN Ulaanbaatar 24.97 60 ⇑*i*P P **16 10 54.5 -0.6**
ULN *i* *SP **sP** **16 11 01.3 +2.0**
ULN pmax pmax
comp=Z,3.0nm,1.0s
CD2 Chengdu 25.44 101 *e*P P **16 11 01.2 +1.8**
CD2 S S **16 15 30.6 +4.2**
CD2 sS sS 16 15 34.0 +2.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.6s
CD2 LR LR
comp=Z,400nm,12.7s
CD2 LR LR
comp=Z,430nm,11.8s
VRH Novokhopyorsk 25.53 308 *e*P P **16 11 02.2 +2.2**
VRH pmax pmax
comp=Z,10.0nm,0.8s
MARD Mardin 26.30 276 *e*P P **16 11 07.9 +0.6**
comp=Z,6.4nm,0.7s
VSR Storozhevoye 27.10 307 *e*P P **16 11 17.4 +3.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 27.55 310 *e*P P **16 11 20.7 +2.5**
LPSR pmax pmax
comp=Z,6.0nm,0.7s
HHC Hu-ho-hao-te 28.36 75 *e*P P **16 11 26.1 +0.4**
HHC PP PnPn **16 12 18.5 +4.2**
HHC S S **16 16 05.9 -6.5**
HHC SS SnSn **16 17 32.6 +3.0**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,30nm,6.5s
HHC LR LR
comp=Z,230nm,17.4s
HHC LR LR
comp=Z,290nm,14.9s
HHC LR LR
comp=Z,220nm,14.9s
RAYN Ar Rayn 29.11 245 *e*P P **16 11 34.3 +1.9**
comp=Z,2.5nm,0.6s
OBN Obninsk 29.57 315 LR LR 16 24 19.9
comp=Z,85nm,18.5s,baz=89,slow=38
OBN Obninsk 29.57 315 ⇓*e*P P **16 11 38.2 +2.1**
OBN 16 12 29.0
OBN PPP PPP 16 12 45.0
OBN pmax pmax
comp=Z,17nm,1.4s
OBN MLR MLR
comp=Z,227nm,15.0s
CMAR Chiang Mai Arr 29.87 127 P P **16 11 37.7 -1.4**
comp=Z,0.4nm,0.4s,baz=316,slow=9.6,SNR=2.9
CMAR LR LR 16 26 51.1
comp=Z,49nm,19.4s,baz=219,slow=43
CM01 Chiang Mai Arr 29.90 127 *e*P P **16 11 38.9 -0.6**
KLMR Klimovskoe 30.32 326 *e*P P **16 11 43.5 +0.8**
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 30.32 326 *e*P P **16 11 43.5 +0.8**
KLMR AMP 16 11 47.2
comp=Z,15nm,1.4s
DGPR DIGLIPUR 30.91 143 *e*P P **16 11 49.5 +1.2**
DGPR IAmb IAmb 16 12 16.7
comp=Z,13nm,0.3s
BR101 Keskin Array S 31.16 284 *e*P P **16 11 52.0 +1.4**
BR131 Keskin Array S 31.16 284 *e*P P **16 11 51.5 +0.9**
BRTR Keskin Array B 31.16 284 P P **16 11 52.0 +1.4**
comp=Z,3.2nm,0.5s,baz=89,slow=6.2,SNR=21
BRTR LR LR 16 26 51.5
comp=Z,34nm,18.8s,baz=124,slow=41
BOD Bodaibo 31.39 41 *e*P P **16 11 51.3 -0.9**
BOD pmax pmax
comp=Z,9.0nm,1.9s
BR231 Keskin MP Arra 31.79 284 *e*P P **16 11 52.1 -4.0**
PALK Pallekele 32.57 168 *e*P P **16 12 05.2 +2.3**
comp=Z,9.5nm,1.2s
PALK Pallekele 32.57 168 *e*P P **16 12 05.2 +2.3**
PALK pmax pmax
comp=Z,10.0nm,1.2s
AKASG Malin Array Be 33.27 305 P P **16 12 06.9 -1.9**
comp=Z,1.4nm,0.4s,baz=81,slow=7.3,SNR=5.7
AKASG LR LR 16 27 53.2
comp=Z,122nm,19.0s,baz=90,slow=40
AKASG Malin Array Be 33.27 305 *e*P P **16 12 09.8 +1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 33.27 305 *e*P P **16 12 07.6 -1.2**
comp=Z,24nm,1.8s
AKBB Malin Array Si 33.27 305 *e*P P **16 12 07.6 -1.2**
AKBB pmax pmax
comp=Z,25nm,1.8s
KIEV Kiev 33.28 305 *e*P P **16 12 08.0 -0.9**
comp=Z,31nm,2.0s
KIEV Kiev 33.28 305 ⇑*i*P P **16 12 08.3 -0.6**
KIEV *i* *SP **sP** **16 12 14.8 +1.7**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
AK11 Malin Array Si 33.31 305 *e*P P **16 12 08.3 -0.8**
ISP Isparta 34.00 281 *e*P P **16 12 16.0 +0.5**
comp=Z,14nm,0.7s
ISP Isparta 34.00 281 *e*P P **16 12 16.0 +0.5**
ISP pmax pmax
comp=Z,14nm,0.7s
MLR Muntele Rosu 35.74 296 LR LR 16 29 32.5
comp=Z,15nm,19.0s,baz=39,slow=40
MLR Muntele Rosu 35.74 296 *e*P P **16 12 31.7 +1.3**
comp=Z,7.9nm,0.9s
MLR Muntele Rosu 35.74 296 *e*P P **16 12 31.7 +1.3**
MLR pmax pmax
comp=Z,8.0nm,0.9s
LVZ Lovozero 35.76 336 *e*P P **16 12 29.1 -1.1**
comp=Z,105nm,1.8s
LVZ Lovozero 35.76 336 *e*P P **16 12 29.1 -1.1**
LVZ pmax pmax
comp=Z,105nm,1.8s
BUR04 Bucovina Ar. S 36.00 300 *e*P P **16 12 32.0 -0.5**
BUR08 Bucovina Ar. S 36.01 300 *e*P P **16 12 32.6 0.0**
NJ2 Nanjing 36.59 88 *e*P P **16 12 37.4 -0.2**
NJ2 pmax pmax
comp=Z,11nm,0.6s
FIA0 FINESS Array S 36.59 323 *e*P P **16 12 37.1 -0.2**
FIA0 FINESS Array S 36.59 323 *e*P P **16 12 37.1 -0.2**
FINES FINESS Array B 36.59 323 P P **16 12 37.1 -0.2**
comp=Z,3.2nm,0.4s,baz=113,slow=9.9,SNR=76
FINES LR LR 16 28 13.6
comp=Z,186nm,20.7s,baz=86,slow=37
VTS Vitosha 38.21 292 *e*P P **16 12 49.1 -2.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,32nm,2.0s						
VTS	**Vitosha**	**38.21**	**292**	*e*P	**P**	**16 12 49.1**	**-2.4**
VTS				pmax	pmax		
	comp=Z,32nm,2.0s						
IDI	**Anoyia**	**39.11**	**280**	P	**P**	**16 12 59.3**	**+0.3**
	comp=Z,30nm,1.1s,baz=108,slow=3.2,SNR=3.7						
OJC	**Ojcow**	**39.31**	**304**	*e*P	**P**	**16 12 59.3**	**-1.1**
	comp=Z,11nm,1.3s						
OJC	**Ojcow**	**39.31**	**304**	*e*P	**P**	**16 12 59.3**	**-1.1**
OJC				pmax	pmax		
	comp=Z,11nm,1.3s						
ATD	**Arta Tunnel**	**39.40**	**234**	P	**P**	**16 13 03.4**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=40,slow=14,SNR=3.5						
ATD				LR	LR	16 33 13.3	
	comp=Z,40nm,19.3s,baz=132,slow=42						
ARA0	**ARCESS Array S**	**39.47**	**335**	*e*P	**P**	**16 13 01.1**	**-0.5**
ARCES	**ARCESS Array B**	**39.47**	**335**	P	**P**	**16 13 01.1**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=109,slow=8.6,SNR=14						
ARCES	**ARCESS Array B**	**39.47**	**335**	*e*P	**P**	**16 13 00.9**	**-0.7**
ARE0	**ARCESS Array S**	**39.47**	**335**	*e*P	**P**	**16 13 01.0**	**-0.5**
	comp=Z,164nm,1.9s						
YAK	**Yakutsk**	**40.02**	**37**	P	**P**	**16 13 05.3**	**-0.9**
	comp=Z,3.2nm,0.3s,baz=241,slow=0.8,SNR=3.8						
YAK	**Yakutsk**	**40.02**	**37**	*e*P	**P**	**16 13 05.5**	**-0.7**
	comp=Z,8.8nm,0.7s						
YAK	**Yakutsk**	**40.02**	**37**	*e*P	**P**	**16 13 07.7**	**+1.6**
YAK				pmax	pmax		
	comp=Z,11nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.4s						
MORC	**Moravsky Berou**	**40.80**	**304**	*e*P	**P**	**16 13 12.9**	**0.0**
	comp=E,79nm,2.0s						
MORC	**Moravsky Berou**	**40.80**	**304**	*e*P	**P**	**16 13 12.9**	**0.0**
MORC				pmax	pmax		
	comp=Z,79nm,2.0s						
KSRS	**Korea Array**	**41.50**	**75**	LR	LR	16 32 16.8	
	comp=Z,92nm,19.5s,baz=110,slow=39						
DPC	**Dobruska-Polom**	**41.51**	**305**	*e*P	**P**	**16 13 18.9**	**+0.3**
DPC	**Dobruska-Polom**	**41.51**	**305**	*e*P	**P**	**16 13 18.9**	**+0.3**
TIXI	**Tiksi**	**42.03**	**23**	P	**P**	**16 13 21.0**	**-1.6**
	comp=Z,3.2nm,0.6s,baz=282,slow=6.9,SNR=14						
TIXI	**Tiksi**	**42.03**	**23**	⇑*i*P	**P**	**16 13 21.4**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,15nm,2.5s						
HFS	**Hagfors**	**42.43**	**320**	P	**P**	**16 13 25.3**	**-0.7**
	comp=Z,5.4nm,0.6s,baz=94,slow=10,SNR=26						
HFS				LR	LR	16 31 48.1	
	comp=Z,202nm,18.9s,baz=82,slow=37						
USRK	**Ussuriysk Ar.**	**42.47**	**64**	LR	LR	16 33 10.2	
	comp=Z,76nm,19.2s,baz=200,slow=39						
PRU	**Pruhonice**	**42.69**	**305**	*e*P	**P**	**16 13 28.4**	**+0.1**
PRU				AMS	AMS	16 32 30.0	
	comp=Z,300nm,13.8s						
PRU	**Pruhonice**	**42.69**	**305**	*e*P	**P**	**16 13 28.4**	**+0.1**
PRU				MLR	MLR		
	comp=Z,300nm,13.8s						
NC405	**NORSAR Array S**	**43.42**	**321**	*e*P	**P**	**16 13 31.9**	**-2.0**
GEC2	**GERESS Array S**	**43.44**	**303**	*e*P	**P**	**16 13 34.5**	**+0.1**
	comp=Z,9.8nm,0.8s						
GEC2	**GERESS Array S**	**43.44**	**303**	*e*P	**P**	**16 13 34.5**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GERES	**GERESS Array B**	**43.44**	**303**	P	**P**	**16 13 34.9**	**+0.5**
	comp=Z,2.7nm,0.4s,baz=62,slow=8.5,SNR=32						
GERES				LR	LR	16 33 49.4	
	comp=Z,79nm,21.7s,baz=86,slow=39						
GEA0	**GERESS Array S**	**43.44**	**303**	*e*P	**P**	**16 13 34.2**	**-0.2**
CLL	**Collm**	**43.45**	**307**	*e*(pP)	pP	16 13 43.0	+5.6
CLL	**Collm**	**43.45**	**307**	*e*P	P	16 13 43.0	+8.7
KHC	**Kasperske Hory**	**43.46**	**304**	*e*P	**P**	**16 13 34.4**	**-0.2**
KHC				*e*x	x	16 13 40.5	
KHC				AMS	AMS	16 33 00.0	
	comp=Z,300nm,13.8s						
KHC	**Kasperske Hory**	**43.46**	**304**	*e*P	**P**	**16 13 34.4**	**-0.2**
	comp=Z,1.9nm,0.9s						
KHC	**Kasperske Hory**	**43.46**	**304**	*e*P	**P**	**16 13 34.4**	**-0.2**
KHC				*e*		16 13 40.5	
KHC				MLR	MLR		
	comp=Z,300nm,13.8s						
NC602	**NORSAR Array S**	**43.50**	**321**	*e*P	**P**	**16 13 33.4**	**-1.2**
GSI	**Gunungsitoli**	**43.51**	**145**	*e*P	**P**	**16 13 36.9**	**+1.7**
	comp=Z,11nm,0.5s						
NC605	**NORSAR Array S**	**43.56**	**321**	*e*P	**P**	**16 13 34.5**	**-0.7**
NC303	**NORSAR Array S**	**43.58**	**321**	*e*P	**P**	**16 13 34.5**	**-0.8**
NB201	**NORSAR Array S**	**43.62**	**321**	*e*P	**P**	**16 13 33.7**	**-1.9**
NB2	**NORSAR Subarra**	**43.66**	**321**	P	**P**	**16 13 34.9**	**-1.1**
	comp=Z,8.2nm,0.8s,baz=91,slow=8.6						
NB200	**NORSAR Array S**	**43.66**	**321**	*e*P	**P**	**16 13 35.2**	**-0.8**
NOA	**NORSAR Array B**	**43.66**	**321**	P	**P**	**16 13 35.2**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=102,slow=7.2,SNR=11						
NOA				LR	LR	16 32 24.2	
	comp=Z,168nm,20.5s,baz=75,slow=37						
NOA	**NORSAR Array B**	**43.66**	**321**	P	**P**	**16 13 35.2**	**-0.8**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,168nm,20.5s						
NAO01	**NORSAR Array S**	**43.82**	**321**	*e*P	**P**	**16 13 35.9**	**-1.4**
NBO02	**NORSAR Array S**	**43.83**	**321**	*e*P	**P**	**16 13 36.6**	**-0.7**
NBO00	**NORSAR Array S**	**43.87**	**321**	*e*P	**P**	**16 13 37.2**	**-0.4**
NC204	**NORSAR Array S**	**43.88**	**321**	*e*P	**P**	**16 13 37.3**	**-0.5**
TRI	**Trieste**	**44.09**	**299**	*e*P	**P**	**16 13 38.6**	**-1.0**
	comp=Z,10nm,1.1s						
TRI	**Trieste**	**44.09**	**299**	*e*P	**P**	**16 13 38.6**	**-1.0**
TRI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KONO	**Kongsberg**	**44.50**	**319**	*e*P	**P**	**16 13 41.2**	**-1.5**
	comp=Z,58nm,1.8s						
KONO	**Kongsberg**	**44.50**	**319**	*e*P	**P**	**16 13 41.2**	**-1.5**
KONO				pmax	pmax		
	comp=Z,58nm,1.8s						
GRFO	**Grafenberg**	**44.86**	**305**	*e*P	**P**	**16 13 44.5**	**-1.2**
	comp=Z,6.4nm,0.6s						
GRFO	**Grafenberg**	**44.86**	**305**	*e*P	**P**	**16 13 44.5**	**-1.2**
GRFO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SPITS	**Spitsbergen Ar**	**45.23**	**346**	P	**P**	**16 13 45.1**	**-3.3**
	comp=Z,25nm,1.2s,baz=144,slow=17,SNR=5.3						
SPITS				LR	LR	16 35 10.9	
	comp=Z,123nm,19.1s,baz=155,slow=39						
DAVOX	**Davos/Dischmat**	**46.42**	**301**	P	**P**	**16 13 57.1**	**-1.2**
	comp=Z,5.4nm,0.4s,baz=34,slow=12,SNR=17						
DAVOX				LR	LR	16 36 03.6	
	comp=Z,89nm,20.8s,baz=76,slow=39						
MEM	**Membach**	**47.92**	**307**	P	**P**	**16 14 08.2**	**-1.5**
BNI	**Bardonecchia**	**49.06**	**300**	*e*P	**P**	**16 14 17.5**	**-1.3**
	comp=Z,7.1nm,1.2s						
BNI	**Bardonecchia**	**49.06**	**300**	*e*P	**P**	**16 14 17.5**	**-1.3**
BNI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KEST	**Kesra**	**50.62**	**287**	*e*P	**P**	**16 14 31.8**	**+1.1**
	comp=Z,38nm,1.8s						
EKA	**Eskdalemuir Ar**	**52.02**	**315**	P	**P**	**16 14 39.6**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=96,slow=6.5,SNR=4.6						
KMBO	**Kilima Mbogo**	**52.77**	**229**	P	**P**	**16 14 47.9**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=33,slow=9.2,SNR=5.9						
KMBO				LR	LR	16 41 06.0	
	comp=Z,62nm,18.8s,baz=86,slow=40						
KMBO	**Kilima Mbogo**	**52.77**	**229**	*e*P	**P**	**16 14 48.0**	**+0.9**
	comp=Z,16nm,1.7s						
KMBO	**Kilima Mbogo**	**52.77**	**229**	*e*P	**P**	**16 14 48.0**	**+0.9**
KMBO				pmax	pmax		
	comp=Z,16nm,1.7s						
BILL	**Bilibino**	**54.78**	**27**	*e*P	**P**	**16 15 00.6**	**-0.3**
BILL				*e*		16 17 04.2	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SCO	**Scoresbysund**	**55.40**	**336**	*e*P	**P**	**16 15 05.9**	**+0.6**
	comp=Z,35nm,1.8s						
SCO	**Scoresbysund**	**55.40**	**336**	*e*P	**P**	**16 15 05.9**	**+0.6**
SCO				pmax	pmax		
	comp=Z,35nm,1.8s						
PETK	**Petropavlovsk-**	**56.01**	**46**	*e*P	**P**	**16 15 10.4**	**+0.5**
PETK	**Petropavlovsk-**	**56.01**	**46**	*e*P	**P**	**16 15 10.5**	**+0.5**
BORG	**Borgarnes**	**57.37**	**330**	LR	LR	16 39 50.4	
	comp=Z,123nm,18.2s,baz=102,slow=36						
ESDC	**Sonseca Array**	**58.41**	**297**	P	**P**	**16 15 26.4**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=55,slow=7.3,SNR=18						
SUMG	**Summit**	**59.11**	**341**	*e*P	**P**	**16 15 32.9**	**+0.9**
	comp=Z,21nm,1.4s						
SUMG	**Summit**	**59.11**	**341**	*e*P	**P**	**16 15 32.9**	**+0.9**
SUMG				pmax	pmax		
	comp=Z,21nm,1.4s						
SFJD	**Kangerlussuaq**	**65.93**	**339**	*e*P	**P**	**16 16 17.9**	**+0.9**
	comp=Z,41nm,1.9s						
SFJD	**Kangerlussuaq**	**65.93**	**339**	*e*P	**P**	**16 16 18.0**	**+0.9**
SFJD				pmax	pmax		
	comp=Z,41nm,1.9s						
SOEI	**Soe**	**67.39**	**125**	*e*P	**P**	**16 16 28.2**	**+0.9**
	comp=Z,35nm,1.3s						
FAKI	**Fak Fak**	**67.76**	**114**	*e*P	**P**	**16 16 31.0**	**+1.4**
	comp=Z,12nm,1.0s						
TOA1	**Torodi Ar. Sit**	**68.40**	**269**	*e*P	**P**	**16 16 33.1**	**-0.5**
TOA0	**Torodi Ar. Sit**	**68.40**	**269**	*e*P	**P**	**16 16 32.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**68.40**	**269**	P	**P**	**16 16 33.1**	**-0.5**
	comp=Z,5.2nm,0.4s,baz=49,slow=5.5,SNR=104						
IL1	**Eielson Array**	**71.19**	**17**	*e*P	**P**	**16 16 47.7**	**-2.3**
ILAR	**Eielson Array**	**71.19**	**17**	P	**P**	**16 16 48.0**	**-2.1**
	comp=Z,1.3nm,1.0s,baz=332,slow=5.0,SNR=8.1						
ILB	**Eielson Array**	**71.19**	**17**	*e*P	**P**	**16 16 49.2**	**-0.8**
KOWA	**Kowa**	**72.00**	**274**	P	**P**	**16 16 55.0**	**-0.7**
	comp=Z,3.5nm,0.5s,baz=77,slow=9.1,SNR=13						
MBWA	**Marble Bar**	**73.74**	**136**	*e*P	**P**	**16 17 06.9**	**+1.2**
	comp=Z,58nm,1.6s						
DBIC	**Dimbokro**	**77.45**	**268**	P	**P**	**16 17 27.2**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=21,slow=6.4,SNR=3.7						
DBIC	**Dimbokro**	**77.45**	**268**	*e*P	**P**	**16 17 26.9**	**-0.4**
	comp=Z,9.4nm,1.3s						
KIC	**Kosan Boka**	**77.55**	**268**	*e*PKIKP	**P**	**16 17 27.7**	**-0.2**
	comp=Z,8.6nm,0.8s						
TIC	**Toumodi**	**77.59**	**268**	*e*PKIKP	**P**	**16 17 27.4**	**-0.7**
LIC	**Lamto**	**77.86**	**268**	*e*PKIKP	**P**	**16 17 28.1**	**-1.5**
	comp=Z,30nm,1.2s						
YKW3	**Yellowknife Ar**	**78.06**	**4**	*e*P	**P**	**16 17 28.5**	**-1.4**
	comp=Z,13nm,1.7s						
YKA	**Yellowknife Ar**	**78.13**	**4**	P	**P**	**16 17 28.9**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=347,slow=5.6,SNR=20						
LBTB	**Lobatse**	**78.64**	**224**	*e*P	**P**	**16 17 35.8**	**+2.1**
	comp=Z,47nm,2.0s						
LBTB	**Lobatse**	**78.64**	**224**	*e*P	**P**	**16 17 35.8**	**+2.1**
LBTB				pmax	pmax		
	comp=Z,47nm,2.0s						
TSUM	**Tsumeb**	**78.80**	**234**	*e*P	**P**	**16 17 36.1**	**+1.4**
	comp=Z,30nm,1.9s						
WR1	**Warramunga Arr**	**81.41**	**125**	*e*P	**P**	**16 17 45.4**	**-3.3**
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**81.41**	**125**	P	**P**	**16 17 45.4**	**-3.3**
	comp=Z,1.8nm,0.5s,baz=305,slow=3.3,SNR=47						
WRAB	**Tennant Creek**	**81.41**	**124**	*e*P	**P**	**16 17 48.4**	**-0.3**
	comp=Z,18nm,1.4s						
WRAB	**Tennant Creek**	**81.41**	**124**	*e*P	**P**	**16 17 48.4**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**81.42**	**124**	*e*P	**P**	**16 17 49.0**	**+0.3**
BOSA	**Boshof**	**81.71**	**222**	*e*P	**P**	**16 17 51.2**	**+1.0**
	comp=Z,46nm,1.8s						
BOSA	**Boshof**	**81.71**	**222**	*e*P	**P**	**16 17 51.2**	**+1.0**
BOSA				pmax	pmax		
	comp=Z,46nm,1.8s						
AS31	**Alice Springs**	**83.88**	**127**	*e*P	**P**	**16 18 01.6**	**+0.1**
	comp=Z,5.2nm,1.7s						
ASAR	**Alice Springs**	**83.88**	**127**	P	**P**	**16 18 01.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=322,slow=5.1,SNR=22						
AS01	**Alice Springs**	**83.91**	**127**	*e*P	**P**	**16 18 01.3**	**-0.3**
B040	**Montague**	**97.66**	**13**	*e*P	Pdif	16 19 08.0	+1.6
TRQA	**Tornquist**	**146.15**	**258**	*e*PKPdf	**PKPab**	**16 25 12.0**	**-0.4**

ISCJB ***01*** *16:10:34.8±0.5, 23°.54S±0°.05×179°.9W±0°.1, h500km, mb3.7/8, Error ellipse: s-maj=14.2km s-min=5.5km az=17.8*

IDC ***01*** *16:10:35.0±1.9, 23°.68S×179°.83W, h501km±21km, mb3.3/8, mb1 3.6/10, mb1mx3.3/44, mbtmp4.2/10, Error ellipse: s-maj=20.5km s-min=14.9km az=123.0*

ISC 01 16:10:35.1±0.5**, 23°.63S**±0°.07×**179°.8W**±0°.1**, h500**km**, n54, σ1s89**/56**, mb3.6**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.86**	**164**	P	**P**	**16 12 12.0**	**+2.0**
GLKZ	**Green Lake**	**5.86**	**164**	S	**S**	**16 13 27.7**	**0.0**
AFI	**Afiamalu**	**12.30**	**40**	P	**P**	**16 13 16.1**	**-1.0**
	1.7nm,0.3s,baz=19,slow=7.2,SNR=3.9						
AFI				S	**S**	**16 15 28.6**	**-1.9**
	1.6nm,0.3s,baz=354,slow=16,SNR=3.3						
WMGZ	**Waiomatatini S**	**14.23**	**186**	P	**P**	**16 13 39.7**	**+2.6**
HAZ	**Te Kaha**	**14.23**	**188**	P	**P**	**16 13 38.7**	**+1.6**
RUGZ	**Raukumara Rang**	**14.45**	**188**	P	**P**	**16 13 41.8**	**+2.2**
PUZ	**Puketiti**	**14.49**	**186**	P	**P**	**16 13 42.9**	**+3.0**
PUZ	**Puketiti**	**14.49**	**186**	S	**S**	**16 16 13.2**	**+1.0**
OPRZ	**Ohinepanea**	**14.51**	**192**	P	**P**	**16 13 43.4**	**+3.4**
TOZ	**Tahuroa Road**	**14.62**	**195**	P	**P**	**16 13 43.7**	**+2.5**
TWGZ	**Tauwhareparae**	**14.63**	**187**	P	**P**	**16 13 41.7**	**+0.4**
TWGZ	**Tauwhareparae**	**14.63**	**187**	S	**S**	**16 16 13.8**	**-1.0**
KARZ	**Kaharoa**	**14.74**	**192**	P	**P**	**16 13 45.0**	**+2.5**
URZ	**Urewera**	**14.82**	**189**	P	**P**	**16 13 43.1**	**-0.2**
	5.2nm,0.3s,baz=300,slow=2.6,SNR=28						
URZ				S	**S**	**16 16 17.1**	**-1.3**
	0.7nm,0.3s,baz=43,slow=23,SNR=9.1						
URZ	**Urewera**	**14.82**	**189**	P	**P**	**16 13 42.4**	**-0.8**
URZ	**Urewera**	**14.82**	**189**	S	**S**	**16 16 15.2**	**-3.2**
MWZ	**Matawai**	**14.84**	**188**	P	**P**	**16 13 42.6**	**-0.9**
MWZ	**Matawai**	**14.84**	**188**	S	**S**	**16 16 16.0**	**-2.8**
TKGZ	**Te Karaka**	**14.90**	**187**	P	**P**	**16 13 44.5**	**+0.4**
RAGZ	**Rawiri**	**15.01**	**188**	P	**P**	**16 13 46.4**	**+1.0**
MUGZ	**Murupara**	**15.09**	**190**	P	**P**	**16 13 45.5**	**-0.5**
RIGZ	**Rimuhau**	**15.17**	**187**	P	**P**	**16 13 47.6**	**+0.6**
TLZ	**Tolley Road**	**15.18**	**194**	P	**P**	**16 13 50.7**	**+3.6**
MTHZ	**Maungataniwha**	**15.44**	**190**	P	**P**	**16 13 50.3**	**+0.5**
MTHZ	**Maungataniwha**	**15.44**	**190**	S	**S**	**16 16 27.9**	**-2.6**
RAHZ	**Arahi**	**15.47**	**189**	P	**P**	**16 13 50.4**	**+0.4**
WATZ	**Wairara**	**15.51**	**193**	P	**P**	**16 13 52.9**	**+2.4**
HIZ	**Hauiti**	**15.52**	**196**	P	**P**	**16 13 54.5**	**+3.9**
NMHZ	**Naumai**	**15.69**	**190**	P	**P**	**16 13 52.5**	**0.0**
BKZ	**Black Stump Fm**	**15.81**	**191**	P	**P**	**16 13 50.8**	**-2.8**
MCHZ	**McNeill Hill**	**16.05**	**190**	P	**P**	**16 13 54.0**	**-2.0**
MOVZ	**Moawhango**	**16.18**	**192**	P	**P**	**16 13 57.9**	**+0.4**
BHHZ	**Black Hill Sta**	**16.20**	**192**	P	**P**	**16 13 55.4**	**-2.3**
KAHZ	**Kahuranaki**	**16.36**	**189**	P	**P**	**16 13 59.0**	**-0.5**
RPZ	**Rata Peaks**	**21.40**	**198**	P	**P**	**16 14 46.2**	**0.0**
	9.6nm,0.5s,baz=323,slow=0.9,SNR=10						
CTA	**Charters Tower**	**31.64**	**270**	P	**P**	**16 16 16.9**	**+0.1**
	2.5nm,0.5s,baz=99,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**42.25**	**260**	P	**P**	**16 17 43.6**	**-0.5**
	0.7nm,0.8s,baz=96,slow=7.2,SNR=16						
ASAR				ScP	**ScP**	**16 22 28.9**	**-0.7**
	1.4nm,0.8s,baz=108,slow=4.4,SNR=11						
WRA	**Warramunga Arr**	**42.59**	**266**	ScP	**ScP**	**16 22 31.2**	**+0.1**
	0.8nm,0.9s,baz=85,slow=4.9,SNR=4.4						
VNDA	**Vanda**	**54.66**	**185**	P	**P**	**16 19 14.5**	**-1.4**
	2.0nm,0.6s,baz=342,slow=5.1,SNR=7.4						
NVAR	**Mina Array Bea**	**84.44**	**44**	P	**P**	**16 22 15.4**	**+0.5**
	0.3nm,0.5s,baz=224,slow=7.6,SNR=2.5						
SNAA	**Sanae**	**84.94**	**179**	P	**P**	**16 22 15.8**	**-0.8**
	0.7nm,0.4s,baz=194,slow=18,SNR=7.4						
TXAR	**Lajitas Array**	**90.14**	**58**	P	**P**	**16 22 43.5**	**+1.6**
	1.0nm,0.7s,baz=208,slow=6.0,SNR=9.2						
PDAR	**Pinedale Array**	**92.38**	**44**	P	**P**	**16 22 52.6**	**+0.5**
	0.3nm,0.5s,baz=220,slow=3.5,SNR=3.2						
MKAR	**Makanchi Array**	**112.09**	**313**	PKiKP	**PKiKP**	**16 28 11.1**	**-2.2**
	0.1nm,0.4s,baz=180,slow=1.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**115.16**	**316**	PKP	**PKPdf**	**16 28 17.2**	**-1.7**
	0.3nm,0.6s,baz=60,slow=5.6,SNR=3.0						
BVAR	**Borovoye Array**	**120.35**	**319**	PKP	**PKPdf**	**16 28 27.4**	**-1.5**
	0.5nm,0.5s,baz=94,slow=4.3,SNR=5.9						
SPITS	**Spitsbergen Ar**	**124.86**	**356**	PKP	**PKPdf**	**16 28 37.2**	**+0.3**
	4.5nm,0.8s,baz=28,slow=9.8,SNR=3.2						
FINES	**FINESS Array B**	**138.24**	**342**	PKP	**PKPdf**	**16 29 02.5**	**+0.1**
	1.0nm,0.8s,baz=328,slow=9.8,SNR=3.5						
HFS	**Hagfors**	**142.31**	**349**	PKhKP	PKPpre	16 29 05.2	
	1.4nm,0.3s,baz=74,slow=5.2,SNR=23						
AKASG	**Malin Array Be**	**144.83**	**328**	PKP	**PKPdf**	**16 29 13.0**	**-1.5**
	0.9nm,0.5s,baz=39,slow=3.9,SNR=7.7						
BRTR	**Keskin Array B**	**147.55**	**308**	PKPbc	**PKPdf**	**16 29 22.1**	**+2.5**
	0.7nm,0.6s,baz=30,slow=4.6,SNR=3.8						
MMAI	**Mount Meron Ar**	**147.74**	**295**	PKPbc	**PKPdf**	**16 29 23.7**	**+3.6**
	1.4nm,0.4s,baz=72,slow=6.4,SNR=6.2						
EKA	**Eskdalemuir Ar**	**148.24**	**4**	PKPbc	**PKPdf**	**16 29 23.1**	**+3.0**
	0.4nm,0.4s,baz=316,slow=2.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**169.48**	**188**	PKPab	**PKPab**	**16 31 00.5**	**-1.3**
	0.6nm,0.9s,baz=174,slow=5.8,SNR=3.5						

TAP 01 16:22:11.3, 24°.23N×121°.70E, h10km±1km**, ML1.4, D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.11**	**237**	P	Pb	16 22 14.9	-0.6
	baz=237						
NACB				*i* S	Sg	16 22 17.2	+1.2
	baz=237						
TWD	**Chiawan**	**0.18**	**211**	*i* P	Pg	16 22 15.9	+0.8
	baz=208						
TWD				*i* S	Sg	16 22 19.1	+1.3
	baz=208						
ENA	**Nanau**	**0.20**	**12**	*i* P	Pb	16 22 16.5	-0.6
	baz=14						
ENA				S	Sg	16 22 19.7	+1.3
	baz=14						
NNS	**Nan Shan**	**0.36**	**305**	P	Pb	16 22 19.7	-0.2
	baz=305						
NNS				*e*S	Sb	16 22 25.0	-0.7
	baz=305						
WHF	**Hehuan Shan**	**0.40**	**258**	*e*P	Pb	16 22 20.3	-0.5
	baz=256						
WHF				*e*S	Sb	16 22 26.3	-0.9
	baz=256						
ENTT	**Nioudou**	**0.42**	**344**	*e*P	Pb	16 22 20.9	0.0
	baz=344						

TAP 01 16:22:17.9, 24°.23N×121°.70E, h13km**, ML1.6, D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.11**	**240**	*e*P	Pb	16 22 21.8	-0.1
	baz=239						
NACB				*e*S	Sb	16 22 24.1	-0.6
	baz=239						
TWD	**Chiawan**	**0.18**	**213**	P	Pb	16 22 22.7	-0.3
	baz=210						
TWD				S	Sb	16 22 25.9	-0.7
	baz=210						
ENA	**Nanau**	**0.20**	**10**	*e*P	Pb	16 22 23.3	-0.2
	baz=12						
ENA				*e*S	Sb	16 22 26.6	-0.5
	baz=12						
ENAH	**Nanao**	**0.24**	**24**	*e*S	Sb	16 22 27.7	-0.6
	baz=24						
NNSH	**Datong**	**0.35**	**304**	*e*P	Pb	16 22 25.9	-0.2
	baz=304						
NNSH				*e*S	Sb	16 22 31.5	-0.1
	baz=304						
NNS	**Nan Shan**	**0.36**	**305**	*e*S	Sb	16 22 31.7	-0.3
	baz=305						
WHF	**Hehuan Shan**	**0.41**	**258**	*e*S	Sb	16 22 32.9	-0.6
	baz=257						
ENTT	**Nioudou**	**0.43**	**343**	*e*P	Pb	16 22 27.1	-0.3
	baz=343						
ENTT				S	Sb	16 22 33.6	-0.1
	baz=343						
ENTT	**Nioudou**	**0.43**	**343**	*e*S	Pb	16 22 27.0	-0.3
	baz=344						

NIED ***01*** *16:32:00, 29°.00N×142°.50E, h5km, Mw4.4 Best double couple: M0 4.95000×10^15 NP1:φs174.00000°, δ19.00000°, λ89.00000°. NP2:φs355.00000°, δ71.00000°, λ90.00000°.*

IDC ***01*** *16:32:28.8±0.5, 28°.89N×142°.22E, h0km, mb4.1/27, mb1 4.3/29, mb1mx4.1/72, mbtmp4.1/29, ML3.9/2, MS3.4/7, Ms1 3.5/7, ms1mx3.1/56, Error ellipse: s-maj=16.4km s-min=10.8km az=86.0*

ISCJB ***01*** *16:32:31.2±0.2, 28°.99N±0°.02×142°.27E±0°.05, h27km, mb4.5/68, MS3.8/7, Error ellipse: s-maj=5.8km s-min=2.7km az=171.2*

MOS ***01*** *16:32:32.1±1.2, 28°.93N×142°.24E, h33km, mb4.5/20, Error ellipse: s-maj=12.0km s-min=6.0km az=112.6*

NEIC ***01*** *16:32:33.8±1.9, 28°.90N×142°.27E, h33km±13km, mb4.8/35, Error ellipse: s-maj=6.2km s-min=4.3km az=93.0*

BJI ***01*** *16:32:35.5, 29°.03N×141°.95E, h42km, mb4.4/24, mB4.8/18, Ms4.3/14, Ms7 4.2/14*

ISC 01 16:32:33.0±0.4**, 28°.99N**±0°.04×**142°.38E**±0°.06**, h27**km**, n184, σ1s84**/213**, mb4.5**/68**, MS3.9**/7**, 8C-4D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.89**	**185**	P	**Pn**	**16 33 01.2**	**-2.4**
CBIJ				*e*S	**Sn**	**16 33 26.2**	**-0.4**
CBIJ	**Chichi jima**	**1.89**	**185**	Pn	**Pn**	**16 33 01.4**	**-2.2**
CBIJ				Sn	**Sn**	**16 33 25.6**	**-1.0**
JCJ	**Chichijima**	**1.89**	**185**	Pn	**Pn**	**16 33 01.4**	**-2.2**
	baz=345,slow=20						
JCJ				Sn	**Sn**	**16 33 25.6**	**-1.0**
	140nm,0.3s,baz=108,slow=20,SNR=9.6						
JHHJ	**Haha-jima-NKT**	**2.36**	**184**	P	**Pn**	**16 33 08.9**	**-1.1**
JHHJ				*e*S	**Sn**	**16 33 39.1**	**+1.1**
JHJ	**Hachijo jima 2**	**4.68**	**332**	Pn	**Pn**	**16 33 42.1**	**+0.2**
	7.9nm,0.3s,baz=72,slow=20,SNR=2.0						
JHJ				Sn	**Sn**	**16 34 32.2**	**-3.1**
	18nm,0.3s,baz=180,slow=20,SNR=2.7						
JHJ				LR	LR	16 35 34.2	
	comp=Z,527nm,18.8s,baz=166,slow=40						
BSO1	**Boso 1**	**5.77**	**348**	P	**Pn**	**16 33 56.1**	**-0.3**
BSO1				*e*S	**Sn**	**16 34 59.6**	**-1.9**
BSO2	**Boso 2**	**5.91**	**347**	*e*S	**Sn**	**16 35 06.1**	**+0.9**
BSO3	**Boso 3**	**6.01**	**345**	P	**Pn**	**16 34 01.1**	**+1.2**
BSO4	**Boso 4**	**6.23**	**344**	*e*S	**Sn**	**16 35 14.4**	**+1.1**
JOD2	**Odawara 2**	**6.85**	**337**	P	**Pn**	**16 34 12.8**	**+1.1**
JHU	**Hanno**	**7.33**	**340**	P	**Pn**	**16 34 19.1**	**+0.8**
JYT	**Yasato**	**7.45**	**346**	P	**Pn**	**16 34 20.7**	**+0.8**
JRY	**Ryogami san**	**7.60**	**338**	P	**Pn**	**16 34 23.1**	**+1.1**
JRY				*e*S	**Sn**	**16 35 46.5**	**-0.7**
JHO	**Hitachi**	**7.75**	**349**	P	**Pn**	**16 34 23.1**	**-1.0**
JHO				*e*S	**Sn**	**16 35 45.5**	**-5.5**
JAG	**Ashikaga**	**7.81**	**342**	P	**Pn**	**16 34 24.5**	**-0.4**
JAG				S	**Sn**	**16 35 49.5**	**-3.0**
MJA0	**Matsu Arr-Jizo**	**8.30**	**336**	*e*P	**Pn**	**16 34 32.5**	**+0.9**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**8.31**	**336**	Pn	**Pn**	**16 34 32.1**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=156,slow=12,SNR=30						
MJAR				Sn	**Sn**	**16 36 04.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=140,slow=4.0,SNR=2.5						
MJAR				LR	LR	16 37 36.3	
	comp=Z,205nm,18.9s,baz=170,slow=37						
MAJO	**Matsushiro**	**8.31**	**336**	*e*Pn	**Pn**	**16 34 32.2**	**+0.4**
MAJO				*e*Sn	**Sn**	**16 35 58.7**	**-6.1**
MAJO				*e*Sg	**Sn**	**16 36 04.6**	**-0.2**
MAJO	**Matsushiro**	**8.31**	**336**	⇓*i*P	**Pn**	**16 34 32.9**	**+1.1**
MAT	**Matsushiro**	**8.31**	**336**	P	**Pn**	**16 34 33.0**	**+1.2**
MAT				S	**Sn**	**16 36 05.1**	**+0.3**
MJB9	**Matsu-Tunnel**	**8.31**	**336**	*e*Pn	**Pn**	**16 34 32.3**	**+0.5**
MJB9				*e*Sn	**Sn**	**16 35 58.3**	**-6.6**
JNU	**Nakatsue**	**10.69**	**296**	LR	LR	16 39 04.2	
	comp=Z,349nm,18.4s,baz=124,slow=37						
KSRS	**Korea Array**	**14.74**	**309**	Pn	**Pn**	**16 36 01.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=117,slow=12,SNR=6.6						
KSRS				LR	LR	16 41 42.1	
	comp=Z,192nm,18.7s,baz=128,slow=38						
KS15	**Wonju Array Si**	**14.76**	**309**	*e*Pn	**Pn**	**16 36 01.5**	**+1.5**
KSAR	**Wonju Array Be**	**14.76**	**309**	Pn	**Pn**	**16 36 01.5**	**+1.5**
KSAR	**Wonju Array Be**	**14.76**	**309**	P	**Pn**	**16 36 01.5**	**+1.5**
ASAJ	**Asahikawa**	**15.10**	**1**	Pn	**Pn**	**16 36 01.8**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=182,slow=29,SNR=7.8						
ASAJ	**Asahikawa**	**15.10**	**1**	*e*Pn	**Pn**	**16 36 01.5**	**-3.0**
	comp=Z,43nm,1.9s						
SHO	**Shikotan**	**15.27**	**12**	*e*P	**Pn**	**16 36 01.7**	**-5.0**
SHO				pmax	pmax		
	comp=Z,50nm,1.0s						
KUR	**Kuril'sk**	**16.79**	**14**	*e*P	**Pn**	**16 36 24.6**	**-1.5**
KUR				*e*S	**Sn**	**16 39 22.6**	**-9.1**
KUR				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**17.94**	**1**	P	P	16 36 48.2	+7.4
MDJ	**Mudanjiang**	**18.62**	**330**	P	**P**	**16 36 48.5**	**+0.1**
MDJ				pP	pP	16 36 56.8	+1.1
MDJ				sP	sP	16 37 02.3	+3.1
MDJ				S	**Sn**	**16 40 16.8**	**+0.6**
MDJ				sS	sS	16 40 29.6	-1.2
MDJ				pmax	pmax		
	comp=Z,16nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,120nm,5.2s						
MDJ				LR	LR		
	comp=Z,780nm,17.5s						
MDJ				LR	LR		
	comp=Z,880nm,15.5s						
MDJ				LR	LR		
	comp=Z,1µm,15.1s						
MDJ	**Mudanjiang**	**18.62**	**330**	*e*P	**Pn**	**16 36 50.5**	**+1.7**
	comp=Z,9.9nm,0.8s						
NJ2	**Nanjing**	**20.49**	**284**	*e*P	**P**	**16 37 06.1**	**-2.8**
NJ2				pmax	pmax		

comp=Z,16nm,0.5s
KLR Kul'dur 21.79 341 P P 16 37 22.6 -0.1
comp=Z,0.3nm,0.6s,baz=154,slow=8.5,SNR=16
KLR Kul'dur 21.79 341 ⇑*i*P P 16 37 26.1 +3.4
H11N2 WAKE ISLAND Hy 24.12 107 T T 17 03 27.2
baz=296,slow=74,SNR=32
H11N1 WAKE ISLAND Hy 24.12 107 T T 17 03 29.5
baz=296,slow=74,SNR=31
H11N3 WAKE ISLAND Hy 24.14 107 T T 17 03 25.1
baz=296,slow=74,SNR=52
NKL Nikolayevsk 24.17 357 *e*P P 16 37 51.0 +4.1
H11S3 WAKE ISLAND Hy 24.53 110 T T 17 04 00.5
baz=304
H11S1 WAKE ISLAND Hy 24.54 110 T T 17 03 52.0
baz=304
H11S2 WAKE ISLAND Hy 24.55 110 T T 17 03 47.6
baz=304
HIA Hailar 26.62 326 ⇑*i*P P 16 38 09.9 +0.7
HIA pmax pmax
comp=Z,6.0nm,1.2s
DAV Davao City (W) 26.96 219 LR LR 16 47 04.0
comp=Z,80nm,21.9s,baz=335,slow=33
ZEA Zeya 27.09 340 *e*P P 16 38 14.8 +1.4
ZEA pmax pmax
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 27.76 303 *e*P P 16 38 20.9 +1.3
HHC PP PnPn 16 39 10.1 +4.1
HHC S S 16 42 57.6 -3.1
HHC SS SnSn 16 44 18.3 +4.2
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,94nm,6.0s
HHC LR LR
comp=Z,170nm,17.4s
HHC LR LR
comp=Z,250nm,18.7s
HHC LR LR
comp=Z,270nm,18.7s
MA2 Magadan 31.11 8 P P 16 38 48.6 -0.4
comp=Z,2.1nm,0.5s,baz=187,slow=8.7,SNR=9.7
MA2 Magadan 31.11 8⇑*i*P P 16 38 50.6 +1.6
MA2 *i* *PP sP 16 39 01.4 +1.1
SIJI Sorong 31.54 202 P P 16 38 51.5 -1.7
comp=Z,6.7nm,0.6s,baz=9.7,slow=14,SNR=5.1
ULN Ulaanbaatar 33.10 315⇑*i*P P 16 39 07.1 +0.4
ULN pmax pmax
comp=Z,1.0nm,0.9s
FAKI Fak Fak 33.18 199 *e*P P 16 39 05.9 -1.7
comp=Z,12nm,1.0s
CD2 Chengdu 33.41 283 P P 16 39 08.2 -1.4
CD2 pP sP 16 39 19.3 -1.6
CD2 sP pP 16 39 24.4 +6.8
CD2 S S 16 44 26.2 -3.1
CD2 sS sS 16 44 45.3 +2.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,420nm,17.2s
CD2 LR LR
comp=Z,440nm,15.2s
CD2 LR LR
comp=Z,490nm,17.2s
SONA1 Songino Array 33.50 314 *e*P P 16 39 10.6 +0.4
SONA0 Songino Array 33.50 314 *e*P P 16 39 09.6 -0.6
SONM Songino Array 33.50 314 P P 16 39 09.6 -0.6
comp=Z,0.6nm,0.5s,baz=108,slow=8.2,SNR=3.2
YAK Yakutsk 34.09 349 P P 16 39 16.4 +1.4
comp=Z,5.6nm,0.5s,baz=202,slow=0.5,SNR=3.2
YAK Yakutsk 34.09 349 *e*P P 16 39 15.6 +0.6
comp=Z,8.1nm,0.6s
YAK Yakutsk 34.09 349⇓*i*P P 16 39 16.9 +1.9
YAK pmax pmax
comp=Z,4.0nm,0.8s
SEY Seymchan 34.57 8⇑*i*P P 16 39 20.8 +1.7
KMI Kunming 35.40 273 P P 16 39 28.3 +1.3
KMI pmax pmax
comp=Z,7.0nm,0.5s
CHTO Chiang Mai 40.79 266 *e*P P 16 40 11.3 -1.0
comp=Z,4.9nm,1.1s
CHTO Chiang Mai 40.79 266 *e*P P 16 40 11.3 -1.0
CHTO pmax pmax
comp=Z,5.0nm,1.1s
CM01 Chiang Mai Arr 40.93 265 *e*P P 16 40 13.8 +0.4
CM31 Chiang Mai Arr 40.93 265 *e*P P 16 40 11.2 -2.2
CMAR Chiang Mai Arr 40.93 265 P P 16 40 10.3 -3.1
comp=Z,1.0nm,0.9s,baz=51,slow=10,SNR=7.5
CMAR LR LR 16 57 18.0
comp=Z,78nm,19.4s,baz=47,slow=36
CMAR Chiang Mai Arr 40.93 265 *e*P P 16 40 14.1 +0.7
CMAR pmax pmax
comp=Z,1.0nm,0.9s
SOEI Soe 42.30 207 *e*P P 16 40 25.0 +0.3
comp=Z,21nm,1.0s
COEN Coen 42.70 179 *e*P P 16 40 28.1 +0.3
comp=Z,17nm,1.6s
MTN Manton Dam 42.98 196 *e*P P 16 40 27.6 -2.4
comp=Z,12nm,0.8s
TIXI Tiksi 43.35 354 P P 16 40 32.6 +0.1
comp=Z,0.9nm,0.5s,baz=174,slow=7.8,SNR=5.3
TIXI Tiksi 43.35 354 *e*P P 16 40 32.3 -0.2
comp=Z,6.3nm,1.4s
TIXI Tiksi 43.35 354⇓*i*P P 16 40 33.2 +0.7
TIXI *i* *PP sP 16 40 44.9 +1.0
TIXI pmax pmax
comp=Z,11nm,3.7s
WMQ Urumqi 45.63 304 *e*P P 16 40 53.0 +1.8
WMQ LR LR
comp=Z,120nm,19.5s
WMQ LR LR
comp=Z,200nm,19.5s
WMQ LR LR
comp=Z,130nm,20.7s
ZAA0 Zalesovo Array 48.19 318 *e*P P 16 41 11.1 +0.2
comp=Z,12nm,1.8s
ZAA1 Zalesovo Array 48.19 318 *e*P P 16 41 09.9 -1.0
ZAA1 *e*PcP PcP 16 42 37.9 0.0
ZALV Zalesovo Beam 48.19 318 P P 16 41 09.9 -1.0
comp=Z,1.8nm,0.4s,baz=94,slow=7.9,SNR=13
ZALV PcP PcP 16 42 37.9 0.0
comp=Z,1.2nm,0.7s,baz=95,slow=3.9,SNR=3.6
ZALV Zalesovo Beam 48.19 318 *e*P P 16 41 10.3 -0.6
ZALV PcP PcP 16 42 37.9 0.0
ZALV Zalesovo Beam 48.19 318 *e*P P 16 41 10.3 -0.6
ZALV 16 42 37.9
NVS Novosibirsk 49.22 319 *e*P P 16 41 19.1 +0.3
WRAB Tennant Creek 49.25 190 *e*P P 16 41 19.1 -0.3
comp=Z,12nm,1.1s
WRAB Tennant Creek 49.25 190⇑*i*P P 16 41 20.0 +0.6
WRAB pmax pmax
comp=Z,8.0nm,1.0s
WB2 Warramunga Arr 49.26 190 *e*P P 16 41 17.9 -1.6
WR1 Warramunga Arr 49.26 190 *e*P P 16 41 18.0 -1.5
comp=Z,9.9nm,0.9s
WRA Warramunga Arr 49.26 190 P P 16 41 18.0 -1.5
comp=Z,3.0nm,0.7s,baz=17,slow=8.9,SNR=54
MK01 Makanchi Array 49.42 308 *e*P P 16 41 20.3 -0.2
MK31 Makanchi Array 49.42 308 *e*P P 16 41 20.2 -0.4
MK31 Makanchi Array 49.42 308 *e*P P 16 41 20.2 -0.4
MK32 Makanchi Array 49.42 308 *e*P P 16 41 20.2 -0.4
MK32 *e*PcP PcP 16 42 42.8 +0.2
MK32 *e*ScP ScP 16 46 39.4 +3.2
MKAR Makanchi Array 49.42 308 P P 16 41 20.2 -0.4
comp=Z,0.5nm,0.5s,baz=86,slow=8.9,SNR=13
MKAR PcP PcP 16 42 42.8 +0.2
comp=Z,0.6nm,0.7s,baz=97,slow=4.6,SNR=2.8
MKAR ScP ScP 16 46 39.4 +3.2
comp=Z,0.3nm,0.7s,baz=72,slow=4.7,SNR=3.1
MKAR Makanchi Array 49.42 308 *e*P P 16 41 20.4 -0.2
comp=Z,6.6nm,0.8s
MKAR PcP PcP 16 42 42.8 +0.2
MKAR ScP ScP 16 46 39.4 +3.2
MKAR Makanchi Array 49.42 308 *e*P P 16 41 20.4 -0.2
MKAR 16 42 42.8
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MAKZ Makanchi 49.64 308 *e*P P 16 41 22.1 -0.1
comp=Z,7.3nm,1.6s
MAKZ Makanchi 49.64 308 *e*P P 16 41 22.1 -0.1
MAKZ pmax pmax
comp=Z,7.0nm,1.6s
GSI Gunungsitoli 50.78 245 *e*P P 16 41 30.4 -0.8
comp=Z,47nm,1.7s
SVW2 Sparrevohn 51.61 33 *e*P P 16 41 36.5 -0.3
comp=Z,21nm,1.5s
KURK Kurchatov 51.80 313 *e*P P 16 41 38.1 -0.3
comp=Z,7.9nm,0.8s
KURK Kurchatov 51.80 313 *de*P P 16 41 38.3 -0.1
KURK *i* *PP sP 16 41 49.2 -0.7
KURK pmax pmax
comp=Z,4.0nm,1.1s
KURBB Kurchatov Arra 51.86 313 P P 16 41 39.0 +0.2
comp=Z,2.0nm,0.5s,baz=91,slow=8.2,SNR=25
OHAK Old Harbor 52.34 38 *e*P P 16 41 42.7 +0.4
comp=Z,259nm,1.9s
KDAK Kodiak Island 52.76 38 P P 16 41 45.7 +0.3
comp=Z,7.0nm,0.6s,baz=330,slow=1.5,SNR=12
KDAK Kodiak Island 52.76 38 *e*P P 16 41 46.6 +1.3
comp=Z,146nm,1.8s
KDAK Kodiak Island 52.76 38 *e*P P 16 41 46.6 +1.3
KDAK pmax pmax
comp=Z,146nm,1.8s
AS01 Alice Springs 52.98 190 *e*P P 16 41 46.7 -0.7
AS31 Alice Springs 52.98 190 *e*P P 16 41 47.2 -0.3
comp=Z,1.3nm,1.0s
ASAR Alice Springs 52.98 190 P P 16 41 46.5 -0.9
comp=Z,0.4nm,0.5s,baz=8.0,slow=6.3,SNR=16
SPU Mount Spurr 53.32 33 *e*P P 16 41 48.5 -1.1
MBWA Marble Bar 54.43 206 *e*P P 16 41 57.1 -0.9
comp=Z,57nm,1.4s
EIDS Eidsvold 54.69 170 *e*P P 16 41 59.2 -0.6
comp=Z,25nm,1.8s
KSH Kashi 54.77 300 *e*P P 16 42 04.0 +3.4
KSH pP sP 16 42 17.1 +4.9
KSH PP PP 16 44 09.1 +5.8
KSH S S 16 49 40.1 +0.3
KSH sS sS 16 50 02.0 +8.4
KSH SS SS 16 53 23.9 +1.0
KSH pmax pmax
comp=Z,11nm,1.6s
KSH pmax pmax
comp=Z,140nm,6.9s
KSH LR LR
comp=Z,120nm,5.8s
KSH LR LR
comp=Z,150nm,6.2s
KSH LR LR
comp=Z,120nm,10.5s
COLD Coldfoot 54.90 26 *e*P P 16 42 02.4 +1.5
comp=Z,2.7nm,0.8s
IL1 Eielson Array 55.98 29 *e*P P 16 42 08.5 -0.2
ILAR Eielson Array 55.98 29 P P 16 42 08.9 +0.3
comp=Z,2.0nm,0.7s,baz=259,slow=5.9,SNR=33
ILAR Eielson Array 55.98 29 *e*P P 16 42 09.5 +0.8
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILB Eielson Array 55.98 29 *e*P P 16 42 09.0 +0.3
MID Middleton Isla 56.07 36 *e*P P 16 42 09.6 +0.2
comp=Z,550nm,1.3s
MID Middleton Isla 56.07 36 *e*P P 16 42 09.6 +0.2
FYU Fort Yukon 56.77 27 *e*P P 16 42 17.1 +2.7
comp=Z,56nm,1.8s
BVAR Borovoye Array 56.78 317 P P 16 42 15.1 +0.5
comp=Z,3.8nm,0.8s,baz=90,slow=6.0,SNR=28
BRVK Borovoye 56.84 317 *e*P P 16 42 15.5 +0.5
comp=Z,12nm,0.9s
BRVK Borovoye 56.84 317⇑*i*P P 16 42 15.7 +0.7
BRVK pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 58.13 305 *e*P P 16 42 24.4 +0.1
KKAR Karatay Array 58.13 305 *e*P P 16 42 24.4 +0.1
EGAK Eagle 58.43 29 *e*P P 16 42 27.3 +1.3
comp=Z,30nm,1.9s
DAWY Dawson 59.23 30 *e*P P 16 42 31.9 +0.2
comp=Z,17nm,1.8s
HYT Haines Junctio 60.40 34 *e*P P 16 42 41.4 +1.6
comp=Z,11nm,1.3s
STKA Stephens Creek 60.53 181 P P 16 42 39.5 -1.3
comp=Z,3.5nm,0.8s,baz=342,slow=8.2,SNR=3.8
STKA Stephens Creek 60.53 181 *e*P P 16 42 39.7 -1.2
comp=Z,4.6nm,1.5s
STKA Stephens Creek 60.53 181 *e*P P 16 42 41.0 +0.1
STKA pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 61.24 25 *e*P P 16 42 46.6 +1.3
comp=Z,3.8nm,0.9s
INK Inuvik 61.24 25 *e*P P 16 42 46.6 +1.3
INK pmax pmax
comp=Z,4.0nm,0.9s
WHY Whitehorse 61.70 34 *e*P P 16 42 50.8 +2.1
comp=Z,32nm,2.0s
ARU Arti 63.04 322 *e*P P 16 42 57.0 -0.5
comp=Z,8.9nm,0.7s
ARU Arti 63.04 322 *c i*P P 16 42 57.8 +0.2
ARU *PP sP 16 43 07.8 -1.4
ARU 16 43 35.0
ARU 16 45 15.3
ARU S S 16 51 27.9 +1.6
ARU SS SS 16 55 30.0 -1.6
ARU pmax pmax
comp=Z,10.0nm,1.7s
ABKAR Akbulak array 63.91 314 *e*P P 16 43 03.5 +0.1
comp=Z,40nm,0.6s
AKTO Aktyubinsk 64.81 315 P P 16 43 10.4 +1.1
comp=Z,2.8nm,0.7s,baz=90,slow=11,SNR=8.8
GEYT Alibeck 68.63 302 P P 16 43 33.7 -0.2
comp=Z,8.8nm,0.6s,baz=92,slow=7.6,SNR=3.1
RES Resolute Bay 70.19 14 *e*P P 16 43 44.3 +1.4
comp=Z,5.4nm,0.4s
RES Resolute Bay 70.19 14 *e*P P 16 43 44.3 +1.4
RES pmax pmax
comp=Z,5.0nm,0.4s
YKA Yellowknife Ar 70.40 29 P P 16 43 45.4 +1.1
comp=Z,0.6nm,0.5s,baz=294,slow=6.3,SNR=8.2
YKA LR LR 17 12 23.6
comp=Z,14nm,22.0s,baz=0.0,slow=34
YKB5 Yellowknife Ar 70.40 29 *e*P P 16 43 44.6 +0.3
ARCES ARCESS Array B 71.82 341 *e*P P 16 43 48.5 -4.4
ARCES ARCESS Array B 71.82 341 *e*P P 16 43 48.5 -4.4
LKRN Lenkeran, Azer 75.09 306 P P 16 44 10.3 -2.4
SEKA Sheki 75.12 309 P P 16 44 10.0 -2.9
ZKTA Zakatala 75.33 310 P P 16 44 11.6 -2.4
MNGR Mingechevir, A 75.39 309 P P 16 44 12.0 -2.3
THZ Tophouse 75.84 157 *e*P P 16 44 18.6 +1.9
comp=Z,162nm,1.9s
GANJ Ganja 75.97 309 P P 16 44 15.2 -2.5
MCCM Marconi Confer 76.14 54 *e*P P 16 44 18.8 +0.1
comp=Z,342nm,1.7s
FIA1 FINESS Array S 76.33 334 *e*P P 16 44 18.8 -0.5
FIA0 FINESS Array S 76.33 334 *e*P P 16 44 18.9 -0.4
FIA0 FINESS Array S 76.33 334 *e*P P 16 44 18.9 -0.4
FINES FINESS Array B 76.33 334 P P 16 44 18.9 -0.4
comp=Z,0.5nm,0.5s,baz=50,slow=6.0,SNR=5.3
FINES FINESS Array B 76.33 334 *e*P P 16 44 19.7 +0.4
FINES pmax pmax
comp=Z,1.0nm,0.5s
KBZ Khabaz 76.85 313 P P 16 44 22.0 -0.5
comp=Z,1.9nm,0.8s,baz=36,slow=5.1,SNR=4.4
NAX Nakhchivan 77.19 308 P P 16 44 22.3 -2.4
RYN Ryan 78.97 52 *e*P P 16 44 35.8 +1.0
comp=Z,18nm,1.9s
KVN Kaiserville 79.06 51 P P 16 44 36.7 +1.4
KVN pmax pmax
comp=Z,4.0nm,0.9s
NV01 Mina Array Sit 79.22 52 *e*P P 16 44 34.7 -1.5
NVAR Mina Array Bea 79.22 52 P P 16 44 37.6 +1.4
comp=Z,1.5nm,0.7s,baz=281,slow=4.7,SNR=6.4
LRM Limekiln Ridge 79.38 43 *e*P P 16 44 37.3 +0.4
AKASG Malin Array Be 81.20 324 P P 16 44 46.1 -0.1
comp=Z,0.6nm,0.5s,baz=51,slow=5.1,SNR=3.3
HFS Hagfors 81.76 337 P P 16 44 48.5 -0.5
comp=Z,4.1nm,1.1s,baz=100,slow=1.7,SNR=4.4
NB200 NORSAR Array S 81.92 338 *e*P P 16 44 49.5 -0.5
NOA NORSAR Array B 81.92 338 P P 16 44 49.5 -0.5
comp=Z,0.9nm,0.9s,baz=54,slow=4.5,SNR=2.6
PD31 Pinedale Array 82.75 45 *e*P P 16 44 55.0 +0.1
PDAR Pinedale Array 82.75 45 P P 16 44 56.0 +1.1
comp=Z,0.8nm,0.7s,baz=254,slow=1.1,SNR=4.6
RAYN Ar Rayn 84.55 294 *e*P P 16 45 04.8 +0.6
comp=Z,5.4nm,0.7s
BR101 Keskin Array S 84.85 313 *e*P P 16 45 05.7 +0.1
BRTR Keskin Array B 84.85 313 P P 16 45 05.7 +0.1
comp=Z,1.6nm,0.7s,baz=90,slow=3.7,SNR=6.5
BRTR Keskin Array B 84.85 313 *e*P P 16 45 06.5 +0.9
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BR231 Keskin MP Arra 85.33 313 *e*P P 16 45 06.2 -1.8
AMTX Amarillo 92.32 48 *e*P P 16 45 38.2 -3.1
comp=Z,27nm,0.6s
LTX Lajitas 94.33 53 *e*P P 16 45 52.5 +1.8
LTX Lajitas Array 94.33 53 P P 16 45 52.5 +1.8
comp=Z,0.7nm,0.7s,baz=311,slow=2.9,SNR=8.5
TXAR Lajitas Array 94.33 53 *e*P P 16 45 52.9 +2.3
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TOA1 Torodi Ar. Sit 123.45 312 *e*PKPdf PKPdf 16 51 28.3 -0.2
TORD Torodi Ar. Bea 123.46 312 PKP PKPdf 16 51 28.3 -0.2
comp=Z,0.7nm,0.6s,baz=70,slow=0.9,SNR=5.7
KOWA Kowa 125.93 319 PKP PKPdf 16 51 33.6 +0.3
comp=Z,0.6nm,0.4s,baz=344,slow=5.6,SNR=4.3
LPAZ La Paz 149.23 72 *e*PKPbc PKPbc 16 52 21.4 +0.9
comp=Z,4.2nm,0.8s,baz=295,slow=1.6,SNR=14
LPAZ La Paz 149.23 72 *e*PKPbc PKPbc 16 52 22.0 +1.4
PB11 IPOC Station P 149.49 80 *e*PKPbc PKPbc 16 52 21.7 +1.1

*IDC **01** 16:40:10.4±0.5,49.˚15N×156.˚12E,h0km,mb4.7/42, mb1 4.9/46,mb1mx4.7/77,mbtmp4.8/46,ML4.1/3,MS4.1/31, Ms1 4.1/31,ms1mx3.9/58,Error ellipse: s-maj=12.0km s-min=10.1km az=137.0*

*BJI **01** 16:40:10.9,49.˚22N×156.˚19E,h21km,mb4.9/66,mB5.0/40, Ms4.7/55,Ms7 4.5/56*

*KRSC **01** 16:40:11.9±2.3,48.˚88N×156.˚69E,h83km±33km,ML5.4*

*ISCJB **01** 16:40:11.9±0.7,49.˚01N±0.˚02×156.˚21E±0.˚03,h21km±4km, mb4.9/300,MS4.4/53,Error ellipse: s-maj=3.7km s-min=2.1km az=144.3*

*SKHL **01** 16:40:13.9±1.4,48.˚85N×156.˚47E,h46km±6km,mb5.4/3, Ms4.8/6,msh5.5/2*

*NEIC **01** 16:40:15.8±0.5,49.˚08N×156.˚08E,h37km±4km,mb4.9/180, Error ellipse: s-maj=4.2km s-min=2.3km az=158.0*

*GCMT **01** 16:40:15.9±0.4,49.˚04N×156.˚36E,h28km,MW4.9/69, Moment Tensor Solution. s31,c40; s69,c94; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.83±.18; Mθθ-1.28±.11; Mφφ-1.55±.11; Mrθ0.48±.19; Mrφ-0.94±.05; Mθφ0.97±.17; Best double couple: Mo2.81400×10^16^ NP1:φs36.00000°,δ56.00000°,λ85.00000°. NP2: φs225.00000°,δ34.00000°,λ97.00000°. Principal axes: T 3.0550, Plg78.0000°, Azm289.0000°; N -0.4830, Plg4.0000°, Azm39.0000°; P -2.5730, Plg11.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **01** 16:40:17.9±0.9,49.˚32N×156.˚13E,h69km,mb5.2/111, MS4.5/34 Error ellipse: s-maj=6.9km s-min=3.3km az=79.6*

ISC 01 16:40:15.1±0.6,49°03'N±0°04×156°22'E±0°04,h33km±2km, n775,σ1°34/831,mb5.0/315,MS4.4/54,56C-22D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.66**	**358**	*e*P	**Pb**	**16 40 43.0**	**-2.0**
SKR				AMB	AMB	16 40 43.8	
	2μm,0.7s						
SKR				*e*S	**Sb**	**16 41 05.0**	**-0.6**
SKR				A	A	16 41 13.4	
	22μm,0.7s						
SKR				A	A	16 41 13.4	
	20μm,0.7s						
SKR				AMS	AMS	16 41 32.0	
	17μm,16.0s						
SKR	**Severo-Kuril's**	**1.66**	**358**	*e*PN	**Pn**	**16 40 42.5**	**+0.7**
SKR				pmax	pmax		
	comp=Z,2μm,0.7s						
SKR	**Severo-Kuril's**	**1.66**	**358**	*e*P	**Pn**	**16 40 42.1**	**+0.3**
SKR				*e*S	**Sb**	**16 41 04.9**	**-0.6**
PAU	**Pauzhetka**	**2.47**	**9**	*e*P	**Pn**	**16 40 54.1**	**+1.1**
PAU				AMB	AMB	16 40 56.5	
	comp=Z,280nm,0.2s						
PAU				*e*S	**Sn**	**16 41 23.8**	**+1.8**
PAU				A	A	16 41 39.0	
	comp=Z,12μm,0.7s						
PAU				AMS	AMS	16 43 36.8	
	comp=Z,15μm,16.0s						
PAU				AMS	AMS	16 43 36.8	
	comp=Z,21μm,16.0s						
PAU				AMS	AMS	16 43 36.8	
	comp=Z,13μm,16.0s						
PAU	**Pauzhetka**	**2.47**	**9**	PN	**Pn**	**16 40 53.7**	**+0.7**
PAU	**Pauzhetka**	**2.47**	**9**	*e*P	**Pn**	**16 40 53.7**	**+0.7**
PAU				*e*S	**Sn**	**16 41 23.9**	**+1.9**
KDTR	**Khodutka, Kamc**	**3.03**	**22**	*e*P	**Pn**	**16 40 59.7**	**-0.9**
KDTR				*e*S	**Sn**	**16 41 34.5**	**-1.2**
ASAK	**Asacha**	**3.53**	**17**	PN	**Pn**	**16 41 08.9**	**+1.3**
ASAK	**Asacha**	**3.53**	**17**	*i* P	**Pn**	**16 41 08.9**	**+1.3**
MTVR	**Mutnovka**	**3.68**	**19**	PN	**Pn**	**16 41 09.6**	**-0.1**
MTVR				S	**Sn**	**16 41 52.0**	**0.0**
MTVR	**Mutnovka**	**3.68**	**19**	*e*P	**Pn**	**16 41 09.6**	**-0.1**
MTVR				*e*S	**Sn**	**16 41 52.0**	**0.0**
RUS	**Russkaya**	**3.71**	**22**	PN	**Pn**	**16 41 09.0**	**-1.0**
RUS				S	**Sn**	**16 41 51.9**	**-0.6**
RUS	**Russkaya**	**3.71**	**22**	*i* P	**Pn**	**16 41 09.0**	**-1.0**
RUS				*e*S	**Sn**	**16 41 51.9**	**-0.6**
APC	**Apacha**	**3.95**	**8**	PN	**Pn**	**16 41 14.8**	**+1.5**
APC	**Apacha**	**3.95**	**8**	*e*P	**Pn**	**16 41 14.8**	**+1.5**
APC				*e*S	**Sn**	**16 42 02.1**	**+3.7**
KRMR	**Karymshinskiy**	**4.00**	**17**	PN	**Pn**	**16 41 14.5**	**+0.6**
KRMR				S	**Sn**	**16 42 01.2**	**+1.7**
KRMR	**Karymshinskiy**	**4.00**	**17**	*e*P	**Pn**	**16 41 14.5**	**+0.6**
KRMR				*e*S	**Sn**	**16 42 01.2**	**+1.7**
PEA0B	**Petropavlovsk-**	**4.19**	**12**	*e*Pn	**Pn**	**16 41 17.5**	**+0.8**
PETK	**Petropavlovsk-**	**4.19**	**12**	Pn	**Pn**	**16 41 16.9**	**+0.3**
	comp=Z,7.2nm,0.3s,baz=204,slow=13,SNR=225						
PETK				LR	LR	16 43 06.1	
	comp=Z,2μm,21.6s,baz=189,slow=43						
PETK	**Petropavlovsk-**	**4.19**	**12**	*e*Pn	**Pn**	**16 41 17.3**	**+0.7**
PEA1	**Petropavlovsk-**	**4.20**	**12**	*e*Pn	**Pn**	**16 41 16.9**	**+0.2**
PET	**Petropavlovsk**	**4.29**	**20**	*e*P	**Pn**	**16 41 17.8**	**-0.1**
PET				AMB	AMB	16 41 18.4	
	comp=Z,74nm,0.8s						
PET				*e*S	**Sn**	**16 42 07.0**	**+0.3**
PET				A	A	16 42 19.4	
	comp=Z,2μm,0.6s						
PET	**Petropavlovsk**	**4.29**	**20**	*e*Pn	**Pn**	**16 41 17.7**	**-0.2**
PET				*e*Sn	**Sn**	**16 42 12.4**	**+5.7**
PET	**Petropavlovsk**	**4.29**	**20**	*e*PN	**Pn**	**16 41 17.1**	**-0.8**
PET				*e*S	**Sn**	**16 42 09.1**	**+2.4**
PET				pmax	pmax		
	comp=Z,271nm,0.6s						
PET				pmax	pmax		
	comp=Z,500nm,7.7s						
PET				smax	smax		
	comp=E,2μm,0.6s						
PET				smax	smax		
	comp=N,3μm,0.6s						
PET				MLR	MLR		
	comp=Z,3μm,14.0s						
PET	**Petropavlovsk**	**4.29**	**20**	*i* P	**Pn**	**16 41 18.0**	**+0.1**
PET				*e*S	**Sn**	**16 42 07.7**	**+1.0**
DALK	**Dalny**	**4.32**	**21**	PN	**Pn**	**16 41 18.1**	**-0.2**
DALK				S	**Sn**	**16 42 08.0**	**+0.6**
DALK	**Dalny**	**4.32**	**21**	*e*P	**Pn**	**16 41 18.1**	**-0.2**
DALK				*e*S	**Sn**	**16 42 08.0**	**+0.6**
UGLR	**Uglovaya**	**4.50**	**20**	PN	**Pn**	**16 41 21.6**	**+0.7**
UGLR	**Uglovaya**	**4.50**	**20**	*i* P	**Pn**	**16 41 21.6**	**+0.7**
AVH	**Avacha**	**4.53**	**20**	PN	**Pn**	**16 41 22.7**	**+1.4**
AVH				S	**Sn**	**16 42 14.7**	**+1.8**
AVH	**Avacha**	**4.53**	**20**	*e*P	**Pn**	**16 41 22.7**	**+1.4**
AVH				*e*S	**Sn**	**16 42 14.7**	**+1.8**
KOK	**Koryaka**	**4.53**	**19**	PN	**Pn**	**16 41 22.9**	**+1.5**
KOK	**Koryaka**	**4.53**	**19**	*e*P	**Pn**	**16 41 22.9**	**+1.5**
SMAR	**Somma**	**4.54**	**20**	PN	**Pn**	**16 41 22.3**	**+0.7**
SMAR	**Somma**	**4.54**	**20**	*e*P	**Pn**	**16 41 22.3**	**+0.7**
SDLR	**Sedlovina**	**4.58**	**20**	PN	**Pn**	**16 41 22.0**	**0.0**
SDLR	**Sedlovina**	**4.58**	**20**	*i* P	**Pn**	**16 41 22.0**	**0.0**
NLC	**Nalytchevo**	**4.59**	**24**	PN	**Pn**	**16 41 21.1**	**-1.0**
NLC				S	**Sn**	**16 42 10.8**	**-3.4**
NLC	**Nalytchevo**	**4.59**	**24**	*e*P	**Pn**	**16 41 21.1**	**-1.0**
NLC				*e*S	**Sn**	**16 42 10.8**	**-3.4**
KRX	**Arik**	**4.60**	**18**	PN	**Pn**	**16 41 23.7**	**+1.4**
KRX				S	**Sn**	**16 42 16.4**	**+1.8**
KRX	**Arik**	**4.60**	**18**	*e*P	**Pn**	**16 41 23.7**	**+1.4**
KRX				*e*S	**Sn**	**16 42 16.4**	**+1.8**
SPN	**Mys Shipunski**	**4.73**	**29**	PN	**Pn**	**16 41 23.0**	**-1.0**
SPN				S	**Sn**	**16 42 14.6**	**-3.0**
SPN	**Mys Shipunski**	**4.73**	**29**	*e*P	**Pn**	**16 41 23.0**	**-1.0**
SPN				*e*S	**Sn**	**16 42 14.6**	**-3.0**
GNL	**Ganaly**	**4.80**	**12**	PN	**Pn**	**16 41 26.5**	**+1.5**
GNL	**Ganaly**	**4.80**	**12**	*e*P	**Pn**	**16 41 26.5**	**+1.5**

KII Karymskiy 5.41 21 PN Pn 16 41 34.5 +1.1
KII Karymskiy 5.41 21 eP Pn 16 41 34.5 +1.1
KZV Kizimen 6.59 21 PN Pn 16 41 49.8 +0.1
KZV Kizimen 6.59 21 eP Pn 16 41 49.8 +0.1
TUMD Tumrok D 6.70 21 eP Pn 16 41 51.2 +0.2
TUMR Tumrok 6.71 20 PN Pn 16 41 51.2 -0.1
TUMR Tumrok 6.71 20 eP Pn 16 41 52.3 +1.0
KUR Kuril'sk 6.84 239 i P Pn 16 41 55.0 +2.0
KUR AMB AMB 16 42 01.1
comp=Z,1µm,1.5s
KUR AMB AMB 16 42 16.8
comp=Z,260nm,0.6s
KUR eS Sn 16 43 09.7 0.0
KUR A A 16 43 28.0
comp=Z,3µm,2.0s
KUR A A 16 43 28.0
comp=Z,2µm,2.0s
KUR A A 16 43 47.4
comp=Z,340nm,0.8s
KUR A A 16 43 47.4
comp=Z,98nm,0.8s
KUR AMS AMS 16 44 20.0
comp=Z,4µm,16.0s
KUR AMS AMS 16 44 20.0
comp=Z,4µm,16.0s
KUR AMS AMS 16 44 20.0
comp=Z,2µm,16.0s
KUR Kuril'sk 6.84 239d iPN Pn 16 41 55.4 +2.4
KUR pmax pmax
comp=Z,1µm,1.4s
KUR pmax pmax
comp=N,162nm,0.6s
KUR pmax pmax
comp=Z,260nm,0.6s
KUR pmax pmax
comp=E,99nm,0.8s
KUR MLR MLR
comp=Z,1µm,13.0s
KUR MLR MLR
comp=N,1µm,12.0s
KUR MLR MLR
comp=E,1µm,12.0s
KMNR Kamenistaya 7.17 18 PN Pn 16 42 00.4 +2.8
KMNR Kamenistaya 7.17 18 eP Pn 16 42 00.4 +2.8
KOZ Kozyrevsk 7.39 16 PN Pn 16 42 02.3 +1.8
KOZ Kozyrevsk 7.39 16 eP Pn 16 42 02.3 +1.8
BZMR Bezymyannaya 7.39 19 PN Pn 16 42 01.7 +1.0
BZMR Bezymyannaya 7.39 19 eP Pn 16 42 01.7 +1.0
KRSR Krestovskiy 7.67 18 PN Pn 16 42 04.9 +0.5
KRSR Krestovskiy 7.67 18 eP Pn 16 42 04.9 +0.5
KLY Klyuchi 7.78 19 PN Pn 16 42 07.1 +1.3
KLY Klyuchi 7.78 19 eP Pn 16 42 07.1 +1.3
BDR Baidarnaya 8.13 20 PN Pn 16 42 11.5 +0.7
BDR Baidarnaya 8.13 20 eP Pn 16 42 11.5 +0.7
SRKR Sorokina 8.21 19 PN Pn 16 42 11.9 +0.2
SRKR Sorokina 8.21 19 eP Pn 16 42 11.9 +0.2
SMKR Semkarok 8.21 21 PN Pn 16 42 12.7 +0.9
SMKR Semkarok 8.21 21 eP Pn 16 42 12.7 +0.9
KBTR Krutoberegovo 8.23 27 PN Pn 16 42 10.6 -1.5
KBTR Krutoberegovo 8.23 27 eP Pn 16 42 10.6 -1.5
SHO Shikotan 8.28 235 AMB AMB 16 42 11.8
comp=E,400nm,3.0s
SHO eP Pn 16 42 12.0 -0.7
SHO AMB AMB 16 42 24.4
comp=E,200nm,0.8s
SHO i S Sn 16 43 43.9 -1.2
SHO AMS AMS 16 46 19.3
comp=E,3µm,13.0s
SHO AMS AMS 16 46 19.3
comp=E,3µm,13.0s
SHO Shikotan 8.28 235c iPN Pn 16 42 09.9 -2.8
SHO pmax pmax
comp=Z,200nm,0.8s
SHO pmax pmax
comp=N,28nm,0.4s
SHO pmax pmax
comp=E,67nm,0.4s
BKI Bering 8.61 40 PN Pn 16 42 14.9 -2.3
BKI Bering 8.61 40 eP Pn 16 42 14.9 -2.3
BKI eS Sn 16 43 42.5 -11
YUK Yuzh-Kuril'sk 8.71 239 i P Pn 16 42 19.4 +0.8
YUK AMB AMB 16 42 31.6
comp=E,470nm,0.6s
YUK eS Sn 16 43 55.3 -0.3
YUK AMS AMS 16 45 47.8
comp=E,2µm,14.0s
YUK AMS AMS 16 45 47.8
comp=E,3µm,14.0s
YUK AMS AMS 16 45 47.8
comp=E,2µm,14.0s
YUK Yuzh-Kuril'sk 8.71 239c iPN Pn 16 42 18.7 +0.1
YUK pmax pmax
comp=Z,473nm,0.6s
YUK pmax pmax
comp=N,188nm,0.7s
YUK pmax pmax
comp=E,166nm,0.9s
YUK MLR MLR
comp=Z,2µm,14.0s
LAGR Lagunnoye 8.74 239 eP Pn 16 42 19.9 +0.9
LAGR Lagunnoye 8.74 239⇑iPN Pn 16 42 19.9 +0.9
GRPR Tuman 8.79 239 eP Pn 16 42 20.1 +0.4
GRPR Tuman 8.79 239 ePN Pn 16 42 20.1 +0.4
TYV Tymovskoe 8.94 287 eP Pn 16 42 26.0 +4.2
TYV AMB AMB 16 42 28.1
comp=Z,60nm,1.0s
TYV AMB AMB 16 42 29.1
comp=Z,324nm,3.0s
TYV eS Sn 16 44 01.1 -0.1
TYV A A 16 44 03.5
comp=Z,16nm,0.5s
TYV AMS AMS 16 46 44.7
comp=Z,3µm,15.0s
TYV AMS AMS 16 46 44.7
comp=Z,3µm,15.0s
TYV AMS AMS 16 46 44.7
comp=Z,5µm,15.0s
TYV Tymovskoe 8.94 287 ePN Pn 16 42 27.1 +5.3
TYV eS Sn 16 44 06.5 +5.3
TYV pmax pmax
comp=Z,500nm,2.3s
TYV pmax pmax
comp=Z,61nm,1.4s
TYV smax smax
comp=N,19nm,0.9s
TYV MLR MLR
comp=N,3µm,16.0s
TYV MLR MLR
comp=Z,5µm,16.0s
GLVR Golovnino 9.09 238 eP Pn 16 42 23.7 -0.1
GLVR Golovnino 9.09 238 PN Pn 16 42 23.7 -0.1
YSS Yuzh-Sakhalins 9.27 262 ePn Pn 16 42 29.9 +3.7
YSS Yuzh-Sakhalins 9.27 262⇑ePN Pn 16 42 29.7 +3.5
YSS pmax pmax
comp=Z,50nm,0.6s
YSS pmax pmax
comp=N,30nm,0.7s
YSS pmax pmax
comp=E,40nm,0.7s
YSS MLR MLR
comp=Z,1µm,12.0s
YSS MLR MLR
comp=N,900nm,11.0s
YSS MLR MLR
comp=E,800nm,11.0s
UGL Uglegorsk 9.30 276 i P Pn 16 42 30.5 +3.8
UGL AMB AMB 16 42 33.0
comp=E,220nm,0.7s
UGL eS Sn 16 44 11.2 +1.2
UGL AMS AMS 16 44 30.0
comp=E,4µm,14.0s
UGL AMS AMS 16 44 30.0
comp=E,4µm,14.0s
OKH Okha 9.47 304 i P Pn 16 42 34.2 +5.2
OKH AMB AMB 16 42 34.7
comp=E,300nm,2.0s
OKH eS Sn 16 44 17.5 +3.3
OKH A A 16 44 22.1
comp=E,400nm,3.2s
OKH AMS AMS 16 46 43.7
comp=E,2µm,17.0s
OKH Okha 9.47 304⇑iPN Pn 16 42 34.2 +5.2
OKH eS Sn 16 44 17.5 +3.3
OKH pmax pmax
comp=Z,300nm,2.0s
OKH smax smax
comp=N,400nm,3.2s
ASAJ Asahikawa 10.58 247 Pn Pn 16 42 45.7 +1.4
comp=N,6.3nm,0.3s,baz=76,slow=13,SNR=24
ASAJ Asahikawa 10.58 247 ePn Pn 16 42 46.9 +2.6
NKL Nikolayevsk 10.61 299 ePN Pn 16 42 48.0 +3.5
NKL pmax pmax
comp=E,48nm,1.3s
NKL pmax pmax
comp=Z,130nm,1.3s
NKL pmax pmax
comp=E,400nm,3.0s
NKL pmax pmax
comp=Z,500nm,3.0s
NKL MLR MLR
comp=N,900nm,14.0s
NKL MLR MLR
comp=E,2µm,14.0s
NKL MLR MLR
comp=Z,2µm,14.0s
MA2 Magadan 11.04 345 Pn Pn 16 42 50.9 +0.5
comp=Z,5.6nm,0.3s,baz=154,slow=9.8,SNR=29
MA2 Sn Sn 16 44 53.4 +0.9
comp=Z,0.4nm,0.3s,baz=323,slow=20,SNR=1.8
MA2 LR LR 16 47 45.7
comp=Z,1µm,18.4s,baz=169,slow=42
MA2 Magadan 11.04 345 eP Pn 16 42 51.7 +1.3
MA2 Magadan 11.04 345⇓iPN Pn 16 42 51.7 +1.3
ERM Erimo 11.53 237 ePn Pn 16 42 56.5 -0.7
ERM Erimo 11.53 237d iPN Pn 16 42 57.0 -0.2
SMY Shemya 11.88 65 ePn Pn 16 42 59.3 -2.7
SMY Shemya 11.88 65 ePN Pn 16 42 59.3 -2.7
GRNR Gornyy 12.88 285 ePN Pn 16 43 20.6 +4.9
GRNR pmax pmax
comp=E,34nm,0.8s
GRNR pmax pmax
comp=Z,46nm,0.8s
TEY Ternei 13.96 261 eP Pn 16 43 34.0 +3.7
TEY pmax pmax
comp=E,11nm,0.7s
TEY MLR MLR
comp=Z,1µm,16.0s
SEY Seymchan 14.10 353 Pn Pn 16 43 32.1 -0.1
baz=163,slow=19,SNR=4.2
KLR Kul'dur 16.01 280 Pn P 16 43 59.9 -0.8
comp=Z,0.1nm,0.3s,baz=83,slow=12,SNR=19
KLR LR LR 16 50 47.0
comp=Z,221nm,18.1s,baz=85,slow=40
KLR Kul'dur 16.01 280⇓iP P 16 44 00.3 -0.4
USRK Ussuriysk Ar. 17.30 263 P Pn 16 44 14.4 +0.5
comp=Z,0.9nm,0.3s,baz=64,slow=12,SNR=16
USRK LR LR 16 50 53.5
comp=Z,409nm,18.5s,baz=63,slow=37
MJB9 Matsu-Tunnel 18.12 233 ePn Pn 16 44 23.3 -0.7
comp=Z,43nm,0.9s
MAJO Matsushiro 18.12 233 eP P 16 44 25.4 +1.2
MAJO Matsushiro 18.12 233 ePn Pn 16 44 22.9 -1.2
comp=Z,41nm,0.8s
MAJO Matsushiro 18.12 233⇓iP P 16 44 25.4 +1.2
MAT Matsushiro 18.12 233 P Pn 16 44 21.2 -2.8
MAT S Sn 16 47 46.4 +1.2
MJAR Matsushiro Arr 18.12 233 P Pn 16 44 22.4 -1.6
comp=Z,0.6nm,0.3s,baz=28,slow=11,SNR=29
MJAR LR LR 16 52 08.1
comp=Z,555nm,20.5s,baz=55,slow=40
ZEA Zeya 18.62 296 eP Pn 16 44 30.1 +0.2
ZEA pmax pmax
comp=Z,28nm,1.2s
ZEA pmax pmax
comp=Z,300nm,10.0s
ZEA MLR MLR
comp=Z,2µm,16.0s
ZEA MLR MLR
comp=N,700nm,15.0s
ZEA MLR MLR
comp=E,1µm,15.0s
MDJ Mudanjiang 18.71 266 P P 16 44 28.3 -2.2
MDJ pP pP 16 44 36.1 -3.2
MDJ sP sP 16 44 41.6 -1.9
MDJ S Sn 16 47 57.2 -2.0
MDJ pmax pmax
comp=E,22nm,1.1s
MDJ pmax pmax
comp=E,170nm,4.0s
MDJ LR LR
comp=E,780nm,17.5s
MDJ LR LR
comp=E,880nm,16.3s
MDJ LR LR
comp=E,1µm,14.7s
MDJ Mudanjiang 18.71 266 eP P 16 44 29.2 -1.3
comp=E,33nm,0.8s
YAK Yakutsk 19.69 321 P P 16 44 40.6 -0.5
comp=E,0.0nm,0.3s,baz=74,slow=1.8,SNR=86
YAK Yakutsk 19.69 321 eP P 16 44 40.2 -0.9
comp=E,138nm,0.8s
YAK Yakutsk 19.69 321c iP P 16 44 40.1 -1.0
YAK eS S 16 48 16.6 -4.5
YAK pmax pmax
comp=Z,141nm,1.0s
YAK pmax pmax
comp=N,31nm,1.1s
YAK pmax pmax
comp=E,62nm,1.1s
YAK pmax pmax
comp=Z,99nm,0.9s
YAK pmax pmax
comp=N,36nm,1.1s
YAK pmax pmax
comp=E,83nm,1.1s
YAK smax smax
comp=N,34nm,1.6s
YAK smax smax
comp=E,22nm,1.8s
YAK MLR MLR
comp=N,1µm,17.0s
YAK MLR MLR
comp=Z,1µm,17.0s
YAK MLR MLR
comp=E,713nm,15.0s
BILL Bilibino 19.73 11 eP P 16 44 41.0 -0.5
BILL pmax pmax
comp=Z,22nm,0.8s
BILL MLR MLR
comp=Z,1µm,16.0s
CLNS Chul'man 20.29 305 eP Pn 16 44 49.9 0.0
CLNS pmax pmax
comp=Z,42nm,1.0s
CLNS pmax pmax
comp=N,29nm,1.4s
CLNS pmax pmax
comp=E,24nm,1.0s
CLNS MLR MLR
comp=N,581nm,16.0s
CLNS MLR MLR
comp=Z,2µm,14.0s
CLNS MLR MLR
comp=E,1µm,14.0s
CN2 Changchun 21.76 268 eP P 16 44 58.8 -4.8
CN2 esP pP 16 45 09.3 -3.2
CN2 eS S 16 48 59.7 -2.7
CN2 pmax pmax
comp=E,20nm,0.9s
CN2 pmax pmax
comp=E,200nm,8.0s
CN2 LR LR
comp=E,300nm,18.0s
CN2 LR LR
comp=E,500nm,18.0s
CN2 LR LR
comp=E,600nm,18.0s
GAMB Gambell 22.75 38 eP P 16 45 14.4 +0.5
comp=E,19nm,1.2s
KSRS Korea Array 23.50 251 P P 16 45 22.3 +0.6
comp=E,21nm,0.8s,baz=48,slow=9.9,SNR=58
KSRS PcP PcP 16 49 07.5 +0.8
comp=E,1.5nm,0.9s,baz=5.7,slow=1.3,SNR=4.7
KSRS LR LR 16 54 05.0
comp=E,660nm,18.6s,baz=62,slow=36
KS01 Wonju Array Si 23.50 251 eP P 16 45 21.9 +0.1
KS15 Wonju Array Si 23.53 251 eP P 16 45 22.3 +0.3
KSAR Wonju Array Be 23.53 251 P P 16 45 22.3 +0.2
KSAR PcP PcP 16 49 07.5 +0.8
KSAR Wonju Array Be 23.53 251 P P 16 45 22.3 +0.2
KSAR 16 49 07.5
HIA Hailar 23.72 285 eP P 16 45 21.4 -2.5
comp=E,9.2nm,0.7s
HIA Hailar 23.72 285 eP P 16 45 21.4 -2.5
HIA pmax pmax
comp=Z,9.0nm,0.7s
INCN Inchon 24.29 253 eP P 16 45 26.4 -2.8
comp=Z,40nm,0.9s
TJN Taejon 24.52 250d iP P 16 45 33.2 +1.9
JNU Nakatsue 24.68 239 P P 16 45 32.5 -0.4
comp=Z,37nm,1.0s,baz=22,slow=3.9,SNR=11
JNU LR LR 16 56 26.3
comp=Z,304nm,18.6s,baz=113,slow=40
JNU Nakatsue 24.68 239 eP P 16 45 33.5 +0.6
JNU Nakatsue 24.68 239 eP P 16 45 33.5 +0.6
comp=Z,74nm,1.2s
TIXI Tiksi 25.94 341 P P 16 45 42.1 -1.8
comp=Z,48nm,0.8s,baz=130,slow=9.0,SNR=72
TIXI LR LR 16 57 11.8
comp=Z,424nm,18.1s,baz=160,slow=40
TIXI Tiksi 25.94 341 eP P 16 45 41.6 -2.3
comp=Z,46nm,0.8s
TIXI Tiksi 25.94 341d iP P 16 45 41.8 -2.1
TIXI pmax pmax
comp=Z,48nm,0.8s
BOD Bodaibo 26.26 306 eP P 16 45 45.8 -1.0
BOD pmax pmax
comp=Z,12nm,1.6s
BJI Beijing 29.63 268 P P 16 46 17.5 +0.4
BJI S S 16 51 05.4 -4.8
BJI pmax pmax
comp=Z,15nm,0.8s
BJI LR LR
comp=Z,820nm,17.7s
BJI LR LR
comp=Z,380nm,19.0s
BJI LR LR
comp=Z,200nm,30.8s
BJT Baijiatuau 29.64 268 eP P 16 46 17.3 0.0
comp=Z,14nm,1.1s
BJT Baijiatuau 29.64 268 eP P 16 46 17.3 0.0
BJT pmax pmax
comp=Z,14nm,1.1s
H11N2 WAKE ISLAND Hy 30.46 160 T T 17 19 28.0
baz=347,slow=76,SNR=53
H11N1 WAKE ISLAND Hy 30.48 160 T T 17 19 21.2
baz=347,slow=76,SNR=110
H11N3 WAKE ISLAND Hy 30.48 160 T T 17 19 42.9
baz=347,slow=76,SNR=105
JOW Kunigami 30.96 234 eP P 16 46 29.0 0.0
comp=Z,54nm,1.6s
KDAK Kodiak Island 31.06 54 P P 16 46 28.9 -0.6
comp=Z,11nm,0.9s,baz=150,slow=20,SNR=2.0
KDAK LR LR 17 01 44.8
comp=Z,304nm,18.2s,baz=272,slow=42
KDAK Kodiak Island 31.06 54 eP P 16 46 30.2 +0.7
KDAK Kodiak Island 31.06 54 eP P 16 46 30.1 +0.5
KDAK Kodiak Island 31.06 54 eP P 16 46 30.1 +0.5
PPLA Purkeypile 31.07 44 eP P 16 46 31.0 +1.1
comp=Z,34nm,1.5s
SPU Mount Spurr 31.12 47 eP P 16 46 30.4 +0.2
H11S1 WAKE ISLAND Hy 31.60 161 T T 17 20 52.1
baz=347,slow=76,SNR=613
H11S3 WAKE ISLAND Hy 31.61 161 T T 17 20 53.0
baz=347,slow=76,SNR=724
H11S2 WAKE ISLAND Hy 31.62 161 T T 17 20 55.8
baz=347,slow=76,SNR=495
KTH Kantishna Hill 31.67 43 eP P 16 46 35.8 +0.8
comp=Z,16nm,1.0s
SUA Susitna One 31.74 47 eP P 16 46 34.4 -1.3
comp=Z,12nm,1.2s
BRLK Bradley Lake 31.76 50 eP P 16 46 34.9 -0.9
comp=Z,53nm,1.4s
MLY Manley 31.83 40 eP P 16 46 37.1 +0.8
comp=Z,5.3nm,0.8s
MLY ePcP PcP 16 49 27.6 +1.1
TRF Thorofare Moun 31.95 43 eP P 16 46 38.3 +0.7
comp=Z,8.6nm,0.9s
ULN Ulaanbaatar 32.18 287 eP P 16 46 39.1 -0.7
ULN Ulaanbaatar 32.18 287 eP P 16 46 38.5 -1.3
comp=Z,12nm,1.6s
ULN Ulaanbaatar 32.18 287⇓iP P 16 46 39.1 -0.7
ULN pmax pmax
comp=Z,8.0nm,2.5s
HHC Hu-ho-hao-te 32.25 272 eP P 16 46 42.3 +1.9
HHC PP PnPn 16 47 48.7 +1.6
HHC S S 16 51 51.3 -0.2
HHC SS SnSn 16 53 44.2 +0.1
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,150nm,5.4s
HHC LR LR
comp=Z,660nm,21.1s
HHC LR LR
comp=Z,480nm,17.4s
HHC LR LR
comp=Z,430nm,21.1s
COLD Coldfoot 32.27 36 eP P 16 46 40.6 +0.5
comp=Z,7.2nm,1.0s
MCK McKinley 32.56 43 eP P 16 46 43.1 +0.4
MCK McKinley 32.56 43 eP P 16 46 43.2 +0.4
comp=Z,12nm,1.0s
MCK McKinley 32.56 43 eP P 16 46 43.2 +0.4
MCK pmax pmax
comp=Z,12nm,1.0s
RND Reindeer 32.59 43 eP P 16 46 42.4 -0.7
comp=Z,11nm,0.8s
RND Reindeer 32.59 43 eP P 16 46 42.4 -0.7
RND pmax pmax
comp=Z,11nm,0.8s
SONA1 Songino Array 32.60 287 eP P 16 46 42.2 -1.2
SONA0 Songino Array 32.61 287 eP P 16 46 41.6 -1.8
SONA0 ePcP PcP 16 49 28.4 -0.6
SONM Songino Array 32.61 287 P P 16 46 41.6 -1.8
comp=Z,0.9nm,0.6s,baz=66,slow=8.9,SNR=6.6
SONM PcP PcP 16 49 28.4 -0.6
comp=Z,1.2nm,0.8s,baz=125,slow=2.4,SNR=3.8
SONM LR LR 17 01 15.8
comp=Z,1µm,18.5s,baz=72,slow=39
NJ2 Nanjing 32.67 253 eP P 16 46 44.9 +0.9
NJ2 pmax pmax
comp=Z,16nm,0.8s
NJ2 LR LR
comp=Z,660nm,13.3s
NJ2 LR LR
comp=Z,530nm,13.6s
NJ2 LR LR
comp=Z,890nm,15.2s
SML Sawmill 32.88 46 eP P 16 46 46.0 +0.5
SML Sawmill 32.88 46 eP P 16 46 46.1 +0.5
comp=Z,28nm,1.0s
SML Sawmill 32.88 46 eP P 16 46 46.1 +0.5
SML pmax pmax
comp=Z,28nm,1.0s
MDM Murphy Dome 32.89 40 eP P 16 46 46.6 +0.9
comp=Z,6.3nm,0.9s
COLA College 33.05 40 eP P 16 46 47.9 +1.0
COLA College 33.05 40 eP P 16 46 47.8 +0.8
comp=Z,17nm,0.8s
COLA College 33.05 40 eP P 16 46 47.8 +0.8
COLA pmax pmax
comp=Z,17nm,0.8s
TLY Talaya 33.05 295 eP P 16 46 46.3 -0.9
comp=Z,22nm,0.8s
TLY Talaya 33.05 295 eP P 16 46 46.7 -0.5
TLY pmax pmax
comp=Z,22nm,0.8s
TLY Talaya 33.05 295 P P 16 46 46.9 -0.3
SNR=7.2
CCB Clear Creek Bu 33.06 41 eP P 16 46 47.2 +0.1
comp=Z,44nm,1.8s
DHY Denali Highway 33.27 44 eP P 16 46 49.2 0.0
comp=Z,38nm,1.7s
SCM Sheep Creek Mo 33.35 46 eP P 16 46 49.8 0.0
SCM Sheep Creek Mo 33.35 46 eP P 16 46 49.8 0.0
HDA Harding Lake 33.43 41 eP P 16 46 49.4 -1.0
comp=Z,23nm,1.1s
IL1 Eielson Array 33.46 41 eP P 16 46 50.2 -0.4
ILAR Eielson Array 33.46 41 P P 16 46 50.1 -0.4
comp=Z,2.6nm,0.8s,baz=247,slow=7.3,SNR=26
ILB Eielson Array 33.46 41 eP P 16 46 49.5 -1.0
GLI Glacier Island 33.55 48 eP P 16 46 52.1 +0.7
comp=Z,44nm,1.3s
ZAK Zakamensk 33.67 293 eP P 16 46 52.0 -0.7
ZAK pmax pmax
comp=Z,8.0nm,1.0s
ANA2 Anatahan 33.71 198 eP P 16 46 51.5 -1.6
KLU Klutina 34.05 47 eP P 16 46 57.2 +1.4

comp=Z,19nm,1.2s
PAX Paxson 34.14 44 *e*P **P 16 46 58.8 +2.2**
comp=Z,11nm,1.2s
PAX Paxson 34.14 44 *e*P **P 16 46 58.8 +2.2**
PAX pmax pmax
comp=Z,11nm,1.2s
DIV Divide 34.16 47 *e*P **P 16 46 57.3 +0.5**
comp=Z,40nm,1.5s
FYU Fort Yukon 34.17 37 *e*P **P 16 46 57.8 +1.1**
comp=Z,89nm,1.6s
HARP HAARP 34.33 45 *e*P **P 16 46 58.8 +0.6**
comp=Z,29nm,0.5s
MOY Mondy 34.63 296 *e*P **P 16 47 00.8 -0.2**
MOY pmax pmax
comp=Z,8.0nm,1.4s
DOT Dot Lake 34.73 43 *e*P **P 16 46 58.8 -2.8**
comp=Z,55nm,1.4s
BMRM Bremner River 34.74 47 *e*P **P 16 47 01.5 -0.3**
comp=Z,27nm,1.2s
RAGM Ragged Mountai 34.79 48 *e*P **P 16 47 03.9 +1.7**
comp=Z,98nm,1.6s
MENT Mentasta 34.94 44 *e*P **P 16 47 04.8 +1.3**
comp=Z,6.3nm,0.9s
EGAK Eagle 35.91 40 *e*P **P 16 47 11.2 -0.5**
comp=Z,12nm,0.8s
WHN Wuhan 36.53 255 ⇑*i*P **P 16 47 17.6 +0.2**
WHN pmax pmax
comp=Z,78nm,0.8s
DAWY Dawson 36.75 42 *e*P **P 16 47 19.4 +0.4**
comp=Z,6.9nm,0.9s
XAN Xi'an 37.80 265 P **P 16 47 27.4 -0.8**
XAN pP pP 16 47 33.6 -4.3
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN LR LR
comp=Z,240nm,15.2s
XAN LR LR
comp=Z,440nm,17.2s
XAN LR LR
comp=Z,550nm,18.2s
TPUB Ta-pu 37.98 240 *e*P **P 16 47 30.4 +0.6**
comp=Z,53nm,1.3s
HYT Haines Junctio 38.19 47 *e*P **P 16 47 31.8 +0.5**
comp=Z,11nm,0.9s
INK Inuvik 38.60 34 P **P 16 47 34.5 +0.1**
comp=Z,8.5nm,0.8s,baz=289,slow=7.6,SNR=24
PcP **PcP 16 49 46.0 0.0**
comp=Z,3.0nm,0.8s,baz=315,slow=2.9,SNR=3.7
INK Inuvik 38.60 34 *e*P **P 16 47 35.4 +1.0**
comp=Z,14nm,0.9s
INK *e*PcP **PcP 16 49 45.9 -0.2**
INK Inuvik 38.60 34 *e*P **P 16 47 35.4 +1.0**
INK *e* 16 49 45.9
INK pmax pmax
comp=Z,14nm,0.9s
WHY Whitehorse 39.48 46 *e*P **P 16 47 43.4 +1.4**
comp=Z,8.7nm,0.8s
ENH Enshi 39.84 260 *e*P **P 16 47 44.5 -0.7**
comp=Z,19nm,1.0s
LZH Lanzhou 39.92 271 *e*P **P 16 47 46.5 +0.4**
LZH pP pP 16 47 53.8 -2.0
LZH sP sP 16 47 57.5 -2.3
LZH PP **PnPn 16 49 24.6 +3.2**
LZH *e*S S 16 53 58.1 +9.2
LZH pmax pmax
comp=Z,39nm,1.2s
LZH pmax pmax
comp=Z,160nm,5.4s
LZH LR LR
comp=Z,690nm,11.4s
LZH LR LR
comp=Z,800nm,13.1s
LZH LR LR
comp=Z,950nm,13.4s
BESE Bessie Mountai 40.07 49 *e*P **P 16 47 49.9 +3.0**
comp=Z,60nm,1.8s
GTA Gaotai 40.70 278 *e*P **P 16 47 52.2 -0.2**
GTA pP pP 16 47 59.5 -2.7
GTA sP sP 16 48 03.1 -3.1
GTA PcP **PcP 16 49 54.7 +1.2**
GTA S **S 16 53 58.6 -1.8**
GTA sS pS 16 54 11.9 +0.4
GTA SS **SS 16 56 52.4 -8.9**
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,71nm,4.8s
GTA LR LR
comp=Z,390nm,14.5s
GTA LR LR
comp=Z,810nm,15.7s
GTA LR LR
comp=Z,1µm,15.2s
DLBC Dease Lake 42.51 48 *e*P **P 16 48 09.3 +2.4**
comp=Z,7.4nm,0.9s
ZAA1 Zalesovo Array 43.00 305 *e*P **P 16 48 09.5 -1.4**
ZAA1 *e*PcP **PcP 16 50 00.1 -0.6**
ZAA0 Zalesovo Array 43.00 305 *e*P **P 16 48 09.6 -1.3**
comp=Z,4.4nm,0.8s
ZALV Zalesovo Beam 43.00 305 P **P 16 48 09.5 -1.4**
comp=Z,4.8nm,0.8s,baz=61,slow=7.0,SNR=21
ZALV PcP **PcP 16 50 00.1 -0.6**
comp=Z,2.2nm,0.8s,baz=72,slow=4.8,SNR=5.2
ZALV LR LR 17 07 13.5
comp=Z,356nm,18.4s,baz=67,slow=38
CD2 Chengdu 43.16 265 *e*P **P 16 48 11.6 -0.9**
CD2 pP pP 16 48 18.4 -3.9
CD2 sP sP 16 48 21.3 -5.0
CD2 PcS **PcS 16 53 54.0 -0.2**
CD2 S **S 16 54 36.6 -0.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.0s
CD2 LR LR
comp=Z,430nm,15.2s
CD2 LR LR
comp=Z,330nm,12.8s
NVS Novosibirsk 43.49 307 *e*P **P 16 48 14.1 -0.7**
NVS *e* 16 50 06.7
NVS pmax pmax
comp=Z,24nm,1.8s
NVS pmax pmax
comp=N,8.0nm,1.6s
NVS pmax pmax
comp=E,18nm,2.0s
GYA Guiyang 44.24 258 ⇑*i*P **P 16 48 21.7 +0.3**
GYA pP pP 16 48 29.4 -1.8
GYA PP **PcP 16 50 06.0 +0.5**
GYA ScP **ScP 16 53 56.4 +1.7**
GYA S **S 16 54 52.2 -0.6**
GYA sS pS 16 55 05.8 +1.6
GYA SS **SS 16 58 02.2 -9.2**
GYA pmax pmax
comp=E,50nm,0.9s
GYA pmax pmax
comp=E,140nm,5.4s
GYA LR LR
comp=E,640nm,18.4s
GYA LR LR
comp=E,560nm,18.8s
GYA LR LR
comp=E,600nm,18.6s
WMQ Urumqi 46.06 291 P **P 16 48 35.8 +0.2**
WMQ pP pP 16 48 43.5 -1.9
WMQ sP sP 16 48 47.9 -1.5
WMQ pmax pmax
comp=E,32nm,1.1s
WMQ pmax pmax
comp=E,240nm,5.3s
WMQ LR LR
comp=E,660nm,20.9s
WMQ LR LR
comp=E,470nm,16.1s
WMQ LR LR
comp=E,420nm,14.5s
QIZ Qiongzhong 47.66 248 P **P 16 48 48.8 +0.6**
QIZ S **S 16 55 44.6 +2.9**
QIZ pmax pmax
comp=E,12nm,1.7s
QIZ LR LR
comp=E,200nm,15.7s
QIZ LR LR
comp=E,350nm,14.2s
QIZ LR LR
comp=E,320nm,15.7s

KMI Kunming 47.70 260 P **P 16 48 49.1 +0.3**
KMI pP pP 16 48 55.5 -3.2
KMI sP sP 16 48 57.4 -5.2
KMI S **S 16 55 46.5 +3.7**
KMI sS pS 16 55 56.1 +1.7
KMI pmax pmax
comp=E,45nm,1.0s
KMI pmax pmax
comp=E,140nm,3.1s
KMI LR LR
comp=E,340nm,18.7s
KMI LR LR
comp=E,180nm,18.4s
KMI LR LR
comp=E,250nm,18.7s
MK31 Makanchi Array 47.77 297 *e*P **P 16 48 48.2 -0.6**
MK31 Makanchi Array 47.77 297 *e*P **P 16 48 48.2 -0.6**
MK32 Makanchi Array 47.77 297 *e*P **P 16 48 48.0 -0.8**
MKAR Makanchi Array 47.77 297 P **P 16 48 48.0 -0.8**
comp=E,16nm,0.8s,baz=63,slow=7.2,SNR=115
MKAR LR LR 17 10 24.0
comp=E,1µm,18.2s,baz=44,slow=38
MKAR Makanchi Array 47.77 297 *e*P **P 16 48 48.1 -0.7**
comp=E,92nm,0.8s
MKAR Makanchi Array 47.77 297 *e*P **P 16 48 48.1 -0.7**
MKAR pmax pmax
comp=Z,92nm,0.8s
MK01 Makanchi Array 47.77 297 *e*P **P 16 48 48.0 -0.8**
YKW3 Yellowknife Ar 47.81 39 *e*P **P 16 48 48.8 -0.1**
comp=Z,7.1nm,0.9s
YKA Yellowknife Ar 47.84 39 P **P 16 48 49.9 +0.8**
comp=Z,4.6nm,0.8s,baz=297,slow=7.5,SNR=47
YKA PcP **PcP 16 50 17.9 +0.7**
comp=Z,0.5nm,0.8s,baz=319,slow=3.1,SNR=4.2
YKB5 Yellowknife Ar 47.84 39 *e*P **P 16 48 49.5 +0.4**
KURK Kurchatov 47.86 303 *e*P **P 16 48 48.9 -0.5**
KURK Kurchatov 47.86 303 *c i*P **P 16 48 48.2 -1.2**
KURK pmax pmax
comp=Z,29nm,1.0s
KURK Kurchatov 47.86 303 P **P 16 48 48.3 -1.0**
SNR=9.2
MAKZ Makanchi 47.94 297 *e*P **P 16 48 49.4 -0.7**
comp=Z,7.4nm,0.8s
MAKZ Makanchi 47.94 297 *e*P **P 16 48 49.4 -0.7**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 47.95 303 P **P 16 48 49.2 -0.9**
comp=Z,16nm,0.7s,baz=64,slow=8.0,SNR=74
RES Resolute Bay 48.00 20 *e*P **P 16 48 50.6 +0.5**
comp=Z,8.8nm,0.9s
RES Resolute Bay 48.00 20 *e*P **P 16 48 50.6 +0.5**
RES pmax pmax
comp=Z,9.0nm,0.9s
LLLB Lillooet 50.26 55 *e*P **P 16 49 09.1 +1.3**
comp=Z,46nm,2.0s
SPA0 Spitsbergen Ar 50.74 350 *e*P **P 16 49 09.6 -1.4**
SPITS Spitsbergen Ar 50.74 350 P **P 16 49 10.0 -1.0**
comp=Z,2.9nm,0.5s,baz=79,slow=7.5,SNR=12
SPITS LR LR 17 12 10.5
comp=Z,201nm,19.1s,baz=140,slow=38
SPITS Spitsbergen Ar 50.74 350 P **P 16 49 10.0 -1.0**
SPITS pmax pmax
comp=Z,3.0nm,0.5s
SPITS MLR MLR
comp=Z,201nm,19.1s
NLWA Neilton Lookou 50.90 60 *e*P **P 16 49 14.5 +1.8**
comp=Z,129nm,1.8s
BVAR Borovoye Array 51.03 309 P **P 16 49 12.9 -0.6**
comp=Z,5.9nm,0.6s,baz=58,slow=7.6,SNR=58
BVAR LR LR 17 12 42.5
comp=Z,342nm,18.1s,baz=60,slow=38
BRVK Borovoye 51.07 309 *e*P **P 16 49 13.1 -0.8**
comp=Z,12nm,0.8s
BRVK Borovoye 51.07 309 *c i*P **P 16 49 12.9 -0.9**
BRVK pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 51.07 309 P **P 16 49 13.0 -0.8**
SNR=6.3
PDGK Podgornoye 51.32 295 P **P 16 49 16.0 0.0**
PDGK pmax pmax
comp=Z,10.0nm,1.0s
SHUK Shuksan-Mt. Ba 51.32 57 *e*P **P 16 49 16.5 +0.5**
TULEG Thule 51.47 12 *e*P **P 16 49 16.3 -0.2**
comp=Z,14nm,1.0s
LSA Lhasa 52.23 274 P **P 16 49 24.7 +1.3**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 52.23 274 *e*P **P 16 49 24.7 +1.3**
comp=Z,12nm,0.8s
LSA Lhasa 52.23 274 *e*P **P 16 49 24.7 +1.3**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 52.23 274 *i*P **P 16 49 24.7 +1.3**
SNR=14
OTUK Ortayu 52.64 303 P P 16 49 16.0 -10
OTUK pmax pmax
comp=Z,8.0nm,1.3s
LTY Liberty 52.77 58 *e*P **P 16 49 28.5 +1.8**
SKNT Sakolnakorn 52.83 252 P **P 16 49 27.5 +0.1**
comp=Z,14nm,1.0s
EDM Edmonton 53.23 49 *e*P **P 16 49 30.2 +0.2**
comp=Z,62nm,1.8s
EDM Edmonton 53.23 49 *e*P **P 16 49 30.2 +0.2**
EDM pmax pmax
comp=Z,62nm,1.8s
SVE Sverdlovsk 53.58 317 *de*P **P 16 49 31.8 -0.6**
SVE pmax pmax
comp=Z,40nm,0.9s
SVE MLR MLR
comp=Z,530nm,17.0s
SOKR Solikamsk 53.61 321 ⇑*i*P **P 16 49 29.7 -2.8**
SOKR pmax pmax
comp=Z,16nm,0.9s
SOKR MLR MLR
comp=Z,231nm,20.0s
CMAI Chiengmai2 53.78 258 P **P 16 49 36.8 +2.2**
comp=Z,670nm,1.2s,comp=Z,79µm
KHON Khomkaen 54.03 252 P **P 16 49 37.9 +1.7**
comp=Z,20nm,0.9s
PHRA Phrae 54.07 256 P **P 16 49 38.0 +1.6**
comp=Z,224nm,1.0s
TNTI Ternate 54.09 217 *e*P **P 16 49 37.6 +1.1**
comp=Z,18nm,0.9s
NEW Newport 54.14 55 *e*P **P 16 49 39.3 +2.6**
comp=Z,22nm,1.9s
SIJI Sorong 54.17 211 P **P 16 49 37.4 +0.2**
comp=Z,6.8nm,0.8s,baz=73,slow=5.6,SNR=3.6
LAMP Lampang 54.44 257 P **P 16 49 40.9 +1.8**
comp=Z,9.3nm,0.8s
CMMT Chiang Mai 54.66 258 P **P 16 49 40.9 +0.1**
comp=Z,32nm,0.8s,comp=Z,332nm
CHTO Chiang Mai 54.66 258 P **P 16 49 42.0 +1.2**
comp=Z,146nm,0.8s,comp=Z,2µm
CHTO Chiang Mai 54.66 258 *e*P **P 16 49 41.7 +0.9**
comp=Z,24nm,0.8s
CHTO Chiang Mai 54.66 258 *e*P **P 16 49 41.7 +0.9**
CHTO pmax pmax
comp=Z,24nm,0.8s
CHTO Chiang Mai 54.66 258 P **P 16 49 42.3 +1.5**
SNR=13
AAK Ala-Archa 54.69 297 *e*P **P 16 49 40.7 -0.2**
comp=Z,8.8nm,1.0s
AAK Ala-Archa 54.69 297 *e*P **P 16 49 40.7 -0.2**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 54.69 297 P **P 16 49 40.5 -0.4**
ARU Arti 54.74 318 *e*P **P 16 49 39.6 -1.2**
comp=Z,46nm,0.9s
ARU Arti 54.74 318 *c i*P **P 16 49 39.9 -1.0**
ARU 16 50 41.9
ARU 16 51 38.5
ARU S **S 16 57 19.3 +0.5**
ARU SS **SS 17 00 57.5 -3.8**
ARU pmax pmax
comp=Z,51nm,0.8s
ARU MLR MLR
comp=Z,400nm,17.0s
YBH Yreka Blue Hor 54.85 65 P **P 16 49 43.1 +1.1**
comp=Z,1.9nm,0.8s,baz=90,slow=1.0,SNR=2.7
YBH LR LR 17 09 19.6
comp=Z,128nm,21.4s,baz=334,slow=32
YBH Yreka Blue Hor 54.85 65 *e*P **P 16 49 43.4 +1.4**
comp=Z,51nm,1.8s
CHAI Chaiyaphum 54.89 253 P **P 16 49 43.4 +1.0**
comp=Z,11nm,0.9s,comp=Z,86nm
CM31 Chiang Mai Arr 54.92 257 *e*P **P 16 49 43.9 +1.2**

CMAR Chiang Mai Arr 54.92 257 P **P 16 49 44.1 +1.4**
comp=Z,13nm,0.8s,baz=32,slow=7.4,SNR=110
CMAR LR LR 17 14 14.1
comp=Z,218nm,19.8s,baz=40,slow=37
CM01 Chiang Mai Arr 54.94 257 *e*P **P 16 49 43.7 +0.9**
KMRM Mail Ridge 55.17 67 *e*P **P 16 49 46.5 +2.2**
comp=Z,222nm,1.7s
WALA Waterton Lakes 55.39 53 *e*P **P 16 49 47.0 +1.2**
comp=Z,6.0nm,0.8s
LVZ Lovozero 55.50 337 *e*P **P 16 49 45.0 -1.2**
comp=Z,33nm,1.0s
LVZ Lovozero 55.50 337 ⇓*i*P **P 16 49 45.8 -0.4**
LVZ *i* *PP **sP 16 49 59.1 -1.1**
LVZ pmax pmax
comp=Z,23nm,1.7s
KSH Kashi 55.71 293 P **P 16 49 52.0 +3.7**
KSH pP pP 16 50 00.0 +1.7
KSH PcP **PcP 16 50 51.0 +3.7**
KSH PcS **PcS 16 54 49.1 +1.5**
KSH S **S 16 57 35.7 +3.2**
KSH sS sS 16 57 48.6 -0.4
KSH SS **SS 17 01 21.6 +4.1**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH pmax pmax
comp=Z,150nm,6.4s
KSH LR LR
comp=Z,340nm,10.8s
KSH LR LR
comp=Z,310nm,7.5s
KSH LR LR
comp=Z,580nm,17.9s
FAKI Fak Fak 55.76 209 *e*P **P 16 49 49.6 +0.9**
comp=Z,11nm,0.9s
MNAS Manas 55.95 297 P **P 16 49 50.6 +0.6**
MNAS pmax pmax
comp=Z,4.0nm,1.0s
TAPN Taplejung 56.05 274 *e*P **P 16 49 51.6 +0.6**
comp=Z,36nm,0.9s
APA Apatity 56.06 337 ⇓*i*P **P 16 49 48.5 -1.7**
APA pmax pmax
comp=Z,10.0nm,0.8s
MOD Modoc Plateau 56.17 63 *e*P **P 16 49 52.6 +1.1**
comp=Z,7.5nm,0.9s
ARA0 ARCESS Array S 56.38 341 *e*P **P 16 49 50.7 -1.7**
ARCES ARCESS Array B 56.38 341 P **P 16 49 50.7 -1.7**
comp=Z,7.1nm,0.8s,baz=45,slow=8.3,SNR=11
ARCES ARCESS Array B 56.38 341 *e*P **P 16 49 51.5 -0.9**
ARCES ARCESS Array B 56.38 341 *e*P **P 16 49 51.5 -0.9**
ARE0 ARCESS Array S 56.38 341 *e*P **P 16 49 51.2 -1.2**
comp=Z,133nm,1.9s
NAYO Nakonayok 56.51 252 P **P 16 49 56.0 +2.0**
comp=Z,11nm,1.0s,comp=Z,1µm
ODAN Odare 56.59 274 *e*P **P 16 49 55.9 +1.1**
comp=Z,21nm,1.0s
KKAR Karatay Array 56.73 299 *e*P **P 16 49 53.0 -2.3**
KKAR Karatay Array 56.73 299 *e*P **P 16 49 53.0 -2.3**
MSO Missoula 56.73 55 *e*P **P 16 49 56.1 +0.7**
comp=Z,8.9nm,1.1s
UTHA Uthaitani 56.75 255 P **P 16 49 57.8 +2.1**
comp=Z,7.2nm,0.8s
WVOR Wild Horse Val 56.81 62 *e*P **P 16 49 57.2 +1.2**
comp=Z,7.7nm,0.8s
WVOR Wild Horse Val 56.81 62 *e*P **P 16 49 57.3 +1.2**
WVOR pmax pmax
comp=Z,8.0nm,0.8s
JIRN Jiri 56.84 275 *e*P **P 16 49 57.5 +0.8**
comp=Z,92nm,0.9s
GUN Gumba 56.87 276 *e*P **P 16 49 57.3 +0.4**
comp=Z,34nm,0.7s
ORV Oroville 56.92 66 *e*P **P 16 49 56.5 -0.2**
comp=Z,14nm,1.5s
ORV Oroville 56.92 66 *e*P **P 16 49 56.5 -0.2**
ORV pmax pmax
comp=Z,14nm,1.5s
RAMN Ramite 57.05 274 *e*P **P 16 49 58.5 +0.4**
comp=Z,90nm,0.8s
TMCR Tamitsa 57.28 333 *e*P **P 16 49 57.2 -1.7**
TMCR pmax pmax
comp=Z,44nm,0.9s
KKN Kakani 57.34 276 *e*P **P 16 50 01.0 +0.9**
comp=Z,53nm,0.7s
BEKR Beckworth 57.41 65 *e*P **P 16 49 59.9 -0.4**
comp=Z,8.5nm,0.6s
PKI Pulchoki 57.41 276 *e*P **P 16 50 01.2 +0.5**
PKIN Phulchoki 57.41 276 *e*P **P 16 50 01.6 +0.9**
comp=Z,40nm,0.7s
DMN Daman 57.58 276 *e*P **P 16 50 02.6 +0.8**
comp=Z,68nm,0.8s
FFC Flin Flon 57.65 42 *e*P **P 16 50 03.7 +2.1**
FFC Flin Flon 57.65 42 *e*P **P 16 50 02.0 +0.4**
comp=Z,7.6nm,1.0s
FFC Flin Flon 57.65 42 *e*P **P 16 50 02.0 +0.4**
FFC pmax pmax
comp=Z,8.0nm,1.0s
JCHM Cahill Ridge 57.67 69 *e*P **P 16 50 02.7 +0.7**
MFID Camas Ranch 57.81 59 *e*P **P 16 50 05.7 +2.6**
comp=Z,25nm,1.8s
SRDT SRDT 57.86 254 P **P 16 50 06.1 +2.5**
comp=Z,17nm,0.8s
HRY Holter Researc 57.94 54 *e*P **P 16 50 03.7 -0.2**
DANN Dangsing 57.96 278 *e*P **P 16 50 05.2 +0.6**
LRM Limekiln Ridge 58.16 55 *e*P **P 16 50 03.7 -2.0**
EGMT Eagleton 58.20 52 *e*P **P 16 50 07.7 +1.9**
comp=Z,21nm,1.5s
FCC Fort Churchill 58.20 35 *e*P **P 16 50 05.7 +0.4**
FCC Fort Churchill 58.20 35 *e*P **P 16 50 05.8 +0.4**
comp=Z,8.2nm,0.9s
FCC Fort Churchill 58.20 35 *e*P **P 16 50 05.8 +0.4**
FCC pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 58.26 5 *i*P **P 16 50 07.2 +1.0**
comp=Z,49nm,1.0s
SUMG Summit 58.26 5 *e*P **P 16 50 06.2 +0.1**
comp=Z,46nm,0.8s
SUMG Summit 58.26 5 *e*P **P 16 50 06.2 +0.1**
SUMG pmax pmax
comp=Z,47nm,0.8s
PNTR Pine Nut 58.35 65 *e*P **P 16 50 07.1 0.0**
comp=Z,11nm,0.8s
KOLN Koldanda 58.46 277 *e*P **P 16 50 08.5 +0.6**
comp=Z,43nm,0.9s
HLID Hailey 58.52 58 *e*P **P 16 50 09.0 +0.9**
comp=Z,12nm,1.4s
CMB Columbia Colle 58.55 67 *e*P **P 16 50 07.8 -0.5**
comp=Z,5.2nm,1.1s
CMB Columbia Colle 58.55 67 *e*P **P 16 50 07.8 -0.5**
CMB pmax pmax
comp=Z,5.0nm,1.1s
ABKAR Akbulak array 58.56 310 *e*P **P 16 50 07.2 -0.9**
comp=Z,90nm,0.7s
MCMT McKenzie Canyo 58.58 56 *e*P **P 16 50 08.9 +0.3**
PHET Kaeng Krachan 58.63 252 P **P 16 50 12.4 +3.4**
comp=Z,7.8nm,0.8s
YERR Yerington 58.63 65 *e*P **P 16 50 09.4 +0.4**
comp=Z,8.1nm,1.0s
PYUN Piuthan 58.63 278 *e*P **P 16 50 09.9 +0.7**
comp=Z,66nm,1.0s
PMG Port Moresby 58.73 190 LR LR 17 11 53.6
comp=Z,57nm,21.8s,baz=350,slow=32
BOZ Bozeman (W) 58.75 55 *e*P **P 16 50 10.9 +1.2**
BOZ Bozeman (W) 58.75 55 *e*P **P 16 50 10.9 +1.2**
comp=Z,36nm,2.0s
BOZ Bozeman (W) 58.75 55 *e*P **P 16 50 10.9 +1.2**
BOZ pmax pmax
comp=Z,36nm,2.0s
AKTO Aktyubinsk 58.76 312 P **P 16 50 08.3 -1.2**
comp=Z,3.3nm,0.5s,baz=70,slow=7.8,SNR=14
AKTO LR LR 17 16 54.9
comp=Z,132nm,19.8s,baz=48,slow=38
KLMR Klimovskoe 59.23 329 *e*P **P 16 50 09.0 -3.5**
KLMR pmax pmax
comp=Z,29nm,0.9s
KLMR Klimovskoe 59.23 329 *e*P **P 16 50 09.0 -3.5**
KLMR AMP 16 50 12.4
comp=Z,29nm,0.9s
RYN Ryan 59.29 65 *e*P **P 16 50 13.7 +0.2**
comp=Z,5.5nm,1.0s
QLMT Earthquake Lak 59.35 56 *e*P **P 16 50 15.1 +1.1**
YHB Horse Butte 59.53 56 *e*P **P 16 50 14.7 -0.5**
comp=Z,8.3nm,0.9s
NV01 Mina Array Sit 59.55 65 *e*P **P 16 50 15.4 0.0**
NVAR Mina Array Bea 59.55 65 P **P 16 50 14.9 -0.5**
comp=Z,0.6nm,0.5s,baz=292,slow=8.6,SNR=3.0
SBUM Sibu 59.67 234 *e*P **P 16 50 17.3 +1.2**
comp=Z,30nm,1.8s

GCMT **Greycliff** 59.68 54 *eP* P 16 50 16.4 +0.3
YHH **Holmes Hill** 59.70 55 *eP* P 16 50 17.4 +1.0
comp=Z,5.2nm,0.8s
YMR **Madison River** 59.71 56 *eP* P 16 50 17.9 +1.5
comp=Z,10nm,1.0s
YNR **Norris Junctio** 59.84 55 *eP* P 16 50 18.4 +1.1
comp=Z,26nm,1.8s
LKWY **Lake** 60.08 55 *eP* P 16 50 20.6 +1.6
comp=Z,6.2nm,0.9s
H17A **Grant Village** 60.10 56 *eP* P 16 50 20.9 +1.8
comp=Z,7.7nm,1.0s
RLMT **Red Lodge** 60.33 54 *eP* P 16 50 20.0 -0.6
comp=Z,38nm,1.9s
FXWY **Fox Creek** 60.35 57 *eP* P 16 50 22.2 +1.4
comp=Z,2.9nm,0.8s
ILULI **Ilulissat** 60.37 11 *eP* P 16 50 20.2 0.0
comp=Z,31nm,0.9s
MOOW **Moose Ponds** 60.43 56 *eP* P 16 50 23.2 +1.8
comp=Z,17nm,1.9s
HVU **Hansel Valley** 60.59 59 *eP* P 16 50 23.8 +1.4
comp=Z,4.9nm,1.0s
LOHW **Long Hollow** 60.60 56 *eP* P 16 50 24.7 +2.2
comp=Z,13nm,1.2s
SNOW **Snow King Moun** 60.61 57 *eP* P 16 50 23.7 +1.1
comp=Z,9.1nm,0.5s
REDW **Red Top Meadow** 60.62 57 *eP* P 16 50 24.2 +1.5
comp=Z,7.6nm,0.9s
SCO **Scoresbysund** 60.80 359 *i* P P 16 50 24.0 +0.9
comp=Z,11nm,1.0s
SCO **Scoresbysund** 60.80 359 *eP* P 16 50 23.9 +0.8
comp=Z,13nm,1.1s
SCO **Scoresbysund** 60.80 359 *i* P P 16 50 24.0 +0.9
SCO pmax pmax
comp=Z,11nm,1.0s
R11A **Troy Canyon, C** 61.22 64 *eP* P 16 50 27.2 +0.4
comp=Z,3.6nm,0.9s
ISA **Isabella, Lake** 61.26 68 *eP* P 16 50 27.5 +0.6
comp=Z,4.4nm,0.8s
ISA **Isabella, Lake** 61.26 68 *eP* P 16 50 27.5 +0.6
ISA pmax pmax
comp=Z,4.0nm,0.8s
DUG **Dugway, Tooele** 61.61 61 *eP* P 16 50 29.8 +0.5
DUG **Dugway, Tooele** 61.61 61 *eP* P 16 50 29.9 +0.5
comp=Z,7.7nm,1.0s
DUG **Dugway, Tooele** 61.61 61 *eP* P 16 50 29.9 +0.6
DUG pmax pmax
comp=Z,8.0nm,1.0s
BW06 **Boulder Array** 61.73 56 *eP* P 16 50 30.1 -0.1
comp=Z,6.0nm,0.9s
PD31 **Pinedale Array** 61.73 56 *eP* P 16 50 31.2 +1.0
PDAR **Pinedale Array** 61.73 56 P P 16 50 31.1 +1.0
comp=Z,4.0nm,1.0s,baz=318,slow=2.0,SNR=9.3
PDAR **Pinedale Array** 61.73 56 *eP* P 16 50 30.5 +0.3
TPNV **Topopah Spring** 61.75 65 *eP* P 16 50 30.5 +0.2
comp=Z,5.0nm,0.8s
TPNV **Topopah Spring** 61.75 65 *eP* P 16 50 30.5 +0.2
TPNV pmax pmax
comp=Z,5.0nm,0.8s
TCUT **Toone Canyon** 61.80 59 *eP* P 16 50 31.8 +1.1
comp=Z,12nm,0.6s
OSI **Osito Audit: C** 61.80 69 *eP* P 16 50 30.7 +0.1
comp=Z,16nm,0.9s
NLU **North Lily Min** 62.19 60 *eP* P 16 50 34.1 +0.8
comp=Z,9.7nm,1.2s
GSC **Goldstone, Bar** 62.52 67 *eP* P 16 50 35.7 +0.3
comp=Z,17nm,1.6s
GSC **Goldstone, Bar** 62.52 67 *eP* P 16 50 35.7 +0.3
GSC pmax pmax
comp=Z,17nm,1.6s
SFJD **Kangerlussuaq** 62.52 12⇑ *iP* P 16 50 34.9 +0.1
comp=Z,17nm,0.8s
SFJD **Kangerlussuaq** 62.52 12 *eP* P 16 50 34.8 0.0
comp=Z,22nm,0.9s
SFJD **Kangerlussuaq** 62.52 12 *eP* P 16 50 34.8 0.0
SFJD pmax pmax
comp=Z,22nm,0.9s
FIA1 **FINESS Array S** 62.85 336 *eP* P 16 50 35.5 -1.6
FIA1 *ePcP* **PcP** 16 51 18.1 +3.0
FIA0 **FINESS Array S** 62.85 336 *eP* P 16 50 35.9 -1.2
FIA0 **FINESS Array S** 62.85 336 *eP* P 16 50 35.9 -1.2
FINES **FINESS Array B** 62.85 336 P P 16 50 35.9 -1.2
comp=Z,15nm,0.9s,baz=38,slow=9.6,SNR=28
CCUT **Cedar City** 63.06 63 *eP* P 16 50 40.2 +1.0
comp=Z,5.3nm,1.0s
MSU **Marysvale** 63.10 62 *eP* P 16 50 39.6 +0.2
MSU **Marysvale** 63.10 62 *eP* P 16 50 39.6 +0.2
TMUT **Trail Mountain** 63.13 60 *eP* P 16 50 39.3 -0.4
comp=Z,78nm,0.8s
KBL **Kabul** 63.15 292 *eP* P 16 50 38.2 -1.6
comp=Z,9.4nm,0.8s
KBL **Kabul** 63.15 292 *eP* P 16 50 38.2 -1.6
KBL pmax pmax
comp=Z,9.0nm,0.8s
P17A **Butcher Ranch,** 63.28 60 *eP* P 16 50 42.1 +1.6
comp=Z,17nm,0.7s
Q16A **Castle Valley** 63.41 61 *eP* P 16 50 42.5 +1.0
comp=Z,27nm,1.0s
MTPU **Mount Pierson** 63.42 62 *eP* P 16 50 42.5 +0.8
comp=Z,6.9nm,1.0s
ULM **Lac du Bonnet** 63.43 43 P P 16 50 39.0 -2.1
comp=Z,1.6nm,0.8s,baz=351,slow=6.3,SNR=3.3
P18A **Preston Nutter** 63.45 60 *eP* P 16 50 42.3 +0.5
comp=Z,7.3nm,0.8s
LCMT **Little Creek M** 63.49 63 *eP* P 16 50 43.1 +1.1
comp=Z,8.5nm,1.1s
SRU **San Rafael Swe** 63.65 60 *eP* P 16 50 43.2 +0.2
comp=Z,10nm,0.9s
SRU **San Rafael Swe** 63.65 60 *eP* P 16 50 43.2 +0.2
SRU pmax pmax
comp=Z,10.0nm,0.9s
KNB **Kanab** 63.74 63 *eP* P 16 50 44.8 +1.2
comp=Z,18nm,1.4s
KNB **Kanab** 63.74 63 *eP* P 16 50 44.8 +1.2
KNB pmax pmax
comp=Z,18nm,1.4s
COEN **Coen** 63.76 194 *eP* P 16 50 44.2 +0.6
comp=Z,5.7nm,0.9s
RSSD **Black Hills** 63.77 52 *eP* P 16 50 44.2 +0.6
comp=Z,15nm,1.3s
RSSD **Black Hills** 63.77 52 *eP* P 16 50 44.3 +0.6
RSSD pmax pmax
comp=Z,15nm,1.3s
KULM **Kulim** 63.93 246 *eP* P 16 50 45.2 +0.4
comp=Z,10nm,0.9s
IPM **Ipoh** 64.34 245 *eP* P 16 50 48.0 +0.4
comp=Z,7.8nm,1.0s
OBN **Obninsk** 64.59 326 P P 16 50 47.5 -1.1
comp=Z,17nm,0.7s,baz=350,slow=23,SNR=4.8
OBN **Obninsk** 64.59 326 *eP* P 16 50 48.1 -0.5
OBN **Obninsk** 64.59 326⇓ *eP* P 16 50 47.8 -0.8
OBN *SP* **sP** 16 51 06.0 +3.3
OBN *e* 16 51 11.4
OBN *e* 16 51 20.6
OBN S S 16 59 21.0 -4.5
OBN pmax pmax
comp=Z,16nm,0.8s
OBN MLR MLR
comp=Z,238nm,19.0s
AGMN **Agassiz Nation** 64.84 45 *eP* P 16 50 50.8 +0.4
comp=Z,17nm,1.4s
PV09 **Paradox Valley** 64.86 60 *eP* P 16 50 51.5 +0.5
PHWY **Pilot Hill** 64.96 55 *eP* P 16 50 52.6 +0.9
comp=Z,17nm,1.6s
PV10 **Paradox Valley** 65.00 60 *eP* P 16 50 53.4 +1.5
VSU **Vasula** 65.14 333 *i* P P 16 50 53.0 +0.9
VSU pmax pmax
comp=Z,23nm,1.0s
VRH **Novokhopyorsk** 65.58 321 *eP* P 16 50 53.7 -1.4
VRH pmax pmax
comp=Z,30nm,0.7s
SMCO **Snowmass** 65.61 58 *eP* P 16 50 56.6 +0.6
comp=Z,6.7nm,1.0s
LPSR **Galich'ya Gora** 65.64 323 *eP* P 16 50 54.7 -0.8
LPSR pmax pmax
comp=Z,30nm,0.8s
Y14A **Wickenburg** 65.73 66 *eP* P 16 50 55.3 -1.2
comp=Z,24nm,0.5s
ISCO **Idaho Springs** 65.92 57 *eP* P 16 50 59.2 +1.3
comp=Z,8.2nm,1.1s
ISCO **Idaho Springs** 65.92 57 *eP* P 16 50 59.2 +1.3
ISCO pmax pmax
comp=Z,8.0nm,1.1s
X16A **Lo Mia Camp, P** 66.34 64 *eP* P 16 51 00.9 +0.4
comp=Z,4.3nm,0.9s
NC303 **NORSAR Array S** 66.52 342 *eP* P 16 51 00.6 -0.5
BORG **Borgarnes** 66.55 359 P P 16 51 02.9 +1.8
comp=Z,58nm,0.9s,baz=83,slow=3.9,SNR=6.9
BORG LR LR 17 22 57.0
comp=Z,59nm,18.1s,baz=205,slow=39
BORG **Borgarnes** 66.55 359 *eP* P 16 51 03.2 +2.1
comp=Z,231nm,1.4s
NC405 **NORSAR Array S** 66.55 342 *eP* P 16 50 59.5 -1.7
NC204 **NORSAR Array S** 66.59 343 *eP* P 16 51 00.3 -1.2
VSR **Storozhevoye** 66.61 322 *eP* P 16 51 00.7 -1.0
VSR pmax pmax
comp=Z,10.0nm,0.6s
S22A **4UR Ranch, Cre** 66.69 59 *eP* P 16 51 02.4 -0.4
comp=Z,6.9nm,1.1s
NB201 **NORSAR Array S** 66.70 342 *eP* P 16 51 00.7 -1.4
NB2 **NORSAR Subarra** 66.72 342 P P 16 51 00.7 -1.6
comp=Z,9.1nm,0.8s,baz=25,slow=6.5
NB200 **NORSAR Array S** 66.72 342 *eP* P 16 51 01.2 -1.1
NOA **NORSAR Array B** 66.72 342 P P 16 51 01.2 -1.1
comp=Z,9.6nm,1.0s,baz=25,slow=6.4,SNR=15
NBO00 **NORSAR Array S** 66.82 343 *eP* P 16 51 03.4 +0.5
NC602 **NORSAR Array S** 66.93 342 *eP* P 16 51 02.8 -0.9
PSI **Prapat** 66.94 246 *eP* P 16 51 04.1 -0.3
comp=Z,7.0nm,1.0s
PSI **Prapat** 66.94 246 *eP* P 16 51 04.1 -0.3
PSI pmax pmax
comp=Z,7.0nm,1.0s
NAO01 **NORSAR Array S** 66.97 342 *eP* P 16 51 03.7 -0.2
HFS **Hagfors** 67.03 341 P P 16 51 03.3 -1.0
comp=Z,5.1nm,0.7s,baz=45,slow=3.7,SNR=13
OGNE **Ogallala** 67.05 54 *eP* P 16 51 03.9 -0.9
comp=Z,74nm,0.8s
GEYT **Alibeck** 67.20 302 P P 16 51 06.3 +0.5
comp=Z,6.3nm,0.5s,baz=32,slow=3.7,SNR=24
GEYT LR LR 17 22 34.8
comp=Z,211nm,19.6s,baz=70,slow=38
IZAR **Zarasai** 67.55 332 *eP* P 16 51 07.5 -0.1
IZAR IAmb IAmb 16 51 08.3
comp=Z,13nm,0.8s
ISAL **Salakas** 67.74 332 *eP* P 16 51 08.8 0.0
ISAL IAmb IAmb 16 51 09.8
comp=Z,6.5nm,0.9s
IDID **Didziasalis** 67.76 332 *eP* P 16 51 08.9 0.0
IDID IAmb IAmb 16 51 10.6
comp=Z,8.8nm,0.9s
ECSD **EROS Data Cent** 67.80 48 *eP* P 16 51 09.0 -0.5
comp=Z,12nm,1.1s
IIGN **Ignalina** 67.89 332 *eP* P 16 51 09.8 0.0
IIGN IAmb IAmb 16 51 10.7
comp=Z,10.0nm,0.8s
TUC **Tucson** 68.20 66 *eP* P 16 51 12.5 +0.3
comp=Z,2.6nm,0.9s
TUC **Tucson** 68.20 66 *eP* P 16 51 12.5 +0.3
TUC pmax pmax
comp=Z,3.0nm,0.9s
MHTCO **State Highway** 68.32 58 *eP* P 16 51 11.6 -1.5
comp=Z,17nm,1.1s
AFI **Afiamalu** 68.76 146 LR LR 17 24 21.3
comp=Z,56nm,18.1s,baz=39,slow=38
ANMO **Albuquerque** 68.88 61 *eP* P 16 51 16.9 +0.3
comp=Z,3.4nm,0.9s
ANMO **Albuquerque** 68.88 61 *eP* P 16 51 18.3 +1.7
ANMO pmax pmax
comp=Z,2.0nm,1.0s
HYB **Hyderabad** 69.01 273 *i* P P 16 51 18.0 +0.6
GOF **Gofitskoye** 69.67 316⇑ *eP* P 16 51 21.1 +0.1
GOF pmax pmax
comp=Z,20nm,0.8s
319A **Douglas** 69.77 65 *eP* P 16 51 22.0 0.0
comp=Z,8.6nm,0.8s
SUW **Suwalki** 69.97 333 *eP* P 16 51 23.0 +0.3
comp=Z,24nm,1.0s
SUW **Suwalki** 69.97 333 *eP* P 16 51 23.0 +0.3
SUW pmax pmax
comp=Z,24nm,1.0s
SCHQ **Schefferville** 70.38 25 P P 16 51 24.9 -0.4
comp=Z,7.0nm,0.8s,baz=357,slow=5.5,SNR=7.4
SCHQ LR LR 17 27 26.1
comp=Z,99nm,18.3s,baz=350,slow=40
SCHQ **Schefferville** 70.38 25 *eP* P 16 51 25.3 0.0
comp=Z,11nm,0.9s
KVAR **Kislovodsk Arr** 70.67 315 P P 16 51 26.5 -0.8
comp=Z,3.8nm,0.6s,baz=242,slow=21,SNR=4.4
KIV **Kislovodsk** 70.68 315 *eP* P 16 51 26.4 -1.0
comp=Z,11nm,0.8s
KIV **Kislovodsk** 70.68 315 *eP* P 16 51 25.5 -1.8
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,166nm,18.0s
KIV **Kislovodsk** 70.68 315 P P 16 51 27.9 +0.6
KBZ **Khabaz** 70.75 315 P P 16 51 28.2 +0.6
comp=Z,6.6nm,0.8s,baz=74,slow=2.8,SNR=20
KBZ LR LR 17 27 39.8
comp=Z,263nm,18.6s,baz=32,slow=40
AKASG **Malin Array Be** 70.78 327 P P 16 51 26.6 -1.1
comp=Z,4.6nm,0.6s,baz=33,slow=6.5,SNR=21
AKBB **Malin Array Si** 70.78 327 *eP* P 16 51 26.6 -1.1
comp=Z,7.6nm,0.8s
AKBB **Malin Array Si** 70.78 327 *eP* P 16 51 26.6 -1.1
AKBB pmax pmax
comp=Z,8.0nm,0.8s
KIEV **Kiev** 70.80 327 *eP* P 16 51 27.4 -0.4
KIEV **Kiev** 70.80 327 *eP* P 16 51 26.6 -1.2
comp=Z,7.4nm,0.8s
KIEV **Kiev** 70.80 327 *eP* P 16 51 26.6 -1.2
KIEV pmax pmax
comp=Z,7.0nm,0.8s
AK11 **Malin Array Si** 70.82 327 *eP* P 16 51 26.5 -1.5
DZM **Mont Dzumac** 71.36 170 *eLR* LR 17 13 14.6
comp=Z,118nm,23.6s
WRAB **Tennant Creek** 71.36 202⇑ *iP* P 16 51 32.2 +0.7
WRAB pmax pmax
comp=Z,15nm,1.2s
WB2 **Warramunga Arr** 71.37 202 *eP* P 16 51 30.7 -0.8
WR1 **Warramunga Arr** 71.38 202 *eP* P 16 51 31.3 -0.2
comp=Z,8.7nm,0.9s
WRA **Warramunga Arr** 71.38 202 P P 16 51 31.3 -0.2
comp=Z,5.7nm,0.8s,baz=18,slow=6.3,SNR=24
WRA **Warramunga Arr** 71.38 202 *i* P P 16 51 31.2 -0.4
WRA pmax pmax
comp=Z,6.0nm,0.8s
MNTX **Cornudas Mount** 71.84 63 *eP* P 16 51 34.5 0.0
comp=Z,16nm,1.6s
AKH **Akhalkalaki** 72.25 313⇓ *iP* P 16 51 38.9 +1.9
AKH **Akhalkalaki** 72.25 313 *eP* P 16 51 37.0 0.0
comp=Z,8.9nm,0.9s
AKH **Akhalkalaki** 72.25 313 *eP* P 16 51 37.0 0.0
AKH pmax pmax
comp=Z,9.0nm,0.9s
MCD **Coleburn Disti** 72.41 349 *eP* P 16 51 37.7 +0.3
GNI **Garni** 72.62 312 P P 16 51 42.5 +3.3
comp=Z,7.3nm,0.8s,baz=340,slow=11,SNR=4.8
GNI LR LR 17 27 40.3
comp=Z,177nm,18.1s,baz=48,slow=39
MDO **Dochfour** 72.69 349 *eP* P 16 51 39.3 +0.2
KAC **Achnashellach** 72.74 350 *eP* P 16 51 39.4 0.0
KPL **Plockton** 72.94 350 *eP* P 16 51 40.2 -0.3
KPL IAmb IAmb 16 51 42.0
comp=Z,25nm,0.8s
DRUM **Mains of Drumt** 72.96 348 *eP* P 16 51 40.5 -0.1
DRUM IAmb IAmb 16 51 41.9
comp=Z,105nm,1.4s
HORU **Horodok** 73.02 328 P P 16 51 40.0 -1.2
KSB **Sheil Bridge** 73.04 350 *eP* P 16 51 41.6 +0.5
SORM **Soroca** 73.24 326 *iP* P 16 51 42.0 -0.5
SORM **Soroca** 73.24 326 P P 16 51 42.0 -0.5
LVV **L'vov** 73.31 330 *eP* P 16 51 43.4 +0.5
LVV MLR MLR
comp=Z,170nm,19.0s
WMOK **Wichita Mounta** 73.34 56 *eP* P 16 51 42.9 -0.4
comp=Z,4.6nm,0.9s
WMOK **Wichita Mounta** 73.34 56 *eP* P 16 51 42.9 -0.4
WMOK pmax pmax
comp=Z,5.0nm,0.9s
KWP **Kalwaria Pacla** 73.90 331 *eP* P 16 51 47.2 +0.8
KWP **Kalwaria Pacla** 73.90 331 *eP* P 16 51 46.6 +0.2
comp=Z,795nm,1.0s
KWP **Kalwaria Pacla** 73.90 331 *eP* P 16 51 46.6 +0.2
EAB **Aberfoyle** 73.91 349 *eP* P 16 51 46.7 +0.5
ESY **Stoneypath** 73.94 348 *eP* P 16 51 46.8 +0.3
PGBU **Glenifferbraes** 74.29 349 *eP* P 16 51 49.1 +0.6
PGBU IAmb IAmb 16 51 50.3
comp=Z,60nm,0.8s
OJC **Ojcow** 74.30 333 *eP* P 16 51 49.2 +0.5
OJC **Ojcow** 74.30 333 *eP* P 16 51 48.7 +0.1
OJC **Ojcow** 74.30 333 *eP* P 16 51 48.8 +0.1
comp=Z,42nm,0.9s
OJC **Ojcow** 74.30 333 *eP* P 16 51 48.8 +0.1
OJC pmax pmax
comp=Z,42nm,0.9s
STHS **Stebnicka Huta** 74.56 331 *eP* P 16 51 51.1 +0.9
STHS pmax pmax
comp=Z,28nm,0.8s
STHS **Stebnicka Huta** 74.56 331 *eP* P 16 51 51.1 +0.9
TX31 **Lajitas Ar. Si** 74.57 63 *eP* P 16 51 50.6 -0.1
LTX **Lajitas** 74.57 63 *eP* P 16 51 51.2 +0.4
LTX **Lajitas** 74.57 63 *eP* P 16 51 51.2 +0.4
TXAR **Lajitas Array** 74.57 63 P P 16 51 51.2 +0.4
comp=Z,2.1nm,0.5s,baz=297,slow=4.5,SNR=36
EKA **Eskdalemuir Ar** 74.58 348 P P 16 51 50.9 +0.6
comp=Z,7.9nm,0.5s,baz=21,slow=5.4,SNR=39
ESK **Eskdalemuir** 74.61 348 *eP* P 16 51 50.7 +0.4
comp=Z,16nm,0.7s
ESK **Eskdalemuir** 74.61 348 *eP* P 16 51 50.7 +0.4
ESK pmax pmax
comp=Z,16nm,0.7s
ESK **Eskdalemuir** 74.61 348 *eP* P 16 51 49.7 -0.7
ESK IAmb IAmb 16 51 50.5
comp=Z,17nm,0.8s
KSP **Ksiaz** 74.76 335 *eP* P 16 51 51.9 +0.6
KSP **Ksiaz** 74.76 335 *eP* P 16 51 51.9 +0.6
KOPT **Kop Dagi** 74.77 314 *eP* P 16 51 52.3 +0.4
comp=Z,28nm,0.8s
BUR08 **Bucovina Ar. S** 74.78 328 *eP* P 16 51 51.9 +0.2
BUR04 **Bucovina Ar. S** 74.80 328 *eP* P 16 51 51.7 -0.1
BURAR **Bucovina Array** 74.80 328⇓ *iP* P 16 51 52.2 +0.4
BURAR **Bucovina Array** 74.80 328 P P 16 51 52.4 +0.6
NIE **Niedzica** 74.85 332 *eP* P 16 51 52.8 +0.9
NIE **Niedzica** 74.85 332 *eP* P 16 51 52.8 +0.9
EDMD **Edmundbyers** 74.90 347 *eP* P 16 51 52.1 0.0
UZH **Uzhgorod** 74.91 330 *c iP* P 16 51 51.8 -0.4
UZH *e* 16 52 06.2
CRVS **Cervenica-Dubn** 74.94 331 *eP* P 16 51 52.7 +0.3
CRVS **Cervenica-Dubn** 74.94 331 *eP* P 16 51 52.7 +0.3
AS01 **Alice Springs** 75.05 201 *eP* P 16 51 53.2 0.0
PALK **Pallekele** 75.05 264 *eP* P 16 51 53.6 0.0
comp=Z,15nm,0.9s
PALK **Pallekele** 75.05 264 *eP* P 16 51 53.6 0.0
PALK pmax pmax
comp=Z,15nm,0.9s
PALK **Pallekele** 75.05 264 P P 16 51 54.4 +0.8
AS31 **Alice Springs** 75.06 201 *eP* P 16 51 53.2 0.0
comp=Z,1.2nm,0.8s
ASAR **Alice Springs** 75.06 201 P P 16 51 54.0 +0.7
comp=Z,2.4nm,0.9s,baz=14,slow=5.1,SNR=34
ASAR LR LR 17 22 23.7
comp=Z,58nm,21.7s,baz=43,slow=34
OKC **Ostrava-Krasne** 75.13 333⇑ *eP* P 16 51 54.3 +0.8
OKC AMS AMS 17 28 10.0
comp=Z,300nm,16.4s
OKC **Ostrava-Krasne** 75.13 333 *eP* P 16 51 54.3 +0.8
OKC MLR MLR
comp=Z,300nm,16.4s
UPC **Upice** 75.14 335⇑ *eP* P 16 51 53.9 +0.3
UPC AMS AMS 17 28 40.0
comp=Z,600nm,19.9s
UPC **Upice** 75.14 335 *eP* P 16 51 53.9 +0.3
UPC MLR MLR
comp=Z,600nm,19.9s
TRSU **Trosnyk** 75.16 330 P P 16 51 54.5 +0.9
DPC **Dobruska-Polom** 75.20 335 *eP* P 16 51 54.9 +1.0
DPC AMS AMS 17 29 00.0
comp=Z,700nm,18.7s
DPC **Dobruska-Polom** 75.20 335 *eP* P 16 51 54.9 +1.0
DPC MLR MLR
comp=Z,700nm,18.7s
CLGH **Cloghs, Cushen** 75.21 350 *eP* P 16 51 54.3 +0.5
CLGH IAmb IAmb 16 51 55.5
comp=Z,30nm,0.8s
CLL **Collm** 75.22 337 *eP* P 16 51 53.7 -0.3
CLL **Collm** 75.22 337⇑ *iP* P 16 51 54.0 0.0
comp=Z,46nm,0.9s
CLL *e* 17 07 12.0
CLL LmH 17 26 00.0
comp=N,200nm,18.4s
CLL LmH 17 26 00.0
comp=E,200nm,19.4s
CLL LmV 17 28 00.0
comp=Z,300nm,18.6s
CLL **Collm** 75.22 337 *eP* P 16 51 53.7 -0.3
comp=Z,38nm,0.8s
CLL **Collm** 75.22 337 *eP* P 16 51 53.7 -0.3
CLL pmax pmax
comp=Z,38nm,0.8s
TESR **Tescani** 75.24 327⇓ *iP* P 16 51 54.2 0.0
TRPA **Tarpa** 75.26 330⇑ *eP* P 16 51 55.0 +0.7
LANS **Liptovska Anna** 75.34 332 *eP* P 16 51 56.4 +1.6
LANS **Liptovska Anna** 75.34 332 *eP* P 16 51 56.4 +1.6
MORC **Moravsky Berou** 75.36 334⇑ *iP* P 16 51 55.6 +0.7
MORC **Moravsky Berou** 75.36 334 *eP* P 16 51 55.5 +0.6
comp=Z,191nm,0.8s
MORC **Moravsky Berou** 75.36 334 *eP* P 16 51 55.5 +0.6
MORC pmax pmax
comp=Z,191nm,0.8s
PVCC **Panska Ves** 75.52 336⇑ *eP* P 16 51 56.6 +0.9
PVCC **Panska Ves** 75.52 336 *eP* P 16 51 56.6 +0.9
TLCR 75.55 325⇑ *iP* P 16 51 56.4 +0.4
ARCR **ARCALIA** 75.56 328⇑ *iP* P 16 51 57.4 +1.4
KECS **Kecovo** 75.62 331 *eP* P 16 51 56.3 0.0
KECS pmax pmax
comp=Z,13nm,0.9s
KECS **Kecovo** 75.62 331 *eP* P 16 51 56.3 0.0
HPK **Haverah Park** 75.70 347 *eP* P 16 51 57.0 +0.3
HPK IAmb IAmb 16 51 58.2
comp=Z,53nm,0.9s
ODBI **Odobesti** 75.72 326⇑ *iP* P 16 51 58.5 +1.5
VRI **Vrincioaia** 75.76 326⇓ *iP* P 16 51 58.3 +1.1
VRI **Vrincioaia** 75.76 326 P P 16 51 58.2 +1.1
GOPC **GO Pecny, Ondr** 76.02 335 *eP* P 16 51 59.7 +1.1
GOPC AMS AMS 17 29 00.0
comp=Z,500nm,20.0s
GOPC **GO Pecny, Ondr** 76.02 335 *eP* P 16 51 59.7 +1.1
GOPC MLR MLR
comp=Z,500nm,20.0s
PRU **Pruhonice** 76.02 336⇑ *eP* P 16 51 59.2 +0.6
PRU AMS AMS 17 28 50.0
comp=Z,600nm,18.3s
PRU **Pruhonice** 76.02 336 *eP* P 16 51 59.2 +0.6
PRU MLR MLR
comp=Z,600nm,18.3s
VRAC **Vranov** 76.06 334 P P 16 51 59.4 +0.6
comp=Z,38nm,0.8s,baz=28,slow=5.6,SNR=44
VRAC **Vranov** 76.06 334⇑ *iP* P 16 52 00.0 +1.2
WTSB **Wintervijk** 76.06 341 *eP* P 16 51 59.2 +0.4
comp=Z,37nm,0.7s
VYHS **Vyhne** 76.12 332 *eP* P 16 52 00.0 +0.8
VYHS pmax pmax
comp=Z,15nm,0.9s
VYHS **Vyhne** 76.12 332 *eP* P 16 52 00.0 +0.8
CJR **Cluj-Napoca** 76.14 329⇑ *iP* P 16 52 00.3 +0.9
CJR **Cluj-Napoca** 76.14 329 P P 16 52 00.2 +0.9
DOPR **Dopca** 76.16 327⇑ *iP* P 16 52 00.4 +0.9
LBWR **Ladybower, Pea** 76.25 347 *eP* P 16 52 00.3 +0.5
LBWR IAmb IAmb 16 52 01.3
comp=Z,58nm,1.1s
MIAR **Mount Ida** 76.27 53 *eP* P 16 52 00.7 +0.4
comp=Z,32nm,1.8s
MIAR **Mount Ida** 76.27 53 *eP* P 16 52 00.7 +0.4
MIAR pmax pmax
comp=Z,32nm,1.8s
PSZ **Piszkesteto** 76.30 331⇑ *iP* P 16 52 01.5 +1.2
PSZ **Piszkesteto** 76.30 331⇑ *eP* P 16 52 01.1 +0.7
PSZ **Piszkesteto** 76.30 331 *eP* P 16 52 01.0 +0.7
comp=Z,29nm,1.0s
PSZ **Piszkesteto** 76.30 331 *eP* P 16 52 01.0 +0.7
PSZ pmax pmax
comp=Z,29nm,1.0s
HARR **Harsova** 76.31 325⇑ *iP* P 16 52 01.1 +0.8
TIRR **Tirgusor** 76.32 324⇓ *iP* P 16 52 00.5 +0.1
NKC **Novy Kostel** 76.34 337⇑ *eP* P 16 52 01.2 +0.7
NKC AMS AMS 17 30 30.0
comp=Z,400nm,17.8s
NKC **Novy Kostel** 76.34 337 *eP* P 16 52 01.2 +0.7
NKC MLR MLR
comp=Z,400nm,17.8s
TLB **Topalu** 76.35 325⇑ *iP* P 16 52 00.9 +0.4
MLR **Muntele Rosu** 76.36 326 P P 16 52 01.1 +0.3
comp=Z,6.5nm,0.7s,baz=196,slow=5.0,SNR=19
MLR **Muntele Rosu** 76.36 326⇑ *iP* P 16 52 01.8 +1.0
MLR **Muntele Rosu** 76.36 326 *eP* P 16 52 00.8 0.0
comp=Z,31nm,0.8s
MLR **Muntele Rosu** 76.36 326 *eP* P 16 52 00.8 0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLR				pmax	pmax		
	comp=Z,31nm,0.8s						
DRGR		**76.37**	**329**	⇓*i*P	**P**	**16 52 01.1**	**+0.4**
DRGR		**76.37**	**329**	P	**P**	**16 52 01.1**	**+0.4**
TOKA	**Tokat**	**76.37**	**317**	*e*P	**P**	**16 52 00.6**	**-0.2**
	comp=Z,32nm,1.1s						
TREC	**Trest**	**76.38**	**335**	⇑*e*P	**P**	**16 52 01.4**	**+0.7**
TREC				AMS	AMS	17 29 30.0	
	comp=Z,600nm,19.1s						
TREC	**Trest**	**76.38**	**335**	*e*P	**P**	**16 52 01.4**	**+0.7**
TREC				MLR	MLR		
	comp=Z,600nm,19.1s						
ISR	**Istrita**	**76.46**	**326**	⇑*i*P	**P**	**16 52 01.8**	**+0.5**
ISR	**Istrita**	**76.46**	**326**	P	**P**	**16 52 01.7**	**+0.5**
SMOL	**Smolenice**	**76.53**	**333**	*e*P	**P**	**16 52 02.9**	**+1.4**
SMOL	**Smolenice**	**76.53**	**333**	*e*P	**P**	**16 52 02.9**	**+1.4**
MODS	**Modra-Piesok**	**76.70**	**333**	*e*P	**P**	**16 52 02.7**	**+0.2**
MODS	**Modra-Piesok**	**76.70**	**333**	*e*P	**P**	**16 52 02.7**	**+0.2**
VOIR		**76.73**	**327**	⇓*i*P	**P**	**16 52 03.7**	**+0.9**
VOIR		**76.73**	**327**	P	**P**	**16 52 03.6**	**+0.8**
MARD	**Mardin**	**76.76**	**312**	*e*P	**P**	**16 52 03.4**	**+0.2**
	comp=Z,53nm,1.0s						
CWF	**Charnwood Fore**	**76.83**	**346**	*e*P	**P**	**16 52 01.9**	**-1.2**
CWF				IAmb	IAmb	16 52 03.4	
	comp=Z,91nm,1.6s						
ZST	**Bratislava**	**76.91**	**333**	*e*P	**P**	**16 52 03.8**	**+0.2**
ZST				pmax	pmax		
	comp=Z,32nm,0.9s						
ZST	**Bratislava**	**76.91**	**333**	*e*P	**P**	**16 52 03.8**	**+0.2**
ARR	**Arges**	**76.94**	**327**	⇑*i*P	**P**	**16 52 05.3**	**+1.3**
SULR		**76.94**	**326**	⇓*i*P	**P**	**16 52 04.6**	**+0.7**
BUD	**Budapest**	**76.96**	**332**	⇑*e*P	**P**	**16 52 05.0**	**+1.1**
BUD	**Budapest**	**76.96**	**332**	P	**P**	**16 52 05.7**	**+1.8**
FOEL	**Foel Wylfa**	**76.97**	**347**	*e*P	**P**	**16 52 03.6**	**-0.3**
FOEL				IAmb	IAmb	16 52 04.4	
	comp=Z,34nm,0.9s						
BANOM	**Banah**	**76.99**	**294**	P	**P**	**16 52 05.0**	**+0.5**
	SNR=10						
BANOM	**Banah**	**76.99**	**294**	*i* P	**P**	**16 52 05.1**	**+0.5**
	SNR=36						
SHME	**Shamm**	**76.99**	**295**	*i* P	**P**	**16 52 04.9**	**+0.4**
	SNR=19						
ILGA	**Ilgaz**	**77.00**	**319**	*e*P	**P**	**16 52 04.6**	**+0.1**
	comp=Z,58nm,0.8s						
KHC	**Kasperske Hory**	**77.06**	**336**	⇑*i*P	**P**	**16 52 05.4**	**+0.9**
KHC				*e*pP	**pP**	16 52 13.0	-1.9
KHC				AMS	AMS	17 29 40.0	
	comp=Z,700nm,18.5s						
KHC	**Kasperske Hory**	**77.06**	**336**	*e*P	**P**	**16 52 04.9**	**+0.4**
KHC	**Kasperske Hory**	**77.06**	**336**	*e*P	**P**	**16 52 05.0**	**+0.4**
	comp=Z,16nm,0.9s						
KHC	**Kasperske Hory**	**77.06**	**336**	⇑*i*P	**P**	**16 52 05.4**	**+0.9**
KHC				*e*		16 52 13.0	
KHC				MLR	MLR		
	comp=Z,700nm,18.5s						
GRF	**Grafenberg Arr**	**77.16**	**338**	P	**P**	**16 52 06.3**	**+1.3**
GRFO	**Grafenberg**	**77.16**	**338**	*e*P	**P**	**16 52 05.7**	**+0.7**
	comp=Z,56nm,0.9s						
GRFO	**Grafenberg**	**77.16**	**338**	*e*P	**P**	**16 52 05.7**	**+0.7**
GRFO				pmax	pmax		
	comp=Z,56nm,0.9s						
LOT	**Lotru**	**77.18**	**328**	⇑*i*P	**P**	**16 52 05.8**	**+0.4**
SIRR	**Siria**	**77.18**	**330**	⇓*i*P	**P**	**16 52 06.1**	**+0.8**
GEC2	**GERESS Array S**	**77.28**	**336**	*e*P	**P**	**16 52 06.1**	**+0.2**
	comp=Z,14nm,0.8s						
GEC2	**GERESS Array S**	**77.28**	**336**	*e*P	**P**	**16 52 06.1**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,14nm,0.8s						
GERES	**GERESS Array B**	**77.28**	**336**	P	**P**	**16 52 06.4**	**+0.5**
	comp=Z,10nm,0.7s,baz=34,slow=5.0,SNR=85						
GEA0	**GERESS Array S**	**77.29**	**336**	*e*P	**P**	**16 52 05.8**	**-0.1**
CSKK	**Csˆ‡kako**	**77.30**	**332**	⇑*e*P	**P**	**16 52 07.0**	**+1.1**
HGN	**Heimansgroeve**	**77.38**	**341**	*e*P	**P**	**16 52 06.7**	**+0.5**
	comp=Z,69nm,1.0s						
BEBN	**Eben Emael**	**77.40**	**341**	⇑P	**P**	**16 52 06.8**	**+0.5**
MSFE	**Esma-Masafi**	**77.49**	**294**	P	**P**	**16 52 07.8**	**+0.5**
CONA	**Conrad Observa**	**77.51**	**334**	*i* P	**P**	**16 52 08.4**	**+1.2**
	comp=Z,22nm,0.7s,SNR=22						
MEM	**Membach**	**77.51**	**341**	⇑P	**P**	**16 52 07.7**	**+0.7**
	comp=Z,45nm,1.0s						
MEM	**Membach**	**77.51**	**341**	P	**P**	**16 52 08.3**	**+1.3**
SOP	**Sopron**	**77.53**	**333**	⇑*e*P	**P**	**16 52 08.5**	**+1.4**
SOP	**Sopron**	**77.53**	**333**	P	**P**	**16 52 08.8**	**+1.7**
WSAR	**Wadi Sarin**	**77.56**	**291**	P	**P**	**16 52 08.7**	**+1.0**
	comp=Z,13nm,0.9s,baz=71,slow=5.6,SNR=9.2						
WSAR				LR	LR	17 31 01.7	
	comp=Z,272nm,18.8s,baz=64,slow=39						
BZS	**Buzias**	**77.77**	**329**	⇑*i*P	**P**	**16 52 08.6**	**+0.1**
UOSS	**Minazif**	**77.77**	**294**	*e*P	**P**	**16 52 08.8**	**-0.1**
	comp=Z,45nm,0.9s						
UOSS	**Minazif**	**77.77**	**294**	*i* P	**P**	**16 52 08.9**	**0.0**
	SNR=13						
MCH1	**Michaelchurch**	**77.81**	**347**	*e*P	**P**	**16 52 09.2**	**+0.6**
MCH1				IAmb	IAmb	16 52 12.6	
	comp=Z,12nm,0.8s						
BCLA	**Clavier**	**77.84**	**341**	⇑P	**P**	**16 52 09.1**	**+0.3**
	comp=Z,24nm,1.0s						
HATD	**Hatta, Dubai**	**77.90**	**294**	*i* P	**P**	**16 52 10.3**	**+0.7**
	SNR=14						
MOA	**Molln**	**78.04**	**335**	*i* P	**P**	**16 52 10.9**	**+0.9**
	comp=Z,18nm,0.8s,SNR=7.9						
ASHO	**Ashiyiah**	**78.05**	**294**	P	**P**	**16 52 11.1**	**+0.6**
	SNR=8.2						
ASHO	**Ashiyiah**	**78.05**	**294**	*i* P	**P**	**16 52 10.6**	**+0.1**
	SNR=12						
NAZ	**Nazwa, Dubai**	**78.06**	**294**	*i* P	**P**	**16 52 11.1**	**+0.6**
	SNR=14						
BR101	**Keskin Array S**	**78.12**	**318**	*e*P	**P**	**16 52 11.2**	**+0.5**
BR131	**Keskin Array S**	**78.12**	**318**	*e*P	**P**	**16 52 10.9**	**+0.2**
BRTR	**Keskin Array B**	**78.12**	**318**	P	**P**	**16 52 11.2**	**+0.5**
	comp=Z,22nm,0.9s,baz=63,slow=3.2,SNR=58						
HERR	**Herculane**	**78.14**	**328**	⇑*i*P	**P**	**16 52 10.4**	**-0.2**
ZIMR		**78.15**	**326**	⇑*i*P	**P**	**16 52 11.4**	**+0.8**
SOHO	**SOHO**	**78.18**	**293**	*i* P	**P**	**16 52 11.2**	**+0.1**
	SNR=8.9						
WOL	**Wolverton**	**78.20**	**346**	*e*P	**P**	**16 52 11.4**	**+0.7**
WOL				IAmb	IAmb	16 52 12.1	
	comp=Z,44nm,0.7s						
ARSA	**Arzberg**	**78.22**	**334**	*i* P	**P**	**16 52 12.3**	**+1.2**
	comp=Z,11nm,0.9s,SNR=12						
GIVF	**Givet**	**78.24**	**342**	*e*P	**P**	**16 52 11.2**	**+0.2**
GIVF				pmax	pmax		
	comp=Z,22nm,1.0s						
DOU	**Dourbes**	**78.29**	**342**	⇓P	**P**	**16 52 12.1**	**+0.8**
ANTO	**Ankara**	**78.37**	**319**	*e*P	**P**	**16 52 12.4**	**+0.4**
	comp=Z,23nm,0.8s						
ANTO	**Ankara**	**78.37**	**319**	*e*P	**P**	**16 52 12.4**	**+0.4**
ANTO				pmax	pmax		
	comp=Z,23nm,0.8s						
WLF	**Walferdange**	**78.37**	**341**	⇑P	**P**	**16 52 14.9**	**+3.1**
BR231	**Keskin MP Arra**	**78.40**	**319**	*e*P	**P**	**16 52 11.4**	**-0.9**
BAIF	**Baives**	**78.41**	**342**	*e*P	**P**	**16 52 12.2**	**+0.3**
BAIF				pmax	pmax		
	comp=Z,23nm,1.0s						
MDVR	**Moldovita**	**78.47**	**329**	⇑*i*P	**P**	**16 52 12.2**	**-0.3**
LANF	**Langenberg**	**78.64**	**339**	*e*P	**P**	**16 52 14.7**	**+1.4**
ALNE	**Al Ain**	**78.71**	**294**	*i* P	**P**	**16 52 14.7**	**+0.7**
	SNR=22						
AJN	**Ajban**	**78.79**	**294**	P	**P**	**16 52 14.6**	**+0.1**
SOKA	**Soboth**	**78.88**	**334**	*i* P	**P**	**16 52 15.6**	**+0.9**
	comp=Z,33nm,0.9s,SNR=33						
GROS	**Grobnik**	**78.94**	**334**	*i* P	**P**	**16 52 15.6**	**+0.5**
KBA	**Koelnbreinsper**	**79.00**	**335**	P	**P**	**16 52 16.8**	**+1.3**
KBA	**Koelnbreinsper**	**79.00**	**335**	*i* P	**P**	**16 52 16.9**	**+1.4**
	comp=Z,91nm,0.9s,SNR=35						
BFO	**Black Forest**	**79.13**	**339**	*e*P	**P**	**16 52 16.5**	**+0.5**
	comp=Z,24nm,1.0s						
BFO	**Black Forest**	**79.13**	**339**	*e*P	**P**	**16 52 16.5**	**+0.5**
BFO				pmax	pmax		
	comp=Z,24nm,1.0s						
OBKA	**Obir**	**79.18**	**334**	*i* P	**P**	**16 52 17.2**	**+0.8**
	comp=Z,18nm,1.1s,SNR=8.8						
WATA	**Walderalm**	**79.24**	**336**	*i* P	**P**	**16 52 18.0**	**+1.3**
	comp=Z,32nm,1.0s,SNR=8.8						
WTTA	**Wattenberg**	**79.29**	**336**	*i* P	**P**	**16 52 18.5**	**+1.4**
	comp=Z,40nm,1.0s,SNR=15						
CDF	**Champ du Feu**	**79.30**	**340**	*e*P	**P**	**16 52 16.3**	**-0.7**
CDF				pmax	pmax		
	comp=Z,36nm,1.1s						
RETA	**Reutte**	**79.31**	**337**	*i* P	**P**	**16 52 18.2**	**+1.1**
	comp=Z,19nm,0.9s,SNR=5.3						
MYKA	**Terra Mystica**	**79.32**	**335**	*i* P	**P**	**16 52 18.1**	**+1.0**
	comp=Z,17nm,1.0s,SNR=6.9						
MOTA	**Moosalm**	**79.35**	**337**	*i* P	**P**	**16 52 18.4**	**+1.0**
	comp=Z,46nm,0.9s,SNR=13						
LEGS	**Legarje**	**79.46**	**333**	*i* P	**P**	**16 52 17.9**	**+0.1**
DYA	**Yadsworthy**	**79.47**	**347**	*e*P	**P**	**16 52 17.2**	**-0.6**
DYA				IAmb	IAmb	16 52 18.1	
	comp=Z,30nm,1.0s						
ABTA	**Abfaltersbach**	**79.53**	**336**	*i* P	**P**	**16 52 19.2**	**+1.0**
	comp=Z,31nm,1.0s,SNR=12						
CRES	**Cresnjev**	**79.53**	**333**	*e*P	**P**	**16 52 18.5**	**+0.3**
SLE	**Schleitheim**	**79.62**	**339**	P	**P**	**16 52 19.6**	**+0.9**
CADS	**Cadrg**	**79.66**	**335**	*e*P	**P**	**16 52 18.5**	**-0.5**
DAVA	**Damuels**	**79.72**	**337**	*i* P	**P**	**16 52 20.3**	**+0.8**
	comp=Z,25nm,0.9s,SNR=8.0						
FETA	**Feichten**	**79.75**	**337**	*i* P	**P**	**16 52 20.8**	**+1.2**
	comp=Z,33nm,1.1s,SNR=14						
VTS	**Vitosha**	**79.86**	**327**	⇑*i*P	**P**	**16 52 20.9**	**+0.7**
VTS	**Vitosha**	**79.86**	**327**	*e*P	**P**	**16 52 20.7**	**+0.5**
	comp=Z,36nm,0.9s						
VTS	**Vitosha**	**79.86**	**327**	*e*P	**P**	**16 52 20.7**	**+0.5**
VTS				pmax	pmax		
	comp=Z,36nm,0.9s						
HAU	**Haudompre**	**79.89**	**340**	P	**P**	**16 52 20.3**	**+0.1**
BLY	**Banja Luka**	**79.98**	**332**	*e*P	**P**	**16 52 20.6**	**-0.1**
	comp=Z,6.3nm,0.7s						
TAOE	**Nuku Hiva Isla**	**79.99**	**116**	*e*LR	LR	17 17 28.5	
	comp=Z,290nm,22.8s						
TRI	**Trieste**	**80.13**	**334**	*e*P	**P**	**16 52 20.7**	**-0.7**
	comp=Z,21nm,1.0s						
TRI	**Trieste**	**80.13**	**334**	*e*P	**P**	**16 52 20.7**	**-0.7**
TRI				pmax	pmax		
	comp=Z,21nm,1.0s						
RAR	**Rarotonga**	**80.16**	**139**	LR	LR	17 21 59.4	
	comp=Z,68nm,21.0s,baz=273,slow=31						
DAVOX	**Davos/Dischmat**	**80.19**	**337**	P	**P**	**16 52 23.2**	**+1.2**
	comp=Z,12nm,0.8s,baz=23,slow=6.0,SNR=14						
FUORN	**Ofenpass-Fuorn**	**80.24**	**337**	*e*P	**P**	**16 52 23.5**	**+1.1**
	comp=Z,39nm,1.1s						
FLN	**La Foliniere**	**80.54**	**345**	*e*P	**P**	**16 52 23.8**	**+0.2**
FLN				pmax	pmax		
	comp=Z,40nm,1.1s						
TUE	**Stuetta**	**80.61**	**337**	*e*P	**P**	**16 52 24.5**	**+0.2**
	comp=Z,40nm,1.1s						
LDF	**La Druitiere**	**80.64**	**344**	*e*P	**P**	**16 52 24.3**	**+0.2**
LDF				pmax	pmax		
	comp=Z,21nm,1.0s						
GRR	**Gorron**	**80.96**	**345**	P	**P**	**16 52 26.4**	**+0.6**
GRR				pmax	pmax		
	comp=Z,44nm,1.0s						
SRS	**Serrai**	**81.00**	**326**	P	**P**	**16 52 27.6**	**+1.4**
SENIN	**Lac Senin/Sane**	**81.22**	**339**	*e*P	**P**	**16 52 28.2**	**+0.6**
	comp=Z,8.7nm,0.8s						
CABF	**La Chapelle**	**81.27**	**340**	*e*P	**P**	**16 52 29.3**	**+1.7**
CABF				pmax	pmax		
	comp=Z,22nm,1.2s						
SGMF	**Saint Gilles**	**81.38**	**346**	*e*P	**P**	**16 52 28.8**	**+0.7**
SGMF				pmax	pmax		
	comp=Z,12nm,0.6s						
PDG	**Podgorica**	**81.38**	**329**	⇑*i*P	**P**	**16 52 27.7**	**-0.5**
TTG	**Podgorica**	**81.38**	**329**	*e*P	**P**	**16 52 26.6**	**-1.6**
	comp=Z,29nm,0.8s						
TTG	**Podgorica**	**81.38**	**329**	*e*P	**P**	**16 52 26.6**	**-1.6**
TTG				pmax	pmax		
	comp=Z,29nm,0.8s						
ROSF	**Rostrenen**	**81.41**	**346**	*e*P	**P**	**16 52 29.0**	**+0.8**
ROSF				pmax	pmax		
	comp=Z,27nm,0.9s						
STKA	**Stephens Creek**	**81.59**	**193**	LR	LR	17 29 01.4	
	comp=Z,64nm,19.6s,baz=24,slow=36						
QUIF	**Quistinic**	**81.80**	**346**	*e*P	**P**	**16 52 31.0**	**+0.7**
QUIF				pmax	pmax		
	comp=Z,19nm,1.1s						
LPL	**La Plagne**	**82.15**	**339**	*e*P	**P**	**16 52 33.7**	**+1.2**
LPL				pmax	pmax		
	comp=Z,26nm,1.2s						
LPG	**La Plagne**	**82.16**	**339**	*e*P	**P**	**16 52 33.9**	**+1.3**
LPG				pmax	pmax		
	comp=Z,35nm,1.2s						
TCF	**Toulx Ste Croi**	**82.41**	**342**	*e*P	**P**	**16 52 34.5**	**+0.9**
TCF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VLC	**Villacollemand**	**82.49**	**336**	*e*P	**P**	**16 52 33.0**	**-1.1**
	comp=Z,52nm,1.3s						
MFF	**Saint Martin d**	**82.56**	**344**	*e*P	**P**	**16 52 35.3**	**+1.0**
BNI	**Bardonecchia**	**82.60**	**339**	*e*P	**P**	**16 52 35.6**	**+0.9**
	comp=Z,10nm,0.8s						
BNI	**Bardonecchia**	**82.60**	**339**	*e*P	**P**	**16 52 35.6**	**+0.9**
BNI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ASF	**Jabal al Asfar**	**82.79**	**312**	P	**P**	**16 52 36.7**	**+0.8**
	comp=Z,5.8nm,0.9s,baz=142,slow=4.4,SNR=5.3						
MMAI	**Mount Meron Ar**	**82.82**	**313**	P	**P**	**16 52 36.9**	**+0.9**
	comp=Z,12nm,0.7s,baz=46,slow=7.1,SNR=9.7						
MMAI				LR	LR	17 35 19.8	
	comp=Z,110nm,18.0s,baz=35,slow=40						
SSB	**Saint Sauveur**	**82.88**	**340**	*e*P	**P**	**16 52 36.1**	**0.0**
	comp=Z,13nm,0.8s						
SSB	**Saint Sauveur**	**82.88**	**340**	*e*P	**P**	**16 52 36.1**	**0.0**
SSB				pmax	pmax		
	comp=Z,13nm,0.8s						
ORIF	**Oris-en-Rattie**	**82.91**	**339**	*e*P	**P**	**16 52 37.4**	**+1.1**
ORIF				pmax	pmax		
	comp=Z,23nm,1.3s						
CAF	**Calviac**	**83.74**	**342**	*e*P	**P**	**16 52 41.2**	**+0.7**
RAYN	**Ar Rayn**	**85.12**	**300**	*e*P	**P**	**16 52 48.0**	**+0.1**
	comp=Z,9.4nm,0.8s						
TIP	**Timpagrande**	**85.13**	**330**	*e*P	**P**	**16 52 48.2**	**+0.6**
	comp=Z,22nm,1.2s						
MTLF	**Montolieu**	**85.23**	**341**	*e*P	**P**	**16 52 49.8**	**+1.8**
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
EPF	**Esparros**	**85.91**	**343**	*e*P	**P**	**16 52 52.4**	**+0.9**
EPF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ETSF	**Etsaut**	**86.21**	**343**	*e*P	**P**	**16 52 54.6**	**+1.6**
ETSF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TBI	**Tubuai**	**86.78**	**132**	*e*LR	LR	17 20 37.5	
	comp=Z,197nm,24.0s						
VSL	**Villasalto**	**87.10**	**335**	*e*P	**P**	**16 52 57.7**	**+0.4**
	comp=Z,19nm,1.0s						
VAE	**Valguarnera**	**87.45**	**331**	LR	LR	17 38 39.4	
	comp=Z,152nm,18.6s,baz=354,slow=40						
PBRG	**Braganca**	**88.31**	**347**	*e*P	**P**	**16 53 04.2**	**+1.1**
POLO	**Lamas de Olo**	**88.88**	**348**	*e*P	**P**	**16 53 08.4**	**+2.5**
PVRL	**Vila Real**	**88.97**	**348**	*e*P	**P**	**16 53 06.8**	**+0.6**
PVIS	**Viseu**	**89.55**	**348**	*e*P	**P**	**16 53 09.0**	**+0.1**
MTE	**Manteigas**	**89.81**	**348**	*e*P	**P**	**16 53 12.7**	**+2.5**
ES19	**SONSECA Array**	**89.92**	**345**	*e*P	**P**	**16 53 10.4**	**-0.3**
ESDC	**Sonseca Array**	**89.96**	**345**	P	**P**	**16 53 11.4**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=4.8,slow=4.3,SNR=12						
ESLA	**Sonseca Array**	**89.96**	**345**	*e*P	**P**	**16 53 11.4**	**+0.5**
	comp=Z,9.1nm,1.1s						
KEST	**Kesra**	**90.62**	**334**	P	**P**	**16 53 14.3**	**+0.2**
	comp=Z,5.2nm,0.6s,baz=271,slow=2.9,SNR=7.5						
KEST				LR	LR	17 39 58.7	
	comp=Z,284nm,18.2s,baz=298,slow=40						
KEST	**Kesra**	**90.62**	**334**	*e*P	**P**	**16 53 14.9**	**+0.8**
	comp=Z,17nm,1.0s						
LPAZ	**La Paz**	**131.44**	**64**	PKP	**PKPdf**	**16 59 24.9**	**0.0**
	comp=Z,0.9nm,0.7s,baz=40,slow=17,SNR=3.3						
LPAZ	**La Paz**	**131.44**	**64**	*e*PKPdf	**PKPdf**	**16 59 24.7**	**-0.2**
LPAZ	**La Paz**	**131.44**	**64**	*e*PKIKP	**PKPdf**	**16 59 24.7**	**-0.2**
SYO	**Syowa Base**	**143.96**	**213**	⇑*e*PKiKP	**PKiKP**	**16 59 49.0**	**+0.1**
CPUP	**Villa Florida**	**145.53**	**61**	PKPbc	**PKPab**	**16 59 49.9**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=314,slow=5.7,SNR=3.8						
CPUP	**Villa Florida**	**145.53**	**61**	*e*PKPdf	**PKPab**	**16 59 50.2**	**+0.3**
PLCA	**Paso Flores**	**146.30**	**94**	PKPbc	**PKPdf**	**16 59 51.1**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=354,slow=6.2,SNR=2.8						
PLCA	**Paso Flores**	**146.30**	**94**	*e*PKPdf	**PKPbc**	**16 59 51.3**	**-0.5**

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*CSEM **01** 16:41:59.7, 34.°41N×26.°58E, h34km, ML3.0/2, After ATH*
*ATH **01** 16:41:59.7, 34.°41N×26.°58E, h34km±7km, ML3.0/2, Error ellipse: s-maj=9.0km s-min=2.8km az=342.0*
*ISCJB **01** 16:42:01.0±0.5, 34.°57N±0.°07×26.°70E±0.°05, h33km, mb3.7/10, MS3.0/1, Error ellipse: s-maj=10.5km s-min=4.4km az=19.2*
*IDC **01** 16:42:03.2±4.3, 34.°97N×26.°49E, h31km±36km, mb3.6/10, mb1 3.7/14, mb1mx3.4/66, mbtmp3.7/14, ML3.5/3, MS3.1/2, Ms1 3.1/2, ms1mx2.3/55, Error ellipse: s-maj=24.7km s-min=15.6km az=5.0*
ISC 01 16:42:02.2±0.7**, 34.°59N**±0.°07×**26.°59E**±0.°04**, h33**km**, n40, σ1.s48**/43**, mb3.7**/10**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.61**	**330**	P	**Pn**	**16 42 14.5**	**0.0**
ZKR				S	**Sn**	**16 42 26.9**	**+3.8**
ZKR				AML	AML	16 42 27.5	
	comp=N,1519μm,0.4s						
ZKR				AML	AML	16 42 34.9	
	comp=E,3689μm,0.8s						
ZKR	**Zakros**	**0.61**	**330**	P	**Pn**	**16 42 14.7**	**+0.2**
ZKR				S	**Sn**	**16 42 26.5**	**+3.3**
NPS	**Neapolis**	**1.04**	**310**	P	**Pb**	**16 42 22.6**	**+0.7**
NPS	**Neapolis**	**1.04**	**310**	P	**Pb**	**16 42 22.0**	**+0.2**
KARP	**Karpathos**	**1.07**	**26**	P	**Pb**	**16 42 23.2**	**+1.0**
KARP	**Karpathos**	**1.07**	**26**	P	**Pb**	**16 42 22.9**	**+0.7**
LAST	**Lasithi**	**1.07**	**302**	P	**Pn**	**16 42 20.7**	**-0.3**
LAST				S	**Sb**	**16 42 37.6**	**+1.4**
LAST				AML	AML	16 42 45.8	
	comp=E,1360μm,0.7s						
LAST				AML	AML	16 42 47.8	
	comp=N,1204μm,0.6s						
LAST	**Lasithi**	**1.07**	**302**	P	**Pn**	**16 42 21.2**	**+0.1**
LAST				S	**Sb**	**16 42 37.6**	**+1.4**
SIVA	**Sivas**	**1.52**	**287**	P	**Pn**	**16 42 28.2**	**+1.1**
SIVA	**Sivas**	**1.52**	**287**	P	**Pn**	**16 42 27.8**	**+0.7**
IDI	**Anoyia**	**1.56**	**297**	Pn	**Pn**	**16 42 26.6**	**-1.0**
	comp=N,5.1nm,0.3s,baz=131,slow=16,SNR=12						
IDI				LR	LR	16 43 00.0	
	comp=N,42nm,20.5s,baz=33,slow=42						
IDI	**Anoyia**	**1.56**	**297**	P	**Pn**	**16 42 27.5**	**-0.2**
IDI	**Anoyia**	**1.56**	**297**	P	**Pn**	**16 42 27.9**	**+0.2**
ARG	**Arkhangelos**	**2.05**	**37**	P	**Pn**	**16 42 35.9**	**+1.4**
ARG	**Arkhangelos**	**2.05**	**37**	P	**Pn**	**16 42 36.0**	**+1.6**
GVD	**Gavdhos**	**2.07**	**278**	P	**Pn**	**16 42 36.8**	**+2.1**
GVD	**Gavdhos**	**2.07**	**278**	P	**Pn**	**16 42 35.8**	**+1.1**
VAM	**Vamos**	**2.12**	**293**	P	**Pn**	**16 42 35.4**	**0.0**
VAM	**Vamos**	**2.12**	**293**	P	**Pn**	**16 42 35.7**	**+0.3**
IMMV	**Iera Moni Meta**	**2.31**	**293**	P	**Pn**	**16 42 38.2**	**+0.3**
IMMV	**Iera Moni Meta**	**2.31**	**293**	P	**Pn**	**16 42 38.4**	**+0.5**
APE	**Apeiranthos**	**2.62**	**341**	P	**Pn**	**16 42 41.8**	**-0.5**
APE	**Apeiranthos**	**2.62**	**341**	P	**Pn**	**16 42 43.1**	**+0.8**
MMAI	**Mount Meron Ar**	**7.50**	**100**	Pn	**Pn**	**16 43 50.8**	**+1.3**
	comp=N,0.5nm,0.3s,baz=278,slow=10.0,SNR=3.9						
MMAI				Sn	**Sn**	**16 45 13.8**	**+0.4**
	comp=N,3.0nm,0.3s,baz=270,slow=26,SNR=8.7						
BRTR	**Keskin Array B**	**7.61**	**46**	Pn	**Pn**	**16 43 50.3**	**-0.7**
	comp=N,0.0nm,0.3s,baz=236,slow=10,SNR=2.6						
EIL	**Elat**	**8.62**	**122**	Pn	Pn	16 44 10.5	+5.9
	comp=N,0.3nm,0.3s,baz=291,slow=17,SNR=3.4						
EIL				Sn	**Sn**	**16 45 41.2**	**+0.5**
	comp=N,1.2nm,0.3s,baz=198,slow=6.2,SNR=6.5						
KVAR	**Kislovodsk Arr**	**15.57**	**48**	LR	LR	16 52 12.0	
	comp=N,56nm,19.3s,baz=194,slow=40						
AKASG	**Malin Array Be**	**16.22**	**6**	Pn	**Pn**	**16 45 47.5**	**+0.1**
	comp=N,1.1nm,0.3s,baz=193,slow=11,SNR=6.2						
GERES	**GERESS Array B**	**17.15**	**330**	Pn	**Pn**	**16 45 57.1**	**-2.2**
	comp=N,0.1nm,0.3s,baz=150,slow=14,SNR=7.3						
OBN	**Obninsk**	**21.67**	**16**	LR	LR	16 56 02.6	
	comp=N,56nm,18.6s,baz=274,slow=39						
ESDC	**Sonseca Array**	**24.81**	**291**	P	**P**	**16 47 19.1**	**-2.2**
	comp=N,0.3nm,0.4s,baz=77,slow=8.3,SNR=4.0						
GEYT	**Alibeck**	**25.58**	**73**	P	**P**	**16 47 29.5**	**+1.2**
	comp=N,0.8nm,0.4s,baz=262,slow=8.8,SNR=3.6						
FINES	**FINESS Array B**	**26.88**	**359**	P	**P**	**16 47 37.0**	**-2.7**
	comp=N,0.7nm,0.3s,baz=169,slow=9.6,SNR=8.2						
HFS	**Hagfors**	**26.91**	**346**	P	**P**	**16 47 37.7**	**-2.3**
	comp=N,3.1nm,1.0s,baz=139,slow=9.6,SNR=2.6						
EKA	**Eskdalemuir Ar**	**29.18**	**324**	P	**P**	**16 47 59.0**	**-1.3**
	comp=N,0.2nm,0.3s,baz=118,slow=9.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**31.05**	**233**	P	**P**	**16 48 19.7**	**+2.5**
	comp=N,0.5nm,0.6s,baz=49,slow=7.9,SNR=2.4						
ARCES	**ARCESS Array B**	**35.01**	**359**	P	**P**	**16 48 48.5**	**-2.6**
	comp=N,1.4nm,0.7s,baz=175,slow=8.1,SNR=8.3						
ZALV	**Zalesovo Beam**	**44.56**	**46**	P	**P**	**16 50 10.9**	**+0.1**
	comp=N,2.7nm,0.7s,baz=272,slow=7.0,SNR=5.2						
SONM	**Songino Array**	**58.94**	**51**	P	**P**	**16 51 58.3**	**0.0**
	comp=N,0.8nm,0.6s,baz=284,slow=7.8,SNR=6.9						
SEY	**Seymchan**	**73.64**	**23**	P	**P**	**16 53 31.6**	**-0.4**
	comp=N,0.4nm,0.5s,baz=91,slow=24,SNR=4.8						

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*IDC **01** 16:47:52.0±1.2, 28.°91N×142.°05E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.4/69, mbtmp3.7/8, Error ellipse: s-maj=45.0km s-min=16.8km az=79.0*
*ISCJB **01** 16:47:54.4±0.9, 28.°96N±0.°07×142.°1E±0.°3, h30km, mb3.8/8, Error ellipse: s-maj=32.9km s-min=7.0km az=166.9*
ISC 01 16:47:56.4±1.1**, 28.°90N**±0.°08×**142.°0E**±0.°3**, h30**km**, n10, σ0.s96**/11**, mb3.9**/8**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.80**	**175**	Pn	**Pn**	**16 48 26.1**	**+0.6**
	22nm,0.3s,baz=269,slow=21,SNR=11						
JCJ				LR	LR	16 48 33.0	
	comp=Z,51nm,19.2s,baz=194,slow=23						
JCJ				Sn	**Sn**	**16 48 47.5**	**+0.2**
	baz=287,slow=18						
JHJ	**Hachijo jima 2**	**4.62**	**336**	Sn	**Sn**	**16 49 57.0**	**+0.2**
	19nm,0.3s,baz=131,slow=24,SNR=3.0						
SIJI	**Sorong**	**31.34**	**201**	P	**P**	**16 54 12.6**	**-1.8**
	7.2nm,0.8s,baz=39,slow=17,SNR=2.9						
ZALV	**Zalesovo Beam**	**48.04**	**318**	P	**P**	**16 56 31.8**	**-0.9**
	0.6nm,0.4s,baz=89,slow=7.4,SNR=2.4						
MKAR	**Makanchi Array**	**49.23**	**308**	P	**P**	**16 56 42.9**	**+0.8**
	0.2nm,0.6s,baz=96,slow=9.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**51.69**	**313**	P	**P**	**16 57 00.5**	**+0.1**
	0.7nm,0.4s,baz=91,slow=7.3,SNR=4.8						
ASAR	**Alice Springs**	**52.84**	**189**	P	**P**	**16 57 10.1**	**+0.8**
	0.1nm,0.4s,baz=14,slow=7.8,SNR=3.5						
ILAR	**Eielson Array**	**56.21**	**29**	P	**P**	**16 57 32.9**	**-0.4**
	0.3nm,0.7s,baz=259,slow=5.5,SNR=3.5						
BVAR	**Borovoye Array**	**56.62**	**317**	P	**P**	**16 57 37.7**	**+1.3**
	0.7nm,0.5s,baz=90,slow=7.2,SNR=6.2						
AKTO	**Aktyubinsk**	**64.64**	**315**	P	**P**	**16 58 31.1**	**-0.1**
	0.5nm,0.4s,baz=80,slow=6.1,SNR=1.9						

KRSC 01 16:56:43.4±1.0**, 49.°14N**×**157.°03E, h5**km±21km**, ML3.6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.65**	**339**	*e*P	Pn	16 57 13.1	0.0
SKR				*e*S	Sn	16 57 34.8	+0.1
PAU	**Pauzhetka**	**2.33**	**357**	*e*P	Pb	16 57 24.4	-1.5
PAU				*e*S	Sb	16 57 54.4	-0.6
KDTR	**Khodutka, Kamc**	**2.75**	**14**	*e*P	Pb	16 57 30.8	-2.3
KDTR				*e*S	Sb	16 58 05.1	-2.0
RUS	**Russkaya**	**3.43**	**15**	*e*P	Pn	16 57 40.4	+2.9
DALK	**Dalny**	**4.04**	**15**	*e*P	Pn	16 57 49.3	+3.4
UGLR	**Uglovaya**	**4.23**	**15**	*e*P	Pn	16 57 52.9	+4.3
AVH	**Avacha**	**4.27**	**14**	*e*P	Pn	16 57 53.4	+4.3
SMAR	**Somma**	**4.27**	**14**	*e*P	Pn	16 57 53.4	+4.1
SDLR	**Sedlovina**	**4.30**	**15**	*e*P	Pn	16 57 52.8	+3.2

IDC 01 17:10:51.3±5.1**, 17.°85S**×**167.°45E, h0**km**, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.6**/43**, mbtmp3.7**/5**, ML3.4**/1**, Error ellipse: s-maj=99.4km s-min=42.1km az=84.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.30**	**193**	Pn	Pn	17 11 57.9	-0.3
	2.2nm,0.3s,baz=24,slow=20,SNR=27						
DZM				Sn	Sn	17 12 45.1	-4.0
	3.8nm,0.3s,baz=140,slow=21,SNR=11						
STKA	**Stephens Creek**	**27.21**	**234**	P	P	17 16 38.1	+1.1
	1.9nm,0.7s,baz=70,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**31.37**	**261**	P	P	17 17 13.8	-0.3
	0.3nm,0.7s,baz=95,slow=9.4,SNR=4.5						
ASAR	**Alice Springs**	**31.85**	**254**	P	P	17 17 17.8	-0.5
	0.7nm,0.4s,baz=81,slow=8.2,SNR=35						
CMAR	**Chiang Mai Arr**	**76.39**	**295**	P	P	17 22 43.2	+0.1
	0.4nm,0.6s,baz=137,slow=4.5,SNR=3.5						

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*ISCJB **01** 17:12:20.3±0.3, 12.°88N±0.°03×88.°47W±0.°03, h82km±1km, mb4.4/35, Error ellipse: s-maj=6.8km s-min=2.6km az=41.1*
*CASC **01** 17:12:21.3±1.6, 12.°82N×88.°52W, h33km±5km, ML4.5, mb4.5(NEIC)*
*NEIC **01** 17:12:21.7±0.9, 12.°73N×88.°40W, h94km±7km, mb4.5/30, MD4.2(MEX), MD4.6(SNET), Error ellipse: s-maj=16.2km s-min=8.2km az=205.0*

NEIC Felt [III] at Usulutan.
*IDC **01** 17:12:22.3±1.9, 13.°00N×88.°29W, h89km±21km, mb3.9/12, mb1 4.1/15, mb1mx3.8/50, mbtmp4.2/15, MS3.4/15, Ms1 3.4/15, ms1mx3.2/42, Error ellipse: s-maj=33.4km s-min=13.9km az=38.0*
*MEX **01** 17:12:25.1±0.5, 11.°97N×89.°49W, h15km±999km, MD4.2*
ISC 01 17:12:20.4±1.0, **12.°80N**±0.°08×**88.°50W**±0.°05, **h78**km±7km, **n255**, σ**1.°52**/258, **mb4.5**/36, **3C-9D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	San Miguel	0.66	20	⇓iP	Pn	17 12 34.6	-1.3
PACA	Pacayal	0.69	15	eP	Pn	17 12 34.9	-1.1
PACA				eS	Sn	17 12 45.7	-1.8
TECA	Tecapa	0.69	0	i P	Pn	17 12 34.6	-1.4
LCND	La Caˆ–ada	0.78	50	⇓iP	Pn	17 12 35.5	-1.3
LCND				eS	Sn	17 12 47.9	-1.2
CNCH	Conchagua	0.81	54	eP	Pn	17 12 35.9	-1.3
AIES	Las Flores	0.84	321	eP	Pn	17 12 36.5	-1.0
AIES				eS	Sn	17 12 48.7	-1.5
AIES				AML	AML	17 12 50.9	
	comp=Z,10µm,0.2s						
SNVI	San Vicente	0.87	338	eP	Pn	17 12 37.1	-1.0
LFRS	El Faro	0.98	326	⇓iP	Pn	17 12 38.5	-0.8
PAVA	Las Pavas	1.00	335	eP	Pn	17 12 38.9	-0.6
PAVA				eS	Sn	17 12 53.5	-0.2
CAHU	Cacacuatique	1.01	16	⇓iP	Pn	17 12 38.7	-1.0
LBRS	Las Brisas	1.07	331	⇓iP	Pn	17 12 40.0	-0.3
SANM	San Marcos	1.08	322	eP	Pn	17 12 39.6	-0.9
SANM				eS	Sn	17 12 53.9	-1.6
SOYA	Soyapango	1.09	325	eP	Pn	17 12 40.2	-0.4
SOYA				eS	Sn	17 12 55.4	-0.3
LFU	La Fuente	1.11	328	⇓iP	Pn	17 12 40.5	-0.4
UDBS	Soyapango	1.12	325	eP	Pn	17 12 40.2	-0.6
UDBS				eS	Sn	17 12 55.6	-0.6
UESS	San Salvador	1.13	323	eP	Pn	17 12 41.3	+0.3
UESS				IAML		17 12 59.0	
	comp=Z,12µm,0.2s						
SNET	Serv Nac Est T	1.13	321	i P	Pn	17 12 40.4	-0.6
SNET				eS	Sn	17 12 55.3	-1.2
SNET				IAML		17 12 57.3	
	comp=Z,11µm,0.2s						
OPAM	San Salvador	1.14	323	eP	Pn	17 12 40.7	-0.4
OPAM				eS	Sn	17 12 55.6	-1.0
OPAM				IAML		17 12 57.2	
	comp=Z,17µm,0.2s						
CUSC	San Salvador	1.14	324	⇓iP	Pn	17 12 40.6	-0.5
CUSC				eS	Sn	17 12 56.5	-0.3
CUSC				IAML		17 13 03.1	
	comp=Z,12µm,0.2s						
COLS	Colinas	1.16	318	⇓iP	Pn	17 12 41.0	-0.5
BOQS	Boqueron	1.20	321	⇑iP	Pn	17 12 41.8	-0.3
LLGN	La Laguna	1.43	342	eP	Pn	17 12 44.2	-0.7
LLGN				eS	Sn	17 13 02.1	-1.2
SBLS	San Blas	1.50	314	eP	Pn	17 12 46.1	+0.2
SNJE	San Jose	1.51	315	eP	Pn	17 12 46.1	+0.1
UNIC	Santa Ana	1.57	319	eP	Pn	17 12 46.5	-0.1
UNIC				eS	Sn	17 13 07.1	+0.7
TGUH	Tegucigalpa,Un	1.73	44	ePn	Pn	17 12 48.3	-0.4
CNGN	Cerro Negro	1.79	99	⇓iP	Pn	17 12 49.2	-0.3
CNGN				eS	Sn	17 13 13.5	+2.0
MTO3	Montecristo	1.79	332	⇑iP	Pn	17 12 49.5	-0.3
MOMN	Momotombo	1.96	101	eP	Pn	17 12 51.5	-0.3
COPN	Copaltepe	1.97	108	⇑iP	Pn	17 12 51.3	-0.5
IXG	Ixpaco	2.34	306	eP	Pn	17 12 57.1	+0.1
CRZ1	La Cruz	3.29	121	eP	Pn	17 13 10.8	+1.1
NY14	Universidad de	3.61	126	eP	Pn	17 13 17.3	+3.2
LAPC	Finca la Perla	3.62	124	eP	Pn	17 13 15.1	+0.8
GPS2	Hotel Rincˆ‡n	3.70	123	eP	Pn	17 13 17.0	+1.7
MESS	Mesas	3.83	122	eP	Pn	17 13 18.8	+1.6
COLC	Colonia	3.87	123	eP	Pn	17 13 19.6	+2.0
CUI	Cuipilapa	3.90	123	eP	Pn	17 13 19.9	+1.8
PLVR	Palo Verde	3.94	128	eP	Pn	17 13 19.8	+1.1
PTEN	Parque Tenorio	4.02	121	eP	Pn	17 13 20.3	+0.6
AMAS	Alto Masis	4.07	122	eP	Pn	17 13 22.6	+2.2
JTS	JuntasAbangare	4.28	125	P	Pn	17 13 24.9	+1.7
	comp=Z,9.8nm,0.3s,baz=169,slow=22,SNR=22						
JTS				S	Sn	17 14 13.2	+1.1
	comp=Z,24nm,0.3s,baz=235,slow=20,SNR=4.2						
JTS				LR	LR	17 15 00.6	
	comp=Z,181nm,20.1s,baz=3.5,slow=37						
CEDE	Laguna Cedeˆ–o	4.38	121	eP	Pn	17 13 27.4	+2.9
JCR	Jicaral	4.43	131	eP	Pn	17 13 27.1	+1.8
CGA2	Cerro Gallo 2	4.83	125	eP	Pn	17 13 33.5	+2.7
CCIG	Comitan	4.93	315	eP	Pn	17 13 34.7	+2.4
CCIG				i S	Sn	17 14 33.3	+5.1
CCIG	Comitan	4.93	315	eP	Pn	17 13 34.7	+2.4
CCIG				eSn	Sn	17 14 33.3	+5.1
LCR2	La Lucha 2	5.36	124	eP	Pn	17 13 41.1	+3.0
PCIG		5.41	303	eP	Pn	17 13 40.6	+2.0
PCIG				eS	Sn	17 14 38.2	-1.2
PCIG		5.41	303	ePn	Pn	17 13 40.6	+2.0
PCIG				eS	Sn	17 14 38.2	-1.2
URSC	Urasca	5.49	122	eP	Pn	17 13 44.5	+4.6
BUS	Buena Vista	5.66	124	eP	Pn	17 13 45.5	+3.0
BUS				eS	Sn	17 14 53.1	+6.7
EDDO	Dominical	5.76	127	eP	Pn	17 13 46.1	+2.7
TGIG		5.96	312	eP	Pn	17 13 49.9	+3.6
TGIG				i S	Sn	17 14 57.2	+4.0
TGIG		5.96	312	ePn	Pn	17 13 49.9	+3.6
TGIG				i S	Sn	17 14 57.2	+4.0
PTJ1	Puerto Jimˆ'ne	6.64	129	eP	Pn	17 13 59.1	+3.6
ICCO	Coco Island	7.35	169	eP	Pn	17 14 06.0	+0.8
CMIG	Matias Romero	7.50	305	P	Pn	17 14 08.5	+1.4
	comp=Z,3.6nm,0.3s,baz=141,slow=11,SNR=26						
CMIG				S	Sn	17 15 32.3	+1.7
	comp=Z,3.1nm,0.3s,baz=241,slow=22,SNR=6.4						
LNIG	Linares	15.88	321	ePn	P	17 16 00.7	-0.9
	comp=Z,18nm,1.3s						
ROSC	El Rosal	16.09	118	LR	LR	17 22 30.1	
	comp=Z,36nm,19.5s,baz=304,slow=38						
SDV	Santo Domingo	17.98	101	P	P	17 16 24.8	-0.2
	comp=Z,0.8nm,0.3s,baz=288,slow=14,SNR=3.6						
SDV				LR	LR	17 23 59.0	
	comp=Z,78nm,20.0s,baz=260,slow=39						
555A	McAlpin	17.98	16	P	Pn	17 16 26.3	+1.1
	baz=197						
556A	Lake Butler	18.03	17	P	P	17 16 23.6	-1.7
	baz=199						
453A	Whigham	18.38	11	P	Pn	17 16 32.4	+2.4
	baz=193						
455A	Stateville	18.56	15	P	Pn	17 16 32.1	0.0
	baz=197						
244A	Avery, Jackson	19.26	354	P	Pn	17 16 42.4	+2.0
	baz=173						
251A	Midway	19.41	8	P	Pn	17 16 43.0	+0.7
	baz=189						
VBMS	Vicksburg	19.42	355	P	Pn	17 16 44.0	+1.7
	baz=174						
242A	Grayson	19.46	351	P	Pn	17 16 45.1	+2.3
	baz=169						
145A	Houston Renfro	19.75	356	P	Pn	17 16 47.1	+0.8
	baz=176						
149A	Jones	19.77	4	P	Pn	17 16 47.4	+0.9
	baz=185						
148A	Greensboro	19.77	2	P	Pn	17 16 47.1	+0.6
	baz=182						
147A	Livingston	19.78	1	P	Pn	17 16 47.0	+0.4
	baz=180						
150A	Eclectic	19.84	6	P	Pn	17 16 48.3	+0.9
	baz=187,SNR=6.2						
151A	Opelika	19.85	8	P	Pn	17 16 48.1	+0.7
	baz=189,SNR=6.8						
LRAL	Lakeview Retre	20.19	4	P	Pn	17 16 51.6	+0.2
	baz=184						
LRAL	Lakeview Retre	20.19	4	eP	Pn	17 16 52.0	+0.6
	comp=Z,8.6nm,0.8s						
Z46A	Louisville	20.30	359	P	Pn	17 16 53.7	+1.0
	baz=178						
Z47A	Carrollton	20.31	1	P	Pn	17 16 51.6	-1.2
	baz=181						
Z49A	Columbiana	20.38	5	P	Pn	17 16 53.7	+0.1
	baz=185						
Z50A	Ashland	20.50	6	P	P	17 16 53.1	+0.9
	baz=187						
Z48A	Northport	20.50	2	P	Pn	17 16 54.9	-0.2
	baz=182						
Y46A	Houston	20.99	359	P	Pn	17 16 59.9	-0.9
	baz=179						
Y47A	UCPARC, Winfie	21.02	2	P	P	17 16 59.5	+1.8
	baz=182						
GOGA	Godfrey	21.03	12	P	P	17 16 59.0	+1.2
	baz=193						
GOGA	Godfrey	21.03	12	eP	P	17 17 00.9	+3.0
	comp=Z,12nm,0.6s						
Y49A	Blount Mountai	21.05	5	P	P	17 16 58.6	+0.5
	baz=185						
Y48A	Jasper	21.05	3	P	P	17 17 00.1	+2.0
	baz=183						
Y50A	Piedmont	21.15	6	P	P	17 17 00.4	+1.3
	baz=187						
X47A	Russelville	21.63	1	P	P	17 17 05.7	+1.5
	baz=181						
LTX	Lajitas	21.66	322	eP	P	17 17 06.0	+1.2
TX31	Lajitas Ar. Si	21.66	322	eP	P	17 17 06.4	+1.6
TXAR	Lajitas Array	21.66	322	P	P	17 17 06.0	+1.2
	comp=Z,8.2nm,0.9s,baz=140,slow=10,SNR=52						
X46A	Booneville	21.66	360	P	P	17 17 05.4	+0.8
	baz=180						
X49A	Woodville	21.71	5	P	P	17 17 05.2	+0.2
	baz=185						
X50A	Fort Payne	21.72	6	P	P	17 17 06.2	+1.0
	baz=187						
X40A	Basin Creek Fa	21.95	350	P	P	17 17 10.0	+2.4
	baz=168						
MIAR	Mount Ida	22.13	349	P	P	17 17 11.7	+2.1
	baz=167						
MIAR	Mount Ida	22.13	349	eP	P	17 17 11.7	+2.1
	comp=Z,15nm,1.0s						
X39A	Fountain Ranch	22.21	348	P	P	17 17 10.0	-0.5
	baz=165						
ATAH	Atahualpa	22.21	153	LR	LR	17 24 26.6	
	comp=Z,126nm,20.5s,baz=323,slow=32						
W48A	Pulaski	22.29	3	P	P	17 17 12.6	+1.3
	baz=184						
W47A	Westpoint	22.37	2	P	P	17 17 12.4	+0.2
	baz=182						
W41B	Gary Mavity, V	22.53	352	P	P	17 17 13.5	-0.5
	baz=170						
WHAR	Wooly Hollow	22.65	352	eP	P	17 17 16.2	+1.0
	comp=Z,68nm,1.9s						
BG3	Lake Jocassee	22.66	12	eP	P	17 17 16.1	+0.7
	comp=Z,43nm,1.7s						
W40A	Ferguson Farm,	22.67	350	P	P	17 17 16.9	+1.5
	baz=168						
W39A	Magazine	22.80	349	P	P	17 17 17.4	+0.6
	baz=166						
V48A	Smith Brothers	22.89	4	P	P	17 17 16.6	-1.1
	baz=184						
V46A	Holladay	22.90	1	P	P	17 17 17.5	-0.3
	baz=181						
V42A	Cord	23.05	354	P	P	17 17 20.0	+0.7
	baz=173						
V41A	Mountainview	23.12	352	P	P	17 17 21.1	+1.1
	baz=171,SNR=8.4						
TKL	Tuckaleechee C	23.16	10	P	P	17 17 20.6	+0.3
	comp=Z,3.7nm,0.5s,baz=177,slow=11,SNR=8.0						
TKL	Tuckaleechee C	23.16	10	eP	P	17 17 21.2	+0.9
	comp=Z,15nm,1.2s						
KMSC	Kings Mountain	23.17	15	P	P	17 17 19.8	-0.6
	baz=198						
V40A	Witts Springs	23.23	351	P	P	17 17 21.7	+0.7
	baz=169,SNR=5.2						
V39A	Pettigrew	23.40	349	P	P	17 17 24.3	+1.7
	baz=167,SNR=6.0						
LPIG	La Paz	23.50	302	LR	LR	17 27 24.7	
	comp=Z,71nm,20.9s,baz=175,slow=38						
U42A	Revenden	23.58	354	P	P	17 17 24.2	0.0
	baz=173						
U41A	Viola	23.64	353	P	P	17 17 26.5	+1.7
	baz=172						
WMOK	Wichita Mounta	23.75	339	P	P	17 17 26.9	+1.2
	baz=154						
WMOK	Wichita Mounta	23.75	339	eP	P	17 17 26.4	+0.7
	comp=Z,4.9nm,0.9s						
U40A	Yellville	23.78	351	P	P	17 17 27.7	+1.8
	baz=169,SNR=10						
U39A	Green Forest	23.90	350	P	P	17 17 29.0	+1.9
	baz=168,SNR=6.6						
T47A	Sharon Grove	24.12	3	P	P	17 17 28.5	-0.5
	baz=183						
T46A	Princeton	24.14	1	P	P	17 17 29.2	0.0
	baz=181						
T42A	Van Buren	24.24	355	P	P	17 17 29.8	-0.3
	baz=174						
T41A	Mountain View	24.32	354	P	P	17 17 32.0	+1.2
	baz=172						
MNTX	Cornudas Mount	24.39	323	P	P	17 17 32.7	+1.2
	baz=137,SNR=5.7						
MNTX	Cornudas Mount	24.39	323	eP	P	17 17 33.3	+1.8
	comp=Z,8.6nm,1.3s						
T40A	Mansfield	24.51	352	P	P	17 17 33.1	+0.6
	baz=170						
T39A	Clever	24.51	351	P	P	17 17 34.8	+2.3
	baz=168,SNR=5.5						
S43A	Fulton Ridge,	24.71	357	P	P	17 17 34.3	0.0
	baz=176						
MSTX	Muleshoe	24.75	331	P	P	17 17 35.5	+0.6
	baz=145,SNR=6.0						
MSTX	Muleshoe	24.75	331	eP	P	17 17 35.6	+0.6
	comp=Z,17nm,0.9s						
S44A	Carbondale	24.80	359	P	P	17 17 33.7	-1.4
	baz=178						
S41A	Jillco Farms,	24.85	354	P	P	17 17 36.6	+0.9
	baz=172						
S40A	Lebanon	24.95	352	P	P	17 17 36.2	-0.4
	baz=171						
T36A	Boggs Farm, Ca	25.05	346	P	P	17 17 38.1	+0.7
	baz=163						
S39A	Bolivar	25.16	351	P	P	17 17 38.9	+0.4
	baz=169,SNR=6.4						
S38A	Stockton	25.19	350	P	P	17 17 38.6	-0.2
	baz=167						
CCM	Cathedral Cave	25.27	355	P	P	17 17 39.5	+0.1
	baz=174						
S37A	Fort Scott	25.49	348	P	P	17 17 41.9	+0.5
	baz=165						
R41A	Rosebud	25.52	355	P	P	17 17 41.6	-0.1
	baz=173						
R40A	Maddies Statio	25.61	353	P	P	17 17 42.3	-0.2
	baz=171						
R39A	Chumby, Stover	25.73	352	P	P	17 17 43.2	-0.4
	baz=170,SNR=5.7						
S35A	Otter Creek Ra	25.74	346	P	P	17 17 44.9	+1.2
	baz=162						
Q39A	Willow Grove F	26.44	352	P	P	17 17 50.3	+0.3
	baz=170						
Q38A	Cooks Store, C	26.45	351	P	P	17 17 50.2	+0.1
	baz=169						
IP06	Yanceyville	26.73	19	eP	P	17 17 52.4	-0.2
	comp=Z,24nm,0.7s						
KSU1	Kansas State U	27.16	346	P	P	17 17 56.3	-0.2
	baz=162						
O45A	Potomac	27.35	1	P	P	17 17 56.7	-1.4
	baz=181						
O39A	Kirksville	27.58	353	P	P	17 17 60.0	-0.2
	baz=171						
P34A	Walnut Farm, R	27.64	346	P	P	17 18 01.8	+1.0
	baz=162						
N43A	Stutzman Famil	28.04	359	P	P	17 18 03.9	-0.4
	baz=178						
T25A	Trinidad	28.11	332	P	P	17 18 07.4	+2.1
	baz=145						
T25A	Trinidad	28.11	332	eP	P	17 18 08.0	+2.7
	comp=Z,4.7nm,0.7s						
N39A	Derby Farms, D	28.19	354	P	P	17 18 06.2	+0.6
	baz=172						
M38A	Pleasantville	28.80	353	P	P	17 18 10.0	-1.1
	baz=170						
M36A	Felix, Anita	29.07	350	P	P	17 18 13.5	+0.1
	baz=167						
SDCO	Great Sand Dun	29.11	332	eP	P	17 18 16.7	+2.5
	comp=Z,17nm,1.8s						
SDCO				ePcP	PcP	17 21 23.0	+2.6
L41A	Preston	29.22	357	P	P	17 18 13.8	-0.9
	baz=176						
L38A	Oak Wood Farm,	29.49	353	P	P	17 18 17.0	-0.2
	baz=171						
S22A	4UR Ranch, Cre	29.74	330	P	P	17 18 21.0	+1.2
	baz=142						
S22A	4UR Ranch, Cre	29.74	330	eP	P	17 18 21.4	+1.5
	comp=Z,4.4nm,0.7s						
K39A	Oelwein	29.94	355	P	P	17 18 20.3	-0.9
	baz=173						
K37A	Belmond	30.19	352	P	P	17 18 22.7	-0.6
	baz=170						
J42A	Columbus	30.41	359	P	P	17 18 24.7	-0.6
	baz=179						
J41A	Loganville	30.48	358	P	P	17 18 24.9	-1.0
	baz=177						
J40A	Soldiers Grove	30.55	357	P	P	17 18 25.0	-1.5
	baz=176						
J39A	Decorah	30.55	355	P	P	17 18 26.1	-0.4
	baz=174						
J38A	Wedel Dairy, R	30.60	354	P	P	17 18 26.1	-0.9
	baz=172						
J37A	Redenius Farm,	30.71	353	P	P	17 18 27.7	-0.2
	baz=170						
J36A	Seneca 1, Swea	30.83	352	P	P	17 18 28.7	-0.3
	baz=169						
ISCO	Idaho Springs	30.84	334	P	P	17 18 30.5	+0.9
	baz=146						
SMCO	Snowmass	30.95	331	eP	P	17 18 33.3	+2.7
	comp=Z,4.0nm,0.8s						
I42A	Draeger Farm,	30.98	359	P	P	17 18 29.3	-1.0
	baz=179						
I39A	Houston	31.05	356	P	P	17 18 29.6	-1.4
	baz=174						
I41A	Arkdale	31.17	358	P	P	17 18 30.0	-2.0
	baz=177						
I38A	Scanlan Farm,	31.30	355	P	P	17 18 33.0	-0.1
	baz=173						
I35A	Creekview Farm	31.45	351	P	P	17 18 34.4	-0.1
	baz=168						
H40A	Chili	31.75	357	P	P	17 18 36.1	-1.0
	baz=176						
H37A	Dierke Farm, C	31.90	354	P	P	17 18 37.7	-0.6
	baz=172						
H38A	Maiden Rock	31.93	355	P	P	17 18 37.9	-0.8
	baz=173						
H35A	Sunnyside Ranc	32.25	352	P	P	17 18 40.3	-1.1
	baz=168						
O20A	White River Ci	32.30	331	P	P	17 18 44.1	+1.9
	baz=142						
O20A	White River Ci	32.30	331	eP	P	17 18 44.5	+2.3
	comp=Z,12nm,0.8s						
SPMN	Marine on St.	32.52	354	P	P	17 18 43.0	-0.8
	baz=172						
SADO	Sadowa	32.85	12	P	P	17 18 45.3	-1.4
	comp=Z,3.0nm,0.5s,baz=228,slow=12,SNR=2.8						
F40A	Park Falls	33.04	358	P	P	17 18 47.6	-0.8
	baz=177						
F39A	Loretta	33.07	357	P	P	17 18 47.8	-0.8
	baz=176						
F44A	Big Bay de Noc	33.11	3	P	P	17 18 47.1	-1.8
	baz=184						
F36A	Milaca	33.23	354	P	P	17 18 49.1	-0.9
	baz=171						
E36A	McGregor	33.85	354	P	P	17 18 53.5	-1.9
	baz=172						
RSSD	Black Hills	33.94	340	P	P	17 18 57.5	+1.0
	baz=152						
D37A	Cotton	34.41	355	P	P	17 18 59.6	-0.6
	baz=173						
D33A	AnnSam, Waubun	34.78	351	P	P	17 19 03.1	-0.4
	baz=167						
PD31	Pinedale Array	34.98	333	eP	P	17 19 05.8	+0.3
PDAR	Pinedale Array	34.98	333	P	P	17 19 05.8	+0.3
	comp=Z,1.5nm,0.8s,baz=123,slow=10,SNR=10						
C35A	Jirik Farms, M	35.09	354	P	P	17 19 05.2	-0.8
	baz=171,SNR=5.0						
B35A	Bob, Littlefor	35.72	354	P	P	17 19 10.6	-0.9
	baz=171						
AGMN	Agassiz Nation	35.92	352	P	P	17 19 12.7	-0.4
	baz=168						
AGMN	Agassiz Nation	35.92	352	eP	P	17 19 11.8	-1.4
	comp=Z,5.9nm,0.4s						
B34A	Aery, Baudette	35.94	353	P	P	17 19 12.6	-0.7
	baz=170						
REDW	Red Top Meadow	36.04	332	eP	P	17 19 15.7	+1.2
	comp=Z,12nm,0.8s						
SNOW	Snow King Moun	36.07	332	eP	P	17 19 16.9	+2.0
	comp=Z,13nm,0.7s						
B32A	Ashes, Strandq	36.11	351	P	P	17 19 13.8	-1.0
	baz=166,SNR=14						
LOHW	Long Hollow	36.12	332	eP	P	17 19 16.1	+0.8
	comp=Z,4.4nm,0.6s						
MOOW	Moose Ponds	36.29	332	eP	P	17 19 17.6	+0.9
	comp=Z,2.3nm,0.8s						
B31A	Greenbush Farm	36.32	350	P	P	17 19 16.6	0.0
	baz=165						
A33A	Warroad	36.48	352	P	P	17 19 17.3	-0.6
	baz=168,SNR=7.7						
A32A	Rocking H Ranc	36.61	351	P	P	17 19 18.4	-0.7
	baz=167						
RLMT	Red Lodge	36.75	335	P	P	17 19 19.6	-1.0
	baz=145						
RLMT	Red Lodge	36.75	335	eP	P	17 19 21.3	+0.7
	comp=Z,9.4nm,1.4s						
NVAR	Mina Array Bea	36.77	319	P	P	17 19 22.2	+1.4
	comp=Z,1.0nm,0.6s,baz=124,slow=8.1,SNR=2.1						
NVAR				LR	LR	17 35 54.2	
	comp=Z,94nm,19.0s,baz=256,slow=38						
YHH	Holmes Hill	37.15	333	eP	P	17 19 25.0	+0.9
PHSB	Hesperia Broad	37.20	314	ePcP	PcP	17 21 40.5	-2.4
YHB	Horse Butte	37.28	333	eP	P	17 19 26.2	+1.1
	comp=Z,5.0nm,0.8s						
ULM	Lac du Bonnet	37.83	352	P	P	17 19 27.8	-1.6
	comp=Z,3.3nm,0.5s,baz=167,slow=8.8,SNR=9.4						
ULM				LR	LR	17 35 50.9	
	comp=Z,103nm,21.5s,baz=163,slow=37						
ULM	Lac du Bonnet	37.83	352	eP	P	17 19 27.6	-1.7
	comp=Z,8.8nm,1.1s						
HLID	Hailey	37.91	329	P	P	17 19 31.5	+1.2
	baz=136						
MCMT	McKenzie Canyo	38.09	332	eP	P	17 19 34.1	+2.2
LRM	Limekiln Ridge	38.67	333	eP	P	17 19 38.4	+1.6
EGMT	Eagleton	39.33	337	P	P	17 19 42.9	+0.8
	baz=146						
MSO	Missoula	40.10	333	P	P	17 19 48.1	-0.4
	baz=139						
SCHQ	Schefferville	45.25	18	P	P	17 20 28.4	-1.5
	comp=Z,3.5nm,0.7s,baz=222,slow=6.5,SNR=16						
SCHQ	Schefferville	45.25	18	eP	P	17 20 29.1	-0.8
	comp=Z,16nm,1.4s						
FCC	Fort Churchill	46.06	356	eP	P	17 20 35.5	-0.7
	comp=Z,5.8nm,0.5s						
YKA	Yellowknife Ar	53.01	345	P	P	17 21 28.4	-0.6
	comp=Z,0.8nm,0.4s,baz=148,slow=6.5,SNR=23						
YKA				LR	LR	17 45 07.9	
	comp=Z,7.8nm,20.9s,baz=180,slow=37						
YKW3	Yellowknife Ar	53.07	345	eP	P	17 21 28.1	-1.4
	comp=Z,17nm,1.9s						
DLBC	Dease Lake	55.15	335	eP	P	17 21 46.0	+1.2
	comp=Z,27nm,1.8s						
TAOE	Nuku Hiva Isla	55.63	250	eLR	LR	17 37 55.7	
	comp=Z,114nm,27.1s						
RES	Resolute Bay	61.98	358	eP	P	17 22 30.6	-1.2
	comp=Z,2.5nm,0.6s						
INK	Inuvik	62.56	343	P	P	17 22 34.9	-0.9
	comp=Z,5.2nm,1.2s,baz=142,slow=9.1,SNR=4.6						
INK	Inuvik	62.56	343	eP	P	17 22 35.0	-0.8
	comp=Z,7.4nm,1.3s						
PMOR	Pomariorio Ree	64.95	247	eT	T	18 32 55.1	
	comp=Z,2.2nm,0.2s						
IL1	Eielson Array	65.29	336	eP	P	17 22 53.1	-0.7
ILAR	Eielson Array	65.29	336	P	P	17 22 53.8	0.0
	comp=Z,1.1nm,0.6s,baz=163,slow=4.7,SNR=23						
ILB	Eielson Array	65.29	336	eP	P	17 22 53.0	-0.8
PPT2	Papeete2	67.42	245	eLR	LR	17 43 27.6	
	comp=Z,154nm,28.5s						
SPITS	Spitsbergen Ar	80.57	12	LR	LR	18 00 20.5	
	comp=Z,16nm,20.2s,baz=165,slow=36						
DBIC	Dimbokro	82.38	85	LR	LR	18 01 54.5	
	comp=Z,46nm,18.2s,baz=2.0,slow=36						
NOA	NORSAR Array B	83.56	29	LR	LR	18 01 20.0	
	comp=Z,10nm,18.1s,baz=310,slow=35						
HFS	Hagfors	84.98	29	LR	LR	18 02 13.0	
	comp=Z,36nm,19.4s,baz=346,slow=35						
ARA0	ARCESS Array S	86.19	19	eP	P	17 24 50.9	-1.9
ARCES	ARCESS Array B	86.19	19	P	P	17 24 50.9	-1.9
	comp=Z,1.7nm,0.8s,baz=305,slow=5.4,SNR=2.9						
DAVOX	Davos/Dischmat	86.44	43	LR	LR	17 56 40.0	
	comp=Z,56nm,20.4s,baz=326,slow=31						
AFI	Afiamalu	86.65	255	LR	LR	17 57 43.5	
	comp=Z,22nm,18.1s,baz=100,slow=31						
FIA0	FINESS Array S	90.11	26	eP	P	17 25 11.3	-0.4
FINES	FINESS Array B	90.11	26	P	P	17 25 11.3	-0.4
	comp=Z,4.5nm,1.1s,baz=306,slow=16,SNR=3.1						
AKASG	Malin Array Be	96.82	35	LR	LR	18 08 30.0	
	comp=Z,14nm,20.5s,baz=235,slow=35						
WR1	Warramunga Arr	138.37	254	ePKPpre	PKPpre	17 31 32.4	
WR1				ePKPdf	PKiKP	17 31 40.4	+0.5
WRA	Warramunga Arr	138.38	254	PKhKP	PKPpre	17 31 32.4	
	comp=Z,0.4nm,0.9s,baz=90,slow=3.7,SNR=9.6						
WRA				PKP	PKiKP	17 31 40.4	+0.5
	comp=Z,0.5nm,0.4s,baz=90,slow=2.7,SNR=15						
ASAR	Alice Springs	138.44	249	PKhKP	PKPpre	17 31 32.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.4nm,0.9s,baz=99,slow=3.5,SNR=6.6						
ASAR				PKP	PKiKP	17 31 39.4	-0.6
	comp=Z,0.5nm,0.7s,baz=112,slow=3.6,SNR=7.2						
CMAR	Chiang Mai Arr	148.08	347	PKPbc	PKPbc	17 31 57.0	-1.1
	comp=Z,0.3nm,0.4s,baz=342,slow=3.8,SNR=4.7						

IDC ***01*** *17:25:41.8±0.8, 27°.46N×91°.20E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.7/65, mbtmp3.8/15, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/66, Error ellipse: s-maj=38.9km s-min=15.1km az=54.0*
BJI ***01*** *17:25:44.1, 27°.26N×91°.59E, h7km, mb3.9/5, ML3.8/1, Ms3.6/1, Ms7 3.4/1*
DMN ***01*** *17:25:45.2±0.6, 27°.57N×91°.54E, h10km, Ml4.6/7, Error ellipse: s-maj=31.0km s-min=11.4km az=3.0*
NEIC ***01*** *17:25:48.6±0.7, 27°.45N×91°.24E, h54km±7km, mb4.6/3, Error ellipse: s-maj=14.2km s-min=4.9km az=65.0*
ISC 01 17:25:46.8±1.1**, 27°.47N**±0°.03×**91°.31E**±0°.03**, h32**km±9km**, n61, σ1s.40**/74**, mb3.9**/13**, Bhutan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUWA	GUWAHATI	1.32	165	eP	Pn	17 26 09.9	+1.0
GUWA				eS	Sb	17 26 27.7	+0.3
GUWA				IAML		17 26 28.7	
	comp=N,610nm,0.1s						
GUWA				IAML		17 26 28.8	
	comp=E,775nm,0.1s						
TEZP	TEZPUR	1.58	122	eP	Pb	17 26 14.7	-0.6
TEZP				eS	Sb	17 26 35.6	+0.7
TEZP				IAML		17 26 39.8	
	comp=N,870nm,0.2s						
TEZP				IAML		17 26 40.5	
	comp=E,1μm,0.0s						
DHUB	DHUBRI	1.86	219	eP	Pn	17 26 18.4	+2.0
DHUB				eS	Sb	17 26 43.1	0.0
DHUB				IAML		17 26 44.2	
	comp=N,4μm,0.3s						
DHUB				IAML		17 26 44.3	
	comp=E,3μm,0.2s						
SHL	Shillong	1.96	165	eS	Sb	17 26 46.0	-0.2
SHL				IAML		17 26 47.9	
	comp=N,597nm,0.2s						
SHL				IAML		17 26 48.8	
	comp=E,895nm,0.5s						
SHL	Shillong	1.96	165	ePn	Pn	17 26 19.5	+1.5
TURI	Tura	2.10	205	eP	Pb	17 26 22.6	-1.6
TURI				eS	Sb	17 26 50.9	+0.9
ITAN	ITANAGAR	2.17	98	eP	Pb	17 26 24.0	-1.5
ITAN				eS	Sb	17 26 52.0	+0.1
ITAN				IAML		17 26 56.2	
	comp=E,925nm,0.6s						
ITAN				IAML		17 27 00.9	
	comp=N,947nm,0.4s						
LSA	Lhasa	2.23	356	Pn	Pb	17 26 25.2	-1.4
LSA				Sn	Sb	17 26 56.7	+2.7
LSA				smax	smax		
	comp=N,440nm,0.6s						
LSA				smax	smax		
	comp=N,740nm,0.6s						
LSA	Lhasa	2.23	356	ePn	Pb	17 26 25.2	-1.4
GTK	Tadong	2.41	267	eP	Pn	17 26 27.0	+2.8
GTK				eS	Sb	17 26 58.7	-0.3
GTK				IAML		17 27 01.4	
	comp=N,919nm,0.2s						
GTK				IAML		17 27 02.1	
	comp=E,807nm,0.5s						
JORH	JORHAT	2.72	105	IAML		17 27 13.3	
	comp=E,2μm,0.4s						
KOHI	KOHIMA	3.05	124	ex	Pn	17 26 35.2	+2.2
MOKO	MOKOCHONG	3.08	111	eP	Pn	17 26 35.6	+2.2
MOKO				eS	Sn	17 27 12.2	+2.9
MOKO				IAML		17 27 14.2	
	comp=N,311nm,0.7s						
MOKO				IAML		17 27 15.1	
	comp=E,329nm,0.1s						
TAPN	Taplejung	3.20	269	ePn	Pn	17 26 37.1	+1.9
TAPN				eSn	Sn	17 27 15.5	+3.1
	comp=E,327nm,0.3s						
IMP	Imphal	3.54	137	eP	Pn	17 26 42.4	+2.7
IMP				IAML		17 27 27.8	
	comp=N,66nm,0.5s						
ODAN	Odare	3.54	261	ePn	Pn	17 26 41.2	+1.4
ODAN				eSn	Sn	17 27 23.9	+3.1
	comp=N,795nm,0.4s						
AGT	Agartala	3.57	181	IAML		17 27 45.4	
	comp=E,294nm,0.5s						
AZL	Aizawl	3.92	161	eP	Pn	17 26 46.5	+1.7
AZL				IAML		17 27 35.0	
	comp=E,78nm,0.4s						
LKP	Lekhapani	4.04	91	IAML		17 27 54.1	
	comp=E,186nm,0.5s						
RAMN	Ramite	4.22	264	ePn	Pn	17 26 50.7	+1.5
JIRN	Jiri	4.55	274	ePn	Pn	17 26 55.4	+1.6
JIRN				eSn	Sn	17 27 46.8	+1.1
	comp=E,240nm,0.3s						
GUN	Gumba	4.83	276	ePn	Pn	17 26 59.5	+1.8
GUN				eSn	Sn	17 27 54.6	+1.9
	comp=E,160nm,0.4s						
PKI	Pulchoki	5.24	272	ePn	Pn	17 27 04.6	+1.4
PKIN	Phulchoki	5.25	273	ePn	Pn	17 27 04.5	+1.2
KKN	Kakani	5.36	275	ePn	Pn	17 27 06.4	+1.7
KKN				eSn	Sn	17 28 06.3	+0.8
	comp=E,47nm,0.2s						
DMN	Daman	5.51	273	ePn	Pn	17 27 08.7	+1.8
GKN	Gorkha	5.94	277	ePn	Pn	17 27 14.8	+2.1
GKN				eSn	Sn	17 28 19.9	+0.2
KOLN	Koldanda	6.84	274	ePn	Pn	17 27 25.6	+0.4
KOLN				eSn	Sn	17 28 41.4	-0.7
	comp=E,48nm,0.3s						
PYUN	Piuthan	7.39	277	ePn	Pn	17 27 32.7	0.0
PYUN				eSn	Sn	17 28 53.0	-2.7
	comp=E,47nm,0.3s						
CM31	Chiang Mai Arr	11.39	140	ePn	Pn	17 28 28.4	+1.0
CMAR	Chiang Mai Arr	11.39	140	Pn	Pn	17 28 28.8	+1.4
	comp=E,0.3nm,0.3s,baz=318,slow=13,SNR=23						
WMQ	Urumqi	16.57	351	eP	Pn	17 29 36.5	-0.3
AAK	Ala-Archa	20.40	322	P	P	17 30 21.8	+0.6
	comp=E,2.1nm,0.9s,baz=107,slow=6.0,SNR=4.5						
MK01	Makanchi Array	20.53	342	eP	P	17 30 22.1	-0.3
MK31	Makanchi Array	20.56	342	eP	P	17 30 22.5	-0.2
MK32	Makanchi Array	20.56	342	eP	P	17 30 22.8	+0.1
MKAR	Makanchi Array	20.56	342	P	P	17 30 22.8	+0.1
	comp=E,1.5nm,0.5s,baz=163,slow=8.9,SNR=35						
MKAR	Makanchi Array	20.56	342	eP	P	17 30 22.5	-0.2
	comp=E,21nm,0.6s						
MAKZ	Makanchi	20.66	342	eP	P	17 30 23.6	-0.2
	comp=E,3.6nm,0.6s						
SONA0	Songino Array	23.50	26	eP	P	17 30 53.9	0.0
SONM	Songino Array	23.50	26	P	P	17 30 53.9	0.0
	comp=E,0.5nm,0.7s,baz=217,slow=11,SNR=6.4						
SONM				LR	LR	17 40 54.7	
	comp=E,55nm,18.8s,baz=186,slow=39						
KURBB	Kurchatov Arra	25.09	341	P	P	17 31 08.1	-0.2
	comp=E,1.4nm,0.9s,baz=155,slow=9.4,SNR=10						
KURK	Kurchatov	25.14	341	eP	P	17 31 08.1	-0.7
ZALV	Zalesovo Beam	26.88	352	P	P	17 31 24.2	-0.3
	comp=E,1.8nm,0.6s,baz=181,slow=7.6,SNR=9.7						
ZALV	Zalesovo Beam	26.88	352	eP	P	17 31 24.8	+0.2
ZAA1	Zalesovo Array	26.89	352	eP	P	17 31 24.2	-0.4
ABKAR	Akbulak array	32.47	321	eP	P	17 32 14.8	+0.7
	comp=E,12nm,0.8s						
AKASG	Malin Array Be	51.78	314	P	P	17 34 49.2	-2.1
	comp=E,0.2nm,0.3s,baz=82,slow=6.7,SNR=2.6						
FIA0	FINESS Array S	54.46	328	eP	P	17 35 10.2	-0.6
FINES	FINESS Array B	54.46	328	P	P	17 35 10.2	-0.6
	comp=E,1.2nm,0.5s,baz=104,slow=8.3,SNR=11						
ARA0	ARCESS Array S	56.11	337	eP	P	17 35 21.9	-0.7
ARCES	ARCESS Array B	56.11	337	P	P	17 35 21.9	-0.7
	comp=E,4.9nm,1.2s,baz=74,slow=9.1,SNR=3.7						
HFS	Hagfors	60.49	326	P	P	17 35 53.1	-0.3
	comp=E,2.4nm,0.4s,baz=90,slow=9.1,SNR=19						
NB2	NORSAR Subarra	61.63	327	P	P	17 36 00.1	-1.0
	comp=Z,1.0nm,0.5s,baz=84,slow=6.5						
NB200	NORSAR Array S	61.63	327	eP	P	17 36 00.3	-0.8
NOA	NORSAR Array B	61.63	327	P	P	17 36 00.3	-0.8
	comp=Z,1.3nm,0.6s,baz=84,slow=6.9,SNR=4.7						
GERES	GERESS Array B	61.94	313	P	P	17 36 03.5	0.0
	comp=Z,0.7nm,0.6s,baz=64,slow=6.2,SNR=7.9						
WR1	Warramunga Arr	62.91	134	eP	P	17 36 10.4	+0.3
WRA	Warramunga Arr	62.91	134	P	P	17 36 10.4	+0.3
	comp=Z,0.5nm,0.7s,baz=327,slow=6.8,SNR=6.7						
ASAR	Alice Springs	65.38	137	P	P	17 36 26.9	+0.4
	comp=Z,0.5nm,0.7s,baz=318,slow=5.9,SNR=9.6						
YKA	Yellowknife Ar	87.97	12	P	P	17 38 32.4	-0.9
	comp=Z,0.2nm,0.6s,baz=335,slow=4.3,SNR=4.2						

ISCJB ***01*** *17:44:48.7±0.3, 44°.49N±0°.02×6°.68E±0°.02, h11km±3km, Error ellipse: s-maj=2.8km s-min=2.4km az=144.1*
GEN ***01*** *17:44:49.4, 44°.50N×6°.69E, h10km, ML1.5*
ROM ***01*** *17:44:49.4±0.4, 44°.50N×6°.76E, h7km±2km, Md2.1/11, Ml1.6/6, Error ellipse: s-maj=4.1km s-min=1.8km az=58.0*
CSEM ***01*** *17:44:49.2±0.1, 44°.51N×6°.69E, h12km, ML2.4/13, Error ellipse: s-maj=2.1km s-min=1.8km az=46.0*
LDG ***01*** *17:44:49.9±0.1, 44°.52N×6°.72E, h2km, Md2.4/3, Ml2.3/9, Error ellipse: s-maj=1.6km s-min=1.3km az=53.0*
STR ***01*** *17:44:50.5±1.1, 44°.52N±0°.02×6°.6E±0°.1, h5km, MLv2.5/9*
ISC 01 17:44:49.5±0.9**, 44°.51N**±0°.02×**6°.70E**±0°.02**, h14**km±7km**, n68, σ0s.62**/111**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	Montbardon	0.23	14	ePg	Pg	17 44 54.7	+0.1
MBDF				eSg	Sg	17 44 58.0	-0.1
	27nm,0.2s						
MBDF	Montbardon	0.23	14	ePg	Pg	17 44 54.7	+0.1
MBDF				eSg	Sg	17 44 58.0	-0.1
	13nm,0.2s						
PZZ	Stroppo	0.30	90	Pg	Pg	17 44 55.0	-0.8
PZZ				Sg	Sg	17 44 59.3	-0.8
	197nm,0.1s						
DOI	San Damiano	0.40	90	Pg	Pg	17 44 57.6	+0.1
DOI				Sg	Sg	17 45 03.6	+0.7
	59nm,0.2s						
DOI	San Damiano	0.40	90	Pg	Pg	17 44 57.6	+0.1
DOI				Sg	Sg	17 45 03.6	+0.7
	59nm,0.2s						
RRL	Rocca Remolon	0.42	9	P	Pg	17 44 57.2	-0.8
RRL	Rocca Remolon	0.42	9	Pg	Pg	17 44 57.9	-0.1
	29nm,0.2s						
RRL	Rocca Remolon	0.42	9	Pg	Pg	17 44 57.9	-0.1
	29nm,0.2s						
STV	Sant Anna di V	0.52	120	P	Pg	17 44 58.8	-1.0
STV				Sg	Sg	17 45 06.0	-0.8
STV	Sant Anna di V	0.52	120	Pg	Pg	17 44 58.8	-1.0
STV				Sg	Sg	17 45 06.0	-0.8
BHB	Bricherasio	0.53	50	P	Pg	17 45 00.1	+0.2
BHB	Bricherasio	0.53	50	Pg	Pg	17 45 00.2	+0.3
BHB				Sg	Sg	17 45 07.2	+0.3
BNI	Bardonecchia	0.55	359	Pg	Pb	17 45 01.4	+0.5
BNI	Bardonecchia	0.55	359	Pg	Pb	17 45 01.4	+0.5
BNI				Sg	Sb	17 45 08.4	-0.3
	11nm,0.6s						
ENR	Entracque	0.59	118	Pg	Pg	17 45 01.0	-0.1
ENR				S	Sg	17 45 08.9	-0.1
ENR				Sg	Sg	17 45 09.4	+0.4
	57nm,0.1s						
ENR	Entracque	0.59	118	Pg	Pg	17 45 01.0	-0.1
ENR				Sg	Sg	17 45 09.4	+0.4
	57nm,0.1s						
ORIF	Oris-en-Rattie	0.71	306	ePg	Pg	17 45 03.2	-0.2
ORIF				eSg	Sg	17 45 12.9	+0.1
	17nm,0.3s						
ORIF	Oris-en-Rattie	0.71	306	ePg	Pg	17 45 03.2	-0.2
ORIF				eSg	Sg	17 45 12.9	+0.1
	8.4nm,0.3s						
RSP	Reno Superiore	0.76	32	Pg	Pb	17 45 04.7	+0.2
RSP				Sg	Sb	17 45 14.9	+0.1
RSP	Reno Superiore	0.76	32	Pg	Pb	17 45 04.7	+0.2
RSP				Sg	Sb	17 45 14.9	+0.1
SBF	Sospel	0.84	140	ePg	Pg	17 45 05.6	-0.1
SBF				eSg	Sg	17 45 16.7	0.0
	10nm,0.2s						
SBF	Sospel	0.84	140	ePg	Pg	17 45 05.6	-0.1
SBF				eSg	Sg	17 45 16.7	0.0
	5.2nm,0.2s						
GBOS	Grotte di Boss	0.86	108	Pg	Pg	17 45 06.0	-0.2
GBOS				Sg	Sg	17 45 17.2	-0.3
	18nm,0.3s						
GBOS	Grotte di Boss	0.86	108	Pg	Pg	17 45 06.0	-0.2
GBOS				Sg	Sg	17 45 17.2	-0.3
	18nm,0.3s						
FRF	La Foret Royal	0.95	182	ePg	Pg	17 45 07.7	-0.1
FRF	La Foret Royal	0.95	182	eP	Pn	17 45 09.8	+1.5
FRF				eSg	Sg	17 45 19.9	-0.2
	14nm,0.2s						
FRF	La Foret Royal	0.95	182	ePg	Pg	17 45 07.7	-0.1
FRF	La Foret Royal	0.95	182	eP	Pn	17 45 09.8	+1.5
FRF				eSg	Sg	17 45 19.9	-0.2
	6.8nm,0.2s						
SMRF	Simiane la Rot	0.96	237	ePn	Pn	17 45 09.1	+0.5
SMRF				eSg	Sb	17 45 21.2	+0.6
	11nm,0.3s						
SMRF	Simiane la Rot	0.96	237	ePn	Pn	17 45 09.1	+0.5
SMRF				eSg	Sb	17 45 21.2	+0.6
	5.6nm,0.3s						
LPG	La Plagne	0.99	2	ePg	Pg	17 45 08.7	0.0
LPG	La Plagne	0.99	2	ePn	Pn	17 45 09.5	+0.3
LPG				eSg	Sg	17 45 21.6	-0.1
	11nm,0.3s						
LPG	La Plagne	0.99	2	ePg	Pg	17 45 08.7	0.0
LPG	La Plagne	0.99	2	ePn	Pn	17 45 09.5	+0.3
LPG				eSg	Sg	17 45 21.6	-0.1
	5.6nm,0.3s						
OG26	St.-Nazaire-De	1.00	275	Pn	Pg	17 45 08.4	-0.3
OG26	St.-Nazaire-De	1.00	275	Pn	Pg	17 45 08.4	-0.3
LSD	Lago del Serru	1.00	18	Pg	Pb	17 45 09.0	+0.2
LSD				Sg	Sb	17 45 22.5	+0.6
LSD	Lago del Serru	1.00	18	Pg	Pb	17 45 09.0	+0.2
LSD				Sg	Sb	17 45 22.5	+0.6
LPL	La Plagne	1.01	2	ePg	Pb	17 45 09.1	+0.2
LPL	La Plagne	1.01	2	ePn	Pb	17 45 09.6	+0.7
LPL				eSg	Sg	17 45 22.3	0.0
	7.0nm,0.3s						
LPL	La Plagne	1.01	2	ePg	Pb	17 45 09.1	+0.2
LPL	La Plagne	1.01	2	ePn	Pb	17 45 09.6	+0.7
LPL				eSg	Sg	17 45 22.3	0.0
	3.5nm,0.3s						
RORO	Rocca Rossa	1.06	111	Pg	Pg	17 45 08.6	-1.3
RORO				Sg	Sg	17 45 22.0	-1.8
RORO	Rocca Rossa	1.06	111	Pg	Pg	17 45 08.6	-1.3
RORO				Sg	Sg	17 45 22.0	-1.8
LMR	La Mourre	1.18	187	ePg	Pg	17 45 12.1	-0.1
LMR				eSg	Sg	17 45 27.3	-0.3
	15nm,0.2s						
LMR	La Mourre	1.18	187	ePg	Pg	17 45 12.1	-0.1
LMR				eSg	Sg	17 45 27.3	-0.3
	7.6nm,0.2s						
LEPF	PUYLOUBIER	1.22	216	Pg	Pn	17 45 13.4	+1.4
LEPF				Sg	Sn	17 45 29.2	+0.9
LEPF	PUYLOUBIER	1.22	216	Pg	Pn	17 45 13.4	+1.4
VIVF	Saint-Julien-l	1.48	284	ePn	Pn	17 45 16.1	+0.3
VIVF	Saint-Julien-l	1.48	284	ePg	Pg	17 45 18.1	+0.1
VIVF				eSn	Sn	17 45 34.7	-0.3
VIVF				eSg	Sg	17 45 37.2	-0.1
	5.4nm,0.3s						
VIVF	Saint-Julien-l	1.48	284	ePn	Pn	17 45 16.1	+0.3
VIVF	Saint-Julien-l	1.48	284	ePg	Pg	17 45 18.1	+0.1
VIVF				eSn	Sn	17 45 34.7	-0.3
VIVF				eSg	Sg	17 45 37.2	-0.1
	2.7nm,0.3s						
LASF	Ste Croix	2.08	259	eP	Pb	17 45 26.6	-0.4
LASF				eSn	Sn	17 45 49.4	-0.3
	1.5nm,0.3s						
LASF	Ste Croix	2.08	259	eP	Pb	17 45 26.6	-0.4
LASF				eSn	Sn	17 45 49.4	-0.3
	0.8nm,0.3s						
LBL	Lubilhac	2.56	288	Pn	Pn	17 45 30.3	-0.2
LBL	Lubilhac	2.56	288	Pg	Pg	17 45 38.3	-0.2
LBL	Lubilhac	2.56	288	Pn	Pn	17 45 30.4	-0.2
LBL	Lubilhac	2.56	288	Pg	Pg	17 45 38.3	-0.2
PGF	Pioggiola	2.58	139	ePn	Pn	17 45 30.7	-0.2
PGF				eSn	Sn	17 46 02.1	+0.1
	1.8nm,0.2s						
PGF	Pioggiola	2.58	139	ePn	Pn	17 45 30.7	-0.2
PGF				eSn	Sn	17 46 02.1	+0.1
	0.9nm,0.2s						
PLDF	La Plantade	2.62	305	Pn	Pn	17 45 31.4	0.0
PLDF	La Plantade	2.62	305	Pg	Pg	17 45 39.0	-0.6
PLDF	La Plantade	2.62	305	Pn	Pn	17 45 31.4	0.0
PLDF	La Plantade	2.62	305	Pg	Pg	17 45 39.0	-0.6
PYM	Petit Puy Mans	2.89	297	Pn	Pn	17 45 34.0	-1.1
PYM	Petit Puy Mans	2.89	297	Pg	Pg	17 45 43.2	-1.7
PYM	Petit Puy Mans	2.89	297	Pn	Pn	17 45 34.0	-1.1
PYM	Petit Puy Mans	2.89	297	Pg	Pg	17 45 43.2	-1.7

IDC ***01*** *17:52:38.2±0.5, 12°.94N×92°.55E, h0km, mb4.2/30, mb1 4.3/32, mb1mx4.1/67, mbtmp4.2/32, ML4.4/2, MS3.6/19, Ms1 3.6/19, ms1mx3.3/62, Error ellipse: s-maj=15.7km s-min=12.3km az=57.0*
ISCJB ***01*** *17:52:41.3±0.2, 13°.03N±0°.03×92°.53E±0°.02, h31km, mb4.4/52, MS3.6/19, Error ellipse: s-maj=3.9km s-min=3.1km az=21.8*
NEIC ***01*** *17:52:43.9±0.5, 13°.00N×92°.56E, h38km±5km, mb4.8/18, Error ellipse: s-maj=5.4km s-min=4.0km az=70.0*
DJA ***01*** *17:52:43.9±0.5, 13°N±4°×9°2E±°, h45km±26km, M4.7/9, mb4.7/9, mB5.2/3, Mw(mB)4.6/3*
BJI ***01*** *17:52:44.4, 12°.98N×93°.51E, h7km, mb4.5/33, mB4.7/25, Ms4.1/22, Ms7 3.9/19*
ISC 01 17:52:43.4±0.4**, 13°.10N**±0°.05×**92°.51E**±0°.04**, h31**km**, n187, σ1s.98**/168**, mb4.4**/52**, MS3.6**/21**, 6C-7D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.42	80	eP	Pn	17 52 54.4	+1.1
DGPR				eS	Sn	17 53 02.1	+2.1
PBA	Port Blair	1.46	171	eP	Pn	17 53 08.3	+0.6
PBA				eS	Sn	17 53 23.7	-1.9
PBA				IAML		17 53 36.5	
	comp=E,14μm,0.9s						
PBA				IAML		17 53 36.6	
	comp=N,14μm,0.2s						
SRDT	SRDT	6.54	78	P	Pn	17 54 18.8	+1.2
	comp=N,158nm,0.7s						
PHET	Kaeng Krachan	6.94	91	P	Pn	17 54 25.5	+2.4
UTHA	Uthaitani	7.15	69	P	Pn	17 54 28.2	+2.2
CM01	Chiang Mai Arr	8.15	49	ePn	Pn	17 54 38.8	-1.0
CM31	Chiang Mai Arr	8.17	48	ePn	Pn	17 54 38.8	-1.1
CMAR	Chiang Mai Arr	8.17	48	Pn	Pn	17 54 40.4	+0.4
	comp=N,1.1nm,0.3s,baz=239,slow=15,SNR=44						
CMAR				Sn	Sn	17 56 06.5	-4.7
	comp=N,2.3nm,0.3s,baz=236,slow=22,SNR=5.1						
CMAR				LR	LR	17 58 27.8	
	comp=N,385nm,20.3s,baz=228,slow=42						
CHTO	Chiang Mai	8.40	47	P	Pn	17 54 43.7	+0.6
	comp=N,110nm,0.8s,comp=N,2μm						
CHTO	Chiang Mai	8.40	47	ePn	Pn	17 54 43.3	+0.2
CMMT	Chiang Mai	8.40	47	P	Pn	17 54 42.5	-0.6
NAYO	Nakonayok	8.65	81	P	Pn	17 54 48.8	+2.3
	comp=N,21nm,0.6s,comp=N,3μm						
LAMP	Lampang	8.72	51	P	Pn	17 54 48.2	+0.7
	comp=N,20nm,0.8s,comp=N,188nm						
PHRA	Phrae	9.16	53	P	Pn	17 54 54.6	+1.0
	comp=N,94nm,0.6s						
CMAI	Chiengmai2	9.24	42	P	Pn	17 54 55.9	+1.1
	comp=N,181nm,0.4s						
MLSI	Meulaboh, Aceh	9.59	156	P	Pn	17 54 59.2	-0.2
CHAI	Chaiyaphum	9.59	72	P	Pn	17 55 02.4	+3.0
	comp=N,14nm,1.0s,comp=N,122nm						
VIS	Vishakhapatnam	9.97	299	eP	Pn	17 55 04.1	-0.6
VIS				i S	Sn	17 56 48.5	-7.0
VIS				i S	Sn	17 56 48.5	-7.0
VIS				ex	x	17 56 48.8	
	comp=E,243nm,0.4s						
VIS				ex	x	17 56 49.6	
	comp=N,376nm,0.6s						
KULM	Kulim	11.17	133	ePn	Pn	17 55 19.4	-1.7
PVM	Polavaram	11.29	293	eP	Pn	17 55 23.3	+0.6
PVM				e		17 57 16.1	
IPM	Ipoh	12.01	135	ePn	Pn	17 55 31.2	-1.3
PSI	Prapat	12.04	148	ePn	Pn	17 55 35.1	+2.0
BOK	Bokaro	12.35	330	eP	Pn	17 55 38.3	+1.1
BOK				IAmb	IAmb	17 55 48.1	
	comp=Z,99nm,1.4s						
SHL	Shillong	12.41	357	eP	Pn	17 55 38.0	-0.2
ADKI	Addanki	12.45	284	eP	Pn	17 55 40.1	+1.5
ADKI				e		17 57 43.1	
SKHT	Srikalahasti	12.47	274	eP	Pn	17 55 40.3	+1.4
GSI	Gunungsitoli	12.75	156	ePn	Pn	17 55 41.0	-1.7
PALK	Pallekele	12.98	245	Pn	Pn	17 55 44.0	-1.9
	comp=Z,2.8nm,0.3s,baz=116,slow=8.2,SNR=26						
PALK				Sn	Sn	17 57 58.3	-11
	comp=Z,4.3nm,0.3s,baz=115,slow=1.4,SNR=6.3						
PALK				LR	LR	18 00 45.3	
	comp=Z,171nm,18.3s,baz=115,slow=38						
PALK	Pallekele	12.98	245	ePn	Pn	17 55 45.7	-0.3
PALK				Sn	Sn	17 57 58.3	-11
NJS	Nagarjunasagar	13.22	287	eP	Pn	17 55 49.2	+0.1
NJS				e		17 57 59.5	
SRLM	Srisailam	13.51	284	eP	Pn	17 55 53.4	+0.3
SRLM				e		17 58 08.4	
RPR	Rampur	13.93	296	eP	Pn	17 55 59.1	+0.2
RPR				e		17 58 20.5	
HYB	Hyderabad	14.13	289	i P	P	17 56 10.0	+1.2
HYB				eS	Sn	17 58 38.0	+0.5
HYBB	Hyderabad (bro	14.13	289	eP	Pn	17 56 03.4	+1.8
HYBB				e		17 58 35.9	
ODAN	Odare	14.51	341	eP	Pn	17 56 05.2	-1.6
SRSP	Sriramsagar	14.79	295	eP	Pn	17 56 12.1	+1.5
SRSP				e		17 58 39.3	
RAMN	Ramite	14.85	339	eP	Pn	17 56 10.7	-0.8
TAPN	Taplejung	14.87	343	eP	Pn	17 56 11.1	-0.7
URV	Uravakonda	14.91	279	eP	Pn	17 56 12.1	-0.1
URV				e		17 58 43.4	
NGP	Nagpur	15.14	304	eP	Pn	17 56 16.4	+1.2
NGP				ex	x	17 58 58.5	
KMI	Kunming	15.37	37	P	Pn	17 56 20.3	+2.0
KMI				sP	P	17 56 25.9	+3.2
KMI				S	Sn	17 59 08.0	+0.3
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
KMI				pmax	pmax		
	comp=Z,71nm,3.5s						
KMI				LR	LR		
	comp=Z,160nm,18.9s						
KMI				LR	LR		
	comp=Z,280nm,21.0s						
KMI				LR	LR		
	comp=Z,170nm,14.5s						
JBP	Jabalpur	15.54	312	⇑iP	Pn	17 56 21.9	+1.5
JBP				ex	x	17 59 02.6	
JIRN	Jiri	15.64	339	eP	Pn	17 56 21.2	-0.9
PKI	Pulchoki	15.85	336	eP	Pn	17 56 24.9	+0.2
PKI				eS	Sn	17 59 11.5	-8.2
PKIN	Phulchoki	15.86	336	eP	Pn	17 56 25.0	+0.2
MYKOM	Kota Tinggi	15.89	134	ePn	Pn	17 56 23.9	-1.0
	comp=Z,36nm,0.7s						
TRD	Trivandrum	15.94	255	eP	Pn	17 56 26.1	+0.5
GUN	Gumba	15.98	338	eP	Pn	17 56 26.8	+0.4
DMN	Daman	16.01	336	eP	Pn	17 56 26.2	-0.5
KLRI	Killari	16.10	290	eP	Pn	17 56 27.6	-0.1
KLRI				e		17 59 09.2	
LSA	Lhasa	16.57	356	P	P	17 56 37.1	+0.8
LSA	Lhasa	16.57	356	ePn	P	17 56 36.0	-0.3
	comp=Z,32nm,0.6s						
KOLN	Koldanda	16.80	332	eP	Pn	17 56 36.2	-0.5
	comp=Z,78nm,0.5s						
TPRI	Tanjung Pinang	16.98	135	P	Pn	17 56 38.9	+0.1
DANN	Dangsing	17.23	333	eP	Pn	17 56 42.4	+0.3
	comp=Z,6.2nm,0.8s						
PYUN	Piuthan	17.36	331	eP	P	17 56 44.8	-0.1
	comp=Z,124nm,0.6s						
BHPL	Bhopal	17.51	307	eP	P	17 56 47.1	+0.8
BHPL				IAmb	IAmb	17 56 57.2	
	comp=Z,59nm,0.9s						
QIZ	Qiongzhong	17.66	68	P	Pn	17 56 43.4	-3.9
QIZ				S	Sn	17 59 54.5	-8.8
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.6s						
QIZ				LR	LR		
	comp=Z,240nm,16.1s						
QIZ				LR	LR		
	comp=Z,210nm,15.7s						
GYA	Guiyang	18.79	43	⇓iP	Pn	17 57 01.3	+0.2
GYA				PP	PnPn	17 57 17.4	+3.7
GYA				S	Sn	18 00 23.2	-7.4
GYA				SS	SnSn	18 00 46.6	+1.8
GYA				PcP	PcP	18 01 35.4	+8.2
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=Z,2μm,14.9s						
GYA				LR	LR		
	comp=Z,1μm,15.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GYA				LR	LR		
	comp=Z,1μm,15.6s						
CD2	Chengdu	20.54	29	P	Pn	17 57 22.6	+0.8
CD2				pP	pP	17 57 25.5	-2.2
CD2				sP	sP	17 57 26.9	-4.8
CD2				S	S	18 01 10.2	+2.5
CD2				sS	Sn	18 01 15.1	+2.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,4.6s						
CD2				LR	LR		
	comp=Z,700nm,17.6s						
CD2				LR	LR		
	comp=Z,280nm,10.8s						
DDI	Dehra Dun	21.73	324	eP	P	17 57 33.6	+1.3
SMLA	Simla	22.84	324	eP	P	17 57 45.8	+1.7
ENH	Enshi	23.20	40	eP	P	17 57 47.5	-0.3
	comp=Z,54nm,0.9s						
DHRM	DHARAMSHALA	24.17	325	eP	P	17 57 57.7	+0.4
LZH	Lanzhou	25.06	22	eP	P	17 58 08.3	+3.0
LZH				pP	pP	17 58 12.0	-2.2
LZH				sP	sP	17 58 16.2	-1.8
LZH				PP	PnPn	17 58 44.3	+4.9
LZH				eS	S	18 02 25.7	-2.1
LZH				sS	pS	18 02 34.2	-3.3
LZH				SS	SnSn	18 03 22.0	+3.6
LZH				pmax	pmax		
	comp=Z,27nm,0.7s						
LZH				pmax	pmax		
	comp=Z,130nm,5.4s						
LZH				LR	LR		
	comp=Z,500nm,13.0s						
LZH				LR	LR		
	comp=Z,380nm,12.0s						
LZH				LR	LR		
	comp=Z,580nm,14.8s						
XAN	Xi'an	25.63	33	P	P	17 58 10.7	+0.3
XAN				pP	pP	17 58 18.4	-0.9
XAN				pmax	pmax		
	comp=Z,17nm,0.7s						
XAN				pmax	pmax		
	comp=Z,160nm,4.7s						
XAN				LR	LR		
	comp=Z,190nm,27.9s						
XAN				LR	LR		
	comp=Z,260nm,22.6s						
GTA	Gaotai	26.99	13	eP	P	17 58 25.8	+3.1
GTA				pP	pP	17 58 30.6	-1.0
GTA				sP	sP	17 58 33.7	-1.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
H08S3	Diego Garcia H	28.63	225	T	T	18 28 10.5	
	baz=43,slow=76,SNR=121						
H08S2	Diego Garcia H	28.64	225	T	T	18 28 21.5	
	baz=43,slow=76,SNR=310						
H08S1	Diego Carcia H	28.65	225	T	T	18 28 22.4	
	baz=43,slow=76,SNR=218						
KSH	Kashi	30.09	334	P	P	17 59 00.7	+10
KSH				pP	sP	17 59 04.8	+1.7
KSH				PP	PP	17 59 59.8	+1.3
KSH				S	S	18 03 59.2	+12
KSH				sS	sS	18 04 06.2	+4.3
KSH				SS	ScP	18 05 39.2	+7.5
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,49nm,4.2s						
KSH				LR	LR		
	comp=Z,180nm,5.6s						
KSH				LR	LR		
	comp=Z,130nm,7.1s						
KSH				LR	LR		
	comp=Z,130nm,8.5s						
WMQ	Urumqi	30.89	353	eP	P	17 59 06.9	+10
WMQ				LR	LR		
	comp=Z,190nm,26.5s						
WMQ				LR	LR		
	comp=Z,290nm,25.3s						
WMQ				LR	LR		
	comp=Z,110nm,29.3s						
HHC	Hu-ho-hao-te	32.29	28	eP	P	17 59 15.0	+5.4
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,75nm,6.3s						
AAK	Ala-Archa	33.31	335	P	P	17 59 20.4	+1.8
	comp=Z,3.7nm,0.7s,baz=124,slow=7.2,SNR=9.6						
WSAR	Wadi Sarin	33.65	292	LR	LR	18 13 02.7	
	comp=Z,134nm,20.8s,baz=129,slow=36						
MK31	Makanchi Array	34.67	348	eP	P	17 59 31.5	+1.3
MK32	Makanchi Array	34.67	348	eP	P	17 59 31.4	+1.2
MKAR	Makanchi Array	34.67	348	P	P	17 59 31.4	+1.3
	comp=Z,4.2nm,0.7s,baz=167,slow=8.7,SNR=50						
MKAR				LR	LR	18 16 53.6	
	comp=Z,68nm,20.6s,baz=125,slow=42						
MKAR	Makanchi Array	34.67	348	eP	P	17 59 31.5	+1.3
	comp=Z,57nm,0.8s						
MAKZ	Makanchi	34.75	347	eP	P	17 59 32.1	+1.2
	comp=Z,26nm,1.6s						
KKAR	Karatay Array	35.41	332	eP	P	17 59 37.3	+0.6
SONA0	Songino Array	36.52	16	eP	P	17 59 47.2	+1.1
SONM	Songino Array	36.52	16	P	P	17 59 47.2	+1.1
	comp=Z,0.9nm,0.5s,baz=202,slow=7.8,SNR=7.5						
SONM				LR	LR	18 16 52.0	
	comp=Z,104nm,18.3s,baz=200,slow=40						
SONA1	Songino Array	36.53	16	eP	P	17 59 47.1	+0.8
KURBB	Kurchatov Arra	39.12	346	P	P	18 00 09.0	+1.1
	comp=Z,3.7nm,0.7s,baz=163,slow=7.9,SNR=34						
KURK	Kurchatov	39.18	346	eP	P	18 00 09.0	+0.5
GEYT	Alibeck	39.32	315	P	P	18 00 11.7	+1.8
	comp=Z,3.3nm,0.4s,baz=146,slow=8.4,SNR=12						
GEYT				LR	LR	18 17 35.1	
	comp=Z,68nm,21.6s,baz=55,slow=38						
KS15	Wonju Array Si	39.77	46	eP	P	18 00 13.3	-0.2
KSAR	Wonju Array Be	39.77	46	P	P	18 00 13.3	-0.2
KSRS	Korea Array	39.80	46	P	P	18 00 13.3	-0.5
	comp=Z,2.9nm,0.8s,baz=243,slow=8.8,SNR=11						
KSRS				LR	LR	18 18 56.3	
	comp=Z,175nm,19.1s,baz=230,slow=40						
JNU	Nakatsue	40.22	54	LR	LR	18 19 59.1	
	comp=Z,100nm,18.7s,baz=297,slow=41						
ZAA0	Zalesovo Array	41.20	353	eP	P	18 00 25.7	+0.6
	comp=Z,17nm,1.1s						
ZALV	Zalesovo Beam	41.20	353	P	P	18 00 26.1	+1.0
	comp=Z,3.9nm,0.8s,baz=176,slow=8.6,SNR=17						
ZALV				LR	LR	18 22 57.4	
	comp=Z,47nm,19.4s,baz=246,slow=44						
ZALV	Zalesovo Beam	41.20	353	eP	P	18 00 25.6	+0.5
ZAA1	Zalesovo Array	41.20	353	eP	P	18 00 26.1	+0.9
CN2	Changchun	41.63	36	eP	P	18 00 28.6	-0.2
CN2				esP	pP	18 00 39.6	+1.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
BVAR	Borovoye Array	43.55	341	P	P	18 00 44.8	+0.5
	comp=Z,1.1nm,0.5s,baz=130,slow=4.6,SNR=8.8						
ABKAR	Akbulak array	44.91	330	eP	P	18 00 56.6	+1.4
	comp=Z,54nm,0.7s						
USRK	Ussuriysk Ar.	45.78	40	P	P	18 01 02.6	+0.4
	comp=Z,1.5nm,0.6s,baz=259,slow=12,SNR=2.6						
USRK				LR	LR	18 22 47.0	
	comp=Z,82nm,18.7s,baz=201,slow=39						
MAJO	Matsushiro	47.03	52	eP	P	18 01 11.9	-0.3
MJAR	Matsushiro Arr	47.04	52	P	P	18 01 11.9	-0.4
	comp=Z,23nm,1.1s,baz=263,slow=6.1,SNR=3.9						
MJAR				LR	LR	18 23 40.9	
	comp=Z,56nm,18.4s,baz=240,slow=40						
JHJ	Hachijo jima 2	47.37	57	LR	LR	18 22 04.9	
	comp=Z,32nm,19.8s,baz=254,slow=37						
ATD	Arta Tunnel	48.48	274	LR	LR	18 19 55.9	
	comp=Z,39nm,18.4s,baz=65,slow=34						
ARU	Arti	50.48	336	LR	LR	18 24 57.3	
	comp=Z,111nm,21.1s,baz=133,slow=38						
ARU	Arti	50.48	336	eP	P	18 01 38.2	-0.1
	comp=Z,5.2nm,0.7s						
NWAO	Narrogin (SRO)	51.51	153	P	P	18 01 45.0	-1.3
	comp=Z,3.8nm,0.6s,baz=180,slow=10,SNR=5.0						
KIV	Kislovodsk	52.43	316	eP	P	18 01 52.8	-0.5
	comp=Z,11nm,0.8s						
WRA	Warramunga Arr	52.66	128	P	P	18 01 52.9	-2.3
	comp=Z,2.7nm,0.6s,baz=310,slow=8.4,SNR=44						
WR1	Warramunga Arr	52.66	128	eP	P	18 01 52.9	-2.3
WRAB	Tennant Creek	52.66	128	eP	P	18 01 53.8	-1.4
	comp=Z,6.9nm,0.7s						
ASAJ	Asahikawa	52.66	44	P	P	18 01 55.6	+0.7
	comp=Z,4.7nm,0.9s,baz=235,slow=12,SNR=2.7						
AS31	Alice Springs	54.53	132	eP	P	18 02 06.8	-2.0
	comp=Z,1.4nm,0.6s						
ASAR	Alice Springs	54.53	132	P	P	18 02 06.7	-2.2
	comp=Z,1.8nm,0.6s,baz=308,slow=6.8,SNR=40						
BR101	Keskin Array S	57.87	309	eP	P	18 02 32.1	-0.6
BR131	Keskin Array S	57.87	309	eP	P	18 02 32.5	-0.2
BRTR	Keskin Array B	57.87	309	P	P	18 02 32.1	-0.6
	comp=Z,1.1nm,0.9s,baz=96,slow=15,SNR=3.7						
BRTR				LR	LR	18 30 58.4	
	comp=Z,21nm,20.5s,baz=130,slow=40						
BR231	Keskin MP Arra	58.55	309	eP	P	18 02 37.8	+0.4
KLMR	Klimovskoe	61.09	333	eP	P	18 03 02.8	+8.5
KLMR				AMP		18 03 10.9	
	comp=Z,14nm,1.3s						
TIXI	Tiksi	62.47	12	eP	P	18 03 03.5	+0.1
	comp=Z,54nm,1.6s						
AKASG	Malin Array Be	63.10	320	P	P	18 03 07.2	-0.8
	comp=Z,0.3nm,0.4s,baz=86,slow=5.4,SNR=3.7						
AKBB	Malin Array Si	63.10	320	eP	P	18 03 07.2	-0.8
	comp=Z,4.1nm,0.8s						
VRI	Vrincioaia	63.87	315	⇓iP	P	18 03 25.8	+13
PLOR	Plostina	63.92	315	⇓iP	P	18 03 26.0	+12
MLR	Muntele Rosu	64.36	314	P	P	18 03 18.0	+1.4
	comp=Z,0.4nm,0.4s,baz=138,slow=16,SNR=2.6						
MLR				LR	LR	18 35 31.4	
	comp=Z,17nm,20.0s,baz=46,slow=40						
MLR	Muntele Rosu	64.36	314	⇓iP	P	18 03 29.2	+13
MLR	Muntele Rosu	64.36	314	eP	P	18 03 16.4	-0.2
	comp=Z,16nm,1.0s						
PETK	Petropavlovsk-	64.77	37	P	P	18 03 19.6	+0.6
	comp=Z,1.7nm,0.8s,baz=255,slow=3.1,SNR=2.4						
PETK				LR	LR	18 36 27.7	
	comp=Z,34nm,18.0s,baz=257,slow=40						
PEA1	Petropavlovsk-	64.78	37	eP	P	18 03 19.6	+0.6
DOPR	Dopca	64.81	315	⇓iP	P	18 03 30.5	+11
STKA	Stephens Creek	64.88	135	P	P	18 03 19.9	-0.1
	comp=Z,2.3nm,0.8s,baz=315,slow=11,SNR=3.8						
VOIR		64.98	314	⇑iP	P	18 03 32.2	+12
BURAR	Bucovina Array	65.14	317	⇑iP	P	18 03 32.3	+11
BUR04	Bucovina Ar. S	65.15	317	eP	P	18 03 22.4	+0.7
BUR08	Bucovina Ar. S	65.16	317	eP	P	18 03 22.3	+0.5
ARR	Arges	65.27	314	⇓iP	P	18 03 33.8	+11
LOT	Lotru	65.88	314	⇑iP	P	18 03 37.7	+11
VTS	Vitosha	66.03	311	⇑iP	P	18 03 35.9	+8.4
DRGR		66.75	315	⇓iP	P	18 03 43.8	+12
FIA0	FINESS Array S	67.37	332	eP	P	18 03 35.0	-0.4
FIA1	FINESS Array S	67.37	332	eP	P	18 03 35.7	+0.2
FINES	FINESS Array B	67.37	332	P	P	18 03 35.0	-0.4
	comp=Z,0.8nm,0.5s,baz=95,slow=5.6,SNR=14						
CRVS	Cervenica-Dubn	67.79	318	eP	P	18 03 50.1	+12
STHS	Stebnicka Huta	67.98	318	eP	P	18 03 51.4	+12
KECS	Kecovo	68.39	317	eP	P	18 03 50.1	+7.9
OJC	Ojcow	68.98	319	eP	P	18 03 57.3	+11
VYHS	Vyhne	69.49	317	eP	P	18 04 00.0	+11
ARA0	ARCESS Array S	69.83	340	eP	P	18 03 51.0	+0.2
ARCES	ARCESS Array B	69.83	340	P	P	18 03 51.0	+0.2
	comp=Z,1.2nm,0.6s,baz=101,slow=5.2,SNR=5.6						
MORC	Moravsky Berou	70.41	318	⇑iP	P	18 04 06.6	+12
MORC	Moravsky Berou	70.41	318	eP	P	18 03 54.3	-0.4
	comp=Z,18nm,0.7s						
DPC	Dobruska-Polom	71.22	319	epP	pP	18 04 11.6	+2.3
DPC				ex	x	18 04 19.4	
CONA	Conrad Observa	71.46	316	P	P	18 04 12.5	+11
	comp=Z,0.6nm,0.4s						
GOPC	GO Pecny, Ondr	72.19	318	epP	pP	18 04 17.2	+2.0
OBKA	Obir	72.35	315	eP	P	18 04 18.4	+12
	comp=Z,2.3nm,0.7s						
BRG	Berggiesshubel	72.74	319	eP	P	18 04 20.0	+11
	comp=Z,3.8nm,0.9s						
GEC2	GERESS Array S	72.90	317	eP	P	18 04 10.1	+0.4
	comp=Z,5.4nm,0.8s						
GERES	GERESS Array B	72.90	317	P	P	18 04 11.0	+1.2
	comp=Z,0.3nm,0.5s,baz=62,slow=7.0,SNR=3.4						
GERES	GERESS Array B	72.90	317	P	P	18 04 11.0	+1.2
KHC	Kasperske Hory	72.98	318	epP	pP	18 04 21.5	+1.6
KHC				ex	x	18 04 30.2	
HFS	Hagfors	73.17	329	P	P	18 04 11.9	+0.9
	comp=Z,1.4nm,0.6s,baz=158,slow=0.8,SNR=5.2						
CLL	Collm	73.34	320	epP	pP	18 04 24.0	+2.1
NB2	NORSAR Subarra	74.42	330	P	pP	18 04 28.8	+0.7
	comp=Z,1.6nm,0.6s,baz=88,slow=6.2						
NB200	NORSAR Array S	74.42	330	eP	P	18 04 17.9	-0.4
NOA	NORSAR Array B	74.42	330	P	P	18 04 17.9	-0.4
	comp=Z,0.9nm,0.7s,baz=95,slow=5.5,SNR=2.7						
NOA				LR	LR	18 39 37.0	
	comp=Z,36nm,20.5s,baz=110,slow=38						
SPITS	Spitsbergen Ar	74.42	348	P	P	18 04 17.0	-1.1
	comp=Z,9.4nm,1.0s,baz=104,slow=6.1,SNR=2.7						
BOSA	Boshof	77.06	236	P	P	18 04 34.4	+0.2
	comp=Z,5.7nm,0.6s,baz=74,slow=4.5,SNR=14						
BNI	Bardonecchia	77.93	314	eP	P	18 04 38.8	0.0
	comp=Z,3.0nm,0.6s						
EKA	Eskdalemuir Ar	82.54	325	P	P	18 05 03.8	+0.6
	comp=Z,0.2nm,0.4s,baz=60,slow=4.3,SNR=3.2						
ESDC	Sonseca Array	86.65	310	P	P	18 05 24.0	-0.4
	comp=Z,0.1nm,0.3s,baz=55,slow=4.5,SNR=3.0						
TOA0	Torodi Ar. Sit	87.86	283	eP	P	18 05 30.6	-0.1
TORD	Torodi Ar. Bea	87.86	283	P	P	18 05 29.8	-0.9
	comp=Z,1.2nm,0.6s,baz=84,slow=4.7,SNR=7.7						
TOA1	Torodi Ar. Sit	87.86	283	eP	P	18 05 29.8	-0.9
CAST	Castle Rocks	89.25	24	eP	P	18 05 37.8	+1.5
	comp=Z,10.0nm,0.8s						
ILAR	Eielson Array	90.52	22	P	P	18 05 41.5	-0.7
	comp=Z,0.4nm,0.7s,baz=300,slow=4.0,SNR=4.5						
ILAR				LR	LR	18 49 35.2	
	comp=Z,47nm,18.5s,baz=275,slow=38						
ILB	Eielson Array	90.52	22	eP	P	18 05 41.5	-0.7
IL1	Eielson Array	90.52	22	eP	P	18 05 41.9	-0.2
PDAR	Pinedale Array	120.83	19	PKP	PKPdf	18 11 32.4	-0.8
	comp=Z,0.2nm,0.6s,baz=0.0,slow=3.0,SNR=2.4						
NV01	Mina Array Sit	121.18	28	ePKPdf	PKPdf	18 11 34.4	+0.4
NVAR	Mina Array Bea	121.18	28	PKP	PKPdf	18 11 34.4	+0.4
	comp=Z,1.2nm,0.6s,baz=126,slow=1.6,SNR=3.8						
SDCO	Great Sand Dun	126.67	18	ePKPdf	PKPdf	18 11 44.5	-0.1
OK021	N3530 Road, Sp	130.78	10	ePKPdf	PKPdf	18 11 50.0	-2.1
JSC	Jenkinsville	132.51	353	ePKPdf	PKPdf	18 11 55.3	-0.2
TXAR	Lajitas Array	135.01	20	PKP	PKPdf	18 12 01.8	+1.4
	comp=Z,0.2nm,0.5s,baz=114,slow=1.1,SNR=3.3						
PLCA	Paso Flores	148.72	205	PKPbc	PKPbc	18 12 27.3	-0.8
	comp=Z,3.3nm,0.8s,baz=38,slow=2.9,SNR=5.4						
PLCA	Paso Flores	148.72	205	ePKPdf	PKPdf	18 12 23.9	-0.4
CPUP	Villa Florida	148.80	241	PKPbc	PKPbc	18 12 28.0	-0.6
	comp=Z,1.8nm,0.7s,baz=12,slow=7.3,SNR=2.8						
CPUP	Villa Florida	148.80	241	ePKPdf	PKPdf	18 12 23.7	-1.0

IDC ***01*** *18:23:59.9±1.4, 22°82N×11°91W, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.5/66, mbtmp3.7/9, ML3.8/3, Error ellipse: s-maj=41.4km s-min=24.7km az=75.0*
ISCJB ***01*** *18:24:00.2±0.6, 22°75N±0°09×11°6W±0°1, h10km, mb3.9/8, Error ellipse: s-maj=18.7km s-min=8.3km az=142.5*
NEIC ***01*** *18:24:01.9±0.5, 22°80N×11°73W, h10km, mb4.6/4, Error ellipse: s-maj=17.1km s-min=9.3km az=54.0*
CSEM ***01*** *18:24:01.9, 22°80N×11°73W, h10km, mb4.6/4, After NEIC*
ISC 01 18:24:01.4±0.7**, 22°8N**±0°1×**11°5W**±0°1**, h10**km**, n26, σ1§68**/28**, mb4.0**/8**, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOWA	Kowa	10.88	138	Pn	Pn	18 26 40.8	+3.6
	1.4nm,0.3s,baz=319,slow=10,SNR=24						
KOWA				Sn	Sn	18 28 39.7	+0.6
	0.3nm,0.3s,baz=72,slow=20,SNR=2.3						
I11CV	MAIO ISLAND IN	13.33	238	i		19 46 10.0	
	baz=53,slow=318,SNR=0.4						
TOA1	Torodi Ar. Sit	15.78	125	ePn	P	18 27 46.9	-0.8
TOA1				eSn	Sn	18 30 36.4	-2.5
TORD	Torodi Ar. Bea	15.79	125	Pn	P	18 27 46.9	-0.9
	0.1nm,0.3s,baz=323,slow=12,SNR=4.3						
TORD				Sn	Sn	18 30 36.4	-2.6
	0.1nm,0.3s,baz=312,slow=21,SNR=3.2						
DBIC	Dimbokro	17.25	157	P	P	18 28 02.8	-1.3
	0.4nm,0.3s,baz=322,slow=12,SNR=5.4						
DBIC	Dimbokro	17.25	157	ePn	P	18 28 02.8	-1.3
	13nm,1.5s						
GEC2	GERESS Array S	32.79	31	eP	P	18 30 32.7	-2.1
	1.7nm,0.8s						
GEC2	GERESS Array S	32.79	31	eP	P	18 30 32.7	-2.1
	1.7nm,0.8s						
GERES	GERESS Array B	32.79	31	P	P	18 30 36.6	+1.7
	0.1nm,0.3s,baz=220,slow=9.0,SNR=5.1						
HFS	Hagfors	41.30	19	P	P	18 31 47.2	+0.4
	1.6nm,0.7s,baz=195,slow=10,SNR=3.6						
FIA0	FINESS Array S	46.44	24	eP	P	18 32 29.2	+1.1
FINES	FINESS Array B	46.44	24	P	P	18 32 29.2	+1.1
	2.5nm,1.1s,baz=331,slow=11,SNR=3.6						
SIUC	Southern Illin	67.02	303	eP	P	18 34 54.8	0.0
	9.0nm,0.6s						
SIUC	Southern Illin	67.02	303	eP	P	18 34 54.8	0.0
	9.0nm,0.6s						
KURBB	Kurchatov Arra	72.76	42	P	P	18 35 31.9	+2.0
	0.2nm,0.6s,baz=282,slow=4.6,SNR=2.7						
KURK	Kurchatov	72.79	42	eP	P	18 35 31.9	+1.9
ZAA1	Zalesovo Array	75.50	37	eP	P	18 35 45.4	-0.4
ZALV	Zalesovo Beam	75.50	37	P	P	18 35 45.4	-0.4
	0.3nm,0.3s,baz=292,slow=5.9,SNR=2.0						
LTX	Lajitas	80.95	298	eP	P	18 36 14.6	-2.0
TXAR	Lajitas Array	80.95	298	P	P	18 36 14.6	-2.0
	0.1nm,0.6s,baz=58,slow=12,SNR=2.3						
WMUT	West Mountain	83.11	311	eP	P	18 36 27.9	0.0
EBG	Ellensburg	85.78	319	eP	P	18 36 42.4	+1.4
PAHR	Pah Rah Range	88.48	313	eP	P	18 36 56.2	+1.7
	9.1nm,0.9s						
WRA	Warramunga Arr	148.11	91	PKPbc	PKPab	18 43 49.9	-1.1
	0.4nm,1.0s,baz=301,slow=2.2,SNR=5.0						
WR1	Warramunga Arr	148.11	91	ePKPbc	PKPab	18 43 49.9	-1.1
ASAR	Alice Springs	148.25	98	PKPbc	PKPab	18 43 50.1	-1.3
	0.5nm,0.6s,baz=270,slow=2.5,SNR=6.1						

IDC ***01*** *18:41:46.0±2.8, 31°54S×69°35W, h90km±23km, mb4.1/13, mb1 4.2/16, mb1mx4.0/35, mbtmp4.4/16, MS4.0/2, Ms1 3.9/2, ms1mx3.0/33, Error ellipse: s-maj=18.8km s-min=15.4km az=67.0*
NEIC ***01*** *18:41:46.8±1.2, 31°57S×69°27W, h96km±11km, mb4.6/18, MD4.5(SJA), Error ellipse: s-maj=13.5km s-min=7.2km az=58.0*
NEIC Felt [IV] at San Juan.
ISCJB ***01*** *18:41:48.1±0.3, 31°46S±0°03×69°27W±0°05, h117km±2km, mb4.5/32, Error ellipse: s-maj=7.3km s-min=4.6km az=20.1*
SJA ***01*** *18:41:48.7±1.0, 31°54S×69°36W, h108km±5km, ML4.5, MW4.3, Fault plane solution: NP1:φs69.00000°, δ16.00000°, λ-62.00000°.*
GUC ***01*** *18:41:54.6±0.5, 30°95S×70°76W, h94km±10km, ML4.5*
ISC 01 18:41:48.0±0.7**, 31°44S**±0°04×**69°39W**±0°05**, h107**km±5km**, n108, σ1§57**/128**, mb4.3**/32**, 18C-4D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTLS	Leoncito	0.37	167	⇑iP	Pn	18 42 05.2	+1.0
RTLS				eS	Sn	18 42 18.0	+1.8
RTLS				IAML		18 42 18.5	
	comp=Z,27μm,0.2s						
SJA	San Juan	0.72	97	⇑iP	Pn	18 42 07.8	+1.6
SJA				eS	Sn	18 42 21.6	+1.6
SJA				IAML		18 42 23.5	
	comp=Z,25μm,0.2s						
AUSP	Uspallata	0.78	180	⇑iP	Pn	18 42 07.8	+0.7
RTLL	Cerro Villicun	0.79	82	⇑iP	Pn	18 42 07.9	+1.0
RTLL				eS	Sn	18 42 22.6	+1.4
RTLL				IAML		18 42 24.3	
	comp=Z,13μm,0.3s						
RTCV	Cerro Valdivia	0.84	120	⇑iP	Pn	18 42 08.5	+1.1
AMOG	MOGNA	0.92	57	⇑iP	Pn	18 42 10.2	+2.0
ASAL	Salagasta	1.24	158	⇑iP	Pn	18 42 12.2	+0.5
ARCO	CERRO ARCO	1.45	164	⇑iP	Pn	18 42 14.7	+0.5
ARCO				eP	Pn	18 42 14.7	+0.5
ARCO				IAML		18 42 15.6	
	comp=Z,11μm,0.2s						
ARCO				eS	Sn	18 42 34.8	+0.7
AAGR	Agrelo	1.71	164	eP	Pn	18 42 17.5	+0.2
AAGR				⇑iP	Pn	18 42 17.5	+0.2
GO04	Tololo Observa	1.75	316	eP	Pn	18 42 13.5	-4.5
GO04				eS	Sn	18 42 27.9	-13
GO04				IAML		18 42 32.4	
	comp=N,36μm,0.3s						
TLL	Tololo Astrono	1.76	316	⇑iP	Pn	18 42 13.7	-4.4
TLL				eS	Sn	18 42 27.9	-13
TLL				IAML		18 42 29.4	
	comp=N,18μm,0.2s						
FCH	Farellones	2.03	202	eP	Pn	18 42 22.4	+0.9
FCH				i S	Sn	18 42 49.1	+2.1
FCH				IAML		18 42 52.5	
	comp=N,2μm,0.4s						
ACAN	Cantantal	2.05	114	⇑eP	Pn	18 42 22.1	+0.6
ACAN				eS	Sn	18 42 44.4	-2.8
AGUA	GUANDACOL	2.10	22	⇑eP	Pn	18 42 25.6	+3.4
AGUA				eS	Sn	18 42 45.9	-2.5
CLCH	Cerro Calan	2.18	206	eP	Pn	18 42 23.6	+0.4
CLCH				i S	Sn	18 42 50.5	+0.4
CLCH				IAML		18 42 51.5	
	comp=E,3μm,0.6s						
LCO	Las Campanas	2.67	335	ePn	Pn	18 42 27.7	-2.2
LCO	Las Campanas	2.67	335	⇑eP	Pn	18 42 27.6	-2.2
LCO				eS	Sn	18 42 53.5	-8.5
LCO	Las Campanas	2.67	335	⇑iP	Pn	18 42 27.5	-2.3
LCO				eS	Sn	18 42 53.4	-8.6
LCO				IAML		18 43 06.9	
	comp=E,3μm,0.3s						
VACH	Vallenar	3.09	337	eP	Pn	18 42 40.1	+4.9
VACH				eS	Sn	18 43 08.9	-2.6
MRA	San Martin	3.27	108	⇓eP	Pn	18 42 37.8	+0.2
MRA				IAML		18 43 16.9	
	comp=Z,1μm,0.5s						
GO03	Copiap	3.90	349	eP	Pn	18 42 46.6	+0.5
GO03				IAML		18 43 35.0	
	comp=N,667nm,0.4s						
GO05	HualaæØ	4.14	210	ePn	Pn	18 42 46.1	-3.2
GO05	HualaæØ	4.14	210	⇑eP	Pn	18 42 46.0	-3.2
CPCH	Copiapo	4.15	348	eP	Pn	18 42 48.5	-0.9
CYA	Choya	4.32	47	⇓eP	Pn	18 42 52.2	+0.5
CYA				IAML		18 42 52.7	
	comp=Z,305nm,0.4s						
AHML	Horco Molle	5.84	38	⇓iP	Pn	18 43 12.1	-0.2
AHML				eS	Sn	18 44 16.7	-1.3
AHML				IAML		18 44 19.3	
	comp=Z,71nm,0.3s						
FSA	Cafayete	6.10	30	⇑eP	Pn	18 43 16.1	+0.3
FSA				IAML		18 45 00.6	
	comp=Z,31nm,0.7s						
AZAP	Zapla	8.14	29	i P	Pn	18 43 45.5	+1.8
ASTB	Santa Barbara	8.65	32	⇑eP	Pn	18 43 50.9	+0.4
TRQA	Tornquist	8.98	139	ePn	Pn	18 43 52.9	-1.8
PLCA	Paso Flores	9.32	185	P	Pn	18 43 55.7	-3.6
	comp=Z,0.6nm,0.3s,baz=11,slow=10,SNR=14						
PLCA	Paso Flores	9.32	185	ePn	Pn	18 43 57.5	-1.9
PB11	IPOC Station P	11.63	359	ePn	Pn	18 44 34.0	+3.1
CPUP	Villa Florida	11.73	67	P	Pn	18 44 29.5	-2.4
	comp=Z,0.2nm,0.3s,baz=251,slow=9.0,SNR=4.1						
CPUP				S	Sn	18 46 36.1	-4.8
	baz=214,slow=18,SNR=2.1						
CPUP	Villa Florida	11.73	67	ePn	Pn	18 44 30.3	-1.6
CPUP				S	Sn	18 46 36.1	-4.8
MNMC	Minye Minye	12.26	359	ePn	Pn	18 44 40.0	+0.8
LPAZ	La Paz	15.13	5	P	Pn	18 45 17.9	+1.2
	comp=Z,1.8nm,0.3s,baz=178,slow=8.3,SNR=53						
LPAZ				LR	LR	18 51 12.5	
	comp=Z,72nm,19.6s,baz=222,slow=37						
LPAZ	La Paz	15.13	5	ePn	Pn	18 45 18.7	+2.1
SAML	Samuel	23.11	16	eP	P	18 46 46.6	+1.9
	comp=Z,6.4nm,0.6s						
RUSC	La Rusia	37.29	354	eP	P	18 48 51.9	+1.6
	comp=Z,26nm,1.6s						
HELC	Santa Helena	37.88	350	eP	P	18 48 57.1	+2.0
	comp=Z,50nm,0.7s						
SDV	Santo Domingo	40.12	358	P	P	18 49 14.2	+0.7
	comp=Z,1.5nm,0.3s,baz=180,slow=7.5,SNR=3.7						
SNAA	Sanae	53.13	159	P	P	18 50 53.9	-0.3
	comp=Z,14nm,0.8s,baz=275,slow=4.3,SNR=40						
SNAA	Sanae	53.13	159	eP	P	18 50 53.3	-0.9
	comp=Z,16nm,0.9s						
QSPA	South Pole Qui	58.79	180	eP	P	18 51 34.1	-0.6
	comp=Z,10nm,0.9s						
SYO	Syowa Base	67.42	158	⇑eP	P	18 52 29.0	-2.5
SYO	Syowa Base	67.42	158	⇓epP	pP	18 52 47.0	-11
LTX	Lajitas	68.67	328	eP	P	18 52 41.1	+1.2
TXAR	Lajitas Array	68.67	328	P	P	18 52 41.1	+1.2
	comp=Z,1.5nm,0.7s,baz=153,slow=7.6,SNR=19						
TX31	Lajitas Ar. Si	68.67	328	eP	P	18 52 41.4	+1.5
TZTN	Tazewell	68.92	348	eP	P	18 52 46.0	+4.8
	comp=Z,61nm,1.1s						
WVT	Waverly	69.41	344	eP	P	18 52 44.7	+0.5
	comp=Z,9.5nm,0.8s						
MNTX	Cornudas Mount	71.45	328	eP	P	18 52 56.7	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.5nm,0.8s						
LIC	Lamto	71.84	71	eP	P	18 52 59.5	0.0
	comp=Z,32nm,1.4s						
TIC	Toumodi	72.09	70	eP	P	18 53 01.2	+0.2
KIC	Kosan Boka	72.15	71	eP	P	18 53 01.7	+0.3
	comp=Z,66nm,1.8s						
DBIC	Dimbokro	72.23	70	P	P	18 53 01.2	-0.6
	comp=Z,2.2nm,0.4s,baz=210,slow=6.4,SNR=4.9						
DBIC	Dimbokro	72.23	70	eP	P	18 53 01.8	0.0
MSTX	Muleshoe	72.27	331	eP	P	18 53 03.2	+1.4
	comp=Z,11nm,0.8s						
PPT	Papeete	72.86	260	P	P	18 53 06.2	+0.6
	comp=Z,7.0nm,0.3s,baz=130,slow=5.0,SNR=2.2						
X16A	Lo Mia Camp, P	76.55	325	eP	P	18 53 28.5	+1.9
	comp=Z,3.7nm,0.8s						
KOWA	Kowa	77.54	64	P	P	18 53 32.2	-0.1
	comp=Z,3.7nm,0.7s,baz=218,slow=3.5,SNR=9.9						
SMCO	Snowmass	78.47	331	eP	P	18 53 40.1	+2.6
	comp=Z,6.6nm,1.1s						
ECSD	EROS Data Cent	78.85	340	eP	P	18 53 39.2	+0.3
	comp=Z,8.9nm,1.0s						
BOSA	Boshof	79.26	117	P	P	18 53 41.2	-0.7
	comp=Z,2.3nm,1.0s,baz=236,slow=3.7,SNR=4.1						
CCUT	Cedar City	79.98	326	eP	P	18 53 46.4	+0.8
	comp=Z,3.7nm,0.9s						
MSU	Marysvale	80.20	327	eP	P	18 53 48.7	+2.0
TOA0	Torodi Ar. Sit	81.23	69	eP	P	18 53 51.8	-0.6
TORD	Torodi Ar. Bea	81.23	69	P	P	18 53 52.7	+0.3
	comp=Z,3.6nm,0.7s,baz=260,slow=4.7,SNR=19						
TOA1	Torodi Ar. Sit	81.23	69	eP	P	18 53 52.7	+0.3
LBTB	Lobatse	81.33	114	P	P	18 53 52.9	-0.2
	comp=Z,1.7nm,0.5s,baz=232,slow=5.3,SNR=4.3						
PD31	Pinedale Array	82.54	331	eP	P	18 54 01.0	+2.0
PDAR	Pinedale Array	82.54	331	P	P	18 53 59.6	+0.7
	comp=Z,0.9nm,0.6s,baz=133,slow=6.6,SNR=8.6						
PDAR	Pinedale Array	82.54	331	eP	P	18 53 59.4	+0.5
HVU	Hansel Valley	83.10	329	eP	P	18 54 02.7	+0.9
	comp=Z,2.5nm,0.7s						
NVAR	Mina Array Bea	83.11	323	P	P	18 54 02.2	+0.2
	comp=Z,1.2nm,0.8s,baz=162,slow=6.7,SNR=4.3						
ULM	Lac du Bonnet	84.66	343	P	P	18 54 08.0	-1.3
	comp=Z,2.7nm,0.8s,baz=164,slow=5.2,SNR=5.9						
YHH	Holmes Hill	84.74	332	eP	P	18 54 11.7	+1.5
	comp=Z,2.5nm,0.7s						
HLID	Hailey	85.25	329	eP	P	18 54 14.2	+1.5
	comp=Z,3.0nm,0.9s						
MCMT	McKenzie Canyo	85.59	331	eP	P	18 54 16.4	+2.0
SCHQ	Schefferville	85.95	1	P	P	18 54 15.7	+0.1
	comp=Z,2.5nm,0.5s,baz=186,slow=9.9,SNR=3.7						
J08A	Circle Bar Ran	86.95	327	eP	P	18 54 22.3	+1.4
	comp=Z,14nm,1.1s						
RAO	Raoul Island	89.14	236	LR	LR	19 27 18.3	
	comp=Z,445nm,18.3s,baz=297,slow=31						
FCC	Fort Churchill	92.20	347	eP	P	18 54 46.0	+1.1
	comp=Z,5.0nm,0.8s						
YKA	Yellowknife Ar	100.38	340	P	Pdif	18 55 21.1	-0.9
	comp=Z,0.1nm,0.4s,baz=141,slow=5.1,SNR=3.3						
BR101	Keskin Array S	118.62	59	ePKPdf	PKPdf	19 00 23.5	+0.1
BRTR	Keskin Array B	118.62	59	PKP	PKPdf	19 00 23.5	+0.1
	comp=Z,0.7nm,0.8s,baz=289,slow=3.7,SNR=3.0						
FIA0	FINESS Array S	119.63	33	ePKPdf	PKPdf	19 00 24.4	0.0
FINES	FINESS Array B	119.63	33	PKP	PKPdf	19 00 24.4	0.0
	comp=Z,0.9nm,0.8s,baz=329,slow=1.6,SNR=2.9						
SPITS	Spitsbergen Ar	119.66	14	PKP	PKPdf	19 00 23.3	-0.9
	comp=Z,13nm,1.0s,baz=307,slow=1.0,SNR=2.7						
ARA0	ARCESS Array S	120.77	24	ePKPdf	PKPdf	19 00 26.1	-0.4
ARCES	ARCESS Array B	120.77	24	PKP	PKPdf	19 00 26.1	-0.4
	comp=Z,2.8nm,0.9s,baz=245,slow=4.4,SNR=5.3						
ASAR	Alice Springs	120.84	205	PKP	PKPdf	19 00 26.2	-2.0
	comp=Z,0.5nm,0.7s,baz=135,slow=1.5,SNR=6.1						
WR1	Warramunga Arr	124.06	207	ePKPdf	PKPdf	19 00 33.0	-1.3
WRA	Warramunga Arr	124.06	207	PKP	PKPdf	19 00 33.0	-1.3
	comp=Z,1.1nm,0.6s,baz=153,slow=2.0,SNR=36						
BVAR	Borovoye Array	143.89	41	PKP	PKPbc	19 01 09.2	+1.0
	comp=Z,0.4nm,0.5s,baz=309,slow=1.2,SNR=5.9						
KKAR	Karatay Array	146.34	58	ePKPdf	PKPdf	19 01 15.4	+0.6
AAK	Ala-Archa	149.30	58	PKP	PKPdf	19 01 20.8	+0.9
	comp=Z,5.7nm,0.7s,baz=264,slow=9.2,SNR=2.9						
AAK				PKPbc	PKPbc	19 01 24.1	-0.2
	comp=Z,5.8nm,0.7s,baz=214,slow=3.5,SNR=16						
KURBB	Kurchatov Arra	149.48	42	PKP	PKPdf	19 01 20.4	+0.8
	comp=Z,3.0nm,0.7s,baz=301,slow=2.9,SNR=2.7						
KURBB				PKPbc	PKPbc	19 01 24.4	+0.2
	comp=Z,3.0nm,0.7s,baz=299,slow=3.1,SNR=28						
KSH	Kashi	150.81	64	PKPbc	PKPdf	19 01 22.7	+0.4
KSH				pPKP	PKPab	19 01 42.7	+7.2
KSH				PKS	PKSdf	19 04 57.4	+0.4
KSH				PP	PP	19 05 05.5	-0.8
KSH				SKS	SKSdf	19 08 24.1	+3.9
ZAA1	Zalesovo Array	150.88	32	ePKPdf	PKPdf	19 01 21.7	0.0
ZAA1				ePKPbc	PKPbc	19 01 27.4	-0.1
ZALV	Zalesovo Beam	150.88	32	PKP	PKPdf	19 01 21.7	0.0
	comp=Z,2.7nm,0.6s,baz=283,slow=3.4,SNR=3.7						
ZALV				PKPbc	PKPbc	19 01 27.4	-0.1
	comp=Z,12nm,0.6s,baz=307,slow=3.5,SNR=50						
ZALV	Zalesovo Beam	150.88	32	PKP	PKPdf	19 01 21.7	0.0
ZALV				ePKPbc	PKiKP	19 01 28.2	+0.2
MK32	Makanchi Array	153.40	47	ePKPdf	PKPdf	19 01 26.3	+0.5
MK32				ePKPbc	PKPbc	19 01 33.2	-0.2
MK32				ePKPab	PKPab	19 01 45.7	-0.3
MKAR	Makanchi Array	153.40	47	PKP	PKPdf	19 01 26.3	+0.5
	comp=Z,0.2nm,0.6s,baz=11,slow=0.5,SNR=4.1						
MKAR				PKPbc	PKPbc	19 01 33.2	-0.2
	comp=Z,1.7nm,0.8s,baz=307,slow=2.2,SNR=12						
MKAR				PKPab	PKPab	19 01 45.7	-0.3
	comp=Z,1.2nm,0.7s,baz=311,slow=3.8,SNR=8.8						
SONA0	Songino Array	163.31	10	ePKPab	PKPab	19 02 30.0	+1.1
SONM	Songino Array	163.31	10	PKPab	PKPab	19 02 30.0	+1.1
	comp=Z,0.4nm,0.6s,baz=330,slow=2.4,SNR=4.0						
CMAR	Chiang Mai Arr	163.31	138	PKP	PKPdf	19 01 39.5	+1.0
	comp=Z,0.3nm,0.4s,baz=224,slow=5.0,SNR=4.3						

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*IDC **01** 18:55:38.9±1.3,3°.97S×150°.50E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/48,mbtmp3.7/6,MS3.3/2,Ms1 3.3/2, ms1mx2.6/43,Error ellipse: s-maj=62.1km s-min=22.6km az=114.0*

*ISCJB **01** 18:55:42.5±1.1,4°.1S±0°.2×150°.5E±0°.4,h33km,mb3.5/6, MS3.3/2,Error ellipse: s-maj=55.0km s-min=18.2km az=25.6*

ISC 01 18:55:44.2±1.1,**4°.0S**±0°.2×**150°.5E**±0°.4,**h35**km,**n9**,σ**0.s74**/7,**mb3.5**/6,**New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.33	223	P	P	19 00 39.0	-0.1
	1.8nm,1.0s,baz=43,slow=11,SNR=6.6						
ASAR	Alice Springs	25.26	218	P	P	19 01 07.3	0.0
	0.8nm,0.8s,baz=51,slow=9.2,SNR=6.7						
STKA	Stephens Creek	28.96	196	P	P	19 01 40.8	+0.3
	5.5nm,1.0s,baz=10,slow=11,SNR=3.5						
TGY	Tagaytay City	34.38	302	LR	LR	19 15 43.0	
	comp=Z,59nm,21.5s,baz=128,slow=35						
JNU	Nakatsue	41.33	335	LR	LR	19 19 37.8	
	comp=Z,37nm,18.4s,baz=299,slow=35						
MKAR	Makanchi Array	78.21	319	P	P	19 07 40.9	+0.6
	0.2nm,0.6s,baz=46,slow=4.2,SNR=2.8						
ILAR	Eielson Array	82.31	23	P	P	19 08 02.2	+0.2
	0.4nm,0.8s,baz=251,slow=5.5,SNR=5.0						
YKA	Yellowknife Ar	95.80	28	P	P	19 09 06.5	-0.2
	0.1nm,0.6s,baz=265,slow=4.5,SNR=3.4						
TORD	Torodi Ar. Bea	147.86	288	PKPbc	PKPbc	19 15 25.4	-1.3
	0.3nm,0.8s,baz=106,slow=2.6,SNR=2.7						

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*ISCJB **01** 19:22:10.0±1.0,36°.61N±0°.05×3°.4E±0°.1,h18km,Error ellipse: s-maj=12.4km s-min=6.7km az=171.8*

*CRAAG **01** 19:22:09.2,36°.50N×3°.40E,Ml2.9*

*CSEM **01** 19:22:10.1±0.4,36°.53N×3°.45E,h10km,mb3.8,Error ellipse: s-maj=12.8km s-min=6.6km az=90.0*

*MDD **01** 19:22:10.7±1.1,36°.53N×3°.45E,h9km±10km,mb3.8/3, Error ellipse: s-maj=16.0km s-min=7.0km az=69.0, PRXIMO*

ISC 01 19:22:09.5±1.2,**36°.56N**±0°.04×**3°.52E**±0°.07,**h18**km,**n21**,σ**1.s84**/31,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ADJB	Djebel Djouab	0.41	189	P	Pg	19 22 17.8	-0.2
ADJB	Djebel Djouab	0.41	189	P	Pg	19 22 17.8	-0.2
ADJB	Djebel Djouab	0.41	189	P	Pg	19 22 17.8	-0.2
ABA	Alger-Bouzarea	0.46	302	P	Pg	19 22 18.8	0.0
ABA	Alger-Bouzarea	0.46	302	P	Pg	19 22 18.8	0.0
ABA	Alger-Bouzarea	0.46	302	P	Pg	19 22 18.8	0.0
EMHD	Djebel Mahouad	0.58	232	P	Pg	19 22 20.0	-1.1
EMHD	Djebel Mahouad	0.58	232	P	Pg	19 22 20.0	-1.1
EMHD	Djebel Mahouad	0.58	232	P	Pg	19 22 20.0	-1.1
EIBI	Ibiza	3.00	326	P	Pn	19 22 57.9	+1.7
	3.5nm,0.2s,SNR=7.1						
EIBI				S	Sn	19 23 30.5	-1.2
	7.0nm,0.3s,SNR=7.9						
EIBI	Ibiza	3.00	326	P	Pn	19 22 57.9	+1.7
	3.5nm,0.2s,SNR=7.1						
EIBI				S	Sn	19 23 30.5	-1.2
	7.0nm,0.3s,SNR=7.9						
ETOS	Mallorca	3.25	350	P	Pn	19 23 01.2	+1.7
	1.1nm,0.1s,SNR=7.9						
ETOS				S	Sn	19 23 36.9	-0.9
	1.5nm,0.2s,SNR=7.9						
ETOS	Mallorca	3.25	350	P	Pn	19 23 01.2	+1.7
	1.1nm,0.1s,SNR=7.9						
ETOS				S	Sn	19 23 36.9	-0.9
	1.5nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.53	299	P	Pn	19 23 19.4	+2.2
	0.8nm,0.2s,SNR=6.4						
ETOB				S	Sn	19 24 09.1	-0.3
	2.6nm,0.4s,SNR=7.9						
ETOB	Tobarra	4.53	299	P	Pn	19 23 19.4	+2.2
	0.8nm,0.2s,SNR=6.4						
ETOB				S	Sn	19 24 09.1	-0.3
	2.6nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	4.92	322	P	Pn	19 23 24.3	+1.6
	0.5nm,0.1s,SNR=7.9						
EMOS				S	Sn	19 24 17.1	-2.1
	1.8nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	4.92	322	P	Pn	19 23 24.3	+1.6
	0.5nm,0.1s,SNR=7.9						
EMOS				S	Sn	19 24 17.1	-2.1
	1.8nm,0.4s,SNR=7.9						
CFON	Fontmartina	5.26	351	P	Pn	19 23 28.4	+1.1
	0.8nm,0.1s,SNR=7.9						
CFON	Fontmartina	5.26	351	P	Pn	19 23 28.4	+1.1
	0.8nm,0.1s,SNR=7.9						
EMIR	Miracle	5.56	344	P	Pn	19 23 34.1	+2.7
	1.9nm,0.2s,SNR=7.9						
EMIR				S	Sn	19 24 30.8	-4.1
	2.8nm,0.5s,SNR=7.9						
EMIR	Miracle	5.56	344	P	Pn	19 23 34.1	+2.7
	1.9nm,0.2s,SNR=7.9						
EMIR				S	Sn	19 24 30.8	-4.1
	2.8nm,0.5s,SNR=7.9						

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*SOME **01** 19:30:58.8,45°.77N×85°.05E,h0km*

*ISCJB **01** 19:31:07.1±1.0,46°.15N±0°.07×85°.46E±0°.10,h10km,Error ellipse: s-maj=11.5km s-min=8.6km az=35.5*

ISC 01 19:31:10.7±1.4,**46°.06N**±0°.08×**85°.4E**±0°.1,**h10**km,**n15**,σ**2.s33**/12,**2C-1D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	1.43	346	eP	Pn	19 31 32.5	-4.3
	1.7nm,0.6s						
ZSN				eS	Sg	19 31 57.0	+0.3
	7.9nm,0.8s						
MK31	Makanchi Array	2.25	290	⇑Pg	Pn	19 31 42.0	-6.1
	0.2nm,0.2s,baz=112,slow=17,SNR=8.8						
MK31				Lg	Lg	19 32 12.9	
	2.3nm,0.3s,baz=117,slow=32,SNR=16						
MAKZ	Makanchi	2.46	289	⇓Pg	Pn	19 31 45.7	-5.2
	1.2nm,0.6s						
MAKZ				⇑Lg	Lg	19 32 19.6	
	9.9nm,0.5s						
KAPS	Kapalarasan	4.29	262	eP	Pn	19 32 14.3	-1.8
	1.0nm,1.4s						
KAPS				eS	Sn	19 33 08.5	+2.4
	1.7nm,0.6s						
DJR	Jarkent	4.31	248	eP	Pn	19 32 13.8	-2.6
	2.0nm,0.6s						
DJR				eS	Sn	19 33 07.5	+0.8
	1.6nm,0.3s						
PYUN	Piuthan	18.03	187	eP	Pn	19 35 11.8	-10
GUN	Gumba	18.12	179	eP	Pn	19 35 21.7	-1.1
	7.3nm,0.3s						
KKN	Kakani	18.24	180	eP	Pn	19 35 22.5	-1.6
	6.8nm,0.6s						
KOLN	Koldanda	18.31	185	eP	Pn	19 35 18.2	-6.8
	14nm,0.5s						
JIRN	Jiri	18.38	178	eP	P	19 35 26.3	+0.2
	17nm,0.4s						
PKIN	Phulchoki	18.45	180	eP	P	19 35 24.4	-2.3
	5.7nm,0.3s						
PKI	Pulchoki	18.46	180	eP	P	19 35 24.3	-2.6
	5.5nm,0.3s						
TAPN	Taplejung	18.77	174	eP	Pn	19 35 34.8	+4.1
RAMN	Ramite	19.10	177	eP	P	19 35 34.7	+0.9
	13nm,0.5s						
ODAN	Odare	19.23	175	eP	P	19 35 37.6	+2.3
	11nm,0.5s						

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*ASRS **01** 19:46:21.9±0.6,51°.69N×95°.92E,h15km,Ms3.8/2*

*MOS **01** 19:46:21.8±1.3,51°.54N×95°.96E,h13km,mb4.5/19,Error ellipse: s-maj=9.7km s-min=7.5km az=178.3*

*BJI **01** 19:46:21.5,51°.50N×96°.10E,h10km,mb4.3/6,mB4.6/7, ML4.3/2,Ms4.0/6,Ms7 3.8/4*

*IDC **01** 19:46:21.1±0.8,51°.55N×96°.18E,h0km,mb4.1/13, mb1 4.1/18,mb1mx3.8/77,mbtmp4.0/18,ML3.5/5,MS3.3/21, Ms1 3.3/21,ms1mx3.1/66,Error ellipse: s-maj=22.2km s-min=9.6km az=171.0*

*NEIC **01** 19:46:27.3±0.6,51°.83N×95°.35E,h10km,mb4.9/9,Error ellipse: s-maj=14.3km s-min=7.5km az=148.0*

ISC 01 19:46:23.7±0.4,**51°.46N**±0°.05×**96°.02E**±0°.03,**h10**km,**n126**,σ**1.s88**/125,**mb4.4**/30,**MS3.2**/20,**8C-7D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZLR	Kyzyl	1.01	285	i Pg	Pg	19 46 39.0	-4.0
KZLR				eSg	Sg	19 46 51.5	-4.7
HVS	Khovu-Aksy	1.49	258	⇓iP	Pn	19 46 49.5	-1.1
HVS	Khovu-Aksy	1.49	258	d iPG	Pn	19 46 49.4	-1.1
HVS				i S	Sn	19 47 08.7	-1.4
ORL	Orlik	2.58	64	ePN	Pn	19 47 06.4	+0.8
ORL				e		19 47 38.5	
ORL				pmax	pmax		
	comp=Z,295nm,0.3s						
ORL				smax	smax		
	comp=N,2µm,0.8s						
MOY	Mondy	3.11	84	ePN	Pn	19 47 16.9	+4.0
MOY				e		19 47 58.1	
MOY				pmax	pmax		
	comp=Z,604nm,0.8s						
MOY				smax	smax		
	comp=N,2µm,1.9s						
CERR	Cheremushki	3.16	298	i Pn	Pn	19 47 12.4	-1.0
CERR				ePg	Pb	19 47 16.6	-3.3
CERR				eSg	Sn	19 47 55.5	+4.3
ARS	Arshan	4.01	81	ePN	Pb	19 47 33.3	-1.2
ARS				e		19 48 25.3	
ARS				pmax	pmax		
	comp=Z,309nm,0.8s						
ARS				smax	smax		
	comp=E,4µm,0.8s						
ZAK	Zakamensk	4.72	100	ePN	Pn	19 47 36.4	+1.4
ZAK				e		19 47 46.4	
ZAK				e		19 48 51.1	
ZAK				pmax	pmax		
	comp=Z,107nm,0.6s						
ZAK				smax	smax		
	comp=N,831nm,0.9s						
TLY	Talaya	4.76	84	Pg	Pn	19 47 42.5	+7.0
	comp=N,0.2nm,0.3s,baz=290,slow=12,SNR=63						
TLY				Lg	Lg	19 48 49.1	
	comp=N,0.7nm,0.3s,baz=182,slow=6.6,SNR=19						
TLY	Talaya	4.76	84	ePn	Pb	19 47 44.2	-2.9
TLY	Talaya	4.76	84	ePN	Pb	19 47 47.2	0.0
TLY				e		19 48 48.3	
TLY				pmax	pmax		
	comp=Z,52nm,0.4s						
IRK	Irkutsk	5.18	78	ePN	Pb	19 47 53.0	-1.2
IRK				e		19 48 59.5	
IRK				pmax	pmax		
	comp=Z,189nm,0.4s						
IRK				smax	smax		
	comp=N,2µm,1.0s						
TASR	Tashtagol	5.18	288	ePn	Pn	19 47 41.5	+0.3
TASR				ePg	Pb	19 47 53.5	-0.9
TASR				eSg	Sb	19 49 00.3	+3.7
AKAR	Aktash	5.44	261	ePn	Pn	19 47 45.5	+0.7
AKAR				ePg	Pb	19 48 00.2	+1.4
AKAR				eSg	Sb	19 49 08.3	+4.2
ARTR	Artybash	5.45	277	ePn	Pn	19 47 44.7	-0.3
ARTR				ePg	Pb	19 47 58.0	-1.0
ARTR				eSg	Sb	19 49 05.7	+1.3
ELT	Eltsovka	6.26	291	ePn	Pn	19 47 54.2	-1.8
ELT				ePg	Pb	19 48 09.8	-2.8
ELT				eSg	Sb	19 49 30.8	+3.3
TRG	Tyrgan	6.50	74	ePN	Pn	19 47 59.1	-0.2
TRG				e		19 48 17.4	
TRG				e		19 49 38.5	
TRG				pmax	pmax		
	comp=Z,40nm,0.4s						
TRG				smax	smax		
	comp=N,565nm,1.1s						
ZAA0	Zalesovo Array	7.25	295	ePn	Pn	19 48 09.2	-0.4
ZALV	Zalesovo Beam	7.25	295	Pn	Pn	19 48 08.9	-0.6
	comp=N,2.1nm,0.3s,baz=97,slow=12,SNR=36						
ZALV				Lg	Lg	19 50 03.5	
	comp=N,8.7nm,0.3s,baz=113,slow=26,SNR=6.6						
ZALV				LR	LR	19 51 03.4	
	comp=N,146nm,21.5s,baz=70,slow=39						
ZALV	Zalesovo Beam	7.25	295	ePn	Pn	19 48 09.4	-0.1
ZALV				Lg	Lg	19 50 03.5	
ZALV	Zalesovo Beam	7.25	295	ePN	Pn	19 48 09.5	-0.1
ZAA1	Zalesovo Array	7.25	295	ePn	Pn	19 48 08.9	-0.6
ZAA1				eLg	Lg	19 50 03.5	
OGRR	Ongureny	7.39	68	eP	Pn	19 48 12.2	+0.7
OGRR				pmax	pmax		
	comp=Z,36nm,0.7s						
SONM	Songino Array	7.65	114	Pn	Pn	19 48 17.5	+2.3
	comp=Z,0.3nm,0.3s,baz=298,slow=14,SNR=12						
SONM				Pg	Pb	19 48 39.5	+3.1
	comp=Z,2.5nm,0.3s,baz=297,slow=17,SNR=36						
SONM				Lg	Lg	19 50 24.8	
	comp=Z,10nm,0.3s,baz=306,slow=25,SNR=16						
SONM				LR	LR	19 51 26.4	
	comp=Z,261nm,18.4s,baz=342,slow=40						
ULN	Ulaanbaatar	8.01	112	⇑iP	Pn	19 48 17.1	-3.1
NVS	Novosibirsk	8.40	299	i Pn	Pn	19 48 24.6	-0.7
NVS				ePg	Pb	19 48 51.5	+2.5
NVS				eSg	Sb	19 50 36.0	+7.1
SYVR	Suvo	8.80	70	eP	Pn	19 48 30.5	-0.3
SYVR				pmax	pmax		
	comp=Z,17nm,1.3s						
MK31	Makanchi Array	10.13	248	ePn	Pn	19 48 49.9	+0.8
MK31	Makanchi Array	10.13	248	eP	Pn	19 48 49.9	+0.8
MK32	Makanchi Array	10.13	248	ePn	Pn	19 48 50.4	+1.3
MKAR	Makanchi Array	10.13	248	Pn	Pn	19 48 50.4	+1.3
	comp=Z,0.5nm,0.3s,baz=47,slow=12,SNR=38						
MKAR				Lg	Lg	19 51 42.4	
	comp=Z,2.1nm,0.3s,baz=57,slow=29,SNR=4.6						
MKAR	Makanchi Array	10.13	248	ePn	Pn	19 48 49.9	+0.8
MKAR				Lg	Lg	19 51 42.4	
MK01	Makanchi Array	10.14	248	ePn	Pn	19 48 49.6	+0.3
MAKZ	Makanchi	10.31	249	ePn	Pn	19 48 52.3	+0.8
MAKZ	Makanchi	10.31	249	eP	Pn	19 48 52.3	+0.8
CIT	Chita	10.89	80	eP	Pn	19 48 54.3	-5.2
CIT				e		19 51 03.8	
CIT				pmax	pmax		
	comp=Z,14nm,1.8s						
KURK	Kurchatov	10.97	273	ePn	Pn	19 49 00.6	0.0
KURK				Lg	Lg	19 52 08.4	
KURK	Kurchatov	10.97	273	⇑iP	Pn	19 49 01.0	+0.4
KURBB	Kurchatov Arra	11.05	273	Pn	Pn	19 49 01.8	+0.2
	comp=Z,0.2nm,0.3s,baz=76,slow=16,SNR=29						
KURBB				Lg	Lg	19 52 08.4	
	comp=Z,0.4nm,0.3s,baz=80,slow=32,SNR=12						
BOD	Bodaibo	12.19	51	eP	Pn	19 49 13.9	-3.3
GTA	Gaotai	12.34	166	eP	Pn	19 49 28.0	+8.6
GTA				pP		19 49 32.4	
GTA				sP		19 49 35.7	
GTA				S	Sn	19 51 33.2	-3.7
HHC	Hu-ho-hao-te	15.09	129	eP	Pn	19 49 53.0	-3.8
HHC				S	Sn	19 52 40.0	-3.9
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,4.4s						
HHC				LR	LR		
	comp=Z,230nm,5.3s						
HHC				LR	LR		
	comp=Z,110nm,6.9s						
HHC				LR	LR		
	comp=Z,220nm,8.8s						
HIA	Hailar	15.28	89	⇑eP	Pn	19 49 56.8	-2.5
BVAR	Borovoye Array	15.75	286	Pn	Pn	19 50 02.2	-3.3
	comp=Z,0.6nm,0.3s,baz=102,slow=12,SNR=13						
BVAR				LR	LR	19 56 17.1	
	comp=Z,93nm,19.2s,baz=66,slow=38						
BRVK	Borovoye	15.81	286	ePn	Pn	19 50 02.6	-3.6
	comp=Z,14nm,0.6s						
BRVK	Borovoye	15.81	286	⇓iP	Pn	19 50 06.0	-0.2
AAK	Ala-Archa	17.07	247	P	Pn	19 50 22.8	+0.5
	comp=Z,0.1nm,0.3s,baz=135,slow=1.4,SNR=3.0						
AAK				Lg	Lg	19 55 30.0	
	comp=Z,0.1nm,0.3s,baz=257,slow=21,SNR=4.6						
KKAR	Karatay Array	19.14	254	eP	P	19 50 48.0	+1.1
KKAR	Karatay Array	19.14	254	eP	P	19 50 48.0	+1.1
YAK	Yakutsk	21.02	47	LR	LR	19 58 52.8	
	comp=Z,62nm,21.2s,baz=270,slow=36						
YAK	Yakutsk	21.02	47	eP	P	19 51 09.2	+2.1
YAK				e*PP	sP	19 51 14.2	+3.0
YAK				e		19 51 26.4	
YAK				eS	S	19 55 03.7	+2.9
YAK				eSS	SnSn	19 55 23.2	+1.7
YAK				eSSS	SSS	19 55 35.7	
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YAK				smax	smax		
	comp=E,72nm,4.2s						
SVE	Sverdlovsk	21.24	299	⇑eP	P	19 51 08.2	-1.3
SVE				pmax	pmax		
	comp=Z,21nm,1.1s						
ARU	Arti	22.40	298	P	P	19 51 21.6	-0.3
	comp=Z,10nm,0.7s,baz=89,slow=10,SNR=25						
ARU				LR	LR	20 01 47.2	
	comp=Z,40nm,19.7s,baz=96,slow=41						
ARU	Arti	22.40	298	eP	P	19 51 22.2	+0.2
	comp=Z,15nm,0.9s						
ARU	Arti	22.40	298	c iP	P	19 51 21.8	-0.2
ARU						19 51 44.7	
ARU				SS	Sn	19 55 59.7	+20
ARU				pmax	pmax		
	comp=Z,15nm,0.8s						
ABKAR	Akbulak array	22.98	279	eP	P	19 51 27.1	-1.1
	comp=Z,13nm,0.7s						
AKTO	Aktyubinsk	23.79	283	P	P	19 51 34.5	-1.8
	comp=Z,5.4nm,0.6s,baz=83,slow=9.7,SNR=20						
GUN	Gumba	24.73	202	eP	P	19 51 48.1	+2.6
	comp=Z,3.6nm,0.4s						
TAPN	Taplejung	24.88	198	eP	P	19 51 49.3	+2.5
	comp=Z,3.8nm,0.5s						
JIRN	Jiri	24.90	201	eP	P	19 51 48.9	+1.9
	comp=Z,8.8nm,0.7s						
TIXI	Tiksi	24.98	24	P	P	19 51 45.1	-1.9
	comp=Z,11nm,0.8s,baz=244,slow=4.6,SNR=25						
TIXI				LR	LR	20 01 43.0	
	comp=Z,75nm,18.8s,baz=184,slow=37						
TIXI	Tiksi	24.98	24	⇓iP	P	19 51 46.3	-0.7
TIXI				i *PP	pP	19 51 48.2	-1.8
TIXI				pmax	pmax		
	comp=Z,12nm,0.9s						
KKN	Kakani	24.99	203	eP	P	19 51 49.7	+2.0
PKIN	Phulchoki	25.16	203	eP	P	19 51 51.8	+2.5
PKI	Pulchoki	25.17	203	eP	P	19 51 51.5	+2.1
PYUN	Piuthan	25.31	208	eP	P	19 51 53.0	+2.4
	comp=Z,6.6nm,0.5s						
ODAN	Odare	25.42	198	eP	P	19 51 54.3	+2.7
KOLN	Koldanda	25.45	206	eP	P	19 51 53.5	+1.7
RAMN	Ramite	25.50	200	eP	P	19 51 54.7	+2.4
	comp=Z,6.7nm,0.6s						
KSRS	Korea Array	26.48	109	LR	LR	20 03 35.2	
	comp=Z,23nm,18.1s,baz=337,slow=39						
YSS	Yuzh-Sakhalins	30.45	80	eP	P	19 52 33.8	-2.4
YSS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SEY	Seymchan	31.55	47	c eP	P	19 52 44.8	-0.9
CMAR	Chiang Mai Arr	33.01	175	LR	LR	20 07 15.3	
	comp=Z,30nm,18.4s,baz=190,slow=38						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRH	**Novokhopyorsk**	**33.27**	**291**	*e*P	**P**	**19 52 59.8**	**-1.1**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MJAR	**Matsushiro Arr**	**33.30**	**100**	LR	LR	20 06 48.0	
	comp=Z,33nm,21.0s,baz=170,slow=37						
VSR	**Storozhevoye**	**34.75**	**293**	*e*P	P	19 53 10.9	-2.8
VSR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OBN	**Obninsk**	**34.79**	**300**⇓	*e*P	**P**	**19 53 12.5**	**-1.5**
OBN				*PP	**pP**	**19 53 16.0**	**-1.1**
OBN				*SP	**sP**	**19 53 18.0**	**-0.4**
OBN						19 55 46.0	
OBN				SSS	SSS	20 01 20.0	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,68nm,15.0s						
ARA0	**ARCESS Array S**	**36.52**	**326**	*e*P	**P**	**19 53 28.3**	**-0.4**
ARCES	**ARCESS Array B**	**36.52**	**326**	P	**P**	**19 53 28.3**	**-0.4**
	comp=Z,8.4nm,1.2s,baz=287,slow=18,SNR=4.3						
ARCES	**ARCESS Array B**	**36.52**	**326**	P	**P**	**19 53 28.3**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
JHJ	**Hachijo jima 2**	**36.54**	**103**	LR	LR	20 09 54.0	
	comp=Z,56nm,19.1s,baz=286,slow=39						
BILL	**Bilibino**	**36.65**	**36**	*e*P	**P**	**19 53 31.1**	**+1.3**
BILL				*e*		19 54 54.3	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,41nm,16.0s						
PETK	**Petropavlovsk-**	**36.74**	**63**	P	**P**	**19 53 31.2**	**+0.4**
	comp=Z,3.0nm,1.0s,baz=291,slow=12,SNR=2.7						
PETK				LR	LR	20 09 47.5	
	comp=Z,36nm,19.1s,baz=305,slow=38						
GNI	**Garni**	**36.77**	**273**	P	**P**	**19 53 30.3**	**-1.1**
	comp=Z,3.6nm,0.4s,baz=158,slow=5.9,SNR=5.1						
GNI				LR	LR	20 10 34.0	
	comp=Z,47nm,19.0s,baz=50,slow=39						
FIA1	**FINESS Array S**	**38.07**	**313**	*e*P	**P**	**19 53 41.1**	**-0.9**
FIA0	**FINESS Array S**	**38.07**	**313**	*e*P	**P**	**19 53 40.6**	**-1.3**
FIA0	**FINESS Array S**	**38.07**	**313**	*e*P	**P**	**19 53 40.6**	**-1.3**
FINES	**FINESS Array B**	**38.07**	**313**	P	**P**	**19 53 40.6**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=74,slow=9.8,SNR=13						
FINES				LR	LR	20 10 57.5	
	comp=Z,54nm,18.3s,baz=13,slow=39						
SPITS	**Spitsbergen Ar**	**38.14**	**341**	LR	LR	20 12 53.2	
	comp=Z,27nm,18.3s,baz=190,slow=42						
AKASG	**Malin Array Be**	**40.64**	**296**	P	**P**	**19 54 01.6**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=54,slow=9.3,SNR=4.0						
BR101	**Keskin Array S**	**43.92**	**280**	*e*P	**P**	**19 54 30.9**	**+0.3**
BRTR	**Keskin Array B**	**43.92**	**280**	P	**P**	**19 54 30.9**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=63,slow=6.3,SNR=7.5						
HFS	**Hagfors**	**44.18**	**315**	P	**P**	**19 54 30.4**	**-1.8**
	comp=Z,2.6nm,0.7s,baz=69,slow=8.1,SNR=7.5						
HFS				LR	LR	20 15 15.5	
	comp=Z,65nm,18.7s,baz=70,slow=39						
BR231	**Keskin MP Arra**	**44.38**	**281**	*e*P	P	19 54 31.5	-2.8
BUR08	**Bucovina Ar. S**	**44.46**	**294**	*e*P	**P**	**19 54 34.5**	**-0.3**
BURAR	**Bucovina Array**	**44.47**	**294**⇑	*i*P	**P**	**19 54 34.0**	**-0.8**
BUR04	**Bucovina Ar. S**	**44.47**	**294**	*e*P	**P**	**19 54 34.0**	**-0.8**
NB2	**NORSAR Subarra**	**44.84**	**317**	P	P	19 54 35.2	-2.4
	comp=Z,1.0nm,0.6s,baz=63,slow=5.6						
NB200	**NORSAR Array S**	**44.84**	**317**	*e*P	**P**	**19 54 35.6**	**-1.9**
NOA	**NORSAR Array B**	**44.84**	**317**	P	**P**	**19 54 35.6**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=141,slow=7.4,SNR=4.8						
NOA				LR	LR	20 15 08.7	
	comp=Z,30nm,18.8s,baz=20,slow=38						
MLR	**Muntele Rosu**	**45.21**	**291**	LR	LR	20 15 02.9	
	comp=Z,16nm,19.8s,baz=63,slow=38						
KECS	**Kecovo**	**46.66**	**298**	*e*P	**P**	**19 54 51.8**	**-0.2**
KECS	**Kecovo**	**46.66**	**298**	*e*P	**P**	**19 54 51.8**	**-0.2**
MMAI	**Mount Meron Ar**	**47.08**	**271**	LR	LR	20 16 38.4	
	comp=Z,25nm,18.2s,baz=215,slow=38						
VYHS	**Vyhne**	**47.56**	**298**	*e*P	**P**	**19 54 58.8**	**-0.3**
VYHS	**Vyhne**	**47.56**	**298**	*e*P	**P**	**19 54 58.8**	**-0.3**
CLL	**Collm**	**49.08**	**304**⇓	*i*P	**P**	**19 55 10.1**	**-0.6**
	comp=Z,10.0nm,1.4s						
CLL	**Collm**	**49.08**	**304**⇓	*i*P	**P**	**19 55 10.1**	**-0.6**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.4s						
GERES	**GERESS Array B**	**50.14**	**301**	P	**P**	**19 55 18.2**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=5.7,slow=4.0,SNR=3.5						
GERES				LR	LR	20 18 06.2	
	comp=Z,55nm,19.4s,baz=68,slow=38						
DAV	**Davao City (W)**	**50.54**	**141**	LR	LR	20 17 33.3	
	comp=Z,42nm,18.8s,baz=0.0,slow=37						
DAVOX	**Davos/Dischmat**	**53.44**	**301**	LR	LR	20 20 46.2	
	comp=Z,43nm,18.8s,baz=88,slow=39						
BNI	**Bardonecchia**	**56.26**	**302**	*e*P	**P**	**19 56 03.4**	**-0.7**
	comp=Z,3.3nm,0.9s						
BNI	**Bardonecchia**	**56.26**	**302**	*e*P	**P**	**19 56 03.4**	**-0.7**
BNI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**63.84**	**15**	P	**P**	**19 56 55.6**	**0.0**
	comp=Z,0.1nm,0.4s,baz=330,slow=2.4,SNR=2.7						
ESDC	**Sonseca Array**	**65.65**	**303**	P	**P**	**19 57 06.8**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=38,slow=7.0,SNR=6.9						
KMBO	**Kilima Mbogo**	**71.99**	**244***c*	*e*P	**P**	**19 57 48.9**	**+1.0**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**82.51**	**282**	P	**P**	**19 58 45.3**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=25,slow=5.6,SNR=6.5						
IP04	**Greensprings**	**90.68**	**355**	*e*P	**P**	**19 59 26.3**	**0.0**
	comp=Z,8.0nm,0.7s						
CVRD	**Centerville Ro**	**90.69**	**355**	*e*P	**P**	**19 59 29.4**	**+3.0**
	comp=Z,15nm,0.8s						
SPRD	**Spring Road, M**	**90.73**	**355**	*e*P	**P**	**19 59 31.1**	**+4.5**
	comp=Z,1.8nm,0.2s						
IP03	**Louisa**	**90.74**	**355**	*e*P	**P**	**19 59 28.9**	**+2.3**
	comp=Z,14nm,0.6s						
IP01	**Cuckoo**	**90.80**	**355**	*e*P	**P**	**19 59 30.9**	**+4.0**
IP06	**Yanceyville**	**90.83**	**355**	*e*P	**P**	**19 59 30.2**	**+3.1**
IP07	**Quail**	**90.85**	**355**	*e*P	**P**	**19 59 29.8**	**+2.7**
BLA	**Blacksburg**	**91.65**	**357**	*e*P	**P**	**19 59 33.0**	**+2.1**
	comp=Z,16nm,0.7s						
BLA	**Blacksburg**	**91.65**	**357**	*e*P	**P**	**19 59 33.0**	**+2.1**

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*IDC **01** 19:47:05.8±1.2, 7°.85S×151°.14E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.8/54, mbtmp4.0/10, ML2.5/2, Error ellipse: s-maj=42.5km s-min=16.1km az=121.0*
*ISCJB **01** 19:47:08.7±0.8, 7°.9S±0°.1×151°.2E±0°.1, h33km, mb4.1/7, Error ellipse: s-maj=20.1km s-min=10.1km az=136.8*
ISC 01 19:47:10.9±1.0, **7°.9S**±0°.1×**151°.2E**±0°.1, **h35km, n11, σ0ˢ.84**/12, **mb4.2**/7, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.27**	**249**	Pn	**Pn**	**19 48 12.9**	**-0.5**
	4.7nm,0.3s,baz=56,slow=4.2,SNR=16						
PMG				Sn	**Sn**	**19 49 03.2**	**+1.1**
	4.7nm,0.3s,baz=173,slow=23,SNR=14						
CTA	**Charters Tower**	**13.03**	**201**	Pn	**Pn**	**19 50 14.2**	**+0.5**
	0.1nm,0.3s,baz=30,slow=14,SNR=1.8						
WRA	**Warramunga Arr**	**20.25**	**232**	P	**P**	**19 51 42.4**	**-1.1**
	0.6nm,0.5s,baz=46,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**22.82**	**225**	P	**P**	**19 52 10.4**	**-0.7**
	0.5nm,0.4s,baz=55,slow=8.9,SNR=20						
STKA	**Stephens Creek**	**25.48**	**199**	P	**P**	**19 52 36.5**	**+0.6**
	2.5nm,0.5s,baz=32,slow=11,SNR=6.5						
FITZ	**Fitzroy Crossi**	**26.85**	**245**	P	**P**	**19 52 47.6**	**-0.9**
	3.1nm,0.6s,baz=71,slow=9.7,SNR=8.3						
PETK	**Petropavlovsk-**	**61.02**	**4**	P	**P**	**19 57 21.8**	**+1.0**
	1.1nm,0.5s,baz=147,slow=6.9,SNR=5.7						
MA2	**Magadan**	**67.25**	**360**	P	**P**	**19 58 01.4**	**-0.2**
	1.0nm,0.3s,baz=332,slow=22,SNR=4.5						
SONM	**Songino Array**	**68.11**	**329**	P	**P**	**19 58 07.7**	**+0.3**
	2.9nm,0.9s,baz=150,slow=5.0,SNR=5.8						
ILAR	**Eielson Array**	**85.61**	**22**	P	**P**	**19 59 45.4**	**-0.1**
	1.0nm,0.7s,baz=247,slow=5.2,SNR=14						
TORD	**Torodi Ar. Bea**	**149.58**	**282**	PKPbc	**PKPbc**	**20 06 57.0**	**-0.8**
	0.6nm,0.5s,baz=46,slow=2.8,SNR=9.3						

IDC 01 19:52:18.4±3.2, **6°.18S**×**149°.29E, h0km, mb4.1**/2, **mb1 4.4**/4, **mb1mx3.6**/50, **mbtmp4.2**/4, **ML4.3**/1, **Error ellipse: s-maj=95.3km s-min=35.2km az=113.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**213**	Pn	Pn	19 53 20.9	+2.1
	14nm,0.3s,baz=39,slow=6.2,SNR=38						
PMG				Sn	Sn	19 54 06.3	+1.6
	28nm,0.3s,baz=346,slow=18,SNR=12						
WRA	**Warramunga Arr**	**19.96**	**225**	P	P	19 56 51.8	-0.6
	0.9nm,0.3s,baz=52,slow=11,SNR=46						
ASAR	**Alice Springs**	**22.84**	**219**	P	P	19 57 23.2	-0.1
	1.4nm,0.5s,baz=56,slow=9.5,SNR=55						
FITZ	**Fitzroy Crossi**	**25.94**	**241**	P	P	19 57 51.4	-1.2
	7.5nm,0.9s,baz=53,slow=11						
TORD	**Torodi Ar. Bea**	**147.34**	**285**	PKPbc	PKPbc	20 12 05.2	0.0
	0.2nm,0.6s,baz=54,slow=2.3,SNR=4.2						

DJA 01 19:54:13.6±0.9, **7°S**±5°×**10°4E**±°, **h10km, M3.5**/6, **MLv3.5**/6, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.16**	**26**	P	Pb	19 54 34.7	-1.1
LWLI	**Liwa**	**1.54**	**3**	P	Pn	19 54 41.1	-0.2
LWLI				S	Sn	19 55 01.7	+0.2
CGJI	**Cibinong**	**1.70**	**92**	P	Pn	19 54 43.3	-0.1
CGJI				S	Sn	19 55 05.6	+0.4
BLSI	**Bandar Lampung**	**1.73**	**47**	P	Pn	19 54 43.9	+0.1
BLSI				S	Sn	19 55 06.7	+0.6
MDSI	**Maura Dua**	**2.08**	**5**	P	Pn	19 54 48.3	-0.3
MDSI				S	Sn	19 55 15.1	+0.6
MNAI	**Manna**	**2.42**	**335**	P	Pn	19 54 53.3	0.0

IDC 01 19:55:36.4±12.0, **28°.41S**×**62°.07E, h0km, mb3.5**/2, **mb1 3.8**/2, **mb1mx3.2**/65, **mbtmp3.5**/2, **MS3.2**/1, **Ms1 3.1**/1, **ms1mx2.6**/34, **Error ellipse: s-maj=721.1km s-min=56.5km az=35.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**32.27**	**261**	LR	LR	20 12 00.9	
	comp=Z,35nm,18.4s,baz=204,slow=30						
H01W2	**Cape Leeuwin H**	**44.38**	**112**	T	T	20 51 39.4	
	baz=261						
H01W3	**Cape Leeuwin H**	**44.38**	**112**	T	T	20 51 41.5	
	baz=261						
H01W1	**Cape Leeuwin H**	**44.40**	**112**	T	T	20 51 39.9	
	baz=261						
ASAR	**Alice Springs**	**63.85**	**104**	P	P	20 06 10.9	-0.1
	0.4nm,0.7s,baz=244,slow=5.8,SNR=4.7						
WRA	**Warramunga Arr**	**65.62**	**100**	P	P	20 06 22.7	+0.1
	0.5nm,0.9s,baz=245,slow=5.6,SNR=3.3						
YKA	**Yellowknife Ar**	**145.84**	**357**	PKPbc	PKPdf	20 15 16.0	-0.3
	0.1nm,0.6s,baz=2.0,slow=3.4,SNR=4.2						

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*ISCJB **01** 19:55:56.1±0.5, 51°.62N±0°.09×95°.92E±0°.06, h10km, mb3.7/10, MS3.2/1, Error ellipse: s-maj=13.4km s-min=5.4km az=172.1*
*MOS **01** 19:55:56.1±1.0, 51°.68N×95°.97E, h9km, mb3.8/6, Error ellipse: s-maj=15.8km s-min=12.3km az=164.2*
*IDC **01** 19:55:56.3±0.7, 51°.53N×96°.04E, h0km, mb3.6/7, mb1 3.6/11, mb1mx3.3/74, mbtmp3.5/11, ML2.8/4, MS3.3/1, Ms1 3.3/1, ms1mx2.3/68, Error ellipse: s-maj=21.4km s-min=10.3km az=0.0*
ISC 01 19:55:58.1±0.6, **51°.73N**±0°.09×**95°.92E**±0°.05, **h10km, n30, σ1ˢ.42**/33, **mb3.6**/10, **1C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.51**	**248***c*	*i*PG	**Pn**	**19 56 24.7**	**-0.6**
HVS				*i* S	**Sn**	**19 56 45.0**	**0.0**
ORL	**Orlik**	**2.53**	**70**	*e*PN	**Pn**	**19 56 39.3**	**0.0**
ORL				*e*		19 57 11.6	
ORL				pmax	pmax		
	comp=Z,104nm,0.4s						
ORL				smax	smax		
	comp=N,385nm,0.6s						
MOY	**Mondy**	**3.16**	**89**	*e*PN	**Pn**	**19 56 51.0**	**+3.1**
MOY				*e*		19 57 31.4	
MOY				pmax	pmax		
	comp=Z,69nm,0.6s						
MOY				smax	smax		
	comp=N,377nm,0.9s						
ARS	**Arshan**	**4.04**	**85**	*e*PN	**Pn**	**19 56 59.8**	**-0.2**
ARS				*e*		19 57 09.8	
ARS				*e*		19 58 00.3	
ARS				pmax	pmax		
	comp=Z,103nm,0.7s						
ARS				smax	smax		
	comp=E,724nm,0.7s						
TLY	**Talaya**	**4.80**	**88**	Pg	**Pb**	**19 57 21.0**	**-1.3**
	comp=E,0.1nm,0.3s,baz=274,slow=12,SNR=10.0						
TLY				Lg	Lg	19 58 21.2	
	comp=E,0.1nm,0.3s,baz=53,slow=7.9,SNR=11						
TLY	**Talaya**	**4.80**	**88**	*e*PN	**Pb**	**19 57 23.4**	**+1.1**
TLY				*e*		19 58 21.1	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.1s						
ZAK	**Zakamensk**	**4.83**	**103**	*e*PN	**Pb**	**19 57 21.5**	**-1.4**
ZAK				*e*		19 58 23.4	
ZAK				pmax	pmax		
	comp=Z,21nm,0.4s						
ZAK				smax	smax		
	comp=N,127nm,0.7s						
IRK	**Irkutsk**	**5.19**	**81**	*e*PN	**Pb**	**19 57 29.2**	**+0.4**
IRK				*e*		19 58 32.1	
IRK				pmax	pmax		
	comp=Z,29nm,0.4s						
IRK				smax	smax		
	comp=N,335nm,0.7s						
TRG	**Tyrgan**	**6.49**	**77**	*e*PN	**Pn**	**19 57 34.9**	**+1.3**
TRG				*e*		19 57 56.1	
TRG				*e*		19 59 14.0	
TRG				pmax	pmax		
	comp=Z,13nm,0.6s						
TRG				smax	smax		
	comp=N,110nm,1.1s						
ZALV	**Zalesovo Beam**	**7.08**	**293**	Pn	**Pn**	**19 57 43.2**	**+1.5**
	comp=N,0.3nm,0.3s,baz=98,slow=12,SNR=5.0						
ZALV				Lg	Lg	19 59 37.4	
	comp=N,2.7nm,0.3s,baz=120,slow=26,SNR=8.6						
SONM	**Songino Array**	**7.82**	**116**	Pn	**Pn**	**19 57 52.4**	**+0.5**
	comp=N,0.1nm,0.3s,baz=298,slow=17,SNR=2.6						
SONM				Pg	**Pb**	**19 58 15.7**	**+2.0**
	comp=N,0.3nm,0.3s,baz=302,slow=17,SNR=4.5						
SONM				Lg	Lg	20 00 01.4	
	comp=N,2.0nm,0.3s,baz=297,slow=28,SNR=9.7						
NIZ	**Nizh Angarsk**	**9.03**	**58**	*e*P	**Pn**	**19 58 10.9**	**+2.6**
NIZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MKAR	**Makanchi Array**	**10.18**	**246**	Pn	**Pn**	**19 58 23.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=43,slow=14,SNR=7.5						
MKAR				Lg	Lg	20 01 17.6	
	comp=Z,0.4nm,0.3s,baz=46,slow=28,SNR=4.4						
KURK	**Kurchatov**	**10.90**	**271**	P	**Pn**	**19 58 35.5**	**+1.5**
KURBB	**Kurchatov Arra**	**10.98**	**271**	Pn	**Pn**	**19 58 35.5**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=76,slow=16,SNR=4.6						
KURBB				Lg	Lg	20 01 47.1	
	comp=Z,0.1nm,0.3s,baz=79,slow=32,SNR=6.9						
BVAR	**Borovoye Array**	**15.62**	**285**	Pn	**Pn**	**19 59 36.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=82,slow=13,SNR=2.4						
AKTO	**Aktyubinsk**	**23.68**	**282**	P	**P**	**20 01 10.1**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=80,slow=12,SNR=4.8						
TIXI	**Tiksi**	**24.76**	**24**	P	**P**	**20 01 18.7**	**-0.6**
	comp=Z,16nm,0.9s,baz=253,slow=6.3,SNR=9.2						
TIXI	**Tiksi**	**24.76**	**24**⇓	*i*P	**P**	**20 01 18.4**	**-1.0**
TIXI				*i* *PP	**pP**	**20 01 20.1**	**-2.3**
TIXI				*i* *SP	**sP**	**20 01 22.6**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
JNU	**Nakatsue**	**31.39**	**113**	LR	LR	20 16 18.2	
	comp=Z,53nm,21.8s,baz=90,slow=39						
SEY	**Seymchan**	**31.40**	**47**	*de*P	**P**	**20 02 18.0**	**-0.8**
KIV	**Kislovodsk**	**35.86**	**279**	*e*P	**P**	**20 02 56.7**	**-1.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BILL	**Bilibino**	**36.46**	**37**	*e*P	**P**	**20 03 01.6**	**-1.1**
BILL				*e*		20 04 24.8	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**37.84**	**313**	P	**P**	**20 03 14.7**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=66,slow=6.5,SNR=5.7						
FINES	**FINESS Array B**	**37.84**	**313**	*i* P	**P**	**20 03 15.5**	**+1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**43.82**	**280**	P	**P**	**20 04 05.2**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=58,slow=8.8,SNR=2.6						
NOA	**NORSAR Array B**	**44.60**	**316**	P	**P**	**20 04 12.9**	**+2.9**
	comp=Z,0.6nm,0.6s,baz=70,slow=6.5,SNR=2.6						
WRA	**Warramunga Arr**	**78.88**	**143**	P	**P**	**20 07 59.7**	**-1.6**
	comp=Z,0.5nm,1.0s,baz=340,slow=6.0,SNR=2.6						
ASAR	**Alice Springs**	**82.13**	**145**	P	**P**	**20 08 17.4**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=326,slow=5.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**82.39**	**281**	P	**P**	**20 08 20.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=43,slow=4.1,SNR=3.2						

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*IDC **01** 20:20:16.8±1.5, 1°.61S×126°.39E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.1/59, mbtmp3.2/4, ML3.0/2, Error ellipse: s-maj=36.0km s-min=26.1km az=54.0*
*ISCJB **01** 20:20:20.2±0.8, 1°.49S±0°.06×126°.47E±0°.07, h29km, mb3.4/2, Error ellipse: s-maj=12.3km s-min=6.2km az=37.9*
*DJA **01** 20:20:20.5±0.6, 1°S±6°×12°6E±1°4, h36km±36km, M3.1/4, MLv3.1/4*
ISC 01 20:20:20.9±1.1, **1°.54S**±0°.07×**126°.42E**±0°.07, **h29km, n7, σ2ˢ.22**/11, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.66**	**220**	P	**Pn**	**20 20 34.6**	**+0.3**
SANI				S	**Sn**	**20 20 45.2**	**+1.4**
LBMI	**Labuha**	**1.41**	**50**	P	**Pn**	**20 20 43.5**	**-1.1**
LBMI				S	**Sn**	**20 21 01.3**	**-0.9**
NLAI	**Namlea**	**1.82**	**158**	P	**Pn**	**20 20 50.5**	**+0.2**
NLAI				S	**Sb**	**20 21 13.2**	**-2.8**
SIJI	**Sorong**	**4.89**	**82**	Pn	**Pn**	**20 21 32.9**	**+0.2**
	0.4nm,0.3s,baz=251,slow=18,SNR=6.3						
SIJI				Sn	**Sn**	**20 22 33.4**	**+5.0**
	0.5nm,0.3s,baz=348,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**19.86**	**158**	P	**P**	**20 24 48.7**	**-1.1**
	0.1nm,0.3s,baz=340,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**23.16**	**162**	P	**P**	**20 25 24.5**	**-0.7**
	0.6nm,0.7s,baz=343,slow=10,SNR=7.0						
MKAR	**Makanchi Array**	**61.73**	**327**	P	**P**	**20 30 37.3**	**+0.6**
	0.2nm,0.4s,baz=122,slow=8.3,SNR=5.6						

GUC 01 20:33:28.9±0.6, **36°.78S**×**73°.57W, h23km**±4km, **ML3.8, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.91**	**44**⇓	*i*P	Pb	20 33 44.5	-1.5
COCH				*e*S	Sb	20 33 56.7	-0.9
COCH				IAML		20 33 59.9	
	comp=E,3μm,0.4s						
CCHI	**Chillan**	**1.21**	**82**	*e*P	Pn	20 33 48.9	-1.5
CCHI				*e*S	Sn	20 34 04.9	-1.3
CCHI				IAML		20 34 09.0	
	comp=E,5μm,0.6s						
GO05	**HualaæØ**	**2.21**	**37**	*e*P	Pn	20 34 04.0	-0.2
GO05				*e*S	Sn	20 34 32.2	+1.2
GO05				IAML		20 34 44.8	
	comp=E,788nm,0.5s						
GO06	**Curarrehue**	**3.25**	**150**	*e*P	Pn	20 34 17.5	-1.1
GO06				*i* S	Sb	20 35 03.6	-1.5
GO06				IAML		20 35 09.1	
	comp=N,167nm,0.9s						
PLCA	**Paso Flores**	**4.60**	**150**	*e*P	Pb	20 34 46.6	-2.3
PLCA				*e*S	Sb	20 35 45.6	+1.8

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*SJA **01** 20:53:02.6±0.6, 32°.92S×72°.10W, h9km±19km, ML3.0, MW3.2*
*GUC **01** 20:53:07.3±0.6, 32°.44S×71°.44W, h45km±6km, ML3.1*
ISC 01 20:53:05.3±2.8, **33°.03S**±0°.08×**72°.2W**±0°.1, **h16km**±15km, **n16, σ1ˢ.07**/29, **3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.22**	**112**⇓	*i*P	**Pg**	**20 53 28.8**	**0.0**
ANTU	**Antumapu**	**1.38**	**113**	*e*P	**Pn**	**20 53 30.7**	**+0.7**
ANTU				*e*S	**Sb**	**20 53 48.6**	**+0.3**
ANTU				IAML		20 53 50.0	
	comp=N,538nm,0.3s						
CLCH	**Cerro Calan**	**1.40**	**105**⇓	*i*P	**Pn**	**20 53 29.3**	**-1.1**
CLCH				*i* S	**Sn**	**20 53 46.6**	**-1.9**
CLCH				IAML		20 53 50.0	
	comp=N,679nm,0.4s						
FCH	**Farellones**	**1.59**	**101**⇓	*i*P	**Pn**	**20 53 32.0**	**-1.2**
FCH				*e*S	**Sn**	**20 53 49.8**	**-3.7**
FCH				IAML		20 53 50.9	
	comp=E,506nm,0.3s						
LMEL	**Las Melosas**	**1.82**	**117**	*e*P	**Pn**	**20 53 37.3**	**+1.1**
LMEL				*e*S	**Sn**	**20 54 00.3**	**+1.2**
LMEL				IAML		20 54 04.0	
	comp=N,668nm,0.2s						
AUSP	**Uspallata**	**2.47**	**72**	*e*P	**Pn**	**20 53 44.8**	**-0.3**
AUSP				*e*S	**Sn**	**20 54 16.3**	**+1.1**
RTLS	**Leoncito**	**2.71**	**64**	*e*P	**Pn**	**20 53 48.0**	**-0.5**
RTLS				*e*S	**Sn**	**20 54 21.7**	**+0.6**
RTLS				IAML		20 54 27.4	
	comp=Z,37nm,0.5s						
ARCO	**CERRO ARCO**	**2.72**	**87**	*e*P	**Pn**	**20 53 48.8**	**+0.3**
ARCO				*e*S	**Sn**	**20 54 22.0**	**+0.9**
ARCO				IAML		20 54 28.2	
	comp=Z,59nm,0.8s						
AAGR	**Agrelo**	**2.79**	**92**	*e*P	**Pn**	**20 53 49.4**	**0.0**
ASAL	**Salagasta**	**2.83**	**82**	*e*P	**Pn**	**20 53 49.8**	**-0.1**
ASAL				*e*S	**Sn**	**20 54 24.7**	**+0.9**
TLL	**Tololo Astrono**	**3.08**	**22**	*e*P	**Pn**	**20 53 53.4**	**-0.1**
TLL				*e*S	**Sn**	**20 54 29.9**	**-0.2**
TLL				IAML		20 54 32.9	
	comp=N,128nm,0.8s						
RTCV	**Cerro Valdivia**	**3.27**	**70**	*e*P	**Pn**	**20 53 55.5**	**-0.4**
RTCV				*e*S	**Sn**	**20 54 35.2**	**+0.7**
AMOG	**MOGNA**	**3.75**	**57**	*e*P	**Pn**	**20 54 02.3**	**-0.2**
AMOG				*e*S	**Sn**	**20 54 46.4**	**+0.1**
ACAN	**Cantantal**	**4.26**	**81**	*e*P	**Pn**	**20 54 10.1**	**+0.6**
ACAN				*e*S	**Sn**	**20 54 59.3**	**+0.4**
AGUA	**GUANDACOL**	**4.72**	**43**	*e*P	**Pn**	**20 54 15.5**	**-0.5**
AGUA				*e*S	**Sn**	**20 55 10.4**	**-0.1**
VCA	**Vinchina**	**5.46**	**39**	*e*P	**Pn**	**20 54 26.4**	**+0.2**
VCA				IAML		20 55 45.9	
	comp=Z,18nm,0.3s						

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*IDC **01** 21:17:53.5±1.0, 39°.06N×71°.90E, h0km, mb3.8/10, mb1 3.8/18, mb1mx3.6/77, mbtmp3.8/18, ML3.2/8, MS2.7/2, Ms1 2.7/2, ms1mx2.3/67, Error ellipse: s-maj=18.2km s-min=10.9km az=140.0*
*ISCJB **01** 21:17:53.2±0.3, 38°.94N±0°.02×71°.83E±0°.04, h10km, mb3.8/13, MS4.5/1, Error ellipse: s-maj=4.1km s-min=3.3km az=17.4*
*SOME **01** 21:17:55.6, 39°.33N×71°.95E, h10km*
*NEIC **01** 21:17:55.7±0.7, 39°.09N×71°.68E, h10km, mb4.0/4, Error ellipse: s-maj=12.8km s-min=8.1km az=144.0*
*KRNET **01** 21:17:55.6±0.1, 39°.17N×72°.07E, mb3.7*
*NNC **01** 21:17:58.1±2.4, 39°.27N×72°.07E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=20.1km s-min=6.8km az=0.0*
*MOS **01** 21:17:59.1±1.4, 39°.18N×71°.84E, h55km, mb4.1/5, Error ellipse: s-maj=13.1km s-min=6.9km az=90.7*
ISC 01 21:17:54.7±0.7, **38°.92N**±0°.05×**72°.02E**±0°.03, **h10km, n92, σ1ˢ.88**/126, **mb4.0**/14, **34C-20D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.58**	**46**	⇓P	**Pn**	**21 18 22.0**	**-1.1**
	16nm,0.3s						
SFK				⇓S	**Sn**	**21 18 41.6**	**-2.2**
	195nm,0.3s						
SFK	**Sufi-Kurgan**	**1.58**	**46**	P	**Pn**	**21 18 22.0**	**-1.1**
SFK				S	**Sn**	**21 18 41.6**	**-2.2**
SFK				pmax	pmax		
	comp=Z,16nm,0.3s						
SFK				smax	smax		
	comp=N,195nm,0.3s						
SFK	**Sufi-Kurgan**	**1.58**	**46**⇑	*i*P	**Pn**	**21 18 21.9**	**-1.1**
	baz=52						
SFK				⇑*i*S	**Sn**	**21 18 41.2**	**-2.5**
	baz=52						
ARSB	**Arslanbob**	**2.51**	**17**⇑	*i*P	**Pn**	**21 18 36.3**	**+0.5**
	baz=18						
ARSB				⇑*e*S	**Sn**	**21 19 05.9**	**-0.7**
	baz=18						
ARK	**Arkit**	**2.88**	**359**⇑	*e*P	**Pn**	**21 18 41.1**	**+0.3**
	baz=58						
ARK				⇑*e*S	**Sn**	**21 19 14.2**	**-1.3**
	baz=58						
TOKL	**Toktogul**	**3.09**	**12**⇓	*e*P	**Pn**	**21 18 44.1**	**+0.5**
	baz=12						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TOKL				⇓iS	Sn	21 19 19.4	-1.2
	baz=12						
TAS	Tashkent	3.19	320	⇑Pn	Pn	21 18 46.5	+1.5
	comp=N,92nm,0.4s						
TAS				⇑Sn	Sn	21 19 23.0	-0.2
	comp=N,167nm,0.3s						
TAS				⇓Lg	Lg	21 19 32.4	
	comp=N,1μm,0.4s						
TAS	Tashkent	3.19	320	PN	Pn	21 18 46.5	+1.5
TAS				S	Sn	21 19 23.0	-0.2
TAS				pmax	pmax		
	comp=Z,92nm,0.4s						
TAS				smax	smax		
	comp=N,167nm,0.3s						
TAS	Tashkent	3.19	320	⇓iP	Pn	21 18 48.8	+3.8
	baz=16						
TAS				⇓iS	Sn	21 19 27.9	+4.7
	baz=16						
AML	Almayashu	3.45	21	P	Pn	21 18 51.0	+2.1
	SNR=49						
AML	Almayashu	3.45	21	⇑eP	Pn	21 18 50.5	+1.6
	baz=22						
AML				⇑iS	Sn	21 19 30.6	+0.5
	baz=22						
MNAS	Manas	3.58	6	⇑Pn	Pn	21 18 51.2	+0.7
	comp=N,18nm,0.5s						
MNAS				⇑Lg	Lg	21 19 40.1	
	comp=N,76nm,0.6s						
MNAS	Manas	3.58	6	PN	Pn	21 18 51.2	+0.7
MNAS				pmax	pmax		
	comp=Z,18nm,0.5s						
MNAS	Manas	3.58	6	⇑iP	Pn	21 18 51.3	+0.7
	baz=6.0						
MNAS				⇑iS	Sn	21 19 33.2	+0.2
	baz=6.0						
UCH	Uchtor	3.81	29	P	Pn	21 18 56.7	+2.8
	SNR=40						
UCH	Uchtor	3.81	29	⇑iP	Pn	21 18 55.5	+1.6
	baz=30						
UCH				⇑iS	Sn	21 19 39.1	+0.1
	baz=30						
CHM	Chimkent	3.87	332	eP	Pn	21 18 55.9	+1.7
	comp=Z,93nm,0.3s						
CHM				eS	Sn	21 19 38.9	-0.8
	comp=Z,1μm,0.4s						
NRN	Naryn	3.95	49	⇑eP	Pn	21 18 56.6	+0.9
	baz=52						
NRN				⇑iS	Sn	21 19 41.4	-0.8
	baz=52						
EKS2	Erkin-Say	3.97	19	P	Pn	21 18 58.1	+2.3
	SNR=18						
EKS2	Erkin-Say	3.97	19	⇑iP	Pn	21 18 57.5	+1.7
	baz=20						
EKS2				⇑iS	Sn	21 19 42.7	+0.2
	baz=20						
KZA	Kyzart	4.00	37	P	Pn	21 18 59.7	+3.2
	SNR=11						
KZA	Kyzart	4.00	37	⇓iP	Pn	21 18 58.3	+1.8
	baz=39						
KZA				⇓iS	Sn	21 19 43.9	+0.3
	baz=39						
DZA	Taraz	4.01	353	eP	Pn	21 18 57.0	+0.8
	comp=Z,78nm,0.4s						
DZA				eS	Sn	21 19 40.9	-2.2
	comp=Z,79nm,0.3s						
AAK	Ala-Archa	4.16	26	Pn	Pn	21 19 00.9	+2.5
	comp=Z,4.3nm,0.3s,baz=207,slow=4.8,SNR=66						
AAK				Sn	Sn	21 19 49.5	+2.2
	comp=Z,6.0nm,0.3s,baz=342,slow=20,SNR=5.2						
AAK	Ala-Archa	4.16	26	⇑Pn	Pn	21 19 00.9	+2.5
	comp=Z,24nm,0.5s						
AAK				Sn	Sn	21 19 47.9	+0.6
	comp=Z,64nm,0.8s						
AAK				⇑Lg	Lg	21 19 58.1	
	comp=Z,98nm,0.9s						
AAK	Ala-Archa	4.16	26	P	Pn	21 19 01.3	+2.9
	SNR=25						
AAK	Ala-Archa	4.16	26	ePn	Pn	21 19 00.6	+2.1
AAK				eSn	Sn	21 19 47.8	+0.5
AAK				Sn	Sb	21 19 49.5	-9.1
AAK	Ala-Archa	4.16	26	⇓iP	Pn	21 18 59.6	+1.1
	baz=27						
AAK				⇓iS	Sn	21 19 47.1	-0.2
	baz=27						
KK31	Karatay Array	4.34	345	⇑Pn	Pn	21 19 00.1	-0.6
	comp=Z,25nm,0.5s,baz=166,slow=13,SNR=290						
KK31				⇓Pg	Pb	21 19 12.1	+1.1
	comp=Z,10nm,0.3s,baz=168,slow=17,SNR=16						
KK31				⇓Sn	Sn	21 19 47.4	-3.9
	comp=Z,14nm,0.3s,baz=169,slow=16,SNR=4.3						
KK31				⇑Lg	Lg	21 20 03.1	
	comp=Z,105nm,0.7s,baz=158,slow=28,SNR=4.5						
KK31	Karatay Array	4.34	345	PN	Pn	21 19 00.9	+0.2
KK31				pmax	pmax		
	comp=Z,25nm,0.5s						
KKAR	Karatay Array	4.34	345	ePn	Pn	21 19 00.2	-0.4
KKAR	Karatay Array	4.34	345	ePN	Pn	21 19 00.3	-0.4
KBK	Karagaybulak	4.34	30	P	Pn	21 19 04.2	+3.2
	SNR=26						
KBK	Karagaybulak	4.34	30	⇑iP	Pn	21 19 02.9	+1.9
	baz=31						
KBK				⇑iS	Sn	21 19 51.0	-0.8
	baz=31						
FRU1	Bishkek	4.36	26	⇑iP	Pn	21 19 01.6	+0.5
	baz=27						
FRU1				⇑eS	Sn	21 19 49.9	-2.1
	baz=27						
BRLS	Borolday	4.43	339	eP	Pn	21 19 05.5	+3.5
	comp=Z,1.2nm,0.5s						
BRLS				eS	Sn	21 19 55.4	+1.8
	comp=Z,103nm,0.5s						
CHMS	Chumysh	4.57	26	P	Pn	21 19 06.2	+2.2
	SNR=15						
ULHL	Ulahol	4.62	43	⇑iP	Pn	21 19 05.9	+1.1
	baz=45						
ULHL				⇑iS	Sn	21 19 57.9	-0.8
	baz=45						
BOOM	Boomskoye usch	4.65	39	⇓eP	Pn	21 19 05.8	+0.7
	baz=40						
BOOM				⇓eS	Sn	21 19 57.3	-1.9
	baz=40						
USP	Ospenovka	4.73	22	P	Pn	21 19 08.1	+2.0
	SNR=21						
TKM2	Tokmak 2	4.83	33	⇓Pn	Pn	21 19 09.9	+2.3
	comp=Z,19nm,0.7s						
TKM2				⇓Sn	Sn	21 20 04.6	+0.9
	comp=Z,18nm,0.6s						
TKM2				⇓Lg	Lg	21 20 19.0	
	comp=Z,34nm,0.6s						
TKM2	Tokmak 2	4.83	33	P	Pn	21 19 10.4	+2.7
	SNR=11						
TKM2	Tokmak 2	4.83	33	PN	Pn	21 19 09.9	+2.3
TKM2				S	Sn	21 20 04.6	+0.9
TKM2				pmax	pmax		
	comp=Z,19nm,0.7s						
TKM2				smax	smax		
	comp=N,18nm,0.6s						
TKM2	Tokmak 2	4.83	33	⇑iP	Pn	21 19 08.7	+1.1
	baz=34						
TKM2				⇑iS	Sn	21 20 03.7	0.0
	baz=34						
KDJ	Kajisay	5.07	49	⇑eP	Pn	21 19 12.0	+1.0
	baz=51						
KDJ				⇑iS	Sn	21 20 07.8	-1.9
	baz=51						
KST	Kastek	5.09	35	eP	Pb	21 19 22.1	-1.8
	comp=N,3.8nm,0.4s						
KST				eS	Sb	21 20 23.2	-1.9
	comp=N,22nm,0.5s						
DGS	Degeres	5.17	32	eP	Pb	21 19 26.2	+1.0
	comp=N,16nm,0.5s						
DGS				eS	Sb	21 20 30.4	+3.0
	comp=N,40nm,0.6s						
MTBS	Maitube	5.37	37	eP	Pb	21 19 30.0	+1.4
	comp=N,6.5nm,0.4s						
MTBS				eS	Sb	21 20 38.3	+5.2
	comp=N,19nm,0.6s						
IZV	Izvestkoviy	5.38	39	eP	Pb	21 19 30.2	+1.3
	comp=N,18nm,0.6s						
IZV				eS	Sb	21 20 36.8	+3.2
	comp=N,47nm,0.6s						
TNSS	Tian-Shan	5.55	41	eP	Pb	21 19 33.7	+1.8
	comp=N,16nm,0.7s						
TNSS				eS	Sb	21 20 43.4	+4.7
	comp=N,25nm,0.6s						
MDOK	Medeo	5.69	40	⇓Pn	Pn	21 19 22.4	+2.9
	comp=N,13nm,0.9s						
MDOK				⇓Lg	Lg	21 20 52.3	
	comp=N,28nm,0.7s						
MDOK	Medeo	5.69	40	eP	Pb	21 19 34.4	+0.2
	comp=N,5.5nm,1.2s						
MDOK				eS	Sb	21 20 44.5	+2.0
	comp=N,24nm,0.7s						
KOTS	Kotyrbulak	5.78	40	eP	Pb	21 19 35.2	-0.5
	comp=N,2.3nm,0.3s						
KOTS				eS	Sb	21 20 47.0	+2.0
	comp=N,25nm,0.6s						
KUU	Kurty	5.94	32	eP	Pb	21 19 38.2	-0.1
	comp=N,5.4nm,0.6s						
KUU				eS	Sb	21 20 52.2	+2.8
	comp=N,52nm,1.1s						
MKAR	Makanchi Array	10.89	40	Pn	Pn	21 20 33.3	+2.7
	comp=N,0.1nm,0.3s,baz=225,slow=13,SNR=8.1						
MKAR				Lg	Lg	21 23 32.5	
	comp=N,0.1nm,0.3s,baz=230,slow=29,SNR=4.1						
GEYT	Alibeck	10.96	269	Pn	Pn	21 20 29.0	-2.5
	comp=N,0.6nm,0.3s,baz=94,slow=9.1,SNR=7.7						
GEYT				Sn	Sn	21 22 32.8	-1.4
	comp=N,0.5nm,0.3s,baz=128,slow=13,SNR=4.6						
KURBB	Kurchatov Arra	12.58	19	Pn	Pn	21 20 49.7	-3.9
	comp=N,0.1nm,0.3s,baz=214,slow=12,SNR=4.3						
KURBB				Lg	Lg	21 24 22.8	
	comp=N,0.1nm,0.3s,baz=217,slow=31,SNR=4.9						
KURK	Kurchatov	12.69	19	Pn	Pn	21 20 54.7	-0.3
KURK	Kurchatov	12.69	19	P	Pn	21 20 54.7	-0.3
ABKAR	Akbulak array	13.48	324	ePn	Pn	21 21 01.1	-4.8
	comp=N,4.0nm,0.4s						
PYUN	Piuthan	14.13	136	eP	Pn	21 21 17.8	+2.7
BVAR	Borovoye Array	14.16	356	Pn	Pn	21 21 11.7	-3.5
	comp=N,0.2nm,0.3s,baz=176,slow=15,SNR=4.7						
BVAR				Sn	Sn	21 23 41.9	-10
	comp=N,0.3nm,0.3s,baz=161,slow=23,SNR=3.5						
BVAR				Lg	Lg	21 25 08.8	
	comp=N,0.1nm,0.3s,baz=165,slow=28,SNR=2.9						
BVAR				LR	LR	21 26 23.3	
	comp=N,37nm,21.8s,baz=132,slow=36						
BRVK	Borovoye	14.20	356	Pn	Pn	21 21 14.5	-1.2
BRVK	Borovoye	14.20	356	P	Pn	21 21 14.5	-1.2
KOLN	Koldanda	14.72	136	eP	Pn	21 21 26.0	+2.8
	comp=N,3.7nm,0.5s						
AKTO	Aktyubinsk	15.20	324	Pn	Pn	21 21 26.0	-3.3
	comp=N,0.4nm,0.3s,baz=133,slow=13,SNR=6.2						
AKTO				Sn	Sn	21 24 04.0	-14
	comp=N,0.1nm,0.3s,baz=163,slow=19,SNR=5.5						
AKTO				LR	LR	21 26 28.7	
	comp=N,30nm,19.2s,baz=92,slow=34						
AKTO	Aktyubinsk	15.20	324	P	Pn	21 21 26.0	-3.3
AKTO						21 24 04.0	
AKTO				MLR	MLR		
	comp=Z,31nm,19.3s						
KKN	Kakani	15.66	131	eP	Pn	21 21 37.2	+1.5
	comp=Z,12nm,0.5s						
DMN	Daman	15.69	132	eP	Pn	21 21 37.3	+1.2
	comp=Z,4.2nm,0.5s						
PKI	Pulchoki	15.90	131	eP	Pn	21 21 40.4	+1.5
	comp=Z,13nm,0.6s						
JIRN	Jiri	16.30	129	eP	Pn	21 21 44.9	+0.9
	comp=Z,11nm,0.5s						
RAMN	Ramite	17.07	130	eP	Pn	21 21 54.8	+1.1
	comp=Z,8.6nm,0.6s						
ZALV	Zalesovo Beam	17.39	26	P	Pn	21 21 57.2	-0.1
	comp=Z,0.4nm,0.3s,baz=213,slow=11,SNR=9.8						
TAPN	Taplejung	17.45	127	eP	Pn	21 21 59.7	+1.1
ARU	Arti	19.66	337	P	P	21 22 21.8	-1.8
	comp=Z,0.0nm,0.3s,baz=132,slow=5.0,SNR=4.2						
GNI	Garni	21.05	282	P	P	21 22 38.3	-0.7
	comp=Z,3.6nm,0.8s,baz=49,slow=11,SNR=4.0						
KIV	Kislovodsk	22.50	292	P	P	21 22 51.9	-2.5
	comp=Z,0.7nm,0.4s						
KIV	Kislovodsk	22.50	292	P	P	21 22 51.9	-2.5
KIV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	Keskin Array B	29.56	284	P	P	21 23 59.1	-0.6
	comp=Z,0.6nm,0.7s,baz=97,slow=9.5,SNR=3.4						
ANTO	Ankara	30.17	284	P	P	21 24 03.4	-1.6
	comp=Z,4.9nm,0.5s						
ANTO	Ankara	30.17	284	P	P	21 24 03.4	-1.6
ANTO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CSS	Mathiatis	31.02	275	P	P	21 24 10.2	-2.3
	comp=Z,1.5nm,0.7s						
NRIK	Noril'sk	31.61	10	LR	LR	21 39 43.9	
	comp=Z,1μm,18.6s,baz=60,slow=42						
FINES	FINESS Array B	35.97	324	P	P	21 24 53.9	-1.4
	comp=Z,1.6nm,0.8s,baz=116,slow=8.7,SNR=6.6						
ARCES	ARCESS Array B	39.24	336	P	P	21 25 21.6	-1.3
	comp=Z,5.0nm,1.1s,baz=108,slow=9.2,SNR=8.7						
HFS	Hagfors	41.70	320	P	P	21 25 41.8	-1.5
	comp=Z,2.4nm,0.6s,baz=94,slow=10,SNR=6.7						
ESDC	Sonseca Array	57.07	297	P	P	21 27 40.8	-0.3
	comp=Z,0.4nm,0.5s,baz=60,slow=7.6,SNR=5.9						
TORD	Torodi Ar. Bea	66.60	268	P	P	21 28 45.2	-0.2
	comp=Z,0.7nm,0.5s,baz=46,slow=5.7,SNR=16						
KOWA	Kowa	70.25	273	P	P	21 29 06.6	-1.8
	comp=Z,0.6nm,0.5s,baz=75,slow=6.9,SNR=2.7						
BMRM	Bremner River	76.07	17	P	P	21 29 42.7	+0.6
	comp=Z,1.4nm,0.7s						
YKA	Yellowknife Ar	78.80	3	P	P	21 29 56.8	-0.4
	comp=Z,0.1nm,0.3s,baz=352,slow=6.4,SNR=4.7						
WRA	Warramunga Arr	82.60	123	P	P	21 30 19.8	+1.6
	comp=Z,0.2nm,0.7s,baz=327,slow=5.0,SNR=2.6						

ISCJB ***01*** *21:27:12.9±0.4, 67°.80N±0°.02×20°.09E±0°.07, h0km, Error ellipse: s-maj=3.8km s-min=3.1km az=16.8*
CSEM ***01*** *21:27:14.1±0.2, 67°.83N×20°.18E, h0km±2km, ML2.2, Error ellipse: s-maj=4.1km s-min=3.6km az=131.0, Mining explosion.*
UPP ***01*** *21:27:14.2, 67°.82N×20°.21E, h1km, ML2.2, Mining explosion.*
HEL ***01*** *21:27:14.7±0.1, 67°.83N×20°.21E, h0km, ML2.3, ML2.2(UPP), Explosion*
NAO ***01*** *21:27:14.3±0.8, 67°.81N×20°.31E, ML2.5*
IDC ***01*** *21:27:15.6±0.8, 67°.78N×20°.66E, h0km, mb1 3.3/5, mb1mx3.0/65, mbtmp3.3/5, ML2.6/5, Error ellipse: s-maj=14.1km s-min=6.3km az=115.0*
BER ***01*** *21:27:16.0±3.3, 67°.82N×20°.15E, h0km, ML2.3, ML2.5(NAO), Suspected explosion*
ISC 01 21:27:13.7±0.7**, 67°.80N**±0°.02×**20°.21E**±0°.02**, h0km, n63, σ1s.20**/93**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.17	17	P	Pg	21 27 17.1	+0.2
KUA				S	Sg	21 27 19.0	-0.1
KUA	Kurravaara	0.17	17	P	Pg	21 27 17.1	+0.2
KUA				S	Sg	21 27 19.0	-0.1
KUA	Kurravaara	0.17	17	iP	Pg	21 27 17.1	+0.2
KUA				iS	Sg	21 27 19.0	-0.1
RATU	Laukkuluspa	0.24	277	P	Pg	21 27 18.8	+0.6
RATU	Laukkuluspa	0.24	277	P	Pg	21 27 18.8	+0.6
RATU	Laukkuluspa	0.24	277	iP	Pg	21 27 18.8	+0.6
NIKU	Nikkaluokta	0.45	280	P	Pg	21 27 22.7	+0.4
NIKU	Nikkaluokta	0.45	280	P	Pg	21 27 22.8	+0.4
NIKU	Nikkaluokta	0.45	280	iP	Pg	21 27 22.8	+0.4
DUNU	Dundret	0.69	168	P	Pg	21 27 27.5	+0.6
DUNU	Dundret	0.69	168	P	Pg	21 27 27.5	+0.6
DUNU	Dundret	0.69	168	iP	Pg	21 27 27.5	+0.6
LANU	Lannavaara	0.72	68	P	Pg	21 27 27.5	+0.1
LANU				S	Sg	21 27 37.0	+0.3
LANU	Lannavaara	0.72	68	P	Pg	21 27 27.5	+0.1
LANU	Lannavaara	0.72	68	eP	Pg	21 27 27.6	+0.1
	baz=257						
LANU				eS	Sg	21 27 37.0	+0.3
MASU	Masugnsbyn	0.77	116	P	Pg	21 27 28.7	+0.4
MASU	Masugnsbyn	0.77	116	P	Pg	21 27 28.7	+0.4
MASU	Masugnsbyn	0.77	116	iP	Pg	21 27 28.7	+0.4
KIF	Kilpisjarvi	1.23	10	Pg	Pg	21 27 36.7	-0.6
KIF				Lg	Lg	21 27 53.6	
KIF	Kilpisjarvi	1.23	10	eP	Pg	21 27 36.9	-0.4
	SNR=90						
KIF				Sb	Sg	21 27 53.2	-0.1
KIF	Kilpisjarvi	1.23	10	eP	Pg	21 27 36.9	-0.4
KIF				Lg	Lg	21 27 53.6	
KIF	Kilpisjarvi	1.23	10	eP	Pg	21 27 36.5	-0.8
KIF				MSG		21 27 52.4	
	comp=Z,35nm,0.2s						
KIF				eSB	Sg	21 27 53.2	-0.1
PAJU	Pajala	1.36	123	P	Pg	21 27 39.4	-0.4
PAJU	Pajala	1.36	123	P	Pg	21 27 39.4	-0.4
PAJU	Pajala	1.36	123	eP	Pg	21 27 39.4	-0.4
HEF	Hetta	1.43	63	eP	Pn	21 27 40.3	-0.6
	SNR=50						
HEF				Sn	Sn	21 28 03.7	+3.3
HEF	Hetta	1.43	63	eP	Pn	21 27 40.3	-0.6
HEF	Hetta	1.43	63	eP	Pn	21 27 40.0	-1.0
	baz=247						
HEF				MSG		21 27 57.8	
	comp=Z,30nm,0.2s						
HEF				eSN	Sn	21 28 03.7	+3.3
ERTU	Ertsjaerv	1.47	147	P	Pn	21 27 41.3	-0.1
ERTU				Sn	Sn	21 28 02.2	+1.0
ERTU	Ertsjaerv	1.47	147	P	Pn	21 27 41.3	-0.1
ERTU	Ertsjaerv	1.47	147	eP	Pn	21 27 41.2	-0.1
ERTU				eSN	Sn	21 28 02.2	+1.0
KALU	Kalix	2.31	146	P	Pn	21 27 54.4	+1.6
KALU				Sb	Sb	21 28 24.9	-0.2
KALU	Kalix	2.31	146	eP	Pn	21 27 54.5	+1.6
KALU				eSB	Sb	21 28 24.9	-0.2
TOF	Tornio	2.37	135	P	Pn	21 27 55.5	+1.9
TOF				Sg	Sb	21 28 27.7	+0.9
TOF	Tornio	2.37	135	eP	Pn	21 27 55.6	+1.9
TOF				MSG		21 28 25.5	
	comp=Z,14nm,0.2s						
SGF	Sodankyl	2.44	95	P	Pn	21 27 56.0	+1.2
SGF				Sg	Sb	21 28 29.6	+0.6
LOF	Lofoten	2.54	281	ePg	Pb	21 27 59.3	-0.7
	SNR=90						
LOF				eSg	Sg	21 28 35.7	+0.6
	SNR=90						
LOF	Lofoten	2.54	281	ePg	Pb	21 27 59.4	-0.7
LOF				eSg	Sg	21 28 35.7	+0.6
ARA0	ARCESS Array S	2.61	46	Pn	Pn	21 27 57.7	+0.7
	baz=228,slow=14						
ARA0				Sn	Sn	21 28 30.4	+1.0
	baz=232,slow=22						
ARA0	ARCESS Array S	2.61	46	Pn	Pn	21 27 57.7	+0.7
	SNR=50						
ARA0				Sn	Sn	21 28 30.4	+1.0
	SNR=50						
ARA0	ARCESS Array S	2.61	46	Pn	Pn	21 27 57.7	+0.7
	baz=228,slow=14						
ARA0				Sn	Sn	21 28 30.4	+1.0
	baz=232,slow=22						
ARCES	ARCESS Array B	2.61	46	Pn	Pn	21 27 57.8	+0.7
	comp=Z,1.6nm,0.3s,baz=228,slow=15,SNR=79						
ARCES				Sn	Sn	21 28 30.2	+0.8
	comp=Z,4.7nm,0.3s,baz=226,slow=25,SNR=19						
ARCES				Lg	Lg	21 28 34.2	
	comp=Z,4.8nm,0.3s,baz=228,slow=27,SNR=16						
MOR8	Moi Rana	2.79	237	ePg	Pb	21 28 02.5	-1.9
MOR8				eSg	Sb	21 28 37.6	-1.5
MOR8				IAML		21 28 39.6	
	comp=Z,28nm,0.4s						
BURU	Burvik	3.26	171	P	Pn	21 28 08.1	+2.1
BURU				Sb	Sn	21 28 49.5	+4.1
OUL	Oulu	3.55	137	P	Pn	21 28 11.8	+1.8
VRF	Varrio	3.57	86	P	Pn	21 28 10.9	+0.6
OUF	Merijarvi	3.90	150	P	Pn	21 28 16.5	+1.7
UMAU	Umeaa	3.93	177	P	Pn	21 28 17.4	+2.2
KU6	Riekki	4.21	110	P	Pn	21 28 20.2	+1.2
KU6				Sg	Sg	21 29 26.2	-2.4
FIA0	FINESS Array S	6.85	156	Pn	Pn	21 28 56.7	+1.4
	baz=344,slow=12						
FIA0				Sn	Sn	21 30 12.9	-0.9
	baz=347,slow=28						
FIA0				Lg	Lg	21 30 46.3	
	baz=348,slow=28						
FIA0	FINESS Array S	6.85	156	Pn	Pn	21 28 56.7	+1.4
	baz=344,slow=12						
FIA0				Sn	Sn	21 30 12.9	-0.9
	baz=347,slow=28						
FIA0				Lg	Lg	21 30 46.3	
	baz=348,slow=28						
FINES	FINESS Array B	6.85	156	Pn	Pn	21 28 56.5	+1.2
	comp=Z,0.1nm,0.3s,baz=343,slow=13,SNR=4.6						
FINES				Sn	Sn	21 30 13.1	-0.8
	comp=Z,0.3nm,0.3s,baz=348,slow=20,SNR=4.2						
FINES				Lg	Lg	21 30 46.8	
	comp=Z,0.8nm,0.3s,baz=349,slow=28,SNR=9.5						
NB2	NORSAR Subarra	7.81	214	Pn	Pn	21 29 09.0	+0.5
NB2				Lg	Lg	21 31 19.1	
	baz=21,slow=37						
NB2	NORSAR Subarra	7.81	214	Pn	Pn	21 29 09.0	+0.5
NB2				Lg	Lg	21 31 19.1	
	baz=21,slow=37						
NOA	NORSAR Array B	7.81	214	Pn	Pn	21 29 09.9	+1.5
	comp=Z,0.2nm,0.3s,baz=22,slow=11,SNR=4.3						
NOA				Lg	Lg	21 31 17.5	
	comp=Z,0.6nm,0.3s,baz=113,slow=15,SNR=4.0						
NRA0	NORESS Array S	8.02	212	Pn	Pn	21 29 10.4	-0.9
	baz=7.3,slow=10						
NRA0				Lg	Lg	21 31 22.1	
NRA0	NORESS Array S	8.02	212	Pn	Pn	21 29 10.4	-0.9
	baz=7.3,slow=10						
NRA0				Lg	Lg	21 31 22.1	
HFS	Hagfors	8.20	203	Pn	Pn	21 29 14.3	+0.5
	baz=20,slow=12						
HFS				Sn	Sn	21 30 44.4	-2.7
	baz=27,slow=22						
HFS				Lg	Lg	21 31 28.8	
	baz=17,slow=28						
HFS	Hagfors	8.20	203	Pn	Pn	21 29 14.5	+0.7
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=2.9						
HFS				Sn	Sn	21 30 45.1	-1.9
	comp=Z,0.5nm,0.3s,baz=25,slow=24,SNR=6.8						
HFS				Lg	Lg	21 31 28.8	
	comp=Z,0.4nm,0.3s,baz=23,slow=30,SNR=4.8						
HFS	Hagfors	8.20	203	Pn	Pn	21 29 14.3	+0.5
	baz=20,slow=12						
HFS				Sn	Sn	21 30 44.4	-2.7
	baz=27,slow=22						
HFS				Lg	Lg	21 31 28.8	
	baz=17,slow=28						
SPA0	Spitsbergen Ar	10.50	356	Pn	Pn	21 29 44.4	-0.7
	baz=166,slow=10						
SPA0	Spitsbergen Ar	10.50	356	Pn	Pn	21 29 44.4	-0.7
	baz=166,slow=10						
SPITS	Spitsbergen Ar	10.50	356	Pn	Pn	21 29 45.0	-0.1
	baz=167,slow=13,SNR=5.3						
SPITS				Sn	Sn	21 31 30.2	-13
	baz=160,slow=29,SNR=3.1						

JMA 01 21:28:05.8±0.2**, 26°.05N×141°.14E, h144km, M3.9, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.10	58	P	Pn	21 28 30.9	+0.1
JHHJ				S	Sn	21 28 50.2	+0.3
CBIJ	Chichi jima	1.40	42	P	Pn	21 28 34.0	+0.2
CBIJ				S	Sn	21 28 55.7	+0.4
BSO3	Boso 3	8.74	357	P	Pn	21 30 06.2	-2.6
BSO4	Boso 4	8.94	356	P	Pn	21 30 09.9	-1.7
JHO	Hitachi	10.54	357	P	Pn	21 30 29.0	-4.0

MAN 01 21:35:38, 9°.69N×122°.78E, h25km, mb4.3, ML3.2, MS2.9, 2C, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.57	127	⇑iP	Pn	21 35 51.6	+0.9
SNPH				iS	Sn	21 36 00.3	+1.0
GUIM	Jordan	0.94	349	eP	Pn	21 35 54.6	-1.1
GUIM				eS	Sb	21 36 06.5	-1.4
RCP	Roxas	1.86	359	⇑eP	Pn	21 36 09.0	+0.7
RCP				eS	Sb	21 36 32.7	-1.4
MSLP	Maasin	2.10	78	eP	Pn	21 36 12.1	+0.5
MSLP				eS	Sn	21 36 38.1	+1.2

IDC ***01*** *21:51:24.9±2.1, 12°.33S×165°.66E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/50, mbtmp4.0/8, MS3.3/3, Ms1 3.3/3, ms1mx2.7/38, Error ellipse: s-maj=68.5km s-min=23.1km az=121.0*
ISCJB ***01*** *21:51:25.8±0.6, 12°.9S±0°.1×166°.03E±0°.08, h40km, mb4.2/13, MS3.5/1, Error ellipse: s-maj=19.1km s-min=11.2km az=0.9*
NEIC ***01*** *21:51:28.4±1.5, 12°.86S×166°.05E, h48km±14km, mb4.1/4, Error ellipse: s-maj=19.4km s-min=10.7km az=180.0*
ISC 01 21:51:28.0±0.7**, 12°.8S**±0°.1×**166°.08E**±0°.09**, h40km, n19, σ1s.52**/17**, mb4.1**/13**, Santa Cruz Islands**

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

HNR	Honiara	6.86	298	*e*Pn	Pn	21 53 06.7	+0.5
DZM	Mont Dzumac	9.28	178	LR	LR	21 56 49.9	
	comp=Z,90nm,18.1s,baz=42,slow=34						
FUNA	Funafuti	13.55	73	*e*Pn	Pn	21 54 39.3	+1.4
PMG	Port Moresby	18.86	278	LR	LR	22 02 39.6	
	comp=Z,60nm,18.2s,baz=96,slow=37						
PMG	Port Moresby	18.86	278	P	P	21 55 44.8	-0.2
	1.0nm,0.4s						
STKA	Stephens Creek	29.47	226	P	P	21 57 31.8	+3.5
	2.3nm,0.8s,baz=39,slow=13,SNR=2.7						
STKA				LR	LR	22 09 41.1	
	comp=Z,105nm,18.0s,baz=17,slow=37						
WRA	Warramunga Arr	31.25	253	P	P	21 57 44.0	-0.2
	0.6nm,0.3s,baz=84,slow=8.9,SNR=2.2						
ASAR	Alice Springs	32.36	246	P	P	21 57 54.3	+0.2
	1.1nm,0.8s,baz=73,slow=9.4,SNR=8.6						
RAR	Rarotonga	33.67	109	P	P	21 58 03.8	-1.6
	3.3nm,0.5s						
MJAR	Matsushiro Arr	55.62	333	P	P	22 00 58.5	-1.6
	23nm,1.2s,baz=166,slow=6.3,SNR=4.3						
USRK	Ussuriysk Ar.	64.61	333	P	P	22 02 01.7	+0.3
	3.2nm,0.9s,baz=142,slow=5.4,SNR=4.8						
COCO	West Island	67.42	262	P	P	22 02 18.3	-1.7
	12nm,0.3s						
QSPA	South Pole Qui	77.27	180	P	P	22 03 16.5	-1.6
	0.7nm,0.4s						
SONM	Songino Array	80.22	324	P	P	22 03 34.7	+0.1
	0.4nm,0.4s,baz=138,slow=5.6,SNR=10						
ILAR	Eielson Array	85.01	18	P	P	22 04 01.1	+2.2
	0.4nm,0.7s,baz=229,slow=5.8,SNR=5.6						
INK	Inuvik	91.39	19	P	P	22 04 30.0	+0.6
	1.2nm,1.3s						
MKAR	Makanchi Array	94.98	317	P	P	22 04 46.6	+0.1
	0.5nm,0.6s,baz=93,slow=5.8,SNR=7.1						
ZALV	Zalesovo Beam	95.12	324	P	P	22 04 45.7	-1.1
	0.9nm,0.7s,baz=116,slow=6.6,SNR=4.1						
KEST	Kesra	148.95	321	PKPbc	PKPbc	22 11 11.5	-0.7
	3.3nm,0.7s,baz=332,slow=4.4,SNR=4.8						

IDC 01 22:17:49.1±3.8, 53°.69N×97°.27E, h0km, mb1 3.0/3, mb1mx2.9/64, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=53.8km s-min=22.4km az=8.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	7.38	277	Pn	Pn	22 19 37.8	-0.2
	0.3nm,0.3s,baz=93,slow=23,SNR=5.6						
ZALV				Sn	Sn	22 21 04.9	+2.5
	0.2nm,0.3s,baz=95,slow=28,SNR=3.9						
SONM	Songino Array	8.23	132	Pn	Pn	22 19 49.4	-0.5
	0.1nm,0.3s,baz=306,slow=16,SNR=6.6						
SONM				Sn	Sn	22 21 26.5	+3.0
	0.1nm,0.3s,baz=308,slow=23,SNR=3.0						
MKAR	Makanchi Array	11.80	240	Pn	Pn	22 20 39.0	+0.3
	0.0nm,0.3s,baz=44,slow=13,SNR=3.6						
MKAR				Sn	Sn	22 22 48.6	-2.4
	0.0nm,0.3s,baz=62,slow=31,SNR=3.3						

MAN 01 22:20:30, 10°.21N×123°.16E, h8km, mb4.1, ML2.9, MS2.6, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.70	307	*e*P	Pb	22 20 44.1	-0.3
GUIM				*e*S	Sb	22 20 54.2	+0.1
SNPH	Sibulan	0.86	175	⇓*i*P	Pn	22 20 48.6	+0.1
SNPH				*i* S	Sn	22 21 01.6	+0.3
TBP	Tagbilaran	0.86	127	*e*P	Pg	22 20 46.5	-0.1
TBP				*i* S	Sn	22 21 02.1	+0.8
MSLP	Maasin	1.68	92	*e*P	Pb	22 21 00.5	-0.6
MSLP				*e*S	Sb	22 21 22.9	+0.4

MAN 01 22:30:09, 10°.19N×123°.02E, h39km, mb4.0, ML2.7, MS2.3, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.61	315	*e*P	Pn	22 30 22.7	+1.4
GUIM				*e*S	Sn	22 30 32.9	+3.1
SNPH	Sibulan	0.87	166	⇓*i*P	Pn	22 30 26.5	+1.7
SNPH				*i* S	Sn	22 30 37.9	+1.6
OCLP	Ormoc	1.78	61	*e*P	Pn	22 30 44.8	+7.6
OCLP				*e*S	Pn	22 30 45.4	+8.1
MSLP	Maasin	1.81	92	*e*P	Pn	22 30 39.1	+1.4
MSLP				*e*S	Sn	22 31 01.1	+1.8

*ISCJB **01** 22:33:42.5±3.5, 17°.95S±0°.08×167°.5E±0°.2, h21km±25km, mb4.2/8, MS3.4/6, Error ellipse: s-maj=24.0km s-min=12.7km az=3.6*
*NEIC **01** 22:33:42.1±0.6, 17°.91S×167°.57E, h10km, mb4.3/1, Error ellipse: s-maj=16.1km s-min=12.1km az=129.0*
*IDC **01** 22:33:45.8±1.0, 17°.94S×167°.50E, h33km±4km, mb4.0/9, mb1 4.2/10, mb1mx3.8/46, mbtmp4.2/10, ML3.8/1, MS3.3/8, Ms1 3.3/8, ms1mx3.1/37, Error ellipse: s-maj=25.8km s-min=16.2km az=140.0*
ISC 01 22:33:45.6±0.8, 17°.96S±0°.08×167°.5E±0°.1, h32km±4km, h32km:pP-P, n29, σ0s.76/33, mb4.2/8, MS3.5/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.22	194	Pn	Pn	22 34 47.6	-0.2
	5.0nm,0.3s,baz=24,slow=19,SNR=40						
DZM				Sn	Sn	22 35 36.3	+0.3
	6.9nm,0.3s,baz=323,slow=20,SNR=8.8						
DZM				LR	LR	22 35 38.4	
	comp=Z,93nm,18.1s,baz=40,slow=27						
DZM	Mont Dzumac	4.22	194	*e*Pn	Pn	22 34 48.0	+0.2
	22nm,0.3s						
DZM				*e*Sn	Sn	22 35 35.5	-0.5
	36nm,0.2s						
DZM				*e*LR	LR	22 35 44.8	
	234nm,26.2s						
HNR	Honiara	11.22	318	LR	LR	22 39 55.3	
	comp=Z,86nm,18.6s,baz=152,slow=33						
CTA	Charters Tower	20.22	261	P	P	22 38 16.6	-1.5
	5.0nm,0.9s,baz=82,slow=15,SNR=2.4						
CTAO	Charters Tower	20.22	261	*e*P	P	22 38 18.4	+0.3
	12nm,0.7s						
PMG	Port Moresby	21.52	291	P	P	22 38 33.0	+0.9
	2.4nm,0.4s,baz=198,slow=20,SNR=3.0						
PMG				LR	LR	22 45 23.6	
	comp=Z,130nm,19.1s,baz=139,slow=32						
PMG	Port Moresby	21.52	291	P	P	22 38 33.0	+0.9
STKA	Stephens Creek	27.20	234	P	P	22 39 27.9	+1.3
	7.7nm,0.6s,baz=71,slow=11,SNR=13						
STKA				LR	LR	22 49 13.0	
	comp=Z,69nm,18.8s,baz=36,slow=34						
RAR	Rarotonga	30.95	101	LR	LR	22 49 43.5	
	comp=Z,57nm,21.9s,baz=264,slow=31						
WRA	Warramunga Arr	31.42	261	P	P	22 40 03.4	-0.8
	2.2nm,1.0s,baz=89,slow=8.7,SNR=9.1						
WRA				pP	pP	22 40 13.2	-0.2
	1.2nm,0.7s,baz=93,slow=9.0,SNR=6.2						
WRA				S	S	22 45 09.7	-0.3
	0.9nm,1.0s,baz=99,slow=23,SNR=2.9						
ASAR	Alice Springs	31.89	254	P	P	22 40 07.0	-1.2
	2.7nm,0.5s,baz=81,slow=8.3,SNR=34						
ASAR				pP	pP	22 40 17.7	+0.2
	5.7nm,0.9s,baz=79,slow=8.5,SNR=12						
ASAR				LR	LR	22 51 50.3	
	comp=Z,122nm,19.0s,baz=124,slow=34						
PPT2	Papeete2	40.79	96	*e*LR	LR	22 52 30.1	
	163nm,27.5s						
KSRS	Korea Array	66.54	326	LR	LR	23 10 30.7	
	comp=Z,46nm,21.2s,baz=215,slow=33						
CMAR	Chiang Mai Arr	76.49	295	P	P	22 45 33.8	+0.8
	1.9nm,0.9s,baz=130,slow=4.4,SNR=12						
CMAR				pP	PcP	22 45 44.5	-0.1
	3.0nm,0.8s,baz=129,slow=4.2,SNR=9.6						
SONM	Songino Array	85.22	324	P	P	22 46 18.3	-0.8
	0.5nm,0.8s,baz=139,slow=5.7,SNR=3.9						
SONM				pP	pP	22 46 29.0	-0.3
	0.8nm,0.9s,baz=121,slow=5.4,SNR=5.8						
YBH	Yreka Blue Hor	87.53	45	LR	LR	23 16 52.9	
	comp=Z,21nm,19.5s,baz=264,slow=30						
ILAR	Eielson Array	89.51	18	P	P	22 46 38.3	-0.9
	1.4nm,0.7s,baz=230,slow=5.1,SNR=12						
ILAR				pP	pP	22 46 48.9	-0.5
	0.8nm,0.7s,baz=235,slow=4.4,SNR=4.1						
SNAA	Sanae	90.36	183	P	P	22 46 43.6	+0.2
	2.9nm,1.0s,baz=211,slow=5.9,SNR=4.8						
YKA	Yellowknife Ar	100.29	27	P	Pdif	22 47 26.7	-1.7
	0.2nm,0.5s,baz=234,slow=3.0,SNR=3.7						
ABTA	Abfaltersbach	144.66	330	*e*PKPdf	PKPbc	22 53 18.1	0.0
	1.8nm,0.7s						
MOTA	Moosalm	144.88	332	*i* pPKPbc	PKPdf	22 53 19.9	+0.2
	1.6nm,0.6s						
RETA	Reutte	144.92	332	*i* PKPdf	PKPdf	22 53 19.5	-0.1
	0.9nm,0.4s						
WLF	Walferdange	144.99	339	*e*PKPbc	PKPdf	22 53 20.3	+0.8
WLF				*e*pPKPdf	pPKPdf	22 53 30.5	+0.5
FETA	Feichten	145.29	332	*e*pPKPbc	PKPdf	22 53 21.0	+0.6
	4.2nm,0.6s						
DAVA	Damuels	145.47	333	*i* pPKPbc	PKPab	22 53 21.4	+0.5
	5.3nm,0.6s						
DAVOX	Davos/Dischmat	145.85	332	PKPbc	PKPab	22 53 22.5	0.0
	baz=309,slow=2.2						
BNI	Bardonecchia	148.60	333	*e*PKPbc	PKPbc	22 53 30.7	+1.1
ESDC	Sonseca Array	157.13	343	PKPab	PKPab	22 54 09.2	+0.2
	0.2nm,0.5s,baz=350,slow=5.1,SNR=3.6						
ESDC				pPKPab	pPKPab	22 54 19.9	+0.7
	0.5nm,0.7s,baz=353,slow=3.4,SNR=2.8						
TORD	Torodi Ar. Bea	165.53	253	PKP	PKPdf	22 53 47.7	-0.2
	0.9nm,0.9s,baz=12,slow=1.6,SNR=4.9						

IDC 01 22:39:57.1±5.7, 12°.46N×143°.96E, h50km±61km, mb3.7/4, mb1 3.8/4, mb1mx3.1/61, mbtmp3.9/4, Error ellipse: s-maj=103.2km s-min=18.9km az=108.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.43	38	P	Pn	22 40 20.3	-0.3
	100nm,0.3s,baz=219,slow=2.7,SNR=30						
GUMO				S	Sn	22 40 38.4	+0.1
	352nm,0.3s,baz=163,slow=19,SNR=40						
WRA	Warramunga Arr	33.56	197	P	P	22 46 32.5	0.0
	0.8nm,0.6s,baz=19,slow=9.8,SNR=15						
ASAR	Alice Springs	37.23	195	P	P	22 47 03.8	-0.2
	0.1nm,0.4s,baz=17,slow=13,SNR=4.1						
PETK	Petropavlovsk-	42.01	12	P	P	22 47 42.6	-0.7
	2.4nm,0.4s,baz=214,slow=9.8,SNR=3.3						
ARCES	ARCESS Array B	87.88	342	P	P	22 52 41.5	+0.5
	2.1nm,0.8s,baz=71,slow=5.3,SNR=3.5						

IDC 01 23:07:59.3±2.9, 5°.45S×133°.64E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.3/43, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=96.9km s-min=30.5km az=87.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.43	177	Pn	Pn	23 11 23.8	-1.1
	0.2nm,0.3s,baz=353,slow=13,SNR=7.8						
WRA				Sn	Sn	23 14 03.3	-2.5
	0.1nm,0.3s,baz=355,slow=24,SNR=3.9						
FITZ	Fitzroy Crossi	14.81	211	Pn	Pn	23 11 31.3	+1.1
	baz=39,slow=13						
FITZ				Sn	Sn	23 14 13.9	-1.1
	0.2nm,0.3s,baz=34,slow=12,SNR=4.3						
ASAR	Alice Springs	18.12	179	P	P	23 12 13.0	0.0
	0.1nm,0.3s,baz=9.0,slow=11,SNR=5.4						
MKAR	Makanchi Array	68.98	325	P	P	23 19 06.6	0.0
	0.1nm,0.6s,baz=110,slow=7.8,SNR=2.9						

DJA 01 23:10:23.1±1.6, 1°S±5°×12°7E±2°6, h26km±25km, M2.6/2, MLv2.6/2, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.41	2	P	Pn	23 10 33.4	0.0
LBMI				S	Sn	23 10 40.5	+0.3
SANI	Sanana	1.80	237	S	Sn	23 11 15.2	+0.7

*DDA **01** 23:11:52.7, 38°.23N×38°.68E, h7km, Ml2.5*
ISC 01 23:11:52.5±2.5, 38°.25N±0°.05×38°.7E±0°.2, h14km±15km, n6, σ0s.46/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	Malatya	0.24	286	PG	Pg	23 11 57.8	0.0
MALT				SG	Sg	23 12 00.8	-0.5
AKCD	Akcadag	0.63	274	*i* P	Pg	23 12 04.5	-0.3
AKCD				*i* S	Sg	23 12 13.4	+0.2
URFA	Urfa	0.81	174	*e*PG	Pn	23 12 09.9	+0.2
URFA				*e*SG	Sn	23 12 21.4	-0.2
HEKM	Malatya_Hekimh	0.86	317	*i* P	Pb	23 12 09.3	-0.1
HEKM				*i* S	Sg	23 12 21.6	+0.9
DARE	Darende-Malaty	1.02	289	*e*PG	Pg	23 12 12.6	+0.3
KEMA	Kemaliye	1.03	350	*i* P	Pn	23 12 12.7	-0.1
KEMA				*i* S	Sn	23 12 26.7	-0.4

IDC 01 23:13:33.9±2.8, 5°.49S×133°.54E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.4/43, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=96.5km s-min=29.9km az=86.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.39	177	Pn	Pn	23 16 58.2	-0.8
	0.2nm,0.3s,baz=354,slow=13,SNR=8.4						
WRA				Sn	Sn	23 19 36.5	-3.0
	0.1nm,0.3s,baz=356,slow=24,SNR=2.9						
FITZ	Fitzroy Crossi	14.71	211	Pn	Pn	23 17 04.4	+0.9
	0.4nm,0.3s,baz=30,slow=11,SNR=6.5						
FITZ				Sn	Sn	23 19 46.3	-1.1
	0.2nm,0.3s,baz=119,slow=19,SNR=5.0						
ASAR	Alice Springs	18.07	179	P	P	23 17 47.0	-0.1
	0.1nm,0.3s,baz=11,slow=11,SNR=4.3						
MKAR	Makanchi Array	68.95	325	P	P	23 24 41.0	0.0
	0.2nm,0.5s,baz=111,slow=7.9,SNR=3.7						

MEX 01 23:59:29.3±0.7, 14°.41N×93°.15W, h13km±77km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.29	357	*e*P	Pn	23 59 49.9	-3.1
PCIG				*e*S	Sb	00 00 04.5	-5.4
CCIG	Comitan	2.10	28	*i* P	Pn	00 00 00.4	-4.0
CCIG				*i* S	Sn	00 00 25.7	-4.8
TGIG		2.35	1	*i* P	Pn	00 00 05.1	-2.7
TGIG				*e*S	Sn	00 00 32.8	-3.8

DJA 02 00:03:37.3±2.3, 0°S±18°×13°3E±°, h32km±45km, M3.6/4, MLv3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	2.00	253	P	Pn	00 04 08.6	-0.3
SWI				S	Sn	00 04 33.7	+0.8
FAKI	Fak Fak	2.77	200	P	Pn	00 04 19.5	0.0

*HEL **02** 00:22:39.9±0.1, 67°.83N×20°.19E, h0km, ML1.5, ML1.8(UPP), Explosion*
*CSEM **02** 00:22:39.1±0.2, 67°.81N×20°.23E, h2km, ML1.8, Error ellipse: s-maj=3.6km s-min=3.1km az=58.0, Mining explosion.*
UPP 02 00:22:39.2, 67°.82N×20°.20E, h0km, ML1.8, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	21	P	Pg	00 22 42.2	+0.2
KUA				S	Sg	00 22 44.2	+0.3
KUA	Kurravaara	0.15	21	P	Pg	00 22 42.2	+0.2
KUA				S	Sg	00 22 44.2	+0.3
KUA	Kurravaara	0.15	21	*i* P	Pg	00 22 42.2	+0.2
KUA				*i* S	Sg	00 22 44.2	+0.3
RATU	Laukkuluspa	0.23	272	P	Pg	00 22 43.8	+0.2
RATU				S	Sg	00 22 47.0	+0.5
RATU	Laukkuluspa	0.23	272	P	Pg	00 22 43.8	+0.3
RATU				S	Sg	00 22 47.1	+0.5
RATU	Laukkuluspa	0.23	272	*i* P	Pg	00 22 43.8	+0.3
RATU				*i* S	Sg	00 22 47.1	+0.5
NIKU	Nikkaluokta	0.44	277	P	Pg	00 22 47.8	+0.1
NIKU	Nikkaluokta	0.44	277	P	Pg	00 22 47.8	+0.1
NIKU	Nikkaluokta	0.44	277	*i* P	Pg	00 22 47.8	+0.1
DUNU	Dundret	0.71	168	P	Pg	00 22 52.5	-0.3
DUNU				S	Sg	00 23 02.3	+0.2
DUNU	Dundret	0.71	168	P	Pg	00 22 52.5	-0.3
DUNU				S	Sg	00 23 02.3	+0.2
DUNU	Dundret	0.71	168	*i* P	Pg	00 22 52.5	-0.3
DUNU				*i* S	Sg	00 23 02.3	+0.2
LANU	Lannavaara	0.72	70	P	Pg	00 22 52.7	-0.2
LANU				S	Sg	00 23 02.1	0.0
LANU	Lannavaara	0.72	70	P	Pg	00 22 52.7	-0.2
LANU	Lannavaara	0.72	70	*e*P	Pg	00 22 52.5	-0.4
	baz=256						
LANU				*e*S	Sg	00 23 02.1	0.0
MASU	Masugnsbyn	0.78	117	P	Pg	00 22 54.0	-0.1
MASU	Masugnsbyn	0.78	117	P	Pg	00 22 54.1	0.0
MASU	Masugnsbyn	0.78	117	*i* P	Pg	00 22 54.1	0.0
KIF	Kilpisjarvi	1.21	10	Pb	Pg	00 23 02.5	+0.1
KIF				S	Sg	00 23 18.3	+0.2
KIF	Kilpisjarvi	1.21	10	*e*PB	Pg	00 23 02.6	+0.2
	baz=189						
KIF				MSG		00 23 17.8	
	comp=Z,4.4nm,0.2s						
KIF				*e*S	Sg	00 23 18.3	+0.2
PAJU	Pajala	1.38	124	P	Pg	00 23 04.4	-1.2
PAJU	Pajala	1.38	124	P	Pg	00 23 04.4	-1.2
PAJU	Pajala	1.38	124	*e*P	Pg	00 23 04.4	-1.2
HEF	Hetta	1.43	64	P	Pn	00 23 05.3	-1.0
HEF	Hetta	1.43	64	*e*P	Pn	00 23 05.3	-1.0
HEF				MSG		00 23 22.4	
	comp=Z,2.7nm,0.2s						
ERTU	Ertsjaerv	1.49	148	P	Pn	00 23 06.4	-0.8
ERTU				Sb	Sg	00 23 26.3	-0.6
ERTU	Ertsjaerv	1.49	148	P	Pn	00 23 06.4	-0.8
ERTU	Ertsjaerv	1.49	148	*e*PG	Pn	00 23 06.7	-0.5
ERTU				*e*SB	Sg	00 23 26.4	-0.6
KALU	Kalix	2.33	146	P	Pn	00 23 19.7	+1.0
KALU				Sg	Sb	00 23 52.5	+1.2
KALU	Kalix	2.33	146	*e*P	Pn	00 23 19.7	+1.1
KALU				*e*SG	Sb	00 23 52.5	+1.3
TOF	Tornio	2.38	135	MSG		00 23 50.1	
	comp=Z,2.5nm,0.2s						
TOF				*e*SB	Sb	00 23 52.7	-0.1
SGF	Sodankyl	2.45	96	*e*SG	Sb	00 23 56.0	+1.3
ARE0	ARCESS Array S	2.60	46	P	Pn	00 23 23.3	+0.9
ARE0	ARCESS Array S	2.60	46	*e*P	Pn	00 23 23.3	+0.9
	baz=227						

*UPP **02** 00:22:58.4, 67°.87N×20°.18E, h0km, ML0.7, Mining explosion.*
CSEM 02 00:22:46.8±0.7, 67°.62N×21°.77E, h1km, ML0.7, Error ellipse: s-maj=27.9km s-min=13.6km az=20.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.64	302	P	Pb	00 23 00.6	-0.2
RATU	Laukkuluspa	0.86	285	P	Pg	00 23 02.9	-0.3
NIKU	Nikkaluokta	1.07	285	P	Pg	00 23 06.7	-0.6
SGF	Sodankyl	1.84	93	Pb	Pg	00 23 22.3	+0.4
SGF	Sodankyl	1.84	93	*e*PB	Pg	00 23 22.3	+0.4
	baz=283						
TOF	Tornio	1.85	146	Pb	Pb	00 23 20.8	-0.5
TOF	Tornio	1.85	146	*e*PB	Pb	00 23 20.9	-0.4
ARE0	ARCESS Array S	2.36	34	Sb	Sn	00 23 57.1	+0.9
ARE0	ARCESS Array S	2.36	34	*e*SB	Sn	00 23 57.1	+0.9

*ISCJB **02** 00:24:06.8±0.5, 67°.77N±0°.02×20°.24E±0°.09, h0km, Error ellipse: s-maj=4.8km s-min=3.4km az=9.6*
*UPP **02** 00:24:07.5, 67°.83N×20°.20E, h0km, ML1.6, Mining explosion.*
*CSEM **02** 00:24:07.4±0.2, 67°.79N×20°.22E, h2km, ML1.6, Error ellipse: s-maj=4.7km s-min=3.9km az=53.0, Mining explosion.*
*HEL **02** 00:24:08.1±0.0, 67°.82N×20°.18E, h0km, ML1.9, ML1.6(UPP), Explosion*
*IDC **02** 00:24:09.0±1.3, 67°.82N×20°.35E, h0km, mb1 3.1/4, mb1mx2.8/65, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=19.2km s-min=9.9km az=118.0*
ISC 02 00:24:08.4±0.8, 67°.82N±0°.02×20°.23E±0°.03, h0km, n51, σ1s.19/65, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	17	P	Pg	00 24 20.9	+10
KUA	Kurravaara	0.14	17	P	Pg	00 24 10.3	-0.7
KUA				S	Sg	00 24 12.6	-0.2
KUA	Kurravaara	0.14	17	P	Pg	00 24 10.3	-0.7
KUA				S	Sg	00 24 12.6	-0.2
KUA	Kurravaara	0.14	17	*i* P	Pg	00 24 10.3	-0.7
KUA				*i* S	Sg	00 24 12.6	-0.2
RATU	Laukkuluspa	0.24	270	P	Pg	00 24 23.6	+11
RATU	Laukkuluspa	0.24	270	P	Pg	00 24 12.1	-0.9
RATU	Laukkuluspa	0.24	270	P	Pg	00 24 12.1	-0.9
RATU	Laukkuluspa	0.24	270	*i* P	Pg	00 24 12.1	-0.9
NIKU	Nikkaluokta	0.46	276	P	Pg	00 24 16.0	-1.1
NIKU	Nikkaluokta	0.46	276	P	Pg	00 24 16.0	-1.1
NIKU	Nikkaluokta	0.46	276	*i* P	Pg	00 24 16.0	-1.1
LANU	Lannavaara	0.70	70	P	Pg	00 24 21.0	-0.8
LANU				S	Sg	00 24 30.3	-0.5
LANU	Lannavaara	0.70	70	P	Pg	00 24 20.9	-0.8
LANU	Lannavaara	0.70	70	*e*P	Pg	00 24 21.3	-0.5
LANU				*e*S	Sg	00 24 30.3	-0.5
DUNU	Dundret	0.72	169	P	Pg	00 24 21.0	-1.1
DUNU	Dundret	0.72	169	P	Pg	00 24 21.0	-1.1
DUNU	Dundret	0.72	169	*i* P	Pg	00 24 21.0	-1.1
MASU	Masugnsbyn	0.77	118	P	Pg	00 24 22.4	-0.7
MASU	Masugnsbyn	0.77	118	P	Pg	00 24 22.4	-0.7
MASU	Masugnsbyn	0.77	118	*i* P	Pg	00 24 22.4	-0.7
KIF	Kilpisjarvi	1.21	10	*e*P	Pg	00 24 30.7	-0.7
KIF	Kilpisjarvi	1.21	10	*e*P	Pg	00 24 30.7	-0.7
KIF	Kilpisjarvi	1.21	10	*e*PB	Pg	00 24 30.7	-0.7
KIF				MSG		00 24 45.7	
	comp=Z,16nm,0.2s						
PAJU	Pajala	1.37	124	P	Pg	00 24 32.8	-1.8
PAJU	Pajala	1.37	124	P	Pg	00 24 32.9	-1.8
PAJU	Pajala	1.37	124	*e*P	Pg	00 24 32.9	-1.8
HEF	Hetta	1.41	64	*e*P	Pn	00 24 34.0	-1.3
HEF	Hetta	1.41	64	P	Pn	00 24 33.7	-1.6
HEF				Sb	Sg	00 24 52.6	-1.1
HEF	Hetta	1.41	64	*e*P	Pn	00 24 34.0	-1.3
HEF	Hetta	1.41	64	*e*P	Pn	00 24 33.7	-1.6
HEF				MSG		00 24 50.9	
	comp=Z,8.4nm,0.2s						
HEF				*e*SB	Sg	00 24 52.6	-1.1
ERTU	Ertsjaerv	1.49	148	Pg	Pn	00 24 35.1	-1.2
ERTU				Sb	Sg	00 24 55.2	-0.8
ERTU	Ertsjaerv	1.49	148	*e*PG	Pn	00 24 35.1	-1.2
ERTU				*e*SB	Sg	00 24 55.2	-0.8
KALU	Kalix	2.33	146	Pb	Pn	00 24 48.3	+0.5
KALU	Kalix	2.33	146	*e*PB	Pn	00 24 48.3	+0.5
KALU				*e*SG	Sb	00 25 19.5	-0.9
TOF	Tornio	2.38	135	Pb	Pn	00 24 49.7	+1.2
TOF	Tornio	2.38	135	*e*PB	Pn	00 24 49.8	+1.2
TOF				MSG		00 25 18.8	
	comp=Z,4.4nm,0.2s						
TOF				*e*SG	Sb	00 25 22.0	+0.2
SGF	Sodankyl	2.44	96	P	Pn	00 24 49.7	+0.4
SGF	Sodankyl	2.44	96	*e*P	Pn	00 24 49.8	+0.4
	baz=282						
ARCES	ARCESS Array B	2.58	46	Pn	Pn	00 24 51.5	+0.1
	comp=Z,0.2nm,0.3s,baz=226,slow=15,SNR=1.6						
ARCES				Sn	Sn	00 25 24.8	+1.3
	comp=Z,1.5nm,0.3s,baz=227,slow=24,SNR=5.0						
ARE0	ARCESS Array S	2.58	46	Sb	Sb	00 25 26.4	-1.3
ARE0	ARCESS Array S	2.58	46	P	Pn	00 24 51.4	0.0
ARE0	ARCESS Array S	2.58	46	*e*P	Pn	00 24 51.4	0.0
	baz=227						
ARE0				*e*SB	Sb	00 25 26.4	-1.3
BURU	Burvik	3.29	171	P	Pn	00 25 02.5	+1.5
BURU	Burvik	3.29	171	*e*P	Pn	00 25 02.5	+1.5
UMAU	Umeaa	3.96	177	P	Pn	00 25 12.7	+2.5
UMAU	Umeaa	3.96	177	*e*P	Pn	00 25 12.8	+2.5
KU6	Riekki	4.21	111	Pg	Pb	00 25 23.9	+0.7
KU6				Sg	Sb	00 26 17.5	+3.1
KU6	Riekki	4.21	111	*e*PG	Pb	00 25 23.9	+0.7
	baz=298						
KU6				*e*SG	Sb	00 26 17.5	+3.1
FINES	FINESS Array B	6.88	156	Pn	Pn	00 25 50.6	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.1nm,0.3s,baz=339,slow=10,SNR=2.3						
FINES				Sn	Sn	00 27 09.4	+0.3
	comp=Z,0.1nm,0.3s,baz=340,slow=19,SNR=1.5						
FINES				Lg	Lg	00 27 43.0	
	comp=Z,0.2nm,0.3s,baz=339,slow=26,SNR=4.6						
NOA	NORSAR Array B	7.84	214	Pn	Pn	00 26 02.8	-0.7
	comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=1.4						
NOA				Lg	Lg	00 28 15.7	
	comp=Z,0.3nm,0.3s,baz=120,slow=14,SNR=2.8						
HFS	Hagfors	8.23	203	Pn	Pn	00 26 07.8	-1.0
	comp=Z,0.0nm,0.3s,baz=2.9,slow=14,SNR=1.3						
HFS				Lg	Lg	00 28 27.6	
	comp=Z,0.2nm,0.3s,baz=354,slow=26,SNR=1.1						

NNC 02 00:24:17.7±2.9, 36°.60N×69°.99E, h0km, mb3.5, mpv3.2, 5C-6D, Error ellipse: s-maj=22.7km s-min=12.7km az=10.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.39	338	⇑P	Pn	00 24 59.1	+0.8
	2.6nm,0.3s						
DZET				⇑S	Sn	00 25 29.8	+1.5
	37nm,0.5s						
SFK	Sufi-Kurgan	4.39	38	⇓P	Pn	00 25 26.5	+0.7
	1.1nm,0.4s						
SFK				⇑S	Sn	00 26 20.9	+3.1
	7.6nm,0.5s						
MNAS	Manas	6.19	18	⇓P	Pn	00 25 50.6	+0.1
	2.3nm,0.9s						
MNAS				⇓S	Sn	00 27 03.0	+0.9
	3.7nm,0.7s						
KK31	Karatay Array	6.51	3	P	Pn	00 25 54.2	-0.5
	1.3nm,0.4s,baz=193,slow=15,SNR=17						
KK31				⇓S	Sn	00 27 08.3	-1.4
	0.6nm,0.3s,baz=146,slow=15,SNR=8.7						
AAK	Ala-Archa	6.96	29	⇓P	Pn	00 26 00.1	-1.0
	3.3nm,1.0s						
AAK				⇑S	Sn	00 27 21.3	+0.3
	4.2nm,1.1s						
TKM2	Tokmak 2	7.65	33	⇑P	Pn	00 26 07.8	-2.8
	1.6nm,0.9s						
TKM2				⇓S	Sn	00 27 37.6	-0.4
	2.9nm,1.1s						
AB31	Akbulak array	14.62	333	P	Pn	00 27 42.2	-3.5
	0.1nm,0.3s,baz=157,slow=13,SNR=6.0						

*SOME **02** 00:36:41.7, 41°.40N×83°.48E, h5km*
*BJI **02** 00:36:42.0, 41°.30N×83°.57E, h7km, ML3.5/11*
*NNC **02** 00:36:43.5±1.1, 41°.46N×83°.60E, h9km±4km, mb3.6, mpv3.3, Error ellipse: s-maj=7.9km s-min=5.3km az=139.0*
*IDC **02** 00:36:44.6±3.0, 41°.73N×83°.71E, h0km, mb1 3.0/5, mb1mx3.0/72, mbtmp3.0/5, ML2.6/5, Error ellipse: s-maj=27.6km s-min=21.3km az=134.0*
ISC 02 00:36:40.9±1.5, 41°.37N±0°.09×83°.72E±0°.04, h10km, n23, σ3s.21/36, 9C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	3.70	303	⇑Pn	Pn	00 37 38.8	+0.6
	3.7nm,0.4s						
PDGK				⇓Pg	Pb	00 37 48.5	+2.2
	20nm,0.8s						
PDGK				⇓Sn	Sn	00 38 22.5	+0.6
	32nm,0.4s						
PDGK				⇑Lg	Lg	00 38 38.6	
	66nm,0.7s						
WMQ	Urumqi	3.83	49	Pg	Pb	00 37 49.3	+0.7
WMQ				Sn	Sb	00 38 33.0	-2.0
WMQ				smax	smax		
	comp=N,130nm,0.5s						
WMQ				smax	smax		
	comp=E,110nm,0.4s						
DJR	Jarkent	4.14	317	eP	Pb	00 37 56.0	+2.1
	24nm,0.6s						
DJR				eS	Sg	00 38 49.5	-4.2
	34nm,0.6s						
SATY	Saty	4.29	295	eP	Pb	00 37 57.1	+0.5
	31nm,0.6s						
SATY				eS	Sb	00 38 51.2	+2.8
	85nm,0.8s						
KURS	Kuram	4.62	299	eP	Pb	00 38 03.5	+1.5
	3.2nm,0.6s						
KURS				eS	Sg	00 39 02.5	-6.7
	33nm,1.1s						
MNBS	Baschi	4.76	306	eP	Pb	00 38 05.7	+1.2
	22nm,0.6s						
MNBS				eS	Sb	00 39 06.3	+4.4
	29nm,0.5s						
KAPS	Kapalarasan	5.04	322	eP	Pb	00 38 10.4	+1.1
	6.0nm,0.4s						
KAPS				eS	Sb	00 39 14.2	+4.2
	18nm,0.7s						
MDOK	Medeo	5.26	292	Pn	Pn	00 38 00.7	+0.9
MDOK				Pg	Pb	00 38 16.9	+3.8
MDOK				Lg	Lg	00 39 26.2	
TNSS	Tian-Shan	5.30	291	eP	Pb	00 38 15.5	+1.7
	12nm,0.8s						
TNSS				eS	Sb	00 39 23.2	+5.6
	14nm,0.8s						
MK31	Makanchi Array	5.52	350	⇓Pn	Pn	00 38 05.2	+2.0
	0.1nm,0.2s						
MK31				⇓Pg	Pb	00 38 21.8	+4.3
	4.4nm,0.8s						
MK31				Lg	Lg	00 39 36.0	
	17nm,0.6s,baz=168,slow=26,SNR=2.8						
MKAR	Makanchi Array	5.52	350	Pn	Pn	00 38 04.7	+1.5
	0.1nm,0.3s,baz=166,slow=13,SNR=3.2						
MKAR				Pg	Pb	00 38 18.6	+1.2
	0.5nm,0.3s,baz=167,slow=15,SNR=17						
MKAR				Sn	Sn	00 39 03.5	-3.2
	1.3nm,0.3s,baz=170,slow=18,SNR=3.4						
MKAR				Lg	Lg	00 39 28.5	
	1.9nm,0.3s,baz=176,slow=24,SNR=3.0						
IZV	Izvestkoviy	5.53	290	eP	Pb	00 38 20.0	+2.2
	8.7nm,0.9s						
IZV				eS	Sg	00 39 30.6	-7.9
MAKZ	Makanchi	5.58	348	⇑Pn	Pn	00 38 06.4	+2.4
	0.8nm,0.8s						
MAKZ				⇑Pg	Pb	00 38 22.7	+4.2
	3.0nm,0.8s						
MAKZ				⇑Sn	Sn	00 39 09.5	+1.2
	4.8nm,0.7s						
MAKZ				⇑Lg	Lg	00 39 36.4	
	16nm,0.9s						
TKM2	Tokmak 2	6.23	287	⇓Pn	Pn	00 38 14.4	+1.2
	1.5nm,0.4s						
TKM2				⇑Pg	Pg	00 38 36.5	-3.8
	2.6nm,0.5s						
TKM2				⇓Lg	Lg	00 39 58.8	
	18nm,0.6s						
AAK	Ala-Archa	6.99	284	Pn	Pn	00 38 31.3	+7.8
	0.3nm,0.3s,baz=98,slow=7.1,SNR=3.4						
AAK				Pg	Pg	00 38 50.2	-4.4
	0.6nm,0.3s,baz=111,slow=9.2,SNR=5.9						
AAK				Lg	Lg	00 40 23.0	
	0.7nm,0.3s,baz=87,slow=23,SNR=2.6						
AAK	Ala-Archa	6.99	284	⇓Pn	Pn	00 38 24.1	+0.7
	1.1nm,0.9s						
AAK				⇑Pg	Pb	00 38 49.0	+6.6
	2.3nm,0.5s						
AAK				⇓Lg	Lg	00 40 22.9	
	14nm,0.7s						
MNAS	Manas	8.44	281	⇑Pg	Pg	00 39 16.5	-5.9
	1.5nm,0.9s						
MNAS				⇓Lg	Lg	00 41 09.3	
	5.6nm,0.9s						
KURBB	Kurchatov Arra	9.93	340	Pn	Pn	00 39 05.7	+2.1
	0.0nm,0.3s,baz=161,slow=12,SNR=1.8						
KURBB				Sn	Sn	00 40 52.1	-3.0
	0.1nm,0.3s,baz=158,slow=22,SNR=1.7						
KURBB				Lg	Lg	00 41 49.9	
	0.1nm,0.3s,baz=160,slow=32,SNR=2.8						
KURBB	Kurchatov Arra	9.93	340	⇓Lg	Lg	00 41 56.0	
	16nm,0.7s						
KK31	Karatay Array	9.95	284	⇓Lg	Lg	00 41 57.7	
	2.4nm,0.8s,baz=84,slow=27,SNR=4.6						
OTUK	Ortayu	10.61	314	⇓Lg	Lg	00 42 15.3	
	9.6nm,1.3s						
ZALV	Zalesovo Beam	12.61	3	Pn	Pn	00 39 40.8	+0.6
	0.1nm,0.3s,baz=179,slow=12,SNR=2.8						
ZALV				Lg	Lg	00 43 17.4	
	0.1nm,0.3s,baz=195,slow=25,SNR=2.1						
SONM	Songino Array	17.36	61	P	Pn	00 40 45.2	+1.9
	0.0nm,0.3s,baz=258,slow=7.2,SNR=1.9						

*ISCJB **02** 00:46:18.9±0.6, 31°.39N±0°.04×104°.09E±0°.07, h14km, mb3.2/4, Error ellipse: s-maj=9.0km s-min=4.8km az=27.2*
*IDC **02** 00:46:19.4±1.7, 31°.04N×103°.42E, h0km, mb3.2/4, mb1 3.3/5, mb1mx3.1/61, mbtmp3.2/5, ML3.2/1, Error ellipse: s-maj=88.1km s-min=27.1km az=59.0*
*BJI **02** 00:46:23.4, 31°.33N×103°.67E, h14km, ML3.4/13, Ms3.4/3, Ms7 3.3/2*
ISC 02 00:46:22.6±0.8, 31°.37N±0°.04×103°.94E±0°.06, h14km, n10, σ2s.60/17, mb3.3/4, Sichuan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.49	199	Pg	Pg	00 46 30.5	-1.8
CD2				Sg	Sg	00 46 37.1	-1.8
CD2				smax	smax		
	comp=N,3μm,0.6s						
CD2				smax	smax		
	comp=E,5μm,0.5s						
LZH	Lanzhou	4.70	359	ePg	Pg	00 47 53.0	+0.3
LZH				Sg	Sg	00 48 54.1	+0.5
XAN	Xi'an	4.97	56	Pn	Pn	00 47 37.8	+1.0
XAN				Pg	Pg	00 47 55.3	-2.4
XAN				Sn	Sn	00 48 34.5	+0.4
XAN				Sg	Sg	00 49 00.0	-2.1
XAN				smax	smax		
	comp=N,68nm,0.5s						
XAN				smax	smax		
	comp=E,79nm,0.7s						
XAN				LR	LR		
	comp=N,190nm,5.1s						
XAN				LR	LR		
	comp=E,130nm,3.5s						
XAN				LR	LR		
	comp=Z,240nm,4.5s						
GYA	Guiyang	5.45	153	Pg	Pb	00 48 01.9	+4.3
GYA				Sn	Sn	00 48 50.9	+4.8
GYA				Sg	Sg	00 49 12.8	-4.7
GYA				smax	smax		
	comp=N,60nm,0.7s						
GYA				smax	smax		
	comp=E,40nm,0.8s						
SONM	Songino Array	16.55	6	Pn	P	00 50 18.5	+1.7
	0.1nm,0.3s,baz=179,slow=10,SNR=2.2						
WMQ	Urumqi	17.85	319	eP	Pn	00 50 28.4	-2.2
MKAR	Makanchi Array	22.69	319	P	P	00 51 22.4	-1.3
	0.2nm,0.4s,baz=120,slow=12,SNR=4.0						
ZALV	Zalesovo Beam	26.42	334	P	P	00 51 58.3	-0.4
	0.6nm,0.7s,baz=143,slow=11,SNR=2.4						
KURBB	Kurchatov Arra	26.94	323	P	P	00 52 02.1	-1.3
	0.2nm,0.3s,baz=126,slow=9.2,SNR=2.7						
WRA	Warramunga Arr	58.77	146	P	P	00 56 19.4	-1.1
	0.4nm,0.7s,baz=338,slow=7.8,SNR=2.3						

MEX 02 00:52:36.6±1.1, 16°.94N×94°.19W, h142km±18km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGIG		1.04	99	iP	Pn	00 53 00.2	-0.8
TGIG				iS	Sn	00 53 17.3	-2.3
PCIG		1.54	143	iP	Pn	00 53 05.3	-0.7
PCIG				eS	Sn	00 53 26.3	-2.2
CCIG	Comitan	2.08	108	eP	Pn	00 53 10.3	-2.1
CCIG				iS	Sn	00 53 37.5	-2.3
HUIG	Huatulco	2.17	238	eP	Pn	00 53 11.2	-2.2
HUIG				iS	Sn	00 53 40.5	-1.1
VHO	Vista Hermosa	2.44	274	iP	Pn	00 53 15.8	-1.0
VHO				iS	Sn	00 53 46.0	-1.6

*ISCJB **02** 01:01:51.0±0.3, 60°.86S±0°.07×41°.8W±0°.1, h10km, mb4.8/31, MS3.8/14, Error ellipse: s-maj=11.0km s-min=6.3km az=36.5*
*IDC **02** 01:01:51.9±0.7, 60°.69S×41°.77W, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.4/29, mbtmp4.5/13, ML4.0/1, MS3.7/15, Ms1 3.7/15, ms1mx3.6/27, Error ellipse: s-maj=28.7km s-min=15.9km az=38.0*
*NEIC **02** 01:01:53.3±0.3, 60°.70S×41°.73W, h10km, mb4.9/19, Error ellipse: s-maj=9.4km s-min=6.5km az=205.0*
ISC 02 01:01:53.5±0.4, 60°.66S±0°.07×41°.66W±0°.07, h10km, n99, σ1s.51/87, mb4.9/30, MS3.8/15, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.97	26	ePn	Pn	01 03 34.8	-0.8
HOPE				eSn	Sn	01 04 51.3	-3.5
PMSA	Palmer Station	11.04	238	ePn	Pn	01 04 30.4	-0.8
EFI	East Falkland	12.79	307	ePn	Pn	01 04 56.2	+1.1
VNA3	Neumayer Olymp	16.54	143	P	Pn	01 05 41.4	-3.8
VNA3				S	Sn	01 08 32.2	-16
VNA1	Neumayer--Stat	16.75	140	P	Pn	01 05 45.5	-2.2
VNA2	Neumayer--Watz	17.11	141	P	Pn	01 05 48.7	-3.7
	baz=292,slow=15						
VNA2				S	Sn	01 08 45.0	-17
SNAA	Sanae	18.74	142	P	Pn	01 06 11.9	-0.6
SNAA	Sanae	18.74	142	P	P	01 06 11.6	-0.4
	0.5nm,0.3s,baz=316,slow=12,SNR=20						
SNAA				S	Sn	01 09 27.4	-14
	0.2nm,0.3s,baz=239,slow=12,SNR=2.5						
SNAA				LR	LR	01 11 47.0	
	comp=Z,345nm,18.2s,baz=286,slow=32						
SNAA	Sanae	18.74	142	eP	P	01 06 11.7	-0.4
	28nm,1.1s						
SNAA				S	Sn	01 09 27.4	-14
GO09	Cerro Castillo	19.39	285	eP	Pn	01 06 19.2	-1.2
	126nm,1.2s						
CHRN	Cochrane	22.34	293	eP	P	01 06 51.2	0.0
	9.8nm,0.9s						
TRQA	Tornquist	25.99	321	eP	P	01 07 26.7	+0.5
	45nm,1.5s						
PLCA	Paso Flores	26.69	305	P	P	01 07 31.1	-1.6
	2.7nm,0.6s,baz=180,slow=7.0,SNR=16						
PLCA				LR	LR	01 18 16.2	
	comp=Z,137nm,18.3s,baz=182,slow=37						
PLCA	Paso Flores	26.69	305	eP	P	01 07 31.2	-1.4
	6.5nm,0.8s						
GO05	HualaæØ	32.20	309	eP	P	01 08 20.3	-1.1
	77nm,1.8s						
SYO	Syowa Base	32.98	139	⇑eX	P	01 08 21.0	-6.9
CPUP	Villa Florida	35.95	336	P	P	01 08 54.4	+0.4
	2.8nm,0.9s,baz=153,slow=8.7,SNR=5.9						
CPUP				LR	LR	01 21 10.2	
	comp=Z,35nm,21.9s,baz=172,slow=32						
CPUP	Villa Florida	35.95	336	eP	P	01 08 55.1	+1.1
	41nm,2.0s						
LCO	Las Campanas	37.15	315	eP	P	01 09 03.9	-0.6
	9.1nm,0.4s						
MAW	Mawson	40.84	145	LR	LR	01 26 45.4	
	comp=Z,111nm,18.1s,baz=238,slow=37						
VNDA	Vanda	41.30	188	LR	LR	01 26 24.3	
	comp=Z,60nm,18.6s,baz=148,slow=36						
MNMC	Minye Minye	45.98	322	eP	P	01 10 16.9	-0.1
	14nm,0.7s						
LPAZ	La Paz	48.24	325	P	P	01 10 35.5	+0.5
	1.9nm,0.5s,baz=90,slow=8.3,SNR=10						
LPAZ				LR	LR	01 33 32.1	
	comp=Z,42nm,18.4s,baz=170,slow=39						
LPAZ	La Paz	48.24	325	eP	P	01 10 35.8	+0.8
	8.5nm,1.4s						
SUR	Sutherland	48.97	84	P	P	01 10 40.1	0.0
	0.3nm,0.7s,baz=215,slow=10,SNR=8.1						
SUR	Sutherland	48.97	84	eP	P	01 10 40.6	+0.5
	6.5nm,0.6s						
SAML	Samuel	54.04	333	eP	P	01 11 18.6	+0.8
	18nm,0.6s						
BOSA	Boshof	54.24	85	P	P	01 11 19.1	-0.3
	6.5nm,0.6s,baz=209,slow=6.0,SNR=19						
BOSA				LR	LR	01 29 36.4	
	comp=Z,164nm,20.7s,baz=198,slow=31						
BOSA	Boshof	54.24	85	eP	P	01 11 19.4	0.0
	19nm,1.2s						
NNA	Nana	55.01	317	eP	P	01 11 25.5	+0.5
	38nm,1.4s						
H10S2	ASCENSION HYDR	55.38	33	T	T	02 13 03.8	
	baz=194,slow=75,SNR=12						
H10S3	ASCENSION HYDR	55.38	33	T	T	02 13 17.0	
	baz=194,slow=75,SNR=8.4						
H10S1	ASCENSION HYDR	55.40	33	T	T	02 13 08.6	
	baz=194,slow=75,SNR=11						
H10N3	ASCENSION HYDR	56.49	33	T	T	02 14 58.1	
	baz=194,slow=75						
H10N1	ASCENSION HYDR	56.49	33	T	T	02 14 21.5	
	baz=194,slow=75						
H10N2	ASCENSION HYDR	56.51	33	T	T	02 14 27.7	
	baz=194,slow=75						
LBTB	Lobatse	57.41	83	eP	P	01 11 41.7	-0.4
	12nm,0.6s						
TSUM	Tsumeb	58.50	72	eP	P	01 11 50.2	+0.4
	10nm,1.1s						
PTGA	Pitinga	61.41	339	P	P	01 12 10.5	+0.8
	1.8nm,0.4s,baz=285,slow=22,SNR=5.2						
LSZ	Lusaka	66.95	80	eP	P	01 12 46.5	+0.3
	19nm,0.8s						
OTAV	Otavalo	66.99	319	eP	P	01 12 47.4	+0.5
	13nm,0.8s						
SOTA	Rioblanco	68.21	322	eP	P	01 12 55.4	+0.9
PCON	Cinco Dias	68.33	322	eP	P	01 12 56.1	+0.7
PRAC	Prado	69.20	324	eP	P	01 13 00.7	+0.5
	54nm,1.6s						
PRAC	Prado	69.20	324	eP	P	01 12 59.4	-0.8
CHIC	Chingaza	69.74	326	eP	P	01 13 02.1	-1.9
RREF	El Recreo	70.46	324	eP	P	01 13 09.4	+0.8
RUSC	La Rusia	70.77	327	eP	P	01 13 09.9	-0.5
	11nm,1.6s						
RUSC	La Rusia	70.77	327	eP	P	01 13 08.7	-1.6
DCZ	Deep Cove	71.66	201	eP	P	01 13 13.2	-1.7
	112nm,1.8s						
RKT	Rikitea	71.72	255	eLR	LR	01 35 07.5	
	194nm,25.2s						
HELC	Santa Helena	71.74	324	eP	P	01 13 15.0	-1.1
	11nm,0.7s						
LIC	Lamto	72.59	38	eP	P	01 13 21.4	+0.7
	32nm,0.7s						
KIC	Kosan Boka	72.81	39	eP	P	01 13 22.9	+0.9
	38nm,1.3s						
PCRV	Puerto La Cruz	72.92	336	P	P	01 13 22.4	-0.3
	12nm,0.9s,baz=169,slow=5.6,SNR=2.2						
TIC	Toumodi	72.99	38	eP	P	01 13 23.8	+0.7
SDV	Santo Domingo	73.01	330	P	P	01 13 23.4	0.0
	1.9nm,0.4s,baz=187,slow=8.1,SNR=4.0						
SDV				LR	LR	01 48 29.9	
	comp=Z,34nm,19.4s,baz=269,slow=38						
SDV	Santo Domingo	73.01	330	eP	P	01 13 23.0	-0.4
	5.5nm,0.8s						
DBIC	Dimbokro	73.06	38	P	P	01 13 24.5	+0.9
	4.6nm,0.7s,baz=189,slow=9.7,SNR=8.4						
DBIC				LR	LR	01 37 26.8	
	comp=Z,36nm,21.5s,baz=153,slow=29						
DBIC	Dimbokro	73.06	38	eP	P	01 13 24.2	+0.6
TBI	Tubuai	78.19	243	eLR	LR	01 38 09.5	
	190nm,25.8s						
KOWA	Kowa	80.72	37	P	P	01 14 08.0	+1.4
	4.3nm,0.6s,baz=205,slow=5.2,SNR=15						
KOWA				LR	LR	01 42 32.1	
	comp=Z,88nm,20.1s,baz=208,slow=30						
KOWA	Kowa	80.72	37	eP	P	01 14 08.3	+1.6
	7.8nm,1.1s						
TOA0	Torodi Ar. Sit	81.25	43	eP	P	01 14 10.7	+1.2
	8.5nm,0.8s						
TORD	Torodi Ar. Bea	81.25	43	P	P	01 14 10.6	+1.1
	7.3nm,0.8s,baz=190,slow=6.8,SNR=46						
TORD				LR	LR	01 42 24.5	
	comp=Z,43nm,21.1s,baz=115,slow=30						
PPT2	Papeete2	83.29	246	eLR	LR	01 40 30.0	
	166nm,25.5s						
PPT	Papeete	83.30	246	LR	LR	01 42 03.4	
	comp=Z,72nm,21.4s,baz=164,slow=29						
KMBO	Kilima Mbogo	83.59	81	LR	LR	01 47 29.1	
	comp=Z,94nm,21.1s,baz=184,slow=33						
TAOE	Nuku Hiva Isla	86.49	258	eLR	LR	01 42 00.2	
	156nm,27.0s						
AFI	Afiamalu	95.75	228	LR	LR	01 56 02.7	
	comp=Z,33nm,18.9s,baz=73,slow=34						
ASAR	Alice Springs	95.90	176	P	P	01 15 22.1	+1.7
	0.5nm,0.7s,baz=173,slow=3.7,SNR=3.9						
ATD	Arta Tunnel	97.28	80	LR	LR	01 57 17.3	
	comp=Z,64nm,19.0s,baz=332,slow=34						
WRA	Warramunga Arr	99.62	176	P	Pdif	01 15 38.6	+1.5
	0.4nm,1.1s,baz=189,slow=7.5,SNR=3.0						
GERES	GERESS Array B	117.93	38	PKP	PKPdf	01 20 38.1	-1.1
	0.1nm,0.4s,baz=187,slow=1.7,SNR=2.3						
KIEV	Kiev	124.68	47	ePKPdf	PKPdf	01 20 51.1	-0.8
AKASG	Malin Array Be	124.69	47	PKP	PKPdf	01 20 50.6	-1.4
	0.7nm,0.6s,baz=240,slow=1.9,SNR=3.5						
FINES	FINESS Array B	132.35	37	PKP	PKPdf	01 21 04.5	-1.7
	1.4nm,0.8s,baz=238,slow=2.6,SNR=7.0						
YKA	Yellowknife Ar	134.73	321	PKP	PKPdf	01 21 08.5	-2.1
	0.2nm,0.7s,baz=157,slow=1.7,SNR=2.8						
YKA				PP	PP	01 23 57.6	+12
	0.1nm,0.3s,baz=126,slow=6.2,SNR=3.6						
ABKAR	Akbulak array	136.25	68	ePKPdf	PKPdf	01 21 14.0	+0.1
KSH	Kashi	136.74	90	ePKP	PKPdf	01 21 16.9	+1.6
KSH				PP	PP	01 24 03.1	+4.5
KSH				SKS	SKSdf	01 28 27.0	+1.1
KSH				SKKS	SKKSac	01 30 54.1	+1.5
KSH				SS	SS	01 42 00.7	-1.5
KSH				AMB	AMB		
	comp=Z,65nm,9.1s						
KSH				LR	LR		
	comp=N,190nm,12.3s						
KSH				LR	LR		
	comp=Z,120nm,7.7s						
ARCES	ARCESS Array B	138.37	29	PKP	PKPdf	01 21 16.8	-0.4
	1.3nm,0.6s,baz=240,slow=1.8,SNR=7.6						
AAK	Ala-Archa	138.38	86	ePKPdf	PKPdf	01 21 18.9	+0.6
GYA	Guiyang	139.59	133	ePdif	Pdif	01 18 34.0	-0.6
GYA				PKP	PKPdf	01 21 20.8	-0.2
GYA				PP	PP	01 24 19.7	+3.8
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						
CD2	Chengdu	142.50	127	PKP	PKPdf	01 21 26.0	0.0
BVAR	Borovoye Array	143.64	71	PKhKP	PKPpre	01 21 23.6	
	0.5nm,0.5s,baz=210,slow=1.2,SNR=4.4						
INK	Inuvik	144.47	320	PKP	PKPbc	01 21 26.3	-0.5
	4.0nm,0.5s,baz=144,slow=1.5,SNR=23						
INK	Inuvik	144.47	320	ePKPdf	PKPab	01 21 26.2	-0.4
MKAR	Makanchi Array	145.22	88	PKPbc	PKPbc	01 21 29.2	-0.7
	2.9nm,0.7s,baz=233,slow=2.9,SNR=29						
WMQ	Urumqi	145.75	96	ePKPbc	PKPab	01 21 32.5	+0.3
KURBB	Kurchatov Arra	145.96	80	PKPbc	PKPbc	01 21 31.8	-0.3
	2.8nm,0.6s,baz=231,slow=3.5,SNR=32						
KURK	Kurchatov	146.07	80	ePKPbc	PKPbc	01 21 31.7	-0.6
RC01	Rabbit Creek A	146.60	303	ePKPbc	PKPbc	01 21 33.3	-0.4
XAN	Xi'an	147.26	131	PKPbc	PKPab	01 21 43.6	+5.3
XAN				pPKP	sPKPab	01 21 49.3	+6.5
ILAR	Eielson Array	147.32	310	PKPbc	PKPbc	01 21 35.5	-0.1
	2.1nm,0.6s,baz=122,slow=1.7,SNR=22						
COLA	College	147.74	310	ePKPbc	PKPbc	01 21 36.3	-0.3
NJ2	Nanjing	148.64	147	ePKPbc	PKPdf	01 21 36.7	+0.3
ZALV	Zalesovo Beam	151.06	79	PKPbc	PKPbc	01 21 44.2	-1.0
	2.0nm,0.8s,baz=266,slow=2.8,SNR=11						
HHC	Hu-ho-hao-te	154.24	128	ePKPbc	PKPdf	01 21 40.8	-4.0
SONM	Songino Array	157.62	111	PKPab	PKPab	01 22 21.1	-0.2
	0.4nm,0.8s,baz=237,slow=5.1,SNR=4.2						

*SKHL **02** 01:25:51.5±0.6, 43°.54N×147°.40E, h42km±2km, mb4.6/2*
*JMA **02** 01:25:51.6±0.2, 43°.45N×147°.28E, h38km, M3.5*
ISC 02 01:25:51.0±2.1, 43°.54N±0°.09×147°.40E±0°.10, h45km, n15, σ0s.72/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.53	309	eP	Pn	01 26 02.0	-0.2
SHO				AMB	AMB	01 26 02.7	
	320nm,0.3s						
SHO				iS	Sn	01 26 10.0	-0.3
SHO				A	A	01 26 10.2	
	2μm,0.2s						
SHO				A	A	01 26 10.2	
	2μm,0.2s						
YUK	Yuzh-Kuril'sk	1.22	294	iP	Pn	01 26 11.4	-0.1
YUK				AMB	AMB	01 26 12.0	
	180nm,0.3s						
YUK				iS	Sn	01 26 26.1	-0.7
YUK				A	A	01 26 27.2	
	480nm,0.2s						
YUK				A	A	01 26 27.2	
	370nm,0.2s						
NEM2	Nemuro 2	1.22	262	P	Pn	01 26 11.3	-0.2
NEM2				eS	Sn	01 26 25.9	-0.9
GRPR	Tuman	1.26	292	iP	Pn	01 26 12.1	0.0
GRPR				iS	Sn	01 26 27.3	-0.6
LAGR	Lagunnoye	1.27	294	eP	Pn	01 26 12.0	-0.3
LAGR				iS	Sn	01 26 28.0	-0.2
GLVR	Golovnino	1.38	279	iP	Pn	01 26 14.1	+0.4
GLVR				iS	Sn	01 26 31.3	+0.6
JRA	Rausu	1.69	284	P	Pn	01 26 18.7	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JRA				eS	Sn	01 26 38.6	+0.1
KUR	**Kuril'sk**	**1.73**	**11**	eP	**Pn**	**01 26 18.8**	**+0.4**
KUR				iS	**Sn**	**01 26 38.7**	**-0.5**
KUR				A	A	01 26 40.4	
	98nm,0.2s						
KUR				A	A	01 26 40.4	
	190nm,0.2s						
JNK	**Nakash**	**1.95**	**272**	P	**Pn**	**01 26 21.8**	**+0.3**
JNK				eS	**Sn**	**01 26 43.7**	**-1.0**
JAK	**Akkeshi**	**2.05**	**255**	P	**Pn**	**01 26 23.0**	**+0.2**
JAK				eS	**Sn**	**01 26 46.0**	**-1.1**
JTKR	**Abashiri--Toko**	**2.56**	**281**	P	**Pn**	**01 26 31.6**	**+1.7**
JAR	**Ashorobuto**	**2.65**	**266**	P	**Pn**	**01 26 32.2**	**+1.0**
JAR				eS	**Sn**	**01 27 02.3**	**+0.2**
JOB	**Onbets**	**2.68**	**257**	P	**Pn**	**01 26 32.6**	**+1.1**
JOB				eS	**Sn**	**01 27 02.7**	**-0.1**
JCH	**Churui**	**3.10**	**254**	eS	**Sn**	**01 27 12.2**	**-0.8**
JNBK	**Urakawa-nobuka**	**3.64**	**251**	eS	**Sn**	**01 27 25.2**	**-1.1**

*ISCJB **02** 01:36:00.7±0.7, 38°.30N±0°.03×38°.72E±0°.04, h1km±6km, Error ellipse: s-maj=5.6km s-min=4.6km az=43.8*
*ISK **02** 01:36:00.8, 38°.28N×38°.68E, h6km, ML2.5/4*
*CSEM **02** 01:36:01.6±0.2, 38°.30N×38°.68E, h2km, ML2.5, Error ellipse: s-maj=3.5km s-min=3.2km az=42.0*
*DDA **02** 01:36:01.3, 38°.23N×38°.65E, h7km, Ml2.4*
ISC 02 01:36:01.0±1.1**, 38°.29N**±0°.03×**38°.71E**±0°.03**, h8**km±11km**, n24,** σ**0s47**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.22**	**277**	PG	**Pg**	**01 36 05.5**	**0.0**
MALT				SG	**Sg**	**01 36 08.8**	**+0.2**
MALT	**Malatya**	**0.22**	**277**	ePg	**Pg**	**01 36 05.5**	**0.0**
MALT				eSg	**Sg**	**01 36 08.8**	**+0.2**
AKCD	**Akcadag**	**0.62**	**271**	iP	**Pg**	**01 36 12.8**	**-0.1**
AKCD				iS	**Sg**	**01 36 21.1**	**0.0**
AKCD	**Akcadag**	**0.62**	**271**	P	**Pg**	**01 36 12.8**	**-0.1**
AKCD				S	**Sg**	**01 36 21.1**	**0.0**
HEKM	**Malatya_Hekimh**	**0.83**	**315**	iP	**Pg**	**01 36 17.2**	**+0.1**
HEKM				iS	**Sb**	**01 36 29.9**	**+0.5**
URFA	**Urfa**	**0.85**	**174**	PG	**Pg**	**01 36 17.3**	**0.0**
URFA				SG	**Sb**	**01 36 29.4**	**-0.3**
URFA	**Urfa**	**0.85**	**174**	ePg	**Pg**	**01 36 17.3**	**0.0**
URFA				eSg	**Sb**	**01 36 29.4**	**-0.3**
KEMA	**Kemaliye**	**0.99**	**350**	iP	**Pg**	**01 36 20.1**	**0.0**
KEMA				iS	**Sg**	**01 36 32.3**	**-0.8**
KEMA	**Kemaliye**	**0.99**	**350**	P	**Pg**	**01 36 20.1**	**0.0**
KEMA				S	**Sg**	**01 36 32.3**	**-0.8**
DARE	**Darende-Malaty**	**1.00**	**287**	PG	**Pg**	**01 36 19.6**	**-0.7**
DARE				SG	**Sb**	**01 36 34.2**	**0.0**
DARE	**Darende-Malaty**	**1.00**	**287**	ePg	**Pg**	**01 36 19.6**	**-0.7**
DARE				eSg	**Sb**	**01 36 34.2**	**0.0**
TNCL	**Tunceli-Merkez**	**1.05**	**38**	iP	**Pb**	**01 36 21.9**	**+0.3**
TNCL	**Tunceli-Merkez**	**1.05**	**38**	P	**Pb**	**01 36 21.9**	**+0.3**
ILIC	**ilic-Erzincan**	**1.17**	**355**	PN	**Pb**	**01 36 23.8**	**+0.2**
ILIC	**ilic-Erzincan**	**1.17**	**355**	ePn	**Pb**	**01 36 23.8**	**+0.2**
DIYA	**Diyarbakir**	**1.17**	**108**	iP	**Pn**	**01 36 24.5**	**+0.7**
DIYA	**Diyarbakir**	**1.17**	**108**	P	**Pn**	**01 36 24.5**	**+0.7**
DYBB	**Diyarbakir**	**1.18**	**106**	PN	**Pg**	**01 36 23.9**	**+0.4**
DIY	**Diyarbakir**	**1.26**	**108**	ePn	**Pn**	**01 36 23.9**	**-1.1**
MAZI	**Mazidag**	**1.60**	**120**	PN	**Pb**	**01 36 30.7**	**-0.3**
MAZI	**Mazidag**	**1.60**	**120**	ePn	**Pb**	**01 36 30.7**	**-0.3**
KMRS	**Kahramanmaras**	**1.63**	**242**	PN	**Pn**	**01 36 30.3**	**+0.2**
KMRS				SN	**Sb**	**01 36 51.9**	**-0.2**
KMRS	**Kahramanmaras**	**1.63**	**242**	ePn	**Pn**	**01 36 30.3**	**+0.2**
KMRS				eSn	**Sb**	**01 36 51.9**	**-0.2**
KUZU	**Kuzuini**	**1.99**	**221**	iP	**Pg**	**01 36 40.2**	**+1.0**
KUZU				iS	**Sg**	**01 37 04.1**	**-0.9**

JMA 02 01:48:23.3, 36°.50N×137°.65E, h4km±1km**, M0.7, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.38**	**104**	P	Pg	01 48 30.8	+0.3
JNG				S	Sg	01 48 35.8	+0.3
JGN	**Niukaw**	**0.39**	**224**	P	Pg	01 48 30.9	+0.1
JGN				S	Sg	01 48 36.0	+0.2
MAT	**Matsushiro**	**0.45**	**84**	P	Pg	01 48 32.1	+0.1
MAT				S	Sg	01 48 38.1	+0.2
MAT	**Matsushiro**	**0.45**	**84**	P	Pg	01 48 32.1	+0.1
MAT				S	Sg	01 48 38.1	+0.2

*NEIC **02** 01:50:22.5±10.0, 35°.42S×178°.90W, h15km±62km, mb4.5/2, Error ellipse: s-maj=31.1km s-min=14.7km az=67.0*
*ISCJB **02** 01:50:24.6±0.7, 35°.59S±0°.05×178°.98W±0°.09, h47km, mb4.6/8, MS3.3/5, Error ellipse: s-maj=11.7km s-min=5.8km az=29.6*
*WEL **02** 01:50:25.1, 36°S±9°×17°9W±°, h150km±23km, ML4.7/6*
*IDC **02** 01:50:27.2±2.4, 35°.45S×179°.13W, h45km±20km, mb4.3/6, mb1 4.4/8, mb1mx4.0/41, mbtmp4.5/8, ML3.7/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/36, Error ellipse: s-maj=20.2km s-min=16.5km az=167.0*
ISC 02 01:50:27.0±0.6**, 35°.55S**±0°.07×**179°.01W**±0°.08**, h47**km**, n77,** σ**1s31**/74**, mb4.5**/8**, MS3.3**/5**, East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.95**	**226**	P	**Pn**	**01 51 09.6**	**-1.7**
MXZ	**Matakaoa Point**	**2.95**	**226**	S	**Sn**	**01 51 45.3**	**-0.1**
WMGZ	**Waiomatatini S**	**3.06**	**222**	P	**Pn**	**01 51 12.3**	**-0.6**
WMGZ	**Waiomatatini S**	**3.06**	**222**	S	**Sn**	**01 51 49.0**	**+0.6**
PKGZ	**Pakihiroa**	**3.30**	**224**	P	**Pn**	**01 51 15.4**	**-0.9**
PKGZ	**Pakihiroa**	**3.30**	**224**	S	**Sn**	**01 51 56.5**	**+2.3**
PUZ	**Puketiti**	**3.33**	**220**	P	**Pn**	**01 51 15.1**	**-1.6**
PUZ	**Puketiti**	**3.33**	**220**	S	**Sn**	**01 51 55.7**	**+0.7**
HAZ	**Te Kaha**	**3.39**	**229**	P	**Pn**	**01 51 16.5**	**-0.9**
HAZ	**Te Kaha**	**3.39**	**229**	S	**Sn**	**01 51 59.0**	**+2.8**
TWGZ	**Tauwhareparae**	**3.56**	**222**	P	**Pn**	**01 51 19.2**	**-0.5**
RUGZ	**Raukumara Rang**	**3.59**	**227**	P	**Pn**	**01 51 19.3**	**-0.8**
CNGZ	**Carnagh Statio**	**3.68**	**216**	P	**Pn**	**01 51 19.9**	**-1.4**
TKGZ	**Te Karaka**	**3.82**	**220**	P	**Pn**	**01 51 22.7**	**-0.6**
TKGZ	**Te Karaka**	**3.82**	**220**	S	**Sn**	**01 52 06.9**	**0.0**
MWZ	**Matawai**	**3.92**	**224**	P	**Pn**	**01 51 23.8**	**-0.9**
MWZ	**Matawai**	**3.92**	**224**	S	**Sn**	**01 52 09.5**	**0.0**
URZ	**Urewera**	**4.12**	**228**	P	**Pn**	**01 51 26.1**	**-1.2**
	12nm,0.3s,baz=23,slow=14,SNR=47						
URZ				S	**Sn**	**01 52 14.7**	**+0.5**
	18nm,0.3s,baz=78,slow=20,SNR=14						
URZ	**Urewera**	**4.12**	**228**	P	**Pn**	**01 51 25.7**	**-1.6**
URZ	**Urewera**	**4.12**	**228**	S	**Sn**	**01 52 14.7**	**+0.5**
PRGZ	**Paritu Road**	**4.18**	**215**	P	**Pn**	**01 51 27.0**	**-1.2**
KUZ	**Kuaotunu**	**4.42**	**253**	P	**Pn**	**01 51 30.5**	**-1.1**
KUZ	**Kuaotunu**	**4.42**	**253**	S	**Sn**	**01 52 21.4**	**-0.3**
WIAZ	**Waiheke Island**	**4.89**	**254**	P	**Pn**	**01 51 37.7**	**-0.4**
TOZ	**Tahuroa Road**	**4.92**	**242**	P	**Pn**	**01 51 37.5**	**-0.8**
MCHZ	**McNeill Hill**	**5.17**	**220**	P	**Pn**	**01 51 39.3**	**-2.5**
MCHZ	**McNeill Hill**	**5.17**	**220**	S	**Sn**	**01 52 40.1**	**-0.1**
KWHZ	**Kaweka Forest**	**5.30**	**222**	P	**Pn**	**01 51 41.7**	**-1.9**
KRHZ	**Kereru**	**5.49**	**221**	P	**Pn**	**01 51 43.6**	**-2.6**
BHHZ	**Black Hill Sta**	**5.55**	**223**	P	**Pn**	**01 51 44.4**	**-2.6**
NGZ	**Ngauruhoe**	**5.61**	**228**	P	**Pn**	**01 51 46.8**	**-1.2**
WHVZ	**Whangaehu Hut**	**5.69**	**227**	P	**Pn**	**01 51 48.1**	**-1.0**
PNHZ	**Pukenui**	**5.78**	**220**	P	**Pn**	**01 51 48.0**	**-2.1**
TSZ	**Takapari Road**	**6.01**	**220**	P	**Pn**	**01 51 50.2**	**-3.0**
DVHZ	**Dannevirke**	**6.08**	**217**	P	**Pn**	**01 51 51.3**	**-3.0**
DZM	**Mont Dzumac**	**18.48**	**313**	P	**P**	**01 54 38.7**	**-0.5**
	0.1nm,0.3s,baz=130,slow=17,SNR=2.5						
DZM				LR	LR	02 00 20.2	
	comp=Z,234nm,21.6s,baz=60,slow=32						
DZM	**Mont Dzumac**	**18.48**	**313**	eP	Pn	01 54 51.0	+11
	34nm,1.2s						
DZM				eLR	LR	01 59 24.6	
	467nm,26.6s						
RAR	**Rarotonga**	**22.09**	**55**	LR	LR	02 03 43.5	
	comp=Z,46nm,18.6s,baz=232,slow=36						
TBI	**Tubuai**	**28.35**	**73**	eLR	LR	02 03 09.7	
	161nm,30.8s						
PPT2	**Papeete2**	**31.65**	**63**	eLR	LR	02 04 44.3	
	114nm,26.0s						
PPT	**Papeete**	**31.67**	**63**	LR	LR	02 08 49.2	
	comp=Z,38nm,18.4s,baz=217,slow=35						
STKA	**Stephens Creek**	**32.82**	**265**	P	**P**	**01 56 57.0**	**+0.9**
	5.3nm,0.9s,baz=119,slow=8.2,SNR=4.7						
STKA				LR	LR	02 11 23.8	
	comp=Z,52nm,18.2s,baz=41,slow=38						
CTA	**Charters Tower**	**34.16**	**287**	P	**P**	**01 57 08.5**	**+0.8**
	5.5nm,0.8s,baz=114,slow=11,SNR=5.1						
CTAO	**Charters Tower**	**34.16**	**287**	eP	**P**	**01 57 08.8**	**+1.1**
	137nm,1.5s						
COEN	**Coen**	**40.16**	**293**	eP	**P**	**01 58 00.1**	**+1.3**
	15nm,1.3s						
ASAR	**Alice Springs**	**42.25**	**273**	P	**P**	**01 58 15.8**	**-0.1**
	7.8nm,0.8s,baz=114,slow=7.5,SNR=50						
ASAR				S	**S**	**02 04 32.4**	**-0.9**
	1.4nm,0.9s,baz=109,slow=15,SNR=7.3						
WRAB	**Tennant Creek**	**43.70**	**278**	eP	**P**	**01 58 26.9**	**-0.7**
	5.5nm,0.6s						
WRA	**Warramunga Arr**	**43.71**	**278**	P	**P**	**01 58 26.8**	**-0.9**
	11nm,1.0s,baz=119,slow=7.6,SNR=46						
QSPA	**South Pole Qui**	**54.57**	**180**	eP	**P**	**01 59 51.6**	**+1.4**
RPN	**Rapa Nui**	**59.01**	**103**	LR	LR	02 22 06.4	
	comp=Z,46nm,18.2s,baz=230,slow=32						
SNAA	**Sanae**	**73.04**	**179**	P	**P**	**02 01 52.0**	**+0.4**
	2.1nm,0.9s,baz=217,slow=10,SNR=5.4						
SNAA	**Sanae**	**73.04**	**179**	eP	**P**	**02 01 52.0**	**+0.4**
PETK	**Petropavlovsk-**	**90.59**	**346**	P	**P**	**02 03 24.0**	**+0.4**
	10nm,1.0s,baz=109,slow=8.0,SNR=5.8						
CPUP	**Villa Florida**	**97.41**	**130**	LR	LR	02 39 38.5	
	comp=Z,29nm,21.7s,baz=209,slow=30						
YKA	**Yellowknife Ar**	**110.43**	**27**	PKiKP	**PKiKP**	**02 08 53.7**	**+0.7**
	0.2nm,0.8s,baz=249,slow=1.8,SNR=2.1						
MKAR	**Makanchi Array**	**120.35**	**308**	PKP	**PKPdf**	**02 09 12.0**	**-0.7**
	2.0nm,1.1s,baz=178,slow=1.6,SNR=5.7						
KURK	**Kurchatov**	**123.91**	**312**	PKP	**PKPdf**	**02 09 19.2**	**0.0**
KURBB	**Kurchatov Arra**	**123.93**	**311**	PKP	**PKPdf**	**02 09 19.2**	**-0.1**
	1.4nm,0.9s,baz=102,slow=1.9,SNR=13						
BVAR	**Borovoye Array**	**129.39**	**313**	PKP	**PKPdf**	**02 09 30.7**	**+1.0**
	0.7nm,0.5s,baz=90,slow=0.6,SNR=4.8						
BRVK	**Borovoye**	**129.46**	**313**	ePKPdf	**PKPdf**	**02 09 30.6**	**+0.8**
ABKAR	**Akbulak array**	**135.46**	**307**	ePKPdf	**PKPdf**	**02 09 42.1**	**+0.8**
GNI	**Garni**	**145.41**	**291**	ePKPbc	**PKPab**	**02 10 00.3**	**+0.2**
KBZ	**Khabaz**	**147.00**	**297**	PKPbc	**PKPab**	**02 10 05.0**	**-0.7**
	4.4nm,0.9s,baz=117,slow=4.3,SNR=7.3						
FINES	**FINESS Array B**	**149.60**	**336**	PKPbc	**PKPbc**	**02 10 10.8**	**+0.4**
	8.6nm,1.0s,baz=63,slow=0.9,SNR=11						
LIC	**Lamto**	**150.29**	**168**	ePKP1	**PKPbc**	**02 10 14.1**	**+0.5**
	44nm,0.9s						
KIC	**Kosan Boka**	**150.48**	**168**	ePKP1	**PKPbc**	**02 10 15.1**	**+1.1**
	34nm,1.1s						
TIC	**Toumodi**	**150.71**	**168**	ePKP1	**PKPbc**	**02 10 15.3**	**+0.7**
DBIC	**Dimbokro**	**150.76**	**168**	PKPbc	**PKPbc**	**02 10 15.7**	**+1.0**
	9.9nm,0.9s,baz=157,slow=1.9,SNR=14						
MMAI	**Mount Meron Ar**	**151.53**	**275**	PKPbc	**PKPbc**	**02 10 16.8**	**+0.8**
	2.9nm,0.8s,baz=85,slow=4.8,SNR=3.2						
NB2	**NORSAR Subarra**	**153.66**	**349**	PKP	**PKPab**	**02 10 32.5**	**-0.2**
	comp=Z,5.3nm,1.0s,baz=17,slow=2.9						
NOA	**NORSAR Array B**	**153.66**	**349**	PKPab	**PKPab**	**02 10 32.5**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=20,slow=2.7,SNR=3.6						
BRTR	**Keskin Array B**	**153.89**	**289**	PKPbc	**PKPbc**	**02 10 20.4**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=98,slow=4.7,SNR=2.3						
BRTR				PKPab	**sPKPdf**	**02 10 32.2**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=122,slow=3.4,SNR=4.7						
HFS	**Hagfors**	**154.06**	**345**	PKPab	**PKPab**	**02 10 31.8**	**-2.5**
	comp=Z,2.5nm,0.7s,baz=90,slow=4.3,SNR=3.3						
AKASG	**Malin Array Be**	**154.63**	**315**	PKPab	**PKPab**	**02 10 34.3**	**-2.8**
	comp=Z,1.1nm,0.6s,baz=53,slow=4.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**157.69**	**182**	PKP	**PKPdf**	**02 10 19.3**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=200,slow=3.8,SNR=5.6						
TORD				PKPab	**PKPab**	**02 10 51.6**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=180,slow=3.6,SNR=7.6						
CLL	**Collm**	**162.03**	**335**	ePKPab	**PKPab**	**02 11 09.0**	**0.0**
GERES	**GERESS Array B**	**163.74**	**329**	PKPab	**PKPab**	**02 11 14.2**	**-2.6**
	comp=Z,0.3nm,0.7s,baz=48,slow=1.5,SNR=3.8						

IDC 02 01:58:49.4±1.9**, 17°.53S**×**177°.38W, h0**km**, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.7**/39**, mbtmp3.7**/4**, Error ellipse: s-maj=113.4km s-min=29.4km az=148.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.67**	**241**	P	P	02 06 24.1	+0.7
	3.9nm,0.9s,baz=81,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**45.66**	**259**	P	P	02 07 11.3	-1.0
	0.2nm,0.4s,baz=97,slow=7.6,SNR=4.8						
TXAR	**Lajitas Array**	**84.97**	**57**	P	P	02 11 26.9	-0.2
	0.3nm,0.6s,baz=223,slow=7.6,SNR=5.3						
ILAR	**Eielson Array**	**85.31**	**13**	P	P	02 11 28.1	+0.2
	0.3nm,0.8s,baz=224,slow=5.6,SNR=5.5						

*IDC **02** 02:04:04.1±0.9, 35°.40S×179°.04W, h0km, mb4.6/3, mb1 4.6/5, mb1mx4.1/36, mbtmp4.5/5, ML3.9/2, MS3.6/6, Ms1 3.5/6, ms1mx3.1/37, Error ellipse: s-maj=34.2km s-min=25.5km az=130.0*
*NEIC **02** 02:04:05.3±0.5, 35°.47S×178°.97W, h10km, mb4.4/2, Error ellipse: s-maj=14.0km s-min=9.8km az=121.0*
*WEL **02** 02:04:06.9±1.4, 35°S±12°×17°9W±1°1, h33km, ML4.7/9*
*ISCJB **02** 02:04:07.7±0.9, 35°.54S±0°.07×178°.9W±0°.1, h47km, mb4.5/5, MS3.5/5, Error ellipse: s-maj=15.2km s-min=6.9km az=33.8*
ISC 02 02:04:10.5±0.7**, 35°.53S**±0°.09×**179°.0W**±0°.1**, h47**km**, n47,** σ**1s16**/43**, mb4.3**/5**, MS3.6**/5**, East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.97**	**226**	P	**Pn**	**02 04 53.2**	**-1.9**
MXZ	**Matakaoa Point**	**2.97**	**226**	S	**Sn**	**02 05 29.8**	**+0.3**
WMGZ	**Waiomatatini S**	**3.09**	**222**	P	**Pn**	**02 04 56.0**	**-0.7**
WMGZ	**Waiomatatini S**	**3.09**	**222**	S	**Sn**	**02 05 34.1**	**+1.7**
PKGZ	**Pakihiroa**	**3.33**	**224**	P	**Pn**	**02 04 58.5**	**-1.5**
PKGZ	**Pakihiroa**	**3.33**	**224**	S	**Sn**	**02 05 39.8**	**+1.4**
PUZ	**Puketiti**	**3.36**	**220**	P	**Pn**	**02 04 58.6**	**-1.9**
PUZ	**Puketiti**	**3.36**	**220**	S	**Sn**	**02 05 39.4**	**+0.2**
HAZ	**Te Kaha**	**3.41**	**228**	P	**Pn**	**02 05 00.8**	**-0.4**
HAZ	**Te Kaha**	**3.41**	**228**	S	**Sn**	**02 05 43.3**	**+2.9**
TWGZ	**Tauwhareparae**	**3.58**	**222**	P	**Pn**	**02 05 03.0**	**-0.6**
RUGZ	**Raukumara Rang**	**3.61**	**227**	P	**Pn**	**02 05 03.0**	**-1.1**
CNGZ	**Carnagh Statio**	**3.70**	**216**	P	**Pn**	**02 05 03.7**	**-1.4**
MWZ	**Matawai**	**3.95**	**224**	P	**Pn**	**02 05 07.0**	**-1.5**
URZ	**Urewera**	**4.14**	**228**	Pn	**Pn**	**02 05 09.6**	**-1.6**
	8.3nm,0.3s,baz=113,slow=1.5,SNR=40						
URZ				Sn	**Sn**	**02 05 58.0**	**-0.3**
	28nm,0.3s,baz=268,slow=23,SNR=14						
URZ	**Urewera**	**4.14**	**228**	P	**Pn**	**02 05 10.3**	**-0.9**
KUZ	**Kuaotunu**	**4.45**	**253**	P	**Pn**	**02 05 14.3**	**-1.1**
KUZ	**Kuaotunu**	**4.45**	**253**	S	**Sn**	**02 06 06.7**	**+0.9**
RPZ	**Rata Peaks**	**11.20**	**220**	Pn	**Pn**	**02 06 45.9**	**-2.1**
	0.7nm,0.3s,baz=165,slow=20,SNR=2.5						
RPZ				Sn	Sn	02 08 39.2	-13
	1.7nm,0.3s,baz=285,slow=23,SNR=8.2						
DZM	**Mont Dzumac**	**18.48**	**313**	LR	LR	02 13 52.3	
	comp=Z,212nm,19.0s,baz=182,slow=32						
RAR	**Rarotonga**	**22.07**	**55**	LR	LR	02 17 53.6	
	comp=Z,51nm,18.6s,baz=240,slow=38						
STKA	**Stephens Creek**	**32.84**	**265**	LR	LR	02 22 50.8	
	comp=Z,56nm,18.7s,baz=188,slow=34						
CTAO	**Charters Tower**	**34.16**	**287**	eP	**P**	**02 10 52.0**	**+0.7**
COEN	**Coen**	**40.17**	**293**	eP	**P**	**02 11 41.9**	**-0.4**
	10nm,1.0s						
ASAR	**Alice Springs**	**42.27**	**273**	P	**P**	**02 11 59.5**	**0.0**
	6.4nm,0.9s,baz=111,slow=7.5,SNR=32						
ASAR				LR	LR	02 28 33.6	
	comp=Z,103nm,21.6s,baz=145,slow=35						
WRAB	**Tennant Creek**	**43.71**	**278**	eP	**P**	**02 12 09.9**	**-1.3**
	7.0nm,1.0s						
WRA	**Warramunga Arr**	**43.72**	**278**	P	**P**	**02 12 10.3**	**-0.9**
	6.2nm,1.0s,baz=119,slow=7.5,SNR=20						
RPN	**Rapa Nui**	**59.00**	**103**	LR	LR	02 36 17.2	
	comp=Z,44nm,18.1s,baz=222,slow=33						
GUMO	**Guam**	**59.64**	**318**	LR	LR	02 35 26.5	
	comp=Z,106nm,20.7s,baz=117,slow=32						
SNAA	**Sanae**	**73.06**	**179**	eP	**P**	**02 15 34.9**	**-0.3**
PETK	**Petropavlovsk-**	**90.57**	**346**	P	**P**	**02 17 08.0**	**+1.0**
	5.5nm,0.9s,baz=115,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**120.35**	**308**	PKP	**PKPdf**	**02 22 56.1**	**0.0**
	0.9nm,0.9s,baz=112,slow=1.6,SNR=5.8						
KURK	**Kurchatov**	**123.90**	**312**	PKP	**PKPdf**	**02 23 03.0**	**+0.2**
KURBB	**Kurchatov Arra**	**123.93**	**311**	PKP	**PKPdf**	**02 23 03.0**	**+0.1**
	1.6nm,0.8s,baz=110,slow=2.4,SNR=12						
AAK	**Ala-Archa**	**124.16**	**301**	ePKPdf	**PKPdf**	**02 23 04.3**	**+0.5**
GNI	**Garni**	**145.41**	**291**	ePKPbc	**PKPab**	**02 23 44.4**	**+0.8**
KBZ	**Khabaz**	**147.00**	**297**	PKPbc	**PKPbc**	**02 23 48.3**	**+0.6**
	4.3nm,0.9s,baz=120,slow=3.0,SNR=6.3						
FINES	**FINESS Array B**	**149.58**	**336**	PKPbc	**PKPbc**	**02 23 53.6**	**-0.3**
	5.0nm,0.9s,baz=57,slow=7.0,SNR=10						
LIC	**Lamto**	**150.31**	**168**	ePKP1	**PKPbc**	**02 23 58.2**	**+1.1**
	34nm,0.9s						
KIC	**Kosan Boka**	**150.49**	**168**	ePKP1	**PKPbc**	**02 23 58.8**	**+1.2**
	29nm,1.1s						
TIC	**Toumodi**	**150.72**	**168**	ePKP1	**PKPbc**	**02 23 59.3**	**+1.2**
DBIC	**Dimbokro**	**150.78**	**168**	PKPbc	**PKPbc**	**02 23 59.1**	**+0.9**
	6.9nm,0.9s,baz=170,slow=3.0,SNR=10.0						
NOA	**NORSAR Array B**	**153.65**	**349**	PKPab	**PKPab**	**02 24 16.0**	**-0.1**
	1.5nm,0.8s,baz=344,slow=0.9,SNR=3.2						
AKASG	**Malin Array Be**	**154.63**	**315**	PKPab	**PKPab**	**02 24 19.9**	**-0.6**
	0.5nm,0.4s,baz=54,slow=4.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**157.71**	**182**	PKPab	**PKPab**	**02 24 35.5**	**+0.9**
	1.7nm,0.8s,baz=186,slow=3.4,SNR=9.1						
EKA	**Eskdalemuir Ar**	**159.99**	**7**	PKPab	**PKPab**	**02 24 43.0**	**-0.5**
	0.9nm,0.7s,baz=16,slow=5.3,SNR=3.3						
GERES	**GERESS Array B**	**163.74**	**329**	PKPab	**PKPab**	**02 24 58.9**	**-1.4**
	0.5nm,0.8s,baz=54,slow=6.8,SNR=4.8						

*SFS **02** 02:05:33.0, 31°.18N×8°.25W, h0km, ML4.3*
*CNRM **02** 02:05:33.5, 31°.00N×8°.11W, h2km, MD3.9*
*MDD **02** 02:05:34.0±2.3, 31°.20N×8°.21W, h0km, mb4.3/8, Error ellipse: s-maj=24.2km s-min=21.0km az=104.0, PRXIMO*
*CSEM **02** 02:05:33.6±0.3, 31°.03N×8°.17W, h5km, MD3.9, Error ellipse: s-maj=7.1km s-min=4.8km az=149.0*
*INMG **02** 02:05:34.3±1.8, 31°.12N×8°.01W, h20km, MD3.1, ML2.9, Error ellipse: s-maj=9.5km s-min=5.4km az=100.0*
*IGIL **02** 02:05:35.3, 31°.04N×8°.01W, h31km, ML2.4*
ISC 02 02:05:32.8±1.0**, 31°.25N**±0°.06×**8°.18W**±0°.04**, h10**km**, n100,** σ**2s18**/179**, Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OUK	**Oukaimeden**	**0.27**	**98**	iP	**Pg**	**02 05 39.0**	**+0.6**
OUK				iS	**Sg**	**02 05 42.0**	**-0.2**
CIA	**Chichaoua**	**0.59**	**303**	iP	**Pn**	**02 05 47.0**	**-0.3**
CIA				iS	**Sn**	**02 05 59.0**	**+2.0**
AFS	**Agadir Fac de**	**1.40**	**234**	iP	**Pn**	**02 05 58.0**	**-0.5**
AFS				iS	**Sb**	**02 06 14.0**	**-3.1**
TZC	**Tazercounte**	**1.70**	**58**	iP	**Pb**	**02 06 04.0**	**-0.2**
TZC				iS	**Sn**	**02 06 25.0**	**+0.4**
YBT	**Youssef Ben Ta**	**1.80**	**219**	iP	**Pn**	**02 06 02.0**	**-1.9**
YBT				iS	**Sn**	**02 06 23.0**	**-3.9**
AVE	**Averroes**	**2.14**	**17**	eP	**Pb**	**02 06 14.0**	**+2.2**
KIB	**El Ksiba**	**2.25**	**53**	iP	**Pn**	**02 06 11.0**	**+0.8**
KIB				iS	**Sb**	**02 06 41.0**	**-0.6**
RTC	**Rabat Centre**	**2.95**	**22**	eP	**Pb**	**02 06 24.0**	**-1.5**
RTC				eS	**Sn**	**02 06 59.0**	**+3.8**
ZFT	**Errachidia**	**3.36**	**76**	iP	**Pn**	**02 06 27.0**	**+1.5**
ZFT				iS	**Sn**	**02 07 05.0**	**-0.6**
PVLZ	**Peæn de**	**5.09**	**39**	eP	**Pn**	**02 06 51.0**	**+1.9**
PVLZ				eS	**Sn**	**02 07 50.3**	**+2.4**
EJIF	**Jimena Fronter**	**5.66**	**23**	P	**Pn**	**02 07 00.9**	**+3.9**
	0.9nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**02 08 02.0**	**0.0**
	0.7nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**5.66**	**23**	P	**Pn**	**02 07 00.9**	**+3.9**
	0.9nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**02 08 02.0**	**0.0**
	0.7nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.89**	**355**	ePn	**Pn**	**02 07 01.8**	**+1.6**
PFVI				eSn	**Sn**	**02 08 07.2**	**-0.6**
PFVI				A	A	02 08 10.8	
	9.8nm,0.4s						
PFVI	**Vila Bisbo**	**5.89**	**355**	P	**Pn**	**02 07 01.3**	**+1.1**
	1.6nm,0.1s,SNR=10						
PFVI				S	**Sn**	**02 08 06.3**	**-1.5**
	6.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.89**	**355**	P	**Pn**	**02 07 01.3**	**+1.1**
	1.6nm,0.1s,SNR=10						
PFVI	**Vila Bisbo**	**5.89**	**355**	ePn	**Pn**	**02 07 01.8**	**+1.6**
PFVI				S	**Sn**	**02 08 06.3**	**-1.5**
	6.8nm,0.1s,SNR=7.9						
PFVI				eSn	**Sn**	**02 08 07.2**	**-0.6**
	9.8nm,0.4s						
ESPR	**Espera**	**5.93**	**18**	P	**Pn**	**02 07 04.4**	**+3.7**
	1.1nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**02 08 06.8**	**-1.8**
	6.1nm,0.3s,SNR=7.9						
ESPR	**Espera**	**5.93**	**18**	P	**Pn**	**02 07 04.4**	**+3.7**
	1.1nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**02 08 06.8**	**-1.8**
	6.1nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**6.01**	**27**	P	**Pn**	**02 07 03.7**	**+1.9**
	0.8nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**02 08 10.2**	**-0.6**
	2.0nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**6.01**	**27**	P	**Pn**	**02 07 03.7**	**+1.9**
	0.8nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**02 08 10.1**	**-0.6**
	2.0nm,0.3s,SNR=7.9						
MORF	**Marmelete**	**6.06**	**356**	eP	**Pn**	**02 07 03.8**	**+1.3**
MORF				eS	**Sn**	**02 08 08.3**	**-3.6**
MORF				AML	AML	02 08 08.8	
	comp=E,3.7nm,0.3s						
MORF	**Marmelete**	**6.06**	**356**	ePn	**Pn**	**02 07 04.3**	**+1.8**
MORF				eSn	**Sn**	**02 08 12.3**	**+0.4**
MORF				A	A	02 08 15.9	
	comp=E,9.5nm,0.4s						
MORF	**Marmelete**	**6.06**	**356**	ePn	**Pn**	**02 07 04.3**	**+1.8**
MORF				eSn	**Sn**	**02 08 12.3**	**+0.4**
	comp=E,9.5nm,0.4s						
PVAQ	**Vaqueiros**	**6.15**	**3**	ePn	**Pn**	**02 07 05.0**	**+1.3**
PVAQ				eSn	**Sn**	**02 08 13.4**	**-0.8**
PVAQ				A	A	02 08 16.3	
	comp=E,8.4nm,0.2s						
PVAQ	**Vaqueiros**	**6.15**	**3**	ePn	**Pn**	**02 07 05.0**	**+1.3**
PVAQ				eSn	**Sn**	**02 08 13.4**	**-0.8**
	comp=E,8.4nm,0.2s						
EGRO	**El Granado**	**6.30**	**5**	P	**Pn**	**02 07 07.2**	**+1.5**
	comp=E,1.1nm,0.1s,SNR=18						
EGRO				S	**Sn**	**02 08 15.8**	**-1.9**
	comp=E,10nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**6.30**	**5**	P	**Pn**	**02 07 07.2**	**+1.5**
	comp=E,1.1nm,0.1s,SNR=18						
EGRO				S	**Sn**	**02 08 15.8**	**-1.9**
	comp=E,10nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**6.30**	**356**	ePn	**Pn**	**02 07 07.4**	**+1.7**
PTEO				eSn	**Sn**	**02 08 17.8**	**+0.1**
PTEO				A	A	02 08 24.4	
	comp=E,7.6nm,0.5s						
PTEO	**Sao Teotonio**	**6.30**	**356**	ePn	**Pn**	**02 07 07.4**	**+1.7**
PTEO				eSn	**Sn**	**02 08 17.8**	**+0.1**
	comp=E,7.6nm,0.5s						
PCVE	**Castro Verde**	**6.37**	**1**	ePn	**Pn**	**02 07 08.8**	**+2.1**
PCVE				eSn	**Sn**	**02 08 18.9**	**-0.6**
PCVE				A	A	02 08 21.7	
	comp=E,8.3nm,0.4s						
PCVE	**Castro Verde**	**6.37**	**1**	ePn	**Pn**	**02 07 08.8**	**+2.1**
PCVE				eSn	**Sn**	**02 08 18.9**	**-0.6**
	comp=E,8.3nm,0.4s						
EMIN	**Mina Concepcio**	**6.62**	**10**	P	**Pn**	**02 07 11.2**	**+1.0**
	comp=E,1.2nm,0.1s,SNR=21						
EMIN				S	**Sn**	**02 08 23.2**	**-2.5**
	comp=E,3.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.62**	**10**	P	**Pn**	**02 07 11.2**	**+1.0**
	comp=E,1.2nm,0.1s,SNR=21						
EMIN				S	**Sn**	**02 08 23.2**	**-2.5**
	comp=E,3.8nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**6.75**	**29**	P	**Pn**	**02 07 14.3**	**+2.2**
	comp=E,0.7nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**02 08 30.7**	**+1.6**
	comp=E,1.7nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**6.75**	**29**	P	**Pn**	**02 07 14.3**	**+2.2**
	comp=E,0.7nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**02 08 30.7**	**+1.6**
	comp=E,1.7nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**6.76**	**33**	P	**Pn**	**02 07 12.3**	**+0.1**
	comp=E,1.4nm,0.3s,SNR=7.9						
ELGU				S	**Sn**	**02 08 26.5**	**-2.7**
	comp=E,4.8nm,0.5s,SNR=7.9						
PBEJ	**Beja**	**6.77**	**2**	eSn	**Sn**	**02 08 29.1**	**-0.2**
PBEJ				A	A	02 08 44.1	
	comp=E,3.4nm,0.8s						
PBEJ	**Beja**	**6.77**	**2**	eSn	**Sn**	**02 08 29.1**	**-0.2**
	comp=E,3.4nm,0.8s						
PNCL	**Nicolau / Gran**	**6.85**	**358**	ePn	**Pn**	**02 07 15.5**	**+2.1**
PNCL				eSn	**Sn**	**02 08 31.0**	**-0.4**
PNCL				A	A	02 08 43.6	
	comp=E,4.4nm,0.4s						
PNCL	**Nicolau / Gran**	**6.85**	**358**	ePn	**Pn**	**02 07 15.5**	**+2.1**
PNCL				eSn	**Sn**	**02 08 31.0**	**-0.4**
	comp=E,4.4nm,0.4s						
PBAR	**Barrancos**	**6.97**	**7**	ePn	**Pn**	**02 07 16.4**	**+1.4**
PBAR				eSn	**Sn**	**02 08 33.9**	**-0.5**
PBAR				A	A	02 08 38.0	
	comp=E,9.2nm,0.3s						
PBAR	**Barrancos**	**6.97**	**7**	ePn	**Pn**	**02 07 16.4**	**+1.4**
PBAR				eSn	**Sn**	**02 08 33.9**	**-0.5**
	comp=E,9.2nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EQUE	Quentar	7.12	32	P	Pn	02 07 19.5	+2.4
	comp=E,0.8nm,0.4s,SNR=7.9						
EQUE				S	Sn	02 08 37.1	-1.1
	comp=E,0.4nm,0.2s,SNR=7.9						
EQUE	Quentar	7.12	32	P	Pn	02 07 19.5	+2.4
	comp=E,0.8nm,0.4s,SNR=7.9						
EQUE				S	Sn	02 08 37.1	-1.1
	comp=E,0.4nm,0.2s,SNR=7.9						
ECAB	El Cabril	7.18	18	P	Pn	02 07 18.9	+1.1
	comp=E,1.4nm,0.3s,SNR=11						
ECAB				S	Sn	02 08 36.6	-2.9
	comp=E,1.5nm,0.1s,SNR=5.6						
ECAB	El Cabril	7.18	18	P	Pn	02 07 19.0	+1.1
	comp=E,1.4nm,0.3s,SNR=11						
ECAB				S	Sn	02 08 36.6	-2.9
	comp=E,1.5nm,0.1s,SNR=5.6						
EVO	Evora	7.27	1	*e*Pn	Pn	02 07 20.7	+1.6
EVO				*e*Sn	Sn	02 08 40.5	-1.1
EVO				A	A	02 08 42.9	
	comp=E,4.1nm,0.3s						
EVO	Evora	7.27	1	*e*Pn	Pn	02 07 20.7	+1.6
EVO				*e*Sn	Sn	02 08 40.5	-1.1
	comp=E,4.1nm,0.3s						
EADA	Adamuz	7.51	22	P	Pn	02 07 23.1	+0.6
	comp=E,4.8nm,0.2s,SNR=26						
EADA				S	Sn	02 08 44.1	-3.6
	comp=E,1.8nm,0.1s,SNR=7.9						
EADA	Adamuz	7.51	22	P	Pn	02 07 23.1	+0.6
	comp=E,4.8nm,0.2s,SNR=26						
EADA				S	Sn	02 08 44.1	-3.6
	comp=E,1.8nm,0.1s,SNR=7.9						
EBAD	Badajoz	7.55	7	P	Pn	02 07 24.4	+1.5
	comp=E,0.4nm,0.2s,SNR=9.1						
EBAD				S	Sn	02 08 46.0	-2.6
	comp=E,4.1nm,0.2s,SNR=7.9						
EBAD	Badajoz	7.55	7	P	Pn	02 07 24.5	+1.5
	comp=E,0.4nm,0.2s,SNR=9.1						
EBAD				S	Sn	02 08 46.0	-2.6
	comp=E,4.1nm,0.2s,SNR=7.9						
PESTR	Estremoz	7.62	3	*e*Pn	Pn	02 07 26.2	+2.3
PESTR				*e*Sn	Sn	02 08 49.5	-0.8
PESTR				A	A	02 08 53.1	
	comp=E,2.8nm,0.4s						
PESTR	Estremoz	7.62	3	*e*Pn	Pn	02 07 26.2	+2.3
PESTR				*e*Sn	Sn	02 08 49.5	-0.8
	comp=E,2.8nm,0.4s						
PMAFR	Mafra	7.74	354	*e*Pn	Pn	02 07 28.9	+3.3
PMAFR				*e*Sn	Sn	02 08 52.9	-0.4
PMAFR				A	A	02 08 54.9	
	comp=E,15nm,1.0s						
PMAFR	Mafra	7.74	354	P	Pn	02 07 27.9	+2.3
	comp=E,4.1nm,0.4s,SNR=7.9						
PMAFR				S	Sn	02 08 50.3	-3.0
	comp=E,20nm,0.4s,SNR=7.9						
PMAFR	Mafra	7.74	354	P	Pn	02 07 27.9	+2.3
	comp=E,4.1nm,0.4s,SNR=7.9						
PMAFR	Mafra	7.74	354	*e*Pn	Pn	02 07 28.9	+3.3
PMAFR				S	Sn	02 08 50.3	-3.0
	comp=E,20nm,0.4s,SNR=7.9						
PMAFR				*e*Sn	Sn	02 08 52.9	-0.4
	comp=E,15nm,1.0s						
EQES	Quesada	7.78	31	P	Pn	02 07 27.6	+1.4
	comp=E,0.6nm,0.3s,SNR=7.9						
EQES				S	Sn	02 08 52.5	-1.8
	comp=E,1.3nm,0.3s,SNR=7.9						
EQES	Quesada	7.78	31	P	Pn	02 07 27.6	+1.4
	comp=E,0.6nm,0.3s,SNR=7.9						
EQES				S	Sn	02 08 52.5	-1.8
	comp=E,1.3nm,0.3s,SNR=7.9						
PMTG	Montargil	7.80	360	*e*Pn	Pn	02 07 28.3	+1.9
PMTG				*e*Sn	Sn	02 08 52.5	-2.3
PMTG				A	A	02 09 07.9	
	comp=E,3.2nm,0.5s						
PMTG	Montargil	7.80	360	*e*Pn	Pn	02 07 28.3	+1.9
PMTG				*e*Sn	Sn	02 08 52.5	-2.3
	comp=E,3.2nm,0.5s						
PMRV	Marv??o	8.19	4	*e*Pn	Pn	02 07 33.1	+1.4
PMRV				*e*Sn	Sn	02 09 02.8	-1.5
PMRV				A	A	02 09 08.6	
	comp=E,2.9nm,0.5s						
PMRV	Marv??o	8.19	4	*e*Pn	Pn	02 07 33.1	+1.4
PMRV				*e*Sn	Sn	02 09 02.8	-1.5
	comp=E,2.9nm,0.5s						
SESP	Santiago Espad	8.28	33	P	Pn	02 07 35.6	+2.5
	comp=E,0.6nm,0.2s,SNR=7.9						
SESP				S	Sn	02 09 04.8	-1.9
	comp=E,1.2nm,0.2s,SNR=7.9						
SESP	Santiago Espad	8.28	33	P	Pn	02 07 35.6	+2.5
	comp=E,0.6nm,0.2s,SNR=7.9						
SESP				S	Sn	02 09 04.8	-1.9
	comp=E,1.2nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	8.59	4	*e*Pn	Pn	02 07 39.8	+2.6
PCBR				*e*Sn	Sn	02 09 12.9	-1.3
PCBR				A	A	02 09 17.9	
	comp=E,1.6nm,0.3s						
PCBR	Castelo Branco	8.59	4	*e*Pn	Pn	02 07 39.8	+2.6
PCBR				*e*Sn	Sn	02 09 12.9	-1.3
	comp=E,1.6nm,0.3s						
PCAS	Casmilo, Conde	8.79	358	*e*Pn	Pn	02 07 41.9	+2.0
PCAS	Casmilo, Conde	8.79	358	*e*Pn	Pn	02 07 41.9	+2.0
EPLA	Plasencia	8.96	10	P	Pn	02 07 42.8	+0.5
	comp=E,0.9nm,0.2s,SNR=9.9						
EPLA				S	Sn	02 09 19.6	-3.7
	comp=E,1.5nm,0.2s,SNR=7.9						
EPLA	Plasencia	8.96	10	P	Pn	02 07 42.8	+0.5
	comp=E,0.9nm,0.2s,SNR=9.9						
EPLA				S	Sn	02 09 19.6	-3.7
	comp=E,1.5nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	9.08	21	P	Pn	02 07 45.7	+1.7
	comp=E,0.3nm,0.1s,baz=200,slow=13,SNR=5.9						
ESDC				S	Sn	02 09 22.0	-4.3
	comp=E,2.3nm,0.2s,baz=202,slow=23,SNR=7.6						
ESDC	Sonseca Array	9.08	21	P	Pn	02 07 45.7	+1.7
	comp=E,0.3nm,0.1s,SNR=5.9						
ESDC				S	Sn	02 09 22.0	-4.3
	comp=E,2.3nm,0.2s,SNR=7.6						
MTE	Manteigas	9.15	3	*e*Sn	Sn	02 09 27.1	-0.8
MTE	Manteigas	9.15	3	*e*Sn	Sn	02 09 27.1	-0.8
ETOB	Tobarra	9.17	35	P	Pn	02 07 47.4	+2.1
	comp=E,0.5nm,0.2s,SNR=13						
ETOB	Tobarra	9.17	35	P	Pn	02 07 47.3	+2.1
	comp=E,0.5nm,0.2s,SNR=13						
GUD	Guadarrama	9.93	18	P	Pn	02 07 57.2	+1.6
	comp=E,0.1nm,0.2s,SNR=7.9						
GUD				S	Sn	02 09 41.9	-5.3
	comp=E,1.1nm,0.3s,SNR=7.9						
GUD	Guadarrama	9.93	18	P	Pn	02 07 57.2	+1.6
	comp=E,0.1nm,0.2s,SNR=7.9						
GUD				S	Sn	02 09 41.9	-5.3
	comp=E,1.1nm,0.3s,SNR=7.9						
MVO	Moncorvo	9.94	5	*e*Pn	Pn	02 07 57.7	+1.9
MVO				A	A	02 09 49.9	
	comp=E,2.4nm,0.4s						
MVO	Moncorvo	9.94	5	P	Pn	02 07 56.9	+1.1
	comp=E,0.5nm,0.1s,SNR=7.9						
MVO				S	Sn	02 09 44.1	-3.3
	comp=E,1.3nm,0.2s,SNR=7.9						
MVO	Moncorvo	9.94	5	P	Pn	02 07 56.9	+1.1
	comp=E,0.5nm,0.1s,SNR=7.9						
MVO	Moncorvo	9.94	5	*e*Pn	Pn	02 07 57.7	+1.9
	comp=E,2.4nm,0.4s						
MVO				S	Sn	02 09 44.1	-3.3
	comp=E,1.3nm,0.2s,SNR=7.9						
POLO	Lamas de Olo	10.11	2	*e*Sn	Sn	02 09 49.1	-2.5
POLO	Lamas de Olo	10.11	2	*e*Sn	Sn	02 09 49.1	-2.5
ELOB	Lobios	10.60	0	P	Pn	02 08 07.3	+2.5
	comp=E,0.2nm,0.2s,SNR=7.9						
ELOB				S	Sn	02 09 59.3	-4.3
	comp=E,1.0nm,0.3s,SNR=7.9						
ELOB	Lobios	10.60	0	P	Pn	02 08 07.3	+2.5
	comp=E,0.2nm,0.2s,SNR=7.9						
ELOB				S	Sn	02 09 59.3	-4.3
	comp=E,1.0nm,0.3s,SNR=7.9						
PGAV	Gavieira, Arco	10.70	360	*e*Pn	Pn	02 08 08.4	+2.2
PGAV	Gavieira, Arco	10.70	360	*e*Pn	Pn	02 08 08.4	+2.2
ECAL	Calabor	10.73	6	P	Pn	02 08 09.4	+2.7
	comp=E,0.2nm,0.2s,SNR=7.9						
ECAL				S	Sn	02 10 05.1	-1.8
	comp=E,1.7nm,0.3s,SNR=7.9						
ECAL	Calabor	10.73	6	P	Pn	02 08 09.4	+2.7
	comp=E,0.2nm,0.2s,SNR=7.9						
ECAL				S	Sn	02 10 05.1	-1.8
	comp=E,1.7nm,0.3s,SNR=7.9						
ETOR	Torete	10.76	26	P	Pn	02 08 08.7	+1.7
	comp=E,0.8nm,0.2s,SNR=107						
ETOR				S	Sn	02 10 02.2	-5.3
	comp=E,0.7nm,0.3s,SNR=7.9						
ETOR	Torete	10.76	26	P	Pn	02 08 08.7	+1.7
	comp=E,0.8nm,0.2s,SNR=107						
ETOR				S	Sn	02 10 02.2	-5.3
	comp=E,0.7nm,0.3s,SNR=7.9						
IELO	Elcoad	12.83	24	P	Pn	02 08 36.0	+0.7
	comp=E,0.5nm,0.2s,SNR=7.9						
IELO	Elcoad	12.83	24	P	Pn	02 08 36.0	+0.7
	comp=E,0.5nm,0.2s,SNR=7.9						
EALK	Alkurruntz	13.07	22	P	Pn	02 08 41.1	+2.5
	comp=E,0.9nm,0.4s,SNR=7.9						
EALK	Alkurruntz	13.07	22	P	Pn	02 08 41.1	+2.5
	comp=E,0.9nm,0.4s,SNR=7.9						
ATE	Arette	13.23	25	P	Pn	02 08 42.8	+2.1
	comp=E,0.5nm,0.2s,SNR=7.9						
ATE	Arette	13.23	25	P	Pn	02 08 42.8	+2.1
	comp=E,0.5nm,0.2s,SNR=7.9						

MEX 02 02:07:22.7±0.6, 15.14N×93.95W, h15km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.90	52	*e*P	Pb	02 07 36.8	-3.2
PCIG				*e*S	Sb	02 07 48.2	-3.6
TGIG		1.81	26	*i* P	Pn	02 07 50.5	-3.0
TGIG				*i* S	Sn	02 08 12.2	-3.9
CCIG	Comitan	2.08	57	*i* P	Pn	02 07 54.2	-3.1
CCIG				*i* S	Sn	02 08 19.3	-3.8

*ISK **02** 02:20:21.1, 39.08N×28.15E, h18km, ML2.6/7*
*DDA **02** 02:20:21.5, 39.12N×28.17E, h7km, Ml2.6*
*ISCJB **02** 02:20:22.2±0.5, 39.08N±0.04×28.16E±0.03, h17km±7km, Error ellipse: s-maj=6.7km s-min=4.1km az=20.1*
*CSEM **02** 02:20:22.3±0.1, 39.08N×28.16E, h16km±1km, ML2.6, Error ellipse: s-maj=2.4km s-min=1.5km az=38.0*
ISC 02 02:20:21.4±1.0, 39.07N±0.03×28.16E±0.02, h15km±9km, n21, σ0.37/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.33	235	*i* P	Pb	02 20 29.2	+0.1
AKHS				*i* S	Sb	02 20 34.2	0.0
AKHS	Akhisar	0.33	235	P	Pb	02 20 29.2	+0.1
AKHS				S	Sb	02 20 34.2	0.0
AKS	Akhisar	0.33	235	PG	Pg	02 20 28.5	+0.2
AKS	Akhisar	0.33	235	*e*Pg	Pg	02 20 28.5	+0.2
DEMI	Demirci	0.43	94	*i* P	Pb	02 20 31.2	+0.4
DEMI				*i* S	Sb	02 20 37.0	-0.1
DEMI	Demirci	0.43	94	P	Pb	02 20 31.2	+0.4
DEMI				S	Sb	02 20 37.0	-0.1
STEP	BALIKESIR_Sava	0.46	312	*i* P	Pg	02 20 30.5	-0.1
STEP				*i* S	Sg	02 20 37.1	+0.2
BALB	Balikesir	0.61	339	PG	Pb	02 20 33.9	+0.1
BALB				SG	Sb	02 20 42.7	+0.5
BALB	Balikesir	0.61	339	*e*Pg	Pb	02 20 33.9	+0.1
BALB				*e*Sg	Sb	02 20 42.7	+0.5
SIMA	Simav-Kutahya	0.64	89	PG	Pb	02 20 34.4	+0.1
KULA	Kula-Manisa	0.68	145	PG	Pn	02 20 35.9	-0.7
KULA				SG	Sb	02 20 44.8	+0.6
KULA	Kula-Manisa	0.68	145	*e*Pg	Pn	02 20 35.9	-0.7
KULA				*e*Sg	Sb	02 20 44.8	+0.6
GDZ	Gediz	1.03	89	*i* P	Pb	02 20 40.9	-0.1
GDZ				*i* S	Sg	02 20 54.7	0.0
GDZ	Gediz	1.03	89	P	Pb	02 20 40.9	-0.1
GDZ				S	Sg	02 20 54.7	0.0
TVSB	Tavsanli	1.08	69	PN	Pn	02 20 41.9	-0.2
TVSB				SN	Sn	02 20 56.9	+0.1
TVSB	Tavsanli	1.08	69	*e*Pn	Pn	02 20 41.9	-0.2
TVSB				*e*Sn	Sn	02 20 56.9	+0.1
KCTX	Karacabey (Bur	1.20	7	PN	Pn	02 20 43.5	-0.2
KCTX				SN	Sg	02 20 59.9	-0.4
KCTX	Karacabey (Bur	1.20	7	*e*Pn	Pn	02 20 43.5	-0.2
KCTX				*e*Sn	Sg	02 20 59.9	-0.4
EDC	Edincik	1.29	350	PN	Pn	02 20 44.3	-0.7
EDC				SN	Sn	02 21 02.3	+0.2
EDC	Edincik	1.29	350	*e*Pn	Pn	02 20 44.3	-0.7
EDC				*e*Sn	Sn	02 21 02.3	+0.2
BAYC	CANAKKALE_Bayr	1.42	299	*i* P	Pb	02 20 48.1	+0.5
BAYC				*i* S	Sg	02 21 06.6	-0.6

*ISCJB **02** 02:34:06.2±0.8, 12.8N±0.1×144.3E±0.1, h54km, mb3.6/9, MS2.8/2, Error ellipse: s-maj=22.4km s-min=9.9km az=32.9*
*IDC **02** 02:34:08.2±1.3, 12.82N×144.56E, h64km±12km, mb3.4/9, mb1 3.6/9, mb1mx3.4/54, mbtmp3.7/9, MS2.9/3, Ms1 2.9/3, ms1mx2.6/31, Error ellipse: s-maj=35.0km s-min=16.3km az=96.0*
ISC 02 02:34:07.4±1.0, 12.8N±0.1×144.4E±0.2, h54km, n15, σ0.87/11, mb3.7/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.91	28	P	Pn	02 34 24.4	+0.3
	318nm,0.3s,baz=193,slow=2.9,SNR=75						
GUMO				S	Sn	02 34 37.1	+0.7
	335nm,0.3s,baz=94,slow=19,SNR=22						
DAV	Davao City (W)	19.41	255	LR	LR	02 45 42.0	
	comp=Z,28nm,21.0s,baz=313,slow=36						
H11N1	WAKE ISLAND Hy	22.63	69	T	T	03 02 44.7	
	baz=255,slow=75,SNR=39						
H11N2	WAKE ISLAND Hy	22.64	69	T	T	03 02 45.4	
	baz=255,slow=75,SNR=37						
H11N3	WAKE ISLAND Hy	22.65	69	T	T	03 02 46.0	
	baz=255,slow=75,SNR=30						
MJAR	Matsushiro Arr	24.31	348	P	P	02 39 20.5	+0.5
	1.9nm,0.8s,baz=167,slow=9.5,SNR=3.9						
MJAR				LR	LR	02 48 36.3	
	comp=Z,37nm,18.0s,baz=200,slow=36						
KSRS	Korea Array	28.66	332	LR	LR	02 51 20.6	
	comp=Z,21nm,19.1s,baz=340,slow=36						
WRA	Warramunga Arr	34.00	197	P	P	02 40 46.6	+0.3
	0.6nm,0.6s,baz=21,slow=9.8,SNR=9.9						
ASAR	Alice Springs	37.66	196	P	P	02 41 18.2	+0.6
	0.3nm,0.7s,baz=18,slow=13,SNR=3.7						
SONM	Songino Array	47.14	326	P	P	02 42 34.7	+0.1
	0.4nm,0.6s,baz=142,slow=9.4,SNR=4.3						
MKAR	Makanchi Array	61.77	316	P	P	02 44 20.8	+0.1
	0.2nm,0.5s,baz=96,slow=9.6,SNR=5.5						
KURBB	Kurchatov Arra	64.96	320	P	P	02 44 41.0	-0.5
	0.8nm,0.7s,baz=108,slow=7.0,SNR=10						
ILAR	Eielson Array	69.48	25	P	P	02 45 07.9	-2.1
	0.2nm,0.4s,baz=251,slow=5.4,SNR=9.4						
BVAR	Borovoye Array	70.29	322	P	P	02 45 15.2	0.0
	0.4nm,0.4s,baz=84,slow=4.5,SNR=3.0						
YKA	Yellowknife Ar	83.77	27	P	P	02 46 31.2	+0.6
	0.4nm,0.5s,baz=286,slow=5.1,SNR=8.4						

*IDC **02** 02:39:42.6±1.8, 0.51S×133.04E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.7/43, mbtmp4.1/4, ML4.1/1, Error ellipse: s-maj=43.6km s-min=24.0km az=58.0*
*ISCJB **02** 02:39:45.2±1.1, 0.47S±0.08×133.04E±0.07, h32km, mb4.0/3, Error ellipse: s-maj=11.2km s-min=10.1km az=38.5*
*DJA **02** 02:39:48.6±0.5, 1°S±4°×13°3E±°, h10km, M4.4/3, mb4.9/2, MLv4.2/3*
ISC 02 02:39:47.8±1.3, 0.46S±0.10×132.88E±0.07, h32km, n11, σ2.65/16, mb4.3/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.66	129	P	Pb	02 40 18.8	+1.0
RKPI				S	Sb	02 40 41.1	+2.7
SIJI	Sorong	1.67	256	Pn	Pn	02 40 14.8	0.0
	92nm,0.3s,baz=46,slow=17,SNR=242						
SIJI				Sn	Sn	02 40 36.6	+1.5
	116nm,0.3s,baz=199,slow=22,SNR=23						
SWI	Sorong	1.67	256	P	Pn	02 40 15.3	+0.4
FAKI	Fak Fak	2.52	195	P	Pn	02 40 26.5	-0.1
FAKI				S	Sn	02 40 56.7	+0.4
MSAI	Masohi	4.88	234	P	Pn	02 41 02.3	+3.2
BNDI	Bandanaira	5.01	216	P	Pn	02 41 04.6	+3.7
BNDI				S	Sn	02 41 59.0	+1.2
AAI	Ambon	5.68	236	P	Pn	02 41 08.8	-1.2
WRA	Warramunga Arr	19.42	176	P	P	02 44 10.0	-1.5
	0.6nm,0.3s,baz=356,slow=11,SNR=36						
WRA				S	S	02 47 35.6	-14
	0.1nm,0.3s,baz=355,slow=24,SNR=4.5						
ASAR	Alice Springs	23.09	178	P	P	02 44 50.0	-1.0
	5.5nm,0.5s,baz=355,slow=11,SNR=50						
ASAR				S	S	02 48 53.3	-6.9
	0.9nm,1.0s,baz=0.0,slow=29,SNR=3.1						
STKA	Stephens Creek	32.32	166	P	P	02 46 12.4	-1.7
	3.3nm,0.4s,baz=335,slow=9.7,SNR=11						
MKAR	Makanchi Array	64.51	324	P	P	02 50 22.2	+0.6
	0.2nm,0.6s,baz=118,slow=8.3,SNR=4.2						

*SJA **02** 02:44:48.2±1.1, 23.50S×67.03W, h225km±14km, ML2.9, MW2.9*
*ISCJB **02** 02:44:51.2±0.5, 23.62S±0.04×67.09W±0.05, h196km, Error ellipse: s-maj=7.3km s-min=4.2km az=43.8*
*GUC **02** 02:44:53.1±0.5, 23.40S×67.59W, h242km±12km, ML4.0*
ISC 02 02:44:51.1±1.2, 23.62S±0.05×67.05W±0.05, h196km, n20, σ1.12/33, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.56	75	*e*P	Pn	02 45 25.6	+0.1
HJA				IAML		02 45 26.2	
	comp=Z,15nm,0.6s						
SLA	San Lorenzo	1.79	128⇓	*e*P	Pn	02 45 28.3	+1.0
SLA				IAML		02 45 29.8	
	comp=Z,63nm,0.6s						
SLA				*e*S	Sn	02 45 57.6	+2.1
AZAP	Zapla	1.91	109	*e*P	Pn	02 45 28.3	-0.4
PB06	IPOC Station P	2.49	291	*e*P	Pn	02 45 36.0	+1.2
PB06				*e*S	Sn	02 46 09.1	+0.3
PB06				IAML		02 46 11.3	
	comp=E,322nm,0.1s						
FSA	Cafayete	2.66	159	*e*P	Pn	02 45 35.8	-1.0
PB09	IPOC Station P	2.72	312	*e*P	Pn	02 45 38.9	+1.5
PB09				*e*S	Sn	02 46 15.1	+1.6
PB09				IAML		02 46 18.7	
	comp=E,558nm,0.4s						
ANCH	Antofagasta	3.08	268⇑	*i*P	Pn	02 45 42.7	+1.3
ANCH				*i* S	Sn	02 46 20.4	-0.4
PB04	IPOC Station P	3.13	294⇑	*i*P	Pn	02 45 42.9	+0.6
PB04				IAML		02 46 26.2	
	comp=N,301nm,0.4s						
PB10	IPOC Station P	3.21	271	*e*P	Pn	02 45 43.9	+0.9
PB10				*e*S	Sn	02 46 22.5	-1.3
PB10	IPOC Station P	3.21	271	*e*P	Pn	02 45 44.0	+0.9
PB10				*e*S	Sn	02 46 22.5	-1.3
PB10				IAML		02 46 26.0	
	comp=E,257nm,0.2s						
PB14	IPOC Station P	3.22	251	*e*P	Pn	02 45 44.1	+0.6
PB14				*e*S	Sn	02 46 23.6	-0.8
PB14	IPOC Station P	3.22	251	*e*P	Pn	02 45 44.0	+0.6
PB14				*i* S	Sn	02 46 23.4	-1.0
PB14				IAML		02 46 25.0	
	comp=E,108nm,0.5s						
PB07	IPOC Station P	3.23	305	*e*P	Pn	02 45 44.1	+0.6
PB07				*e*S	Sn	02 46 23.0	-1.3
PB07				IAML		02 46 23.9	
	comp=N,402nm,0.3s						
PB01	IPOC Station P	3.42	318⇓	*i*P	Pn	02 45 46.1	+0.5
PB01				*i* S	Sn	02 46 27.3	-1.0
PB02	IPOC Station P	3.49	311	*e*P	Pn	02 45 46.9	+0.3
PB02				*e*S	Sn	02 46 27.9	-2.0
AHML	Horco Molle	3.51	154	*e*P	Pn	02 45 46.4	-0.3
PB08	IPOC Station P	3.98	330	*e*P	Pn	02 45 54.2	+1.3
PB08				*e*S	Sn	02 46 41.0	-0.2
CYA	Choya	4.93	167	*e*P	Pn	02 46 04.6	+0.1
MNMC	Minye Minye	5.06	332	*e*P	Pn	02 46 06.2	-0.3
MNMC				*i* S	Sn	02 47 03.6	-2.2
VCA	Vinchina	5.20	191	*e*P	Pn	02 46 09.2	+1.2
VCA				IAML		02 46 10.2	
	comp=Z,9.5nm,0.3s						

KRSC 02 02:57:10.8±1.2, 50.88N×157.56E, h83km±23km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.94	258	*i* P	Pn	02 57 30.4	+1.1
SKR				*e*S	Sn	02 57 44.4	+1.3
ASAK	Asacha	1.52	8	*e*P	Pn	02 57 38.3	+1.8
MTVR	Mutnovka	1.65	13	*e*P	Pn	02 57 40.6	+2.3
MTVR				*e*S	Sn	02 58 02.0	+2.9
RUS	Russkaya	1.66	20	*e*P	Pn	02 57 40.1	+1.8
RUS				*e*S	Sn	02 58 01.3	+2.2
PET	Petropavlovsk	2.25	17	*e*P	Pn	02 57 47.8	+1.8
PET				*e*S	Sn	02 58 14.6	+1.6
DALK	Dalny	2.27	18	*e*P	Pn	02 57 48.5	+2.1
DALK				*e*S	Sn	02 58 15.9	+2.3
UGLR	Uglovaya	2.46	18	*e*P	Pn	02 57 51.6	+2.7
AVH	Avacha	2.49	16	*e*P	Pn	02 57 52.0	+2.6
AVH				*e*S	Sn	02 58 21.8	+2.8
SMAR	Somma	2.50	17	*e*P	Pn	02 57 51.7	+2.0
SDLR	Sedlovina	2.53	18	*e*P	Pn	02 57 52.0	+2.0
NLC	Nalytchevo	2.54	25	*e*P	Pn	02 57 50.9	+1.0
NLC				*e*S	Sn	02 58 20.8	+0.8
KRX	Arik	2.57	15	*e*P	Pn	02 57 53.1	+2.6
GNL	Ganaly	2.83	5	*e*P	Pn	02 57 55.7	+1.8

IDC 02 03:01:52.7±1.9, 9.92S×149.21E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.2/47, mbtmp3.3/4, ML2.9/1, MS2.2/1, Ms1 2.2/1, ms1mx2.1/19, Error ellipse: s-maj=56.2km s-min=32.9km az=143.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.08	284	Pn	Pn	03 02 29.5	+0.6
	8.3nm,0.3s,baz=261,slow=21,SNR=5.8						
PMG				Sn	Sn	03 02 52.5	-3.1
	14nm,0.3s,baz=328,slow=23,SNR=7.0						
PMG				LR	LR	03 03 38.4	
	comp=Z,67nm,21.9s,baz=58,slow=51						
WRA	Warramunga Arr	17.47	234	P	Pn	03 05 56.1	-1.8
	0.1nm,0.3s,baz=58,slow=13,SNR=6.8						
ASAR	Alice Springs	20.01	225	P	Pn	03 06 28.8	0.0
	0.7nm,0.8s,baz=43,slow=10,SNR=5.5						
ILAR	Eielson Array	88.22	23	P	P	03 14 46.1	+0.6
	0.2nm,0.6s,baz=258,slow=4.5,SNR=4.3						
TORD	Torodi Ar. Bea	148.02	279	PKPbc	PKPdf	03 21 39.5	+1.3
	0.2nm,0.6s,baz=71,slow=4.1,SNR=2.5						

*ISCJB **02** 03:07:22.6±1.1, 19.05N±0.10×145.3E±0.3, h214km, mb3.4/5, Error ellipse: s-maj=45.9km s-min=11.0km az=170.3*
*IDC **02** 03:07:26.4±3.8, 19.07N×145.37E, h239km±37km, mb3.2/5, mb1 3.5/7, mb1mx3.1/66, mbtmp4.0/7, Error ellipse: s-maj=53.3km s-min=14.7km az=92.0*
ISC 02 03:07:23.9±1.2, 19.1N±0.1×145.3E±0.4, h214km, n7, σ1.41/8, mb3.6/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	8.45	341	P	Pn	03 09 24.8	+1.8
	baz=287,slow=19						
JCJ				S	S	03 10 56.9	-1.5
	2.1nm,0.3s,baz=288,slow=20,SNR=1.9						
MJAR	Matsushiro Arr	18.46	342	P	Pn	03 11 26.1	-0.4
	0.3nm,0.3s,baz=161,slow=10,SNR=3.1						
WRA	Warramunga Arr	40.27	196	P	P	03 14 40.3	0.0
	1.3nm,0.3s,baz=19,slow=8.7,SNR=52						
ASAR	Alice Springs	43.95	195	P	P	03 15 09.9	-0.1
	1.2nm,0.5s,baz=16,slow=7.4,SNR=18						
KURBB	Kurchatov Arra	60.77	318	P	P	03 17 14.0	+0.9
	0.2nm,0.4s,baz=90,slow=7.6,SNR=4.1						
YKA	Yellowknife Ar	77.80	28	P	P	03 18 57.5	+0.3
	0.2nm,0.6s,baz=282,slow=5.1,SNR=4.5						
FINES	FINESS Array B	86.36	335	P	P	03 19 39.8	-1.9
	0.5nm,0.3s,baz=77,slow=3.0,SNR=4.9						

*ISCJB **02** 03:13:32.9±0.4, 23.93N±0.02×122.07E±0.02, h29km±3km, Error ellipse: s-maj=3.8km s-min=2.4km az=150.5*
*JMA **02** 03:13:32.9, 23.92N×122.03E, h34km±2km, M2.4*
*TAP **02** 03:13:33.2, 23.96N×122.01E, h32km, ML3.2, D*
ISC 02 03:13:33.0±1.1, 23.93N±0.02×122.02E±0.02, h33km±7km, n56, σ0.62/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.39	277	*e*S	Sn	03 13 49.1	+0.5
	baz=272						
TWD	Chiawan	0.42	291	P	Pb	03 13 42.4	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=288						
TWD				eS	Sn	03 13 49.2	-0.2
	baz=288						
ENAH	**Nanao**	**0.55**	**339**	P	**Pn**	**03 13 44.7**	**+0.1**
	baz=339						
ENAH				eS	**Sn**	**03 13 53.5**	**+0.8**
	baz=339						
ESL	**Shilin**	**0.55**	**258**	eS	**Sn**	**03 13 53.2**	**+0.5**
	baz=254						
TWC	**Suao**	**0.69**	**347**	P	**Pb**	**03 13 46.8**	**+0.1**
	baz=347						
TWC				eS	**Sb**	**03 13 55.9**	**-0.2**
	baz=347						
WHF	**Hehuan Shan**	**0.73**	**287**	P	**Pn**	**03 13 47.1**	**-0.3**
	baz=285						
WHF				S	**Sb**	**03 13 57.4**	**-0.1**
	baz=285						
NNSH	**Datong**	**0.77**	**310**	P	**Pn**	**03 13 47.6**	**-0.1**
	baz=309						
NNSH				eS	**Sn**	**03 13 57.7**	**-0.5**
	baz=309						
EHY	**Hungye**	**0.77**	**237**	eP	**Pn**	**03 13 47.2**	**-0.4**
	baz=234						
EHY				eS	**Sn**	**03 13 58.0**	**-0.1**
	baz=234						
NNS	**Nan Shan**	**0.78**	**311**	P	**Pn**	**03 13 47.7**	**-0.2**
	baz=309						
NNS				S	**Sn**	**03 13 58.5**	**0.0**
	baz=309						
ENTT	**Nioudou**	**0.82**	**329**	P	**Pn**	**03 13 48.5**	**+0.2**
	baz=329						
ENTT				eS	**Sn**	**03 13 59.2**	**-0.1**
	baz=329						
TWT	**Tachien**	**0.84**	**293**	P	**Pb**	**03 13 49.1**	**-0.1**
	baz=290						
TWT				S	**Sb**	**03 14 00.6**	**+0.3**
	baz=290						
TWE	**Neicheng**	**0.85**	**338**	P	**Pn**	**03 13 48.8**	**+0.1**
	baz=338						
TWE				eS	**Sb**	**03 14 00.9**	**+0.4**
	baz=338						
ILA	**Ilan**	**0.87**	**343**	eP	**Pn**	**03 13 48.2**	**-0.7**
	baz=343						
TWF1	**Yuli**	**0.88**	**229**	eP	**Pn**	**03 13 49.3**	**+0.2**
	baz=227						
TWF1				eS	**Sn**	**03 14 00.9**	**+0.1**
	baz=227						
NTC	**Toucheng**	**0.94**	**349**	eP	**Pn**	**03 13 50.0**	**+0.2**
	baz=349						
NTC				eS	**Sb**	**03 14 03.4**	**+0.5**
	baz=349						
JYNG	**Yonagunijimaku**	**0.99**	**58**	P	**Pn**	**03 13 51.0**	**+0.4**
JYNG				S	**Sn**	**03 14 03.5**	**+0.1**
FULB	**Fuli**	**0.99**	**223**	eP	**Pb**	**03 13 51.6**	**-0.2**
	baz=221						
DPDB	**Guoxing**	**1.01**	**276**	eP	**Pb**	**03 13 51.7**	**-0.3**
	baz=274						
CHKT	**Chengkung**	**1.03**	**216**	eP	**Pn**	**03 13 51.6**	**+0.5**
	baz=214						
SMLT	**Sun Moon Lake**	**1.03**	**268**	eP	**Pb**	**03 13 52.1**	**-0.4**
	baz=265						
SMLT				eS	**Sb**	**03 14 06.4**	**+0.7**
	baz=265						
YOJ	**Yonaguni jima**	**1.04**	**59**	P	**Pn**	**03 13 51.8**	**+0.4**
YOJ				eS	**Sn**	**03 14 05.1**	**+0.3**
TIPB	**Shuangxi**	**1.05**	**350**	eP	**Pn**	**03 13 51.1**	**-0.4**
	baz=350						
TIPB				eS	**Sn**	**03 14 04.7**	**-0.4**
	baz=350						
TYC	**Yuchr**	**1.07**	**269**	eP	**Pn**	**03 13 52.3**	**+0.7**
	baz=267						
TWB1	**Santiao Chiao**	**1.07**	**358**	eP	**Pn**	**03 13 51.9**	**+0.2**
	baz=359						
TWB1				eS	**Sn**	**03 14 05.4**	**-0.1**
	baz=359						
YUS	**Yu-Shan**	**1.08**	**246**	eP	**Pb**	**03 13 53.0**	**-0.5**
	baz=244						
YUS				eS	**Sn**	**03 14 06.7**	**+0.3**
	baz=244						
NWF	**Wu-fen Shan**	**1.16**	**349**	eP	**Pb**	**03 13 53.8**	**-0.7**
	baz=349						
NWF				eS	**Sb**	**03 14 09.4**	**+0.1**
	baz=349						
NSTT	**Nanjuang**	**1.16**	**307**	eP	**Pb**	**03 13 54.2**	**-0.4**
	baz=306						
NSTT				eS	**Sb**	**03 14 08.7**	**-0.8**
	baz=306						
ELDTW	**Lidau**	**1.18**	**232**	eP	**Pn**	**03 13 53.2**	**-0.2**
	baz=229						
WJS	**Zhushan**	**1.19**	**265**	eS	**Sb**	**03 14 11.9**	**+1.7**
	baz=263						
TWQ1	**Liyutan**	**1.22**	**290**	eP	**Pb**	**03 13 54.9**	**-0.6**
	baz=288						
TWQ1				eS	**Sb**	**03 14 10.6**	**-0.3**
	baz=288						
WNT	**Mingjian**	**1.23**	**268**	eP	**Pb**	**03 13 56.0**	**+0.3**
	baz=266						
TCU	**Taichung**	**1.25**	**280**	eP	**Pb**	**03 13 56.4**	**+0.3**
	baz=278						
NMLH	**Miaoli**	**1.28**	**298**	eP	**Pb**	**03 13 55.9**	**-0.6**
	baz=297						
CHN5	**Tsauling**	**1.28**	**255**	eP	**Pb**	**03 13 56.2**	**-0.4**
	baz=253						
CHN5				eS	**Sb**	**03 14 13.3**	**+0.6**
	baz=253						
NCU	**National Centr**	**1.28**	**324**	eP	**Pb**	**03 13 55.8**	**-0.9**
	baz=323						
TWS1	**Kuangyinshan**	**1.29**	**335**	eP	**Pn**	**03 13 55.2**	**+0.5**
	baz=334						
PTSB	**Yuanli**	**1.31**	**293**	eP	**Pb**	**03 13 56.5**	**-0.6**
	baz=292						
YM03	**YM03**	**1.32**	**341**	eP	**Pb**	**03 13 56.2**	**-1.1**
	baz=340						
WCHH	**Zhanghua**	**1.35**	**277**	eP	**Pb**	**03 13 57.6**	**-0.1**
	baz=275						
WGK	**Gukeng**	**1.36**	**260**	eS	**Sb**	**03 14 15.5**	**+0.5**
	baz=258						
WDLH	**Douliu**	**1.38**	**260**	eS	**Sb**	**03 14 15.2**	**-0.4**
	baz=258						
STYT	**Tauyuan**	**1.39**	**237**	eP	**Pb**	**03 13 57.5**	**-1.0**
	baz=235						
TWY	**Chenhua**	**1.39**	**344**	eP	**Pn**	**03 13 57.1**	**+1.0**
	baz=344						
TWG	**Pinlang**	**1.41**	**219**	eS	**Sn**	**03 14 13.4**	**-0.5**
	baz=217						
CHN4	**Tsaushan**	**1.43**	**246**	eP	**Pb**	**03 13 58.8**	**-0.4**
	baz=245						
CHN4				eS	**Sb**	**03 14 18.4**	**+1.3**
	baz=245						
WTP	**Ta-pu**	**1.46**	**242**	eP	**Pb**	**03 13 58.8**	**-0.9**
	baz=240						
WTP				eS	**Sb**	**03 14 17.5**	**-0.5**
	baz=240						
CHN1	**Nanshi**	**1.56**	**242**	eP	**Pb**	**03 14 00.4**	**-1.0**
	baz=240						
CHN1				eS	**Sb**	**03 14 20.3**	**-0.5**
	baz=240						
IRIF	**Iriomote-Funau**	**1.61**	**75**	P	**Pn**	**03 13 59.9**	**+0.8**
IRIF				eS	**Sn**	**03 14 19.5**	**+0.7**
HATJ	**Hateruma jima**	**1.63**	**85**	P	**Pn**	**03 13 59.8**	**+0.3**
HATJ				eS	**Sn**	**03 14 19.4**	**0.0**
SSD	**Sandimen**	**1.74**	**228**	eP	**Pb**	**03 14 03.3**	**-1.1**
	baz=226						
JKRS	**Kuro-shima**	**1.84**	**80**	P	**Pn**	**03 14 03.5**	**+1.2**
JKRS				S	**Sn**	**03 14 25.9**	**+1.4**
LAY	**Lan-yu**	**1.93**	**193**	eS	**Sn**	**03 14 25.6**	**-1.2**
	baz=192						
JIJ	**Ishigaki jima**	**1.98**	**77**	P	**Pn**	**03 14 04.2**	**-0.1**
JIJ				S	**Sn**	**03 14 27.1**	**-0.9**
JISG	**Ishigakijimahi**	**2.19**	**72**	P	**Pn**	**03 14 07.1**	**0.0**
JISG				S	**Sn**	**03 14 31.9**	**-1.1**
WDGT	**Dungji**	**2.27**	**253**	eP	**Pn**	**03 14 09.3**	**+1.1**
	baz=252						
WDGT				eS	**Sn**	**03 14 35.6**	**+0.5**
	baz=252						
PNG	**Penghu**	**2.29**	**261**	eP	**Pn**	**03 14 09.4**	**+0.9**
	baz=260						

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*NIED **02** 03:15:00, 34°.40N×140°.30E, h62km, Mw3.7 Best double couple: Mo4.67000×10^14 NP1:φs154.00000°, δ69.00000°, λ-158.00000°. NP2:φs55.00000°, δ70.00000°, λ-23.00000°.*
*IDC **02** 03:15:58.1±3.4, 34°.48N×140°.56E, h37km±28km, mb3.3/3, mb1 3.6/5, mb1mx3.2/69, mbtmp3.6/5, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/34, Error ellipse: s-maj=42.8km s-min=16.7km az=85.0*
*JMA **02** 03:15:59.6±0.1, 34°.45N×140°.25E, h42km±2km, M3.6*
ISC 02 03:15:57.1±1.5**, 34°.41N**±0°.05×**140°.28E**±0°.05**, h20**km±7km**, n18,** σ1s.**20**/24**, mb3.7**/3**, 7C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.43**	**26**	⇓P	**Pn**	**03 16 09.5**	**+1.4**
BSO3				X		03 16 17.7	
BSO4	**Boso 4**	**0.58**	**5**	⇓P	**Pn**	**03 16 11.5**	**+1.3**
BSO4				X		03 16 21.3	
BSO1	**Boso 1**	**0.62**	**67**	⇑P	**Pn**	**03 16 11.3**	**+0.9**
BSO1				X		03 16 20.8	
TATJ	**Tateyama 2**	**0.70**	**333**	⇑P	**Pn**	**03 16 13.2**	**+1.3**
JIM2	**Oshima 3**	**0.77**	**294**	⇑P	**Pn**	**03 16 13.4**	**+0.5**
JIM2				eS	**Sg**	**03 16 23.1**	**+0.6**
JKO	**Kozu shima**	**0.97**	**257**	⇑P	**Pn**	**03 16 17.1**	**+1.4**
JKO				S	**Sn**	**03 16 29.8**	**+0.9**
KTJJ	**Kamata 2**	**1.13**	**298**	⇑P	**Pb**	**03 16 18.3**	**+0.3**
KTJJ				S	**Sb**	**03 16 31.2**	**-1.0**
JIZS	**Izushimoda**	**1.20**	**285**	⇑P	**Pn**	**03 16 19.6**	**+0.8**
JIZS				S	**Sb**	**03 16 33.8**	**-0.5**
JOD2	**Odawara 2**	**1.30**	**311**	⇑P	**Pn**	**03 16 20.6**	**+0.4**
JOD2				S	**Sb**	**03 16 36.2**	**-1.0**
JHJ	**Hachijo jima 2**	**1.35**	**198**	Pn	**Pg**	**03 16 22.6**	**-0.7**
	267nm,0.3s,baz=68,slow=8.7,SNR=103						
JHJ				Sn	**Sn**	**03 16 39.2**	**+1.0**
	211nm,0.3s,baz=303,slow=22,SNR=15						
MJAR	**Matsushiro Arr**	**2.72**	**322**	Pn	**Pn**	**03 16 41.0**	**+1.3**
	16nm,0.3s,baz=172,slow=14,SNR=156						
MJAR				Sn	**Sn**	**03 17 13.1**	**+1.0**
	33nm,0.3s,baz=134,slow=25,SNR=24						
MAT	**Matsushiro**	**2.72**	**322**	P	**Pn**	**03 16 41.6**	**+1.8**
MAT				S	**Sn**	**03 17 12.4**	**+0.3**
JNU	**Nakatsue**	**7.94**	**263**	LR	LR	03 21 00.1	
	comp=Z,48nm,18.7s,baz=124,slow=37						
ASAJ	**Asahikawa**	**9.86**	**10**	Pn	**Pn**	**03 18 15.0**	**-2.7**
	1.2nm,0.3s,baz=190,slow=19,SNR=8.5						
PMG	**Port Moresby**	**44.06**	**170**	LR	LR	03 39 16.1	
	comp=Z,144nm,21.9s,baz=54,slow=32						
MKAR	**Makanchi Array**	**44.78**	**304**	P	**P**	**03 24 08.6**	**-0.8**
	0.3nm,0.5s,baz=83,slow=9.6,SNR=5.9						
KURBB	**Kurchatov Arra**	**46.93**	**310**	P	**P**	**03 24 25.8**	**-0.4**
	0.4nm,0.5s,baz=82,slow=7.7,SNR=5.6						
WRA	**Warramunga Arr**	**54.34**	**187**	P	**P**	**03 25 22.1**	**-0.4**
	0.6nm,0.7s,baz=5.0,slow=7.6,SNR=8.3						

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*IDC **02** 03:19:04.7±1.4, 36°.79N×143°.33E, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.5/70, mbtmp3.7/7, ML3.5/3, Error ellipse: s-maj=28.8km s-min=22.9km az=109.0*
*ISCJB **02** 03:19:08.2±0.8, 36°.88N±0°.05×143°.22E±0°.06, h33km, mb3.5/4, Error ellipse: s-maj=8.2km s-min=6.3km az=44.5*
*JMA **02** 03:19:09.7±0.2, 36°.96N×143°.16E, h49km, M3.7*
ISC 02 03:19:09.1±1.1**, 36°.83N**±0°.06×**143°.29E**±0°.08**, h35**km**, n26,** σ1s.**71**/29**, mb3.5**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.01**	**286**	P	**Pn**	**03 19 40.3**	**-0.2**
JFK				eS	**Sn**	**03 20 02.3**	**-2.1**
ONAJ	**Iwakimizuishiy**	**2.02**	**279**	P	**Pn**	**03 19 40.4**	**-0.3**
ONAJ				eS	**Sn**	**03 20 03.0**	**-1.7**
JHO	**Hitachi**	**2.20**	**265**	P	**Pn**	**03 19 43.1**	**-0.1**
JHO				eS	**Sn**	**03 20 07.4**	**-1.7**
JIO	**Ouri**	**2.24**	**317**	P	**Pn**	**03 19 43.1**	**-0.6**
JMM	**Marumori**	**2.25**	**298**	P	**Pn**	**03 19 43.4**	**-0.4**
JFT	**Otama**	**2.46**	**287**	P	**Pn**	**03 19 47.2**	**+0.4**
JMK	**Ichinoseki**	**2.68**	**323**	P	**Pn**	**03 19 49.1**	**-0.7**
JMK				eS	**Sn**	**03 20 18.8**	**-2.2**
JOM	**Ohasama**	**3.08**	**330**	P	**Pn**	**03 19 54.6**	**-0.6**
JOM				eS	**Sn**	**03 20 28.5**	**-2.3**
JYK	**Kaneyama**	**3.12**	**313**	P	**Pn**	**03 19 55.9**	**+0.1**
JRY	**Ryogami san**	**3.63**	**258**	P	**Pn**	**03 20 03.2**	**+0.3**
JRY				S	**Sn**	**03 20 41.8**	**-2.8**
JOD2	**Odawara 2**	**3.75**	**247**	P	**Pn**	**03 20 05.0**	**+0.5**
JANG	**Nango**	**3.81**	**339**	P	**Pn**	**03 20 04.0**	**-1.2**
MJAR	**Matsushiro Arr**	**4.10**	**268**	Pn	**Pn**	**03 20 10.0**	**+0.7**
	1.3nm,0.3s,baz=88,slow=13,SNR=8.9						
MJAR				Sn	**Sn**	**03 20 57.1**	**+1.2**
	1.4nm,0.3s,baz=342,slow=6.2,SNR=4.2						
MAT	**Matsushiro**	**4.10**	**268**	P	**Pn**	**03 20 11.0**	**+1.7**
MAT				eS	**Sn**	**03 20 53.9**	**-2.1**
JHJ	**Hachijo jima 2**	**4.69**	**219**	Pn	**Pn**	**03 20 15.5**	**-1.9**
	5.2nm,0.3s,baz=72,slow=20,SNR=3.0						
JHJ				Sn	**Sn**	**03 21 06.0**	**-4.5**
	10nm,0.3s,baz=75,slow=20,SNR=2.6						
ASAJ	**Asahikawa**	**7.30**	**356**	Pn	**Pn**	**03 20 51.7**	**-1.5**
	1.0nm,0.3s,baz=236,slow=32,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**26.76**	**123**	T	T	03 51 29.8	
	baz=308,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**26.77**	**123**	T	T	03 51 32.3	
	baz=308,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**26.78**	**123**	T	T	03 51 33.2	
	baz=308,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**27.50**	**125**	T	T	03 52 20.8	
	baz=310,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**27.50**	**125**	T	T	03 52 18.7	
	baz=310,slow=76,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**27.51**	**125**	T	T	03 52 20.2	
	baz=310,slow=76,SNR=5.3						
SONM	**Songino Array**	**29.15**	**304**	P	**P**	**03 25 09.7**	**+2.7**
	0.5nm,0.8s,baz=91,slow=8.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**47.31**	**308**	P	**P**	**03 27 38.5**	**-0.6**
	0.5nm,0.6s,baz=84,slow=7.4,SNR=4.9						
ILAR	**Eielson Array**	**48.86**	**32**	P	**P**	**03 27 52.0**	**+1.2**
	0.4nm,0.7s,baz=273,slow=7.1,SNR=4.7						
WRA	**Warramunga Arr**	**57.09**	**190**	P	**P**	**03 28 52.4**	**+0.5**
	0.3nm,0.8s,baz=6.3,slow=7.6,SNR=4.7						

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*IDC **02** 03:37:16.5±0.9, 7°.90S×146°.66E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/49, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=37.5km s-min=18.0km az=77.0*
*ISCJB **02** 03:37:20.1±0.7, 7°.98S±0°.08×146°.3E±0°.1, h33km, mb4.0/5, Error ellipse: s-maj=18.8km s-min=9.4km az=153.0*
ISC 02 03:37:21.9±0.8**, 8°.00S**±0°.10×**146°.4E**±0°.2**, h35**km**, n10,** σ1s.**46**/11**, mb4.1**/5**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.57**	**153**	Pn	**Pn**	**03 37 46.1**	**-1.2**
	28nm,0.3s,baz=316,slow=10,SNR=23						
PMG				Sn	**Sn**	**03 38 08.6**	**+2.2**
	95nm,0.3s,baz=7.2,slow=23,SNR=11						
WRA	**Warramunga Arr**	**16.67**	**223**	Pn	**Pn**	**03 41 10.8**	**-2.1**
	0.1nm,0.3s,baz=45,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**19.66**	**216**	P	**P**	**03 41 48.9**	**+0.9**
	0.2nm,0.3s,baz=46,slow=10,SNR=13						
CMAR	**Chiang Mai Arr**	**53.72**	**300**	P	**P**	**03 46 42.3**	**+1.4**
	0.9nm,0.3s,baz=122,slow=7.6,SNR=6.5						
SONM	**Songino Array**	**65.88**	**332**	P	**P**	**03 48 05.0**	**+0.8**
	0.5nm,0.7s,baz=141,slow=5.9,SNR=2.3						
SEY	**Seymchan**	**70.88**	**3**	P	**P**	**03 48 35.1**	**+0.2**
	0.5nm,0.2s,baz=118,slow=3.2,SNR=5.0						
MKAR	**Makanchi Array**	**78.68**	**321**	P	**P**	**03 49 20.4**	**-0.2**
	0.6nm,0.7s,baz=107,slow=7.1,SNR=3.9						
ILAR	**Eielson Array**	**87.53**	**23**	P	**P**	**03 50 04.2**	**-1.7**
	1.5nm,0.7s,baz=254,slow=4.8,SNR=13						
TORD	**Torodi Ar. Bea**	**144.98**	**281**	PKPbc	**PKPab**	**03 56 56.0**	**+0.2**
	1.3nm,0.8s,baz=77,slow=3.5,SNR=10						
KOWA	**Kowa**	**150.32**	**285**	PKPbc	**PKPbc**	**03 57 11.0**	**+0.4**
	1.8nm,0.8s,baz=26,slow=4.4,SNR=5.0						

WEL 02 03:39:04.5±1.3**, 34°S**±17°×**18°0W**±3°5**, h33**km**, ML4.2**/11**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.86**	**203**	P	Pn	03 39 59.9	-1.6
MXZ	**Matakaoa Point**	**3.86**	**203**	S	Sn	03 40 46.9	+1.2
WMGZ	**Waiomatatini S**	**4.06**	**200**	P	Pn	03 40 04.5	+0.2
WMGZ	**Waiomatatini S**	**4.06**	**200**	S	Sn	03 40 53.4	+2.7
HAZ	**Te Kaha**	**4.21**	**207**	P	Pn	03 40 08.3	+1.9
PKGZ	**Pakihiroa**	**4.23**	**203**	P	Pn	03 40 06.2	-0.5
PKGZ	**Pakihiroa**	**4.23**	**203**	S	Sn	03 40 53.6	-1.3
PUZ	**Puketiti**	**4.34**	**201**	P	Pn	03 40 07.5	-0.7
PUZ	**Puketiti**	**4.34**	**201**	S	Sn	03 40 57.3	-0.4
RUGZ	**Raukumara Rang**	**4.44**	**207**	P	Pn	03 40 09.8	+0.2
CNGZ	**Carnagh Statio**	**4.74**	**199**	P	Pn	03 40 13.1	-0.6
MWZ	**Matawai**	**4.82**	**206**	P	Pn	03 40 15.1	+0.3
URZ	**Urewera**	**4.91**	**210**	P	Pn	03 40 15.5	-0.6
URZ	**Urewera**	**4.91**	**210**	S	Sn	03 41 12.6	+0.9
RIGZ	**Rimuhau**	**5.08**	**202**	P	Pn	03 40 19.4	+1.1
MUGZ	**Murupara**	**5.24**	**211**	P	Pn	03 40 19.6	-0.9
SNGZ	**Shannon Statio**	**5.28**	**205**	P	Pn	03 40 22.4	+1.2
MTHZ	**Maungataniwha**	**5.53**	**208**	P	Pn	03 40 24.7	+0.1
MTHZ	**Maungataniwha**	**5.53**	**208**	S	Sn	03 41 28.1	+1.0

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*NEIC **02** 03:41:18.4±0.0, 18°.02N×103°.24W, h2km, MD4.0(MEX), After MEX.*
MEX 02 03:41:18.4±0.5**, 18°.02N**×**103°.24W, h2**km±3km**, MD4.0, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.29**	**339**	i P	Pg	03 41 23.8	-0.1
MMIG				i S	Sg	03 41 27.6	-0.1
MMIG	**Aquila**	**0.29**	**339**	i P	Pg	03 41 23.8	-0.1
MMIG				i S	Sg	03 41 27.6	-0.1
EZ5V		**1.49**	**347**	eP	Pn	03 41 42.8	-3.8
EZ5V				i S	Sg	03 42 02.0	-4.4
ZIIG	**Zihuatanejo**	**1.74**	**103**	eP	Pn	03 41 46.1	-3.6
ZIIG				i S	Sn	03 42 07.1	-5.3
ZIIG	**Zihuatanejo**	**1.74**	**103**	eP	Pn	03 41 46.1	-3.6
ZIIG				i S	Sn	03 42 07.1	-5.3
CJM	**Chamela**	**2.26**	**311**	i P	Pn	03 41 54.2	-2.6
CJM				i S	Sn	03 42 20.2	-5.1
CJM	**Chamela**	**2.26**	**311**	i P	Pn	03 41 54.2	-2.6
CJM				i S	Sn	03 42 20.2	-5.1
MOIG	**Morelia**	**2.55**	**49**	eP	Pn	03 41 58.3	-2.7
MOIG				i S	Sn	03 42 28.4	-4.4
MOIG	**Morelia**	**2.55**	**49**	eP	Pn	03 41 58.3	-2.7
MOIG				i S	Sn	03 42 28.4	-4.4
ARIG	**Puente Sto Nin**	**2.76**	**84**	eP	Pn	03 42 01.3	-2.5
ARIG				eS	Sn	03 42 34.0	-3.7
IGIG	**Irapuato, Guan**	**3.26**	**33**	i P	Pn	03 42 08.4	-2.5
IGIG				i S	Sn	03 42 46.5	-3.9
MEIG	**Mezcala**	**3.44**	**91**	i P	Pn	03 42 11.0	-2.2
MEIG				i S	Sn	03 42 51.9	-2.8
MEIG	**Mezcala**	**3.44**	**91**	i P	Pn	03 42 11.0	-2.2
MEIG				i S	Sn	03 42 51.9	-2.8
PLIG	**Platanillo**	**3.57**	**83**	i P	Pn	03 42 12.6	-2.4
PLIG				i S	Sn	03 42 55.0	-2.7
PLIG	**Platanillo**	**3.57**	**83**	i P	Pn	03 42 12.6	-2.4
PLIG				i S	Sn	03 42 55.0	-2.7
YAIG	**Yautepec**	**4.05**	**77**	eP	Pn	03 42 19.5	-2.1
YAIG				i S	Sn	03 43 06.6	-3.0
YAIG	**Yautepec**	**4.05**	**77**	eP	Pn	03 42 19.5	-2.1
YAIG				i S	Sn	03 43 06.6	-3.0

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*NEIC **02** 03:42:22.7±0.0, 62°.18N×145°.58W, h25km, ML3.0(AEIC), After AEIC.*
PGC 02 03:42:21.0±0.0**, 62°.20N**×**145°.73W, h14**km**, ML3.0, ML3.0**/1**, 124km Nne of Valdez, Ak Central Alaska, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PS11	**TAPS Pump St11**	**0.17**	**136**	P	Pb	03 42 26.7	+0.7
PS11				S	Sb	03 42 31.5	+2.1
HARP	**HAARP**	**0.34**	**53**	P	Pg	03 42 28.1	+0.1
HARP				S	Sg	03 42 31.8	-0.8
HARP	**HAARP**	**0.34**	**53**	P	Pg	03 42 28.1	+0.2
KLU	**Klutina**	**0.72**	**187**	P	Pg	03 42 35.1	+0.1
KLU				S	Sb	03 42 44.8	-0.3
PAX	**Paxson**	**0.78**	**9**	P	Pg	03 42 34.8	-1.4
PAX				S	Sg	03 42 44.7	-1.7
PAX	**Paxson**	**0.78**	**9**	P	Pg	03 42 34.8	-1.3
PAX				S	Sg	03 42 44.7	-1.7
PS12	**TAPS Pump St12**	**0.78**	**159**	P	Pg	03 42 35.9	-0.3
PS12				S	Sg	03 42 46.5	0.0
SCM	**Sheep Creek Mo**	**0.84**	**244**	P	Pg	03 42 37.0	-0.2
SCM				S	Sb	03 42 48.9	+0.2
DIV	**Divide**	**1.08**	**181**	P	Pb	03 42 40.1	-1.4
DIV				S	Sb	03 42 53.7	-1.8
DIV	**Divide**	**1.08**	**181**	ePn	Pb	03 42 40.1	-1.4
DIV				eSn	Sb	03 42 53.6	-1.9
VLZ	**Valdez**	**1.11**	**195**	P	Pb	03 42 40.7	-1.4
VLZ				S	Sb	03 42 54.4	-2.0
DHY	**Denali Highway**	**1.16**	**320**	P	Pb	03 42 41.4	-1.5
DHY				S	Sb	03 42 56.4	-1.5
MENT	**Mentasta**	**1.19**	**51**	P	Pn	03 42 41.7	-1.6
MENT				S	Sb	03 42 57.2	-1.4
PS10	**TAPS Pump St10**	**1.22**	**359**	P	Pn	03 42 42.8	-1.0
PS10				S	Sb	03 42 58.5	-1.1
JPK	**Jack Peak**	**1.23**	**200**	P	Pn	03 42 42.4	-1.4
SML	**Sawmill**	**1.29**	**253**	P	Pn	03 42 43.8	-0.9
SML				S	Sb	03 43 00.6	-1.0
BMRM	**Bremner River**	**1.35**	**156**	P	Pn	03 42 44.1	-1.5
GLI	**Glacier Island**	**1.48**	**207**	P	Pn	03 42 46.4	-0.9
KNK	**Knik Glacier**	**1.52**	**240**	P	Pn	03 42 48.0	+0.2
KNK				S	Sn	03 43 07.3	-0.1
GHO	**Glory Hole Cre**	**1.57**	**255**	P	Pn	03 42 48.0	-0.5
RIDG	**Independ'e Rid**	**1.59**	**14**	P	Pn	03 42 49.2	+0.2
RIDG				S	Sn	03 43 09.2	-0.1
DOT	**Dot Lake**	**1.64**	**27**	Pn	Pn	03 42 49.5	0.0
DOT				S	Sn	03 43 10.1	-0.4
DOT	**Dot Lake**	**1.64**	**27**	P	Pn	03 42 49.6	+0.1
EYAK	**Cordova Ski Ar**	**1.66**	**180**	P	Pn	03 42 50.3	+0.6
PMR	**Palmer**	**1.72**	**251**	P	Pn	03 42 50.6	0.0
RND	**Reindeer**	**1.87**	**311**	P	Pn	03 42 53.4	+0.6
RND				S	Sb	03 43 18.1	-0.3
MCK	**McKinley**	**2.12**	**318**	P	Pb	03 42 58.0	-1.2
RC01	**Rabbit Creek A**	**2.21**	**241**	P	Pb	03 42 60.0	-0.8
TRF	**Thorofare Moun**	**2.44**	**303**	P	Pn	03 43 01.6	+1.1
SUA	**Susitna One**	**2.49**	**255**	P	Pb	03 43 03.9	-1.7
CCB	**Clear Creek Bu**	**2.62**	**340**	P	Pn	03 43 03.8	+0.9
ILB	**Eielson Array**	**2.63**	**349**	P	Pn	03 43 02.6	-0.4
KTH	**Kantishna Hill**	**2.74**	**302**	P	Pn	03 43 06.7	+2.1
SKT	**Skwentna**	**2.74**	**268**	P	Pn	03 43 07.1	+2.5
COLA	**College**	**2.84**	**341**	ePn	Pn	03 43 06.0	+0.1
COLA				eSn	Sn	03 43 39.0	-0.9
BPAW	**Bear Paw Mtn.**	**3.05**	**311**	P	Pn	03 43 10.7	+1.9
PPLA	**Purkeypile**	**3.07**	**286**	P	Pn	03 43 10.6	+1.3
EGAK	**Eagle**	**3.30**	**36**	P	Pn	03 43 12.5	+0.3
DAWY	**Dawson**	**3.43**	**54**	Pn	Pn	03 43 13.8	-0.3
DAWY				Pg	Pb	03 43 21.2	-0.4
DAWY				Sg	Sb	03 44 05.8	+2.6
DAWY	**Dawson**	**3.43**	**54**	ePn	Pn	03 43 12.7	-1.4
MLY	**Manley**	**3.61**	**324**	P	Pn	03 43 17.9	+1.4
HYT	**Haines Junctio**	**4.18**	**106**	Pn	Pn	03 43 24.2	-0.2
HYT				Pg	Pb	03 43 32.5	-1.9
HYT				Sg	Sb	03 44 29.2	+4.5
TT01	**Tatalina**	**4.81**	**283**	P	Pn	03 43 34.4	+1.4
BM3	**Burnt Mountain**	**5.26**	**5**	P	Pn	03 43 39.5	+0.3
COLD	**Coldfoot**	**5.39**	**341**	Pn	Pn	03 43 40.9	-0.1

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*IDC **02** 03:47:20.4±1.9, 10°.53S×114°.11E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/48, mbtmp4.2/4, ML4.6/1, Error ellipse: s-maj=75.1km s-min=24.8km az=46.0*
*DJA **02** 03:47:20.1±0.8, 10°S±4°×11°4E±°, h22km±7km, M4.3/6, mB5.2/1, mb4.8/2, MLv4.2/6, Mw(mB)4.6/1*
ISC 02 03:47:18.1±2.0**, 9°.62S**±0°.08×**113°.99E**±0°.05**, h24**km±17km**, n19,** σ1s.**28**/24**, mb3.9**/3**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.15**	**8**	P	**Pn**	**03 47 38.7**	**-0.1**
JAGI				S	**Sn**	**03 47 52.0**	**-1.8**
IGBI	**Denpasar**	**1.39**	**55**	P	**Pn**	**03 47 42.5**	**+0.5**
IGBI				S	**Sn**	**03 47 58.7**	**-0.9**
GMJI	**Gumukmas**	**1.44**	**338**	P	**Pn**	**03 47 43.3**	**+0.5**
GMJI				S	**Sn**	**03 47 59.8**	**-1.2**
DNP	**Denpasar**	**1.52**	**52**	P	**Pb**	**03 47 45.5**	**-0.2**
ABJI	**Asem Bagus**	**1.83**	**8**	P	**Pb**	**03 47 50.2**	**-0.7**
BLJI	**Banyuglugur**	**1.90**	**348**	P	**Pb**	**03 47 51.3**	**-0.9**
SRBI	**Singaraja**	**1.94**	**38**	P	**Pn**	**03 47 51.1**	**+1.5**
SRBI				S	**Sn**	**03 48 13.8**	**+0.5**
KMMI	**Kalianget**	**2.55**	**359**	P	**Pn**	**03 48 00.2**	**+2.2**
PWJI	**Pagerwojo**	**2.68**	**306**	P	**Pn**	**03 48 00.8**	**+1.0**
PWJI				S	**Sn**	**03 48 31.1**	**-0.5**
GRJI	**Gresik**	**3.08**	**331**	P	**Pn**	**03 48 07.5**	**+2.2**
GRJI				S	**Sn**	**03 48 42.4**	**+1.1**
PCJI	**Pacitan**	**3.12**	**297**	P	**Pn**	**03 48 06.6**	**+0.7**
TBJI	**Tambak Boyo**	**3.50**	**322**	P	**Pn**	**03 48 13.2**	**+2.1**
PLAI	**Plampang**	**3.82**	**78**	P	**Pn**	**03 48 16.6**	**+1.2**
UGM	**Wanagama**	**3.83**	**296**	P	**Pn**	**03 48 16.5**	**+0.9**
CMJI	**Cimerak**	**5.78**	**288**	P	**Pn**	**03 48 42.8**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	48nm,1.2s						
BATI	**Baumata**	**9.54**	**94**	Pn	**Pn**	**03 49 35.9**	**+1.7**
	5.5nm,0.3s,baz=281,slow=17,SNR=5.9						
ASAR	**Alice Springs**	**23.60**	**129**	P	**P**	**03 52 26.4**	**-1.0**
	2.3nm,0.6s,baz=302,slow=9.0,SNR=47						
STKA	**Stephens Creek**	**33.83**	**135**	P	**P**	**03 53 58.2**	**-0.5**
	1.6nm,0.3s,baz=311,slow=10,SNR=5.8						
MKAR	**Makanchi Array**	**62.88**	**336**	P	P	03 57 54.5	+12
	0.3nm,0.4s,baz=145,slow=7.5,SNR=6.7						

*ISCJB **02** 03:48:50.6±0.7, 6°.85S±0°.05×128°.79E±0°.09, h200km, mb3.4/3, Error ellipse: s-maj=12.3km s-min=6.7km az=3.2*
*IDC **02** 03:48:54.0±1.8, 6°.78S×128°.60E, h209km±22km, mb3.2/3, mb1 3.6/7, mb1mx3.3/44, mbtmp4.2/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/20, Error ellipse: s-maj=32.9km s-min=16.6km az=96.0*
ISC 02 03:48:52.1±0.8**, 6°.87S**±0°.07×**128°.7E**±0°.1**, h200km, n9, σ2°.83**/11**, mb3.5**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.01**	**236**	P	**Pn**	**03 50 21.4**	**+1.8**
	17nm,0.3s,baz=106,slow=7.4,SNR=9.3						
BATI				S	**Sn**	**03 51 25.4**	**-3.4**
	12nm,0.3s,baz=135,slow=1.4,SNR=4.3						
SIJI	**Sorong**	**6.47**	**23**	P	**Pn**	**03 50 27.3**	**+1.7**
	7.4nm,0.3s,baz=48,slow=18,SNR=21						
SIJI				S	**Sn**	**03 51 35.6**	**-4.0**
	1.1nm,0.3s,baz=127,slow=20,SNR=2.9						
FITZ	**Fitzroy Crossi**	**11.56**	**195**	P	**Pn**	**03 51 32.3**	**+0.9**
	baz=352,slow=19						
WRA	**Warramunga Arr**	**14.09**	**158**	P	**Pn**	**03 52 03.0**	**-0.2**
	0.6nm,0.3s,baz=343,slow=13,SNR=57						
WRA				S	S	03 54 32.5	-7.6
	1.1nm,0.3s,baz=330,slow=23,SNR=6.5						
ASAR	**Alice Springs**	**17.42**	**164**	P	**P**	**03 52 44.9**	**+3.1**
	0.6nm,0.3s,baz=346,slow=12,SNR=21						
ASAR				S	**S**	**03 55 48.2**	**-4.4**
	0.1nm,0.3s,baz=347,slow=24,SNR=3.2						
MJAR	**Matsushiro Arr**	**44.09**	**11**	LR	LR	04 13 01.0	
	comp=Z,14nm,21.1s,baz=195,slow=33						
KSRS	**Korea Array**	**44.10**	**359**	P	**P**	**03 56 40.7**	**+0.2**
	1.1nm,0.8s,baz=179,slow=8.5,SNR=3.2						
SONM	**Songino Array**	**57.93**	**342**	P	**P**	**03 58 23.2**	**-0.2**
	0.5nm,0.7s,baz=159,slow=5.9,SNR=3.8						
MKAR	**Makanchi Array**	**67.44**	**327**	P	**P**	**03 59 26.4**	**+0.3**
	0.9nm,0.6s,baz=129,slow=8.0,SNR=8.5						

*ISK **02** 03:49:57.8, 38°.71N×43°.52E, h8km, ML2.6/5*
*CSEM **02** 03:49:58.6±0.2, 38°.72N×43°.57E, h5km, ML2.6, Error ellipse: s-maj=5.9km s-min=3.2km az=95.0*
*DDA **02** 03:49:58.5, 38°.74N×43°.53E, h7km, Ml2.6*
*ISCJB **02** 03:49:59.1±0.5, 38°.73N±0°.02×43°.52E±0°.04, h9km±4km, Error ellipse: s-maj=5.5km s-min=3.4km az=6.4*
ISC 02 03:49:59.0±0.9**, 38°.72N**±0°.02×**43°.55E**±0°.03**, h15km**±6km**, n30, σ1°.19**/55**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**225**	PG	**Pg**	**03 50 03.3**	**-0.1**
VANB	**Van**	**0.18**	**225**	*e*Pg	**Pg**	**03 50 03.3**	**-0.1**
TVAN	**Van**	**0.22**	**210**	*i* P	**Pg**	**03 50 03.6**	**-0.5**
TVAN				*i* S	**Sg**	**03 50 08.0**	**+0.4**
TVAN	**Van**	**0.22**	**210**	P	**Pg**	**03 50 03.6**	**-0.5**
TVAN				S	**Sg**	**03 50 08.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.27**	**4**	*i* P	**Pg**	**03 50 04.2**	**-0.7**
VMUR				*i* S	**Sb**	**03 50 10.1**	**-0.1**
VMUR	**Van-Muradiye**	**0.27**	**4**	P	**Pg**	**03 50 04.2**	**-0.7**
VMUR				S	**Sb**	**03 50 10.1**	**-0.1**
ERCV	**ERCIS-VAN**	**0.34**	**331**	PG	**Pg**	**03 50 04.8**	**-1.3**
ERCV				SG	**Sb**	**03 50 11.1**	**-1.2**
CLDR	**Caldiran**	**0.51**	**34**	PG	**Pg**	**03 50 07.9**	**-1.3**
CLDR				SG	**Sb**	**03 50 16.9**	**-0.3**
CLDR	**Caldiran**	**0.51**	**34**	*i* P	**Pg**	**03 50 07.9**	**-1.3**
CLDR				*i* S	**Sg**	**03 50 16.6**	**+0.5**
CLDR	**Caldiran**	**0.51**	**34**	P	**Pg**	**03 50 07.9**	**-1.3**
CLDR				S	**Sg**	**03 50 16.6**	**+0.5**
GEVA	**Gevas**	**0.56**	**224**	*i* P	**Pg**	**03 50 09.1**	**-1.0**
GEVA				*i* S	**Sb**	**03 50 18.2**	**-0.4**
GEVA	**Gevas**	**0.56**	**224**	P	**Pg**	**03 50 09.1**	**-1.0**
GEVA				S	**Sb**	**03 50 18.2**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.65**	**278**	*i* P	**Pg**	**03 50 10.6**	**-1.2**
ADCV				*i* S	**Sb**	**03 50 20.2**	**-1.0**
TUTA	**Tutak**	**0.89**	**320**	*i* P	**Pg**	**03 50 14.6**	**-1.7**
TUTA				*i* S	**Sg**	**03 50 27.2**	**-0.8**
TUTA	**Tutak**	**0.89**	**320**	P	**Pg**	**03 50 14.6**	**-1.7**
TUTA				S	**Sg**	**03 50 27.2**	**-0.8**
AGRB	**Hanur-Agry**	**0.96**	**333**	PG	**Pb**	**03 50 17.5**	**0.0**
AGRB				SG	**Sb**	**03 50 30.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.96**	**333**	*e*Pg	**Pb**	**03 50 17.5**	**0.0**
AGRB				*e*Sg	**Sb**	**03 50 30.5**	**+0.4**
HAKT	**HAKKARI**	**1.17**	**174**	*i* P	**Pg**	**03 50 19.7**	**-1.8**
HAKT				*i* S	**Sn**	**03 50 38.1**	**+1.2**
HAKT	**HAKKARI**	**1.17**	**174**	P	**Pg**	**03 50 19.7**	**-1.8**
HAKT				S	**Sn**	**03 50 38.1**	**+1.2**
GURO	**Guroymak-BITLI**	**1.20**	**262**	PN	**Pg**	**03 50 19.9**	**-2.3**
GURO				SN	**Sb**	**03 50 36.9**	**-0.1**
EKAR	**Karacoban**	**1.27**	**295**	*i* P	**Pg**	**03 50 22.6**	**-1.0**
EKAR				*i* S	**Sn**	**03 50 42.8**	**+3.2**
EKAR	**Karacoban**	**1.27**	**295**	P	**Pg**	**03 50 22.6**	**-1.0**
EKAR				S	**Sn**	**03 50 42.8**	**+3.2**
TASB	**TASBURUN-IGDIR**	**1.37**	**23**	PN	**Pg**	**03 50 25.2**	**-0.2**
EATA	**Eleskirt**	**1.41**	**325**	*i* P	**Pn**	**03 50 24.3**	**-0.1**
EATA				*i* S	**Sn**	**03 50 44.6**	**+1.8**
EATA	**Eleskirt**	**1.41**	**325**	P	**Pn**	**03 50 24.3**	**-0.1**
EATA				S	**Sn**	**03 50 44.7**	**+1.8**
CUKT	**Cukurca**	**1.47**	**178**	PN	**Pn**	**03 50 24.8**	**-0.4**
CUKT	**Cukurca**	**1.47**	**178**	*i* P	**Pn**	**03 50 24.1**	**-1.0**
CUKT				*i* S	**Sg**	**03 50 47.6**	**+1.1**
CUKT	**Cukurca**	**1.47**	**178**	P	**Pn**	**03 50 24.1**	**-1.0**
CUKT	**Cukurca**	**1.47**	**178**	*e*Pn	**Pn**	**03 50 24.8**	**-0.4**
CUKT				S	**Sg**	**03 50 47.6**	**+1.1**
SRTM	**Siirt_Merkez**	**1.47**	**241**	*i* P	**Pb**	**03 50 26.1**	**-0.1**
SRTM				*i* S	**Sg**	**03 50 47.1**	**+0.7**

IDC 02 04:07:31.4±1.4**, 15°.31N**×**108°.18E, h0km, mb3.4**/3**, mb1 3.7**/4**, mb1mx3.3**/60**, mbtmp3.5**/4**, ML4.3**/1**, MS3.2**/3**, Ms1 3.2**/3**, ms1mx2.7**/39**, Error ellipse: s-maj=61.4km s-min=20.6km az=44.0, Vietnam**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.38**	**291**	Pn	Pn	04 09 47.0	-1.1
	0.8nm,0.3s,baz=113,slow=13,SNR=5.9						
CMAR				Lg	Lg	04 12 29.8	
	0.5nm,0.3s,baz=102,slow=16,SNR=4.5						
KSRS	**Korea Array**	**28.16**	**35**	LR	LR	04 25 58.6	
	comp=Z,38nm,18.9s,baz=225,slow=39						
JHJ	**Hachijo jima 2**	**33.66**	**53**	LR	LR	04 28 42.1	
	comp=Z,32nm,21.2s,baz=9.5,slow=38						
USRK	**Ussuriysk Ar.**	**35.19**	**30**	LR	LR	04 30 40.7	
	comp=Z,44nm,18.1s,baz=174,slow=40						
MKAR	**Makanchi Array**	**38.09**	**331**	P	P	04 14 52.1	+0.2
	0.3nm,0.7s,baz=128,slow=8.8,SNR=3.6						
WRA	**Warramunga Arr**	**43.46**	**143**	P	P	04 15 36.2	-0.3
	0.4nm,0.6s,baz=328,slow=9.2,SNR=5.4						
ASAR	**Alice Springs**	**46.18**	**147**	P	P	04 15 58.3	0.0
	0.3nm,0.7s,baz=326,slow=7.9,SNR=4.3						

*JMA **02** 04:10:27.6±0.1, 35°.22N×141°.23E, h37km±2km, M2.7*
*ISCJB **02** 04:10:28.0±1.2, 35°.20N±0°.06×141°.2E±0°.1, h35km, mb3.3/2, Error ellipse: s-maj=13.4km s-min=8.2km az=162.0*
*IDC **02** 04:10:38.9±4.3, 34°.67N×139°.83E, h74km±41km, mb3.0/2, mb1 3.2/3, mb1mx2.9/62, mbtmp3.2/3, ML2.5/1, Error ellipse: s-maj=124.9km s-min=32.3km az=63.0*
ISC 02 04:10:28.9±1.5**, 35°.19N**±0°.06×**141°.3E**±0°.1**, h35km, n15, σ1°.65**/11**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.58**	**203**	P	**Pn**	**04 10 39.5**	**-0.7**
CHOJ	**Chosi**	**0.60**	**328**	P	**Pn**	**04 10 39.2**	**-1.8**
CHOJ				S	**Sn**	**04 10 47.8**	**-1.8**
BSO3	**Boso 3**	**0.72**	**238**	P	**Pn**	**04 10 41.5**	**-0.8**
KTR	**Katsuura**	**0.76**	**267**	*e*S	**Sn**	**04 10 52.2**	**-1.3**
BSO4	**Boso 4**	**0.77**	**255**	P	**Pn**	**04 10 42.5**	**-0.7**
BSO4				*e*X		04 10 53.3	
MJAR	**Matsushiro Arr**	**2.81**	**300**	P	**Pn**	**04 11 14.1**	**+2.7**
	1.3nm,0.3s,baz=137,slow=11,SNR=8.1						
MAT	**Matsushiro**	**2.81**	**300**	P	**Pn**	**04 11 12.9**	**+1.4**
MAT				*e*S	**Sn**	**04 11 43.0**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**27.37**	**117**	T	T	04 45 14.8	
	baz=310,slow=75,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**27.38**	**118**	T	T	04 45 13.7	
	baz=310,slow=75,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**27.39**	**118**	T	T	04 45 14.6	
	baz=310,slow=75,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	04 45 59.8	
	baz=312,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	04 46 05.4	
	baz=312,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**28.03**	**120**	T	T	04 45 49.6	
	baz=312,slow=76,SNR=18						
MKAR	**Makanchi Array**	**45.01**	**304**	P	**P**	**04 18 41.4**	**+0.5**
	0.2nm,0.6s,baz=90,slow=9.2,SNR=3.7						
WRA	**Warramunga Arr**	**55.22**	**188**	P	**P**	**04 19 59.4**	**+0.9**
	0.2nm,0.4s,baz=1.4,slow=7.4,SNR=11						

IDC 02 04:21:42.5±6.5**, 5°.74S**×**149°.29E, h127km**±48km**, mb3.2**/3**, mb1 3.4**/4**, mb1mx3.1**/39**, mbtmp3.6**/4**, Error ellipse: s-maj=86.1km s-min=51.2km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.21**	**210**	P	Pn	04 22 45.0	0.0
	3.3nm,0.3s,baz=16,slow=7.4,SNR=15						
PMG				S	Sn	04 23 34.5	+1.0
	8.3nm,0.3s,baz=40,slow=15,SNR=16						
WRA	**Warramunga Arr**	**20.27**	**224**	P	P	04 26 08.0	-0.1
	0.5nm,0.5s,baz=50,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.18**	**218**	P	P	04 26 38.2	+0.1
	0.4nm,0.4s,baz=58,slow=7.7,SNR=4.8						
FITZ	**Fitzroy Crossi**	**26.16**	**240**	P	P	04 27 04.6	-0.6
	3.6nm,0.7s,baz=54,slow=10.0						
TORD	**Torodi Ar. Bea**	**147.23**	**285**	PKPbc	PKPbc	04 41 11.7	-0.3
	0.3nm,0.9s,baz=93,slow=3.3,SNR=3.9						

*ISCJB **02** 04:23:05.3±1.3, 38°.62N±0°.05×43°.66E±0°.09, h26km±5km, Error ellipse: s-maj=13.2km s-min=6.3km az=33.9*
*ISK **02** 04:23:05.9, 38°.69N×43°.55E, h17km, ML2.5/3*
*CSEM **02** 04:23:06.6±0.3, 38°.73N×43°.55E, h10km, ML2.5, Error ellipse: s-maj=8.6km s-min=4.5km az=116.0*
*DDA **02** 04:23:06.1, 38°.73N×43°.56E, h7km, Ml2.4*
ISC 02 04:23:04.5±1.8**, 38°.67N**±0°.06×**43°.70E**±0°.07**, h21km**±2km**, n15, σ0°.68**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**252**	PG	**Pb**	**04 23 11.3**	**+0.4**
VANB				SG	**Sb**	**04 23 15.5**	**+0.2**
VANB	**Van**	**0.25**	**252**	*e*Pg	**Pb**	**04 23 11.3**	**+0.4**
VANB				*e*Sg	**Sb**	**04 23 15.5**	**+0.2**
TVAN	**Van**	**0.27**	**237**	*i* P	**Pb**	**04 23 11.2**	**+0.1**
TVAN				*i* S	**Sb**	**04 23 15.2**	**-0.5**
TVAN	**Van**	**0.27**	**237**	P	**Pb**	**04 23 11.2**	**+0.1**
TVAN				S	**Sb**	**04 23 15.2**	**-0.5**
VMUR	**Van-Muradiye**	**0.33**	**343**	*i* P	**Pb**	**04 23 11.4**	**-0.5**
VMUR				*i* S	**Sn**	**04 23 19.6**	**-0.9**
VMUR	**Van-Muradiye**	**0.33**	**343**	P	**Pb**	**04 23 11.4**	**-0.5**
VMUR				S	**Sn**	**04 23 19.6**	**-0.9**
CLDR	**Caldiran**	**0.50**	**20**	PG	**Pn**	**04 23 16.4**	**-0.2**
CLDR				SG	**Sn**	**04 23 25.9**	**+1.1**
CLDR	**Caldiran**	**0.50**	**20**	*i* P	**Pn**	**04 23 16.1**	**-0.5**
CLDR				*i* S	**Sn**	**04 23 25.3**	**+0.5**
CLDR	**Caldiran**	**0.50**	**20**	P	**Pn**	**04 23 16.1**	**-0.5**
CLDR	**Caldiran**	**0.50**	**20**	*e*Pg	**Pn**	**04 23 16.4**	**-0.2**
CLDR				S	**Sn**	**04 23 25.3**	**+0.5**
TUTA	**Tutak**	**1.00**	**317**	*i* P	**Pb**	**04 23 23.0**	**-0.3**
TUTA				*i* S	**Sb**	**04 23 36.1**	**0.0**
TUTA	**Tutak**	**1.00**	**317**	P	**Pb**	**04 23 23.0**	**-0.3**
TUTA				S	**Sb**	**04 23 36.1**	**0.0**
AGRB	**Hanur-Agry**	**1.05**	**329**	PG	**Pb**	**04 23 24.9**	**+0.7**
AGRB				SG	**Sn**	**04 23 39.9**	**+1.5**
AGRB	**Hanur-Agry**	**1.05**	**329**	*e*Pg	**Pb**	**04 23 24.9**	**+0.7**
AGRB				*e*Sg	**Sn**	**04 23 39.9**	**+1.5**
GURO	**Guroymak-BITLI**	**1.31**	**265**	PN	**Pb**	**04 23 28.2**	**-0.3**
GURO				SN	**Sb**	**04 23 44.9**	**0.0**

*IDC **02** 04:28:29.5±0.4, 7°.97S×146°.53E, h0km, mb4.5/20, mb1 4.6/24, mb1mx4.5/51, mbtmp4.5/24, ML4.3/4, MS4.2/18, Ms1 4.2/18, ms1mx3.9/49, Error ellipse: s-maj=18.3km s-min=9.7km az=76.0*
*ISCJB **02** 04:28:32.8±0.2, 8°.07S±0°.03×146°.46E±0°.05, h33km, mb4.8/53, MS4.2/16, Error ellipse: s-maj=6.8km s-min=4.2km az=175.6*
*BJI **02** 04:28:34.8, 8°.12S×146°.98E, h73km, mb4.8/45, mB5.1/25, Ms4.6/17, Ms7 4.4/18*
*GCMT **02** 04:28:36.5±0.2, 8°.02S×146°.38E, h16km, MW5.0/85, Moment Tensor Solution. s42,c48; s85,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.97±.14; $M_{\theta\theta}$-0.29±.08; $M_{\phi\phi}$-2.68±.10; $M_{r\theta}$-0.26±.27; $M_{\theta\phi}$-0.45±.06; $M_{\phi r}$-1.55±.23; Best double couple: $M_0$3.26900×10^{16} NP1:ϕ_s190.00000°, δ59.00000°, λ90.00000°. NP2: ϕ_s11.00000°, δ31.00000°, λ90.00000°. Principal axes: T 3.3730, Plg76.0000°, Azm99.0000°; N -0.2090, Plg0.0000°, Azm190.0000°; P -3.1640, Plg14.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 04:28:36.5±0.7, 8°.15S×146°.49E, h56km±7km, mb4.7/19 Error ellipse: s-maj=6.8km s-min=5.5km az=85.0*
*DJA **02** 04:28:37.9±0.6, 9°S±6°×14°6E±°, h10km, M4.7/9, mb4.6/9, mB5.4/3, MLv4.7/2, Mw(mB)4.9/3*
ISC 02 04:28:35.0±0.3**, 8°.20S**±0°.04×**146°.40E**±0°.05**, h35km, n143, σ2°.13**/138**, mb4.8**/52**, MS4.2**/16**, 1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.41**	**148**	Pn	**Pn**	**04 28 59.2**	**+1.1**
	71nm,0.3s,baz=329,slow=13,SNR=195						
PMG				Lg	Lg	04 29 19.9	
	322nm,0.3s,baz=315,slow=20,SNR=14						
PMG				LR	LR	04 29 27.5	
	comp=Z,6µm,19.3s,baz=80,slow=37						
PMG	**Port Moresby**	**1.41**	**148**	*e*Pn	**Pn**	**04 28 59.3**	**+1.1**
PMG				*e*Sn	**Sn**	**04 29 18.4**	**+2.9**
MMPI	**Merauke**	**5.96**	**267**	P	**Pn**	**04 30 04.4**	**+3.6**
MANU	**Manus Island**	**6.20**	**9**	*e*Pn	**Pn**	**04 30 07.0**	**+3.0**
COEN	**Coen**	**6.54**	**209**	P	**Pn**	**04 30 10.1**	**+1.4**
	baz=6.8,SNR=16						
COEN	**Coen**	**6.54**	**209**	*e*Pn	**Pn**	**04 30 09.0**	**+0.3**
COEN				*e*Sn	**Sn**	**04 31 15.9**	**-6.2**
RABL	**Rabaul**	**6.98**	**56**	*e*Pn	**Pn**	**04 30 17.8**	**+2.9**
MTSU	**Mount Surprise**	**10.08**	**191**	P	**Pn**	**04 30 58.8**	**+1.5**
	baz=10,SNR=7.3						
CTA	**Charters Tower**	**11.81**	**181**	Pn	**Pn**	**04 31 23.3**	**+2.2**
	1.2nm,0.3s,baz=357,slow=14,SNR=10						
CTA				Sn	**Sn**	**04 33 31.2**	**-0.6**
	0.6nm,0.3s,baz=297,slow=14,SNR=2.7						
CTA				LR	LR	04 36 12.7	
	comp=Z,1µm,18.1s,baz=12,slow=38						
CTAO	**Charters Tower**	**11.81**	**181**	*e*Pn	**Pn**	**04 31 22.8**	**+1.7**
CTAO				*e*Sn	**Sn**	**04 33 30.3**	**-1.5**
KMPI	**Kaimana, Papua**	**13.41**	**289**	P	**Pn**	**04 31 47.1**	**+4.2**
HNR	**Honiara**	**13.44**	**96**	LR	LR	04 36 37.7	
	comp=Z,535nm,19.6s,baz=294,slow=37						
QIS	**Mount Isa**	**13.93**	**207**	P	**Pn**	**04 31 51.0**	**+1.0**
	baz=14,SNR=6.1						
FAKI	**Fak Fak**	**15.03**	**290**	P	**P**	**04 32 14.5**	**+4.6**
FAKI	**Fak Fak**	**15.03**	**290**	*e*Pn	**Pn**	**04 32 06.4**	**+1.4**
	57nm,0.9s						
MTN	**Manton Dam**	**15.70**	**252**	P	**Pn**	**04 32 14.3**	**+0.6**
	baz=16,SNR=20						
MTN	**Manton Dam**	**15.70**	**252**	*e*Pn	**Pn**	**04 32 15.6**	**+1.9**
	81nm,0.7s						
WRAB	**Tennant Creek**	**16.50**	**224**	*e*Pn	**Pn**	**04 32 25.4**	**+1.5**
	75nm,1.4s						
WB2	**Warramunga Arr**	**16.50**	**224**	*e*Pn	**Pn**	**04 32 25.2**	**+1.3**
WRA	**Warramunga Arr**	**16.51**	**224**	Pn	**Pn**	**04 32 24.8**	**+0.8**
	0.9nm,0.3s,baz=49,slow=11,SNR=16						
WRA				Sn	Sn	04 35 16.8	-10
	0.2nm,0.3s,baz=42,slow=24,SNR=2.9						
WRA				LR	LR	04 39 45.8	
	comp=Z,1µm,19.4s,baz=40,slow=40						
SIJI	**Sorong**	**16.75**	**295**	Pn	**Pn**	**04 32 25.6**	**-1.4**
	1.6nm,0.3s,baz=18,slow=20,SNR=2.5						
SIJI				LR	LR	04 40 58.7	
	comp=Z,813nm,19.3s,baz=73,slow=45						
SWI	**Sorong**	**16.75**	**295**	P	**P**	**04 32 31.5**	**+2.4**
BNDI	**Bandanaira**	**16.80**	**282**	P	**P**	**04 32 35.6**	**+6.1**
	111nm,0.5s						
EIDS	**Eidsvold**	**17.64**	**166**	*e*Pn	**P**	**04 32 39.7**	**+0.9**
	16nm,0.9s						
MSAI	**Masohi**	**18.04**	**285**	P	P	04 32 52.4	+9.1
QLP	**Quilpie**	**18.39**	**186**	P	**Pn**	**04 32 49.3**	**+1.9**
	baz=19,SNR=13						
AAI	**Ambon**	**18.65**	**283**	P	**Pn**	**04 32 56.0**	**+5.4**
KNRA	**Kununurra**	**18.78**	**245**	P	**P**	**04 32 52.5**	**+1.2**
	baz=19,SNR=9.0						
AS01	**Alice Springs**	**19.46**	**216**	*e*P	**Pn**	**04 33 00.9**	**+0.6**
AS31	**Alice Springs**	**19.49**	**216**	*e*P	**Pn**	**04 33 02.2**	**+1.7**
	9.2nm,0.9s						
ASAR	**Alice Springs**	**19.49**	**216**	P	**Pn**	**04 33 01.7**	**+1.1**
	2.0nm,0.3s,baz=29,slow=12,SNR=114						
ASAR				S	**S**	**04 36 30.1**	**-7.5**
	0.2nm,0.3s,baz=52,slow=21,SNR=4.0						
ASAR				LR	LR	04 41 28.3	
	comp=Z,958nm,18.3s,baz=47,slow=39						
NLAI	**Namlea**	**19.82**	**283**	P	**Pn**	**04 33 08.8**	**+4.2**
	24nm,0.6s,8µm						
LBMI	**Labuha**	**20.27**	**291**	P	Pn	04 33 14.9	+5.0
SANI	**Sanana**	**21.22**	**286**	P	**P**	**04 33 25.0**	**+7.0**
	48nm,0.9s,838nm						
GUMO	**Guam**	**21.70**	**356**	LR	LR	04 40 02.0	
	comp=Z,224nm,21.0s,baz=116,slow=32						
FITZ	**Fitzroy Crossi**	**22.46**	**242**	P	**P**	**04 33 32.2**	**+1.0**
	8.9nm,0.7s,baz=85,slow=9.2,SNR=1.0						
BATI	**Baumata**	**22.53**	**263**	LR	LR	04 44 51.7	
	comp=Z,2µm,18.7s,baz=113,slow=43						
ARMA	**Armidale**	**22.64**	**168**	*e*P	**P**	**04 33 32.3**	**-0.8**
	72nm,1.4s						
DZM	**Mont Dzumac**	**23.71**	**128**	P	**P**	**04 33 44.0**	**0.0**
	14nm,1.2s,baz=323,slow=12,SNR=6.9						
DZM	**Mont Dzumac**	**23.71**	**128**	*e*P	**P**	**04 33 44.6**	**+0.6**
	73nm,1.7s						
DZM	**Mont Dzumac**	**23.71**	**128**	*e*P	**P**	**04 33 43.6**	**-0.4**
	107nm,1.9s						
BBSI	**Bau Bau**	**23.81**	**275**	P	P	04 33 52.8	+7.9
STKA	**Stephens Creek**	**23.98**	**190**	P	**P**	**04 33 47.6**	**+1.3**
	5.1nm,0.9s,baz=11,slow=9.8,SNR=4.5						
STKA				LR	LR	04 43 47.8	
	comp=Z,750nm,18.7s,baz=17,slow=38						
WRKA	**Warakurna**	**24.05**	**224**	P	**P**	**04 33 47.5**	**+0.4**
	baz=24,SNR=20						
LUWI	**Luwuk**	**24.59**	**286**	*e*P	**P**	**04 33 52.2**	**+0.1**
	45nm,0.7s						
YNG	**Young**	**26.03**	**176**	P	**P**	**04 34 07.6**	**+2.6**
	baz=26,SNR=5.0						
HTT	**Hallett**	**26.04**	**194**	P	**P**	**04 34 08.2**	**+3.1**
	baz=26,SNR=3.2						
KAPI	**Kappang**	**26.66**	**275**	*e*P	**P**	**04 34 11.5**	**+0.7**
	12nm,0.9s						
LEM	**Lembang**	**38.46**	**269**	LR	LR	04 56 41.5	
	comp=Z,204nm,18.3s,baz=38,slow=44						
AFI	**Afiamalu**	**41.39**	**102**	LR	LR	04 51 46.1	
	comp=Z,385nm,18.6s,baz=281,slow=34						
JNU	**Nakatsue**	**43.67**	**341**	LR	LR	04 52 29.0	
	comp=Z,317nm,20.7s,baz=123,slow=33						
QIZ	**Qiongzhong**	**45.07**	**307**	*e*P	**P**	**04 36 47.2**	**-0.7**
	11nm,0.7s						
MJAR	**Matsushiro Arr**	**45.17**	**351**	P	**P**	**04 36 45.5**	**-2.9**
	1.4nm,0.6s,baz=187,slow=10,SNR=4.5						
IPM	**Ipoh**	**46.98**	**284**	*e*P	**P**	**04 37 02.7**	**-0.4**
	44nm,1.8s						
NJ2	**Nanjing**	**47.90**	**328**	*e*P	**P**	**04 37 12.3**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
KSRS	**Korea Array**	**48.60**	**340**	P	**P**	**04 37 15.0**	**-0.2**
	5.5nm,0.7s,baz=161,slow=8.5,SNR=16						
KSRS				LR	LR	04 55 10.6	
	comp=Z,269nm,21.6s,baz=164,slow=33						
KSAR	**Wonju Array Be**	**48.60**	**340**	P	**P**	**04 37 15.0**	**-0.2**
SKNT	**Sakolnakorn**	**48.84**	**301**	P	**P**	**04 37 16.4**	**-1.0**
	6.1nm,0.8s						
WHN	**Wuhan**	**49.30**	**323**	P	**P**	**04 37 21.4**	**+0.7**
WHN				S	**S**	**04 44 27.4**	**+2.6**
WHN				LR	LR		
	comp=Z,440nm,19.3s						
GYA	**Guiyang**	**51.72**	**313**	P	**P**	**04 37 39.1**	**-0.1**
GYA				pP	sP	04 38 00.8	+6.9
GYA				sP	pP	04 38 09.2	+19
GYA				PP	**PP**	**04 39 40.4**	**+3.2**
GYA				S	**S**	**04 44 56.5**	**-2.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NANT	**Nan**	**52.45**	**301**	P	**P**	**04 37 45.0**	**+0.4**
	5.9nm,0.8s,97nm						
PHRA	**Phrae**	**52.71**	**301**	P	**P**	**04 37 46.9**	**+0.3**
	203nm,1.0s,14µm						
LAMP	**Lampang**	**53.23**	**300**	P	P	04 37 56.4	+6.0
	4.8nm,0.7s						
RAR	**Rarotonga**	**53.41**	**110**	LR	LR	04 57 44.3	
	comp=Z,91nm,21.0s,baz=262,slow=33						
CM01	**Chiang Mai Arr**	**53.77**	**300**	*e*P	**P**	**04 37 54.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**53.77**	**347**	P	**P**	**04 37 52.8**	**-1.1**
	4.0nm,0.6s,baz=170,slow=7.7,SNR=8.9						
USRK				LR	LR	04 59 59.3	
	comp=Z,69nm,18.2s,baz=158,slow=35						
CMAR	**Chiang Mai Arr**	**53.79**	**300**	P	**P**	**04 37 54.7**	**+0.1**
	8.5nm,0.7s,baz=118,slow=5.7,SNR=25						
KMI	**Kunming**	**53.89**	**309**	P	**P**	**04 38 00.2**	**+4.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CMMT	**Chiang Mai**	**53.94**	**300**	P	**P**	**04 37 55.0**	**-0.7**
	14nm,0.7s						
CHTO	**Chiang Mai**	**53.95**	**300**	P	**P**	**04 37 56.1**	**+0.4**
	64nm,0.8s						
CHTO	**Chiang Mai**	**53.95**	**300**	*e*P	**P**	**04 37 55.5**	**-0.2**
	7.4nm,0.6s						
CMAI	**Chiengmai2**	**54.35**	**302**	P	P	04 38 05.7	+6.9
XAN	**Xi'an**	**55.02**	**322**	P	**P**	**04 38 01.9**	**-1.4**
XAN				pP	sP	04 38 20.8	+2.8
XAN				sP	pP	04 38 29.3	+15
XAN				pmax	pmax		
	comp=Z,18nm,1.1s						
CD2	**Chengdu**	**56.40**	**316**	*e*P	**P**	**04 38 12.8**	**-0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**58.40**	**329**	*e*P	**P**	**04 38 29.2**	**+2.0**
HHC				S	**S**	**04 46 24.2**	**-3.7**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,6.0s						
HHC				LR	LR		
	comp=N,180nm,16.6s						
HHC				LR	LR		
	comp=E,180nm,16.1s						
HHC				LR	LR		
	comp=Z,190nm,16.4s						
LZH	**Lanzhou**	**59.50**	**321**	*e*P	**P**	**04 38 35.7**	**+0.6**
LZH				pP	sP	04 38 56.3	+6.5
LZH				sP	PcP	04 39 04.9	-17
LZH				*e*PP	**PP**	**04 40 50.1**	**+3.3**
LZH				pmax	pmax		
	comp=Z,20nm,0.8s						
LZH				pmax	pmax		
	comp=Z,92nm,4.7s						
LZH				LR	LR		
	comp=N,390nm,10.9s						
LZH				LR	LR		
	comp=E,520nm,13.0s						
LZH				LR	LR		
	comp=Z,650nm,14.5s						
PETK	**Petropavlovsk-**	**61.83**	**8**	P	**P**	**04 38 49.1**	**-1.2**
	6.2nm,0.7s,baz=154,slow=5.9,SNR=7.0						
PETK				LR	LR	05 01 25.4	
	comp=Z,181nm,21.7s,baz=198,slow=32						
SHL	**Shillong**	**62.73**	**304**	*e*P	**P**	**04 38 57.0**	**-0.2**
PPT	**Papeete**	**62.86**	**105**	LR	LR	05 02 16.9	
	comp=Z,153nm,19.9s,baz=246,slow=32						
PPT2	**Papeete2**	**62.86**	**106**	*e*S	**S**	**04 47 28.4**	**+2.7**
	168nm,31.5s						
PPT2	**Papeete2**	**62.86**	**106**	*e*LR	LR	04 57 44.9	
	357nm,23.5s						
TBI	**Tubuai**	**63.08**	**112**	*e*LR	LR	04 57 53.1	
	218nm,30.2s						
GTA	**Gaotai**	**64.06**	**321**	*e*P	**P**	**04 39 05.6**	**-0.1**
GTA				pP	sP	04 39 25.5	+5.0
GTA				sP	PcP	04 39 34.5	-6.2
GTA				pmax	pmax		

	comp=Z,6.0nm,0.8s						
ULN	Ulaanbaatar	65.75	332	eP	P	04 39 16.6	0.0
	14nm,1.4s						
SONM	Songino Array	66.04	332	P	P	04 39 18.3	0.0
	2.2nm,0.6s,baz=154,slow=4.7,SNR=16						
SONM				LR	LR	05 07 40.7	
	comp=Z,226nm,19.8s,baz=146,slow=36						
SONA1	Songino Array	66.04	332	eP	P	04 39 17.6	-0.8
MA2	Magadan	67.65	2	P	P	04 39 26.9	-1.2
	4.5nm,0.5s,baz=135,slow=3.0,SNR=8.0						
VNDA	Vanda	69.76	176	P	P	04 39 42.0	+0.9
	2.1nm,0.7s,baz=355,slow=6.4,SNR=7.3						
VNDA				LR	LR	05 08 07.1	
	comp=Z,310nm,18.8s,baz=348,slow=34						
VNDA	Vanda	69.76	176	eP	P	04 39 41.3	+0.2
	46nm,1.9s						
TLY	Talaya	70.03	333	eP	P	04 39 42.8	-0.3
	11nm,1.5s						
SEY	Seymchan	71.08	3	P	P	04 39 48.2	-1.1
	4.0nm,0.8s,baz=179,slow=4.0,SNR=15						
TAOE	Nuku Hiva Isla	72.52	97	eS	S	04 49 23.6	+1.9
	82nm,26.7s						
TAOE	Nuku Hiva Isla	72.52	97	eLR	LR	05 02 13.5	
	134nm,23.1s						
WMQ	Urumqi	74.08	320	P	P	04 40 07.4	-0.3
WMQ				pP	PcP	04 40 27.1	+4.4
WMQ				pmax	pmax		
	comp=Z,21nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,230nm,4.3s						
RKT	Rikitea	76.40	112	eLR	LR	05 04 02.5	
	215nm,32.5s						
MK01	Makanchi Array	78.80	321	eP	P	04 40 33.3	-1.0
MK31	Makanchi Array	78.82	321	eP	P	04 40 34.0	-0.4
MKAR	Makanchi Array	78.82	321	P	P	04 40 34.0	-0.5
	4.1nm,0.7s,baz=108,slow=6.0,SNR=50						
MKAR	Makanchi Array	78.82	321	eP	P	04 40 33.4	-1.0
	22nm,0.8s						
MAKZ	Makanchi	79.02	321	eP	P	04 40 35.0	-0.5
	12nm,1.1s						
KSH	Kashi	80.41	312	P	P	04 40 43.7	+0.4
KSH				pP	sP	04 41 02.6	+4.2
KSH				PP	PP	04 43 48.1	+1.3
KSH				S	S	04 50 41.4	-5.9
KSH				SS	SS	04 56 00.3	+0.5
KSH				pmax	pmax		
	comp=Z,26nm,1.6s						
KSH				pmax	pmax		
	comp=Z,140nm,7.7s						
KSH				LR	LR		
	comp=N,120nm,5.6s						
KSH				LR	LR		
	comp=E,49nm,7.5s						
KSH				LR	LR		
	comp=Z,190nm,7.3s						
TIXI	Tiksi	80.53	354	P	P	04 40 40.6	-2.5
	0.8nm,0.5s,baz=15,slow=1.9,SNR=2.7						
ZAA0	Zalesovo Array	80.55	328	eP	P	04 40 42.4	-1.3
ZALV	Zalesovo Beam	80.55	328	P	P	04 40 41.8	-1.8
	3.6nm,0.7s,baz=113,slow=4.9,SNR=13						
ZALV	Zalesovo Beam	80.55	328	eP	P	04 40 41.9	-1.7
KZA	Kyzart	81.75	315	P	P	04 40 51.3	+0.5
	SNR=18						
QSPA	South Pole Qui	81.78	180	eP	P	04 40 50.3	+0.1
UCH	Uchtor	82.32	315	P	P	04 40 54.1	+0.3
	SNR=8.8						
AAK	Ala-Archa	82.46	315	eP	P	04 40 52.9	-1.3
	6.9nm,0.9s						
KURK	Kurchatov	82.61	324	eP	P	04 40 53.0	-1.5
	15nm,1.5s						
USP	Ospenovka	82.66	316	P	P	04 40 54.7	-0.4
	SNR=6.2						
AML	Almayashu	82.87	314	P	P	04 40 57.0	+0.4
	SNR=9.0						
EKS2	Erkin-Say	82.97	315	P	P	04 40 57.1	+0.3
	SNR=5.0						
KKAR	Karatay Array	85.40	315	eP	P	04 41 07.9	-1.1
	3.5nm,1.0s						
COLA	College	87.40	23	eP	P	04 41 16.0	-2.2
	9.3nm,0.9s						
COLD	Coldfoot	87.59	20	eP	P	04 41 18.8	-0.4
	10nm,1.3s						
IL1	Eielson Array	87.73	23	eP	P	04 41 17.2	-2.7
ILAR	Eielson Array	87.73	23	P	P	04 41 17.4	-2.5
	5.8nm,0.7s,baz=252,slow=4.6,SNR=59						
ILB	Eielson Array	87.73	23	eP	P	04 41 17.1	-2.8
BVAR	Borovoye Array	88.19	324	P	P	04 41 20.7	-1.6
	1.1nm,0.7s,baz=110,slow=8.3,SNR=6.5						
SYO	Syowa Base	88.33	200	⇑eP	P	04 41 20.3	-2.4
DOT	Dot Lake	88.42	25	eP	P	04 41 21.9	-1.4
	28nm,0.9s						
EGAK	Eagle	90.01	24	eP	P	04 41 29.5	-1.1
	12nm,1.3s						
ABKAR	Akbulak array	93.84	319	eP	P	04 41 47.1	-1.7
	1.3nm,0.7s						
INK	Inuvik	93.91	22	P	P	04 41 47.4	-1.2
	2.9nm,1.1s,baz=198,slow=6.4,SNR=2.3						
INK	Inuvik	93.91	22	eP	P	04 41 47.9	-0.6
	4.8nm,1.2s						
YBH	Yreka Blue Hor	96.06	49	P	P	04 41 57.1	-2.1
	2.8nm,1.1s,baz=117,slow=2.3,SNR=2.9						
SNAA	Sanae	97.74	189	eP	P	04 42 04.2	-2.0
NVAR	Mina Array Bea	99.18	52	P	Pdif	04 42 12.1	-1.4
	0.4nm,0.3s,baz=217,slow=2.8,SNR=3.2						
YKA	Yellowknife Ar	101.39	28	P	Pdif	04 42 21.1	-1.3
	0.5nm,0.8s,baz=271,slow=4.9,SNR=7.5						
YKA				PKKPbc	PKKPbc	04 58 30.5	-3.2
	0.2nm,0.7s,baz=85,slow=2.6,SNR=4.8						
TXAR	Lajitas Array	111.33	62	PKiKP	PKiKP	04 47 06.9	+0.8
	0.5nm,0.9s,baz=318,slow=1.2,SNR=2.6						
ULM	Lac du Bonnet	113.85	38	PKiKP	PKiKP	04 47 08.8	-1.3
	1.2nm,0.6s,baz=224,slow=3.7,SNR=3.4						
GERES	GERESS Array B	123.36	324	PKP	PKPdf	04 47 28.1	-0.5
	0.5nm,0.6s,baz=43,slow=2.5,SNR=5.3						
SCHQ	Schefferville	126.49	23	PKP	PKPdf	04 47 33.5	-0.8
	1.6nm,0.7s,baz=270,slow=1.0,SNR=3.5						
SDV	Santo Domingo	143.38	86	PKhKP	PKPpre	04 48 03.3	
	3.3nm,0.6s,baz=186,slow=9.2,SNR=4.4						
SDV	Santo Domingo	143.38	86	ePKPdf	PKPbc	04 48 04.6	+0.3
TORD	Torodi Ar. Bea	144.99	281	PKPbc	PKPbc	04 48 08.9	-0.1
	9.4nm,0.7s,baz=80,slow=3.4,SNR=75						
SAML	Samuel	145.96	119	ePKPbc	PKPbc	04 48 11.4	-0.7
KOWA	Kowa	150.35	285	PKPbc	PKPbc	04 48 23.8	+0.1
	7.5nm,0.7s,baz=64,slow=4.0,SNR=30						
KIC	Kosan Boka	151.32	268	ePKP1	PKPbc	04 48 25.8	-0.3
	37nm,1.2s						
DBIC	Dimbokro	151.46	269	PKPbc	PKPbc	04 48 26.5	+0.1
	6.5nm,0.7s,baz=106,slow=1.7,SNR=17						
LIC	Lamto	151.59	268	ePKP1	PKPbc	04 48 26.6	-0.1
	39nm,1.1s						
TIC	Toumodi	151.62	269	ePKP1	PKPbc	04 48 26.6	-0.2

*IDC **02** 04:38:43.1±1.0, 7°.86S×146°.53E, h0^{km}, mb3.7/3, mb1 3.9/5, mb1mx3.6/47, mbtmp3.7/5, ML3.4/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/44, Error ellipse: s-maj=38.0km s-min=13.3km az=71.0*

*ISCJB **02** 04:38:46.3±1.0, 8°.0S±0°.1×146°.5E±0°.2, h33^{km}, mb3.6/3, MS3.3/1, Error ellipse: s-maj=23.9km s-min=15.7km az=178.6*

ISC 02 04:38:47.9±1.0**, 8°.0S**±0°.1×**146°.6E**±0°.2**, h35^{km}, n9,** σ1^{s}09/8**, mb3.6**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.53	157	Pn	Pn	04 39 12.9	+0.1
	14nm,0.3s,baz=331,slow=9.5,SNR=8.0						
PMG				Lg	Lg	04 39 36.5	
	29nm,0.3s,baz=154,slow=22,SNR=17						
WRA	Warramunga Arr	16.78	224	Pn	Pn	04 42 39.7	-0.7
	0.1nm,0.3s,baz=45,slow=11,SNR=9.0						
ASAR	Alice Springs	19.76	216	P	P	04 43 15.8	+0.8
	0.2nm,0.3s,baz=49,slow=10,SNR=11						
GUMO	Guam	21.50	355	LR	LR	04 51 49.2	
	comp=Z,117nm,18.1s,baz=114,slow=37						
SONM	Songino Array	65.93	332	P	P	04 49 32.2	+1.6
	0.2nm,0.5s,baz=149,slow=7.4,SNR=2.5						
MKAR	Makanchi Array	78.75	321	P	P	04 50 45.8	-1.2
	0.5nm,0.8s,baz=99,slow=7.5,SNR=4.6						
ILAR	Eielson Array	87.47	23	P	P	04 51 31.1	-0.5
	0.8nm,0.7s,baz=252,slow=4.6,SNR=8.2						
TORD	Torodi Ar. Bea	145.11	281	PKPbc	PKPab	04 58 21.9	-0.4
	0.7nm,0.7s,baz=83,slow=2.8,SNR=9.2						
KOWA	Kowa	150.45	285	PKPbc	PKPbc	04 58 37.3	+0.4
	0.9nm,0.6s,baz=104,slow=8.3,SNR=3.5						

IDC 02 04:45:46.2±1.5**, 7°.87S**×**146°.55E, h0^{km}, mb3.8**/1**, mb1 4.0**/3**, mb1mx3.5**/51**, mbtmp3.7**/3**, ML3.5**/2**, Error ellipse: s-maj=38.7km s-min=16.2km az=70.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.65	159	Pn	Pn	04 46 16.3	-0.2
	19nm,0.3s,baz=300,slow=11,SNR=19						
PMG				Lg	Lg	04 46 38.2	
	23nm,0.3s,baz=272,slow=1.7,SNR=8.3						
WRA	Warramunga Arr	16.86	223	Pn	Pn	04 49 43.0	-0.9
	0.1nm,0.3s,baz=46,slow=11,SNR=16						
ASAR	Alice Springs	19.85	216	P	P	04 50 19.4	+0.4
	0.3nm,0.3s,baz=50,slow=10.0,SNR=14						
ILAR	Eielson Array	87.36	23	P	P	04 58 34.7	-0.2
	0.7nm,0.7s,baz=256,slow=5.4,SNR=5.2						
TORD	Torodi Ar. Bea	145.07	282	PKPbc	PKPbc	05 05 25.7	-0.5
	0.6nm,0.6s,baz=92,slow=2.5,SNR=6.7						

IDC 02 04:46:08.0±1.9**, 7°.32S**×**145°.77E, h0^{km}, mb3.7**/1**, mb1 4.0**/3**, mb1mx3.4**/51**, mbtmp3.6**/3**, ML3.6**/2**, Error ellipse: s-maj=132.8km s-min=33.5km az=122.0, Near south coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.74	220	Pn	Pn	04 50 05.2	+1.1
	0.2nm,0.3s,baz=45,slow=11,SNR=6.8						
ASAR	Alice Springs	19.85	214	P	P	04 50 40.0	-0.7
	0.2nm,0.3s,baz=33,slow=12,SNR=6.2						
ILAR	Eielson Array	87.17	23	P	P	04 58 55.6	-0.2
	0.4nm,0.7s,baz=250,slow=4.5,SNR=5.0						
TORD	Torodi Ar. Bea	144.20	282	PKP	PKPdf	05 05 47.4	+0.3
	0.5nm,0.7s,baz=76,slow=4.1,SNR=3.7						

IDC 02 05:00:44.3±6.1**, 49°.41S**×**118°.06E, h0^{km}, mb3.8**/2**, mb1 4.0**/2**, mb1mx3.7**/39**, mbtmp3.8**/2**, Error ellipse: s-maj=726.3km s-min=72.9km az=114.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	28.56	32	P	P	05 06 42.1	+0.3
	0.7nm,0.9s,baz=209,slow=7.8,SNR=4.8						
WRA	Warramunga Arr	32.16	30	P	P	05 07 13.5	-0.2
	0.6nm,0.5s,baz=202,slow=8.8,SNR=7.2						
YKA	Yellowknife Ar	148.72	45	PKPbc	PKPbc	05 20 31.5	-0.7
	0.2nm,0.7s,baz=273,slow=3.6,SNR=4.4						

*NNC **02** 05:04:52.7±1.6, 45°.76N×85°.24E, h0^{km}, mb3.1, mpv2.7, Error ellipse: s-maj=11.0km s-min=5.5km az=115.0*

*SOME **02** 05:04:54.7, 45°.62N×85°.07E, h5^{km}*

ISC 02 05:04:57.6±2.8**, 45°.7N**±0°.1×**84°.7E**±0°.1**, h10^{km}, n8,** σ1^{s}77/10**, 5C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZSN	Zaisan	1.79	3	eP	Pg	05 05 31.0	-1.0
	4.2nm,0.5s						
ZSN				eS	Sg	05 05 56.2	+1.0
	13nm,0.7s						
MK31	Makanchi Array	2.04	305	⇑Pg	Pb	05 05 34.6	-0.2
	1.7nm,0.5s,baz=115,slow=17,SNR=46						
MK31				⇑Lg	Lg	05 06 06.0	
	7.8nm,0.4s,baz=116,slow=29,SNR=25						
MAKZ	Makanchi	2.24	302	⇑Pg	Pb	05 05 38.3	+0.2
	3.5nm,0.6s						
MAKZ				⇑Lg	Lg	05 06 11.7	
	30nm,0.6s						
DJR	Jarkent	3.76	251	eP	Pg	05 06 07.6	-1.9
	3.5nm,0.6s						
DJR				eS	Sg	05 06 59.9	+1.7
	4.7nm,0.8s						
KAPS	Kapalarasan	3.81	266	eP	Pb	05 06 07.6	+2.7
	1.6nm,0.7s						
KAPS				eS	Sg	05 06 59.5	-0.3
	3.6nm,0.9s						
KTMS	Ketmen	3.84	236	eP	Pg	05 06 09.0	-2.1
	3.1nm,0.3s						
KTMS				eS	Sg	05 07 02.0	+1.1
	16nm,0.7s						
PDGK	Podgornoye	4.42	240	⇓Lg	Lg	05 07 23.3	
	14nm,1.1s						
KURK	Kurchatov	6.50	323	⇑Lg	Lg	05 08 22.6	
	5.3nm,0.6s						

*ISCJB **02** 05:08:33.2±1.2, 7°.9S±0°.1×146°.6E±0°.1, h10^{km}, mb3.9/3, Error ellipse: s-maj=21.8km s-min=13.8km az=152.0*

*IDC **02** 05:08:33.3±1.3, 7°.80S×146°.67E, h0^{km}, mb4.0/3, mb1 4.2/5, mb1mx3.7/47, mbtmp3.9/5, ML3.4/2, Error ellipse: s-maj=31.5km s-min=13.1km az=69.0*

ISC 02 05:08:34.4±1.2**, 7°.9S**±0°.1×**146°.7E**±0°.2**, h10^{km}, n7,** σ0^{s}61/8**, mb3.8**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.60	164	Pn	Pn	05 09 02.9	0.0
	29nm,0.3s,baz=29,slow=6.2,SNR=25						
PMG				Pg	Pg	05 09 05.6	+0.3
	29nm,0.3s,baz=354,slow=9.6,SNR=50						
PMG				Lg	Lg	05 09 25.8	
	64nm,0.3s,baz=18,slow=20,SNR=12						
WRA	Warramunga Arr	16.98	224	Pn	Pn	05 12 31.7	-0.5
	0.1nm,0.3s,baz=47,slow=11,SNR=12						
ASAR	Alice Springs	19.95	217	P	P	05 13 06.4	-0.5
	0.2nm,0.3s,baz=51,slow=9.6,SNR=9.5						
FITZ	Fitzroy Crossi	22.89	242	P	P	05 13 38.7	+0.2
	2.8nm,1.0s,baz=60,slow=14						
CMAR	Chiang Mai Arr	53.89	300	P	P	05 17 59.2	+0.9
	1.9nm,0.6s,baz=110,slow=5.1,SNR=6.9						
ILAR	Eielson Array	87.29	23	P	P	05 21 20.8	-0.3
	0.5nm,0.8s,baz=241,slow=4.8,SNR=6.0						
TORD	Torodi Ar. Bea	145.23	282	PKPbc	PKPdf	05 28 12.8	-0.7
	0.5nm,0.8s,baz=78,slow=3.3,SNR=2.9						

*IDC **02** 05:09:52.6±0.3, 7°.98S×146°.40E, h0^{km}, mb5.0/25, mb1 5.1/29, mb1mx4.9/45, mbtmp5.0/29, ML4.7/4, MS4.7/17, Ms1 4.7/17, ms1mx4.5/27, Error ellipse: s-maj=14.7km s-min=8.6km az=68.0*

*BJI **02** 05:09:54.3, 8°.37S×146°.93E, h46^{km}, mb5.1/53, mB5.3/52, Ms5.0/60, Ms7 4.7/54*

*MOS **02** 05:09:56.5±1.0, 8°.00S×146°.28E, h33^{km}, mb5.4/61, MS4.6/13, Error ellipse: s-maj=8.1km s-min=5.5km az=102.6*

*ISCJB **02** 05:09:57.3±0.7, 8°.04S±0°.03×146°.30E±0°.03, h40^{km}±6^{km}, mb5.2/166, MS4.7/39, Error ellipse: s-maj=4.7km s-min=3.9km az=146.3*

*DJA **02** 05:09:58.9±0.4, 8°S±5°×14°6E±°, h10^{km}, M5.2/6, mb5.3/6, mB5.5/5, MLv5.3/2, Mw(mB)5.0/5*

*GCMT **02** 05:09:59.4±0.1, 8°.09S×146°.35E, h16^{km}, MW5.3/108, Moment Tensor Solution. s107,c169; s108,c201; Duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.89±.02; $M_{\theta\theta}$0.23±.01; $M_{\phi\phi}$-1.11±.02; $M_{r\theta}$0.10±.05; $M_{\theta\phi}$-0.27±.01; $M_{\phi r}$-0.74±.05; Best double couple: $M_0$1.27800×10^{17} NP1:ϕ_s178.00000°, δ64.00000°, λ75.00000°. NP2:ϕ_s28.00000°, δ30.00000°, λ117.00000°. Principal axes: T 1.1670, Plg68.0000°, Azm59.0000°; N 0.2220, Plg13.0000°, Azm184.0000°; P -1.3880, Plg18.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 05:09:59.4±0.5, 8°.05S×146°.27E, h47^{km}±5^{km}, mb5.4/103 Error ellipse: s-maj=4.1km s-min=3.7km az=73.0*

NEIC Felt [III] at Port Moresby.

ISC 02 05:09:59.3±0.7**, 8°.15S**±0°.04×**146°.29E**±0°.04**, h43^{km}**±5^{km}**, n597,** σ1^{s}74/617**, mb5.2**/165**, MS4.7**/42**, 13C-4D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.52	145	Pn	Pn	05 10 21.7	-2.3
	145nm,0.3s,baz=334,slow=12,SNR=22						
PMG				Lg	Lg	05 10 45.0	
	1µm,0.3s,baz=164,slow=20,SNR=16						
PMG				LR	LR	05 11 00.5	
	comp=Z,35µm,20.5s,baz=85,slow=42						
PMG	Port Moresby	1.52	145	ePn	Pn	05 10 22.8	-1.3
PMG				eSn	Sn	05 10 49.2	+6.5
PMG	Port Moresby	1.52	145	⇑iP	Pn	05 10 21.2	-2.9
MMPI	Merauke	5.85	266	P	Pn	05 11 26.7	+3.2
MANU	Manus Island	6.16	10	ePn	Pn	05 11 27.7	-0.1
COEN	Coen	6.53	208	P	Pn	05 11 31.9	-1.0
	baz=6.6,SNR=30						
COEN	Coen	6.53	208	ePn	Pn	05 11 32.3	-0.6
RABL	Rabaul	7.04	56	ePn	Pn	05 11 40.6	+0.7
JAY	Jayapura	7.88	315	P	Pn	05 11 53.9	+2.4
GENI	Genyem	8.22	312	P	Pn	05 11 59.9	+3.9
MTSU	Mount Surprise	10.11	191	P	Pn	05 12 20.9	-1.1
	baz=10,SNR=35						
CTA	Charters Tower	11.87	180	Pn	Pn	05 12 47.3	+1.2
	2.6nm,0.3s,baz=1.4,slow=15,SNR=15						
CTA				LR	LR	05 17 26.7	
	comp=Z,5µm,18.9s,baz=5.5,slow=38						
CTAO	Charters Tower	11.87	180	ePn	Pn	05 12 47.7	+1.6
CTAO	Charters Tower	11.87	180	eP	Pn	05 12 47.7	+1.6
KMPI	Kaimana, Papua	13.28	289	P	Pn	05 13 07.1	+1.7
HNR	Honiara	13.56	96	LR	LR	05 18 01.1	
	comp=Z,2µm,20.3s,baz=285,slow=36						
HNR	Honiara	13.56	96	eP	P	05 13 14.0	-3.3
HNR	Honiara	13.56	96	ePn	Pn	05 13 11.2	+2.0
HNR	Honiara	13.56	96	eP	Pn	05 13 11.2	+2.0
QIS	Mount Isa	13.93	207	P	Pn	05 13 13.6	-0.6
	baz=14,SNR=19						
SAUI	Saumlaki	14.84	270	ePn	Pn	05 13 26.4	0.0
FAKI	Fak Fak	14.90	290	P	Pn	05 13 27.3	0.0
	261nm,0.9s,4µm						
FAKI	Fak Fak	14.90	290	ePn	Pn	05 13 25.6	-1.7
MTN	Manton Dam	15.61	251	P	Pn	05 13 35.5	-1.0
	baz=16,SNR=25						
MTN	Manton Dam	15.61	251	ePn	Pn	05 13 35.9	-0.6
	362nm,0.8s						
WRAB	Tennant Creek	16.46	223	ePn	Pn	05 13 45.7	-1.6
	146nm,0.8s						
WRAB	Tennant Creek	16.46	223	ceP	Pn	05 13 46.6	-0.7
WRAB				pmax	pmax		
	comp=Z,272nm,1.2s						
WB2	Warramunga Arr	16.46	223	ePn	P	05 13 49.5	-0.1
	comp=Z,206nm,1.0s						
WRA	Warramunga Arr	16.47	223	Pn	Pn	05 13 47.3	-0.2
	comp=Z,2.9nm,0.3s,baz=45,slow=11,SNR=50						
WRA				Sn	Sn	05 16 42.5	-6.9
	comp=Z,0.8nm,0.3s,baz=36,slow=23,SNR=3.7						
WRA				LR	LR	05 21 08.4	
	comp=Z,4µm,18.2s,baz=50,slow=40						
WRA	Warramunga Arr	16.47	223	ceP	P	05 13 48.5	-1.2
WRA				pmax	pmax		
	comp=Z,205nm,1.0s						
SIJI	Sorong	16.62	295	Pn	Pn	05 13 48.6	-0.7
	comp=Z,1.0nm,0.3s,baz=66,slow=7.5,SNR=9.8						
SIJI				LR	LR	05 22 22.5	
	comp=Z,3µm,19.0s,baz=96,slow=45						
SWI	Sorong	16.63	295	P	Pn	05 13 49.0	-0.4
SWI				pmax	pmax		
	comp=Z,179nm,0.8s						
EIDS	Eidsvold	17.73	166	P	P	05 14 04.7	+1.3
	baz=18,SNR=19						
EIDS	Eidsvold	17.73	166	ePn	P	05 14 05.3	+1.8
	comp=Z,50nm,0.9s						
MSAI	Masohi	17.91	284	P	P	05 14 06.9	+1.3
RMQ	Roma	18.39	173	P	Pn	05 14 13.6	+2.5
	baz=18,SNR=17						
QLP	Quilpie	18.44	186	P	Pn	05 14 13.0	+1.3
	baz=19,SNR=24						
AAI	Ambon	18.53	283	P	Pn	05 14 13.5	+0.6
KNRA	Kununurra	18.70	245	P	Pn	05 14 15.3	+0.4
	baz=19,SNR=31						
PATS	Pohnpei	19.11	39	P	Pn	05 14 19.5	-0.4
	baz=19,SNR=8.1						
PATS	Pohnpei	19.11	39	eP	P	05 14 18.0	-0.8
	comp=Z,386nm,0.9s						
AS01	Alice Springs	19.44	216	eP	Pn	05 14 24.6	+0.8
AS31	Alice Springs	19.47	216	eP	Pn	05 14 23.7	-0.4
	comp=Z,34nm,0.7s						
ASAR	Alice Springs	19.47	216	P	Pn	05 14 24.3	+0.1
	comp=Z,4.3nm,0.3s,baz=40,slow=11,SNR=127						
ASAR				LR	LR	05 22 32.1	
	comp=Z,3µm,20.0s,baz=47,slow=39						
NLAI	Namlea	19.70	283	P	Pn	05 14 29.9	+3.0
LBMI	Labuha	20.15	291	P	Pn	05 14 36.1	+3.9
SANI	Sanana	21.09	286	P	P	05 14 41.4	+1.1
GUMO	Guam	21.64	356	LR	LR	05 22 28.2	
	comp=Z,757nm,19.9s,baz=187,slow=35						
SOEI	Soe	21.81	264	P	P	05 14 54.0	+5.9
FITZ	Fitzroy Crossi	22.38	242	P	P	05 14 53.8	-0.4
	comp=Z,2.4nm,1.0s,baz=64,slow=17						
BATI	Baumata	22.43	263	LR	LR	05 26 24.4	
	comp=Z,7µm,18.3s,baz=106,slow=44						
BATI	Baumata	22.43	263	P	P	05 14 58.3	+3.6
ARMA	Armidale	22.72	168	P	P	05 14 59.2	+1.5
	baz=23,SNR=9.2						
ARMA	Armidale	22.72	168	eP	P	05 14 58.2	+0.6
	comp=Z,117nm,1.1s						
CMSA	Cobar Meteorol	23.28	181	P	P	05 15 04.5	+1.2
	baz=23,SNR=13						
BBSI	Bau Bau	23.69	275	P	P	05 15 13.3	+5.9
MMRI	Maumere	23.80	267	P	P	05 15 09.4	+1.0
MMRI	Maumere	23.80	267	eP	P	05 15 08.1	-0.3
	comp=Z,233nm,1.2s						
DZM	Mont Dzumac	23.84	128	P	P	05 15 07.5	-1.3
	comp=Z,61nm,1.1s,baz=317,slow=10,SNR=19						
DZM	Mont Dzumac	23.84	128	eP	P	05 15 09.0	+0.2
	comp=Z,210nm,1.2s						
DZM				eS	S	05 19 23.9	+1.9
	comp=Z,3µm,25.4s						
DZM	Mont Dzumac	23.84	128	eP	P	05 15 08.5	-0.3
	comp=Z,160nm,1.4s						
KMSI	Cibinong	23.86	290	P	P	05 15 14.5	+5.5
STKA	Stephens Creek	24.01	190	P	P	05 15 11.8	+1.6
	comp=Z,16nm,1.0s,baz=0.5,slow=9.8,SNR=12						
STKA				LR	LR	05 25 10.7	
	comp=Z,4µm,18.2s,baz=10,slow=38						
STKA	Stephens Creek	24.01	190	P	P	05 15 12.2	+2.1
	baz=24,SNR=9.0						
STKA	Stephens Creek	24.01	190	eP	P	05 15 11.3	+1.1
	comp=Z,6.9nm,0.9s						
WRKA	Warakurna	24.02	223	P	P	05 15 10.6	+0.3
	baz=24,SNR=47						
EDFI	Ende, Flores	24.34	267	P	P	05 15 15.3	+1.9
LUWI	Luwuk	24.46	286	P	P	05 15 19.3	+4.8
LUWI	Luwuk	24.46	286	eP	P	05 15 13.9	-0.6
	comp=Z,154nm,0.9s						
MGCD	Mangrove Creek	25.34	171	P	P	05 15 24.9	+2.6
	baz=26,SNR=17						
HTT	Hallett	26.07	194	P	P	05 15 31.0	+2.1
	baz=26,SNR=9.0						
YNG	Young	26.10	176	P	P	05 15 30.8	+1.6
	baz=26,SNR=28						
LHI	Lord Howe Isla	26.13	155	eP	P	05 15 30.7	+1.3
	comp=Z,221nm,1.3s						
BBOO	Buckleboo	26.31	200	P	P	05 15 32.1	+1.0
	baz=26,SNR=5.1						
BBOO	Buckleboo	26.31	200	eP	P	05 15 31.6	+0.5
	comp=Z,68nm,1.2s						
KAPI	Kappang	26.54	275	eP	P	05 15 32.9	-0.5
	comp=Z,40nm,0.8s						
TOO	Toolangi	29.30	181	P	P	05 16 01.0	+3.2
	baz=30,SNR=3.6						
JAGI	Jajag, Banyuwa	31.79	267	eP	P	05 16 17.0	-3.1
	comp=Z,18nm,0.8s						
MEEK	Meekatharra	32.05	232	P	P	05 16 23.3	+1.1
	baz=32,SNR=5.5						
KMBL	Kambalda	32.42	221	P	P	05 16 26.8	+1.4
	baz=32,SNR=4.3						
KKM	Kota Kinabalu	33.14	294	eP	P	05 16 30.9	-1.0
	comp=Z,136nm,0.2s						
KLBR	Kellerberrin	35.35	225	P	P	05 16 51.9	+1.2
	baz=35,SNR=5.8						
NWAO	Narrogin (SRO)	36.48	223	P	P	05 17 00.7	+0.2
	comp=Z,20nm,1.1s,baz=324,slow=8.7,SNR=3.8						
NWAO				LR	LR	05 33 21.7	
	comp=Z,2µm,19.3s,baz=284,slow=38						
OUZ	Omahuta	36.77	141	eP	P	05 17 03.6	+0.7
	comp=Z,78nm,1.0s						
CISI	Cisompet, Garu	38.10	268	eP	P	05 17 13.5	-1.1
	comp=Z,79nm,1.1s						
NACB	Ninganchiao	40.16	324	eP	P	05 17 30.8	-0.7
	comp=Z,58nm,1.0s						
YHNB	Yeheng	40.67	324	eP	P	05 17 35.1	-0.6
	comp=Z,95nm,1.2s						
TATO	Taipei	40.84	324	eP	P	05 17 36.2	-0.8
	comp=Z,137nm,0.8s						
URZ	Urewera	40.88	142	P	P	05 17 37.1	-0.2
	comp=Z,14nm,0.8s,baz=159,slow=9.4,SNR=4.4						

URZ Urewera 40.88 142 eP P 05 17 38.5 +1.3
comp=Z,41nm,1.1s
THZ Tophouse 40.92 149 eP P 05 17 38.6 +1.0
comp=Z,87nm,1.4s
BKZ Black Stump Fm 41.09 143 eP P 05 17 40.0 +0.9
comp=Z,76nm,1.4s
LTZ Lake Taylor 41.37 151 eP P 05 17 42.6 +1.3
comp=Z,111nm,1.5s
RPZ Rata Peaks 41.52 153 P P 05 17 43.3 +0.9
comp=Z,15nm,0.7s,baz=185,slow=4.7,SNR=4.6
RPZ Rata Peaks 41.52 153 eP P 05 17 43.7 +1.3
comp=Z,62nm,1.4s
AFI Afiamalu 41.52 102 P P 05 17 42.8 -0.1
comp=Z,19nm,0.3s,baz=304,slow=8.8,SNR=6.2
AFI Afiamalu 41.52 102 eP P 05 17 43.0 +0.1
comp=Z,137nm,1.2s
AFI Afiamalu 41.52 102 eP P 05 17 43.0 +0.1
AFI pmax pmax
comp=Z,137nm,1.2s
MLZ Mavora Lakes 41.61 157 eP P 05 17 43.1 -0.1
comp=Z,93nm,1.3s
LBZ Lake Benmore 41.66 154 eP P 05 17 44.1 +0.5
comp=Z,49nm,1.1s
KHZ Kahutara 41.73 149 eP P 05 17 44.5 +0.4
comp=Z,69nm,1.2s
BFZ Birch Farm 41.95 145 eP P 05 17 47.1 +1.0
comp=Z,96nm,1.1s
WHZ Wether Hill Ro 41.98 157 eP P 05 17 48.4 +2.2
comp=Z,57nm,1.3s
QZH Quanzhou 42.54 321⇑iP P 05 17 49.2 -1.8
QZH S S 05 24 11.4 +0.8
QZH pmax pmax
comp=Z,200nm,8.5s
QZH LR LR
comp=Z,400nm,19.4s
QZH LR LR
comp=Z,260nm,13.3s
QZH LR LR
comp=Z,480nm,18.5s
JNU Nakatsue 43.58 341 P P 05 18 01.9 +2.6
comp=Z,10nm,0.9s,baz=245,slow=17,SNR=3.5
GZH Guangzhou 44.75 315 eP P 05 18 12.3 +3.6
GZH S S 05 24 48.6 +5.7
GZH SS ScS 05 28 03.8 +0.6
GZH pmax pmax
comp=Z,240nm,6.7s
GZH LR LR
comp=Z,510nm,15.2s
GZH LR LR
comp=Z,440nm,15.1s
QIZ Qiongzhong 44.94 307 P P 05 18 09.5 -0.9
QIZ PP PP 05 19 57.2 +1.1
QIZ S S 05 24 48.2 +2.3
QIZ SS SS 05 28 08.7 -0.1
QIZ LR LR
comp=Z,300nm,16.7s
QIZ LR LR
comp=Z,460nm,16.7s
QIZ LR LR
comp=Z,560nm,16.7s
QIZ Qiongzhong 44.94 307 eP P 05 18 09.8 -0.6
comp=Z,51nm,1.1s
MJAR Matsushiro Arr 45.09 351 P P 05 18 09.1 -2.2
comp=Z,19nm,0.9s,baz=183,slow=9.4,SNR=12
MJAR PcP PcP 05 19 50.2 -1.3
comp=Z,8.2nm,1.1s,baz=190,slow=4.7,SNR=4.2
MJAR LR LR 05 37 36.3
comp=Z,419nm,18.0s,baz=260,slow=37
MAJO Matsushiro 45.09 351 eP P 05 18 11.2 -0.1
comp=Z,22nm,0.8s
MAJO Matsushiro 45.09 351 eP P 05 18 11.2 -0.1
MAJO pmax pmax
comp=Z,22nm,0.8s
MAT Matsushiro 45.09 351 P P 05 18 08.1 -3.2
MAT S S 05 24 45.8 -1.8
MJB9 Matsu-Tunnel 45.10 351 eP P 05 18 11.1 -0.3
comp=Z,22nm,0.8s
SSE Sheshan 45.83 330 P P 05 18 17.3 +0.1
SSE S S 05 25 00.6 +2.3
SSE pmax pmax
comp=Z,22nm,0.8s
SSE pmax pmax
comp=Z,35nm,3.5s
SSE LR LR
comp=Z,180nm,17.7s
SSE LR LR
comp=Z,210nm,18.0s
IPM Ipoh 46.85 284 eP P 05 18 25.8 +0.2
comp=Z,14nm,0.8s
NJ2 Nanjing 47.79 328 eP P 05 18 32.7 +0.2
NJ2 pmax pmax
comp=Z,19nm,0.9s
KSRS Korea Array 48.51 340 P P 05 18 37.3 -0.6
comp=Z,8.1nm,0.8s,baz=159,slow=8.9,SNR=17
KS15 Wonju Array Si 48.51 340 eP P 05 18 37.6 -0.3
KSAR Wonju Array Be 48.51 340 P P 05 18 37.3 -0.7
KSAR Wonju Array Be 48.51 340 P P 05 18 37.3 -0.7
KS01 Wonju Array Si 48.54 340 eP P 05 18 36.9 -1.3
SKNT Sakolnakorn 48.71 301 P P 05 18 40.7 +0.8
comp=Z,13nm,0.7s
SKNT Sakolnakorn 48.71 301 P P 05 18 40.7 +0.8
comp=Z,13nm,0.7s
WHN Wuhan 49.18 323 P P 05 18 44.2 +0.9
WHN S S 05 25 52.9 +6.9
WHN LR LR
comp=Z,2μm,20.0s
WHN LR LR
comp=Z,530nm,12.0s
WHN LR LR
comp=Z,2μm,18.2s
CHAI Chaiyaphum 49.95 299 P P 05 18 52.3 +2.9
comp=Z,6.0nm,0.8s,comp=Z,76nm
CHAI Chaiyaphum 49.95 299 P P 05 18 52.3 +2.9
comp=Z,6.0nm,0.8s
PHET Kaeng Krachan 50.85 294 P P 05 19 01.4 +5.2
comp=Z,6.2nm,0.8s
PHET Kaeng Krachan 50.85 294 P P 05 19 01.4 +5.2
comp=Z,6.2nm,0.8s
GYA Guiyang 51.59 313⇑iP P 05 19 07.5 +5.7
GYA pP sP 05 19 17.2 -1.8
GYA PP PP 05 21 03.0 +3.4
GYA ScP ScP 05 24 08.9 +0.2
GYA S S 05 26 20.4 +0.5
GYA SS SS 05 29 55.0 -1.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=Z,740nm,18.9s
GYA LR LR
comp=Z,660nm,19.2s
GYA LR LR
comp=Z,620nm,19.6s
SRDT SRDT 51.85 295 P P 05 19 07.0 +3.3
comp=Z,19nm,0.8s,comp=Z,1μm
SRDT SRDT 51.85 295 P P 05 19 07.0 +3.3
comp=Z,19nm,0.8s
PHIT Phitsanulok 51.86 299 P P 05 19 07.5 +3.8
comp=Z,14nm,0.9s
PHIT Phitsanulok 51.86 299 P P 05 19 07.5 +3.8
comp=Z,14nm,0.9s
TIA Tai'an 51.95 330 P P 05 19 03.2 -0.9
TIA S S 05 26 25.2 +1.0
TIA pmax pmax
comp=Z,25nm,1.7s
TIA LR LR
comp=Z,270nm,20.6s
TIA LR LR
comp=Z,500nm,24.5s
TIA LR LR
comp=Z,670nm,18.8s
ENH Enshi 52.03 319 eP P 05 19 04.3 -0.5
comp=Z,33nm,1.2s
UTHA Uthaitani 52.03 297 P P 05 19 08.6 +3.6
comp=Z,4.0nm,0.8s,comp=Z,111nm
UTHA Uthaitani 52.03 297 P P 05 19 08.6 +3.6
comp=Z,4.0nm,0.8s
ASAJ Asahikawa 52.12 357 P P 05 19 05.2 -0.1
comp=Z,6.3nm,0.8s,baz=236,slow=11,SNR=3.5
NANT Nan 52.32 301 P P 05 19 08.9 +1.8
comp=Z,16nm,0.8s,comp=Z,3μm
NANT Nan 52.32 301 P P 05 19 08.9 +1.8
comp=Z,16nm,0.8s
PHRA Phrae 52.58 301 P P 05 19 09.7 +0.6
comp=Z,211nm,0.8s
PHRA Phrae 52.58 301 P P 05 19 09.7 +0.6
comp=Z,211nm,0.8s
LAMP Lampang 53.10 300 P P 05 19 16.8 +3.8
comp=Z,12nm,0.7s,comp=Z,112nm
LAMP Lampang 53.10 300 P P 05 19 16.8 +3.8
comp=Z,12nm,0.7s
RAR Rarotonga 53.53 110 eP P 05 19 16.1 0.0
comp=Z,163nm,1.8s
RAR Rarotonga 53.53 110 eP P 05 19 16.1 0.0
RAR pmax pmax
comp=Z,163nm,1.8s
CM01 Chiang Mai Arr 53.64 300 eP P 05 19 17.2 +0.3
CM31 Chiang Mai Arr 53.67 300 eP P 05 19 16.9 -0.2
CMAR Chiang Mai Arr 53.67 300 P P 05 19 17.7 +0.6
comp=Z,15nm,0.6s,baz=125,slow=5.7,SNR=28
USRK Ussuriysk Ar. 53.68 347 P P 05 19 15.8 -1.0
comp=Z,6.2nm,0.6s,baz=180,slow=7.5,SNR=10
USRK LR LR 05 40 56.5
comp=Z,295nm,20.1s,baz=159,slow=35
KMI Kunming 53.77 309 P P 05 19 19.8 +1.8
KMI sP sP 05 19 38.9 +3.6
KMI S S 05 26 53.0 +3.1
KMI sS sS 05 27 13.6 +3.3
KMI SS SS 05 30 34.3 +2.9
KMI pmax pmax
comp=Z,17nm,1.0s
KMI pmax pmax
comp=Z,150nm,7.2s
KMI LR LR
comp=Z,360nm,19.1s
KMI LR LR
comp=Z,280nm,20.6s
KMI LR LR
comp=Z,430nm,22.1s
CMMT Chiang Mai 53.81 300 P P 05 19 18.0 -0.2
comp=Z,30nm,0.8s,comp=Z,491nm
CMMT Chiang Mai 53.81 300 P P 05 19 18.0 -0.2
CHTO Chiang Mai 53.82 300 P P 05 19 19.0 +0.8
comp=Z,132nm,0.8s,comp=Z,2μm
CHTO Chiang Mai 53.82 300 eP P 05 19 18.4 +0.3
comp=Z,20nm,0.8s
CHTO Chiang Mai 53.82 300 eP P 05 19 18.5 +0.3
CHTO pmax pmax
comp=Z,20nm,0.8s
SNY Shenyang 53.91 339 ⇓P P 05 19 23.0 +4.6
SNY S S 05 26 51.8 +1.1
SNY pmax pmax
comp=Z,25nm,0.9s
SNY pmax pmax
comp=Z,230nm,5.6s
SNY LR LR
comp=Z,700nm,20.0s
SNY LR LR
comp=Z,680nm,20.6s
SNY LR LR
comp=Z,1μm,20.4s
CMAI Chiengmai2 54.22 302 P P 05 19 17.9 -3.4
comp=Z,118nm,1.8s,comp=Z,6μm
MDJ Mudanjiang 54.64 345 eP P 05 19 23.1 -0.5
comp=Z,22nm,1.4s
XAN Xi'an 54.90 322 ⇑P P 05 19 25.0 -0.9
XAN pP pP 05 19 35.0 -3.2
XAN sP sP 05 19 40.4 -2.8
XAN S S 05 27 00.2 -4.3
XAN ScS ScS 05 29 09.7 -2.1
XAN pmax pmax
comp=Z,47nm,1.0s
XAN pmax pmax
comp=Z,320nm,4.8s
XAN LR LR
comp=Z,330nm,20.6s
XAN LR LR
comp=Z,310nm,18.4s
XAN LR LR
comp=Z,380nm,17.4s
YSS Yuzh-Sakhalins 54.94 357 eP P 05 19 24.2 -1.6
YSS e 05 19 39.5
YSS pmax pmax
comp=Z,30nm,1.2s
YSS pmax pmax
comp=Z,400nm,4.0s
YSS MLR MLR
comp=Z,300nm,15.0s
CN2 Changchun 55.05 342 eP P 05 19 30.6 +3.9
CN2 esP sP 05 19 48.6 +4.6
CN2 eS S 05 27 08.9 +2.9
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,600nm,21.0s
BJT Baijiatuau 55.42 332 eP P 05 19 28.4 -1.0
comp=Z,191nm,1.9s
BJT Baijiatuau 55.42 332 eP P 05 19 28.4 -1.0
BJT pmax pmax
comp=Z,191nm,1.9s
BJI Beijing 55.44 332 P P 05 19 27.8 -1.7
BJI S S 05 27 12.7 +1.4
BJI pmax pmax
comp=Z,17nm,0.9s
BJI LR LR
comp=Z,510nm,22.5s
BJI LR LR
comp=Z,900nm,18.2s
TIY Taiyuan 55.51 328 eP P 05 19 33.5 +3.3
TIY pmax pmax
comp=Z,240nm,7.0s
TIY LR LR
comp=Z,770nm,17.4s
TIY LR LR
comp=Z,430nm,21.2s
TIY LR LR
comp=Z,530nm,21.3s
CD2 Chengdu 56.28 316 P P 05 19 35.6 -0.2
CD2 pP pP 05 19 48.4 +0.2
CD2 sP sP 05 19 53.9 +0.7
CD2 PcS PcS 05 24 32.9 -0.7
CD2 S S 05 27 23.2 +0.2
CD2 SS SS 05 31 11.9 +1.4
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,150nm,5.0s
CD2 LR LR
comp=Z,390nm,18.1s
CD2 LR LR
comp=Z,760nm,18.6s
CD2 LR LR
comp=Z,580nm,17.6s
HHC Hu-ho-hao-te 58.29 329 eP P 05 19 50.0 +0.1
HHC S S 05 27 52.3 +3.0
HHC ScS ScS 05 29 31.8 -4.5
HHC SS SS 05 31 46.6 +4.6
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.8s
HHC LR LR
comp=Z,360nm,16.9s
HHC LR LR
comp=Z,550nm,17.3s
HHC LR LR
comp=Z,440nm,17.7s
KLR Kul'dur 58.54 349⇑iP P 05 19 50.1 -1.2
TYV Tymovskoe 58.85 357 eP P 05 19 52.3 -1.1
TYV e 05 27 55.2
TYV pmax pmax
comp=Z,16nm,1.5s
SKR Severo-Kuril's 59.20 7 eP P 05 19 59.4 +3.5
SKR eS S 05 28 02.8 +2.4
SKR eSSS SSS 05 34 24.9
SKR pmax pmax
comp=Z,200nm,5.5s
SKR MLR MLR
comp=Z,300nm,18.0s
LZH Lanzhou 59.38 321 eP P 05 19 58.3 +0.6
LZH pP pP 05 20 10.0 -0.1
LZH sP sP 05 20 16.8 +1.7
LZH PP PP 05 22 10.0 +0.7
LZH eS S 05 28 00.1 -3.7
LZH SS SS 05 32 04.2 +4.7
LZH pmax pmax
comp=Z,38nm,1.0s
LZH pmax pmax
comp=Z,130nm,6.1s
LZH LR LR
comp=Z,520nm,14.0s
LZH LR LR
comp=Z,860nm,16.4s
LZH LR LR
comp=Z,960nm,17.7s
NKL Nikolayevsk 61.24 356 eP P 05 20 08.0 -1.8
NKL pmax pmax
comp=N,13nm,1.0s
NKL pmax pmax
comp=Z,43nm,1.0s
HIA Hailar 61.72 341 eP P 05 20 12.0 -1.1
comp=Z,59nm,1.3s
HIA Hailar 61.72 341 eP P 05 20 12.0 -1.1
HIA pmax pmax
comp=Z,59nm,1.3s
PEA0B Petropavlovsk- 61.78 8 eP P 05 20 13.0 -0.5
comp=Z,34nm,0.9s
PETK Petropavlovsk- 61.78 8 P P 05 20 12.5 -1.0
comp=Z,17nm,0.8s,baz=178,slow=7.3,SNR=12
PETK LR LR 05 42 50.2
comp=Z,677nm,21.9s,baz=195,slow=32
PETK Petropavlovsk- 61.78 8 eP P 05 20 12.8 -0.7
PETK Petropavlovsk- 61.78 8 P P 05 20 12.5 -1.0
PETK pmax pmax
comp=Z,16nm,0.8s
PET Petropavlovsk 61.84 8 eP P 05 20 16.9 +3.1
PET eS S 05 28 37.8 +3.8
PET pmax pmax
comp=Z,29nm,1.9s
PET MLR MLR
comp=Z,500nm,18.0s
SHL Shillong 62.61 304 eP P 05 20 20.0 +0.2
PPT Papeete 62.99 106 P P 05 20 22.3 0.0
comp=Z,24nm,0.8s,baz=238,slow=19,SNR=3.5
PPT2 Papeete2 62.99 106 eS S 05 28 54.6 +4.6
comp=Z,1μm,34.2s
PPT2 eLQ LQ 05 36 37.5
comp=Z,2μm,33.2s
PPT2 eLR LR 05 39 22.2
comp=Z,2μm,23.8s,baz=266
CASY Casey 63.01 195 eP P 05 20 22.0 +0.4
comp=Z,24nm,0.8s
TBI Tubuai 63.21 112 eS S 05 28 57.6 +5.1
comp=Z,514nm,31.2s
TBI eLQ LQ 05 36 47.8
comp=Z,1μm,33.2s
TBI eLR LR 05 39 29.3
comp=Z,981nm,31.8s
ZEA Zeya 63.72 348 eP P 05 20 25.8 -0.5
ZEA pmax pmax
comp=Z,58nm,1.0s
ZEA pmax pmax
comp=Z,200nm,8.0s
GTA Gaotai 63.95 321 eP P 05 20 27.8 -0.5
GTA pP pP 05 20 40.1 -0.8
GTA sP sP 05 20 46.2 +0.4
GTA S S 05 28 56.4 -4.9
GTA pmax pmax
comp=Z,200nm,7.6s
GTA LR LR
comp=Z,270nm,16.2s
GTA LR LR
comp=Z,200nm,15.9s
GTA LR LR
comp=Z,260nm,16.4s
LSA Lhasa 64.97 308 P P 05 20 36.1 +0.4
LSA Lhasa 64.97 308 eP P 05 20 36.0 +0.4
comp=Z,18nm,0.9s
LSA Lhasa 64.97 308 eP P 05 20 36.0 +0.4
LSA pmax pmax
comp=Z,18nm,0.9s
ULN Ulaanbaatar 65.65 332 eP P 05 20 36.3 -3.0
comp=Z,43nm,1.1s
ULN Ulaanbaatar 65.65 332 eP P 05 20 36.3 -3.0
ULN pmax pmax
comp=Z,43nm,1.1s
SONM Songino Array 65.93 332 P P 05 20 41.7 +0.7
comp=Z,7.9nm,0.9s,baz=134,slow=6.2,SNR=7.1
SONM PKP2ab 05 49 24.7
comp=Z,1.9nm,0.9s,baz=272,slow=2.7,SNR=7.7
TAPN Taplejung 66.75 304 eP P 05 20 46.7 -0.2
ODAN Odare 66.82 304 eP P 05 20 47.1 -0.2
CLNS Chul'man 67.11 347 eP P 05 20 47.9 -0.3
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.0s
PALK Pallekele 67.15 281 eP P 05 20 49.5 +0.1
comp=E,19nm,1.1s
PALK Pallekele 67.15 281 eP P 05 20 49.5 +0.1
PALK pmax pmax
comp=Z,19nm,1.1s
RAMN Ramite 67.50 303 eP P 05 20 51.5 -0.2
MA2 Magadan 67.59 2⇓iP P 05 20 49.9 -1.3
JIRN Jiri 68.11 304 eP P 05 20 55.4 -0.2
comp=Z,96nm,1.3s
GUN Gumba 68.46 304 eP P 05 20 57.6 -0.2
comp=Z,91nm,1.1s
PKI Pulchoki 68.72 304 eP P 05 20 58.6 -0.8
comp=Z,79nm,1.2s
PKIN Phulchoki 68.73 304 eP P 05 20 58.6 -0.8
comp=Z,63nm,1.3s
KKN Kakani 68.91 304 eP P 05 21 00.0 -0.4
comp=Z,52nm,1.0s
DMN Daman 68.98 304 eP P 05 21 00.6 -0.3
comp=Z,105nm,1.1s
ZAK Zakamensk 69.18 332 eP P 05 21 00.9 -0.6
ZAK pmax pmax
comp=Z,31nm,1.2s
VNDA Vanda 69.83 176 P P 05 21 06.2 +1.2
comp=Z,15nm,1.0s,baz=330,slow=7.3,SNR=14
VNDA LR LR 05 49 21.0
comp=Z,1μm,19.2s,baz=352,slow=34
VNDA Vanda 69.83 176 eP P 05 21 05.9 +1.0
comp=Z,20nm,1.0s
VNDA Vanda 69.83 176 eP P 05 21 05.9 +1.0
VNDA pmax pmax
comp=Z,20nm,1.0s
TLY Talaya 69.92 333 eP P 05 21 05.7 -0.2
TLY eS S 05 30 16.5 +3.7
TLY e 05 30 58.7
TLY pmax pmax
comp=Z,22nm,1.5s
TLY MLR MLR
comp=Z,208nm,17.0s
IRK Irkutsk 70.04 334 eP P 05 21 06.1 -0.5
IRK pmax pmax
comp=Z,46nm,2.0s
KOLN Koldanda 70.29 303 eP P 05 21 08.5 -0.4
comp=Z,70nm,0.9s
BOD Bodaibo 70.79 342 eP P 05 21 09.2 -1.8
BOD pmax pmax
comp=Z,19nm,1.1s
PYUN Piuthan 70.91 303 eP P 05 21 12.1 -0.6
comp=Z,103nm,0.9s
SEY Seymchan 71.02 3⇓iP P 05 21 11.3 -1.0
MOY Mondy 71.12 332 eP P 05 21 13.7 +0.4
MOY pmax pmax
comp=Z,40nm,2.3s
YAK Yakutsk 71.15 352 eP P 05 21 10.5 -2.6
YAK e*PP PcP 05 21 36.2 +3.3
YAK e 05 23 51.8
YAK eS S 05 30 19.3 -7.2
YAK eS S 05 30 19.4 -7.1
YAK e*SS SKiKP 05 31 00.8 +10
YAK eSSS SSS 05 38 04.6
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,21nm,1.4s
YAK pmax pmax
comp=N,8.0nm,1.5s
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK smax smax
comp=N,90nm,3.2s

YAK smax smax
comp=E,66nm,3.2s
HYB Hyderabad 71.56 291 *i* P **P 05 21 16.0 -0.6**
TAOE Nuku Hiva Isla 72.64 97 *e*S **S 05 30 49.2 +3.4**
comp=E,247nm,27.3s
TAOE Nuku Hiva Isla 72.64 97 *e*LR LR 05 43 40.3
comp=E,522nm,23.3s
UNV Unalaska Valle 73.44 27 *e*P **P 05 21 26.1 -0.8**
comp=E,432nm,2.0s
AKUT Akutan 73.95 27 *e*P **P 05 21 29.8 -0.1**
comp=E,252nm,1.3s
WMQ Urumqi 73.96 320 P P **05 21 30.8 +0.4**
WMQ pP PcP 05 21 45.0 -0.5
WMQ sP sP 05 21 54.2 +6.2
WMQ S **S 05 31 00.2 +0.6**
WMQ pmax pmax
comp=E,100nm,1.1s
WMQ pmax pmax
comp=E,510nm,6.5s
WMQ LR LR
comp=E,400nm,29.7s
WMQ LR LR
comp=E,300nm,21.3s
WMQ LR LR
comp=E,270nm,21.3s
SPIA Saint Paul Isl 74.14 23 *e*P **P 05 21 32.2 +1.2**
HVS Khovu-Aksy 74.35 329 *c i*P **P 05 21 32.8 +0.3**
HVS pmax pmax
comp=Z,42nm,1.0s
RKT Rikitea 76.53 112 *e*S **S 05 31 32.2 +3.4**
comp=Z,432nm,38.2s
RKT Rikitea 76.53 112 *e*LQ LQ 05 42 22.9
RKT comp=Z,436nm,29.8s
*e*LR LR 05 45 32.9
comp=Z,993nm,25.0s
BILL Bilibino 77.32 8 *e*P **P 05 21 48.2 -0.8**
BILL *e* 05 24 48.5
BILL *e*PPP PPP 05 26 31.3
BILL *i* S **S 05 31 42.8 +7.2**
BILL pmax pmax
comp=Z,24nm,1.2s
BILL MLR MLR
comp=Z,225nm,20.0s
GAMB Gambell 78.42 18 *e*P **P 05 21 54.5 -0.6**
comp=Z,11nm,0.9s
MK01 Makanchi Array 78.68 321 *e*P **P 05 21 57.2 +0.1**
MK31 Makanchi Array 78.70 321 *e*P **P 05 21 56.7 -0.5**
MK31 Makanchi Array 78.70 321 *i*P **P 05 21 56.5 -0.6**
MK31 pmax pmax
comp=Z,37nm,1.3s
MKAR Makanchi Array 78.70 321 P **P 05 21 56.7 -0.5**
comp=Z,12nm,0.9s,baz=111,slow=5.8,SNR=30
MKAR LR LR 06 00 09.9
comp=Z,127nm,18.1s,baz=106,slow=38
MKAR Makanchi Array 78.70 321 *e*P **P 05 21 56.3 -0.8**
comp=Z,102nm,1.0s
MKAR Makanchi Array 78.70 321 *e*P **P 05 21 56.3 -0.8**
MKAR pmax pmax
comp=Z,102nm,1.0s
MAKZ Makanchi 78.90 321 *e*P **P 05 21 57.8 -0.4**
comp=Z,41nm,1.0s
MAKZ Makanchi 78.90 321 P **P 05 21 57.5 -0.7**
MAKZ pmax pmax
comp=Z,42nm,1.2s
PDGK Podgornoye 79.14 317 P **P 05 21 59.1 -0.7**
PDGK pmax pmax
comp=Z,22nm,0.9s
MAW Mawson 80.01 203 LR LR 05 55 52.5
comp=Z,565nm,19.7s,baz=63,slow=34
KSH Kashi 80.28 312 P **P 05 22 07.1 +1.0**
KSH sP sP 05 22 26.0 +2.2
KSH PP **PP 05 25 12.1 +2.8**
KSH S **S 05 32 06.2 -2.4**
KSH sS ScS 05 32 29.4 +0.8
KSH SS **SS 05 37 24.3 +3.5**
KSH pmax pmax
comp=Z,28nm,1.1s
KSH pmax pmax
comp=Z,170nm,5.4s
KSH LR LR
comp=Z,150nm,9.3s
KSH LR LR
comp=Z,170nm,8.5s
KSH LR LR
comp=Z,290nm,15.9s
ZAA0 Zalesovo Array 80.44 328 *e*P **P 05 22 06.7 +0.3**
ZALV Zalesovo Beam 80.44 328 P **P 05 22 05.4 -1.0**
comp=Z,8.2nm,0.8s,baz=113,slow=5.3,SNR=13
ZALV Zalesovo Beam 80.44 328 *e*P **P 05 22 06.3 -0.1**
ZALV Zalesovo Beam 80.44 328 *e*P **P 05 22 06.3 -0.1**
TIXI Tiksi 80.46 354 P **P 05 22 05.6 -0.5**
comp=Z,3.7nm,0.6s,baz=115,slow=1.5,SNR=8.9
TIXI Tiksi 80.46 354 *e*P **P 05 22 06.0 -0.1**
comp=Z,8.8nm,0.9s
TIXI Tiksi 80.46 354 ⇓ *i*P **P 05 22 07.1 +1.0**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
OHAK Old Harbor 81.51 29 *e*P **P 05 22 11.2 -0.8**
comp=Z,309nm,1.8s
KZA Kyzart 81.63 315 P **P 05 22 13.8 +0.2**
SNR=30
TKM2 Tokmak 2 81.66 316 P **P 05 22 13.6 +0.1**
SNR=13
TKM2 Tokmak 2 81.66 316 P **P 05 22 12.6 -0.8**
TKM2 pmax pmax
comp=Z,19nm,0.9s
NVS Novosibirsk 81.68 329 *e*P **P 05 22 12.2 -0.7**
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS pmax pmax
comp=Z,21nm,1.3s
KBK Karagaybulak 82.03 315 P **P 05 22 17.2 +1.9**
SNR=9.1
KDAK Kodiak Island 82.11 28 *e*P **P 05 22 14.3 -0.9**
comp=Z,198nm,1.7s
KDAK Kodiak Island 82.11 28 *i*P **P 05 22 15.5 +0.4**
UCH Uchtor 82.20 315 P **P 05 22 16.8 +0.2**
SNR=22
SFK Sufi-Kurgan 82.25 312 P **P 05 22 16.1 -0.5**
SFK pmax pmax
comp=Z,25nm,1.3s
CHMS Chumysh 82.28 315 P **P 05 22 14.9 -1.5**
SNR=7.9
FRU Bishkek 82.32 315 *e*P **P 05 22 16.0 -0.7**
FRU pmax pmax
comp=Z,25nm,1.6s
AAK Ala-Archa 82.34 315 P **P 05 22 16.6 -0.4**
SNR=11
AAK Ala-Archa 82.34 315 P **P 05 22 16.1 -0.8**
AAK pmax pmax
comp=Z,17nm,1.2s
SVW2 Sparrevohn 82.48 25 *e*P **P 05 22 16.7 -0.3**
comp=Z,34nm,1.0s
KURK Kurchatov 82.50 324 *e*P **P 05 22 16.8 -0.5**
comp=Z,28nm,1.3s
KURK Kurchatov 82.50 324 *ce*P **P 05 22 16.8 -0.5**
KURK pmax pmax
comp=Z,19nm,1.2s
USP Ospenovka 82.53 316 P **P 05 22 17.6 -0.2**
SNR=11
AML Almayashu 82.75 314 P **P 05 22 19.5 +0.1**
SNR=27
EKS2 Erkin-Say 82.85 315 P **P 05 22 19.5 0.0**
SNR=13
HOM Homer 83.45 27 *e*P **P 05 22 21.7 -0.3**
comp=Z,202nm,0.9s
MNAS Manas 83.69 314 P **P 05 22 23.0 -0.9**
MNAS pmax pmax
comp=Z,36nm,1.1s
BRLK Bradley Lake 83.83 27 *e*P **P 05 22 23.8 -0.3**
comp=Z,143nm,1.7s
SPU Mount Spurr 84.00 25 *e*P **P 05 22 25.6 +0.7**
KBL Kabul 84.20 306 *e*P **P 05 22 26.2 -0.6**
comp=Z,12nm,1.1s
KBL Kabul 84.20 306 *e*P **P 05 22 26.2 -0.6**
KBL pmax pmax
comp=Z,12nm,1.1s
SEW Seward 84.63 27 *e*P **P 05 22 27.2 -0.9**
comp=Z,251nm,1.8s
SUA Susitna One 84.69 25 *e*P **P 05 22 26.3 -2.2**
comp=Z,21nm,0.9s
PPLA Purkeypile 84.78 24 *e*P **P 05 22 27.3 -1.6**
comp=Z,101nm,1.7s
RC01 Rabbit Creek A 84.95 26 *e*P **P 05 22 27.9 -1.7**
comp=Z,46nm,1.0s
CAST Castle Rocks 85.07 23 *e*P **P 05 22 28.8 -1.4**
comp=Z,21nm,0.9s
KK31 Karatay Array 85.28 315 *i*P **P 05 22 30.7 -1.1**
KK31 pmax pmax
comp=Z,16nm,1.3s
KKAR Karatay Array 85.28 315 *e*P **P 05 22 31.3 -0.5**
KKAR Karatay Array 85.28 315 *e*P **P 05 22 31.3 -0.5**
PMR Palmer 85.44 26 *e*P **P 05 22 30.2 -1.8**
comp=Z,22nm,0.8s
PMR Palmer 85.44 26 *e*P **P 05 22 30.2 -1.8**
PMR pmax pmax
comp=Z,22nm,0.8s
OTUK Ortayu 85.51 320 P **P 05 22 32.2 -0.6**
OTUK pmax pmax
comp=Z,50nm,1.1s
KTH Kantishna Hill 85.59 24 *e*P **P 05 22 30.7 -2.2**
comp=Z,27nm,0.9s
TRF Thorofare Moun 85.80 24 *e*P **P 05 22 31.6 -2.4**
comp=Z,14nm,0.8s
SML Sawmill 85.87 26 *e*P **P 05 22 33.1 -1.2**
comp=Z,60nm,1.1s
SML Sawmill 85.87 26 *e*P **P 05 22 33.1 -1.2**
SML pmax pmax
comp=Z,60nm,1.1s
SCM Sheep Creek Mo 86.31 26 *e*P **P 05 22 35.3 -1.2**
comp=Z,75nm,1.4s
SCM Sheep Creek Mo 86.31 26 *e*P **P 05 22 35.3 -1.2**
SCM pmax pmax
comp=Z,75nm,1.4s
RND Reindeer 86.35 24 *e*P **P 05 22 34.8 -1.9**
comp=Z,38nm,0.8s
RND Reindeer 86.35 24 *e*P **P 05 22 34.8 -1.9**
RND pmax pmax
comp=Z,38nm,0.8s
MLY Manley 86.36 22 *e*P **P 05 22 35.5 -1.2**
comp=Z,36nm,0.8s
MCK McKinley 86.47 24 *e*P **P 05 22 34.7 -2.5**
comp=Z,52nm,1.0s
MCK McKinley 86.47 24 *e*P **P 05 22 34.7 -2.5**
MCK pmax pmax
comp=Z,52nm,1.0s
DIV Divide 86.71 27 *e*P **P 05 22 37.5 -1.0**
comp=Z,45nm,1.0s
KLU Klutina 86.79 26 *e*P **P 05 22 38.0 -0.9**
comp=Z,44nm,1.0s
DHY Denali Highway 86.82 25 *e*P **P 05 22 38.2 -0.8**
comp=Z,28nm,0.9s
BMRM Bremner River 87.17 27 *e*P **P 05 22 39.8 -0.9**
comp=Z,61nm,1.2s
MDM Murphy Dome 87.28 23 *e*P **P 05 22 39.2 -1.9**
comp=Z,18nm,1.2s
CCB Clear Creek Bu 87.31 23 *e*P **P 05 22 38.8 -2.4**
comp=Z,45nm,1.1s
COLA College 87.39 23 *e*P **P 05 22 40.4 -1.1**
comp=Z,36nm,0.8s
COLA College 87.39 23 *e*P **P 05 22 40.4 -1.1**
COLA pmax pmax
comp=Z,36nm,0.8s
HARP HAARP 87.48 26 *e*P **P 05 22 42.2 0.0**
comp=Z,226nm,1.9s
HDA Harding Lake 87.55 24 *e*P **P 05 22 41.6 -0.8**
comp=Z,26nm,1.0s
PAX Paxson 87.57 25 *e*P **P 05 22 41.0 -1.6**
comp=Z,46nm,1.7s
PAX Paxson 87.57 25 *e*P **P 05 22 41.1 -1.6**
PAX pmax pmax
comp=Z,46nm,1.7s
COLD Coldfoot 87.58 20 *e*P **P 05 22 41.9 -0.6**
comp=Z,13nm,0.9s
IL1 Eielson Array 87.72 23 *e*P **P 05 22 40.6 -2.6**
ILAR Eielson Array 87.72 23 P **P 05 22 40.5 -2.7**
comp=Z,28nm,0.9s,baz=252,slow=4.3,SNR=88
ILB Eielson Array 87.72 23 *e*P **P 05 22 40.4 -2.8**
BVAR Borovoye Array 88.08 324 P **P 05 22 43.9 -1.3**
comp=Z,2.7nm,0.8s,baz=111,slow=6.3,SNR=11
BRVK Borovoye 88.15 324 *e*P **P 05 22 43.7 -1.8**
comp=Z,14nm,1.4s
BRVK Borovoye 88.15 324 ⇑ *i*P **P 05 22 44.4 -1.1**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
MENT Mentasta 88.30 25 *e*P **P 05 22 45.4 -0.6**
comp=Z,19nm,0.7s
SYO Syowa Base 88.35 200 ⇑ *e*X **P 05 22 44.0 -2.2**
SYO Syowa Base 88.35 200 ⇑ *i*PcP **P 05 22 46.2 0.0**
DOT Dot Lake 88.42 25 *e*P **P 05 22 45.3 -1.2**
comp=Z,83nm,0.8s
FYU Fort Yukon 89.07 22 *e*P **P 05 22 48.9 -0.6**
comp=Z,33nm,0.8s
EGAK Eagle 90.00 24 *e*P **P 05 22 53.1 -0.9**
comp=Z,21nm,0.8s
HYT Haines Junctio 90.41 28 *e*P **P 05 22 55.2 -0.9**
comp=Z,18nm,0.8s
DAWY Dawson 90.50 25 *e*P **P 05 22 55.7 -0.7**
comp=Z,19nm,0.8s
BESE Bessie Mountai 91.13 31 *e*P **P 05 22 60.0 +0.6**
comp=Z,46nm,1.2s
WHY Whitehorse 91.61 29 *e*P **P 05 23 01.2 -0.5**
comp=Z,59nm,2.0s
GEYT Allbeck 93.50 308 P **P 05 23 11.9 +1.0**
comp=Z,4.8nm,0.7s,baz=132,slow=2.1,SNR=6.0
DLBC Dease Lake 93.58 32 *e*P **P 05 23 09.8 -1.0**
comp=Z,75nm,2.0s
AB31 Akbulak array 93.72 319 *i*P **P 05 23 09.1 -2.4**
AB31 pmax pmax
comp=Z,6.0nm,0.9s
ABKAR Akbulak array 93.72 319 *e*P **P 05 23 10.5 -1.1**
comp=Z,36nm,0.8s
INK Inuvik 93.90 22 P **P 05 23 10.1 -1.8**
comp=Z,8.5nm,1.1s,baz=236,slow=5.5,SNR=9.1
INK Inuvik 93.90 22 *e*P **P 05 23 11.5 -0.4**
comp=Z,15nm,1.3s
INK Inuvik 93.90 22 *e*P **P 05 23 11.5 -0.4**
INK pmax pmax
comp=Z,15nm,1.3s
AKTO Aktyubinsk 95.11 320 LR LR 06 08 17.9
comp=Z,62nm,19.2s,baz=98,slow=37
KHMM Horse Mountain 95.25 50 *e*P **P 05 23 17.7 -1.2**
comp=Z,54nm,1.3s
ARU Arti 95.46 326 *e*P **P 05 23 17.3 -2.0**
ARU 05 27 09.3
ARU S **SKSac 05 33 48.9 -2.8**
ARU SS **SS 05 41 01.3 +0.3**
NVL N'lazarevskaya 95.56 194 *e*P **P 05 23 19.8 +0.2**
NVL pmax pmax
comp=Z,14nm,1.4s
NVL MLR MLR
comp=Z,3μm,24.0s
M02C Callahan 95.97 49 P **P 05 23 21.6 -0.5**
baz=264
HUMO Hull Mountain 96.00 48 *e*P **P 05 23 20.7 -1.4**
comp=Z,24nm,1.2s
N02D Trinity Center 96.04 50 P **P 05 23 22.8 +0.4**
baz=265
YBH Yreka Blue Hor 96.10 49 P **P 05 23 22.7 0.0**
comp=Z,7.4nm,1.1s,baz=234,slow=3.8,SNR=5.5
YBH Yreka Blue Hor 96.10 49 *e*P **P 05 23 21.6 -1.2**
comp=Z,60nm,1.8s
WDC Whiskeytown Da 96.12 50 *e*P **P 05 23 22.2 -0.5**
WDC Whiskeytown Da 96.12 50 *e*P **P 05 23 22.2 -0.5**
O03D Paynes Creek 96.66 50 P **P 05 23 24.8 -0.4**
baz=265
ORV Oroville 96.83 51 *e*P **P 05 23 26.1 +0.2**
comp=Z,12nm,1.4s
ORV Oroville 96.83 51 *e*P **P 05 23 26.1 +0.2**
ORV pmax pmax
comp=Z,12nm,1.4s
AFDM Forest Hills D 97.19 52 *e*P **P 05 23 27.3 -0.3**
comp=Z,14nm,1.5s
J05D Fort Rock, OR 97.32 47 P Pdif 05 23 29.0 +0.7
baz=266
SNAA Sanae 97.78 189 P **P 05 23 29.2 -0.5**
SNAA Sanae 97.78 189 P **P 05 23 29.1 -0.6**
comp=Z,4.7nm,1.1s,baz=280,slow=5.2,SNR=4.2
SNAA LR LR 06 06 46.0
comp=Z,362nm,21.9s,baz=140,slow=35
SNAA Sanae 97.78 189 *e*P **P 05 23 28.9 -0.8**
comp=Z,19nm,1.7s
LTY Liberty 97.98 43 *e*P **P 05 23 30.9 -0.2**
comp=Z,34nm,1.9s
VCNR Virginia City 98.23 51 *e*P Pdif 05 23 34.3 +1.7
B08A Colville Reser 98.94 42 *e*P **P 05 23 33.6 -1.6**
VNA2 Neumayer--Watz 99.14 188 P **Pdif 05 23 36.2 +0.5**
baz=160,slow=3.1
VNA2 Neumayer--Watz 99.14 188 P PKKPdf 05 40 13.8 +7.4
VNA3 Neumayer Olymp 99.17 188 P PKKPdf 05 40 28.2 +22
NV01 Mina Array Sit 99.23 52 *e*P **Pdif 05 23 37.3 +0.2**
NVAR Mina Array Bea 99.23 52 P **Pdif 05 23 36.8 -0.3**
comp=Z,2.3nm,0.8s,baz=270,slow=7.0,SNR=8.5
CWC Cottonwood Cre 99.30 54 P **Pdif 05 23 38.0 +0.7**
baz=267
KVN Kaiserville 99.42 52 *e*P **Pdif 05 23 38.2 +0.3**
KVN Kaiserville 99.42 52 *e*P **Pdif 05 23 38.2 +0.3**
BFSC Mount Baldy Ra 99.52 57 P **Pdif 05 23 38.6 +0.2**
baz=267
LRMC Laurel Mtn Rad 99.57 55 P **Pdif 05 23 39.1 +0.6**
baz=267
DAC Darwin (Calif) 99.69 55 *e*Pdif **Pdif 05 23 38.9 -0.2**
comp=Z,7.8nm,1.1s
DAC Darwin (Calif) 99.69 55 *e*P **Pdif 05 23 38.9 -0.2**
DAC pmax pmax
comp=Z,8.0nm,1.1s
MPMC Manual Prospec 99.76 55 P **Pdif 05 23 39.9 +0.4**
baz=267
BMO Blue Mountains 100.23 46 *e*Pdif **Pdif 05 23 39.6 -1.6**
BMO Blue Mountains 100.23 46 *e*P **Pdif 05 23 39.6 -1.6**
NEW Newport 100.41 42 *e*Pdif **Pdif 05 23 40.7 -1.2**
NEW Newport 100.41 42 *e*P **Pdif 05 23 40.7 -1.2**
YKW3 Yellowknife Ar 101.38 28 *e*Pdif **Pdif 05 23 45.2 -0.5**
YKA Yellowknife Ar 101.39 28 P **Pdif 05 23 44.1 -1.6**
comp=Z,4.1nm,1.1s,baz=275,slow=4.7,SNR=22
YKA PKiKP **PKiKP 05 28 07.2 -2.6**
comp=Z,0.6nm,0.7s,baz=284,slow=1.6,SNR=7.1
YKA PKKPbc **PKKPbc 05 39 53.0 -4.0**
comp=Z,0.7nm,0.7s,baz=81,slow=3.0,SNR=11
RES Resolute Bay 105.22 14 PKiKP **PKiKP 05 28 13.6 -2.9**
comp=Z,0.9nm,0.5s,baz=6.3,slow=0.8,SNR=5.9
PDAR Pinedale Array 105.88 48 Pdiff **Pdif 05 24 05.2 -1.4**
comp=Z,1.1nm,0.8s,baz=232,slow=3.6,SNR=7.7
PDAR PKiKP **PKiKP 05 28 17.4 -1.6**
comp=Z,0.5nm,0.8s,baz=189,slow=5.3,SNR=2.4
PDAR PP **PP 05 28 29.4 -0.6**
comp=Z,1.4nm,1.0s,baz=251,slow=4.5,SNR=4.8
PDAR Pinedale Array 105.88 48 *e*Pdif **Pdif 05 24 04.5 -2.0**
PDAR PKiKP **PKiKP 05 28 17.4 -1.6**
PDAR PP **PP 05 28 29.4 -0.6**
OBN Obninsk 107.89 325 *i*P **Pdif 05 24 13.3 -1.5**
OBN pmax pmax
comp=Z,4.0nm,0.9s
SDCO Great Sand Dun 109.34 53 P **PKiKP 05 28 25.3 -0.3**
baz=275
TXAR Lajitas Array 111.41 62 PKiKP **PKiKP 05 28 27.6 -1.9**
comp=Z,1.2nm,1.0s,baz=211,slow=1.3,SNR=5.8
TXAR PKKPbc **PKKPab 05 39 33.3 -0.8**
comp=Z,0.8nm,0.9s,baz=111,slow=6.8,SNR=5.2
C31A Landman Farms, 113.35 41 P **PKiKP 05 28 31.2 -1.3**
baz=284
ULM Lac du Bonnet 113.88 38 PKiKP **PKiKP 05 28 31.5 -2.0**
comp=Z,2.9nm,0.7s,baz=351,slow=1.7,SNR=9.1
H32A Carlson Farm, 114.33 45 P PKPdf 05 28 32.7 -1.9
baz=283
A33A Warroad 114.56 40 P PKPdf 05 28 32.9 -1.9
baz=287
JCT Junction City 114.68 60 P PKPdf 05 28 36.5 +0.8
baz=275
H33A Prehn Over Nor 114.77 44 P PKPdf 05 28 34.5 -0.9
baz=284
WMOK Wichita Mounta 115.06 56 P **PKPdf 05 28 35.1 -1.2**
baz=278
ECSD EROS Data Cent 115.08 45 P **PKPdf 05 28 34.8 -1.3**
baz=284
B34A Aery, Baudette 115.16 40 P **PKPdf 05 28 35.2 -0.9**
baz=287
D34A Park Rapids 115.20 42 P **PKPdf 05 28 36.0 -0.2**
baz=286
H34A Spellman Lake, 115.44 44 P **PKPdf 05 28 35.3 -1.3**
baz=284
B35A Bob, Littlefor 115.78 40 P **PKPdf 05 28 35.7 -1.6**
baz=288
H35A Sunnyside Ranc 116.09 44 P **PKPdf 05 28 36.9 -1.1**
baz=285
OK021 N3530 Road, Sp 116.60 54 *e*PKPdf **PKPdf 05 28 38.0 -1.2**
F36A Milaca 116.65 43 P **PKPdf 05 28 37.5 -1.4**
baz=287
G36A St. Michael 116.68 43 P **PKPdf 05 28 38.2 -0.9**
baz=286
BUR04 Bucovina Ar. S 116.70 320 *e*PKPdf **PKPdf 05 28 41.0 +1.8**
H36A Jessenland, He 116.74 44 P **PKPdf 05 28 37.9 -1.3**
baz=286
I36A Fitzsimmons Fa 116.83 45 P **PKPdf 05 28 38.1 -1.3**
baz=286
D37A Cotton 116.99 41 P **PKPdf 05 28 37.9 -1.7**
baz=288
T36A Boggs Farm, Ca 117.02 53 P **PKPdf 05 28 38.9 -1.1**
baz=281
I37A Lemond, Waseca 117.26 44 P **PKPdf 05 28 38.7 -1.5**
baz=286
EYMN Ely 117.33 40 P **PKPdf 05 28 39.7 -0.6**
baz=290
EYMN Ely 117.33 40 *e*PKPdf **PKPdf 05 28 39.8 -0.4**
J37A Redenius Farm, 117.34 45 P **PKPdf 05 28 38.3 -2.1**
baz=286
K37A Belmond 117.43 46 P **PKPdf 05 28 39.0 -1.5**
baz=285
M37A Trindle Farm, 117.47 47 P **PKPdf 05 28 39.5 -1.2**
baz=284
F38A Pierce - Schro 117.72 42 P **PKPdf 05 28 39.6 -1.5**
baz=288
NBO02 NORSAR Array S 117.78 337 *e*PKPdf **PKPdf 05 28 41.7 +0.9**
G38A Ridgeland 117.98 43 P **PKPdf 05 28 40.5 -1.1**
baz=288
I38A Scanlan Farm, 117.99 44 P **PKPdf 05 28 40.4 -1.2**
baz=287
M38A Pleasantville 118.09 47 P **PKPdf 05 28 40.4 -1.5**
baz=285
J38A Wedel Dairy, R 118.10 45 P **PKPdf 05 28 40.0 -1.8**
baz=286
T38A Diamond 118.27 52 P **PKPdf 05 28 41.2 -1.2**
baz=282
P38A Dawn 118.28 49 P **PKPdf 05 28 41.2 -1.1**
baz=284
R38A Fenwick Farm, 118.33 51 P **PKPdf 05 28 41.1 -1.4**
baz=283
F39A Loretta 118.37 42 P **PKPdf 05 28 40.8 -1.5**
baz=289
G39A Holcombe 118.40 43 P **PKPdf 05 28 40.8 -1.6**
baz=289
S38A Stockton 118.44 52 P **PKPdf 05 28 42.1 -0.6**
baz=282
E39A Mellen 118.46 41 P **PKPdf 05 28 41.0 -1.5**
baz=290
H39A Augusta 118.52 43 P **PKPdf 05 28 40.9 -1.7**
baz=288
I39A Houston 118.60 44 P **PKPdf 05 28 40.8 -2.0**
baz=288
CRVS Cervenica-Dubn 118.61 322 *e*PKIKP **PKPdf 05 28 42.5 -0.2**
CRVS Cervenica-Dubn 118.61 322 *e*PKP **PKPdf 05 28 42.5 -0.2**
J39A Decorah 118.63 45 P **PKPdf 05 28 41.4 -1.4**
baz=287
K39A Oelwein 118.68 46 P **PKPdf 05 28 40.4 -2.6**
baz=287
HHAR Hobbs 118.70 53 *e*PKPdf **PKPdf 05 28 42.2 -1.0**
L39A Vinton 118.77 46 P **PKPdf 05 28 42.1 -1.1**
baz=286
Q39A Willow Grove F 118.84 50 P **PKPdf 05 28 41.8 -1.6**
baz=284
E40A Wakefield 118.86 41 P **PKPdf 05 28 41.7 -1.5**
baz=290
S39A Bolivar 118.89 51 P **PKPdf 05 28 42.0 -1.5**
baz=283
F40A Park Falls 118.89 42 P **PKPdf 05 28 41.5 -1.8**
baz=290
X39A Fountain Ranch 118.90 55 P **PKPdf 05 28 43.7 +0.1**
baz=281
R39A Chumby, Stover 118.96 51 P **PKPdf 05 28 41.9 -1.8**
baz=283
T39A Clever 118.99 52 P **PKPdf 05 28 42.8 -0.9**
baz=282
V39A Pettigrew 119.02 54 P **PKPdf 05 28 43.9 -0.1**
baz=282
W39A Magazine 119.03 54 P **PKPdf 05 28 42.7 -1.1**
baz=281
U39A Green Forest 119.04 53 P **PKPdf 05 28 41.6 -2.3**
baz=282
G40A Rib Lake 119.06 42 P **PKPdf 05 28 42.2 -1.4**
baz=289
FRB Frobisher Bay 119.18 17 PKP **PKPdf 05 28 41.0 -2.2**
comp=Z,2.4nm,0.5s,baz=145,slow=1.0,SNR=24
FRB Frobisher Bay 119.18 17 PKIKP **PKPdf 05 28 41.0 -2.2**
FRB pmax pmax
comp=Z,2.0nm,0.5s
K40A Colesburg 119.21 45 P **PKPdf 05 28 42.2 -1.8**
baz=287
J40A Soldiers Grove 119.28 45 P **PKPdf 05 28 42.1 -2.0**
baz=288
MIAR Mount Ida 119.33 55 P **PKPdf 05 28 45.0 +0.6**

	baz=281						
MIAR	**Mount Ida**	**119.33**	**55**	*e*PKPdf	**PKPdf**	**05 28 45.1**	**+0.6**
MIAR	**Mount Ida**	**119.33**	**55**	*e*PKIKP	**PKPdf**	**05 28 45.1**	**+0.6**
L40A	**Anamosa**	**119.34**	**46**	P	**PKPdf**	**05 28 43.6**	**-0.7**
	baz=287						
O40A	**La Belle**	**119.40**	**48**	P	**PKPdf**	**05 28 43.7**	**-0.7**
	baz=285						
P40A	**Paris**	**119.42**	**49**	P	**PKPdf**	**05 28 44.0**	**-0.5**
	baz=285						
COWI	**Conover**	**119.48**	**41**	*e*PKPdf	**PKPdf**	**05 28 43.7**	**-0.8**
Q40A	**Laux Farm, Aux**	**119.53**	**50**	P	**PKPdf**	**05 28 43.0**	**-1.7**
	baz=284						
U40A	**Yellville**	**119.54**	**53**	P	**PKPdf**	**05 28 42.9**	**-1.9**
	baz=282						
F41A	**Three Lakes**	**119.62**	**42**	P	**PKPdf**	**05 28 43.1**	**-1.6**
	baz=290						
T40A	**Mansfield**	**119.63**	**52**	P	**PKPdf**	**05 28 43.6**	**-1.4**
	baz=283						
V40A	**Witts Springs**	**119.68**	**53**	P	**PKPdf**	**05 28 43.9**	**-1.3**
	baz=282						
JFWS	**Jewell Farm**	**119.78**	**45**	P	**PKPdf**	**05 28 43.2**	**-1.8**
	baz=288						
JFWS	**Jewell Farm**	**119.78**	**45**	*e*PKPdf	**PKPdf**	**05 28 43.3**	**-1.8**
JFWS	**Jewell Farm**	**119.78**	**45**	*e*PKIKP	**PKPdf**	**05 28 43.3**	**-1.8**
J41A	**Loganville**	**119.80**	**44**	P	**PKPdf**	**05 28 42.9**	**-2.2**
	baz=288						
L41A	**Preston**	**119.85**	**46**	P	**PKPdf**	**05 28 43.1**	**-2.1**
	baz=287						
S41A	**Jillco Farms,**	**120.13**	**51**	P	**PKPdf**	**05 28 43.2**	**-2.7**
	baz=284						
O41A	**Passleys Farm,**	**120.13**	**48**	P	**PKPdf**	**05 28 44.5**	**-1.3**
	baz=286						
Q41A	**Truxton**	**120.18**	**50**	P	**PKPdf**	**05 28 44.2**	**-1.8**
	baz=285						
R41A	**Rosebud**	**120.23**	**50**	P	**PKPdf**	**05 28 44.3**	**-1.8**
	baz=285						
G42A	**Mountain**	**120.24**	**42**	P	**PKPdf**	**05 28 44.2**	**-1.7**
	baz=291						
U41A	**Viola**	**120.28**	**53**	P	**PKPdf**	**05 28 44.2**	**-2.1**
	baz=283						
CCM	**Cathedral Cave**	**120.40**	**51**	*e*PKPdf	**PKPdf**	**05 28 45.9**	**-0.5**
CCM	**Cathedral Cave**	**120.40**	**51**	*e*PKIKP	**PKPdf**	**05 28 45.9**	**-0.5**
J42A	**Columbus**	**120.43**	**44**	P	**PKPdf**	**05 28 45.8**	**-0.5**
	baz=289						
H42A	**Shiocton**	**120.43**	**43**	P	**PKPdf**	**05 28 44.5**	**-1.7**
	baz=290						
P42A	**Winchester**	**120.67**	**49**	P	**PKPdf**	**05 28 45.8**	**-1.1**
	baz=286						
PLCA	**Paso Flores**	**120.71**	**148**	PKP	**PKPdf**	**05 28 47.2**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=16,slow=3.3,SNR=6.6						
G43A	**Wallace**	**120.73**	**42**	P	**PKPdf**	**05 28 45.2**	**-1.6**
	baz=292						
S42A	**Caledonia**	**120.81**	**51**	P	**PKPdf**	**05 28 46.4**	**-0.8**
	baz=285						
V42A	**Cord**	**120.82**	**53**	P	**PKPdf**	**05 28 45.7**	**-1.6**
	baz=283						
F43A	**Flat Rock, Esc**	**120.85**	**41**	P	**PKPdf**	**05 28 45.8**	**-1.3**
	baz=292						
DPC	**Dobruska-Polom**	**121.03**	**325**	*e*PKPdf	**PKPdf**	**05 28 48.0**	**+0.7**
DPC				AMS	AMS	06 23 30.0	
	comp=Z,300nm,19.9s						
DPC	**Dobruska-Polom**	**121.03**	**325**	*e*PKIKP	**PKPdf**	**05 28 48.0**	**+0.7**
DPC				MLR	MLR		
	comp=Z,300nm,19.9s						
AGG	**Agios Georgios**	**121.27**	**311**	*e*PKPdf	**PKPdf**	**05 28 47.2**	**-0.9**
AGG	**Agios Georgios**	**121.27**	**311**	*e*PKIKP	**PKPdf**	**05 28 47.2**	**-0.9**
DIVS	**Divibare**	**121.32**	**317**	*e*PKPdf	**PKPdf**	**05 28 47.9**	**-0.3**
S43A	**Fulton Ridge,**	**121.42**	**51**	P	**PKPdf**	**05 28 46.7**	**-1.7**
	baz=285						
M44A	**Midewin, Midew**	**121.81**	**46**	P	**PKPdf**	**05 28 48.4**	**-0.7**
	baz=289						
E45A	**Wooded Hills,**	**121.92**	**40**	P	**PKPdf**	**05 28 48.1**	**-1.0**
	baz=294						
F45A	**CMU Biological**	**121.98**	**40**	P	**PKPdf**	**05 28 47.9**	**-1.3**
	baz=294						
TREC	**Trest**	**122.00**	**324**	AMS	AMS	06 24 30.0	
	comp=Z,400nm,21.3s						
BRG	**Berggiesshubel**	**122.10**	**326**	*e*P	**PKPdf**	**05 28 48.3**	**-1.0**
	comp=Z,2.9nm,1.0s						
BRG	**Berggiesshubel**	**122.10**	**326**	*e*PKIKP	**PKPdf**	**05 28 48.3**	**-1.0**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRG				MLR	MLR		
	comp=N,378nm,24.2s						
BRG				MLR	MLR		
	comp=Z,555nm,17.7s						
CLL	**Collm**	**122.39**	**327**	*e*PKPdf	**PKPdf**	**05 28 50.0**	**+0.2**
CLL				Lm	MLR	06 25 00.0	
	comp=Z,500nm,20.3s						
O45A	**Potomac**	**122.40**	**47**	P	**PKPdf**	**05 28 49.2**	**-1.0**
	baz=289						
CONA	**Conrad Observa**	**122.41**	**323**	*i* PKiKP	**PKiKP**	**05 28 50.4**	**+0.1**
	comp=Z,3.9nm,1.1s						
Q45A	**Warren Harvey,**	**122.50**	**49**	P	**PKPdf**	**05 28 49.4**	**-1.1**
	baz=287						
R45A	**Skylar, Fairfi**	**122.58**	**50**	P	**PKPdf**	**05 28 49.3**	**-1.3**
	baz=287						
N46A	**Monticello**	**122.91**	**46**	P	**PKPdf**	**05 28 49.3**	**-1.8**
	baz=290						
ARSA	**Arzberg**	**122.92**	**322**	*i* PKiKP	**PKPdf**	**05 28 50.3**	**-0.7**
	comp=Z,2.3nm,0.7s						
P46A	**Rosedale**	**122.98**	**48**	P	**PKPdf**	**05 28 49.8**	**-1.5**
	baz=289						
KHC	**Kasperske Hory**	**123.17**	**325**	*e*PKPdf	**PKPdf**	**05 28 51.1**	**-0.4**
KHC	**Kasperske Hory**	**123.17**	**325**	*e*PKIKP	**PKPdf**	**05 28 51.1**	**-0.4**
T46A	**Princeton**	**123.23**	**51**	P	**PKPdf**	**05 28 50.8**	**-1.1**
	baz=286						
GERES	**GERESS Array B**	**123.25**	**324**	PKP	**PKPdf**	**05 28 51.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=87,slow=0.9,SNR=9.9						
GERES	**GERESS Array B**	**123.25**	**324**	PKIKP	**PKPdf**	**05 28 51.0**	**-0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NKC	**Novy Kostel**	**123.25**	**326**	AMS	AMS	06 25 30.0	
	comp=Z,600nm,22.4s						
GEA0	**GERESS Array S**	**123.25**	**324**	*e*PKPdf	**PKPdf**	**05 28 50.7**	**-1.0**
MOA	**Molln**	**123.40**	**323**	*i* PKiKP	**PKPdf**	**05 28 51.0**	**-0.9**
	comp=Z,3.8nm,1.1s						
SOKA	**Soboth**	**123.47**	**322**	*i* PKPdf	**PKPdf**	**05 28 50.6**	**-1.6**
	comp=Z,5.2nm,1.0s						
O47A	**Sheridan**	**123.53**	**47**	P	**PKPdf**	**05 28 51.2**	**-1.2**
	baz=290						
BLO	**Bloomington**	**123.63**	**48**	*e*PKPdf	**PKPdf**	**05 28 51.7**	**-0.9**
BLO	**Bloomington**	**123.63**	**48**	*e*PKIKP	**PKPdf**	**05 28 51.7**	**-0.9**
OBKA	**Obir**	**123.85**	**322**	*i* PKPdf	**PKPdf**	**05 28 50.1**	**-2.9**
	comp=Z,6.2nm,1.4s						
BOJS	**Bojanci**	**123.86**	**320**	*i* PKPdf	**PKPdf**	**05 28 52.5**	**-0.3**
R47A	**Wooly Knot Far**	**123.90**	**49**	P	**PKPdf**	**05 28 51.4**	**-1.8**
	baz=288						
X47A	**Russelville**	**123.94**	**54**	P	**PKPdf**	**05 28 51.8**	**-1.5**
	baz=285						
W47A	**Westpoint**	**123.95**	**53**	P	**PKPdf**	**05 28 51.6**	**-1.8**
	baz=286						
VISS	**Visnje**	**123.99**	**321**	*i* PKPdf	**PKPdf**	**05 28 52.4**	**-0.7**
KBA	**Koelnbreinsper**	**124.31**	**323**	*i* PKiKP	**PKPdf**	**05 28 53.4**	**-0.5**
	comp=Z,5.8nm,1.1s						
JAVS	**Javornik**	**124.43**	**321**	*e*PKPdf	**PKPdf**	**05 28 54.3**	**+0.2**
S48A	**Wiedeman Farm,**	**124.45**	**50**	P	**PKPdf**	**05 28 52.8**	**-1.4**
	baz=288						
ABTA	**Abfaltersbach**	**124.97**	**323**	*i* PKPdf	**PKPdf**	**05 28 54.0**	**-1.1**
	comp=Z,9.2nm,1.1s						
LRAL	**Lakeview Retre**	**125.00**	**55**	P	**PKPdf**	**05 28 54.4**	**-1.0**
	baz=284						
WATA	**Walderalm**	**125.23**	**324**	*i* PKiKP	**PKPdf**	**05 28 55.4**	**-0.2**
	comp=Z,3.4nm,0.5s						
WTTA	**Wattenberg**	**125.23**	**324**	*i* PKiKP	**PKPdf**	**05 28 55.8**	**+0.2**
	comp=Z,7.1nm,1.0s						
MOTA	**Moosalm**	**125.51**	**324**	*i* PKPdf	**PKPdf**	**05 28 54.9**	**-1.3**
	comp=Z,4.1nm,0.8s						
RETA	**Reutte**	**125.63**	**324**	*i* PKiKP	**PKPdf**	**05 28 56.2**	**-0.1**
	comp=Z,2.7nm,1.0s						
ACSO	**Alum Creek Sta**	**125.81**	**46**	*e*PKPdf	**PKPdf**	**05 28 55.4**	**-1.4**
FETA	**Feichten**	**125.89**	**324**	*i* PKiKP	**PKPdf**	**05 28 56.1**	**-0.8**
	comp=Z,4.9nm,0.9s						
150A	**Eclectic**	**125.90**	**56**	P	**PKPdf**	**05 28 55.4**	**-1.7**
	baz=285						
DAVA	**Damuels**	**126.25**	**324**	*i* PKiKP	**PKiKP**	**05 28 58.4**	**+0.4**
	comp=Z,4.9nm,0.8s						
CPCT	**Cooper Cave**	**126.31**	**52**	*e*PKPdf	**PKPdf**	**05 28 57.7**	**-0.1**
MEM	**Membach**	**126.42**	**330**	⇑PKP	**PKPdf**	**05 28 57.2**	**-0.4**
SCHQ	**Schefferville**	**126.48**	**23**	PKP	**PKPdf**	**05 28 56.6**	**-1.0**
	comp=Z,5.7nm,1.0s,baz=283,slow=0.5,SNR=4.9						
SCHQ	**Schefferville**	**126.48**	**23**	*e*PKPdf	**PKPdf**	**05 28 58.2**	**+0.6**
151A	**Opelika**	**126.49**	**55**	P	**PKPdf**	**05 28 57.6**	**-0.7**
	baz=285						
DAVOX	**Davos/Dischmat**	**126.51**	**324**	PKP	**PKPdf**	**05 28 57.7**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=237,slow=6.9						
TKL	**Tuckaleechee C**	**126.82**	**51**	PKP	**PKPdf**	**05 28 57.9**	**-1.0**
	comp=Z,7.5nm,0.9s,baz=188,slow=4.0,SNR=5.0						
TKL	**Tuckaleechee C**	**126.82**	**51**	*e*PKPdf	**PKPdf**	**05 28 59.0**	**+0.2**
TKL	**Tuckaleechee C**	**126.82**	**51**	*e*PKIKP	**PKPdf**	**05 28 59.0**	**+0.2**
EKA	**Eskdalemuir Ar**	**127.06**	**339**	PKP	**PKPdf**	**05 28 58.1**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=30,slow=3.8,SNR=6.0						
M54A	**Oil Creek Stat**	**127.58**	**43**	P	**PKPdf**	**05 28 59.2**	**-1.0**
	baz=296						
O56A	**Blue Knob Stat**	**128.88**	**44**	P	**PKPdf**	**05 29 02.7**	**0.0**
	baz=296						
SSPA	**Standing Stone**	**129.18**	**43**	*e*PKPdf	**PKPdf**	**05 29 03.4**	**+0.2**
JSC	**Jenkinsville**	**129.22**	**52**	*e*PKPdf	**PKPdf**	**05 29 03.4**	**0.0**
JSC	**Jenkinsville**	**129.22**	**52**	*e*PKIKP	**PKPdf**	**05 29 03.4**	**0.0**
JTS	**JuntasAbangare**	**129.42**	**83**	PKP	**PKPdf**	**05 29 03.7**	**-0.7**
	comp=Z,17nm,1.0s,baz=9.5,slow=6.1,SNR=3.6						
FRNY	**Flat Rock**	**129.76**	**36**	*e*PKPdf	**PKPdf**	**05 29 04.7**	**+0.5**
NCB	**Newcomb**	**129.86**	**38**	*e*PKPdf	**PKPdf**	**05 29 05.0**	**+0.6**
PQI	**Presque Isle**	**131.70**	**31**	*e*PKPdf	**PKPdf**	**05 29 07.1**	**-0.7**
ATAH	**Atahualpa**	**132.94**	**108**	PKP	**PKPdf**	**05 29 10.8**	**-0.8**
	comp=Z,5.7nm,0.6s,baz=292,slow=2.5,SNR=6.0						
CMBC	**Cumbal**	**135.48**	**97**	*e*P	**PKPdf**	**05 29 13.6**	**-2.8**
POPC	**Popayan, Colom**	**136.89**	**95**	*e*P	**PKPdf**	**05 29 15.6**	**-3.2**
HORQ	**Saladito**	**137.08**	**94**	*e*P	**PKPdf**	**05 29 18.9**	**-0.3**
YOTC	**Yotoco, Valle**	**137.43**	**93**	*e*P	**PKPdf**	**05 29 16.9**	**-2.7**
PLMC	**San Josˆ' del**	**137.60**	**92**	*e*P	**PKPdf**	**05 29 18.9**	**-1.0**
LPAZ	**La Paz**	**138.17**	**126**	PKhKP	PKPpre	05 29 18.2	
	comp=Z,1.3nm,0.6s,baz=45,slow=4.3,SNR=4.7						
LPAZ	**La Paz**	**138.17**	**126**	*e*PKPdf	**PKPdf**	**05 29 19.6**	**-1.9**
HELC	**Santa Helena**	**138.48**	**90**	*e*PKPdf	**PKPdf**	**05 29 22.7**	**+0.9**
TOLC	**Tolima**	**138.51**	**92**	*e*P	**PKPdf**	**05 29 19.6**	**-2.3**
RREF	**El Recreo**	**138.53**	**92**	*e*P	**PKPdf**	**05 29 21.5**	**-0.7**
CPUP	**Villa Florida**	**138.76**	**147**	PKhKP	PKPpre	05 29 17.7	
	comp=Z,2.6nm,1.0s,baz=231,slow=6.5,SNR=3.1						
CPUP				PKP	**PKPdf**	**05 29 22.1**	**+0.5**
	comp=Z,4.1nm,0.9s,baz=68,slow=0.8,SNR=5.6						
PRAC	**Prado**	**138.83**	**94**	*e*PKPdf	**PKPdf**	**05 29 22.3**	**+0.2**
PRAC	**Prado**	**138.83**	**94**	*e*P	PKPpre	05 29 18.9	
ZARC	**Zaragoza, Cauc**	**139.25**	**88**	*e*P	PKPpre	05 29 15.6	
ROSC	**El Rosal**	**139.53**	**92**	PKhKP	PKPpre	05 29 15.9	
	comp=Z,5.3nm,0.6s,baz=52,slow=23,SNR=3.4						
ROSC	**El Rosal**	**139.53**	**92**	*e*PKPpre	PKPpre	05 29 18.4	
PTBC	**PUERTO BERRIO,**	**139.57**	**89**	*e*P	**PKPdf**	**05 29 21.5**	**-1.8**
SJAC	**San Juan de Ar**	**139.69**	**95**	*e*P	PKPpre	05 29 14.2	
CHIC	**Chingaza**	**140.09**	**93**	*e*P	PKPpre	05 29 15.6	
OCAC	**Ocana**	**140.81**	**87**	*e*P	PKPpre	05 29 22.9	
BARC	**Barichara**	**140.84**	**90**	*e*P	PKPpre	05 29 16.9	
RUSC	**La Rusia**	**140.87**	**91**	*e*PKPdf	PKPpre	05 29 22.4	
RUSC	**La Rusia**	**140.87**	**91**	*e*P	PKPpre	05 29 18.2	
SDDR	**Presa de Saban**	**142.00**	**70**	*e*PKPdf	**PKPdf**	**05 29 26.4**	**-1.2**
SDV	**Santo Domingo**	**143.49**	**86**	PKP	PKPbc	05 29 27.6	-0.3
	comp=Z,33nm,1.0s,baz=282,slow=5.1,SNR=19						
SDV	**Santo Domingo**	**143.49**	**86**	*e*PKPdf	PKPbc	05 29 28.3	+0.4
TOA0	**Torodi Ar. Sit**	**144.87**	**281**	*e*PKPdf	PKPbc	05 29 32.2	+0.3
TORD	**Torodi Ar. Bea**	**144.87**	**281**	PKP	**PKPab**	**05 29 31.6**	**-0.3**
	comp=Z,19nm,0.7s,baz=71,slow=3.1,SNR=60						
AGP	**Aguadilla**	**145.97**	**69**	*e*PKPdf	**PKPdf**	**05 29 34.4**	**-0.1**
MPR	**Mayaguez**	**146.01**	**69**	*e*PKPdf	**PKPdf**	**05 29 34.2**	**-0.4**
SJG	**San Juan**	**146.95**	**69**	*e*PKPdf	**PKPdf**	**05 29 36.7**	**+0.5**
SJG	**San Juan**	**146.95**	**69**	*e*PKP2	**PKPdf**	**05 29 36.7**	**+0.5**
CBYP	**Canovanas**	**147.19**	**69**	*e*PKPdf	**PKPdf**	**05 29 36.8**	**+0.2**
HUMP	**Col San Antoni**	**147.22**	**69**	*e*PKPdf	**PKPdf**	**05 29 37.0**	**+0.4**
MTP	**Monte Pirata**	**147.51**	**69**	*e*PKPbc	**PKPbc**	**05 29 39.0**	**-0.7**
STVI	**Saint Thomas**	**148.00**	**68**	*e*PKPdf	**PKPbc**	**05 29 39.7**	**-1.3**
PCRV	**Puerto La Cruz**	**149.41**	**84**	PKPbc	**PKPbc**	**05 29 43.0**	**-1.8**
	comp=Z,13nm,0.8s,baz=243,slow=2.3,SNR=3.9						
SMRT	**St. Maarten**	**149.80**	**68**	*e*PKPbc	**PKPbc**	**05 29 44.7**	**-0.9**
KOWA	**Kowa**	**150.22**	**285**	PKPbc	**PKPbc**	**05 29 46.4**	**-0.3**
	comp=Z,26nm,0.8s,baz=68,slow=4.4,SNR=38						
KOWA	**Kowa**	**150.22**	**285**	*e*PKPbc	**PKPbc**	**05 29 47.4**	**+0.7**
KIC	**Kosan Boka**	**151.21**	**268**	*e*PKIKP	**PKPbc**	**05 29 48.7**	**-0.4**
	comp=Z,106nm,1.1s						
DBIC	**Dimbokro**	**151.35**	**269**	PKPbc	**PKPbc**	**05 29 49.1**	**-0.3**
	comp=Z,37nm,0.9s,baz=94,slow=2.1,SNR=28						
DBIC	**Dimbokro**	**151.35**	**269**	*e*PKPbc	**PKPbc**	**05 29 49.7**	**+0.3**
GDHS	**Morne Mazeau,**	**151.45**	**71**	*e*PKPbc	**PKPbc**	**05 29 50.5**	**+0.9**
LIC	**Lamto**	**151.48**	**268**	*e*PKIKP	**PKPbc**	**05 29 49.2**	**-0.6**
	comp=Z,127nm,1.0s						
TIC	**Toumodi**	**151.51**	**269**	*e*PKIKP	**PKPbc**	**05 29 49.2**	**-0.6**
FDF	**Fort de France**	**152.34**	**74**	*e*P	**PKPbc**	**05 29 49.9**	**-1.8**
PTGA	**Pitinga**	**152.38**	**107**	PKPbc	**PKPbc**	**05 29 51.8**	**-0.1**
	comp=Z,33nm,0.9s,baz=257,slow=2.7,SNR=24						
PTGA	**Pitinga**	**152.38**	**107**	*e*PKPdf	**PKPdf**	**05 29 46.3**	**+1.3**
PTGA				*e*PKPbc	**PKPbc**	**05 29 52.0**	**+0.2**
ZAM	**Aeronautique**	**152.49**	**74**	*e*P	**PKPbc**	**05 29 51.8**	**-0.2**
LPMF	**Morne Lapointe**	**152.55**	**74**	*e*P	**PKPdf**	**05 29 44.0**	**-1.1**

*IDC **02** 05:13:26.6±0.5, 7°.93S×146°.62E, h0km, mb4.4/14, mb1 4.6/17, mb1mx4.4/49, mbtmp4.5/17, ML4.4/3, Error ellipse: s-maj=20.0km s-min=10.1km az=79.0*

*ISCJB **02** 05:13:30.5±0.2, 7°.94S±0°.03×146°.39E±0°.06, h33km, mb4.8/46, Error ellipse: s-maj=8.2km s-min=5.0km az=0.7*

*NEIC **02** 05:13:32.2±0.1, 7°.96S×146°.48E, h35km, mb5.0/36, Error ellipse: s-maj=6.0km s-min=3.6km az=106.0*

ISC 02 05:13:32.1±0.4, **7°.98S**±0°.06×**146°.40E**±0°.08, **h35**km, **n106,** σ**0s.81**/105, **mb4.9**/46, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.60**	**152**	Pn	**Pn**	**05 13 56.0**	**-2.0**
	75nm,0.3s,baz=356,slow=13,SNR=21						
PMG				Lg	Lg	05 14 15.9	
	204nm,0.3s,baz=90,slow=20,SNR=11						
PMG	**Port Moresby**	**1.60**	**152**	*e*Pn	**Pn**	**05 13 58.4**	**+0.4**
PMG				*e*Sn	**Sn**	**05 14 18.7**	**+1.2**
COEN	**Coen**	**6.73**	**208**	*e*Pn	**Pn**	**05 15 06.9**	**-1.6**
RABL	**Rabaul**	**6.85**	**57**	*e*Pn	Pn	05 15 14.8	+4.6
CTA	**Charters Tower**	**12.04**	**181**	Pn	**Pn**	**05 16 21.6**	**+0.3**
	0.8nm,0.3s,baz=16,slow=18,SNR=1.5						
WRAB	**Tennant Creek**	**16.66**	**223**	*e*P	**P**	**05 17 25.8**	**+0.6**
	50nm,1.0s						
WR1	**Warramunga Arr**	**16.67**	**223**	*e*Pn	**P**	**05 17 24.9**	**-0.3**
	46nm,1.0s						
WRA	**Warramunga Arr**	**16.67**	**223**	Pn	**P**	**05 17 24.9**	**-0.3**
	1.4nm,0.3s,baz=45,slow=11,SNR=6.0						
AS01	**Alice Springs**	**19.64**	**216**	*e*P	**P**	**05 17 58.2**	**+0.3**
AS31	**Alice Springs**	**19.67**	**216**	*e*P	**Pn**	**05 17 59.3**	**-0.5**
	10.0nm,0.8s						
AS31	**Alice Springs**	**19.67**	**216**	*e*S	**Pn**	**05 17 59.3**	**-0.5**
ASAR	**Alice Springs**	**19.67**	**216**	P	**Pn**	**05 17 59.5**	**-0.4**
	2.6nm,0.3s,baz=50,slow=9.8,SNR=15						
FITZ	**Fitzroy Crossi**	**22.57**	**241**	P	**P**	**05 18 29.9**	**+0.4**
	20nm,0.9s,baz=52,slow=12						
ARMA	**Armidale**	**22.86**	**168**	*e*P	**P**	**05 18 33.2**	**+0.7**
	21nm,1.1s						
DZM	**Mont Dzumac**	**23.85**	**128**	P	**P**	**05 18 42.3**	**-0.1**
	9.8nm,0.7s,baz=143,slow=20,SNR=7.1						
DZM	**Mont Dzumac**	**23.85**	**128**	*e*P	**P**	**05 18 42.5**	**+0.1**
	22nm,1.1s						
LHI	**Lord Howe Isla**	**26.23**	**155**	*e*P	**P**	**05 19 00.3**	**-3.6**
	114nm,1.2s						
NWAO	**Narrogin (SRO)**	**36.68**	**223**	P	**P**	**05 20 38.0**	**+2.2**
	22nm,0.3s,baz=151,slow=23,SNR=12						
NWAO	**Narrogin (SRO)**	**36.68**	**223**	*e*P	**P**	**05 20 36.0**	**+0.3**
	79nm,1.0s						
OUZ	**Omahuta**	**36.82**	**141**	*e*P	**P**	**05 20 38.5**	**+1.6**
	24nm,1.1s						
BFZ	**Birch Farm**	**42.02**	**146**	*e*P	**P**	**05 21 20.6**	**+0.4**
	50nm,1.1s						
KSRS	**Korea Array**	**48.39**	**340**	P	**P**	**05 22 11.6**	**+0.9**
	2.8nm,0.7s,baz=161,slow=8.4,SNR=5.0						
KS15	**Wonju Array Si**	**48.39**	**340**	*e*P	**P**	**05 22 11.6**	**+0.8**
KSAR	**Wonju Array Be**	**48.39**	**340**	P	**P**	**05 22 11.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**53.55**	**347**	P	**P**	**05 22 49.7**	**+0.3**
	2.5nm,0.6s,baz=163,slow=6.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**53.69**	**300**	P	**P**	**05 22 52.0**	**+1.2**
	2.2nm,0.3s,baz=128,slow=6.0,SNR=4.1						
KLR	**Kul'dur**	**58.40**	**349**	P	**P**	**05 23 24.0**	**0.0**
	0.2nm,0.5s,baz=167,slow=8.3,SNR=7.0						
PEA0B	**Petropavlovsk-**	**61.60**	**8**	*e*P	**P**	**05 23 47.0**	**+1.0**
	38nm,1.3s						
PETK	**Petropavlovsk-**	**61.60**	**8**	P	**P**	**05 23 46.7**	**+0.7**
	7.7nm,1.0s,baz=163,slow=6.2,SNR=4.7						
PETK	**Petropavlovsk-**	**61.60**	**8**	*e*P	**P**	**05 23 46.4**	**+0.5**
PEA1	**Petropavlovsk-**	**61.61**	**8**	*e*P	**P**	**05 23 46.7**	**+0.7**
CASY	**Casey**	**63.20**	**195**	*e*P	**P**	**05 23 56.5**	**0.0**
	24nm,1.3s						
SONA0	**Songino Array**	**65.84**	**332**	*e*P	**P**	**05 24 14.6**	**+0.5**
SONM	**Songino Array**	**65.84**	**332**	P	**P**	**05 24 14.6**	**+0.5**
	1.8nm,0.7s,baz=156,slow=6.5,SNR=4.9						
SONA1	**Songino Array**	**65.85**	**332**	*e*P	**P**	**05 24 14.7**	**+0.5**
MA2	**Magadan**	**67.42**	**2**	P	**P**	**05 24 24.4**	**+0.5**
	4.3nm,0.6s,baz=148,slow=8.0,SNR=4.0						
VNDA	**Vanda**	**69.98**	**176**	P	**P**	**05 24 39.4**	**-0.2**
	2.9nm,0.9s,baz=297,slow=6.8,SNR=4.1						
VNDA	**Vanda**	**69.98**	**176**	*e*P	**P**	**05 24 40.1**	**+0.5**
SEY	**Seymchan**	**70.85**	**3**	P	**P**	**05 24 44.4**	**-0.6**
	3.0nm,0.9s,baz=185,slow=5.0,SNR=4.0						
MK01	**Makanchi Array**	**78.63**	**321**	*e*P	**P**	**05 25 30.9**	**+0.4**
MK31	**Makanchi Array**	**78.64**	**321**	*e*P	**P**	**05 25 31.0**	**+0.5**
MK32	**Makanchi Array**	**78.64**	**321**	*e*P	**P**	**05 25 30.8**	**+0.2**
MKAR	**Makanchi Array**	**78.64**	**321**	P	**P**	**05 25 30.8**	**+0.2**
	2.0nm,0.6s,baz=111,slow=6.3,SNR=6.7						
MKAR	**Makanchi Array**	**78.64**	**321**	*e*P	**P**	**05 25 31.0**	**+0.4**
	17nm,0.9s						
MAKZ	**Makanchi**	**78.84**	**321**	*e*P	**P**	**05 25 31.5**	**-0.2**
	5.8nm,1.1s						
TIXI	**Tiksi**	**80.31**	**354**	P	**P**	**05 25 39.0**	**-0.1**
	0.9nm,0.5s,baz=28,slow=4.0,SNR=2.1						
ZALV	**Zalesovo Beam**	**80.36**	**328**	P	**P**	**05 25 39.2**	**-0.5**
	1.3nm,0.6s,baz=117,slow=5.6,SNR=4.2						
ZAA1	**Zalesovo Array**	**80.37**	**328**	*e*P	**P**	**05 25 39.2**	**-0.5**
OHAK	**Old Harbor**	**81.31**	**29**	*e*P	**P**	**05 25 45.0**	**+0.3**
	63nm,1.4s						
QSPA	**South Pole Qui**	**82.00**	**180**	*e*P	**P**	**05 25 48.1**	**-0.3**
QSPA				*e*PcP	**P**	**05 25 48.3**	**-0.2**
SVW2	**Sparrevohn**	**82.28**	**25**	*e*P	**P**	**05 25 50.4**	**+0.6**
	14nm,1.2s						
AAK	**Ala-Archa**	**82.31**	**315**	*e*P	**P**	**05 25 51.5**	**+1.0**
	6.5nm,1.4s						
CNPM	**China Poot**	**83.36**	**27**	*e*P	**P**	**05 25 55.5**	**+0.1**
	35nm,1.2s						
SEW	**Seward**	**84.43**	**27**	*e*P	**P**	**05 26 01.0**	**+0.2**
	51nm,1.5s						
SUA	**Susitna One**	**84.49**	**25**	*e*P	**P**	**05 26 00.8**	**-0.5**
	17nm,1.2s						
RC01	**Rabbit Creek A**	**84.75**	**26**	*e*P	**P**	**05 26 01.9**	**-0.5**
	1.0nm,0.4s						
PMR	**Palmer**	**85.23**	**26**	*e*P	**P**	**05 26 04.3**	**-0.5**
	22nm,1.4s						
KKAR	**Karatay Array**	**85.24**	**315**	*e*P	**P**	**05 26 05.5**	**+0.1**
SML	**Sawmill**	**85.67**	**26**	*e*P	**P**	**05 26 07.0**	**-0.1**
	9.9nm,1.0s						
SCM	**Sheep Creek Mo**	**86.11**	**26**	*e*P	**P**	**05 26 09.4**	**+0.1**
	41nm,1.4s						
RND	**Reindeer**	**86.16**	**24**	*e*P	**P**	**05 26 08.4**	**-1.0**
	6.7nm,0.8s						
MLY	**Manley**	**86.16**	**22**	*e*P	**P**	**05 26 09.4**	**0.0**
	8.8nm,0.9s						
KLU	**Klutina**	**86.59**	**26**	*e*P	**P**	**05 26 11.9**	**+0.2**
	15nm,1.3s						
CCB	**Clear Creek Bu**	**87.11**	**23**	*e*P	**P**	**05 26 12.8**	**-1.2**
	4.3nm,0.7s						
PAX	**Paxson**	**87.37**	**25**	*e*P	**P**	**05 26 14.9**	**-0.5**
	9.7nm,1.2s						
ILAR	**Eielson Array**	**87.52**	**23**	P	**P**	**05 26 14.4**	**-1.6**
	5.7nm,0.7s,baz=252,slow=4.8,SNR=18						
ILB	**Eielson Array**	**87.52**	**23**	*e*P	**P**	**05 26 14.4**	**-1.6**
IL1	**Eielson Array**	**87.52**	**23**	*e*P	**P**	**05 26 14.4**	**-1.6**
MENT	**Mentasta**	**88.10**	**25**	*e*P	**P**	**05 26 19.0**	**+0.1**
	6.4nm,0.7s						
DOT	**Dot Lake**	**88.22**	**25**	*e*P	**P**	**05 26 19.5**	**+0.1**
	18nm,0.9s						
PCA	**Pinnacle**	**88.69**	**29**	*e*P	**P**	**05 26 22.2**	**+0.4**
	106nm,1.4s						
FYU	**Fort Yukon**	**88.87**	**22**	*e*P	**P**	**05 26 22.8**	**+0.5**
	38nm,1.5s						
EGAK	**Eagle**	**89.80**	**24**	*e*P	**P**	**05 26 26.7**	**0.0**
	5.2nm,0.8s						
HYT	**Haines Junctio**	**90.20**	**28**	*e*P	**P**	**05 26 28.9**	**-0.1**
	12nm,1.3s						
DAWY	**Dawson**	**90.30**	**25**	*e*P	**P**	**05 26 29.7**	**+0.5**
	8.9nm,1.3s						
WHY	**Whitehorse**	**91.41**	**29**	*e*P	**P**	**05 26 34.9**	**+0.4**
	29nm,1.5s						
YKA	**Yellowknife Ar**	**101.19**	**28**	P	**Pdif**	**05 27 18.1**	**-0.6**
	0.3nm,0.7s,baz=274,slow=4.5,SNR=4.3						
OK022	**N3560 Road, Pr**	**116.47**	**54**	*e*PKPdf	**PKPdf**	**05 32 12.8**	**0.0**
BUR04	**Bucovina Ar. S**	**116.65**	**320**	*e*PKPdf	**PKPdf**	**05 32 13.6**	**+0.7**
HHAR	**Hobbs**	**118.50**	**53**	*e*PKPdf	**PKPdf**	**05 32 15.8**	**-0.8**
CCM	**Cathedral Cave**	**120.20**	**50**	*e*PKPdf	**PKPdf**	**05 32 18.8**	**-1.1**
GEA0	**GERESS Array S**	**123.18**	**325**	*e*PKPdf	**PKPdf**	**05 32 24.7**	**-0.7**
JSC	**Jenkinsville**	**129.03**	**52**	*e*PKPdf	**PKPdf**	**05 32 37.2**	**+0.3**
SPRD	**Spring Road, M**	**130.13**	**46**	*e*PKPdf	**PKPdf**	**05 32 38.0**	**-0.9**
SDV	**Santo Domingo**	**143.36**	**86**	PKP	PKPbc	05 33 01.9	+0.6
	4.1nm,0.6s,baz=333,slow=2.3,SNR=4.4						
SDV	**Santo Domingo**	**143.36**	**86**	*e*PKPdf	PKPbc	05 33 02.2	+0.8
TOA0	**Torodi Ar. Sit**	**144.95**	**281**	*e*PKPbc	**PKPab**	**05 33 05.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**144.95**	**281**	PKPbc	**PKPab**	**05 33 05.8**	**-0.1**
	6.5nm,0.7s,baz=64,slow=3.2,SNR=14						
TOA1	**Torodi Ar. Sit**	**144.95**	**281**	*e*PKPbc	**PKPab**	**05 33 05.8**	**-0.2**
MPR	**Mayaguez**	**145.84**	**69**	*e*PKPdf	**PKPdf**	**05 33 07.6**	**-0.5**
SAML	**Samuel**	**146.06**	**119**	*e*PKPdf	**PKPdf**	**05 33 08.5**	**-0.2**
SJG	**San Juan**	**146.78**	**69**	*e*PKPdf	**PKPdf**	**05 33 08.9**	**-0.8**
CBYP	**Canovanas**	**147.02**	**69**	*e*PKPdf	**PKPbc**	**05 33 11.2**	**-1.1**
HUMP	**Col San Antoni**	**147.05**	**69**	*e*PKPbc	**PKPbc**	**05 33 11.6**	**-0.6**
MTP	**Monte Pirata**	**147.34**	**69**	*e*PKPbc	**PKPbc**	**05 33 12.4**	**-0.6**
STVI	**Saint Thomas**	**147.83**	**68**	*e*PKPbc	**PKPbc**	**05 33 13.9**	**-0.5**
SMRT	**St. Maarten**	**149.63**	**68**	*e*PKPbc	**PKPbc**	**05 33 18.6**	**-0.4**
KOWA	**Kowa**	**150.29**	**285**	PKPbc	**PKPbc**	**05 33 20.9**	**+0.2**
	6.6nm,0.7s,baz=62,slow=2.3,SNR=9.5						
KOWA	**Kowa**	**150.29**	**285**	*e*PKPbc	**PKPbc**	**05 33 21.1**	**+0.4**
KIC	**Kosan Boka**	**151.33**	**269**	*e*PKP1	**PKPbc**	**05 33 22.7**	**-0.5**
	18nm,1.0s						
DBIC	**Dimbokro**	**151.47**	**269**	PKPbc	**PKPbc**	**05 33 23.6**	**+0.1**
	8.6nm,0.8s,baz=89,slow=3.8,SNR=7.4						
DBIC	**Dimbokro**	**151.47**	**269**	*e*PKPbc	**PKPbc**	**05 33 23.3**	**-0.2**
LIC	**Lamto**	**151.60**	**268**	*e*PKP1	**PKPbc**	**05 33 23.2**	**-0.6**
	30nm,0.9s						
TIC	**Toumodi**	**151.63**	**269**	*e*PKP1	**PKPbc**	**05 33 23.5**	**-0.4**
PTGA	**Pitinga**	**152.32**	**107**	PKPbc	**PKPbc**	**05 33 23.1**	**-2.4**
	7.7nm,0.8s,baz=261,slow=3.6,SNR=5.5						
PTGA	**Pitinga**	**152.32**	**107**	*e*PKPbc	**PKPbc**	**05 33 25.1**	**-0.4**

MAN 02 05:23:28, 10°.09N×123°.21E, h1km, mb4.1, ML2.9, MS2.6, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.76**	**122**	*e*P	Pb	05 23 43.9	-0.1
LLP	**Lapu-Lapu**	**0.78**	**73**	*e*P	Pg	05 23 43.5	+0.6
LLP				*i* S	Sg	05 23 54.0	+1.0
GUIM	**Jordan**	**0.81**	**311**	*e*P	Pb	05 23 44.2	-0.6
GUIM				*e*S	Sb	05 23 55.8	-0.5
RCP	**Roxas**	**1.53**	**343**	⇑*e*P	Pb	05 23 56.9	-0.3
RCP				*e*S	Sg	05 24 19.2	+2.0
MSLP	**Maasin**	**1.62**	**88**	*e*P	Pn	05 23 58.1	+0.4
MSLP				*e*S	Sg	05 24 21.3	+1.1

IDC 02 05:26:13.4±2.0, **4°.22N**×**126°.86E, h0**km, **mb3.7**/4, **mb1 3.9**/4, **mb1mx3.5**/55, **mbtmp3.7**/4, **Error ellipse: s-maj=172.0km s-min=24.5km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.11**	**163**	P	P	05 31 39.5	-0.6
	1.8nm,0.9s,baz=344,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**28.55**	**166**	P	P	05 32 10.1	-1.0
	0.2nm,0.6s,baz=351,slow=7.6,SNR=4.3						
STKA	**Stephens Creek**	**38.54**	**160**	P	P	05 33 39.4	+1.5
	3.2nm,1.0s,baz=328,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**57.23**	**325**	P	P	05 36 02.5	-0.1
	0.4nm,0.4s,baz=117,slow=8.2,SNR=7.7						

NEIC 02 05:28:33.0±0.0, **63°.51N**×**151°.33W, h8**km, **ML3.5**(AEIC), **After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.19**	**76**	P	Pg	05 28 37.1	+0.3
KTH				S	Sg	05 28 39.9	+0.4
CAST	**Castle Rocks**	**0.35**	**255**	P	Pg	05 28 39.8	-0.1
TRF	**Thorofare Moun**	**0.47**	**97**	P	Pg	05 28 42.1	-0.1
TRF				S	Sg	05 28 48.3	0.0
BPAW	**Bear Paw Mtn.**	**0.61**	**14**	P	Pg	05 28 45.0	+0.2
PPLA	**Purkeypile**	**0.73**	**213**	P	Pg	05 28 46.4	-0.6
PPLA				S	Sg	05 28 55.2	-1.3
MCK	**McKinley**	**1.09**	**77**	P	Pg	05 28 53.0	-0.9
MCK				S	Sg	05 29 07.6	-0.5
RND	**Reindeer**	**1.12**	**94**	P	Pg	05 28 53.2	-1.2
RND				S	Sg	05 29 07.6	-1.3
SKT	**Skwentna**	**1.54**	**184**	P	Pn	05 29 01.0	+0.3
SKT				S	Sn	05 29 20.2	-0.6
MLY	**Manley**	**1.55**	**9**	P	Pn	05 29 00.4	-0.5
DHY	**Denali Highway**	**1.84**	**102**	P	Pn	05 29 04.8	-0.2
DHY				S	Sb	05 29 29.8	-0.3
CCB	**Clear Creek Bu**	**1.92**	**52**	P	Pn	05 29 04.5	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDM	Murphy Dome	1.99	42	P	Pn	05 29 05.6	-1.3
STLK	Strandline Lak	2.03	187	P	Pn	05 29 08.1	+0.6
COLA	College	2.05	46	P	Pn	05 29 06.5	-1.2
GHO	Glory Hole Cre	2.07	146	P	Pn	05 29 07.8	-0.2
SUA	Susitna One	2.07	172	P	Pn	05 29 08.3	+0.1
PMR	Palmer	2.18	151	P	Pn	05 29 09.6	+0.2
SML	Sawmill	2.20	140	P	Pn	05 29 09.5	-0.3
TT01	Tatalina	2.21	256	P	Pn	05 29 08.1	-1.9
SPCP	Crater Peak Br	2.29	190	P	Pn	05 29 12.3	+1.3
SPWE	Spurr West	2.32	195	P	Pb	05 29 13.3	-1.8
ILB	Eielson Array	2.32	55	P	Pn	05 29 10.1	-1.4
CKL	Chakachamna La	2.37	192	P	Pb	05 29 14.1	-1.8
KNK	Knik Glacier	2.49	146	P	Pn	05 29 14.2	+0.3
PS10	TAPS Pump St10	2.50	90	P	Pn	05 29 15.2	+1.2
SCM	Sheep Creek Mo	2.50	131	P	Pn	05 29 13.7	-0.2
RC01	Rabbit Creek A	2.54	162	ePn	Pn	05 29 15.3	+0.8
RC01				eSn	Sn	05 29 43.0	-2.5
IM3	Indian Mountai	2.69	338	P	Pn	05 29 16.7	+0.2
PAX	Paxson	2.71	99	P	Pn	05 29 17.9	+1.1
HARP	HAARP	3.03	109	P	Pn	05 29 22.9	+1.8
KLU	Klutina	3.22	126	P	Pn	05 29 25.0	+1.1
DOT	Dot Lake	3.25	84	ePn	Pn	05 29 26.0	+1.7
DOT				eSg	Sb	05 30 11.5	+0.9
GLI	Glacier Island	3.30	141	P	Pn	05 29 26.3	+1.4
JPK	Jack Peak	3.31	136	P	Pn	05 29 26.4	+1.4
PS05	TAPS Pump Stn5	3.33	5	P	Pn	05 29 25.8	+0.5
MENT	Mentasta	3.49	96	P	Pn	05 29 30.1	+2.6
DIV	Divide	3.52	130	ePn	Pn	05 29 28.9	+0.8
DIV				eSg	Sg	05 30 27.6	+1.5
COLD	Coldfoot	3.76	7	P	Pn	05 29 31.3	0.0
BMRM	Bremner River	4.05	126	P	Pn	05 29 35.8	+0.6
EGAK	Eagle	4.63	70	ePn	Pn	05 29 43.4	+0.3
EGAK				ePg	Pg	05 29 58.6	-3.0
EGAK				eSg	Sg	05 30 56.4	-5.1
BM3	Burnt Mountain	4.82	33	P	Pn	05 29 44.7	-1.1
DAWY	Dawson	5.32	79	ePn	Pn	05 29 51.9	-0.7
	6.3nm,0.6s						
DAWY				eSg	Sg	05 31 19.9	-3.8

IDC 02 05:36:04.6±2.3, 5°.98S×130°.10E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.6/46, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=105.7km s-min=28.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.81	199	Pn	Pn	05 39 09.8	+1.6
	0.4nm,0.3s,baz=35,slow=12,SNR=14						
FITZ				Sn	Sn	05 41 18.3	-13
	0.4nm,0.3s,baz=90,slow=4.0,SNR=4.6						
WRA	Warramunga Arr	14.48	164	Pn	Pn	05 39 29.8	-1.2
	0.4nm,0.3s,baz=334,slow=14,SNR=7.0						
WRA				Sn	Sn	05 41 56.6	-16
	0.6nm,0.3s,baz=336,slow=24,SNR=6.9						
ASAR	Alice Springs	17.96	169	P	Pn	05 40 15.6	-0.4
	0.4nm,0.3s,baz=345,slow=9.7,SNR=26						
ASAR				S	Sn	05 43 23.8	-13
	0.2nm,0.3s,baz=358,slow=27,SNR=4.3						
MKAR	Makanchi Array	67.43	327	P	P	05 47 02.1	0.0
	0.2nm,0.3s,baz=129,slow=7.6,SNR=6.6						

IDC 02 05:41:38.6±0.9, 7°.88S×146°.59E, h0km, mb3.8/4, mb1 4.3/6, mb1mx3.9/43, mbtmp4.0/6, ML4.1/2, Error ellipse: s-maj=35.6km s-min=13.3km az=71.0
ISCJB 02 05:41:42.6±0.4, 8°.00S±0°.06×146°.43E±0°.09, h33km, mb4.4/10, Error ellipse: s-maj=13.0km s-min=7.8km az=23.3
NEIC 02 05:41:43.8±0.3, 8°.01S×146°.64E, h35km, mb4.4/11, Error ellipse: s-maj=11.0km s-min=6.3km az=114.0
ISC 02 05:41:43.6±0.6, 8°.1S±0°.1×146°.5E±0°.1, h35km, n37, σ1s.29/36, mb4.3/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	1.47	152	Pn	Pn	05 42 08.6	+0.9
	11nm,0.3s,baz=322,slow=7.4,SNR=10.0						
PMG				Lg	Lg	05 42 30.5	
	37nm,0.3s,baz=80,slow=10,SNR=5.9						
COEN	Coen	6.66	209	ePn	Pn	05 43 19.7	+0.7
RABL	Rabaul	6.87	56	ePn	Pn	05 43 25.9	+3.9
MTN	Manton Dam	15.79	251	ePn	P	05 45 27.8	+0.8
	22nm,0.8s						
WRAB	Tennant Creek	16.61	224	ePn	P	05 45 37.0	+0.8
	13nm,0.8s						
WB2	Warramunga Arr	16.62	224	ePn	Pn	05 45 29.5	-4.6
WR1	Warramunga Arr	16.62	224	ePn	P	05 45 37.5	+1.2
	11nm,0.7s						
WRA	Warramunga Arr	16.62	224	Pn	P	05 45 37.5	+1.2
	0.9nm,0.3s,baz=47,slow=11,SNR=44						
AS01	Alice Springs	19.58	216	eP	P	05 46 10.7	+1.9
AS31	Alice Springs	19.61	216	eP	P	05 46 10.9	+1.8
	4.4nm,0.9s						
ASAR	Alice Springs	19.61	216	P	P	05 46 10.3	+1.2
	0.3nm,0.3s,baz=39,slow=11,SNR=51						
CM01	Chiang Mai Arr	53.76	300	eP	P	05 51 03.7	+0.7
CM31	Chiang Mai Arr	53.79	300	eP	P	05 51 04.9	+1.7
CMAR	Chiang Mai Arr	53.79	300	P	P	05 51 03.4	+0.2
	0.7nm,0.4s,baz=114,slow=6.3,SNR=2.3						
SONA0	Songino Array	65.97	332	eP	P	05 52 27.5	+1.0
SONM	Songino Array	65.97	332	P	P	05 52 27.5	+1.0
	0.2nm,0.3s,baz=159,slow=4.3,SNR=3.2						
MK01	Makanchi Array	78.75	321	eP	P	05 53 42.6	-0.1
MK31	Makanchi Array	78.77	321	eP	P	05 53 42.7	-0.1
MK32	Makanchi Array	78.77	321	eP	P	05 53 42.8	0.0
MKAR	Makanchi Array	78.77	321	P	P	05 53 42.8	0.0
	0.6nm,0.8s,baz=100,slow=7.3,SNR=3.8						
MKAR	Makanchi Array	78.77	321	eP	P	05 53 42.5	-0.3
	7.1nm,1.0s						
MAKZ	Makanchi	78.97	321	eP	P	05 53 43.7	-0.2
	3.7nm,1.3s						
QSPA	South Pole Qui	81.88	180	eP	P	05 54 00.3	+1.0
	6.0nm,1.3s						
SVW2	Sparrevohn	82.36	25	eP	P	05 54 02.2	+0.5
	24nm,1.4s						
BMRM	Bremner River	87.05	27	eP	P	05 54 27.0	+1.5
	24nm,1.2s						
ILAR	Eielson Array	87.61	23	P	P	05 54 26.5	-1.5
	1.2nm,0.7s,baz=254,slow=4.3,SNR=12						
IL1	Eielson Array	87.61	23	eP	P	05 54 26.5	-1.5
EGAK	Eagle	89.89	24	eP	P	05 54 38.6	-0.1
	3.3nm,1.2s						
DAWY	Dawson	90.39	25	eP	P	05 54 41.7	+0.5
	6.2nm,1.4s						
OK021	N3530 Road, Sp	116.44	54	ePKPdf	PKPdf	06 00 23.4	-0.9
NC405	NORSAR Array S	117.44	337	ePKPdf	PKPdf	06 00 24.4	-1.0
TOA0	Torodi Ar. Sit	145.03	281	ePKPbc	PKPdf	06 01 17.9	-0.4
TORD	Torodi Ar. Bea	145.03	281	PKPbc	PKPdf	06 01 17.7	-0.6
	1.2nm,0.8s,baz=77,slow=3.0,SNR=5.4						
TOA1	Torodi Ar. Sit	145.03	281	ePKPbc	PKPdf	06 01 17.7	-0.6
AGP	Aguadilla	145.79	69	ePKPdf	PKPdf	06 01 18.5	-1.0
HUMP	Col San Antoni	147.04	69	ePKPbc	PKPab	06 01 23.6	-1.8
KOWA	Kowa	150.38	285	PKPbc	PKPbc	06 01 32.5	0.0
	1.1nm,0.9s,baz=45,slow=4.3,SNR=3.0						

CSEM 02 06:02:26.9±0.3, 67°.77N×20°.22E, h2km, ML1.5, Error ellipse: s-maj=8.6km s-min=6.8km az=21.0, Mining explosion.
UPP 02 06:02:26.6, 67°.82N×20°.26E, h0km, ML2.0, Suspected Mining explosion.
HEL 02 06:02:27.8±0.1, 67°.82N×20°.16E, h0km, ML1.5, ML2.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	26	P	Pg	06 02 29.5	-1.1
KUA				S	Sg	06 02 32.5	0.0
KUA	Kurravaara	0.15	26	P	Pg	06 02 29.5	-1.1
KUA				S	Sg	06 02 32.5	+0.1
KUA	Kurravaara	0.15	26	i P	Pg	06 02 29.5	-1.1
KUA				i S	Sg	06 02 32.5	+0.1
RATU	Laukkuluspa	0.22	270	P	Pg	06 02 31.2	-0.7
RATU	Laukkuluspa	0.22	270	P	Pg	06 02 31.2	-0.7
RATU	Laukkuluspa	0.22	270	i P	Pg	06 02 31.2	-0.7
NIKU	Nikkaluokta	0.43	276	P	Pg	06 02 36.3	+0.3
NIKU	Nikkaluokta	0.43	276	P	Pg	06 02 36.3	+0.3
NIKU	Nikkaluokta	0.43	276	i P	Pg	06 02 36.3	+0.3
LANU	Lannavaara	0.72	71	P	Pg	06 02 41.0	-0.7
LANU				S	Sg	06 02 51.6	+0.6
LANU	Lannavaara	0.72	71	eP	Pg	06 02 41.0	-0.6
LANU				eS	Sg	06 02 51.6	+0.6
KIF	Kilpisjarvi	1.21	11	Pn	Pn	06 02 52.4	+0.5
KIF				Sb	Sn	06 03 08.5	-0.5
KIF	Kilpisjarvi	1.21	11	ePN	Pn	06 02 52.5	+0.6
KIF				MSG		06 03 06.9	
	comp=Z,5.3nm,0.2s						
KIF				eSB	Sn	06 03 08.5	-0.5
PAJU	Pajala	1.39	124	P	Pg	06 02 52.7	-1.8
PAJU	Pajala	1.39	124	P	Pg	06 02 52.8	-1.7
PAJU	Pajala	1.39	124	eP	Pg	06 02 52.8	-1.7
HEF	Hetta	1.44	64	Pg	Pn	06 02 53.9	-1.2
HEF				Sn	Sn	06 03 15.9	+1.3
HEF	Hetta	1.44	64	ePG	Pn	06 02 54.0	-1.1
HEF				MSG		06 03 11.8	
	comp=Z,2.5nm,0.2s						
HEF				eSN	Sn	06 03 15.9	+1.3
ERTU	Ertsjaerv	1.50	147	P	Pn	06 02 54.1	-1.8
ERTU				Sn	Sn	06 03 16.4	+0.2
ERTU	Ertsjaerv	1.50	147	eP	Pn	06 02 54.1	-1.8
ERTU				eSN	Sn	06 03 16.4	+0.3
TOF	Tornio	2.40	135	Sg	Sb	06 03 41.8	0.0
TOF	Tornio	2.40	135	ePB	Pn	06 03 09.5	+1.3
TOF				MSG		06 03 38.2	
	comp=Z,2.3nm,0.2s						
TOF				eSG	Sb	06 03 41.8	0.0
SGF	Sodankyl	2.46	96	Pg	Pb	06 03 11.9	-1.0
SGF	Sodankyl	2.46	96	ePG	Pb	06 03 12.0	-0.9
ARE0	ARCESS Array S	2.60	46	P	Pn	06 03 11.4	+0.3
ARE0	ARCESS Array S	2.60	46	eP	Pn	06 03 11.4	+0.3
ARE0				eSB	Sn	06 03 45.4	+2.1

ISCJB 02 06:17:40.8±0.6, 39°.12N±0°.03×29°.18E±0°.03, h1km±7km, Error ellipse: s-maj=5.7km s-min=4.0km az=11.0
DDA 02 06:17:40.4, 39°.13N×29°.16E, h7km, Ml2.6
ISK 02 06:17:40.6, 39°.12N×29°.19E, h5km, ML2.8/9
CSEM 02 06:17:41.4±0.1, 39°.11N×29°.18E, h2km, ML2.8, Error ellipse: s-maj=3.2km s-min=3.0km az=174.0
ISC 02 06:17:41.0±1.0, 39°.12N±0°.02×29°.19E±0°.02, h7km±9km, n29, σ0s.42/49, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.16	259	PG	Pg	06 17 44.5	+0.2
GDZ	Gediz	0.23	96	i P	Pg	06 17 45.4	-0.1
GDZ				i S	Sg	06 17 49.3	+0.6
GDZ	Gediz	0.23	96	P	Pg	06 17 45.4	-0.1
GDZ				S	Sg	06 17 49.3	+0.6
DEMI	Demirci	0.37	259	i P	Pg	06 17 48.3	0.0
DEMI				i S	Sg	06 17 53.2	0.0
DEMI	Demirci	0.37	259	P	Pg	06 17 48.3	0.0
DEMI				S	Sg	06 17 53.2	0.0
TVSB	Tavsanli	0.40	32	PG	Pg	06 17 47.8	-0.9
TVSB	Tavsanli	0.40	32	ePg	Pg	06 17 47.8	-0.9
KULA	Kula-Manisa	0.73	215	PG	Pg	06 17 54.7	-0.2
KULA	Kula-Manisa	0.73	215	ePg	Pg	06 17 54.7	-0.2
KHAL	Karahalli	0.78	162	i P	Pb	06 17 56.6	-0.3
KHAL				i S	Sb	06 18 07.1	-0.6
KHAL	Karahalli	0.78	162	P	Pb	06 17 56.6	-0.3
KHAL				S	Sb	06 18 07.1	-0.6
KZIL	AFYON_Kizioren	1.14	139	i P	Pg	06 18 02.6	-0.1
KZIL				i S	Sb	06 18 18.5	+0.5
IGD	Bursa	1.15	1	i P	Pg	06 18 02.5	-0.5
IGD				i S	Sn	06 18 20.0	+0.5
CAVI	Cavuskoy	1.20	25	PN	Pn	06 18 04.1	-0.1
CAVI	Cavuskoy	1.20	25	ePn	Pn	06 18 04.1	-0.1
BORA	Eskisehir	1.24	52	i P	Pn	06 18 04.9	+0.1
BORA				i S	Sb	06 18 21.2	+0.2
BORA	Eskisehir	1.24	52	P	Pn	06 18 04.9	+0.1
BORA				S	Sb	06 18 21.2	+0.2
KCTX	Karacabey (Bur	1.32	331	PN	Pn	06 18 05.9	+0.1
KCTX				SN	Sn	06 18 24.2	+0.6
KCTX	Karacabey (Bur	1.32	331	ePn	Pn	06 18 05.9	+0.1
KCTX				eSn	Sn	06 18 24.2	+0.6
BALY	Balya	1.37	298	i P	Pn	06 18 06.4	-0.1
BALY				i S	Sb	06 18 24.0	-0.6
BALY	Balya	1.37	298	P	Pn	06 18 06.4	-0.1
BALY				S	Sb	06 18 24.0	-0.6
ADVT	Abdulvahap	1.38	18	PN	Pg	06 18 07.3	-0.2
ADVT				SN	Sg	06 18 26.1	+0.7
ADVT	Abdulvahap	1.38	18	ePn	Pg	06 18 07.3	-0.2
ADVT				eSn	Sg	06 18 26.1	+0.7
ARMT	Armutlu	1.47	350	PN	Pg	06 18 09.2	0.0
ARMT				SN	Sg	06 18 28.5	+0.3
ARMT	Armutlu	1.47	350	ePn	Pg	06 18 09.2	0.0
ARMT				eSn	Sg	06 18 28.5	+0.3
GONE	Gonen-Balikesi	1.49	309	PN	Pb	06 18 08.7	-0.2
GONE				SN	Sg	06 18 29.3	+0.5
GONE	Gonen-Balikesi	1.49	309	ePn	Pb	06 18 08.7	-0.2
GONE				eSn	Sg	06 18 29.3	+0.5
GULT	Gulveren	1.67	37	PN	Pb	06 18 11.6	-0.4
GULT	Gulveren	1.67	37	ePn	Pb	06 18 11.6	-0.4

RSNC 02 06:26:14.9±0.7, 11°.46N×74°.40W, h32km±20km, ML3.8, Mw3.9, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CODC	Agust˘›n Codaz	1.78	148	eP	Pn	06 26 42.4	-1.0
CODC				eS	Sn	06 27 04.0	-1.0
CODC				i		06 27 09.0	
	comp=Z,2µm,0.4s						
URIC	Uribia, Colomb	2.37	84	eP	Pn	06 26 51.2	-0.3
URIC				eS	Sn	06 27 18.1	-1.4
MOTC	Monteria, Cord	2.94	205	eP	Pn	06 26 58.3	-1.2
OCAC	Ocana	3.37	162	eP	Pn	06 27 05.0	-0.5
OCAC				eS	Sn	06 27 43.4	-1.1
ZARC	Zaragoza, Cauc	3.97	187	eS	Sn	06 27 58.3	-0.7
ZARC				i		06 28 14.2	
	comp=Z,156nm,0.2s						
CAPC	Capurgana	4.04	226	eP	Pn	06 27 12.9	-1.7
CAPC				i		06 27 59.1	
	comp=Z,85nm,0.2s						
BRRC	Barranca, Sant	4.38	171	eP	Pn	06 27 18.9	-0.3
BRRC				eS	Sn	06 28 08.5	-0.6
BRRC				i		06 28 28.6	
	comp=Z,107nm,0.5s						
PAMC	Pamplona, Colo	4.42	158	eP	Pn	06 27 19.9	-0.3
PAMC				eS	Sn	06 28 09.5	-1.4

ISCJB 02 06:27:09.4±0.3, 5°.24S±0°.05×70°.16E±0°.05, h10km, mb4.4/34, MS3.6/17, Error ellipse: s-maj=8.6km s-min=5.2km az=139.5
IDC 02 06:27:10.6±0.7, 5°.09S×70°.07E, h0km, mb4.1/20, mb1 4.2/21, mb1mx4.0/75, mbtmp4.1/21, ML4.8/1, MS3.6/18, Ms1 3.6/18, ms1mx3.4/62, Error ellipse: s-maj=19.4km s-min=16.0km az=168.0
NEIC 02 06:27:11.7±0.3, 5°.15S×70°.09E, h10km, mb4.7/19, Error ellipse: s-maj=8.2km s-min=7.2km az=194.0
ISC 02 06:27:11.2±0.4, 5°.31S±0°.08×70°.16E±0°.07, h10km, n96, σ1s.36/86, mb4.5/34, MS3.6/17, 1C, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	1.31	140	Pn	Pn	06 27 31.8	-3.5
	baz=310,slow=15						
H08N3	Diego Garcia H	1.32	141	Pn	Pn	06 27 32.0	-3.5
	baz=310,slow=15						
H08N1	Diego Carcia H	1.33	140	Pn	Pn	06 27 32.1	-3.5
	baz=310,slow=15						
DGAR	Diego Garcia	3.09	133	⇑iPn	Pn	06 27 59.5	-0.6
DGAR				eSn	Sn	06 28 35.3	-1.9
H08S3	Diego Garcia H	3.26	135	Pn	Pn	06 28 02.5	+0.2
	baz=261						
H08S1	Diego Carcia H	3.27	135	Pn	Pn	06 28 02.3	0.0
	baz=261						
H08S2	Diego Garcia H	3.28	135	Pn	Pn	06 28 03.2	+0.7
	baz=261						
PALK	Pallekele	16.34	40	Pn	Pn	06 31 00.3	-0.6
	4.0nm,0.3s,baz=298,slow=4.1,SNR=12						
PALK				Sn	Sn	06 33 48.9	-14
	0.7nm,0.3s,baz=117,slow=4.5,SNR=3.5						
PALK				LR	LR	06 35 51.3	
	comp=Z,355nm,18.1s,baz=297,slow=32						
PALK	Pallekele	16.34	40	ePn	Pn	06 31 00.6	-0.3
	14nm,0.6s						
PALK				eSn	Sn	06 33 49.7	-13
HYB	Hyderabad	24.06	20	i P	P	06 32 27.0	+0.2
OPO	Ambohidratompo	26.00	238	LR	LR	06 40 01.7	
	comp=Z,99nm,21.4s,baz=142,slow=30						
COCO	West Island	27.22	106	eP	P	06 32 59.2	+3.6
	86nm,0.9s						
GSI	Gunungsitoli	28.16	77	eP	P	06 33 02.4	-1.7
	14nm,0.8s						
WSAR	Wadi Sarin	30.53	339	LR	LR	06 42 54.5	
	comp=Z,141nm,20.5s,baz=181,slow=31						
ATD	Arta Tunnel	31.91	302	LR	LR	06 44 12.6	
	comp=Z,78nm,19.6s,baz=24,slow=32						
KMBO	Kilima Mbogo	33.10	276	P	P	06 33 48.4	+0.4
	1.6nm,0.6s,baz=41,slow=20,SNR=4.6						
KMBO	Kilima Mbogo	33.10	276	eP	P	06 33 48.4	+0.4
	2.5nm,0.9s						
CM01	Chiang Mai Arr	36.91	50	eP	P	06 34 22.6	+2.1
CM31	Chiang Mai Arr	36.92	50	eP	P	06 34 22.1	+1.4
CMAR	Chiang Mai Arr	36.92	50	P	P	06 34 22.1	+1.4
	0.7nm,0.4s,baz=242,slow=8.9,SNR=4.7						
CMAR				LR	LR	06 48 01.3	
	comp=Z,36nm,19.0s,baz=205,slow=34						
SHL	Shillong	37.25	34	eP	P	06 34 23.8	+0.3
MBAR	Mbarara	39.63	275	LR	LR	06 49 15.4	
	comp=Z,94nm,19.6s,baz=143,slow=34						
KBL	Kabul	39.65	359	eP	P	06 34 44.5	+0.9
	9.9nm,1.0s						
LSZ	Lusaka	42.39	253	P	P	06 35 07.4	+1.0
	1.3nm,0.2s,baz=74,slow=8.6,SNR=4.9						
LSZ	Lusaka	42.39	253	eP	P	06 35 07.0	+0.6
	17nm,1.7s						
GEYT	Alibeck	44.45	346	LR	LR	06 53 11.7	
	comp=Z,65nm,18.3s,baz=100,slow=35						
NRN	Naryn	46.82	6	eP	P	06 35 41.5	-0.1
LBTB	Lobatse	46.97	241	eP	P	06 35 43.6	+0.8
	18nm,1.5s						
AAK	Ala-Archa	47.88	4	P	P	06 35 50.2	+0.6
	2.4nm,0.8s,baz=187,slow=8.9,SNR=5.8						
AAK	Ala-Archa	47.88	4	eP	P	06 35 48.6	-1.0
	4.0nm,1.0s						
BOSA	Boshof	48.40	236	P	P	06 35 55.0	+1.1
	5.8nm,1.1s,baz=71,slow=10.0,SNR=5.2						
GNI	Garni	50.92	335	P	P	06 36 13.7	+0.7
	3.9nm,0.4s,baz=239,slow=6.9,SNR=3.9						
GNI				LR	LR	06 57 06.4	
	comp=Z,96nm,19.1s,baz=174,slow=35						
MAKZ	Makanchi	52.94	10	eP	P	06 36 26.7	-1.0
	5.3nm,1.3s						
MK01	Makanchi Array	52.96	10	eP	P	06 36 26.6	-1.3
MK31	Makanchi Array	52.98	10	eP	P	06 36 26.6	-1.5
MK32	Makanchi Array	52.98	10	eP	P	06 36 26.9	-1.1
MKAR	Makanchi Array	52.98	10	P	P	06 36 26.9	-1.1
	1.0nm,0.6s,baz=192,slow=7.7,SNR=16						
MKAR				LR	LR	06 58 29.1	
	comp=Z,74nm,19.6s,baz=200,slow=36						
MKAR	Makanchi Array	52.98	10	eP	P	06 36 26.6	-1.4
	13nm,0.6s						
KBZ	Khabaz	54.66	336	P	P	06 36 39.5	-0.8
	5.6nm,1.1s,baz=120,slow=8.6,SNR=4.5						
ABKAR	Akbulak array	55.07	352	eP	P	06 36 42.7	-0.4
	23nm,0.8s						
BR101	Keskin Array S	56.04	326	eP	P	06 36 50.2	-0.3
BRTR	Keskin Array B	56.04	326	P	P	06 36 50.2	-0.3
	2.7nm,0.8s,baz=142,slow=11,SNR=14						
BRTR				LR	LR	07 00 08.2	
	comp=Z,62nm,18.9s,baz=198,slow=35						
KURK	Kurchatov	56.28	6	eP	P	06 36 50.5	-1.3
	4.8nm,0.8s						
BR231	Keskin MP Arra	56.59	326	eP	P	06 36 52.0	-2.4
BVAR	Borovoye Array	58.12	0	P	P	06 37 04.0	-0.8
	0.9nm,0.7s,baz=145,slow=11,SNR=5.1						
BVAR				LR	LR	07 01 11.0	
	comp=Z,80nm,21.8s,baz=170,slow=35						
ZALV	Zalesovo Beam	60.31	10	P	P	06 37 18.5	-1.5
	3.1nm,0.8s,baz=226,slow=8.1,SNR=11						
ZALV				LR	LR	07 02 49.2	
	comp=Z,32nm,21.5s,baz=256,slow=36						
ZALV	Zalesovo Beam	60.31	10	eP	P	06 37 18.9	-1.0
ZAA1	Zalesovo Array	60.32	10	eP	P	06 37 18.5	-1.5
SONM	Songino Array	61.76	27	LR	LR	07 04 04.2	
	comp=Z,90nm,20.6s,baz=191,slow=36						
MAW	Mawson	62.39	183	LR	LR	07 00 37.7	
	comp=Z,76nm,18.8s,baz=64,slow=32						
AGG	Agios Georgios	62.41	319	eP	P	06 37 33.4	-1.2
	53nm,1.5s						
ASAR	Alice Springs	63.86	114	P	P	06 37 47.3	+2.8
	0.4nm,0.7s,baz=278,slow=6.5,SNR=3.2						
ASAR				LR	LR	07 03 33.6	
	comp=Z,43nm,19.6s,baz=272,slow=34						
AS31	Alice Springs	63.86	114	eP	P	06 37 47.3	+2.7
WRA	Warramunga Arr	63.95	110	P	P	06 37 46.2	+1.1
	1.2nm,1.1s,baz=287,slow=6.2,SNR=4.4						
WR1	Warramunga Arr	63.95	110	eP	P	06 37 46.2	+1.1
	8.5nm,1.2s						
WRAB	Tennant Creek	63.96	109	eP	P	06 37 47.9	+2.6
	6.0nm,1.3s						
WB2	Warramunga Arr	63.96	110	eP	P	06 37 47.3	+2.1
AKASG	Malin Array Be	65.96	333	P	P	06 37 55.8	-1.8
	0.3nm,0.4s,baz=135,slow=5.9,SNR=4.1						
AKBB	Malin Array Si	65.96	333	eP	P	06 37 55.8	-1.8
	9.4nm,1.4s						
DIVS	Divibare	66.68	323	eP	P	06 38 02.3	-0.2
	4.2nm,0.9s						
KSRS	Korea Array	68.47	46	LR	LR	07 10 05.7	
	comp=Z,22nm,18.6s,baz=245,slow=38						
TORD	Torodi Ar. Bea	70.41	286	P	P	06 38 26.4	+0.2
	0.7nm,0.7s,baz=116,slow=5.2,SNR=5.2						
TOA1	Torodi Ar. Sit	70.41	286	eP	P	06 38 26.4	+0.2
GERES	GERESS Array B	72.87	325	LR	LR	07 10 53.9	
	comp=Z,51nm,19.0s,baz=241,slow=36						
DAVOX	Davos/Dischmat	74.19	322	P	P	06 38 48.0	-0.4
	2.6nm,0.9s,baz=137,slow=14,SNR=4.0						
CLL	Collm	74.49	327	eP	P	06 38 51.0	+1.2
	comp=Z,5.0nm,0.9s						
FIA0	FINESS Array S	74.75	340	eP	P	06 38 49.3	-1.7
FIA1	FINESS Array S	74.75	340	eP	P	06 38 50.1	-1.0
FINES	FINESS Array B	74.75	340	P	P	06 38 49.3	-1.7
	comp=Z,1.4nm,0.7s,baz=198,slow=7.3,SNR=3.4						
SENIN	Lac Senin/Sane	75.62	320	eP	P	06 38 55.7	-1.1
	comp=Z,5.6nm,0.8s						
DBIC	Dimbokro	75.81	278	P	P	06 38 58.3	+0.1
	comp=Z,1.5nm,0.6s,baz=101,slow=6.9,SNR=3.8						
DBIC	Dimbokro	75.81	278	eP	P	06 38 58.3	+0.1
	comp=Z,16nm,1.8s						
KOWA	Kowa	76.10	286	P	P	06 38 59.9	+0.1
	comp=Z,2.5nm,0.9s,baz=125,slow=5.7,SNR=6.0						
ES19	SONSECA Array	81.22	311	eP	P	06 39 28.3	+0.6
ESDC	Sonseca Array	81.27	311	P	P	06 39 28.6	+0.7
	comp=Z,1.1nm,0.7s,baz=89,slow=5.0,SNR=8.4						
DZM	Mont Dzumac	93.83	112	LR	LR	07 24 07.7	
	comp=Z,51nm,18.1s,baz=242,slow=36						
HOM	Homer	117.13	22	ePKPdf	PKPdf	06 45 57.0	+0.6
GLI	Glacier Island	117.90	20	ePKPdf	PKPdf	06 45 58.2	+0.3
YKA	Yellowknife Ar	122.83	3	PKP	PKPdf	06 46 07.0	-0.3
	comp=Z,0.4nm,0.6s,baz=350,slow=3.0,SNR=8.4						
YKA	Yellowknife Ar	122.83	3	PKP	PKPdf	06 46 07.0	-0.3
PB01	IPOC Station P	132.53	235	ePKPdf	PKPdf	06 46 25.6	-1.6
NLWA	Neilton Lookou	136.37	14	ePKPdf	PKPdf	06 46 33.4	-0.1
LAO	LASA Array	138.66	356	ePKPdf	PKPdf	06 46 36.1	-1.7
PDAR	Pinedale Array	142.70	360	PKP	PKPdf	06 46 46.0	+0.5
	comp=Z,0.5nm,0.8s,baz=111,slow=3.7,SNR=4.2						
PRAC	Prado	145.12	269	ePKPbc	PKPab	06 46 50.0	+0.3
LRAL	Lakeview Retre	145.16	325	ePKPdf	PKPdf	06 46 49.6	0.0
DUG	Dugway, Tooele	145.17	4	ePKPdf	PKPdf	06 46 50.8	+1.1
OXF	Oxford	145.32	330	ePKPbc	PKPbc	06 46 49.2	-0.4
WAKR	Walker	145.83	13	ePKPdf	PKPab	06 46 52.6	+0.8
P18A	Preston Nutter	145.83	1	ePKPdf	PKPab	06 46 52.5	+0.5
NVAR	Mina Array Bea	146.15	12	PKPbc	PKPab	06 46 53.1	+0.1
	comp=Z,0.3nm,0.3s,baz=294,slow=4.7,SNR=3.9						
SMCO	Snowmass	146.19	356	ePKPdf	PKPab	06 46 53.4	0.0
OSI	Osito Audit: C	149.70	15	ePKPbc	PKPbc	06 47 02.5	+0.5
MNTX	Cornudas Mount	153.42	351	ePKPbc	PKPbc	06 47 11.3	+0.7
TX31	Lajitas Ar. Si	155.40	347	ePKPbc	PKPbc	06 47 14.9	
TXAR	Lajitas Array	155.40	347	PKPbc	PKPbc	06 47 15.4	
	comp=Z,0.4nm,0.8s,baz=108,slow=2.9,SNR=3.6						
TXAR				PKPab	PKPab	06 47 32.0	+0.9
	comp=Z,0.7nm,0.9s,baz=57,slow=3.3,SNR=3.8						

TIR 02 06:41:17.8, 41°.64N×20°.05E, h1km, ML2.6
CSEM 02 06:41:18.3±0.4, 42°.04N×20°.40E, h2km, ML2.6, Error ellipse: s-maj=8.2km s-min=7.1km az=59.0
BEO 02 06:41:20.8±0.5, 42°.13N×20°.54E, h4km±8km, M1.7/5
ISC 02 06:41:17.7±1.2, 42°.04N±0°.03×20°.41E±0°.03, h2km±12km, n14, σ0s.91/24, Northwestern Balkan Peninsula

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PHP	**Peshkopia**	**0.36**	**177**	*i* PG	**Pg**	**06 41 24.6**	**+0.1**
PHP				*i* SG	**Sg**	**06 41 30.0**	**+0.8**
PHP	**Peshkopia**	**0.36**	**177**	*i* Pg	**Pg**	**06 41 24.6**	**+0.1**
PHP				*i* Sg	**Sg**	**06 41 30.0**	**+0.8**
PUK	**Puka**	**0.39**	**270**	*i* PG	**Pg**	**06 41 24.2**	**-0.9**
PUK				*i* SG	**Sg**	**06 41 30.0**	**-0.2**
PUK	**Puka**	**0.39**	**270**	*i* Pg	**Pg**	**06 41 24.2**	**-0.9**
PUK				*i* Sg	**Sg**	**06 41 30.0**	**-0.2**
SKO	**Skopje**	**0.77**	**95**	*e*Pg	**Pn**	**06 41 34.7**	**-0.9**
SKO				*e*Sg	**Sg**	**06 41 42.4**	**0.0**
SKO	**Skopje**	**0.77**	**95**	*e*Pg	**Pn**	**06 41 34.7**	**-0.9**
SKO				*e*Sg	**Sg**	**06 41 42.4**	**0.0**
PDG	**Podgorica**	**0.94**	**295**	*e*Pg	**Pn**	**06 41 38.2**	**+0.3**
PDG				*e*Sg	**Sn**	**06 41 52.6**	**+0.6**
PDG	**Podgorica**	**0.94**	**295**	*e*Pg	**Pn**	**06 41 38.2**	**+0.3**
PDG				*e*Sg	**Sn**	**06 41 52.6**	**+0.6**
SJES	**Sjenica**	**1.26**	**345**	*e*Pg	**Pg**	**06 41 42.8**	**+0.9**
SJES				*e*Sn	**Sn**	**06 42 01.8**	**+1.8**
SELS	**Selova**	**1.29**	**24**	*e*Pg	**Pn**	**06 41 41.6**	**-1.1**
SELS				*e*Sg	**Sb**	**06 41 57.8**	**-1.9**
FNA	**Florina**	**1.45**	**150**	*i* PN	**Pg**	**06 41 46.0**	**+0.5**
FNA	**Florina**	**1.45**	**150**	*i* Pn	**Pg**	**06 41 46.0**	**+0.5**
IVAS	**Ivanjica**	**1.55**	**353**	*e*Sg	**Sg**	**06 42 08.3**	**+0.9**
IVAS	**Ivanjica**	**1.55**	**353**	*e*Sg	**Sg**	**06 42 08.3**	**+0.9**

GUC 02 06:47:58.0±0.4**, 24°.24S×68°.03W, h209**km±16km**, ML3.8, 1C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.08**	**317**	⇓*i*P	Pn	06 48 39.8	+1.6
PB06				*i* S	S	06 49 11.1	+2.0
PB06				IAML		06 49 12.1	
	comp=E,263nm,0.2s						
PB14	**IPOC Station P**	**2.20**	**259**	*e*P	Pn	06 48 41.0	+1.4
PB14				*e*S	S	06 49 14.0	+2.5
PB10	**IPOC Station P**	**2.42**	**287**	*e*P	Pn	06 48 44.4	+2.8
PB10				*e*S	S	06 49 18.6	+3.4
PB10				IAML		06 49 23.2	
	comp=E,307nm,0.3s						
PB09	**IPOC Station P**	**2.67**	**335**	⇓*i*P	Pn	06 48 46.0	+1.4
PB09				IAML		06 49 24.4	
	comp=N,207nm,0.3s						
PB04	**IPOC Station P**	**2.72**	**314**	*e*P	Pn	06 48 47.2	+2.1
PB04				*e*S	S	06 49 24.0	+2.6
PB04				IAML		06 49 25.1	
	comp=N,143nm,0.1s						
PB07	**IPOC Station P**	**3.03**	**325**	⇓*i*P	Pn	06 48 50.3	+1.7
PB07				*i* S	S	06 49 29.3	+1.5
PB07				IAML		06 49 30.4	
	comp=E,122nm,0.2s						
PB02	**IPOC Station P**	**3.37**	**329**	*i* P	Pn	06 48 53.9	+1.2
PB02				*i* S	S	06 49 36.8	+1.7
PB01	**IPOC Station P**	**3.45**	**337**	⇑*i*P	Pn	06 48 54.2	+0.7
PB01				*i* S	S	06 49 37.8	+1.1

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*ISCJB **02** 06:52:13.1±0.5, 49°.06S±0°.08×10°.3W±0°.1, h10km, mb4.5/18, MS3.6/5, Error ellipse: s-maj=13.7km s-min=10.7km az=24.7*
*IDC **02** 06:52:13.2±0.9, 49°.15S×10°.28W, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/36, mbtmp4.2/8, MS3.6/5, Ms1 3.7/5, ms1mx3.3/31, Error ellipse: s-maj=29.6km s-min=21.7km az=135.0*
*NEIC **02** 06:52:14.7±0.3, 49°.20S×10°.25W, h10km, mb4.6/13, Error ellipse: s-maj=10.4km s-min=8.9km az=143.0*
ISC 02 06:52:14.9±0.6**, 49°.1S**±0°.1×**10°.3W**±0°.1**, h10**km**, n53, σ1s.08**/45**, mb4.6**/18**, MS3.8**/5**, Southwestern Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**21.65**	**178**	P	**P**	**06 57 10.5**	**+5.5**
VNA3	**Neumayer Olymp**	**22.22**	**179**	P	**P**	**06 57 11.3**	**+0.1**
SNAA	**Sanae**	**22.91**	**174**	P	**P**	**06 57 18.5**	**-0.1**
SNAA	**Sanae**	**22.91**	**174**	P	**P**	**06 57 18.3**	**-0.3**
	6.9nm,1.1s,baz=339,slow=11,SNR=4.8						
SNAA	**Sanae**	**22.91**	**174**	*e*P	**P**	**06 57 17.4**	**-1.2**
	4.8nm,1.0s						
SUR	**Sutherland**	**28.61**	**66**	LR	LR	07 06 33.8	
	comp=Z,17nm,19.2s,baz=242,slow=30						
BOSA	**Boshof**	**33.97**	**66**	P	**P**	**06 58 58.1**	**-0.6**
	9.1nm,1.3s,baz=187,slow=5.4,SNR=3.1						
BOSA				LR	LR	07 09 40.9	
	comp=Z,188nm,20.5s,baz=228,slow=31						
TRQA	**Tornquist**	**38.35**	**267**	*e*P	**P**	**06 59 36.3**	**+0.3**
	28nm,1.9s						
H10S2	**ASCENSION HYDR**	**40.17**	**353**	T	T	07 42 52.2	
	baz=176,slow=75,SNR=4.4						
H10S3	**ASCENSION HYDR**	**40.18**	**353**	T	T	07 42 50.5	
	baz=176,slow=75,SNR=6.2						
H10S1	**ASCENSION HYDR**	**40.19**	**353**	T	T	07 42 55.3	
	baz=176,slow=75,SNR=6.5						
QSPA	**South Pole Qui**	**41.16**	**180**	*e*P	**P**	**06 59 58.1**	**-1.0**
	3.9nm,1.0s						
PLCA	**Paso Flores**	**42.48**	**258**	P	**P**	**07 00 10.4**	**+0.3**
	1.1nm,0.6s,baz=145,slow=4.8,SNR=5.1						
PLCA	**Paso Flores**	**42.48**	**258**	*e*P	**P**	**07 00 09.9**	**-0.2**
	2.6nm,1.1s						
CPUP	**Villa Florida**	**42.74**	**285**	P	**P**	**07 00 11.9**	**-0.4**
	3.1nm,1.0s,baz=175,slow=5.6,SNR=3.3						
CPUP				LR	LR	07 15 24.5	
	comp=Z,65nm,18.4s,baz=89,slow=32						
CPUP	**Villa Florida**	**42.74**	**285**	*e*P	**P**	**07 00 11.9**	**-0.4**
	3.5nm,1.1s						
LIC	**Lamto**	**55.28**	**6**	*e*P	**P**	**07 01 48.2**	**-0.2**
	31nm,1.0s						
PB11	**IPOC Station P**	**55.34**	**280**	*e*P	**P**	**07 01 48.9**	**-0.3**
	12nm,1.0s						
KIC	**Kosan Boka**	**55.44**	**7**	*e*P	**P**	**07 01 49.4**	**-0.1**
	22nm,1.1s						
TIC	**Toumodi**	**55.70**	**6**	*e*P	**P**	**07 01 51.4**	**0.0**
DBIC	**Dimbokro**	**55.73**	**7**	P	**P**	**07 01 52.0**	**+0.4**
	4.4nm,0.9s,baz=157,slow=8.0,SNR=4.4						
DBIC	**Dimbokro**	**55.73**	**7**	*e*P	**P**	**07 01 52.0**	**+0.4**
	8.6nm,1.1s						
MNMC	**Minye Minye**	**55.76**	**280**	*e*P	**P**	**07 01 52.8**	**+0.5**
	4.7nm,0.8s						
LPAZ	**La Paz**	**56.91**	**284**	P	**P**	**07 02 00.5**	**-0.4**
	1.4nm,0.8s,baz=156,slow=5.8,SNR=5.8						
LPAZ				LR	LR	07 24 14.7	
	comp=Z,81nm,20.9s,baz=70,slow=34						
LPAZ	**La Paz**	**56.91**	**284**	*e*P	**P**	**07 02 00.7**	**-0.2**
	6.3nm,1.3s						
SAML	**Samuel**	**59.46**	**294**	*e*P	**P**	**07 02 18.6**	**+0.6**
	13nm,1.2s						
TOA0	**Torodi Ar. Sit**	**62.87**	**13**	*e*P	**P**	**07 02 41.2**	**+0.2**
	13nm,1.4s						
TORD	**Torodi Ar. Bea**	**62.87**	**13**	P	**P**	**07 02 41.7**	**+0.8**
	2.5nm,0.9s,baz=195,slow=7.4,SNR=12						
TOA1	**Torodi Ar. Sit**	**62.87**	**13**	*e*P	**P**	**07 02 41.7**	**+0.7**
KOWA	**Kowa**	**63.55**	**7**	P	**P**	**07 02 45.8**	**+0.3**
	4.2nm,1.0s,baz=172,slow=5.2,SNR=6.0						
PTGA	**Pitinga**	**64.23**	**302**	*e*P	**P**	**07 02 50.5**	**+0.4**
	9.4nm,1.0s						
ATD	**Arta Tunnel**	**76.30**	**54**	LR	LR	07 36 36.4	
	comp=Z,132nm,18.9s,baz=316,slow=35						
H08N3	**Diego Garcia H**	**79.52**	**88**	T	T	08 31 36.7	
	baz=220,slow=76,SNR=17						
H08N1	**Diego Carcia H**	**79.54**	**88**	T	T	08 31 38.1	
	baz=220,slow=76,SNR=24						
H08N2	**Diego Garcia H**	**79.54**	**88**	T	T	08 31 38.4	
	baz=220,slow=76,SNR=16						
RAYN	**Ar Rayn**	**87.70**	**49**	*e*P	**P**	**07 05 05.1**	**+1.5**
	3.2nm,1.1s						
PDAR	**Pinedale Array**	**126.01**	**296**	PKP	**PKPdf**	**07 11 15.6**	**-1.3**
	0.7nm,0.9s,baz=163,slow=1.5,SNR=4.1						
FXWY	**Fox Creek**	**127.39**	**296**	*e*PKPdf	**PKPdf**	**07 11 19.8**	**+0.3**
NV01	**Mina Array Sit**	**128.77**	**287**	*e*PKPdf	**PKPdf**	**07 11 21.3**	**-1.0**
NVAR	**Mina Array Bea**	**128.77**	**287**	PKP	**PKPdf**	**07 11 21.6**	**-0.6**
	0.3nm,0.4s,baz=119,slow=3.2,SNR=4.4						
LRM	**Limekiln Ridge**	**129.47**	**298**	*e*PKPdf	**PKPdf**	**07 11 22.8**	**-0.6**
BMO	**Blue Mountains**	**131.81**	**294**	*e*PKPdf	**PKPdf**	**07 11 26.8**	**-0.9**
G08A	**Pilot Rock**	**133.03**	**294**	*e*PKPdf	**PKPdf**	**07 11 31.2**	**+1.2**
YKA	**Yellowknife Ar**	**137.99**	**318**	PKP	**PKPdf**	**07 11 37.0**	**-1.4**
	0.9nm,1.0s,baz=97,slow=2.0,SNR=6.2						
SONA0	**Songino Array**	**139.09**	**67**	*e*PKPpre	PKPpre	07 11 34.3	
SONA0				*e*PKPdf	**PKiKP**	**07 11 42.9**	**-0.5**
SONM	**Songino Array**	**139.09**	**67**	PKhKP	PKPpre	07 11 34.3	
	0.4nm,0.8s,baz=270,slow=1.4,SNR=2.3						
SONM				PKP	**PKiKP**	**07 11 42.9**	**-0.5**
	0.6nm,0.8s,baz=225,slow=2.8,SNR=3.8						
INK	**Inuvik**	**146.47**	**326**	PKPbc	**PKPbc**	**07 11 54.7**	**-0.1**
	19nm,1.1s,baz=104,slow=3.1,SNR=27						
INK	**Inuvik**	**146.47**	**326**	*e*PKPdf	**PKPbc**	**07 11 54.3**	**-0.5**
HYT	**Haines Junctio**	**148.41**	**312**	*e*PKPbc	**PKPbc**	**07 12 00.9**	**+0.4**
EGAK	**Eagle**	**149.91**	**320**	*e*PKPbc	**PKPbc**	**07 12 04.1**	**+0.1**
IL1	**Eielson Array**	**152.32**	**321**	*e*PKPbc	**PKPbc**	**07 12 09.0**	**-0.7**
ILAR	**Eielson Array**	**152.32**	**321**	PKPbc	**PKPbc**	**07 12 08.8**	**-0.8**
	3.5nm,1.1s,baz=337,slow=1.4,SNR=12						
COLD	**Coldfoot**	**152.87**	**327**	*e*PKPbc	**PKPbc**	**07 12 10.8**	**0.0**

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*ISCJB **02** 06:57:57.6±0.5, 30°.45N±0°.06×140°.8E±0°.3, h91km, mb3.6/3, Error ellipse: s-maj=31.8km s-min=4.3km az=165.2*
*IDC **02** 06:57:58.3±5.1, 30°.14N×139°.77E, h65km±69km, mb3.4/3, mb1 3.6/5, mb1mx3.1/60, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=179.3km s-min=19.8km az=78.0*
*JMA **02** 06:57:58.3±0.2, 30°.65N×141°.60E, h55km, M4.6*
ISC 02 06:57:59.0±1.0**, 30°.46N**±0°.08×**140°.8E**±0°.3**, h91**km**, n12, σ1s.03**/17**, mb3.8**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.78**	**342**	P	**Pn**	**06 58 42.9**	**+1.2**
JHJ2				*e*S	**Sn**	**06 59 13.7**	**-0.7**
JHJ	**Hachijo jima 2**	**2.80**	**342**	P	**Pn**	**06 58 43.0**	**+1.1**
	17nm,0.3s,baz=233,slow=24,SNR=12						
JHJ				S	**Sn**	**06 59 14.4**	**-0.4**
	79nm,0.3s,baz=88,slow=23,SNR=14						
CBIJ	**Chichi jima**	**3.55**	**160**	P	**Pn**	**06 58 53.0**	**+0.9**
CBIJ				*e*S	**Sn**	**06 59 32.2**	**-0.9**
JCJ	**Chichijima**	**3.55**	**160**	P	**Pn**	**06 58 53.1**	**+1.0**
	32nm,0.3s,baz=3.2,slow=22,SNR=27						
JCJ				S	**Sn**	**06 59 32.6**	**-0.4**
	34nm,0.3s,baz=285,slow=23,SNR=9.0						
BSO1	**Boso 1**	**4.18**	**2**	P	**Pn**	**06 59 00.9**	**+0.9**
BSO3	**Boso 3**	**4.34**	**356**	P	**Pn**	**06 59 02.9**	**+0.5**
BSO4	**Boso 4**	**4.54**	**355**	P	**Pn**	**06 59 05.8**	**+0.5**
BSO4				*e*S	**Sn**	**06 59 56.0**	**-0.7**
JAG	**Ashikaga**	**6.06**	**349**	P	**Pn**	**06 59 25.3**	**-0.8**
JHO	**Hitachi**	**6.14**	**358**	P	**Pn**	**06 59 26.6**	**-0.5**
WRA	**Warramunga Arr**	**50.50**	**188**	P	**P**	**07 06 46.4**	**-1.6**
	0.3nm,0.3s,baz=5.6,slow=7.5,SNR=2.5						
ASAR	**Alice Springs**	**54.23**	**188**	P	**P**	**07 07 14.5**	**-1.0**
	0.3nm,0.9s,baz=359,slow=4.5,SNR=5.2						
FINES	**FINESS Array B**	**74.42**	**333**	P	**P**	**07 09 28.3**	**+1.4**
	2.3nm,1.0s,baz=64,slow=6.3,SNR=2.5						

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*ISCJB **02** 07:03:42.0±0.9, 16°.5S±0°.3×177°.9W±0°.2, h300km, mb3.6/8, Error ellipse: s-maj=49.1km s-min=9.8km az=157.8*
*IDC **02** 07:03:44.3±1.8, 16°.94S×177°.44W, h325km±21km, mb3.4/8, mb1 3.7/9, mb1mx3.4/41, mbtmp4.1/9, Error ellipse: s-maj=64.4km s-min=13.2km az=149.0*
ISC 02 07:03:43.1±1.0**, 16°.6S**±0°.4×**177°.7W**±0°.2**, h300**km**, n11, σ1s.81**/11**, mb3.7**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.35**	**66**	P	**Pn**	**07 05 18.4**	**+1.6**
	3.2nm,0.3s,baz=18,slow=9.0,SNR=5.0						
AFI				S	**S**	**07 06 32.1**	**-0.3**
	1.5nm,0.3s,baz=37,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**39.82**	**240**	P	**P**	**07 10 47.3**	**-0.7**
	0.6nm,0.3s,baz=50,slow=7.9,SNR=5.4						
WRA	**Warramunga Arr**	**45.51**	**258**	P	**P**	**07 11 34.2**	**+0.5**
	0.2nm,0.3s,baz=111,slow=4.6,SNR=1.8						
ASAR	**Alice Springs**	**45.77**	**253**	P	**P**	**07 11 35.9**	**+0.2**
	5.6nm,0.7s,baz=88,slow=8.2,SNR=78						
NVAR	**Mina Array Bea**	**78.05**	**44**	P	**P**	**07 15 07.3**	**-2.0**
	0.9nm,0.6s,baz=217,slow=9.1,SNR=5.3						
SEY	**Seymchan**	**82.67**	**347**	P	**P**	**07 15 34.0**	**+1.1**
	1.1nm,0.6s,baz=163,slow=19,SNR=6.2						
ILAR	**Eielson Array**	**84.49**	**13**	P	**P**	**07 15 41.5**	**-0.6**
	1.3nm,0.9s,baz=236,slow=5.6,SNR=12						
TXAR	**Lajitas Array**	**84.77**	**57**	P	**P**	**07 15 43.4**	**-1.0**
	1.7nm,0.9s,baz=217,slow=6.9,SNR=14						
YKA	**Yellowknife Ar**	**92.90**	**25**	P	**P**	**07 16 20.6**	**-1.2**
	0.4nm,0.7s,baz=240,slow=4.4,SNR=8.0						
BRTR	**Keskin Array B**	**144.31**	**317**	PKP	PKPbc	07 22 42.8	-0.3
	1.5nm,0.9s,baz=108,slow=4.0,SNR=4.9						
DAVOX	**Davos/Dischmat**	**149.26**	**350**	PKPbc	**PKPdf**	**07 22 55.9**	**+3.8**
	1.1nm,0.3s,baz=96,slow=2.1,SNR=4.0						

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*NNC **02** 07:08:40.0±6.8, 44°.15N×83°.50E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=57.3km s-min=24.9km az=125.0*
*SOME **02** 07:08:45.6, 44°.33N×83°.13E, h15km*
ISC 02 07:08:43.9±3.5**, 44°.2N**±0°.1×**83°.3E**±0°.2**, h20**km**, n5, σ0s.64**/7**, 2C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.26**	**252**	*e*P	**Pb**	**07 09 24.0**	**-0.2**
	12nm,0.2s						
KTMS				*e*S	**Sb**	**07 09 51.1**	**-0.7**
	28nm,0.2s						
MK31	**Makanchi Array**	**2.70**	**345**	Pg	**Pb**	**07 09 32.1**	**+0.6**
	0.8nm,0.3s,baz=164,slow=18,SNR=108						
MK31				⇑Lg	Lg	07 10 06.9	
	0.6nm,0.2s,baz=157,slow=26,SNR=11						
MAKZ	**Makanchi**	**2.78**	**341**	⇓Pg	**Pb**	**07 09 32.3**	**-0.6**
	3.2nm,0.9s						
MAKZ				⇓Lg	Lg	07 10 09.4	
	3.1nm,0.6s						
PDGK	**Podgornoye**	**2.90**	**254**	⇑Pg	**Pb**	**07 09 35.5**	**+0.6**
	1.8nm,0.8s						
PDGK				⇓Lg	Lg	07 10 11.5	
	5.1nm,0.4s						
KAPS	**Kapalarasan**	**3.02**	**293**	*e*P	**Pb**	**07 09 37.1**	**+0.1**
	1.1nm,0.2s						
KAPS				*e*S	**Sb**	**07 10 13.8**	**+0.3**
	4.3nm,0.7s						

IDC 02 07:10:13.0±7.0**, 43°.55S**×**16°.20W, h0**km**, mb4.0**/2**, mb1 4.1**/2**, mb1mx3.7**/35**, mbtmp4.0**/2**, MS3.6**/2**, Ms1 3.7**/2**, ms1mx3.0**/32**, Error ellipse: s-maj=224.1km s-min=42.7km az=156.0, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**37.41**	**284**	P	P	07 17 27.6	-0.1
	2.6nm,1.0s,baz=136,slow=10,SNR=3.7						
CPUP				LR	LR	07 31 18.8	
	comp=Z,65nm,18.4s,baz=124,slow=34						
LPAZ	**La Paz**	**51.55**	**285**	LR	LR	07 41 35.7	
	comp=Z,73nm,18.0s,baz=96,slow=36						
TORD	**Torodi Ar. Bea**	**58.75**	**20**	P	P	07 20 12.7	-0.1
	1.4nm,0.9s,baz=201,slow=7.2,SNR=7.3						
ILAR	**Eielson Array**	**145.43**	**325**	PKPbc	PKPdf	07 29 50.9	-0.9
	1.2nm,0.9s,baz=76,slow=3.2,SNR=7.3						

IDC 02 07:15:19.5±3.2**, 44°.25S**×**16°.05W, h0**km**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.7**/30**, mbtmp3.9**/3**, Error ellipse: s-maj=109.7km s-min=32.9km az=149.0, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**37.68**	**284**	P	P	07 22 36.1	-0.4
	2.9nm,0.8s,baz=120,slow=12,SNR=8.5						
PLCA	**Paso Flores**	**39.73**	**255**	P	P	07 22 54.2	+0.6
	0.8nm,0.7s,baz=143,slow=5.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**59.36**	**20**	P	P	07 25 23.8	+0.3
	1.3nm,0.9s,baz=198,slow=5.2,SNR=6.0						
YKA	**Yellowknife Ar**	**131.72**	**322**	PKP	PKPdf	07 34 31.9	-1.3
	0.3nm,0.9s,baz=129,slow=3.0,SNR=3.5						

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*ISCJB **02** 07:15:49.7±0.2, 44°.49N±0°.01×6°.69E±0°.01, h9km±1km, mb3.9/10, MS3.2/2, Error ellipse: s-maj=1.8km s-min=1.6km az=0.6*
*NEIC **02** 07:15:50.8±0.0, 44°.49N×6°.71E, h10km, mb4.5/4, ML4.1(LDG), After LDG.*
NEIC Felt in the Briancon-Nice area.
*GEN **02** 07:15:50.7, 44°.49N×6°.68E, h5km, ML3.7*
*ROM **02** 07:15:50.7±0.3, 44°.48N×6°.76E, h6km±1km, Ml3.6/37, Error ellipse: s-maj=2.7km s-min=1.4km az=61.0*
*CSEM **02** 07:15:50.5±0.1, 44°.49N×6°.69E, h2km, mb4.4/4, ML4.2/45*
*LDG **02** 07:15:50.8±0.1, 44°.49N×6°.71E, h10km, Md3.7/3, Ml4.1/26, Error ellipse: s-maj=2.2km s-min=1.9km az=51.0*
*IDC **02** 07:15:51.8±0.8, 44°.65N×6°.79E, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.7/57, mbtmp3.7/14, ML4.3/6, MS3.3/2, Ms1 3.3/2, ms1mx2.5/68, Error ellipse: s-maj=21.1km s-min=11.4km az=130.0*
*PRU **02** 07:15:51.4, 44°.53N×6°.54E, h1km, M4.5*
*STR **02** 07:15:52.2±0.2, 44°.51N±0°.01×6°.64E±0°.02, h5km, MLv3.8/29*
ISC 02 07:15:51.2±0.9**, 44°.49N**±0°.01×**6°.71E**±0°.01**, h8**km±6km**, n357, σ1s.34**/524**, mb3.9**/10**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.24**	**11**	*e*Pg	**Pg**	**07 15 55.9**	**-0.2**
MBDF				*e*Sg	**Sg**	**07 15 59.5**	**+0.1**
	10µm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**0.24**	**11**	*e*Pg	**Pg**	**07 15 55.9**	**-0.2**
MBDF				*e*Sg	**Sg**	**07 15 59.5**	**+0.1**
MBDF	**Montbardon**	**0.24**	**11**	*e*Pg	**Pg**	**07 15 55.9**	**-0.2**
MBDF				*e*Sg	**Sg**	**07 15 59.5**	**+0.1**
	5µm,0.4s,SNR=1.0						
PZZ	**Stroppo**	**0.29**	**87**	Pg	**Pg**	**07 15 56.1**	**-1.0**
PZZ				Sg	**Sg**	**07 16 00.5**	**-0.6**
	18µm,0.2s						
OG22	**Abries**	**0.37**	**27**	Pg	**Pg**	**07 15 58.5**	**-0.1**
OG22				Sg	**Sg**	**07 16 04.3**	**+0.7**
OG22	**Abries**	**0.37**	**27**	Pg	**Pg**	**07 15 58.5**	**-0.1**
DOI	**San Damiano**	**0.39**	**88**	Pg	**Pg**	**07 15 58.7**	**-0.1**
DOI				Sg	**Sg**	**07 16 04.9**	**+0.9**
	7µm,0.2s						
DOI	**San Damiano**	**0.39**	**88**	Pg	**Pg**	**07 15 58.7**	**-0.1**
DOI				Sg	**Sg**	**07 16 04.9**	**+0.9**
	7µm,0.2s						
RRL	**Rocca Remolon**	**0.43**	**8**	P	**Pg**	**07 15 58.5**	**-1.3**
OG25	**Le Caire**	**0.47**	**255**	Pg	**Pg**	**07 15 59.8**	**-0.5**
OG25	**Le Caire**	**0.47**	**255**	Pg	**Pg**	**07 15 59.9**	**-0.5**
STV	**Sant Anna di V**	**0.51**	**119**	Pg	**Pg**	**07 16 00.0**	**-1.1**
	5µm,0.3s						
STV	**Sant Anna di V**	**0.51**	**119**	Pg	**Pg**	**07 16 00.0**	**-1.1**
	5µm,0.3s						
BHB	**Bricherasio**	**0.53**	**48**	P	**Pg**	**07 16 01.2**	**-0.3**
BHB				S	**Sg**	**07 16 08.2**	**-0.2**
BHB	**Bricherasio**	**0.53**	**48**	Pg	**Pg**	**07 16 01.2**	**-0.3**
BHB				Sg	**Sg**	**07 16 08.3**	**-0.2**
	3µm,0.3s						
BNI	**Bardonecchia**	**0.56**	**358**	*e*Pg	**Pg**	**07 16 01.5**	**-0.7**
BNI				*e*Sg	**Sg**	**07 16 09.9**	**+0.4**
BNI	**Bardonecchia**	**0.56**	**358**	*e*Pg	**Pg**	**07 16 01.5**	**-0.7**
BNI				*e*Sg	**Sg**	**07 16 09.9**	**+0.4**
BNI	**Bardonecchia**	**0.56**	**358**	Pg	**Pg**	**07 16 02.0**	**-0.1**
BNI				Sg	**Sg**	**07 16 10.1**	**+0.6**
	836nm,0.7s						
ENR	**Entracque**	**0.58**	**117**	P	**Pg**	**07 16 02.0**	**-0.4**
ENR				S	**Sg**	**07 16 09.9**	**-0.1**
ENR				Sg	**Sg**	**07 16 10.3**	**+0.3**
	5µm,0.1s						
ENR	**Entracque**	**0.58**	**117**	Pg	**Pg**	**07 16 02.1**	**-0.4**
ENR				Sg	**Sg**	**07 16 10.3**	**+0.3**
	5µm,0.1s						
ORIF	**Oris-en-Rattie**	**0.73**	**306**	*e*Pg	**Pg**	**07 16 04.4**	**-0.9**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**07 16 13.9**	**-0.9**
	3µm,0.4s						
ORIF	**Oris-en-Rattie**	**0.73**	**306**	*e*Pg	**Pg**	**07 16 04.4**	**-0.9**
ORIF				*e*Pn	Pn	07 16 13.9	+6.0
ORIF	**Oris-en-Rattie**	**0.73**	**306**	*e*Pg	**Pg**	**07 16 04.4**	**-0.9**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**07 16 13.9**	**-0.9**
	2µm,0.4s						
RSP	**Reno Superiore**	**0.77**	**31**	P	**Pg**	**07 16 05.8**	**-0.2**
RSP				S	**Sg**	**07 16 16.2**	**+0.1**
RSP				Sg	**Sg**	**07 16 16.6**	**+0.5**
	2µm,0.5s						
RSP	**Reno Superiore**	**0.77**	**31**	Pg	**Pg**	**07 16 05.8**	**-0.2**
RSP				Sg	**Sg**	**07 16 16.6**	**+0.5**
	2µm,0.5s						
SBF	**Sospel**	**0.82**	**140**	*e*Pg	**Pg**	**07 16 06.6**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**07 16 17.2**	**-0.4**
	4µm,0.4s,SNR=1.0						
SBF	**Sospel**	**0.82**	**140**	*e*Pg	**Pg**	**07 16 06.6**	**-0.4**
SBF				*e*Sg	**Sg**	**07 16 17.2**	**-0.4**
SBF	**Sospel**	**0.82**	**140**	*e*Pg	**Pg**	**07 16 06.6**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**07 16 17.2**	**-0.4**
	2µm,0.4s,SNR=1.0						
GDM	**Grand'Maison**	**0.83**	**330**	Pg	**Pg**	**07 16 06.4**	**-0.7**
GDM				Sg	**Sg**	**07 16 17.0**	**-0.9**
GDM	**Grand'Maison**	**0.83**	**330**	Pg	**Pg**	**07 16 06.5**	**-0.7**
GBOS	**Grotte di Boss**	**0.85**	**107**	Pg	**Pg**	**07 16 07.1**	**-0.5**
GBOS				S	**Sg**	**07 16 18.1**	**-0.6**
GBOS	**Grotte di Boss**	**0.85**	**107**	Pg	**Pg**	**07 16 07.1**	**-0.5**
GBOS				Sg	**Sg**	**07 16 18.1**	**-0.6**
	4µm,0.6s						
FRF	**La Foret Royal**	**0.93**	**183**	*e*Pg	**Pg**	**07 16 08.6**	**-0.5**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**07 16 21.1**	**-0.1**
	3µm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**0.93**	**183**	*e*Pg	**Pg**	**07 16 08.6**	**-0.5**
FRF				*e*Sg	**Sg**	**07 16 21.1**	**-0.1**
FRF	**La Foret Royal**	**0.93**	**183**	*e*Pg	**Pg**	**07 16 08.6**	**-0.5**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**07 16 21.1**	**-0.1**
	1µm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*Pg	**Pg**	**07 16 09.7**	**0.0**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**07 16 23.2**	**+0.1**
	2µm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*Pg	**Pg**	**07 16 09.7**	**0.0**
SMRF				*e*Sg	**Sb**	**07 16 23.2**	**+0.1**
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*Pg	**Pg**	**07 16 09.7**	**0.0**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**07 16 23.2**	**+0.1**
	807nm,0.3s,SNR=1.0						
NEGI	**Seborga**	**0.96**	**132**	Pg	**Pg**	**07 16 08.4**	**-1.4**
	4µm,0.5s						
NEGI				S	**Sg**	**07 16 20.6**	**-1.7**
NEGI	**Seborga**	**0.96**	**132**	Pg	**Pg**	**07 16 08.4**	**-1.4**
	4µm,0.5s						
LPG	**La Plagne**	**1.01**	**2**	*e*Pg	**Pg**	**07 16 10.0**	**-0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**07 16 24.1**	**+0.4**
	1µm,0.5s,SNR=1.0						
LPG	**La Plagne**	**1.01**	**2**	*e*Pg	**Pg**	**07 16 10.0**	**-0.6**
LPG				*e*Sg	**Sg**	**07 16 24.1**	**+0.4**
LPG	**La Plagne**	**1.01**	**2**	*e*Pg	**Pg**	**07 16 10.0**	**-0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**07 16 24.1**	**+0.4**
	646nm,0.5s,SNR=1.0						
OG26	**St.-Nazaire-De**	**1.01**	**275**	Pg	**Pg**	**07 16 10.6**	**0.0**
OG26	**St.-Nazaire-De**	**1.01**	**275**	Pg	**Pg**	**07 16 10.7**	**0.0**
LSD	**Lago del Serru**	**1.01**	**17**	Pg	**Pg**	**07 16 10.1**	**-0.7**
LSD				S	**Sg**	**07 16 23.8**	**-0.2**
LSD				Sg	**Sb**	**07 16 25.4**	**+0.6**
LSD	**Lago del Serru**	**1.01**	**17**	Pg	**Pg**	**07 16 10.1**	**-0.7**
LSD				Sg	**Sb**	**07 16 25.4**	**+0.6**
LPL	**La Plagne**	**1.02**	**1**	*e*Pg	**Pg**	**07 16 10.3**	**-0.7**
	SNR=1.0						
LPL				*e*Sg	**Sb**	**07 16 25.2**	**+0.1**
	1µm,0.5s						
LPL	**La Plagne**	**1.02**	**1**	*e*Pg	**Pg**	**07 16 10.3**	**-0.7**
LPL				*e*Sg	**Sb**	**07 16 25.2**	**+0.1**
LPL	**La Plagne**	**1.02**	**1**	*e*Pg	**Pg**	**07 16 10.3**	**-0.7**
	SNR=1.0						
LPL				*e*Sg	**Sb**	**07 16 25.2**	**+0.1**
	610nm,0.5s						
IMI	**Imperia**	**1.03**	**124**	Pg	**Pg**	**07 16 10.5**	**-0.6**
IMI				S	**Sg**	**07 16 24.2**	**-0.3**
IMI				Sg	**Sg**	**07 16 24.5**	**0.0**
	3µm,0.3s						
IMI	**Imperia**	**1.03**	**124**	Pg	**Pg**	**07 16 10.5**	**-0.6**
IMI				Sg	**Sg**	**07 16 24.5**	**0.0**
	3µm,0.3s						
MONC	**Moncucco Torin**	**1.05**	**56**	Pg	**Pg**	**07 16 11.2**	**-0.1**
	3µm,0.5s						
MONC	**Moncucco Torin**	**1.05**	**56**	Pg	**Pg**	**07 16 11.2**	**-0.1**
	3µm,0.5s						
RORO	**Rocca Rossa**	**1.05**	**111**	P	**Pg**	**07 16 09.4**	**-1.9**
RORO				S	**Sg**	**07 16 23.0**	**-1.9**
RORO				Sg	**Sg**	**07 16 23.6**	**-1.3**
	2µm,0.3s						
RORO	**Rocca Rossa**	**1.05**	**111**	Pg	**Pg**	**07 16 09.4**	**-1.9**
RORO				Sg	**Sg**	**07 16 23.6**	**-1.3**
	2µm,0.3s						
LMR	**La Mourre**	**1.17**	**187**	*e*Pn	**Pb**	**07 16 12.9**	**-0.7**
	SNR=1.0						

LMR **La Mourre** 1.17 187 *e*Pg **Pg** 07 16 13.8 +0.2
LMR *e*Sg **Sb** 07 16 28.7 -0.1
2µm,0.2s,SNR=1.0
LMR **La Mourre** 1.17 187 *e*Pn **Pg** 07 16 13.8 +0.2
LMR *e*Sg **Sb** 07 16 28.7 -0.1
LMR **La Mourre** 1.17 187 *e*Pn **Pb** 07 16 12.9 -0.7
SNR=1.0
LMR **La Mourre** 1.17 187 *e*Pg **Pg** 07 16 13.8 +0.2
LMR *e*Sg **Sb** 07 16 28.7 -0.1
848nm,0.2s,SNR=1.0
QLNO **Quiliano** 1.19 98 Pg **Pb** 07 16 12.0 -2.0
QLNO Sg **Sb** 07 16 28.3 -1.2
1µm,0.3s
QLNO **Quiliano** 1.19 98 Pg **Pb** 07 16 12.0 -2.0
QLNO Sg **Sb** 07 16 28.3 -1.2
1µm,0.3s
LEPF **PUYLOUBIER** 1.21 217 Pn **Pb** 07 16 14.2 -0.1
LEPF Sg **Sn** 07 16 31.2 +0.2
LEPF **PUYLOUBIER** 1.21 217 Pn **Pb** 07 16 14.2 -0.1
TRAV **Traversella** 1.26 36 P **Pn** 07 16 12.4 -2.8
TRAV **Traversella** 1.26 36 Pg **Pn** 07 16 13.8 -1.4
TRAV S **Sb** 07 16 29.0 -2.7
TRAV Sg **Sb** 07 16 30.3 -1.4
689nm,0.4s
TRAV **Traversella** 1.26 36 Pg **Pn** 07 16 13.8 -1.4
TRAV Sg **Sb** 07 16 30.3 -1.4
689nm,0.4s
CIRO **Champorcher** 1.27 29 P **Pn** 07 16 14.1 -1.4
CIRO **Champorcher** 1.27 29 Pg **Pn** 07 16 14.6 -0.9
CIRO S **Sb** 07 16 31.1 -1.0
CIRO Sg **Sb** 07 16 31.9 -0.2
793nm,0.7s
CIRO **Champorcher** 1.27 29 Pg **Pn** 07 16 14.6 -0.9
CIRO Sg **Sb** 07 16 31.9 -0.2
793nm,0.7s
MRGE **Morge** 1.30 11 Pg **Pn** 07 16 15.2 -0.7
1µm,0.8s
MRGE **Morge** 1.30 11 Pg **Pn** 07 16 15.2 -0.7
1µm,0.8s
PCP **Piancastagn** 1.32 87 Pg **Pn** 07 16 14.2 -1.8
PCP Sg **Sb** 07 16 32.2 -1.1
1µm,0.5s
PCP **Piancastagn** 1.32 87 Pg **Pn** 07 16 14.2 -1.8
PCP Sg **Sb** 07 16 32.2 -1.1
1µm,0.5s
VIVF **Saint-Julien-l** 1.50 285 *e*P **Pn** 07 16 18.1 -0.3
SNR=1.0
VIVF *e*Sg **Sb** 07 16 38.2 -0.2
590nm,0.4s,SNR=1.0
VIVF **Saint-Julien-l** 1.50 285 *e*Pn **Pn** 07 16 18.1 -0.3
VIVF *e*Sg **Sb** 07 16 38.2 -0.2
VIVF **Saint-Julien-l** 1.50 285 *e*P **Pn** 07 16 18.1 -0.3
SNR=1.0
VIVF *e*Sg **Sb** 07 16 38.2 -0.2
295nm,0.4s,SNR=1.0
EMV **Vieux Emosson** 1.58 5 Pg **Pb** 07 16 20.8 0.0
520nm,0.7s
EMV **Vieux Emosson** 1.58 5 Pg **Pb** 07 16 20.8 0.0
520nm,0.7s
SATI **Passo dei Sala** 1.61 30 Pg **Pn** 07 16 19.6 -0.7
564nm,0.6s
SATI **Passo dei Sala** 1.61 30 Pg **Pn** 07 16 19.6 -0.7
564nm,0.6s
DIX **Grande Dixence** 1.66 17 Pg **Pb** 07 16 21.8 -0.5
649nm,0.8s
DIX **Grande Dixence** 1.66 17 Pg **Pb** 07 16 21.8 -0.5
649nm,0.8s
SSB **Saint Sauveur** 1.73 298 *e*Pn **Pn** 07 16 21.3 -0.3
SSB **Saint Sauveur** 1.73 298 *e*Pn **Pn** 07 16 21.3 -0.3
SSB **Saint Sauveur** 1.73 298 Pg **Pg** 07 16 24.0 -0.4
SSB Sg **Sg** 07 16 46.8 0.0
MMK **Mattmark** 1.79 29 Pg **Pn** 07 16 22.7 0.0
539nm,0.5s
OG01 **Vacheresse** 1.84 360 Pg **Pg** 07 16 27.0 +0.5
OG01 **Vacheresse** 1.84 360 Pg **Pg** 07 16 27.0 +0.5
SENIN **Lac Senin/Sane** 1.92 12 *e*Pn **Pb** 07 16 26.7 +0.1
SENIN **Lac Senin/Sane** 1.92 12 *e*Pn **Pb** 07 16 26.7 +0.1
BOB **Bobbio (Coli)** 1.98 81 Pg **Pb** 07 16 26.8 -0.7
663nm,0.7s
BOB **Bobbio (Coli)** 1.98 81 Pg **Pb** 07 16 26.8 -0.7
663nm,0.7s
VARE **Varese** 2.01 46 Pg **Pn** 07 16 25.0 -0.5
325nm,0.6s
MSSA **Maissana** 2.02 94 Pg **Pn** 07 16 24.9 -0.8
300nm,0.8s
SC2M **Scurtabo** 2.03 91 Pg **Pn** 07 16 25.1 -0.6
514nm,0.7s
GIMEL **St. Georges /** 2.07 352 Pg **Pb** 07 16 27.8 -1.2
508nm,1.1s
GIMEL **St. Georges /** 2.07 352 Pg **Pb** 07 16 27.8 -1.2
508nm,1.1s
LASF **Ste Croix** 2.09 260 *e*P **Pn** 07 16 25.7 -0.8
SNR=1.0
LASF *e*Sn **Sn** 07 16 51.9 -0.8
169nm,0.4s,SNR=1.0
LASF **Ste Croix** 2.09 260 *e*Pn **Pn** 07 16 25.7 -0.8
LASF *e*Sn **Sn** 07 16 51.9 -0.8
LASF **Ste Croix** 2.09 260 *e*P **Pn** 07 16 25.7 -0.8
SNR=1.0
LASF *e*Sn **Sn** 07 16 51.9 -0.8
85nm,0.4s,SNR=1.0
CABF **La Chapelle** 2.16 349 *e*P **Pn** 07 16 28.6 +1.0
SNR=1.0
CABF *e*Sn **Sn** 07 16 55.1 +0.4
708nm,0.6s,SNR=1.0
CABF **La Chapelle** 2.16 349 *e*Pn **Pn** 07 16 28.6 +1.0
CABF *e*Sn **Sn** 07 16 55.1 +0.4
CABF **La Chapelle** 2.16 349 *e*P **Pn** 07 16 28.6 +1.0
SNR=1.0
CABF *e*Sn **Sn** 07 16 55.1 +0.4
354nm,0.6s,SNR=1.0
MUGIO **Muggio** 2.18 48 Pg **Pn** 07 16 27.7 -0.2
171nm,0.5s
PLMA **Palmaria, Port** 2.30 100 Pg **Pn** 07 16 28.8 -0.6
347nm,0.4s
PGF **Pioggiola** 2.56 139 *e*P **Pn** 07 16 32.5 -0.6
SNR=1.0
PGF *e*Sn **Sn** 07 17 02.9 -1.6
266nm,0.3s,SNR=1.0
PGF **Pioggiola** 2.56 139 *e*Pn **Pn** 07 16 32.5 -0.6
PGF *e*Sn **Sn** 07 17 02.9 -1.6
PGF **Pioggiola** 2.56 139 *e*P **Pn** 07 16 32.5 -0.6
SNR=1.0
PGF *e*Sn **Sn** 07 17 02.9 -1.6
133nm,0.3s,SNR=1.0
LBL **Lubilhac** 2.57 288 Pn **Pn** 07 16 33.2 0.0
LBL **Lubilhac** 2.57 288 Pg **Pg** 07 16 39.3 -1.1
LBL **Lubilhac** 2.57 288 Pn **Pn** 07 16 33.2 0.0
LBL **Lubilhac** 2.57 288 Pg **Pg** 07 16 39.4 -1.1
PLDF **La Plantade** 2.63 305 Pn **Pn** 07 16 34.0 -0.1
PLDF **La Plantade** 2.63 305 Pg **Pg** 07 16 40.3 -1.4
PLDF **La Plantade** 2.63 305 Pn **Pn** 07 16 34.0 -0.1
PLDF **La Plantade** 2.63 305 Pg **Pg** 07 16 40.3 -1.4
ERBM **Eremo** 2.66 90 Pg **Pn** 07 16 35.7 +1.3
549nm,1.3s
VLC **Villacollemand** 2.66 96 *e*Pn **Pn** 07 16 34.2 -0.2
VLC **Villacollemand** 2.66 96 *e*Pn **Pn** 07 16 34.2 -0.2
VLC **Villacollemand** 2.66 96 Pg **Pn** 07 16 34.1 -0.3
141nm,0.8s
TUE **Stuetta** 2.72 42 *e*Pn **Pn** 07 16 35.9 +0.5
TUE **Stuetta** 2.72 42 *e*Pn **Pn** 07 16 35.9 +0.5
TUE **Stuetta** 2.72 42 Pg **Pn** 07 16 35.8 +0.5
230nm,0.7s
MAIM **Mastiano** 2.78 101 Pg **Pn** 07 16 35.7 -0.3
122nm,0.5s
BDI **Bagni Di Lucca** 2.83 97 Pg **Pn** 07 16 36.3 -0.4
209nm,0.8s
LOMF **Lomont** 2.86 2 Pn **Pn** 07 16 37.7 +0.5
LOMF **Lomont** 2.86 2 Pg **Pg** 07 16 45.3 -0.7
LOMF **Lomont** 2.86 2 Pn **Pn** 07 16 37.7 +0.5
LOMF **Lomont** 2.86 2 Pg **Pg** 07 16 45.3 -0.7
PYM **Petit Puy Mans** 2.91 297 Pn **Pn** 07 16 37.6 -0.2
PYM **Petit Puy Mans** 2.91 297 Pn **Pn** 07 16 37.6 -0.2
SALO **Salr** 2.93 66 Pg **Pn** 07 16 38.2 +0.1
SMF **Signal de Mont** 2.95 318 *e*P **Pn** 07 16 38.6 +0.3
SNR=1.0
SMF *e*Sg **Sg** 07 17 24.7 -1.2
276nm,0.6s
SMF **Signal de Mont** 2.95 318 *e*Pn **Pn** 07 16 38.6 +0.3
SMF *e*Sn **Sg** 07 17 24.7 -1.2
SMF **Signal de Mont** 2.95 318 *e*P **Pn** 07 16 38.6 +0.3
SNR=1.0
SMF *e*Sg **Sg** 07 17 24.7 -1.2
138nm,0.6s
AGO **Saint Agoulin** 2.97 303 Pn **Pn** 07 16 37.9 -0.7
AGO **Saint Agoulin** 2.97 303 Pn **Pn** 07 16 38.0 -0.7
BERNI **Berninapass** 3.02 49 Pg **Pn** 07 16 39.9 +0.3
MAGA **Magasa** 3.06 64 Pg **Pn** 07 16 39.1 -0.9
398nm,0.4s
MABI **Malga Bissina** 3.11 58 Pg **Pn** 07 16 40.6 -0.1
87nm,0.5s
CRMI **Carmignano** 3.15 101 Pg **Pn** 07 16 41.1 0.0
73nm,0.4s
DAVOX **Davos/Dischmat** 3.19 43 Pn **Pn** 07 16 43.0 +1.1
5.2nm,0.3s,baz=265,slow=7.0,SNR=30
DAVOX Lg Lg 07 17 27.7
13nm,0.3s,baz=331,slow=22,SNR=6.6
DAVOX **Davos/Dischmat** 3.19 43 *e*Pn **Pn** 07 16 43.0 +1.1
DAVOX **Davos/Dischmat** 3.19 43 Pg **Pn** 07 16 42.8 +0.9
137nm,0.8s
FUORN **Ofenpass-Fuorn** 3.28 48 *e*Pn **Pn** 07 16 44.2 +1.0
FUORN **Ofenpass-Fuorn** 3.28 48 *e*Pn **Pn** 07 16 44.2 +1.0
AVF **Avril sur Loir** 3.29 316 *e*P **Pn** 07 16 42.9 -0.1
SNR=1.0
AVF *e*Sg **Sg** 07 17 35.4 -1.4
267nm,0.6s
AVF **Avril sur Loir** 3.29 316 *e*Pn **Pn** 07 16 42.9 -0.1
AVF *e*Sg **Sg** 07 17 35.4 -1.4
AVF **Avril sur Loir** 3.29 316 *e*P **Pn** 07 16 42.9 -0.1
SNR=1.0
AVF *e*Sg **Sg** 07 17 35.4 -1.4
134nm,0.6s
HINF **Hinteralfeld** 3.33 2 *e*P **Pn** 07 16 43.8 +0.2
SNR=1.0
HINF **Hinteralfeld** 3.33 2 *e*Pn **Pn** 07 16 43.8 +0.2
HINF **Hinteralfeld** 3.33 2 *e*P **Pn** 07 16 43.8 +0.2
SNR=1.0
CAF **Calvac** 3.34 279 *e*P **Pn** 07 16 43.8 +0.1
SNR=1.0
CAF **Calvac** 3.34 279 *e*Pn **Pn** 07 16 43.8 +0.1
CAF **Calvac** 3.34 279 *e*P **Pn** 07 16 43.8 +0.1
SNR=1.0
MOF **Molkenrain** 3.37 5 Pn **Pn** 07 16 44.2 -0.1
MOF **Molkenrain** 3.37 5 Pn **Pn** 07 16 44.2 -0.1
SSF **Saint Saulge** 3.41 320 *e*P **Pn** 07 16 45.3 +0.6
SNR=1.0
SSF *e*Sg **Sg** 07 17 39.2 -1.5
185nm,0.6s
SSF **Saint Saulge** 3.41 320 *e*Pn **Pn** 07 16 45.3 +0.6
SSF *e*Sg **Sg** 07 17 39.2 -1.5
SSF **Saint Saulge** 3.41 320 *e*P **Pn** 07 16 45.3 +0.6
SNR=1.0
SSF *e*Sg **Sg** 07 17 39.2 -1.5
93nm,0.6s
BGF **Bois d'Agland** 3.41 309 *e*P **Pn** 07 16 45.2 +0.5
SNR=1.0
BGF *e*Sg **Sb** 07 17 36.1 +2.6
583nm,0.7s
BGF **Bois d'Agland** 3.41 309 *e*Pn **Pn** 07 16 45.2 +0.5
BGF *e*Sg **Sb** 07 17 36.1 +2.6
BGF **Bois d'Agland** 3.41 309 *e*P **Pn** 07 16 45.2 +0.5
SNR=1.0
BGF *e*Sg **Sb** 07 17 36.1 +2.6
291nm,0.7s
LOR **Lormes** 3.42 325 *e*P **Pn** 07 16 45.5 +0.7
baz=146,SNR=1.0
LOR *e*Sn **Sn** 07 17 21.4 -4.0
104nm,0.4s,SNR=1.0
LOR *e*Sg **Sg** 07 17 37.7 -3.2
149nm,0.5s
LOR **Lormes** 3.42 325 *e*Pn **Pn** 07 16 45.5 +0.7
LOR *e*Sn **Sn** 07 17 21.4 -4.0
LOR *e*Sg **Sg** 07 17 37.7 -3.2
LOR **Lormes** 3.42 325 *e*P **Pn** 07 16 45.5 +0.7
SNR=1.0
LOR *e*Sn **Sn** 07 17 21.4 -4.0
52nm,0.4s,SNR=1.0
LOR *e*Sg **Sg** 07 17 37.7 -3.2
75nm,0.5s
SJAF **Saint Jean de** 3.43 236 Pn **Pn** 07 16 43.3 -1.7
SJAF **Saint Jean de** 3.43 236 Pn **Pn** 07 16 43.3 -1.7
MTLF **Montolieu** 3.44 252 *e*P **Pn** 07 16 44.8 -0.3
SNR=1.0
MTLF *e*Sn **Sn** 07 17 21.0 -5.0
85nm,0.5s,SNR=1.0
MTLF *e*Sg **Sg** 07 17 40.4 -1.3
81nm,0.6s,SNR=1.0
MTLF **Montolieu** 3.44 252 *e*Pn **Pn** 07 16 44.8 -0.3
MTLF *e*Sn **Sn** 07 17 21.0 -5.0
MTLF *e*Sg **Sg** 07 17 40.4 -1.3
MTLF **Montolieu** 3.44 252 *e*P **Pn** 07 16 44.8 -0.3
SNR=1.0
MTLF *e*Sg **Sg** 07 17 40.4 -1.3
40nm,0.6s,SNR=1.0
FELD **Feldberg im Sc** 3.50 14 Pn **Pn** 07 16 45.8 -0.3
FELD **Feldberg im Sc** 3.50 14 Pn **Pn** 07 16 45.8 -0.3
HAU **Haudompre** 3.52 356 *e*P **Pn** 07 16 46.4 +0.1
SNR=1.0
HAU *e*Sn **Sn** 07 17 28.7 +0.6
178nm,0.4s,SNR=1.0
HAU **Haudompre** 3.52 356 *e*Pn **Pn** 07 16 46.4 +0.1
HAU *e*Sn **Sn** 07 17 28.7 +0.6
HAU **Haudompre** 3.52 356 *e*P **Pn** 07 16 46.4 +0.1
SNR=1.0
HAU *e*Sn **Sn** 07 17 28.7 +0.6
89nm,0.4s,SNR=1.0
DAVA **Damuels** 3.57 37 Pn **Pn** 07 16 48.7 +1.7
2.3nm,0.2s,SNR=16
DAVA Sn **Sn** 07 17 31.2 +1.8
153nm,0.5s
DAVA **Damuels** 3.57 37 *e*Pn **Pn** 07 16 48.7 +1.7
2.3nm,0.2s,SNR=16
DAVA *e*Sn **Sn** 07 17 31.2 +1.8
153nm,0.5s
TCF **Toulx Ste Croi** 3.64 301 *e*P **Pn** 07 16 48.4 +0.5
SNR=1.0
TCF *e*Sg **Sg** 07 17 47.2 -0.9
152nm,0.7s,SNR=1.0
TCF **Toulx Ste Croi** 3.64 301 *e*Pn **Pn** 07 16 48.4 +0.5
TCF *e*Sg **Sg** 07 17 47.2 -0.9
TCF **Toulx Ste Croi** 3.64 301 *e*P **Pn** 07 16 48.4 +0.5
SNR=1.0
TCF *e*Sg **Sg** 07 17 47.2 -0.9
76nm,0.7s,SNR=1.0
THEF **They Montfort** 3.77 353 Pn **Pn** 07 16 49.8 +0.2
THEF **They Montfort** 3.77 353 Pn **Pn** 07 16 49.8 +0.2
RJF **Les Rejaudoux** 3.78 284 *e*P **Pn** 07 16 50.1 +0.4
SNR=1.0
RJF **Les Rejaudoux** 3.78 284 *e*Pn **Pn** 07 16 50.1 +0.4
RJF **Les Rejaudoux** 3.78 284 *e*P **Pn** 07 16 50.1 +0.4
SNR=1.0
CARF **Carcanieres** 3.78 244 Pn **Pn** 07 16 48.1 -1.8
CARF **Carcanieres** 3.78 244 Pn **Pn** 07 16 48.1 -1.8
FETA **Feichten** 3.79 47 Pn **Pn** 07 16 52.2 +2.2
3.8nm,0.3s,SNR=16
FETA Sn **Sn** 07 17 35.6 +0.8
18nm,0.5s
FETA **Feichten** 3.79 47 *i* Pn **Pn** 07 16 52.2 +2.2
3.8nm,0.3s,SNR=16
FETA Sn **Sn** 07 17 35.6 +0.8
18nm,0.5s
SPAK **Spaichingen-Ko** 3.89 21 Pn **Pn** 07 16 50.6 -0.7
SPAK **Spaichingen-Ko** 3.89 21 Pn **Pn** 07 16 50.7 -0.7
SFTF **Sexfontaines** 3.89 343 *e*P **Pn** 07 16 53.2 +1.9
baz=148
SFTF **Sexfontaines** 3.89 343 *e*Pn **Pn** 07 16 53.2 +1.9
SFTF **Sexfontaines** 3.89 343 *e*P **Pn** 07 16 53.2 +1.9
CDF **Champ du Feu** 3.94 6 *e*P **Pn** 07 16 52.1 0.0
SNR=1.0
CDF **Champ du Feu** 3.94 6 *e*Pn **Pn** 07 16 52.1 0.0
CDF **Champ du Feu** 3.94 6 *e*P **Pn** 07 16 52.1 0.0
SNR=1.0
HYF **Humbligny** 3.97 316 *e*P **Pn** 07 16 53.0 +0.6
HYF *e*Sg **Sg** 07 17 57.9 -0.8
HYF **Humbligny** 3.97 316 *e*Pn **Pn** 07 16 53.0 +0.6
HYF *e*Sg **Sg** 07 17 57.9 -0.8
HYF **Humbligny** 3.97 316 *e*P **Pn** 07 16 53.0 +0.6
HYF *e*Sg **Sg** 07 17 57.9 -0.8
BFO **Black Forest** 4.00 16 *e*Pn **Pn** 07 16 52.2 -0.6
BFO *e*Sn **Sn** 07 17 40.3 +0.4
BFO **Black Forest** 4.00 16 *e*Pn **Pn** 07 16 52.2 -0.6
BFO *e*Sn **Sn** 07 17 40.3 +0.4
RETA **Reutte** 4.12 42 Pn **Pn** 07 16 55.3 +0.8
3.5nm,0.2s,SNR=8.7
RETA Sn **Sn** 07 17 44.2 +1.3
20nm,0.4s
RETA **Reutte** 4.12 42 *e*Pn **Pn** 07 16 55.3 +0.8
3.5nm,0.2s,SNR=8.7
RETA Sn **Sn** 07 17 44.2 +1.3
20nm,0.4s
PAGF **Fort de Pagny** 4.12 351 *e*P **Pn** 07 16 55.2 +0.8
baz=169
PAGF **Fort de Pagny** 4.12 351 *e*Pn **Pn** 07 16 55.2 +0.8
PAGF **Fort de Pagny** 4.12 351 *e*P **Pn** 07 16 55.2 +0.8
MEZF **Maizieres J'vi** 4.17 345 *e*P **Pn** 07 16 57.6 +2.5
baz=165,SNR=1.0
MEZF **Maizieres J'vi** 4.17 345 *e*Pn **Pn** 07 16 57.6 +2.5
MEZF **Maizieres J'vi** 4.17 345 *e*P **Pn** 07 16 57.6 +2.5
SNR=1.0
MOTA **Moosalm** 4.19 46 Pn **Pn** 07 16 56.9 +1.4
2.1nm,0.2s,SNR=21
MOTA Sn **Sn** 07 17 45.8 +1.1
21nm,0.3s
MOTA **Moosalm** 4.19 46 *i* Pn **Pn** 07 16 56.9 +1.4
2.1nm,0.2s,SNR=21
MOTA *e*Sn **Sn** 07 17 45.8 +1.1
21nm,0.3s
LFF **La Frestale** 4.28 278 *e*P **Pn** 07 16 57.1 +0.5
LFF *e*Sg **Sg** 07 18 09.1 +0.6
174nm,0.7s,SNR=1.0
LFF **La Frestale** 4.28 278 *e*Pn **Pn** 07 16 57.1 +0.5
LFF *e*Lg Lg 07 18 09.1
LFF **La Frestale** 4.28 278 *e*P **Pn** 07 16 57.1 +0.5
LFF *e*Sg **Sg** 07 18 09.1 +0.6
87nm,0.7s,SNR=1.0
WTTA **Wattenberg** 4.42 49 Pn **Pn** 07 17 00.8 +2.1
WTTA Sn **Sn** 07 17 51.0 +0.6
19nm,0.5s
WTTA **Wattenberg** 4.42 49 *i* Pn **Pn** 07 17 00.6 +1.9
1.6nm,0.2s,SNR=14
WTTA Sn **Sn** 07 17 51.0 +0.6
19nm,0.5s
WATA **Walderalm** 4.43 48 Pn **Pn** 07 17 01.8 +2.9
5.3nm,0.2s,SNR=9.3
WATA Sn **Sn** 07 17 54.9 +4.2
29nm,0.6s
WATA **Walderalm** 4.43 48 *e*Pn **Pn** 07 17 01.8 +2.9
5.3nm,0.2s,SNR=9.3
WATA *e*Sn **Sn** 07 17 54.9 +4.2
29nm,0.6s
MELF **Melles** 4.61 252 Pn **Pn** 07 17 00.8 -0.4
MELF **Melles** 4.61 252 Pn **Pn** 07 17 00.9 -0.4
ABTA **Abfaltersbach** 4.66 59 Pn **Pn** 07 17 03.7 +1.8
22nm,0.5s,SNR=13
ABTA Sn **Sn** 07 17 57.6 +1.5
33nm,0.5s
ABTA **Abfaltersbach** 4.66 59 *e*Pn **Pn** 07 17 03.7 +1.8
22nm,0.5s,SNR=13
ABTA Sn **Sn** 07 17 57.6 +1.5
33nm,0.5s
EPF **Esparros** 4.84 255 *e*Pn **Pn** 07 17 03.4 -0.9
SNR=1.0
EPF *e*Sg **Sg** 07 18 26.2 -0.3
43nm,0.4s,SNR=1.0
EPF **Esparros** 4.84 255 *e*Pn **Pn** 07 17 03.4 -0.9
EPF *e*Lg Lg 07 18 26.2
EPF **Esparros** 4.84 255 *e*Pn **Pn** 07 17 03.4 -0.9
SNR=1.0
EPF *e*Sg **Sg** 07 18 26.2 -0.3
21nm,0.4s,SNR=1.0
LABF **Labassere** 5.01 256 Pn **Pn** 07 17 05.8 -1.0
LABF **Labassere** 5.01 256 Pn **Pn** 07 17 05.8 -1.0
VIEF **Viey** 5.11 254 Pn **Pn** 07 17 07.9 -0.2
VIEF **Viey** 5.11 254 Pn **Pn** 07 17 07.9 -0.2
TRI **Trieste** 5.14 74 *e*Pn **Pn** 07 17 09.7 +1.2
TRI *e*Sn **Sn** 07 18 06.0 -2.0
TRI **Trieste** 5.14 74 *e*Pn **Pn** 07 17 09.7 +1.2
TRI *e*Sn **Sn** 07 18 06.0 -2.0
MFF **Saint Martin d** 5.25 296 *e*P **Pn** 07 17 10.6 +0.6
SNR=1.0
MFF **Saint Martin d** 5.25 296 *e*Pn **Pn** 07 17 10.6 +0.6
MFF **Saint Martin d** 5.25 296 *e*P **Pn** 07 17 10.6 +0.6
SNR=1.0
KBA **Koelnbreinsper** 5.32 59 Pn **Pn** 07 17 12.3 +1.3
1.5nm,0.3s,SNR=8.8
KBA Sn **Sn** 07 18 15.2 +2.7
7.0nm,0.5s
KBA **Koelnbreinsper** 5.32 59 *e*Pn **Pn** 07 17 12.3 +1.3
1.5nm,0.3s,SNR=8.8
KBA *e*Sn **Sn** 07 18 15.2 +2.7
7.0nm,0.5s
MYKA **Terra Mystica** 5.32 64 Pn **Pn** 07 17 14.3 +3.4
4.6nm,0.3s
MYKA Sn **Sn** 07 18 13.6 +1.2
5.9nm,0.4s
MYKA **Terra Mystica** 5.32 64 *e*Pn **Pn** 07 17 14.3 +3.4
4.6nm,0.3s
MYKA Sn **Sn** 07 18 13.6 +1.2
5.9nm,0.4s
AQU **L'Aquila** 5.32 111 *e*Pn **Pn** 07 17 15.2 +4.2
AQU **L'Aquila** 5.32 111 *e*Pn **Pn** 07 17 15.2 +4.2
VSL **Villasalto** 5.37 157 *e*Pn **Pn** 07 17 12.6 +0.9
VSL *e*Sn **Sn** 07 18 13.7 0.0
VSL **Villasalto** 5.37 157 *e*Pn **Pn** 07 17 12.6 +0.9
VSL *e*Sn **Sn** 07 18 13.7 0.0
GIVF **Givet** 5.76 348 *e*P **Pn** 07 17 18.3 +1.4
SNR=1.0
GIVF **Givet** 5.76 348 *e*Pn **Pn** 07 17 18.3 +1.4
GIVF **Givet** 5.76 348 *e*P **Pn** 07 17 18.3 +1.4
SNR=1.0
BAIF **Baives** 5.82 344 *e*P **Pn** 07 17 19.1 +1.3
SNR=1.0
BAIF *e*Sn **Sn** 07 18 24.3 -0.4
31nm,0.6s,SNR=1.0
BAIF **Baives** 5.82 344 *e*Pn **Pn** 07 17 19.1 +1.3
BAIF *e*Sn **Sn** 07 18 24.3 -0.4
BAIF **Baives** 5.82 344 *e*P **Pn** 07 17 19.1 +1.3
SNR=1.0
BAIF *e*Sn **Sn** 07 18 24.3 -0.4
16nm,0.6s,SNR=1.0
NVLJ **Novalja** 5.84 86 *e*Pn **Pn** 07 17 17.6 -0.5
NVLJ Sn **Sn** 07 18 20.9 -4.1
NVLJ **Novalja** 5.84 86 *e*Pn **Pn** 07 17 17.5 -0.5
OBKA **Obir** 5.87 67 Pn **Pn** 07 17 18.7 +0.2
1.3nm,0.3s,SNR=8.1
OBKA Sn **Sn** 07 18 26.3 +0.3
9.0nm,0.3s
OBKA **Obir** 5.87 67 *e*Pn **Pn** 07 17 18.7 +0.2
1.3nm,0.3s,SNR=8.1
OBKA Sn **Sn** 07 18 26.3 +0.3
9.0nm,0.3s
SJPF **Ste Jean** 5.90 259 *e*P **Pn** 07 17 18.2 -0.7
SNR=1.0
SJPF **Ste Jean** 5.90 259 *e*Pn **Pn** 07 17 18.2 -0.7
SJPF **Ste Jean** 5.90 259 *e*P **Pn** 07 17 18.2 -0.7
SNR=1.0
GRFO **Grafenberg** 6.04 29 *e*Pg **Pg** 07 17 46.1 -0.8
GRFO **Grafenberg** 6.04 29 *e*Pg **Pg** 07 17 46.2 -0.8
MOA **Molln** 6.23 55 Pn **Pn** 07 17 25.0 +1.5
3.6nm,0.3s,SNR=6.3
MOA Sn **Sn** 07 18 34.8 0.0
8.9nm,0.4s
MOA **Molln** 6.23 55 *e*Pn **Pn** 07 17 25.0 +1.5
3.6nm,0.3s,SNR=6.3
MOA Sn **Sn** 07 18 34.8 0.0
8.9nm,0.4s
SOKA **Soboth** 6.24 67 Pn **Pn** 07 17 25.6 +2.0
4.7nm,0.4s,SNR=7.5
SOKA Sn **Sn** 07 18 35.3 +0.2
4.1nm,0.4s
SOKA **Soboth** 6.24 67 *e*Pn **Pn** 07 17 25.6 +2.0
4.7nm,0.4s,SNR=7.5
SOKA *e*Sn **Sn** 07 18 35.3 +0.2
4.1nm,0.4s
LDF **La Druitiere** 6.25 313 *e*P **Pn** 07 17 24.3 +0.7
LDF *e*Sg **Sg** 07 19 09.9 -1.7
67nm,0.7s
LDF **La Druitiere** 6.25 313 *e*Pn **Pn** 07 17 24.3 +0.7
LDF *e*Sg **Sg** 07 19 09.9 -1.7
LDF **La Druitiere** 6.25 313 *e*P **Pn** 07 17 24.3 +0.7
LDF *e*Sg **Sg** 07 19 09.9 -1.7
33nm,0.7s
HGN **Heimansgroeve** 6.30 356 *e*Pn **Pn** 07 17 25.5 +1.2
23nm,0.6s
HGN *e*Sn **Sn** 07 18 36.7 +0.3
OZLJ **Ozalj** 6.31 77 *e*Pn **Pn** 07 17 24.8 +0.3
OZLJ Sn **Sn** 07 18 34.1 -2.5
OZLJ **Ozalj** 6.31 77 *e*Pn **Pn** 07 17 24.7 +0.3
GEA0 **GERESS Array S** 6.48 45 *e*Pn **Pn** 07 17 27.0 0.0
GEA0 *e*Sn **Sn** 07 18 40.2 -0.9
GEA0 **GERESS Array S** 6.48 45 *e*Pn **Pn** 07 17 27.0 0.0
GEA0 *e*Sn **Sn** 07 18 40.2 -0.9
GEC2 **GERESS Array S** 6.49 45 *e*Pn **Pn** 07 17 27.1 +0.1
GEC2 *e*Sn **Sn** 07 18 39.9 -1.4
GEC2 **GERESS Array S** 6.49 45 *e*Pn **Pn** 07 17 27.1 +0.1
GEC2 *e*Sn **Sn** 07 18 39.9 -1.4

GERES	GERESS Array B	6.49	45	Pn	Pn	07 17 27.1	+0.1
	12nm,0.3s,baz=227,slow=12,SNR=95						
GERES				Sn	Sn	07 18 39.9	-1.4
	5.9nm,0.3s,baz=235,slow=22,SNR=12						
GRR	Gorron	6.52	309	eP	Pn	07 17 27.9	+0.6
	SNR=1.0						
GRR				eSg	Sg	07 19 19.7	-0.7
	66nm,0.8s						
GRR	Gorron	6.52	309	ePn	Pn	07 17 27.9	+0.6
GRR				eLg	Lg	07 19 19.7	
GRR	Gorron	6.52	309	eP	Pn	07 17 27.9	+0.6
	SNR=1.0						
GRR				eSg	Sg	07 19 19.7	-0.7
	33nm,0.8s						
FLN	La Foliniere	6.54	313	eP	Pn	07 17 28.1	+0.5
	baz=137,SNR=1.0						
FLN	La Foliniere	6.54	313	ePn	Pn	07 17 28.1	+0.5
FLN	La Foliniere	6.54	313	eP	Pn	07 17 28.1	+0.5
	SNR=1.0						
KHC	Kasperske Hory	6.62	43	ePN	Pn	07 17 29.3	+0.5
KHC				ex	x	07 17 41.0	
KHC				ex	x	07 18 09.5	
KHC				eSN	Sn	07 18 43.7	-0.6
KHC				eSG	Sg	07 19 23.0	-0.5
KHC	Kasperske Hory	6.62	43	ePn	Pn	07 17 29.2	+0.5
KHC	Kasperske Hory	6.62	43	ePn	Pn	07 17 29.2	+0.5
KHC				Sn	Sn	07 18 43.7	-0.6
ARSA	Arzberg	6.75	63	Pn	Pn	07 17 30.2	-0.3
	1.0nm,0.2s,SNR=10						
ARSA	Arzberg	6.75	63	i Pn	Pn	07 17 30.2	-0.3
	1.0nm,0.2s,SNR=10						
CONA	Conrad Observa	7.22	58	Pn	Pn	07 17 39.9	+2.8
	6.7nm,0.5s						
CONA	Conrad Observa	7.22	58	ePn	Pn	07 17 39.9	+2.8
	6.7nm,0.5s						
CONA				Sn	Sn	07 18 57.3	-2.0
	6.4nm,0.4s						
SGMF	Saint Gilles	7.43	304	eP	Pn	07 17 39.7	-0.1
	SNR=1.0						
SGMF				eSg	Sg	07 19 44.6	-5.0
	20nm,0.6s						
SGMF	Saint Gilles	7.43	304	ePn	Pn	07 17 39.7	-0.1
SGMF				eSg	Sg	07 19 44.6	-5.0
SGMF	Saint Gilles	7.43	304	eP	Pn	07 17 39.7	-0.1
	SNR=1.0						
JRS	Jersey	7.65	311	eP	Pn	07 17 42.4	-0.4
QUIF	Quistinic	7.66	300	eP	Pn	07 17 42.7	-0.3
	SNR=1.0						
QUIF	Quistinic	7.66	300	ePn	Pn	07 17 42.7	-0.3
QUIF	Quistinic	7.66	300	eP	Pn	07 17 42.7	-0.3
	SNR=1.0						
GOPC	GO Pecny, Ondr	7.72	43	ePN	Pn	07 17 44.6	+0.7
GOPC				eSN	Sn	07 19 10.1	-1.4
GOPC	GO Pecny, Ondr	7.72	43	Pn	Pn	07 17 44.6	+0.7
GOPC				Sn	Sn	07 19 10.1	-1.4
ROSF	Rostrenen	7.89	303	eP	Pn	07 17 46.3	+0.1
	SNR=1.0						
ROSF	Rostrenen	7.89	303	ePn	Pn	07 17 46.3	+0.1
ROSF	Rostrenen	7.89	303	eP	Pn	07 17 46.3	+0.1
	SNR=1.0						
CLL	Collm	8.02	30	ePg	Pg	07 18 22.0	-2.7
CLL				e		07 19 44.0	
CLL				eSg	Sg	07 20 12.0	+3.5
	comp=Z,19nm,0.8s						
BRG	Berggiesshubel	8.04	35	PN	Pn	07 17 49.3	+1.1
BRG				PG	Pg	07 18 23.2	-1.8
BRG				SG	Sg	07 20 06.2	-2.7
	comp=Z,18nm,1.0s						
STON	Ston	8.13	98	ePn	Pn	07 17 46.7	-2.8
VRAC	Vranov	8.31	51	Pn	Pn	07 17 48.8	-3.1
	comp=Z,1.3nm,0.3s,baz=198,slow=14,SNR=3.5						
VRAC				Sn	Sn	07 19 22.6	-3.3
	comp=Z,0.4nm,0.3s,baz=150,slow=20,SNR=3.1						
VRAC	Vranov	8.31	51	eSn	Sn	07 19 26.0	+0.1
UPC	Upice	8.71	43	ePN	Pn	07 17 57.5	+0.1
UPC	Upice	8.71	43	Pn	Pn	07 17 57.5	+0.1
DPC	Dobruska-Polom	8.76	45	ePN	Pn	07 17 58.6	+0.4
DPC				eSN	Sn	07 19 34.1	-3.0
DPC	Dobruska-Polom	8.76	45	Pn	Pn	07 17 58.6	+0.4
KEST	Kesra	8.98	166	Pn	Pn	07 18 06.2	+5.0
	comp=Z,0.4nm,0.3s,baz=346,slow=0.6,SNR=4.6						
KEST				Sn	Sn	07 19 41.1	-1.4
	comp=Z,0.2nm,0.3s,baz=288,slow=6.4,SNR=3.1						
KEST	Kesra	8.98	166	ePn	Pn	07 18 05.6	+4.3
MORC	Moravsky Berou	9.08	51	ePn	Pn	07 18 00.6	-1.9
MORC	Moravsky Berou	9.08	51	ePn	Pn	07 18 00.6	-1.9
MORC				eSn	Sn	07 19 46.0	+1.1
VYHS	Vyhne	9.27	60	ePn	Pn	07 18 07.1	+1.9
VYHS	Vyhne	9.27	60	ePN	Pn	07 18 07.1	+1.9
ESDC	Sonseca Array	9.28	242	Pn	Pn	07 18 05.0	-0.3
	comp=Z,1.0nm,0.3s,baz=57,slow=14,SNR=11						
ESLA	Sonseca Array	9.28	242	ePn	Pn	07 18 06.0	+0.8
ESLA	Sonseca Array	9.28	242	ePn	Pn	07 18 06.0	+0.8
DYA	Yadsworthy	9.34	313	eP	Pn	07 18 05.2	-0.8
	comp=Z,6.4nm,0.4s						
HGH	Gray Hill	9.57	322	eP	Pn	07 18 07.9	-1.2
PAB	San Pablo	9.59	243	ePn	Pn	07 18 09.8	+0.1
PAB	San Pablo	9.59	243	ePn	Pn	07 18 09.8	+0.1
MONM	Monmouth	9.71	323	eP	Pn	07 18 10.8	-0.3
	comp=Z,22nm,0.7s						
CCA1	Carnmenellis	9.90	309	eP	Pn	07 18 13.1	-0.6
MCH1	Michaelchurch	9.91	323	eP	Pn	07 18 12.6	-1.2
HLM1	Long Mynd	10.24	325	eP	Pn	07 18 18.0	-0.3
EKA	Eskdalemuir Ar	12.56	333	Pn	Pn	07 18 49.5	-0.6
	baz=138,slow=14,SNR=26						
EKA				Sn	Sn	07 21 02.7	-7.4
	baz=146,slow=24,SNR=5.3						
ESK	Eskdalemuir	12.56	333	ePn	Pn	07 18 50.6	+0.5
AKASG	Malin Array Be	16.38	60	Pn	Pn	07 19 40.3	-0.9
	comp=Z,0.5nm,0.3s,baz=251,slow=12,SNR=3.4						
FIA0	FINESS Array S	20.46	27	eP	P	07 20 29.1	+0.2
FINES	FINESS Array B	20.46	27	P	P	07 20 29.1	+0.2
	comp=Z,2.0nm,0.5s,baz=209,slow=8.0,SNR=16						
FIA1	FINESS Array S	20.46	27	eP	P	07 20 29.0	+0.1
BR101	Keskin Array S	20.50	94	eP	Pn	07 20 32.5	+0.7
BR101	Keskin Array S	20.50	94	eP	Pn	07 20 32.5	+0.6
BRTR	Keskin Array B	20.50	94	P	Pn	07 20 32.5	+0.7
	comp=Z,2.4nm,0.8s,baz=284,slow=8.1,SNR=7.6						
OBN	Obninsk	21.84	50	LR	LR	07 29 46.4	
	comp=Z,89nm,18.3s,baz=271,slow=38						
ARA0	ARCESS Array S	26.86	15	eP	P	07 21 31.6	-0.3
ARCES	ARCESS Array B	26.86	15	P	P	07 21 31.6	-0.3
	comp=Z,2.6nm,0.9s,baz=204,slow=13,SNR=3.3						
KOWA	Kowa	31.26	200	P	P	07 22 14.9	+3.4
	comp=Z,1.1nm,0.5s,baz=359,slow=12,SNR=4.6						
TOA1	Torodi Ar. Sit	31.52	189	eP	P	07 22 16.3	+2.5
TOA1	Torodi Ar. Sit	31.52	189	eP	P	07 22 16.3	+2.5
TORD	Torodi Ar. Bea	31.53	189	P	P	07 22 16.3	+2.5
	comp=Z,0.3nm,0.7s,baz=12,slow=7.4,SNR=3.0						
ARU	Arti	34.28	51	eP	P	07 22 37.5	0.0
	comp=Z,4.3nm,0.5s						
NRS	Narsarsuaq	34.53	318	eP	P	07 22 38.7	-0.8
	comp=Z,8.4nm,0.9s						
DBIC	Dimbokro	39.01	198	LR	LR	07 40 31.1	
	comp=Z,40nm,18.6s,baz=117,slow=38						
BRVK	Borovoye	41.49	55	eP	P	07 23 39.2	+0.8
	comp=Z,2.5nm,0.5s						
ZAA1	Zalesovo Array	49.42	50	eP	P	07 24 41.4	+0.2
ZALV	Zalesovo Beam	49.42	50	P	P	07 24 41.4	+0.2
	comp=Z,0.5nm,0.3s,baz=339,slow=7.7,SNR=2.9						
MK31	Makanchi Array	50.96	59	eP	P	07 24 52.7	-0.4
MK32	Makanchi Array	50.96	59	eP	P	07 24 52.9	-0.2
MKAR	Makanchi Array	50.96	59	P	P	07 24 52.9	-0.2
	comp=Z,0.4nm,0.6s,baz=279,slow=6.0,SNR=6.0						
MKAR	Makanchi Array	50.96	59	eP	P	07 24 52.6	-0.5
	comp=Z,3.5nm,0.8s						
MK01	Makanchi Array	50.98	59	eP	P	07 24 53.7	+0.5
YKA	Yellowknife Ar	63.52	334	P	P	07 26 22.6	+1.1
	comp=Z,0.3nm,0.7s,baz=45,slow=6.3,SNR=6.7						
ILAR	Eielson Array	69.13	348	P	P	07 26 59.7	+2.3
	comp=Z,0.7nm,1.0s,baz=359,slow=2.8,SNR=4.8						
WRAB	Tennant Creek	130.39	78	ePKPdf	PKPdf	07 35 02.7	+0.3

MEX 02 07:20:09.6±0.6, 19°.08N×104°.15W, h6km±7km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZ5V		0.65	52	i P	Pg	07 20 21.2	-1.0
EZ5V				i S	Sg	07 20 30.8	+0.2
CJM	Chamela	0.94	296	i P	Pg	07 20 25.5	-2.3
CJM				i S	Sg	07 20 37.8	-2.2
MMIG	Aquila	1.09	136	eP	Pg	07 20 27.7	-2.9
MMIG				eS	Sg	07 20 41.2	-3.6
SFJM	Santa Fe	1.74	37	i P	Pg	07 20 43.1	0.0
SFJM				i S	Sg	07 21 05.3	-0.4
ARIG	Puente Sto Nin	3.69	102	i P	Pn	07 21 05.4	-1.8
ARIG				i S	Sn	07 21 47.6	-3.4

IDC 02 07:40:19.1±1.4, 7°.84S×146°.71E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.3/51, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=40.4km s-min=16.0km az=77.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.62	164	Pn	Pn	07 40 47.6	-1.3
	1.7nm,0.3s,baz=0.0,slow=1.0,SNR=4.5						
PMG				Lg	Lg	07 41 11.1	
	15nm,0.3s,baz=147,slow=22,SNR=6.8						
WRA	Warramunga Arr	16.98	224	Pn	Pn	07 44 18.8	+0.5
	0.1nm,0.3s,baz=46,slow=11,SNR=7.7						
ASAR	Alice Springs	19.96	217	P	P	07 44 52.8	-0.3
	0.1nm,0.3s,baz=50,slow=9.6,SNR=10						
ILAR	Eielson Array	87.27	23	P	P	07 53 07.3	-0.1
	0.3nm,0.8s,baz=258,slow=4.2,SNR=3.6						
TORD	Torodi Ar. Bea	145.22	282	PKPbc	PKPbc	07 59 59.2	-0.2
	0.3nm,0.6s,baz=95,slow=3.8,SNR=2.7						

ISCJB 02 07:42:57.2±0.9, 53°.46N±0°.07×163°.18W±0°.08, h32km, mb3.2/3, Error ellipse: s-maj=10.3km s-min=6.4km az=167.9

NEIC 02 07:42:57.3±0.0, 53°.51N×163°.17W, h56km, ML3.0(AEIC), After AEIC.

IDC 02 07:43:02.0±1.9, 53°.28N×161°.54W, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/87, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=39.5km s-min=28.5km az=165.0

ISC 02 07:42:57.8±1.2, 53°.59N±0°.09×163°.07W±0°.05, h32km, n17, σ1s.77/21, mb3.4/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISLZ	Isanotski Laza	1.20	342	P	Pn	07 43 18.7	+0.2
SSLS	Shishaldin Sou	1.25	335	P	Pn	07 43 20.1	+0.9
SSLS				S	Sb	07 43 38.0	+1.2
WESE	West Dahl East	1.26	315	P	Pn	07 43 19.4	+0.1
FALS	False Pass	1.29	351	P	Pn	07 43 20.5	+0.9
FALS				S	Sb	07 43 38.8	+1.1
WESN	West Dahl Nort	1.33	318	P	Pn	07 43 20.8	+0.7
SSLW	Shishaldin Wes	1.34	333	P	Pn	07 43 21.0	+0.7
DT1	Dutton Round H	1.59	17	P	Pn	07 43 24.4	+0.6
AKSA	Akutan Strait	1.65	291	P	Pn	07 43 24.4	-0.2
AKUT	Akutan	1.69	290	P	Pn	07 43 25.3	+0.2
UNV	Unalaska Valle	2.06	279	P	Pn	07 43 29.6	-0.5
UNV				S	Sn	07 43 52.9	-1.7
MSW	Makushin Switc	2.23	280	P	Pn	07 43 32.5	0.0
MSW				S	Sn	07 43 59.0	+0.1
SDPT	Sand Point	2.33	40	ePn	Pn	07 43 35.7	+2.0
KDAK	Kodiak Island	7.26	50	Pn	Pn	07 44 41.1	-0.5
	0.3nm,0.3s,baz=184,slow=4.5,SNR=19						
KDAK				Sn	Sn	07 45 58.9	-3.9
	0.1nm,0.3s,baz=291,slow=8.6,SNR=4.1						
ILAR	Eielson Array	13.89	30	Pn	P	07 46 16.1	-3.9
	0.1nm,0.3s,baz=227,slow=12,SNR=3.0						
YKA	Yellowknife Ar	26.54	51	P	P	07 48 34.9	+2.7
	0.3nm,0.8s,baz=271,slow=8.9,SNR=6.3						
TXAR	Lajitas Array	48.98	95	P	P	07 51 43.6	+2.4
	0.2nm,0.5s,baz=303,slow=5.6,SNR=4.4						
MKAR	Makanchi Array	65.64	317	P	P	07 53 53.1	+15
	0.2nm,0.6s,baz=32,slow=5.8,SNR=2.5						

IDC 02 07:45:02.0±1.1, 7°.84S×146°.54E, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.8/47, mbtmp3.9/5, ML3.4/2, Error ellipse: s-maj=36.7km s-min=13.8km az=68.0

ISCJB 02 07:45:05.3±1.0, 8°.0S±0°.1×146°.5E±0°.2, h33km, mb3.9/3, Error ellipse: s-maj=23.2km s-min=16.3km az=170.6

ISC 02 07:45:06.9±1.1, 8°.0S±0°.1×146°.6E±0°.2, h35km, n8, σ0s.35/8, mb4.0/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.48	156	Pn	Pn	07 45 31.2	+0.2
	16nm,0.3s,baz=9.9,slow=6.5,SNR=17						
PMG				Lg	Lg	07 45 56.1	
	13nm,0.3s,baz=329,slow=22,SNR=8.9						
WRA	Warramunga Arr	16.73	224	Pn	Pn	07 48 58.5	-0.1
	0.1nm,0.3s,baz=47,slow=11,SNR=17						
ASAR	Alice Springs	19.70	217	P	Pn	07 49 34.8	-0.3
	0.1nm,0.3s,baz=37,slow=12,SNR=15						
CMAR	Chiang Mai Arr	53.84	300	P	P	07 54 27.1	+0.3
	0.8nm,0.3s,baz=141,slow=6.0,SNR=4.2						
MKAR	Makanchi Array	78.78	321	P	P	07 57 06.2	+0.1
	0.4nm,0.7s,baz=104,slow=5.2,SNR=4.8						
ILAR	Eielson Array	87.53	23	P	P	07 57 50.5	-0.3
	0.6nm,0.7s,baz=262,slow=4.8,SNR=7.5						
TORD	Torodi Ar. Bea	145.10	281	PKPbc	PKPbc	08 04 40.9	-0.4
	0.9nm,0.7s,baz=72,slow=3.1,SNR=7.1						
KOWA	Kowa	150.45	285	PKPbc	PKPbc	08 04 56.2	+0.3
	0.6nm,0.3s,baz=170,slow=6.1,SNR=2.8						

IDC 02 08:00:05.6±2.2, 52°.41N×35°.54E, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.1/65, mbtmp3.4/3, ML2.8/3, Error ellipse: s-maj=28.1km s-min=12.1km az=124.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OBN	Obninsk	2.77	12	Lg	Lg	08 01 38.3	
	11nm,0.3s,baz=0.5,slow=22,SNR=8.8						
AKASG	Malin Array Be	4.30	249	Pn	Pn	08 01 10.2	-2.0
	0.5nm,0.3s,baz=55,slow=13,SNR=2.9						
AKASG				Pg	Pb	08 01 20.9	-1.1
	1.1nm,0.3s,baz=58,slow=16,SNR=8.0						
AKASG				Sn	Sn	08 02 01.1	-1.9
	1.2nm,0.3s,baz=60,slow=20,SNR=3.7						
AKASG				Lg	Lg	08 02 19.7	
	1.9nm,0.3s,baz=61,slow=29,SNR=5.0						
I43RU	DUBNA INFRASON	4.42	12	i		08 29 30.0	
	baz=192,slow=324,SNR=4.3						
FINES	FINESS Array B	10.41	334	Pn	Pn	08 02 33.0	-3.0
	0.1nm,0.3s,baz=150,slow=13,SNR=3.1						
FINES				Sn	Sn	08 04 22.6	-11
	0.1nm,0.3s,baz=146,slow=25,SNR=3.6						
ARCES	ARCESS Array B	17.81	348	P	Pn	08 04 14.8	+0.3
	0.2nm,0.3s,baz=161,slow=12,SNR=7.2						
I46RU	ZALESOVO INFRA	29.10	67	i		11 04 00.0	
	baz=287,slow=323,SNR=1.2						
YKA	Yellowknife Ar	63.03	345	P	P	08 10 33.1	-0.8
	0.1nm,0.4s,baz=11,slow=7.0,SNR=3.1						

MOS 02 08:03:54.4±1.3, 34°.37N×25°.74E, h18km, mb4.5/32, Error ellipse: s-maj=5.2km s-min=3.1km az=96.2

CSEM 02 08:03:57.6±0.1, 34°.46N×25°.79E, h20km, mb4.6/36, Error ellipse: s-maj=3.7km s-min=2.3km az=24.0

ISCJB 02 08:03:57.7±0.3, 34°.45N±0°.02×25°.85E±0°.02, h38km±2km, mb4.4/67, MS3.4/16, Error ellipse: s-maj=3.2km s-min=2.0km az=23.2

ISK 02 08:03:58.9, 34°.62N×26°.01E, h16km, ML4.4/31

IDC 02 08:03:59.5±2.6, 34°.68N×25°.83E, h33km±20km, mb4.1/29, mb1 4.1/38, mb1mx4.0/67, mbtmp4.2/38, ML4.1/10, MS3.4/25, Ms1 3.4/25, ms1mx3.2/62, Error ellipse: s-maj=12.7km s-min=9.1km az=174.0

THE 02 08:03:59.5, 34°.66N×25°.78E, h0km, ML4.3/12, Error ellipse: s-maj=1.2km s-min=0.5km az=171.0

ATH 02 08:04:00.6, 34°.77N×25°.80E, h34km±1km, ML4.3/6, Error ellipse: s-maj=2.5km s-min=0.9km az=353.0

NEIC 02 08:04:00.4±0.0, 34°.76N×25°.80E, h32km, mb4.5/33, ML4.3(ATH), ML4.3(THE), After ATH.

HLW 02 08:04:01.4, 34°.38N×26°.10E, h25km±26km, Md3.6, Ml3.9

GII 02 08:04:04.8±0.0, 34°.48N×26°.42E, h30km, MD3.6/10

NIC 02 08:04:06.0±0.2, 34°.94N×26°.47E, h76km, mb4.8, ML4.4

DDA 02 08:05:03.6, 35°.65N×27°.19E, h43km, Ml3.8

ISC 02 08:03:59.4±0.8, 34°.59N±0°.03×25°.86E±0°.02, h35km±3km, n714, σ1s.78/782, mb4.5/66, MS3.4/16, 20C-12D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	Zakros	0.60	29	PG	Pn	08 04 09.6	-1.9
ZKR	Zakros	0.60	29	P	Pn	08 04 10.9	-0.5
ZKR				S	Sn	08 04 18.3	-1.7
ZKR				AML	AML	08 04 24.7	
ZKR				AML	AML	08 04 24.8	
	comp=N,90835µm,0.4s						
ZKR	Zakros	0.60	29	P	Pn	08 04 11.1	-0.4
ZKR				S	Sb	08 04 20.5	+0.3
ZKR	Zakros	0.60	29	i Pg	Pn	08 04 09.6	-1.9
ZKR	Zakros	0.60	29	P	Pn	08 04 11.2	-0.3
ZKR				S	Sn	08 04 18.8	-1.2
ZKR	Zakros	0.60	29	P	Pn	08 04 11.1	-0.4
ZKR				S	Sb	08 04 20.5	+0.3
LAST	Lasithi	0.65	331	P	Pn	08 04 10.7	-1.6
LAST				S	Sn	08 04 19.4	-2.0
LAST				AML	AML	08 04 22.8	
	comp=E,63217µm,1.2s						
LAST				AML	AML	08 04 24.8	
	comp=N,48206µm,0.9s						
LAST	Lasithi	0.65	331	P	Pn	08 04 11.0	-1.3
LAST				S	Sn	08 04 19.9	-1.5
LAST	Lasithi	0.65	331	P	Pn	08 04 10.9	-1.3
LAST				S	Sn	08 04 19.1	-2.3
LAST	Lasithi	0.65	331	P	Pn	08 04 11.0	-1.3
LAST				S	Sn	08 04 19.9	-1.5
NPS	Neapolis	0.70	343	P	Pn	08 04 11.5	-1.3
NPS				S	Sn	08 04 22.2	-0.4
NPS				AML	AML	08 04 28.3	
	comp=N,40525µm,0.7s						
NPS				AML	AML	08 04 32.4	
	comp=E,67214µm,0.7s						
NPS	Neapolis	0.70	343	P	Pn	08 04 11.6	-1.3
NPS				S	Sn	08 04 22.2	-0.4
NPS	Neapolis	0.70	343	P	Pn	08 04 11.6	-1.3
NPS				S	Sn	08 04 22.2	-0.4
NPS	Neapolis	0.70	343	P	Pn	08 04 11.7	-1.2
NPS				S	Sn	08 04 21.1	-1.5
NPS	Neapolis	0.70	343	P	Pn	08 04 11.6	-1.3
NPS				S	Sn	08 04 22.2	-0.4
SIVA	Sivas	0.96	297	P	Pn	08 04 16.8	+0.2
SIVA				S	Sn	08 04 29.3	+0.3
SIVA				AML	AML	08 04 38.1	
	comp=E,90595µm,0.7s						
SIVA				AML	AML	08 04 39.6	
	comp=N,37210µm,0.8s						
SIVA	Sivas	0.96	297	P	Pn	08 04 16.7	+0.2
SIVA				S	Sb	08 04 30.5	+0.3
SIVA	Sivas	0.96	297	P	Pn	08 04 16.7	+0.2
SIVA				S	Sn	08 04 29.3	+0.3
SIVA	Sivas	0.96	297	P	Pn	08 04 16.7	+0.2
SIVA				S	Sb	08 04 30.5	+0.3
IACM	Heraklion	0.96	318	P	Pb	08 04 17.2	-0.5
IACM				S	Sn	08 04 28.0	-1.0
IACM				AML	AML	08 04 47.7	
IACM				AML	AML	08 04 49.5	
IACM	Heraklion	0.96	318	P	Pb	08 04 17.5	-0.2
IACM				S	Sn	08 04 28.0	-1.0
IACM	Heraklion	0.96	318	P	Pb	08 04 17.5	-0.2
IACM				S	Sb	08 04 30.2	0.0
IDI	Anoyia	1.06	311	Pn	Pn	08 04 17.7	-0.2
	comp=N,124nm,0.3s,baz=158,slow=10,SNR=118						
IDI				Sn	Sn	08 04 31.0	-0.5
	comp=N,233nm,0.3s,baz=319,slow=20,SNR=16						
IDI	Anoyia	1.06	311	P	Pn	08 04 18.1	+0.3
IDI				S	Sn	08 04 32.0	+0.6
IDI				AML	AML	08 04 40.7	
	comp=N,11478µm,0.6s						
IDI				AML	AML	08 04 43.6	
	comp=E,16005µm,0.9s						
IDI	Anoyia	1.06	311	P	Pn	08 04 18.2	+0.3
IDI				S	Sb	08 04 32.4	-0.6
IDI	Anoyia	1.06	311	P	Pn	08 04 18.1	+0.3
IDI				S	Sb	08 04 32.4	-0.6
IDI	Anoyia	1.06	311	P	Pn	08 04 18.2	+0.3
IDI				S	Sb	08 04 32.4	-0.6
KARP	Karpathos	1.43	48	PN	Pn	08 04 23.4	+0.4
KARP				SN	Sn	08 04 41.2	+0.6
KARP	Karpathos	1.43	48	P	Pb	08 04 26.8	+1.1
KARP	Karpathos	1.43	48	ePn	Pb	08 04 25.8	+0.2
KARP				S	Sb	08 04 46.1	+2.5
KARP	Karpathos	1.43	48	i Pn	Pn	08 04 23.4	+0.4
KARP	Karpathos	1.43	48	P	Pb	08 04 26.0	+0.4
KARP				eSn	Sn	08 04 41.2	+0.6
KARP				S	Sb	08 04 46.1	+2.5
KARP	Karpathos	1.43	48	P	Pb	08 04 25.7	+0.1
KARP				S	Sb	08 04 46.1	+2.5
GVD	Gavdhos	1.48	280	PN	Pb	08 04 27.3	+0.9
GVD	Gavdhos	1.48	280	P	Pb	08 04 25.6	-0.9
GVD	Gavdhos	1.48	280	P	Pn	08 04 25.0	+1.4
GVD	Gavdhos	1.48	280	P	Pb	08 04 25.7	-0.7
GVD	Gavdhos	1.48	280	ePn	Pb	08 04 27.3	+0.9
GVD	Gavdhos	1.48	280	P	Pn	08 04 25.0	+1.4
VAM	Vamos	1.59	301	P	Pb	08 04 27.5	-0.7
VAM	Vamos	1.59	301	P	Pb	08 04 27.0	-1.2
VAM				S	Sb	08 04 47.5	-0.5
VAM	Vamos	1.59	301	P	Pb	08 04 27.0	-1.2
VAM				S	Sb	08 04 47.5	-0.5
VAM	Vamos	1.59	301	P	Pb	08 04 27.0	-1.2
VAM				S	Sb	08 04 47.5	-0.5
VAM	Vamos	1.59	301	P	Pb	08 04 27.0	-1.2
VAM				S	Sb	08 04 47.5	-0.5
IMMV	Iera Moni Meta	1.77	300	PN	Pb	08 04 31.2	-0.1
IMMV				SN	Sb	08 04 54.4	+1.2
IMMV	Iera Moni Meta	1.77	300	P	Pn	08 04 29.0	+1.5
IMMV	Iera Moni Meta	1.77	300	P	Pn	08 04 29.1	+1.5
IMMV	Iera Moni Meta	1.77	300	ePn	Pb	08 04 31.2	-0.1
IMMV	Iera Moni Meta	1.77	300	P	Pn	08 04 29.4	+1.8
THR6	Thira Island,	1.80	348	P	Pn	08 04 29.5	+1.5
THR6	Thira Island,	1.80	348	P	Pn	08 04 29.5	+1.5
THR6	Thira Island,	1.80	348	P	Pn	08 04 29.5	+1.5
SANT	Santorini	1.81	350	P	Pn	08 04 29.6	+1.4
SANT	Santorini	1.81	350	ePn	Pn	08 04 29.0	+0.8
SANT				eSn	Sb	08 04 56.4	+2.1
SANT	Santorini	1.81	350	P	Pn	08 04 29.2	+1.0
SANT				eSn	Sb	08 04 56.4	+2.1
THT1	Athinios (Pele	1.83	349	P	Pn	08 04 29.5	+1.2
THT1	Athinios (Pele	1.83	349	P	Pn	08 04 29.5	+1.2
THR3	Thira Island,	1.85	348	P	Pn	08 04 30.1	+1.4
THR3	Thira Island,	1.85	348	P	Pn	08 04 30.1	+1.4
THR3	Thira Island,	1.85	348	P	Pn	08 04 30.1	+1.4
THR5	Thira Island,	1.87	347	P	Pn	08 04 30.1	+1.1
THR5	Thira Island,	1.87	347	P	Pn	08 04 30.1	+1.1
THT2	Imerovigli	1.88	349	P	Pn	08 04 30.4	+1.3
THT2	Imerovigli	1.88	349	P	Pn	08 04 30.4	+1.3
THR2	Thira island,	1.89	350	P	Pn	08 04 30.3	+1.1
THR2	Thira island,	1.89	350	P	Pn	08 04 30.3	+1.1
THR2	Thira island,	1.89	350	P	Pn	08 04 30.3	+1.1
SAP3	Santorini-Thir	1.89	347	P	Pn	08 04 30.6	+1.4
SAP3	Santorini-Thir	1.89	347	P	Pn	08 04 30.6	+1.4
CMBO	Columbo, Santo	1.91	349	P	Pn	08 04 28.6	-0.9
CMBO	Columbo, Santo	1.91	349	P	Pn	08 04 30.7	+1.1
CMBO	Columbo, Santo	1.91	349	P	Pn	08 04 30.7	+1.1
NISR	Nisiros	2.27	27	P	Pb	08 04 37.5	-2.2
NISR	Nisiros	2.27	27	P	Pn	08 04 36.8	+2.4
MHLO	Agia Marina, M	2.41	331	P	Pn	08 04 37.2	+0.8
MHLO	Agia Marina, M	2.41	331	P	Pn	08 04 37.3	+0.9
MHLO				S	Sn	08 05 07.7	+3.0
MHLO	Agia Marina, M	2.41	331	P	Pn	08 04 37.6	+1.2
MHLO				S	Sn	08 05 07.7	+3.0
MHLA	Plaka, Milos I	2.45	332	P	Pb	08 04 40.2	-2.6
MHLA	Plaka, Milos I	2.45	332	P	Pn	08 04 39.1	+2.2
ANKY	Antikythira Is	2.45	302	P	Pn	08 04 39.8	+2.9
ANKY	Antikythira Is	2.45	302	P	Pn	08 04 39.1	+2.1
ANKY	Antikythira Is	2.45	302	P	Pn	08 04 39.2	+2.2
ANKY				S	Sn	08 05 08.3	+2.6
ANKY	Antikythira Is	2.45	302	P	Pn	08 04 39.1	+2.1
ANKY				S	Sn	08 05 08.3	+2.6
ARG	Arkhangelos	2.46	48	P	Pn	08 04 39.2	+2.1
ARG	Arkhangelos	2.46	48	P	Pn	08 04 39.7	+2.6
ARG				S	Sb	08 05 11.8	-1.1
ARG	Arkhangelos	2.46	48	P	Pn	08 04 39.7	+2.6
ARG				S	Sb	08 05 11.8	-1.1
ARG	Arkhangelos	2.46	48	P	Pn	08 04 39.3	+2.2
ARG				S	Sb	08 05 11.8	-1.1
ARG	Arkhangelos	2.46	48	P	Pn	08 04 39.7	+2.6
ARG				S	Sb	08 05 11.8	-1.1
APE	Apeiranthos	2.49	354	PN	Pn	08 04 39.5	+2.0
APE	Apeiranthos	2.49	354	P	Pn	08 04 38.0	+0.5
APE	Apeiranthos	2.49	354	P	Pn	08 04 38.3	+0.8
APE				S	Sb	08 05 10.3	-3.5
APE	Apeiranthos	2.49	354	P	Pn	08 04 38.3	+0.8
APE				S	Sb	08 05 10.3	-3.5
APE	Apeiranthos	2.49	354	P	Pn	08 04 38.2	+0.8

APE	Apeiranthos	2.49	354	ePn	Pn	08 04 39.5	+2.0
APE				S	Sb	08 05 10.3	-3.5
APE	Apeiranthos	2.49	354	P	Pn	08 04 38.3	+0.8
APE				S	Sb	08 05 10.3	-3.5
BODT	Bodrum	2.73	25	PN	Pn	08 04 42.1	+1.2
BODT	Bodrum	2.73	25	ePn	Pn	08 04 42.1	+1.2
BDRM	Kayabasi	2.79	27	i P	Pn	08 04 42.8	+1.2
BDRM				i S	Sb	08 05 20.5	-1.8
BDRM	Kayabasi	2.79	27	P	Pn	08 04 42.8	+1.2
BDRM				S	Sb	08 05 20.5	-1.8
KYTH	Kithira	2.84	307	P	Pn	08 04 42.4	0.0
KYTH	Kithira	2.84	307	P	Pn	08 04 43.3	+0.9
KYTH	Kithira	2.84	307	P	Pn	08 04 43.3	+0.9
MRSB	Marmaris-Mugla	2.85	41	PN	Pn	08 04 43.9	+1.4
MRSB	Marmaris-Mugla	2.85	41	ePn	Pn	08 04 43.9	+1.4
SLUM	Salum	3.14	190	P	Pn	08 04 46.3	-0.1
	baz=195						
SLUM	Salum	3.14	190	P	Pn	08 04 46.3	-0.1
TURN	Turunc	3.19	44	PN	Pn	08 04 44.5	-2.6
TURN				SN	Sn	08 05 17.9	-6.0
TURN	Turunc	3.19	44	i P	Pn	08 04 44.3	-2.8
TURN				i S	Sn	08 05 16.2	-7.7
TURN	Turunc	3.19	44	ePn	Pn	08 04 44.5	-2.6
VLI	Veliai	3.19	313	P	Pn	08 04 45.7	-1.4
VLI	Veliai	3.19	313	P	Pn	08 04 47.1	0.0
VLI	Veliai	3.19	313	P	Pn	08 04 47.2	+0.1
VLI	Veliai	3.19	313	P	Pn	08 04 47.1	0.0
SMG	Samos	3.21	14	P	Pn	08 04 47.5	0.0
SMG	Samos	3.21	14	P	Pn	08 04 49.0	+1.6
SMG	Samos	3.21	14	P	Pn	08 04 49.0	+1.6
SMG	Samos	3.21	14	P	Pn	08 04 49.0	+1.6
YER	Yerkesik	3.21	37	PN	Pn	08 04 48.5	+1.0
YER	Yerkesik	3.21	37	P	Pn	08 04 49.3	+1.8
YER	Yerkesik	3.21	37	P	Pn	08 04 49.3	+1.8
YER	Yerkesik	3.21	37	ePn	Pn	08 04 48.5	+1.0
YER	Yerkesik	3.21	37	P	Pn	08 04 49.3	+1.8
YER	Yerkesik	3.21	37	P	Pn	08 04 49.3	+1.8
GCAM	G?zelcaml?	3.30	19	PN	Pn	08 04 50.8	+2.2
GCAM	G?zelcaml?	3.30	19	ePn	Pn	08 04 50.8	+2.2
FETY	Fethiye	3.33	51	PN	Pn	08 04 50.1	+1.1
FETY	Fethiye	3.33	51	ePn	Pn	08 04 50.1	+1.1
AKAS	Kas	3.47	61	PN	Pn	08 04 51.7	+0.6
AKAS	Kas	3.47	61	eP	Pn	08 04 51.3	+0.2
AKAS				i S	Sn	08 05 27.2	-3.8
AKAS	Kas	3.47	61	ePn	Pn	08 04 51.5	+0.4
AKAS				eSn	Sn	08 05 30.6	-0.4
AKAS	Kas	3.47	61	P	Pn	08 04 51.3	+0.2
AKAS	Kas	3.47	61	ePn	Pn	08 04 51.7	+0.6
AKAS				eSn	Sn	08 05 30.6	-0.4
AYDN	Tasoluk	3.47	27	i P	Pn	08 04 53.0	+2.0
AYDN				i S	Sn	08 05 34.4	+3.4
AYDN	Tasoluk	3.47	27	P	Pn	08 04 53.0	+2.0
AYDN				S	Sn	08 05 34.4	+3.4
KRND	KRANIDI	3.55	323	P	Pn	08 04 52.9	+0.9
KRND	KRANIDI	3.55	323	P	Pn	08 04 53.2	+1.1
DYR	Agios Nikonas	3.60	308	P	Pn	08 04 53.1	+0.4
DYR	Agios Nikonas	3.60	308	P	Pn	08 04 53.8	+1.1
DID	Didima	3.60	325	P	Pn	08 04 52.1	-0.8
DID	Didima	3.60	325	P	Pn	08 04 53.5	+0.7
DID	Didima	3.60	325	P	Pn	08 04 53.5	+0.7
DID	Didima	3.60	325	P	Pn	08 04 53.5	+0.7
KARY	Karystos	3.62	342	P	Pn	08 04 54.0	+0.9
KARY	Karystos	3.62	342	P	Pn	08 04 54.0	+0.9
VLY	Voula,Athens	3.66	333	P	Pn	08 04 54.8	+1.2
VLY	Voula,Athens	3.66	333	P	Pn	08 04 55.6	+2.0
VLY	Voula,Athens	3.66	333	P	Pn	08 04 54.9	+1.3
VLY	Voula,Athens	3.66	333	P	Pn	08 04 55.6	+2.0
TAVA	DENIZLI_Tavas	3.79	40	i P	Pn	08 04 57.0	+1.5
TAVA				i S	Sn	08 05 40.7	+1.9
TAVA	DENIZLI_Tavas	3.79	40	P	Pn	08 04 57.0	+1.5
TAVA				S	Sn	08 05 40.7	+1.9
CHOS	Chios island	3.79	2	PN	Pn	08 04 58.8	+3.3
CHOS	Chios island	3.79	2	P	Pn	08 04 55.4	-0.1
CHOS	Chios island	3.79	2	P	Pn	08 04 56.4	+0.9
CHOS	Chios island	3.79	2	P	Pn	08 04 56.4	+0.9
CHOS	Chios island	3.79	2	ePn	Pn	08 04 58.8	+3.3
CHOS	Chios island	3.79	2	P	Pn	08 04 56.4	+0.9
PTL	Penteli	3.81	336	P	Pn	08 04 56.0	+0.4
PTL	Penteli	3.81	336	P	Pn	08 04 56.5	+0.8
PTL	Penteli	3.81	336	P	Pn	08 04 56.5	+0.8
PTL	Penteli	3.81	336	P	Pn	08 04 56.5	+0.8
URLA	Izmir	3.81	9	PN	Pn	08 04 57.6	+1.9
URLA	Izmir	3.81	9	ePn	Pn	08 04 57.6	+1.9
ELL	Elmali	3.94	56	PN	Pn	08 04 58.9	+1.4
ELL	Elmali	3.94	56	P	Pn	08 04 59.2	+1.7
ELL	Elmali	3.94	56	ePn	Pn	08 04 58.9	+1.4
ELL	Elmali	3.94	56	P	Pn	08 04 59.2	+1.7
VLX	Vlachokerasia	3.96	316	P	Pn	08 04 58.8	+1.1
VLX	Vlachokerasia	3.96	316	P	Pn	08 04 59.2	+1.4
VLX	Vlachokerasia	3.96	316	P	Pn	08 04 59.1	+1.3
VLX	Vlachokerasia	3.96	316	P	Pn	08 04 59.2	+1.4
GOLH	Golhisar	4.00	48	i P	Pn	08 04 59.3	+0.9
GOLH				i S	Sn	08 05 45.8	+1.7
GOLH	Golhisar	4.00	48	P	Pn	08 04 59.3	+0.9
GOLH				S	Sn	08 05 45.8	+1.7
DENT	Denizli	4.07	38	PN	Pn	08 05 01.2	+2.0
DENT	Denizli	4.07	38	ePn	Pn	08 05 01.2	+2.0
ITM	Ithomi	4.11	310	P	Pn	08 04 59.4	-0.3
ITM	Ithomi	4.11	310	P	Pn	08 05 00.8	+1.0
ITM	Ithomi	4.11	310	P	Pn	08 05 00.6	+0.8
ITM	Ithomi	4.11	310	P	Pn	08 05 00.8	+1.0
VILL	Villia	4.12	331	P	Pn	08 05 00.7	+0.8
VILL	Villia	4.12	331	P	Pn	08 05 00.7	+0.8
EREA	Eretria	4.13	338	P	Pn	08 05 00.9	+0.9
EREA	Eretria	4.13	338	P	Pn	08 05 01.2	+1.2
EREA	Eretria	4.13	338	P	Pn	08 05 01.3	+1.2
TRIP	Tripoli	4.13	316	P	Pn	08 05 02.2	+2.1
TRIP	Tripoli	4.13	316	P	Pn	08 05 02.0	+1.9
LTK	Loutraki	4.15	327	P	Pn	08 04 59.3	-1.0
LTK	Loutraki	4.15	327	P	Pn	08 05 01.1	+0.8
LTK	Loutraki	4.15	327	P	Pn	08 05 01.1	+0.8
LTK	Loutraki	4.15	327	P	Pn	08 05 01.1	+0.8
KORT	Korkueli	4.37	55	PN	Pn	08 05 05.5	+2.0
KORT	Korkueli	4.37	55	i P	Pn	08 05 05.2	+1.7
KORT				i S	Sn	08 05 57.0	+3.7
KORT	Korkueli	4.37	55	P	Pn	08 05 05.2	+1.7
KORT	Korkueli	4.37	55	ePn	Pn	08 05 05.5	+2.0
KORT				S	Sn	08 05 57.0	+3.7
GUR	Goura	4.38	321	P	Pn	08 05 05.2	+1.6
GUR	Goura	4.38	321	P	Pn	08 05 04.9	+1.2
GUR	Goura	4.38	321	P	Pn	08 05 05.3	+1.6
GUR	Goura	4.38	321	P	Pn	08 05 04.9	+1.2
SKY	Skiros Island	4.41	347	P	Pn	08 05 05.1	+1.2
SKY	Skiros Island	4.41	347	P	Pn	08 05 05.3	+1.5
AMT	Artemida-Makis	4.46	312	P	Pn	08 05 04.3	-0.3
AMT	Artemida-Makis	4.46	312	P	Pn	08 05 05.5	+0.8
KULA	Kula-Manisa	4.52	29	PN	Pn	08 05 07.4	+1.9
KULA	Kula-Manisa	4.52	29	ePn	Pn	08 05 07.4	+1.9
ANTB	Antalya	4.53	58	PN	Pn	08 05 07.1	+1.6
ANTB	Antalya	4.53	58	ePn	Pn	08 05 07.1	+1.6
KLV	Kalavryta, Ach	4.57	320	P	Pn	08 05 05.7	-0.4
KLV	Kalavryta, Ach	4.57	320	P	Pn	08 05 06.8	+0.7
BRDR	BURDUR-Merkez	4.60	46	i P	Pn	08 05 08.1	+1.5
BRDR				i S	Sn	08 06 00.8	+2.0
BRDR	BURDUR-Merkez	4.60	46	P	Pn	08 05 08.1	+1.5
BRDR				S	Sn	08 06 00.9	+2.0
SIGR	SIGRI	4.61	360	PN	Pn	08 05 09.9	+3.2
SIGR	SIGRI	4.61	360	P	Pn	08 05 06.4	-0.2
SIGR	SIGRI	4.61	360	P	Pn	08 05 07.5	+0.8
SIGR	SIGRI	4.61	360	P	Pn	08 05 07.5	+0.8
SIGR	SIGRI	4.61	360	ePn	Pn	08 05 09.9	+3.2
SIGR	SIGRI	4.61	360	P	Pn	08 05 07.5	+0.8
PRK	Paraskevi	4.66	4	P	Pn	08 05 07.2	-0.1
PRK	Paraskevi	4.66	4	P	Pn	08 05 08.5	+1.2
PRK	Paraskevi	4.66	4	P	Pn	08 05 08.5	+1.2
PRK	Paraskevi	4.66	4	P	Pn	08 05 08.5	+1.2
PRK	Paraskevi	4.66	4	P	Pn	08 05 08.5	+1.2
LKR	Lokris	4.66	331	P	Pn	08 05 07.1	-0.2
LKR	Lokris	4.66	331	P	Pn	08 05 09.0	+1.7
LKR	Lokris	4.66	331	P	Pn	08 05 08.1	+0.8
LKR	Lokris	4.66	331	P	Pn	08 05 09.0	+1.7
DRO	Drossia	4.74	316	P	Pn	08 05 10.7	+2.2
DRO	Drossia	4.74	316	P	Pn	08 05 10.6	+2.2
KHAL	Karahalli	4.77	37	i P	Pn	08 05 09.7	+0.7
KHAL				i S	Sn	08 06 00.4	-2.8
KHAL	Karahalli	4.77	37	P	Pn	08 05 09.7	+0.7
SMIA	Simia	4.78	334	P	Pn	08 05 09.8	+0.8
SMIA	Simia	4.78	334	P	Pn	08 05 10.2	+1.2
SMIA	Simia	4.78	334	P	Pn	08 05 10.3	+1.2
BCK	Bucak	4.78	52	PN	Pn	08 05 11.2	+2.1
BCK	Bucak	4.78	52	ePn	Pn	08 05 11.2	+2.1
LAKA	Lakka	4.80	320	P	Pn	08 05 11.2	+1.9
LAKA	Lakka	4.80	320	P	Pn	08 05 11.2	+1.9
KALE	Kalithea	4.83	323	P	Pn	08 05 10.8	+1.0
KALE	Kalithea	4.83	323	P	Pn	08 05 11.2	+1.4
KALE	Kalithea	4.83	323	P	Pn	08 05 11.2	+1.4
KALE	Kalithea	4.83	323	P	Pn	08 05 11.2	+1.4
SERG	Sergoula	4.89	322	P	Pn	08 05 12.5	+1.9
SERG	Sergoula	4.89	322	P	Pn	08 05 12.5	+1.9
SERG	Sergoula	4.89	322	P	Pn	08 05 12.9	+2.3
SKIA	Skiathos	4.95	338	P	Pn	08 05 11.8	+0.5
SKIA	Skiathos	4.95	338	P	Pn	08 05 12.5	+1.1
RLS	Riolos of Patr	4.96	316	P	Pn	08 05 16.3	+4.9
RLS	Riolos of Patr	4.96	316	P	Pn	08 05 14.9	+3.5
ISP	Isparta	4.96	48	PN	Pn	08 05 13.3	+1.7
ISP	Isparta	4.96	48	ePn	Pn	08 05 12.6	+1.1
ISP	Isparta	4.96	48	eP	Pn	08 05 12.6	+1.1
ISP	Isparta	4.96	48	eP	Pn	08 05 12.6	+1.1
ISP	Isparta	4.96	48	ePn	Pn	08 05 13.3	+1.7
ISP	Isparta	4.96	48	Pn	Pn	08 05 13.0	+1.4
SUTC	Sutluce-Ispart	5.06	54	PN	Pn	08 05 15.1	+2.1
SUTC	Sutluce-Ispart	5.06	54	ePn	Pn	08 05 15.1	+2.1
SIMA	Simav-Kutahya	5.14	28	PN	Pn	08 05 15.9	+2.0
SIMA	Simav-Kutahya	5.14	28	ePn	Pn	08 05 15.9	+2.0
NEO	Neokhori	5.16	337	P	Pn	08 05 14.6	+0.4
NEO	Neokhori	5.16	337	P	Pn	08 05 15.3	+1.1
KEPZ	Antalya-Kepez	5.21	62	i P	Pn	08 05 16.0	+1.1
KEPZ				i S	Sn	08 06 11.5	-2.3
KEPZ	Antalya-Kepez	5.21	62	P	Pn	08 05 16.0	+1.1
KEPZ				S	Sn	08 06 11.5	-2.3
XOR	Xorichti	5.22	337	P	Pn	08 05 15.0	-0.1
XOR	Xorichti	5.22	337	P	Pn	08 05 16.0	+0.9
AGG	Agios Georgios	5.25	328	PN	Pn	08 05 19.9	+4.4
AGG	Agios Georgios	5.25	328	ePn	Pn	08 05 16.6	+1.1
AGG	Agios Georgios	5.25	328	eP	Pn	08 05 16.6	+1.1
AGG	Agios Georgios	5.25	328	eP	Pn	08 05 16.6	+1.1
PVO	Paravola	5.32	320	P	Pn	08 05 17.4	+1.0
PVO	Paravola	5.32	320	P	Pn	08 05 17.9	+1.5
LIA	Limnos Island	5.33	354	P	Pn	08 05 18.3	+1.9
LIA	Limnos Island	5.33	354	P	Pn	08 05 18.3	+1.9
SWA2		5.34	184	P	Pn	08 05 17.3	+0.6
	baz=187						
SWA2				S	Sn	08 06 14.2	-2.8
	baz=187						
SWA2		5.34	184	P	Pn	08 05 17.3	+0.6
SWA2				S	Sn	08 06 14.2	-2.8
PPCY	Paphos	5.35	85	P	Pn	08 05 17.3	+0.5
	baz=272						
PPCY	Paphos	5.35	85	P	Pn	08 05 17.3	+0.5
SHUT	Suhut-Afyon	5.47	42	PN	Pn	08 05 20.5	+2.0
SHUT	Suhut-Afyon	5.47	42	ePn	Pn	08 05 20.5	+2.0
ALFC	Alefka	5.57	82	P	Pn	08 05 20.1	+0.3
	baz=269						
ALFC				S	Sn	08 06 18.4	-4.2
ALFC	Alefka	5.57	82	P	Pn	08 05 20.1	+0.3
GADA	Gvkgeada	5.59	0	PN	Pn	08 05 23.8	+3.7
GADA	Gvkgeada	5.59	0	ePn	Pn	08 05 23.8	+3.7
PAIG	Paliouri	5.60	343	P	Pn	08 05 20.3	0.0
PAIG	Paliouri	5.60	343	P	Pn	08 05 21.3	+1.0
TVSB	Tavsanli	5.64	30	PN	Pn	08 05 24.1	+3.2
TVSB	Tavsanli	5.64	30	ePn	Pn	08 05 24.1	+3.2
SZAC	Souni	5.79	86	P	Pn	08 05 23.7	+0.8
	baz=273						
SZAC				S	Sn	08 06 24.3	-3.8
SZAC	Souni	5.79	86	P	Pn	08 05 23.7	+0.8
LEF	Lefka	5.80	83	PN	Pn	08 05 25.1	+2.1
LEF	Lefka	5.80	83	ePn	Pn	08 05 25.1	+2.1
LPK	Lapseki	5.82	7	PN	Pn	08 05 26.7	+3.5
LPK	Lapseki	5.82	7	ePn	Pn	08 05 26.7	+3.5
GELI	Tayfur-Gelibol	5.82	5	PN	Pn	08 05 27.3	+4.1
AKDN	Akdeniz- K˜–br	5.88	81	PN	Pn	08 05 27.3	+3.2
AKDN	Akdeniz- K˜–br	5.88	81	ePn	Pn	08 05 27.3	+3.2
KRBG	Karabiga-Canak	5.90	11	PN	Pn	08 05 27.7	+3.3
KRBG	Karabiga-Canak	5.90	11	ePn	Pn	08 05 27.7	+3.3
EDC	Edincik	5.96	15	PN	Pn	08 05 28.7	+3.5
EDC	Edincik	5.96	15	ePn	Pn	08 05 28.7	+3.5
KCTX	Karacabey (Bur	6.00	19	PN	Pn	08 05 29.3	+3.5
KCTX	Karacabey (Bur	6.00	19	ePn	Pn	08 05 29.3	+3.5
ERIK	Erikli-Kesan	6.09	5	PN	Pn	08 05 30.3	+3.3
ERIK	Erikli-Kesan	6.09	5	ePn	Pn	08 05 30.3	+3.3
TEKE	Tekeli-Mersin	6.13	73	PN	Pn	08 05 30.3	+2.8
TEKE	Tekeli-Mersin	6.13	73	ePn	Pn	08 05 30.3	+2.8
ENEZ	Enez	6.14	2	PN	Pn	08 05 31.9	+4.3
CSS	Mathiatis	6.16	84	ePn	Pn	08 05 28.5	+0.5
CSS				eSn	Sn	08 06 36.1	-1.1
CSS	Mathiatis	6.16	84	P	Pn	08 05 29.2	+1.3
	baz=271						
CSS				S	Sn	08 06 33.5	-3.7
CSS	Mathiatis	6.16	84	ePn	Pn	08 05 28.5	+0.5
CSS	Mathiatis	6.16	84	P	Pn	08 05 29.2	+1.3
CSS	Mathiatis	6.16	84	Pn	Pn	08 05 27.6	-0.3
RKY	Sarkoy-Tekirda	6.18	9	PN	Pn	08 05 32.6	+4.4
ALN	Alexandroupoli	6.30	1	PN	Pn	08 05 33.4	+3.6
ALN	Alexandroupoli	6.30	1	P	Pn	08 05 33.1	+3.3
ALN				pmax	pmax		
	comp=Z,17nm,0.7s						
ALN	Alexandroupoli	6.30	1	P	Pn	08 05 33.1	+3.3
	comp=Z,17nm,0.7s						
ALN	Alexandroupoli	6.30	1	ePn	Pn	08 05 33.4	+3.6
ARMT	Armutlu	6.42	21	PN	Pn	08 05 35.2	+3.6
ARMT	Armutlu	6.42	21	ePn	Pn	08 05 35.2	+3.6
AKK2	Akkuyu-Mersin	6.47	74	PN	Pn	08 05 34.5	+2.4
AKK2	Akkuyu-Mersin	6.47	74	ePn	Pn	08 05 34.5	+2.4
AKKU	Akkuyu-Mersin	6.47	74	PN	Pn	08 05 34.5	+2.3
AKKU	Akkuyu-Mersin	6.47	74	ePn	Pn	08 05 34.5	+2.3
SBT3	Marmara-Eregli	6.50	14	PN	Pn	08 05 36.2	+3.7
SBT3	Marmara-Eregli	6.50	14	ePn	Pn	08 05 36.2	+3.7
SOH	Sokhos	6.53	343	P	Pn	08 05 36.0	+2.9
SOH				pmax	pmax		
	comp=Z,22nm,1.2s						
SOH	Sokhos	6.53	343	P	Pn	08 05 36.0	+2.9
	comp=Z,22nm,1.2s						
SVRH	Sivrihisar-ESK	6.63	41	PN	Pn	08 05 37.5	+3.0
SVRH	Sivrihisar-ESK	6.63	41	ePn	Pn	08 05 37.5	+3.0
SRS	Serrai	6.76	345	P	Pn	08 05 37.6	+1.4
SRS				pmax	pmax		
	comp=Z,82nm,1.2s						
SRS	Serrai	6.76	345	P	Pn	08 05 37.6	+1.4
	comp=Z,82nm,1.2s						
KOT	Kottamia	6.87	131	P	Pn	08 05 37.4	-0.3
	baz=130						
KOT				S	Sn	08 06 49.5	-5.2
	baz=130						
KOT	Kottamia	6.87	131	P	Pn	08 05 37.4	-0.3
GULT	Gulveren	6.91	31	PN	Pn	08 05 40.7	+2.5
GULT	Gulveren	6.91	31	ePn	Pn	08 05 40.7	+2.5
HSAF	As Saff	6.92	134	P	Pn	08 05 38.4	-0.1
	baz=134						
HSAF	As Saff	6.92	134	P	Pn	08 05 38.3	-0.1
GRG	Griva	6.92	338	P	Pn	08 05 39.9	+1.5
GRG				pmax	pmax		
	comp=Z,34nm,1.4s						
GRG	Griva	6.92	338	P	Pn	08 05 39.9	+1.5
	comp=Z,34nm,1.4s						
GLL	Jalalah	7.04	134	P	Pn	08 05 39.0	-1.1
	baz=133						
GLL	Jalalah	7.04	134	P	Pn	08 05 39.0	-1.1
FNA	Florina	7.13	331	P	Pn	08 05 42.9	+1.6
FNA	Florina	7.13	331	P	Pn	08 05 42.9	+1.6
RZN	Rozhen	7.14	353	eP	Pn	08 05 48.6	+7.0
SULT	Sultanhani-AKS	7.15	58	PN	Pn	08 05 43.4	+1.8
SULT	Sultanhani-AKS	7.15	58	ePn	Pn	08 05 43.4	+1.8
MMB	Musomiste	7.19	347	eP	Pn	08 05 43.0	+0.9
VAY	Valandovo	7.20	340	i Pn	Pn	08 05 49.4	+7.2
BIA	Bitola	7.35	332	ePn	Pn	08 05 51.1	+6.8
KKB	Krupnik	7.59	344	eP	Pn	08 05 50.1	+2.6
BR231	Keskin MP Arra	7.61	44	ePn	Pn	08 05 55.1	+7.2
ANTO	Ankara	7.64	44	PN	Pn	08 05 51.0	+2.7
ANTO	Ankara	7.64	44	ePn	Pn	08 05 50.4	+2.1
ANTO	Ankara	7.64	44	eP	Pn	08 05 50.4	+2.1
ANTO	Ankara	7.64	44	eP	Pn	08 05 50.4	+2.1
OHR	Ohrid	7.64	330	ePn	Pn	08 05 54.0	+5.7
KRUS	Krusevo	7.68	333	ePn	Pn	08 05 52.2	+3.3
HFRF	Wahat Farafira	7.71	164	P	Pn	08 05 49.4	+0.1
	baz=164						
HFRF	Wahat Farafira	7.71	164	P	Pn	08 05 49.4	+0.1
SLTI	Sal'it	8.02	104	Pn	Pn	08 05 52.1	-1.4
SLTI	Sal'it	8.02	104	Pn	Pn	08 05 52.1	-1.4
SLTI				Sn	Sn	08 07 18.0	-5.1
BR131	Keskin Array S	8.05	48	ePn	Pn	08 05 55.8	+1.8
BR131				eSn	Sn	08 07 22.4	-1.5
BR131	Keskin Array S	8.05	48	ePn	Pn	08 05 55.8	+1.8
BRTR	Keskin Array B	8.05	48	Pn	Pn	08 05 56.1	+2.1
	comp=Z,0.5nm,0.3s,baz=215,slow=14,SNR=9.8						
BRTR				Sn	Sn	08 07 21.7	-2.2
	comp=Z,0.3nm,0.3s,baz=354,slow=7.7,SNR=2.9						
BRTR				LR	LR	08 09 54.1	
	comp=Z,281nm,21.5s,baz=223,slow=44						
KZIT	Kziot	8.07	115	Pn	Pn	08 05 53.6	-0.6
KZIT	Kziot	8.07	115	Pn	Pn	08 05 53.6	-0.6
KZIT				Sn	Sn	08 07 19.5	-4.8
MMA0B	Mount Meron ar	8.10	99	Pn	Pn	08 05 53.4	-1.2
MMA0B	Mount Meron ar	8.10	99	Pn	Pn	08 05 53.4	-1.2
MMAI	Mount Meron Ar	8.10	99	Pn	Pn	08 05 53.7	-0.9
	comp=Z,12nm,0.3s,baz=281,slow=11,SNR=29						
MMAI				Sn	Sn	08 07 20.5	-4.4
	comp=Z,33nm,0.3s,baz=284,slow=28,SNR=11						
SKO	Skopje	8.15	336	ePn	Pn	08 06 02.8	+7.6
AMAZ	Amatzia	8.19	109	Pn	Pn	08 05 54.9	-0.9
AMAZ	Amatzia	8.19	109	Pn	Pn	08 05 54.9	-0.9
QRWL	Qaraoun	8.22	95	eP	Pn	08 05 55.2	-1.0
VTS	Vitosha	8.25	346	⇓iP	Pn	08 06 04.3	+7.5
VTS	Vitosha	8.25	346	ePn	Pn	08 06 04.2	+7.4
VTS	Vitosha	8.25	346	P	Pn	08 06 04.3	+7.5
VTS	Vitosha	8.25	346	eP	Pn	08 06 01.4	+4.6
KSDI	Kefar Szold	8.27	97	Pn	Pn	08 05 55.8	-1.0
KSDI	Kefar Szold	8.27	97	Pn	Pn	08 05 55.8	-1.0
KSDI				Sn	Sn	08 07 24.3	-4.7
MMLI	Mount Malkishu	8.27	102	Pn	Pn	08 05 55.5	-1.4
MMLI	Mount Malkishu	8.27	102	Pn	Pn	08 05 55.5	-1.4
MMLI				Sn	Sn	08 07 23.6	-5.5
RCY	Rachaya	8.35	95	eP	Pn	08 05 56.5	-1.7
HMDT	Nahal Hemdat	8.41	103	Pn	Pn	08 05 57.7	-1.1
HMDT	Nahal Hemdat	8.41	103	Pn	Pn	08 05 57.7	-1.1
HMDT				Sn	Sn	08 07 27.7	-4.8
YTIR	Yattir	8.41	110	Pn	Pn	08 05 58.3	-0.7
YTIR	Yattir	8.41	110	Pn	Pn	08 05 58.3	-0.7
DSI	Dead Sea	8.54	108	Pn	Pn	08 05 59.8	-0.8
DSI	Dead Sea	8.54	108	Pn	Pn	08 05 59.8	-0.8
TIP	Timpagrande	8.61	305	⇑iP	Pn	08 06 00.3	-1.3
TIP	Timpagrande	8.61	305	ePn	Pn	08 06 00.5	-1.1
TIP	Timpagrande	8.61	305	ePn	Pn	08 06 00.5	-1.1
MZDA	Masada	8.63	110	Pn	Pn	08 06 00.6	-1.2
MZDA	Masada	8.63	110	Pn	Pn	08 06 00.6	-1.2
MZDA				Sn	Sn	08 07 33.0	-4.8
SOI	Samo	8.64	297	P	Pn	08 06 01.9	-0.1
SOI	Samo	8.64	297	P	Pn	08 06 01.9	-0.1
PRNI	Paran	8.80	116	Pn	Pn	08 06 03.7	-0.6
PRNI	Paran	8.80	116	Pn	Pn	08 06 03.7	-0.6
PRNI				Sn	Sn	08 07 37.2	-5.1
CEL	Celeste	8.83	297	ePn	Pn	08 06 04.5	-0.1
CEL	Celeste	8.83	297	ePn	Pn	08 06 04.5	-0.1
ZFRI	Zfri	8.83	115	Pn	Pn	08 06 03.4	-1.2
ZFRI	Zfri	8.83	115	Pn	Pn	08 06 03.4	-1.2
ZFRI				Sn	Sn	08 07 36.7	-6.2
HRFI	Mount Harif	8.99	118	Pn	Pn	08 06 06.3	-0.6
HRFI	Mount Harif	8.99	118	Pn	Pn	08 06 06.3	-0.6
MBRI	Mt Berech	9.04	119	Pn	Pn	08 06 07.4	-0.1
MBRI	Mt Berech	9.04	119	Pn	Pn	08 06 07.4	-0.1
MBRI				Sn	Sn	08 07 42.8	-5.3
EIL	Elat	9.13	120	Pn	Pn	08 06 15.9	+7.1
	comp=Z,4.3nm,0.3s,baz=1.6,slow=5.6,SNR=42						
EIL				Sn	Sn	08 07 51.7	+1.3
	comp=Z,6.0nm,0.3s,baz=344,slow=15,SNR=6.3						
EIL	Elat	9.13	120	Pn	Pn	08 06 08.4	-0.4
EIL				Sn	Sn	08 07 51.7	+1.3
EIL	Elat	9.13	120	Pn	Pn	08 06 08.4	-0.4
HKAT	Jabal Katrina	9.20	129	P	Pn	08 06 08.4	-1.5
	baz=128						
HKAT	Jabal Katrina	9.20	129	P	Pn	08 06 08.4	-1.5
PDG	Podgorica	9.38	329	⇓iP	Pn	08 06 14.2	+2.1
TTG	Podgorica	9.38	329	ePn	Pn	08 06 12.6	+0.5
TTG				eSn	Sn	08 07 57.0	+0.7
TTG	Podgorica	9.38	329	eP	Pn	08 06 12.6	+0.5
TTG				e		08 07 57.0	
TTG	Podgorica	9.38	329	eP	Pn	08 06 12.6	+0.5
TTG				eS	Sn	08 07 57.0	+0.7
ASF	Jabal al Asfar	9.54	102	Pn	Pn	08 06 13.7	-0.7
	comp=Z,2.7nm,0.3s,baz=237,slow=6.8,SNR=28						
ASF				Sn	Sn	08 07 57.4	-3.0
	comp=Z,2.4nm,0.3s,baz=348,slow=21,SNR=7.2						
CUC	Castrocucco	9.65	307	ePn	Pn	08 06 16.0	+0.2
CUC				eSn	Sn	08 08 04.4	+1.5
CUC	Castrocucco	9.65	307	ePn	Pn	08 06 16.0	+0.2
CUC				eSn	Sn	08 08 04.4	+1.5
VAE	Valguarnera	9.71	291	Pn	Pn	08 06 17.0	+0.3
	comp=Z,2.3nm,0.3s,baz=95,slow=1.4,SNR=8.2						
VAE				LR	LR	08 10 54.0	
	comp=Z,96nm,21.2s,baz=106,slow=43						
TIRR	Tirgusor	10.05	11	⇑iP	Pn	08 06 26.2	+5.0
TIRR	Tirgusor	10.05	11	P	Pn	08 06 26.2	+5.0
TLB	Topalu	10.12	9	⇑iP	Pn	08 06 28.1	+5.9
TLB	Topalu	10.12	9	P	Pn	08 06 28.1	+5.9
ISR	Istrita	10.53	3	P	Pn	08 06 31.0	+3.1
ISR				pmax	pmax		
	comp=Z,43nm,1.3s						
ISR	Istrita	10.53	3	P	Pn	08 06 31.0	+3.1
	comp=Z,43nm,1.3s						
HERR	Herculane	10.61	347	⇑iP	Pn	08 06 35.2	+6.2
CLTB	Caltabellotta	10.66	290	ePn	Pn	08 06 31.8	+2.1
CLTB	Caltabellotta	10.66	290	ePn	Pn	08 06 31.8	+2.1
ARR	Arges	10.81	355	⇓iP	Pn	08 06 38.2	+6.5
TLCR		10.82	11	⇓iP	Pn	08 06 37.4	+5.6
TLCR		10.82	11	P	Pn	08 06 37.4	+5.6
VOIR		10.85	357	⇓iP	Pn	08 06 39.9	+7.6
VOIR		10.85	357	P	Pn	08 06 36.1	+3.8
VOIR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VOIR		10.85	357	P	Pn	08 06 36.1	+3.8
	comp=Z,7.0nm,1.1s						
MLR	Muntele Rosu	10.89	0	Pn	Pn	08 06 37.8	+4.9
	comp=Z,0.1nm,0.3s,baz=234,slow=6.2,SNR=4.0						
MLR				LR	LR	08 11 13.9	
	comp=Z,64nm,19.3s,baz=210,slow=40						
MLR	Muntele Rosu	10.89	0	⇓iP	Pn	08 06 39.0	+6.1
LOT	Lotru	10.96	352	⇑iP	Pn	08 06 42.1	+8.2
VRI	Vrincioaia	11.28	3	⇓iP	Pn	08 06 45.2	+7.1
VRI	Vrincioaia	11.28	3	P	Pn	08 06 45.2	+7.1
DEV	Deva	11.50	350	⇑iP	Pn	08 06 49.6	+8.5
DEV	Deva	11.50	350	P	Pn	08 06 49.6	+8.5
SIRR	Siria	12.09	346	⇑iP	P	08 06 57.0	-4.5
DRGR		12.42	350	⇓iP	P	08 07 00.5	-4.7
DRGR		12.42	350	P	P	08 07 00.5	-4.7
BURAR	Bucovina Array	13.02	358	⇓iP	P	08 07 10.1	-1.8
BURAR	Bucovina Array	13.02	358	P	P	08 07 10.1	-1.8
KEST	Kesra	13.56	280	Pn	Pn	08 07 10.1	+0.6
	comp=Z,0.1nm,0.3s,baz=56,slow=7.3,SNR=2.9						
KEST	Kesra	13.56	280	ePn	P	08 07 18.1	+0.1
SORM	Soroca	13.66	7	⇓iP	P	08 07 18.5	-0.4
SORM	Soroca	13.66	7	P	P	08 07 18.5	-0.4
UZH	Uzhgorod	14.28	350	eP	Pn	08 07 21.3	+2.3
TRI	Trieste	14.43	324	ePn	P	08 07 26.8	-0.7
TRI	Trieste	14.43	324	eP	P	08 07 26.8	-0.7
TRI	Trieste	14.43	324	eP	P	08 07 26.8	-0.7
KECS	Kecovo	14.45	346	eP	Pn	08 07 20.0	-1.3
KECS	Kecovo	14.45	346	ePN	Pn	08 07 20.0	-1.3
KECS				eLG	Lg	08 07 22.5	
SOKA	Soboth	14.59	329	P	P	08 07 27.8	-1.5
	comp=Z,3.7nm,0.9s						
OBKA	Obir	14.67	328	Pn	Pn	08 07 25.6	+1.2
	comp=Z,3.2nm,0.8s						
OBKA	Obir	14.67	328	ePn	Pn	08 07 25.6	+1.2
	comp=Z,3.2nm,0.8s						
ARSA	Arzberg	14.85	332	Pn	Pn	08 07 27.5	+0.8
	comp=Z,2.0nm,0.5s						
ARSA	Arzberg	14.85	332	Pn	Pn	08 07 27.5	+0.8
	comp=Z,2.0nm,0.5s						
STHS	Stebnicka Huta	15.20	348	eP	P	08 07 35.1	-1.0
STHS	Stebnicka Huta	15.20	348	eP	P	08 07 35.1	-1.0
STHS	Stebnicka Huta	15.20	348	eP	P	08 07 35.1	-1.0
CONA	Conrad Observa	15.28	334	ePn	P	08 07 42.2	+5.2
	comp=Z,5.9nm,1.1s						
AKH	Akhalkalaki	15.46	59	ePn	P	08 07 37.9	-1.3
	comp=Z,42nm,1.7s						
AKH	Akhalkalaki	15.46	59	eP	P	08 07 37.9	-1.3
AKH				pmax	pmax		
	comp=Z,42nm,1.7s						
AKH	Akhalkalaki	15.46	59	eP	P	08 07 37.9	-1.3
	comp=Z,42nm,1.7s						
KBA	Koelnbreinsper	15.64	327	P	Pn	08 07 37.5	+0.2
KBA				pmax	pmax		
	comp=Z,6.0nm,0.8s						

KBA Koelnbreinsper 15.64 327 P P 08 07 40.1 -1.0
comp=Z,6.1nm,0.8s
KBA Koelnbreinsper 15.64 327 *e*P **P 08 07 40.1 -1.0**
comp=Z,6.1nm,0.8s
NEY Neytrino 15.69 52 *c e*P **Pn 08 07 38.7 +0.7**
ABTA Abfaltersbach 15.78 324 P **P 08 07 42.8 +0.2**
comp=Z,17nm,0.7s
ABTA Abfaltersbach 15.78 324 *e*P **P 08 07 42.8 +0.2**
comp=Z,17nm,0.7s
MOA Molln 15.84 330 P **P 08 07 44.1 +1.0**
comp=Z,4.0nm,0.7s
MOA Molln 15.84 330 P **P 08 07 44.1 +1.0**
comp=Z,4.0nm,0.7s
GNI Garni 15.99 64 Pn **P 08 07 44.0 -1.0**
comp=Z,0.4nm,0.3s,baz=282,slow=8.1,SNR=3.2
GNI LR LR 08 15 14.8
comp=Z,271nm,20.0s,baz=268,slow=42
GNI Garni 15.99 64 *c e*P **Pn 08 07 42.7 +0.8**
GNI pmax pmax
comp=Z,57nm,1.7s
KIV Kislovodsk 16.01 49 *e*Pn **P 08 07 47.4 +2.3**
comp=Z,123nm,1.3s
KIV Kislovodsk 16.01 49 *e*P **Pn 08 07 43.5 +1.5**
KIV pmax pmax
comp=Z,78nm,1.1s
KIV MLR MLR
comp=Z,35nm,11.0s
KVAR Kislovodsk Arr 16.02 49 Pn **P 08 07 45.1 -0.1**
baz=276,slow=0.9,SNR=15
KVAR LR LR 08 14 04.8
comp=Z,73nm,18.6s,baz=304,slow=38
KBZ Khabaz 16.03 50 Pn **P 08 07 44.5 -0.8**
comp=Z,1.8nm,0.3s,baz=245,slow=9.0,SNR=73
KBZ LR LR 08 15 28.2
comp=Z,83nm,18.1s,baz=238,slow=43
VRAC Vranov 16.22 338 Pn **Pn 08 07 45.0 +0.4**
comp=Z,0.4nm,0.3s,baz=148,slow=13,SNR=2.6
VRAC LR LR 08 14 13.5
comp=Z,106nm,19.8s,baz=166,slow=38
VRAC Vranov 16.22 338 P **Pn 08 07 45.0 +0.4**
VRAC MLR MLR
comp=Z,106nm,19.8s
VRAC Vranov 16.22 338 Pn **Pn 08 07 45.0 +0.4**
OJC Ojcow 16.24 346 *e*Pn **P 08 07 47.8 +0.3**
comp=Z,10nm,1.1s
OJC Ojcow 16.24 346 *e*P **P 08 07 47.8 +0.3**
OJC pmax pmax
comp=Z,10.0nm,1.1s
AK11 Malin Array Si 16.26 8 *e*Pn **Pn 08 07 46.3 +1.3**
AK11 Malin Array Si 16.26 8 *e*Pn **Pn 08 07 46.3 +1.3**
KIEV Kiev 16.28 8 *e*Pn **P 08 07 47.3 -0.6**
comp=Z,12nm,0.8s
KIEV Kiev 16.28 8 *e*P **P 08 07 47.3 -0.6**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 16.28 8 *e*P **P 08 07 47.3 -0.6**
comp=Z,12nm,0.8s
AKASG Malin Array Be 16.29 8 Pn **Pn 08 07 45.5 +0.2**
comp=Z,3.2nm,0.3s,baz=197,slow=11,SNR=12
AKBB Malin Array Si 16.29 8 *e*Pn **P 08 07 47.3 -0.7**
AKBB Malin Array Si 16.29 8 *e*P **P 08 07 47.3 -0.7**
AKBB Malin Array Si 16.29 8 *e*P **P 08 07 47.3 -0.7**
NCK Nalchik 16.37 52 *c e*P **P 08 07 48.1 -1.0**
NCK Nalchik 16.37 52 *e*P **P 08 07 48.1 -1.0**
WTTA Wattenberg 16.57 324 P **P 08 07 52.6 +1.1**
comp=Z,8.2nm,0.8s
WTTA Wattenberg 16.57 324 *e*P **P 08 07 52.6 +1.1**
comp=Z,8.2nm,0.8s
WATA Walderalm 16.65 324 Pn **P 08 07 51.2 -1.1**
comp=Z,12nm,0.8s
WATA Walderalm 16.65 324 *e*Pn **P 08 07 51.2 -1.1**
comp=Z,12nm,0.8s
FUORN Ofenpass-Fuorn 16.84 320 *e*P **P 08 07 55.0 +0.6**
comp=Z,17nm,0.8s
FUORN Ofenpass-Fuorn 16.84 320 *e*P **P 08 07 55.0 +0.6**
comp=Z,17nm,0.8s
GEA0 GERESS Array S 16.85 331 *e*Pn **P 08 07 54.0 -0.4**
GEA0 GERESS Array S 16.85 331 *e*Pn **P 08 07 54.0 -0.4**
FETA Feichten 16.86 322 Pn **P 08 07 55.3 +0.7**
comp=Z,11nm,0.9s
FETA Feichten 16.86 322 *e*Pn **P 08 07 55.3 +0.7**
comp=Z,11nm,0.9s
GEC2 GERESS Array S 16.86 331 *e*Pn **P 08 07 54.0 -0.5**
comp=Z,7.1nm,1.0s
GEC2 GERESS Array S 16.86 331 *e*P **P 08 07 54.0 -0.5**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s
GEC2 GERESS Array S 16.86 331 *e*P **P 08 07 54.0 -0.5**
comp=Z,7.0nm,1.0s
GERES GERESS Array B 16.86 331 Pn **Pn 08 07 52.5 -0.2**
comp=Z,0.3nm,0.3s,baz=150,slow=12,SNR=18
GERES LR LR 08 15 19.1
comp=Z,99nm,18.3s,baz=144,slow=40
MOTA Moosalm 16.89 323 P **Pn 08 07 54.0 +0.8**
comp=Z,4.3nm,0.5s
MOTA Moosalm 16.89 323 P **Pn 08 07 54.0 +0.8**
comp=Z,4.3nm,0.5s
SAOF Saorge 16.96 309 *e*P **Pn 08 07 54.1 +0.1**
SAOF pmax pmax
comp=Z,9.0nm,1.5s
SAOF Saorge 16.96 309 *e*P **Pn 08 07 54.1 +0.1**
comp=Z,9.0nm,1.5s
SBF Sospel 16.99 309 *e*P **Pn 08 07 55.0 +0.7**
SBF pmax pmax
comp=Z,16nm,0.8s
SBF Sospel 16.99 309 *e*P **Pn 08 07 55.0 +0.7**
comp=Z,16nm,0.8s
KHC Kasperske Hory 17.14 332 *e*P **P 08 07 56.8 -0.7**
KHC *ex* x 08 08 12.5
KHC Kasperske Hory 17.14 332 *e*Pn **P 08 07 56.9 -0.6**
comp=Z,2.4nm,0.9s
KHC Kasperske Hory 17.14 332 *e*P **P 08 07 56.9 -0.6**
KHC pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 17.14 332 *e*P **P 08 07 56.9 -0.6**
comp=Z,2.0nm,0.9s
DAVOX Davos/Dischmat 17.14 320 P **Pn 08 07 56.3 -0.1**
comp=Z,0.4nm,0.3s,baz=147,slow=8.6,SNR=2.7
DAVOX LR LR 08 15 13.9
comp=Z,163nm,21.8s,baz=102,slow=40
RETA Reutte 17.16 323 P **Pn 08 07 56.9 +0.5**
comp=Z,3.2nm,0.5s
RETA Reutte 17.16 323 *e*P **Pn 08 07 56.9 +0.5**
comp=Z,3.2nm,0.5s
TUE Stuetta 17.23 318 *e*Pn **P 08 08 00.3 +1.5**
comp=Z,9.8nm,0.7s
TUE Stuetta 17.23 318 *e*Pn **P 08 08 00.3 +1.5**
comp=Z,9.8nm,0.7s
GOPC GO Pecny, Ondr 17.34 335 *e*P **Pn 08 07 58.7 +0.1**
GOPC GO Pecny, Ondr 17.34 335 *e*P **Pn 08 07 58.7 +0.1**
GOPC GO Pecny, Ondr 17.34 335 *e*P **Pn 08 07 58.7 +0.1**
FRF La Foret Royal 17.37 307 *e*P **Pn 08 07 58.2 -0.8**
FRF pmax pmax
comp=Z,4.0nm,0.6s
FRF La Foret Royal 17.37 307 *e*P **Pn 08 07 58.2 -0.8**
comp=Z,4.0nm,0.6s
WET Wettzell 17.43 330 P **P 08 08 00.7 0.0**
WET pmax pmax
comp=Z,9.0nm,1.8s
WET Wettzell 17.43 330 P **P 08 08 00.7 0.0**
comp=Z,9.0nm,1.8s
DAVA Damuels 17.47 321 Pn **Pn 08 08 00.2 -0.1**
comp=Z,6.1nm,0.5s
DAVA Damuels 17.47 321 *e*Pn **Pn 08 08 00.2 -0.1**
comp=Z,6.1nm,0.5s
LEPF PUYLOUBIER 17.98 306 *e*P **P 08 08 07.0 +0.1**
BNI Bardonecchia 18.02 311 *e*P **P 08 08 08.3 +0.9**
comp=Z,15nm,1.4s
BNI Bardonecchia 18.02 311 *e*P **P 08 08 08.3 +0.9**
BNI pmax pmax
comp=Z,15nm,1.4s
BNI Bardonecchia 18.02 311 *e*P **P 08 08 08.3 +0.9**
comp=Z,15nm,1.4s
LPG La Plagne 18.20 312 *e*P **P 08 08 10.8 +1.3**
LPG pmax pmax
comp=Z,5.0nm,0.6s
LPG La Plagne 18.20 312 *e*P **P 08 08 10.8 +1.3**
comp=Z,5.0nm,0.6s
LPL La Plagne 18.22 313 *e*P **P 08 08 13.4 +3.8**
LPL pmax pmax
comp=Z,2.0nm,0.3s
SENIN Lac Senin/Sane 18.32 315 *e*P **Pn 08 08 11.1 +0.1**
comp=Z,11nm,0.7s
SENIN Lac Senin/Sane 18.32 315 *e*P **Pn 08 08 11.1 +0.1**
comp=Z,11nm,0.7s
BRG Berggiesshubel 18.44 336 *e*P Pn 08 08 19.7 +7.6
comp=Z,14nm,1.5s
BRG Berggiesshubel 18.44 336 *e*P Pn 08 08 19.7 +7.6
BRG pmax pmax
comp=Z,15nm,1.5s
SLE Schleitheim 18.50 321 P **P 08 08 10.6 -1.9**
SLE pmax pmax
comp=Z,8.0nm,0.9s
SLE Schleitheim 18.50 321 P **P 08 08 10.6 -1.9**
comp=Z,8.0nm,0.9s
GRA1 Grafenberg Arr 18.54 329 P **Pn 08 08 14.1 +0.8**
comp=Z,22nm,0.7s
GRF Grafenberg Arr 18.54 329 P **Pn 08 08 14.1 +0.8**
GRF pmax pmax
comp=Z,22nm,0.7s
GRFO Grafenberg 18.54 329 *e*P **Pn 08 08 14.1 +0.8**
comp=Z,16nm,0.6s
GRFO Grafenberg 18.54 329 *e*P **Pn 08 08 14.1 +0.8**
GRFO pmax pmax
comp=Z,15nm,0.6s
GRFO Grafenberg 18.54 329 *e*P **Pn 08 08 14.1 +0.8**
comp=Z,16nm,0.6s
FELD Feldberg im Sc 18.82 320 *e*P **P 08 08 14.6 -1.6**
BFO Black Forest 18.94 322 *e*P **P 08 08 16.6 -0.7**
comp=Z,10.0nm,1.0s
BFO Black Forest 18.94 322 *i* P **P 08 08 17.3 -0.1**
BFO Black Forest 18.94 322 *i* P **P 08 08 17.3 -0.1**
CLL Collm 19.13 335 *e*P **P 08 08 18.0 -1.3**
CLL *e*pP **pP 08 08 25.0 -3.4**
CLL Collm 19.13 335 *e*P **P 08 08 18.0 -1.3**
CLL Collm 19.13 335 *e*P **P 08 08 18.0 -1.3**
LOMF Lomont 19.15 317 *e*P **Pn 08 08 21.3 +0.5**
CABF La Chapelle 19.16 315 *e*P **P 08 08 17.8 -2.1**
CABF pmax pmax
comp=Z,7.0nm,0.7s
CABF La Chapelle 19.16 315 *e*P **P 08 08 17.8 -2.1**
comp=Z,7.0nm,0.7s
VIVF Saint-Julien-l 19.20 309 *e*P **P 08 08 19.2 -1.1**
VIVF pmax pmax
comp=Z,5.0nm,0.8s
VIVF Saint-Julien-l 19.20 309 *e*P **P 08 08 19.2 -1.1**
comp=Z,5.0nm,0.8s
VSR Storozhevoye 19.21 26 *e*P **Pn 08 08 21.3 -0.1**
VSR pmax pmax
comp=Z,5.0nm,0.8s
VSR Storozhevoye 19.21 26 *e*P **Pn 08 08 21.3 -0.1**
comp=Z,5.0nm,0.8s
HINF Hinteralfeld 19.40 319 *e*P **P 08 08 20.0 -2.5**
HINF pmax pmax
comp=Z,4.0nm,0.6s
SSB Saint Sauveur 19.47 310 *e*P **P 08 08 23.2 0.0**
comp=Z,4.1nm,0.9s
SSB Saint Sauveur 19.47 310 *e*P **P 08 08 23.2 0.0**
SSB pmax pmax
comp=Z,4.0nm,0.9s
SSB Saint Sauveur 19.47 310 *e*P **P 08 08 23.2 0.0**
comp=Z,4.1nm,0.9s
SUW Suwalki 19.51 355 *e*P **Pn 08 08 24.6 -0.3**
comp=Z,52nm,0.8s
SUW Suwalki 19.51 355 *e*P **Pn 08 08 24.6 -0.3**
SUW pmax pmax
comp=Z,52nm,0.8s
SUW Suwalki 19.51 355 *e*P **Pn 08 08 24.6 -0.3**
comp=Z,52nm,0.8s
CDF Champ du Feu 19.54 321 *e*P **P 08 08 22.5 -1.5**
CDF pmax pmax
comp=Z,12nm,0.7s
THEF They Montfort 20.12 319 *e*P **P 08 08 30.0 -0.2**
PLDF La Plantade 20.35 311 *e*P **P 08 08 32.0 -0.8**
RAYN Ar Rayn 20.37 118 *e*P **P 08 08 34.1 +0.9**
comp=Z,8.3nm,1.0s
RAYN Ar Rayn 20.37 118 *e*P **P 08 08 34.1 +0.9**
comp=Z,8.3nm,1.0s
PYM Petit Puy Mans 20.64 310 *e*P **P 08 08 36.2 +0.2**
AVF Avril sur Loir 20.89 312 *e*P **P 08 08 37.4 -1.1**
AVF pmax pmax
comp=Z,3.0nm,0.7s
AVF Avril sur Loir 20.89 312 *e*P **P 08 08 37.4 -1.1**
comp=Z,3.0nm,0.7s
WLF Walferdange 20.89 322 ⇑P **P 08 08 39.1 +0.4**
WLF Walferdange 20.89 322 P **P 08 08 39.0 +0.4**
CAF Calviac 20.93 307 *e*P Pn 08 08 40.5 -1.3
CAF pmax pmax
comp=Z,7.0nm,1.1s
CAF Calviac 20.93 307 *e*P Pn 08 08 40.5 -1.3
comp=Z,7.0nm,1.1s
MEM Membach 21.57 324 ⇑P **P 08 08 45.3 -0.5**
comp=Z,25nm,0.9s
MEM ⇓AP **pP 08 08 56.3 +1.3**
MEM Membach 21.57 324 P **P 08 08 45.7 -0.1**
BCLA Clavier 21.80 323 ⇑P **P 08 08 48.0 -0.3**
BCLA Clavier 21.80 323 P **P 08 08 47.9 -0.3**
OBN Obninsk 21.83 17 LR LR 08 17 09.2
comp=Z,98nm,18.9s,baz=266,slow=36
OBN Obninsk 21.83 17 *e*P **P 08 08 49.2 +0.7**
OBN *e*PPP PPP 08 09 19.9
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,106nm,17.0s
DOU Dourbes 21.96 321 ⇑P **P 08 08 49.5 -0.5**
comp=Z,13nm,1.0s
DOU ⇑AP **pP 08 08 59.5 +0.3**
SNF Seneffe 22.36 322 ⇑P **P 08 08 54.0 -0.3**
UCC Uccle 22.50 323 ⇑P **P 08 08 55.9 0.0**
UCC Uccle 22.50 323 *e*P **P 08 08 55.8 0.0**
comp=Z,35nm,0.6s
UCC Uccle 22.50 323 *e*P **P 08 08 55.8 0.0**
UCC pmax pmax
comp=Z,35nm,0.6s
MFF Saint Martin d 22.99 309 *e*P **P 08 09 00.1 -0.9**
MFF pmax pmax
comp=Z,4.0nm,0.6s
LDF La Druitiere 23.80 314 *e*P **P 08 09 05.9 -3.0**
LDF pmax pmax
comp=Z,13nm,1.0s
ESDC Sonseca Array 24.25 291 P **P 08 09 13.2 -0.1**
comp=Z,1.1nm,0.6s,baz=64,slow=6.9,SNR=7.6
ESDC LR LR 08 18 39.6
comp=Z,45nm,19.3s,baz=150,slow=36
QUIF Quistinic 25.39 310 *e*P **P 08 09 22.7 -0.7**
QUIF pmax pmax
comp=Z,8.0nm,0.5s
GEYT Alibeck 26.15 73 P **P 08 09 31.0 +0.5**
comp=Z,3.4nm,0.5s,baz=294,slow=7.7,SNR=6.0
PBRG Braganca 26.50 295 *e*P **P 08 09 33.8 +0.2**
PBRG Braganca 26.50 295 *e*P **P 08 09 33.8 +0.2**
MVO Moncorvo 26.67 294 *e*P **P 08 08 34.9 -0.3**
MVO Moncorvo 26.67 294 *e*P **P 08 08 34.9 -0.3**
HFS Hagfors 26.76 346 P **P 08 09 33.5 -2.2**
comp=Z,1.0nm,0.3s,baz=144,slow=11,SNR=8.9
HFS LR LR 08 20 32.3
comp=Z,76nm,18.0s,baz=136,slow=37
FINES FINESS Array B 26.87 0 P **P 08 09 34.5 -2.1**
comp=Z,1.8nm,0.3s,baz=163,slow=11,SNR=21
FINES LR LR 08 22 16.6
comp=Z,47nm,18.9s,baz=66,slow=41
FINES FINESS Array B 26.87 0 *i* P **P 08 09 34.9 -1.7**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FIA1 FINESS Array S 26.87 0 *e*P **P 08 09 34.8 -1.8**
comp=Z,59nm,1.5s
PESTR Estremoz 27.06 289 *e*P **P 08 09 38.7 +0.1**
PESTR Estremoz 27.06 289 *e*P **P 08 09 38.7 +0.1**
KLMR Klimovskoe 27.72 14 *e*P **P 08 09 40.7 -3.5**
KLMR pmax pmax
comp=Z,17nm,1.4s
KLMR Klimovskoe 27.72 14 *e*P **P 08 09 40.8 -3.5**
KLMR AMP 08 09 43.5
comp=Z,17nm,1.4s
NC602 NORSAR Array S 27.75 345 *e*P **P 08 09 43.5 -1.1**
NC605 NORSAR Array S 27.82 345 *e*P **P 08 09 45.5 +0.3**
UOSS Minazif 27.95 102 *e*P **P 08 09 48.0 +1.3**
comp=Z,8.2nm,0.9s
NAO01 NORSAR Array S 27.99 344 *e*P **P 08 09 45.7 -1.1**
NOA NORSAR Array B 28.10 345 P **P 08 09 45.9 -1.8**
comp=Z,0.3nm,0.3s,baz=154,slow=9.3,SNR=4.2
NOA LR LR 08 21 45.4
comp=Z,50nm,20.0s,baz=150,slow=38
NOA NORSAR Array B 28.10 345 P **P 08 09 45.9 -1.8**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA MLR MLR
comp=Z,50nm,20.0s
NBO02 NORSAR Array S 28.18 345 *e*P **P 08 09 48.3 -0.1**
AKTO Aktyubinsk 28.22 46 LR LR 08 24 56.6
comp=Z,64nm,19.2s,baz=275,slow=45
EKA Eskdalemuir Ar 28.84 325 P **P 08 09 53.6 -0.6**
comp=Z,2.0nm,0.5s,baz=118,slow=8.8,SNR=7.1
ABKAR Akbulak array 29.00 49 *e*P **P 08 09 56.1 +0.3**
comp=Z,37nm,0.6s
ABKAR Akbulak array 29.00 49 *e*P **P 08 09 56.1 +0.3**
comp=Z,37nm,0.6s
TOA0 Torodi Ar. Sit 30.58 232 *e*P **P 08 10 10.5 +0.5**
comp=Z,13nm,1.4s
TORD Torodi Ar. Bea 30.58 232 P **P 08 10 10.4 +0.4**
comp=Z,3.1nm,0.4s,baz=31,slow=8.6,SNR=37
TORD LR LR 08 23 56.9
comp=Z,65nm,19.2s,baz=65,slow=39
WSAR Wadi Sarin 30.70 103 P **P 08 10 12.0 +0.9**
comp=Z,3.5nm,1.0s,baz=290,slow=8.6,SNR=2.6
WSAR LR LR 08 26 03.4
comp=Z,85nm,21.0s,baz=348,slow=43
ARU Arti 31.18 35 P **P 08 10 15.9 +0.9**
comp=Z,10nm,0.2s,baz=233,slow=5.9,SNR=3.0
ARU Arti 31.18 35 P **P 08 10 14.6 -0.3**
ARU 08 11 17.4
ARU S **S 08 15 21.6 +3.2**
ARU SS **SnSn 08 17 03.3 +1.3**
SOKR Solikamsk 32.17 29 ⇓*i* P **P 08 10 20.5 -3.0**
SOKR pmax pmax
comp=Z,9.0nm,0.8s
KOWA Kowa 33.55 241 P **P 08 10 36.1 0.0**
comp=Z,2.3nm,0.6s,baz=56,slow=10,SNR=6.9
KOWA LR LR 08 25 17.9
comp=Z,67nm,18.1s,baz=33,slow=38
KOWA Kowa 33.55 241 *e*P **P 08 10 37.1 +1.0**
comp=Z,7.6nm,1.2s
ARCES ARCESS Array B 35.00 360 P **P 08 10 46.5 -1.7**
comp=Z,2.3nm,0.4s,baz=173,slow=9.3,SNR=42
ARE0 ARCESS Array S 35.00 360 *e*P **P 08 10 46.5 -1.6**
comp=Z,144nm,1.7s
KK31 Karatay Array 35.45 63 *i* P **P 08 10 53.2 +0.8**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 35.45 63 *e*P **P 08 10 53.8 +1.4**
KKAR Karatay Array 35.45 63 *e*P **P 08 10 53.8 +1.4**
BRVK Borovoye 36.27 46 *e*P **P 08 10 59.7 +0.4**
comp=Z,20nm,1.8s
BRVK Borovoye 36.27 46 ⇑*i*P **P 08 10 59.4 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 36.33 46 P **P 08 11 00.0 +0.3**
comp=Z,1.1nm,0.6s,baz=276,slow=5.8,SNR=8.6
OTUK Ortayu 36.86 54 P **P 08 11 05.3 +0.9**
OTUK pmax pmax
comp=Z,11nm,0.9s
SFK Sufi-Kurgan 37.92 67 P **P 08 11 14.7 +1.0**
SFK pmax pmax
comp=Z,8.0nm,0.8s
SFK Sufi-Kurgan 37.92 67 P **P 08 11 14.7 +1.0**
comp=Z,8.0nm,0.8s
AAK Ala-Archa 38.40 63 P **P 08 11 18.0 +0.4**
comp=Z,1.7nm,0.4s,baz=212,slow=7.1,SNR=7.9
AAK Ala-Archa 38.40 63 P **P 08 11 18.5 +0.9**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 38.40 63 P **P 08 11 18.0 +0.4**
FRU Bishkek 38.47 63 *e*P **P 08 11 20.0 +1.9**
TKM2 Tokmak 2 39.18 63 P **P 08 11 24.5 +0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 39.67 233 P **P 08 11 27.7 -0.6**
comp=Z,3.5nm,0.8s,baz=18,slow=9.7,SNR=4.8
DBIC LR LR 08 32 08.6
comp=Z,63nm,18.8s,baz=27,slow=42
DBIC Dimbokro 39.67 233 *e*P **P 08 11 28.3 0.0**
DBIC Dimbokro 39.67 233 *e*P **P 08 11 28.3 0.0**
TIC Toumodi 39.80 233 *e*P **P 08 11 28.3 -1.1**
KIC Kosan Boka 39.83 232 *e*P **P 08 11 29.4 -0.2**
comp=Z,12nm,0.8s
KSH Kashi 39.88 68 *e*P **P 08 11 29.6 -0.4**
KSH pP pP 08 11 41.5 +1.4
KSH PP **PnPn 08 13 04.5 -0.8**
KSH S **S 08 17 29.0 -3.5**
KSH sS sS 08 17 49.0 -0.3
KSH SS **SS 08 20 18.4 -11**
LIC Lamto 40.12 232 *e*P **P 08 11 31.8 -0.2**
comp=Z,28nm,1.1s
KURK Kurchatov 41.09 50 *e*P **P 08 11 40.4 +0.7**
comp=Z,11nm,0.8s
KURK Kurchatov 41.09 50 *e*P **P 08 11 40.4 +0.7**
KURK pmax pmax
comp=Z,11nm,0.8s
PDGK Podgornoye 41.98 61 P **P 08 11 48.2 +1.0**
PDGK pmax pmax
comp=Z,4.0nm,0.7s
BBTS Babate 42.96 253 P **P 08 11 56.4 +1.1**
comp=Z,8.6nm,0.3s,baz=81,slow=2.7,SNR=4.0
MAKZ Makanchi 43.39 56 *e*P **P 08 11 59.2 +0.7**
comp=Z,6.0nm,0.6s
MAKZ Makanchi 43.39 56 *e*P **P 08 11 59.2 +0.7**
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 43.61 56 *e*P **P 08 12 01.0 +0.7**
MK31 Makanchi Array 43.61 56 *e*P **P 08 12 01.0 +0.7**
MKAR Makanchi Array 43.61 56 P **P 08 12 00.8 +0.5**
comp=Z,13nm,0.6s,baz=278,slow=6.8,SNR=175
MKAR Makanchi Array 43.61 56 *e*P **P 08 12 01.0 +0.7**
comp=Z,129nm,0.4s
MKAR Makanchi Array 43.61 56 *e*P **P 08 12 01.0 +0.7**
MK01 Makanchi Array 43.62 56 *e*P **P 08 12 00.9 +0.5**
SPITS Spitsbergen Ar 43.88 357 P **P 08 12 01.1 -1.0**
comp=Z,2.2nm,0.5s,baz=148,slow=7.9,SNR=30
SPITS LR LR 08 32 23.6
comp=Z,49nm,20.6s,baz=170,slow=39
SPITS Spitsbergen Ar 43.88 357 P **P 08 12 01.1 -1.0**
SPITS pmax pmax
comp=Z,1.0nm,0.4s
SPITS MLR MLR
comp=Z,49nm,20.6s
ZAA0 Zalesovo Array 44.98 46 *e*P **P 08 12 11.6 +0.5**
comp=Z,5.2nm,0.7s
ZALV Zalesovo Beam 44.98 46 P **P 08 12 10.6 -0.5**
comp=Z,3.0nm,0.4s,baz=266,slow=9.3,SNR=15
ZALV Zalesovo Beam 44.98 46 *e*P **P 08 12 11.8 +0.7**
ZALV Zalesovo Beam 44.98 46 *e*P **P 08 12 11.8 +0.7**
WMQ Urumqi 47.79 59 P **P 08 12 34.4 +1.0**
WMQ pP sP 08 12 46.2 -1.7
TLY Talaya 56.57 47 LR LR 08 42 03.3
comp=Z,66nm,18.1s,baz=3.5,slow=40
ZAK Zakamensk 56.69 48 *e*P **P 08 13 39.4 0.0**
ZAK pmax pmax
comp=Z,2.0nm,1.1s
GTA Gaotai 57.72 62 *e*P **P 08 13 47.4 +0.5**
GTA pP pP 08 13 59.1 +1.6
GTA sP sP 08 14 04.8 +3.3
TULEG Thule 57.75 344 *e*P **P 08 13 46.9 +0.5**
comp=Z,7.4nm,1.0s
SONM Songino Array 59.40 51 P **P 08 13 58.8 +0.3**
comp=Z,1.2nm,0.6s,baz=284,slow=7.7,SNR=11
SONA1 Songino Array 59.40 51 *e*P **P 08 13 59.3 +0.8**
ULN Ulaanbaatar 59.81 50 *e*P **P 08 14 01.9 +0.6**
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 59.81 50 *e*P **P 08 14 02.0 +0.6**
ULN pmax pmax
comp=Z,4.0nm,1.0s
BOD Bodaibo 60.55 38 *e*P **P 08 14 04.8 -1.2**
BOD pmax pmax
comp=Z,5.0nm,2.1s
FRB Frobisher Bay 61.45 330 P **P 08 14 11.4 -0.6**
comp=Z,1.6nm,0.3s,baz=277,slow=5.8,SNR=21
FRB Frobisher Bay 61.45 330 P **P 08 14 11.7 -0.3**
FRB pmax pmax
comp=Z,8.0nm,1.6s
TIXI Tiksi 61.50 21 P **P 08 14 13.1 +0.9**
comp=Z,1.1nm,0.3s,baz=343,slow=4.1,SNR=2.7
TIXI LR LR 08 44 58.1
comp=Z,36nm,18.4s,baz=188,slow=40
TIXI Tiksi 61.50 21 ⇑*e*P **P 08 14 11.2 -1.0**
LZH Lanzhou 61.93 64 *e*P **P 08 14 18.0 +2.0**
LZH pP sP 08 14 29.9 -0.7
LZH sP pP 08 14 37.5 +11
BOSA Boshof 62.87 181 P **P 08 14 22.6 +0.6**
comp=Z,3.5nm,0.8s,baz=19,slow=6.5,SNR=4.4
SCHQ Schefferville 63.99 320 P **P 08 14 28.8 -0.4**
comp=Z,2.1nm,0.4s,baz=77,slow=4.5,SNR=19
SCHQ Schefferville 63.99 320 *e*P **P 08 14 28.8 -0.4**
comp=Z,28nm,1.5s
HHC Hu-ho-hao-te 65.47 56 *e*P **P 08 14 39.9 +0.7**
KMI Kunming 65.90 75 P **P 08 14 45.7 +3.4**
CMAR Chiang Mai Arr 66.06 83 P **P 08 14 43.2 +0.1**
comp=Z,2.2nm,0.3s,baz=300,slow=8.5,SNR=6.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KLR	Kul'dur	73.82	41⇑	eP	P	08 15 30.4	+0.1
SEY	Seymchan	73.86	23	P	P	08 15 30.6	+0.4
	comp=Z,1.6nm,0.3s,baz=170,slow=6.2,SNR=14						
FCC	Fort Churchill	74.47	332	eP	P	08 15 34.4	+0.5
	comp=Z,6.0nm,1.6s						
FCC	Fort Churchill	74.47	332	eP	P	08 15 34.4	+0.5
FCC				pmax	pmax		
	comp=Z,6.0nm,1.6s						
NJ2	Nanjing	74.82	61	eP	P	08 15 37.0	+0.6
NKL	Nikolayevsk	75.96	34	eP	P	08 15 42.5	-0.1
USRK	Ussuriysk Ar.	76.83	45	P	P	08 15 47.5	-0.2
	comp=Z,2.1nm,0.6s,baz=277,slow=5.7,SNR=5.2						
KSAR	Wonju Array Be	78.15	53	P	P	08 15 55.9	+0.7
KSAR	Wonju Array Be	78.15	53	P	P	08 15 55.9	+0.7
YKA	Yellowknife Ar	78.17	342	P	P	08 15 54.2	-0.5
	comp=Z,0.4nm,0.3s,baz=31,slow=5.1,SNR=11						
KSRS	Korea Array	78.17	53	P	P	08 15 55.9	+0.7
	comp=Z,0.8nm,0.3s,baz=296,slow=5.4,SNR=2.9						
KSRS				LR	LR	08 57 28.2	
	comp=Z,21nm,18.3s,baz=150,slow=41						
MDM	Murphy Dome	80.67	357	eP	P	08 16 09.3	+0.9
	comp=Z,17nm,1.4s						
IL1	Eielson Array	80.80	357	eP	P	08 16 09.5	+0.4
ILAR	Eielson Array	80.80	357	P	P	08 16 09.1	0.0
	comp=Z,0.3nm,0.5s,baz=340,slow=4.4,SNR=4.9						
DAWY	Dawson	80.98	353	eP	P	08 16 11.3	+1.2
	comp=Z,30nm,2.0s						
ULM	Lac du Bonnet	81.10	326	P	P	08 16 12.9	+2.0
	comp=Z,0.7nm,0.5s,baz=75,slow=5.7,SNR=3.5						
ULM	Lac du Bonnet	81.10	326	P	P	08 16 13.0	+2.0
ULM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KTH	Kantishna Hill	82.16	359	eP	P	08 16 18.1	+1.7
	comp=Z,39nm,1.8s						
DHY	Denali Highway	82.52	357	eP	P	08 16 19.0	+0.6
	comp=Z,44nm,2.0s						
PPLA	Purkeypile	82.84	359	eP	P	08 16 20.8	+0.8
	comp=Z,66nm,1.8s						
PETK	Petropavlovsk-	83.16	27	LR	LR	08 59 07.2	
	comp=Z,38nm,18.5s,baz=339,slow=40						
PDAR	Pinedale Array	92.89	329	P	P	08 17 09.4	+0.4
	comp=Z,0.2nm,0.5s,baz=39,slow=7.4,SNR=2.8						
PDAR				LR	LR	09 02 45.1	
	comp=Z,26nm,18.6s,baz=36,slow=38						

*ISK **02** 08:14:40.9, 37°.22N×28°.08E, h4km, ML2.8/6*
*ISCJB **02** 08:14:41.4±0.6, 37°.18N±0°.04×28°.11E±0°.04, h0km, Error ellipse: s-maj=7.1km s-min=4.0km az=29.9*
*CSEM **02** 08:14:41.7±0.2, 37°.18N×28°.11E, h1km, ML2.8, Error ellipse: s-maj=7.7km s-min=3.8km az=26.0, Suspected Mining explosion.*
*DDA **02** 08:15:33.8, 37°.21N×28°.18E, h5km, Ml2.9, Suspected Mining explosion.*
ISC 02 08:14:40.7±0.9**, 37°.21N**±0°.04×**28°.04E**±0°.04**, h0km, n20, σ0.84**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.20	110	PG	Pg	08 14 44.8	+0.2
YER				SG	Sg	08 14 48.5	+1.2
YER	Yerkesik	0.20	110	ePg	Pg	08 14 44.8	+0.2
YER				eSg	Sg	08 14 48.5	+1.2
AYDN	Tasoluk	0.47	344	i P	Pb	08 14 52.0	0.0
AYDN				i S	Sb	08 14 59.2	-0.4
AYDN	Tasoluk	0.47	344	P	Pb	08 14 52.0	0.0
AYDN				S	Sb	08 14 59.2	-0.4
TURN	Turunc	0.56	126	PG	Pg	08 14 50.7	-0.7
TURN				SG	Sg	08 14 57.5	-1.1
TURN	Turunc	0.56	126	i P	Pg	08 14 51.0	-0.4
TURN				i S	Sg	08 14 57.9	-0.7
TURN	Turunc	0.56	126	ePg	Pg	08 14 50.7	-0.7
TURN	Turunc	0.56	126	P	Pg	08 14 51.0	-0.4
TURN				eSg	Sg	08 14 57.5	-1.1
BODT	Bodrum	0.60	257	PG	Pb	08 14 53.8	-0.3
BODT	Bodrum	0.60	257	ePg	Pb	08 14 53.8	-0.3
YKAV	Yalikavak-Bodr	0.61	263	PG	Pb	08 14 53.9	-0.4
YKAV	Yalikavak-Bodr	0.61	263	ePg	Pb	08 14 53.9	-0.4
TAVA	DENIZLI_Tavas	0.74	69	i P	Pg	08 14 54.6	-0.4
TAVA				i S	Sg	08 15 03.0	-1.6
TAVA	DENIZLI_Tavas	0.74	69	P	Pg	08 14 54.6	-0.4
TAVA				S	Sg	08 15 03.0	-1.6
GCAM	G?zelcaml?	0.81	308	PG	Pb	08 14 57.6	-0.1
GCAM	G?zelcaml?	0.81	308	i P	Pn	08 14 59.7	+0.3
GCAM				i S	Sn	08 15 14.5	+2.3
GCAM	G?zelcaml?	0.81	308	ePg	Pb	08 14 57.6	-0.1
GCAM	G?zelcaml?	0.81	308	P	Pn	08 14 59.7	+0.3
FETY	Fethiye	1.01	124	PG	Pb	08 15 01.4	+0.3
FETY	Fethiye	1.01	124	ePg	Pb	08 15 01.4	+0.3

*NIED **02** 08:20:00, 37°.40N×144°.10E, h5km, Mw4.2 Best double couple: $M_0$1.89000×10^{15} NP1:ϕ_s55.00000°, δ19.00000°, λ-88.00000°. NP2:ϕ_s233.00000°, δ71.00000°, λ-91.00000°.*
*IDC **02** 08:20:48.0±0.6, 37°.22N×144°.40E, h0km, mb3.9/18, mb1 4.2/23, mb1mx4.0/67, mbtmp4.0/23, ML4.5/3, MS3.2/13, Ms1 3.2/13, ms1mx2.9/71, Error ellipse: s-maj=16.9km s-min=13.3km az=102.0*
*MOS **02** 08:20:51.2±1.7, 37°.51N×144°.38E, h33km, mb4.4/18, Error ellipse: s-maj=9.4km s-min=5.5km az=96.1*
*ISCJB **02** 08:20:51.9±0.3, 37°.42N±0°.03×144°.19E±0°.03, h33km, mb4.3/50, MS3.4/11, Error ellipse: s-maj=4.2km s-min=3.3km az=168.4*
*JMA **02** 08:20:52.7±0.2, 37°.44N×144°.15E, h59km, M4.6*
*BJI **02** 08:20:52.0, 37°.20N×144°.30E, h36km, mb4.7/17, mB4.9/9, Ms4.0/4, Ms7 3.8/4*
*NEIC **02** 08:20:54.6±0.8, 37°.21N×144°.32E, h43km±7km, mb4.7/18, Error ellipse: s-maj=6.9km s-min=5.5km az=117.0*
ISC 02 08:20:53.7±0.5**, 37°.46N**±0°.05×**144°.37E**±0°.05**, h35km, n144, σ2.81**/159**, mb4.3**/50**, MS3.4**/11**, 1C-1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.59	293	P	Pn	08 21 31.3	-1.8
JIO				eS	Sn	08 22 00.1	-3.2
OFUJ	Ofunato	2.67	308	P	Pn	08 21 32.5	-1.8
OFUJ				S	Sn	08 22 02.4	-3.0
JFK	Kawauchi	2.79	269	P	Pn	08 21 33.5	-2.4
JFK				S	Sn	08 22 03.8	-4.5
JMK	Ichinoseki	2.90	302	P	Pn	08 21 35.9	-1.4
JMK				S	Sn	08 22 08.3	-2.6
JOM	Ohasama	3.14	311	P	Pn	08 21 39.5	-1.2
JOM				eS	Sn	08 22 14.8	-2.2
JFT	Otama	3.21	272	P	Pn	08 21 40.3	-1.4
JFT				eS	Sn	08 22 15.6	-3.1
JYK	Kaneyama	3.48	296	P	Pn	08 21 44.3	-1.1
JYK				eS	Sn	08 22 23.3	-2.1
BSO1	Boso 1	3.92	225	P	Pn	08 21 47.2	-3.8
BSO1				eS	Sn	08 22 31.5	-4.1
JRY	Ryogami san	4.62	253	P	Pn	08 21 58.4	-2.7
JRY				eS	Sn	08 22 47.0	-6.6
ERM	Erimo	4.64	349	ePn	Pn	08 22 00.1	-1.2
ERM				eSn	Sn	08 22 51.1	-2.9
ERM	Erimo	4.64	349	eP	Pn	08 21 59.9	-1.4
JOT	Ohata	4.69	328	P	Pn	08 22 00.7	-1.2
JOT				eS	Sn	08 22 50.6	-4.4
JOD2	Odawara 2	4.79	244	P	Pn	08 22 00.8	-2.7
JOD2				eS	Sn	08 22 51.2	-6.6
MJAR	Matsushiro Arr	5.02	261	Pn	Pn	08 22 05.2	-1.3
	9.4nm,0.3s,baz=89,slow=14,SNR=53						
MJAR				Sn	Sn	08 23 00.6	-2.7
	5.1nm,0.3s,baz=97,slow=27,SNR=6.7						
MJAR				LR	LR	08 24 54.6	
	comp=Z,107nm,18.2s,baz=95,slow=50						
MAJO	Matsushiro	5.02	261	ePn	Pn	08 22 06.1	-0.4
MAJO	Matsushiro	5.02	261	eP	Pn	08 22 05.7	-0.8
MAT	Matsushiro	5.02	261	P	Pn	08 22 05.8	-0.7
MAT				S	Sn	08 22 59.7	-3.6
MJB9	Matsu-Tunnel	5.02	261	ePn	Pn	08 22 06.1	-0.4
JKB	Kayabe	5.12	331	P	Pn	08 22 07.3	-0.5
JKB				eS	Sn	08 23 02.1	-3.5
JCH	Churui	5.21	352	P	Pn	08 22 07.5	-1.6
JCH				S	Sn	08 23 03.0	-4.8
JHJ2	Mitsune	5.72	222	P	Pn	08 22 11.2	-4.9
JHJ2				eS	Sn	08 23 11.2	-9.3
JHJ2	Mitsune	5.72	222	ePn	Pn	08 22 12.9	-3.2
JHJ2				eSn	Sn	08 23 12.9	-7.6
JHJ	Hachijo jima 2	5.73	222	Pn	Pn	08 22 11.7	-4.6
	22nm,0.3s,baz=293,slow=23,SNR=23						
JHJ				Sn	Sn	08 23 11.2	-10
	65nm,0.3s,baz=72,slow=21,SNR=6.9						
JOSM	Okushiri--Mats	5.96	322	P	Pn	08 22 18.5	-0.9
JOSM				eS	Sn	08 23 22.9	-3.5
NEM2	Nemuro 2	5.99	10	P	Pn	08 22 16.3	-3.5
NEM2				eS	Sn	08 23 19.7	-7.4
INU	Inuyama	6.29	253	ePn	Pn	08 22 25.9	+1.8
GLVR	Golovnino	6.33	8	eP	Pn	08 22 21.8	-2.7
GLVR				eS	Sn	08 23 29.2	-6.3
JTKR	Abashiri--Toko	6.51	357	P	Pn	08 22 24.5	-2.5
JTKR				eS	Sn	08 23 34.8	-5.2
GRPR	Tuman	6.61	9	eP	Pn	08 22 25.5	-2.8
GRPR				eS	Sn	08 23 35.4	-7.0
YUK	Yuzh-Kuril'sk	6.66	9c	iP	Pn	08 22 26.1	-3.0
YUK				eS	Sn	08 23 36.6	-7.1
YUK				pmax	pmax		
	comp=Z,132nm,0.3s						
YUK				pmax	pmax		
	comp=E,87nm,0.4s						
YUK				pmax	pmax		
	comp=N,60nm,0.3s						
YUK				smax	smax		
	comp=N,398nm,0.5s						
YUK				smax	smax		
	comp=E,329nm,0.3s						
SHO	Shikotan	6.67	15	eP	Pn	08 22 25.2	-3.9
SHO				eS	Sn	08 23 35.1	-8.7
SHO				pmax	pmax		
	comp=Z,105nm,0.5s						
SHO				smax	smax		
	comp=E,469nm,0.5s						
SHO				smax	smax		
	comp=N,199nm,0.3s						
LAGR	Lagunnoye	6.67	9	eP	Pn	08 22 26.0	-3.2
LAGR				eS	Sn	08 23 36.5	-7.5
ASAJ	Asahikawa	6.78	349	Pn	Pn	08 22 30.1	-0.6
	comp=N,14nm,0.3s,baz=189,slow=8.0,SNR=40						
ASAJ				Sn	Sn	08 23 45.1	-1.6
	comp=N,3.1nm,0.3s,baz=30,slow=20,SNR=3.1						
JIE	Ise	6.93	246	P	Pn	08 22 31.0	-1.8
KUR	Kuril'sk	8.20	18	P	Pn	08 22 47.4	-2.7
KUR				eS	Sn	08 24 14.7	-6.7
KUR				pmax	pmax		
	comp=Z,58nm,0.5s						
TEY	Ternei	9.56	325	eP	Pn	08 23 10.0	+1.2
TEY				pmax	pmax		
	comp=Z,15nm,0.6s						
YSS	Yuzh-Sakhalins	9.56	353	eP	Pn	08 23 03.7	-5.1
CBIJ	Chichi jima	10.50	191	Pn	Pn	08 23 14.8	-7.0
CBIJ				Sn	Sn	08 25 01.3	-17
JCJ	Chichijima	10.50	191	Pn	Pn	08 23 14.8	-7.0
	baz=48,slow=16						
JCJ				Sn	Sn	08 25 01.3	-17
	comp=Z,5.2nm,0.3s,baz=274,slow=19,SNR=3.6						
USRK	Ussuriysk Ar.	11.54	310	Pn	Pn	08 23 36.1	+0.3
	comp=Z,0.5nm,0.3s,baz=110,slow=16,SNR=7.9						
USRK				LR	LR	08 28 22.2	
	comp=Z,116nm,18.6s,baz=116,slow=39						
KSRS	Korea Array	13.07	275	Pn	Pn	08 23 59.0	+2.1
	comp=Z,0.3nm,0.3s,baz=94,slow=16,SNR=4.4						
KSRS				LR	LR	08 29 36.0	
	comp=Z,73nm,18.4s,baz=96,slow=40						
KSRS	Korea Array	13.07	275	P	Pn	08 23 59.0	+2.1
KSRS				MLR	MLR		
	comp=Z,73nm,18.4s						
KSAR	Wonju Array Be	13.11	275	Pn	Pn	08 23 59.0	+1.7
KSAR	Wonju Array Be	13.11	275	P	Pn	08 23 59.0	+1.7
KLR	Kul'dur	14.90	326	Pn	Pn	08 24 20.5	-1.1
	comp=Z,0.0nm,0.3s,baz=123,slow=13,SNR=6.2						
KLR	Kul'dur	14.90	326	eP	Pn	08 24 19.7	-1.9
NKL	Nikolayevsk	15.90	352	eP	P	08 24 38.0	+0.1
PETK	Petropavlovsk-	18.19	26	LR	LR	08 31 06.2	
	comp=Z,16nm,21.1s,baz=201,slow=34						
ZEA	Zeya	20.12	329	eP	P	08 25 24.3	-0.1
ZEA				pmax	pmax		
	comp=Z,22nm,0.9s						
HIA	Hailar	21.34	311	eP	P	08 25 36.5	-1.2
HIA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NJ2	Nanjing	21.62	263	eP	P	08 25 38.5	-2.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2	Magadan	22.51	9	LR	LR	08 34 21.5	
	comp=Z,38nm,21.3s,baz=147,slow=36						
HHC	Hu-ho-hao-te	25.58	288	eP	P	08 26 21.2	+1.6
HHC				S	S	08 30 42.2	-3.0
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,4.3s						
HHC				LR	LR		
	comp=Z,140nm,11.4s						
HHC				LR	LR		
	comp=Z,140nm,12.1s						
HHC				LR	LR		
	comp=Z,130nm,11.1s						
SEY	Seymchan	25.97	8	P	P	08 26 24.3	+1.6
	comp=Z,2.3nm,0.8s,baz=304,slow=11,SNR=13						
YAK	Yakutsk	26.23	344	LR	LR	08 37 53.4	
	comp=Z,33nm,19.3s,baz=92,slow=39						
H11N2	WAKE ISLAND Hy	26.41	126	T	T	08 53 22.1	
	baz=317,slow=74,SNR=35						
H11N1	WAKE ISLAND Hy	26.41	126	T	T	08 53 43.3	
	baz=317,slow=74,SNR=18						
H11N3	WAKE ISLAND Hy	26.42	126	T	T	08 53 43.5	
	baz=317,slow=74,SNR=35						
H11S1	WAKE ISLAND Hy	27.18	128	T	T	08 54 27.9	
	baz=319,slow=76,SNR=9.3						
H11S3	WAKE ISLAND Hy	27.18	128	T	T	08 54 45.8	
	baz=319,slow=76,SNR=6.5						
H11S2	WAKE ISLAND Hy	27.20	128	T	T	08 54 29.6	
	baz=319,slow=76,SNR=7.8						
BOD	Bodaibo	28.47	325	eP	P	08 26 40.8	-4.4
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s						
ULN	Ulaanbaatar	29.09	303	eP	P	08 26 48.4	-2.6
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	Songino Array	29.52	303	P	P	08 26 55.9	+1.0
	comp=Z,0.2nm,0.5s,baz=100,slow=9.0,SNR=3.3						
TLY	Talaya	31.86	310	eP	P	08 27 13.3	-1.9
TLY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LZH	Lanzhou	32.32	280	eP	P	08 27 22.2	+2.5
LZH				pP	sP	08 27 32.7	-1.3
LZH				sP	pP	08 27 37.1	+7.4
LZH				pmax	pmax		
	comp=Z,11nm,0.6s						
BILL	Bilibino	32.98	15⇓	eP	P	08 27 25.2	+0.4
BILL				eS	S	08 32 44.5	+4.0
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,51nm,15.0s						
CD2	Chengdu	34.03	271	eP	P	08 27 34.6	+0.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
TIXI	Tiksi	35.18	352	eP	P	08 27 43.2	-0.7
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KMI	Kunming	37.36	263	P	P	08 28 04.1	+0.8
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WMQ	Urumqi	42.75	297	eP	P	08 28 49.7	+2.0
ZALV	Zalesovo Beam	43.38	312	P	P	08 28 53.7	+1.3
	comp=Z,0.3nm,0.3s,baz=95,slow=4.9,SNR=2.6						
ZALV				PcP	PcP	08 30 40.4	-0.1
	comp=Z,1.1nm,0.4s,baz=60,slow=4.0,SNR=4.0						
ZALV				LR	LR	08 48 54.9	
	comp=Z,36nm,18.1s,baz=70,slow=39						
KDAK	Kodiak Island	45.20	42	eP	P	08 29 08.0	+1.1
	comp=Z,249nm,1.9s						
KDAK	Kodiak Island	45.20	42	eP	P	08 29 08.0	+1.1
MK01	Makanchi Array	45.89	302	eP	P	08 29 13.6	+0.9
MK31	Makanchi Array	45.89	302	eP	P	08 29 14.1	+1.4
MK31	Makanchi Array	45.89	302	eP	P	08 29 14.1	+1.4
MKAR	Makanchi Array	45.89	302	P	P	08 29 13.5	+0.8
	comp=Z,0.8nm,0.8s,baz=88,slow=9.8,SNR=6.5						
MKAR	Makanchi Array	45.89	302	eP	P	08 29 13.8	+1.1
	comp=Z,14nm,0.9s						
MKAR	Makanchi Array	45.89	302	eP	P	08 29 13.8	+1.1
MKAR				pmax	pmax		
	comp=Z,14nm,0.9s						
SUA	Susitna One	46.10	37	eP	P	08 29 16.9	+2.7
	comp=Z,59nm,2.0s						
MLY	Manley	46.23	32	eP	P	08 29 17.4	+2.3
	comp=Z,30nm,2.0s						
MDM	Murphy Dome	47.30	32	eP	P	08 29 25.9	+2.4
	comp=Z,8.2nm,1.0s						
KURK	Kurchatov	47.53	308	eP	P	08 29 26.4	+1.0
	comp=Z,5.2nm,0.7s						
KURK	Kurchatov	47.53	308	eP	P	08 29 26.4	+1.0
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
IL1	Eielson Array	47.87	33	eP	P	08 29 29.0	+1.2
ILAR	Eielson Array	47.87	33	P	P	08 29 28.6	+0.8
	comp=Z,2.2nm,0.8s,baz=264,slow=6.3,SNR=21						
ILB	Eielson Array	47.87	33	eP	P	08 29 29.1	+1.3
BVAR	Borovoye Array	52.03	313	P	P	08 30 00.8	+1.2
	comp=Z,0.4nm,0.4s,baz=72,slow=9.3,SNR=3.1						
BRVK	Borovoye	52.08	313	eP	P	08 29 58.7	-1.2
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KSH	Kashi	52.38	295	P	P	08 30 07.1	+4.6
KSH				sP	sP	08 30 21.1	+3.9
KSH				PP	PP	08 32 07.1	+5.9
KSH				S	S	08 37 29.7	+3.7
KSH				sS	sS	08 37 50.5	+7.2
KSH				SS	SS	08 41 06.6	+2.8
KSH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,78nm,4.5s						
KSH				LR	LR		
	comp=Z,120nm,6.8s						
KSH				LR	LR		
	comp=Z,140nm,8.8s						
KSH				LR	LR		
	comp=Z,180nm,6.9s						
INK	Inuvik	52.93	27	P	P	08 30 07.2	+1.3
	comp=Z,2.0nm,0.6s,baz=306,slow=7.0,SNR=7.6						
INK	Inuvik	52.93	27	eP	P	08 30 07.7	+1.8
	comp=Z,2.5nm,0.8s						
INK	Inuvik	52.93	27	eP	P	08 30 07.7	+1.8
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	Arti	57.60	319	LR	LR	08 56 25.2	
	comp=Z,50nm,20.6s,baz=144,slow=37						
ARU	Arti	57.60	319	eP	P	08 30 38.3	-1.5
ARU				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRAB	Tennant Creek	57.86	191	eP	P	08 30 40.2	-1.8
	comp=Z,6.4nm,0.8s						
WRAB	Tennant Creek	57.86	191	eP	P	08 30 39.4	-2.6
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WB2	Warramunga Arr	57.87	191	eP	P	08 30 39.0	-3.1
WRA	Warramunga Arr	57.87	191	P	P	08 30 39.9	-2.1
	comp=Z,5.3nm,0.5s,baz=10,slow=7.2,SNR=69						
FITZ	Fitzroy Crossi	58.01	201	eP	P	08 30 42.3	-0.7
ABKAR	Akbulak array	59.46	311	eP	P	08 30 53.7	+0.8
	comp=Z,25nm,0.6s						
AKTO	Aktyubinsk	60.13	313	P	P	08 30 58.1	+0.6
	comp=Z,1.7nm,0.6s,baz=71,slow=10.0,SNR=7.5						
AS01	Alice Springs	61.59	191	eP	P	08 31 05.9	-1.7
RES	Resolute Bay	61.59	15	eP	P	08 31 08.2	+1.3
	comp=Z,5.5nm,1.1s						
RES	Resolute Bay	61.59	15	eP	P	08 31 08.3	+1.3
RES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
AS31	Alice Springs	61.59	191	eP	P	08 31 06.2	-1.4
	comp=Z,1.1nm,0.6s						
ASAR	Alice Springs	61.59	191	P	P	08 31 05.8	-1.8
	comp=Z,2.6nm,0.7s,baz=16,slow=8.8,SNR=25						
YKA	Yellowknife Ar	62.24	31	P	P	08 31 12.2	+0.7
	comp=Z,0.4nm,0.8s,baz=302,slow=6.8,SNR=7.0						
COCO	West Island	66.53	232	eP	P	08 31 38.6	-1.6
	comp=Z,644nm,1.9s						
COCO	West Island	66.53	232	eP	P	08 31 38.6	-1.6
H04A	Detroit Lake	67.02	51	eP	P	08 31 45.0	+1.9
	comp=Z,40nm,1.8s						
PINE	Pine Mountain	68.25	51	eP	P	08 31 53.8	+2.7
	comp=Z,9.0nm,0.9s						
STKA	Stephens Creek	69.03	183	P	P	08 31 54.1	-1.5
	comp=Z,1.1nm,0.5s,baz=10,slow=6.9,SNR=4.6						
OBN	Obninsk	69.15	324	eP	P	08 31 53.7	-2.5
OBN				e		08 32 17.8	
OBN				e		08 34 26.5	
OBN				ePPP	PPP	08 36 11.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FIA1	FINESS Array S	69.52	333	eP	P	08 31 59.7	+1.4
FINES	FINESS Array B	69.52	333	P	P	08 31 59.1	+0.7
	comp=Z,1.4nm,0.8s,baz=35,slow=5.1,SNR=2.4						
WVOR	Wild Horse Val	70.40	51	eP	P	08 32 06.6	+2.3
	comp=Z,16nm,1.8s						
WVOR	Wild Horse Val	70.40	51	eP	P	08 32 06.6	+2.3
WVOR				pmax	pmax		
	comp=Z,16nm,1.8s						
BEKR	Beckworth	70.70	54	eP	P	08 32 07.8	+1.5
	comp=Z,3.8nm,0.9s						
CMB	Columbia Colle	71.69	56	eP	P	08 32 14.1	+2.0
	comp=Z,12nm,1.6s						
CMB	Columbia Colle	71.69	56	eP	P	08 32 14.1	+2.0
CMB				pmax	pmax		
	comp=Z,12nm,1.6s						
KVAR	Kislovodsk Arr	72.39	312	LR	LR	09 07 35.8	
	comp=Z,24nm,18.6s,baz=182,slow=39						
NV01	Mina Array Sit	72.83	55	eP	P	08 32 20.6	+1.5
NVAR	Mina Array Bea	72.83	55	P	P	08 32 20.3	+1.2
	comp=Z,2.1nm,0.7s,baz=289,slow=6.1,SNR=10						
UOSS	Minazif	73.91	289	eP	P	08 32 25.6	+0.2
	comp=Z,12nm,1.5s						
HFS	Hagfors	74.65	337	LR	LR	09 07 56.5	
	comp=Z,18nm,21.9s,baz=42,slow=38						
NOA	NORSAR Array B	74.68	338	P	P	08 32 30.1	+0.7
	comp=Z,1.2nm,0.7s,baz=39,slow=5.7,SNR=3.2						
NOA				LR	LR	09 08 44.8	
	comp=Z,22nm,21.7s,baz=60,slow=38						
AKASG	Malin Array Be	75.38	323	P	P	08 32 33.9	+0.5
	comp=Z,0.2nm,0.4s,baz=49,slow=6.6,SNR=4.5						
AKASG	Malin Array Be	75.38	323	i P	P	08 32 34.0	+0.5
PDAR	Pinedale Array	75.67	47	P	P	08 32 36.3	+0.7
	comp=Z,0.3nm,0.6s,baz=294,slow=1.5,SNR=4.2						
PDAR	Pinedale Array	75.67	47	eP	P	08 32 36.7	+1.1
JLU	Jordanelle	75.86	50	eP	P	08 32 37.7	+0.9
	comp=Z,6.4nm,1.0s						
BUR08	Bucovina Ar. S	79.40	323	eP	P	08 32 58.0	+1.8
BUR04	Bucovina Ar. S	79.42	323	eP	P	08 32 58.2	+1.9
VYHS	Vyhne	81.69	327	eP	P	08 33 08.0	-0.3
VYHS	Vyhne	81.69	327	eP	P	08 33 08.0	-0.3
VRAC	Vranov	82.02	329	LR	LR	09 12 33.8	
	comp=Z,29nm,19.6s,baz=146,slow=38						
GERES	GERESS Array B	83.56	330	LR	LR	09 17 37.1	
	comp=Z,24nm,18.4s,baz=301,slow=41						
TX31	Lajitas Ar. Si	87.97	54	eP	P	08 33 41.2	+0.8
TXAR	Lajitas Array	87.97	54	P	P	08 33 40.6	+0.2
	comp=Z,0.4nm,0.7s,baz=283,slow=2.8,SNR=4.9						
KSPA	Keystone Colle	93.23	29	eP	P	08 34 06.1	+1.5
	comp=Z,0.5nm,0.6s						
MNMC	Minye Minye	145.21	68	ePKPbc	PKPdf	08 40 29.1	+0.8
PB11	IPOC Station P	145.55	69	ePKPdf	PKPab	08 40 29.4	+0.2

*ISCJB **02** 08:27:48.9±0.6, 42°.08N±0°.03×77°.24E±0°.03, h2km±4km, Error ellipse: s-maj=4.4km s-min=3.1km az=162.0*
*NNC **02** 08:27:48.5±5.1, 44°.18N×76°.73E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=34.4km s-min=21.6km az=177.0*
*KRNET **02** 08:27:48.8±0.1, 42°.09N×77°.26E, h21km, mb2.8*
*SOME **02** 08:27:48.6, 42°.08N×77°.28E, h10km*
ISC 02 08:27:49.0±0.9**, 42°.09N**±0°.03×**77°.26E**±0°.02**, h12km**±6km**, n44, σ0.78**/86**, 33C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	0.07	303⇑	iP	Pg	08 27 51.8	+0.1
	baz=10.0						
KDJ			⇑	iS	Sg	08 27 54.4	+0.6
	baz=10.0						
TARG	Taragay, Kyrgy	0.55	131⇑	iP	Pg	08 27 59.4	-0.3
	baz=31						
TARG			⇑	iS	Sg	08 28 06.8	-0.3
	baz=31						
ULHL	Ulahol	0.77	282⇑	iP	Pg	08 28 03.7	-0.3
	baz=82						
ULHL			⇑	iS	Sg	08 28 14.2	+0.1
	baz=82						
TNSS	Tian-Shan	0.97	346	eP	Pg	08 28 07.3	-0.5
	26nm,0.1s						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TNSS				eS	Sb	08 28 20.8	-0.2
	20nm,0.2s						
TNSS	Tian-Shan	0.97	346	eP	Pg	08 28 07.3	-0.5
	baz=46						
TNSS				eS	Sb	08 28 20.8	-0.2
	baz=46						
BOOM	Boomskoye usch	1.06	293	⇑iP	Pg	08 28 08.1	-1.2
	baz=93						
BOOM				⇑iS	Sg	08 28 22.2	-0.9
	baz=93						
IZV	Izvestkoviy	1.06	333	eP	Pg	08 28 08.8	-0.6
	25nm,0.1s						
IZV				eS	Sb	08 28 23.5	+0.3
	50nm,0.2s						
IZV	Izvestkoviy	1.06	333	eP	Pg	08 28 08.8	-0.6
	baz=33						
IZV				eS	Sb	08 28 23.5	+0.3
	baz=33						
MDOK	Medeo	1.08	352	⇓P	Pg	08 28 09.2	-0.6
	3.1nm,0.2s						
MDOK				⇑S	Sg	08 28 23.6	-0.4
	13nm,0.5s						
MDOK	Medeo	1.08	352	eP	Pg	08 28 09.1	-0.8
	21nm,0.2s						
MDOK				eS	Sg	08 28 23.7	-0.3
	21nm,0.4s						
MDOK	Medeo	1.08	352	eP	Pg	08 28 09.1	-0.8
	baz=52						
MDOK				eS	Sg	08 28 23.7	-0.3
	baz=52						
KOTS	Kotyrbulak	1.15	355	eP	Pb	08 28 10.5	-0.3
	26nm,0.2s						
KOTS				eS	Sn	08 28 26.4	-0.3
NRN	Naryn	1.15	235	⇑iP	Pg	08 28 10.2	-0.9
	baz=36						
NRN				⇑iS	Sb	08 28 26.1	+0.2
	baz=36						
MTBS	Maitube	1.21	330	eP	Pb	08 28 11.2	-0.5
	23nm,0.3s						
MTBS				eS	Sg	08 28 27.5	-0.3
	46nm,0.2s						
MTBS	Maitube	1.21	330	eP	Pb	08 28 11.3	-0.5
	baz=30						
MTBS				eS	Sg	08 28 27.6	-0.3
	baz=30						
SATY	Saty	1.29	41	eP	Pn	08 28 12.6	-0.3
	16nm,0.3s						
SATY				eS	Sb	08 28 29.8	+0.1
	47nm,0.2s						
KST	Kastek	1.35	315	eP	Pb	08 28 13.9	-0.3
	1.5nm,0.1s						
KST				eS	Sn	08 28 32.0	+0.3
	35nm,0.5s						
KST	Kastek	1.35	315	eP	Pb	08 28 13.9	-0.3
	baz=15						
KST				eS	Sn	08 28 31.9	+0.3
	baz=15						
TKM2	Tokmak 2	1.48	305	⇑P	Pb	08 28 16.4	-0.2
	1.0nm,0.4s						
TKM2				⇑S	Sg	08 28 36.1	-0.6
	16nm,0.4s						
TKM2	Tokmak 2	1.48	305	⇑iP	Pb	08 28 16.3	-0.3
	baz=5.0						
TKM2				⇑iS	Sb	08 28 35.8	+0.4
	baz=5.0						
KZA	Kyzart	1.50	270	⇑iP	Pn	08 28 16.2	+0.2
	baz=70						
KZA				⇑iS	Sg	08 28 36.6	-0.6
	baz=70						
KURS	Kuram	1.55	25	eP	Pb	08 28 17.2	-0.4
	2.3nm,0.4s						
KURS				eS	Sb	08 28 37.6	+0.4
	9.9nm,0.4s						
KURS	Kuram	1.55	25	eP	Pb	08 28 17.2	-0.4
	baz=25						
KURS				eS	Sb	08 28 37.6	+0.4
	baz=25						
DGS	Degeres	1.59	317	eP	Pb	08 28 18.0	-0.3
	1.0nm,0.1s						
DGS				eS	Sg	08 28 39.2	-0.9
	32nm,0.3s						
DGS	Degeres	1.59	317	eP	Pb	08 28 18.0	-0.3
	baz=17						
DGS				eS	Sg	08 28 39.2	-0.9
	baz=17						
KTBS	Karatobe	1.67	346	eP	Pb	08 28 19.7	0.0
	7.1nm,0.1s						
KTBS				eS	Sg	08 28 42.1	-0.8
	43nm,0.3s						
KTBS	Karatobe	1.67	346	eP	Pb	08 28 19.7	0.0
	baz=41						
KTBS				eS	Sg	08 28 42.0	-0.8
	baz=41						
CHKK	Chushkaly	1.77	354	eP	Pb	08 28 21.7	+0.3
	8.9nm,0.2s						
CHKK				eS	Sg	08 28 45.2	-0.8
	48nm,0.2s						
CHKK	Chushkaly	1.77	354	eP	Pb	08 28 21.7	+0.3
	baz=54						
CHKK				eS	Sg	08 28 45.2	-0.8
	baz=54						
KBK	Karagaybulak	1.80	289	⇑iP	Pb	08 28 21.3	-0.7
	baz=89						
KBK				⇑iS	Sb	08 28 45.0	+0.4
	baz=89						
KUU	Kurty	1.92	340	eP	Pb	08 28 23.8	-0.2
	3.3nm,0.2s						
KUU				eS	Sb	08 28 49.0	+1.0
	35nm,0.3s						
KUU	Kurty	1.92	340	eP	Pb	08 28 23.8	-0.2
	baz=40						
KUU				eS	Sb	08 28 49.0	+1.0
	baz=40						
UCH	Uchtor	2.04	275	⇑iP	Pb	08 28 25.1	-1.2
	baz=75						
UCH				⇑iS	Sb	08 28 51.1	-0.8
	baz=75						
PDGK	Podgornoye	2.06	52	⇓Pn	Pb	08 28 25.5	-0.8
	1.2nm,0.3s						
PDGK				⇑Sn	Sb	08 28 53.1	+1.2
	34nm,0.9s						
PDGK	Podgornoye	2.06	52	⇑iP	Pb	08 28 25.0	-1.3
	baz=52						
PDGK				⇑iS	Sb	08 28 51.0	-0.9
	baz=52						
CHMS	Chumysh	2.06	297	⇑iP	Pb	08 28 25.0	-1.4
	baz=97						
CHMS				⇑iS	Sb	08 28 51.1	-0.9
	baz=97						
AAK	Ala-Archa	2.12	286	⇑Pn	Pb	08 28 27.4	0.0
	1.1nm,0.3s						
AAK				⇓Sn	Sg	08 28 56.2	-1.0
	11nm,0.5s						
AAK	Ala-Archa	2.12	286	⇑iP	Pb	08 28 25.8	-1.6
	baz=86						
AAK				⇑iS	Sb	08 28 53.1	-0.6
	baz=86						
MNBS	Baschi	2.16	22	eP	Pb	08 28 27.5	-0.5
	4.9nm,0.2s						
MNBS				eS	Sb	08 28 55.4	+0.7
	45nm,0.4s						
ARXS	Arharly	2.16	11	eP	Pb	08 28 27.6	-0.5
	4.1nm,0.4s						
ARXS				eS	Sb	08 28 55.6	+0.8
	15nm,0.4s						
EKS2	Erkin-Say	2.64	284	⇑iP	Pn	08 28 33.3	+1.8
	baz=84						
EKS2				⇑iS	Sn	08 29 05.3	+1.8
	baz=84						
KTMS	Ketmen	2.65	58	eP	Pb	08 28 35.9	-0.5
	1.9nm,0.3s						
KTMS				eS	Sb	08 29 10.0	+1.1
	16nm,0.5s						
AML	Almayashu	2.65	272	⇑iP	Pn	08 28 33.8	+1.9
	baz=72						
AML				⇑iS	Sn	08 29 06.5	+2.3
	baz=72						
KK31	Karatay Array	5.08	284	Lg	Lg	08 30 16.4	
	baz=95,slow=27						

*NNC **02** 08:35:51.6±2.9,53°.60N×87°.79E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=24.5km s-min=10.0km az=59.0*

IDC 02 08:35:51.7±2.9**,53°.58N×87°.82E,h0km,mb1 3.5**/2**, mb1mx3.0**/69**,mbtmp3.5**/2**,ML3.5**/2**,5C-5D,Error ellipse: s-maj=27.8km s-min=14.4km az=65.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.82	283	i		08 48 05.0	
	baz=97,slow=340,SNR=30						
ZAA0	Zalesovo Array	1.82	283	⇓Pg	Pn	08 36 23.7	-0.6
	5.8nm,0.3s						
ZAA0				⇑Lg	Lg	08 36 49.8	
	21nm,0.5s						
ZALV	Zalesovo Beam	1.82	283	Pn	Pn	08 36 23.9	-0.4
	10nm,0.3s,baz=99,slow=16,SNR=71						
ZALV				Lg	Lg	08 36 49.2	
	9.5nm,0.3s,baz=108,slow=26,SNR=16						
KURK	Kurchatov	6.35	247	⇓Pn	Pn	08 37 27.2	+0.7
	1.9nm,0.7s						
KURK				⇑Lg	Lg	08 39 13.4	
	8.6nm,1.2s						
MK31	Makanchi Array	7.66	210	⇓Pn	Pn	08 37 45.7	+1.2
	0.6nm,0.5s,baz=29,slow=13,SNR=25						
MK31				⇓Sn	Sn	08 39 13.0	+1.0
	0.5nm,0.5s,baz=274,slow=9.9,SNR=4.0						
MK31				⇑Lg	Lg	08 39 54.0	
	0.9nm,0.6s						
MKAR	Makanchi Array	7.66	210	Pn	Pn	08 37 45.9	+1.4
	0.5nm,0.3s,baz=30,slow=14,SNR=27						
MKAR				Sn	Sn	08 39 11.2	-0.8
	0.2nm,0.3s,baz=28,slow=23,SNR=4.1						
MKAR				Lg	Lg	08 39 52.3	
	0.2nm,0.3s,baz=40,slow=32,SNR=6.2						
MAKZ	Makanchi	7.74	211	⇓Pn	Pn	08 37 46.9	+1.3
	0.6nm,0.3s						
MAKZ				⇑Sn	Sn	08 39 14.1	+0.1
	1.1nm,0.7s						
MAKZ				⇑Lg	Lg	08 39 56.3	
	1.3nm,0.6s						
BVAR	Borovoye Array	10.45	274	Pn	Pn	08 38 21.8	-1.0
	0.5nm,0.3s,baz=74,slow=14,SNR=5.8						

IDC 02 08:44:07.0±3.2**,55°.47N×86°.24E,h0km,mb1 3.2**/2**, mb1mx2.9**/70**,mbtmp3.2**/2**,ML2.8**/2**,Error ellipse: s-maj=29.6km s-min=20.0km az=60.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.74	209	i		08 55 53.0	
	baz=26,slow=337,SNR=4.1						
ZALV	Zalesovo Beam	1.74	209	Pn	Pn	08 44 36.2	-2.1
	3.1nm,0.3s,baz=27,slow=15,SNR=20						
ZALV				Lg	Lg	08 45 01.8	
	1.4nm,0.3s,baz=31,slow=27,SNR=3.8						
MKAR	Makanchi Array	9.04	198	Pn	Pn	08 46 19.5	+0.8
	0.0nm,0.3s,baz=17,slow=13,SNR=2.4						
MKAR				Lg	Lg	08 48 55.7	
	0.0nm,0.3s,baz=17,slow=35,SNR=3.0						
BVAR	Borovoye Array	9.60	262	Pn	Pn	08 46 25.5	-0.8
	0.3nm,0.3s,baz=69,slow=12,SNR=3.2						

*IDC **02** 08:49:33.2±0.5,7°.95S×146°.48E,h0km,mb4.3/13, mb1 4.5/16,mb1mx4.3/44,mbtmp4.3/16,ML4.1/3,MS3.5/7, Ms1 3.5/7,ms1mx3.1/41,Error ellipse: s-maj=21.4km s-min=9.8km az=72.0*

*BJI **02** 08:49:35.0,8°.09S×147°.00E,h42km,mb4.7/30,mB5.0/21, Ms4.7/7,Ms7 4.4/6*

*ISCJB **02** 08:49:36.8±0.2,8°.03S±0°.04×146°.35E±0°.05,h33km, mb4.7/47,MS3.4/5,Error ellipse: s-maj=7.0km s-min=5.1km az=0.5*

*NEIC **02** 08:49:39.0±0.8,8°.02S×146°.35E,h40km±7km,mb4.9/30, Error ellipse: s-maj=6.7km s-min=6.0km az=117.0*

*DJA **02** 08:49:44.0±0.6,9°S±4°×14°6E±°,h43km±9km,M4.5/12, mB5.5/1,mb4.6/12,MLv4.4/2,Mw(mB)5.0/1*

ISC 02 08:49:38.9±0.4**,8°.13S**±0°.05**×146°.30E**±0°.07**,h35km,n101, σ1§61**/98**,mb4.8**/47**,MS3.4**/5**,3C,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	1.53	146	Pg	Pn	08 50 02.7	-1.0
	56nm,0.3s,baz=340,slow=6.3,SNR=81						
PMG				Lg	Lg	08 50 24.5	
	208nm,0.3s,baz=139,slow=19,SNR=14						
PMG				LR	LR	08 50 30.5	
	comp=Z,576nm,19.7s,baz=84,slow=36						
PMG	Port Moresby	1.53	146	ePn	Pn	08 50 02.9	-0.8
PMG				eSn	Sn	08 50 25.6	+3.3
COEN	Coen	6.55	208	ePn	Pn	08 51 13.3	+0.5
RABL	Rabaul	7.03	56	ePn	Pn	08 51 20.3	+0.9
JAY	Jayapura	7.88	315	P	Pn	08 51 40.1	+8.9
CTA	Charters Tower	11.89	180	Pn	Pn	08 52 27.4	+1.4
	0.7nm,0.3s,baz=360,slow=15,SNR=8.6						
CTA				Sn	Sn	08 54 34.6	-2.9
	0.4nm,0.3s,baz=78,slow=19,SNR=2.6						
CTAO	Charters Tower	11.89	180	ePn	Pn	08 52 26.8	+0.8
FAKI	Fak Fak	14.90	290	P	P	08 53 13.9	+1.4
FAKI	Fak Fak	14.90	290	ePn	Pn	08 53 06.5	-0.7
MTN	Manton Dam	15.62	251	ePn	Pn	08 53 17.5	+0.9
	50nm,0.8s						
WRAB	Tennant Creek	16.48	223	ePn	Pn	08 53 28.0	+0.5
	28nm,0.8s						
WRA	Warramunga Arr	16.49	223	Pn	Pn	08 53 28.0	+0.3
	0.5nm,0.3s,baz=52,slow=13,SNR=24						
WRA				Sn	Sn	08 56 16.3	-13
	0.1nm,0.3s,baz=42,slow=23,SNR=3.1						
SIJI	Sorong	16.62	295	Pn	P	08 53 32.2	+0.7
	0.9nm,0.3s,baz=112,slow=11,SNR=8.2						
SIJI				LR	LR	09 01 20.2	
	comp=Z,79nm,20.5s,baz=324,slow=42						
SWI	Sorong	16.63	295	P	P	08 53 36.5	+4.9
EIDS	Eidsvold	17.74	166	ePn	P	08 53 46.8	+3.0
	16nm,1.1s						
AS01	Alice Springs	19.45	216	eP	Pn	08 54 05.5	+1.3
AS31	Alice Springs	19.48	216	eP	Pn	08 54 06.0	+1.6
	5.4nm,0.6s						
ASAR	Alice Springs	19.48	216	P	Pn	08 54 05.5	+1.0
	1.3nm,0.3s,baz=49,slow=10,SNR=128						
ASAR				S	S	08 57 34.1	-7.4
	0.2nm,0.3s,baz=45,slow=21,SNR=5.6						
ASAR				LR	LR	09 02 31.3	
	comp=Z,213nm,18.5s,baz=48,slow=39						
LBMI	Labuha	20.15	291	P	Pn	08 54 16.9	+4.5
SANI	Sanana	21.10	286	P	P	08 54 22.6	+1.9
FITZ	Fitzroy Crossi	22.40	242	P	P	08 54 35.0	+0.4
	4.6nm,0.7s,baz=85,slow=11,SNR=7.0						
FITZ				LR	LR	09 02 35.0	
	comp=Z,82nm,19.6s,baz=12,slow=34						
BATI	Baumata	22.44	263	LR	LR	09 06 30.5	
	comp=Z,277nm,18.8s,baz=219,slow=45						
ARMA	Armidale	22.73	168	eP	P	08 54 38.3	+0.2
	34nm,1.3s						
BBSI	Bau Bau	23.70	275	P	P	08 54 56.7	+8.9
DZM	Mont Dzumac	23.84	128	P	P	08 54 47.8	-1.4
	8.9nm,0.8s,baz=288,slow=10.0,SNR=7.4						
DZM	Mont Dzumac	23.84	128	eP	P	08 54 49.1	-0.1
	38nm,1.5s						
STKA	Stephens Creek	24.03	190	P	P	08 54 51.3	+0.7
	5.7nm,1.1s,baz=0.3,slow=9.8,SNR=5.1						
STKA				LR	LR	09 05 21.9	
	comp=Z,100nm,19.6s,baz=24,slow=39						
STKA	Stephens Creek	24.03	190	eP	P	08 54 51.4	+0.7
	3.2nm,1.4s						
URZ	Urewera	40.88	142	eP	P	08 57 16.9	-0.8
	24nm,1.4s						
BKZ	Black Stump Fm	41.09	143	eP	P	08 57 20.5	+1.0
	8.4nm,1.0s						
RPZ	Rata Peaks	41.52	153	LR	LR	09 11 14.4	
	comp=Z,53nm,21.4s,baz=325,slow=31						
NJ2	Nanjing	47.78	328	eP	P	08 58 13.0	+0.1
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
KSRS	Korea Array	48.50	340	P	P	08 58 17.0	-1.4
	2.2nm,0.7s,baz=161,slow=8.7,SNR=5.8						
KSAR	Wonju Array Be	48.50	340	P	P	08 58 17.0	-1.4
WHN	Wuhan	49.18	323	P	P	08 58 30.1	+6.4
CMAR	Chiang Mai Arr	53.67	300	P	P	08 58 58.2	+0.7
	2.2nm,0.4s,baz=126,slow=6.1,SNR=15						
USRK	Ussuriysk Ar.	53.67	347	P	P	08 58 56.0	-1.1
	2.2nm,0.6s,baz=189,slow=8.7,SNR=5.4						
KMI	Kunming	53.77	309	P	P	08 58 59.2	+0.7
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN	Xi'an	54.90	322	⇑P	P	08 59 05.9	-0.4
XAN				pP	pP	08 59 16.6	-0.3
XAN				pmax	pmax		
	comp=Z,13nm,1.0s						
XAN				pmax	pmax		
	comp=Z,110nm,4.4s						
CD2	Chengdu	56.28	316	eP	P	08 59 16.5	+0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC	Hu-ho-hao-te	58.29	329	eP	P	08 59 31.6	+1.2
HHC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,62nm,6.2s						
KLR	Kul'dur	58.53	349	P	P	08 59 30.6	-1.2
	0.1nm,0.5s,baz=162,slow=7.7,SNR=6.8						
LZH	Lanzhou	59.38	321	eP	P	08 59 38.8	+0.6
LZH				pP	pP	08 59 49.0	+0.2
LZH				sP	sP	08 59 56.4	+3.5
LZH				pmax	pmax		
	comp=Z,23nm,0.8s						
LZH				pmax	pmax		
	comp=Z,130nm,4.9s						
PETK	Petropavlovsk-	61.77	8	P	P	08 59 52.7	-1.2
	4.9nm,0.8s,baz=156,slow=6.1,SNR=7.3						
PETK				LR	LR	09 24 38.4	
	comp=Z,26nm,19.5s,baz=238,slow=34						
PETK	Petropavlovsk-	61.77	8	eP	P	08 59 53.1	-0.8
GTA	Gaotai	63.94	321	eP	P	09 00 09.5	+0.7
GTA				pP	sP	09 00 22.0	-1.6
GTA				sP	pP	09 00 28.0	+8.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	Songino Array	65.93	332	P	P	09 00 21.3	-0.3
	1.4nm,0.7s,baz=142,slow=5.4,SNR=9.5						
VNDA	Vanda	69.84	176	P	P	09 00 46.5	+0.9
	3.2nm,1.0s,baz=1.6,slow=6.2,SNR=4.1						
WMQ	Urumqi	73.95	320	P	P	09 01 10.8	-0.1
WMQ				pP	pP	09 01 22.6	+0.8
WMQ				pmax	pmax		
	comp=Z,15nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,230nm,7.7s						
MK01	Makanchi Array	78.68	321	eP	P	09 01 37.3	-0.3
MK31	Makanchi Array	78.69	321	eP	P	09 01 37.0	-0.7
MKAR	Makanchi Array	78.69	321	P	P	09 01 37.2	-0.4
	3.9nm,0.9s,baz=108,slow=6.0,SNR=29						
MKAR	Makanchi Array	78.69	321	eP	P	09 01 37.0	-0.7
	20nm,0.9s						
MAKZ	Makanchi	78.90	321	eP	P	09 01 38.1	-0.6
	8.2nm,1.1s						
KSH	Kashi	80.28	312	P	P	09 01 48.1	+1.5
KSH				pP	sP	09 02 02.1	+0.5
KSH				PP	PP	09 04 54.1	+4.4
KSH				S	S	09 11 48.4	-1.5
KSH				sS	ScS	09 12 09.6	-0.4
KSH				SS	SS	09 17 04.3	+2.5
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,160nm,5.9s						
KSH				LR	LR		
	comp=N,130nm,7.7s						
KSH				LR	LR		
	comp=E,86nm,6.1s						
KSH				LR	LR		
	comp=Z,160nm,7.2s						
ZALV	Zalesovo Beam	80.44	328	P	P	09 01 45.7	-1.2
	1.3nm,0.6s,baz=108,slow=5.1,SNR=6.3						
ZALV	Zalesovo Beam	80.44	328	eP	P	09 01 45.5	-1.4
TIXI	Tiksi	80.45	354	eP	P	09 01 45.1	-1.5
	3.0nm,1.1s						
OHAK	Old Harbor	81.49	29	eP	P	09 01 51.7	-0.8
	51nm,1.3s						
SVW2	Sparrevohn	82.46	25	eP	P	09 01 57.2	-0.4
	13nm,1.0s						
KURK	Kurchatov	82.50	324	eP	P	09 01 57.8	0.0
	10nm,1.4s						
SUA	Susitna One	84.67	25	eP	P	09 02 07.4	-1.6
	8.8nm,1.3s						
PPLA	Purkeypile	84.76	24	eP	P	09 02 08.0	-1.4
	18nm,1.4s						
RC01	Rabbit Creek A	84.93	26	eP	P	09 02 08.4	-1.7
	47nm,1.4s						
CAST	Castle Rocks	85.06	23	eP	P	09 02 09.8	-1.0
	12nm,1.2s						
PMR	Palmer	85.42	26	eP	P	09 02 10.9	-1.6
	16nm,1.3s						
KTH	Kantishna Hill	85.58	24	eP	P	09 02 11.5	-1.9
	4.4nm,0.9s						
TRF	Thorofare Moun	85.78	24	eP	P	09 02 13.5	-1.1
	6.6nm,1.0s						
SCM	Sheep Creek Mo	86.30	26	eP	P	09 02 16.2	-0.9
	32nm,1.3s						
RND	Reindeer	86.34	24	eP	P	09 02 15.7	-1.5
	11nm,0.9s						
MLY	Manley	86.34	22	eP	P	09 02 16.1	-1.0
	8.9nm,0.9s						
MCK	McKinley	86.45	24	eP	P	09 02 15.7	-1.9
	11nm,1.0s						
CCB	Clear Creek Bu	87.29	23	eP	P	09 02 19.6	-2.1
	10nm,1.1s						
ILAR	Eielson Array	87.70	23	P	P	09 02 20.9	-2.8
	4.9nm,0.8s,baz=256,slow=4.9,SNR=42						
ILB	Eielson Array	87.70	23	eP	P	09 02 21.1	-2.6
IL1	Eielson Array	87.70	23	eP	P	09 02 21.3	-2.4
BVAR	Borovoye Array	88.07	324	P	P	09 02 24.4	-1.3
	0.5nm,0.4s,baz=143,slow=5.2,SNR=3.9						
SYO	Syowa Base	88.36	200	⇑eP	P	09 02 25.8	-1.0
SYO	Syowa Base	88.36	200	⇑ePcP	PcP	09 02 29.6	+1.1
FYU	Fort Yukon	89.06	22	eP	P	09 02 29.4	-0.6
	18nm,1.4s						
EGAK	Eagle	89.98	24	eP	P	09 02 33.5	-1.0
	7.2nm,0.8s						
HYT	Haines Junctio	90.39	28	eP	P	09 02 36.0	-0.5
	12nm,1.2s						
DAWY	Dawson	90.49	25	eP	P	09 02 36.1	-0.8
	3.3nm,0.8s						
YKA	Yellowknife Ar	101.37	28	P	Pdif	09 03 24.6	-1.7
	0.6nm,1.0s,baz=272,slow=4.9,SNR=6.3						
SDV	Santo Domingo	143.48	86	PKP	PKPbc	09 09 08.7	+0.2
	5.3nm,0.8s,baz=323,slow=5.1,SNR=6.1						
SDV	Santo Domingo	143.48	86	ePKPdf	PKPbc	09 09 08.9	+0.3
TOA0	Torodi Ar. Sit	144.88	281	ePKPbc	PKPbc	09 09 12.6	+0.1
TORD	Torodi Ar. Bea	144.88	281	PKPbc	PKPab	09 09 12.4	-0.1
	7.4nm,0.7s,baz=81,slow=3.4,SNR=50						
CBYP	Canovanas	147.17	69	ePKPbc	PKPdf	09 09 17.8	+0.6
HUMP	Col San Antoni	147.21	69	ePKPbc	PKPbc	09 09 18.4	-1.1
MTP	Monte Pirata	147.49	69	ePKPbc	PKPbc	09 09 19.2	-1.1
STVI	Saint Thomas	147.98	68	ePKPbc	PKPbc	09 09 20.2	-1.3
SMRT	St. Maarten	149.79	68	ePKPbc	PKPbc	09 09 25.1	-1.2
KOWA	Kowa	150.23	285	PKPbc	PKPbc	09 09 27.4	0.0
	6.8nm,0.7s,baz=60,slow=4.3,SNR=20						
KOWA	Kowa	150.23	285	ePKPbc	PKPbc	09 09 27.5	+0.2
KIC	Kosan Boka	151.22	268	ePKP1	PKPbc	09 09 29.3	-0.5
	29nm,1.1s						
DBIC	Dimbokro	151.36	269	PKPbc	PKPbc	09 09 30.1	+0.1
	6.7nm,0.7s,baz=99,slow=3.9,SNR=12						
DBIC	Dimbokro	151.36	269	ePKPbc	PKPbc	09 09 29.5	-0.6
LIC	Lamto	151.49	268	ePKP1	PKPbc	09 09 29.9	-0.5
	29nm,0.8s						
TIC	Toumodi	151.52	269	ePKP1	PKPbc	09 09 30.2	-0.3
PTGA	Pitinga	152.38	107	ePKPbc	PKPbc	09 09 32.9	+0.4

*UPP **02** 08:59:13.5,64°.37N×31°.62E,h0km,ML1.7,Suspected Mining explosion.*

*ISCJB **02** 08:59:17.9±0.5,64°.72N±0°.03×30°.69E±0°.10,h0km,Error ellipse: s-maj=6.0km s-min=3.7km az=11.9*

*CSEM **02** 08:59:18.8±0.5,64°.71N×30°.80E,h2km,ML2.1,Error ellipse: s-maj=12.8km s-min=5.6km az=85.0,Mining explosion.*

*IDC **02** 08:59:18.6±2.8,64°.65N×31°.55E,h0km,mb1 3.3/4, mb1mx3.0/60,mbtmp3.2/4,ML2.6/4,Error ellipse: s-maj=39.0km s-min=9.9km az=104.0*

*HEL **02** 08:59:19.9±0.2,64°.76N×30°.62E,h0km,ML2.1,Explosion*

*BER **02** 08:59:20.0±4.6,64°.68N×30°.68E,h0km,ML2.3(NAO), Suspected explosion*

*KOLA **02** 08:59:21.7,64°.84N×30°.28E,h0km*

*NAO **02** 08:59:21.3±2.1,64°.73N×30°.11E,ML2.3*

ISC 02 08:59:18.3±1.1**,64°.71N**±0°.03**×30°.69E**±0°.06**,h0km,n55, σ1§56**/68**,Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KU6	Riekki	1.36	346	P	Pg	08 59 43.5	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KU6				Sn	Sn	09 00 03.8	+0.5
KU6	Riekki	1.36	346	eP	Pg	08 59 43.6	-0.9
KU6				eSN	Sn	09 00 03.8	+0.5
MSF	Maaselka	1.39	331	eP	Pg	08 59 43.5	-1.4
JOF	Joensuu	1.82	171	P	Pn	08 59 50.9	0.0
JOF				S	Sn	09 00 14.0	-0.6
JOF	Joensuu	1.82	171	eP	Pn	08 59 51.0	0.0
JOF				eS	Sn	09 00 14.0	-0.6
OUF	Merijarvi	2.60	265	P	Pn	09 00 02.3	+0.8
OUF	Merijarvi	2.60	265	eP	Pn	09 00 02.3	+0.8
OUF				eSB	Sb	09 00 37.5	-0.5
OUF				MSG		09 00 43.5	
	comp=Z,9.5nm,0.1s						
SUF	Sumiainen	2.84	227	P	Pn	09 00 06.7	+1.8
SUF	Sumiainen	2.84	227	eP	Pn	09 00 06.7	+1.8
SUF				eSB	Sb	09 00 45.1	0.0
SUF				MSG		09 00 50.6	
	comp=Z,8.8nm,0.2s						
TOF	Tornio	3.00	300	P	Pn	09 00 07.6	+0.7
TOF	Tornio	3.00	300	eP	Pn	09 00 07.7	+0.7
TOF				MSG		09 00 56.3	
	comp=Z,3.9nm,0.2s						
APA0	Apatity Array	3.05	17	P	Pn	09 00 09.6	+1.8
APA0				S	Sn	09 00 45.5	+0.5
APA	Apatity	3.08	20	P	Pn	09 00 10.1	+2.0
APA				S	Sn	09 00 46.3	+0.8
VRF	Varrio	3.08	352	P	Pn	09 00 08.9	+0.7
VRF	Varrio	3.08	352	eP	Pn	09 00 08.9	+0.7
SGF	Sodankyl	3.22	330	eSB	Sb	09 00 55.5	-0.6
KAF	Kangasniemi	3.27	219	P	Pn	09 00 12.9	+2.2
KAF	Kangasniemi	3.27	219	eP	Pn	09 00 13.0	+2.2
KAF				MSG		09 01 11.1	
	comp=Z,3.7nm,0.1s						
KALU	Kalix	3.29	294	P	Pn	09 00 12.4	+1.4
KALU	Kalix	3.29	294	eP	Pn	09 00 12.4	+1.4
PAJU	Pajala	3.88	310	P	Pn	09 00 20.5	+1.4
FIA0	FINESS Array S	3.89	215	Pn	Pn	09 00 19.9	+0.6
	baz=32,slow=14						
FIA0				Lg	Lg	09 01 19.9	
	baz=26,slow=37						
FIA0	FINESS Array S	3.89	215	Pn	Pn	09 00 20.0	+0.6
	SNR=50						
FIA0				Lg	Lg	09 01 20.0	
	SNR=7.6						
FIA0	FINESS Array S	3.89	215	Pn	Pn	09 00 19.9	+0.6
	baz=32,slow=14						
FIA0				Lg	Lg	09 01 19.9	
	baz=26,slow=37						
FINES	FINESS Array B	3.89	215	Pn	Pn	09 00 21.2	+1.9
	comp=Z,0.2nm,0.3s,baz=35,slow=13,SNR=7.8						
FINES				Lg	Lg	09 01 25.3	
	comp=Z,1.7nm,0.3s,baz=37,slow=28,SNR=10						
ERTU	Ertsjaerv	3.98	302	P	Pn	09 00 22.5	+2.1
HARU	Harads	4.31	294	P	Pn	09 00 25.9	+0.9
HARU	Harads	4.31	294	P	Pn	09 00 25.9	+0.9
LILU	Lilltraesk	4.64	282	P	Pn	09 00 30.3	+0.8
LILU	Lilltraesk	4.64	282	P	Pn	09 00 30.3	+0.8
DUNU	Dundret	4.80	305	P	Pn	09 00 32.9	+1.1
LANU	Lannavaara	4.84	318	P	Pn	09 00 32.9	+0.5
LANU	Lannavaara	4.84	318	P	Pn	09 00 32.9	+0.5
ARA0	ARCESS Array S	5.25	340	Pn	Pn	09 00 38.0	0.0
	baz=154,slow=11						
ARA0				Sn	Sn	09 01 35.5	-3.6
ARA0				Lg	Lg	09 02 02.0	
	baz=158,slow=37						
ARA0	ARCESS Array S	5.25	340	Pn	Pn	09 00 38.0	0.0
	SNR=8.4						
ARA0				Sn	Sn	09 01 35.5	-3.6
ARA0				Lg	Lg	09 02 02.0	
	SNR=6.9						
ARA0	ARCESS Array S	5.25	340	Pn	Pn	09 00 38.0	0.0
	baz=154,slow=11						
ARA0				Sn	Sn	09 01 35.5	-3.6
ARA0				Lg	Lg	09 02 02.0	
	baz=158,slow=37						
ARCES	ARCESS Array B	5.25	340	Pn	Pn	09 00 38.2	+0.3
	comp=Z,0.3nm,0.3s,baz=153,slow=16,SNR=25						
ARCES				Sn	Sn	09 01 38.0	-1.0
	comp=Z,0.4nm,0.3s,baz=157,slow=24,SNR=3.7						
ARCES				Lg	Lg	09 02 02.2	
	comp=Z,1.0nm,0.3s,baz=160,slow=29,SNR=6.9						
KUA	Kurravaara	5.29	313	P	Pn	09 00 40.0	+1.5
KUA	Kurravaara	5.29	313	P	Pn	09 00 40.0	+1.5
RATU	Laukkuluspa	5.46	310	P	Pn	09 00 42.5	+1.6
RATU	Laukkuluspa	5.46	310	P	Pn	09 00 42.5	+1.6
RATU				S	Sn	09 01 49.3	+5.0
NIKU	Nikkaluokta	5.67	309	P	Pn	09 00 45.2	+1.5
NIKU	Nikkaluokta	5.67	309	P	Pn	09 00 45.2	+1.5
KIF	Kilpisjarvi	5.81	322	Sn	Sn	09 01 54.4	+1.7
KIF				Lg	Lg	09 02 18.2	
KIF	Kilpisjarvi	5.81	322	Sn	Sn	09 01 54.4	+1.7
KIF				Lg	Lg	09 02 18.2	
KIF	Kilpisjarvi	5.81	322	Sn	Sn	09 01 54.4	+1.7
KIF				Lg	Lg	09 02 18.2	
HFS	Hagfors	9.11	248	Pn	Pn	09 01 28.4	-2.4
	baz=60,slow=16						
HFS	Hagfors	9.11	248	Pn	Pn	09 01 31.3	+0.5
	comp=Z,0.2nm,0.3s,baz=58,slow=13,SNR=6.4						
HFS				Lg	Lg	09 04 04.8	
	comp=Z,0.3nm,0.3s,baz=53,slow=29,SNR=3.4						
HFS	Hagfors	9.11	248	Pn	Pn	09 01 28.4	-2.4
	baz=60,slow=16						
NB2	NORSAR Subarra	9.61	256	Pn	Pn	09 01 36.9	-0.9
	baz=56,slow=18						
NB2	NORSAR Subarra	9.61	256	Pn	Pn	09 01 36.9	-0.9
	baz=56,slow=18						
NOA	NORSAR Array B	9.61	256	Pn	Pn	09 01 39.5	+1.8
	comp=Z,0.1nm,0.3s,baz=50,slow=10,SNR=3.0						
NRA0	NORESS Array S	9.63	254	Pn	Pn	09 01 37.3	-0.8
	baz=31,slow=11						
NRA0	NORESS Array S	9.63	254	Pn	Pn	09 01 37.3	-0.8
	SNR=0.6						
NRA0	NORESS Array S	9.63	254	Pn	Pn	09 01 37.3	-0.8
	baz=31,slow=11						

NNC 02 09:09:07.0±4.8**,37°.03N**×**70°.71E,h0km,mb3.9,mpv3.5, 4C-6D,Error ellipse: s-maj=38.5km s-min=32.4km az=147.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.69	36	⇑P	Pn	09 10 07.2	+1.7
	1.0nm,0.2s						
SFK				⇑S	Sn	09 10 52.3	+2.3
	14nm,0.3s						
MNAS	Manas	5.62	14	⇓P	Pn	09 10 32.0	0.0
	4.5nm,0.5s						
MNAS				⇑S	Sn	09 11 39.3	+2.1
	7.5nm,0.7s						
KK31	Karatay Array	6.07	359	⇓P	Pn	09 10 37.8	-0.2
	3.2nm,0.6s,baz=170,slow=12,SNR=28						
KK31				⇑S	Sn	09 11 49.4	+1.4
	1.6nm,0.4s,baz=180,slow=23,SNR=9.4						
AAK	Ala-Archa	6.31	26	⇓P	Pn	09 10 39.8	-1.6
	2.5nm,0.6s						
AAK				⇓S	Sn	09 11 54.5	+0.2
	6.0nm,0.8s						
TKM2	Tokmak 2	6.97	31	⇓P	Pn	09 10 48.3	-2.3
	1.7nm,0.7s						
TKM2				⇓S	Sn	09 12 08.5	-2.2
	4.3nm,1.1s						

*NNC **02** 09:09:47.9±0.9,54°.24N×87°.55E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=7.0km s-min=3.6km az=41.0*
IDC 02 09:09:51.1±3.0**,54°.13N**×**87°.44E,h0km,mb1 3.1**/2**, mb1mx2.9**/63**,mbtmp3.1**/2**,ML2.8**/2**,6C-2D,Error ellipse: s-maj=26.3km s-min=14.7km az=66.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.56	264	i		09 18 30.0	
	baz=80,slow=337,SNR=16						
ZAA0	Zalesovo Array	1.56	264	⇓Pg	Pn	09 10 17.5	-2.6
	9.2nm,0.8s						
ZAA0				⇑Lg	Lg	09 10 39.7	
	28nm,0.8s						
ZALV	Zalesovo Beam	1.56	264	Pg	Pn	09 10 17.7	-2.4
	4.4nm,0.3s,baz=82,slow=16,SNR=23						
ZALV				Lg	Lg	09 10 40.2	
	4.6nm,0.3s,baz=80,slow=28,SNR=9.3						
MK31	Makanchi Array	8.04	206	⇑Pn	Pn	09 11 47.7	-1.6
	0.4nm,0.6s,baz=30,slow=13,SNR=6.7						
MK31				⇓Sn	Sn	09 13 21.8	+0.9
	0.3nm,0.4s,baz=154,slow=63,SNR=5.0						
MK31				⇑Lg	Lg	09 14 08.8	
	8.7nm,1.1s,baz=21,slow=34,SNR=5.3						
MKAR	Makanchi Array	8.04	206	Pn	Pn	09 11 50.0	+0.8
	0.1nm,0.3s,baz=25,slow=13,SNR=6.5						
MKAR				Sn	Sn	09 13 20.3	-0.6
	0.2nm,0.3s,baz=28,slow=25,SNR=6.8						
MKAR				Lg	Lg	09 14 07.1	
	0.1nm,0.3s,baz=27,slow=29,SNR=3.7						
MAKZ	Makanchi	8.12	208	⇑Pn	Pn	09 11 48.8	-1.4
	1.7nm,0.6s						
MAKZ				⇑Sn	Sn	09 13 23.4	+0.8
	2.3nm,1.1s						
MAKZ				⇑Lg	Lg	09 14 09.2	
	7.5nm,1.2s						
BVAR	Borovoye Array	10.20	271	Pn	Pn	09 12 18.8	+0.1
	0.1nm,0.3s,baz=100,slow=15,SNR=5.4						

*ISCJB **02** 09:12:50.8±0.6,25°.43S±0°.09×176°.76W±0°.10,h150km, mb3.6/9,Error ellipse: s-maj=13.5km s-min=10.7km az=43.5*
*GCMT **02** 09:12:51.0±0.6,25°.07S×176°.90W,h122km±3km, MW5.1/56,Moment Tensor Solution. s28,c35; s56,c68; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.71±.24; $M_{\theta\theta}$-5.44±.28; $M_{\phi\phi}$1.73±.27; $M_{r\theta}$0.56±.27; $M_{\theta\phi}$1.28±.24; $M_{\phi r}$-1.96±.19; Best double couple: $M_0$5.33400×10^{16} NP1:ϕ_s127.00000°,δ58.00000°,λ128.00000°. NP2: ϕ_s251.00000°,δ48.00000°,λ46.00000°. Principal axes: T 4.9200, Plg58.0000°, Azm92.0000°; N 0.8300, Plg31.0000°, Azm285.0000°; P -5.7490, Plg6.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 09:12:51.0±1.7,25°.34S×176°.76W,h138km±16km,mb4.0/1 Error ellipse: s-maj=19.7km s-min=12.3km az=172.0*
*IDC **02** 09:12:52.1±3.5,25°.41S×176°.94W,h145km±31km,mb3.4/8, mb1 3.7/9,mb1mx3.5/37,mbtmp3.8/9,MS3.9/12, Ms1 3.9/12,ms1mx3.8/19,Error ellipse: s-maj=27.1km s-min=22.9km az=2.0*
ISC 02 09:12:52.1±0.6**,25°.33S**±0°.08×**176°.8W**±0°.1**,h150km,n45,** σ**1s.96**/28**,mb3.8**/9**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.04	194	P	Pn	09 13 51.7	-1.2
	135nm,0.3s,baz=358,slow=16,SNR=4.7						
RAO				S	Sn	09 14 44.1	+4.1
	52nm,0.3s,baz=84,slow=19,SNR=2.3						
RAO	Raoul Island	4.04	194	ePn	Pn	09 13 52.6	-0.3
RAO				eSn	Sn	09 14 36.9	-3.1
AFI	Afiamalu	12.30	23	LR	LR	09 19 46.9	
	comp=Z,173nm,20.6s,baz=197,slow=33						
URZ	Urewera	13.89	200	LR	LR	09 20 40.0	
	comp=Z,1µm,21.7s,baz=24,slow=34						
DZM	Mont Dzumac	15.70	278	P	P	09 16 24.3	-2.0
	0.1nm,0.3s,baz=102,slow=18,SNR=3.1						
DZM				LR	LR	09 21 07.5	
	comp=Z,604nm,21.3s,baz=82,slow=32						
DZM	Mont Dzumac	15.70	278	eP	P	09 16 26.2	-0.1
	64nm,1.6s						
DZM				eLR	LR	09 20 04.3	
	1µm,25.4s						
RAR	Rarotonga	16.16	79	P	Pn	09 16 28.6	-2.3
	2.3nm,0.3s,baz=286,slow=7.6,SNR=3.4						
RAR				LR	LR	09 21 27.0	
	comp=Z,301nm,21.9s,baz=244,slow=32						
TBI	Tubuai	24.96	91	eLQ	LQ	09 22 59.9	
	790nm,28.8s						
TBI				eLR	LR	09 24 04.6	
	964nm,28.8s,baz=252						
TBI	Tubuai	24.96	91	eT	T	09 43 18.4	
	36nm,0.4s						
PAE	Paea	26.40	79	eT	T	09 44 54.0	
	16nm,0.3s						
PPT2	Papeete2	26.43	78	eLQ	LQ	09 23 31.3	
	1µm,25.5s						
PPT2				eLR	LR	09 24 43.6	
	1µm,28.0s,baz=244						
PPT2	Papeete2	26.43	78	eT	T	09 45 04.0	
	12nm,0.4s						
PPT	Papeete	26.44	78	LR	LR	09 25 50.7	
	comp=Z,310nm,19.9s,baz=254,slow=29						
TVO	Taravao	26.65	79	eT	T	09 45 15.3	
	2.9nm,0.3s						
VAH	Vaihoa	29.07	75	eT	T	09 48 28.8	
	9.9nm,0.3s						
CTA	Charters Tower	34.42	271	P	P	09 19 24.9	-0.5
	4.0nm,0.7s,baz=84,slow=12,SNR=3.4						
CTAO	Charters Tower	34.42	271	eP	P	09 19 27.5	+2.0
STKA	Stephens Creek	36.95	250	LR	LR	09 32 21.7	
	comp=Z,220nm,20.8s,baz=64,slow=32						
PMG	Port Moresby	37.72	288	LR	LR	09 32 48.8	
	comp=Z,159nm,18.4s,baz=196,slow=32						
RKT	Rikitea	38.08	96	eLR	LR	09 30 06.6	
	513nm,26.2s						
RKT	Rikitea	38.08	96	eT	T	09 59 44.7	
	6.6nm,0.3s						
TAOE	Nuku Hiva Isla	38.49	71	eLR	LR	09 30 11.9	
	258nm,27.8s						
ASAR	Alice Springs	44.70	261	P	P	09 20 49.7	-0.8
	0.5nm,0.9s,baz=106,slow=6.8,SNR=3.6						
ASAR				LR	LR	09 38 58.4	
	comp=Z,138nm,18.0s,baz=102,slow=35						
WRAB	Tennant Creek	45.23	266	eP	P	09 20 56.4	+1.7
	3.5nm,1.0s						
WRA	Warramunga Arr	45.24	266	P	P	09 20 53.3	-1.4
	2.0nm,0.8s,baz=103,slow=8.1,SNR=4.8						
VNDA	Vanda	53.23	186	P	P	09 21 54.1	-0.5
	2.8nm,1.1s,baz=41,slow=9.3,SNR=6.3						
GUMO	Guam	53.79	312	LR	LR	09 41 55.2	
	comp=Z,115nm,21.6s,baz=110,slow=32						
BATI	Baumata	58.24	274	LR	LR	09 47 04.7	
	comp=Z,187nm,19.0s,baz=160,slow=35						
RPN	Rapa Nui	59.85	108	LR	LR	09 41 59.4	
	comp=Z,86nm,21.8s,baz=236,slow=29						
DAV	Davao City (W)	64.61	292	LR	LR	09 49 15.1	
	comp=Z,78nm,21.1s,baz=52,slow=34						
SNAA	Sanae	83.17	178	P	P	09 25 03.3	+2.2
SNAA	Sanae	83.17	178	eP	P	09 25 00.5	-0.6
VNA3	Neumayer Olymp	83.27	176	P	P	09 25 09.8	+8.3
VNA2	Neumayer--Watz	83.72	177	P	P	09 25 10.8	+7.0
	baz=341,slow=1.3						
NVAR	Mina Array Bea	83.79	42	P	P	09 25 04.9	0.0
	0.4nm,0.5s,baz=224,slow=7.6,SNR=2.6						
TXAR	Lajitas Array	88.73	57	P	P	09 25 31.3	+2.2
	0.1nm,0.8s,baz=238,slow=5.0,SNR=2.6						
PDAR	Pinedale Array	91.71	43	P	P	09 25 43.5	+0.7
	0.1nm,0.5s,baz=210,slow=3.1,SNR=2.3						
ILAR	Eielson Array	92.76	12	P	P	09 25 46.6	-0.2
	0.5nm,0.8s,baz=220,slow=5.4,SNR=3.8						
AKASG	Malin Array Be	147.73	329	PKPbc	PKPbc	09 32 18.3	-0.6
	2.9nm,0.6s,baz=49,slow=4.7,SNR=9.6						
EKA	Eskdalemuir Ar	149.66	7	PKPbc	PKPbc	09 32 26.1	+2.5
	0.9nm,0.7s,baz=12,slow=3.8,SNR=3.6						
BRTR	Keskin Array B	150.77	307	PKPbc	PKPbc	09 32 27.4	+0.3
	2.0nm,1.0s,baz=44,slow=3.8,SNR=4.5						
CLL	Collm	153.00	346	ePKPbc	PKPbc	09 32 32.0	+0.6
CLL				i pPKPdf	PKPab	09 32 40.1	-3.2
CLL				ePKPab	PKPab	09 32 44.0	+0.7
KHC	Kasperske Hory	154.90	344	ePKPAB	PKPab	09 32 47.0	-4.5
GERES	GERESS Array B	155.13	343	PKPab	PKPab	09 32 53.1	+0.5
	0.8nm,0.9s,baz=43,slow=1.7,SNR=4.3						
TORD	Torodi Ar. Bea	167.80	173	PKPab	PKPab	09 33 48.2	-0.3
	0.2nm,0.5s,baz=185,slow=4.1,SNR=3.5						

*CSEM **02** 09:19:23.9,61°.66N×24°.16E,h0km,ML1.0,Mining explosion. After HEL*
HEL 02 09:19:23.9±0.3**,61°.66N**×**24°.16E,h0km,ML1.0, Explosion,Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEF	Keuruu	0.61	33	Pg	Pg	09 19 34.9	-0.8
KEF				Sg	Sg	09 19 42.7	-0.9
KEF	Keuruu	0.61	33	PG	Pg	09 19 34.9	-0.7
	baz=209						
KEF				SG	Sg	09 19 42.7	-0.9
FIA0	FINESS Array S	0.94	102	Pg	Pg	09 19 40.6	-1.3
FIA0	FINESS Array S	0.94	102	PG	Pg	09 19 40.6	-1.3
	baz=285						
KAF	Kangasniemi	1.12	65	Pg	Pg	09 19 44.8	-0.5
KAF				Sb	Sg	09 19 58.5	-1.2
KAF	Kangasniemi	1.12	65	PG	Pg	09 19 44.8	-0.5
	baz=249						
KAF				MSG		09 19 57.9	
	comp=Z,1.1nm,0.2s						
KAF				SB	Sg	09 19 58.5	-1.2
RAF	Rauma	1.32	242	MSG		09 20 03.6	
	comp=Z,1.7nm,0.2s						
RAF				SN	Sn	09 20 07.6	-0.1
SUF	Sumiainen	1.42	40	Pg	Pn	09 19 49.4	-1.5
SUF	Sumiainen	1.42	40	PG	Pn	09 19 49.4	-1.5
	baz=218						
SUF				MSG		09 20 06.7	
	comp=Z,0.8nm,0.2s						
VAF	Ylistaro	1.56	334	Pn	Pn	09 19 52.9	+0.1
VAF				Sn	Sg	09 20 13.8	0.0
VAF	Ylistaro	1.56	334	PN	Pn	09 19 53.0	+0.2
	baz=156						
VAF				MSG		09 20 10.8	
	comp=Z,1.1nm,0.2s						
VAF				SN	Sg	09 20 13.8	0.0
TOF	Tornio	4.44	1	Sn	Sn	09 21 22.1	-2.7
TOF	Tornio	4.44	1	SN	Sn	09 21 22.1	-2.7

*HEL **02** 09:20:08.8±0.4,67°.64N×33°.86E,h0km,ML2.8,Explosion*
*CSEM **02** 09:20:09.9±0.6,67°.50N×33°.28E,h1km,ML2.8,Error ellipse: s-maj=12.2km s-min=8.0km az=88.0,Mining explosion.*
*IDC **02** 09:20:10.1±2.1,67°.65N×33°.74E,h0km,mb1 3.6/4, mb1mx3.1/64,mbtmp3.6/4,ML3.3/4,Error ellipse: s-maj=19.7km s-min=9.9km az=79.0*
*NAO **02** 09:20:12.0±2.1,67°.61N×33°.10E,ML3.0*
ISC 02 09:20:08.9±2.0**,67°.51N**±0°.05×**33°.4E**±0°.1**,h0km,n29,** σ**2s.05**/46**,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRF	Varrio	1.47	281	P	Pb	09 20 37.7	+0.7
VRF	Varrio	1.47	281	eP	Pb	09 20 37.8	+0.7
VRF				eS	Sn	09 20 58.7	+2.2
KU6	Riekki	2.04	225	eP	Pb	09 20 47.4	+0.7
KU6				eSG	Sg	09 21 17.8	+3.6
KU6				MSG		09 21 20.2	
	comp=Z,67nm,0.4s						
SGF	Sodankyl	2.65	272	Sg	Sg	09 21 34.5	+0.8
SGF	Sodankyl	2.65	272	eSG	Sg	09 21 34.6	+0.8
KEV	Kevo	3.25	317	P	Pn	09 21 01.7	+0.7
KEV	Kevo	3.25	317	eP	Pn	09 21 01.8	+0.7
ARA0	ARCESS Array S	3.54	309	Pn	Pn	09 21 05.6	+0.5
	baz=122,slow=16						
ARA0				Sn	Sn	09 21 46.5	-1.2
	baz=122,slow=28						
ARA0				Lg	Lg	09 21 58.4	
	baz=118,slow=37						
ARA0	ARCESS Array S	3.54	309	Pn	Pn	09 21 05.6	+0.5
	SNR=338						
ARA0				Sn	Sn	09 21 46.5	-1.2
	SNR=4.7						
ARA0				Lg	Lg	09 21 58.4	
	SNR=7.1						
ARA0	ARCESS Array S	3.54	309	Pn	Pn	09 21 05.6	+0.5
	baz=122,slow=16						
ARA0				Sn	Sn	09 21 46.5	-1.2
	baz=122,slow=28						
ARA0				Lg	Lg	09 21 58.4	
	baz=118,slow=37						
ARCES	ARCESS Array B	3.54	309	Pn	Pn	09 21 05.7	+0.6
	comp=Z,7.7nm,0.3s,baz=120,slow=15,SNR=292						
ARCES				Sn	Sn	09 21 47.7	0.0
	comp=Z,5.6nm,0.3s,baz=122,slow=24,SNR=12						
ARCES				Lg	Lg	09 22 02.8	
	comp=Z,8.5nm,0.3s,baz=118,slow=34,SNR=9.7						
ARE0	ARCESS Array S	3.54	309	P	Pn	09 21 05.2	+0.1
ARE0	ARCESS Array S	3.54	309	eP	Pn	09 21 05.2	+0.1
HEF	Hetta	3.78	288	eS	Sn	09 21 54.8	+1.4
HEF				eSG	Sg	09 22 09.7	-0.5
HEF				MSG		09 22 11.8	
	comp=Z,30nm,0.4s						
TOF	Tornio	3.87	252	eS	Sn	09 21 59.6	+4.1
TOF				eSG	Sg	09 22 14.3	+1.4
TOF				MSG		09 22 17.7	
	comp=Z,17nm,0.4s						
OUF	Merijarvi	4.74	232	eSG	Sg	09 22 39.9	-1.2
OUF				MSG		09 22 44.2	
	comp=Z,11nm,0.4s						
KIF	Kilpisjarvi	4.92	294	Pn	Pn	09 21 24.8	+0.9
KIF				Sn	Sn	09 22 20.6	-0.8
KIF				Lg	Lg	09 22 43.3	
KIF	Kilpisjarvi	4.92	294	Pn	Pn	09 21 24.8	+0.9
KIF				Sn	Sn	09 22 20.6	-0.8
KIF				Lg	Lg	09 22 43.3	
FIA0	FINESS Array S	6.86	211	Pn	Pn	09 21 52.5	+2.1
	baz=19,slow=14						
FIA0				Sn	Sn	09 23 06.8	-2.3
	baz=34,slow=22						
FIA0				Lg	Lg	09 23 44.8	
	baz=27,slow=28						
FIA0	FINESS Array S	6.86	211	Pn	Pn	09 21 52.5	+2.1
	baz=19,slow=14						
FIA0				Sn	Sn	09 23 06.8	-2.3
	baz=34,slow=22						
FIA0				Lg	Lg	09 23 44.8	
	baz=27,slow=28						
FINES	FINESS Array B	6.86	211	Pn	Pn	09 21 52.4	+1.9
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=13						
FINES				Sn	Sn	09 23 10.2	+1.1
	comp=Z,0.5nm,0.3s,baz=24,slow=14,SNR=4.0						
FINES				Lg	Lg	09 23 44.9	
	comp=Z,2.5nm,0.3s,baz=30,slow=28,SNR=10.0						
HFS	Hagfors	11.37	239	Pn	Pn	09 22 52.3	+0.1
	baz=38,slow=16						
HFS				Sn	Sn	09 24 53.5	-6.3
HFS	Hagfors	11.37	239	Pn	Pn	09 22 52.1	-0.1
	comp=Z,0.3nm,0.3s,baz=38,slow=17,SNR=5.9						
HFS				Sn	Sn	09 24 56.5	-3.3
	comp=Z,0.5nm,0.3s,baz=47,slow=22,SNR=6.1						
HFS				Lg	Lg	09 26 10.5	
	comp=Z,0.3nm,0.3s,baz=43,slow=26,SNR=2.3						
HFS	Hagfors	11.37	239	Pn	Pn	09 22 52.3	+0.1
	baz=38,slow=16						
HFS				Sn	Sn	09 24 53.5	-6.3
NB2	NORSAR Subarra	11.56	247	Pn	Pn	09 22 54.9	0.0
NB2	NORSAR Subarra	11.56	247	Pn	Pn	09 22 54.9	0.0
NOA	NORSAR Array B	11.56	247	Pn	Pn	09 22 54.2	-0.7
	comp=Z,0.3nm,0.3s,baz=45,slow=11,SNR=5.5						
NOA				Sn	Sn	09 25 00.7	-3.8
	comp=Z,0.3nm,0.3s,baz=61,slow=15,SNR=3.2						
NOA				Lg	Lg	09 26 17.8	
	comp=Z,0.5nm,0.3s,baz=52,slow=24,SNR=3.0						
NRA0	NORESS Array S	11.66	245	Pn	Pn	09 22 56.3	+0.1
	baz=36,slow=18						
NRA0	NORESS Array S	11.66	245	Pn	Pn	09 22 56.3	+0.1
	baz=36,slow=18						

MAN 02 09:26:18,10°.91N×124°.85E,h1km,mb4.1,ML2.9,MS2.6, 2C,Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.28	300	eP	Pb	09 26 24.8	-1.0
OCLP				eS	Sb	09 26 29.8	-1.2
PLP	Palo	0.28	26	⇑eP	Pb	09 26 25.2	-0.7
PLP				i S	Sb	09 26 29.7	-1.5
MSLP	Maasin	0.77	180	eP	Pb	09 26 34.2	-0.1
MSLP				eS	Sn	09 26 50.5	+2.2
BESP	Borongan	0.89	40	eP	Pb	09 26 36.0	-0.3
BESP				eS	Sb	09 26 49.0	+0.3
CNP	Catarman	1.60	353	eP	Pn	09 26 47.9	+0.5
CNP				eS	Sg	09 27 14.8	+5.3
RCP	Roxas	2.17	288	⇑eP	Pn	09 26 55.9	+0.6

MAN 02 09:32:03,11°.15N×124°.76E,h36km,mb4.0,ML2.7,MS2.3, 1C,Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.18	238	eP	Pn	09 32 12.0	-0.3
OCLP				eS	Sn	09 32 17.4	-3.7
PLP	Palo	0.21	85	⇑eP	Pn	09 32 12.2	+0.6
PLP				i S	Sn	09 32 16.7	-2.8
MSLP	Maasin	1.01	175	eP	Pn	09 32 20.9	+0.2
MSLP				eS	Sn	09 32 36.0	+2.5

*SOME **02** 09:52:27.8, 41°.13N×71°.02E, h10km*
*KRNET **02** 09:52:29.1±0.1, 41°.28N×71°.00E, h9km, mb2.4*
*ISCJB **02** 09:52:30.6±0.9, 41°.27N±0°.05×70°.91E±0°.05, h10km, Error ellipse: s-maj=8.5km s-min=4.3km az=24.7*
*NNC **02** 09:52:31.2±4.3, 41°.28N×71°.24E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=36.7km s-min=17.5km az=8.0*
ISC 02 09:52:29.5±1.2**, 41°.27N**±0°.05×**70°.96E**±0°.04**, h10km, n16, σ1s14**/30**, 21C-3D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.92**	**55**	⇑*i*P	**Pg**	**09 52 46.3**	**-1.0**
	baz=56						
ARK				⇑*i*S	**Sg**	**09 52 58.7**	**-0.6**
	baz=56						
IUG	**Iuzhnay**	**1.12**	**322**	*e*P	**Pg**	**09 52 50.2**	**-0.9**
IUG				*e*S	**Sg**	**09 53 05.0**	**-0.6**
ARSB	**Arslanbob**	**1.52**	**87**	⇓*i*P	**Pn**	**09 52 57.3**	**+0.3**
	baz=88						
ARSB				⇓*i*S	**Sg**	**09 53 18.2**	**-0.4**
	baz=88						
TOKL	**Toktogul**	**1.58**	**64**	⇑*i*P	**Pn**	**09 52 57.7**	**0.0**
	baz=64						
TOKL				⇑*i*S	**Sg**	**09 53 19.7**	**-0.7**
	baz=64						
MNAS	**Manas**	**1.68**	**43**	⇑Pn	**Pb**	**09 52 59.9**	**-0.7**
	0.8nm,0.3s						
MNAS				⇑Sn	**Sg**	**09 53 23.8**	**+0.3**
	2.2nm,0.4s						
MNAS	**Manas**	**1.68**	**43**	⇑*i*P	**Pb**	**09 53 00.2**	**-0.4**
	baz=43						
MNAS				⇑*i*S	**Sg**	**09 53 23.5**	**0.0**
	baz=43						
KK31	**Karatay Array**	**1.86**	**350**	⇑Pn	**Pb**	**09 53 03.6**	**-0.1**
	1.6nm,0.2s,baz=162,slow=14,SNR=56						
KK31				Sn	**Sg**	**09 53 30.7**	**+1.2**
	8.4nm,0.5s,baz=156,slow=27,SNR=15						
BRLS	**Borolday**	**1.95**	**335**	*e*P	**Pb**	**09 53 04.2**	**-1.0**
BRLS				*e*S	**Sb**	**09 53 29.2**	**-0.3**
AML	**Almayashu**	**2.22**	**66**	⇑*i*P	**Pb**	**09 53 08.6**	**-1.4**
	baz=66						
AML				⇑*i*S	**Sb**	**09 53 37.7**	**0.0**
	baz=66						
MRKS	**Merke**	**2.24**	**48**	*e*P	**Pb**	**09 53 09.9**	**-0.3**
MRKS				*e*S	**Sb**	**09 53 38.9**	**+0.8**
SFK	**Sufi-Kurgan**	**2.31**	**122**	⇑*i*P	**Pb**	**09 53 10.6**	**-0.7**
	baz=23						
SFK				⇑*i*S	**Sb**	**09 53 40.6**	**+0.6**
	baz=23						
EKS2	**Erkin-Say**	**2.52**	**56**	⇑*i*P	**Pb**	**09 53 13.2**	**-1.7**
	baz=55						
EKS2				⇑*i*S	**Sb**	**09 53 45.5**	**-0.6**
	baz=55						
UCH	**Uchtor**	**2.83**	**69**	⇑*i*P	**Pn**	**09 53 17.1**	**+1.9**
	baz=69						
UCH				⇑*i*S	**Sb**	**09 53 52.3**	**-2.9**
	baz=69						
AAK	**Ala-Archa**	**2.97**	**61**	⇑Pg	**Pb**	**09 53 22.4**	**-0.3**
	3.5nm,0.9s						
AAK				Lg	Lg	09 54 00.5	
	1.6nm,0.6s						
KZA	**Kyzart**	**3.31**	**74**	⇑*i*P	**Pn**	**09 53 23.5**	**+1.7**
	baz=75						
KZA				⇑*i*S	**Sn**	**09 54 03.9**	**+2.4**
	baz=75						
TKM2	**Tokmak 2**	**3.83**	**63**	⇑Pg	**Pb**	**09 53 37.9**	**+0.6**
	1.5nm,0.8s						
TKM2				⇓Lg	Lg	09 54 28.2	
	2.1nm,0.8s						

NNC 02 10:01:14.2±0.8**, 54°.33N×86°.19E, h0km, mb3.6, mpv2.7, 4C-1D, Error ellipse: s-maj=15.3km s-min=4.2km az=159.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.89**	**245**	⇑P	Pg	10 01 31.4	+0.1
	0.9nm,0.2s						
ZAA0				⇑S	Sg	10 01 43.9	+1.0
	5.4nm,0.3s						
KURK	**Kurchatov**	**5.87**	**235**	⇑Lg	Lg	10 04 20.1	
	2.8nm,0.8s						
MK31	**Makanchi Array**	**7.95**	**200**	Pn	Pn	10 03 11.4	+0.4
	1.0nm,0.7s,baz=25,slow=13,SNR=24						
MK31				⇓Sn	Sn	10 04 41.9	+0.4
	0.8nm,0.8s,baz=239,slow=60,SNR=4.0						
MK31				⇑Lg	Lg	10 05 26.9	
	0.9nm,0.9s						

*IDC **02** 10:06:28.2±1.7, 4°.29S×126°.51E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.5/58, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=47.7km s-min=28.0km az=72.0*
*ISCJB **02** 10:06:32.1±0.7, 4°.22S±0°.05×126°.81E±0°.05, h33km, mb3.7/1, Error ellipse: s-maj=7.5km s-min=7.4km az=6.3*
*DJA **02** 10:06:33.7±1.0, 4°S±4°×12°7E±°, h23km±9km, M3.8/7, MLv3.8/7*
ISC 02 10:06:33.0±1.0**, 4°.21S**±0°.07×**126°.81E**±0°.06**, h33km, n11, σ1s54**/15**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.01**	**17**	P	**Pn**	**10 06 50.7**	**-0.1**
NLAI				S	**Sn**	**10 07 02.8**	**-1.1**
AAI	**Ambon**	**1.48**	**69**	P	**Pn**	**10 06 57.8**	**+0.5**
AAI				S	**Sn**	**10 07 15.2**	**-0.3**
MSAI	**Masohi**	**2.28**	**68**	P	**Pb**	**10 07 12.5**	**-1.1**
SANI	**Sanana**	**2.30**	**339**	P	**Pn**	**10 07 08.5**	**-0.1**
SANI				S	**Sn**	**10 07 34.9**	**-0.9**
BNDI	**Bandanaira**	**3.10**	**96**	P	**Pn**	**10 07 20.2**	**+0.6**
LBMI	**Labuha**	**3.62**	**11**	P	**Pn**	**10 07 29.5**	**+2.7**
BBSI	**Bau Bau**	**4.41**	**253**	P	**Pn**	**10 07 40.4**	**+2.8**
SIJI	**Sorong**	**5.55**	**53**	Pn	**Pn**	**10 07 55.7**	**+2.3**
	4.3nm,0.3s,baz=241,slow=19,SNR=10						
SIJI				Sn	**Sn**	**10 08 57.1**	**+0.9**
	2.9nm,0.3s,baz=47,slow=18,SNR=11						
WRA	**Warramunga Arr**	**17.27**	**155**	P	**Pn**	**10 10 30.2**	**-1.6**
	0.1nm,0.3s,baz=328,slow=14,SNR=8.9						
ASAR	**Alice Springs**	**20.52**	**161**	P	**P**	**10 11 09.4**	**+0.9**
	1.5nm,0.6s,baz=334,slow=10,SNR=25						
MKAR	**Makanchi Array**	**64.18**	**328**	P	**P**	**10 17 04.2**	**-0.3**
	0.4nm,0.5s,baz=131,slow=8.4,SNR=4.2						

GUC 02 10:11:26.8±0.5**, 20°.15S×69°.16W, h97km**±3km**, ML3.5, 4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.01**	**24**	⇓*i*P	Pn	10 11 41.4	+0.6
PB08				*e*S	Sn	10 11 52.1	+0.9
PB08				IAML		10 11 53.2	
	comp=N,2µm,0.2s						
PB11	**IPOC Station P**	**0.61**	**310**	⇓*i*P	Pn	10 11 43.7	+0.4
PB11				*e*S	Sn	10 11 56.7	+1.1
PB01	**IPOC Station P**	**0.94**	**199**	⇓*i*P	Pn	10 11 46.8	+0.4
PB01				*e*S	Sn	10 12 02.0	+0.8
PB01				IAML		10 12 03.1	
	comp=E,2µm,0.3s						
PSGC	**Pisagua**	**1.06**	**301**	*e*P	Pn	10 11 48.1	+0.3
PSGC				*e*S	Sn	10 12 04.4	+0.8
PSGC				IAML		10 12 07.6	
	comp=E,500nm,0.7s						
MNMC	**Minye Minye**	**1.09**	**338**	*e*P	Pn	10 11 49.6	+1.2
MNMC				*e*S	Sn	10 12 06.4	+1.8
PB02	**IPOC Station P**	**1.35**	**211**	⇓*i*P	Pn	10 11 51.7	+0.5
PB02				*e*S	Sn	10 12 10.8	+1.1
PB02				IAML		10 12 17.6	
	comp=E,1µm,0.2s						
PB12	**IPOC Station P**	**1.89**	**324**	*e*P	Pn	10 11 58.2	+0.3
PB12				*e*S	Sn	10 12 22.1	+0.5
PB12				IAML		10 12 31.1	
	comp=E,1µm,0.5s						

*NIED **02** 10:11:00, 35°.20N×141°.30E, h20km, Mw5.2 Best double couple: Mo7.02000×10¹⁶ NP1:φs289.00000°, δ29.00000°, λ152.00000°. NP2:φs44.00000°, δ77.00000°, λ64.00000°.*
*BJI **02** 10:11:38.8, 35°.23N×141°.17E, h20km, mb5.0/73, mB5.1/55, Ms5.1/82, Ms7 5.0/69*
*IDC **02** 10:11:39.0±0.3, 35°.17N×141°.12E, h0km, mb5.1/50, mb1 5.2/52, mb1mx5.1/69, mbtmp5.1/52, ML4.0/2, MS4.6/53, Ms1 4.6/53, ms1mx4.5/69, Error ellipse: s-maj=11.0km s-min=6.9km az=92.0*
*JMA **02** 10:11:40.7±0.1, 35°.24N×141°.37E, h34km±2km, M5.2*
JMA Felt II J1.
*MOS **02** 10:11:41.2±0.9, 35°.21N×141°.10E, h23km, mb5.5/147, MS4.9/57, Error ellipse: s-maj=6.0km s-min=3.8km az=108.1*
*ISCJB **02** 10:11:42.2±0.5, 35°.18N±0°.02×141°.08E±0°.02, h31km±3km, mb5.3/407, MS4.9/169, Error ellipse: s-maj=3.2km s-min=2.2km az=162.9*
*GCMT **02** 10:11:43.2±0.2, 35°.20N×141°.34E, h20km, MW5.2/99, Moment Tensor Solution. s64,c96; s99,c165; Duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.47±.02; Mθθ-0.60±.01; Mφφ0.12±.01; Mrθ0.57±.04; Mθφ-0.25±.01; Mφr0.23±.03; Best double couple: Mo0.84100×10¹⁷ NP1:φs68.00000°, δ68.00000°, λ86.00000°. NP2: φs259.00000°, δ22.00000°, λ100.00000°. Principal axes: T 0.7380, Plg66.0000°, Azm331.0000°; N 0.2050, Plg4.0000°, Azm70.0000°; P -0.9430, Plg23.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 10:11:43.2±1.0, 35°.16N×141°.04E, h27km±6km, mb5.3/277, MS4.8/92 Error ellipse: s-maj=2.8km s-min=2.2km az=146.0*
NEIC Felt at Kamogawa, Katsuura, Matsudo, Mobara, Tokyo and Yokosuka. Recorded [2 JMA] in Chiba and Ibaraki.
ISC 02 10:11:42.3±0.4**, 35°.20N**±0°.03×**141°.13E**±0°.03**, h25km**±2km**, h25km:pP-P, n1344, σ1s41**/1361**, mb5.3**/428**, MS4.9**/169**, 59C-15D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.55**	**336**	⇓P	**Pb**	**10 11 52.8**	**-0.6**
CHOJ				*e*S	**Sb**	**10 12 01.7**	**+0.8**
BSO1	**Boso 1**	**0.56**	**193**	P	**Pb**	**10 11 53.7**	**+0.6**
BSO3	**Boso 3**	**0.65**	**233**	P	**Pn**	**10 11 55.9**	**+0.2**
KTR	**Katsuura**	**0.67**	**266**	P	**Pn**	**10 11 56.6**	**+0.4**
KTR				S	**Sn**	**10 12 07.7**	**+1.7**
I30JP	**ISUMI INFRASON**	**0.68**	**280**	Pn	**Pn**	**10 11 56.8**	**+0.5**
	baz=104,slow=30,SNR=1.0						
BSO4	**Boso 4**	**0.69**	**253**	P	**Pn**	**10 11 57.0**	**+0.7**
JCN	**Nagara**	**0.79**	**286**	P	**Pn**	**10 11 59.0**	**+1.1**
JCN				*e*S	**Sn**	**10 12 12.5**	**+3.5**
JYT	**Yasato**	**1.28**	**324**	P	**Pn**	**10 12 04.4**	**-0.2**
JHO	**Hitachi**	**1.48**	**342**	⇑P	**Pn**	**10 12 06.9**	**-0.5**
JHJ2	**Mitsune**	**2.35**	**208**	*e*Pn	**Pn**	**10 12 19.7**	**+0.4**
JHJ2				*e*Sn	**Sn**	**10 12 41.0**	**-6.4**
JHJ	**Hachijo jima 2**	**2.36**	**209**	Pn	**Pn**	**10 12 20.3**	**+0.9**
	437nm,0.3s,baz=33,slow=3.2,SNR=92						
JHJ				LR	LR	10 12 46.4	
	comp=Z,2µm,20.2s,baz=55,slow=29						
JHJ				Sn	**Sn**	**10 12 48.9**	**+1.3**
	912nm,0.3s,baz=41,slow=18,SNR=8.3						
MJAR	**Matsushiro Arr**	**2.73**	**300**	Pn	**Pn**	**10 12 26.6**	**+2.0**
	96nm,0.3s,baz=98,slow=13,SNR=549						
MJAR				LR	LR	10 13 33.1	
	comp=Z,9µm,18.6s,baz=130,slow=42						
MAJO	**Matsushiro**	**2.73**	**300**	*e*Pn	**Pn**	**10 12 26.2**	**+1.6**
MAJO				*e*Sn	**Sn**	**10 12 50.4**	**-6.4**
MAJO	**Matsushiro**	**2.73**	**300**	*c i*P	**Pn**	**10 12 26.5**	**+1.9**
MAT	**Matsushiro**	**2.73**	**300**	P	**Pn**	**10 12 26.7**	**+2.1**
MAT				*e*S	**Sb**	**10 13 03.9**	**+0.4**
MJB9	**Matsu-Tunnel**	**2.73**	**300**	*e*Pn	**Pn**	**10 12 26.1**	**+1.5**
MJB9				*e*Sn	**Sn**	**10 12 50.4**	**-6.5**
INU	**Inuyama**	**3.37**	**274**	*e*Pn	**Pn**	**10 12 35.0**	**+1.7**
INU				*e*Sn	**Sn**	**10 13 05.0**	**-7.6**
ERM	**Erimo**	**6.99**	**12**	*e*Pn	**Pn**	**10 13 20.6**	**-2.4**
ERM				*e*Sn	**Sn**	**10 14 39.6**	**-2.1**
ERM	**Erimo**	**6.99**	**12**	*e*P	**Pn**	**10 13 20.6**	**-2.4**
ERM				*e*		10 14 39.6	
CBIJ	**Chichi jima**	**8.13**	**173**	*e*Pn	**Pn**	**10 13 36.3**	**-2.4**
CBIJ				*e*Sn	**Sn**	**10 15 07.1**	**-2.7**
JCJ	**Chichijima**	**8.13**	**173**	Pn	**Pn**	**10 13 36.9**	**-1.8**
	baz=318,slow=16						
JCJ				Sn	**Sn**	**10 15 02.2**	**-7.6**
	37nm,0.3s,baz=315,slow=19,SNR=2.0						
JNU	**Nakatsue**	**8.75**	**259**	Pn	**Pn**	**10 13 51.4**	**+4.1**
	2.0nm,0.3s,baz=128,slow=0.8,SNR=17						
JNU				LR	LR	10 17 39.5	
	comp=Z,6µm,18.7s,baz=80,slow=41						
JNU	**Nakatsue**	**8.75**	**259**	*e*Pn	**Pn**	**10 13 50.3**	**+3.0**
ASAJ	**Asahikawa**	**8.98**	**7**	Pn	**Pn**	**10 13 47.5**	**-2.9**
	14nm,0.3s,baz=221,slow=9.8,SNR=96						
ASAJ				Sn	**Sn**	**10 15 26.8**	**-3.8**
	4.6nm,0.3s,baz=131,slow=20,SNR=3.2						
ASAJ	**Asahikawa**	**8.98**	**7**	*e*Pn	**Pn**	**10 13 47.1**	**-3.2**
ASAJ				*e*Sn	**Sn**	**10 15 26.9**	**-3.7**
GLVR	**Golovnino**	**9.18**	**20**	⇑*i*P	**Pn**	**10 13 48.5**	**-4.5**
GRPR	**Tuman**	**9.48**	**21**	*e*P	**Pn**	**10 13 52.5**	**-4.7**
LAGR	**Lagunnoye**	**9.54**	**21**	*e*P	**Pn**	**10 13 54.9**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**9.55**	**21**	*c i*P	Pn	10 13 53.1	-5.0
YUK				pmax	pmax		
	comp=Z,393nm,0.5s						
YUK				pmax	pmax		
	comp=N,243nm,0.4s						
YUK				pmax	pmax		
	comp=E,294nm,0.4s						
YUK				MLR	MLR		
	comp=Z,2µm,14.0s						
YUK				MLR	MLR		
	comp=E,5µm,16.0s						
YUK				MLR	MLR		
	comp=E,3µm,15.0s						
SHO	**Shikotan**	**9.71**	**25**	*e*P	Pn	10 13 54.2	-6.1
SHO				pmax	pmax		
	comp=Z,246nm,0.5s						
SHO				pmax	pmax		
	comp=N,28nm,0.4s						
SHO				pmax	pmax		
	comp=E,94nm,0.4s						
TEY	**Ternei**	**10.42**	**342**	*e*P	**Pn**	**10 14 11.0**	**+1.0**
TEY				pmax	pmax		
	comp=N,86nm,1.0s						
TEY				pmax	pmax		
	comp=E,30nm,1.0s						
TEY				pmax	pmax		
	comp=Z,86nm,1.0s						
TEY				MLR	MLR		
	comp=E,3µm,14.0s						
TEY				MLR	MLR		
	comp=Z,7µm,14.0s						
VLA	**Vladivostok**	**10.68**	**321**	*e*P	**Pn**	**10 14 12.8**	**-0.8**
KSRS	**Korea Array**	**10.89**	**286**	Pn	Pn	10 14 22.0	+5.4
	comp=Z,1.5nm,0.3s,baz=98,slow=14,SNR=70						
KSRS				LR	LR	10 18 45.7	
	comp=Z,7µm,18.9s,baz=91,slow=39						
KS01	**Wonju Array Si**	**10.92**	**286**	*e*Pn	**Pn**	**10 14 20.7**	**+3.8**
KS15	**Wonju Array Si**	**10.92**	**286**	*e*Pn	**Pn**	**10 14 17.6**	**+0.6**
TJN	**Taejon**	**11.25**	**280**	*ce*P	**Pn**	**10 14 23.8**	**+2.4**
KUR	**Kuril'sk**	**11.26**	**25**	⇓*i*P	**Pn**	**10 14 19.1**	**-2.5**
KUR				pmax	pmax		
	comp=N,20nm,0.5s						
KUR				pmax	pmax		
	comp=E,36nm,0.5s						
KUR				pmax	pmax		
	comp=Z,108nm,0.5s						
USRK	**Ussuriysk Ar.**	**11.41**	**325**	Pn	**Pn**	**10 14 25.1**	**+1.5**
	comp=Z,2.2nm,0.3s,baz=135,slow=12,SNR=95						
USRK				LR	LR	10 18 40.2	
	comp=Z,7µm,18.8s,baz=133,slow=37						
YSS	**Yuzh-Sakhalins**	**11.81**	**5**	*e*Pn	**Pn**	**10 14 26.0**	**-3.0**
YSS	**Yuzh-Sakhalins**	**11.81**	**5**	⇑*e*P	**Pn**	**10 14 25.7**	**-3.3**
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				pmax	pmax		
	comp=Z,400nm,2.0s						
YSS				MLR	MLR		
	comp=E,6µm,15.0s						
INCN	**Inchon**	**11.92**	**285**	*e*Pn	**Pn**	**10 14 32.1**	**+1.5**
MDJ	**Mudanjiang**	**12.91**	**320**	P	**Pn**	**10 14 43.5**	**-0.6**
MDJ				pmax	pmax		
	comp=E,32nm,1.6s						
MDJ				pmax	pmax		
	comp=E,1µm,11.7s						
MDJ				LR	LR		
	comp=E,3µm,17.1s						
MDJ				LR	LR		
	comp=E,4µm,16.5s						
MDJ				LR	LR		
	comp=E,7µm,18.6s						
MDJ	**Mudanjiang**	**12.91**	**320**	*e*Pn	**Pn**	**10 14 45.2**	**+1.1**
JOW	**Kunigami**	**13.81**	**236**	*e*Pn	**Pn**	**10 14 57.1**	**+0.5**
CN2	**Changchun**	**14.83**	**310**	*e*P	**Pn**	**10 15 10.0**	**-0.3**
CN2				*e*S	**Sn**	**10 17 52.4**	**-1.4**
CN2				pmax	pmax		
	comp=E,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=E,200nm,4.0s						
CN2				LR	LR		
	comp=E,4µm,17.0s						
CN2				LR	LR		
	comp=E,2µm,17.0s						
CN2				LR	LR		
	comp=E,3µm,17.0s						
SNY	**Shenyang**	**15.24**	**301**	⇑P	**Pn**	**10 15 16.1**	**+0.3**
SNY				pmax	pmax		
	comp=E,76nm,1.2s						
SNY				pmax	pmax		
	comp=E,350nm,3.5s						
SNY				LR	LR		
	comp=E,3µm,13.1s						
SNY				LR	LR		
	comp=E,4µm,18.6s						
SNY				LR	LR		
	comp=E,6µm,19.4s						
KLR	**Kul'dur**	**15.63**	**337**	Pn	**Pn**	**10 15 17.1**	**-3.7**
	comp=E,0.2nm,0.3s,baz=146,slow=12,SNR=20						
KLR				LR	LR	10 21 31.8	
	comp=E,504nm,18.2s,baz=138,slow=38						
KLR	**Kul'dur**	**15.63**	**337**	*e*P	**Pn**	**10 15 17.9**	**-2.9**
TYV	**Tymovskoe**	**15.70**	**4**	*e*P	**Pn**	**10 15 18.2**	**-3.4**
TYV				pmax	pmax		
	comp=Z,500nm,4.9s						
TYV				pmax	pmax		
	comp=Z,128nm,1.0s						
GRNR	**Gornyy**	**15.94**	**349**	*e*P	**Pn**	**10 15 20.5**	**-4.2**
GRNR				pmax	pmax		
	comp=N,42nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
DL2	**Dalian**	**16.00**	**289**	P	**Pn**	**10 15 27.3**	**+1.6**
DL2				*e*S	**Sn**	**10 18 23.7**	**+1.3**
DL2				pmax	pmax		
	comp=Z,120nm,1.3s						
DL2				pmax	pmax		
	comp=Z,790nm,9.1s						
DL2				LR	LR		
	comp=Z,1µm,18.6s						
DL2				LR	LR		
	comp=Z,4µm,16.0s						
DL2				LR	LR		
	comp=Z,5µm,15.9s						
SSE	**Sheshan**	**17.20**	**262**	P	**P**	**10 15 42.4**	**+0.2**
SSE				S	**Sn**	**10 18 50.9**	**-0.4**
SSE				pmax	pmax		
	comp=Z,16nm,0.7s						
SSE				pmax	pmax		
	comp=Z,55nm,3.5s						
SSE				LR	LR		
	comp=Z,2µm,15.1s						
SSE				LR	LR		
	comp=Z,3µm,13.5s						
NKL	**Nikolayevsk**	**17.95**	**359**	*e*P	**Pn**	**10 15 44.0**	**-6.0**
NKL				*e*		10 19 07.0	
NKL				pmax	pmax		
	comp=Z,83nm,1.1s						
NKL				pmax	pmax		
	comp=Z,500nm,5.0s						
SKR	**Severo-Kuril's**	**18.91**	**30**	*e*P	**P**	**10 16 00.2**	**-0.8**
TIA	**Tai'an**	**19.52**	**280**	P	**P**	**10 16 06.4**	**-1.4**
TIA				pmax	pmax		
	comp=Z,23nm,0.9s						
TIA				LR	LR		
	comp=Z,3µm,13.2s						
TIA				LR	LR		
	comp=Z,4µm,14.7s						
TIA				LR	LR		
	comp=Z,5µm,14.3s						
TATO	**Taipei**	**19.79**	**244**	*e*P	**P**	**10 16 09.7**	**-1.1**
	comp=Z,171nm,1.5s						
TATO				*e*S	**S**	**10 19 51.1**	**-1.4**
YHNB	**Yeheng**	**20.05**	**244**	*e*P	**P**	**10 16 13.2**	**-0.5**
	comp=Z,68nm,1.4s						
YHNB				*e*S	**S**	**10 19 56.9**	**-1.0**
NACB	**Ninganchiao**	**20.18**	**242**	*e*P	**P**	**10 16 13.2**	**-1.9**
	comp=Z,25nm,0.8s						
NACB				*e*S	**S**	**10 19 58.6**	**-1.9**
BJI	**Beijing**	**20.33**	**291**	P	**P**	**10 16 14.1**	**-2.4**
BJI				S	**S**	**10 20 00.4**	**-2.8**
BJI				pmax	pmax		
	comp=Z,72nm,1.0s						
BJI				LR	LR		
	comp=Z,2µm,15.6s						
BJI				LR	LR		
	comp=Z,3µm,19.4s						
BJI				LR	LR		
	comp=Z,3µm,24.2s						
BJT	**Baijiatuau**	**20.33**	**291**	*e*P	**P**	**10 16 15.1**	**-1.5**
	comp=Z,123nm,1.0s						
BJT				LR	LR		
	comp=Z,3µm,21.0s						
BJT	**Baijiatuau**	**20.33**	**291**	*e*P	**P**	**10 16 15.1**	**-1.5**
BJT				pmax	pmax		
	comp=Z,123nm,1.0s						
BJT				MLR	MLR		
	comp=Z,3µm,21.0s						
YULB	**Yu-li**	**20.88**	**241**	*e*P	**P**	**10 16 21.4**	**-1.3**
	comp=Z,27nm,1.2s						
SSLB	**Suanglung**	**20.88**	**242**	*e*P	**P**	**10 16 21.4**	**-1.4**
	comp=Z,19nm,0.9s						
ZEA	**Zeya**	**20.95**	**337**	*e*P	**P**	**10 16 19.6**	**-3.6**
ZEA				*e*S	**S**	**10 20 16.0**	**+0.7**
ZEA				pmax	pmax		
	comp=N,190nm,1.0s						
ZEA				pmax	pmax		
	comp=E,71nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,260nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,700nm,6.0s						
ZEA				smax	smax		
	comp=N,600nm,12.0s						
ZEA				smax	smax		
	comp=Z,500nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,5µm,16.0s						
ZEA				MLR	MLR		
	comp=E,2µm,14.0s						
HIA	**Hailar**	**21.08**	**318**	*e*P	**P**	**10 16 22.4**	**-2.2**
HIA				*e*Pn	**P**	**10 16 22.8**	**-1.9**
HIA				LR	LR		
	comp=Z,3µm,20.0s						
HIA	**Hailar**	**21.08**	**318**	*e*P	**P**	**10 16 22.4**	**-2.2**
HIA				MLR	MLR		
	comp=Z,3µm,20.0s						
PEA0B	**Petropavlovsk-**	**21.40**	**28**	*e*P	**P**	**10 16 29.0**	**+1.0**
	comp=Z,97nm,0.9s						
PETK	**Petropavlovsk-**	**21.40**	**28**	P	**P**	**10 16 28.7**	**+0.7**
	comp=Z,48nm,0.8s,baz=207,slow=8.9,SNR=32						
PETK				LR	LR	10 25 34.3	
	comp=Z,1µm,18.6s,baz=216,slow=39						
PETK	**Petropavlovsk-**	**21.40**	**28**	*e*P	**P**	**10 16 28.1**	**+0.1**
PETK	**Petropavlovsk-**	**21.40**	**28**	P	**P**	**10 16 28.7**	**+0.7**
PETK				pmax	pmax		
	comp=Z,47nm,0.8s						
PETK				MLR	MLR		
	comp=Z,1µm,18.6s						
PEA1	**Petropavlovsk-**	**21.40**	**28**	*e*P	**P**	**10 16 28.7**	**+0.7**
TPUB	**Ta-pu**	**21.41**	**242**	*e*P	**P**	**10 16 27.9**	**-0.5**
	comp=Z,58nm,1.2s						
PET	**Petropavlovsk**	**21.71**	**29**	*e*P	**P**	**10 16 32.0**	**+0.8**
	comp=Z,115nm,1.2s						
PET				LR	LR		
	comp=Z,1µm,19.0s						
PET	**Petropavlovsk**	**21.71**	**29**	⇓*i*P	**P**	**10 16 32.1**	**+0.8**
PET				*e*S	**S**	**10 20 26.2**	**-4.0**
PET				pmax	pmax		
	comp=Z,90nm,1.2s						
PET				pmax	pmax		
	comp=Z,1µm,12.4s						
PET				pmax	pmax		
	comp=Z,600nm,15.9s						
PET				MLR	MLR		
	comp=Z,2µm,19.0s						
GUMO	**Guam**	**21.78**	**170**	P	**P**	**10 16 32.5**	**+0.2**
	comp=Z,252nm,0.9s,baz=75,slow=5.4,SNR=11						
GUMO	**Guam**	**21.78**	**170**	*e*P	**P**	**10 16 33.9**	**+1.6**
	comp=Z,789nm,0.9s						

GUMO LR LR
comp=Z,2μm,21.0s
GUMO Guam 21.78 170 *e*P **P** **10 16 33.9 +1.6**
GUMO pmax pmax
comp=Z,789nm,0.9s
GUMO MLR MLR
comp=Z,2μm,21.0s
QZH Quanzhou 21.98 248 *e*P **P** **10 16 32.4 -2.0**
QZH S **S** **10 20 27.5 -8.4**
QZH LR LR
comp=Z,2μm,17.5s
QZH LR LR
comp=Z,2μm,16.6s
QZH LR LR
comp=Z,1μm,16.6s
WHN Wuhan 22.94 266 P **P** **10 16 43.3 -1.3**
WHN S **S** **10 20 49.0 -4.3**
WHN pmax pmax
comp=Z,80nm,1.1s
WHN LR LR
comp=Z,5μm,14.3s
WHN LR LR
comp=Z,7μm,13.3s
TIY Taiyuan 23.18 285 *e*P **P** **10 16 51.0 +3.8**
TIY *e*S **S** **10 20 58.1 +0.6**
HHC Hu-ho-hao-te 23.90 292 *e*P **P** **10 16 54.6 +0.4**
CLNS Chul'man 24.28 338 *e*P **P** **10 16 56.3 -1.2**
CLNS *e**PP **sP** **10 17 07.8 -0.1**
CLNS *e* 10 17 30.0
CLNS *e* 10 20 35.8
CLNS *e*S **S** **10 21 13.4 -1.3**
CLNS *e*SS **SnSn** **10 22 00.6 +2.4**
CLNS *e* 10 27 54.4
CLNS pmax pmax
comp=N,149nm,1.2s
CLNS pmax pmax
comp=E,71nm,1.4s
CLNS pmax pmax
comp=Z,234nm,1.2s
CLNS pmax pmax
comp=Z,43nm,1.1s
CLNS pmax pmax
comp=N,53nm,1.0s
CLNS pmax pmax
comp=E,43nm,1.2s
CLNS smax smax
comp=E,211nm,10.7s
CLNS smax smax
comp=N,223nm,13.2s
CLNS MLR MLR
comp=E,1μm,15.0s
CLNS MLR MLR
comp=Z,3μm,15.0s
CLNS MLR MLR
comp=N,3μm,16.0s
MA2 Magadan 25.19 12 P **P** **10 17 06.2 +0.6**
comp=N,167nm,0.9s,baz=194,slow=8.2,SNR=156
MA2 LR LR 10 27 07.8
comp=N,1μm,20.2s,baz=207,slow=37
MA2 Magadan 25.19 12*c**e*P **P** **10 17 04.2 -1.4**
XAN Xi'an 26.48 277 ⇑P **P** **10 17 16.3 -1.3**
XAN pP pP 10 17 23.0 -1.9
XAN sP sP 10 17 26.5 -1.5
XAN PP **PnPn** **10 17 59.2 +1.3**
XAN S **S** **10 21 46.3 -3.9**
XAN pmax pmax
comp=N,34nm,1.1s
XAN pmax pmax
comp=N,210nm,6.9s
XAN LR LR
comp=N,2μm,15.7s
XAN LR LR
comp=N,3μm,16.7s
XAN LR LR
comp=N,3μm,13.3s
ENH Enshi 27.00 269 *e*P **P** **10 17 21.5 -0.9**
comp=N,148nm,1.4s
ENH LR LR
comp=Z,954nm,21.0s
GZH Guangzhou 27.01 251 P **P** **10 17 18.0 -4.4**
GZH S **S** **10 21 51.5 -7.1**
H11N2 WAKE ISLAND Hy 27.45 117 T T 10 46 31.4
baz=310,slow=75,SNR=706
H11N1 WAKE ISLAND Hy 27.46 117 T T 10 46 28.0
baz=310,slow=75,SNR=936
H11N3 WAKE ISLAND Hy 27.47 117 T T 10 46 14.2
baz=310,slow=75,SNR=870
YAK Yakutsk 27.81 348 P **P** **10 17 29.7 +0.5**
comp=Z,203nm,0.8s,baz=200,slow=3.6,SNR=37
YAK LR LR 10 28 48.9
comp=Z,3μm,19.6s,baz=146,slow=37
YAK Yakutsk 27.81 348 *e*P **P** **10 17 29.4 +0.2**
comp=Z,489nm,1.2s
YAK Yakutsk 27.81 348*c**i*P **P** **10 17 29.4 +0.2**
YAK *e**PP **pP** **10 17 35.9 -0.6**
YAK *e* 10 18 13.8
YAK *e*PPP PPP 10 18 28.6
YAK *e*S **S** **10 22 10.2 -0.3**
YAK *e*SSS SSS 10 23 37.5
YAK pmax pmax
comp=Z,337nm,1.1s
YAK pmax pmax
comp=N,110nm,1.1s
YAK pmax pmax
comp=E,40nm,1.0s
YAK pmax pmax
comp=Z,91nm,1.7s
YAK pmax pmax
comp=N,143nm,1.7s
YAK pmax pmax
comp=E,93nm,1.6s
YAK smax smax
comp=E,72nm,1.9s
YAK smax smax
comp=N,14nm,1.5s
YAK MLR MLR
comp=Z,2μm,14.0s
YAK MLR MLR
comp=N,2μm,17.0s
YAK MLR MLR
comp=E,612nm,16.0s
H11S3 WAKE ISLAND Hy 28.10 120 T T 10 46 56.7
baz=312,slow=76,SNR=1393
H11S1 WAKE ISLAND Hy 28.10 120 T T 10 47 03.0
baz=312,slow=76,SNR=1803
H11S2 WAKE ISLAND Hy 28.12 120 T T 10 47 12.5
baz=312,slow=76,SNR=1392
ULN Ulaanbaatar 28.24 307 *e*P **P** **10 17 33.8 +0.4**
comp=E,28nm,1.0s
ULN LR LR
comp=Z,2μm,22.0s
ULN Ulaanbaatar 28.24 307 *e*P **P** **10 17 33.8 +0.4**
ULN pmax pmax
comp=Z,28nm,1.0s
ULN MLR MLR
comp=Z,2μm,22.0s
ULN Ulaanbaatar 28.24 307 P **P** **10 17 34.3 +0.9**
SNR=17
SEY Seymchan 28.63 11 P **P** **10 17 37.5 +1.0**
comp=Z,17nm,0.9s,baz=202,slow=6.5,SNR=63
SEY Seymchan 28.63 11 P **P** **10 17 37.5 +1.0**
SEY pmax pmax
comp=Z,21nm,0.9s
SONA1 Songino Array 28.66 307 *e*P **P** **10 17 36.8 -0.3**
SONA0 Songino Array 28.66 307 *e*P **P** **10 17 37.8 +0.7**
SONM Songino Array 28.66 307 P **P** **10 17 37.8 +0.7**
comp=Z,14nm,0.8s,baz=111,slow=8.4,SNR=35
SONM LR LR 10 29 34.3
comp=Z,3μm,19.6s,baz=104,slow=38
BOD Bodaibo 28.98 330 *e*P **P** **10 17 39.8 +0.2**
BOD pmax pmax
comp=Z,101nm,1.3s
SMY Shemya 29.14 43 *e*P **P** **10 17 42.5 +1.4**
comp=Z,318nm,1.3s
SMY Shemya 29.14 43 *e*P **P** **10 17 42.5 +1.4**
SMY pmax pmax
comp=Z,318nm,1.3s
LZH Lanzhou 30.20 283 *e*P **P** **10 17 51.2 +0.3**
LZH pP pP 10 17 59.5 +1.2
LZH sP sP 10 18 02.1 +0.8
LZH PP **PnPn** **10 18 53.4 +4.7**
LZH *e*S **S** **10 22 45.3 -3.7**
LZH sS pS 10 22 59.1 +2.0
LZH SS **SnSn** **10 24 24.0 +0.8**
LZH pmax pmax
comp=Z,73nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.2s
LZH LR LR
comp=Z,2μm,13.2s
LZH LR LR
comp=Z,3μm,15.3s
LZH LR LR
comp=Z,3μm,15.0s
GYA Guiyang 30.73 263⇓*i*P **P** **10 17 53.9 -1.8**
GYA pP sP 10 18 05.2 -0.9
GYA PP **PnPn** **10 18 57.8 +2.0**
GYA PcP **PcP** **10 20 55.0 +2.0**
GYA S **S** **10 22 56.4 -1.0**
GYA sS sS 10 23 09.7 +0.2
GYA ScP **ScP** **10 24 30.0 -4.0**
GYA SS **SnSn** **10 24 38.7 +2.4**
GYA ScS **ScS** **10 28 29.4 -1.5**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.2s
GYA LR LR
comp=Z,2μm,17.9s
GYA LR LR
comp=Z,1μm,18.2s
GYA LR LR
comp=Z,1μm,18.0s
IRK Irkutsk 31.19 315 *e*P **P** **10 17 59.6 +0.3**
IRK pmax pmax
comp=Z,55nm,2.9s
ZAK Zakamensk 31.26 311 *e*P **P** **10 17 59.9 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 31.39 313 P **P** **10 18 02.4 +1.3**
comp=Z,8.3nm,0.8s,baz=128,slow=4.0,SNR=13
TLY Talaya 31.39 313 *e*P **P** **10 18 00.7 -0.4**
comp=Z,15nm,0.9s
TLY LR LR
comp=Z,2μm,19.0s
TLY Talaya 31.39 313 *e*P **P** **10 18 02.3 +1.2**
TLY *e* 10 19 02.7
TLY *e*S **S** **10 23 08.0 +1.0**
TLY pmax pmax
comp=Z,19nm,1.0s
TLY MLR MLR
comp=E,2μm,14.0s
TLY Talaya 31.39 313 P **P** **10 18 01.7 +0.6**
SNR=12
DAV Davao City (W) 31.44 211 LR LR 10 31 25.5
comp=E,684nm,19.1s,baz=30,slow=38
DAV Davao City (W) 31.44 211 PFAKE 10 18 10.0 +8.3
DAV LR LR
comp=Z,726nm,22.0s
CD2 Chengdu 31.50 273 P **P** **10 18 01.5 -0.8**
CD2 pP pP 10 18 09.1 -0.5
CD2 sP sP 10 18 12.4 -0.3
CD2 S **S** **10 23 08.1 -1.0**
CD2 sS sS 10 23 21.1 -0.2
CD2 pmax pmax
comp=Z,70nm,0.6s
CD2 pmax pmax
comp=Z,260nm,6.4s
CD2 LR LR
comp=Z,5μm,16.2s
CD2 LR LR
comp=Z,6μm,17.2s
QIZ Qiongzhong 32.00 248 P **P** **10 18 06.2 -0.5**
QIZ S **S** **10 23 14.0 -3.0**
QIZ pmax pmax
comp=Z,100nm,3.5s
QIZ LR LR
comp=Z,960nm,21.6s
QIZ LR LR
comp=Z,850nm,19.6s
QIZ LR LR
comp=Z,880nm,15.7s
QIZ Qiongzhong 32.00 248 PFAKE 10 18 20.0 +13
QIZ LR LR
comp=Z,530nm,21.0s
GTA Gaotai 32.93 290 P **P** **10 18 14.9 0.0**
GTA pP pP 10 18 22.1 -0.1
GTA sP sP 10 18 25.6 +0.3
GTA PcP **PcP** **10 20 59.7 +0.9**
GTA S **S** **10 23 30.4 -1.1**
GTA sS sS 10 23 42.3 -1.3
GTA ScP **ScP** **10 24 41.0 -0.3**
GTA PcS **PcS** **10 24 44.3 0.0**
GTA SS **SnSn** **10 25 30.4 +1.0**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,190nm,5.7s
GTA LR LR
comp=Z,2μm,14.3s
GTA LR LR
comp=Z,2μm,18.3s
GTA LR LR
comp=Z,2μm,19.0s
MOY Mondy 32.98 312 *e*P **P** **10 18 16.2 +1.1**
MOY pmax pmax
comp=Z,35nm,3.1s
KMI Kunming 34.50 264 P **P** **10 18 27.2 -1.6**
KMI pP pP 10 18 33.2 -3.0
KMI sP sP 10 18 36.9 -2.3
KMI PP **PP** **10 19 49.4 +2.3**
KMI S **S** **10 23 48.6 -7.6**
KMI SS **SnSn** **10 26 00.6 -7.3**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI pmax pmax
comp=Z,120nm,4.1s
KMI LR LR
comp=Z,2μm,14.1s
KMI LR LR
comp=Z,3μm,14.5s
KMI LR LR
comp=Z,3μm,14.7s
BILL Bilibino 35.85 16*c**i*P **P** **10 18 39.1 -0.5**
BILL *e* 10 19 57.3
BILL *e*SS SS 10 27 13.4 +21
BILL pmax pmax
comp=Z,28nm,1.0s
KKM Kota Kinabalu 37.00 224 PFAKE 10 19 00.0 +10
KKM LR LR
comp=Z,845nm,20.0s
SWI Sorong 37.04 197 P **P** **10 18 50.6 +0.3**
SWI Sorong 37.04 197 P **P** **10 18 52.5 +2.2**
SWI pmax pmax
comp=Z,46nm,1.1s
SIJI Sorong 37.05 197 P **P** **10 18 49.8 -0.5**
comp=Z,12nm,0.4s,baz=29,slow=6.9,SNR=11
TIXI Tiksi 37.08 354 P **P** **10 18 50.0 -0.1**
comp=Z,32nm,0.8s,baz=145,slow=6.5,SNR=81
TIXI Tiksi 37.08 354 PFAKE 10 19 00.0 +10
TIXI LR LR
comp=Z,3μm,19.0s
TIXI Tiksi 37.08 354*c**e*P **P** **10 18 50.2 +0.1**
TIXI pmax pmax
comp=Z,54nm,1.0s
RKPI Ransiki, Papua 37.09 192 P **P** **10 18 51.3 +0.6**
HVS Khovu-Aksy 37.38 310⇓*i*P **P** **10 18 53.7 +0.7**
HVS pmax pmax
comp=Z,54nm,1.0s
GENI Genyem 37.60 182 P **P** **10 18 56.2 +1.2**
SKNT Sakolnakorn 37.71 251 P **P** **10 18 55.7 -0.3**
comp=Z,9.3nm,1.1s,comp=Z,2μm
LBMI Labuha 37.86 203 P **P** **10 18 58.9 +1.7**
comp=Z,34nm,0.8s,comp=Z,932nm
FAKI Fak Fak 38.82 194 P **P** **10 19 04.5 -0.8**
comp=Z,66nm,0.8s,comp=Z,693nm
FAKI Fak Fak 38.82 194 *e*P **P** **10 19 05.5 +0.2**
comp=Z,64nm,1.0s
MRSI Marisa 38.91 212 P **P** **10 19 06.9 +0.9**
comp=Z,28nm,0.5s
SPIA Saint Paul Isl 39.09 40 *e*P **P** **10 19 08.6 +1.4**
comp=Z,96nm,1.1s
SANI Sanana 39.68 204 P **P** **10 19 10.3 -2.2**
comp=Z,34nm,0.4s,comp=Z,672nm
SANI S **pP** **10 19 19.5 -0.5**
comp=Z,672nmcomp=Z,34nm,0.4s
PHRA Phrae 39.79 256 P **P** **10 19 13.0 -0.5**
comp=Z,150nm,1.2s
CHAI Chaiyaphum 39.88 251 P **P** **10 19 13.5 -0.7**
comp=Z,12nm,0.8s,comp=Z,101nm
LUWI Luwuk 39.93 209 P **P** **10 19 14.5 -0.1**
MPSI Mapaga 39.94 214 P **P** **10 19 14.8 +0.1**
CMAI Chiengmai2 39.98 259 P **P** **10 19 17.2 +2.0**
comp=Z,78nm,1.3s
MSAI Masohi 40.02 199 P **P** **10 19 17.5 +2.2**
APSI Ampana 40.28 211 P **P** **10 19 17.7 +0.2**
comp=Z,79nm,1.3s,comp=Z,672nm
PHIT Phitsanulok 40.37 254 P **P** **10 19 18.9 +0.6**
comp=Z,9.5nm,1.2s
GAMB Gambell 40.41 30 *e*P **P** **10 19 19.2 +1.2**
comp=Z,12nm,1.1s
NLAI Namlea 40.44 202 P **P** **10 19 21.6 +2.8**
AAI Ambon 40.54 200 P **P** **10 19 19.2 -0.5**
comp=Z,124nm,0.8s
AAI Ambon 40.54 200 P **P** **10 19 21.9 +2.2**
AAI pmax pmax
comp=Z,125nm,0.8s
CHTO Chiang Mai 40.65 258 P **P** **10 19 20.3 -0.4**
comp=Z,58nm,1.1s
CHTO Chiang Mai 40.65 258 *e*P **P** **10 19 20.2 -0.4**
comp=Z,14nm,1.1s
CHTO LR LR
comp=Z,790nm,21.0s
CHTO Chiang Mai 40.65 258 *e*P **P** **10 19 20.2 -0.4**
CHTO pmax pmax
comp=Z,14nm,1.1s
CHTO MLR MLR
comp=Z,790nm,21.0s
CHTO Chiang Mai 40.65 258 P **P** **10 19 19.9 -0.7**
SNR=6.2
CMAR Chiang Mai Arr 40.84 257 P **P** **10 19 21.9 -0.3**
comp=Z,2.7nm,0.5s,baz=49,slow=6.6,SNR=18
CMAR PcP **PcP** **10 21 23.4 +0.5**
comp=Z,3.0nm,0.7s,baz=34,slow=1.8,SNR=6.9
CMAR LR LR 10 37 32.1
comp=Z,394nm,18.9s,baz=51,slow=38
CM01 Chiang Mai Arr 40.85 257 *e*P **P** **10 19 20.5 -1.8**
BNDI Bandanaira 40.90 197 P **P** **10 19 22.3 -0.3**
comp=Z,196nm,1.1s,comp=Z,2μm
SRAK Srakaew 40.97 249 P **P** **10 19 19.8 -3.5**
comp=Z,62nm,0.8s,comp=Z,708nm
NAYO Nakonayok 41.34 250 P **P** **10 19 26.3 0.0**
comp=Z,15nm,0.9s,comp=Z,1μm
WMQ Urumqi 41.49 299 P **P** **10 19 28.8 +1.4**
WMQ pP pP 10 19 32.9 -2.0
WMQ sP sP 10 19 39.3 +1.4
WMQ S **S** **10 25 40.8 -0.6**
WMQ sS sS 10 25 57.0 +3.2
WMQ pmax pmax
comp=Z,220nm,1.1s
WMQ pmax pmax
comp=Z,860nm,3.6s
WMQ LR LR
comp=Z,2μm,22.9s
WMQ LR LR
comp=Z,1μm,26.5s
WMQ LR LR
comp=Z,2μm,22.9s
SGKI Sangatta, Kali 41.79 217 P **P** **10 19 31.0 +1.0**
SMKI Samarinda 41.91 217 P **P** **10 19 31.2 +0.2**
UTHA Uthaitani 42.06 253 P **P** **10 19 32.5 +0.3**
comp=Z,4.1nm,1.0s,comp=Z,111nm
LSA Lhasa 42.18 277 P **P** **10 19 34.8 +1.2**
LSA pmax pmax
comp=Z,9.0nm,1.3s
LSA Lhasa 42.18 277 *e*P **P** **10 19 34.6 +1.0**
comp=Z,16nm,0.8s
LSA LR LR
comp=Z,1μm,22.0s
LSA Lhasa 42.18 277 *e*P **P** **10 19 34.6 +1.0**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA MLR MLR
comp=Z,1μm,22.0s
LSA Lhasa 42.18 277 P **P** **10 19 34.0 +0.4**
BKB Balikpapan 42.77 217 P **P** **10 19 37.1 -0.8**
ZAA0 Zalesovo Array 43.00 314 *e*P **P** **10 19 39.9 +0.5**
comp=Z,38nm,0.8s
ZAA1 Zalesovo Array 43.00 314 *e*P **P** **10 19 39.7 +0.3**
ZAA1 *e*PcP **PcP** **10 21 29.4 0.0**
ZALV Zalesovo Beam 43.00 314 P **P** **10 19 39.7 +0.3**
comp=Z,42nm,0.7s,baz=95,slow=6.5,SNR=157
ZALV PcP **PcP** **10 21 29.4 0.0**
comp=Z,10nm,0.8s,baz=96,slow=3.0,SNR=5.3
ZALV LR LR 10 38 25.6
comp=Z,836nm,18.8s,baz=77,slow=37
ZALV Zalesovo Beam 43.00 314 *e*P **P** **10 19 39.1 -0.3**
ZSN Zaisan 43.11 304⇑*i*P P 10 19 48.3 +7.9
comp=Z,406nm,1.0s
ZSN LR LR 10 37 52.6
comp=Z,217nm,13.4s
MMPI Merauke 43.43 181 P **P** **10 19 43.7 +0.5**
PHET Kaeng Krachan 43.50 250 P **P** **10 19 44.5 +0.7**
comp=Z,13nm,0.9s
NVS Novosibirsk 43.96 315⇑*i*P **P** **10 19 47.8 +0.7**
NVS *e* 10 21 31.9
NVS *e*S **S** **10 26 24.2 +7.0**
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,28nm,0.8s
NVS pmax pmax
comp=Z,41nm,0.8s
NVS smax smax
comp=N,19nm,2.2s
NVS smax smax
comp=E,21nm,2.2s
KSM Kuching 44.13 227 *e*P **P** **10 19 49.4 +0.4**
comp=E,63nm,1.8s
KSM LR LR
comp=Z,446nm,21.0s
PMG Port Moresby 44.73 172 P **P** **10 19 53.7 +0.1**
comp=Z,36nm,0.9s,baz=356,slow=8.6,SNR=12
PMG LR LR 10 36 41.3
comp=Z,357nm,21.6s,baz=358,slow=34
PMG Port Moresby 44.73 172 *e*P **P** **10 19 54.3 +0.7**
comp=Z,50nm,1.0s
PMG LR LR
comp=Z,292nm,20.0s
PMG Port Moresby 44.73 172*c**e*P **P** **10 19 55.7 +2.1**
PMG pmax pmax
comp=Z,224nm,1.1s
KAPI Kappang 44.77 211 PFAKE 10 20 10.0 +16
KAPI LR LR
comp=Z,428nm,20.0s
KAPI Kappang 44.77 211 P **P** **10 19 55.7 +1.7**
SNR=6.1
TARA Tarawa 44.81 132 PFAKE 10 20 10.0 +16
TARA LR LR
comp=Z,76nm,22.0s
MK01 Makanchi Array 44.92 304 *e*P **P** **10 19 55.7 +0.8**
MK31 Makanchi Array 44.92 304 *e*P **P** **10 19 55.8 +0.8**
MK31 Makanchi Array 44.92 304 *i*P **P** **10 19 55.6 +0.6**
MK31 pmax pmax
comp=Z,79nm,1.0s
MK32 Makanchi Array 44.92 304 *e*P **P** **10 19 55.8 +0.8**
MKAR Makanchi Array 44.92 304 P **P** **10 19 55.8 +0.8**
comp=Z,30nm,0.7s,baz=91,slow=10.0,SNR=268
MKAR LR LR 10 39 37.7
comp=Z,2μm,18.3s,baz=84,slow=37
MKAR Makanchi Array 44.92 304 *e*P **P** **10 19 55.7 +0.7**
comp=Z,265nm,0.8s
MKAR Makanchi Array 44.92 304 *e*P **P** **10 19 55.7 +0.7**
MKAR pmax pmax
comp=Z,265nm,0.8s
MAKZ Makanchi 45.13 304 *e*P **P** **10 19 57.6 +0.9**
comp=Z,42nm,0.8s
MAKZ Makanchi 45.13 304 P **P** **10 19 57.3 +0.6**
MAKZ pmax pmax
comp=Z,55nm,1.0s
TAPN Taplejung 45.87 276 *e*P **P** **10 20 03.5 +0.5**
comp=Z,57nm,0.5s
TAPN Taplejung 45.87 276 *e*P **P** **10 20 03.6 +0.5**
comp=Z,56nm,0.5s
ODAN Odare 46.33 275 *e*P **P** **10 20 06.5 -0.1**
comp=Z,45nm,0.6s
ODAN Odare 46.33 275 *e*P **P** **10 20 06.5 -0.1**
comp=Z,45nm,0.6s
SURT Suratani 46.62 246 P **P** **10 20 08.6 -0.1**
comp=Z,8.3nm,1.3s
TRTT Trang 46.69 244 P **P** **10 20 09.8 +0.6**
comp=Z,7.7nm,1.4s
KURK Kurchatov 46.90 309 *e*P **P** **10 20 10.9 +0.4**
comp=Z,118nm,0.8s
KURK LR LR
comp=Z,2μm,20.0s
KURK Kurchatov 46.90 309 *e*P **P** **10 20 10.9 +0.4**

KURK pmax pmax
comp=Z,118nm,0.8s
KURK MLR MLR
comp=Z,2µm,20.0s
KURK Kurchatov 46.90 309 P **P 10 20 11.0 +0.4**
SNR=65
RAMN Ramite 46.93 276 *e*P **P 10 20 11.5 +0.1**
comp=Z,105nm,0.5s
RAMN Ramite 46.93 276 *e*P **P 10 20 11.5 +0.1**
comp=Z,106nm,0.5s
JIRN Jiri 46.98 277 *e*P **P 10 20 12.5 +0.6**
comp=Z,112nm,0.4s
JIRN Jiri 46.98 277 *e*P **P 10 20 12.5 +0.6**
comp=Z,150nm,0.6s
SVW2 Sparrevohn 47.12 36 *e*P **P 10 20 13.1 +1.0**
comp=Z,54nm,1.0s
GUN Gumba 47.14 277 *e*P **P 10 20 13.4 +0.4**
comp=Z,148nm,0.9s
GUN Gumba 47.14 277 *e*P **P 10 20 13.5 +0.4**
comp=Z,148nm,0.9s
EDFI Ende, Flores 47.41 207 P **P 10 20 14.5 -0.4**
PDGK Podgornoye 47.45 299 P **P 10 20 15.6 +0.5**
PDGK pmax pmax
comp=Z,128nm,1.1s
SOEI Soe 47.47 203 P **P 10 20 15.3 -0.1**
SOEI Soe 47.47 203 *e*P **P 10 20 15.6 +0.2**
comp=Z,233nm,1.0s
SHLS Shalkode 47.51 299⇑ *i*P **P 10 20 13.9 -1.6**
comp=Z,652nm,1.1s
SHLS *e*pP **pP 10 20 20.6 -2.5**
SHLS *e*S **S 10 27 04.7 -4.2**
SHLS LR LR 10 40 34.5
comp=Z,327nm,12.8s
PKI Pulchoki 47.65 277 *e*P **P 10 20 17.1 0.0**
comp=Z,30nm,0.6s
PKI Pulchoki 47.65 277 *e*P **P 10 20 17.2 +0.1**
comp=Z,34nm,0.6s
PKIN Phulchoki 47.66 277 *e*P **P 10 20 17.5 +0.4**
comp=Z,22nm,0.4s
PKIN Phulchoki 47.66 277 *e*P **P 10 20 17.5 +0.4**
comp=Z,22nm,0.4s
KKN Kakani 47.67 277 *e*P **P 10 20 17.6 +0.5**
comp=Z,79nm,1.0s
KKN Kakani 47.67 277 *e*P **P 10 20 17.6 +0.5**
comp=Z,79nm,1.0s
KULM Kulim 47.71 241 PFAKE 10 20 30.0 +13
KULM LR LR
comp=Z,601nm,19.0s
HNR Honiara 47.82 155 LR LR 10 42 07.5
comp=Z,452nm,18.9s,baz=338,slow=38
HNR Honiara 47.82 155 PFAKE 10 20 30.0 +12
HNR LR LR
comp=Z,747nm,19.0s
UZB Uzynbulak 47.83 299 *i* P **P 10 20 18.7 +0.7**
comp=Z,471nm,1.0s
UZB *i* pP **pP 10 20 26.4 +0.7**
UZB *e*S **S 10 27 13.6 +0.1**
UZB LR LR 10 41 04.0
comp=Z,237nm,12.8s
DMN Daman 47.88 277 *e*P **P 10 20 19.2 +0.4**
comp=Z,19nm,0.5s
DMN Daman 47.88 277 *e*P **P 10 20 19.7 +0.9**
comp=Z,15nm,0.3s
TDK Taldyqorghan 47.88 302 *e*P **P 10 20 19.6 +1.3**
comp=Z,331nm,1.0s
TDK *e*S **S 10 27 14.6 +0.6**
TDK LR LR 10 40 32.3
comp=Z,1µm,18.6s
KPKS Kokpek 48.00 300 *i* P **P 10 20 20.8 +1.6**
comp=Z,93nm,1.2s
IPM Ipoh 48.01 240 *e*P **P 10 20 19.4 -0.2**
comp=Z,45nm,1.4s
BATI Baumata 48.09 203 P **P 10 20 20.6 +0.5**
comp=Z,67nm,0.4s,baz=76,slow=2.8,SNR=13
BATI LR LR 10 38 31.8
comp=Z,421nm,22.0s,baz=15,slow=34
BATI Baumata 48.09 203 P **P 10 19.5 -0.5**
ZHN Zhinishke 48.24 299⇑ *i*P **P 10 20 21.9 +0.7**
comp=Z,248nm,1.3s
ZHN LR LR 10 41 44.4
comp=Z,240nm,14.0s
SATY Saty 48.29 299 *i* P **P 10 20 22.5 +1.0**
comp=Z,492nm,1.1s
SATY LR LR 10 42 07.4
comp=Z,417nm,12.8s
KDAK Kodiak Island 48.62 41 P **P 10 20 24.0 +0.4**
comp=Z,65nm,0.7s,baz=271,slow=4.9,SNR=40
KDAK Kodiak Island 48.62 41 *e*P **P 10 20 24.1 +0.4**
comp=Z,88nm,0.8s
KDAK Kodiak Island 48.62 41 *i* P **P 10 20 23.9 +0.2**
DANN Dangsing 48.68 279 *e*P **P 10 20 26.4 +1.4**
comp=Z,21nm,0.9s
DANN Dangsing 48.68 279 *e*P **P 10 20 26.3 +1.3**
comp=Z,21nm,0.9s
MTN Manton Dam 48.71 193 *e*P **P 10 20 24.6 -0.1**
comp=Z,46nm,0.8s
PPLA Purkeypile 48.81 34 *e*P **P 10 20 26.9 +1.7**
comp=Z,77nm,1.3s
SPU Mount Spurr 48.84 36 *e*P **P 10 20 26.5 +1.1**
CAST Castle Rocks 48.87 33 *e*P **P 10 20 26.8 +1.2**
comp=Z,21nm,1.0s
COEN Coen 48.92 177 *e*P **P 10 20 27.4 +1.0**
comp=Z,48nm,0.8s
KOLN Koldanda 49.04 278 *e*P **P 10 20 28.4 +0.8**
comp=Z,250nm,1.3s
KOLN Koldanda 49.04 278 *e*P **P 10 20 28.4 +0.8**
comp=Z,250nm,1.3s
MDOK Medeo 49.23 300 *i* P **P 10 20 30.2 +1.4**
comp=Z,720nm,1.1s
MDOK LR LR 10 41 46.6
comp=Z,832nm,18.6s
AAA Alma-Ata 49.31 300 *e*P **P 10 20 30.9 +1.5**
comp=Z,738nm,1.1s
AAA *e*S **S 10 27 35.5 +1.1**
AAA LR LR 10 41 56.5
comp=Z,745nm,19.8s
KTH Kantishna Hill 49.40 33 *e*P **P 10 20 30.7 +1.0**
comp=Z,45nm,1.1s
PYUN Piuthan 49.40 279 *e*P **P 10 20 31.3 +0.9**
comp=Z,295nm,1.0s
PYUN Piuthan 49.40 279 *e*P **P 10 20 31.3 +0.9**
comp=Z,295nm,1.0s
BRLK Bradley Lake 49.44 38 *e*P **P 10 20 30.2 +0.2**
comp=Z,42nm,1.0s
SUA Susitna One 49.47 36 *e*P **P 10 20 30.5 +0.2**
comp=Z,42nm,0.9s
MLY Manley 49.53 31 *e*P **P 10 20 31.5 +0.9**
comp=Z,34nm,1.0s
KUU Kurty 49.56 301⇑ *i*P **P 10 20 31.9 +0.7**
comp=Z,254nm,1.2s
KUU LR LR 10 41 54.3
comp=Z,383nm,16.3s
TRF Thorofare Moun 49.68 33 *e*P **P 10 20 33.0 +1.0**
comp=Z,26nm,1.2s
COLD Coldfoot 49.87 28 *e*P **P 10 20 34.3 +1.2**
comp=Z,6.9nm,1.0s
RC01 Rabbit Creek A 49.96 36 *e*P **P 10 20 34.3 +0.4**
comp=Z,58nm,1.0s
ULHL Ulahol 50.03 299 P **P 10 20 36.5 +1.5**
SNR=10
SEW Seward 50.14 38 *e*P **P 10 20 35.8 +0.5**
comp=Z,62nm,0.9s
BMNS Besmoynak 50.22 300⇑ *i*P **P 10 20 37.9 +1.5**
comp=Z,2µm,0.8s
BMNS *e*S **S 10 27 47.8 +0.6**
BMNS LR LR 10 41 33.5
comp=Z,472nm,17.4s
PMR Palmer 50.24 36 *e*P **P 10 20 36.5 +0.5**
comp=Z,38nm,1.0s
PMR Palmer 50.24 36 *e*P **P 10 20 36.5 +0.5**
PMR pmax pmax
comp=Z,38nm,1.0s
MCK McKinley 50.29 33 *e*P **P 10 20 37.0 +0.6**
comp=Z,22nm,1.0s
MCK McKinley 50.29 33 *e*P **P 10 20 37.0 +0.6**
MCK pmax pmax
comp=Z,22nm,1.0s
TKM2 Tokmak 2 50.32 300 P **P 10 20 38.8 +1.6**
SNR=84
TKM2 Tokmak 2 50.32 300 P **P 10 20 38.5 +1.3**
TKM2 pmax pmax
comp=Z,104nm,1.4s
RND Reindeer 50.33 33 *e*P **P 10 20 37.1 +0.4**
comp=Z,38nm,1.1s
RND Reindeer 50.33 33 *e*P **P 10 20 37.1 +0.4**
RND pmax pmax
comp=Z,38nm,1.1s

MDM Murphy Dome 50.59 31 *e*P **P 10 20 40.1 +1.4**
comp=Z,58nm,0.8s
SML Sawmill 50.61 35 *e*P **P 10 20 39.5 +0.7**
comp=Z,45nm,0.9s
SML Sawmill 50.61 35 *e*P **P 10 20 39.5 +0.7**
SML pmax pmax
comp=Z,45nm,0.9s
PSI Prapat 50.67 240 *e*P **P 10 20 40.1 +0.1**
PSI *e*PcP **PcP 10 21 58.4 +1.2**
PSI Prapat 50.67 240 *e*P **P 10 20 40.1 +0.1**
PSI *e* 10 21 58.4
COLA College 50.75 31 *e*P **P 10 20 41.4 +1.6**
comp=Z,21nm,0.6s
COLA LR LR
comp=Z,363nm,19.0s
COLA College 50.75 31 *e*P **P 10 20 41.4 +1.6**
COLA pmax pmax
comp=Z,21nm,0.6s
COLA MLR MLR
comp=Z,363nm,19.0s
BRZS Berezniki 50.77 309⇑ *i*P **P 10 20 40.6 +0.4**
comp=Z,56nm,0.8s
KZA Kyzart 50.79 299 P **P 10 20 43.1 +2.2**
SNR=48
KBK Karagaybulak 50.85 300 P **P 10 20 41.9 +0.7**
SNR=61
CHMS Chumysh 50.90 300 P **P 10 20 42.5 +1.1**
SNR=14
KSH Kashi 50.97 295 P **P 10 20 46.2 +4.2**
KSH sP sP 10 20 56.8 +4.2
KSH PP **PP 10 22 44.3 +5.9**
KSH S **S 10 28 01.1 +3.6**
KSH sS sS 10 28 13.0 +2.9
KSH SS **SS 10 31 34.8 +2.5**
KSH pmax pmax
comp=Z,41nm,1.0s
KSH pmax pmax
comp=Z,140nm,4.7s
KSH LR LR
comp=Z,290nm,12.4s
KSH LR LR
comp=Z,940nm,13.4s
KSH LR LR
comp=Z,930nm,16.5s
DHY Denali Highway 51.01 34 *e*P **P 10 20 42.5 +0.5**
comp=Z,14nm,1.0s
USP Ospenovka 51.01 300 P **P 10 20 43.3 +1.1**
SNR=21
FRU Bishkek 51.04 300⇑ *e*P **P 10 20 43.0 +0.6**
FRU *i* 10 20 51.0
FRU *e*S **S 10 28 06.0 +7.7**
FRU pmax pmax
comp=Z,120nm,1.8s
SCM Sheep Creek Mo 51.09 35 *e*P **P 10 20 43.5 +1.0**
comp=Z,57nm,1.0s
SCM Sheep Creek Mo 51.09 35 *e*P **P 10 20 43.5 +1.0**
SCM pmax pmax
comp=Z,57nm,1.0s
ILAR Eielson Array 51.17 32 P **P 10 20 43.5 +0.5**
comp=Z,23nm,0.8s,baz=266,slow=6.5,SNR=190
ILAR LR LR 10 41 59.1
comp=Z,336nm,21.8s,baz=266,slow=36
ILAR Eielson Array 51.17 32 P **P 10 20 43.5 +0.5**
ILAR pmax pmax
comp=Z,24nm,0.8s
ILAR MLR MLR
comp=Z,336nm,21.8s
ILB Eielson Array 51.17 32 *e*P **P 10 20 43.2 +0.3**
IL1 Eielson Array 51.17 32 *e*P **P 10 20 42.6 -0.4**
AAK Ala-Archa 51.18 300 LR LR 10 43 38.2
comp=Z,2µm,20.6s,baz=61,slow=38
AAK Ala-Archa 51.18 300 P **P 10 20 44.7 +1.1**
SNR=23
AAK Ala-Archa 51.18 300 *e*P **P 10 20 44.6 +1.1**
comp=Z,32nm,0.9s
AAK Ala-Archa 51.18 300 *e*P **P 10 20 44.7 +1.1**
AAK pmax pmax
comp=Z,32nm,0.9s
AAK Ala-Archa 51.18 300 P **P 10 20 44.5 +0.9**
UCH Uchtor 51.27 299 P **P 10 20 46.2 +1.5**
SNR=32
BVA0 Borovoye Array 51.65 313 *i* P **P 10 20 47.0 +0.2**
BVA0 pmax pmax
comp=Z,44nm,1.1s
BVAR Borovoye Array 51.65 313 P **P 10 20 47.6 +0.8**
comp=Z,32nm,1.0s,baz=83,slow=8.2,SNR=78
BVAR PcP **PcP 10 22 01.0 +0.8**
comp=Z,7.4nm,0.7s,baz=99,slow=3.2,SNR=2.6
BVAR LR LR 10 43 46.5
comp=Z,797nm,20.6s,baz=80,slow=37
EKS2 Erkin-Say 51.68 300 P **P 10 20 48.5 +1.1**
SNR=12
BRVK Borovoye 51.71 313 *e*P **P 10 20 47.8 +0.6**
comp=Z,46nm,1.0s
BRVK LR LR
comp=Z,525nm,19.0s
BRVK Borovoye 51.71 313 *e*P **P 10 20 47.8 +0.6**
BRVK pmax pmax
comp=Z,46nm,1.0s
BRVK MLR MLR
comp=Z,525nm,19.0s
BRVK Borovoye 51.71 313 P **P 10 20 47.9 +0.8**
SNR=17
KLU Klutina 51.78 36 *e*P **P 10 20 48.9 +1.2**
comp=Z,39nm,1.0s
FYU Fort Yukon 51.81 29 *e*P **P 10 20 49.9 +2.2**
comp=Z,60nm,1.1s
PAX Paxson 51.88 34 *e*P **P 10 20 49.5 +1.1**
comp=Z,17nm,0.9s
PAX Paxson 51.88 34 *e*P **P 10 20 49.5 +1.1**
PAX pmax pmax
comp=Z,17nm,0.9s
DIV Divide 51.88 36 *e*P **P 10 20 50.0 +1.6**
comp=Z,107nm,1.2s
AML Almayashu 51.89 299 P **P 10 20 51.0 +1.8**
SNR=114
HARP HAARP 52.06 35 *e*P **P 10 20 51.3 +1.6**
comp=Z,45nm,0.9s
LEM Lembang 52.39 224 P **P 10 20 52.6 -0.3**
comp=Z,65nm,0.7s,baz=30,slow=6.7,SNR=6.2
LEM LR LR 10 42 49.4
comp=Z,258nm,21.6s,baz=38,slow=36
DOT Dot Lake 52.46 33 *e*P **P 10 20 53.0 +0.4**
comp=Z,35nm,0.8s
BMRM Bremner River 52.46 36 *e*P **P 10 20 54.0 +1.3**
comp=Z,46nm,1.0s
MNAS Manas 52.63 300 P **P 10 20 55.5 +1.1**
MNAS pmax pmax
comp=Z,65nm,1.1s
SFK Sufi-Kurgan 52.64 297 P **P 10 20 55.3 +0.7**
SFK pmax pmax
comp=Z,49nm,1.1s
GSI Gunungsitoli 52.68 240 *e*P **P 10 20 54.5 -0.3**
comp=Z,69nm,0.9s
MENT Mentasta 52.68 34 *e*P **P 10 20 55.4 +1.1**
comp=Z,28nm,1.0s
DZA Taraz 53.35 301 *e*P **P 10 21 01.0 +1.4**
comp=Z,652nm,1.4s
EGAK Eagle 53.62 31 *e*P **P 10 21 01.4 +0.3**
comp=Z,16nm,0.9s
EGAK LR LR
comp=Z,471nm,19.0s
KK31 Karatay Array 53.86 301 *i* P **P 10 21 03.9 +0.6**
KK31 pmax pmax
comp=Z,103nm,1.2s
KKAR Karatay Array 53.86 301 *e*P **P 10 21 04.1 +0.8**
KKAR Karatay Array 53.86 301 *e*P **P 10 21 04.1 +0.8**
JBP Jabalpur 53.98 275⇓ *e*P **P 10 21 04.2 -0.1**
BRLS Borolday 54.36 301⇑ *i*P **P 10 21 09.3 +2.4**
comp=Z,39nm,1.0s
BRLS LR LR 10 45 10.0
comp=Z,64nm,18.6s
DAWY Dawson 54.47 32 *e*P **P 10 21 08.1 +0.7**
comp=Z,12nm,0.9s
IUG Iuzhnay 54.49 300⇑ *i*P **P 10 21 09.4 +1.4**
comp=Z,2µm,1.2s
IUG LR LR 10 44 19.4
comp=Z,442nm,17.6s
CHM Chimkent 54.74 301 *e*P **P 10 21 11.5 +1.8**
comp=Z,695nm,1.1s
CHM LR LR 10 44 08.8
comp=Z,388nm,19.7s
FITZ Fitzroy Crossi 55.01 198 P **P 10 21 12.4 +0.7**
comp=Z,20nm,0.6s,baz=180,slow=20
CTA Charters Tower 55.20 174 P **P 10 21 13.1 +0.1**
comp=Z,7.8nm,0.8s,baz=350,slow=7.4,SNR=14
CTAO Charters Tower 55.20 174 *e*P **P 10 21 13.2 +0.1**
comp=Z,14nm,1.0s
CTAO LR LR
comp=Z,628nm,20.0s
CTAO Charters Tower 55.20 174 *e*P **P 10 21 13.2 +0.1**
CTAO pmax pmax
comp=Z,14nm,1.0s
CTAO MLR MLR
comp=Z,628nm,20.0s
WRAB Tennant Creek 55.20 188 *e*P **P 10 21 13.2 +0.1**
comp=Z,79nm,0.8s
WRAB LR LR
comp=Z,620nm,21.0s
WRAB Tennant Creek 55.20 188 *e*P **P 10 21 13.2 +0.1**
WRAB pmax pmax
comp=Z,79nm,0.8s
WRAB MLR MLR
comp=Z,620nm,21.0s
WR1 Warramunga Arr 55.22 188 *e*P **P 10 21 13.4 +0.2**
comp=Z,76nm,0.8s
WR1 *e*S **S 10 28 57.4 +2.2**
WRA Warramunga Arr 55.22 188 P **P 10 21 13.4 +0.2**
comp=Z,67nm,0.6s,baz=6.2,slow=7.6,SNR=208
WRA S **S 10 28 57.4 +2.2**
comp=Z,1.4nm,1.0s,baz=2.5,slow=17,SNR=4.1
WRA LR LR 10 43 34.9
comp=Z,516nm,21.6s,baz=10.0,slow=35
NGP Nagpur 55.69 273 *e*S **P 10 21 17.3 +0.6**
NGP *ex* x 10 21 18.7
comp=E,53nm,0.8s
HYT Haines Junctio 55.91 36 *e*P **P 10 21 19.3 +1.3**
comp=E,20nm,0.9s
INK Inuvik 56.12 27 P **P 10 21 20.0 +0.8**
comp=E,30nm,1.1s,baz=289,slow=6.9,SNR=34
INK Inuvik 56.12 27 *e*P **P 10 21 20.0 +0.8**
comp=E,26nm,1.0s
INK Inuvik 56.12 27 P **P 10 21 20.0 +0.8**
INK pmax pmax
comp=Z,30nm,1.2s
SVE Sverdlovsk 56.38 319*d* *i*P **P 10 21 22.2 +1.0**
SVE pmax pmax
comp=Z,84nm,1.1s
SVE MLR MLR
comp=Z,2µm,17.0s
FUNA Funafuti 56.41 133 PFAKE 10 21 40.0 +18
FUNA LR LR
comp=Z,8µm,19.0s
WHY Whitehorse 57.20 36 *e*P **P 10 21 29.0 +1.9**
comp=Z,23nm,1.0s
ARU Arti 57.59 319 *e*P **P 10 21 30.2 +0.4**
comp=Z,85nm,1.0s
ARU LR LR
comp=Z,889nm,19.0s
ARU Arti 57.59 319*c* *i*P **P 10 21 30.1 +0.3**
ARU *PP **sP 10 21 39.9 -0.6**
ARU 10 22 22.3
ARU 10 23 36.7
ARU S **S 10 29 25.3 -0.8**
ARU SS **SS 10 33 15.3 -0.4**
ARU MLR MLR
comp=Z,1µm,18.0s
SOKR Solikamsk 57.65 323*c* *i*P **P 10 21 29.4 -0.7**
SOKR pmax pmax
comp=Z,38nm,1.3s
SOKR MLR MLR
comp=Z,942nm,19.0s
KBL Kabul 57.88 292 *e*P **P 10 21 32.5 +0.1**
comp=Z,58nm,1.2s
KBL Kabul 57.88 292 *e*P **P 10 21 32.5 +0.1**
KBL pmax pmax
comp=Z,58nm,1.2s
HYB Hyderabad 57.94 269 *i* P **P 10 21 32.5 -0.4**
HYB *e*S **S 10 29 32.0 +0.2**
AS01 Alice Springs 58.94 188 *e*P **P 10 21 39.0 -0.5**
AS31 Alice Springs 58.94 188 *e*P **P 10 21 39.8 +0.2**
comp=Z,9.2nm,0.6s
ASAR Alice Springs 58.94 188 P **P 10 21 39.7 +0.1**
comp=Z,4.3nm,0.4s,baz=358,slow=5.5,SNR=115
ASAR S **S 10 29 48.0 +3.7**
comp=Z,1.1nm,0.9s,baz=18,slow=21,SNR=4.8
ASAR LR LR 10 45 39.6
comp=Z,376nm,21.5s,baz=5.0,slow=35
ASAR PKP2bc 10 51 26.4
comp=Z,3.3nm,0.9s,baz=173,slow=2.2,SNR=16
AB31 Akbulak array 58.96 311 *i* P **P 10 21 39.7 +0.2**
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 58.96 311 *e*P **P 10 21 39.9 +0.5**
comp=Z,221nm,0.9s
MBWA Marble Bar 59.62 203 *e*P **P 10 21 44.8 +0.6**
comp=Z,28nm,1.0s
MBWA LR LR
comp=Z,328nm,22.0s
AKTO Aktyubinsk 59.74 313 P **P 10 21 45.3 +0.5**
comp=Z,16nm,0.8s,baz=88,slow=7.3,SNR=28
AKTO LR LR 10 48 53.8
comp=Z,988nm,19.2s,baz=63,slow=37
DLBC Dease Lake 60.21 37 *e*P **P 10 21 50.1 +2.0**
comp=Z,32nm,1.2s
EIDS Eidsvold 60.97 170 *e*P **P 10 21 54.4 +1.0**
comp=Z,13nm,0.8s
PALK Pallekele 61.77 258 *e*P **P 10 21 59.8 +0.7**
comp=Z,13nm,0.9s
PALK Pallekele 61.77 258 *i* P **P 10 22 00.6 +1.4**
PALK Pallekele 61.77 258 P **P 10 21 59.7 +0.5**
DZM Mont Dzumac 61.81 153 P **P 10 22 00.4 +1.2**
comp=Z,20nm,0.9s,baz=355,slow=8.4,SNR=14
DZM LR LR 10 46 41.9
comp=Z,419nm,20.5s,baz=1.5,slow=34
DZM Mont Dzumac 61.81 153 *e*P **P 10 22 00.8 +1.5**
comp=Z,66nm,1.1s
DZM *e*S **S 10 30 20.0 -1.2**
comp=Z,1µm,28.4s
DZM *e*LR LR 10 40 16.2
comp=Z,766nm,23.6s
DZM Mont Dzumac 61.81 153 *e*P **P 10 22 00.8 +1.5**
comp=Z,26nm,1.0s
SPITS Spitsbergen Ar 62.28 349 P **P 10 22 03.1 +1.4**
comp=Z,13nm,1.0s,baz=32,slow=8.5,SNR=8.1
SPITS LR LR 10 50 49.4
comp=Z,1µm,21.0s,baz=190,slow=38
SPITS Spitsbergen Ar 62.28 349 P **P 10 22 03.1 +1.4**
SPITS pmax pmax
comp=Z,13nm,1.0s
SPITS MLR MLR
comp=Z,1µm,21.0s
KBS Kingsbay 62.42 350 PFAKE 10 22 20.0 +17
KBS LR LR
comp=Z,431nm,19.0s
LVZ Lovozero 63.69 336 PFAKE 10 22 20.0 +8.8
LVZ LR LR
comp=Z,2µm,20.0s
TMCR Tamitsa 64.25 332 *e*P **P 10 22 11.3 -3.5**
TMCR pmax pmax
comp=Z,80nm,1.2s
APA Apatity 64.27 336⇓ *i*P **P 10 22 12.8 -2.1**
APA pmax pmax
comp=Z,17nm,1.0s
RES Resolute Bay 64.43 14 *e*P **P 10 22 16.4 +0.5**
comp=Z,26nm,0.9s
RES Resolute Bay 64.43 14 *e*P **P 10 22 16.4 +0.5**
RES pmax pmax
comp=Z,26nm,0.9s
GEYT Alibeck 64.53 300 P **P 10 22 18.4 +1.1**
comp=Z,18nm,0.9s,baz=38,slow=2.6,SNR=28
GEYT LR LR 10 52 37.8
comp=Z,963nm,18.2s,baz=55,slow=38
KEV Kevo 65.08 339 PFAKE 10 22 30.0 +10
KEV LR LR
comp=Z,2µm,19.0s
KLMR Klimovskoe 65.19 328 *e*P **P 10 22 18.9 -2.1**
KLMR pmax pmax
comp=Z,38nm,1.2s
KLMR Klimovskoe 65.19 328 *e*P **P 10 22 18.9 -2.1**
KLMR AMP 10 22 22.6
comp=Z,38nm,1.2s
KLMR *e*PP **PP 10 24 39.1 -5.0**
KLMR LQ LQ 10 43 38.4
KLMR LQ LQ 10 43 38.4
KLMR LR LR 10 46 22.8
YKW3 Yellowknife Ar 65.47 30 *e*P **P 10 22 23.1 +0.2**
comp=Z,15nm,1.0s
YKA Yellowknife Ar 65.51 30 P **P 10 22 23.5 +0.4**
comp=Z,11nm,0.9s,baz=298,slow=6.5,SNR=106
YKA PKP2bc 10 51 09.6
comp=Z,0.3nm,0.8s,baz=115,slow=2.5,SNR=3.7
YKB5 Yellowknife Ar 65.51 30 *e*P **P 10 22 22.4 -0.7**

ARA0	ARCESS Array S	65.63	340	eP	P	10 22 24.5	+0.6
ARCES	ARCESS Array B	65.63	340	P	P	10 22 24.5	+0.7
	comp=Z,2.2nm,0.4s,baz=60,slow=7.2,SNR=14						
ARCES	ARCESS Array B	65.63	340	P	P	10 22 24.5	+0.7
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XMAS	Kiritimati	65.68	106	PFAKE		10 22 40.0	+15
XMAS				LR	LR		
	comp=Z,2.0nm,20.0s						
AFI	Afiamalu	66.15	129	LR	LR	10 46 35.0	
	comp=Z,616nm,21.1s,baz=322,slow=32						
AFI	Afiamalu	66.15	129	eP	P	10 22 27.4	-0.5
	comp=Z,39nm,1.1s						
AFI	Afiamalu	66.15	129	eP	P	10 22 27.4	-0.5
AFI				pmax	pmax		
	comp=Z,39nm,1.1s						
STKA	Stephens Creek	66.72	180	P	P	10 22 31.7	+0.5
	comp=Z,12nm,0.8s,baz=342,slow=7.1,SNR=16						
STKA				LR	LR	10 51 37.9	
	comp=Z,316nm,20.5s,baz=9.2,slow=36						
STKA	Stephens Creek	66.72	180	eP	P	10 22 31.4	+0.3
	comp=Z,3.9nm,1.0s						
TULEG	Thule	66.95	7	eP	P	10 22 32.0	-0.1
	comp=Z,13nm,0.8s						
LLLB	Lillooet	67.74	43	eP	P	10 22 38.7	+1.0
	comp=Z,17nm,0.8s						
PGC	Sidney	67.78	45	eP	P	10 22 39.0	+1.2
	comp=Z,31nm,0.9s						
NLWA	Neilton Lookou	68.13	47	eP	P	10 22 42.2	+2.1
	comp=Z,47nm,0.9s						
A04D	Lummi Island	68.17	45	P	P	10 22 41.9	+1.6
	baz=299						
MOS	Moscow	68.59	324	eP	P	10 22 41.9	-0.9
MOS				e		10 23 06.8	
MOS				e		10 25 12.6	
MOS				pmax	pmax		
	comp=Z,87nm,1.1s						
MOS				pmax	pmax		
	comp=Z,300nm,1.9s						
MOS				MLR	MLR		
	comp=Z,1µm,16.0s						
E03A	Lebam	68.72	48	eP	P	10 22 45.6	+1.9
	comp=Z,46nm,0.9s						
B05A	Bryant	68.75	45	P	P	10 22 45.4	+1.5
	baz=299,SNR=11						
VRH	Novokhopyorsk	68.79	318	eP	P	10 22 44.1	0.0
VRH				pmax	pmax		
	comp=Z,30nm,0.7s						
VRH				MLR	MLR		
	comp=Z,1µm,14.0s						
B06A	Marblemount	68.98	45	eP	P	10 22 46.7	+1.3
	comp=Z,34nm,0.9s						
D05A	Enumclaw	69.34	46	eP	P	10 22 49.6	+2.0
	comp=Z,45nm,0.9s						
MAK	Makhachkala	69.42	309	eP	P	10 22 47.5	-0.6
MAK				eS	S	10 31 49.8	-3.9
MAK				pmax	pmax		
	comp=Z,221nm,1.5s						
OBN	Obninsk	69.43	324	PFAKE		10 23 00.0	+12
OBN				LR	LR		
	comp=Z,755nm,19.0s						
OBN	Obninsk	69.43	324c	eP	P	10 22 47.7	-0.3
OBN				e		10 23 08.2	
OBN				e		10 25 20.6	
OBN				ePPP	PPP	10 26 58.9	
OBN				pmax	pmax		
	comp=Z,69nm,1.7s						
OBN				MLR	MLR		
	comp=Z,1µm,16.0s						
G03D	McMinnville, O	69.55	49	P	P	10 22 50.5	+1.5
	baz=300						
LPSR	Galich'ya Gora	69.57	320	eP	P	10 22 49.3	+0.4
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
C06D	Leavenworth	69.62	45	P	P	10 22 50.7	+1.3
	baz=300,SNR=8.5						
LON	Longmire	69.67	47	eP	P	10 22 50.9	+1.2
	comp=Z,11nm,1.1s						
LON	Longmire	69.67	47	eP	P	10 22 50.9	+1.2
LON				pmax	pmax		
	comp=Z,11nm,1.1s						
COR	Corvallis	69.84	49	eP	P	10 22 53.0	+2.3
	comp=Z,97nm,1.0s						
COR	Corvallis	69.84	49	eP	P	10 22 53.0	+2.3
COR				pmax	pmax		
	comp=Z,97nm,1.0s						
LTY	Liberty	70.09	46	eP	P	10 22 53.2	+0.8
	comp=Z,20nm,0.8s						
VSR	Storozhevoye	70.17	319	eP	P	10 22 52.9	+0.3
VSR				pmax	pmax		
	comp=Z,40nm,0.9s						
VSR				MLR	MLR		
	comp=Z,1µm,15.0s						
FIA1	FINESS Array S	70.33	332	eP	P	10 22 53.9	+0.5
FIA0	FINESS Array S	70.33	332	eP	P	10 22 53.8	+0.3
FIA0	FINESS Array S	70.33	332	eP	P	10 22 53.8	+0.3
FINES	FINESS Array B	70.33	332	P	P	10 22 53.8	+0.3
	comp=Z,29nm,0.9s,baz=53,slow=7.4,SNR=35						
FINES				LR	LR	10 58 43.6	
	comp=Z,1µm,18.2s,baz=29,slow=40						
FINES	FINESS Array B	70.33	332	iP	P	10 22 53.9	+0.5
FINES				pmax	pmax		
	comp=Z,29nm,0.9s						
GROC	Groznyy	70.39	309	eP	P	10 22 51.2	-2.9
GROC				e		10 23 12.3	
GROC				pmax	pmax		
	comp=Z,46nm,1.2s						
H04A	Detroit Lake	70.48	49	eP	P	10 22 56.1	+1.4
	comp=Z,50nm,1.0s						
SEKA	Sheki	70.48	307	P	P	10 22 53.2	-1.6
CAN	Canberra	70.54	173	PFAKE		10 23 10.0	+15
CAN				LR	LR		
	comp=Z,366nm,20.0s						
LKRN	Lenkeran, Azer	70.67	304	P	P	10 22 54.8	-1.1
G05D	Wamic, OR	70.73	48	P	P	10 22 57.7	+1.5
	baz=301						
I04A	Tendick Farm,	70.79	50	P	P	10 22 58.0	+1.3
	baz=301,SNR=11						
L02D	Cave Junction,	70.86	52	P	P	10 22 58.6	+1.6
	baz=300						
E07A	Sunnyside	70.92	46	eP	P	10 22 58.8	+1.4
	comp=Z,30nm,0.9s						
EDM	Edmonton	70.93	38	eP	P	10 22 57.8	+0.5
	comp=Z,37nm,1.0s						
EDM	Edmonton	70.93	38	eP	P	10 22 57.8	+0.5
EDM				pmax	pmax		
	comp=Z,37nm,1.0s						
WSAR	Wadi Sarin	71.13	285	P	P	10 22 59.9	+0.9
	comp=Z,13nm,0.9s,baz=84,slow=9.9,SNR=9.0						
WSAR				LR	LR	10 58 46.0	
	comp=Z,372nm,18.7s,baz=80,slow=40						
G06A	Carlson Farm,	71.14	48	eP	P	10 22 59.9	+1.1
	comp=Z,25nm,0.9s						
GOF	Gofitskoye	71.15	312⇑	eP	P	10 22 59.6	+0.9
GOF				pmax	pmax		
	comp=Z,78nm,1.4s						
I05D	Terrebonne, OR	71.17	49	P	P	10 23 00.4	+1.4
	baz=301,SNR=9.0						
C09A	Chrisman Ranch	71.20	44	eP	P	10 23 00.2	+1.2
	comp=Z,40nm,0.8s						
D08A	Wollman Farm,	71.21	45	eP	P	10 23 00.2	+1.1
	comp=Z,31nm,0.8s						
F07A	Phinny Hill Vi	71.23	47	eP	P	10 23 01.2	+2.1
	comp=Z,32nm,0.8s						
J04D	Umpqua Nationa	71.26	50	P	P	10 23 01.2	+1.5
	baz=301,SNR=13						
GANJ	Ganja	71.33	307	P	P	10 22 58.7	-1.3
NWAO	Narrogin (SRO)	71.38	201	P	P	10 23 00.6	+0.5
	comp=Z,8.3nm,0.7s,baz=259,slow=5.8,SNR=8.6						
BIDO	Bidbid	71.38	286	P	P	10 23 02.5	+2.0
	SNR=7.8						
E08A	Dider Farm, El	71.43	46	eP	P	10 23 01.6	+1.2
	comp=Z,27nm,0.8s						
KHMM	Horse Mountain	71.43	53	eP	P	10 23 03.1	+2.4
	comp=Z,37nm,1.0s						
BANOM	Banah	71.58	289	P	P	10 23 02.8	+1.1
NEW	Newport	71.61	44	P	P	10 23 02.4	+1.0
	baz=302,SNR=24						
NEW	Newport	71.61	44	eP	P	10 23 02.5	+1.0
	comp=Z,28nm,0.9s						
NEW	Newport	71.61	44	eP	P	10 23 02.5	+1.0
NEW				pmax	pmax		
	comp=Z,28nm,0.9s						
NCK	Nalchik	71.62	311	eP	P	10 23 02.4	+0.8
NCK				pmax	pmax		
	comp=Z,20nm,0.7s						

SHME	Shamm	71.64	289	P	P	10 23 02.8	+0.7
YBH	Yreka Blue Hor	71.65	52	P	P	10 23 03.7	+1.7
	comp=Z,17nm,0.8s,baz=298,slow=4.4,SNR=29						
YBH	Yreka Blue Hor	71.65	52	eP	P	10 23 03.8	+1.8
	comp=Z,24nm,0.9s						
YBH	Yreka Blue Hor	71.65	52	eP	P	10 23 03.8	+1.8
YBH				pmax	pmax		
	comp=Z,24nm,0.9s						
PINE	Pine Mountain	71.70	49	eP	P	10 23 01.3	-1.1
	comp=Z,80nm,0.9s						
M02C	Callahan	71.73	52	P	P	10 23 04.4	+2.0
	baz=301,SNR=6.7						
J05D	Fort Rock, OR	71.78	50	P	P	10 23 04.4	+1.6
	baz=301,SNR=22						
K04D	Chiloquin, OR	71.80	50	P	P	10 23 04.2	+1.3
	baz=301						
VSU	Vasula	71.92	330c	eP	P	10 23 04.1	+1.0
VSU				pmax	pmax		
	comp=Z,239nm,1.7s						
KBZ	Khabaz	71.93	311	P	P	10 23 04.6	+1.2
	comp=Z,25nm,0.9s,baz=26,slow=4.2,SNR=26						
KBZ				LR	LR	10 59 29.7	
	comp=Z,527nm,18.1s,baz=44,slow=40						
KIV	Kislovodsk	71.94	311	eP	P	10 23 04.7	+1.0
	comp=Z,57nm,0.9s						
KIV				LR	LR		
	comp=Z,641nm,20.0s						
KIV	Kislovodsk	71.94	311	eP	P	10 23 04.6	+0.9
KIV				e		10 25 43.7	
KIV				eS	S	10 32 23.6	+0.2
KIV				pmax	pmax		
	comp=Z,67nm,1.0s						
KIV				pmax	pmax		
	comp=Z,23nm,3.3s						
KIV	Kislovodsk	71.94	311	P	P	10 23 05.2	+1.5
	SNR=11						
KIV	Kislovodsk	71.94	311	iP	P	10 23 04.8	+1.2
	SNR=9.6						
E09A	Wood Farm, Sta	71.95	46	eP	P	10 23 05.0	+1.4
	comp=Z,42nm,0.9s						
N02D	Trinity Center	72.05	52	P	P	10 23 06.1	+1.7
	baz=301,SNR=9.1						
G08A	Pilot Rock	72.12	47	eP	P	10 23 05.9	+1.2
	comp=Z,12nm,1.0s						
UOSS	Minazif	72.16	288	eP	P	10 23 06.0	+0.8
	comp=Z,16nm,1.0s						
UOSS	Minazif	72.16	288	iP	P	10 23 05.6	+0.5
	SNR=5.9						
M04C	Macdoel	72.18	51	P	P	10 23 06.8	+1.6
	baz=302,SNR=19						
HATD	Hatta, Dubai	72.28	288	iP	P	10 23 06.7	+0.8
	SNR=8.0						
NEY	Neytrino	72.29	311	eP	P	10 23 06.4	+0.5
NEY				pmax	pmax		
	comp=Z,6.0nm,1.4s						
SOHO	SOHO	72.32	287	iP	P	10 23 07.1	+1.0
	SNR=11						
WDC	Whiskeytown Da	72.36	53	eP	P	10 23 07.5	+1.4
	comp=Z,20nm,1.0s						
WDC	Whiskeytown Da	72.36	53	eP	P	10 23 07.5	+1.4
WDC				pmax	pmax		
	comp=Z,20nm,1.0s						
ASHO	Ashiyiah	72.41	288	P	P	10 23 07.4	+0.7
	SNR=7.1						
ASHO	Ashiyiah	72.41	288	iP	P	10 23 06.2	-0.5
	SNR=11						
I07A	Izee	72.43	48	eP	P	10 23 08.1	+1.5
	comp=Z,11nm,1.0s						
SUMG	Summit	72.52	360	iP	P	10 23 08.1	+1.1
	comp=Z,46nm,1.1s						
SUMG	Summit	72.52	360	eP	P	10 23 08.4	+1.5
	comp=Z,40nm,1.1s						
SUMG	Summit	72.52	360	iP	P	10 23 08.1	+1.1
SUMG				pmax	pmax		
	comp=Z,46nm,1.1s						
GNI	Garni	72.62	307	P	P	10 23 08.7	+0.8
	comp=Z,25nm,1.1s,baz=45,slow=5.7,SNR=9.3						
GNI				LR	LR	10 57 52.0	
	comp=Z,776nm,19.1s,baz=52,slow=38						
GNI	Garni	72.62	307	eP	P	10 23 09.6	+1.7
	comp=Z,33nm,0.9s						
GNI	Garni	72.62	307c	eP	P	10 23 09.3	+1.4
GNI				pmax	pmax		
	comp=Z,164nm,1.2s						
GNI	Garni	72.62	307	P	P	10 23 10.0	+2.1
	SNR=7.3						
GNI	Garni	72.62	307	iP	P	10 23 09.5	+1.6
	SNR=7.7						
AKH	Akhalkalaki	72.77	309⇓	iP	P	10 23 09.9	+1.1
AKH	Akhalkalaki	72.77	309	eP	P	10 23 10.7	+1.9
	comp=Z,29nm,1.1s						
AKH	Akhalkalaki	72.77	309	eP	P	10 23 10.7	+1.9
AKH				pmax	pmax		
	comp=Z,29nm,1.1s						
F10A	Beach Ranch, E	72.78	46	eP	P	10 23 10.2	+1.5
	comp=Z,14nm,0.9s						
WALA	Waterton Lakes	72.95	42	eP	P	10 23 10.6	+1.0
	comp=Z,30nm,1.0s						
ALNE	Al Ain	72.97	288	iP	P	10 23 10.8	+0.8
	SNR=8.3						
O03D	Paynes Creek	72.98	53	P	P	10 23 10.8	+0.8
	baz=302,SNR=11						
MOD	Modoc Plateau	73.10	50	eP	P	10 23 11.9	+1.2
	comp=Z,21nm,0.8s						
BMO	Blue Mountains	73.34	47	eP	P	10 23 13.2	+1.2
	comp=Z,21nm,0.9s						
BMO				LR	LR		
	comp=Z,118nm,22.0s						
BMO	Blue Mountains	73.34	47	eP	P	10 23 13.2	+1.2
BMO				pmax	pmax		
	comp=Z,21nm,0.9s						
BMO				MLR	MLR		
	comp=Z,118nm,22.0s						
J08A	Circle Bar Ran	73.45	48	eP	P	10 23 14.3	+1.6
	comp=Z,40nm,1.0s						
JTMT	Jette	73.48	43	eP	P	10 23 14.0	+1.2
	comp=Z,56nm,0.9s						
ORV	Oroville	73.57	53	eP	P	10 23 14.1	+0.8
	comp=Z,20nm,0.9s						
ORV	Oroville	73.57	53	eP	P	10 23 14.1	+0.8
ORV				pmax	pmax		
	comp=Z,20nm,0.9s						
IZAR	Zarasai	73.83	328	eP	P	10 23 14.4	-0.2
IZAR				IAmb	IAmb	10 23 16.9	
	comp=Z,21nm,0.9s						
WVOR	Wild Horse Val	73.85	49	eP	P	10 23 16.2	+1.1
	comp=Z,22nm,1.0s						
WVOR	Wild Horse Val	73.85	49	eP	P	10 23 16.2	+1.1
WVOR				pmax	pmax		
	comp=Z,22nm,1.0s						
IDID	Didziasalis	73.89	327	eP	P	10 23 14.7	-0.2
IDID				IAmb	IAmb	10 23 17.2	
	comp=Z,18nm,1.0s						
SCO	Scoresbysund	73.91	354	iP	P	10 23 17.0	+2.3
SCO	Scoresbysund	73.91	354	eP	P	10 23 15.7	+1.0
	comp=Z,52nm,1.6s						
SCO	Scoresbysund	73.91	354	eP	P	10 23 15.7	+1.0
SCO				pmax	pmax		
	comp=Z,52nm,1.6s						
ISAL	Salakas	74.00	328	eP	P	10 23 15.3	-0.2
ISAL				IAmb	IAmb	10 23 18.0	
	comp=Z,30nm,1.0s						
IIGN	Ignalina	74.10	327	eP	P	10 23 15.9	-0.2
IIGN				IAmb	IAmb	10 23 18.5	
	comp=Z,22nm,1.1s						
BEKR	Beckworth	74.15	52	eP	P	10 23 18.2	+1.2
	comp=Z,34nm,0.9s						
MSO	Missoula	74.20	44	P	P	10 23 17.6	+0.6
	baz=305,SNR=25						
MSO	Missoula	74.20	44	eP	P	10 23 17.6	+0.6
	comp=Z,21nm,1.0s						
AFDM	Forest Hills D	74.24	53	eP	P	10 23 18.3	+1.0
	comp=Z,12nm,1.0s						
RDG13	Poverty Ridge	74.55	55	eP	P	10 23 20.4	+1.2
	comp=Z,26nm,0.9s						
ANN	Anapa	74.64	314	eP	P	10 23 18.5	-0.9
ANN				pmax	pmax		
	comp=Z,95nm,1.3s						
VCNR	Virginia City	74.92	52	eP	P	10 23 20.4	-1.0
	comp=Z,13nm,0.9s						
MFID	Camas Ranch	75.03	47	eP	P	10 23 23.2	+1.3
	comp=Z,27nm,0.9s						
PNTR	Pine Nut	75.06	53	eP	P	10 23 23.9	+1.6
	comp=Z,21nm,0.9s						
CMB	Columbia Colle	75.12	54	eP	P	10 23 23.8	+1.3
	comp=Z,32nm,0.9s						
CMB	Columbia Colle	75.12	54	eP	P	10 23 23.8	+1.3

CMB				pmax	pmax		
	comp=Z,32nm,0.9s						
YERR	Yerington	75.36	53	eP	P	10 23 25.4	+1.4
	comp=Z,34nm,1.0s						
FFC	Flin Flon	75.37	32	eP	P	10 23 23.9	+0.4
	comp=Z,46nm,1.0s						
FFC	Flin Flon	75.37	32	eP	P	10 23 23.9	+0.4
FFC				pmax	pmax		
	comp=Z,46nm,1.0s						
HRY	Holter Researc	75.45	43	eP	P	10 23 23.8	-0.4
WAKR	Walker	75.49	53	eP	P	10 23 26.3	+1.6
	comp=Z,22nm,0.9s						
NC405	NORSAR Array S	75.58	337	eP	P	10 23 24.3	-0.2
NC303	NORSAR Array S	75.60	337	eP	P	10 23 24.6	0.0
AKASG	Malin Array Be	75.61	322	P	P	10 23 25.1	+0.2
	comp=Z,29nm,0.8s,baz=48,slow=6.2,SNR=82						
AKASG				LR	LR	10 59 39.6	
	comp=Z,2µm,18.9s,baz=50,slow=38						
AKASG	Malin Array Be	75.61	322	P	P	10 23 25.1	+0.2
AKASG				pmax	pmax		
	comp=Z,27nm,0.8s						
AKASG				MLR	MLR		
	comp=Z,2µm,18.9s						
AKBB	Malin Array Si	75.61	322	eP	P	10 23 25.1	+0.2
	comp=Z,42nm,0.9s						
AKBB	Malin Array Si	75.61	322	eP	P	10 23 25.1	+0.2
AKBB				pmax	pmax		
	comp=Z,42nm,0.9s						
KIEV	Kiev	75.62	322	eP	P	10 23 25.1	+0.2
	comp=Z,45nm,1.0s						
KIEV				LR	LR		
	comp=Z,2µm,19.0s						
KIEV	Kiev	75.62	322c	iP	P	10 23 25.1	+0.2
KIEV				pmax	pmax		
	comp=Z,32nm,0.9s						
KIEV	Kiev	75.62	322	iP	P	10 23 25.1	+0.2
	SNR=17						
AK11	Malin Array Si	75.65	322	eP	P	10 23 25.2	+0.1
HFS	Hagfors	75.67	336	P	P	10 23 25.3	+0.2
	comp=Z,15nm,0.8s,baz=57,slow=5.3,SNR=23						
FCC	Fort Churchill	75.74	26	eP	P	10 23 25.6	+0.1
	comp=Z,42nm,1.1s						
FCC	Fort Churchill	75.74	26	eP	P	10 23 25.6	+0.1
FCC				pmax	pmax		
	comp=Z,42nm,1.1s						
NC204	NORSAR Array S	75.75	338	eP	P	10 23 26.4	+0.8
NB201	NORSAR Array S	75.76	337	eP	P	10 23 25.3	-0.3
NB2	NORSAR Subarra	75.79	337	P	P	10 23 26.0	+0.2
	comp=Z,42nm,1.0s,baz=40,slow=5.9						
NB2	NORSAR Subarra	75.79	337	P	P	10 23 26.0	+0.2
NB2				pmax	pmax		
	comp=Z,32nm,1.0s						
NB2	NORSAR Subarra	75.79	337	P	P	10 23 26.0	+0.2
	baz=40,slow=5.9						
NB200	NORSAR Array S	75.79	337	eP	P	10 23 26.4	+0.5
NB200				ePP	PP	10 26 15.3	0.0
NOA	NORSAR Array B	75.79	337	P	P	10 23 26.4	+0.5
	comp=Z,22nm,0.8s,baz=40,slow=5.7,SNR=44						
NOA				PP	PP	10 26 15.3	0.0
	comp=Z,11nm,1.0s,baz=41,slow=8.5,SNR=4.4						
NOA				LR	LR	11 00 04.1	
	comp=Z,1µm,19.7s,baz=50,slow=38						
HLID	Hailey	75.79	47	P	P	10 23 27.7	+1.4
	baz=305						
HLID	Hailey	75.79	47	eP	P	10 23 27.7	+1.4
	comp=Z,17nm,0.9s						
HLID				LR	LR		
	comp=Z,255nm,19.0s						
EGMT	Eagleton	75.80	41	P	P	10 23 27.0	+0.8
	baz=307,SNR=20						
EGMT	Eagleton	75.80	41	eP	P	10 23 27.3	+1.1
	comp=Z,56nm,1.0s						
DLMT	Dillon	75.81	44	eP	P	10 23 27.6	+1.3
	comp=Z,40nm,0.9s						
NBO02	NORSAR Array S	75.89	337	eP	P	10 23 27.1	+0.7
NBO00	NORSAR Array S	75.93	338	eP	P	10 23 26.9	+0.3
LCCM	Lewis and Clar	75.94	44	eP	P	10 23 28.3	+1.2
MCMT	McKenzie Canyo	75.97	45	eP	P	10 23 27.9	+0.4
RYN	Ryan	76.02	53	eP	P	10 23 29.1	+1.4
	comp=Z,21nm,0.9s						
BOZ	Bozeman (W)	76.22	44	P	P	10 23 29.8	+1.1
	baz=306,SNR=39						
BOZ	Bozeman (W)	76.22	44	eP	P	10 23 29.8	+1.1
	comp=Z,31nm,0.9s						
BOZ	Bozeman (W)	76.22	44	eP	P	10 23 29.8	+1.1
BOZ				pmax	pmax		
	comp=Z,31nm,0.9s						
NV01	Mina Array Sit	76.27	53	eP	P	10 23 29.6	+0.4
NVAR	Mina Array Bea	76.27	53	P	P	10 23 30.6	+1.3
	comp=Z,24nm,0.8s,baz=281,slow=6.1,SNR=95						
NVAR				LR	LR	10 51 42.2	
	comp=Z,144nm,21.5s,baz=80,slow=32						
SUW	Suwalki	76.31	328	eP	P	10 23 29.6	+0.8
SUW	Suwalki	76.31	328	eP	P	10 23 29.6	+0.8
COMI	Craters of Moo	76.33	46	eP	P	10 23 31.5	+2.1
NV11	Mina Array Sit	76.37	53	eP	P	10 23 31.0	+1.3
	comp=Z,1.2nm,1.0s						
MLAC	Mammoth, Mammo	76.37	54	P	P	10 23 31.2	+1.4
	baz=304						
SIM	Simferopol'	76.48	316	P	P	10 23 31.0	+1.0
SIM				pmax	pmax		
	comp=Z,21nm,0.8s						
SIM				MLR	MLR		
	comp=Z,430nm,15.0s						
PAGB	Antelope Grade	76.48	56	eP	P	10 23 31.8	+1.6
	comp=Z,49nm,0.9s						
MARD	Mardin	76.76	306	eP	P	10 23 32.2	+0.3
	comp=Z,66nm,1.2s						
QLMT	Earthquake Lak	76.79	44	eP	P	10 23 33.4	+1.3
RCTC	Rector, Farmer	76.84	55	P	P	10 23 33.1	+1.0
	baz=304						
SMMC	Simmler	76.88	56	P	P	10 23 34.3	+1.8
	baz=304						
YHB	Horse Butte	76.97	44	eP	P	10 23 34.5	+1.4
	comp=Z,26nm,0.8s						
YHH	Holmes Hill	77.14	44	eP	P	10 23 35.5	+1.4
	comp=Z,16nm,1.1s						
YMR	Madison River	77.15	44	eP	P	10 23 35.7	+1.6
	comp=Z,25nm,1.0s						
GCMT	Greycliff	77.20	43	eP	P	10 23 35.3	+1.1
VES	Vestal, Richgr	77.20	55	P	P	10 23 34.9	+0.7
	baz=304,SNR=14						
PKM	Mcpherson Peak	77.24	56	P	P	10 23 35.8	+1.0
	baz=304						
YNR	Norris Junctio	77.28	44	eP	P	10 23 37.4	+2.5
	comp=Z,18nm,1.0s						
YFT	Old Faithful	77.35	44	eP	P	10 23 38.4	+3.2
	comp=Z,20nm,0.8s						
YPP	Pitchstone Pla	77.48	44	eP	P	10 23 38.5	+2.5
	comp=Z,12nm,0.9s						
LKWY	Lake	77.53	44	PFAKE		10 23 50.0	+14
LKWY				LR	LR		
	comp=Z,493nm,20.0s						
H17A	Grant Village	77.54	44	P	P	10 23 39.5	+3.2
	baz=307,SNR=55						
H17A	Grant Village	77.54	44	eP	P	10 23 39.4	+3.2
	comp=Z,60nm,1.0s						
CWC	Cottonwood Cre	77.54	54	P	P	10 23 37.4	+1.1
	baz=305						
SBC	Santa Barbara	77.56	57	P	P	10 23 37.7	+1.5
	baz=304						
SORM	Soroca	77.67	321⇑	iP	P	10 23 36.8	+0.2
SORM	Soroca	77.67	321	P	P	10 23 36.8	+0.2
GRAC	Grapevine Rang	77.70	53	P	P	10 23 38.5	+1.4
	baz=305,SNR=7.8						
ISA	Isabella, Lake	77.72	55	P	P	10 23 37.5	+0.3
	baz=305,SNR=8.9						
ISA	Isabella, Lake	77.72	55	eP	P	10 23 37.5	+0.3
	comp=Z,11nm,0.8s						
ISA	Isabella, Lake	77.72	55	eP	P	10 23 37.5	+0.3
ISA				pmax	pmax		
	comp=Z,11nm,0.8s						
SFJD	Kangerlussuaq	77.73	5	iP	P	10 23 37.4	+0.8
	comp=Z,24nm,1.2s						
SFJD	Kangerlussuaq	77.73	5	eP	P	10 23 36.8	+0.3
	comp=Z,28nm,1.3s						
SFJD	Kangerlussuaq	77.73	5	eP	P	10 23 37.4	+0.8
SFJD				pmax	pmax		
	comp=Z,24nm,1.2s						
FXWY	Fox Creek	77.73	45	eP	P	10 23 39.1	+1.8
	comp=Z,15nm,0.9s						
ARVC	Arvin	77.78	56	P	P	10 23 38.2	+0.7
	baz=305,SNR=5.0						
HVU	Hansel Valley	77.81	47	eP	P	10 23 39.4	+1.6
	comp=Z,32nm,0.9s						
HVU	Hansel Valley	77.81	47	eP	P	10 23 39.4	+1.6
HVU				pmax	pmax		

comp=Z,32nm,0.9s
MOOW Moose Ponds 77.83 45 *e*P **P 10 23 39.5 +1.7**
comp=Z,10nm,0.8s
RLMT Red Lodge 77.83 43 P **P 10 23 39.0 +1.2**
baz=308,SNR=17
RLMT Red Lodge 77.83 43 *e*P **P 10 23 39.2 +1.4**
comp=Z,25nm,1.3s
DAC Darwin (Calif) 77.95 54 *e*P **P 10 23 39.5 +0.8**
comp=Z,16nm,0.9s
DAC Darwin (Calif) 77.95 54 *e*P **P 10 23 39.5 +0.8**
DAC pmax pmax
comp=Z,16nm,0.9s
LOHW Long Hollow 77.99 45 *e*P **P 10 23 40.4 +1.6**
comp=Z,8.4nm,0.8s
SNOW Snow King Moun 78.00 45 *e*P **P 10 23 41.0 +2.1**
comp=Z,24nm,1.0s
REDW Red Top Meadow 78.00 45 *e*P **P 10 23 40.4 +1.6**
comp=Z,17nm,1.0s
R11A Troy Canyon, C 78.08 51 P **P 10 23 40.5 +1.3**
baz=306,SNR=25
R11A Troy Canyon, C 78.08 51 *e*P **P 10 23 40.6 +1.3**
comp=Z,22nm,1.0s
OSI Osito Audit: C 78.14 56 P **P 10 23 40.7 +1.2**
baz=305
OSI Osito Audit: C 78.14 56 *e*P **P 10 23 41.4 +1.9**
comp=Z,21nm,0.8s
MPMC Manual Prospec 78.15 54 P **P 10 23 40.8 +1.0**
baz=305,SNR=11
AHID Auburn Hatcher 78.22 46 *e*P **P 10 23 41.1 +1.1**
comp=Z,17nm,0.8s
AHID LR LR
comp=Z,415nm,21.0s
FURC Furnace Creek, 78.33 54 P **P 10 23 41.6 +1.2**
baz=305,SNR=5.2
LRMC Laurel Mtn Rad 78.35 55 P **P 10 23 41.8 +1.0**
baz=305,SNR=11
TPNV Topopah Spring 78.45 53 P **P 10 23 42.7 +1.3**
baz=306,SNR=16
TPNV Topopah Spring 78.45 53 *e*P **P 10 23 42.7 +1.3**
comp=Z,24nm,0.9s
TPNV Topopah Spring 78.45 53 *e*P **P 10 23 42.7 +1.3**
TPNV pmax pmax
comp=Z,24nm,0.9s
EDW2 Edwards Air Fo 78.48 55 P **P 10 23 42.8 +1.3**
baz=305,SNR=11
LAO LASA Array 78.51 40 P **P 10 23 42.3 +0.9**
baz=310
LAO LASA Array 78.51 40 *e*P **P 10 23 43.0 +1.5**
comp=Z,40nm,0.9s
LAO LR LR
comp=Z,419nm,19.0s
DECC Green Verdugo 78.61 56 P **P 10 23 43.1 +0.9**
baz=305
FRB Frobisher Bay 78.61 13 LR LR 11 02 57.8
comp=Z,586nm,19.3s,baz=168,slow=39
LVV L'vov 78.73 324 *e*P **P 10 23 44.0 +1.6**
LVV *e* 10 26 44.8
LVV *e* 10 28 37.9
LVV *e*S **S 10 33 38.1 -0.1**
LVV *e* 10 34 23.6
LVV pmax pmax
comp=Z,50nm,1.6s
DUG Dugway, Tooele 78.73 49 P **P 10 23 44.4 +1.5**
baz=307
DUG Dugway, Tooele 78.73 49 *e*P **P 10 23 44.3 +1.5**
comp=Z,24nm,0.9s
DUG LR LR
comp=Z,346nm,19.0s
DUG Dugway, Tooele 78.73 49 *e*P **P 10 23 44.3 +1.5**
DUG pmax pmax
comp=Z,24nm,0.9s
DUG MLR MLR
comp=Z,346nm,19.0s
BEL Belsk 78.86 327 *e*P **P 10 23 44.5 +1.4**
BEL Belsk 78.86 327 *e*P **P 10 23 44.5 +1.4**
BSD Bornholm Skovb 78.95 332 *i*P **P 10 23 41.0 -2.5**
comp=Z,47nm,1.0s
BSD Bornholm Skovb 78.95 332 *e*P **P 10 23 41.0 -2.5**
BSD pmax pmax
comp=Z,47nm,1.0s
TCUT Toone Canyon 79.03 47 *e*P **P 10 23 46.1 +1.5**
comp=Z,32nm,0.8s
GSC Goldstone, Bar 79.04 55 P **P 10 23 45.7 +1.2**
baz=306,SNR=6.3
GSC Goldstone, Bar 79.04 55 *e*P **P 10 23 45.8 +1.2**
comp=Z,15nm,1.0s
GSC Goldstone, Bar 79.04 55 *e*P **P 10 23 45.8 +1.2**
GSC pmax pmax
comp=Z,15nm,1.0s
CIS Catalina Islan 79.04 57 P **P 10 23 45.4 +0.9**
baz=305
PSUT Pine Spring 79.07 50 *e*P **P 10 23 46.0 +1.2**
comp=Z,14nm,1.0s
BFSC Mount Baldy Ra 79.08 56 P **P 10 23 45.8 +1.0**
baz=305,SNR=5.7
CTU Camp Tracy 79.08 48 *e*P **P 10 23 46.2 +1.4**
comp=Z,15nm,0.8s
BW06 Boulder Array 79.12 45 P **P 10 23 45.5 +0.5**
baz=308
BW06 Boulder Array 79.12 45 *e*P **P 10 23 45.7 +0.7**
comp=Z,14nm,0.8s
PD31 Pinedale Array 79.12 45 *e*P **P 10 23 45.7 +0.7**
PDAR Pinedale Array 79.12 45 P **P 10 23 45.9 +0.8**
comp=Z,12nm,0.7s,baz=263,slow=2.2,SNR=134
PDAR Pinedale Array 79.12 45 *e*P **P 10 23 45.6 +0.7**
SCI2 San Clemente I 79.19 57 P **P 10 23 46.3 +1.0**
baz=305
RAR Rarotonga 79.28 125 LR LR 10 53 45.6
comp=Z,422nm,19.1s,baz=286,slow=32
JLU Jordanelle 79.32 48 *e*P **P 10 23 47.4 +1.3**
comp=Z,15nm,1.0s
NLU North Lily Min 79.33 48 *e*P **P 10 23 47.3 +1.1**
comp=Z,12nm,0.8s
SHPR Sheep Range 79.42 53 *e*P **P 10 23 48.3 +1.6**
comp=Z,24nm,1.1s
BORG Borgarnes 79.43 352 LR LR 10 59 44.9
comp=Z,177nm,20.8s,baz=7.6,slow=36
KWP Kalwaria Pacla 79.49 324 *e*P **P 10 23 47.9 +1.3**
KWP Kalwaria Pacla 79.49 324 *e*P **P 10 23 48.2 +1.6**
comp=Z,778nm,1.0s
KWP Kalwaria Pacla 79.49 324 *e*P **P 10 23 47.9 +1.3**
TUQ Turquoise Moun 79.55 54 P **P 10 23 48.4 +1.0**
baz=306
BBRC Big Bear Solar 79.56 55 P **P 10 23 48.5 +0.9**
baz=306,SNR=6.2
MPU Maple Canyon 79.56 48 *e*P **P 10 23 48.8 +1.3**
comp=Z,21nm,0.9s
TESR Tescani 79.60 320⇑ *i*P **P 10 23 47.2 -0.1**
BUR08 Bucovina Ar. S 79.60 322 *e*P **P 10 23 48.5 +1.1**
BUR04 Bucovina Ar. S 79.61 322 *e*P **P 10 23 48.2 +0.8**
BURAR Bucovina Array 79.61 322⇑ *i*P **P 10 23 48.4 +1.0**
BURAR Bucovina Array 79.61 322 P **P 10 23 48.4 +1.0**
HEC Hector,Ludlow 79.63 55 P **P 10 23 48.9 +1.1**
baz=306,SNR=8.7
MURC Murrieta 79.76 56 P **P 10 23 49.5 +1.0**
baz=306,SNR=7.8
BR101 Keskin Array S 79.90 312 *e*P **P 10 23 50.1 +0.9**
BR131 Keskin Array S 79.90 312 *e*P **P 10 23 50.0 +0.8**
BRTR Keskin Array B 79.90 312 P **P 10 23 50.1 +0.9**
comp=Z,10nm,1.0s,baz=113,slow=3.3,SNR=24
BRTR LR LR 11 05 08.3
comp=Z,270nm,19.0s,baz=38,slow=40
CCUT Cedar City 79.96 51 *e*P **P 10 23 51.3 +1.5**
comp=Z,23nm,1.2s
VRI Vrincioaia 79.98 320⇑ *i*P **P 10 23 50.3 +0.9**
VRI Vrincioaia 79.98 320 P **P 10 23 50.3 +0.9**
PLOR Plostina 80.03 320⇓ *i*P **P 10 23 51.3 +1.6**
PLOR Plostina 80.03 320 P **P 10 23 51.3 +1.6**
TLB Topalu 80.10 318⇓ *i*P **P 10 23 50.5 +0.5**
GMRC Granite Mounta 80.10 54 P **P 10 23 51.6 +1.2**
baz=306,SNR=5.5
SZCU Shurtz Canyon 80.11 51 *e*P **P 10 23 52.1 +1.6**
comp=Z,11nm,1.0s
MSU Marysvale 80.14 50 *e*P **P 10 23 52.5 +1.9**
MSU Marysvale 80.14 50 *e*P **P 10 23 52.5 +1.9**
109C Camp Elliot, M 80.23 57 P **P 10 23 51.8 +0.9**
baz=306,SNR=5.9
CPE Camp Elliot 80.23 57 *e*P **P 10 23 52.2 +1.3**
comp=Z,38nm,0.9s
PFO Pinyon Flats O 80.25 56 P **P 10 23 52.0 +0.8**
baz=306,SNR=16
PFO Pinyon Flats O 80.25 56 *e*P **P 10 23 52.5 +1.3**
comp=Z,45nm,1.0s
PFO LR LR
comp=Z,483nm,19.0s
PFO Pinyon Flats O 80.25 56 *e*P **P 10 23 52.5 +1.3**
PFO pmax pmax
comp=Z,45nm,1.0s
PFO MLR MLR
comp=Z,483nm,19.0s
XPFO Pæon Flat 80.25 56 *e*P **P 10 23 52.5 +1.3**
comp=Z,48nm,1.0s
ANTO Ankara 80.33 312 *e*P **P 10 23 53.3 +1.8**
comp=Z,49nm,1.3s
ANTO LR LR
comp=Z,339nm,20.0s
ANTO Ankara 80.33 312 *e*P **P 10 23 53.3 +1.8**
ANTO pmax pmax
comp=Z,49nm,1.3s
ANTO MLR MLR
comp=Z,339nm,20.0s
STHS Stebnicka Huta 80.33 325 *e*P **P 10 23 53.2 +2.0**
STHS pmax pmax
comp=Z,15nm,1.0s
STHS Stebnicka Huta 80.33 325 *e*P **P 10 23 53.2 +2.0**
BELC Belle Mtn. Jos 80.33 55 P **P 10 23 52.6 +0.9**
baz=306
BR231 Keskin MP Arra 80.35 312 *e*P **P 10 23 50.6 -1.1**
LCMT Little Creek M 80.36 51 *e*P **P 10 23 53.4 +1.6**
comp=Z,34nm,1.0s
UZH Uzhgorod 80.37 324 *e*P **P 10 23 50.7 -0.7**
UZH *e* 10 23 59.5
UZH *e* 10 26 50.0
UZH *e*S **S 10 33 51.5 -4.1**
ARCR ARCALIA 80.40 322⇓ *i*P **P 10 23 53.3 +1.7**
MTPU Mount Pierson 80.42 50 *e*P **P 10 23 54.4 +2.1**
comp=Z,60nm,1.8s
OJC Ojcow 80.44 326 *e*P **P 10 23 52.7 +1.0**
OJC Ojcow 80.44 326 *e*P **P 10 23 52.6 +0.8**
comp=Z,60nm,1.1s
OJC Ojcow 80.44 326 *e*P **P 10 23 52.7 +1.0**
P17A Butcher Ranch, 80.44 48 *e*P **P 10 23 53.7 +1.5**
comp=Z,30nm,0.9s
Q16A Castle Valley 80.51 49 *e*P **P 10 23 54.4 +1.8**
comp=Z,42nm,1.5s
CRVS Cervenica-Dubn 80.58 324 *e*P **P 10 23 54.4 +1.8**
CRVS Cervenica-Dubn 80.58 324 *e*P **P 10 23 54.4 +1.8**
TRPA Tarpa 80.59 323⇑ *e*P **P 10 23 53.9 +1.3**
DOPR Dopca 80.61 320⇑ *i*P **P 10 23 54.6 +1.8**
KNB Kanab 80.63 51 *e*P **P 10 23 55.0 +1.8**
comp=Z,66nm,1.1s
KNB Kanab 80.63 51 *e*P **P 10 23 55.0 +1.8**
KNB pmax pmax
comp=Z,66nm,1.1s
MLR Muntele Rosu 80.64 320 P **P 10 23 53.5 +0.4**
comp=Z,0.6nm,0.4s,baz=312,slow=6.3,SNR=3.3
MLR LR LR 11 02 42.0
comp=Z,245nm,18.7s,baz=51,slow=38
MLR Muntele Rosu 80.64 320 *e*P **P 10 23 53.7 +0.6**
comp=Z,15nm,1.1s
MLR Muntele Rosu 80.64 320 *e*P **P 10 23 53.7 +0.6**
MLR pmax pmax
comp=Z,15nm,1.1s
P18A Preston Nutter 80.64 48 *e*P **P 10 23 54.7 +1.3**
comp=Z,15nm,0.8s
BAR Barrett 80.65 57 *e*P **P 10 23 54.7 +1.5**
comp=Z,37nm,0.9s
MONP2 Monument Peak 80.70 56 P **P 10 23 54.7 +1.0**
baz=306,SNR=12
NIE Niedzica 80.77 325 *e*P **P 10 23 55.1 +1.5**
NIE Niedzica 80.77 325 *e*P **P 10 23 55.1 +1.5**
SRU San Rafael Swe 80.79 48 *e*P **P 10 23 55.4 +1.3**
comp=Z,28nm,0.8s
SRU San Rafael Swe 80.79 48 *e*P **P 10 23 55.4 +1.3**
SRU pmax pmax
comp=Z,28nm,0.8s
IRM Iron Mountain 80.81 55 P **P 10 23 55.5 +1.4**
baz=306,SNR=16
BC3 Big Chuckawall 80.91 55 P **P 10 23 55.6 +0.9**
baz=306,SNR=6.4
K22A Casper 80.93 44 P **P 10 23 55.4 +0.7**
baz=310,SNR=9.9
K22A Casper 80.93 44 *e*P **P 10 23 55.7 +1.0**
comp=Z,13nm,0.8s
CJR Cluj-Napoca 81.03 322⇓ *i*P **P 10 23 57.0 +1.9**
IKP In-Ko-Pah, Jac 81.05 56 P **P 10 23 56.5 +1.1**
baz=306,SNR=16
SWSC Sam W. Stewart 81.09 56 P **P 10 23 56.5 +1.0**
baz=306,SNR=7.2
MDND Maddock 81.11 36 P **P 10 23 56.1 +0.7**
baz=314,SNR=5.8
MDND Maddock 81.11 36 *e*P **P 10 23 56.3 +0.9**
comp=Z,63nm,0.9s
RAYN Ar Rayn 81.14 292 *e*P **P 10 23 56.7 +0.6**
comp=Z,29nm,0.9s
RAYN LR LR
comp=Z,419nm,22.0s
RWWY Rawlins 81.15 45 *e*P **P 10 23 57.0 +0.9**
comp=Z,24nm,0.8s
ULM Lac du Bonnet 81.16 33 P **P 10 23 55.4 -0.2**
comp=Z,16nm,0.9s,baz=312,slow=5.7,SNR=38
ULM LR LR 11 02 11.4
comp=Z,121nm,19.5s,baz=322,slow=37
ULM Lac du Bonnet 81.16 33 *e*P **P 10 23 55.4 -0.2**
comp=Z,17nm,0.8s
U15A North Rim 81.32 51 *e*P **P 10 23 58.8 +1.7**
comp=Z,31nm,1.1s
KECS Kecovo 81.34 325 *e*P **P 10 23 57.1 +0.5**
KECS pmax pmax
comp=Z,9.0nm,1.3s
KECS Kecovo 81.34 325 *e*P **P 10 23 57.1 +0.5**
KECS *e*PP **PP 10 27 04.0 +2.2**
LANS Liptovska Anna 81.34 326 *e*P **P 10 23 58.3 +1.6**
LANS Liptovska Anna 81.34 326 *e*P **P 10 23 58.3 +1.6**
RSSD Black Hills 81.35 41 P **P 10 23 57.4 +0.4**
baz=311
RSSD Black Hills 81.35 41 *e*P **P 10 23 57.5 +0.4**
comp=Z,10nm,0.9s
RSSD Black Hills 81.35 41 *e*P **P 10 23 57.5 +0.5**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
PDMCI Parker Dam,Lak 81.40 54 P **P 10 23 58.3 +1.2**
baz=307,SNR=15
ARR Arges 81.41 320⇓ *i*P **P 10 23 57.7 +0.6**
DRGR 81.43 322⇑ *i*P **P 10 23 57.9 +0.7**
OKC Ostrava-Krasne 81.45 327⇑ *e*P **P 10 23 58.2 +1.0**
OKC AMS AMS 11 04 00.0
comp=Z,1μm,17.7s
OKC Ostrava-Krasne 81.45 327 *e*P **P 10 23 58.2 +1.0**
OKC MLR MLR
comp=Z,1μm,17.7s
Y12C Blythe 81.47 55 P **P 10 23 58.8 +1.3**
baz=307,SNR=26
Y12C Blythe 81.47 55 *e*P **P 10 23 59.0 +1.5**
comp=Z,51nm,0.9s
O20A White River Ci 81.53 47 P **P 10 23 58.8 +0.8**
baz=309,SNR=13
O20A White River Ci 81.53 47 *e*P **P 10 23 59.0 +1.0**
comp=Z,22nm,0.8s
KSP Ksiaz 81.54 328 *e*P **P 10 23 58.7 +1.1**
KSP Ksiaz 81.54 328 *e*P **P 10 23 58.7 +1.1**
B31A Greenbush Farm 81.65 35 P **P 10 23 58.5 +0.3**
baz=315,SNR=13
GLA Glamis 81.68 55 P **P 10 24 00.1 +1.4**
baz=307,SNR=16
GLA Glamis 81.68 55 *e*P **P 10 24 00.3 +1.6**
comp=Z,74nm,0.9s
GLA Glamis 81.68 55 *e*P **P 10 24 00.3 +1.6**
GLA pmax pmax
comp=Z,74nm,0.9s
MORC Moravsky Berou 81.77 327⇑ *i*P **P 10 24 00.1 +1.2**
MORC Moravsky Berou 81.77 327 *e*P **P 10 23 59.9 +1.0**
comp=Z,117nm,1.1s
MORC Moravsky Berou 81.77 327 *e*P **P 10 23 59.9 +1.0**
MORC pmax pmax
comp=Z,117nm,1.1s
A32A Rocking H Ranc 81.84 34 P **P 10 23 59.1 -0.1**
baz=316,SNR=22
DPC Dobruska-Polom 81.89 328 *e*P **P 10 24 00.8 +1.3**
DPC *e*PP **PcP 10 24 06.0 +0.9**
DPC AMS AMS 11 06 00.0
comp=Z,1μm,15.1s
DPC Dobruska-Polom 81.89 328 *e*P **P 10 24 00.8 +1.3**
DPC *e* 10 24 06.0
DPC MLR MLR
comp=Z,1μm,15.1s
UPC Upice 81.91 328⇑ *e*P **P 10 24 00.6 +1.0**
UPC AMS AMS 11 04 30.0
comp=Z,1μm,16.0s
UPC Upice 81.91 328 *e*P **P 10 24 00.6 +1.0**
UPC MLR MLR
comp=Z,1μm,16.0s
PSZ Piszkesteto 82.02 324⇑ *i*P **P 10 24 01.7 +1.4**
PSZ Piszkesteto 82.02 324⇑ *e*P **P 10 24 01.5 +1.2**
PSZ Piszkesteto 82.02 324 *e*P **P 10 24 01.2 +0.9**
comp=Z,37nm,1.0s
PSZ LR LR
comp=Z,2μm,19.0s
PSZ Piszkesteto 82.02 324 *e*P **P 10 24 01.2 +0.9**
PSZ pmax pmax
comp=Z,37nm,1.0s
PSZ MLR MLR
comp=Z,2μm,19.0s
PV09 Paradox Valley 82.02 48 *e*P **P 10 24 02.3 +1.6**
C31A Landman Farms, 82.05 36 P **P 10 24 00.4 0.0**
baz=315,SNR=15
VYHS Vyhne 82.11 325 *e*P **P 10 24 01.8 +1.2**
VYHS Vyhne 82.11 325 *e*P **P 10 24 01.8 +1.2**
PV10 Paradox Valley 82.16 48 *e*P **P 10 24 03.1 +1.7**
B32A Ashes, Strandq 82.19 35 P **P 10 24 00.8 -0.2**
baz=316,SNR=21
PV05 Paradox Valley 82.31 49 *e*P **P 10 24 03.6 +1.4**
A33A Warroad 82.33 34 P **P 10 24 01.6 -0.1**
baz=317,SNR=16
Y14A Wickenburg 82.37 54 *e*P **P 10 24 03.8 +1.4**
comp=Z,113nm,1.0s
N23A Red Feather La 82.39 45 P **P 10 24 04.2 +1.6**
baz=311,SNR=19
N23A Red Feather La 82.39 45 *e*P **P 10 24 04.2 +1.6**
comp=Z,29nm,0.9s
PHWY Pilot Hill 82.41 44 *e*P **P 10 24 03.2 +0.5**
comp=Z,7.2nm,0.8s
WUAZ Wupatki 82.47 52 P **P 10 24 04.7 +1.7**
baz=308,SNR=7.2
WUAZ Wupatki 82.47 52 *e*P **P 10 24 04.8 +1.8**
comp=Z,36nm,1.0s
WUAZ LR LR
comp=Z,283nm,20.0s
PVCC Panska Ves 82.51 329⇑ *i*P **P 10 24 04.0 +1.3**
PVCC *e*pP **pP 10 24 10.4 -0.3**
PVCC AMS AMS 11 06 20.0
comp=Z,700nm,14.9s
PVCC Panska Ves 82.51 329⇑ *i*P **P 10 24 04.0 +1.3**
PVCC *e* 10 24 10.4
PVCC MLR MLR
comp=Z,700nm,14.9s
BRG Berggiesshubel 82.51 329 *i*P **P 10 24 03.4 +0.7**
comp=Z,26nm,1.0s
BRG PP **PP 10 27 05.0 -6.4**
BRG S **S 10 34 21.0 +3.2**
BRG SS **SS 10 39 38.0 0.0**
BRG Berggiesshubel 82.51 329 *i*P **P 10 24 03.4 +0.7**
BRG S **S 10 34 21.0 +3.2**
BRG SS **SS 10 39 38.0 0.0**
BRG pmax pmax
comp=Z,26nm,1.0s
BRG MLR MLR
comp=N,619nm,16.2s
BRG MLR MLR
comp=E,502nm,17.4s
BRG MLR MLR
comp=Z,955nm,16.6s
VRAC Vranov 82.53 327⇑ *i*P **P 10 24 04.0 +1.1**
113A Mohawk Valley, 82.57 55 *e*P **P 10 24 04.4 +1.1**
comp=Z,28nm,1.0s
AGMN Agassiz Nation 82.57 34 P **P 10 24 02.6 -0.4**
baz=316,SNR=11
AGMN Agassiz Nation 82.57 34 *e*P **P 10 24 02.9 -0.2**
comp=Z,19nm,1.0s
AGMN LR LR
comp=Z,283nm,20.0s
CLL Collm 82.57 330⇑ *i*P **P 10 24 03.4 +0.4**
comp=Z,52nm,0.9s
CLL *e*PP **PP 10 27 05.0 -6.8**
CLL *e*S **S 10 34 25.0 +6.6**
CLL *e*(PPS) 10 35 48.0
CLL *e*SS SS 10 39 54.0 +15
CLL *e* 10 40 42.0
CLL *e*(SSS) 10 43 48.0
CLL Collm 82.57 330 *e*P **P 10 24 03.1 +0.1**
comp=Z,48nm,0.9s
CLL Collm 82.57 330⇑ *i*P **P 10 24 03.4 +0.4**
CLL pmax pmax
comp=Z,52nm,0.9s
PV01 Paradox Valley 82.60 48 *e*P **P 10 24 04.8 +1.1**
C32A Crookston 82.60 35 P **P 10 24 03.2 0.0**
baz=316
B33A Robert and Kas 82.72 34 P **P 10 24 03.5 -0.3**
baz=316
BZS Buzias 82.79 322⇑ *i*P **P 10 24 03.9 -0.3**
MMAI Mount Meron Ar 82.84 305 P **P 10 24 05.9 +1.1**
comp=Z,7.0nm,0.9s,baz=19,slow=5.3,SNR=4.4
MMAI LR LR 11 04 52.5
comp=Z,689nm,18.9s,baz=50,slow=38
E31A Nome 82.85 37 P **P 10 24 05.1 +0.5**
baz=315,SNR=11
D32A Dogwood Acres, 82.86 36 P **P 10 24 04.7 +0.1**
baz=316
GOPC GO Pecny, Ondr 82.88 328 *e*P **P 10 24 05.6 +1.0**
GOPC AMS AMS 11 05 10.0
comp=Z,800nm,16.4s
GOPC GO Pecny, Ondr 82.88 328 *e*P **P 10 24 05.6 +1.0**
GOPC MLR MLR
comp=Z,800nm,16.4s
HERR Herculane 82.89 321⇓ *i*P **P 10 24 05.5 +0.7**
PRU Pruhonice 82.93 329⇑ *i*P **P 10 24 05.9 +1.0**
PRU *e*pP **pP 10 24 12.8 -0.1**
PRU AMS AMS 11 07 30.0
comp=Z,1μm,14.9s
PRU Pruhonice 82.93 329⇑ *i*P **P 10 24 05.9 +1.0**
PRU *e* 10 24 12.8
PRU MLR MLR
comp=Z,1μm,14.9s
ISP Isparta 82.99 312 PFAKE 10 24 20.0 +14
ISP LR LR
comp=Z,445nm,20.0s
B34A Aery, Baudette 82.99 34 P **P 10 24 04.8 -0.4**
baz=317,SNR=8.3
C33A Trail 83.00 35 P **P 10 24 05.1 -0.2**
baz=316,SNR=8.2
CSS Mathiatis 83.01 308 PFAKE 10 24 20.0 +14
CSS LR LR
comp=Z,181nm,21.0s
TREC Trest 83.03 328⇑ *e*P **P 10 24 06.6 +1.1**
TREC AMS AMS 11 08 10.0
comp=Z,800nm,19.0s
TREC Trest 83.03 328 *e*P **P 10 24 06.6 +1.1**
TREC MLR MLR
comp=Z,800nm,19.0s
X16A Lo Mia Camp, P 83.10 53 *e*P **P 10 24 07.9 +1.5**
comp=Z,44nm,1.2s
F31A Hecla 83.17 37 P **P 10 24 06.3 +0.1**
baz=315,SNR=5.8
E32A Braaten, Kindr 83.22 36 P **P 10 24 06.5 0.0**
baz=316
MVCO Mesa Verde 83.22 49 P **P 10 24 08.1 +1.2**
baz=310,SNR=13
MVCO Mesa Verde 83.22 49 *e*P **P 10 24 08.2 +1.2**
comp=Z,41nm,1.4s
MVCO LR LR
comp=Z,221nm,19.0s
ISCO Idaho Springs 83.30 45 P **P 10 24 08.4 +1.1**
baz=311,SNR=13
ISCO Idaho Springs 83.30 45 *e*P **P 10 24 08.8 +1.4**
comp=Z,9.5nm,0.8s
ISCO Idaho Springs 83.30 45 *e*P **P 10 24 08.8 +1.4**
ISCO pmax pmax
comp=Z,9.0nm,0.8s
MDVR Moldovita 83.32 321⇑ *i*P **P 10 24 07.8 +0.7**
D33A AnnSaint, Waubun 83.42 35 P **P 10 24 07.2 -0.3**
baz=316,SNR=5.2
C34A RKJ Ranch, Bem 83.48 34 P **P 10 24 07.5 -0.3**
baz=317
B35A Bob, Littlefor 83.50 33 P **P 10 24 07.8 -0.1**
baz=318,SNR=11
NKC Novy Kostel 83.62 330⇑ *e*P **P 10 24 09.4 +0.9**
NKC AMS AMS 11 06 40.0
comp=Z,900nm,13.3s
NKC Novy Kostel 83.62 330 *e*P **P 10 24 09.4 +0.9**
NKC MLR MLR
comp=Z,900nm,13.3s
G31A Conde 83.64 38 P **P 10 24 08.9 +0.3**
baz=315
PMOR Pomariorio Ree 83.66 113 *e*T T 11 56 09.2
comp=Z,25nm,0.2s
214A Organ Pipe Nat 83.70 55 P **P 10 24 10.3 +1.0**
baz=308,SNR=22
F32A Veblen 83.71 37 P **P 10 24 08.9 -0.1**
baz=316

SOP **Sopron** 83.75 326⇑ *eP* P 10 24 10.5 +1.4
W18A **Petrified Fore** 83.77 51 P P 10 24 11.0 +1.3
baz=309
E33A **Westby DABS, E** 83.80 36 P P 10 24 09.8 +0.3
baz=316,SNR=23
C35A **Jirik Farms, M** 83.88 34 P P 10 24 09.2 -0.6
baz=318,SNR=15
CONA **Conrad Observa** 83.88 326 *i* PcP P 10 24 11.4 +1.5
comp=Z,42nm,1.2s,SNR=26
CONA **Conrad Observa** 83.88 326 *i* PcP P 10 24 11.4 +1.5
comp=Z,42nm,1.2s,SNR=26
S22A **4UR Ranch, Cre** 83.90 48 P P 10 24 12.3 +1.7
baz=310,SNR=25
S22A **4UR Ranch, Cre** 83.90 48 *eP* P 10 24 12.2 +1.7
comp=Z,20nm,0.9s
G32A **Webster** 83.97 37 P P 10 24 10.4 0.0
baz=316,SNR=5.9
KHC **Kasperske Hory** 83.99 328⇑ *i*P P 10 24 11.2 +0.8
KHC *e*pP pP 10 24 17.5 -0.9
KHC AMS AMS 11 05 40.0
comp=Z,1μm,17.8s
KHC **Kasperske Hory** 83.99 328 *eP* P 10 24 11.3 +0.8
comp=Z,13nm,0.9s
KHC **Kasperske Hory** 83.99 328⇑ *i*P P 10 24 11.2 +0.8
KHC *e* 10 24 17.5
KHC MLR MLR
comp=Z,1μm,17.8s
X18A **Snowflake** 84.00 52 *eP* P 10 24 12.4 +1.4
comp=Z,27nm,1.0s
PPT **Papeete** 84.02 116 LR LR 10 58 01.7
comp=Z,314nm,18.6s,baz=296,slow=33
PPT2 **Papeete2** 84.04 116 *e*S S 10 34 30.3 -3.8
comp=Z,83nm,23.5s
PPT2 **Papeete2** 84.04 116 *e*LR LR 10 50 30.2
comp=Z,585nm,24.5s,baz=312
PPT2 **Papeete2** 84.04 116 *e*T T 11 56 39.6
comp=Z,4.7nm,0.3s
VTS **Vitosha** 84.05 319⇑ *i*P P 10 24 12.5 +1.5
VTS **Vitosha** 84.05 319 *eP* P 10 24 11.4 +0.4
comp=Z,41nm,0.9s
VTS **Vitosha** 84.05 319 *eP* P 10 24 11.4 +0.4
VTS pmax pmax
comp=Z,41nm,0.9s
PAE **Paea** 84.08 116 *e*T T 11 56 41.8
comp=Z,0.8nm,0.2s
Q24A **Divide** 84.11 46 P P 10 24 12.5 +0.9
baz=311,SNR=8.6
Q24A **Divide** 84.11 46 *eP* P 10 24 13.0 +1.4
comp=Z,12nm,1.0s
F33A **5 Mile Ranch,** 84.14 36 P P 10 24 11.4 +0.2
baz=316,SNR=28
GEC2 **GERESS Array S** 84.15 328 *eP* P 10 24 11.6 +0.3
comp=Z,20nm,0.9s
GEC2 **GERESS Array S** 84.15 328 *eP* P 10 24 11.6 +0.3
GEC2 pmax pmax
comp=Z,20nm,0.9s
GERES **GERESS Array B** 84.15 328 P P 10 24 11.8 +0.5
comp=Z,14nm,0.9s,baz=36,slow=5.0,SNR=65
GERES LR LR 11 05 59.2
comp=Z,849nm,18.8s,baz=18,slow=39
GEA0 **GERESS Array S** 84.16 328 *eP* P 10 24 11.1 -0.2
TIAR **Tiarei** 84.19 116 *e*T T 11 56 49.5
comp=Z,2.4nm,0.2s
E34A **Wadena** 84.19 35 P P 10 24 11.4 -0.1
baz=317
D35A **Remer** 84.30 34 P P 10 24 11.6 -0.4
baz=318,SNR=5.0
C36A **Pine Crest Far** 84.35 33 P P 10 24 11.9 -0.3
baz=318,SNR=9.1
E35A **Pequot Lakes** 84.52 35 P P 10 24 13.0 -0.1
baz=317,SNR=7.3
H32A **Carlson Farm,** 84.53 38 P P 10 24 13.2 -0.1
baz=316,SNR=7.7
G33A **Ortonville** 84.53 37 P P 10 24 13.5 +0.3
baz=316,SNR=22
ARSA **Arzberg** 84.54 326 *i* PcP P 10 24 14.3 +1.0
comp=Z,27nm,1.6s,SNR=9.9
ARSA **Arzberg** 84.54 326 *i* PcP P 10 24 14.3 +1.0
comp=Z,27nm,1.6s,SNR=9.9
GRFO **Grafenberg** 84.55 330 *eP* P 10 24 14.3 +1.2
comp=Z,65nm,1.0s
GRFO **Grafenberg** 84.55 330 *eP* P 10 24 14.4 +1.2
GRFO pmax pmax
comp=Z,65nm,1.0s
OGNE **Ogallala** 84.57 43 P P 10 24 13.9 +0.2
baz=319,SNR=5.1
OGNE **Ogallala** 84.57 43 *eP* P 10 24 14.5 +0.9
comp=Z,41nm,1.1s
D36A **Goodland** 84.63 34 P P 10 24 13.1 -0.6
baz=318
MOA **Molln** 84.65 327 *i* PcP P 10 24 14.9 +1.1
comp=Z,25nm,1.0s,SNR=9.3
MOA **Molln** 84.65 327 *i* PcP P 10 24 14.9 +1.1
comp=Z,25nm,1.0s,SNR=9.3
C37A **Embarrass** 84.66 33 P P 10 24 13.6 -0.2
baz=319,SNR=11
F34A **Alexandria** 84.67 36 P P 10 24 13.9 0.0
baz=317,SNR=9.1
DIVS **Divibare** 84.68 322 *eP* P 10 24 14.6 +0.6
comp=Z,30nm,1.0s
SDCO **Great Sand Dun** 84.70 47 P P 10 24 15.6 +1.0
baz=311,SNR=23
SDCO **Great Sand Dun** 84.70 47 *eP* P 10 24 16.0 +1.4
comp=Z,21nm,1.0s
SDCO LR LR
comp=Z,161nm,21.0s
J31A **Geddes** 84.72 39 P P 10 24 14.5 +0.2
baz=315
H33A **Prehn Over Nor** 84.75 37 P P 10 24 14.7 +0.3
baz=316,SNR=29
EKA **Eskdalemuir Ar** 84.78 340 P P 10 24 14.9 +0.6
comp=Z,4.0nm,0.8s,baz=36,slow=5.3,SNR=6.8
EKA LR LR 11 06 03.6
comp=Z,576nm,19.0s,baz=35,slow=38
EYMN **Ely** 84.80 32 P P 10 24 14.5 0.0
baz=319,SNR=10
EYMN **Ely** 84.80 32 *eP* P 10 24 14.5 0.0
comp=Z,28nm,1.0s
ESK **Eskdalemuir** 84.81 340 PFAKE 10 24 30.0 +16
ESK LR LR
comp=Z,758nm,20.0s
TUC **Tucson** 84.84 54 P P 10 24 16.1 +1.0
baz=309
TUC **Tucson** 84.84 54 *eP* P 10 24 16.3 +1.2
comp=Z,23nm,0.9s
TUC LR LR
comp=Z,536nm,19.0s
TUC **Tucson** 84.84 54 *eP* P 10 24 16.3 +1.2
TUC pmax pmax
comp=Z,23nm,0.9s
TUC MLR MLR
comp=Z,536nm,19.0s
G34A **Benson** 84.89 36 P P 10 24 15.3 +0.3
baz=317,SNR=16
F35A **Swanville** 84.95 35 P P 10 24 15.3 0.0
baz=317,SNR=7.7
D37A **Cotton** 84.98 33 P P 10 24 15.2 -0.2
baz=319
C38A **Sawbill Land.** 85.07 32 P P 10 24 15.8 -0.1
baz=320,SNR=16
E36A **McGregor** 85.08 34 P P 10 24 16.0 +0.1
baz=318,SNR=9.4
J32A **Parkston** 85.13 39 P P 10 24 16.3 0.0
baz=315,SNR=7.5
I33A **Coleman** 85.18 38 P P 10 24 16.6 +0.1
baz=316,SNR=6.0
PERS **Pernice** 85.18 326 *i* P P 10 24 17.1 +0.5
K31A **O'Neill** 85.19 40 P P 10 24 16.9 +0.4
baz=315,SNR=21
SOKA **Soboth** 85.19 326 *i* PcP P 10 24 17.3 +0.7
comp=Z,59nm,1.3s,SNR=42
SOKA **Soboth** 85.19 326 *i* PcP P 10 24 17.3 +0.7
comp=Z,59nm,1.3s,SNR=42
H34A **Spellman Lake,** 85.24 37 P P 10 24 17.1 +0.3
baz=317,SNR=8.1
BBO1 **Bothel** 85.33 340 *eP* P 10 24 18.3 +1.3
GMK **Mull of Kintyr** 85.42 342 *eP* P 10 24 18.3 +0.9
G35A **Watkins** 85.46 36 P P 10 24 18.5 +0.6
baz=318,SNR=17
C39A **Grand Marais** 85.50 32 P P 10 24 17.8 -0.2
baz=320
ECSD **EROS Data Cent** 85.50 38 P P 10 24 18.2 +0.2
baz=316,SNR=16
ECSD **EROS Data Cent** 85.50 38 *eP* P 10 24 18.3 +0.2
comp=Z,21nm,1.0s
OBKA **Obir** 85.54 326 *i* P P 10 24 17.9 -0.4
comp=Z,12nm,0.9s,SNR=7.1
OBKA **Obir** 85.54 326 *i* P P 10 24 17.9 -0.4
comp=Z,12nm,0.9s,SNR=7.1
KSCO **Kaye Shedlock'** 85.55 45 P P 10 24 19.2 +0.6
baz=313,SNR=13
KSCO **Kaye Shedlock'** 85.55 45 *eP* P 10 24 19.4 +0.8
comp=Z,55nm,1.0s
K32A **Verdigre** 85.57 39 P P 10 24 18.3 -0.2
baz=319
MHTCO **State Highway** 85.59 47 *eP* P 10 24 20.7 +1.7
comp=Z,22nm,1.0s
BLY **Banja Luka** 85.60 324 *eP* P 10 24 19.3 +0.7
comp=Z,18nm,0.9s
GAL1 **Galloway** 85.61 341 *eP* P 10 24 19.1 +0.7
GAL1 IAmb IAmb 10 24 20.0
comp=Z,18nm,0.9s
KBA **Koelnbreinsper** 85.65 327 *i* PcP P 10 24 19.5 +0.5
comp=Z,13nm,0.8s,SNR=6.0
KBA **Koelnbreinsper** 85.65 327 *i* PcP P 10 24 19.5 +0.5
comp=Z,13nm,0.8s,SNR=6.0
I34A **Hadley** 85.66 37 P P 10 24 19.0 +0.1
baz=317
H35A **Sunnyside Ranc** 85.68 36 P P 10 24 19.7 +0.8
baz=317,SNR=42
T25A **Trinidad** 85.75 47 P P 10 24 21.0 +1.3
baz=312,SNR=26
T25A **Trinidad** 85.75 47 *eP* P 10 24 21.0 +1.3
comp=Z,36nm,0.9s
CLGH **Cloghs, Cushen** 85.79 342 *eP* P 10 24 19.6 +0.3
CLGH IAmb IAmb 10 24 21.1
comp=Z,80nm,1.1s
E38A **The Farm, Brul** 85.79 33 P P 10 24 19.4 -0.1
baz=319,SNR=14
G36A **St. Michael** 85.80 35 P P 10 24 19.9 +0.3
baz=318,SNR=5.0
MYKA **Terra Mystica** 85.86 327 *i* P P 10 24 19.9 0.0
comp=Z,13nm,0.8s,SNR=5.7
MYKA **Terra Mystica** 85.86 327 *i* P P 10 24 19.9 0.0
comp=Z,13nm,0.8s,SNR=5.7
LAZ **Ladron** 85.87 50 *eP* P 10 24 22.2 +1.8
VISS **Visnje** 85.93 326 *i* P P 10 24 20.2 0.0
ANMO **Albuquerque** 85.94 50 P P 10 24 22.1 +1.4
baz=311
ANMO **Albuquerque** 85.94 50 *eP* P 10 24 22.1 +1.4
comp=Z,22nm,0.9s
ANMO **Albuquerque** 85.94 50 *ce*P P 10 24 20.4 -0.3
ANMO pmax pmax
comp=Z,20nm,0.8s
TAOE **Nuku Hiva Isla** 85.95 104 *e*S S 10 34 49.2 -4.2
comp=Z,137nm,26.8s
TAOE **Nuku Hiva Isla** 85.95 104 *e*LR LR 10 51 25.4
comp=Z,361nm,23.8s,baz=300
BOJS **Bojanci** 85.97 325 *eP* P 10 24 20.4 +0.1
F37A **Hinrichs Farm,** 85.97 34 P P 10 24 20.3 -0.1
baz=319,SNR=5.9
L32A **Elgin** 86.02 40 P P 10 24 21.0 +0.3
baz=315,SNR=9.5
LBWR **Ladybower, Pea** 86.06 339 *eP* P 10 24 21.6 +0.9
LBWR IAmb IAmb 10 24 22.4
comp=Z,77nm,1.0s
STU **Stuttgart** 86.09 330 *eP* P 10 24 21.9 +1.0
comp=Z,71nm,1.0s
STU **Stuttgart** 86.09 330 *eP* P 10 24 21.9 +1.0
STU pmax pmax
comp=Z,71nm,1.0s
K33A **Hardington** 86.11 39 P P 10 24 21.5 +0.4
baz=316,SNR=8.2
F38A **Pierce - Schro** 86.14 34 P P 10 24 21.6 +0.5
baz=319,SNR=22
J34A **George** 86.15 38 P P 10 24 21.4 +0.1
baz=317
H36A **Jessenland, He** 86.20 36 P P 10 24 22.5 +0.9
baz=318,SNR=21
Y22D **IRIS PASSCAL I** 86.22 50 P P 10 24 23.2 +1.2
baz=311
Y22D **IRIS PASSCAL I** 86.22 50 *eP* P 10 24 23.2 +1.2
comp=Z,22nm,0.8s
Y22E **IRIS PASSCAL I** 86.22 50 P P 10 24 23.2 +1.2
baz=311
JAVS **Javornik** 86.22 326 *i* P P 10 24 21.3 -0.5
I35A **Creekview Farm** 86.22 37 P P 10 24 21.7 +0.1
baz=317,SNR=5.6
WATA **Walderalm** 86.22 328 *i* PcP P 10 24 22.7 +0.9
comp=Z,3.2nm,0.4s
WATA **Walderalm** 86.22 328 *i* PcP P 10 24 22.7 +0.9
comp=Z,3.2nm,0.4s
PDG **Podgorica** 86.24 321⇓ *i*P P 10 24 23.0 +1.2
TTG **Podgorica** 86.24 321 *eP* P 10 24 22.6 +0.8
comp=Z,50nm,1.1s
TTG **Podgorica** 86.24 321 *eP* P 10 24 22.6 +0.8
TTG pmax pmax
comp=Z,50nm,1.1s
LPM **Los Pinos Moun** 86.25 50 *eP* P 10 24 23.4 +1.2
WTTA **Wattenberg** 86.25 328 *i* PcP P 10 24 22.1 +0.1
comp=Z,5.9nm,0.8s
WTTA **Wattenberg** 86.25 328 *i* PcP P 10 24 22.1 +0.1
comp=Z,5.9nm,0.8s
SPMN **Marine on St.** 86.26 35 P P 10 24 21.9 +0.1
baz=319,SNR=8.1
SPMN **Marine on St.** 86.26 35 *eP* P 10 24 21.9 +0.1
comp=Z,27nm,1.1s
ABTA **Abfaltersbach** 86.27 327 *i* PcP P 10 24 21.9 0.0
comp=Z,18nm,1.0s,SNR=8.8
ABTA **Abfaltersbach** 86.27 327 *i* P P 10 24 21.9 0.0
comp=Z,18nm,1.0s,SNR=8.8
L33A **Hoskins** 86.28 39 P P 10 24 22.2 +0.2
baz=316,SNR=6.0
BNM **Barren Site** 86.35 50 *eP* P 10 24 24.2 +1.5
BGNE **Belgrade** 86.36 40 P P 10 24 22.6 +0.2
baz=315,SNR=8.0
BGNE **Belgrade** 86.36 40 *eP* P 10 24 22.5 0.0
comp=Z,108nm,1.0s
E39A **Mellen** 86.41 33 P P 10 24 22.5 -0.1
baz=320,SNR=12
319A **Douglas** 86.42 54 *eP* P 10 24 24.6 +1.6
comp=Z,17nm,0.9s
MOTA **Moosalm** 86.42 329 *i* PcP P 10 24 23.2 +0.5
comp=Z,12nm,1.0s
MOTA **Moosalm** 86.42 329 *i* PcP P 10 24 23.2 +0.5
comp=Z,12nm,1.0s
RETA **Reutte** 86.45 329 *i* PcP P 10 24 23.3 +0.5
comp=Z,34nm,1.3s,SNR=15
RETA **Reutte** 86.45 329 *i* PcP P 10 24 23.3 +0.5
comp=Z,34nm,1.3s,SNR=15
J35A **Milford** 86.47 37 P P 10 24 23.0 +0.1
baz=317,SNR=5.0
TRI **Trieste** 86.50 326 *eP* P 10 24 22.5 -0.4
comp=Z,23nm,1.0s
TRI **Trieste** 86.50 326 *eP* P 10 24 22.5 -0.4
TRI pmax pmax
comp=Z,23nm,1.0s
CWF **Charnwood Fore** 86.51 338 *eP* P 10 24 22.5 -0.4
CWF IAmb IAmb 10 24 22.8
comp=Z,44nm,1.0s
K34A **Le Mars** 86.52 38 P P 10 24 23.1 0.0
baz=316,SNR=10
WLF **Walferdange** 86.56 333 PFAKE 10 24 40.0 +17
WLF LR LR
comp=Z,1μm,19.0s
I36A **Fitzsimmons Fa** 86.58 36 P P 10 24 23.7 +0.3
baz=318
F39A **Loretta** 86.60 33 P P 10 24 23.5 0.0
baz=320,SNR=13
E40A **Wakefield** 86.65 33 P P 10 24 24.4 +0.7
baz=320,SNR=22
121A **Cooks Peak, D** 86.66 52 P P 10 24 25.2 +0.9
baz=310,SNR=6.7
H37A **Dierke Farm, C** 86.69 35 P P 10 24 24.6 +0.7
baz=319,SNR=11
TIR **Tirane** 86.70 320 PFAKE 10 24 40.0 +16
TIR LR LR
comp=Z,2μm,20.0s
G38A **Ridgeland** 86.74 34 P P 10 24 24.0 -0.2
baz=319,SNR=7.8
M33A **Taylor Creek F** 86.75 40 P P 10 24 24.4 +0.1
baz=316,SNR=8.2
D41A **Chassel** 86.75 31 P P 10 24 24.7 +0.5
baz=321
HSIG 86.77 57 *eP* P 10 24 26.6 +1.9
comp=Z,11nm,0.9s
BFO **Black Forest** 86.79 331 *eP* P 10 24 24.4 0.0
comp=Z,34nm,0.9s
BFO LR LR
comp=Z,942nm,19.0s
BFO **Black Forest** 86.79 331 *i* P P 10 24 24.9 +0.5
WPM1 **Penmaenmawr** 86.82 340 *eP* P 10 24 25.0 +0.6
FETA **Feichten** 86.83 329 *i* PcP P 10 24 24.8 0.0
comp=Z,15nm,1.0s,SNR=7.0
FETA **Feichten** 86.83 329 *i* PcP P 10 24 24.8 0.0
comp=Z,15nm,1.0s,SNR=7.0
I37A **Lemond, Waseca** 86.88 36 P P 10 24 25.6 +0.8
baz=318,SNR=18
L34A **Svendsen Farm,** 86.89 39 P P 10 24 25.0 0.0
baz=316,SNR=16
H38A **Maiden Rock** 86.92 35 P P 10 24 25.3 +0.3
baz=319,SNR=11
J36A **Seneca 1, Swea** 86.93 37 P P 10 24 25.2 +0.1
baz=318,SNR=11
K35A **Storm Lake** 86.93 38 P P 10 24 24.9 -0.3
baz=317
WLF1 **Llynfaes** 86.93 340 *eP* P 10 24 25.5 +0.6
WLF1 IAmb IAmb 10 24 26.5
comp=Z,65nm,0.9s
FOEL **Foel Wylfa** 86.94 339 *eP* P 10 24 25.0 0.0
FOEL IAmb IAmb 10 24 25.7
comp=Z,66nm,1.0s
BAIF **Baives** 86.95 334 *eP* P 10 24 25.0 -0.1
BAIF pmax pmax
comp=Z,19nm,1.0s
F40A **Park Falls** 86.96 33 P P 10 24 25.3 +0.1
baz=320,SNR=11
G39A **Holcombe** 86.97 34 P P 10 24 25.2 0.0
baz=320,SNR=9.9
DAVA **Damuels** 86.98 329 *i* PcP P 10 24 26.3 +0.8
comp=Z,45nm,1.3s,SNR=12
DAVA **Damuels** 86.98 329 *i* PcP P 10 24 26.3 +0.8
comp=Z,45nm,1.3s,SNR=12
YLL **Llanberis** 87.00 340 *eP* P 10 24 25.9 +0.6
E41A **Kenton** 87.05 32 P P 10 24 26.0 +0.4
baz=321,SNR=13
M34A **Aspy Farms, Fr** 87.12 39 P P 10 24 26.3 +0.2
baz=316
SCHQ **Schefferville** 87.16 16 P P 10 24 26.6 +0.5
comp=Z,18nm,0.9s,baz=350,slow=5.2,SNR=19
SCHQ LR LR 11 08 09.3
comp=Z,280nm,19.1s,baz=353,slow=39
SCHQ **Schefferville** 87.16 16 *eP* P 10 24 26.6 +0.5
comp=Z,21nm,0.9s
HLM1 **Long Mynd** 87.18 339 *eP* P 10 24 26.8 +0.6
N33A **J Bar K, Exete** 87.21 40 P P 10 24 26.0 -0.6
baz=316
L35A **Bielow Farm, R** 87.21 38 P P 10 24 26.6 +0.1
baz=317
COWI **Conover** 87.25 32 *eP* P 10 24 27.0 +0.3
comp=Z,21nm,1.1s
CBKS **Cedar Bluff** 87.32 43 P P 10 24 27.2 +0.1
baz=314
CBKS **Cedar Bluff** 87.32 43 *eP* P 10 24 27.3 +0.1
comp=Z,75nm,1.2s
CBKS LR LR
comp=Z,262nm,19.0s
CBKS **Cedar Bluff** 87.32 43 *eP* P 10 24 27.3 +0.1
CBKS pmax pmax
comp=Z,75nm,1.2s
CBKS MLR MLR
comp=Z,262nm,19.0s
J37A **Redenius Farm,** 87.33 37 P P 10 24 27.4 +0.3
baz=318,SNR=7.6
FUORN **Ofenpass-Fuorn** 87.34 329 *eP* P 10 24 27.8 +0.3
comp=Z,38nm,1.0s
I38A **Scanlan Farm,** 87.37 35 P P 10 24 27.6 +0.3
baz=319,SNR=16
H39A **Augusta** 87.38 34 P P 10 24 27.5 +0.2
baz=320,SNR=9.7
K36A **Gilmore City** 87.38 38 P P 10 24 27.8 +0.5
baz=318,SNR=7.3
DAVOX **Davos/Dischmat** 87.38 329 P P 10 24 27.7 +0.2
comp=Z,6.0nm,0.8s,baz=37,slow=5.1,SNR=9.4
DAVOX LR LR 11 06 47.8
comp=Z,626nm,20.0s,baz=28,slow=38
G40A **Rib Lake** 87.42 34 P P 10 24 27.8 +0.3
baz=320,SNR=20
E42A **Champion** 87.53 32 P P 10 24 28.4 +0.4
baz=322,SNR=11
F41A **Three Lakes** 87.55 33 P P 10 24 28.5 +0.4
baz=321,SNR=19
M35A **Neola** 87.61 39 P P 10 24 28.9 +0.5
baz=317,SNR=10
O33A **Hebron** 87.61 41 P P 10 24 28.1 -0.4
baz=316,SNR=5.9
N34A **Lincoln** 87.64 40 P P 10 24 28.5 -0.2
baz=316,SNR=11
L36A **Harm Buss Farm** 87.67 38 P P 10 24 29.1 +0.4
baz=318,SNR=8.0
MCH1 **Michaelchurch** 87.67 339 *eP* P 10 24 28.9 +0.4
MCH1 IAmb IAmb 10 24 29.5
comp=Z,33nm,0.9s
K37A **Belmond** 87.69 37 P P 10 24 29.0 +0.2
baz=318,SNR=16
TBI **Tubuai** 87.79 121 *e*LR LR 10 52 19.9
comp=Z,675nm,21.8s,baz=310
TBI **Tubuai** 87.79 121 *e*T T 12 01 20.9
comp=Z,9.6nm,0.3s
HINF **Hinteralfeld** 87.79 331 *eP* P 10 24 28.7 -0.6
HINF pmax pmax
comp=Z,11nm,1.1s
H40A **Chili** 87.83 34 P P 10 24 29.9 +0.4
baz=320,SNR=13
J38A **Wedel Dairy, R** 87.84 36 P P 10 24 29.6 +0.1
baz=319,SNR=12
TUE **Stuetta** 87.85 329 *eP* P 10 24 30.2 +0.4
comp=Z,49nm,1.8s
TUE LR LR
comp=Z,1μm,19.0s
I39A **Houston** 87.89 35 P P 10 24 29.6 -0.1
baz=320,SNR=11
G41A **Antigo** 87.92 33 P P 10 24 30.1 +0.2
baz=321,SNR=6.5
E43A **Lone Tree Farm** 87.96 31 P P 10 24 30.1 +0.1
baz=323,SNR=8.0
O34A **Beatrice** 88.01 40 P P 10 24 30.2 -0.2
baz=316,SNR=7.8
M36A **Felix, Anita** 88.07 39 P P 10 24 31.2 +0.6
baz=317,SNR=7.1
N35A **Tabor** 88.07 39 P P 10 24 31.3 +0.6
baz=317,SNR=15
L37A **Phoenix Point,** 88.11 38 P P 10 24 31.0 +0.2
baz=318
H41A **Junction City** 88.17 34 P P 10 24 31.3 +0.2
baz=321,SNR=8.3
J39A **Decorah** 88.20 36 P P 10 24 31.1 -0.1
baz=319,SNR=16
K38A **Parkersburg** 88.20 37 P P 10 24 31.7 +0.5
baz=319
E44A **Grand Marais A** 88.22 30 P P 10 24 31.8 +0.6
baz=323,SNR=7.3
G42A **Mountain** 88.23 33 P P 10 24 31.8 +0.4
baz=322,SNR=13
I40A **Norwalk** 88.29 35 P P 10 24 31.9 +0.2
baz=320
F43A **Flat Rock, Esc** 88.32 31 P P 10 24 32.2 +0.5
baz=322,SNR=9.5
O35A **Humboldt** 88.36 40 P P 10 24 32.0 0.0
baz=317,SNR=7.4
P34A **Walnut Farm, R** 88.40 41 P P 10 24 32.3 0.0
baz=316,SNR=26
N36A **Muff Farm, Cla** 88.46 39 P P 10 24 33.3 +0.7
baz=317,SNR=8.9
L38A **Oak Wood Farm,** 88.49 37 P P 10 24 33.0 +0.3
baz=319,SNR=7.0
M37A **Trindle Farm,** 88.49 38 P P 10 24 33.4 +0.8
baz=318,SNR=10.0
I41A **Arkdale** 88.50 34 P P 10 24 33.1 +0.4
baz=321,SNR=9.4
F44A **Big Bay de Noc** 88.52 31 P P 10 24 33.3 +0.6
baz=323,SNR=8.1
SCIA **State Center** 88.54 37 P P 10 24 33.5 +0.6
baz=318,SNR=5.5
SCIA **State Center** 88.54 37 *eP* P 10 24 34.3 +1.5
comp=Z,60nm,1.0s
G43A **Wallace** 88.55 32 P P 10 24 33.4 +0.6
baz=322,SNR=11
K39A **Oelwein** 88.59 36 P P 10 24 33.1 0.0
baz=319,SNR=12
J40A **Soldiers Grove** 88.61 35 P P 10 24 33.2 0.0
baz=320,SNR=7.2
E45A **Wooded Hills,** 88.73 30 P P 10 24 34.1 +0.5
baz=324,SNR=8.2
MNTX **Cornudas Mount** 88.75 51 P P 10 24 34.6 +0.5
baz=312,SNR=7.1
MNTX **Cornudas Mount** 88.75 51 *eP* P 10 24 34.8 +0.8
comp=Z,6.4nm,1.0s
SFI **Santa Sofia** 88.76 326 P P 10 24 35.5 +1.6
H42A **Shiocton** 88.76 33 P P 10 24 34.1 +0.2
baz=322,SNR=6.0
Q34A **Chapman** 88.78 41 P P 10 24 34.5 +0.4
baz=316,SNR=18

SENIN **Lac Senin/Sane** 88.79 330 eP P 10 24 34.5 +0.2
comp=Z,36nm,1.9s
KSU1 **Kansas State U** 88.83 41 P P 10 24 34.7 +0.4
baz=316,SNR=10
KSU1 **Kansas State U** 88.83 41 eP P 10 24 35.1 +0.8
comp=Z,59nm,0.8s
P35A **Duane Minner,** 88.84 41 P P 10 24 34.5 +0.1
baz=317,SNR=6.7
MSTX **Muleshoe** 88.87 48 P P 10 24 35.1 +0.3
baz=313
N37A **Lee Faris, Mou** 88.89 39 P P 10 24 35.3 +0.8
baz=318,SNR=11
AMTX **Amarillo** 88.91 47 P P 10 24 35.9 +1.1
baz=313
AMTX **Amarillo** 88.91 47 eP P 10 24 35.4 +0.5
comp=Z,27nm,0.9s
M38A **Pleasantville** 88.91 38 P P 10 24 35.3 +0.6
baz=318,SNR=17
K40A **Colesburg** 88.95 36 P P 10 24 35.1 +0.3
baz=320,SNR=13
O36A **Bolckow** 88.96 40 P P 10 24 35.2 +0.3
baz=317,SNR=11
J41A **Loganville** 88.97 35 P P 10 24 35.1 +0.3
baz=320,SNR=10
L39A **Vinton** 88.97 37 P P 10 24 35.3 +0.4
baz=319,SNR=17
R34A **Isabella, Hill** 89.06 42 P P 10 24 35.9 +0.5
baz=316,SNR=5.0
I42A **Draeger Farm,** 89.07 34 P P 10 24 35.7 +0.4
baz=321,SNR=8.8
H43A **Windswept, Lux** 89.13 33 P P 10 24 36.0 +0.4
baz=322,SNR=6.6
F45A **CMU Biological** 89.13 31 P P 10 24 36.0 +0.5
baz=324,SNR=6.8
P36A **Good Intent, A** 89.21 40 P P 10 24 36.3 +0.2
baz=317,SNR=7.4
JFWS **Jewell Farm** 89.21 35 P P 10 24 35.9 -0.1
baz=320,SNR=7.1
JFWS **Jewell Farm** 89.21 35 eP P 10 24 36.1 +0.1
comp=Z,20nm,0.9s
JFWS **Jewell Farm** 89.21 35 eP P 10 24 36.1 +0.1
JFWS pmax pmax
comp=Z,20nm,0.9s
AQU **L'Aquila** 89.22 324 eP P 10 24 36.9 +0.8
comp=Z,29nm,0.9s
AQU LR LR
comp=Z,1µm,20.0s
AQU **L'Aquila** 89.22 324 eP P 10 24 36.9 +0.8
AQU pmax pmax
comp=Z,29nm,0.9s
AQU MLR MLR
comp=Z,1µm,20.0s
VLC **Villacollemand** 89.22 327 PFAKE 10 24 50.0 +14
VLC LR LR
comp=Z,871nm,19.0s
Q35A **Mercer Eighty,** 89.32 41 P P 10 24 36.9 +0.3
baz=317,SNR=12
O37A **Wolven Farm, M** 89.36 39 P P 10 24 37.2 +0.4
baz=318
N38A **Joes South For** 89.36 38 P P 10 24 37.1 +0.3
baz=318,SNR=7.2
M39A **Webster** 89.38 37 P P 10 24 37.3 +0.5
baz=319,SNR=13
L40A **Anamosa** 89.40 36 P P 10 24 37.1 +0.2
baz=320,SNR=12
K41A **Shullsburg** 89.42 35 P P 10 24 37.3 +0.3
baz=320,SNR=7.2
J42A **Columbus** 89.42 34 P P 10 24 37.2 +0.2
baz=321,SNR=6.8
I43A **Langenfeld Bro** 89.42 33 P P 10 24 37.2 +0.2
baz=322
Q36A **Arnold C. Orve** 89.55 41 P P 10 24 37.9 +0.2
baz=317
S34A **Willow Spring** 89.57 42 P P 10 24 38.2 +0.5
baz=316,SNR=9.3
R35A **Emporia Munici** 89.62 41 P P 10 24 38.8 +0.7
baz=317,SNR=10
N39A **Derby Farms, D** 89.66 38 P P 10 24 38.5 +0.3
baz=319,SNR=12
P37A **Lathrop** 89.68 40 P P 10 24 38.5 +0.2
baz=318,SNR=7.8
J43A **Natural Harves** 89.69 34 P P 10 24 38.6 +0.3
baz=322,SNR=8.0
LPL **La Plagne** 89.71 330 eP P 10 24 38.5 -0.1
LPL pmax pmax
comp=Z,11nm,0.8s
LDF **La Druitiere** 89.71 335 eP P 10 24 38.0 -0.2
LDF pmax pmax
comp=Z,10.0nm,0.9s
LPG **La Plagne** 89.71 330 eP P 10 24 38.6 -0.1
LPG pmax pmax
comp=Z,13nm,0.9s
L41A **Preston** 89.73 36 P P 10 24 38.5 +0.1
baz=320,SNR=5.8
K42A **Prairie Point,** 89.74 35 P P 10 24 38.3 -0.1
baz=321,SNR=7.0
O38A **Galt** 89.74 39 P P 10 24 39.0 +0.5
baz=318
M40A **Post Highland** 89.75 37 P P 10 24 39.0 +0.5
baz=320,SNR=11
CUC **Castrocucco** 89.79 321 PFAKE 10 24 50.0 +11
CUC LR LR
comp=Z,481nm,20.0s
TIP **Timpagrande** 89.91 320 PFAKE 10 24 50.0 +11
TIP LR LR
comp=Z,845nm,20.0s
AVF **Avril sur Loir** 89.99 333 eP P 10 24 39.7 +0.1
AVF pmax pmax
comp=Z,41nm,1.1s
R36A **Gordon, Harris** 89.99 41 P P 10 24 40.3 +0.6
baz=317,SNR=6.5
T34A **McClaskey Farm** 90.01 43 P P 10 24 40.4 +0.5
baz=316,SNR=9.2
S35A **Otter Creek Ra** 90.02 42 P P 10 24 40.6 +0.7
baz=316,SNR=15
P38A **Dawn** 90.08 39 P P 10 24 40.7 +0.6
baz=318,SNR=11
ATD **Arta Tunnel** 90.10 284 LR LR 11 09 24.1
comp=Z,105nm,18.1s,baz=70,slow=38
BNI **Bardonecchia** 90.10 330 eP P 10 24 38.9 -1.4
comp=Z,9.4nm,1.0s
BNI LR LR
comp=Z,908nm,19.0s
BNI **Bardonecchia** 90.10 330 eP P 10 24 38.9 -1.4
BNI pmax pmax
comp=Z,9.0nm,1.0s
BNI MLR MLR
comp=Z,908nm,19.0s
O39A **Kirksville** 90.11 38 P P 10 24 41.0 +0.8
baz=319,SNR=5.4
N40A **Mertquake, Sal** 90.11 37 P P 10 24 40.7 +0.4
baz=320
GRR **Gorron** 90.14 336 eP P 10 24 40.4 +0.2
GRR pmax pmax
comp=Z,42nm,1.1s
Q37A **Longview Farm,** 90.15 40 P P 10 24 40.4 -0.1
baz=318
L42A **Oliver, Polo** 90.19 35 P P 10 24 40.5 0.0
baz=321,SNR=5.2
GLMI **Grayling** 90.20 31 P P 10 24 41.2 +0.6
baz=324,SNR=11
GLMI **Grayling** 90.20 31 eP P 10 24 42.1 +1.4
comp=Z,130nm,0.9s
M41A **Milan** 90.25 36 P P 10 24 41.2 +0.3
baz=320,SNR=9.0
K43A **Burlington** 90.26 34 P P 10 24 41.0 +0.1
baz=322
R37A **Teagarden Farm** 90.36 41 P P 10 24 41.6 +0.1
baz=317,SNR=5.5
S36A **Lake Cedric, C** 90.38 42 P P 10 24 42.1 +0.5
baz=317,SNR=14
T35A **Sooner Cattle** 90.46 43 P P 10 24 42.7 +0.7
baz=316,SNR=14
L43A **Garden Prairie** 90.48 35 P P 10 24 42.0 +0.1
baz=321
Q38A **Cooks Store, C** 90.52 40 P P 10 24 42.2 0.0
baz=318,SNR=12
ORIF **Oris-en-Rattie** 90.54 330 eP P 10 24 43.1 +0.8
ORIF pmax pmax
comp=Z,8.0nm,0.9s
O40A **La Belle** 90.55 38 P P 10 24 42.7 +0.4
baz=319,SNR=8.6
M42A **Sheffield** 90.56 36 P P 10 24 42.3 0.0
baz=321
P39B **Salisbury** 90.58 39 P P 10 24 43.0 +0.6
baz=319,SNR=6.8
N41A **Harden Midland** 90.61 37 P P 10 24 42.9 +0.3
baz=320

T36A **Boggs Farm, Ca** 90.71 42 P P 10 24 43.8 +0.7
baz=317,SNR=29
WMOK **Wichita Mounta** 90.72 45 P P 10 24 43.9 +0.6
baz=315,SNR=6.4
WMOK **Wichita Mounta** 90.72 45 eP P 10 24 44.2 +1.0
comp=Z,15nm,0.9s
WMOK **Wichita Mounta** 90.72 45 eP P 10 24 44.2 +1.0
WMOK pmax pmax
comp=Z,15nm,0.9s
S37A **Fort Scott** 90.77 41 P P 10 24 43.6 +0.2
baz=317,SNR=35
SSB **Saint Sauveur** 90.79 331 eP P 10 24 44.0 +0.7
comp=Z,9.2nm,0.9s
SSB LR LR
comp=Z,670nm,19.0s
SSB **Saint Sauveur** 90.79 331 eP P 10 24 44.0 +0.7
SSB pmax pmax
comp=Z,9.0nm,0.9s
SSB MLR MLR
comp=Z,670nm,19.0s
Q39A **Willow Grove F** 90.79 39 P P 10 24 43.8 +0.3
baz=319
P40A **Paris** 90.91 38 P P 10 24 44.5 +0.5
baz=319,SNR=17
N42A **Yates City** 90.91 36 P P 10 24 44.2 +0.2
baz=320
R38A **Fenwick Farm,** 90.95 40 P P 10 24 43.6 -0.6
baz=318,SNR=12
M43A **Waltham Townsh** 90.96 35 P P 10 24 44.5 +0.3
baz=321,SNR=9.3
CEL **Celeste** 91.04 320 PFAKE 10 25 00.0 +15
CEL LR LR
comp=Z,1µm,19.0s
O41A **Passleys Farm,** 91.05 37 P P 10 24 45.0 +0.4
baz=320,SNR=10
VIVF **Saint-Julien-I** 91.08 331 eP P 10 24 44.7 0.0
VIVF pmax pmax
comp=Z,20nm,1.0s
N43A **Stutzman Famil** 91.24 36 P P 10 24 45.7 +0.2
baz=321
OK020 **N3440 Road, Me** 91.25 44 eP P 10 24 46.7 +1.1
comp=Z,24nm,1.3s
P41A **Barry, Barry** 91.29 38 P P 10 24 46.1 +0.4
baz=320,SNR=14
OK021 **N3530 Road, Sp** 91.29 44 eP P 10 24 46.8 +0.9
comp=Z,38nm,0.9s
Q40A **Laux Farm, Aux** 91.30 39 P P 10 24 46.0 +0.2
baz=319,SNR=9.5
QUIF **Quistinic** 91.31 337 eP P 10 24 45.6 0.0
QUIF pmax pmax
comp=Z,19nm,1.1s
R39A **Chumby, Stover** 91.31 40 P P 10 24 45.9 +0.1
baz=319,SNR=23
FRF **La Foret Royal** 91.33 329 eP P 10 24 45.1 -0.8
FRF pmax pmax
comp=Z,26nm,1.2s
S38A **Stockton** 91.36 41 P P 10 24 45.9 -0.2
baz=318,SNR=12
OK022 **N3560 Road, Pr** 91.37 44 eP P 10 24 47.4 +1.2
comp=Z,40nm,0.9s
LTX **Lajitas** 91.42 52 eP P 10 24 47.7 +1.0
LTX **Lajitas** 91.42 52 eP P 10 24 47.7 +1.0
TX31 **Lajitas Ar. Si** 91.42 52 eP P 10 24 48.0 +1.3
TXAR **Lajitas Array** 91.42 52 P P 10 24 47.7 +1.0
comp=Z,10nm,0.9s,baz=296,slow=3.3,SNR=89
TXAR PKKPbc **PKKPbc** 10 42 07.5 +1.1
comp=Z,0.1nm,0.6s,baz=148,slow=6.5,SNR=3.9
TXAR LR 11 02 02.2
comp=Z,159nm,20.0s,baz=0.0,slow=33
M44A **Midewin, Midew** 91.43 35 P P 10 24 46.5 +0.2
baz=322
HDIL **Hopedale** 91.48 36 P P 10 24 47.0 +0.3
baz=321,SNR=5.6
HDIL **Hopedale** 91.48 36 eP P 10 24 47.4 +0.8
comp=Z,28nm,0.9s
HDIL LR LR
comp=Z,253nm,20.0s
T38A **Diamond** 91.59 41 P P 10 24 47.5 +0.3
baz=318,SNR=37
TUL1 **Leonard** 91.59 43 P P 10 24 47.7 +0.5
baz=317,SNR=13
TUL1 **Leonard** 91.59 43 eP P 10 24 47.9 +0.7
comp=Z,36nm,0.9s
S39A **Bolivar** 91.62 40 P P 10 24 47.1 -0.3
baz=318,SNR=25
O43A **Sugar Creek Fa** 91.68 36 P P 10 24 47.8 +0.3
baz=321
HPIG 91.69 55 eP P 10 24 48.2 +0.1
comp=Z,8.1nm,0.8s
ABTX **Abilene, Hawle** 91.69 47 P P 10 24 48.2 +0.4
baz=315,SNR=7.9
ABTX **Abilene, Hawle** 91.69 47 eP P 10 24 49.0 +1.2
comp=Z,24nm,1.0s
P42A **Winchester** 91.72 37 P P 10 24 48.0 +0.3
baz=320,SNR=12
R40A **Maddies Statio** 91.73 39 P P 10 24 48.0 +0.2
baz=319,SNR=19
Q41A **Truxton** 91.75 38 P P 10 24 48.4 +0.5
baz=320,SNR=7.9
N44A **Piper City** 91.85 35 P P 10 24 48.5 +0.2
baz=322
RJF **Les Rejaudoux** 91.93 333 eP P 10 24 49.0 +0.4
RJF pmax pmax
comp=Z,27nm,1.0s
CAF **Calviac** 92.05 332 eP P 10 24 49.9 +0.7
CAF pmax pmax
comp=Z,31nm,1.1s
P43A **Skaggs, Pawnee** 92.08 37 P P 10 24 49.5 +0.1
baz=321
T39A **Clever** 92.09 41 P P 10 24 49.6 +0.1
baz=318,SNR=12
N45A **Kentland** 92.10 35 P P 10 24 49.7 +0.3
baz=322
S40A **Lebanon** 92.12 40 P P 10 24 49.7 0.0
baz=319,SNR=11
Q42A **Golden Eagle** 92.14 38 P P 10 24 50.0 +0.3
baz=320,SNR=5.5
R41A **Rosebud** 92.18 39 P P 10 24 50.0 +0.1
baz=320,SNR=12
M46A **Old House Fiel** 92.19 34 P P 10 24 50.2 +0.3
baz=323
O44A **Mansfield** 92.19 36 P P 10 24 50.0 +0.1
baz=322
HHAR **Hobbs** 92.34 42 eP P 10 24 51.0 +0.3
comp=Z,27nm,1.0s
N46A **Monticello** 92.42 34 P P 10 24 51.1 +0.1
baz=323
CCM **Cathedral Cave** 92.43 39 P P 10 24 51.5 +0.4
baz=320
CCM **Cathedral Cave** 92.43 39 eP P 10 24 51.4 +0.4
comp=Z,25nm,0.9s
CCM **Cathedral Cave** 92.43 39 eP P 10 24 51.4 +0.4
CCM pmax pmax
comp=Z,25nm,0.9s
T40A **Mansfield** 92.45 40 P P 10 24 51.2 0.0
baz=319,SNR=12
O45A **Potomac** 92.47 35 P P 10 24 51.8 +0.6
baz=322,SNR=6.2
R42A **Luebbering** 92.49 38 P P 10 24 51.6 +0.3
baz=320
U39A **Green Forest** 92.51 41 P P 10 24 51.6 +0.1
baz=318,SNR=13
S41A **Jillco Farms,** 92.53 39 P P 10 24 51.4 -0.1
baz=319,SNR=7.5
LFF **La Frestale** 92.53 333 eP P 10 24 52.0 +0.6
LFF pmax pmax
comp=Z,38nm,1.0s
Q43A **New Douglas** 92.53 37 P P 10 24 51.6 +0.1
baz=321
P44A **Sand Creek, Wi** 92.65 36 P P 10 24 52.6 +0.5
baz=321
AAM **Ann Arbor** 92.66 32 PFAKE 10 25 00.0 +8.0
AAM LR LR
comp=Z,524nm,19.0s
SFIN **Lafayette** 92.66 35 P P 10 24 52.7 +0.6
baz=322
V39A **Pettigrew** 92.83 42 P P 10 24 53.1 +0.1
baz=318,SNR=22
U40A **Yellville** 92.87 41 P P 10 24 53.1 0.0
baz=319,SNR=50
S42A **Caledonia** 92.88 39 P P 10 24 53.4 +0.2
baz=320,SNR=11
Q44A **Meyer Farm, Va** 92.90 37 P P 10 24 53.6 +0.5
baz=321
FVM **French Village** 92.90 38 eP P 10 24 53.9 +0.6
comp=Z,16nm,1.0s
FVM **French Village** 92.90 38 eP P 10 24 53.9 +0.6
FVM pmax pmax
comp=Z,16nm,1.0s
T41A **Mountain View** 92.93 40 P P 10 24 53.2 -0.2
baz=319,SNR=13
R43A **Red Bud** 92.93 38 P P 10 24 53.5 +0.1
baz=321,SNR=5.3
CLTB **Caltabellotta** 92.95 321 PFAKE 10 25 10.0 +16
CLTB LR LR
comp=Z,457nm,19.0s
P45A **Graceland, Par** 93.03 36 P P 10 24 54.1 +0.3
baz=322
JCT **Junction City** 93.09 49 P P 10 24 54.5 +0.2
baz=314
JCT **Junction City** 93.09 49 eP P 10 24 55.1 +0.8
comp=Z,12nm,0.9s
JCT LR LR
comp=Z,269nm,19.0s
JCT **Junction City** 93.09 49 eP P 10 24 55.1 +0.8
JCT pmax pmax
comp=Z,12nm,0.9s
JCT MLR MLR
comp=Z,269nm,19.0s
W39A **Magazine** 93.22 42 P P 10 24 55.8 +1.0
baz=318,SNR=6.7
T42A **Van Buren** 93.29 39 P P 10 24 55.2 +0.2
baz=320,SNR=12
V40A **Witts Springs** 93.30 41 P P 10 24 55.1 0.0
baz=319
Q45A **Warren Harvey,** 93.33 36 P P 10 24 55.3 +0.2
baz=322
VSL **Villasalto** 93.36 325 PFAKE 10 25 10.0 +15
VSL LR LR
comp=Z,623nm,21.0s
U41A **Viola** 93.37 40 P P 10 24 55.4 0.0
baz=319,SNR=9.1
R44A **Waltonville** 93.38 37 P P 10 24 55.6 +0.2
baz=321
S43A **Fulton Ridge,** 93.40 38 P P 10 24 55.4 -0.2
baz=320
WHTX **Lake Whitney,** 93.45 47 P P 10 24 56.5 +0.7
baz=316,SNR=15
WHTX **Lake Whitney,** 93.45 47 eP P 10 24 56.5 +0.7
comp=Z,37nm,1.0s
OLIL **Olney** 93.48 36 eP P 10 24 56.9 +1.1
comp=Z,26nm,1.0s
X39A **Fountain Ranch** 93.55 43 P P 10 24 56.9 +0.6
baz=318,SNR=13
WDD **Wied Dalam** 93.58 319 PFAKE 10 25 10.0 +14
WDD LR LR
comp=Z,509nm,22.0s
W40A **Ferguson Farm,** 93.62 42 P P 10 24 56.8 +0.2
baz=318,SNR=6.4
W40A **Ferguson Farm,** 93.62 42 eP P 10 24 57.5 +0.9
comp=Z,24nm,1.0s
T43A **Greenville** 93.66 39 P P 10 24 56.4 -0.3
baz=320
V41A **Mountainview** 93.67 41 P P 10 24 56.7 -0.2
baz=319,SNR=12
S44A **Carbondale** 93.72 38 P P 10 24 57.1 +0.1
baz=321
SIUC **Southern Illin** 93.72 38 eP P 10 24 58.3 +1.3
comp=Z,18nm,0.9s
U42A **Revenden** 93.73 40 P P 10 24 57.1 0.0
baz=320
R45A **Skylar, Fairfi** 93.73 37 P P 10 24 57.0 -0.1
baz=322
P47A **Martinsville** 93.76 35 P P 10 24 57.3 +0.1
baz=323
MIAR **Mount Ida** 93.82 42 P P 10 24 58.0 +0.5
baz=318,SNR=15
MIAR **Mount Ida** 93.82 42 eP P 10 24 58.5 +0.9
comp=Z,37nm,1.2s
MIAR **Mount Ida** 93.82 42 eP P 10 24 58.5 +0.9
MIAR pmax pmax
comp=Z,37nm,1.2s
PBMO **Poplar Bluff** 93.82 39 eP P 10 24 58.2 +0.8
comp=Z,24nm,1.1s
X301 **Greenbrier Sit** 93.95 41 eP P 10 24 59.2 +1.1
comp=Z,19nm,1.1s
WHAR **Wooly Hollow** 93.97 41 eP P 10 24 58.5 +0.3
comp=Z,38nm,1.1s
V42A **Cord** 94.06 40 P P 10 24 58.3 -0.3
baz=320
W41B **Gary Mavity, V** 94.08 41 P P 10 24 58.6 -0.1
baz=319
Q47A **Bedord North L** 94.12 35 P P 10 24 59.0 +0.1
baz=323,SNR=6.7
435B **Jarrell** 94.23 48 P P 10 24 59.8 +0.3
baz=316
X40A **Basin Creek Fa** 94.27 42 P P 10 24 59.8 +0.2
baz=319
ERPA **Erie** 94.33 29 P P 10 25 00.2 +0.4
baz=328
Y40A **Okolona** 94.38 43 P P 10 25 00.3 +0.2
baz=318
X41A **Kaden, Bauxite** 94.44 42 P P 10 25 00.6 +0.2
baz=319
S46A **Don Dixon Farm** 94.49 37 P P 10 25 00.4 -0.1
baz=322
V43A **Jonesboro** 94.52 40 P P 10 25 01.2 +0.5
baz=320
R47A **Wooly Knot Far** 94.58 36 P P 10 25 01.1 +0.1
baz=323
ACSO **Alum Creek Sta** 94.64 32 P P 10 25 01.2 0.0
baz=325
ACSO **Alum Creek Sta** 94.64 32 eP P 10 25 01.6 +0.4
comp=Z,20nm,1.0s
ACSO LR LR
comp=Z,460nm,20.0s
WCI **Wyandotte Cave** 94.75 36 P P 10 25 02.1 +0.4
baz=323
WCI **Wyandotte Cave** 94.75 36 eP P 10 25 02.5 +0.8
comp=Z,16nm,0.9s
WCI **Wyandotte Cave** 94.75 36 eP P 10 25 02.5 +0.8
WCI pmax pmax
comp=Z,16nm,0.9s
833A **Chaparral WMA,** 94.84 50 P P 10 25 03.3 +1.0
baz=314
Z40A **Long Farm, Mag** 94.87 43 P P 10 25 02.9 +0.6
baz=318
T46A **Princeton** 94.90 37 P P 10 25 02.6 +0.2
baz=322,SNR=5.4
M54A **Oil Creek Stat** 94.98 30 P P 10 25 03.1 +0.3
baz=328
N54A **Moraine State** 95.31 30 P P 10 25 04.3 +0.1
baz=327
S48A **Wiedeman Farm,** 95.31 36 P P 10 25 04.5 +0.2
baz=323
T47A **Sharon Grove** 95.33 37 P P 10 25 04.7 +0.3
baz=322
WVT **Waverly** 95.65 38 P P 10 25 06.2 +0.3
baz=322
Z42A **Norrel Spur, H** 95.67 42 P P 10 25 06.5 +0.5
baz=319
U47A **Clarksville** 95.67 37 P P 10 25 06.1 +0.1
baz=322
W45A **Hickory Valley** 95.71 39 P P 10 25 06.7 +0.5
baz=321
V46A **Holladay** 95.76 38 P P 10 25 06.4 0.0
baz=322
HKT **Hockley** 95.88 47 eP P 10 25 06.3 -0.6
U48A **Cassie Pea, Po** 95.99 37 P P 10 25 07.6 +0.2
baz=323
V47A **Nunnelly** 96.04 38 P P 10 25 07.6 -0.1
baz=322
OXF **Oxford** 96.09 40 P P 10 25 08.4 +0.5
baz=321
KEST **Kesra** 96.34 322 LR LR 11 14 41.8
comp=Z,628nm,18.4s,baz=328,slow=39
V48A **Smith Brothers** 96.46 37 P P 10 25 09.7 +0.2
baz=322
MCWV **Mont Chateau** 96.46 31 P P 10 25 09.9 +0.4
baz=328
O56A **Blue Knob Stat** 96.47 29 P P 10 25 09.8 +0.2
baz=328
Z44A **Pea Ridge, Bel** 96.49 41 P P 10 25 10.8 +1.1
baz=320
Y45A **Yeager Farm, C** 96.52 40 P P 10 25 10.6 +0.7
baz=321
Y46A **Houston** 96.87 40 P P 10 25 12.0 +0.5
baz=321
W48A **Pulaski** 96.88 38 P P 10 25 11.8 +0.3
baz=322
244A **Avery, Jackson** 97.29 42 P Pdif 10 25 13.8 +0.3
baz=320
Z46A **Louisville** 97.36 40 P Pdif 10 25 13.8 +0.1
baz=321
TZTN **Tazewell** 97.40 35 P Pdif 10 25 13.9 0.0
baz=325

X49A	**Woodville**	**97.68**	**38**	P	**P**	**10 25 14.6**	**-0.5**
	baz=323						
Z47A	**Carrollton**	**97.81**	**40**	P	Pdif	10 25 16.0	+0.2
	baz=322						
TKL	**Tuckaleechee C**	**98.01**	**35**	LR	LR	11 19 12.4	
	comp=Z,150nm,18.0s,baz=340,slow=41						
BLA	**Blacksburg**	**98.27**	**32**	P	Pdif	10 25 17.8	0.0
	baz=327						
BLA	**Blacksburg**	**98.27**	**32**	PFAKE		10 25 30.0	+12
BLA				LR	LR		
	comp=Z,591nm,19.0s						
RKT	**Rikitea**	**98.27**	**112**	*e*SKSac	**SKSac**	**10 35 49.9**	**-4.2**
	comp=Z,145nm,30.5s						
RKT	**Rikitea**	**98.27**	**112**	*e*LR	LR	10 57 05.6	
	comp=Z,495nm,24.5s,baz=306						
CBN	**Corbin Frederi**	**98.71**	**30**	PFAKE		10 25 30.0	+10
CBN				LR	LR		
	comp=Z,455nm,19.0s						
ESDC	**Sonseca Array**	**98.83**	**333**	P	Pdif	10 25 20.6	+0.4
	comp=Z,0.1nm,0.3s,baz=31,slow=4.4,SNR=4.0						
ESDC				LR	LR	11 13 56.8	
	comp=Z,500nm,21.3s,baz=25,slow=38						
Z50A	**Ashland**	**98.88**	**38**	P	Pdif	10 25 20.7	+0.1
	baz=323						
149A	**Jones**	**98.95**	**39**	P	Pdif	10 25 21.4	+0.6
	baz=322						
PAB	**San Pablo**	**99.08**	**334**	PFAKE		10 25 30.0	+8.6
PAB				LR	LR		
	comp=Z,880nm,21.0s						
447A	**Lucedale**	**99.36**	**42**	P	**Pdif**	**10 25 23.5**	**+0.8**
	baz=321						
MTE	**Manteigas**	**99.43**	**336**	PFAKE		10 25 30.0	+7.1
MTE				LR	LR		
	comp=Z,683nm,20.0s						
BRAL	**Brewton**	**99.94**	**40**	PFAKE		10 25 40.0	+15
BRAL				LR	LR		
	comp=Z,562nm,19.0s						
GOGA	**Godfrey**	**99.98**	**37**	PFAKE		10 25 40.0	+15
GOGA				LR	LR		
	comp=Z,444nm,19.0s						
CNNC	**Cliffs of the**	**101.02**	**32**	PFAKE		10 25 40.0	+10
CNNC				LR	LR		
	comp=Z,507nm,22.0s						
NHSC	**New Hope**	**101.79**	**34**	PFAKE		10 25 50.0	+17
NHSC				LR	LR		
	comp=Z,683nm,20.0s						
KMBO	**Kilima Mbogo**	**101.99**	**277**	PFAKE		10 25 50.0	+15
KMBO				LR	LR		
	comp=Z,258nm,20.0s						
MBAR	**Mbarara**	**106.94**	**282**	PFAKE		10 30 20.0	
MBAR				LR	LR		
	comp=Z,1μm,19.0s						
TAM	**Tamanrasset**	**108.61**	**317**	PFAKE		10 30 20.0	
TAM				LR	LR		
	comp=Z,240nm,20.0s						
GRTK	**Grand Turk**	**115.83**	**34**	PFAKE		10 30 40.0	+17
GRTK				LR	LR		
	comp=Z,673nm,21.0s						
JTS	**JuntasAbangare**	**117.20**	**53**	PFAKE		10 30 40.0	+14
JTS				LR	LR		
	comp=Z,131nm,22.0s						
SDDR	**Presa de Saban**	**117.95**	**35**	PFAKE		10 30 40.0	+13
SDDR				LR	LR		
	comp=Z,822nm,21.0s						
TOA1	**Torodi Ar. Sit**	**118.45**	**314**	*e*PKPdf	**PKPdf**	**10 30 28.2**	**-0.2**
TOA1				*e*PP	**PP**	**10 31 39.7**	**-4.6**
TOA0	**Torodi Ar. Sit**	**118.45**	**314**	*e*PKPdf	**PKPdf**	**10 30 27.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**118.45**	**314**	PKP	**PKPdf**	**10 30 28.2**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=24,slow=2.3,SNR=15						
TORD				PP	**PP**	**10 31 39.7**	**-4.6**
	comp=Z,1.6nm,0.9s,baz=36,slow=6.8,SNR=5.0						
TORD				PKKPbc	**PKKPbc**	**10 40 46.0**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=226,slow=2.9,SNR=6.1						
KOWA	**Kowa**	**120.55**	**320**	PKP	**PKPdf**	**10 30 32.6**	**+0.2**
	comp=Z,5.1nm,0.9s,baz=43,slow=2.1,SNR=9.3						
KOWA	**Kowa**	**120.55**	**320**	*e*PKPdf	**PKPdf**	**10 30 32.4**	**+0.1**
KOWA				*e*PKPdf	**PKPdf**	**10 30 32.6**	**+0.2**
SJG	**San Juan**	**120.99**	**31**	PFAKE		10 30 50.0	+17
SJG				LR	LR		
	comp=Z,219nm,19.0s						
BCIP	**Isla Barro Col**	**121.32**	**49**	PFAKE		10 30 50.0	+16
BCIP				LR	LR		
	comp=Z,154nm,19.0s						
LBTB	**Lobatse**	**124.17**	**262**	*e*PKPdf	**PKPdf**	**10 30 40.2**	**+1.1**
LBTB	**Lobatse**	**124.17**	**262**	*e*PKIKP	**PKPdf**	**10 30 40.2**	**+1.1**
QSPA	**South Pole Qui**	**124.94**	**180**	*e*PKPdf	**PKPdf**	**10 30 39.5**	**+0.2**
QSPA				LR	LR		
	comp=Z,399nm,22.0s						
BOSA	**Boshof**	**125.99**	**258**	PKP	**PKPdf**	**10 30 42.8**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=75,slow=3.8,SNR=3.6						
SDV	**Santo Domingo**	**126.87**	**41**	PKP	**PKPdf**	**10 30 45.0**	**+0.2**
	comp=Z,7.9nm,0.8s,baz=268,slow=2.6,SNR=12						
SDV	**Santo Domingo**	**126.87**	**41**	*e*PKPdf	**PKPdf**	**10 30 45.4**	**+0.6**
SDV				LR	LR		
	comp=Z,423nm,20.0s						
DBIC	**Dimbokro**	**127.46**	**316**	PKP	**PKPdf**	**10 30 45.6**	**0.0**
	comp=Z,5.4nm,0.9s,baz=1.2,slow=2.0,SNR=7.1						
DBIC	**Dimbokro**	**127.46**	**316**	*e*PKPdf	**PKPdf**	**10 30 46.1**	**+0.4**
TIC	**Toumodi**	**127.57**	**316**	*e*PKIKP	**PKPdf**	**10 30 45.7**	**-0.2**
KIC	**Kosan Boka**	**127.64**	**315**	*e*PKIKP	**PKPdf**	**10 30 45.9**	**-0.1**
	comp=Z,42nm,1.2s						
LIC	**Lamto**	**127.92**	**315**	*e*PKIKP	**PKPdf**	**10 30 46.4**	**-0.1**
	comp=Z,26nm,0.9s						
OTAV	**Otavalo**	**128.96**	**55**	PFAKE		10 31 00.0	+11
OTAV				LR	LR		
	comp=Z,144nm,21.0s						
NNA	**Nana**	**138.60**	**66**	PFAKE		10 31 20.0	+13
NNA				LR	LR		
	comp=Z,127nm,19.0s						
SNAA	**Sanae**	**138.93**	**196**	PKP	PKPpre	10 30 53.9	
SNAA	**Sanae**	**138.93**	**196**	PKhKP	PKPpre	10 30 54.0	
	comp=Z,0.8nm,0.5s,baz=252,slow=3.2,SNR=6.6						
PTGA	**Pitinga**	**140.47**	**34**	PFAKE		10 31 20.0	+10
PTGA				LR	LR		
	comp=Z,35μm,21.0s						
VNA2	**Neumayer--Watz**	**140.50**	**196**	PKP	PKPpre	10 31 00.7	
	baz=111,slow=2.3						
VNA3	**Neumayer Olymp**	**140.74**	**194**	PKP	PKPpre	10 31 01.1	
SAML	**Samuel**	**145.69**	**46**	*e*PKPdf	**PKPbc**	**10 31 19.5**	**+0.1**
SAML				LR	LR		
	comp=Z,161nm,19.0s						
LPAZ	**La Paz**	**147.79**	**62**	PKPbc	**PKPbc**	**10 31 26.9**	**+0.7**
	comp=Z,24nm,0.9s,baz=1.6,slow=2.6,SNR=33						
LPAZ	**La Paz**	**147.79**	**62**	*e*PKPdf	**PKPbc**	**10 31 25.1**	**-1.2**
MNMC	**Minye Minye**	**148.49**	**68**	*e*PKPbc	**PKPbc**	**10 31 28.2**	**+0.6**
PB11	**IPOC Station P**	**148.81**	**69**	*e*PKPdf	**PKPdf**	**10 31 24.6**	**+0.2**
PB11				*e*PKPbc	**PKiKP**	**10 31 29.5**	**-0.2**
PB11				*e*PKPab	**pPKPdf**	**10 31 32.6**	**-0.1**
RCBR	**Riachuelo**	**150.64**	**354**	*e*PKPbc	**PKPbc**	**10 31 33.2**	**+0.4**
RCBR				LR	LR		
	comp=Z,19μm,20.0s						
LCO	**Las Campanas**	**152.41**	**86**	*e*PKPbc	**PKPbc**	**10 31 37.8**	**+1.0**
PLCA	**Paso Flores**	**154.50**	**112**	PKPbc	**PKPbc**	**10 31 41.8**	**+1.1**
	comp=Z,14nm,1.5s,baz=277,slow=5.9,SNR=3.3						
PLCA				PKPab	**PKPab**	**10 31 55.6**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=267,slow=4.0,SNR=3.0						
PLCA	**Paso Flores**	**154.50**	**112**	*e*PKPbc	**PKPbc**	**10 31 40.9**	**+0.2**
BDFB	**Brasilia**	**158.87**	**25**	*e*PKPdf	**PKPdf**	**10 31 37.4**	**-1.2**
BDFB	**Brasilia**	**158.87**	**25**	*e*PKIKP	**PKPdf**	**10 31 37.4**	**-1.2**
TRQA	**Tornquist**	**161.24**	**106**	PFAKE		10 31 50.0	+9.4
TRQA				LR	LR		
	comp=Z,389nm,20.0s						
CPUP	**Villa Florida**	**161.86**	**66**	PKPab	**PKPab**	**10 32 28.0**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=247,slow=5.6,SNR=3.1						
CPUP	**Villa Florida**	**161.86**	**66**	PKP2	**PKPab**	**10 32 28.0**	**+0.6**
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SPB	**Sao Paulo**	**166.24**	**35**	PFAKE		10 32 00.0	+14
SPB				LR	LR		
	comp=Z,521nm,21.0s						

MAN 02 10:21:44, 13.̊54N×120.̊67E, h100km, mb3.9, ML2.6, MS2.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.28**	**98**	⇓*e*P	Pn	10 21 58.7	+0.2
PGP				*e*S	Sn	10 22 10.9	+1.6
LUBP	**Lubang**	**0.46**	**295**	*e*P	Pn	10 22 02.0	+2.5
LUBP				*e*S	Sn	10 22 14.1	+3.0
TGY	**Tagaytay City**	**0.61**	**25**	*e*P	Pn	10 22 13.8	+13
BOAC	**Boac**	**1.14**	**94**	*e*P	Pn	10 22 06.3	+0.3
BOAC				*e*S	Sn	10 22 24.1	+1.5
SJMP	**San Jose**	**1.16**	**158**	*e*P	Pn	10 22 07.6	+1.4
SJMP				*e*S	Sn	10 22 24.5	+1.5
BUSP	**Coron**	**1.60**	**197**	*e*P	Pn	10 22 12.7	+1.2
BUSP				*e*S	Sn	10 22 33.1	+0.8
OTRP	**Odiongan**	**1.76**	**132**	*e*P	Pn	10 22 14.0	+0.4
OTRP				*e*S	Sn	10 22 35.4	-0.6

*ISCJB **02** 10:29:25.5±0.5, 37.̊14N±0.̊04×27.̊92E±0.̊04, h0km, Error ellipse: s-maj=5.9km s-min=3.9km az=17.4*
*CSEM **02** 10:29:25.6±0.3, 37.̊11N×27.̊90E, h5km, ML2.7, Error ellipse: s-maj=7.6km s-min=4.4km az=20.0, Suspected Mining explosion.*
*ISK **02** 10:29:25.6, 37.̊16N×27.̊86E, h13km, ML2.7/6, Suspected Mining explosion.*
*DDA **02** 10:29:26.1, 37.̊16N×27.̊88E, h7km, Ml2.5, Suspected Mining explosion.*
ISC 02 10:29:24.8±0.8**, 37.̊20N**±0.̊04×**27.̊93E**±0.̊03**, h0km, n23, σ0.̊52**/33**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.29**	**102**	PG	**Pb**	**10 29 32.8**	**-0.1**
YER	**Yerkesik**	**0.29**	**102**	*e*Pg	**Pb**	**10 29 32.8**	**-0.1**
BDRM	**Kayabasi**	**0.41**	**252**	*i* P	**Pg**	**10 29 33.3**	**+0.7**
BDRM				*i* S	**Sb**	**10 29 40.9**	**-0.9**
BDRM	**Kayabasi**	**0.41**	**252**	P	**Pg**	**10 29 33.3**	**+0.7**
BDRM				S	**Sb**	**10 29 40.9**	**-0.9**
AYDN	**Tasoluk**	**0.47**	**355**	*i* P	**Pb**	**10 29 36.2**	**+0.2**
AYDN				*i* S	**Sb**	**10 29 43.5**	**+0.1**
AYDN	**Tasoluk**	**0.47**	**355**	P	**Pb**	**10 29 36.2**	**+0.2**
AYDN				S	**Sb**	**10 29 43.5**	**+0.1**
BODT	**Bodrum**	**0.51**	**255**	PG	**Pg**	**10 29 34.1**	**-0.5**
BODT				SG	**Sg**	**10 29 41.9**	**+0.6**
BODT	**Bodrum**	**0.51**	**255**	*e*Pg	**Pg**	**10 29 34.1**	**-0.5**
BODT				*e*Sg	**Sg**	**10 29 41.9**	**+0.6**
TURN	**Turunc**	**0.63**	**121**	PG	**Pg**	**10 29 35.9**	**-0.8**
TURN	**Turunc**	**0.63**	**121**	*i* P	**Pg**	**10 29 36.0**	**-0.8**
TURN	**Turunc**	**0.63**	**121**	P	**Pg**	**10 29 36.0**	**-0.8**
GCAM	**G?zelcaml?**	**0.75**	**312**	PG	**Pb**	**10 29 40.5**	**-0.2**
GCAM				SG	**Sb**	**10 29 51.3**	**-0.2**
GCAM	**G?zelcaml?**	**0.75**	**312**	*i* P	**Pn**	**10 29 42.1**	**-0.5**
GCAM	**G?zelcaml?**	**0.75**	**312**	*e*Pg	**Pb**	**10 29 40.5**	**-0.2**
GCAM	**G?zelcaml?**	**0.75**	**312**	P	**Pn**	**10 29 42.1**	**-0.5**
GCAM				*e*Sg	**Sb**	**10 29 51.3**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.83**	**71**	*i* P	**Pb**	**10 29 42.5**	**+0.4**
TAVA	**DENIZLI_Tavas**	**0.83**	**71**	P	**Pb**	**10 29 42.5**	**+0.4**
FETY	**Fethiye**	**1.08**	**121**	PN	**Pn**	**10 29 47.7**	**+0.5**
FETY				SN	**Sn**	**10 30 03.5**	**+0.6**
FETY	**Fethiye**	**1.08**	**121**	*e*Pn	**Pn**	**10 29 47.7**	**+0.5**
FETY				*e*Sn	**Sn**	**10 30 03.5**	**+0.6**
URLA	**Izmir**	**1.57**	**318**	PN	**Pn**	**10 29 53.7**	**-0.3**
URLA	**Izmir**	**1.57**	**318**	*e*Pn	**Pn**	**10 29 53.7**	**-0.3**
AKAS	**Kas**	**1.65**	**125**	PN	**Pn**	**10 29 55.1**	**-0.1**
AKAS	**Kas**	**1.65**	**125**	*e*Pn	**Pn**	**10 29 55.1**	**-0.1**

*ISK **02** 10:32:39.9, 38.̊34N×38.̊88E, h12km, ML2.5/4*
*ISCJB **02** 10:32:40.2±0.8, 38.̊30N±0.̊04×38.̊90E±0.̊06, h9km±7km, Error ellipse: s-maj=8.5km s-min=6.0km az=43.1*
*CSEM **02** 10:32:40.2±0.1, 38.̊33N×38.̊89E, h10km, ML2.5, Error ellipse: s-maj=3.4km s-min=2.9km az=119.0*
*DDA **02** 10:32:40.4, 38.̊34N×38.̊84E, h7km, Ml2.2*
ISC 02 10:32:40.4±1.0**, 38.̊33N**±0.̊05×**38.̊89E**±0.̊03**, h13km**±8km**, n14, σ0.̊40**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.19**	**23**	*i* P	**Pg**	**10 32 44.8**	**0.0**
ELZG				*i* S	**Sg**	**10 32 47.8**	**0.0**
ELZG	**Elazig**	**0.19**	**23**	P	**Pg**	**10 32 44.8**	**0.0**
ELZG				S	**Sg**	**10 32 47.8**	**0.0**
MALT	**Malatya**	**0.36**	**268**	PG	**Pg**	**10 32 47.3**	**-0.5**
MALT				SG	**Sg**	**10 32 53.1**	**+0.3**
MALT	**Malatya**	**0.36**	**268**	*e*Pg	**Pg**	**10 32 47.3**	**-0.5**
MALT				*e*Sg	**Sg**	**10 32 53.1**	**+0.3**
PTK	**Pertek**	**0.69**	**35**	PG	**Pg**	**10 32 53.6**	**-0.3**
PTK				SG	**Sb**	**10 33 03.7**	**-0.3**
PTK	**Pertek**	**0.69**	**35**	*e*Pg	**Pg**	**10 32 53.6**	**-0.3**
PTK				*e*Sg	**Sb**	**10 33 03.7**	**-0.3**
URFA	**Urfa**	**0.89**	**184**	PG	**Pb**	**10 32 57.7**	**0.0**
URFA	**Urfa**	**0.89**	**184**	*e*Pg	**Pb**	**10 32 57.7**	**0.0**
KEMA	**Kemaliye**	**0.99**	**342**	*i* P	**Pg**	**10 32 58.9**	**-0.7**
KEMA				*i* S	**Sb**	**10 33 13.2**	**+0.5**
KEMA	**Kemaliye**	**0.99**	**342**	P	**Pg**	**10 32 58.9**	**-0.7**
KEMA				S	**Sb**	**10 33 13.1**	**+0.5**
DARE	**Darende-Malaty**	**1.13**	**283**	PN	**Pn**	**10 33 02.4**	**+0.3**
DARE	**Darende-Malaty**	**1.13**	**283**	*e*Pn	**Pn**	**10 33 02.4**	**+0.3**
MAZI	**Mazidag**	**1.50**	**125**	PN	**Pn**	**10 33 07.5**	**+0.2**
MAZI	**Mazidag**	**1.50**	**125**	*e*Pn	**Pn**	**10 33 07.5**	**+0.2**

*SOME **02** 10:37:42.3, 40.̊98N×79.̊92E, h0km*
*KRNET **02** 10:37:44.3±0.1, 40.̊92N×79.̊87E, mb2.6*
ISC 02 10:37:43.8±3.1**, 41.̊0N**±0.̊1×**79.̊82E**±0.̊07**, h2km**±18km**, n14, σ1.̊29**/26**, 12C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.71**	**298**	⇑*i*P	**Pg**	**10 38 17.1**	**+0.6**
	baz=98						
TARG				⇑*i*S	**Sg**	**10 38 41.2**	**+2.6**
	baz=98						
UZB	**Uzynbulak**	**2.27**	**345**	*e*P	**Pb**	**10 38 25.8**	**+0.1**
	4.8nm,0.2s						
UZB				*e*S	**Sg**	**10 38 56.8**	**+0.1**
	11nm,0.4s						
KDJ	**Kajisay**	**2.31**	**301**	⇓*i*P	**Pb**	**10 38 26.4**	**+0.1**
	baz=2.0						
KDJ				⇓*i*S	**Sg**	**10 38 57.2**	**-0.7**
	baz=2.0						
SATY	**Saty**	**2.35**	**334**	*e*P	**Pb**	**10 38 27.4**	**+0.4**
	8.2nm,0.4s						
SATY				*e*S	**Sg**	**10 38 59.9**	**+0.5**
	14nm,0.5s						
PDGK	**Podgornoye**	**2.38**	**354**	⇑Pg	**Pb**	**10 38 26.7**	**-0.9**
	1.1nm,0.4s						
PDGK				⇑Lg	Lg	10 39 00.1	
	7.5nm,0.7s						
PDGK	**Podgornoye**	**2.38**	**354**	⇑*i*P	**Pb**	**10 38 27.3**	**-0.3**
	baz=53						
PDGK				⇑*i*S	**Sg**	**10 38 59.2**	**-1.2**
	baz=53						
KTMS	**Ketmen**	**2.52**	**9**	*e*P	**Pb**	**10 38 28.3**	**-1.6**
	9.9nm,0.2s						
KTMS				*e*S	**Sb**	**10 39 01.4**	**0.0**
	17nm,0.5s						
KPKS	**Kokpek**	**2.65**	**342**	*e*P	**Pb**	**10 38 31.9**	**-0.1**
KPKS				*e*S	**Sg**	**10 39 07.4**	**-1.5**
NRN	**Naryn**	**2.92**	**281**	⇑*i*P	**Pb**	**10 38 35.8**	**-1.1**
	baz=81						
NRN				⇑*i*S	**Sb**	**10 39 14.4**	**+1.1**
	baz=81						
ULHL	**Ulahol**	**2.98**	**297**	⇑*i*P	**Pb**	**10 38 35.7**	**-2.1**
	baz=97						
ULHL				⇑*i*S	**Sb**	**10 39 13.1**	**-1.6**
	baz=97						
TNSS	**Tian-Shan**	**2.99**	**315**	*e*P	**Pb**	**10 38 38.5**	**+0.5**
	5.1nm,0.3s						
TNSS				*e*S	**Sg**	**10 39 19.1**	**-0.7**
	3.4nm,0.1s						
BOOM	**Boomskoye usch**	**3.29**	**299**	⇓*i*P	**Pb**	**10 38 40.7**	**-2.3**
	baz=99						
BOOM				⇓*i*S	**Sb**	**10 39 22.1**	**-1.4**
	baz=99						
MNBS	**Baschi**	**3.29**	**342**	*e*P	**Pb**	**10 38 41.7**	**-1.4**
	3.9nm,0.2s						
MNBS				*e*S	**Sb**	**10 39 24.6**	**+0.9**
	13nm,0.3s						
MK31	**Makanchi Array**	**6.10**	**16**	⇑Pg	**Pn**	**10 39 16.3**	**+1.2**
	0.1nm,0.2s,baz=200,slow=11,SNR=22						
MK31				⇑Lg	Lg	10 40 27.5	
	0.2nm,0.4s,baz=184,slow=25,SNR=5.4						

GUC 02 10:39:57.0±0.7**, 20.̊47S**×**69.̊26W, h90km**±3km**, ML3.7, 1C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.34**	**16**	⇓*i*P	Pn	10 40 11.5	+0.4
PB08				*e*S	Sn	10 40 22.4	+0.9
PB08				IAML		10 40 23.9	
	comp=E,1μm,0.1s						
PB01	**IPOC Station P**	**0.61**	**201**	*e*P	Pn	10 40 13.0	+0.2
PB01				*e*S	Sn	10 40 25.0	+0.5
PB01				IAML		10 40 25.7	
	comp=E,4μm,0.1s						
PB11	**IPOC Station P**	**0.80**	**332**	⇓*i*P	Pn	10 40 15.2	+0.5
PB11				*e*S	Sn	10 40 28.9	+1.1
PB11				IAML		10 40 29.4	
	comp=N,16μm,0.2s						
PB02	**IPOC Station P**	**1.04**	**215**	⇑*i*P	Pn	10 40 17.8	+0.5
PB02				*e*S	Sn	10 40 33.5	+1.1
PB02				IAML		10 40 35.1	
	comp=E,3μm,0.3s						
PSGC	**Pisagua**	**1.19**	**317**	*e*P	Pn	10 40 19.2	+0.2
PSGC				*e*S	Sn	10 40 36.3	+0.7
PSGC				IAML		10 40 39.6	
	comp=E,693nm,0.3s						
PB09	**IPOC Station P**	**1.32**	**179**	*e*P	Pn	10 40 21.4	+0.7
PB09				*e*S	Sn	10 40 40.2	+1.7
PB09				IAML		10 40 41.1	
	comp=E,3μm,0.2s						
MNMC	**Minye Minye**	**1.37**	**346**	*e*P	Pn	10 40 22.3	+0.9
MNMC				*e*S	Sn	10 40 41.7	+1.9
MNMC				IAML		10 40 45.0	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.38**	**205**	*e*P	Pn	10 40 21.9	+0.4
PB04	**IPOC Station P**	**2.03**	**204**	*e*P	Pn	10 40 30.4	+0.6
PB12	**IPOC Station P**	**2.10**	**331**	*e*P	Pn	10 40 31.2	+0.5
PB06	**IPOC Station P**	**2.25**	**187**	*e*P	Pn	10 40 33.5	+0.9

MAN 02 11:11:09, 10.̊67N×122.̊62E, h93km, mb4.1, ML2.8, MS2.5, 2C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.05**	**209**	*e*P	Pn	11 11 23.7	+1.7
GUIM				*e*S	Sn	11 11 33.4	+1.7
JAP	**San Jose, Anti**	**0.66**	**276**	⇑*e*P	Pn	11 11 28.1	+2.7
RCP	**Roxas**	**0.89**	**8**	⇓*e*P	Pn	11 11 29.4	+1.6
RCP				*e*S	Sn	11 11 44.3	+2.6
SNPH	**Sibulan**	**1.46**	**155**	⇑*i*P	Pn	11 11 36.3	+1.8
SNPH				*i* S	Sn	11 11 55.3	+1.6
OTRP	**Odiongan**	**1.78**	**341**	*e*P	Pn	11 11 39.9	+1.5
OTRP				*e*S	Sn	11 12 02.2	+1.4
MSLP	**Maasin**	**2.27**	**103**	*e*P	Pn	11 11 46.5	+1.7

*KRNET **02** 11:36:03.9±0.1, 39.̊33N×72.̊94E, mb3.3*
*NNC **02** 11:36:10.2±1.7, 39.̊71N×72.̊71E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=14.5km s-min=8.5km az=13.0*
ISC 02 11:36:06.0±2.6**, 39.̊5N**±0.̊1×**72.̊76E**±0.̊06**, h8km**±10km**, n27, σ2.̊79**/43**, 28C-12D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.76**	**49**	⇑*i*P	**Pg**	**11 36 19.8**	**-0.9**
	baz=32						
SFK				⇑*i*S	**Sg**	**11 36 30.6**	**0.0**
	baz=32						
ARSB	**Arslanbob**	**1.81**	**5**	⇑*i*P	**Pn**	**11 36 39.6**	**+1.8**
	baz=1.0						
ARSB				⇑*i*S	**Sg**	**11 37 07.1**	**+2.7**
	baz=1.0						
ARK	**Arkit**	**2.36**	**345**	⇑*i*P	**Pn**	**11 36 47.3**	**+2.1**
	baz=44						
ARK				⇑*i*S	**Sg**	**11 37 20.5**	**-1.4**
	baz=44						
TOKL	**Toktogul**	**2.42**	**2**	⇓*i*P	**Pn**	**11 36 48.1**	**+2.0**
	baz=59						
TOKL				⇓*i*S	**Sg**	**11 37 21.0**	**-2.9**
	baz=59						
AML	**Almayashu**	**2.71**	**15**	P	**Pn**	**11 36 53.0**	**+2.8**
	SNR=60						
AML	**Almayashu**	**2.71**	**15**	⇓*i*P	**Pn**	**11 36 52.5**	**+2.2**
	baz=11						
AML				⇓*i*S	**Sb**	**11 37 27.3**	**-1.2**
	baz=11						
MNAS	**Manas**	**2.98**	**356**	⇓Pn	**Pn**	**11 36 55.8**	**+2.0**
	14nm,0.6s						
MNAS				⇓Lg	Lg	11 37 38.8	
MNAS	**Manas**	**2.98**	**356**	⇑*i*P	**Pn**	**11 36 56.9**	**+3.2**
	baz=54						
MNAS				⇑*i*S	**Sb**	**11 37 34.9**	**-1.1**
	baz=54						
UCH	**Uchtor**	**3.02**	**26**	P	**Pn**	**11 36 57.7**	**+3.1**
	SNR=16						
UCH	**Uchtor**	**3.02**	**26**	⇑*i*P	**Pn**	**11 36 56.5**	**+1.9**
	baz=22						
UCH				⇑*i*S	**Sb**	**11 37 34.9**	**-2.6**
	baz=22						
NRN	**Naryn**	**3.13**	**51**	⇑*i*P	**Pn**	**11 36 55.6**	**-0.4**
	baz=47						
NRN				⇑*i*S	**Sn**	**11 37 32.7**	**-1.0**
	baz=47						
KZA	**Kyzart**	**3.18**	**36**	P	**Pn**	**11 37 00.3**	**+3.5**
	SNR=8.9						
KZA	**Kyzart**	**3.18**	**36**	⇑*i*P	**Pn**	**11 36 57.6**	**+0.8**
	baz=32						
KZA				⇑*i*S	**Sn**	**11 37 36.6**	**+1.4**
	baz=32						
EKS2	**Erkin-Say**	**3.24**	**13**	P	**Pn**	**11 37 01.1**	**+3.8**
	SNR=8.6						
EKS2	**Erkin-Say**	**3.24**	**13**	⇑*i*P	**Pn**	**11 37 00.0**	**+2.7**
	baz=11						
EKS2				⇑*i*S	**Sb**	**11 37 40.0**	**-3.5**
	baz=11						
AAK	**Ala-Archa**	**3.38**	**22**	Pn	**Pn**	**11 37 02.8**	**+3.5**
	6.2nm,0.4s						
AAK				Lg	Lg	11 37 50.8	
	35nm,0.8s						
AAK	**Ala-Archa**	**3.38**	**22**	P	**Pn**	**11 37 03.3**	**+4.0**
	SNR=6.0						
AAK	**Ala-Archa**	**3.38**	**22**	⇑*i*P	**Pn**	**11 37 01.8**	**+2.5**
	baz=19						
AAK				⇑*i*S	**Sn**	**11 37 43.3**	**+3.5**
	baz=19						
KBK	**Karagaybulak**	**3.55**	**27**	⇑*i*P	**Pn**	**11 37 03.5**	**+1.9**
	baz=24						
KBK				⇑*i*S	**Sn**	**11 37 46.3**	**+2.5**
	baz=24						
CHMS	**Chumysh**	**3.79**	**23**	P	**Pn**	**11 37 08.2**	**+3.3**
	SNR=7.9						
CHMS	**Chumysh**	**3.79**	**23**	⇑*i*P	**Pn**	**11 37 07.1**	**+2.3**
	baz=20						
CHMS				⇑*i*S	**Sn**	**11 37 53.1**	**+3.5**
	baz=20						
ULHL	**Ulahol**	**3.80**	**43**	⇑*i*P	**Pn**	**11 37 05.8**	**+0.7**
	baz=40						
ULHL				⇑*i*S	**Sn**	**11 37 51.2**	**+1.2**
	baz=40						
KK31	**Karatay Array**	**3.96**	**335**	⇓Pn	**Pn**	**11 37 09.1**	**+1.9**
	1.7nm,0.3s,baz=164,slow=13,SNR=42						
KK31				⇑Pg	**Pb**	**11 37 17.7**	**+1.5**
	5.3nm,0.5s,baz=148,slow=15,SNR=7.0						
KK31				⇓Sn	**Sn**	**11 37 56.8**	**+2.9**
	4.3nm,0.3s,baz=148,slow=24,SNR=2.7						
KK31				⇓Lg	Lg	11 38 11.4	
	8.7nm,0.5s,baz=149,slow=20,SNR=3.6						
TKM2	**Tokmak 2**	**4.02**	**31**	⇑Pn	**Pn**	**11 37 11.4**	**+3.3**
	1.6nm,0.6s						
TKM2				⇓Pg	**Pg**	**11 37 22.2**	**-0.9**
	3.9nm,0.4s						
TKM2				⇑Lg	Lg	11 38 13.0	
	9.5nm,0.6s						
MDOK	**Medeo**	**4.87**	**40**	Pg	**Pg**	**11 37 38.9**	**-0.4**
	3.6nm,0.7s						
MDOK				Lg	Lg	11 38 38.9	
	8.0nm,0.6s						
PDGK	**Podgornoye**	**6.33**	**51**	⇓Pg	Pb	11 38 02.8	+6.2
	2.5nm,0.9s						
PDGK				⇑Lg	Lg	11 39 28.4	
	8.0nm,0.9s						
AB31	**Akbulak array**	**13.35**	**321**	Pn	Pn	11 39 12.1	-3.7
	0.6nm,0.6s,baz=347,slow=38,SNR=12						
AB31				⇓Sn	**Sn**	**11 41 36.5**	**-7.9**
	0.9nm,0.7s,baz=132,slow=14,SNR=5.6						

*ISCJB **02** 11:41:44.9±0.2, 44.̊48N±0.̊01×6.̊71E±0.̊02, h9km±2km, Error ellipse: s-maj=2.4km s-min=2.1km az=146.8*
*CSEM **02** 11:41:45.4±0.1, 44.̊49N×6.̊72E, h10km, ML2.5/20, Error ellipse: s-maj=2.1km s-min=1.7km az=49.0*
*GEN **02** 11:41:45.4, 44.̊48N×6.̊71E, h4km, ML1.8*
*ROM **02** 11:41:45.0±0.4, 44.̊51N×6.̊75E, h6km±3km, Md2.3/10,*

Ml1.9/9, Error ellipse: s-maj=4.4km s-min=2.4km az=67.0
*LDG **02** 11:41:45.9±0.1, 44°50N×6°73E, h2km, Md2.6/3, Ml2.5/15, Error ellipse: s-maj=1.8km s-min=1.4km az=48.0*
*STR **02** 11:41:47.2±0.4, 44°48N±0°01×6°61E±0°03, h5km, MLv2.5/11*
ISC 02 11:41:45.3±0.9**, 44°49N**±0°01×**6°71E**±0°02**, h14**km±6km**, n90,** σ**0s74**/145**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.24**	**10**	*e*Pg	**Pg**	**11 41 50.6**	**0.0**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**11 41 54.4**	**+0.2**
	153nm,0.3s						
MBDF	**Montbardon**	**0.24**	**10**	*e*Pg	**Pg**	**11 41 50.6**	**0.0**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**11 41 54.4**	**+0.2**
	76nm,0.3s						
PZZ	**Stroppo**	**0.29**	**87**	Pg	**Pg**	**11 41 50.8**	**-0.6**
PZZ				Sg	**Sg**	**11 41 55.1**	**-0.5**
	257nm,0.2s						
DOI	**San Damiano**	**0.38**	**88**	Pg	**Pg**	**11 41 53.3**	**+0.2**
DOI				Sg	**Sb**	**11 41 59.7**	**-0.1**
	98nm,0.2s						
DOI	**San Damiano**	**0.38**	**88**	Pg	**Pg**	**11 41 53.3**	**+0.2**
DOI				Sg	**Sb**	**11 41 59.7**	**-0.1**
	98nm,0.2s						
RRL	**Rocca Remolon**	**0.43**	**8**	P	**Pg**	**11 41 53.3**	**-0.7**
RRL				S	**Sg**	**11 41 59.6**	**-0.4**
RRL	**Rocca Remolon**	**0.43**	**8**	Pg	**Pg**	**11 41 53.3**	**-0.7**
RRL				Sg	**Sg**	**11 41 59.9**	**-0.1**
OG25	**Le Caire**	**0.47**	**255**	Pg	**Pg**	**11 41 54.7**	**0.0**
OG25				Sg	**Sg**	**11 42 00.8**	**-0.2**
OG25	**Le Caire**	**0.47**	**255**	Pg	**Pg**	**11 41 54.8**	**0.0**
STV	**Sant Anna di V**	**0.51**	**119**	P	**Pg**	**11 41 54.6**	**-0.7**
STV	**Sant Anna di V**	**0.51**	**119**	Pg	**Pg**	**11 41 54.6**	**-0.7**
	50nm,0.1s						
BHB	**Bricherasio**	**0.53**	**48**	P	**Pg**	**11 41 56.0**	**+0.3**
BHB				Sg	**Sg**	**11 42 03.0**	**+0.2**
	46nm,0.1s						
BHB	**Bricherasio**	**0.53**	**48**	Pg	**Pg**	**11 41 56.0**	**+0.3**
BHB				Sg	**Sg**	**11 42 03.0**	**+0.2**
	46nm,0.1s						
BNI	**Bardonecchia**	**0.56**	**358**	Pg	**Pb**	**11 41 57.3**	**+0.3**
BNI				Sg	**Sb**	**11 42 04.7**	**-0.3**
	12nm,0.5s						
BNI	**Bardonecchia**	**0.56**	**358**	Pg	**Pb**	**11 41 57.3**	**+0.3**
BNI				Sg	**Sb**	**11 42 04.7**	**-0.3**
	12nm,0.5s						
ENR	**Entracque**	**0.57**	**117**	P	**Pg**	**11 41 56.6**	**0.0**
ENR	**Entracque**	**0.57**	**117**	Pg	**Pg**	**11 41 56.8**	**+0.2**
	110nm,0.1s						
ORIF	**Oris-en-Rattie**	**0.73**	**306**	*e*Pg	**Pg**	**11 41 59.2**	**-0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**11 42 08.6**	**-0.6**
	27nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.73**	**306**	*e*Pg	**Pg**	**11 41 59.2**	**-0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**11 42 08.6**	**-0.6**
	14nm,0.2s,SNR=1.0						
RSP	**Reno Superiore**	**0.77**	**31**	P	**Pg**	**11 42 00.5**	**+0.3**
RSP				S	**Sb**	**11 42 10.8**	**0.0**
RSP				Sg	**Sb**	**11 42 11.2**	**+0.4**
RSP	**Reno Superiore**	**0.77**	**31**	Pg	**Pg**	**11 42 00.6**	**+0.3**
RSP				Sg	**Sb**	**11 42 11.2**	**+0.4**
SBF	**Sospel**	**0.82**	**140**	*e*Pg	**Pg**	**11 42 01.3**	**+0.2**
	SNR=1.0						
SBF	**Sospel**	**0.82**	**140**	*e*P	**Pn**	**11 42 03.1**	**+0.7**
SBF				*e*Sg	**Sg**	**11 42 11.8**	**0.0**
	22nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.82**	**140**	*e*Pg	**Pg**	**11 42 01.3**	**+0.2**
	SNR=1.0						
SBF	**Sospel**	**0.82**	**140**	*e*P	**Pn**	**11 42 03.1**	**+0.7**
SBF				*e*Sg	**Sg**	**11 42 11.8**	**0.0**
	11nm,0.2s,SNR=1.0						
GBOS	**Grotte di Boss**	**0.85**	**107**	P	**Pg**	**11 42 01.7**	**0.0**
GBOS				S	**Sg**	**11 42 12.4**	**-0.4**
GBOS				Sg	**Sg**	**11 42 12.9**	**+0.1**
	35nm,0.3s						
GBOS	**Grotte di Boss**	**0.85**	**107**	Pg	**Pg**	**11 42 01.8**	**0.0**
GBOS				Sg	**Sg**	**11 42 12.9**	**+0.1**
	35nm,0.3s						
FRF	**La Foret Royal**	**0.93**	**183**	*e*Pg	**Pb**	**11 42 03.4**	**+0.2**
	SNR=1.0						
FRF	**La Foret Royal**	**0.93**	**183**	*e*Pn	**Pn**	**11 42 04.6**	**+0.6**
	SNR=1.0						
FRF	**La Foret Royal**	**0.93**	**183**	*e*P	**Pn**	**11 42 05.5**	**+1.5**
FRF				*e*Sg	**Sg**	**11 42 15.7**	**+0.2**
	49nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.93**	**183**	*e*Pg	**Pb**	**11 42 03.4**	**+0.2**
	SNR=1.0						
FRF	**La Foret Royal**	**0.93**	**183**	*e*Pn	**Pn**	**11 42 04.6**	**+0.6**
	SNR=1.0						
FRF	**La Foret Royal**	**0.93**	**183**	*e*P	**Pn**	**11 42 05.5**	**+1.5**
FRF				*e*Sg	**Sg**	**11 42 15.7**	**+0.2**
	24nm,0.2s,SNR=1.0						
NEGI	**Seborga**	**0.96**	**132**	P	**Pb**	**11 42 03.0**	**-0.8**
NEGI				S	**Sb**	**11 42 15.3**	**-1.0**
NEGI	**Seborga**	**0.96**	**132**	Pg	**Pb**	**11 42 03.0**	**-0.8**
	43nm,0.5s						
SMRF	**Simiane la Rot**	**0.97**	**238**	*e*Pg	**Pn**	**11 42 04.7**	**+0.2**
	SNR=1.0						
SMRF				*e*Sg	**Sn**	**11 42 18.0**	**0.0**
	25nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.97**	**238**	*e*Pg	**Pn**	**11 42 04.7**	**+0.2**
	SNR=1.0						
SMRF				*e*Sg	**Sn**	**11 42 18.0**	**0.0**
	12nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**1.01**	**2**	*e*Pg	**Pb**	**11 42 04.9**	**+0.2**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**11 42 18.1**	**+0.2**
	13nm,0.2s,SNR=1.0						
LPG				*e*Sn	**Sn**	**11 42 19.6**	**+0.2**
LPG	**La Plagne**	**1.01**	**2**	*e*Pg	**Pb**	**11 42 04.9**	**+0.2**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**11 42 18.1**	**+0.2**
	6.5nm,0.2s,SNR=1.0						
LPG				*e*Sn	**Sn**	**11 42 19.6**	**+0.2**
OG26	**St.-Nazaire-De**	**1.01**	**275**	Pg	**Pn**	**11 42 05.6**	**+0.5**
OG26	**St.-Nazaire-De**	**1.01**	**275**	Pg	**Pn**	**11 42 05.7**	**+0.5**
LSD	**Lago del Serru**	**1.01**	**17**	P	**Pg**	**11 42 05.1**	**+0.2**
LSD				S	**Sb**	**11 42 17.9**	**-0.2**
LPL	**La Plagne**	**1.02**	**1**	*e*Pg	**Pn**	**11 42 05.7**	**+0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**11 42 18.9**	**+0.3**
	11nm,0.4s						
LPL	**La Plagne**	**1.02**	**1**	*e*Pg	**Pn**	**11 42 05.7**	**+0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**11 42 18.9**	**+0.3**
	5.6nm,0.4s						
IMI	**Imperia**	**1.03**	**124**	Pg	**Pb**	**11 42 05.1**	**+0.2**
	50nm,0.5s						
IMI				S	**Sb**	**11 42 18.3**	**0.0**
IMI	**Imperia**	**1.03**	**124**	Pg	**Pb**	**11 42 05.1**	**+0.2**
	50nm,0.5s						
RORO	**Rocca Rossa**	**1.04**	**111**	P	**Pb**	**11 42 04.2**	**-0.9**
RORO				S	**Sb**	**11 42 17.8**	**-0.9**
RORO				Sg	**Sb**	**11 42 18.5**	**-0.2**
RORO	**Rocca Rossa**	**1.04**	**111**	Pg	**Pb**	**11 42 04.2**	**-0.9**
RORO				Sg	**Sb**	**11 42 18.5**	**-0.2**
LMR	**La Mourre**	**1.17**	**187**	*e*Pg	**Pg**	**11 42 07.9**	**+0.1**
	SNR=1.0						
LMR				*e*Sg	**Sn**	**11 42 23.0**	**+0.1**
	16nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.17**	**187**	*e*Pg	**Pg**	**11 42 07.9**	**+0.1**
	SNR=1.0						
LMR				*e*Sg	**Sn**	**11 42 23.0**	**+0.1**
	8.1nm,0.2s,SNR=1.0						
LEPF	**PUYLOUBIER**	**1.21**	**217**	Pg	**Pg**	**11 42 09.2**	**+0.6**
LEPF				Sg	**Sg**	**11 42 25.4**	**+1.0**
LEPF	**PUYLOUBIER**	**1.21**	**217**	Pg	**Pg**	**11 42 09.2**	**+0.6**
VIVF	**Saint-Julien-l**	**1.50**	**285**	*e*P	**Pb**	**11 42 12.9**	**0.0**
VIVF				*e*Sn	**Sb**	**11 42 32.1**	**+0.3**
	7.9nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.50**	**285**	*e*P	**Pb**	**11 42 12.9**	**0.0**
VIVF				*e*Sn	**Sb**	**11 42 32.1**	**+0.3**
	4.0nm,0.2s,SNR=1.0						
SSB	**Saint Sauveur**	**1.73**	**298**	Pn	**Pn**	**11 42 15.9**	**+0.9**
SSB	**Saint Sauveur**	**1.73**	**298**	Pg	**Pg**	**11 42 18.8**	**+0.3**
SSB				Sn	**Sn**	**11 42 38.1**	**+1.2**
LASF	**Ste Croix**	**2.09**	**260**	*e*P	**Pn**	**11 42 20.5**	**+0.6**
	SNR=1.0						
LASF	**Ste Croix**	**2.09**	**260**	*e*Pg	**Pg**	**11 42 25.0**	**-0.4**
LASF				*e*Sn	**Sn**	**11 42 46.2**	**+0.4**
	3.2nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.09**	**260**	*e*P	**Pn**	**11 42 20.5**	**+0.6**
	SNR=1.0						
LASF	**Ste Croix**	**2.09**	**260**	*e*Pg	**Pg**	**11 42 25.0**	**-0.4**
LASF				*e*Sn	**Sn**	**11 42 46.2**	**+0.4**
	1.6nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**2.17**	**349**	*e*P	**Pb**	**11 42 23.8**	**-0.5**
	SNR=1.0						
CABF	**La Chapelle**	**2.17**	**349**	*e*Pg	**Pg**	**11 42 27.6**	**+0.8**
CABF				*e*Sg	**Sg**	**11 42 56.0**	**+1.1**
	2.2nm,0.3s						
CABF	**La Chapelle**	**2.17**	**349**	*e*P	**Pb**	**11 42 23.8**	**-0.5**
	SNR=1.0						
CABF	**La Chapelle**	**2.17**	**349**	*e*Pg	**Pg**	**11 42 27.6**	**+0.8**
CABF				*e*Sg	**Sg**	**11 42 56.0**	**+1.1**
	1.1nm,0.3s						
PGF	**Pioggiola**	**2.56**	**139**	*e*P	**Pn**	**11 42 26.8**	**+0.4**
	SNR=1.0						
PGF	**Pioggiola**	**2.56**	**139**	*e*Pg	**Pg**	**11 42 33.7**	**-0.6**
PGF				*e*Sn	**Sn**	**11 42 56.6**	**-0.8**
	3.1nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.56**	**139**	*e*P	**Pn**	**11 42 26.8**	**+0.4**
	SNR=1.0						
PGF	**Pioggiola**	**2.56**	**139**	*e*Pg	**Pg**	**11 42 33.7**	**-0.6**
PGF				*e*Sn	**Sn**	**11 42 56.6**	**-0.8**
	1.5nm,0.2s,SNR=1.0						
LBL	**Lubilhac**	**2.57**	**288**	Pn	**Pn**	**11 42 26.6**	**0.0**
LBL	**Lubilhac**	**2.57**	**288**	Pn	**Pn**	**11 42 26.6**	**0.0**
PLDF	**La Plantade**	**2.64**	**305**	Pn	**Pn**	**11 42 28.6**	**+1.1**
PLDF	**La Plantade**	**2.64**	**305**	Pn	**Pn**	**11 42 28.6**	**+1.1**
SMF	**Signal de Mont**	**2.95**	**318**	*e*P	**Pn**	**11 42 33.9**	**+2.2**
	SNR=1.0						
SMF	**Signal de Mont**	**2.95**	**318**	*e*Pg	**Pg**	**11 42 40.7**	**-1.1**
SMF				*e*Sg	**Sg**	**11 43 18.4**	**-1.6**
	2.9nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.95**	**318**	*e*P	**Pn**	**11 42 33.9**	**+2.2**
	SNR=1.0						
SMF	**Signal de Mont**	**2.95**	**318**	*e*Pg	**Pg**	**11 42 40.7**	**-1.1**
SMF				*e*Sg	**Sg**	**11 43 18.4**	**-1.6**
	1.5nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**3.29**	**315**	*e*Sg	**Sg**	**11 43 29.9**	**-1.1**
	1.9nm,0.3s						
AVF	**Avril sur Loir**	**3.29**	**315**	*e*Sg	**Sg**	**11 43 29.9**	**-1.1**
	0.9nm,0.3s						
CAF	**Calviac**	**3.34**	**279**	*e*P	**Pn**	**11 42 38.4**	**+1.3**
CAF	**Calviac**	**3.34**	**279**	*e*P	**Pn**	**11 42 38.4**	**+1.3**
BGF	**Bois d'Agland**	**3.41**	**309**	*e*P	**Pn**	**11 42 39.8**	**+1.7**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.41**	**309**	*e*Pg	**Pg**	**11 42 49.6**	**-1.1**
BGF				*e*Sg	**Sg**	**11 43 33.5**	**-1.4**
	6.7nm,0.4s						
BGF	**Bois d'Agland**	**3.41**	**309**	*e*P	**Pn**	**11 42 39.8**	**+1.7**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.41**	**309**	*e*Pg	**Pg**	**11 42 49.6**	**-1.1**
BGF				*e*Sg	**Sg**	**11 43 33.5**	**-1.4**
	3.3nm,0.4s						
LOR	**Lormes**	**3.42**	**325**	*e*Sn	**Sn**	**11 43 17.8**	**-0.7**
LOR				*e*Sg	**Sg**	**11 43 32.4**	**-2.6**
	1.8nm,0.2s						
LOR	**Lormes**	**3.42**	**325**	*e*Sn	**Sn**	**11 43 17.8**	**-0.7**
TCF	**Toulx Ste Croi**	**3.65**	**301**	*e*P	**Pn**	**11 42 42.1**	**+0.8**
TCF	**Toulx Ste Croi**	**3.65**	**301**	*e*P	**Pn**	**11 42 42.1**	**+0.8**
PAGF	**Fort de Pagny**	**4.12**	**351**	*e*P	**Pn**	**11 42 48.6**	**+0.8**
PAGF	**Fort de Pagny**	**4.12**	**351**	*e*P	**Pn**	**11 42 48.6**	**+0.8**

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*NEIC **02** 11:56:12.3±0.0, 53°54N×163°20W, h26km, ML3.3(AEIC), After AEIC.*
*IDC **02** 11:56:19.2±18.0, 53°71N×161°15W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.1/73, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=346.2km s-min=39.9km az=83.0*
ISC 02 11:56:10.1±2.3**, 53°60N**±0°09×**163°18W**±0°05**, h7**km±13km**, n26,** σ**1s04**/26**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**1.17**	**345**	P	**Pn**	**11 56 33.3**	**+0.4**
WESE	**West Dahl East**	**1.20**	**317**	P	**Pn**	**11 56 33.8**	**+0.4**
SSLS	**Shishaldin Sou**	**1.21**	**337**	P	**Pn**	**11 56 34.5**	**+0.9**
SSLS				S	**Sn**	**11 56 50.4**	**+0.2**
FALS	**False Pass**	**1.26**	**354**	P	**Pg**	**11 56 34.9**	**+0.5**
WESN	**West Dahl Nort**	**1.27**	**320**	P	**Pg**	**11 56 35.1**	**+0.6**
WESP	**Westdahl Peak**	**1.27**	**315**	P	**Pg**	**11 56 35.2**	**+0.7**
WESP				S	**Sg**	**11 56 50.7**	**-0.4**
SSLW	**Shishaldin Wes**	**1.29**	**335**	P	**Pg**	**11 56 35.4**	**+0.5**
AKSA	**Akutan Strait**	**1.58**	**291**	P	**Pn**	**11 56 38.6**	**+0.1**
AKSA				S	**Sn**	**11 57 00.0**	**+0.8**
DT1	**Dutton Round H**	**1.60**	**19**	P	**Pn**	**11 56 38.9**	**+0.2**
AKUT	**Akutan**	**1.62**	**290**	P	**Pn**	**11 56 39.1**	**0.0**
AKUT				S	**Sn**	**11 57 00.5**	**+0.3**
ZRO	**Akutan Zero**	**1.73**	**288**	P	**Pn**	**11 56 41.0**	**+0.4**
PS4A	**Pavlof South-4**	**1.91**	**23**	P	**Pn**	**11 56 44.2**	**+1.1**
UNV	**Unalaska Valle**	**1.99**	**278**	P	**Pn**	**11 56 43.6**	**-0.5**
MSW	**Makushin Switc**	**2.16**	**280**	P	**Pn**	**11 56 46.5**	**-0.1**
MSW				S	**Sn**	**11 57 13.2**	**-0.3**
MGOD	**Makushin Gods**	**2.20**	**276**	P	**Pn**	**11 56 47.8**	**+0.7**
MCIR	**Makushin Cirqu**	**2.23**	**280**	P	**Pn**	**11 56 48.2**	**+0.7**
SDPT	**Sand Point**	**2.35**	**41**	*e*Pn	**Pn**	**11 56 49.6**	**+0.4**
SDPT				*e*Sn	**Sn**	**11 57 18.6**	**+0.4**
ILAR	**Eielson Array**	**13.91**	**30**	Pn	**Pn**	**11 59 23.8**	**-3.6**
	0.0nm,0.3s,baz=219,slow=14,SNR=2.8						
YKA	**Yellowknife Ar**	**26.58**	**51**	P	**P**	**12 01 50.5**	**+2.0**
	0.3nm,0.6s,baz=271,slow=8.9,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**40.88**	**226**	T	T	12 47 32.0	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**40.89**	**226**	T	T	12 47 32.0	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**40.90**	**226**	T	T	12 47 31.5	
	baz=26						
H11S1	**WAKE ISLAND Hy**	**42.05**	**225**	T	T	12 48 59.9	
	baz=27						
H11S2	**WAKE ISLAND Hy**	**42.07**	**225**	T	T	12 49 01.1	
	baz=27						
H11S3	**WAKE ISLAND Hy**	**42.07**	**225**	T	T	12 48 59.9	
	baz=27						
TXAR	**Lajitas Array**	**49.05**	**95**	P	**P**	**12 04 58.3**	**+0.5**
	0.3nm,0.4s,baz=300,slow=6.2,SNR=8.6						

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*ISK **02** 12:02:30.8, 38°44N×35°82E, h10km, ML2.6/4*
*DDA **02** 12:02:31.5, 38°43N×35°92E, h7km, Ml2.4*
*CSEM **02** 12:02:31.7±0.2, 38°48N×35°92E, h2km, ML2.6, Error ellipse: s-maj=6.0km s-min=4.8km az=100.0*
ISC 02 12:02:31.6±1.1**, 38°45N**±0°02×**35°88E**±0°03**, h4**km±10km**, n28,** σ**1s00**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.40**	**356**	PG	**Pg**	**12 02 39.1**	**-0.4**
BNN				SG	**Sg**	**12 02 45.7**	**+0.9**
BNN	**Bunyan**	**0.40**	**356**	PG	**Pg**	**12 02 39.6**	**+0.1**
BNN	**Bunyan**	**0.40**	**356**	*e*Pg	**Pg**	**12 02 39.1**	**-0.4**
BNN				*e*Sg	**Sg**	**12 02 45.7**	**+0.9**
SAIM	**ADANA**	**0.50**	**161**	*i* P	**Pg**	**12 02 40.5**	**-0.7**
SAIM				*i* S	**Sg**	**12 02 47.8**	**+0.1**
SAIM	**ADANA**	**0.50**	**161**	P	**Pg**	**12 02 40.5**	**-0.7**
SAIM				S	**Sg**	**12 02 47.8**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**0.54**	**229**	*i* P	**Pg**	**12 02 42.2**	**+0.2**
YAHY				*i* S	**Sb**	**12 02 50.8**	**-1.1**
YAHY	**KAYSERI_Yahyal**	**0.54**	**229**	P	**Pg**	**12 02 42.2**	**+0.2**
YAHY				S	**Sb**	**12 02 50.8**	**-1.1**
ANDN	**Andirin**	**0.94**	**157**	*i* P	**Pn**	**12 02 51.6**	**-0.2**
ANDN				*i* S	**Sn**	**12 03 09.9**	**+4.1**
ANDN	**Andirin**	**0.94**	**157**	P	**Pn**	**12 02 51.6**	**-0.2**
KOZT	**Kozan**	**0.97**	**183**	PN	**Sg**	**12 03 00.8**	**-1.9**
ELBS	**KAHRAMANMARAS**	**0.99**	**97**	*i* P	**Pg**	**12 02 50.6**	**0.0**
ELBS				*i* S	**Sg**	**12 03 03.2**	**-0.3**
ELBS	**KAHRAMANMARAS**	**0.99**	**97**	P	**Pg**	**12 02 50.6**	**0.0**
ELBS				S	**Sg**	**12 03 03.2**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	**1.01**	**16**	*i* P	**Pg**	**12 02 50.8**	**-0.2**
CUSAR				*i* S	**Sn**	**12 03 07.4**	**-0.1**
CUSAR	**Sarkisla-SIVAS**	**1.01**	**16**	P	**Pg**	**12 02 50.8**	**-0.2**
CUSAR				S	**Sn**	**12 03 07.4**	**-0.1**
AKO	**Adana**	**1.04**	**199**	*i* P	**Pg**	**12 02 51.0**	**-0.7**
AKO				*i* S	**Sn**	**12 03 08.3**	**+0.2**
DARE	**Darende-Malaty**	**1.26**	**84**	PN	**Pn**	**12 02 56.0**	**-0.2**
DARE				SN	**Sn**	**12 03 13.6**	**0.0**
DARE	**Darende-Malaty**	**1.26**	**84**	PN	**Pn**	**12 02 57.3**	**+1.1**
DARE				SN	**Sn**	**12 03 13.1**	**-0.5**
DARE	**Darende-Malaty**	**1.26**	**84**	*e*Pn	**Pn**	**12 02 56.0**	**-0.2**
DARE				*e*Sn	**Sn**	**12 03 13.6**	**0.0**
YOZ	**Yozgat**	**1.27**	**340**	PN	**Pg**	**12 02 55.1**	**-0.9**
YOZ				SN	**Sb**	**12 03 12.5**	**-0.4**
YOZ	**Yozgat**	**1.27**	**340**	PG	**Pn**	**12 02 56.5**	**+0.2**
YOZ				SG	**Sg**	**12 03 11.6**	**-0.8**
YOZ	**Yozgat**	**1.27**	**340**	*e*Pn	**Pg**	**12 02 55.1**	**-0.9**
YOZ				*e*Sn	**Sb**	**12 03 12.5**	**-0.4**
CUKAN	**kangal_SIVAS**	**1.51**	**54**	*i* P	**Pn**	**12 02 59.0**	**-0.6**
CUKAN				*i* S	**Sg**	**12 03 22.4**	**+2.3**
CUKAN	**kangal_SIVAS**	**1.51**	**54**	P	**Pn**	**12 02 59.0**	**-0.6**
CUKAN				S	**Sg**	**12 03 22.4**	**+2.3**
SVSK	**Karacayir**	**1.70**	**30**	PN	**Pn**	**12 03 01.9**	**-0.2**
SVSK	**Karacayir**	**1.70**	**30**	PN	**Pn**	**12 03 01.7**	**-0.4**
SVSK	**Karacayir**	**1.70**	**30**	*e*Pn	**Pn**	**12 03 01.9**	**-0.2**
KERG	**Konya-Eregli**	**1.73**	**234**	*i* P	**Pg**	**12 03 05.3**	**+0.5**
KERG				*i* S	**Sg**	**12 03 28.4**	**+1.1**
KERG	**Konya-Eregli**	**1.73**	**234**	P	**Pg**	**12 03 05.3**	**+0.5**
KERG				S	**Sg**	**12 03 28.4**	**+1.1**

MEX 02 12:08:31.5±0.8**, 17°49N**×**94°81W, h135**km±19km**, MD3.5, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGIG		**1.76**	**113**	*e*P	Pn	12 09 01.9	-1.1
TGIG				*e*S	Sn	12 09 25.0	-2.0
VHO	**Vista Hermosa**	**1.88**	**258**	*e*P	Pn	12 09 03.3	-1.2
VHO				*i* S	Sn	12 09 29.0	-0.8
HUIG	**Huatulco**	**2.11**	**216**	*i* P	Pn	12 09 05.5	-1.6
HUIG				*e*S	Sn	12 09 31.9	-2.6
PCIG		**2.34**	**139**	*e*P	Pn	12 09 08.7	-1.2
PCIG				*e*S	Sn	12 09 37.8	-1.7
TPIG	**Tehuac#an**	**2.60**	**291**	*e*P	Pn	12 09 12.2	-1.2
TPIG				*i* S	Sn	12 09 43.0	-2.5
CCIG	**Comitan**	**2.83**	**115**	*e*P	Pn	12 09 15.3	-1.0
CCIG				*i* S	Sn	12 09 48.4	-2.3

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*BJI **02** 12:11:26.3, 7°09N×93°63E, h34km, mb4.5/30, mB4.8/13, Ms4.4/9, Ms7 4.2/8*
*ISCJB **02** 12:11:27.5±0.2, 7°47N±0°04×94°13E±0°04, h20km, mb4.6/42, MS4.1/2, Error ellipse: s-maj=7.0km s-min=3.2km az=139.2*
*NEIC **02** 12:11:33.3±1.0, 7°25N×94°04E, h70km±10km, mb4.9/13, Error ellipse: s-maj=13.0km s-min=7.7km az=53.0*
*DJA **02** 12:11:35.2±1.4, 7°N±3°×9°4E±°, h30km±15km, M4.7/7, mb4.8/6, mB5.2/4, MLv4.8/7, Mw(mB)4.6/4*
*IDC **02** 12:11:35.9±3.6, 7°36N×93°93E, h85km±32km, mb4.0/20, mb1 4.2/22, mb1mx3.9/72, mbtmp4.4/22, MS3.5/2, Ms1 3.5/2, ms1mx2.8/55, Error ellipse: s-maj=21.0km s-min=12.3km az=47.0*
ISC 02 12:11:29.1±0.4**, 7°50N**±0°05×**94°12E**±0°05**, h20**km**, n134,** σ**1s91**/127**, mb4.6**/44**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.60**	**129**	P	**Pb**	**12 12 31.6**	**-0.5**
LHMI				S	**Sb**	**12 13 11.8**	**-3.6**
LHMI	**Lhok Sumawe**	**3.60**	**129**	*e*Pn	**Pn**	**12 12 24.4**	**+0.6**
MLSI	**Meulaboh, Aceh**	**3.93**	**145**	P	**Pb**	**12 12 34.4**	**-3.4**
MLSI				S	**Sb**	**12 13 20.2**	**-4.7**
PKDT	**Phuket**	**4.20**	**84**	P	**Pb**	**12 12 38.9**	**-3.4**
PBA	**Port Blair**	**4.35**	**342**	*e*P	Pn	12 12 39.1	+5.0
PBA				*e*S	Sn	12 13 26.9	+2.6
SURT	**Suratani**	**4.85**	**72**	P	Pb	12 12 48.4	-5.0
TPTI		**5.20**	**144**	P	Pn	12 12 50.3	+4.6
	308nm,0.7s,4μm1.3nm						
TPTI				S	**Sn**	**12 13 47.8**	**+2.7**
	308nm,0.7s,4μm1.3nm						
TRTT	**Trang**	**5.53**	**86**	P	Pn	12 12 57.0	+6.6
DGPR	**DIGLIPUR**	**5.77**	**348**	*e*P	Pn	12 12 58.6	+5.0
DGPR				*e*S	**Sn**	**12 14 01.4**	**+2.2**
SKLT	**Songkhla**	**6.46**	**92**	P	Pn	12 13 09.4	+6.3
PSI	**Prapat**	**6.68**	**134**	P	**Pb**	**12 13 27.9**	**+3.1**
	7.3nm,0.3s,baz=293,slow=10,SNR=26						
PSI	**Prapat**	**6.68**	**134**	*e*Pn	**Pn**	**12 13 06.4**	**+0.1**
KULM	**Kulim**	**6.85**	**108**	*e*Pn	Pn	12 13 14.8	+6.3
GSI	**Gunungsitoli**	**7.05**	**151**	P	**Pn**	**12 13 14.8**	**+3.6**
	37nm,0.6s,0.2nm						
GSI				S	**Sn**	**12 14 31.5**	**+0.6**
	37nm,0.6s,0.2nm						
GSI	**Gunungsitoli**	**7.05**	**151**	*e*Pn	**Pn**	**12 13 11.4**	**+0.2**
IPM	**Ipoh**	**7.49**	**113**	*e*Pn	**Pn**	**12 13 19.1**	**+1.7**
IPM				*e*Sn	**Sn**	**12 14 44.8**	**+2.9**
PHET	**Kaeng Krachan**	**7.64**	**45**	P	Pn	12 13 27.6	+8.3
	11nm,0.6s,251nm0.1nm						
SRDT	**SRDT**	**8.40**	**35**	P	Pn	12 13 38.2	+8.5
	14nm,1.2s,3μm						
MNSI	**Mandailing Nat**	**8.60**	**140**	P	**Pn**	**12 13 36.7**	**+4.2**
UTHA	**Uthaitani**	**9.56**	**33**	P	Pn	12 13 54.6	+8.9
	3.2nm,1.0s						
NAYO	**Nakonayok**	**9.79**	**46**	P	Pn	12 13 57.7	+8.8
MYKOM	**Kota Tinggi**	**11.23**	**120**	*e*Pn	**Pn**	**12 14 09.3**	**+0.7**
CM01	**Chiang Mai Arr**	**11.84**	**23**	*e*Pn	Pn	12 14 24.5	+7.6
CM31	**Chiang Mai Arr**	**11.87**	**23**	*e*Pn	**Pn**	**12 14 17.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**11.87**	**23**	P	Pn	12 14 25.7	+8.4
	3.3nm,0.3s,baz=213,slow=14,SNR=69						
CHTO	**Chiang Mai**	**12.19**	**22**	*e*Pn	P	12 14 28.8	-5.3
PALK	**Pallekele**	**13.31**	**270**	P	**Pn**	**12 14 39.8**	**+2.8**
	12nm,0.3s,baz=116,slow=11,SNR=44						
PALK				LR	LR	12 19 20.2	
	comp=Z,59nm,21.5s,baz=116,slow=35						
PALK	**Pallekele**	**13.31**	**270**	*e*Pn	**Pn**	**12 14 39.1**	**+2.0**
PALK				*e*Sn	Sn	12 16 50.5	-14
VIS	**Vishakhapatnam**	**14.62**	**315**	*e*P	**Pn**	**12 14 56.6**	**+1.6**
VIS				*e*x	x	12 17 26.2	
MDRS	**Chennai**	**14.73**	**293**	*e*P	**Pn**	**12 14 58.1**	**+1.7**
PVM	**Polavaram**	**15.57**	**310**	*e*P	**P**	**12 15 10.7**	**-1.1**
PVM				*e*		12 17 47.7	
ADKI	**Addanki**	**16.14**	**302**	*e*P	**P**	**12 15 19.0**	**+1.0**
ADKI				*e*		12 17 59.4	
NJS	**Nagarjunasagar**	**17.05**	**303**	*e*P	**P**	**12 15 28.7**	**+0.6**
NJS				*e*		12 18 21.6	
SRLM	**Srisailam**	**17.17**	**301**	*e*P	**P**	**12 15 30.6**	**+1.0**
SRLM				*e*		12 18 21.1	
BOK	**Bokaro**	**18.03**	**335**	*e*P	**P**	**12 15 41.3**	**+2.3**
BOK				IAmb	IAmb	12 15 42.5	
	comp=Z,64nm,1.4s						
SHL	**Shillong**	**18.10**	**353**	*e*P	**Pn**	**12 15 40.0**	**+0.4**
SHL				IAmb	IAmb	12 15 41.2	
	comp=Z,22nm,0.6s						
HYB	**Hyderabad**	**18.10**	**304**	*i* P	**Pn**	**12 15 36.0**	**-3.6**
HYB				*e*S	**Sn**	**12 19 02.0**	**+0.8**
HYB	**Hyderabad**	**18.10**	**304**	*e*P	**P**	**12 15 40.8**	**+0.9**
HYBB	**Hyderabad (bro**	**18.10**	**304**	*e*P	**P**	**12 15 41.5**	**+1.6**
HYBB				*e*		12 18 47.7	
URV	**Uravakonda**	**18.11**	**296**	*e*P	**P**	**12 15 41.4**	**+1.5**
URV				*e*		12 18 47.7	
RPR	**Rampur**	**18.31**	**310**	*e*P	**P**	**12 15 42.5**	**+0.4**
RPR				*e*		12 18 53.0	
SRSP	**Sriramsagar**	**19.08**	**308**	*e*P	**Pn**	**12 15 52.4**	**+0.9**
SRSP				*e*		12 19 11.8	
KMI	**Kunming**	**19.37**	**24**	P	**Pn**	**12 16 00.8**	**+5.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NGP	**Nagpur**	**19.91**	**315**	*e*P	**P**	**12 15 58.4**	**-1.2**
NGP				IAmb	IAmb	12 16 02.5	
	comp=Z,431nm,3.8s						
NGP				*e*x	x	12 19 22.6	
KLRI	**Killari**	**20.04**	**303**	*e*P	Pn	12 16 04.4	+1.5
KLRI				*e*		12 19 31.8	
ODAN	**Odare**	**20.29**	**342**	*e*P	**P**	**12 16 04.7**	**+0.7**
	comp=Z,46nm,0.4s						
RAMN	**Ramite**	**20.62**	**341**	*e*P	Pn	12 16 09.1	-0.8
	comp=Z,87nm,0.6s						
TAPN	**Taplejung**	**20.66**	**344**	*e*P	**P**	**12 16 08.8**	**+0.7**
	comp=Z,102nm,0.7s						
JIRN	**Jiri**	**21.42**	**340**	*e*P	**P**	**12 16 16.9**	**+0.6**
	comp=Z,58nm,0.6s						
PKI	**Pulchoki**	**21.61**	**339**	*e*P	**P**	**12 16 18.6**	**+0.3**
	comp=Z,52nm,0.6s						
PKIN	**Phulchoki**	**21.62**	**339**	*e*P	**P**	**12 16 18.5**	**+0.2**
	comp=Z,33nm,0.5s						
DMN	**Daman**	**21.75**	**338**	*e*P	**P**	**12 16 20.5**	**+0.7**
	comp=Z,68nm,0.6s						
GUN	**Gumba**	**21.75**	**340**	*e*P	**P**	**12 16 20.1**	**+0.2**
	comp=Z,50nm,0.6s						
KKN	**Kakani**	**21.85**	**339**	*e*P	**P**	**12 16 21.3**	**+0.5**
	comp=Z,44nm,0.6s						
LSA	**Lhasa**	**22.27**	**353**	P	**P**	**12 16 25.6**	**+0.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**22.27**	**353**	*e*P	**P**	**12 16 25.9**	**+0.4**
	comp=Z,35nm,0.8s						
BHPL	**Bhopal**	**22.41**	**316**	*e*P	**P**	**12 16 27.5**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**22.49**	**335**	*e*P	**P**	**12 16 27.6**	**-0.1**
	comp=Z,31nm,0.5s						
PYUN	**Piuthan**	**23.04**	**334**	*e*P	**P**	**12 16 33.5**	**+0.1**
	comp=Z,73nm,0.8s						
CD2	**Chengdu**	**24.98**	**20**	P	**P**	**12 16 53.8**	**+2.2**
CD2				pP	sP	12 17 03.6	+3.4
CD2				sP	pP	12 17 08.1	+10
CD2				S	**S**	**12 21 17.9**	**+3.4**
CD2				sS	sS	12 21 34.8	+10
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,450nm,10.8s						
CD2				LR	LR		
	comp=Z,240nm,14.7s						
CD2				LR	LR		
	comp=Z,360nm,16.2s						
H08S3	**Diego Garcia H**	**26.29**	**236**	T	T	12 43 48.5	
	baz=55,slow=76,SNR=296						
H08S2	**Diego Garcia H**	**26.29**	**236**	T	T	12 43 51.6	
	baz=55,slow=76,SNR=392						
H08S1	**Diego Carcia H**	**26.31**	**236**	T	T	12 43 52.9	
	baz=55,slow=76,SNR=216						
H08N1	**Diego Carcia H**	**26.84**	**240**	T	T	12 44 35.6	
	baz=46,slow=75,SNR=2.9						
H08N2	**Diego Garcia H**	**26.84**	**240**	T	T	12 44 37.9	
	baz=46,slow=75,SNR=6.1						
H08N3	**Diego Garcia H**	**26.86**	**240**	T	T	12 44 38.7	
	baz=46,slow=75,SNR=5.4						
SMLA	**Simla**	**28.35**	**328**	*e*P	**P**	**12 17 21.2**	**-0.7**
SMLA				IAmb	IAmb	12 17 22.4	
	comp=Z,22nm,0.2s						
DHRM	**DHARAMSHALA**	**29.69**	**328**	IAmb	IAmb	12 16 16.7	
	comp=Z,7.4nm,0.7s						
DHRM				*e*P	**P**	**12 17 33.5**	**-0.6**
XAN	**Xi'an**	**29.74**	**25**	P	**P**	**12 17 35.4**	**+1.1**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WHN	**Wuhan**	**29.75**	**37**	P	P	12 17 41.4	+7.1
LUWI	**Luwuk**	**29.81**	**105**	*e*P	**P**	**12 17 34.1**	**-1.0**
	comp=Z,51nm,1.0s						
GTA	**Gaotai**	**32.19**	**8**	*e*P	**P**	**12 17 56.8**	**+0.9**
GTA				pP	sP	12 18 06.1	+1.6
GTA				sP	pP	12 18 10.5	+8.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MMRI	**Maumere**	**32.28**	**119**	*e*P	**P**	**12 17 54.1**	**-2.7**
	comp=Z,75nm,1.3s						
NJ2	**Nanjing**	**33.57**	**40**	*e*P	**P**	**12 18 10.4**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSH	**Kashi**	**35.81**	**336**	P	**P**	**12 18 25.4**	**-1.9**
KSH				sP	sP	12 18 40.1	+4.1
KSH				PP	**PP**	**12 19 49.4**	**+0.5**
KSH				S	**S**	**12 23 56.7**	**-7.2**
KSH				sS	sS	12 24 13.7	-0.4
KSH				SS	**SnSn**	**12 26 18.9**	**-8.2**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,130nm,6.4s						
KSH				LR	LR		
	comp=Z,160nm,6.6s						
KSH				LR	LR		
	comp=Z,130nm,6.2s						
KSH				LR	LR		
	comp=Z,230nm,7.1s						
WMQ	**Urumqi**	**36.62**	**352**	P	**P**	**12 18 34.7**	**+0.6**
WMQ				pP	sP	12 18 46.2	+3.4
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,3.8s						
HHC	**Hu-ho-hao-te**	**36.67**	**22**	*e*P	**P**	**12 18 38.0**	**+3.3**
HHC				pmax	pmax		
	comp=Z,19nm,1.1s						
HHC				pmax	pmax		
	comp=Z,85nm,6.1s						
WSAR	**Wadi Sarin**	**37.49**	**299**	P	**P**	**12 18 43.5**	**+1.7**
	comp=Z,1.8nm,0.5s,baz=121,slow=8.4,SNR=5.8						
UCH	**Uchtor**	**38.69**	**337**	P	**P**	**12 18 52.7**	**+0.5**
	SNR=9.4						
TKM2	**Tokmak 2**	**38.87**	**338**	P	**P**	**12 18 53.3**	**0.0**
	SNR=5.6						
KBK	**Karagaybulak**	**38.89**	**337**	P	**P**	**12 18 54.2**	**+0.8**
	SNR=12						
AML	**Almayashu**	**38.94**	**336**	P	**P**	**12 18 54.6**	**+0.5**
	SNR=7.3						
AAK	**Ala-Archa**	**39.05**	**337**	P	**P**	**12 18 56.2**	**+1.4**
	SNR=6.8						
AAK	**Ala-Archa**	**39.05**	**337**	*e*P	**P**	**12 18 55.2**	**+0.5**
	comp=Z,6.4nm,0.8s						
EKS2	**Erkin-Say**	**39.35**	**336**	P	**P**	**12 18 57.9**	**+0.6**
	SNR=10						
MK01	**Makanchi Array**	**40.43**	**347**	*e*P	**P**	**12 19 05.6**	**-0.4**
MK31	**Makanchi Array**	**40.45**	**347**	*e*P	**P**	**12 19 05.9**	**-0.4**
MK32	**Makanchi Array**	**40.45**	**347**	*e*P	**P**	**12 19 05.9**	**-0.4**
MKAR	**Makanchi Array**	**40.45**	**347**	P	**P**	**12 19 05.9**	**-0.4**
	comp=Z,5.1nm,0.7s,baz=165,slow=8.5,SNR=73						
MKAR	**Makanchi Array**	**40.45**	**347**	*e*P	**P**	**12 19 05.8**	**-0.4**
	comp=Z,30nm,0.6s						
MAKZ	**Makanchi**	**40.53**	**347**	*e*P	**P**	**12 19 06.3**	**-0.6**
	comp=Z,4.3nm,0.7s						
KKAR	**Karatay Array**	**41.09**	**333**	*e*P	**P**	**12 19 12.0**	**+0.4**
SONA0	**Songino Array**	**41.53**	**12**	*e*P	**P**	**12 19 15.9**	**+0.6**
SONA0				*e*PcP	**PcP**	**12 21 12.8**	**+0.3**
SONM	**Songino Array**	**41.53**	**12**	P	**P**	**12 19 15.9**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=197,slow=7.5,SNR=16						
SONM				PcP	**PcP**	**12 21 12.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=207,slow=3.2,SNR=4.0						
SONA1	**Songino Array**	**41.55**	**12**	*e*P	**P**	**12 19 15.6**	**+0.2**
KS15	**Wonju Array Si**	**42.73**	**41**	*e*P	**P**	**12 19 24.9**	**-0.1**
KSRS	**Korea Array**	**42.76**	**41**	P	**P**	**12 19 27.3**	**+2.0**
	comp=Z,2.1nm,1.1s,baz=244,slow=6.7,SNR=3.7						
GEYT	**Alibeck**	**44.47**	**318**	P	**P**	**12 19 39.6**	**+0.5**
	comp=Z,11nm,0.5s,baz=142,slow=8.0,SNR=16						
KURK	**Kurchatov**	**44.97**	**346**	*e*P	**P**	**12 19 42.8**	**0.0**
	comp=Z,11nm,1.0s						
NWAO	**Narrogin (SRO)**	**45.82**	**153**	P	**P**	**12 19 51.4**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=200,slow=8.5,SNR=6.7						
ZAA0	**Zalesovo Array**	**46.93**	**352**	*e*P	**P**	**12 19 58.1**	**-0.1**
	comp=Z,10nm,0.6s						
ZALV	**Zalesovo Beam**	**46.93**	**352**	P	**P**	**12 19 58.3**	**+0.1**
	comp=Z,9.1nm,0.4s,baz=178,slow=7.8,SNR=54						
ZALV	**Zalesovo Beam**	**46.93**	**352**	*e*P	**P**	**12 19 58.0**	**-0.2**
ZAA1	**Zalesovo Array**	**46.93**	**352**	*e*P	**P**	**12 19 58.3**	**+0.1**
WR1	**Warramunga Arr**	**48.06**	**125**	*e*P	**P**	**12 20 06.9**	**-0.6**
	comp=Z,21nm,1.6s						
WR1				*e*PcP	**PcP**	**12 21 34.5**	**-0.8**
WRA	**Warramunga Arr**	**48.06**	**125**	P	**P**	**12 20 06.9**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=305,slow=8.6,SNR=56						
WRA				PcP	**PcP**	**12 21 34.5**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=315,slow=2.8,SNR=4.7						
WB2	**Warramunga Arr**	**48.07**	**125**	*e*P	**P**	**12 20 06.4**	**-1.3**
RAYN	**Ar Rayn**	**49.22**	**295**	*e*P	**P**	**12 20 17.7**	**+1.1**
	comp=Z,6.8nm,0.6s						
BVAR	**Borovoye Array**	**49.34**	**341**	P	**P**	**12 20 16.5**	**-0.4**
	comp=Z,2.9nm,0.4s,baz=140,slow=10,SNR=13						
MAJO	**Matsushiro**	**49.43**	**48**	*e*P	**P**	**12 20 20.2**	**+2.4**
MJAR	**Matsushiro Arr**	**49.43**	**48**	P	**P**	**12 20 20.2**	**+2.3**
	comp=Z,7.5nm,1.2s,baz=245,slow=6.5,SNR=4.2						
AS31	**Alice Springs**	**49.69**	**130**	*e*P	**P**	**12 20 19.8**	**-0.3**
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**49.69**	**130**	P	**P**	**12 20 19.5**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=301,slow=7.9,SNR=51						
ABKAR	**Akbulak array**	**50.55**	**332**	*e*P	**P**	**12 20 26.0**	**-0.1**
	comp=Z,107nm,0.8s						
AKTO	**Aktyubinsk**	**52.27**	**332**	P	**P**	**12 20 38.4**	**-0.6**
	comp=Z,5.2nm,0.6s,baz=105,slow=10,SNR=19						
ARU	**Arti**	**56.23**	**337**	*e*P	**P**	**12 21 06.8**	**-0.9**
	comp=Z,13nm,0.7s						
STKA	**Stephens Creek**	**59.86**	**134**	P	**P**	**12 21 33.4**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=330,slow=9.2,SNR=4.9						
STKA	**Stephens Creek**	**59.86**	**134**	*e*P	**P**	**12 21 33.1**	**-0.6**
	comp=Z,3.2nm,1.4s						
BR101	**Keskin Array S**	**62.66**	**311**	*e*P	**P**	**12 21 50.4**	**-2.3**
BRTR	**Keskin Array B**	**62.66**	**311**	P	**P**	**12 21 50.4**	**-2.3**
	comp=Z,1.4nm,0.6s,baz=140,slow=6.2,SNR=6.9						
ILGA	**Ilgaz**	**62.92**	**312**	*e*P	**P**	**12 21 50.7**	**-3.9**
	comp=Z,65nm,1.6s						
ILGA				*e*S	**S**	**12 30 22.6**	**-1.2**
TIXI	**Tiksi**	**67.61**	**11**	P	**P**	**12 22 23.3**	**-0.7**
	comp=Z,3.4nm,0.5s,baz=205,slow=4.5,SNR=14						
CRVS	**Cervenica-Dubn**	**73.00**	**319**	*e*P	**P**	**12 22 57.1**	**-0.4**
FIA0	**FINESS Array S**	**73.03**	**332**	*e*P	**P**	**12 22 56.4**	**-1.0**
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**12 22 56.4**	**-1.0**
	comp=Z,3.4nm,0.6s,baz=94,slow=6.3,SNR=16						
FINES				LR	LR	12 58 42.4	
	comp=Z,94nm,18.1s,baz=39,slow=39						
ARA0	**ARCESS Array S**	**75.61**	**340**	*e*P	**P**	**12 23 11.8**	**-0.6**
ARCES	**ARCESS Array B**	**75.61**	**340**	P	**P**	**12 23 11.8**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=82,slow=4.3,SNR=12						
GERES	**GERESS Array B**	**78.09**	**318**	P	**P**	**12 23 25.8**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=100,slow=6.9,SNR=6.8						
HFS	**Hagfors**	**78.77**	**330**	P	**P**	**12 23 29.2**	**-1.0**
	comp=Z,3.9nm,1.0s,baz=101,slow=4.6,SNR=8.7						
NB200	**NORSAR Array S**	**80.05**	**331**	*e*P	**P**	**12 23 36.5**	**-0.7**
NOA	**NORSAR Array B**	**80.05**	**331**	P	**P**	**12 23 36.5**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=95,slow=11,SNR=2.7						
SPITS	**Spitsbergen Ar**	**80.20**	**348**	P	**P**	**12 23 37.2**	**-0.5**
	comp=Z,11nm,1.0s,baz=67,slow=6.5,SNR=9.2						
TORD	**Torodi Ar. Bea**	**90.66**	**283**	P	**P**	**12 24 29.4**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=84,slow=4.0,SNR=2.7						
TOA1	**Torodi Ar. Sit**	**90.66**	**283**	*e*P	**P**	**12 24 29.4**	**-1.7**

DDA ***02*** *12:16:22.9, 39.°64N×38.°25E, h7km, Ml2.3*
ISCJB ***02*** *12:16:23.5±0.5, 39.°62N±0.°04×38.°24E±0.°03, h12km±4km, Error ellipse: s-maj=6.6km s-min=3.4km az=30.4*
ISK ***02*** *12:16:23.7, 39.°49N×38.°20E, h5km, ML2.6/7*
CSEM ***02*** *12:16:23.2±0.3, 39.°62N×38.°23E, h10km, ML2.6, Error ellipse: s-maj=7.4km s-min=4.7km az=30.0*
ISC 02 12:16:23.0±1.1**, 39.°60N**±0.°03×**38.°28E**±0.°02**, h5**km±11km**, n30, σ0.s96**/51**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.27**	**124**	PG	**Pb**	**12 16 30.1**	**-0.4**
ILIC				SG	**Sb**	**12 16 34.6**	**-0.8**
ILIC	**ilic-Erzincan**	**0.27**	**124**	*e*Pg	**Pb**	**12 16 30.1**	**-0.4**
ILIC				*e*Sg	**Sb**	**12 16 34.6**	**-0.8**
KEMA	**Kemaliye**	**0.38**	**153**	*i* P	**Pb**	**12 16 31.4**	**-0.8**
KEMA				*i* S	**Sb**	**12 16 38.0**	**-0.3**
KEMA	**Kemaliye**	**0.38**	**153**	P	**Pb**	**12 16 31.4**	**-0.8**
KEMA				S	**Sb**	**12 16 38.0**	**-0.3**
REFA	**Refahiye_ERZ˜**	**0.43**	**119**	*i* P	**Pb**	**12 16 32.4**	**-0.8**
REFA				*i* S	**Sb**	**12 16 40.1**	**0.0**
REFA	**Refahiye_ERZ˜**	**0.43**	**119**	P	**Pb**	**12 16 32.4**	**-0.8**
REFA				S	**Sb**	**12 16 40.1**	**0.0**
CUZAR	**Zara_SIVAS**	**0.48**	**306**	*i* P	**Pg**	**12 16 31.8**	**-0.5**
CUZAR				*i* S	**Sg**	**12 16 39.3**	**+0.7**
CUZAR	**Zara_SIVAS**	**0.48**	**306**	P	**Pg**	**12 16 31.8**	**-0.5**
CUZAR				S	**Sg**	**12 16 39.3**	**+0.7**
SUSE	**Susehri**	**0.61**	**355**	*i* P	**Pg**	**12 16 33.2**	**-1.5**
SUSE				*i* S	**Sg**	**12 16 43.3**	**+0.7**
SUSE	**Susehri**	**0.61**	**355**	P	**Pg**	**12 16 33.2**	**-1.5**
SUSE				S	**Sg**	**12 16 43.3**	**+0.7**
SCER	**sogukcermik**	**0.92**	**287**	*i* P	**Pg**	**12 16 39.8**	**-0.9**
SCER				*i* S	**Sg**	**12 16 53.1**	**+0.5**
SCER	**sogukcermik**	**0.92**	**287**	P	**Pg**	**12 16 39.8**	**-0.9**
SCER				S	**Sg**	**12 16 53.1**	**+0.5**
KELT	**Kelkit**	**0.93**	**54**	*i* P	**Pg**	**12 16 40.3**	**-0.6**
KELT				*i* S	**Sb**	**12 16 53.8**	**-0.7**
KELT	**Kelkit**	**0.93**	**54**	P	**Pg**	**12 16 40.3**	**-0.6**
KELT				S	**Sb**	**12 16 53.8**	**-0.7**
SVSK	**Karacayir**	**1.03**	**288**	PG	**Pb**	**12 16 43.6**	**+0.3**
SVSK				SG	**Sn**	**12 16 58.4**	**-0.5**
SVSK	**Karacayir**	**1.03**	**288**	*e*Pg	**Pb**	**12 16 43.6**	**+0.3**
TNCL	**Tunceli-Merkez**	**1.10**	**116**	*i* P	**Pb**	**12 16 44.2**	**-0.3**
TNCL				*i* S	**Sn**	**12 17 01.7**	**+1.0**
TNCL	**Tunceli-Merkez**	**1.10**	**116**	P	**Pb**	**12 16 44.2**	**-0.3**
TNCL				S	**Sn**	**12 17 01.7**	**+1.0**
PTK	**Pertek**	**1.12**	**129**	PN	**Pb**	**12 16 45.1**	**+0.1**
PTK				SN	**Sb**	**12 17 00.2**	**+0.2**
PTK	**Pertek**	**1.12**	**129**	*e*Pn	**Pb**	**12 16 45.1**	**+0.1**
PTK				*e*Sn	**Sb**	**12 17 00.2**	**+0.2**
DARE	**Darende-Malaty**	**1.20**	**211**	PG	**Pg**	**12 16 45.1**	**-0.9**
DARE	**Darende-Malaty**	**1.20**	**211**	*e*Pg	**Pg**	**12 16 45.1**	**-0.9**
MALT	**Malatya**	**1.29**	**175**	PN	**Pn**	**12 16 47.2**	**-0.6**
MALT	**Malatya**	**1.29**	**175**	*e*Pn	**Pn**	**12 16 47.2**	**-0.6**
CUSAR	**Sarkisla-SIVAS**	**1.58**	**264**	*i* P	**Pn**	**12 16 50.7**	**-1.1**
CUSAR				*i* S	**Sg**	**12 17 16.6**	**+2.8**
CUSAR	**Sarkisla-SIVAS**	**1.58**	**264**	P	**Pn**	**12 16 50.7**	**-1.1**
CUSAR				S	**Sg**	**12 17 16.6**	**+2.8**
BAYT	**Ayd˜–ntepe-Bay**	**1.64**	**61**	PN	**Pg**	**12 16 55.4**	**+1.0**
BAYT	**Ayd˜–ntepe-Bay**	**1.64**	**61**	*e*Pn	**Pg**	**12 16 55.4**	**+1.0**
YOZ	**Yozgat**	**2.28**	**272**	PN	**Pn**	**12 17 02.6**	**+1.1**
YOZ	**Yozgat**	**2.28**	**272**	*e*Pn	**Pn**	**12 17 02.6**	**+1.1**

ISCJB ***02*** *12:16:45.2±1.2, 64.°9S±0.°1×176.°3E±0.°6, h10km, mb4.3/3, Error ellipse: s-maj=35.9km s-min=18.9km az=163.2*
IDC ***02*** *12:16:45.0±0.9, 64.°79S×176.°90E, h0km, mb4.2/3, mb1 4.4/4, mb1mx4.0/29, mbtmp4.1/4, ML3.2/1, Error ellipse: s-maj=52.6km s-min=28.8km az=45.0*
ISC 02 12:16:46.4±0.9**, 64.°8S**±0.°2×**176.°8E**±0.°3**, h10**km**, n29, σ0.s41**/12**, mb4.1**/3**, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.53**	**194**	Pn	**Pn**	**12 19 58.0**	**-0.1**
	0.1nm,0.3s,baz=42,slow=16,SNR=4.9						
DZM	**Mont Dzumac**	**43.30**	**346**	*e*LR	LR	12 36 54.4	
	1μm,26.6s						
TBI	**Tubuai**	**46.93**	**44**	*e*LR	LR	12 38 21.4	
	284nm,29.8s						
TBI	**Tubuai**	**46.93**	**44**	*e*T	T	13 15 01.4	
	9.9nm,0.3s						
H01W1	**Cape Leeuwin H**	**47.44**	**278**	T	T	13 17 08.7	
	baz=148,slow=76,SNR=9.4						
H01W2	**Cape Leeuwin H**	**47.45**	**278**	T	T	13 17 08.9	
	baz=148,slow=76,SNR=13						
H01W3	**Cape Leeuwin H**	**47.46**	**278**	T	T	13 17 09.9	
	baz=148,slow=76,SNR=11						
ASAR	**Alice Springs**	**49.61**	**305**	P	**P**	**12 25 37.8**	**+0.2**
	2.6nm,1.2s,baz=180,slow=12,SNR=6.4						
RKT	**Rikitea**	**52.04**	**61**	*e*T	T	13 21 25.2	
	3.3nm,0.2s						
TVO	**Taravao**	**52.25**	**42**	*e*T	T	13 21 40.8	
	1.3nm,0.3s						
PAE	**Paea**	**52.27**	**42**	*e*T	T	13 21 41.6	
	0.6nm,0.3s						
PPT2	**Papeete2**	**52.34**	**42**	*e*LR	LR	12 40 58.9	
	249nm,25.8s						
PPT2	**Papeete2**	**52.34**	**42**	*e*T	T	13 21 47.6	
	2.0nm,0.3s						
WRA	**Warramunga Arr**	**52.90**	**307**	P	**P**	**12 26 01.8**	**-0.5**
	3.1nm,1.2s,baz=158,slow=7.1,SNR=6.3						
VAH	**Vaihoa**	**55.13**	**43**	*e*T	T	13 25 16.7	
	65nm,0.3s						
TAOE	**Nuku Hiva Isla**	**63.46**	**49**	*e*LR	LR	12 45 48.5	
	120nm,24.1s						
LPAZ	**La Paz**	**85.53**	**119**	P	**P**	**12 29 25.1**	**-0.1**
	7.3nm,1.3s,baz=142,slow=2.0,SNR=7.5						
H08S2	**Diego Garcia H**	**89.15**	**254**	T	T	14 09 15.6	
	baz=155,slow=76						
H08S1	**Diego Carcia H**	**89.16**	**254**	T	T	14 09 25.1	
	baz=155						
H08S3	**Diego Garcia H**	**89.17**	**254**	T	T	14 09 20.2	
	baz=155,slow=76						
H02S1	**DAWSON INLET T**	**124.02**	**34**	T	T	14 51 46.6	
	SNR=7.4						
TORD	**Torodi Ar. Bea**	**128.26**	**186**	PKP	**PKPdf**	**12 35 52.7**	**+0.1**
	0.5nm,0.8s,baz=29,slow=3.4,SNR=3.6						
ILAR	**Eielson Array**	**132.01**	**20**	PKP	**PKPdf**	**12 35 58.6**	**+0.4**
	1.8nm,1.3s,baz=286,slow=4.1,SNR=5.2						
MKAR	**Makanchi Array**	**132.84**	**291**	PKP	**PKPdf**	**12 36 00.9**	**+0.5**
	0.3nm,0.7s,baz=97,slow=4.0,SNR=3.5						
YKA	**Yellowknife Ar**	**136.74**	**39**	PKP	**PKPdf**	**12 36 06.5**	**-0.6**
	0.1nm,0.7s,baz=204,slow=1.5,SNR=4.5						
AKTO	**Aktyubinsk**	**145.75**	**275**	PKPbc	**PKPab**	**12 36 24.5**	**-0.1**
	6.0nm,1.2s,baz=118,slow=3.7,SNR=11						
KBZ	**Khabaz**	**146.88**	**253**	PKPbc	**PKPbc**	**12 36 28.1**	**+0.5**
	2.1nm,0.8s,baz=96,slow=6.5,SNR=5.1						
BRTR	**Keskin Array B**	**147.06**	**238**	PKPbc	**PKPbc**	**12 36 28.3**	**-0.3**
	3.3nm,1.1s,baz=172,slow=3.7,SNR=7.8						
KEST	**Kesra**	**149.89**	**201**	PKPbc	**PKPbc**	**12 36 36.1**	**+0.2**
	1.4nm,0.6s,baz=126,slow=1.8,SNR=4.2						

GCMT ***02*** *12:18:16.0±0.4, 64.°60S×177.°39E, h14km±1km, MW5.0/65, Moment Tensor Solution. s22,c24; s65,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.22±.24; $M_{\theta\theta}$1.93±.17; $M_{\phi\phi}$1.28±.17; $M_{r\theta}$-2.77±.47; $M_{\theta\phi}$0.32±.11; $M_{\phi r}$0.08±.33; Best double couple: $M_0$3.80300×10^{16} NP1:ϕ_s86.00000°, δ68.00000°, λ-85.00000°. NP2: ϕ_s251.00000°, δ22.00000°, λ-103.00000°. Principal axes: T 3.1730, Plg23.0000°, Azm171.0000°; N 1.2520, Plg5.0000°, Azm264.0000°; P -4.4340, Plg66.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***02*** *12:18:25.3±1.6, 64.°80S×176.°66E, h0km, mb4.0/2, mb1 4.4/3, mb1mx4.0/29, mbtmp4.1/3, ML3.0/1 Error ellipse: s-maj=68.5km s-min=38.9km az=67.0*
ISC 02 12:18:26.4±1.4**, 64.°8S**±0.°2×**176.°5E**±0.°4**, h10**km**, n16, σ0.s94**/9**, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.51**	**194**	Pn	**Pn**	**12 21 37.9**	**+0.2**
	0.1nm,0.3s,baz=38,slow=16,SNR=3.3						
H01W1	**Cape Leeuwin H**	**47.34**	**278**	T	T	13 18 44.6	
	baz=143						
H01W2	**Cape Leeuwin H**	**47.34**	**278**	T	T	13 18 43.7	
	baz=143						
H01W3	**Cape Leeuwin H**	**47.35**	**278**	T	T	13 18 46.8	
	baz=143						
ASAR	**Alice Springs**	**49.52**	**305**	P	**P**	**12 27 17.7**	**+0.7**
	2.9nm,1.2s,baz=161,slow=8.2,SNR=6.1						
WRA	**Warramunga Arr**	**52.81**	**308**	P	**P**	**12 27 41.7**	**0.0**
	2.5nm,1.2s,baz=156,slow=6.8,SNR=5.2						
H08S2	**Diego Garcia H**	**89.05**	**254**	T	T	14 10 54.0	
	baz=147,slow=76						
H08S1	**Diego Carcia H**	**89.05**	**254**	T	T	14 11 06.6	
	baz=147						
H08S3	**Diego Garcia H**	**89.07**	**254**	T	T	14 10 59.0	
	baz=147,slow=76						
H02S1	**DAWSON INLET T**	**124.08**	**34**	T	T	14 53 20.9	
ILAR	**Eielson Array**	**132.04**	**20**	PKP	**PKPdf**	**12 37 37.8**	**-0.6**
	0.6nm,0.9s,baz=215,slow=3.1,SNR=4.7						
MKAR	**Makanchi Array**	**132.74**	**291**	PKP	**PKPdf**	**12 37 38.8**	**-1.4**
	0.3nm,0.9s,baz=92,slow=3.3,SNR=2.7						
YKA	**Yellowknife Ar**	**136.81**	**39**	PKP	**PKPdf**	**12 37 48.8**	**+1.5**
	0.3nm,0.9s,baz=287,slow=2.7,SNR=4.0						
AKTO	**Aktyubinsk**	**145.65**	**275**	PKPbc	**PKPab**	**12 38 04.3**	**+0.1**
	2.0nm,0.9s,baz=108,slow=3.9,SNR=7.4						
KBZ	**Khabaz**	**146.78**	**253**	PKPbc	**PKPab**	**12 38 08.3**	**-0.4**
	2.5nm,0.8s,baz=49,slow=5.1,SNR=3.5						
BRTR	**Keskin Array B**	**146.97**	**239**	PKPbc	**PKPbc**	**12 38 08.3**	**0.0**
	1.4nm,0.8s,baz=141,slow=4.1,SNR=5.1						

IDC ***02*** *12:18:33.5±0.5, 52.°71N×160.°28E, h0km, mb4.7/42, mb1 4.8/45, mb1mx4.7/77, mbtmp4.7/45, ML4.3/4, MS4.0/28, Ms1 4.0/28, ms1mx3.7/72, Error ellipse: s-maj=11.9km s-min=9.2km az=157.0*
BJI ***02*** *12:18:35.4, 52.°95N×160.°23E, h30km, mb4.7/56, mB4.9/40, Ms4.6/44, Ms7 4.5/40*
KRSC ***02*** *12:18:35.3±1.7, 52.°57N×160.°62E, h40km±16km, ML5.2, FELT [III] at Petropavlovsk, Institute; [II-III] at Pionersky.*
ISCJB ***02*** *12:18:36.2±0.2, 52.°52N±0.°02×160.°45E±0.°03, h33km, mb4.8/201, MS4.2/42, Error ellipse: s-maj=3.0km s-min=2.1km az=136.1*
MOS ***02*** *12:18:38.7±1.2, 52.°64N×160.°27E, h52km, mb5.0/79, MS4.0/22, Error ellipse: s-maj=5.9km s-min=3.0km az=97.7*
NEIC ***02*** *12:18:41.2±0.6, 52.°69N×160.°17E, h58km±4km, mb4.8/80, Error ellipse: s-maj=5.5km s-min=3.5km az=162.0*
ISC 02 12:18:37.5±0.8**, 52.°61N**±0.°04×**160.°40E**±0.°03**, h29**km±5km**, n514, σ1.s48**/574**, mb4.8**/205**, MS4.2**/43**, 23C-16D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.54**	**335**	PN	**Pn**	**12 18 48.2**	**-1.0**
SPN				S	**Sb**	**12 18 55.8**	**-0.3**
SPN	**Mys Shipunski**	**0.54**	**335**	*i* P	**Pn**	**12 18 48.2**	**-1.0**
SPN				*i* S	**Sb**	**12 18 55.8**	**-0.3**
NLC	**Nalytchevo**	**0.85**	**312**	PN	**Pn**	**12 18 53.3**	**-0.2**
NLC				S	**Sb**	**12 19 06.4**	**+1.6**
NLC	**Nalytchevo**	**0.85**	**312**	*e*P	**Pn**	**12 18 53.3**	**-0.2**
NLC				*e*S	**Sb**	**12 19 06.4**	**+1.6**
DALK	**Dalny**	**1.08**	**294**	PN	**Pn**	**12 18 57.5**	**+0.8**
DALK				S	**Sb**	**12 19 12.6**	**+1.2**
DALK	**Dalny**	**1.08**	**294**	*e*P	**Pn**	**12 18 57.5**	**+0.8**
DALK				*e*S	**Sb**	**12 19 12.6**	**+1.2**
UGLR	**Uglovaya**	**1.13**	**303**	PN	**Pb**	**12 18 58.4**	**-0.1**
UGLR	**Uglovaya**	**1.13**	**303**	*e*P	**Pb**	**12 18 58.4**	**-0.1**
SDLR	**Sedlovina**	**1.14**	**307**	PN	**Pn**	**12 18 58.2**	**+0.7**
SDLR	**Sedlovina**	**1.14**	**307**	*e*P	**Pn**	**12 18 58.2**	**+0.7**
PET	**Petropavlovsk**	**1.14**	**292**	*e*Pn	**Pn**	**12 18 58.3**	**+1.0**
PET				*e*Sn	**Sn**	**12 19 08.0**	**-4.1**
PET	**Petropavlovsk**	**1.14**	**292**κ	*i*PN	**Pn**	**12 18 58.4**	**+1.0**
PET				*e*S	**Sb**	**12 19 14.7**	**+1.7**
PET				pmax	pmax		
	comp=Z,7μm,1.6s						
PET				pmax	pmax		
	comp=Z,5μm,0.5s						
PET				smax	smax		
	comp=N,28μm,0.5s						
PET				smax	smax		
	comp=E,28μm,0.7s						
RUS	**Russkaya**	**1.17**	**262**	PN	**Pn**	**12 18 58.8**	**+1.0**
RUS				S	**Sb**	**12 19 14.6**	**+0.9**
RUS	**Russkaya**	**1.17**	**262**	*e*P	**Pn**	**12 18 58.8**	**+1.0**
RUS				*e*S	**Sb**	**12 19 14.6**	**+0.9**
SMAR	**Somma**	**1.17**	**305**	PN	**Pn**	**12 18 58.4**	**+0.3**
SMAR	**Somma**	**1.17**	**305**	*e*P	**Pn**	**12 18 58.4**	**+0.3**
INSR	**Institute**	**1.18**	**294**	PN	**Pn**	**12 18 58.1**	**+0.1**
INSR				S	**Sb**	**12 19 14.7**	**+0.5**
INSR	**Institute**	**1.18**	**294**	*e*P	**Pn**	**12 18 58.1**	**+0.1**
INSR				*e*S	**Sb**	**12 19 14.7**	**+0.5**
AVH	**Avacha**	**1.20**	**304**	PN	**Pb**	**12 18 59.5**	**-0.2**
AVH	**Avacha**	**1.20**	**304**	*e*P	**Pb**	**12 18 59.5**	**-0.2**
KOK	**Koryaka**	**1.27**	**303**	PN	**Pn**	**12 19 00.3**	**+1.0**
KOK	**Koryaka**	**1.27**	**303**	*e*P	**Pn**	**12 19 00.3**	**+1.0**
KRX	**Arik**	**1.30**	**306**	PN	**Pn**	**12 19 00.4**	**+0.6**
KRX	**Arik**	**1.30**	**306**	*e*P	**Pn**	**12 19 00.4**	**+0.6**
MTVR	**Mutnovka**	**1.36**	**266**	PN	**Pn**	**12 19 01.5**	**+0.9**
MTVR	**Mutnovka**	**1.36**	**266**	*e*P	**Pn**	**12 19 01.5**	**+0.9**
KRMR	**Karymshinskiy**	**1.40**	**280**	PN	**Pn**	**12 19 02.3**	**+1.3**
KRMR				S	**Sb**	**12 19 20.7**	**+0.3**
KRMR	**Karymshinskiy**	**1.40**	**280**	*e*P	**Pn**	**12 19 02.3**	**+1.3**
KRMR				*e*S	**Sb**	**12 19 20.7**	**+0.3**
KII	**Karymskiy**	**1.54**	**339**	PN	**Pn**	**12 19 03.8**	**+0.8**
KII	**Karymskiy**	**1.54**	**339**	*e*P	**Pn**	**12 19 03.8**	**+0.8**
ASAK	**Asacha**	**1.54**	**263**	PN	**Pn**	**12 19 04.5**	**+1.4**
ASAK	**Asacha**	**1.54**	**263**	P	**Pn**	**12 19 04.5**	**+1.4**
KDTR	**Khodutka, Kamc**	**1.64**	**242**	*e*P	**Pn**	**12 19 05.5**	**+1.2**
KDTR				*e*S	**Sb**	**12 19 26.9**	**-0.3**
PEA0B	**Petropavlovsk-**	**1.71**	**288**	*e*Pn	**Pn**	**12 19 07.2**	**+1.9**
PETK	**Petropavlovsk-**	**1.71**	**288**	Pn	**Pn**	**12 19 07.0**	**+1.7**
	comp=E,771nm,0.3s,baz=94,slow=18,SNR=2199						
PETK				Sn	**Sb**	**12 19 31.0**	**+1.6**
	comp=E,595nm,0.3s,baz=75,slow=28,SNR=9.7						
PETK				LR	LR	12 20 00.2	
	comp=E,7μm,18.0s,baz=102,slow=54						
PETK	**Petropavlovsk-**	**1.71**	**288**	*e*Pn	**Pn**	**12 19 06.9**	**+1.6**
PEA1	**Petropavlovsk-**	**1.71**	**288**	*e*Pn	**Pn**	**12 19 07.0**	**+1.7**
PEA1				*e*Sn	**Sb**	**12 19 31.0**	**+1.6**
GNL	**Ganaly**	**1.84**	**307**	PN	**Pb**	**12 19 09.3**	**-1.2**
GNL	**Ganaly**	**1.84**	**307**	*e*P	**Pb**	**12 19 09.3**	**-1.2**
PAU	**Pauzhetka**	**2.49**	**244**	PN	**Pn**	**12 19 18.2**	**+2.2**
PAU				S	**Sn**	**12 19 48.3**	**+2.8**
PAU	**Pauzhetka**	**2.49**	**244**	*e*P	**Pn**	**12 19 18.2**	**+2.2**
PAU				*e*S	**Sn**	**12 19 48.3**	**+2.8**
KZV	**Kizimen**	**2.51**	**359**	PN	**Pn**	**12 19 17.6**	**+1.2**
KZV				S	**Sn**	**12 19 48.0**	**+1.9**
KZV	**Kizimen**	**2.51**	**359**	*e*P	**Pn**	**12 19 17.6**	**+1.2**
KZV				*e*S	**Sn**	**12 19 48.0**	**+1.9**
TUMR	**Tumrok**	**2.68**	**357**	PN	**Pn**	**12 19 20.7**	**+1.9**
TUMR				S	**Sn**	**12 19 51.9**	**+1.6**
TUMR	**Tumrok**	**2.68**	**357**	*e*P	**Pn**	**12 19 20.7**	**+1.9**
TUMR				*e*S	**Sn**	**12 19 51.9**	**+1.6**
KMNR	**Kamenistaya**	**3.15**	**358**	PN	**Pn**	**12 19 27.3**	**+2.1**
KMNR				S	**Sn**	**12 20 04.1**	**+2.2**
KMNR	**Kamenistaya**	**3.15**	**358**	*e*P	**Pn**	**12 19 27.3**	**+2.1**
KMNR				*e*S	**Sn**	**12 20 04.1**	**+2.2**
SKR	**Severo-Kuril's**	**3.29**	**236**	*e*PN	**Pn**	**12 19 27.6**	**+0.6**
SKR				*e*S	**Sn**	**12 20 09.7**	**+4.6**
SKR				pmax	pmax		
	comp=Z,144nm,0.5s						
SKR				smax	smax		
	comp=N,3μm,0.6s						
SKR				smax	smax		
	comp=E,3μm,0.8s						

SKR MLR MLR
comp=Z,2µm,17.0s
SKR Severo-Kuril's 3.29 236 *e*P **Pn 12 19 28.3 +1.3**
SKR *e*S **Sn 12 20 08.8 +3.7**
BZMR Bezymyannaya 3.33 1 PN **Pn 12 19 30.4 +2.7**
BZMR Bezymyannaya 3.33 1 *e*P **Pn 12 19 30.4 +2.7**
KIRR Kirishev 3.35 359 PN **Pn 12 19 30.5 +2.5**
KIRR Kirishev 3.35 359 *e*P **Pn 12 19 30.5 +2.5**
BZWR Bezymyannyi-We 3.36 1 PN **Pn 12 19 30.9 +2.7**
BZWR Bezymyannyi-We 3.36 1 *e*P **Pn 12 19 30.9 +2.7**
KPT Kopyto 3.37 358 PN **Pn 12 19 31.2 +3.1**
KPT Kopyto 3.37 358 *e*P **Pn 12 19 31.2 +3.1**
ESO Esso 3.47 344 PN **Pn 12 19 31.4 +1.9**
ESO Esso 3.47 344 *e*P **Pn 12 19 31.4 +1.9**
KOZ Kozyrevsk 3.47 355 PN **Pn 12 19 31.6 +2.1**
KOZ Kozyrevsk 3.47 355 *e*P **Pn 12 19 31.6 +2.1**
LGNR Loginova 3.48 3 PN **Pn 12 19 33.0 +3.1**
LGNR Loginova 3.48 3 *e*P **Pn 12 19 33.0 +3.1**
CIRR Tsirk 3.52 3 PN **Pn 12 19 33.0 +2.7**
CIRR Tsirk 3.52 3 *e*P **Pn 12 19 33.0 +2.7**
KLY Klyuchi 3.71 2 PN **Pn 12 19 35.1 +2.3**
KLY S **Sn 12 20 18.6 +3.1**
KLY Klyuchi 3.71 2 *e*P **Pn 12 19 35.1 +2.3**
KLY *e*S **Sn 12 20 18.6 +3.1**
KBTR Krutoberegovo 3.87 20 PN **Pn 12 19 35.2 +0.2**
KBTR S **Sn 12 20 22.3 +2.9**
KBTR Krutoberegovo 3.87 20 *e*P **Pn 12 19 35.2 +0.2**
KBTR *e*S **Sn 12 20 22.3 +2.9**
BDR Baidarnaya 4.00 6 PN **Pn 12 19 39.2 +2.4**
BDR S **Sn 12 20 24.8 +2.2**
BDR Baidarnaya 4.00 6 *e*P **Pn 12 19 39.2 +2.4**
BDR *e*S **Sn 12 20 24.8 +2.2**
SMKR Semkarok 4.03 8 PN **Pn 12 19 39.6 +2.4**
SMKR S **Sn 12 20 26.0 +2.6**
SMKR Semkarok 4.03 8 *e*P **Pn 12 19 39.6 +2.4**
SMKR *e*S **Sn 12 20 26.0 +2.6**
SRKR Sorokina 4.08 6 PN **Pn 12 19 40.7 +2.8**
SRKR S **Sn 12 20 27.4 +2.8**
SRKR Sorokina 4.08 6 *e*P **Pn 12 19 40.7 +2.8**
SRKR *e*S **Sn 12 20 27.4 +2.8**
BKI Bering 4.20 50 PN **Pn 12 19 38.4 -1.0**
BKI Bering 4.20 50 *i* P **Pn 12 19 38.4 -1.0**
BKI *e*S **Sn 12 20 21.8 -5.6**
PALN Palana 6.50 358 PN Pn 12 20 15.4 +4.4
PALN Palana 6.50 358 *e*P Pn 12 20 15.4 +4.4
OSSR Ossora 6.82 12 PN **Pn 12 20 18.9 +3.5**
OSSR S **Sn 12 21 35.2 +3.2**
OSSR Ossora 6.82 12 *i* P **Pn 12 20 18.9 +3.5**
OSSR *i* S **Sn 12 21 35.2 +3.2**
TILK Tilichiki 8.47 20 PN **Pn 12 20 40.2 +2.2**
TILK Tilichiki 8.47 20 *e*P **Pn 12 20 40.2 +2.2**
MA2 Magadan 8.81 326 Pn **Pn 12 20 45.0 +2.3**
comp=Z,0.6nm,0.3s,baz=140,slow=7.9,SNR=24
MA2 LR LR 12 24 37.0
comp=Z,1µm,19.2s,baz=147,slow=42
MA2 Magadan 8.81 326*ce*PN **Pn 12 20 42.2 -0.5**
KMSK Kamenskaya 10.36 15 PN **Pn 12 21 05.7 +1.8**
KMSK Kamenskaya 10.36 15 *e*P **Pn 12 21 05.7 +1.8**
TYV Tymovskoe 11.14 268 *e*PN Pn 12 21 20.3 +5.6
TYV *e*S **Sn 12 23 25.5 +7.4**
TYV pmax pmax
comp=Z,7.0nm,1.1s
TYV smax smax
comp=E,7.0nm,1.9s
TYV MLR MLR
comp=Z,2µm,15.0s
TYV MLR MLR
comp=E,2µm,13.0s
SEY Seymchan 11.19 341 Pn **Pn 12 21 18.3 +3.1**
comp=E,0.4nm,0.3s,baz=151,slow=12,SNR=9.0
NKL Nikolayevsk 11.93 280 *e*PN **Pn 12 21 28.5 +3.2**
NKL pmax pmax
comp=E,15nm,0.8s
NKL pmax pmax
comp=Z,48nm,0.8s
NKL MLR MLR
comp=N,500nm,16.0s
NKL MLR MLR
comp=E,1µm,16.0s
NKL MLR MLR
comp=Z,1µm,16.0s
SHO Shikotan 12.56 231 *e*PN Pn 12 21 30.7 -3.4
SHO pmax pmax
comp=Z,61nm,0.8s
SHO pmax pmax
comp=E,26nm,0.4s
SHO pmax pmax
comp=N,23nm,0.5s
YSS Yuzh-Sakhalins 12.72 251 *e*Pn **Pn 12 21 37.5 +1.3**
YSS Yuzh-Sakhalins 12.72 251 ⇓ *i*PN **Pn 12 21 39.4 +3.2**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=E,1µm,15.0s
YSS MLR MLR
comp=Z,1µm,15.0s
YUK Yuzh-Kuril'sk 12.91 234*c i*PN **Pn 12 21 38.6 -0.2**
YUK S Sn 12 24 11.1 +10
YUK pmax pmax
comp=Z,82nm,0.4s
YUK MLR MLR
comp=Z,926nm,13.0s
ASAJ Asahikawa 14.54 241 Pn **Pn 12 22 02.0 +1.0**
comp=Z,1.7nm,0.3s,baz=77,slow=14,SNR=20
ASAJ Asahikawa 14.54 241 *e*Pn **Pn 12 22 01.6 +0.5**
ASAJ *e*Sn **Sn 12 24 40.4 -0.6**
ASAJ Asahikawa 14.54 241 P **Pn 12 22 02.0 +1.0**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
GRNR Gornyy 14.97 273 *e*P **P 12 22 11.7 -0.3**
GRNR pmax pmax
comp=Z,26nm,1.0s
BILL Bilibino 15.74 8⇑ *e*P **Pn 12 22 17.1 +0.4**
BILL pmax pmax
comp=Z,5.0nm,0.8s
BILL MLR MLR
comp=Z,555nm,21.0s
ERM Erimo 15.74 235 *e*Pn **Pn 12 22 14.3 -2.6**
comp=Z,151nm,1.5s
ERM *e*Sn **Sn 12 25 11.1 +0.9**
ERM Erimo 15.74 235 *e*P **Pn 12 22 14.3 -2.6**
ERM *e* 12 25 11.1
ERM pmax pmax
comp=Z,151nm,1.5s
TEY Ternei 17.35 254 *e*P **P 12 22 39.8 +1.4**
KLR Kul'dur 18.32 271 P **Pn 12 22 49.7 +0.5**
comp=Z,0.1nm,0.3s,baz=72,slow=9.0,SNR=34
KLR LR LR 12 30 39.1
comp=Z,84nm,18.4s,baz=71,slow=40
KLR Kul'dur 18.32 271*ce*P **P 12 22 48.8 -0.3**
YAK Yakutsk 18.90 312 P **P 12 22 53.9 -1.4**
comp=Z,0.0nm,0.3s,baz=241,slow=5.7,SNR=30
YAK LR LR 12 30 50.2
comp=Z,418nm,19.9s,baz=96,slow=39
YAK Yakutsk 18.90 312 *e*P **P 12 22 53.8 -1.6**
comp=Z,91nm,0.8s
YAK Yakutsk 18.90 312*c i*P **P 12 22 53.3 -2.0**
YAK *e*S **Sn 12 26 19.4 -7.1**
YAK pmax pmax
comp=Z,113nm,1.0s
YAK pmax pmax
comp=E,41nm,1.0s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=E,51nm,1.4s
YAK smax smax
comp=N,71nm,4.8s
YAK smax smax
comp=E,31nm,3.3s
YAK MLR MLR
comp=Z,872nm,19.0s
YAK MLR MLR
comp=N,422nm,16.0s
YAK MLR MLR
comp=E,441nm,14.0s
ZEA Zeya 19.81 287 *e*P **P 12 23 04.4 -0.9**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,700nm,14.0s
ZEA MLR MLR
comp=E,300nm,12.0s
USRK Ussuriysk Ar. 20.54 257 P **P 12 23 13.1 -0.3**
comp=E,26nm,0.9s,baz=57,slow=11,SNR=17
USRK LR LR 12 31 56.2
comp=E,768nm,18.2s,baz=66,slow=39
CLNS Chul'man 20.78 296 *e*P **P 12 23 15.6 -0.3**
CLNS *e* 12 23 29.9
CLNS *e*S **S 12 27 08.7 +2.6**
CLNS *e*SS **SnSn 12 27 27.6 +1.0**
CLNS pmax pmax
comp=Z,19nm,0.8s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,18nm,0.9s
CLNS smax smax
comp=E,9.0nm,1.0s
CLNS smax smax
comp=N,8.0nm,1.1s
CLNS MLR MLR
comp=Z,483nm,12.0s
CLNS MLR MLR
comp=E,307nm,12.0s
CLNS MLR MLR
comp=N,119nm,12.0s
VLA Vladivostok 21.23 255 *e*P **P 12 23 22.2 +1.4**
VLA pmax pmax
comp=Z,17nm,0.8s
MDJ Mudanjiang 21.75 261 P **P 12 23 24.4 -2.0**
MDJ pmax pmax
comp=Z,23nm,1.0s
MDJ pmax pmax
comp=Z,140nm,6.3s
MDJ LR LR
comp=Z,510nm,19.3s
MDJ LR LR
comp=Z,620nm,17.8s
MDJ LR LR
comp=Z,880nm,15.1s
MDJ Mudanjiang 21.75 261 *e*P **P 12 23 25.5 -0.9**
comp=Z,16nm,0.8s
MJAR Matsushiro Arr 22.40 233 P **P 12 23 34.3 +0.9**
comp=Z,15nm,0.7s,baz=15,slow=8.9,SNR=41
MJAR LR LR 12 32 49.7
comp=Z,414nm,21.9s,baz=50,slow=38
MJB9 Matsu-Tunnel 22.40 233 *e*P **P 12 23 34.4 +0.9**
comp=Z,64nm,0.7s
MAJO Matsushiro 22.40 233 *e*P **P 12 23 34.2 +0.8**
comp=Z,64nm,0.7s
MAJO Matsushiro 22.40 233*ce*P **P 12 23 33.5 +0.1**
MAJO pmax pmax
comp=Z,72nm,0.8s
MAT Matsushiro 22.40 233 P **P 12 23 33.7 +0.3**
MAT S **S 12 27 41.2 +3.6**
SDPT Sand Point 22.96 67 *e*P **P 12 23 40.9 +1.8**
comp=Z,601nm,2.0s
TIXI Tiksi 23.60 336 P **P 12 23 43.6 -1.8**
comp=Z,21nm,0.7s,baz=129,slow=11,SNR=42
TIXI LR LR 12 33 50.6
comp=Z,379nm,19.8s,baz=142,slow=39
INU Inuyama 23.93 233 *e*P **P 12 23 48.6 -0.2**
comp=Z,44nm,0.9s
CN2 Changchun 24.69 263 *e*P **P 12 23 53.6 -2.1**
CN2 *es*P pP 12 24 04.1 -0.2
CN2 *e*S **S 12 28 10.5 -5.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,800nm,18.0s
BOD Bodaibo 26.55 300 *e*P **P 12 24 10.6 -1.8**
BOD pmax pmax
comp=Z,21nm,1.0s
CAST Castle Rocks 26.74 48 *e*P **P 12 24 15.1 +1.0**
comp=Z,17nm,1.4s
KDAK Kodiak Island 26.88 60 P **P 12 24 14.7 -0.7**
comp=Z,10.0nm,0.9s,baz=270,slow=3.0,SNR=5.3
SNY Shenyang 26.95 261 ⇑P **P 12 24 13.0 -3.1**
SNY S **S 12 28 55.8 +4.6**
SNY pmax pmax
comp=Z,13nm,1.4s
SNY pmax pmax
comp=Z,150nm,3.9s
SNY LR LR
comp=Z,600nm,15.3s
SNY LR LR
comp=Z,670nm,15.0s
SNY LR LR
comp=Z,980nm,16.6s
KSRS Korea Array 27.21 249 P **P 12 24 18.1 -0.4**
comp=Z,6.2nm,0.8s,baz=39,slow=9.5,SNR=9.6
KSRS LR LR 12 35 57.5
comp=Z,243nm,18.2s,baz=52,slow=38
KS01 Wonju Array Si 27.21 249 *e*P **P 12 24 14.3 -4.3**
KS15 Wonju Array Si 27.24 249 *e*P **P 12 24 18.4 -0.4**
KTH Kantishna Hill 27.26 47 *e*P **P 12 24 19.7 +0.9**
comp=Z,49nm,1.8s
MLY Manley 27.39 44 *e*P **P 12 24 20.5 +0.5**
comp=Z,7.2nm,1.2s
COLD Coldfoot 27.81 39 *e*P **P 12 24 23.8 +0.2**
comp=Z,9.4nm,1.4s
JNU Nakatsue 28.80 239 P **P 12 24 33.0 +0.3**
comp=Z,11nm,1.0s,baz=69,slow=8.6,SNR=2.8
ILAR Eielson Array 29.03 45 P **P 12 24 34.3 -0.2**
comp=Z,0.7nm,0.7s,baz=261,slow=6.7,SNR=11
ILAR LR LR 12 38 11.7
comp=Z,160nm,18.3s,baz=268,slow=41
BJI Beijing 32.51 265 P **P 12 25 03.2 -2.1**
BJI S **S 12 30 17.3 -1.1**
BJI pmax pmax
comp=Z,6.0nm,1.4s
BJI LR LR
comp=Z,790nm,15.5s
BJI LR LR
comp=Z,1µm,17.6s
BJI LR LR
comp=Z,790nm,17.5s
H11N2 WAKE ISLAND Hy 33.20 169 T T 13 00 39.6
baz=359
H11N3 WAKE ISLAND Hy 33.22 169 T T 13 00 30.0
baz=358,slow=74
H11N1 WAKE ISLAND Hy 33.22 169 T T 13 00 31.1
baz=358,slow=74
ULN Ulaanbaatar 33.79 284 *e*P **P 12 25 15.6 -1.1**
comp=Z,8.9nm,0.9s
ULN Ulaanbaatar 33.79 284*ce*P **P 12 25 14.9 -1.8**
ULN pmax pmax
comp=Z,12nm,1.0s
TLY Talaya 34.07 292 *e*P **P 12 25 17.9 -1.1**
comp=Z,19nm,1.5s
TLY Talaya 34.07 292 *e*P **P 12 25 18.2 -0.8**
TLY pmax pmax
comp=Z,8.0nm,1.1s
TLY MLR MLR
comp=Z,273nm,19.0s
INK Inuvik 34.14 37 P **P 12 25 19.7 +0.4**
comp=Z,2.2nm,0.5s,baz=302,slow=6.4,SNR=20
INK LR LR 12 41 32.8
comp=Z,132nm,18.6s,baz=291,slow=40
INK Inuvik 34.14 37 *e*P **P 12 25 19.7 +0.4**
comp=Z,18nm,1.6s
SONA1 Songino Array 34.19 284 *e*P **P 12 25 19.0 -1.1**
SONA1 *e*PcP **PcP 12 27 57.1 +0.7**
SONA0 Songino Array 34.20 284 *e*P **P 12 25 19.5 -0.7**
SONA0 *e*PcP **PcP 12 27 57.1 +0.7**
SONM Songino Array 34.20 284 P **P 12 25 19.5 -0.7**
comp=Z,7.2nm,0.8s,baz=66,slow=7.0,SNR=48
SONM PcP **PcP 12 27 57.1 +0.7**
comp=Z,3.1nm,0.9s,baz=82,slow=1.5,SNR=8.0
H11S1 WAKE ISLAND Hy 34.39 169 T T 13 02 57.2
baz=352,slow=76,SNR=67
H11S3 WAKE ISLAND Hy 34.40 169 T T 13 02 57.8
baz=352,slow=76,SNR=107
H11S2 WAKE ISLAND Hy 34.41 169 T T 13 02 58.3
baz=352,slow=76,SNR=39
HHC Hu-ho-hao-te 34.83 270 *e*P **P 12 25 24.3 -1.4**
HHC S **S 12 30 53.6 -1.0**
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,60nm,5.1s
HHC LR LR
comp=Z,250nm,13.5s
HHC LR LR
comp=Z,400nm,13.7s
HHC LR LR
comp=Z,550nm,12.1s
ZAK Zakamensk 34.84 290 *e*P **P 12 25 24.3 -1.4**
ZAK *e* 12 27 56.0
ZAK pmax pmax
comp=Z,5.0nm,1.3s
MOY Mondy 35.58 293 *e*P **P 12 25 31.2 -0.8**
MOY pmax pmax
comp=Z,16nm,1.5s
NJ2 Nanjing 36.28 252 *e*P **P 12 25 40.4 +2.3**
NJ2 pmax pmax
comp=Z,20nm,0.6s
XAN Xi'an 40.80 264 P **P 12 26 14.4 -1.7**
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN LR LR
comp=Z,360nm,15.2s
XAN LR LR
comp=Z,310nm,16.3s
XAN LR LR
comp=Z,480nm,15.2s
LZH Lanzhou 42.52 270 *e*P **P 12 26 30.7 +0.4**
LZH pP pP 12 26 40.6 +1.5
LZH sP sP 12 26 44.5 +1.8
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.4s
GTA Gaotai 42.85 277 *e*P **P 12 26 32.5 -0.4**
GTA pP pP 12 26 39.7 -2.0
GTA sP sP 12 26 42.8 -2.4
GTA PcP **PcP 12 28 24.5 +1.0**
GTA S **S 12 32 55.5 +0.1**
GTA sS sS 12 33 10.4 +0.6
GTA SS **SS 12 36 01.9 -4.9**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,92nm,5.9s
GTA LR LR
comp=Z,260nm,12.6s
GTA LR LR
comp=Z,240nm,13.5s
GTA LR LR
comp=Z,530nm,14.0s
ENH Enshi 43.10 259 *e*P **P 12 26 34.3 -0.6**
comp=Z,23nm,1.0s
ZAA1 Zalesovo Array 43.19 303 *e*P **P 12 26 33.2 -2.1**
ZAA1 *e*PcP **PcP 12 28 24.7 +0.4**
ZAA0 Zalesovo Array 43.20 303 *e*P **P 12 26 33.3 -2.1**
comp=Z,7.8nm,0.8s
ZALV Zalesovo Beam 43.20 303 P **P 12 26 33.2 -2.1**
comp=Z,9.7nm,0.8s,baz=56,slow=6.7,SNR=32
ZALV PcP **PcP 12 28 24.7 +0.4**
comp=Z,4.2nm,0.8s,baz=28,slow=4.0,SNR=6.7
ZALV LR LR 12 45 44.4
comp=Z,226nm,19.8s,baz=70,slow=38
ZALV Zalesovo Beam 43.20 303 *e*P **P 12 26 32.7 -2.7**
ZALV *e*PcP **PcP 12 28 24.3 +0.1**
YKW3 Yellowknife Ar 43.36 42 *e*P **P 12 26 36.9 +0.4**
comp=Z,28nm,2.0s
YKA Yellowknife Ar 43.40 42 P **P 12 26 36.7 -0.2**
comp=Z,1.8nm,0.7s,baz=299,slow=8.0,SNR=18
YKA PcP **PcP 12 28 25.2 +0.4**
comp=Z,0.5nm,0.9s,baz=297,slow=3.5,SNR=5.2
NVS Novosibirsk 43.54 305 *e*P **P 12 26 36.9 -1.2**
NVS *e* 12 28 18.0
NVS pmax pmax
comp=N,12nm,0.9s
NVS pmax pmax
comp=E,31nm,0.9s
NVS pmax pmax
comp=Z,51nm,0.9s
RES Resolute Bay 43.70 22 P **P 12 26 39.4 +0.3**
comp=Z,6.4nm,0.9s,baz=300,slow=7.6,SNR=16
RES Resolute Bay 43.70 22 *e*P **P 12 26 39.5 +0.3**
comp=Z,12nm,1.1s
RES Resolute Bay 43.70 22 *e*P **P 12 26 39.5 +0.3**
RES pmax pmax
comp=Z,12nm,1.1s
CD2 Chengdu 46.11 265 *e*P **P 12 26 58.5 -0.4**
CD2 pP pP 12 27 07.4 -0.4
CD2 sP sP 12 27 11.2 -0.1
CD2 PcS **PcS 12 32 29.4 +0.1**
CD2 S **S 12 33 41.7 -1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,450nm,10.8s
CD2 LR LR
comp=Z,240nm,14.7s
CD2 LR LR
comp=Z,360nm,16.2s
WMQ Urumqi 47.31 290 P **P 12 27 07.6 -0.6**
WMQ pP pP 12 27 14.8 -2.2
WMQ sP sP 12 27 20.0 -0.6
WMQ pmax pmax
comp=Z,30nm,1.5s
WMQ pmax pmax
comp=Z,180nm,5.1s
WMQ LR LR
comp=Z,360nm,23.9s
WMQ LR LR
comp=Z,340nm,17.1s
WMQ LR LR
comp=Z,390nm,18.9s
TULEG Thule 47.38 14 *e*P **P 12 27 07.9 -0.3**
comp=Z,9.8nm,0.7s
GYA Guiyang 47.58 258 P **P 12 27 09.4 -1.1**
GYA pP pP 12 27 20.2 +0.8
GYA PP **PP 12 29 02.8 +0.7**
GYA ScP **ScP 12 32 31.6 -0.2**
GYA S **S 12 34 03.0 -0.9**
GYA sS pS 12 34 17.8 +3.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,540nm,18.0s
GYA LR LR
comp=Z,460nm,18.2s
GYA LR LR
comp=Z,490nm,18.6s
SPA0 Spitsbergen Ar 47.64 351 *e*P **P 12 27 10.2 -0.1**
SPITS Spitsbergen Ar 47.64 351 P **P 12 27 10.2 -0.1**
comp=Z,25nm,0.5s,baz=22,slow=12,SNR=92
SPITS LR LR 12 48 13.4
comp=Z,128nm,18.0s,baz=165,slow=37
KURK Kurchatov 48.15 302 *e*P **P 12 27 12.8 -1.7**
comp=Z,42nm,1.0s
KURK Kurchatov 48.15 302 *e*P **P 12 27 12.8 -1.7**
KURK pmax pmax
comp=Z,42nm,1.0s
MK31 Makanchi Array 48.53 296 *e*P **P 12 27 15.5 -2.1**
MK31 Makanchi Array 48.53 296 *e*P **P 12 27 15.5 -2.1**
MK32 Makanchi Array 48.53 296 *e*P **P 12 27 15.7 -1.9**
MKAR Makanchi Array 48.53 296 P **P 12 27 15.7 -1.9**
comp=Z,6.6nm,0.5s,baz=56,slow=7.3,SNR=35
MKAR LR LR 12 48 56.3
comp=Z,168nm,19.2s,baz=36,slow=38
MKAR Makanchi Array 48.53 296 *e*P **P 12 27 15.6 -2.0**
comp=Z,71nm,0.6s
MK01 Makanchi Array 48.54 296 *e*P **P 12 27 15.6 -2.1**
MAKZ Makanchi 48.70 296 *e*P **P 12 27 16.8 -2.0**
comp=Z,17nm,1.1s
MAKZ Makanchi 48.70 296 *e*P **P 12 27 16.8 -2.0**
MAKZ pmax pmax
comp=Z,17nm,1.1s
B08A Colville Reser 48.76 61 *e*P **P 12 27 20.3 +1.0**
comp=Z,3.3nm,0.9s
EDM Edmonton 48.91 53 *e*P **P 12 27 20.8 +0.4**
comp=Z,9.2nm,1.0s
EDM Edmonton 48.91 53 *e*P **P 12 27 20.8 +0.4**
EDM pmax pmax
comp=Z,9.0nm,1.0s
KULLO Kullorsuaq 50.62 12 *i* P **P 12 27 32.8 -0.3**
comp=Z,36nm,1.0s
KULLO Kullorsuaq 50.62 12 *i* P **P 12 27 32.8 -0.3**

KULLO pmax pmax
comp=Z,36nm,1.0s
BVA0 Borovoye Array 50.84 309 *i* P **P 12 27 32.6 -2.4**
BVA0 pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 50.84 309 P **P**
comp=Z,7.8nm,0.6s,baz=55,slow=8.7,SNR=32
BVAR PcP **PcP 12 28 51.0 -0.3**
comp=Z,5.0nm,0.8s,baz=49,slow=2.9,SNR=6.0
BVAR LR LR 12 51 18.6
comp=Z,296nm,18.5s,baz=65,slow=39
BRVK Borovoye 50.87 309 *eP* **P 12 27 33.7 -1.5**
comp=Z,8.0nm,0.6s
BRVK Borovoye 50.87 309 *ce*P **P 12 27 33.1 -2.1**
BRVK pmax pmax
comp=Z,16nm,0.6s
KMI Kunming 50.92 261 P **P 12 27 36.5 +0.2**
KMI pP pP 12 27 43.9 -1.3
KMI sP sP 12 27 47.4 -1.3
KMI S **S 12 34 49.8 -1.3**
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI pmax pmax
comp=Z,84nm,5.3s
KMI LR LR
comp=Z,240nm,20.7s
KMI LR LR
comp=Z,240nm,18.8s
KMI LR LR
comp=Z,310nm,16.2s
YBH Yreka Blue Hor 51.02 70 P **P 12 27 37.1 +0.5**
comp=Z,1.2nm,0.8s,baz=31,slow=5.9,SNR=3.6
YBH LR LR 12 47 56.2
comp=Z,53nm,18.6s,baz=332,slow=34
WALA Waterton Lakes 51.16 57 *eP* **P 12 27 38.1 +0.4**
comp=Z,26nm,1.8s
JTMT Jette 51.80 59 *eP* **P 12 27 41.7 -0.7**
comp=Z,10nm,1.3s
PDGK Podgornoye 52.25 294 P **P 12 27 43.9 -2.0**
PDGK pmax pmax
comp=Z,15nm,1.0s
OTUK Ortayu 52.90 303 P **P 12 27 48.5 -1.9**
OTUK pmax pmax
comp=Z,15nm,1.0s
LVZ Lovozero 53.22 337 *eP* **P 12 27 51.4 -1.1**
comp=Z,39nm,0.7s
LVZ Lovozero 53.22 337 *eP* **P 12 27 51.4 -1.1**
LVZ pmax pmax
comp=Z,39nm,0.7s
FFC Flin Flon 53.23 46 *eP* **P 12 27 54.0 +1.3**
comp=Z,22nm,1.9s
FFC Flin Flon 53.23 46 *eP* **P 12 27 54.0 +1.3**
FFC pmax pmax
comp=Z,22nm,1.9s
FCC Fort Churchill 53.74 39 *eP* **P 12 27 56.6 +0.2**
comp=Z,8.2nm,0.9s
FCC Fort Churchill 53.74 39 *eP* **P 12 27 56.6 +0.2**
FCC pmax pmax
comp=Z,8.0nm,0.9s
ARA0 ARCESS Array S 53.81 342 *eP* **P 12 27 55.7 -1.1**
ARA0 *e*PcP **PcP 12 29 02.8 +0.5**
ARCES ARCESS Array B 53.81 342 P **P 12 27 55.7 -1.1**
comp=Z,26nm,0.8s,baz=37,slow=8.6,SNR=34
ARCES PcP **PcP 12 29 02.8 +0.5**
comp=Z,3.0nm,0.7s,baz=43,slow=4.1,SNR=4.5
ARCES ARCESS Array B 53.81 342 *eP* **P 12 27 55.5 -1.3**
ARCES ARCESS Array B 53.81 342 *eP* **P 12 27 55.5 -1.3**
ARU Arti 53.88 318 *eP* **P 12 27 56.2 -1.3**
comp=Z,17nm,0.6s
ARU Arti 53.88 318 *c i*P **P 12 27 56.1 -1.4**
ARU 12 28 58.3
ARU 12 29 53.9
ARU S **S 12 35 32.3 +2.0**
ARU SS **SKiKP 12 39 07.1 -0.8**
ARU pmax pmax
comp=Z,16nm,0.7s
SUMG Summit 54.42 7 *i* P **P 12 28 01.9 +0.2**
comp=Z,40nm,1.0s
SUMG Summit 54.42 7 *eP* **P 12 28 02.0 +0.3**
comp=Z,50nm,1.1s
SUMG Summit 54.42 7 *i* P **P 12 28 01.9 +0.2**
SUMG pmax pmax
comp=Z,40nm,1.0s
BOZ Bozeman (W) 54.58 59 *eP* **P 12 28 03.4 +0.4**
comp=Z,14nm,1.9s
BOZ Bozeman (W) 54.58 59 *eP* **P 12 28 03.4 +0.4**
BOZ pmax pmax
comp=Z,14nm,1.9s
TKM2 Tokmak 2 54.67 296 P **P 12 28 02.8 -0.9**
SNR=9.9
TKM2 Tokmak 2 54.67 296 P **P 12 28 02.2 -1.5**
TKM2 pmax pmax
comp=Z,9.0nm,1.3s
USP Ospenovka 55.03 297 P **P 12 28 05.5 -0.6**
SNR=5.3
CHMS Chumysh 55.08 297 P **P 12 28 05.7 -0.8**
SNR=5.6
FRU Bishkek 55.26 297 *eP* **P 12 28 05.0 -2.8**
TMCR Tamitsa 55.29 333 *eP* **P 12 28 07.3 -0.3**
TMCR pmax pmax
comp=Z,41nm,0.7s
KZA Kyzart 55.42 296 P **P 12 28 08.6 -0.8**
SNR=7.2
AAK Ala-Archa 55.46 297 P **P 12 28 08.4 -1.0**
SNR=12
AAK Ala-Archa 55.46 297 *eP* **P 12 28 08.4 -1.0**
comp=Z,21nm,1.2s
AAK Ala-Archa 55.46 297 *eP* **P 12 28 08.4 -1.0**
AAK pmax pmax
comp=Z,21nm,1.2s
AAK Ala-Archa 55.46 297 P **P 12 28 08.6 -0.8**
YHH Holmes Hill 55.53 60 *eP* **P 12 28 10.5 +0.5**
comp=Z,3.6nm,1.0s
NV01 Mina Array Sit 55.73 70 *eP* **P 12 28 12.4 +0.9**
NVAR Mina Array Bea 55.73 70 P **P 12 28 13.4 +1.9**
comp=Z,1.7nm,0.7s,baz=303,slow=6.9,SNR=9.2
NV11 Mina Array Sit 55.82 70 *eP* **P 12 28 13.6 +1.6**
comp=Z,0.7nm,1.4s
EKS2 Erkin-Say 55.83 297 P **P 12 28 10.9 -1.1**
SNR=15
LKWY Lake 55.92 60 *eP* **P 12 28 15.3 +2.5**
comp=Z,5.7nm,1.1s
LKWY Lake 55.92 60 *eP* **P 12 28 15.3 +2.5**
LKWY pmax pmax
comp=Z,6.0nm,1.1s
H17A Grant Village 55.94 60 *eP* **P 12 28 12.9 0.0**
comp=Z,4.6nm,1.0s
MSF Maaselka 56.13 338 P **P 12 28 13.7 +0.1**
MSF pmax pmax
comp=Z,79nm,0.8s
RLMT Red Lodge 56.14 58 *eP* **P 12 28 15.5 +1.3**
comp=Z,7.7nm,1.3s
AML Almayashu 56.24 297 P **P 12 28 14.8 -0.4**
SNR=8.1
ILULI Ilulissat 56.31 13 *i* P **P 12 28 14.0 -0.8**
comp=Z,14nm,0.8s
ILULI Ilulissat 56.31 13 *eP* **P 12 28 14.1 -0.8**
comp=Z,20nm,1.1s
ILULI Ilulissat 56.31 13 *i* P **P 12 28 14.0 -0.8**
ILULI pmax pmax
comp=Z,14nm,0.8s
LOHW Long Hollow 56.46 61 *eP* **P 12 28 18.0 +1.5**
comp=Z,6.3nm,1.3s
REDW Red Top Meadow 56.50 61 *eP* **P 12 28 18.4 +1.5**
comp=Z,10nm,1.5s
MNAS Manas 56.64 298 P **P 12 28 17.2 -0.6**
MNAS pmax pmax
comp=Z,6.0nm,0.8s
KSH Kashi 56.76 293 P **P 12 28 21.1 +2.4**
KSH sP sP 12 28 35.1 +3.9
KSH PP **PP 12 30 29.1 +4.4**
KSH S **S 12 36 09.1 -0.5**
KSH sS sS 12 36 24.6 +0.1
KSH SS **SS 12 39 59.0 +1.8**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,61nm,5.1s
KSH LR LR
comp=Z,89nm,8.4s
KSH LR LR
comp=Z,100nm,9.3s
KSH LR LR
comp=Z,110nm,11.0s
KK31 Karatay Array 57.28 299 *i* P **P 12 28 20.7 -1.5**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 57.28 299 *eP* **P 12 28 21.4 -0.8**
KKAR Karatay Array 57.28 299 *eP* **P 12 28 21.4 -0.8**
KLMR Klimovskoe 57.46 330 *eP* **P 12 28 21.2 -1.8**
KLMR pmax pmax
comp=Z,38nm,1.1s
KLMR Klimovskoe 57.46 330 *eP* **P 12 28 21.3 -1.8**
KLMR AMP 12 28 24.4
comp=Z,38nm,1.1s
PHRA Phrae 57.47 258 P **P 12 28 25.0 +1.3**
comp=Z,123nm,1.2s
OUL Oulu 57.53 339 P **P 12 28 21.7 -1.8**
OUL pmax pmax
comp=Z,98nm,0.7s
BW06 Boulder Array 57.60 61 *eP* **P 12 28 25.1 +0.5**
comp=Z,11nm,1.4s
PD31 Pinedale Array 57.60 61 *eP* **P 12 28 25.5 +0.8**
PDAR Pinedale Array 57.60 61 P **P 12 28 25.6 +0.9**
comp=Z,4.9nm,1.1s,baz=320,slow=3.9,SNR=16
PDAR LR LR 12 50 38.4
comp=Z,54nm,21.9s,baz=323,slow=33
PDAR Pinedale Array 57.60 61 *eP* **P 12 28 24.8 +0.1**
LAMP Lampang 57.80 258 P **P 12 28 27.5 +1.4**
comp=Z,7.3nm,0.8s,comp=Z,274nm
CHTO Chiang Mai 57.99 259 P **P 12 28 28.2 +0.9**
comp=Z,86nm,1.1s
CHTO Chiang Mai 57.99 259 *eP* **P 12 28 28.2 +0.9**
comp=Z,13nm,0.8s
CHTO Chiang Mai 57.99 259 *eP* **P 12 28 28.3 +0.9**
CHTO pmax pmax
comp=Z,13nm,0.8s
JOF Joensuu 58.08 335 P **P 12 28 27.3 -0.1**
JOF pmax pmax
comp=Z,69nm,0.9s
AB31 Akbulak array 58.25 311 *i* P **P 12 28 27.0 -1.8**
AB31 pmax pmax
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 58.25 311 *eP* **P 12 28 27.2 -1.6**
comp=Z,61nm,0.8s
CM31 Chiang Mai Arr 58.27 259 *eP* **P 12 28 30.7 +1.4**
CMAR Chiang Mai Arr 58.27 259 P **P 12 28 30.4 +1.1**
comp=Z,7.8nm,0.8s,baz=24,slow=7.1,SNR=45
CM01 Chiang Mai Arr 58.28 259 *eP* **P 12 28 30.3 +0.8**
AKTO Aktyubinsk 58.29 313 P **P 12 28 27.6 -1.4**
comp=Z,4.1nm,0.4s,baz=64,slow=9.1,SNR=30
AKTO LR LR 12 56 15.1
comp=Z,221nm,18.9s,baz=36,slow=39
PHIT Phitsanulok 58.37 256 P **P 12 28 31.4 +1.4**
comp=Z,13nm,0.9s
TAPN Taplejung 58.43 275 *eP* **P 12 28 30.5 -0.2**
comp=Z,44nm,0.7s
CHAI Chaiyaphum 58.46 254 P **P 12 28 31.6 +1.0**
comp=Z,5.2nm,0.9s
ODAN Odare 58.98 274 *eP* **P 12 28 34.6 +0.1**
comp=Z,20nm,0.6s
ULM Lac du Bonnet 59.02 47 P **P 12 28 33.5 -0.6**
comp=Z,1.6nm,0.5s,baz=317,slow=6.4,SNR=11
JIRN Jiri 59.12 276 *eP* **P 12 28 35.2 -0.5**
comp=Z,31nm,0.7s
GUN Gumba 59.13 276 *eP* **P 12 28 35.0 -0.7**
comp=Z,17nm,0.4s
RAMN Ramite 59.39 275 *eP* **P 12 28 36.8 -0.6**
comp=Z,100nm,0.7s
SUF Sumiainen 59.52 337 P **P 12 28 37.6 +0.2**
SUF pmax pmax
comp=Z,166nm,0.9s
RSSD Black Hills 59.52 56 *eP* **P 12 28 38.8 +0.8**
comp=Z,10nm,0.8s
RSSD Black Hills 59.52 56 *eP* **P 12 28 38.8 +0.8**
RSSD pmax pmax
comp=Z,10.0nm,0.8s
KKN Kakani 59.58 277 *eP* **P 12 28 38.3 -0.3**
comp=Z,33nm,0.5s
PKI Pulchoki 59.66 277 *eP* **P 12 28 38.7 -0.6**
comp=Z,37nm,0.7s
PKIN Phulchoki 59.67 277 *eP* **P 12 28 38.7 -0.6**
comp=Z,25nm,0.7s
DMN Daman 59.82 277 *eP* **P 12 28 40.2 -0.1**
comp=Z,34nm,0.6s
SRAK Srakaew 59.92 253 P **P 12 28 40.6 -0.2**
comp=Z,46nm,1.0s
VAF Ylistaro 60.02 339 *eP* **P 12 28 42.2 +1.4**
VAF pmax pmax
comp=Z,53nm,1.0s
DANN Dangsing 60.09 278 *eP* **P 12 28 42.1 -0.1**
comp=Z,3.0nm,0.8s
NAYO Nakonayok 60.10 254 P **P 12 28 44.1 +2.1**
comp=Z,16nm,0.8s
UTHA Uthaitani 60.22 256 P **P 12 28 44.5 +1.6**
comp=Z,4.7nm,1.0s
KOLN Koldanda 60.61 278 *eP* **P 12 28 45.3 -0.4**
comp=Z,20nm,0.6s
FIA1 FINESS Array S 60.64 337 *eP* **P 12 28 44.7 -0.4**
FIA0 FINESS Array S 60.64 337 *eP* **P 12 28 44.8 -0.3**
FIA0 FINESS Array S 60.64 337 *eP* **P 12 28 44.8 -0.3**
FINES FINESS Array B 60.64 337 P **P 12 28 44.8 -0.3**
comp=Z,59nm,0.8s,baz=34,slow=8.5,SNR=140
PYUN Piuthan 60.74 279 *eP* **P 12 28 45.9 -0.7**
comp=Z,66nm,0.9s
N23A Red Feather La 60.83 60 *eP* **P 12 28 48.2 +1.1**
comp=Z,5.7nm,1.0s
PV10 Paradox Valley 60.97 64 *eP* **P 12 28 50.0 +2.0**
PV05 Paradox Valley 61.15 64 *eP* **P 12 28 50.5 +1.3**
ISCO Idaho Springs 61.80 61 *eP* **P 12 28 55.0 +1.3**
comp=Z,4.2nm,0.9s
ISCO Idaho Springs 61.80 61 *eP* **P 12 28 55.0 +1.3**
ISCO pmax pmax
comp=Z,4.0nm,0.9s
MOS Moscow 62.17 327 *eP* **P 12 28 53.8 -1.7**
MOS pmax pmax
comp=Z,58nm,0.6s
PHET Kaeng Krachan 62.21 254 P **P 12 28 58.7 +2.4**
comp=Z,9.5nm,0.9s
S22A 4UR Ranch, Cre 62.63 63 *eP* **P 12 29 00.8 +1.5**
comp=Z,5.5nm,1.3s
BORG Borgarnes 62.97 1 LR LR 12 59 38.2
comp=Z,59nm,18.8s,baz=269,slow=39
OBN Obninsk 63.02 328 *eP* **P 12 28 59.9 -1.3**
OBN *e* 12 31 17.8
OBN *e*PPP PPP 12 32 48.9
OBN pmax pmax
comp=Z,43nm,1.0s
OBN MLR MLR
comp=Z,170nm,18.0s
VSU Vasula 63.07 335 *eP* **P 12 29 00.8 -0.6**
VSU pmax pmax
comp=Z,150nm,0.9s
NC303 NORSAR Array S 63.86 344 *eP* **P 12 29 07.0 +0.3**
NC405 NORSAR Array S 63.91 344 *eP* **P 12 29 05.6 -1.4**
NC204 NORSAR Array S 63.91 344 *eP* **P 12 29 06.9 -0.2**
NB201 NORSAR Array S 64.04 344 *eP* **P 12 29 06.6 -1.3**
NB2 NORSAR Subarra 64.06 344 P **P 12 29 07.6 -0.4**
comp=Z,23nm,0.9s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.06 344 P **P 12 29 07.6 -0.4**
baz=22,slow=6.9
NB200 NORSAR Array S 64.06 344 *eP* **P 12 29 07.9 -0.1**
NOA NORSAR Array B 64.06 344 P **P 12 29 07.9 -0.1**
comp=Z,17nm,0.9s,baz=22,slow=6.5,SNR=28
KBL Kabul 64.19 294 *eP* **P 12 29 07.2 -2.3**
comp=Z,8.6nm,0.8s
KBL Kabul 64.19 294 *eP* **P 12 29 07.3 -2.3**
KBL pmax pmax
comp=Z,9.0nm,0.8s
MHTCO State Highway 64.24 62 *eP* **P 12 29 11.7 +1.9**
comp=Z,9.2nm,1.2s
LPSR Galich'ya Gora 64.29 325 *eP* **P 12 29 09.5 -0.1**
LPSR pmax pmax
comp=Z,50nm,0.9s
VRH Novokhopyorsk 64.41 322 *eP* **P 12 29 09.6 -0.8**
VRH pmax pmax
comp=Z,50nm,1.0s
HFS Hagfors 64.47 342 P **P 12 29 10.3 -0.4**
comp=Z,7.5nm,0.7s,baz=45,slow=5.0,SNR=17
ANMO Albuquerque 64.88 65 *eP* **P 12 29 11.0 -3.0**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
VSR Storozhevoye 65.34 324 *eP* **P 12 29 15.9 -0.5**
VSR pmax pmax
comp=Z,40nm,0.9s
IZAR Zarasai 65.57 334 *eP* **P 12 29 18.3 +0.4**
IZAR IAmb IAmb 12 29 19.3
comp=Z,12nm,0.8s
ISAL Salakas 65.76 334 *eP* **P 12 29 19.6 +0.5**
ISAL IAmb IAmb 12 29 20.7
comp=Z,8.8nm,0.6s
IDID Didziasalis 65.82 333 *eP* **P 12 29 19.9 +0.5**
IDID IAmb IAmb 12 29 20.9
comp=Z,22nm,0.9s
IIGN Ignalina 65.93 333 *eP* **P 12 29 20.7 +0.5**
IIGN IAmb IAmb 12 29 21.6
comp=Z,24nm,0.6s
SCHQ Schefferville 65.99 28 P **P 12 29 20.4 -0.2**
comp=Z,9.2nm,0.9s,baz=332,slow=10.0,SNR=11
SCHQ Schefferville 65.99 28 *eP* **P 12 29 20.7 0.0**
GEYT Alibeck 67.51 303 P **P 12 29 29.9 -0.7**
comp=Z,7.0nm,0.6s,baz=25,slow=3.9,SNR=12
GEYT LR LR 13 01 25.2
comp=Z,181nm,20.4s,baz=50,slow=38
MSTX Muleshoe 67.63 63 *eP* **P 12 29 33.1 +1.5**
comp=Z,6.8nm,1.0s
MNTX Cornudas Mount 67.90 67 *eP* **P 12 29 34.1 +0.9**
comp=Z,9.2nm,1.4s
COEN Coen 67.94 198 *eP* **P 12 29 33.4 +0.1**
comp=Z,9.9nm,1.1s
KLNR Kaliningrad 68.16 336 *eP* **P 12 29 31.9 -2.4**
KLNR pmax pmax
comp=Z,147nm,1.1s
GOF Gofitskoye 68.87 318↑ *eP* **P 12 29 39.3 +0.3**
GOF pmax pmax
comp=Z,135nm,0.8s
AKASG Malin Array Be 69.12 329 P **P 12 29 39.6 -0.8**
comp=Z,22nm,0.6s,baz=31,slow=6.5,SNR=72
AKASG LR LR 13 03 22.5
comp=Z,242nm,18.7s,baz=45,slow=39
AKASG Malin Array Be 69.12 329 *i* P **P 12 29 39.5 -1.0**
AKASG pmax pmax
comp=Z,22nm,0.6s
AKBB Malin Array Si 69.12 329 *eP* **P 12 29 39.8 -0.7**
comp=Z,45nm,1.0s
AKBB Malin Array Si 69.12 329 *eP* **P 12 29 39.8 -0.7**
AKBB pmax pmax
comp=Z,45nm,1.0s
KIEV Kiev 69.14 329 *eP* **P 12 29 39.7 -0.8**
comp=Z,44nm,1.0s
KIEV Kiev 69.14 329 *eP* **P 12 29 39.7 -0.8**
KIEV pmax pmax
comp=Z,44nm,1.0s
AK11 Malin Array Si 69.16 329 *eP* **P 12 29 39.9 -0.8**
NCK Nalchik 69.91 316 *eP* **P 12 29 45.3 -0.2**
NCK pmax pmax
comp=Z,27nm,0.8s
KIV Kislovodsk 69.92 317 *eP* **P 12 29 45.3 -0.3**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,158nm,17.0s
KIV Kislovodsk 69.92 317 P **P 12 29 45.6 -0.1**
KBZ Khabaz 70.02 317 P **P 12 29 46.4 +0.4**
comp=Z,36nm,0.9s,baz=98,slow=3.3,SNR=44
KBZ LR LR 13 04 38.6
comp=Z,151nm,18.5s,baz=11,slow=40
NEY Neytrino 70.48 317 *eP* **P 12 29 49.0 -0.2**
NEY pmax pmax
comp=Z,3.0nm,1.0s
TX31 Lajitas Ar. Si 70.66 67 *eP* **P 12 29 51.0 +0.6**
LTX Lajitas 70.66 67 *eP* **P 12 29 50.9 +0.5**
LTX Lajitas 70.66 67 *eP* **P 12 29 50.9 +0.5**
TXAR Lajitas Array 70.66 67 P **P 12 29 50.9 +0.5**
comp=Z,1.4nm,0.5s,baz=298,slow=4.6,SNR=30
LPIG La Paz 70.81 75 LR LR 12 58 57.9
comp=Z,27nm,18.4s,baz=269,slow=34
TBLG Delisi 70.86 314 *eP* **P 12 29 51.8 +0.5**
comp=Z,28nm,0.7s
TBLG Delisi 70.86 314 *eP* **P 12 29 51.8 +0.5**
TBLG pmax pmax
comp=Z,28nm,0.7s
HYB Hyderabad 71.44 274 *i* P **P 12 29 54.0 -1.1**
LVV L'vov 71.46 332 *eP* **P 12 29 54.7 -0.1**
EKA Eskdalemuir Ar 71.57 350 P **P 12 29 55.2 -0.1**
comp=Z,1.9nm,0.5s,baz=14,slow=5.0,SNR=12
SORM Soroca 71.65 328↑ *iP* **P 12 29 55.3 -0.6**
AKH Akhalkalaki 71.66 315↓ *iP* **P 12 29 57.3 +0.9**
AKH Akhalkalaki 71.66 315 *eP* **P 12 29 57.3 +0.9**
comp=Z,33nm,1.0s
AKH Akhalkalaki 71.66 315 *eP* **P 12 29 57.3 +0.9**
AKH pmax pmax
comp=Z,33nm,1.0s
JCT Junction City 71.92 63 *eP* **P 12 29 58.7 +0.8**
comp=Z,11nm,1.4s
JCT Junction City 71.92 63 *eP* **P 12 29 58.7 +0.8**
JCT pmax pmax
comp=Z,11nm,1.4s
KWP Kalwaria Pacla 72.01 333 *eP* **P 12 29 59.1 +1.0**
KWP Kalwaria Pacla 72.01 333 *eP* **P 12 29 58.6 +0.5**
comp=Z,424nm,0.5s
KWP Kalwaria Pacla 72.01 333 *eP* **P 12 29 58.6 +0.5**
GNI Garni 72.14 313 LR LR 13 06 11.3
comp=Z,111nm,19.2s,baz=22,slow=40
GNI Garni 72.14 313 *eP* **P 12 30 00.4 +1.2**
comp=Z,20nm,0.9s
GNI Garni 72.14 313 *eP* **P 12 29 58.9 -0.4**
GNI pmax pmax
comp=Z,59nm,1.0s
GNI Garni 72.14 313 P **P 12 29 60.0 +0.7**
OJC Ojcow 72.26 335 *eP* **P 12 30 00.3 +0.7**
OJC Ojcow 72.26 335 *eP* **P 12 29 59.9 +0.3**
comp=Z,15nm,0.9s
OJC Ojcow 72.26 335 *eP* **P 12 29 59.9 +0.3**
OJC pmax pmax
comp=Z,15nm,0.9s
SIM Simferopol' 72.44 323 P **P 12 30 00.8 +0.1**
SIM pmax pmax
comp=Z,21nm,1.0s
KSP Ksiaz 72.56 337 *eP* **P 12 30 02.3 +0.9**
KSP Ksiaz 72.56 337 *eP* **P 12 30 02.3 +0.9**
STHS Stebnicka Huta 72.61 333 *eP* **P 12 30 03.1 +1.4**
STHS pmax pmax
comp=Z,16nm,1.1s
STHS Stebnicka Huta 72.61 333 *eP* **P 12 30 03.0 +1.4**
NIE Niedzica 72.86 334 *eP* **P 12 30 04.4 +1.2**
NIE Niedzica 72.86 334 *eP* **P 12 30 04.4 +1.2**
CLL Collm 72.87 339 *i* P **P 12 30 03.1 -0.1**
comp=Z,18nm,0.9s
CLL *e* 12 30 10.0
CLL Lm MLR 13 05 00.0
comp=Z,100nm,19.6s
CLL Collm 72.87 339 *eP* **P 12 30 03.0 -0.1**
comp=Z,15nm,0.8s
CLL Collm 72.87 339 *eP* **P 12 30 03.0 -0.1**
CLL pmax pmax
comp=Z,15nm,0.8s
DPC Dobruska-Polom 73.01 337 *eP* **P 12 30 04.8 +0.7**
DPC *ex* x 12 30 12.7
DPC Dobruska-Polom 73.01 337 *eP* **P 12 30 04.8 +0.7**
CRVS Cervenica-Dubn 73.02 333 *eP* **P 12 30 04.3 +0.2**
CRVS Cervenica-Dubn 73.02 333 *eP* **P 12 30 04.3 +0.2**
UZH Uzhgorod 73.03 332 *eP* **P 12 30 03.5 -0.6**
UZH *e* 12 30 15.7
OKC Ostrava-Krasne 73.04 336 *eP* **P 12 30 04.9 +0.7**
OKC Ostrava-Krasne 73.04 336 *eP* **P 12 30 04.9 +0.7**
BUR08 Bucovina Ar. S 73.07 330 *eP* **P 12 30 04.7 +0.1**
BRG Berggiesshubel 73.08 339 *eP* **P 12 30 05.0 +0.6**
comp=Z,5.9nm,0.9s
BRG Berggiesshubel 73.08 339 *eP* **P 12 30 05.0 +0.6**
BRG pmax pmax
comp=Z,6.0nm,0.9s
BUR04 Bucovina Ar. S 73.08 330 *eP* **P 12 30 04.6 -0.1**
BURAR Bucovina Array 73.09 330↓ *iP* **P 12 30 04.5 -0.2**
MORC Moravsky Berou 73.25 336↑ *iP* **P 12 30 06.2 +0.7**
MORC Moravsky Berou 73.25 336 *eP* **P 12 30 05.8 +0.3**
comp=Z,41nm,0.8s
MORC Moravsky Berou 73.25 336 *eP* **P 12 30 05.8 +0.3**
MORC pmax pmax
comp=Z,41nm,0.8s
LANS Liptovska Anna 73.33 334 *eP* **P 12 30 07.9 +1.9**
LANS Liptovska Anna 73.33 334 *eP* **P 12 30 07.9 +1.9**
TESR Tescani 73.62 329↓ *iP* **P 12 30 07.0 -0.7**
KECS Kecovo 73.67 333 *eP* **P 12 30 08.8 +0.9**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 73.67 333 *eP* **P 12 30 08.8 +0.9**
PRU Pruhonice 73.77 338 *eP* **P 12 30 08.4 -0.1**
PRU Pruhonice 73.77 338 *eP* **P 12 30 08.4 -0.1**
VRAC Vranov 73.91 336 P **P 12 30 10.2 +0.8**
comp=Z,6.9nm,0.7s,baz=27,slow=7.9,SNR=6.3
VRAC Vranov 73.91 336↓ *iP* **P 12 30 10.0 +0.6**
VYHS Vyhne 74.10 335 *eP* **P 12 30 11.7 +1.2**
VYHS pmax pmax
comp=Z,9.0nm,1.4s
VYHS Vyhne 74.10 335 *eP* **P 12 30 11.7 +1.2**
VRI Vrincioaia 74.17 328↓ *iP* **P 12 30 11.0 0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TREC	**Trest**	**74.19**	**337**	AMS	AMS	13 09 10.0	
	comp=Z,300nm,15.7s						
PLOR	**Plostina**	**74.21**	**328**	⇑*i*P	**P**	**12 30 12.3**	**+1.1**
PSZ	**Piszkesteto**	**74.34**	**334**	⇑*i*P	**P**	**12 30 13.4**	**+1.4**
PSZ	**Piszkesteto**	**74.34**	**334**	*e*P	**P**	**12 30 12.6**	**+0.7**
PSZ	**Piszkesteto**	**74.34**	**334**	*e*P	**P**	**12 30 12.7**	**+0.7**
	comp=Z,27nm,1.5s						
PSZ	**Piszkesteto**	**74.34**	**334**	*e*P	**P**	**12 30 12.7**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,27nm,1.5s						
CJR	**Cluj-Napoca**	**74.38**	**331**	⇓*i*P	**P**	**12 30 13.5**	**+1.3**
DRGR		**74.58**	**331**	⇑*i*P	**P**	**12 30 13.2**	**-0.2**
DRGR		**74.58**	**331**	P	**P**	**12 30 13.9**	**+0.5**
MLR	**Muntele Rosu**	**74.76**	**329**	P	**P**	**12 30 15.0**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=74,slow=7.4,SNR=4.8						
MLR	**Muntele Rosu**	**74.76**	**329**	⇑*i*P	**P**	**12 30 15.3**	**+0.8**
MLR	**Muntele Rosu**	**74.76**	**329**	*e*P	**P**	**12 30 14.7**	**+0.2**
	comp=Z,11nm,0.8s						
MLR	**Muntele Rosu**	**74.76**	**329**	*e*P	**P**	**12 30 14.7**	**+0.2**
MLR				pmax	pmax		
	comp=Z,11nm,0.8s						
KHC	**Kasperske Hory**	**74.79**	**338**	*e*P	**P**	**12 30 15.3**	**+0.8**
KHC	**Kasperske Hory**	**74.79**	**338**	*e*P	**P**	**12 30 15.5**	**+1.0**
	comp=Z,3.2nm,1.0s						
KHC	**Kasperske Hory**	**74.79**	**338**	*e*P	**P**	**12 30 15.3**	**+0.8**
TIRR	**Tirgusor**	**74.87**	**327**	⇓*i*P	**P**	**12 30 15.1**	**+0.1**
TLB	**Topalu**	**74.88**	**327**	⇓*i*P	**P**	**12 30 15.2**	**+0.2**
ISR	**Istrita**	**74.90**	**328**	⇓*i*P	**P**	**12 30 16.2**	**+1.0**
MEM	**Membach**	**74.90**	**343**	⇓P	**P**	**12 30 15.2**	**+0.1**
	comp=Z,32nm,1.0s						
MEM				⇑AP	**pP**	**12 30 22.8**	**-1.6**
GEC2	**GERESS Array S**	**75.03**	**338**	*e*P	**P**	**12 30 16.4**	**+0.4**
	comp=Z,4.1nm,0.7s						
GEC2	**GERESS Array S**	**75.03**	**338**	*e*P	**P**	**12 30 16.4**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	**75.03**	**338**	P	**P**	**12 30 15.7**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=35,slow=5.9,SNR=19						
GERES				LR	LR	13 07 23.5	
	comp=Z,52nm,19.1s,baz=22,slow=39						
GEA0	**GERESS Array S**	**75.04**	**338**	*e*P	**P**	**12 30 16.1**	**0.0**
BCLA	**Clavier**	**75.21**	**344**	⇑P	**P**	**12 30 16.9**	**0.0**
ARR	**Arges**	**75.28**	**329**	⇓*i*P	**P**	**12 30 18.8**	**+1.4**
CONA	**Conrad Observa**	**75.38**	**336**	*e*P	**P**	**12 30 18.8**	**+0.9**
	comp=Z,5.2nm,0.6s						
TOKA	**Tokat**	**75.48**	**319**	*e*P	**P**	**12 30 19.9**	**+1.2**
	comp=Z,31nm,1.0s						
GIVF	**Givet**	**75.59**	**344**	*e*P	**P**	**12 30 20.4**	**+1.3**
GIVF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DOU	**Dourbes**	**75.64**	**344**	⇑P	**P**	**12 30 19.3**	**0.0**
WRAB	**Tennant Creek**	**75.71**	**205**	*e*P	**P**	**12 30 20.4**	**+0.4**
	comp=Z,21nm,1.1s						
WRAB	**Tennant Creek**	**75.71**	**205**	*e*P	**P**	**12 30 19.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s						
WR1	**Warramunga Arr**	**75.72**	**205**	*e*P	**P**	**12 30 20.3**	**+0.3**
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**75.72**	**205**	P	**P**	**12 30 20.3**	**+0.3**
	comp=Z,8.3nm,0.7s,baz=21,slow=6.1,SNR=62						
BAIF	**Baives**	**75.74**	**344**	*e*P	**P**	**12 30 19.6**	**-0.3**
BAIF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MOA	**Molln**	**75.83**	**337**	*i* P	**P**	**12 30 20.9**	**+0.4**
	comp=Z,2.5nm,0.7s						
BZS	**Buzias**	**75.96**	**332**	⇓*i*P	**P**	**12 30 21.4**	**+0.2**
ARSA	**Arzberg**	**76.09**	**336**	*e*P	**P**	**12 30 22.5**	**+0.5**
	comp=Z,4.0nm,0.5s						
MDVR	**Moldovita**	**76.69**	**331**	⇑*i*P	**P**	**12 30 25.6**	**+0.1**
SOKA	**Soboth**	**76.75**	**336**	*i* P	**P**	**12 30 26.4**	**+0.6**
	comp=Z,6.8nm,0.5s,SNR=9.0						
KBA	**Koelnbreinsper**	**76.77**	**338**	P	**P**	**12 30 27.1**	**+1.1**
KBA	**Koelnbreinsper**	**76.77**	**338**	*e*P	**P**	**12 30 27.2**	**+1.1**
	comp=Z,20nm,0.8s,SNR=14						
RETA	**Reutte**	**76.97**	**339**	*e*P	**P**	**12 30 27.4**	**+0.4**
	comp=Z,4.0nm,1.0s						
OBKA	**Obir**	**77.02**	**337**	*i* P	**P**	**12 30 28.0**	**+0.7**
	comp=Z,12nm,1.0s						
MOTA	**Moosalm**	**77.03**	**339**	*e*P	**P**	**12 30 28.1**	**+0.6**
	comp=Z,2.2nm,0.5s						
BR101	**Keskin Array S**	**77.11**	**321**	*e*P	**P**	**12 30 28.5**	**+0.4**
BR131	**Keskin Array S**	**77.11**	**321**	*e*P	**P**	**12 30 28.2**	**+0.1**
BRTR	**Keskin Array B**	**77.11**	**321**	P	**P**	**12 30 28.5**	**+0.4**
	comp=Z,8.5nm,0.7s,baz=45,slow=3.3,SNR=30						
BRTR				LR	LR	13 10 14.1	
	comp=Z,90nm,18.8s,baz=10,slow=40						
MYKA	**Terra Mystica**	**77.13**	**337**	*e*P	**P**	**12 30 28.8**	**+0.8**
	comp=Z,4.8nm,0.9s						
ABTA	**Abfaltersbach**	**77.28**	**338**	*i* P	**P**	**12 30 29.2**	**+0.4**
	comp=Z,14nm,1.2s						
ANTO	**Ankara**	**77.31**	**321**	*e*P	**P**	**12 30 30.4**	**+1.3**
	comp=Z,21nm,0.7s						
ANTO	**Ankara**	**77.31**	**321**	*e*P	**P**	**12 30 30.4**	**+1.3**
ANTO				pmax	pmax		
	comp=Z,21nm,0.7s						
BR231	**Keskin MP Arra**	**77.34**	**321**	*e*P	**P**	**12 30 28.2**	**-1.1**
DAVA	**Damuels**	**77.34**	**340**	*e*P	**P**	**12 30 29.3**	**+0.1**
	comp=Z,5.5nm,0.9s						
HAU	**Haudompre**	**77.35**	**342**	P	**P**	**12 30 29.6**	**+0.5**
HAU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FETA	**Feichten**	**77.42**	**339**	*i* P	**P**	**12 30 30.4**	**+0.7**
	comp=Z,8.6nm,0.9s,SNR=5.3						
HINF	**Hinteralfeld**	**77.44**	**342**	*e*P	**P**	**12 30 29.8**	**+0.2**
HINF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DIVS	**Divibare**	**77.82**	**332**	*e*P	**P**	**12 30 32.3**	**+0.5**
	comp=Z,6.6nm,0.7s						
SHME	**Shamm**	**77.82**	**297**	*i* P	**P**	**12 30 31.6**	**-0.4**
	SNR=6.0						
DAVOX	**Davos/Dischmat**	**77.83**	**340**	P	**P**	**12 30 32.6**	**+0.7**
	comp=Z,7.6nm,0.9s,baz=22,slow=6.1,SNR=7.3						
DAVOX				LR	LR	13 10 16.2	
	comp=Z,76nm,18.7s,baz=68,slow=40						
BANOM	**Banah**	**77.83**	**297**	*i* P	**P**	**12 30 31.6**	**-0.5**
	SNR=11						
FUORN	**Ofenpass-Fuorn**	**77.90**	**339**	*e*P	**P**	**12 30 32.5**	**+0.1**
	comp=Z,9.0nm,0.8s						
PALK	**Pallekele**	**78.00**	**266**	P	**P**	**12 30 33.3**	**+0.1**
GRR	**Gorron**	**78.12**	**347**	*e*P	**P**	**12 30 33.0**	**-0.3**
GRR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VTS	**Vitosha**	**78.23**	**329**	⇑*i*P	**P**	**12 30 34.3**	**+0.1**
VTS	**Vitosha**	**78.23**	**329**	*e*P	**P**	**12 30 33.9**	**-0.3**
	comp=Z,7.6nm,0.8s						
VTS	**Vitosha**	**78.23**	**329**	*e*P	**P**	**12 30 33.9**	**-0.3**
VTS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TUE	**Stuetta**	**78.23**	**340**	*e*P	**P**	**12 30 35.0**	**+0.8**
	comp=Z,13nm,0.7s						
SGMF	**Saint Gilles**	**78.47**	**348**	*e*P	**P**	**12 30 35.1**	**-0.1**
SGMF				pmax	pmax		
	comp=Z,18nm,1.3s						
UOSS	**Minazif**	**78.66**	**296**	*e*P	**P**	**12 30 35.7**	**-1.0**
	comp=Z,27nm,0.9s						
UOSS	**Minazif**	**78.66**	**296**	*i* P	**P**	**12 30 35.6**	**-1.0**
	SNR=7.0						
WSAR	**Wadi Sarin**	**78.67**	**293**	P	**P**	**12 30 36.5**	**-0.3**
	comp=Z,17nm,0.8s,baz=76,slow=7.8,SNR=16						
PLE	**Pljevlja**	**78.70**	**332**	P	**P**	**12 30 37.5**	**+0.7**
CABF	**La Chapelle**	**78.74**	**342**	*e*P	**P**	**12 30 37.9**	**+1.0**
CABF				pmax	pmax		
	comp=Z,25nm,1.4s						
HATD	**Hatta, Dubai**	**78.79**	**296**	*i* P	**P**	**12 30 36.4**	**-1.0**
	SNR=9.0						
QUIF	**Quistinic**	**78.88**	**349**	*e*P	**P**	**12 30 37.2**	**-0.3**
QUIF				pmax	pmax		
	comp=Z,13nm,1.2s						
ASHO	**Ashiyiah**	**78.95**	**296**	*i* P	**P**	**12 30 37.5**	**-0.8**
	SNR=8.5						
AVF	**Avril sur Loir**	**79.05**	**344**	*e*P	**P**	**12 30 38.4**	**-0.1**
SOHO	**SOHO**	**79.12**	**295**	*i* P	**P**	**12 30 38.3**	**-0.9**
	SNR=15						
BGF	**Bois d'Agland**	**79.36**	**344**	*e*P	**P**	**12 30 40.2**	**0.0**
BGF				pmax	pmax		
	comp=Z,10.0nm,1.2s						
AS01	**Alice Springs**	**79.38**	**205**	*e*P	**P**	**12 30 41.2**	**+0.8**
AS31	**Alice Springs**	**79.39**	**205**	*e*P	**P**	**12 30 41.7**	**+1.2**
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**79.39**	**205**	P	**P**	**12 30 41.4**	**+0.9**
	comp=Z,4.8nm,0.6s,baz=14,slow=4.9,SNR=104						
PDG	**Podgorica**	**79.56**	**332**	⇓*i*P	**P**	**12 30 41.8**	**+0.5**
LPL	**La Plagne**	**79.67**	**342**	*e*P	**P**	**12 30 43.8**	**+1.6**
LPL				pmax	pmax		
	comp=Z,21nm,1.0s						
LPG	**La Plagne**	**79.69**	**341**	*e*P	**P**	**12 30 44.0**	**+1.7**
LPG				pmax	pmax		
	comp=Z,20nm,0.9s						
BNI	**Bardonecchia**	**80.13**	**341**	*e*P	**P**	**12 30 45.6**	**+1.0**
	comp=Z,18nm,1.4s						
BNI	**Bardonecchia**	**80.13**	**341**	*e*P	**P**	**12 30 45.6**	**+1.0**
BNI				pmax	pmax		
	comp=Z,18nm,1.4s						
ORIF	**Oris-en-Rattie**	**80.41**	**342**	*e*P	**P**	**12 30 47.7**	**+1.7**
ORIF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FNA	**Florina**	**80.44**	**330**	P	**P**	**12 30 47.0**	**+0.8**
SBF	**Sospel**	**81.12**	**341**	*e*P	**P**	**12 30 50.1**	**+0.3**
SBF				pmax	pmax		
	comp=Z,13nm,0.8s						
PGF	**Pioggiola**	**82.05**	**339**	*e*P	**P**	**12 30 55.4**	**+0.6**
PGF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MMAI	**Mount Meron Ar**	**82.19**	**316**	P	**P**	**12 30 55.7**	**+0.1**
	comp=Z,8.5nm,0.5s,baz=44,slow=6.4,SNR=7.5						
MMAI				LR	LR	13 13 50.6	
	comp=Z,68nm,18.5s,baz=125,slow=40						
EPF	**Esparros**	**83.19**	**345**	*e*P	**P**	**12 31 00.8**	**+0.1**
EPF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIP	**Timpagrande**	**83.28**	**332**	⇑*i*P	**P**	**12 31 01.8**	**+0.6**
IDI	**Anoyia**	**84.27**	**325**	LR	LR	13 11 59.3	
	comp=Z,64nm,20.4s,baz=90,slow=38						
RAYN	**Ar Rayn**	**85.48**	**303**	*e*P	**P**	**12 31 11.9**	**-0.6**
	comp=Z,14nm,0.8s						
STKA	**Stephens Creek**	**85.72**	**196**	P	**P**	**12 31 14.2**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=358,slow=7.4,SNR=4.2						
STKA	**Stephens Creek**	**85.72**	**196**	*e*P	**P**	**12 31 14.1**	**+0.9**
	comp=Z,6.7nm,1.7s						
STKA	**Stephens Creek**	**85.72**	**196**	*e*P	**P**	**12 31 14.1**	**+0.9**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ES19	**SONSECA Array**	**87.06**	**348**	*e*P	**P**	**12 31 20.2**	**+0.2**
ESDC	**Sonseca Array**	**87.09**	**348**	P	**P**	**12 31 20.4**	**+0.2**
	comp=Z,5.4nm,0.9s,baz=0.7,slow=4.7,SNR=20						
ESLA	**Sonseca Array**	**87.09**	**348**	*e*P	**P**	**12 31 20.4**	**+0.2**
	comp=Z,8.0nm,1.0s						
KEST	**Kesra**	**88.47**	**337**	P	**P**	**12 31 27.5**	**+0.5**
	comp=Z,10nm,1.1s,baz=273,slow=5.2,SNR=6.4						
KEST	**Kesra**	**88.47**	**337**	*e*P	**P**	**12 31 26.8**	**-0.2**
	comp=Z,12nm,1.1s						
ATD	**Arta Tunnel**	**96.84**	**299**	LR	LR	13 21 45.1	
	comp=Z,101nm,18.0s,baz=47,slow=39						
PLCA	**Paso Flores**	**143.81**	**92**	PKP	**PKPdf**	**12 38 08.6**	**-0.6**
	comp=Z,3.3nm,1.0s,baz=284,slow=3.1,SNR=4.6						

NNC 02 12:22:51.7±4.5**, 37°.65N×71°.51E, h0km, mb3.8, mpv3.4, 6C-1D, Error ellipse: s-maj=35.7km s-min=29.0km az=170.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.83**	**33**	⇑P	Pn	12 23 38.6	+0.3
	7.5nm,0.3s						
SFK				⇑S	Sn	12 24 14.8	+1.4
	12nm,0.3s						
MNAS	**Manas**	**4.90**	**9**	⇑P	Pn	12 24 07.2	+0.5
	4.5nm,0.3s						
MNAS				⇓S	Sn	12 25 03.7	-0.5
	7.1nm,0.8s						
KK31	**Karatay Array**	**5.51**	**352**	⇑P	Pn	12 24 15.8	+0.9
	0.7nm,0.3s,baz=179,slow=13,SNR=15						
KK31				⇑S	Sn	12 25 21.3	+2.3
	2.4nm,0.3s,baz=172,slow=22,SNR=18						
TKM2	**Tokmak 2**	**6.13**	**29**	⇑P	Pn	12 24 21.6	-2.0
	2.9nm,1.1s						

*CSEM **02** 12:23:11.2±0.1, 40°.42N×21°.87E, h0km±2km, ML1.8, Error ellipse: s-maj=2.7km s-min=2.1km az=164.0, Suspected Mining explosion.*

*ATH **02** 12:23:11.3, 40°.40N×21°.88E, h7km±7km, ML0.0, Error ellipse: s-maj=7.4km s-min=1.4km az=222.0, Suspected Mining explosion.*

THE 02 12:23:11.4, 40°.43N×21°.87E, h2km±16km, ML1.8/2, Error ellipse: s-maj=16.3km s-min=0.6km az=168.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.14**	**212**	P	Pg	12 23 13.5	-0.7
KZN				S	Sg	12 23 16.6	+0.5
KZN	**Kozani**	**0.14**	**212**	P	Pg	12 23 13.8	-0.4
KZN				S	Sg	12 23 16.3	+0.2
KZN	**Kozani**	**0.14**	**212**	P	Pg	12 23 13.8	-0.4
KZN				S	Sg	12 23 16.3	+0.2
KTI	**Kastanea**	**0.19**	**101**	P	Pg	12 23 15.2	+0.1
KTI	**Kastanea**	**0.19**	**101**	P	Pg	12 23 15.2	+0.1
FNA	**Florina**	**0.52**	**314**	P	Pg	12 23 20.9	-0.5
FNA				S	Sg	12 23 29.1	+1.1
FNA				AML	AML	12 23 32.9	
	comp=E,127μm,0.3s						
FNA				AML	AML	12 23 37.5	
	comp=N,152μm,0.4s						
FNA	**Florina**	**0.52**	**314**	P	Pg	12 23 20.4	-1.0
FNA				S	Sb	12 23 30.3	-0.9
FNA	**Florina**	**0.52**	**314**	P	Pg	12 23 21.1	-0.2
FNA				S	Sb	12 23 29.7	-1.5
FNA	**Florina**	**0.52**	**314**	P	Pg	12 23 21.1	-0.2
FNA				S	Sb	12 23 29.7	-1.5
LIT	**Litokhoron**	**0.58**	**124**	P	Pg	12 23 21.6	-0.8
LIT				S	Sb	12 23 31.6	-1.3
LIT				AML	AML	12 23 35.3	
	comp=N,124μm,0.3s						
LIT				AML	AML	12 23 36.9	
	comp=E,202μm,0.6s						
LIT	**Litokhoron**	**0.58**	**124**	P	Pg	12 23 21.8	-0.7
LIT	**Litokhoron**	**0.58**	**124**	P	Pg	12 23 21.9	-0.6
PENT	**Pentalofos**	**0.60**	**248**	P	Pg	12 23 22.9	-0.1
PENT				S	Sg	12 23 32.3	+1.4
PENT	**Pentalofos**	**0.60**	**248**	P	Pg	12 23 22.9	-0.1
PENT	**Pentalofos**	**0.60**	**248**	P	Pg	12 23 22.9	-0.1
PENT	**Pentalofos**	**0.60**	**248**	P	Pg	12 23 22.9	-0.1
KPRO	**Kipourio**	**0.61**	**219**	P	Pg	12 23 23.1	0.0
KPRO	**Kipourio**	**0.61**	**219**	P	Pg	12 23 22.9	-0.2
KPRO	**Kipourio**	**0.61**	**219**	P	Pg	12 23 22.9	-0.2
KPRO	**Kipourio**	**0.61**	**219**	P	Pg	12 23 22.9	-0.2
NEST	**Nestorio**	**0.63**	**269**	P	Pg	12 23 23.7	+0.3
NEST				S	Sg	12 23 32.5	+1.0
NEST				AML	AML	12 23 42.3	
	comp=E,97μm,0.4s						
NEST				AML	AML	12 23 43.3	
	comp=N,106μm,0.4s						
NEST	**Nestorio**	**0.63**	**269**	P	Pg	12 23 23.4	0.0
NEST	**Nestorio**	**0.63**	**269**	P	Pg	12 23 23.3	-0.1
NEST	**Nestorio**	**0.63**	**269**	P	Pg	12 23 23.3	-0.1
GRG	**Griva**	**0.67**	**37**	P	Pg	12 23 23.8	-0.4
GRG	**Griva**	**0.67**	**37**	P	Pg	12 23 23.0	-1.2
GRG	**Griva**	**0.67**	**37**	P	Pg	12 23 23.7	-0.5
GRG	**Griva**	**0.67**	**37**	P	Pg	12 23 23.7	-0.5
THL	**Klokotos Trika**	**0.87**	**173**	P	Pg	12 23 28.0	-0.1
THL				S	Sg	12 23 39.4	+0.1
THL				AML	AML	12 23 45.7	
	comp=E,107μm,0.6s						
THL				AML	AML	12 23 51.8	
	comp=N,142μm,0.7s						
THL	**Klokotos Trika**	**0.87**	**173**	P	Pg	12 23 26.5	-1.6
THL	**Klokotos Trika**	**0.87**	**173**	P	Pg	12 23 27.9	-0.2
THL	**Klokotos Trika**	**0.87**	**173**	P	Pg	12 23 27.9	-0.2
HORT	**Hortiatis**	**0.95**	**79**	P	Pb	12 23 30.6	-0.1
HORT	**Hortiatis**	**0.95**	**79**	P	Pg	12 23 29.9	+0.2
SOH	**Sokhos**	**1.20**	**70**	P	Pb	12 23 34.8	0.0
SOH	**Sokhos**	**1.20**	**70**	P	Pg	12 23 34.4	+0.1
AGG	**Agios Georgios**	**1.45**	**166**	P	Pb	12 23 39.0	-0.1
AGG	**Agios Georgios**	**1.45**	**166**	P	Pn	12 23 38.5	-0.2

*ISCJB **02** 12:25:29.3±0.8, 65°.0S±0°.1×176°.2E±0°.4, h10km, mb4.7/12, MS4.2/20, Error ellipse: s-maj=28.5km s-min=13.3km az=152.4*

*IDC **02** 12:25:29.2±0.7, 64°.92S×176°.83E, h0km, mb4.4/6, mb1 4.5/7, mb1mx4.2/30, mbtmp4.4/7, ML3.6/1, MS4.2/21, Ms1 4.2/21, ms1mx4.1/31, Error ellipse: s-maj=41.5km s-min=22.3km az=43.0*

*NEIC **02** 12:25:30.8±0.4, 64°.82S×176°.62E, h10km, mb5.0/7, Error ellipse: s-maj=18.8km s-min=11.7km az=63.0*

*GCMT **02** 12:25:30.8±0.3, 64°.56S×177°.38E, h18km±1km, MW5.1/71, Moment Tensor Solution. s26,c28; s71,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.62±.33; $M_{\theta\theta}$3.13±.21; $M_{\phi\phi}$1.50±.20; $M_{r\theta}$-2.98±.45; $M_{\theta\phi}$1.01±.11; $M_{\phi r}$-2.47±.48; Best double couple: $M_0$5.63900×10^{16} NP1:ϕ_s55.00000°, δ67.00000°, λ-95.00000°. NP2: ϕ_s248.00000°, δ24.00000°, λ-78.00000°. Principal axes: T 5.0960, Plg21.0000°, Azm149.0000°; N 1.0960, Plg5.0000°, Azm57.0000°; P -6.1820, Plg68.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 12:25:30.8±0.6**, 64°.9S**±0°.1**×176°.6E**±0°.2**, h10km, n76, σ1s10/43, mb4.7/12, MS4.2/20, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.47**	**194**	Pn	**Pn**	**12 28 41.0**	**-0.6**
	0.3nm,0.3s,baz=50,slow=16,SNR=7.6						
VNDA				LR	LR	12 32 38.6	
	comp=Z,1μm,21.8s,baz=40,slow=32						
RPZ	**Rata Peaks**	**21.45**	**349**	LR	LR	12 36 43.6	
	comp=Z,927nm,20.6s,baz=189,slow=31						
QSPA	**South Pole Qui**	**25.20**	**180**	*e*P	**P**	**12 31 00.1**	**+3.9**
	21nm,1.4s						
URZ	**Urewera**	**26.67**	**1**	LR	LR	12 39 47.1	
	comp=Z,620nm,21.0s,baz=171,slow=32						
CAN	**Canberra**	**33.93**	**317**	*e*P	P	12 32 06.6	-7.2
	129nm,1.8s						
STKA	**Stephens Creek**	**39.41**	**310**	LR	LR	12 47 02.2	
	comp=Z,259nm,18.1s,baz=182,slow=33						
MAW	**Mawson**	**39.69**	**213**	LR	LR	12 49 39.5	
	comp=Z,589nm,18.4s,baz=123,slow=36						
DZM	**Mont Dzumac**	**43.33**	**346**	LR	LR	12 48 20.7	
	comp=Z,514nm,21.7s,baz=200,slow=32						
DZM	**Mont Dzumac**	**43.33**	**346**	*e*LR	LR	12 45 31.7	
	1μm,23.8s						
SNAA	**Sanae**	**43.70**	**180**	LR	LR	12 50 49.2	
	comp=Z,479nm,20.1s,baz=184,slow=35						
RAR	**Rarotonga**	**46.36**	**31**	LR	LR	12 48 07.5	
	comp=Z,226nm,21.4s,baz=224,slow=29						
TBI	**Tubuai**	**47.02**	**45**	*e*LR	LR	12 46 51.0	
	381nm,28.5s						
TBI	**Tubuai**	**47.02**	**45**	*e*T	T	13 23 54.8	
	16nm,0.3s						
H01W1	**Cape Leeuwin H**	**47.37**	**278**	T	T	13 25 42.9	
	baz=147,slow=75						
H01W2	**Cape Leeuwin H**	**47.38**	**278**	T	T	13 25 49.3	
	baz=147,slow=75						
H01W3	**Cape Leeuwin H**	**47.39**	**278**	T	T	13 25 54.9	
	baz=147,slow=75						
NWAO	**Narrogin (SRO)**	**47.77**	**282**	LR	LR	12 49 25.3	
	comp=Z,642nm,21.8s,baz=348,slow=30						
AS01	**Alice Springs**	**49.56**	**305**	*e*P	**P**	**12 34 21.5**	**-0.1**
ASAR	**Alice Springs**	**49.57**	**305**	P	**P**	**12 34 21.4**	**-0.4**
	5.2nm,1.2s,baz=168,slow=9.4,SNR=9.0						
ASAR				PcP	**PcP**	**12 35 43.5**	**+0.2**
	1.1nm,1.0s,baz=159,slow=4.8,SNR=4.4						
ASAR				LR	LR	12 52 35.8	
	comp=Z,150nm,19.4s,baz=158,slow=33						
AFI	**Afiamalu**	**51.55**	**14**	LR	LR	12 54 14.9	
	comp=Z,90nm,19.3s,baz=221,slow=34						
RKT	**Rikitea**	**52.13**	**61**	*e*T	T	13 30 13.4	
	2.9nm,0.2s						
TVO	**Taravao**	**52.34**	**42**	*e*T	T	13 30 33.8	
	1.9nm,0.3s						
PAE	**Paea**	**52.36**	**42**	*e*T	T	13 30 34.4	
	1.0nm,0.3s						
PPT2	**Papeete2**	**52.43**	**42**	*e*LR	LR	12 49 16.7	
	336nm,28.0s,baz=198						
PPT2	**Papeete2**	**52.43**	**42**	*e*T	T	13 30 35.8	
	2.2nm,0.3s						
PPT	**Papeete**	**52.45**	**42**	LR	LR	12 51 44.7	
	comp=Z,87nm,18.6s,baz=250,slow=30						
WB2	**Warramunga Arr**	**52.86**	**307**	*e*P	**P**	**12 34 47.0**	**+0.6**
WR1	**Warramunga Arr**	**52.87**	**307**	*e*P	**P**	**12 34 46.1**	**-0.3**
	15nm,1.4s						
WRA	**Warramunga Arr**	**52.87**	**307**	P	**P**	**12 34 46.1**	**-0.4**
	3.8nm,1.1s,baz=155,slow=6.6,SNR=12						
WRA				LR	LR	12 54 43.9	
	comp=Z,486nm,21.0s,baz=155,slow=33						
WRAB	**Tennant Creek**	**52.87**	**307**	*e*P	**P**	**12 34 44.8**	**-1.7**
	32nm,1.6s						
VAH	**Vaihoa**	**55.22**	**43**	*e*T	T	13 34 09.6	
	80nm,0.3s						
HNR	**Honiara**	**56.59**	**340**	LR	LR	12 55 24.0	
	comp=Z,516nm,20.7s,baz=202,slow=32						
PMG	**Port Moresby**	**59.10**	**326**	LR	LR	12 56 09.7	
	comp=Z,401nm,20.7s,baz=152,slow=31						
PLCA	**Paso Flores**	**62.48**	**128**	LR	LR	12 57 47.3	
	comp=Z,98nm,19.8s,baz=225,slow=31						
TAOE	**Nuku Hiva Isla**	**63.55**	**49**	*e*LR	LR	12 54 31.2	
	200nm,29.3s						
SIJI	**Sorong**	**71.73**	**311**	P	**P**	**12 36 55.0**	**+2.2**
	22nm,1.0s,baz=135,slow=5.4,SNR=6.7						
CPUP	**Villa Florida**	**80.00**	**133**	P	**P**	**12 37 40.2**	**+0.2**
	0.6nm,0.4s,baz=187,slow=5.8,SNR=3.4						
CPUP	**Villa Florida**	**80.00**	**133**	*e*P	**P**	**12 37 39.2**	**-0.9**
	32nm,1.8s						
DAV	**Davao City (W)**	**81.04**	**309**	LR	LR	13 13 51.9	
	comp=Z,65nm,19.7s,baz=144,slow=36						
KSM	**Kuching**	**81.47**	**292**	*e*P	**P**	**12 37 49.7**	**+1.8**
	17nm,1.2s						
BOSA	**Boshof**	**84.17**	**205**	P	**P**	**12 38 00.5**	**-1.5**
	4.0nm,1.0s,baz=170,slow=8.5,SNR=3.6						
BOSA				LR	LR	13 12 18.1	
	comp=Z,206nm,21.4s,baz=210,slow=33						
BOSA	**Boshof**	**84.17**	**205**	*e*PKIKP	**P**	**12 38 00.5**	**-1.5**
LPAZ	**La Paz**	**85.57**	**119**	P	**P**	**12 38 08.9**	**-0.9**
	1.7nm,0.8s,baz=215,slow=1.6,SNR=6.9						
LPAZ				LR	LR	13 06 59.0	
	comp=Z,96nm,21.1s,baz=178,slow=29						
LPAZ	**La Paz**	**85.57**	**119**	*e*P	**P**	**12 38 10.2**	**+0.4**
LPAZ				*e*PcP	**P**	**12 38 10.5**	**+0.7**
PSI	**Prapat**	**87.31**	**282**	LR	LR	13 13 06.9	
	comp=Z,242nm,18.0s,baz=120,slow=33						
PSI	**Prapat**	**87.31**	**282**	*e*P	**P**	**12 38 15.0**	**-2.6**
	10.0nm,1.1s						
OPO	**Ambohidratompo**	**88.32**	**227**	LR	LR	13 14 19.2	
	comp=Z,83nm,18.1s,baz=132,slow=33						
H08S2	**Diego Garcia H**	**89.06**	**254**	T	T	14 18 00.3	
	baz=157,slow=76						
H08S1	**Diego Carcia H**	**89.07**	**254**	T	T	14 17 56.6	
	baz=157						
H08S3	**Diego Garcia H**	**89.08**	**254**	T	T	14 18 02.2	
	baz=157,slow=76						
H02S1	**DAWSON INLET T**	**124.10**	**34**	T	T	15 00 29.3	
	SNR=7.8						
TORD	**Torodi Ar. Bea**	**128.20**	**186**	PKP	**PKPdf**	**12 44 36.7**	**-0.3**
	1.0nm,1.1s,baz=230,slow=1.2,SNR=3.9						
TOA1	**Torodi Ar. Sit**	**128.21**	**186**	*e*PKPdf	**PKPdf**	**12 44 36.7**	**-0.3**
SPFD	**Spotsylvania F**	**130.41**	**85**	*e*PKPpre	PKPpre	12 44 31.3	
IL1	**Eielson Array**	**132.08**	**20**	*e*PKPdf	**PKPdf**	**12 44 43.0**	**+0.3**
ILAR	**Eielson Array**	**132.08**	**20**	PKP	**PKPdf**	**12 44 41.7**	**-1.0**
	1.6nm,1.0s,baz=249,slow=2.9,SNR=11						
ILB	**Eielson Array**	**132.08**	**20**	*e*PKPdf	**PKPdf**	**12 44 44.1**	**+1.4**
MK01	**Makanchi Array**	**132.76**	**291**	*e*PKPdf	**PKPdf**	**12 44 44.8**	**+0.1**
MK32	**Makanchi Array**	**132.78**	**291**	*e*PKPdf	**PKPdf**	**12 44 44.4**	**-0.3**
MKAR	**Makanchi Array**	**132.78**	**291**	PKP	**PKPdf**	**12 44 44.4**	**-0.3**
	0.9nm,1.0s,baz=96,slow=2.4,SNR=5.6						
YKA	**Yellowknife Ar**	**136.83**	**39**	PKP	**PKPdf**	**12 44 51.9**	**+0.2**
	0.2nm,0.7s,baz=209,slow=2.0,SNR=7.0						
KURBB	**Kurchatov Arra**	**137.34**	**291**	PKP	**PKPdf**	**12 44 52.6**	**-0.4**
	0.8nm,0.8s,baz=153,slow=2.1,SNR=5.1						
KURK	**Kurchatov**	**137.38**	**292**	*e*PKPdf	**PKPdf**	**12 44 52.6**	**-0.5**
ABKAR	**Akbulak array**	**143.97**	**276**	*e*PKPdf	**PKPdf**	**12 45 04.1**	**-0.9**
AKH	**Akhalkalaki**	**144.62**	**251**	*e*PKPdf	PKPbc	12 45 05.7	+0.2
AKTO	**Aktyubinsk**	**145.68**	**275**	PKPbc	**PKPab**	**12 45 08.7**	**0.0**
	8.0nm,1.1s,baz=131,slow=5.3,SNR=13						
KBZ	**Khabaz**	**146.79**	**253**	PKPbc	**PKPab**	**12 45 13.2**	**+0.1**
	8.6nm,1.0s,baz=192,slow=2.6,SNR=5.6						
BR101	**Keskin Array S**	**146.97**	**238**	*e*PKPbc	**PKPbc**	**12 45 13.3**	**+0.6**
BR131	**Keskin Array S**	**146.97**	**238**	*e*PKPbc	**PKPab**	**12 45 13.9**	**-0.3**
BRTR	**Keskin Array B**	**146.97**	**238**	PKPbc	**PKPbc**	**12 45 13.3**	**+0.6**
	4.0nm,1.1s,baz=188,slow=2.5,SNR=10						
KIV	**Kislovodsk**	**147.07**	**253**	*e*PKPbc	**PKPab**	**12 45 13.8**	**-0.6**
BR231	**Keskin MP Arra**	**147.39**	**237**	*e*PKPbc	**PKPbc**	**12 45 14.0**	**+0.2**
SCHQ	**Schefferville**	**148.00**	**78**	PKPbc	**PKPbc**	**12 45 13.9**	**-1.0**
	4.5nm,0.9s,baz=261,slow=3.9,SNR=3.2						
ARU	**Arti**	**149.71**	**284**	*e*PKPbc	**PKPbc**	**12 45 20.0**	**+0.9**
RES	**Resolute Bay**	**150.33**	**32**	*e*PKPbc	**PKPbc**	**12 45 19.8**	**-0.3**
CUC	**Castrocucco**	**152.69**	**213**	*e*PKPdf	**PKPdf**	**12 45 19.8**	**+0.2**
CUC				*e*PKPbc	**PKiKP**	**12 45 26.8**	**-0.1**

*IDC **02** 12:34:30.3±0.9, 64°.75S×176°.76E, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/32, mbtmp4.1/6, ML3.1/1, MS3.9/4, Ms1 3.9/4, ms1mx3.5/30, Error ellipse: s-maj=52.5km*

s-min=24.6km az=42.0

ISC 02 12:34:31.7±0.8, 64°.8S±0°.2×176°.7E±0°.2, h10km, n27, σ0s.70/12, mb4.1/5, MS3.8/3, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	13.54	194	Pn	Pn	12 37 43.4	-0.1
	0.1nm,0.3s,baz=45,slow=17,SNR=3.6						
VNDA				LR	LR	12 41 39.4	
	comp=Z,424nm,19.6s,baz=21,slow=32						
RPZ	Rata Peaks	21.38	349	LR	LR	12 46 50.0	
	comp=Z,290nm,18.4s,baz=175,slow=35						
URZ	Urewera	26.60	1	LR	LR	12 49 07.8	
	comp=Z,244nm,18.1s,baz=178,slow=33						
DZM	Mont Dzumac	43.26	346	LR	LR	12 57 31.2	
	comp=Z,184nm,20.6s,baz=196,slow=32						
DZM	Mont Dzumac	43.26	346	eLR	LR	12 55 54.5	
	407nm,23.6s						
TBI	Tubuai	46.95	45	eT	T	13 32 52.2	
	14nm,0.3s						
H01W1	Cape Leeuwin H	47.38	278	T	T	13 34 53.7	
	baz=148,slow=76,SNR=6.8						
H01W2	Cape Leeuwin H	47.38	278	T	T	13 34 54.3	
	baz=148,slow=76,SNR=3.8						
H01W3	Cape Leeuwin H	47.40	278	T	T	13 34 54.9	
	baz=148,slow=76,SNR=5.3						
ASAR	Alice Springs	49.55	305	P	P	12 43 22.2	-0.3
	2.0nm,1.1s,baz=149,slow=8.3,SNR=7.3						
RKT	Rikitea	52.08	61	eT	T	13 39 13.3	
	2.1nm,0.2s						
TVO	Taravao	52.27	42	eT	T	13 39 30.8	
	1.2nm,0.3s						
PAE	Paea	52.29	42	eT	T	13 39 32.2	
	1.2nm,0.4s						
PPT2	Papeete2	52.36	42	eLR	LR	12 57 09.2	
	166nm,24.8s						
PPT2	Papeete2	52.36	42	eT	T	13 39 31.6	
	1.4nm,0.3s						
WRA	Warramunga Arr	52.84	307	P	P	12 43 46.3	-0.9
	1.7nm,1.1s,baz=174,slow=6.8,SNR=5.3						
VAH	Vaihoa	55.16	43	eT	T	13 43 06.5	
	60nm,0.3s						
SIJI	Sorong	71.69	311	P	P	12 45 54.7	+1.1
	8.0nm,0.8s,baz=133,slow=12,SNR=3.5						
CPUP	Villa Florida	80.04	133	P	P	12 46 41.1	0.0
	1.8nm,0.8s,baz=222,slow=2.2,SNR=3.5						
LPAZ	La Paz	85.59	119	P	P	12 47 11.2	+0.4
	1.0nm,0.7s,baz=203,slow=7.7,SNR=2.9						
ILAR	Eielson Array	132.00	20	PKP	PKPdf	12 53 42.7	-0.8
	0.7nm,0.9s,baz=228,slow=4.2,SNR=5.6						
MKAR	Makanchi Array	132.77	291	PKP	PKPdf	12 53 46.4	+0.8
	0.3nm,0.8s,baz=132,slow=2.1,SNR=2.6						
YKA	Yellowknife Ar	136.76	39	PKP	PKPdf	12 53 51.7	-0.8
	0.2nm,0.7s,baz=202,slow=2.3,SNR=4.2						
KURBB	Kurchatov Arra	137.33	292	PKhKP	PKPpre	12 53 49.9	
	0.2nm,0.7s,baz=114,slow=2.3,SNR=2.8						
AKTO	Aktyubinsk	145.69	275	PKPbc	PKPab	12 54 09.4	-0.2
	1.7nm,0.9s,baz=73,slow=2.9,SNR=6.6						
KBZ	Khabaz	146.83	253	PKPbc	PKPbc	12 54 13.2	+0.3
	1.6nm,0.8s,baz=34,slow=3.6,SNR=2.4						
BRTR	Keskin Array B	147.02	238	PKPbc	PKPbc	12 54 13.6	-0.3
	2.4nm,1.0s,baz=66,slow=3.1,SNR=6.3						

IDC 02 12:39:39.6±2.0, 4°.55N×126°.36E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/59, mbtmp3.5/3, Error ellipse: s-maj=156.8km s-min=25.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.57	162	P	P	12 45 10.1	-0.4
	1.4nm,0.7s,baz=343,slow=10,SNR=9.3						
ASAR	Alice Springs	28.99	166	P	P	12 45 41.7	+0.4
	0.4nm,0.5s,baz=340,slow=7.1,SNR=13						
MKAR	Makanchi Array	56.68	325	P	P	12 49 24.9	-0.1
	0.2nm,0.6s,baz=128,slow=6.4,SNR=2.9						

IDC 02 12:45:16.2±3.4, 64°.77S×176°.25E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/30, mbtmp3.7/3, ML3.4/1, MS3.7/13, Ms1 3.7/13, ms1mx3.6/29, Error ellipse: s-maj=127.5km s-min=40.1km az=72.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	13.55	193	Pn	Pn	12 48 29.5	+0.1
	0.2nm,0.3s,baz=40,slow=17,SNR=5.7						
VNDA				LR	LR	12 52 35.3	
	comp=Z,339nm,18.2s,baz=36,slow=32						
RPZ	Rata Peaks	21.30	350	LR	LR	12 57 09.8	
	comp=Z,184nm,18.4s,baz=155,slow=34						
URZ	Urewera	26.55	2	LR	LR	13 00 12.6	
	comp=Z,179nm,18.4s,baz=169,slow=34						
STKA	Stephens Creek	39.21	310	LR	LR	13 06 57.3	
	comp=Z,139nm,18.3s,baz=29,slow=33						
MAW	Mawson	39.71	213	LR	LR	13 08 55.8	
	comp=Z,113nm,20.1s,baz=84,slow=36						
DZM	Mont Dzumac	43.17	347	LR	LR	13 08 18.7	
	comp=Z,115nm,20.9s,baz=218,slow=32						
DZM	Mont Dzumac	43.17	347	eLR	LR	13 05 33.0	
	296nm,23.9s						
RAR	Rarotonga	46.33	32	LR	LR	13 07 52.1	
	comp=Z,85nm,19.3s,baz=220,slow=29						
TBI	Tubuai	47.03	45	eT	T	13 43 41.3	
	13nm,0.3s						
ASAR	Alice Springs	49.38	306	P	P	12 54 07.4	+0.1
	0.7nm,0.9s,baz=162,slow=8.4,SNR=6.4						
AFI	Afiamalu	51.46	15	LR	LR	13 14 12.7	
	comp=Z,34nm,18.4s,baz=214,slow=34						
RKT	Rikitea	52.21	61	eT	T	13 50 02.9	
	1.4nm,0.2s						
TVO	Taravao	52.35	43	eT	T	13 50 19.9	
	0.8nm,0.3s						
PAE	Paea	52.37	43	eT	T	13 50 21.1	
	0.6nm,0.2s						
PPT2	Papeete2	52.44	43	eLR	LR	13 09 05.9	
	113nm,27.0s						
PPT2	Papeete2	52.44	43	eT	T	13 50 27.0	
	1.1nm,0.3s						
PPT	Papeete	52.45	43	LR	LR	13 10 11.8	
	comp=Z,39nm,19.9s,baz=218,slow=28						
WRA	Warramunga Arr	52.67	308	P	P	12 54 31.8	-0.3
	0.8nm,0.9s,baz=147,slow=6.7,SNR=5.3						
VAH	Vaihoa	55.23	44	eT	T	13 53 55.7	
	74nm,0.3s						
HNR	Honiara	56.42	341	LR	LR	13 15 11.3	
	comp=Z,114nm,20.9s,baz=220,slow=32						
PMG	Port Moresby	58.91	326	LR	LR	13 16 46.4	
	comp=Z,65nm,19.0s,baz=128,slow=32						
BOSA	Boshof	84.22	205	LR	LR	13 31 42.4	
	comp=Z,62nm,21.4s,baz=216,slow=33						
LPAZ	La Paz	85.77	120	LR	LR	13 27 51.4	
	comp=Z,50nm,20.1s,baz=110,slow=30						
MKAR	Makanchi Array	132.59	291	PKP	PKPdf	13 04 30.7	-0.8
	0.1nm,0.6s,baz=180,slow=2.5,SNR=2.4						
AKTO	Aktyubinsk	145.51	276	PKPbc	PKPdf	13 04 54.2	-0.6
	3.7nm,1.2s,baz=113,slow=4.6,SNR=6.3						
BRTR	Keskin Array B	146.91	239	PKPbc	PKPbc	13 04 59.1	-0.6
	2.9nm,1.1s,baz=159,slow=2.8,SNR=4.1						

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*NNC **02** 13:04:14.9±2.1, 43°.79N×67°.59E, h23km±13km, mb3.9, mpv3.5, Error ellipse: s-maj=12.6km s-min=8.9km az=53.0*

*SOME **02** 13:04:19.1, 43°.72N×67°.95E, h10km*

ISC 02 13:04:17.8±1.7, 43°.82N±0°.05×68°.00E±0°.09, h10km, n21, σ1s.65/31, 15C-18D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHM	Chimkent	1.90	141	eP	Pn	13 04 51.7	+1.4
	430nm,0.2s						
CHM				eS	Sb	13 05 15.7	-0.8
	906nm,0.3s						
KK31	Karatay Array	1.96	110	⇓Pn	Pn	13 04 51.6	+0.5
	10nm,0.3s,baz=301,slow=15,SNR=26						
KK31				⇓Lg	Lg	13 05 24.5	
	60nm,0.5s,baz=291,slow=28,SNR=31						
IUG	Iuzhnay	2.24	138	eP	Pb	13 04 59.3	+0.9
	126nm,0.2s						
IUG				eS	Sg	13 05 28.4	-1.3
	316nm,0.4s						
MNAS	Manas	3.55	110	⇑Pg	Pg	13 05 26.5	+0.6
	6.1nm,0.5s						
MNAS				⇑Lg	Lg	13 06 14.5	
	69nm,0.8s						
MRKS	Merke	3.96	104	eP	Pg	13 05 33.5	-0.2
	13nm,1.0s						
MRKS				eS	Sg	13 06 27.1	+2.0
	49nm,0.6s						
AAK	Ala-Archa	4.89	102	⇑Pn	Pn	13 05 32.5	+1.0
	1.1nm,0.5s						
AAK				⇓Pg	Pg	13 05 49.4	-2.1
	5.0nm,0.4s						
AAK				⇓Lg	Lg	13 06 55.0	
	23nm,0.6s						
OTUK	Ortayu	5.36	33	⇑Pn	Pn	13 05 39.7	+1.9
	11nm,0.4s						
OTUK				⇑Sn	Sn	13 06 41.8	+2.2
	9.5nm,0.6s						
OTUK				⇑Lg	Lg	13 07 11.1	
	14nm,0.6s						
SFK	Sufi-Kurgan	5.59	131	⇑Pn	Pn	13 05 39.7	-1.6
	1.2nm,0.4s						
SFK				⇓Pg	Pb	13 05 58.6	+2.9
	4.0nm,0.5s						
SFK				⇓Sn	Sn	13 06 44.6	-1.2
	11nm,0.6s						
SFK				⇓Lg	Lg	13 07 16.8	
	22nm,0.9s						
TKM2	Tokmak 2	5.61	97	⇓Pn	Pn	13 05 42.2	+0.7
	0.8nm,0.5s						
TKM2				⇑Pg	Pg	13 06 02.3	-2.9
	8.2nm,0.7s						
TKM2				⇑Lg	Lg	13 07 20.4	
	11nm,0.5s						
DGS	Degeres	5.68	93	eP	Pg	13 06 05.3	-1.3
	3.0nm,0.4s						
DGS				eS	Sg	13 07 21.4	+1.3
	37nm,0.4s						
KST	Kastek	5.85	95	eP	Pg	13 06 08.7	-1.2
	1.8nm,0.1s						
KST				eS	Sg	13 07 27.5	+1.9
	38nm,0.9s						
KTBS	Karatobe	6.29	88	eP	Pg	13 06 16.0	-2.2
	1.8nm,0.2s						
KTBS				eS	Sg	13 07 40.4	+0.8
	34nm,0.7s						
IZV	Izvestkoviy	6.32	94	eP	Pg	13 06 15.6	-3.2
	9.2nm,0.6s						
IZV				eS	Sg	13 07 39.2	-1.5
	24nm,0.8s						
MDOK	Medeo	6.62	93	⇓Lg	Lg	13 07 51.7	
	17nm,0.7s						
AB31	Akbulak array	7.77	317	⇓Pn	Pn	13 06 04.0	-6.9
	1.9nm,0.5s,baz=130,slow=14,SNR=60						
AB31				⇓Sn	Sn	13 07 24.7	-14
	4.6nm,0.6s,baz=129,slow=23,SNR=12						
PDGK	Podgornoye	8.36	89	⇑Lg	Lg	13 08 47.1	
	11nm,0.7s						
BVA0	Borovoye Array	9.35	9	Pn	Pn	13 06 30.3	-2.2
	3.0nm,0.6s,baz=182,slow=18,SNR=35						
BVA0				⇑Sn	Sn	13 08 14.0	-3.7
	1.5nm,0.6s,baz=173,slow=24,SNR=5.5						
AKTO	Aktyubinsk	9.49	318	⇓Pn	Pn	13 06 29.2	-5.2
	0.9nm,0.3s						
AKTO				⇑Sn	Sn	13 08 09.3	-12
	6.8nm,0.8s						
KURK	Kurchatov	9.98	43	⇓Pn	Pn	13 06 41.7	+0.5
	2.9nm,1.1s						
KURK				⇑Sn	Sn	13 08 34.0	+0.9
	1.8nm,0.7s						
KURK				⇓Lg	Lg	13 09 40.5	
	8.8nm,0.9s						
MAKZ	Makanchi	10.29	68	⇓Pn	Pn	13 06 44.4	-1.1
	4.2nm,1.6s						
MAKZ				⇑Sn	Sn	13 08 41.3	+0.5
	2.2nm,0.9s						
MAKZ				⇓Lg	Lg	13 09 48.9	
	3.1nm,0.7s						
MK31	Makanchi Array	10.50	69	⇓Pn	Pn	13 06 48.0	-0.3
	0.7nm,0.3s,baz=251,slow=14,SNR=52						
MK31				⇑Sn	Sn	13 08 46.1	+0.2
	0.6nm,0.5s,baz=252,slow=26,SNR=3.4						
MK31				⇓Lg	Lg	13 09 55.1	
	5.1nm,1.0s,baz=250,slow=24,SNR=4.1						

MAN 02 13:07:34, 9°.84N×123°.02E, h34km, mb3.6, ML2.3, MS1.7, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.54	156	⇓iP	Pb	13 07 46.9	+1.5
SNPH				i S	Sn	13 07 55.4	+2.1
GUIM	Jordan	0.89	332	eP	Pb	13 07 51.3	+0.3
GUIM				eS	Sb	13 08 02.8	+0.2
MSLP	Maasin	1.84	81	eP	Pn	13 08 04.3	+1.1

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*ISCJB **02** 13:40:06.1±0.1, 39°.54N±0°.01×74°.27E±0°.02, h10km, mb4.9/221, MS4.5/78, Error ellipse: s-maj=2.1km s-min=1.8km az=145.5*

*KRNET **02** 13:40:07.9±0.1, 39°.69N×74°.27E, mb5.5*

*MOS **02** 13:40:08.2±1.0, 39°.79N×74°.40E, h22km, mb5.2/104, MS4.7/38, Error ellipse: s-maj=5.4km s-min=3.5km az=123.7*

*SOME **02** 13:40:08.5, 40°.08N×74°.35E, h5km, MS5.0*

*NNC **02** 13:40:08.5±1.1, 39°.72N×74°.24E, h0km, mb5.7, mpv5.4, Error ellipse: s-maj=10.5km s-min=3.7km az=178.0*

*BJI **02** 13:40:08.2, 39°.70N×74°.25E, h10km, mb4.7/48, mB4.8/35, ML4.9/6, Ms4.9/48, Ms7 4.6/49*

*IDC **02** 13:40:11.3±2.2, 39°.72N×74°.39E, h33km±16km, mb4.6/40, mb1 4.7/44, mb1mx4.6/64, mbtmp4.8/44, ML4.5/5, MS4.3/49, Ms1 4.3/49, ms1mx4.2/68, Error ellipse: s-maj=10.8km s-min=8.1km az=4.0*

*GCMT **02** 13:40:12.4±0.3, 39°.72N×74°.41E, h23km±1km, MW4.9/83, Moment Tensor Solution. s19,c22; s83,c112; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-1.19±.16; $M_{\theta\theta}$-0.05±.08; $M_{\phi\phi}$1.24±.11; $M_{r\theta}$-2.27±.25; $M_{\theta\phi}$1.01±.06; $M_{\phi r}$-0.85±.13; Best double couple: $M_0$2.89200×10^16 NP1:ϕ_s62.00000°, δ77.00000°, λ-67.00000°. NP2: ϕ_s179.00000°, δ26.00000°, λ-150.00000°. Principal axes: T 2.8220, Plg28.0000°, Azm133.0000°; N 0.1380, Plg23.0000°, Azm236.0000°; P -2.9620, Plg52.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 13:40:12.4±0.5, 39°.75N×74°.38E, h42km±4km, mb5.0/81 Error ellipse: s-maj=3.8km s-min=3.0km az=189.0*

ISC 02 13:40:08.4±0.2, 39°.73N±0°.03×74°.26E±0°.02, h10km, n650, σ1s.86/681, mb5.0/253, MS4.6/78, 55C-68D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.64	296	⇑P	Pg	13 40 20.6	-0.3
	4µm,0.4s						
SFK				⇓S	Sg	13 40 30.5	+1.1
	19µm,0.5s						
SFK	Sufi-Kurgan	0.64	296	PG	Pg	13 40 20.6	-0.3
SFK				S	Sg	13 40 30.5	+1.1
SFK	Sufi-Kurgan	0.64	296	⇑iP	Pg	13 40 20.6	-0.3
	baz=99						
SFK				⇑iS	Sg	13 40 29.9	+0.5
	baz=99						
KSH	Kashi	1.34	99	⇑iPg	Pn	13 40 28.7	-4.6
KSH				Sg	Sb	13 40 41.4	-10
KSH				smax	smax		
	comp=N,15µm,0.8s						
KSH				smax	smax		
	comp=E,30µm,1.0s						
ARSB	Arslanbob	1.86	329	⇓eP	Pn	13 40 43.1	+2.7
	baz=29						
ARSB				⇓iS	Sg	13 41 08.7	+0.5
	baz=29						
NRN	Naryn	2.15	37	PN	Pn	13 40 46.4	+1.8
NRN	Naryn	2.15	37	⇓iP	Pn	13 40 46.2	+1.6
	baz=36						
NRN				⇓iS	Sn	13 41 14.9	+3.3
	baz=36						
AML	Almayashu	2.43	350	P	Pn	13 40 50.9	+2.4
	SNR=329						
AML	Almayashu	2.43	350	⇓iP	Pn	13 40 51.0	+2.4
	baz=50						
AML				⇓iS	Sb	13 41 22.8	+0.2
	baz=50						
TOKL	Toktogul	2.44	335	⇓eP	Pn	13 40 51.1	+2.7
	baz=35						
TOKL				⇓iS	Sb	13 41 23.2	+0.6
	baz=35						
KZA	Kyzart	2.46	18	P	Pn	13 40 51.6	+2.7
	SNR=654						
KZA	Kyzart	2.46	18	⇓iP	Pn	13 40 51.3	+2.4
	baz=17						
KZA				⇓iS	Sb	13 41 23.0	-0.4
	baz=17						
UCH	Uchtor	2.50	4	P	Pn	13 40 52.3	+2.8
	SNR=5601						
UCH	Uchtor	2.50	4	⇓iP	Pn	13 40 52.4	+2.9
	baz=4.0						
UCH				⇓iS	Sb	13 41 24.6	0.0
	baz=4.0						
ARK	Arkit	2.70	321	⇑eP	Pn	13 40 54.6	+2.7
	baz=21						
ARK				⇑iS	Sn	13 41 27.8	+3.1
	baz=21						
AAK	Ala-Archa	2.91	3	Pn	Pn	13 40 58.0	+3.2
	256nm,0.3s,baz=173,slow=11,SNR=860						
AAK				Lg	Lg	13 41 40.0	
	1µm,0.3s,baz=50,slow=18,SNR=25						
AAK				LR	LR	13 42 23.2	
	comp=Z,10µm,21.6s,baz=176,slow=45						
AAK	Ala-Archa	2.91	3	⇓Pn	Pn	13 40 55.7	+0.9
	2µm,0.5s						
AAK				⇓Lg	Lg	13 41 39.0	
	6µm,0.7s						
AAK	Ala-Archa	2.91	3	P	Pn	13 40 58.0	+3.2
	SNR=1665						
AAK	Ala-Archa	2.91	3	PN	Pn	13 40 58.0	+3.2
AAK				pmax	pmax		
	comp=Z,255nm,0.3s						
AAK				MLR	MLR		
	comp=Z,10µm,21.6s						
AAK	Ala-Archa	2.91	3	Pn	Pn	13 40 58.2	+3.4
AAK	Ala-Archa	2.91	3	P	Pn	13 40 58.2	+3.4
AAK	Ala-Archa	2.91	3	⇓iP	Pn	13 40 58.0	+3.2
	baz=3.0						
AAK				⇓iS	Sn	13 41 33.6	+3.7
	baz=3.0						
ULHL	Ulahol	2.92	30	P	Pn	13 40 57.6	+2.4
	SNR=190						
ULHL	Ulahol	2.92	30	⇓iP	Pn	13 40 57.7	+2.6
	baz=30						
ULHL				⇓iS	Sn	13 41 33.7	+3.3
	baz=30						
EKS2	Erkin-Say	2.95	353	P	Pn	13 40 58.5	+3.2
	SNR=548						
EKS2	Erkin-Say	2.95	353	⇓eP	Pn	13 40 58.6	+3.2
	baz=53						
EKS2				⇓iS	Sn	13 41 34.9	+4.1
	baz=53						
KBK	Karagaybulak	2.97	10	P	Pn	13 40 58.9	+3.2
	SNR=1575						
KBK	Karagaybulak	2.97	10	⇓iP	Pn	13 40 58.8	+3.2
	baz=10.0						
KBK				⇓iS	Sn	13 41 35.1	+3.7
	baz=10.0						
BOOM	Boomskoye usch	3.03	24	⇓iP	Pn	13 40 59.7	+3.1
	baz=24						
BOOM				⇓iS	Sn	13 41 37.8	+4.8
	baz=24						
MNAS	Manas	3.05	335	⇓Pn	Pn	13 40 59.2	+2.5
	comp=Z,668nm,0.6s						
MNAS				⇓Lg	Lg	13 41 44.5	
	comp=Z,8µm,0.7s						
MNAS	Manas	3.05	335	PN	Pn	13 40 59.3	+2.5
MNAS				pmax	pmax		
	comp=Z,668nm,0.6s						
MNAS	Manas	3.05	335	⇑iP	Pn	13 40 59.3	+2.5
	baz=35						
MNAS				⇑iS	Sn	13 41 37.8	+4.3
	baz=35						
FRU1	Bishkek	3.09	5	PN	Pn	13 41 00.0	+2.8
FRU1	Bishkek	3.09	5	⇑iP	Pn	13 41 00.2	+3.0
	baz=5.0						
FRU1				⇑iS	Sn	13 41 37.7	+3.5
	baz=5.0						
MRKS	Merke	3.11	346	⇑iP	Pn	13 41 00.9	+3.3
	comp=Z,2µm,0.5s						
MRKS				eS	Sb	13 41 42.7	+1.0
	comp=Z,5µm,0.6s						
FRU	Bishkek	3.11	5	ePN	Pn	13 41 01.0	+3.5
FRU				i		13 41 46.0	
FRU				pmax	pmax		
	comp=E,2µm,2.0s						
FRU				smax	smax		
	comp=E,37µm,2.0s						
KDJ	Kajisay	3.26	42	PN	Pn	13 41 01.9	+2.2
KDJ	Kajisay	3.26	42	⇓iP	Pn	13 41 01.8	+2.1
	baz=41						
KDJ				⇓iS	Sn	13 41 42.2	+3.5
	baz=41						
CHMS	Chumysh	3.28	6	P	Pn	13 41 03.2	+3.3
	SNR=154						
CHMS	Chumysh	3.28	6	⇓iP	Pn	13 41 03.0	+3.1
	baz=6.0						
CHMS				⇓iS	Sn	13 41 42.1	+3.1
	baz=6.0						
TKM2	Tokmak 2	3.34	17	⇓Pn	Pn	13 41 03.8	+3.0
	comp=E,505nm,0.5s						
TKM2				⇓Sn	Sn	13 41 45.9	+5.3
	comp=E,3µm,0.7s						
TKM2	Tokmak 2	3.34	17	P	Pn	13 41 03.9	+3.1
	SNR=1502						
TKM2	Tokmak 2	3.34	17	PN	Pn	13 41 03.0	+2.2
TKM2	Tokmak 2	3.34	17	⇓eP	Pn	13 41 04.0	+3.1
	baz=17						
TKM2				⇓iS	Sn	13 41 44.9	+4.2
	baz=17						
TARG	Taragay, Kyrgy	3.35	52	⇓iP	Pn	13 41 03.7	+2.5
	baz=52						
TARG				⇓iS	Sn	13 41 44.1	+2.8
	baz=52						
USP	Ospenovka	3.53	3	P	Pn	13 41 06.8	+3.4
	SNR=8.1						
USP	Ospenovka	3.53	3	⇑eP	Pn	13 41 05.9	+2.6
	baz=3.0						
USP				⇑iS	Sn	13 41 48.9	+3.7
	baz=3.0						
KST	Kastek	3.55	21	eP	Pn	13 41 06.5	+2.9
	comp=E,202nm,0.8s						
KST				eS	Sb	13 41 51.9	-2.5
	comp=E,7µm,0.7s						
DGS	Degeres	3.69	18	eP	Pn	13 41 07.9	+2.4
	comp=E,656nm,0.6s						
DGS				eS	Sn	13 41 55.2	+6.2
	comp=E,2µm,0.7s						
IZV	Izvestkoviy	3.75	27	eP	Pn	13 41 08.8	+2.4
	comp=E,869nm,0.9s						
IZV				eS	Sn	13 41 57.0	+6.4
	comp=E,3µm,0.8s						
MTBS	Maitube	3.77	25	eP	Pn	13 41 10.3	+3.8
	comp=E,2µm,0.6s						
MTBS				eS	Sb	13 41 59.1	-1.6
	comp=E,3µm,0.5s						
TNSS	Tian-Shan	3.87	31	eP	Pn	13 41 11.3	+3.0
	comp=E,488nm,0.4s						
TNSS				eS	Sb	13 42 01.1	-2.9
	comp=E,3µm,0.6s						
AAA	Alma-Ata	4.00	29	eP	Pb	13 41 18.2	-0.8
	comp=E,3µm,0.6s						
AAA				eS	Sb	13 42 13.6	+6.1
	comp=E,11µm,0.6s						
AAA	Alma-Ata	4.00	29	i PN	Pb	13 41 20.9	+1.9
AAA				pmax	pmax		
	comp=Z,3µm,0.6s						
MDOK	Medeo	4.02	31	⇓Pn	Pn	13 41 12.3	+2.2
	comp=Z,240nm,0.6s						
MDOK				⇓Pg	Pb	13 41 20.8	+1.5
	comp=Z,2µm,0.6s						
MDOK				⇑Lg	Lg	13 42 15.6	
	comp=Z,5µm,1.4s						
MDOK	Medeo	4.02	31	eP	Pb	13 41 17.2	-2.1
	comp=Z,231nm,0.5s						
MDOK				eS	Sb	13 42 11.9	+4.0
	comp=Z,2µm,0.9s						
KNDC	Almaty	4.03	29	⇑Pn	Pn	13 41 13.7	+3.5
	comp=Z,634nm,0.7s						
KNDC				⇑Pg	Pb	13 41 21.5	+2.0
	comp=Z,2µm,0.6s						
KNDC				⇑Lg	Lg	13 42 15.0	
	comp=Z,6µm,0.8s						
KOTS	Kotyrbulak	4.10	31	eP	Pb	13 41 18.4	-2.4
TAS	Tashkent	4.11	294	⇓Pn	Pn	13 41 14.4	+3.2
	comp=Z,210nm,0.4s						
TAS				⇑Pg	Pb	13 41 24.6	+3.9
	comp=Z,1µm,0.6s						
TAS				⇑Lg	Lg	13 42 18.6	
	comp=Z,12µm,0.7s						
TAS	Tashkent	4.11	294	PN	Pn	13 41 14.4	+3.2

TAS pmax pmax
comp=Z,210nm,0.4s
CHM Chimkent 4.37 308 *e*P **Pb 13 41 25.6 +0.4**
comp=Z,1μm,0.5s
CHM ⇓*i*S **Sg 13 42 27.5 -1.0**
comp=Z,5μm,0.6s
KTBS Karatobe 4.37 24 *e*P Pb 13 41 22.5 -2.7
KK31 Karatay Array 4.39 321 ⇓Pn **Pn 13 41 16.9 +1.9**
comp=Z,50nm,0.3s,baz=129,slow=12,SNR=2645
KK31 ⇓Pg **Pb 13 41 29.2 +3.6**
comp=Z,362nm,0.5s,baz=153,slow=16,SNR=21
KK31 ⇓Sn **Sn 13 42 07.5 +1.3**
comp=Z,396nm,0.7s,baz=134,slow=27,SNR=3.5
KK31 ⇑Lg Lg 13 42 27.4
comp=Z,1μm,0.6s,baz=133,slow=29,SNR=5.1
KKAR Karatay Array 4.39 321 *e*Pn **Pn 13 41 17.2 +2.2**
KKAR Karatay Array 4.39 321 *e*PN **Pn 13 41 17.2 +2.2**
KUU Kurty 4.44 20 *e*P **Pb 13 41 24.4 -1.9**
KUU *e*S **Sb 13 42 25.4 +5.5**
CHKK Chushkaly 4.59 25 *e*P **Pb 13 41 28.1 -0.9**
comp=Z,99nm,0.7s
CHKK *e*S **Sg 13 42 31.7 -4.1**
comp=Z,2μm,0.8s
KURS Kuram 4.76 37 *e*P **Pb 13 41 30.8 -1.1**
comp=Z,66nm,1.5s
KURS *e*S **Sb 13 42 36.4 +7.1**
comp=Z,1μm,2.3s
PDGK Podgornoye 5.32 46 ⇓Pn **Pn 13 41 29.2 +1.3**
comp=Z,73nm,0.5s
PDGK ⇑Pg **Pb 13 41 44.5 +3.0**
comp=Z,518nm,0.7s
PDGK ⇑Lg Lg 13 42 56.0
comp=Z,3μm,1.2s
PDGK Podgornoye 5.32 46 PN **Pn 13 41 29.0 +1.0**
CHCP Chirah Chowk 6.12 188 P **Pn 13 41 43.3 +4.5**
CEP Cherat 6.19 198 P **Pn 13 41 43.8 +3.8**
CEP S **Sn 13 42 55.0 +4.1**
KBL Kabul 6.65 220 *e*Pn **Pn 13 41 50.1 +3.8**
KBL Kabul 6.65 220 *e*PN **Pn 13 41 50.1 +3.8**
THW Thamme Wali 7.22 197 P **Pn 13 41 56.8 +2.9**
DHRM DHARAMSHALA 7.65 167 *e*P **Pn 13 42 01.1 +1.0**
DHRM IAmb IAmb 13 42 05.0
comp=Z,2μm,2.0s
SARP Sargodha 7.90 190 P **Pn 13 42 05.1 +1.8**
OTUK Ortayu 8.62 351 ⇓Pn **Pn 13 42 13.9 +0.8**
OTUK ⇑Lg Lg 13 44 43.3
OTUK Ortayu 8.62 351 P **Pn 13 42 13.9 +0.8**
SMLA Simla 8.91 164 *e*P **Pn 13 42 17.3 +0.2**
SMLA IAmb IAmb 13 42 20.8
comp=Z,153nm,0.3s
MAKZ Makanchi 9.04 36 *e*Pn Pn 13 42 09.5 -9.3
MAKZ Makanchi 9.04 36 *e*P Pn 13 42 09.5 -9.3
MK01 Makanchi Array 9.15 37 *e*Pn **Pn 13 42 22.0 +1.5**
MK31 Makanchi Array 9.17 37 ⇑Pn **Pn 13 42 24.1 +3.5**
comp=Z,32nm,0.6s,baz=166,slow=43,SNR=4.1
MK31 ⇑Lg Lg 13 45 00.5
comp=Z,80nm,0.7s
MK31 Makanchi Array 9.17 37 *e*Pn **Pn 13 42 23.6 +2.9**
MK31 Makanchi Array 9.17 37 *e*P **Pn 13 42 23.6 +2.9**
MKAR Makanchi Array 9.17 37 Pn **Pn 13 42 22.7 +2.1**
comp=Z,1.3nm,0.3s,baz=213,slow=13,SNR=43
MKAR Lg Lg 13 45 00.8
comp=Z,4.3nm,0.3s,baz=221,slow=26,SNR=5.4
MKAR LR LR 13 45 46.7
comp=Z,673nm,18.8s,baz=222,slow=37
MKAR Makanchi Array 9.17 37 *e*Pn **Pn 13 42 23.5 +2.9**
MKAR Makanchi Array 9.17 37 *e*P **Pn 13 42 23.5 +2.9**
DDI Dehra Dun 9.89 161 *e*P **Pn 13 42 30.2 -0.5**
DDI IAmb IAmb 13 42 37.5
comp=Z,477nm,0.5s
WMQ Urumqi 10.83 64 P **Pn 13 42 44.5 +1.0**
WMQ S **Sn 13 44 45.2 +0.4**
WMQ SS **SnSn 13 45 01.8 +5.4**
WMQ pmax pmax
comp=Z,110nm,0.7s
WMQ pmax pmax
comp=Z,590nm,3.7s
WMQ LR LR
comp=Z,6μm,18.9s
WMQ LR LR
comp=Z,2μm,14.1s
WMQ LR LR
comp=Z,3μm,12.3s
KURK Kurchatov 11.40 14 ⇑Pn **Pn 13 42 53.6 +2.5**
comp=Z,26nm,1.2s
KURK ⇓Lg Lg 13 46 09.0
comp=Z,2μm,1.6s
KURK Kurchatov 11.40 14 *e*Pn **Pn 13 42 50.8 -0.4**
KURK Kurchatov 11.40 14 *e*P **Pn 13 42 50.8 -0.4**
GEYT Alibeck 12.72 267 Pn **Pn 13 43 08.1 -1.2**
comp=Z,1.8nm,0.3s,baz=81,slow=9.5,SNR=37
GEYT LR LR 13 48 52.1
comp=Z,1μm,19.9s,baz=95,slow=41
BVA0 Borovoye Array 13.56 350 Pn **Pn 13 43 19.3 -1.3**
comp=Z,120nm,1.0s,baz=160,slow=11,SNR=194
BVA0 ⇓Lg Lg 13 47 17.9
comp=Z,415nm,1.5s,baz=152,slow=31,SNR=4.8
BVA0 Borovoye Array 13.56 350 P **Pn 13 43 19.3 -1.3**
BVAR Borovoye Array 13.56 350 Pn **Pn 13 43 19.5 -1.1**
comp=Z,1.7nm,0.3s,baz=161,slow=13,SNR=98
BVAR Lg Lg 13 47 21.4
comp=Z,4.1nm,0.3s,baz=150,slow=31,SNR=5.9
BVAR LR LR 13 48 42.7
comp=Z,4μm,19.8s,baz=168,slow=38
BRVK Borovoye 13.60 350 *e*Pn **Pn 13 43 19.9 -1.4**
BRVK Borovoye 13.60 350 *ce*P **Pn 13 43 19.8 -1.4**
BRVK pmax pmax
comp=Z,65nm,0.8s
BRVK Borovoye 13.60 350 P **Pn 13 43 20.2 -1.0**
SNR=38
PYUN Piuthan 13.67 145 *e*P Pn 13 43 18.5 -4.0
comp=Z,505nm,0.7s
DANN Dangsing 13.81 142 *e*P Pn 13 43 20.6 -3.8
comp=Z,8.1nm,0.8s
AB31 Akbulak array 13.94 318 Pn **Pn 13 43 24.6 -1.2**
comp=Z,155nm,0.7s,baz=127,slow=12,SNR=2351
AB31 ⇑Sn **Sn 13 45 59.6 -1.0**
comp=Z,35nm,0.8s,baz=134,slow=22,SNR=4.7
AB31 Akbulak array 13.94 318 P **Pn 13 43 24.7 -1.2**
AB31 pmax pmax
comp=Z,155nm,0.7s
ABKAR Akbulak array 13.94 318 *e*Pn **Pn 13 43 24.1 -1.8**
KOLN Koldanda 14.23 144 *e*P Pn 13 43 25.5 -4.6
comp=Z,241nm,1.0s
GKN Gorkha 14.52 141 *e*P Pn 13 43 29.5 -4.6
comp=Z,2.0nm,0.3s
KKN Kakani 15.02 139 *e*P Pn 13 43 36.1 -4.7
comp=Z,127nm,0.6s
DMN Daman 15.08 140 *e*P Pn 13 43 36.8 -4.9
comp=Z,62nm,0.5s
GUN Gumba 15.23 137 *e*P Pn 13 43 38.6 -5.2
comp=Z,142nm,0.7s
PKIN Phulchoki 15.25 139 *e*P Pn 13 43 38.7 -5.3
comp=Z,82nm,0.5s
PKI Pulchoki 15.26 139 *e*P Pn 13 43 38.4 -5.8
comp=Z,143nm,0.8s
JIRN Jiri 15.59 137 *e*P Pn 13 43 43.2 -5.4
comp=Z,204nm,0.5s
AKTO Aktyubinsk 15.65 318 Pn **Pn 13 43 48.4 -0.5**
comp=Z,5.3nm,0.3s,baz=125,slow=16,SNR=99
AKTO LR LR 13 50 12.7
comp=Z,5μm,19.1s,baz=129,slow=38
AKTO Aktyubinsk 15.65 318 P **Pn 13 43 48.4 -0.5**
AKTO pmax pmax
comp=Z,5.0nm,0.3s
AKTO MLR MLR
comp=Z,5μm,19.1s
ZAA0 Zalesovo Array 15.92 23 ⇑Pn **Pn 13 43 52.8 +0.5**
comp=Z,33nm,0.7s
ZAA0 Zalesovo Array 15.92 23 *e*Pn **Pn 13 43 51.1 -1.2**
comp=Z,35nm,0.6s
ZALV Zalesovo Beam 15.92 23 Pn **Pn 13 43 51.6 -0.7**
comp=Z,2.9nm,0.3s,baz=208,slow=12,SNR=64
ZALV Lg Lg 13 48 44.8
comp=Z,0.5nm,0.3s,baz=235,slow=30,SNR=3.5
ZALV LR LR 13 50 10.5
comp=Z,3μm,18.4s,baz=242,slow=38
ZALV Zalesovo Beam 15.92 23 *e*Pn **Pn 13 43 49.9 -2.4**
NVS Novosibirsk 16.27 19 *e*P **Pn 13 43 55.8 -1.0**
NVS pmax pmax
comp=N,85nm,1.0s
NVS pmax pmax
comp=E,51nm,1.0s
NVS pmax pmax
comp=Z,97nm,1.0s
RAMN Ramite 16.38 137 *e*P Pn 13 43 51.8 -6.8
comp=Z,210nm,0.6s
TAPN Taplejung 16.66 134 *e*P Pn 13 43 55.0 -7.2
comp=Z,188nm,0.8s
BHPL Bhopal 16.66 170 *e*P **Pn 13 44 02.1 +0.1**
ODAN Odare 16.87 136 *e*P Pn 13 43 57.5 -7.3
comp=Z,158nm,0.7s
BHJ Bhuj 16.89 195 *e*P **Pn 13 44 05.9 +1.1**
LSA Lhasa 17.09 121 P **Pn 13 44 07.8 -0.1**
LSA S **Sn 13 47 16.3 -1.9**
LSA pmax pmax
comp=Z,16nm,1.7s
LSA LR LR
comp=Z,2μm,10.7s
LSA Lhasa 17.09 121 *e*Pn **Pn 13 44 06.4 -1.4**
comp=Z,26nm,0.8s
LSA Lhasa 17.09 121 *e*P **Pn 13 44 06.4 -1.4**
LSA pmax pmax
comp=Z,25nm,0.8s
LSA Lhasa 17.09 121 *i* Pn **Pn 13 44 07.5 -0.4**
SNR=9.5
LSA Lhasa 17.09 121 *i* P **Pn 13 44 07.5 -0.4**
SNR=9.5
JBP Jabalpur 17.22 162 IAmb IAmb 13 44 08.9
comp=Z,1μm,0.1s
JBP ⇑*e*P **Pn 13 44 09.5 +0.6**
JBP *ex* x 13 47 05.2
HVS Khovu-Aksy 17.72 44 *e*P **Pn 13 44 15.0 -0.2**
HVS pmax pmax
comp=Z,39nm,0.9s
BOK Bokaro 18.69 145 *e*P **P 13 44 24.3 -2.5**
NGP Nagpur 18.97 166 *e*P **P 13 44 29.0 -0.9**
NGP *ex* x 13 51 37.8
SVE Sverdlovsk 19.29 337 *e*P **P 13 44 34.0 +0.9**
SVE pmax pmax
comp=Z,82nm,1.5s
SVE MLR MLR
comp=Z,3μm,14.0s
ARU Arti 19.64 333 LR LR 13 52 35.1
comp=Z,3μm,19.3s,baz=117,slow=38
ARU Arti 19.64 333 *e*P **P 13 44 37.1 +0.1**
comp=Z,66nm,0.8s
ARU Arti 19.64 333 *d* P **P 13 44 37.1 +0.1**
ARU S **S 13 48 17.5 -0.9**
ARU pmax pmax
comp=Z,52nm,1.2s
ARU MLR MLR
comp=Z,3μm,12.0s
GTA Gaotai 19.69 83 ⇓P **P 13 44 38.1 +0.3**
GTA pP Pn 13 44 42.6 +3.4
GTA sP sP 13 44 45.7 +3.8
GTA S **S 13 48 20.5 +0.6**
GTA sS sS 13 48 25.5 +1.1
GTA SS **SnSn 13 48 44.5 +10**
GTA pmax pmax
comp=Z,14nm,1.0s
GTA pmax pmax
comp=Z,160nm,5.5s
GTA LR LR
comp=Z,1μm,11.9s
GTA LR LR
comp=Z,1μm,13.1s
GTA LR LR
comp=Z,1μm,10.7s
MAK Makhachkala 20.31 288 *e*P **P 13 44 44.3 0.0**
MAK *e*S **S 13 48 29.2 -2.7**
MAK pmax pmax
comp=Z,222nm,1.2s
MAK MLR MLR
comp=Z,775nm,11.0s
BANOM Banah 20.38 233 P **P 13 44 46.3 +1.0**
BANOM Banah 20.38 233 P **P 13 44 46.3 +1.0**
SHME Shamm 20.38 233 P **P 13 44 46.6 +1.3**
SHME Shamm 20.38 233 P **P 13 44 46.6 +1.3**
SHL Shillong 20.44 128 *e*P **P 13 44 44.4 -1.7**
SHL IAmb IAmb 13 44 47.1
comp=Z,18nm,0.7s
MSFE Esma-Masafi 20.88 232 P **P 13 44 51.7 +1.0**
MSFE Esma-Masafi 20.88 232 P **P 13 44 51.7 +1.0**
WSAR Wadi Sarin 21.11 223 P **P 13 44 53.1 -0.1**
comp=Z,26nm,0.9s,baz=58,slow=5.9,SNR=18
WSAR LR LR 13 54 29.6
comp=Z,372nm,18.0s,baz=72,slow=40
POO Poona 21.13 181 *e*P **P 13 44 52.9 -0.6**
POO IAmb IAmb 13 44 56.6
comp=Z,84nm,0.2s
UOSS Minazif 21.16 231 *e*P **P 13 44 53.2 -0.5**
comp=Z,24nm,0.9s
UOSS Minazif 21.16 231 P **P 13 44 53.1 -0.5**
UOSS Minazif 21.16 231 P **P 13 44 53.1 -0.5**
ASHO Ashiyiah 21.44 231 P **P 13 44 57.3 +0.5**
SNR=14
ASHO Ashiyiah 21.44 231 *i* P **P 13 44 57.0 +0.3**
SNR=10
ASHO Ashiyiah 21.44 231 *i* P **P 13 44 57.0 +0.3**
SNR=10
GROC Groznyy 21.56 289 *e*P **P 13 44 58.9 +1.0**
GROC *e**PP sP 13 45 10.6 +8.6
GROC *e* 13 45 21.1
GROC *e*S **S 13 48 56.3 -0.4**
GROC pmax pmax
comp=Z,147nm,0.8s
MOY Mondy 22.02 48 *e*P **P 13 45 03.1 +0.2**
MOY pmax pmax
comp=Z,100nm,2.0s
TBLG Delisi 22.41 285 *e*P **P 13 45 09.5 +2.5**
comp=Z,47nm,0.9s
TBLG Delisi 22.41 285 *e*P **P 13 45 09.5 +2.5**
TBLG pmax pmax
comp=Z,47nm,0.9s
HYB Hyderabad 22.55 169 *i* P **P 13 45 08.0 -0.7**
HYB *e*S **S 13 49 12.0 -3.9**
HYB Hyderabad 22.55 169 *e*P **P 13 45 06.7 -2.0**
HYB IAmb IAmb 13 45 09.8
comp=Z,31nm,0.8s
GNI Garni 22.59 281 P **P 13 45 11.1 +2.0**
comp=Z,63nm,1.0s,baz=15,slow=2.6,SNR=8.6
GNI LR LR 13 55 49.1
comp=Z,350nm,19.3s,baz=87,slow=41
GNI Garni 22.59 281 *e*P **P 13 45 10.7 +1.6**
comp=Z,127nm,0.8s
GNI Garni 22.59 281 *ce*P **P 13 45 10.5 +1.4**
GNI pmax pmax
comp=Z,257nm,1.0s
GNI Garni 22.59 281 P **P 13 45 11.6 +2.5**
SNR=20
GNI Garni 22.59 281 *i* P **P 13 45 10.8 +1.7**
SNR=19
GNI Garni 22.59 281 *i* P **P 13 45 10.8 +1.7**
SNR=19
SOKR Solikamsk 22.73 337 *c i*P **P 13 45 09.2 -1.0**
SOKR S **S 13 49 13.4 -5.2**
SOKR pmax pmax
comp=Z,59nm,1.0s
SOKR MLR MLR
comp=Z,2μm,14.0s
ZAK Zakamensk 22.96 53 *e*P **P 13 45 12.5 -0.3**
ZAK pmax pmax
comp=Z,18nm,1.2s
NCK Nalchik 23.16 289 *e*P **P 13 45 16.4 +1.5**
NCK pmax pmax
comp=Z,38nm,0.9s
VIS Vishakhapatnam 23.30 158 *e*P **P 13 45 15.6 -0.9**
VIS IAmb IAmb 13 45 17.2
comp=Z,32nm,0.5s
AKH Akhalkalaki 23.37 284 ⇓*i*P **P 13 45 19.2 +2.0**
AKH Akhalkalaki 23.37 284 *e*P **P 13 45 19.1 +1.9**
comp=Z,43nm,1.0s
AKH Akhalkalaki 23.37 284 *e*P **P 13 45 19.1 +1.9**
AKH pmax pmax
comp=Z,43nm,1.0s
GOF Gofitskoye 23.57 293 ⇑*e*P **P 13 45 19.6 +0.7**
GOF pmax pmax
comp=Z,91nm,0.9s
TLY Talaya 23.57 50 *e*P **P 13 45 19.8 +0.9**
comp=Z,46nm,1.6s
TLY Talaya 23.57 50 *e*P **P 13 45 20.2 +1.3**
TLY *e*S **S 13 49 28.5 -4.5**
TLY pmax pmax
comp=Z,37nm,1.8s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 23.57 50 P **P 13 45 20.0 +1.0**
SNR=14
LZH Lanzhou 23.58 89 *e*P **P 13 45 19.2 -0.1**
LZH pP pP 13 45 24.1 +1.9
LZH sP sP 13 45 27.1 +3.6
LZH PP **PnPn 13 45 54.2 +8.2**
LZH S S 13 49 23.0 -11
LZH SS **SnSn 13 50 19.3 +9.4**
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.0s
LZH LR LR
comp=Z,860nm,11.5s
LZH LR LR
comp=Z,810nm,10.4s
LZH LR LR
comp=Z,1μm,12.4s
KBZ Khabaz 23.66 290 P **P 13 45 20.0 +0.2**
comp=Z,5.0nm,0.9s,baz=110,slow=8.5,SNR=6.7
KBZ LR LR 13 56 35.7
comp=Z,704nm,20.5s,baz=88,slow=41
KBZ Khabaz 23.66 290 P **P 13 45 20.0 +0.2**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ MLR MLR
comp=Z,704nm,20.5s
KVAR Kislovodsk Arr 23.81 291 P **P 13 45 22.5 +1.2**
comp=Z,24nm,0.7s,baz=86,slow=13,SNR=10
KVAR LR LR 13 56 28.4
comp=Z,546nm,19.7s,baz=46,slow=41
NEY Neytrino 23.81 289 *ce*P **P 13 45 22.1 +0.6**
NEY pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 23.81 291 *e*P **P 13 45 21.8 +0.3**
comp=Z,101nm,0.9s
KIV Kislovodsk 23.81 291 *e*P **P 13 45 21.6 +0.1**
KIV *e*S **S 13 49 35.3 -1.8**
KIV pmax pmax
comp=Z,59nm,0.9s
KIV MLR MLR
comp=Z,315nm,15.0s
KIV Kislovodsk 23.81 291 *i* P **P 13 45 21.5 +0.1**
SNR=7.2
KIV Kislovodsk 23.81 291 *i* P **P 13 45 21.5 +0.1**
SNR=7.2
IRK Irkutsk 24.12 49 *e*P **P 13 45 24.1 -0.1**
IRK pmax pmax
comp=Z,57nm,1.5s
SONM Songino Array 24.44 60 P **P 13 45 28.0 +0.8**
comp=Z,3.1nm,0.8s,baz=261,slow=10,SNR=18
SONM LR LR 13 55 51.1
comp=Z,1μm,21.6s,baz=263,slow=39
SONA1 Songino Array 24.44 60 *e*P **P 13 45 26.1 -1.3**
ULN Ulaanbaatar 24.88 60 *e*P **P 13 45 31.1 -0.2**
comp=Z,9.0nm,0.7s
ULN Ulaanbaatar 24.88 60 *ce*P **P 13 45 30.1 -1.2**
ULN pmax pmax
comp=Z,7.0nm,0.8s
VRH Novokhopyorsk 25.32 308 *e*P **P 13 45 36.2 +1.2**
VRH pmax pmax
comp=Z,60nm,0.8s
VRH MLR MLR
comp=Z,2μm,12.0s
CD2 Chengdu 25.54 101 P **P 13 45 37.7 +0.4**
CD2 pP pP 13 45 40.8 +0.5
CD2 S **S 13 50 05.9 +1.0**
CD2 sS pS 13 50 11.0 +2.6
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,200nm,4.5s
CD2 LR LR
comp=Z,2μm,10.6s
CD2 LR LR
comp=Z,1μm,10.0s
CD2 LR LR
comp=Z,2μm,10.8s
SOC Sochi 25.98 290 *e*P **P 13 45 37.9 -3.2**
SOC *e* 13 46 28.2
SOC *e*S **S 13 50 03.3 -8.2**
SOC *e*SS SnSn 13 51 30.1 +22
SOC MLR MLR
comp=Z,645nm,14.0s
MARD Mardin 26.22 275 *e*P **P 13 45 44.8 +1.3**
comp=Z,33nm,0.8s
VSR Storozhevoye 26.89 307 *e*P **P 13 45 49.4 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR MLR MLR
comp=Z,2μm,11.0s
VORR Voronezh 26.96 308 P **P 13 45 51.0 +1.1**
LPSR Galich'ya Gora 27.34 310 *e*P **P 13 45 54.0 +0.7**
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR MLR MLR
comp=Z,2μm,14.0s
ANN Anapa 27.55 293 *e*P **P 13 45 55.3 +0.1**
ANN pmax pmax
comp=Z,60nm,1.1s
ANN MLR MLR
comp=E,1μm,16.0s
ANN MLR MLR
comp=N,2μm,16.0s
ANN MLR MLR
comp=Z,2μm,16.0s
KMI Kunming 27.97 113 P **P 13 45 59.3 -0.1**
KMI pP sP 13 46 08.9 +5.2
KMI sP pP 13 46 12.6 +10
KMI S **S 13 50 44.2 +0.6**
KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,110nm,3.4s
KMI LR LR
comp=Z,1μm,11.4s
KMI LR LR
comp=Z,850nm,13.9s
KMI LR LR
comp=Z,1μm,12.1s
XAN Xi'an 28.19 91 P **P 13 46 00.2 -0.9**
XAN pP sP 13 46 12.3 +6.9
XAN S **S 13 50 45.9 -0.7**
XAN SS **SnSn 13 52 14.3 +12**
XAN PcS **PcS 13 52 53.9 -3.1**
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN pmax pmax
comp=Z,120nm,5.5s
XAN LR LR
comp=Z,790nm,11.9s
XAN LR LR
comp=Z,1μm,13.0s
XAN LR LR
comp=Z,1μm,14.2s
HHC Hu-ho-hao-te 28.34 76 *e*P P 13 45 59.2 -3.3
HHC PP **PnPn 13 46 52.4 +1.4**
HHC S S 13 50 39.0 -10
MOS Moscow 28.95 316 *e*P **P 13 46 06.5 -1.1**
MOS *e* 13 46 58.9
MOS *e* 13 49 15.5
MOS pmax pmax
comp=E,70nm,0.8s
MOS pmax pmax
comp=Z,67nm,0.7s
MOS MLR MLR
comp=Z,3μm,13.0s
MOS MLR MLR
comp=E,2μm,15.0s
RAYN Ar Rayn 29.17 245 *e*P **P 13 46 10.5 +0.6**
comp=E,10nm,0.8s
RAYN Ar Rayn 29.17 245 P **P 13 46 10.5 +0.6**
OBN Obninsk 29.34 314 LR LR 13 59 58.5
comp=E,229nm,19.0s,baz=94,slow=40
OBN Obninsk 29.34 314 *ce*P **P 13 46 10.7 -0.3**
OBN *e* 13 47 03.3
OBN *e*PPP PPP 13 47 14.2
OBN pmax pmax
comp=Z,47nm,1.2s
OBN MLR MLR
comp=Z,2μm,15.0s
CHTO Chiang Mai 29.80 127 *e*P P 13 46 13.6 -1.9
comp=Z,3.0nm,0.9s
CHTO Chiang Mai 29.80 127 *e*P P 13 46 13.6 -1.9
CHTO pmax pmax
comp=Z,3.0nm,0.9s
SIM Simferopol' 29.90 293 *de*P **P 13 46 16.6 +0.5**
SIM pmax pmax
comp=Z,54nm,0.8s
SIM MLR MLR

comp=Z,730nm,14.0s
GYA Guiyang 30.03 106 P **P** **13 46 22.1 +4.5**
GYA pP sP 13 46 31.2 +9.3
GYA PP **PnPn** **13 47 17.8 +3.6**
GYA PcP **PcP** **13 49 20.6 +1.0**
GYA S **S** **13 51 11.0 -4.9**
GYA SS **SnSn** **13 52 49.8 +2.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=Z,840nm,18.1s
GYA LR LR
comp=Z,760nm,18.7s
GYA LR LR
comp=Z,790nm,18.6s
CMAR Chiang Mai Arr 30.07 128 P P 13 46 16.4 -1.5
comp=Z,1.8nm,0.7s,baz=311,slow=8.7,SNR=14
CMAR PcP **PcP** **13 49 20.1 +0.5**
comp=Z,1.6nm,0.7s,baz=321,slow=3.7,SNR=3.6
CMAR ScP **ScP** **13 53 00.4 -1.4**
comp=Z,2.0nm,0.8s,baz=312,slow=4.7,SNR=7.9
CMAR LR LR 14 01 02.4
comp=Z,502nm,18.6s,baz=336,slow=42
KLMR Klimovskoe 30.07 326 *eP* **P** **13 46 16.8 -0.7**
KLMR *e* 13 47 13.7
KLMR S S 13 51 04.8 -11
KLMR pmax pmax
comp=Z,53nm,1.2s
KLMR MLR MLR
comp=Z,610nm,11.0s
KLMR Klimovskoe 30.07 326 *eP* **P** **13 46 16.8 -0.7**
KLMR *eP* **P** **13 46 16.8 -0.7**
KLMR *eP* **P** **13 46 16.8 -0.7**
KLMR AMP 13 46 32.4
comp=Z,53nm,1.2s
KLMR *ePP* **PnPn** **13 47 13.8 -0.4**
KLMR S S 13 51 04.9 -11
KLMR S S 13 51 04.9 -11
KLMR LQ LQ 13 55 44.2
KLMR LQ LQ 13 55 44.2
KLMR LR LR 13 57 12.5
KLMR AMP 13 58 40.8
comp=Z,610nm,10.5s
CM01 Chiang Mai Arr 30.11 128 *eP* P 13 46 16.5 -1.7
ENH Enshi 30.20 97 *eP* **P** **13 46 17.7 -1.3**
comp=Z,17nm,0.8s
LAMP Lampang 30.45 127 P **P** **13 46 20.1 -1.1**
comp=Z,5.8nm,0.7s
PHRA Phrae 30.83 126 P **P** **13 46 23.7 -0.9**
comp=Z,60nm,1.6s,comp=Z,2µm
BR131 Keskin Array S 31.05 283 *eP* **P** **13 46 27.9 +1.3**
BRTR Keskin Array B 31.05 283 P **P** **13 46 27.8 +1.3**
comp=Z,20nm,0.8s,baz=92,slow=7.5,SNR=68
BRTR LR LR 14 00 44.7
comp=Z,173nm,19.5s,baz=64,slow=40
DGPR DIGLIPUR 31.16 143 *eP* P 13 46 25.0 -2.4
DGPR IAmb IAmb 13 46 27.9
comp=Z,34nm,0.5s
BOD Bodaibo 31.23 41 *eP* **P** **13 46 27.0 -0.7**
BOD pmax pmax
comp=Z,27nm,1.6s
BR231 Keskin MP Arra 31.67 284 *eP* P 13 46 28.2 -3.8
MMAI Mount Meron Ar 31.81 270 LR LR 14 01 15.3
comp=Z,131nm,21.3s,baz=75,slow=40
PHIT Phitsanulok 31.94 127 P **P** **13 46 35.3 +1.0**
comp=Z,7.2nm,0.8s
TMCR Tamitsa 32.34 331 *eP* **P** **13 46 38.0 +0.6**
TMCR pmax pmax
comp=Z,45nm,0.7s
UTHA Uthaitani 32.62 130 P **P** **13 46 39.6 -0.7**
comp=Z,16nm,0.7s,comp=Z,152nm
PALK Pallekele 32.84 168 P **P** **13 46 42.2 0.0**
comp=Z,11nm,0.8s,baz=295,slow=7.2,SNR=9.0
PALK Pallekele 32.84 168 *eP* **P** **13 46 42.6 +0.3**
comp=Z,22nm,1.1s
PALK Pallekele 32.84 168 *eP* **P** **13 46 42.6 +0.3**
PALK pmax pmax
comp=Z,22nm,1.1s
PALK Pallekele 32.84 168 P **P** **13 46 42.2 0.0**
PALK Pallekele 32.84 168 P **P** **13 46 42.2 0.0**
AKASG Malin Array Be 33.08 304 P **P** **13 46 44.0 0.0**
comp=Z,2.8nm,0.5s,baz=79,slow=7.6,SNR=47
AKASG LR LR 14 02 59.1
comp=Z,1µm,19.5s,baz=85,slow=41
AKBB Malin Array Si 33.08 304 *eP* **P** **13 46 43.9 -0.1**
comp=Z,24nm,0.8s
AKBB Malin Array Si 33.08 304 *eP* **P** **13 46 43.9 -0.1**
AKBB pmax pmax
comp=Z,24nm,0.8s
KIEV Kiev 33.09 304 *eP* **P** **13 46 43.9 -0.2**
comp=Z,23nm,0.7s
KIEV Kiev 33.09 304 *ceP* **P** **13 46 43.7 -0.4**
KIEV pmax pmax
comp=Z,21nm,1.0s
KIEV Kiev 33.09 304 *i* P **P** **13 46 44.0 -0.1**
SNR=12
KIEV Kiev 33.09 304 *i* P **P** **13 46 44.0 -0.1**
SNR=12
AK11 Malin Array Si 33.11 304 *eP* **P** **13 46 44.1 -0.2**
SRDT SRDT 33.40 132 P **P** **13 46 49.3 +2.2**
comp=Z,33nm,0.9s,comp=Z,3µm
KIS Kishinev 33.43 298 *eP* **P** **13 46 51.0 +3.8**
KIS *e*SSS SSS 13 54 44.0
KIS *eL* L 14 00 36.0
KIS LRM MLR 14 02 34.0
comp=Z,1µm,12.0s
KIS Kishinev 33.43 298 *eP* **P** **13 46 51.0 +3.8**
KIS MLR MLR
comp=E,1µm,12.0s
KIS MLR MLR
comp=Z,900nm,12.0s
KIS MLR MLR
comp=Z,900nm,12.0s
TLCR 33.62 294 ⇓*iP* **P** **13 46 49.2 +0.4**
SORM Soroca 33.68 300 ⇓*iP* **P** **13 46 49.0 -0.3**
WHN Wuhan 33.81 93 P **P** **13 46 54.0 +3.4**
WHN S **S** **13 52 14.6 +0.1**
WHN LR LR
comp=Z,2µm,10.8s
WHN LR LR
comp=Z,500nm,9.0s
WHN LR LR
comp=Z,2µm,13.3s
PUL Pulkovo 33.89 321 *eP* **P** **13 46 51.1 +0.2**
PUL pmax pmax
comp=Z,78nm,0.9s
CHAI Chaiyaphum 33.89 127 P **P** **13 46 50.7 -0.7**
comp=Z,11nm,0.7s,comp=Z,96nm
ISP Isparta 33.90 281 *eP* **P** **13 46 52.8 +1.3**
comp=Z,20nm,0.7s
ISP Isparta 33.90 281 *eP* **P** **13 46 52.8 +1.3**
ISP pmax pmax
comp=Z,20nm,0.7s
TIRR Tirgusor 34.00 293 ⇓*iP* **P** **13 46 52.6 +0.5**
KHON Khomkaen 34.08 125 P **P** **13 46 52.7 -0.4**
comp=Z,25nm,0.8s
TLB Topalu 34.24 294 ⇓*iP* **P** **13 46 54.5 +0.3**
SKNT Sakolnakorn 34.35 123 P P 13 46 53.6 -1.8
comp=Z,35nm,0.8s
JOF Joensuu 34.47 327 P **P** **13 46 56.7 +0.7**
JOF pmax pmax
comp=Z,51nm,0.8s
NAYO Nakonayok 34.71 129 P **P** **13 46 59.4 +0.9**
comp=Z,13nm,0.8s,comp=Z,906nm
NACGM Naroch 34.84 312 *e* **P** **13 46 59.0 -0.2**
PHET Kaeng Krachan 34.85 133 P **P** **13 47 02.9 +3.2**
comp=Z,10nm,1.0s
IDID Didziasalis 34.90 313 *eP* **P** **13 47 00.7 +0.8**
IDID IAmb IAmb 13 47 01.3
comp=Z,12nm,0.8s
TESR Tescani 34.96 297 ⇑*iP* **P** **13 47 00.8 +0.3**
VRI Vrincioaia 34.99 296 ⇓*iP* **P** **13 47 01.9 +1.2**
PLOR Plostina 35.04 296 ⇑*iP* **P** **13 47 02.8 +1.6**
IIGN Ignalina 35.20 313 *eP* **P** **13 47 03.3 +0.9**
IIGN IAmb IAmb 13 47 04.0
comp=Z,7.9nm,0.7s
ISR Istrita 35.22 295 ⇑*iP* **P** **13 47 05.6 +2.9**
IZAR Zarasai 35.23 313 *eP* **P** **13 47 03.6 +0.9**
IZAR IAmb IAmb 13 47 04.3
comp=Z,19nm,0.7s
ISAL Salakas 35.28 313 *eP* **P** **13 47 04.0 +0.9**
ISAL IAmb IAmb 13 47 04.7
comp=Z,13nm,0.9s

VSU Vasula 35.38 318 *eP* **P** **13 47 03.5 -0.3**
VSU pmax pmax
comp=Z,141nm,1.0s
LVZ Lovozero 35.49 335 *eP* **P** **13 47 03.7 -1.1**
LVZ pmax pmax
comp=Z,50nm,1.0s
MLR Muntele Rosu 35.58 295 P **P** **13 47 07.8 +1.9**
comp=Z,3.6nm,0.5s,baz=80,slow=6.1,SNR=9.1
MLR LR LR 14 05 13.0
comp=Z,187nm,18.5s,baz=42,slow=42
MLR Muntele Rosu 35.58 295 ⇑*iP* **P** **13 47 07.9 +1.9**
MLR Muntele Rosu 35.58 295 *eP* **P** **13 47 06.6 +0.6**
comp=Z,30nm,0.7s
BURAR Bucovina Array 35.82 299 ⇑*iP* **P** **13 47 08.3 +0.3**
BUR04 Bucovina Ar. S 35.82 299 *eP* **P** **13 47 08.2 +0.2**
BUR08 Bucovina Ar. S 35.83 299 *eP* **P** **13 47 08.5 +0.5**
DOPR Dopca 35.90 296 ⇑*iP* **P** **13 47 10.2 +1.6**
FIA1 FINESS Array S 36.35 323 *eP* **P** **13 47 12.4 +0.3**
FINES FINESS Array B 36.35 323 P **P** **13 47 12.3 +0.2**
comp=Z,20nm,0.5s,baz=108,slow=9.0,SNR=149
FINES LR LR 14 02 49.1
comp=Z,1µm,21.3s,baz=78,slow=37
LVV L'vov 36.43 303 *eP* **P** **13 47 14.1 +1.1**
ARCR ARCALIA 36.46 298 ⇑*iP* **P** **13 47 14.9 +1.6**
ARR Arges 36.51 296 ⇑*iP* **P** **13 47 13.7 -0.2**
NJ2 Nanjing 36.63 88 *eP* **P** **13 47 14.6 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,520nm,10.0s
NJ2 LR LR
comp=Z,770nm,11.4s
NJ2 LR LR
comp=Z,1µm,13.3s
QIZ Qiongzhong 36.91 114 P P 13 47 13.5 -3.9
QIZ S S 13 52 54.8 -7.5
LOT Lotru 37.10 296 ⇑*iP* **P** **13 47 19.5 +0.6**
TRPA Tarpa 37.56 300 ⇑*eP* **P** **13 47 24.0 +1.4**
DRGR 37.62 298 ⇓*iP* **P** **13 47 24.3 +1.1**
UZH Uzhgorod 37.66 301 *eP* **P** **13 47 23.7 +0.2**
UZH *e* 13 47 31.5
UZH *e* 13 47 37.3
UZH *e* 13 48 50.1
UZH *ePPP* PPP 13 49 08.7
UZH *eS* **S** **13 53 08.5 -4.7**
UZH MLR MLR
comp=N,300nm,12.0s
UZH MLR MLR
comp=E,1µm,12.0s
UZH MLR MLR
comp=Z,400nm,12.0s
UZH MLR MLR
comp=N,500nm,13.0s
UZH MLR MLR
comp=E,1µm,13.0s
UZH MLR MLR
comp=Z,400nm,13.0s
SURT Suratani 37.67 138 P **P** **13 47 22.6 -1.2**
comp=Z,18nm,0.9s,comp=Z,198nm
CN2 Changchun 37.90 67 *eP* P 13 47 30.5 +4.9
CN2 *es*P sP 13 47 37.5 +7.6
CN2 *eS* **S** **13 53 20.5 +3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,600nm,11.0s
CN2 LR LR
comp=Z,700nm,11.0s
CN2 LR LR
comp=Z,600nm,11.0s
APE Apeiranthos 37.91 282 *eP* **P** **13 47 26.1 +0.3**
APE pmax pmax
comp=Z,49nm,1.0s
ZEA Zeya 38.01 50 *eP* **P** **13 47 26.0 -0.4**
ZEA pmax pmax
comp=Z,36nm,1.6s
ZEA MLR MLR
comp=Z,900nm,14.0s
ZEA MLR MLR
comp=E,800nm,16.0s
VTS Vitosha 38.06 291 ⇓*iP* **P** **13 47 28.3 +1.1**
VTS Vitosha 38.06 291 *eP* **P** **13 47 28.1 +0.9**
comp=E,12nm,0.7s
VTS Vitosha 38.06 291 *eP* **P** **13 47 28.1 +0.9**
VTS pmax pmax
comp=Z,12nm,0.7s
SRS Serrai 38.15 289 P **P** **13 47 28.8 +1.1**
CRVS Cervenica-Dubn 38.18 302 *eP* P 13 47 25.3 -2.6
CRVS *e* 13 49 00.8
CRVS Cervenica-Dubn 38.18 302 *eP* P 13 47 25.3 -2.6
CRVS *ePP* **PnPn** **13 49 00.8 +4.3**
SANT Santorini 38.20 281 ⇑*iP* **P** **13 47 28.0 -0.2**
STHS Stebnicka Huta 38.27 303 *eP* **P** **13 47 28.6 0.0**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 38.27 303 *eP* **P** **13 47 28.6 0.0**
STHS *ePP* **PnPn** **13 49 01.0 +3.4**
PKDT Phuket 38.34 139 P **P** **13 47 28.6 -0.9**
comp=Z,14nm,0.9s,comp=Z,522nm
PAIG Paliouri 38.41 287 P **P** **13 47 31.4 +1.5**
BZS Buzias 38.56 296 ⇓*iP* **P** **13 47 32.1 +1.0**
MDVR Moldovita 38.65 295 ⇑*iP* **P** **13 47 33.3 +1.3**
KECS Kecovo 38.87 301 *eP* **P** **13 47 34.7 +1.0**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 38.87 301 *eP* **P** **13 47 34.7 +1.0**
KECS *ePP* **PP** **13 49 00.8 -1.8**
NIE Niedzica 38.88 303 *eP* **P** **13 47 34.9 +1.1**
NIE Niedzica 38.88 303 *eP* **P** **13 47 34.9 +1.1**
IDI Anoyia 39.02 280 LR LR 14 06 56.3
comp=Z,137nm,18.9s,baz=92,slow=41
TRTT Trang 39.09 138 P **P** **13 47 34.7 -1.1**
comp=Z,9.0nm,1.7s
OJC Ojcow 39.11 304 *eP* **P** **13 47 35.9 +0.2**
OJC Ojcow 39.11 304 *eP* **P** **13 47 36.1 +0.4**
comp=Z,26nm,1.1s
OJC Ojcow 39.11 304 *eP* **P** **13 47 36.1 +0.4**
OJC pmax pmax
comp=Z,26nm,1.1s
ARCES ARCESS Array B 39.21 335 P **P** **13 47 36.9 +0.6**
comp=Z,26nm,0.6s,baz=108,slow=9.2,SNR=72
ARE0 ARCESS Array S 39.21 335 *eP* **P** **13 47 36.4 +0.2**
comp=Z,267nm,1.8s
ARE0 ARCESS Array S 39.21 335 *eP* **P** **13 47 36.1 -0.2**
ARE0 IAmb IAmb 13 47 37.2
comp=Z,27nm,0.7s
HEF Hetta 39.41 333 *eP* **P** **13 47 37.3 -0.6**
ATD Arta Tunnel 39.52 233 P **P** **13 47 41.8 +2.4**
comp=Z,20nm,1.1s,baz=290,slow=18,SNR=3.4
ATD LR LR 14 07 38.6
comp=Z,176nm,18.4s,baz=89,slow=42
YAK Yakutsk 39.84 37 P **P** **13 47 40.5 -1.0**
comp=Z,27nm,0.6s,baz=261,slow=1.1,SNR=16
YAK LR LR 14 05 07.6
comp=Z,828nm,18.4s,baz=266,slow=38
YAK Yakutsk 39.84 37 *eP* **P** **13 47 40.3 -1.3**
comp=Z,47nm,0.8s
YAK Yakutsk 39.84 37 *eP* **P** **13 47 40.0 -1.6**
YAK *e* 13 49 43.8
YAK *eS* S 13 53 36.7 -9.1
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,36nm,0.8s
YAK pmax pmax
comp=Z,142nm,3.8s
YAK pmax pmax
comp=N,21nm,4.4s
YAK pmax pmax
comp=E,106nm,4.6s
YAK smax smax
comp=N,174nm,5.3s
YAK smax smax
comp=E,128nm,3.1s
YAK MLR MLR
comp=Z,1µm,13.0s
YAK MLR MLR
comp=N,409nm,11.0s
YAK MLR MLR
comp=E,410nm,8.0s
FNA Florina 39.86 289 P **P** **13 47 42.3 +0.2**
FNA pmax pmax
comp=Z,14nm,0.6s

VYHS Vyhne 39.96 301 *eP* **P** **13 47 43.6 +0.8**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 39.96 301 *eP* **P** **13 47 43.6 +0.8**
VYHS *ePP* **PP** **13 49 17.3 +2.9**
LHMI Lhok Sumawe 39.99 143 P **P** **13 47 42.6 -0.7**
DIVS Divibare 40.00 295 *eP* **P** **13 47 44.1 +0.8**
comp=Z,22nm,1.0s
OKC Ostrava-Krasne 40.22 304 AMS AMS 14 07 50.0
comp=Z,1µm,12.7s
HAMF Hammerfest 40.22 336 *eP* **P** **13 47 45.5 +0.9**
HAMF IAmb IAmb 13 47 45.9
comp=Z,37nm,0.8s
MORH M¨‡r¨igy, Hung 40.48 298 ⇓*eP* **P** **13 47 47.6 +0.5**
KIF Kilpisjarvi 40.59 334 *eP* **P** **13 47 47.2 -0.4**
MORC Moravsky Berou 40.61 304 ⇓*iP* **P** **13 47 49.0 +0.8**
MORC Moravsky Berou 40.61 304 *eP* **P** **13 47 49.0 +0.8**
comp=Z,43nm,0.9s
MORC Moravsky Berou 40.61 304 *eP* **P** **13 47 49.0 +0.8**
MORC pmax pmax
comp=Z,43nm,0.9s
PDG Podgorica 40.94 292 ⇓*iP* **P** **13 47 51.3 +0.4**
TTG Podgorica 40.94 292 *eP* **P** **13 47 51.6 +0.7**
comp=Z,23nm,0.8s
TTG Podgorica 40.94 292 *eP* **P** **13 47 51.6 +0.7**
TTG pmax pmax
comp=Z,23nm,0.8s
KLR Kul'dur 41.20 57 P **P** **13 47 51.8 -1.2**
comp=Z,0.1nm,0.5s,baz=274,slow=9.6,SNR=8.7
KLR Kul'dur 41.20 57 *eP* **P** **13 47 51.2 -1.8**
KSP Ksiaz 41.26 305 *eP* **P** **13 47 54.5 +1.0**
KSP Ksiaz 41.26 305 *eP* **P** **13 47 54.5 +1.0**
VRAC Vranov 41.29 303 ⇓*iP* **P** **13 47 53.1 -0.7**
DPC Dobruska-Polom 41.31 305 *eP* **P** **13 47 55.2 +1.2**
DPC AMS AMS 14 06 30.0
comp=Z,2µm,13.2s
DPC Dobruska-Polom 41.31 305 *eP* **P** **13 47 55.2 +1.2**
DPC MLR MLR
comp=Z,2µm,13.2s
TRO Tromso 41.41 334 *eP* **P** **13 47 53.0 -1.4**
TRO IAmb IAmb 13 47 53.6
comp=Z,170nm,1.9s
KSAR Wonju Array Be 41.46 75 P **P** **13 47 55.3 0.0**
KSAR Wonju Array Be 41.46 75 P **P** **13 47 55.3 0.0**
UPC Upice 41.48 305 *eP* **P** **13 47 56.4 +1.1**
UPC AMS AMS 14 06 30.0
comp=Z,2µm,11.6s
UPC Upice 41.48 305 *eP* **P** **13 47 56.4 +1.1**
UPC MLR MLR
comp=Z,2µm,11.6s
KSRS Korea Array 41.48 75 P **P** **13 47 55.3 -0.2**
comp=Z,3.0nm,1.0s,baz=281,slow=9.1,SNR=4.3
KSRS LR LR 14 07 35.9
comp=Z,342nm,18.9s,baz=294,slow=40
BSD Bornholm Skovb 41.67 312 *iP* **P** **13 47 56.1 -0.6**
comp=Z,41nm,0.9s
BSD Bornholm Skovb 41.67 312 *iP* **P** **13 47 56.1 -0.6**
BSD pmax pmax
comp=Z,41nm,0.9s
BSD Bornholm Skovb 41.67 312 *eP* **P** **13 47 55.9 -0.8**
BLY Banja Luka 41.81 296 *eP* **P** **13 47 59.0 +1.0**
comp=Z,10nm,0.8s
TIXI Tiksi 41.81 23 P **P** **13 47 56.7 -1.0**
comp=Z,15nm,0.5s,baz=274,slow=5.0,SNR=43
TIXI Tiksi 41.81 23 *eP* **P** **13 47 56.7 -1.0**
comp=Z,18nm,0.7s
TIXI Tiksi 41.81 23 *ceP* **P** **13 47 56.8 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TPTI 41.84 144 P P 13 47 56.1 -2.4
TREC Trest 42.01 303 AMS AMS 14 07 00.0
comp=Z,2µm,14.0s
CONA Conrad Observa 42.01 301 *iP* **P** **13 48 00.4 +0.6**
comp=Z,13nm,0.8s,SNR=8.5
HFS Hagfors 42.19 320 P **P** **13 48 00.8 -0.2**
comp=Z,40nm,0.6s,baz=98,slow=10,SNR=80
STEI Steigen 42.31 331 *eP* **P** **13 48 02.2 +0.4**
STEI IAmb IAmb 13 48 03.8
comp=Z,120nm,1.6s
MOR8 Moi Rana 42.33 329 *eP* **P** **13 48 01.7 -0.3**
MOR8 IAmb IAmb 13 48 02.1
comp=Z,18nm,0.7s
GOPC GO Pecny, Ondr 42.35 304 *eP* **P** **13 48 03.2 +0.7**
GOPC AMS AMS 14 07 00.0
comp=Z,2µm,14.4s
GOPC GO Pecny, Ondr 42.35 304 *eP* **P** **13 48 03.2 +0.7**
GOPC MLR MLR
comp=Z,2µm,14.4s
ARSA Arzberg 42.38 300 *iP* **P** **13 48 03.0 +0.3**
comp=Z,6.1nm,0.7s
PVCC Panska Ves 42.39 305 AMS AMS 14 07 00.0
comp=Z,2µm,12.8s
USRK Ussuriysk Ar. 42.40 64 P **P** **13 48 03.9 +1.0**
comp=Z,1.3nm,0.7s,baz=262,slow=8.2,SNR=2.6
USRK LR LR 14 07 19.3
comp=Z,490nm,19.9s,baz=276,slow=38
PRU Pruhonice 42.50 304 *eP* **P** **13 48 04.6 +1.0**
PRU AMS AMS 14 07 10.0
comp=Z,2µm,12.6s
PRU Pruhonice 42.50 304 *eP* **P** **13 48 04.6 +1.0**
PRU MLR MLR
comp=Z,2µm,12.6s
IPM Ipoh 42.62 138 *eP* **P** **13 48 03.7 -1.3**
comp=Z,20nm,0.9s
BRG Berggiesshubel 42.73 306 *iP* **P** **13 48 06.3 +0.8**
comp=Z,17nm,0.7s
BRG PP **PP** **13 49 42.0 -2.4**
BRG Berggiesshubel 42.73 306 *iP* **P** **13 48 06.3 +0.8**
BRG 13 49 42.0
BRG pmax pmax
comp=Z,17nm,0.7s
BRG MLR MLR
comp=N,803nm,13.5s
BRG MLR MLR
comp=E,2µm,13.5s
BRG MLR MLR
comp=Z,3µm,14.5s
SOKA Soboth 42.83 300 *iP* **P** **13 48 07.1 +0.7**
comp=Z,9.1nm,0.7s,SNR=11
KONS Konsvik 42.90 329 *eP* **P** **13 48 06.9 +0.3**
KONS IAmb IAmb 13 48 07.5
comp=Z,25nm,1.0s
STOK Stokkvaagen 42.92 329 *eP* **P** **13 48 04.9 -1.9**
STOK IAmb IAmb 13 48 06.1
comp=Z,44nm,1.0s
COP Copenhagen 43.03 313 *iP* **P** **13 48 09.1 +1.3**
comp=Z,39nm,0.8s
COP Copenhagen 43.03 313 *iP* **P** **13 48 09.1 +1.3**
COP pmax pmax
comp=Z,39nm,0.8s
PSI Prapat 43.04 142 P P 13 48 20.7 +12
comp=Z,10nm,0.8s,baz=332,slow=8.1,SNR=6.5
PSI LR LR 14 08 36.1
comp=Z,240nm,19.4s,baz=302,slow=40
PSI Prapat 43.04 142 *eP* P 13 48 06.7 -1.8
comp=Z,12nm,0.8s
PSI Prapat 43.04 142 *eP* P 13 48 06.7 -1.8
PSI pmax pmax
comp=Z,12nm,0.8s
MOA Molln 43.08 301 *iP* **P** **13 48 08.5 +0.1**
comp=Z,11nm,1.1s
NC405 NORSAR Array S 43.18 321 *eP* **P** **13 48 08.4 -0.6**
LLD Lille Linde 43.19 312 *iP* **P** **13 48 10.1 +1.0**
comp=Z,53nm,0.8s
LLD Lille Linde 43.19 312 *iP* **P** **13 48 10.1 +1.0**
LLD pmax pmax
comp=Z,53nm,0.8s
OBKA Obir 43.19 299 *iP* **P** **13 48 10.0 +0.6**
comp=Z,12nm,0.8s,SNR=6.9
CLL Collm 43.25 307 ⇓*iP* **P** **13 48 09.8 +0.1**
comp=Z,19nm,0.9s
CLL *ePP* **PP** **13 49 49.0 -0.9**
CLL *ePcP* **PcP** **13 49 57.0 -1.6**
CLL *es*PP 13 50 06.0
CLL Collm 43.25 307 *eP* **P** **13 48 09.7 +0.1**
comp=Z,16nm,0.8s
CLL Collm 43.25 307 ⇓*iP* **P** **13 48 09.8 +0.1**
CLL *e* 13 49 57.0
CLL pmax pmax
comp=Z,19nm,0.9s
GEC2 GERESS Array S 43.25 303 *eP* **P** **13 48 10.9 +1.2**
comp=Z,35nm,1.2s
GEC2 GERESS Array S 43.25 303 *eP* **P** **13 48 11.0 +1.2**
GEC2 pmax pmax
comp=Z,35nm,1.2s
GERES GERESS Array B 43.25 303 P **P** **13 48 10.8 +1.0**

comp=Z,14nm,0.6s,baz=63,slow=8.4,SNR=107
GERES LR LR 14 08 54.3
comp=Z,799nm,19.6s,baz=72,slow=40
GEA0 GERESS Array S 43.25 303 *e*P **P 13 48 10.3 +0.5**
NC602 NORSAR Array S 43.26 320 *e*P **P 13 48 09.6 -0.1**
NC602 NORSAR Array S 43.26 320 *e*P **P 13 48 09.5 -0.2**
NC602 IAmb IAmb 13 48 10.1
comp=Z,218nm,0.5s
KHC Kasperske Hory 43.27 303 *e*P **P 13 48 10.9 +1.0**
KHC *ex* x 13 48 15.5
KHC *e*PP **PP 13 49 51.5 +1.2**
KHC AMS AMS 14 09 50.0
comp=Z,1μm,12.1s
KHC Kasperske Hory 43.27 303 *e*P **P 13 48 10.6 +0.7**
comp=Z,8.3nm,1.0s
KHC Kasperske Hory 43.27 303 *e*P **P 13 48 10.9 +1.0**
KHC *e* 13 48 15.5
KHC *e* 13 49 51.5
KHC MLR MLR
comp=Z,1μm,12.1s
NC605 NORSAR Array S 43.33 320 *e*P **P 13 48 10.3 +0.1**
NC303 NORSAR Array S 43.34 321 *e*P **P 13 48 10.8 +0.4**
NC303 NORSAR Array S 43.34 321 *e*P **P 13 48 10.7 +0.4**
NC303 IAmb IAmb 13 48 11.3
comp=Z,78nm,0.6s
NB201 NORSAR Array S 43.38 321 *e*P **P 13 48 09.9 -0.7**
NB201 NORSAR Array S 43.38 321 *e*P **P 13 48 09.3 -1.3**
NB201 IAmb IAmb 13 48 10.3
comp=Z,48nm,0.7s
NB2 NORSAR Subarra 43.42 321 P **P 13 48 10.8 -0.2**
comp=Z,27nm,0.6s,baz=90,slow=8.6
NB2 NORSAR Subarra 43.42 321 P **P 13 48 10.8 -0.2**
NB2 pmax pmax
comp=Z,23nm,0.6s
NB2 NORSAR Subarra 43.42 321 P **P 13 48 10.8 -0.2**
baz=90,slow=8.6
NOA NORSAR Array B 43.42 321 P **P 13 48 10.9 0.0**
comp=Z,26nm,0.7s,baz=90,slow=8.0,SNR=79
NOA LR LR 14 06 59.8
comp=Z,1μm,20.6s,baz=90,slow=37
NOA NORSAR Array B 43.42 321 P **P 13 48 11.0 0.0**
NOA pmax pmax
comp=Z,26nm,0.7s
NOA MLR MLR
comp=Z,1μm,20.6s
NAO01 NORSAR Array S 43.58 321 *e*P **P 13 48 12.2 0.0**
NAO01 NORSAR Array S 43.58 321 *e*P **P 13 48 11.8 -0.4**
NAO01 IAmb IAmb 13 48 12.7
comp=Z,49nm,0.9s
NBO02 NORSAR Array S 43.59 321 *e*P **P 13 48 11.9 -0.5**
NBO00 NORSAR Array S 43.63 321 *e*P **P 13 48 12.6 -0.1**
NBO00 NORSAR Array S 43.63 321 *e*P **P 13 48 12.0 -0.7**
NBO00 IAmb IAmb 13 48 13.3
comp=Z,110nm,1.3s
NC204 NORSAR Array S 43.64 321 *e*P **P 13 48 12.7 -0.1**
NC204 NORSAR Array S 43.64 321 *e*P **P 13 48 12.6 -0.1**
NC204 IAmb IAmb 13 48 13.3
comp=Z,50nm,0.7s
TIP Timpagrande 43.73 288⇑ *i*P **P 13 48 13.4 -0.4**
TIP Timpagrande 43.73 288 *e*P **P 13 48 14.0 +0.2**
comp=Z,27nm,1.1s
GSI Gunungsitoli 43.75 145 P **P 13 48 14.1 0.0**
GSI Gunungsitoli 43.75 145 *e*P **P 13 48 13.3 -0.8**
comp=Z,37nm,0.8s
MYKA Terra Mystica 43.77 300 *i* P **P 13 48 17.7 +3.7**
comp=Z,6.8nm,0.8s
NKC Novy Kostel 43.78 305 *e*P **P 13 48 15.5 +1.5**
NKC AMS AMS 14 07 50.0
comp=Z,3μm,12.0s
NKC Novy Kostel 43.78 305 *e*P **P 13 48 15.5 +1.5**
NKC MLR MLR
comp=Z,3μm,12.0s
KBA Koelnbreinsper 43.86 300 *i* P **P 13 48 15.1 +0.2**
comp=Z,5.2nm,0.5s
GRNR Gornyy 43.91 54 *e*P **P 13 48 15.1 +0.1**
TRI Trieste 43.91 298 *e*P **P 13 48 15.3 +0.2**
comp=Z,29nm,0.8s
TRI Trieste 43.91 298 *e*P **P 13 48 15.3 +0.2**
TRI pmax pmax
comp=Z,29nm,0.8s
CUC Castrocucco 44.14 290 P **P 13 48 17.3 +0.3**
comp=Z,26nm,0.8s
KONO Kongsberg 44.27 319 *e*P **P 13 48 18.0 +0.3**
comp=Z,27nm,0.8s
KONO Kongsberg 44.27 319 *ce*P **P 13 48 17.0 -0.7**
KONO pmax pmax
comp=Z,17nm,0.8s
KONO Kongsberg 44.27 319 *e*P **P 13 48 18.2 +0.4**
KONO IAmb IAmb 13 48 18.4
comp=Z,28nm,0.8s
DOMB Dombas 44.44 322 *e*P **P 13 48 19.1 0.0**
DOMB IAmb IAmb 13 48 24.1
comp=Z,58nm,1.3s
ABTA Abfaltersbach 44.50 300 *i* P **P 13 48 19.5 -0.3**
comp=Z,8.9nm,1.1s
GRFO Grafenberg 44.66 305 *e*P **P 13 48 21.6 +0.6**
comp=Z,34nm,1.0s
GRFO Grafenberg 44.66 305 *e*P **P 13 48 21.7 +0.6**
GRFO pmax pmax
comp=Z,35nm,1.0s
HSPB Hornsund (broa 44.70 344 *e*P **P 13 48 21.6 +0.6**
HSPB IAmb IAmb 13 48 21.9
comp=Z,24nm,1.1s
MUD Monsted U'grnd 44.77 314 *i* P **P 13 48 21.7 -0.1**
comp=Z,15nm,0.7s
MUD Monsted U'grnd 44.77 314 *e*P **P 13 48 21.7 -0.1**
MUD pmax pmax
comp=Z,15nm,0.7s
HOMB Homborsund 44.94 317 *e*P **P 13 48 23.2 +0.2**
HOMB IAmb IAmb 13 48 25.8
comp=Z,16nm,0.8s
WTTA Wattenberg 44.95 301 *i* P **P 13 48 23.5 -0.1**
comp=Z,7.9nm,0.6s
SPA0 Spitsbergen Ar 44.97 346 *e*P **P 13 48 24.3 +1.1**
SPA0 IAmb IAmb 13 48 26.2
comp=Z,59nm,0.2s
SPITS Spitsbergen Ar 44.97 346 P **P 13 48 24.2 +1.1**
comp=Z,12nm,0.7s,baz=106,slow=4.7,SNR=12
SPITS LR LR 14 09 46.2
comp=Z,914nm,19.3s,baz=165,slow=39
SPITS Spitsbergen Ar 44.97 346 P **P 13 48 24.2 +1.1**
SPITS pmax pmax
comp=Z,13nm,0.7s
SPITS MLR MLR
comp=Z,914nm,19.3s
WATA Walderalm 44.97 301 *e*P **P 13 48 23.4 -0.3**
comp=Z,5.1nm,0.4s
MNSI Mandailing Nat 45.11 143 P **P 13 48 24.0 -0.9**
MOTA Moosalm 45.28 301 *e*P **P 13 48 25.3 -0.9**
comp=Z,6.0nm,0.5s,SNR=7.2
JNU Nakatsue 45.39 80 P **P 13 48 26.0 -1.1**
comp=Z,10nm,1.0s,baz=0.0,slow=7.1,SNR=3.0
JNU LR LR 14 08 21.7
comp=Z,143nm,19.2s,baz=303,slow=37
AKN Aaknes 45.40 323 *e*P **P 13 48 27.3 +0.5**
AKN IAmb IAmb 13 48 30.8
comp=Z,285nm,2.1s
RETA Reutte 45.47 302 *i* P **P 13 48 27.6 0.0**
comp=Z,10nm,0.9s
SNART Snartemo 45.61 317 *e*P **P 13 48 29.0 +0.6**
SNART IAmb IAmb 13 48 29.5
comp=Z,12nm,0.9s
FETA Feichten 45.61 301 *e*P **P 13 48 28.6 -0.2**
comp=Z,4.5nm,0.6s
ODD1 Odda 45.75 319 *e*P **P 13 48 31.5 +1.9**
ODD1 IAmb IAmb 13 48 33.1
comp=Z,22nm,0.9s
HYA Hoyanger 45.85 321 *e*P **P 13 48 31.4 +1.1**
HYA IAmb IAmb 13 48 31.4
comp=Z,50nm,1.8s
BLS5 Blasjo 45.88 319 *e*P **P 13 48 31.5 +0.9**
BLS5 IAmb IAmb 13 48 32.0
comp=Z,62nm,1.5s
FUORN Ofenpass-Fuorn 46.02 301 *e*P **P 13 48 32.1 -0.1**
comp=Z,11nm,0.6s
NKL Nikolayevsk 46.05 50 *e*P **P 13 48 30.0 -2.0**
NKL pmax pmax
comp=Z,27nm,1.0s
NKL MLR MLR
comp=N,800nm,15.0s
NKL MLR MLR
comp=E,2μm,15.0s
NKL MLR MLR
comp=Z,2μm,15.0s
KBS Kingsbay 46.06 346 *e*P **P 13 48 32.6 +0.9**
KBS IAmb IAmb 13 48 34.2

comp=Z,64nm,1.3s
VAE Valguarnera 46.06 287 LR LR 14 14 22.2
comp=Z,108nm,19.6s,baz=48,slow=44
DAVA Damuels 46.10 302 *i* P **P 13 48 32.7 0.0**
comp=Z,26nm,0.6s,SNR=12
DAVOX Davos/Dischmat 46.24 301 P **P 13 48 33.6 -0.2**
comp=Z,18nm,0.4s,baz=98,slow=8.2,SNR=32
DAVOX LR LR 14 10 01.4
comp=Z,656nm,19.8s,baz=74,slow=39
STAV Stavanger 46.32 318 *e*P **P 13 48 34.2 +0.2**
STAV IAmb IAmb 13 48 37.1
comp=Z,25nm,0.6s
SUE Sulen 46.55 321 *e*P **P 13 48 35.9 +0.1**
SUE IAmb IAmb 13 48 37.4
comp=Z,239nm,2.1s
VLC Villacollemand 46.65 297 *e*P **P 13 48 37.6 +0.8**
comp=Z,29nm,0.9s
TUE Stuetta 46.67 301 *e*P **P 13 48 37.0 -0.3**
comp=Z,8.9nm,0.7s
BFO Black Forest 46.84 303 *e*P **P 13 48 38.7 +0.4**
comp=Z,11nm,0.8s
BFO Black Forest 46.84 303 *e*P **P 13 48 38.7 +0.4**
BFO pmax pmax
comp=Z,11nm,0.8s
PDSI Padang 47.02 143 P P 13 48 37.8 -2.2
comp=Z,46nm,0.7s
CDF Champ du Feu 47.49 304 *e*P **P 13 48 43.3 -0.2**
CDF pmax pmax
comp=Z,13nm,0.8s
MEM Membach 47.72 307⇑P **P 13 48 45.8 +0.7**
comp=Z,11nm,0.9s
TYV Tymovskoe 47.75 53 *e*P P 13 48 42.4 -2.9
TYV pmax pmax
comp=Z,5.0nm,1.1s
TYV MLR MLR
comp=Z,700nm,15.0s
HINF Hinteralfeld 47.93 303 *e*P **P 13 48 46.7 -0.1**
HINF pmax pmax
comp=Z,19nm,1.0s
SENIN Lac Senin/Sane 48.06 301 *e*P **P 13 48 48.0 -0.1**
comp=Z,14nm,0.6s
BCLA Clavier 48.20 307⇑P **P 13 48 49.5 +0.7**
HAU Haudompre 48.20 303 *e*P **P 13 48 48.8 -0.1**
HAU pmax pmax
comp=Z,15nm,0.6s
LPG La Plagne 48.69 300 *e*P **P 13 48 53.5 +0.5**
LPG pmax pmax
comp=Z,18nm,0.7s
LPL La Plagne 48.70 300 *e*P **P 13 48 53.3 +0.3**
LPL pmax pmax
comp=Z,17nm,0.6s
DOU Dourbes 48.73 307⇓P **P 13 48 53.5 +0.6**
comp=Z,12nm,1.3s
CABF La Chapelle 48.78 302 *e*P **P 13 48 53.2 -0.3**
CABF pmax pmax
comp=Z,10.0nm,0.6s
BNI Bardonecchia 48.88 300 *e*P **P 13 48 54.7 +0.4**
comp=Z,21nm,1.0s
BNI Bardonecchia 48.88 300 *e*P **P 13 48 54.7 +0.4**
BNI pmax pmax
comp=Z,21nm,1.0s
YSS Yuzh-Sakhalins 48.90 58 *e*P **P 13 48 53.7 -0.5**
YSS pmax pmax
comp=Z,10.0nm,1.2s
MBDF Montbardon 48.93 299 *e*P **P 13 48 54.1 -0.6**
MBDF pmax pmax
comp=Z,15nm,0.6s
MAJO Matsushiro 49.45 72 *e*P **P 13 48 57.3 -1.3**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MAT Matsushiro 49.45 72 P P 13 48 55.8 -2.8
MAT *eS* **S 13 56 03.4 -2.4**
MJAR Matsushiro Arr 49.45 72 P **P 13 48 56.9 -1.7**
comp=Z,4.2nm,0.9s,baz=287,slow=9.9,SNR=9.4
MJAR LR LR 14 09 22.6
comp=Z,108nm,18.3s,baz=315,slow=36
ORIF Oris-en-Rattie 49.46 300 *e*P P 13 48 55.3 -3.4
ORIF pmax pmax
comp=Z,14nm,0.8s
ASAJ Asahikawa 49.71 61 P **P 13 48 59.9 -0.6**
comp=Z,2.3nm,0.6s,baz=84,slow=9.2,SNR=5.7
ASAJ Asahikawa 49.71 61 P **P 13 48 59.9 -0.6**
ASAJ pmax pmax
comp=Z,3.0nm,0.7s
MASI Maura Aman, Be 49.81 142 P **P 13 49 00.4 -1.2**
SSB Saint Sauveur 50.23 301 *e*P **P 13 49 05.0 +0.5**
comp=Z,24nm,1.3s
SSB Saint Sauveur 50.23 301 *e*P **P 13 49 05.0 +0.5**
SSB pmax pmax
comp=Z,24nm,1.3s
MA2 Magadan 50.24 40 *ce*P **P 13 49 02.9 -1.4**
KSM Kuhing 50.25 130 *e*P **P 13 49 04.0 -0.9**
comp=Z,30nm,1.4s
VIVF Saint-Julien-l 50.29 300 *e*P **P 13 49 04.9 0.0**
VIVF pmax pmax
comp=Z,13nm,0.6s
KEST Kesra 50.49 287 P **P 13 49 06.7 +0.1**
comp=Z,4.9nm,0.8s,baz=342,slow=6.1,SNR=5.9
KEST LR LR 14 15 37.0
comp=Z,261nm,18.7s,baz=338,slow=42
KEST Kesra 50.49 287 *e*P **P 13 49 07.3 +0.7**
comp=Z,19nm,1.1s
AVF Avril sur Loir 50.51 303 *e*P **P 13 49 06.2 -0.3**
AVF pmax pmax
comp=Z,35nm,0.8s
SBUM Sibu 50.62 127 *e*P **P 13 49 08.5 +0.8**
comp=Z,27nm,1.3s
BGF Bois d'Agland 50.92 303 *e*P **P 13 49 09.2 -0.4**
BGF pmax pmax
comp=Z,12nm,0.8s
EKA Eskdalemuir Ar 51.79 315 P **P 13 49 15.8 -0.2**
comp=Z,19nm,0.8s,baz=80,slow=8.3,SNR=31
EKA LR LR 14 13 09.6
comp=Z,809nm,18.7s,baz=85,slow=38
ESK Eskdalemuir 51.82 315 *i* P **P 13 49 17.1 +0.9**
CAF Calviac 52.00 301 *e*P **P 13 49 18.1 +0.3**
CAF pmax pmax
comp=Z,14nm,0.8s
STKI Sintang 52.06 130 P **P 13 49 18.9 +0.4**
JHJ Hachijo jima 2 52.10 75 LR LR 14 13 50.3
comp=Z,155nm,20.1s,baz=300,slow=39
FLN La Foliniere 52.29 306 *e*P **P 13 49 19.1 -0.7**
FLN pmax pmax
comp=Z,18nm,0.9s
DAG Danmarks Havn 52.37 343 *i* P **P 13 49 20.0 0.0**
comp=Z,22nm,0.7s
DAG Danmarks Havn 52.37 343 *i* P **P 13 49 20.0 0.0**
DAG pmax pmax
comp=Z,22nm,0.7s
GRR Gorron 52.65 306 *e*P **P 13 49 21.8 -0.7**
GRR pmax pmax
comp=Z,25nm,0.8s
KMBO Kilima Mbogo 52.90 229 P **P 13 49 25.2 +0.3**
comp=Z,12nm,1.0s,baz=34,slow=12,SNR=8.8
KMBO Kilima Mbogo 52.90 229 *i* P **P 13 49 26.2 +1.2**
KMBO pmax pmax
comp=Z,12nm,1.0s
ROSF Rostrenen 54.17 307 *e*P **P 13 49 33.1 -0.6**
ROSF pmax pmax
comp=Z,15nm,0.6s
QUIF Quistinic 54.26 306 *e*P **P 13 49 33.7 -0.6**
QUIF pmax pmax
comp=Z,17nm,0.7s
BILL Bilibino 54.57 27⇓ *i*P **P 13 49 35.4 -0.9**
BILL *e* 13 51 42.9
BILL *e*PPP PPP 13 52 45.9
BILL pmax pmax
comp=Z,14nm,1.6s
BILL MLR MLR
comp=Z,1μm,17.0s
SJPF Ste Jean 54.89 300 *e*P **P 13 49 39.2 +0.2**
SJPF pmax pmax
comp=Z,9.0nm,0.9s
LEM Lembang 55.64 139 LR LR 14 14 16.0
comp=Z,197nm,22.0s,baz=323,slow=37
PETK Petropavlovsk- 55.87 46 P P 13 49 43.3 -2.6
comp=Z,8.1nm,1.0s,baz=241,slow=5.9,SNR=3.2
PETK LR LR 14 14 48.1
comp=Z,462nm,18.1s,baz=294,slow=37
DAV Davao City (W) 56.21 111 LR LR 14 15 34.9
comp=Z,287nm,19.0s,baz=331,slow=38
PET Petropavlovsk 56.44 46 *e*P **P 13 49 49.3 -0.6**
PET pmax pmax
comp=Z,29nm,1.2s
BORG Borgarnes 57.12 329 LR LR 14 14 16.1
comp=Z,850nm,18.2s,baz=44,slow=36

MPSI Mapaga 57.12 122 P **P 13 49 56.2 +1.0**
CART Cartagena 57.14 294 *e*P **P 13 49 55.4 +0.2**
comp=Z,25nm,0.8s
KBKI Kotabaru 57.55 128 P **P 13 49 58.7 +0.4**
ES19 SONSECA Array 58.18 297 *e*P **P 13 50 02.3 -0.2**
ESDC Sonseca Array 58.24 297 P **P 13 50 02.8 -0.2**
comp=Z,4.4nm,0.4s,baz=57,slow=7.2,SNR=52
ESDC LR LR 14 20 02.3
comp=Z,215nm,19.5s,baz=55,slow=41
ESLA Sonseca Array 58.24 297 *e*P **P 13 50 02.5 -0.4**
comp=Z,13nm,1.1s
MRSI Marisa 58.37 120 P **P 13 50 04.5 +0.5**
PAB San Pablo 58.56 297 *e*P **P 13 50 05.2 0.0**
comp=Z,34nm,1.8s
PAB San Pablo 58.56 297 *e*P **P 13 50 05.2 0.0**
PAB pmax pmax
comp=Z,34nm,1.8s
SUMG Summit 58.84 341 *i* P **P 13 50 07.7 +0.7**
comp=Z,19nm,0.8s
SUMG Summit 58.84 341 *e*P **P 13 50 07.5 +0.5**
comp=Z,31nm,0.9s
SUMG Summit 58.84 341 *i* P **P 13 50 07.7 +0.7**
SUMG pmax pmax
comp=Z,19nm,0.8s
PBRG Braganca 59.13 301 *e*P **P 13 50 09.5 +0.4**
comp=Z,23nm,1.7s
APSI Ampana 59.21 121 P **P 13 50 10.1 +0.2**
MVO Moncorvo 59.62 300 *e*P **P 13 50 12.8 +0.3**
comp=Z,19nm,1.2s
TTSI Tana Toraja 59.63 124 P **P 13 50 12.1 -0.7**
TAM Tamanrasset 59.78 276 *e*P **P 13 50 14.0 0.0**
comp=Z,3.8nm,0.7s
TAM Tamanrasset 59.78 276 *e*P **P 13 50 14.0 0.0**
TAM pmax pmax
comp=Z,4.0nm,0.7s
MTE Manteigas 60.33 300 *e*P **P 13 50 17.3 -0.1**
comp=Z,36nm,1.8s
PVIS Viseu 60.41 300 *e*P **P 13 50 18.4 +0.4**
comp=Z,39nm,1.4s
PMRV Marv??o 60.69 299 *e*P **P 13 50 20.5 +0.7**
comp=Z,28nm,1.5s
PBAR Barrancos 61.06 297 *e*P **P 13 50 22.5 +0.2**
comp=Z,52nm,1.4s
TULEG Thule 61.67 351 *e*P **P 13 50 25.3 -0.6**
comp=Z,17nm,1.2s
PVAQ Vaqueiros 61.91 297 *e*P **P 13 50 28.9 +0.8**
comp=Z,31nm,1.0s
MESJ Messejana 62.04 297 *e*P **P 13 50 28.9 0.0**
MESJ AMb AMB 13 50 35.4
comp=Z,33nm,1.7s
MESJ Messejana 62.04 297 *e*P **P 13 50 28.9 0.0**
comp=Z,33nm,1.7s
MESJ Messejana 62.04 297 *e*P **P 13 50 28.9 0.0**
PBDV Barranco-do-Ve 62.14 297 *e*P **P 13 50 29.8 +0.1**
SANI Sanana 62.96 118 P **P 13 50 34.4 -0.9**
LBMI Labuha 62.98 116 P **P 13 50 35.5 0.0**
RES Resolute Bay 65.64 357 *e*P **P 13 50 50.0 -2.0**
comp=Z,21nm,1.9s
RES Resolute Bay 65.64 357 *e*P **P 13 50 50.0 -2.0**
RES pmax pmax
comp=Z,21nm,1.9s
SFJD Kangerlussuaq 65.66 339 *i* P **P 13 50 52.2 -0.1**
SFJD Kangerlussuaq 65.66 339 *e*P **P 13 50 51.5 -0.8**
comp=Z,20nm,0.7s
SFJD Kangerlussuaq 65.66 339 *i* P **P 13 50 52.2 -0.1**
GUMO Guam 66.58 92 LR LR 14 20 21.7
comp=Z,66nm,21.0s,baz=110,slow=36
BATI Baumata 67.55 126 P P 13 51 03.4 -1.7
comp=Z,15nm,0.6s,baz=276,slow=2.3,SNR=3.5
COLD Coldfoot 68.15 17 *e*P **P 13 51 07.2 -1.0**
comp=Z,14nm,0.9s
TOA0 Torodi Ar. Sit 68.34 269 *e*P **P 13 51 09.1 -1.1**
TORD Torodi Ar. Bea 68.34 269 P **P 13 51 09.1 -1.1**
comp=Z,14nm,0.4s,baz=50,slow=5.5,SNR=114
LSZ Lusaka 69.53 228 *e*P **P 13 51 17.1 -0.4**
comp=Z,9.4nm,1.0s
LSZ Lusaka 69.53 228 *e*P **P 13 51 17.2 -0.4**
LSZ pmax pmax
comp=Z,9.0nm,1.0s
FYU Fort Yukon 69.79 16 *e*P **P 13 51 18.5 +0.2**
comp=Z,88nm,2.0s
INK Inuvik 70.28 11 P **P 13 51 20.2 -1.1**
comp=Z,6.4nm,0.5s,baz=349,slow=5.5,SNR=26
INK Inuvik 70.28 11 *e*P **P 13 51 20.6 -0.7**
comp=Z,7.7nm,0.7s
INK Inuvik 70.28 11 *e*P **P 13 51 20.6 -0.7**
INK pmax pmax
comp=Z,8.0nm,0.7s
MDM Murphy Dome 70.48 18 *e*P **P 13 51 21.9 -0.8**
comp=Z,40nm,2.0s
COLA College 70.64 18 *e*P **P 13 51 23.0 -0.6**
comp=Z,12nm,0.8s
COLA College 70.64 18 *e*P **P 13 51 23.0 -0.6**
COLA pmax pmax
comp=Z,12nm,0.8s
CAST Castle Rocks 70.78 20 *e*P **P 13 51 24.4 -0.2**
comp=Z,42nm,1.8s
CCB Clear Creek Bu 70.84 18 *e*P **P 13 51 25.8 +0.9**
comp=Z,13nm,1.4s
IL1 Eielson Array 70.95 17 *e*P **P 13 51 23.4 -2.1**
ILAR Eielson Array 70.95 17 P **P 13 51 23.5 -2.0**
comp=Z,5.4nm,0.8s,baz=321,slow=5.0,SNR=71
ILAR LR LR 14 26 41.3
comp=Z,576nm,18.3s,baz=324,slow=39
ILB Eielson Array 70.95 17 *e*P **P 13 51 23.8 -1.7**
KTH Kantishna Hill 70.98 20 *e*P **P 13 51 24.8 -1.0**
comp=Z,15nm,0.9s
KOWA Kowa 71.93 274 *e*P **P 13 51 31.7 -0.5**
comp=Z,18nm,0.7s
DHY Denali Highway 72.27 19 *e*P **P 13 51 33.0 -0.7**
comp=Z,8.7nm,0.7s
DOT Dot Lake 72.56 17 *e*P **P 13 51 34.3 -0.9**
comp=Z,15nm,0.8s
PAX Paxson 72.82 18 *e*P **P 13 51 35.7 -1.1**
comp=Z,9.3nm,1.0s
PAX Paxson 72.82 18 *e*P **P 13 51 35.7 -1.1**
PAX pmax pmax
comp=Z,9.0nm,1.0s
SML Sawmill 73.10 20 *e*P **P 13 51 37.7 -0.8**
SML Sawmill 73.10 20 *e*P **P 13 51 37.7 -0.8**
DAWY Dawson 73.17 15 *e*P **P 13 51 37.8 -1.0**
comp=Z,6.1nm,0.8s
SCM Sheep Creek Mo 73.34 19 *e*P **P 13 51 39.2 -0.7**
comp=Z,29nm,0.9s
SCM Sheep Creek Mo 73.34 19 *e*P **P 13 51 39.2 -0.7**
SCM pmax pmax
comp=Z,29nm,0.9s
KDAK Kodiak Island 75.22 24 *i* P **P 13 51 51.2 +0.4**
HYT Haines Junctio 76.48 15 *e*P **P 13 51 57.5 -0.7**
comp=Z,18nm,0.8s
KIC Kosan Boka 77.50 268 *e*P **P 13 52 03.6 -0.9**
comp=Z,35nm,0.8s
TIC Toumodi 77.54 268 *e*P **P 13 52 03.7 -1.0**
YKW3 Yellowknife Ar 77.80 4 *e*P **P 13 52 04.0 -1.3**
LIC Lamto 77.81 268 *e*P **P 13 52 05.2 -1.0**
comp=Z,63nm,1.2s
YKA Yellowknife Ar 77.87 4 P **P 13 52 04.5 -1.2**
comp=Z,5.5nm,0.4s,baz=348,slow=5.7,SNR=95
YKA LR LR 14 29 52.2
comp=Z,22nm,18.2s,baz=0.0,slow=38
LBTB Lobatse 78.79 224 *e*P **P 13 52 11.9 +0.6**
comp=Z,16nm,1.0s
LBTB Lobatse 78.79 224 *e*P **P 13 52 12.0 +0.6**
LBTB pmax pmax
comp=Z,16nm,1.0s
TSUM Tsumeb 78.92 234 P P 13 52 07.0 -5.3
comp=Z,8.0nm,1.0s
SCHQ Schefferville 80.09 338 P **P 13 52 17.6 -0.5**
comp=Z,2.5nm,0.6s,baz=7.5,slow=7.7,SNR=3.1
SCHQ LR LR 14 27 17.5
comp=Z,342nm,21.7s,baz=50,slow=35
FCC Fort Churchill 81.38 354 *e*P **P 13 52 24.6 -0.3**
comp=Z,15nm,1.5s
FCC Fort Churchill 81.38 354 *e*P **P 13 52 24.6 -0.3**
FCC pmax pmax
comp=Z,15nm,1.5s
WRA Warramunga Arr 81.61 124 P **P 13 52 25.4 -1.3**
comp=Z,10nm,0.6s,baz=326,slow=4.9,SNR=98
WRA PKKPbc **PKKPbc 14 10 58.9 +0.1**
comp=Z,0.7nm,0.6s,baz=134,slow=2.4,SNR=8.7
WRAB Tennant Creek 81.61 124 *e*P **P 13 52 25.8 -0.8**
comp=Z,16nm,0.8s
WRAB Tennant Creek 81.61 124 *e*P **P 13 52 25.8 -0.8**
WRAB pmax pmax
comp=Z,16nm,0.8s
BOSA Boshof 81.87 222 P **P 13 52 27.6 -0.4**
comp=Z,5.0nm,0.8s,baz=44,slow=2.0,SNR=5.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA				LR	LR	14 29 25.5	
	comp=Z,104nm,20.7s,baz=6.5,slow=36						
COEN	Coen	83.30	114	eP	P	13 52 34.9	-0.6
	comp=Z,7.1nm,0.7s						
AS31	Alice Springs	84.08	127	eP	P	13 52 38.2	-1.2
	comp=Z,2.7nm,0.8s						
ASAR	Alice Springs	84.08	127	P	P	13 52 38.0	-1.5
	comp=Z,4.6nm,0.7s,baz=308,slow=4.8,SNR=67						
ASAR				PKKPbc	PKKPbc	14 10 54.1	+0.9
	comp=Z,0.2nm,0.7s,baz=130,slow=2.6,SNR=4.4						
ASAR	Alice Springs	84.08	127	P	P	13 52 38.0	-1.5
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AS01	Alice Springs	84.11	127	eP	P	13 52 37.9	-1.6
FFC	Flin Flon	85.86	358	eP	P	13 52 46.8	-1.2
	comp=Z,9.1nm,0.9s						
FFC	Flin Flon	85.86	358	eP	P	13 52 46.8	-1.2
FFC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ULM	Lac du Bonnet	89.97	354	P	P	13 53 06.8	-0.9
	comp=Z,4.7nm,0.9s,baz=16,slow=5.2,SNR=11						
ULM				LR	LR	14 36 24.9	
	comp=Z,495nm,21.0s,baz=17,slow=38						
ULM	Lac du Bonnet	89.97	354	eP	P	13 53 06.6	-1.2
A33A	Warroad	91.23	353	P	P	13 53 12.5	-1.2
	baz=7.8						
WALA	Waterton Lakes	91.29	5	eP	P	13 53 13.3	-0.8
A32A	Rocking H Ranc	91.35	354	P	P	13 53 13.3	-0.9
	baz=7.0						
B08A	Colville Reser	91.46	9	eP	P	13 53 14.3	-0.5
	comp=Z,20nm,1.5s						
EYMN	Ely	91.78	350	P	P	13 53 15.8	-0.5
	baz=11						
EYMN	Ely	91.78	350	eP	P	13 53 15.7	-0.5
	comp=Z,11nm,1.1s						
NEW	Newport	91.80	8	P	P	13 53 15.9	-0.4
	baz=351						
NEW	Newport	91.80	8	eP	P	13 53 15.9	-0.4
	comp=Z,5.5nm,0.9s						
NEW	Newport	91.80	8	eP	P	13 53 16.0	-0.4
NEW				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AGMN	Agassiz Nation	91.91	353	P	P	13 53 16.4	-0.4
	baz=7.5						
AGMN	Agassiz Nation	91.91	353	eP	P	13 53 15.3	-1.5
	comp=Z,2.3nm,0.5s						
C09A	Chrisman Ranch	92.14	8	eP	P	13 53 17.1	-0.8
EGMT	Eagleton	92.55	3	P	P	13 53 19.5	-0.3
	baz=357						
D08A	Wollman Farm,	92.79	9	eP	P	13 53 20.9	0.0
	comp=Z,29nm,1.9s						
E41A	Kenton	92.88	348	P	P	13 53 20.5	-0.8
	baz=13						
F44A	Big Bay de Noc	92.93	347	P	P	13 53 20.6	-1.0
	baz=15						
E40A	Wakefield	93.04	349	P	P	13 53 21.4	-0.7
	baz=12						
D34A	Park Rapids	93.05	353	P	P	13 53 21.1	-1.0
	baz=8.0						
E39A	Mellen	93.20	350	P	P	13 53 22.1	-0.7
	baz=12						
F43A	Flat Rock, Esc	93.20	347	P	P	13 53 22.6	-0.2
	baz=14						
F41A	Three Lakes	93.61	348	P	P	13 53 23.9	-0.8
	baz=13						
F39A	Loretta	93.70	350	P	P	13 53 24.5	-0.6
	baz=11						
F38A	Pierce - Schro	93.79	350	P	P	13 53 25.0	-0.5
	baz=10						
E31A	Nome	93.80	355	P	P	13 53 24.8	-0.8
	baz=6.0						
G43A	Wallace	93.85	347	P	P	13 53 25.3	-0.5
	baz=14						
F10A	Beach Ranch, E	94.06	8	eP	P	13 53 26.5	-0.4
F36A	Milaca	94.08	351	P	P	13 53 26.2	-0.7
	baz=9.3						
G40A	Rib Lake	94.23	349	P	P	13 53 27.1	-0.5
	baz=12						
STKA	Stephens Creek	94.69	128	P	P	13 53 27.8	-1.9
	comp=Z,3.2nm,1.0s,baz=313,slow=4.8,SNR=2.4						
STKA				LR	LR	14 41 46.3	
	comp=Z,119nm,18.3s,baz=277,slow=39						
BOZ	Bozeman (W)	94.89	4	P	P	13 53 30.2	-0.6
	baz=355						
BOZ	Bozeman (W)	94.89	4	eP	P	13 53 30.5	-0.3
	comp=Z,3.8nm,0.9s						
BOZ	Bozeman (W)	94.89	4	eP	P	13 53 30.5	-0.3
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
H32A	Carlson Farm,	95.81	354	P	P	13 53 34.1	-0.7
	baz=6.3						
ECSD	EROS Data Cent	96.50	353	P	P	13 53 37.5	-0.5
	baz=7.0						
YBH	Yreka Blue Hor	97.46	13	LR	LR	14 42 28.4	
	comp=Z,102nm,18.9s,baz=2.0,slow=38						
PDAR	Pinedale Array	97.81	3	P	P	13 53 42.9	-1.3
	comp=Z,0.6nm,0.9s,baz=45,slow=1.7,SNR=4.2						
PDAR				LR	LR	14 42 59.4	
	comp=Z,332nm,18.1s,baz=14,slow=38						
NVAR	Mina Array Bea	101.36	10	P	Pdif	13 53 59.7	-0.4
	comp=Z,0.3nm,0.6s,baz=305,slow=3.2,SNR=3.0						
TXAR	Lajitas Array	111.26	358	PKKPab	PKKPab	14 09 46.5	-4.9
	comp=Z,0.4nm,0.8s,baz=197,slow=3.9,SNR=3.8						
CPUP	Villa Florida	137.75	273	PKP	PKPdf	13 59 32.2	-0.7
	comp=Z,1.9nm,0.6s,baz=26,slow=1.4,SNR=5.3						
LPAZ	La Paz	139.83	295	PKP	PKPdf	13 59 37.1	-0.7
	comp=Z,1.6nm,0.8s,baz=288,slow=3.3,SNR=4.3						
PLCA	Paso Flores	153.22	256	PKPbc	PKPbc	14 00 05.9	-0.4
	comp=Z,6.1nm,1.1s,baz=124,slow=3.9,SNR=5.4						
PLCA				PKPab	PKPab	14 00 17.7	-0.5
	comp=Z,2.4nm,0.8s,baz=55,slow=4.2,SNR=3.9						

MAN 02 13:41:37, 11°.10N×125°.95E, h21km, mb4.5, ML3.4, MS3.2, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	0.71	315	eP	Pb	13 41 50.9	+0.2
BESP				eS	Sn	13 42 04.0	+1.9
PLP	Palo	0.96	274	⇓eP	Pb	13 41 54.0	-0.9
PLP				i S	Sb	13 42 05.1	-2.1
OCLP	Ormoc	1.32	268	eP	Pn	13 42 00.7	+0.4
OCLP				eS	Sb	13 42 17.5	-0.1
MSLP	Maasin	1.44	228	eP	Pn	13 42 01.9	-0.1
MSLP				eS	Sb	13 42 21.7	+0.6
CNP	Catarman	1.89	318	eP	Pn	13 42 08.3	+0.3
CNP				eS	Sn	13 42 31.6	+0.4

KRNET 02 13:45:48.0±0.1, 39°.46N×74°.14E, mb3.9, 16C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.73	319	⇑iP	Pg	13 46 02.0	0.0
	baz=19						
SFK				⇑iS	Sg	13 46 12.1	+0.5
	baz=19						
ARSB	Arslanbob	2.06	335	⇑iP	Pn	13 46 24.1	+0.2
	baz=35						
ARSB				⇑iS	Sn	13 46 50.5	+0.1
	baz=35						
NRN	Naryn	2.43	35	⇑iP	Pn	13 46 28.5	-0.7
	baz=35						
NRN				⇑iS	Sn	13 46 58.3	-1.5
	baz=35						
TOKL	Toktogul	2.65	339	⇑iP	Pn	13 46 31.7	-0.4
	baz=39						
TOKL				⇑iS	Sn	13 47 04.7	-0.3
	baz=39						
AML	Almayashu	2.69	353	⇓iP	Pn	13 46 33.5	+0.7
	baz=53						
AML				⇓iS	Sn	13 47 06.3	+0.1
	baz=53						
KZA	Kyzart	2.75	18	⇑iP	Pn	13 46 33.6	0.0
	baz=18						
KZA				⇑iS	Sn	13 47 07.0	-0.7
	baz=18						
UCH	Uchtor	2.78	6	⇑iP	Pn	13 46 34.5	+0.4
	baz=6.0						
UCH				⇑iS	Sn	13 47 08.0	-0.5
	baz=6.0						
ARK	Arkit	2.86	325	⇓iP	Pn	13 46 34.6	-0.3
	baz=25						
ARK				⇓iS	Sn	13 47 08.8	-1.3
	baz=25						
AAK	Ala-Archa	3.18	5	⇑iP	Pn	13 46 39.9	+0.5
	baz=5.0						
AAK				⇑iS	Sn	13 47 17.1	-1.1
	baz=5.0						
KBK	Karagaybulak	3.25	11	⇓iP	Pn	13 46 40.7	+0.4
	baz=11						
KBK				⇓iS	Sn	13 47 18.5	-1.3
	baz=11						
MNAS	Manas	3.26	338	⇑iP	Pn	13 46 40.5	0.0
	baz=38						
MNAS				⇑iS	Sn	13 47 18.9	-1.2
	baz=38						
BOOM	Boomskoye usch	3.32	24	⇓iP	Pn	13 46 41.6	+0.3
	baz=24						
BOOM				⇓iS	Sn	13 47 20.3	-1.2
	baz=24						

*IDC **02** 13:46:52.7±1.8, 29°.00S×178°.23W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/38, mbtmp4.1/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/36, Error ellipse: s-maj=64.4km s-min=10.7km az=31.0*

*ISCJB **02** 13:46:56.0±1.7, 28°.9S±0°.3×178°.3W±0°.3, h33km, mb4.4/4, MS3.4/4, Error ellipse: s-maj=50.8km s-min=9.0km az=39.4*

ISC 02 13:46:57.1±2.4, 28°.9S±0°.3×178°.1W±0°.3, h35km, n19, σ1ˢ37/7, mb4.2/4, MS3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.40	159	Pn	Pn	13 47 05.6	-0.7
	931nm,0.3s,baz=87,slow=18,SNR=40						
RAO				Sn	Sn	13 47 13.9	+1.2
	2μm,0.3s,baz=73,slow=19,SNR=45						
URZ	Urewera	10.18	202	LR	LR	13 52 28.3	
	comp=Z,438nm,20.9s,baz=20,slow=34						
DZM	Mont Dzumac	15.53	292	LR	LR	13 55 48.2	
	comp=Z,185nm,18.1s,baz=82,slow=35						
DZM	Mont Dzumac	15.53	292	eLR	LR	13 54 13.9	
	257nm,24.5s						
AFI	Afiamalu	16.00	23	LR	LR	13 55 19.2	
	comp=Z,34nm,20.6s,baz=192,slow=31						
RPZ	Rata Peaks	17.18	208	LR	LR	13 57 19.4	
	comp=Z,275nm,20.2s,baz=24,slow=37						
TBI	Tubuai	26.25	85	eLR	LR	13 59 10.1	
	276nm,31.2s						
TBI	Tubuai	26.25	85	eT	T	14 19 27.9	
	21nm,0.4s						
HNR	Honiara	28.28	309	P	P	13 52 48.2	+0.9
	79nm,0.9s,baz=202,slow=11,SNR=3.8						
HNR				LR	LR	14 01 19.7	
	comp=Z,69nm,21.3s,baz=67,slow=31						
PAE	Paea	28.39	73	eT	T	14 22 14.2	
	3.6nm,0.3s						
PPT2	Papeete2	28.43	73	eLR	LR	14 00 15.0	
	172nm,25.8s						
PPT2	Papeete2	28.43	73	eT	T	14 22 18.4	
	4.1nm,0.4s						
PPT	Papeete	28.43	73	LR	LR	14 01 19.5	
	comp=Z,70nm,20.9s,baz=198,slow=30						
STKA	Stephens Creek	34.78	255	P	P	13 53 45.4	+1.1
	5.3nm,1.0s,baz=78,slow=8.8,SNR=4.2						
STKA				LR	LR	14 06 19.3	
	comp=Z,126nm,19.5s,baz=40,slow=34						
TAOE	Nuku Hiva Isla	40.79	68	eLR	LR	14 05 52.4	
	85nm,24.9s						
ASAR	Alice Springs	43.14	265	P	P	13 54 52.9	-1.6
	1.5nm,0.8s,baz=98,slow=7.7,SNR=8.4						
WRA	Warramunga Arr	43.99	271	P	P	13 55 00.4	-0.9
	2.1nm,0.7s,baz=109,slow=8.1,SNR=6.9						
VNDA	Vanda	49.60	186	LR	LR	14 13 54.1	
	comp=Z,50nm,18.6s,baz=323,slow=33						
TORD	Torodi Ar. Bea	164.35	179	PKPab	PKPab	14 07 51.3	-0.4
	1.0nm,0.9s,baz=183,slow=5.0,SNR=5.3						

KRNET 02 13:48:40.0±0.1, 39°.57N×74°.23E, mb3.3, 12C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.71	309	⇑iP	Pg	13 48 53.9	+0.2
	baz=9.0						
SFK				⇑iS	Sg	13 49 03.6	+0.7
	baz=9.0						
ARSB	Arslanbob	1.99	332	⇑iP	Pn	13 49 15.9	+0.7
	baz=32						
ARSB				⇑iS	Sb	13 49 42.2	-0.5
	baz=32						
NRN	Naryn	2.30	35	⇑iP	Pn	13 49 19.4	-0.1
	baz=35						
NRN				⇑iS	Sn	13 49 48.6	-0.1
	baz=35						
TOKL	Toktogul	2.58	337	⇑iP	Pn	13 49 24.5	+1.3
	baz=37						
TOKL				⇑iS	Sn	13 49 57.0	+1.6
	baz=37						
AML	Almayashu	2.59	351	⇑iP	Pn	13 49 24.0	+0.4
	baz=51						
AML				⇑iS	Sn	13 49 55.9	-0.1
	baz=51						
KZA	Kyzart	2.62	17	⇓eP	Pn	13 49 26.0	+1.9
	baz=17						
KZA				⇓iS	Sb	13 49 59.1	-2.0
	baz=17						
UCH	Uchtor	2.67	5	⇑iP	Pn	13 49 25.9	+1.2
	baz=5.0						
UCH				⇑iS	Sn	13 49 58.9	+1.0
	baz=5.0						
ARK	Arkit	2.81	323	⇓iP	Pn	13 49 27.4	+1.0
	baz=23						
ARK				⇓iS	Sn	13 50 02.1	+1.0
	baz=23						
MNAS	Manas	3.19	336	⇓eP	Pn	13 49 33.0	+1.4
	baz=37						
MNAS				⇓iS	Sn	13 50 11.6	+1.1
	baz=37						

*SOME **02** 13:49:37.7, 39°.90N×74°.38E, h15km*

*KRNET **02** 13:49:37.7±0.1, 39°.70N×74°.28E, mb3.5*

ISC 02 13:49:39.0±2.0, 39°.8N±0°.1×74°.27E±0°.04, h10km, n20, σ1ˢ99/37, 21C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.64	291	⇓iP	Pg	13 49 50.8	-0.6
	baz=99						
SFK				⇓iS	Sg	13 50 00.0	+0.3
	baz=99						
ARSB	Arslanbob	1.83	328	⇓eP	Pb	13 50 13.2	+0.6
	baz=29						
ARSB				⇓iS	Sg	13 50 38.9	+1.2
	baz=29						
NRN	Naryn	2.11	38	⇑iP	Pb	13 50 16.9	-0.6
	baz=36						
NRN				⇑iS	Sb	13 50 45.5	+1.6
	baz=36						
AML	Almayashu	2.39	350	⇓iP	Pb	13 50 21.5	-0.8
	baz=50						
AML				⇓iS	Sb	13 50 53.0	+1.0
	baz=50						
TOKL	Toktogul	2.40	334	⇓iP	Pb	13 50 21.2	-1.2
	baz=35						
TOKL				⇓iS	Sb	13 50 53.6	+1.5
	baz=35						
KZA	Kyzart	2.41	18	⇑iP	Pb	13 50 21.8	-0.9
	baz=17						
KZA				⇑iS	Sb	13 50 54.0	+1.4
	baz=17						
UCH	Uchtor	2.45	4	⇑iP	Pb	13 50 22.1	-1.3
	baz=4.0						
UCH				⇑iS	Sb	13 50 54.2	+0.4
	baz=4.0						
ARK	Arkit	2.67	320	⇑iP	Pb	13 50 24.4	-2.6
	baz=21						
ARK				⇑iS	Sb	13 50 59.0	-0.8
	baz=21						
AAK	Ala-Archa	2.86	3	⇓iP	Pb	13 50 27.6	-2.6
	baz=3.0						
AAK				⇓iS	Sb	13 51 04.0	-1.3
	baz=3.0						
ULHL	Ulahol	2.88	31	⇑iP	Pn	13 50 27.6	+2.5
	baz=30						
ULHL				⇑iS	Sb	13 51 03.6	-2.3
	baz=30						
EKS2	Erkin-Say	2.90	353	⇓iP	Pb	13 50 28.4	-2.5
	baz=53						
EKS2				⇓iS	Sb	13 51 05.4	-1.1
	baz=53						
KBK	Karagaybulak	2.92	10	⇑iP	Pb	13 50 28.7	-2.5
	baz=10.0						
KBK				⇑iS	Sb	13 51 05.8	-1.2
	baz=10.0						
BOOM	Boomskoye usch	2.98	24	⇑iP	Pb	13 50 29.9	-2.4
	baz=24						
BOOM				⇑iS	Sb	13 51 07.2	-1.7
	baz=24						
MNAS	Manas	3.01	334	⇑Lg	Lg	13 51 12.9	
	25nm,0.4s						
MNAS	Manas	3.01	334	⇑iP	Pb	13 50 30.0	-2.8
	baz=35						
MNAS				⇑iS	Sb	13 51 08.7	-1.1
	baz=35						
FRU1	Bishkek	3.04	5	⇓iP	Pb	13 50 30.7	-2.5
	baz=5.0						
FRU1				⇓iS	Sb	13 51 09.3	-1.0
	baz=5.0						
MRKS	Merke	3.06	345	eP	Pb	13 50 32.8	-0.8
	9.4nm,0.3s						
MRKS				eS	Sb	13 51 12.8	+1.6
	42nm,0.5s						
TKM2	Tokmak 2	3.29	17	⇑iP	Pb	13 50 34.2	-3.4
	baz=17						
TKM2				⇑iS	Sn	13 51 14.7	+4.6
	baz=17						
KST	Kastek	3.50	21	eP	Pb	13 50 38.4	-2.7
	4.3nm,0.2s						
KST				eS	Sb	13 51 21.8	-1.8
	52nm,0.8s						
KK31	Karatay Array	4.36	321	⇑Pn	Pg	13 51 00.2	-2.3
	2.5nm,0.4s,baz=122,slow=12,SNR=4.5						
KK31				⇑Lg	Lg	13 51 56.7	
	9.6nm,0.5s,baz=132,slow=28,SNR=3.9						

*ISCJB **02** 13:49:58.4±1.0, 36°.49N±0°.06×142°.55E±0°.08, h15km, mb3.6/7, Error ellipse: s-maj=11.2km s-min=6.6km az=38.7*

*JMA **02** 13:49:59.0±0.2, 36°.40N×142°.65E, h52km, M3.4*

*IDC **02** 13:50:02.3±1.1, 37°.15N×142°.18E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/66, mbtmp3.6/8, ML3.3/1, MS2.5/2, Ms1 2.5/2, ms1mx2.3/65, Error ellipse: s-maj=27.4km s-min=20.8km az=90.0*

ISC 02 13:50:00.0±1.5, 36°.51N±0°.09×142°.45E±0°.09, h15km, n28, σ0ˢ91/23, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.45	294	P	Pb	13 50 26.4	-0.4
JHO	Hitachi	1.52	274	P	Pb	13 50 26.5	-1.4
JHO				eS	Sb	13 50 47.4	+0.4
JFT	Otama	1.97	301	P	Pb	13 50 34.0	-1.6
JAG	Ashikaga	2.42	269	P	Pn	13 50 39.4	+0.4
JMK	Ichinoseki	2.62	338	P	Pn	13 50 41.9	+0.1
JMK				eS	Sn	13 51 14.5	+1.1
JRY	Ryogami san	2.91	261	P	Pn	13 50 46.1	+0.3
JYK	Kaneyama	2.92	326	P	Pn	13 50 46.5	+0.6
JOD2	Odawara 2	3.00	246	P	Pn	13 50 47.2	+0.1
JOM	Ohasama	3.09	343	P	Pn	13 50 48.5	+0.2
JOM				eS	Sn	13 51 25.8	+0.8
JYN	Shimob	3.33	253	P	Pn	13 50 52.5	+0.9
MJAR	Matsushiro Arr	3.42	272	Pn	Pn	13 50 53.1	+0.4
	3.2nm,0.3s,baz=91,slow=15,SNR=31						
MJAR				LR	LR	13 52 34.3	
	comp=Z,58nm,18.7s,baz=145,slow=47						
MAT	Matsushiro	3.42	272	P	Pn	13 50 54.3	+1.5
MAT				eS	Sn	13 51 32.6	-0.5
MAT	Matsushiro	3.42	272	P	Pn	13 50 54.6	+1.8
ASAJ	Asahikawa	7.59	1	Pn	Pn	13 51 49.5	-0.7
	2.0nm,0.3s,baz=214,slow=16,SNR=25						
JNU	Nakatsue	10.10	254	LR	LR	13 56 25.8	
	comp=Z,34nm,20.0s,baz=114,slow=38						
MA2	Magadan	23.70	11	P	P	13 55 10.7	-0.3
	1.0nm,0.2s,baz=181,slow=11,SNR=3.6						
H11N2	WAKE ISLAND Hy	27.16	121	T	T	14 24 02.2	
	baz=313,slow=75,SNR=5.1						
H11N1	WAKE ISLAND Hy	27.17	121	T	T	14 24 05.2	
	baz=313,slow=75,SNR=4.1						
H11N3	WAKE ISLAND Hy	27.18	121	T	T	14 24 04.2	
	baz=313,slow=75,SNR=4.3						
H11S1	WAKE ISLAND Hy	27.88	124	T	T	14 25 00.8	
	baz=317						
H11S3	WAKE ISLAND Hy	27.88	124	T	T	14 24 57.0	
	baz=317						
H11S2	WAKE ISLAND Hy	27.89	124	T	T	14 24 57.1	
	baz=317						
SONM	Songino Array	28.77	305	P	P	13 55 56.5	-0.7
	1.0nm,0.8s,baz=108,slow=9.1,SNR=3.1						
ZALV	Zalesovo Beam	42.88	313	P	P	13 57 57.2	-0.4
	1.3nm,0.7s,baz=81,slow=8.0,SNR=2.8						
MKAR	Makanchi Array	45.10	303	P	P	13 58 16.6	+1.1
	1.1nm,0.8s,baz=79,slow=7.8,SNR=3.2						
ILAR	Eielson Array	49.49	32	P	P	13 58 49.9	+0.5
	0.3nm,0.8s,baz=268,slow=6.1,SNR=3.4						
WRA	Warramunga Arr	56.67	189	P	P	13 59 51.0	+8.3
	0.1nm,0.3s,baz=4.4,slow=7.8,SNR=7.5						
ASAR	Alice Springs	60.40	189	P	P	14 00 18.2	+10
	0.2nm,0.5s,baz=3.8,slow=6.9,SNR=6.2						

KRNET 02 13:50:42.0±0.1, 39°.71N×74°.27E, mb3.8, 26C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.67	298	⇑iP	Pg	13 50 55.1	+0.3
	baz=98						
SFK				⇑iS	Sg	13 51 04.1	+0.6
	baz=98						
ARSB	Arslanbob	1.89	329	⇓iP	Pb	13 51 16.7	-0.9
	baz=29						
ARSB				⇓iS	Sg	13 51 42.5	-0.3
	baz=29						
NRN	Naryn	2.17	37	⇑iP	Pn	13 51 19.9	+0.2
	baz=36						
NRN				⇑iS	Sn	13 51 48.3	+0.8
	baz=36						
AML	Almayashu	2.46	350	⇑iP	Pn	13 51 25.3	+1.5
	baz=50						
AML				⇑eS	Sb	13 51 57.3	-1.1
	baz=50						
TOKL	Toktogul	2.47	335	⇑iP	Pn	13 51 24.9	+1.2
	baz=35						
TOKL				⇑iS	Sb	13 51 57.0	-1.5
	baz=35						
KZA	Kyzart	2.48	17	⇑iP	Pb	13 51 27.2	-0.6
	baz=17						
KZA				⇑iS	Sb	13 51 59.7	+0.6
	baz=17						
UCH	Uchtor	2.52	4	⇑iP	Pb	13 51 27.3	-1.2
	baz=4.0						
UCH				⇑iS	Sb	13 52 00.4	+0.1
	baz=4.0						
ARK	Arkit	2.73	321	⇓eP	Pn	13 51 28.3	+1.1
	baz=21						
ARK				⇓iS	Sn	13 52 03.0	+2.0
	baz=21						
AAK	Ala-Archa	2.93	3	⇓iP	Pn	13 51 32.2	+2.1
	baz=3.0						
AAK				⇓iS	Sb	13 52 09.7	-2.1
	baz=3.0						
ULHL	Ulahol	2.94	30	⇑eP	Pb	13 51 33.3	-2.2
	baz=30						
ULHL				⇑iS	Sb	13 52 11.2	-0.9
	baz=30						
KBK	Karagaybulak	2.99	10	⇑iP	Pn	13 51 33.4	+2.5
	baz=10.0						
KBK				⇑iS	Sb	13 52 11.4	-2.1
	baz=10.0						
BOOM	Boomskoye usch	3.05	24	⇓iP	Pn	13 51 32.9	+1.1
	baz=24						
BOOM				⇓iS	Sn	13 52 10.3	+1.2
	baz=24						
MNAS	Manas	3.08	335	⇑iP	Pn	13 51 33.3	+1.2
	baz=35						
MNAS				⇑iS	Sn	13 52 11.9	+2.1
	baz=35						
FRU1	Bishkek	3.11	5	⇑iP	Pn	13 51 33.6	+1.1
	baz=5.0						
FRU1				⇑iS	Sn	13 52 11.9	+1.5
	baz=5.0						
KDJ	Kajisay	3.27	41	⇑iP	Pb	13 51 38.4	-2.7
	baz=42						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ				⇑iS	Sb	13 52 19.2	-2.4
	baz=42						
TARG	Taragay, Kyrgy	3.36	52	⇑iP	Pn	13 51 39.4	+3.2
	baz=52						
TARG				⇑iS	Sb	13 52 21.8	-2.5
	baz=52						
TKM2	Tokmak 2	3.36	17	⇑iP	Pn	13 51 38.8	+2.8
	baz=17						
TKM2				⇑iS	Sb	13 52 20.6	-3.6
	baz=17						

*BJI **02** 13:51:51.4, 43°.46N×86°.69E, h10km, ML3.5/9*
ISC 02 13:51:51.4±4.7**, 43°.4N**±0°.4×**86°.74E**±0°.07**, h10km, n2, σ1s.44**/5**, 3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	0.80	59	Pg	Pb	13 52 07.8	+0.3
WMQ				Sg	Sb	13 52 18.9	+0.5
MK31	Makanchi Array	4.62	319	Pn	Pn	13 53 00.6	-0.7
	1.6nm,0.3s,baz=136,slow=14,SNR=43						
MK31				⇓Pg	Pb	13 53 13.8	+1.3
	1.2nm,0.2s						
MK31				⇓Sn	Sn	13 53 53.7	-1.3
	2.7nm,0.3s						
MK31				⇓Lg	Lg	13 54 12.2	
	6.0nm,0.3s,baz=131,slow=31,SNR=8.2						

IDC 02 13:58:02.6±5.2**, 12°.01N×122°.69E, h0km, mb3.2**/3**, mb1 3.6**/3**, mb1mx3.1**/64**, mbtmp3.2**/3**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx2.8**/25**, 1C, Error ellipse: s-maj=285.4km s-min=31.5km az=89.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	6.29	159	⇑iP	Pb	13 59 51.4	-1.8
WRA	Warramunga Arr	33.76	160	P	P	14 04 46.9	+0.7
	0.3nm,0.7s,baz=339,slow=10,SNR=5.4						
ASAR	Alice Springs	37.11	163	P	P	14 05 14.4	-0.7
	0.1nm,0.5s,baz=340,slow=7.2,SNR=3.2						
NWAO	Narrogin (SRO)	44.99	186	LR	LR	14 26 07.0	
	comp=Z,123nm,20.4s,slow=37						
ILAR	Eielson Array	79.42	26	P	P	14 10 10.5	0.0
	0.5nm,0.9s,baz=257,slow=6.1,SNR=5.0						

*ISCJB **02** 14:00:14.7±0.9, 26°.3N±0°.1×140°.42E±0°.09, h33km, mb3.7/5, Error ellipse: s-maj=20.6km s-min=8.1km az=153.9*
*IDC **02** 14:00:23.1±2.6, 26°.34N×140°.91E, h101km±28km, mb3.4/5, mb1 3.5/5, mb1mx3.1/61, mbtmp3.7/5, Error ellipse: s-maj=44.6km s-min=19.3km az=91.0*
*JMA **02** 14:00:24.5±0.2, 26°.36N×140°.97E, h18km, M4.5*
ISC 02 14:00:16.8±1.0**, 26°.3N**±0°.2×**140°.4E**±0°.1**, h35km, n8, σ2s.28**/11**, mb3.8**/5**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.61	76	P	Pn	14 00 44.9	+2.2
JHHJ				S	Sn	14 00 59.1	-3.2
CBIJ	Chichi jima	1.78	61	P	Pn	14 00 47.9	+2.8
CBIJ				eS	Sn	14 01 05.6	-0.9
JCJ	Chichijima	1.78	61	P	Pn	14 00 48.0	+2.9
	132nm,0.3s,baz=58,slow=7.2,SNR=220						
JCJ				S	Sn	14 01 06.4	-0.1
	67nm,0.3s,baz=292,slow=23,SNR=5.4						
WRA	Warramunga Arr	46.30	188	P	P	14 08 40.2	+1.0
	0.6nm,0.5s,baz=9.8,slow=8.7,SNR=13						
ZALV	Zalesovo Beam	49.11	320	P	P	14 09 01.7	+1.0
	0.4nm,0.3s,baz=108,slow=9.3,SNR=4.0						
ASAR	Alice Springs	50.03	188	P	P	14 09 07.8	-0.2
	0.2nm,0.7s,baz=7.3,slow=5.3,SNR=4.1						
YKA	Yellowknife Ar	73.62	28	P	P	14 11 43.9	-2.4
	0.2nm,0.4s,baz=294,slow=6.0,SNR=4.1						
FINES	FINESS Array B	78.00	333	P	P	14 12 10.1	-1.3
	2.7nm,0.9s,baz=66,slow=4.8,SNR=4.9						

*CSEM **02** 14:22:16.8±0.4, 35°.88N×22°.40E, h0km±2km, ML3.5, Error ellipse: s-maj=8.4km s-min=3.5km az=34.0*
*ATH **02** 14:22:16.8, 35°.90N×22°.41E, h18km±1km, ML3.7/9, Error ellipse: s-maj=2.4km s-min=0.8km az=34.0*
*IDC **02** 14:22:16.1±1.0, 36°.01N×22°.47E, h0km, mb3.8/12, mb1 3.9/18, mb1mx3.7/64, mbtmp3.8/18, ML3.5/6, MS2.7/1, Ms1 2.7/1, ms1mx2.2/66, Error ellipse: s-maj=20.3km s-min=15.4km az=22.0*
*ISCJB **02** 14:22:17.2±0.9, 35°.86N±0°.05×22°.38E±0°.04, h21km±6km, mb3.7/12, Error ellipse: s-maj=8.8km s-min=4.2km az=33.5*
*THE **02** 14:22:18.1, 35°.94N×22°.45E, h2km±2km, ML3.5/5, Error ellipse: s-maj=3.0km s-min=1.0km az=29.0*
ISC 02 14:22:18.3±1.0**, 35°.97N**±0°.03×**22°.48E**±0°.03**, h18km**±4km**, n75, σ1s.11**/100**, mb3.9**/12**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.55	57	P	Pg	14 22 29.0	-0.3
KYTH				S	Sb	14 22 37.2	+0.3
KYTH				AML	AML	14 22 38.6	
	comp=N,18392µm,0.5s						
KYTH				AML	AML	14 22 39.4	
	comp=E,12707µm,0.4s						
KYTH	Kithira	0.55	57	P	Pg	14 22 29.0	-0.3
KYTH				S	Sb	14 22 37.6	+0.7
KYTH	Kithira	0.55	57	P	Pg	14 22 29.0	-0.3
KYTH				S	Sb	14 22 37.6	+0.7
ANKY	Antikythira Is	0.68	98	P	Pb	14 22 31.1	-0.3
ANKY				S	Sn	14 22 42.1	-0.9
ANKY				AML	AML	14 22 43.2	
	comp=N,8670µm,0.3s						
ANKY				AML	AML	14 22 44.6	
	comp=E,8033µm,0.3s						
ANKY	Antikythira Is	0.68	98	P	Pg	14 22 30.7	-0.9
ANKY				S	Sb	14 22 41.5	+1.0
ANKY	Antikythira Is	0.68	98	P	Pg	14 22 30.7	-0.9
ANKY				S	Sn	14 22 41.8	-1.2
DYR	Agios Nikonas	0.80	352	P	Pb	14 22 33.4	-0.3
DYR				S	Sn	14 22 46.1	-0.1
DYR				AML	AML	14 22 46.5	
	comp=E,6049µm,0.5s						
DYR				AML	AML	14 22 50.2	
	comp=N,4370µm,0.3s						
DYR	Agios Nikonas	0.80	352	P	Pb	14 22 33.4	-0.3
DYR				S	Sn	14 22 45.8	-0.4
VLI	Veliai	0.84	26	P	Pg	14 22 34.3	-0.4
VLI	Veliai	0.84	26	P	Pg	14 22 34.4	-0.3
VLI				S	Sn	14 22 46.5	-0.5
VLI	Veliai	0.84	26	P	Pg	14 22 34.3	-0.4
VLI				S	Sn	14 22 46.5	-0.5
MES2	Methoni	1.06	324	P	Pb	14 22 38.0	-0.1
MES2				S	Sb	14 22 51.8	+0.2
MES2				AML	AML	14 22 59.1	
	comp=E,11516µm,0.8s						
MES2				AML	AML	14 22 59.5	
	comp=N,11295µm,0.8s						
MES2	Methoni	1.06	324	P	Pb	14 22 37.7	-0.3
MES2				S	Sg	14 22 52.1	-0.6
PYL	PYLOS	1.10	328	P	Pb	14 22 38.1	-0.6
PYL				S	Sg	14 22 54.8	+0.8
PYL				AML	AML	14 23 00.7	
	comp=E,7384µm,0.3s						
PYL				AML	AML	14 23 02.2	
	comp=N,4337µm,0.5s						
PYL	PYLOS	1.10	328	P	Pb	14 22 38.3	-0.5
PYL				S	Sg	14 22 54.4	+0.3
PYL	PYLOS	1.10	328	P	Pb	14 22 38.3	-0.5
PYL				S	Sg	14 22 54.7	+0.6
ITM	Ithomi	1.29	340	P	Pg	14 22 42.5	-0.7
ITM				S	Sg	14 23 00.9	+0.8
ITM				AML	AML	14 23 05.6	
	comp=E,5294µm,0.5s						
ITM				AML	AML	14 23 06.3	
	comp=N,5537µm,0.4s						
ITM	Ithomi	1.29	340	P	Pb	14 22 42.3	+0.3
ITM				S	Sg	14 23 00.7	+0.6
ITM	Ithomi	1.29	340	P	Pb	14 22 42.3	+0.3
IMMV	Iera Moni Meta	1.32	112	P	Pn	14 22 41.7	-0.2
IMMV				S	Sg	14 23 00.7	-0.4
IMMV				AML	AML	14 23 02.3	
	comp=N,7303µm,0.5s						
IMMV				AML	AML	14 23 07.2	
	comp=E,4356µm,0.3s						
IMMV	Iera Moni Meta	1.32	112	P	Pb	14 22 42.0	-0.6
IMMV				S	Sg	14 23 00.8	-0.4
IMMV	Iera Moni Meta	1.32	112	P	Pb	14 22 42.0	-0.6
IMMV				S	Sg	14 23 01.5	+0.4
VLX	Vlachokerasia	1.40	357	P	Pb	14 22 44.0	0.0
VLX				AML	AML	14 23 11.3	
	comp=N,4716µm,0.6s						
VLX				AML	AML	14 23 12.4	
	comp=E,3246µm,0.6s						
VLX	Vlachokerasia	1.40	357	P	Pb	14 22 44.4	+0.4
VLX	Vlachokerasia	1.40	357	P	Pb	14 22 44.4	+0.4
MES3	Kyparissia	1.44	333	P	Pn	14 22 43.5	+0.2
VAM	Vamos	1.51	111	P	Pb	14 22 45.4	-0.3
VAM	Vamos	1.51	111	P	Pb	14 22 45.6	-0.1
VAM	Vamos	1.51	111	P	Pb	14 22 45.6	-0.1
KRND	KRANIDI	1.52	21	P	Pg	14 22 46.9	-0.6
KRND	KRANIDI	1.52	21	P	Pg	14 22 46.6	-0.9
KRND	KRANIDI	1.52	21	P	Pg	14 22 46.7	-0.8
TRIP	Tripoli	1.57	354	P	Pn	14 22 46.0	+0.7
TRIP	Tripoli	1.57	354	P	Pb	14 22 46.4	-0.4
DID	Didima	1.65	21	P	Pg	14 22 49.1	-1.0
DID	Didima	1.65	21	P	Pb	14 22 48.7	+0.5
DID	Didima	1.65	21	P	Pb	14 22 48.7	+0.5
AMT	Artemida-Makis	1.68	339	P	Pb	14 22 48.0	-0.6
AMT	Artemida-Makis	1.68	339	P	Pb	14 22 48.1	-0.6
MHLO	Agia Marina, M	1.71	64	P	Pb	14 22 48.2	-1.0
MHLO				S	Sg	14 23 11.8	-1.8
MHLO				AML	AML	14 23 17.1	
	comp=E,13474µm,0.5s						
MHLO				AML	AML	14 23 19.7	
	comp=N,12514µm,0.7s						
MHLO	Agia Marina, M	1.71	64	P	Pb	14 22 48.9	-0.3
MHLO				S	Sg	14 23 12.2	-1.4
MHLO	Agia Marina, M	1.71	64	P	Pb	14 22 48.9	-0.3
MHLA	Plaka, Milos I	1.75	63	P	Pb	14 22 49.5	-0.4
GUR	Goura	1.97	357	P	Pb	14 22 53.3	-0.3
GUR	Goura	1.97	357	P	Pb	14 22 52.9	-0.8
IDI	Anoyia	2.08	108	Pn	Pb	14 22 54.7	-0.8
	comp=N,12nm,0.3s,baz=312,slow=17,SNR=44						
IDI				Sn	Sg	14 23 24.7	-0.5
	comp=N,26nm,0.3s,baz=70,slow=15,SNR=6.9						
IDI				LR	LR	14 24 03.7	
	comp=N,164nm,20.3s,baz=262,slow=51						
LTK	Loutraki	2.09	11	P	Pb	14 22 55.9	+0.2
LTK	Loutraki	2.09	11	P	Pb	14 22 55.1	-0.6
VLY	Voula,Athens	2.16	29	P	Pb	14 22 55.6	-1.2
VLY	Voula,Athens	2.16	29	P	Pb	14 22 55.6	-1.2
SJES	Sjenica	7.54	346	ePn	Pn	14 24 08.0	+0.7
IVAS	Ivanjica	7.81	347	ePn	Pn	14 24 14.3	+3.3
STON	Ston	7.82	333	ePn	Pn	14 24 09.6	-1.5
STON				Sn	Sn	14 25 33.6	-5.5
GRUS	Gruza	8.03	351	ePn	Pn	14 24 16.3	+2.4
DIVS	Divibare	8.34	348	ePn	Pn	14 24 19.9	+1.6
TEKS	Tekeris	8.86	346	ePn	Pn	14 24 25.4	0.0
BRTR	Keskin Array B	9.59	64	Pn	Pn	14 24 36.7	+1.2
	comp=N,0.1nm,0.3s,baz=247,slow=14,SNR=2.5						
UDBI	Udbina	9.97	331	i Pn	Pn	14 24 39.0	-1.6
UDBI				Sn	Sn	14 26 27.6	-4.3
MMAI	Mount Meron Ar	11.06	102	Pn	Pn	14 24 55.5	-0.1
	comp=N,0.7nm,0.3s,baz=275,slow=23,SNR=2.4						
EIL	Elat	12.22	117	Pn	Pn	14 25 13.1	+1.7
	comp=N,0.3nm,0.3s,baz=322,slow=12,SNR=3.3						
GERES	GERESS Array B	14.40	336	Pn	Pn	14 25 40.4	-0.8
	comp=N,0.1nm,0.3s,baz=152,slow=11,SNR=2.4						
AKASG	Malin Array Be	15.51	16	Pn	Pn	14 25 55.2	-0.8
	comp=N,0.3nm,0.3s,baz=205,slow=9.9,SNR=3.9						
KBZ	Khabaz	17.46	57	P	P	14 26 23.7	+1.8
	comp=N,0.0nm,0.3s,baz=252,slow=9.2,SNR=2.0						
ESDC	Sonseca Array	21.18	288	P	P	14 27 02.3	-0.4
	comp=N,0.5nm,0.6s,baz=88,slow=11,SNR=6.4						
HFS	Hagfors	24.84	350	P	P	14 27 39.2	0.0
	comp=N,5.7nm,1.0s,baz=156,slow=11,SNR=4.4						
FINES	FINESS Array B	25.60	4	P	P	14 27 46.2	+0.1
	comp=N,2.7nm,0.9s,baz=182,slow=13,SNR=3.6						
NOA	NORSAR Array B	26.10	348	P	P	14 27 52.1	+1.3
	comp=N,0.3nm,0.5s,baz=157,slow=9.3,SNR=2.9						
EKA	Eskdalemuir Ar	26.13	326	P	P	14 27 53.0	+1.9
	comp=N,2.5nm,0.6s,baz=126,slow=9.4,SNR=11						
TORD	Torodi Ar. Bea	29.43	225	P	P	14 28 21.3	+0.4
	comp=N,0.2nm,0.4s,baz=28,slow=7.2,SNR=2.8						
ARCES	ARCESS Array B	33.67	2	P	P	14 28 58.2	+0.5
	comp=N,11nm,1.1s,baz=183,slow=7.3,SNR=3.9						
BVAR	Borovoye Array	37.40	48	P	P	14 29 30.7	+0.8
	comp=N,0.3nm,0.6s,baz=258,slow=5.7,SNR=2.7						
SPITS	Spitsbergen Ar	42.40	358	P	P	14 30 10.9	-0.2
	comp=N,5.4nm,1.0s,baz=161,slow=9.2,SNR=3.0						
MKAR	Makanchi Array	45.16	57	P	P	14 30 33.7	-0.1
	comp=N,0.9nm,0.3s,baz=273,slow=8.1,SNR=24						
ZALV	Zalesovo Beam	46.03	47	P	P	14 30 39.5	-1.1
	comp=N,0.5nm,0.4s,baz=248,slow=7.6,SNR=2.8						
SONM	Songino Array	60.66	50	P	P	14 32 28.4	+0.2
	comp=N,0.2nm,0.3s,baz=324,slow=7.1,SNR=4.4						

*ISCJB **02** 14:23:29.4±1.1, 43°.02N±0°.07×145°.85E±0°.06, h51km±11km, Error ellipse: s-maj=12.5km s-min=5.3km az=149.7*
*SKHL **02** 14:23:30.9±0.8, 43°.01N×145°.88E, h45km±7km, mb4.2/3*
*JMA **02** 14:23:30.3±0.1, 43°.03N×145°.79E, h51km±1km, M3.2*
ISC 02 14:23:29.7±1.8**, 42°.99N**±0°.09×**145°.86E**±0°.06**, h46km**±17km**, n13, σ0s.60**/25**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.39	347	P	Pn	14 23 39.7	+0.3
NEM2				eS	Sn	14 23 46.4	+0.2
GLVR	Golovnino	0.79	342	i P	Pn	14 23 44.6	+0.1
GLVR				eS	Sn	14 23 55.4	+0.2
JAK	Akkeshi	0.85	271	P	Pn	14 23 45.4	+0.1
JAK				eS	Sn	14 23 56.6	-0.1
GRPR	Tuman	1.00	356	eP	Pn	14 23 47.4	0.0
GRPR				eS	Sn	14 23 59.7	-0.8
JNK	Nakash	1.02	306	P	Pn	14 23 47.3	-0.4
JNK				eS	Sn	14 23 59.7	-1.2
YUK	Yuzh-Kuril'sk	1.04	0	i P	Pn	14 23 48.0	0.0
YUK				AMB	AMB	14 23 49.9	
	255nm,0.2s						
YUK				i S	Sn	14 24 01.2	-0.2
YUK				A	A	14 24 03.0	
	932nm,0.2s						
YUK				A	A	14 24 03.0	
	1µm,0.2s						
LAGR	Lagunnoye	1.07	357	eP	Pn	14 23 48.4	+0.1
LAGR				i S	Sn	14 24 01.5	-0.5
JRA	Rausu	1.09	331	P	Pn	14 23 48.6	0.0
SHO	Shikotan	1.13	38	eP	Pn	14 23 48.7	-0.4
SHO				AMB	AMB	14 23 49.1	
	13nm,0.2s						
SHO				i S	Sn	14 24 02.4	-1.1
SHO				A	A	14 24 02.6	
	89nm,0.2s						
SHO				A	A	14 24 02.6	
	157nm,0.2s						
JOB	Onbets	1.49	267	P	Pn	14 23 54.1	+0.1
JOB				eS	Sn	14 24 11.7	-0.5
JAR	Ashorobuto	1.56	282	P	Pn	14 23 55.3	+0.3
JAR				eS	Sn	14 24 13.7	-0.3
JTKR	Abashiri--Toko	1.73	305	P	Pn	14 23 57.9	+0.7
JTKR				eS	Sn	14 24 18.9	+0.8
KUR	Kuril'sk	2.67	32	eP	Pn	14 24 11.6	+1.4
KUR				AMB	AMB	14 24 14.5	
	18nm,0.2s						
KUR				i S	Sn	14 24 41.0	-0.3
KUR				A	A	14 24 44.5	
	24nm,0.2s						
KUR				A	A	14 24 44.5	
	80nm,0.2s						

IDC 02 14:50:08.4±1.9**, 18°.14S×167°.50E, h0km, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.7**/41**, mbtmp3.7**/5**, ML3.2**/1**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.5**/36**, Error ellipse: s-maj=49.1km s-min=28.1km az=118.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.03	194	Pn	Pn	14 51 12.6	+1.1
	1.6nm,0.3s,baz=15,slow=5.0,SNR=34						
DZM				Sn	Sn	14 51 59.0	-0.6
	4.2nm,0.3s,baz=318,slow=22,SNR=14						
AFI	Afiamalu	20.36	81	LR	LR	15 01 07.8	
	comp=Z,51nm,18.1s,baz=276,slow=32						
STKA	Stephens Creek	27.08	235	P	P	14 55 53.7	+0.9
	2.7nm,0.7s,baz=88,slow=9.0,SNR=5.6						
WRA	Warramunga Arr	31.37	261	P	P	14 56 30.3	-0.9
	0.3nm,0.8s,baz=102,slow=9.7,SNR=3.5						
ASAR	Alice Springs	31.81	254	P	P	14 56 35.0	-0.1
	0.8nm,0.5s,baz=84,slow=7.9,SNR=36						
ILAR	Eielson Array	89.69	18	P	P	15 03 07.7	-0.2
	0.4nm,0.7s,baz=234,slow=5.3,SNR=6.5						

IDC 02 14:52:13.5±3.7**, 4°.68S×152°.58E, h0km, mb3.1**/2**, mb1 3.4**/2**, mb1mx3.2**/43**, mbtmp3.2**/2**, Error ellipse: s-maj=167.5km s-min=47.0km az=120.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.36	228	P	P	14 57 24.6	+0.8
	0.5nm,0.7s,baz=52,slow=9.6,SNR=6.6						
ASAR	Alice Springs	26.09	222	P	P	14 57 48.6	-0.6
	0.3nm,0.8s,baz=58,slow=8.6,SNR=2.8						
TORD	Torodi Ar. Bea	150.06	288	PKPbc	PKPbc	15 12 06.9	-0.4
	0.3nm,0.5s,baz=72,slow=3.2,SNR=3.2						

*ISCJB **02** 14:52:52.5±0.8, 32°.79N±0°.04×140°.71E±0°.09, h73km±8km, mb3.5/2, Error ellipse: s-maj=12.3km s-min=7.4km az=2.7*
*IDC **02** 14:52:52.7±2.1, 32°.80N×140°.88E, h67km±18km, mb3.1/2, mb1 3.6/6, mb1mx3.2/65, mbtmp3.8/6, Error ellipse: s-maj=41.1km s-min=16.1km az=73.0*
*JMA **02** 14:52:54.0±0.1, 32°.87N×140°.72E, h61km, M3.6*
ISC 02 14:52:52.1±1.1**, 32°.76N**±0°.06×**140°.79E**±0°.07**, h60km**±14km**, n25, σ1s.58**/30**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.89	294	P	Pn	14 53 09.9	+1.2
JHJ2				S	Sn	14 53 21.1	+0.1
JHCJ	Hachijojimakas	0.89	291	P	Pn	14 53 09.7	+0.9
JHCJ				S	Sn	14 53 20.5	-0.5
JHJ	Hachijo jima 2	0.92	294	P	Pn	14 53 10.0	+0.9
	baz=49,slow=20						
JHJ				S	Sn	14 53 21.1	-0.6
	488nm,0.3s,baz=233,slow=20,SNR=33						
JHJ				LR	LR	14 53 35.9	
	comp=Z,118nm,18.3s,baz=88,slow=46						
BSO1	Boso 1	1.90	5	P	Pn	14 53 23.0	+1.3
BSO1				eS	Sn	14 53 45.6	+1.3
JKO	Kozu shima	1.99	316	P	Pn	14 53 24.6	+1.2
JKO				eS	Sn	14 53 46.1	-1.1
BSO3	Boso 3	2.05	354	P	Pn	14 53 25.2	+1.1
BSO3				S	Sn	14 53 48.7	+0.2
JIM2	Oshima 3	2.26	330	P	Pn	14 53 27.9	+0.7
JIM2				eS	Sn	14 53 52.3	-1.6
JIZS	Izushimoda	2.52	321	P	Pn	14 53 32.2	+1.5
TK02	Tokai 2	2.80	296	P	Pn	14 53 36.3	+2.0
JOD2	Odawara 2	2.87	331	P	Pn	14 53 36.5	+1.0
JOD2				eS	Sn	14 54 07.0	-1.9
SHZ3	Shizuoka 3	3.15	318	P	Pn	14 53 41.7	+2.4
JYN	Shimob	3.31	326	P	Pn	14 53 43.7	+2.2
MJAR	Matsushiro Arr	4.33	331	P	Pn	14 53 56.8	+1.2
	1.9nm,0.3s,baz=154,slow=15,SNR=8.6						
MJAR				S	Sn	14 54 46.0	+1.3
	baz=0.3,slow=26,SNR=2.1						
MAT	Matsushiro	4.34	331	P	Pn	14 53 57.1	+1.6
MAT				eS	Sn	14 54 41.4	-3.4
JCJ	Chichijima	5.77	168	P	Pn	14 54 16.8	+1.6
	11nm,0.3s,baz=288,slow=20,SNR=14						
JCJ				S	Sn	14 55 18.0	-2.0
	4.2nm,0.3s,baz=299,slow=19,SNR=2.5						
JNU	Nakatsue	8.34	275	P	Pn	14 54 52.0	+1.6
	0.2nm,0.3s,baz=11,slow=5.2,SNR=2.5						
ASAJ	Asahikawa	11.43	7	P	Pn	14 55 30.7	-1.8
	0.8nm,0.3s,baz=200,slow=11,SNR=16						
H11N2	WAKE ISLAND Hy	26.68	113	T	T	15 27 25.4	
	baz=305,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	26.69	113	T	T	15 27 25.0	
	baz=305,slow=75,SNR=7.6						
H11N3	WAKE ISLAND Hy	26.70	113	T	T	15 27 20.1	
	baz=305,slow=75,SNR=13						
H11S3	WAKE ISLAND Hy	27.24	115	T	T	15 28 03.5	
	baz=311						
H11S1	WAKE ISLAND Hy	27.24	115	T	T	15 28 01.8	
	baz=311						
H11S2	WAKE ISLAND Hy	27.25	115	T	T	15 28 03.5	
	baz=311						
MKAR	Makanchi Array	46.07	306	P	P	15 01 09.6	-0.4
	0.5nm,0.5s,baz=85,slow=9.3,SNR=7.9						
WRA	Warramunga Arr	52.76	188	P	P	15 02 01.6	+0.4
	0.2nm,0.5s,baz=4.8,slow=7.3,SNR=3.8						

*DDA **02** 15:08:44.7, 39°.58N×26°.08E, h7km, Ml3.0*
*CSEM **02** 15:08:45.9±0.2, 39°.64N×26°.06E, h10km, ML1.9, Error ellipse: s-maj=4.4km s-min=2.9km az=92.0*
*ATH **02** 15:08:45.7, 39°.59N×26°.05E, h26km±1km, ML1.9/5, Error ellipse: s-maj=2.4km s-min=0.9km az=242.0*
*ISCJB **02** 15:08:45.5±0.5, 39°.63N±0°.02×26°.07E±0°.03, h2km±5km, Error ellipse: s-maj=4.5km s-min=3.1km az=172.1*
*ISK **02** 15:08:45.3, 39°.68N×25°.91E, h11km, ML2.8/11*
*THE **02** 15:08:46.5, 39°.60N×26°.03E, h5km±1km, ML1.7/5, Error ellipse: s-maj=1.5km s-min=0.3km az=235.0*
ISC 02 15:08:45.6±1.0**, 39°.62N**±0°.01×**26°.06E**±0°.02**, h10km**±9km**, n58, σ1s.04**/88**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYC	CANAKKALE_Bayr	0.40	72	i P	Pg	15 08 54.1	+0.6
BAYC				i S	Sg	15 08 59.3	+0.5
BAYC	CANAKKALE_Bayr	0.40	72	P	Pg	15 08 54.1	+0.6
BAYC				S	Sg	15 08 59.3	+0.5
PRK	Paraskevi	0.41	156	P	Pb	15 08 54.6	-0.3
PRK				S	Sb	15 08 60.0	-1.2
PRK				AML	AML	15 09 00.4	
	comp=N,1354µm,0.4s						
PRK				AML	AML	15 09 01.7	
	comp=E,1144µm,0.8s						
PRK	Paraskevi	0.41	156	P	Pb	15 08 54.3	-0.6
PRK				S	Sb	15 09 00.1	-1.1
PRK	Paraskevi	0.41	156	P	Pb	15 08 54.3	-0.6
PRK				S	Sb	15 09 00.1	-1.1
SIGR	SIGRI	0.44	201	PG	Pb	15 08 54.8	-0.6
SIGR				SG	Sb	15 09 02.2	+0.2
SIGR	SIGRI	0.44	201	P	Pg	15 08 54.2	0.0
SIGR	SIGRI	0.44	201	P	Pg	15 08 54.5	+0.3
SIGR	SIGRI	0.44	201	ePg	Pb	15 08 54.8	-0.6
SIGR				S	Sg	15 09 00.5	+0.5
SIGR				eSg	Sb	15 09 02.2	+0.2
SIGR	SIGRI	0.44	201	P	Pg	15 08 54.5	+0.3
SIGR				S	Sg	15 09 00.5	+0.5
GADA	Gvkgeada	0.58	348	PG	Pg	15 08 55.5	-1.5
GADA				SG	Sg	15 09 03.2	-1.4
GADA	Gvkgeada	0.58	348	ePg	Pg	15 08 55.5	-1.5
GADA				eSg	Sg	15 09 03.2	-1.4
LIA	Limnos Island	0.73	293	P	Pb	15 09 00.6	+0.2
LIA				S	Sb	15 09 10.9	+0.6
LIA				AML	AML	15 09 13.6	
	comp=E,126µm,0.3s						
LIA				AML	AML	15 09 13.8	
	comp=N,146µm,0.3s						
LIA	Limnos Island	0.73	293	P	Pb	15 09 00.4	0.0
LIA				S	Sb	15 09 10.7	+0.3
LIA	Limnos Island	0.73	293	P	Pb	15 09 00.5	+0.2
LIA				S	Sb	15 09 10.7	+0.3
GELI	Tayfur-Gelibol	0.84	22	PG	Pg	15 09 02.1	+0.3
GELI	Tayfur-Gelibol	0.84	22	ePg	Pg	15 09 02.1	+0.3
LPK	Lapseki	0.93	36	PG	Pg	15 09 02.9	-0.6
LPK	Lapseki	0.93	36	ePg	Pg	15 09 02.9	-0.6
SMTH	Samothraki Isl	0.94	335	P	Pg	15 09 04.2	+0.4
SMTH				S	Sb	15 09 17.8	+1.3
SMTH				AML	AML	15 09 19.4	
	comp=N,104µm,0.1s						
SMTH				AML	AML	15 09 20.1	
	comp=E,94µm,0.1s						
SMTH	Samothraki Isl	0.94	335	P	Pg	15 09 04.2	+0.4
SMTH				S	Sb	15 09 17.9	+1.3
SMTH	Samothraki Isl	0.94	335	P	Pg	15 09 04.2	+0.4
SMTH				S	Sn	15 09 18.0	-0.4
FOCM	Foˆ§a	1.05	150	PN	Pn	15 09 07.8	+1.5
FOCM	Foˆ§a	1.05	150	ePn	Pn	15 09 07.8	+1.5
ERIK	Erikli-Kesan	1.10	18	PN	Pb	15 09 06.4	-0.4
ERIK	Erikli-Kesan	1.10	18	ePn	Pb	15 09 06.4	-0.4

ENEZ	Enez	1.12	4	PG	Pb	15 09 06.5	-0.5
ENEZ	Enez	1.12	4	ePg	Pb	15 09 06.5	-0.5
BALY	Balya	1.21	84	i P	Pn	15 09 07.9	-0.8
BALY				i S	Sb	15 09 24.2	-0.2
BALY	Balya	1.21	84	P	Pn	15 09 07.9	-0.8
BALY				S	Sb	15 09 24.2	-0.2
KRBG	Karabiga-Canak	1.23	51	PN	Pb	15 09 09.2	+0.3
KRBG	Karabiga-Canak	1.23	51	ePn	Pb	15 09 09.2	+0.3
CHOS	Chios island	1.23	180	PN	Pg	15 09 09.8	+0.5
CHOS	Chios island	1.23	180	P	Pg	15 09 09.4	+0.1
CHOS				S	Sb	15 09 24.7	-0.3
CHOS				AML	AML	15 09 28.6	
	comp=E,218µm,0.2s						
CHOS				AML	AML	15 09 31.0	
	comp=N,103µm,0.5s						
CHOS	Chios island	1.23	180	P	Pg	15 09 09.1	-0.2
CHOS	Chios island	1.23	180	ePn	Pg	15 09 09.8	+0.5
CHOS				S	Sg	15 09 25.0	-0.3
CHOS	Chios island	1.23	180	P	Pg	15 09 09.1	-0.2
ALN	Alexandroupoli	1.27	360	PN	Pn	15 09 08.9	-0.6
ALN	Alexandroupoli	1.27	360	P	Pg	15 09 10.4	+0.3
ALN				S	Sg	15 09 27.4	+0.7
ALN				AML	AML	15 09 28.8	
	comp=N,83µm,0.6s						
ALN				AML	AML	15 09 28.9	
	comp=E,80µm,0.4s						
ALN	Alexandroupoli	1.27	360	ePn	Pn	15 09 08.9	-0.6
ALN	Alexandroupoli	1.27	360	P	Pb	15 09 10.1	+0.4
ALN				S	Sg	15 09 27.7	+1.0
ALN	Alexandroupoli	1.27	360	P	Pb	15 09 10.1	+0.4
ALN				S	Sg	15 09 28.0	+1.3
KESN	Edirne-Kesan	1.29	21	i P	Pn	15 09 10.2	+0.1
KESN				i S	Sn	15 09 28.5	+0.9
KESN	Edirne-Kesan	1.29	21	P	Pn	15 09 10.2	+0.1
KESN				S	Sn	15 09 28.5	+0.9
STEP	BALIKESIR_Sava	1.31	100	i P	Pb	15 09 10.6	+0.3
STEP				i S	Sb	15 09 27.4	+0.3
STEP	BALIKESIR_Sava	1.31	100	P	Pb	15 09 10.6	+0.3
STEP				S	Sb	15 09 27.4	+0.3
URLA	Izmir	1.33	161	PN	Pg	15 09 11.6	+0.5
URLA	Izmir	1.33	161	i P	Pn	15 09 08.4	-1.8
URLA				i S	Sb	15 09 26.8	-0.8
URLA	Izmir	1.33	161	P	Pn	15 09 08.4	-1.8
URLA	Izmir	1.33	161	ePn	Pg	15 09 11.6	+0.5
RKY	Sarkoy-Tekirda	1.37	39	PN	Pn	15 09 11.3	+0.5
RKY	Sarkoy-Tekirda	1.37	39	ePn	Pn	15 09 11.3	+0.5
SART	Tekirdag	1.37	39	i P	Pn	15 09 10.4	-0.5
SART				i S	Sb	15 09 22.5	-6.4
SART	Tekirdag	1.37	39	P	Pn	15 09 10.4	-0.5
BALB	Balikesir	1.41	89	PN	Pg	15 09 13.4	+0.7
BALB	Balikesir	1.41	89	ePn	Pg	15 09 13.4	+0.7
SBT3	Marmara-Eregli	1.94	49	PN	Pn	15 09 19.7	+1.3
SBT3	Marmara-Eregli	1.94	49	ePn	Pn	15 09 19.7	+1.3

*ISCJB **02** 15:14:07.3±0.8, 35°.84N±0°.04×139°.59E±0°.10, h98km±5km, mb3.6/2, Error ellipse: s-maj=13.6km s-min=6.4km az=168.8*

*JMA **02** 15:14:08.9±0.1, 35°.87N×139°.63E, h88km±1km, M3.0 Broadband fault plane solution: P waves. NP1: φs320.00000°, δ66.00000°, λ69.00000°. NP2: φs184.00000°, δ32.00000°, λ129.00000°. Principal axes: T Plg63.0000°, Azm196.0000°; N Plg19.0000°, Azm329.0000°; P Plg18.0000°, Azm66.0000°;*

*IDC **02** 15:14:09.3±2.3, 35°.85N×139°.47E, h102km±18km, mb3.2/2, mb1 3.4/4, mb1mx3.0/63, mbtmp3.7/4 Error ellipse: s-maj=51.4km s-min=23.0km az=56.0*

ISC 02 15:14:08.2±1.2**, 35°.86N**±0°.05×**139°.61E**±0°.08**, h92**km±8km**, n13, σ0.73**/23**, 3C-3D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	Hanno	0.26	269	⇑P	Pn	15 14 22.4	+0.7
JHU				S	Sn	15 14 32.0	+0.2
JAG	Ashikaga	0.58	348	⇑P	Pn	15 14 24.1	+0.2
JAG				S	Sn	15 14 35.3	-0.2
JRY	Ryogami san	0.59	286	⇓P	Pn	15 14 24.7	+0.7
JRY				S	Sn	15 14 36.7	+0.9
JOD2	Odawara 2	0.73	216	⇓P	Pn	15 14 25.0	-0.2
JOD2				S	Sn	15 14 37.0	-0.9
JYN	Shimob	0.94	248	⇓P	Pn	15 14 27.5	+0.1
JYN				S	Sn	15 14 41.6	-0.2
JKT	Katashina	0.95	342	⇑P	Pn	15 14 27.9	+0.2
JKT				S	Sn	15 14 41.9	-0.3
JIM2	Oshima 3	1.15	187	P	Pn	15 14 30.0	+0.2
JIM2				eS	Sn	15 14 44.9	-1.1
MJAR	Matsushiro Arr	1.32	302	P	Pn	15 14 31.6	-0.3
	4.7nm,0.3s,baz=130,slow=9.6,SNR=30						
MJAR				S	Sn	15 14 49.3	-0.4
	12nm,0.3s,baz=192,slow=24,SNR=15						
MAT	Matsushiro	1.32	302	P	Pn	15 14 31.6	-0.3
MAT				S	Sn	15 14 48.8	-1.0
JHJ	Hachijo jima 2	2.73	177	P	Pn	15 14 51.4	+1.1
	70nm,0.3s,baz=225,slow=14,SNR=22						
JHJ				S	Sn	15 15 21.8	-0.8
	21nm,0.3s,baz=72,slow=20,SNR=5.9						
JNU	Nakatsue	7.70	252	P	Pn	15 15 59.0	+1.3
	0.3nm,0.3s,baz=65,slow=17,SNR=4.3						
WRA	Warramunga Arr	55.72	186	P	P	15 23 34.3	-0.9
	0.2nm,0.3s,baz=0.6,slow=7.6,SNR=12						
ASAR	Alice Springs	59.45	186	P	P	15 24 01.9	+0.6
	0.5nm,0.9s,baz=17,slow=11,SNR=5.0						

MEX 02 15:16:27.7±0.3**, 18°.71N×103°.47W, h49**km±5km**, MD3.6, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.44	164	i P	Pn	15 16 36.6	-1.5
MMIG				i S	Sn	15 16 43.9	-1.8
EZ5V		0.77	351	eP	Pn	15 16 40.9	-1.8
EZ5V				eS	Sn	15 16 51.5	-2.0
CJM	Chamela	1.68	298	eP	Pn	15 16 53.0	-1.7
CJM				eS	Sn	15 17 13.2	-1.9
SFJM	Santa Fe	1.81	13	i P	Pn	15 17 02.1	+5.4
SFJM				i S	Sn	15 17 24.1	+5.6
ZIIG	Zihuatanejo	2.20	120	eP	Pn	15 17 00.9	-0.9
ZIIG				i S	Sn	15 17 26.1	-1.7
MOIG	Morelia	2.36	66	i P	Pn	15 17 02.9	-1.3
MOIG				i S	Sn	15 17 30.7	-1.4
ARIG	Puente Sto Nin	2.99	98	i P	Pn	15 17 11.3	-1.4
ARIG				i S	Sn	15 17 45.6	-1.8

*IDC **02** 15:25:21.2±2.7, 26°.93N×126°.31E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/59, mbtmp3.5/5, Error ellipse: s-maj=169.6km s-min=19.9km az=65.0*

*ISCJB **02** 15:25:34.1±0.5, 27°.16N±0°.08×126°.83E±0°.07, h138km±7km, mb3.3/5, Error ellipse: s-maj=15.8km s-min=4.7km az=139.7*

*JMA **02** 15:25:35.7±0.3, 27°.20N×126°.83E, h130km±4km, M3.3*

ISC 02 15:25:35.0±0.9**, 27°.19N**±0°.09×**126°.79E**±0°.08**, h135**km±10km**, n20, σ0.97**/32**, mb3.4**/5**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.73	146	P	Pn	15 25 56.4	+0.3
JAGN				S	Sn	15 26 12.0	0.0
JKE	Kume jima 2	0.86	180	P	Pn	15 25 57.5	+0.3
JKE				S	Sn	15 26 14.4	+0.4
JIH	Iheya	1.06	98	P	Pn	15 25 59.5	+0.6
JIH				S	Sn	15 26 16.4	-0.6
JNTH	Nagotoyohara	1.29	121	P	Pn	15 26 01.7	+0.5
JNTH				S	Sn	15 26 20.1	-1.0
JJT2	Tamagusuku 2	1.35	141	P	Pn	15 26 02.9	+1.0
JOW	Kunigami	1.37	105	P	Pn	15 26 02.3	+0.2
JOW				S	Sn	15 26 21.2	-1.4
JOKE	Okinoerabujima	1.59	84	P	Pn	15 26 04.5	0.0
JOKE				S	Sn	15 26 25.8	-1.2
JTK	Tokunoshima	2.01	72	P	Pn	15 26 09.4	+0.1
JTK				eS	Sn	15 26 34.7	-0.9
JAMN	Amaminishikomi	2.36	63	P	Pn	15 26 13.7	+0.1
JAMN				eS	Sn	15 26 42.5	-0.8
JIKM	Ikemajima	2.65	212	P	Pn	15 26 18.1	+0.7
JIKM				eS	Sn	15 26 49.6	-0.3
JOGS	Gusukube	2.73	207	P	Pn	15 26 18.6	+0.3
JIRB	Irabujima	2.77	212	P	Pn	15 26 18.8	0.0
JIRB				eS	Sn	15 26 50.7	-1.9
JAM	Amami Oshima	2.77	63	P	Pn	15 26 19.0	+0.1
JAM				eS	Sn	15 26 50.9	-1.7
JZK	Kikaishima	3.03	68	eS	Sn	15 26 58.9	+0.3
JTJ	Tarama	3.16	217	P	Pn	15 26 23.7	-0.2
JTJ				eS	Sn	15 26 59.8	-1.8
SONM	Songino Array	26.05	328	P	P	15 30 58.2	+2.4
	0.9nm,0.6s,baz=142,slow=11,SNR=7.0						
MKAR	Makanchi Array	39.93	311	P	P	15 32 55.7	-0.3
	0.4nm,0.5s,baz=96,slow=8.8,SNR=11						
ZALV	Zalesovo Beam	40.70	323	P	P	15 33 01.2	-1.0
	0.5nm,0.4s,baz=121,slow=7.8,SNR=2.5						
WRA	Warramunga Arr	47.43	170	P	P	15 33 55.8	-0.3
	0.3nm,0.5s,baz=352,slow=8.5,SNR=4.9						
ASAR	Alice Springs	51.03	172	P	P	15 34 23.9	+0.5
	0.2nm,0.5s,baz=358,slow=14,SNR=10						

IDC 02 15:31:51.9±11.0**, 20°.50S×178°.12W, h612**km±110km**, mb3.4**/5**, mb1 3.5**/6**, mb1mx3.1**/40**, mbtmp4.4**/6**, Error ellipse: s-maj=115.0km s-min=76.4km az=132.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.47	261	P	P	15 34 56.3	+1.3
	0.7nm,0.3s,baz=101,slow=21,SNR=16						
CTA	Charters Tower	33.38	264	P	P	15 37 41.5	-0.3
	4.4nm,0.5s,baz=87,slow=10,SNR=13						
STKA	Stephens Creek	37.69	244	P	P	15 38 17.2	+0.1
	0.9nm,0.5s,baz=88,slow=13,SNR=3.6						
ASAR	Alice Springs	44.41	257	P	P	15 39 10.6	+0.3
	5.9nm,0.8s,baz=98,slow=7.3,SNR=78						
WRA	Warramunga Arr	44.49	262	P	P	15 39 10.2	-0.7
	2.7nm,0.5s,baz=97,slow=7.9,SNR=82						
CMAR	Chiang Mai Arr	90.01	290	P	P	15 43 49.6	+1.6
	0.5nm,0.3s,baz=97,slow=3.4,SNR=4.2						
AKASG	Malin Array Be	142.96	331	PKhKP	PKPpre	15 50 12.3	
	0.9nm,0.5s,baz=44,slow=5.2,SNR=8.0						
BRTR	Keskin Array B	146.75	312	PKPbc	PKPbc	15 50 25.4	-1.4
	0.5nm,0.4s,baz=24,slow=4.6,SNR=4.2						
GERES	GERESS Array B	150.17	344	PKPbc	PKPbc	15 50 34.7	-0.2
	0.2nm,0.4s,baz=52,slow=6.4,SNR=3.1						

*ATH **02** 15:31:58.9, 38°.08N×27°.07E, h22km±2km, ML2.2/4, Error ellipse: s-maj=4.5km s-min=1.3km az=256.0*

*ISK **02** 15:31:58.3, 38°.12N×27°.07E, h5km, ML2.7/3*

*CSEM **02** 15:31:59.5±0.2, 38°.10N×27°.03E, h8km, ML2.7, Error ellipse: s-maj=4.5km s-min=3.1km az=53.0*

*DDA **02** 15:31:59.1, 38°.08N×26°.99E, h6km, Ml2.7*

ISC 02 15:31:59.0±0.9**, 38°.04N**±0°.02×**26°.98E**±0°.02**, h15**km±6km**, n36, σ0.77**/61**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	Gumuldur	0.06	304	PG	Pg	15 32 01.5	-0.4
GMLD	Gumuldur	0.06	304	ePg	Pg	15 32 01.5	-0.4
SMG	Samos	0.35	199	P	Pb	15 32 07.6	+0.6
SMG				S	Sn	15 32 14.8	-1.5
SMG				AML	AML	15 32 16.7	
	comp=E,291µm,0.4s						
SMG				AML	AML	15 32 22.9	
	comp=N,448µm,0.6s						
SMG	Samos	0.35	199	P	Pb	15 32 07.6	+0.6
SMG				S	Sn	15 32 14.4	-1.9
GCAM	G?zelcaml?	0.40	149	PG	Pb	15 32 07.9	+0.2
GCAM				SG	Sb	15 32 14.4	+0.8
GCAM	G?zelcaml?	0.40	149	i P	Pb	15 32 07.4	-0.3
GCAM				i S	Sb	15 32 13.8	+0.2
GCAM	G?zelcaml?	0.40	149	P	Pb	15 32 07.4	-0.3
GCAM	G?zelcaml?	0.40	149	ePg	Pb	15 32 07.9	+0.2
GCAM				S	Sb	15 32 13.8	+0.2
GCAM				eSg	Sb	15 32 14.4	+0.8
ZEY	˜zmir	0.42	298	i P	Pg	15 32 07.5	0.0
ZEY				i S	Sb	15 32 14.5	+0.1
URLA	Izmir	0.44	316	PG	Pg	15 32 07.1	-0.7
URLA	Izmir	0.44	316	i P	Pg	15 32 06.5	-1.3
URLA				i S	Sg	15 32 13.4	-0.4
URLA	Izmir	0.44	316	P	Pg	15 32 06.5	-1.3
URLA	Izmir	0.44	316	ePg	Pg	15 32 07.1	-0.7
URLA				S	Sg	15 32 13.4	-0.4
KRBN	Karaburun	0.65	329	PG	Pg	15 32 11.5	-0.1
KRBN	Karaburun	0.65	329	ePg	Pg	15 32 11.5	-0.1
CHOS	Chios island	0.81	296	PG	Pn	15 32 15.8	-0.1
CHOS				SG	Sn	15 32 28.3	+0.6
CHOS	Chios island	0.81	296	P	Pb	15 32 14.6	-0.2
CHOS				S	Sn	15 32 27.5	-0.1
CHOS				AML	AML	15 32 32.0	
	comp=N,498µm,0.4s						
CHOS				AML	AML	15 32 33.3	
	comp=E,491µm,0.4s						
CHOS	Chios island	0.81	296	P	Pb	15 32 15.1	+0.3
CHOS	Chios island	0.81	296	ePg	Pn	15 32 15.8	-0.1
CHOS				S	Sn	15 32 27.6	-0.1
CHOS				eSg	Sn	15 32 28.3	+0.6
AYDN	Tasoluk	0.81	118	i P	Pg	15 32 14.1	-0.6
AYDN				i S	Sn	15 32 27.9	+0.2
AYDN	Tasoluk	0.81	118	P	Pg	15 32 14.1	-0.6
AYDN				S	Sn	15 32 27.9	+0.2
AKHS	Akhisar	1.06	38	i P	Pb	15 32 19.1	0.0
AKHS				i S	Sb	15 32 32.5	-0.3
AKHS	Akhisar	1.06	38	P	Pb	15 32 19.1	0.0
AKHS				S	Sb	15 32 32.5	-0.3
PRK	Paraskevi	1.32	335	P	Pn	15 32 22.9	-0.1
PRK				S	Sg	15 32 43.5	+1.7
PRK				AML	AML	15 32 44.4	
	comp=N,196µm,0.5s						
PRK				AML	AML	15 32 47.6	
	comp=E,221µm,0.5s						
PRK	Paraskevi	1.32	335	P	Pb	15 32 23.5	0.0
PRK				S	Sg	15 32 42.9	+1.2
KULA	Kula-Manisa	1.40	70	PN	Pn	15 32 24.3	+0.2
KULA	Kula-Manisa	1.40	70	ePn	Pn	15 32 24.3	+0.2
STEP	BALIKESIR_Sava	1.45	23	i P	Pb	15 32 26.1	+0.3
STEP				i S	Sn	15 32 41.4	-2.2
STEP	BALIKESIR_Sava	1.45	23	P	Pb	15 32 26.1	+0.3
STEP				S	Sn	15 32 41.4	-2.2
SIGR	SIGRI	1.46	323	PN	Pg	15 32 26.8	-0.3
SIGR	SIGRI	1.46	323	P	Pg	15 32 27.1	0.0
SIGR				S	Sg	15 32 46.8	+0.6
SIGR				AML	AML	15 32 51.2	
	comp=N,184µm,0.5s						
SIGR				AML	AML	15 32 51.5	
	comp=E,100µm,0.4s						
SIGR	SIGRI	1.46	323	P	Pg	15 32 26.8	-0.3
SIGR				S	Sg	15 32 46.6	+0.4
BAYC	CANAKKALE_Bayr	1.73	349	i P	Pn	15 32 28.5	-0.1
BAYC				i S	Sn	15 32 51.0	+0.6
BAYC	CANAKKALE_Bayr	1.73	349	P	Pn	15 32 28.5	-0.1
BAYC				S	Sn	15 32 51.0	+0.6
KHAL	Karahalli	2.01	80	i P	Pb	15 32 36.3	+1.1
KHAL	Karahalli	2.01	80	P	Pb	15 32 36.3	+1.1

*ISCJB **02** 15:33:20.5±0.9, 28°.82S±0°.04×68°.91W±0°.04, h114km±9km, Error ellipse: s-maj=7.3km s-min=6.3km az=167.0*

*GUC **02** 15:33:20.5±0.4, 28°.81S×68°.93W, h123km±3km, ML3.1*

*SJA **02** 15:33:20.9±0.7, 28°.89S×68°.69W, h119km±6km, ML3.1, MW3.2*

ISC 02 15:33:21.2±1.6**, 28°.81S**±0°.05×**68°.92W**±0°.04**, h111**km±12km**, n13, σ0.56**/24**, 3C-1D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	Vinchina	0.64	83	eP	Pn	15 33 39.8	+0.5
VCA				eS	Sn	15 33 52.9	-0.1
VCA				IAML		15 33 54.0	
	comp=Z,1µm,0.4s						
VCA	Vinchina	0.64	83	eP	Pn	15 33 39.5	+0.2
VCA				i S	Sn	15 33 53.5	+0.5
AGUA	GUANDACOL	0.77	151	eP	Pn	15 33 40.2	-0.2
AGUA				eS	Sn	15 33 54.5	-0.4
LCO	Las Campanas	1.57	262	⇑iP	Pn	15 33 49.1	-0.1
LCO				eS	Sn	15 34 10.0	-0.4
LCO				IAML		15 34 11.2	
	comp=E,242nm,0.3s						
GO03	Copiap	1.68	316	eP	Pn	15 33 50.5	+0.2
GO03				eS	Sn	15 34 12.1	-0.3
GO04	Tololo Observa	2.12	230	⇑iP	Pn	15 33 56.2	+0.2
GO04				i S	Sn	15 34 22.4	-0.2
TLL	Tololo Astrono	2.12	230	⇓iP	Pn	15 33 56.1	+0.1
TLL				eS	Sn	15 34 22.4	-0.2
TLL				IAML		15 34 28.5	
	comp=E,98nm,0.4s						
RTLL	Cerro Villicun	2.54	171	eP	Pn	15 34 00.9	-0.3
CYA	Choya	2.77	83	⇑iP	Pn	15 34 04.6	+0.4
CYA				i S	Sn	15 34 36.2	-1.1
CYA				IAML		15 34 37.6	
	comp=E,53nm,0.4s						
RTLS	Leoncito	2.99	186	eP	Pn	15 34 08.0	+0.6
RTLS				eS	Sn	15 34 43.7	+0.7
RTLS				IAML		15 34 47.2	
	comp=Z,17nm,0.2s						
RTCV	Cerro Valdivia	3.06	174	eP	Pn	15 34 07.7	-0.3
RTCV				eS	Sn	15 34 42.7	-1.4
AUSP	Uspallata	3.42	187	eP	Pn	15 34 13.8	+0.8
AUSP				eS	Sn	15 34 53.7	+0.6
ASAL	Salagasta	3.77	179	eP	Pn	15 34 17.7	+0.2

*MOS **02** 16:00:24.2±0.8, 0°.16N×123°.49E, h125km, mb4.8/29, Error ellipse: s-maj=10.6km s-min=5.6km az=118.8*

*ISCJB **02** 16:00:27.3±0.3, 0°.13N±0°.03×123°.74E±0°.02, h154km±3km, mb4.7/109, Error ellipse: s-maj=5.1km s-min=3.2km az=24.7*

*NEIC **02** 16:00:27.6±0.6, 0°.14N×123°.63E, h142km±6km, mb4.7/26, Error ellipse: s-maj=6.2km s-min=4.4km az=65.0*

*IDC **02** 16:00:27.9±1.4, 0°.13N×123°.54E, h142km±12km, mb4.4/37, mb1 4.4/40, mb1mx4.4/53, mbtmp4.8/40, MS3.3/3, Ms1 3.4/3, ms1mx2.7/50, Error ellipse: s-maj=12.1km s-min=6.7km az=67.0*

*DJA **02** 16:00:30.0±0.2, 0°N±2°×12°4E±°, h104km±5km, M4.9/18, mb5.1/14, mB5.2/9, MLv5.2/18, Mw(mB)4.5/9*

*KLM **02** 16:00:36.8, 0°.39N×123°.91E, h230km, mb4.9*

ISC 02 16:00:28.3±0.5**, 0°.09N**±0°.04×**123°.70E**±0°.04**, h147**km±4km**, n233, σ1.52**/270**, mb4.7**/108**, 14C-8D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.56	31	P	Pn	16 00 50.1	+0.5
KMSI				S	Sn	16 01 06.1	+0.3
LUWI	Luwuk	1.46	219	P	Pn	16 00 56.0	-1.1
LUWI				S	Sn	16 01 16.2	-3.0
LUWI	Luwuk	1.46	219	ePn	Pn	16 00 56.3	-0.8
MRSI	Marisa	1.79	282	P	Pn	16 00 59.9	-0.9
APSI	Ampana	2.28	244	P	Pn	16 01 06.2	-0.3
APSI				S	Sn	16 01 34.6	-1.3
SANI	Sanana	3.13	133	P	Pn	16 01 14.8	-2.4
SANI				S	Sn	16 01 49.5	-5.5
TNTI	Ternate	3.73	80	ePn	Pn	16 01 25.0	0.0
MPSI	Mapaga	3.81	274	P	Pn	16 01 26.3	+0.4
MPSI				S	Sn	16 02 13.2	+2.6
LBMI	Labuha	3.87	101	P	Pn	16 01 25.9	-0.9
LBMI				S	Sn	16 02 09.6	-2.7
NLAI	Namlea	4.75	134	P	Pn	16 01 38.3	0.0
NLAI				S	Sn	16 02 30.4	-2.5
TTSI	Tana Toraja	4.97	231	P	Pn	16 01 41.7	+0.4
TTSI				S	Sn	16 02 36.0	-2.2
AAI	Ambon	5.86	130	P	Pn	16 01 53.8	+0.6
	304nm,0.6s,4µm2.6nm						
AAI				S	Sn	16 02 59.1	-0.3
	304nm,0.6s,4µm2.6nm						
AAI	Ambon	5.86	130	P	Pn	16 01 53.7	+0.6
AAI				pmax	pmax		
	comp=Z,287nm,0.6s						
MSAI	Masohi	6.25	123	P	Pn	16 01 59.1	+0.8
	comp=Z,105nm,0.8s,comp=Z,1µmcomp=Z,0.9nm						
MSAI				S	Sn	16 03 07.2	-1.5
	comp=Z,105nm,0.8s,comp=Z,1µmcomp=Z,0.9nm						
SMKI	Samarinda	6.51	265	P	Pn	16 02 03.2	+1.4
BKB	Balikpapan	6.93	259	P	Pn	16 02 08.7	+1.3
	comp=Z,269nm,0.6s,comp=Z,2µmcomp=Z,1.0nm						
BSSI	Bau Bau, Buton	6.97	207	P	Pn	16 02 10.4	+2.4
	comp=Z,254nm,0.9s,comp=Z,2µmcomp=Z,0.8nm						
MYLDM	Lahad Datu	7.24	314	⇓P	Pn	16 02 17.2	+5.6
SWI	Sorong	7.62	97	P	Pn	16 02 16.9	+0.2
	comp=Z,211nm,0.8s,comp=Z,2µmcomp=Z,0.7nm						
SWI				S	Sn	16 03 41.2	-0.6
	comp=Z,211nm,0.8s,comp=Z,2µmcomp=Z,0.7nm						
SWI	Sorong	7.62	97	P	Pn	16 02 17.1	+0.4
SWI				pmax	pmax		
	comp=Z,208nm,0.9s						
SIJI	Sorong	7.63	97	P	Pn	16 02 17.2	+0.4
	comp=Z,13nm,0.3s,baz=305,slow=9.7,SNR=86						
SIJI				S	Sn	16 03 43.1	+1.1
	comp=Z,6.9nm,0.3s,baz=229,slow=19,SNR=3.0						
BNDI	Bandanaira	7.71	127	P	Pn	16 02 18.2	+0.3
	comp=Z,297nm,1.1s,comp=Z,3µmcomp=Z,1.7nm						
BNDI				S	Sn	16 03 43.3	-0.7
	comp=Z,297nm,1.1s,comp=Z,3µmcomp=Z,1.7nm						
KBKI	Kotabaru	8.24	246	P	Pn	16 02 27.8	+2.8
	comp=Z,49nm,0.7s						
SDKM	Sandakan	8.51	310	⇓P	Pn	16 02 33.8	+5.1
MTKI	Muara Teweh, K	8.86	263	P	Pn	16 02 34.9	+1.7
	comp=Z,35nm,0.6s						
FAKI	Fak Fak	9.06	109	P	Pn	16 02 34.8	-1.1
	comp=Z,63nm,0.8s						
FAKI				S	Sn	16 04 12.2	-4.3
	comp=Z,63nm,0.8s						
FAKI	Fak Fak	9.06	109	ePn	Pn	16 02 35.4	-0.6
FAKI				eSn	Sn	16 04 12.1	-4.4
KKM	Kota Kinabalu	9.52	309	ePn	Pn	16 02 47.6	+5.5
KDM	Kudat	9.63	315	⇓P	Pn	16 02 52.3	+8.8
SOEI	Soe	9.80	177	P	Pn	16 02 54.9	+9.0
SOEI	Soe	9.80	177	ePn	Pn	16 02 45.8	0.0
BATI	Baumata	10.23	180	P	Pn	16 02 52.9	+1.3
	comp=Z,1.1nm,0.3s,baz=90,slow=1.0,SNR=3.0						
BATI	Baumata	10.23	180	P	Pn	16 03 02.9	+11
SAUI	Saumlaki	11.04	137	P	Pn	16 03 03.2	+1.1
SAUI	Saumlaki	11.04	137	ePn	Pn	16 03 01.5	-0.6
SBUM	Sibu	11.71	282	⇑P	P	16 03 22.1	+3.9
KMMI	Kalianget	12.02	234	P	P	16 03 23.2	+1.5
STKI	Sintang	12.22	270	P	P	16 03 21.7	-2.2
KSM	Kuching	13.46	276	⇑P	P	16 03 40.3	+2.6
TGY	Tagaytay City	14.19	349	P	P	16 03 45.9	+0.1
	comp=Z,57nm,0.3s,baz=259,slow=5.0,SNR=5.1						
MTN	Manton Dam	14.82	150	ePn	Pn	16 03 50.2	-0.5
FITZ	Fitzroy Crossi	18.18	174	P	P	16 04 30.4	+0.6
	comp=Z,5.2nm,0.3s,baz=6.8,slow=11,SNR=90						
FITZ	Fitzroy Crossi	18.18	174	eP	P	16 04 30.2	+0.4
	comp=Z,46nm,1.1s						
MYKOM	Kota Tinggi	19.91	275	eP	P	16 04 48.8	+0.1
	comp=Z,23nm,0.7s						
KGM	Kluang	20.46	275	⇓P	Pn	16 04 57.9	-0.6
MBWA	Marble Bar	21.47	190	eP	P	16 05 05.8	+0.4
	comp=Z,16nm,1.1s						
WRAB	Tennant Creek	22.47	153	eP	P	16 05 14.9	-0.7
	comp=Z,32nm,1.0s						
WRAB	Tennant Creek	22.47	153	⇓eP	P	16 05 15.0	-0.6
WRAB				pmax	pmax		
	comp=Z,85nm,1.2s						
WRA	Warramunga Arr	22.48	153	P	P	16 05 15.6	0.0
	comp=Z,16nm,0.4s,baz=335,slow=10,SNR=294						
WRA				ScP	ScP	16 12 28.6	-0.2
	comp=Z,2.0nm,0.8s,baz=336,slow=2.9,SNR=7.6						
WRA	Warramunga Arr	22.48	153	i P	P	16 05 15.1	-0.5
WRA				pmax	pmax		
	comp=Z,21nm,0.4s						
IPM	Ipoh	23.06	281	⇑P	P	16 05 22.7	+1.6
IPM	Ipoh	23.06	281	eP	P	16 05 19.7	-1.5
	comp=Z,33nm,0.9s						
TPUB	Ta-pu	23.26	353	eP	P	16 05 18.8	-4.1
	comp=Z,47nm,0.8s						
KULM	Kulim	23.58	283	⇑P	P	16 05 28.2	+2.3
SSLB	Suanglung	23.70	354	eP	P	16 05 25.3	-1.6
	comp=Z,26nm,0.9s						
COEN	Coen	23.81	127	eP	P	16 05 28.6	+0.6
	comp=Z,33nm,0.6s						
CHBT	CHBT	24.64	302	P	P	16 05 43.1	+7.7
	comp=Z,449nm,0.7s,comp=Z,67µm						
PSI	Prapat	24.91	276	P	P	16 05 52.7	+15
	comp=Z,17nm,0.8s,baz=97,slow=5.8,SNR=11						
PSI	Prapat	24.91	276	eP	P	16 05 35.8	-2.3
	comp=Z,19nm,0.8s						
PSI	Prapat	24.91	276	eP	P	16 05 35.8	-2.3
PSI				pmax	pmax		
	comp=Z,19nm,0.8s						
PMG	Port Moresby	25.19	113	P	P	16 05 41.5	+1.0
	comp=Z,23nm,0.8s,baz=309,slow=9.1,SNR=9.6						
PMG	Port Moresby	25.19	113	eP	P	16 05 38.1	-2.4
	comp=Z,32nm,1.0s						
PMG	Port Moresby	25.19	113	⇓iP	P	16 05 41.7	+1.2
PMG				pmax	pmax		

comp=Z,135nm,1.0s
AS31 Alice Springs 25.61 158 *e*P **P** **16 05 45.3 +1.1**
comp=Z,4.4nm,0.6s
ASAR Alice Springs 25.61 158 P **P** **16 05 44.9 +0.7**
comp=Z,6.6nm,0.5s,baz=336,slow=10.0,SNR=126
ASAR PcP **PcP** **16 09 12.4 +1.0**
comp=Z,3.2nm,0.5s,baz=340,slow=2.2,SNR=7.6
ASAR S **S** **16 10 03.0 +1.4**
comp=Z,2.0nm,0.9s,baz=346,slow=21,SNR=4.4
ASAR ScP **ScP** **16 12 37.5 +0.1**
comp=Z,1.5nm,0.8s,baz=331,slow=2.1,SNR=7.9
AS01 Alice Springs 25.63 158 *e*P **P** **16 05 45.5 +1.1**
AS01 *e*PcP **PcP** **16 09 12.3 +0.8**
SKNT Sakolnakorn 25.66 312 P **P** **16 05 46.0 +1.3**
comp=Z,15nm,0.8s
KHON Khomkaen 26.16 309 P **P** **16 05 50.2 +1.0**
comp=Z,20nm,0.6s,comp=Z,4µm
NAYO Nakonayok 26.26 304 P **P** **16 05 52.8 +2.7**
comp=Z,66nm,1.2s
CHAI Chaiyaphum 26.57 307 P **P** **16 05 53.6 +0.7**
comp=Z,12nm,0.8s,comp=Z,152nm
PHET Kaeng Krachan 27.04 299 P **P** **16 06 00.3 +3.2**
comp=Z,11nm,0.9s
UTHA Uthaitani 28.45 304 P **P** **16 06 11.7 +2.0**
comp=Z,15nm,0.8s,comp=Z,11nm
PHIT Phitsanulok 28.53 308 P **P** **16 06 11.7 +1.4**
comp=Z,18nm,1.0s
PHRA Phrae 29.43 310 P **P** **16 06 20.0 +1.7**
comp=Z,96nm,0.8s
CTA Charters Tower 29.84 134 P **P** **16 06 23.7 +1.8**
comp=Z,5.4nm,0.9s,baz=312,slow=10,SNR=5.8
LAMP Lampang 29.90 309 P **P** **16 06 24.1 +1.6**
comp=Z,6.3nm,0.6s
CM01 Chiang Mai Arr 30.37 308 *e*P **P** **16 06 27.1 +0.5**
CMAR Chiang Mai Arr 30.40 308 P **P** **16 06 27.4 +0.5**
comp=Z,7.5nm,0.8s,baz=138,slow=7.3,SNR=44
CMAR PcP **PcP** **16 09 24.5 +1.2**
comp=Z,5.1nm,0.8s,baz=170,slow=1.8,SNR=21
CMAR ScP **ScP** **16 12 53.2 +1.0**
comp=Z,0.3nm,0.3s,baz=190,slow=1.6,SNR=4.0
CMAR LR LR 16 18 55.9
comp=Z,45nm,21.1s,baz=198,slow=37
CHTO Chiang Mai 30.60 309 P **P** **16 06 29.6 +0.9**
comp=Z,98nm,0.9s
CHTO Chiang Mai 30.60 309 *e*P **P** **16 06 27.5 -1.2**
comp=Z,19nm,0.9s
CHTO **Chiang Mai 30.60 309** *e*P **P** **16 06 27.5 -1.2**
CHTO pmax pmax
comp=Z,19nm,0.9s
GYA Guiyang 30.93 329 P **P** **16 06 33.4 +1.9**
GYA pP pP 16 07 04.8 +2.0
GYA sP sP 16 07 22.0 +2.3
GYA PP **PP** **16 07 41.6 -2.7**
GYA PcP **PcP** **16 09 26.0 +1.4**
GYA S **S** **16 11 27.5 +2.3**
GYA sS sS 16 12 22.0 +1.9
GYA ScP **ScP** **16 12 54.2 +0.3**
GYA ScS **ScS** **16 16 49.6 -1.7**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.8s
CMAI Chiengmai2 31.17 311 P **P** **16 06 35.1 +1.3**
comp=Z,438nm,0.8s,comp=Z,67µm
KMI Kunming 32.09 322 P **P** **16 06 44.3 +2.4**
KMI pmax pmax
comp=Z,10.0nm,1.1s
NJ2 Nanjing 32.12 352 *e*P **P** **16 06 42.8 +1.1**
NJ2 pmax pmax
comp=Z,21nm,0.5s
CBIJ Chichi jima 32.20 32 *e*P **P** **16 06 42.4 -0.2**
comp=Z,220nm,0.4s
JCJ Chichijima 32.20 32 P **P** **16 06 42.4 -0.1**
comp=Z,167nm,0.4s,baz=263,slow=8.1
ENH Enshi 32.92 337 *e*P **P** **16 06 48.1 -0.7**
comp=Z,21nm,0.9s
NWAO Narrogin (SRO) 33.40 190 P **P** **16 06 52.9 0.0**
comp=Z,3.2nm,0.4s,baz=252,slow=8.3,SNR=9.2
JNU Nakatsue 33.54 11 P **P** **16 06 53.4 -0.9**
comp=Z,12nm,0.9s,baz=30,slow=4.2,SNR=5.8
CD2 Chengdu 36.02 330 P **P** **16 07 16.7 +1.2**
CD2 pP pP 16 07 48.2 +0.9
CD2 sP sP 16 08 05.1 +1.0
CD2 S **S** **16 12 46.2 +2.5**
CD2 sS sS 16 13 42.0 +2.7
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,130nm,5.0s
STKA Stephens Creek 36.03 154 P **P** **16 07 16.9 +1.4**
comp=Z,29nm,0.6s,baz=329,slow=8.5,SNR=60
STKA PcP **PcP** **16 09 39.3 +0.5**
comp=Z,1.8nm,0.5s,baz=350,slow=11,SNR=2.3
STKA ScP **ScP** **16 13 11.8 +0.3**
comp=Z,4.2nm,0.8s,baz=344,slow=3.3,SNR=4.8
STKA Stephens Creek 36.03 154 *e*P **P** **16 07 16.9 +1.4**
comp=Z,5.9nm,0.6s
STKA PcP **PcP** **16 09 39.3 +0.5**
STKA ScP **ScP** **16 13 11.8 +0.3**
STKA Stephens Creek 36.03 154 *e*P **P** **16 07 16.9 +1.4**
STKA 16 09 39.3
STKA pmax pmax
comp=Z,6.0nm,0.6s
XAN Xi'an 36.50 339 P **P** **16 07 19.9 +0.3**
XAN pP pP 16 07 52.6 +1.2
XAN sP sP 16 08 06.0 -2.2
XAN pmax pmax
comp=Z,10.0nm,1.0s
XAN pmax pmax
comp=Z,79nm,4.8s
INU Inuyama 37.21 18 *e*P **P** **16 07 25.9 +0.4**
comp=Z,80nm,1.7s
HNR Honiara 37.31 106 P **P** **16 07 27.0 +0.4**
comp=Z,42nm,0.6s,baz=187,slow=8.1,SNR=3.4
KSAR Wonju Array Be 37.37 5 P **P** **16 07 27.3 +0.6**
KSRS Korea Array 37.38 6 P **P** **16 07 27.3 +0.5**
comp=Z,3.7nm,0.8s,baz=186,slow=10,SNR=7.8
MAJO Matsushiro 38.69 19 *e*P **P** **16 07 37.5 -0.4**
comp=Z,14nm,0.8s
MAJO Matsushiro 38.69 19⇑ *i*P **P** **16 07 37.6 -0.3**
MAJO pmax pmax
comp=Z,15nm,0.7s
MAT Matsushiro 38.69 19 P **P** **16 07 37.1 -0.8**
MJAR Matsushiro Arr 38.69 19 P **P** **16 07 37.4 -0.5**
comp=Z,17nm,0.7s,baz=193,slow=9.5,SNR=42
MJAR PcP **PcP** **16 09 48.1 +1.2**
comp=Z,1.0nm,0.7s,baz=145,slow=4.6,SNR=4.3
MJB9 Matsu-Tunnel 38.69 19 *e*P **P** **16 07 37.3 -0.6**
comp=Z,14nm,0.7s
LZH Lanzhou 40.29 335 *e*P **P** **16 07 53.2 +1.9**
LZH pP pP 16 08 26.2 +2.6
LZH sP sP 16 08 41.2 +0.9
LZH *e*PP **PnPn** **16 09 31.1 -1.2**
LZH PcP **PcP** **16 09 53.3 +1.1**
LZH pmax pmax
comp=Z,22nm,0.9s
LZH pmax pmax
comp=Z,130nm,4.0s
BJI Beijing 40.35 351 P **P** **16 07 53.0 +1.5**
BJI pmax pmax
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 42.04 346 *e*P **P** **16 08 08.5 +3.0**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.1s
CAN Canberra 42.41 149 *e*P **P** **16 08 06.5 -2.0**
comp=Z,26nm,0.7s
CAN Canberra 42.41 149 *e*P **P** **16 08 06.5 -2.0**
CAN pmax pmax
comp=Z,26nm,0.7s
LSA Lhasa 42.76 316 *e*P **P** **16 08 10.2 -1.7**
comp=Z,7.8nm,0.5s
LSA Lhasa 42.76 316 *e*P **P** **16 08 10.2 -1.7**
LSA pmax pmax
comp=Z,8.0nm,0.5s
PALK Pallekele 43.46 280 PcP **PcP** **16 10 03.6 +0.6**
comp=Z,1.1nm,0.5s,baz=232,slow=1.2,SNR=4.1
TAPN Taplejung 43.91 311 *e*P **P** **16 08 21.0 0.0**
comp=Z,31nm,0.8s
USRK Ussuriysk Ar. 44.53 9 P **P** **16 08 25.8 +0.5**
comp=Z,7.2nm,0.3s,baz=190,slow=6.3,SNR=43
RAMN Ramite 44.54 310 *e*P **P** **16 08 26.3 +0.3**
comp=Z,55nm,0.6s
MDJ Mudanjiang 44.64 6 *e*P **P** **16 08 24.6 -1.5**
comp=Z,14nm,0.8s

GTA Gaotai 44.81 334 *e*P **P** **16 08 29.0 +1.2**
GTA pP pP 16 09 02.4 +1.7
GTA sP sP 16 09 17.6 +0.4
GTA PcP **PcP** **16 10 08.3 +1.1**
GTA pmax pmax
comp=Z,10.0nm,1.2s
JIRN Jiri 45.22 310 *e*P **P** **16 08 31.4 -0.1**
comp=Z,25nm,0.3s
GUN Gumba 45.58 311 *e*P **P** **16 08 34.2 -0.1**
comp=Z,69nm,0.6s
PKI Pulchoki 45.77 310 *e*P **P** **16 08 35.7 -0.1**
comp=Z,23nm,0.8s
PKIN Phulchoki 45.78 310 *e*P **P** **16 08 35.7 -0.1**
comp=Z,8.8nm,0.4s
KKN Kakani 45.98 310 *e*P **P** **16 08 37.5 +0.2**
comp=Z,28nm,0.8s
DMN Daman 46.02 310 *e*P **P** **16 08 37.9 +0.2**
comp=Z,46nm,1.0s
TEY Ternei 46.19 13 *e*P **P** **16 08 40.0 +1.7**
TEY pmax pmax
comp=Z,32nm,0.7s
ASAJ Asahikawa 46.96 19 P **P** **16 08 44.9 +0.6**
comp=Z,13nm,0.6s,baz=229,slow=9.2,SNR=29
ASAJ Asahikawa 46.96 19 *e*P **P** **16 08 45.2 +0.9**
DZM Mont Dzumac 47.11 121 P **P** **16 08 47.7 +1.6**
comp=Z,3.7nm,0.9s,baz=151,slow=23,SNR=3.6
KOLN Koldanda 47.27 309 *e*P **P** **16 08 47.3 0.0**
comp=Z,63nm,0.8s
DANN Dangsing 47.42 310 *e*P **P** **16 08 48.8 +0.2**
comp=Z,3.8nm,0.9s
HYB Hyderabad 47.63 294 *i* P **P** **16 08 51.0 +0.9**
HYB *e*pP **pP** **16 09 26.0 +2.7**
PYUN Piuthan 47.90 309 *e*P **P** **16 08 52.5 +0.3**
comp=Z,98nm,0.9s
KLR Kul'dur 49.44 7 P **P** **16 09 03.1 -0.1**
comp=Z,0.5nm,0.6s,baz=205,slow=5.0,SNR=26
KLR Kul'dur 49.44 7*c i*P **P** **16 09 03.0 -0.3**
YSS Yuzh-Sakhalins 49.56 17 *e*P **P** **16 09 03.8 -0.4**
comp=Z,8.3nm,0.6s
YSS Yuzh-Sakhalins 49.56 17⇓ *i*P **P** **16 09 04.9 +0.7**
YSS pmax pmax
comp=Z,27nm,1.4s
ULN Ulaanbaatar 49.73 345 *e*P **P** **16 09 05.7 0.0**
ULN Ulaanbaatar 49.73 345⇑ *i*P **P** **16 09 05.6 -0.2**
ULN pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 49.88 345 P **P** **16 09 06.6 -0.2**
comp=Z,5.2nm,0.7s,baz=159,slow=8.7,SNR=45
SONM PcP **PcP** **16 10 25.1 0.0**
comp=Z,1.9nm,0.6s,baz=165,slow=4.4,SNR=8.1
SONM LR LR 16 31 37.0
comp=Z,31nm,20.0s,baz=210,slow=38
SONA1 Songino Array 49.88 345 *e*P **P** **16 09 06.6 -0.3**
GRNR Gornyy 51.64 10 *e*P **P** **16 09 20.9 +1.1**
GRNR pmax pmax
comp=Z,52nm,1.0s
ZAK Zakamensk 53.04 344 *e*P **P** **16 09 28.8 -1.5**
ZAK pmax pmax
comp=Z,1.0nm,0.9s
TYV Tymovskoe 53.09 15 *e*P **P** **16 09 31.9 +1.5**
TYV pmax pmax
comp=Z,7.0nm,0.9s
WMQ Urumqi 54.08 328 P **P** **16 09 38.9 +1.0**
WMQ pmax pmax
comp=Z,48nm,0.7s
WMQ pmax pmax
comp=Z,190nm,4.9s
TLY Talaya 54.12 345 *e*P **P** **16 09 37.8 -0.2**
TLY pmax pmax
comp=Z,5.0nm,0.7s
NKL Nikolayevsk 54.74 12 *i* P **P** **16 09 43.0 +0.7**
NKL pmax pmax
comp=N,13nm,0.9s
NKL pmax pmax
comp=Z,33nm,0.9s
MOY Mondy 54.84 343 *e*P **P** **16 09 43.9 +0.6**
BOD Bodaibo 58.07 354 *e*P **P** **16 10 05.0 -0.9**
BOD pmax pmax
comp=Z,7.0nm,1.1s
PDGK Podgornoye 58.39 323 P **P** **16 10 08.0 -0.5**
PDGK pmax pmax
comp=Z,16nm,1.0s
KSH Kashi 58.57 318 P **P** **16 10 10.4 +0.5**
KSH sP sP 16 10 59.7 -0.8
KSH PP **PP** **16 12 22.5 +1.3**
KSH S **S** **16 17 57.6 -5.0**
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH pmax pmax
comp=Z,96nm,7.5s
KSH LR LR
comp=Z,82nm,6.0s
KSH LR LR
comp=Z,95nm,6.1s
KSH LR LR
comp=Z,95nm,6.4s
MK01 Makanchi Array 58.88 328 *e*P **P** **16 10 11.2 -0.6**
MK31 Makanchi Array 58.90 328 *e*P **P** **16 10 11.6 -0.3**
MK31 Makanchi Array 58.90 328 *e*P **P** **16 10 11.6 -0.3**
MKAR Makanchi Array 58.90 328 P **P** **16 10 11.6 -0.4**
comp=Z,22nm,0.6s,baz=123,slow=8.3,SNR=214
MKAR PcP **PcP** **16 10 59.1 -0.5**
comp=Z,8.6nm,0.4s,baz=169,slow=2.9,SNR=23
MAKZ Makanchi 59.08 328 P **P** **16 10 12.5 -0.6**
MAKZ pmax pmax
comp=Z,10.0nm,0.6s
PETK Petropavlovsk- 59.93 23 P **P** **16 10 20.3 +1.5**
comp=Z,13nm,0.7s,baz=212,slow=3.2,SNR=61
KZA Kyzart 60.34 320 P **P** **16 10 22.6 +0.3**
SNR=14
TKM2 Tokmak 2 60.55 321 P **P** **16 10 23.6 +0.1**
SNR=21
TKM2 Tokmak 2 60.55 321 P **P** **16 10 23.1 -0.4**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
UCH Uchtor 60.88 320 P **P** **16 10 26.5 +0.4**
SNR=6.9
AAK Ala-Archa 61.10 320 P **P** **16 10 27.8 +0.6**
SNR=6.3
AAK Ala-Archa 61.10 320 P **P** **16 10 26.4 -0.8**
comp=Z,4.3nm,0.6s
AAK Ala-Archa 61.10 320 P **P** **16 10 27.2 0.0**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AML Almayashu 61.37 320 P **P** **16 10 28.6 -0.7**
SNR=8.5
KBL Kabul 61.41 310 *e*P **P** **16 10 28.3 -1.2**
KBL Kabul 61.41 310 *e*P **P** **16 10 28.3 -1.2**
EKS2 Erkin-Say 61.57 320 P **P** **16 10 30.6 +0.3**
SNR=8.9
YAK Yakutsk 61.95 3 *e*P **P** **16 10 30.1 -2.1**
comp=Z,69nm,0.8s
YAK Yakutsk 61.95 3 *e*P **P** **16 10 32.1 -0.1**
YAK pmax pmax
comp=Z,51nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
URZ Urewera 62.08 134 P **P** **16 10 34.1 +0.5**
comp=E,29nm,1.1s,baz=249,slow=5.7,SNR=7.2
MNAS Manas 62.31 319 P **P** **16 10 35.1 -0.2**
MNAS pmax pmax
comp=Z,9.0nm,1.1s
ZALV Zalesovo Beam 62.52 335 P **P** **16 10 34.5 -1.7**
comp=Z,5.9nm,0.6s,baz=122,slow=6.2,SNR=29
ZALV PcP **pP** **16 11 12.0 +0.9**
comp=Z,2.0nm,0.4s,baz=128,slow=4.1,SNR=5.9
MA2 Magadan 62.96 15*c i*P **P** **16 10 40.3 +1.3**
KURK Kurchatov 63.24 330 *e*P **P** **16 10 40.4 -0.7**
KURK Kurchatov 63.24 330 *e*P **P** **16 10 40.4 -0.7**
NVS Novosibirsk 63.81 335 *e*P **P** **16 10 43.5 -1.1**
NVS *e* 16 11 17.2
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,9.0nm,0.8s
NVS pmax pmax
comp=Z,15nm,0.8s
OTUK Ortayu 65.25 325 P **P** **16 10 51.0 -3.3**
OTUK pmax pmax
comp=Z,9.0nm,0.8s
AFI Afiamalu 65.34 105 LR LR 16 40 36.1
comp=Z,24nm,18.9s,baz=221,slow=37
WSAR Wadi Sarin 67.14 295 P **P** **16 11 06.1 -0.7**
comp=Z,3.9nm,0.6s,baz=127,slow=3.4,SNR=7.7

BVAR Borovoye Array 68.76 329 P **P** **16 11 15.2 -1.1**
comp=Z,6.2nm,0.7s,baz=133,slow=8.9,SNR=37
BRVK Borovoye 68.83 329 *e*P **P** **16 11 12.6 -4.2**
comp=Z,19nm,0.8s
BRVK Borovoye 68.83 329⇓ *e*P **P** **16 11 15.4 -1.3**
BRVK pmax pmax
comp=Z,24nm,1.0s
GEYT Alibeck 70.86 310 P **P** **16 11 28.6 -0.9**
comp=Z,2.9nm,0.7s,baz=145,slow=5.4,SNR=8.1
GEYT PcP **PcP** **16 11 49.0 -0.2**
comp=Z,2.2nm,0.6s,baz=182,slow=4.3,SNR=4.8
TIXI Tiksi 71.52 2*c i*P **P** **16 11 31.8 -0.9**
TIXI pmax pmax
comp=Z,12nm,0.5s
AB31 Akbulak array 73.08 322 P **P** **16 11 41.1 -1.3**
AB31 pmax pmax
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 73.08 322 *e*P **P** **16 11 40.1 -2.4**
comp=Z,2.9nm,0.4s
BILL Bilibino 73.83 15⇑ *i*P **P** **16 11 46.1 -0.3**
BILL *e* 16 14 35.2
BILL *e*PPP PPP 16 16 23.2
BILL *e*S **SKiKP** **16 21 00.0 -0.7**
BILL pmax pmax
comp=Z,3.0nm,0.5s
AKTO Aktyubinsk 74.66 323 P **P** **16 11 50.5 -1.1**
comp=Z,7.0nm,0.5s,baz=102,slow=7.9,SNR=24
SVE Sverdlovsk 75.50 330⇑ *i*P **P** **16 11 55.5 -0.7**
SVE pmax pmax
comp=Z,20nm,0.9s
ARU Arti 76.41 329 *e*P **P** **16 11 57.0 -4.5**
comp=Z,14nm,0.9s
ARU Arti 76.41 329*c i*P **P** **16 11 59.8 -1.6**
ARU *PP **pP** **16 12 33.7 -4.0**
ARU 16 14 47.8
ARU S **S** **16 21 33.6 -1.0**
ARU SS **SS** **16 26 28.5 -3.8**
ARU pmax pmax
comp=Z,15nm,1.0s
GAMB Gambell 78.93 24 *e*P **P** **16 12 15.9 +0.7**
comp=Z,9.0nm,0.9s
VNDA Vanda 80.24 172 P **P** **16 12 22.8 +0.7**
comp=Z,1.6nm,0.8s,baz=346,slow=9.2,SNR=4.1
KBZ Khabaz 83.28 314 P **P** **16 12 37.2 -1.5**
comp=Z,2.4nm,0.7s,baz=103,slow=6.8,SNR=6.2
VRH Novokhopyorsk 84.89 321 *e*P **P** **16 12 45.1 -1.5**
VRH pmax pmax
comp=Z,20nm,1.2s
KMBO Kilima Mbogo 86.44 269 P **P** **16 12 53.9 -1.6**
comp=Z,2.2nm,0.6s,baz=61,slow=9.5,SNR=6.8
VSR Storozhevoye 86.49 321 *e*P **P** **16 12 52.9 -1.7**
VSR pmax pmax
comp=Z,20nm,0.7s
KDAK Kodiak Island 86.56 32 *i* P **P** **16 12 55.9 +1.2**
LPSR Galich'ya Gora 86.74 323 *e*P **P** **16 12 54.6 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 87.07 331 *e*P **P** **16 12 54.5 -2.6**
KLMR pmax pmax
comp=Z,16nm,0.5s
KLMR Klimovskoe 87.07 331 *e*P **P** **16 12 54.6 -2.6**
KLMR AMP 16 12 57.3
comp=Z,16nm,0.5s
ASF Jabal al Asfar 87.24 302 P **P** **16 12 58.4 -0.4**
comp=Z,4.0nm,0.7s,baz=23,slow=13,SNR=7.1
OBN Obninsk 88.27 325⇑ *e*P **P** **16 13 00.8 -2.2**
OBN *e* 16 16 31.2
OBN *e*PPP PPP 16 18 24.9
OBN pmax pmax
comp=Z,13nm,0.5s
MMAI Mount Meron Ar 88.52 303 P **P** **16 13 04.5 -0.3**
comp=Z,3.1nm,0.6s,baz=84,slow=5.9,SNR=7.1
ILAR Eielson Array 89.67 25 P **P** **16 13 08.3 -1.1**
comp=Z,1.1nm,0.6s,baz=244,slow=4.9,SNR=28
BRTR Keskin Array B 89.98 310 P **P** **16 13 09.8 -1.8**
comp=Z,2.5nm,0.8s,baz=120,slow=7.3,SNR=10
AKASG Malin Array Be 92.77 321 P **P** **16 13 22.0 -2.0**
comp=Z,2.1nm,0.4s,baz=68,slow=5.1,SNR=19
AKASG Malin Array Be 92.77 321 P **P** **16 13 22.0 -2.0**
KIEV Kiev 92.78 321⇑ *e*P **P** **16 13 21.8 -2.3**
KIEV pmax pmax
comp=Z,15nm,2.2s
ARCES ARCESS Array B 92.78 340 P **P** **16 13 22.0 -1.7**
comp=Z,6.0nm,0.6s,baz=82,slow=6.4,SNR=24
SPITS Spitsbergen Ar 93.43 349 P **P** **16 13 25.3 -1.3**
comp=Z,6.8nm,0.6s,baz=142,slow=7.2,SNR=33
FINES FINESS Array B 93.57 331 P **P** **16 13 25.5 -1.9**
comp=Z,1.9nm,0.5s,baz=63,slow=4.9,SNR=16
FINES PKiKP **PKiKP** **16 18 12.8 +0.5**
comp=Z,0.9nm,0.5s,baz=126,slow=3.3,SNR=6.3
INK Inuvik 94.63 21 P **P** **16 13 32.5 +0.3**
comp=Z,3.1nm,0.5s,baz=316,slow=3.1,SNR=14
LVV 96.17 320 *e*P **P** **16 13 42.4 +2.8**
BOSA Boshof 97.46 241 P **P** **16 13 45.6 -0.5**
comp=Z,1.4nm,0.7s,baz=210,slow=2.6,SNR=3.0
CRVS Cervenica-Dubn 97.97 319 *e*P Pdif 16 13 47.9 +0.1
CRVS Cervenica-Dubn 97.97 319 *e*PDIFF Pdif 16 13 47.9 +0.1
STHS Stebnicka Huta 98.02 320 *e*P **P** **16 13 47.7 -0.3**
STHS Stebnicka Huta 98.02 320 *e*PDIFF **P** **16 13 47.7 -0.3**
HFS Hagfors 99.78 331 P **Pdif** **16 13 53.5 -2.1**
comp=Z,2.6nm,0.5s,baz=100,slow=4.4,SNR=28
NB2 NORSAR Subarra100.64 333 P **Pdif** **16 13 57.2 -2.3**
comp=Z,0.7nm,0.4s,baz=73,slow=4.6
NOA NORSAR Array B 100.64 333 P **Pdif** **16 13 57.3 -2.1**
comp=Z,1.2nm,0.6s,baz=73,slow=4.7,SNR=4.9
GERES GERESS Array B 102.98 320 P **Pdif** **16 14 08.7 -1.6**
comp=Z,0.3nm,0.5s,baz=357,slow=6.4,SNR=3.2
YKA Yellowknife Ar 104.04 24 Pdiff **Pdif** **16 14 14.8 +0.4**
comp=Z,0.3nm,0.7s,baz=301,slow=4.8,SNR=6.0
YKA PKiKP **PKiKP** **16 18 31.0 +0.1**
comp=Z,0.1nm,0.3s,baz=304,slow=1.9,SNR=3.6
PDAR Pinedale Array 116.07 41 PKP **PKPdf** **16 18 55.3 +0.8**
comp=Z,0.3nm,0.5s,baz=22,slow=2.9,SNR=3.4
ESDC Sonseca Array 118.07 316 PKP **PKPdf** **16 18 57.5 -0.8**
comp=Z,0.3nm,0.4s,baz=30,slow=2.6,SNR=3.7
ULM Lac du Bonnet 119.58 28 PKP **PKPdf** **16 19 00.4 -0.4**
comp=Z,1.5nm,0.5s,baz=14,slow=1.4,SNR=6.2
TORD Torodi Ar. Bea 121.05 285 PKP **PKPdf** **16 19 03.9 -0.7**
comp=Z,4.1nm,0.7s,baz=66,slow=1.9,SNR=28
TXAR Lajitas Array 126.20 53 PKP **PKPdf** **16 19 14.6 +0.4**
comp=Z,0.4nm,0.7s,baz=181,slow=0.8,SNR=5.0
KOWA Kowa 126.30 288 PKP **PKPdf** **16 19 14.3 -0.3**
comp=Z,1.9nm,0.7s,baz=42,slow=6.2,SNR=5.6
DBIC Dimbokro 128.23 279 PKP **PKPdf** **16 19 18.6 +0.3**
comp=Z,3.1nm,0.8s,baz=25,slow=1.6,SNR=4.2
JTS JuntasAbangare 149.70 69 PKPbc **PKPbc** **16 20 02.8 +0.9**
comp=Z,4.4nm,0.4s,baz=326,slow=8.0,SNR=3.6
CPUP Villa Florida 153.90 178 PKPbc **PKPbc** **16 20 11.7 +0.6**
comp=Z,0.9nm,0.4s,baz=60,slow=2.3,SNR=3.8
LPAZ La Paz 160.12 145 PKP **PKPdf** **16 20 13.5 +1.6**
comp=Z,0.5nm,0.5s,baz=226,slow=3.5,SNR=3.8

ISK ***02*** *16:03:58.3,39.°08N×29.°13E,h9km,ML2.6/5*
ISCJB ***02*** *16:03:59.1±0.5,39.°11N±0.°04×29.°05E±0.°03,h3km±7km, Error ellipse: s-maj=6.5km s-min=3.7km az=153.1*
DDA ***02*** *16:03:59.1,39.°12N×29.°07E,h7km,Ml2.6*
CSEM ***02*** *16:03:59.2±0.1,39.°13N×29.°06E,h5km,ML2.6, Error ellipse: s-maj=3.4km s-min=2.4km az=152.0*

ISC 02 16:03:59.2±0.9, 39.°13N±0.°03×29.°05E±0.°02, h8km±7km, n23,σ0°35/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.07**	**230**		PG	**Pg**	**16 04 01.3**	**+0.1**
SIMA	**Simav-Kutahya**	**0.07**	**230**	*e*Pg		**Pg**	**16 04 01.3**	**+0.1**
DEMI	**Demirci**	**0.27**	**252**	*i* P		**Pg**	**16 04 04.6**	**0.0**
DEMI				*i* S		**Sg**	**16 04 08.1**	**-0.2**
DEMI	**Demirci**	**0.27**	**252**	P		**Pg**	**16 04 04.6**	**0.0**
DEMI				S		**Sg**	**16 04 08.1**	**-0.2**
GDZ	**Gediz**	**0.34**	**96**	*i* P		**Pg**	**16 04 05.8**	**-0.1**
GDZ				*i* S		**Sg**	**16 04 10.8**	**+0.4**
GDZ	**Gediz**	**0.34**	**96**	P		**Pg**	**16 04 05.8**	**-0.1**
GDZ				S		**Sg**	**16 04 10.8**	**+0.4**
TVSB	**Tavsanli**	**0.46**	**45**	PG		**Pg**	**16 04 07.7**	**-0.4**
TVSB				SG		**Sg**	**16 04 14.0**	**-0.1**
TVSB	**Tavsanli**	**0.46**	**45**	*e*Pg		**Pg**	**16 04 07.7**	**-0.4**
TVSB				*e*Sg		**Sg**	**16 04 14.0**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**207**	PG		**Pg**	**16 04 12.0**	**-0.4**
KULA				SG		**Sg**	**16 04 21.3**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**207**	*e*Pg		**Pg**	**16 04 12.0**	**-0.4**
KULA				*e*Sg		**Sg**	**16 04 21.3**	**0.0**
KHAL	**Karahalli**	**0.83**	**155**	*i* P		**Pb**	**16 04 15.7**	**-0.3**
KHAL				*i* S		**Sg**	**16 04 26.2**	**+0.2**
KHAL	**Karahalli**	**0.83**	**155**	P		**Pb**	**16 04 15.7**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KHAL				S	Sg	16 04 26.2	+0.2
AKHS	**Akhisar**	**0.99**	**256**	*i* P	**Pb**	**16 04 18.9**	**+0.2**
AKHS				*i* S	**Sg**	**16 04 30.5**	**-0.7**
AKHS	**Akhisar**	**0.99**	**256**	P	**Pb**	**16 04 18.9**	**+0.2**
AKHS				S	**Sg**	**16 04 30.5**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.06**	**284**	*i* P	**Pg**	**16 04 19.7**	**+0.1**
STEP				*i* S	**Sn**	**16 04 35.5**	**0.0**
STEP	**BALIKESIR_Sava**	**1.06**	**284**	P	**Pg**	**16 04 19.7**	**+0.1**
STEP				S	**Sn**	**16 04 35.5**	**0.0**
IGD	**Bursa**	**1.14**	**6**	*i* P	**Pg**	**16 04 21.0**	**-0.2**
IGD				*i* S	**Sb**	**16 04 36.8**	**+0.5**
CAVI	**Cavuskoy**	**1.24**	**29**	PN	**Pb**	**16 04 22.4**	**-0.5**
CAVI	**Cavuskoy**	**1.24**	**29**	*e*Pn	**Pb**	**16 04 22.4**	**-0.5**
KCTX	**Karacabey (Bur**	**1.26**	**335**	PN	**Pg**	**16 04 23.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*Pn	**Pg**	**16 04 23.6**	**+0.2**
BORA	**Eskisehir**	**1.32**	**55**	*i* P	**Pg**	**16 04 24.4**	**-0.2**
BORA				*i* S	**Sn**	**16 04 42.6**	**+0.7**
BORA	**Eskisehir**	**1.32**	**55**	P	**Pg**	**16 04 24.4**	**-0.2**
BORA				S	**Sn**	**16 04 42.7**	**+0.7**

ISCJB ***02*** *16:09:09.1±0.4, 24°.85N±0°.02×121°.95E±0°.02, h99km±3km, Error ellipse: s-maj=3.8km s-min=2.5km az=154.7*
JMA ***02*** *16:09:09.0±0.2, 24°.80N×121°.91E, h98km±2km, M2.7*
TAP ***02*** *16:09:09.1, 24°.87N×121°.92E, h99km, ML3.7, B*
ISC 02 16:09:09.2±1.4**, 24°.86N**±0°.04×**121°.94E**±0°.03**, h99**km±6km**, n96, σ0s.64**/177**, 2C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIPB	**Shuangxi**	**0.15**	**317**	P	**Pn**	**16 09 22.1**	**-1.1**
	baz=308						
TIPB				S	**Sn**	**16 09 33.5**	**-0.1**
	baz=308						
TWB1	**Santiao Chiao**	**0.15**	**16**	P	**Pn**	**16 09 23.0**	**-0.2**
	baz=27						
TWB1				S	**Sn**	**16 09 32.8**	**-0.8**
	baz=27						
ILA	**Ilan**	**0.20**	**242**	*e*P	**Pn**	**16 09 23.9**	**+0.6**
	baz=234						
ILA				*e*S	**Sn**	**16 09 32.9**	**-0.9**
	baz=234						
NWF	**Wu-fen Shan**	**0.26**	**325**	P	**Pn**	**16 09 23.3**	**-0.3**
	baz=322						
NWF				*e*S	**Sn**	**16 09 33.5**	**-0.8**
	baz=322						
WFSB	**Wu-fen Shan**	**0.26**	**325**	P	**Pn**	**16 09 23.4**	**-0.1**
	baz=328						
WFSB				*e*S	**Sn**	**16 09 33.5**	**-0.7**
	baz=328						
TWC	**Suao**	**0.26**	**199**	*e*P	**Pn**	**16 09 24.4**	**+0.8**
	baz=192						
TWC				S	**Sn**	**16 09 34.1**	**-0.1**
	baz=192						
TWE	**Neicheng**	**0.28**	**241**	P	**Pn**	**16 09 24.0**	**+0.3**
	baz=235						
TWE				S	**Sn**	**16 09 34.8**	**+0.5**
	baz=235						
SLBB	**Yuanshan**	**0.30**	**250**	P	**Pn**	**16 09 23.9**	**+0.2**
	baz=245						
SLBB				S	**Sn**	**16 09 35.0**	**+0.5**
	baz=245						
TWA	**Mucha**	**0.35**	**290**	P	**Pn**	**16 09 23.9**	**-0.1**
	baz=289						
TWA				S	**Sn**	**16 09 34.5**	**-0.5**
	baz=289						
EOS1	**EOS1**	**0.35**	**151**	*e*P	**Pn**	**16 09 24.4**	**+0.4**
	baz=149						
EOS1				S	**Sn**	**16 09 35.1**	**+0.2**
	baz=149						
ENTT	**Nioudou**	**0.41**	**238**	⇑*i*P	**Pn**	**16 09 24.8**	**+0.5**
	baz=245						
ENTT				*e*S	**Sn**	**16 09 36.0**	**+0.4**
	baz=245						
NWLT	**Wulai**	**0.41**	**259**	⇑*i*P	**Pn**	**16 09 24.3**	**0.0**
	baz=262						
NWLT				*i* S	**Sn**	**16 09 34.8**	**-0.8**
	baz=262						
ENAH	**Nanao**	**0.42**	**196**	P	**Pn**	**16 09 25.0**	**+0.6**
	baz=194						
ENAH				S	**Sn**	**16 09 36.7**	**+1.0**
	baz=194						
TATO	**Taipei**	**0.43**	**286**	*e*P	**Pn**	**16 09 24.2**	**-0.2**
	baz=284						
TATO				*e*S	**Sn**	**16 09 35.4**	**-0.4**
	baz=284						
YM10	**YM10**	**0.46**	**311**	*e*P	**Pn**	**16 09 24.5**	**-0.2**
	baz=311						
YM10				*e*S	**Sn**	**16 09 36.5**	**+0.2**
	baz=311						
NANB	**Nanao**	**0.46**	**202**	P	**Pn**	**16 09 25.0**	**+0.3**
	baz=194						
NANB				*e*S	**Sn**	**16 09 36.8**	**+0.6**
	baz=194						
ENA	**Nanau**	**0.47**	**203**	P	**Pn**	**16 09 25.3**	**+0.6**
	baz=194						
ENA				S	**Sn**	**16 09 36.7**	**+0.5**
	baz=194						
YM04	**YM04**	**0.47**	**309**	*e*P	**Pn**	**16 09 24.6**	**-0.1**
	baz=310						
YM03	**YM03**	**0.48**	**311**	*e*P	**Pn**	**16 09 25.1**	**+0.2**
	baz=318						
TWY	**Chenhua**	**0.52**	**323**	*e*P	**Pn**	**16 09 24.9**	**-0.1**
	baz=330						
TWY				*e*S	**Sn**	**16 09 37.1**	**+0.2**
	baz=330						
TWS1	**Kuangyinshan**	**0.53**	**297**	P	**Pn**	**16 09 25.4**	**+0.3**
	baz=296						
TWS1				S	**Sn**	**16 09 37.9**	**+0.8**
	baz=296						
NTST	**Danshui**	**0.54**	**304**	*e*P	**Pn**	**16 09 24.9**	**-0.3**
	baz=304						
NTST				*e*S	**Sn**	**16 09 37.2**	**+0.1**
	baz=304						
YHNB	**Yeheng**	**0.55**	**250**	*e*P	**Pn**	**16 09 25.2**	**-0.2**
	baz=239						
YHNB				*e*S	**Sn**	**16 09 36.7**	**-0.8**
	baz=239						
WLTB	**Daxi**	**0.63**	**270**	*e*P	**Pn**	**16 09 26.3**	**+0.4**
	baz=268						
WLTB				S	**Sn**	**16 09 38.6**	**+0.2**
	baz=268						
NNS	**Nan Shan**	**0.67**	**231**	P	**Pn**	**16 09 26.7**	**+0.3**
	baz=228						
NNS				S	**Sn**	**16 09 39.3**	**+0.1**
	baz=228						
NNSB	**Datong**	**0.67**	**230**	P	**Pn**	**16 09 26.6**	**+0.2**
	baz=228						
NNSB				*e*S	**Sn**	**16 09 38.9**	**-0.3**
	baz=228						
NNSH	**Datong**	**0.67**	**230**	P	**Pn**	**16 09 26.6**	**+0.2**
	baz=232						
NNSH				S	**Sn**	**16 09 39.0**	**-0.3**
	baz=232						
NCU	**National Centr**	**0.69**	**279**	*e*P	**Pn**	**16 09 26.7**	**+0.2**
	baz=278						
NCU				S	**Sn**	**16 09 39.9**	**+0.4**
	baz=278						
NCUH	**Zhongli**	**0.70**	**279**	P	**Pn**	**16 09 26.7**	**+0.2**
	baz=278						
NCUH				S	**Sn**	**16 09 39.5**	**0.0**
	baz=278						
TWD	**Chiawan**	**0.84**	**202**	*e*P	**Pn**	**16 09 27.4**	**-0.5**
	baz=209						
TWD				*e*S	**Sn**	**16 09 41.5**	**-0.4**
	baz=209						
LIOB	**Emei**	**0.87**	**256**	P	**Pn**	**16 09 28.3**	**+0.1**
	baz=246						
LIOB				S	**Sn**	**16 09 41.9**	**-0.6**
	baz=246						
SBCB	**Hsinchu**	**0.87**	**266**	*e*P	**Pn**	**16 09 28.4**	**+0.2**
	baz=264						
SBCB				*e*S	**Sn**	**16 09 42.4**	**-0.1**
	baz=264						
HSN	**Hsinchu**	**0.89**	**267**	*e*S	**Sn**	**16 09 42.2**	**-0.5**
	baz=266						
NSTT	**Nanjuang**	**0.89**	**255**	*e*P	**Pn**	**16 09 28.4**	**0.0**
	baz=245						
NSTT				S	**Sn**	**16 09 42.2**	**-0.6**
	baz=245						
TWT	**Tachien**	**0.92**	**229**	P	**Pn**	**16 09 29.8**	**+0.8**
	baz=222						
TWT				S	**Sn**	**16 09 44.4**	**+0.6**
	baz=222						
HWA	**Hwalien**	**0.93**	**199**	*e*P	**Pn**	**16 09 28.7**	**-0.2**
	baz=207						
WHF	**Hehuan Shan**	**0.94**	**221**	*e*P	**Pn**	**16 09 29.9**	**+0.4**
	baz=212						
WHF				*e*S	**Sn**	**16 09 43.8**	**-0.8**
	baz=212						
JYNG	**Yonagunijimaku**	**1.00**	**114**	P	**Pn**	**16 09 29.4**	**-0.1**
JYNG				S	**Sn**	**16 09 44.5**	**-0.3**
ENLB	**Shoufeng**	**1.00**	**198**	*e*P	**Pn**	**16 09 29.9**	**+0.3**
	baz=206						
YOJ	**Yonaguni jima**	**1.05**	**112**	*e*P	**Pn**	**16 09 30.3**	**+0.2**
	baz=112						
YOJ	**Yonaguni jima**	**1.05**	**112**	P	**Pn**	**16 09 30.3**	**+0.2**
YOJ				S	**Sn**	**16 09 45.5**	**-0.3**
NMLH	**Miaoli**	**1.09**	**253**	*e*P	**Pn**	**16 09 31.0**	**+0.4**
	baz=250						
NMLH				*e*S	**Sn**	**16 09 46.4**	**-0.4**
	baz=250						
ESL	**Shilin**	**1.14**	**204**	*e*P	**Pn**	**16 09 30.2**	**-1.0**
	baz=203						
ESL				*e*S	**Sn**	**16 09 46.3**	**-1.4**
	baz=203						
OWD	**Renai**	**1.14**	**218**	P	**Pn**	**16 09 31.5**	**+0.1**
	baz=213						
OWD				*e*S	**Sn**	**16 09 47.5**	**-0.4**
	baz=213						
NSY	**Sanyi**	**1.16**	**248**	*e*P	**Pn**	**16 09 31.8**	**+0.4**
	baz=245						
NSY				*e*S	**Sn**	**16 09 48.7**	**+0.5**
	baz=245						
TWQ1	**Liyutan**	**1.18**	**245**	P	**Pn**	**16 09 31.8**	**+0.2**
	baz=233						
TWQ1				S	**Sn**	**16 09 48.1**	**-0.4**
	baz=233						
PTSB	**Yuanli**	**1.20**	**250**	*e*P	**Pn**	**16 09 31.7**	**-0.1**
	baz=247						
PTSB				*e*S	**Sn**	**16 09 48.8**	**-0.1**
	baz=247						
DPDB	**Guoxing**	**1.24**	**229**	*e*P	**Pn**	**16 09 32.9**	**+0.5**
	baz=233						
DPDB				*e*S	**Sn**	**16 09 50.1**	**+0.3**
	baz=233						
EGFH	**Guangfu**	**1.27**	**202**	*e*P	**Pn**	**16 09 32.6**	**-0.2**
	baz=203						
EGFH				*e*S	**Sn**	**16 09 48.9**	**-1.6**
	baz=203						
TCU	**Taichung**	**1.35**	**239**	*e*P	**Pn**	**16 09 34.0**	**+0.3**
	baz=236						
TCU				*e*S	**Sn**	**16 09 51.8**	**-0.3**
	baz=236						
SMLT	**Sun Moon Lake**	**1.36**	**225**	*e*P	**Pn**	**16 09 34.3**	**+0.4**
	baz=228						
SMLT				*e*S	**Sn**	**16 09 53.5**	**+1.0**
	baz=228						
TYC	**Yuchr**	**1.37**	**226**	P	**Pn**	**16 09 34.5**	**+0.6**
	baz=224						
TYC				*e*S	**Sn**	**16 09 53.0**	**+0.5**
	baz=224						
SSLB	**Suanglung**	**1.40**	**220**	*e*P	**Pn**	**16 09 34.8**	**+0.5**
	baz=227						
SSLB				*e*S	**Sn**	**16 09 53.4**	**+0.2**
	baz=227						
SSLB	**Suanglung**	**1.40**	**220**	*e*S	**Pn**	**16 09 34.8**	**+0.6**
HGSD	**Ruisui**	**1.44**	**199**	*e*P	**Pn**	**16 09 34.8**	**+0.1**
	baz=204						
WCHH	**Zhanghua**	**1.48**	**239**	*e*P	**Pn**	**16 09 35.1**	**-0.1**
	baz=235						
WCHH				*e*S	**Sn**	**16 09 55.2**	**+0.3**
	baz=235						
WNT	**Mingjian**	**1.51**	**230**	*e*P	**Pn**	**16 09 36.1**	**+0.6**
	baz=234						
WNT				*e*S	**Sn**	**16 09 56.0**	**+0.5**
	baz=234						
WJS	**Zhushan**	**1.51**	**227**	*e*P	**Pn**	**16 09 36.1**	**+0.5**
	baz=233						
WJS				*e*S	**Sn**	**16 09 55.9**	**+0.2**
	baz=233						
TWF1	**Yuli**	**1.61**	**202**	*e*P	**Pn**	**16 09 35.9**	**-0.9**
	baz=202						
YUS	**Yu-Shan**	**1.64**	**214**	P	**Pn**	**16 09 38.6**	**+1.0**
	baz=207						
YUS				S	**Sn**	**16 09 60.0**	**+0.9**
	baz=207						
ALS	**Alishan**	**1.70**	**218**	P	**Pn**	**16 09 38.9**	**+0.7**
	baz=223						
ALS				S	**Sn**	**16 10 01.7**	**+1.5**
	baz=223						
CHN5	**Tsauling**	**1.71**	**223**	*e*P	**Pn**	**16 09 38.5**	**+0.3**
	baz=220						
CHN5				*e*S	**Sn**	**16 10 00.5**	**+0.5**
	baz=220						
IRIF	**Iriomote-Funau**	**1.71**	**107**	P	**Pn**	**16 09 37.9**	**-0.1**
IRIF				*e*S	**Sn**	**16 09 59.9**	**0.0**
WGK	**Gukeng**	**1.72**	**227**	*e*P	**Pn**	**16 09 38.9**	**+0.7**
	baz=232						
WGK				*e*S	**Sn**	**16 10 01.2**	**+1.0**
	baz=232						
WDLH	**Douliu**	**1.73**	**228**	*e*P	**Pn**	**16 09 38.7**	**+0.4**
	baz=233						
WDLH				S	**Sn**	**16 10 00.2**	**-0.3**
	baz=233						
RLNB	**Erlin**	**1.74**	**237**	*e*P	**Pn**	**16 09 38.6**	**+0.3**
	baz=233						
RLNB				*e*S	**Sn**	**16 10 00.2**	**-0.3**
	baz=233						
FULB	**Fuli**	**1.76**	**200**	*e*P	**Pn**	**16 09 38.2**	**-0.5**
	baz=206						
FULB				*e*S	**Sn**	**16 10 01.9**	**+0.8**
	baz=206						
CHKT	**Chengkung**	**1.83**	**197**	P	**Pn**	**16 09 39.2**	**-0.4**
	baz=197						
CHKT				*e*S	**Sn**	**16 10 01.1**	**-1.6**
	baz=197						
ELDTW	**Lidau**	**1.86**	**207**	*e*P	**Pn**	**16 09 39.8**	**-0.4**
	baz=199						
ELDTW				*e*S	**Sn**	**16 10 03.2**	**-0.5**
	baz=199						
HATJ	**Hateruma jima**	**1.88**	**115**	P	**Pn**	**16 09 40.6**	**+0.4**
HATJ				*e*S	**Sn**	**16 10 03.7**	**0.0**
CHN2	**Minshiung**	**1.88**	**226**	*e*S	**Sn**	**16 10 04.2**	**+0.3**
	baz=230						
CHY	**Chiayi**	**1.94**	**226**	*e*S	**Sn**	**16 10 05.2**	**0.0**
	baz=230						
JKRS	**Kuro-shima**	**1.98**	**108**	P	**Pn**	**16 09 42.0**	**+0.5**
JKRS				*e*S	**Sn**	**16 10 05.7**	**-0.5**
WSF	**Szhu**	**1.99**	**233**	*e*S	**Sn**	**16 10 06.0**	**-0.2**
	baz=228						
STYT	**Tauyuan**	**2.01**	**213**	*e*P	**Pn**	**16 09 42.9**	**+1.0**
	baz=212						
STYT				*e*S	**Sn**	**16 10 07.2**	**+0.3**
	baz=212						
WTP	**Ta-pu**	**2.01**	**217**	P	**Pn**	**16 09 42.6**	**+0.6**
	baz=215						
WTP				S	**Sn**	**16 10 06.8**	**-0.2**
	baz=215						
WLGB	**Puzi**	**2.04**	**228**	*e*S	**Sn**	**16 10 07.8**	**+0.4**
	baz=230						
JIJ	**Ishigaki jima**	**2.06**	**103**	P	**Pn**	**16 09 42.7**	**+0.1**
JIJ				*e*S	**Sn**	**16 10 07.3**	**-0.8**
CHN1	**Nanshi**	**2.11**	**218**	*e*P	**Pn**	**16 09 43.3**	**0.0**
	baz=216						
CHN1				*e*S	**Sn**	**16 10 09.4**	**+0.2**
	baz=216						
SGST	**Jiashian**	**2.16**	**215**	*e*P	**Pn**	**16 09 44.5**	**+0.6**
	baz=220						
SGST				*e*S	**Sn**	**16 10 10.3**	**-0.1**
	baz=220						
JISG	**Ishigakijimahi**	**2.17**	**97**	P	**Pn**	**16 09 44.6**	**+0.6**
JISG				*e*S	**Sn**	**16 10 10.7**	**+0.1**
TWG	**Pinlang**	**2.18**	**202**	*e*P	**Pn**	**16 09 44.1**	**-0.1**
	baz=193						
TWG				*e*S	**Sn**	**16 10 09.4**	**-1.4**
	baz=193						
CHN8	**Yiju**	**2.18**	**227**	*e*S	**Sn**	**16 10 11.4**	**+0.5**
	baz=231						
SLGT	**Liugui**	**2.20**	**213**	*e*P	**Pn**	**16 09 45.3**	**+0.8**
	baz=218						
SLGT				*e*S	**Sn**	**16 10 12.3**	**+0.9**
	baz=218						
CHN3	**Shinhua**	**2.29**	**219**	*e*S	**Sn**	**16 10 14.7**	**+1.4**
	baz=216						
SSD	**Sandimen**	**2.42**	**210**	*e*P	**Pn**	**16 09 47.6**	**+0.3**
	baz=210						
SSD				*e*S	**Sn**	**16 10 16.4**	**-0.1**
	baz=210						
ECL	**Taimali**	**2.43**	**202**	*e*P	**Pn**	**16 09 47.1**	**-0.3**
	baz=195						
ECL				*e*S	**Sn**	**16 10 16.1**	**-0.5**
	baz=195						
JTJ	**Tarama**	**2.52**	**94**	P	**Pn**	**16 09 49.4**	**+0.9**
JTJ				*e*S	**Sn**	**16 10 19.4**	**+0.7**
PNG	**Penghu**	**2.53**	**240**	*e*P	**Pn**	**16 09 47.9**	**-0.8**
	baz=235						
PNG				*e*S	**Sn**	**16 10 16.5**	**-2.5**
	baz=235						
MASBT	**Mashibuluo**	**2.54**	**208**	*e*P	**Pn**	**16 09 49.6**	**+0.8**
	baz=209						
MASBT				*e*S	**Sn**	**16 10 19.4**	**+0.2**
	baz=209						
WDGT	**Dungji**	**2.62**	**233**	*e*P	**Pn**	**16 09 49.7**	**-0.3**
	baz=228						
WDGT				*e*S	**Sn**	**16 10 19.5**	**-1.7**
	baz=228						
EAST	**Anshuo**	**2.66**	**202**	*e*P	**Pn**	**16 09 50.1**	**-0.4**
	baz=195						
EAST				*e*S	**Sn**	**16 10 22.5**	**+0.3**
	baz=195						
SSPT	**Xinbi**	**2.68**	**208**	*e*P	**Pn**	**16 09 51.4**	**+0.7**
	baz=209						
SSPT				*e*S	**Sn**	**16 10 22.6**	**0.0**
	baz=209						
SCZT	**Fangliau**	**2.76**	**206**	*e*P	**Pn**	**16 09 52.5**	**+0.7**
	baz=207						
SCZT				*e*S	**Sn**	**16 10 23.1**	**-1.3**
	baz=207						
LAY	**Lan-yu**	**2.83**	**187**	*e*P	**Pn**	**16 09 52.2**	**-0.6**
	baz=188						
LAY				*e*S	**Sn**	**16 10 24.0**	**-2.2**
	baz=188						
WLCH	**Liuqiu**	**2.88**	**210**	*e*P	**Pn**	**16 09 54.8**	**+1.4**
	baz=210						
WLCH				*e*S	**Sn**	**16 10 27.5**	**+0.2**
	baz=210						

TAP 02 16:09:15.4, 24°.85N×121°.69E, h81km, ML3.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.10**	**145**	*e*P	Pn	16 09 27.7	+0.6
	baz=143						
ILA				*e*S	Sn	16 09 36.3	+0.7
	baz=143						
SLBB	**Yuanshan**	**0.10**	**207**	*e*P	Pn	16 09 27.5	+0.3
	baz=217						
SLBB				*e*S	Sn	16 09 35.7	0.0
	baz=217						
NTC	**Toucheng**	**0.13**	**86**	*e*P	Pn	16 09 27.4	+0.3
	baz=78						
TWA	**Mucha**	**0.16**	**325**	P	Pn	16 09 27.5	+0.2
	baz=315						
NWLT	**Wulai**	**0.18**	**248**	*e*P	Pn	16 09 27.2	-0.1
	baz=241						
TATO	**Taipei**	**0.22**	**306**	*e*P	Pn	16 09 27.5	+0.1
	baz=300						
EGS		**0.22**	**90**	*e*P	Pn	16 09 28.1	+0.6
	baz=85						
NWF	**Wu-fen Shan**	**0.24**	**21**	*e*P	Pn	16 09 27.2	-0.5
	baz=15						
NWF				S	Sn	16 09 36.5	-0.1
	baz=15						
WFSB	**Wu-fen Shan**	**0.24**	**21**	*e*P	Pn	16 09 27.1	-0.5
	baz=15						
TWB1	**Santiao Chiao**	**0.32**	**59**	P	Pn	16 09 28.3	+0.4
	baz=56						
TWB1				S	Sn	16 09 37.4	+0.2
	baz=56						
NTST	**Danshui**	**0.38**	**326**	*e*P	Pn	16 09 28.5	+0.1
	baz=329						

MEX 02 16:43:03.7±1.0**, 18°.72N**×**103°.38W, h59**km±14km**, MD3.5, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.43**	**176**	*e*P	Pn	16 43 13.8	-1.1
MMIG				*e*S	Sn	16 43 21.0	-2.0
EZ5V		**0.78**	**344**	*e*P	Pn	16 43 16.8	-2.4
EZ5V				*e*S	Sn	16 43 29.2	-1.3
CJM	**Chamela**	**1.75**	**296**	*e*P	Pn	16 43 30.7	-1.1
CJM				*e*S	Sn	16 43 51.0	-2.1
ZIIG	**Zihuatanejo**	**2.13**	**121**	*i* P	Pn	16 43 36.0	-1.0
ZIIG				*i* S	Sn	16 44 00.7	-1.6
MOIG	**Morelia**	**2.28**	**65**	*i* P	Pn	16 43 36.9	-2.3
MOIG				*i* S	Sn	16 44 03.8	-2.5

BJI ***02*** *16:48:29.6, 52°.47N×178°.28E, h162km, mb5.0/66, mB4.9/40*
MOS ***02*** *16:48:29.3±0.9, 52°.29N×178°.59E, h164km, mb5.1/89, Error ellipse: s-maj=6.2km s-min=5.5km az=77.8*
NEIC ***02*** *16:48:30.7±0.2, 52°.23N×178°.59E, h164km±2km, mb5.1/209, ML4.5(AEIC), Error ellipse: s-maj=3.9km s-min=2.0km az=169.0*
ISCJB ***02*** *16:48:30.4±0.3, 52°.25N±0°.03×178°.69E±0°.02, h179km±2km, mb5.0/300, Error ellipse: s-maj=5.2km s-min=2.0km az=174.0*
GCMT ***02*** *16:48:30.7±0.3, 52°.28N×178°.60E, h162km±2km, MW5.1/104, Moment Tensor Solution. s42,c49; s104,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.52±.18; $M_{\theta\theta}$-0.26±.26; $M_{\phi\phi}$1.78±.25; $M_{r\theta}$2.71±.16; $M_{\theta\phi}$-1.22±.21; $M_{\phi r}$-4.62±.14; Best double couple: $M_0$5.69800×10^{16} NP1:ϕ_s329.00000°, δ80.00000°, λ-93.00000°. NP2:ϕ_s166.00000°, δ10.00000°, λ-73.00000°. Principal axes: T 6.1000, Plg35.0000°, Azm62.0000°; N -0.8050, Plg3.0000°, Azm330.0000°; P -5.2960, Plg55.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***02*** *16:48:31.4±0.5, 52°.29N×178°.62E, h168km±3km, mb4.7/47, mb1 4.7/51, mb1mx4.5/73, mbtmp5.1/51, MS3.6/10, Ms1 3.5/10, ms1mx3.2/63 Error ellipse: s-maj=8.2km s-min=5.5km az=163.0*
ISC 02 16:48:31.0±0.4**, 52°.25N**±0°.05×**178°.64E**±0°.03**, h167**km±3km**, h167km:pP-P, n941, σ1s.08**/989**, mb5.0**/300**, 13C-15D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.68**	**106**	P	**Pn**	**16 49 02.6**	**-1.0**
GAEA	**Gareloi East**	**1.68**	**105**	P	**Pn**	**16 49 02.7**	**-1.1**
TASE	**Tanaga Southea**	**2.10**	**100**	P	**Pn**	**16 49 07.2**	**-1.1**
TAFP	**Tanaga Falls P**	**2.12**	**98**	P	**Pn**	**16 49 07.5**	**-1.0**
TAFP				S	**Sn**	**16 49 36.6**	**-0.9**
TAPA	**Tanaga Point A**	**2.24**	**100**	P	**Pn**	**16 49 08.6**	**-1.3**
KIKV	**Kanaga Island**	**2.62**	**96**	P	**Pn**	**16 49 13.2**	**-1.2**
KIRH	**Kanaga Island**	**2.66**	**96**	P	**Pn**	**16 49 13.8**	**-1.1**
SMY	**Shemya**	**2.81**	**282**	*e*Pn	**Pn**	**16 49 14.8**	**-1.9**
SMY	**Shemya**	**2.81**	**282**	*e*P	**Pn**	**16 49 14.8**	**-1.9**
ADAG	**Mount Adagdak**	**2.95**	**93**	P	**Pn**	**16 49 17.3**	**-1.1**
GSTD	**Great Sitkin T**	**3.22**	**91**	P	**Pn**	**16 49 20.9**	**-1.0**
GSTD				S	**Sn**	**16 50 00.5**	**-0.9**
KOWE	**Korovin West**	**4.37**	**86**	P	**Pn**	**16 49 35.9**	**-0.6**
KOKL	**Mount Kliuchef**	**4.40**	**86**	P	**Pn**	**16 49 36.3**	**-0.6**
KOFP	**Korovin Flat P**	**4.46**	**87**	P	**Pn**	**16 49 37.3**	**-0.4**
MCIR	**Makushin Cirqu**	**8.88**	**73**	P	**Pn**	**16 50 37.7**	**+1.9**
MREP	**Makushin Rep't**	**8.95**	**74**	P	**Pn**	**16 50 37.1**	**+0.3**
UNV	**Unalaska Valle**	**9.10**	**74**	*e*Pn	**Pn**	**16 50 39.8**	**+1.2**
AHB	**Akutan Harbor**	**9.52**	**73**	P	**Pn**	**16 50 46.9**	**+2.5**
AKUT	**Akutan**	**9.55**	**72**	*e*Pn	**Pn**	**16 50 46.5**	**+1.8**
AKSA	**Akutan Strait**	**9.59**	**72**	P	**Pn**	**16 50 47.7**	**+2.4**
FALS	**False Pass**	**10.99**	**69**	*e*Pn	**Pn**	**16 51 04.4**	**+0.9**
PET	**Petropavlovsk**	**12.16**	**282**	*e*Pn	**Pn**	**16 51 17.9**	**-0.8**
PET	**Petropavlovsk**	**12.16**	**282**	*e*P	**Pn**	**16 51 21.1**	**+2.4**
PET				*e*S	**Sn**	**16 53 32.4**	**-1.0**
PET				pmax	pmax		
	comp=Z,74nm,0.7s						
GAMB	**Gambell**	**12.62**	**20**	*e*Pn	**Pn**	**16 51 25.8**	**+1.3**
SDPT	**Sand Point**	**12.72**	**68**	*e*Pn	**Pn**	**16 51 25.5**	**-0.3**
PEA0B	**Petropavlovsk-**	**12.73**	**282**	*e*Pn	**Pn**	**16 51 25.8**	**-0.2**
PETK	**Petropavlovsk-**	**12.73**	**282**	P	**Pn**	**16 51 25.6**	**-0.4**
	comp=Z,4.2nm,0.3s,baz=91,slow=16,SNR=43						
PETK				S	**Sn**	**16 53 41.3**	**-5.7**
	comp=Z,4.4nm,0.3s,baz=273,slow=27,SNR=9.0						
CHGN	**Chignik**	**13.98**	**64**	*e*Pn	**Pn**	**16 51 41.4**	**-0.4**
SKR	**Severo-Kuril's**	**14.12**	**273**	*e*P	**Pn**	**16 51 41.5**	**-1.9**
SKR				*e*S	Sn	16 54 08.0	-12
SKR				pmax	pmax		
	comp=Z,117nm,2.0s						
SKR				MLR	MLR		
	comp=Z,400nm,11.0s						
SVW2	**Sparrevohn**	**16.61**	**48**	*e*P	**Pn**	**16 52 15.1**	**+1.2**

comp=Z,52nm,0.8s
OHAK Old Harbor 16.89 62 *e*P **P** 16 52 15.4 -1.2
comp=Z,110nm,0.9s
BILL Bilibino 16.93 344*c i*P **Pn** 16 52 18.8 +1.0
BILL pmax pmax
comp=Z,27nm,1.0s
MA2 Magadan 17.16 306 P **Pn** 16 52 20.4 -0.1
comp=Z,3.3nm,0.3s,baz=91,slow=11,SNR=56
MA2 ScP **ScP** 17 00 12.6 -0.2
comp=Z,0.3nm,0.3s,baz=113,slow=4.4,SNR=12
MA2 Magadan 17.16 306⇓*e*P **Pn** 16 52 20.0 -0.5
KDAK Kodiak Island 17.32 60 P **P** 16 52 21.1 -0.3
comp=Z,52nm,0.3s,baz=267,slow=3.6,SNR=394
KDAK S **S** 16 55 25.9 -7.1
comp=Z,0.3nm,0.3s,baz=330,slow=20,SNR=2.6
KDAK Kodiak Island 17.32 60 *e*P **P** 16 52 20.9 -0.5
comp=Z,222nm,0.6s
KDAK S **S** 16 55 25.9 -7.1
KDAK Kodiak Island 17.32 60 *i*P **P** 16 52 20.3 -1.1
SEY Seymchan 17.53 318 P **Pn** 16 52 24.2 -0.7
comp=Z,1.0nm,0.3s,baz=115,slow=13,SNR=71
SEY ScP **ScP** 17 00 11.9 -1.6
comp=Z,0.4nm,0.3s,baz=116,slow=4.2,SNR=30
HOM Homer 18.09 54 *e*P **Pn** 16 52 30.9 -0.7
comp=Z,496nm,0.7s
SPU Mount Spurr 18.26 49 *e*P **Pn** 16 52 34.0 +0.5
BRLK Bradley Lake 18.49 54 *e*P **P** 16 52 34.1 0.0
comp=Z,308nm,0.8s
PPLA Purkeypile 18.75 44 *e*P **Pn** 16 52 39.1 -0.3
comp=Z,267nm,0.9s
SUA Susitna One 18.94 49 *e*P **Pn** 16 52 40.4 -1.3
comp=Z,214nm,0.6s
CAST Castle Rocks 18.98 43 *e*P **Pn** 16 52 41.5 -0.5
comp=Z,167nm,0.8s
SEW Seward 19.26 53 *e*P **P** 16 52 42.5 +0.1
comp=Z,334nm,1.0s
RC01 Rabbit Creek A 19.32 50 *e*P **P** 16 52 44.2 +1.1
comp=Z,156nm,0.8s
KTH Kantishna Hill 19.52 43 *e*P **Pn** 16 52 46.8 -1.6
comp=Z,196nm,0.8s
BPAW Bear Paw Mtn. 19.70 41 *e*P **P** 16 52 48.0 +0.9
comp=Z,124nm,0.7s
PMR Palmer 19.72 49 *e*P **P** 16 52 47.2 -0.1
comp=Z,82nm,1.0s
PMR Palmer 19.72 49 *e*P **P** 16 52 47.2 -0.1
PMR pmax pmax
comp=Z,81nm,1.0s
TRF Thorofare Moun 19.75 43 *e*P **P** 16 52 49.1 +1.3
comp=Z,1µm,1.8s
SML Sawmill 20.14 49 *e*P **P** 16 52 51.7 -0.2
comp=Z,179nm,0.9s
SML Sawmill 20.14 49 *e*P **P** 16 52 51.7 -0.2
SML pmax pmax
comp=Z,179nm,0.9s
MLY Manley 20.17 39 *e*P **P** 16 52 53.5 +1.3
comp=Z,119nm,1.0s
RND Reindeer 20.34 44 *e*P **P** 16 52 54.3 +0.2
comp=Z,62nm,0.6s
RND Reindeer 20.34 44 *e*P **P** 16 52 54.3 +0.2
RND pmax pmax
comp=Z,62nm,0.6s
MCK McKinley 20.41 43 *e*P **P** 16 52 54.9 +0.1
MCK McKinley 20.41 43 *e*P **P** 16 52 54.9 +0.1
GLI Glacier Island 20.54 52 *e*P **P** 16 52 56.2 0.0
comp=Z,116nm,0.9s
SCM Sheep Creek Mo 20.61 49 *e*P **P** 16 52 57.0 0.0
comp=Z,252nm,1.0s
SCM Sheep Creek Mo 20.61 49 *e*P **P** 16 52 57.0 0.0
SCM pmax pmax
comp=Z,252nm,1.0s
DHY Denali Highway 20.89 46 *e*P **P** 16 53 00.1 +0.1
comp=Z,204nm,0.7s
MDM Murphy Dome 21.12 40 *e*P **P** 16 53 02.8 +0.4
comp=Z,207nm,0.6s
EYAK Cordova Ski Ar 21.15 53 *e*P **P** 16 53 02.7 +0.1
comp=Z,144nm,1.0s
CCB Clear Creek Bu 21.19 41 *e*P **P** 16 53 02.0 -0.9
comp=Z,50nm,0.8s
KLU Klutina 21.21 50 *e*P **P** 16 53 03.5 +0.2
comp=Z,66nm,0.6s
DIV Divide 21.22 51 *e*P **P** 16 53 03.7 +0.3
comp=Z,111nm,0.6s
COLA College 21.25 41 *e*P **P** 16 53 03.7 +0.1
comp=Z,249nm,1.3s
COLA College 21.25 41 *e*P **P** 16 53 03.7 +0.1
COLA pmax pmax
comp=Z,249nm,1.3s
KUR Kuril'sk 21.35 263*c i*P **P** 16 53 05.2 +0.3
KUR pmax pmax
comp=N,92nm,1.4s
KUR pmax pmax
comp=Z,244nm,1.4s
KUR pmax pmax
comp=E,107nm,1.2s
COLD Coldfoot 21.37 34 *e*P **P** 16 53 05.2 +0.4
comp=E,53nm,1.3s
HDA Harding Lake 21.46 42 *e*P **P** 16 53 04.9 -1.0
comp=E,104nm,0.5s
ILAR Eielson Array 21.60 41 P **P** 16 53 05.8 -1.6
comp=E,30nm,0.4s,baz=239,slow=7.8,SNR=190
ILAR ScP **ScP** 17 00 20.2 -2.7
comp=E,3.3nm,0.6s,baz=280,slow=3.3,SNR=32
ILB Eielson Array 21.60 41 *e*P **P** 16 53 05.8 -1.6
IL1 Eielson Array 21.60 41 *e*P **P** 16 53 05.4 -2.0
PAX Paxson 21.71 46 *e*P **P** 16 53 08.4 -0.2
comp=E,154nm,0.7s
PAX Paxson 21.71 46 *e*P **P** 16 53 08.4 -0.2
PAX pmax pmax
comp=Z,154nm,0.7s
HARP HAARP 21.73 48 *e*P **P** 16 53 09.8 +1.1
comp=Z,124nm,0.8s
BMRM Bremner River 21.76 52 *e*P **P** 16 53 09.2 +0.1
comp=Z,459nm,1.8s
TYV Tymovskoe 22.27 281 *e*P **P** 16 53 14.5 +0.3
TYV *e*S **S** 16 57 11.3 +4.6
TYV pmax pmax
comp=Z,53nm,2.0s
TYV pmax pmax
comp=Z,700nm,3.7s
TYV smax smax
comp=N,11nm,2.5s
DOT Dot Lake 22.48 45 *e*P **P** 16 53 15.6 -0.5
comp=N,294nm,0.7s
MENT Mentasta 22.48 47 *e*P **P** 16 53 17.1 +1.0
comp=N,113nm,0.9s
SHO Shikotan 22.70 261 *e*P **P** 16 53 16.5 -1.7
SHO S **S** 16 57 12.8 -0.9
SHO pmax pmax
comp=Z,2µm,2.3s
SHO pmax pmax
comp=N,441nm,0.8s
SHO pmax pmax
comp=E,347nm,0.9s
NKL Nikolayevsk 22.85 287 *e*P **P** 16 53 19.0 -0.5
NKL *e* 16 57 14.0
NKL pmax pmax
comp=Z,600nm,4.0s
NKL pmax pmax
comp=N,22nm,0.7s
NKL pmax pmax
comp=E,43nm,0.7s
NKL pmax pmax
comp=Z,90nm,0.7s
FYU Fort Yukon 22.86 37 *e*P **P** 16 53 20.5 +1.0
comp=Z,1µm,2.0s
YUK Yuzh-Kuril'sk 23.20 262⇑*i*P **P** 16 53 22.7 -0.1
YUK S **S** 16 57 20.7 -1.0
YUK pmax pmax
comp=Z,98nm,0.7s
YUK pmax pmax
comp=E,247nm,1.4s
YUK pmax pmax
comp=N,55nm,0.6s
YSS Yuzh-Sakhalins 23.68 271 *e*P **P** 16 53 27.8 +0.7
comp=N,113nm,0.9s
YSS Yuzh-Sakhalins 23.68 271⇓*e*P **P** 16 53 27.8 +0.7
YSS *e**SP PP 16 54 24.0 -0.2
YSS *e*S **S** 16 57 24.8 -4.6
YSS *e* 16 58 30.0
YSS pmax pmax
comp=Z,110nm,0.8s
EGAK Eagle 23.96 43 *e*P **P** 16 53 30.0 +0.4
comp=Z,276nm,0.6s
DAWY Dawson 24.59 45 *e*P **P** 16 53 36.3 +1.0
comp=Z,204nm,0.8s
ASAJ Asahikawa 25.15 266 P **P** 16 53 41.0 +0.5
comp=Z,66nm,0.7s,baz=70,slow=9.2,SNR=110
ASAJ Asahikawa 25.15 266 *e*P **P** 16 53 40.9 +0.4
comp=Z,60nm,0.7s
HYT Haines Junctio 25.21 53 *e*P **P** 16 53 42.1 +1.0
GRNR Gornyy 26.05 284 *e*P **P** 16 53 48.8 +0.2
GRNR pmax pmax
comp=Z,30nm,0.9s
WHY Whitehorse 26.51 53 *e*P **P** 16 53 55.3 +2.6
comp=Z,23nm,1.1s
YAK Yakutsk 27.64 310 P **P** 16 54 01.7 -0.9
comp=Z,11nm,0.3s,baz=213,slow=0.7,SNR=20
YAK ScP **ScP** 17 00 39.6 -0.2
comp=Z,11nm,0.8s,baz=47,slow=0.6,SNR=5.3
YAK Yakutsk 27.64 310 *e*P **P** 16 54 01.5 -1.1
comp=Z,31nm,0.8s
YAK ScP **ScP** 17 00 39.6 -0.2
YAK Yakutsk 27.64 310 *e*P **P** 16 54 01.2 -1.4
YAK *e**PP **pP** 16 54 35.0 -2.1
YAK *e*S **S** 16 58 28.5 -3.2
YAK *e* 17 04 29.0
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=N,1.0nm,1.1s
YAK smax smax
comp=N,116nm,2.7s
YAK smax smax
comp=E,67nm,2.4s
INK Inuvik 27.68 36 P **P** 16 54 04.1 +1.2
comp=E,43nm,0.4s,baz=273,slow=8.1,SNR=275
INK Inuvik 27.68 36 *e*P **P** 16 54 03.8 +0.9
comp=E,53nm,0.5s
TIXI Tiksi 29.09 330 P **P** 16 54 15.3 -0.1
comp=E,1.0nm,0.4s,baz=102,slow=15,SNR=9.2
TIXI ScP **ScP** 17 00 42.1 -2.1
comp=E,4.1nm,0.7s,baz=110,slow=3.4,SNR=13
TIXI Tiksi 29.09 330⇓*i*P **P** 16 54 15.4 +0.1
TIXI pmax pmax
comp=Z,7.0nm,1.6s
DLBC Dease Lake 29.22 57 *e*P **P** 16 54 18.2 +1.5
comp=Z,17nm,0.7s
KLR Kul'dur 29.42 283 P **P** 16 54 18.0 -0.6
comp=Z,3.4nm,0.5s,baz=65,slow=7.0,SNR=180
KLR PcP **PcP** 16 57 20.7 +0.8
comp=Z,0.2nm,0.6s,baz=68,slow=5.4,SNR=3.7
KLR ScP **ScP** 17 00 45.6 0.0
comp=Z,0.1nm,0.7s,baz=224,slow=2.5,SNR=5.0
ZEA Zeya 30.42 294 *e*P **P** 16 54 26.2 -1.0
ZEA pmax pmax
comp=Z,41nm,1.0s
USRK Ussuriysk Ar. 31.62 274 P **P** 16 54 37.3 -0.7
comp=Z,19nm,0.5s,baz=58,slow=10,SNR=56
USRK PcP **PcP** 16 57 26.6 +0.8
comp=Z,4.3nm,0.6s,baz=47,slow=2.3,SNR=6.1
USRK ScP **ScP** 17 00 55.4 +2.4
comp=Z,2.5nm,0.5s,baz=57,slow=4.1,SNR=5.7
MJAR Matsushiro Arr 32.39 257 P **P** 16 54 45.2 +0.5
comp=Z,15nm,0.6s,baz=40,slow=6.6,SNR=57
MJAR PcP **PcP** 16 57 28.2 +0.2
comp=Z,1.3nm,0.4s,baz=104,slow=1.3,SNR=7.5
MJB9 Matsu-Tunnel 32.39 257 *e*P **P** 16 54 45.2 +0.5
comp=Z,90nm,1.2s
MAJO Matsushiro 32.39 257 *e*P **P** 16 54 45.1 +0.4
comp=Z,88nm,1.2s
MAJO Matsushiro 32.39 257*d i*P **P** 16 54 44.9 +0.2
MAJO pmax pmax
comp=Z,63nm,0.9s
MAT Matsushiro 32.39 257 P **P** 16 54 44.8 +0.1
MAT *e*S **S** 16 59 50.4 +4.0
H11N2 WAKE ISLAND Hy 33.72 200 T T 17 30 21.4
baz=11,slow=76,SNR=22
H11N3 WAKE ISLAND Hy 33.73 200 T T 17 30 38.0
baz=11,slow=76,SNR=35
H11N1 WAKE ISLAND Hy 33.74 200 T T 17 30 27.7
baz=11,slow=76,SNR=25
JHJ Hachijo jima 2 33.83 251 P **P** 16 54 57.7 +0.5
comp=Z,94nm,0.7s,baz=84,slow=18,SNR=4.1
H11S1 WAKE ISLAND Hy 34.95 200 T T 17 32 08.1
baz=10,slow=76,SNR=30
H11S2 WAKE ISLAND Hy 34.97 200 T T 17 32 12.9
baz=10,slow=76,SNR=27
H11S3 WAKE ISLAND Hy 34.97 200 T T 17 32 15.2
baz=10,slow=76,SNR=32
YKW3 Yellowknife Ar 35.77 47 *e*P **P** 16 55 14.4 +0.9
comp=Z,58nm,0.7s
YKA Yellowknife Ar 35.79 47 P **P** 16 55 14.6 +0.9
comp=Z,41nm,0.6s,baz=282,slow=8.3,SNR=362
YKA pP **pP** 16 55 49.7 +0.6
comp=Z,7.8nm,0.7s,baz=286,slow=8.6,SNR=3.0
YKA ScP **ScP** 17 01 05.8 -1.5
comp=Z,2.1nm,0.8s,baz=289,slow=3.3,SNR=17
CN2 Changchun 35.83 278 *e*P **P** 16 55 12.0 -2.3
CN2 *e*pP pP 16 55 52.2 +2.5
CN2 *e*S **S** 17 00 33.2 -6.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,700nm,17.0s
OFR Olym-F Res Ctr 35.99 74 *e*P **P** 16 55 15.8 +0.2
BOD Bodaibo 36.18 305 *e*P **P** 16 55 15.8 -1.2
BOD pmax pmax
comp=Z,42nm,1.2s
HIA Hailar 36.49 289 *e*P **P** 16 55 18.6 -1.2
comp=Z,27nm,0.6s
HIA Hailar 36.49 289 *e*P **P** 16 55 18.6 -1.2
HIA pmax pmax
comp=Z,27nm,0.6s
A04D Lummi Island 36.61 72 P **P** 16 55 20.7 -0.1
baz=298
CBIJ Chichi jima 37.04 242 P **P** 16 55 25.0 +0.3
JCJ Chichijima 37.04 242 P **P** 16 55 25.0 +0.3
comp=Z,62nm,0.5s,baz=298,slow=20,SNR=9.4
B05A Bryant 37.18 72 P **P** 16 55 25.9 +0.3
baz=299,SNR=10
F04D Rainier, OR 37.74 75 P **P** 16 55 30.7 +0.3
baz=301
C06D Leavenworth 38.05 72 P **P** 16 55 32.7 -0.3
baz=300
KSRS Korea Array 38.06 268 P **P** 16 55 33.9 +0.8
comp=Z,8.7nm,0.5s,baz=55,slow=7.7,SNR=44
KSRS PcP **PcP** 16 57 44.9 +0.2
comp=Z,2.2nm,0.7s,baz=73,slow=3.6,SNR=5.6
KSRS LR LR 17 10 17.6
comp=Z,41nm,20.5s,baz=48,slow=34
KS01 Wonju Array Si 38.06 268 *e*P **P** 16 55 33.1 0.0
SNY Shenyang 38.08 277⇓P **P** 16 55 33.3 +0.1
SNY pmax pmax
comp=Z,27nm,1.4s
SNY pmax pmax
comp=Z,130nm,3.5s
SNY LR LR
comp=Z,190nm,6.3s
SNY LR LR
comp=Z,170nm,6.5s
SNY LR LR
comp=Z,190nm,6.6s
KSAR Wonju Array Be 38.09 268 P **P** 16 55 33.9 +0.5
KSAR PcP **PcP** 16 57 44.9 +0.1
KSAR Wonju Array Be 38.09 268 P **P** 16 55 33.9 +0.5
KSAR 16 57 44.9
LTY Liberty 38.52 73 *e*P **P** 16 55 37.0 +0.1
comp=Z,18nm,0.5s
B08A Colville Reser 38.74 70 *e*P **P** 16 55 38.7 -0.1
comp=Z,26nm,0.7s
INCN Inchon 38.83 269 *e*P **P** 16 55 40.1 +0.5
comp=Z,150nm,1.3s
H04A Detroit Lake 38.98 77 *e*P **P** 16 55 41.4 +0.7
comp=Z,47nm,0.9s
TJN Taejon 39.09 267*ce*P **P** 16 55 42.2 +0.5
JNU Nakatsue 39.12 260 P **P** 16 55 42.8 +0.7
comp=Z,41nm,0.7s,baz=340,slow=1.1,SNR=21
JNU LR LR 17 11 06.9
comp=Z,44nm,21.1s,baz=118,slow=35
JNU Nakatsue 39.12 260 *e*P **P** 16 55 42.9 +0.8
comp=Z,54nm,0.9s
G05D Wamic, OR 39.19 76 P **P** 16 55 42.9 +0.4
baz=303,SNR=7.1
I04A Tendick Farm, 39.33 78 P **P** 16 55 44.0 +0.4
baz=304,SNR=7.3
E07A Sunnyside 39.36 73 *e*P **P** 16 55 44.4 +0.5
comp=Z,24nm,1.0s
L02D Cave Junction, 39.53 81 P **P** 16 55 46.2 +0.9
baz=305
RES Resolute Bay 39.61 25 P **P** 16 55 46.8 +1.2
comp=Z,10nm,0.4s,baz=244,slow=10,SNR=36
RES LR LR 17 14 47.4
comp=Z,82nm,18.8s,baz=294,slow=40
RES Resolute Bay 39.61 25 *e*P **P** 16 55 46.2 +0.6
comp=Z,44nm,1.4s
C09A Chrisman Ranch 39.64 70 *e*P **P** 16 55 45.8 -0.4
comp=Z,31nm,0.6s
D08A Wollman Farm, 39.65 72 *e*P **P** 16 55 45.3 -0.9
comp=Z,17nm,0.6s
F07A Phinny Hill Vi 39.67 74 *e*P **P** 16 55 46.4 0.0
comp=Z,34nm,0.7s
HUMO Hull Mountain 39.67 80 *e*P **P** 16 55 46.5 +0.1
comp=Z,39nm,1.5s
I05D Terrebonne, OR 39.67 77 P **P** 16 55 47.9 +1.4
baz=304,SNR=5.4
EDM Edmonton 39.77 61 *e*P **P** 16 55 47.3 +0.1
comp=Z,104nm,0.6s
EDM Edmonton 39.77 61 *e*P **P** 16 55 47.3 +0.1
EDM pmax pmax
comp=Z,104nm,0.6s
J04D Umpqua Nationa 39.82 79 P **P** 16 55 48.6 +0.7
baz=304,SNR=8.8
E08A Dider Farm, El 39.86 73 *e*P **P** 16 55 47.8 -0.2
comp=Z,26nm,0.8s
NEW Newport 40.07 69 P **P** 16 55 49.6 -0.1
comp=Z,40nm,0.8s,baz=299,slow=7.0,SNR=51
NEW Newport 40.07 69 P **P** 16 55 49.3 -0.5
baz=301,SNR=25
NEW Newport 40.07 69 *e*P **P** 16 55 49.7 -0.1
comp=Z,32nm,0.7s
J05D Fort Rock, OR 40.32 78 P **P** 16 55 53.0 +1.0
baz=305,SNR=11
YBH Yreka Blue Hor 40.32 81 P **P** 16 55 53.3 +1.4
comp=Z,14nm,0.5s,baz=338,slow=4.6,SNR=47
YBH LR LR 17 10 15.9
comp=Z,34nm,18.3s,baz=330,slow=32
YBH Yreka Blue Hor 40.32 81 *e*P **P** 16 55 53.4 +1.4
comp=Z,50nm,1.4s
YBH Yreka Blue Hor 40.32 81 *e*P **P** 16 55 53.4 +1.4
YBH pmax pmax
comp=Z,50nm,1.4s
K04D Chiloquin, OR 40.39 79 P **P** 16 55 52.5 0.0
baz=305
M02C Callahan 40.44 82 P **P** 16 55 54.3 +1.4
baz=306,SNR=9.7
G08A Pilot Rock 40.57 74 *e*P **P** 16 55 53.9 0.0
comp=Z,11nm,1.0s
N02D Trinity Center 40.77 82 P **P** 16 55 57.0 +1.3
baz=307,SNR=12
M04C Macdoel 40.82 80 P **P** 16 55 57.1 +1.0
baz=306,SNR=16
I07A Izee 40.91 76 *e*P **P** 16 55 57.4 +0.6
comp=Z,18nm,0.9s
WDC Whiskeytown Da 41.11 82 *e*P **P** 16 55 59.7 +1.4
comp=Z,41nm,1.1s
WDC Whiskeytown Da 41.11 82 *e*P **P** 16 55 59.7 +1.4
WDC pmax pmax
comp=Z,41nm,1.1s
WALA Waterton Lakes 41.49 67 *e*P **P** 16 56 01.6 +0.2
comp=Z,56nm,0.8s
MOD Modoc Plateau 41.68 79 *e*P **P** 16 56 03.7 +0.6
comp=Z,34nm,0.6s
O03D Paynes Creek 41.73 82 P **P** 16 56 04.0 +0.5
baz=307,SNR=25
BMO Blue Mountains 41.78 74 *e*P **P** 16 56 03.6 -0.2
comp=Z,20nm,0.8s
BMO Blue Mountains 41.78 74 *e*P **P** 16 56 03.7 -0.2
BMO pmax pmax
comp=Z,20nm,0.8s
J08A Circle Bar Ran 41.94 76 *e*P **P** 16 56 05.3 +0.2
comp=Z,13nm,0.7s
WVOR Wild Horse Val 42.37 78 *e*P **P** 16 56 08.6 -0.1
comp=Z,21nm,0.8s
WVOR Wild Horse Val 42.37 78 *e*P **P** 16 56 08.6 -0.1
WVOR pmax pmax
comp=Z,21nm,0.8s
MSO Missoula 42.66 69 P **P** 16 56 10.3 -0.6
baz=303,SNR=21
MSO Missoula 42.66 69 *e*P **P** 16 56 10.1 -0.8
comp=Z,56nm,0.8s
BEKR Beckworth 42.87 82 *e*P **P** 16 56 13.5 +0.8
comp=Z,14nm,0.7s
MFID Camas Ranch 43.48 75 *e*P **P** 16 56 17.6 +0.1
comp=Z,17nm,1.0s
IRK Irkutsk 43.63 301 *e*P **P** 16 56 15.6 -2.9
IRK pmax pmax
comp=Z,40nm,2.4s
BJI Beijing 43.65 280 P **P** 16 56 18.5 -0.2
BJI pmax pmax
comp=Z,16nm,1.2s
VCNR Virginia City 43.65 82 *e*P **P** 16 56 20.3 +1.2
comp=Z,25nm,0.8s
BJT Baijiatuan 43.66 279 *e*P **P** 16 56 17.9 -1.0
comp=Z,22nm,0.8s
BJT Baijiatuan 43.66 279 *e*P **P** 16 56 17.9 -1.0
BJT pmax pmax
comp=Z,22nm,0.8s
PNTR Pine Nut 43.81 82 *e*P **P** 16 56 21.6 +1.3
comp=Z,46nm,0.8s
HRY Holter Researc 43.93 68 *e*P **P** 16 56 20.9 -0.2
CMB Columbia Colle 43.99 84 *e*P **P** 16 56 22.3 +0.7
comp=Z,40nm,1.3s
CMB Columbia Colle 43.99 84 *e*P **P** 16 56 22.3 +0.7
CMB pmax pmax
comp=Z,40nm,1.3s
YERR Yerington 44.09 82 *e*P **P** 16 56 23.2 +0.6
comp=Z,60nm,1.3s
HLID Hailey 44.23 74 P **P** 16 56 23.1 -0.5
baz=306,SNR=34
HLID Hailey 44.23 74 *e*P **P** 16 56 23.4 -0.2
comp=Z,24nm,1.0s
DLMT Dillon 44.25 70 *e*P **P** 16 56 23.2 -0.5
comp=Z,15nm,1.3s
TLY Talaya 44.25 300 *e*P **P** 16 56 23.2 -0.2
comp=Z,17nm,0.7s
TLY Talaya 44.25 300 *e*P **P** 16 56 23.6 +0.1
TLY pmax pmax
comp=Z,14nm,0.6s
WAKR Walker 44.28 83 *e*P **P** 16 56 25.1 +1.0
comp=Z,27nm,0.6s
EGMT Eagleton 44.38 66 P **P** 16 56 23.8 -0.8
baz=304,SNR=14
EGMT Eagleton 44.38 66 *e*P **P** 16 56 24.1 -0.5
comp=Z,21nm,0.9s
MCMT McKenzie Canyo 44.41 71 *e*P **P** 16 56 24.6 -0.5
ULN Ulaanbaatar 44.45 294 *e*P **P** 16 56 25.0 -0.3
comp=Z,22nm,0.8s
ULN Ulaanbaatar 44.45 294*d i*P **P** 16 56 25.1 -0.1
ULN pmax pmax
comp=Z,22nm,0.7s
TULEG Thule 44.64 18 *e*P **P** 16 56 26.3 +0.2
comp=Z,39nm,0.8s
BOZ Bozeman (W) 44.67 70 P **P** 16 56 26.3 -0.8
baz=305,SNR=32
BOZ Bozeman (W) 44.67 70 *e*P **P** 16 56 24.0 -3.1
comp=Z,44nm,1.0s
BOZ Bozeman (W) 44.67 70 *e*P **P** 16 56 24.0 -3.1
BOZ pmax pmax
comp=Z,44nm,1.0s
RYN Ryan 44.76 82 *e*P **P** 16 56 28.4 +0.6
comp=Z,26nm,0.6s
SONA1 Songino Array 44.82 294 *e*P **P** 16 56 28.1 -0.1
SONM Songino Array 44.83 294 P **P** 16 56 28.6 +0.3
comp=Z,24nm,0.5s,baz=62,slow=7.9,SNR=227
SONM pP **pP** 16 57 05.9 +0.8
comp=Z,9.0nm,0.5s,baz=62,slow=7.5,SNR=6.2
SONM PcP **PcP** 16 58 07.4 +0.4
comp=Z,5.9nm,0.6s,baz=62,slow=2.2,SNR=9.1
SONM ScP **ScP** 17 01 44.0 +0.7
comp=Z,6.3nm,0.8s,baz=39,slow=3.3,SNR=30
FFC Flin Flon 44.92 54 *e*P **P** 16 56 27.8 -0.8
comp=Z,12nm,0.7s
FFC Flin Flon 44.92 54 *e*P **P** 16 56 27.8 -0.8
FFC pmax pmax
comp=Z,12nm,0.7s
NVAR Mina Array Bea 45.01 82 P **P** 16 56 30.5 +0.6
comp=Z,18nm,0.6s,baz=298,slow=7.3,SNR=135
NVAR pP **pP** 16 57 07.7 +0.9
comp=Z,3.9nm,0.6s,baz=291,slow=6.5,SNR=2.9
NVAR sP **sP** 16 57 27.9 +2.5
comp=Z,4.1nm,0.7s,baz=292,slow=7.2,SNR=3.2
NVAR ScP **ScP** 17 01 45.2 +0.9
comp=Z,1.7nm,0.7s,baz=292,slow=4.2,SNR=9.0
NV01 Mina Array Sit 45.01 82 *e*P **P** 16 56 30.3 +0.4

NV11	Mina Array Sit	45.10	82	eP	P	16 56 31.3 +0.8
	comp=Z,1.2nm,0.6s					
ZAK	Zakamensk	45.14	299	eP	P	16 56 30.0 -0.6
ZAK				e		16 58 08.1
ZAK				pmax	pmax	
	comp=Z,16nm,1.3s					
QLMT	Earthquake Lak	45.23	70	eP	P	16 56 31.4 -0.2
YHB	Horse Butte	45.41	70	eP	P	16 56 32.9 -0.1
	comp=Z,43nm,0.9s					
PAGB	Antelope Grade	45.56	86	eP	P	16 56 35.3 +1.3
	comp=Z,75nm,0.5s					
YHH	Holmes Hill	45.59	70	eP	P	16 56 34.3 -0.2
	comp=Z,55nm,1.3s					
MOY	Mondy	45.65	302	eP	P	16 56 34.7 +0.1
MOY				pmax	pmax	
	comp=Z,26nm,2.4s					
YNR	Norris Junctio	45.73	70	eP	P	16 56 36.0 +0.5
	comp=Z,30nm,1.0s					
MCID	Moose Creek	45.75	71	eP	P	16 56 32.4 -3.2
YFT	Old Faithful	45.80	70	eP	P	16 56 37.2 +1.1
	comp=Z,23nm,0.7s					
RCTC	Rector, Farmer	45.80	85	P	P	16 56 36.2 +0.4
	baz=311					
YPP	Pitchstone Pla	45.92	71	eP	P	16 56 37.7 +0.6
	comp=Z,7.7nm,0.8s					
HHC	Hu-ho-hao-te	45.93	283	eP	P	16 56 37.7 +0.8
HHC				pP	pP	16 57 10.5 -3.3
HHC				sP	sP	16 57 26.0 -6.5
HHC				S	S	17 03 10.5 +1.9
HHC				sS	sS	17 04 08.4 -4.6
HHC				pmax	pmax	
	comp=Z,41nm,1.1s					
TIN	Tinemaha, Big	45.94	83	P	P	16 56 36.4 -0.6
	baz=310					
H17A	Grant Village	45.98	70	P	P	16 56 38.1 +0.6
	baz=306,SNR=34					
H17A	Grant Village	45.98	70	eP	P	16 56 38.5 +1.0
	comp=Z,70nm,1.4s					
LKWY	Lake	45.98	70	eP	P	16 56 39.2 +1.7
	comp=Z,12nm,0.8s					
LKWY	Lake	45.98	70	eP	P	16 56 39.2 +1.7
LKWY				pmax	pmax	
	comp=Z,12nm,0.8s					
SMMC	Simmler	45.99	86	P	P	16 56 37.8 +0.4
	baz=312					
FXWY	Fox Creek	46.17	71	eP	P	16 56 39.0 +0.1
	comp=Z,5.5nm,1.1s					
VES	Vestal, Richgr	46.20	85	P	P	16 56 38.8 -0.1
	baz=311,SNR=12					
HVU	Hansel Valley	46.26	75	eP	P	16 56 40.3 +0.7
	comp=Z,21nm,0.7s					
HVU	Hansel Valley	46.26	75	eP	P	16 56 40.3 +0.7
HVU				pmax	pmax	
	comp=Z,21nm,0.7s					
MOOW	Moose Ponds	46.27	71	eP	P	16 56 39.6 -0.1
	comp=Z,7.1nm,0.9s					
RLMT	Red Lodge	46.31	69	P	P	16 56 39.7 -0.2
	baz=306,SNR=21					
RLMT	Red Lodge	46.31	69	eP	P	16 56 40.0 +0.1
	comp=Z,28nm,0.8s					
PKM	Mcpherson Peak	46.38	87	P	P	16 56 41.2 +0.6
	baz=312					
CWC	Cottonwood Cre	46.42	84	P	P	16 56 41.6 +0.7
	baz=311					
LOHW	Long Hollow	46.43	71	eP	P	16 56 40.9 0.0
	comp=Z,6.8nm,0.8s					
REDW	Red Top Meadow	46.44	72	eP	P	16 56 42.0 +1.0
	comp=Z,12nm,1.1s					
GRAC	Grapevine Rang	46.50	83	P	P	16 56 42.1 +0.8
	baz=310,SNR=6.1					
FCC	Fort Churchill	46.50	46	eP	P	16 56 41.1 +0.2
	comp=Z,29nm,0.9s					
FCC	Fort Churchill	46.50	46	eP	P	16 56 41.1 +0.2
FCC				pmax	pmax	
	comp=Z,29nm,0.9s					
BGU	Big Grassy Mou	46.63	76	eP	P	16 56 43.6 +1.1
	comp=Z,9.4nm,0.9s					
ISA	Isabella, Lake	46.69	85	P	P	16 56 42.6 -0.3
	baz=311,SNR=9.8					
ISA	Isabella, Lake	46.69	85	eP	P	16 56 42.6 -0.3
	comp=Z,33nm,1.3s					
ISA	Isabella, Lake	46.69	85	eP	P	16 56 42.6 -0.3
ISA				pmax	pmax	
	comp=Z,33nm,1.3s					
R11A	Troy Canyon, C	46.72	80	P	P	16 56 43.1 -0.1
	baz=310,SNR=48					
R11A	Troy Canyon, C	46.72	80	eP	P	16 56 43.1 -0.1
	comp=Z,20nm,0.9s					
ARVC	Arvin	46.83	86	P	P	16 56 44.0 +0.1
	baz=312					
DAC	Darwin (Calif)	46.83	84	eP	P	16 56 44.3 +0.2
	comp=Z,15nm,1.0s					
DAC	Darwin (Calif)	46.83	84	eP	P	16 56 44.3 +0.2
DAC				pmax	pmax	
	comp=Z,15nm,1.0s					
BTO	Baotou	47.00	284	eP	P	16 56 45.6 +0.3
MPMC	Manual Prospec	47.04	84	P	P	16 56 46.0 +0.3
	baz=311,SNR=15					
GUMO	Guam	47.07	228	P	P	16 56 43.9 -2.0
	comp=Z,43nm,0.3s,baz=43,slow=1.4,SNR=11					
GUMO				LR	LR	17 15 42.2
	comp=Z,34nm,19.6s,baz=111,slow=35					
SCZ2	Santa Cruz Isl	47.09	88	P	P	16 56 46.1 +0.1
	baz=312					
FURC	Furnace Creek,	47.15	83	P	P	16 56 46.8 +0.5
	baz=311					
NJ2	Nanjing	47.21	269	eP	P	16 56 46.8 0.0
NJ2				pmax	pmax	
	comp=Z,16nm,0.5s					
TPNV	Topopah Spring	47.21	82	P	P	16 56 47.4 +0.3
	baz=311,SNR=30					
TPNV	Topopah Spring	47.21	82	eP	P	16 56 47.3 +0.3
	comp=Z,36nm,0.9s					
TPNV	Topopah Spring	47.21	82	eP	P	16 56 47.3 +0.3
TPNV				pmax	pmax	
	comp=Z,36nm,0.9s					
DUG	Dugway, Tooele	47.22	76	P	P	16 56 47.0 0.0
	baz=309,SNR=24					
DUG	Dugway, Tooele	47.22	76	eP	P	16 56 47.5 +0.5
	comp=Z,52nm,1.2s					
DUG	Dugway, Tooele	47.22	76	eP	P	16 56 47.5 +0.5
DUG				pmax	pmax	
	comp=Z,52nm,1.2s					
OSI	Osito Audit: C	47.23	86	P	P	16 56 47.7 +0.6
	baz=312					
LRMC	Laurel Mtn Rad	47.30	85	P	P	16 56 47.6 0.0
	baz=312,SNR=8.4					
EDW2	Edwards Air Fo	47.50	85	P	P	16 56 49.5 +0.3
	baz=312,SNR=5.7					
CTU	Camp Tracy	47.54	75	eP	P	16 56 50.2 +0.6
	comp=Z,14nm,0.9s					
BW06	Boulder Array	47.55	71	P	P	16 56 48.9 -0.7
	baz=308,SNR=16					
PD31	Pinedale Array	47.55	71	eP	P	16 56 48.9 -0.7
PDAR	Pinedale Array	47.55	71	P	P	16 56 49.0 -0.7
	comp=Z,15nm,0.6s,baz=300,slow=3.4,SNR=147					
PDAR				ScP	ScP	17 01 53.5 -1.4
	comp=Z,0.4nm,0.4s,baz=14,slow=1.2,SNR=6.5					
PDAR	Pinedale Array	47.55	71	eP	P	16 56 48.3 -1.4
PDAR				ScP	ScP	17 01 53.5 -1.4
PSUT	Pine Spring	47.64	79	eP	P	16 56 50.5 +0.1
	comp=Z,18nm,0.5s					
SNCC	San Nicolas Is	47.66	88	P	P	16 56 50.6 +0.3
	baz=313					
DECC	Green Verdugo	47.72	86	P	P	16 56 50.7 0.0
	baz=312					
JLU	Jordanelle	47.77	75	eP	P	16 56 52.4 +1.0
	comp=Z,24nm,1.2s					
NLU	North Lily Min	47.81	76	eP	P	16 56 52.0 +0.3
	comp=Z,11nm,0.8s					
PASC	Pasadena Art C	47.86	86	eP	P	16 56 53.3 +1.5
	comp=Z,31nm,0.8s					
SHOC	Shoshone, Teco	47.88	83	P	P	16 56 52.3 +0.3
	baz=311					
PAS	Pasadena	47.88	86	P	P	16 56 53.3 +1.3
PAS				pmax	pmax	
	comp=Z,32nm,0.9s					
MWC	Mount Wilson	47.90	86	eP	P	16 56 53.1 +0.7
	comp=Z,43nm,0.8s					
MWC	Mount Wilson	47.90	86	eP	P	16 56 53.1 +0.7
MWC				pmax	pmax	
	comp=Z,43nm,0.8s					
GSC	Goldstone, Bar	47.95	84	P	P	16 56 52.8 +0.1
	baz=312,SNR=25					
GSC	Goldstone, Bar	47.95	84	eP	P	16 56 53.1 +0.4
	comp=Z,42nm,0.7s					
GSC	Goldstone, Bar	47.95	84	eP	P	16 56 53.1 +0.4
GSC				pmax	pmax	
	comp=Z,42nm,0.7s					
MPU	Maple Canyon	48.03	76	eP	P	16 56 54.2 +0.9
	comp=Z,33nm,1.6s					
KULLO	Kullorsuaq	48.12	17	iP	P	16 56 54.0 +0.8
	comp=Z,43nm,0.5s					
KULLO	Kullorsuaq	48.12	17	iP	P	16 56 54.0 +0.8
KULLO				pmax	pmax	
	comp=Z,43nm,0.5s					
BFSC	Mount Baldy Ra	48.14	86	P	P	16 56 52.4 -1.7
	baz=312,SNR=7.1					
SHPR	Sheep Range	48.16	82	eP	P	16 56 55.2 +0.8
	comp=Z,17nm,1.5s					
TUQ	Turquoise Moun	48.40	83	P	P	16 56 55.8 -0.4
	baz=312,SNR=6.4					
HEC	Hector,Ludlow	48.55	84	P	P	16 56 56.9 -0.3
	baz=312,SNR=7.5					
SGU	Sterling	48.56	77	eP	P	16 56 59.2 +1.8
CCUT	Cedar City	48.57	79	eP	P	16 56 58.7 +1.2
	comp=Z,8.6nm,0.9s					
MSU	Marysvale	48.67	78	eP	P	16 56 58.7 +0.5
MSU	Marysvale	48.67	78	eP	P	16 56 58.7 +0.5
TMUT	Trail Mountain	48.74	76	eP	P	16 56 59.4 +0.5
	comp=Z,22nm,0.8s					
MURC	Murrieta	48.85	86	P	P	16 56 59.6 +0.1
	baz=313,SNR=8.0					
MTPU	Mount Pierson	48.97	78	eP	P	16 57 02.1 +1.4
	comp=Z,11nm,0.9s					
LCMT	Little Creek M	48.99	80	eP	P	16 57 01.1 +0.5
	comp=Z,19nm,0.9s					
GMRC	Granite Mounta	49.00	84	P	P	16 57 00.7 +0.1
	baz=312,SNR=16					
KNB	Kanab	49.25	80	eP	P	16 57 03.5 +0.9
	comp=Z,45nm,1.3s					
KNB	Kanab	49.25	80	eP	P	16 57 03.5 +0.9
KNB				pmax	pmax	
	comp=Z,45nm,1.3s					
PFO	Pinyon Flats O	49.30	85	P	P	16 57 02.6 -0.4
	baz=313					
BELC	Belle Mtn. Jos	49.32	85	P	P	16 57 02.7 -0.4
	baz=313,SNR=6.9					
K22A	Casper	49.38	70	P	P	16 57 03.2 -0.4
	baz=309					
SPITS	Spitsbergen Ar	49.38	355	P	P	16 57 02.7 -0.2
	comp=Z,12nm,0.4s,baz=5.3,slow=11,SNR=53					
109C	Camp Elliot, M	49.39	87	P	P	16 57 03.7 +0.2
	baz=313					
RWWY	Rawlins	49.59	71	eP	P	16 57 05.1 -0.1
	comp=Z,17nm,0.9s					
NEE2	Needles Airpor	49.64	83	P	P	16 57 05.3 -0.2
	baz=312					
IRM	Iron Mountain	49.73	84	P	P	16 57 05.9 -0.2
	baz=313,SNR=5.3					
BAR	Barrett	49.80	87	eP	P	16 57 07.3 +0.6
	comp=Z,50nm,1.2s					
MONP2	Monument Peak	49.81	86	P	P	16 57 06.8 -0.1
	baz=313					
BC3	Big Chuckawall	49.88	85	P	P	16 57 06.0 -1.4
	baz=313					
RSSD	Black Hills	49.89	67	P	P	16 57 06.0 -1.4
	baz=308					
RSSD	Black Hills	49.89	67	eP	P	16 57 06.8 -0.6
	comp=Z,10nm,0.6s					
RSSD	Black Hills	49.89	67	eP	P	16 57 06.8 -0.6
RSSD				pmax	pmax	
	comp=Z,10.0nm,0.6s					
U15A	North Rim	49.95	80	eP	P	16 57 08.6 +0.5
	comp=Z,51nm,1.3s					
O20A	White River Ci	49.97	73	P	P	16 57 07.4 -0.7
	baz=310,SNR=12					
O20A	White River Ci	49.97	73	eP	P	16 57 07.8 -0.3
	comp=Z,24nm,0.7s					
MDND	Maddock	50.04	60	P	P	16 57 07.9 -0.4
	baz=308,SNR=7.7					
MDND	Maddock	50.04	60	eP	P	16 57 08.6 +0.3
	comp=Z,146nm,1.2s					
IKP	In-Ko-Pah, Jac	50.17	86	P	P	16 57 09.4 -0.1
	baz=314					
PDMCI	Parker Dam,Lak	50.25	83	P	P	16 57 09.8 -0.2
	baz=313,SNR=5.5					
Y12C	Blythe	50.39	84	P	P	16 57 10.9 -0.1
	baz=313					
PV09	Paradox Valley	50.49	76	eP	P	16 57 12.2 0.0
ULM	Lac du Bonnet	50.53	56	P	P	16 57 11.6 -0.2
	comp=Z,22nm,0.6s,baz=307,slow=7.6,SNR=57					
ULM				LR	LR	17 19 59.8
	comp=Z,57nm,19.3s,baz=332,slow=37					
ULM	Lac du Bonnet	50.53	56	eP	P	16 57 11.2 -0.6
	comp=Z,28nm,0.6s					
PV10	Paradox Valley	50.63	76	eP	P	16 57 13.3 +0.2
GLA	Glamis	50.68	85	P	P	16 57 13.0 -0.3
	baz=313					
PV04	Paradox Valley	50.70	76	eP	P	16 57 11.2 -2.3
B31A	Greenbush Farm	50.72	59	P	P	16 57 12.9 -0.4
	baz=308					
PV05	Paradox Valley	50.79	76	eP	P	16 57 14.7 +0.5
N23A	Red Feather La	50.83	71	P	P	16 57 14.0 -0.6
	baz=310,SNR=7.7					
N23A	Red Feather La	50.83	71	eP	P	16 57 14.4 -0.2
	comp=Z,36nm,1.4s					
A32A	Rocking H Ranc	51.02	58	P	P	16 57 14.7 -0.9
	baz=308,SNR=17					
WHN	Wuhan	51.03	271	P	P	16 57 14.7 -1.1
C31A	Landman Farms,	51.07	59	P	P	16 57 14.9 -1.0
	baz=308,SNR=8.9					
PV01	Paradox Valley	51.07	76	eP	P	16 57 16.8 +0.4
WUAZ	Wupatki	51.12	80	P	P	16 57 16.9 +0.3
	baz=312,SNR=10					
WUAZ	Wupatki	51.12	80	eP	P	16 57 17.4 +0.7
	comp=Z,71nm,1.5s					
B32A	Ashes, Strandq	51.32	58	P	P	16 57 17.1 -0.7
	baz=308,SNR=16					
D31A	Mcclaflin, Tow	51.54	60	P	P	16 57 18.3 -1.1
	baz=309					
A33A	Warroad	51.58	57	P	P	16 57 19.5 -0.2
	baz=309,SNR=9.6					
C32A	Crookston	51.68	59	P	P	16 57 19.8 -0.7
	baz=309					
MVCO	Mesa Verde	51.72	76	P	P	16 57 20.5 -0.7
	baz=312					
ISCO	Idaho Springs	51.73	72	P	P	16 57 21.1 -0.3
	baz=311,SNR=7.8					
ISCO	Idaho Springs	51.73	72	eP	P	16 57 21.2 -0.1
	comp=Z,13nm,1.1s					
ISCO	Idaho Springs	51.73	72	eP	P	16 57 21.2 -0.1
ISCO				pmax	pmax	
	comp=Z,13nm,1.1s					
AGMN	Agassiz Nation	51.74	58	P	P	16 57 20.0 -0.9
	baz=309,SNR=21					
AGMN	Agassiz Nation	51.74	58	eP	P	16 57 19.5 -1.4
	comp=Z,45nm,1.0s					
E31A	Nome	51.76	61	P	P	16 57 20.0 -1.1
	baz=309,SNR=8.3					
X16A	Lo Mia Camp, P	51.81	81	eP	P	16 57 22.0 +0.1
	comp=Z,14nm,0.8s					
D32A	Dogwood Acres,	51.86	60	P	P	16 57 20.5 -1.3
	baz=309					
SSLB	Suanglung	51.87	260	eP	P	16 57 21.9 -0.3
	comp=Z,21nm,0.8s					
B33A	Robert and Kas	51.90	58	P	P	16 57 21.5 -0.6
	baz=309,SNR=18					
XAN	Xi'an	51.94	278	P	P	16 57 22.1 -0.6
XAN				pmax	pmax	
	comp=Z,20nm,0.7s					
XAN				pmax	pmax	
	comp=Z,130nm,2.8s					
XAN				LR	LR	
	comp=Z,1μm,16.3s					
XAN				LR	LR	
	comp=Z,470nm,16.8s					
XAN				LR	LR	
	comp=Z,340nm,11.3s					
YULB	Yu-li	51.96	259	eP	P	16 57 22.1 -0.8
	comp=Z,28nm,1.0s					
F31A	Hecla	52.00	62	P	P	16 57 22.0 -0.9
	baz=309					
C33A	Trail	52.12	58	P	P	16 57 23.2 -0.6
	baz=309					
B34A	Aery, Baudette	52.25	57	P	P	16 57 24.0 -0.6
	baz=309,SNR=34					
ZALV	Zalesovo Beam	52.27	312	P	P	16 57 24.0 -0.7
	comp=Z,2.3nm,0.5s,baz=44,slow=6.7,SNR=14					
ZALV				PcP	PcP	16 58 34.5 +0.9
	comp=Z,2.5nm,0.6s,baz=21,slow=5.1,SNR=5.2					
S22A	4UR Ranch, Cre	52.36	75	P	P	16 57 26.2 +0.2
	baz=312,SNR=21					
W18A	Petrified Fore	52.37	79	P	P	16 57 26.2 +0.2
	baz=313,SNR=7.6					
W18A	Petrified Fore	52.37	79	eP	P	16 57 21.8 -4.2
	comp=Z,32nm,1.1s					
NVS	Novosibirsk	52.42	313	eP	P	16 57 25.4 -0.4
NVS				e		16 58 05.9
NVS				eS	S	17 04 40.2 +1.8
NVS				pmax	pmax	
	comp=N,7.0nm,1.1s					
NVS				pmax	pmax	
	comp=E,9.0nm,1.1s					
NVS				pmax	pmax	
	comp=Z,13nm,1.1s					
NVS				smax	smax	
	comp=N,18nm,2.6s					
NVS				smax	smax	
	comp=E,33nm,2.6s					
TPUB	Ta-pu	52.43	260	eP	P	16 57 26.2 -0.1
	comp=E,37nm,1.1s					
D33A	AnnSam, Waubun	52.48	59	P	P	16 57 25.6 -0.8
	baz=310,SNR=9.9					
SUSD	Miller	52.52	63	P	P	16 57 25.2 -1.6
	baz=310					
X18A	Snowflake	52.64	80	eP	P	16 57 28.9 +0.9
	comp=E,21nm,0.6s					
214A	Organ Pipe Nat	52.66	84	P	P	16 57 27.9 -0.1
	baz=314,SNR=8.2					
214A	Organ Pipe Nat	52.66	84	eP	P	16 57 26.5 -1.5
	comp=E,29nm,0.6s					
G32A	Webster	52.79	62	P	P	16 57 27.5 -1.3
	baz=310					
E33A	Westby DABS, E	52.80	60	P	P	16 57 27.7 -1.0
	baz=310,SNR=6.7					
B35A	Bob, Littlefor	52.80	57	P	P	16 57 28.2 -0.6
	baz=310					
SUMG	Summit	52.82	13	iP	P	16 57 29.5 +0.5
	comp=E,16nm,0.5s					
SUMG	Summit	52.82	13	eP	P	16 57 24.5 -4.5
	comp=E,24nm,0.8s					
SUMG	Summit	52.82	13	iP	P	16 57 29.5 +0.5
SUMG				pmax	pmax	
	comp=Z,16nm,0.5s					
OGNE	Ogallala	53.05	69	P	P	16 57 30.6 -0.2
	baz=311					
F33A	5 Mile Ranch,	53.07	61	P	P	16 57 29.8 -0.9
	baz=310,SNR=5.0					
C35A	Jirik Farms, M	53.10	58	P	P	16 57 30.1 -0.8
	baz=310,SNR=22					
FRB	Frobisher Bay	53.10	31	P	P	16 57 30.8 +0.1
SDCO	Great Sand Dun	53.15	74	P	P	16 57 31.8 0.0
	baz=312,SNR=33					
SDCO	Great Sand Dun	53.15	74	eP	P	16 57 29.7 -2.1
	comp=Z,39nm,1.4s					
E34A	Wadena	53.23	59	P	P	16 57 31.1 -0.8
	baz=310					
H32A	Carlson Farm,	53.31	63	P	P	16 57 31.2 -1.4
	baz=310					
J31A	Geddes	53.38	64	P	P	16 57 32.4 -0.7
	baz=311					
G33A	Ortonville	53.41	61	P	P	16 57 32.1 -1.1
	baz=310,SNR=5.4					
D35A	Remer	53.45	58	P	P	16 57 32.9 -0.6
	baz=310,SNR=44					
ILULI	Ilulissat	53.50	20⇑	iP	P	16 57 34.1 +0.7
	comp=Z,40nm,0.6s					
ILULI	Ilulissat	53.50	20	eP	P	16 57 33.5 +0.1
	comp=Z,40nm,0.6s					
ILULI	Ilulissat	53.50	20⇑	iP	P	16 57 34.1 +0.7
ILULI				pmax	pmax	
	comp=Z,40nm,0.6s					
H33A	Prehn Over Nor	53.57	62	P	P	16 57 33.2 -1.3
	baz=311,SNR=6.0					
E35A	Pequot Lakes	53.61	59	P	P	16 57 34.0 -0.6
	baz=310					
LZH	Lanzhou	53.62	284	⇓P	P	16 57 35.9 +0.8
LZH				pP	pP	16 58 13.7 +0.6
LZH				sP	sP	16 58 30.2 -1.3
LZH				PP	PP	16 59 40.1 +2.8
LZH				eS	S	17 04 57.1 +1.6
LZH				sS	sS	17 06 02.0 +0.4
LZH				SS	SS	17 08 38.0 +0.1
LZH				pmax	pmax	
	comp=Z,60nm,0.7s					
LZH				pmax	pmax	
	comp=Z,200nm,4.4s					
C36A	Pine Crest Far	53.65	57	P	P	16 57 34.5 -0.4
	baz=310,SNR=20					
F34A	Alexandria	53.65	60	P	P	16 57 33.9 -1.1
	baz=310					
TUC	Tucson	53.66	83	P	P	16 57 35.4 +0.1
	baz=314					
TUC	Tucson	53.66	83	eP	P	16 57 35.6 +0.3
	comp=Z,28nm,1.3s					
TUC	Tucson	53.66	83	eP	P	16 57 35.6 +0.3
TUC				pmax	pmax	
	comp=Z,28nm,1.3s					
GTA	Gaotai	53.77	290	P	P	16 57 36.2 +0.1
GTA				pP	pP	16 58 17.6 +3.5
GTA				ScP	ScP	17 02 23.1 +1.6
GTA				S	S	17 04 59.2 +1.8
GTA				ScS	ScS	17 07 07.7 -0.6
GTA				pmax	pmax	
	comp=Z,25nm,0.6s					
GTA				pmax	pmax	
	comp=Z,140nm,6.4s					
GTA				LR	LR	
	comp=Z,2μm,12.8s					
GTA				LR	LR	
	comp=Z,890nm,14.5s					
GTA				LR	LR	
	comp=Z,810nm,12.1s					
G34A	Benson	53.81	61	P	P	16 57 35.6 -0.5
	baz=311					
J32A	Parkston	53.82	64	P	P	16 57 35.3 -0.9
	baz=311					
D36A	Goodland	53.85	58	P	P	16 57 35.7 -0.7
	baz=310,SNR=11					
F35A	Swanville	53.97	60	P	P	16 57 36.6 -0.7
	baz=311,SNR=5.0					
C37A	Embarrass	54.00	57	P	P	16 57 37.1 -0.4
	baz=311,SNR=22					
MHTCO	State Highway	54.04	74	eP	P	16 57 39.1 +0.9
	comp=Z,26nm,0.9s					
H34A	Spellman Lake,	54.11	61	P	P	16 57 37.7 -0.6
	baz=311					
T25A	Trinidad	54.20	74	P	P	16 57 39.4 +0.1
	baz=312,SNR=27					
T25A	Trinidad	54.20	74	eP	P	16 57 39.9 +0.6
	comp=Z,47nm,1.1s					
ENH	Enshi	54.20	275	eP	P	16 57 37.0 -2.2
	comp=Z,19nm,0.6s					
EYMN	Ely	54.21	56	P	P	16 57 38.8 -0.3
	baz=311,SNR=15					
EYMN	Ely	54.21	56	eP	P	16 57 37.8 -1.2
	comp=Z,43nm,0.8s					
K32A	Verdigre	54.22	65	P	P	16 57 38.3 -0.9
	baz=311					
E36A	McGregor	54.24	58	P	P	16 57 38.7 -0.5
	baz=311,SNR=18					
D37A	Cotton	54.25	57	P	P	16 57 38.7 -0.6
	baz=311,SNR=14					
ECSD	EROS Data Cent	54.26	63	P	P	16 57 38.6 -0.9
	baz=311,SNR=7.7					
ECSD	EROS Data Cent	54.26	63	eP	P	16 57 38.5 -0.9
	comp=Z,9.9nm,1.0s					
LAZ	Ladron	54.43	78	eP	P	16 57 42.5 +1.5
ANMO	Albuquerque	54.46	77	P	P	16 57 40.3 -1.0
	comp=Z,12nm,1.2s,baz=142,slow=12					
ANMO	Albuquerque	54.46	77	P	P	16 57 40.5 -0.7
	baz=313					
ANMO	Albuquerque	54.46	77	eP	P	16 57 41.6 +0.4
	comp=Z,14nm,1.3s					
ANMO	Albuquerque	54.46	77c	eP	P	16 57 41.2 0.0
ANMO				pmax	pmax	
	comp=Z,13nm,1.3s					
C38A	Sawbill Land.	54.48	56	P	P	16 57 40.5 -0.4
	baz=311,SNR=12					
F36A	Milaca	54.52	59	P	P	16 57 40.5 -0.8
	baz=311,SNR=11					
H35A	Sunnyside Ranc	54.59	61	P	P	16 57 41.3 -0.5
	baz=311					
L32A	Elgin	54.63	65	P	P	16 57 41.5 -0.7
	baz=312					
Y22E	IRIS PASSCAL I	54.78	78	P	P	16 57 41.7 -1.8
	baz=314					
G36A	St. Michael	54.82	60	P	P	16 57 43.5 +0.1
	baz=311					
BNM	Barren Site	54.91	78	eP	P	16 57 45.6 +1.1
BGNE	Belgrade	54.95	66	P	P	16 57 43.7 -0.7

	baz=312						
C39A	Grand Marais	54.99	55	P	P	16 57 44.2	-0.4
	baz=312						
E38A	The Farm, Brul	55.06	57	P	P	16 57 44.3	-0.9
	baz=312,SNR=26						
F37A	Hinrichs Farm,	55.09	59	P	P	16 57 44.9	-0.4
	baz=312,SNR=12						
H36A	Jessenland, He	55.16	60	P	P	16 57 45.8	0.0
	baz=312,SNR=7.7						
319A	Douglas	55.22	82	eP	P	16 57 47.5	+0.9
	comp=Z,37nm,1.2s						
121A	Cookes Peak, D	55.33	80	P	P	16 57 47.4	-0.1
	baz=314,SNR=7.1						
121A	Cookes Peak, D	55.33	80	P	P	16 57 44.2	-3.3
	comp=Z,6.3nm,0.5s						
F38A	Pierce - Schro	55.33	58	P	P	16 57 47.1	+0.1
	baz=312,SNR=38						
SPMN	Marine on St.	55.33	59	P	P	16 57 46.9	-0.2
	baz=312,SNR=6.3						
M33A	Taylor Creek F	55.37	65	P	P	16 57 46.4	-1.1
	baz=312						
SFJD	Kangerlussuaq	55.42	21	iP	P	16 57 47.4	0.0
	comp=Z,12nm,0.4s						
SFJD	Kangerlussuaq	55.42	21	iP	P	16 57 47.4	0.0
SFJD				pmax	pmax		
	comp=Z,13nm,0.4s						
I36A	Fitzsimmons Fa	55.48	61	P	P	16 57 47.6	-0.6
	baz=312						
L34A	Svendsen Farm,	55.56	64	P	P	16 57 48.1	-0.7
	baz=312						
K35A	Storm Lake	55.69	63	P	P	16 57 48.9	-0.8
	baz=312						
H37A	Dierke Farm, C	55.69	60	P	P	16 57 49.6	-0.1
	baz=312						
E39A	Mellen	55.73	57	P	P	16 57 49.4	-0.5
	baz=312,SNR=15						
M34A	Aspy Farms, Fr	55.76	65	P	P	16 57 49.3	-0.9
	baz=312						
J36A	Seneca 1, Swea	55.77	62	P	P	16 57 49.6	-0.6
	baz=312						
CBKS	Cedar Bluff	55.79	69	P	P	16 57 50.1	-0.4
	baz=313,SNR=8.3						
CBKS	Cedar Bluff	55.79	69	eP	P	16 57 50.7	+0.2
	comp=Z,40nm,0.7s						
CBKS	Cedar Bluff	55.79	69	eP	P	16 57 50.7	+0.2
CBKS				pmax	pmax		
	comp=Z,39nm,0.7s						
N33A	J Bar K, Exete	55.79	66	P	P	16 57 49.3	-1.1
	baz=312						
I37A	Lemond, Waseca	55.82	61	P	P	16 57 50.2	-0.4
	baz=312,SNR=6.8						
F39A	Loretta	55.85	58	P	P	16 57 50.6	-0.1
	baz=312,SNR=18						
G38A	Ridgeland	55.86	59	P	P	16 57 50.1	-0.7
	baz=312,SNR=19						
HSIG		55.87	85	eP	P	16 57 52.0	+0.8
	comp=Z,44nm,1.3s						
L35A	Bielow Farm, R	55.93	64	P	P	16 57 50.6	-0.8
	baz=312						
H38A	Maiden Rock	55.97	59	P	P	16 57 51.4	-0.2
	baz=312,SNR=16						
E40A	Wakefield	56.02	56	P	P	16 57 52.0	0.0
	baz=312,SNR=27						
G39A	Holcombe	56.14	58	P	P	16 57 52.4	-0.4
	baz=312,SNR=16						
O33A	Hebron	56.16	67	P	P	16 57 52.1	-1.0
	baz=313,SNR=13						
K36A	Gilmore City	56.17	62	P	P	16 57 52.3	-0.8
	baz=312,SNR=5.7						
J37A	Redenius Farm,	56.21	61	P	P	16 57 52.8	-0.5
	baz=312,SNR=7.2						
N34A	Lincoln	56.26	65	P	P	16 57 52.5	-1.2
	baz=313						
F40A	Park Falls	56.26	57	P	P	16 57 53.4	-0.3
	baz=312,SNR=17						
M35A	Neola	56.28	64	P	P	16 57 53.6	-0.3
	baz=313,SNR=15						
D41A	Chassel	56.29	55	P	P	16 57 53.8	0.0
	baz=312,SNR=11						
I38A	Scanlan Farm,	56.37	60	P	P	16 57 53.8	-0.6
	baz=312,SNR=6.5						
L36A	Harm Buss Farm	56.42	63	P	P	16 57 53.6	-1.2
	baz=313						
E41A	Kenton	56.49	56	P	P	16 57 55.0	-0.2
	baz=313						
H39A	Augusta	56.49	59	P	P	16 57 54.9	-0.5
	baz=313,SNR=7.6						
K37A	Belmond	56.53	62	P	P	16 57 54.9	-0.7
	baz=313,SNR=8.8						
O34A	Beatrice	56.59	66	P	P	16 57 55.2	-0.9
	baz=313,SNR=10						
COWI	Conover	56.65	56	eP	P	16 57 56.1	-0.3
	comp=Z,25nm,0.7s						
G40A	Rib Lake	56.66	58	P	P	16 57 56.1	-0.4
	baz=313,SNR=9.4						
N35A	Tabor	56.72	65	P	P	16 57 56.7	-0.2
	baz=313,SNR=12						
J38A	Wedel Dairy, R	56.78	61	P	P	16 57 56.9	-0.5
	baz=313,SNR=12						
M36A	Felix, Anita	56.78	64	P	P	16 57 56.7	-0.7
	baz=313,SNR=5.6						
L37A	Phoenix Point,	56.90	63	P	P	16 57 57.6	-0.6
	baz=313,SNR=13						
F41A	Three Lakes	56.91	57	P	P	16 57 58.1	-0.2
	baz=313,SNR=30						
I39A	Houston	56.92	60	P	P	16 57 57.8	-0.6
	baz=313,SNR=9.9						
ARCES	ARCESS Array B	56.95	349	P	P	16 57 57.3	-0.9
	comp=Z,3.9nm,0.7s,baz=33,slow=7.6,SNR=13						
P34A	Walnut Farm, R	56.95	67	P	P	16 57 57.7	-1.0
	baz=313,SNR=7.4						
O35A	Humboldt	56.97	65	P	P	16 57 57.5	-1.3
	baz=313						
H40A	Chili	57.00	58	P	P	16 57 58.7	-0.2
	baz=313,SNR=11						
E42A	Champion	57.04	55	P	P	16 57 59.2	0.0
	baz=313,SNR=17						
K38A	Parkersburg	57.08	61	P	P	16 57 58.7	-0.7
	baz=313						
N36A	Muff Farm, Cla	57.13	64	P	P	16 57 59.5	-0.4
	baz=313,SNR=6.8						
J39A	Decorah	57.18	60	P	P	16 57 59.3	-0.9
	baz=313,SNR=22						
M37A	Trindle Farm,	57.23	63	P	P	16 58 00.8	+0.3
	baz=313						
G41A	Antigo	57.23	57	P	P	16 58 00.8	+0.3
	baz=313						
CD2	Chengdu	57.25	279	⇓P	P	16 58 00.7	-0.2
CD2				pP	pP	16 58 39.4	0.0
CD2				sP	sP	16 58 58.2	+0.6
CD2				PcS	PcS	17 02 54.8	+0.1
CD2				S	S	17 05 42.6	-1.0
CD2				pmax	pmax		
	comp=Z,70nm,0.6s						
CD2				pmax	pmax		
	comp=Z,180nm,6.0s						
KURK	Kurchatov	57.26	312	eP	P	16 58 00.5	-0.2
	comp=Z,68nm,1.4s						
KURK	Kurchatov	57.26	312d	iP	P	16 58 00.4	-0.2
KURK				pmax	pmax		
	comp=Z,60nm,1.4s						
Q34A	Chapman	57.31	67	P	P	16 58 00.5	-0.7
	baz=314						
L38A	Oak Wood Farm,	57.32	62	P	P	16 58 00.6	-0.6
	baz=313,SNR=17						
MSTX	Muleshoe	57.34	75	P	P	16 58 00.9	-0.6
	baz=314,SNR=9.5						
MSTX	Muleshoe	57.34	75	eP	P	16 58 01.9	+0.3
	comp=Z,107nm,1.6s						
SCIA	State Center	57.34	62	P	P	16 58 01.0	-0.3
	baz=313						
SCIA	State Center	57.34	62	eP	P	16 58 01.5	+0.2
	comp=Z,74nm,0.9s						
AMTX	Amarillo	57.35	74	P	P	16 58 01.3	-0.3
	baz=314						
AMTX	Amarillo	57.35	74	eP	P	16 58 02.4	+0.8
	comp=Z,18nm,0.9s						
MNTX	Cornudas Mount	57.36	79	P	P	16 58 01.6	-0.1
	baz=315,SNR=11						
KSU1	Kansas State U	57.38	67	P	P	16 58 00.5	-1.1
	baz=314						
KSU1	Kansas State U	57.38	67	eP	P	16 58 01.8	+0.1
	comp=Z,19nm,0.6s						
I40A	Norwalk	57.38	59	P	P	16 58 01.1	-0.5
	baz=313,SNR=5.9						
H41A	Junction City	57.39	58	P	P	16 58 01.3	-0.4
	baz=313,SNR=11						
F42A	Maple Grove Fa	57.39	56	P	P	16 58 01.3	-0.3
	baz=313						
P35A	Duane Minner,	57.42	66	P	P	16 58 00.8	-1.1
	baz=313,SNR=7.6						
K39A	Oelwein	57.51	61	P	P	16 58 01.3	-1.2
	baz=313,SNR=7.1						
WMQ	Urumqi	57.53	301	P	P	16 58 03.0	+0.3
WMQ				pP	pP	16 58 41.9	+0.7
WMQ				PcP	PcP	16 58 56.1	+1.9
WMQ				pmax	pmax		
	comp=Z,47nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,83nm,4.9s						
WMQ				LR	LR		
	comp=Z,560nm,19.3s						
WMQ				LR	LR		
	comp=Z,1μm,24.5s						
WMQ				LR	LR		
	comp=Z,500nm,19.3s						
E43A	Lone Tree Farm	57.54	55	P	P	16 58 02.7	0.0
	baz=314,SNR=47						
R34A	Isabella, Hill	57.56	68	P	P	16 58 01.8	-1.2
	baz=314,SNR=6.4						
N37A	Lee Faris, Mou	57.58	64	P	P	16 58 02.5	-0.5
	baz=313,SNR=7.3						
O36A	Bolckow	57.59	65	P	P	16 58 02.0	-1.1
	baz=314						
G42A	Mountain	57.59	57	P	P	16 58 02.7	-0.3
	baz=313,SNR=23						
J40A	Soldiers Grove	57.65	60	P	P	16 58 02.7	-0.8
	baz=313,SNR=10						
I41A	Arkdale	57.66	59	P	P	16 58 03.2	-0.3
	baz=313,SNR=11						
M38A	Pleasantville	57.69	63	P	P	16 58 03.1	-0.7
	baz=314,SNR=8.0						
APA	Apatity	57.69	345⇑	iP	P	16 58 14.0	+11
APA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
F43A	Flat Rock, Esc	57.83	55	P	P	16 58 04.8	+0.1
	baz=314,SNR=18						
L39A	Vinton	57.85	61	P	P	16 58 04.2	-0.7
	baz=314,SNR=19						
Q35A	Mercer Eighty,	57.87	67	P	P	16 58 03.9	-1.1
	baz=314						
E44A	Grand Marais A	57.91	54	P	P	16 58 05.9	+0.6
	baz=314,SNR=12						
K40A	Colesburg	57.92	60	P	P	16 58 04.6	-0.7
	baz=314,SNR=11						
G43A	Wallace	57.96	56	P	P	16 58 05.6	0.0
	baz=314,SNR=7.1						
O37A	Wolven Farm, M	58.02	64	P	P	16 58 04.9	-1.2
	baz=314						
H42A	Shiocton	58.05	57	P	P	16 58 05.8	-0.4
	baz=314						
S34A	Willow Spring	58.05	68	P	P	16 58 04.9	-1.4
	baz=314						
J41A	Loganville	58.06	59	P	P	16 58 05.6	-0.7
	baz=314,SNR=16						
N38A	Joes South For	58.09	63	P	P	16 58 05.8	-0.8
	baz=314,SNR=7.6						
F44A	Big Bay de Noc	58.11	55	P	P	16 58 06.7	+0.1
	baz=314,SNR=11						
Q36A	Arnold C. Orve	58.12	66	P	P	16 58 05.6	-1.2
	baz=314						
R35A	Emporia Munici	58.14	67	P	P	16 58 05.9	-1.1
	baz=314,SNR=7.7						
M39A	Webster	58.20	62	P	P	16 58 06.7	-0.6
	baz=314,SNR=19						
MK31	Makanchi Array	58.24	307	eP	P	16 58 06.8	-0.8
MK31	Makanchi Array	58.24	307	eP	P	16 58 06.8	-0.8
MKAR	Makanchi Array	58.24	307	P	P	16 58 06.8	-0.8
	comp=Z,13nm,0.4s,baz=52,slow=6.4,SNR=454						
MKAR				pP	pP	16 58 46.3	+0.1
	comp=Z,2.7nm,0.5s,baz=46,slow=5.9,SNR=3.0						
MKAR	Makanchi Array	58.24	307	eP	P	16 58 06.8	-0.8
	comp=Z,154nm,0.4s						
MKAR				pP	pP	16 58 46.3	+0.1
JFWS	Jewell Farm	58.25	60	P	P	16 58 06.4	-1.2
	baz=314,SNR=6.7						
JFWS	Jewell Farm	58.25	60	eP	P	16 58 05.8	-1.8
	comp=Z,13nm,0.6s						
JFWS	Jewell Farm	58.25	60	eP	P	16 58 05.8	-1.8
JFWS				pmax	pmax		
	comp=Z,13nm,0.6s						
MK01	Makanchi Array	58.25	307	eP	P	16 58 06.8	-0.9
I42A	Draeger Farm,	58.27	58	P	P	16 58 07.5	-0.3
	baz=314,SNR=16						
P37A	Lathrop	58.31	65	P	P	16 58 06.6	-1.5
	baz=314,SNR=11						
L40A	Anamosa	58.31	61	P	P	16 58 07.0	-1.0
	baz=314,SNR=5.3						
MAKZ	Makanchi	58.38	307	eP	P	16 58 07.8	-0.8
	comp=Z,17nm,0.6s						
MAKZ	Makanchi	58.38	307	eP	P	16 58 07.8	-0.8
MAKZ				pmax	pmax		
	comp=Z,17nm,0.6s						
K41A	Shullsburg	58.43	60	P	P	16 58 08.0	-0.8
	baz=314,SNR=23						
O38A	Galt	58.43	64	P	P	16 58 07.7	-1.2
	baz=314						
N39A	Derby Farms, D	58.44	63	P	P	16 58 08.3	-0.7
	baz=314,SNR=16						
E45A	Wooded Hills,	58.47	54	P	P	16 58 09.2	+0.1
	baz=314,SNR=6.6						
H43A	Windswept, Lux	58.47	57	P	P	16 58 08.7	-0.4
	baz=314,SNR=8.7						
T34A	McClaskey Farm	58.48	69	P	P	16 58 08.2	-1.2
	baz=314,SNR=7.7						
S35A	Otter Creek Ra	58.52	68	P	P	16 58 08.6	-1.0
	baz=314						
R36A	Gordon, Harris	58.54	67	P	P	16 58 08.5	-1.2
	baz=314,SNR=17						
J42A	Columbus	58.56	59	P	P	16 58 09.2	-0.6
	baz=314,SNR=15						
M40A	Post Highland	58.61	62	P	P	16 58 09.2	-0.9
	baz=314,SNR=7.7						
GYA	Guiyang	58.66	274⇓	iP	P	16 58 10.8	-0.1
GYA				pP	pP	16 58 50.4	+0.9
GYA				sP	sP	16 59 09.8	+2.1
GYA				PP	PP	17 00 24.0	+1.7
GYA				ScP	ScP	17 02 42.3	-1.0
GYA				S	S	17 05 59.0	-3.2
GYA				sS	sS	17 07 08.4	-0.8
GYA				ScS	ScS	17 07 40.0	-4.1
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,6.2s						
I43A	Langenfeld Bro	58.68	58	P	P	16 58 10.4	-0.2
	baz=314,SNR=7.9						
L41A	Preston	58.69	61	P	P	16 58 09.7	-1.0
	baz=314,SNR=7.8						
P38A	Dawn	58.74	65	P	P	16 58 09.7	-1.3
	baz=314,SNR=15						
Q37A	Longview Farm,	58.75	66	P	P	16 58 09.4	-1.7
	baz=314						
F45A	CMU Biological	58.77	55	P	P	16 58 11.2	+0.1
	baz=314,SNR=7.8						
K42A	Prairie Point,	58.82	59	P	P	16 58 11.0	-0.6
	baz=314,SNR=8.6						
O39A	Kirksville	58.85	63	P	P	16 58 10.7	-1.1
	baz=314						
J43A	Natural Harves	58.89	58	P	P	16 58 11.3	-0.7
	baz=314						
S36A	Lake Cedric, C	58.90	67	P	P	16 58 10.9	-1.3
	baz=314,SNR=5.2						
R37A	Teagarden Farm	58.92	66	P	P	16 58 10.9	-1.5
	baz=314						
N40A	Mertquake, Sal	58.94	62	P	P	16 58 11.5	-0.9
	baz=314						
T35A	Sooner Cattle	58.94	69	P	P	16 58 11.4	-1.2
	baz=314						
F46A	Macinaw City C	59.08	54	P	P	16 58 13.3	0.0
	baz=315,SNR=6.0						
Q38A	Cooks Store, C	59.15	65	P	P	16 58 12.5	-1.4
	baz=314						
WMOK	Wichita Mounta	59.16	72	P	P	16 58 13.8	-0.1
	baz=315,SNR=11						
WMOK	Wichita Mounta	59.16	72	eP	P	16 58 13.9	-0.1
	comp=Z,14nm,0.8s						
WMOK	Wichita Mounta	59.16	72	eP	P	16 58 13.9	-0.1
WMOK				pmax	pmax		
	comp=Z,14nm,0.8s						
M41A	Milan	59.16	61	P	P	16 58 13.0	-0.9
	baz=314						
BVA0	Borovoye Array	59.19	318	iP	P	16 58 14.1	+0.2
BVA0				pmax	pmax		
	comp=Z,40nm,0.7s						
BVAR	Borovoye Array	59.19	318	P	P	16 58 14.3	+0.3
	comp=Z,49nm,0.6s,baz=50,slow=6.8,SNR=320						
BVAR				ScP	ScP	17 02 44.7	-0.3
	comp=Z,1.3nm,0.7s,baz=64,slow=3.4,SNR=4.1						
L42A	Oliver, Polo	59.19	60	P	P	16 58 13.3	-0.9
	baz=314						
BRVK	Borovoye	59.20	318	eP	P	16 58 14.5	+0.5
	comp=Z,45nm,0.6s						
BRVK	Borovoye	59.20	318d	iP	P	16 58 14.3	+0.2
BRVK				pmax	pmax		
	comp=Z,38nm,0.6s						
P39B	Salisbury	59.27	64	P	P	16 58 13.3	-1.4
	baz=314,SNR=11						
O40A	La Belle	59.31	63	P	P	16 58 14.1	-0.9
	baz=314,SNR=17						
S37A	Fort Scott	59.31	67	P	P	16 58 13.4	-1.6
	baz=315,SNR=8.1						
TGY	Tagaytay City	59.35	252	P	P	16 58 17.6	+2.0
	comp=Z,189nm,0.4s,baz=169,slow=5.4,SNR=5.2						
K43A	Burlington	59.41	59	P	P	16 58 14.8	-0.8
	baz=315						
Q39A	Willow Grove F	59.45	65	P	P	16 58 14.6	-1.4
	baz=315,SNR=7.7						
N41A	Harden Midland	59.45	62	P	P	16 58 15.1	-0.8
	baz=315,SNR=7.0						
M42A	Sheffield	59.52	61	P	P	16 58 15.4	-1.0
	baz=315						
L43A	Garden Prairie	59.55	59	P	P	16 58 16.0	-0.6
	baz=315						
P40A	Paris	59.63	64	P	P	16 58 15.7	-1.5
	baz=315,SNR=15						
N42A	Yates City	59.81	61	P	P	16 58 17.4	-1.1
	baz=315						
GLMI	Grayling	59.82	55	P	P	16 58 17.7	-0.7
	baz=315						
LPIG	La Paz	59.82	89	P	P	16 58 20.2	+1.5
	comp=Z,22nm,0.4s,baz=45,slow=2.9,SNR=5.1						
O41A	Passleys Farm,	59.85	62	P	P	16 58 17.5	-1.2
	baz=315,SNR=10						
S38A	Stockton	59.92	66	P	P	16 58 17.4	-1.9
	baz=315,SNR=20						
R39A	Chumby, Stover	59.93	65	P	P	16 58 17.7	-1.5
	baz=315						
M43A	Waltham Townsh	59.96	60	P	P	16 58 18.4	-1.0
	baz=315						
Q40A	Laux Farm, Aux	59.99	64	P	P	16 58 18.4	-1.2
	baz=315,SNR=8.0						
L44A	Lake County Fo	60.00	59	P	P	16 58 18.7	-0.9
	baz=315						
TUL1	Leonard	60.06	69	P	P	16 58 18.9	-1.3
	baz=315						
P41A	Barry, Barry	60.07	63	P	P	16 58 18.8	-1.4
	baz=315,SNR=8.3						
TX31	Lajitas Ar. Si	60.08	80	eP	P	16 58 20.5	-0.1
TXAR	Lajitas Array	60.08	80	P	P	16 58 20.5	-0.1
	comp=Z,9.3nm,0.4s,baz=305,slow=5.5,SNR=227						
TXAR				pP	pP	16 58 58.6	-0.7
	comp=Z,3.7nm,0.6s,baz=297,slow=4.8,SNR=2.8						
T38A	Diamond	60.12	67	P	P	16 58 19.1	-1.5
	baz=315,SNR=9.1						
ABTX	Abilene, Hawle	60.14	74	P	P	16 58 20.8	-0.1
	baz=316,SNR=13						
ABTX	Abilene, Hawle	60.14	74	eP	P	16 58 21.1	+0.3
	comp=Z,96nm,1.4s						
N43A	Stutzman Famil	60.20	61	P	P	16 58 19.6	-1.4
	baz=315						
S39A	Bolivar	60.21	66	P	P	16 58 19.1	-2.1
	baz=315						
SCHQ	Schefferville	60.29	37	P	P	16 58 22.0	+0.5
	comp=Z,17nm,0.4s,baz=283,slow=9.8,SNR=23						
SCHQ				LR	LR	17 25 40.2	
	comp=Z,112nm,18.9s,baz=2.0,slow=37						
SCHQ	Schefferville	60.29	37	eP	P	16 58 21.9	+0.5
	comp=Z,53nm,1.2s						
R40A	Maddies Statio	60.38	65	P	P	16 58 20.9	-1.3
	baz=315,SNR=9.3						
HDIL	Hopedale	60.41	61	P	P	16 58 21.6	-0.9
	baz=315,SNR=5.0						
HDIL	Hopedale	60.41	61	eP	P	16 58 19.4	-3.0
	comp=Z,17nm,0.6s						
Q41A	Truxton	60.48	64	P	P	16 58 21.9	-1.1
	baz=315,SNR=11						
M44A	Midewin, Midew	60.48	60	P	P	16 58 22.6	-0.3
	baz=315						
P42A	Winchester	60.52	63	P	P	16 58 22.4	-0.8
	baz=315,SNR=5.0						
O43A	Sugar Creek Fa	60.59	61	P	P	16 58 22.2	-1.5
	baz=315						
T39A	Clever	60.65	67	P	P	16 58 22.3	-1.8
	baz=315,SNR=7.0						
S40A	Lebanon	60.73	66	P	P	16 58 22.9	-1.9
	baz=315						
N44A	Piper City	60.86	60	P	P	16 58 24.6	-0.8
	baz=315						
R41A	Rosebud	60.86	64	P	P	16 58 24.1	-1.5
	baz=315,SNR=11						
Q42A	Golden Eagle	60.90	63	P	P	16 58 25.1	-0.7
	baz=315,SNR=9.9						
P43A	Skaggs, Pawnee	60.93	62	P	P	16 58 24.7	-1.3
	baz=315,SNR=8.8						
ARU	Arti	61.01	327c	iP	P	16 58 27.2	+0.9
ARU				*PP	pP	16 59 05.7	+0.5
ARU						17 00 42.7	
ARU				S	S	17 06 34.5	+3.4
ARU				SS	SS	17 10 37.2	+4.7
ARU				pmax	pmax		
	comp=Z,27nm,1.7s						
T40A	Mansfield	61.04	66	P	P	16 58 25.1	-1.8
	baz=316,SNR=8.0						
U39A	Green Forest	61.05	67	P	P	16 58 25.3	-1.5
	baz=316,SNR=8.9						
TOBO	Tobermory, Bru	61.07	53	P	P	16 58 26.8	0.0
	baz=316,SNR=12						
O44A	Mansfield	61.14	61	P	P	16 58 26.5	-0.9
	baz=316						
N45A	Kentland	61.15	60	P	P	16 58 27.0	-0.4
	baz=316,SNR=7.7						
S41A	Jillco Farms,	61.16	65	P	P	16 58 25.8	-1.9
	baz=316,SNR=19						
R42A	Luebbering	61.20	64	P	P	16 58 26.8	-1.1
	baz=316,SNR=7.5						
Q43A	New Douglas	61.33	63	P	P	16 58 28.1	-0.6
	baz=316,SNR=7.3						
V39A	Pettigrew	61.34	68	P	P	16 58 27.8	-1.1
	baz=316,SNR=7.4						
M46A	Old House Fiel	61.36	59	P	P	16 58 27.9	-1.0
	baz=316						
U40A	Yellville	61.42	67	P	P	16 58 28.1	-1.2
	baz=316,SNR=6.0						
O45A	Potomac	61.47	60	P	P	16 58 28.7	-0.9
	baz=316,SNR=19						
N46A	Monticello	61.53	59	P	P	16 58 29.8	-0.2
	baz=316						
P44A	Sand Creek, Wi	61.54	62	P	P	16 58 30.0	-0.1
	baz=316						
T41A	Mountain View	61.54	66	P	P	16 58 29.4	-0.7
	baz=316						
S42A	Caledonia	61.56	64	P	P	16 58 28.8	-1.6
	baz=316,SNR=30						
JCT	Junction City	61.58	76	P	P	16 58 29.3	-1.3
	baz=316,SNR=7.8						
JCT	Junction City	61.58	76	eP	P	16 58 30.2	-0.4
	comp=Z,40nm,1.3s						
JCT	Junction City	61.58	76	eP	P	16 58 30.2	-0.4
JCT				pmax	pmax		
	comp=Z,40nm,1.3s						
FVM	French Village	61.62	64	eP	P	16 58 30.4	-0.2
	comp=Z,36nm,1.4s						
FVM	French Village	61.62	64	eP	P	16 58 30.4	-0.2
FVM				pmax	pmax		
	comp=Z,36nm,1.4s						
R43A	Red Bud	61.68	63	P	P	16 58 30.0	-1.0
	baz=316						
SFIN	Lafayette	61.71	60	P	P	16 58 30.6	-0.6
	baz=316,SNR=14						
SFIN	Lafayette	61.71	60	eP	P	16 58 31.2	0.0
	comp=Z,55nm,0.6s						
W39A	Magazine	61.72	68	P	P	16 58 30.8	-0.6
	baz=316,SNR=10						
Q44A	Meyer Farm, Va	61.73	62	P	P	16 58 30.8	-0.6
	baz=316						
BRCO	Bruce Peninsul	61.82	53	P	P	16 58 32.0	+0.1
	baz=317,SNR=5.2						
V40A	Witts Springs	61.83	67	P	P	16 58 30.8	-1.4
	baz=316,SNR=21						
OTUK	Ortayu	61.88	313	P	P	16 58 32.4	+0.1
OTUK				pmax	pmax		
	comp=Z,25nm,1.2s						

WHTX **Lake Whitney,** 61.88 73 P P 16 58 31.4 -1.1
baz=316
T42A **Van Buren** 61.93 65 P P 16 58 30.9 -1.8
baz=316,SNR=7.1
U41A **Viola** 61.95 66 P P 16 58 31.5 -1.5
baz=316,SNR=12
P45A **Graceland, Par** 61.97 61 P P 16 58 32.4 -0.6
baz=316,SNR=7.4
X39A **Fountain Ranch** 62.02 69 P P 16 58 33.2 -0.2
baz=316,SNR=18
KMI **Kunming** 62.04 276 P P 16 58 33.9 0.0
KMI pP PcP 16 59 13.7 +0.9
KMI pmax pmax
comp=Z,24nm,0.8s
KMI pmax pmax
comp=Z,83nm,5.6s
KMI LR LR
comp=Z,330nm,8.3s
KMI LR LR
comp=Z,290nm,10.5s
KMI LR LR
comp=Z,340nm,17.3s
PDGK **Podgornoye** 62.10 305 P P 16 58 33.7 -0.3
PDGK pmax pmax
comp=Z,20nm,1.0s
S43A **Fulton Ridge,** 62.10 64 P P 16 58 32.9 -1.0
baz=316,SNR=6.5
AAM **Ann Arbor** 62.12 56 P P 16 58 34.1 +0.2
baz=316
W40A **Ferguson Farm,** 62.13 68 P P 16 58 33.3 -0.8
baz=316,SNR=8.2
W40A **Ferguson Farm,** 62.13 68 eP P 16 58 34.0 -0.1
comp=Z,67nm,1.0s
R44A **Waltonville** 62.16 63 P P 16 58 33.8 -0.5
baz=316
P46A **Rosedale** 62.20 61 P P 16 58 33.9 -0.6
baz=316,SNR=8.3
Q45A **Warren Harvey,** 62.20 62 P P 16 58 33.7 -0.9
baz=316,SNR=11
V41A **Mountainview** 62.22 67 P P 16 58 33.1 -1.6
baz=316,SNR=20
O47A **Sheridan** 62.30 59 P P 16 58 33.9 -1.2
baz=316,SNR=8.1
MIAR **Mount Ida** 62.30 69 P P 16 58 35.0 -0.3
baz=316,SNR=9.9
MIAR **Mount Ida** 62.30 69 eP P 16 58 35.3 0.0
comp=Z,47nm,1.1s
MIAR **Mount Ida** 62.30 69 eP P 16 58 35.3 0.0
MIAR pmax pmax
comp=Z,47nm,1.1s
U42A **Revenden** 62.33 66 P P 16 58 34.0 -1.4
baz=316,SNR=7.2
X301 **Greenbrier Sit** 62.48 67 eP P 16 58 35.6 -0.8
comp=Z,20nm,0.9s
WHAR **Wooly Hollow** 62.50 67 eP P 16 58 35.8 -0.8
comp=Z,38nm,1.2s
SADO **Sadowa** 62.56 52 eP P 16 58 36.5 -0.3
comp=Z,28nm,0.9s
R45A **Skylar, Fairfi** 62.57 62 P P 16 58 36.1 -0.9
baz=316,SNR=6.1
W41B **Gary Mavity, V** 62.61 67 P P 16 58 36.0 -1.3
baz=316,SNR=9.3
V42A **Cord** 62.64 66 P P 16 58 36.4 -1.1
baz=316
435B **Jarrell** 62.68 74 P P 16 58 37.7 -0.1
baz=317
X40A **Basin Creek Fa** 62.77 68 P P 16 58 37.5 -0.9
baz=316,SNR=5.4
P47A **Martinsville** 62.79 60 P P 16 58 37.9 -0.6
baz=317,SNR=13
S45A **Carrier Mills** 62.85 63 P P 16 58 38.1 -0.7
baz=316
X41A **Kaden, Bauxite** 62.95 68 P P 16 58 38.8 -0.7
baz=316
W42A **Bald Knob** 62.95 67 P P 16 58 38.3 -1.2
baz=316
R46A **Gibon Southern** 63.05 62 P P 16 58 40.2 +0.1
baz=317
Q47A **Bedord North L** 63.10 61 P P 16 58 39.6 -0.9
baz=317
HNR **Honiara** 63.50 201 LR LR 17 22 39.8
comp=Z,43nm,19.9s,baz=199,slow=32
R47A **Wooly Knot Far** 63.52 61 P P 16 58 42.5 -0.8
baz=317,SNR=6.3
TRQ **Mont Tremblant** 63.63 48 eP P 16 58 42.9 -1.0
T46A **Princeton** 63.69 63 P P 16 58 44.0 -0.3
baz=317,SNR=7.5
WCI **Wyandotte Cave** 63.69 61 P P 16 58 43.9 -0.4
baz=317
WCI **Wyandotte Cave** 63.69 61 eP P 16 58 44.8 +0.4
comp=Z,26nm,0.9s
WCI **Wyandotte Cave** 63.69 61 eP P 16 58 44.8 +0.4
WCI pmax pmax
comp=Z,27nm,0.9s
ACSO **Alum Creek Sta** 63.97 57 P P 16 58 45.6 -0.6
baz=318,SNR=5.1
ERPA **Erie** 64.10 54 P P 16 58 46.8 -0.2
baz=318,SNR=5.2
KDJ **Kajisay** 64.13 306 P P 16 58 48.1 +0.7
KDJ pmax pmax
comp=Z,21nm,0.7s
T47A **Sharon Grove** 64.16 63 P P 16 58 46.8 -0.6
baz=317,SNR=11
S48A **Wiedeman Farm,** 64.24 61 P P 16 58 47.2 -0.7
baz=317,SNR=7.1
HKT **Hockley** 64.32 74 eP P 16 58 49.7 +1.2
comp=Z,68nm,1.8s
HKT **Hockley** 64.32 74 eP P 16 58 49.7 +1.2
HKT pmax pmax
comp=Z,68nm,1.8s
TKM2 **Tokmak 2** 64.33 307 P P 16 58 49.1 +0.4
SNR=19
TKM2 **Tokmak 2** 64.33 307 P P 16 58 48.7 0.0
TKM2 pmax pmax
comp=Z,13nm,0.8s
WVT **Waverly** 64.39 64 P P 16 58 48.2 -0.7
baz=317
WVT **Waverly** 64.39 64 eP P 16 58 48.6 -0.3
comp=Z,31nm,0.9s
WVT **Waverly** 64.39 64 eP P 16 58 48.6 -0.3
WVT pmax pmax
comp=Z,31nm,0.9s
T48A **Bowling Green** 64.45 62 P P 16 58 48.9 -0.4
baz=317,SNR=5.4
U47A **Clarksville** 64.46 63 P P 16 58 48.9 -0.5
baz=317,SNR=7.2
V46A **Holladay** 64.47 64 P P 16 58 48.6 -0.9
baz=317,SNR=8.3
FINES **FINESS Array B** 64.56 346 P P 16 58 48.6 -1.0
comp=Z,2.4nm,0.8s,baz=17,slow=5.5,SNR=8.4
FINES **FINESS Array B** 64.56 346 *i* P P 16 58 49.7 +0.1
FINES pmax pmax
comp=Z,2.0nm,0.8s
USP **Ospenovka** 64.60 308 P P 16 58 51.3 +1.0
SNR=8.9
MMNY **Mt. Morris Dam** 64.67 52 eP P 16 58 50.8 +0.1
comp=Z,72nm,0.9s
OXF **Oxford** 64.69 66 P P 16 58 50.6 -0.3
baz=317
M54A **Oil Creek Stat** 64.72 54 P P 16 58 50.6 -0.5
baz=318,SNR=6.9
M54A **Oil Creek Stat** 64.72 54 eP P 16 58 51.8 +0.7
comp=Z,37nm,1.1s
X45A **UM Field Stati** 64.77 66 P P 16 58 50.1 -1.3
baz=317
V47A **Nunnelly** 64.78 64 P P 16 58 50.8 -0.7
baz=317,SNR=5.6
U48A **Cassie Pea, Po** 64.81 63 P P 16 58 51.2 -0.6
baz=318,SNR=14
LONY **Lake Ozonia** 64.83 49 P P 16 58 50.5 -1.1
baz=320,SNR=5.8
LONY **Lake Ozonia** 64.83 49 eP P 16 58 50.6 -1.1
comp=Z,16nm,0.4s
KBK **Karagaybulak** 64.84 308 P P 16 58 52.6 +0.6
SNR=24
FRU **Bishkek** 64.87 308 eP P 16 58 52.0 0.0
FRU pmax pmax
comp=Z,40nm,1.9s
341A **Kurthwood** 64.87 71 P P 16 58 51.6 -0.5
baz=317
N54A **Moraine State** 64.96 55 P P 16 58 51.7 -0.9
baz=318
N54A **Moraine State** 64.96 55 eP P 16 58 52.8 +0.2
comp=Z,136nm,1.8s
Z44A **Pea Ridge, Bel** 65.02 68 P P 16 58 51.6 -1.4
baz=317
AAK **Ala-Archa** 65.08 308 P P 16 58 54.0 +0.5
comp=Z,16nm,0.5s,baz=109,slow=4.7,SNR=112
AAK **Ala-Archa** 65.08 308 P P 16 58 53.9 +0.5
SNR=31
AAK **Ala-Archa** 65.08 308 P P 16 58 54.0 +0.5
AAK pmax pmax
comp=Z,16nm,0.5s
X46A **Booneville** 65.12 65 P P 16 58 52.7 -1.0
baz=318
KZA **Kyzart** 65.13 307 P P 16 58 54.9 +0.7
SNR=20
W47A **Westpoint** 65.16 64 P P 16 58 52.8 -1.1
baz=318,SNR=9.7
V48A **Smith Brothers** 65.23 63 P P 16 58 53.5 -0.9
baz=318,SNR=8.0
NRN **Naryn** 65.24 306 P P 16 58 55.6 +0.8
UCH **Uchtor** 65.38 308 P P 16 58 56.8 +1.0
SNR=8.2
EKS2 **Erkin-Say** 65.40 308 P P 16 58 56.8 +1.2
SNR=7.6
Y46A **Houston** 65.46 66 P P 16 58 55.1 -0.8
baz=318,SNR=6.1
NCB **Newcomb** 65.49 49 eP P 16 58 55.3 -0.7
comp=Z,16nm,0.8s
X47A **Russelville** 65.56 65 P P 16 58 55.5 -1.0
baz=318,SNR=7.7
W48A **Pulaski** 65.61 64 P P 16 58 55.9 -1.0
baz=318,SNR=14
LSA **Lhasa** 65.65 287 P P 16 58 59.0 +1.2
LSA pmax pmax
comp=Z,19nm,0.6s
LSA **Lhasa** 65.65 287 eP P 16 58 58.7 +0.9
comp=Z,43nm,0.7s
LSA **Lhasa** 65.65 287 eP P 16 58 58.7 +0.9
LSA pmax pmax
comp=Z,43nm,0.7s
244A **Avery, Jackson** 65.78 69 P P 16 58 57.6 -0.4
baz=318
AML **Almayashu** 65.84 308 P P 16 58 59.7 +1.0
SNR=29
BINY **Binghamton** 66.00 52 P P 16 58 59.1 -0.2
baz=320,SNR=11
BINY **Binghamton** 66.00 52 eP P 16 58 59.1 -0.2
comp=Z,39nm,0.6s
Y47A **UCPARC, Winfie** 66.01 65 P P 16 58 58.1 -1.3
baz=318,SNR=7.5
AKTO **Aktyubinsk** 66.04 323 P P 16 59 00.1 +0.7
comp=Z,19nm,0.5s,baz=69,slow=11,SNR=84
X48A **Hartselle** 66.06 64 P P 16 58 58.3 -1.4
baz=318,SNR=6.4
SWET **Sewanee** 66.10 63 eP P 16 58 59.3 -0.7
comp=Z,80nm,0.7s
SWI **Sorong** 66.14 234 P P 16 59 00.9 +0.5
SWI pmax pmax
comp=Z,161nm,0.9s
SIJI **Sorong** 66.14 234 P P 16 59 00.4 0.0
comp=Z,94nm,0.7s,baz=16,slow=7.8,SNR=46
MNAS **Manas** 66.15 309 P P 16 59 00.6 +0.2
MNAS pmax pmax
comp=Z,12nm,0.6s
O56A **Blue Knob Stat** 66.20 55 P P 16 59 00.3 -0.3
baz=319
ACCN **Adirondack Com** 66.20 49 eP P 16 59 00.0 -0.5
comp=Z,38nm,0.6s
245A **Little AP, Sta** 66.24 68 P P 16 59 00.6 -0.3
baz=318
SSPA **Standing Stone** 66.26 54 P P 16 59 00.7 -0.2
baz=319
SSPA **Standing Stone** 66.26 54 eP P 16 59 00.6 -0.2
comp=Z,47nm,0.7s
146A **Union** 66.27 67 P P 16 59 00.8 -0.3
baz=318
AB31 **Akbulak array** 66.27 321 eP P 16 59 01.1 +0.3
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR **Akbulak array** 66.27 321 eP P 16 59 01.5 +0.7
comp=Z,145nm,0.4s
LBNH **Liston** 66.34 48 P P 16 59 01.2 -0.2
baz=321
Y48A **Jasper** 66.39 65 P P 16 59 00.3 -1.5
baz=318
TZTN **Tazewell** 66.41 61 P P 16 59 01.6 -0.3
baz=318
TZTN **Tazewell** 66.41 61 eP P 16 59 02.5 +0.6
comp=Z,26nm,1.2s
X49A **Woodville** 66.41 64 P P 16 59 00.9 -1.0
baz=318,SNR=9.4
Z47A **Carrollton** 66.41 66 P P 16 59 00.8 -1.2
baz=318,SNR=8.1
Z48A **Northport** 66.57 66 P P 16 59 01.7 -1.3
baz=318,SNR=8.7
NB2 **NORSAR Subarra** 66.61 353 P P 16 59 02.6 -0.2
comp=Z,1.1nm,0.5s,baz=10,slow=6.5
NOA **NORSAR Array B** 66.61 353 P P 16 59 02.7 -0.2
comp=Z,0.7nm,0.6s,baz=0.8,slow=6.4,SNR=11
NOA pP **pP** 16 59 44.0 +1.5
comp=Z,2.3nm,0.7s,baz=10,slow=6.5,SNR=4.5
KK31 **Karatay Array** 66.61 311 *i* P P 16 59 03.1 -0.1
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR **Karatay Array** 66.61 311 eP P 16 59 03.3 +0.2
KKAR **Karatay Array** 66.61 311 eP P 16 59 03.3 +0.2
147A **Livingston** 66.69 66 P P 16 59 03.2 -0.5
baz=318
KSH **Kashi** 66.70 305 P P 16 59 07.1 +3.2
KSH pP pP 16 59 47.3 +3.8
KSH PP **PP** 17 01 38.2 +5.8
KSH S **S** 17 07 41.4 -0.6
KSH pmax pmax
comp=Z,31nm,1.3s
KSH pmax pmax
comp=Z,88nm,4.4s
KSH LR LR
comp=Z,180nm,8.5s
KSH LR LR
comp=Z,300nm,5.4s
KSH LR LR
comp=Z,410nm,6.9s
PKME **Peaks-Kenny Pk** 66.72 45 P P 16 59 03.7 0.0
baz=322
X50A **Fort Payne** 66.82 63 P P 16 59 03.5 -1.1
baz=318,SNR=9.0
Y49A **Blount Mountai** 66.85 64 P P 16 59 03.8 -0.9
baz=318,SNR=5.2
TKL **Tuckaleechee C** 66.95 61 P P 16 59 05.1 -0.3
comp=Z,6.7nm,0.5s,baz=170,slow=6.4,SNR=9.6
TKL LR LR 17 28 45.9
comp=Z,96nm,18.3s,baz=38,slow=36
247A **Quitman** 66.96 67 P P 16 59 05.2 -0.3
baz=318
PMG **Port Moresby** 67.09 214 P P 16 59 06.1 -0.2
comp=Z,6.7nm,0.7s,baz=36,slow=12,SNR=3.6
PMG LR LR 17 25 51.3
comp=Z,44nm,18.9s,baz=58,slow=33
N59A **State Game Lan** 67.09 52 P P 16 59 05.8 -0.4
baz=320,SNR=18
N59A **State Game Lan** 67.09 52 eP P 16 59 05.8 -0.4
comp=Z,54nm,0.6s
LRAL **Lakeview Retre** 67.13 65 P P 16 59 05.5 -1.0
baz=318
Y50A **Piedmont** 67.20 64 P P 16 59 06.0 -1.0
baz=318,SNR=6.4
Z49A **Columbiana** 67.28 65 P P 16 59 06.2 -1.2
baz=318,SNR=7.1
HFS **Hagfors** 67.32 352 P P 16 59 06.7 -0.5
comp=Z,2.0nm,0.6s,baz=40,slow=5.6,SNR=12
SKNT **Sakolnakorn** 67.38 269 P P 16 59 07.5 -0.8
comp=Z,13nm,1.7s
248A **Dixon Mills** 67.42 67 P P 16 59 07.7 -0.7
baz=318
347A **Saraland** 67.48 68 P P 16 59 08.6 -0.1
baz=318
ODNJ **Ogdensburg** 67.53 52 eP P 16 59 09.4 +0.5
comp=Z,20nm,0.9s
LUPA **Lehigh Univers** 67.53 52 eP P 16 59 09.1 +0.2
comp=Z,4.0nm,0.6s
SFK **Sufi-Kurgan** 67.55 307 P P 16 59 09.4 0.0
SFK pmax pmax
comp=Z,8.0nm,0.6s
BLA **Blacksburg** 67.56 58 P P 16 59 09.2 -0.1
baz=319
Z50A **Ashland** 67.57 64 P P 16 59 08.1 -1.2
baz=319,SNR=19
149A **Jones** 67.57 66 P P 16 59 09.0 -0.4
baz=319
SDMD **Soldier's Deli** 67.71 54 eP P 16 59 10.8 +0.8
comp=Z,15nm,0.7s
UBPT **Khong Chiam** 67.77 266 P P 16 59 10.3 -0.4
comp=Z,30nm,1.4s
BRNJ **Basking Ridge** 67.85 52 eP P 16 59 11.1 +0.1
comp=Z,26nm,0.6s
249A **Camden** 67.85 66 P P 16 59 09.9 -1.1
baz=319
HRV **Adam Dziewonsk** 67.86 49 P P 16 59 11.0 0.0
baz=322
BG3 **Lake Jocassee** 67.90 61 eP P 16 59 11.9 +0.5
comp=Z,52nm,1.2s
PAL **Palisades** 67.92 51 P P 16 59 11.3 0.0
baz=321,SNR=6.0
PAL **Palisades** 67.92 51 eP P 16 59 11.6 +0.3
comp=Z,56nm,1.2s
PAL **Palisades** 67.92 51 eP P 16 59 11.6 +0.3
PAL pmax pmax
comp=Z,56nm,1.2s
MYLDM **Lahad Datu** 67.94 249 eP P 16 59 12.7 +1.0
comp=Z,50nm,1.0s
EMMW **East Machias** 67.96 45 eP P 16 59 11.7 +0.2
comp=Z,65nm,0.6s
150A **Eclectic** 68.00 65 P P 16 59 10.7 -1.2
baz=319
WES **Weston** 68.06 49 eP P 16 59 12.3 +0.1
comp=Z,43nm,0.6s
WES **Weston** 68.06 49 eP P 16 59 12.3 +0.1
WES pmax pmax
comp=Z,43nm,0.6s
LMN **Caledonia Moun** 68.17 42 eP P 16 59 12.3 -0.5
comp=Z,34nm,0.8s
CMAI **Chiengmai2** 68.17 275 P P 16 59 14.4 +1.0
comp=Z,568nm,0.8s
250A **Grady** 68.33 66 P P 16 59 13.0 -1.0
baz=319
151A **Opelika** 68.44 65 P P 16 59 14.0 -0.8
baz=319
OBN **Obninsk** 68.47 338 eP P 16 59 13.7 -0.8
OBN e 16 59 40.0
OBN e 17 01 46.9
OBN ePPP PPP 17 03 30.8
OBN pmax pmax
comp=Z,3.0nm,0.8s
PHRA **Phrae** 68.53 273 P P 16 59 15.4 -0.1
comp=Z,219nm,1.1s,comp=Z,4µm
KHON **Khomkaen** 68.58 269 P P 16 59 16.3 +0.5
comp=Z,14nm,0.8s,comp=Z,518nm
KMSC **Kings Mountain** 68.64 60 P P 16 59 15.3 -0.7
baz=320,SNR=16
350A **Dozier** 68.71 66 P P 16 59 15.6 -0.8
baz=319
251A **Midway** 68.72 65 P P 16 59 15.8 -0.6
baz=319
GOGA **Godfrey** 68.80 63 P P 16 59 16.3 -0.7
baz=319,SNR=6.2
GOGA **Godfrey** 68.80 63 eP P 16 59 16.8 -0.2
comp=Z,28nm,1.3s
GOGA **Godfrey** 68.80 63 eP P 16 59 16.8 -0.2
GOGA pmax pmax
comp=Z,28nm,1.3s
HODGE **Hodges** 68.84 61 eP P 16 59 17.2 +0.1
comp=Z,24nm,0.4s
LAMP **Lampang** 68.88 273 P P 16 59 18.7 +1.1
comp=Z,8.2nm,0.9s
CHTO **Chiang Mai** 69.08 274 P P 16 59 18.6 -0.3
comp=Z,96nm,1.2s,comp=Z,1µm
CHTO **Chiang Mai** 69.08 274 eP P 16 59 18.6 -0.3
comp=Z,16nm,0.8s
CHTO **Chiang Mai** 69.08 274 eP P 16 59 18.6 -0.3
CHTO pmax pmax
comp=Z,17nm,0.8s
351A **Pinckard** 69.23 66 P P 16 59 19.2 -0.4
baz=319
CM31 **Chiang Mai Arr** 69.35 274 eP P 16 59 20.7 +0.2
CMAR **Chiang Mai Arr** 69.35 274 P P 16 59 20.4 -0.1
comp=Z,12nm,0.7s,baz=28,slow=6.9,SNR=97
PHIT **Phitsanulok** 69.41 272 P P 16 59 21.6 +0.7
comp=Z,19nm,1.1s,comp=Z,217nm
TAPN **Taplejung** 69.42 288 eP P 16 59 21.6 +0.4
comp=Z,78nm,0.5s
CHAI **Chaiyaphum** 69.43 270 P P 16 59 21.1 +0.1
comp=Z,5.8nm,1.0s,comp=Z,76nm
ODAN **Odare** 69.97 288 eP P 16 59 24.8 +0.3
comp=Z,64nm,0.8s
GUN **Gumba** 70.06 290 eP P 16 59 25.6 +0.4
comp=Z,262nm,0.4s
JIRN **Jiri** 70.07 289 eP P 16 59 25.8 +0.5
comp=Z,269nm,0.7s
453A **Whigham** 70.27 65 P P 16 59 26.0 0.0
baz=320
RAMN **Ramite** 70.36 289 eP P 16 59 27.1 +0.2
comp=Z,97nm,0.4s
KKN **Kakani** 70.50 290 eP P 16 59 28.1 +0.4
comp=Z,95nm,0.5s
PKI **Pulchoki** 70.59 290 eP P 16 59 28.5 +0.1
comp=Z,127nm,0.5s
PKIN **Phulchoki** 70.59 290 eP P 16 59 28.5 +0.2
comp=Z,115nm,0.5s
LUWI **Luwuk** 70.69 241 eP P 16 59 27.4 -1.3
comp=Z,80nm,0.8s
GKN **Gorkha** 70.70 291 eP P 16 59 29.7 +0.8
comp=Z,2.4nm,0.4s
DMN **Daman** 70.73 290 eP P 16 59 29.6 +0.4
comp=Z,87nm,0.9s
NHSC **New Hope** 70.81 61 P P 16 59 29.7 +0.4
baz=320
SRAK **Srakaew** 70.84 268 P P 16 59 28.2 -1.4
comp=Z,114nm,0.9s,comp=Z,917nm
DANN **Dangsing** 70.94 292 eP P 16 59 31.3 +0.8
comp=Z,4.9nm,0.9s
455A **Stateville** 71.07 64 P P 16 59 31.1 +0.3
baz=320
554A **Perry** 71.21 65 P P 16 59 31.0 -0.7
baz=320
UTHA **Uthaitani** 71.25 271 P P 16 59 32.6 +0.5
comp=Z,10nm,0.8s,comp=Z,106nm
KOLN **Koldanda** 71.47 291 eP P 16 59 33.6 0.0
comp=Z,30nm,0.4s
PYUN **Piuthan** 71.57 292 eP P 16 59 34.3 +0.2
comp=Z,100nm,0.9s
555A **McAlpin** 71.58 65 P P 16 59 33.9 +0.1
baz=320
SAUI **Saumlaki** 72.31 230 eP P 16 59 39.7 +1.4
comp=Z,133nm,0.8s
557A **Orange Park** 72.34 64 P P 16 59 38.5 +0.1
baz=321
SRDT **SRDT** 72.38 271 P P 16 59 38.8 0.0
comp=Z,20nm,1.2s,comp=Z,5µm
656A **Willston** 72.40 65 P P 16 59 39.1 +0.4
baz=320
COEN **Coen** 72.71 216 eP P 16 59 40.5 -0.1
comp=Z,13nm,0.9s
EKA **Eskdalemuir Ar** 72.78 1 P P 16 59 40.9 +0.4
comp=Z,0.4nm,0.4s,baz=1.0,slow=4.4,SNR=4.2
PHET **Kaeng Krachan** 73.18 269 P P 16 59 44.5 +1.0
comp=Z,12nm,0.7s
758A **Lake Helen** 73.45 64 P P 16 59 45.2 +0.3
baz=321
SBUM **Sibu** 73.78 252 eP P 16 59 47.1 +0.1
comp=Z,87nm,2.0s
KBL **Kabul** 74.04 306 eP P 16 59 48.1 -0.5
comp=Z,34nm,0.7s
KBL **Kabul** 74.04 306 eP P 16 59 48.1 -0.5
KBL pmax pmax
comp=Z,35nm,0.7s
AKASG **Malin Array Be** 74.21 340 P P 16 59 48.3 -0.7
comp=Z,3.1nm,0.4s,baz=21,slow=6.5,SNR=9.3
AKASG pP **pP** 17 00 28.0 -1.3
comp=Z,8.4nm,0.6s,baz=22,slow=6.4,SNR=7.7
AKASG **Malin Array Be** 74.21 340 *i* P P 16 59 52.2 +3.2
AKASG pmax pmax
comp=Z,3.0nm,0.4s
KIEV **Kiev** 74.22 340 *i* P P 16 59 48.9 -0.1
KIEV pmax pmax
comp=Z,4.0nm,0.4s
DZM **Mont Dzumac** 74.76 192 P P 16 59 53.4 +0.9
comp=Z,11nm,1.0s,baz=37,slow=12,SNR=5.2
KSM **Kuching** 75.69 253 eP P 16 59 57.2 -0.8
comp=Z,23nm,0.6s
CLL **Collm** 76.11 351 e(pP) pP 17 00 44.0 +3.6
GEYT **Alibeck** 76.36 315 P P 17 00 03.1 +1.6
comp=Z,5.4nm,0.7s,baz=353,slow=3.4,SNR=16
MTN **Manton Dam** 76.65 228 eP P 17 00 03.5 +0.2
comp=Z,59nm,0.7s
SURT **Suratani** 76.75 268 P P 17 00 03.7 -0.3
comp=Z,12nm,1.3s
KIV **Kislovodsk** 76.92 329 eP P 17 00 03.0 -1.6
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ **Khabaz** 77.05 329 P P 17 00 06.8 +1.6
comp=Z,2.9nm,0.9s,baz=196,slow=15,SNR=3.7
TRTT **Trang** 77.08 266 P P 17 00 05.8 0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,9.7nm,1.1s						
CTA	Charters Tower	77.37	211	P	P	17 00 07.3	+0.2
	comp=Z,10.0nm,0.9s,baz=2.7,slow=7.8,SNR=10.0						
CTAO	Charters Tower	77.37	211	eP	P	17 00 07.7	+0.6
	comp=Z,20nm,1.0s						
CTAO	Charters Tower	77.37	211	eP	P	17 00 07.7	+0.6
CTAO				pmax	pmax		
	comp=Z,20nm,1.0s						
BUR08	Bucovina Ar. S	77.93	342	eP	P	17 00 10.6	+0.4
BUR04	Bucovina Ar. S	77.95	342	eP	P	17 00 10.2	-0.1
BURAR	Bucovina Array	77.95	342	⇓iP	P	17 00 09.6	-0.7
BURAR	Bucovina Array	77.95	342	P	P	17 00 09.6	-0.7
BATI	Baumata	77.96	236	P	P	17 00 10.3	-0.3
	comp=Z,31nm,0.4s,baz=83,slow=6.1,SNR=20						
KHC	Kasperske Hory	78.20	350	epP	pP	17 00 48.0	-4.4
GERES	GERESS Array B	78.47	350	P	P	17 00 12.3	-0.9
	comp=Z,0.3nm,0.5s,baz=22,slow=5.5,SNR=3.1						
IPM	Ipoh	78.89	263	eP	P	17 00 15.2	-0.7
	comp=Z,15nm,0.8s						
DRGR		79.20	343	⇑iP	P	17 00 16.9	-0.3
DRGR		79.20	343	P	P	17 00 16.9	-0.3
DOPR	Dopca	79.50	341	⇑iP	pP	17 01 04.2	+4.6
VOIR		80.07	341	⇑iP	pP	17 01 07.4	+4.6
PERS	Pernice	80.48	349	iP	pP	17 01 09.8	+4.8
BZS	Buzias	80.53	344	⇓iP	pP	17 01 08.4	+3.2
LHMI	Lhok Sumawe	80.80	267	eP	P	17 00 27.1	+1.0
	comp=Z,127nm,0.7s						
HERR	Herculane	81.10	343	⇓iP	pP	17 01 09.7	+1.4
JAVS	Javornik	81.34	349	iP	pP	17 01 13.7	+4.0
PSI	Prapat	81.49	264	eP	P	17 00 29.6	-0.3
	comp=Z,44nm,1.1s						
PSI	Prapat	81.49	264	eP	P	17 00 29.6	-0.3
PSI				pmax	pmax		
	comp=Z,44nm,1.1s						
WRAB	Tennant Creek	81.56	222	eP	P	17 00 29.4	-0.4
	comp=Z,28nm,0.8s						
WRAB	Tennant Creek	81.56	222	eP	P	17 00 29.4	-0.4
WRAB				pmax	pmax		
	comp=Z,28nm,0.8s						
WRA	Warramunga Arr	81.57	222	P	P	17 00 29.5	-0.4
	comp=Z,23nm,0.6s,baz=31,slow=5.9,SNR=264						
BOJS	Bojanci	81.58	348	eP	pP	17 01 15.8	+4.9
HYB	Hyderabad	82.42	289	iP	P	17 00 34.0	-0.6
BRTR	Keskin Array B	83.47	334	P	P	17 00 40.1	+0.2
	comp=Z,0.7nm,0.6s,baz=96,slow=3.0,SNR=4.9						
BRTR	Keskin Array B	83.47	334	iP	P	17 00 42.2	+2.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	Fitzroy Crossi	83.77	230	P	P	17 00 41.5	+0.3
	comp=Z,16nm,0.5s,baz=23,slow=6.1,SNR=46						
PDG	Podgorica	84.02	345	⇓iP	pP	17 01 26.0	+2.3
AS01	Alice Springs	85.06	220	eP	P	17 00 47.1	-0.6
ASAR	Alice Springs	85.09	220	P	P	17 00 48.0	+0.2
	comp=Z,12nm,0.7s,baz=22,slow=5.7,SNR=87						
JTS	JuntasAbangare	85.85	79	P	P	17 00 52.0	+0.1
	comp=Z,4.3nm,0.3s,baz=338,slow=11,SNR=5.2						
JTS	JuntasAbangare	85.85	79	P	P	17 00 52.0	+0.1
JTS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WSAR	Wadi Sarin	88.47	307	P	P	17 01 04.5	+0.1
	comp=Z,4.2nm,0.6s,baz=39,slow=6.1,SNR=9.2						
MBWA	Marble Bar	89.23	233	eP	P	17 01 06.9	-0.8
	comp=Z,15nm,0.8s						
STKA	Stephens Creek	89.83	211	P	P	17 01 11.0	+0.7
	comp=Z,25nm,0.7s,baz=357,slow=6.7,SNR=44						
STKA	Stephens Creek	89.83	211	eP	P	17 01 11.3	+1.0
	comp=Z,6.3nm,0.8s						
STKA	Stephens Creek	89.83	211	eP	P	17 01 11.3	+1.0
STKA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TORD	Torodi Ar. Bea	114.82	357	PKP	PKPdf	17 06 49.7	-2.2
	comp=Z,0.3nm,0.4s,baz=345,slow=3.1,SNR=4.1						
TORD				PKKPbc	PKKPbc	17 17 27.9	+0.9
	comp=Z,0.5nm,0.5s,baz=183,slow=2.9,SNR=4.1						
CPUP	Villa Florida	131.05	80	SKPbc	SKPbc	17 10 30.6	-0.7
	comp=Z,5.1nm,0.8s,baz=314,slow=3.7,SNR=9.2						
PLCA	Paso Flores	132.74	105	PKP	PKPdf	17 07 25.7	+0.3
	comp=Z,1.3nm,0.5s,baz=311,slow=4.9,SNR=7.8						
PLCA				pPKP	pPKPdf	17 08 07.6	-1.5
	comp=Z,2.7nm,1.0s,baz=335,slow=2.8,SNR=2.8						
PLCA				SKPbc	SKPbc	17 10 37.0	+0.2
	comp=Z,9.8nm,0.8s,baz=324,slow=3.4,SNR=20						
QSPA	South Pole Qui	142.00	180	ePKPdf	PKPdf	17 07 38.9	-2.6
MAW	Mawson	146.19	218	PKPbc	PKPbc	17 07 50.1	0.0
	comp=Z,23nm,0.9s,baz=92,slow=3.8,SNR=7.1						
BOSA	Boshof	149.20	310	PKPbc	PKPbc	17 07 59.3	-0.3
	comp=Z,3.5nm,0.4s,baz=32,slow=2.9,SNR=18						
SYO	Syowa Base	154.56	213	⇑ePKiKP	PKiKP	17 08 14.0	+3.8
SNAA	Sanae	160.50	179	PKP	PKPab	17 08 51.0	-0.4
SNAA	Sanae	160.50	179	PKPab	PKPab	17 08 50.6	-0.8
	comp=Z,2.6nm,0.6s,baz=27,slow=2.3,SNR=10						
VNA3	Neumayer Olymp	160.57	172	PKP	PKPab	17 08 52.9	+1.1
VNA2	Neumayer--Watz	161.06	174	PKP	PKPab	17 08 53.1	-0.7
	baz=196,slow=3.1						

*CSEM **02** 17:04:02.8, 42.96N×12.12E, h25km, MD2.5/19, After ROM*

ROM 02 17:04:02.8±0.2**, 42.96N×12.12E, h25**km±3km**, Md2.5**/19**, Ml2.0**/19**, Error ellipse: s-maj=2.4km s-min=1.2km az=134.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGAB	Montegabbione	0.04	186	Pg	Pb	17 04 07.2	0.0
MGAB				Sg	Sb	17 04 10.9	+0.7
	23nm,0.2s						
MGAB	Montegabbione	0.04	186	Pg	Pb	17 04 07.2	0.0
MGAB				Sg	Sb	17 04 10.9	+0.7
	23nm,0.2s						
SACS	San Casciano d	0.19	235	Pg	Pb	17 04 08.3	-0.1
SACS				Sg	Sb	17 04 11.4	-0.8
	256nm,0.7s						
ATTE	AVT- Monte Tez	0.30	36	Pg	Pb	17 04 09.7	-0.2
ATTE				Sg	Sb	17 04 14.2	-0.5
	195nm,0.7s						
ATTE	AVT- Monte Tez	0.30	36	Pg	Pb	17 04 09.7	-0.2
ATTE				Sg	Sb	17 04 14.2	-0.5
	195nm,0.7s						
MCIV	Monte Civitell	0.37	241	Pg	Pb	17 04 10.9	-0.1
MCIV				Sg	Sb	17 04 17.5	+1.0
	46nm,0.6s						
MCIV	Monte Civitell	0.37	241	Pg	Pb	17 04 10.9	-0.1
MCIV				Sg	Sb	17 04 17.5	+1.0
	46nm,0.6s						
CAFI	Castiglion Fio	0.39	343	Pg	Pb	17 04 10.8	-0.4
CAFI				Sg	Sb	17 04 17.9	+0.9
	95nm,0.7s						
CAFI	Castiglion Fio	0.39	343	Pg	Pb	17 04 10.8	-0.4
CAFI				Sg	Sb	17 04 17.9	+0.9
	95nm,0.7s						
LATE	Laterza	0.41	214	Pg	Pb	17 04 11.8	+0.2
LATE				Sg	Sn	17 04 19.5	-0.6
	206nm,0.6s						
LATE	Laterza	0.41	214	Pg	Pb	17 04 11.8	+0.2
LATE				Sg	Sn	17 04 19.5	-0.6
	206nm,0.6s						
MURB	Monte Urbino	0.43	44	Pg	Pb	17 04 12.1	+0.2
MURB				Sg	Sb	17 04 18.9	+0.8
	302nm,0.3s						
MURB	Monte Urbino	0.43	44	Pg	Pb	17 04 12.1	+0.2
MURB				Sg	Sb	17 04 18.9	+0.8
	302nm,0.3s						
ATCC	AVT- Casa Cast	0.45	59	Pg	Pb	17 04 12.5	+0.3
	268nm,0.8s						
ATCC	AVT- Casa Cast	0.45	59	Pg	Pb	17 04 12.5	+0.3
	268nm,0.8s						
ATVO	AVT- Monte Val	0.47	26	Pg	Pb	17 04 12.7	0.0
ATVO				Sg	Sn	17 04 20.5	-1.1
	140nm,0.6s						
ATVO	AVT- Monte Val	0.47	26	Pg	Pb	17 04 12.7	0.0
ATVO				Sg	Sn	17 04 20.5	-1.1
	140nm,0.6s						
ATMC	Monte Cedrone	0.49	6	Pg	Pb	17 04 13.1	+0.1
ATMC				Sg	Sb	17 04 20.7	+0.8
	250nm,0.7s						
ATMC	Monte Cedrone	0.49	6	Pg	Pb	17 04 13.1	+0.1
ATMC				Sg	Sb	17 04 20.7	+0.8
	250nm,0.7s						
BADI	Badiali	0.56	9	Pg	Pb	17 04 14.3	+0.2
BADI				Sg	Sb	17 04 22.6	+0.9
	123nm,0.7s						
BADI	Badiali	0.56	9	Pg	Pb	17 04 14.3	+0.2
BADI				Sg	Sb	17 04 22.6	+0.9
	123nm,0.7s						
ATPC	Poggio Castell	0.58	25	Pg	Pb	17 04 14.6	+0.2
	258nm,0.6s						
ATPC	Poggio Castell	0.58	25	Pg	Pb	17 04 14.6	+0.2
	258nm,0.6s						
CESI	CESI - Serrava	0.58	85	Pg	Pb	17 04 14.5	+0.1
	21nm,0.8s						
CESI	CESI - Serrava	0.58	85	Pg	Pb	17 04 14.5	+0.1
	21nm,0.8s						
PIEI	Pieia	0.65	28	Pg	Pb	17 04 15.8	+0.1
	60nm,0.8s						
PIEI	Pieia	0.65	28	Pg	Pb	17 04 15.8	+0.1
	60nm,0.8s						
SNTG	Esanatoglia	0.67	63	Pg	Pb	17 04 16.1	+0.2
SNTG				Sg	Sn	17 04 26.9	+0.4
	72nm,0.7s						
SNTG	Esanatoglia	0.67	63	Pg	Pb	17 04 16.1	+0.2
SNTG				Sg	Sn	17 04 26.9	+0.4
	72nm,0.7s						
CRE	Caprese Michel	0.67	350	Pg	Pb	17 04 16.2	+0.2
	66nm,0.6s						
CRE	Caprese Michel	0.67	350	Pg	Pb	17 04 16.2	+0.2
	66nm,0.6s						
PARC	Parchiule	0.70	7	Pg	Pb	17 04 16.1	-0.3
	84nm,0.7s						
PARC	Parchiule	0.70	7	Pg	Pb	17 04 16.1	-0.3
	84nm,0.7s						
FRON	Frontone	0.71	38	Pg	Pb	17 04 16.6	-0.1
	56nm,0.6s						
FRON	Frontone	0.71	38	Pg	Pb	17 04 16.6	-0.1
	56nm,0.6s						
FDMO	Fiordimonte	0.72	83	Pg	Pb	17 04 16.1	-0.6
	36nm,0.7s						
FDMO	Fiordimonte	0.72	83	Pg	Pb	17 04 16.1	-0.6
	36nm,0.7s						
MPAG	Monte Paganucc	0.82	35	Pg	Pb	17 04 17.9	-0.6
	41nm,0.7s						
MPAG	Monte Paganucc	0.82	35	Pg	Pb	17 04 17.9	-0.6
	41nm,0.7s						

*CSEM **02** 17:05:37.4±0.5, 50.13N×19.12E, h10km, Error ellipse: s-maj=10.9km s-min=6.1km az=178.0*

PRU 02 17:05:38.7, 50.14N×19.10E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.46	80	ePg	Pg	17 05 46.7	-0.7
OJC				eSg	Sg	17 05 52.6	-0.7
OJC	Ojcow	0.46	80	ePg	Pg	17 05 46.7	-0.7
OJC				eSg	Sg	17 05 52.6	-0.7
OKC	Ostrava-Krasne	0.69	244	eSG	Sg	17 06 01.3	+0.6
	comp=Z,7.0nm,0.5s						
OKC	Ostrava-Krasne	0.69	244	Sg	Sg	17 06 01.3	+0.6
	7.0nm,0.5s						
LANS	Liptovska Anna	1.02	166	ePG	Pg	17 05 57.7	-0.5
LANS				eSG	Sg	17 06 11.1	-0.3
MORC	Moravsky Berou	1.07	251	ePg	Pg	17 05 59.1	-0.1
MORC				eSg	Sb	17 06 14.5	-0.1
STHS	Stebnicka Huta	1.57	117	ePN	Pg	17 06 09.8	+1.1
STHS				eSN	Sg	17 06 31.7	+2.7
STHS				eLG	Lg	17 06 37.2	
VYHS	Vyhne	1.66	186	ePg	Pn	17 06 07.5	-1.5
VYHS				eSn	Sn	17 06 28.8	-2.2
VYHS	Vyhne	1.66	186	ePG	Pn	17 06 07.5	-1.5
VYHS				eSN	Sn	17 06 28.8	-2.2
VYHS				eLG	Lg	17 06 31.1	
DPC	Dobruska-Polom	1.80	278	ePG	Pn	17 06 10.9	-0.1
DPC				eSG	Sb	17 06 35.1	-0.4
	comp=Z,4.5nm,0.3s						
DPC	Dobruska-Polom	1.80	278	Pg	Pn	17 06 10.9	-0.1
DPC				Sg	Sb	17 06 35.1	-0.4
	4.5nm,0.3s						
GOPC	GO Pecny, Ondr	2.79	267	eSG	Sg	17 07 08.4	+0.1
GOPC	GO Pecny, Ondr	2.79	267	Sg	Sg	17 07 08.4	+0.1
PRU	Pruhonice	2.94	269	eSG	Sg	17 07 13.4	+0.3
PRU	Pruhonice	2.94	269	Sg	Sg	17 07 13.4	+0.3
KHC	Kasperske Hory	3.73	256	eSG	Sg	17 07 36.4	-2.0
KHC	Kasperske Hory	3.73	256	Sg	Sg	17 07 36.4	-2.0

*ISCJB **02** 17:12:32.5±0.1, 34.04N±0.01×83.46E±0.02, h10km, mb4.6/98, MS3.8/32, Error ellipse: s-maj=3.1km s-min=1.8km az=155.8*

*IDC **02** 17:12:32.3±0.5, 34.05N×83.53E, h0km, mb4.3/25, mb1 4.4/27, mb1mx4.2/64, mbtmp4.3/27, ML3.1/3, MS3.7/26, Ms1 3.7/26, ms1mx3.6/58, Error ellipse: s-maj=14.1km s-min=12.1km az=45.0*

*NEIC **02** 17:12:33.6±2.0, 33.98N×83.46E, h10km±12km, mb4.8/49, Error ellipse: s-maj=5.3km s-min=3.8km az=221.0*

*MOS **02** 17:12:34.8±1.3, 34.00N×83.49E, h28km, mb4.7/54, Error ellipse: s-maj=7.8km s-min=4.1km az=112.6*

*BJI **02** 17:12:34.1, 34.01N×83.75E, h5km, mb4.5/44, mB4.7/33, ML4.5/3, Ms4.3/45, Ms7 4.1/43*

ISC 02 17:12:34.0±0.3**, 34.03N**±0.04×**83.47E**±0.03**, h10km, n280,** σ1.89/295**, mb4.6**/98**, MS3.8**/32**, 15C-3D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	Dangsing	5.66	177	ePn	Pn	17 14 00.5	+2.0
PYUN	Piuthan	5.92	184	ePn	Pn	17 14 02.6	+0.6
PYUN				eSn	Sn	17 15 11.9	+1.9
GKN	Gorkha	6.09	170	ePn	Pn	17 14 06.7	+2.5
KOLN	Koldanda	6.24	179	ePn	Pn	17 14 08.0	+1.7
KOLN				eSn	Sn	17 15 20.0	+2.2
KKN	Kakani	6.41	166	ePn	Pn	17 14 10.5	+1.9
KKN				eSn	Sn	17 15 24.9	+2.9
GUN	Gumba	6.44	161	ePn	Pn	17 14 11.4	+2.2
DMN	Daman	6.55	167	ePn	Pn	17 14 12.8	+2.2
DMN				eSn	Sn	17 15 28.7	+3.2
	542nm,1.1s						
PKIN	Phulchoki	6.64	165	ePn	Pn	17 14 14.3	+2.4
PKIN				eSn	Sn	17 15 30.3	+2.6
	254nm,0.7s						
PKI	Pulchoki	6.65	165	ePn	Pn	17 14 14.1	+2.1
PKI				eSn	Sn	17 15 30.6	+2.6
JIRN	Jiri	6.76	159	ePn	Pn	17 14 17.0	+3.4
JIRN				eSn	Sn	17 15 34.3	+3.4
	208nm,0.7s						
RAMN	Ramite	7.55	158	ePn	Pn	17 14 26.0	+1.6
RAMN				eSn	Sn	17 15 51.9	+1.7
	169nm,0.8s						
LSA	Lhasa	7.82	121	Pn	Pn	17 14 31.0	+2.7
LSA	Lhasa	7.82	121	ePn	Pn	17 14 30.1	+1.8
LSA	Lhasa	7.82	121	eP	Pn	17 14 30.1	+1.8
ODAN	Odare	7.90	154	ePn	Pn	17 14 30.3	+1.1
ODAN				eSn	Sn	17 15 59.4	+0.6
	109nm,0.6s						
KSH	Kashi	8.14	314	P	Pn	17 14 35.6	+3.3
KSH				pP	pP	17 14 39.1	
KSH				sP	sP	17 14 41.8	
KSH				S	Sn	17 16 06.3	+2.0
KSH				pmax	pmax		
	comp=Z,19nm,1.2s						
KSH				pmax	pmax		
	comp=Z,120nm,5.5s						
KSH				LR	LR		
	comp=N,1μm,7.5s						
KSH				LR	LR		
	comp=E,1μm,7.3s						
KSH				LR	LR		
	comp=Z,2μm,6.9s						
CHCP	Chirah Chowk	8.50	270	P	Pn	17 14 37.8	+0.6
TARG	Taragay, Kyrgy	8.90	331	Pn	Pn	17 14 46.2	+3.3
PRZ	Przheval'sk	9.34	336	Pn	Pn	17 14 52.4	+3.7
PRZ	Przheval'sk	9.34	336	P	Pn	17 14 52.4	+3.7
NRN	Naryn	9.47	324	Pn	Pn	17 14 54.9	+4.2
NRN	Naryn	9.47	324	P	Pn	17 14 54.9	+4.2
KDJ	Kajisay	9.49	330	P	Pn	17 14 53.1	+2.3
CEP	Cherat	9.61	272	P	Pn	17 14 51.9	-0.6
SHLS	Shalkode	9.64	342	ePn	Pn	17 14 53.7	+0.8
	118nm,1.0s						
SHLS				eSn	Sn	17 16 41.2	-0.1
SHLS				LR	LR	17 18 45.7	
	235nm,11.0s						
UZB	Uzynbulak	9.75	340	⇑iPn	Pn	17 14 57.0	+2.6
	335nm,1.2s						
UZB				eSn	Sn	17 16 47.1	+3.2
UZB				LR	LR	17 18 38.9	
	135nm,12.7s						
PDGK	Podgornoye	9.79	343	P	Pn	17 14 56.9	+1.9
PDGK				pmax	pmax		
	comp=Z,52nm,1.5s						
SATY	Saty	9.85	338	ePn	Pn	17 14 58.5	+2.7
SATY				ePg		17 15 39.1	
SATY				LR	LR	17 18 43.3	
	comp=Z,118nm,8.2s						
THW	Thamme Wali	9.88	266	P	Pn	17 14 56.1	0.0
ZHN	Zhinishke	9.94	338	⇑iPn	Pn	17 14 59.8	+2.8
	comp=Z,278nm,1.0s						
SFK	Sufi-Kurgan	9.96	310	P	Pn	17 14 59.3	+2.0
SFK				pmax	pmax		
	comp=Z,36nm,1.3s						
KPKS	Kokpek	10.14	340	ePn	Pn	17 15 01.9	+2.2
	comp=Z,210nm,1.2s						
KPKS				eSn	Sn	17 16 56.2	+2.8
KPKS				LR	LR	17 18 51.2	
	comp=Z,164nm,8.6s						
WMQ	Urumqi	10.32	17	P	Pn	17 15 03.8	+1.7
WMQ				pP		17 15 08.7	
WMQ				sP		17 15 15.8	
WMQ				pmax	pmax		
	comp=Z,60nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,220nm,3.9s						
WMQ				LR	LR		
	comp=Z,370nm,25.9s						
WMQ				LR	LR		
	comp=Z,700nm,22.3s						
WMQ				LR	LR		
	comp=Z,490nm,19.7s						
MDOK	Medeo	10.41	333	iPn	Pn	17 15 05.7	+2.3
	comp=Z,84nm,1.3s						
MDOK				eSn	Sn	17 17 02.8	+2.6
MDOK				LR	LR	17 18 45.7	
	comp=Z,248nm,16.1s						
AAA	Alma-Ata	10.50	333	ePn	Pn	17 15 07.8	+3.2
AAA				ePg		17 15 51.5	
AAA				LR	LR	17 18 42.0	
	comp=Z,284nm,14.4s						
TKM2	Tokmak 2	10.81	328	P	Pn	17 15 11.2	+2.2
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BMNS	Besmoynak	10.93	328	⇑iPn	Pn	17 15 11.1	+0.6
	comp=Z,80nm,1.3s						
BMNS				LR	LR	17 18 46.4	
	comp=Z,161nm,13.0s						
AAK	Ala-Archa	11.11	323	Pn	Pn	17 15 14.5	+1.4
	comp=Z,0.1nm,0.3s,baz=113,slow=7.7,SNR=2.9						
AAK				LR	LR	17 19 58.1	
	comp=Z,660nm,20.1s,baz=118,slow=40						
AAK	Ala-Archa	11.11	323	P	Pn	17 15 19.2	+6.1
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SHL	Shillong	11.15	137	eP	Pn	17 15 10.0	-3.6
SHL	Shillong	11.15	137	ePn	Pn	17 15 10.6	-3.0
SHL	Shillong	11.15	137	eP	Pn	17 15 10.6	-3.0
FRU	Bishkek	11.20	324	eP	Pn	17 15 18.0	+3.9
FRU				pmax	pmax		
	comp=Z,80nm,2.0s						
JBP	Jabalpur	11.24	197	⇓iP	Pn	17 15 14.4	-0.4
JBP				eS	Sn	17 17 18.1	-2.5
KUU	Kurty	11.30	333	ePn	Pn	17 15 17.6	+2.1
	comp=Z,31nm,1.7s						
KUU				ePg		17 16 05.2	
KUU				LR	LR	17 19 21.7	
	comp=Z,82nm,10.3s						
TDK	Taldyqorghan	11.63	342	ePn	Pn	17 15 20.3	+0.2
TDK				LR	LR	17 19 29.6	
	comp=Z,255nm,15.1s						
KBL	Kabul	11.95	277	ePn	Pn	17 15 22.9	-1.7
KBL	Kabul	11.95	277	eP	Pn	17 15 22.9	-1.7
MNAS	Manas	12.06	318	P	Pn	17 15 28.7	+2.7
MNAS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MK01	Makanchi Array	12.76	356	ePn	Pn	17 15 34.7	-0.7
MK31	Makanchi Array	12.79	356	ePn	Pn	17 15 35.5	-0.3
MK31	Makanchi Array	12.79	356	iP	Pn	17 15 35.4	-0.3
MK31				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MK32	Makanchi Array	12.79	356	ePn	Pn	17 15 35.0	-0.7
MKAR	Makanchi Array	12.79	356	Pn	Pn	17 15 35.0	-0.7
	comp=Z,0.2nm,0.3s,baz=179,slow=13,SNR=20						
MKAR	Makanchi Array	12.79	356	ePn	Pn	17 15 35.5	-0.3
MKAR	Makanchi Array	12.79	356	eP	Pn	17 15 35.5	-0.3
MAKZ	Makanchi	12.82	355	ePn	Pn	17 15 36.3	+0.1
MAKZ	Makanchi	12.82	355	P	Pn	17 15 36.4	+0.1
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
DZA	Taraz	12.98	317	LR	LR	17 20 10.3	
	comp=Z,235nm,12.7s						
IUG	Iuzhnay	13.32	311	iP	Pn	17 15 43.9	+0.7
	comp=Z,634nm,1.0s						
IUG				LR	LR	17 20 38.0	
	comp=Z,254nm,10.9s						
ZSN	Zaisan	13.45	4	⇑iP	Pn	17 15 43.9	-0.9
	comp=Z,18nm,1.2s						
ZSN				ePP	PnPn	17 15 51.8	-1.0
KK31	Karatay Array	13.59	316	iP	Pn	17 15 50.1	+3.4
KK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	Karatay Array	13.59	316	ePn	Pn	17 15 45.1	-1.6
KKAR	Karatay Array	13.59	316	eP	Pn	17 15 45.1	-1.6
CHM	Chimkent	13.68	311	eP	Pn	17 15 49.6	+1.6
	comp=Z,229nm,1.0s						
CHM				eS	Sn	17 18 22.0	+1.9
CHM				LR	LR	17 20 45.9	
	comp=Z,352nm,14.0s						
GTA	Gaotai	14.16	63	eP	Pn	17 15 52.6	-2.1
GTA				pP	P	17 15 56.7	-5.6
GTA				S	Sn	17 18 29.7	-2.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,91nm,5.7s						
GTA				LR	LR		
	comp=Z,2μm,13.1s						
GTA				LR	LR		
	comp=Z,890nm,14.7s						
GTA				LR	LR		
	comp=Z,820nm,12.6s						
RPR	Rampur	15.56	195	eP	Pn	17 16 09.4	-4.1
SRSP	Sriramsagar	15.72	198	eP	Pn	17 16 12.6	-3.0
OTUK	Ortayu	16.47	333	P	P	17 16 28.3	+0.5
OTUK				pmax	pmax		
	comp=Z,20nm,1.0s						
SEM	Semipalatinsk	16.54	353	eP	P	17 16 28.1	-0.7
SEM				LR	LR	17 22 00.5	
	comp=Z,0.7nm,10.9s						
PVM	Polavaram	16.79	186	eP	Pn	17 16 27.4	-1.8
LZH	Lanzhou	16.81	77	eP	Pn	17 16 30.6	+1.0
LZH				pP	P	17 16 33.4	+1.6
LZH				sP	sP	17 16 36.9	+1.0
LZH				PP	PnPn	17 16 45.4	+6.5
LZH				S	Sn	17 19 33.0	-3.4
LZH				sS	S	17 19 40.5	-6.8
LZH				SS	SnSn	17 19 54.0	+4.5
LZH				pmax	pmax		
	comp=Z,29nm,0.8s						
LZH				pmax	pmax		
	comp=Z,120nm,4.7s						
LZH				LR	LR		
	comp=Z,470nm,10.9s						
LZH				LR	LR		
	comp=Z,420nm,10.7s						
LZH				LR	LR		
	comp=Z,630nm,11.3s						
KLRI	Killari	17.04	203	eP	Pn	17 16 28.1	-4.4
KURK	Kurchatov	17.05	349	ePn	Pn	17 16 32.5	+0.2
	comp=Z,62nm,1.3s						
KURK	Kurchatov	17.05	349	ceP	P	17 16 33.8	-0.4
KURK				pmax	pmax		
	comp=Z,191nm,1.2s						
KURK	Kurchatov	17.05	349	P	P	17 16 34.8	+0.7
	SNR=24						
HYBB	Hyderabad (bro	17.12	196	eP	Pn	17 16 32.1	-1.3
HYB	Hyderabad	17.12	196	iP	Pn	17 16 33.0	-0.5
CD2	Chengdu	17.40	95	P	P	17 16 38.2	0.0
CD2				pP	pP	17 16 41.9	+0.9
CD2				sP	sP	17 16 43.3	+1.0
CD2				S	Sn	17 19 49.9	-0.7
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,790nm,7.8s						
CD2				LR	LR		
	comp=Z,1μm,10.8s						

CD2 LR LR
comp=Z,2µm,9.8s
NJS Nagarjunasagar 17.80 193 *e*P **Pn 17 16 41.4 -0.5**
SRLM Srisailam 18.32 194 *e*P **Pn 17 16 47.4 -1.0**
ADKI Addanki 18.38 191 *e*P **P 17 16 49.6 +0.6**
HVS Khovu-Aksy 18.65 20 *e*P **Pn 17 16 53.4 +1.2**
HVS pmax pmax
comp=Z,23nm,1.0s
KMI Kunming 18.94 113 P **P 17 16 54.9 -0.5**
KMI pP sP 17 16 59.9 +0.4
KMI sP pP 17 17 02.5 +4.3
KMI S **Sn 17 20 22.5 -5.7**
KMI sS sS 17 20 35.0 -0.3
KMI pmax pmax
comp=Z,10.0nm,1.4s
KMI pmax pmax
comp=Z,100nm,4.0s
KMI LR LR
comp=Z,330nm,9.1s
KMI LR LR
comp=Z,290nm,11.4s
KMI LR LR
comp=Z,300nm,9.5s
URV Uravakonda 19.81 198 *e*P **P 17 17 05.0 +0.3**
ZAA0 Zalesovo Array 19.94 2 *e*P **P 17 17 05.3 -0.6**
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 19.94 2 P **P 17 17 05.4 -0.5**
comp=Z,0.2nm,0.3s,baz=184,slow=11,SNR=46
ZALV LR LR 17 25 49.2
comp=Z,60nm,19.6s,baz=234,slow=40
ZALV Zalesovo Beam 19.94 2 *e*P **P 17 17 05.5 -0.3**
ZALV Zalesovo Beam 19.94 2 *e*P **P 17 17 05.6 -0.3**
ZAA1 Zalesovo Array 19.94 2 *e*P **P 17 17 05.4 -0.5**
SKHT Srikalahasti 20.48 191 *e*P **P 17 17 12.6 +0.6**
CHTO Chiang Mai 20.49 134 P **P 17 17 12.3 +0.2**
comp=Z,54nm,1.1s
CHTO Chiang Mai 20.49 134 *e*P **P 17 17 10.4 -1.7**
comp=Z,7.9nm,0.8s
CHTO Chiang Mai 20.49 134 *e*P **P 17 17 10.4 -1.7**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CM31 Chiang Mai Arr 20.77 134 *e*P **P 17 17 13.7 -1.4**
CMAR Chiang Mai Arr 20.77 134 P **P 17 17 16.1 +0.9**
comp=Z,9.4nm,0.9s,baz=313,slow=12,SNR=32
CMAR Chiang Mai Arr 20.77 134 *i* P Pn 17 17 17.8 +0.3
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CM01 Chiang Mai Arr 20.80 134 *e*P **P 17 17 13.4 -2.1**
NVS Novosibirsk 20.81 360 *e*P **P 17 17 14.7 -0.6**
NVS pmax pmax
comp=N,18nm,1.4s
NVS pmax pmax
comp=E,12nm,1.4s
NVS pmax pmax
comp=Z,20nm,1.4s
GEYT Alibeck 20.86 288 P **P 17 17 16.5 +0.4**
comp=Z,7.1nm,0.7s,baz=115,slow=10,SNR=23
GEYT LR LR 17 27 04.0
comp=Z,500nm,18.8s,baz=70,slow=42
XAN Xi'an 21.08 83 ⇑P **P 17 17 16.1 -2.4**
XAN S **S 17 21 13.8 +0.7**
XAN pmax pmax
comp=Z,23nm,0.9s
XAN pmax pmax
comp=Z,160nm,4.5s
XAN LR LR
comp=Z,1µm,16.3s
XAN LR LR
comp=Z,470nm,16.8s
XAN LR LR
comp=Z,340nm,11.3s
LAMP Lampang 21.13 133 P **P 17 17 23.5 +4.4**
comp=Z,5.8nm,0.9s
BVA0 Borovoye Array 21.16 338 *i* P **P 17 17 19.8 +0.6**
BVA0 pmax pmax
comp=Z,11nm,0.9s
BVAR Borovoye Array 21.16 338 P **P 17 17 20.2 +1.0**
comp=Z,6.1nm,0.6s,baz=146,slow=11,SNR=39
BRVK Borovoye 21.23 338 *e*P **P 17 17 19.3 -0.5**
comp=Z,24nm,1.0s
BRVK Borovoye 21.23 338 *ce*P **P 17 17 21.7 +1.9**
BRVK pmax pmax
comp=Z,72nm,1.2s
GYA Guiyang 21.38 104 ⇑*i*P **P 17 17 20.6 -1.2**
GYA pP sP 17 17 26.9 +0.9
GYA PP **PnPn 17 17 46.0 +4.3**
GYA S **S 17 21 13.2 -6.1**
GYA SS **SnSn 17 21 48.7 +6.8**
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,500nm,14.1s
GYA LR LR
comp=Z,460nm,15.0s
GYA LR LR
comp=Z,490nm,14.6s
PHRA Phrae 21.51 132 P **P 17 17 24.9 +1.7**
comp=Z,49nm,0.9s
NANT Nan 21.58 130 P **P 17 17 26.6 +2.7**
comp=Z,3.3nm,0.8s
MOY Mondy 21.71 30 *e*P **P 17 17 27.6 +2.4**
MOY pmax pmax
comp=Z,26nm,1.9s
ZAK Zakamensk 21.86 36 *e*P **P 17 17 25.9 -0.8**
ZAK pmax pmax
comp=Z,16nm,1.3s
SONA0 Songino Array 22.03 44 *e*P **P 17 17 28.7 0.0**
SONM Songino Array 22.03 44 P **P 17 17 28.7 0.0**
comp=Z,11nm,0.9s,baz=231,slow=8.2,SNR=30
SONM LR LR 17 26 53.5
comp=Z,140nm,19.6s,baz=218,slow=39
SONA1 Songino Array 22.04 44 *e*P **P 17 17 28.7 -0.2**
ENH Enshi 22.32 92 *e*P **P 17 17 31.5 -0.3**
comp=Z,29nm,1.0s
ULN Ulaanbaatar 22.43 45 *e*P **P 17 17 33.3 +0.3**
comp=Z,56nm,1.6s
ULN Ulaanbaatar 22.43 45 *ce*P **P 17 17 33.0 0.0**
ULN pmax pmax
comp=Z,41nm,1.7s
ULN Ulaanbaatar 22.43 45 P **P 17 17 33.9 +0.9**
SNR=18
PHIT Phitsanulok 22.63 134 P **P 17 17 38.0 +2.9**
comp=Z,10nm,0.9s
TLY Talaya 22.89 33 *e*P **P 17 17 37.8 +0.1**
comp=Z,8.2nm,1.1s
TLY Talaya 22.89 33 *e*P **P 17 17 40.9 +3.2**
TLY pmax pmax
comp=Z,10.0nm,1.5s
TLY MLR MLR
comp=Z,133nm,15.0s
AB31 Akbulak array 23.12 318 *i* P **P 17 17 40.6 +0.6**
AB31 pmax pmax
comp=Z,20nm,1.1s
ABKAR Akbulak array 23.12 318 *e*P **P 17 17 40.5 +0.4**
comp=Z,82nm,0.8s
HHC Hu-ho-hao-te 23.26 65 *e*P **P 17 17 42.8 +1.1**
HHC sP sP 17 17 49.4 +3.5
HHC S **S 17 21 48.0 -6.0**
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,83nm,4.5s
HHC LR LR
comp=Z,740nm,12.8s
HHC LR LR
comp=Z,350nm,10.9s
HHC LR LR
comp=Z,360nm,11.1s
UTHA Uthaitani 23.36 138 P **P 17 17 45.6 +2.9**
comp=Z,3.5nm,1.0s
IRK Irkutsk 23.56 33 *e*P **P 17 17 45.7 +1.3**
IRK pmax pmax
comp=Z,43nm,2.9s
WSAR Wadi Sarin 24.25 250 P **P 17 17 53.7 +2.4**
comp=Z,9.2nm,0.6s,baz=101,slow=9.0,SNR=15
WSAR LR LR 17 30 29.5
comp=Z,99nm,18.0s,baz=109,slow=44
WSAR Wadi Sarin 24.25 250 P **P 17 17 54.1 +2.8**
CHAI Chaiyaphum 24.57 133 P **P 17 17 57.2 +3.0**
comp=Z,4.7nm,0.9s
AKTO Aktyubinsk 24.80 319 P **P 17 17 57.3 +1.2**
comp=Z,10nm,0.7s,baz=123,slow=8.1,SNR=35
AKTO LR LR 17 29 35.3
comp=Z,136nm,18.2s,baz=111,slow=41

SKNT Sakolnakorn 25.04 128 P **P 17 18 03.1 +4.7**
WHN Wuhan 26.28 89 ⇓P **P 17 18 11.0 +1.4**
WHN LR LR
comp=Z,530nm,7.4s
WHN LR LR
comp=Z,690nm,4.0s
WHN LR LR
comp=Z,1µm,7.9s
BJT Baijiatuau 26.68 67 *e*P **P 17 18 15.4 +2.2**
comp=Z,43nm,1.7s
BJT Baijiatuau 26.68 67 *e*P **P 17 18 15.4 +2.2**
BJT pmax pmax
comp=Z,43nm,1.7s
PALK Pallekele 26.75 186 P **P 17 18 14.4 +0.5**
comp=Z,4.6nm,0.8s,baz=295,slow=6.1,SNR=3.9
PALK Pallekele 26.75 186 *e*P **P 17 18 13.0 -0.9**
comp=Z,11nm,1.0s
PALK Pallekele 26.75 186 *e*P **P 17 18 13.0 -0.9**
PALK pmax pmax
comp=Z,11nm,1.0s
ARU Arti 28.16 330 LR LR 17 30 28.2
comp=Z,190nm,21.1s,baz=137,slow=38
NJ2 Nanjing 29.64 84 *e*P **P 17 18 40.0 +0.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
GNI Garni 31.32 293 *e*P **P 17 18 56.6 +2.0**
GNI pmax pmax
comp=Z,29nm,1.0s
BOD Bodaibo 31.42 31 *e*P **P 17 18 56.1 +1.0**
BOD pmax pmax
comp=Z,14nm,1.4s
KIV Kislovodsk 32.92 300 *e*P **P 17 19 07.1 -1.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,103nm,15.0s
IPM Ipoh 33.63 147 *e*P **P 17 19 13.9 -0.9**
comp=Z,55nm,2.0s
CN2 Changchun 33.77 61 *e*P **P 17 19 16.5 +0.6**
CN2 *es*P sP 17 19 23.5 +3.3
CN2 *e*S **S 17 24 38.9 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,19.0s
NACB Ninganchiao 34.56 96 *e*P **P 17 19 23.1 +0.3**
comp=Z,29nm,0.9s
MARD Mardin 34.63 288 *e*P **P 17 19 23.7 +0.2**
comp=Z,6.3nm,0.7s
VRH Novokhopyorsk 34.64 313 *e*P **P 17 19 23.4 +0.2**
VRH pmax pmax
comp=Z,9.0nm,0.9s
RAYN Ar Rayn 34.71 263 *e*P **P 17 19 23.0 -1.3**
comp=Z,9.8nm,1.0s
RAYN Ar Rayn 34.71 263 P **P 17 19 23.0 -1.3**
RAYN pmax pmax
comp=Z,10.0nm,1.1s
GSI Gunungsitoli 35.13 155 *e*P **P 17 19 27.7 -0.1**
comp=Z,39nm,1.0s
KSRS Korea Array 35.99 71 LR LR 17 34 23.7
comp=Z,69nm,19.2s,baz=282,slow=36
VSR Storozhevoye 36.21 312 *e*P **P 17 19 36.4 -0.4**
VSR pmax pmax
comp=Z,9.0nm,0.7s
LPSR Galich'ya Gora 36.64 314 *e*P **P 17 19 41.8 +1.4**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
MDJ Mudanjiang 36.77 59 *e*P **P 17 19 42.2 +0.6**
comp=Z,43nm,1.8s
KLR Kul'dur 38.47 52 *e*P **P 17 19 56.6 +0.6**
USRK Ussuriysk Ar. 38.49 60 P **P 17 19 57.0 +0.8**
comp=Z,3.9nm,0.9s,baz=236,slow=2.1,SNR=7.4
USRK LR LR 17 36 43.5
comp=Z,119nm,19.8s,baz=235,slow=38
OBN Obninsk 38.57 318 *e*P **P 17 19 57.4 +0.8**
comp=Z,21nm,0.5s
OBN Obninsk 38.57 318 *ce*P **P 17 19 57.8 +1.1**
OBN *e*PPP PPP 17 21 49.4
OBN *e* 17 22 08.8
OBN pmax pmax
comp=Z,76nm,2.5s
OBN MLR MLR
comp=Z,166nm,22.0s
KLMR Klimovskoe 38.89 327 *e*P **P 17 19 56.0 -3.3**
KLMR pmax pmax
comp=Z,19nm,1.6s
KLMR Klimovskoe 38.89 327 *e*P **P 17 19 56.1 -3.3**
KLMR AMP 17 20 09.4
comp=Z,19nm,1.6s
JNU Nakatsue 39.23 78 LR LR 17 36 23.2
comp=Z,40nm,18.1s,baz=304,slow=36
MMAI Mount Meron Ar 39.80 282 LR LR 17 39 31.2
comp=Z,74nm,18.1s,baz=165,slow=41
BR101 Keskin Array S 39.85 293 *e*P **P 17 20 07.9 0.0**
BR131 Keskin Array S 39.85 293 *e*P **P 17 20 08.4 +0.5**
BRTR Keskin Array B 39.85 293 P **P 17 20 07.9 0.0**
comp=Z,2.9nm,1.0s,baz=102,slow=5.2,SNR=6.2
BRTR Keskin Array B 39.85 293 *ce*P **P 17 20 09.5 +1.6**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
DAMY Dhamar 40.23 251 *e*P **P 17 20 11.7 +0.3**
comp=Z,28nm,1.3s
YAK Yakutsk 40.34 32 P **P 17 20 09.0 -2.4**
comp=Z,7.8nm,0.6s,baz=327,slow=0.9,SNR=7.0
YAK Yakutsk 40.34 32 *e*P **P 17 20 11.7 +0.3**
comp=Z,13nm,0.7s
YAK Yakutsk 40.34 32 *e*P **P 17 20 11.1 -0.3**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.5s
BR231 Keskin MP Arra 40.49 293 *e*P **P 17 20 09.3 -3.9**
EIL Elat 41.14 278 LR LR 17 41 29.7
comp=E,156nm,18.8s,baz=70,slow=42
GRNR Gornyy 41.58 50 *e*P **P 17 20 23.0 +1.2**
AKASG Malin Array Be 42.40 310 P **P 17 20 28.2 -0.3**
comp=E,1.3nm,0.7s,baz=79,slow=6.7,SNR=11
AKASG LR LR 17 40 27.4
comp=E,202nm,20.4s,baz=290,slow=40
AKASG Malin Array Be 42.40 310 *ce*P **P 17 20 30.1 +1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 42.40 310 *e*P **P 17 20 27.8 -0.7**
AKBB Malin Array Si 42.40 310 *e*P **P 17 20 27.8 -0.7**
KIEV Kiev 42.41 310 *e*P **P 17 20 30.6 +2.1**
KIEV pmax pmax
comp=Z,4.0nm,1.1s
ISP Isparta 42.58 291 *e*P **P 17 20 28.9 -1.3**
comp=Z,10nm,0.9s
ISP Isparta 42.58 291 *e*P **P 17 20 28.9 -1.3**
ISP pmax pmax
comp=Z,11nm,0.9s
ATD Arta Tunnel 43.25 249 P **P 17 20 37.0 +1.2**
comp=Z,9.5nm,0.8s,baz=12,slow=9.3,SNR=3.9
ATD Arta Tunnel 43.25 249 *e*P **P 17 20 36.4 +0.5**
comp=Z,24nm,1.3s
MAJO Matsushiro 44.24 70 *e*P **P 17 20 45.1 +1.5**
MAJO pmax pmax
comp=Z,6.0nm,1.2s
MJAR Matsushiro Arr 44.25 70 LR LR 17 40 16.2
comp=Z,85nm,18.5s,baz=260,slow=38
TIXI Tiksi 44.52 19 *e*P **P 17 20 45.3 0.0**
comp=Z,30nm,1.8s
TIXI Tiksi 44.52 19 *ce*P **P 17 20 44.8 -0.4**
TIXI pmax pmax
comp=Z,16nm,1.7s
MLR Muntele Rosu 44.80 303 P **P 17 20 49.4 +1.3**
comp=Z,2.9nm,0.9s,baz=73,slow=8.8,SNR=5.8
MLR Muntele Rosu 44.80 303 *e*P **P 17 20 48.5 +0.4**
comp=Z,17nm,1.0s
MLR Muntele Rosu 44.80 303 *e*P **P 17 20 48.5 +0.4**
MLR pmax pmax
comp=Z,17nm,1.0s
BUR04 Bucovina Ar. S 45.11 306 *e*P **P 17 20 50.6 +0.1**
FIA1 FINESS Array S 45.29 325 *e*P **P 17 20 52.3 +0.8**
comp=Z,102nm,1.9s
FIA0 FINESS Array S 45.29 325 *e*P **P 17 20 52.1 +0.6**
FIA0 FINESS Array S 45.29 325 *e*P **P 17 20 52.1 +0.6**

FINES FINESS Array B 45.29 325 P **P 17 20 52.1 +0.6**
comp=Z,3.9nm,0.7s,baz=101,slow=8.0,SNR=9.4
FINES LR LR 17 40 54.6
comp=Z,186nm,18.3s,baz=66,slow=38
TYV Tymovskoe 45.53 50 *e*P **P 17 20 49.4 -4.2**
TYV pmax pmax
comp=Z,6.0nm,1.5s
YSS Yuzh-Sakhalins 45.86 55 *e*P **P 17 20 54.9 -1.4**
YSS pmax pmax
comp=Z,8.0nm,1.2s
KWP Kalwaria Pacla 46.61 309 *e*P **P 17 21 03.0 +0.8**
comp=Z,304nm,0.3s
KWP Kalwaria Pacla 46.61 309 *e*P **P 17 21 03.0 +0.8**
KWP pmax pmax
comp=Z,304nm,0.3s
ARA0 ARCESS Array S 47.44 336 *e*P **P 17 21 07.7 -0.7**
ARCES ARCESS Array B 47.44 336 P **P 17 21 07.7 -0.7**
comp=Z,5.1nm,0.8s,baz=14,slow=10,SNR=4.6
STHS Stebnicka Huta 47.58 308 *e*P **P 17 21 11.0 +1.2**
STHS Stebnicka Huta 47.58 308 *e*P **P 17 21 11.0 +1.2**
IDI Anoyia 47.59 289 LR LR 17 44 40.7
comp=Z,46nm,20.1s,baz=62,slow=40
DIVS Divibare 49.20 302 *e*P **P 17 21 22.9 +0.5**
comp=Z,9.1nm,1.2s
MA2 Magadan 50.01 38 *ce*P **P 17 21 29.5 +1.2**
TTG Podgorica 50.07 300 *e*P **P 17 21 28.6 -0.3**
comp=Z,15nm,1.4s
TTG Podgorica 50.07 300 *e*P **P 17 21 28.6 -0.3**
TTG pmax pmax
comp=Z,15nm,1.4s
VRAC Vranov 50.61 309 LR LR 17 45 27.6
comp=Z,165nm,20.1s,baz=76,slow=39
BLY Banja Luka 51.04 303 *e*P **P 17 21 36.7 +0.5**
comp=Z,11nm,1.5s
HFS Hagfors 51.25 323 P **P 17 21 37.5 -0.1**
comp=Z,2.5nm,0.5s,baz=94,slow=10,SNR=15
HFS LR LR 17 44 31.0
comp=Z,158nm,18.9s,baz=80,slow=37
BRG Berggiesshubel 52.05 311 *e*(P) **P 17 21 43.9 +0.2**
comp=Z,9.7nm,1.4s
BRG Berggiesshubel 52.05 311 *e*P **P 17 21 43.9 +0.2**
BRG pmax pmax
comp=Z,10.0nm,1.4s
SPITS Spitsbergen Ar 52.29 346 LR LR 17 48 09.8
comp=Z,67nm,18.0s,baz=180,slow=41
NB2 NORSAR Subarra 52.43 324 P **P 17 21 46.1 -0.4**
comp=Z,2.6nm,0.7s,baz=86,slow=7.9
NB200 NORSAR Array S 52.43 324 *e*P **P 17 21 46.0 -0.4**
NOA NORSAR Array B 52.43 324 P **P 17 21 46.0 -0.4**
comp=Z,2.0nm,0.8s,baz=87,slow=7.5,SNR=6.5
NOA LR LR 17 45 15.8
comp=Z,108nm,19.4s,baz=85,slow=37
NOA NORSAR Array B 52.43 324 P **P 17 21 46.0 -0.4**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,108nm,19.4s
GEC2 GERESS Array S 52.56 309 *e*P **P 17 21 47.9 +0.2**
comp=Z,6.6nm,1.3s
GEC2 GERESS Array S 52.56 309 *e*P **P 17 21 47.9 +0.2**
GEC2 pmax pmax
comp=Z,7.0nm,1.3s
GERES GERESS Array B 52.56 309 P **P 17 21 48.0 +0.3**
comp=Z,1.7nm,0.8s,baz=69,slow=7.3,SNR=12
GERES LR LR 17 47 11.9
comp=Z,163nm,18.6s,baz=78,slow=40
GEA0 GERESS Array S 52.57 309 *e*P **P 17 21 47.5 -0.2**
KHC Kasperske Hory 52.59 309 *e*P **P 17 21 48.0 +0.2**
comp=Z,7.2nm,1.9s
KHC Kasperske Hory 52.59 309 *e*P **P 17 21 48.0 +0.2**
KHC pmax pmax
comp=Z,7.0nm,1.9s
TRI Trieste 53.19 305 *e*P **P 17 21 51.9 -0.3**
comp=Z,6.2nm,0.8s
TRI Trieste 53.19 305 *e*P **P 17 21 51.9 -0.3**
TRI pmax pmax
comp=Z,6.0nm,0.8s
CUC Castrocucco 53.19 297 *e*P **P 17 21 52.0 -0.5**
comp=Z,5.1nm,1.1s
PETK Petropavlovsk- 54.51 45 LR LR 17 45 55.2
comp=Z,37nm,18.1s,baz=289,slow=37
KMBO Kilima Mbogo 55.69 241 P **P 17 22 11.4 +0.3**
comp=Z,1.8nm,0.8s,baz=38,slow=11,SNR=4.7
KMBO Kilima Mbogo 55.69 241 *e*P **P 17 22 11.7 +0.6**
comp=Z,7.7nm,1.3s
KMBO Kilima Mbogo 55.69 241 *ce*P **P 17 22 13.5 +2.4**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
BILL Bilibino 56.27 27 ⇓*e*P **P 17 22 13.4 -0.8**
BILL *e* 17 24 16.3
BILL *e*S **S 17 30 03.1 -0.7**
BILL pmax pmax
comp=Z,6.0nm,1.5s
BILL MLR MLR
comp=Z,66nm,15.0s
CDF Champ du Feu 56.81 309 P **P 17 22 18.1 -0.4**
CDF pmax pmax
comp=Z,1.0nm,0.4s
LPG La Plagne 57.99 306 *e*P **P 17 22 26.9 -0.2**
LPG pmax pmax
comp=Z,6.0nm,0.9s
LPL La Plagne 57.99 306 *e*P **P 17 22 26.9 -0.2**
LPL pmax pmax
comp=Z,7.0nm,0.8s
BNI Bardonecchia 58.17 306 *e*P **P 17 22 27.1 -1.1**
comp=Z,3.8nm,1.0s
BNI Bardonecchia 58.17 306 *e*P **P 17 22 27.1 -1.1**
BNI pmax pmax
comp=Z,4.0nm,1.0s
AVF Avril sur Loir 59.83 308 *e*P **P 17 22 38.7 -0.8**
AVF pmax pmax
comp=Z,11nm,1.4s
MBAR Mbarara 60.20 247 *e*P **P 17 22 39.5 -3.1**
comp=Z,13nm,1.1s
MBAR Mbarara 60.20 247 *e*P **P 17 22 39.5 -3.1**
MBAR pmax pmax
comp=Z,13nm,1.1s
CAF Calviac 61.30 307 *e*P **P 17 22 49.3 -0.4**
CAF pmax pmax
comp=Z,8.0nm,1.3s
LDF La Druitiere 61.44 311 *e*P **P 17 22 49.7 -0.8**
LDF pmax pmax
comp=Z,9.0nm,1.1s
ROSF Rostrenen 63.49 312 *e*P **P 17 23 03.7 -0.5**
ROSF pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 66.50 344 *e*P **P 17 23 23.5 -0.3**
comp=Z,32nm,2.0s
SUMG Summit 66.50 344 *e*P **P 17 23 23.5 -0.3**
SUMG pmax pmax
comp=Z,32nm,2.0s
ES19 SONSECA Array 67.43 303 *e*P **P 17 23 29.5 -0.5**
COLD Coldfoot 71.24 19 *e*P **P 17 23 54.6 +1.7**
comp=Z,12nm,1.7s
WR1 Warramunga Arr 72.29 130 *e*P **P 17 24 00.2 +0.3**
comp=Z,7.9nm,0.9s
WRA Warramunga Arr 72.29 130 P **P 17 24 00.2 +0.3**
comp=Z,3.5nm,0.7s,baz=325,slow=6.1,SNR=16
PPLA Purkeypile 73.71 23 *e*P **P 17 24 07.2 -0.7**
comp=Z,53nm,1.7s
IL1 Eielson Array 73.97 20 *e*P **P 17 24 08.3 -0.9**
ILAR Eielson Array 73.97 20 P **P 17 24 07.7 -1.5**
comp=Z,3.4nm,1.0s,baz=275,slow=4.2,SNR=21
ILB Eielson Array 73.97 20 *e*P **P 17 24 07.6 -1.6**
AS31 Alice Springs 74.77 133 *e*P **P 17 24 13.1 -1.3**
comp=Z,1.5nm,0.6s
ASAR Alice Springs 74.77 133 P **P 17 24 13.9 -0.5**
comp=Z,1.9nm,0.8s,baz=318,slow=6.0,SNR=20
AS01 Alice Springs 74.79 133 *e*P **P 17 24 13.3 -1.3**
SUA Susitna One 75.20 24 *e*P **P 17 24 16.3 -0.3**
comp=Z,42nm,0.6s
EGAK Eagle 75.52 18 *e*P **P 17 24 17.0 -1.2**
comp=Z,34nm,1.9s
SML Sawmill 75.74 23 *e*P **P 17 24 18.9 -0.6**
comp=Z,74nm,1.8s
SML Sawmill 75.74 23 *e*P **P 17 24 19.0 -0.6**
SML pmax pmax
comp=Z,74nm,1.8s
RC01 Rabbit Creek A 75.81 24 *e*P **P 17 24 21.5 +1.6**
comp=Z,40nm,1.6s
TOA0 Torodi Ar. Sit 76.02 277 *e*P **P 17 24 20.0 -1.8**
comp=Z,3.8nm,0.9s
TOA1 Torodi Ar. Sit 76.02 277 *e*P **P 17 24 20.6 -1.2**
TORD Torodi Ar. Bea 76.02 277 P **P 17 24 20.6 -1.2**
comp=Z,2.5nm,0.7s,baz=45,slow=4.9,SNR=19
TORD LR LR 18 02 04.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,76nm,18.8s,baz=0.0,slow=39						
SCM	**Sheep Creek Mo**	**76.04**	**22**	*e*P	**P**	**17 24 20.9**	**-0.4**
	comp=Z,118nm,1.9s						
SCM	**Sheep Creek Mo**	**76.04**	**22**	*e*P	**P**	**17 24 20.9**	**-0.4**
SCM				pmax	pmax		
	comp=Z,118nm,1.9s						
HYT	**Haines Junctio**	**79.73**	**19**	*e*P	**P**	**17 24 41.5**	**-0.4**
KOWA	**Kowa**	**79.99**	**281**	P	**P**	**17 24 42.9**	**-1.1**
	comp=Z,4.0nm,0.5s,baz=39,slow=9.7,SNR=13						
KOWA	**Kowa**	**79.99**	**281**	*e*P	**P**	**17 24 42.7**	**-1.3**
	comp=Z,6.6nm,1.0s						
YKW3	**Yellowknife Ar**	**82.65**	**8**	*e*P	**P**	**17 24 55.3**	**-1.9**
	comp=Z,6.8nm,1.1s						
YKA	**Yellowknife Ar**	**82.72**	**8**	P	**P**	**17 24 56.7**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=340,slow=5.1,SNR=32						
YKA				LR	LR	18 05 11.2	
	comp=Z,6.4nm,18.0s,baz=0.0,slow=38						
BOSA	**Boshof**	**83.15**	**229**	P	**P**	**17 24 59.6**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=43,slow=3.8,SNR=9.2						
BOSA	**Boshof**	**83.15**	**229**	*e*P	**P**	**17 24 59.4**	**-1.0**
	comp=Z,49nm,1.9s						
HNR	**Honiara**	**84.20**	**105**	LR	LR	18 01 38.5	
	comp=Z,52nm,20.9s,baz=194,slow=35						
STKA	**Stephens Creek**	**85.39**	**134**	LR	LR	18 05 51.6	
	comp=Z,27nm,21.8s,baz=327,slow=38						
FFC	**Flin Flon**	**91.48**	**3**	*e*P	**P**	**17 25 40.0**	**-0.4**
	comp=Z,19nm,1.9s						
FFC	**Flin Flon**	**91.48**	**3**	*e*P	**P**	**17 25 40.0**	**-0.4**
FFC				pmax	pmax		
	comp=Z,19nm,1.9s						
LON	**Longmire**	**96.43**	**17**	*e*P	**P**	**17 26 04.2**	**+0.8**
LON	**Longmire**	**96.43**	**17**	*e*P	**P**	**17 26 04.2**	**+0.8**
LPAZ	**La Paz**	**148.97**	**298**	PKPbc	**PKPbc**	**17 32 24.4**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=45,slow=4.9,SNR=3.7						
LPAZ	**La Paz**	**148.97**	**298**	*e*PKPbc	**PKPbc**	**17 32 24.1**	**+0.6**

*SJA **02** 17:15:21.7±0.5, 32.°75S×72.°19W, h5^{km}±80^{km}, ML2.6, MW2.7*
*GUC **02** 17:15:30.6±0.5, 32.°59S×71.°55W, h37^{km}±4^{km}, ML2.8*
ISC 02 17:15:17.2±3.8**, 32.°67S**±0.°07×**72.°5W**±0.°2**, h17**^{km}±16^{km}**, n13, σ2^{s}76**/22**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.65**	**120**	*e*P	**Pg**	**17 15 49.7**	**+0.8**
RCDM				*e*S	**Sn**	**17 16 04.7**	**-1.5**
CLCH	**Cerro Calan**	**1.81**	**114**	*e*P	**Pg**	**17 15 51.6**	**-0.4**
CLCH				*e*S	**Sn**	**17 16 07.5**	**-2.8**
CLCH				IAML		17 16 08.4	
	comp=N,368nm,0.4s						
FCH	**Farellones**	**1.98**	**110**	*e*P	**Pb**	**17 15 53.8**	**+0.8**
FCH				*e*S	**Sn**	**17 16 11.3**	**-3.4**
FCH				IAML		17 16 13.0	
	comp=N,260nm,0.3s						
LMEL	**Las Melosas**	**2.26**	**122**	*e*P	**Pb**	**17 15 59.9**	**+2.2**
LMEL				*e*S	**Sn**	**17 16 21.8**	**+0.2**
LMEL				IAML		17 16 25.9	
	comp=N,195nm,0.2s						
AUSP	**Uspallata**	**2.68**	**81**	*i* P	**Pb**	**17 16 05.7**	**+0.8**
AUSP				*i* S	**Sn**	**17 16 33.4**	**+1.5**
RTLS	**Leoncito**	**2.86**	**73**	*i* P	**Pb**	**17 16 08.9**	**+1.0**
RTLS				*i* S	**Sn**	**17 16 39.6**	**+3.2**
RTLS				IAML		17 16 39.9	
	comp=Z,15nm,0.6s						
ARCO	**CERRO ARCO**	**3.02**	**94**	*i* P	**Pb**	**17 16 12.1**	**+1.5**
ARCO				IAML		17 16 24.1	
	comp=Z,32nm,0.5s						
ASAL	**Salagasta**	**3.10**	**90**	*i* P	**Pb**	**17 16 12.7**	**+0.8**
ASAL				*i* S	**Sb**	**17 16 48.0**	**-1.5**
AAGR	**Agrelo**	**3.13**	**99**	*i* P	**Pb**	**17 16 14.0**	**+1.6**
RTCV	**Cerro Valdivia**	**3.46**	**78**	*i* P	**Pb**	**17 16 19.0**	**+1.0**
RTCV				*i* S	**Sb**	**17 16 57.0**	**-2.7**
AMOG	**MOGNA**	**3.83**	**64**	*i* P	**Pb**	**17 16 22.7**	**-1.6**
AMOG				*i* S	**Sb**	**17 17 07.4**	**-3.1**
AGUA	**GUANDACOL**	**4.68**	**48**	*i* P	**Pb**	**17 16 37.2**	**-1.7**
APLL	**PUNTA DE LOS L**	**5.59**	**68**	*i* P	Pb	17 16 48.6	-5.6
APLL				*i* S	**Sn**	**17 17 51.4**	**+8.0**
APLL				IAML		17 17 52.5	
	comp=Z,2.8nm,0.4s						

*ISCJB **02** 17:19:38.4±0.6, 3.°00S±0.°06×139.°36E±0.°08, h46^{km}, mb4.8/11, Error ellipse: s-maj=11.1km s-min=8.2km az=3.4*
*NEIC **02** 17:19:38.8±1.6, 2.°89S×139.°46E, h36^{km}±15^{km}, mb4.4/12, Error ellipse: s-maj=14.9km s-min=11.8km az=179.0*
*IDC **02** 17:19:39.2±5.2, 3.°45S×139.°66E, h0^{km}, mb3.8/2, mb1 4.1/3, mb1mx3.5/41, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=150.2km s-min=36.0km az=116.0*
ISC 02 17:19:40.0±0.8**, 2.°98S**±0.°08×**139.°44E**±0.°09**, h46**^{km}**, n24, σ1^{s}87**/27**, mb4.6**/11**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**7.18**	**270**	*e*Pn	**Pn**	**17 21 22.6**	**0.0**
PMG	**Port Moresby**	**9.98**	**130**	*e*Pn	**Pn**	**17 22 02.1**	**+1.3**
COEN	**Coen**	**11.51**	**162**	*e*Pn	**Pn**	**17 22 22.6**	**+0.7**
RABL	**Rabaul**	**12.76**	**96**	*e*Pn	**Pn**	**17 22 36.1**	**-2.8**
MTN	**Manton Dam**	**12.79**	**220**	*e*Pn	**Pn**	**17 22 38.0**	**-1.3**
SOEI	**Soe**	**16.50**	**245**	*e*Pn	**P**	**17 23 31.7**	**+1.1**
	43nm,1.3s						
WRAB	**Tennant Creek**	**17.57**	**196**	*e*Pn	**Pn**	**17 23 41.5**	**-0.1**
	11nm,0.9s						
WB2	**Warramunga Arr**	**17.57**	**196**	*e*Pn	**P**	**17 23 42.4**	**0.0**
WR1	**Warramunga Arr**	**17.58**	**196**	*e*Pn	**Pn**	**17 23 39.5**	**-2.3**
	7.9nm,0.9s						
WR1				*e*Sn	**Sn**	**17 26 52.6**	**-4.1**
WRA	**Warramunga Arr**	**17.58**	**196**	P	**Pn**	**17 23 39.5**	**-2.3**
	0.3nm,0.3s,baz=13,slow=13,SNR=18						
WRA				S	**Sn**	**17 26 52.6**	**-4.1**
	0.1nm,0.3s,baz=20,slow=22,SNR=4.9						
FITZ	**Fitzroy Crossi**	**20.22**	**221**	*e*P	**P**	**17 24 10.5**	**-0.8**
	7.4nm,1.0s						
AS01	**Alice Springs**	**21.23**	**194**	*e*P	**P**	**17 24 24.4**	**+2.1**
ASAR	**Alice Springs**	**21.25**	**194**	P	**P**	**17 24 23.6**	**+1.2**
	2.3nm,0.8s,baz=18,slow=10,SNR=37						
ASAR				S	**S**	**17 28 18.1**	**+1.9**
	0.4nm,0.8s,baz=22,slow=20,SNR=3.1						
EIDS	**Eidsvold**	**24.92**	**154**	*e*P	**P**	**17 25 01.1**	**+2.1**
	18nm,1.5s						
MBWA	**Marble Bar**	**26.35**	**225**	*e*P	**P**	**17 25 12.8**	**+0.8**
	16nm,1.3s						
STKA	**Stephens Creek**	**28.81**	**176**	P	**P**	**17 25 34.6**	**+0.7**
	1.9nm,0.8s,baz=340,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**28.81**	**176**	*e*P	**P**	**17 25 35.1**	**+1.2**
	5.7nm,2.0s						
UGM	**Wanagama**	**29.19**	**259**	*e*P	**P**	**17 25 38.1**	**+0.6**
	370nm,1.3s						
ARMA	**Armidale**	**29.63**	**158**	*e*P	**P**	**17 25 42.0**	**+0.7**
	121nm,1.9s						
VNDA	**Vanda**	**75.45**	**175**	*e*P	**P**	**17 31 19.5**	**+0.8**
	50nm,1.9s						
SML	**Sawmill**	**84.30**	**27**	*e*P	**P**	**17 32 07.8**	**+0.9**
	69nm,1.8s						
SCM	**Sheep Creek Mo**	**84.77**	**27**	*e*P	**P**	**17 32 07.6**	**-1.7**
	94nm,1.9s						
GYA0	**ALIBECK ARRAY**	**84.98**	**308**	*e*P	**P**	**17 32 09.4**	**-1.5**
	6.5nm,1.3s						
GYA0B	**ALIBECK ARRAY**	**84.98**	**308**	*e*P	**P**	**17 32 09.5**	**-1.3**
	6.0nm,1.2s						

*ISCJB **02** 17:27:40.1±0.6, 32.°20N±0.°02×115.°24W±0.°03, h12^{km}±4^{km}, Error ellipse: s-maj=4.6km s-min=3.6km az=172.9*
*ECX **02** 17:27:41.8±0.8, 32.°19N×115.°26W, h6^{km}, MD2.8, ML3.0*
*NEIC **02** 17:27:41.7±0.0, 32.°19N×115.°28W, h6^{km}, ML2.7(PAS), ML3.0(ECX), After ECX.*
*MEX **02** 17:27:42.5±0.4, 32.°24N×115.°16W, h10^{km}±30^{km}, MD3.5*
ISC 02 17:27:40.3±1.0**, 32.°17N**±0.°02×**115.°29W**±0.°02**, h8**^{km}±8^{km}**, n37, σ1^{s}27**/56**, 5C-2D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.24**	**357**	*e*P	**Pg**	**17 27 45.7**	**+0.4**
CPBX				*i* S	**Sg**	**17 27 48.2**	**-0.4**
CPBX	**Cerro Prieto**	**0.24**	**357**	*e*P	**Pg**	**17 27 45.5**	**+0.3**
CPBX				*e*S	**Sg**	**17 27 49.4**	**+0.9**
MBIG	**Mexicali**	**0.25**	**19**	*e*P	**Pg**	**17 27 46.2**	**+0.9**
MBIG				*e*S	**Sg**	**17 27 48.5**	**-0.1**
SGL	**Mount Signal**	**0.60**	**322**	⇑*i*P	**Pg**	**17 27 52.6**	**+0.6**
EMSC	**East Mesa**	**0.62**	**25**	⇓*i*P	**Pg**	**17 27 52.6**	**+0.3**
WESC	**Westside Schoo**	**0.69**	**328**	*e*P	**Pg**	**17 27 53.5**	**-0.2**
COA	**Coachella**	**0.70**	**12**	*i* P	**Pg**	**17 27 53.7**	**-0.2**
YUH	**Yuha Desert**	**0.71**	**312**	⇓*i*P	**Pg**	**17 27 54.2**	**+0.2**
ECBX	**El Chinero**	**0.73**	**164**	*e*P	**Pg**	**17 27 55.0**	**+0.6**
ECBX				*e*S	**Sg**	**17 28 05.3**	**+1.5**
ECBX				IAML		17 28 06.7	
	comp=E,827nm,0.3s						
ECBX				⇑*e*		17 28 06.7	
YMD	**Yuma Desert**	**0.74**	**59**	⇑*i*P	**Pg**	**17 27 54.0**	**-0.5**
RMX	**La Rumorosa**	**0.79**	**303**	*e*P	**Pg**	**17 27 55.5**	**-0.1**
RMX				*e*S	**Sg**	**17 28 06.3**	**+0.3**
RMX				IAML		17 28 08.6	
	comp=N,331nm,0.1s						
RMX				*e*		17 28 08.6	
IKP	**In-Ko-Pah, Jac**	**0.84**	**305**	*e*P	**Pg**	**17 27 56.7**	**+0.2**
CRR	**Carrizo Plain**	**0.91**	**321**	⇑*i*P	**Pg**	**17 27 58.0**	**+0.2**
GLA	**Glamis**	**0.96**	**24**	*e*Pg	**Pg**	**17 27 56.2**	**-2.6**
ZAX	**El Zacaton**	**1.06**	**232**	*e*P	**Pg**	**17 28 00.4**	**-0.3**
ZAX				*e*S	**Sg**	**17 28 15.5**	**+0.9**
ZAX				*e*		17 28 17.4	
ZAX				IAML		17 28 17.4	
	comp=E,388nm,0.3s						
ZAX				*e*		17 28 19.0	
ZAX				IAML		17 28 19.0	
	comp=N,442nm,0.6s						
SPIG	**San Pedro Mart**	**1.13**	**188**	*e*P	**Pg**	**17 28 01.8**	**-0.3**
SPIG				*e*S	**Sg**	**17 28 17.5**	**+0.6**
SPIG	**San Pedro Mart**	**1.13**	**188**	*e*P	**Pg**	**17 28 01.8**	**-0.3**
SPIG				*e*S	**Sg**	**17 28 17.5**	**+0.6**
SPIG	**San Pedro Mart**	**1.13**	**188**	*e*P	**Pg**	**17 28 01.9**	**-0.3**
SPIG				*e*S	**Sg**	**17 28 17.4**	**+0.6**
SPX	**San Pedro Mart**	**1.13**	**188**	*e*P	**Pg**	**17 28 00.8**	**-1.3**
SPX				*e*S	**Sg**	**17 28 16.9**	**+0.1**
CBX	**Cerro Bola**	**1.17**	**277**	*e*P	**Pg**	**17 28 02.6**	**-0.2**
CBX				*e*S	**Sg**	**17 28 17.9**	**-0.2**
CBX	**Cerro Bola**	**1.17**	**277**	*e*P	**Pg**	**17 28 02.6**	**-0.2**
CBX				*e*S	**Sg**	**17 28 17.9**	**-0.2**
CBX	**Cerro Bola**	**1.17**	**277**	*e*P	**Pg**	**17 28 02.3**	**-0.5**
CBX				*e*S	**Sg**	**17 28 18.1**	**+0.1**
CBX				IAML		17 28 21.5	
	comp=E,441nm,0.5s						
CBX				⇑*e*		17 28 21.5	
TJIG	**Tijuana**	**1.20**	**283**	*i* P	**Pg**	**17 28 03.3**	**-0.1**
TJIG				*e*S	**Sg**	**17 28 19.0**	**+0.1**
ECNX	**Esteban Cantu**	**1.22**	**246**	*e*P	**Pg**	**17 28 03.5**	**-0.3**
BAR	**Barrett**	**1.27**	**294**	*e*Pn	**Pn**	**17 28 03.2**	**-1.2**
BAR				*e*Sn	**Sg**	**17 28 20.5**	**-0.8**
113A	**Mohawk Valley,**	**1.42**	**65**	*e*Pn	**Pn**	**17 28 04.3**	**-2.0**
CPE	**Camp Elliot**	**1.69**	**295**	*e*Pn	Pn	17 28 05.8	-4.3
CPE				*e*Sn	**Sn**	**17 28 32.1**	**+0.1**
Y12C	**Blythe**	**1.70**	**22**	*e*Pn	**Pn**	**17 28 07.8**	**-2.5**
XPFO	**Piæon Flat**	**1.74**	**326**	*e*Pn	**Pn**	**17 28 08.7**	**-2.2**
XPFO				*e*Sn	**Sn**	**17 28 34.0**	**+0.6**
PFO	**Pinyon Flats O**	**1.74**	**326**	*e*Pn	**Pn**	**17 28 08.8**	**-2.1**
PFO				*e*Sn	**Sn**	**17 28 34.8**	**+1.5**
Y14A	**Wickenburg**	**2.60**	**47**	*e*Pn	**Pn**	**17 28 22.2**	**-0.6**
Y14A				*e*Sn	**Sb**	**17 28 59.4**	**0.0**
MWC	**Mount Wilson**	**3.09**	**312**	*e*Pn	Pn	17 28 26.1	-3.5
MWC				*e*Sg	**Sb**	**17 29 16.9**	**+3.2**
W13A	**Hualapai Mount**	**3.15**	**22**	*e*Pn	Pn	17 28 26.2	-4.1
TUC	**Tucson**	**3.82**	**87**	*e*Pn	Pn	17 28 36.0	-3.5
TUC				*e*Lg	Lg	17 29 45.4	
SHPR	**Sheep Range**	**4.32**	**1**	*e*Pn	**Pn**	**17 28 45.6**	**-0.9**
SHPR				*e*Lg	Lg	17 30 06.1	
EKU	**East Kanab**	**5.41**	**24**	*e*Pn	**Pn**	**17 29 05.7**	**+4.3**
EKU				*e*Pg	**Pb**	**17 29 13.3**	**-1.8**
EKU				*e*Sn	**Sn**	**17 30 06.5**	**+2.7**
EKU				*e*Sg	**Sb**	**17 30 21.6**	**+1.5**
BHU	**Blowhard Mount**	**5.76**	**20**	*e*Pn	**Pn**	**17 29 05.7**	**-0.8**

*BJI **02** 17:52:26.7, 1.°39N×126.°97E, h63^{km}, mb4.6/11, mB4.9/11, Ms4.6/4, Ms7 4.3/4*
*ISCJB **02** 17:52:28.4±0.2, 1.°90N±0.°03×127.°16E±0.°04, h63^{km}, mb4.8/42, Error ellipse: s-maj=5.5km s-min=3.3km az=162.5*
*IDC **02** 17:52:30.6±2.8, 1.°85N×127.°08E, h72^{km}±25^{km}, mb3.8/10, mb1 3.9/11, mb1mx3.6/51, mbtmp4.1/11, MS3.0/3, Ms1 3.0/3, ms1mx2.7/52, Error ellipse: s-maj=33.1km s-min=10.4km az=72.0*
*DJA **02** 17:52:30.4±0.8, 2°N±3°×12°7E±°, h32^{km}±14^{km}, M4.3/12, mb4.3/7, mB4.7/4, MLv4.3/12, Mw(mB)4.0/4*
*NEIC **02** 17:52:31.9±0.7, 1.°81N×127.°08E, h86^{km}±7^{km}, mb5.0/28, Error ellipse: s-maj=9.3km s-min=4.6km az=64.0*
ISC 02 17:52:30.3±0.4**, 1.°89N**±0.°04×**127.°10E**±0.°06**, h63**^{km}**, n89, σ1^{s}96**/102**, mb4.8**/42**, 1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.14**	**166**	*e*Pn	**Pn**	**17 52 51.0**	**+0.7**
TNTI				*e*Sn	**Sn**	**17 53 03.1**	**-2.2**
SGSI	**Sangihe**	**2.37**	**319**	P	**Pn**	**17 53 05.9**	**-1.0**
SGSI				S	**Sn**	**17 53 33.2**	**-1.7**
LBMI	**Labuha**	**2.54**	**171**	P	**Pn**	**17 53 10.9**	**+1.7**
LBMI				S	**Sn**	**17 53 44.4**	**+5.3**
KMSI	**Cibinong**	**3.38**	**247**	P	**Pn**	**17 53 22.0**	**+1.4**
KMSI				S	**Sn**	**17 54 01.1**	**+1.6**
SANI	**Sanana**	**4.07**	**196**	P	**Pn**	**17 53 30.4**	**+0.4**
GSPH	**General Santos**	**4.69**	**333**	⇓*i*P	**Pn**	**17 53 37.3**	**-1.3**
GSPH				*i* S	**Sn**	**17 54 26.4**	**-5.5**
SWI	**Sorong**	**4.98**	**123**	P	**Pn**	**17 53 44.1**	**+1.5**
SIJI	**Sorong**	**4.99**	**123**	P	**Pn**	**17 53 44.4**	**+1.6**
	3.9nm,0.3s,baz=332,slow=21,SNR=18						
SIJI				LR	LR	17 55 58.5	
	comp=Z,265nm,20.4s,baz=308,slow=42						
MATI	**Mati**	**5.09**	**351**	*e*P	**Pn**	**17 53 48.8**	**+4.7**
MATI				*e*S	**Sn**	**17 54 49.6**	**+8.0**
NLAI	**Namlea**	**5.09**	**180**	P	**Pn**	**17 53 45.7**	**+1.6**
NLAI				S	**Sn**	**17 54 41.6**	**0.0**
LUWI	**Luwuk**	**5.21**	**236**	P	**Pn**	**17 53 48.6**	**+2.9**
LUWI	**Luwuk**	**5.21**	**236**	*e*Pn	**Pn**	**17 53 48.2**	**+2.5**
LUWI				*e*Sn	**Sn**	**17 54 42.5**	**-2.1**
MRSI	**Marisa**	**5.34**	**255**	P	**Pn**	**17 53 49.4**	**+1.9**
	32nm,0.7s,416nm						
MSAI	**Masohi**	**5.51**	**161**	P	**Pn**	**17 53 53.4**	**+3.5**
AAI	**Ambon**	**5.65**	**169**	P	**Pn**	**17 53 54.2**	**+2.5**
APSI	**Ampana**	**6.12**	**243**	P	**Pn**	**17 54 00.0**	**+1.9**
BUKP	**Musuan**	**6.29**	**341**	*e*P	**Pn**	**17 54 04.8**	**+4.3**
BUKP				*e*S	**Sn**	**17 55 13.9**	**+2.9**
FAKI	**Fak Fak**	**7.03**	**133**	*e*Pn	**Pn**	**17 54 13.6**	**+3.0**
MYLDM	**Lahad Datu**	**9.18**	**291**	*e*Pn	**Pn**	**17 54 42.4**	**+2.3**
KKM	**Kota Kinabalu**	**11.61**	**291**	*e*Pn	**Pn**	**17 55 14.3**	**+0.9**
SOEI	**Soe**	**11.91**	**194**	*e*Pn	Pn	17 55 23.4	+6.0
SBUM	**Sibu**	**14.88**	**272**	*e*Pn	**P**	**17 56 01.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**16.50**	**231**	*e*Pn	**P**	**17 56 22.4**	**+2.8**
	24nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.92**	**184**	P	**P**	**17 56 56.1**	**-0.8**
	0.4nm,0.3s,baz=32,slow=9.0,SNR=7.4						
FITZ	**Fitzroy Crossi**	**19.92**	**184**	*e*P	**P**	**17 56 55.4**	**-1.6**
YULB	**Yu-li**	**22.10**	**346**	*e*P	**P**	**17 57 19.9**	**-0.6**
	15nm,1.0s						
TPUB	**Ta-pu**	**22.19**	**344**	*e*P	**P**	**17 57 18.3**	**-3.1**
	132nm,1.7s						
SSLB	**Suanglung**	**22.57**	**345**	*e*P	**P**	**17 57 25.6**	**+0.1**
	84nm,1.9s						
WRAB	**Tennant Creek**	**22.82**	**162**	*e*P	**P**	**17 57 26.6**	**-1.7**
WR1	**Warramunga Arr**	**22.83**	**162**	*e*P	**P**	**17 57 26.4**	**-1.9**
	13nm,0.7s						
WR1				*e*PcP	**PcP**	**18 01 16.7**	**-1.0**
WR1				*e*S	**S**	**18 01 32.4**	**-0.6**
WRA	**Warramunga Arr**	**22.83**	**162**	P	**P**	**17 57 26.4**	**-1.9**
	11nm,0.5s,baz=342,slow=10,SNR=86						
WRA				PcP	**PcP**	**18 01 16.7**	**-1.0**
	0.6nm,0.4s,baz=338,slow=2.2,SNR=5.7						
WRA				S	**S**	**18 01 32.4**	**-0.6**
	0.6nm,0.7s,baz=336,slow=21,SNR=3.8						
WB2	**Warramunga Arr**	**22.84**	**162**	*e*P	**P**	**17 57 25.5**	**-2.8**
MBWA	**Marble Bar**	**24.01**	**197**	*e*P	**P**	**17 57 37.7**	**-1.7**
	46nm,1.7s						
MNAI	**Manna**	**24.91**	**256**	*e*P	**P**	**17 57 45.5**	**-2.2**
	198nm,1.0s						
AS31	**Alice Springs**	**26.25**	**166**	*e*P	**P**	**17 57 58.9**	**-0.9**
	1.6nm,0.4s						
ASAR	**Alice Springs**	**26.25**	**166**	P	**P**	**17 57 58.5**	**-1.3**
	1.7nm,0.6s,baz=346,slow=7.9,SNR=58						
ASAR				PcP	**PcP**	**18 01 24.4**	**-0.7**
	1.0nm,0.7s,baz=339,slow=1.9,SNR=6.5						
AS01	**Alice Springs**	**26.26**	**166**	*e*P	**P**	**17 57 58.4**	**-1.4**
NJ2	**Nanjing**	**30.99**	**346**	*e*P	**P**	**17 58 41.5**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNR	**Honiara**	**34.60**	**110**	LR	LR	18 13 03.5	
	comp=Z,44nm,18.2s,baz=202,slow=36						
KSRS	**Korea Array**	**35.40**	**1**	LR	LR	18 18 39.6	
	comp=Z,9.1nm,18.1s,baz=170,slow=44						
BBOO	**Buckleboo**	**35.54**	**167**	*e*P	**P**	**17 59 20.3**	**-1.1**
	43nm,1.5s						
NWAO	**Narrogin (SRO)**	**35.86**	**194**	*e*P	**P**	**17 59 22.9**	**-1.3**
	75nm,1.8s						
MAJO	**Matsushiro**	**35.98**	**15**	*e*P	**P**	**17 59 23.4**	**-1.8**
MJAR	**Matsushiro Arr**	**35.98**	**15**	P	**P**	**17 59 23.4**	**-1.8**
	2.2nm,0.6s,baz=187,slow=8.8,SNR=4.0						
STKA	**Stephens Creek**	**36.29**	**159**	P	**P**	**17 59 26.7**	**-1.2**
	3.8nm,0.6s,baz=330,slow=7.1,SNR=13						
STKA	**Stephens Creek**	**36.29**	**159**	*e*P	**P**	**17 59 27.0**	**-0.9**
	7.8nm,1.9s						
CD2	**Chengdu**	**36.34**	**325**	*e*P	**P**	**17 59 28.5**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
ARMA	**Armidale**	**39.74**	**146**	*e*P	**P**	**17 59 57.5**	**+0.4**
	33nm,1.4s						
LZH	**Lanzhou**	**40.27**	**330**	*e*P	**P**	**18 00 04.5**	**+3.0**
LZH				pP	pP	18 00 19.7	+2.4
LZH				sP	sP	18 00 26.4	+1.8
LZH				pmax	pmax		
	comp=Z,15nm,0.9s						
LZH				pmax	pmax		
	comp=Z,82nm,4.4s						
HHC	**Hu-ho-hao-te**	**41.25**	**342**	*e*P	**P**	**18 00 11.0**	**+1.6**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,65nm,5.1s						
DZM	**Mont Dzumac**	**45.20**	**124**	P	**P**	**18 00 41.3**	**-0.2**
	3.9nm,0.9s,baz=308,slow=18,SNR=5.1						
DZM	**Mont Dzumac**	**45.20**	**124**	*e*P	**P**	**18 00 41.8**	**+0.3**
	45nm,1.9s						
KLR	**Kul'dur**	**47.33**	**4**	P	**P**	**18 00 57.8**	**0.0**
	0.0nm,0.2s,baz=179,slow=11,SNR=3.1						
ULN	**Ulaanbaatar**	**48.97**	**342**	*e*P	**P**	**18 01 11.8**	**+1.2**
	3.0nm,1.1s						
SONA0	**Songino Array**	**49.15**	**342**	*e*P	**P**	**18 01 12.6**	**+0.7**
SONM	**Songino Array**	**49.15**	**342**	P	**P**	**18 01 12.6**	**+0.7**
	0.7nm,0.7s,baz=157,slow=8.2,SNR=8.2						
SONA1	**Songino Array**	**49.16**	**342**	*e*P	**P**	**18 01 12.9**	**+1.0**
WMQ	**Urumqi**	**54.44**	**326**	*e*P	**P**	**18 01 53.0**	**+1.7**
MK01	**Makanchi Array**	**59.25**	**326**	*e*P	**P**	**18 02 25.0**	**-0.3**
MK31	**Makanchi Array**	**59.27**	**326**	*e*P	**P**	**18 02 24.9**	**-0.6**
MK32	**Makanchi Array**	**59.27**	**326**	*e*P	**P**	**18 02 24.2**	**-1.2**
MKAR	**Makanchi Array**	**59.27**	**326**	P	**P**	**18 02 24.3**	**-1.2**
	0.3nm,0.4s,baz=118,slow=7.5,SNR=21						
MKAR	**Makanchi Array**	**59.27**	**326**	*e*P	**P**	**18 02 24.9**	**-0.5**
	9.5nm,0.6s						
MAKZ	**Makanchi**	**59.45**	**326**	*e*P	**P**	**18 02 26.4**	**-0.3**
	2.9nm,0.9s						
KSH	**Kashi**	**59.60**	**316**	*e*P	**P**	**18 02 30.2**	**+2.2**
KSH				sP	sP	18 02 53.1	+1.3
KSH				S	**S**	**18 10 33.9**	**+0.2**
KSH				SS	**SS**	**18 14 32.1**	**+1.9**
KSH				pmax	pmax		
	comp=Z,110nm,6.7s						
KSH				LR	LR		
	comp=N,60nm,5.8s						
KSH				LR	LR		
	comp=E,140nm,4.9s						
KSH				LR	LR		
	comp=Z,180nm,5.6s						
LBZ	**Lake Benmore**	**59.97**	**146**	*e*P	**P**	**18 02 29.8**	**-0.5**
	76nm,1.4s						
THZ	**Tophouse**	**60.03**	**142**	*e*P	**P**	**18 02 30.3**	**-0.5**
	301nm,1.7s						
KHZ	**Kahutara**	**60.79**	**142**	*e*P	**P**	**18 02 34.1**	**-1.7**
	248nm,1.9s						
BKZ	**Black Stump Fm**	**60.98**	**138**	*e*P	**P**	**18 02 35.5**	**-1.8**
	219nm,1.9s						
ZALV	**Zalesovo Beam**	**62.38**	**333**	P	**P**	**18 02 45.3**	**-1.1**
	0.5nm,0.5s,baz=100,slow=7.7,SNR=4.2						
ZAA1	**Zalesovo Array**	**62.39**	**333**	*e*P	**P**	**18 02 45.3**	**-1.1**
KURK	**Kurchatov**	**63.48**	**328**	*e*P	**P**	**18 02 53.5**	**-0.2**
	7.2nm,1.0s						
BVAR	**Borovoye Array**	**69.05**	**327**	P	**P**	**18 03 29.7**	**+0.3**
	1.2nm,0.6s,baz=120,slow=8.5,SNR=9.7						
BRVK	**Borovoye**	**69.13**	**327**	*e*P	**P**	**18 03 29.6**	**-0.2**
	4.4nm,1.0s						
BRLK	**Bradley Lake**	**84.35**	**30**	*e*P	**P**	**18 04 54.9**	**-0.6**
	134nm,1.8s						
SUA	**Susitna One**	**84.60**	**29**	*e*P	**P**	**18 04 57.0**	**+0.2**
	91nm,2.0s						
KTH	**Kantishna Hill**	**84.74**	**26**	*e*P	**P**	**18 04 57.4**	**0.0**
	44nm,1.9s						
MLY	**Manley**	**84.98**	**25**	*e*P	**P**	**18 04 56.2**	**-2.4**
	22nm,2.0s						
TRF	**Thorofare Moun**	**85.01**	**27**	*e*P	**P**	**18 04 57.8**	**-1.1**
	48nm,1.8s						
RC01	**Rabbit Creek A**	**85.04**	**29**	*e*P	**P**	**18 04 58.8**	**-0.2**
	55nm,1.8s						
COLD	**Coldfoot**	**85.44**	**23**	*e*P	**P**	**18 05 01.5**	**+0.7**
	17nm,1.9s						
RND	**Reindeer**	**85.65**	**27**	*e*P	**P**	**18 05 01.3**	**-0.7**
	47nm,1.9s						
SML	**Sawmill**	**85.77**	**28**	*e*P	**P**	**18 05 02.1**	**-0.5**
	34nm,1.4s						
SCM	**Sheep Creek Mo**	**86.25**	**28**	*e*P	**P**	**18 05 05.6**	**+0.6**
	145nm,2.0s						
IL1	**Eielson Array**	**86.60**	**25**	*e*P	**P**	**18 05 05.2**	**-1.4**
ILAR	**Eielson Array**	**86.60**	**25**	P	**P**	**18 05 04.6**	**-2.0**
	0.4nm,1.0s,baz=260,slow=5.1,SNR=3.8						
ILB	**Eielson Array**	**86.60**	**25**	*e*P	**P**	**18 05 04.7**	**-1.8**
LTX	**Lajitas**	**122.42**	**53**	*e*PKPdf	**PKPdf**	**18 11 18.8**	**-0.5**
TXAR	**Lajitas Array**	**122.42**	**53**	PKP	**PKPdf**	**18 11 18.8**	**-0.5**
	0.3nm,0.6s,baz=263,slow=2.4,SNR=4.5						

*IDC **02** 18:13:35.1±1.3, 55.°42N×162.°69E, h0^{km}, mb3.3/8, mb1 3.6/8, mb1mx3.4/77, mbtmp3.3/8, Error ellipse: s-maj=41.2km s-min=23.7km az=153.0*
*KRSC **02** 18:13:36.2±0.5, 55.°18N×163.°35E, h69^{km}±13^{km}, ML3.8*
ISC 02 18:13:34.7±1.8**, 55.°23N**±0.°04×**163.°24E**±0.°04**, h5**^{km}±11^{km}**, n46, σ1^{s}39**/58**, mb3.3**/8**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.01**	**347**	*i* P	**Pn**	**18 13 56.2**	**+0.6**
KBTR				*e*S	**Sn**	**18 14 10.3**	**+0.1**
BKI	**Bering**	**1.57**	**90**	*e*P	**Pn**	**18 14 03.2**	**0.0**
BKI				*e*S	**Sn**	**18 14 22.8**	**-1.0**
CIRR	**Tsirk**	**1.67**	**303**	*e*P	**Pb**	**18 14 06.6**	**+0.6**
LGNR	**Loginova**	**1.68**	**302**	*e*P	**Pb**	**18 14 07.2**	**+0.9**
SMKR	**Semkarok**	**1.69**	**324**	*e*P	**Pg**	**18 14 07.1**	**+0.1**
SMKR				*e*S	**Sg**	**18 14 29.2**	**+0.3**
KZV	**Kizimen**	**1.69**	**267**	*e*P	**Pn**	**18 14 05.6**	**+0.5**
KZV				*e*S	**Sb**	**18 14 28.9**	**+0.8**
BZWR	**Bezymyannyi-We**	**1.72**	**297**	*e*P	**Pb**	**18 14 07.6**	**+0.6**
BDR	**Baidarnaya**	**1.77**	**320**	*e*P	**Pb**	**18 14 07.8**	**+0.2**
TUMR	**Tumrok**	**1.77**	**273**	*e*P	**Pn**	**18 14 07.7**	**+1.6**
TUMR				*e*S	**Sb**	**18 14 29.9**	**-0.4**
KMNR	**Kamenistaya**	**1.79**	**289**	*e*P	**Pb**	**18 14 08.4**	**+0.4**
KMNR				*e*S	**Sg**	**18 14 31.4**	**-0.7**
KIRR	**Kirishev**	**1.80**	**295**	*e*P	**Pb**	**18 14 09.0**	**+0.8**
KRSR	**Krestovskiy**	**1.81**	**304**	*e*P	**Pb**	**18 14 08.2**	**-0.2**
KRSR				*e*S	**Sg**	**18 14 31.0**	**-1.8**
KLY	**Klyuchi**	**1.82**	**308**	*e*P	**Pn**	**18 14 07.4**	**+0.7**
KLY				*e*S	**Sb**	**18 14 30.6**	**-1.1**
SRKR	**Sorokina**	**1.85**	**322**	*e*P	**Pb**	**18 14 09.2**	**+0.2**
SRKR				*e*S	**Sg**	**18 14 33.1**	**-0.9**
KPT	**Kopyto**	**1.87**	**295**	*e*S	**Sb**	**18 14 32.1**	**-0.9**
KOZ	**Kozyrevsk**	**2.08**	**295**	*e*P	**Pb**	**18 14 12.8**	**-0.2**
ESO	**Esso**	**2.67**	**287**	*e*P	**Pn**	**18 14 20.1**	**+1.7**
SPN	**Mys Shipunski**	**2.85**	**223**	*e*P	**Pn**	**18 14 20.7**	**-0.1**
NLC	**Nalytchevo**	**3.08**	**230**	*e*P	**Pn**	**18 14 25.2**	**+1.3**
NLC				*e*S	**Sn**	**18 15 01.5**	**+0.4**
SDLR	**Sedlovina**	**3.21**	**234**	*e*P	**Pn**	**18 14 27.3**	**+1.4**
SMAR	**Somma**	**3.26**	**235**	*e*P	**Pn**	**18 14 28.1**	**+1.4**
KRX	**Arik**	**3.28**	**237**	*e*P	**Pn**	**18 14 28.2**	**+1.4**
UGLR	**Uglovaya**	**3.29**	**234**	*e*P	**Pn**	**18 14 28.8**	**+1.9**
AVH	**Avacha**	**3.29**	**235**	*e*P	**Pn**	**18 14 28.9**	**+1.9**
KOK	**Koryaka**	**3.32**	**236**	*e*P	**Pn**	**18 14 28.2**	**+0.8**
DALK	**Dalny**	**3.43**	**232**	*e*P	**Pn**	**18 14 29.7**	**+0.9**
DALK				*e*S	**Sn**	**18 15 09.5**	**-0.4**
GNL	**Ganaly**	**3.45**	**246**	*e*P	**Pn**	**18 14 31.1**	**+1.9**
PET	**Petropavlovsk**	**3.48**	**233**	*e*P	**Pn**	**18 14 31.3**	**+1.8**
PET				*e*S	**Sn**	**18 15 11.6**	**+0.5**

KRMR	**Karymshinskiy**	**3.85**	**234**	*e*P	**Pn**	**18 14 37.1**	**+2.5**
KRMR				*e*S	**Sn**	**18 15 21.8**	**+1.6**
PETK	**Petropavlovsk-**	**3.89**	**239**	Pn	**Pn**	**18 14 37.4**	**+2.3**
	2.6nm,0.3s,baz=74,slow=19,SNR=28						
PETK				Sn	**Sb**	**18 15 29.3**	**-1.7**
	1.2nm,0.3s,baz=34,slow=9.2,SNR=3.9						
RUS	**Russkaya**	**3.96**	**227**	P	**Pn**	**18 14 38.0**	**+2.0**
OSSR	**Ossora**	**4.04**	**359**	*e*P	**Pn**	**18 14 38.9**	**+1.8**
OSSR				*e*S	**Sn**	**18 15 25.0**	**+0.3**
MTVR	**Mutnovka**	**4.06**	**230**	*e*P	**Pn**	**18 14 40.0**	**+2.4**
TILK	**Tilichiki**	**5.46**	**15**	*e*P	**Pn**	**18 14 59.1**	**+2.5**
KMSK	**Kamenskaya**	**7.42**	**11**	*e*P	**Pn**	**18 15 25.7**	**+2.1**
ILAR	**Eielson Array**	**26.00**	**48**	P	**P**	**18 19 10.2**	**+2.1**
	0.4nm,0.8s,baz=271,slow=8.7,SNR=2.8						
SONM	**Songino Array**	**35.24**	**282**	P	**P**	**18 20 27.7**	**-2.3**
	0.2nm,0.5s,baz=77,slow=7.8,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**35.54**	**174**	T	T	18 59 54.2	
	baz=359,slow=76,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**35.56**	**174**	T	T	18 59 53.0	
	baz=359,slow=76,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**35.56**	**174**	T	T	18 59 59.1	
	baz=359,slow=76,SNR=5.7						
YKA	**Yellowknife Ar**	**40.34**	**45**	P	**P**	**18 21 14.3**	**+1.6**
	0.3nm,0.7s,baz=295,slow=7.1,SNR=3.2						
MKAR	**Makanchi Array**	**48.90**	**296**	P	**P**	**18 22 19.4**	**-1.8**
	0.1nm,0.4s,baz=43,slow=5.6,SNR=4.9						
BVAR	**Borovoye Array**	**50.51**	**309**	P	**P**	**18 22 31.1**	**-2.3**
	0.3nm,0.6s,baz=74,slow=6.3,SNR=2.6						
CMAR	**Chiang Mai Arr**	**60.41**	**260**	P	**P**	**18 23 45.0**	**0.0**
	0.4nm,0.6s,baz=30,slow=7.6,SNR=4.2						
EKA	**Eskdalemuir Ar**	**69.24**	**352**	P	**P**	**18 24 42.1**	**0.0**
	0.6nm,0.6s,baz=2.0,slow=6.0,SNR=2.9						
ASAR	**Alice Springs**	**82.48**	**207**	P	**P**	**18 25 59.0**	**+1.0**
	0.2nm,0.7s,baz=32,slow=4.3,SNR=4.8						

IDC 02 18:18:04.8±2.6,5.47N×123.94E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.3/58,mbtmp3.8/3,MS3.2/1,Ms1 3.2/1, ms1mx2.4/56,Error ellipse: s-maj=322.2km s-min=23.9km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.25**	**158**	P	P	18 23 51.1	+0.2
	0.6nm,0.3s,baz=337,slow=9.5,SNR=22						
WRA				LR	LR	18 37 25.3	
	comp=Z,46nm,18.2s,baz=295,slow=43						
ASAR	**Alice Springs**	**30.55**	**162**	P	P	18 24 20.1	-0.2
	0.3nm,0.3s,baz=338,slow=7.0,SNR=22						
MKAR	**Makanchi Array**	**54.56**	**326**	P	P	18 27 34.8	-0.1
	0.2nm,0.3s,baz=116,slow=8.3,SNR=12						

MAN 02 18:39:28,9.94N×123.00E,h28km,mb3.8,ML2.6,MS2.1, 1C,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.63**	**159**	⇑*i*P	Pn	18 39 41.7	+0.5
SNPH				*i* S	Sn	18 39 51.9	+1.5
GUIM	**Jordan**	**0.80**	**329**	*e*P	Pn	18 39 43.7	+0.3
GUIM				*e*S	Sn	18 39 55.6	+1.3
LLP	**Lapu-Lapu**	**1.02**	**68**	*e*P	Pn	18 39 43.6	-2.9
LLP				*e*S	Sn	18 39 55.1	-4.8
MSLP	**Maasin**	**1.84**	**84**	*e*P	Pn	18 39 58.3	+0.6
MSLP				*e*S	Sn	18 40 21.4	+1.4

*ISCJB **02** 18:41:57.5±0.6,5.53S±0.07×149.77E±0.08,h10km, mb4.0/8,Error ellipse: s-maj=12.4km s-min=8.4km az=35.7*
*NEIC **02** 18:41:59.9±5.8,5.55S×149.81E,h15km±38km,mb4.5/9, Error ellipse: s-maj=14.4km s-min=10.3km az=140.0*
*IDC **02** 18:42:00.8±3.4,5.43S×149.24E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.8/46,mbtmp4.0/7,ML2.1/1,Error ellipse: s-maj=87.7km s-min=22.3km az=102.0*

ISC 02 18:41:59.1±0.7,5.47S±0.09×149.86E±0.10,h10km,n23, σ19.41/26,mb4.0/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.62**	**61**	*e*Pn	**Pn**	**18 42 41.5**	**0.0**
PMG	**Port Moresby**	**4.74**	**214**	Pn	**Pn**	**18 43 12.1**	**+1.4**
	7.0nm,0.3s,baz=24,slow=8.0,SNR=19						
PMG				Sn	**Sn**	**18 44 06.8**	**+1.1**
	6.6nm,0.3s,baz=166,slow=23,SNR=16						
PMG	**Port Moresby**	**4.74**	**214**	*e*Pn	**Pn**	**18 43 11.9**	**+1.2**
PMG				*e*Sn	**Sn**	**18 44 05.7**	**-0.1**
PMG				*e*Sg	**Sn**	**18 44 06.8**	**+1.1**
FAKI	**Fak Fak**	**17.75**	**277**	*e*P	**P**	**18 46 07.3**	**0.0**
	134nm,1.5s						
EIDS	**Eidsvold**	**19.82**	**177**	*e*P	**Pn**	**18 46 31.0**	**-0.6**
	19nm,1.7s						
MTN	**Manton Dam**	**19.88**	**247**	*e*P	**P**	**18 46 29.6**	**-1.1**
	53nm,1.8s						
WRAB	**Tennant Creek**	**20.84**	**225**	*e*P	**P**	**18 46 39.8**	**-1.4**
	13nm,0.8s						
WB2	**Warramunga Arr**	**20.85**	**225**	*e*P	**P**	**18 46 39.0**	**-2.2**
WR1	**Warramunga Arr**	**20.86**	**225**	*e*P	**P**	**18 46 40.4**	**-1.0**
	11nm,0.8s						
WRA	**Warramunga Arr**	**20.86**	**225**	P	**P**	**18 46 40.4**	**-1.0**
	10nm,0.8s,baz=50,slow=11,SNR=35						
DZM	**Mont Dzumac**	**23.02**	**137**	*e*P	**P**	**18 47 03.8**	**-0.8**
	40nm,1.9s						
AS01	**Alice Springs**	**23.71**	**219**	*e*P	**P**	**18 47 08.8**	**-2.7**
AS31	**Alice Springs**	**23.74**	**219**	*e*P	**P**	**18 47 10.3**	**-1.4**
	4.1nm,1.5s						
ASAR	**Alice Springs**	**23.74**	**219**	P	**P**	**18 47 10.8**	**-0.9**
	2.5nm,0.6s,baz=48,slow=9.9,SNR=26						
FITZ	**Fitzroy Crossi**	**26.78**	**240**	P	**P**	**18 47 37.7**	**-1.8**
	6.9nm,0.7s,baz=67,slow=7.6,SNR=12						
FITZ	**Fitzroy Crossi**	**26.78**	**240**	*e*P	**P**	**18 47 37.8**	**-1.7**
	11nm,1.0s						
LUWI	**Luwuk**	**27.39**	**278**	*e*P	**P**	**18 47 43.0**	**-2.0**
	21nm,0.9s						
CMAR	**Chiang Mai Arr**	**55.53**	**297**	P	**P**	**18 51 35.4**	**+0.4**
	0.3nm,0.7s,baz=127,slow=7.1,SNR=3.1						
SONA0	**Songino Array**	**65.36**	**329**	*e*P	**P**	**18 52 42.9**	**+1.0**
SONM	**Songino Array**	**65.36**	**329**	P	**P**	**18 52 42.9**	**+1.0**
	1.0nm,0.7s,baz=146,slow=5.2,SNR=7.6						
MK32	**Makanchi Array**	**78.92**	**320**	*e*P	**P**	**18 54 03.0**	**+0.1**
MKAR	**Makanchi Array**	**78.92**	**320**	P	**P**	**18 54 03.0**	**+0.1**
	0.4nm,0.8s,baz=110,slow=5.7,SNR=3.6						
OCR	**O'Connell Ranc**	**92.15**	**53**	*e*P	**P**	**18 55 11.8**	**+2.5**

IDC 02 18:42:55.3±1.3,29.23S×178.35W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/37,mbtmp4.0/3,MS3.6/13, Ms1 3.6/13,ms1mx3.4/38,Error ellipse: s-maj=97.5km s-min=10.4km az=0.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.38**	**94**	Pn	Pn	18 43 08.3	+0.3
	1μm,0.3s,baz=95,slow=15,SNR=63						
RAO				Sn	Sb	18 43 16.2	+5.0
	2μm,0.3s,baz=78,slow=19,SNR=30						
URZ	**Urewera**	**9.77**	**202**	LR	LR	18 48 30.8	
	comp=Z,493nm,19.8s,baz=22,slow=34						
DZM	**Mont Dzumac**	**15.45**	**294**	LR	LR	18 51 07.8	
	comp=Z,124nm,20.3s,baz=156,slow=32						
DZM	**Mont Dzumac**	**15.45**	**294**	*e*LR	LR	18 50 17.9	
	211nm,24.1s						
AFI	**Afiamalu**	**16.41**	**23**	LR	LR	18 52 41.0	
	comp=Z,126nm,18.3s,baz=188,slow=36						
RPZ	**Rata Peaks**	**16.76**	**208**	LR	LR	18 53 22.6	
	comp=Z,315nm,19.8s,baz=26,slow=37						
RAR	**Rarotonga**	**18.59**	**69**	LR	LR	18 53 58.7	
	comp=Z,69nm,19.4s,baz=266,slow=36						
TBI	**Tubuai**	**26.51**	**84**	*e*LR	LR	18 55 13.1	
	209nm,28.0s						
TBI	**Tubuai**	**26.51**	**84**	*e*T	T	19 15 54.0	
	29nm,0.3s						
PAE	**Paea**	**28.71**	**73**	*e*T	T	19 18 45.6	
	3.9nm,0.3s						
PPT2	**Papeete2**	**28.75**	**73**	*e*LR	LR	18 56 15.2	
	198nm,25.5s						
PPT	**Papeete**	**28.76**	**73**	LR	LR	18 57 09.6	
	comp=Z,83nm,20.7s,baz=224,slow=30						
STKA	**Stephens Creek**	**34.47**	**255**	P	P	18 49 45.1	+0.2
	2.5nm,1.0s,baz=107,slow=11,SNR=2.7						
STKA				LR	LR	19 01 32.4	
	comp=Z,75nm,20.9s,baz=31,slow=32						
TAOE	**Nuku Hiva Isla**	**41.14**	**68**	*e*S	S	18 56 51.2	-4.8
	118nm,26.9s						
TAOE				*e*LR	LR	19 01 56.8	
	116nm,27.9s						
ASAR	**Alice Springs**	**42.88**	**266**	P	P	18 50 55.5	-0.2
	1.4nm,0.7s,baz=100,slow=7.9,SNR=10						
ASAR				LR	LR	19 08 18.3	
	comp=Z,129nm,18.0s,baz=120,slow=36						
WRA	**Warramunga Arr**	**43.76**	**271**	P	P	18 51 02.6	-0.3
	1.8nm,0.7s,baz=110,slow=7.9,SNR=6.9						
VNDA	**Vanda**	**49.23**	**186**	LR	LR	19 10 06.4	
	comp=Z,82nm,18.3s,baz=328,slow=33						
BATI	**Baumata**	**57.21**	**277**	LR	LR	19 16 14.1	
	comp=Z,253nm,19.0s,baz=238,slow=35						
LPIG	**La Paz**	**84.18**	**58**	LR	LR	19 26 12.7	
	comp=Z,35nm,18.8s,baz=356,slow=31						
YBH	**Yreka Blue Hor**	**87.30**	**38**	LR	LR	19 27 26.6	
	comp=Z,20nm,20.1s,baz=18,slow=31						
JTS	**JuntasAbangare**	**97.88**	**83**	LR	LR	19 32 53.3	
	comp=Z,23nm,18.4s,baz=336,slow=31						
TORD	**Torodi Ar. Bea**	**164.00**	**180**	PKPab	PKPab	19 03 53.0	-1.0
	0.6nm,0.8s,baz=184,slow=4.1,SNR=3.8						

MAN 02 18:46:17,11.20N×124.66E,h29km,mb4.1,ML2.9,MS2.6, 1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.16**	**200**	*e*P	Pn	18 46 23.9	+0.4
OCLP				*e*S	Sb	18 46 27.2	+0.6
PLP	**Palo**	**0.31**	**96**	⇓*i*P	Pn	18 46 25.9	+0.3
PLP				*i* S	Sn	18 46 30.5	-0.8
MSLP	**Maasin**	**1.08**	**170**	*e*P	Pb	18 46 36.8	-0.3
MSLP				*e*S	Sb	18 46 51.1	+0.3

*ISCJB **02** 18:46:27.0±0.5,6.80S±0.04×130.14E±0.06,h146km, mb3.2/1,Error ellipse: s-maj=8.9km s-min=5.5km az=6.1*
*IDC **02** 18:46:28.1±2.1,6.68S×129.98E,h155km±25km,mb3.0/1, mb1 3.4/6,mb1mx3.1/49,mbtmp3.9/6,Error ellipse: s-maj=38.1km s-min=19.5km az=94.0*
*DJA **02** 18:46:30.9±1.4,6°S±5°×13°0E±°,h12km±12km,M4.2/4, mB5.0/3,MLv4.2/4,Mw(mB)4.3/3*

ISC 02 18:46:26.2±0.8,6.78S±0.05×130.03E±0.07,h146km,n16, σ3.30/22,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.74**	**133**	P	Pn	18 47 04.4	+6.3
BNDI	**Bandanaira**	**2.25**	**357**	P	**Pn**	**18 47 07.5**	**+3.4**
AAI	**Ambon**	**3.57**	**329**	P	**Pn**	**18 47 23.2**	**+2.4**
MSAI	**Masohi**	**3.58**	**342**	P	**Pn**	**18 47 23.4**	**+2.4**
FAKI	**Fak Fak**	**4.43**	**30**	P	**Pn**	**18 47 33.7**	**+1.6**
FAKI				S	**Sn**	**18 48 22.4**	**-0.9**
NLAI	**Namlea**	**4.57**	**320**	P	**Pn**	**18 47 37.6**	**+3.7**
KMPI	**Kaimana, Papua**	**4.80**	**50**	S	**Sn**	**18 48 33.1**	**+1.1**
SIJI	**Sorong**	**6.00**	**12**	P	**Pn**	**18 47 53.8**	**+0.8**
	2.5nm,0.3s,baz=108,slow=4.1,SNR=65						
SIJI				S	**Sn**	**18 48 54.8**	**-6.0**
	5.0nm,0.3s,baz=238,slow=23,SNR=14						
SWI	**Sorong**	**6.00**	**12**	P	**Pn**	**18 47 53.7**	**+0.7**
SWI				S	**Sn**	**18 48 55.1**	**-5.8**
SANI	**Sanana**	**6.19**	**319**	P	**Pn**	**18 47 58.3**	**+2.9**
LBMI	**Labuha**	**6.60**	**337**	P	**Pn**	**18 48 03.4**	**+2.4**
BATI	**Baumata**	**7.15**	**241**	P	**Pn**	**18 48 10.9**	**+2.5**
	2.5nm,0.3s,baz=90,slow=8.1,SNR=6.0						
BATI				S	**Sn**	**18 49 25.7**	**-2.8**
	2.2nm,0.3s,baz=323,slow=20,SNR=3.2						
FITZ	**Fitzroy Crossi**	**12.04**	**200**	P	**Pn**	**18 49 15.1**	**+1.9**
	0.7nm,0.3s,baz=26,slow=12,SNR=13						
FITZ				S	**Sn**	**18 51 20.2**	**-6.1**
	0.6nm,0.3s,baz=109,slow=18,SNR=5.4						
WRA	**Warramunga Arr**	**13.74**	**163**	P	**Pn**	**18 49 36.2**	**+1.1**
	0.6nm,0.3s,baz=333,slow=13,SNR=16						
WRA				S	**Sn**	**18 52 03.5**	**-3.8**
	0.5nm,0.3s,baz=332,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**17.20**	**168**	P	**Pn**	**18 50 21.1**	**+3.2**
	0.4nm,0.3s,baz=346,slow=9.1,SNR=39						
ASAR				S	**S**	**18 53 29.2**	**+0.1**
	0.1nm,0.3s,baz=175,slow=28,SNR=4.8						
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**18 57 10.2**	**+0.1**
	0.3nm,0.6s,baz=114,slow=6.5,SNR=3.1						

MAN 02 18:52:43,9.71N×123.00E,h33km,mb3.8,ML2.6,MS2.1, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.43**	**147**	⇓*i*P	Pn	18 52 54.2	+1.2
SNPH				*i* S	Sn	18 53 01.6	+1.9
GUIM	**Jordan**	**1.00**	**336**	*e*P	Pn	18 53 00.8	+0.1
GUIM				*e*S	Sn	18 53 14.0	+0.4
MSLP	**Maasin**	**1.88**	**77**	*e*P	Pn	18 53 13.1	+0.2
MSLP				*e*S	Sn	18 53 36.3	+0.8

*ISCJB **02** 19:07:16.2±0.6,50.08N±0.04×18.39E±0.04,h0km,Error ellipse: s-maj=5.2km s-min=3.2km az=11.6*
*IPEC **02** 19:07:17.6±0.2,50.04N×18.46E,h0km±2km,ML1.7/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
*CSEM **02** 19:07:17.3±0.3,50.07N×18.40E,h2km,ML2.7/7,Error ellipse: s-maj=6.0km s-min=3.5km az=8.0*
*PRU **02** 19:07:18.3,50.04N×18.40E,h0km*

ISC 02 19:07:16.7±0.9,50.09N±0.04×18.49E±0.03,h0km,n23, σ0.84/37,4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.19**	**267**	*e*Sg	**Sg**	**19 07 24.9**	**+2.2**
OKC	**Ostrava-Krasne**	**0.34**	**221**	⇓*i*PG	**Pg**	**19 07 23.8**	**+0.7**
OKC				*e*SG	**Sg**	**19 07 27.9**	**+0.4**
	comp=Z,34nm,0.5s						
OKC	**Ostrava-Krasne**	**0.34**	**221**	Pg	**Pg**	**19 07 23.8**	**+0.7**
OKC				Sg	**Sg**	**19 07 27.9**	**+0.4**
	34nm,0.5s						
MORC	**Moravsky Berou**	**0.69**	**243**	*e*Pg	**Pg**	**19 07 30.0**	**+0.2**
MORC				*e*Sg	**Sg**	**19 07 37.8**	**-0.9**
	12nm,0.2s						
OJC	**Ojcow**	**0.85**	**81**	*e*Pg	**Pb**	**19 07 34.7**	**+0.5**
OJC				*e*Sg	**Sb**	**19 07 46.3**	**0.0**
OJC	**Ojcow**	**0.85**	**81**	*e*Pg	**Pb**	**19 07 34.8**	**+0.5**
OJC				*e*Sg	**Sb**	**19 07 46.3**	**0.0**
LANS	**Liptovska Anna**	**1.14**	**146**	*e*Pg	**Pn**	**19 07 39.7**	**-0.2**
LANS				*e*Sg	**Sn**	**19 07 56.3**	**+0.1**
LANS	**Liptovska Anna**	**1.14**	**146**	*e*PG	**Pn**	**19 07 39.7**	**-0.2**
LANS				*e*SG	**Sn**	**19 07 56.3**	**+0.1**
DPC	**Dobruska-Polom**	**1.42**	**281**	*e*PG	**Pn**	**19 07 43.6**	**-0.1**
DPC				*e*SG	**Sg**	**19 08 02.6**	**+0.5**
	comp=Z,27nm,0.4s						
DPC	**Dobruska-Polom**	**1.42**	**281**	Pg	**Pn**	**19 07 43.6**	**-0.1**
DPC				Sg	**Sg**	**19 08 02.6**	**+0.5**
	27nm,0.4s						
VRAC	**Vranov**	**1.46**	**238**	*e*Pg	**Pn**	**19 07 43.9**	**-0.4**
VRAC				*e*Sg	**Sg**	**19 08 02.1**	**-1.4**
	11nm,0.3s						
VYHS	**Vyhne**	**1.62**	**172**	*e*Pg	**Pb**	**19 07 47.1**	**-0.2**
VYHS				*e*Sg	**Sn**	**19 08 07.6**	**-0.4**
VYHS	**Vyhne**	**1.62**	**172**	*e*PG	**Pb**	**19 07 47.1**	**-0.2**
VYHS				*e*SG	**Sn**	**19 08 07.6**	**-0.4**
VYHS				*e*LG	Lg	19 08 09.4	
UPC	**Upice**	**1.64**	**286**	⇓*e*SG	**Sg**	**19 08 09.7**	**+0.3**
	comp=Z,6.2nm,0.4s						
UPC	**Upice**	**1.64**	**286**	Sg	**Sg**	**19 08 09.7**	**+0.3**
	6.2nm,0.4s						
KRUC	**Moravsky**	**1.71**	**234**	*e*Pn	**Pn**	**19 07 47.9**	**+0.2**
KRUC				*e*Sg	**Sn**	**19 08 09.6**	**-0.6**
	8.4nm,0.2s						
PRU	**Pruhonice**	**2.55**	**269**	⇓*e*SG	**Sb**	**19 08 35.5**	**+0.4**
	comp=Z,2.5nm,0.3s						
PRU	**Pruhonice**	**2.55**	**269**	Sg	**Sb**	**19 08 35.5**	**+0.4**
	2.5nm,0.3s						
PVCC	**Panska Ves**	**2.55**	**281**	⇓*e*SG	**Sg**	**19 08 38.4**	**-0.2**
	comp=Z,5.9nm,0.3s						
PVCC	**Panska Ves**	**2.55**	**281**	Sg	**Sg**	**19 08 38.4**	**-0.2**
	5.9nm,0.3s						
BRG	**Berggiesshubel**	**3.01**	**287**	SG	**Sg**	**19 08 51.5**	**-1.8**
	4.8nm,1.0s						
KHC	**Kasperske Hory**	**3.34**	**255**	*e*PG	**Pg**	**19 08 19.1**	**-1.4**
KHC				*e*SG	**Sb**	**19 09 00.1**	**+2.3**
	comp=Z,4.0nm,0.4s						
KHC	**Kasperske Hory**	**3.34**	**255**	Pg	**Pg**	**19 08 19.1**	**-1.4**

KRSC 02 19:15:30.1±1.1,50.71N×157.78E,h40km±15km,ML3.7,

Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.97**	**322**	*e*P	Pn	19 15 48.7	+1.5
PAU				*e*S	Sn	19 16 01.5	+1.7
SKR	**Severo-Kuril's**	**1.05**	**269**	*e*P	Pn	19 15 49.3	+1.0
SKR				*e*S	Sn	19 16 02.1	+0.3
KDTR	**Khodutka, Kamc**	**1.12**	**10**	*e*P	Pn	19 15 50.6	+1.4
KDTR				*e*S	Sn	19 16 04.5	+1.1
ASAK	**Asacha**	**1.68**	**3**	*e*P	Pn	19 15 59.6	+2.6
RUS	**Russkaya**	**1.79**	**15**	*e*P	Pn	19 15 59.8	+1.4
RUS				*e*S	Sn	19 16 21.0	+1.2
MTVR	**Mutnovka**	**1.79**	**8**	*e*P	Pn	19 16 00.8	+2.1
MTVR				*e*S	Sn	19 16 22.4	+2.1
KRMR	**Karymshinskiy**	**2.13**	**6**	*e*P	Pn	19 16 06.4	+3.2
KRMR				*e*S	Sn	19 16 32.5	+4.1
APC	**Apacha**	**2.25**	**350**	*e*P	Pn	19 16 07.8	+3.0
APC				*e*S	Sn	19 16 34.6	+3.3
PET	**Petropavlovsk**	**2.38**	**13**	*e*P	Pn	19 16 08.8	+2.3
PET				*e*S	Sn	19 16 36.7	+2.2
DALK	**Dalny**	**2.40**	**14**	*e*P	Pn	19 16 09.4	+2.6
DALK				*e*S	Sn	19 16 37.3	+2.3
UGLR	**Uglovaya**	**2.59**	**14**	*e*P	Pn	19 16 12.6	+3.1
AVH	**Avacha**	**2.63**	**13**	*e*P	Pn	19 16 14.0	+4.0
SMAR	**Somma**	**2.63**	**14**	*e*P	Pn	19 16 14.2	+3.9
NLC	**Nalytchevo**	**2.65**	**21**	*e*S	Sn	19 16 43.4	+2.3
SDLR	**Sedlovina**	**2.66**	**14**	*e*P	Pn	19 16 13.4	+2.9
KRX	**Arik**	**2.71**	**11**	*e*P	Pn	19 16 14.0	+2.8
SPN	**Mys Shipunski**	**2.77**	**29**	*e*P	Pn	19 16 15.4	+3.5
SPN				*e*S	Sn	19 16 48.3	+4.3
GNL	**Ganaly**	**2.99**	**2**	*e*P	Pn	19 16 18.8	+3.7
GNL				*e*S	Sn	19 16 54.7	+5.0

*ISCJB **02** 19:29:47.9±0.8,21.66S±0.05×68.16W±0.2,h153km±12km, mb3.9/2,Error ellipse: s-maj=27.8km s-min=7.4km az=10.8*
*GUC **02** 19:29:49.0±0.5,21.64S×68.57W,h137km±4km,ML3.9*
*IDC **02** 19:29:50.3±9.0,21.59S×67.79W,h125km±65km,mb3.9/2, mb1 3.8/3,mb1mx3.3/31,mbtmp4.3/3,Error ellipse: s-maj=99.9km s-min=63.1km az=60.0*

ISC 02 19:29:48.7±1.1,21.65S±0.06×68.16W±0.2,h145km±12km, n12,σ0.68/19,6C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.64**	**257**	⇑*i*P	**Pn**	**19 30 10.6**	**+0.1**
PB09				*e*S	**Sn**	**19 30 26.8**	**-0.2**
PB09				IAML		19 30 29.1	
	comp=N,3μm,0.3s						
PB01	**IPOC Station P**	**1.04**	**305**	⇑*i*P	**Pn**	**19 30 13.4**	**-0.1**
PB01				*i* S	**Sn**	**19 30 31.8**	**-0.5**
PB01				IAML		19 30 32.8	
	comp=N,4μm,0.3s						
PB07	**IPOC Station P**	**1.22**	**266**	⇑*i*P	**Pn**	**19 30 15.7**	**+0.5**
PB02	**IPOC Station P**	**1.27**	**285**	⇑*i*P	**Pn**	**19 30 16.1**	**+0.4**
PB06	**IPOC Station P**	**1.40**	**221**	⇑*i*P	**Pn**	**19 30 17.3**	**+0.2**
PB06				*e*S	**Sn**	**19 30 39.0**	**+0.3**
PB06				IAML		19 30 39.9	
	comp=N,2μm,0.2s						
PB06				IAML		19 30 40.4	
	comp=E,2μm,0.2s						
PB04	**IPOC Station P**	**1.61**	**245**	⇑*i*P	**Pn**	**19 30 19.8**	**+0.5**
PB04				*i* S	**Sn**	**19 30 43.4**	**+0.7**
PB04				IAML		19 30 49.5	
	comp=N,825nm,0.2s						
PB11	**IPOC Station P**	**2.13**	**331**	⇓*i*P	**Pn**	**19 30 24.9**	**-0.5**
PB11				*i* S	**Sn**	**19 30 53.1**	**-0.3**
PB10	**IPOC Station P**	**2.61**	**224**	*e*P	**Pn**	**19 30 30.9**	**0.0**
PB10				*e*S	**Sn**	**19 31 01.8**	**-1.7**
LPAZ	**La Paz**	**5.35**	**5**	P	**Pn**	**19 31 07.7**	**+0.4**
	comp=N,5.9nm,0.3s,baz=311,slow=1.1,SNR=68						
LPAZ				S	**Sn**	**19 32 08.5**	**0.0**
	baz=239,slow=18,SNR=1.9						
DBIC	**Dimbokro**	**68.48**	**73**	P	**P**	**19 40 35.3**	**-0.4**
	comp=N,2.2nm,0.6s,baz=220,slow=7.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P	**P**	**19 41 26.3**	**-0.3**
	comp=N,1.6nm,0.7s,baz=246,slow=5.7,SNR=9.9						
MKAR	**Makanchi Array**	**145.57**	**36**	PKPbc	**PKPab**	**19 49 11.8**	**+1.2**
	comp=N,0.2nm,0.4s,baz=296,slow=3.7,SNR=7.3						

MAN 02 19:43:47,10.17N×123.22E,h1km,mb4.2,ML3.0,MS2.7, 2C-1D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.75**	**79**	⇓*e*P	Pg	19 44 01.6	+0.2
LLP				*i* S	Sb	19 44 13.2	-0.5
GUIM	**Jordan**	**0.76**	**306**	*e*P	Pg	19 44 01.4	-0.2
GUIM				*e*S	Sb	19 44 13.3	-0.7
TBP	**Tagbilaran**	**0.80**	**127**	*e*P	Pg	19 44 02.4	+0.1
TBP				*e*S	Sb	19 44 15.7	+0.7
SNPH	**Sibulan**	**0.82**	**179**	⇑*i*P	Pg	19 44 02.9	+0.1
SNPH				*i* S	Sg	19 44 14

CYA				i S	Sn	20 02 41.4	+0.4
AAGR	Agrelo	5.38	156	i P	Pn	20 01 54.1	+5.3
ACAN	Cantantal	5.49	139	i P	Pn	20 01 52.2	+1.8
MRA	San Martin	6.50	132	i P	Pn	20 02 03.7	-0.6
MRA				i S	Sn	20 03 23.4	+4.8
MRA				IAML		20 03 50.9	
	comp=Z,26nm,0.6s						

*IDC **02** 20:12:03.0±0.9, 40.50N×70.07E, h0^{km}, mb3.7/8, mb1 3.7/13, mb1mx3.5/64, mbtmp3.6/13, ML3.3/5, MS2.9/1, Ms1 2.9/1, ms1mx2.2/62, Error ellipse: s-maj=17.9km s-min=11.4km az=167.0*
*SOME **02** 20:12:03.1, 40.60N×70.42E, h5^{km}*
*NNC **02** 20:12:03.4±0.9, 40.60N×70.10E, h0^{km}, mb4.0, mpv3.7, Error ellipse: s-maj=9.3km s-min=2.6km az=23.0*
*KRNET **02** 20:12:05.0±0.1, 40.73N×70.18E, mb3.6*
*ISCJB **02** 20:12:05.1±1.1, 40.56N±0.04×69.99E±0.03, h23^{km}±8^{km}, mb3.6/8, Error ellipse: s-maj=7.3km s-min=4.0km az=170.0*
ISC 02 20:12:06.1±1.5**, 40.65N**±0.05×**69.94E**±0.03**, h17**^{km}±9^{km}**, n63,** σ1^{s}**63**/95**, mb3.7**/8**, 34C-23D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	Tashkent	0.84	324	⇓P	Pg	20 12 21.9	-0.5
	314nm,0.5s						
TAS				⇓S	Sb	20 12 34.8	+1.5
	1μm,0.3s						
TAS	Tashkent	0.84	324	⇑iP	Pb	20 12 22.1	-0.1
	baz=12						
TAS				⇑iS	Sb	20 12 34.3	+1.0
	baz=12						
IUG	Iuzhnay	1.50	3	eP	Pn	20 12 33.1	+0.8
	226nm,0.2s						
IUG				eS	Sg	20 12 54.8	+0.2
	2μm,0.3s						
CHM	Chimkent	1.69	352	⇓iP	Pb	20 12 37.3	+0.6
	137nm,0.2s						
CHM				⇑iS	Sg	20 13 01.7	+1.2
	2μm,0.4s						
ARK	Arkit	1.91	52	⇑iP	Pn	20 12 36.7	-1.3
	baz=52						
ARK				⇑iS	Sn	20 12 59.8	-1.9
	baz=52						
BRLS	Borolday	2.38	358	eP	Pn	20 12 43.8	-0.6
	1.2nm,0.3s						
BRLS				eS	Sn	20 13 12.8	-0.3
	292nm,0.3s						
ARSB	Arslanbob	2.40	73	⇑eP	Pn	20 12 43.8	-0.9
	baz=74						
ARSB				⇑iS	Sn	20 13 12.5	-1.3
	baz=74						
DZA	Taraz	2.47	24	eP	Pb	20 12 48.2	-1.9
	76nm,0.1s						
DZA				eS	Sb	20 13 20.5	+0.3
	282nm,0.3s						
KK31	Karatay Array	2.49	10	⇓Pg	Pb	20 12 49.4	-1.0
	11nm,0.3s,baz=335,slow=40,SNR=258						
KK31				Lg	Lg	20 13 22.2	
	56nm,0.3s,baz=192,slow=29,SNR=22						
TOKL	Toktogul	2.56	59	⇓iP	Pn	20 12 46.4	-0.4
	baz=58						
TOKL				⇓iS	Sn	20 13 16.5	-1.1
	baz=58						
MNAS	Manas	2.66	45	⇑Pg	Pn	20 12 50.7	+2.4
	11nm,0.3s						
MNAS				⇓Lg	Lg	20 13 26.0	
	87nm,0.4s						
MNAS	Manas	2.66	45	⇓iP	Pn	20 12 48.3	0.0
	baz=44						
MNAS				⇓iS	Sn	20 13 21.2	+1.0
	baz=44						
SFK	Sufi-Kurgan	2.80	102	⇑Pg	Pn	20 12 51.2	+1.0
	8.9nm,0.3s						
SFK				⇑Lg	Lg	20 13 26.5	
	56nm,0.3s						
SFK	Sufi-Kurgan	2.80	102	⇓iP	Pn	20 12 49.9	-0.3
	baz=5.0						
SFK				⇓iS	Sn	20 13 23.6	-0.1
	baz=5.0						
AML	Almayashu	3.19	61	P	Pn	20 12 54.8	-1.0
	SNR=35						
AML	Almayashu	3.19	61	⇑iP	Pn	20 12 54.4	-1.4
	baz=61						
AML				⇑iS	Sn	20 13 34.0	+0.4
	baz=61						
MRKS	Merke	3.23	49	eP	Pn	20 12 58.8	+2.6
	23nm,0.3s						
MRKS				eS	Sn	20 13 38.8	+4.5
	164nm,0.4s						
EKS2	Erkin-Say	3.51	54	P	Pn	20 13 01.6	+1.6
	SNR=7.3						
EKS2	Erkin-Say	3.51	54	⇑iP	Pn	20 13 00.4	+0.5
	baz=53						
EKS2				⇑iS	Sn	20 13 41.6	+0.5
	baz=53						
UCH	Uchtor	3.79	64	P	Pn	20 13 03.9	-0.1
	SNR=9.8						
UCH	Uchtor	3.79	64	⇑iP	Pn	20 13 03.7	-0.3
	baz=64						
UCH				⇑iS	Sn	20 13 48.0	-0.4
	baz=64						
AAK	Ala-Archa	3.95	58	Pn	Pn	20 13 07.0	+1.0
	2.9nm,0.3s,baz=178,slow=1.0,SNR=40						
AAK				Lg	Lg	20 13 56.7	
	2.0nm,0.3s,baz=143,slow=20,SNR=4.1						
AAK	Ala-Archa	3.95	58	⇓Pn	Pn	20 13 05.8	-0.3
	3.0nm,0.4s						
AAK				⇑Pg	Pb	20 13 14.1	-1.2
	6.2nm,0.5s						
AAK				⇑Sn	Sn	20 13 53.0	+1.0
	18nm,0.5s						
AAK	Ala-Archa	3.95	58	P	Pn	20 13 07.0	+1.0
	SNR=11						
AAK	Ala-Archa	3.95	58	⇑eP	Pn	20 13 06.3	+0.3
	baz=58						
AAK				⇑iS	Sn	20 13 52.1	+0.1
	baz=58						
FRU1	Bishkek	4.12	57	⇑iP	Pn	20 13 08.6	+0.3
	baz=57						
FRU1				⇑iS	Sn	20 13 56.0	-0.1
	baz=57						
KZA	Kyzart	4.25	69	P	Pn	20 13 10.4	+0.1
	SNR=10						
KZA	Kyzart	4.25	69	⇑iP	Pn	20 13 10.6	+0.3
	baz=69						
KZA				⇑iS	Sn	20 13 58.8	-0.9
	baz=69						
KBK	Karagaybulak	4.26	60	P	Pn	20 13 10.8	+0.5
	SNR=12						
KBK	Karagaybulak	4.26	60	⇓iP	Pn	20 13 10.6	+0.4
	baz=60						
KBK				⇓iS	Sn	20 13 59.0	-0.6
	baz=60						
USP	Ospenovka	4.29	51	P	Sb	20 14 14.0	+1.4
	SNR=6.3						
CHMS	Chumysh	4.30	55	P	Pn	20 13 11.8	+1.1
	SNR=6.0						
NRN	Naryn	4.65	78	⇓eP	Pn	20 13 14.6	-1.2
	baz=79						
NRN				⇓iS	Sn	20 14 08.3	-1.2
	baz=79						
TKM2	Tokmak 2	4.80	60	⇑Pn	Pn	20 13 17.6	-0.2
	0.6nm,0.2s						
TKM2				⇑Pg	Pb	20 13 27.8	-2.1
	12nm,0.8s						
TKM2				⇓Lg	Lg	20 14 31.9	
	38nm,0.6s						
TKM2	Tokmak 2	4.80	60	P	Pb	20 13 29.5	-0.3
	SNR=8.1						
BOOM	Boomskoye usch	4.87	66	⇑eP	Pn	20 13 18.0	-0.6
	baz=66						
BOOM				⇑iS	Sn	20 14 11.5	-3.1
	baz=66						
DGS	Degeres	5.07	57	eP	Pb	20 13 31.6	-2.6
	13nm,0.6s						
DGS				eS	Sb	20 14 35.0	+0.1
	27nm,0.7s						
KST	Kastek	5.10	60	⇑iP	Pb	20 13 32.3	-2.6
	2.9nm,0.5s						
KST				eS	Sb	20 14 36.1	+0.2
	25nm,1.3s						
IZV	Izvestkoviy	5.53	62	eP	Pb	20 13 39.1	-3.1
	10nm,0.6s						
IZV				eS	Sb	20 14 48.1	-0.1
	21nm,0.8s						
TNSS	Tian-Shan	5.75	63	eP	Pb	20 13 43.9	-2.3
	7.3nm,0.7s						
TNSS				eS	Sb	20 14 56.3	+1.3
	11nm,0.7s						
MDOK	Medeo	5.87	62	⇑Pn	Pn	20 13 31.6	-0.8
	7.6nm,0.5s						
MDOK				⇑Pg	Pb	20 13 48.0	0.0
	11nm,0.9s						
MDOK				⇓Lg	Lg	20 15 08.4	
	24nm,0.8s						
KTBS	Karatobe	5.87	56	eP	Pb	20 13 47.0	-1.0
KTBS				eS	Sb	20 15 01.2	+3.2
KOTS	Kotyrbulak	5.94	62	eP	Pb	20 13 48.1	-1.1
KOTS				eS	Sb	20 15 03.6	+3.4
SATY	Saty	6.77	66	eP	Pb	20 14 04.0	+0.7
	5.8nm,0.8s						
SATY				eS	Sb	20 15 30.4	+6.6
	9.1nm,0.6s						
PDGK	Podgornoye	7.60	66	⇓Pg	Pb	20 14 19.9	+2.4
	3.5nm,0.7s						
PDGK				⇓Lg	Lg	20 16 02.5	
	11nm,1.2s						
OTUK	Ortayu	7.79	12	⇓Lg	Lg	20 16 12.3	
	42nm,0.9s						
GEYT	Alibeck	9.56	257	Pn	Pn	20 14 22.4	-0.4
	0.2nm,0.3s,baz=84,slow=13,SNR=3.7						
GEYT				Sn	Sn	20 16 12.9	+3.1
	0.5nm,0.3s,baz=10,slow=25,SNR=3.6						
MK31	Makanchi Array	10.84	51	⇑Pn	Pn	20 14 40.6	+0.2
	1.2nm,0.9s,baz=234,slow=12,SNR=10						
MK31				Lg	Lg	20 17 46.9	
	1.4nm,0.7s,baz=230,slow=24,SNR=3.9						
MKAR	Makanchi Array	10.84	51	Pn	Pn	20 14 40.1	-0.3
	0.2nm,0.3s,baz=235,slow=14,SNR=13						
MKAR				Lg	Lg	20 17 44.2	
	0.1nm,0.3s,baz=232,slow=27,SNR=3.7						
AB31	Akbulak array	11.14	324	Pn	Pn	20 14 42.5	-1.9
	1.6nm,0.6s,baz=127,slow=14,SNR=31						
AB31				⇑Sn	Sn	20 16 44.8	-3.6
	2.8nm,0.7s,baz=145,slow=23,SNR=5.4						
KURK	Kurchatov	11.75	28	⇑Lg	Lg	20 18 15.5	
	9.0nm,0.9s						
BVAR	Borovoye Array	12.39	1	Pn	Pn	20 15 01.9	+0.4
	0.2nm,0.3s,baz=247,slow=40,SNR=3.2						
BVAR				Lg	Lg	20 18 40.1	
	0.3nm,0.3s,baz=176,slow=28,SNR=2.5						
AKTO	Aktyubinsk	12.85	324	Pn	Pn	20 15 07.3	-0.5
	0.2nm,0.3s,baz=113,slow=15,SNR=3.4						
AKTO				Sn	Sn	20 17 19.2	-11
	0.1nm,0.3s,baz=245,slow=18,SNR=1.9						
AKTO	Aktyubinsk	12.85	324	⇓Pn	Pn	20 15 07.0	-0.9
	2.1nm,0.7s						
AKTO				⇓Sn	Sn	20 17 26.4	-4.0
	2.1nm,0.7s						
ZALV	Zalesovo Beam	16.65	32	LR	LR	20 23 20.6	
	comp=Z,37nm,20.1s,baz=250,slow=40						
BRTR	Keskin Array B	27.63	280	P	P	20 17 54.4	+1.6
	0.5nm,0.7s,baz=65,slow=7.5,SNR=2.5						
FINES	FINESS Array B	33.62	323	P	P	20 18 46.1	+0.9
	1.9nm,0.9s,baz=124,slow=8.3,SNR=6.3						
HFS	Hagfors	39.34	319	P	P	20 19 34.9	+0.8
	1.8nm,0.5s,baz=97,slow=12,SNR=11						
NOA	NORSAR Array B	40.62	320	P	P	20 19 44.7	+0.1
	0.8nm,0.7s,baz=93,slow=8.3,SNR=2.9						
ESDC	Sonseca Array	54.87	295	P	P	20 21 36.2	+0.7
	0.1nm,0.3s,baz=54,slow=6.1,SNR=3.6						
TORD	Torodi Ar. Bea	65.08	266	P	P	20 22 45.7	-0.1
	0.3nm,0.6s,baz=60,slow=5.5,SNR=2.9						
WRA	Warramunga Arr	84.88	122	P	P	20 24 39.4	-0.6
	0.5nm,0.8s,baz=317,slow=4.9,SNR=4.8						
ASAR	Alice Springs	87.30	124	P	P	20 24 51.6	-0.2
	0.5nm,0.7s,baz=297,slow=4.5,SNR=6.5						

MAN 02 20:17:09, 11.12N×124.64E, h22^{km}**, mb3.9, ML2.6, MS2.2, 1C, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.07	200	eP	Pb	20 17 14.4	+1.3
OCLP				eS	Sb	20 17 16.9	+1.1
PLP	Palo	0.34	82	⇑eP	Pn	20 17 18.1	-0.5
PLP				i S	Sb	20 17 21.5	0.0
BESP	Borongan	0.92	59	eP	Pn	20 17 29.9	+3.3
MSLP	Maasin	1.00	167	eP	Pn	20 17 28.6	+0.8
MSLP				eS	Sn	20 17 42.8	+1.5

*NNC **02** 20:28:09.7±0.7, 45.44N×82.07E, h0^{km}, mb3.6, mpv3.4, Error ellipse: s-maj=9.2km s-min=2.8km az=111.0*
*SOME **02** 20:28:10.5, 45.45N×81.90E, h5^{km}*
ISC 02 20:28:09.0±1.1**, 45.51N**±0.05×**81.85E**±0.06**, h5**^{km}**, n24,** σ1^{s}**66**/37**, 5C-10D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	Makanchi	1.30	4	⇓P	Pb	20 28 34.9	+0.9
	36nm,0.3s						
MAKZ				⇑S	Sn	20 28 54.1	+2.3
	83nm,0.7s						
MK31	Makanchi Array	1.32	13	⇓P	Pg	20 28 35.0	+0.6
	25nm,0.4s,baz=182,slow=17,SNR=1510						
MK31				S	Sn	20 28 53.9	+1.7
	64nm,0.8s,baz=186,slow=29,SNR=28						
KAPS	Kapalarasan	1.77	264	eP	Pg	20 28 44.5	+1.6
	32nm,0.2s						
KAPS				eS	Sg	20 29 09.1	+3.3
	114nm,0.4s						
DJR	Jarkent	1.88	232	eP	Pg	20 28 46.3	+1.4
	20nm,0.1s						
DJR				eS	Sg	20 29 12.1	+2.9
	107nm,0.3s						
PDGK	Podgornoye	2.76	219	⇓Pg	Pg	20 29 02.3	+0.5
	4.4nm,0.4s						
PDGK				⇓Lg	Lg	20 29 36.5	
	69nm,0.7s						
MNBS	Baschi	2.84	241	eP	Pg	20 29 03.6	+0.2
MNBS				eS	Sg	20 29 41.6	+1.4
ZSN	Zaisan	2.85	46	eP	Pb	20 28 59.5	-0.8
	2.4nm,0.2s						
ZSN				eS	Sb	20 29 34.9	-0.7
	12nm,0.3s						
ARXS	Arharly	3.14	247	eP	Pg	20 29 08.3	-0.8
	9.5nm,0.3s						
ARXS				eS	Sg	20 29 50.1	+0.4
	34nm,0.4s						
KURS	Kuram	3.32	234	eP	Pg	20 29 11.8	-0.7
	1.1nm,0.2s						
KURS				eS	Sg	20 29 55.6	+0.2
	14nm,0.4s						
CHKK	Chushkaly	3.84	246	eP	Pg	20 29 21.9	-0.6
	1.7nm,0.1s						
CHKK				eS	Sg	20 30 12.9	+0.6
	24nm,0.3s						
KOTS	Kotyrbulak	4.08	238	eP	Pg	20 29 25.1	-2.1
KOTS				eS	Sg	20 30 18.6	-1.5
KTBS	Karatobe	4.10	246	eP	Pg	20 29 25.8	-1.8
	1.6nm,0.2s						
KTBS				eS	Sg	20 30 20.2	-0.5
	34nm,0.4s						
MDOK	Medeo	4.16	237	⇑Pg	Pg	20 29 27.3	-1.5
	4.6nm,0.6s						
MDOK				⇑Lg	Lg	20 30 24.0	
	11nm,0.5s						
KUU	Kurty	4.25	250	eP	Pg	20 29 28.2	-2.1
	2.4nm,0.5s						
KUU				eS	Sg	20 30 23.8	-1.5
	23nm,0.4s						
TNSS	Tian-Shan	4.30	237	eP	Pg	20 29 29.0	-2.4
	1.0nm,0.3s						
TNSS				eS	Sg	20 30 25.9	-1.1
	17nm,0.2s						
IZV	Izvestkoviy	4.50	239	eP	Pg	20 29 34.1	-1.1
	6.1nm,0.6s						
IZV				eS	Sg	20 30 34.1	+0.6
	19nm,0.4s						
DGS	Degeres	4.91	245	eP	Pg	20 29 40.3	-2.7
	3.6nm,0.4s						
DGS				eS	Sg	20 30 44.6	-1.9
	20nm,0.5s						
SEM	Semipalatinsk	5.02	348	eP	Pg	20 29 43.7	-1.5
SEM				eS	Sg	20 30 50.7	+0.6
	0.2nm,0.3s						
TKM2	Tokmak 2	5.18	242	⇓Pg	Pg	20 29 46.9	-1.4
	2.6nm,0.9s						
TKM2				⇑Lg	Lg	20 30 57.5	
	5.7nm,0.6s						
KURK	Kurchatov	5.64	339	⇓Pg	Pg	20 29 53.9	-3.1
	5.6nm,1.4s						
KURK				⇑Lg	Lg	20 31 10.3	
	16nm,0.8s						
AAK	Ala-Archa	6.02	244	⇓Pg	Pg	20 30 02.8	-1.5
AAK				⇓Lg	Lg	20 31 24.4	
	6.5nm,0.7s						
OTUK	Ortayu	7.07	296	⇓Lg	Lg	20 31 59.3	
	11nm,1.0s						
MNAS	Manas	7.38	249	⇓Lg	Lg	20 32 05.2	
	3.0nm,0.9s						
KK31	Karatay Array	8.48	258	Lg	Lg	20 32 41.2	
	0.5nm,0.3s,baz=72,slow=26,SNR=4.4						

*KRSC **02** 20:36:05.5±1.9, 49.00N×157.34E, h40^{km}±31^{km}, ML4.0*
*MOS **02** 20:36:05.5±2.5, 49.00N×157.30E, h40^{km}, mb4.1/1, Error ellipse: s-maj=49.1km s-min=6.0km az=84.0*
*SKHL **02** 20:36:06.1±0.8, 48.90N×156.52E, h62^{km}±5^{km}, mb3.8/1*
ISC 02 20:36:04.8±4.2**, 48.8N**±0.2×**156.89E**±0.10**, h35**^{km}**, n41,** σ1^{s}**31**/43**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.94	345	eP	Pn	20 36 35.2	0.0
SKR				AMB	AMB	20 36 35.5	
	60nm,0.6s						
SKR				eS	Sn	20 36 57.0	-1.4
SKR				A	A	20 37 04.0	
	410nm,0.7s						
SKR				A	A	20 37 04.0	
	320nm,0.7s						
SKR	Severo-Kuril's	1.94	345	ePN	Pn	20 36 35.2	0.0
SKR				eS	Sn	20 36 57.0	-1.4
SKR				pmax	pmax		
	comp=Z,61nm,0.6s						
SKR				smax	smax		
	comp=E,319nm,0.8s						
SKR				smax	smax		
	comp=N,408nm,0.7s						
SKR	Severo-Kuril's	1.94	345	eP	Pn	20 36 34.3	-0.9
SKR				eS	Sn	20 36 57.4	-1.0
PAU	Pauzhetka	2.66	359	eP	Pn	20 36 46.8	+1.7
PAU				eS	Sn	20 37 15.7	-0.4
PAU	Pauzhetka	2.66	359	PN	Pn	20 36 46.4	+1.3
PAU				S	Sn	20 37 15.5	-0.6
PAU	Pauzhetka	2.66	359	eP	Pn	20 36 46.4	+1.3
PAU				eS	Sn	20 37 15.5	-0.6
KDTR	Khodutka, Kamc	3.10	14	eP	Pn	20 36 52.0	+0.9
KDTR				eS	Sn	20 37 26.2	-0.6
MTVR	Mutnovka	3.77	12	PN	Pn	20 37 01.9	+1.4
MTVR				S	Sn	20 37 44.2	+0.6
MTVR	Mutnovka	3.77	12	eP	Pn	20 37 01.9	+1.4
MTVR				eS	Sn	20 37 44.2	+0.6
RUS	Russkaya	3.77	15	eP	Pn	20 37 00.5	+0.1
RUS				eS	Sn	20 37 42.0	-1.5
RUS	Russkaya	3.77	15	PN	Pn	20 37 00.5	+0.1
RUS				S	Sn	20 37 42.0	-1.5
RUS	Russkaya	3.77	15	eP	Pn	20 37 00.5	+0.1
RUS				eS	Sn	20 37 42.0	-1.5
KRMR	Karymshinskiy	4.10	11	PN	Pn	20 37 07.0	+2.1
KRMR				S	Sn	20 37 51.7	+0.1
KRMR	Karymshinskiy	4.10	11	eP	Pn	20 37 07.0	+2.1
KRMR				eS	Sn	20 37 51.7	+0.1
PET	Petropavlovsk	4.37	14	eP	Pn	20 37 10.1	+1.6
PET				eS	Sn	20 37 57.3	-0.8
PET	Petropavlovsk	4.37	14	PN	Pn	20 37 10.1	+1.6
PET				S	Sn	20 37 57.3	-0.8
PET	Petropavlovsk	4.37	14	eP	Pn	20 37 10.1	+1.6
PET				eS	Sn	20 37 57.3	-0.8
DALK	Dalny	4.39	15	PN	Pn	20 37 10.3	+1.5
DALK				S	Sn	20 37 59.3	+0.7
DALK	Dalny	4.39	15	eP	Pn	20 37 10.3	+1.5
DALK				eS	Sn	20 37 59.3	+0.7
UGLR	Uglovaya	4.57	15	PN	Pn	20 37 14.4	+3.0
UGLR	Uglovaya	4.57	15	eP	Pn	20 37 14.4	+3.0
AVH	Avacha	4.61	14	eP	Pn	20 37 14.5	+2.5
AVH	Avacha	4.61	14	PN	Pn	20 37 14.5	+2.5
AVH	Avacha	4.61	14	eP	Pn	20 37 14.5	+2.5
SMAR	Somma	4.62	14	PN	Pn	20 37 14.2	+2.0
SMAR	Somma	4.62	14	eP	Pn	20 37 14.2	+2.0
NLC	Nalytchevo	4.63	19	S	Sn	20 38 04.6	-0.1
SDLR	Sedlovina	4.65	15	PN	Pn	20 37 13.6	+1.1
SDLR	Sedlovina	4.65	15	eP	Pn	20 37 13.6	+1.1
KRX	Arik	4.69	13	PN	Pn	20 37 14.9	+1.8
KRX	Arik	4.69	13	eP	Pn	20 37 14.9	+1.8
SPN	Mys Shipunski	4.73	24	eP	Pn	20 37 15.1	+1.6
SPN				eS	Sn	20 38 07.1	+0.1
SPN	Mys Shipunski	4.73	24	PN	Pn	20 37 15.1	+1.6
SPN				S	Sn	20 38 07.1	+0.1
SPN	Mys Shipunski	4.73	24	eP	Pn	20 37 15.1	+1.6
SPN				eS	Sn	20 38 07.1	+0.1
GNL	Ganaly	4.94	7	PN	Pn	20 37 18.7	+2.2
GNL	Ganaly	4.94	7	eP	Pn	20 37 18.7	+2.2
TUMR	Tumrok	6.79	16	PN	Pn	20 37 44.4	+2.5
TUMR	Tumrok	6.79	16	eP	Pn	20 37 44.4	+2.5
KBTR	Krutoberegovo	8.24	24	PN	Pn	20 38 03.1	+1.4
KBTR	Krutoberegovo	8.24	24	eP	Pn	20 38 03.1	+1.4
BKI	Bering	8.50	38	eS	Sn	20 39 34.7	-5.1

IDC 02 20:36:28.5±4.2**, 19.73S**×**169.45E, h285**^{km}±71^{km}**, mb3.0**/2**, mb1 3.2**/3**, mb1mx2.9**/37**, mbtmp3.6**/3**, Error ellipse: s-maj=250.6km s-min=43.6km az=155.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.65	230	P	Pn	20 37 30.1	0.0
	1.6nm,0.3s,baz=59,slow=21,SNR=18						
DZM				S	S	20 38 19.7	+0.2
	0.9nm,0.3s,baz=95,slow=21,SNR=4.6						
WRA	Warramunga Arr	33.00	264	P	P	20 42 37.1	-0.4
	0.2nm,0.3s,baz=90,slow=8.0,SNR=18						
ASAR	Alice Springs	33.21	257	P	P	20 42 39.5	+0.2
	0.9nm,0.6s,baz=88,slow=9.1,SNR=23						
GERES	GERESS Array B	145.02	332	PKPbc	PKPdf	20 55 31.1	-0.9
	0.3nm,0.6s,baz=19,slow=3.3,SNR=4.5						

*KRNET **02** 20:51:59.3±0.1, 40.66N×70.09E, mb2.4*
ISC 02 20:52:01.3±2.3**, 40.5N**±0.1×**69.78E**±0.09**, h35**^{km}**, n6,** σ1^{s}**47**/10**, 9C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	Tashkent	0.90	335	⇑iP	Pn	20 52 16.4	-1.0
	baz=19						
TAS				⇑iS	Sn	20 52 28.9	-0.3
	baz=19						
KK31	Karatay Array	2.65	12	⇑Pg	Pn	20 52 44.5	+3.0
	0.3nm,0.3s,baz=195,slow=21,SNR=5.1						
KK31				Lg	Lg	20 53 17.1	
	1.7nm,0.2s,baz=192,slow=29,SNR=17						
MNAS	Manas	2.84	45	⇓Pg	Pn	20 52 45.2	+0.9
	1.1nm,0.6s						
MNAS				⇓Lg	Lg	20 53 18.5	
	3.9nm,0.6s						
MNAS	Manas	2.84	45	⇑iP	Pn	20 52 43.9	-0.4
	baz=44						
MNAS				⇑iS	Sn	20 53 16.6	-0.7
	baz=44						
SFK	Sufi-Kurgan	2.89	99	⇑eP	Pn	20 52 45.6	+0.6
	baz=3.0						
SFK				⇑iS	Sn	20 53 19.0	+0.3
	baz=3.0						
AML	Almayashu	3.36	60	⇑iP	Pn	20 52 51.0	-0.6
	baz=60						
AML				⇑iS	Sn	20 53 28.9	-1.6
	baz=60						

IDC 02 20:54:52.9±2.2**, 6.71S**×**129.98E, h0**^{km}**, mb3.3**/1**, mb1 3.8**/4**, mb1mx3.3**/49**, mbtmp3.6**/4**, ML3.8**/3**, Error ellipse: s-maj=55.7km s-min=32.1km az=75.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.14	241	Pn	Pn	20 56 40.3	+1.5
	3.2nm,0.3s,baz=276,slow=19,SNR=5.9						
BATI				Sn	Sn	20 57 50.7	-10
	6.3nm,0.3s,baz=142,slow=24,SNR=10						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.81	163	Pn	Pn	20 58 09.5	-0.7
	0.3nm,0.3s,baz=340,slow=13,SNR=20						
WRA				Sn	Sn	21 00 30.7	-14
	0.8nm,0.3s,baz=333,slow=22,SNR=14						
ASAR	Alice Springs	17.27	168	P	Pn	20 58 55.6	-0.2
	0.4nm,0.3s,baz=335,slow=9.4,SNR=26						
ASAR				S	Sn	21 01 50.9	-18
	0.1nm,0.3s,baz=352,slow=26,SNR=4.3						
MKAR	Makanchi Array	67.97	327	P	P	21 05 53.7	-0.2
	0.1nm,0.6s,baz=116,slow=6.6,SNR=4.1						

*CSEM **02** 21:13:51.2, 40°.82N×20°.49E, h24km, ML1.6/3, After ATH*
*SKO **02** 21:13:52.6, 40°.80N×20°.49E, h11km, M1.1, ML1.5*
ATH 02 21:13:51.2, 40°.82N×20°.49E, h24km±2km, ML1.6/3, 2D, Error ellipse: s-maj=4.1km s-min=1.8km az=140.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	Ohrid	0.37	38	⇓iPg	Pb	21 13 59.9	+0.5
OHR				i Sg	Sn	21 14 06.7	-1.0
OHR				eLg	Lg	21 14 06.8	
	comp=E,50nm,0.4s						
OHR				eLg	Lg	21 14 06.9	
	comp=N,27nm,0.3s						
NEST	Nestorio	0.59	134	P	Pb	21 14 02.4	-0.6
NEST				S	Sn	21 14 12.0	-1.0
NEST				AML	AML	21 14 13.1	
	comp=N,78μm,0.3s						
NEST				AML	AML	21 14 14.8	
	comp=E,74μm,0.3s						
NEST	Nestorio	0.59	134	P	Pb	21 14 02.7	-0.2
NEST				S	Sb	21 14 11.8	+0.9
FNA	Florina	0.67	93	P	Pn	21 14 04.9	-0.5
FNA				S	Sn	21 14 14.4	-0.7
FNA				AML	AML	21 14 16.9	
	comp=E,487μm,0.3s						
FNA				AML	AML	21 14 17.4	
	comp=N,444μm,0.3s						
FNA	Florina	0.67	93	P	Pb	21 14 04.7	+0.3
FNA				S	Sn	21 14 14.4	-0.7
KRUS	Krusevo	0.79	46	⇓iPg	Pn	21 14 07.1	+0.1
KRUS				i Sg	Sn	21 14 18.8	+0.7
KRUS				eLg	Lg	21 14 21.4	
	comp=N,9.5nm,0.3s						
KRUS				eLg	Lg	21 14 21.5	
	comp=E,11nm,0.3s						
PENT	Pentalofos	0.79	142	P	Pn	21 14 06.8	-0.3
PENT				S	Sn	21 14 18.2	0.0
PENT	Pentalofos	0.79	142	P	Pn	21 14 06.8	-0.3
PENT				S	Sn	21 14 18.1	-0.1
KPRO	Kipourio	1.09	142	P	Pb	21 14 11.3	-0.1
KPRO				AML	AML	21 14 29.1	
	comp=E,42μm,0.4s						
KPRO				AML	AML	21 14 32.8	
	comp=N,45μm,0.5s						
KPRO	Kipourio	1.09	142	P	Pb	21 14 11.7	+0.2
SGD	Sagiada	1.22	189	P	Pb	21 14 15.8	+2.1
SGD	Sagiada	1.22	189	P	Pb	21 14 15.1	+1.4
GRG	Griva	1.45	84	P	Pb	21 14 17.9	+0.2
GRG				S	Sb	21 14 38.1	+2.4
GRG	Griva	1.45	84	P	Pb	21 14 18.0	+0.4
GRG				S	Sb	21 14 37.9	+2.2

*CSEM **02** 21:16:03.6±0.3, 49°.99N×18°.51E, h5km, ML2.3/5, Error ellipse: s-maj=7.8km s-min=3.2km az=7.0*
*IPEC **02** 21:16:03.3±0.2, 49°.95N×18°.62E, h3km±2km, ML1.7/3, Error ellipse: s-maj=2.3km s-min=1.1km az=161.0*
PRU 02 21:16:03.7, 50°.03N×18°.53E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.31	232	ePG	Pg	21 16 09.9	+0.2
OKC				eSG	Sg	21 16 14.2	+0.5
	comp=Z,27nm,0.4s						
OKC	Ostrava-Krasne	0.31	232	Pg	Pg	21 16 09.9	+0.2
OKC				Sg	Sg	21 16 14.2	+0.5
	27nm,0.4s						
MORC	Moravsky Berou	0.69	249	ePg	Pg	21 16 17.1	+0.3
	baz=75						
MORC				eSg	Sg	21 16 25.8	+0.1
	16nm,0.3s,baz=75						
OJC	Ojcow	0.84	76	ePg	Pg	21 16 19.0	-0.8
OJC				eSg	Sg	21 16 29.7	-0.9
LANS	Liptovska Anna	1.07	145	ePg	Pg	21 16 23.2	-1.0
LANS				eSg	Sg	21 16 38.7	+0.6
LANS	Liptovska Anna	1.07	145	ePG	Pg	21 16 23.2	-1.0
LANS				eSG	Sg	21 16 38.7	+0.6
NIE	Niedzica	1.30	117	ePg	Pg	21 16 28.2	-0.5
NIE				eSg	Sg	21 16 45.8	+0.4
NIE	Niedzica	1.30	117	ePg	Pg	21 16 28.2	-0.4
NIE				eSg	Sg	21 16 45.8	+0.3
VRAC	Vranov	1.45	241	ePg	Pn	21 16 30.2	-1.0
	baz=63						
VRAC				eSg	Sg	21 16 49.2	-1.1
	14nm,0.4s,baz=63						
DPC	Dobruska-Polom	1.46	284	ePG	Pn	21 16 31.4	+0.1
DPC				eSG	Sb	21 16 50.7	0.0
	comp=Z,7.5nm,0.6s						
DPC	Dobruska-Polom	1.46	284	Pg	Pn	21 16 31.4	+0.1
DPC				Sg	Sb	21 16 50.7	0.0
	7.5nm,0.6s						
VYHS	Vyhne	1.55	172	ePG	Pn	21 16 31.3	-1.3
VYHS				eSN	Sn	21 16 49.8	-3.6
VYHS				eLG	Lg	21 16 52.3	
KRUC	Moravsky	1.69	236	ePn	Pn	21 16 33.7	-0.8
	baz=58						
KRUC				eSg	Sn	21 16 56.8	-0.1
	4.7nm,0.3s,baz=58						
STHS	Stebnicka Huta	1.86	108	ePn	Pb	21 16 38.2	-0.4
STHS	Stebnicka Huta	1.86	108	ePN	Pb	21 16 38.2	-0.4
STHS				eLG	Lg	21 17 12.0	
KECS	Kecovo	2.01	140	eSg	Sb	21 17 06.5	-0.1
KECS	Kecovo	2.01	140	eSG	Sb	21 17 06.5	-0.1
PRU	Pruhonice	2.57	271	eSG	Sb	21 17 24.2	+1.3
PRU	Pruhonice	2.57	271	Sg	Sb	21 17 24.2	+1.3
BRG	Berggiesshubel	3.05	288	SG	Sg	21 17 42.7	+1.0
	4.0nm,0.6s						
KHC	Kasperske Hory	3.35	256	ePN	Pn	21 16 55.5	-1.8
KHC				eSG	Sg	21 17 48.4	-2.7
KHC	Kasperske Hory	3.35	256	Pn	Pn	21 16 55.5	-1.8
KHC				Sg	Sg	21 17 48.4	-2.7

*NIED **02** 21:16:00, 38°.60N×141°.90E, h41km, Mw3.5 Best double couple: Mo1.81000×10^14 NP1:φs163.00000°, δ17.00000°, λ49.00000°. NP2:φs25.00000°, δ77.00000°, λ101.00000°.*
JMA 02 21:16:17.5, 38°.62N×141°.91E, h48km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.47	250	P	Pn	21 16 28.3	+0.1
JIO				eS	Sn	21 16 35.5	-0.4
OFUJ	Ofunato	0.50	338	P	Pn	21 16 28.7	+0.1
OFUJ				eS	Sn	21 16 36.4	-0.1
JMK	Ichinoseki	0.63	302	P	Pn	21 16 30.5	+0.2
JMK				eS	Sn	21 16 39.6	+0.1
JOM	Ohasama	0.98	331	P	Pn	21 16 35.1	+0.2
JOU	Okura	1.01	256	P	Pn	21 16 35.4	+0.1
JOU				eS	Sn	21 16 48.5	0.0
JMM	Marumori	1.16	230	P	Pn	21 16 36.9	-0.4
JMM				eS	Sn	21 16 51.3	-0.7
JYK	Kaneyama	1.25	284	P	Pn	21 16 38.8	+0.3
JRG	Rokugo	1.26	308	P	Pn	21 16 39.0	+0.3
JFK	Kawauchi	1.50	213	P	Pn	21 16 41.7	-0.2
JFK				eS	Sn	21 16 59.3	-1.0
JYS	Shirataka	1.50	255	P	Pn	21 16 42.4	+0.4
JYS				eS	Sn	21 17 00.8	+0.4

*TAP **02** 21:17:24.2, 24°.86N×122°.62E, h136km, ML3.1, D*
*ISCJB **02** 21:17:25.2±0.6, 24°.78N±0°.04×122°.62E±0°.02, h125km±5km, Error ellipse: s-maj=7.1km s-min=3.2km az=174.6*
*JMA **02** 21:17:25.0±0.2, 24°.74N×122°.57E, h129km±2km, M2.5*
ISC 02 21:17:25.9±1.8, 24°.78N±0°.07×122°.61E±0°.03, h123km±12km, n49, σ0s62/86, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.48	131	S	Sn	21 17 57.6	-0.1
TWC	Suao	0.71	256	P	Pn	21 17 45.4	-0.2
	baz=245						
TWC				S	Sn	21 18 00.6	+0.1
	baz=245						
TIPB	Shuangxi	0.74	285	⇑iP	Pn	21 17 44.8	-1.1
	baz=277						
TIPB				S	Sn	21 17 59.9	-1.0
	baz=277						
ENAH	Nanao	0.80	246	P	Pn	21 17 46.5	+0.2
	baz=239						
ENAH				eS	Sn	21 18 02.8	+1.0
	baz=239						
NWF	Wu-fen Shan	0.81	291	P	Pn	21 17 46.4	-0.1
	baz=286						
NANB	Nanao	0.86	246	eP	Pn	21 17 46.9	+0.1
	baz=240						
NANB				eS	Sn	21 18 03.4	+0.7
	baz=240						
TWE	Neicheng	0.86	266	⇑P	Pn	21 17 46.7	-0.1
	baz=261						
TWE				S	Sn	21 18 03.6	+1.0
	baz=261						
ENA	Nanau	0.86	246	eP	Pn	21 17 47.0	+0.1
	baz=240						
ENA				eS	Sn	21 18 03.3	+0.5
	baz=240						
ENTT	Nioudou	0.96	262	P	Pn	21 17 48.0	+0.2
	baz=263						
NWLT	Wulai	1.01	270	eP	Pn	21 17 47.9	-0.4
	baz=271						
NWLT				eS	Sn	21 18 05.2	0.0
	baz=271						
YM10	YM10	1.02	292	eP	Pn	21 17 48.2	-0.2
	baz=287						
YM04	YM04	1.04	291	eP	Pn	21 17 48.4	-0.3
	baz=278						
YM03	YM03	1.05	293	eP	Pn	21 17 48.4	-0.3
	baz=281						
NACB	Ninganchiao	1.10	237	eP	Pn	21 17 48.8	-0.4
	baz=230						
NACB				eS	Sn	21 18 06.2	-0.6
	baz=230						
IRIF	Iriomote-Funau	1.11	113	P	Pn	21 17 49.3	0.0
IRIF				eS	Sn	21 18 07.3	+0.3
NTST	Danshui	1.12	290	eP	Pn	21 17 49.1	-0.2
	baz=279						
YHNB	Yeheng	1.13	265	P	Pn	21 17 49.4	-0.1
	baz=265						
YHNB				S	Sn	21 18 07.6	+0.2
	baz=265						
NNSB	Datong	1.17	253	P	Pn	21 17 50.0	-0.1
	baz=245						
NNSB				eS	Sn	21 18 08.6	+0.3
	baz=245						
NNSH	Datong	1.17	253	eP	Pn	21 17 50.1	0.0
	baz=246						
NNSH				eS	Sn	21 18 08.4	+0.2
	baz=246						
NNS	Nan Shan	1.18	254	eP	Pn	21 17 50.2	+0.1
	baz=246						
NNS				eS	Sn	21 18 08.8	+0.4
	baz=246						
WLTB	Daxi	1.24	274	eP	Pn	21 17 50.5	-0.1
	baz=270						
WLTB				eS	Sn	21 18 09.5	+0.2
	baz=270						
ENLB	Shoufeng	1.27	227	P	Pn	21 17 50.8	-0.1
	baz=217						
ENLB				eS	Sn	21 18 11.0	+1.1
	baz=217						
HATJ	Hateruma jima	1.30	123	eS	Sn	21 18 11.5	+0.9
WHF	Hehuan Shan	1.38	243	eP	Pn	21 17 52.5	-0.1
	baz=235						
WHF				eS	Sn	21 18 12.9	+0.1
	baz=235						
JKRS	Kuro-shima	1.38	113	P	Pn	21 17 52.7	+0.5
JKRS				S	Sn	21 18 12.9	+0.7
TDCB	Techi	1.42	249	eP	Pn	21 17 53.3	+0.5
	baz=240						
TDCB				eS	Sn	21 18 13.3	+0.1
	baz=240						
ESL	Shilin	1.44	228	eP	Pn	21 17 51.9	-0.9
	baz=234						
JIJ	Ishigaki jima	1.46	106	P	Pn	21 17 53.0	0.0
JIJ				S	Sn	21 18 13.1	-0.5
LIOB	Emei	1.46	265	⇑eP	Pn	21 17 52.6	-0.4
	baz=262						
LIOB				eS	Sn	21 18 13.4	-0.2
	baz=262						
NSTT	Nanjuang	1.47	265	eP	Pn	21 17 52.9	-0.3
	baz=261						
NSTT				eS	Sn	21 18 13.5	-0.4
	baz=261						
CHGB	Renai	1.49	242	P	Pn	21 17 53.6	0.0
	baz=234						
CHGB				S	Sn	21 18 14.8	+0.1
	baz=234						
OWD	Renai	1.54	238	eP	Pn	21 17 54.0	-0.2
	baz=232						
OWD				eS	Sn	21 18 15.1	-0.6
	baz=232						
JISG	Ishigakijimahi	1.56	97	P	Pn	21 17 54.1	-0.1
JISG				S	Sn	21 18 15.5	-0.2
HGSD	Ruisui	1.68	220	eP	Pn	21 17 55.2	-0.4
	baz=215						
HGSD				eS	Sn	21 18 18.6	+0.4
	baz=215						
DPDB	Guoxing	1.70	245	eP	Pn	21 17 56.7	+0.7
	baz=238						
DPDB				eS	Sn	21 18 19.9	+1.0
	baz=238						
NSY	Sanyi	1.72	258	eP	Pn	21 17 55.8	-0.3
	baz=255						
NSY				eS	Sn	21 18 18.8	-0.4
	baz=255						
EHY	Hungye	1.73	223	eP	Pn	21 17 55.2	-1.0
	baz=217						
EHY				eS	Sn	21 18 18.1	-1.3
	baz=217						
SMLT	Sun Moon Lake	1.80	241	eP	Pn	21 17 58.0	+0.9
	baz=235						
SMLT				eS	Sn	21 18 22.1	+1.1
	baz=235						
SSLB	Suanglung	1.80	237	eP	Pn	21 17 57.1	-0.1
	baz=233						
SSLB				eS	Sn	21 18 21.9	+0.9
	baz=233						
TYC	Yuchr	1.82	242	eP	Pn	21 17 57.9	+0.6
	baz=239						
TYC				eS	Sn	21 18 22.2	+1.0
	baz=239						
YULB	Yu-li	1.83	221	eP	Pn	21 17 55.7	-1.7
	baz=226						
YULB				eS	Sn	21 18 20.1	-1.4
	baz=226						
TWF1	Yuli	1.86	220	eP	Pn	21 17 57.0	-0.8
	baz=226						
TWF1				eS	Sn	21 18 20.8	-1.4
	baz=226						
JTJ	Tarama	1.91	94	P	Pn	21 17 58.5	+0.2
JTJ				eS	Sn	21 18 22.6	-0.5
WJS	Zhushan	1.96	241	eS	Sn	21 18 25.0	+0.6
	baz=239						
FULB	Fuli	1.98	218	eP	Pn	21 17 59.0	-0.3
	baz=212						
FULB				eS	Sn	21 18 25.1	+0.2
	baz=212						
ALS	Alishan	2.08	233	eP	Pn	21 18 01.3	+0.5
	baz=230						
ALS				eS	Sn	21 18 28.1	+0.7
	baz=230						
CHN5	Tsauling	2.12	237	eP	Pn	21 18 02.0	+0.9
	baz=243						
CHN5				eS	Sn	21 18 28.7	+0.7
	baz=243						
ELDTW	Lidau	2.15	223	eP	Pn	21 18 00.6	-0.9
	baz=221						
JIRB	Irabujima	2.33	88	eS	Sn	21 18 32.5	-0.1

*IDC **02** 21:30:42.6±0.6, 40°.34N×77°.24E, h0km, mb4.2/31, mb1 4.3/34, mb1mx4.2/67, mbtmp4.3/34, ML3.9/3, MS3.7/21, Ms1 3.7/21, ms1mx3.5/62, Error ellipse: s-maj=12.1km s-min=10.6km az=145.0*
*BJI **02** 21:30:44.4, 40°.52N×77°.19E, h8km, mb4.1/30, mB4.6/19, ML4.5/10, Ms4.0/24, Ms7 3.7/23*
*SOME **02** 21:30:45.7, 40°.45N×77°.17E, h5km, MS3.7*
*KRNET **02** 21:30:46.7±0.1, 40°.46N×77°.16E, h13km, mb4.8*
*NNC **02** 21:30:47.8±1.3, 40°.52N×77°.18E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=12.7km s-min=7.3km az=147.0*
*MOS **02** 21:30:49.4±1.2, 40°.51N×77°.21E, h59km, mb4.6/41, Error ellipse: s-maj=7.1km s-min=4.2km az=117.9*
*NEIC **02** 21:30:50.2±0.6, 40°.48N×77°.21E, h55km±5km, mb4.5/15, Error ellipse: s-maj=5.8km s-min=4.7km az=167.0*
ISC 02 21:30:47.6±0.7, 40°.35N±0°.03×77°.11E±0°.02, h33km±5km, n278, σ2s24/324, mb4.4/85, MS3.8/23, 73C-43D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.21	227	⇑iPg	Pb	21 31 18.6	+8.5
KSH				Sg	Sb	21 31 40.7	+15
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=E,10μm,0.8s						
NRN	Naryn	1.37	322	⇓iP	Pn	21 31 11.1	+0.3
	baz=17						
NRN				⇓iS	Sb	21 31 28.6	-1.7
	baz=17						
TARG	Taragay, Kyrgy	1.47	21	⇓iP	Pb	21 31 12.6	-2.1
	baz=21						
TARG				⇓iS	Sb	21 31 30.4	-2.8
	baz=21						
KDJ	Kajisay	1.78	2	⇓iP	Pb	21 31 18.0	-1.7
	baz=1.0						
KDJ				⇓iS	Sb	21 31 40.3	-1.4
	baz=1.0						
ULHL	Ulahol	2.00	341	P	Pb	21 31 21.9	-1.6
	SNR=1817						
ULHL	Ulahol	2.00	341	⇓iP	Pb	21 31 21.9	-1.6
	baz=39						
ULHL				⇓iS	Sb	21 31 47.5	-0.7
	baz=39						
KZA	Kyzart	2.23	321	P	Pb	21 31 25.6	-1.8
	SNR=1761						
KZA	Kyzart	2.23	321	⇑iP	Pb	21 31 25.6	-1.8
	baz=19						
KZA				⇑iS	Sb	21 31 54.5	-0.3
	baz=19						
BOOM	Boomskoye usch	2.31	338	⇓eP	Pb	21 31 26.7	-2.1
	baz=36						
BOOM				⇓iS	Sb	21 31 55.2	-1.8
	baz=36						
PRZ	Przheval'sk	2.34	24	⇑iP	Pb	21 31 26.8	-2.4
	baz=25						
PRZ				⇑iS	Sb	21 31 55.9	-1.9
	baz=25						
TNSS	Tian-Shan	2.69	357	eP	Pb	21 31 31.8	-3.5
	329nm,0.7s						
TNSS				eS	Sb	21 32 05.0	-2.9
	2μm,0.8s						
IZV	Izvestkoviy	2.71	352	eP	Pb	21 31 33.6	-2.0
	1μm,0.6s						
IZV				eS	Sb	21 32 08.2	-0.2
	3μm,0.7s						
UCH	Uchtor	2.71	315	P	Pb	21 31 32.7	-3.0
	SNR=810						
UCH	Uchtor	2.71	315	⇑iP	Pb	21 31 32.5	-3.2
	baz=12						
UCH				⇑iS	Sb	21 32 06.3	-2.4
	baz=12						
SFK	Sufi-Kurgan	2.79	264	⇑Pn	Pn	21 31 34.7	+4.6
	166nm,0.7s						
SFK				⇑Lg	Lg	21 32 17.8	
	639nm,0.4s						
SFK	Sufi-Kurgan	2.79	264	⇑iP	Pn	21 31 34.7	+4.6
	baz=62						
SFK				⇑iS	Sb	21 32 09.7	-1.0
	baz=62						
TKM2	Tokmak 2	2.81	337	⇓Pn	Pb	21 31 33.6	-3.6
	178nm,0.4s						
TKM2				⇓Lg	Lg	21 32 12.7	
	748nm,0.5s						
TKM2	Tokmak 2	2.81	337	P	Pb	21 31 33.6	-3.6
	SNR=493						
TKM2	Tokmak 2	2.81	337	PN	Pb	21 31 33.6	-3.6
TKM2				pmax	pmax		
	comp=Z,178nm,0.4s						
TKM2	Tokmak 2	2.81	337	⇓iP	Pb	21 31 33.5	-3.7
	baz=35						
TKM2				⇓iS	Sb	21 32 07.8	-3.5
	baz=35						
MDOK	Medeo	2.81	359	⇑Pn	Pb	21 31 32.8	-4.4
	comp=Z,420nm,0.5s						
MDOK				⇑Pg	Pn	21 31 36.7	+6.3
	comp=Z,910nm,0.5s						
MDOK				⇓Lg	Lg	21 32 11.6	
	comp=Z,3μm,0.6s						
MDOK	Medeo	2.81	359	eP	Pb	21 31 35.7	-1.5
	comp=Z,358nm,0.4s						
MDOK				eS	Sb	21 32 11.9	+0.6
	comp=Z,3μm,0.5s						
KBK	Karagaybulak	2.82	325	P	Pb	21 31 34.3	-3.1
	SNR=332						
KBK	Karagaybulak	2.82	325	⇓iP	Pb	21 31 33.8	-3.6
	baz=24						
KBK				⇓iS	Sb	21 32 08.6	-3.0
	baz=24						
KST	Kastek	2.83	343	eP	Pb	21 31 36.5	-1.0
	comp=Z,35nm,0.4s						
KST				eS	Sb	21 32 12.8	+1.2
	comp=Z,1μm,0.7s						
AAA	Alma-Ata	2.86	357	eP	Pb	21 31 36.8	-1.2
	comp=Z,1μm,0.3s						
AAA				eS	Sb	21 32 13.6	+1.0
	comp=Z,5μm,0.5s						
AAA	Alma-Ata	2.86	357	ePN	Pb	21 31 37.3	-0.7
AAA				eS	Sb	21 32 13.6	+1.0
AAA				pmax	pmax		
	comp=Z,1μm,0.3s						
AAA				smax	smax		
	comp=E,5μm,0.5s						
KNDC	Almaty	2.87	358	⇑Pn	Pb	21 31 34.1	-4.0
	comp=E,132nm,0.5s						
KNDC				⇑Pg	Pn	21 31 38.3	+7.2
	comp=E,1μm,0.8s						
KNDC				⇓Lg	Lg	21 32 14.0	
	comp=E,4μm,0.6s						
SATY	Saty	2.87	19	eP	Pb	21 31 36.5	-1.8
	comp=E,660nm,0.5s						
SATY				eS	Sb	21 32 13.3	+0.2
	comp=E,3μm,0.6s						
KOTS	Kotyrbulak	2.88	360	eP	Pb	21 31 37.1	-1.4
KOTS				eS	Sb	21 32 14.2	+0.9
AAK	Ala-Archa	3.02	320	Pn	Pb	21 31 37.0	-3.7
	comp=E,44nm,0.3s,baz=126,slow=7.9,SNR=669						
AAK				Lg	Lg	21 32 20.8	
	comp=E,178nm,0.3s,baz=277,slow=20,SNR=11						
AAK	Ala-Archa	3.02	320	⇓Pn	Pb	21 31 37.2	-3.5
	comp=E,46nm,0.3s						
AAK				⇑Pg	Pn	21 31 41.1	+7.9
	comp=E,534nm,0.5s						
AAK				⇓Lg	Lg	21 32 19.6	
	comp=E,791nm,0.6s						
AAK	Ala-Archa	3.02	320	P	Pb	21 31 37.0	-3.7
	SNR=185						
AAK	Ala-Archa	3.02	320	ePn	Pb	21 31 37.2	-3.5
AAK				Sn	Sn	21 32 09.8	+1.6
AAK	Ala-Archa	3.02	320	ePN	Pb	21 31 37.2	-3.5
AAK						21 32 09.8	
AAK	Ala-Archa	3.02	320	⇑eP	Pb	21 31 36.8	-3.9
	baz=18						
AAK				⇑iS	Sb	21 32 12.6	-4.6
	baz=18						
DGS	Degeres	3.06	341	eP	Pb	21 31 40.5	-0.9
	comp=E,544nm,0.6s						
DGS				eS	Sb	21 32 19.9	+1.6
	comp=E,2μm,0.7s						
FRU1	Bishkek	3.08	324	⇑iP	Pb	21 31 38.1	-3.7
	baz=22						
FRU1				⇑eS	Sb	21 32 14.3	-4.7
	baz=22						
FRU	Bishkek	3.11	324	⇑ePN	Pb	21 31 38.5	-3.7
FRU				i		21 32 17.5	
FRU				pmax	pmax		
	comp=Z,2μm,1.6s						
FRU				pmax	pmax		
	comp=E,700nm,1.2s						
FRU				pmax	pmax		
	comp=E,2μm,1.8s						

FRU pmax pmax
comp=E,2µm,1.9s
AML Almayashu 3.13 306 P **Pn 21 31 38.8 +3.8**
SNR=455
AML Almayashu 3.13 306⇑*iP* **Pn 21 31 38.7 +3.7**
baz=4.0
AML ⇑*iS* **Sb 21 32 16.9 -3.9**
baz=4.0
CHMS Chumysh 3.18 327 P **Pn 21 31 38.9 +3.5**
SNR=298
CHMS Chumysh 3.18 327⇓*iP* **Pn 21 31 38.7 +3.3**
baz=25
CHMS ⇓*iS* **Sb 21 32 16.9 -4.9**
baz=25
KURS Kuram 3.23 14 *e*P **Pb 21 31 43.0 -1.4**
KURS *e*S **Sb 21 32 24.2 +0.9**
comp=E,833nm,0.6s
ARSB Arslanbob 3.28 289⇓*e*P **Pn 21 31 41.0 +4.2**
baz=87
ARSB ⇓*iS* **Sn 21 32 20.7 +5.9**
baz=87
KTBS Karatobe 3.38 355 *e*P **Pb 21 31 45.7 -1.1**
KTBS *e*S **Sb 21 32 28.9 +1.6**
comp=E,2µm,0.5s
EKS2 Erkin-Say 3.41 314 P **Pn 21 31 42.7 +4.2**
SNR=474
EKS2 Erkin-Say 3.41 314⇓*iP* **Pn 21 31 42.4 +3.9**
baz=12
EKS2 ⇓*iS* **Sn 21 32 22.7 +4.8**
baz=12
PDGK Podgornoye 3.46 30 ⇑Pn **Pn 21 31 41.0 +1.7**
comp=E,137nm,0.5s
PDGK ⇑Pg **Pb 21 31 46.7 -1.7**
comp=E,439nm,0.6s
PDGK ⇓Lg Lg 21 32 32.2
comp=E,2µm,0.8s
PDGK Podgornoye 3.46 30 PN **Pn 21 31 41.1 +1.7**
PDGK pmax pmax
comp=Z,137nm,0.5s
PDGK Podgornoye 3.46 30⇓*iP* **Pn 21 31 41.2 +1.9**
baz=30
PDGK ⇓*iS* **Sn 21 32 21.4 +2.1**
baz=30
CHKK Chushkaly 3.50 359 *e*P **Pb 21 31 48.1 -0.8**
comp=Z,443nm,0.4s
CHKK *e*S **Sb 21 32 32.8 +1.8**
comp=Z,2µm,0.3s
USP Ospenovka 3.51 327 P **Pn 21 31 43.9 +4.0**
SNR=5.9
USP Ospenovka 3.51 327⇑*iP* **Pn 21 31 42.7 +2.8**
baz=26
USP ⇑*iS* **Sn 21 32 23.9 +3.7**
baz=26
TOKL Toktogul 3.58 298⇑*e*P **Pn 21 31 44.6 +3.8**
baz=96
TOKL ⇑*iS* **Sn 21 32 26.8 +4.8**
baz=96
KUU Kurty 3.59 351 *e*P **Pb 21 31 49.2 -1.1**
comp=Z,160nm,0.5s
KUU *e*S **Sb 21 32 35.2 +1.8**
comp=Z,883nm,0.6s
MRKS Merke 3.77 311 *e*P **Pb 21 31 54.3 +0.8**
comp=Z,264nm,0.4s
MRKS *e*S **Sb 21 32 43.4 +4.6**
comp=Z,608nm,0.7s
MNBS Baschi 3.85 14 *e*P **Pb 21 31 53.5 -1.3**
comp=Z,278nm,0.6s
MNBS *e*S **Sb 21 32 42.4 +1.5**
comp=Z,777nm,0.4s
ARXS Arharly 3.90 8 *e*P **Pb 21 31 55.6 0.0**
comp=Z,156nm,0.6s
ARXS *e*S **Sb 21 32 45.6 +3.3**
comp=Z,1µm,0.6s
MNAS Manas 4.07 303 ⇓Pn **Pn 21 31 51.3 +3.7**
comp=Z,69nm,0.5s
MNAS ⇓Pg **Pb 21 31 60.0 +1.4**
comp=Z,164nm,0.8s
MNAS ⇑Lg Lg 21 34 44.7
comp=Z,513nm,0.9s
MNAS Manas 4.07 303 PN **Pn 21 31 51.3 +3.7**
MNAS pmax pmax
comp=Z,69nm,0.5s
MNAS Manas 4.07 303⇓*iP* **Pn 21 31 51.4 +3.7**
baz=2.0
MNAS ⇓*iS* **Sn 21 32 38.3 +4.1**
baz=2.0
ARK Arkit 4.15 292⇑*e*P **Pn 21 31 52.5 +3.7**
baz=90
ARK ⇑*e*S **Sn 21 32 40.4 +4.2**
baz=90
DJR Jarkent 4.45 26 *e*P **Pb 21 32 04.5 -0.5**
comp=Z,126nm,0.5s
DJR *e*S **Sb 21 33 00.9 +2.8**
comp=Z,691nm,0.6s
KAPS Kapalarasan 5.20 18 *e*P **Pb 21 32 18.7 +0.9**
comp=Z,96nm,0.7s
KAPS *e*S **Sb 21 33 25.7 +5.9**
comp=Z,350nm,0.5s
KK31 Karatay Array 5.65 301 ⇑Pn **Pn 21 32 11.5 +2.2**
comp=Z,24nm,0.7s
KK31 ⇑Pg Pb 21 32 29.5 +4.0
comp=Z,62nm,0.7s
KK31 ⇑Lg Lg 21 33 41.7
comp=Z,134nm,0.6s
KKAR Karatay Array 5.65 301 *e*Pn **Pn 21 32 11.7 +2.4**
KKAR Karatay Array 5.65 301 *e*PN **Pn 21 32 11.7 +2.4**
TAS Tashkent 6.02 282 ⇑Pg Pb 21 32 38.2 +6.5
comp=Z,232nm,0.9s
TAS ⇑Lg Lg 21 33 57.5
comp=Z,827nm,0.8s
CHCP Chirah Chowk 7.35 206 P Pn 21 32 37.1 +4.4
MAKZ Makanchi 7.36 27 ⇑Pn **Pn 21 32 32.3 -0.3**
comp=Z,3.5nm,0.5s
MAKZ ⇑Pg Pb 21 32 56.4 +1.9
comp=Z,32nm,0.9s
MAKZ ⇑Lg Lg 21 34 31.1
comp=Z,231nm,1.4s
MAKZ Makanchi 7.36 27 *e*Pn **Pn 21 32 33.6 +1.0**
MAKZ Makanchi 7.36 27 *e*PN **Pn 21 32 33.6 +1.0**
MK01 Makanchi Array 7.44 29 *e*Pn **Pn 21 32 34.4 +0.6**
MK31 Makanchi Array 7.46 29 ⇑Pn **Pn 21 32 34.6 +0.6**
comp=Z,11nm,0.6s,baz=202,slow=12,SNR=184
MK31 ⇑Pg **Pb 21 32 55.9 -0.2**
comp=Z,12nm,0.5s,baz=205,slow=14,SNR=4.0
MK31 ⇑Sn Sb 21 34 14.9 -10
comp=Z,40nm,0.8s,baz=275,slow=40,SNR=4.9
MK31 ⇑Lg Lg 21 34 40.3
comp=Z,61nm,0.7s,baz=206,slow=28,SNR=4.3
MK31 Makanchi Array 7.46 29 *e*Pn **Pn 21 32 34.8 +0.8**
MK31 Makanchi Array 7.46 29 *e*P **Pn 21 32 34.8 +0.8**
MKAR Makanchi Array 7.46 29 Pn **Pn 21 32 34.9 +0.8**
comp=Z,3.4nm,0.3s,baz=205,slow=15,SNR=150
MKAR Sn **Sn 21 33 56.6 -0.7**
comp=Z,2.3nm,0.3s,baz=204,slow=20,SNR=5.6
MKAR Lg Lg 21 34 37.9
comp=Z,6.7nm,0.3s,baz=213,slow=29,SNR=5.3
MKAR LR LR 21 35 46.8
comp=Z,350nm,20.6s,baz=215,slow=41
CEP Cherat 7.73 214 P **Pn 21 32 41.9 +4.0**
CEP S **Sn 21 34 05.0 +0.7**
WMQ Urumqi 8.60 63 P Pn 21 32 53.2 +3.5
WMQ S **Sn 21 34 26.9 +1.4**
WMQ pmax pmax
comp=Z,180nm,3.7s
WMQ smax smax
comp=Z,240nm,0.9s
WMQ smax smax
comp=Z,210nm,1.1s
WMQ LR LR
comp=Z,430nm,19.9s
WMQ LR LR
comp=Z,300nm,29.7s
WMQ LR LR
comp=Z,240nm,24.7s
OTUK Ortayu 8.60 338 ⇑Pn **Pn 21 32 51.3 +1.6**
comp=Z,21nm,1.1s
OTUK ⇑Pg 21 33 21.9
comp=Z,28nm,0.9s
OTUK ⇑Lg Lg 21 35 08.6
comp=Z,293nm,1.0s
OTUK Ortayu 8.60 338 P **Pn 21 32 51.3 +1.6**
OTUK pmax pmax
comp=Z,28nm,0.9s
KBL Kabul 8.65 230 *e*Pn **Pn 21 32 54.2 +3.6**
KBL Kabul 8.65 230 *e*P **Pn 21 32 54.2 +3.6**

THW Thamme Wali 8.69 211 P **Pn 21 32 53.2 +2.2**
SARP Sargodha 9.14 204 P **Pn 21 32 59.0 +1.8**
KURK Kurchatov 10.42 5 ⇑Pn **Pn 21 33 14.2 -0.4**
comp=Z,19nm,0.7s
KURK ⇓Lg Lg 21 36 12.5
comp=Z,205nm,1.0s
KURK Kurchatov 10.42 5 *e*Pn **Pn 21 33 14.5 -0.1**
KURK Kurchatov 10.42 5*ce*P **Pn 21 33 13.8 -0.8**
KURK pmax pmax
comp=Z,74nm,0.8s
PYUN Piuthan 13.15 157 *e*P **Pn 21 33 49.7 -2.5**
comp=Z,121nm,0.5s
BVA0 Borovoye Array 13.48 342 ⇓Pn **Pn 21 33 55.7 -0.7**
comp=Z,14nm,0.9s,baz=158,slow=12,SNR=64
BVA0 ⇑Lg Lg 21 37 46.0
comp=Z,85nm,1.0s,baz=132,slow=27,SNR=5.6
BVA0 Borovoye Array 13.48 342 P **Pn 21 33 55.7 -0.7**
BVA0 pmax pmax
comp=Z,14nm,1.0s
BVAR Borovoye Array 13.48 342 Pn **Pn 21 33 56.0 -0.4**
comp=Z,1.0nm,0.3s,baz=151,slow=12,SNR=59
BVAR Lg Lg 21 37 50.0
comp=Z,0.9nm,0.3s,baz=156,slow=26,SNR=6.2
BVAR LR LR 21 39 13.7
comp=Z,438nm,18.7s,baz=156,slow=38
BRVK Borovoye 13.54 342 *e*Pn **Pn 21 33 56.5 -0.7**
BRVK Borovoye 13.54 342 *e*P **Pn 21 33 56.3 -0.9**
KOLN Koldanda 13.64 155 *e*P **Pn 21 33 56.2 -2.8**
comp=Z,39nm,0.4s
GKN Gorkha 13.79 151 *e*P **Pn 21 33 58.4 -2.5**
comp=Z,1.5nm,0.3s
KKN Kakani 14.23 149 *e*P **Pn 21 34 03.9 -3.0**
comp=Z,106nm,0.6s
DMN Daman 14.32 150 *e*P **Pn 21 34 05.0 -3.3**
comp=Z,40nm,0.4s
GUN Gumba 14.36 147 *e*P **Pn 21 34 06.0 -2.9**
comp=Z,94nm,0.5s
PKIN Phulchoki 14.46 149 *e*P **Pn 21 34 07.1 -3.1**
comp=Z,90nm,0.5s
PKI Pulchoki 14.47 149 *e*P **Pn 21 34 07.1 -3.3**
comp=Z,124nm,0.5s
ZAA0 Zalesovo Array 14.56 18 ⇑Pn **Pn 21 34 10.3 -0.9**
comp=Z,9.7nm,0.7s
ZAA0 ⇑Lg Lg 21 38 21.3
comp=Z,34nm,1.1s
ZAA0 Zalesovo Array 14.56 18 *e*Pn **Pn 21 34 09.2 -1.9**
ZALV Zalesovo Beam 14.56 18 Pn **Pn 21 34 09.8 -1.3**
comp=Z,0.4nm,0.3s,baz=205,slow=13,SNR=22
ZALV Lg Lg 21 38 23.3
comp=Z,0.2nm,0.3s,baz=206,slow=28,SNR=2.6
ZALV LR LR 21 40 01.1
comp=Z,205nm,19.9s,baz=250,slow=38
ZALV Zalesovo Beam 14.56 18 *e*Pn **Pn 21 34 09.6 -1.5**
ZALV Zalesovo Beam 14.56 18 *e*P **Pn 21 34 09.6 -1.5**
JIRN Jiri 14.71 147 *e*P **Pn 21 34 11.0 -2.7**
comp=Z,180nm,0.6s
GEYT Alibeck 14.94 267 Pn **Pn 21 34 13.2 -3.1**
comp=Z,1.1nm,0.3s,baz=97,slow=8.5,SNR=16
GEYT Sn **Sn 21 36 58.7 -2.0**
comp=Z,1.3nm,0.3s,baz=79,slow=24,SNR=6.5
GEYT LR LR 21 41 04.7
comp=Z,174nm,20.1s,baz=30,slow=41
NVS Novosibirsk 15.06 14 *e*P **Pn 21 34 17.5 -0.3**
NVS pmax pmax
comp=N,9.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,16nm,1.0s
AB31 Akbulak array 15.07 312 ⇓Pn **Pn 21 34 16.4 -1.5**
comp=Z,4.8nm,0.6s,baz=125,slow=16,SNR=9.0
AB31 ⇓Lg Lg 21 38 44.5
comp=Z,6.5nm,0.8s
AB31 Akbulak array 15.07 312 P **Pn 21 34 16.4 -1.5**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
RAMN Ramite 15.51 147 *e*P **Pn 21 34 20.6 -3.5**
comp=Z,299nm,0.7s
LSA Lhasa 15.63 128 P **P 21 34 29.5 -0.3**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 15.63 128 *e*Pn **P 21 34 28.8 -1.0**
comp=Z,17nm,0.9s
LSA Lhasa 15.63 128 *e*P **P 21 34 28.8 -1.0**
LSA pmax pmax
comp=Z,17nm,0.9s
TAPN Taplejung 15.65 143 *e*P **Pn 21 34 23.4 -2.6**
comp=Z,28nm,0.6s
ODAN Odare 15.93 145 *e*P **Pn 21 34 26.5 -3.0**
comp=Z,72nm,0.8s
AKTO Aktyubinsk 16.73 313 Pn **Pn 21 34 39.5 +0.2**
comp=Z,0.8nm,0.3s,baz=110,slow=13,SNR=34
AKTO Lg Lg 21 39 32.5
comp=Z,0.1nm,0.3s,baz=331,slow=19,SNR=2.5
AKTO LR LR 21 41 33.0
comp=Z,377nm,18.6s,baz=120,slow=39
AKTO Aktyubinsk 16.73 313 ⇓Pn **Pn 21 34 39.3 0.0**
comp=Z,26nm,1.2s
JBP Jabalpur 17.30 171⇓*e*P **Pn 21 34 43.0 -3.6**
JBP *e*S Sn 21 37 43.0 -15
GTA Gaotai 17.45 86 *e*P **Pn 21 34 47.9 -0.5**
GTA pP pP 21 34 57.1 -1.0
GTA S **Sn 21 37 55.0 -6.6**
GTA sS S 21 38 10.0 +0.9
GTA SS **SnSn 21 38 18.1 +3.2**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,77nm,7.1s
GTA LR LR
comp=Z,160nm,11.6s
GTA LR LR
comp=Z,210nm,15.4s
GTA LR LR
comp=Z,270nm,15.7s
ARU Arti 20.16 329 P **P 21 35 19.2 +0.4**
comp=Z,9.6nm,0.6s,baz=117,slow=4.9,SNR=17
ARU Lg Lg 21 41 17.5
comp=Z,7.9nm,1.0s,baz=288,slow=20,SNR=4.6
ARU LR LR 21 43 14.3
comp=Z,238nm,18.2s,baz=134,slow=37
ARU Arti 20.16 329 *e*P **P 21 35 19.3 +0.5**
comp=Z,9.7nm,0.6s
ARU Arti 20.16 329*c i*P **P 21 35 18.3 -0.5**
ARU S **S 21 39 00.6 -2.6**
ARU pmax pmax
comp=Z,18nm,1.0s
ZAK Zakamensk 20.84 53 *e*P **P 21 35 26.5 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
LZH Lanzhou 21.39 93 *e*P **P 21 35 35.6 +3.0**
LZH pP sP 21 35 43.8 -1.8
LZH *e*PP **PnPn 21 36 01.3 +8.3**
LZH pmax pmax
comp=Z,19nm,0.8s
LZH pmax pmax
comp=Z,87nm,4.3s
LZH LR LR
comp=Z,230nm,12.8s
LZH LR LR
comp=Z,280nm,11.5s
LZH LR LR
comp=Z,400nm,14.0s
TLY Talaya 21.50 49 *i* P **P 21 35 35.3 +1.9**
TLY pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 22.23 61 P **P 21 35 41.7 +0.3**
comp=Z,1.4nm,0.8s,baz=261,slow=11,SNR=12
SONM LR LR 21 45 31.6
comp=Z,78nm,21.6s,baz=199,slow=40
ULN Ulaanbaatar 22.67 61 *e*P **P 21 35 45.8 -0.4**
comp=Z,7.4nm,0.8s
ULN Ulaanbaatar 22.67 61 *e*P **P 21 35 47.2 +1.1**
ULN pmax pmax
comp=Z,2.0nm,1.1s
HYB Hyderabad 22.89 176 *i* P **P 21 35 50.0 +1.5**
HYB *e*S **S 21 39 53.0 -3.0**
SOKR Solikamsk 23.10 333⇑*iP* **P 21 35 51.2 +0.9**
SOKR pmax pmax
comp=Z,47nm,1.5s
SOKR MLR MLR
comp=Z,280nm,18.0s
WSAR Wadi Sarin 23.11 228 P **P 21 35 51.8 +1.1**
comp=Z,3.9nm,0.8s,baz=72,slow=9.2,SNR=5.0
GROC Groznyy 23.46 287 *e*P **P 21 35 55.9 +1.9**
GROC *e* 21 36 23.6

GROC pmax pmax
comp=Z,4.0nm,1.3s
CD2 Chengdu 23.54 105 *e*P **P 21 35 55.6 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
GNI Garni 24.64 280 P **P 21 36 07.3 +2.1**
comp=Z,13nm,1.0s,baz=277,slow=4.6,SNR=7.0
GNI LR LR 21 47 41.1
comp=Z,130nm,18.8s,baz=47,slow=41
GNI Garni 24.64 280 *e*P **P 21 36 07.0 +1.8**
comp=Z,92nm,0.9s
GNI Garni 24.64 280*ce*P **P 21 36 06.6 +1.4**
GNI pmax pmax
comp=Z,66nm,1.2s
NCK Nalchik 25.04 288 *e*P **P 21 36 10.4 +1.8**
NCK pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 25.53 289 LR LR 21 48 13.7
comp=Z,163nm,18.3s,baz=86,slow=41
KVAR Kislovodsk Arr 25.66 289 P **P 21 36 15.5 +1.1**
comp=Z,6.2nm,0.8s,baz=228,slow=2.0,SNR=4.0
KVAR LR LR 21 48 18.3
comp=Z,115nm,18.7s,baz=184,slow=41
KIV Kislovodsk 25.66 289 *e*P **P 21 36 14.0 -0.4**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,138nm,15.0s
XAN Xi'an 26.02 94 P **P 21 36 18.0 +0.4**
XAN S **S 21 40 40.5 -5.8**
XAN pmax pmax
comp=Z,4.0nm,1.0s
XAN pmax pmax
comp=Z,140nm,5.1s
XAN LR LR
comp=Z,230nm,16.3s
XAN LR LR
comp=Z,220nm,20.1s
XAN LR LR
comp=Z,240nm,21.7s
HHC Hu-ho-hao-te 26.07 78 *e*P **P 21 36 17.2 -0.9**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.5s
KMI Kunming 26.24 118 P **P 21 36 21.0 +1.1**
KMI pmax pmax
comp=Z,4.0nm,1.0s
KMI LR LR
comp=Z,120nm,17.0s
KMI LR LR
comp=Z,150nm,16.2s
KMI LR LR
comp=Z,110nm,12.1s
VRH Novokhopyorsk 26.71 306 *e*P **P 21 36 24.4 +0.8**
VRH pmax pmax
comp=Z,2.0nm,0.3s
VSR Storozhevoye 28.30 305 *e*P **P 21 36 38.2 +0.3**
VSR pmax pmax
comp=Z,10.0nm,1.5s
LPSR Galich'ya Gora 28.66 308 *e*P **P 21 36 41.0 0.0**
LPSR pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 28.79 133 P **P 21 36 42.5 0.0**
comp=Z,0.3nm,0.6s,baz=320,slow=9.4,SNR=3.4
BOD Bodaibo 29.32 41 *e*P **P 21 36 50.7 +3.9**
BOD pmax pmax
comp=Z,5.0nm,2.1s
OBN Obninsk 30.51 313 P **P 21 36 57.8 +0.4**
comp=Z,7.6nm,0.6s,baz=178,slow=21,SNR=4.1
OBN LR LR 21 49 58.5
comp=Z,173nm,20.6s,baz=91,slow=38
OBN Obninsk 30.51 313 *e*P **P 21 36 56.8 -0.6**
OBN *e* 21 37 53.2
OBN *e*S **S 21 41 53.3 -3.1**
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,172nm,20.0s
KLMR Klimovskoe 30.82 324 *e*P **P 21 36 58.7 -1.3**
KLMR pmax pmax
comp=Z,32nm,1.9s
KLMR Klimovskoe 30.82 324 *e*P **P 21 36 58.8 -1.3**
KLMR AMP 21 37 02.3
comp=Z,32nm,1.9s
RAYN Ar Rayn 31.42 247 *e*P **P 21 37 07.2 +1.4**
comp=Z,2.9nm,0.6s
RAYN Ar Rayn 31.42 247 P **P 21 37 07.2 +1.4**
TMCR Tamitsa 32.90 329 *e*P **P 21 37 18.9 +0.7**
TMCR pmax pmax
comp=Z,14nm,0.6s
BR131 Keskin Array S 33.04 283 *e*P **P 21 37 21.0 +0.9**
BRTR Keskin Array B 33.04 283 P **P 21 37 21.4 +1.3**
comp=Z,6.7nm,0.7s,baz=96,slow=8.7,SNR=30
MMAI Mount Meron Ar 34.00 271 P **P 21 37 30.8 +2.5**
comp=Z,1.5nm,0.4s,baz=67,slow=9.2,SNR=13
MMAI LR LR 21 53 16.2
comp=Z,46nm,18.9s,baz=320,slow=40
NJ2 Nanjing 34.43 91 *e*P **P 21 37 32.0 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
AKASG Malin Array Be 34.55 304 P **P 21 37 33.0 +0.2**
comp=Z,0.8nm,0.3s,baz=73,slow=9.4,SNR=10.0
AKASG LR LR 21 53 00.8
comp=Z,203nm,18.4s,baz=280,slow=39
AKASG Malin Array Be 34.55 304*ce*P **P 21 37 33.2 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIEV Kiev 34.56 304 *e*P **P 21 37 33.1 +0.2**
KIEV pmax pmax
comp=Z,5.0nm,1.0s
JOF Joensuu 35.19 325 P **P 21 37 39.2 +1.1**
JOF pmax pmax
comp=Z,27nm,3.0s
CN2 Changchun 35.64 68 *e*P **P 21 37 42.0 -0.3**
CN2 *e*S **S 21 43 11.6 -4.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,200nm,11.0s
TESR Tescani 36.64 297⇑*iP* **P 21 37 51.3 +0.5**
VRI Vrincioaia 36.69 296⇑*iP* **P 21 37 53.7 +2.4**
VRI Vrincioaia 36.69 296 P **P 21 37 53.7 +2.4**
PLOR Plostina 36.75 296⇑*iP* **P 21 37 53.7 +1.9**
PLOR Plostina 36.75 296 P **P 21 37 53.7 +1.9**
ISR Istrita 36.95 295⇑*iP* **P 21 37 56.3 +2.7**
ISR Istrita 36.95 295 P **P 21 37 56.3 +2.7**
FINES FINESS Array B 37.20 322 P **P 21 37 56.3 +0.9**
comp=Z,7.0nm,0.5s,baz=107,slow=9.3,SNR=67
FINES LR LR 21 53 49.4
comp=Z,226nm,18.3s,baz=55,slow=37
MLR Muntele Rosu 37.30 295 LR LR 21 56 33.3
comp=Z,34nm,21.9s,baz=50,slow=42
MLR Muntele Rosu 37.30 295⇑*iP* **P 21 37 59.3 +2.7**
MLR Muntele Rosu 37.30 295 P **P 21 37 59.3 +2.7**
BURAR Bucovina Array 37.44 299⇑*iP* **P 21 37 58.9 +1.2**
BURAR Bucovina Array 37.44 299 P **P 21 37 58.9 +1.2**
BUR04 Bucovina Ar. S 37.44 299 *e*P **P 21 37 58.5 +0.7**
LOT Lotru 38.81 296⇓*iP* **P 21 38 10.8 +1.5**
KLR Kul'dur 39.01 58 P **P 21 38 14.1 +3.3**
comp=Z,0.2nm,0.7s,baz=287,slow=5.7,SNR=4.1
KSRS Korea Array 39.21 77 LR LR 21 57 29.3
comp=Z,75nm,18.6s,baz=283,slow=41
DRGR 39.26 298⇑*iP* **P 21 38 14.6 +1.6**
DRGR 39.26 298 P **P 21 38 14.6 +1.6**
ARCES ARCESS Array B 39.59 334 P **P 21 38 16.1 +0.8**
comp=Z,9.4nm,0.7s,baz=102,slow=8.4,SNR=46
VTS Vitosha 39.88 291⇑*iP* **P 21 38 19.8 +1.5**
VTS Vitosha 39.88 291 P **P 21 38 19.8 +1.5**
SRS Serrai 40.02 289 P **P 21 38 21.1 +1.8**
BZS Buzias 40.25 296⇓*iP* **P 21 38 22.4 +1.3**
BZS Buzias 40.25 296 P **P 21 38 22.4 +1.3**
MDVR Moldovita 40.38 295⇑*iP* **P 21 38 24.0 +1.7**
NIE Niedzica 40.40 303 *e*P **P 21 38 24.1 +1.7**
NIE Niedzica 40.40 303 *e*P **P 21 38 24.1 +1.7**
TIXI Tiksi 40.40 23 P **P 21 38 21.4 -0.6**
comp=Z,4.2nm,0.6s,baz=262,slow=4.8,SNR=19
KECS Kecovo 40.43 301 *e*P **P 21 38 23.8 +1.2**

KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 40.43 301 *eP* **P 21 38 23.8 +1.2**
OJC Ojcow 40.59 304 *eP* **P 21 38 24.9 +1.0**
OJC Ojcow 40.59 304 *eP* **P 21 38 24.1 +0.2**
comp=Z,6.3nm,0.7s
OJC Ojcow 40.59 304 *eP* **P 21 38 24.9 +1.0**
IDI Anoyia 41.07 280 P **P 21 38 28.0 -0.1**
comp=Z,2.6nm,0.4s,baz=44,slow=10,SNR=6.1
VYHS Vyhne 41.51 301 *eP* **P 21 38 33.1 +1.6**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 41.51 301 *eP* **P 21 38 33.1 +1.6**
DIVS Divbare 41.74 295 *eP* **P 21 38 34.4 +0.8**
comp=Z,11nm,0.7s
MORC Moravsky Berou 42.10 304 ⇓ *iP* **P 21 38 37.6 +1.3**
MORC Moravsky Berou 42.10 304 P **P 21 38 37.6 +1.3**
PSI Prapat 42.27 147 LR LR 22 00 39.7
comp=Z,236nm,18.2s,baz=260,slow=42
PLE Pljevlja 42.37 294 P **P 21 38 41.2 +2.5**
PDG Podgorica 42.73 293 ⇑ *iP* **P 21 38 42.6 +1.1**
TTG Podgorica 42.73 293 *eP* **P 21 38 42.2 +0.7**
comp=Z,17nm,0.6s
TTG Podgorica 42.73 293 *eP* **P 21 38 42.2 +0.7**
TTG pmax pmax
comp=Z,17nm,0.6s
DPC Dobruska-Polom 42.77 305 ⇑ *iP* **P 21 38 43.1 +1.3**
DPC *epP* sP 21 38 55.6 +0.1
DPC Dobruska-Polom 42.77 305 ⇑ *iP* **P 21 38 43.1 +1.3**
DPC *e* 21 38 55.6
UPC Upice 42.93 305 ⇑ *eP* **P 21 38 44.3 +1.3**
UPC *epP* **sP 21 38 54.1 -2.7**
UPC Upice 42.93 305 *eP* **P 21 38 44.3 +1.3**
HFS Hagfors 43.16 319 P **P 21 38 45.1 +0.4**
comp=Z,3.9nm,0.7s,baz=98,slow=8.9,SNR=8.9
HFS LR LR 21 57 34.9
comp=Z,204nm,18.4s,baz=114,slow=37
CONA Conrad Observa 43.57 301 *iP* **P 21 38 49.5 +1.1**
comp=Z,6.5nm,0.9s,SNR=7.0
ARSA Arzberg 43.96 300 *iP* **P 21 38 52.4 +1.0**
comp=Z,4.2nm,1.2s
PRU Pruhonice 43.96 304 ⇑ *iP* **P 21 38 52.2 +0.9**
PRU Pruhonice 43.96 304 ⇑ *iP* **P 21 38 52.2 +0.9**
BRG Berggiesshubel 44.15 306 *eP* **P 21 38 53.6 +0.8**
comp=Z,4.2nm,0.7s
BRG Berggiesshubel 44.15 306 *eP* **P 21 38 53.6 +0.8**
BRG pmax pmax
comp=Z,4.0nm,0.7s
NB2 NORSAR Subarra 44.33 321 P **P 21 38 54.4 +0.1**
comp=Z,4.0nm,0.9s,baz=86,slow=8.6
NB2 NORSAR Subarra 44.33 321 P **P 21 38 54.3 +0.1**
NB2 pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 44.33 321 P **P 21 38 54.4 +0.1**
comp=Z,3.7nm,0.8s,baz=88,slow=8.0,SNR=10.0
NOA LR LR 21 58 00.5
comp=Z,189nm,18.1s,baz=85,slow=37
SOKA Soboth 44.43 300 *iP* **P 21 38 56.4 +1.2**
comp=Z,9.2nm,1.2s
MOA Molln 44.63 301 *iP* **P 21 38 57.3 +0.6**
comp=Z,4.6nm,1.0s
CLL Collm 44.64 307 *eP* **P 21 38 57.0 +0.3**
CLL *epP* sP 21 39 10.0 -0.6
CLL *ePPP* PPP 21 41 22.0
CLL Collm 44.64 307 *eP* **P 21 38 56.4 -0.4**
comp=Z,3.7nm,0.9s
CLL Collm 44.64 307 *eP* **P 21 38 57.0 +0.3**
CLL *e* 21 39 10.0
GEC2 GERESS Array S 44.76 303 *eP* **P 21 38 58.5 +0.7**
comp=Z,6.0nm,0.7s
GEC2 GERESS Array S 44.76 303 *eP* **P 21 38 58.5 +0.7**
GEC2 pmax pmax
comp=Z,6.0nm,0.7s
GERES GERESS Array B 44.76 303 P **P 21 38 59.0 +1.2**
comp=Z,4.9nm,0.7s,baz=68,slow=8.4,SNR=43
GERES LR LR 21 59 41.4
comp=Z,123nm,18.0s,baz=1.5,slow=39
GEA0 GERESS Array S 44.76 303 *eP* **P 21 38 58.8 +1.0**
KHC Kasperske Hory 44.77 303 ⇑ *eP* **P 21 38 58.8 +1.0**
KHC *epP* sP 21 39 11.5 -0.1
KHC Kasperske Hory 44.77 303 *eP* **P 21 38 58.8 +1.0**
KHC *e* 21 39 11.5
OBKA Obir 44.80 300 *eP* **P 21 38 58.5 +0.3**
comp=Z,4.1nm,0.7s
SPITS Spitsbergen Ar 44.92 345 LR LR 22 01 16.6
comp=Z,179nm,18.1s,baz=305,slow=41
WET Wettzell 45.21 304 P **P 21 39 03.9 +2.6**
WET pmax pmax
comp=Z,5.0nm,1.2s
KBA Koelnbreinsper 45.44 301 P P 21 39 07.9 +4.5
KBA pmax pmax
comp=Z,4.0nm,0.7s
TIP Timpagrande 45.61 289 ⇑ *iP* **P 21 39 05.2 +0.5**
MOTA Moosalm 46.83 302 *eP* **P 21 39 12.8 -1.5**
comp=Z,3.9nm,1.0s
AQU L'Aquila 46.86 294 *eP* **P 21 39 15.5 +1.1**
comp=Z,11nm,0.8s
AQU L'Aquila 46.86 294 *eP* **P 21 39 15.5 +1.1**
AQU pmax pmax
comp=Z,11nm,0.8s
RETA Reutte 47.01 302 *eP* **P 21 39 16.5 +0.9**
comp=Z,4.6nm,0.6s,SNR=9.5
DAVA Damuels 47.64 302 *eP* **P 21 39 21.3 +0.7**
comp=Z,7.3nm,0.7s,SNR=6.3
VLC Villacollemand 48.31 298 *eP* **P 21 39 27.2 +1.5**
comp=Z,12nm,0.8s
CDF Champ du Feu 48.97 304 *eP* **P 21 39 30.7 -0.1**
CDF pmax pmax
comp=Z,5.0nm,1.0s
LPG La Plagne 50.28 301 *eP* **P 21 39 41.2 +0.2**
LPG pmax pmax
comp=Z,4.0nm,0.8s
CABF La Chapelle 50.32 302 *eP* **P 21 39 41.7 +0.6**
CABF pmax pmax
comp=Z,28nm,1.9s
FRF La Foret Royal 51.05 298 *eP* **P 21 39 46.4 -0.1**
FRF pmax pmax
comp=Z,5.0nm,0.9s
VIVF Saint-Julien-l 51.88 300 *eP* **P 21 39 52.6 -0.1**
VIVF pmax pmax
comp=Z,3.0nm,0.6s
AVF Avril sur Loir 52.02 303 *eP* **P 21 39 53.3 -0.4**
AVF pmax pmax
comp=Z,9.0nm,0.7s
KEST Kesra 52.39 288 P **P 21 39 57.0 +0.3**
comp=Z,1.8nm,0.6s,baz=292,slow=3.8,SNR=5.0
EKA Eskdalemuir Ar 52.91 315 P **P 21 40 00.2 0.0**
comp=Z,2.4nm,0.7s,baz=70,slow=8.4,SNR=5.0
BILL Bilibino 53.00 28 ⇓ *iP* **P 21 40 01.3 +0.7**
BILL *e* 21 41 58.3
BILL *eS* **S 21 47 20.4 -7.3**
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,82nm,17.0s
MFF Saint Martin d 54.32 304 *eP* **P 21 40 10.7 +0.1**
MFF pmax pmax
comp=Z,25nm,1.6s
KMBO Kilima Mbogo 54.98 231 P **P 21 40 16.6 +0.6**
comp=Z,0.5nm,0.3s,baz=45,slow=11,SNR=4.0
SGMF Saint Gilles 55.16 307 *eP* **P 21 40 16.3 -0.3**
SGMF pmax pmax
comp=Z,19nm,1.3s
ES19 SONSECA Array 59.84 298 *eP* **P 21 40 49.5 -0.3**
ESDC Sonseca Array 59.90 298 P **P 21 40 50.2 0.0**
comp=Z,2.4nm,0.5s,baz=55,slow=6.8,SNR=30
INK Inuvik 69.25 12 P **P 21 41 50.2 -0.5**
comp=Z,1.1nm,0.6s,baz=350,slow=7.6,SNR=6.7
ILAR Eielson Array 69.69 19 P **P 21 41 52.3 -1.2**
comp=Z,0.8nm,0.7s,baz=327,slow=4.7,SNR=12
TOA0 Torodi Ar. Sit 70.54 271 *eP* **P 21 41 59.2 -0.3**
comp=Z,5.0nm,0.6s
TORD Torodi Ar. Bea 70.54 271 P **P 21 41 59.1 -0.4**
comp=Z,5.1nm,0.5s,baz=48,slow=5.4,SNR=132
YKA Yellowknife Ar 77.07 6 P **P 21 42 36.2 -0.7**
comp=Z,2.2nm,0.7s,baz=347,slow=5.6,SNR=43
DBIC Dimbokro 79.60 270 P **P 21 42 51.4 -0.3**
comp=Z,3.2nm,0.9s,baz=16,slow=4.4,SNR=4.9
KIC Kosan Boka 79.71 270 *eP* **P 21 42 51.9 -0.5**
comp=Z,5.9nm,0.6s
TIC Toumodi 79.75 270 *eP* **P 21 42 52.0 -0.6**
LIC Lamto 80.02 270 *eP* **P 21 42 53.5 -0.5**
comp=Z,38nm,1.5s
WRA Warramunga Arr 80.18 127 P **P 21 42 54.6 -0.1**
comp=Z,0.6nm,0.9s,baz=330,slow=5.4,SNR=4.1
ASAR Alice Springs 82.74 129 P **P 21 43 09.8 +1.6**
comp=Z,0.4nm,0.8s,baz=306,slow=5.4,SNR=4.2
BOSA Boshof 83.82 224 P **P 21 43 13.7 0.0**
comp=Z,2.1nm,0.6s,baz=23,slow=3.8,SNR=5.8
FFC Flin Flon 85.29 359 *eP* **P 21 43 19.8 -1.0**
comp=Z,1.1nm,0.8s
FFC Flin Flon 85.29 359 *eP* **P 21 43 19.8 -1.0**
FFC pmax pmax
comp=Z,1.0nm,0.8s
ULM Lac du Bonnet 89.57 356 P **P 21 43 40.6 -0.9**
comp=Z,1.1nm,0.3s,baz=348,slow=5.0,SNR=7.6
PDAR Pinedale Array 97.05 5 P **P 21 44 15.1 -1.2**
comp=Z,0.3nm,0.5s,baz=52,slow=5.8,SNR=3.2

IDC 02 21:45:56.1±2.2, 8.11S×129.59E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.5/46, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=92.0km s-min=28.2km az=76.0, Timor Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 10.65 201 Pn Pn 21 48 30.8 +0.7
0.7nm,0.3s,baz=22,slow=12,SNR=9.2
FITZ Sn Sn 21 50 25.3 -4.9
0.7nm,0.3s,baz=107,slow=20,SNR=8.3
WRA Warramunga Arr 12.63 159 Pn Pn 21 48 56.5 -0.7
0.7nm,0.3s,baz=334,slow=14,SNR=34
WRA Sn Sn 21 51 11.6 -7.3
1.1nm,0.3s,baz=337,slow=22,SNR=9.7
ASAR Alice Springs 16.02 166 Pn Pn 21 49 42.9 0.0
0.2nm,0.3s,baz=339,slow=13,SNR=17
ASAR Sn Sn 21 52 33.6 -7.7
0.3nm,0.3s,baz=353,slow=26,SNR=5.9
MKAR Makanchi Array 68.92 327 P P 21 57 03.0 0.0
0.3nm,0.5s,baz=123,slow=7.6,SNR=6.6

*GEN **02** 21:51:18.5, 44.49N×6.70E, h5km, ML1.8*
*ROM **02** 21:51:18.2±0.5, 44.51N×6.76E, h7km±3km, Md2.3/11, Ml1.7/8, Error ellipse: s-maj=5.0km s-min=2.2km az=57.0*
*CSEM **02** 21:51:18.1±0.1, 44.49N×6.68E, h2km, ML2.4/25, Error ellipse: s-maj=2.2km s-min=1.7km az=38.0*
*LDG **02** 21:51:18.7±0.1, 44.50N×6.73E, h2km, Md2.5/5, Ml2.4/20, Error ellipse: s-maj=1.4km s-min=1.1km az=47.0*
*STR **02** 21:51:18.6±0.1, 44.49N±0.01×6.70E±0.01, h5km, MLv2.6/22*
ISC 02 21:51:18.7±0.9, 44.49N±0.01×6.69E±0.01, h14km±7km, n121, σ1s21/189, France

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MBDF Montbardon 0.24 14 *ePg* **Pg 21 51 23.6 -0.5**
SNR=1.0
MBDF *eSg* **Sg 21 51 27.4 -0.3**
152nm,0.3s
MBDF Montbardon 0.24 14 *ePg* **Pg 21 51 23.6 -0.5**
SNR=1.0
MBDF *eSg* **Sg 21 51 27.4 -0.3**
76nm,0.3s
PZZ Stroppo 0.30 86 Pg **Pg 21 51 23.8 -1.3**
PZZ Sg **Sg 21 51 28.1 -1.3**
OG22 Abries 0.38 29 Pg **Pg 21 51 26.0 -0.5**
OG22 Abries 0.38 29 Pg **Pg 21 51 26.1 -0.5**
OG22 Abries 0.38 29 Sg **Sg 21 51 31.5 -0.2**
DOI San Damiano 0.40 88 Pg **Pg 21 51 26.3 -0.5**
DOI Sg **Sg 21 51 32.6 +0.4**
98nm,0.2s
DOI San Damiano 0.40 88 Pg **Pg 21 51 26.3 -0.5**
DOI Sg **Sg 21 51 32.6 +0.4**
98nm,0.2s
RRL Rocca Remolon 0.44 9 Pg **Pg 21 51 26.2 -1.3**
RRL S **Sg 21 51 32.4 -1.1**
RRL Rocca Remolon 0.44 9 Pg **Pg 21 51 26.2 -1.3**
RRL Sg **Sg 21 51 32.8 -0.7**
OG25 Le Caire 0.46 255 Pg **Pg 21 51 27.8 0.0**
OG25 Sg **Sg 21 51 33.6 -0.4**
OG25 Le Caire 0.46 255 Pg **Pg 21 51 27.8 0.0**
STV Sant Anna di V 0.52 118 P **Pg 21 51 27.5 -1.4**
STV Sant Anna di V 0.52 118 Pg **Pg 21 51 27.5 -1.4**
38nm,0.2s
BHB Bricherasio 0.54 49 P **Pg 21 51 28.9 -0.5**
BHB Sg **Sg 21 51 36.0 -0.6**
53nm,0.3s
BHB Bricherasio 0.54 49 Pg **Pg 21 51 28.9 -0.5**
BHB Sg **Sg 21 51 36.0 -0.6**
53nm,0.3s
BNI Bardonecchia 0.56 359 Pg **Pg 21 51 29.8 0.0**
BNI Bardonecchia 0.56 359 Pg **Pg 21 51 29.8 0.0**
BNI Sg **Sg 21 51 37.2 -0.2**
21nm,0.6s
ENR Entracque 0.59 116 P **Pg 21 51 29.6 -0.6**
ENR S **Sg 21 51 37.1 -0.9**
ENR Sg **Sg 21 51 37.6 -0.4**
50nm,0.1s
ENR Entracque 0.59 116 Pg **Pg 21 51 29.7 -0.5**
ENR Sg **Sg 21 51 37.6 -0.4**
50nm,0.1s
ORIF Oris-en-Rattie 0.72 307 *ePg* **Pg 21 51 32.0 -0.8**
SNR=1.0
ORIF *eSg* **Sg 21 51 41.7 -0.6**
35nm,0.2s,SNR=1.0
ORIF Oris-en-Rattie 0.72 307 *ePg* **Pg 21 51 32.0 -0.8**
SNR=1.0
ORIF *eSg* **Sg 21 51 41.7 -0.6**
17nm,0.2s,SNR=1.0
LUCF Luceram 0.76 141 Pg **Pg 21 51 32.9 -0.6**
LUCF Sg **Sg 21 51 43.0 -0.5**
LUCF Luceram 0.76 141 Pg **Pg 21 51 32.9 -0.6**
RSP Reno Superiore 0.78 32 P **Pg 21 51 33.6 -0.2**
RSP Reno Superiore 0.78 32 Pg **Pg 21 51 33.6 -0.2**
33nm,0.3s
GDM Grand'Maison 0.82 330 Pg **Pg 21 51 34.1 -0.6**
GDM Grand'Maison 0.82 330 Pg **Pg 21 51 34.1 -0.6**
GDM Grand'Maison 0.82 330 Sg **Sg 21 51 45.4 -0.1**
SBF Sospel 0.82 139 *ePg* **Pg 21 51 34.2 -0.5**
SNR=1.0
SBF *eSg* **Sg 21 51 45.0 -0.5**
24nm,0.2s,SNR=1.0
SBF Sospel 0.82 139 *ePg* **Pg 21 51 34.2 -0.5**
SNR=1.0
SBF *eSg* **Sg 21 51 45.0 -0.5**
12nm,0.2s,SNR=1.0
GBOS Grotte di Boss 0.86 106 Pg **Pg 21 51 34.8 -0.6**
GBOS S **Sg 21 51 45.4 -1.3**
GBOS Sg **Sg 21 51 45.8 -0.9**
29nm,0.3s
GBOS Grotte di Boss 0.86 106 Pg **Pg 21 51 34.8 -0.6**
GBOS Sg **Sg 21 51 45.8 -0.9**
29nm,0.3s
REVF Revere 0.89 147 Pg **Pg 21 51 35.0 -1.0**
REVF Sg **Sb 21 51 48.2 +0.3**
REVF Revere 0.89 147 Pg **Pg 21 51 35.1 -1.0**
FRF La Foret Royal 0.93 182 *ePg* **Pg 21 51 36.2 -0.5**
SNR=1.0
FRF La Foret Royal 0.93 182 *eP* **Pb 21 51 37.6 +1.0**
FRF *eSg* **Sg 21 51 48.3 -0.5**
25nm,0.2s,SNR=1.0
FRF La Foret Royal 0.93 182 *ePg* **Pg 21 51 36.2 -0.5**
SNR=1.0
FRF La Foret Royal 0.93 182 *eP* **Pb 21 51 37.6 +1.0**
FRF *eSg* **Sg 21 51 48.3 -0.5**
13nm,0.2s,SNR=1.0
SMRF Simiane la Rot 0.95 238 *ePg* **Pb 21 51 37.6 +0.6**
SNR=1.0
SMRF *eSg* **Sg 21 51 49.7 +0.2**
25nm,0.3s,SNR=1.0
SMRF Simiane la Rot 0.95 238 *ePg* **Pb 21 51 37.6 +0.6**
SNR=1.0
SMRF *eSg* **Sg 21 51 49.7 +0.2**
13nm,0.3s,SNR=1.0
NEGI Seborga 0.97 131 P **Pg 21 51 35.9 -1.6**
NEGI S **Sg 21 51 49.1 -1.1**
LPG La Plagne 1.01 2 *ePg* **Pg 21 51 37.7 -0.6**
SNR=1.0
LPG *eSg* **Sg 21 51 51.2 -0.3**
15nm,0.3s,SNR=1.0
LPG La Plagne 1.01 2 *ePg* **Pg 21 51 37.7 -0.6**
SNR=1.0
LPG *eSg* **Sg 21 51 51.2 -0.3**
7.6nm,0.3s,SNR=1.0
LSD Lago del Serru 1.02 18 P **Pg 21 51 37.7 -0.8**
LSD S **Sg 21 51 51.0 -0.8**
LSD Lago del Serru 1.02 18 Pg **Pg 21 51 37.7 -0.8**
18nm,0.3s
LPL La Plagne 1.03 2 *ePg* **Pg 21 51 38.3 -0.3**
SNR=1.0
LPL *eSg* **Sg 21 51 52.0 -0.1**
9.2nm,0.3s,SNR=1.0
LPL La Plagne 1.03 2 *ePg* **Pg 21 51 38.3 -0.3**
SNR=1.0
LPL *eSg* **Sg 21 51 52.0 -0.1**
4.6nm,0.3s,SNR=1.0
IMI Imperia 1.04 123 Pg **Pg 21 51 38.1 -0.7**
IMI S **Sg 21 51 51.7 -0.7**
IMI Imperia 1.04 123 Pg **Pg 21 51 38.1 -0.7**
RORO Rocca Rossa 1.06 110 Pg **Pg 21 51 37.2 -1.9**
RORO S **Sg 21 51 50.5 -2.4**
RORO Rocca Rossa 1.06 110 Pg **Pg 21 51 37.2 -1.9**
RORO Sg **Sg 21 51 50.8 -2.1**
LMR La Mourre 1.16 187 *ePg* **Pg 21 51 40.8 -0.3**
SNR=1.0
LMR *eSg* **Sg 21 51 56.2 0.0**
15nm,0.2s,SNR=1.0
LMR La Mourre 1.16 187 *ePg* **Pg 21 51 40.8 -0.3**
SNR=1.0
LMR *eSg* **Sg 21 51 56.2 0.0**
7.6nm,0.2s,SNR=1.0
LEPF PUYLOUBIER 1.20 217 Pg **Pn 21 51 42.2 +1.1**
LEPF Sg **Sb 21 51 58.2 +1.5**
LEPF PUYLOUBIER 1.20 217 Pg **Pn 21 51 42.2 +1.1**
VIVF Saint-Julien-l 1.48 285 *eP* **Pn 21 51 45.7 +0.6**
SNR=1.0
VIVF Saint-Julien-l 1.48 285 *ePg* **Pg 21 51 47.1 -0.2**
VIVF *eSn* **Sn 21 52 04.7 +0.3**
8.4nm,0.3s,SNR=1.0
VIVF *eSg* **Sg 21 52 06.4 -0.2**
10nm,0.3s
VIVF Saint-Julien-l 1.48 285 *eP* **Pn 21 51 45.7 +0.6**
SNR=1.0
VIVF Saint-Julien-l 1.48 285 *ePg* **Pg 21 51 47.1 -0.2**
VIVF *eSn* **Sn 21 52 04.7 +0.3**
4.2nm,0.3s,SNR=1.0
VIVF *eSg* **Sg 21 52 06.4 -0.2**
5.2nm,0.3s
SSB Saint Sauveur 1.72 298 Pn Pn 21 51 48.5 +0.2
SSB Saint Sauveur 1.72 298 Pg **Pg 21 51 51.6 -0.1**
LASF Ste Croix 2.08 260 *eP* **Pn 21 51 53.7 +0.5**
SNR=1.0
LASF Ste Croix 2.08 260 *ePg* **Pg 21 51 57.7 -0.8**
LASF *eSn* **Sn 21 52 18.6 -0.3**
1.8nm,0.2s,SNR=1.0
LASF Ste Croix 2.08 260 *eP* **Pn 21 51 53.7 +0.5**
SNR=1.0
LASF Ste Croix 2.08 260 *ePg* **Pg 21 51 57.7 -0.8**
LASF *eSn* **Sn 21 52 18.6 -0.3**
0.9nm,0.2s,SNR=1.0
CABF La Chapelle 2.17 349 *eP* **Pn 21 51 56.7 +2.2**
SNR=1.0
CABF La Chapelle 2.17 349 *ePg* **Pg 21 51 59.4 -0.8**
SNR=1.0
CABF *eSg* **Sg 21 52 27.8 -0.5**
2.3nm,0.2s,SNR=1.0
CABF La Chapelle 2.17 349 *eP* **Pn 21 51 56.7 +2.2**
SNR=1.0
CABF La Chapelle 2.17 349 *ePg* **Pg 21 51 59.4 -0.8**
SNR=1.0
CABF *eSg* **Sg 21 52 27.8 -0.5**
1.1nm,0.2s,SNR=1.0
LBL Lubilhac 2.56 288 Pn **Pn 21 51 58.6 -1.3**
LBL Lubilhac 2.56 288 Pg **Pg 21 52 06.9 -0.8**
LBL Lubilhac 2.56 288 Pn **Pn 21 51 58.6 -1.3**
LBL Lubilhac 2.56 288 Pg **Pg 21 52 07.0 -0.8**
PGF Pioggiola 2.57 138 *eP* **Pn 21 52 00.6 +0.6**
SNR=1.0
PGF *eSn* **Sn 21 52 29.0 -2.1**
4.1nm,0.3s,SNR=1.0
PGF Pioggiola 2.57 138 *eP* **Pn 21 52 00.6 +0.6**
SNR=1.0
PLDF La Plantade 2.63 305 Pn **Pn 21 52 00.0 -0.8**
PLDF La Plantade 2.63 305 Pg **Pg 21 52 07.6 -1.4**
PLDF La Plantade 2.63 305 Pn **Pn 21 52 00.1 -0.8**
PLDF La Plantade 2.63 305 Pg **Pg 21 52 07.6 -1.4**
PLDF La Plantade 2.63 305 Sn **Sn 21 52 34.9 +2.3**
PYM Petit Puy Mans 2.90 297 Pn **Pn 21 52 04.4 -0.1**
PYM Petit Puy Mans 2.90 297 Pg **Pg 21 52 13.9 -0.3**
PYM Petit Puy Mans 2.90 297 Pn **Pn 21 52 04.4 -0.1**
PYM Petit Puy Mans 2.90 297 Pg **Pg 21 52 13.9 -0.3**
SMF Signal de Mont 2.94 318 *eP* **Pn 21 52 06.8 +1.7**
SNR=1.0
SMF Signal de Mont 2.94 318 *ePg* **Pg 21 52 13.9 -1.2**
SMF *eSn* **Sn 21 52 39.3 -1.0**
SNR=1.0
SMF *eSg* **Sg 21 52 51.3 -1.9**
2.7nm,0.3s,SNR=1.0
SMF Signal de Mont 2.94 318 *eP* **Pn 21 52 06.8 +1.7**
SNR=1.0
SMF Signal de Mont 2.94 318 *ePg* **Pg 21 52 13.9 -1.2**
SMF *eSn* **Sn 21 52 39.3 -1.0**
SNR=1.0
SMF *eSg* **Sg 21 52 51.3 -1.9**
1.4nm,0.3s,SNR=1.0
AVF Avril sur Loir 3.28 316 *eP* **Pn 21 52 11.4 +1.6**
SNR=1.0
AVF Avril sur Loir 3.28 316 *ePg* **Pg 21 52 19.9 -1.7**
AVF *eSg* **Sg 21 53 02.1 -2.0**
0.8nm,0.2s,SNR=1.0
AVF Avril sur Loir 3.28 316 *eP* **Pn 21 52 11.4 +1.6**
SNR=1.0
AVF Avril sur Loir 3.28 316 *ePg* **Pg 21 52 19.9 -1.7**
AVF *eSg* **Sg 21 53 02.1 -2.0**
0.4nm,0.2s,SNR=1.0
CAF Calviac 3.33 279 *eP* **Pn 21 52 11.3 +0.9**
SNR=1.0
CAF Calviac 3.33 279 *ePg* **Pg 21 52 21.3 -1.1**
CAF *eSn* **Sn 21 52 49.6 -0.2**
1.1nm,0.3s,SNR=1.0
CAF Calviac 3.33 279 *eP* **Pn 21 52 11.3 +0.9**
SNR=1.0
CAF Calviac 3.33 279 *ePg* **Pg 21 52 21.3 -1.1**
CAF *eSn* **Sn 21 52 49.6 -0.2**
0.6nm,0.3s,SNR=1.0
BGF Bois d'Agland 3.40 309 *eP* **Pn 21 52 13.2 +1.8**
SNR=1.0
BGF Bois d'Agland 3.40 309 *ePg* **Pg 21 52 22.1 -1.8**
BGF *eSg* **Sg 21 53 06.3 -1.7**
7.4nm,0.5s
BGF Bois d'Agland 3.40 309 *eP* **Pn 21 52 13.2 +1.8**
SNR=1.0
BGF Bois d'Agland 3.40 309 *ePg* **Pg 21 52 22.1 -1.8**
BGF *eSg* **Sg 21 53 06.3 -1.7**
3.7nm,0.5s
SSF Saint Saulge 3.40 320 *ePg* **Pg 21 52 22.1 -1.8**
SSF *eSg* **Sg 21 53 06.3 -1.7**
2.4nm,0.5s,SNR=1.0
SSF Saint Saulge 3.40 320 *ePg* **Pg 21 52 22.1 -1.8**
SSF *eSg* **Sg 21 53 06.3 -1.7**
1.2nm,0.5s,SNR=1.0
LOR Lormes 3.41 326 *eP* **Pn 21 52 13.3 +1.7**
baz=155,SNR=1.0
LOR Lormes 3.41 326 *ePg* **Pg 21 52 22.5 -1.6**
baz=147
LOR *eSn* **Sn 21 52 50.8 -1.0**
2.4nm,0.3s,SNR=1.0
LOR *eSg* **Sg 21 53 05.7 -2.5**
3.4nm,0.4s
LOR Lormes 3.41 326 *eP* **Pn 21 52 13.3 +1.7**
baz=155,SNR=1.0
LOR Lormes 3.41 326 *ePg* **Pg 21 52 22.5 -1.6**
baz=147
LOR *eSn* **Sn 21 52 50.8 -1.0**
1.2nm,0.3s,SNR=1.0
LOR *eSg* **Sg 21 53 05.7 -2.5**
1.7nm,0.4s
MTLF Montolieu 3.43 252 *eP* **Pn 21 52 14.4 +2.6**
MTLF Montolieu 3.43 252 *ePg* **Pg 21 52 23.1 -1.3**
MTLF *eSn* **Sn 21 52 52.1 -0.2**
0.7nm,0.3s,SNR=1.0
MTLF *eSg* **Sg 21 53 06.2 -2.6**
1.0nm,0.2s,SNR=1.0
MTLF Montolieu 3.43 252 *eP* **Pn 21 52 14.4 +2.6**
MTLF Montolieu 3.43 252 *ePg* **Pg 21 52 23.1 -1.3**
MTLF *eSn* **Sn 21 52 52.1 -0.2**
0.3nm,0.3s,SNR=1.0
MTLF *eSg* **Sg 21 53 06.2 -2.6**
0.5nm,0.2s,SNR=1.0
HAU Haudompre 3.53 356 *eP* **Pn 21 52 16.1 +3.0**
HAU Haudompre 3.53 356 *eP* **Pn 21 52 16.1 +3.0**
TCF Toulx Ste Croi 3.63 301 *eP* **Pn 21 52 15.5 +0.9**
TCF Toulx Ste Croi 3.63 301 *eP* **Pn 21 52 15.5 +0.9**
SFTF Sexfontaines 3.89 343 *eP* **Pn 21 52 20.9 +2.8**

SFTF	**Sexfontaines**	**3.89**	**343**	*e*P	**Pn**	**21 52 20.9**	**+2.8**
CDF	**Champ du Feu**	**3.95**	**6**	*e*P	**Pn**	**21 52 19.9**	**+0.9**
	SNR=1.0						
CDF	**Champ du Feu**	**3.95**	**6**	*e*P	**Pn**	**21 52 19.9**	**+0.9**
	SNR=1.0						
PAGF	**Fort de Pagny**	**4.12**	**351**	*e*P	**Pn**	**21 52 23.6**	**+2.3**
	baz=159						
PAGF	**Fort de Pagny**	**4.12**	**351**	*e*P	**Pn**	**21 52 23.6**	**+2.3**
	baz=159						

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*DDA **02** 21:57:39.6, 38°.52N×31°.53E, h7km, Ml2.8*
*ISCJB **02** 21:57:40.3±0.6, 38°.50N±0°.02×31°.52E±0°.04, h2km±6km, Error ellipse: s-maj=4.9km s-min=4.1km az=169.4*
*CSEM **02** 21:57:40.4±0.2, 38°.50N×31°.49E, h2km, ML2.8, Error ellipse: s-maj=4.6km s-min=3.9km az=73.0*
*ISK **02** 21:57:40.4, 38°.49N×31°.48E, h6km, ML2.8/6*
ISC 02 21:57:40.8±1.1**, 38°.51N**±0°.02×**31°.49E**±0°.03**, h8**km±10km**, n29,** σ0s.85/48**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOGA	**KONYA_Doganhis**	**0.42**	**161**	*i* P	**Pg**	**21 57 48.8**	**-0.3**
DOGA				*i* S	**Sg**	**21 57 55.2**	**+0.6**
DOGA	**KONYA_Doganhis**	**0.42**	**161**	P	**Pg**	**21 57 48.8**	**-0.3**
DOGA				S	**Sg**	**21 57 55.2**	**+0.6**
BOLV	**Bolvadin**	**0.47**	**297**	*i* P	**Pg**	**21 57 50.0**	**-0.1**
BOLV				*i* S	**Sg**	**21 57 57.2**	**+0.9**
BOLV	**Bolvadin**	**0.47**	**297**	P	**Pg**	**21 57 50.0**	**-0.1**
BOLV				S	**Sg**	**21 57 57.2**	**+0.9**
SHUT	**Suhut-Afyon**	**0.74**	**274**	PG	**Pg**	**21 57 54.9**	**-0.2**
SHUT	**Suhut-Afyon**	**0.74**	**274**	*e*Pg	**Pg**	**21 57 54.9**	**-0.2**
BAGO	**Egridir - ISPA**	**0.76**	**227**	*i* P	**Pg**	**21 57 55.2**	**-0.1**
BAGO				*i* S	**Sb**	**21 58 06.2**	**-0.5**
SVRH	**Sivrihisar-ESK**	**0.94**	**1**	PG	**Pb**	**21 57 59.8**	**+0.4**
SVRH				SG	**Sb**	**21 58 12.6**	**+0.5**
SVRH	**Sivrihisar-ESK**	**0.94**	**1**	*e*Pg	**Pb**	**21 57 59.8**	**+0.4**
SVRH				*e*Sg	**Sb**	**21 58 12.6**	**+0.5**
ISP	**Isparta**	**1.02**	**229**	PG	**Pb**	**21 58 00.3**	**-0.6**
ISP	**Isparta**	**1.02**	**229**	*e*Pg	**Pb**	**21 58 00.3**	**-0.6**
KZIL	**AFYON_Kizioren**	**1.09**	**257**	*i* P	**Pg**	**21 58 01.1**	**-0.6**
KZIL				*i* S	**Sb**	**21 58 16.4**	**-0.1**
KZIL	**AFYON_Kizioren**	**1.09**	**257**	P	**Pg**	**21 58 01.1**	**-0.6**
KZIL				S	**Sb**	**21 58 16.4**	**-0.1**
CHBY	**Cihanbeyli**	**1.10**	**86**	PN	**Pb**	**21 58 02.2**	**+0.1**
CHBY				SN	**Sb**	**21 58 17.4**	**+0.8**
CHBY	**Cihanbeyli**	**1.10**	**86**	*e*Pn	**Pb**	**21 58 02.2**	**+0.1**
CHBY				*e*Sn	**Sb**	**21 58 17.4**	**+0.8**
SUTC	**Sutluce-Ispart**	**1.10**	**201**	PG	**Pg**	**21 58 00.6**	**-1.3**
SUTC				SG	**Sn**	**21 58 17.2**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.10**	**201**	*e*Pg	**Pg**	**21 58 00.6**	**-1.3**
SUTC				*e*Sg	**Sn**	**21 58 17.2**	**-0.9**
ESKT	**Eskisehir**	**1.13**	**334**	*i* P	**Pg**	**21 58 00.7**	**-1.8**
ESKT				*i* S	**Sg**	**21 58 16.4**	**-0.8**
SEYT	**Eskypehyr**	**1.13**	**334**	P	**Pg**	**21 58 00.7**	**-1.8**
SEYT				S	**Sg**	**21 58 16.4**	**-0.8**
BRDR	**BURDUR-Merkez**	**1.39**	**235**	*i* P	**Pn**	**21 58 06.2**	**-0.4**
BRDR				*i* S	**Sn**	**21 58 28.1**	**+2.9**
BRDR	**BURDUR-Merkez**	**1.39**	**235**	P	**Pn**	**21 58 06.2**	**-0.4**
KHAL	**Karahalli**	**1.58**	**266**	*i* P	**Pn**	**21 58 09.2**	**0.0**
KHAL				*i* S	**Sg**	**21 58 33.4**	**+1.9**
KHAL	**Karahalli**	**1.58**	**266**	P	**Pn**	**21 58 09.2**	**0.0**
BORA	**Eskisehir**	**1.59**	**330**	*i* P	**Pb**	**21 58 10.5**	**-0.1**
BORA				*i* S	**Sg**	**21 58 32.5**	**+0.5**
BORA	**Eskisehir**	**1.59**	**330**	P	**Pb**	**21 58 10.5**	**-0.1**
BORA				S	**Sg**	**21 58 32.5**	**+0.5**
SULT	**Sultanhani-AKS**	**1.62**	**100**	PN	**Pb**	**21 58 11.0**	**0.0**
SULT	**Sultanhani-AKS**	**1.62**	**100**	*e*Pn	**Pb**	**21 58 11.0**	**0.0**
TVSB	**Tavsanli**	**1.84**	**301**	PN	**Pn**	**21 58 12.9**	**+0.1**
TVSB	**Tavsanli**	**1.84**	**301**	*e*Pn	**Pn**	**21 58 12.9**	**+0.1**

KRSC 02 22:06:22.0±1.1**, 55°.76N**×**160°.92E, h172**km±10km**, ML3.7, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZMR	**Bezymyannaya**	**0.30**	**306**	*e*P	Pn	22 06 46.1	+0.8
BZWR	**Bezymyannyi-We**	**0.32**	**311**	*e*P	Pn	22 06 45.9	+0.5
LGNR	**Loginova**	**0.35**	**338**	*e*P	Pn	22 06 46.8	+1.2
CIRR	**Tsirk**	**0.37**	**345**	*e*P	Pn	22 06 46.3	+0.8
KMNR	**Kamenistaya**	**0.39**	**270**	*e*P	Pn	22 06 46.6	+1.1
KMNR				*e*S	Sn	22 07 05.2	+1.7
KRSR	**Krestovskiy**	**0.50**	**336**	*e*P	Pn	22 06 46.4	+0.5
KLY	**Klyuchi**	**0.58**	**345**	*e*P	Pn	22 06 47.1	+1.0
KLY				*e*S	Sn	22 07 05.4	+0.6
TUMR	**Tumrok**	**0.65**	**223**	*e*P	Pn	22 06 48.3	+1.6
TUMR				*e*S	Sn	22 07 07.3	+1.7
KOZ	**Kozyrevsk**	**0.66**	**297**	*e*P	Pn	22 06 47.4	+0.8
KOZ				*e*S	Sn	22 07 06.0	+0.4
KZV	**Kizimen**	**0.74**	**209**	*e*P	Pn	22 06 48.5	+1.2
BDR	**Baidarnaya**	**0.83**	**11**	*e*P	Pn	22 06 48.9	+1.2
BDR				*e*S	Sn	22 07 08.9	+1.3
SMKR	**Semkarok**	**0.88**	**20**	*e*P	Pn	22 06 49.4	+1.4
SMKR				*e*S	Sn	22 07 09.1	+0.9
SRKR	**Sorokina**	**0.91**	**9**	*e*P	Pn	22 06 49.6	+1.4
SRKR				*e*S	Sn	22 07 09.4	+0.9
KBTR	**Krutoberegovo**	**1.16**	**66**	*e*P	Pn	22 06 51.4	+1.3
KBTR				*e*S	Sn	22 07 12.0	+0.3
ESO	**Esso**	**1.27**	**278**	*e*P	Pn	22 06 51.5	+0.5
GNL	**Ganaly**	**2.69**	**221**	*e*P	Pn	22 07 08.3	+1.7
SPN	**Mys Shipunski**	**2.72**	**192**	*e*P	Pn	22 07 06.4	-0.4
SPN				*e*S	Sn	22 07 39.8	-1.7
NLC	**Nalytchevo**	**2.75**	**200**	*e*S	Sn	22 07 42.9	+0.7
SDLR	**Sedlovina**	**2.75**	**206**	*e*P	Pn	22 07 08.6	+1.2
SMAR	**Somma**	**2.79**	**207**	*e*P	Pn	22 07 09.7	+1.8
AVH	**Avacha**	**2.81**	**208**	*e*P	Pn	22 07 09.4	+1.5
UGLR	**Uglovaya**	**2.83**	**206**	*e*P	Pn	22 07 09.9	+1.6
BKI	**Bering**	**2.93**	**99**	*e*P	Pn	22 07 11.9	+2.7
BKI				*e*S	Sn	22 07 47.8	+1.8
DALK	**Dalny**	**3.01**	**206**	*e*P	Pn	22 07 11.3	+0.9
DALK				*e*S	Sn	22 07 49.2	+1.3
KRMR	**Karymshinskiy**	**3.36**	**210**	*e*P	Pn	22 07 16.5	+1.8
KRMR				*e*S	Sn	22 07 57.4	+1.7
MTVR	**Mutnovka**	**3.66**	**207**	*e*S	Sn	22 08 03.2	+0.6

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*NIED **02** 22:19:00, 42°.00N×142°.60E, h59km, Mw4.1 Best double couple: M0 1.76000×10[15] NP1:φs207.00000°, δ26.00000°, λ90.00000°. NP2:φs26.00000°, δ64.00000°, λ90.00000°.*
*ISCJB **02** 22:19:09.5±0.3, 42°.00N±0°.03×142°.55E±0°.03, h68km±2km, mb3.8/25, Error ellipse: s-maj=6.0km s-min=3.5km az=153.1*
*JMA **02** 22:19:09.8±0.1, 42°.00N×142°.59E, h63km±2km, M3.8*
JMA Felt I J1.
*MOS **02** 22:19:09.7±0.9, 42°.02N×142°.62E, h77km, mb4.2/16, Error ellipse: s-maj=9.8km s-min=6.4km az=77.3*
*IDC **02** 22:19:12.5±1.6, 42°.05N×142°.49E, h77km±12km, mb3.6/20, mb1 3.8/24, mb1mx3.6/69, mbtmp3.9/24, MS2.8/8, Ms1 2.8/8, ms1mx2.7/62, Error ellipse: s-maj=16.0km s-min=10.9km az=118.0*
ISC 02 22:19:10.7±0.7**, 41°.99N**±0°.04×**142°.57E**±0°.03**, h61**km±6km**, n71,** σ**1s.13**/80**, mb4.0**/25**, 6C-9D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.32**	**26**	⇑P	**Pn**	**22 19 20.1**	**-1.0**
JNBK				*e*S	**Sn**	**22 19 28.2**	**-0.4**
ERM	**Erimo**	**0.44**	**87**	*d i*PN	**Pn**	**22 19 21.5**	**-0.6**
JEM	**Erimo**	**0.44**	**86**	P	**Pn**	**22 19 21.6**	**-0.5**
JEM				*e*S	**Sn**	**22 19 29.9**	**-0.5**
JBT2	**Biratori 2**	**0.80**	**349**	⇓P	**Pn**	**22 19 25.3**	**-0.9**
JBT2				*e*S	**Sn**	**22 19 37.2**	**-0.5**
JCH	**Churui**	**0.86**	**43**	⇑P	**Pn**	**22 19 26.1**	**-0.8**
JCH				*e*S	**Sn**	**22 19 38.3**	**-0.6**
JKB	**Kayabe**	**1.15**	**265**	⇓P	**Pn**	**22 19 30.1**	**-0.5**
JKB				*e*S	**Sn**	**22 19 45.0**	**-0.5**
JFR	**Furan**	**1.17**	**1**	P	**Pn**	**22 19 30.2**	**-0.8**
JEW	**Eniwo**	**1.19**	**316**	⇓P	**Pn**	**22 19 30.6**	**-0.6**
JEW				*e*S	**Sn**	**22 19 46.4**	**-0.1**
JNB	**Noboribetsu**	**1.23**	**293**	⇓P	**Pn**	**22 19 30.5**	**-1.3**
JNB				*e*S	**Sn**	**22 19 46.4**	**-1.1**
JOT	**Ohata**	**1.29**	**242**	⇓P	**Pn**	**22 19 32.1**	**-0.4**
JOT				*e*S	**Sn**	**22 19 48.7**	**-0.2**
JOB	**Onbets**	**1.31**	**45**	⇑P	**Pn**	**22 19 33.0**	**+0.2**
JOB				*e*S	**Sn**	**22 19 50.1**	**+0.7**
JAB	**Ashibetsu**	**1.54**	**351**	P	**Pn**	**22 19 35.7**	**-0.1**
JAB				*e*S	**Sn**	**22 19 56.1**	**+1.3**
JAR	**Ashorobuto**	**1.58**	**34**	⇑P	**Pn**	**22 19 35.8**	**-0.6**
JYM2	**Yakumo 2**	**1.64**	**275**	⇓P	**Pn**	**22 19 36.7**	**-0.5**
ASAJ	**Asahikawa**	**2.13**	**1**	P	**Pn**	**22 19 43.9**	**0.0**
	14nm,0.3s,baz=216,slow=9.5,SNR=75						
ASAJ				S	**Sn**	**22 20 11.2**	**+2.1**
	15nm,0.3s,baz=90,slow=20,SNR=10						
GLVR	**Golovnino**	**2.79**	**50**	*e*PN	**Pn**	**22 19 54.0**	**+1.2**
GLVR				*e*S	**Sn**	**22 20 26.8**	**+1.6**
GRPR	**Tuman**	**3.09**	**49**	*e*PN	**Pn**	**22 19 59.1**	**+2.2**
GRPR				*i* S	**Sn**	**22 20 34.3**	**+1.7**
LAGR	**Lagunnoye**	**3.14**	**48**	⇓*i*PN	**Pn**	**22 19 58.5**	**+0.9**
LAGR				*i* S	**Sn**	**22 20 34.3**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**3.17**	**49**	*c i*PN	**Pn**	**22 19 58.3**	**+0.3**
YUK				*i* S	**Sn**	**22 20 33.6**	**-0.9**
YUK				pmax	pmax		
	comp=E,33nm,0.2s						
YUK				pmax	pmax		
	comp=Z,200nm,0.2s						
YUK				smax	smax		
	comp=N,325nm,0.3s						
YUK				smax	smax		
	comp=E,218nm,0.2s						
SHO	**Shikotan**	**3.65**	**58**	*d i*PN	**Pn**	**22 20 03.3**	**-1.3**
SHO				*e*S	**Sn**	**22 20 42.4**	**-4.0**
SHO				pmax	pmax		
	comp=Z,92nm,0.6s						
SHO				pmax	pmax		
	comp=N,36nm,0.3s						
SHO				pmax	pmax		
	comp=E,50nm,0.3s						
SHO				smax	smax		
	comp=N,287nm,0.3s						
SHO				smax	smax		
	comp=E,217nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.96**	**1**	⇑*e*PN	**Pn**	**22 20 24.4**	**+1.8**
YSS				*e*S	**Sn**	**22 21 19.0**	**+0.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				smax	smax		
	comp=E,20nm,0.9s						
KUR	**Kuril'sk**	**5.03**	**48**	*e*PN	**Pn**	**22 20 23.8**	**+0.3**
KUR				*e*S	**Sn**	**22 21 20.8**	**+0.5**
KUR				pmax	pmax		
	comp=N,37nm,0.5s						
KUR				pmax	pmax		
	comp=E,34nm,0.5s						
KUR				pmax	pmax		
	comp=Z,65nm,0.5s						
KUR				smax	smax		
	comp=N,68nm,0.2s						
MAJO	**Matsushiro**	**6.40**	**213**	*e*PN	**Pn**	**22 20 44.7**	**+2.3**
MJAR	**Matsushiro Arr**	**6.40**	**213**	P	**Pn**	**22 20 43.5**	**+1.1**
	comp=N,0.9nm,0.3s,baz=29,slow=12,SNR=5.7						
MJAR				LR	LR	22 23 47.0	
	comp=N,34nm,20.8s,baz=325,slow=43						
USRK	**Ussuriysk Ar.**	**8.05**	**289**	P	**Pn**	**22 21 06.0**	**+1.1**
	comp=N,0.2nm,0.3s,baz=88,slow=13,SNR=7.1						
USRK				LR	LR	22 24 27.3	
	comp=N,58nm,21.8s,baz=100,slow=39						
KLR	**Kul'dur**	**10.47**	**317**	P	**Pn**	**22 21 39.1**	**+1.2**
	comp=N,0.0nm,0.3s,baz=125,slow=14,SNR=5.8						
KLR				LR	LR	22 25 55.3	
	comp=N,8.7nm,18.1s,baz=154,slow=39						
KLR	**Kul'dur**	**10.47**	**317**	*e*PN	**Pn**	**22 21 38.1**	**+0.2**
NKL	**Nikolayevsk**	**11.24**	**354**	*e*PN	**Pn**	**22 21 49.2**	**+0.9**
KSRS	**Korea Array**	**12.15**	**253**	P	**Pn**	**22 22 03.3**	**+2.5**
	comp=N,0.4nm,0.3s,baz=64,slow=14,SNR=9.2						
KSRS				LR	LR	22 26 14.3	
	comp=N,48nm,20.8s,baz=42,slow=35						
JNU	**Nakatsue**	**12.81**	**230**	LR	LR	22 26 41.4	
	comp=N,54nm,19.2s,baz=291,slow=35						
PETK	**Petropavlovsk-**	**15.07**	**37**	LR	LR	22 29 34.6	
	comp=N,32nm,19.5s,baz=233,slow=41						
HIA	**Hailar**	**17.50**	**302**	*i* P	**P**	**22 23 10.8**	**+0.1**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MA2	**Magadan**	**18.33**	**13**	*e*P	**P**	**22 23 17.3**	**-2.4**
SEY	**Seymchan**	**21.76**	**12**	P	**P**	**22 23 54.8**	**-2.1**
	comp=Z,1.6nm,0.6s,baz=187,slow=7.7,SNR=8.2						
ULN	**Ulaanbaatar**	**25.66**	**295**	*e*P	**P**	**22 24 34.1**	**-0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**26.11**	**295**	P	**P**	**22 24 38.2**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=77,slow=8.7,SNR=7.7						
SONM				LR	LR	22 35 43.3	
	comp=Z,56nm,19.9s,baz=128,slow=38						
SONM	**Songino Array**	**26.11**	**295**	P	**P**	**22 24 38.2**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,56nm,19.9s						
TLY	**Talaya**	**28.03**	**304**	*e*P	**P**	**22 24 55.4**	**-0.4**
TLY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**30.28**	**130**	T	T	22 56 51.5	
	baz=323,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**30.29**	**130**	T	T	22 56 45.2	
	baz=323,slow=75,SNR=73						
H11N3	**WAKE ISLAND Hy**	**30.30**	**130**	T	T	22 56 51.2	
	baz=323,slow=75,SNR=79						
H11S1	**WAKE ISLAND Hy**	**31.14**	**131**	T	T	22 57 45.6	
	baz=325,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**31.15**	**131**	T	T	22 58 01.1	
	baz=325,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**31.16**	**131**	T	T	22 57 57.5	
	baz=325,slow=76,SNR=40						
ZALV	**Zalesovo Beam**	**39.40**	**308**	P	**P**	**22 26 33.6**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=90,slow=7.4,SNR=21						
MKAR	**Makanchi Array**	**42.42**	**298**	P	**P**	**22 26 58.6**	**-0.5**
	comp=Z,3.1nm,0.9s,baz=81,slow=8.5,SNR=24						
MKAR				PcP	**PcP**	**22 28 51.2**	**0.0**
	comp=Z,0.4nm,0.8s,baz=76,slow=3.1,SNR=2.2						
KURK	**Kurchatov**	**43.73**	**304**	*e*P	**P**	**22 27 08.4**	**-1.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**43.78**	**251**	P	**P**	**22 27 11.5**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=47,slow=6.6,SNR=4.2						
ILAR	**Eielson Array**	**44.88**	**35**	P	**P**	**22 27 18.3**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=276,slow=7.0,SNR=7.6						
BVAR	**Borovoye Array**	**48.01**	**309**	P	**P**	**22 27 42.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=78,slow=11,SNR=6.6						
BRVK	**Borovoye**	**48.06**	**309**	*e*P	**P**	**22 27 42.6**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**49.06**	**295**	P	**P**	**22 27 51.3**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=140,slow=7.6,SNR=6.4						
YKA	**Yellowknife Ar**	**59.10**	**32**	P	**P**	**22 29 03.5**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=304,slow=6.1,SNR=4.2						
WRA	**Warramunga Arr**	**62.09**	**189**	P	**P**	**22 29 24.4**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=6.7,slow=6.9,SNR=12						
GEYT	**Alibeck**	**62.29**	**297**	P	**P**	**22 29 26.0**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=22,slow=1.6,SNR=4.3						
FINES	**FINESS Array B**	**64.86**	**332**	P	**P**	**22 29 41.6**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=49,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**65.81**	**189**	P	**P**	**22 29 49.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=218,slow=39,SNR=4.6						
AFI	**Afiamalu**	**69.71**	**132**	LR	LR	22 54 54.8	
	comp=Z,48nm,21.6s,baz=220,slow=31						
HFS	**Hagfors**	**69.95**	**335**	P	**P**	**22 30 13.9**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=38,slow=7.3,SNR=6.2						
NB2	**NORSAR Subarra**	**69.97**	**337**	P	**P**	**22 30 13.8**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**69.97**	**337**	P	**P**	**22 30 13.9**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=37,slow=6.1,SNR=6.6						
AKASG	**Malin Array Be**	**70.94**	**322**	P	**P**	**22 30 20.5**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=50,slow=5.8,SNR=6.0						
NVAR	**Mina Array Bea**	**71.36**	**55**	P	**P**	**22 30 25.6**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=306,slow=5.4,SNR=3.4						
PDAR	**Pinedale Array**	**73.60**	**47**	P	**P**	**22 30 37.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=250,slow=4.4,SNR=3.8						
CLL	**Collm**	**77.24**	**330**	*e*P	**P**	**22 30 57.0**	**-0.9**
CLL	**Collm**	**77.24**	**330**	*e*P	**P**	**22 30 57.0**	**-0.9**
GERES	**GERESS Array B**	**78.97**	**328**	P	**P**	**22 31 07.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=21,slow=6.3,SNR=4.0						
MMAI	**Mount Meron Ar**	**79.83**	**305**	P	**P**	**22 31 13.6**	**+0.9**
	comp=Z,4.2nm,1.0s,baz=52,slow=9.5,SNR=3.1						
URZ	**Urewera**	**85.85**	**153**	LR	LR	23 07 41.6	
	comp=Z,71nm,20.4s,baz=4.0,slow=34						
TXAR	**Lajitas Array**	**86.42**	**53**	P	**P**	**22 31 47.6**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=223,slow=3.1,SNR=4.0						
SNAA	**Sanae**	**145.73**	**199**	PKPbc	**PKPab**	**22 38 42.5**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=146,slow=7.3,SNR=4.4						

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*ISCJB **02** 22:21:16.3±0.6, 58°.70N±0°.04×154°.7W±0°.1, h139km±5km, mb3.4/2, Error ellipse: s-maj=10.8km s-min=6.3km az=16.3*
*IDC **02** 22:21:17.7±2.1, 58°.85N×154°.41W, h134km±49km, mb3.0/2, mb1 3.0/4, mb1mx2.7/74, mbtmp3.4/4, Error ellipse: s-maj=72.4km s-min=17.8km az=106.0*
*NEIC **02** 22:21:18.5±0.0, 58°.68N×154°.78W, h126km, ML2.8(AEIC), After AEIC.*
ISC 02 22:21:17.0±1.0**, 58°.73N**±0°.04×**154°.73W**±0°.07**, h133**km±7km**, n35,** σ**1s.16**/45**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARR	**Katmai Rainbow**	**0.23**	**176**	P	**Pn**	**22 21 35.1**	**-0.3**
KAPH	**Katmai Pasha**	**0.24**	**123**	P	**Pn**	**22 21 35.4**	**-0.1**
KAPH				S	**Sn**	**22 21 49.0**	**-0.4**
FONW	**Fourpeaked Sta**	**0.44**	**75**	P	**Pn**	**22 21 36.3**	**+0.1**
FOSS	**Fourpeaked Sta**	**0.54**	**82**	P	**Pn**	**22 21 36.8**	**+0.1**
CDD	**Cape Douglas**	**0.60**	**70**	P	**Pn**	**22 21 37.3**	**+0.2**
CAHL	**Cahill**	**0.74**	**204**	P	**Pn**	**22 21 37.8**	**-0.3**
KJL	**Kejulik**	**0.81**	**214**	P	**Pn**	**22 21 38.5**	**-0.2**
AUW	**Augustine West**	**0.92**	**45**	P	**Pn**	**22 21 40.3**	**+0.9**
AUNW	**Augustine NWes**	**0.92**	**44**	P	**Pn**	**22 21 40.3**	**+0.8**
KDAK	**Kodiak Island**	**1.48**	**129**	P	**Pn**	**22 21 45.3**	**+0.3**
	2.3nm,0.3s,baz=28,slow=1.6,SNR=2.1						
KDAK				S	**Sn**	**22 22 06.3**	**-0.1**
	36nm,0.3s,baz=24,slow=23,SNR=7.3						
KDAK	**Kodiak Island**	**1.48**	**129**	*e*Pn	**Pn**	**22 21 45.5**	**+0.4**
KDAK				*e*Sn	**Sn**	**22 22 07.5**	**+1.1**
ILW	**Iliamna West**	**1.57**	**31**	P	**Pn**	**22 21 46.8**	**+0.5**
OHAK	**Old Harbor**	**1.69**	**152**	*e*Pn	**Pn**	**22 21 47.3**	**-0.2**
OHAK				*e*Sn	**Sn**	**22 22 10.4**	**-0.3**
RED	**Redoubt Volcan**	**1.97**	**30**	P	**Pn**	**22 21 51.7**	**+0.9**
RED				S	**Sn**	**22 22 17.2**	**+0.5**
RDWB	**Redoubt West**	**2.01**	**28**	P	**Pn**	**22 21 52.1**	**+0.7**
RDWB				S	**Sn**	**22 22 17.6**	**-0.2**
DFR	**Drift River**	**2.14**	**28**	P	**Pn**	**22 21 53.8**	**+0.9**
DFR				S	**Sn**	**22 22 20.9**	**+0.4**
BRLK	**Bradley Lake**	**2.23**	**61**	P	**Pn**	**22 21 54.4**	**+0.4**
SVW2	**Sparrevohn**	**2.42**	**350**	P	**Pn**	**22 21 56.4**	**+0.1**
STLK	**Strandline Lak**	**3.14**	**26**	P	**Pn**	**22 22 07.3**	**+1.8**
FIB	**Fire Island**	**3.35**	**41**	P	**Pn**	**22 22 10.1**	**+1.9**
SUA	**Susitna One**	**3.39**	**34**	P	**Pn**	**22 22 10.1**	**+1.2**
GHO	**Glory Hole Cre**	**4.21**	**41**	P	**Pn**	**22 22 19.2**	**-0.3**
TT01	**Tatalina**	**4.24**	**352**	P	**Pn**	**22 22 20.6**	**+0.6**
SML	**Sawmill**	**4.44**	**43**	Pn	**Pn**	**22 22 22.6**	**0.0**
SCM	**Sheep Creek Mo**	**4.82**	**47**	P	**Pn**	**22 22 28.0**	**+0.3**
DIV	**Divide**	**5.11**	**58**	*e*Pn	**Pn**	**22 22 32.5**	**+0.9**
DIV				*e*Sn	**Sn**	**22 23 27.1**	**-2.5**
KLU	**Klutina**	**5.21**	**54**	P	**Pn**	**22 22 33.1**	**+0.2**
TRF	**Thorofare Moun**	**5.21**	**23**	P	**Pn**	**22 22 33.3**	**+0.4**
RND	**Reindeer**	**5.49**	**29**	P	**Pn**	**22 22 36.8**	**+0.2**
MCK	**McKinley**	**5.75**	**27**	*e*Pn	**Pn**	**22 22 41.1**	**+1.1**
PAX	**Paxson**	**6.21**	**43**	*e*Pn	**Pn**	**22 22 48.5**	**+2.2**
PAX				*e*Sn	**Sn**	**22 23 54.1**	**-1.9**
ILAR	**Eielson Array**	**7.11**	**28**	P	**Pn**	**22 22 57.8**	**-0.6**
	0.9nm,0.3s,baz=218,slow=13,SNR=34						
ILAR				S	**Sn**	**22 24 13.4**	**-4.2**
	0.4nm,0.3s,baz=211,slow=24,SNR=8.4						
INK	**Inuvik**	**13.39**	**36**	P	**Pn**	**22 24 19.8**	**-1.7**
	0.1nm,0.3s,baz=239,slow=12,SNR=2.9						
SONM	**Songino Array**	**54.81**	**305**	P	**P**	**22 30 34.2**	**+1.2**
	0.7nm,0.5s,baz=52,slow=5.8,SNR=9.0						
MKAR	**Makanchi Array**	**64.86**	**320**	P	**P**	**22 31 41.3**	**-0.2**
	0.1nm,0.4s,baz=38,slow=7.3,SNR=2.8						

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*IDC **02** 22:29:33.6±2.4, 37°.42N×70°.70E, h0km, mb3.6/1, mb1 3.5/7, mb1mx3.3/64, mbtmp3.5/7, ML3.0/6, Error ellipse: s-maj=44.5km s-min=18.2km az=142.0*
*NNC **02** 22:29:41.7±1.5, 38°.25N×69°.59E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=12.7km s-min=11.2km az=12.0*
ISC 02 22:29:39.7±1.7**, 38°.0N**±0°.1×**69°.53E**±0°.09**, h12**km**, n12,** σ**2s.20**/16**, 8C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.67**	**56**	⇑Pn	**Pn**	**22 30 37.9**	**+1.3**
	3.4nm,0.5s						
SFK				⇓Pg	**Pb**	**22 30 45.3**	**+0.6**
	11nm,0.9s						
SFK				⇓Lg	Lg	22 31 33.9	
	53nm,0.9s						
MNAS	**Manas**	**5.00**	**26**	⇓Pn	**Pn**	**22 30 56.7**	**+1.9**
	3.5nm,0.6s						
MNAS				⇑Pg	**Pb**	**22 31 09.5**	**+2.2**
	7.3nm,0.8s						
MNAS				⇑Lg	Lg	22 32 14.3	
	23nm,1.1s						
KK31	**Karatay Array**	**5.13**	**8**	Pn	**Pn**	**22 30 55.7**	**-0.7**
	0.4nm,0.4s,baz=203,slow=15,SNR=8.7						
KK31				Pg	**Pb**	**22 31 10.9**	**+1.5**
	5.1nm,0.8s,baz=191,slow=18,SNR=13						
KK31				⇓Lg	Lg	22 32 16.5	
	44nm,1.1s,baz=189,slow=30,SNR=9.6						
AAK	**Ala-Archa**	**5.97**	**38**	Pn	**Pn**	**22 31 05.8**	**-2.2**
	0.2nm,0.3s,baz=215,slow=17,SNR=6.4						
AAK				Lg	Lg	22 32 41.9	
	0.4nm,0.3s,baz=93,slow=22,SNR=5.1						
AAK	**Ala-Archa**	**5.97**	**38**	⇑Pn	**Pn**	**22 31 07.7**	**-0.3**
	2.0nm,0.6s						
AAK				⇑Pg	**Pb**	**22 31 26.1**	**+2.4**
	6.4nm,0.9s						
AAK				⇑Lg	Lg	22 32 44.0	
	19nm,1.4s						
TKM2	**Tokmak 2**	**6.73**	**41**	⇑Pn	**Pn**	**22 31 19.4**	**+0.9**
	2.0nm,0.7s						
TKM2				⇓Sn	**Sn**	**22 32 36.0**	**+0.8**
	4.3nm,0.8s						
TKM2				⇑Lg	Lg	22 33 09.0	
	6.7nm,0.9s						
GEYT	**Alibeck**	**9.02**	**273**	Pn	Pn	22 31 59.4	+10
	0.2nm,0.3s,baz=88,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**12.86**	**43**	Pn	**Pn**	**22 32 38.0**	**-4.2**
	0.1nm,0.3s,baz=227,slow=15,SNR=8.6						
AKTO	**Aktyubinsk**	**14.88**	**330**	Pn	**P**	**22 33 15.1**	**-0.4**
	0.1nm,0.3s,baz=144,slow=11,SNR=4.1						
BVAR	**Borovoye Array**	**15.02**	**2**	Pn	**Pn**	**22 33 11.1**	**-0.6**
	0.1nm,0.3s,baz=175,slow=8.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**19.08**	**28**	P	**P**	**22 33 57.7**	**-4.2**
	0.1nm,0.3s,baz=219,slow=11,SNR=5.5						
TORD	**Torodi Ar. Bea**	**64.61**	**267**	P	**P**	**22 40 18.7**	**+1.4**
	0.6nm,0.8s,baz=48,slow=5.3,SNR=5.0						

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*ISCJB **02** 22:30:53.9±0.7, 15°.4S±0°.2×174°.2W±0°.2, h10km, mb4.3/13, MS4.2/12, Error ellipse: s-maj=31.7km s-min=13.5km az=144.6*
*IDC **02** 22:30:53.6±0.8, 15°.43S×174°.14W, h0km, mb4.2/10, mb1 4.5/11, mb1mx4.2/44, mbtmp4.2/11, ML3.0/1, MS4.1/14, Ms1 4.1/14, ms1mx3.8/48, Error ellipse: s-maj=46.7km s-min=17.1km az=151.0*
*NEIC **02** 22:30:55.1±0.5, 15°.33S×174°.24W, h10km, mb4.5/2, Error ellipse: s-maj=25.1km s-min=11.9km az=144.0*
ISC 02 22:30:55.3±0.7**, 15°.4S**±0°.2×**174°.1W**±0°.1**, h10**km**, n49,** σ**1s.13**/22**, mb4.4**/13**, MS4.2**/12**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.71**	**57**	Pn	Pn	22 31 32.4	-6.7
	3.6nm,0.3s,baz=270,slow=17,SNR=7.5						
AFI				LR	LR	22 32 07.4	
	comp=Z,692nm,18.0s,baz=222,slow=27						
AFI				Sn	**Sg**	**22 32 23.0**	**+0.4**
	3.7nm,0.3s,baz=160,slow=18,SNR=2.1						
RAR	**Rarotonga**	**14.80**	**115**	LR	LR	22 38 47.6	
	comp=Z,484nm,20.4s,baz=297,slow=32						
DZM	**Mont Dzumac**	**19.55**	**247**	P	**P**	**22 35 21.0**	**-2.3**
	0.1nm,0.3s,baz=72,slow=6.0,SNR=2.0						
DZM	**Mont Dzumac**	**19.55**	**247**	*e*P	**Pn**	**22 35 27.0**	**+2.3**
	54nm,1.6s						
DZM				*e*LR	LR	22 40 17.3	
	533nm,24.2s						
PAE	**Paea**	**23.64**	**99**	*e*T	T	23 00 10.8	
	6.4nm,0.3s						
PPT	**Papeete**	**23.64**	**99**	LR	LR	22 43 59.7	
	comp=Z,240nm,18.3s,baz=261,slow=33						
PPT2	**Papeete2**	**23.64**	**99**	*e*LR	LR	22 41 49.0	
	433nm,23.2s						
PPT2	**Papeete2**	**23.64**	**99**	*e*T	T	23 00 16.0	
	12nm,0.3s						
TVO	**Taravao**	**23.95**	**99**	*e*T	T	23 00 38.7	
	5.5nm,0.4s						
TBI	**Tubuai**	**24.55**	**113**	*e*LR	LR	22 42 19.2	
	575nm,24.5s						
TBI	**Tubuai**	**24.55**	**113**	*e*T	T	23 01 31.8	
	64nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VAH	Vaihoa	25.55	93	eT	T	23 02 37.2	
	20nm,0.3s						
TAOE	Nuku Hiva Isla	33.82	83	eLR	LR	22 46 29.8	
	269nm,20.6s						
RKT	Rikitea	37.66	108	eLR	LR	22 48 23.9	
	364nm,23.0s						
RKT	Rikitea	37.66	108	eT	T	23 17 54.3	
	17nm,0.3s						
PMG	Port Moresby	38.24	274	LR	LR	22 51 31.2	
	comp=Z,356nm,19.6s,baz=14,slow=32						
H11S2	WAKE ISLAND Hy	38.61	330	T	T	23 19 12.9	
	baz=149,slow=76,SNR=225						
H11S3	WAKE ISLAND Hy	38.62	330	T	T	23 19 13.7	
	baz=149,slow=76,SNR=159						
H11S1	WAKE ISLAND Hy	38.63	330	T	T	23 19 14.2	
	baz=149,slow=76,SNR=97						
H11N3	WAKE ISLAND Hy	39.57	331	T	T	23 20 33.5	
	baz=151,slow=76,SNR=121						
H11N1	WAKE ISLAND Hy	39.58	331	T	T	23 20 33.7	
	baz=151,slow=76,SNR=159						
H11N2	WAKE ISLAND Hy	39.59	331	T	T	23 20 36.1	
	baz=151,slow=76,SNR=116						
STKA	Stephens Creek	43.43	240	P	P	22 38 58.5	-0.1
	5.4nm,0.9s,baz=87,slow=10,SNR=6.4						
WRA	Warramunga Arr	49.16	257	P	P	22 39 43.3	-0.6
	2.8nm,1.0s,baz=93,slow=8.3,SNR=14						
ASAR	Alice Springs	49.44	252	P	P	22 39 45.2	-0.8
	11nm,0.9s,baz=86,slow=8.3,SNR=64						
GUMO	Guam	49.75	303	LR	LR	22 59 18.8	
	comp=Z,191nm,19.0s,baz=98,slow=34						
SIJI	Sorong	55.77	280	P	P	22 40 34.1	+1.2
	3.2nm,0.3s,baz=155,slow=8.1,SNR=4.1						
RPN	Rapa Nui	60.93	113	LR	LR	23 00 38.7	
	comp=Z,74nm,21.8s,baz=302,slow=29						
VNDA	Vanda	63.30	186	LR	LR	23 04 42.3	
	comp=Z,106nm,20.3s,baz=10.0,slow=32						
LPIG	La Paz	73.64	59	LR	LR	23 07 15.0	
	comp=Z,145nm,19.8s,baz=263,slow=30						
YBH	Yreka Blue Hor	74.03	37	LR	LR	23 08 20.8	
	comp=Z,150nm,20.6s,baz=230,slow=30						
QSPA	South Pole Qui	74.64	180	eP	P	22 42 35.2	+0.4
	5.6nm,0.8s						
QSPA				e		22 42 41.5	
NVAR	Mina Array Bea	74.80	42	P	P	22 42 36.6	+0.4
	0.9nm,0.8s,baz=232,slow=7.9,SNR=5.2						
NVAR				LR	LR	23 08 58.3	
	comp=Z,142nm,21.1s,baz=89,slow=30						
KTH	Kantishna Hill	80.74	10	eP	P	22 43 06.6	-1.9
	4.7nm,1.1s						
TXAR	Lajitas Array	81.20	56	P	P	22 43 11.6	-0.2
	0.6nm,0.9s,baz=238,slow=5.2,SNR=4.5						
TXAR				LR	LR	23 14 20.5	
	comp=Z,121nm,18.7s,baz=0.0,slow=32						
ILAR	Eielson Array	82.58	11	P	P	22 43 18.0	-0.2
	4.5nm,1.2s,baz=221,slow=5.4,SNR=10						
PDAR	Pinedale Array	82.74	42	P	P	22 43 19.9	+0.1
	0.8nm,0.8s,baz=199,slow=3.1,SNR=6.6						
COLD	Coldfoot	84.25	9	eP	P	22 43 26.7	0.0
	4.8nm,1.1s						
MAW	Mawson	87.57	199	LR	LR	23 21 15.2	
	comp=Z,197nm,20.0s,baz=70,slow=34						
PLCA	Paso Flores	90.03	132	LR	LR	23 17 41.1	
	comp=Z,182nm,18.8s,baz=273,slow=31						
YKA	Yellowknife Ar	90.38	24	P	P	22 43 56.6	+0.2
	0.6nm,0.9s,baz=237,slow=4.1,SNR=11						
JTS	JuntasAbangare	91.90	80	LR	LR	23 17 48.4	
	comp=Z,151nm,19.5s,baz=160,slow=31						
CMAR	Chiang Mai Arr	91.95	288	P	P	22 44 05.5	+0.7
	0.7nm,0.3s,baz=108,slow=0.9,SNR=4.4						
MKAR	Makanchi Array	110.33	315	PKiKP	PKiKP	22 49 29.5	+1.7
	0.2nm,0.8s,baz=96,slow=2.9,SNR=2.5						
KMBO	Kilima Mbogo	144.90	245	PKP	PKPdf	22 50 33.9	-0.2
	0.8nm,0.7s,baz=224,slow=3.1,SNR=4.3						
BRTR	Keskin Array B	145.71	320	PKPbc	PKPdf	22 50 33.2	-1.4
	1.4nm,1.0s,baz=64,slow=2.9,SNR=3.9						
KHC	Kasperske Hory	145.78	351	ePKP	PKPab	22 50 34.5	-0.5
GERES	GERESS Array B	146.03	351	PKPbc	PKPdf	22 50 33.9	-0.9
	0.8nm,0.8s,baz=46,slow=3.9,SNR=9.6						
TORD	Torodi Ar. Bea	175.37	118	PKPab	PKPab	22 52 43.1	-0.1
	0.5nm,1.0s,baz=215,slow=1.8,SNR=2.8						

*MOS **02** 22:56:03.5±2.0, 48°.48N×156°.61E, h50km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=8.5km az=81.6*

KRSC 02 22:56:03.5±1.0, 48°.48N×156°.61E, h50km±23km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.22	352	eS	Sn	22 57 06.2	+2.1
PAU	Pauzhetka	2.99	2	PN	Pn	22 56 52.4	+4.1
PAU				S	Sn	22 57 27.5	+4.6
PAU	Pauzhetka	2.99	2	eP	Pn	22 56 52.4	+4.1
PAU				eS	Sn	22 57 27.5	+4.6
KDTR	Khodutka, Kamc	3.46	15	eS	Sn	22 57 39.1	+4.6
ASAK	Asacha	3.99	11	PN	Pn	22 57 06.0	+3.9
ASAK	Asacha	3.99	11	eP	Pn	22 57 06.0	+3.9
MTVR	Mutnovka	4.13	13	PN	Pn	22 57 07.6	+3.5
MTVR				S	Sn	22 57 55.1	+4.0
MTVR	Mutnovka	4.13	13	eP	Pn	22 57 07.6	+3.5
MTVR				eS	Sn	22 57 55.1	+4.0
RUS	Russkaya	4.14	16	PN	Pn	22 57 08.7	+4.6
RUS				S	Sn	22 57 55.8	+4.7
RUS	Russkaya	4.14	16	eP	Pn	22 57 08.7	+4.6
RUS				eS	Sn	22 57 55.8	+4.7
KRMR	Karymshinskiy	4.46	12	PN	Pn	22 57 12.8	+4.3
KRMR				S	Sn	22 58 03.1	+4.1
KRMR	Karymshinskiy	4.46	12	eP	Pn	22 57 12.8	+4.3
KRMR				eS	Sn	22 58 03.1	+4.1
UGLR	Uglovaya	4.93	16	PN	Pn	22 57 18.9	+3.8
UGLR	Uglovaya	4.93	16	eP	Pn	22 57 18.9	+3.8
AVH	Avacha	4.97	15	PN	Pn	22 57 18.8	+3.2
AVH	Avacha	4.97	15	eP	Pn	22 57 18.8	+3.2
SMAR	Somma	4.98	15	PN	Pn	22 57 19.3	+3.4
SMAR	Somma	4.98	15	eP	Pn	22 57 19.3	+3.4
SDLR	Sedlovina	5.01	16	PN	Pn	22 57 19.6	+3.4
SDLR	Sedlovina	5.01	16	eP	Pn	22 57 19.6	+3.4
SPN	Mys Shipunski	5.10	24	eS	Sn	22 58 19.2	+4.4
GNL	Ganaly	5.29	9	PN	Pn	22 57 24.2	+4.3
GNL	Ganaly	5.29	9	eP	Pn	22 57 24.2	+4.3

GUC 02 23:11:19.3±0.4, 37°.75S×74°.75W, h20km, ML3.9, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	Temuco	1.96	121	eP	Pn	23 11 52.3	+1.0
TMU				IAML		23 12 18.1	
	comp=N,1μm,0.4s						
COCH	Cobquecura	2.25	45	⇑iP	Pn	23 11 55.6	+0.2
COCH				iS	Sn	23 12 23.7	+1.2
COCH				IAML		23 12 25.7	
	comp=E,459nm,0.5s						
CCHI	Chillan	2.42	63	eP	Pn	23 11 58.3	+0.7
CCHI				eS	Sn	23 12 21.2	-5.5
CCHI				IAML		23 12 30.6	
	comp=N,2μm,0.6s						
GO06	Curarrehue	3.15	127	eP	Pn	23 12 09.6	+1.7
GO06				iS	Sn	23 12 47.2	+2.2
GO06				IAML		23 12 52.1	
	comp=N,167nm,0.7s						
GO05	HualaæØ	3.55	41	eP	Pn	23 12 14.0	+0.6
GO05				iS	Sb	23 13 00.2	-3.9
GO05				IAML		23 13 09.4	
	comp=N,289nm,1.1s						
LMEL	Las Melosas	5.36	45	eP	Pn	23 12 39.3	+0.9

MAN 02 23:13:38, 9°.84N×123°.00E, h9km, mb4.0, ML2.8, MS2.4, 2C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.55	155	⇓iP	Pb	23 13 50.0	+0.2
SNPH				iS	Sb	23 13 59.0	+1.2
TBP	Tagbilaran	0.86	100	eP	Pb	23 13 55.3	+0.1
TBP				eS	Sn	23 14 08.2	-0.9
GUIM	Jordan	0.88	333	eP	Pg	23 13 54.5	-0.4
GUIM				eS	Sb	23 14 07.0	-0.3
LLP	Lapu-Lapu	1.06	64	⇑eP	Pg	23 13 56.7	-1.8
LLP				eS	Sg	23 14 10.6	-1.6
DCPH	Dipolog City	1.30	164	⇓eP	Pn	23 14 02.1	-0.2
DCPH				eS	Sg	23 14 20.3	+0.5
JAP	San Jose, Anti	1.37	311	⇓eP	Pg	23 14 05.9	+1.5
RCP	Roxas	1.73	352	⇑eP	Pn	23 14 08.5	+0.2
RCP				eS	Sb	23 14 31.9	+0.2
MSLP	Maasin	1.85	81	eP	Pn	23 14 10.2	+0.3
MSLP				eS	Sb	23 14 35.0	-0.4

*NIED **02** 23:22:00, 36°.50N×142°.60E, h8km, Mw4.6 Best double couple: $M_0$8.02000×10^{15} NP1:ϕ_s207.00000°, δ39.00000°, λ96.00000°. NP2:ϕ_s19.00000°, δ52.00000°, λ85.00000°.*

*ISCJB **02** 23:22:01.5±0.4, 36°.50N±0°.03×142°.59E±0°.04, h15km, mb4.6/75, MS4.2/24, Error ellipse: s-maj=5.9km s-min=3.6km az=135.7*

*IDC **02** 23:22:01.1±0.6, 36°.41N×142°.56E, h0km, mb4.2/27, mb1 4.3/34, mb1mx4.2/82, mbtmp4.2/34, ML4.1/5, MS3.8/13, Ms1 3.9/13, ms1mx3.5/62, Error ellipse: s-maj=14.9km s-min=13.1km az=121.0*

*JMA **02** 23:22:03.1±0.2, 36°.47N×142°.59E, h44km, M4.4*

*MOS **02** 23:22:07.2±0.9, 36°.93N×142°.32E, h36km, mb4.8/34, MS4.0/9, Error ellipse: s-maj=9.4km s-min=5.5km az=115.0*

*BJI **02** 23:22:15.5, 36°.93N×141°.21E, h54km, mb4.6/55, mB5.0/39, Ms4.5/55, Ms7 4.4/51*

*NEIC **02** 23:22:17.6±0.7, 37°.33N×141°.34E, h58km±6km, mb4.9/18, Error ellipse: s-maj=10.8km s-min=7.7km az=140.0*

ISC 02 23:22:03.1±0.5, 36°.51N±0°.04×142°.43E±0°.05, h15km, n183, σ2s.72/180, mb4.6/75, MS4.2/23, 9C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.43	295	P	Pn	23 22 29.3	+0.7
JHO	Hitachi	1.50	274	P	Pn	23 22 30.0	+0.5
JHO				S	Sb	23 22 50.0	+0.5
CHOJ	Chosi	1.51	238	P	Pn	23 22 29.6	0.0
CHOJ				eS	Sn	23 22 49.1	+0.2
JFK	Kawauchi	1.51	305	P	Pn	23 22 30.1	+0.5
JMM	Marumori	1.88	316	P	Pn	23 22 35.6	+0.9
JFT	Otama	1.95	302	P	Pb	23 22 37.5	-0.9
JIO	Ouri	2.12	336	P	Pn	23 22 38.2	+0.2
BSO1	Boso 1	2.20	213	P	Pn	23 22 38.3	-0.3
JAG	Ashikaga	2.40	269	P	Pn	23 22 42.7	+0.8
JMK	Ichinoseki	2.62	339	P	Pn	23 22 45.5	+0.7
JNS	Sasagawa	2.81	299	P	Pn	23 22 49.8	+2.4
JRY	Ryogami san	2.89	261	P	Pn	23 22 49.3	+0.6
JYK	Kaneyama	2.91	326	P	Pn	23 22 49.9	+1.1
JOD2	Odawara 2	2.98	246	P	Pn	23 22 50.8	+0.9
JOD2				eS	Sn	23 23 25.5	0.0
JOM	Ohasama	3.09	343	P	Pn	23 22 52.0	+0.7
JOM				eS	Sn	23 23 28.8	+0.8
JYN	Shimob	3.31	253	P	Pn	23 22 55.9	+1.5
MJAR	Matsushiro Arr	3.40	272	Pn	Pn	23 22 57.8	+2.1
	9.0nm,0.3s,baz=85,slow=15,SNR=84						
MJAR				Sn	Sn	23 23 40.5	+4.9
	6.6nm,0.3s,baz=62,slow=35,SNR=5.5						
MJAR				LR	LR	23 24 38.0	
	comp=Z,1μm,19.5s,baz=110,slow=45						
MAJO	Matsushiro	3.40	272	ePn	Pn	23 22 58.0	+2.4
MAJO	Matsushiro	3.40	272	eP	Pn	23 22 58.0	+2.4
MAT	Matsushiro	3.40	272	P	Pn	23 22 57.8	+2.2
MAT				iS	Sn	23 23 39.2	+3.5
MAT	Matsushiro	3.40	272	P	Pn	23 22 57.9	+2.3
MJB9	Matsu-Tunnel	3.40	272	ePn	Pn	23 22 58.1	+2.5
JHJ2	Mitsune	4.02	213	ePn	Pg	23 23 20.8	+0.8
JHJ	Hachijo jima 2	4.02	213	Pn	Pn	23 23 04.9	+0.7
	33nm,0.3s,baz=104,slow=23,SNR=4.5						
JHJ				Sn	Sn	23 23 45.2	-5.8
	38nm,0.3s,baz=90,slow=22,SNR=6.0						
INU	Inuyama	4.54	257	ePn	Pn	23 23 15.7	+4.4
ERM	Erimo	5.52	6	eP	Pn	23 23 22.7	-2.1
ASAJ	Asahikawa	7.60	1	Pn	Pn	23 23 53.2	0.0
	7.7nm,0.3s,baz=178,slow=6.5,SNR=24						
ASAJ				Sn	Sn	23 25 18.4	-0.6
	1.5nm,0.3s,baz=112,slow=32,SNR=3.6						
ASAJ	Asahikawa	7.60	1	ePn	Pn	23 23 53.8	+0.5
ASAJ				Sn	Sn	23 25 18.4	-0.6
YUK	Yuzh-Kuril'sk	7.96	18	eP	Pn	23 23 54.5	-3.7
YUK				eS	Sn	23 25 19.3	-8.6
YUK				pmax	pmax		
	comp=N,204nm,0.2s						
YUK				pmax	pmax		
	comp=Z,106nm,0.2s						
YUK				pmax	pmax		
	comp=E,51nm,0.1s						
YUK				MLR	MLR		
	comp=N,881nm,12.0s						
YUK				MLR	MLR		
	comp=E,924nm,12.0s						
YUK				MLR	MLR		
	comp=Z,1μm,12.0s						
SHO	Shikotan	8.08	23	eP	Pn	23 23 56.2	-3.7
SHO				iS	Sn	23 25 20.4	-11
SHO				pmax	pmax		
	comp=Z,11nm,0.4s						
SHO				pmax	pmax		
	comp=E,47nm,0.8s						
CBIJ	Chichi jima	9.39	181	ePn	Pn	23 24 42.4	+24
JCJ	Chichijima	9.39	181	Pn	Pn	23 24 14.9	-3.0
	comp=E,4.7nm,0.3s,baz=330,slow=20,SNR=6.0						
JCJ				Sn	Sn	23 25 51.8	-11
TEY	Ternei	9.59	334	eP	Pn	23 24 27.0	+6.5
TEY				MLR	MLR		
	comp=E,1μm,15.0s						
TEY				MLR	MLR		
	comp=Z,1μm,14.0s						
KUR	Kuril'sk	9.63	24	P	Pn	23 24 19.4	-1.7
KUR				iS	Sn	23 26 00.6	-8.4
KUR				pmax	pmax		
	comp=Z,14nm,0.4s						
JNU	Nakatsue	10.08	254	Pn	Pn	23 24 26.2	-1.2
	baz=71,slow=18,SNR=1.8						
JNU				LR	LR	23 28 27.6	
	comp=Z,484nm,19.8s,baz=100,slow=38						
YSS	Yuzh-Sakhalins	10.44	1	ePn	Pn	23 24 33.1	+1.0
YSS	Yuzh-Sakhalins	10.44	1	⇑eP	Pn	23 24 32.0	-0.1
YSS				e		23 26 28.3	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS				MLR	MLR		
	comp=N,800nm,16.0s						
YSS				MLR	MLR		
	comp=E,600nm,15.0s						
USRK	Ussuriysk Ar.	11.05	317	Pn	Pn	23 24 42.3	+1.6
	comp=E,0.3nm,0.3s,baz=134,slow=18,SNR=2.9						
KSRS	Korea Array	11.64	279	Pn	Pn	23 24 51.9	+3.2
	comp=E,0.2nm,0.3s,baz=89,slow=13,SNR=9.8						
KSRS				LR	LR	23 29 28.8	
	comp=E,223nm,18.8s,baz=96,slow=38						
KS01	Wonju Array Si	11.66	279	ePn	Pn	23 24 48.8	-0.2
KSAR	Wonju Array Be	11.67	279	Pn	Pn	23 24 51.9	+2.8
KSAR	Wonju Array Be	11.67	279	P	Pn	23 24 51.9	+2.8
TYV	Tymovskoe	14.35	1	eP	Pn	23 25 24.5	-1.1
TYV				pmax	pmax		
	comp=Z,10.0nm,2.1s						
TYV				MLR	MLR		
	comp=Z,800nm,16.0s						
CN2	Changchun	14.87	305	eP	Pn	23 25 30.6	-2.1
CN2				esP	P	23 25 49.4	+11
CN2				eS	Sn	23 28 00.7	-16
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
GRNR	Gornyy	14.89	345	eP	P	23 25 40.0	+1.3
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
KLR	Kul'dur	14.91	332	Pn	Pn	23 25 33.7	+0.5
	comp=Z,0.0nm,0.3s,baz=144,slow=11,SNR=3.9						
KLR	Kul'dur	14.91	332	eP	Pn	23 25 31.4	-1.8
DL2	Dalian	16.63	285	P	P	23 26 06.2	+8.2
DL2				eS	S	23 29 10.4	-0.9
NKL	Nikolayevsk	16.68	356	eP	Pn	23 25 54.0	-2.1
NJ2	Nanjing	19.97	264	eP	Pn	23 26 36.7	+0.2
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,850nm,12.5s						
NJ2				LR	LR		
	comp=Z,1μm,14.4s						
NJ2				LR	LR		
	comp=Z,1μm,15.2s						
ZEA	Zeya	20.21	333	eP	Pn	23 26 38.4	-0.8
ZEA				pmax	pmax		
	comp=N,43nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,80nm,1.8s						
ZEA				MLR	MLR		
	comp=E,600nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,14.0s						
ZEA				MLR	MLR		
	comp=N,800nm,15.0s						
TIA	Tai'an	20.37	277	P	Pn	23 26 40.5	-0.7
TIA				pmax	pmax		
	comp=N,9.0nm,1.6s						
MA2	Magadan	23.70	11	P	P	23 27 15.4	+1.3
	comp=N,4.0nm,0.3s,baz=206,slow=8.0,SNR=5.7						
MA2				LR	LR	23 37 33.4	
	comp=N,297nm,18.4s,baz=178,slow=39						
MA2	Magadan	23.70	11	ceP	P	23 27 12.5	-1.6
WHN	Wuhan	24.10	264	P	P	23 27 12.3	-5.9
WHN				S	S	23 31 37.7	+2.4
HHC	Hu-ho-hao-te	24.41	290	eP	P	23 27 20.4	-0.7
HHC				sP	sP	23 27 33.9	+6.4
HHC				S	S	23 31 20.5	-20
HHC				sS	sS	23 31 51.9	+4.1
HHC				pmax	pmax		
	comp=N,11nm,0.9s						
HHC				pmax	pmax		
	comp=N,180nm,4.5s						
HHC				LR	LR		
	comp=N,380nm,10.6s						
HHC				LR	LR		
	comp=N,410nm,11.9s						
HHC				LR	LR		
	comp=N,340nm,13.7s						
CIT	Chita	25.62	316	eP	P	23 27 34.0	+2.2
CIT				e		23 28 08.8	
CIT				pmax	pmax		
	comp=Z,195nm,1.8s						
YAK	Yakutsk	26.76	347	P	P	23 27 43.5	+1.6
	comp=Z,10nm,0.4s,baz=354,slow=2.2,SNR=4.4						
YAK				LR	LR	23 38 36.3	
	comp=Z,347nm,19.5s,baz=110,slow=37						
YAK	Yakutsk	26.76	347	eP	P	23 27 43.4	+1.4
	comp=Z,27nm,0.8s						
YAK	Yakutsk	26.76	347	eP	P	23 27 41.4	-0.5
YAK				e*PP	sP	23 27 49.9	+1.5
YAK				ePPP	PPP	23 28 27.8	
YAK				e		23 31 09.5	
YAK				eS	S	23 32 08.7	-8.3
YAK				eSSS	SSS	23 33 26.4	
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				smax	smax		
	comp=N,14nm,2.0s						
YAK				smax	smax		
	comp=E,26nm,2.7s						
YAK				MLR	MLR		
	comp=Z,933nm,17.0s						
YAK				MLR	MLR		
	comp=N,1μm,17.0s						
YAK				MLR	MLR		
	comp=E,344nm,17.0s						
SEY	Seymchan	27.15	10	P	P	23 27 47.5	+2.0
	comp=E,2.0nm,0.8s,baz=202,slow=9.7,SNR=5.8						
H11N2	WAKE ISLAND Hy	27.18	121	T	T	23 56 00.1	
	baz=313,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy	27.19	121	T	T	23 55 59.2	
	baz=313,slow=75,SNR=9.9						
H11N3	WAKE ISLAND Hy	27.20	121	T	T	23 56 02.1	
	baz=313,slow=75,SNR=12						
XAN	Xi'an	27.39	275	⇑P	P	23 27 48.4	+0.4
XAN				S	S	23 32 14.8	-13
XAN				sS	sS	23 32 34.6	-0.6
XAN				SS	SnSn	23 33 26.1	-11
XAN				PcS	PcS	23 34 55.0	+6.4
XAN				pmax	pmax		
	comp=E,13nm,1.2s						
XAN				pmax	pmax		
	comp=E,190nm,5.9s						
XAN				LR	LR		
	comp=E,350nm,14.1s						
XAN				LR	LR		
	comp=E,400nm,13.5s						
XAN				LR	LR		
	comp=E,490nm,13.2s						
H11S1	WAKE ISLAND Hy	27.89	124	T	T	23 56 58.9	
	baz=315,slow=75,SNR=11						
H11S3	WAKE ISLAND Hy	27.89	124	T	T	23 57 01.7	
	baz=315,slow=75,SNR=7.6						
H11S2	WAKE ISLAND Hy	27.91	124	T	T	23 56 58.8	
	baz=315,slow=75,SNR=8.9						
ENH	Enshi	28.11	267	eP	P	23 27 55.1	+0.7
	comp=E,127nm,1.5s						
ULN	Ulaanbaatar	28.32	305	eP	P	23 27 57.2	+0.9
	comp=E,30nm,1.4s						
ULN	Ulaanbaatar	28.32	305	ceP	P	23 27 55.0	-1.3
ULN				pmax	pmax		
	comp=Z,30nm,2.5s						
BOD	Bodaibo	28.40	328	eP	P	23 27 57.4	+0.7
BOD				pmax	pmax		
	comp=Z,49nm,1.7s						
SONA1	Songino Array	28.75	305	eP	P	23 28 00.8	+0.7
SONM	Songino Array	28.75	305	P	P	23 28 02.4	+2.3
	comp=Z,5.5nm,0.8s,baz=112,slow=8.5,SNR=29						
LZH	Lanzhou	30.96	281	eP	P	23 28 21.0	+1.1
LZH				pP	sP	23 28 32.1	+5.8
LZH				eS	S	23 33 13.2	-11
LZH				sS	sS	23 33 33.6	+2.1
LZH				SS	ScP	23 34 55.0	-3.2
LZH				pmax	pmax		
	comp=Z,32nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,5.3s						
LZH				LR	LR		
	comp=Z,610nm,12.4s						
LZH				LR	LR		
	comp=Z,730nm,13.7s						
LZH				LR	LR		
	comp=Z,930nm,14.0s						
ZAK	Zakamensk	31.23	309	eP	P	23 28 23.1	+1.1
ZAK				pmax	pmax		
	comp=Z,13nm,1.6s						
TLY	Talaya	31.29	311	eP	P	23 28 28.6	+6.2
TLY				eS	S	23 33 30.8	+2.3
TLY				pmax	pmax		
	comp=Z,19nm,1.6s						
TLY				MLR	MLR		
	comp=Z,331nm,17.0s						
GYA	Guiyang	31.95	262	⇑iP	P	23 28 28.8	+0.3
GYA				PP	PP	23 29 38.0	-2.7
GYA				PcP	PcP	23 31 27.4	+8.7
GYA				S	S	23 33 32.9	-6.5
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,100nm,4.9s						
GYA				LR	LR		
	comp=Z,540nm,17.1s						
GYA				LR	LR		
	comp=Z,490nm,18.0s						
GYA				LR	LR		
	comp=Z,510nm,17.6s						
CD2	Chengdu	32.49	272	P	P	23 28 34.5	+1.2
CD2				pP	sP	23 28 48.2	+8.5
CD2				sP	pP	23 28 54.9	+17
CD2				S	S	23 33 39.8	-8.0
CD2				sS	sS	23 34 03.7	+8.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,250nm,6.0s						
CD2				LR	LR		
	comp=Z,760nm,13.2s						
CD2				LR	LR		
	comp=Z,630nm,16.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CD2				LR	LR		
	comp=Z,570nm,12.7s						
QIZ	Qiongzhong	33.47	247	P	P	23 28 43.4	+1.6
QIZ				S	S	23 34 02.7	-0.3
QIZ				pmax	pmax		
	comp=Z,12nm,1.4s						
QIZ				LR	LR		
	comp=Z,200nm,16.7s						
QIZ				LR	LR		
	comp=Z,370nm,12.7s						
QIZ				LR	LR		
	comp=Z,290nm,12.4s						
GTA	Gaotai	33.50	288	eP	P	23 28 43.9	+1.9
GTA				pP	sP	23 28 54.5	+6.0
GTA				S	S	23 33 52.8	-11
GTA				sS	sS	23 34 19.7	+8.7
GTA				SS	SnSn	23 35 52.3	-13
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,240nm,6.7s						
GTA				LR	LR		
	comp=Z,290nm,15.2s						
GTA				LR	LR		
	comp=Z,330nm,14.7s						
GTA				LR	LR		
	comp=Z,310nm,13.8s						
BILL	Bilibino	34.30	16⇓	iP	P	23 28 47.6	-0.9
BILL				e		23 29 55.8	
BILL				eSS	SS	23 36 46.4	+3.1
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BILL				MLR	MLR		
	comp=Z,436nm,16.0s						
KMI	Kunming	35.70	263	P	P	23 29 02.3	+1.0
KMI				S	S	23 34 34.7	-3.0
KMI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KMI				pmax	pmax		
	comp=Z,89nm,3.4s						
KMI				LR	LR		
	comp=Z,250nm,15.5s						
KMI				LR	LR		
	comp=Z,470nm,12.8s						
KMI				LR	LR		
	comp=Z,470nm,14.2s						
TIXI	Tiksi	35.91	353	P	P	23 29 05.0	+2.8
	comp=Z,0.7nm,0.5s,baz=136,slow=4.1,SNR=4.7						
TIXI	Tiksi	35.91	353	eP	P	23 29 00.9	-1.3
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WMQ	Urumqi	41.80	298	P	P	23 29 55.0	+2.9
WMQ				pP	sP	23 30 07.5	+8.8
WMQ				pmax	pmax		
	comp=Z,23nm,1.9s						
WMQ				pmax	pmax		
	comp=Z,300nm,4.5s						
WMQ				LR	LR		
	comp=Z,380nm,17.9s						
WMQ				LR	LR		
	comp=Z,210nm,19.3s						
WMQ				LR	LR		
	comp=Z,190nm,22.3s						
CMAR	Chiang Mai Arr	42.16	257	P	P	23 29 57.1	+1.8
	comp=Z,0.8nm,0.3s,baz=46,slow=5.7,SNR=4.2						
CMAR				LR	LR	23 47 48.6	
	comp=Z,111nm,19.7s,baz=52,slow=37						
ZAA0	Zalesovo Array	42.87	313	eP	P	23 30 01.9	+1.4
	comp=Z,25nm,1.6s						
ZALV	Zalesovo Beam	42.87	313	P	P	23 30 01.9	+1.3
	comp=Z,2.6nm,0.6s,baz=97,slow=6.3,SNR=15						
ZALV				LR	LR	23 47 54.9	
	comp=Z,88nm,19.6s,baz=71,slow=36						
ZALV	Zalesovo Beam	42.87	313	eP	P	23 30 00.8	+0.2
ZALV	Zalesovo Beam	42.87	313	eP	P	23 30 00.8	+0.2
NVS	Novosibirsk	43.79	314	eP	P	23 30 08.1	+0.1
NVS				pmax	pmax		
	comp=N,9.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,13nm,1.7s						
NVS				pmax	pmax		
	comp=Z,19nm,1.7s						
MK01	Makanchi Array	45.08	303	eP	P	23 30 19.2	+0.8
MK31	Makanchi Array	45.08	303	eP	P	23 30 19.8	+1.2
MK31	Makanchi Array	45.08	303	iP	P	23 30 19.3	+0.8
MK31				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MKAR	Makanchi Array	45.08	303	P	P	23 30 19.8	+1.3
	comp=Z,3.9nm,0.8s,baz=89,slow=9.2,SNR=18						
MKAR				LR	LR	23 48 15.5	
	comp=Z,107nm,21.9s,baz=88,slow=35						
MKAR	Makanchi Array	45.08	303	eP	P	23 30 19.8	+1.3
	comp=Z,48nm,0.8s						
MAKZ	Makanchi	45.29	303	eP	P	23 30 21.6	+1.4
	comp=Z,34nm,1.5s						
MAKZ	Makanchi	45.29	303	eP	P	23 30 21.6	+1.4
MAKZ				pmax	pmax		
	comp=Z,35nm,1.5s						
KURK	Kurchatov	46.89	309	eP	P	23 30 33.4	+0.7
	comp=Z,45nm,1.6s						
KURK	Kurchatov	46.89	309c	eP	P	23 30 32.5	-0.2
KURK				pmax	pmax		
	comp=Z,105nm,2.5s						
PDGK	Podgornoye	47.74	299	iP	P	23 30 39.5	0.0
PDGK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HNR	Honiara	48.58	157	LR	LR	23 51 47.5	
	comp=Z,152nm,18.7s,baz=343,slow=37						
ILAR	Eielson Array	49.50	32	P	P	23 30 53.8	+1.1
	comp=Z,1.5nm,0.7s,baz=264,slow=6.4,SNR=17						
IL1	Eielson Array	49.50	32	eP	P	23 31 01.6	+9.0
TKM2	Tokmak 2	50.59	299	iP	P	23 31 02.3	+0.8
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KSH	Kashi	51.36	295	P	P	23 31 12.2	+5.0
KSH				pP	sP	23 31 28.1	+14
KSH				PP	PP	23 33 09.1	+5.0
KSH				S	S	23 38 18.9	-7.3
KSH				sS	sS	23 38 45.8	+12
KSH				SS	SS	23 41 50.0	-12
KSH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,150nm,8.0s						
KSH				LR	LR		
	comp=Z,160nm,7.3s						
KSH				LR	LR		
	comp=Z,160nm,9.1s						
KSH				LR	LR		
	comp=Z,420nm,14.1s						
OTUK	Ortayu	51.39	306	iP	P	23 31 08.2	+1.0
OTUK				pmax	pmax		
	comp=Z,11nm,1.1s						
AAK	Ala-Archa	51.45	299	P	P	23 31 09.4	+1.5
	comp=Z,1.2nm,0.6s,baz=117,slow=6.7,SNR=5.1						
AAK	Ala-Archa	51.45	299	eP	P	23 31 09.3	+1.5
	comp=Z,10nm,1.3s						
AAK	Ala-Archa	51.45	299	iP	P	23 31 08.6	+0.7
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BVAR	Borovoye Array	51.52	313	P	P	23 31 09.7	+1.6
	comp=Z,1.1nm,0.7s,baz=108,slow=13,SNR=3.9						
BRVK	Borovoye	51.58	313c	eP	P	23 31 08.9	+0.4
BRVK				pmax	pmax		
	comp=Z,26nm,2.5s						
MNAS	Manas	52.90	299	iP	P	23 31 19.5	+0.9
MNAS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SFK	Sufi-Kurgan	52.99	296	iP	P	23 31 20.1	+0.6
SFK				pmax	pmax		
	comp=Z,13nm,1.2s						
KK31	Karatay Array	54.09	301	iP	P	23 31 28.4	+1.2
KK31				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KKAR	Karatay Array	54.09	301	eP	P	23 31 29.2	+2.0
KKAR	Karatay Array	54.09	301	eP	P	23 31 29.2	+2.0
SVE	Sverdlovsk	56.07	319⇑	eP	P	23 31 43.0	+1.7
SVE				pmax	pmax		
	comp=Z,19nm,1.5s						
WRA	Warramunga Arr	56.67	189	P	P	23 31 45.2	-0.7
	comp=Z,2.2nm,0.8s,baz=8.1,slow=7.2,SNR=13						
ARU	Arti	57.29	319	P	P	23 31 50.8	+0.9
	comp=Z,3.5nm,0.7s,baz=70,slow=4.1,SNR=8.4						
ARU	Arti	57.29	319	eP	P	23 31 50.3	+0.4
	comp=Z,19nm,1.3s						
ARU	Arti	57.29	319c	iP	P	23 31 50.6	+0.7
ARU						23 32 44.9	
ARU						23 33 54.5	
ARU				S	S	23 39 44.5	-0.8
ARU				SS	SS	23 43 30.4	-3.6
ARU				pmax	pmax		
	comp=Z,15nm,1.2s						
KBL	Kabul	58.36	292	eP	P	23 31 58.9	+0.8
	comp=Z,17nm,1.4s						
KBL	Kabul	58.36	292	eP	P	23 31 58.9	+0.8
KBL				pmax	pmax		
	comp=Z,17nm,1.4s						
AB31	Akbulak array	58.90	311	iP	P	23 32 01.4	+0.1
AB31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ABKAR	Akbulak array	58.90	311	eP	P	23 32 01.8	+0.5
	comp=Z,32nm,0.9s						
AKTO	Aktyubinsk	59.63	312	P	P	23 32 07.7	+1.4
	comp=Z,2.8nm,0.9s,baz=80,slow=10,SNR=7.9						
ASAR	Alice Springs	60.39	189	P	P	23 32 11.8	0.0
	comp=Z,1.1nm,0.9s,baz=9.0,slow=7.0,SNR=5.3						
DZM	Mont Dzumac	62.53	155	LR	LR	23 57 44.4	
	comp=Z,116nm,20.5s,baz=32,slow=34						
RES	Resolute Bay	62.90	15	P	P	23 32 28.1	0.0
	comp=Z,1.0nm,0.8s,baz=333,slow=2.3,SNR=3.9						
KLMR	Klimovskoe	64.63	328	eP	P	23 32 38.6	-1.1
KLMR				pmax	pmax		
	comp=Z,26nm,1.9s						
KLMR	Klimovskoe	64.63	328	eP	P	23 32 38.6	-1.1
KLMR				AMP		23 32 52.8	
	comp=Z,26nm,1.9s						
GEYT	Alibeck	64.80	300	P	P	23 32 41.6	+0.3
	comp=Z,1.3nm,0.7s,baz=13,slow=3.2,SNR=4.8						
AFI	Afiamalu	66.18	130	LR	LR	23 58 19.4	
	comp=Z,54nm,19.3s,baz=9.5,slow=33						
MOS	Moscow	68.15	324	eP	P	23 33 12.4	+10
VRH	Novokhopyorsk	68.51	318	eP	P	23 33 05.2	+0.5
VRH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TCBU	Trout Butte	68.75	50	eP	P	23 33 19.5	+13
OBN	Obninsk	69.00	324	eP	P	23 33 06.8	-0.8
OBN				e		23 33 34.2	
OBN				e		23 35 42.0	
OBN				ePPP	PPP	23 37 17.8	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.7s						
LPSR	Galich'ya Gora	69.22	321	eP	P	23 33 17.4	+8.3
LPSR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES	FINESS Array B	69.65	333	P	P	23 33 12.2	+0.7
	comp=Z,3.1nm,0.8s,baz=46,slow=11,SNR=6.2						
VSR	Storozhevoye	69.86	319	eP	P	23 33 13.6	+0.6
VSR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
F10A	Beach Ranch, E	71.11	46	eP	P	23 33 30.9	+10
	comp=Z,18nm,0.9s						
KBZ	Khabaz	71.86	311	P	P	23 33 26.9	+1.5
	comp=Z,5.3nm,0.9s,baz=76,slow=2.6,SNR=4.4						
KIV	Kislovodsk	71.86	311	eP	P	23 33 26.8	+1.3
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
JSFB	Stanford Teles	72.66	56	eP	P	23 33 44.7	+14
GNI	Garni	72.67	307	LR	LR	00 06 49.6	
	comp=Z,79nm,18.0s,baz=36,slow=37						
NVAR	Mina Array Bea	74.65	53	P	P	23 33 41.2	-1.0
	comp=Z,1.3nm,0.8s,baz=278,slow=6.2,SNR=6.0						
HFS	Hagfors	74.89	336	P	P	23 33 44.1	+1.1
	comp=Z,7.7nm,1.2s,baz=182,slow=40,SNR=3.3						
NB2	NORSAR Subarra	74.98	338	P	P	23 33 44.1	+0.6
	comp=Z,15nm,1.7s,baz=42,slow=5.9						
AKASG	Malin Array Be	75.20	323	P	P	23 33 45.7	+0.8
	comp=Z,0.8nm,0.4s,baz=48,slow=6.7,SNR=9.0						
LVV	L'vov	78.28	324	eP	P	23 34 14.9	+13
BUR04	Bucovina Ar. S	79.22	322	eP	P	23 34 08.8	+1.2
BRTR	Keskin Array B	79.81	312	P	P	23 34 12.2	+1.1
	comp=Z,3.2nm,1.1s,baz=350,slow=6.4,SNR=4.6						
BRTR	Keskin Array B	79.81	312	iP	P	23 34 12.1	+1.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OJC	Ojcow	79.92	327	eP	P	23 34 14.2	+2.9
	comp=Z,29nm,1.6s						
OJC	Ojcow	79.92	327	eP	P	23 34 14.2	+2.9
OJC				pmax	pmax		
	comp=Z,29nm,1.6s						
LANS	Liptovska Anna	80.85	326	eP	P	23 34 20.2	+3.9
LANS	Liptovska Anna	80.85	326	eP	P	23 34 20.2	+3.9
DPC	Dobruska-Polom	81.33	328	eP	P	23 34 20.8	+1.9
DPC				ePCP	sP	23 34 30.5	+4.9
DPC	Dobruska-Polom	81.33	328	eP	P	23 34 20.8	+1.9
DPC				e		23 34 30.5	
RAYN	Ar Rayn	81.61	293	eP	P	23 34 22.4	+1.6
	comp=Z,10nm,1.3s						
VYHS	Vyhne	81.61	326	e	P	23 34 32.0	+12
ISCO	Idaho Springs	81.63	46	eP	P	23 34 30.5	+9.5
	comp=Z,7.2nm,1.0s						
ISCO	Idaho Springs	81.63	46	eP	P	23 34 30.5	+9.5
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	Collm	81.95	331	eP	P	23 34 25.0	+2.9
CLL				iPcP	sP	23 34 33.6	+4.7
CLL	Collm	81.95	331	eP	P	23 34 20.0	-2.1
CLL				i*SP	sP	23 34 33.5	+4.7
GOPC	GO Pecny, Ondr	82.30	329	eP	P	23 34 25.1	+1.1
GOPC	GO Pecny, Ondr	82.30	329	eP	P	23 34 25.1	+1.1
MMAI	Mount Meron Ar	82.93	306	P	P	23 34 28.3	+0.7
	comp=Z,2.2nm,0.8s,baz=46,slow=8.3,SNR=2.4						
KHC	Kasperske Hory	83.41	329	eP	P	23 34 29.8	0.0
KHC				ex	x	23 34 41.5	
KHC	Kasperske Hory	83.41	329	eP	P	23 34 29.8	0.0
KHC				e		23 34 41.5	
GERES	GERESS Array B	83.58	329	P	P	23 34 31.1	+0.4
	comp=Z,0.4nm,0.6s,baz=21,slow=5.7,SNR=4.6						
MHTCO	State Highway	83.93	48	eP	P	23 34 42.8	+10
	comp=Z,18nm,1.6s						
ANMO	Albuquerque	84.30	50	eP	P	23 34 45.5	+11
	comp=Z,6.6nm,1.4s						
ANMO	Albuquerque	84.30	50	eP	P	23 34 45.5	+11
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.4s						
LPM	Los Pinos Moun	84.60	51	epP	pP	23 35 03.2	+22
TXAR	Lajitas Array	89.79	53	P	P	23 35 02.2	+0.7
	comp=Z,0.5nm,0.7s,baz=294,slow=2.9,SNR=4.5						
TXAR				LR	LR	00 15 34.7	
	comp=Z,74nm,18.1s,baz=0.0,slow=36						
HPIG		90.08	56	eP	P	23 35 14.3	+11
	comp=Z,41nm,0.5s						
USIN	University of	92.61	37	eP	P	23 35 23.2	+9.0
	comp=Z,86nm,1.3s						
TKL	Tuckaleechee C	96.33	36	P	P	23 35 33.3	+1.9
	comp=Z,2.1nm,0.8s,baz=22,slow=5.4,SNR=3.0						
PTGA	Pitinga	138.79	35	ePKPdf	PKPdf	23 41 37.7	+8.4
LPAZ	La Paz	146.24	61	PKPbc	PKPab	23 41 44.6	-0.3
	comp=Z,2.6nm,0.9s,baz=350,slow=5.3,SNR=6.0						

IDC **02** *23:29:19.9±0.4, 64°.31N×128°.67W, h0^{km}, mb4.6/43, mb1 4.7/47, mb1mx4.6/82, mbtmp4.6/47, ML4.2/4, MS3.8/25, Ms1 3.8/25, ms1mx3.6/66, Error ellipse: s-maj=10.5km s-min=7.2km az=37.0*

ISCJB **02** *23:29:19.0±0.1, 64°.28N±0°.01×128°.68W±0°.03, h10^{km}, mb4.8/269, MS3.9/24, Error ellipse: s-maj=2.0km s-min=1.5km az=139.7*

MOS **02** *23:29:20.9±0.8, 64°.29N×128°.84W, h21^{km}, mb5.0/88, Error ellipse: s-maj=9.8km s-min=3.6km az=92.1*

BJI **02** *23:29:20.3, 64°.78N×128°.97W, h7^{km}, mb4.8/40, mB5.1/22, Ms4.9/13, Ms7 4.6/13*

PGC **02** *23:29:21.3, 64°.26N×128°.68W, h20^{km}, ML5.1/6, Mw4.7, 149km Wsw of Norman Wells, Nt Nw Territories - Nunavut, Canada*

NEIC **02** *23:29:21.3±0.0, 64°.26N×128°.67W, h20^{km}, mb4.7/199, MW4.4, MW4.7(OTT), Moment Tensor Solution. s11 Moment tensor: Scale 10^{15}Nm; M_{rr}4.34; $M_{\theta\theta}$-1.90; $M_{\phi\phi}$-2.44; $M_{r\theta}$1.29; $M_{\theta\phi}$1.52; $M_{\phi r}$-1.00; Best double couple: $M_0$4.40000×10^{15} NP1:ϕ_s136.00000°, δ56.00000°, λ86.00000°. NP2:ϕ_s323.00000°, δ34.00000°, λ96.00000°. Principal axes: T 4.6700, Plg79.0000°, Azm31.0000°; N -0.6500, Plg3.0000°, Azm138.0000°; P -4.0200, Plg11.0000°, Azm229.0000°; After OTT.*

ISC 02 23:29:20.2±0.3**, 64°.18N**±0°.03×**128°.68W**±0°.03**, h10**^{km}**, n1005, σ1.78**/1034**, mb4.9**/281**, MS3.9**/24**, 28C-6D, Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDBN	Lake De Bois	2.99	30	Pn	Pn	23 30 07.1	-0.4
SMPN	Simpson Lake	4.13	11	Pn	Pn	23 30 22.0	-1.1
SMPN				Sn	Sn	23 31 06.5	-5.0
SMPN				Sg	Sb	23 31 26.4	+3.8
WHY	Whitehorse	4.56	222	Pn	Pn	23 30 29.3	+0.1
WHY				Pg	Pg	23 30 44.4	-3.1
WHY				Sn	Sn	23 31 20.5	-1.8
WHY				Sg	Sg	23 31 43.4	-3.0
WHY	Whitehorse	4.56	222	ePn	Pn	23 30 30.3	+1.0
INK	Inuvik	4.58	337	Pn	Pn	23 30 28.0	-1.4
	20nm,0.3s,baz=153,slow=12,SNR=191						
INK				Sn	Sn	23 31 20.1	-2.4
	34nm,0.3s,baz=103,slow=19,SNR=3.9						
INK				Lg	Lg	23 31 40.9	
	23nm,0.3s,baz=102,slow=12,SNR=4.1						
INK				LR	LR	23 32 42.7	
	comp=Z,316nm,21.1s,baz=130,slow=45						
INK	Inuvik	4.58	337	Pn	Pn	23 30 27.4	-1.9
INK	Inuvik	4.58	337	ePn	Pn	23 30 28.5	-0.8
INK				Sn	Sn	23 31 20.1	-2.4
INK	Inuvik	4.58	337	eP	Pn	23 30 28.5	-0.8
INK						23 31 20.1	
DAWY	Dawson	4.70	273	Pn	Pn	23 30 30.2	-0.8
DAWY				Sn	Sn	23 31 22.0	-3.5
DAWY				Sg	Sg	23 31 46.4	-4.4
DAWY	Dawson	4.70	273	ePn	Pn	23 30 30.6	-0.4
DHRN	Dharma Camp	4.76	49	Pn	Pn	23 30 30.0	-1.8
DHRN				Sn	Sn	23 31 20.5	-6.4
YUK5	Granite Creek	5.22	238	Pn	Pn	23 30 37.5	-0.8
HYT	Haines Junctio	5.30	235	Pn	Pn	23 30 38.6	-0.7
HYT	Haines Junctio	5.30	235	ePn	Pn	23 30 39.5	+0.1
EGAK	Eagle	5.43	282	ePn	Pn	23 30 41.0	0.0
YUK7	Dusty Glacier	5.73	235	Pn	Pn	23 30 44.8	-0.5
YUK7				Sn	Sn	23 31 46.2	-5.0
DLBC	Dease Lake	5.80	187	Pn	Pn	23 30 46.7	+0.4
DLBC				Sn	Sn	23 31 49.3	-3.5
DLBC	Dease Lake	5.80	187	ePn	Pn	23 30 47.6	+1.3
FNBB	Fort Nelson	5.96	150	Pn	Pn	23 30 48.4	0.0
FNBB				Sn	Sn	23 31 52.0	-4.7
PLBC	Pleasant Camp	5.98	221	Pn	Pn	23 30 49.2	+0.6
PLBC				Sg	Sg	23 32 27.4	-4.4
HPLN	Hepburn Lake,	6.01	63	Pn	Pn	23 30 47.3	-1.8
HPLN				Sn	Sn	23 31 50.7	-7.1
BESE	Bessie Mountai	6.36	211	Pn	Pn	23 30 54.4	+0.6
BESE				Sn	Sn	23 32 00.9	-5.4
BESE				Sg	Sg	23 32 40.5	-3.5
BESE	Bessie Mountai	6.36	211	ePn	Pn	23 30 54.8	+1.0
YKW3	Yellowknife Ar	6.53	98	Pn	Pn	23 30 55.3	-0.8
YKW3				Sn	Sn	23 32 04.3	-6.2
YKW3	Yellowknife Ar	6.53	98	ePn	Pn	23 30 55.5	-0.6
YKA	Yellowknife Ar	6.56	99	Pn	Pn	23 30 56.1	-0.4
	16nm,0.3s,baz=288,slow=14,SNR=364						
YKA				Sn	Sn	23 32 08.4	-2.8
	23nm,0.3s,baz=285,slow=23,SNR=6.8						
YKA				Lg	Lg	23 32 47.9	
	33nm,0.3s,baz=296,slow=29,SNR=6.0						
YKA				LR	LR	23 33 44.3	
	comp=Z,127nm,18.4s,baz=0.0,slow=40						
YKA	Yellowknife Ar	6.56	99	iP	Pn	23 30 55.7	-0.8
YKA				pmax	pmax		
	comp=Z,58nm,0.4s						
YKW1	Yellowknife Ar	6.60	98	Pn	Pn	23 30 56.5	-0.6
YKW1				Sn	Sn	23 32 05.1	-7.2
KUKN	Kugluktuk,NWT	6.63	51	Pn	Pn	23 30 53.9	-3.6
KUKN				Sn	Sn	23 32 05.9	-7.1
PNL	Peninsula	6.79	233	Pn	Pn	23 31 00.5	+0.9
PNL				Sg	Sg	23 32 50.3	-7.4
DOT	Dot Lake	6.80	272	Pn	Pn	23 30 58.6	-1.3
DOT				Pg	Pg	23 31 25.9	-4.4
DOT				Sg	Sg	23 32 49.5	-8.8
DOT	Dot Lake	6.80	272	ePn	Pn	23 30 59.7	-0.3
MENT	Mentasta	6.83	266	ePn	Pn	23 31 00.5	+0.2
RIDG	Independ'e Rid	7.13	274	ePn	Pn	23 31 03.5	-0.9
FYU	Fort Yukon	7.31	296	ePn	Pn	23 31 06.3	-0.5
PAX	Paxson	7.59	268	Pn	Pn	23 31 10.1	-0.7
PAX				Sn	Sn	23 32 33.5	-3.2
PAX	Paxson	7.59	268	ePn	Pn	23 31 10.6	-0.1
PAX	Paxson	7.59	268	eP	Pn	23 31 10.6	-0.1
HARP	HAARP	7.63	264	Pn	Pn	23 31 11.5	+0.2
HARP				Sg	Sg	23 33 20.2	-4.5
HARP	HAARP	7.63	264	ePn	Pn	23 31 12.3	+1.0
SIT	Sitka	7.86	208	ePn	Pn	23 31 15.7	+1.4
SIT	Sitka	7.86	208	eP	Pn	23 31 15.7	+1.4
IL1	Eielson Array	7.88	282	ePn	Pn	23 31 14.8	+0.2
ILAR	Eielson Array	7.88	282	Pn	Pn	23 31 14.1	-0.6
	comp=Z,0.9nm,0.3s,baz=84,slow=12,SNR=42						
ILAR				Lg	Lg	23 33 31.5	
	comp=Z,3.0nm,0.3s,baz=334,slow=25,SNR=8.5						
ILAR				LR	LR	23 34 19.0	
	comp=Z,1µm,18.1s,baz=102,slow=38						
ILB	Eielson Array	7.88	282	ePn	Pn	23 31 14.8	+0.1
HDA	Harding Lake	7.94	280	ePn	Pn	23 31 16.3	+0.8
WRAK	Wrangell Islan	8.00	195	ePn	Pn	23 31 19.1	+2.9
	comp=Z,63nm,0.6s						
BMRM	Bremner River	8.02	254	ePn	Pn	23 31 18.1	+1.4
CCB	Clear Creek Bu	8.29	282	ePn	Pn	23 31 20.5	+0.3
COLA	College	8.29	283	ePn	Pn	23 31 21.1	+0.9
COLA	College	8.29	283	eP	Pn	23 31 21.1	+0.9
KLU	Klutina	8.33	259	ePn	Pn	23 31 23.4	+2.5
DHY	Denali Highway	8.39	271	ePn	Pn	23 31 22.9	+1.1
DIV	Divide	8.44	257	Pn	Pn	23 31 23.0	+0.7
DIV				Sn	Sn	23 32 59.4	+1.9
DIV	Divide	8.44	257	ePn	Pn	23 31 25.7	+3.4
MDM	Murphy Dome	8.44	284	ePn	Pn	23 31 23.0	+0.6
SCM	Sheep Creek Mo	8.79	263	ePn	Pn	23 31 29.9	+2.7
SCM	Sheep Creek Mo	8.79	263	eP	Pn	23 31 29.9	+2.7
MCK	McKinley	8.91	276	ePn	Pn	23 31 30.2	+1.4
MCK	McKinley	8.91	276	eP	Pn	23 31 30.3	+1.4
FSMA	Fort Smith	8.95	110	Pn	Pn	23 31 29.1	-0.1
FSMA				Sn	Sn	23 33 02.7	-7.2
RND	Reindeer	8.95	274	ePn	Pn	23 31 31.1	+1.7
RND	Reindeer	8.95	274	eP	Pn	23 31 31.1	+1.7
SML	Sawmill	9.24	264	ePn	Pn	23 31 35.3	+1.9
SML	Sawmill	9.24	264	eP	Pn	23 31 35.3	+1.9
COLD	Coldfoot	9.36	299	Pn	Pn	23 31 34.4	-0.5
COLD				Sn	Sn	23 33 13.6	-6.4
COLD	Coldfoot	9.36	299	ePn	Pn	23 31 34.6	-0.2
MLY	Manley	9.50	285	ePn	Pn	23 31 36.4	-0.5
TRF	Thorofare Moun	9.57	275	ePn	Pn	23 31 38.0	+0.1
PMR	Palmer	9.68	264	ePn	Pn	23 31 40.8	+1.6
PMR	Palmer	9.68	264	eP	Pn	23 31 40.8	+1.6
BPAW	Bear Paw Mtn.	9.73	280	ePn	Pn	23 31 40.0	-0.1
WHFN	White Fish Lak	9.82	90	Pn	Pn	23 31 39.8	-1.4
WHFN				Sn	Sn	23 33 23.2	-8.1
KTH	Kantishna Hill	9.82	276	ePn	Pn	23 31 42.5	+1.2
RDEA	Red Earth Cree	10.10	133	Pn	Pn	23 31 43.5	-1.4
RDEA				Sn	Sn	23 33 32.1	-6.0
RC01	Rabbit Creek A	10.16	262	ePn	Pn	23 31 48.7	+2.8
CAST	Castle Rocks	10.36	276	ePn	Pn	23 31 51.5	+2.9
SUA	Susitna One	10.43	265	ePn	Pn	23 31 52.1	+2.4
PPLA	Purkeypile	10.55	274	ePn	Pn	23 31 53.8	+2.4
SPU	Mount Spurr	11.13	265	ePn	Pn	23 32 01.7	+2.6
DIB	Dawson Inlet,	11.19	192	Pn	Pn	23 32 02.6	+2.7
DIB	Dawson Inlet,	11.19	192	ePn	Pn	23 32 04.1	+4.1
UBRB	Upper Baezaeko	11.57	166	Pn	Pn	23 32 07.1	+1.8
SVW2	Sparrevohn	12.70	268	ePn	Pn	23 32 23.5	+2.8
BLBC	Blue River	13.13	154	Pn	Pn	23 32 26.2	-0.6
MNB	Mounoet Dainar	13.16	151	Pn	Pn	23 32 26.5	-0.6
KDAK	Kodiak Island	13.19	252	Pn	Pn	23 32 27.9	+0.6
	comp=Z,0.2nm,0.3s,baz=106,slow=20,SNR=2.2						
KDAK				LR	LR	23 38 06.9	
	comp=Z,778nm,19.5s,baz=68,slow=40						
EDM	Edmonton	13.52	137	Pn	Pn	23 32 28.9	-3.0
EDM	Edmonton	13.52	137	ePn	Pn	23 32 30.6	-1.3
EDM	Edmonton	13.52	137	eP	Pn	23 32 30.6	-1.3
DOWB	Downie Slide	13.78	152	Pn	Pn	23 32 35.5	+0.2
LLLB	Lillooet	14.08	162	Pn	Pn	23 32 40.2	+0.7
LLLB	Lillooet	14.08	162	ePn	Pn	23 32 42.5	+3.0
WSLR	Whistler	14.43	165	Pn	Pn	23 32 46.3	+2.0
YOUB	Youbou, Lake C	15.51	169	P	P	23 33 03.2	0.0
RES	Resolute Bay	15.54	33	Pn	Pn	23 32 54.6	-4.4
	comp=Z,4.9nm,0.3s,baz=234,slow=13,SNR=67						
RES	Resolute Bay	15.54	33	Pn	Pn	23 32 53.7	-5.2
RES				Sn	Sn	23 35 37.0	-14
B926	Mesachie Lake	15.60	169	Pn	Pn	23 33 00.7	+0.8
VDB	Vedder Mountai	15.61	164	P	P	23 33 04.0	-0.2
PNT	Penticton	15.68	158	Pn	Pn	23 33 01.5	+0.5
LZB	Mount Lazard	15.83	168	P	P	23 33 07.3	+0.5
MCW	Mount Constitu	15.86	166	P	P	23 33 08.2	+1.1

MBW Mount Baker 15.87 163 P P 23 33 07.4 +0.1
B05A Bryant 16.36 164 P P 23 33 11.8 -0.7
baz=350,SNR=11
FFC Flin Flon 16.42 113 ePn Pn 23 33 06.6 -3.8
comp=Z,86nm,1.0s
FFC Flin Flon 16.42 113 eP Pn 23 33 06.6 -3.8
FFC pmax pmax
comp=Z,86nm,1.0s
JCW Jim Creek 16.45 164 P P 23 33 13.7 +0.1
BLN Blyn Mountain 16.51 166 P P 23 33 13.7 -0.5
GPW Glacier Peak 16.62 162 P P 23 33 15.4 -0.4
B08A Colville Reser 16.66 158 P P 23 33 15.7 -0.2
B08A Colville Reser 16.66 158 ePn P 23 33 16.1 +0.2
comp=Z,22nm,0.9s
C06D Leavenworth 16.85 162 P P 23 33 17.7 -0.3
baz=348
HDW Hoodsport 16.86 167 P P 23 33 17.7 -0.5
WALA Waterton Lakes 17.12 145 Pn Pn 23 33 17.2 -2.3
WALA Waterton Lakes 17.12 145 ePn Pn 23 33 17.4 -2.0
comp=Z,27nm,1.0s
NEW Newport 17.15 153 P Pn 23 33 19.8 +0.1
comp=Z,0.1nm,0.3s,baz=41,slow=14,SNR=2.5
NEW LR LR 23 40 39.0
comp=Z,152nm,21.3s,baz=3.0,slow=39
NEW Newport 17.15 153 P P 23 33 21.9 +0.6
baz=343,SNR=8.6
NEW Newport 17.15 153 ePn P 23 33 23.8 +2.4
comp=Z,19nm,0.9s
FCC Fort Churchill 17.23 92 Pn Pn 23 33 15.8 -4.8
FCC Fort Churchill 17.23 92 ePn Pn 23 33 15.7 -4.8
comp=Z,102nm,1.1s
FCC Fort Churchill 17.23 92 eP Pn 23 33 15.7 -4.8
FCC pmax pmax
comp=Z,102nm,1.1s
C09A Chrisman Ranch 17.38 156 ePn P 23 33 24.8 +0.9
comp=Z,25nm,1.2s
D05A Enumclaw 17.43 165 P P 23 33 25.1 +0.7
D05A Enumclaw 17.43 165 ePn P 23 33 25.9 +1.5
comp=Z,94nm,1.4s
LTY Liberty 17.53 162 ePn P 23 33 28.0 +2.4
comp=Z,30nm,1.3s
FMW Mount Fremont 17.72 164 P P 23 33 29.1 +1.3
LON Longmire 17.88 164 P P 23 33 30.8 +1.3
LON Longmire 17.88 164 ePn P 23 33 31.4 +1.9
comp=Z,16nm,1.0s
LON Longmire 17.88 164 eP P 23 33 31.4 +1.9
LON pmax pmax
comp=Z,16nm,1.0s
E03A Lebam 17.90 168 P P 23 33 30.4 +0.8
D08A Wollman Farm, 17.99 158 ePn P 23 33 31.7 +1.1
comp=Z,19nm,0.9s
BSMT Bassoo Peak 18.04 149 P P 23 33 31.4 +0.1
YBMT Yellow Bay 18.21 147 P P 23 33 33.8 +0.6
BHMT Big Hole Peak 18.24 149 P Pn 23 33 33.2 -0.1
JTMT Jette 18.26 148 P Pn 23 33 33.3 -0.2
JTMT Jette 18.26 148 eP P 23 33 36.0 +2.3
comp=Z,24nm,1.2s
E07A Sunnyside 18.33 160 eP P 23 33 36.8 +2.5
comp=Z,31nm,0.9s
F04D Rainier, OR 18.41 167 P Pn 23 33 37.1 +1.9
baz=352
E08A Dider Farm, El 18.52 159 eP Pn 23 33 40.6 +4.1
comp=Z,25nm,0.9s
FBMT Ferry Basin 18.55 148 P Pn 23 33 37.5 +0.5
SWMT Swartz Lake 18.55 147 P P 23 33 35.4 -1.4
GAMB Gambell 18.62 288 eP P 23 33 37.3 0.0
comp=Z,18nm,1.0s
SLMT Seeley Lake 18.92 147 P P 23 33 40.4 -0.6
EGMT Eagleton 19.20 139 P Pn 23 33 45.0 +0.2
baz=335,SNR=6.5
EGMT Eagleton 19.20 139 eP P 23 33 39.3 -4.6
comp=Z,47nm,0.8s
MSO Missoula 19.20 148 P Pn 23 33 44.9 0.0
baz=340
MSO Missoula 19.20 148 eP Pn 23 33 45.0 0.0
comp=Z,16nm,0.8s
OVMT Ovando 19.21 146 P P 23 33 44.1 0.0
F10A Beach Ranch, E 19.33 155 eP Pn 23 33 47.6 +1.2
comp=Z,18nm,0.9s
G06A Carlson Farm, 19.52 163 eP Pn 23 33 50.5 +1.8
comp=Z,40nm,1.1s
EUNU Eureka 19.66 20 P P 23 33 46.9 -1.9
EUNU Sn S 23 37 11.1 -19
FALS False Pass 19.68 258 eP Pn 23 33 51.4 +0.9
comp=Z,264nm,1.4s
BPMT Black Pine Rid 19.68 147 P Pn 23 33 50.6 -0.3
G08A Pilot Rock 19.70 159 eP Pn 23 33 52.1 +1.2
comp=Z,9.9nm,1.2s
HRY Holter Researc 19.83 144 eP Pn 23 33 54.1 +1.7
COR Corvallis 19.87 169 eP P 23 33 51.9 +0.7
comp=Z,8.0nm,0.5s
COR Corvallis 19.87 169 eP P 23 33 51.9 +0.7
COR pmax pmax
comp=Z,8.0nm,0.5s
H04A Detroit Lake 19.88 166 eP Pn 23 33 55.0 +2.0
comp=Z,17nm,0.9s
I05D Terrebonne, OR 20.32 165 P P 23 33 57.0 +0.9
baz=351
BMO Blue Mountains 20.40 156 eP Pn 23 34 00.8 +1.6
comp=Z,44nm,1.0s
BMO Blue Mountains 20.40 156 eP Pn 23 34 00.8 +1.6
BMO pmax pmax
comp=Z,44nm,1.0s
HBMT Mount Humbug 20.49 146 P P 23 33 58.7 +0.5
LRM Limekiln Ridge 20.50 146 P P 23 33 59.4 +1.1
LRM Limekiln Ridge 20.50 146 eP Pn 23 34 01.9 +1.4
DGMT Dagmar 20.57 128 eP P 23 33 59.6 +0.8
comp=Z,32nm,0.8s
I04A Tendick Farm, 20.74 167 P Pn 23 34 02.4 -0.6
baz=352,SNR=11
I07A Izee 20.80 161 eP Pn 23 34 04.8 +0.9
comp=Z,14nm,1.0s
DLMT Dillon 20.90 147 eP Pn 23 34 04.9 -0.1
comp=Z,46nm,1.2s
PINE Pine Mountain 20.90 164 eP Pn 23 34 05.8 +0.7
comp=Z,18nm,0.9s
BOZ Bozeman (W) 20.92 145 P P 23 34 03.3 +0.6
baz=339,SNR=12
BOZ Bozeman (W) 20.92 145 eP Pn 23 34 04.7 -0.5
comp=Z,34nm,1.1s
BOZ Bozeman (W) 20.92 145 eP Pn 23 34 04.7 -0.5
BOZ pmax pmax
comp=Z,34nm,1.1s
J04D Umpqua Nationa 21.32 167 P P 23 34 08.6 +1.5
baz=352,SNR=7.3
MCMT McKenzie Canyo 21.34 148 eP P 23 34 09.9 +2.5
J05D Fort Rock, OR 21.37 165 P P 23 34 09.5 +2.0
baz=351
LAO LASA Array 21.46 134 P P 23 34 09.4 +0.9
baz=333
LAO LASA Array 21.46 134 eP P 23 34 11.5 +3.0
comp=Z,58nm,0.9s
J08A Circle Bar Ran 21.66 160 eP P 23 34 13.6 +2.8
comp=Z,28nm,1.0s
MOMT Monida 21.67 147 P P 23 34 12.9 +2.0
QLMT Earthquake Lak 21.68 145 P P 23 34 12.6 +1.6
QLMT Earthquake Lak 21.68 145 eP P 23 34 13.7 +2.6
TPMT Tepee Creek 21.72 146 P P 23 34 13.0 +1.5
YMV Mammoth Vault 21.74 144 eP P 23 34 10.6 -1.0
YHB Horse Butte 21.82 145 eP P 23 34 15.4 +3.0
comp=Z,52nm,1.0s
HUMO Hull Mountain 21.87 169 eP P 23 34 16.2 +3.4
comp=Z,35nm,1.1s
YHH Holmes Hill 21.87 144 eP P 23 34 15.5 +2.4
comp=Z,31nm,0.9s
YMR Madison River 21.95 144 eP P 23 34 16.6 +2.7
comp=Z,45nm,1.3s
YNR Norris Junctio 21.98 144 eP P 23 34 17.8 +3.5
comp=Z,24nm,1.1s
MFID Camas Ranch 22.06 154 eP P 23 34 17.8 +2.8
comp=Z,17nm,1.1s
YFT Old Faithful 22.19 144 eP P 23 34 19.6 +3.1
comp=Z,21nm,1.1s
HLID Hailey 22.20 152 P P 23 34 17.9 +1.3
baz=344,SNR=12
HLID Hailey 22.20 152 eP P 23 34 17.8 +1.3
comp=Z,12nm,1.0s
ULM Lac du Bonnet 22.24 113 P P 23 34 17.4 +0.6
comp=Z,27nm,0.8s,baz=319,slow=11,SNR=48
ULM LR LR 23 43 07.6
comp=Z,262nm,19.6s,baz=348,slow=37
ULM Lac du Bonnet 22.24 113 P P 23 34 17.0 +0.3
ULM S S 23 38 12.8 -8.5
ULM Lac du Bonnet 22.24 113 eP P 23 34 17.4 +0.6
comp=Z,28nm,0.8s
TULEG Thule 22.25 32 eP P 23 34 16.1 -0.5
comp=Z,30nm,0.9s
H17A Grant Village 22.31 144 eP P 23 34 21.2 +3.5
comp=Z,38nm,1.5s
MCID Moose Creek 22.34 145 eP P 23 34 14.4 -3.7
YPP Pitchstone Pla 22.36 145 eP P 23 34 21.6 +3.1
comp=Z,22nm,1.1s
WVOR Wild Horse Val 22.54 160 eP P 23 34 23.4 +3.2
comp=Z,16nm,1.0s
WVOR Wild Horse Val 22.54 160 eP P 23 34 23.4 +3.2
WVOR pmax pmax
comp=Z,16nm,1.0s
MDND Maddock 22.74 122 P P 23 34 23.0 +0.9
baz=327,SNR=6.1
MDND Maddock 22.74 122 eP P 23 34 24.3 +2.2
comp=Z,131nm,1.2s
YBH Yreka Blue Hor 22.76 168 P P 23 34 25.6 +3.2
comp=Z,3.0nm,0.9s,baz=33,slow=17,SNR=5.3
YBH LR LR 23 43 43.5
comp=Z,351nm,18.8s,baz=342,slow=38
YBH Yreka Blue Hor 22.76 168 eP P 23 34 25.6 +3.2
comp=Z,17nm,1.4s
YBH Yreka Blue Hor 22.76 168 eP P 23 34 25.6 +3.2
YBH pmax pmax
comp=Z,17nm,1.4s
M04C Macdoel 22.79 167 P P 23 34 24.0 +1.2
baz=352,SNR=6.4
MOD Modoc Plateau 22.84 164 eP P 23 34 26.7 +3.4
comp=Z,8.8nm,0.9s
MOOW Moose Ponds 22.87 145 eP P 23 34 26.4 +2.7
comp=Z,13nm,1.0s
FXWY Fox Creek 22.90 146 eP P 23 34 27.4 +3.3
comp=Z,18nm,1.3s
B31A Greenbush Farm 23.00 119 P P 23 34 25.1 +0.3
baz=325
LOHW Long Hollow 23.03 145 eP P 23 34 27.2 +1.8
comp=Z,10nm,0.9s
A32A Rcq H Ranc 23.05 116 P P 23 34 25.8 +0.5
baz=324,SNR=8.1
CLRN Clyde River 23.06 48 P P 23 34 22.5 -2.7
CLRN S S 23 38 27.7 -7.9
M02C Callahan 23.08 169 P P 23 34 27.3 +1.5
baz=354,SNR=6.2
SNOW Snow King Moun 23.13 145 eP P 23 34 30.9 +4.4
comp=Z,25nm,1.1s
REDW Red Top Meadow 23.20 145 eP P 23 34 30.8 +3.6
comp=Z,33nm,1.3s
B32A Ashes, Ptrandq 23.46 117 P P 23 34 30.3 +0.9
baz=324
A33A Warroad 23.47 115 P P 23 34 30.3 +0.7
baz=323,SNR=14
C31A Landman Farms, 23.49 120 P P 23 34 30.0 +0.2
baz=326
N02D Trinity Center 23.51 169 P P 23 34 31.7 +1.7
baz=354
EPLO Experimental L 23.56 111 P P 23 34 30.9 +0.5
PKLO Pickle Lake 23.59 104 P P 23 34 30.4 -0.3
PKLO S S 23 38 38.3 -6.3
AGMN Agassiz Nation 23.80 116 P P 23 34 33.2 +0.4
baz=324,SNR=8.2
AGMN Agassiz Nation 23.80 116 eP P 23 34 34.4 +1.6
comp=Z,22nm,0.8s
AGMN eS S 23 38 53.1 +5.1
WDC Whiskeytown Da 23.91 168 eP P 23 34 37.1 +3.2
comp=Z,23nm,1.4s
WDC Whiskeytown Da 23.91 168 eP P 23 34 37.1 +3.2
WDC pmax pmax
comp=Z,23nm,1.4s
B33A Robert and Kas 23.93 116 P P 23 34 34.8 +0.8
baz=324
SOLO Sioux Lookout 23.97 109 P P 23 34 34.8 +0.5
BW06 Boulder Array 24.09 144 P P 23 34 36.6 +0.8
baz=340
PDAR Pinedale Array 24.09 144 P P 23 34 38.0 +2.1
comp=Z,3.3nm,0.8s,baz=36,slow=13,SNR=4.7
PDAR PcP PcP 23 38 19.5 +2.7
comp=Z,0.7nm,0.7s,baz=339,slow=2.2,SNR=3.8
PDAR LR LR 23 44 29.1
comp=Z,104nm,20.1s,baz=1.0,slow=38
D31A Mcclaflin, Tow 24.11 121 P P 23 34 36.7 +1.0
baz=327
B34A Aery, Baudette 24.13 114 P P 23 34 36.7 +0.8
baz=323
HVU Hansel Valley 24.26 150 eP P 23 34 40.4 +3.1
comp=Z,5.2nm,0.8s
HVU Hansel Valley 24.26 150 eP P 23 34 40.4 +3.1
HVU pmax pmax
comp=Z,5.0nm,0.8s
O03D Paynes Creek 24.27 167 P P 23 34 38.4 +1.1
baz=353,SNR=12
C33A Trail 24.27 117 P P 23 34 37.9 +0.7
baz=325
D32A Dogwood Acres, 24.31 119 P P 23 34 38.4 +0.9
baz=326
RSSD Black Hills 24.45 133 P P 23 34 39.2 +0.2
baz=334
E31A Nome 24.46 121 P P 23 34 39.7 +0.8
baz=328
B35A Bob, Littlefor 24.60 113 P P 23 34 40.4 +0.2
baz=323
C34A RKJ Ranch, Bem 24.70 116 P P 23 34 41.9 +0.8
baz=325
D33A AnnSam, Waubun 24.75 118 P P 23 34 42.2 +0.6
baz=326
SPUT South Promonto 24.78 150 eP P 23 34 44.7 +2.7
comp=Z,11nm,1.2s
BEKR Beckworth 24.84 165 eP P 23 34 45.7 +3.0
comp=Z,21nm,1.0s
F31A Hecla 24.92 123 P P 23 34 43.8 +0.7
baz=328
C35A Jirik Farms, M 25.03 115 P P 23 34 44.7 +0.7
baz=324,SNR=8.8
ORV Oroville 25.03 167 eP P 23 34 46.1 +2.0
comp=Z,5.8nm,1.0s
ORV Oroville 25.03 167 eP P 23 34 46.1 +2.0
ORV pmax pmax
comp=Z,6.0nm,1.0s
D34A Park Rapids 25.05 117 P P 23 34 44.8 +0.6
baz=326
ATKO Atikokan Iron 25.10 110 P P 23 34 44.9 +0.3
PAHR Pah Rah Range 25.12 163 eP P 23 34 48.5 +3.4
comp=Z,20nm,1.2s
TCUT Toone Canyon 25.19 148 eP P 23 34 49.3 +3.4
comp=Z,23nm,0.9s
E33A Westby DABS, E 25.22 119 P P 23 34 46.6 +0.8
baz=327
F32A Veblen 25.32 121 P P 23 34 48.0 +1.3
baz=328
KULLO Kullorsuaq 25.38 36 i P P 23 34 46.4 -0.5
comp=Z,19nm,1.0s
KULLO Kullorsuaq 25.38 36 i P P 23 34 46.4 -0.5
KULLO pmax pmax
comp=Z,19nm,1.0s
C36A Pine Crest Far 25.44 113 P P 23 34 48.5 +0.8
baz=324,SNR=19
G31A Conde 25.47 124 P P 23 34 49.2 +1.1
baz=329
VCNR Virginia City 25.49 164 eP P 23 34 52.0 +3.4
comp=Z,6.5nm,1.0s
VIMO Victor Mine 25.49 95 P P 23 34 48.2 +0.1
D35A Remer 25.50 116 P P 23 34 49.2 +0.9
baz=325
BILL Bilibino 25.51 308 c i P P 23 34 48.0 -0.2
BILL e 23 35 24.9
BILL ePPP PPP 23 35 31.9
BILL eS S 23 39 20.3 +5.1
BILL pmax pmax
comp=Z,15nm,0.9s
BILL MLR MLR
comp=Z,436nm,16.0s
CTU Camp Tracy 25.52 149 eP P 23 34 51.9 +3.1
comp=Z,9.7nm,1.1s
E34A Wadena 25.53 118 P P 23 34 49.5 +0.9
baz=326
FRB Frobisher Bay 25.55 63 P P 23 34 49.0 +0.4
comp=Z,63nm,1.1s,baz=120,slow=11,SNR=49
FRB LR LR 23 45 08.9
comp=Z,510nm,18.4s,baz=132,slow=37
FRB Frobisher Bay 25.55 63 P P 23 34 48.7 +0.1
F33A 5 Mile Ranch, 25.66 120 P P 23 34 50.8 +1.0
baz=328
JLU Jordanelle 25.68 149 eP P 23 34 52.0 +1.7
comp=Z,9.3nm,1.1s
AFDM Forest Hills D 25.68 166 eP P 23 34 51.9 +1.9
comp=Z,11nm,1.0s
PNTR Pine Nut 25.70 164 eP P 23 34 53.2 +2.8
comp=Z,7.2nm,1.0s
G32A Webster 25.71 123 P P 23 34 50.8 +0.6
baz=329
RWWY Rawlins 25.72 141 eP P 23 34 52.6 +1.9
comp=Z,20nm,0.9s
C37A Embarrass 25.73 112 P P 23 34 50.9 +0.6
baz=323,SNR=9.5
DUG Dugway, Tooele 25.77 151 P P 23 34 50.9 0.0
baz=344
DUG Dugway, Tooele 25.77 151 eP P 23 34 53.8 +2.9
comp=Z,11nm,1.3s
DUG Dugway, Tooele 25.77 151 eP P 23 34 53.8 +2.9
DUG pmax pmax
comp=Z,11nm,1.3s
D36A Goodland 25.78 114 P P 23 34 51.2 +0.4
baz=324
E35A Pequot Lakes 25.79 117 P P 23 34 51.4 +0.4
baz=326
EYMN Ely 25.83 111 P P 23 34 51.9 +0.5
baz=323,SNR=25
EYMN Ely 25.83 111 eP P 23 34 52.8 +1.4
comp=Z,56nm,0.9s
YERR Yerington 25.85 163 eP P 23 34 55.3 +3.5
comp=Z,11nm,1.1s
SUSD Miller 25.88 126 P P 23 34 52.3 +0.6
baz=330
D37A Cotton 26.09 113 P P 23 34 54.1 +0.4
baz=324
F34A Alexandria 26.10 119 P P 23 34 54.2 +0.5
baz=327
C38A Sawbill Land. 26.11 111 P P 23 34 54.2 +0.4
baz=323,SNR=9.6
TBO Thunder Bay 26.14 108 P P 23 34 55.7 +1.6
G33A Ortonville 26.16 121 P P 23 34 54.8 +0.6
baz=328
NLU North Lily Min 26.16 150 eP P 23 34 57.8 +3.2
comp=Z,6.4nm,1.1s
MPU Maple Canyon 26.19 149 eP P 23 34 57.1 +2.2
comp=Z,6.3nm,0.9s
E36A McGregor 26.28 115 P P 23 34 56.1 +0.7
baz=325
RYN Ryan 26.30 162 eP P 23 34 58.4 +2.6
comp=Z,8.4nm,0.9s
WAKR Walker 26.30 163 eP P 23 34 58.4 +2.6
comp=Z,16nm,1.1s
F35A Swanville 26.31 118 P P 23 34 56.6 +1.0
baz=327,SNR=6.4
GTO Geraldton 26.33 103 P P 23 34 55.7 -0.1
H32A Carlson Farm, 26.38 123 P P 23 34 57.2 +0.9
baz=330,SNR=5.9
H33A Prehn Over Nor 26.48 122 P P 23 34 58.0 +0.8
baz=329,SNR=10
C39A Grand Marais 26.50 110 P P 23 34 57.2 -0.2
baz=322
NV01 Mina Array Sit 26.52 162 eP P 23 35 00.2 +2.3
NVAR Mina Array Bea 26.52 162 P P 23 35 00.1 +2.2
comp=Z,5.2nm,0.9s,baz=357,slow=7.0,SNR=14
NVAR PcP PcP 23 38 24.6 +2.4
comp=Z,0.8nm,0.7s,baz=321,slow=2.3,SNR=3.6
NVAR LR LR 23 45 10.5
comp=Z,116nm,19.1s,baz=286,slow=36
NV11 Mina Array Sit 26.54 161 eP P 23 35 01.0 +3.0
comp=Z,0.7nm,1.0s
CMB Columbia Colle 26.65 165 eP P 23 35 01.2 +2.3
comp=Z,5.5nm,1.1s
CMB Columbia Colle 26.65 165 eP P 23 35 01.2 +2.3
CMB pmax pmax
comp=Z,6.0nm,1.1s
F36A Milaca 26.71 116 P P 23 34 59.6 +0.3
baz=326,SNR=8.8
C40A Isle Royale Na 26.82 108 P P 23 35 00.3 +0.1
baz=322
P18A Preston Nutter 26.88 147 eP P 23 35 05.1 +3.9
comp=Z,16nm,1.1s
P17A Butcher Ranch, 26.91 148 eP P 23 35 03.8 +2.5
comp=Z,13nm,1.1s
TMUT Trail Mountain 26.98 149 eP P 23 35 04.8 +2.7
comp=Z,11nm,1.0s
R11A Troy Canyon, C 27.02 157 P P 23 35 02.9 +0.5
baz=348
R11A Troy Canyon, C 27.02 157 eP P 23 35 04.8 +2.5
comp=Z,4.9nm,1.1s
RDG13 Poverty Ridge 27.11 168 eP P 23 35 06.1 +3.1
comp=Z,27nm,1.2s
PSUT Pine Spring 27.16 154 eP P 23 35 06.5 +2.9
comp=Z,38nm,1.1s
H35A Sunnyside Ranc 27.18 120 P P 23 35 03.7 +0.2
baz=328
MDPB Devils Postpil 27.20 163 eP P 23 35 07.1 +3.1
comp=Z,12nm,1.2s
F38A Pierce - Schro 27.29 114 P P 23 35 04.5 +0.1
baz=325
SRU San Rafael Swe 27.31 148 eP P 23 35 07.5 +2.6
comp=Z,15nm,0.9s
SRU San Rafael Swe 27.31 148 eP P 23 35 07.5 +2.6
SRU pmax pmax
comp=Z,15nm,0.9s
ECSD EROS Data Cent 27.34 123 P P 23 35 05.4 +0.4
baz=330
ECSD EROS Data Cent 27.34 123 eP P 23 35 06.8 +1.9
comp=Z,12nm,0.8s
TCRU Three Creeks R 27.37 152 eP P 23 35 08.1 +2.5
comp=Z,15nm,1.1s
MSU Marysvale 27.52 151 eP P 23 35 10.3 +3.5
MSU Marysvale 27.52 151 eP P 23 35 10.3 +3.5
SPMN Marine on St. 27.52 116 P P 23 35 06.9 +0.4
baz=326,SNR=6.7
SPMN Marine on St. 27.52 116 eP P 23 35 08.4 +1.9
comp=Z,20nm,0.9s
H36A Jessenland, He 27.63 119 P P 23 35 08.2 +0.6
baz=328
E40A Wakefield 27.69 111 P P 23 35 07.8 -0.3
baz=324
F39A Loretta 27.70 113 P P 23 35 08.4 +0.2
baz=325
D41A Chassel 27.74 109 P P 23 35 09.1 +0.6
baz=323,SNR=8.1
TIN Tinemaha, Big 27.88 162 P P 23 35 11.8 +1.8
baz=350
G38A Ridgeland 27.95 115 P P 23 35 10.8 +0.4
baz=326,SNR=5.6
OGNE Ogallala 27.95 134 P P 23 35 11.6 +1.0
baz=335
MTPU Mount Pierson 27.97 151 eP P 23 35 13.9 +2.8
comp=Z,6.3nm,1.1s
H37A Dierke Farm, C 28.02 117 P P 23 35 11.5 +0.5
baz=327
F40A Park Falls 28.02 112 P P 23 35 11.5 +0.4
baz=325,SNR=6.6
E41A Kenton 28.06 110 P P 23 35 12.2 +0.8
baz=324
G39A Holcombe 28.12 114 P P 23 35 12.6 +0.6
baz=326
SMCO Snowmass 28.13 142 eP P 23 35 14.7 +2.1
comp=Z,9.5nm,1.1s
H38A Maiden Rock 28.19 116 P P 23 35 13.2 +0.7
baz=327
CCUT Cedar City 28.20 154 eP P 23 35 16.2 +3.2
comp=Z,13nm,1.1s
SZCU Shurtz Canyon 28.21 153 eP P 23 35 15.5 +2.4
comp=Z,4.7nm,0.9s
TPNV Topopah Spring 28.28 159 P P 23 35 15.4 +1.8
baz=349
TPNV Topopah Spring 28.28 159 eP P 23 35 16.1 +2.5
comp=Z,4.7nm,0.9s
TPNV Topopah Spring 28.28 159 eP P 23 35 16.1 +2.5
TPNV pmax pmax
comp=Z,5.0nm,0.9s
I37A Lemond, Waseca 28.31 119 P P 23 35 15.1 +1.5
baz=328
K34A Le Mars 28.43 123 P P 23 35 16.2 +1.5
baz=330
KAPO Kapuskasing 28.47 99 P P 23 35 15.8 +0.9
CWC Cottonwood Cre 28.51 162 P P 23 35 17.6 +2.0
baz=350
E42A Champion 28.52 109 P P 23 35 16.3 +0.9
baz=323
G40A Rib Lake 28.52 113 P P 23 35 16.0 +0.5
baz=325
H39A Augusta 28.58 115 P P 23 35 16.8 +0.8
baz=326
F41A Three Lakes 28.58 111 P P 23 35 16.7 +0.7
baz=325
KUQ Kuujjuuaa 28.70 74 P P 23 35 17.3 +0.4
I38A Scanlan Farm, 28.70 117 P P 23 35 17.6 +0.5
baz=328,SNR=5.3
PV01 Paradox Valley 28.71 146 eP P 23 35 20.2 +2.8
DAC Darwin (Calif) 28.74 161 eP P 23 35 21.1 +3.4
comp=Z,19nm,1.1s
DAC Darwin (Calif) 28.74 161 eP P 23 35 21.1 +3.4

DAC pmax pmax
comp=Z,19nm,1.1s
LCMT Little Creek M 28.75 154 *e*P **P 23 35 21.4 +3.6**
comp=Z,7.1nm,1.1s
BGNE Belgrade 28.82 128 P **P 23 35 19.5 +1.3**
baz=333
BGNE Belgrade 28.82 128 *e*P **P 23 35 20.1 +1.9**
comp=Z,79nm,1.1s
KNB Kanab 28.83 153 *e*P **P 23 35 21.4 +3.0**
comp=Z,7.7nm,1.0s
KNB Kanab 28.83 153 *e*P **P 23 35 21.5 +3.0**
KNB pmax pmax
comp=Z,8.0nm,1.0s
Q24A Divide 28.83 140 P **P 23 35 19.9 +1.2**
baz=339
Q24A Divide 28.83 140 *e*P **P 23 35 21.2 +2.5**
comp=Z,16nm,1.2s
SHPR Sheep Range 28.89 157 *e*P **P 23 35 20.6 +1.6**
comp=Z,9.0nm,1.1s
E43A Lone Tree Farm 28.94 108 P **P 23 35 20.7 +1.5**
baz=323
PAGB Antelope Grade 28.94 166 *e*P **P 23 35 21.8 +2.4**
comp=Z,32nm,1.1s
MPMC Manual Prospec 28.97 161 P **P 23 35 21.3 +1.5**
baz=350,SNR=15
H40A Chili 28.98 114 P **P 23 35 20.1 +0.6**
baz=326,SNR=8.7
G41A Antigo 28.98 112 P **P 23 35 20.6 +1.0**
baz=325
M33A Taylor Creek F 29.01 126 P **P 23 35 20.8 +0.8**
baz=332
I39A Houston 29.17 116 P **P 23 35 21.5 +0.3**
baz=327
ISA Isabella, Lake 29.22 163 P **P 23 35 23.0 +1.2**
baz=351,SNR=7.1
ISA Isabella, Lake 29.22 163 *e*P **P 23 35 25.0 +3.1**
comp=Z,10nm,1.0s
ISA Isabella, Lake 29.22 163 *e*P **P 23 35 25.0 +3.1**
ISA pmax pmax
comp=Z,10.0nm,1.0s
J38A Wedel Dairy, R 29.25 118 P **P 23 35 22.6 +0.6**
baz=328
G42A Mountain 29.27 111 P **P 23 35 22.8 +0.7**
baz=325
K37A Belmond 29.28 120 P **P 23 35 22.5 +0.3**
baz=329
SHOC Shoshone, Teco 29.30 159 P **P 23 35 23.6 +1.1**
baz=349
F43A Flat Rock, Esc 29.31 109 P **P 23 35 22.0 -0.4**
baz=324,SNR=5.9
MTLAZ Mount Logan 29.40 154 *e*P **P 23 35 21.1 -2.5**
L36A Harm Buss Farm 29.47 122 P **P 23 35 24.9 +1.0**
baz=330
I40A Norwalk 29.50 115 P **P 23 35 24.8 +0.7**
baz=327
F44A Big Bay de Noc 29.50 108 P **P 23 35 24.7 +0.6**
baz=324
LRMC Laurel Mtn Rad 29.51 162 P **P 23 35 25.8 +1.3**
baz=350,SNR=7.0
S22A 4UR Ranch, Cre 29.52 143 P **P 23 35 26.0 +1.2**
baz=341
KSCO Kaye Shedlock' 29.53 136 P **P 23 35 25.6 +1.0**
baz=337
KSCO Kaye Shedlock' 29.53 136 *e*P **P 23 35 26.6 +1.9**
comp=Z,21nm,0.8s
J39A Decorah 29.54 117 P **P 23 35 25.0 +0.5**
baz=328
MVCO Mesa Verde 29.60 146 P **P 23 35 26.5 +1.1**
baz=342
MVCO Mesa Verde 29.60 146 *e*P **P 23 35 27.6 +2.2**
comp=Z,6.0nm,0.9s
I41A Arkdale 29.66 114 P **P 23 35 26.3 +0.7**
baz=327
E45A Wooded Hills, 29.72 106 P **P 23 35 26.8 +0.7**
baz=323
GSC Goldstone, Bar 29.81 160 P **P 23 35 28.7 +1.6**
baz=350
TUQ Turquoise Moun 29.81 159 P **P 23 35 28.9 +1.8**
baz=349
J40A Soldiers Grove 29.86 116 P **P 23 35 28.3 +0.9**
baz=328
SDCO Great Sand Dun 29.87 141 P **P 23 35 29.4 +1.5**
baz=340
N34A Lincoln 29.91 126 P **P 23 35 28.9 +1.1**
baz=332
EDW2 Edwards Air Fo 30.05 162 P **P 23 35 31.2 +2.0**
baz=351
L38A Oak Wood Farm, 30.07 120 P **P 23 35 30.3 +1.0**
baz=330
J41A Loganville 30.18 115 P **P 23 35 30.7 +0.5**
baz=327
O33A Hebron 30.21 128 P **P 23 35 31.0 +0.5**
baz=334,SNR=6.1
K40A Colesburg 30.30 117 P **P 23 35 31.5 +0.2**
baz=328
KILO Kirkland Lake 30.39 97 P **P 23 35 32.8 +0.7**
L39A Vinton 30.45 119 P **P 23 35 33.1 +0.5**
baz=329
GMRC Granite Mounta 30.49 159 P **P 23 35 34.6 +1.5**
baz=349,SNR=6.3
WUAZ Wupatki 30.57 152 P **P 23 35 35.3 +1.3**
baz=345
WUAZ Wupatki 30.57 152 *e*P **P 23 35 36.1 +2.2**
comp=Z,11nm,1.3s
J42A Columbus 30.57 114 P **P 23 35 34.2 +0.5**
baz=327
M38A Pleasantville 30.61 121 P **P 23 35 35.1 +1.1**
baz=330
CBKS Cedar Bluff 30.62 132 P **P 23 35 35.3 +1.2**
baz=336
CBKS Cedar Bluff 30.62 132 *e*P **P 23 35 35.5 +1.3**
comp=Z,22nm,0.8s
CBKS Cedar Bluff 30.62 132 *e*P **P 23 35 35.5 +1.3**
CBKS pmax pmax
comp=Z,22nm,0.8s
MWC Mount Wilson 30.69 163 *e*P **P 23 35 37.4 +2.4**
comp=Z,16nm,1.1s
MWC Mount Wilson 30.69 163 *e*P **P 23 35 37.4 +2.4**
MWC pmax pmax
comp=Z,17nm,1.1s
K41A Shullsburg 30.70 116 P **P 23 35 35.8 +1.0**
baz=328
BFSC Mount Baldy Ra 30.73 162 P **P 23 35 36.4 +1.1**
baz=351,SNR=6.2
J43A Natural Harves 30.80 113 P **P 23 35 36.1 +0.4**
baz=327
L40A Anamosa 30.81 118 P **P 23 35 36.8 +1.0**
baz=329
M39A Webster 30.94 120 P **P 23 35 37.7 +0.8**
baz=330
SUMG Summit 31.05 36 *i* P **P 23 35 39.0 +1.0**
comp=Z,21nm,1.3s
SUMG Summit 31.05 36 *e*P **P 23 35 38.8 +0.7**
comp=Z,15nm,1.1s
SUMG Summit 31.05 36 *e*P **P 23 35 38.8 +0.7**
SUMG pmax pmax
comp=Z,15nm,1.1s
L41A Preston 31.08 117 P **P 23 35 38.8 +0.7**
baz=329
O36A Bolckow 31.08 124 P **P 23 35 39.0 +0.8**
baz=332
N38A Joes South For 31.14 122 P **P 23 35 40.1 +1.4**
baz=331
GLMI Grayling 31.18 107 P **P 23 35 39.5 +0.5**
baz=324
GLMI Grayling 31.18 107 *e*P **P 23 35 40.3 +1.3**
comp=Z,42nm,1.0s
P35A Duane Minner, 31.24 126 P **P 23 35 40.2 +0.6**
baz=333,SNR=5.7
M40A Post Highland 31.26 119 P **P 23 35 40.5 +0.8**
baz=330
W18A Petrified Fore 31.31 149 *e*P **P 23 35 43.0 +2.6**
comp=Z,8.0nm,0.9s
N39A Derby Farms, D 31.34 121 P **P 23 35 41.2 +0.8**
baz=330
K43A Burlington 31.40 114 P **P 23 35 41.8 +0.8**
baz=327
KSU1 Kansas State U 31.41 128 P **P 23 35 42.0 +0.9**
baz=334
MURC Murrieta 31.42 161 P **P 23 35 43.1 +1.8**
baz=350
CIS Catalina Islan 31.46 163 P **P 23 35 43.4 +1.9**
baz=352
Q34A Chapman 31.46 128 P **P 23 35 42.4 +0.9**
baz=334,SNR=6.6
L42A Oliver, Polo 31.46 116 P **P 23 35 42.2 +0.7**
baz=328
SCHQ Schefferville 31.48 78 P **P 23 35 42.9 +1.3**
comp=Z,16nm,1.0s,baz=326,slow=8.2,SNR=13
SCHQ LR LR 23 49 06.1
comp=Z,147nm,19.2s,baz=326,slow=38
SCHQ Schefferville 31.48 78 P **P 23 35 41.1 -0.5**
SCHQ Schefferville 31.48 78 *e*P **P 23 35 42.8 +1.3**
comp=Z,18nm,1.0s
PFO Pinyon Flats O 31.52 160 P **P 23 35 44.6 +2.4**
comp=Z,17nm,0.5s,baz=251,slow=7.5,SNR=2.7
X16A Lo Mia Camp, P 31.62 152 *e*P **P 23 35 45.4 +2.2**
comp=Z,6.7nm,0.9s
BC3 Big Chuckawall 31.63 159 P **P 23 35 45.1 +1.9**
baz=349
M41A Milan 31.66 118 P **P 23 35 43.5 +0.2**
baz=329
VLDQ Val d'Or 31.67 96 P **P 23 35 41.9 -1.4**
Y14A Wickenburg 31.78 155 *e*P **P 23 35 47.8 +3.4**
comp=Z,28nm,0.9s
P37A Lathrop 31.78 124 P **P 23 35 45.1 +0.7**
baz=332
X18A Snowflake 31.83 150 *e*P **P 23 35 47.5 +2.5**
comp=Z,6.9nm,1.1s
Q35A Mercer Eighty, 31.83 127 P **P 23 35 45.3 +0.6**
baz=334
R34A Isabella, Hill 31.91 129 P **P 23 35 45.9 +0.4**
baz=335
P38A Dawn 32.05 123 P **P 23 35 47.0 +0.3**
baz=332
EEO Eldee 32.10 99 P **P 23 35 47.7 +0.6**
N41A Harden Midland 32.11 119 P **P 23 35 47.2 0.0**
baz=330
MONP2 Monument Peak 32.23 160 P **P 23 35 50.1 +1.5**
baz=350
O40A La Belle 32.23 121 P **P 23 35 48.3 0.0**
baz=331
R35A Emporia Munici 32.25 128 P **P 23 35 49.0 +0.5**
baz=334,SNR=6.3
ANMO Albuquerque 32.26 144 P **P 23 35 51.4 +2.5**
comp=Z,16nm,1.1s,baz=156,slow=9.7,SNR=16
ANMO Albuquerque 32.26 144 *e*P **P 23 35 51.0 +2.2**
baz=342
ANMO Albuquerque 32.26 144 *e*P **P 23 35 51.5 +2.7**
comp=Z,20nm,1.1s
ANMO Albuquerque 32.26 144 *ce*P **P 23 35 50.7 +1.9**
ANMO pmax pmax
comp=Z,23nm,1.2s
SWSC Sam W. Stewart 32.27 159 P **P 23 35 50.7 +2.1**
baz=350
N42A Yates City 32.32 118 P **P 23 35 49.0 -0.1**
baz=330
Q37A Longview Farm, 32.38 125 P **P 23 35 50.1 +0.5**
baz=333
BAR Barrett 32.40 161 *e*P **P 23 35 52.2 +2.3**
comp=Z,21nm,1.2s
P39B Salisbury 32.46 122 P **P 23 35 50.8 +0.5**
baz=332,SNR=6.6
R36A Gordon, Harris 32.49 127 P **P 23 35 50.5 -0.1**
baz=334,SNR=7.2
S34A Willow Spring 32.50 129 P **P 23 35 50.9 +0.2**
baz=335
Q38A Cooks Store, C 32.60 124 P **P 23 35 52.3 +0.8**
baz=332
LAZ Ladron 32.61 146 *e*P **P 23 35 55.5 +3.6**
O41A Passleys Farm, 32.61 119 P **P 23 35 51.6 0.0**
baz=330
P40A Paris 32.68 121 P **P 23 35 52.7 +0.5**
baz=331
R37A Teagarden Farm 32.74 126 P **P 23 35 53.7 +0.9**
baz=333
Q39A Willow Grove F 32.76 123 P **P 23 35 53.5 +0.6**
baz=332,SNR=8.1
S35A Otter Creek Ra 32.79 128 P **P 23 35 53.5 +0.3**
baz=335,SNR=9.2
HDIL Hopedale 32.85 117 *e*P **P 23 35 55.6 +1.9**
comp=Z,83nm,1.0s
P41A Barry, Barry 32.93 120 P **P 23 35 54.8 +0.5**
baz=331
BNM Barren Site 32.97 145 *e*P **P 23 35 57.8 +2.7**
SEY Seymchan 33.08 305 P **P 23 35 56.4 +0.9**
comp=Z,16nm,1.0s,baz=79,slow=5.3,SNR=44
T34A McClaskey Farm 33.09 130 P **P 23 35 56.3 +0.4**
baz=335
Q40A Laux Farm, Aux 33.14 122 P **P 23 35 56.2 -0.1**
baz=332,SNR=7.3
R38A Fenwick Farm, 33.18 125 P **P 23 35 56.6 0.0**
baz=333
S37A Fort Scott 33.24 126 P **P 23 35 58.0 +0.9**
baz=334
P42A Winchester 33.28 119 P **P 23 35 58.0 +0.6**
baz=331
CRLO Chalk River 33.31 98 P **P 23 35 58.4 +0.8**
R39A Chumby, Stover 33.38 124 P **P 23 35 59.0 +0.6**
baz=333,SNR=8.4
T35A Sooner Cattle 33.41 129 P **P 23 35 59.3 +0.6**
baz=335,SNR=6.8
Q41A Truxton 33.49 121 P **P 23 35 59.8 +0.5**
baz=331,SNR=5.9
O44A Mansfield 33.52 116 P **P 23 35 59.8 +0.3**
baz=329
GRQ Grand Remous 33.52 96 P **P 23 36 00.1 +0.6**
P43A Skaggs, Pawnee 33.55 118 P **P 23 36 00.2 +0.4**
baz=330
SADO Sadowa 33.55 101 P **P 23 35 59.4 -0.4**
SADO Sadowa 33.55 101 *e*P **P 23 36 01.3 +1.6**
comp=Z,37nm,1.5s
N46A Monticello 33.57 114 P **P 23 36 00.5 +0.5**
baz=328
AMTX Amarillo 33.63 138 P **P 23 36 01.8 +1.1**
baz=339
AMTX Amarillo 33.63 138 *e*P **P 23 36 02.9 +2.2**
comp=Z,27nm,0.9s
AAM Ann Arbor 33.65 109 *e*P **P 23 36 02.2 +1.6**
comp=Z,55nm,1.4s
AAM Ann Arbor 33.65 109 *e*P **P 23 36 02.2 +1.6**
AAM pmax pmax
comp=Z,55nm,1.4s
S38A Stockton 33.68 125 P **P 23 36 01.5 +0.6**
baz=333,SNR=6.5
R40A Maddies Statio 33.69 123 P **P 23 36 01.8 +0.8**
baz=332
O45A Potomac 33.73 115 P **P 23 36 01.9 +0.6**
baz=329
214A Organ Pipe Nat 33.74 155 P **P 23 36 02.6 +1.0**
baz=348
TUC Tucson 33.79 152 P **P 23 36 04.3 +2.2**
baz=346
TUC Tucson 33.79 152 *e*P **P 23 36 05.2 +3.1**
comp=Z,12nm,1.4s
TUC Tucson 33.79 152 *e*P **P 23 36 05.2 +3.1**
TUC pmax pmax
comp=Z,12nm,1.4s
Q42A Golden Eagle 33.79 120 P **P 23 36 03.2 +1.3**
baz=331
S39A Bolivar 33.83 124 P **P 23 36 02.7 +0.4**
baz=333,SNR=12
SFIN Lafayette 33.86 115 P **P 23 36 03.0 +0.5**
baz=329
R41A Rosebud 34.01 122 P **P 23 36 04.2 +0.4**
baz=332
P44A Sand Creek, Wi 34.05 117 P **P 23 36 04.5 +0.4**
baz=330
T38A Diamond 34.07 126 P **P 23 36 04.8 +0.4**
baz=334,SNR=8.6
Q43A New Douglas 34.09 119 P **P 23 36 04.5 0.0**
baz=331
SLM Saint Louis 34.15 120 *e*P **P 23 36 06.9 +1.9**
comp=Z,18nm,0.5s
SLM Saint Louis 34.15 120 *e*P **P 23 36 06.9 +1.9**
SLM pmax pmax
comp=Z,18nm,0.5s
MSTX Muleshoe 34.17 140 P **P 23 36 05.8 +0.3**
baz=340
MSTX Muleshoe 34.17 140 *e*P **P 23 36 07.9 +2.4**
comp=Z,17nm,1.0s
VABQ Val Des Bois 34.18 97 P **P 23 36 05.7 +0.5**
S40A Lebanon 34.21 124 P **P 23 36 05.5 -0.1**
baz=333,SNR=24
PLVO Plevna 34.23 99 *e*P **P 23 36 07.2 +1.5**
comp=Z,15nm,1.0s
121A Cookes Peak, D 34.24 148 P **P 23 36 07.0 +0.9**
baz=344
CCM Cathedral Cave 34.27 122 P **P 23 36 06.0 -0.1**
baz=332
CCM Cathedral Cave 34.27 122 *e*P **P 23 36 07.6 +1.5**
comp=Z,18nm,1.5s
CCM Cathedral Cave 34.27 122 *e*P **P 23 36 07.6 +1.5**
CCM pmax pmax
comp=Z,18nm,1.5s
P45A Graceland, Par 34.34 116 P **P 23 36 07.2 +0.6**
baz=330
O47A Sheridan 34.35 114 P **P 23 36 07.5 +0.7**
baz=329
Q44A Meyer Farm, Va 34.38 118 P **P 23 36 07.3 +0.3**
baz=331
TRQ Mont Tremblant 34.39 95 P **P 23 36 07.6 +0.4**
TRQ Mont Tremblant 34.39 95 *e*P **P 23 36 08.4 +1.3**
GAC Glen Almond 34.40 97 P **P 23 36 07.5 +0.4**
T39A Clever 34.41 125 P **P 23 36 07.5 +0.2**
baz=334
P46A Rosedale 34.47 115 P **P 23 36 08.3 +0.5**
baz=329
DAQ Lac Daran 34.50 90 P **P 23 36 08.6 +0.5**
S41A Jillco Farms, 34.50 123 P **P 23 36 08.5 +0.4**
baz=332,SNR=5.4
OK021 N3530 Road, Sp 34.53 130 *e*P **P 23 36 09.6 +1.2**
comp=Z,24nm,1.0s
OK020 N3440 Road, Me 34.54 131 *e*P **P 23 36 10.0 +1.6**
comp=Z,23nm,1.0s
TUL1 Leonard 34.57 129 P **P 23 36 08.9 +0.2**
baz=335
TUL1 Leonard 34.57 129 *e*P **P 23 36 10.1 +1.4**
comp=Z,16nm,1.1s
T40A Mansfield 34.61 124 P **P 23 36 09.4 +0.4**
baz=333,SNR=8.7
OK022 N3560 Road, Pr 34.61 130 *e*P **P 23 36 10.2 +1.2**
comp=Z,33nm,1.0s
TIXI Tiksi 34.63 327 P **P 23 36 09.1 +0.3**
comp=Z,11nm,1.2s,baz=72,slow=11,SNR=8.1
TIXI Tiksi 34.63 327 *e*P **P 23 36 08.9 +0.1**
comp=Z,5.3nm,0.9s
TIXI Tiksi 34.63 327 *e*P **P 23 36 08.9 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 34.66 134 P **P 23 36 10.5 +1.0**
baz=338,SNR=9.5
WMOK Wichita Mounta 34.66 134 *e*P **P 23 36 11.2 +1.7**
comp=Z,11nm,0.9s
WMOK Wichita Mounta 34.66 134 *e*P **P 23 36 11.2 +1.7**
WMOK pmax pmax
comp=Z,11nm,0.9s
S42A Caledonia 34.69 121 P **P 23 36 09.8 +0.1**
baz=332
ALFO Alfred 34.71 96 P **P 23 36 09.1 -0.7**
baz=322,SNR=6.5
Q45A Warren Harvey, 34.72 117 P **P 23 36 10.7 +0.8**
baz=330
SMQ Clarke City 34.80 84 P **P 23 36 10.0 -0.6**
DPQ Saint Jean 34.81 93 P **P 23 36 11.2 +0.5**
HHAR Hobbs 34.87 126 *e*P **P 23 36 12.1 +0.8**
comp=Z,16nm,1.2s
CNQ Baie Comeau 34.88 86 P **P 23 36 11.7 +0.4**
OLIL Olney 34.88 117 *e*P **P 23 36 12.2 +0.8**
comp=Z,20nm,0.8s
Q46A CEJHS Indians, 34.92 116 P **P 23 36 12.4 +0.7**
baz=330
U39A Green Forest 34.95 126 P **P 23 36 11.7 -0.2**
baz=334,SNR=5.6
P47A Martinsville 34.96 114 P **P 23 36 11.8 -0.2**
baz=329
T41A Mountain View 34.98 123 P **P 23 36 12.4 +0.2**
baz=333
WBO Williamsburg 35.04 97 P **P 23 36 13.2 +0.6**
ICQ Pointe Anglais 35.07 85 P **P 23 36 13.4 +0.5**
KGNO Kingston 35.12 99 P **P 23 36 13.8 +0.4**
S43A Fulton Ridge, 35.14 121 P **P 23 36 13.5 -0.1**
baz=332
U40A Yellville 35.19 125 P **P 23 36 14.3 +0.2**
baz=334,SNR=12
R45A Skylar, Fairfi 35.20 118 P **P 23 36 14.1 +0.1**
baz=331
A64 Saint Simeon 35.20 89 P **P 23 36 14.6 +0.7**
A61 Sainte Mathild 35.21 89 P **P 23 36 14.9 +0.7**
T42A Van Buren 35.24 122 P **P 23 36 14.8 +0.4**
baz=333
A54 Misere 35.25 90 P **P 23 36 14.5 0.0**
S44A Carbondale 35.34 119 P **P 23 36 15.7 +0.4**
baz=332
MNTQ Montreal, Queb 35.36 95 P **P 23 36 16.2 +0.8**
Q47A Bedord North L 35.37 115 P **P 23 36 15.4 -0.1**
baz=330
V39A Pettigrew 35.38 126 P **P 23 36 15.8 +0.1**
baz=334
A21 Saint Andre 35.38 89 P **P 23 36 16.3 +0.8**
A16 Riviere Ouelle 35.42 90 P **P 23 36 16.5 +0.7**
T43A Greenville 35.49 121 P **P 23 36 16.8 +0.2**
baz=332
A11 Saint Roch-des 35.51 90 P **P 23 36 17.6 +1.0**
U41A Viola 35.54 124 P **P 23 36 17.3 +0.2**
baz=333
R46A Gibon Southern 35.56 117 P **P 23 36 17.2 -0.1**
baz=330
S45A Carrier Mills 35.62 119 P **P 23 36 17.9 +0.2**
baz=331
MNTX Cornudas Mount 35.62 145 P **P 23 36 18.7 +0.9**
baz=343,SNR=6.4
MNTX Cornudas Mount 35.62 145 *e*P **P 23 36 20.2 +2.4**
comp=Z,8.3nm,1.0s
LONY Lake Ozonia 35.64 97 P **P 23 36 17.4 -0.5**
baz=323
LONY Lake Ozonia 35.64 97 *e*P **P 23 36 19.3 +1.5**
comp=Z,12nm,1.0s
ACSO Alum Creek Sta 35.66 110 P **P 23 36 18.4 +0.4**
baz=328
ACSO Alum Creek Sta 35.66 110 *e*P **P 23 36 20.1 +2.0**
comp=Z,20nm,0.9s
ALLY Alegheny Colle 35.66 106 *e*P **P 23 36 20.1 +2.1**
comp=Z,61nm,1.0s
V40A Witts Springs 35.70 125 P **P 23 36 18.6 +0.1**
baz=334
U42A Revenden 35.78 123 P **P 23 36 19.2 +0.1**
baz=333
MA2 Magadan 35.86 301 P **P 23 36 20.2 +0.6**
comp=Z,3.2nm,0.3s,baz=55,slow=12,SNR=4.8
MA2 Magadan 35.86 301 *ce*P **P 23 36 19.5 0.0**
W39A Magazine 35.91 127 P **P 23 36 20.5 +0.4**
baz=335
S46A Don Dixon Farm 35.94 118 P **P 23 36 20.4 0.0**
baz=331
V41A Mountainview 35.95 124 P **P 23 36 20.9 +0.2**
baz=334,SNR=10
M54A Oil Creek Stat 35.98 105 P **P 23 36 20.9 +0.1**
baz=326,SNR=5.4
M54A Oil Creek Stat 35.98 105 *e*P **P 23 36 22.7 +1.9**
comp=Z,27nm,0.9s
MOQ Mont Orford 36.11 94 P **P 23 36 23.3 +1.4**
N54A Moraine State 36.29 106 P **P 23 36 23.9 +0.4**
baz=326
NCB Newcomb 36.31 97 *e*P **P 23 36 24.9 +1.3**
comp=Z,64nm,1.9s
ABTX Abilene, Hawle 36.35 136 P **P 23 36 24.5 +0.4**
baz=339
X39A Fountain Ranch 36.41 128 P **P 23 36 25.0 +0.4**
baz=336,SNR=7.2
NATG Natashquan Que 36.44 80 P **P 23 36 25.2 +0.7**
MIAR Mount Ida 36.56 127 P **P 23 36 26.0 +0.1**
baz=335,SNR=9.1
MIAR Mount Ida 36.56 127 *e*P **P 23 36 26.9 +1.0**
comp=Z,21nm,1.0s
MIAR Mount Ida 36.56 127 *e*P **P 23 36 26.9 +1.0**
MIAR pmax pmax
comp=Z,21nm,1.0s
S48A Wiedeman Farm, 36.62 116 P **P 23 36 25.9 -0.3**
baz=330,SNR=5.1
T47A Sharon Grove 36.79 117 P **P 23 36 27.3 -0.4**
baz=331
X40A Basin Creek Fa 36.88 126 P **P 23 36 28.4 -0.1**
baz=335
PQI Presque Isle 36.90 89 *e*P **P 23 36 30.4 +1.9**
comp=Z,23nm,1.0s
U47A Clarksville 37.19 118 P **P 23 36 31.2 +0.1**
baz=332
WVT Waverly 37.26 119 P **P 23 36 32.0 +0.2**
baz=332
WVT Waverly 37.26 119 *e*P **P 23 36 32.8 +1.1**
comp=Z,42nm,1.8s
WVT Waverly 37.26 119 *e*P **P 23 36 32.8 +1.1**
WVT pmax pmax
comp=Z,42nm,1.8s
BATG Bathurst New B 37.29 86 P **P 23 36 32.6 +0.7**
MCWV Mont Chateau 37.44 107 P **P 23 36 33.6 +0.4**
baz=327,SNR=5.9
MCWV Mont Chateau 37.44 107 *e*P **P 23 36 35.2 +1.9**
comp=Z,36nm,1.0s
SSPA Standing Stone 37.45 104 P **P 23 36 33.4 +0.1**
baz=326
SSPA Standing Stone 37.45 104 *e*P **P 23 36 34.4 +1.1**

comp=Z,20nm,1.1s
O56A **Blue Knob Stat** 37.47 105 P P 23 36 33.3 -0.3
baz=327,SNR=7.8
WLAR **White Oak Lake** 37.50 127 *e*P P 23 36 35.7 +1.9
comp=Z,28nm,0.9s
Y41A **Eaglette Beard** 37.50 126 P P 23 36 35.0 +1.2
baz=335
WHTX **Lake Whitney,** 37.61 134 P P 23 36 35.7 +1.0
baz=338
V47A **Nunnelly** 37.64 119 P P 23 36 35.6 +0.6
baz=332
PETK **Petropavlovsk-** 37.65 289 P P 23 36 36.4 +1.5
comp=Z,7.6nm,0.9s,baz=83,slow=14,SNR=3.8
V48A **Smith Brothers** 37.99 118 P P 23 36 38.4 +0.5
baz=332
OXF **Oxford** 38.10 122 P P 23 36 38.9 +0.1
baz=334,SNR=7.9
OXF **Oxford** 38.10 122 *e*P P 23 36 40.3 +1.5
comp=Z,78nm,1.1s
OXF **Oxford** 38.10 122 *e*P P 23 36 40.3 +1.5
OXF pmax pmax
comp=Z,78nm,1.1s
N59A **State Game Lan** 38.12 102 P P 23 36 39.2 +0.2
baz=326
W47A **Westpoint** 38.12 119 P P 23 36 39.6 +0.5
baz=332
X45A **UM Field Stati** 38.18 122 P P 23 36 39.9 +0.4
baz=334
Z42A **Norrel Spur, H** 38.29 126 P P 23 36 40.9 +0.5
baz=335
JCT **Junction City** 38.30 138 P P 23 36 41.6 +1.0
baz=340,SNR=7.1
JCT **Junction City** 38.30 138 *e*P P 23 36 41.6 +1.0
comp=Z,18nm,0.9s
JCT **Junction City** 38.30 138 *e*P P 23 36 41.6 +1.0
JCT pmax pmax
comp=Z,18nm,0.9s
TX31 **Lajitas Ar. Si** 38.31 143 *e*P P 23 36 42.9 +2.1
TXAR **Lajitas Array** 38.31 143 P P 23 36 42.8 +2.0
comp=Z,6.2nm,1.1s,baz=350,slow=6.7,SNR=17
TXAR PcP PcP 23 38 56.7 +2.2
comp=Z,0.8nm,0.8s,baz=336,slow=2.0,SNR=3.5
TXAR LR LR 23 55 27.4
comp=Z,91nm,20.0s,baz=0.0,slow=41
W48A **Pulaski** 38.48 119 P P 23 36 42.5 +0.5
baz=332
TZTN **Tazewell** 38.58 114 P P 23 36 43.0 +0.2
baz=330
TZTN **Tazewell** 38.58 114 *e*P P 23 36 44.0 +1.2
comp=Z,13nm,0.9s
Y45A **Yeager Farm, C** 38.62 123 P P 23 36 43.6 +0.3
baz=334
GGN **Saint George** 38.63 89 P P 23 36 44.2 +1.0
X47A **Russelville** 38.67 120 P P 23 36 43.9 +0.2
baz=333
435B **Jarrell** 38.69 135 P P 23 36 44.4 +0.5
baz=339
NATX **Nacogdoches** 38.73 130 P P 23 36 44.8 +0.6
baz=337
NATX **Nacogdoches** 38.73 130 *e*P P 23 36 46.1 +1.9
comp=Z,33nm,1.0s
LMN **Caledonia Moun** 38.94 87 P P 23 36 46.7 +0.9
LMN **Caledonia Moun** 38.94 87 *e*P P 23 36 47.3 +1.5
comp=Z,45nm,1.2s
X48A **Hartselle** 39.04 119 P P 23 36 47.3 +0.5
baz=333
TKL **Tuckaleechee C** 39.26 115 P P 23 36 49.6 +1.0
comp=Z,6.8nm,0.9s,baz=316,slow=5.7,SNR=7.2
TKL LR LR 23 53 09.4
comp=Z,138nm,18.2s,baz=304,slow=36
BLA **Blacksburg** 39.27 110 P P 23 36 49.3 +0.6
baz=329
BLA **Blacksburg** 39.27 110 *e*P P 23 36 50.3 +1.6
comp=Z,22nm,1.1s
BLA **Blacksburg** 39.27 110 *e*P P 23 36 50.3 +1.6
BLA pmax pmax
comp=Z,22nm,1.1s
Z46A **Louisville** 39.45 122 P P 23 36 50.9 +0.8
baz=334,SNR=6.3
DRLN **Deer Lake** 39.49 77 P P 23 36 51.4 +1.0
IP04 **Greensprings** 39.49 107 *e*P P 23 36 52.1 +1.6
comp=Z,22nm,1.1s
X50A **Fort Payne** 39.57 118 P P 23 36 51.6 +0.4
baz=332,SNR=5.0
IP03 **Louisa** 39.59 107 *e*P P 23 36 53.2 +1.9
comp=Z,28nm,1.0s
341A **Kurthwood** 39.63 129 P P 23 36 53.2 +1.6
baz=337
CVRD **Centerville Ro** 39.63 106 *e*P P 23 36 52.5 +0.8
comp=Z,15nm,0.9s
SPRD **Spring Road, M** 39.64 106 *e*P P 23 36 53.6 +1.9
comp=Z,20nm,1.0s
IP07 **Quail** 39.67 107 *e*P P 23 36 54.0 +2.1
comp=Z,25nm,0.9s
IP06 **Yanceyville** 39.67 107 *e*P P 23 36 54.0 +2.0
comp=Z,29nm,1.0s
IP01 **Cuckoo** 39.69 106 *e*P P 23 36 54.0 +2.0
comp=Z,27nm,1.0s
CBN **Corbin Frederi** 39.70 106 P P 23 36 52.4 +0.1
baz=328
CBN **Corbin Frederi** 39.70 106 *e*P P 23 36 53.6 +1.4
comp=Z,28nm,0.8s
Z47A **Carrollton** 39.77 121 P P 23 36 52.9 +0.1
baz=334
Z48A **Northport** 39.80 121 P P 23 36 53.5 +0.4
baz=334
Y49A **Blount Mountai** 39.81 119 P P 23 36 53.5 +0.4
baz=333
244A **Avery, Jackson** 39.85 125 P P 23 36 54.2 +0.7
baz=335
HKT **Hockley** 40.02 133 *e*P P 23 36 57.1 +2.3
comp=Z,31nm,1.5s
HKT **Hockley** 40.02 133 *e*P P 23 36 57.1 +2.3
HKT pmax pmax
comp=Z,31nm,1.5s
Y50A **Piedmont** 40.04 118 P P 23 36 55.1 0.0
baz=333
147A **Livingston** 40.16 122 P P 23 36 56.3 +0.2
baz=334
LRAL **Lakeview Retre** 40.31 120 P P 23 36 58.0 +0.6
baz=334
LRAL **Lakeview Retre** 40.31 120 *e*P P 23 36 58.8 +1.4
comp=Z,8.0nm,1.0s
Z49A **Columbiana** 40.35 120 P P 23 36 58.2 +0.5
baz=333
Z50A **Ashland** 40.53 119 P P 23 36 59.6 +0.5
baz=333,SNR=5.2
247A **Quitman** 40.59 123 P P 23 37 00.7 +1.0
baz=334
149A **Jones** 40.78 120 P P 23 37 01.7 +0.4
baz=334,SNR=5.3
BORG **Borgarnes** 40.88 39 LR LR 23 54 14.9
comp=Z,215nm,18.1s,baz=329,slow=37
346A **Big Creek Wild** 40.88 124 P P 23 37 02.7 +0.7
baz=335
150A **Eclectic** 41.07 119 P P 23 37 04.2 +0.6
baz=333
HODGE **Hodges** 41.10 114 *e*P P 23 37 05.2 +1.3
comp=Z,8.1nm,1.0s
347A **Saraland** 41.20 123 P P 23 37 05.4 +0.7
baz=335
YAK **Yakutsk** 41.30 316 *e*P P 23 37 04.7 -0.5
YAK pmax pmax
comp=Z,26nm,1.0s
GOGA **Godfrey** 41.34 116 P P 23 37 06.5 +0.7
baz=332
GOGA **Godfrey** 41.34 116 *e*P P 23 37 07.5 +1.6
comp=Z,10nm,0.9s
GOGA **Godfrey** 41.34 116 *e*P P 23 37 07.5 +1.6
GOGA pmax pmax
comp=Z,10.0nm,0.9s
JSC **Jenkinsville** 41.46 113 *e*P P 23 37 08.2 +1.4
comp=Z,9.8nm,0.8s
JSC **Jenkinsville** 41.46 113 *e*P P 23 37 08.2 +1.4
JSC pmax pmax
comp=Z,10.0nm,0.8s
250A **Grady** 41.53 120 P P 23 37 08.0 +0.6
baz=334
447A **Lucedale** 41.71 124 P P 23 37 09.6 +0.8
baz=335
251A **Midway** 41.76 119 P P 23 37 09.5 +0.3
baz=333
LPIG **La Paz** 41.86 154 LR LR 23 56 27.4
comp=Z,97nm,21.9s,baz=109,slow=39
LNIG **Linares** 43.66 140 *e*P P 23 37 26.3 +1.6
comp=Z,23nm,1.8s
NKL **Nikolayevsk** 44.38 301 *e*P P 23 37 30.8 +0.6
NKL pmax pmax
comp=N,10.0nm,1.0s
NKL pmax pmax
comp=Z,25nm,1.0s
ARCES **ARCESS Array B** 45.33 12 P P 23 37 37.3 -0.4
comp=Z,8.2nm,1.1s,baz=347,slow=7.4,SNR=3.9
TYV **Tymovskoe** 45.42 297 *e*P P 23 37 38.6 +0.1
TYV pmax pmax
comp=Z,13nm,1.2s
YSS **Yuzh-Sakhalins** 48.51 294⇑*e*P P 23 38 03.2 +0.5
YSS pmax pmax
comp=Z,10.0nm,0.7s
BOD **Bodaibo** 49.31 321 *e*P P 23 38 07.2 -1.5
BOD pmax pmax
comp=Z,15nm,1.0s
KLR **Kul'dur** 50.86 304 P P 23 38 20.5 -0.1
comp=Z,0.2nm,0.9s,baz=28,slow=10,SNR=4.9
KLR **Kul'dur** 50.86 304 *e*P P 23 38 19.2 -1.4
NC303 **NORSAR Array S** 51.36 23 *e*P P 23 38 24.9 +0.7
NB2 **NORSAR Subarra** 51.51 24 P P 23 38 25.1 -0.3
comp=Z,3.9nm,0.7s,baz=338,slow=7.9
NB2 **NORSAR Subarra** 51.51 24 P P 23 38 25.1 -0.3
NB2 pmax pmax
comp=Z,3.0nm,0.7s
NOA **NORSAR Array B** 51.51 24 P P 23 38 25.2 -0.2
comp=Z,10nm,0.9s,baz=338,slow=7.7,SNR=12
NOA LR LR 23 59 21.5
comp=Z,148nm,21.5s,baz=335,slow=35
NC405 **NORSAR Array S** 51.53 23 *e*P P 23 38 25.6 +0.2
TMCR **Tamitsa** 51.58 7 *e*P P 23 38 23.3 -2.4
JOF **Joensuu** 52.34 11 P P 23 38 32.9 +1.5
JOF pmax pmax
comp=Z,49nm,0.8s
HFS **Hagfors** 52.79 23 P P 23 38 35.0 +0.2
comp=Z,7.3nm,0.6s,baz=347,slow=5.9,SNR=22
HFS LR LR 00 00 34.5
comp=Z,275nm,18.8s,baz=16,slow=36
HFS **Hagfors** 52.79 23 P P 23 38 35.0 +0.2
FIA1 **FINESS Array S** 53.26 15 *e*P P 23 38 38.6 +0.3
FINES **FINESS Array B** 53.26 15 P P 23 38 38.2 -0.1
comp=Z,6.8nm,0.8s,baz=0.3,slow=9.4,SNR=20
FINES LR LR 00 02 38.6
comp=Z,110nm,19.4s,baz=22,slow=38
FINES **FINESS Array B** 53.26 15 *i* P P 23 38 38.5 +0.2
FINES pmax pmax
comp=Z,7.0nm,0.8s
EKA **Eskdalemuir Ar** 53.67 35 P P 23 38 41.9 +0.5
comp=Z,6.1nm,0.6s,baz=336,slow=4.9,SNR=24
KLMR **Klimovskoe** 54.96 7 *e*P P 23 38 48.7 -1.9
KLMR pmax pmax
comp=Z,41nm,1.1s
KLMR **Klimovskoe** 54.96 7 *e*P P 23 38 48.8 -1.9
KLMR AMP 23 38 51.9
comp=Z,41nm,1.1s
HIA **Hailar** 54.98 312 *e*P P 23 38 50.7 -0.4
HIA pmax pmax
comp=Z,9.0nm,1.0s
USRK **Ussuriysk Ar.** 55.00 300 P P 23 38 51.0 -0.2
comp=Z,2.8nm,0.8s,baz=28,slow=8.6,SNR=5.5
VSU **Vasula** 56.25 15*ce*P P 23 38 58.4 -1.5
VSU pmax pmax
comp=Z,111nm,1.7s
SOKR **Solikamsk** 56.47 357⇑*i*P P 23 38 59.2 -2.3
SOKR pmax pmax
comp=Z,17nm,1.0s
TLY **Talaya** 57.53 324 *e*P P 23 39 09.3 +0.1
comp=Z,6.1nm,0.9s
TLY **Talaya** 57.53 324 *e*P P 23 39 09.0 -0.2
TLY pmax pmax
comp=Z,8.0nm,1.0s
MOY **Mondy** 58.20 326 *e*P P 23 39 14.8 +0.8
MOY pmax pmax
comp=Z,24nm,2.2s
NVS **Novosibirsk** 58.78 339 *e*P P 23 39 17.4 -0.4
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS pmax pmax
comp=Z,16nm,1.0s
ZAK **Zakamensk** 58.81 324 *e*P P 23 39 17.9 -0.3
ZAK pmax pmax
comp=Z,4.0nm,1.1s
IZAR **Zarasai** 58.85 16 *e*P P 23 39 19.1 +0.8
IZAR IAmb IAmb 23 39 20.1
comp=Z,7.3nm,0.8s
MJAR **Matsushiro Arr** 59.08 290 LR LR 00 06 18.6
comp=Z,62nm,18.4s,baz=105,slow=38
SVE **Sverdlovsk** 59.10 354⇑*e*P P 23 39 20.7 +0.6
SVE pmax pmax
comp=Z,19nm,1.1s
IIGN **Ignalina** 59.24 16 *e*P P 23 39 21.8 +0.8
IIGN IAmb IAmb 23 39 22.8
comp=Z,11nm,0.9s
IDID **Didziasalis** 59.33 16 *e*P P 23 39 22.4 +0.8
IDID IAmb IAmb 23 39 23.4
comp=Z,8.9nm,0.9s
ZAA0 **Zalesovo Array** 59.38 338 *e*P P 23 39 22.2 +0.2
ZALV **Zalesovo Beam** 59.38 338 P P 23 39 21.9 -0.1
comp=Z,12nm,0.8s,baz=12,slow=7.6,SNR=42
ZALV LR LR 00 10 08.3
comp=Z,32nm,18.3s,baz=205,slow=41
ZALV **Zalesovo Beam** 59.38 338 *e*P P 23 39 21.6 -0.4
ZALV **Zalesovo Beam** 59.38 338 *e*P P 23 39 21.6 -0.4
ARU **Arti** 59.59 355 P P 23 39 23.9 +0.5
comp=Z,13nm,0.8s,baz=345,slow=2.0,SNR=29
ARU **Arti** 59.59 355 *e*P P 23 39 23.8 +0.4
comp=Z,23nm,0.9s
ARU **Arti** 59.59 355*c i*P P 23 39 23.5 +0.1
ARU 23 40 10.4
ARU 23 41 33.8
ARU S S 23 47 35.4 +2.5
ARU SS SS 23 51 31.9 +4.7
ARU pmax pmax
comp=Z,35nm,1.2s
NACGM **Naroch** 59.74 16 *e* P 23 39 24.0 -0.5
BEBN **Eben Emael** 59.97 32 ⇑P P 23 39 27.6 +1.6
HGN **Heimansgroeve** 60.05 31 *e*P P 23 39 27.2 +0.5
comp=Z,42nm,1.1s
ULN **Ulaanbaatar** 60.09 320 *e*P P 23 39 28.0 +0.8
comp=Z,7.5nm,1.0s
ULN **Ulaanbaatar** 60.09 320*ce*P P 23 39 26.5 -0.7
ULN pmax pmax
comp=Z,6.0nm,0.8s
MEM **Membach** 60.22 31 ⇑P P 23 39 28.6 +0.8
comp=Z,35nm,1.0s
MEM **Membach** 60.22 31 P P 23 39 29.1 +1.3
MEM pmax pmax
comp=Z,52nm,1.0s
BCLA **Clavier** 60.23 32 ⇑P P 23 39 28.4 +0.5
comp=Z,9.5nm,0.8s
SGMF **Saint Gilles** 60.25 38 *e*P P 23 39 28.5 +0.5
SGMF pmax pmax
comp=Z,18nm,1.0s
SONA1 **Songino Array** 60.29 321 *e*P P 23 39 29.1 +0.6
SONM **Songino Array** 60.30 321 P P 23 39 29.6 +1.0
comp=Z,6.1nm,0.9s,baz=25,slow=4.9,SNR=23
SONM LR LR 00 09 13.2
comp=Z,45nm,18.7s,baz=18,slow=40
BAIF **Baives** 60.31 33 *e*P P 23 39 29.1 +0.7
BAIF pmax pmax
comp=Z,10.0nm,1.0s
FLN **La Foliniere** 60.34 37 *e*P P 23 39 29.0 +0.4
FLN pmax pmax
comp=Z,25nm,1.1s
DOU **Dourbes** 60.37 33 ⇓P P 23 39 29.7 +0.9
HVS **Khovu-Aksy** 60.37 331 *e*P P 23 39 29.7 +0.7
HVS pmax pmax
comp=Z,56nm,0.9s
GIVF **Givet** 60.41 32 *e*P P 23 39 29.8 +0.6
GIVF pmax pmax
comp=Z,19nm,0.9s
OBN **Obninsk** 60.49 10 P P 23 39 29.8 +0.2
comp=Z,13nm,0.7s,baz=171,slow=23,SNR=5.6
OBN **Obninsk** 60.49 10 *e*P P 23 39 29.9 +0.3
comp=Z,17nm,0.9s
OBN **Obninsk** 60.49 10*ce*P P 23 39 28.3 -1.3
OBN *e* 23 39 34.0
OBN *e* 23 40 13.1
OBN *e* 23 41 40.4
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,240nm,18.0s
GRR **Gorron** 60.58 37 *e*P P 23 39 30.8 +0.5
GRR pmax pmax
comp=Z,17nm,1.1s
LDF **La Druitiere** 60.59 37 *e*P P 23 39 30.6 +0.2
LDF pmax pmax
comp=Z,17nm,1.0s
CLL **Collm** 61.04 26 *i* P P 23 39 33.8 +0.5
comp=Z,15nm,1.0s
CLL *e*(sP) sP 23 39 45.0 +7.2
CLL *e* 23 40 03.0
CLL **Collm** 61.04 26 *e*P P 23 39 33.9 +0.5
comp=Z,12nm,0.9s
CLL **Collm** 61.04 26 *e*P P 23 39 33.9 +0.5
CLL pmax pmax
comp=Z,13nm,0.9s
WLF **Walferdange** 61.13 32 ⇑P P 23 39 35.4 +1.4
WLF **Walferdange** 61.13 32 *e*P P 23 39 35.3 +1.2
comp=Z,15nm,1.1s
WLF **Walferdange** 61.13 32 *e*P P 23 39 35.3 +1.2
WLF pmax pmax
comp=Z,15nm,1.1s
MOX **Moxa** 61.39 28 P P 23 39 37.0 +1.2
MOX pmax pmax
comp=Z,20nm,1.0s
BRG **Berggiesshubel** 61.63 26 *e*P P 23 39 38.0 +0.6
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 61.63 26 *e*P P 23 39 38.0 +0.6
BRG pmax pmax
comp=Z,11nm,1.0s
NKC **Novy Kostel** 61.95 27 *e*P P 23 39 40.5 +0.9
NKC **Novy Kostel** 61.95 27 *e*P P 23 39 40.5 +0.9
PVCC **Panska Ves** 62.08 26 *e*P P 23 39 41.8 +1.3
PVCC **Panska Ves** 62.08 26 *e*P P 23 39 41.8 +1.3
BRVK **Borovoye** 62.17 347 *e*P P 23 39 41.7 +0.7
comp=Z,16nm,0.9s
BRVK **Borovoye** 62.17 347 *ce*P P 23 39 41.4 +0.4
BRVK pmax pmax
comp=Z,58nm,1.2s
BVAR **Borovoye Array** 62.19 347 P P 23 39 41.5 +0.4
comp=Z,7.1nm,0.7s,baz=3.6,slow=4.8,SNR=25
UPC **Upice** 62.37 25 *e*P P 23 39 43.9 +1.5
UPC **Upice** 62.37 25 *e*P P 23 39 43.9 +1.5
KSRS **Korea Array** 62.38 299 P P 23 39 42.9 +0.4
comp=Z,1.9nm,0.9s,baz=46,slow=7.3,SNR=4.0
KSAR **Wonju Array Be** 62.40 299 P P 23 39 42.9 +0.1
KSAR **Wonju Array Be** 62.40 299 P P 23 39 42.9 +0.1
CDF **Champ du Feu** 62.56 31 *e*P P 23 39 44.7 +0.9
CDF pmax pmax
comp=Z,13nm,1.2s
DPC **Dobruska-Polom** 62.58 24 *e*P P 23 39 44.9 +1.1
DPC **Dobruska-Polom** 62.58 24 *e*P P 23 39 44.9 +1.1
PRU **Pruhonice** 62.59 26 *e*P P 23 39 45.1 +1.2
PRU **Pruhonice** 62.59 26 *e*P P 23 39 45.1 +1.2
GOPC **GO Pecny, Ondr** 62.71 26 *e*P P 23 39 46.6 +1.9
GOPC **GO Pecny, Ondr** 62.71 26 *e*P P 23 39 46.6 +1.9
HAU **Haudompre** 62.73 32 *e*P P 23 39 45.4 +0.5
HAU pmax pmax
comp=Z,7.0nm,0.9s
BFO **Black Forest** 62.88 31 *e*P P 23 39 46.8 +0.9
comp=Z,8.0nm,0.9s
BFO **Black Forest** 62.88 31 *e*P P 23 39 46.8 +0.9
BFO pmax pmax
comp=Z,8.0nm,0.9s
HINF **Hinteralfeld** 63.03 32 *e*P P 23 39 47.3 +0.4
HINF pmax pmax
comp=Z,11nm,1.2s
LPSR **Galich'ya Gora** 63.15 8 *e*P P 23 39 48.0 +0.5
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KHC **Kasperske Hory** 63.23 27 *e*P P 23 39 49.4 +1.2
KHC **Kasperske Hory** 63.23 27 *e*P P 23 39 49.4 +1.2
comp=Z,6.5nm,1.0s
KHC **Kasperske Hory** 63.23 27 *e*P P 23 39 49.4 +1.2
KHC pmax pmax
comp=Z,6.0nm,1.0s
BGF **Bois d'Agland** 63.23 35 *e*P P 23 39 48.6 +0.4
BGF pmax pmax
comp=Z,21nm,0.9s
OJC **Ojcow** 63.30 22 *e*P P 23 39 49.6 +1.0
comp=Z,9.5nm,1.0s
OJC **Ojcow** 63.30 22 *e*P P 23 39 49.6 +1.0
OJC pmax pmax
comp=Z,10.0nm,1.0s
MORC **Moravsky Berou** 63.35 24⇑*i*P P 23 39 49.7 +0.7
MORC **Moravsky Berou** 63.35 24 *e*P P 23 39 49.9 +0.9
comp=Z,23nm,0.8s
MORC **Moravsky Berou** 63.35 24 P P 23 39 49.7 +0.7
OKC **Ostrava-Krasne** 63.40 23 *e*P P 23 39 50.0 +0.8
OKC **Ostrava-Krasne** 63.40 23 *e*P P 23 39 50.0 +0.8
SMF **Signal de Mont** 63.40 35 *e*P P 23 39 49.6 +0.3
SMF pmax pmax
comp=Z,8.0nm,0.9s
TREC **Trest** 63.44 25 *e*P P 23 39 50.6 +1.1
TREC **Trest** 63.44 25 *e*P P 23 39 50.6 +1.1
SLE **Schleitheim** 63.45 31 P P 23 39 51.0 +1.3
KURK **Kurchatov** 63.47 341 *e*P P 23 39 49.8 +0.1
comp=Z,37nm,1.1s
KURK **Kurchatov** 63.47 341 *ce*P P 23 39 49.5 -0.2
KURK pmax pmax
comp=Z,147nm,1.2s
GEC2 **GERESS Array S** 63.52 27 *e*P P 23 39 51.5 +1.3
comp=Z,11nm,0.9s
GEC2 **GERESS Array S** 63.52 27 *e*P P 23 39 51.5 +1.3
GEC2 pmax pmax
comp=Z,11nm,0.9s
GERES **GERESS Array B** 63.52 27 P P 23 39 51.4 +1.1
comp=Z,11nm,1.1s,baz=347,slow=5.5,SNR=38
GEA0 **GERESS Array S** 63.53 27 *e*P P 23 39 50.8 +0.5
VRAC **Vranov** 63.63 25 P P 23 39 52.5 +1.7
comp=Z,11nm,1.0s,baz=345,slow=7.2,SNR=12
VRAC **Vranov** 63.63 25 ⇑*i*P P 23 39 51.8 +1.0
VRAC **Vranov** 63.63 25 P P 23 39 51.8 +1.0
CABF **La Chapelle** 63.98 33 *e*P P 23 39 54.0 +0.8
CABF pmax pmax
comp=Z,17nm,1.1s
AKASG **Malin Array Be** 64.16 15 P P 23 39 54.3 +0.1
comp=Z,14nm,0.9s,baz=351,slow=6.6,SNR=37
AKBB **Malin Array Si** 64.16 15 *e*P P 23 39 54.4 +0.2
comp=Z,22nm,1.1s
KIEV **Kiev** 64.17 15 *e*P P 23 39 54.4 +0.1
comp=Z,21nm,1.1s
KIEV **Kiev** 64.17 15 *e*P P 23 39 53.6 -0.6
KIEV pmax pmax
comp=Z,17nm,1.0s
AK11 **Malin Array Si** 64.18 15 *e*P P 23 39 54.4 0.0
DAVA **Damuels** 64.21 30 *e*pP P 23 39 56.7 +1.8
comp=Z,7.5nm,0.9s
RETA **Reutte** 64.21 29 *e*pP P 23 39 56.4 +1.7
comp=Z,9.6nm,1.1s
LANS **Liptovska Anna** 64.28 23 *e*P P 23 39 56.4 +1.3
LANS **Liptovska Anna** 64.28 23 *e*P P 23 39 56.4 +1.3
PGAV **Gavieira, Arco** 64.30 46 *e*P P 23 39 56.0 +0.6
STHS **Stebnicka Huta** 64.32 21 *e*P P 23 39 57.2 +1.9
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS **Stebnicka Huta** 64.32 21 *e*P P 23 39 57.2 +1.9
LVV **L'vov** 64.35 19 *e*P P 23 39 56.4 +0.9
MOTA **Moosalm** 64.42 29 *e*pP P 23 39 57.6 +1.4
comp=Z,4.5nm,0.8s
SENIN **Lac Senin/Sane** 64.50 32 *e*P P 23 39 58.0 +1.2
comp=Z,11nm,0.9s
SMOL **Smolenice** 64.54 24 P P 23 39 59.0 +2.2
VSR **Storozhevoye** 64.55 8 *e*P P 23 39 56.1 -0.7
VSR pmax pmax
comp=Z,9.0nm,0.8s
CAF **Calviac** 64.55 37 *e*P P 23 39 57.4 +0.5
CAF pmax pmax
comp=Z,10.0nm,1.0s
WTTA **Wattenberg** 64.61 29 *i* pP P 23 39 59.5 +2.0
comp=Z,14nm,1.5s
FETA **Feichten** 64.65 30 *e*pP P 23 39 59.8 +2.1
comp=Z,11nm,1.0s,SNR=6.2
VRH **Novokhopyorsk** 64.71 7 *e*P P 23 39 57.5 -0.3
VRH pmax pmax
comp=Z,20nm,1.0s
VYHS **Vyhne** 64.81 23 *e*P P 23 39 59.3 +0.7
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS **Vyhne** 64.81 23 *e*P P 23 39 59.3 +0.7
CONA **Conrad Observa** 64.82 26 *i* pP P 23 39 59.6 +0.9
comp=Z,15nm,1.6s
CRVS **Cervenica-Dubn** 64.85 21 *e*P P 23 40 00.4 +1.6
CRVS **Cervenica-Dubn** 64.85 21 *e*P P 23 40 00.4 +1.6
TUE **Stuetta** 64.86 31 *e*P P 23 39 59.8 +0.6
comp=Z,8.1nm,0.9s
PBRG **Braganca** 64.92 44 *e*P P 23 40 00.8 +1.4
comp=Z,31nm,1.9s
FUORN **Ofenpass-Fuorn** 64.93 30 *e*P P 23 40 01.4 +1.8

comp=Z,15nm,0.9s
POLO Lamas de Olo 64.99 45 *e*P **P 23 40 00.1 +0.2**
JNU Nakatsue 65.02 294 LR LR 00 09 32.7
comp=Z,57nm,20.1s,baz=113,slow=37
KECS Kecovo 65.10 22 *e*P **P 23 40 01.5 +1.1**
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS Kecovo 65.10 22 *e*P **P 23 40 01.5 +1.1**
PVRL Vila Real 65.10 45 *e*P **P 23 40 01.6 +1.0**
HHC Hu-ho-hao-te 65.11 313 *e*P **P 23 40 01.7 +1.0**
HHC pmax pmax
comp=Z,9.0nm,1.3s
HHC pmax pmax
comp=Z,290nm,7.6s
KBA Koelnbreinsper 65.14 28 P **P 23 40 02.5 +1.6**
KBA pmax pmax
comp=Z,23nm,0.9s
KBA Koelnbreinsper 65.14 28 *e*pP **P 23 40 02.1 +1.1**
comp=Z,20nm,0.9s,SNR=10
LPL La Plagne 65.16 33 *e*P **P 23 40 03.3 +2.1**
LPL pmax pmax
comp=Z,9.0nm,1.0s
LPG La Plagne 65.18 33 *e*P **P 23 40 02.7 +1.3**
LPG pmax pmax
comp=Z,8.0nm,1.0s
SOP Sopron 65.19 25 *e*P **P 23 40 02.8 +1.8**
UZH Uzhgorod 65.25 21 *c i*P **P 23 40 01.9 +0.6**
UZH *e* 23 40 07.4
ABTA Abfaltersbach 65.28 28 *e*P **P 23 40 01.9 +0.1**
comp=Z,6.7nm,0.9s
ARSA Arzberg 65.41 26 *i* pP **P 23 40 03.7 +1.2**
comp=Z,7.9nm,0.9s
MVO Moncorvo 65.42 45 *e*P **P 23 40 03.7 +1.0**
PSZ Piszkesteto 65.55 23 ǁ*i*P **P 23 40 04.9 +1.5**
PSZ Piszkesteto 65.55 23 *e*P **P 23 40 04.6 +1.2**
comp=Z,17nm,1.0s
PSZ Piszkesteto 65.55 23 P **P 23 40 04.9 +1.5**
PVIS Viseu 65.55 46 *e*P **P 23 40 04.5 +1.0**
AKTO Aktyubinsk 65.60 355 P **P 23 40 03.9 +0.2**
comp=Z,6.5nm,0.9s,baz=355,slow=7.3,SNR=12
MYKA Terra Mystica 65.63 28 *e*P **P 23 40 04.4 +0.4**
comp=Z,7.8nm,0.8s
SOKA Soboth 65.86 27 *e*pP **P 23 40 06.2 +0.8**
comp=Z,7.9nm,0.8s,SNR=8.1
PERS Pernice 65.92 26 *i* P **P 23 40 06.9 +1.1**
OBKA Obir 65.93 27 *i* pP **P 23 40 06.7 +0.8**
comp=Z,25nm,0.9s,SNR=14
MTE Manteigas 65.95 46 *e*P **P 23 40 06.7 +0.6**
comp=Z,22nm,1.1s
MTE Manteigas 65.95 46 *e*P **P 23 40 06.8 +0.7**
comp=Z,17nm,1.1s
PCAS Casmilo, Conde 65.97 47 *e*P **P 23 40 07.0 +0.8**
comp=Z,50nm,1.2s
JAVS Javornik 66.42 27 *e*P **P 23 40 09.1 0.0**
PCBR Castelo Branco 66.48 46 *e*P **P 23 40 10.1 +0.7**
comp=Z,20nm,1.4s
TRI Trieste 66.53 28 *e*P **P 23 40 10.1 +0.4**
comp=Z,10nm,0.9s
TRI Trieste 66.53 28 *e*P **P 23 40 10.1 +0.4**
TRI pmax pmax
comp=Z,10.0nm,0.9s
SORM Soroca 66.58 17 ǁ*i*P **P 23 40 09.8 -0.1**
SORM Soroca 66.58 17 P **P 23 40 09.8 -0.1**
BUR08 Bucovina Ar. S 66.64 19 *e*P **P 23 40 11.4 +0.9**
VISS Visnje 66.66 27 *i* P **P 23 40 10.6 +0.1**
BUR04 Bucovina Ar. S 66.67 19 *e*P **P 23 40 11.1 +0.4**
BURAR Bucovina Array 66.67 19 ǁ*i*P **P 23 40 11.3 +0.6**
BURAR Bucovina Array 66.67 19 P **P 23 40 11.3 +0.6**
ABKAR Akbulak array 66.70 354 *e*P **P 23 40 10.8 +0.1**
comp=Z,72nm,1.0s
MK31 Makanchi Array 66.72 337 *e*P **P 23 40 10.6 -0.3**
MK31 Makanchi Array 66.72 337 *e*P **P 23 40 10.6 -0.3**
MKAR Makanchi Array 66.72 337 P **P 23 40 10.3 -0.6**
comp=Z,4.8nm,0.8s,baz=40,slow=6.3,SNR=24
MKAR Makanchi Array 66.72 337 *e*P **P 23 40 10.6 -0.3**
comp=Z,32nm,0.9s
MK01 Makanchi Array 66.74 337 *e*P **P 23 40 10.3 -0.7**
MAKZ Makanchi 66.75 338 *e*P **P 23 40 10.7 -0.4**
comp=Z,22nm,1.0s
MAKZ Makanchi 66.75 338 *e*P **P 23 40 10.7 -0.4**
MAKZ pmax pmax
comp=Z,22nm,1.0s
SAOF Saorge 66.80 33 P **P 23 40 13.6 +2.1**
PMTG Montargil 66.95 47 *e*P **P 23 40 12.9 +0.5**
FRF La Foret Royal 66.98 34 *e*P **P 23 40 13.3 +0.7**
FRF pmax pmax
comp=Z,18nm,1.2s
BOJS Bojanci 67.03 27 *i* P **P 23 40 13.4 +0.6**
DRGR 67.10 21 ǁ*i*P **P 23 40 10.9 -2.5**
DRGR 67.10 21 P **P 23 40 10.9 -2.5**
VLC Villacollemand 67.29 31 *e*P **P 23 40 15.7 +1.1**
comp=Z,11nm,0.7s
PESTR Estremoz 67.33 46 *e*P **P 23 40 15.9 +1.0**
EVO Evora 67.50 47 *e*P **P 23 40 14.1 -1.9**
ES19 SONSECA Array 67.71 43 *e*P **P 23 40 18.4 +1.0**
ESDC Sonseca Array 67.72 43 P **P 23 40 18.1 +0.7**
comp=Z,10nm,0.9s,baz=331,slow=6.2,SNR=38
ESLA Sonseca Array 67.72 43 *e*P **P 23 40 18.5 +1.1**
comp=Z,9.9nm,0.9s
PAB San Pablo 67.72 44 *e*P **P 23 40 18.5 +1.1**
comp=Z,10nm,0.9s
PAB San Pablo 67.72 44 *e*P **P 23 40 18.5 +1.1**
PAB pmax pmax
comp=Z,10.0nm,0.9s
BZS Buzias 68.07 22⇑*i*P **P 23 40 20.2 +0.8**
BZS Buzias 68.07 22 P **P 23 40 20.2 +0.8**
PBAR Barrancos 68.14 46 *e*P **P 23 40 20.4 +0.4**
MORF Marmelete 68.42 48 *e*P **P 23 40 23.1 +1.3**
comp=Z,48nm,1.6s
SDV Santo Domingo 68.47 116 P **P 23 40 23.9 +1.4**
comp=Z,2.6nm,0.6s,baz=323,slow=15,SNR=3.4
WMQ Urumqi 68.58 333 P **P 23 40 23.7 +0.9**
WMQ pP sP 23 40 32.9 +5.7
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ pmax pmax
comp=Z,75nm,4.5s
PLOR Plostina 68.60 18⇑*i*P **P 23 40 23.4 +0.6**
PLOR Plostina 68.60 18 P **P 23 40 23.4 +0.6**
PVAQ Vaqueiros 68.63 47 *e*P **P 23 40 23.2 +0.1**
PBDV Barranco-do-Ve 68.71 47 *e*P **P 23 40 25.4 +1.8**
VOIR 68.78 20⇑*i*P **P 23 40 24.3 +0.3**
VOIR 68.78 20 P **P 23 40 24.3 +0.3**
MDVR Moldovita 68.90 22⇑*i*P **P 23 40 25.6 +0.9**
DIVS Divibare 69.27 24 *e*P **P 23 40 27.6 +0.6**
comp=Z,7.3nm,0.9s
GOLR 69.35 20⇑*i*P **P 23 40 29.4 +2.0**
GTA Gaotai 69.90 322 *e*P **P 23 40 31.2 +0.1**
GTA pP sP 23 40 36.1 +0.6
GTA sP pP 23 40 39.2 +4.9
GTA pmax pmax
comp=Z,16nm,1.0s
PLE Pljevlja 69.91 24 P **P 23 40 32.8 +1.8**
HARR Harsova 69.91 18⇑*i*P **P 23 40 31.7 +0.8**
HARR Harsova 69.91 18 P **P 23 40 31.7 +0.8**
RUSC La Rusia 70.26 119 *e*P **P 23 40 34.6 +0.7**
comp=Z,4.7nm,1.2s
PDGK Podgornoye 70.55 339 P **P 23 40 36.5 +1.5**
PDGK pmax pmax
comp=Z,18nm,0.9s
NJ2 Nanjing 70.57 304 *e*P **P 23 40 39.4 +4.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
PDG Podgorica 70.75 25⇑*i*P **P 23 40 35.2 -0.8**
TTG Podgorica 70.75 25 *e*P **P 23 40 36.5 +0.5**
comp=Z,18nm,0.9s
TTG Podgorica 70.75 25 *e*P **P 23 40 36.5 +0.5**
TTG pmax pmax
comp=Z,18nm,0.9s
VTS Vitosha 71.28 22⇑*i*P **P 23 40 39.3 -0.1**
VTS Vitosha 71.28 22 *e*P **P 23 40 39.3 -0.1**
comp=Z,6.0nm,0.9s
VTS Vitosha 71.28 22 *e*P **P 23 40 39.3 -0.1**
VTS pmax pmax
comp=Z,6.0nm,0.9s
VSL Villasalto 71.49 33 *e*P **P 23 40 41.1 +0.5**
comp=Z,13nm,1.2s
TKM2 Tokmak 2 71.53 341 P **P 23 40 42.2 +1.2**
SNR=17
CHMS Chumysh 71.57 342 P **P 23 40 42.2 +1.2**
SNR=9.2
FRU Bishkek 71.75 342 *e*P **P 23 40 43.0 +0.9**
FRU *e* 23 40 55.0
LZH Lanzhou 71.86 317 *e*P **P 23 40 43.8 +0.8**
LZH pmax pmax
comp=Z,24nm,0.8s
LZH pmax pmax
comp=Z,76nm,4.9s
LZH LR LR
comp=Z,250nm,13.3s
LZH LR LR
comp=Z,380nm,15.4s
LZH LR LR
comp=Z,500nm,16.7s
KBK Karagaybulak 71.88 342 P **P 23 40 44.4 +1.3**
SNR=9.3
AAK Ala-Archa 71.96 342 P **P 23 40 44.8 +1.2**
comp=Z,8.7nm,1.0s,baz=193,slow=0.6,SNR=25
AAK Ala-Archa 71.96 342 P **P 23 40 44.5 +0.9**
SNR=11
AAK Ala-Archa 71.96 342 *e*P **P 23 40 44.2 +0.6**
comp=Z,14nm,1.1s
AAK Ala-Archa 71.96 342 *e*P **P 23 40 44.2 +0.6**
AAK pmax pmax
comp=Z,14nm,1.1s
KKAR Karatay Array 71.99 345 *e*P **P 23 40 44.6 +1.0**
KKAR Karatay Array 71.99 345 *e*P **P 23 40 44.6 +1.0**
MATE Matera 71.99 27ǁ*i*P **P 23 40 44.2 +0.7**
KIV Kislovodsk 71.99 7 *e*P **P 23 40 44.4 +0.8**
comp=Z,25nm,1.1s
KIV Kislovodsk 71.99 7 *e*P **P 23 40 44.4 +0.8**
KIV pmax pmax
comp=Z,25nm,1.1s
KVAR Kislovodsk Arr 71.99 7 P **P 23 40 44.7 +1.1**
comp=Z,23nm,1.1s,baz=191,slow=2.8,SNR=4.4
EKS2 Erkin-Say 72.03 343 P **P 23 40 45.1 +1.2**
SNR=20
KBZ Khabaz 72.22 6 P **P 23 40 46.4 +1.5**
comp=Z,11nm,0.9s,baz=324,slow=4.5,SNR=12
KZA Kyzart 72.41 342 P **P 23 40 48.2 +1.6**
SNR=5.8
CUC Castrocucco 72.44 28 *e*P **P 23 40 46.8 +0.5**
comp=Z,14nm,1.0s
NCK Nalchik 72.49 6 *e*P **P 23 40 46.9 +0.4**
NCK pmax pmax
comp=Z,12nm,1.1s
AML Almayashu 72.56 343 P **P 23 40 48.8 +1.4**
SNR=24
FNA Florina 72.73 23 P **P 23 40 48.9 +0.8**
FNA pmax pmax
comp=Z,12nm,0.9s
NRN Naryn 72.93 341 P **P 23 40 50.9 +1.3**
SOH Sokhos 73.03 22 P **P 23 40 51.6 +1.8**
TIP Timpagrande 73.42 27ǁ*i*P **P 23 40 53.0 +0.8**
TIP Timpagrande 73.42 27 *e*P **P 23 40 53.1 +0.9**
comp=Z,16nm,1.2s
WHN Wuhan 73.54 307 P **P 23 40 53.0 +0.1**
WHN pmax pmax
comp=Z,50nm,0.8s
AGG Agios Georgios 74.61 23 *e*P **P 23 41 00.5 +1.4**
comp=Z,47nm,1.2s
AGG Agios Georgios 74.61 23 *e*P **P 23 41 00.5 +1.4**
AGG pmax pmax
comp=Z,47nm,1.2s
KSH Kashi 74.81 340 P **P 23 41 03.6 +3.2**
KSH pP sP 23 41 07.2 +2.3
KSH sP PcP 23 41 10.2 -4.2
KSH PP **PP 23 43 50.1 +3.2**
KSH S **S 23 50 37.6 +0.7**
KSH sS sS 23 50 50.6 +8.3
KSH SKS **SKSac 23 51 06.1 -2.8**
KSH pmax pmax
comp=Z,14nm,1.1s
KSH pmax pmax
comp=Z,140nm,5.4s
KSH LR LR
comp=Z,150nm,8.4s
KSH LR LR
comp=Z,100nm,9.0s
KSH LR LR
comp=Z,97nm,6.2s
KEST Kesra 75.06 34 P **P 23 41 03.2 +1.5**
comp=Z,15nm,0.9s,baz=266,slow=2.0,SNR=20
KEST Kesra 75.06 34 *e*P **P 23 41 03.3 +1.5**
comp=Z,18nm,0.9s
BR231 Keskin MP Arra 75.28 15 *e*P **P 23 41 04.3 +1.2**
ENH Enshi 75.45 311 *e*P **P 23 41 03.7 -0.4**
comp=Z,14nm,1.0s
BR131 Keskin Array S 75.49 14 *e*P **P 23 41 05.3 +1.0**
BRTR Keskin Array B 75.49 14 P **P 23 41 05.2 +0.9**
comp=Z,5.5nm,0.9s,baz=359,slow=4.4,SNR=16
CD2 Chengdu 76.70 316 *e*P **P 23 41 10.4 -0.8**
CD2 pP sP 23 41 18.4 +2.7
CD2 sP PcP 23 41 21.6 -1.0
CD2 S **S 23 50 55.1 -2.6**
CD2 SKS **SKSac 23 51 19.3 -3.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,420nm,11.8s
CD2 LR LR
comp=Z,260nm,11.3s
GEYT Alibeck 78.08 355 P **P 23 41 19.8 +1.0**
comp=Z,1.8nm,0.9s,baz=299,slow=6.6,SNR=7.0
KBL Kabul 80.61 345 *e*P **P 23 41 32.8 -0.1**
comp=Z,11nm,1.5s
KBL Kabul 80.61 345 *e*P **P 23 41 32.8 -0.1**
KBL pmax pmax
comp=Z,11nm,1.5s
LSA Lhasa 81.34 326 *e*P **P 23 41 38.4 +1.2**
comp=Z,4.8nm,1.0s
LSA Lhasa 81.34 326 *e*P **P 23 41 38.4 +1.2**
LSA pmax pmax
comp=Z,5.0nm,1.0s
KMI Kunming 82.41 314 P **P 23 41 41.7 -0.9**
KMI pP PcP 23 41 48.5 +0.8
KMI sP sP 23 41 51.1 +4.0
KMI pmax pmax
comp=Z,8.0nm,1.1s
ASF Jabal al Asfar 83.29 12 P **P 23 41 48.6 +1.7**
comp=Z,5.1nm,0.9s,baz=265,slow=2.6,SNR=7.3
GUN Gumba 84.29 330 *e*P **P 23 41 52.7 +0.3**
comp=Z,24nm,1.2s
TAPN Taplejung 84.41 328 *e*P **P 23 41 53.1 +0.2**
comp=Z,23nm,0.9s
JIRN Jiri 84.46 329 *e*P **P 23 41 53.5 +0.2**
comp=Z,51nm,0.9s
AFI Afiamalu 84.51 222 LR LR 00 12 53.2
comp=Z,88nm,19.4s,baz=103,slow=31
KKN Kakani 84.54 330 *e*P **P 23 41 53.7 +0.2**
comp=Z,27nm,1.1s
PKIN Phulchoki 84.72 330 *e*P **P 23 41 54.1 -0.3**
comp=Z,7.5nm,0.9s
PKI Pulchoki 84.72 330 *e*P **P 23 41 54.3 -0.2**
PYUN Piuthan 84.72 332 *e*P **P 23 41 54.0 -0.4**
comp=Z,55nm,1.0s
DMN Daman 84.75 330 *e*P **P 23 41 54.6 0.0**
comp=Z,34nm,1.1s
KOLN Koldanda 84.91 332 *e*P **P 23 41 55.0 -0.3**
comp=Z,20nm,1.0s
ODAN Odare 84.96 328 *e*P **P 23 41 55.5 -0.1**
comp=Z,31nm,1.1s
RAMN Ramite 85.05 329 *e*P **P 23 41 55.7 -0.4**
TAM Tamanrasset 86.30 42 *e*P **P 23 42 03.7 +1.5**
TAM Tamanrasset 86.30 42 *e*P **P 23 42 03.7 +1.5**
SAML Samuel 87.68 116 *e*P **P 23 42 09.2 +0.5**
SAML Samuel 87.68 116 *e*P **P 23 42 09.2 +0.5**
CHTO Chiang Mai 89.50 316 *e*P **P 23 42 17.5 +0.1**
CHTO Chiang Mai 89.50 316 *e*P **P 23 42 17.5 +0.1**
CMAR Chiang Mai Arr 89.84 315 P **P 23 42 19.7 +0.7**
comp=Z,5.9nm,0.8s,baz=355,slow=5.6,SNR=39
KOWA Kowa 91.01 53 P **P 23 42 25.4 +0.9**
comp=Z,4.2nm,1.0s,baz=322,slow=4.5,SNR=6.8
KOWA Kowa 91.01 53 *e*P **P 23 42 25.6 +1.1**
TORD Torodi Ar. Bea 94.19 48 P **P 23 42 39.6 +0.5**
comp=Z,1.6nm,1.1s,baz=333,slow=4.8,SNR=4.0
PMG Port Moresby 95.86 261 LR LR 00 20 13.5
comp=Z,49nm,21.6s,baz=68,slow=32
DBIC Dimbokro 97.95 56 LR LR 00 25 35.9
comp=Z,90nm,18.3s,baz=336,slow=34
ASAR Alice Springs 114.25 266 PKP PKPdf 23 47 60.0 +0.6
comp=Z,0.2nm,0.3s,baz=36,slow=3.4,SNR=4.1
ASAR Alice Springs 114.25 266 PKIKP PKPdf 23 48 00.0 +0.6
VNDA Vanda 147.58 202 PKPbc **PKPab 23 49 04.8 0.0**
comp=Z,4.2nm,1.0s,baz=13,slow=2.2,SNR=4.1
SNAA Sanae 159.06 134 PKPab **PKPab 23 49 53.0 -0.5**
comp=Z,2.2nm,0.9s,baz=297,slow=4.5,SNR=4.0

*ISK **02** 23:39:11.9, 37.°84N×30.°63E, h16km, ML2.6/3*
*CSEM **02** 23:39:12.6±0.2, 37.°84N×30.°65E, h12km, ML2.6, Error ellipse: s-maj=4.4km s-min=4.0km az=91.0*
*DDA **02** 23:39:12.7, 37.°85N×30.°65E, h2km, Ml2.2*
*ISCJB **02** 23:39:13.0±0.5, 37.°85N±0.°03×30.°67E±0.°03, h2km±8km, Error ellipse: s-maj=4.9km s-min=4.2km az=44.1*
ISC 02 23:39:12.6±0.9, **37.°85N**±0.°02×**30.°67E**±0.°02, **h10**km±6km, **n19**, σ0.°**76**/**37**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISP	**Isparta**	**0.12**	**257**	PG	**Pg**	**23 39 15.4**	**-0.2**
ISP				SG	**Sg**	**23 39 17.9**	**+0.2**
ISP	**Isparta**	**0.12**	**257**	*e*Pg	**Pg**	**23 39 15.4**	**-0.2**
ISP				*e*Sg	**Sg**	**23 39 17.9**	**+0.2**
BAGO	**Egridir - ISPA**	**0.17**	**34**	*i* P	**Pg**	**23 39 16.3**	**0.0**
BAGO				*i* S	**Sg**	**23 39 19.8**	**+0.9**
BCK	**Bucak**	**0.39**	**189**	PG	**Pg**	**23 39 20.3**	**-0.1**
BCK				SG	**Sg**	**23 39 26.1**	**+0.5**
BCK	**Bucak**	**0.39**	**189**	*e*Pg	**Pg**	**23 39 20.3**	**-0.1**
BCK				*e*Sg	**Sg**	**23 39 26.1**	**+0.5**
SUTC	**Sutluce-Ispart**	**0.46**	**145**	PG	**Pg**	**23 39 21.3**	**-0.2**
SUTC				SG	**Sb**	**23 39 29.1**	**-0.6**
SUTC	**Sutluce-Ispart**	**0.46**	**145**	*e*Pg	**Pg**	**23 39 21.3**	**-0.2**
SUTC				*e*Sg	**Sb**	**23 39 29.1**	**-0.6**
BRDR	**BURDUR-Merkez**	**0.51**	**253**	*i* P	**Pg**	**23 39 22.4**	**-0.1**
BRDR				*i* S	**Sb**	**23 39 31.0**	**-0.1**
BRDR	**BURDUR-Merkez**	**0.51**	**253**	P	**Pg**	**23 39 22.4**	**-0.1**
BRDR				S	**Sb**	**23 39 31.0**	**-0.1**
KZIL	**AFYON_Kizioren**	**0.58**	**314**	*i* P	**Pg**	**23 39 23.4**	**-0.5**
KZIL				*i* S	**Sn**	**23 39 36.8**	**0.0**
KZIL	**AFYON_Kizioren**	**0.58**	**314**	P	**Pg**	**23 39 23.5**	**-0.5**
SHUT	**Suhut-Afyon**	**0.71**	**352**	PG	**Pg**	**23 39 26.1**	**-0.2**
SHUT				SG	**Sb**	**23 39 36.9**	**-0.1**
SHUT	**Suhut-Afyon**	**0.71**	**352**	*e*Pg	**Pg**	**23 39 26.1**	**-0.2**
SHUT				*e*Sg	**Sb**	**23 39 36.9**	**-0.1**
DOGA	**KONYA_Doganhis**	**0.83**	**72**	*i* P	**Pg**	**23 39 28.6**	**0.0**
DOGA				*i* S	**Sb**	**23 39 41.2**	**+0.7**
DOGA	**KONYA_Doganhis**	**0.83**	**72**	P	**Pg**	**23 39 28.6**	**0.0**
DOGA				S	**Sb**	**23 39 41.2**	**+0.7**
BOLV	**Bolvadin**	**0.89**	**14**	*i* P	**Pn**	**23 39 31.2**	**-0.2**
BOLV				*i* S	**Sn**	**23 39 43.9**	**-0.6**
BOLV	**Bolvadin**	**0.89**	**14**	P	**Pn**	**23 39 31.2**	**-0.2**
BOLV				S	**Sn**	**23 39 43.9**	**-0.6**
KHAL	**Karahalli**	**1.06**	**300**	*i* P	**Pb**	**23 39 32.4**	**-0.8**
KHAL				*i* S	**Sn**	**23 39 51.2**	**+2.5**
KHAL	**Karahalli**	**1.06**	**300**	P	**Pb**	**23 39 32.4**	**-0.8**
KHAL				S	**Sn**	**23 39 51.2**	**+2.5**

*DDA **02** 23:43:10.9, 38.°69N×43.°65E, h7km, Ml2.9*
*CSEM **02** 23:43:11.0±0.2, 38.°69N×43.°64E, h2km, ML2.4, Error ellipse: s-maj=6.9km s-min=4.0km az=88.0*
*ISK **02** 23:43:11.2, 38.°71N×43.°55E, h8km, ML2.4/4*
ISC 02 23:43:11.5±1.1, **38.°70N**±0.°02×**43.°66E**±0.°03, **h7**km±9km, **n34**, σ0.°**91**/**54**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.23**	**245**	PG	**Pg**	**23 43 16.4**	**+0.3**
VANB	**Van**	**0.23**	**245**	*e*Pg	**Pg**	**23 43 16.4**	**+0.3**
TVAN	**Van**	**0.26**	**230**	*i* P	**Pg**	**23 43 15.8**	**-0.9**
TVAN				*i* S	**Sg**	**23 43 21.0**	**+0.9**
TVAN	**Van**	**0.26**	**230**	P	**Pg**	**23 43 15.8**	**-0.9**
TVAN				S	**Sg**	**23 43 21.0**	**+0.9**
VMUR	**Van-Muradiye**	**0.30**	**347**	*i* P	**Pg**	**23 43 17.4**	**-0.1**
VMUR				*i* S	**Sb**	**23 43 24.0**	**-0.6**
VMUR	**Van-Muradiye**	**0.30**	**347**	P	**Pg**	**23 43 17.4**	**-0.1**
VMUR				S	**Sb**	**23 43 24.0**	**-0.6**
ERCV	**ERCIS-VAN**	**0.41**	**323**	PG	**Pg**	**23 43 18.5**	**-1.0**
ERCV	**ERCIS-VAN**	**0.41**	**323**	*e*Pg	**Pg**	**23 43 18.5**	**-1.0**
CLDR	**Caldiran**	**0.49**	**24**	PG	**Pg**	**23 43 21.1**	**0.0**
CLDR				SG	**Sb**	**23 43 29.9**	**-0.2**
CLDR	**Caldiran**	**0.49**	**24**	*i* P	**Pg**	**23 43 20.6**	**-0.5**
CLDR				*i* S	**Sb**	**23 43 30.7**	**+0.6**
CLDR	**Caldiran**	**0.49**	**24**	P	**Pg**	**23 43 20.6**	**-0.5**
CLDR	**Caldiran**	**0.49**	**24**	*e*Pg	**Pg**	**23 43 21.1**	**0.0**
CLDR				*e*Sg	**Sb**	**23 43 29.9**	**-0.2**
CLDR				S	**Sb**	**23 43 30.7**	**+0.6**
GEVA	**Gevas**	**0.60**	**231**	*i* P	**Pg**	**23 43 21.3**	**-1.9**
GEVA				*i* S	**Sb**	**23 43 34.1**	**+0.8**
GEVA	**Gevas**	**0.60**	**231**	P	**Pg**	**23 43 21.3**	**-1.9**
GEVA				S	**Sb**	**23 43 34.1**	**+0.8**
BASK	**Baskale_VAN**	**0.70**	**157**	*i* P	**Pg**	**23 43 23.5**	**-1.4**
BASK				*i* S	**Sg**	**23 43 34.2**	**+0.1**
BASK	**Baskale_VAN**	**0.70**	**157**	P	**Pg**	**23 43 23.5**	**-1.4**
BASK				S	**Sg**	**23 43 34.2**	**+0.1**
DYDN	**Diyadin**	**0.85**	**2**	*i* P	**Pg**	**23 43 27.7**	**-0.1**
DYDN				*i* S	**Sb**	**23 43 39.9**	**-0.4**
DYDN	**Diyadin**	**0.85**	**2**	P	**Pg**	**23 43 27.7**	**-0.1**
TUTA	**Tutak**	**0.96**	**317**	*i* P	**Pg**	**23 43 28.8**	**-1.2**
TUTA				*i* S	**Sb**	**23 43 42.9**	**-0.7**
TUTA	**Tutak**	**0.96**	**317**	P	**Pg**	**23 43 28.8**	**-1.2**
TUTA				S	**Sb**	**23 43 42.9**	**-0.7**
AGRB	**Hanur-Agry**	**1.02**	**330**	PG	**Pg**	**23 43 30.3**	**-0.8**
AGRB	**Hanur-Agry**	**1.02**	**330**	*e*Pg	**Pg**	**23 43 30.3**	**-0.8**
HAKT	**HAKKARI**	**1.14**	**178**	*i* P	**Pg**	**23 43 32.1**	**-1.2**
HAKT				*i* S	**Sn**	**23 43 51.0**	**+1.1**
HAKT	**HAKKARI**	**1.14**	**178**	P	**Pg**	**23 43 32.1**	**-1.2**
HAKT				S	**Sn**	**23 43 51.0**	**+1.1**
YOVA	**Hakkari_Y˜…kse**	**1.21**	**155**	*i* P	**Pb**	**23 43 34.5**	**-0.4**
YOVA				*i* S	**Sn**	**23 43 52.1**	**+0.3**
YOVA	**Hakkari_Y˜…kse**	**1.21**	**155**	P	**Pb**	**23 43 34.5**	**-0.4**
CUKT	**Cukurca**	**1.45**	**182**	PN	**Pb**	**23 43 38.2**	**-0.6**
CUKT	**Cukurca**	**1.45**	**182**	*i* P	**Pg**	**23 43 39.9**	**+0.7**
CUKT	**Cukurca**	**1.45**	**182**	*e*Pn	**Pb**	**23 43 38.2**	**-0.6**
CUKT	**Cukurca**	**1.45**	**182**	P	**Pg**	**23 43 39.9**	**+0.7**
SIRT	**Sirnak**	**1.53**	**219**	PN	**Pb**	**23 43 39.5**	**-0.7**
SIRT	**Sirnak**	**1.53**	**219**	*e*Pn	**Pb**	**23 43 39.5**	**-0.7**
SRTM	**Siirt_Merkez**	**1.53**	**243**	*i* P	**Pg**	**23 43 40.3**	**-0.6**
SRTM				*i* S	**Sg**	**23 44 02.6**	**+1.8**
SRTM	**Siirt_Merkez**	**1.53**	**243**	P	**Pg**	**23 43 40.3**	**-0.6**
SRTM				S	**Sg**	**23 44 02.6**	**+1.8**

IDC 02 23:49:06.6±3.3, **6.°11S**×**147.°83E**, **h0**km, **mb2.6**/1, **mb1 3.2**/3, **mb1mx3.0**/42, **mbtmp3.0**/3, **ML3.0**/1, **Error ellipse: s-maj=92.3km s-min=34.2km az=98.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.34**	**191**	Pn	Pn	23 50 00.7	+0.6
	2.4nm,0.3s,baz=62,slow=18,SNR=3.4						
PMG				Sn	Sn	23 50 40.9	+0.3
	1.9nm,0.3s,baz=78,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**19.00**	**222**	P	Pn	23 53 30.6	0.0
	0.1nm,0.3s,baz=49,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**22.01**	**216**	P	P	23 54 03.1	+0.4
	0.1nm,0.5s,baz=56,slow=8.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**145.92**	**284**	PKPbc	PKPdf	00 08 47.6	-0.9
	0.4nm,0.5s,baz=78,slow=3.4,SNR=5.8						

*SJA **02** 23:52:36.0±0.6, 30.°40S×72.°06W, h8km±11km, ML3.5, MW3.5*
*GUC **02** 23:52:46.3±0.5, 30.°09S×71.°39W, h17km±3km, ML2.9*
ISC 02 23:52:42.4±3.0, **30.°34S**±0.°07×**71.°7W**±0.°1, **h13**km±12km, **n10**, σ1.°**66**/**15**, **1C-1D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.78**	**77**	*e*P	**Pg**	**23 52 57.6**	**0.0**
TLL				*i* S	**Sg**	**23 53 06.4**	**-1.5**
TLL				IAML		23 53 06.8	
	comp=E,2μm,0.2s						
GO04	**Tololo Observa**	**0.78**	**78**	*e*P	**Pg**	**23 52 57.4**	**-0.2**
GO04				*i* S	**Sg**	**23 53 06.4**	**-1.5**
GO04				IAML		23 53 06.9	
	comp=E,3μm,0.3s						
LCO	**Las Campanas**	**1.58**	**33**	*i* P	**Pn**	**23 53 10.0**	**-0.3**
LCO				*i* S	**Sg**	**23 53 35.5**	**+2.2**
LCO	**Las Campanas**	**1.58**	**33**	ǁ*i*P	**Pn**	**23 53 10.0**	**-0.3**
LCO				*e*S	**Sn**	**23 53 27.8**	**-3.0**
LCO				IAML		23 53 32.5	
	comp=E,236nm,0.2s						
AUSP	**Uspallata**	**2.72**	**134**	*i* P	**Pn**	**23 53 26.2**	**+0.1**
AMOG	**MOGNA**	**2.81**	**103**	*i* P	**Pn**	**23 53 28.3**	**+1.1**
AGUA	**GUANDACOL**	**2.90**	**74**	*i* P	**Pn**	**23 53 30.5**	**+2.1**
AGUA				*i* S	**Sb**	**23 54 09.8**	**+0.3**
GO03	**Copiap**	**3.02**	**25**	IAML		23 54 14.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,67nm,0.4s						
VCA	**Vinchina**	**3.43**	**63**	*i* P	**Pn**	**23 53 37.1**	**+1.4**
VCA				IAML		23 53 42.8	
	comp=Z,82nm,0.2s						
VCA	**Vinchina**	**3.43**	**63**⇑	*i*P	**Pn**	**23 53 37.7**	**+2.0**
VCA				*i* S	**Sn**	**23 54 16.2**	**-0.1**

*ISCJB **03** 00:34:59.0±0.3, 5.09S±0.04×128.79E±0.04, h300km, mb3.8/6, Error ellipse: s-maj=6.2km s-min=4.6km az=24.6*
*DJA **03** 00:35:01.5±0.5, 5°S±2°×12°9E±°, h257km±7km, M4.5/9, mb4.5/5, mB4.8/4, MLv4.6/9, Mw(mB)4.0/4*
*IDC **03** 00:35:03.2±3.1, 5.30S×128.51E, h332km±30km, mb3.5/6, mb1 3.8/10, mb1mx3.3/56, mbtmp4.4/10, Error ellipse: s-maj=40.2km s-min=10.3km az=65.0*
ISC 03 00:34:59.2±0.7**, 5.12S**±0.05**×128.79E**±0.06**, h300**km**, n24, σ2.16**/35**, mb3.8**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.26**	**62**	P	**Pn**	**00 35 42.1**	**+1.2**
BNDI				S	**S**	**00 36 15.1**	**+1.0**
AAI	**Ambon**	**1.54**	**338**	P	**Pn**	**00 35 44.4**	**+1.7**
MSAI	**Masohi**	**1.77**	**5**	P	**Pn**	**00 35 44.2**	**-0.1**
MSAI				S	**S**	**00 36 16.6**	**-3.6**
NLAI	**Namlea**	**2.52**	**318**	P	**Pn**	**00 35 52.8**	**+2.4**
SAUI	**Saumlaki**	**3.78**	**139**	S	**S**	**00 36 53.2**	**-1.0**
FAKI	**Fak Fak**	**4.09**	**58**	P	**Pn**	**00 36 07.4**	**+1.0**
FAKI				S	**S**	**00 36 57.5**	**-2.8**
SANI	**Sanana**	**4.14**	**317**	P	**Pn**	**00 36 06.5**	**-0.5**
SANI				S	**S**	**00 36 56.9**	**-4.4**
LBMI	**Labuha**	**4.64**	**344**	P	**Pn**	**00 36 14.0**	**+1.4**
LBMI				S	**S**	**00 37 09.5**	**-2.0**
SWI	**Sorong**	**4.90**	**30**	P	**Pn**	**00 36 16.5**	**+0.9**
SWI				S	**S**	**00 37 14.9**	**-2.1**
KMPI	**Kaimana, Papua**	**5.11**	**74**	P	**Pn**	**00 36 19.2**	**+1.1**
	303nm,0.7s,8μm1.7nm						
BBSI	**Bau Bau**	**6.20**	**266**	P	**Pn**	**00 36 31.9**	**+0.9**
SOEI	**Soe**	**6.42**	**224**	P	**Pn**	**00 36 35.2**	**+1.5**
	39nm,0.8s,1μm						
SOEI				S	**S**	**00 37 48.9**	**-1.1**
	39nm,0.8s,1μm						
BATI	**Baumata**	**7.16**	**225**	P	**Pn**	**00 36 43.7**	**+1.1**
	25nm,0.3s,baz=45,slow=2.0,SNR=13						
BATI				S	**S**	**00 38 04.2**	**-2.1**
	8.5nm,0.3s,baz=45,slow=20,SNR=4.9						
BATI	**Baumata**	**7.16**	**225**	P	**Pn**	**00 36 43.5**	**+0.9**
	32nm,0.4s,633nm						
BATI				S	**S**	**00 38 04.1**	**-2.1**
	32nm,0.4s,633nm						
EDFI	**Ende, Flores**	**7.91**	**243**	P	**Pn**	**00 36 53.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**13.26**	**193**	P	**P**	**00 37 57.6**	**+0.5**
	baz=20,slow=11						
WRA	**Warramunga Arr**	**15.69**	**160**	P	**Pn**	**00 38 24.8**	**-1.0**
	4.3nm,0.3s,baz=341,slow=12,SNR=146						
WRA				S	**S**	**00 41 06.2**	**-7.7**
	baz=336,slow=20,SNR=2.2						
ASAR	**Alice Springs**	**19.08**	**166**	P	**P**	**00 39 01.7**	**+1.2**
	6.2nm,0.3s,baz=343,slow=11,SNR=349						
ASAR				S	**S**	**00 42 19.9**	**-0.9**
	0.3nm,0.3s,baz=342,slow=19,SNR=13						
STKA	**Stephens Creek**	**29.20**	**157**	P	**P**	**00 40 34.8**	**+1.1**
	1.7nm,0.5s,baz=338,slow=7.7,SNR=10						
CMAR	**Chiang Mai Arr**	**37.61**	**309**	P	**P**	**00 41 47.2**	**+1.2**
	1.3nm,0.3s,baz=146,slow=8.9,SNR=4.0						
MKAR	**Makanchi Array**	**66.00**	**327**	P	**P**	**00 45 14.8**	**+0.8**
	3.7nm,0.4s,baz=114,slow=8.1,SNR=96						
ZALV	**Zalesovo Beam**	**69.38**	**334**	P	**P**	**00 45 35.1**	**+0.4**
	0.9nm,0.5s,baz=138,slow=5.8,SNR=5.4						
BVAR	**Borovoye Array**	**75.84**	**328**	P	**P**	**00 46 13.2**	**+0.6**
	0.5nm,0.5s,baz=114,slow=7.0,SNR=3.3						
GEYT	**Alibeck**	**78.09**	**310**	P	**P**	**00 46 25.5**	**0.0**
	0.5nm,0.5s,baz=116,slow=6.6,SNR=2.2						

DJA 03 00:41:21.5±0.4**, 1°S**±3°×**10°0E**±°**, h56**km±8km**, M3.6**/9**, MLv3.6**/9**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.63**	**97**	P	Pn	00 41 35.4	+0.8
PDSI				S	Sn	00 41 46.3	+2.1
SISI	**Saibi**	**0.89**	**237**	P	Pn	00 41 38.8	+0.8
SISI				S	Sn	00 41 52.2	+2.1
SDSI	**Sungai Dareh**	**1.59**	**93**	P	Pn	00 41 47.5	+0.2
MNSI	**Mandailing Nat**	**1.65**	**351**	P	Pn	00 41 48.0	-0.1
MNSI				S	Sn	00 42 08.2	0.0
BKNI	**Bangkinang**	**1.67**	**46**	P	Pn	00 41 49.6	+1.2
PPSI	**Pulau Pagai**	**1.92**	**175**	P	Pn	00 41 50.9	-0.9
GSI	**Gunungsitoli**	**3.11**	**313**	P	Pn	00 42 06.5	-1.6
MASI	**Maura Aman, Be**	**3.31**	**134**	P	Pn	00 42 11.0	+0.1

*ISCJB **03** 00:47:09.0±0.4, 53.31N±0.04×159.75E±0.09, h134km±2km, mb3.4/12, Error ellipse: s-maj=10.2km s-min=4.5km az=32.9*
*KRSC **03** 00:47:08.7±0.8, 53.32N×159.81E, h127km±6km, ML4.2*
*MOS **03** 00:47:09.1±0.8, 53.35N×159.63E, h134km, mb3.9/4, Error ellipse: s-maj=16.8km s-min=6.3km az=80.0*
*IDC **03** 00:47:11.6±1.2, 53.44N×159.33E, h137km±9km, mb3.3/11, mb1 3.4/11, mb1mx3.1/67, mbtmp3.7/11, MS3.0/1, Ms1 3.1/1, ms1mx2.4/32, Error ellipse: s-maj=26.2km s-min=20.5km az=126.0*
ISC 03 00:47:09.7±0.7**, 53.32N**±0.04×**159.74E**±0.05**, h129**km±5km**, n73, σ0.85**/102**, mb3.4**/12**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.28**	**142**	PN	**Pn**	**00 47 27.9**	**+0.3**
SPN				S	**Sn**	**00 47 40.7**	**-0.5**
SPN	**Mys Shipunski**	**0.28**	**142**	*i* P	**Pn**	**00 47 27.9**	**+0.3**
SPN				*i* S	**Sn**	**00 47 40.7**	**-0.5**
NLC	**Nalytchevo**	**0.28**	**239**	PN	**Pn**	**00 47 28.1**	**+0.5**
NLC				S	**Sn**	**00 47 41.0**	**-0.1**
NLC	**Nalytchevo**	**0.28**	**239**	*e*P	**Pn**	**00 47 28.1**	**+0.5**
NLC				*e*S	**Sn**	**00 47 41.0**	**-0.1**
SDLR	**Sedlovina**	**0.52**	**266**	PN	**Pn**	**00 47 29.2**	**+0.3**
SDLR				S	**Sn**	**00 47 43.5**	**+0.1**
SDLR	**Sedlovina**	**0.52**	**266**	*e*P	**Pn**	**00 47 29.2**	**+0.3**
SDLR				*e*S	**Sn**	**00 47 43.5**	**+0.1**
UGLR	**Uglovaya**	**0.56**	**259**	PN	**Pn**	**00 47 29.8**	**+0.7**
UGLR				S	**Sn**	**00 47 44.1**	**+0.2**
UGLR	**Uglovaya**	**0.56**	**259**	*e*P	**Pn**	**00 47 29.8**	**+0.7**
UGLR				*e*S	**Sn**	**00 47 44.1**	**+0.2**
SMAR	**Somma**	**0.57**	**265**	PN	**Pn**	**00 47 29.6**	**+0.3**
SMAR				S	**Sn**	**00 47 44.1**	**0.0**
SMAR	**Somma**	**0.57**	**265**	*e*P	**Pn**	**00 47 29.6**	**+0.3**
SMAR				*e*S	**Sn**	**00 47 44.1**	**0.0**
AVH	**Avacha**	**0.60**	**266**	PN	**Pn**	**00 47 29.9**	**+0.5**
AVH				S	**Sn**	**00 47 44.6**	**+0.3**
AVH	**Avacha**	**0.60**	**266**	*e*P	**Pn**	**00 47 29.9**	**+0.5**
AVH				*e*S	**Sn**	**00 47 44.6**	**+0.3**
KRX	**Arik**	**0.66**	**274**	PN	**Pn**	**00 47 30.2**	**+0.4**
KRX				S	**Sn**	**00 47 44.4**	**-0.7**
KRX	**Arik**	**0.66**	**274**	*e*P	**Pn**	**00 47 30.2**	**+0.4**
KRX				*e*S	**Sn**	**00 47 44.4**	**-0.7**
DALK	**Dalny**	**0.66**	**245**	PN	**Pn**	**00 47 30.0**	**+0.4**
DALK				S	**Sn**	**00 47 44.3**	**-0.4**
DALK	**Dalny**	**0.66**	**245**	*e*P	**Pn**	**00 47 30.0**	**+0.4**
DALK				*e*S	**Sn**	**00 47 44.3**	**-0.4**
PET	**Petropavlovsk**	**0.72**	**246**	*e*PN	**Pn**	**00 47 30.6**	**+0.6**
PET				*e*S	**Sn**	**00 47 45.2**	**-0.3**
PET				pmax	pmax		
	comp=Z,180nm,0.4s						
PET				smax	smax		
	comp=N,679nm,0.3s						
PET				smax	smax		
	comp=E,2μm,0.4s						
KII	**Karymskiy**	**0.74**	**347**	PN	**Pn**	**00 47 30.5**	**+0.1**
KII				S	**Sn**	**00 47 46.0**	**-0.1**
KII	**Karymskiy**	**0.74**	**347**	*e*P	**Pn**	**00 47 30.5**	**+0.1**
KII				*e*S	**Sn**	**00 47 46.0**	**-0.1**
KRMR	**Karymshinskiy**	**1.09**	**244**	PN	**Pn**	**00 47 33.8**	**+0.5**
KRMR				S	**Sn**	**00 47 51.0**	**-0.2**
KRMR	**Karymshinskiy**	**1.09**	**244**	*e*P	**Pn**	**00 47 33.8**	**+0.5**
KRMR				*e*S	**Sn**	**00 47 51.0**	**-0.2**
GNL	**Ganaly**	**1.14**	**290**	PN	**Pn**	**00 47 34.1**	**+0.1**
GNL				S	**Sn**	**00 47 53.6**	**+1.2**
GNL	**Ganaly**	**1.14**	**290**	*e*P	**Pn**	**00 47 34.1**	**+0.1**
GNL				*e*S	**Sn**	**00 47 53.6**	**+1.2**
RUS	**Russkaya**	**1.16**	**221**	PN	**Pn**	**00 47 34.5**	**+0.5**
RUS				S	**Sn**	**00 47 52.5**	**+0.1**
RUS	**Russkaya**	**1.16**	**221**	*e*P	**Pn**	**00 47 34.5**	**+0.5**
RUS				*e*S	**Sn**	**00 47 52.5**	**+0.1**
PETK	**Petropavlovsk-**	**1.25**	**261**	P	**Pn**	**00 47 35.5**	**+0.6**
	comp=E,37nm,0.3s,baz=79,slow=17,SNR=965						
PETK				S	**Sn**	**00 47 53.9**	**-0.3**
	comp=E,20nm,0.3s,baz=266,slow=19,SNR=11						
MTVR	**Mutnovka**	**1.26**	**229**	PN	**Pn**	**00 47 36.2**	**+1.0**
MTVR				S	**Sn**	**00 47 55.4**	**+0.8**
MTVR	**Mutnovka**	**1.26**	**229**	*e*P	**Pn**	**00 47 36.2**	**+1.0**
MTVR				*e*S	**Sn**	**00 47 55.4**	**+0.8**
ASAK	**Asacha**	**1.46**	**231**	PN	**Pn**	**00 47 38.3**	**+1.0**
ASAK	**Asacha**	**1.46**	**231**	*e*P	**Pn**	**00 47 38.3**	**+1.0**
KDTR	**Khodutka, Kamc**	**1.82**	**215**	*e*P	**Pn**	**00 47 41.7**	**+0.3**
KDTR				*e*S	**Sn**	**00 48 04.8**	**-0.8**
KZV	**Kizimen**	**1.83**	**10**	PN	**Pn**	**00 47 42.5**	**+0.8**
KZV				S	**Sn**	**00 48 06.6**	**+0.4**
KZV	**Kizimen**	**1.83**	**10**	*e*P	**Pn**	**00 47 42.5**	**+0.8**
KZV				*e*S	**Sn**	**00 48 06.6**	**+0.4**
TUMR	**Tumrok**	**1.99**	**7**	PN	**Pn**	**00 47 44.9**	**+1.4**
TUMR				S	**Sn**	**00 48 10.3**	**+0.9**
TUMR	**Tumrok**	**1.99**	**7**	*e*P	**Pn**	**00 47 44.9**	**+1.4**
TUMR				*e*S	**Sn**	**00 48 10.3**	**+0.9**
KMNR	**Kamenistaya**	**2.46**	**7**	PN	**Pn**	**00 47 50.4**	**+1.0**
KMNR	**Kamenistaya**	**2.46**	**7**	*e*P	**Pn**	**00 47 50.4**	**+1.0**
PAU	**Pauzhetka**	**2.58**	**225**	PN	**Pn**	**00 47 51.9**	**+1.1**
PAU	**Pauzhetka**	**2.58**	**225**	*e*P	**Pn**	**00 47 51.9**	**+1.1**
ESO	**Esso**	**2.69**	**347**	PN	**Pn**	**00 47 52.1**	**0.0**
ESO	**Esso**	**2.69**	**347**	*e*P	**Pn**	**00 47 52.1**	**0.0**
KOZ	**Kozyrevsk**	**2.75**	**2**	PN	**Pn**	**00 47 53.5**	**+0.5**
KOZ	**Kozyrevsk**	**2.75**	**2**	*e*P	**Pn**	**00 47 53.5**	**+0.5**
KLY	**Klyuchi**	**3.05**	**10**	PN	**Pn**	**00 47 57.9**	**+1.1**
KLY	**Klyuchi**	**3.05**	**10**	*e*P	**Pn**	**00 47 57.9**	**+1.1**
KBTR	**Krutoberegovo**	**3.40**	**30**	PN	**Pn**	**00 48 01.4**	**0.0**
KBTR				S	**Sn**	**00 48 40.5**	**-1.0**
KBTR	**Krutoberegovo**	**3.40**	**30**	*e*P	**Pn**	**00 48 01.4**	**0.0**
KBTR				*e*S	**Sn**	**00 48 40.5**	**-1.0**
SMKR	**Semkarok**	**3.42**	**16**	PN	**Pn**	**00 48 02.1**	**+0.4**
SMKR	**Semkarok**	**3.42**	**16**	*e*P	**Pn**	**00 48 02.1**	**+0.4**
SRKR	**Sorokina**	**3.45**	**13**	PN	**Pn**	**00 48 02.9**	**+0.8**
SRKR	**Sorokina**	**3.45**	**13**	*e*P	**Pn**	**00 48 02.9**	**+0.8**
BKI	**Bering**	**4.11**	**60**	*e*S	**Sn**	**00 48 56.4**	**-1.8**
KLR	**Kul'dur**	**17.93**	**268**	*i* P	**P**	**00 51 05.5**	**-3.9**
TIXI	**Tiksi**	**22.79**	**335**	*i* P	**P**	**00 52 00.1**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**28.81**	**46**	P	**P**	**00 52 57.0**	**+1.9**
	comp=Z,0.3nm,0.9s,baz=272,slow=8.7,SNR=4.1						
ILAR				LR	LR	01 05 18.8	
	comp=Z,27nm,19.7s,baz=64,slow=38						
H11N2	**WAKE ISLAND Hy**	**33.98**	**168**	T	T	01 29 55.4	
	baz=352,slow=76,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**33.99**	**168**	T	T	01 29 56.4	
	baz=352,slow=76,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**33.99**	**168**	T	T	01 29 55.6	
	baz=352,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**35.16**	**168**	T	T	01 31 20.5	
	baz=347						
H11S3	**WAKE ISLAND Hy**	**35.17**	**169**	T	T	01 31 24.5	
	baz=347						
H11S2	**WAKE ISLAND Hy**	**35.17**	**168**	T	T	01 31 26.4	
	baz=347						
YKA	**Yellowknife Ar**	**43.14**	**43**	P	**P**	**00 54 58.1**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=300,slow=7.9,SNR=6.5						
YKA	**Yellowknife Ar**	**43.14**	**43**	*e*P	**P**	**00 54 58.4**	**+1.7**
SPITS	**Spitsbergen Ar**	**46.88**	**350**	P	**P**	**00 55 25.7**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=21,slow=14,SNR=15						
MKAR	**Makanchi Array**	**47.87**	**295**	P	**P**	**00 55 32.1**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=56,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**47.87**	**295**	*e*P	**P**	**00 55 33.2**	**-1.0**
FINES	**FINESS Array B**	**59.83**	**336**	P	**P**	**00 57 00.6**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=33,slow=6.7,SNR=11						
NOA	**NORSAR Array B**	**63.27**	**343**	P	**P**	**00 57 24.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=14,slow=5.7,SNR=2.5						
HFS	**Hagfors**	**63.67**	**342**	P	**P**	**00 57 26.9**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=67,slow=8.0,SNR=3.9						
AKASG	**Malin Array Be**	**68.31**	**329**	P	**P**	**00 57 56.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=28,slow=7.2,SNR=2.3						
EKA	**Eskdalemuir Ar**	**70.80**	**350**	P	**P**	**00 58 10.5**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=22,slow=6.1,SNR=4.9						
GERES	**GERESS Array B**	**74.23**	**337**	P	**P**	**00 58 32.6**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=44,slow=6.0,SNR=3.0						
WRA	**Warramunga Arr**	**76.19**	**205**	P	**P**	**00 58 44.7**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=23,slow=6.2,SNR=3.1						

*ISCJB **03** 00:52:37.9±0.6, 36.53S±0.03×72.39W±0.09, h59km±6km, mb3.4/2, Error ellipse: s-maj=12.5km s-min=5.1km az=5.2*
*GUC **03** 00:52:38.8±0.5, 36.54S×72.41W, h56km±2km, ML3.9*
*IDC **03** 00:52:39.7±1.6, 36.55S×70.04W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.7/29, mbtmp3.6/4, ML4.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/19, Error ellipse: s-maj=64.9km s-min=31.1km az=90.0*
ISC 03 00:52:38.9±1.2**, 36.54S**±0.04×**72.47W**±0.08**, h51**km±9km**, n18, σ1.59**/23**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.32**	**101**	*e*P	**Pn**	**00 52 48.1**	**-0.3**
CCHI				*e*S	**Sn**	**00 52 55.0**	**-0.2**
CCHI				IAML		00 52 55.9	
	comp=E,18μm,0.6s						
COCH	**Cobquecura**	**0.48**	**328**	*e*P	**Pn**	**00 52 50.0**	**0.0**
COCH				*e*S	**Sn**	**00 52 58.9**	**+0.8**
COCH				IAML		00 52 59.8	
	comp=N,14μm,0.9s						
GO05	**HualaæØ**	**1.59**	**16**	*e*P	**Pn**	**00 53 04.1**	**-0.6**
GO05				*e*S	**Sn**	**00 53 24.1**	**0.0**
GO05				IAML		00 53 29.4	
	comp=N,3μm,0.4s						
NICH	**Los Niches**	**1.84**	**34**	*e*P	**Pn**	**00 53 07.4**	**-0.7**
NICH				*e*S	**Sn**	**00 53 29.5**	**-0.6**
TMU	**Temuco**	**2.19**	**183**	*e*P	**Pn**	**00 53 12.6**	**-0.2**
TMU				*e*S	**Sn**	**00 53 38.7**	**-0.1**
TMU				IAML		00 53 50.5	
	comp=E,733nm,0.6s						
GO06	**Curarrehue**	**3.14**	**166**	*e*P	**Pn**	**00 53 26.0**	**0.0**
GO06				*e*S	**Sn**	**00 54 03.8**	**+1.5**
CLCH	**Cerro Calan**	**3.52**	**27**	*e*P	**Pn**	**00 53 30.1**	**-1.1**
CLCH				*e*S	**Sn**	**00 54 17.3**	**+5.7**
PLCA	**Paso Flores**	**4.45**	**161**	Pn	**Pn**	**00 53 44.6**	**+0.7**
	comp=E,3.5nm,0.3s,baz=352,slow=11,SNR=70						
PLCA				Sn	Sn	00 54 46.3	+12
	comp=E,2.7nm,0.3s,baz=92,slow=20,SNR=3.3						
PLCA				LR	LR	00 55 25.9	
	comp=E,92nm,18.3s,baz=16,slow=40						
AAGR	**Agrelo**	**4.57**	**42**	*i* P	**Pn**	**00 53 46.1**	**+0.5**
ARCO	**CERRO ARCO**	**4.70**	**39**	*i* P	**Pn**	**00 53 46.5**	**-1.0**
ARCO				IAML		00 54 05.8	
	comp=Z,58nm,0.5s						
ARCO				*i* S	Sn	00 55 00.1	+19
ASAL	**Salagasta**	**4.95**	**38**	*i* P	**Pn**	**00 53 51.0**	**+0.2**
AUSP	**Uspallata**	**5.00**	**31**	*i* P	**Pn**	**00 53 51.5**	**-0.3**
AUSP				*i* S	Sn	00 55 04.5	+16
RTLS	**Leoncito**	**5.41**	**30**	*i* P	**Pn**	**00 53 57.1**	**-0.3**
RTLS				IAML		00 54 05.0	
	comp=Z,105nm,0.6s						
RTLS				*i* S	Sn	00 55 08.2	+10
RTCV	**Cerro Valdivia**	**5.69**	**36**	*i* P	**Pn**	**00 53 59.4**	**-1.6**
AMOG	**MOGNA**	**6.50**	**32**	*i* P	**Pn**	**00 54 09.8**	**-2.2**
AMOG				*i* S	Sn	00 55 42.3	+18
LPAZ	**La Paz**	**20.54**	**12**	P	Pn	00 57 16.6	+0.2
	comp=Z,2.2nm,0.6s,baz=180,slow=7.1,SNR=8.6						
TXAR	**Lajitas Array**	**71.79**	**332**	P	P	01 04 10.1	+14
	comp=Z,0.2nm,0.5s,baz=152,slow=7.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**85.41**	**70**	P	**P**	**01 05 10.4**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=283,slow=7.1,SNR=2.3						

*NEIC **03** 01:02:59.7±0.0, 60.34N×140.74W, h1km, ML2.8(AEIC), ML2.8(OTT), After OTT.*
PGC 03 01:02:59.7±0.9**, 60.34N×140.74W, h1**km**, ML2.8**/5**, 135km northwest of Yakutat, Ak Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.21**	**185**	P	Pg	01 03 02.1	-1.6
SAMH				S	Sg	01 03 05.9	-0.4
RKAV	**Rock Avalanche**	**0.30**	**263**	P	Pg	01 03 02.7	-2.8
RKAV				S	Sg	01 03 06.2	-3.2
CHX	**Chaix Hills**	**0.33**	**214**	P	Pg	01 03 03.0	-3.1
PCA	**Pinnacle**	**0.34**	**134**	P	Pg	01 03 06.1	-0.2
PCA				S	Sg	01 03 12.4	+1.8
PCA	**Pinnacle**	**0.34**	**134**	P	Pg	01 03 06.1	-0.2
PCA				S	Sg	01 03 12.0	+1.4
MESA	**MESA**	**0.62**	**256**	P	Pg	01 03 08.5	-3.1
MESA				S	Sg	01 03 17.5	-2.2
BCPM	**Bancas Point**	**0.67**	**124**	P	Pg	01 03 11.2	-1.4
BCPM				S	Sg	01 03 22.1	+0.8
BAGL	**Bagley Icefiel**	**0.69**	**284**	P	Pg	01 03 09.8	-3.1
ISLE	**Juniper Island**	**0.83**	**289**	P	Pg	01 03 11.9	-3.8
ISLE				S	Sg	01 03 23.0	-3.5
PNL	**Peninsula**	**0.95**	**134**	P	Pg	01 03 15.0	-3.0
PNL				S	Sg	01 03 28.4	-1.8
PNL	**Peninsula**	**0.95**	**134**	P	Pg	01 03 15.0	-2.9
KULT	**Kultieth River**	**0.99**	**266**	P	Pg	01 03 14.8	-3.8
KULT				S	Sg	01 03 27.9	-3.6
KHIT	**Khitrov Hills**	**1.25**	**276**	P	Pg	01 03 19.2	-4.4
KHIT				S	Sg	01 03 35.6	-4.2
YUK7	**Dusty Glacier**	**1.31**	**80**	P	Pg	01 03 23.1	-1.6
YUK7				S	Sb	01 03 42.5	0.0
YUK7	**Dusty Glacier**	**1.31**	**80**	P	Pg	01 03 23.1	-1.6
NICHA	**Nichawak Mount**	**1.61**	**268**	P	Pn	01 03 24.9	-4.4
YUK5	**Granite Creek**	**1.63**	**59**	Pn	Pn	01 03 28.6	-1.1
YUK5				Sg	Sg	01 03 51.9	0.0
HYT	**Haines Junctio**	**1.67**	**72**	Pn	Pn	01 03 28.4	-1.9
HYT				Sg	Sn	01 03 52.0	-0.4
HYT	**Haines Junctio**	**1.67**	**72**	P	Pn	01 03 28.5	-1.8
BMRM	**Bremner River**	**2.00**	**290**	P	Pn	01 03 30.7	-4.0
PLBC	**Pleasant Camp**	**2.38**	**110**	Pn	Pn	01 03 38.0	-1.8
PLBC				Sn	Sn	01 04 07.0	-2.5
PLBC	**Pleasant Camp**	**2.38**	**110**	P	Pn	01 03 37.5	-2.3
DIV	**Divide**	**2.59**	**290**	Pn	Pn	01 03 38.2	-4.7
DIV				Sg	Sn	01 04 12.7	-2.4
DIV	**Divide**	**2.59**	**290**	*e*Pn	Pn	01 03 39.0	-3.8
KLU	**Klutina**	**2.78**	**297**	P	Pn	01 03 42.0	-3.5
BCA3	**Beaver Creek A**	**2.79**	**350**	P	Pn	01 03 44.0	-1.5
WHY	**Whitehorse**	**2.92**	**81**	Pn	Pn	01 03 46.1	-1.3
WHY				Sn	Sn	01 04 22.7	-0.4
WHY				Sg	Sg	01 04 32.7	-0.7
WHY	**Whitehorse**	**2.92**	**81**	P	Pn	01 03 46.1	-1.2
JPK	**Jack Peak**	**2.97**	**287**	P	Pn	01 03 43.2	-4.7
HARP	**HAARP**	**2.97**	**316**	Pn	Pn	01 03 47.2	-0.8
PAX	**Paxson**	**3.47**	**322**	Pn	Pn	01 03 54.5	-0.5
PAX				Sg	Sb	01 04 45.0	+0.2
PAX	**Paxson**	**3.47**	**322**	*e*Pn	Pn	01 03 54.4	-0.5
BESE	**Bessie Mountai**	**3.48**	**118**	Pn	Pn	01 03 52.4	-2.7
BESE				Sg	Sb	01 04 43.3	-1.7
DOT	**Dot Lake**	**3.67**	**336**	Pn	Pn	01 03 56.1	-1.5
DOT	**Dot Lake**	**3.67**	**336**	*e*Pn	Pn	01 03 56.6	-1.0
DAWY	**Dawson**	**3.80**	**9**	Pn	Pn	01 03 58.6	-0.8
DAWY				Sn	Sn	01 04 44.9	+0.2
DAWY				Sg	Sg	01 04 58.2	-3.4
DAWY	**Dawson**	**3.80**	**9**	P	Pn	01 03 58.6	-0.7
EGAK	**Eagle**	**4.46**	**358**	P	Pn	01 04 07.6	-0.8

*LDG **03** 01:04:25.6±0.1, 40.82N×15.20E, h25km, Ml3.8/3, Error ellipse: s-maj=4.4km s-min=2.2km az=40.0*
*IDC **03** 01:04:25.2±0.9, 41.02N×15.04E, h0km, mb3.5/9, mb1 3.7/14, mb1mx3.6/58, mbtmp3.6/14, ML4.0/3, MS3.1/3, Ms1 3.2/3, ms1mx2.6/64, Error ellipse: s-maj=20.4km s-min=12.1km az=88.0*
*ROM **03** 01:04:25.9±0.1, 40.82N×15.19E, h16km±1km, Ml3.7/53, Error ellipse: s-maj=1.4km s-min=0.9km az=40.0*
*PDG **03** 01:04:26.1±0.5, 40.85N×15.19E, h18km, ML3.5/10, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*ISCJB **03** 01:04:26.3±0.2, 40.91N±0.01×15.17E±0.02, h23km±2km, mb3.7/9, MS3.2/2, Error ellipse: s-maj=2.5km s-min=1.6km az=34.9*
*BEO **03** 01:04:27.9±0.5, 40.98N×15.16E, M3.8/2*
*CSEM **03** 01:04:27.2±0.1, 40.85N×15.13E, h20km, ML4.0/20, Error ellipse: s-maj=3.3km s-min=2.1km az=35.0*
*PRU **03** 01:04:27.4, 41.02N×15.33E, h0km*
ISC 03 01:04:26.4±0.7**, 40.82N**±0.02×**15.16E**±0.02**, h15**km±4km**, n397, σ1.74**/533**, mb3.6**/9**, 29C-25D, Southern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MCRV	**Calabrutti - M**	**0.04**	**165**⇓	*i*Pg	**Pg**	**01 04 29.0**	**-0.2**
MCRV				Sg	**Sg**	**01 04 30.8**	**-0.3**
	90μm,0.4s						
MCRV	**Calabrutti - M**	**0.04**	**165**⇓	*i*Pg	**Pg**	**01 04 29.0**	**-0.2**
MCRV				Sg	**Sg**	**01 04 30.8**	**-0.3**
	90μm,0.4s						
SNAL	**S. Angelo Dei**	**0.11**	**22**⇑	*i*Pg	**Pb**	**01 04 29.6**	**-0.7**
SNAL				Sg	**Sg**	**01 04 32.2**	**+0.1**
	85μm,0.8s						
SNAL	**S. Angelo Dei**	**0.11**	**22**⇑	*i*Pg	**Pb**	**01 04 29.6**	**-0.7**
SNAL				Sg	**Sg**	**01 04 32.2**	**+0.1**
	85μm,0.8s						
CAFE	**Carife**	**0.21**	**17**⇑	*i*Pg	**Pb**	**01 04 31.1**	**-1.0**
CAFE				Sg	**Sg**	**01 04 35.3**	**+0.7**
	21μm,0.6s						
CAFE	**Carife**	**0.21**	**17**⇑	*i*Pg	**Pb**	**01 04 31.1**	**-1.0**
CAFE				Sg	**Sg**	**01 04 35.3**	**+0.7**
	21μm,0.6s						
MRLC	**Muro Lucano**	**0.26**	**104**⇓	*i*Pg	**Pg**	**01 04 31.5**	**-0.5**
MRLC				Sg	**Sg**	**01 04 35.5**	**-0.4**
	10μm,0.5s						
MRLC	**Muro Lucano**	**0.26**	**104**⇓	*i*Pg	**Pg**	**01 04 31.5**	**-0.5**
MRLC				Sg	**Sg**	**01 04 35.5**	**-0.4**
	10μm,0.5s						
CDRU	**Civita di Ruta**	**0.35**	**161**	Pg	**Pg**	**01 04 33.3**	**-0.3**
CDRU				Sg	**Sg**	**01 04 38.3**	**-0.2**
	4μm,0.2s						
CDRU	**Civita di Ruta**	**0.35**	**161**	Pg	**Pg**	**01 04 33.3**	**-0.3**
CDRU				Sg	**Sg**	**01 04 38.3**	**-0.2**
	4μm,0.2s						
VULT	**Monte Vulture**	**0.37**	**69**	Pg	**Pg**	**01 04 33.5**	**-0.5**
VULT				Sg	**Sg**	**01 04 39.1**	**-0.1**
	8μm,0.3s						
VULT	**Monte Vulture**	**0.37**	**69**	Pg	**Pg**	**01 04 33.5**	**-0.5**
VULT				Sg	**Sg**	**01 04 39.1**	**-0.1**
	8μm,0.3s						
NL9	**Nola**	**0.47**	**282**	Pg	**Pg**	**01 04 35.6**	**-0.2**
NL9	**Nola**	**0.47**	**282**	Pg	**Pg**	**01 04 35.6**	**-0.2**
PSB1	**Pescosannita**	**0.48**	**327**⇑	*i*Pg	**Pg**	**01 04 35.7**	**-0.2**
	3μm,0.8s						
PSB1	**Pescosannita**	**0.48**	**327**⇑	*i*Pg	**Pg**	**01 04 35.7**	**-0.2**
	3μm,0.8s						
PAOL	**Paolisi**	**0.49**	**295**	Pg	**Pg**	**01 04 35.9**	**-0.2**
	5μm,0.3s						
PAOL	**Paolisi**	**0.49**	**295**	Pg	**Pg**	**01 04 35.9**	**-0.2**
	5μm,0.3s						
CMPR	**Campora**	**0.52**	**167**⇑	*i*Pg	**Pg**	**01 04 35.9**	**-0.7**
	4μm,0.4s						
CMPR	**Campora**	**0.52**	**167**⇑	*i*Pg	**Pg**	**01 04 35.9**	**-0.7**
	4μm,0.4s						
PZUN	**Potenza**	**0.53**	**109**	Pg	**Pg**	**01 04 36.3**	**-0.4**
PZUN	**Potenza**	**0.53**	**109**	Pg	**Pg**	**01 04 36.3**	**-0.4**
MOCO	**Biccari - m.te**	**0.55**	**0**⇑	*i*Pg	**Pg**	**01 04 36.9**	**-0.3**
	3μm,0.6s						
SLCN	**Sala Consilina**	**0.56**	**140**	Pg	**Pg**	**01 04 37.2**	**-0.3**
	8μm,0.5s						
SLCN	**Sala Consilina**	**0.56**	**140**	Pg	**Pg**	**01 04 37.2**	**-0.3**
	8μm,0.5s						
ACER	**Acerenza**	**0.60**	**93**	Pg	**Pb**	**01 04 37.1**	**-1.5**
	3μm,0.5s						
ACER	**Acerenza**	**0.60**	**93**	Pg	**Pb**	**01 04 37.1**	**-1.5**
	3μm,0.5s						
PALZ	**Palazzo San Ge**	**0.62**	**78**	Pg	**Pb**	**01 04 37.3**	**-1.7**
	2μm,0.7s						
PALZ	**Palazzo San Ge**	**0.62**	**78**	Pg	**Pb**	**01 04 37.3**	**-1.7**
	2μm,0.7s						
SACR	**S. Croce Del S**	**0.67**	**330**⇑	*i*Pg	**Pb**	**01 04 38.8**	**-1.0**
	2μm,0.6s						
SACR	**S. Croce Del S**	**0.67**	**330**⇑	*i*Pg	**Pb**	**01 04 38.8**	**-1.0**
	2μm,0.6s						
MCEL	**Monticello**	**0.70**	**135**	Pg	**Pb**	**01 04 39.1**	**-1.2**
	5μm,0.6s						
MCEL	**Monticello**	**0.70**	**135**	Pg	**Pb**	**01 04 39.1**	**-1.2**
	5μm,0.6s						
GATE	**Gambatesa**	**0.71**	**345**	Pg	**Pb**	**01 04 40.2**	**-0.4**
	2μm,0.5s						
GATE	**Gambatesa**	**0.71**	**345**	Pg	**Pb**	**01 04 40.2**	**-0.4**
	2μm,0.5s						
MTSN	**Montesano sull**	**0.72**	**140**	Pg	**Pb**	**01 04 39.7**	**-1.0**
	4μm,0.6s						
MTSN	**Montesano sull**	**0.72**	**140**	Pg	**Pb**	**01 04 39.7**	**-1.0**
	4μm,0.6s						
PTRJ	**Pietraroja**	**0.72**	**319**	Pg	**Pb**	**01 04 39.9**	**-0.8**
	12μm,0.5s						

PTRJ	Pietraroja	0.72	319	Pg	Pb	01 04 39.9	-0.8
	12µm,0.5s						
MGR	Morigerati	0.75	156	Pg	Pb	01 04 39.6	-1.5
	2µm,0.5s						
MGR	Morigerati	0.75	156	Pg	Pb	01 04 39.6	-1.5
	2µm,0.5s						
IPOZ	Pozzuoli	0.79	270	Pg	Pn	01 04 43.0	+0.1
SGG	Gregorio Mates	0.81	314	Pg	Pg	01 04 42.3	+0.1
	5µm,0.5s						
SGG	Gregorio Mates	0.81	314	Pg	Pg	01 04 42.3	+0.1
	5µm,0.5s						
MRVN	Minervino Murg	0.82	73	Pg	Pb	01 04 41.2	-1.2
	1µm,0.4s						
MRVN	Minervino Murg	0.82	73	Pg	Pb	01 04 41.2	-1.2
	1µm,0.4s						
BSSO	Busso	0.84	330	Pg	Pb	01 04 41.7	-1.0
	3µm,0.8s						
BSSO	Busso	0.84	330	Pg	Pb	01 04 41.7	-1.0
	3µm,0.8s						
CIGN	Sant'Elia a Pi	0.85	347	Pg	Pb	01 04 42.0	-0.9
	2µm,0.7s						
CIGN	Sant'Elia a Pi	0.85	347	Pg	Pb	01 04 42.0	-0.9
	2µm,0.7s						
MELA	Melanico ??? S	0.88	359	Pg	Pb	01 04 42.0	-1.4
	18µm,0.5s						
MELA	Melanico ??? S	0.88	359	Pg	Pb	01 04 42.0	-1.4
	18µm,0.5s						
VAGA	Valle Agricola	0.91	311	Pg	Pn	01 04 44.2	-0.6
	5µm,0.9s						
VAGA	Valle Agricola	0.91	311	Pg	Pn	01 04 44.2	-0.6
	5µm,0.9s						
SCHR	S. Chirico Rap	0.94	131	Pg	Pb	01 04 42.4	-2.0
	1µm,0.6s						
OC9	Casamicciola	0.95	266	Pg	Pg	01 04 44.7	-0.1
OC9	Casamicciola	0.95	266	Pg	Pg	01 04 44.7	-0.1
MSC	Monte Massico	0.97	293	Pg	Pn	01 04 44.8	-0.7
MSC	Monte Massico	0.97	293	Pg	Pn	01 04 44.8	-0.7
CUC	Castrocucco	0.97	148	Pg	Pb	01 04 44.1	-0.8
	2µm,0.7s						
CUC	Castrocucco	0.97	148	Pg	Pb	01 04 44.1	-0.8
	2µm,0.7s						
MIGL	Miglionico	1.00	102	Pg	Pb	01 04 43.9	-1.6
	2µm,0.6s						
MIGL	Miglionico	1.00	102	Pg	Pb	01 04 43.9	-1.6
	2µm,0.6s						
MODR	Mondragone	1.02	289	Pg	Pb	01 04 45.2	-0.6
	1µm,0.5s						
MODR	Mondragone	1.02	289	Pg	Pb	01 04 45.2	-0.6
	1µm,0.5s						
SGRT	San Giovanni R	1.03	25	Pg	Pb	01 04 44.8	-1.2
	5µm,0.6s						
SGRT	San Giovanni R	1.03	25	Pg	Pb	01 04 44.8	-1.2
	5µm,0.6s						
TRIV	Trivento	1.05	334	Pg	Pb	01 04 45.3	-1.0
	4µm,0.6s						
TRIV	Trivento	1.05	334	Pg	Pb	01 04 45.3	-1.0
	4µm,0.6s						
MSAG	Monte S. Angel	1.05	32	Pg	Pb	01 04 44.8	-1.6
	3µm,0.4s						
MSAG	Monte S. Angel	1.05	32	Pg	Pb	01 04 44.8	-1.6
	3µm,0.4s						
MS1	Monte Sant'Ang	1.06	34	*e*Pg	Pb	01 04 45.3	-1.2
MS1				Sg	Sn	01 05 01.1	-0.3
MIDA	Miranda	1.06	321	Pg	Pb	01 04 46.2	-0.4
	2µm,0.6s						
MIDA	Miranda	1.06	321	Pg	Pb	01 04 46.2	-0.4
	2µm,0.6s						
AMUR	Altamura	1.10	85	Pg	Pn	01 04 46.0	-1.3
	1µm,0.5s						
AMUR	Altamura	1.10	85	Pg	Pn	01 04 46.0	-1.3
	1µm,0.5s						
T0711	Rotonda (PZ)	1.12	142	Pg	Pn	01 04 46.7	-1.0
	3µm,0.8s						
MMN	Mormanno	1.13	145	Pg	Pn	01 04 47.2	-0.4
	644nm,0.7s						
MMN	Mormanno	1.13	145	Pg	Pn	01 04 47.2	-0.4
	644nm,0.7s						
CERA	Filignano	1.16	312	Pg	Pb	01 04 47.9	-0.2
	6µm,1.0s						
CERA	Filignano	1.16	312	Pg	Pb	01 04 47.9	-0.2
	6µm,1.0s						
SG1	Sgolgore (BA)	1.16	89	*e*Pg	Pn	01 04 47.0	-1.1
SG1				Sg	Sg	01 05 05.0	+1.2
RNI2	Rionero Sannit	1.16	320	Pg	Pn	01 04 47.6	-0.6
	4µm,1.2s						
RNI2	Rionero Sannit	1.16	320	Pg	Pn	01 04 47.6	-0.6
	4µm,1.2s						
MATE	Matera	1.19	98⇓	*i*P	Pn	01 04 47.8	-0.7
MATE	Matera	1.19	98	Pg	Pn	01 04 47.3	-1.2
	755nm,0.5s						
MATE	Matera	1.19	98⇓	*i*P	Pn	01 04 47.8	-0.7
MATE				S	Sb	01 05 03.6	-0.3
MATE	Matera	1.19	98	Pg	Pn	01 04 47.3	-1.2
	755nm,0.5s						
FRES	Fresagrandinar	1.21	343	Pg	Pn	01 04 48.2	-0.6
	5µm,0.6s						
FRES	Fresagrandinar	1.21	343	Pg	Pn	01 04 48.2	-0.6
	5µm,0.6s						
SALB	San Lorenzo Be	1.31	136	Pg	Pn	01 04 50.1	-0.2
	814nm,0.6s						
SALB	San Lorenzo Be	1.31	136	Pg	Pn	01 04 50.1	-0.2
	814nm,0.6s						
VENT	Ventotene	1.32	269	Pg	Pn	01 04 49.2	-1.0
	570nm,0.7s						
VENT	Ventotene	1.32	269	Pg	Pn	01 04 49.2	-1.0
	570nm,0.7s						
BAI	Bari	1.34	77	*e*Pg	Pn	01 04 49.6	-0.9
BAI				Sg	Sg	01 05 09.6	+0.1
POFI	Posta Fibreno	1.41	310	Pg	Pn	01 04 50.8	-0.8
	661nm,0.6s						
POFI	Posta Fibreno	1.41	310	Pg	Pn	01 04 50.8	-0.8
	661nm,0.6s						
CET2	Cetraro	1.43	154	Pg	Pn	01 04 51.4	-0.5
	2µm,0.7s						
CET2	Cetraro	1.43	154	Pg	Pn	01 04 51.4	-0.5
	2µm,0.7s						
NOCI	Noci	1.45	91	Pg	Pn	01 04 51.2	-0.9
	806nm,0.6s						
NOCI	Noci	1.45	91	Pg	Pn	01 04 51.2	-0.9
	806nm,0.6s						
INTR	Introdacqua	1.52	322	Pg	Pn	01 04 52.8	-0.3
	3µm,0.6s						
INTR	Introdacqua	1.52	322	Pg	Pn	01 04 52.8	-0.3
	3µm,0.6s						
MASS	Massafra	1.52	96	*e*Pg	Pn	01 04 53.9	+0.8
MASS				Sg	Sb	01 05 14.9	+1.4
VVLD	Villa Vallelon	1.56	313	Pg	Pn	01 04 52.9	-0.8
	1µm,1.0s						
VVLD	Villa Vallelon	1.56	313	Pg	Pn	01 04 52.9	-0.8
	1µm,1.0s						
TAR1	Taranto	1.65	100	*e*Pg	Pn	01 04 54.1	-0.7
TAR1				Sg	Sg	01 05 19.0	-0.4
FASA	Fasano	1.67	89	*e*Pg	Pn	01 04 54.5	-0.6
GUAR	Guarcino	1.69	306	Pg	Pn	01 04 54.8	-0.7
	334nm,1.1s						
GUAR	Guarcino	1.69	306	Pg	Pn	01 04 54.8	-0.7
	334nm,1.1s						
CGL1	Ceglie Messapi	1.77	95	*e*Pg	Pn	01 04 57.4	+0.9
CGL1				Sg	Sg	01 05 22.9	-0.5
FAGN	Fagnano	1.86	321	Pg	Pn	01 04 58.2	+0.4
FAGN	Fagnano	1.86	321	Pg	Pn	01 04 58.2	+0.4
CERT	Cerreto	1.98	305	Pg	Pn	01 04 58.9	-0.6
	297nm,0.7s						
CERT	Cerreto	1.98	305	Pg	Pn	01 04 58.9	-0.6
	297nm,0.7s						
AQU	L'Aquila	2.02	320	Pg	Pn	01 05 00.8	+0.8
	705nm,0.9s						
AQU	L'Aquila	2.02	320	Pg	Pn	01 05 00.8	+0.8
	705nm,0.9s						
TIP	Timpagrande	2.05	143⇓	*i*P	Pb	01 05 02.3	-1.1
TIP	Timpagrande	2.05	143	Pg	Pn	01 05 01.6	+1.2
	334nm,1.3s						
TIP	Timpagrande	2.05	143⇓	*i*P	Pb	01 05 02.3	-1.1
TIP	Timpagrande	2.05	143	P	Pb	01 05 02.7	-0.7
TIP	Timpagrande	2.05	143	Pg	Pn	01 05 01.6	+1.2
	334nm,1.3s						
FIAM	Fiamignano	2.10	314	Pg	Pn	01 05 01.8	+0.6
	540nm,0.9s						
FIAM	Fiamignano	2.10	314	Pg	Pn	01 05 01.8	+0.6
	540nm,0.9s						
SERS	Sersale	2.14	146	Pg	Pn	01 05 02.1	+0.4
	250nm,0.9s						
SERS	Sersale	2.14	146	Pg	Pn	01 05 02.1	+0.4
	250nm,0.9s						
TERO	Teramo	2.14	328	Pg	Pn	01 05 02.6	+1.0
	310nm,0.6s						
TERO	Teramo	2.14	328	Pg	Pn	01 05 02.6	+1.0

	310nm,0.6s						
STON	Ston	2.79	42	*e*Pn	Pn	01 05 08.8	-1.8
STON				Sn	Sn	01 05 41.2	-2.9
STON	Ston	2.79	42	*e*Pn	Pn	01 05 08.7	-1.8
STON				Sn	Sn	01 05 41.1	-2.9
HCY	Herceg Novi	2.98	56	*e*Pn	Pn	01 05 12.8	-0.4
HCY				*e*Sn	Sn	01 05 49.4	+0.7
HCY	Herceg Novi	2.98	56	*e*Pn	Pn	01 05 12.8	-0.4
HCY				*e*Sn	Sn	01 05 49.4	+0.7
TREB	Trebinje	3.05	51	*e*Pn	Pn	01 05 14.1	0.0
BUM	Brajici-Budva	3.17	61⇑	*i*Pn	Pn	01 05 15.6	-0.2
BUM				*e*Sn	Sn	01 05 53.9	+0.5
BUM	Brajici-Budva	3.17	61⇑	*i*Pn	Pn	01 05 15.6	-0.2
BUM				*e*Sn	Sn	01 05 53.9	+0.5
BRY	Bratogost	3.27	49⇓	*i*Pn	Pn	01 05 17.4	+0.1
BRY				*e*Sn	Sn	01 05 56.1	+0.1
BRY	Bratogost	3.27	49⇓	*i*Pn	Pn	01 05 17.4	+0.1
BRY				*e*Sn	Sn	01 05 56.1	+0.1
ULC	Ulcinj	3.28	68⇓	*i*Pn	Pn	01 05 17.6	+0.3
ULC				*e*Sn	Sn	01 05 56.6	+0.5
ULC	Ulcinj	3.28	68⇓	*i*Pn	Pn	01 05 17.6	+0.3
ULC	Ulcinj	3.28	68	P	Pn	01 05 17.9	+0.6
ULC				*e*Sn	Sn	01 05 56.6	+0.5
CEME	Cevo	3.30	57⇓	*i*Pn	Pn	01 05 17.4	-0.2
CEME				*e*Sn	Sn	01 05 57.6	+0.9
CEME	Cevo	3.30	57⇓	*i*Pn	Pn	01 05 17.4	-0.2
CEME				*e*Sn	Sn	01 05 57.6	+0.9
DRME	Dracevica, Mon	3.32	64	*e*Pn	Pn	01 05 18.0	+0.2
DRME				*e*Sn	Sn	01 05 57.5	+0.5
DRME	Dracevica, Mon	3.32	64	*e*Pn	Pn	01 05 18.0	+0.2
DRME				*e*Sn	Sn	01 05 57.5	+0.5
VAE	Valguarnera	3.39	190	Pn	Pb	01 05 22.9	-3.3
	2.7nm,0.3s,baz=11,slow=5.2,SNR=13						
NKME	Niksic	3.44	54⇓	*i*Pn	Pn	01 05 20.0	+0.5
NKME				*e*Sn	Sn	01 06 00.4	+0.3
NKME	Niksic	3.44	54⇓	*i*Pn	Pn	01 05 20.0	+0.5
NKME				*e*Sn	Sn	01 06 00.4	+0.3
PDG	Podgorica	3.47	61	*e*Pn	Pn	01 05 20.6	+0.8
PDG	Podgorica	3.47	61⇑	*i*P	Pn	01 05 20.0	+0.2
PDG	Podgorica	3.47	61⇑	*i*P	Pn	01 05 20.0	+0.2
PDG	Podgorica	3.47	61	*e*Pn	Pn	01 05 20.6	+0.8
PDG				S	Sn	01 05 59.5	-1.1
PDG				*e*Sn	Sn	01 06 00.9	+0.3
TTG	Podgorica	3.47	61⇓	*i*Pn	Pn	01 05 20.1	+0.2
TTG				*e*Sn	Sn	01 06 00.9	+0.3
NKY	Niksic	3.49	54⇓	*i*Pn	Pn	01 05 21.0	+0.7
NKY				*e*Sn	Sn	01 06 01.6	+0.2
NKY	Niksic	3.49	54⇓	*i*Pn	Pn	01 05 21.0	+0.7
NKY				*e*Sn	Sn	01 06 01.6	+0.2
TIR	Tirane	3.60	80	*e*Pn	Pn	01 05 23.3	+1.7
TIR				*e*Sn	Sn	01 06 03.2	-0.7
TIR	Tirane	3.60	80⇑	*i*P	Pn	01 05 23.0	+1.4
TIR	Tirane	3.60	80	*e*Pn	Pn	01 05 23.3	+1.7
TIR	Tirane	3.60	80	P	Pn	01 05 23.7	+2.1
TIR				*e*Sn	Sn	01 06 03.2	-0.7
UDBI	Udbina	3.73	7	*e*Pn	Pn	01 05 24.5	+1.0
UDBI				Sn	Sn	01 06 04.6	-2.7
UDBI	Udbina	3.73	7	*e*Pn	Pn	01 05 24.5	+1.0
UDBI				Sn	Sn	01 06 04.5	-2.7
NVLJ	Novalja	3.75	357	*e*Pn	Pn	01 05 23.2	-0.5
NVLJ				Sn	Sn	01 06 07.2	-0.3
NVLJ	Novalja	3.75	357	*e*Pn	Pn	01 05 23.1	-0.5
NVLJ				Sn	Sn	01 06 07.1	-0.3
KOME	Kolasin	3.84	57	*e*Pn	Pn	01 05 26.0	+1.0
KOME				*e*Sn	Sn	01 06 10.1	+0.2
KOME	Kolasin	3.84	57	*e*Pn	Pn	01 05 26.0	+1.0
KOME				*e*Sn	Sn	01 06 10.1	+0.2
PVY	Plav	4.01	62⇑	*i*Pn	Pn	01 05 28.4	+1.0
PVY				*e*Sn	Sn	01 06 14.4	+0.2
PLE	Pljevlja	4.03	50⇑	*i*Pn	Pn	01 05 28.6	+1.0
PLE				*e*Sn	Sn	01 06 14.8	+0.2
PLE	Pljevlja	4.03	50⇑	*i*Pn	Pn	01 05 28.6	+1.0
PLE				*e*Sn	Sn	01 06 14.8	+0.2
SGD	Sagiada	4.07	106	P	Pn	01 05 28.9	+0.8
SGD	Sagiada	4.07	106	P	Pn	01 05 29.3	+1.2
SGD	Sagiada	4.07	106	P	Pn	01 05 31.0	+2.9
BEY	Berane	4.09	58⇑	*i*Pn	Pn	01 05 29.1	+0.6
BEY	Berane	4.09	58	P	Pn	01 05 31.1	+2.6
BEY				*e*Sn	Sn	01 06 16.2	+0.1
IVA	Berane	4.09	58⇑	*i*Pn	Pn	01 05 29.1	+0.6
IVA				*e*Sn	Sn	01 06 16.2	+0.1
BLY	Banja Luka	4.20	20⇑	*i*P	Pn	01 05 30.8	+0.9
BLY	Banja Luka	4.20	20⇑	*i*P	Pn	01 05 30.8	+0.9
BLY	Banja Luka	4.20	20	*e*Pn	Pn	01 05 31.2	+1.3
BLY				S	Sn	01 06 19.1	+0.4
OHR	Ohrid	4.28	84	*i* Pn	Pn	01 05 29.5	-1.6
HAPS	Han Pijesak,Bl	4.30	39	*e*Pn	Pn	01 05 31.2	-0.2
HAPS				*e*Sn	Sn	01 06 19.4	-2.0
HAPS	Han Pijesak,Bl	4.30	39	*e*Pn	Pn	01 05 31.2	-0.2
HAPS				*e*Sn	Sn	01 06 19.4	-2.0
SJES	Sjenica	4.34	54	*e*Pn	Pn	01 05 33.8	+1.9
SJES				*e*Sn	Sn	01 06 21.5	-0.8
ZATK	Zatriq	4.41	67	P	Pn	01 05 35.2	+2.4
JAN	Janina	4.51	103	P	Pn	01 05 37.1	+2.8
JAN	Janina	4.51	103	P	Pn	01 05 37.0	+2.8
JAN				S	Sn	01 06 26.7	+0.2
JAN	Janina	4.51	103	P	Pn	01 05 37.0	+2.8
JAN				S	Sn	01 06 26.7	+0.2
IVAS	Ivanjica	4.62	52	*e*Pn	Pn	01 05 36.8	+1.1
IVAS				*e*Sn	Sn	01 06 27.8	-1.4
IVAS	Ivanjica	4.62	52	*e*Pn	Pn	01 05 36.8	+1.1
IVAS				*e*Sn	Sn	01 06 27.8	-1.4
KRUS	Krusevo	4.64	81	*i* Pn	Pn	01 05 36.2	+0.2
BIA	Bitola	4.68	86	P	Pn	01 05 39.2	+2.7
BIA	Bitola	4.68	86	P	Pn	01 05 39.2	+2.7
BIA	Bitola	4.68	86	*i* Pn	Pn	01 05 39.2	+2.7
BOJS	Bojanci	4.68	1	*e*Pn	Pn	01 05 36.5	0.0
BOJS				*e*Sn	Sn	01 06 28.0	-2.5
BOJS	Bojanci	4.68	1	*i* Pn	Pn	01 05 36.8	+0.3
BOJS	Bojanci	4.68	1	*e*Pn	Pn	01 05 36.5	0.0
BOJS				*e*Sn	Sn	01 06 28.0	-2.5
LKD2	Lefkada island	4.70	114	P	Pn	01 05 38.4	+1.5
LKD2	Lefkada island	4.70	114	P	Pn	01 05 38.3	+1.5
LKD2	Lefkada island	4.70	114	P	Pn	01 05 38.3	+1.5
FNA	Florina	4.72	88	*e*Pn	Pn	01 05 38.2	+1.1
FNA				*e*Sn	Sn	01 06 31.8	+0.1
FNA	Florina	4.72	88	*e*Pn	Pn	01 05 38.2	+1.1
FNA				*e*Sn	Sn	01 06 31.8	+0.1
FNA	Florina	4.72	88	P	Pn	01 05 38.3	+1.1
KNDS	Knezji Dol	4.74	353	*e*Pn	Pn	01 05 36.4	-0.9
KNDS				*e*Sn	Sn	01 06 30.3	-1.8
KNDS	Knezji Dol	4.74	353	*e*Pn	Pn	01 05 36.4	-0.9
KNDS				*e*Sn	Sn	01 06 30.3	-1.8
	40nm,0.4s						
SKDS	Skadanscina	4.79	350	*e*Pn	Pn	01 05 36.8	-1.3
SKDS				*e*Sn	Sn	01 06 30.2	-3.2
SKDS	Skadanscina	4.79	350	*e*Pn	Pn	01 05 36.8	-1.3
SKDS				*e*Sn	Sn	01 06 30.2	-3.2
OZLJ	Ozalj	4.80	3	*e*Pn	Pn	01 05 38.9	+0.9
OZLJ				Sn	Sn	01 06 31.4	-1.9
OZLJ	Ozalj	4.80	3	*e*Pn	Pn	01 05 38.9	+0.9
OZLJ				Sn	Sn	01 06 31.4	-1.9
KPRO	Kipourio	4.82	98	P	Pn	01 05 42.5	+4.0
KPRO	Kipourio	4.82	98	P	Pn	01 05 41.8	+3.3
KPRO	Kipourio	4.82	98	P	Pn	01 05 42.0	+3.5
DIVS	Divibare	4.85	46	*e*Pn	Pn	01 05 39.6	+0.7
DIVS				*e*Sn	Sn	01 06 33.6	-1.2
DIVS	Divibare	4.85	46	*e*Pn	Pn	01 05 39.6	+0.7
DIVS				*e*Sn	Sn	01 06 33.6	-1.2
SKO	Skopje	4.87	74	*e*Pn	Pn	01 05 40.0	+0.9
DSL	Palaion Diasel	4.87	108	P	Pn	01 05 41.1	+2.0
DSL	Palaion Diasel	4.87	108	P	Pn	01 05 40.9	+1.8
PGF	Pioggiola	4.92	293	*e*P	Pn	01 05 40.0	+0.1
PGF	Pioggiola	4.92	293	*e*P	Pn	01 05 40.0	+0.1
TEKS	Tekeris	4.92	39	*e*Pn	Pn	01 05 39.8	-0.1
TEKS				*e*Sn	Sn	01 06 34.5	-2.1
TEKS	Tekeris	4.92	39	*e*Pn	Pn	01 05 39.8	-0.1
TEKS				*e*Sn	Sn	01 06 34.5	-2.1
CEY	Cerknica	4.94	354	*e*Pn	Pn	01 05 39.5	-0.6
CEY				*e*Sn	Sn	01 06 32.9	-4.2
CEY	Cerknica	4.94	354	*e*Pn	Pn	01 05 39.5	-0.6
CEY				*e*Sn	Sn	01 06 32.9	-4.2
VLS	Valsamata	4.96	120	P	Pn	01 05 42.1	+1.7
VLS	Valsamata	4.96	120	P	Pn	01 05 41.8	+1.4
VLS				S	Sn	01 06 37.3	-0.3
VLS	Valsamata	4.96	120	P	Pn	01 05 41.8	+1.4
VLS				S	Sn	01 06 37.3	-0.3
CRES	Cresnjev	5.01	2	*e*Pn	Pn	01 05 41.9	+0.9
ZAG	Zagreb	5.04	7	*e*Pn	Pn	01 05 41.5	+0.1

SELS	Selova	5.05	60	*e*Pn	Pn	01 05 42.2	+0.6
SELS				*e*Sn	Sn	01 06 39.0	-0.6
SELS	Selova	5.05	60	*e*Pn	Pn	01 05 42.2	+0.6
SELS				*e*Sn	Sn	01 06 39.0	-0.6
GCIS	Gornji Cirnik	5.05	4	*e*Pn	Pn	01 05 41.2	-0.4
GCIS				*e*Sn	Sn	01 06 38.4	-1.4
GCIS	Gornji Cirnik	5.05	4	*e*Pn	Pn	01 05 41.2	-0.4
GCIS				*e*Sn	Sn	01 06 38.4	-1.4
	14nm,0.4s						
KZN	Kozani	5.07	94	P	Pn	01 05 45.1	+3.2
KZN				S	Sn	01 06 38.1	-2.1
KZN	Kozani	5.07	94	P	Pn	01 05 45.1	+3.2
KZN				S	Sn	01 06 38.1	-2.1
KFL	Anninata	5.13	120	P	Pn	01 05 44.0	+1.3
KFL	Anninata	5.13	120	P	Pn	01 05 44.6	+1.9
KFL				S	Sn	01 06 44.2	+2.5
KFL	Anninata	5.13	120	P	Pn	01 05 44.7	+2.0
KFL				S	Sn	01 06 44.2	+2.5
GRUS	Gruza	5.13	52	*e*Pn	Pn	01 05 43.3	+0.6
GRUS				*e*Sn	Sn	01 06 40.3	-1.4
GRUS	Gruza	5.13	52	*e*Pn	Pn	01 05 43.3	+0.6
GRUS				*e*Sn	Sn	01 06 40.3	-1.4
TRUS	Trudelj	5.16	47	*e*Pn	Pn	01 05 43.6	+0.5
TRUS	Trudelj	5.16	47	*e*Pn	Pn	01 05 43.6	+0.5
LJU	Ljubljana	5.24	355	*e*Pn	Pn	01 05 43.8	-0.4
LJU				*e*Sn	Sn	01 06 40.2	-4.1
LJU	Ljubljana	5.24	355	*e*Pn	Pn	01 05 43.8	-0.4
LJU				*e*Sn	Sn	01 06 40.2	-4.1
CRNS	Crni Vrh	5.30	353	*i* Pn	Pn	01 05 44.2	-0.8
CRNS				*e*Sn	Sn	01 06 41.9	-3.9
CRNS	Crni Vrh	5.30	353	*i* Pn	Pn	01 05 44.2	-0.8
CRNS				*e*Sn	Sn	01 06 41.9	-3.9
	39nm,0.3s						
BARS	Barje	5.36	66	*e*Pn	Pn	01 05 47.0	+1.1
BARS				*e*Sn	Sn	01 06 46.2	-1.1
BARS	Barje	5.36	66	*e*Pn	Pn	01 05 47.0	+1.1
BARS				*e*Sn	Sn	01 06 46.2	-1.1
PVO	Paravola	5.38	112	P	Pn	01 05 48.2	+2.0
PVO	Paravola	5.38	112	P	Pn	01 05 48.0	+1.8
THL	Klokotos Trika	5.40	101	P	Pn	01 05 48.5	+2.1
THL	Klokotos Trika	5.40	101	P	Pn	01 05 48.6	+2.2
THL	Klokotos Trika	5.40	101	P	Pn	01 05 49.1	+2.7
THL				S	Sn	01 06 47.1	-1.2
EVR	Evrytania	5.46	108	P	Pn	01 05 49.7	+2.4
EVR	Evrytania	5.46	108	P	Pn	01 05 49.4	+2.1
EVR	Evrytania	5.46	108	P	Pn	01 05 50.9	+3.6
GRG	Griva	5.49	86	P	Pn	01 05 48.5	+0.8
GRG	Griva	5.49	86	P	Pn	01 05 48.5	+0.8
FGSL	Fruska Gora	5.51	37	*e*Pn	Pn	01 05 47.3	-0.7
FRGS	Fruska Gora	5.52	37	*e*Pn	Pn	01 05 47.3	-0.7
FRGS				*e*Sn	Sn	01 06 47.2	-4.0
RLS	Riolos of Patr	5.61	117	P	Pn	01 05 51.1	+1.8
RLS	Riolos of Patr	5.61	117	P	Pn	01 05 51.3	+2.0
VAY	Valandovo	5.63	82	*e*Pn	Pn	01 05 40.4	-9.1
LIT	Litokhoron	5.64	95	P	Pn	01 05 51.2	+1.5
LIT	Litokhoron	5.64	95	P	Pn	01 05 51.2	+1.5
SVIS	Svilajnac	5.64	50	*e*Pn	Pn	01 05 51.0	+1.3
SVIS				*e*Sn	Sn	01 06 52.3	-2.0
OBKA	Obir	5.70	356	Pn	Pn	01 05 49.9	-0.7
	8.8nm,0.3s,SNR=14						
OBKA				Sn	Sn	01 06 53.5	-2.3
	35nm,0.3s						
OBKA	Obir	5.70	356	*i* Pn	Pn	01 05 49.9	-0.7
	8.8nm,0.3s,SNR=14						
OBKA				*e*Sn	Sn	01 06 53.5	-2.3
	35nm,0.3s						
EFP	Efpalio	5.74	112	P	Pn	01 05 53.7	+2.7
EFP	Efpalio	5.74	112	P	Pn	01 05 53.7	+2.7
BEHE	Becsehely	5.77	11	*e*x	Pn	01 05 52.4	+1.0
BEHE				*e*x	Sn	01 06 55.3	-2.0
BEHE	Becsehely	5.77	11	*e*Pn	Pn	01 05 52.1	+0.7
BEHE				*e*Sn	Sn	01 06 55.3	-2.0
AGG	Agios Georgios	5.80	106	P	Pn	01 05 53.7	+1.8
AGG	Agios Georgios	5.80	106	P	Pn	01 05 53.9	+2.0
AGG	Agios Georgios	5.80	106	P	Pn	01 05 54.5	+2.6
DRO	Drossia	5.83	117	P	Pn	01 05 55.4	+3.1
DRO	Drossia	5.83	117	P	Pn	01 05 55.0	+2.7
SERG	Sergoula	5.85	112	P	Pn	01 05 55.4	+2.8
SERG	Sergoula	5.85	112	P	Pn	01 05 55.4	+2.8
SOKA	Soboth	5.86	359	Pn	Pn	01 05 52.0	-0.7
	1.8nm,0.2s,SNR=5.6						
SOKA				Sn	Sn	01 06 58.4	-1.2
	15nm,0.6s						
SOKA	Soboth	5.86	359	*i* Pn	Pn	01 05 52.0	-0.7
	1.8nm,0.2s,SNR=5.6						
SOKA				*e*Sn	Sn	01 06 58.4	-1.2
	15nm,0.6s						
TRIZ	Trizonia	5.88	112	P	Pn	01 05 54.8	+1.8
TRIZ	Trizonia	5.88	112	P	Pn	01 05 54.8	+1.8
MYKA	Terra Mystica	5.91	350	Pn	Pn	01 05 53.7	+0.3
	3.1nm,0.2s						
MYKA				Sn	Sn	01 06 58.5	-2.4
	32nm,0.5s						
MYKA	Terra Mystica	5.91	350	*e*Pn	Pn	01 05 53.7	+0.3
	3.1nm,0.2s						
MYKA				*e*Sn	Sn	01 06 58.5	-2.4
	32nm,0.5s						
KALE	Kalithea	5.92	112	P	Pn	01 05 55.9	+2.3
KALE	Kalithea	5.92	112	P	Pn	01 05 55.6	+2.1
MORH	Mˆ‡rˆ¡gy, Hung	5.96	24	*e*Pn	Pn	01 05 53.3	-0.7
MORH				*e*Sn	Sn	01 06 57.7	-4.2
KUBS	Kucevo	6.00	51	*e*Pn	Pn	01 05 53.0	-1.6
KUBS				*e*Sn	Sn	01 06 58.4	-4.7
KUBS	Kucevo	6.00	51	*e*Pn	Pn	01 05 53.0	-1.6
KKB	Krupnik	6.06	77	*e*P	Pn	01 05 57.4	+2.0
AMT	Artemida-Makis	6.06	121	P	Pn	01 05 59.0	+3.6
AMT	Artemida-Makis	6.06	121	P	Pn	01 05 58.6	+3.1
ZAPS	Zavoj	6.08	64	*e*Pn	Pn	01 05 57.3	+1.5
ZAPS				*e*Sn	Sn	01 07 02.0	-3.1
ZAPS	Zavoj	6.08	64	*e*Pn	Pn	01 05 57.3	+1.5
KLV	Kalavryta, Ach	6.08	115	P	Pn	01 05 58.5	+2.7
KLV	Kalavryta, Ach	6.08	115	P	Pn	01 05 58.2	+2.3
AXAR	Agios Charalam	6.13	107	P	Pn	01 05 59.3	+2.8
AXAR	Agios Charalam	6.13	107	P	Pn	01 05 58.9	+2.4
ABTA	Abfaltersbach	6.22	343	Pn	Pn	01 05 57.2	-0.6
	1.1nm,0.2s						
ABTA				Sn	Sn	01 07 05.8	-2.9
	29nm,0.6s						
ABTA	Abfaltersbach	6.22	343	*e*Pn	Pn	01 05 57.2	-0.6
	1.1nm,0.2s						
ABTA				*e*Sn	Sn	01 07 05.8	-2.9
	29nm,0.6s						
MDVR	Moldovita	6.24	48⇑	*i*P	Pn	01 05 58.8	+0.9
MDVR	Moldovita	6.24	48⇑	*i*P	Pn	01 05 58.8	+0.9
VTS	Vitosha	6.28	71⇓	*i*P	Pn	01 05 59.9	+1.3
VTS	Vitosha	6.28	71⇓	*i*P	Pn	01 05 59.9	+1.3
VTS				S	Sn	01 07 08.5	-1.7
VTS	Vitosha	6.28	71	*e*P	Pn	01 06 00.0	+1.3
VTS	Vitosha	6.28	71	P	Pn	01 06 00.0	+1.3
XOR	Xorichti	6.33	101	P	Pn	01 06 00.7	+1.5
XOR	Xorichti	6.33	101	P	Pn	01 06 00.7	+1.5
NEO	Neokhori	6.37	101	P	Pn	01 06 01.3	+1.5
NEO	Neokhori	6.37	101	P	Pn	01 06 01.8	+2.0
NEO	Neokhori	6.37	101	P	Pn	01 06 01.8	+2.0
KBA	Koelnbreinsper	6.39	349	Pn	Pn	01 06 00.3	+0.2
	3.2nm,0.3s						
KBA				Sn	Sn	01 07 10.3	-2.6
	13nm,0.4s						
KBA	Koelnbreinsper	6.39	349	*i* Pn	Pn	01 06 00.3	+0.2
	3.2nm,0.3s						
KBA				*e*Sn	Sn	01 07 10.3	-2.6
	13nm,0.4s						
SRS	Serrai	6.39	85	*e*Pn	Pn	01 06 01.0	+1.0
SRS	Serrai	6.39	85	*e*Pn	Pn	01 06 01.0	+1.0
ITM	Ithomi	6.41	122	P	Pn	01 06 01.6	+1.4
ITM	Ithomi	6.41	122	P	Pn	01 06 02.4	+2.2
ARSA	Arzberg	6.43	2	Pn	Pn	01 06 00.9	+0.4
	2.1nm,0.2s						
ARSA				Sn	Sn	01 07 12.6	-1.1
	9.9nm,0.7s						
ARSA	Arzberg	6.43	2	*i* Pn	Pn	01 06 00.9	+0.4
	2.1nm,0.2s						
ARSA				*e*Sn	Sn	01 07 12.6	-1.1
	9.9nm,0.7s						
SBF	Sospel	6.48	301	*e*P	Pn	01 06 01.2	0.0
SBF	Sospel	6.48	301	*e*P	Pn	01 06 01.2	0.0
MMB	Musomiste	6.51	80	*e*P	Pn	01 05 53.3	-8.4
BZS	Buzias	6.72	42⇑	*i*P	Pn	01 06 03.9	-0.7
BZS	Buzias	6.72	42	S	Sn	01 07 16.6	-4.3
BZS	Buzias	6.72	42⇑	*i*P	Pn	01 06 03.9	-0.7
KEST	Kesra	6.83	224	Pn	Pn	01 06 08.9	+2.7
	0.4nm,0.3s,baz=339,slow=6.7,SNR=12						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEST				Sn	Sn	01 07 22.6	-1.1
	0.1nm,0.3s,baz=72,slow=20,SNR=2.1						
FRF	La Foret Royal	6.88	296	eP	Pn	01 06 06.5	-0.3
FRF	La Foret Royal	6.88	296	eP	Pn	01 06 06.5	-0.3
LMR	La Mourre	6.90	294	eP	Pn	01 06 06.3	-0.7
LMR	La Mourre	6.90	294	eP	Pn	01 06 06.3	-0.7
WTTA	Wattenberg	6.92	340	i Pn	Pn	01 06 11.5	+4.1
	1.4nm,0.2s						
WTTA				eSn	Sn	01 07 24.4	-1.6
	22nm,0.4s						
SOP	Sopron	6.93	8	⇓ePn	Pn	01 06 07.1	-0.3
SOP				eSn	Sn	01 07 21.2	-4.8
SOP	Sopron	6.93	8	⇓ePn	Pn	01 06 07.1	-0.3
FETA	Feichten	6.97	334	i Pn	Pn	01 06 10.2	+2.1
	1.7nm,0.3s						
FETA				eSn	Sn	01 07 25.8	-1.4
	11nm,0.5s						
WATA	Walderalm	7.00	340	Pn	Pn	01 06 09.0	+0.5
	1.5nm,0.1s						
WATA				Sn	Sn	01 07 27.8	-0.1
	20nm,0.4s						
WATA	Walderalm	7.00	340	i Pn	Pn	01 06 09.0	+0.5
	1.5nm,0.1s						
WATA				eSn	Sn	01 07 27.8	-0.1
	20nm,0.4s						
MOA	Molln	7.05	355	P	Pn	01 06 08.9	-0.2
	11nm,0.3s,SNR=14						
MOA				Sn	Sn	01 07 27.2	-1.8
	16nm,0.4s						
MOA	Molln	7.05	355	i Pn	Pn	01 06 08.9	-0.2
	11nm,0.3s,SNR=14						
MOA				eSn	Sn	01 07 27.2	-1.8
	16nm,0.4s						
CONA	Conrad Observa	7.12	4	Pn	Pn	01 06 10.4	+0.3
	1.8nm,0.3s						
CONA				Sn	Sn	01 07 28.8	-2.0
	3.1nm,0.3s						
CONA	Conrad Observa	7.12	4	i Pn	Pn	01 06 10.4	+0.3
	1.8nm,0.3s						
CONA				eSn	Sn	01 07 28.8	-2.0
	3.1nm,0.3s						
MOTA	Moosalm	7.14	337	Pn	Pn	01 06 12.0	+1.6
	1.3nm,0.3s						
MOTA				Sn	Sn	01 07 31.8	+0.4
	16nm,0.4s						
MOTA	Moosalm	7.14	337	i Pn	Pn	01 06 12.0	+1.6
	1.3nm,0.3s						
MOTA				eSn	Sn	01 07 31.8	+0.4
	16nm,0.4s						
EREA	Eretria	7.19	107	P	Pn	01 06 12.0	+1.0
EREA	Eretria	7.19	107	P	Pn	01 06 12.7	+1.7
MBDF	Montbardon	7.30	305	eP	Pn	01 06 14.5	+1.9
MBDF	Montbardon	7.30	305	eP	Pn	01 06 14.5	+1.9
RETA	Reutte	7.37	336	Pn	Pn	01 06 14.7	+1.2
	1.3nm,0.3s						
RETA				Sn	Sn	01 07 36.6	-0.3
	7.6nm,0.5s						
RETA	Reutte	7.37	336	ePn	Pn	01 06 14.7	+1.2
	1.3nm,0.3s						
RETA				eSn	Sn	01 07 36.6	-0.3
	7.6nm,0.5s						
DAVA	Damuels	7.49	331	Pn	Pn	01 06 17.1	+1.8
	6.7nm,0.7s						
DAVA				Sn	Sn	01 07 37.0	-3.1
	14nm,0.5s						
DAVA	Damuels	7.49	331	ePn	Pn	01 06 17.1	+1.8
	6.7nm,0.7s						
DAVA				eSn	Sn	01 07 37.0	-3.1
	14nm,0.5s						
LPG	La Plagne	7.72	310	eP	Pn	01 06 21.2	+2.8
LPL	La Plagne	7.74	310	eP	Pn	01 06 20.7	+2.0
LPL	La Plagne	7.74	310	eP	Pn	01 06 20.7	+2.0
SMRF	Simiane la Rot	7.76	297	eP	Pn	01 06 20.1	+1.3
SMRF	Simiane la Rot	7.76	297	ePg	Pb	01 06 49.0	+8.4
SMRF	Simiane la Rot	7.76	297	eP	Pn	01 06 20.1	+1.3
PSZ	Piszkesteto	7.86	24	⇓iP	Pn	01 06 20.0	-0.2
PSZ	Piszkesteto	7.86	24	⇓iP	Pn	01 06 20.0	-0.2
ORIF	Oris-en-Rattie	7.95	304	eP	Pn	01 06 24.4	+3.0
DRGR		8.09	40	⇑iP	Pn	01 06 24.5	+1.2
DRGR		8.09	40	S	Sn	01 07 49.7	-4.8
DRGR		8.09	40	⇑iP	Pn	01 06 24.5	+1.2
GERES	GERESS Array B	8.09	353	Pn	Pn	01 06 22.1	-1.3
	2.7nm,0.3s,baz=169,slow=13,SNR=66						
GERES				Sn	Sn	01 07 49.4	-5.2
	4.4nm,0.3s,baz=164,slow=23,SNR=20						
VYHS	Vyhne	8.11	18	ePN	Pn	01 06 23.8	+0.3
VYHS				ePG	Pb	01 07 06.2	+20
VYHS				eSN	Sn	01 07 50.3	-4.6
KHC	Kasperske Hory	8.38	353	ePN	Pn	01 06 25.6	-1.7
KHC				ex	x	01 06 34.0	
KHC				ex	x	01 06 45.5	
KHC				eSN	Sn	01 07 56.4	-5.3
KHC	Kasperske Hory	8.38	353	Pn	Pn	01 06 25.6	-1.7
VRAC	Vranov	8.55	6	LR	LR	01 10 37.9	
	comp=Z,82nm,19.5s,baz=296,slow=45						
VIVF	Saint-Julien-l	8.69	301	eP	Pn	01 06 33.0	+1.4
VIVF	Saint-Julien-l	8.69	301	eP	Pn	01 06 33.0	+1.4
GOPC	GO Pecny, Ondr	9.10	358	ePN	Pn	01 06 36.1	-1.0
GOPC	GO Pecny, Ondr	9.10	358	Pn	Pn	01 06 36.1	-1.0
HINF	Hinteralfeld	9.18	322	ePn	Pn	01 06 34.7	-3.5
HINF	Hinteralfeld	9.18	322	eP	Pn	01 06 40.1	+1.9
HINF				eSn	Sn	01 08 14.7	-6.5
	6.2nm,0.4s						
HINF	Hinteralfeld	9.18	322	eP	Pn	01 06 40.1	+1.9
PRU	Pruhonice	9.18	358	ePN	Pn	01 06 36.7	-1.5
PRU				eSN	Sn	01 08 14.4	-6.7
PRU	Pruhonice	9.18	358	Pn	Pn	01 06 36.7	-1.5
CDF	Champ du Feu	9.44	326	ePn	Pn	01 06 38.2	-3.6
CDF	Champ du Feu	9.44	326	eP	Pn	01 06 42.0	+0.2
CDF				eSn	Sn	01 08 19.2	-8.5
	5.5nm,0.5s						
CDF	Champ du Feu	9.44	326	eP	Pn	01 06 42.0	+0.2
IDI	Anoyia	9.46	123	Pn	Pn	01 06 43.5	+1.4
	0.6nm,0.3s,baz=301,slow=12,SNR=4.9						
IDI				Sn	Sn	01 08 21.5	-6.7
	0.2nm,0.3s,baz=15,slow=20,SNR=2.5						
HAU	Haudompre	9.55	322	eP	Pn	01 06 45.0	+1.7
HAU				eSn	Sn	01 08 24.1	-6.2
	5.7nm,0.3s						
HAU	Haudompre	9.55	322	eP	Pn	01 06 45.0	+1.7
BRG	Berggiesshubel	10.09	356	SG	Sn	01 08 48.7	+5.2
	2.0nm,0.8s						
SFTF	Sexfontaines	10.32	319	eP	Pn	01 06 55.8	+1.9
SFTF	Sexfontaines	10.32	319	eP	Pn	01 06 55.8	+1.9
MEZF	Maizieres J'vi	10.52	320	eP	Pn	01 06 57.8	+1.3
MEZF	Maizieres J'vi	10.52	320	eP	Pn	01 06 57.8	+1.3
CLL	Collm	10.59	353	ePn	Pn	01 06 57.0	-0.5
CLL				eSn	Sn	01 08 51.0	-4.9
CLL				eSg		01 10 06.0	
HFS	Hagfors	19.36	358	P	P	01 08 50.9	-0.3
	baz=178,slow=10,SNR=3.5						
NB2	NORSAR Subarra	20.39	354	P	P	01 09 02.4	-0.1
	comp=Z,1.8nm,0.6s,baz=171,slow=11						
NOA	NORSAR Array B	20.39	354	P	P	01 09 02.3	-0.1
	comp=Z,1.7nm,0.6s,baz=185,slow=11,SNR=6.1						
NOA				LR	LR	01 18 06.5	
	comp=Z,38nm,21.2s,baz=300,slow=41						
FINES	FINESS Array B	21.70	14	P	P	01 09 16.0	-0.5
	comp=Z,1.9nm,0.5s,baz=184,slow=10,SNR=12						
TORD	Torodi Ar. Bea	29.99	207	P	P	01 10 36.6	+2.2
	comp=Z,0.3nm,0.7s,baz=15,slow=8.3,SNR=3.9						
GEYT	Alibeck	33.09	81	P	P	01 11 02.0	+0.3
	comp=Z,0.6nm,0.6s,baz=274,slow=5.6,SNR=2.9						
BVAR	Borovoye Array	38.70	53	P	P	01 11 50.9	+1.4
	comp=Z,1.2nm,0.7s,baz=269,slow=6.8,SNR=9.6						
ZALV	Zalesovo Beam	47.07	49	P	P	01 12 58.9	+1.7
	comp=Z,0.2nm,0.3s,baz=291,slow=4.5,SNR=2.5						
MKAR	Makanchi Array	47.49	59	P	P	01 13 01.0	+0.4
	comp=Z,0.3nm,0.6s,baz=281,slow=6.7,SNR=5.2						
SONM	Songino Array	61.96	50	P	P	01 14 46.2	+0.5
	comp=Z,0.5nm,1.0s,baz=274,slow=8.5,SNR=3.0						
ILAR	Eielson Array	73.80	352	P	P	01 15 60.0	+0.2
	comp=Z,0.3nm,0.8s,baz=20,slow=3.0,SNR=4.0						
PCRV	Puerto La Cruz	75.72	271	P	P	01 16 11.2	-0.5
	comp=Z,22nm,1.0s,baz=21,slow=12,SNR=2.6						
LPAZ	La Paz	95.53	253	LR	LR	02 00 03.8	
	comp=Z,23nm,18.0s,baz=26,slow=35						

*ISCJB **03** 01:06:14.2±0.5, 50°.13N±0°.03×18°.38E±0°.03, h0km, Error ellipse: s-maj=4.7km s-min=2.8km az=11.4*
*IPEC **03** 01:06:15.6±1.7, 50°.06N×18°.47E, h0km, ML1.7/3, Error ellipse: s-maj=20.4km s-min=10.7km az=160.0*
*CSEM **03** 01:06:15.3±0.2, 50°.10N×18°.39E, h1km, ML2.5/6, Error ellipse: s-maj=5.4km s-min=3.1km az=3.0*
*WAR **03** 01:06:15.7, 50°.05N×18°.44E, h1km, Mw2.4*
*PRU **03** 01:06:16.6, 50°.07N×18°.38E, h0km*
ISC 03 01:06:15.4±0.8**, 50°.12N**±0°.03×**18°.42E**±0°.02**, h0km, n27, σ0s.75**/50**, 2C-5D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.15	257	eSg	Sg	01 06 22.9	+2.8
OKC	Ostrava-Krasne	0.33	212	⇓iPG	Pg	01 06 21.9	+0.2
OKC				eSG	Sg	01 06 26.4	+0.5
	comp=Z,70nm,0.6s						
OKC	Ostrava-Krasne	0.33	212	Pg	Pg	01 06 21.9	+0.2
OKC				Sg	Sg	01 06 26.4	+0.5
	70nm,0.6s						
MORC	Moravsky Berou	0.66	239	⇓iP	Pg	01 06 28.0	0.0
MORC				S	Sg	01 06 37.2	+0.7
MORC	Moravsky Berou	0.66	239	⇓iP	Pg	01 06 28.0	0.0
MORC				eSg	Sg	01 06 36.2	-0.3
	19nm,0.2s						
MORC				S	Sg	01 06 37.2	+0.7
OJC	Ojcow	0.89	83	ePg	Pg	01 06 32.6	+0.1
OJC				eSg	Sb	01 06 45.4	-0.8
OJC	Ojcow	0.89	83	ePg	Pg	01 06 32.6	+0.1
OJC				eSg	Sb	01 06 45.4	-0.8
OJC	Ojcow	0.89	83	ePg	Pg	01 06 32.6	+0.1
OJC				eSg	Sb	01 06 45.4	-0.8
LANS	Liptovska Anna	1.18	144	ePg	Pg	01 06 37.7	-0.3
LANS				eSg	Sg	01 06 53.2	-0.1
LANS	Liptovska Anna	1.18	144	ePG	Pg	01 06 37.7	-0.3
LANS				eSG	Sg	01 06 53.2	-0.1
DPC	Dobruska-Polom	1.37	281	ePG	Pn	01 06 41.6	-0.1
DPC				eSG	Sb	01 06 59.9	0.0
DPC	Dobruska-Polom	1.37	281	Pg	Pn	01 06 41.6	-0.1
DPC				Sg	Sb	01 06 59.9	0.0
NIE	Niedzica	1.41	119	ePg	Pb	01 06 42.5	0.0
NIE				eSg	Sn	01 07 02.3	+0.8
NIE	Niedzica	1.41	119	ePg	Pb	01 06 42.5	0.0
NIE				eSg	Sn	01 07 02.3	+0.8
NIE	Niedzica	1.41	119	ePg	Pb	01 06 42.5	0.0
VRAC	Vranov	1.44	236	⇑iP	Pn	01 06 41.9	-0.7
VRAC				S	Sg	01 07 00.5	-0.9
VRAC	Vranov	1.44	236	⇑iP	Pn	01 06 41.9	-0.7
VRAC				eSg	Sg	01 07 00.6	-0.9
	11nm,0.2s						
KSP	Ksiaz	1.54	299	ePg	Pn	01 06 43.4	-0.7
KSP				eSg	Sg	01 07 06.1	+1.3
KSP	Ksiaz	1.54	299	ePg	Pn	01 06 43.4	-0.7
KSP				eSg	Sg	01 07 06.1	+1.3
UPC	Upice	1.59	285	⇓ePG	Pg	01 06 45.7	-0.2
UPC				eSG	Sg	01 07 06.4	-0.1
	comp=Z,12nm,0.6s						
UPC	Upice	1.59	285	Pg	Pg	01 06 45.7	-0.2
UPC				Sg	Sg	01 07 06.4	-0.1
	12nm,0.6s						
KRUC	Moravsky	1.69	232	ePg	Pn	01 06 45.8	-0.3
KRUC				eSg	Sn	01 07 08.4	0.0
	5.2nm,0.2s						
STHS	Stebnicka Huta	1.96	110	ePn	Pg	01 06 53.0	+0.1
STHS	Stebnicka Huta	1.96	110	ePN	Pg	01 06 53.0	+0.1
STHS				eSN	Sg	01 07 20.0	+1.7
STHS				eLG	Lg	01 07 22.9	
PRU	Pruhonice	2.50	269	⇓eSG	Sb	01 07 33.3	+0.8
	comp=Z,4.0nm,0.4s						
PRU	Pruhonice	2.50	269	Sg	Sb	01 07 33.3	+0.8
	4.0nm,0.4s						
BRG	Berggiesshubel	2.96	287	PG	Pg	01 07 10.9	-1.1
BRG				SG	Sg	01 07 49.3	-1.0
	3.3nm,0.4s						

*IDC **03** 01:18:12.5±1.9, 0°.03N×123°.46E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/50, mbtmp3.5/3, Error ellipse: s-maj=269.4km s-min=27.4km az=62.0*
*DJA **03** 01:18:17.6±0.8, 2°S±4°×12°1E±°, h11km±7km, M4.1/6, mb4.0/2, MLv4.1/6*
ISC 03 01:18:16.9±1.5**, 1°.5S**±0°.1×**121°.1E**±0°.1**, h10km, n9, σ1s.53**/9**, mb3.6**/3**, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APSI	Ampana	0.79	46	P	Pg	01 18 32.1	-0.1
APSI				S	Sb	01 18 44.6	+1.1
LUWI	Luwuk	1.74	76	P	Pg	01 18 49.7	-0.7
LUWI				S	Sg	01 19 13.1	0.0
TTSI	Tana Toraja	2.02	219	P	Pn	01 18 51.0	0.0
MPSI	Mapaga	2.14	327	P	Pn	01 18 50.1	-2.6
BNSI	Bone	3.08	198	P	Pn	01 19 06.3	+0.6
BSSI	Bau Bau, Buton	4.69	187	P	Pn	01 19 30.4	+2.6
WRA	Warramunga Arr	22.49	146	P	P	01 23 14.7	-2.1
	2.0nm,0.9s,baz=333,slow=9.4,SNR=10						
ASAR	Alice Springs	25.34	152	P	P	01 23 43.2	-1.0
	1.3nm,0.9s,baz=333,slow=10,SNR=12						
MKAR	Makanchi Array	58.87	330	P	P	01 28 13.5	-2.6
	0.2nm,0.6s,baz=131,slow=7.3,SNR=3.1						

JMA 03 01:58:27.4±0.2**, 36°.32N**×**143°.55E, h63km, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	2.34	290	eS	Sn	01 59 32.9	+1.6
JHO	Hitachi	2.42	278	eS	Sn	01 59 34.3	+1.2
JYT	Yasato	2.71	269	S	Sn	01 59 40.6	+0.4
JMK	Ichinoseki	3.21	326	S	Sn	01 59 52.8	+0.3
JAG	Ashikaga	3.31	273	P	Pn	01 59 17.9	+1.2
JAG				eS	Sn	01 59 56.1	+1.3
JOM	Ohasama	3.62	331	P	Pn	01 59 22.0	+1.0

MEX 03 02:21:15.3±0.4**, 14°.01N**×**91°.88W, h10km, MD3.7, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		2.12	323	eP	Pn	02 21 48.5	-2.4
PCIG				i S	Sn	02 22 12.4	-5.0
CCIG	Comitan	2.27	354	i P	Pn	02 21 50.1	-3.0
CCIG				i S	Sn	02 22 17.5	-3.8
TGIG		3.00	337	i P	Pn	02 21 59.7	-3.3
TGIG				i S	Sn	02 22 35.0	-4.1

IDC 03 02:25:38.7±3.6**, 2°.86S**×**151°.19E, h0km, mb3.8**/1**, mb1 4.0**/2**, mb1mx3.3**/47**, mbtmp3.9**/2**, ML3.8**/1**, Error ellipse: s-maj=112.1km s-min=46.8km az=106.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	17.79	195	P	P	02 29 49.1	+0.3
	0.2nm,0.3s,baz=34,slow=7.3,SNR=3.1						
WRA	Warramunga Arr	23.64	223	P	P	02 30 53.0	+1.1
	23nm,0.3s,baz=49,slow=10.0,SNR=215						
ASAR	Alice Springs	26.60	217	P	P	02 31 18.1	-0.9
	0.6nm,0.4s,baz=46,slow=7.9,SNR=6.0						
TORD	Torodi Ar. Bea	148.15	290	PKPbc	PKPbc	02 45 26.4	-1.3
	0.3nm,0.7s,baz=73,slow=1.9,SNR=2.3						

*NIED **03** 02:27:00, 44°.10N×148°.10E, h41km, Mw3.8 Best double couple: Mo4.98000×10^14 NP1:φs245.00000°, δ16.00000°, λ121.00000°. NP2:φs33.00000°, δ77.00000°, λ82.00000°.*
*ISCJB **03** 02:27:36.8±0.8, 44°.28N±0°.06×148°.48E±0°.08, h48km±6km, mb3.8/16, Error ellipse: s-maj=12.1km s-min=5.6km az=138.5*
*MOS **03** 02:27:37.7±1.0, 44°.44N×148°.40E, h52km, mb4.1/7, Error ellipse: s-maj=10.9km s-min=8.9km az=55.8*
*JMA **03** 02:27:37.5±0.4, 44°.05N×148°.14E, h0km, M4.4*
*SKHL **03** 02:27:38.3±0.4, 44°.28N×148°.46E, h63km±5km, mb5.0/4*
*IDC **03** 02:27:42.7±3.5, 44°.73N×148°.30E, h66km±25km, mb3.6/15, mb1 3.7/18, mb1mx3.5/65, mbtmp3.9/18, MS2.7/1, Ms1 2.7/1, ms1mx2.2/58, Error ellipse: s-maj=46.0km s-min=16.2km az=162.0*
ISC 03 02:27:37.6±1.3**, 44°.27N**±0°.06×**148°.45E**±0°.08**, h42km**±11km**, n76, σ1s.28**/90**, mb3.8**/16**, 4D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.05	337	eP	Pn	02 27 55.6	-0.3
KUR				AMB	AMB	02 27 56.2	
	989nm,0.2s						
KUR				i S	Sn	02 28 08.7	-0.6
KUR				A	A	02 28 09.7	
	1μm,0.3s						
KUR				A	A	02 28 09.7	
	2μm,0.3s						
KUR	Kuril'sk	1.05	337	d iPN	Pn	02 27 55.6	-0.3
KUR				i S	Sn	02 28 08.7	-0.6
KUR				pmax	pmax		
	comp=N,174nm,0.2s						
KUR				pmax	pmax		
	comp=E,1μm,0.2s						
KUR				pmax	pmax		
	comp=Z,989nm,0.2s						
KUR				smax	smax		
	comp=E,1μm,0.4s						
KUR				smax	smax		
	comp=N,1μm,0.2s						
SHO	Shikotan	1.23	252	eP	Pn	02 27 57.6	-0.7
SHO				AMB	AMB	02 27 57.8	
	comp=N,250nm,0.3s						
SHO				i S	Sn	02 28 11.9	-1.8
SHO				A	A	02 28 16.2	
	comp=N,1μm,0.2s						
SHO				A	A	02 28 16.2	
	comp=N,2μm,0.2s						
SHO	Shikotan	1.23	252	d iPN	Pn	02 27 57.6	-0.7
SHO				i S	Sn	02 28 11.9	-1.8
SHO				pmax	pmax		
	comp=N,78nm,0.4s						
SHO				pmax	pmax		
	comp=E,127nm,0.4s						
SHO				pmax	pmax		
	comp=Z,251nm,0.4s						
SHO				smax	smax		
	comp=N,1μm,0.2s						
SHO				smax	smax		
	comp=E,2μm,0.2s						
YUK	Yuzh-Kuril'sk	1.88	264	i P	Pn	02 28 07.7	+0.5
YUK				AMB	AMB	02 28 09.8	
	comp=E,630nm,0.2s						
YUK				eS	Sn	02 28 29.5	-0.1
YUK				A	A	02 28 34.0	
	comp=E,550nm,0.2s						
YUK				A	A	02 28 34.0	
	comp=E,995nm,0.2s						
YUK	Yuzh-Kuril'sk	1.88	264	d iPN	Pn	02 28 07.7	+0.5
YUK				eS	Sn	02 28 29.5	-0.1
YUK				pmax	pmax		
	comp=Z,627nm,0.2s						
YUK				pmax	pmax		
	comp=E,138nm,0.3s						
YUK				pmax	pmax		
	comp=N,134nm,0.2s						
YUK				smax	smax		
	comp=N,549nm,0.2s						
YUK				smax	smax		
	comp=E,995nm,0.2s						
LAGR	Lagunnoye	1.93	265	eP	Pn	02 28 08.9	+1.0
LAGR				i S	Sn	02 28 32.1	+1.3
LAGR	Lagunnoye	1.93	265	ePN	Pn	02 28 08.9	+1.0
LAGR				i S	Sn	02 28 32.1	+1.3
GRPR	Tuman	1.94	263	eP	Pn	02 28 09.5	+1.4
GRPR				eS	Sn	02 28 32.7	+1.4
GRPR	Tuman	1.94	263	ePN	Pn	02 28 09.5	+1.4
GRPR				eS	Sn	02 28 32.7	+1.4
NEM2	Nemuro 2	2.15	246	P	Pn	02 28 11.0	0.0
NEM2				eS	Sn	02 28 35.7	-0.8
GLVR	Golovnino	2.18	257	eP	Pn	02 28 12.1	+0.8
GLVR				i S	Sn	02 28 37.9	+0.9
GLVR	Golovnino	2.18	257	⇓iPN	Pn	02 28 12.1	+0.8
GLVR				i S	Sn	02 28 37.9	+0.9
JRA	Rausu	2.42	263	P	Pn	02 28 16.0	+1.4
JRA				eS	Sn	02 28 44.1	+1.2
JNK	Nakash	2.78	257	P	Pn	02 28 20.7	+1.1
JAK	Akkeshi	3.00	246	P	Pn	02 28 23.3	+0.6
JTKR	Abashiri--Toko	3.28	266	P	Pn	02 28 28.1	+1.6
JAR	Ashorobuto	3.52	256	P	Pn	02 28 31.7	+1.9
JOB	Onbets	3.62	249	P	Pn	02 28 32.5	+1.4
JOB				eS	Sn	02 29 13.3	+0.8
JCH	Churui	4.05	248	P	Pn	02 28 38.0	+0.9
ASAJ	Asahikawa	4.21	270	P	Pn	02 28 43.0	+3.8
	comp=E,3.7nm,0.3s,baz=96,slow=16,SNR=7.9						
ASAJ				S	Sn	02 29 43.3	+16
	comp=E,1.5nm,0.3s,baz=137,slow=19,SNR=3.5						
ERM	Erimo	4.48	242	eP	Pn	02 28 46.0	+3.1
ERM	Erimo	4.48	242	i PN	Pn	02 28 46.0	+3.1
JNBK	Urakawa-nobuka	4.61	246	P	Pn	02 28 45.6	+0.9
YSS	Yuzh-Sakhalins	4.81	306	eP	Pn	02 28 48.8	+1.3
YSS				AMB	AMB	02 28 49.2	
	comp=E,17nm,0.2s						
YSS				eS	Sn	02 29 39.8	-2.1
YSS	Yuzh-Sakhalins	4.81	306	ePN	Pn	02 28 48.1	+0.6
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
JKB	Kayabe	5.93	249	P	Pn	02 29 04.3	+1.5
JKB				eS	Sn	02 30 08.8	-0.6
JOT	Ohata	6.16	245	P	Pn	02 29 06.8	+0.8
JOT				eS	Sn	02 30 13.3	-1.8
JANG	Nango	6.44	235	P	Pn	02 29 09.6	-0.3
JANG				eS	Sn	02 30 18.9	-3.3
SKR	Severo-Kuril's	8.25	36	eP	Pn	02 29 36.1	+1.4
SKR	Severo-Kuril's	8.25	36	i PN	Pn	02 29 36.1	+1.4
PETK	Petropavlovsk-	10.74	31	P	Pn	02 30 09.0	+0.2
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=3.1						
KLR	Kul'dur	12.47	299	P	P	02 30 39.5	-3.8
	comp=Z,0.0nm,0.3s,baz=112,slow=17,SNR=3.9						
KSRS	Korea Array	16.93	253	LR	LR	02 38 24.3	
	comp=Z,23nm,18.6s,baz=70,slow=38						
SEY	Seymchan	18.84	6	P	P	02 31 51.5	-2.1
	comp=Z,0.1nm,0.3s,baz=188,slow=7.8,SNR=7.2						
H11N2	WAKE ISLAND Hy	28.91	142	T	T	03 04 18.0	
	baz=333,slow=76,SNR=895						
H11N1	WAKE ISLAND Hy	28.92	142	T	T	03 04 19.0	
	baz=333,slow=76,SNR=608						
H11N3	WAKE ISLAND Hy	28.92	142	T	T	03 04 19.3	
	baz=333,slow=76,SNR=627						
SONM	Songino Array	29.14	292	P	P	02 33 35.2	+0.5
	comp=Z,0.3nm,0.3s,baz=76,slow=8.2,SNR=4.2						
H11S1	WAKE ISLAND Hy	29.90	143	T	T	03 05 35.0	
	baz=334,slow=76,SNR=1212						
H11S3	WAKE ISLAND Hy	29.91	143	T	T	03 05 34.7	
	baz=334,slow=76,SNR=845						
H11S2	WAKE ISLAND Hy	29.92	143	T	T	03 05 37.8	
	baz=334,slow=76,SNR=911						
ILAR	Eielson Array	40.52	37	P	P	02 35 12.0	-0.2
	comp=Z,0.3nm,0.6s,baz=276,slow=8.9,SNR=3.4						
ILAR	Eielson Array	40.52	37	P	P	02 35 12.0	-0.2
ZALV	Zalesovo Beam	41.44	307	P	P	02 35 20.1	+0.3
	comp=Z,0.3nm,0.3s,baz=74,slow=6.4,SNR=2.9						
ZALV				PcP	PcP	02 37 17.3	+0.3
	comp=Z,0.8nm,0.4s,baz=94,slow=3.5,SNR=4.9						
MKAR	Makanchi Array	45.17	298	P	P	02 35 49.9	-0.2
	comp=Z,0.5nm,0.5s,baz=73,slow=8.0,SNR=7.0						
MKAR				PcP	PcP	02 37 29.9	+0.1
	comp=Z,0.6nm,0.6s,baz=71,slow=3.5,SNR=5.8						
MKAR	Makanchi Array	45.17	298	eP	P	02 35 50.2	+0.1
MKAR	Makanchi Array	45.17	298	eP	P	02 35 50.2	+0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	45.48	31	P	P	02 35 52.9	+0.7
	comp=Z,0.4nm,0.3s,baz=270,slow=2.0,SNR=3.5						
KURK	Kurchatov	46.02	304	eP	P	02 35 56.8	+0.1
KURK	Kurchatov	46.02	304	i P	P	02 35 56.8	+0.1
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
JIRN	Jiri	51.84	273	eP	P	02 36 42.8	+0.7
	comp=Z,12nm,0.4s						
GUN	Gumba	51.92	274	eP	P	02 36 43.5	+0.9
	comp=Z,8.5nm,0.3s						
RAMN	Ramite	51.96	272	eP	P	02 36 43.3	+0.5
	comp=Z,20nm,0.4s						
PKI	Pulchoki	52.45	274	eP	P	02 36 47.0	+0.4
	comp=Z,8.2nm,0.7s						
PKIN	Phulchoki	52.46	274	eP	P	02 36 46.7	+0.2
	comp=Z,7.8nm,0.5s						
DMN	Daman	52.65	274	eP	P	02 36 48.3	+0.4
	comp=Z,7.3nm,0.4s						
YKA	Yellowknife Ar	54.85	34	P	P	02 37 03.5	+0.4
	comp=Z,0.4nm,0.6s,baz=297,slow=6.8,SNR=7.9						
FINES	FINESS Array B	64.83	333	P	P	02 38 10.1	-1.6
	comp=Z,1.6nm,0.6s,baz=45,slow=8.4,SNR=6.5						
FINES	FINESS Array B	64.83	333	eP	P	02 38 10.8	-0.9
FINES	FINESS Array B	64.83	333	eP	P	02 38 10.8	-0.9
FINES				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**69.45**	**339**	P	**P**	**02 38 40.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.45**	**339**	P	**P**	**02 38 40.0**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=32,slow=6.6,SNR=15						
HFS	**Hagfors**	**69.57**	**338**	P	**P**	**02 38 40.6**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=57,slow=5.3,SNR=6.8						
HFS	**Hagfors**	**69.57**	**338**	P	**P**	**02 38 40.6**	**-1.2**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CLL	**Collm**	**77.28**	**333**	*e*P	**P**	**02 39 26.0**	**-1.3**
CLL	**Collm**	**77.28**	**333**	*e*P	**P**	**02 39 26.0**	**-1.3**
BRTR	**Keskin Array B**	**77.86**	**314**	P	**P**	**02 39 31.2**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=115,slow=2.5,SNR=6.7						
BRTR	**Keskin Array B**	**77.86**	**314**	*e*P	**P**	**02 39 32.0**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**77.89**	**344**	P	**P**	**02 39 30.5**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=13,slow=4.7,SNR=3.1						
KHC	**Kasperske Hory**	**78.95**	**332**	*e*P	**P**	**02 39 36.7**	**0.0**
KHC	**Kasperske Hory**	**78.95**	**332**	*e*P	**P**	**02 39 36.7**	**0.0**
GERES	**GERESS Array B**	**79.16**	**331**	P	**P**	**02 39 37.6**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=44,slow=5.9,SNR=4.9						
TXAR	**Lajitas Array**	**81.58**	**57**	P	**P**	**02 39 52.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=258,slow=2.3,SNR=5.3						
MMAI	**Mount Meron Ar**	**81.90**	**309**	P	**P**	**02 39 54.1**	**+1.3**
	comp=Z,2.2nm,0.7s,baz=52,slow=7.8,SNR=4.5						
IDI	**Anoyia**	**85.69**	**317**	P	**P**	**02 40 13.1**	**+0.9**
	comp=Z,8.5nm,0.9s,baz=346,slow=8.3,SNR=2.8						

*NEIC **03** 02:47:30.8±0.0, 43°.49S×172°.84E, h11km, ML4.0(WEL), After WEL.*
NEIC Felt at Christchurch.
WEL 03 02:47:30.0, 43°S±1°×17°3E±°, h13km±1km, ML3.9/14, South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.13**	**230**	Pg	Pb	02 47 35.2	+0.9
CRLZ	**Canterbury Las**	**0.13**	**230**	P	Pb	02 47 35.2	+0.9
CRLZ	**Canterbury Las**	**0.13**	**230**	S	Sb	02 47 37.6	+0.4
MQZ	**McQueen's Vall**	**0.23**	**200**	Pg	Pb	02 47 36.2	+0.2
MQZ	**McQueen's Vall**	**0.23**	**200**	P	Pb	02 47 36.3	+0.3
MQZ	**McQueen's Vall**	**0.23**	**200**	S	Sb	02 47 40.1	+0.1
EYCZ	**Eyrewell**	**0.30**	**283**	P	Pb	02 47 37.8	+0.5
EYCZ	**Eyrewell**	**0.30**	**283**	S	Sb	02 47 42.4	+0.2
OXZ	**Oxford**	**0.55**	**287**	P*	Pb	02 47 41.7	+0.2
OXZ	**Oxford**	**0.55**	**287**	P	Pb	02 47 42.2	+0.7
OXZ	**Oxford**	**0.55**	**287**	S	Sb	02 47 50.0	+0.6
LTZ	**Lake Taylor**	**0.80**	**333**	P*	Pn	02 47 46.5	-0.4
LTZ	**Lake Taylor**	**0.80**	**333**	P	Pn	02 47 46.6	-0.4
KHZ	**Kahutara**	**1.22**	**28**	P*	Pn	02 47 52.1	-0.6
KHZ	**Kahutara**	**1.22**	**28**	P	Pn	02 47 52.1	-0.6
INZ	**Inchbonnie**	**1.23**	**308**	P	Pb	02 47 53.1	0.0
RPZ	**Rata Peaks**	**1.26**	**259**	Pn	Pb	02 47 53.6	0.0
RPZ	**Rata Peaks**	**1.26**	**259**	P	Pb	02 47 53.7	+0.1
WVZ	**Waitaha Valley**	**1.54**	**285**	Pn	Pb	02 47 58.0	-0.3
WVZ	**Waitaha Valley**	**1.54**	**285**	P	Pb	02 47 58.0	-0.3
THZ	**Tophouse**	**1.73**	**4**	Pn	Pn	02 47 59.8	-0.1
THZ	**Tophouse**	**1.73**	**4**	P	Pn	02 47 59.8	-0.1
DSZ	**Denniston Nort**	**1.88**	**338**	P	Pb	02 48 03.1	-1.1
BSWZ	**Blackbirch Sta**	**1.96**	**25**	Pn	Pn	02 48 02.9	0.0
BSWZ	**Blackbirch Sta**	**1.96**	**25**	P	Pn	02 48 02.9	0.0
LBZ	**Lake Benmore**	**2.06**	**243**	Pn	Pn	02 48 05.3	+0.9
LBZ	**Lake Benmore**	**2.06**	**243**	P	Pn	02 48 05.3	+0.9
FOZ	**Fox Glacier**	**2.14**	**268**	Pn	Pb	02 48 07.4	-1.2
FOZ	**Fox Glacier**	**2.14**	**268**	P	Pb	02 48 07.4	-1.2
ODZ	**Otahua Downs**	**2.17**	**224**	Pn	Pn	02 48 06.3	+0.5
ODZ	**Otahua Downs**	**2.17**	**224**	P	Pn	02 48 06.3	+0.5
TUWZ	**Tuamarina**	**2.24**	**23**	Pn	Pn	02 48 06.4	-0.4
TUWZ	**Tuamarina**	**2.24**	**23**	P	Pn	02 48 06.4	-0.4
NNZ	**Nelson**	**2.32**	**12**	P	Pn	02 48 08.4	+0.5
TCW	**Tory Channel**	**2.54**	**27**	Pn	Pn	02 48 10.6	-0.4
TCW	**Tory Channel**	**2.54**	**27**	P	Pn	02 48 10.8	-0.1
QRZ	**Quartz Range**	**2.67**	**356**	P	Pn	02 48 13.3	+0.6
DUWZ	**D'Urville Isla**	**2.83**	**18**	Pn	Pn	02 48 15.3	+0.4
DUWZ	**D'Urville Isla**	**2.83**	**18**	P	Pn	02 48 15.3	+0.5
HHSZ	**Highcliff Hill**	**2.84**	**212**	Pn	Pn	02 48 15.4	+0.3
HHSZ	**Highcliff Hill**	**2.84**	**212**	P	Pn	02 48 15.5	+0.4
CAW	**Cannon Point**	**2.94**	**36**	Pn	Pn	02 48 15.4	-0.9
CAW	**Cannon Point**	**2.94**	**36**	P	Pn	02 48 15.5	-0.9
JCZ	**Jackson Bay**	**2.94**	**257**	Pn	Pn	02 48 18.0	+1.6
JCZ	**Jackson Bay**	**2.94**	**257**	P	Pn	02 48 18.0	+1.6
WKZ	**Wanaka**	**3.00**	**242**	Pn	Pn	02 48 17.9	+0.6
WKZ	**Wanaka**	**3.00**	**242**	P	Pn	02 48 18.3	+1.0
EAZ	**Earnscleugh**	**3.02**	**234**	Pn	Pn	02 48 18.1	+0.5
EAZ	**Earnscleugh**	**3.02**	**234**	P	Pn	02 48 18.1	+0.6
OGWZ	**Otaki Gorge**	**3.22**	**35**	P	Pn	02 48 19.1	-1.2
HOWZ	**Holdsworth Sta**	**3.30**	**39**	P	Pn	02 48 20.5	-1.0
TUZ	**Tuapeka**	**3.32**	**221**	Pn	Pn	02 48 22.1	+0.4
TUZ	**Tuapeka**	**3.32**	**221**	P	Pn	02 48 22.2	+0.5
TMWZ	**Te Maipa**	**3.33**	**45**	P	Pb	02 48 26.8	-2.1
MRZ	**Mangatainoka R**	**3.52**	**38**	Pn	Pn	02 48 23.3	-1.1
MRZ	**Mangatainoka R**	**3.52**	**38**	P	Pn	02 48 23.4	-1.0
MSZ	**Milford Sound**	**3.68**	**250**	P	Pn	02 48 28.3	+1.8
MLZ	**Mavora Lakes**	**3.81**	**239**	P	Pn	02 48 28.9	+0.4
BFZ	**Birch Farm**	**3.82**	**44**	P	Pn	02 48 27.3	-1.2
SYZ	**Scrubby Hill**	**3.98**	**219**	Pn	Pn	02 48 31.6	+0.9
SYZ	**Scrubby Hill**	**3.98**	**219**	P	Pn	02 48 31.6	+0.9
DVHZ	**Dannevirke**	**4.08**	**40**	P	Pn	02 48 30.2	-1.9
ANWZ	**Angora Road**	**4.11**	**44**	P	Pn	02 48 31.6	-0.8
WHZ	**Wether Hill Ro**	**4.19**	**233**	P	Pn	02 48 33.0	-0.5
DCZ	**Deep Cove**	**4.47**	**242**	P	Pn	02 48 38.2	+0.8
VRZ	**Vera Road**	**4.62**	**20**	P	Pn	02 48 41.0	+1.5
MOVZ	**Moawhango**	**4.66**	**30**	P	Pn	02 48 39.8	-0.3
BHHZ	**Black Hill Sta**	**4.71**	**33**	P	Pn	02 48 40.6	-0.1
WHVZ	**Whangaehu Hut**	**4.71**	**28**	P	Pn	02 48 42.1	+1.1
FWVZ	**Far West T-bar**	**4.73**	**27**	P	Pn	02 48 41.8	+0.6
APZ	**The Paps**	**4.75**	**224**	Pn	Pn	02 48 41.4	+0.1
APZ	**The Paps**	**4.75**	**224**	P	Pn	02 48 41.4	+0.1
NGZ	**Ngauruhoe**	**4.81**	**27**	P	Pn	02 48 42.7	+0.4
MCHZ	**McNeill Hill**	**5.01**	**38**	P	Pn	02 48 47.6	+2.7
BKZ	**Black Stump Fm**	**5.16**	**34**	P	Pn	02 48 45.6	-1.3
HIZ	**Hauiti**	**5.22**	**18**	P	Pn	02 48 48.1	+0.3

MAN 03 03:19:46, 13°.43N×120°.66E, h38km, mb3.6, ML2.3, MS1.7, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.30**	**77**	⇑*e*P	Pn	03 19 56.5	+2.2
PGP				*i* S	Sn	03 20 03.7	+2.5
LUBP	**Lubang**	**0.50**	**307**	*e*P	Pn	03 19 58.9	+2.3
LUBP				*e*S	Sn	03 20 07.6	+3.6
SJMP	**San Jose**	**1.07**	**155**	*e*P	Pn	03 20 06.1	+1.6
SJMP				*e*S	Sn	03 20 19.8	+1.8

*CSEM **03** 03:24:08.1±0.2, 40°.17N×19°.77E, h2km, ML2.4, Error ellipse: s-maj=4.2km s-min=3.0km az=41.0*
*THE **03** 03:24:09.6, 40°.12N×19°.88E, h0km±1km, ML2.4/7, Error ellipse: s-maj=2.6km s-min=1.1km az=286.0*
ATH 03 03:24:07.0, 40°.15N×19°.74E, h10km±1km, ML2.4/10, Error ellipse: s-maj=3.0km s-min=1.4km az=108.0, Albania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.66**	**144**	P	Pg	03 24 20.1	+0.3
SGD	**Sagiada**	**0.66**	**144**	P	Pg	03 24 19.9	+0.2
SGD				S	Sb	03 24 29.8	+0.1
SGD	**Sagiada**	**0.66**	**144**	P	Pg	03 24 19.9	+0.2
SGD				S	Sb	03 24 29.8	+0.1
JAN	**Janina**	**0.99**	**119**	P	Pg	03 24 26.0	0.0
JAN				S	Sn	03 24 40.5	-0.3
JAN				AML	AML	03 24 43.8	
	comp=N,679µm,0.3s						
JAN				AML	AML	03 24 43.9	
	comp=E,728µm,0.4s						
JAN	**Janina**	**0.99**	**119**	P	Pg	03 24 26.0	0.0
JAN				S	Sb	03 24 39.9	+0.7
JAN	**Janina**	**0.99**	**119**	P	Pg	03 24 26.0	0.0
JAN				S	Sg	03 24 38.6	-0.2
NEST	**Nestorio**	**1.04**	**75**	P	Pg	03 24 26.5	-0.5
NEST				S	Sg	03 24 40.6	+0.1
NEST				AML	AML	03 24 44.0	
	comp=E,193µm,0.6s						
NEST				AML	AML	03 24 45.4	
	comp=N,244µm,0.7s						
NEST	**Nestorio**	**1.04**	**75**	P	Pb	03 24 27.1	0.0
NEST				S	Sb	03 24 40.8	0.0
NEST	**Nestorio**	**1.04**	**75**	P	Pb	03 24 27.1	0.0
PENT	**Pentalofos**	**1.07**	**87**	P	Pg	03 24 25.8	-1.9
PENT				S	Sg	03 24 40.5	-1.3
PENT	**Pentalofos**	**1.07**	**87**	P	Pg	03 24 26.6	-1.1
PENT				S	Sg	03 24 41.3	-0.4
PENT	**Pentalofos**	**1.07**	**87**	P	Pg	03 24 26.6	-1.1
OHR	**Ohrid**	**1.26**	**40**	*i* Pn	Pg	03 24 31.2	0.0
OHR				*i* Sn	Sn	03 24 51.4	+3.8
KPRO	**Kipourio**	**1.26**	**98**	P	Pn	03 24 30.5	-0.2
KPRO				S	Sg	03 24 47.7	0.0
KPRO				AML	AML	03 24 55.4	
	comp=E,221µm,0.4s						
KPRO				AML	AML	03 24 56.3	
	comp=N,172µm,0.3s						
KPRO	**Kipourio**	**1.26**	**98**	P	Pn	03 24 30.7	0.0
KPRO				S	Sn	03 24 47.9	+0.1
KPRO	**Kipourio**	**1.26**	**98**	P	Pn	03 24 30.5	-0.2
KPRO				S	Sn	03 24 49.1	+1.3
FNA	**Florina**	**1.40**	**62**	P	Pg	03 24 34.5	+0.6
FNA				S	Sg	03 24 52.3	+0.1
FNA				AML	AML	03 24 58.2	
	comp=N,359µm,0.5s						
FNA				AML	AML	03 24 59.9	
	comp=E,425µm,0.4s						
FNA	**Florina**	**1.40**	**62**	P	Pg	03 24 34.0	0.0
FNA				S	Sg	03 24 52.5	+0.3
FNA	**Florina**	**1.40**	**62**	P	Pg	03 24 33.9	-0.1
FNA				S	Sg	03 24 54.2	+2.0
DSL	**Palaion Diasel**	**1.46**	**133**	P	Pg	03 24 35.4	+0.4
DSL				S	Sg	03 24 55.5	+1.6
DSL				AML	AML	03 24 58.8	
	comp=E,278µm,0.3s						
DSL				AML	AML	03 24 59.6	
	comp=N,238µm,0.4s						
DSL	**Palaion Diasel**	**1.46**	**133**	P	Pg	03 24 35.0	0.0
DSL				S	Sg	03 24 54.9	+1.0
DSL	**Palaion Diasel**	**1.46**	**133**	P	Pg	03 24 35.0	0.0
DSL				S	Sg	03 24 54.2	+0.3
BIA	**Bitola**	**1.49**	**54**	P	Pg	03 24 35.9	+0.3
BIA				S	Sg	03 24 56.6	+1.6
BIA	**Bitola**	**1.49**	**54**	P	Pg	03 24 35.9	+0.3
BIA				S	Sg	03 24 56.6	+1.6
BIA	**Bitola**	**1.49**	**54**	*i* Pn	Pg	03 24 35.7	+0.1
BIA				*i* Sn	Sg	03 24 59.0	+4.0
LKD2	**Lefkada island**	**1.53**	**152**	P	Pb	03 24 35.0	-0.4
LKD2				S	Sg	03 24 57.9	+1.6
LKD2				AML	AML	03 24 59.5	
	comp=N,289µm,0.4s						
LKD2				AML	AML	03 25 01.5	
	comp=E,419µm,0.4s						
LKD2	**Lefkada island**	**1.53**	**152**	P	Pg	03 24 37.2	+0.8
LKD2				S	Sg	03 24 57.3	+1.0
LKD2	**Lefkada island**	**1.53**	**152**	P	Pg	03 24 37.2	+0.8
LKD2				S	Sg	03 24 56.3	0.0
KZN	**Kozani**	**1.57**	**83**	P	Pb	03 24 35.8	-0.2
KZN				S	Sg	03 24 59.2	+1.8
KZN				AML	AML	03 25 03.4	
	comp=E,133µm,0.4s						
KZN				AML	AML	03 25 04.7	
	comp=N,121µm,0.6s						
KZN	**Kozani**	**1.57**	**83**	P	Pb	03 24 36.2	+0.1
KZN				S	Sg	03 24 57.3	-0.1
KZN	**Kozani**	**1.57**	**83**	P	Pb	03 24 35.9	-0.2
KZN				S	Sg	03 24 57.3	-0.1
KRUS	**Krusevo**	**1.68**	**43**	*i* Pn	Pg	03 24 39.5	+0.3
KRUS				*i* Sn	Sg	03 25 01.6	+0.6
THL	**Klokotos Trika**	**1.85**	**108**	P	Pb	03 24 41.2	+0.4
THL				S	Sb	03 25 04.5	+0.5
THL				AML	AML	03 25 09.6	
	comp=E,89µm,0.6s						
THL				AML	AML	03 25 09.9	
	comp=N,71µm,0.5s						
THL	**Klokotos Trika**	**1.85**	**108**	P	Pb	03 24 40.6	-0.2
THL				S	Sb	03 25 04.0	+0.1
THL	**Klokotos Trika**	**1.85**	**108**	P	Pb	03 24 40.6	-0.2
THL				S	Sb	03 25 04.0	+0.1
TAR1	**Taranto**	**1.91**	**282**	*e*Pn	Pg	03 24 46.8	+3.1
FASA	**Fasano**	**1.94**	**291**	*e*Pn	Pg	03 24 45.8	+1.7
EVR	**Evrytania**	**2.02**	**127**	P	Pb	03 24 44.1	+0.3
EVR	**Evrytania**	**2.02**	**127**	P	Pb	03 24 43.5	-0.3
EVR	**Evrytania**	**2.02**	**127**	P	Pb	03 24 43.5	-0.3
MASS	**Massafra**	**2.04**	**285**	*e*Pn	Pg	03 24 48.2	+2.1
VLS	**Valsamata**	**2.08**	**161**	P	Pb	03 24 44.3	-0.4
VLS	**Valsamata**	**2.08**	**161**	P	Pb	03 24 44.3	-0.4
LIT	**Litokhoron**	**2.11**	**90**	P	Pb	03 24 45.2	-0.1
LIT	**Litokhoron**	**2.11**	**90**	P	Pb	03 24 44.9	-0.5
GRG	**Griva**	**2.19**	**67**	P	Pb	03 24 47.1	+0.4
GRG	**Griva**	**2.19**	**67**	P	Pb	03 24 46.4	-0.2
KFL	**Anninata**	**2.19**	**158**	P	Pb	03 24 45.9	-0.8
KFL	**Anninata**	**2.19**	**158**	P	Pb	03 24 45.9	-0.8
AGG	**Agios Georgios**	**2.30**	**118**	P	Pb	03 24 47.2	-1.3
AGG				S	Sb	03 25 16.7	-0.2
AGG				AML	AML	03 25 25.8	
	comp=E,193µm,0.5s						
AGG				AML	AML	03 25 28.9	
	comp=N,206µm,0.4s						
AGG	**Agios Georgios**	**2.30**	**118**	P	Pb	03 24 47.2	-1.3
AGG				S	Sb	03 25 16.7	-0.3
AGG	**Agios Georgios**	**2.30**	**118**	P	Pb	03 24 47.2	-1.3
BAI	**Bari**	**2.38**	**295**	*e*Pn	Pb	03 24 48.6	-1.2
EFP	**Efpalio**	**2.41**	**135**	P	Pn	03 24 48.2	+1.9
EFP	**Efpalio**	**2.41**	**135**	P	Pb	03 24 48.5	-1.8
SG1	**Sgolgore (BA)**	**2.43**	**288**	*e*Pn	Pb	03 24 49.7	-1.1
RLS	**Riolos of Patr**	**2.48**	**147**	P	Pn	03 24 48.6	+1.2
RLS	**Riolos of Patr**	**2.48**	**147**	P	Pn	03 24 49.2	+1.8
SERG	**Sergoula**	**2.50**	**133**	P	Pb	03 24 50.1	-1.8
SERG	**Sergoula**	**2.50**	**133**	P	Pb	03 24 50.1	-1.8
KALE	**Kalithea**	**2.56**	**132**	P	Pb	03 24 51.2	-1.8
KALE				S	Sb	03 25 23.1	-1.4
KALE				AML	AML	03 25 39.2	
	comp=N,87µm,0.9s						
KALE				AML	AML	03 25 44.5	
	comp=E,86µm,0.8s						
KALE	**Kalithea**	**2.56**	**132**	P	Pb	03 24 51.1	-1.9
KALE				S	Sb	03 25 23.0	-1.5
DRO	**Drossia**	**2.68**	**144**	P	Pn	03 24 50.8	+0.7
DRO	**Drossia**	**2.68**	**144**	P	Pn	03 24 51.7	+1.6
KLV	**Kalavryta, Ach**	**2.82**	**137**	P	Pn	03 24 54.3	+2.2
KLV	**Kalavryta, Ach**	**2.82**	**137**	P	Pn	03 24 54.4	+2.3
STON	**Ston**	**3.12**	**331**	*e*Pn	Pn	03 24 56.4	+0.1
STON				Sn	Sn	03 25 34.2	+0.7
STON	**Ston**	**3.12**	**331**	*e*Pn	Pn	03 24 56.3	+0.1
STON				Sn	Sn	03 25 34.1	+0.6
UDBI	**Udbina**	**5.28**	**327**	*e*Pn	Pn	03 25 29.1	+3.2
UDBI				Sn	Sn	03 26 28.8	+2.1
UDBI	**Udbina**	**5.28**	**327**	*e*Pn	Pn	03 25 29.0	+3.1
UDBI				Sn	Sn	03 26 28.8	+2.1
NVLJ	**Novalja**	**5.70**	**322**	*e*Pn	Pn	03 25 33.8	+2.2
NVLJ				Sn	Sn	03 26 37.0	+0.1
NVLJ	**Novalja**	**5.70**	**322**	*e*Pn	Pn	03 25 33.7	+2.1

*CSEM **03** 03:25:39.9±0.1, 45°.44N×24°.32E, h5km, MD3.1, Error ellipse: s-maj=3.0km s-min=2.3km az=169.0*
*SIGU **03** 03:25:39.5±1.1, 45°.5N±0°.9×24°.3E±0°.9, h1km, mb2.0/5*
*BEO **03** 03:25:41.7±0.7, 45°.45N×24°.22E, h12km±3km, M2.7/1*
BUC 03 03:25:39.1±0.7, 45°.43N×24°.34E, h7km±6km, MD3.1/6, 56C-24D, Error ellipse: s-maj=6.9km s-min=4.7km az=25.0, Romania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARR	**Arges**	**0.22**	**107**	⇑*i*P	Pg	03 25 44.0	+0.5
ARR				S	Sg	03 25 47.0	+0.5
ARR	**Arges**	**0.22**	**107**	⇑*i*P	Pg	03 25 44.0	+0.5
ARR				*i* S	Sg	03 25 47.0	+0.5
ARR	**Arges**	**0.22**	**107**	⇑*i*P	Pg	03 25 44.0	+0.5
ARR				*i* S	Sg	03 25 47.0	+0.5
LOT	**Lotru**	**0.40**	**272**	⇑*i*P	Pg	03 25 47.7	+0.8
LOT	**Lotru**	**0.40**	**272**	S	Sg	03 25 53.4	+1.3
LOT	**Lotru**	**0.40**	**272**	⇑*i*P	Pg	03 25 47.7	+0.8
LOT				*i* S	Sg	03 25 53.4	+1.3
LOT	**Lotru**	**0.40**	**272**	⇑*i*P	Pg	03 25 47.7	+0.8
LOT				*i* S	Sg	03 25 53.4	+1.3
VOIR		**0.50**	**89**	⇑*i*P	Pg	03 25 48.8	0.0
VOIR		**0.50**	**89**	⇑*i*P	Pg	03 25 48.8	0.0
VOIR		**0.50**	**89**	⇑*i*P	Pg	03 25 48.8	0.0
MTUR	**Matau**	**0.55**	**112**	⇑*i*P	Pg	03 25 50.2	+0.4
MTUR	**Matau**	**0.55**	**112**	⇑*i*P	Pg	03 25 50.2	+0.4
MTUR	**Matau**	**0.55**	**112**	⇑*i*P	Pg	03 25 50.2	+0.4
MDB	**Medias**	**0.71**	**3**	⇑*i*P	Pb	03 25 54.3	+0.5
MDB	**Medias**	**0.71**	**3**	⇑*i*P	Pb	03 25 54.3	+0.5
MDB				*i* S	Sn	03 26 05.3	-1.4
MDB	**Medias**	**0.71**	**3**	⇑*i*P	Pb	03 25 54.3	+0.5
MDB				*i* S	Sn	03 26 05.3	-1.4
DOPR	**Dopca**	**0.91**	**54**	⇓*i*P	Pg	03 25 56.3	-0.3
DOPR	**Dopca**	**0.91**	**54**	⇓*i*P	Pg	03 25 56.3	-0.3
DOPR				*i* S	Sb	03 26 09.9	+0.3
DOPR	**Dopca**	**0.91**	**54**	⇓*i*P	Pg	03 25 56.3	-0.3
DOPR				*i* S	Sb	03 26 09.9	+0.3
HUMR	**Humele**	**1.01**	**153**	⇑*i*P	Pn	03 25 59.6	-0.1
HUMR	**Humele**	**1.01**	**153**	⇑*i*P	Pn	03 25 59.6	-0.1
HUMR				*i* S	Sn	03 26 13.9	-0.3
HUMR	**Humele**	**1.01**	**153**	⇑*i*P	Pn	03 25 59.6	-0.1
HUMR				*i* S	Sn	03 26 13.9	-0.3
DEV	**Deva**	**1.10**	**295**	⇑*i*P	Pg	03 26 00.0	-0.2
DEV	**Deva**	**1.10**	**295**	⇑*i*P	Pg	03 26 00.0	-0.2
DEV				*i* S	Sb	03 26 14.9	-0.1
DEV	**Deva**	**1.10**	**295**	⇑*i*P	Pg	03 26 00.0	-0.2
DEV				*i* S	Sb	03 26 14.9	-0.1
SRE	**Strehaia**	**1.11**	**226**	⇑*i*P	Pn	03 26 02.3	+1.2
SRE	**Strehaia**	**1.11**	**226**	⇑*i*P	Pn	03 26 02.3	+1.2
SRE	**Strehaia**	**1.11**	**226**	⇑*i*P	Pn	03 26 02.3	+1.2
MLR	**Muntele Rosu**	**1.13**	**87**	⇑*i*P	Pn	03 26 02.0	+0.5
MLR	**Muntele Rosu**	**1.13**	**87**	⇑*i*P	Pn	03 26 02.0	+0.5
MLR				*i* S	Sn	03 26 18.1	+0.7
MLR	**Muntele Rosu**	**1.13**	**87**	⇑*i*P	Pn	03 26 02.0	+0.5
MLR				*i* S	Sn	03 26 18.1	+0.7
CJR	**Cluj-Napoca**	**1.38**	**338**	⇑*i*P	Pn	03 26 04.7	-0.1
CJR	**Cluj-Napoca**	**1.38**	**338**	⇑*i*P	Pn	03 26 04.7	-0.1
CJR	**Cluj-Napoca**	**1.38**	**338**	⇑*i*P	Pn	03 26 04.7	-0.1
CIOR	**Ciorogarla**	**1.47**	**131**	S	Sg	03 26 27.9	+1.4
CIOR	**Ciorogarla**	**1.47**	**131**	*i* S	Sg	03 26 27.9	+1.4
CIOR	**Ciorogarla**	**1.47**	**131**	*i* S	Sg	03 26 27.9	+1.4
DJES	**Djerdap**	**1.50**	**240**	*e*Pg	Pg	03 26 08.3	+0.5
DJES				*e*Sg	Sg	03 26 26.9	-0.3
JOSR	**Joseni**	**1.51**	**32**	⇓*i*P	Pb	03 26 07.8	+0.3
JOSR	**Joseni**	**1.51**	**32**	⇓*i*P	Pb	03 26 07.8	+0.3
JOSR				*i* S	Sg	03 26 28.7	+0.9
JOSR	**Joseni**	**1.51**	**32**	⇓*i*P	Pb	03 26 07.8	+0.3
JOSR				*i* S	Sg	03 26 28.7	+0.9
SULR		**1.56**	**118**	⇓*i*P	Pg	03 26 09.0	+0.1
SULR		**1.56**	**118**	⇓*i*P	Pg	03 26 09.0	+0.1
SULR				*i* S	Sg	03 26 30.8	+1.7
SULR		**1.56**	**118**	⇓*i*P	Pg	03 26 09.0	+0.1
SULR				*i* S	Sg	03 26 30.8	+1.7
BUC1	**Bucharest**	**1.62**	**131**	⇓*i*P	Pg	03 26 10.2	0.0
BUC1	**Bucharest**	**1.62**	**131**	⇓*i*P	Pg	03 26 10.2	0.0
BUC1				*i* S	Sg	03 26 31.3	+0.1
BUC1	**Bucharest**	**1.62**	**131**	⇓*i*P	Pg	03 26 10.2	0.0
BUC1				*i* S	Sg	03 26 31.3	+0.1
ARCR	**ARCALIA**	**1.65**	**0**	⇑*i*P	Pb	03 26 09.9	+0.1
ARCR	**ARCALIA**	**1.65**	**0**	⇑*i*P	Pb	03 26 09.9	+0.1
ARCR				*i* S	Sb	03 26 31.1	+0.2
ARCR	**ARCALIA**	**1.65**	**0**	⇑*i*P	Pb	03 26 09.9	+0.1
ARCR				*i* S	Sb	03 26 31.1	+0.2
PLOR	**Plostina**	**1.68**	**75**	⇓*i*P	Pn	03 26 08.9	0.0
PLOR	**Plostina**	**1.68**	**75**	⇓*i*P	Pn	03 26 08.9	0.0
PLOR				*i* S	Sg	03 26 32.5	-0.5
PLOR	**Plostina**	**1.68**	**75**	⇓*i*P	Pn	03 26 08.9	0.0
PLOR				*i* S	Sg	03 26 32.5	-0.5
SGRR	**Singureni**	**1.68**	**135**	⇓*i*P	Pg	03 26 10.9	-0.4
SGRR	**Singureni**	**1.68**	**135**	⇓*i*P	Pg	03 26 10.9	-0.4
SGRR	**Singureni**	**1.68**	**135**	⇓*i*P	Pg	03 26 10.9	-0.4
VRI	**Vrincioaia**	**1.73**	**75**	⇓*i*P	Pb	03 26 11.3	+0.1
VRI	**Vrincioaia**	**1.73**	**75**	⇓*i*P	Pb	03 26 11.3	+0.1
VRI				*i* S	Sg	03 26 34.0	-0.8
VRI	**Vrincioaia**	**1.73**	**75**	⇓*i*P	Pb	03 26 11.3	+0.1
VRI				*i* S	Sg	03 26 34.0	-0.8
DRGR		**1.77**	**321**	*e*Pn	Pn	03 26 10.3	+0.2
DRGR				*e*Sn	Sn	03 26 33.5	+0.6
DRGR		**1.77**	**321**	⇑*i*P	Pn	03 26 10.1	0.0
DRGR		**1.77**	**321**	⇑*i*P	Pn	03 26 10.1	0.0
DRGR				*i* S	Sb	03 26 34.9	+0.7
DRGR		**1.77**	**321**	*e*Pn	Pn	03 26 10.3	+0.2
DRGR				*e*Sn	Sn	03 26 33.5	+0.6
DRGR				*i* S	Sb	03 26 34.9	+0.7
BZS	**Buzias**	**1.92**	**276**	*e*Pn	Pb	03 26 13.3	-1.1
BZS				*e*Sn	Sn	03 26 37.3	+0.8
BZS	**Buzias**	**1.92**	**276**	⇓*i*P	Pn	03 26 13.2	+1.0
BZS	**Buzias**	**1.92**	**276**	⇓*i*P	Pn	03 26 13.2	+1.0
BZS				*i* S	Sb	03 26 37.8	-0.7
BZS	**Buzias**	**1.92**	**276**	⇓*i*P	Pn	03 26 13.2	+1.0
BZS				*i* S	Sb	03 26 37.8	-0.7
TESR	**Tescani**	**1.94**	**55**	⇑*i*P	Pn	03 26 12.4	-0.1
TESR	**Tescani**	**1.94**	**55**	⇑*i*P	Pn	03 26 12.4	-0.1
TESR	**Tescani**	**1.94**	**55**	⇑*i*P	Pn	03 26 12.4	-0.1
MDVR	**Moldovita**	**1.97**	**252**	⇑*i*P	Pb	03 26 14.9	-0.4
MDVR	**Moldovita**	**1.97**	**252**	⇑*i*P	Pb	03 26 14.9	-0.4
MDVR				*i* S	Sb	03 26 40.4	+0.4
MDVR	**Moldovita**	**1.97**	**252**	⇑*i*P	Pb	03 26 14.9	-0.4
MDVR				*i* S	Sb	03 26 40.4	+0.4
SIRR	**Siria**	**2.05**	**295**	⇑*i*P	Pn	03 26 15.1	+1.2
SIRR	**Siria**	**2.05**	**295**	⇑*i*P	Pn	03 26 15.1	+1.2
SIRR				*i* S	Sb	03 26 42.0	-0.2
SIRR	**Siria**	**2.05**	**295**	⇑*i*P	Pn	03 26 15.1	+1.2
SIRR				*i* S	Sb	03 26 42.0	-0.2
KUBS	**Kucevo**	**2.15**	**243**	*e*Pn	Pn	03 26 15.3	0.0
KUBS				*e*Sn	Sn	03 26 43.0	+0.8
KUBS	**Kucevo**	**2.15**	**243**	*e*Pn	Pn	03 26 15.3	0.0
KUBS				*e*Sn	Sn	03 26 43.0	+0.8
BURAR	**Bucovina Array**	**2.27**	**15**	⇑*i*P	Pn	03 26 18.5	+1.5
BURAR	**Bucovina Array**	**2.27**	**15**	⇑*i*P	Pn	03 26 18.5	+1.5
BURAR				*i* S	Sn	03 26 45.6	+0.4
BURAR	**Bucovina Array**	**2.27**	**15**	⇑*i*P	Pn	03 26 18.5	+1.5
BURAR				*i* S	Sn	03 26 45.6	+0.4
BMR	**Baia Mare**	**2.31**	**346**	⇑*i*P	Pb	03 26 19.4	-1.7
BMR	**Baia Mare**	**2.31**	**346**	⇑*i*P	Pb	03 26 19.4	-1.7
BMR				*i* S	Sn	03 26 47.4	+1.1
BMR	**Baia Mare**	**2.31**	**346**	⇑*i*P	Pb	03 26 19.4	-1.7
BMR				*i* S	Sn	03 26 47.4	+1.1
ZAPS	**Zavoj**	**2.48**	**210**	*e*Pn	Pn	03 26 20.9	+1.0
SVIS	**Svilajnac**	**2.51**	**243**	*e*Pn	Pn	03 26 21.8	+1.6
SVIS				*e*Sn	Sn	03 26 51.9	+0.9
RAKU	**Rahkiv**	**2.59**	**357**	*e*P	Pn	03 26 22.2	+0.7
RAKU				Pm		03 26 37.6	
RAKU				*e*S	Sn	03 26 54.2	+1.0
RAKU				Sm		03 27 06.6	
NSLU	**Nyzhne Selyshc**	**2.77**	**2**	P	Pb	03 26 27.2	-1.6
NSLU				Pm		03 26 38.9	
NSLU				*e*S	Sn	03 26 59.7	+2.3
NSLU				Sm		03 27 12.9	
VTS	**Vitosha**	**2.96**	**196**	⇑*i*P	Pn	03 26 26.6	+0.1
VTS	**Vitosha**	**2.96**	**196**	⇑*i*P	Pn	03 26 26.6	+0.1
VTS				*i* S	Sn	03 27 02.6	+0.3
VTS	**Vitosha**	**2.96**	**196**	⇑*i*P	Pn	03 26 26.6	+0.1
VTS				*i* S	Sn	03 27 02.6	+0.3
GRUS	**Gruza**	**3.01**	**240**	*e*Pn	Pn	03 26 28.5	+1.4
GRUS				*e*Sn	Sn	03 27 03.2	-0.2
GRUS	**Gruza**	**3.01**	**240**	*e*Pn	Pn	03 26 28.5	+1.4
GRUS				*e*Sn	Sn	03 27 03.2	-0.2
BERU	**Beregovo**	**3.03**	**338**	*e*P	Pn	03 26 29.8	+2.4
BRIU	**Brid**	**3.04**	**343**	*e*P	Pn	03 26 29.3	+1.7
BRIU				Pm		03 26 33.5	
BRIU				*e*S	Sn	03 27 06.5	+2.3
BRIU				Sm		03 27 30.4	
TRUS	**Trudelj**	**3.05**	**248**	*e*Pn	Pn	03 26 29.4	+1.8
TRUS				*e*Sn	Sn	03 27 02.9	-1.4
TRUS	**Trudelj**	**3.05**	**248**	*e*Pn	Pn	03 26 29.4	+1.8
TRUS				*e*Sn	Sn	03 27 02.9	-1.4
TIRR	**Tirgusor**	**3.06**	**107**	⇑*i*P	Pn	03 26 29.0	+1.3
TIRR	**Tirgusor**	**3.06**	**107**	⇑*i*P	Pn	03 26 29.0	+1.3
TIRR				*i* S	Sn	03 27 06.1	+1.6
TIRR	**Tirgusor**	**3.06**	**107**	⇑*i*P	Pn	03 26 29.0	+1.3
TIRR				*i* S	Sn	03 27 06.1	+1.6
MEZ	**Mezhgor'ye**	**3.13**	**350**	*e*P	Pn	03 26 30.5	+1.7
MEZ				Pm		03 26 43.7	
MEZ				*e*S	Sn	03 27 08.2	+1.7
MEZ				Sm		03 27 24.8	
BARS	**Barje**	**3.18**	**216**	*e*Pn	Pb	03 26 33.2	-2.8
BARS	**Barje**	**3.18**	**216**	*e*Pn	Pb	03 26 33.2	-2.8
SELS	**Selova**	**3.20**	**227**	*e*Pn	Pn	03 26 31.5	+1.7
SELS				*e*Sn	Sn	03 27 09.1	+1.0
FGSL	**Fruska Gora**	**3.21**	**267**	*e*Pn	Pn	03 26 31.0	+1.1
FRGS	**Fruska Gora**	**3.21**	**267**	*e*Pn	Pn	03 26 31.0	+1.1
MUKU	**Mukachevo**	**3.23**	**340**	*e*P	Pn	03 26 32.0	+1.9
MUKU				Pm		03 26 33.0	
MUKU				*e*S	Sn	03 27 11.4	+2.7
MUKU				Sm		03 27 32.4	
DIVS	**Divibare**	**3.37**	**248**	*e*Pn	Pn	03 26 33.0	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DIVS				eSn	Sn	03 27 12.3	-0.1
DIVS	Divibare	3.37	248	ePn	Pn	03 26 33.0	+0.8
DIVS				eSn	Sn	03 27 12.3	-0.1
IVAS	Ivanjica	3.52	240	ePn	Pn	03 26 35.3	+1.1
IVAS				eSn	Sn	03 27 14.9	-1.2
IVAS	Ivanjica	3.52	240	ePn	Pn	03 26 35.3	+1.1
IVAS				eSn	Sn	03 27 14.9	-1.2
TEKS	Tekeris	3.52	257	ePn	Pn	03 26 34.2	0.0
TEKS				eSn	Sn	03 27 14.6	-1.5
TEKS	Tekeris	3.52	257	ePn	Pn	03 26 34.2	0.0
TEKS				eSn	Sn	03 27 14.6	-1.5
KECS	Kecovo	4.03	321	ePn	Pn	03 26 42.1	+0.9
KECS	Kecovo	4.03	321	ePN	Pn	03 26 42.1	+0.9
KECS				eSG	Sb	03 27 40.6	+1.3
VYHS	Vyhne	4.85	311	ePn	Pn	03 26 52.3	-0.2
VYHS	Vyhne	4.85	311	ePN	Pn	03 26 52.3	-0.2

*ISCJB **03** 03:52:10.8±0.2, 36°.00N±0°.02×70°.42E±0°.04, h110km, mb4.1/38, Error ellipse: s-maj=4.3km s-min=2.9km az=158.1*
*MOS **03** 03:52:12.5±1.1, 36°.07N×70°.46E, h122km, mb4.2/24, Error ellipse: s-maj=9.7km s-min=4.7km az=79.9*
*IDC **03** 03:52:12.8±2.8, 35°.96N×70°.41E, h114km±25km, mb3.8/21, mb1 3.9/25, mb1mx3.7/66, mbtmp4.2/25, MS3.3/1, Ms1 3.4/1, ms1mx2.5/59, Error ellipse: s-maj=17.5km s-min=11.2km az=10.0*
*NEIC **03** 03:52:13.6±0.8, 36°.07N×70°.43E, h122km±7km, mb4.3/15, Error ellipse: s-maj=7.7km s-min=6.2km az=146.0*
*BJI **03** 03:52:13.3, 36°.32N×70°.31E, h126km, mb4.2/19, mB4.6/13*
*NNC **03** 03:52:18.0±2.8, 36°.45N×70°.25E, h140km±28km, mb4.0, mpv4.7, Error ellipse: s-maj=26.2km s-min=14.8km az=168.0*
ISC 03 03:52:12.2±0.3**, 36°.10N**±0°.04×**70°.42E**±0°.04**, h110**km**, n150, σ2s.15**/178**, mb4.2**/39**, 13C-15D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.92	216	ePn	Pn	03 52 46.9	+2.6
KBL				eSn	Sn	03 53 11.5	+2.7
KBL	Kabul	1.92	216	ePN	Pn	03 52 46.9	+2.6
KBL				e		03 53 11.5	
CEP	Cherat	2.58	151	P	Pn	03 52 55.1	+2.3
CEP				S	Sn	03 53 27.0	+3.1
DZET	Dzherino	2.99	335	⇓P	Pn	03 52 60.0	+1.9
	106nm,0.3s						
DZET				⇑S	Sn	03 53 33.5	+0.1
	316nm,0.5s						
DZET	Dzherino	2.99	335	PN	Pn	03 53 00.0	+1.9
DZET				pmax	pmax		
	comp=Z,106nm,0.3s						
CHCP	Chirah Chowk	3.38	135	P	Pn	03 53 05.6	+2.4
THW	Thamme Wali	3.47	161	P	Pn	03 53 06.2	+1.7
SARP	Sargodha	4.57	155	P	Pn	03 53 19.7	+0.6
SFK	Sufi-Kurgan	4.61	31	⇓P	Pn	03 53 23.1	+3.3
	comp=Z,107nm,0.3s						
SFK				⇑S	Sn	03 54 15.6	+3.1
	comp=Z,173nm,0.4s						
SFK	Sufi-Kurgan	4.61	31	PN	Pn	03 53 22.8	+2.9
SFK				S	Sn	03 54 15.3	+2.9
SFK				pmax	pmax		
	comp=Z,107nm,0.3s						
SFK				smax	smax		
	comp=N,219nm,0.3s						
KSH	Kashi	5.57	51	P	Pn	03 53 31.6	-1.1
KSH				S	Sn	03 54 25.1	-10
KSH				smax	smax		
	comp=N,1µm,0.3s						
KSH				smax	smax		
	comp=N,2µm,0.9s						
DHRM	DHARAMSHALA	6.20	127	eP	Pn	03 53 40.8	-0.7
DHRM				eS	Sn	03 54 48.0	-3.1
DHRM				IAML		03 54 50.2	
	comp=E,762nm,0.0s						
DHRM				IAML		03 54 50.4	
	comp=N,568nm,0.1s						
AML	Almayashu	6.54	22	P	Pn	03 53 47.5	+1.4
	SNR=571						
MNAS	Manas	6.58	14	⇓P	Pn	03 53 48.0	+1.5
	comp=N,6.7nm,0.2s						
MNAS				⇓S	Sn	03 54 59.9	-0.3
	comp=N,311nm,1.4s						
MNAS	Manas	6.58	14	PN	Pn	03 53 47.8	+1.3
MNAS				pmax	pmax		
	comp=Z,32nm,0.9s						
NRN	Naryn	6.89	38	PN	Pn	03 53 50.8	0.0
UCH	Uchtor	6.90	26	P	Pn	03 53 52.3	+1.2
	SNR=88						
KK31	Karatay Array	7.00	1	⇓P	Pn	03 53 53.1	+1.1
	comp=Z,34nm,0.5s,baz=192,slow=13,SNR=556						
KK31				⇓S	Sn	03 55 09.4	-0.7
	comp=Z,74nm,0.7s,baz=190,slow=23,SNR=12						
KK31	Karatay Array	7.00	1	i PN	Pn	03 53 52.8	+0.8
KK31				pmax	pmax		
	comp=Z,34nm,0.5s						
KKAR	Karatay Array	7.00	1	ePn	Pn	03 53 53.1	+1.1
KKAR				eSn	Sn	03 55 08.3	-1.7
KKAR	Karatay Array	7.00	1	ePN	Pn	03 53 53.1	+1.1
EKS2	Erkin-Say	7.05	21	P	Pn	03 53 54.6	+1.7
	SNR=40						
KZA	Kyzart	7.06	31	P	Pn	03 53 54.2	+1.1
	SNR=94						
AAK	Ala-Archa	7.25	25	P	Pn	03 53 57.3	+1.7
	comp=Z,11nm,0.3s,baz=194,slow=9.1,SNR=196						
AAK				S	Sn	03 55 15.0	-1.4
	comp=Z,5.1nm,0.3s,baz=316,slow=19,SNR=11						
AAK	Ala-Archa	7.25	25	⇓P	Pn	03 53 57.4	+1.8
	comp=Z,38nm,0.5s						
AAK				⇓S	Sn	03 55 17.1	+0.6
	comp=Z,116nm,0.8s						
AAK	Ala-Archa	7.25	25	P	Pn	03 53 57.3	+1.7
	SNR=95						
AAK	Ala-Archa	7.25	25	ePn	Pn	03 53 57.0	+1.4
	comp=Z,62nm,0.6s						
AAK				eSn	Sn	03 55 14.5	-2.0
AAK	Ala-Archa	7.25	25	PN	Pn	03 53 57.2	+1.6
AAK				pmax	pmax		
	comp=Z,38nm,0.5s						
KBK	Karagaybulak	7.43	27	P	Pn	03 54 00.1	+2.1
	SNR=34						
FRU1	Bishkek	7.45	25	PN	Pn	03 54 00.7	+2.5
SMLA	Simla	7.50	129	eP	Pn	03 53 58.9	0.0
SMLA				eS	Sn	03 55 18.3	-4.0
SMLA				IAML		03 55 21.7	
	comp=N,290nm,0.2s						
SMLA				IAML		03 55 22.1	
	comp=E,213nm,0.1s						
ULHL	Ulahol	7.63	35	P	Pn	03 54 01.8	+1.1
	SNR=11						
CHMS	Chumysh	7.66	25	P	Pn	03 54 02.4	+1.4
	SNR=47						
USP	Ospenovka	7.82	22	P	Pn	03 54 05.4	+2.3
	SNR=44						
TKM2	Tokmak 2	7.90	29	⇓P	Pn	03 54 05.8	+1.3
	comp=E,29nm,0.6s						
TKM2				⇑S	Sn	03 55 30.2	-2.1
	comp=E,36nm,0.8s						
TKM2	Tokmak 2	7.90	29	P	Pn	03 54 05.8	+1.3
	SNR=73						
TKM2	Tokmak 2	7.90	29	PN	Pn	03 54 05.5	+1.1
TKM2				pmax	pmax		
	comp=Z,29nm,0.6s						
KDJ	Kajisay	7.99	39	PN	Pn	03 54 07.3	+1.6
DDI	Dehra Dun	8.61	130	eP	Pn	03 54 15.0	+1.1
DDI				IAmb	IAmb	03 55 52.7	
	comp=Z,565nm,0.1s						
MDOK	Medeo	8.71	34	⇓P	Pn	03 54 16.2	+0.8
	comp=Z,17nm,0.8s						
GEYT	Alibeck	10.01	284	P	Pn	03 54 32.4	-0.4
	comp=Z,0.9nm,0.3s,baz=121,slow=10,SNR=8.7						
GEYT				S	Sn	03 56 19.6	-3.5
	comp=Z,3.2nm,0.3s,baz=116,slow=16,SNR=6.9						
BHJ	Bhuj	12.81	183	eP	Pn	03 55 08.7	-1.6
BHJ				IAmb	IAmb	03 55 09.6	
	comp=Z,197nm,1.0s						
PYUN	Piuthan	13.30	123	eP	Pn	03 55 14.2	-2.7
	comp=Z,20nm,0.3s						
MAKZ	Makanchi	13.76	35	⇑P	P	03 55 28.5	+1.2
	comp=Z,25nm,0.7s						
MAKZ	Makanchi	13.76	35	ePn	P	03 55 25.8	-1.4
MAKZ	Makanchi	13.76	35	eP	P	03 55 25.8	-1.4
MK01	Makanchi Array	13.88	36	ePn	Pn	03 55 24.4	+0.3
MK31	Makanchi Array	13.89	36	ePn	Pn	03 55 24.9	+0.7
MK31	Makanchi Array	13.89	36	eP	Pn	03 55 24.9	+0.7
MKAR	Makanchi Array	13.89	36	P	Pn	03 55 24.9	+0.6
	comp=Z,0.2nm,0.3s,baz=226,slow=13,SNR=18						
KOLN	Koldanda	13.93	123	eP	Pn	03 55 22.5	-2.4
	comp=Z,11nm,0.2s						
BHPL	Bhopal	14.18	153	eP	Pn	03 55 26.5	-1.5
BHPL				IAmb	IAmb	03 55 27.3	
	comp=Z,16nm,0.7s						
GKN	Gorkha	14.50	120	eP	Pn	03 55 30.2	-2.0
	comp=Z,1.3nm,0.2s						
GKN				eS	Sn	03 58 00.3	-12
DMN	Daman	15.07	120	eP	Pn	03 55 37.3	-2.2
	comp=Z,19nm,0.4s						
KKN	Kakani	15.08	119	eP	Pn	03 55 37.9	-1.8
	comp=Z,26nm,0.4s						
AB31	Akbulak array	15.22	333	⇓P	Pn	03 55 41.6	+0.6
	comp=Z,37nm,0.6s,baz=150,slow=7.8,SNR=494						
AB31				⇓S	Sn	03 58 18.8	-10
	comp=Z,6.3nm,0.5s,baz=161,slow=12,SNR=3.6						
AB31	Akbulak array	15.22	333	eP	Pn	03 55 41.6	+0.6
AB31				S	Sn	03 58 19.0	-10
AB31				pmax	pmax		
	comp=Z,37nm,0.6s						
AB31				smax	smax		
	comp=N,11nm,0.7s						
ABKAR	Akbulak array	15.22	333	ePn	Pn	03 55 41.6	+0.6
	comp=N,580nm,0.6s						
ABKAR				eSn	Sn	03 58 18.6	-11
PKIN	Phulchoki	15.29	120	eP	Pn	03 55 40.7	-1.7
	comp=N,14nm,0.2s						
PKI	Pulchoki	15.30	120	eP	Pn	03 55 40.9	-1.7
	comp=N,10nm,0.3s						
WMQ	Urumqi	15.31	54	P	Pn	03 55 43.2	+0.9
WMQ				pmax	pmax		
	comp=N,14nm,1.3s						
WMQ				pmax	pmax		
	comp=N,190nm,5.1s						
JBP	Jabalpur	15.32	145	⇓iP	Pn	03 55 40.3	-2.2
JBP				ex	x	03 58 18.5	
GUN	Gumba	15.44	118	eP	Pn	03 55 42.6	-1.6
	comp=N,19nm,0.4s						
KURK	Kurchatov	15.77	20	⇑P	P	03 55 51.0	+1.6
	comp=N,11nm,0.9s						
KURK	Kurchatov	15.77	20	ePn	Pn	03 55 46.3	-1.5
	comp=N,10nm,0.9s						
KURK	Kurchatov	15.77	20	ceP	Pn	03 55 46.7	-1.1
KURK				pmax	pmax		
	comp=Z,44nm,1.0s						
JIRN	Jiri	15.80	118	eP	Pn	03 55 46.9	-2.0
	comp=Z,29nm,0.3s						
UOSS	Minazif	16.52	232	ePn	P	03 55 58.5	+0.5
	comp=Z,24nm,1.6s						
RAMN	Ramite	16.52	119	eP	Pn	03 55 56.1	-1.5
	comp=Z,12nm,0.3s						
NGP	Nagpur	16.70	151	eP	P	03 56 00.8	+0.8
NGP				IAmb	IAmb	03 56 01.6	
	comp=Z,12nm,0.7s						
BVA0	Borovoye Array	16.93	360	⇑P	P	03 56 04.8	+2.5
	comp=Z,12nm,0.9s,baz=178,slow=15,SNR=39						
BVA0	Borovoye Array	16.93	360	P	P	03 56 04.8	+2.5
BVA0				pmax	pmax		
	comp=Z,120nm,0.9s						
BVAR	Borovoye Array	16.93	360	P	P	03 56 03.1	+0.9
	comp=Z,1.7nm,0.3s,baz=164,slow=11,SNR=24						
BRVK	Borovoye	16.96	360	ePn	Pn	03 56 02.6	+0.2
	comp=Z,15nm,0.9s						
BRVK	Borovoye	16.96	360	ceP	P	03 56 03.1	+0.5
BRVK				pmax	pmax		
	comp=Z,17nm,0.9s						
TAPN	Taplejung	17.08	116	eP	Pn	03 56 03.7	-0.8
	comp=Z,42nm,0.7s						
BOK	Bokaro	18.14	128	eP	P	03 56 15.9	+0.1
BOK				IAmb	IAmb	03 56 17.1	
	comp=Z,5.6nm,0.5s						
LSA	Lhasa	18.53	104	eP	Pn	03 56 22.2	+0.2
	comp=Z,22nm,0.6s						
LSA	Lhasa	18.53	104	eP	Pn	03 56 22.2	+0.2
LSA				pmax	pmax		
	comp=Z,22nm,0.6s						
HYB	Hyderabad	19.96	157	i P	Pn	03 56 38.0	-0.4
HYB	Hyderabad	19.96	157	eP	P	03 56 36.1	+0.4
ZAA0	Zalesovo Array	20.48	25	eP	P	03 56 42.2	+1.2
	comp=Z,34nm,0.6s						
ZALV	Zalesovo Beam	20.48	25	P	P	03 56 42.3	+1.3
	comp=Z,34nm,0.5s,baz=223,slow=11,SNR=164						
ZALV	Zalesovo Beam	20.48	25	eP	P	03 56 42.0	+1.1
ZALV	Zalesovo Beam	20.48	25	eP	P	03 56 42.0	+1.1
GNI	Garni	20.57	289	P	Pn	03 56 46.2	+0.6
	comp=Z,10nm,0.9s,baz=46,slow=22,SNR=3.8						
GNI	Garni	20.57	289	eP	P	03 56 41.9	-0.4
	comp=Z,54nm,0.8s						
NVS	Novosibirsk	20.73	21	eP	P	03 56 45.3	+1.7
NVS				eS	S	04 00 28.6	-0.2
NVS				pmax	pmax		
	comp=N,18nm,0.6s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,20nm,0.6s						
NVS				smax	smax		
	comp=N,1.0nm,0.6s						
NVS				smax	smax		
	comp=E,8.0nm,1.2s						
SHL	Shillong	21.17	114	eP	P	03 56 48.2	-0.7
VIS	Vishakhapatnam	21.58	145	eP	P	03 56 52.2	-0.9
SVE	Sverdlovsk	21.76	345	⇑eP	P	03 56 57.0	+2.4
SVE				eS	S	04 00 52.3	+3.8
SVE				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU	Arti	21.87	342	P	P	03 56 58.0	+2.3
	comp=Z,7.9nm,0.6s,baz=147,slow=4.4,SNR=19						
ARU	Arti	21.87	342	eP	P	03 56 58.1	+2.3
	comp=Z,12nm,0.7s						
ARU	Arti	21.87	342	d iP	P	03 56 57.8	+2.0
ARU						03 57 28.4	
ARU				S	S	04 00 51.5	+1.1
ARU				SS	SnSn	04 01 31.3	+4.8
ARU				pmax	pmax		
	comp=Z,31nm,1.7s						
HVS	Khovu-Aksy	22.45	41	i P	P	03 57 03.6	+1.6
GTA	Gaotai	23.43	73	eP	P	03 57 13.8	+2.2
GTA				pmax	pmax		
	comp=Z,11nm,1.4s						
ZAK	Zakamensk	27.61	49	eP	P	03 57 50.5	+1.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CD2	Chengdu	28.19	91	eP	P	03 57 54.2	-0.3
SONM	Songino Array	28.95	55	P	P	03 58 02.8	+1.7
	comp=Z,2.1nm,0.8s,baz=262,slow=9.2,SNR=17						
SONA1	Songino Array	28.96	55	eP	P	03 58 03.2	+2.0
BRTR	Keskin Array B	29.11	288	P	P	03 58 04.5	+1.8
	comp=Z,0.8nm,0.8s,baz=97,slow=9.2,SNR=3.9						
BRTR	Keskin Array B	29.11	288	ceP	P	03 58 05.9	+3.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ULN	Ulaanbaatar	29.39	55	eP	P	03 58 04.2	-0.9
	comp=Z,1.9nm,0.8s						
ULN	Ulaanbaatar	29.39	55	ceP	P	03 58 06.3	+1.2
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ANTO	Ankara	29.75	289	eP	P	03 58 07.8	-0.4
	comp=Z,18nm,1.4s						
ANTO	Ankara	29.75	289	eP	P	03 58 07.8	-0.4
ANTO				pmax	pmax		
	comp=Z,19nm,1.4s						
KMI	Kunming	29.77	102	P	P	03 58 10.8	+2.2
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PALK	Pallekele	30.19	159	eP	P	03 58 10.3	-1.9
	comp=Z,8.8nm,1.0s						
PALK	Pallekele	30.19	159	i P	P	03 58 11.8	-0.4
DGPR	DIGLIPUR	30.50	133	eP	P	03 58 13.0	-1.9
DGPR				IAmb	IAmb	03 58 13.8	
	comp=Z,9.0nm,1.1s						
CMAR	Chiang Mai Arr	30.68	117	P	P	03 58 18.0	+1.5
	comp=Z,1.1nm,0.3s,baz=305,slow=9.8,SNR=4.8						
CMAR	Chiang Mai Arr	30.68	117	ceP	P	03 58 20.7	+4.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HHC	Hu-ho-hao-te	32.35	69	eP	P	03 58 32.1	+1.0
HHC				pP	pP	03 58 59.5	+4.1
HHC				sP	sP	03 59 14.4	+6.3
HHC				PP	PP	03 59 44.5	-1.6
HHC				S	S	04 03 35.4	-1.6
HHC				sS	sS	04 04 23.5	+4.1
HHC				SS	SnSn	04 05 39.1	-2.1
HHC				ScS	ScS	04 08 46.0	-3.3
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,71nm,5.5s						
AKASG	Malin Array Be	32.83	309	P	P	03 58 35.9	+0.8
	comp=Z,1.0nm,0.6s,baz=86,slow=6.9,SNR=6.2						
FINES	FINESS Array B	37.56	327	P	P	03 59 17.1	+1.8
	comp=Z,2.2nm,0.6s,baz=105,slow=10,SNR=16						
VRAC	Vranov	40.85	306	P	P	03 59 42.8	-0.2
	comp=Z,4.2nm,0.3s,baz=141,slow=12,SNR=4.0						
ARCES	ARCESS Array B	41.34	338	P	P	03 59 48.3	+1.6
	comp=Z,4.1nm,0.7s,baz=108,slow=7.8,SNR=15						
CUC	Castrocucco	42.62	292	eP	P	03 59 57.4	-0.2
	comp=Z,3.3nm,0.7s						
HFS	Hagfors	43.09	322	P	P	04 00 02.6	+1.6
	comp=Z,4.9nm,0.7s,baz=99,slow=9.2,SNR=11						
NB2	NORSAR Subarra	44.42	323	P	P	04 00 12.6	+0.9
	comp=Z,0.9nm,0.5s,baz=98,slow=7.9						
NB2	NORSAR Subarra	44.42	323	P	P	04 00 12.6	+0.9
NB2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NOA	NORSAR Array B	44.42	323	P	P	04 00 12.8	+1.1
	comp=Z,1.1nm,0.7s,baz=102,slow=7.5,SNR=6.7						
NOA				LR	LR	04 20 37.6	
	comp=Z,33nm,18.5s,baz=255,slow=38						
KSAR	Wonju Array Be	45.43	70	P	P	04 00 19.8	-0.1
KSAR	Wonju Array Be	45.43	70	P	P	04 00 19.8	-0.1
KSRS	Korea Array	45.46	70	P	P	04 00 19.8	-0.3
	comp=Z,1.1nm,0.5s,baz=279,slow=6.4,SNR=3.9						
TIXI	Tiksi	46.32	22	ceP	P	04 00 27.7	+1.3
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SPITS	Spitsbergen Ar	47.78	347	P	P	04 00 38.8	+1.1
	comp=Z,4.9nm,0.7s,baz=64,slow=3.4,SNR=9.4						
KEST	Kesra	48.72	289	P	P	04 00 46.4	+0.8
	comp=Z,1.4nm,0.6s,baz=144,slow=21,SNR=5.0						
NKL	Nikolayevsk	50.73	47	eP	P	04 01 01.4	+1.0
NKL				pmax	pmax		
	comp=Z,12nm,0.8s						
MAJO	Matsushiro	53.54	68	eP	P	04 01 19.7	-1.9
	comp=Z,46nm,1.8s						
MAJO	Matsushiro	53.54	68	eP	P	04 01 19.7	-1.9
MAJO				pmax	pmax		
	comp=Z,46nm,1.8s						
ESDC	Sonseca Array	57.23	298	P	P	04 01 47.8	-0.2
	comp=Z,0.8nm,0.7s,baz=52,slow=7.3,SNR=7.6						
BILL	Bilibino	59.18	26	⇓iP	P	04 02 01.1	+0.1
BILL				e*PP	pP	04 02 31.7	+4.0
BILL				e		04 04 15.5	
BILL				eS	S	04 09 57.1	-2.6
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TOA0	Torodi Ar. Sit	65.24	268	eP	P	04 02 41.9	-0.4
TORD	Torodi Ar. Bea	65.24	268	P	P	04 02 41.8	-0.4
	comp=Z,1.4nm,0.7s,baz=47,slow=5.3,SNR=20						
RES	Resolute Bay	69.07	356	eP	P	04 03 04.0	-1.5
	comp=Z,0.6nm,0.5s						
RES	Resolute Bay	69.07	356	eP	P	04 03 04.0	-1.5
RES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KOWA	Kowa	69.12	273	P	P	04 03 07.0	+0.2
	comp=Z,2.3nm,0.5s,baz=56,slow=11,SNR=12						
TSUM	Tsumeb	74.30	231	eP	P	04 03 35.8	-1.9
	comp=Z,2.6nm,1.0s						
INK	Inuvik	74.38	9	eP	P	04 03 37.9	+0.6
	comp=Z,14nm,1.7s						
INK	Inuvik	74.38	9	eP	P	04 03 37.9	+0.6
INK				pmax	pmax		
	comp=Z,14nm,1.7s						
COLA	College	74.99	16	eP	P	04 03 41.4	+0.4
	comp=Z,3.1nm,0.6s						
COLA	College	74.99	16	eP	P	04 03 41.4	+0.4
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ILAR	Eielson Array	75.29	16	P	P	04 03 43.0	+0.2
	comp=Z,0.5nm,0.5s,baz=289,slow=4.8,SNR=24						
ILAR				PP	PP	04 06 33.3	+1.2
	comp=Z,0.7nm,1.0s,baz=316,slow=5.0,SNR=5.1						
MCK	McKinley	75.72	17	eP	P	04 03 45.7	+0.5
	comp=Z,2.8nm,0.5s						
MCK	McKinley	75.72	17	eP	P	04 03 45.7	+0.5
MCK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA	Yellowknife Ar	81.67	2	P	P	04 04 17.9	+0.1
	comp=Z,0.4nm,0.4s,baz=349,slow=5.4,SNR=12						
YKA	Yellowknife Ar	81.67	2	P	P	04 04 17.9	+0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	82.18	121	P	P	04 04 20.6	-0.5
	comp=Z,0.5nm,0.5s,baz=325,slow=4.9,SNR=16						
ASAR	Alice Springs	84.41	124	P	P	04 04 32.0	-0.4
	comp=Z,0.6nm,0.6s,baz=310,slow=4.9,SNR=9.7						

*ISCJB **03** 03:53:30.1±0.7, 4°.36N±0°.04×76°.81W±0°.06, h67km±6km, mb3.5/3, Error ellipse: s-maj=10.4km s-min=5.1km az=21.6*
*RSNC **03** 03:53:31.9±1.1, 4°.34N×76°.76W, h31km±6km, ML3.3, Mw3.6*
*IDC **03** 03:53:35.0±3.7, 4°.43N×76°.68W, h99km±28km, mb3.4/3, mb1 3.5/6, mb1mx3.2/40, mbtmp3.8/6, MS2.7/2, Ms1 2.7/2, ms1mx2.4/24, Error ellipse: s-maj=36.3km s-min=29.5km az=28.0*
ISC 03 03:53:30.2±1.1**, 4°.34N**±0°.04×**76°.83W**±0°.06**, h52**km±10km**, n22, σ1s.40**/29**, mb3.6**/3**, 1D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALC	Bahia Malaga	0.60	237	eP	Pn	03 53 44.6	+1.8
YOTC	Yotoco, Valle	0.60	126	⇓iP	Pn	03 53 42.2	-0.8
YOTC				eS	Sn	03 53 50.9	-1.3
YOTC				i		03 53 51.2	
	comp=Z,6µm,0.4s						
PLMC	San Jos˜' del	0.78	44	eP	Pn	03 53 44.7	-0.5
PLMC				eS	Sn	03 53 55.5	-0.7
TOLC	Tolima	1.53	81	eP	Pn	03 53 55.9	+0.5
RREF	El Recreo	1.58	69	eP	Pn	03 53 57.5	+1.0
RREF				eS	Sn	03 54 16.7	+0.5
MARP	Paez Belalcaza	1.73	149	eP	Pn	03 53 59.5	+1.3
MARP				i		03 54 01.1	
	comp=Z,210nm,0.2s						
MARP				eS	Sn	03 54 19.7	+0.5
POPC	Popayan, Colom	1.80	175	eP	Pn	03 53 59.5	+0.4
POPC				eS	Sn	03 54 21.4	+0.5
POPC				i		03 54 25.1	
	comp=Z,285nm,0.3s						
PCON	Cinco Dias	2.05	168	eP	Pn	03 54 04.5	+1.7
PCON				i		03 54 36.8	
	comp=Z,172nm,0.6s						
BETC	Betania	2.16	140	eP	Pn	03 54 04.2	+0.4
SOTA	Rioblanco	2.20	174	eP	Pn	03 54 05.9	+1.1
SOTA				eS	Sn	03 54 32.4	+1.2
SOTA				i		03 54 40.3	
	comp=Z,199nm,0.2s						
HELC	Santa Helena	2.25	35	eP	Pn	03 54 06.5	+1.2
HELC				eS	Sn	03 54 32.8	+0.6
HELC				i		03 54 37.1	
	comp=Z,133nm,0.5s						
ROSC	El Rosal	2.55	79	P	Pn	03 54 13.0	+3.4
	comp=Z,9.6nm,0.3s,baz=1.5,slow=4.9,SNR=14						
ROSC				S	Sn	03 54 42.8	+3.1
	comp=Z,9.1nm,0.3s,baz=346,slow=23,SNR=4.7						
VILC	Villavicencio,	3.14	94	eS	Sn	03 54 53.8	0.0
VILC				i		03 55 05.9	
	comp=Z,65nm,0.7s						
SDV	Santo Domingo	7.64	53	P	Pn	03 55 21.4	+2.3
	comp=Z,1.8nm,0.3s,baz=229,slow=11,SNR=8.4						
SDV				S	Sn	03 56 44.4	0.0
	comp=Z,1.1nm,0.3s,baz=219,slow=21,SNR=4.6						
JTS	JuntasAbangare	9.99	307	LR	LR	03 59 11.7	
	comp=Z,37nm,18.9s,baz=156,slow=34						
NNA	Nana	16.22	180	LR	LR	04 05 03.0	
	comp=Z,24nm,20.1s,baz=115,slow=42						
PTGA	Pitinga	17.59	106	P	Pn	03 57 32.0	+0.1
	comp=Z,0.6nm,0.3s,baz=311,slow=9.8,SNR=4.3						
YKA	Yellowknife Ar	64.37	342	P	P	04 04 00.0	-0.4
	comp=Z,0.4nm,0.7s,baz=136,slow=6.2,SNR=7.2						
KOWA	Kowa	72.30	76	P	P	04 04 50.0	-1.0
	comp=Z,0.7nm,0.5s,baz=269,slow=5.9,SNR=1.6						
TORD	Torodi Ar. Bea	77.87	78	P	P	04 05 21.7	-1.4
	comp=Z,0.3nm,0.5s,baz=283,slow=6.4,SNR=9.3						
ASAR	Alice Springs	144.67	234	PKP	PKPab	04 12 59.9	-0.9
	comp=Z,0.3nm,0.5s,baz=120,slow=3.7,SNR=12						
WRA	Warramunga Arr	145.91	240	PKPbc	PKPdf	04 13 03.7	-0.6

comp=Z,0.2nm,0.6s,baz=107,slow=2.7,SNR=1.9

*ISCJB **03** 03:53:53.1±0.7, 4°.8N±0°.1×127°.2E±0°.2, h150km, mb3.6/9, Error ellipse: s-maj=34.4km s-min=9.7km az=154.1*
*IDC **03** 03:53:55.9±6.2, 4°.87N×127°.89E, h157km±59km, mb3.4/9, mb1 3.6/9, mb1mx3.4/52, mbtmp3.8/9, MS2.9/1, Ms1 2.9/1, ms1mx2.3/36, Error ellipse: s-maj=44.5km s-min=14.1km az=72.0*
ISC 03 03:53:54.4±0.7, **4°.8N**±0°.1×**127°.3E**±0°.3, **h150**km, **n13**, σ**2s.16**/15, **mb3.7**/8, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.82	323	S	Sn	03 55 12.2	-2.3
	121nm,0.3s,baz=74,slow=20,SNR=3.6						
WRA	Warramunga Arr	25.55	164	P	P	03 59 10.2	+0.7
	1.5nm,0.9s,baz=344,slow=10,SNR=13						
ASAR	Alice Springs	29.02	167	P	P	03 59 41.0	+0.5
	0.7nm,0.9s,baz=354,slow=7.3,SNR=6.0						
ASAR				PcP	PcP	04 02 46.0	+0.6
	0.3nm,0.6s,baz=349,slow=3.0,SNR=4.2						
KSRS	Korea Array	32.50	1	P	P	04 00 11.8	+0.9
	1.3nm,0.7s,baz=179,slow=10.0,SNR=4.1						
MJAR	Matsushiro Arr	33.14	16	LR	LR	04 14 46.4	
	comp=Z,19nm,18.2s,baz=315,slow=38						
STKA	Stephens Creek	38.94	160	P	P	04 01 04.0	-1.8
	2.5nm,0.9s,baz=337,slow=14,SNR=3.9						
SONM	Songino Array	46.47	341	P	P	04 02 07.6	+1.1
	0.8nm,0.8s,baz=160,slow=7.2,SNR=5.3						
SONM				PcP	PcP	04 03 40.3	+1.7
	0.2nm,0.6s,baz=174,slow=5.8,SNR=2.3						
MKAR	Makanchi Array	57.00	325	P	P	04 03 27.2	+2.7
	1.1nm,0.4s,baz=114,slow=8.0,SNR=19						
MKAR				pP	pP	04 03 56.0	-3.5
	1.2nm,0.7s,baz=119,slow=8.1,SNR=4.4						
BVAR	Borovoye Array	66.73	327	P	P	04 04 31.4	+2.0
	0.7nm,0.5s,baz=117,slow=6.6,SNR=4.6						
BVAR				pP	pP	04 05 02.6	-2.8
	0.7nm,0.5s,baz=126,slow=7.3,SNR=2.9						
ILAR	Eielson Array	83.90	25	P	P	04 06 05.7	-1.5
	0.5nm,0.6s,baz=245,slow=5.2,SNR=10						
YKA	Yellowknife Ar	98.29	24	P	Pdif	04 07 15.4	+0.7
	0.1nm,0.5s,baz=299,slow=7.0,SNR=3.5						
TXAR	Lajitas Array	120.50	52	PKP	PKPdf	04 12 27.0	-2.1
	0.3nm,0.9s,baz=300,slow=4.1,SNR=2.6						
TORD	Torodi Ar. Bea	123.11	289	PKP	PKPdf	04 12 35.9	+1.6
	0.2nm,0.7s,baz=96,slow=1.4,SNR=2.8						

KRSC 03 03:55:48.1±1.4, **50°.03N**×**157°.09E**, **h21**km±19km, **ML3.7**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.90	317	eP	Pb	03 56 04.1	-1.0
SKR				eS	Sb	03 56 15.9	-0.7
PAU	Pauzhetka	1.45	353	eP	Pb	03 56 14.3	-0.1
PAU				eS	Sb	03 56 33.4	+1.0
KDTR	Khodutka, Kamc	1.89	19	eP	Pb	03 56 20.7	-1.2
KDTR				eS	Sb	03 56 45.3	+0.2
ASAK	Asacha	2.42	12	eP	Pb	03 56 29.3	-1.6
MTVR	Mutnovka	2.56	15	eP	Pn	03 56 30.4	+2.0
MTVR				eS	Sb	03 57 01.7	-2.6
RUS	Russkaya	2.57	20	eP	Pn	03 56 30.1	+1.6
RUS				eS	Sn	03 57 01.2	+2.1
DALK	Dalny	3.18	18	eP	Pn	03 56 40.0	+3.1
DALK				eS	Sb	03 57 18.6	-3.6
UGLR	Uglovaya	3.37	18	eP	Pn	03 56 42.7	+3.2
AVH	Avacha	3.40	17	eP	Pb	03 56 44.6	-3.1
SMAR	Somma	3.41	18	eP	Pn	03 56 44.1	+3.8
SDLR	Sedlovina	3.44	18	eP	Pn	03 56 43.5	+2.9
GNL	Ganaly	3.71	8	eP	Pb	03 56 49.3	-3.7

DJA 03 04:19:25.5±0.9, **9°S**±6°×**10°8E**±°, **h31**km±12km, **M4.0**/7, **MLv4.0**/7, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.77	23	P	Pn	04 19 40.1	-0.2
CISI	Cisompet, Garu	0.99	341	P	Pn	04 19 43.0	-0.4
CNJI	Cibinong	1.55	320	P	Pn	04 19 51.3	+0.3
LEM	Lembang	1.74	343	P	Pn	04 19 53.9	+0.1
LEM				S	Sn	04 20 16.5	+1.5
SKJI	Sukabumi	2.16	313	P	Pn	04 19 57.6	-1.8
UGM	Wanagama	2.43	76	P	Pn	04 20 03.8	+0.7
UGM				S	Sn	04 20 31.5	-0.4
PCJI	Pacitan	3.02	84	P	Pn	04 20 12.0	+0.8
PCJI				S	Sn	04 20 46.8	+0.4
PWJI	Pagerwojo	3.66	83	P	Pn	04 20 20.5	+0.5
PWJI				S	Sn	04 21 01.9	-0.2

*ISN **03** 04:39:37.3±1.1, 38°.61N×43°.15E, h0km, ML3.8*
*IDC **03** 04:39:54.9±1.1, 38°.42N×43°.38E, h0km, mb3.7/8, mb1 3.6/13, mb1mx3.4/57, mbtmp3.6/13, ML2.2/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/59, Error ellipse: s-maj=20.7km s-min=12.3km az=154.0*
*ISK **03** 04:39:55.8, 38°.60N×43°.20E, h2km, ML4.1/11*
*CSEM **03** 04:39:56.7±0.1, 38°.57N×43°.17E, h2km, ML4.1, Error ellipse: s-maj=3.4km s-min=3.0km az=139.0*
*DDA **03** 04:39:56.5, 38°.60N×43°.18E, h16km, Ml3.8*
ISC 03 04:39:57.3±0.8, **38°.60N**±0°.02×**43°.20E**±0°.02, **h11**km±5km, **n113**, σ**1s.59**/159, **mb3.6**/8, **11C-14D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	91	PG	Pg	04 40 00.3	-0.5
VANB				SG	Sg	04 40 04.3	+1.0
VANB	Van	0.15	91	ePg	Pg	04 40 00.3	-0.5
VANB				eSg	Sg	04 40 04.3	+1.0
TVAN	Van	0.18	113	⇓iP	Pg	04 40 00.7	-0.6
TVAN				i S	Sg	04 40 04.5	+0.3
TVAN	Van	0.18	113	P	Pg	04 40 00.7	-0.6
TVAN				S	Sg	04 40 04.4	+0.3
GEVA	Gevas	0.31	201	⇓iP	Pg	04 40 02.5	-1.1
GEVA				i S	Sb	04 40 09.7	-0.3
GEVA	Gevas	0.31	201	P	Pg	04 40 02.5	-1.1
GEVA				S	Sb	04 40 09.7	-0.3
ADCV	BITLIS_Adilcev	0.43	299	⇓iP	Pg	04 40 04.5	-1.3
ADCV				i S	Sg	04 40 11.5	+0.1
ADCV	BITLIS_Adilcev	0.43	299	P	Pg	04 40 04.4	-1.3
ADCV				S	Sg	04 40 11.5	+0.1
ERCV	ERCIS-VAN	0.43	14	PG	Pg	04 40 04.8	-1.1
ERCV				SG	Sb	04 40 12.3	-1.4
ERCV	ERCIS-VAN	0.43	14	ePg	Pg	04 40 04.8	-1.1
ERCV				eSg	Sb	04 40 12.3	-1.4
VMUR	Van-Muradiye	0.49	37	⇑iP	Pb	04 40 06.6	-1.4
VMUR				i S	Sb	04 40 15.3	+0.1
VMUR	Van-Muradiye	0.49	37	P	Pb	04 40 06.6	-1.4
VMUR				S	Sb	04 40 15.3	+0.1
CLDR	Caldiran	0.78	46	PG	Pg	04 40 10.7	-1.7
CLDR				SG	Sb	04 40 22.9	-0.8
CLDR	Caldiran	0.78	46	⇑iP	Pg	04 40 10.5	-1.9
CLDR				i S	Sb	04 40 23.5	-0.2
CLDR	Caldiran	0.78	46	P	Pg	04 40 10.5	-1.9
CLDR				eSg	Sb	04 40 22.9	-0.8
CLDR				S	Sb	04 40 23.5	-0.2
BASK	Baskale_VAN	0.83	131	i P	Pg	04 40 10.7	-2.7
BASK				i S	Sb	04 40 24.0	-1.2
BASK	Baskale_VAN	0.83	131	P	Pg	04 40 10.7	-2.7
BASK				S	Sb	04 40 24.0	-1.2
TUTA	Tutak	0.86	340	⇓iP	Pg	04 40 12.2	-1.6
TUTA				i S	Sg	04 40 23.4	-1.7
TUTA	Tutak	0.86	340	P	Pg	04 40 12.2	-1.6
TUTA				S	Sg	04 40 23.4	-1.7
AGRB	Hanur-Agry	0.99	351	PG	Pg	04 40 14.7	-1.6
AGRB	Hanur-Agry	0.99	351	ePg	Pg	04 40 14.7	-1.6
DYDN	Diyadin	1.02	22	i P	Pg	04 40 15.7	-1.2
DYDN				i S	Sn	04 40 32.3	+0.2
DYDN	Diyadin	1.02	22	P	Pg	04 40 15.7	-1.2
DYDN				S	Sn	04 40 32.3	+0.2
EKAR	Karacoban	1.10	307	i P	Pg	04 40 16.0	-2.5
EKAR				i S	Sn	04 40 35.4	+1.1
EKAR	Karacoban	1.10	307	P	Pg	04 40 16.0	-2.5
EKAR				S	Sn	04 40 35.3	+1.1
HAKT	HAKKARI	1.11	159	⇓iP	Pg	04 40 16.7	-2.0
HAKT				i S	Sn	04 40 35.7	+1.2
HAKT	HAKKARI	1.11	159	P	Pg	04 40 16.7	-2.0
HAKT				S	Sn	04 40 35.7	+1.2
SRTM	Siirt_Merkez	1.17	239	i P	Pb	04 40 18.7	-0.9
SRTM				i S	Sn	04 40 36.6	+0.8
SRTM	Siirt_Merkez	1.17	239	P	Pb	04 40 18.7	-0.9
SRTM				S	Sn	04 40 36.6	+0.8
SIRT	Sirnak	1.25	209	PN	Pn	04 40 20.6	-0.1
SIRT	Sirnak	1.25	209	ePn	Pn	04 40 20.6	-0.1
SIRN	S˜–rnak	1.26	210	i P	Pn	04 40 20.5	-0.4
SIRN				i S	Sn	04 40 43.0	+5.0
SIRN	S˜–rnak	1.26	210	P	Pn	04 40 20.5	-0.4
YOVA	Hakkari_Yˆ…kse	1.33	139	i P	Pn	04 40 21.4	-0.5
YOVA				i S	Sn	04 40 43.2	+3.6
YOVA	Hakkari_Yˆ…kse	1.33	139	P	Pn	04 40 21.4	-0.5
YOVA				S	Sn	04 40 43.2	+3.6
EATA	Eleskirt	1.38	337	i P	Pn	04 40 21.8	-0.9
EATA				i S	Sn	04 40 42.4	+1.3
EATA	Eleskirt	1.38	337	P	Pn	04 40 21.8	-0.9
EATA				S	Sn	04 40 42.4	+1.3
CUKT	Cukurca	1.39	166	PN	Pn	04 40 21.7	-1.0
CUKT	Cukurca	1.39	166	i P	Pn	04 40 21.5	-1.2
CUKT				i S	Sn	04 40 48.1	+7.1
CUKT	Cukurca	1.39	166	P	Pn	04 40 21.5	-1.2
CUKT	Cukurca	1.39	166	ePn	Pn	04 40 21.7	-1.0
IGDI	IGDIR	1.44	28	i P	Pb	04 40 23.7	-0.4
IGDI				i S	Sn	04 40 47.9	+5.6
TASB	TASBURUN-IGDIR	1.60	30	PN	Pb	04 40 26.2	-0.7
TASB	TASBURUN-IGDIR	1.60	30	ePn	Pb	04 40 26.2	-0.7
BNGL	BINGOL	1.64	283	i P	Pn	04 40 26.4	+0.2
BNGL				i S	Sg	04 40 52.0	+1.9
BTMN	Batman	1.68	246	i P	Pb	04 40 27.6	-0.6
BTMN				i S	Sg	04 40 52.4	+1.2
BTMN	Batman	1.68	246	P	Pb	04 40 27.5	-0.6
BTMN				S	Sg	04 40 52.4	+1.2
HYR	Heyderabad	1.70	48	⇑P	Pb	04 40 28.4	-0.2
	SNR=58						
HYR				⇓S	Sg	04 40 52.4	+0.4
DIGO	Kars	1.82	4	i P	Pb	04 40 30.3	-0.4
DIGO	Kars	1.82	4	P	Pb	04 40 30.3	-0.4
NAX	Nakhchivan	1.88	72	⇑P	Pb	04 40 30.8	-0.9
	SNR=50						
NAX				⇓S	Sg	04 40 55.8	-1.9
ERZM	Erzurum	1.93	313	i P	Pn	04 40 31.0	+0.7
ERZM				i S	Sn	04 40 55.8	+1.1
ERZM	Erzurum	1.93	313	P	Pn	04 40 31.0	+0.7
ERZM				S	Sn	04 40 55.8	+1.1
GNI	Garni	1.96	37	Pn	Pb	04 40 32.1	-0.9
	6.5nm,0.3s,baz=276,slow=3.7,SNR=53						
GNI				Lg	Lg	04 41 03.2	
	20nm,0.3s,baz=0.0,slow=20,SNR=4.4						
GNI				LR	LR	04 41 40.4	
	comp=Z,148nm,21.4s,baz=220,slow=52						
SBZ	Shahbuz	2.00	66	⇑P	Pb	04 40 32.4	-1.3
	SNR=124						
SBZ				⇑S	Sg	04 41 00.6	-0.9
ECAT	Cat-ERZURUM	2.00	301	i P	Pn	04 40 32.1	+0.9
ECAT				i S	Sg	04 41 02.0	+0.3
ECAT	Cat-ERZURUM	2.00	301	P	Pn	04 40 32.1	+0.9
ECAT				S	Sg	04 41 02.0	+0.3
KARS	Kars	2.03	357	PN	Pn	04 40 32.2	+0.7
KARS	Kars	2.03	357	ePn	Pn	04 40 32.2	+0.7
SENK	Senkaya-Erzuru	2.07	342	PN	Pn	04 40 32.9	+0.8
SENK	Senkaya-Erzuru	2.07	342	ePn	Pn	04 40 32.9	+0.8
EAK	Akyaka	2.11	8	i P	Pb	04 40 35.2	-0.4
EAK				i S	Sg	04 41 07.3	+2.3
EAK	Akyaka	2.11	8	P	Pb	04 40 35.2	-0.4
ORD	Ordubad	2.21	81	P	Pb	04 40 35.4	-1.8
	SNR=57						
ORD				⇓S	Sb	04 41 05.0	+0.4
DIY	Diyarbakir	2.44	254	ePn	Pb	04 40 38.8	-2.5
MAZI	Mazidag	2.45	243	PN	Pn	04 40 37.4	+0.1
MAZI	Mazidag	2.45	243	ePn	Pn	04 40 37.4	+0.1
DYBB	Diyarbakir	2.49	256	PN	Pn	04 40 38.8	+1.0
DIYA	Diyarbakir	2.52	255	i P	Pn	04 40 39.4	+1.3
DIYA	Diyarbakir	2.52	255	P	Pn	04 40 39.4	+1.3
KOPT	Kop Dagi	2.53	305	i P	Pb	04 40 43.2	+0.3
KOPT	Kop Dagi	2.53	305	P	Pb	04 40 43.2	+0.3
DDEM	Demirkent	2.55	334	i P	Pb	04 40 43.2	+0.1
DDEM	Demirkent	2.55	334	P	Pb	04 40 43.2	+0.1
DAGI	Agillar	2.67	339	i P	Pn	04 40 41.4	+1.2
AKH	Akhalkalaki	2.82	4	PN	Pn	04 40 43.5	+1.1
AKH	Akhalkalaki	2.82	4	ePn	Pn	04 40 43.5	+1.1
GDB	GEDABAY	2.89	42	⇓P	Pn	04 40 44.5	+1.1
	SNR=3.8						
GDB				⇓S	Sn	04 41 20.4	+2.1
TNCL	Tunceli-Merkez	2.90	281	i P	Pb	04 40 48.4	-0.7
TNCL	Tunceli-Merkez	2.90	281	P	Pb	04 40 48.4	-0.7
BAYT	Ayd˜–ntepe-Bay	2.97	308	PN	Pn	04 40 45.6	+1.1
BAYT	Ayd˜–ntepe-Bay	2.97	308	i Pn	Pn	04 40 45.6	+1.1
QZX	Qazax, Azerbai	2.97	34	⇓P	Pn	04 40 44.8	+0.4
	SNR=11						
QZX				⇓S	Sn	04 41 23.3	+3.3
PTK	Pertek	2.99	277	PN	Pn	04 40 46.0	+1.2
PTK	Pertek	2.99	277	ePn	Pn	04 40 46.0	+1.2
GANJ	Ganja	3.16	49	⇑P	Pn	04 40 48.4	+1.4
	SNR=9.9						
GANJ				⇑S	Sn	04 41 28.0	+3.3
BRDA	Brd	3.50	60	⇑P	Pn	04 40 53.3	+1.7
URFA	Urfa	3.65	253	PN	Pn	04 40 55.3	+1.6
URFA	Urfa	3.65	253	ePn	Pn	04 40 55.3	+1.6
MNGR	Mingechevir, A	3.70	53	⇓P	Pn	04 40 56.2	+1.9
MALT	Malatya	3.76	267	PN	Pn	04 40 56.6	+1.4
MALT	Malatya	3.76	267	ePn	Pn	04 40 56.6	+1.4
LRK	Lerik	4.03	88	⇓P	Pn	04 41 00.9	+1.9
SEKA	Sheki	4.03	48	⇑P	Pn	04 41 01.8	+2.8
GLBA	Clilabad	4.10	79	⇑P	Pn	04 41 01.5	+1.7
KBZ	Khabaz	5.13	358	Pn	Pn	04 41 17.7	+3.8
	0.1nm,0.3s,baz=232,slow=17,SNR=2.4						
KVAR	Kislovodsk Arr	5.37	356	LR	LR	04 43 44.0	
	comp=Z,172nm,18.9s,baz=182,slow=41						
BHD	Baghdad	5.40	169	ePn	Pn	04 41 18.0	+0.3
	SNR=2.0						
BRTR	Keskin Array B	7.51	282	Pn	Pn	04 41 52.0	+5.1
	0.1nm,0.3s,baz=107,slow=13,SNR=3.3						
ASF	Jabal al Asfar	8.22	221	Pn	Pn	04 41 54.6	-1.9
	0.1nm,0.3s,baz=49,slow=20,SNR=1.7						
ASF				Lg	Lg	04 44 24.1	
	0.2nm,0.3s,baz=30,slow=20,SNR=3.8						
MMAI	Mount Meron Ar	8.43	231	Pn	Pn	04 42 02.0	+2.6
	0.2nm,0.3s,baz=58,slow=14,SNR=2.8						
MMAI				LR	LR	04 45 32.1	
	comp=Z,83nm,18.1s,baz=65,slow=40						
AKASG	Malin Array Be	15.63	325	Pn	P	04 43 40.1	-1.4
	0.2nm,0.3s,baz=137,slow=11,SNR=5.6						
VYHS	Vyhne	20.16	307	eP	Pn	04 44 33.1	-0.3
ARU	Arti	20.55	25	P	P	04 44 36.7	+1.1
	3.1nm,0.7s,baz=226,slow=6.5,SNR=6.4						
BVAR	Borovoye Array	23.63	44	P	P	04 45 09.7	+1.5
	1.1nm,0.8s,baz=234,slow=6.4,SNR=6.2						
AAK	Ala-Archa	24.02	70	P	P	04 45 14.0	+1.8
	1.3nm,0.7s,baz=250,slow=12,SNR=3.8						
FINES	FINESS Array B	25.22	341	P	P	04 45 22.9	+0.2
	1.2nm,0.8s,baz=159,slow=13,SNR=4.7						
HFS	Hagfors	28.45	329	P	P	04 45 52.4	+0.5
	1.9nm,0.9s,baz=110,slow=17,SNR=2.0						
MKAR	Makanchi Array	29.62	61	P	P	04 46 03.0	+0.5
	0.8nm,0.7s,baz=267,slow=7.3,SNR=9.7						
NOA	NORSAR Array B	29.98	329	LR	LR	04 58 17.2	
	comp=Z,42nm,18.5s,baz=220,slow=36						
EKA	Eskdalemuir Ar	35.03	314	P	P	04 46 49.4	-0.3
	0.6nm,0.5s,baz=103,slow=8.1,SNR=3.7						
TORD	Torodi Ar. Bea	44.60	247	P	P	04 48 08.5	-1.2
	0.3nm,0.7s,baz=42,slow=11,SNR=3.4						
KSRS	Korea Array	64.31	62	P	P	04 50 31.3	-1.4
	1.0nm,0.6s,baz=291,slow=5.9,SNR=3.1						

*IDC **03** 04:45:03.7±2.4, 15°.62S×174°.09W, h114km±21km, mb3.8/8, mb1 4.1/9, mb1mx3.7/46, mbtmp4.2/9, MS2.7/1, Ms1 2.7/1, ms1mx2.5/36, Error ellipse: s-maj=28.4km s-min=13.4km az=132.0*
*NEIC **03** 04:45:04.8±1.6, 15°.65S×173°.96W, h125km±16km, mb4.2/2, Error ellipse: s-maj=40.0km s-min=13.5km az=144.0*
ISC 03 04:45:02.0±0.7, **15°.7S**±0°.2×**174°.1W**±0°.2, **h94**km, **n15**, σ**1s.21**/14, **mb4.2**/9, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.83	52	P	Pn	04 45 47.5	+2.1
	60nm,0.3s,baz=31,slow=2.1,SNR=47						
AFI				S	Sn	04 46 18.3	-0.4
	44nm,0.3s,baz=24,slow=22,SNR=7.8						
AFI				LR	LR	04 46 39.1	
	comp=Z,125nm,19.2s,baz=166,slow=34						
DZM	Mont Dzumac	19.50	248	P	Pn	04 49 25.1	+1.1
	0.3nm,0.3s,baz=38,slow=18,SNR=6.2						
DZM	Mont Dzumac	19.50	248	eP	Pn	04 49 26.3	+2.3
	11nm,0.9s						
URZ	Urewera	23.81	197	P	P	04 50 06.8	+0.6
	6.5nm,0.4s,baz=279,slow=0.9,SNR=8.7						
URZ				S	S	04 54 14.9	-0.2
	2.7nm,0.3s,baz=17,slow=20,SNR=4.0						
H11S2	WAKE ISLAND Hy	38.86	330	T	T	05 33 02.7	
	baz=145,slow=74						
H11S3	WAKE ISLAND Hy	38.87	330	T	T	05 33 06.0	
	baz=145,slow=74						
H11S1	WAKE ISLAND Hy	38.88	330	T	T	05 33 05.4	
	baz=145						
STKA	Stephens Creek	43.34	240	P	P	04 52 54.5	-0.6
	5.6nm,0.9s,baz=86,slow=13,SNR=7.9						
WRAB	Tennant Creek	49.14	257	eP	P	04 53 40.3	-0.4
	1.6nm,0.4s						
WRA	Warramunga Arr	49.15	257	P	P	04 53 40.0	-0.8
	1.9nm,0.7s,baz=91,slow=7.2,SNR=33						
ASAR	Alice Springs	49.41	252	P	P	04 53 42.1	-0.6
	8.7nm,0.6s,baz=86,slow=7.7,SNR=129						
NVAR	Mina Array Bea	74.96	42	P	P	04 56 32.7	-0.7
	0.3nm,0.5s,baz=231,slow=8.8,SNR=3.9						
TXAR	Lajitas Array	81.30	56	P	P	04 57 07.0	-1.4
	0.4nm,0.6s,baz=224,slow=8.3,SNR=5.6						
ILAR	Eielson Array	82.83	11	P	P	04 57 15.4	-0.1
	0.5nm,0.7s,baz=232,slow=6.4,SNR=16						
PDAR	Pinedale Array	82.90	42	P	P	04 57 15.9	-0.7
	1.3nm,0.7s,baz=206,slow=3.3,SNR=14						

*ARO **03** 04:47:12.0, 13°N±8°×4°2E±°, h1km±8km, Ml3.1*
*ISCJB **03** 04:47:13.1±0.7, 13°.32N±0°.06×41°.7E±0°.1, h10km, Error ellipse: s-maj=18.9km s-min=6.6km az=159.0*
ISC 03 04:47:13.1±1.3, **13°.35N**±0°.07×**41°.71E**±0°.08, **h10**km, **n14**, σ**0s.46**/15, **3C-3D**, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAB5	NAB5	0.03	182	⇓iP	Pg	04 47 15.4	+0.2
NAB3	NAB3	0.05	58	⇓iP	Pg	04 47 15.6	+0.2
NAB1	NAB1	0.07	306	⇑iP	Pg	04 47 15.7	+0.2
NAB2	NAB2	0.08	4	⇑iP	Pg	04 47 15.9	+0.2
NAB8	NAB8	0.09	99	⇓iP	Pg	04 47 15.8	+0.2
NAB4	NAB4	0.13	347	⇑iP	Pg	04 47 16.4	+0.1
MAOD	Malaho	1.34	158	eP	Pn	04 47 36.8	-1.2
LDLD	Lac de Lave	1.92	156	eP	Pn	04 47 45.9	0.0
TDD	Tadjoura Ara	1.93	143	eP	Pn	04 47 45.8	-0.2
OBO	Obock	2.05	131	eP	Pn	04 47 47.0	-0.7
SGH	Sud-Ghoubbet	2.10	155	eP	Pn	04 47 48.8	+0.3
ATD	Arta Tunnel	2.12	148	eP	Pn	04 47 48.5	-0.2
ATD				eS	Sb	04 48 18.5	+0.3
ATD	Arta Tunnel	2.12	148	eP	Pn	04 47 48.5	-0.2
ATA	Atar	2.38	142	eP	Pn	04 47 52.6	+0.3

*MAN **03** 04:48:34, 9°.57N×126°.67E, h17km, mb5.4, ML4.4, MS4.7*
*DJA **03** 04:48:35.1±1.2, 10°N±9°×12°7E±°, h46km±7km, M5.1/24, mb4.9/24, mB5.2/10, MLv6.0/1, Mw(mB)4.6/10*
*ISCJB **03** 04:48:37.2±0.5, 9°.56N±0°.02×126°.57E±0°.03, h65km±4km, mb4.6/90, Error ellipse: s-maj=5.9km s-min=3.0km az=160.1*
*BJI **03** 04:48:38.6, 9°.47N×126°.46E, h75km, mb4.7/29, mB4.9/18, Ms4.4/15, Ms7 4.2/17*
*MOS **03** 04:48:39.1±1.2, 9°.50N×126°.37E, h82km, mb4.7/21, Error ellipse: s-maj=12.6km s-min=6.5km az=115.5*
*GCMT **03** 04:48:40.3±0.3, 9°.57N×126°.61E, h29km±1km, MW4.9/67, Moment Tensor Solution. s32,c37; s67,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.98±.15; $M_{\theta\theta}$-0.73±.09; $M_{\phi\phi}$-1.24±.12; $M_{r\theta}$-0.11±.12; $M_{\theta\phi}$-1.52±.06; $M_{\phi r}$2.02±.19; Best double couple: $M_0$3.06500×10^{16} NP1:ϕ_s14.00000°, δ67.00000°, λ64.00000°. NP2: ϕ_s246.00000°, δ34.00000°, λ137.00000°. Principal axes: T 3.1180, Plg59.0000°, Azm246.0000°; N -0.0980, Plg24.0000°, Azm24.0000°; P -3.0110, Plg18.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 04:48:40.3±0.9, 9°.49N×126°.48E, h81km±8km, mb4.8/37 Error ellipse: s-maj=7.9km s-min=4.8km az=64.0*
NEIC Felt [III PIVS] at Tandag and [II PIVS] at Butuan, Carrascal and Dapa. Also felt at Madrid and Surigao.
*IDC **03** 04:48:42.8±1.3, 9°.42N×126°.32E, h100km±12km, mb4.1/31, mb1 4.2/34, mb1mx4.1/61, mbtmp4.5/34, MS4.0/37, Ms1 4.0/37, ms1mx3.9/53, Error ellipse: s-maj=16.7km s-min=6.8km az=77.0*
ISC 03 04:48:38.3±0.7, **9°.53N**±0°.03×**126°.54E**±0°.05, **h58**km±5km, **n256**, σ**1s.52**/246, **mb4.6**/90, **MS4.1**/41, **14C-12D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.06	283	⇑eP	Pn	04 48 54.8	-2.3
SCPH				i S	Sn	04 49 09.0	-2.0
BUTP	Butuan	1.06	238	eP	Pn	04 48 54.3	-2.8
BUTP				eS	Sn	04 49 09.5	-1.6
BIPH	Bislig	1.35	187	⇓eP	Pn	04 49 02.0	+1.0
BIPH				eS	Sn	04 49 18.2	+0.2
MSLP	Maasin	1.76	290	eP	Pn	04 49 05.5	-1.0
BUKP	Musuan	2.20	222	eP	Pn	04 49 12.0	-0.5
PLP	Palo	2.23	317	⇓eP	Pn	04 49 12.3	-0.7
PLP				eS	Sn	04 49 39.8	+0.4
BESP	Borongan	2.32	332	eP	Pn	04 49 13.8	-0.3
OCLP	Ormoc	2.42	309	eP	Pn	04 49 16.1	+0.6
MATI	Mati	2.59	186	eP	Pn	04 49 15.8	-2.0
MATI				eS	Sn	04 49 49.2	+1.1
DAV	Davao City (W)	2.63	201	P	Pn	04 49 19.5	+1.2
	154nm,0.3s,baz=8.9,slow=5.6,SNR=4.7						
DAV				S	Sn	04 49 51.7	+2.7
	360nm,0.3s,baz=290,slow=20,SNR=5.9						
DAV				LR	LR	04 50 37.8	
	comp=Z,3µm,20.4s,baz=0.5,slow=47						
TBP	Tagbilaran	2.64	274	eP	Pn	04 49 20.6	+2.0
TBP				i S	Sn	04 49 52.0	+2.5
LLP	Lapu-Lapu	2.65	287	⇓iP	Pn	04 49 19.3	+0.7
LLP				i S	Sn	04 49 52.4	+2.8
CTBH	Cotabato--PC H	3.23	225	⇑eP	Pn	04 49 26.6	+0.1
CTBH				i S	Sn	04 49 52.7	-11
SNPH	Sibulan	3.26	267	⇓iP	Pn	04 49 27.6	+0.5
SNPH				i S	Sn	04 50 05.5	+0.7
DCPH	Dipolog City	3.29	254	⇓eP	Pn	04 49 27.1	-0.2
CNP	Catarman	3.48	328	eP	Pn	04 49 29.1	-0.9
CNP				eS	Sn	04 50 09.8	-0.3
PAGZ	Pagadian	3.54	242	eP	Pn	04 49 31.2	+0.3
GSPH	General Santos	3.77	205	⇑iP	Pn	04 49 34.7	+0.7
GSPH				i S	Sn	04 50 18.6	+1.3
RCP	Roxas	4.24	299	⇓eP	Pn	04 49 41.5	+1.1
RCP				eS	Sn	04 50 31.6	+2.9
PVCP	Virac	4.66	330	eP	Pn	04 49 45.0	-1.2
JAP	San Jose, Anti	4.68	285	⇑eP	Pn	04 49 49.6	+3.1
OTRP	Odiongan	5.25	303	eP	Pn	04 49 57.2	+3.0
SJMP	San Jose	6.06	299	eP	Pn	04 50 05.7	+0.3
LQP	Lukban	6.68	313	⇑eP	Pn	04 50 22.0	+8.0
TGY	Tagaytay City	7.12	310	P	Pn	04 50 22.4	+2.5
	31nm,0.3s,baz=142,slow=19,SNR=4.1						
TGY				LR	LR	04 53 29.1	
	comp=Z,3µm,18.3s,baz=106,slow=41						
ENPP	El Nido	7.19	284	eP	Pn	04 50 15.1	-5.8
CAUP	Cauayan	8.68	329	eP	Pn	04 50 40.1	-1.1
MYLDM	Lahad Datu	9.07	242	ePn	Pn	04 50 50.1	+3.5
MRSI	Marisa	10.09	207	P	Pn	04 51 04.8	+4.2
KKM	Kota Kinabalu	10.80	252	ePn	Pn	04 51 12.3	+2.0
LUWI	Luwuk	11.16	200	P	Pn	04 51 19.4	+4.3
LUWI	Luwuk	11.16	200	ePn	Pn	04 51 13.3	-1.8
SWI	Sorong	11.35	155	P	Pn	04 51 20.1	+2.3
SANI	Sanana	11.52	183	P	Pn	04 51 25.8	+5.7
NLAI	Namlea	12.70	177	P	Pn	04 51 39.8	+3.6
FAKI	Fak Fak	13.62	155	P	Pn	04 51 48.5	-0.2
FAKI	Fak Fak	13.62	155	ePn	Pn	04 51 47.8	-1.0
FAKI				eSn	Sn	04 53 58.7	-20
TTSI	Tana Toraja	14.18	208	P	Pn	04 51 59.2	+3.0
	26nm,1.1s,674nm						
BNSI	Bone	15.25	205	P	P	04 52 14.2	+0.2
SBUM	Sibu	15.88	245	ePn	Pn	04 52 18.8	+0.6
	66nm,1.1s						
KBKI	Kotabaru	16.41	220	P	P	04 52 38.4	+12
STKI	Sintang	17.70	239	P	P	04 52 43.8	+2.7
KSM	Kuching	18.02	245	eP	P	04 52 45.0	+0.4
	26nm,0.9s						
GUMO	Guam	18.40	76	LR	LR	04 58 28.2	
	comp=Z,406nm,20.6s,baz=291,slow=31						
QIZ	Qiongzhong	18.71	302	P	P	04 52 51.3	-0.9

QIZ S **Sn** **04 56 22.0 0.0**
QIZ pmax pmax
comp=Z,220nm,8.0s
QIZ LR LR
comp=N,350nm,17.7s
QIZ LR LR
comp=E,380nm,22.6s
QIZ LR LR
comp=Z,680nm,21.6s
SOEI Soe 19.30 187 P **Pn** **04 53 02.6 +2.4**
SOEI Soe 19.30 187 *eP* **P** **04 52 57.4 -1.3**
140nm,1.1s
BATI Baumata 19.82 188 P **P** **04 53 03.5 -0.8**
16nm,0.3s,baz=70,slow=0.4,SNR=13
BATI Baumata 19.82 188 P **Pn** **04 53 07.5 +1.2**
SKNT Sakolnakorn 23.15 291 P **P** **04 53 38.2 -1.7**
6.7nm,1.7s
NJ2 Nanjing 23.51 343 *eP* **P** **04 53 44.6 +1.5**
NJ2 pmax pmax
comp=Z,28nm,0.6s
WHN Wuhan 23.80 333 ⇑P **P** **04 53 46.2 +0.5**
WHN LR LR
comp=Z,980nm,19.1s
JNU Nakatsue 23.81 9 LR LR 05 04 38.3
comp=Z,168nm,18.4s,baz=118,slow=40
MYKOM Kota Tinggi 23.84 253 *eP* **P** **04 53 46.4 +0.1**
58nm,1.0s
CHAI Chaiyaphum 24.76 287 P **P** **04 53 56.7 +2.0**
4.9nm,1.0s
NAYO Nakonayok 25.12 283 P **P** **04 53 59.9 +1.9**
12nm,2.0s
KNRA Kununurra 25.14 175 P **P** **04 53 58.7 +0.6**
baz=25,SNR=11
IPM Ipoh 25.81 261 *eP* **P** **04 54 03.9 -0.4**
15nm,0.8s
KULM Kulim 26.01 263 *eP* **P** **04 54 05.3 -0.8**
12nm,0.9s
MDSI Maura Dua 26.28 239 P **P** **04 54 09.1 +0.6**
JHJ Hachijo jima 2 26.46 26 LR LR 05 02 57.5
comp=Z,248nm,21.5s,baz=258,slow=32
PHIT Phitsanulok 26.50 289 P **P** **04 54 13.4 +2.9**
7.7nm,0.9s
PHET Kaeng Krachan 26.60 280 P **P** **04 54 13.8 +2.4**
5.9nm,1.0s
PHRA Phrae 27.00 292 P **P** **04 54 15.7 +0.7**
138nm,1.2s
UTHA Uthaitani 27.10 285 P **P** **04 54 18.6 +2.7**
4.3nm,1.2s
KMI Kunming 27.43 307 P **P** **04 54 21.0 +2.0**
KMI pmax pmax
comp=Z,5.0nm,0.6s
FITZ Fitzroy Crossi 27.47 182 P **P** **04 54 18.9 -0.2**
15nm,0.5s,baz=123,slow=0.7,SNR=24
FITZ Fitzroy Crossi 27.47 182 P **P** **04 54 18.9 -0.2**
baz=28
KSAR Wonju Array Be 27.81 2 P **P** **04 54 23.2 +1.2**
KSAR Wonju Array Be 27.81 2 P **P** **04 54 23.2 +1.2**
KSRS Korea Array 27.82 2 P **P** **04 54 23.2 +1.1**
1.1nm,0.5s,baz=176,slow=12,SNR=6.1
KSRS LR LR 05 08 01.1
comp=Z,229nm,18.4s,baz=180,slow=42
PMG Port Moresby 27.85 132 P **P** **04 54 22.2 -0.4**
6.9nm,0.6s,baz=351,slow=12,SNR=4.1
PMG Port Moresby 27.85 132 *eP* **P** **04 54 22.3 -0.2**
6.8nm,0.6s
PMG Port Moresby 27.85 132⇑ *eP* **P** **04 54 22.7 +0.1**
PMG pmax pmax
comp=Z,51nm,1.1s
CMAR Chiang Mai Arr 28.17 291 P **P** **04 54 24.7 -0.8**
comp=Z,1.3nm,0.3s,baz=105,slow=8.3,SNR=9.1
CMAR LR LR 05 06 52.2
comp=Z,272nm,18.1s,baz=110,slow=39
CMAR Chiang Mai Arr 28.17 291 *ceP* **P** **04 54 26.2 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
MNSI Mandailing Nat 28.19 254 P **P** **04 54 26.2 +0.5**
comp=Z,34nm,0.5s
PSI Prapat 28.24 258 LR LR 05 07 54.2
comp=Z,265nm,19.5s,baz=102,slow=41
PSI Prapat 28.24 258 *eP* **P** **04 54 25.7 -0.6**
comp=Z,72nm,1.5s
PSI Prapat 28.24 258 *eP* **P** **04 54 25.7 -0.6**
PSI pmax pmax
comp=Z,72nm,1.5s
COEN Coen 28.59 144 P **P** **04 54 29.1 0.0**
baz=29,SNR=7.9
COEN Coen 28.59 144 *eP* **P** **04 54 29.2 0.0**
comp=Z,31nm,1.6s
MJAR Matsushiro Arr 28.90 20 LR LR 05 05 15.8
XAN Xi'an 29.27 329 P P 04 54 39.8 +4.7
XAN pP pP 04 54 46.8 -2.8
GSI Gunungsitoli 29.94 256 P **P** **04 54 43.1 +1.8**
GSI Gunungsitoli 29.94 256 *eP* **P** **04 54 40.4 -0.9**
comp=Z,53nm,1.0s
CD2 Chengdu 30.03 318 *eP* **P** **04 54 42.3 +0.4**
CD2 pP sP 04 54 59.8 -3.5
CD2 sP pP 04 55 08.8 +12
CD2 S **S** **04 59 36.3 +0.2**
CD2 sS sS 05 00 07.1 +6.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,840nm,20.8s
CD2 LR LR
comp=Z,890nm,17.4s
CD2 LR LR
comp=Z,730nm,19.4s
WRAB Tennant Creek 30.27 165 *eP* **P** **04 54 43.5 -0.5**
comp=Z,8.3nm,0.6s
WRA Warramunga Arr 30.28 165 P **P** **04 54 43.2 -0.9**
comp=Z,1.0nm,0.4s,baz=343,slow=8.2,SNR=20
WRA S **S** **04 59 34.3 -5.8**
comp=Z,0.9nm,0.7s,baz=341,slow=15,SNR=3.3
WRA LR LR 05 09 34.2
comp=Z,119nm,19.0s,baz=345,slow=41
WRA Warramunga Arr 30.28 165 *iP* **P** **04 54 44.9 +0.8**
WRA pmax pmax
comp=Z,1.0nm,0.3s
MBWA Marble Bar 31.23 192 *eP* **P** **04 54 51.1 -1.2**
comp=Z,35nm,0.5s
QIS Mount Isa 32.55 157 P **P** **04 55 04.0 0.0**
baz=33,SNR=8.8
MTSU Mount Surprise 32.62 147 P **P** **04 55 04.7 0.0**
baz=33,SNR=5.2
LZH Lanzhou 33.53 326 *eP* P 04 55 17.0 +4.3
LZH pP sP 04 55 33.6 -0.6
LZH sP pP 04 55 41.4 +14
LZH pmax pmax
comp=Z,12nm,0.7s
AS31 Alice Springs 33.77 168 *eP* **P** **04 55 14.4 -0.3**
comp=Z,1.6nm,0.8s
ASAR Alice Springs 33.77 168 P **P** **04 55 14.1 -0.7**
comp=Z,1.5nm,0.4s,baz=348,slow=7.1,SNR=33
ASAR S **S** **05 00 30.0 -4.5**
comp=Z,0.6nm,0.7s,baz=355,slow=19,SNR=3.4
ASAR LR LR 05 10 01.0
comp=Z,125nm,20.2s,baz=332,slow=38
AS01 Alice Springs 33.78 168 *eP* **P** **04 55 14.4 -0.4**
HHC Hu-ho-hao-te 33.89 339 *eP* **P** **04 55 18.6 +2.9**
HHC pP sP 04 55 36.6 -0.6
HHC sP pP 04 55 45.7 +15
HHC PP **PP** **04 56 34.4 +1.0**
HHC S **S** **05 00 37.4 +1.2**
HHC sS sS 05 01 08.3 +7.2
HHC SS **SnSn** **05 02 49.1 +2.2**
HHC ScS **ScS** **05 05 32.7 -2.4**
HHC pmax pmax
comp=Z,6.0nm,1.1s
HHC pmax pmax
comp=Z,100nm,5.7s
HHC LR LR
comp=Z,260nm,16.7s
HHC LR LR
comp=Z,250nm,16.5s
HHC LR LR
comp=Z,190nm,16.7s
CN2 Changchun 34.15 359 *eP* **P** **04 55 20.9 +3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
GIRL Giralia 34.17 201 P **P** **04 55 19.0 +0.8**
baz=34,SNR=3.4
WRKA Warakurna 34.40 177 P **P** **04 55 20.6 +0.4**
baz=35,SNR=11

USRK Ussuriysk Ar. 34.86 7 P **P** **04 55 25.5 +1.6**
comp=Z,2.4nm,0.7s,baz=204,slow=9.3,SNR=5.4
USRK LR LR 05 08 13.9
comp=Z,186nm,21.9s,baz=169,slow=34
CTAO Charters Tower 35.26 147 *eP* **P** **04 55 26.5 -1.1**
comp=Z,212nm,0.8s
CTAO Charters Tower 35.26 147 *eP* **P** **04 55 26.5 -1.1**
MEEK Meekatharra 36.77 192 P **P** **04 55 40.2 -0.3**
baz=37,SNR=6.2
GTA Gaotai 38.13 326 *eP* **P** **04 55 54.2 +2.2**
GTA S **S** **05 01 43.3 +2.1**
GTA sS ScP 05 02 14.2 +25
GTA SS **SnSn** **05 04 23.6 -5.8**
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,53nm,4.8s
GTA LR LR
comp=Z,250nm,17.1s
GTA LR LR
comp=Z,300nm,18.3s
GTA LR LR
comp=Z,340nm,18.1s
HNR Honiara 38.22 119 LR LR 05 09 58.9
comp=Z,177nm,21.1s,baz=293,slow=33
MORW Morawa 39.69 194 P **P** **04 56 05.0 +0.1**
baz=40,SNR=6.8
YSS Yuzh-Sakhalins 39.76 17⇑ *eP* P 04 56 14.3 +9.0
YSS pmax pmax
comp=Z,10.0nm,1.1s
QLP Quilpie 39.80 155 P **P** **04 56 06.7 +0.7**
baz=40,SNR=6.3
KLR Kul'dur 39.81 5 P **P** **04 56 07.2 +1.5**
comp=Z,0.2nm,0.4s,baz=175,slow=5.9,SNR=16
KLR Kul'dur 39.81 5⇓ *iP* **P** **04 56 06.5 +0.8**
H11S3 WAKE ISLAND Hy 39.88 73 T T 05 39 11.0
baz=262,slow=75,SNR=223
H11S1 WAKE ISLAND Hy 39.90 73 T T 05 39 06.1
baz=262,slow=75,SNR=97
H11S2 WAKE ISLAND Hy 39.90 73 T T 05 39 06.8
baz=262,slow=75,SNR=122
H11N1 WAKE ISLAND Hy 40.24 71 T T 05 39 42.1
baz=265,slow=74,SNR=115
H11N2 WAKE ISLAND Hy 40.25 71 T T 05 39 46.4
baz=265,slow=74,SNR=72
H11N3 WAKE ISLAND Hy 40.26 71 T T 05 39 49.0
baz=265,slow=74,SNR=141
TAPN Taplejung 40.65 301 *eP* **P** **04 56 12.2 -1.2**
comp=Z,20nm,0.4s
ODAN Odare 40.77 300 *eP* **P** **04 56 13.2 -1.1**
comp=Z,21nm,0.6s
KMBL Kambalda 40.91 186 P **P** **04 56 15.0 0.0**
baz=41,SNR=16
BLDU Ballidu 41.02 193 P **P** **04 56 15.7 -0.2**
baz=41,SNR=24
RAMN Ramite 41.47 300 *eP* **P** **04 56 19.0 -1.1**
comp=Z,12nm,0.4s
ULN Ulaanbaatar 41.60 340 *eP* **P** **04 56 21.2 +0.5**
comp=Z,3.8nm,0.7s
ULN Ulaanbaatar 41.60 340⇑ *eP* **P** **04 56 20.9 +0.2**
ULN pmax pmax
comp=Z,8.0nm,1.7s
KLBR Kellerberrin 41.75 191 P **P** **04 56 21.8 -0.1**
baz=42,SNR=11
SONM Songino Array 41.80 340 P **P** **04 56 22.0 -0.2**
comp=Z,0.6nm,0.5s,baz=159,slow=10.0,SNR=11
SONM LR LR 05 15 31.9
comp=Z,247nm,19.8s,baz=160,slow=38
SONA1 Songino Array 41.80 340 *eP* **P** **04 56 21.8 -0.6**
GRNR Gornyy 41.91 9 *eP* P 04 56 17.0 -6.0
JIRN Jiri 42.03 301 *eP* **P** **04 56 23.6 -1.2**
comp=Z,32nm,0.4s
GUN Gumba 42.37 301 *eP* **P** **04 56 26.2 -1.3**
comp=Z,15nm,0.4s
MUN Mundaring 42.44 193 P **P** **04 56 27.8 +0.2**
baz=43,SNR=7.6
PKI Pulchoki 42.67 301 *eP* **P** **04 56 28.4 -1.5**
comp=Z,6.0nm,0.3s
PKIN Phulchoki 42.68 301 *eP* **P** **04 56 29.1 -0.8**
comp=Z,6.9nm,0.4s
DMN Daman 42.94 300 *eP* **P** **04 56 31.1 -0.9**
comp=Z,8.6nm,0.4s
BBOO Buckleboo 43.08 168 P **P** **04 56 33.3 +0.6**
baz=43,SNR=49
BBOO Buckleboo 43.08 168 *eP* **P** **04 56 32.7 +0.1**
comp=Z,15nm,0.6s
NWAO Narrogin (SRO) 43.15 191 P **P** **04 56 33.2 0.0**
comp=Z,22nm,0.7s,baz=259,slow=6.2,SNR=22
NWAO Narrogin (SRO) 43.15 191 P **P** **04 56 33.5 +0.3**
baz=43,SNR=8.2
NWAO P **P** **04 56 33.5 +0.3**
baz=43,SNR=8.2
NWAO Narrogin (SRO) 43.15 191 *eP* **P** **04 56 32.8 -0.4**
comp=Z,70nm,1.4s
NWAO Narrogin (SRO) 43.15 191 *eP* **P** **04 56 32.8 -0.4**
NWAO pmax pmax
comp=Z,70nm,1.4s
GKN Gorkha 43.45 301 *eP* **P** **04 56 35.3 -0.7**
STKA Stephens Creek 43.62 161 P **P** **04 56 37.4 +0.3**
comp=Z,2.4nm,0.4s,baz=340,slow=7.4,SNR=7.9
STKA LR LR 05 21 39.5
comp=Z,85nm,18.2s,baz=15,slow=45
STKA Stephens Creek 43.62 161 P **P** **04 56 37.3 +0.3**
baz=44,SNR=7.1
ZEA Zeya 44.09 1 *eP* **P** **04 56 41.1 +0.6**
ZEA pmax pmax
comp=Z,32nm,1.8s
KOLN Koldanda 44.26 300 *eP* **P** **04 56 41.4 -1.2**
comp=Z,16nm,0.6s
HTT Hallett 44.32 165 P **P** **04 56 44.2 +1.5**
baz=44,SNR=12
RKGY Rocky Gully 44.83 191 P **P** **04 56 47.8 +1.1**
baz=45,SNR=19
PYUN Piuthan 44.87 300 *eP* **P** **04 56 46.3 -1.2**
comp=Z,31nm,0.6s
NKL Nikolayevsk 44.97 12 *eP* **P** **04 56 48.7 +1.2**
ZAK Zakamensk 45.04 339 *eP* P 04 56 57.6 +9.3
ZAK pmax pmax
comp=Z,2.0nm,1.8s
PALK Pallekele 45.38 271 *eP* **P** **04 56 50.9 -0.6**
comp=Z,21nm,1.4s
PALK Pallekele 45.38 271 *eP* **P** **04 56 50.9 -0.6**
PALK pmax pmax
comp=Z,21nm,1.4s
TLY Talaya 46.01 340 *eP* **P** **04 56 54.2 -1.7**
comp=Z,4.5nm,0.8s
TLY Talaya 46.01 340 *eP* P 04 57 00.8 +4.9
TLY pmax pmax
comp=Z,6.0nm,1.2s
TLY MLR MLR
comp=Z,107nm,16.0s
WMQ Urumqi 47.96 322 P **P** **04 57 10.7 -0.6**
WMQ LR LR
comp=Z,530nm,24.3s
WMQ LR LR
comp=Z,490nm,24.3s
WMQ LR LR
comp=Z,410nm,17.3s
ARPS Mount Arapiles 48.25 164 P **P** **04 57 14.3 +0.9**
baz=48,SNR=9.4
BOD Bodaibo 49.13 351 *eP* **P** **04 57 16.7 -3.2**
BOD pmax pmax
comp=Z,12nm,1.8s
DZM Mont Dzumac 50.18 129 P **P** **04 57 29.7 +1.1**
comp=Z,4.6nm,0.6s,baz=268,slow=7.1,SNR=13
DZM LR LR 05 16 48.1
comp=Z,76nm,21.7s,baz=16,slow=34
DZM Mont Dzumac 50.18 129 *eLR* LR 05 11 51.5
comp=Z,216nm,24.2s
PETK Petropavlovsk- 50.20 24 P **P** **04 57 30.9 +2.8**
comp=Z,3.4nm,0.6s,baz=207,slow=2.9,SNR=3.1
PETK LR LR 05 18 19.7
comp=Z,102nm,20.4s,baz=219,slow=35
YAK Yakutsk 52.45 2 *eP* **P** **04 57 44.1 -0.7**
YAK *e*PP sP 04 58 13.1 +6.2
YAK *e* 04 58 48.2
YAK *e* 04 59 44.9
YAK *e*S **S** **05 05 03.0 -3.5**
YAK *e* 05 07 22.6
YAK *e*SS **SS** **05 08 44.5 -0.6**
YAK *e*SSS SSS 05 10 34.3
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=Z,109nm,4.1s
YAK pmax pmax
comp=N,46nm,4.2s
YAK pmax pmax
comp=E,48nm,4.2s
YAK smax smax
comp=N,43nm,3.0s
YAK smax smax
comp=E,22nm,3.0s
MK01 Makanchi Array 52.75 323 *eP* **P** **04 57 46.4 -1.0**
MK31 Makanchi Array 52.77 323 *eP* **P** **04 57 46.7 -0.8**
MK31 Makanchi Array 52.77 323 *eP* **P** **04 57 46.7 -0.8**
MKAR Makanchi Array 52.77 323 P **P** **04 57 47.0 -0.6**
comp=E,3.1nm,0.4s,baz=125,slow=7.6,SNR=73
MKAR PcP **PcP** **04 58 56.5 +0.1**
comp=E,2.2nm,0.8s,baz=108,slow=5.6,SNR=2.7
MKAR LR LR 05 22 05.8
comp=E,202nm,19.4s,baz=126,slow=38
MKAR Makanchi Array 52.77 323 *eP* **P** **04 57 46.7 -0.8**
comp=E,44nm,1.2s
MKAR PcP **PcP** **04 58 56.5 +0.1**
MKAR Makanchi Array 52.77 323 *eP* **P** **04 57 46.7 -0.8**
MKAR 04 58 56.5
MKAR pmax pmax
comp=Z,44nm,1.2s
MAKZ Makanchi 52.96 323 *eP* **P** **04 57 47.7 -1.2**
comp=Z,12nm,1.3s
MAKZ Makanchi 52.96 323 *eP* **P** **04 57 47.7 -1.2**
MAKZ pmax pmax
comp=Z,12nm,1.3s
KSH Kashi 53.92 312 *eP* **P** **04 57 59.2 +3.0**
KSH S **S** **05 05 27.4 -0.2**
KSH pmax pmax
comp=Z,88nm,5.0s
KSH LR LR
comp=Z,100nm,5.4s
KSH LR LR
comp=Z,86nm,9.1s
KSH LR LR
comp=Z,210nm,20.6s
NRN Naryn 54.56 315 P **P** **04 58 00.7 -0.4**
NRN pmax pmax
comp=Z,6.0nm,1.1s
ZAA0 Zalesovo Array 55.40 331 *eP* **P** **04 58 05.5 -1.0**
comp=Z,2.3nm,0.8s
ZALV Zalesovo Beam 55.40 331 P **P** **04 58 04.8 -1.6**
comp=Z,1.3nm,0.4s,baz=112,slow=6.3,SNR=7.7
ZALV LR LR 05 24 03.4
comp=Z,77nm,18.6s,baz=68,slow=38
ZALV Zalesovo Beam 55.40 331 *eP* **P** **04 58 04.5 -1.9**
ZALV Zalesovo Beam 55.40 331 *eP* **P** **04 58 04.6 -1.9**
AAK Ala-Archa 56.03 315 P **P** **04 58 10.1 -1.4**
comp=Z,0.9nm,0.3s,baz=166,slow=19,SNR=3.3
SEY Seymchan 56.47 14⇓ *eP* **P** **04 58 16.1 +2.2**
NVS Novosibirsk 56.67 332 *eP* **P** **04 58 14.6 -0.9**
KURK Kurchatov 56.82 326 *eP* **P** **04 58 16.0 -0.7**
comp=Z,7.4nm,0.9s
KURK Kurchatov 56.82 326⇓ *iP* **P** **04 58 15.6 -1.1**
KURK pmax pmax
comp=Z,38nm,1.2s
KBL Kabul 57.97 305 *eP* **P** **04 58 24.5 -0.8**
comp=Z,7.9nm,0.6s
KBL Kabul 57.97 305 *eP* **P** **04 58 24.5 -0.8**
KBL pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 58.95 315 *eP* **P** **04 58 30.2 -1.6**
KKAR Karatay Array 58.95 315 *eP* **P** **04 58 30.2 -1.6**
TIXI Tiksi 62.08 1 *eP* **P** **04 58 52.2 -0.3**
comp=Z,11nm,1.0s
TIXI Tiksi 62.08 1 *ceP* **P** **04 58 52.1 -0.4**
TIXI pmax pmax
comp=Z,22nm,1.7s
BVAR Borovoye Array 62.42 326 P **P** **04 58 54.6 -0.5**
comp=Z,4.4nm,0.9s,baz=99,slow=9.2,SNR=9.7
BVAR LR LR 05 25 39.4
comp=Z,131nm,18.5s,baz=112,slow=36
BRVK Borovoye 62.49 326 *eP* **P** **04 58 55.3 -0.3**
comp=Z,8.2nm,1.0s
BRVK Borovoye 62.49 326⇓ *iP* **P** **04 58 54.6 -1.0**
BRVK pmax pmax
comp=Z,19nm,1.2s
BILL Bilibino 64.04 16 *deP* **P** **04 59 07.1 +1.5**
BILL *e* 05 01 27.5
BILL *eS* S 05 08 18.7 +41
BILL pmax pmax
comp=Z,4.0nm,1.0s
AFI Afiamalu 65.48 110 LR LR 05 22 43.4
comp=Z,177nm,21.7s,baz=280,slow=31
WSAR Wadi Sarin 66.06 291 LR LR 05 31 01.9
comp=Z,37nm,19.2s,baz=133,slow=38
GEYT Alibeck 67.19 307 P **P** **04 59 26.1 -0.6**
comp=Z,2.2nm,0.8s,baz=153,slow=10.0,SNR=4.5
GEYT LR LR 05 33 43.4
comp=Z,216nm,19.0s,baz=75,slow=40
ABKAR Akbulak array 67.60 319 *eP* **P** **04 59 28.1 -0.7**
comp=Z,28nm,0.6s
SVE Sverdlovsk 68.97 327⇑ *eP* **P** **04 59 37.1 -0.2**
SVE pmax pmax
comp=Z,12nm,1.1s
AKTO Aktyubinsk 69.06 320 P **P** **04 59 37.1 -0.9**
comp=Z,2.1nm,0.6s,baz=96,slow=10.0,SNR=8.7
AKTO LR LR 05 32 40.3
comp=Z,259nm,18.1s,baz=112,slow=38
ARU Arti 69.98 327 *eP* **P** **04 59 42.5 -1.0**
comp=Z,20nm,1.3s
ARU Arti 69.98 327 *ciP* **P** **04 59 42.3 -1.2**
ARU *PP **sP** **05 00 01.6 -4.5**
ARU S **S** **05 08 46.4 -3.0**
ARU pmax pmax
comp=Z,31nm,2.5s
KDAK Kodiak Island 77.13 33 *i* P P 05 00 31.9 +6.5
GNI Garni 77.67 309 P **P** **05 00 26.2 -2.9**
comp=Z,13nm,1.2s,baz=87,slow=17,SNR=1.8
GNI LR LR 05 39 44.6
comp=Z,96nm,19.6s,baz=79,slow=40
RAYN Ar Rayn 78.09 292 *eP* **P** **05 00 30.9 -0.7**
comp=Z,27nm,1.4s
RAYN Ar Rayn 78.09 292 *eP* **P** **05 00 30.9 -0.7**
RAYN pmax pmax
comp=Z,27nm,1.4s
BPAW Bear Paw Mtn. 78.20 26 *eP* **P** **05 00 30.8 -0.6**
comp=Z,26nm,1.6s
TRF Thorofare Moun 78.48 27 *eP* **P** **05 00 32.7 -0.4**
comp=Z,7.5nm,0.6s
RAR Rarotonga 78.50 114 LR LR 05 29 28.0
comp=Z,95nm,21.9s,baz=269,slow=31
COLD Coldfoot 78.66 23 *eP* **P** **05 00 35.1 +1.3**
comp=Z,8.3nm,1.2s
KBZ Khabaz 78.90 313 LR LR 05 40 50.5
comp=Z,90nm,18.2s,baz=64,slow=40
KIV Kislovodsk 79.04 313 *eP* **P** **05 00 34.4 -2.1**
comp=Z,6.1nm,0.5s
MCK McKinley 79.09 27 *eP* **P** **05 00 34.3 -2.0**
comp=Z,10nm,0.9s
MCK McKinley 79.09 27 *eP* **P** **05 00 34.3 -2.0**
MCK pmax pmax
comp=Z,10.0nm,0.9s
COLA College 79.57 26 *eP* **P** **05 00 38.5 -0.3**
comp=Z,2.8nm,0.8s
COLA College 79.57 26 *eP* **P** **05 00 38.5 -0.3**
COLA pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 79.98 26 P **P** **05 00 41.6 +0.5**
comp=Z,0.8nm,0.6s,baz=248,slow=4.7,SNR=12
KLMR Klimovskoe 80.29 330 *eP* P 05 00 38.8 -4.0
KLMR pmax pmax
comp=Z,19nm,1.3s
KLMR Klimovskoe 80.29 330 *eP* P 05 00 38.8 -4.0
KLMR AMP 05 00 43.8
comp=Z,19nm,1.3s
DAWY Dawson 83.28 26 *eP* **P** **05 00 55.8 -2.7**
comp=Z,17nm,1.4s
SPITS Spitsbergen Ar 84.78 349 P **P** **05 01 06.8 +0.9**
comp=Z,7.4nm,0.8s,baz=69,slow=7.9,SNR=22
SPITS LR LR 05 44 31.2
comp=Z,94nm,20.2s,baz=290,slow=40
INK Inuvik 84.87 22 *eP* **P** **05 01 06.8 +0.3**
comp=Z,18nm,1.5s
ARCES ARCESS Array B 84.97 340 P **P** **05 01 05.7 -1.2**
comp=Z,6.5nm,0.6s,baz=80,slow=6.6,SNR=41
MMAI Mount Meron Ar 85.82 303 P **P** **05 01 12.4 +0.3**
comp=Z,4.8nm,0.9s,baz=72,slow=4.7,SNR=3.5
MMAI LR LR 05 45 53.8
comp=Z,42nm,18.2s,baz=25,slow=40
BRTR Keskin Array B 86.20 309 P **P** **05 01 12.8 -1.1**
comp=Z,1.1nm,0.8s,baz=124,slow=2.2,SNR=5.8
BRTR LR LR 05 45 12.1
comp=Z,74nm,18.9s,baz=77,slow=39

BRTR	Keskin Array B	86.20	309	ceP	P	05 01 15.0	+1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	86.66	332	P	P	05 01 15.1	-0.4
	comp=Z,4.4nm,0.4s,baz=87,slow=4.9,SNR=83						
PPT	Papeete	87.08	108	LR	LR	05 32 37.5	
	comp=Z,64nm,21.2s,baz=273,slow=30						
PPT2	Papeete2	87.09	108	eLR	LR	05 28 55.9	
	comp=Z,130nm,22.5s						
AKASG	Malin Array Be	87.30	321	P	P	05 01 17.3	-1.5
	comp=Z,0.7nm,0.4s,baz=63,slow=5.1,SNR=6.2						
KIEV	Kiev	87.31	321	eP	P	05 01 17.7	-1.1
KIEV	Kiev	87.31	321	⇓eP	P	05 01 18.0	-0.8
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TBI	Tubuai	88.29	114	eLR	LR	05 29 36.7	
	comp=Z,229nm,23.5s						
VNDA	Vanda	89.17	173	P	P	05 01 28.0	+1.0
	comp=Z,2.9nm,0.9s,baz=347,slow=6.5,SNR=7.9						
KMBO	Kilima Mbogo	89.48	269	P	P	05 01 30.1	-0.1
	comp=Z,0.5nm,0.3s,baz=153,slow=2.5,SNR=5.0						
KMBO				LR	LR	05 41 53.5	
	comp=Z,64nm,18.4s,baz=85,slow=36						
KMBO	Kilima Mbogo	89.48	269	eP	P	05 01 29.4	-0.7
	comp=Z,9.0nm,1.4s						
RES	Resolute Bay	92.17	10	eP	P	05 01 41.9	+0.8
	comp=Z,4.3nm,1.0s						
RES	Resolute Bay	92.17	10	eP	P	05 01 41.9	+0.8
RES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CRVS	Cervenica-Dubn	92.62	320	eP	P	05 01 44.2	+0.5
CRVS	Cervenica-Dubn	92.62	320	eP	P	05 01 44.2	+0.5
HFS	Hagfors	92.82	332	P	P	05 01 43.6	-0.8
	comp=Z,1.9nm,0.4s,baz=96,slow=4.3,SNR=24						
HFS				LR	LR	05 47 31.8	
	comp=Z,187nm,19.1s,baz=50,slow=38						
KECS	Kecovo	93.36	320	eP	P	05 01 45.7	-1.5
KECS	Kecovo	93.36	320	eP	P	05 01 45.7	-1.5
NB2	NORSAR Subarra	93.53	334	P	P	05 01 46.2	-1.5
	comp=Z,4.3nm,0.9s,baz=68,slow=4.6						
NB2	NORSAR Subarra	93.53	334	P	P	05 01 46.2	-1.5
	baz=68,slow=4.6						
NOA	NORSAR Array B	93.53	334	P	P	05 01 46.7	-1.0
	comp=Z,0.3nm,0.4s,baz=64,slow=17,SNR=8.2						
NOA				PKKPbc	PKKPbc	05 19 06.8	+11
	comp=Z,1.5nm,0.9s,baz=205,slow=2.1,SNR=3.3						
NOA				LR	LR	05 48 23.5	
	comp=Z,84nm,18.1s,baz=75,slow=38						
IDI	Anoyia	93.92	307	LR	LR	05 50 22.5	
	comp=Z,44nm,18.5s,baz=74,slow=39						
YKA	Yellowknife Ar	94.32	24	P	P	05 01 52.5	+1.3
	comp=Z,1.9nm,0.7s,baz=300,slow=4.6,SNR=37						
YKA				PKKPbc	PKKPbc	05 19 03.0	+9.5
	comp=Z,0.1nm,0.6s,baz=134,slow=1.8,SNR=3.9						
TAOE	Nuku Hiva Isla	94.68	98	eLR	LR	05 32 32.6	
	comp=Z,214nm,25.5s						
VRAC	Vranov	95.50	322	LR	LR	05 49 06.8	
	comp=Z,93nm,18.7s,baz=84,slow=38						
CLL	Collm	96.84	325	eP	P	05 02 02.0	-1.0
JCW	Jim Creek	96.89	39	eP	P	05 02 04.1	+0.8
GERES	GERESS Array B	97.43	322	P	P	05 02 05.7	-0.2
	comp=Z,0.2nm,0.4s,baz=81,slow=6.1,SNR=4.2						
GERES				LR	LR	05 48 43.9	
	comp=Z,102nm,18.8s,baz=4.0,slow=37						
TXAR	Lajitas Array	118.10	50	PKP	PKPdf	05 07 18.0	-1.6
	comp=Z,0.3nm,0.8s,baz=328,slow=3.2,SNR=2.4						
TXAR	Lajitas Array	118.10	50	PKIKP	PKPdf	05 07 18.0	-1.6
TORD	Torodi Ar. Bea	120.78	291	PKP	PKPdf	05 07 24.0	-0.9
	comp=Z,0.4nm,0.4s,baz=79,slow=2.0,SNR=14						
KOWA	Kowa	125.47	295	PKP	PKPdf	05 07 33.8	-0.1
	comp=Z,0.5nm,0.4s,baz=57,slow=3.0,SNR=5.5						
TKL	Tuckaleechee C	126.72	31	PKP	PKPdf	05 07 36.5	+0.7
	comp=Z,10nm,1.2s,baz=18,slow=3.2,SNR=3.1						
PLCA	Paso Flores	145.43	157	PKPbc	PKPbc	05 08 11.2	+0.9
	comp=Z,6.3nm,1.2s,baz=249,slow=5.8,SNR=11						

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*IDC **03** 04:59:38.0±2.3, 14°.72N×118°.92E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/61, mbtmp3.7/4, ML4.3/1, Error ellipse: s-maj=52.8km s-min=39.4km az=81.0*

*ISCJB **03** 04:59:39.1±1.1, 14°.80N±0°.05×119°.1E±0°.1, h10km, mb3.4/3, Error ellipse: s-maj=14.3km s-min=7.8km az=175.9*

ISC 03 04:59:39.9±1.2**, 14°.81N**±0°.05×**119°.19E**±0°.09**, h10**km**, n14,** σ**2.28**/16**, mb3.5**/3**, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	1.18	36	eP	Pn	05 00 00.5	-2.1
BOLP	Bolinao	1.71	24	eP	Pn	05 00 08.8	-1.0
BOLP				eS	Sn	05 00 24.9	-6.8
TGY	Tagaytay City	1.83	112	Pn	Pn	05 00 13.2	+1.7
	100nm,0.3s,baz=229,slow=4.0,SNR=9.6						
TGY				Sn	Sn	05 00 34.8	0.0
	163nm,0.3s,baz=202,slow=24,SNR=4.3						
LQP	Lukban	2.38	107	⇓eP	Sg	05 00 55.1	-1.3
BALP	Baler	2.48	68	eP	Pn	05 00 17.9	-2.5
SJMP	San Jose	2.99	141	eP	Pn	05 00 29.6	+2.1
ABRA	Dolores	3.18	27	eP	Pn	05 00 32.9	+2.9
GQP	Guinayangan	3.28	106	⇑eP	Pn	05 00 34.8	+3.4
CAUP	Cauayan	3.30	50	eP	Pn	05 00 31.7	-0.1
ENPP	El Nido	3.59	176	eP	Pb	05 00 41.2	-2.4
APYP	Conner	3.62	33	eP	Pn	05 00 39.6	+3.5
APYP				eS	Sn	05 01 21.7	+2.9
WRA	Warramunga Arr	37.61	156	P	P	05 06 54.6	-0.6
	0.5nm,0.7s,baz=330,slow=10,SNR=6.6						
ASAR	Alice Springs	40.86	159	P	P	05 07 22.3	0.0
	0.4nm,0.3s,baz=333,slow=7.9,SNR=21						
YKA	Yellowknife Ar	92.31	22	P	P	05 12 50.6	+0.4
	0.1nm,0.5s,baz=311,slow=4.7,SNR=2.6						

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*CSEM **03** 05:30:27.5, 38°.69N×43°.53E, h7km, ML2.5, After DDA*

*DDA **03** 05:30:27.5, 38°.69N×43°.53E, h7km, Ml2.5*

ISC 03 05:30:28.1±1.0**, 38°.72N**±0°.03×**43°.52E**±0°.04**, h15**km±7km**, n14,** σ**1.31**/27**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	219	PG	Pg	05 30 31.6	-0.5
VANB				SG	Sg	05 30 36.5	+1.7
TVAN	Van	0.20	205	iP	Pg	05 30 31.7	-1.2
TVAN				iS	Sg	05 30 36.2	+0.1
TVAN	Van	0.20	205	P	Pg	05 30 31.7	-1.2
TVAN				S	Sg	05 30 36.2	+0.1
VMUR	Van-Muradiye	0.28	9	iP	Pg	05 30 33.4	-0.7
VMUR				iS	Sb	05 30 39.9	+0.4
VMUR	Van-Muradiye	0.28	9	P	Pg	05 30 33.4	-0.7
VMUR				S	Sb	05 30 39.9	+0.4
CLDR	Caldiran	0.53	36	iP	Pg	05 30 37.3	-1.3
CLDR				iS	Sb	05 30 47.1	+0.3
CLDR	Caldiran	0.53	36	P	Pg	05 30 37.3	-1.3
CLDR				S	Sb	05 30 47.1	+0.3
GEVA	Gevas	0.54	222	iP	Pg	05 30 37.5	-1.3
GEVA				iS	Sg	05 30 46.7	+0.8
GEVA	Gevas	0.54	222	P	Pg	05 30 37.5	-1.3
GEVA				S	Sg	05 30 46.7	+0.8
ADCV	BITLIS_Adilcev	0.62	279	iP	Pg	05 30 38.9	-1.5
ADCV				iS	Sg	05 30 49.0	+0.3
ADCV	BITLIS_Adilcev	0.62	279	P	Pg	05 30 38.9	-1.5
ADCV				S	Sg	05 30 49.0	+0.3
AGRB	Hanur-Agry	0.95	335	ePG	Pg	05 30 44.5	-2.0
HAKT	HAKKARI	1.17	172	iP	Pg	05 30 48.4	-2.2
HAKT				iS	Sn	05 31 07.5	+1.7
HAKT	HAKKARI	1.17	172	P	Pg	05 30 48.4	-2.2
HAKT				S	Sn	05 31 07.6	+1.7

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*NIED **03** 06:00:00, 32°.10N×138°.30E, h380km, Mw4.6 Best double couple: M₀8.35000×10^15 NP1:φs220.00000°, δ73.00000°, λ12.00000°. NP2:φs127.00000°, δ79.00000°, λ162.00000°.*

*JMA **03** 06:00:41.6±0.3, 32°.13N×138°.31E, h385km±3km, M4.1*

*MOS **03** 06:00:42.9±0.8, 32°.17N×137°.89E, h355km, mb4.4/61, Error ellipse: s-maj=8.9km s-min=4.8km az=98.6*

*IDC **03** 06:00:44.3±0.6, 32°.13N×137°.98E, h360km±5km, mb3.9/32, mb1 4.0/39, mb1mx3.8/68, mbtmp4.6/39, Error ellipse: s-maj=9.4km s-min=6.5km az=79.0*

*ISCJB **03** 06:00:44.2±0.3, 32°.15N±0°.03×137°.94E±0°.03, h367km±1km, mb4.4/172, Error ellipse: s-maj=4.7km s-min=3.6km az=167.9*

*NEIC **03** 06:00:44.9±0.3, 32°.13N×137°.90E, h361km±2km, mb4.4/122, Error ellipse: s-maj=3.5km s-min=3.1km az=148.0*

ISC 03 06:00:43.9±0.5**, 32°.12N**±0°.04×**138°.09E**±0°.04**, h360**km±4km**, n413,** σ**1.36**/451**, mb4.4**/172**, 12C-16D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	1.69	346	S	S	06 02 15.8	+2.0
JHJ	Hachijo jima 2	1.74	55	P	Pn	06 01 35.5	+1.1
	38nm,0.3s,baz=234,slow=19,SNR=3.3						
JHJ				S	S	06 02 16.4	+1.4
	39nm,0.3s,baz=229,slow=19,SNR=3.1						
JHJ2	Mitsune	1.76	55	ePn	Pn	06 01 36.3	+1.8
TTO2	TONANKAI O.B.S	1.84	331	⇑P	Pn	06 01 36.5	+1.9
TTO2				eS	S	06 02 19.1	+3.6
TK02	Tokai 2	1.84	351	eS	S	06 02 18.7	+3.0
TTO1	TONANKAI O.B.S	1.86	324	⇑P	Pn	06 01 36.4	+1.7
TTO1				S	S	06 02 18.7	+3.0
TTO4	TONANKAI O.B.S	1.94	346	eS	S	06 02 18.9	+2.2
JWZ	Kozaga	2.44	306	⇑P	Pn	06 01 39.9	+0.6
JWZ				eS	S	06 02 23.9	0.0
JIE	Ise	2.54	333	⇑P	Pn	06 01 41.2	+1.1
JIE				S	S	06 02 26.0	+0.7
JOD2	Odawara 2	3.24	15	P	Pn	06 01 46.0	-0.1
JOD2				eS	S	06 02 37.0	+0.7
INU	Inuyama	3.34	345	ePn	Pn	06 01 48.0	+1.0
BSO1	Boso 1	3.49	43	P	Pn	06 01 47.1	-0.7
BSO1				eS	S	06 02 37.7	-1.8
JRY	Ryogami san	3.94	10	⇓P	Pn	06 01 53.0	+0.1
JRY				eS	S	06 02 47.8	-0.8
MJAR	Matsushiro Arr	4.41	1	P	Pn	06 01 57.2	-0.4
	17nm,0.3s,baz=178,slow=11,SNR=244						
MJAR				S	S	06 02 55.9	-1.4
	0.8nm,0.3s,baz=175,slow=5.2,SNR=5.2						
MAJO	Matsushiro	4.41	1	ePn	Pn	06 01 57.5	-0.1
MAJO	Matsushiro	4.41	1	d iP	Pn	06 01 57.3	-0.3
MAT	Matsushiro	4.41	1	P	Pn	06 01 57.4	-0.2
MAT				S	S	06 02 55.0	-2.3
MJB9	Matsu-Tunnel	4.41	1	ePn	Pn	06 01 57.6	-0.1
JTO	Tosashimizu	4.53	281	P	Pn	06 01 59.7	+0.8
JHS	Saijyo	5.05	306	P	Pn	06 02 05.6	+1.1
JHS				S	S	06 03 10.8	+1.1
JOI	OKI	5.78	317	P	Pn	06 02 12.6	+0.1
JOI				eS	S	06 03 24.8	+0.5
CBIJ	Chichi jima	6.15	144	P	Pn	06 02 14.8	-2.0
CBIJ				eS	S	06 03 25.1	-7.1
CBIJ	Chichi jima	6.15	144	ePn	Pn	06 02 15.0	-1.9
CBIJ				S	S	06 03 26.2	-6.0
JCJ	Chichijima	6.15	144	P	Pn	06 02 14.8	-2.1
	85nm,0.3s,baz=357,slow=18,SNR=41						
JCJ				S	S	06 03 26.2	-6.1
	37nm,0.3s,baz=313,slow=19,SNR=7.6						
JNU	Nakatsue	6.17	281	P	Pn	06 02 18.1	+1.1
	19nm,0.3s,baz=114,slow=3.6,SNR=148						
JSJ	Shimokoshiki	7.14	269	P	P	06 02 28.6	-0.8
JMK	Ichinoseki	7.28	20	P	Pn	06 02 27.9	-1.7
JMK				S	S	06 03 49.7	-6.0
JTU	Tsushima	7.66	291	P	P	06 02 34.8	-0.5
TJN	Taejon	9.84	298	⇑eP	Pn	06 02 59.3	-0.6
KSRS	Korea Array	9.91	305	P	P	06 03 01.8	0.0
	2.0nm,0.3s,baz=115,slow=12,SNR=44						
KSRS				S	S	06 04 53.7	+0.9
	baz=110,slow=22,SNR=8.6						
KS15	Wonju Array Si	9.93	305	ePn	P	06 03 02.0	0.0
KSAR	Wonju Array Be	9.93	305	P	P	06 03 01.8	-0.2
KSAR				S	S	06 04 53.7	+0.4
KSAR	Wonju Array Be	9.93	305	P	P	06 03 01.8	-0.2
KSAR				S	S	06 04 53.7	+0.4
KS01	Wonju Array Si	9.94	305	ePn	P	06 03 01.2	-0.9
JOW	Kunigami	10.05	241	ePn	P	06 03 03.0	-0.5
ERM	Erimo	10.67	21	ePn	Pn	06 03 09.8	+0.2
ERM	Erimo	10.67	21	eP	Pn	06 03 09.8	+0.2
INCN	Inchon	10.83	303	ePn	P	06 03 12.7	+0.6
ASAJ	Asahikawa	12.48	15	P	P	06 03 31.1	+0.8
	4.5nm,0.3s,baz=180,slow=10,SNR=27						
ASAJ				S	S	06 05 43.8	-4.4
	0.5nm,0.3s,baz=60,slow=20,SNR=3.0						
TEY	Ternei	12.95	355	eP	P	06 03 35.1	-0.2
TEY				pmax	pmax		
	comp=N,94nm,1.1s						
TEY				pmax	pmax		
	comp=Z,110nm,1.1s						
USRK	Ussuriysk Ar.	12.97	340	P	P	06 03 35.2	-0.5
	comp=Z,3.0nm,0.3s,baz=160,slow=10,SNR=77						
YUK	Yuzh-Kuril'sk	13.37	25	⇓eP	P	06 03 41.0	+1.0
MDJ	Mudanjiang	14.13	334	P	P	06 03 45.9	-2.5
MDJ				sP		06 04 55.8	
MDJ				S	S	06 06 20.5	-0.8
MDJ	Mudanjiang	14.13	334	eP	P	06 03 48.7	+0.3
SNY	Shenyang	15.09	314	⇓P	P	06 03 58.8	-0.1
YSS	Yuzh-Sakhalins	15.24	12	⇓eP	P	06 04 01.7	+1.3
YSS				eS	S	06 06 43.5	+0.2
YSS				pmax	pmax		
	comp=Z,520nm,0.8s						
YSS				pmax	pmax		
	comp=N,410nm,0.7s						
YSS				pmax	pmax		
	comp=E,140nm,0.7s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS				smax	smax		
	comp=E,30nm,0.7s						
CN2	Changchun	15.32	323	⇑P	P	06 04 01.3	-0.1
CN2				esP	sP	06 05 30.3	-7.9
CN2				eS	S	06 06 41.2	-3.9
NJ2	Nanjing	16.31	275	eP	P	06 04 11.9	-0.3
KLR	Kul'dur	17.74	346	P	P	06 04 26.6	-0.8
	comp=E,0.9nm,0.3s,baz=160,slow=9.0,SNR=316						
KLR				S	S	06 07 34.5	+2.0
	comp=E,0.0nm,0.3s,baz=186,slow=19,SNR=2.2						
KLR	Kul'dur	17.74	346	d iP	P	06 04 25.9	-1.5
GRNR	Gornyy	18.67	357	eP	P	06 04 38.0	+0.7
GRNR				pmax	pmax		
	comp=Z,50nm,0.8s						
TYV	Tymovskoe	19.03	9	eP	P	06 04 51.2	+10
TYV				pmax	pmax		
	comp=Z,29nm,0.9s						
TYV				pmax	pmax		
	comp=Z,300nm,5.8s						
GUMO	Guam	19.46	160	P	P	06 04 47.2	+1.2
	comp=Z,6.4nm,0.3s,baz=198,slow=20,SNR=3.2						
NKL	Nikolayevsk	21.10	4	eP	P	06 05 01.5	+0.6
NKL				pmax	pmax		
	comp=N,16nm,0.9s						
NKL				pmax	pmax		
	comp=Z,36nm,0.9s						
HIA	Hailar	21.97	327	eP	P	06 05 09.6	+0.6
	comp=Z,36nm,0.7s						
HIA	Hailar	21.97	327	eP	P	06 05 09.6	+0.6
HIA				pmax	pmax		
	comp=Z,36nm,0.7s						
ZEA	Zeya	22.96	343	eP	P	06 05 18.3	+0.4
ZEA				pmax	pmax		
	comp=N,41nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,46nm,0.8s						
HHC	Hu-ho-hao-te	22.97	300	eP	P	06 05 18.6	+0.3
HHC				sP	sP	06 07 00.6	-2.1
HHC				S	S	06 08 59.7	-1.7
HHC	Hu-ho-hao-te	22.97	300	ScS	ScS	06 15 46.8	+1.4
XAN	Xi'an	24.48	282	P	P	06 05 30.8	-1.1
XAN				pP	pP	06 05 43.2	-49
PETK	Petropavlovsk-	25.30	28	P	P	06 05 39.8	+0.9
	comp=Z,3.8nm,0.9s,baz=230,slow=13,SNR=3.1						
PETK	Petropavlovsk-	25.30	28	P	P	06 05 39.8	+0.9
PETK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PET	Petropavlovsk	25.63	29	⇓eP	P	06 05 42.8	+1.0
CLNS	Chul'man	26.35	344	eP	P	06 05 48.4	+0.2
CLNS				pmax	pmax		
	comp=Z,18nm,0.9s						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
ULN	Ulaanbaatar	28.26	313	eP	P	06 06 05.9	+0.5
	comp=E,11nm,0.6s						
ULN	Ulaanbaatar	28.26	313	d iP	P	06 06 05.7	+0.3
ULN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SONA1	Songino Array	28.66	312	eP	P	06 06 09.2	+0.3
SONM	Songino Array	28.66	312	P	P	06 06 09.2	+0.3
	comp=Z,4.3nm,0.5s,baz=115,slow=7.7,SNR=46						
MA2	Magadan	28.74	13	P	P	06 06 09.8	+0.6
	comp=Z,9.0nm,0.8s,baz=191,slow=7.4,SNR=7.6						
MA2	Magadan	28.74	13	⇑iP	P	06 06 10.1	+0.9
YAK	Yakutsk	30.41	352	P	P	06 06 23.8	0.0
	comp=Z,26nm,0.6s,baz=170,slow=4.7,SNR=5.2						
YAK	Yakutsk	30.41	352	eP	P	06 06 22.6	-1.2
YAK				e*PP	PP	06 07 38.8	-2.6
YAK				e		06 09 15.0	
YAK				eS	S	06 10 54.1	-3.2
YAK				e*SS	sS	06 13 09.0	+8.8
YAK				e		06 16 12.2	
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				smax	smax		
	comp=N,37nm,1.4s						
YAK				smax	smax		
	comp=E,16nm,1.5s						
BOD	Bodaibo	30.51	335	eP	P	06 06 23.4	-1.3
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZAK	Zakamensk	31.51	316	eP	P	06 06 33.5	-0.2
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMI	Kunming	31.70	266	P	P	06 06 36.1	+0.3
TLY	Talaya	31.82	318	eP	P	06 06 37.1	+0.9
	comp=Z,8.7nm,0.9s						
TLY	Talaya	31.82	318	eP	P	06 06 36.9	+0.7
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SEY	Seymchan	32.15	12	P	P	06 06 37.7	-1.2
	comp=Z,0.8nm,0.3s,baz=218,slow=20,SNR=2.8						
SEY	Seymchan	32.15	12	⇑eP	P	06 06 39.8	+0.9
FAKI	Fak Fak	35.29	190	eP	P	06 07 06.3	0.0
	comp=Z,15nm,0.9s						
HVS	Khovu-Aksy	37.54	314	⇑eP	P	06 07 26.3	+1.5
HVS				pmax	pmax		
	comp=Z,17nm,0.8s						
BILL	Bilibino	39.50	16	⇓iP	P	06 07 41.2	+0.6
BILL				eSS	SS	06 16 18.3	-8.2
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI	Tiksi	39.90	355	P	P	06 07 43.1	-0.6
	comp=Z,5.0nm,0.5s,baz=158,slow=5.9,SNR=10						
TIXI	Tiksi	39.90	355	eP	P	06 07 43.7	0.0
	comp=Z,5.5nm,0.6s						
TIXI	Tiksi	39.90	355	⇓eP	P	06 07 43.2	-0.5
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WMQ	Urumqi	40.83	301	P	P	06 07 52.3	+0.4
ZAA0	Zalesovo Array	43.38	316	eP	P	06 08 11.5	-0.5
	comp=Z,4.9nm,0.9s						
ZALV	Zalesovo Beam	43.38	316	P	P	06 08 11.2	-0.8
	comp=Z,5.5nm,0.4s,baz=79,slow=8.1,SNR=25						
ZALV				ScP	ScP	06 13 08.6	-0.9
	comp=Z,1.0nm,0.6s,baz=116,slow=5.4,SNR=5.3						
ZALV				PKKP	PKKPdf	06 31 44.8	+15
	comp=Z,0.3nm,0.4s,baz=299,slow=3.0,SNR=3.0						
ZALV	Zalesovo Beam	43.38	316	eP	P	06 08 11.5	-0.5
ZALV				ScP	ScP	06 13 08.6	-0.9
ZALV				PKKP	PKKPdf	06 31 44.8	+15
ZALV	Zalesovo Beam	43.38	316	eP	P	06 08 11.5	-0.5
TAPN	Taplejung	43.69	277	eP	P	06 08 15.0	-0.2
	comp=Z,6.7nm,0.4s						
ODAN	Odare	44.12	277	eP	P	06 08 18.3	-0.2
	comp=Z,17nm,0.5s						
BATI	Baumata	44.29	201	P	P	06 08 18.8	-0.9
	comp=Z,20nm,0.5s,baz=8.1,slow=7.1,SNR=3.6						
BATI				ScP	ScP	06 13 10.8	-2.9
	comp=Z,44nm,0.8s,baz=34,slow=7.3,SNR=5.3						
NVS	Novosibirsk	44.42	317	eP	P	06 08 19.5	-0.6
NVS				pmax	pmax		
	comp=N,2.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MK01	Makanchi Array	44.58	306	eP	P	06 08 21.3	-0.3
MK31	Makanchi Array	44.59	306	eP	P	06 08 21.5	-0.1
MK31	Makanchi Array	44.59	306	eP	P	06 08 21.5	-0.1
MKAR	Makanchi Array	44.59	306	P	P	06 08 21.2	-0.4
	comp=Z,8.3nm,0.6s,baz=89,slow=10.0,SNR=86						
MKAR				ScP	ScP	06 13 14.2	-0.4
	comp=Z,1.8nm,0.6s,baz=79,slow=5.8,SNR=15						
MKAR				PKKPbc	PKKPdf	06 31 50.9	+22
	comp=Z,0.5nm,0.8s,baz=291,slow=1.7,SNR=5.0						
MKAR	Makanchi Array	44.59	306	eP	P	06 08 21.6	0.0
	comp=Z,56nm,0.6s						
MKAR				ScP	ScP	06 13 14.2	-0.4
MKAR				PKKPbc	PKKPdf	06 31 50.9	+22
RAMN	Ramite	44.75	277	eP	P	06 08 23.1	-0.4
	comp=Z,25nm,0.7s						
MAKZ	Makanchi	44.80	306	eP	P	06 08 23.1	-0.2
	comp=Z,7.7nm,0.5s						
MAKZ	Makanchi	44.80	306	eP	P	06 08 23.1	-0.2
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JIRN	Jiri	44.87	278	eP	P	06 08 24.7	+0.2
	comp=Z,52nm,0.6s						
GUN	Gumba	45.05	279	eP	P	06 08 26.0	+0.1
	comp=Z,32nm,0.7s						
PKIN	Phulchoki	45.56	279	eP	P	06 08 29.2	-0.6
	comp=Z,8.0nm,0.6s						
KKN	Kakani	45.59	279	eP	P	06 08 29.9	0.0
	comp=Z,15nm,0.7s						
DMN	Daman	45.79	279	eP	P	06 08 31.2	-0.3
	comp=Z,4.3nm,0.4s						
COEN	Coen	46.08	173	eP	P	06 08 34.3	+0.9
	comp=Z,18nm,1.7s						
PDGK	Podgornoye	46.81	301	P	P	06 08 38.2	-0.8
PDGK				pmax	pmax		
	comp=Z,13nm,1.1s						
KURK	Kurchatov	46.96	311	eP	P	06 08 39.2	-0.6
	comp=Z,12nm,0.8s						
KURK	Kurchatov	46.96	311	d iP	P	06 08 39.1	-0.7
KURK				pmax	pmax		
	comp=Z,11nm,0.7s						
KOLN	Koldanda	47.00	280	eP	P	06 08 40.7	-0.1
	comp=Z,3.8nm,0.3s						
PYUN	Piuthan	47.40	280	eP	P	06 08 44.0	+0.1
	comp=Z,13nm,0.4s						
UGM	Wanagama	47.72	218	eP	P	06 08 45.4	-0.7
	comp=Z,476nm,1.4s						
KSH	Kashi	50.04	297	eP	P	06 09 06.6	+3.2
KSH				sP	PP	06 11 00.6	-1.8
KSH				S	S	06 15 47.7	+1.4
KSH				sS	sS	06 17 59.4	+1.3
AAK	Ala-Archa	50.54	301	P	P	06 09 06.7	-0.4
	comp=Z,2.6nm,0.7s,baz=130,slow=7.9,SNR=7.8						
SFK	Sufi-Kurgan	51.79	298	P	P	06 09 16.5	0.0
WRA	Warramunga Arr	51.89	184	P	P	06 09 16.9	-0.2
	comp=Z,2.4nm,0.3s,baz=0.9,slow=7.7,SNR=96						
WRA				ScP	ScP	06 13 45.4	-0.4
	comp=Z,0.5nm,0.8s,baz=0.4,slow=5.1,SNR=3.9						
WRA				S	S	06 16 10.8	-0.8
	comp=Z,0.7nm,0.7s,baz=0.9,slow=13,SNR=5.0						
BVAR	Borovoye Array	51.96	315	P	P	06 09 16.9	-0.3
	comp=Z,4.0nm,0.5s,baz=102,slow=7.2,SNR=23						
BRVK	Borovoye	52.02	315	eP	P	06 09 17.2	-0.4
	comp=Z,4.0nm,0.8s						
BRVK	Borovoye	52.02	315	d iP	P	06 09 17.1	-0.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KDAK	Kodiak Island	52.60	39	P	P	06 09 22.3	+0.5
	comp=Z,22nm,0.9s,baz=238,slow=5.3,SNR=8.1						
KDAK	Kodiak Island	52.60	39	eP	P	06 09 22.5	+0.8
	comp=Z,382nm,1.9s						
KDAK	Kodiak Island	52.60	39	eP	P	06 09 22.5	+0.8
KDAK				pmax	pmax		
	comp=Z,382nm,1.9s						
PPLA	Purkeypile	52.76	33	eP	P	06 09 25.0	+2.0
	comp=Z,57nm,1.9s						
CAST	Castle Rocks	52.83	32	eP	P	06 09 25.3	+2.0
	comp=Z,5.5nm,0.9s						
KKAR	Karatay Array	53.32	302	eP	P	06 09 27.2	0.0
KKAR	Karatay Array	53.32	302	eP	P	06 09 27.2	0.0
BRLK	Bradley Lake	53.41	37	eP	P	06 09 29.4	+1.7
	comp=Z,190nm,2.0s						
SUA	Susitna One	53.44	34	eP	P	06 09 28.4	+0.5
	comp=Z,27nm,1.6s						
MLY	Manley	53.46	30	eP	P	06 09 29.9	+2.0
	comp=Z,14nm,1.4s						
SEW	Seward	54.12	36	eP	P	06 09 33.9	+1.3
	comp=Z,63nm,1.4s						
MCK	McKinley	54.24	32	eP	P	06 09 34.7	+1.3

comp=Z,15nm,1.4s
MCK **McKinley** **54.24** **32** *e*P **P** **06 09 34.7 +1.3**
MCK pmax pmax
comp=Z,15nm,1.4s
RND **Reindeer** **54.28** **32** *e*P **P** **06 09 34.7 +0.9**
comp=Z,8.0nm,0.8s
RND **Reindeer** **54.28** **32** *e*P **P** **06 09 34.7 +0.9**
RND pmax pmax
comp=Z,8.0nm,0.8s
MDM **Murphy Dome** **54.53** **30** *e*P **P** **06 09 37.2 +1.7**
comp=Z,8.3nm,0.9s
SML **Sawmill** **54.58** **34** *e*P **P** **06 09 37.0 +1.1**
comp=Z,45nm,1.6s
SML **Sawmill** **54.58** **34** *e*P **P** **06 09 37.0 +1.1**
SML pmax pmax
comp=Z,45nm,1.6s
COLA **College** **54.69** **30**⇑ *i*P **P** **06 09 38.6 +2.0**
COLA pmax pmax
comp=Z,4.0nm,0.8s
CCB **Clear Creek Bu** **54.71** **30** *e*P **P** **06 09 39.2 +2.4**
comp=Z,17nm,1.9s
SCM **Sheep Creek Mo** **55.05** **34** *e*P **P** **06 09 41.1 +1.8**
comp=Z,77nm,1.7s
SCM **Sheep Creek Mo** **55.05** **34** *e*P **P** **06 09 41.1 +1.8**
SCM pmax pmax
comp=Z,77nm,1.7s
IL1 **Eielson Array** **55.10** **30** *e*P **P** **06 09 40.0 +0.4**
ILAR **Eielson Array** **55.10** **30** P **P** **06 09 39.7 +0.1**
comp=Z,1.5nm,0.7s,baz=267,slow=6.0,SNR=17
ILAR PcP **PcP**
comp=Z,0.5nm,0.6s,baz=281,slow=3.6,SNR=4.7
ILB **Eielson Array** **55.10** **30** *e*P **P** **06 09 40.8 +1.2**
AS01 **Alice Springs** **55.61** **185** *e*P **P** **06 09 43.5 -0.2**
AS31 **Alice Springs** **55.62** **185** *e*P **P** **06 09 43.9 +0.2**
comp=Z,2.1nm,0.4s
ASAR **Alice Springs** **55.62** **185** P **P** **06 09 43.8 +0.1**
comp=Z,2.0nm,0.5s,baz=14,slow=13,SNR=42
ASAR ScP **ScP** **06 14 02.2 +0.2**
comp=Z,0.3nm,0.6s,baz=2.8,slow=4.6,SNR=3.2
ASAR S **S** **06 16 59.5 -1.6**
comp=Z,0.5nm,0.8s,baz=11,slow=15,SNR=4.1
KLU **Klutina** **55.75** **34** *e*P **P** **06 09 46.5 +2.2**
comp=Z,46nm,1.8s
MBWA **Marble Bar** **55.82** **201** *e*P **P** **06 09 44.8 -0.3**
comp=Z,24nm,1.4s
HARP **HAARP** **56.02** **33** *e*P **P** **06 09 47.4 +1.3**
comp=Z,109nm,1.9s
RIDG **Independ'e Rid** **56.05** **32** *e*P **P** **06 09 47.2 +0.9**
comp=Z,31nm,1.8s
DOT **Dot Lake** **56.41** **32** *e*P **P** **06 09 49.5 +0.7**
comp=Z,15nm,1.0s
BMRM **Bremner River** **56.43** **35** *e*P **P** **06 09 50.7 +1.7**
comp=Z,17nm,1.0s
KBL **Kabul** **56.69** **293** *e*P **P** **06 09 51.3 -0.2**
comp=Z,5.6nm,0.6s
KBL **Kabul** **56.69** **293** *e*P **P** **06 09 51.3 -0.2**
KBL pmax pmax
comp=Z,6.0nm,0.6s
SVE **Sverdlovsk** **57.09** **320** *e*P **P** **06 09 53.5 -0.1**
SVE pmax pmax
comp=Z,13nm,0.8s
EGAK **Eagle** **57.55** **30** *e*P **P** **06 09 57.4 +0.8**
comp=Z,20nm,1.7s
ARU **Arti** **58.29** **320** *e*P **P** **06 10 01.5 -0.3**
comp=Z,12nm,0.7s
ARU **Arti** **58.29** **320** *d i*P **P** **06 10 01.3 -0.5**
ARU 06 10 46.4
ARU *PP **pP** **06 11 15.5 -2.7**
ARU 06 12 10.7
ARU S **S** **06 17 35.7 +0.7**
ARU SS **SS** **06 21 33.3 +0.3**
ARU pmax pmax
comp=Z,25nm,1.7s
DAWY **Dawson** **58.41** **31** *e*P **P** **06 10 03.9 +1.3**
comp=Z,20nm,1.8s
ABKAR **Akbulak array** **59.07** **312** *e*P **P** **06 10 07.1 -0.3**
comp=Z,202nm,0.4s
HYT **Haines Junctio** **59.88** **34** *e*P **P** **06 10 13.4 +0.6**
comp=Z,25nm,1.5s
AKTO **Aktyubinsk** **59.98** **313** P **P** **06 10 13.3 -0.1**
comp=Z,8.0nm,0.7s,baz=75,slow=13,SNR=24
AKTO **Aktyubinsk** **59.98** **313** P **P** **06 10 13.3 -0.1**
AKTO pmax pmax
comp=Z,7.0nm,0.6s
INK **Inuvik** **59.99** **25** P **P** **06 10 14.0 +0.8**
comp=Z,1.6nm,0.6s,baz=299,slow=4.2,SNR=11
INK **Inuvik** **59.99** **25** *e*P **P** **06 10 14.0 +0.8**
comp=Z,11nm,1.6s
DZM **Mont Dzumac** **60.33** **150** P **P** **06 10 18.4 +2.2**
comp=Z,5.1nm,0.9s,baz=350,slow=6.1,SNR=4.0
WHY **Whitehorse** **61.17** **34** *e*P **P** **06 10 23.5 +2.1**
comp=Z,19nm,1.4s
STKA **Stephens Creek** **63.74** **177** P **P** **06 10 39.2 +0.9**
comp=Z,3.6nm,0.6s,baz=348,slow=8.2,SNR=8.5
STKA **Stephens Creek** **63.74** **177** *e*P **P** **06 10 39.2 +0.9**
comp=Z,6.7nm,2.0s
STKA **Stephens Creek** **63.74** **177** *e*P **P** **06 10 39.3 +0.9**
STKA pmax pmax
comp=Z,7.0nm,2.0s
BBOO **Buckleboo** **64.61** **182** *e*P **P** **06 10 44.7 +0.7**
comp=Z,35nm,1.5s
DIB **Dawson Inlet,** **64.67** **42** *e*P **P** **06 10 45.4 +1.2**
comp=Z,115nm,1.7s
SPA0 **Spitsbergen Ar** **64.80** **349** *e*P **P** **06 10 44.5 -0.2**
SPITS **Spitsbergen Ar** **64.80** **349** P **P** **06 10 44.7 +0.1**
comp=Z,15nm,1.1s,baz=46,slow=6.8,SNR=6.7
SPITS **Spitsbergen Ar** **64.80** **349** P **P** **06 10 44.7 +0.1**
SPITS pmax pmax
comp=Z,14nm,1.1s
KLMR **Klimovskoe** **66.45** **328** *e*P **P** **06 10 52.2 -3.0**
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR **Klimovskoe** **66.45** **328** *e*P **P** **06 10 52.3 -3.0**
KLMR AMP 06 10 55.7
comp=Z,15nm,1.4s
ARCES **ARCESS Array B** **67.62** **339** P **P** **06 11 02.6 +0.2**
comp=Z,5.1nm,0.8s,baz=66,slow=9.0,SNR=13
ARCES **ARCESS Array B** **67.62** **339** *e*P **P** **06 11 02.5 0.0**
ARCES **ARCESS Array B** **67.62** **339** *e*P **P** **06 11 02.5 0.0**
ARE0 **ARCESS Array S** **67.62** **339** *e*P **P** **06 11 02.9 +0.4**
comp=Z,199nm,1.9s
NWAO **Narrogin (SRO)** **67.63** **199** *e*P **P** **06 11 03.0 +0.1**
comp=Z,41nm,1.4s
NWAO **Narrogin (SRO)** **67.63** **199** *e*P **P** **06 11 03.0 +0.1**
NWAO pmax pmax
comp=Z,41nm,1.4s
JOF **Joensuu** **69.00** **332** P **P** **06 11 12.1 +1.1**
YKW3 **Yellowknife Ar** **69.38** **28** *e*P **P** **06 11 14.1 +0.7**
comp=Z,14nm,1.8s
VRH **Novokhopyorsk** **69.38** **318** *e*P **P** **06 11 12.5 -1.1**
VRH pmax pmax
comp=Z,10.0nm,0.5s
YKA **Yellowknife Ar** **69.42** **28** P **P** **06 11 14.0 +0.4**
comp=Z,1.6nm,0.7s,baz=300,slow=6.3,SNR=34
YKA **Yellowknife Ar** **69.42** **28** P **P** **06 11 14.0 +0.4**
YKA pmax pmax
comp=Z,2.0nm,0.7s
LPSR **Galich'ya Gora** **70.31** **320** *e*P **P** **06 11 18.9 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
OBN **Obninsk** **70.38** **323** *ce*P **P** **06 11 19.4 -0.1**
OBN pmax pmax
comp=Z,19nm,1.1s
VSR **Storozhevoye** **70.81** **319** *e*P **P** **06 11 22.1 -0.1**
VSR pmax pmax
comp=Z,7.0nm,0.6s
NCK **Nalchik** **71.67** **310**⇓ *e*P **P** **06 11 27.4 0.0**
NCK pmax pmax
comp=Z,29nm,0.5s
LLLB **Lillooet** **71.72** **41** *e*P **P** **06 11 29.2 +1.6**
comp=Z,8.4nm,0.8s
FIA1 **FINESS Array S** **71.86** **332** *e*P **P** **06 11 28.1 -0.1**
comp=Z,45nm,1.6s
FINES **FINESS Array B** **71.86** **332** P **P** **06 11 28.1 -0.1**
comp=Z,4.9nm,0.4s,baz=67,slow=5.3,SNR=59
KBZ **Khabaz** **72.01** **311** P **P** **06 11 29.6 +0.2**
comp=Z,6.7nm,0.8s,baz=79,slow=5.2,SNR=9.9
KIV **Kislovodsk** **72.04** **311** *e*P **P** **06 11 30.8 +1.1**
KIV pmax pmax
comp=Z,19nm,1.0s
NLWA **Neilton Lookou** **72.08** **45** *e*P **P** **06 11 32.2 +2.3**
comp=Z,70nm,1.6s
E03A **Lebam** **72.67** **46** *e*P **P** **06 11 35.6 +2.4**
comp=Z,141nm,1.7s
B05A **Bryant** **72.72** **44** P **P** **06 11 34.5 +1.0**
baz=299
VSU **Vasula** **73.28** **329**⇓ *i*P **P** **06 11 36.4 -0.1**
VSU pmax pmax
comp=Z,40nm,1.1s
LON **Longmire** **73.63** **45** *e*P **P** **06 11 40.1 +1.2**
comp=Z,26nm,1.8s
LON **Longmire** **73.63** **45** *e*P **P** **06 11 40.1 +1.2**
LON pmax pmax
comp=Z,26nm,1.8s
KEBM **Edson Butte** **73.95** **49** *e*P **P** **06 11 43.2 +2.4**
comp=Z,42nm,1.1s
LTY **Liberty** **74.05** **44** *e*P **P** **06 11 42.5 +1.2**
comp=Z,20nm,1.7s
B08A **Colville Reser** **74.27** **43** *e*P **P** **06 11 44.0 +1.5**
comp=Z,7.7nm,1.1s
KBO **Bosley Butte** **74.34** **50** *e*P **P** **06 11 45.7 +2.7**
comp=Z,100nm,1.5s
H04A **Detroit Lake** **74.42** **47** *e*P **P** **06 11 44.8 +1.4**
comp=Z,9.3nm,0.8s
G05D **Wamic, OR** **74.67** **46** P **P** **06 11 45.3 +0.5**
baz=300
I04A **Tendick Farm,** **74.72** **48** P **P** **06 11 46.2 +1.1**
baz=300
EDM **Edmonton** **74.90** **36** *e*P **P** **06 11 46.8 +0.8**
comp=Z,9.3nm,1.0s
EDM **Edmonton** **74.90** **36** *e*P **P** **06 11 46.8 +0.8**
EDM pmax pmax
comp=Z,9.0nm,1.0s
HUMO **Hull Mountain** **74.96** **49** *e*P **P** **06 11 48.9 +2.4**
comp=Z,14nm,1.6s
C09A **Chrisman Ranch** **75.17** **43** *e*P **P** **06 11 49.2 +1.7**
comp=Z,6.0nm,0.8s
D08A **Wollman Farm,** **75.18** **44** *e*P **P** **06 11 49.2 +1.6**
comp=Z,8.9nm,0.8s
J04D **Umpqua Nationa** **75.19** **48** P **P** **06 11 48.5 +0.5**
baz=300
E08A **Dider Farm, El** **75.39** **44** *e*P **P** **06 11 50.6 +1.7**
comp=Z,6.3nm,0.7s
NEW **Nenana** **75.58** **42** P **P** **06 11 50.8 +0.9**
baz=302
M02C **Callahan** **75.64** **50** P **P** **06 11 50.7 +0.3**
baz=300
PINE **Pine Mountain** **75.64** **47** *e*P **P** **06 11 53.0 +2.4**
comp=Z,28nm,1.2s
J05D **Fort Rock, OR** **75.72** **48** P **P** **06 11 51.8 +0.9**
baz=301
K04D **Chiloquin, OR** **75.72** **49** P **P** **06 11 51.8 +0.9**
baz=301
G08A **Pilot Rock** **76.08** **45** *e*P **P** **06 11 54.7 +1.8**
comp=Z,4.3nm,1.1s
M04C **Macdoel** **76.09** **49** P **P** **06 11 54.0 +0.9**
baz=301
AKASG **Malin Array Be** **76.47** **322** P **P** **06 11 54.4 -0.4**
comp=Z,5.0nm,0.6s,baz=50,slow=6.3,SNR=32
AKBB **Malin Array Si** **76.47** **322** *e*P **P** **06 11 54.7 -0.1**
comp=Z,7.4nm,0.6s
AKBB **Malin Array Si** **76.47** **322** *e*P **P** **06 11 54.7 -0.1**
AKBB pmax pmax
comp=Z,7.0nm,0.6s
KIEV **Kiev** **76.48** **322** *e*P **P** **06 11 54.4 -0.4**
comp=Z,7.2nm,0.7s
KIEV **Kiev** **76.48** **322** *c i*P **P** **06 11 54.6 -0.2**
KIEV pmax pmax
comp=Z,6.0nm,0.6s
AK11 **Malin Array Si** **76.52** **322** *e*P **P** **06 11 54.8 -0.3**
F10A **Beach Ranch, E** **76.75** **44** *e*P **P** **06 11 58.4 +1.8**
comp=Z,10nm,1.4s
WALA **Watertown Lakes** **76.93** **40** *e*P **P** **06 11 59.1 +1.6**
comp=Z,10nm,0.6s
MOD **Modoc Plateau** **77.02** **49** *e*P **P** **06 11 59.6 +1.4**
comp=Z,5.1nm,0.8s
BMO **Blue Mountains** **77.30** **45** *e*P **P** **06 12 01.3 +1.7**
comp=Z,4.8nm,0.8s
BMO **Blue Mountains** **77.30** **45** *e*P **P** **06 12 01.3 +1.7**
BMO pmax pmax
comp=Z,5.0nm,0.8s
J08A **Circle Bar Ran** **77.39** **47** *e*P **P** **06 12 02.1 +1.9**
comp=Z,19nm,1.2s
HFS **Hagfors** **77.40** **335** P **P** **06 11 59.3 -0.4**
comp=Z,3.2nm,0.7s,baz=70,slow=6.3,SNR=6.0
JTMT **Jette** **77.46** **41** *e*P **P** **06 12 02.4 +1.9**
comp=Z,6.7nm,0.7s
NC204 **NORSAR Array S** **77.60** **337** *e*P **P** **06 12 01.0 +0.1**
NB2 **NORSAR Subarra** **77.62** **337** P **P** **06 12 00.5 -0.5**
comp=Z,1.4nm,0.6s,baz=44,slow=5.6
NB2 **NORSAR Subarra** **77.62** **337** P **P** **06 12 00.5 -0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NOA **NORSAR Array B** **77.62** **337** P **P** **06 12 00.5 -0.5**
comp=Z,2.9nm,0.7s,baz=46,slow=5.5,SNR=8.5
WVOR **Wild Horse Val** **77.79** **47** *e*P **P** **06 12 03.9 +1.5**
comp=Z,5.0nm,0.9s
WVOR **Wild Horse Val** **77.79** **47** *e*P **P** **06 12 03.9 +1.5**
WVOR pmax pmax
comp=Z,5.0nm,0.9s
BEKR **Beckworth** **78.05** **50** *e*P **P** **06 12 05.4 +1.5**
comp=Z,12nm,0.8s
MSO **Missoula** **78.17** **42** P **P** **06 12 05.1 +0.7**
baz=305
PAHR **Pah Rah Range** **78.77** **50** *e*P **P** **06 12 09.3 +1.5**
comp=Z,5.2nm,0.8s
VCNR **Virginia City** **78.81** **51** *e*P **P** **06 12 09.9 +1.7**
comp=Z,3.6nm,0.8s
PNTR **Pine Nut** **78.96** **51** *e*P **P** **06 12 10.7 +1.8**
comp=Z,5.7nm,0.8s
MFID **Camas Ranch** **78.98** **46** *e*P **P** **06 12 10.6 +1.8**
comp=Z,5.0nm,0.6s
CMB **Columbia Colle** **79.00** **52** *e*P **P** **06 12 10.1 +1.2**
comp=Z,3.0nm,0.6s
CMB **Columbia Colle** **79.00** **52** *e*P **P** **06 12 10.1 +1.2**
CMB pmax pmax
comp=Z,3.0nm,0.6s
YERR **Yerington** **79.25** **51** *e*P **P** **06 12 12.1 +1.6**
comp=Z,4.1nm,0.7s
FFC **Flin Flon** **79.31** **31** *e*P **P** **06 12 10.9 +0.7**
comp=Z,3.4nm,0.9s
FFC **Flin Flon** **79.31** **31** *e*P **P** **06 12 10.9 +0.7**
FFC pmax pmax
comp=Z,3.0nm,0.9s
WAKR **Walker** **79.38** **51** *e*P **P** **06 12 13.1 +2.0**
comp=Z,13nm,1.7s
BKZ **Black Stump Fm** **79.39** **151** *e*P **P** **06 12 11.5 +0.7**
comp=Z,236nm,1.9s
HLID **Hailey** **79.75** **45** P **P** **06 12 14.0 +1.0**
baz=305
HLID **Hailey** **79.75** **45** *e*P **P** **06 12 14.5 +1.5**
comp=Z,3.4nm,0.8s
BMN **Battle Mountai** **79.77** **49** *e*P **P** **06 12 15.2 +2.1**
comp=Z,6.0nm,0.9s
BMN **Battle Mountai** **79.77** **49** *e*P **P** **06 12 15.2 +2.1**
BMN pmax pmax
comp=Z,6.0nm,0.9s
DLMT **Dillon** **79.78** **43** *e*P **P** **06 12 14.7 +1.6**
comp=Z,6.9nm,0.9s
EGMT **Eagleton** **79.78** **39** P **P** **06 12 13.5 +0.5**
baz=307
EGMT **Eagleton** **79.78** **39** *e*P **P** **06 12 14.3 +1.3**
comp=Z,8.6nm,0.9s
RYN **Ryan** **79.91** **51** *e*P **P** **06 12 15.7 +1.8**
comp=Z,4.0nm,0.9s
RAYN **Ar Rayn** **79.93** **291** *e*P **P** **06 12 14.5 +0.4**
comp=Z,9.8nm,1.4s
BR131 **Keskin Array S** **80.01** **311** *e*P **P** **06 12 15.1 +0.7**
BRTR **Keskin Array B** **80.01** **311** P **P** **06 12 14.7 +0.3**
comp=Z,2.5nm,0.7s,baz=82,slow=3.8,SNR=8.3
BRTR **Keskin Array B** **80.01** **311** *i* P **P** **06 12 14.6 +0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
NV01 **Mina Array Sit** **80.17** **51** *e*P **P** **06 12 16.6 +1.2**
NVAR **Mina Array Bea** **80.17** **51** P **P** **06 12 16.9 +1.5**
comp=Z,3.5nm,0.7s,baz=294,slow=5.4,SNR=24
BOZ **Bozeman (W)** **80.19** **42** P **P** **06 12 15.9 +0.6**
baz=306,SNR=5.8
BOZ **Bozeman (W)** **80.19** **42** *e*P **P** **06 12 16.8 +1.5**
comp=Z,3.3nm,0.8s
BOZ **Bozeman (W)** **80.19** **42** *e*P **P** **06 12 16.8 +1.5**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BUR04 **Bucovina Ar. S** **80.42** **321** *e*P **P** **06 12 16.9 +0.5**
BR231 **Keskin MP Arra** **80.50** **311** *e*P **P** **06 12 15.5 -1.5**
YHB **Horse Butte** **80.94** **42** *e*P **P** **06 12 21.4 +2.0**
comp=Z,7.2nm,0.8s
VES **Vestal, Richgr** **81.06** **53** P **P** **06 12 20.4 +0.6**
baz=303
CWC **Cottonwood Cre** **81.41** **52** P **P** **06 12 22.2 +0.4**
baz=304
LKWY **Lake** **81.51** **42** *e*P **P** **06 12 25.6 +3.2**
comp=Z,10nm,0.8s
H17A **Grant Village** **81.51** **42** *e*P **P** **06 12 25.7 +3.3**
comp=Z,10nm,0.9s
ISA **Isabella, Lake** **81.57** **53** P **P** **06 12 23.1 +0.5**
baz=304
GRAC **Grapevine Rang** **81.58** **52** P **P** **06 12 23.3 +0.7**
baz=304
FXWY **Fox Creek** **81.70** **43** *e*P **P** **06 12 25.5 +2.1**
comp=Z,1.9nm,0.8s
HVU **Hansel Valley** **81.77** **46** *e*P **P** **06 12 25.7 +2.1**
comp=Z,7.8nm,0.7s
HVU **Hansel Valley** **81.77** **46** *e*P **P** **06 12 25.7 +2.1**
HVU pmax pmax
comp=Z,8.0nm,0.7s
MOOW **Moose Ponds** **81.80** **43** *e*P **P** **06 12 25.5 +1.7**
comp=Z,2.8nm,0.9s
RLMT **Red Lodge** **81.81** **41** P **P** **06 12 24.2 +0.4**
baz=308,SNR=6.6
RLMT **Red Lodge** **81.81** **41** *e*P **P** **06 12 25.7 +1.9**
comp=Z,5.0nm,0.9s
REDW **Red Top Meadow** **81.97** **43** *e*P **P** **06 12 26.3 +1.5**
comp=Z,6.6nm,1.2s
R11A **Troy Canyon, C** **81.98** **50** P **P** **06 12 25.6 +0.8**
baz=305,SNR=6.9
R11A **Troy Canyon, C** **81.98** **50** *e*P **P** **06 12 26.2 +1.4**
comp=Z,4.3nm,0.9s
MPMC **Manual Prospec** **82.02** **52** P **P** **06 12 25.8 +0.8**
baz=304
BGU **Big Grassy Mou** **82.11** **46** *e*P **P** **06 12 27.4 +2.0**
comp=Z,7.1nm,1.4s
FURC **Furnace Creek,** **82.21** **52** P **P** **06 12 26.4 +0.7**
baz=304
LRMC **Laurel Mtn Rad** **82.21** **53** P **P** **06 12 26.5 +0.5**
baz=304
EDW2 **Edwards Air Fo** **82.33** **54** P **P** **06 12 27.1 +0.6**
baz=304
TPNV **Topopah Spring** **82.34** **51** P **P** **06 12 27.1 +0.5**
baz=305,SNR=7.2
TPNV **Topopah Spring** **82.34** **51** *e*P **P** **06 12 28.1 +1.5**
comp=Z,8.1nm,0.9s
TPNV **Topopah Spring** **82.34** **51** *e*P **P** **06 12 28.2 +1.5**
TPNV pmax pmax
comp=Z,8.0nm,0.9s
DUG **Dugway, Tooele** **82.67** **47** P **P** **06 12 28.9 +0.7**
baz=306,SNR=13
DUG **Dugway, Tooele** **82.67** **47** *e*P **P** **06 12 30.2 +1.9**
comp=Z,9.0nm,0.8s
DUG **Dugway, Tooele** **82.67** **47** *e*P **P** **06 12 30.2 +1.9**
DUG pmax pmax
comp=Z,9.0nm,0.8s
GSC **Goldstone, Bar** **82.90** **53** P **P** **06 12 30.1 +0.7**
baz=305
GSC **Goldstone, Bar** **82.90** **53** *e*P **P** **06 12 30.8 +1.4**
comp=Z,6.6nm,1.0s
GSC **Goldstone, Bar** **82.90** **53** *e*P **P** **06 12 30.8 +1.4**
GSC pmax pmax
comp=Z,7.0nm,1.0s
SHOC **Shoshone, Teco** **82.92** **52** P **P** **06 12 29.8 +0.3**
baz=305
TCUT **Toone Canyon** **82.98** **45** *e*P **P** **06 12 32.0 +2.0**
comp=Z,10nm,0.9s
PSUT **Pine Spring** **82.99** **49** *e*P **P** **06 12 31.3 +1.3**
comp=Z,4.0nm,0.7s
CTU **Camp Tracy** **83.03** **46** *e*P **P** **06 12 32.0 +1.9**
comp=Z,5.2nm,0.9s
BW06 **Boulder Array** **83.08** **43** P **P** **06 12 30.6 +0.2**
baz=308
PD31 **Pinedale Array** **83.08** **43** *e*P **P** **06 12 31.4 +1.0**
PDAR **Pinedale Array** **83.08** **43** P **P** **06 12 31.3 +0.9**
comp=Z,3.0nm,0.9s,baz=285,slow=2.3,SNR=18
DPC **Dobruska-Polom** **83.10** **327** *e*P **P** **06 12 30.3 +0.2**
DPC **Dobruska-Polom** **83.10** **327** *e*P **P** **06 12 30.3 +0.2**
VYHS **Vyhne** **83.15** **324** *e*P **P** **06 12 31.0 +0.6**
VYHS pmax pmax
comp=Z,4.0nm,1.4s
VYHS **Vyhne** **83.15** **324** *e*P **P** **06 12 30.9 +0.6**
JLU **Jordanelle** **83.27** **46** *e*P **P** **06 12 33.3 +1.9**
comp=Z,4.1nm,0.9s
NLU **North Lily Min** **83.27** **47** *e*P **P** **06 12 33.0 +1.6**
comp=Z,6.0nm,0.9s
SHPR **Sheep Range** **83.31** **51** *e*P **P** **06 12 33.4 +1.8**
comp=Z,5.2nm,0.8s
TUQ **Turquoise Moun** **83.42** **52** P **P** **06 12 32.5 +0.4**
baz=305
HEC **Hector,Ludlow** **83.49** **53** P **P** **06 12 33.0 +0.6**
baz=305
MPU **Maple Canyon** **83.51** **46** *e*P **P** **06 12 34.2 +1.6**
comp=Z,7.9nm,0.8s
CCUT **Cedar City** **83.88** **49** *e*P **P** **06 12 36.3 +1.7**
comp=Z,2.7nm,0.8s
CLL **Collm** **83.93** **329** *e*P **P** **06 12 34.0 -0.2**
CLL **Collm** **83.93** **329** *e*P **P** **06 12 34.0 -0.2**
GMRC **Granite Mounta** **83.97** **53** P **P** **06 12 35.5 +0.6**
baz=305,SNR=6.5
109C **Camp Elliot, M** **84.06** **55** P **P** **06 12 35.8 +0.7**
baz=305
MSU **Marysvale** **84.06** **48** *e*P **P** **06 12 37.6 +2.2**
MSU **Marysvale** **84.06** **48** *e*P **P** **06 12 37.6 +2.2**
PFO **Pinyon Flats O** **84.09** **54** P **P** **06 12 36.0 +0.5**
baz=305,SNR=5.1
PFO **Pinyon Flats O** **84.09** **54** *e*P **P** **06 12 36.8 +1.3**
comp=Z,12nm,0.8s
PFO **Pinyon Flats O** **84.09** **54** *e*P **P** **06 12 36.8 +1.3**
PFO pmax pmax
comp=Z,12nm,0.8s
XPFO **Piæon Flat** **84.09** **54** *e*P **P** **06 12 36.8 +1.2**
comp=Z,13nm,0.8s
TPFO **Pinon Flats** **84.10** **54** P **P** **06 12 35.9 +0.3**
baz=305
BELC **Belle Mtn. Jos** **84.19** **53** P **P** **06 12 36.4 +0.4**
baz=305
LCMT **Little Creek M** **84.27** **50** *e*P **P** **06 12 38.2 +1.8**
comp=Z,7.1nm,0.9s
MTPU **Mount Pierson** **84.34** **48** *e*P **P** **06 12 39.2 +2.2**
comp=Z,6.3nm,0.8s
P17A **Butcher Ranch,** **84.38** **46** *e*P **P** **06 12 38.9 +2.0**
comp=Z,13nm,0.7s
Q16A **Castle Valley** **84.45** **47** *e*P **P** **06 12 39.2 +1.9**
comp=Z,4.9nm,0.8s
MONP2 **Monument Peak** **84.53** **55** P **P** **06 12 38.1 +0.3**
baz=305
KNB **Kanab** **84.54** **49** *e*P **P** **06 12 39.9 +2.1**
comp=Z,11nm,0.7s
KNB **Kanab** **84.54** **49** *e*P **P** **06 12 39.9 +2.1**
KNB pmax pmax
comp=Z,11nm,0.7s
P18A **Preston Nutter** **84.59** **46** *e*P **P** **06 12 39.9 +1.8**
comp=Z,10nm,0.7s
IRM **Iron Mountain** **84.67** **53** P **P** **06 12 38.8 +0.5**
baz=306
SRU **San Rafael Swe** **84.74** **47** *e*P **P** **06 12 40.3 +1.6**
comp=Z,11nm,0.7s
SRU **San Rafael Swe** **84.74** **47** *e*P **P** **06 12 40.3 +1.6**
SRU pmax pmax
comp=Z,11nm,0.7s
BC3 **Big Chuckawall** **84.75** **53** P **P** **06 12 39.2 +0.4**
baz=305
IKP **In-Ko-Pah, Jac** **84.88** **55** P **P** **06 12 39.5 +0.1**
baz=305
K22A **Casper** **84.90** **42** P **P** **06 12 39.3 -0.2**
baz=310
SWSC **Sam W. Stewart** **84.92** **54** P **P** **06 12 39.6 +0.2**
baz=305
W13A **Hualapai Mount** **84.97** **52** *e*P **P** **06 12 40.3 +0.3**
comp=Z,13nm,1.8s
ULM **Lac du Bonnet** **85.11** **31** P **P** **06 12 41.2 +1.2**
comp=Z,0.9nm,0.5s,baz=337,slow=3.5,SNR=4.8
ULM **Lac du Bonnet** **85.11** **31** *e*P **P** **06 12 41.9 +1.9**
comp=Z,24nm,1.9s
ULM **Lac du Bonnet** **85.11** **31** *e*P **P** **06 12 41.9 +1.9**
ULM pmax pmax
comp=Z,24nm,1.9s
KHC **Kasperske Hory** **85.23** **327** *e*P **P** **06 12 40.1 -0.6**
KHC **Kasperske Hory** **85.23** **327** *e*P **P** **06 12 40.1 -0.6**
U15A **North Rim** **85.23** **50** *e*P **P** **06 12 43.1 +1.8**
comp=Z,4.3nm,0.8s
RSSD **Black Hills** **85.33** **40** P **P** **06 12 41.3 -0.3**
baz=311
Y12C **Blythe** **85.33** **53** P **P** **06 12 42.0 +0.6**
baz=306
O20A **White River Ci** **85.49** **45** P **P** **06 12 42.6 +0.2**
baz=309
O20A **White River Ci** **85.49** **45** *e*P **P** **06 12 43.8 +1.3**
comp=Z,13nm,1.1s
PV09 **Paradox Valley** **85.97** **46** *e*P **P** **06 12 46.8 +1.9**
C31A **Landman Farms,** **86.02** **34** P **P** **06 12 44.8 +0.2**
baz=316
PV10 **Paradox Valley** **86.10** **47** *e*P **P** **06 12 47.4 +1.9**
B32A **Ashes, Strandq** **86.15** **33** P **P** **06 12 45.4 +0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=316						
N23A	**Red Feather La**	**86.36**	**43**	P	**P**	**06 12 46.8**	**+0.1**
	baz=310						
WUAZ	**Wupatki**	**86.37**	**50**	P	**P**	**06 12 47.0**	**+0.2**
	baz=308						
SMCO	**Snowmass**	**86.85**	**45**	eP	**P**	**06 12 51.0**	**+1.8**
	comp=Z,5.5nm,1.0s						
B34A	**Aery, Baudette**	**86.94**	**32**	P	**P**	**06 12 49.3**	**+0.3**
	baz=318						
B35A	**Bob, Littlefor**	**87.45**	**32**	P	**P**	**06 12 51.7**	**+0.3**
	baz=318						
W18A	**Petrified Fore**	**87.68**	**49**	P	**P**	**06 12 53.3**	**+0.4**
	baz=308						
E33A	**Westby DABS, E**	**87.77**	**34**	P	**P**	**06 12 53.2**	**+0.3**
	baz=317						
C35A	**Jirik Farms, M**	**87.83**	**32**	P	**P**	**06 12 53.0**	**-0.1**
	baz=318						
S22A	**4UR Ranch, Cre**	**87.85**	**46**	P	**P**	**06 12 53.5**	**-0.3**
	baz=310						
F33A	**5 Mile Ranch,**	**88.11**	**35**	P	**P**	**06 12 54.3**	**-0.3**
	baz=317						
C37A	**Embarrass**	**88.61**	**31**	P	**P**	**06 12 57.2**	**+0.4**
	baz=320						
SDCO	**Great Sand Dun**	**88.66**	**45**	P	**P**	**06 12 57.6**	**-0.1**
	baz=311						
SDCO	**Great Sand Dun**	**88.66**	**45**	eP	**P**	**06 12 59.4**	**+1.7**
	comp=Z,2.2nm,0.8s						
H33A	**Prehn Over Nor**	**88.73**	**36**	P	**P**	**06 12 58.0**	**+0.5**
	baz=316						
C38A	**Sawbill Land.**	**89.02**	**31**	P	**P**	**06 12 59.0**	**+0.2**
	baz=320						
E36A	**McGregor**	**89.04**	**33**	P	**P**	**06 12 59.3**	**+0.4**
	baz=319						
T25A	**Trinidad**	**89.71**	**45**	P	**P**	**06 13 02.7**	**+0.3**
	baz=311						
ANMO	**Albuquerque**	**89.88**	**48**	P	**P**	**06 13 03.3**	**+0.1**
	baz=310						
121A	**Cookes Peak, D**	**90.56**	**50**	P	**P**	**06 13 06.8**	**+0.3**
	baz=310						
E40A	**Wakefield**	**90.60**	**31**	P	**P**	**06 13 06.2**	**+0.1**
	baz=321						
MNTX	**Cornudas Mount**	**92.66**	**50**	P	**P**	**06 13 15.9**	**0.0**
	baz=311						
Q34A	**Chapman**	**92.77**	**40**	P	**P**	**06 13 16.0**	**-0.2**
	baz=316						
KSU1	**Kansas State U**	**92.82**	**39**	P	**P**	**06 13 16.6**	**+0.1**
	baz=316						
AMTX	**Amarillo**	**92.86**	**45**	P	**P**	**06 13 17.0**	**+0.1**
	baz=313						
AMTX	**Amarillo**	**92.86**	**45**	eP	**P**	**06 13 18.5**	**+1.6**
	comp=Z,8.3nm,0.8s						
P37A	**Lathrop**	**93.66**	**38**	P	**P**	**06 13 20.1**	**-0.2**
	baz=318						
S35A	**Otter Creek Ra**	**94.00**	**40**	P	**P**	**06 13 22.1**	**+0.2**
	baz=316						
R37A	**Teagarden Farm**	**94.34**	**39**	P	**P**	**06 13 23.2**	**-0.3**
	baz=318						
WMOK	**Wichita Mounta**	**94.69**	**44**	P	**P**	**06 13 24.9**	**-0.3**
	baz=315						
S37A	**Fort Scott**	**94.75**	**39**	P	**P**	**06 13 25.4**	**+0.1**
	baz=318						
Q39A	**Willow Grove F**	**94.77**	**37**	P	**P**	**06 13 25.0**	**-0.4**
	baz=319						
R39A	**Chumby, Stover**	**95.29**	**38**	P	**P**	**06 13 27.4**	**-0.4**
	baz=319						
TX31	**Lajitas Ar. Si**	**95.32**	**51**	eP	**P**	**06 13 29.9**	**+1.7**
TXAR	**Lajitas Array**	**95.32**	**51**	P	**P**	**06 13 29.8**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=282,slow=2.6,SNR=10						
TOA0	**Torodi Ar. Sit**	**118.62**	**310**	ePKPdf	**PKPdf**	**06 18 50.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**118.62**	**310**	PKP	**PKPdf**	**06 18 49.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=45,slow=1.4,SNR=11						
SYO	**Syowa Base**	**122.60**	**205**	⇓ePdiff	**Pdif**	**06 15 30.0**	**+1.6**
PTGA	**Pitinga**	**144.43**	**32**	ePKPbc	PKPbc	06 19 38.2	+0.3
SAML	**Samuel**	**149.65**	**45**	ePKPbc	**PKPbc**	**06 19 52.6**	**+0.4**
LPAZ	**La Paz**	**151.47**	**63**	PKPbc	**PKPbc**	**06 19 58.0**	**+0.9**
	comp=Z,4.8nm,0.8s,baz=7.2,slow=4.9,SNR=15						
LPAZ	**La Paz**	**151.47**	**63**	ePKPbc	**PKPbc**	**06 19 58.4**	**+1.3**
MNMC	**Minye Minye**	**151.98**	**69**	ePKPbc	**PKPbc**	**06 19 59.3**	**+1.6**
PB11	**IPOC Station P**	**152.26**	**70**	ePKPab	**PKPab**	**06 20 11.1**	**+1.4**
PB01	**IPOC Station P**	**153.06**	**73**	ePKPab	**PKPab**	**06 20 14.6**	**+1.7**

*NIED **03** 06:06:00, 42°.20N×142°.90E, h53km, Mw4.1 Best double couple: Mo 1.55000×10^{15} NP1:φs206.00000°, δ25.00000°, λ86.00000°. NP2:φs30.00000°, δ65.00000°, λ92.00000°.*
*ISCJB **03** 06:06:31.4±0.3, 42°.22N±0°.04×142°.88E±0°.04, h68km±2km, mb4.2/40, Error ellipse: s-maj=6.9km s-min=3.9km az=151.7*
*MOS **03** 06:06:31.5±0.9, 42°.18N×142°.96E, h76km, mb4.6/19, Error ellipse: s-maj=9.4km s-min=5.9km az=94.4*
*JMA **03** 06:06:32.6±0.1, 42°.24N×142°.92E, h54km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs14.00000°, δ85.00000°, λ89.00000°. NP2:φs210.00000°, δ5.00000°, λ106.00000°. Principal axes: T Plg50.0000°, Azm282.0000°; N Plg1.0000°, Azm14.0000°; P Plg40.0000°, Azm105.0000°;*
JMA Felt II J1.
*IDC **03** 06:06:34.4±1.8, 42°.25N×142°.81E, h80km±12km, mb3.8/23, mb1 3.9/26, mb1mx3.7/66, mbtmp4.1/26, MS2.9/5, Ms1 3.0/5, ms1mx2.7/57 Error ellipse: s-maj=16.1km s-min=11.8km az=126.0*
*NEIC **03** 06:06:34.9±0.6, 42°.33N×142°.87E, h81km±5km, mb4.5/11, Error ellipse: s-maj=8.5km s-min=5.5km az=122.0*
ISC 03 06:06:32.1±0.6**, 42°.22N**±0°.04×**142°.93E**±0°.04**, h61**km±4km**, n142, σ1s.81**/150**, mb4.4**/40**, 12C-8D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.15**	**296**	⇑P	**Pn**	**06 06 40.8**	**-0.7**
JNBK				eS	**Sn**	**06 06 47.9**	**-0.3**
JEM	**Erimo**	**0.26**	**140**	⇑P	**Pn**	**06 06 42.0**	**-0.1**
ERM	**Erimo**	**0.26**	**140**	ePn	**Pn**	**06 06 42.0**	**-0.1**
ERM	**Erimo**	**0.26**	**140**	ePN	**Pn**	**06 06 42.0**	**-0.1**
JCH	**Churui**	**0.51**	**39**	⇑P	**Pn**	**06 06 44.3**	**0.0**
JCH				eS	**Sn**	**06 06 53.2**	**0.0**
JBT2	**Biratori 2**	**0.70**	**324**	⇓P	**Pn**	**06 06 46.1**	**-0.3**
JOB	**Onbets**	**0.96**	**44**	⇑P	**Pn**	**06 06 50.6**	**+1.0**
JFR	**Furan**	**0.98**	**345**	P	**Pn**	**06 06 49.2**	**-0.7**
JAR	**Ashorobuto**	**1.25**	**29**	⇑P	**Pn**	**06 06 53.5**	**+0.1**
JEW	**Eniwo**	**1.26**	**300**	⇓P	**Pn**	**06 06 53.9**	**+0.3**
JAB	**Ashibetsu**	**1.39**	**338**	P	**Pn**	**06 06 55.6**	**+0.3**
JNB	**Noboribetsu**	**1.43**	**281**	⇓P	**Pn**	**06 06 55.0**	**-0.8**
JNB				eS	**Sn**	**06 07 12.7**	**-0.9**
JKB	**Kayabe**	**1.45**	**258**	⇓P	**Pn**	**06 06 55.7**	**-0.4**
JKB				eS	**Sn**	**06 07 13.2**	**-1.0**
ASAJ	**Asahikawa**	**1.92**	**353**	P	**Pn**	**06 07 03.8**	**+1.4**
	107nm,0.3s,baz=220,slow=8.6,SNR=149						
ASAJ				S	**Sn**	**06 07 28.3**	**+2.9**
	28nm,0.3s,baz=127,slow=20,SNR=7.8						
YUK	**Yuzh-Kuril'sk**	**2.81**	**49**	d iPN	**Pn**	**06 07 16.5**	**+1.9**
YUK				iS	**Sn**	**06 07 49.2**	**+1.9**
YUK				pmax	pmax		
	comp=E,104nm,0.2s						
YUK				pmax	pmax		
	comp=Z,297nm,0.2s						
YUK				smax	smax		
	comp=N,360nm,0.4s						
YUK				smax	smax		
	comp=E,428nm,0.4s						
SHO	**Shikotan**	**3.30**	**59**	ePN	**Pn**	**06 07 20.9**	**-0.4**
SHO				iS	**Sn**	**06 07 58.0**	**-1.3**
SHO				pmax	pmax		
	comp=N,24nm,0.3s						
SHO				pmax	pmax		
	comp=E,36nm,0.3s						
SHO				pmax	pmax		
	comp=Z,49nm,0.3s						
SHO				smax	smax		
	comp=E,492nm,0.3s						
SHO				smax	smax		
	comp=N,293nm,0.4s						
KUR	**Kuril'sk**	**4.68**	**48**	⇑iPN	**Pn**	**06 07 43.0**	**+2.9**
KUR				iS	**Sn**	**06 08 37.5**	**+4.4**
KUR				pmax	pmax		
	comp=Z,39nm,0.3s						
KUR				pmax	pmax		
	comp=N,15nm,0.2s						
KUR				pmax	pmax		
	comp=E,52nm,0.1s						
KUR				smax	smax		
	comp=N,75nm,0.2s						
KUR				smax	smax		
	comp=E,82nm,0.1s						
YSS	**Yuzh-Sakhalins**	**4.74**	**359**	ePn	**Pn**	**06 07 43.3**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.74**	**359**	⇓ePN	**Pn**	**06 07 43.5**	**+2.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.4s						
TEY	**Ternei**	**5.39**	**304**	ePN	**Pn**	**06 07 49.0**	**-0.8**
MJB9	**Matsu-Tunnel**	**6.74**	**214**	ePn	Pn	06 08 13.6	+5.2
MAJO	**Matsushiro**	**6.74**	**214**	ePn	Pn	06 08 12.6	+4.2
MAJO	**Matsushiro**	**6.74**	**214**	ePN	Pn	06 08 12.6	+4.2
MAT	**Matsushiro**	**6.74**	**214**	P	**Pn**	**06 08 10.1**	**+1.7**
MAT				eS	**Sn**	**06 09 30.9**	**+7.1**
MJAR	**Matsushiro Arr**	**6.74**	**214**	P	**Pn**	**06 08 10.1**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=29,slow=12,SNR=10						
USRK	**Ussuriysk Ar.**	**8.23**	**288**	P	**Pn**	**06 08 29.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=89,slow=15,SNR=5.4						
INU	**Inuyama**	**8.26**	**216**	ePn	**Pn**	**06 08 31.9**	**+2.7**
TYV	**Tymovskoe**	**8.65**	**359**	ePN	**Pn**	**06 08 37.3**	**+2.9**
TYV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MDJ	**Mudanjiang**	**10.00**	**288**	P	Pn	06 08 45.9	-7.0
MDJ				sP		06 09 00.5	
MDJ				S	**Sn**	**06 10 42.8**	**-0.6**
MDJ				ScP	**ScP**	**06 18 16.4**	**-10**
KLR	**Kul'dur**	**10.49**	**316**	P	**Pn**	**06 09 01.3**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=120,slow=16,SNR=4.4						
KLR				LR	LR	06 12 55.8	
	comp=Z,10.0nm,19.5s,baz=190,slow=37						
KLR	**Kul'dur**	**10.49**	**316**	⇓ePN	**Pn**	**06 09 02.8**	**+3.2**
NKL	**Nikolayevsk**	**11.04**	**353**	ePN	**Pn**	**06 09 10.0**	**+2.9**
KSRS	**Korea Array**	**12.47**	**253**	P	**P**	**06 09 32.2**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=71,slow=14,SNR=4.1						
KSRS				LR	LR	06 13 46.7	
	comp=Z,57nm,20.2s,baz=98,slow=35						
KSAR	**Wonju Array Be**	**12.51**	**253**	P	**P**	**06 09 32.1**	**-4.6**
KSAR	**Wonju Array Be**	**12.51**	**253**	PN	**P**	**06 09 32.2**	**-4.6**
CN2	**Changchun**	**12.90**	**283**	eP	**Pn**	**06 09 32.6**	**+0.2**
JNU	**Nakatsue**	**13.16**	**230**	LR	LR	06 14 11.6	
	comp=Z,54nm,20.3s,baz=119,slow=35						
PETK	**Petropavlovsk-**	**14.72**	**37**	P	**Pn**	**06 09 56.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=218,slow=9.1,SNR=2.9						
HIA	**Hailar**	**17.61**	**302**	⇑eP	**P**	**06 10 33.8**	**+0.4**
HIA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
SEY	**Seymchan**	**21.49**	**12**	P	**P**	**06 11 12.9**	**-2.4**
	comp=Z,1.9nm,0.5s,baz=194,slow=10,SNR=8.2						
SEY	**Seymchan**	**21.49**	**12**	⇑eP	**P**	**06 11 13.9**	**-1.4**
NJ2	**Nanjing**	**21.64**	**250**	eP	**P**	**06 11 18.6**	**+1.3**
HHC	**Hu-ho-hao-te**	**23.46**	**277**	eP	**P**	**06 11 37.1**	**+1.0**
HHC				pP	pP	06 11 51.3	+1.1
HHC				sP	sP	06 11 58.8	+1.1
HHC				PP	**PnPn**	**06 12 10.8**	**+5.7**
HHC				S	**S**	**06 15 42.2**	**-2.7**
HHC				sS	Sn	06 16 06.3	-2.6
HHC				SS	**SnSn**	**06 16 33.0**	**+7.1**
HHC	**Hu-ho-hao-te**	**23.46**	**277**	ScS	ScS	06 22 40.3	+0.8
ULN	**Ulaanbaatar**	**25.81**	**295**	eP	**P**	**06 11 57.1**	**-0.4**
	comp=Z,3.2nm,0.6s						
ULN	**Ulaanbaatar**	**25.81**	**295**	⇑eP	**P**	**06 11 57.2**	**-0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SONA1	**Songino Array**	**26.25**	**295**	eP	**P**	**06 12 02.0**	**+0.6**
SONM	**Songino Array**	**26.25**	**295**	P	**P**	**06 12 01.6**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=83,slow=8.9,SNR=21						
TLY	**Talaya**	**28.14**	**303**	LR	LR	06 24 06.1	
	comp=Z,64nm,19.6s,baz=104,slow=38						
TLY	**Talaya**	**28.14**	**303**	eP	**P**	**06 12 18.4**	**+0.2**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**30.22**	**131**	T	T	06 44 08.8	
	baz=324,slow=75,SNR=78						
H11N1	**WAKE ISLAND Hy**	**30.23**	**131**	T	T	06 44 13.8	
	baz=324,slow=75,SNR=92						
H11N3	**WAKE ISLAND Hy**	**30.24**	**131**	T	T	06 44 15.0	
	baz=324,slow=75,SNR=73						
LZH	**Lanzhou**	**30.72**	**272**	eP	**P**	**06 12 43.3**	**+1.9**
LZH				pP	pP	06 12 55.1	-1.4
LZH				sP	sP	06 13 01.2	-2.5
H11S1	**WAKE ISLAND Hy**	**31.09**	**132**	T	T	06 45 22.5	
	baz=325,slow=76,SNR=96						
H11S3	**WAKE ISLAND Hy**	**31.09**	**132**	T	T	06 45 16.8	
	baz=325,slow=76,SNR=64						
H11S2	**WAKE ISLAND Hy**	**31.11**	**132**	T	T	06 45 09.8	
	baz=325,slow=76,SNR=68						
GTA	**Gaotai**	**32.50**	**280**	eP	**P**	**06 12 57.1**	**+0.2**
GTA				pP	pP	06 13 08.5	-3.6
GTA				sP	sP	06 13 14.1	-5.2
CD2	**Chengdu**	**33.16**	**263**	eP	**P**	**06 13 03.0**	**+0.3**
KMI	**Kunming**	**37.15**	**256**	P	**P**	**06 13 37.8**	**+0.6**
ZAA0	**Zalesovo Array**	**39.47**	**308**	eP	**P**	**06 13 56.3**	**+0.2**
	comp=Z,7.9nm,0.9s						
ZALV	**Zalesovo Beam**	**39.47**	**308**	P	**P**	**06 13 56.0**	**-0.2**
	comp=Z,7.3nm,0.7s,baz=88,slow=7.6,SNR=26						
ZALV				PcP	**PcP**	**06 16 02.8**	**0.0**
	comp=Z,1.1nm,0.5s,baz=116,slow=5.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**39.47**	**308**	eP	**P**	**06 13 56.5**	**+0.3**
ZALV				PcP	**PcP**	**06 16 02.8**	**0.0**
ZALV	**Zalesovo Beam**	**39.47**	**308**	eP	**P**	**06 13 56.5**	**+0.3**
ZALV						06 16 02.8	
WMQ	**Urumqi**	**39.78**	**292**	P	**P**	**06 14 00.8**	**+1.9**
MK31	**Makanchi Array**	**42.55**	**298**	eP	**P**	**06 14 21.5**	**-0.1**
MK31	**Makanchi Array**	**42.55**	**298**	eP	**P**	**06 14 21.5**	**-0.1**
MKAR	**Makanchi Array**	**42.55**	**298**	P	**P**	**06 14 21.5**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=81,slow=9.3,SNR=24						
MKAR				PcP	**PcP**	**06 16 13.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=92,slow=3.6,SNR=3.0						
MKAR	**Makanchi Array**	**42.55**	**298**	eP	**P**	**06 14 21.7**	**+0.1**
	comp=Z,28nm,0.6s						
MKAR				PcP	**PcP**	**06 16 13.1**	**+0.1**
MKAR	**Makanchi Array**	**42.55**	**298**	eP	**P**	**06 14 21.7**	**+0.1**
MKAR						06 16 13.1	
MKAR				pmax	pmax		
	comp=Z,28nm,0.6s						
MK01	**Makanchi Array**	**42.55**	**298**	eP	**P**	**06 14 21.6**	**0.0**
MAKZ	**Makanchi**	**42.75**	**298**	eP	**P**	**06 14 23.1**	**-0.1**
	comp=Z,5.2nm,0.9s						
MAKZ	**Makanchi**	**42.75**	**298**	eP	**P**	**06 14 23.1**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KURK	**Kurchatov**	**43.82**	**304**	eP	**P**	**06 14 31.8**	**0.0**
	comp=Z,9.8nm,0.8s						
KURK	**Kurchatov**	**43.82**	**304**	c iP	**P**	**06 14 31.4**	**-0.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.11**	**251**	P	**P**	**06 14 33.0**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=45,slow=6.9,SNR=5.5						
CMAR				LR	LR	06 32 49.8	
	comp=Z,31nm,18.8s,baz=195,slow=36						
COLA	**College**	**44.12**	**35**	eP	**P**	**06 14 33.0**	**-0.9**
IL1	**Eielson Array**	**44.54**	**35**	eP	**P**	**06 14 38.2**	**+0.9**
ILAR	**Eielson Array**	**44.54**	**35**	P	**P**	**06 14 37.5**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=268,slow=7.5,SNR=11						
ODAN	**Odare**	**47.44**	**270**	eP	**P**	**06 15 00.7**	**-0.2**
	comp=Z,5.9nm,0.3s						
KDJ	**Kajisay**	**47.59**	**293**	P	**P**	**06 15 02.0**	**+0.1**
KDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
JIRN	**Jiri**	**47.89**	**271**	eP	**P**	**06 15 04.9**	**+0.3**
	comp=Z,8.6nm,0.3s						
RAMN	**Ramite**	**47.98**	**270**	eP	**P**	**06 15 04.9**	**-0.2**
	comp=Z,8.6nm,0.3s						
GUN	**Gumba**	**47.99**	**272**	eP	**P**	**06 15 05.6**	**+0.3**
	comp=Z,19nm,0.3s						
BVAR	**Borovoye Array**	**48.08**	**309**	P	**P**	**06 15 05.2**	**0.0**
	comp=Z,2.7nm,0.3s,baz=80,slow=9.7,SNR=21						
BVAR				PcP	**PcP**	**06 16 32.4**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=108,slow=4.7,SNR=3.6						
BRVK	**Borovoye**	**48.13**	**309**	eP	**P**	**06 15 06.6**	**+1.0**
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**48.13**	**309**	eP	**P**	**06 15 06.6**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKN	**Kakani**	**48.50**	**272**	eP	**P**	**06 15 08.9**	**-0.1**
	comp=Z,10nm,0.5s						
PKI	**Pulchoki**	**48.52**	**272**	eP	**P**	**06 15 09.0**	**-0.3**
	comp=Z,5.6nm,0.4s						
PKIN	**Phulchoki**	**48.53**	**272**	eP	**P**	**06 15 09.2**	**-0.1**
	comp=Z,5.3nm,0.4s						
DMN	**Daman**	**48.73**	**272**	eP	**P**	**06 15 10.9**	**+0.1**
	comp=Z,6.2nm,0.5s						
GKN	**Gorkha**	**48.86**	**273**	eP	**P**	**06 15 12.2**	**+0.5**
	comp=Z,0.3nm,0.1s						
AAK	**Ala-Archa**	**49.21**	**295**	P	**P**	**06 15 14.1**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=123,slow=5.2,SNR=5.1						
INK	**Inuvik**	**49.27**	**29**	P	**P**	**06 15 14.1**	**0.0**
	comp=Z,0.9nm,0.3s,baz=302,slow=8.9,SNR=11						
INK	**Inuvik**	**49.27**	**29**	eP	**P**	**06 15 14.5**	**+0.4**
	comp=Z,11nm,1.7s						
INK	**Inuvik**	**49.27**	**29**	eP	**P**	**06 15 14.5**	**+0.4**
INK				pmax	pmax		
	comp=Z,11nm,1.7s						
HYT	**Haines Junctio**	**49.50**	**39**	eP	**P**	**06 15 17.5**	**+1.3**
	comp=Z,23nm,1.7s						
KOLN	**Koldanda**	**49.76**	**273**	eP	**P**	**06 15 18.1**	**-0.5**
	comp=Z,5.0nm,0.3s						
ARU	**Arti**	**53.34**	**316**	c iP	**P**	**06 15 44.2**	**-0.5**
ARU				*PP	**sP**	**06 16 03.5**	**-4.2**
ARU						06 16 45.6	
ARU						06 17 42.4	
ARU				S	**S**	**06 23 13.1**	**+1.5**
ARU				SS	**SS**	**06 26 49.7**	**-1.8**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ABKAR	**Akbulak array**	**55.59**	**308**	eP	**P**	**06 16 01.3**	**+0.2**
	comp=Z,32nm,0.3s						
SPITS	**Spitsbergen Ar**	**55.68**	**348**	P	**P**	**06 16 00.7**	**-0.7**
	comp=Z,14nm,1.1s,baz=40,slow=9.1,SNR=6.5						
AKTO	**Aktyubinsk**	**56.17**	**310**	P	**P**	**06 16 05.0**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=68,slow=15,SNR=4.8						
RES	**Resolute Bay**	**57.30**	**16**	eP	**P**	**06 16 12.7**	**-0.2**
	comp=Z,1.1nm,0.7s						
RES	**Resolute Bay**	**57.30**	**16**	eP	**P**	**06 16 12.7**	**-0.2**
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**58.77**	**32**	P	**P**	**06 16 23.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=308,slow=6.9,SNR=6.1						
ARCES	**ARCESS Array B**	**59.58**	**339**	P	**P**	**06 16 28.0**	**-0.9**
	comp=Z,4.5nm,0.9s,baz=45,slow=9.0,SNR=7.7						
ARCES	**ARCESS Array B**	**59.58**	**339**	P	**P**	**06 16 28.0**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRA	**Warramunga Arr**	**62.35**	**189**	P	**P**	**06 16 48.1**	**0.0**
	comp=Z,0.2nm,0.4s,baz=6.8,slow=6.9,SNR=6.9						
GEYT	**Alibeck**	**62.43**	**297**	P	**P**	**06 16 48.7**	**0.0**
	comp=Z,2.0nm,0.4s,baz=56,slow=2.6,SNR=4.5						
FIA1	**FINESS Array S**	**64.79**	**332**	eP	**P**	**06 17 03.4**	**-0.4**
	comp=Z,18nm,1.3s						
FINES	**FINESS Array B**	**64.80**	**332**	P	**P**	**06 17 03.1**	**-0.7**
	comp=Z,3.8nm,0.4s,baz=55,slow=7.3,SNR=41						
FINES	**FINESS Array B**	**64.80**	**332**	iP	**P**	**06 17 03.0**	**-0.8**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SUMG	**Summit**	**65.51**	**0**	eP	**P**	**06 17 09.4**	**+0.6**
SUMG	**Summit**	**65.51**	**0**	eP	**P**	**06 17 09.4**	**+0.6**
VSR	**Storozhevoye**	**65.84**	**318**	⇓eP	**P**	**06 17 11.0**	**+0.2**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
VSU	**Vasula**	**66.60**	**329**	⇑eP	**P**	**06 17 14.0**	**-1.5**
VSU				pmax	pmax		
	comp=Z,138nm,2.2s						
COCO	**West Island**	**68.70**	**229**	eP	**P**	**06 17 29.4**	**+0.2**
	comp=Z,499nm,1.9s						
COCO	**West Island**	**68.70**	**229**	eP	**P**	**06 17 29.4**	**+0.2**
COCO				pmax	pmax		
	comp=Z,499nm,1.9s						
FCC	**Fort Churchill**	**68.86**	**28**	eP	**P**	**06 17 29.9**	**+0.2**
	comp=Z,1.7nm,0.7s						
FCC	**Fort Churchill**	**68.86**	**28**	eP	**P**	**06 17 29.9**	**+0.2**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NC204	**NORSAR Array S**	**69.80**	**338**	eP	**P**	**06 17 35.4**	**-0.2**
HFS	**Hagfors**	**69.86**	**336**	P	**P**	**06 17 35.4**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=44,slow=6.4,SNR=17						
NB2	**NORSAR Subarra**	**69.87**	**337**	P	**P**	**06 17 34.7**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**69.87**	**337**	P	**P**	**06 17 35.1**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=36,slow=6.2,SNR=5.4						
AKASG	**Malin Array Be**	**70.93**	**322**	P	**P**	**06 17 42.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=43,slow=5.8,SNR=9.3						
AKASG	**Malin Array Be**	**70.93**	**322**	iP	**P**	**06 17 43.5**	**+1.0**
NVAR	**Mina Array Bea**	**71.01**	**55**	P	**P**	**06 17 45.4**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=283,slow=5.6,SNR=3.7						
PDAR	**Pinedale Array**	**73.24**	**47**	P	**P**	**06 17 57.8**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=337,slow=3.9,SNR=2.8						
BUR08	**Bucovina Ar. S**	**74.96**	**322**	eP	**P**	**06 18 07.0**	**+0.4**
BUR04	**Bucovina Ar. S**	**74.98**	**322**	eP	**P**	**06 18 07.2**	**+0.5**
BRTR	**Keskin Array B**	**76.30**	**311**	P	**P**	**06 18 14.2**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=35,slow=5.3,SNR=2.9						
KECS	**Kecovo**	**76.43**	**325**	eP	**P**	**06 18 13.0**	**-1.9**
KECS	**Kecovo**	**76.43**	**325**	eP	**P**	**06 18 12.9**	**-1.9**
CLL	**Collm**	**77.18**	**330**	eP	**P**	**06 18 19.0**	**0.0**
CLL	**Collm**	**77.18**	**330**	eP	**P**	**06 18 19.0**	**0.0**
EKA	**Eskdalemuir Ar**	**78.63**	**341**	P	**P**	**06 18 27.2**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=31,slow=4.5,SNR=4.0						
GERES	**GERESS Array B**	**78.92**	**329**	P	**P**	**06 18 28.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=12,slow=5.0,SNR=4.3						
ASF	**Jabal al Asfar**	**79.59**	**304**	LR	LR	06 55 51.3	
	comp=Z,204nm,19.0s,baz=148,slow=37						
PB11	**IPOC Station P**	**144.54**	**61**	ePKPdf	**PKPdf**	**06 26 02.5**	**+0.6**
PB01	**IPOC Station P**	**145.56**	**62**	ePKPdf	**PKPab**	**06 26 05.4**	**+1.2**
SNAA	**Sanae**	**146.03**	**199**	PKPbc	**PKPab**	**06 26 04.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=180,slow=12,SNR=4.7						
SNAA	**Sanae**	**146.03**	**199**	ePKPdf	**PKPab**	**06 26 05.4**	**+0.9**

GUC 03 06:11:59.5±0.5**, 27°.17S×71°.00W, h45**km±2km**, ML3.8, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.19**	**58**	eP	Pn	06 12 06.9	-0.3
CDCH				eS	Sn	06 12 11.4	-1.3
CPCH	**Copiapo**	**0.61**	**108**	iP	Pn	06 12 12.0	+0.1
CPCH				eS	Sn	06 12 20.7	-0.1
GO03	**Copiap**	**0.80**	**122**	eP	Pn	06 12 15.3	+0.8
GO03				eS	Sn	06 12 26.3	+0.9
GO03				IAML		06 12 27.4	
	comp=E,5μm,0.3s						
VACH	**Vallenar**	**1.42**	**171**	eP	Pn	06 12 32.9	+10
VACH				eS	Sn	06 12 51.2	+11
LCO	**Las Campanas**	**1.85**	**172**	eP	Pn	06 12 31.4	+2.4
LCO				eS	Sn	06 12 54.6	+3.1
LCO				IAML		06 13 00.8	
	comp=E,1μm,0.3s						
GO02	**Mina Guanaco**	**2.37**	**33**	eP	Pn	06 12 39.0	+2.9
GO02				IAML		06 13 22.7	
	comp=E,1μm,0.6s						
GO04	**Tololo Observa**	**3.00**	**177**	eP	Pn	06 12 47.3	+2.5
GO04				eS	Sn	06 13 23.1	+3.6

*KRNET **03** 06:14:32.9±0.1, 40°.88N×79°.99E, mb2.9*
*SOME **03** 06:14:33.1, 41°.03N×79°.83E, h0km*
ISC 03 06:14:30.4±3.6**, 40°.8N**±0°.1×**80°.06E**±0°.09**, h2**km±18km**, n12, σ1s.63**/24**, 8C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.92**	**299**	⇑eP	**Pb**	**06 15 07.3**	**+0.9**
	baz=98						
TARG				⇑iS	**Sg**	**06 15 33.2**	**+1.1**
	baz=98						
PRZ	**Przheval'sk**	**2.06**	**324**	⇑iP	**Pg**	**06 15 10.6**	**+0.6**
	baz=24						
PRZ				⇑iS	**Sg**	**06 15 36.7**	**-0.1**
	baz=24						
KDJ	**Kajisay**	**2.52**	**302**	⇑eP	**Pb**	**06 15 16.3**	**-0.2**
	baz=2.0						
KDJ				⇑eS	**Sb**	**06 15 48.7**	**+0.7**
	baz=2.0						
PDGK	**Podgornoye**	**2.53**	**351**	⇑eP	**Pb**	**06 15 16.5**	**-0.1**
	baz=51						
PDGK				⇑iS	**Sb**	**06 15 49.3**	**+1.1**
	baz=51						
SATY	**Saty**	**2.54**	**332**	eP	**Pb**	**06 15 17.8**	**+1.0**
	7.5nm,0.4s						
SATY				eS	**Sb**	**06 15 50.4**	**+1.8**
	10nm,0.5s						
KTMS	**Ketmen**	**2.62**	**5**	eP	**Pb**	**06 15 17.7**	**-0.4**
	16nm,0.2s						
KTMS				eS	**Sb**	**06 15 49.7**	**-1.1**
	17nm,0.4s						
KURS	**Kuram**	**3.00**	**333**	eP	**Pb**	**06 15 23.6**	**-1.0**
KURS				eS	**Sb**	**06 16 00.1**	**-1.6**
ULHL	**Ulahol**	**3.19**	**297**	⇓iP	**Pb**	**06 15 26.0**	**-2.0**
	baz=97						
ULHL				⇓iS	**Sb**	**06 16 04.4**	**-3.0**
	baz=97						
TNSS	**Tian-Shan**	**3.20**	**315**	eP	**Pb**	**06 15 28.8**	**+0.6**
	3.1nm,0.3s						
TNSS				eS	**Sb**	**06 16 09.1**	**+1.3**
	4.4nm,0.5s						
MNBS	**Baschi**	**3.47**	**340**	eP	**Pb**	**06 15 32.4**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	3.8nm,0.2s						
MNBS				eS	Sb	06 16 14.7	-0.5
	15nm,0.3s						
CHKK	Chushkaly	3.78	324	eP	Pb	06 15 38.3	+0.4
	8.6nm,0.1s						
CHKK				eS	Sb	06 16 24.8	+0.7
	18nm,0.7s						
KAPS	Kapalarasan	4.48	354	eP	Pb	06 15 53.0	+3.2
	0.8nm,0.4s						
KAPS				eS	Sg	06 16 50.6	-3.6
	1.7nm,0.6s						

IDC 03 06:15:55.4±3.9**, 2°.75S×141°.31E, h0km, mb3.3**/2**, mb1 3.7**/3**, mb1mx3.3**/42**, mbtmp3.5**/3**, ML3.7**/1**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.5**/23**, Error ellipse: s-maj=138.4km s-min=29.2km az=89.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.81	139	LR	LR	06 21 46.7	
	comp=Z,87nm,19.6s,baz=258,slow=40						
WRA	Warramunga Arr	18.40	201	P	Pn	06 20 10.7	-1.5
	0.2nm,0.3s,baz=23,slow=12,SNR=11						
ASAR	Alice Springs	22.00	198	P	P	06 20 51.5	+0.1
	1.1nm,0.7s,baz=30,slow=9.6,SNR=12						
H11S3	WAKE ISLAND Hy	32.70	49	T	T	06 57 04.7	
	baz=232,slow=75,SNR=156						
H11S2	WAKE ISLAND Hy	32.72	49	T	T	06 57 06.0	
	baz=232,slow=75,SNR=101						
H11S1	WAKE ISLAND Hy	32.72	49	T	T	06 57 05.5	
	baz=232,slow=75,SNR=68						
H11N1	WAKE ISLAND Hy	33.61	47	T	T	06 58 15.2	
	baz=228,slow=75,SNR=6.8						
H11N2	WAKE ISLAND Hy	33.62	47	T	T	06 58 16.6	
	baz=228,slow=75,SNR=9.0						
H11N3	WAKE ISLAND Hy	33.62	47	T	T	06 58 18.0	
	baz=228,slow=75,SNR=5.0						
MKAR	Makanchi Array	71.42	322	P	P	06 27 18.0	+0.3
	0.2nm,0.6s,baz=126,slow=7.3,SNR=2.3						

IDC 03 06:29:16.8±25.0**, 17°.61S×177°.68W, h523**km±217km**, mb2.7**/3**, mb1 3.1**/3**, mb1mx2.6**/40**, mbtmp3.6**/3**, Error ellipse: s-maj=296.7km s-min=40.3km az=132.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.37	259	P	P	06 36 48.4	-0.2
	0.4nm,0.4s,baz=94,slow=7.0,SNR=12						
WRA				PcP	PcP	06 38 16.8	-0.2
	0.3nm,0.9s,baz=91,slow=3.8,SNR=3.5						
ASAR	Alice Springs	45.55	254	P	P	06 36 49.7	-0.1
	1.0nm,0.4s,baz=92,slow=7.6,SNR=24						
ASAR				PcP	PcP	06 38 17.3	-0.4
	0.2nm,0.5s,baz=110,slow=4.0,SNR=4.4						
ILAR	Eielson Array	85.44	13	P	P	06 40 58.5	0.0
	0.2nm,0.8s,baz=221,slow=5.4,SNR=3.2						

CSEM 03 06:30:13.9, 37°.89N×26°.15W, h5km, ML3.7, After PDA
PDA 03 06:30:13.9±1.1**, 37°.89N×26°.15W, h5**km±4km**, MD3.8, ML3.7, 2C-6D, Error ellipse: s-maj=4.7km s-min=2.0km az=31.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSET	Sete Cidades	0.35	100⇓	iP	Pg	06 30 20.1	-0.5
PSET				eS	Sg	06 30 25.3	+0.1
PSET				A	A	06 30 33.4	
	3μm,0.3s						
PSET	Sete Cidades	0.35	100⇓	iP	Pg	06 30 20.1	-0.5
PSET				eS	Sg	06 30 25.3	+0.1
PDA	Ponta Delgada	0.41	109⇓	iP	Pg	06 30 21.1	-0.7
PDA				eS	Sg	06 30 27.1	-0.1
PDA				A	A	06 30 28.7	
	2μm,0.5s						
PDA	Ponta Delgada	0.41	109⇓	iP	Pg	06 30 21.1	-0.7
PDA				eS	Sg	06 30 27.1	-0.1
GRON	Grota Negra	0.50	103	eP	Pb	06 30 24.5	-0.8
GRON				eS	Sb	06 30 32.4	-0.6
GRON				A	A	06 30 35.6	
	364nm,0.2s						
CMLA	Cha da Macela	0.51	103⇓	iP	Pg	06 30 22.7	-1.1
CMLA				i S	Sg	06 30 29.8	-0.6
CMLA				A	A	06 30 37.2	
	4μm,0.3s						
CMLA	Cha da Macela	0.51	103⇓	iP	Pg	06 30 22.7	-1.1
CMLA				i S	Sg	06 30 29.8	-0.6
PCALD	Caldeiras da R	0.53	99⇑	iP	Pg	06 30 22.8	-1.4
PCALD				eS	Sg	06 30 30.0	-1.1
PCALD				A	A	06 30 33.2	
	2μm,0.3s						
PCALD	Caldeiras da R	0.53	99⇑	iP	Pg	06 30 22.8	-1.4
PCALD				eS	Sg	06 30 30.0	-1.1
BART	Pico Bartolome	0.79	98	eP	Pg	06 30 26.3	-2.7
BART				eS	Sg	06 30 36.6	-2.6
BART				A	A	06 30 45.2	
	707nm,0.6s						
BART	Pico Bartolome	0.79	98	eP	Pg	06 30 26.3	-2.7
BART				eS	Sg	06 30 36.6	-2.6
ADH	Angra Heroismo	1.15	312	eP	Pg	06 30 31.4	-4.5
ADH				i S	Sg	06 30 45.0	-5.8
ADH				A	A	06 30 47.3	
	476nm,0.3s						
ADH	Angra Heroismo	1.15	312	eP	Pg	06 30 31.4	-4.5
ADH				i S	Sg	06 30 45.0	-5.8
PSMA	Santa Maria	1.21	137	eP	Pg	06 30 32.6	-4.4
PSMA				eS	Sg	06 30 46.3	-6.3
PSMA				A	A	06 30 49.0	
	325nm,0.2s						
PSMN	Pico do Norte,	1.23	135	eP	Pg	06 30 33.0	-4.6
PSMN				eS	Sg	06 30 47.3	-6.3
PSMN				A	A	06 30 51.4	
	181nm,0.3s						
PSMN	Pico do Norte,	1.23	135	eP	Pg	06 30 33.0	-4.6
PSMN				eS	Sg	06 30 47.3	-6.3
PID	Ribeirinha	1.65	290	eS	Sn	06 30 57.7	-7.5
PID	Ribeirinha	1.65	290	eS	Sn	06 30 57.7	-7.5
PMAN	Manadas	1.70	297	eP	Pn	06 30 39.5	-4.7
PMAN				eS	Sn	06 30 58.3	-8.1
PMAN				A	A	06 31 00.9	
	381nm,0.2s						
PMAN	Manadas	1.70	297	eP	Pn	06 30 39.5	-4.7
PMAN				eS	Sn	06 30 58.3	-8.1
PGRA	Graciosa	1.83	309	eP	Pn	06 30 41.5	-4.6
PGRA				eS	Sn	06 31 01.9	-7.9
PGRA				A	A	06 31 06.8	
	174nm,0.4s						
PGRA	Graciosa	1.83	309	eP	Pn	06 30 41.5	-4.6
PGRA				eS	Sn	06 31 01.9	-7.9
PICO	Pico	1.89	290	eP	Pn	06 30 42.3	-4.7
PICO				eS	Sn	06 31 03.5	-7.8
PICO				A	A	06 31 06.8	
	455nm,0.4s						
PICO	Pico	1.89	290	eP	Pn	06 30 42.3	-4.7
PICO				eS	Sn	06 31 03.5	-7.8
PCAN	Candelaria	1.93	288	eP	Pn	06 30 42.9	-4.5
PCAN				eS	Sn	06 31 04.3	-7.8
PCAN				A	A	06 31 07.0	
	453nm,0.1s						
PCAN	Candelaria	1.93	288	eP	Pn	06 30 42.9	-4.5
PCAN				eS	Sn	06 31 04.3	-7.8
HOR	Horta	2.05	289	eP	Pn	06 30 44.3	-4.8
HOR				eS	Sn	06 31 07.1	-8.0
HOR				A	A	06 31 10.3	
	442nm,0.3s						
HOR	Horta	2.05	289	eP	Pn	06 30 44.3	-4.8
HOR				eS	Sn	06 31 07.1	-8.0
CALA	Caldeira	2.12	290	eP	Pn	06 30 45.8	-4.4
CALA				eS	Sn	06 31 09.2	-7.8
CALA	Caldeira	2.12	290	eP	Pn	06 30 45.8	-4.4
CALA				eS	Sn	06 31 09.2	-7.8
PCED	Cedros	2.14	291	eP	Pn	06 30 45.5	-4.8
PCED				eS	Sn	06 31 09.1	-8.2
PCED				A	A	06 31 15.5	
	311nm,0.3s						
PCED	Cedros	2.14	291	eP	Pn	06 30 45.5	-4.8
PCED				eS	Sn	06 31 09.1	-8.2

IDC 03 06:50:55.6±1.4, 8°.50S×106°.88E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/54, mbtmp3.7/4, Error ellipse: s-maj=32.9km s-min=27.2km az=63.0
ISCJB 03 06:50:59.1±0.9, 8°.63S±0°.07×107°.13E±0°.05, h33km, mb3.7/4, Error ellipse: s-maj=10.1km s-min=6.0km az=20.2
DJA 03 06:51:00.7±1.3, 8°S±6°×10°7E±°, h23km±11km, M3.9/11, MLv3.9/11
ISC 03 06:51:01.0±1.1**, 8°.54S**±0°.09×**107°.15E**±0°.06**, h35km, n21, σ1.32**/20**, mb3.9**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	1.18	34	P	Pn	06 51 19.7	-1.4
CISI				S	Sn	06 51 35.3	-0.8
CMJI	Cimerak	1.49	60	P	Pn	06 51 24.7	-0.6
SKJI	Sukabumi	1.64	339	P	Pn	06 51 26.9	-0.4
LEM	Lembang	1.77	15	Pn	Pn	06 51 30.0	+0.7
	66nm,0.3s,baz=300,slow=20,SNR=19						
LEM				Sn	Sn	06 51 52.9	+2.3
	56nm,0.3s,baz=180,slow=20,SNR=5.1						
LEM	Lembang	1.77	15	P	Pn	06 51 29.3	0.0
CGJI	Cibinong	2.40	323	P	Pn	06 51 37.7	-0.1
CGJI				S	Sn	06 52 07.4	+1.5
SBJI	Serang	2.61	337	P	Pn	06 51 41.3	+0.6
UGM	Wanagama	3.40	80	S	Sn	06 52 30.9	+0.1
SMRI	Semarang	3.59	66	P	Pn	06 51 56.6	+2.5
PCJI	Pacitan	4.00	85	P	Pn	06 51 58.6	-1.3
PWJI	Pagerwojo	4.64	84	P	Pn	06 52 09.8	+1.2
LWLI	Liwa	4.66	319	P	Pn	06 52 09.5	+0.6
MDSI	Maura Dua	4.99	324	P	Pn	06 52 13.8	+0.3
KBKI	Kotabaru	10.37	60	P	Pn	06 53 17.9	-9.5
WRA	Warramunga Arr	28.64	116	P	P	06 56 56.3	+1.7
	0.2nm,0.6s,baz=291,slow=12,SNR=3.3						
H08S2	Diego Garcia H	34.31	269	T	T	07 33 27.0	
	baz=96						
H08S3	Diego Garcia H	34.32	269	T	T	07 33 27.0	
	baz=96						
H08S1	Diego Carcia H	34.33	269	T	T	07 33 27.6	
	baz=96						
MKAR	Makanchi Array	59.38	340	P	P	07 00 57.6	-2.2
	0.5nm,0.6s,baz=148,slow=7.7,SNR=8.0						
BVAR	Borovoye Array	68.84	337	P	P	07 02 00.9	-0.8
	1.2nm,0.5s,baz=141,slow=7.8,SNR=6.0						
BRTR	Keskin Array B	82.96	312	P	P	07 03 22.8	0.0
	0.4nm,0.4s,baz=116,slow=6.9,SNR=2.3						

GUC 03 06:59:30.7±1.1, 28°.26S×69°.37W, h30km±19km, ML2.9
SJA 03 06:59:39.5±0.5, 28°.08S×69°.43W, h87km±999km, ML2.7, MW2.9
ISC 03 06:59:31.5±1.4**, 28°.20S**±0°.04×**69°.34W**±0°.04**, h14**km±12km**, n14, σ1.56**/23**, 1C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO03	Copiap	1.00	307	eP	Pb	06 59 49.8	-0.7
GO03				i S	Sn	07 00 04.1	-0.9
GO03				IAML		07 00 04.3	
	comp=N,357nm,0.2s						
VCA	Vinchina	1.13	119⇑	iP	Pb	06 59 52.1	-0.8
VCA				i S	Sb	07 00 07.7	+0.2
CPCH	Copiapo	1.23	313	eP	Pn	06 59 53.7	-0.5
CPCH				eS	Sn	07 00 11.1	+0.5
VACH	Vallenar	1.31	253	eP	Pg	07 00 00.5	+3.8
VACH				eS	Sg	07 00 17.0	+3.3
LCO	Las Campanas	1.45	236	IAML		07 00 13.0	
	comp=E,279nm,0.4s						
CDCH	Caldera	1.73	310	eP	Pb	07 00 02.5	-0.5
CDCH				i S	Sg	07 00 26.3	-1.0
TLL	Tololo Astrono	2.34	213	eP	Pn	07 00 10.2	+0.4
TLL				eS	Sn	07 00 39.2	+0.8
TLL				IAML		07 00 43.5	
	comp=E,157nm,0.9s						
GO04	Tololo Observa	2.35	213	eP	Pn	07 00 10.2	+0.4
GO04				eS	Sn	07 00 39.1	+0.6
CYA	Choya	3.12	95	i P	Pb	07 00 26.2	-0.6
CYA				i S	Sb	07 01 06.2	+1.4
CYA				IAML		07 01 11.0	
	comp=Z,19nm,0.4s						
APLL	PUNTA DE LOS L	3.29	132	i P	Pb	07 00 29.1	-0.5
APLL				IAML		07 00 29.4	
	comp=Z,42nm,0.3s						
APLL				i S	Sb	07 01 11.7	+2.2
FSA	Cafayete	3.64	56	i P	Pg	07 00 40.9	-0.4
FSA				IAML		07 01 29.1	
	comp=Z,8.3nm,0.8s						
RTCV	Cerro Valdivia	3.71	169	i P	Pb	07 00 32.5	-4.4
RTCV				i S	Sb	07 01 21.1	-0.8
AHML	Horco Molle	3.82	69	i P	Pb	07 00 38.2	-0.5
AHML				IAML		07 01 35.5	
	comp=Z,7.6nm,0.3s						
ASAL	Salagasta	4.40	174	i P	Pb	07 00 47.4	-1.2
ASAL				i S	Sb	07 01 42.8	+1.3

ISCJB 03 07:02:40.8±0.3, 9°.59N±0°.03×126°.80E±0°.04, h10km, mb4.3/27, Error ellipse: s-maj=5.9km s-min=4.6km az=10.0
IDC 03 07:02:40.7±0.6, 9°.50N×126°.47E, h0km, mb4.2/14, mb1 4.2/14, mb1mx4.0/54, mbtmp4.1/14, MS2.9/3, Ms1 2.9/3, ms1mx2.6/53, Error ellipse: s-maj=47.6km s-min=13.6km az=74.0
MAN 03 07:02:43, 9°.52N×126°.71E, h10km, mb4.8, ML3.7, MS3.6
NEIC 03 07:02:50.2±1.5, 9°.40N×126°.30E, h73km±14km, mb4.7/13, Error ellipse: s-maj=15.1km s-min=6.0km az=69.0
ISC 03 07:02:43.8±0.9**, 9°.52N**±0°.03×**126°.57E**±0°.06**, h17**km±6km**, n65, σ1.42**/65**, mb4.5**/27**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	1.08	240	eP	Pn	07 03 05.1	+0.9
BUTP				eS	Sn	07 03 20.0	+1.3
BIPH	Bislig	1.34	189⇑	iP	Pg	07 03 12.9	+3.3
BIPH				i S	Sg	07 03 28.9	+1.7
MSLP	Maasin	1.79	290	eP	Pg	07 03 17.0	-1.3
MSLP				eS	Sg	07 03 40.6	-1.0
BUKP	Musuan	2.21	223	eP	Pb	07 03 21.8	-1.5
BUKP				eS	Sg	07 03 52.3	-2.5
PLP	Palo	2.26	316⇓	eP	Pb	07 03 23.1	-1.1
PLP				eS	Sn	07 03 43.5	-4.5
MATI	Mati	2.57	187	eP	Pn	07 03 26.2	+1.5
DAV	Davao City (W)	2.62	202	Sn	Sg	07 04 07.4	-0.8
	60nm,0.3s,baz=281,slow=22,SNR=4.0						
DAV				LR	LR	07 04 45.7	
	comp=Z,422nm,19.7s,baz=344,slow=48						
DAV	Davao City (W)	2.62	202	ePn	Pb	07 03 27.3	-3.0
DAV				Sn	Sg	07 04 07.4	-0.8
DCPH	Dipolog City	3.31	254⇓	eP	Pb	07 03 38.1	-3.9
CNP	Catarman	3.51	328	eP	Pn	07 03 40.6	+2.9
CNP				eS	Sn	07 04 20.2	+1.4
RCP	Roxas	4.27	299⇑	eP	Pb	07 03 52.8	-5.7
KKM	Kota Kinabalu	10.82	252	ePn	Pn	07 05 19.0	+0.8
SARN	Sarigan	20.02	67	eP	P	07 07 16.0	0.0
SARN				ePn	sP	07 07 24.5	+1.4
FITZ	Fitzroy Crossi	27.46	182	P	P	07 08 29.4	+0.3
	4.4nm,0.6s,baz=5.9,slow=12,SNR=12						
KSRS	Korea Array	27.84	2	LR	LR	07 21 53.4	
	comp=Z,16nm,18.1s,baz=340,slow=41						
MJAR	Matsushiro Arr	28.90	20	LR	LR	07 20 31.0	
	comp=Z,15nm,18.4s,baz=185,slow=37						
WR1	Warramunga Arr	30.26	165	eP	P	07 08 52.9	-1.1
	12nm,1.6s						
WRA	Warramunga Arr	30.26	165	P	P	07 08 52.9	-1.1
	0.5nm,0.5s,baz=346,slow=8.8,SNR=13						
MBWA	Marble Bar	31.21	192	eP	P	07 09 02.5	0.0
	8.8nm,1.1s						
AS31	Alice Springs	33.75	168	eP	P	07 09 24.4	-0.4
	0.7nm,1.0s						
ASAR	Alice Springs	33.75	168	P	P	07 09 24.4	-0.4
	0.5nm,0.3s,baz=344,slow=7.3,SNR=19						
ASAR				PcP	PcP	07 12 03.9	-0.2
	0.2nm,0.5s,baz=325,slow=1.5,SNR=3.4						
AS01	Alice Springs	33.76	168	eP	P	07 09 24.6	-0.2
H11S3	WAKE ISLAND Hy	39.86	73	T	T	07 53 11.4	
	baz=262,slow=75						
H11S1	WAKE ISLAND Hy	39.87	73	T	T	07 53 12.2	
	baz=262,slow=75						
H11S2	WAKE ISLAND Hy	39.88	73	T	T	07 53 10.0	
	baz=262,slow=75						
H11N1	WAKE ISLAND Hy	40.22	71	T	T	07 53 40.3	
	baz=261,slow=74						
H11N2	WAKE ISLAND Hy	40.23	71	T	T	07 53 45.6	
	baz=261,slow=74						
H11N3	WAKE ISLAND Hy	40.24	71	T	T	07 53 41.6	
	baz=261,slow=74						
SONA0	Songino Array	41.82	340	eP	P	07 10 32.2	-0.6
SONM	Songino Array	41.82	340	P	P	07 10 32.2	-0.6
	0.2nm,0.5s,baz=170,slow=8.8,SNR=3.2						
NWAO	Narrogin (SRO)	43.13	192	eP	P	07 10 43.8	+0.3
	34nm,1.5s						
STKA	Stephens Creek	43.60	161	P	P	07 10 47.1	-0.1
	0.9nm,0.4s,baz=338,slow=10,SNR=7.0						
STKA	Stephens Creek	43.60	161	eP	P	07 10 47.3	+0.1
	6.9nm,1.9s						
MK01	Makanchi Array	52.78	323	eP	P	07 11 57.8	-0.4
MK31	Makanchi Array	52.80	323	eP	P	07 11 57.7	-0.5
MK32	Makanchi Array	52.80	323	eP	P	07 11 57.9	-0.4
MK32				ePcP	PcP	07 13 07.3	-0.3
MKAR	Makanchi Array	52.80	323	P	P	07 11 57.9	-0.4
	1.2nm,0.5s,baz=130,slow=7.7,SNR=14						
MKAR				PcP	PcP	07 13 07.3	-0.3
	0.6nm,0.7s,baz=122,slow=3.8,SNR=2.8						
MKAR	Makanchi Array	52.80	323	eP	P	07 11 57.6	-0.6
	10nm,0.6s						
MKAR				PcP	PcP	07 13 07.3	-0.3
ZALV	Zalesovo Beam	55.42	331	P	P	07 12 15.9	-1.2
	0.8nm,0.7s,baz=109,slow=7.8,SNR=3.6						
ZAA1	Zalesovo Array	55.43	331	eP	P	07 12 15.9	-1.2
KKAR	Karatay Array	58.99	315	eP	P	07 12 42.0	-0.6
TIXI	Tiksi	62.10	1	eP	P	07 13 03.8	+0.5
	12nm,1.8s						
BVAR	Borovoye Array	62.45	326	P	P	07 13 05.8	-0.2
	0.5nm,0.5s,baz=129,slow=5.7,SNR=4.2						
ABKAR	Akbulak array	67.64	319	eP	P	07 13 38.8	-0.9
	14nm,0.4s						
BPAW	Bear Paw Mtn.	78.20	26	eP	P	07 14 44.1	+1.9
	33nm,2.0s						
MLY	Manley	78.35	25	eP	P	07 14 45.1	+2.1
	3.7nm,1.2s						
MCK	McKinley	79.09	27	eP	P	07 14 48.8	+1.7
	6.4nm,1.2s						
ILAR	Eielson Array	79.99	26	P	P	07 14 51.9	0.0
	0.3nm,0.5s,baz=238,slow=4.8,SNR=7.6						
ILB	Eielson Array	79.99	26	eP	P	07 14 51.9	0.0
IL1	Eielson Array	79.99	26	eP	P	07 14 51.7	-0.2
EGAK	Eagle	82.44	26	eP	P	07 15 07.1	+2.2
	26nm,1.9s						
SPITS	Spitsbergen Ar	84.81	349	P	P	07 15 16.8	-0.1
	5.0nm,0.9s,baz=74,slow=6.6,SNR=8.6						
INK	Inuvik	84.87	22	eP	P	07 15 18.5	+1.2
	5.2nm,1.5s						
ARA0	ARCESS Array S	85.00	340	eP	P	07 15 18.0	0.0
ARCES	ARCESS Array B	85.00	340	P	P	07 15 18.0	0.0
	2.8nm,0.6s,baz=87,slow=6.8,SNR=14						
ARCES	ARCESS Array B	85.00	340	eP	P	07 15 18.3	+0.3
FIA1	FINESS Array S	86.69	332	eP	P	07 15 25.6	-0.9
	19nm,1.3s						
FIA0	FINESS Array S	86.69	332	eP	P	07 15 25.7	-0.8
FINES	FINESS Array B	86.69	332	P	P	07 15 25.7	-0.8
	1.4nm,0.3s,baz=79,slow=4.6,SNR=34						
HFS	Hagfors	92.85	333	P	P	07 15 54.4	-1.1
	1.0nm,0.3s,baz=74,slow=2.1,SNR=13						
NB200	NORSAR Array S	93.56	334	eP	P	07 15 56.8	-2.0
NOA	NORSAR Array B	93.56	334	P	P	07 15 56.8	-2.0
	0.6nm,0.6s,baz=58,slow=5.9,SNR=3.1						
YKA	Yellowknife Ar	94.32	24	P	P	07 16 03.2	+1.0
	0.6nm,0.6s,baz=301,slow=4.7,SNR=17						
TX31	Lajitas Ar. Si	118.09	50	ePKPdf	PKPdf	07 21 29.4	-1.2
PLCA	Paso Flores	145.40	157	PKPbc	PKPbc	07 22 19.0	-2.2
	2.3nm,0.9s,baz=253,slow=5.8,SNR=4.5						

CSEM 03 07:09:32.9±0.2, 38°.98N×27°.91E, h12km, ML2.3, Error ellipse: s-maj=4.5km s-min=3.7km az=71.0
DDA 03 07:09:32.2, 39°.02N×27°.99E, h7km, Ml2.6
ISK 03 07:09:32.9, 38°.98N×27°.94E, h12km, ML2.3/5
ISCJB 03 07:09:33.2±0.7, 38°.97N±0°.04×27°.87E±0°.07, h16km±8km, Error ellipse: s-maj=10.2km s-min=6.1km az=156.9
ISC 03 07:09:32.9±0.9**, 38°.99N**±0°.03×**27°.94E**±0°.06**, h14**km±8km**, n16, σ0.53**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKHS	Akhisar	0.15	222	i P	Pg	07 09 36.4	-0.3
AKHS				i S	Sg	07 09 39.5	+0.3
AKHS	Akhisar	0.15	222	P	Pg	07 09 36.4	-0.3
AKHS				S	Sg	07 09 39.5	+0.3
AKS	Akhisar	0.15	223	PG	Pg	07 09 36.3	-0.4
AKS				SG	Sg	07 09 39.5	+0.3
AKS	Akhisar	0.15	223	ePg	Pg	07 09 36.3	-0.4
AKS				eSg	Sg	07 09 39.5	+0.3
STEP	BALIKESIR_Sava	0.42	336	i P	Pg	07 09 40.6	-0.8
STEP				i S	Sg	07 09 46.9	-0.4
STEP	BALIKESIR_Sava	0.42	336	P	Pg	07 09 40.6	-0.8
STEP				S	Sg	07 09 46.8	-0.4
BALB	Balikesir	0.65	356	PG	Pb	07 09 46.4	+0.3
BALB				SG	Sb	07 09 56.3	+1.2
BALB	Balikesir	0.65	356	ePg	Pb	07 09 46.4	+0.3
BALB				eSg	Sb	07 09 56.3	+1.2
KULA	Kula-Manisa	0.73	130	PG	Pb	07 09 47.4	-0.2
KULA				SG	Sb	07 09 57.9	+0.3
KULA	Kula-Manisa	0.73	130	ePg	Pb	07 09 47.4	-0.2
KULA				eSg	Sb	07 09 57.9	+0.3
SIMA	Simav-Kutahya	0.81	83	PG	Pb	07 09 49.2	+0.2
SIMA	Simav-Kutahya	0.81	83	ePg	Pb	07 09 49.2	+0.2
URLA	Izmir	1.23	240	PN	Pn	07 09 55.5	-0.3
URLA	Izmir	1.23	240	ePn	Pn	07 09 55.5	-0.3
TVSB	Tavsanli	1.27	68	PN	Pb	07 09 57.0	+0.3
TVSB	Tavsanli	1.27	68	ePn	Pb	07 09 57.0	+0.3

NIED 03 07:25:00, 46°.80N×152°.80E, h35km, Mw3.9 Best double couple: M0 8.39000×10^14 NP1: φs 216.00000°, δ62.00000°, λ177.00000°. NP2: φs 308.00000°, δ87.00000°, λ28.00000°.
ISCJB 03 07:25:08.0±0.6, 46°.46N±0°.07×152°.98E±0°.08, h40km, mb3.9/20, MS3.2/4, Error ellipse: s-maj=11.6km s-min=5.0km az=140.9
MOS 03 07:25:11.4±1.3, 46°.65N×152°.68E, h69km, mb4.1/13, Error ellipse: s-maj=11.4km s-min=8.3km az=77.6
SKHL 03 07:25:11.6±0.5, 46°.27N×153°.00E, h76km±4km, mb4.7/7
IDC 03 07:25:14.1±2.6, 46°.71N×152°.70E, h75km±22km, mb3.6/20, mb1 3.7/25, mb1mx3.6/68, mbtmp3.9/25, MS2.9/6, Ms1 2.9/6, ms1mx2.7/59, Error ellipse: s-maj=20.3km s-min=13.3km az=136.0
ISC 03 07:25:09.6±0.8**, 46°.44N**±0°.09×**152°.88E**±0°.08**, h40km, n72, σ1.97**/67**, mb3.8**/20**, MS3.2**/4**, 3C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.70	253	i P	Pn	07 26 06.7	+2.5
KUR				AMB	AMB	07 26 07.2	
	29nm,0.4s						
KUR				AMB	AMB	07 26 07.2	
	86nm,0.4s						
KUR				i S	Sn	07 26 48.1	+1.5
KUR				A	A	07 26 57.3	
	248nm,0.3s						
KUR				A	A	07 26 57.3	
	131nm,0.3s						
KUR	Kuril'sk	3.70	253c	iPN	Pn	07 26 06.9	+2.7
KUR				i S	Sn	07 26 48.6	+2.0
KUR				pmax	pmax		
	comp=N,38nm,0.4s						
KUR				pmax	pmax		
	comp=Z,73nm,0.4s						
KUR				pmax	pmax		
	comp=E,25nm,0.2s						
KUR				smax	smax		
	comp=N,97nm,0.4s						
KUR				smax	smax		
	comp=E,173nm,0.4s						
SKR	Severo-Kuril's	4.76	26	eP	Pn	07 26 23.0	+4.4
SKR				AMB	AMB	07 26 26.4	
	comp=E,62nm,0.6s						
SKR				eS	Sn	07 27 16.0	+3.5
SKR				A	A	07 27 25.5	
	comp=E,162nm,0.8s						
SKR				A	A	07 27 25.5	
	comp=E,129nm,0.8s						
SHO	Shikotan	4.99	241	eP	Pn	07 26 22.4	+0.5
SHO				AMB	AMB	07 26 30.2	
	comp=E,48nm,0.4s						
SHO				eS	Sn	07 27 15.6	-2.6
SHO				A	A	07 27 22.6	
	comp=E,125nm,0.4s						
SHO				A	A	07 27 22.6	

comp=E,135nm,0.4s
SHO **Shikotan** 4.99 241 ⇓*i* PN Pn 07 26 22.1 +0.2
SHO pmax pmax
comp=Z,48nm,0.4s
SHO pmax pmax
comp=E,13nm,0.2s
SHO pmax pmax
comp=N,25nm,0.3s
YUK Yuzh-Kuril'sk 5.51 247 *e*P Pn 07 26 32.0 +3.0
YUK AMB AMB 07 26 34.9
comp=N,29nm,0.3s
YUK AMB AMB 07 26 34.9
comp=N,34nm,0.3s
YUK AMB AMB 07 26 34.9
comp=N,114nm,0.3s
YUK *i* S Sn 07 27 32.6 +1.6
YUK A A 07 27 40.0
comp=N,54nm,0.3s
YUK A A 07 27 40.0
comp=N,55nm,0.3s
YUK Yuzh-Kuril'sk 5.51 247 PN Pn 07 26 34.2 +5.2
YUK *i* S Sn 07 27 33.8 +2.8
YUK pmax pmax
comp=Z,114nm,0.3s
YUK pmax pmax
comp=N,29nm,0.1s
YUK pmax pmax
comp=E,34nm,0.1s
YUK smax smax
comp=E,55nm,0.4s
YUK smax smax
comp=N,54nm,0.2s
YSS Yuzh-Sakhalins 6.98 278 *e*P Pn 07 26 52.9 +3.7
YSS AMB AMB 07 26 54.2
comp=N,20nm,0.6s
YSS Yuzh-Sakhalins 6.98 278 *e*PN Pn 07 26 52.9 +3.7
YSS pmax pmax
comp=Z,20nm,0.6s
PETK Petropavlovsk- 7.36 23 P Pn 07 26 56.0 +1.6
comp=Z,0.1nm,0.3s,baz=194,slow=8.9,SNR=2.8
JKA Kamikawa-asahi 7.61 256 *e*P Pn 07 27 01.7 +3.8
ASAJ Asahikawa 7.61 256 P Pn 07 27 01.7 +3.8
comp=Z,1.1nm,0.3s,baz=68,slow=15,SNR=6.7
ERM Erimo 8.26 241 *e*P Pn 07 27 09.6 +2.8
ERM Erimo 8.26 241⇑*e*PN Pn 07 27 09.6 +2.8
NKL Nikolayevsk 10.35 315 *e*P Pn 07 27 37.0 +1.8
NKL AMB AMB 07 27 38.7
comp=Z,19nm,1.0s
NKL Nikolayevsk 10.35 315 *e*PN Pn 07 27 36.2 +1.0
NKL pmax pmax
comp=Z,19nm,1.1s
MA2 Magadan 13.22 355 P Pn 07 28 14.0 -0.4
comp=Z,0.3nm,0.3s,baz=177,slow=13,SNR=3.8
MA2 LR LR 07 33 26.2
comp=Z,27nm,18.7s,baz=82,slow=38
MA2 Magadan 13.22 355 *e*P Pn 07 28 14.0 -0.4
MA2 Magadan 13.22 355 PN Pn 07 28 14.0 -0.4
MA2 MLR MLR
comp=Z,27nm,18.7s
KLR Kul'dur 14.45 289 LR LR 07 33 53.3
comp=Z,6.5nm,19.7s,baz=40,slow=36
EKMR Ekimchan 14.46 305 *e*P P 07 28 35.0 -2.4
EKMR AMB AMB 07 28 41.0
comp=Z,4.0nm,0.5s
USRK Ussuriysk Ar. 14.86 269 P P 07 28 39.8 -2.1
comp=Z,0.4nm,0.3s,baz=75,slow=16,SNR=4.6
SEY Seymchan 16.53 359 P P 07 28 59.0 -1.2
comp=Z,0.1nm,0.3s,baz=167,slow=11,SNR=3.5
BMKR Bomnak 17.29 307 *e*P P 07 29 08.0 -0.8
BMKR AMB AMB 07 29 13.0
comp=Z,4.0nm,0.5s
KROS Kirovskiy 18.25 305 *e*P Pn 07 29 23.0 +3.5
YAK Yakutsk 20.49 328 *e*P Pn 07 29 47.4 +1.3
YAK Yakutsk 20.49 328‖*e*P Pn 07 29 47.5 +1.4
KSRS Korea Array 20.55 253 P Pn 07 29 47.7 +0.8
comp=Z,1.4nm,0.4s,baz=52,slow=12,SNR=4.9
KSRS LR LR 07 37 04.1
comp=Z,22nm,18.6s,baz=0.0,slow=35
H11N2 WAKE ISLAND Hy 29.02 152 T T 08 02 39.4
baz=340,slow=76,SNR=299
H11N1 WAKE ISLAND Hy 29.04 152 T T 08 02 34.6
baz=340,slow=76,SNR=158
H11N3 WAKE ISLAND Hy 29.04 152 T T 08 02 29.4
baz=340,slow=76,SNR=148
H11S1 WAKE ISLAND Hy 30.11 153 T T 08 03 56.6
baz=340,slow=76,SNR=90
H11S3 WAKE ISLAND Hy 30.11 153 T T 08 03 51.7
baz=340,slow=76,SNR=91
H11S2 WAKE ISLAND Hy 30.12 153 T T 08 03 51.3
baz=340,slow=76,SNR=76
SONM Songino Array 31.28 290 P P 07 31 24.3 -1.3
comp=Z,0.4nm,0.9s,baz=84,slow=7.7,SNR=2.3
TLY Talaya 32.17 298 LR LR 07 45 43.3
comp=Z,53nm,18.4s,baz=360,slow=38
ILAR Eielson Array 36.89 38 P P 07 32 14.3 +0.5
comp=Z,1.1nm,1.2s,baz=276,slow=8.1,SNR=4.9
INK Inuvik 42.00 32 P P 07 32 57.1 +0.9
comp=Z,1.1nm,0.8s,baz=234,slow=0.3,SNR=3.9
ZALV Zalesovo Beam 42.66 306 P P 07 32 59.5 -2.4
comp=Z,0.5nm,0.5s,baz=77,slow=7.5,SNR=2.8
ZALV PcP PcP 07 34 52.9 -0.3
comp=Z,0.6nm,0.6s,baz=64,slow=3.4,SNR=4.0
MKAR Makanchi Array 46.94 298 P P 07 33 34.4 -1.7
comp=Z,0.6nm,0.5s,baz=67,slow=7.9,SNR=8.8
MKAR PcP PcP 07 35 06.3 -1.7
comp=Z,0.4nm,0.6s,baz=56,slow=4.5,SNR=4.8
KURK Kurchatov 47.40 304 *e*P P 07 33 37.5 -2.0
KURK Kurchatov 47.40 304‖*e*P P 07 33 37.5 -2.0
KURK pmax pmax
comp=Z,5.0nm,2.2s
BVAR Borovoye Array 50.93 310 P P 07 34 05.0 -1.5
comp=Z,0.4nm,0.4s,baz=41,slow=9.6,SNR=3.5
BVAR PcP PcP 07 35 22.6 +0.2
comp=Z,0.5nm,0.5s,baz=105,slow=1.6,SNR=3.0
YKA Yellowknife Ar 51.27 36 P P 07 34 09.0 +0.1
comp=Z,0.2nm,0.6s,baz=291,slow=6.8,SNR=5.1
CMAR Chiang Mai Arr 52.14 256 P P 07 34 15.9 -0.1
comp=Z,0.7nm,0.3s,baz=34,slow=6.7,SNR=4.4
SPITS Spitsbergen Ar 52.88 350 P P 07 34 18.2 -2.5
comp=Z,5.6nm,0.9s,baz=34,slow=10,SNR=4.9
HNR Honiara 55.98 172 LR LR 07 56 47.2
comp=Z,16nm,20.1s,baz=151,slow=34
AKTO Aktyubinsk 58.81 312 LR LR 08 00 30.0
comp=Z,58nm,18.7s,baz=326,slow=36
FINES FINESS Array B 64.25 335 P P 07 35 38.6 -1.4
comp=Z,2.3nm,0.6s,baz=31,slow=7.5,SNR=12
PDAR Pinedale Array 65.06 54 P P 07 35 44.8 -1.2
comp=Z,0.2nm,0.4s,baz=302,slow=8.4,SNR=2.4
WRA Warramunga Arr 68.17 199 P P 07 36 06.7 +1.1
comp=Z,0.6nm,0.9s,baz=12,slow=6.6,SNR=3.3
NB2 NORSAR Subarra 68.47 341 P P 07 36 06.0 -1.0
comp=Z,1.1nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.47 341 P P 07 36 05.2 -1.9
comp=Z,1.4nm,0.6s,baz=30,slow=6.6,SNR=6.7
HFS Hagfors 68.69 339 P P 07 36 07.7 -0.7
comp=Z,2.9nm,0.6s,baz=57,slow=5.3,SNR=11
AKASG Malin Array Be 71.71 326 P P 07 36 26.0 -1.0
comp=Z,2.4nm,0.5s,baz=33,slow=6.2,SNR=7.9
ASAR Alice Springs 71.87 198 P P 07 36 30.4 +2.2
comp=Z,0.4nm,0.6s,baz=9.7,slow=5.3,SNR=8.6
ASAR Alice Springs 71.87 198 *e*P P 07 36 30.9 +2.7
ASAR Alice Springs 71.87 198 *e*P P 07 36 30.9 +2.7
DPC Dobruska-Polom 76.52 333 *e*P P 07 36 55.4 +0.2
DPC Dobruska-Polom 76.52 333 *e*P P 07 36 55.4 +0.2
CLL Collm 76.68 335 *e*P P 07 36 55.5 -0.5
CLL Collm 76.68 335 *i* P P 07 36 55.5 -0.5
CLL Collm 76.68 335 *i* P P 07 36 55.5 -0.5
KHC Kasperske Hory 78.44 334 *e*P P 07 37 05.7 -0.2
KHC Kasperske Hory 78.44 334 *e*P P 07 37 05.7 -0.2
KHC Kasperske Hory 78.44 334 *e*P P 07 37 05.7 -0.2
BRTR Keskin Array B 78.50 317 P P 07 37 06.1 -0.4
comp=Z,1.8nm,0.9s,baz=78,slow=5.7,SNR=4.8
BRTR Keskin Array B 78.50 317 *e*P P 07 37 07.1 +0.5
BRTR pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 78.66 334 P P 07 37 06.4 -0.8
comp=Z,1.0nm,0.7s,baz=19,slow=4.8,SNR=6.6
GERES GERESS Array B 78.66 334 *e*P P 07 37 07.1 -0.1
GERES GERESS Array B 78.66 334 *e*P P 07 37 07.1 -0.1
GERES pmax pmax
comp=Z,1.0nm,0.7s
MMAI Mount Meron Ar 82.89 311 P P 07 37 30.2 +0.1
comp=Z,1.6nm,0.5s,baz=32,slow=8.5,SNR=5.1

IDC 03 07:52:52.5±1.9, **63°29S**×**144°43E, h0**km, **mb3.6**/2,

2012 MAR

mb1 3.9/3, **mb1mx3.7**/33, **mbtmp3.6**/3, **ML3.4**/1, **MS3.5**/1, **Ms1 3.4**/1, **ms1mx2.8**/25, **Error ellipse: s-maj=127.2km s-min=35.0km az=71.0, South of Australia**

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
VNDA Vanda 15.31 166 Pn Pn 07 56 29.4 -0.2
0.1nm,0.3s,baz=329,slow=12,SNR=2.9
VNDA Sn Sn 07 59 07.2 -12
0.2nm,0.3s,baz=180,slow=11,SNR=2.8
MAW Mawson 31.85 226 LR LR 08 14 04.6
comp=Z,78nm,19.0s,baz=250,slow=40
ASAR Alice Springs 40.23 345 P P 08 00 30.8 0.0
0.6nm,0.8s,baz=166,slow=8.2,SNR=6.0
WRA Warramunga Arr 43.86 346 P P 08 01 00.0 -0.4
0.7nm,0.6s,baz=169,slow=7.0,SNR=9.8
AKASG Malin Array Be 144.18 281 PKP PKPdf 08 12 28.2 -0.7
0.2nm,0.4s,baz=112,slow=2.6,SNR=4.7
YKA Yellowknife Ar 146.10 55 PKPbc PKPdf 08 12 32.1 +0.3
0.2nm,0.6s,baz=230,slow=2.5,SNR=3.5

*IDC **03** 08:08:25.5±0.9, 35°.45S×178°.95W, h0km, mb4.6/5, mb1 4.6/8, mb1mx4.2/45, mbtmp4.5/8, ML3.8/3, MS3.8/16, Ms1 3.8/16, ms1mx3.5/34, Error ellipse: s-maj=27.9km s-min=22.9km az=142.0*
*WEL **03** 08:08:29.7±1.2, 36°S±10°×177°9W±1°.3, h33km, ML4.7/18*
*ISCJB **03** 08:08:30.9±0.6, 35°.49S±0°.05×179°.13W±0°.09, h47km, mb4.7/15, MS3.8/15, Error ellipse: s-maj=11.8km s-min=4.9km az=25.6*
*NEIC **03** 08:08:35.3±1.5, 35°.51S×179°.37W, h64km±12km, mb4.7/11, Error ellipse: s-maj=15.2km s-min=10.2km az=56.0*
ISC 03 08:08:33.0±0.5, **35°54S**±0°06×**179°09W**±0°08, **h47**km, **n107**, σ1**°23**/95, **mb4.7**/15, **MS3.8**/15, **1D, East of North Island**

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MXZ Matakaoa Point 2.91 225 *e*Pn Pn 08 09 16.8 0.0
MXZ Matakaoa Point 2.91 225 P Pn 08 09 15.1 -1.7
MXZ Matakaoa Point 2.91 225 S Sn 08 09 51.9 +1.3
WMGZ Waiomatatini S 3.03 221 P Pn 08 09 17.9 -0.6
WMGZ Waiomatatini S 3.03 221 S Sn 08 09 55.4 +1.8
PKGZ Pakihiroa 3.27 223 P Pn 08 09 20.8 -0.9
PUZ Puketiti 3.31 219 P Pn 08 09 21.1 -1.2
PUZ Puketiti 3.31 219 S Sn 08 10 01.9 +1.6
HAZ Te Kaha 3.35 228 P Pn 08 09 22.0 -0.9
RUGZ Raukumara Rang 3.55 226 P Pn 08 09 25.1 -0.6
CNGZ Carnagh Statio 3.65 216 P Pn 08 09 25.8 -1.2
TKGZ Te Karaka 3.79 219 P Pn 08 09 28.0 -0.9
TKGZ Te Karaka 3.79 219 S Sn 08 10 13.0 +0.7
MWZ Matawai 3.89 223 P Pn 08 09 29.0 -1.3
MWZ Matawai 3.89 223 S Sn 08 10 15.9 +1.2
URZ Urewera 4.08 227 Pn Pn 08 09 31.4 -1.5
9.5nm,0.3s,baz=263,slow=3.7,SNR=48
URZ Sn Sn 08 10 20.3 +1.0
11nm,0.3s,baz=263,slow=21,SNR=10
URZ Urewera 4.08 227 P Pn 08 09 31.4 -1.5
URZ Urewera 4.08 227 S Sn 08 10 20.4 +1.1
OPRZ Ohinepanea 4.19 235 P Pn 08 09 32.9 -1.4
MHGZ Mahia Peninsul 4.33 213 P Pn 08 09 34.0 -2.3
TGRZ Tauranga 4.33 238 P Pn 08 09 35.7 -0.6
MUGZ Murupara 4.42 227 P Pn 08 09 36.5 -1.1
RAHZ Arahi 4.55 221 P Pn 08 09 38.7 -0.6
MTHZ Maungataniwha 4.64 223 P Pn 08 09 40.0 -0.5
ALRZ Allen Road 4.74 229 P Pn 08 09 41.3 -0.6
NMHZ Naumai 4.83 221 P Pn 08 09 42.7 -0.5
WIAZ Waiheke Island 4.84 253 P Pn 08 09 43.3 0.0
TOZ Tahuna Road 4.87 242 P Pn 08 09 42.9 -0.8
MKAZ Moumakai 4.90 250 P Pn 08 09 44.0 -0.1
BKZ Black Stump Fm 5.05 223 *e*Pn Pn 08 09 44.4 -1.8
BKZ Black Stump Fm 5.05 223 P Pn 08 09 44.6 -1.6
KWHZ Kaweka Forest 5.27 221 P Pn 08 09 47.7 -1.5
WCZ Waipu Caves 5.36 264 P Pn 08 09 50.6 +0.3
HIZ Hauiti 5.68 237 *e*Pn Pn 08 09 56.6 +1.8
OUZ Omahuta 5.99 271 *e*Pn Pn 08 09 59.1 +0.1
THZ Tophouse 8.82 223 *e*Pn Pn 08 10 38.7 +0.8
OXZ Oxford 10.37 219 *e*Pn Pn 08 11 00.7 +1.7
RPZ Rata Peaks 11.15 220 Pn Pn 08 11 06.6 -3.1
0.6nm,0.3s,baz=100,slow=12,SNR=2.4
RPZ Sn Sn 08 13 00.9 -12
0.8nm,0.3s,baz=6.4,slow=19,SNR=4.1
DZM Mont Dzumac 18.43 313 Pn P 08 12 43.5 -1.1
0.1nm,0.3s,baz=142,slow=13,SNR=2.9
DZM LR LR 08 18 47.5
comp=Z,398nm,18.7s,baz=195,slow=34
DZM Mont Dzumac 18.43 313 *e*P Pn 08 12 47.5 +2.4
18nm,0.9s
DZM *e*LR LR 08 16 59.6
821nm,25.8s
TBI Tubuai 28.41 73 *e*LR LR 08 21 05.5
313nm,30.5s
PPT2 Papeete2 31.70 63 *e*LR LR 08 22 36.9
259nm,27.2s
HNR Honiara 32.26 319 LR LR 08 24 40.9
comp=Z,74nm,20.1s,baz=122,slow=30
STKA Stephens Creek 32.76 265 P P 08 15 02.6 +1.1
2.9nm,1.0s,baz=96,slow=16,SNR=4.2
STKA LR LR 08 27 52.6
comp=Z,108nm,18.5s,baz=37,slow=36
STKA Stephens Creek 32.76 265 *e*P P 08 14 59.8 -1.7
4.6nm,1.6s
STKA *e* 08 27 52.6
CTA Charters Tower 34.09 288 P P 08 15 13.4 +0.1
2.9nm,0.6s,baz=125,slow=7.1,SNR=4.3
CTAO Charters Tower 34.09 288 *e*P P 08 15 14.1 +0.9
12nm,1.1s
COEN Coen 40.11 293 *e*P P 08 16 03.2 -1.1
13nm,1.0s
PMG Port Moresby 40.27 302 LR LR 08 30 10.2
comp=Z,145nm,20.2s,baz=210,slow=32
AS01 Alice Springs 42.16 273 *e*P P 08 16 19.1 -2.0
AS31 Alice Springs 42.19 273 *e*P P 08 16 20.7 -0.7
3.4nm,0.8s
AS31 *e* 08 33 59.1
ASAR Alice Springs 42.19 273 P P 08 16 21.1 -0.3
10nm,0.9s,baz=115,slow=7.4,SNR=68
ASAR LR LR 08 33 59.1
comp=Z,232nm,19.4s,baz=122,slow=36
WRAB Tennant Creek 43.64 278 *e*P P 08 16 31.3 -1.9
13nm,0.9s
WR1 Warramunga Arr 43.65 278 *e*P P 08 16 31.8 -1.4
13nm,1.0s
WR1 *e* 08 33 41.6
WRA Warramunga Arr 43.65 278 P P 08 16 31.8 -1.4
9.0nm,1.0s,baz=122,slow=7.5,SNR=33
WRA LR LR 08 33 41.6
comp=Z,121nm,21.9s,baz=300,slow=35
TAOE Nuku Hiva Isla 44.33 63 *e*LR LR 08 28 26.3
137nm,27.3s
FITZ Fitzroy Crossi 51.64 275 *e*P P 08 17 34.6 -0.6
9.8nm,1.0s
QSPA South Pole Qui 54.58 180 *e*P P 08 17 57.7 +1.3
7.2nm,1.0s
WAKE Wake Island 56.17 344 *e*P P 08 18 08.1 0.0
532nm,1.8s
BATI Baumata 57.58 281 LR LR 08 42 06.3
comp=Z,154nm,19.5s,baz=256,slow=35
RPN Rapa Nui 59.07 103 LR LR 08 40 12.0
comp=Z,77nm,18.2s,baz=264,slow=32
SYO Syowa Base 71.92 194‖*e*P P 08 20 02.0 +11
LEM Lembang 72.47 274 LR LR 08 52 12.0
comp=Z,86nm,18.9s,baz=197,slow=36
SNAA Sanae 73.05 179 *e*P P 08 19 58.4 +0.7
11nm,1.4s
PLCA Paso Flores 79.68 133 LR LR 08 47 31.3
comp=Z,24nm,20.0s,baz=218,slow=29
JNU Nakatsue 82.83 320 LR LR 08 50 03.5
comp=Z,26nm,21.7s,baz=122,slow=30
PSI Prapat 85.10 277 LR LR 09 03 02.8
comp=Z,96nm,18.1s,baz=114,slow=38
KSRS Korea Array 87.69 321 LR LR 09 01 22.0
comp=Z,29nm,18.2s,baz=292,slow=36
PETK Petropavlovsk- 90.56 346 P P 08 21 28.3 -1.2
14nm,0.9s,baz=101,slow=6.2,SNR=6.8
PETK Petropavlovsk- 90.56 346 *e*P P 08 21 29.8 +0.2
PEA1 Petropavlovsk- 90.57 346 *e*P P 08 21 28.3 -1.3
ISA Isabella, Lake 90.57 45 *e*P P 08 21 32.0 +1.8
12nm,1.4s
YBH Yreka Blue Hor 92.62 39 LR LR 08 58 38.6
comp=Z,26nm,18.6s,baz=331,slow=33
W13A Hualapai Mount 92.91 48 *e*P P 08 21 43.1 +2.0
8.4nm,1.5s
CPUP Villa Florida 97.47 130 LR LR 08 57 44.8
comp=Z,48nm,21.8s,baz=220,slow=30
JTS JuntasAbangare 99.24 84 LR LR 09 00 40.9
comp=Z,39nm,18.4s,baz=34,slow=32
BANI BANI 115.48 85 *e*PKPdf PKPdf 08 27 12.3 +2.1
MK01 Makanchi Array 120.28 308 *e*PKPdf PKPdf 08 27 17.8 -0.8
MK31 Makanchi Array 120.30 308 *e*PKPdf PKPdf 08 27 17.6 -1.0
MK32 Makanchi Array 120.30 308 *e*PKPdf PKPdf 08 27 17.6 -0.9
MKAR Makanchi Array 120.30 308 PKP PKPdf 08 27 17.6 -0.9
1.4nm,0.9s,baz=42,slow=2.0,SNR=3.8
MKAR Makanchi Array 120.30 308 *e*PKPdf PKPdf 08 27 17.5 -1.1
SADO Sadowa 120.43 54 *e*PKPdf PKPdf 08 27 21.5 +2.7
BVAR Borovoye Array 129.34 313 PKP PKPdf 08 27 36.0 +0.4
1.7nm,0.8s,baz=95,slow=3.2,SNR=4.5
TBLG Delisi 145.50 294 *e*PKPbc PKPdf 08 28 05.5 -0.2
KBZ Khabaz 146.94 297 PKPbc PKPbc 08 28 10.0 0.0
6.1nm,0.9s,baz=244,slow=0.9,SNR=5.2
MARD Mardin 148.03 285 *e*PKPbc PKPbc 08 28 12.7 -0.8
FIA1 FINESS Array S 149.56 336 *e*PKPbc PKPbc 08 28 16.1 -0.2
FIA0 FINESS Array S 149.56 336 *e*PKPbc PKPbc 08 28 15.0 -1.3
FINES FINESS Array B 149.56 336 PKPbc PKPbc 08 28 15.0 -1.3
8.0nm,0.9s,baz=90,slow=4.0,SNR=8.8
LIC Lamto 150.32 168 *e*PKP1 PKPbc 08 28 19.7 0.0
46nm,1.2s
KIC Kosan Boka 150.50 169 *e*PKP1 PKPbc 08 28 20.4 +0.3
51nm,1.2s
TIC Toumodi 150.73 168 *e*PKP1 PKPbc 08 28 20.7 0.0
DBIC Dimbokro 150.78 168 PKPbc PKPbc 08 28 19.6 -1.2
9.1nm,0.9s,baz=164,slow=2.6,SNR=11
DBIC Dimbokro 150.78 168 *e*PKPdf PKPbc 08 28 21.1 +0.3
DBIC *e*PKPbc PKiKP 08 28 21.2 -0.2
NB2 NORSAR Subarra 153.64 349 PKP PKPab 08 28 37.8 -0.8
comp=Z,7.0nm,1.2s,baz=17,slow=2.6
NB200 NORSAR Array S 153.64 349 *e*PKPab PKPab 08 28 38.1 -0.5
NOA NORSAR Array B 153.64 349 PKPab PKPab 08 28 38.1 -0.5
comp=Z,2.9nm,0.9s,baz=19,slow=2.3,SNR=5.2
BR101 Keskin Array S 153.83 289 *e*PKPab PKPab 08 28 38.7 -1.6
BRTR Keskin Array B 153.83 289 PKPab PKPab 08 28 38.7 -1.6
comp=Z,1.2nm,0.8s,baz=116,slow=3.4,SNR=2.6
AKASG Malin Array Be 154.58 315 PKPab PKPab 08 28 40.7 -2.2
comp=Z,0.9nm,0.4s,baz=50,slow=4.6,SNR=6.2
TOA0 Torodi Ar. Sit 157.69 182 *e*PKPab PKPab 08 28 57.1 +0.1
TORD Torodi Ar. Bea 157.69 182 PKP PKPdf 08 28 25.8 +1.0
comp=Z,0.6nm,1.0s,baz=62,slow=0.8,SNR=2.9
TORD PKPab PKPab 08 28 56.9 -0.1
comp=Z,1.7nm,1.0s,baz=176,slow=2.4,SNR=6.9
TOA1 Torodi Ar. Sit 157.70 182 *e*PKPdf PKPdf 08 28 25.8 +1.0
TOA1 *e*PKPab PKPab 08 28 56.9 -0.2
BUR04 Bucovina Ar. S 158.28 311 *e*PKPab PKPab 08 28 59.4 +0.4
CLL Collm 162.00 335 *i* PKPab PKPab 08 29 13.9 -1.0
comp=Z,6.0nm,1.0s
GERES GERESS Array B 163.71 329 PKPab PKPab 08 29 21.1 -1.6
comp=Z,0.2nm,0.3s,baz=29,slow=3.0,SNR=4.8

*NERS **03** 08:10:54.0, 66°.00N×173°.80W, h0km, MLV3.9, MSH4.7*
*ISCJB **03** 08:10:56.0±0.2, 65°.80N±0°.04×173°.81W±0°.04, h10km, mb4.3/57, MS3.7/22, Error ellipse: s-maj=6.0km s-min=2.5km az=9.1*
*IDC **03** 08:10:55.8±0.8, 65°.77N×173°.94W, h0km, mb4.0/21, mb1 4.2/24, mb1mx4.0/75, mbtmp4.0/24, ML3.9/3, MS3.7/18, Ms1 3.7/18, ms1mx3.4/73, Error ellipse: s-maj=23.4km s-min=11.6km az=4.0*
*MOS **03** 08:10:55.7±1.1, 65°.79N×173°.86W, h9km, mb4.6/34, Error ellipse: s-maj=12.1km s-min=8.7km az=112.7*
*NEIC **03** 08:10:57.7±0.2, 65°.76N×173°.98W, h10km, mb4.5/26, Error ellipse: s-maj=7.5km s-min=3.3km az=192.0*
ISC 03 08:10:57.8±0.4, **65°79N**±0°06×**173°75W**±0°04, **h10**km, **n187**, σ1**°60**/193, **mb4.4**/57, **MS3.8**/22, **8C-6D, Eastern Siberia**

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GAMB Gambell 2.20 156 P Pn 08 11 30.6 -3.7
GAMB S Sn 08 12 01.3 -0.3
RDOG Red Dog Mine 4.83 57 P Pn 08 12 09.7 -0.8
RDOG S Sn 08 13 07.7 +1.2
BILL Bilibino 8.16 295 *e*P Pn 08 12 54.2 -1.9
BILL Pmax 08 13 04.0
10.0nm,0.6s
BILL *e* 08 13 22.8
BILL *e*S Sn 08 14 18.1 -10
BILL *e*Sg Sb 08 15 06.6 +11
BILL Sgmax 08 15 15.7
2µm,1.6s
BILL Sgmax 08 15 15.7
840nm,1.6s
BILL LRmax 08 15 52.5
1µm,8.0s
BILL Bilibino 8.16 295 ⇓*i* P Pn 08 12 53.4 -2.7
BILL pmax pmax
comp=Z,6.0nm,0.5s
BILL MLR MLR
comp=Z,792nm,17.0s
IM3 Indian Mountai 8.18 80 P Pn 08 12 54.8 -1.6
TT01 Tatalina 8.21 102 P Pn 08 12 57.8 +1.0
SPIA Saint Paul Isl 8.80 167 *e*Pn Pn 08 13 03.1 -1.7
SVW2 Sparrevohn 9.38 112 *e*Pn Pn 08 13 13.5 +0.7
COLD Coldfoot 9.49 71 P Pn 08 13 14.0 -0.4
CAST Castle Rocks 9.59 94 *e*Pn Pn 08 13 16.2 +0.5
MLY Manley 9.60 84 *e*Pn Pn 08 13 16.5 +0.5
PPLA Purkeypile 9.77 97 P Pn 08 13 19.0 +0.7
BPAW Bear Paw Mtn. 9.78 89 *e*Pn Pn 08 13 18.6 +0.3
KTH Kantishna Hill 10.01 92 *e*Pn Pn 08 13 22.5 +0.9
TRF Thorofare Moun 10.31 92 *e*Pn Pn 08 13 26.9 +1.1
MDM Murphy Dome 10.65 83 *e*Pn Pn 08 13 30.5 +0.3
SPU Mount Spurr 10.71 105 *e*Pn Pn 08 13 32.6 +1.6
MCK McKinley 10.76 90 *e*Pn Pn 08 13 32.4 +0.7
MCK McKinley 10.76 90 *e*P Pn 08 13 32.4 +0.7
COLA College 10.83 83 *e*P Pn 08 13 33.0 +0.4
COLA College 10.83 83 *e*Pn Pn 08 13 33.0 +0.4
COLA College 10.83 83 *e*P Pn 08 13 33.0 +0.4
CCB Clear Creek Bu 10.91 84 *e*Pn Pn 08 13 34.6 +0.8
RND Reindeer 10.92 91 *e*Pn Pn 08 13 34.8 +0.8
RND Reindeer 10.92 91 *e*P Pn 08 13 34.8 +0.8
SUA Susitna One 11.07 102 *e*Pn Pn 08 13 38.0 +1.9
IL1 Eielson Array 11.25 83 *e*Pn Pn 08 13 39.1 +0.7
ILAR Eielson Array 11.25 83 Pn Pn 08 13 38.5 0.0
comp=Z,1.1nm,0.3s,baz=282,slow=13,SNR=34
ILAR Sn Sn 08 15 42.7 -1.4
comp=Z,0.2nm,0.3s,baz=285,slow=14,SNR=4.4
ILAR LR LR 08 17 50.4
comp=Z,148nm,20.0s,baz=304,slow=37
ILB Eielson Array 11.25 83 *e*Pn Pn 08 13 39.1 +0.6
HDA Harding Lake 11.34 85 *e*Pn Pn 08 13 40.4 +0.8
FYU Fort Yukon 11.51 73 *e*Pn Pn 08 13 43.5 +1.6
PMR Palmer 11.66 100 *e*Pn Pn 08 13 45.7 +1.8
PMR Palmer 11.66 100 *e*P Pn 08 13 45.7 +1.8
DHY Denali Highway 11.67 91 *e*Pn Pn 08 13 45.7 +1.4
RC01 Rabbit Creek A 11.69 103 *e*Pn Pn 08 13 46.7 +2.3
SML Sawmill 11.87 98 *e*Pn Pn 08 13 48.9 +2.0
SML Sawmill 11.87 98 *e*P Pn 08 13 48.9 +2.0
BRLK Bradley Lake 12.03 109 *e*Pn Pn 08 13 49.9 +0.8
SCM Sheep Creek Mo 12.27 97 *e*Pn Pn 08 13 55.4 +3.0
SCM Sheep Creek Mo 12.27 97 *e*P Pn 08 13 55.4 +3.0
SEW Seward 12.38 106 *e*Pn Pn 08 13 56.5 +2.7
RIDG Independ'e Rid 12.45 86 *e*Pn Pn 08 13 55.4 +0.7
PAX Paxson 12.50 90 *e*Pn Pn 08 13 57.5 +2.0
PAX Paxson 12.50 90 *e*P Pn 08 13 57.6 +2.0
KDAK Kodiak Island 12.76 119 Pn Pn 08 14 00.8 +1.7
comp=Z,0.7nm,0.3s,baz=3.4,slow=10.0,SNR=12
KDAK Kodiak Island 12.76 119 *e*Pn Pn 08 14 01.5 +2.4
KDAK Kodiak Island 12.76 119 *i* P Pn 08 14 01.8 +2.7
DOT Dot Lake 12.80 86 *e*Pn Pn 08 14 01.2 +1.6
HARP HAARP 12.88 92 *e*Pn Pn 08 14 03.7 +3.0
OHAK Old Harbor 12.94 122 *e*Pn Pn 08 14 03.4 +2.0
KLU Klutina 13.02 96 *e*Pn Pn 08 14 04.8 +2.1
EGAK Eagle 13.59 79 *e*Pn Pn 08 14 12.6 +2.3
DAWY Dawson 14.55 81 *e*Pn Pn 08 14 24.7 +1.1
SEY Seymchan 14.82 275 Pn Pn 08 14 25.1 -2.0
comp=Z,0.2nm,0.3s,baz=82,slow=8.3,SNR=11
SEY Seymchan 14.82 275 *e*P Pn 08 14 25.7 -1.4
SEY Pmax 08 14 34.1
comp=Z,20nm,1.3s
SEY *e*L L 08 18 31.0
SEY LRmax 08 19 55.7
comp=Z,200nm,4.3s
SEY Seymchan 14.82 275⇑*e*P Pn 08 14 27.5 +0.4
INK Inuvik 15.69 63 Pn Pn 08 14 36.0 -2.5
comp=Z,0.1nm,0.3s,baz=321,slow=7.9,SNR=8.7
INK Sn Sn 08 17 26.4 -5.6
comp=Z,0.2nm,0.3s,baz=110,slow=15,SNR=3.3
INK Inuvik 15.69 63 *e*Pn Pn 08 14 39.7 +1.2
comp=Z,12nm,0.9s

INK Sn **Sn** **08 17 26.4 -5.6**
INK Inuvik 15.69 63 *e*P **Pn** **08 14 39.7 +1.2**
INK 08 17 26.4
INK pmax pmax
comp=Z,13nm,0.9s
SUUS Susuman 16.62 277 *e*P **Pn** **08 14 50.3 -0.2**
SUUS Pmax 08 14 53.3
comp=Z,40nm,1.4s
SUUS *e*S **S** **08 18 13.4 +7.0**
SUUS *e*L L 08 19 37.0
MGD Magadan 1 16.98 267 *e*P **Pn** **08 14 53.1 -1.9**
MGD Pmax 08 14 56.5
comp=Z,40nm,1.0s
MGD *e* 08 20 03.1
MA2 Magadan 17.23 266 P **Pn** **08 14 55.6 -2.6**
comp=Z,0.1nm,0.3s,baz=56,slow=17,SNR=3.1
MA2 Magadan 17.23 266 *e*P **Pn** **08 14 57.4 -0.9**
MA2 Pmax 08 14 57.5
comp=Z,10.0nm,1.7s
MA2 *e* 08 17 41.6
MA2 *e*S **Sn** **08 18 07.6 -2.1**
MA2 *e* 08 19 19.5
MA2 *e* 08 20 06.1
MA2 LRmax 08 22 07.3
comp=Z,250nm,8.7s
MA2 Magadan 17.23 266⇑ *e*P **Pn** **08 14 58.0 -0.3**
OCHR Omchak 17.28 274 *e*P **Pn** **08 14 57.0 -1.9**
OCHR Pmax 08 14 59.7
comp=Z,30nm,0.7s
OCHR *e*L L 09 20 07.4
PETK Petropavlovsk- 19.05 242 *e*P **P** **08 15 19.8 -0.1**
PETK Petropavlovsk- 19.05 242 *e*P **P** **08 15 19.8 -0.1**
TIXI Tiksi 20.85 311 P **P** **08 15 37.9 -1.4**
comp=Z,8.8nm,0.9s,baz=92,slow=11,SNR=15
TIXI Tiksi 20.85 311 *e*P **P** **08 15 39.6 +0.3**
comp=Z,18nm,0.7s
TIXI Tiksi 20.85 311⇑ *e*P **P** **08 15 37.7 -1.6**
TIXI pmax pmax
comp=Z,22nm,1.2s
YAK Yakutsk 24.43 288 P **P** **08 16 15.1 -0.9**
comp=Z,45nm,0.7s,baz=118,slow=20,SNR=16
YAK LR LR 08 25 50.6
comp=Z,127nm,20.9s,baz=113,slow=37
YAK Yakutsk 24.43 288 *e*P **P** **08 16 16.0 -0.1**
comp=Z,82nm,0.9s
YAK Yakutsk 24.43 288 *e*P **P** **08 16 15.0 -1.0**
YAK *e* 08 16 46.8
YAK *e*PPP PPP 08 16 55.4
YAK *e* 08 19 55.3
YAK *e*S **S** **08 20 33.0 -2.4**
YAK *e*SS **SnSn** **08 21 19.3 +0.6**
YAK *e*SSS SSS 08 21 35.1
YAK *e* 08 27 16.7
YAK pmax pmax
comp=Z,68nm,1.2s
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,31nm,1.3s
YAK pmax pmax
comp=Z,100nm,3.5s
YAK pmax pmax
comp=N,27nm,2.3s
YAK pmax pmax
comp=E,73nm,2.3s
YAK smax smax
comp=N,124nm,3.8s
YAK smax smax
comp=E,78nm,3.9s
YKA Yellowknife Ar 25.17 70 P **P** **08 16 23.1 +0.3**
comp=E,2.1nm,0.8s,baz=305,slow=8.4,SNR=28
YKA PcP **PcP** **08 19 54.5 -1.5**
YKA=E,0.3nm,0.8s,baz=312,slow=3.1,SNR=3.6
YKA LR LR 08 26 33.6
comp=E,9.8nm,18.4s,baz=180,slow=37
NKL Nikolayevsk 25.70 263 *e*P **P** **08 16 27.0 -0.6**
NKL pmax pmax
comp=E,9.0nm,1.0s
NKL pmax pmax
comp=Z,15nm,1.0s
NKL MLR MLR
comp=Z,600nm,14.0s
RES Resolute Bay 25.92 37 P **P** **08 16 28.4 -1.1**
comp=Z,1.4nm,0.9s,baz=299,slow=13,SNR=2.5
RES LR LR 08 27 33.5
comp=Z,44nm,21.2s,baz=328,slow=38
RES Resolute Bay 25.92 37 *e*P **P** **08 16 32.7 +3.3**
comp=Z,22nm,1.8s
RES Resolute Bay 25.92 37 *e*P **P** **08 16 32.7 +3.3**
RES pmax pmax
comp=Z,22nm,1.8s
YSS Yuzh-Sakhalins 29.70 252 P P 08 16 54.5 -9.0
YSS MLR MLR
comp=Z,440nm,15.0s
EDM Edmonton 31.74 84 *e*P **P** **08 17 22.4 +0.8**
comp=Z,11nm,1.1s
EDM Edmonton 31.74 84 *e*P **P** **08 17 22.4 +0.8**
EDM pmax pmax
comp=Z,11nm,1.1s
KLR Kul'dur 32.34 266 P **P** **08 17 25.0 -1.7**
comp=Z,0.2nm,0.8s,baz=35,slow=7.5,SNR=11
KLR Kul'dur 32.34 266⇑ *e*P **P** **08 17 24.3 -2.4**
BOD Bodaibo 33.19 291 *e*P **P** **08 17 31.9 -2.2**
BOD pmax pmax
comp=Z,7.0nm,1.8s
SPITS Spitsbergen Ar 36.13 356 LR LR 08 32 56.1
comp=Z,105nm,18.1s,baz=305,slow=36
YBH Yreka Blue Hor 37.04 105 LR LR 08 33 09.9
comp=Z,76nm,18.1s,baz=330,slow=36
EGMT Eagleton 37.19 86 *e*P **P** **08 18 10.2 +1.4**
comp=Z,22nm,1.5s
HIA Hailar 37.25 277⇑ *i*P **P** **08 18 08.8 -0.4**
HIA pmax pmax
comp=Z,16nm,1.7s
BOZ Bozeman (W) 38.36 91 *e*P **P** **08 18 18.7 0.0**
comp=Z,6.6nm,1.0s
BOZ Bozeman (W) 38.36 91 *e*P **P** **08 18 18.7 0.0**
BOZ pmax pmax
comp=Z,7.0nm,1.0s
HLID Hailey 38.88 95 *e*P **P** **08 18 23.1 0.0**
comp=Z,2.0nm,0.8s
YHB Horse Butte 39.23 91 *e*P **P** **08 18 28.0 +1.9**
comp=Z,12nm,1.5s
CN2 Changchun 39.28 267 *e*P **P** **08 18 25.1 -1.2**
YFT Old Faithful 39.62 91 *e*P **P** **08 18 30.4 +1.0**
comp=Z,3.9nm,0.9s
LAO LASA Array 39.71 85 *e*P **P** **08 18 31.0 +1.1**
comp=Z,7.7nm,0.8s
RLMT Red Lodge 39.72 89 *e*P **P** **08 18 31.3 +1.1**
comp=Z,5.9nm,1.0s
HVU Hansel Valley 41.03 95 *e*P **P** **08 18 41.3 +0.3**
comp=Z,5.2nm,1.2s
HVU Hansel Valley 41.03 95 *e*P **P** **08 18 41.3 +0.3**
HVU pmax pmax
comp=Z,5.0nm,1.2s
ULM Lac du Bonnet 41.05 73 P **P** **08 18 41.0 +0.1**
comp=Z,2.4nm,0.9s,baz=323,slow=7.6,SNR=3.3
PDAR Pinedale Array 41.53 91 P **P** **08 18 45.6 +0.4**
comp=Z,1.2nm,0.7s,baz=320,slow=3.9,SNR=9.1
PDAR LR LR 08 37 58.3
comp=Z,94nm,20.2s,baz=332,slow=39
PDAR Pinedale Array 41.53 91 *e*P **P** **08 18 45.4 +0.2**
NV01 Mina Array Sit 41.61 103 *e*P **P** **08 18 46.6 +0.7**
NVAR Mina Array Bea 41.61 103 P **P** **08 18 46.3 +0.4**
comp=Z,1.1nm,0.9s,baz=300,slow=6.7,SNR=6.5
NVAR LR LR 08 35 33.5
comp=Z,66nm,18.1s,baz=51,slow=35
TLY Talaya 41.76 292 LR LR 08 37 18.2
comp=Z,158nm,20.7s,baz=44,slow=38
TLY Talaya 41.76 292 *e*P **P** **08 18 47.1 +0.3**
TLY pmax pmax
comp=Z,4.0nm,1.3s
TCUT Toone Canyon 42.14 94 *e*P **P** **08 18 51.3 +1.1**
comp=Z,17nm,0.8s
ZAK Zakamensk 42.94 291 *e*P **P** **08 18 54.6 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,1.3s
PSUT Pine Spring 43.33 99 *e*P **P** **08 19 00.2 +0.4**
comp=Z,6.1nm,1.3s
ULN Ulaanbaatar 43.49 286⇓ *e*P **P** **08 19 00.8 -0.2**
ULN pmax pmax
comp=Z,4.0nm,1.2s
ULN MLR MLR
comp=Z,120nm,16.0s
KSRS Korea Array 43.62 259 LR LR 08 38 06.0
comp=Z,61nm,18.8s,baz=35,slow=37

SONM Songino Array 43.77 287 P **P** **08 19 03.0 -0.2**
comp=Z,2.7nm,0.9s,baz=38,slow=7.0,SNR=15
SONM LR LR 08 39 37.4
comp=Z,142nm,18.7s,baz=31,slow=39
SONM Songino Array 43.77 287 P **P** **08 19 03.0 -0.2**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM MLR MLR
comp=Z,142nm,18.7s
ROA Roan Cliffs 43.80 94 *e*P **P** **08 19 05.0 +1.3**
SRU San Rafael Swe 44.20 95 *e*P **P** **08 19 07.8 +1.0**
comp=Z,5.1nm,0.9s
SRU San Rafael Swe 44.20 95 *e*P **P** **08 19 07.8 +1.0**
SRU pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 44.29 350 P **P** **08 19 08.3 +1.3**
comp=Z,6.5nm,1.0s,baz=20,slow=11,SNR=3.8
HVS Khovu-Aksy 45.90 299⇓ *e*P **P** **08 19 21.2 +1.1**
ZAA0 Zalesovo Array 46.65 307 *e*P **P** **08 19 25.5 -0.3**
comp=Z,6.8nm,0.9s
ZALV Zalesovo Beam 46.65 307 P **P** **08 19 25.0 -0.8**
comp=Z,4.3nm,0.8s,baz=37,slow=6.0,SNR=17
ZALV LR LR 08 39 24.7
comp=Z,147nm,19.4s,baz=70,slow=37
ZALV Zalesovo Beam 46.65 307 *e*P **P** **08 19 25.2 -0.6**
ZALV Zalesovo Beam 46.65 307 *e*P **P** **08 19 25.2 -0.6**
S22A 4UR Ranch, Cre 46.88 92 *e*P **P** **08 19 29.5 +1.3**
comp=Z,6.8nm,1.4s
HHC Hu-ho-hao-te 47.45 277 *e*P **P** **08 19 32.1 -0.3**
SCHQ Schefferville 47.65 48 LR LR 08 41 27.4
comp=Z,99nm,18.4s,baz=356,slow=38
ANMO Albuquerque 49.44 94⇑ *e*P **P** **08 19 48.0 +0.1**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
KLMR Klimovskoe 51.28 340 *e*P P 08 19 54.8 -6.4
KLMR pmax pmax
comp=Z,14nm,1.2s
KLMR Klimovskoe 51.28 340 *e*P P 08 19 54.8 -6.4
KLMR AMP 08 20 03.2
comp=Z,14nm,1.2s
KURK Kurchatov 51.41 309 *e*P **P** **08 20 01.8 -0.5**
comp=Z,12nm,1.3s
KURK *e*S **S** **08 27 25.6 +4.2**
KURK Kurchatov 51.41 309 *ce*P **P** **08 20 01.5 -0.8**
KURK pmax pmax
comp=Z,12nm,1.3s
MSTX Muleshoe 51.80 91 *e*P **P** **08 20 05.4 -0.2**
comp=Z,5.5nm,1.0s
ARU Arti 51.88 326 *c i*P **P** **08 20 06.2 +0.5**
ARU 08 21 17.9
ARU 08 22 00.8
ARU S **S** **08 27 29.0 +1.3**
ARU SS **SS** **08 31 03.6 0.0**
ARU pmax pmax
comp=Z,13nm,1.7s
BVAR Borovoye Array 51.88 316 P **P** **08 20 03.9 -1.9**
comp=Z,2.8nm,0.9s,baz=33,slow=8.6,SNR=11
BRVK Borovoye 51.88 316 *e*P **P** **08 20 05.9 +0.1**
comp=Z,13nm,1.4s
BRVK Borovoye 51.88 316 *de*P **P** **08 20 05.7 -0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.4s
BRVK MLR MLR
comp=Z,102nm,15.0s
NJ2 Nanjing 52.00 264 *e*P **P** **08 20 08.8 +1.9**
FINES FINESS Array B 52.23 348 P **P** **08 20 06.8 -1.4**
comp=Z,1.3nm,0.8s,baz=8.9,slow=9.8,SNR=3.6
FINES FINESS Array B 52.23 348 *i*P **P** **08 20 09.6 +1.3**
FINES pmax pmax
comp=Z,1.0nm,0.7s
MNTX Cornudas Mount 52.70 95 *e*P **P** **08 20 12.8 +0.6**
comp=Z,5.9nm,1.3s
GTA Gaotai 53.42 286 *e*P **P** **08 20 17.4 -0.2**
GTA pP sP 08 20 21.8 -0.2
GTA sP pP 08 20 24.6 +3.9
GTA S **S** **08 27 48.2 -1.4**
GTA sS sS 08 27 54.8 0.0
GTA Gaotai 53.42 286 SS **SS** **08 31 25.7 -3.3**
NOA NORSAR Array B 53.43 357 P **P** **08 20 17.1 0.0**
comp=Z,1.3nm,0.8s,baz=3.4,slow=7.2,SNR=3.3
NOA LR LR 08 42 06.4
comp=Z,32nm,19.9s,baz=260,slow=35
MK31 Makanchi Array 53.59 304 *e*P **P** **08 20 18.0 -0.6**
MK31 Makanchi Array 53.59 304 *e*P **P** **08 20 18.0 -0.6**
MKAR Makanchi Array 53.59 304 P **P** **08 20 17.2 -1.3**
comp=Z,1.2nm,0.6s,baz=50,slow=7.1,SNR=13
MKAR LR LR 08 43 24.6
comp=Z,110nm,18.2s,baz=39,slow=36
MKAR Makanchi Array 53.59 304 *e*P **P** **08 20 18.0 -0.6**
comp=Z,34nm,1.4s
MKAR Makanchi Array 53.59 304 *i*P **P** **08 20 17.7 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MK01 Makanchi Array 53.61 304 *e*P **P** **08 20 17.9 -0.8**
MAKZ Makanchi 53.69 304 *e*P **P** **08 20 18.9 -0.3**
comp=Z,3.8nm,0.9s
MAKZ Makanchi 53.69 304 *e*P **P** **08 20 18.9 -0.3**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
LONY Lake Ozonia 53.79 61 *e*P **P** **08 20 18.0 -2.0**
comp=Z,81nm,1.8s
WMQ Urumqi 54.26 298 P **P** **08 20 24.7 +1.2**
WMQ pP sP 08 20 28.0 +0.1
WMQ sP pP 08 20 33.1 +6.4
LZH Lanzhou 54.66 280 *e*P **P** **08 20 27.7 +1.0**
LZH pP sP 08 20 32.4 +1.3
LZH sP pP 08 20 35.3 +5.4
TXAR Lajitas Array 55.48 95 P **P** **08 20 32.3 -0.3**
comp=Z,1.3nm,0.7s,baz=332,slow=7.5,SNR=4.8
TXAR LR LR 08 46 17.4
comp=Z,65nm,18.7s,baz=0.0,slow=38
JCT Junction City 56.06 91 *e*P **P** **08 20 36.5 -0.2**
comp=Z,7.7nm,0.8s
JCT Junction City 56.06 91 *e*P **P** **08 20 36.5 -0.2**
JCT pmax pmax
comp=Z,8.0nm,0.8s
PDGK Podgornoye 57.58 304 P **P** **08 20 48.1 +0.7**
PDGK pmax pmax
comp=Z,5.0nm,1.3s
TKL Tuckaleechee C 58.07 74 LR LR 08 45 32.9
comp=Z,56nm,19.4s,baz=346,slow=36
ABKAR Akbulak array 58.12 322 *e*P **P** **08 20 49.7 -1.2**
ABKAR *es*P **P** **08 20 51.1 +0.2**
HKT Hockley 58.16 87⇓ *e*P **P** **08 20 52.8 +1.4**
HKT pmax pmax
comp=Z,26nm,1.2s
EKA Eskdalemuir Ar 58.99 6 P **P** **08 20 56.3 -0.6**
comp=Z,0.7nm,0.4s,baz=0.0,slow=5.0,SNR=5.9
EKA Eskdalemuir Ar 58.99 6 P **P** **08 20 56.3 -0.6**
EKA pmax pmax
comp=Z,2.0nm,0.7s
KDJ Kajisay 59.43 305 P **P** **08 21 01.1 +0.7**
KDJ pmax pmax
comp=Z,9.0nm,1.3s
NRN Naryn 60.45 306 P **P** **08 21 08.2 +0.6**
NRN pmax pmax
comp=Z,8.0nm,1.2s
MNAS Manas 60.65 309 P **P** **08 21 09.6 +0.9**
MNAS pmax pmax
comp=Z,7.0nm,1.4s
KSH Kashi 62.18 305 P **P** **08 21 22.6 +3.6**
KSH pP sP 08 21 26.7 +3.2
KSH S **S** **08 29 46.2 +2.0**
KSH sS sS 08 29 54.4 +4.9
AKASG Malin Array Be 62.51 344 P **P** **08 21 19.1 -1.8**
comp=Z,2.1nm,0.6s,baz=18,slow=6.8,SNR=6.0
AKASG Malin Array Be 62.51 344 *i*P **P** **08 21 21.3 +0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KIEV Kiev 62.52 344⇓ *e*P **P** **08 21 19.9 -1.1**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 63.12 355 *e*P **P** **08 21 25.0 0.0**
comp=Z,3.0nm,0.5s
CLL Collm 63.12 355 *e*P **P** **08 21 25.0 0.0**
CLL pmax pmax
comp=Z,3.0nm,0.5s
DPC Dobruska-Polom 63.94 353 *e*P **P** **08 21 31.3 +0.8**
DPC Dobruska-Polom 63.94 353 *e*P **P** **08 21 31.3 +0.8**
GOPC GO Pecny, Ondr 64.45 354 *e*P **P** **08 21 34.2 +0.4**
GOPC GO Pecny, Ondr 64.45 354 *e*P **P** **08 21 34.2 +0.4**
KMI Kunming 64.73 275 P **P** **08 21 37.1 +0.9**
GERES GERESS Array B 65.56 355 P **P** **08 21 40.7 -0.4**
comp=Z,0.7nm,0.7s,baz=18,slow=5.6,SNR=5.5
VYHS Vyhne 65.64 351 *e*P **P** **08 21 43.2 +1.6**

VYHS Vyhne 65.64 351 *e*P **P** **08 21 43.2 +1.6**
GEYT Alibeck 69.13 318 P **P** **08 22 03.0 -0.8**
comp=Z,1.4nm,0.7s,baz=10,slow=3.2,SNR=3.6
GEYT LR LR 08 55 04.2
comp=Z,82nm,19.3s,baz=70,slow=38
CMAR Chiang Mai Arr 72.24 275 P **P** **08 22 22.6 -0.4**
comp=Z,0.8nm,0.3s,baz=15,slow=5.7,SNR=6.8
CMAR Chiang Mai Arr 72.24 275 *i*P **P** **08 22 23.3 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 72.69 338 P **P** **08 22 25.8 +0.2**
comp=Z,1.1nm,0.7s,baz=24,slow=3.3,SNR=3.4
ESDC Sonseca Array 74.57 8 P **P** **08 22 37.7 +1.2**
comp=Z,0.7nm,0.7s,baz=349,slow=6.4,SNR=5.3
DZM Mont Dzumac 88.88 198 LR LR 09 03 23.4
comp=Z,46nm,18.1s,baz=35,slow=35
PLCA Paso Flores 131.58 98 *e*PKPdf **PKPdf** **08 30 12.3 +2.6**
PLCA Paso Flores 131.58 98 *e*PKIKP **PKPdf** **08 30 12.3 +2.6**
CRZF Crozet Islands 149.04 286 *e*PKPbc **PKPbc** **08 30 46.0 +1.2**

NIED ***03*** *08:15:00,37.20N$_K$142.50E,h8^{km},Mw4.5 Best double couple: M$_0$5.91000×10^{15} NP1:$\phi_8$234.00000°,δ42.00000°, λ-16.00000°. NP2:$\phi_8$336.00000°,δ79.00000°, λ-131.00000°.*

BJI ***03*** *08:15:25.5,36.98N$_K$142.70E,h11^{km},mb4.7/45,mB4.9/26, Ms4.4/38,Ms7 4.1/31*

IDC ***03*** *08:15:27.2$_S$0.5,37.10N$_K$142.49E,h0^{km},mb4.4/29, mb1 4.5/34,mb1mx4.3/72,mbtmp4.4/34,ML4.5/4,MS3.6/11, Ms1 3.7/11,ms1mx3.2/62,Error ellipse: s-maj=13.7km s-min=11.2km az=108.0*

ISCJB ***03*** *08:15:28.2$_S$0.9,37.15N$_L$0.03$_K$142.47E$_L$0.02,h11^{km}$_L$5^{km}, mb4.7/145,MS4.0/17,Error ellipse: s-maj=4.8km s-min=2.9km az=172.0*

MOS ***03*** *08:15:29.7$_S$0.9,37.36N$_K$142.39E,h16^{km},mb4.8/53,Error ellipse: s-maj=7.5km s-min=5.5km az=101.8*

JMA ***03*** *08:15:30.0$_S$0.3,37.16N$_K$142.47E,h71^{km},M4.6*

NEIC ***03*** *08:15:32.3$_S$1.2,37.14N$_K$142.43E,h28^{km}$_L$8^{km},mb4.8/90, Error ellipse: s-maj=4.9km s-min=2.9km az=133.0*

ISC 03 08:15:30.9$_S$0.7,37.14N$_L$0.04$_K$142.59E$_L$0.04,h23^{km}$_L$4^{km}, n277,σ1^{S}66/302,mb4.7/145,MS4.0/18,14C-8D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.39**	**280**	P	Pn		Pn	**08 15 52.8**	**-2.1**
JFK				*e*S	Sn		Sn	**08 16 09.0**	**-3.5**
ONAJ	**Iwakimizuishiy**	**1.43**	**269**	P	Pn		Pn	**08 15 53.4**	**-2.1**
ONAJ				*e*S	Sn		Sn	**08 16 11.6**	**-2.1**
JMM	**Marumori**	**1.60**	**298**	P	Pn		Pn	**08 15 54.9**	**-2.9**
JMM				*e*S	Sn		Sn	**08 16 15.3**	**-2.5**
JIO	**Ouri**	**1.64**	**324**	S	Sn		Sn	**08 16 15.8**	**-3.0**
JFT	**Otama**	**1.84**	**283**	P	Pn		Pn	**08 15 58.9**	**-2.1**
JYS	**Shirataka**	**2.28**	**299**	P	Pn		Pn	**08 16 05.6**	**-1.5**
JYS				S	Sn		Sn	**08 16 32.2**	**-2.2**
JFY	**Yanaizu**	**2.32**	**278**	P	Pn		Pn	**08 16 06.3**	**-1.4**
JFY				*e*S	Sn		Sn	**08 16 31.5**	**-3.9**
JYK	**Kaneyama**	**2.50**	**316**	P	Pn		Pn	**08 16 08.3**	**-1.9**
MJAR	**Matsushiro Arr**	**3.56**	**262**	Pn	Pn		Pn	**08 16 23.7**	**-1.1**
MJAR	17nm,0.3s,baz=93,slow=16,SNR=86				LR		LR	08 17 50.2	
	comp=Z,1μm,20.8s,baz=85,slow=41								
MAJO	**Matsushiro**	**3.56**	**262**	*e*Pn	Pn		Pn	**08 16 24.9**	**+0.1**
MAJO	**Matsushiro**	**3.56**	**262**	*d i*P	Pn		Pn	**08 16 24.6**	**-0.2**
MAT	**Matsushiro**	**3.56**	**262**	P	Pn		Pn	**08 16 24.5**	**-0.3**
MAT				S	Sn		Sn	**08 17 05.1**	**-1.1**
MJB9	**Matsu-Tunnel**	**3.57**	**262**	*e*Pn	Pn		Pn	**08 16 25.0**	**+0.2**
JHJ2	**Mitsune**	**4.61**	**210**	*e*Pn	Pn		Pn	**08 16 38.2**	**-1.0**
JHJ	**Hachijo jima 2**	**4.62**	**211**	Pn	Pn		Pn	**08 16 37.4**	**-2.0**
JHJ	83nm,0.3s,baz=6.3,slow=22,SNR=14				Sn		Sn	**08 17 27.7**	**-4.5**
	48nm,0.3s,baz=73,slow=19,SNR=3.5								
INU	**Inuyama**	**4.84**	**250**	*e*Pn	Pn		Pn	**08 16 42.4**	**0.0**
ERM	**Erimo**	**4.89**	**5**	*e*Pn	Pn		Pn	**08 16 42.5**	**-0.6**
ERM	**Erimo**	**4.89**	**5**⇑	*e*P	Pn		Pn	**08 16 40.8**	**-2.2**
ASAJ	**Asahikawa**	**6.97**	**0**	Pn	Pn		Pn	**08 17 10.2**	**-1.4**
ASAJ	7.1nm,0.3s,baz=225,slow=8.4,SNR=30				Sn		Sn	**08 18 27.6**	**-2.6**
	baz=233,slow=20,SNR=2.2								
ASAJ	**Asahikawa**	**6.97**	**0**	*e*Pn	Pn		Pn	**08 17 11.2**	**-0.3**
ASAJ				S	Sn		Sn	**08 18 27.6**	**-2.6**
YUK	**Yuzh-Kuril'sk**	**7.33**	**19**	*e*P	Pn		Pn	**08 17 12.7**	**-3.7**
YUK				*i* S	Sn		Sn	**08 18 32.7**	**-6.1**
YUK				pmax	pmax				
	comp=Z,104nm,0.3s								
YUK				pmax	pmax				
	comp=E,33nm,0.1s								
YUK				pmax	pmax				
	comp=N,43nm,0.3s								
YUK				MLR	MLR				
	comp=Z,660nm,16.0s								
YUK				MLR	MLR				
	comp=E,716nm,15.0s								
YUK				MLR	MLR				
	comp=N,1μm,14.0s								
SHO	**Shikotan**	**7.46**	**24**⇑	*i*P	Pn		Pn	08 17 13.8	-4.5
SHO				*e*S	Sn		Sn	**08 18 34.6**	**-7.5**
SHO				pmax	pmax				
	comp=Z,63nm,0.5s								
SHO				pmax	pmax				
	comp=E,12nm,0.3s								
SHO				pmax	pmax				
	comp=N,34nm,0.4s								
KUR	**Kuril'sk**	**9.01**	**25**	*e*P	Pn		Pn	**08 17 37.4**	**-2.1**
KUR				*e*S	Sn		Sn	**08 19 12.8**	**-7.4**
KUR				pmax	pmax				
	comp=Z,64nm,0.6s								
TEY	**Ternei**	**9.09**	**332**	*e*P	Pn		Pn	08 17 47.0	+6.4
YSS	**Yuzh-Sakhalins**	**9.81**	**1**	*e*Pn	Pn		Pn	**08 17 51.1**	**+0.6**
YSS	**Yuzh-Sakhalins**	**9.81**	**1**⇓	*e*P	Pn		Pn	**08 17 50.7**	**+0.2**
YSS				*e*S	Sn		Sn	**08 19 39.2**	**-0.7**
YSS				pmax	pmax				
	comp=Z,30nm,1.1s								
YSS				MLR	MLR				
	comp=Z,600nm,11.0s								
YSS				MLR	MLR				
	comp=N,540nm,10.0s								
CBIJ	**Chichi jima**	**10.02**	**182**	Pn	Pn		Pn	**08 17 49.9**	**-3.5**
CBIJ				Sn	Sn		Sn	08 19 34.7	-10
JCJ	**Chichijima**	**10.02**	**182**	Pn	Pn		Pn	**08 17 49.9**	**-3.5**
JCJ	comp=N,8.5nm,0.3s,baz=285,slow=20,SNR=5.2				Sn		Sn	08 19 34.7	-10
	comp=N,8.8nm,0.3s,baz=282,slow=20,SNR=3.2								
JNU	**Nakatsue**	**10.39**	**251**	Pn	Pn		Pn	**08 17 59.2**	**+0.7**
	comp=N,1.1nm,0.3s,baz=59,slow=12,SNR=17								
JNU					LR		LR	08 21 43.8	
	comp=N,205nm,20.9s,baz=100,slow=36								
JNU	**Nakatsue**	**10.39**	**251**	*e*Pn	Pn		Pn	**08 17 59.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.70**	**315**	Pn	Pn		Pn	**08 18 05.7**	**+3.0**
	comp=N,0.3nm,0.3s,baz=126,slow=15,SNR=6.9								
USRK					LR		LR	08 21 42.6	
	comp=N,218nm,19.9s,baz=118,slow=35								
KSRS	**Korea Array**	**11.69**	**276**	Pn	Pn		Pn	**08 18 17.8**	**+1.6**
	comp=N,0.4nm,0.3s,baz=90,slow=14,SNR=22								
KSRS					LR		LR	08 22 22.5	
	comp=N,489nm,18.5s,baz=74,slow=36								
KS01	**Wonju Array Si**	**11.71**	**276**	*e*Pn	Pn		Pn	**08 18 17.6**	**+1.1**
KS15	**Wonju Array Si**	**11.72**	**276**	*e*Pn	Pn		Pn	**08 18 17.9**	**+1.3**
KSAR	**Wonju Array Be**	**11.72**	**276**	Pn	Pn		Pn	**08 18 17.8**	**+1.1**
KSAR	**Wonju Array Be**	**11.72**	**276**	P	Pn		Pn	**08 18 17.8**	**+1.1**
TJN	**Taejon**	**12.24**	**271**⇑	*e*P	Pn		Pn	**08 18 24.2**	**+0.5**
MDJ	**Mudanjiang**	**12.34**	**311**	P	Pn		Pn	**08 18 25.5**	**+0.3**
MDJ				pP	P		P	08 18 27.9	-9.2
MDJ				S	Sn		Sn	**08 20 42.5**	**+0.6**
MDJ				pmax	pmax				
	comp=N,4.0nm,1.0s								
MDJ				pmax	pmax				
	comp=N,51nm,3.0s								
MDJ				LR	LR				
	comp=N,880nm,17.4s								
MDJ				LR	LR				
	comp=N,520nm,15.2s								
KLR	**Kul'dur**	**14.42**	**330**	Pn	Pn		Pn	**08 18 52.3**	**-1.2**
	comp=N,0.0nm,0.3s,baz=140,slow=15,SNR=3.4								
KLR	**Kul'dur**	**14.42**	**330**⇑	*e*P	Pn		Pn	**08 18 53.8**	**+0.3**
CN2	**Changchun**	**14.64**	**302**	⇑P	Pn		Pn	**08 18 58.3**	**+1.8**
CN2				*es*P	P		P	08 19 04.3	+1.7
CN2				*e*S	Sn		Sn	**08 21 41.0**	**+3.1**
CN2				pmax	pmax				
	comp=N,10.0nm,0.5s								
CN2				pmax	pmax				
	comp=N,200nm,3.0s								

CN2 LR LR
comp=N,200nm,11.0s
CN2 LR LR
comp=N,300nm,11.0s
SNY Shenyang 15.40 294 ⇑P P 08 19 20.5 +9.4
SNY S S 08 22 42.2 +30
PEA0B Petropavlovsk- 19.14 29 *e*P **Pn 08 19 53.9 +0.7**
comp=N,109nm,1.6s
PETK Petropavlovsk- 19.14 29 P **P 08 19 52.6 +0.3**
comp=N,0.1nm,0.3s,baz=218,slow=11,SNR=3.9
PETK LR LR 08 28 01.5
comp=N,148nm,19.0s,baz=292,slow=39
ZEA Zeya 19.71 332 *e*P **P 08 19 56.7 -1.9**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,600nm,14.0s
ZEA MLR MLR
comp=E,500nm,12.0s
NJ2 Nanjing 20.17 262 *e*P **P 08 20 04.2 +0.5**
NJ2 pmax pmax
comp=E,19nm,0.5s
SSLB Suanglung 22.84 240 *e*P **P 08 20 30.5 -2.0**
comp=E,67nm,1.6s
YULB Yu-li 22.86 239 *e*P **P 08 20 31.3 -1.4**
comp=E,15nm,0.8s
MA2 Magadan 23.07 11 P **P 08 20 33.8 -0.8**
comp=E,9.9nm,0.7s,baz=193,slow=8.9,SNR=14
MA2 Magadan 23.07 11⇓ *e*P **P 08 20 34.2 -0.3**
TPUB Ta-pu 23.38 240 *e*P **P 08 20 37.8 -0.2**
comp=E,184nm,1.9s
WHN Wuhan 24.30 263 ⇓P **P 08 20 46.5 -0.2**
WHN pP **pP 08 20 51.9 -1.6**
WHN S **S 08 25 01.4 -3.0**
WHN LR LR
comp=E,840nm,11.1s
WHN LR LR
comp=E,1μm,10.7s
WHN LR LR
comp=E,1μm,12.3s
HHC Hu-ho-hao-te 24.33 288 *e*P **P 08 20 46.6 -0.4**
HHC pP pP 08 20 53.6 -0.3
HHC sP sP 08 20 57.1 +0.4
HHC PP **PnPn 08 21 21.6 +4.3**
HHC S **S 08 25 00.6 -4.4**
HHC sS pS 08 25 12.1 -0.2
HHC SS **SnSn 08 25 53.5 +5.0**
HHC pmax pmax
comp=E,13nm,1.1s
HHC pmax pmax
comp=E,94nm,5.3s
HHC LR LR
comp=E,300nm,12.2s
HHC LR LR
comp=E,250nm,12.8s
HHC LR LR
comp=E,190nm,13.1s
YAK Yakutsk 26.19 346 P **P 08 21 02.8 -0.6**
comp=E,9.3nm,0.4s,baz=277,slow=0.6,SNR=4.3
YAK Yakutsk 26.19 346 *e*P **P 08 21 04.1 +0.7**
YAK *e**PP **sP 08 21 15.1 +2.0**
YAK *e* 08 21 43.5
YAK *e*PPP PPP 08 21 50.7
YAK *e* 08 24 25.3
YAK *e*S **S 08 25 34.2 +0.4**
YAK *e*SS **SnSn 08 26 36.2 +2.9**
YAK *e* 08 31 56.2
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=Z,58nm,3.0s
YAK pmax pmax
comp=N,46nm,3.7s
YAK pmax pmax
comp=E,70nm,3.8s
YAK smax smax
comp=N,101nm,3.5s
YAK smax smax
comp=E,35nm,3.0s
SEY Seymchan 26.52 10 P **P 08 21 07.5 +1.1**
comp=E,14nm,0.7s,baz=187,slow=9.5,SNR=12
SEY Seymchan 26.52 10⇑ *e*P **P 08 21 07.3 +0.9**
H11N2 WAKE ISLAND Hy 27.40 123 T T 08 49 59.1
baz=315,slow=75
H11N1 WAKE ISLAND Hy 27.41 123 T T 08 50 08.6
baz=315,slow=75
H11N3 WAKE ISLAND Hy 27.42 123 T T 08 50 09.3
baz=315,slow=75
XAN Xi'an 27.47 274 P **P 08 21 17.6 +2.2**
XAN pP pP 08 21 24.1 +1.9
XAN S **S 08 25 57.1 +2.3**
XAN pmax pmax
comp=E,3.0nm,0.5s
XAN LR LR
comp=E,300nm,15.3s
XAN LR LR
comp=E,140nm,10.6s
XAN LR LR
comp=E,240nm,15.4s
BOD Bodaibo 27.95 327 *e*P **P 08 21 17.9 -1.4**
BOD pmax pmax
comp=Z,11nm,1.4s
ULN Ulaanbaatar 28.08 304 *e*P **P 08 21 20.9 +0.1**
comp=Z,4.9nm,0.7s
ULN Ulaanbaatar 28.08 304*c i*P **P 08 21 20.6 -0.2**
ULN pmax pmax
comp=Z,4.0nm,0.8s
H11S1 WAKE ISLAND Hy 28.14 125 T T 08 50 59.4
baz=317,slow=76
H11S3 WAKE ISLAND Hy 28.14 125 T T 08 50 54.1
baz=317,slow=76
H11S2 WAKE ISLAND Hy 28.15 125 T T 08 50 59.8
baz=317,slow=76
SONM Songino Array 28.51 304 P **P 08 21 24.5 -0.1**
comp=Z,6.5nm,0.7s,baz=102,slow=8.9,SNR=24
ZAK Zakamensk 30.95 308 *e*P **P 08 21 43.8 -2.3**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 30.98 280 *e*P **P 08 21 47.2 +0.6**
LZH pP pP 08 21 52.2 -1.3
LZH sP sP 08 21 55.9 -0.5
LZH pmax pmax
comp=Z,19nm,0.8s
LZH pmax pmax
comp=Z,72nm,4.2s
LZH LR LR
comp=Z,310nm,12.4s
LZH LR LR
comp=Z,370nm,13.8s
LZH LR LR
comp=Z,460nm,14.0s
TLY Talaya 30.98 311 P **P 08 21 46.8 +0.6**
comp=Z,2.4nm,0.7s,baz=102,slow=6.2,SNR=6.1
TLY Talaya 30.98 311 *e*P **P 08 21 47.1 +0.9**
comp=Z,3.7nm,0.9s
TLY Talaya 30.98 311 *e*P **P 08 21 44.6 -1.7**
TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY MLR MLR
comp=Z,144nm,12.0s
GYA Guiyang 32.16 261 P **P 08 21 56.3 -0.8**
GYA PP **PnPn 08 23 03.8 +0.6**
GYA PcP **PcP 08 24 47.5 +1.8**
GYA S **S 08 27 08.9 +0.2**
GYA SS **SnSn 08 29 00.7 +0.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,100nm,5.0s
GYA LR LR
comp=Z,500nm,17.4s
GYA LR LR
comp=Z,460nm,18.0s
GYA LR LR
comp=Z,480nm,17.6s
CD2 Chengdu 32.61 271 P **P 08 21 59.5 -1.4**
CD2 pP pP 08 22 06.7 -1.1
CD2 PcP **PcP 08 24 46.2 -0.6**
CD2 S **S 08 27 13.5 -2.0**
CD2 sS pS 08 27 25.8 +2.5
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,470nm,13.4s
CD2 LR LR
comp=Z,590nm,14.4s
CD2 LR LR
comp=Z,570nm,14.4s
GTA Gaotai 33.43 287 *e*P **P 08 22 08.1 0.0**
GTA pP pP 08 22 12.6 -2.4
GTA sP sP 08 22 15.7 -2.1
GTA S **S 08 27 27.6 -0.6**
GTA SS **SnSn 08 29 26.9 -3.5**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,82nm,5.0s
GTA LR LR
comp=Z,270nm,17.8s
GTA LR LR
comp=Z,350nm,20.4s
GTA LR LR
comp=Z,170nm,13.8s
BILL Bilibino 33.67 16⇑ *e*P **P 08 22 08.4 -1.2**
BILL *e* 08 23 24.8
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,150nm,17.0s
TIXI Tiksi 35.31 353⇓ *e*P **P 08 22 23.7 0.0**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
KMI Kunming 35.91 262 P **P 08 22 29.8 +0.1**
KMI pmax pmax
comp=Z,13nm,1.3s
KMI LR LR
comp=Z,230nm,13.8s
KMI LR LR
comp=Z,250nm,14.7s
KMI LR LR
comp=Z,250nm,12.5s
MYLDM Lahad Datu 38.69 221 *e*P **P 08 22 53.4 +0.3**
comp=Z,24nm,0.9s
FAKI Fak Fak 41.00 196 *e*P **P 08 23 13.9 +1.7**
comp=Z,9.8nm,0.8s
WMQ Urumqi 41.63 297 P **P 08 23 15.9 -1.4**
WMQ pP pP 08 23 22.1 -2.3
WMQ sP sP 08 23 27.2 0.0
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,150nm,3.9s
WMQ LR LR
comp=Z,510nm,19.9s
WMQ LR LR
comp=Z,270nm,21.5s
WMQ LR LR
comp=Z,170nm,24.1s
CMAR Chiang Mai Arr 42.43 256 P **P 08 23 23.9 -0.2**
comp=E,1.5nm,0.3s,baz=46,slow=6.4,SNR=5.5
CMAR LR LR 08 43 42.6
comp=Z,131nm,18.0s,baz=300,slow=40
ZAA0 Zalesovo Array 42.54 312 *e*P **P 08 23 24.6 +0.1**
comp=Z,6.8nm,0.9s
ZALV Zalesovo Beam 42.54 312 P **P 08 23 24.4 -0.1**
comp=Z,3.1nm,0.8s,baz=90,slow=7.2,SNR=9.9
ZALV Zalesovo Beam 42.54 312 *e*P **P 08 23 24.8 +0.3**
ZALV Zalesovo Beam 42.54 312 *e*P **P 08 23 24.8 +0.3**
NVS Novosibirsk 43.45 314 *e*P **P 08 23 31.8 0.0**
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
NVS pmax pmax
comp=Z,11nm,1.0s
MK01 Makanchi Array 44.86 302 *e*P **P 08 23 42.9 -0.4**
MK31 Makanchi Array 44.86 302 *e*P **P 08 23 42.6 -0.7**
MK31 Makanchi Array 44.86 302 *e*P **P 08 23 42.6 -0.7**
MKAR Makanchi Array 44.86 302 P **P 08 23 42.6 -0.8**
comp=Z,3.4nm,0.7s,baz=89,slow=9.6,SNR=30
MKAR Makanchi Array 44.86 302 *e*P **P 08 23 42.5 -0.8**
comp=Z,33nm,0.8s
MKAR Makanchi Array 44.86 302 *i* P **P 08 23 43.0 -0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
SVW2 Sparrevohn 44.87 37 *e*P **P 08 23 44.8 +1.6**
comp=Z,30nm,1.4s
MAKZ Makanchi 45.07 302 *e*P **P 08 23 44.2 -0.8**
comp=Z,20nm,1.5s
MAKZ Makanchi 45.07 302 *e*P **P 08 23 44.2 -0.8**
MAKZ pmax pmax
comp=Z,20nm,1.5s
KDAK Kodiak Island 46.39 42 P **P 08 23 55.8 +0.6**
comp=Z,18nm,0.7s,baz=272,slow=5.7,SNR=14
KDAK Kodiak Island 46.39 42 *e*P **P 08 23 56.1 +0.9**
comp=Z,181nm,1.5s
KDAK Kodiak Island 46.39 42 *e*P **P 08 23 56.1 +0.9**
KDAK pmax pmax
comp=Z,181nm,1.5s
PPLA Purkeypile 46.55 35 *e*P **P 08 23 58.4 +1.8**
comp=Z,80nm,2.0s
SPU Mount Spurr 46.58 37 *e*P **P 08 23 58.9 +2.1**
KURK Kurchatov 46.61 308 *e*P **P 08 23 56.6 -0.4**
comp=Z,13nm,0.8s
KURK Kurchatov 46.61 308*c i*P **P 08 23 56.3 -0.7**
KURK pmax pmax
comp=Z,13nm,0.8s
CAST Castle Rocks 46.61 34 *e*P **P 08 23 58.6 +1.7**
comp=Z,5.5nm,0.8s
BPAW Bear Paw Mtn. 47.12 33 *e*P **P 08 24 02.5 +1.6**
comp=Z,18nm,1.8s
KTH Kantishna Hill 47.14 34 *e*P **P 08 24 02.9 +1.8**
comp=Z,13nm,1.0s
SUA Susitna One 47.21 37 *e*P **P 08 24 02.5 +0.8**
comp=Z,75nm,1.9s
MLY Manley 47.27 32 *e*P **P 08 24 03.8 +1.7**
comp=Z,5.5nm,0.9s
TRF Thorofare Moun 47.42 34 *e*P **P 08 24 05.4 +2.0**
comp=Z,35nm,1.9s
PDGK Podgornoye 47.56 298 P **P 08 24 04.7 0.0**
PDGK pmax pmax
comp=Z,8.0nm,0.9s
COLD Coldfoot 47.61 29 *e*P **P 08 24 06.6 +2.0**
comp=Z,5.5nm,1.4s
RC01 Rabbit Creek A 47.71 37 *e*P **P 08 24 06.3 +0.9**
comp=Z,48nm,1.7s
PMR Palmer 47.98 37 *e*P **P 08 24 08.5 +1.0**
comp=Z,56nm,2.0s
PMR Palmer 47.98 37 *e*P **P 08 24 08.5 +1.0**
PMR pmax pmax
comp=Z,56nm,2.0s
MCK McKinley 48.02 34 *e*P **P 08 24 08.7 +0.8**
comp=Z,24nm,1.6s
MCK McKinley 48.02 34 *e*P **P 08 24 08.7 +0.8**
MCK pmax pmax
comp=Z,24nm,1.6s
RND Reindeer 48.06 34 *e*P **P 08 24 09.1 +0.8**
comp=Z,8.4nm,0.8s
RND Reindeer 48.06 34 *e*P **P 08 24 09.1 +0.8**
RND pmax pmax
comp=Z,8.0nm,0.8s
MDM Murphy Dome 48.33 32 *e*P **P 08 24 11.8 +1.6**
comp=Z,10nm,0.9s
SML Sawmill 48.35 36 *e*P **P 08 24 12.0 +1.5**
comp=Z,41nm,1.5s
SML Sawmill 48.35 36 *e*P **P 08 24 12.0 +1.5**
SML pmax pmax
comp=Z,41nm,1.5s
COLA College 48.49 32 *e*P **P 08 24 13.3 +1.9**
comp=Z,6.1nm,0.7s
COLA College 48.49 32 *e*P **P 08 24 13.3 +1.9**
COLA pmax pmax
comp=Z,6.0nm,0.7s
CCB Clear Creek Bu 48.51 33 *e*P **P 08 24 12.7 +1.1**
comp=Z,19nm,1.9s
DHY Denali Highway 48.74 35 *e*P **P 08 24 14.6 +0.9**
comp=Z,17nm,1.5s
SCM Sheep Creek Mo 48.83 36 *e*P **P 08 24 15.5 +1.3**
comp=Z,93nm,1.8s
SCM Sheep Creek Mo 48.83 36 *e*P **P 08 24 15.5 +1.3**
SCM pmax pmax
comp=Z,93nm,1.8s
HDA Harding Lake 48.89 33 *e*P **P 08 24 14.8 +0.3**
comp=Z,34nm,1.9s
IL1 Eielson Array 48.91 32 *e*P **P 08 24 15.5 +0.8**
ILAR Eielson Array 48.91 32 P **P 08 24 15.0 +0.4**
comp=Z,4.4nm,0.8s,baz=261,slow=6.1,SNR=52
ILB Eielson Array 48.91 32 *e*P **P 08 24 15.2 +0.6**
KLU Klutina 49.52 37 *e*P **P 08 24 21.0 +1.5**
comp=Z,32nm,1.6s
KDJ Kajisay 49.52 297 P **P 08 24 19.6 -0.3**
KDJ pmax pmax
comp=Z,4.0nm,0.9s
FYU Fort Yukon 49.55 30 *e*P **P 08 24 21.7 +2.2**
comp=Z,23nm,1.4s
DIV Divide 49.63 37 *e*P **P 08 24 22.2 +1.9**
comp=Z,58nm,1.9s
EYAK Cordova Ski Ar 49.70 38 *e*P **P 08 24 22.6 +1.9**
comp=Z,188nm,1.9s
HARP HAARP 49.80 35 *e*P **P 08 24 23.1 +1.5**
comp=Z,166nm,2.0s
RIDG Independ'e Rid 49.84 34 *e*P **P 08 24 22.3 +0.4**
comp=Z,35nm,1.8s
DOT Dot Lake 50.20 34 *e*P **P 08 24 25.2 +0.6**
comp=Z,12nm,0.8s
BMRM Bremner River 50.21 37 *e*P **P 08 24 26.4 +1.7**
comp=Z,24nm,1.2s
MENT Mentasta 50.42 35 *e*P **P 08 24 28.1 +1.9**
comp=Z,6.4nm,0.7s
COEN Coen 50.82 179 *e*P **P 08 24 30.6 +0.9**
comp=Z,9.8nm,0.9s
OTUK Ortayu 51.13 306 P **P 08 24 31.6 -0.2**
OTUK pmax pmax
comp=Z,10.0nm,1.5s
BVAR Borovoye Array 51.20 312 P **P 08 24 31.5 -0.7**
comp=Z,1.8nm,0.8s,baz=72,slow=9.3,SNR=5.9
KSH Kashi 51.22 294 *e*P **P 08 24 35.7 +3.0**
KSH sP sP 08 24 46.7 +4.0
KSH ScP **ScP 08 29 44.5 +1.7**
KSH S **S 08 31 52.1 +2.1**
KSH sS sS 08 32 04.1 +2.3
KSH SS **SS 08 35 25.0 -0.2**
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH pmax pmax
comp=Z,110nm,5.2s
KSH LR LR
comp=Z,170nm,10.6s
KSH LR LR
comp=Z,210nm,15.7s
KSH LR LR
comp=Z,190nm,17.5s
BRVK Borovoye 51.25 312*de*P **P 08 24 33.1 +0.5**
BRVK pmax pmax
comp=Z,9.0nm,2.1s
EGAK Eagle 51.35 32 *e*P **P 08 24 33.9 +0.8**
comp=Z,27nm,1.8s
DAWY Dawson 52.20 33 *e*P **P 08 24 41.1 +1.5**
comp=Z,19nm,1.8s
PSI Prapat 52.66 240 *e*P **P 08 24 43.7 +0.1**
comp=Z,6.6nm,0.7s
PSI Prapat 52.66 240 *e*P **P 08 24 43.7 +0.1**
PSI pmax pmax
comp=Z,7.0nm,0.7s
MNAS Manas 52.71 299 P **P 08 24 44.3 +0.5**
MNAS pmax pmax
comp=Z,7.0nm,0.8s
SFK Sufi-Kurgan 52.84 296 P **P 08 24 45.1 +0.2**
SFK pmax pmax
comp=Z,8.0nm,0.9s
HYT Haines Junctio 53.66 37 *e*P **P 08 24 52.0 +1.6**
comp=Z,15nm,1.1s
INK Inuvik 53.87 27 P **P 08 24 52.5 +0.8**
comp=Z,3.4nm,0.8s,baz=291,slow=7.5,SNR=17
INK Inuvik 53.87 27 *e*P **P 08 24 53.0 +1.3**
comp=Z,28nm,1.9s
INK Inuvik 53.87 27 *e*P **P 08 24 53.0 +1.3**
INK pmax pmax
comp=Z,28nm,1.9s
GSI Gunungsitoli 54.66 240 *e*P **P 08 24 59.0 +0.8**
comp=Z,150nm,1.7s
WHY Whitehorse 54.95 37 *e*P **P 08 25 02.0 +2.2**
comp=Z,47nm,1.8s
SVE Sverdlovsk 55.69 319 *e*P **P 08 25 05.2 +0.1**
SVE pmax pmax
comp=Z,16nm,1.1s
ARU Arti 56.91 319 *e*P **P 08 25 13.7 -0.1**
comp=Z,8.1nm,0.8s
ARU Arti 56.91 319*d i*P **P 08 25 12.8 -1.0**
ARU S **S 08 33 07.1 +1.1**
ARU SS **SS 08 36 49.0 -4.8**
ARU pmax pmax
comp=Z,19nm,1.7s
FITZ Fitzroy Crossi 57.22 199 *e*P **P 08 25 15.6 -0.7**
WRA Warramunga Arr 57.30 189 P **P 08 25 16.3 -0.6**
comp=Z,7.9nm,0.7s,baz=7.1,slow=7.5,SNR=80
DLBC Dease Lake 57.97 38 *e*P **P 08 25 24.0 +2.7**
comp=Z,10nm,1.0s
ABKAR Akbulak array 58.59 310 *e*P **P 08 25 25.0 -0.7**
comp=Z,135nm,1.1s
HYB Hyderabad 59.15 269 *i* P **P 08 25 30.0 -0.1**
AS01 Alice Springs 61.02 189 *e*P **P 08 25 42.5 -0.2**
AS31 Alice Springs 61.03 189 *e*P **P 08 25 42.7 0.0**
comp=Z,1.4nm,0.8s
ASAR Alice Springs 61.03 189 P **P 08 25 41.7 -0.9**
comp=Z,3.6nm,0.7s,baz=12,slow=6.7,SNR=43
RES Resolute Bay 62.27 15 P **P 08 25 50.4 0.0**
comp=Z,4.7nm,0.8s,baz=315,slow=6.1,SNR=16
RES Resolute Bay 62.27 15 *e*P **P 08 25 51.6 +1.2**
comp=Z,8.9nm,1.0s
RES Resolute Bay 62.27 15 *e*P **P 08 25 51.6 +1.2**
RES pmax pmax
comp=Z,9.0nm,1.0s
LVZ Lovozero 62.40 336⇑ *e*P **P 08 25 52.1 +0.6**
LVZ pmax pmax
comp=Z,64nm,1.4s
YKA Yellowknife Ar 63.25 30 P **P 08 25 57.6 +0.5**
comp=Z,0.5nm,0.6s,baz=298,slow=6.7,SNR=11
GEYT Alibeck 64.61 299 P **P 08 26 06.1 -0.4**
comp=Z,2.0nm,0.6s,baz=40,slow=2.5,SNR=4.2
AFI Afiamalu 66.48 131 LR LR 08 48 14.5
comp=Z,24nm,20.8s,baz=312,slow=30
VRH Novokhopyorsk 68.13 318 *e*P **P 08 26 28.3 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 68.57 324 *e*P **P 08 26 32.1 +0.6**
OBN pmax pmax
comp=Z,22nm,1.2s
STKA Stephens Creek 68.66 181 P **P 08 26 32.0 -0.1**
comp=Z,1.7nm,0.8s,baz=359,slow=7.4,SNR=3.5
FIA1 FINESS Array S 69.16 333 *e*P **P 08 26 35.4 +0.4**
comp=Z,24nm,1.1s
FINES FINESS Array B 69.16 333 P **P 08 26 35.2 +0.1**
comp=Z,5.0nm,0.7s,baz=41,slow=8.1,SNR=15
VSR Storozhevoye 69.47 319 *e*P **P 08 26 36.5 -0.7**
VSR pmax pmax
comp=Z,9.0nm,0.7s
PINE Pine Mountain 69.55 50 *e*P **P 08 26 37.9 -0.2**
comp=Z,29nm,1.6s
BBOO Buckleboo 69.85 186 *e*P **P 08 26 39.7 +0.1**
comp=Z,25nm,1.4s
SUMG Summit 70.58 0 *e*P **P 08 26 44.9 +0.7**
comp=Z,8.4nm,1.2s
SUMG Summit 70.58 0 *e*P **P 08 26 44.9 +0.7**
SUMG pmax pmax
comp=Z,8.0nm,1.2s
BMO Blue Mountains 71.17 48 *e*P **P 08 26 48.7 +0.9**
comp=Z,3.0nm,0.9s
BMO Blue Mountains 71.17 48 *e*P **P 08 26 48.7 +0.9**
BMO pmax pmax
comp=Z,3.0nm,0.9s
J08A Circle Bar Ran 71.30 50 *e*P **P 08 26 51.0 +2.4**
comp=Z,8.7nm,1.3s
MCCM Marconi Confer 71.34 56 *e*P **P 08 26 51.3 +2.5**
comp=Z,133nm,1.4s
KBZ Khabaz 71.55 311 P **P 08 26 50.5 +0.6**
comp=Z,4.0nm,0.9s,baz=50,slow=10,SNR=4.8
KIV Kislovodsk 71.55 311 *e*P **P 08 26 51.4 +1.3**
KIV pmax pmax
comp=Z,17nm,1.1s
PAHR Pah Rah Range 72.76 53 *e*P **P 08 26 59.0 +1.5**
comp=Z,8.4nm,1.3s
CMB Columbia Colle 73.04 55 *e*P **P 08 26 59.9 +0.8**
comp=Z,9.8nm,1.5s
CMB Columbia Colle 73.04 55 *e*P **P 08 26 59.9 +0.8**
CMB pmax pmax
comp=Z,10.0nm,1.5s
FFC Flin Flon 73.11 33 *e*P **P 08 27 00.3 +1.2**
comp=Z,9.8nm,1.1s
FFC Flin Flon 73.11 33 *e*P **P 08 27 00.3 +1.2**
FFC pmax pmax
comp=Z,10.0nm,1.1s
YERR Yerington 73.25 54 *e*P **P 08 27 02.2 +1.7**
comp=Z,7.4nm,1.1s

FCC	Fort Churchill	73.49	27	eP	P	08 27 01.5	+0.3
	comp=Z,7.6nm,1.0s						
FCC	Fort Churchill	73.49	27	eP	P	08 27 01.5	+0.3
FCC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BOZ	Bozeman (W)	74.01	45	eP	P	08 27 06.1	+1.3
	comp=Z,4.2nm,0.8s						
BOZ	Bozeman (W)	74.01	45	eP	P	08 27 06.1	+1.3
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NVAR	Mina Array Bea	74.17	54	P	P	08 27 06.9	+1.0
	comp=Z,2.1nm,0.9s,baz=290,slow=5.1,SNR=13						
NV01	Mina Array Sit	74.17	54	eP	P	08 27 07.6	+1.6
NV11	Mina Array Sit	74.27	54	eP	P	08 27 07.9	+1.5
	comp=Z,0.6nm,1.4s						
HFS	Hagfors	74.38	336	P	P	08 27 06.5	0.0
	comp=Z,3.4nm,0.9s,baz=51,slow=7.6,SNR=2.8						
NC204	NORSAR Array S	74.40	338	eP	P	08 27 07.4	+0.7
NB2	NORSAR Subarra	74.45	338	P	P	08 27 06.9	0.0
	comp=Z,18nm,1.4s,baz=41,slow=6.2						
NOA	NORSAR Array B	74.45	338	P	P	08 27 06.5	-0.4
	comp=Z,1.9nm,0.8s,baz=40,slow=5.9,SNR=4.3						
NOA				LR	LR	09 04 11.1	
	comp=Z,64nm,18.7s,baz=20,slow=39						
AKASG	Malin Array Be	74.79	323	P	P	08 27 08.3	-0.7
	comp=Z,3.1nm,0.6s,baz=46,slow=6.2,SNR=18						
AKASG	Malin Array Be	74.79	323	ceP	P	08 27 08.6	-0.4
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKBB	Malin Array Si	74.79	323	eP	P	08 27 09.0	0.0
	comp=Z,4.9nm,0.8s						
AKBB	Malin Array Si	74.79	323	eP	P	08 27 09.0	0.0
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIEV	Kiev	74.80	323	eP	P	08 27 09.0	0.0
	comp=Z,4.6nm,0.7s						
KIEV	Kiev	74.80	323	eP	P	08 27 09.0	0.0
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AK11	Malin Array Si	74.83	323	eP	P	08 27 09.2	-0.1
H17A	Grant Village	75.33	45	eP	P	08 27 15.8	+3.2
	comp=Z,5.8nm,0.8s						
FXWY	Fox Creek	75.54	46	eP	P	08 27 16.3	+2.5
	comp=Z,5.5nm,1.4s						
RLMT	Red Lodge	75.62	44	eP	P	08 27 15.9	+1.7
	comp=Z,17nm,1.8s						
MOOW	Moose Ponds	75.63	46	eP	P	08 27 16.0	+1.7
	comp=Z,6.9nm,1.3s						
REDW	Red Top Meadow	75.81	46	eP	P	08 27 16.9	+1.5
	comp=Z,8.6nm,1.4s						
R11A	Troy Canyon, C	75.96	52	eP	P	08 27 17.2	+1.0
	comp=Z,5.5nm,1.2s						
TPNV	Topopah Spring	76.36	54	eP	P	08 27 20.4	+1.9
	comp=Z,6.9nm,1.0s						
TPNV	Topopah Spring	76.36	54	eP	P	08 27 20.4	+1.9
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DUG	Dugway, Tooele	76.58	50	eP	P	08 27 21.2	+1.6
	comp=Z,4.1nm,1.1s						
DUG	Dugway, Tooele	76.58	50	eP	P	08 27 21.2	+1.6
DUG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PD31	Pinedale Array	76.92	46	eP	P	08 27 21.6	-0.1
PDAR	Pinedale Array	76.92	46	P	P	08 27 22.2	+0.5
	comp=Z,1.0nm,0.6s,baz=267,slow=2.8,SNR=12						
PDAR	Pinedale Array	76.92	46	eP	P	08 27 23.0	+1.3
PSUT	Pine Spring	76.94	52	eP	P	08 27 23.9	+2.1
	comp=Z,5.7nm,1.1s						
NLU	North Lily Min	77.17	49	eP	P	08 27 24.2	+1.1
	comp=Z,3.2nm,1.0s						
MPU	Maple Canyon	77.40	49	eP	P	08 27 26.5	+2.1
	comp=Z,18nm,1.8s						
BORG	Borgarnes	77.67	353	LR	LR	09 02 03.4	
	comp=Z,80nm,18.1s,baz=127,slow=36						
CCUT	Cedar City	77.84	52	eP	P	08 27 28.3	+1.4
	comp=Z,5.8nm,1.1s						
LCMT	Little Creek M	78.24	52	eP	P	08 27 30.1	+1.1
	comp=Z,6.1nm,1.0s						
MTPU	Mount Pierson	78.28	51	eP	P	08 27 31.2	+1.7
	comp=Z,3.6nm,1.0s						
P17A	Butcher Ranch,	78.28	49	eP	P	08 27 31.1	+1.9
	comp=Z,5.8nm,0.9s						
KNB	Kanab	78.51	52	eP	P	08 27 32.1	+1.5
	comp=Z,12nm,1.3s						
KNB	Kanab	78.51	52	eP	P	08 27 32.1	+1.5
KNB				pmax	pmax		
	comp=Z,12nm,1.3s						
KWP	Kalwaria Pacla	78.59	325	eP	P	08 27 31.6	+1.1
	comp=Z,474nm,0.5s						
KWP	Kalwaria Pacla	78.59	325	eP	P	08 27 31.6	+1.1
KWP				pmax	pmax		
	comp=Z,474nm,0.5s						
SRU	San Rafael Swe	78.64	49	eP	P	08 27 32.9	+1.7
	comp=Z,5.8nm,0.8s						
SRU	San Rafael Swe	78.64	49	eP	P	08 27 32.9	+1.7
SRU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BUR08	Bucovina Ar. S	78.80	322	eP	P	08 27 32.6	+0.7
BUR04	Bucovina Ar. S	78.81	322	eP	P	08 27 32.5	+0.6
BURAR	Bucovina Array	78.81	322	⇓iP	P	08 27 31.8	-0.1
U15A	North Rim	79.20	52	eP	P	08 27 36.8	+2.3
	comp=Z,4.9nm,1.0s						
BRTR	Keskin Array B	79.48	312	P	P	08 27 35.2	-0.6
	comp=Z,2.9nm,1.1s,baz=32,slow=5.6,SNR=3.6						
BRTR	Keskin Array B	79.48	312	ceP	P	08 27 37.4	+1.6
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MLR	Muntele Rosu	79.91	320	LR	LR	09 04 03.6	
	comp=Z,22nm,19.1s,baz=38,slow=36						
PV10	Paradox Valley	80.00	49	eP	P	08 27 40.9	+2.2
PV05	Paradox Valley	80.15	50	eP	P	08 27 40.3	+0.7
Y14A	Wickenburg	80.28	55	eP	P	08 27 41.9	+1.8
	comp=Z,82nm,1.9s						
WUAZ	Wupatki	80.35	53	eP	P	08 27 42.9	+2.3
	comp=Z,7.7nm,1.1s						
CLL	Collm	81.47	331	eP	P	08 27 46.0	0.0
CLL	Collm	81.47	331	eP	P	08 27 46.0	0.0
URZ	Urewera	81.51	153	P	P	08 27 46.8	+0.7
	comp=Z,3.4nm,0.3s,baz=310,slow=7.9,SNR=4.1						
S22A	4UR Ranch, Cre	81.74	49	eP	P	08 27 49.3	+1.2
	comp=Z,7.6nm,1.4s						
KHC	Kasperske Hory	82.94	329	eP	P	08 27 54.1	+0.2
KHC				epP	pP	08 28 01.4	0.0
KHC	Kasperske Hory	82.94	329	eP	P	08 27 54.1	+0.2
KHC				e		08 28 01.4	
GERES	GERESS Array B	83.12	329	P	P	08 27 53.8	-1.1
	comp=Z,0.6nm,0.7s,baz=35,slow=5.1,SNR=5.0						
GEA0	GERESS Array S	83.12	329	eP	P	08 27 55.2	+0.3
ECSD	EROS Data Cent	83.25	39	eP	P	08 27 56.6	+1.1
	comp=Z,16nm,1.9s						
T25A	Trinidad	83.58	48	eP	P	08 27 59.6	+2.0
	comp=Z,5.3nm,0.9s						
ANMO	Albuquerque	83.80	51	eP	P	08 28 00.2	+1.5
	comp=Z,5.4nm,1.3s						
ANMO	Albuquerque	83.80	51	ceP	P	08 28 00.4	+1.7
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
PPT	Papeete	83.84	117	LR	LR	09 01 24.6	
	comp=Z,41nm,20.2s,baz=321,slow=33						
TX31	Lajitas Ar. Si	89.31	53	eP	P	08 28 26.8	+1.1
TXAR	Lajitas Array	89.31	53	P	P	08 28 26.7	+1.0
	comp=Z,1.4nm,0.7s,baz=289,slow=3.8,SNR=5.1						
TXAR	Lajitas Array	89.31	53	P	P	08 28 26.7	+1.0
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SNAA	Sanae	141.12	197	ePKPdf	PKPdf	08 34 59.6	+1.3
SNAA	Sanae	141.12	197	ePKIKP	PKPdf	08 34 59.6	+1.3
LPAZ	La Paz	145.83	61	PKPbc	PKPbc	08 35 09.6	+0.2
	comp=Z,3.6nm,0.8s,baz=1.9,slow=6.7,SNR=5.6						
LPAZ	La Paz	145.83	61	ePKPdf	PKPbc	08 35 09.8	+0.4
MNMC	Minye Minye	146.65	66	ePKPbc	PKPab	08 35 12.5	0.0
PB11	IPOC Station P	147.00	67	ePKPdf	PKPbc	08 35 11.7	-0.5

*ISCJB **03** 08:20:27.6±0.4, 31°.59N±0°.08×138°.2E±0°.1, h392km, mb3.5/22, Error ellipse: s-maj=15.2km s-min=7.6km az=144.2*

*IDC **03** 08:20:30.2±0.7, 31°.66N×138°.22E, h405km±6km, mb3.3/22, mb1 3.4/24, mb1mx3.2/66, mbtmp4.1/24, Error ellipse: s-maj=14.5km s-min=11.0km az=69.0*

ISC 03 08:20:28.6±0.5**, 31°.51N**±0°.09×**138°.2E**±0°.1**, h392**km**, n28,** σ**1s.01**/34**, mb3.7**/22**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.08	39	P	Pn	08 21 26.4	+2.2
	44nm,0.3s,baz=144,slow=23,SNR=6.4						
JHJ				S	S	08 22 12.3	+3.1
	36nm,0.3s,baz=71,slow=23,SNR=3.3						
MJAR	Matsushiro Arr	5.02	360	P	Pn	08 21 49.8	-0.5
	0.9nm,0.3s,baz=167,slow=10,SNR=7.1						
JCJ	Chichijima	5.59	141	P	Pn	08 21 57.2	+0.6
	12nm,0.3s,baz=288,slow=19,SNR=5.8						
JCJ				S	S	08 23 07.7	-0.5
	56nm,0.3s,baz=298,slow=21,SNR=13						
KSRS	Korea Array	10.36	308	P	Pn	08 22 51.4	+0.7
	0.6nm,0.3s,baz=120,slow=10,SNR=16						
KLR	Kul'dur	18.36	346	P	P	08 24 16.3	-0.8
	0.1nm,0.3s,baz=153,slow=8.4,SNR=15						
SONM	Songino Array	29.16	313	P	P	08 25 55.9	+0.3
	1.0nm,0.4s,baz=118,slow=8.1,SNR=6.4						
ZALV	Zalesovo Beam	43.91	317	P	P	08 27 57.3	-0.7
	0.7nm,0.3s,baz=80,slow=7.9,SNR=3.2						
ZALV				PcP	PcP	08 29 36.2	+0.1
	1.0nm,0.5s,baz=112,slow=3.5,SNR=3.5						
MKAR	Makanchi Array	45.04	306	P	P	08 28 06.8	-0.4
	0.6nm,0.7s,baz=90,slow=9.5,SNR=12						
MKAR				PcP	PcP	08 29 40.0	-0.2
	1.0nm,0.8s,baz=93,slow=2.8,SNR=4.6						
WRA	Warramunga Arr	51.29	185	P	P	08 28 56.2	+1.7
	0.4nm,0.3s,baz=0.4,slow=7.9,SNR=14						
WRA				PcP	PcP	08 30 05.0	+1.8
	0.6nm,0.6s,baz=358,slow=3.9,SNR=6.4						
BVAR	Borovoye Array	52.48	315	P	P	08 29 02.8	0.0
	2.5nm,0.4s,baz=112,slow=7.6,SNR=12						
BVAR				PcP	PcP	08 30 07.5	+0.3
	1.3nm,0.4s,baz=103,slow=3.8,SNR=4.6						
KDAK	Kodiak Island	53.01	39	P	P	08 29 06.2	-0.2
	7.1nm,0.8s,baz=225,slow=4.3,SNR=7.3						
ASAR	Alice Springs	55.02	185	P	P	08 29 21.9	+0.6
	0.3nm,0.7s,baz=360,slow=6.4,SNR=5.8						
ILAR	Eielson Array	55.57	30	P	P	08 29 24.0	-0.6
	0.2nm,0.6s,baz=287,slow=4.5,SNR=4.4						
ARU	Arti	58.83	320	P	P	08 29 45.9	-1.3
	2.2nm,0.5s,baz=80,slow=2.8,SNR=4.7						
AKTO	Aktyubinsk	60.48	314	P	P	08 29 57.7	-0.8
	1.1nm,0.4s,baz=75,slow=10,SNR=4.4						
GEYT	Alibeck	64.25	300	P	P	08 30 23.2	-0.3
	1.1nm,0.6s,baz=45,slow=2.2,SNR=2.3						
ARCES	ARCESS Array B	68.23	340	P	P	08 30 47.7	-0.1
	3.1nm,0.9s,baz=70,slow=7.9,SNR=6.5						
YKA	Yellowknife Ar	69.91	28	P	P	08 30 57.8	-0.2
	0.1nm,0.5s,baz=300,slow=6.4,SNR=3.0						
FINES	FINESS Array B	72.46	332	P	P	08 31 12.8	-0.4
	2.0nm,0.4s,baz=73,slow=5.4,SNR=18						
KBZ	Khabaz	72.50	311	P	P	08 31 14.5	+0.7
	5.1nm,0.8s,baz=98,slow=5.9,SNR=7.2						
AKASG	Malin Array Be	77.03	322	P	P	08 31 39.0	-0.3
	2.6nm,0.4s,baz=51,slow=5.3,SNR=14						
HFS	Hagfors	78.00	335	P	P	08 31 43.8	-0.6
	3.2nm,0.9s,baz=105,slow=2.2,SNR=6.9						
NOA	NORSAR Array B	78.22	337	P	P	08 31 44.2	-1.6
	0.6nm,0.8s,baz=43,slow=5.4,SNR=3.4						
NVAR	Mina Array Bea	80.46	51	P	P	08 31 58.3	-0.1
	0.2nm,0.5s,baz=278,slow=6.3,SNR=2.5						
BRTR	Keskin Array B	80.49	311	P	P	08 31 58.6	+0.1
	1.9nm,0.7s,baz=119,slow=4.4,SNR=5.8						
MMAI	Mount Meron Ar	82.95	304	P	P	08 32 10.9	-0.2
	5.5nm,0.9s,baz=63,slow=6.6,SNR=3.6						
GERES	GERESS Array B	85.95	327	P	P	08 32 25.0	-0.7
	0.3nm,0.4s,baz=54,slow=5.0,SNR=3.7						
TORD	Torodi Ar. Bea	119.10	310	PKP	PKPdf	08 38 31.4	-0.9
	0.3nm,0.5s,baz=85,slow=0.9,SNR=6.5						

*ISCJB **03** 08:21:14.8±0.6, 32°.24N±0°.06×131°.38E±0°.05, h86km±4km, mb3.6/5, Error ellipse: s-maj=11.4km s-min=6.1km az=150.8*

*IDC **03** 08:21:16.4±4.5, 32°.27N×131°.30E, h83km±21km, mb3.5/5, mb1 3.5/7, mb1mx3.2/69, mbtmp3.7/7, Error ellipse: s-maj=71.7km s-min=31.1km az=12.0*

*JMA **03** 08:21:16.6, 32°.27N×131°.31E, h77km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs340.00000°, δ68.00000°, λ146.00000°. NP2: φs84.00000°, δ59.00000°, λ26.00000°. Principal axes: T Plg39.0000°, Azm299.0000°; N Plg50.0000°, Azm131.0000°; P Plg6.0000°, Azm34.0000°;*

JMA Felt I J1.

ISC 03 08:21:15.6±0.9**, 32°.22N**±0°.07×**131°.38E**±0°.05**, h82**km±6km**, n17,** σ**0s.90**/26**, mb3.7**/5**, 1C-7D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTSN	Tsuno	0.11	76	⇑P	Pn	08 21 27.8	+0.4
JTSN				S	Sn	08 21 36.2	+0.2
JTZ	Takazaki	0.40	218	⇓P	Pn	08 21 29.3	+0.5
JTZ				S	Sn	08 21 38.7	+0.2
JKIT	Kitakata	0.41	9	⇓P	Pn	08 21 29.4	+0.5
JKIT				S	Sn	08 21 38.7	+0.1
JIU2	Izumi 2	0.58	304	⇓P	Pn	08 21 30.3	0.0
JIU2				S	Sn	08 21 40.0	-1.1
JNU	Nakatsue	0.99	335	P	Pn	08 21 34.9	+0.1
	38nm,0.3s,baz=4.8,slow=16,SNR=337						
JNU				S	Sn	08 21 48.8	-0.3
	136nm,0.3s,baz=264,slow=19,SNR=68						
JTO	Tosashimizu	1.36	62	⇓P	Pn	08 21 38.9	-0.3
JTO				S	Sn	08 21 55.6	-1.4
UWA2	Uwa jima 2	1.44	46	⇓P	Pn	08 21 39.8	-0.5
UWA2				S	Sn	08 21 57.7	-1.3
JSJ	Shimokoshiki	1.51	250	⇓P	Pn	08 21 40.8	-0.4
JSJ				S	Sn	08 21 59.6	-0.9
JNA	Nagahama	1.62	34	⇓P	Pn	08 21 42.5	-0.1
JNA				S	Sn	08 22 01.8	-1.3
KSRS	Korea Array	5.95	332	P	Pn	08 22 42.2	+1.2
	0.3nm,0.3s,baz=146,slow=14,SNR=3.2						
MAT	Matsushiro	7.10	51	P	Pn	08 22 58.4	+1.5
MJAR	Matsushiro Arr	7.10	51	P	Pn	08 22 58.9	+2.1
	3.4nm,0.3s,baz=243,slow=14,SNR=17						
SONM	Songino Array	24.53	317	P	P	08 26 28.0	+0.4
	0.7nm,0.6s,baz=128,slow=9.3,SNR=3.2						
MKAR	Makanchi Array	39.92	306	P	P	08 28 41.8	+0.1
	0.4nm,0.4s,baz=88,slow=10,SNR=5.7						
BVAR	Borovoye Array	47.84	315	P	P	08 29 45.4	+0.5
	0.6nm,0.5s,baz=99,slow=9.3,SNR=2.1						
FINES	FINESS Array B	69.03	330	P	P	08 32 11.6	-0.5
	1.4nm,0.4s,baz=66,slow=5.1,SNR=8.9						
AKASG	Malin Array Be	72.78	319	P	P	08 32 34.6	-0.4
	0.3nm,0.3s,baz=53,slow=6.5,SNR=3.8						

DJA 03 08:35:11.0±1.4**, 9°S**±26°×**10°7E**±1°0**, h38**km±104km**, M3.7**/4**, MLv3.7**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	1.19	33	P	Pn	08 35 30.9	-0.3
CISI				S	Sn	08 35 46.7	+0.6
CNJI	Cibinong	1.24	359	P	Pn	08 35 31.8	0.0
CNJI				S	Sn	08 35 47.2	-0.2
CMJI	Cimerak	1.49	59	P	Pn	08 35 35.3	+0.1
CMJI				S	Sn	08 35 53.6	+0.1
SKJI	Sukabumi	1.66	339	P	Pn	08 35 37.2	-0.3
SKJI				S	Sn	08 35 58.0	+0.4

*NEIC **03** 08:40:26.9±0.0, 15°.09N×61°.18W, h148km, mb4.7/209, MD4.5(TRN), After TRN.*

NEIC Felt at Bellevue Chopin. Also felt at La Trinite and Le Robert, Martinique and at Gros Islet, Saint Lucia.

*TRN **03** 08:40:26.8, 15°.10N×61°.14W, h147km, MD4.5*

TRN Felt in Dominica, MMI II.

*BJI **03** 08:40:26.9, 15°.10N×61°.20W, h145km, mB4.9/5*

*ISCJB **03** 08:40:27.1±0.1, 15°.09N±0°.02×61°.22W±0°.02, h150km±1km, mb4.6/233, Error ellipse: s-maj=3.7km s-min=2.3km az=155.3*

*IDC **03** 08:40:28.5±1.6, 15°.11N×61°.29W, h147km±15km, mb4.0/24, mb1 4.1/29, mb1mx4.0/51, mbtmp4.5/29, MS3.0/1, Ms1 3.0/1, ms1mx2.5/49, Error ellipse: s-maj=13.4km s-min=9.9km az=17.0*

ISC 03 08:40:28.6±0.5**, 15°.10N**±0°.02×**61°.17W**±0°.04**, h149**km±4km**, n745,** σ**0s.94**/802**, mb4.7**/233**, 6C-4D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DLPL	La Plaine	0.24	342	eP	Pn	08 40 47.9	-1.0
DLPL				i S	Sn	08 41 02.9	-1.5
DLPL	La Plaine	0.24	342	⇑eP	Pn	08 40 47.9	-1.0
DLPL				i S	Sn	08 41 02.9	-1.5
SVN	Savane Anatole	0.26	180	eP	Pn	08 40 48.3	-0.7
PCM	Pelee Case Pet	0.29	188	eP	Pn	08 40 48.0	-1.1
PCM	Pelee Case Pet	0.29	188	eP	Pn	08 40 48.3	-0.8
PML	Morne Lenard	0.32	183	eP	Pn	08 40 48.3	-0.9
FDF	Fort de France	0.37	177	ePn	Pn	08 40 48.5	-0.8
FDF				eSn	Sn	08 41 04.2	-1.0
FDF	Fort de France	0.37	177	eP	Pn	08 40 48.5	-0.8
FDF				i S	Sn	08 41 03.6	-1.5
BBL	Barber's Block	0.51	325	i P	Pn	08 40 49.4	-0.5
BBL				eS	Sn	08 41 05.3	-0.9
BBL	Barber's Block	0.51	325	⇓iP	Pn	08 40 49.4	-0.5
BBL				eS	Sn	08 41 05.3	-0.9
MDMP	Dominica, Moor	0.54	334	eP	Pn	08 40 49.7	-0.4
MDMP				eS	Sn	08 41 06.0	-0.5
MDPO	Dominica; Chan	0.54	330	eP	Pn	08 40 49.6	-0.5
ZAM	Aeronautique	0.54	166	eP	Pn	08 40 49.0	-1.1
MDVC	Dominica, Viel	0.56	336	eP	Pn	08 40 49.6	-0.6
MDVC				eS	Sn	08 41 05.8	-0.8
LPMF	Morne Lapointe	0.56	160	eP	Pn	08 40 48.9	-1.3
TRMF	Trois Ilets	0.57	169	eP	Pn	08 40 49.4	-0.9
MDPV	Dominica, Penn	0.58	335	eP	Pn	08 40 49.9	-0.4
MDPV				eS	Sn	08 41 06.0	-0.9
BIM	Bigot	0.59	171	eP	Pn	08 40 49.5	-0.9
BIM				eS	Sn	08 41 05.2	-1.8
MVM	Montagne Vaucl	0.61	154	eP	Pn	08 40 49.4	-1.1
H05S1	Guadeloupe/Mar	0.75	155	P	Pn	08 40 50.7	-0.6
H05S1				S	Sn	08 41 06.3	-2.4
MGG	Marie-Galante	0.82	350	eP	Pn	08 40 51.0	-0.9
MGG	Marie-Galante	0.82	350	eP	Pn	08 40 51.0	-0.9
TBG	Guadaloupe-3	0.88	328	eP	Pn	08 40 51.7	-0.6
TBG				eS	Sn	08 41 09.7	-0.6
SLW	Petit Monier	1.10	168	eP	Pn	08 40 52.9	-1.3
DEG	La Desirade	1.21	5	eP	Pn	08 40 54.0	-1.3
DEG	La Desirade	1.21	5	eP	Pn	08 40 54.0	-1.3
DEG				eS	Sn	08 41 14.2	-1.5
H05N1	Guadeloupe/Mar	1.21	5	P	Pn	08 40 54.3	-0.9
H05N1				S	Sn	08 41 13.1	-2.6
SLB	Belfond	1.27	174	eP	Pn	08 40 55.9	0.0
SLB	Belfond	1.27	174	eP	Pn	08 40 55.9	0.0
GDHS	Morne Mazeau,	1.30	334	ePn	Pn	08 40 55.7	-0.4
GDHS				eSn	Sn	08 41 16.6	-0.6
MCLT	Moule a Chique	1.40	171	eP	Pn	08 40 55.8	-1.3
MCLT				i S	Sn	08 41 16.2	-2.7
MCLT	Moule a Chique	1.40	171	eP	Pn	08 40 55.8	-1.3
MCLT				i S	Sn	08 41 16.2	-2.7
MCLT				eS	Sn	08 41 17.8	-1.1
SSV	Crater Summit	1.77	181	eP	Pn	08 41 00.3	-0.8
SSV				eS	Sn	08 41 25.4	-0.6
SSV	Crater Summit	1.77	181	eP	Pn	08 41 00.3	-0.8
SSV				eS	Sn	08 41 25.4	-0.6
SVV	Soufriere Volc	1.77	182	eP	Pn	08 41 00.3	-0.9
SVV				eS	Sn	08 41 25.7	-0.4
SVV	Soufriere Volc	1.77	182	⇑eP	Pn	08 41 00.3	-0.9
SVV				eS	Sn	08 41 25.7	-0.4
SVCV	St. Vincent, C	1.82	179	eP	Pn	08 41 00.7	-0.9
SVCV				eS	Sn	08 41 25.1	-1.9
SVB	Belmont	1.82	183	ePn	Pn	08 41 00.9	-0.8
SVB				eSn	Sn	08 41 27.1	0.0
SVB	Belmont	1.82	183	eP	Pn	08 41 00.8	-0.8
SVB				eS	Sn	08 41 25.2	-1.9
FCV	Fort Charlotte	1.94	182	eP	Pn	08 41 03.0	0.0
FCV				eS	Sn	08 41 28.2	-1.2
FCV	Fort Charlotte	1.94	182	eP	Pn	08 41 03.0	0.0
FCV				eS	Sn	08 41 28.2	-1.2
BPA	Boggy Peak	2.04	341	eP	Pn	08 41 03.0	-1.2
BPA	Boggy Peak	2.04	341	⇓eP	Pn	08 41 03.0	-1.2
NEV	Hard Times	2.43	326	i P	Pn	08 41 08.1	-0.7
NEV				eS	Sn	08 41 38.8	-1.0
NEV	Hard Times	2.43	326	⇓iP	Pn	08 41 08.1	-0.7
NEV	Hard Times	2.43	326	eP	Pn	08 41 08.4	-0.4
NEV				eS	Sn	08 41 38.8	-1.0
NEV				eS	Sn	08 41 38.9	-1.0
NVRH	Round Hill, Ne	2.48	327	eP	Pn	08 41 09.9	+0.4
NVRH				eS	Sn	08 41 40.2	-0.8
BBGH	Gun Hill	2.50	141	ePn	Pn	08 41 09.7	0.0
BBGH				eS	Sn	08 41 40.9	-0.5
BBGH	Gun Hill	2.50	141	i P	Pn	08 41 09.1	-0.6
BBGH				eS	Sn	08 41 40.0	-1.3
BBSP	Saint Philip	2.59	140	eP	Pn	08 41 09.2	-1.6
BBSP				eS	Sn	08 41 42.7	-0.6
BBSP	Saint Philip	2.59	140	eP	Pn	08 41 09.2	-1.6
BBSP				eS	Sn	08 41 42.7	-0.6
ANWB	Willy Bob	2.62	347	ePn	Pn	08 41 09.2	-2.0
ANWB				eSn	Sn	08 41 40.6	-3.4
ANWB	Willy Bob	2.62	347	eP	Pn	08 41 09.9	-1.3
ANWB				eS	Sn	08 41 40.8	-3.2
SKI	Saint Kitts	2.68	326	ePn	Pn	08 41 11.6	-0.4
SKI				eSn	Sn	08 41 45.0	-0.4
SKI	Saint Kitts	2.68	326	⇑iP	Pn	08 41 11.5	-0.4
SKI				eS	Sn	08 41 44.6	-0.9
SEUS	St. Eustatius	2.95	324	ePn	Pn	08 41 14.7	-0.6
SEUS				eS	Sn	08 41 50.7	-0.6
SEUS	St. Eustatius	2.95	324	⇓eP	Pn	08 41 15.5	+0.2
SEUS				eS	Sn	08 41 50.7	-0.6
GRGR	Grenville	2.99	189	ePn	Pn	08 41 15.6	-0.3
GRGR				eSn	Sn	08 41 52.4	0.0
GRGR	Grenville	2.99	189	eP	Pn	08 41 14.9	-1.0
GRGR				i S	Sn	08 41 50.0	-2.4
SABA	Saba	3.20	322	ePn	Pn	08 41 18.0	-0.5
SABA				eS	Sn	08 41 55.0	-2.1
SABA	Saba	3.20	322	⇑eP	Pn	08 41 17.9	-0.5
SABA				eS	Sn	08 41 55.0	-2.1
SMRT	St. Maarten	3.45	328	ePn	Pn	08 41 20.3	-1.5
SMRT				eSn	Sn	08 41 59.9	-3.1
SMRT	St. Maarten	3.45	328	eP	Pn	08 41 20.3	-1.5
SMRT				eS	Sn	08 42 00.6	-2.4
TOSP	Speyside	3.83	171	eP	Pn	08 41 25.8	-0.9
TOSP				eS	Sn	08 42 09.2	-2.6
TOSP	Speyside	3.83	171	⇑eP	Pn	08 41 25.8	-0.9
TOSP				eS	Sn	08 42 09.2	-2.6
TRN	Trinidad (W)	4.43	183	eP	Pn	08 41 34.6	0.0
TRN				eS	Sn	08 42 22.9	-3.0
TRN	Trinidad (W)	4.43	183	eP	Pn	08 41 34.6	0.0
TBH	Brigand Hill	4.59	179	eP	Pn	08 41 36.4	-0.2
TBH	Brigand Hill	4.59	179	eP	Pn	08 41 36.4	-0.2
ABVI	Anegada Island	4.71	320	ePn	Pn	08 41 37.1	-1.0
TPP	Pointe-a-Pierr	4.76	183	eP	Pn	08 41 37.1	-1.8
TPP				eS	Sn	08 42 30.1	-3.7
TPP	Pointe-a-Pierr	4.76	183	eP	Pn	08 41 37.9	-1.0
STVI	Saint Thomas	4.86	312	ePn	Pn	08 41 39.6	-0.5
STVI				eSn	Sn	08 42 36.5	+0.7
MTP	Monte Pirata	5.15	306	ePn	Pn	08 41 43.8	-0.3
HUMP	Col San Antoni	5.41	305	ePn	Pn	08 41 47.1	-0.3
CBYP	Canovanas	5.49	306	ePn	Pn	08 41 48.6	+0.1
SJG	San Juan	5.64	303	P	Pn	08 41 49.8	-0.6
	23nm,0.3s,baz=95,slow=9.5,SNR=36						
SJG				S	Sn	08 42 51.4	-3.0
	5.0nm,0.3s,baz=235,slow=14,SNR=3.3						
PCRV	Puerto La Cruz	5.95	215	P	Pn	08 41 54.2	-0.5
	6.5nm,0.3s,baz=16,slow=4.0,SNR=28						
PCRV				S	Sn	08 43 06.2	+4.1
	0.6nm,0.3s,baz=35,slow=18,SNR=2.4						
MPR	Mayaguez	6.50	299	ePn	Pn	08 42 01.4	-0.6
AGP	Aguadilla	6.60	301	ePn	Pn	08 42 03.7	+0.4
SDDR	Presa de Saban	10.42	293	ePn	Pn	08 42 54.2	-0.1
SDDR				eSn	Sn	08 44 54.2	+4.6
SDV	Santo Domingo	11.13	237	P	Pn	08 43 03.3	-0.5
	0.8nm,0.3s,baz=101,slow=6.1,SNR=9.0						
SDV				LR	LR	08 47 42.2	
	comp=Z,64nm,18.3s,baz=64,slow=39						
SDV	Santo Domingo	11.13	237	ePn	Pn	08 43 03.7	-0.1
GRTK	Grand Turk	11.41	305	ePn	Pn	08 43 02.8	-4.4
LGNH	LØogne	11.46	289	ePn	Pn	08 43 07.5	-0.4
GTBY	Guantanamo Bay	14.13	292	ePn	Pn	08 43 41.6	-0.7
BARC	Barichara	14.51	236	eP	P	08 43 50.0	+0.2
RUSC	La Rusia	14.86	233	ePn	Pn	08 43 51.7	-0.2
RUSC	La Rusia	14.86	233	eP	Pn	08 43 49.9	-2.0
ZARC	Zaragoza, Cauc	15.40	242	eP	Pn	08 43 54.6	-3.6
PTBC	PUERTO BERRIO,	15.57	238	eP	Pn	08 43 59.2	-1.1
PTGA	Pitinga	15.78	176	P	Pn	08 44 01.7	-1.1
	5.2nm,0.3s,baz=0.4,slow=15,SNR=48						
PTGA				S	Sn	08 46 45.9	-13
	3.6nm,0.3s,baz=307,slow=20,SNR=8.2						
PTGA	Pitinga	15.78	176	ePn	Pn	08 44 01.9	-0.9
	38nm,0.8s						
PTGA				S	Sn	08 46 45.9	-13
CHIC	Chingaza	16.16	231	eP	Pn	08 44 07.9	0.0
ROSC	El Rosal	16.47	233	P	P	08 44 12.3	+0.6
	1.0nm,0.3s,baz=68,slow=3.5,SNR=10						
ROSC	El Rosal	16.47	233	ePn	P	08 44 13.5	+1.8

	12nm,0.6s						
ROSC	El Rosal	16.47 233	eP	P	08 44 12.5	+0.8	
HELC	Santa Helena	16.65 239	eP	Pn	08 44 14.1	+0.3	
	24nm,1.1s						
HELC	Santa Helena	16.65 239	eP	Pn	08 44 13.9	0.0	
SJAC	San Juan de Ar	17.23 228	eP	P	08 44 19.2	-0.6	
RREF	El Recreo	17.24 235	eP	P	08 44 18.5	-1.9	
BBSR	BB Station	17.49 350	eP	Pn	08 44 24.5	+1.2	
	188nm,1.9s						
PRAC	Prado	17.62 231	eP	Pn	08 44 27.0	+1.8	
	30nm,0.7s						
PRAC	Prado	17.62 231	eP	Pn	08 44 26.5	+1.3	
YOTC	Yotoco, Valle	18.59 235	eP	P	08 44 34.3	-0.3	
HORQ	Saladito	19.11 234	eP	P	08 44 39.1	-1.4	
FSCY	Frank Sound, G	19.57 285	eP	Pn	08 44 48.6	+0.6	
	170nm,1.0s						
WBCY	West Bay, Gran	19.78 285	eP	Pn	08 44 51.2	+0.8	
	152nm,0.7s						
859A	Kempfer Cattle	22.38 308	P	P	08 45 14.8	+0.1	
	baz=121						
HDC	Heredia	22.96 260	eP	P	08 45 20.2	-0.2	
	37nm,0.5s						
857A	Zephyrhills	23.50 307	P	P	08 45 25.1	0.0	
	baz=120						
JTS	JuntasAbangare	23.68 261	P	P	08 45 24.6	-2.3	
	2.0nm,0.7s,baz=125,slow=16,SNR=2.7						
757A	Oxford	23.72 309	P	P	08 45 26.7	-0.3	
	baz=121						
657A	Interlachen	23.91 311	P	P	08 45 28.3	-0.4	
	baz=123						
SAML	Samuel	23.98 185	eP	P	08 45 29.9	+0.4	
	17nm,1.4s						
557A	Orange Park	24.04 312	P	P	08 45 29.8	-0.2	
	baz=124						
556A	Lake Butler	24.52 311	P	P	08 45 34.7	+0.3	
	baz=123						
NHSC	New Hope	24.87 319	P	P	08 45 37.2	-0.2	
	baz=132						
NHSC	New Hope	24.87 319	eP	P	08 45 38.8	+1.4	
	106nm,0.6s						
CNNC	Cliffs of the	25.05 326	eP	P	08 45 39.7	+0.7	
	22nm,0.8s						
455A	Stateville	25.37 312	P	P	08 45 42.6	+0.6	
	baz=123						
554A	Perry	25.51 310	P	P	08 45 43.3	0.0	
	baz=121						
TIGA	Tifton	26.16 312	P	P	08 45 49.6	+0.5	
	baz=124						
HODGE	Hodges	26.92 319	eP	P	08 45 56.9	+1.0	
	25nm,0.9s						
KMSC	Kings Mountain	26.95 321	P	P	08 45 56.3	+0.2	
	baz=133,SNR=5.4						
KMSC	Kings Mountain	26.95 321	eP	P	08 45 56.4	+0.2	
	23nm,0.6s						
IP05	Hopewell Churc	26.98 330	eP	P	08 45 56.9	+0.5	
	11nm,0.6s						
SPFD	Spotsylvania F	27.12 331	eP	P	08 45 58.0	+0.4	
	14nm,0.6s						
IP01	Cuckoo	27.16 330	eP	P	08 45 58.6	+0.6	
	15nm,0.9s						
IP07	Quail	27.19 330	eP	P	08 45 58.5	+0.3	
	17nm,0.6s						
SPRD	Spring Road, M	27.20 330	eP	P	08 45 58.3	0.0	
	15nm,1.0s						
CVRD	Centerville Ro	27.20 330	eP	P	08 45 58.8	+0.4	
	55nm,1.8s						
IP03	Louisa	27.26 330	eP	P	08 45 59.1	+0.2	
	90nm,2.0s						
IP04	Greensprings	27.36 330	eP	P	08 46 00.0	+0.3	
	43nm,1.5s						
351A	Pinckard	27.54 310	P	P	08 46 01.2	-0.2	
	baz=120						
PSUB	Penn St. - Bra	27.71 336	eP	P	08 46 03.5	+0.6	
	17nm,0.8s						
251A	Midway	27.82 312	P	P	08 46 03.6	-0.4	
	baz=122						
BLA	Blacksburg	27.88 326	P	P	08 46 04.4	-0.1	
	baz=137						
BLA	Blacksburg	27.88 326	eP	P	08 46 05.2	+0.7	
	33nm,0.6s						
151A	Opelika	27.99 313	P	P	08 46 05.0	-0.4	
	baz=123						
MVL	Millersville	28.13 335	eP	P	08 46 07.8	+1.2	
	14nm,0.9s						
250A	Grady	28.38 311	P	P	08 46 08.5	-0.5	
	baz=121						
N59A	State Game Lan	28.68 337	eP	P	08 46 12.4	+0.8	
	18nm,0.8s						
TKL	Tuckaleechee C	28.79 319	eP	P	08 46 12.9	+0.4	
	55nm,0.6s						
249A	Camden	29.01 310	P	P	08 46 14.3	-0.2	
	baz=120						
149A	Jones	29.08 311	P	P	08 46 14.8	-0.3	
	baz=121						
CPCT	Cooper Cave	29.13 318	eP	P	08 46 16.1	+0.5	
	34nm,0.7s						
TZTN	Tazewell	29.22 321	eP	P	08 46 16.7	+0.3	
	42nm,1.5s						
SSPA	Standing Stone	29.31 333	eP	P	08 46 18.1	+1.0	
	54nm,1.8s						
O56A	Blue Knob Stat	29.31 332	P	P	08 46 17.4	+0.2	
	baz=144						
LRAL	Lakeview Retre	29.45 312	P	P	08 46 18.0	-0.4	
	baz=121						
LRAL	Lakeview Retre	29.45 312	eP	P	08 46 19.1	+0.7	
	14nm,1.0s						
248A	Dixon Mills	29.52 310	P	P	08 46 18.8	-0.3	
	baz=119						
347A	Saraland	29.81 308	P	P	08 46 21.2	-0.4	
	baz=117						
BINY	Binghamton	29.87 338	eP	P	08 46 23.2	+1.1	
	57nm,1.6s						
Z48A	Northport	30.03 312	P	P	08 46 23.7	+0.2	
	baz=121,SNR=7.2						
Y48A	Jasper	30.03 313	P	P	08 46 23.5	-0.1	
	baz=122						
HNH	Hanover	30.05 344	eP	P	08 46 25.1	+1.6	
	72nm,1.8s						
147A	Livingston	30.20 310	P	P	08 46 25.0	0.0	
	baz=119,SNR=9.4						
X48A	Hartselle	30.23 314	P	P	08 46 25.5	+0.2	
	baz=123,SNR=5.4						
Z47A	Carrollton	30.31 311	P	P	08 46 26.2	+0.2	
	baz=120,SNR=11						
LBNH	Lisbon	30.45 345	P	P	08 46 28.0	+0.9	
	baz=159						
LBNH	Lisbon	30.45 345	eP	P	08 46 28.9	+1.9	
	61nm,1.6s						
Y47A	UCPARC, Winfie	30.51 313	P	P	08 46 27.8	0.0	
	baz=122						
N54A	Moraine State	30.52 331	P	P	08 46 28.3	+0.6	
	baz=142						
N54A	Moraine State	30.52 331	eP	P	08 46 28.8	+1.0	
	70nm,1.4s						
W48A	Pulaski	30.54 315	P	P	08 46 28.1	+0.1	
	baz=124						
M54A	Oil Creek Stat	30.80 332	P	P	08 46 30.8	+0.6	
	baz=143						
M54A	Oil Creek Stat	30.80 332	eP	P	08 46 31.1	+0.8	
	179nm,2.0s						
V48A	Smith Brothers	30.81 317	P	P	08 46 30.4	0.0	
	baz=125						
X47A	Russelville	30.84 314	P	P	08 46 30.8	+0.2	
	baz=122,SNR=24						
NCB	Newcomb	30.85 341	eP	P	08 46 31.8	+1.1	
	64nm,1.9s						
Z46A	Louisville	30.94 311	P	P	08 46 31.9	+0.3	
	baz=119,SNR=5.4						
W47A	Westpoint	31.05 315	P	P	08 46 32.7	+0.2	
	baz=124						
ALLY	Alegheny Colle	31.13 332	eP	P	08 46 34.2	+1.0	
	78nm,1.3s						
Y46A	Houston	31.22 312	P	P	08 46 34.0	0.0	
	baz=120,SNR=8.8						
PLAL	Pickwick Lake	31.24 314	eP	P	08 46 34.5	+0.4	
	17nm,0.8s						
V47A	Nunnelly	31.32 316	P	P	08 46 35.0	+0.1	
	baz=125						
145A	Houston Renfro	31.40 309	P	P	08 46 35.5	-0.1	
	baz=117						
ACSO	Alum Creek Sta	31.45 327	P	P	08 46 36.4	+0.5	
	baz=137,SNR=5.3						
ACSO	Alum Creek Sta	31.45 327	eP	P	08 46 36.9	+1.0	
	27nm,0.6s						
344A	Westbrook Farm	31.52 306	P	P	08 46 36.5	-0.1	
	baz=114						
U47A	Clarksville	31.52 317	P	P	08 46 36.8	+0.2	
	baz=126						
Z45A	Winona	31.58 310	P	P	08 46 37.1	-0.1	
	baz=118						
WVT	Waverly	31.70 316	P	P	08 46 38.0	-0.2	
	baz=125						
WVT	Waverly	31.70 316	eP	P	08 46 38.3	+0.2	
	8.7nm,0.8s						
Y45A	Yeager Farm, C	31.71 311	P	P	08 46 38.2	0.0	
	baz=119						
V46A	Holladay	31.71 315	P	P	08 46 38.0	-0.3	
	baz=124						
T47A	Sharon Grove	31.72 318	P	P	08 46 38.4	+0.1	
	baz=127						
244A	Avery, Jackson	31.73 307	P	P	08 46 38.2	-0.2	
	baz=115						
R48A	Northridge Ran	31.83 321	P	P	08 46 39.4	+0.1	
	baz=130						
X45A	UM Field Stati	31.87 312	P	P	08 46 39.8	+0.1	
	baz=120,SNR=8.5						
OXF	Oxford	31.93 312	P	P	08 46 40.2	0.0	
	baz=120,SNR=5.7						
OXF	Oxford	31.93 312	eP	P	08 46 40.5	+0.3	
	69nm,1.2s						
LPAZ	La Paz	31.94 193	epP	pP	08 47 15.6	+2.8	
WCI	Wyandotte Cave	31.98 321	P	P	08 46 40.7	+0.1	
	baz=129						
WCI	Wyandotte Cave	31.98 321	eP	P	08 46 41.5	+0.9	
	14nm,0.9s						
U46A	Springville	32.06 316	P	P	08 46 41.2	-0.1	
	baz=124						
W45A	Hickory Valley	32.10 314	P	P	08 46 41.5	-0.2	
	baz=122						
R47A	Wooly Knot Far	32.16 321	P	P	08 46 42.5	+0.3	
	baz=129						
T46A	Princeton	32.27 318	P	P	08 46 43.2	+0.1	
	baz=126						
U45A	Rockin P Farm,	32.45 316	P	P	08 46 44.9	+0.2	
	baz=124,SNR=6.8						
Q47A	Bedord North L	32.50 322	P	P	08 46 45.4	+0.2	
	baz=130						
UTMT	University of	32.51 316	eP	P	08 46 45.9	+0.7	
	73nm,1.0s						
S46A	Don Dixon Farm	32.53 319	P	P	08 46 45.6	+0.2	
	baz=127						
ALFO	Alfred	32.55 342	P	P	08 46 46.3	+0.9	
	baz=155						
143A	Socs Landing,	32.56 308	P	P	08 46 46.0	+0.3	
	baz=116						
BLO	Bloomington	32.71 322	eP	P	08 46 47.9	+0.9	
	18nm,0.7s						
R46A	Gibon Southern	32.72 320	P	P	08 46 47.2	+0.2	
	baz=128						
PLVO	Plevna	32.73 339	eP	P	08 46 48.0	+0.9	
	57nm,1.5s						
342A	Flagon Creek P	32.74 305	P	P	08 46 47.2	-0.2	
	baz=113						
P47A	Martinsville	32.77 323	P	P	08 46 47.4	-0.1	
	baz=131						
242A	Grayson	32.87 306	P	P	08 46 48.2	-0.3	
	baz=114						
TRQ	Mont Tremblant	32.99 343	eP	P	08 46 50.4	+1.0	
S45A	Carrier Mills	33.08 318	P	P	08 46 50.3	+0.1	
	baz=126						
O47A	Sheridan	33.21 324	P	P	08 46 51.2	0.0	
	baz=132						
R45A	Skylar, Fairfi	33.25 319	P	P	08 46 51.7	+0.1	
	baz=127,SNR=9.2						
SADO	Sadowa	33.26 336	eP	P	08 46 51.8	+0.1	
	55nm,1.3s						
Y42A	Garnett, Star	33.34 310	P	P	08 46 52.8	+0.3	
	baz=117,SNR=5.9						
341A	Kurthwood	33.39 305	P	P	08 46 53.1	+0.1	
	baz=112,SNR=6.6						
OLIL	Olney	33.40 320	eP	P	08 46 53.7	+0.8	
	39nm,0.6s						
P46A	Rosedale	33.41 322	P	P	08 46 53.3	+0.3	
	baz=130						
241A	Mo Tay, Goldon	33.46 306	P	P	08 46 53.2	-0.3	
	baz=113						
SIUC	Southern Illin	33.51 318	eP	P	08 46 54.7	+0.7	
	25nm,0.8s						
S44A	Carbondale	33.53 317	P	P	08 46 54.2	+0.1	
	baz=125,SNR=6.5						
Q45A	Warren Harvey,	33.53 320	P	P	08 46 54.4	+0.3	
	baz=128,SNR=5.2						
P45A	Graceland, Par	33.67 321	P	P	08 46 55.6	+0.3	
	baz=129,SNR=5.3						
141A	Papa Simpson,	33.67 307	P	P	08 46 55.3	-0.1	
	baz=114						
R44A	Waltonville	33.73 318	P	P	08 46 56.0	+0.2	
	baz=126						
PBMO	Poplar Bluff	33.81 315	eP	P	08 46 56.5	-0.1	
	13nm,0.8s						
SFIN	Lafayette	33.83 323	P	P	08 46 56.9	+0.2	
	baz=131						
SFIN	Lafayette	33.83 323	eP	P	08 46 57.4	+0.8	
	57nm,1.3s						
T43A	Greenville	33.88 316	P	P	08 46 57.1	0.0	
	baz=123						
N46A	Monticello	33.96 324	P	P	08 46 58.0	+0.2	
	baz=132						
V42A	Cord	33.98 313	P	P	08 46 57.9	-0.1	
	baz=120,SNR=9.7						
S43A	Fulton Ridge,	34.00 317	P	P	08 46 58.0	-0.1	
	baz=124						
Q44A	Meyer Farm, Va	34.07 319	P	P	08 46 58.8	0.0	
	baz=126						
M46A	Old House Fiel	34.09 325	P	P	08 46 59.2	+0.3	
	baz=133						
O45A	Potomac	34.11 322	P	P	08 46 59.3	+0.2	
	baz=130						
U42A	Revenden	34.15 314	P	P	08 46 59.4	0.0	
	baz=121						
P44A	Sand Creek, Wi	34.17 321	P	P	08 46 59.8	+0.2	
	baz=128,SNR=7.4						
140A	Cam and Jess,	34.21 306	P	P	08 46 59.8	-0.2	
	baz=113						
WLAR	White Oak Lake	34.27 308	eP	P	08 47 01.5	+0.9	
	29nm,1.0s						
W41B	Gary Mavity, V	34.29 311	P	P	08 47 00.6	-0.1	
	baz=116,SNR=5.4						
R43A	Red Bud	34.30 318	P	P	08 47 00.6	-0.1	
	baz=125						
WHAR	Wooly Hollow	34.38 312	eP	P	08 47 01.7	+0.3	
	17nm,1.0s						
N45A	Kentland	34.38 323	P	P	08 47 01.6	+0.2	
	baz=131						
X40A	Basin Creek Fa	34.41 310	P	P	08 47 01.8	+0.1	
	baz=119,SNR=7.3						
X301	Greenbrier Sit	34.43 311	eP	P	08 47 02.3	+0.4	
	13nm,0.7s						
FVM	French Village	34.46 317	eP	P	08 47 02.3	+0.2	
	31nm,1.4s						
O44A	Mansfield	34.49 322	P	P	08 47 02.7	+0.3	
	baz=129,SNR=8.9						
V41A	Mountainview	34.51 312	P	P	08 47 02.5	-0.2	
	baz=119,SNR=5.8						
Q43A	New Douglas	34.53 319	P	P	08 47 02.8	+0.1	
	baz=126						
Y40A	Okolona	34.54 309	P	P	08 47 02.7	-0.2	
	baz=115						
S42A	Caledonia	34.58 316	P	P	08 47 03.0	-0.3	
	baz=123						
U41A	Viola	34.62 313	P	P	08 47 03.5	0.0	
	baz=120,SNR=6.6						
N44A	Piper City	34.70 323	P	P	08 47 04.4	+0.2	
	baz=130						
NATX	Nacogdoches	34.73 304	eP	P	08 47 05.5	+0.9	
	20nm,0.6s						
P43A	Skaggs, Pawnee	34.83 320	P	P	08 47 05.5	+0.3	
	baz=127,SNR=7.1						
T41A	Mountain View	34.86 315	P	P	08 47 05.5	-0.1	
	baz=121,SNR=12						
R42A	Luebbering	34.86 317	P	P	08 47 05.6	0.0	
	baz=124,SNR=9.0						
W40A	Ferguson Farm,	34.90 311	P	P	08 47 05.5	-0.4	
	baz=117						
W40A	Ferguson Farm,	34.90 311	eP	P	08 47 06.7	+0.7	
	71nm,1.9s						
MIAR	Mount Ida	34.99 310	P	P	08 47 06.5	-0.2	
	baz=116						
MIAR	Mount Ida	34.99 310	eP	P	08 47 06.9	+0.2	
	8.6nm,1.1s						
V40A	Witts Springs	35.00 312	P	P	08 47 06.7	-0.2	
	baz=118,SNR=5.3						
CCM	Cathedral Cave	35.04 316	P	P	08 47 07.1	0.0	
	baz=123						
CCM	Cathedral Cave	35.04 316	eP	P	08 47 07.4	+0.3	
	20nm,0.8s						
Q42A	Golden Eagle	35.04 318	P	P	08 47 07.0	-0.1	
	baz=124						
HKT	Hockley	35.10 301	eP	P	08 47 08.2	+0.5	
	16nm,1.2s						
S41A	Jillco Farms,	35.13 315	P	P	08 47 07.6	-0.2	
	baz=122,SNR=9.3						
HDIL	Hopedale	35.24 322	P	P	08 47 08.7	-0.1	
	baz=128						
HDIL	Hopedale	35.24 322	eP	P	08 47 09.2	+0.4	
	23nm,0.8s						
R41A	Rosebud	35.26 317	P	P	08 47 09.0	0.0	
	baz=123						
U40A	Yellville	35.28 313	P	P	08 47 09.1	-0.2	
	baz=119,SNR=5.2						
P42A	Winchester	35.31 319	P	P	08 47 09.4	0.0	
	baz=126,SNR=8.3						
X39A	Fountain Ranch	35.37 309	P	P	08 47 09.7	-0.3	
	baz=115						
W39A	Magazine	35.42 310	P	P	08 47 10.4	-0.1	
	baz=116,SNR=7.5						
T40A	Mansfield	35.44 314	P	P	08 47 10.5	-0.1	
	baz=120,SNR=5.5						
Q41A	Truxton	35.52 318	P	P	08 47 11.1	-0.1	
	baz=124,SNR=5.7						
M43A	Waltham Townsh	35.59 323	P	P	08 47 11.9	+0.2	
	baz=129						
V39A	Pettigrew	35.61 311	P	P	08 47 11.9	-0.2	
	baz=117						
S40A	Lebanon	35.65 315	P	P	08 47 12.1	-0.3	
	baz=121,SNR=7.0						
GLMI	Grayling	35.66 331	P	P	08 47 12.7	+0.4	
	baz=139						
GLMI	Grayling	35.66 331	eP	P	08 47 13.4	+1.1	
	107nm,0.8s						
U39A	Green Forest	35.74 312	P	P	08 47 12.7	-0.4	
	baz=118,SNR=13						
P41A	Barry, Barry	35.81 319	P	P	08 47 13.4	-0.3	
	baz=125						
R40A	Maddies Statio	35.85 316	P	P	08 47 13.5	-0.4	
	baz=122						
N42A	Yates City	35.85 321	P	P	08 47 14.0	0.0	
	baz=127						
O41A	Passleys Farm,	35.95 320	P	P	08 47 14.6	-0.3	
	baz=126						
T39A	Clever	35.97 313	P	P	08 47 15.0	-0.1	
	baz=119,SNR=5.4						
HHAR	Hobbs	36.02 312	eP	P	08 47 15.7	+0.1	
	14nm,0.6s						
M42A	Sheffield	36.07 322	P	P	08 47 15.5	-0.3	
	baz=128						
Q40A	Laux Farm, Aux	36.09 317	P	P	08 47 15.7	-0.4	
	baz=123						
S39A	Bolivar	36.26 314	P	P	08 47 17.0	-0.6	
	baz=120,SNR=7.8						
N41A	Harden Midland	36.28 320	P	P	08 47 17.5	-0.2	
	baz=126,SNR=5.1						
L42A	Oliver, Polo	36.36 323	P	P	08 47 18.3	0.0	
	baz=129,SNR=7.6						
P40A	Paris	36.37 318	P	P	08 47 17.9	-0.5	
	baz=123						
R39A	Chumby, Stover	36.38 316	P	P	08 47 18.2	-0.4	
	baz=121,SNR=14						
M41A	Milan	36.49 322	P	P	08 47 19.2	-0.2	
	baz=127						
J43A	Natural Harves	36.55 326	P	P	08 47 19.7	-0.2	
	baz=132						
O40A	La Belle	36.58 319	P	P	08 47 20.0	-0.2	
	baz=124						
T38A	Diamond	36.62 313	P	P	08 47 20.2	-0.5	
	baz=118,SNR=7.0						
S38A	Stockton	36.63 314	P	P	08 47 20.3	-0.4	
	baz=119,SNR=7.5						
K42A	Prairie Point,	36.67 324	P	P	08 47 21.0	0.0	
	baz=130						
Q39A	Willow Grove F	36.71 317	P	P	08 47 21.1	-0.2	
	baz=122						
435B	Jarrell	36.79 301	P	P	08 47 21.7	-0.5	
	baz=107						
P39B	Salisbury	36.80 317	P	P	08 47 21.8	-0.2	
	baz=122						
N40A	Mertquake, Sal	36.83 320	P	P	08 47 22.0	-0.3	
	baz=126						
L41A	Preston	36.89 323	P	P	08 47 22.5	-0.3	
	baz=128,SNR=6.5						
J42A	Columbus	36.90 325	P	P	08 47 22.9	0.0	
	baz=131						
R38A	Fenwick Farm,	36.90 315	P	P	08 47 22.8	-0.2	
	baz=120,SNR=5.4						
H43A	Windswept, Lux	36.95 328	P	P	08 47 23.1	-0.2	
	baz=134						
WHTX	Lake Whitney,	37.05 303	P	P	08 47 24.0	-0.4	
	baz=108,SNR=5.1						
WHTX	Lake Whitney,	37.05 303	eP	P	08 47 24.2	-0.1	
	29nm,0.6s						
O39A	Kirksville	37.08 319	P	P	08 47 24.3	-0.1	
	baz=124						
M40A	Post Highland	37.09 321	P	P	08 47 24.1	-0.4	
	baz=126						
Q38A	Cooks Store, C	37.10 316	P	P	08 47 24.1	-0.5	
	baz=121,SNR=8.4						
K41A	Shullsburg	37.11 323	P	P	08 47 24.5	-0.1	
	baz=129,SNR=7.9						
I42A	Draeger Farm,	37.16 326	P	P	08 47 25.2	+0.1	
	baz=132						
LNIG	Linares	37.17 291	eP	P	08 47 24.4	-1.1	
	24nm,1.7s						
TUL1	Leonard	37.21 310	P	P	08 47 25.1	-0.5	
	baz=115,SNR=14						
TUL1	Leonard	37.21 310	eP	P	08 47 25.5	-0.1	
	36nm,0.8s						
JFWS	Jewell Farm	37.27 324	P	P	08 47 25.9	-0.1	
	baz=129						
JFWS	Jewell Farm	37.27 324	eP	P	08 47 26.2	+0.2	
	127nm,2.0s						
L40A	Anamosa	37.31 322	P	P	08 47 26.0	-0.3	
	baz=127						
S37A	Fort Scott	37.34 314	P	P	08 47 26.1	-0.6	
	baz=118						
H42A	Shiocton	37.38 327	P	P	08 47 26.9	0.0	
	baz=133						
P38A	Dawn	37.38 317	P	P	08 47 26.6	-0.4	
	baz=122						
N39A	Derby Farms, D	37.40 320	P	P	08 47 26.7	-0.5	
	baz=124						
J41A	Loganville	37.42 325	P	P	08 47 27.1	-0.2	
	baz=130,SNR=7.1						
M39A	Webster	37.54 321	P	P	08 47 28.0	-0.3	
	baz=125						
R37A	Teagarden Farm	37.60 314	P	P	08 47 28.4	-0.4	
	baz=119,SNR=6.2						
O38A	Galt	37.61 318	P	P	08 47 28.3	-0.5	
	baz=122						
Q37A	Longview Farm,	37.62 315	P	P	08 47 28.6	-0.4	
	baz=120,SNR=6.0						
K40A	Colesburg	37.65 323	P	P	08 47 29.1	0.0	
	baz=128,SNR=7.6						
OK022	N3560 Road, Pr	37.70 309	eP	P	08 47 29.4	-0.4	
	18nm,0.7s						
833A	Chaparral WMA,	37.71 297	P	P	08 47 29.3	-0.6	
	baz=102						
OK021	N3530 Road, Sp	37.77 309	eP	P	08 47 30.0	-0.4	
	16nm,0.6s						
I41A	Arkdale	37.79 326	P	P	08 47 30.5	+0.2	
	baz=131						
L39A	Vinton	37.81 322	P	P	08 47 30.2	-0.4	
	baz=126,SNR=5.6						
N38A	Joes South For	37.82 319	P	P	08 47 30.4	-0.2	
	baz=123						
G42A	Mountain	37.83 328	P	P	08 47 30.4	-0.2	
	baz=134						
J40A	Soldiers Grove	37.85 324	P	P	08 47 30.8	-0.1	
	baz=129,SNR=6.1						
OK020	N3440 Road, Me	37.86 309	eP	P	08 47 30.7	-0.4	
	17nm,0.8s						
P37A	Lathrop	37.91 316	P	P	08 47 31.3	-0.1	
	baz=121,SNR=15						
E43A	Lone Tree Farm	37.93 331	P	P	08 47 31.6	+0.1	
	baz=137						
H41A	Junction City	38.04 326	P	P	08 47 32.2	-0.3	
	baz=132						
R36A	Gordon, Harris	38.07 314	P	P	08 47 32.2	-0.7	
	baz=118						
K39A	Oelwein	38.09 322	P	P	08 47 32.4	-0.5	
	baz=127,SNR=5.5						
I40A	Norwalk	38.10 325	P	P	08 47 32.9	0.0	
	baz=130,SNR=5.6						
M38A	Pleasantville	38.14 320	P	P	08 47 33.1	-0.2	
	baz=124,SNR=5.4						

T35A	Sooner Cattle baz=115,SNR=11	38.16 311	P	P	08 47 33.1	-0.4
G41A	Antigo baz=133	38.19 328	P	P	08 47 33.9	+0.2
Q36A	Arnold C. Orve baz=119	38.34 315	P	P	08 47 34.7	-0.4
S35A	Otter Creek Ra baz=116	38.35 313	P	P	08 47 34.9	-0.3
J39A	Decorah baz=128	38.37 323	P	P	08 47 35.2	0.0
L38A	Oak Wood Farm, baz=125	38.40 321	P	P	08 47 35.3	-0.2
SCIA	State Center baz=125	38.42 320	P	P	08 47 35.7	0.0
H40A	Chili baz=131,SNR=7.7	38.44 326	P	P	08 47 35.9	+0.1
P36A	Good Intent, A baz=120	38.49 316	P	P	08 47 36.1	-0.2
F41A	Three Lakes baz=134	38.52 328	P	P	08 47 36.7	+0.3
JCT	Junction City baz=105,SNR=5.8	38.55 300	P	P	08 47 36.4	-0.5
JCT	Junction City 29nm,0.9s	38.55 300	eP	P	08 47 36.5	-0.5
R35A	Emporia Munici baz=117	38.56 314	P	P	08 47 36.5	-0.4
K38A	Parkersburg baz=126,SNR=5.9	38.58 322	P	P	08 47 36.9	-0.1
I39A	Houston baz=129,SNR=7.3	38.58 324	P	P	08 47 36.8	-0.2
O36A	Bolckow baz=121	38.59 317	P	P	08 47 36.9	-0.2
Q35A	Mercer Eighty, baz=118,SNR=5.9	38.69 314	P	P	08 47 37.5	-0.5
T34A	McClaskey Farm baz=115,SNR=8.7	38.70 311	P	P	08 47 37.9	-0.1
G40A	Rib Lake baz=132	38.77 327	P	P	08 47 38.6	+0.1
COWI	Conover 80nm,1.8s	38.78 329	eP	P	08 47 39.5	+0.8
J38A	Wedel Dairy, R baz=127	38.80 323	P	P	08 47 38.6	-0.2
S34A	Willow Spring baz=116	38.93 312	P	P	08 47 39.6	-0.3
N36A	Muff Farm, Cla baz=121,SNR=5.2	38.94 318	P	P	08 47 39.9	-0.1
E41A	Kenton baz=134	38.95 329	P	P	08 47 40.2	+0.2
H39A	Augusta baz=130	38.97 325	P	P	08 47 40.4	+0.2
P35A	Duane Minner, baz=119	39.00 315	P	P	08 47 40.0	-0.5
ABTX	Abilene, Hawle baz=107,SNR=14	39.01 303	P	P	08 47 40.2	-0.6
ABTX	Abilene, Hawle 28nm,0.7s	39.01 303	eP	P	08 47 40.3	-0.4
WMOK	Wichita Mounta baz=111,SNR=19	39.01 307	P	P	08 47 40.1	-0.7
WMOK	Wichita Mounta 15nm,0.6s	39.01 307	eP	P	08 47 40.1	-0.7
I38A	Scanlan Farm, baz=128,SNR=7.0	39.16 324	P	P	08 47 41.6	-0.2
F40A	Park Falls baz=132	39.16 328	P	P	08 47 42.0	+0.2
M36A	Felix, Anita baz=122	39.17 319	P	P	08 47 42.0	0.0
K37A	Belmond baz=125	39.17 321	P	P	08 47 42.0	+0.1
D41A	Chassel baz=135	39.17 330	P	P	08 47 42.0	+0.1
KSU1	Kansas State U baz=118,SNR=7.8	39.20 314	P	P	08 47 41.6	-0.6
KSU1	Kansas State U 18nm,0.6s	39.20 314	eP	P	08 47 41.6	-0.6
R34A	Isabella, Hill baz=116,SNR=7.0	39.28 313	P	P	08 47 42.6	-0.3
G39A	Holcombe baz=130,SNR=9.4	39.30 326	P	P	08 47 43.2	+0.3
Q34A	Chapman baz=117,SNR=5.7	39.35 314	P	P	08 47 43.0	-0.5
E40A	Wakefield baz=133,SNR=6.8	39.40 328	P	P	08 47 44.0	+0.2
N35A	Tabor baz=121	39.40 317	P	P	08 47 43.6	-0.3
J37A	Redenius Farm, baz=126	39.43 322	P	P	08 47 43.8	-0.3
H38A	Maiden Rock baz=128	39.52 325	P	P	08 47 44.5	-0.3
P34A	Walnut Farm, R baz=118,SNR=7.1	39.56 315	P	P	08 47 44.8	-0.4
F39A	Loretta baz=131,SNR=10	39.57 327	P	P	08 47 45.3	+0.1
G38A	Ridgeland baz=129	39.59 325	P	P	08 47 45.4	0.0
K36A	Gilmore City baz=124	39.59 321	P	P	08 47 45.3	-0.1
E39A	Mellen baz=132,SNR=6.2	39.69 328	P	P	08 47 46.3	+0.1
M35A	Neola baz=121	39.75 318	P	P	08 47 46.5	-0.2
I37A	Lemond, Waseca baz=126	39.76 323	P	P	08 47 46.7	0.0
O34A	Beatrice baz=119	39.77 316	P	P	08 47 46.5	-0.4
H37A	Dierke Farm, C baz=128	39.82 324	P	P	08 47 47.3	0.0
SCHQ	Schefferville 4.7nm,0.5s,baz=179,slow=7.2,SNR=33	39.89 355	P	P	08 47 48.4	+0.8
SCHQ	Schefferville 15nm,1.3s	39.89 355	eP	P	08 47 48.9	+1.2
J36A	Seneca 1, Swea baz=125,SNR=5.5	39.91 322	P	P	08 47 47.9	-0.1
N34A	Lincoln baz=120	39.96 317	P	P	08 47 48.2	-0.3
L35A	Bielow Farm, R baz=122	39.99 319	P	P	08 47 48.4	-0.3
F38A	Pierce - Schro baz=130,SNR=7.9	40.11 326	P	P	08 47 49.6	-0.1
I36A	Fitzsimmons Fa baz=126	40.12 323	P	P	08 47 49.3	-0.4
K35A	Storm Lake baz=123	40.12 320	P	P	08 47 49.7	-0.1
SPMN	Marine on St. baz=128,SNR=6.3	40.15 325	P	P	08 47 49.8	-0.1
SPMN	Marine on St. 17nm,0.7s	40.15 325	eP	P	08 47 49.6	-0.4
M34A	Aspy Farms, Fr baz=120	40.34 318	P	P	08 47 51.6	0.0
F37A	Hinrichs Farm, baz=129,SNR=5.6	40.36 326	P	P	08 47 51.8	+0.1
H36A	Jessenland, He baz=126,SNR=7.9	40.39 323	P	P	08 47 51.6	-0.4
L34A	Svendsen Farm, baz=121	40.44 318	P	P	08 47 52.4	0.0
C39A	Grand Marais baz=134	40.46 330	P	P	08 47 52.7	+0.2
J35A	Milford baz=124	40.46 321	P	P	08 47 52.5	0.0
I35A	Creekview Farm baz=124	40.60 322	P	P	08 47 53.7	0.0
K34A	Le Mars baz=122	40.64 320	P	P	08 47 53.5	-0.5
G36A	St. Michael baz=127	40.69 324	P	P	08 47 54.2	-0.2
M33A	Taylor Creek F baz=120	40.77 317	P	P	08 47 54.9	-0.3
J34A	George baz=123	40.87 320	P	P	08 47 55.6	-0.4
F36A	Milaca baz=128,SNR=8.3	40.94 325	P	P	08 47 56.0	-0.4
C38A	Sawbill Land. baz=132	40.95 329	P	P	08 47 56.4	-0.2
H35A	Sunnyside Ranc baz=125	40.99 323	P	P	08 47 56.5	-0.4
G35A	Watkins baz=126,SNR=7.4	41.09 324	P	P	08 47 57.3	-0.4
L33A	Hoskins baz=120	41.12 318	P	P	08 47 57.6	-0.4
K33A	Hardington baz=121	41.17 319	P	P	08 47 58.4	0.0
D37A	Cotton baz=130,SNR=6.2	41.17 327	P	P	08 47 58.6	+0.3
E36A	McGregor baz=129,SNR=9.7	41.20 326	P	P	08 47 58.5	-0.1
EYMN	Ely 11nm,1.0s	41.22 329	eP	P	08 47 59.1	+0.4
I34A	Hadley baz=124	41.23 321	P	P	08 47 58.7	-0.1
CBKS	Cedar Bluff baz=114	41.27 312	P	P	08 47 58.8	-0.6
CBKS	Cedar Bluff 24nm,0.7s	41.27 312	eP	P	08 47 59.1	-0.2
AMTX	Amarillo baz=108	41.31 306	P	P	08 47 59.1	-0.7
AMTX	Amarillo 12nm,0.8s	41.31 306	eP	P	08 47 59.2	-0.6
BGNE	Belgrade baz=118,SNR=6.0	41.32 317	P	P	08 47 59.5	-0.2
BGNE	Belgrade 72nm,0.8s	41.32 317	eP	P	08 47 59.5	-0.2
CPUP	Villa Florida 1.0nm,0.8s,baz=7.1,slow=8.1,SNR=2.9	41.35 175	P	P	08 48 00.5	+0.6
CPUP	Villa Florida 3.3nm,1.1s	41.35 175	eP	P	08 48 00.3	+0.4
C37A	Embarrass baz=131	41.42 328	P	P	08 48 00.5	+0.1
J33A	Davis baz=122	41.52 320	P	P	08 48 01.0	-0.2
L32A	Elgin baz=119	41.52 318	P	P	08 48 01.0	-0.2
ECSD	EROS Data Cent baz=122,SNR=15	41.52 321	P	P	08 48 00.8	-0.5
ECSD	EROS Data Cent 19nm,0.8s	41.52 321	eP	P	08 48 01.0	-0.2
F35A	Swanville baz=127,SNR=6.7	41.52 325	P	P	08 48 00.8	-0.4
D36A	Goodland baz=130	41.57 327	P	P	08 48 01.6	0.0
TXAR	Lajitas Array 1.5nm,0.5s,baz=122,slow=6.7,SNR=9.5	41.58 297	P	P	08 48 01.4	-0.7
TX31	Lajitas Ar. Si	41.58 297	eP	P	08 48 02.4	+0.4
C36A	Pine Crest Far baz=130	41.77 328	P	P	08 48 03.4	+0.1
I33A	Coleman baz=122	41.80 321	P	P	08 48 03.4	-0.1
K32A	Verdigre baz=120,SNR=9.3	41.81 318	P	P	08 48 03.2	-0.5
E35A	Pequot Lakes baz=128,SNR=5.7	41.85 325	P	P	08 48 03.5	-0.4
F34A	Alexandria baz=126	41.87 324	P	P	08 48 03.8	-0.2
MSTX	Muleshoe baz=106,SNR=27	41.91 304	P	P	08 48 03.9	-0.8
MSTX	Muleshoe 36nm,0.8s	41.91 304	eP	P	08 48 04.2	-0.5
D35A	Remer baz=128	41.98 326	P	P	08 48 04.5	-0.4
H33A	Prehn Over Nor baz=123,SNR=11	42.11 322	P	P	08 48 05.8	-0.2
I32A	Karley and Nic baz=122,SNR=5.1	42.19 321	P	P	08 48 06.4	-0.3
G33A	Ortonville baz=124	42.21 323	P	P	08 48 06.5	-0.3
E34A	Wadena baz=127	42.24 325	P	P	08 48 06.5	-0.5
K31A	O'Neill baz=119	42.30 318	P	P	08 48 07.5	-0.1
C35A	Jirik Farms, M baz=129,SNR=11	42.33 327	P	P	08 48 07.5	-0.3
H32A	Carlson Farm, baz=122,SNR=9.7	42.43 321	P	P	08 48 08.2	-0.4
F33A	5 Mile Ranch, baz=125	42.49 323	P	P	08 48 08.7	-0.3
D34A	Park Rapids baz=127	42.60 326	P	P	08 48 09.4	-0.6
B35A	Bob, Littlefor baz=130,SNR=6.5	42.62 328	P	P	08 48 09.7	-0.4
C34A	RKJ Ranch, Bem baz=128,SNR=7.4	42.79 326	P	P	08 48 11.0	-0.5
G32A	Webster baz=123,SNR=5.6	42.87 322	P	P	08 48 11.8	-0.3
HPIG	13nm,0.9s	42.97 293	eP	P	08 48 13.0	-0.4
F32A	Veblen baz=124	42.99 323	P	P	08 48 12.3	-0.8
H31A	Wolsey baz=121	43.05 321	P	P	08 48 13.0	-0.6
B34A	Aery, Baudette baz=129,SNR=9.1	43.17 328	P	P	08 48 14.1	-0.4
SUSD	Miller baz=120	43.33 320	P	P	08 48 15.5	-0.3
KSCO	Kaye Shedlock' baz=112	43.42 311	P	P	08 48 16.2	-0.6
KSCO	Kaye Shedlock' 17nm,0.8s	43.42 311	eP	P	08 48 16.8	-0.1
MNTX	Cornudas Mount baz=102,SNR=25	43.49 300	P	P	08 48 16.8	-0.5
MNTX	Cornudas Mount 19nm,1.0s	43.49 300	eP	P	08 48 17.0	-0.3
B33A	Robert and Kas baz=128,SNR=5.3	43.53 327	P	P	08 48 16.8	-0.6
D32A	Dogwood Acres, baz=125	43.64 325	P	P	08 48 17.8	-0.5
F31A	Hecla baz=122,SNR=6.0	43.64 322	P	P	08 48 18.0	-0.3
AGMN	Agassiz Nation baz=127,SNR=17	43.69 327	P	P	08 48 18.3	-0.4
AGMN	Agassiz Nation 34nm,0.6s	43.69 327	eP	P	08 48 18.3	-0.4
OGNE	Ogallala baz=114	43.75 314	P	P	08 48 19.0	-0.4
E31A	Nome baz=124	43.81 323	P	P	08 48 19.8	+0.2
A33A	Warroad baz=128,SNR=16	43.84 328	P	P	08 48 19.5	-0.3
B32A	Ashes, Strandq baz=127,SNR=8.4	44.11 326	P	P	08 48 21.8	-0.2
T25A	Trinidad baz=108,SNR=7.7	44.12 308	P	P	08 48 21.8	-0.8
T25A	Trinidad 9.3nm,0.8s	44.12 308	eP	P	08 48 22.6	+0.1
A32A	Rocking H Ranc baz=127	44.40 327	P	P	08 48 24.1	-0.2
C31A	Landman Farms, baz=125,SNR=10	44.41 325	P	P	08 48 24.3	-0.2
EPT	El Paso 17nm,0.6s	44.44 300	eP	P	08 48 24.7	-0.3
B31A	Greenbush Farm baz=125	44.73 326	P	P	08 48 26.7	-0.2
ULM	Lac du Bonnet 14nm,0.5s,baz=130,slow=8.2,SNR=42	44.91 329	P	P	08 48 27.4	-0.9
BNM	Barren Site	45.05 303	eP	P	08 48 30.3	+0.4
LPM	Los Pinos Moun	45.09 304	eP	P	08 48 31.4	+1.1
ANMO	Albuquerque baz=104	45.10 304	P	P	08 48 29.7	-0.6
ANMO	Albuquerque 9.4nm,1.2s	45.10 304	eP	P	08 48 30.4	+0.1
SDCO	Great Sand Dun baz=108,SNR=9.5	45.13 309	P	P	08 48 29.8	-0.8
SDCO	Great Sand Dun 6.3nm,0.8s	45.13 309	eP	P	08 48 30.5	-0.1
Q24A	Divide baz=109	45.25 310	P	P	08 48 30.7	-0.9
MDND	Maddock baz=123	45.49 324	P	P	08 48 32.6	-0.3
MDND	Maddock 26nm,0.7s	45.49 324	eP	P	08 48 32.9	0.0
121A	Cookes Peak, D baz=101,SNR=6.9	45.65 301	P	P	08 48 34.0	-0.7
121A	Cookes Peak, D 20nm,1.1s	45.65 301	eP	P	08 48 35.1	+0.4
ISCO	Idaho Springs baz=110	45.87 311	P	P	08 48 35.8	-0.7
ISCO	Idaho Springs 6.7nm,0.8s	45.87 311	eP	P	08 48 36.7	+0.3
S22A	4UR Ranch, Cre baz=107,SNR=7.2	46.13 308	P	P	08 48 37.8	-0.7
S22A	4UR Ranch, Cre 4.7nm,0.9s	46.13 308	eP	P	08 48 38.5	-0.1
PHWY	Pilot Hill 17nm,0.8s	46.28 313	eP	P	08 48 38.7	-0.9
PHWY			eS	S	08 55 15.2	-0.2
RSSD	Black Hills baz=115	46.41 317	P	P	08 48 40.0	-0.4
RSSD	Black Hills 4.4nm,0.7s	46.41 317	eP	P	08 48 40.5	0.0
N23A	Red Feather La baz=110	46.48 313	P	P	08 48 40.5	-0.7
N23A	Red Feather La 5.2nm,0.8s	46.48 313	eP	P	08 48 41.3	+0.2
SMCO	Snowmass 5.6nm,0.8s	46.66 310	eP	P	08 48 42.8	0.0
319A	Douglas 15nm,0.8s	46.71 299	eP	P	08 48 43.3	+0.4
MVCO	Mesa Verde baz=105	47.27 307	P	P	08 48 46.7	-0.6
MVCO	Mesa Verde 19nm,1.8s	47.27 307	eP	P	08 48 48.8	+1.5
K22A	Casper baz=111,SNR=6.8	47.50 315	P	P	08 48 48.5	-0.4
K22A	Casper 18nm,1.1s	47.50 315	eP	P	08 48 49.2	+0.3
PV01	Paradox Valley	47.56 308	eP	P	08 48 50.2	+0.6
RWWY	Rawlins 27nm,0.5s	47.65 313	eP	P	08 48 47.8	-2.4
W18A	Petrified Fore baz=102,SNR=5.2	47.76 304	P	P	08 48 50.3	-0.7
W18A	Petrified Fore 15nm,1.0s	47.76 304	eP	P	08 48 51.2	+0.1
X18A	Snowflake 13nm,0.8s	47.81 303	eP	P	08 48 52.1	+0.6
O20A	White River Ci baz=108	47.89 311	P	P	08 48 51.1	-0.8
TUC	Tucson baz=99	48.11 300	P	P	08 48 53.0	-0.7
TUC	Tucson 9.3nm,0.9s	48.11 300	eP	P	08 48 54.2	+0.5
LAO	LASA Array baz=115,SNR=5.2	48.89 320	P	P	08 48 59.2	-0.1
LAO	LASA Array 14nm,0.8s	48.89 320	eP	P	08 48 59.8	+0.5
X16A	Lo Mia Camp, P 6.1nm,0.9s	49.00 303	eP	P	08 49 01.6	+1.0
WUAZ	Wupatki baz=101,SNR=10	49.15 304	P	P	08 49 01.0	-0.7
WUAZ	Wupatki 17nm,0.8s	49.15 304	eP	P	08 49 02.5	+0.8
SRU	San Rafael Swe 7.9nm,0.8s	49.30 309	eP	P	08 49 03.1	+0.4
P17A	Butcher Ranch, 19nm,1.1s	49.55 309	eP	P	08 49 05.4	+0.7
BW06	Boulder Array baz=109,SNR=11	49.65 314	P	P	08 49 04.9	-0.5
BW06	Boulder Array 18nm,1.0s	49.65 314	eP	P	08 49 05.1	-0.3
PD31	Pinedale Array	49.65 314	eP	P	08 49 05.4	0.0
PDAR	Pinedale Array 9.8nm,0.8s,baz=111,slow=9.3,SNR=68	49.65 314	P	P	08 49 05.1	-0.3
PDAR			ScP	ScP	08 54 06.3	+0.1
Q16A	0.8nm,0.9s,baz=108,slow=5.8,SNR=4.2 Castle Valley 5.8nm,0.9s	49.74 308	eP	P	08 49 06.8	+0.7
TMUT	Trail Mountain 14nm,0.7s	49.86 309	eP	P	08 49 07.7	+0.6
FCC	Fort Churchill 4.6nm,0.8s	49.94 338	eP	P	08 49 06.6	-0.4
U15A	North Rim 6.6nm,1.0s	50.06 305	eP	P	08 49 09.7	+1.0
Y14A	Wickenburg 34nm,0.8s	50.20 302	eP	P	08 49 10.0	+0.5
RLMT	Red Lodge baz=111,SNR=14	50.24 317	P	P	08 49 09.5	-0.3
RLMT	Red Lodge 27nm,1.2s	50.24 317	eP	P	08 49 10.3	+0.5
MTPU	Mount Pierson 11nm,1.3s	50.31 307	eP	P	08 49 11.5	+0.9
MPU	Maple Canyon 7.4nm,1.1s	50.36 310	eP	P	08 49 11.2	+0.5
JLU	Jordanelle 16nm,1.1s	50.37 310	eP	P	08 49 11.3	+0.4
MSU	Marysvale	50.41 308	eP	P	08 49 12.0	+0.8
TCUT	Toone Canyon 14nm,0.8s	50.48 311	eP	P	08 49 11.8	+0.1
FFC	Flin Flon 6.6nm,1.0s	50.58 331	eP	P	08 49 11.4	-0.5
KNB	Kanab 22nm,1.6s	50.59 306	eP	P	08 49 13.0	+0.4
CTU	Camp Tracy 14nm,0.9s	50.62 311	eP	P	08 49 12.7	0.0
LOHW	Long Hollow 11nm,1.3s	50.64 314	eP	P	08 49 12.9	+0.1
NLU	North Lily Min 7.2nm,1.0s	50.67 310	eP	P	08 49 14.0	+0.9
SNOW	Snow King Moun 16nm,1.4s	50.70 314	eP	P	08 49 13.7	+0.3
AHID	Auburn Hatcher 16nm,0.9s	50.73 313	eP	P	08 49 13.3	-0.2
REDW	Red Top Meadow 8.8nm,1.1s	50.73 314	eP	P	08 49 13.6	+0.1
MOOW	Moose Ponds 2.1nm,0.8s	50.78 315	eP	P	08 49 13.7	-0.2
SZCU	Shurtz Canyon 7.0nm,1.0s	50.91 306	eP	P	08 49 15.2	+0.2
LCMT	Little Creek M 11nm,1.9s	50.92 306	eP	P	08 49 15.8	+0.9
FXWY	Fox Creek 4.1nm,0.9s	50.94 314	eP	P	08 49 15.0	-0.1
YNR	Norris Junctio 7.6nm,1.0s	51.05 316	eP	P	08 49 16.8	+0.9
CCUT	Cedar City 6.7nm,1.3s	51.12 306	eP	P	08 49 17.3	+0.8
MCID	Moose Creek	51.22 315	eP	P	08 49 16.5	-0.6
DUG	Dugway, Tooele baz=104,SNR=15	51.28 310	P	P	08 49 16.9	-0.6
DUG	Dugway, Tooele 15nm,1.0s	51.28 310	eP	P	08 49 17.9	+0.3
SPUT	South Promonto 24nm,1.2s	51.29 311	eP	P	08 49 17.7	+0.1
H10N3	ASCENSION HYDR baz=296,slow=75	51.56 113	T	T	09 44 53.0	
H10N2	ASCENSION HYDR baz=296,slow=75	51.57 113	T	T	09 45 01.5	
H10N1	ASCENSION HYDR baz=296,slow=75	51.59 113	T	T	09 44 54.6	
BGU	Big Grassy Mou 25nm,1.1s	51.61 311	eP	P	08 49 20.5	+0.4
EGMT	Eagleton baz=113,SNR=14	51.62 320	P	P	08 49 19.6	-0.3
EGMT	Eagleton 25nm,0.8s	51.62 320	eP	P	08 49 20.5	+0.5
HVU	Hansel Valley 14nm,1.1s	51.65 312	eP	P	08 49 20.0	-0.3
PSUT	Pine Spring 14nm,0.9s	51.70 307	eP	P	08 49 22.0	+1.2
H10S3	ASCENSION HYDR baz=297,slow=75	51.92 114	T	T	09 45 15.4	
H10S1	ASCENSION HYDR baz=297,slow=75	51.92 114	T	T	09 45 20.3	
H10S2	ASCENSION HYDR baz=297,slow=75	51.94 114	T	T	09 45 17.9	
BOZ	Bozeman (W) baz=109,SNR=6.4	51.97 317	P	P	08 49 22.5	-0.1
BOZ	Bozeman (W) 9.0nm,1.0s	51.97 317	eP	P	08 49 23.1	+0.5
IRM	Iron Mountain baz=98,SNR=10	51.99 302	P	P	08 49 22.2	-0.7
BC3	Big Chuckawall baz=97	52.18 301	P	P	08 49 23.9	-0.5
GMRC	Granite Mounta baz=98	52.50 302	P	P	08 49 25.8	-0.9
DLMT	Dillon 5.5nm,0.8s	52.54 316	eP	P	08 49 27.6	+0.8
BELC	Belle Mtn. Jos baz=97	52.68 301	P	P	08 49 27.1	-0.9
TUQ	Turquoise Moun baz=98	52.80 303	P	P	08 49 28.3	-0.6
MONP2	Monument Peak baz=96	52.91 300	P	P	08 49 28.8	-1.0
R11A	Troy Canyon, C baz=100,SNR=5.3	52.99 307	P	P	08 49 29.7	-0.6
HEC	Hector,Ludlow baz=97	53.05 302	P	P	08 49 30.2	-0.5
HLID	Hailey baz=105,SNR=12	53.28 313	P	P	08 49 32.0	-0.3
HLID	Hailey 12nm,1.4s	53.28 313	eP	P	08 49 32.8	+0.5
TPNV	Topopah Spring baz=99,SNR=9.5	53.28 305	P	P	08 49 31.7	-0.7
TPNV	Topopah Spring 7.1nm,0.8s	53.28 305	eP	P	08 49 33.5	+1.1
GSC	Goldstone, Bar baz=97	53.50 303	P	P	08 49 33.3	-0.6
GSC	Goldstone, Bar 20nm,1.9s	53.50 303	eP	P	08 49 34.8	+0.9
MURC	Murrieta baz=96	53.62 301	P	P	08 49 33.9	-0.9
MSO	Missoula baz=108	53.88 317	P	P	08 49 36.1	-0.5
BFSC	Mount Baldy Ra baz=96	54.07 301	P	P	08 49 37.4	-0.8
MPMC	Manual Prospec baz=97	54.14 304	P	P	08 49 37.9	-0.9
LRMC	Laurel Mtn Rad baz=97	54.23 303	P	P	08 49 38.3	-1.0

MFID	Camas Ranch	54.24	313	eP	P	08 49 39.3	+0.1
	3.7nm,1.0s						
DAC	Darwin (Calif)	54.26	304	eP	P	08 49 40.0	+0.4
	5.7nm,0.8s						
JTMT	Jette	54.38	318	eP	P	08 49 40.7	+0.5
	14nm,1.3s						
MWC	Mount Wilson	54.40	301	eP	P	08 49 40.5	-0.2
	26nm,1.8s						
EDW2	Edwards Air Fo	54.41	302	P	P	08 49 39.8	-0.8
	baz=96						
WALA	Waterton Lakes	54.57	320	eP	P	08 49 41.4	-0.1
	28nm,1.8s						
BMN	Battle Mountai	54.62	309	eP	P	08 49 42.3	+0.2
	13nm,1.0s						
DECC	Green Verdugo	54.63	301	P	P	08 49 41.5	-0.6
	baz=96						
CWC	Cottonwood Cre	54.67	304	P	P	08 49 41.7	-0.8
	baz=97						
NV11	Mina Array Sit	55.00	306	eP	P	08 49 44.6	-0.3
	0.8nm,1.1s						
NV01	Mina Array Sit	55.12	306	eP	P	08 49 46.5	+0.8
NVAR	Mina Array Bea	55.12	306	P	P	08 49 45.8	0.0
	4.9nm,0.8s,baz=106,slow=6.4,SNR=44						
KOWA	Kowa	55.12	83	eP	P	08 49 46.6	+0.7
	15nm,0.8s						
RYN	Ryan	55.31	307	eP	P	08 49 47.5	+0.4
	5.8nm,1.0s						
ESDC	Sonseca Array	55.36	52	P	P	08 49 48.5	+1.2
	4.3nm,0.7s,baz=262,slow=7.5,SNR=31						
ESDC				PcP	PcP	08 50 46.5	+0.5
	0.1nm,0.3s,baz=288,slow=4.4,SNR=4.2						
ESLA	Sonseca Array	55.36	52	eP	P	08 49 48.7	+1.4
	6.5nm,0.9s						
ES19	SONSECA Array	55.41	52	eP	P	08 49 48.8	+1.2
BMO	Blue Mountains	55.61	314	eP	P	08 49 48.1	-1.0
	13nm,1.5s						
MDPB	Devils Postpil	55.61	305	eP	P	08 49 50.1	+0.8
	5.8nm,0.8s						
TIC	Toumodi	55.65	92	eP	P	08 49 49.8	+0.1
EDM	Edmonton	55.74	325	eP	P	08 49 49.5	-0.2
	32nm,1.0s						
LIC	Lamto	55.74	93	eP	P	08 49 50.5	+0.2
	21nm,0.6s						
DBIC	Dimbokro	55.80	92	P	P	08 49 51.2	+0.4
	6.1nm,0.5s,baz=272,slow=7.7,SNR=15						
DBIC	Dimbokro	55.80	92	eP	P	08 49 51.0	+0.3
KIC	Kosan Boka	55.99	92	eP	P	08 49 52.4	+0.3
	15nm,0.7s						
WAKR	Walker	56.01	306	eP	P	08 49 53.1	+1.0
	6.5nm,0.9s						
SMMC	Simmler	56.09	303	P	P	08 49 51.9	-0.7
	baz=95						
PNTR	Pine Nut	56.21	307	eP	P	08 49 55.2	+1.6
	3.6nm,0.8s						
VCNR	Virginia City	56.28	307	eP	P	08 49 55.1	+1.1
	2.3nm,0.8s						
NEW	Newport	56.36	318	P	P	08 49 54.0	-0.2
	baz=106,SNR=16						
NEW	Newport	56.36	318	eP	P	08 49 53.8	-0.4
	16nm,0.8s						
CMB	Columbia Colle	56.69	306	eP	P	08 49 56.8	0.0
	2.7nm,0.9s						
MOD	Modoc Plateau	57.17	310	eP	P	08 50 00.1	-0.1
	13nm,1.8s						
AFDM	Forest Hills D	57.25	307	eP	P	08 50 01.0	+0.3
	5.2nm,1.0s						
ORV	Oroville	57.73	307	eP	P	08 50 04.1	+0.1
	7.0nm,0.8s						
O03D	Paynes Creek	58.06	308	P	P	08 50 05.9	-0.5
	baz=97						
J05D	Fort Rock, OR	58.07	312	P	P	08 50 06.0	-0.5
	baz=100						
M04C	Macdoel	58.28	310	P	P	08 50 07.3	-0.7
	baz=98,SNR=7.3						
K04D	Chiloquin, OR	58.34	311	P	P	08 50 07.9	-0.5
	baz=99						
LTY	Liberty	58.44	316	eP	P	08 50 08.7	-0.1
	5.4nm,0.8s						
J04D	Umpqua Nationa	58.70	312	P	P	08 50 10.4	-0.5
	baz=99,SNR=5.1						
YBH	Yreka Blue Hor	58.92	310	P	P	08 50 10.6	-1.7
	3.9nm,0.7s,baz=74,slow=6.4,SNR=11						
YBH	Yreka Blue Hor	58.92	310	eP	P	08 50 11.2	-1.1
	17nm,1.6s						
SUMG	Summit	58.98	8	iP	P	08 50 13.5	+1.0
	14nm,1.0s						
SUMG	Summit	58.98	8	eP	P	08 50 13.4	+0.9
	11nm,0.9s						
H04A	Detroit Lake	58.98	313	eP	P	08 50 12.3	-0.3
	6.9nm,0.9s						
M02C	Callahan	58.99	309	P	P	08 50 12.0	-0.7
	baz=97						
LON	Longmire	59.09	316	eP	P	08 50 13.1	-0.3
	26nm,1.9s						
HUMO	Hull Mountain	59.22	311	eP	P	08 50 13.0	-1.3
	11nm,1.4s						
SHW	Mount Saint He	59.28	315	eP	P	08 50 15.8	+1.0
KCPM	Cahto Peak	59.35	307	eP	P	08 50 16.5	+1.1
	86nm,1.5s						
KMRM	Mail Ridge	59.50	308	eP	P	08 50 17.2	+0.9
	102nm,1.6s						
EKA	Eskdalemuir Ar	59.68	34	P	P	08 50 17.3	+0.2
	3.4nm,0.6s,baz=258,slow=7.0,SNR=14						
JCC	Jacoby Creek,	59.80	309	eP	P	08 50 19.1	+0.8
	88nm,1.4s						
LLLB	Lillooet	59.96	320	eP	P	08 50 19.5	+0.3
	16nm,0.8s						
KBO	Bosley Butte	60.10	310	eP	P	08 50 21.1	+0.7
	85nm,1.5s						
YKA	Yellowknife Ar	60.23	335	P	P	08 50 20.0	-0.8
	2.6nm,0.6s,baz=107,slow=7.5,SNR=77						
E03A	Lebam	60.25	315	eP	P	08 50 21.2	0.0
	164nm,1.8s						
KEBM	Edson Butte	60.26	311	eP	P	08 50 22.4	+1.0
	47nm,1.4s						
YKW3	Yellowknife Ar	60.27	335	eP	P	08 50 20.5	-0.5
	3.5nm,0.7s						
PGC	Sidney	60.55	318	eP	P	08 50 23.1	0.0
	38nm,1.3s						
NLWA	Neilton Lookou	60.60	316	eP	P	08 50 24.1	+0.6
	46nm,1.4s						
TOA0	Torodi Ar. Sit	60.81	83	eP	P	08 50 25.6	+0.1
TORD	Torodi Ar. Bea	60.81	83	P	P	08 50 25.5	0.0
	8.0nm,0.8s,baz=283,slow=5.8,SNR=51						
SSB	Saint Sauveur	62.36	47	eP	P	08 50 37.0	+1.5
	20nm,1.5s						
RES	Resolute Bay	62.41	350	eP	P	08 50 35.6	+0.4
	36nm,0.3s						
TAM	Tamanrasset	63.10	72	eP	P	08 50 42.9	+2.0
	6.1nm,1.0s						
KEST	Kesra	65.63	57	P	P	08 50 58.5	+1.4
	13nm,0.8s,baz=279,slow=2.6,SNR=15						
KEST	Kesra	65.63	57	eP	P	08 50 58.5	+1.4
	14nm,0.9s						
DLBC	Dease Lake	66.21	328	eP	P	08 51 00.9	+0.6
	20nm,1.5s						
DAVA	Damuels	66.22	45	iP	P	08 51 02.0	+1.2
	14nm,0.9s						
FUORN	Ofenpass-Fuorn	66.45	45	eP	P	08 51 03.5	+1.3
	13nm,1.1s						
FETA	Feichten	66.78	45	iP	P	08 51 05.5	+1.1
	19nm,1.3s						
RETA	Reutte	66.83	45	iP	P	08 51 05.3	+0.9
	7.5nm,1.2s						
ABTA	Abfaltersbach	68.00	45	iP	P	08 51 12.4	+0.5
	6.2nm,0.8s						
NAO01	NORSAR Array S	68.19	30	eP	P	08 51 14.1	+1.4
NB2	NORSAR Subarra	68.38	30	P	P	08 51 14.8	+0.9
	comp=Z,3.0nm,0.8s,baz=260,slow=6.5						
NOA	NORSAR Array B	68.38	30	P	P	08 51 14.9	+1.0
	comp=Z,4.8nm,0.8s,baz=262,slow=6.4,SNR=11						
CLL	Collm	68.47	40	⇑iP	P	08 51 15.1	+0.5
	comp=Z,10.0nm,1.1s						
CLL	Collm	68.47	40	eP	P	08 51 15.3	+0.7
	comp=Z,13nm,1.2s						
NC303	NORSAR Array S	68.48	30	eP	P	08 51 15.9	+1.5
NC405	NORSAR Array S	68.63	30	eP	P	08 51 16.1	+0.6
KHC	Kasperske Hory	68.77	43	eP	P	08 51 17.1	+0.6
MYKA	Terra Mystica	68.77	46	iP	P	08 51 17.1	+0.5
	comp=Z,5.1nm,1.0s						
GEA0	GERESS Array S	68.84	43	eP	P	08 51 16.9	-0.1
GEC2	GERESS Array S	68.84	43	eP	P	08 51 17.6	+0.5
	comp=Z,3.8nm,0.8s						
GERES	GERESS Array B	68.84	43	P	P	08 51 16.4	-0.7
	comp=Z,1.8nm,0.7s,baz=270,slow=5.3,SNR=14						
BRG	Berggiesshubel	69.05	41	eP	P	08 51 18.2	0.0
	comp=Z,5.9nm,0.9s						
OBKA	Obir	69.40	46	iP	P	08 51 21.2	+0.6
HFS	Hagfors	69.49	31	P	P	08 51 21.6	+1.0
	comp=Z,2.2nm,0.7s,baz=241,slow=7.9,SNR=6.1						
INK	Inuvik	69.56	338	eP	P	08 51 20.7	-0.2
	comp=Z,5.4nm,0.7s						
SOKA	Soboth	69.73	45	iP	P	08 51 22.6	0.0
	comp=Z,4.9nm,1.1s						
TREC	Trest	70.02	43	eP	P	08 51 24.8	+0.6
ARSA	Arzberg	70.06	45	iP	P	08 51 24.8	+0.3
	comp=Z,3.5nm,0.8s						
CONA	Conrad Observa	70.28	44	eP	P	08 51 26.3	+0.5
	comp=Z,6.0nm,1.4s						
DPC	Dobruska-Polom	70.56	42	eP	P	08 51 27.6	+0.1
MORC	Moravsky Berou	71.35	42	eP	P	08 51 33.1	+0.8
	comp=Z,58nm,1.7s						
DAWY	Dawson	71.38	333	eP	P	08 51 33.0	+0.8
	comp=Z,15nm,1.7s						
EGAK	Eagle	72.19	334	eP	P	08 51 37.3	+0.4
	comp=Z,4.9nm,0.8s						
VYHS	Vyhne	72.25	43	eP	P	08 51 38.5	+0.9
MENT	Mentasta	73.29	332	eP	P	08 51 44.4	+0.9
	comp=Z,14nm,0.2s						
DIVS	Divibare	73.35	48	eP	P	08 51 45.3	+1.0
	comp=Z,4.1nm,0.9s						
DOT	Dot Lake	73.44	332	eP	P	08 51 44.7	+0.4
	comp=Z,71nm,1.9s						
BMRM	Bremner River	73.75	330	eP	P	08 51 47.0	+0.8
	comp=Z,70nm,1.7s						
RIDG	Independ'e Rid	73.78	333	eP	P	08 51 47.4	+1.0
	comp=Z,23nm,1.6s						
KLU	Klutina	74.36	330	eP	P	08 51 50.2	+0.4
	comp=Z,28nm,1.5s						
IL1	Eielson Array	74.64	334	eP	P	08 51 51.0	-0.3
ILAR	Eielson Array	74.64	334	P	P	08 51 50.7	-0.6
	comp=Z,1.1nm,0.7s,baz=79,slow=4.9,SNR=23						
ILB	Eielson Array	74.64	334	eP	P	08 51 51.1	-0.2
ARCES	ARCESS Array B	74.81	21	P	P	08 51 52.0	-0.2
	comp=Z,2.9nm,0.7s,baz=298,slow=7.8,SNR=6.6						
ARCES	ARCESS Array B	74.81	21	eP	P	08 51 53.0	+0.9
CCB	Clear Creek Bu	75.04	334	eP	P	08 51 53.5	-0.1
	comp=Z,10nm,1.5s						
MDM	Murphy Dome	75.20	334	eP	P	08 51 54.6	0.0
	comp=Z,16nm,1.4s						
FINES	FINESS Array B	75.56	30	P	P	08 51 57.0	+0.4
	comp=Z,4.8nm,0.8s,baz=253,slow=4.3,SNR=12						
FIA1	FINESS Array S	75.56	30	eP	P	08 51 57.0	+0.4
RND	Reindeer	75.59	332	eP	P	08 51 57.5	+0.6
	comp=Z,35nm,1.8s						
TRF	Thorofare Moun	76.23	332	eP	P	08 52 00.9	+0.4
	comp=Z,7.8nm,0.8s						
MLY	Manley	76.26	334	eP	P	08 52 01.0	+0.4
	comp=Z,3.5nm,0.8s						
BPAW	Bear Paw Mtn.	76.47	333	eP	P	08 52 01.5	-0.3
	comp=Z,28nm,1.9s						
KTH	Kantishna Hill	76.50	333	eP	P	08 52 02.2	+0.2
	comp=Z,26nm,1.6s						
BUR08	Bucovina Ar. S	76.58	44	eP	P	08 52 04.4	+1.6
BUR04	Bucovina Ar. S	76.59	44	eP	P	08 52 04.3	+1.5
CAST	Castle Rocks	77.04	333	eP	P	08 52 04.7	-0.3
	comp=Z,28nm,1.9s						
SPU	Mount Spurr	77.33	330	eP	P	08 52 07.5	+0.8
IDI	Anoyia	78.27	56	P	P	08 52 13.2	+0.8
	comp=Z,6.1nm,0.6s,baz=296,slow=8.3,SNR=6.1						
AKASG	Malin Array Be	78.72	40	P	P	08 52 14.2	-0.2
	comp=Z,0.2nm,0.3s,baz=282,slow=4.5,SNR=5.5						
BR231	Keskin MP Arra	83.45	51	eP	P	08 52 42.7	+2.9
BRTR	Keskin Array B	84.12	51	P	P	08 52 43.5	+0.2
	comp=Z,1.9nm,0.8s,baz=267,slow=4.3,SNR=6.3						
MMAI	Mount Meron Ar	87.28	57	P	P	08 53 01.4	+2.5
	comp=Z,4.4nm,1.0s,baz=72,slow=5.4,SNR=2.6						
KSH	Kashi	112.56	35	ePKP	PKiKP	08 58 45.7	-2.1
KSH				PP	PP	08 59 37.5	+1.9
KSH				AMB	AMB		
	comp=Z,88nm,6.2s						
KSH				LR	LR		
	comp=Z,60nm,12.9s						
KSH				LR	LR		
	comp=Z,78nm,10.4s						
KSH				LR	LR		
	comp=Z,100nm,8.9s						
WMQ	Urumqi	114.82	24	ePKP	PKPdf	08 58 51.6	-0.3
WMQ				LR	LR		
	comp=Z,400nm,22.1s						
WMQ				LR	LR		
	comp=Z,370nm,22.1s						
WMQ				LR	LR		
	comp=Z,250nm,24.3s						
CN2	Changchun	121.07	354	ePKP	PKPdf	08 59 01.0	-2.8
HHC	Hu-ho-hao-te	123.93	7	ePKP	PKPdf	08 59 06.7	-2.9
HHC				PP	PP	09 00 55.9	+2.4
HHC				SKS	SKSdf	09 06 01.0	-6.8
HHC				SKKS	SKKSac	09 07 30.4	-8.5
HHC				SS	SS	09 17 28.4	-2.0
HHC				AMB	AMB		
	comp=Z,66nm,5.1s						
INCN	Inchon	127.18	352	ePKPdf	PKPdf	08 59 15.5	-0.3
CD2	Chengdu	132.01	18	PKP	PKPdf	08 59 23.8	-1.4
NJ2	Nanjing	133.12	360	ePKP	PKPdf	08 59 26.7	-0.4
GYA	Guiyang	137.03	16	ePdif	Pdif	08 56 38.9	-3.3
GYA				PKP	PKPdf	08 59 33.0	-1.7
GYA				sPKP		09 00 25.6	
GYA				PP	PP	09 02 21.0	+2.6
GYA				AMB	AMB		
	comp=Z,110nm,7.8s						
CAN	Canberra	146.30	228	ePKPdf	PKPbc	08 59 52.4	+0.1
WRA	Warramunga Arr	164.45	250	PKPab	PKPab	09 01 10.4	-0.4
	comp=Z,1.1nm,0.9s,baz=100,slow=4.6,SNR=9.2						

*ISCJB **03** 08:59:09.0±0.9, 4°.5S±0°.1×153°.7E±0°.1, h100km, mb3.9/9, Error ellipse: s-maj=25.3km s-min=10.6km az=37.5*

*IDC **03** 08:59:11.7±5.5, 4°.50S×153°.66E, h109km±44km, mb3.7/9, mb1 4.0/10, mb1mx3.7/50, mbtmp4.2/10, MS2.9/1, Ms1 2.9/1, ms1mx2.4/40, Error ellipse: s-maj=40.6km s-min=21.1km az=91.0*

ISC 03 08:59:10.5±0.9**, 4°.5S**±0°.1×**153°.7E**±0°.2**, h100**km**, n12, σ0s55**/14**, mb4.1**/9**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.88	129	LR	LR	09 04 53.6	
	comp=Z,75nm,18.0s,baz=304,slow=43						
PMG	Port Moresby	8.15	233	P	Pn	09 01 06.9	+0.7
	14nm,0.3s,baz=49,slow=14,SNR=29						
PMG				S	Sn	09 02 36.2	-0.5
	8.9nm,0.3s,baz=131,slow=19,SNR=16						
WRA	Warramunga Arr	24.35	229	P	P	09 04 19.1	-0.2
	9.9nm,0.4s,baz=54,slow=10.0,SNR=129						
WRA				PcP	PcP	09 07 56.7	+0.1
	0.9nm,0.9s,baz=50,slow=2.5,SNR=3.8						
ASAR	Alice Springs	27.01	223	P	P	09 04 42.8	-0.6
	0.7nm,0.4s,baz=56,slow=8.8,SNR=20						
ASAR				PcP	PcP	09 08 02.6	-0.1
	0.5nm,0.8s,baz=50,slow=3.3,SNR=3.9						
STKA	Stephens Creek	29.53	201	P	P	09 05 05.5	-0.1
	3.1nm,0.7s,baz=14,slow=12,SNR=13						
CMAR	Chiang Mai Arr	58.59	295	P	P	09 08 57.5	+0.1
	0.7nm,0.3s,baz=116,slow=5.5,SNR=4.4						
SONM	Songino Array	66.56	327	P	P	09 09 50.7	+0.6
	0.4nm,0.5s,baz=140,slow=5.1,SNR=2.9						
VNDA	Vanda	73.11	178	P	P	09 10 30.0	+0.5
	6.5nm,1.2s,baz=320,slow=3.9,SNR=3.1						
ZALV	Zalesovo Beam	81.41	326	P	P	09 11 15.9	-0.3
	0.5nm,0.4s,baz=124,slow=7.4,SNR=3.0						
ILAR	Eielson Array	81.52	22	P	P	09 11 16.6	0.0
	0.5nm,0.7s,baz=250,slow=5.3,SNR=4.9						
BVAR	Borovoye Array	89.55	323	P	P	09 11 56.5	-0.2
	1.1nm,0.7s,baz=116,slow=6.6,SNR=7.1						
TORD	Torodi Ar. Bea	151.09	289	PKPbc	PKPbc	09 18 51.9	-1.2
	2.4nm,0.7s,baz=57,slow=2.0,SNR=14						

*SOME **03** 09:22:32.9, 39°.77N×74°.27E, h0km*

*KRNET **03** 09:22:34.6±0.1, 39°.56N×74°.12E, mb3.4*

*NNC **03** 09:22:38.4±13.0, 39°.67N×74°.05E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=98.4km s-min=48.8km az=177.0*

ISC 03 09:22:34.5±2.1**, 39°.6N**±0°.1×**74°.17E**±0°.04**, h1**km±14km**, n34, σ1s48**/58**, 19C-18D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.65	309	⇑P	Pg	09 22 47.6	+0.5
	68nm,0.3s						
SFK				⇓S	Sb	09 22 57.6	-1.0
	68nm,0.3s						
SFK	Sufi-Kurgan	0.65	309	⇑iP	Pg	09 22 47.8	+0.7
	baz=14						
SFK				⇑iS	Sg	09 22 56.8	+1.3
	baz=14						
ARSB	Arslanbob	1.94	333	⇓eP	Pb	09 23 09.4	-1.4
	baz=34						
ARSB				⇓iS	Sb	09 23 35.1	-0.5
	baz=34						
NRN	Naryn	2.30	37	⇓iP	Pn	09 23 13.6	-0.3
	baz=37						
NRN				⇓iS	Sn	09 23 44.5	+1.5
	baz=37						
TOKL	Toktogul	2.53	337	⇑eP	Pn	09 23 17.7	+0.8
	baz=39						
TOKL				⇑iS	Sn	09 23 49.4	+1.0
	baz=39						
AML	Almayashu	2.55	352	⇑iP	Pn	09 23 18.0	+0.6
	baz=53						
AML				⇑iS	Sn	09 23 49.5	+0.2
	baz=53						
KZA	Kyzart	2.60	18	P	Pn	09 23 19.7	+1.6
	SNR=16						
KZA	Kyzart	2.60	18	⇑iP	Pn	09 23 19.3	+1.1
	baz=18						
KZA				⇑iS	Sn	09 23 51.9	+1.3
	baz=18						
UCH	Uchtor	2.63	6	P	Pn	09 23 20.1	+1.5
	SNR=24						
UCH	Uchtor	2.63	6	⇓iP	Pn	09 23 19.5	+0.9
	baz=6.0						
UCH				⇓iS	Sn	09 23 52.6	+1.2
	baz=6.0						
ARK	Arkit	2.76	323	⇓iP	Pn	09 23 20.9	+0.9
	baz=24						
ARK				⇓iS	Sn	09 23 54.6	+0.6
	baz=24						
AAK	Ala-Archa	3.04	5	Pn	Pb	09 23 27.8	-1.8
	16nm,0.4s						
AAK				⇑Sn	Sb	09 24 07.1	-0.1
	31nm,0.5s						
AAK	Ala-Archa	3.04	5	P	Pb	09 23 28.5	-1.0
	SNR=17						
AAK	Ala-Archa	3.04	5	⇑iP	Pn	09 23 24.9	+1.0
	baz=5.0						
AAK				⇑iS	Sn	09 24 01.2	+0.2
	baz=5.0						
EKS2	Erkin-Say	3.07	355	⇑iP	Pn	09 23 25.2	+0.9
	baz=55						
EKS2				⇑iS	Sn	09 24 01.8	+0.1
	baz=55						
ULHL	Ulahol	3.07	30	P	Pb	09 23 28.4	-1.7
	SNR=14						
ULHL	Ulahol	3.07	30	⇑iP	Pn	09 23 25.5	+1.1
	baz=30						
ULHL				⇑iS	Sn	09 24 02.4	+0.5
	baz=30						
KBK	Karagaybulak	3.10	11	P	Pn	09 23 27.3	+2.5
	SNR=7.3						
KBK	Karagaybulak	3.10	11	⇓iP	Pn	09 23 25.8	+1.0
	baz=11						
KBK				⇓iS	Sn	09 24 03.7	+1.0
	baz=11						
MNAS	Manas	3.14	337	⇓Lg	Lg	09 24 10.9	
	37nm,0.7s						
MNAS	Manas	3.14	337	⇑eP	Pn	09 23 25.8	+0.5
	baz=38						
MNAS				⇑iS	Sn	09 24 03.0	-0.6
	baz=38						
BOOM	Boomskoye usch	3.18	24	⇓iP	Pn	09 23 26.1	+0.3
	baz=25						
BOOM				⇓iS	Sn	09 24 03.7	-0.8
	baz=25						
MRKS	Merke	3.21	348	eP	Pb	09 23 30.1	-2.4
	3.3nm,0.4s						
MRKS				eS	Sb	09 24 11.1	-1.1
	25nm,0.4s						
KDJ	Kajisay	3.40	41	⇓iP	Pn	09 23 28.8	-0.1
	baz=41						
KDJ				⇓iS	Sn	09 24 08.9	-1.1
	baz=41						
TKM2	Tokmak 2	3.48	18	P	Pn	09 23 32.0	+2.0
	SNR=10						
TARG	Taragay, Kyrgy	3.48	51	⇓iP	Pn	09 23 31.7	+1.4
	baz=51						
TARG				⇓iS	Sn	09 24 13.3	+0.9
	baz=51						
KST	Kastek	3.69	21	eP	Pb	09 23 39.2	-1.4
	2.7nm,0.3s						
KST				eS	Sb	09 24 26.2	+0.3
	21nm,0.5s						
DGS	Degeres	3.83	18	eP	Pb	09 23 39.0	-3.9
	14nm,0.5s						
DGS				eS	Sb	09 24 26.2	-3.6
	23nm,0.5s						
IZV	Izvestkoviy	3.89	27	eP	Pb	09 23 41.4	-2.6
	39nm,0.6s						
IZV				eS	Sb	09 24 31.6	0.0
	16nm,0.7s						
TNSS	Tian-Shan	4.01	31	eP	Pb	09 23 43.8	-2.5
	20nm,0.4s						
TNSS				eS	Sb	09 24 35.3	-0.3
	23nm,0.8s						
MDOK	Medeo	4.16	30	eP	Pb	09 23 48.0	-0.7
	15nm,0.6s						
MDOK				eS	Sb	09 24 42.2	+2.7
	9.1nm,0.6s						
KOTS	Kotyrbulak	4.25	30	eP	Pb	09 23 47.9	-2.3
KOTS				eS	Sb	09 24 42.6	+0.6
KK31	Karatay Array	4.45	323	⇑Lg	Lg	09 24 55.0	
	7.6nm,0.6s,baz=132,slow=27,SNR=5.5						
KTBS	Karatobe	4.51	24	eP	Pb	09 23 52.7	-1.9
KTBS				eS	Sb	09 24 50.9	+1.4

*MOS **03** 09:24:08.7±1.2, 2°.63N×125°.94E, h58km, mb4.8/23, Error ellipse: s-maj=12.8km s-min=6.0km az=117.0*

*BJI **03** 09:24:11.5, 2°.50N×126°.20E, h99km, mb4.7/42, mB4.9/29*

*ISCJB **03** 09:24:12.9±0.4, 2°.71N±0°.03×126°.13E±0°.03, h92km±4km, mb4.6/94, Error ellipse: s-maj=5.3km s-min=3.9km az=149.9*

*IDC **03** 09:24:12.3±1.9, 2°.68N×125°.84E, h69km±16km, mb4.3/29, mb1 4.4/29, mb1mx4.3/47, mbtmp4.6/29, MS3.6/31, Ms1 3.6/31, ms1mx3.5/54, Error ellipse: s-maj=17.9km s-min=8.4km az=71.0*

*DJA **03** 09:24:12.8±0.4, 3°N±4°×12°6E±°, h46km±5km, M5.0/23, mb4.8/23, mB5.4/13, MLv5.1/10, Mw(mB)4.9/13*

*KLM **03** 09:24:13.4, 2°.80N×126°.34E, h101km, mb4.9*

*GCMT **03** 09:24:14.1±0.3, 2°.89N×126°.05E, h98km±5km, MW4.9/67, Moment Tensor Solution. s26,c29; s67,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.08±.14; $M_{\theta\theta}$0.39±.15; $M_{\phi\phi}$0.69±.19; $M_{r\theta}$-0.01±.08; $M_{\theta\phi}$0.95±.16; $M_{\phi r}$2.24±.09; Best double couple: $M_0$2.60800×10^{16} NP1:ϕ_s187.00000°,δ78.00000°,λ-111.00000°. NP2: ϕ_s68.00000°,δ24.00000°,λ-32.00000°. Principal axes: T 2.5150, Plg30.0000°, Azm294.0000°; N 0.1900, Plg20.0000°, Azm192.0000°; P -2.7020, Plg53.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 09:24:14.1±0.5, 2°.68N×126°.11E, h89km±5km, mb4.8/39 Error ellipse: s-maj=5.8km s-min=4.2km az=65.0*

ISC 03 09:24:13.3±0.5**, 2°.74N**±0°.04×**126°.10E**±0°.05**, h78**km±4km**, n259, σ1s94**/276**, mb4.7**/93**, 16C-15D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.10	329	P	Pn	09 24 31.0	-2.5
TNTI	Ternate	2.33	147	ePn	Pn	09 24 49.7	+0.1
KMSI	Cibinong	3.02	225	P	Pn	09 25 00.1	+1.2
GSPH	General Santos	3.52	341	⇓iP	Pn	09 25 05.7	-0.2
GSPH				iS	Sn	09 25 44.0	-2.5
LBMI	Labuha	3.63	157	P	Pn	09 25 09.2	+1.9
DAV	Davao City (W)	4.33	353	P	Pn	09 25 20.7	+3.8
	52nm,0.3s,baz=233,slow=15,SNR=2.3						
DAV				S	Sn	09 26 09.6	+3.4
	86nm,0.3s,baz=181,slow=16,SNR=3.7						
DAV				LR	LR	09 27 22.9	
	comp=Z,1μm,21.0s,baz=172,slow=44						
DAV	Davao City (W)	4.33	353	ePn	Pn	09 25 18.0	+1.1
DAV				S	Sn	09 26 09.7	+3.4
MRSI	Marisa	4.73	242	P	Pn	09 25 23.2	+1.0
SANI	Sanana	4.76	181	P	Pn	09 25 20.7	-1.9
LUWI	Luwuk	5.02	222	P	Pn	09 25 30.0	+3.8
LUWI	Luwuk	5.02	222	ePn	Pn	09 25 28.1	+2.0

LUWI eSn Sn 09 26 36.2 +13
BUKP Musuan 5.21 349 eP **Pn** **09 25 30.8 +1.9**
BUKP eS **Sn** **09 26 33.8 +6.1**
APSI Ampana 5.74 231 P Pn 09 25 40.6 +4.6
PAGZ Pagadian 5.75 332 eP **Pn** **09 25 37.2 +1.0**
ZCP Zamboanga City 5.79 316⇓*i*P **Pn** **09 25 36.7 +0.1**
ZCP *i* S **Sn** **09 26 38.6 -3.1**
NLAI Namlea 6.02 170 P **Pn** **09 25 39.3 -0.6**
BUTP Butuan 6.21 356 eP **Pn** **09 25 39.9 -2.6**
BUTP eS Sn 09 27 11.7 +20
SWI Sorong 6.28 125 P **Pn** **09 25 43.0 -0.3**
SWI Sorong 6.28 125 P **Pn** **09 25 42.0 -1.3**
MPSI Mapaga 6.64 249 P **Pn** **09 25 48.8 +0.4**
MSAI Masohi 6.67 155 P Pn 09 25 54.8 +6.0
AAI Ambon 6.71 162 P **Pn** **09 25 52.1 +2.7**
MYLDM Lahad Datu 7.96 288⇓P **Pn** **09 26 09.8 +3.4**
MYLDM Lahad Datu 7.96 288 ePn **Pn** **09 26 08.6 +2.2**
MYLDM eSn **Sn** **09 27 38.4 +3.4**
FAKI Fak Fak 8.33 132 P **Pn** **09 26 12.2 +0.8**
FAKI Fak Fak 8.33 132 ePn **Pn** **09 26 11.3 -0.1**
TSM Tawau 8.36 281⇓P **Pn** **09 26 12.2 +0.4**
TTSI Tana Toraja 8.51 228 P **Pn** **09 26 17.9 +4.0**
BNSI Bone 9.28 220 P **Pn** **09 26 28.6 +4.2**
SDKM Sandakan 9.34 288⇑P **Pn** **09 26 25.7 +0.4**
KDM Kudat 10.12 295⇓P **Pn** **09 26 37.4 +1.4**
KKM Kota Kinabalu 10.39 289⇑P **Pn** **09 26 42.4 +2.8**
KKM Kota Kinabalu 10.39 289 ePn **Pn** **09 26 41.8 +2.1**
SAUI Saumlaki 11.84 154 ePn **Pn** **09 26 58.2 -1.2**
MMRI Maumere 11.94 199 P **Pn** **09 27 04.8 +4.2**
MMRI Maumere 11.94 199 ePn **Pn** **09 27 00.8 +0.1**
TGY Tagaytay City 12.39 336 LR LR 09 31 54.1
comp=Z,411nm,21.6s,baz=194,slow=37
SOEI Soe 12.54 188 P **P** **09 27 14.6 -3.0**
SOEI Soe 12.54 188 ePn **Pn** **09 27 08.7 -0.3**
BTM Bintulu 13.01 272⇑P **Pn** **09 27 18.7 +3.5**
BATI Baumata 13.09 191 P **P** **09 27 21.1 -2.5**
2.3nm,0.3s,baz=307,slow=8.7,SNR=2.3
BATI Baumata 13.09 191 P **P** **09 27 20.3 -3.3**
SBUM Sibu 13.87 269⇑P **P** **09 27 30.7 -1.5**
SBUM Sibu 13.87 269 ePn **Pn** **09 27 26.2 -0.3**
WBSI Waikabubak, Su 14.00 208 P **P** **09 27 33.1 -0.6**
STKI Sintang 14.86 260 P **P** **09 27 43.5 +0.2**
GENI Genyem 15.03 111 P **Pn** **09 27 41.9 +0.4**
SRBI Singaraja 15.28 225 P **P** **09 27 50.0 +2.1**
KSM Kuching 15.83 266⇑P **P** **09 27 57.6 +3.6**
KSM Kuching 15.83 266 ePn **Pn** **09 27 52.2 +0.4**
71nm,1.1s
JAGI Jajag, Banyuwa 16.31 227 ePn **P** **09 27 59.0 -0.3**
102nm,1.3s
FITZ Fitzroy Crossi 20.71 181 P **P** **09 28 46.2 -1.3**
5.2nm,0.4s,baz=4.0,slow=8.4,SNR=14
LEM Lembang 20.75 243 P **P** **09 28 49.0 +0.8**
17nm,0.4s,baz=305,slow=19,SNR=2.8
LEM LR LR 09 37 58.2
comp=Z,278nm,18.1s,baz=28,slow=40
LEM Lembang 20.75 243 P **P** **09 28 49.0 +0.8**
GUMO Guam 21.45 59 LR LR 09 37 15.1
comp=Z,50nm,19.3s,baz=343,slow=36
MYKOM Kota Tinggi 22.25 268⇓P **P** **09 29 09.7 +5.5**
MYKOM Kota Tinggi 22.25 268 eP **P** **09 29 08.3 +4.1**
31nm,1.2s
CGJI Cibinong 22.39 245 P **P** **09 29 08.3 +2.7**
QIZ Qiongzhong 22.70 317 P **P** **09 29 07.7 -1.1**
QIZ S **S** **09 33 13.1 +1.5**
QIZ pmax pmax
comp=Z,14nm,1.5s
QIZ LR LR
comp=N,510nm,14.2s
QIZ LR LR
comp=E,320nm,13.2s
QIZ LR LR
comp=Z,340nm,27.0s
MDSI Maura Dua 23.05 252 P **P** **09 29 14.2 +1.8**
KTGM Kuala Trenggan 23.05 277⇓P **P** **09 29 16.2 +3.7**
COEN Coen 23.70 135 eP **P** **09 29 16.9 -1.5**
15nm,0.8s
SARN Sarigan 23.81 53 eP **P** **09 29 18.5 -0.8**
WRA Warramunga Arr 23.95 161 P **P** **09 29 19.5 -1.0**
28nm,0.4s,baz=336,slow=10,SNR=701
WRA PcP **PcP** **09 33 02.2 +0.9**
1.6nm,0.5s,baz=334,slow=2.3,SNR=5.5
WRA S **S** **09 33 33.4 +1.6**
2.0nm,0.6s,baz=343,slow=19,SNR=6.2
WRA ScP **ScP** **09 36 32.4 -0.6**
2.1nm,0.9s,baz=338,slow=3.2,SNR=6.9
WRA Warramunga Arr 23.95 161 *i* P **P** **09 29 16.3 -4.2**
WRA pmax pmax
comp=Z,64nm,0.4s
JOW Kunigami 24.05 5 eP **P** **09 29 22.1 +0.7**
comp=Z,33nm,1.1s
PMG Port Moresby 24.20 120 P **P** **09 29 23.7 +0.8**
comp=Z,6.0nm,0.5s,baz=319,slow=12,SNR=4.8
PMG LR LR 09 40 10.6
comp=Z,302nm,20.5s,baz=321,slow=39
PMG Port Moresby 24.20 120 eP **P** **09 29 22.1 -0.8**
comp=Z,17nm,1.0s
PMG Port Moresby 24.20 120 eP **P** **09 29 22.1 -0.8**
PMG pmax pmax
comp=Z,17nm,1.0s
MBWA Marble Bar 24.55 194 eP **P** **09 29 25.8 -0.3**
comp=Z,58nm,1.5s
IPM Ipoh 25.09 275 eP **P** **09 29 31.2 +0.2**
IPM epP **pP** **09 29 47.6 -1.3**
KULM Kulim 25.51 277 eP **P** **09 29 31.6 -3.3**
KULM epP **pP** **09 29 51.5 -1.3**
SKNT Sakolnakorn 25.93 305 P **P** **09 29 41.7 +3.1**
comp=Z,6.8nm,0.8s
MNSI Mandalling Nat 26.58 266 P **P** **09 29 49.1 +4.6**
NAYO Nakonayok 27.03 297 P **P** **09 29 53.1 +4.6**
comp=Z,9.4nm,1.2s
NAYO Nakonayok 27.03 297 P **P** **09 29 53.1 +4.6**
CHAI Chaiyaphum 27.11 300 P **P** **09 29 53.9 +4.7**
CHAI Chaiyaphum 27.11 300 P **P** **09 29 53.9 +4.7**
PSI Prapat 27.15 271 P P 09 30 03.3 +14
comp=Z,4.4nm,0.7s,baz=86,slow=8.8,SNR=6.0
PSI Prapat 27.15 271 eP **P** **09 29 48.7 -1.1**
PSI epP **pP** **09 30 06.7 -1.1**
PSI Prapat 27.15 271 eP **P** **09 29 48.7 -1.1**
PSI e*PP **pP** **09 30 06.7 -1.1**
AS31 Alice Springs 27.32 164 eP **P** **09 29 50.1 -1.0**
comp=Z,4.9nm,0.4s
ASAR Alice Springs 27.32 164 P **P** **09 29 50.4 -0.7**
comp=Z,3.9nm,0.6s,baz=1.0,slow=7.5,SNR=77
ASAR PcP **PcP** **09 33 09.4 +0.5**
comp=Z,2.6nm,0.6s,baz=342,slow=1.9,SNR=5.1
ASAR S **S** **09 34 34.4 +9.0**
comp=Z,3.2nm,0.6s,baz=351,slow=22,SNR=6.0
ASAR ScP **ScP** **09 36 43.1 +0.4**
comp=Z,0.6nm,0.7s,baz=334,slow=2.5,SNR=3.6
AS01 Alice Springs 27.33 164 eP **P** **09 29 49.7 -1.4**
CBIJ Chichi jima 28.70 31 eP **P** **09 30 04.2 +0.9**
comp=Z,557nm,1.7s
JCJ Chichijima 28.70 31 P **P** **09 30 03.5 +0.2**
comp=Z,49nm,0.4s,baz=248,slow=18,SNR=7.5
JCJ LR LR 09 39 11.4
comp=Z,48nm,20.7s,baz=273,slow=31
PHRA Phrae 29.79 304 P **P** **09 30 15.7 +2.6**
NJ2 Nanjing 29.95 348 eP **P** **09 30 13.6 -0.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
JNU Nakatsue 30.56 8 P **P** **09 30 20.4 +0.7**
comp=Z,11nm,0.9s,baz=192,slow=9.5,SNR=3.5
CM01 Chiang Mai Arr 30.82 302 eP **P** **09 30 22.4 +0.2**
CMAR Chiang Mai Arr 30.85 302 P **P** **09 30 22.2 -0.2**
comp=Z,1.3nm,0.4s,baz=125,slow=7.7,SNR=9.6
CMAR LR LR 09 43 26.4
comp=Z,79nm,20.5s,baz=178,slow=38
CMMT Chiang Mai 31.01 303 P **P** **09 30 25.5 +1.7**
CHTO Chiang Mai 31.01 303 P **P** **09 30 26.6 +2.7**
CHTO Chiang Mai 31.01 303 eP **P** **09 30 23.5 -0.3**
comp=Z,6.3nm,1.0s
CHTO Chiang Mai 31.01 303 eP **P** **09 30 23.5 -0.3**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CMAI Chiengmai2 31.46 305 P **P** **09 30 30.8 +2.8**
comp=Z,82nm,0.9s,comp=Z,0.8nm
KMI Kunming 31.65 317 P **P** **09 30 31.1 +1.4**
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI LR LR
comp=Z,300nm,16.2s
KMI LR LR
comp=Z,250nm,15.6s
KMI LR LR
comp=Z,310nm,21.4s
JHJ Hachijo jima 2 32.83 21 LR LR 09 43 26.3
comp=Z,58nm,21.0s,baz=268,slow=35
KS15 Wonju Array Si 34.58 2 eP **P** **09 30 55.4 +0.7**
KSAR Wonju Array Be 34.58 2 P **P** **09 30 56.2 +1.5**
KSAR Wonju Array Be 34.58 2 P **P** **09 30 56.2 +1.5**
KSRS Korea Array 34.59 3 P **P** **09 30 56.2 +1.4**
comp=Z,5.2nm,0.5s,baz=184,slow=9.9,SNR=30
KSRS LR LR 09 46 54.1
comp=Z,36nm,19.3s,baz=198,slow=39
KS01 Wonju Array Si 34.61 3 eP **P** **09 30 55.9 +0.9**
XAN Xi'an 35.03 335 P **P** **09 30 57.5 -1.2**
XAN pmax pmax
comp=Z,4.0nm,1.0s
CD2 Chengdu 35.08 325 eP **P** **09 31 00.0 +0.8**
CD2 pP pP 09 31 21.5 +3.8
CD2 sP sP 09 31 32.6 +5.9
CD2 S **S** **09 36 27.5 +1.1**
CD2 sS ScP 09 37 05.3 -3.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,240nm,18.8s
CD2 LR LR
comp=Z,270nm,19.8s
MAJO Matsushiro 35.45 17 eP **P** **09 31 02.4 +0.1**
comp=Z,21nm,1.0s
MAJO Matsushiro 35.45 17*c*eP **P** **09 31 01.8 -0.4**
MAJO pmax pmax
comp=Z,24nm,1.0s
MAT Matsushiro 35.45 17 P **P** **09 31 01.4 -0.8**
MJAR Matsushiro Arr 35.45 17 P **P** **09 31 02.0 -0.2**
comp=Z,14nm,0.9s,baz=193,slow=9.8,SNR=25
MJAR LR LR 09 43 17.3
comp=Z,53nm,21.7s,baz=200,slow=32
MJB9 Matsu-Tunnel 35.45 17 eP **P** **09 31 02.2 -0.1**
comp=Z,20nm,0.9s
BBOO Buckleboo 36.59 166 eP **P** **09 31 10.9 -1.1**
comp=Z,41nm,1.4s
EIDS Eidsvold 36.97 141 eP **P** **09 31 13.7 -1.7**
comp=Z,55nm,1.6s
STKA Stephens Creek 37.44 158 P **P** **09 31 19.3 0.0**
comp=Z,18nm,0.5s,baz=328,slow=9.0,SNR=41
STKA LR LR 09 47 19.9
comp=Z,46nm,18.0s,baz=11,slow=37
STKA Stephens Creek 37.44 158 eP **P** **09 31 17.1 -2.1**
comp=Z,4.4nm,0.6s
STKA Stephens Creek 37.44 158 eP **P** **09 31 17.2 -2.1**
STKA pmax pmax
comp=Z,4.0nm,0.6s
LZH Lanzhou 39.05 331 eP **P** **09 31 33.5 +0.6**
LZH pP pP 09 31 53.3 +1.7
LZH sP sP 09 32 05.2 +4.7
LZH pmax pmax
comp=Z,21nm,0.9s
LZH pmax pmax
comp=Z,86nm,4.2s
HHC Hu-ho-hao-te 40.15 343 eP **P** **09 31 44.4 +2.5**
HHC pP sP 09 32 07.1 -2.5
HHC sP pP 09 32 18.7 +18
HHC PP **PnPn** **09 33 22.4 +2.5**
HHC S **S** **09 37 45.1 +2.2**
HHC sS sS 09 38 24.6 +10
HHC SS **SS** **09 40 42.7 -0.9**
HHC ScS **ScS** **09 41 38.3 -2.8**
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,41nm,5.6s
HHC LR LR
comp=Z,140nm,15.3s
HHC LR LR
comp=Z,180nm,13.3s
HHC LR LR
comp=Z,190nm,13.9s
CN2 Changchun 40.89 359 eP **P** **09 31 47.6 -0.3**
CN2 epP pP 09 32 09.6 +3.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ARMA Armidale 41.00 145 eP **P** **09 31 47.5 -1.6**
comp=Z,86nm,1.7s
USRK Ussuriysk Ar. 41.62 6 P **P** **09 31 54.4 +0.6**
comp=Z,5.6nm,0.7s,baz=193,slow=7.0,SNR=11
MDJ Mudanjiang 41.82 4 P **P** **09 31 55.6 +0.2**
MDJ S **S** **09 38 09.5 +2.1**
MDJ pmax pmax
comp=Z,18nm,0.8s
MDJ pmax pmax
comp=Z,140nm,4.2s
LSA Lhasa 42.63 313 eP **P** **09 32 03.6 +0.7**
comp=Z,11nm,1.2s
LSA Lhasa 42.63 313 eP **P** **09 32 03.6 +0.7**
LSA pmax pmax
comp=Z,11nm,1.2s
H11S3 WAKE ISLAND Hy 42.71 66 T T 10 19 09.9
baz=255
H11S2 WAKE ISLAND Hy 42.72 66 T T 10 19 03.9
baz=255,slow=74
H11S1 WAKE ISLAND Hy 42.72 66 T T 10 18 58.8
baz=255,slow=74
GTA Gaotai 43.63 330 eP **P** **09 32 10.1 -0.3**
GTA pP pP 09 32 32.5 +3.2
GTA sP sP 09 32 44.4 +6.2
GTA pmax pmax
comp=Z,4.0nm,1.1s
ASAJ Asahikawa 43.72 17 P **P** **09 32 12.9 +2.1**
comp=Z,11nm,0.5s,baz=224,slow=8.1,SNR=29
ASAJ Asahikawa 43.72 17 eP **P** **09 32 11.1 +0.3**
comp=Z,20nm,0.9s
TAPN Taplejung 44.11 307 eP **P** **09 32 13.6 -1.0**
comp=Z,13nm,0.7s
RAMN Ramite 44.82 306 eP **P** **09 32 20.1 -0.1**
comp=Z,19nm,0.9s
JIRN Jiri 45.45 307 eP **P** **09 32 24.6 -0.8**
comp=Z,23nm,0.6s
GUN Gumba 45.81 307 eP **P** **09 32 27.0 -1.2**
comp=Z,15nm,0.3s
PKI Pulchoki 46.04 306 eP **P** **09 32 29.4 -0.6**
comp=Z,5.8nm,0.3s
PKIN Phulchoki 46.05 306 eP **P** **09 32 29.6 -0.4**
comp=Z,5.6nm,0.4s
KKN Kakani 46.24 307 eP **P** **09 32 30.6 -0.8**
comp=Z,7.5nm,0.3s
YSS Yuzh-Sakhalins 46.36 16 eP **P** **09 32 32.1 +0.5**
comp=Z,21nm,0.5s
YSS Yuzh-Sakhalins 46.36 16⇑*i*P **P** **09 32 33.0 +1.3**
YSS *e* 09 32 51.1
YSS *e* 09 32 54.2
YSS pmax pmax
comp=Z,20nm,1.4s
DZM Mont Dzumac 46.49 124 P **P** **09 32 34.6 +1.4**
comp=Z,4.5nm,0.4s,baz=319,slow=19,SNR=12
DZM LR LR 09 52 14.3
comp=Z,71nm,20.2s,baz=6.0,slow=36
DZM Mont Dzumac 46.49 124 eP **P** **09 32 31.6 -1.7**
comp=Z,34nm,1.4s
KLR Kul'dur 46.57 5*de*P **P** **09 32 33.8 +0.5**
HIA Hailar 46.67 354⇑eP **P** **09 32 35.3 +1.1**
HIA pmax pmax
comp=Z,21nm,1.2s
KOLN Koldanda 47.58 306 eP **P** **09 32 40.8 -1.0**
comp=Z,28nm,0.7s
ULN Ulaanbaatar 47.87 343 eP **P** **09 32 42.7 -1.0**
comp=Z,7.6nm,1.1s
ULN Ulaanbaatar 47.87 343*d*iP **P** **09 32 43.3 -0.3**
ULN pmax pmax
comp=Z,7.0nm,1.7s
SONM Songino Array 48.04 342 P **P** **09 32 44.0 -0.9**
comp=Z,1.4nm,0.6s,baz=154,slow=9.0,SNR=15
SONM PcP **PcP** **09 34 12.6 +0.8**
comp=Z,2.0nm,0.7s,baz=149,slow=3.2,SNR=4.4
SONM LR LR 09 55 14.8
comp=Z,78nm,18.6s,baz=162,slow=39
SONA1 Songino Array 48.05 342 eP **P** **09 32 44.0 -1.0**
PYUN Piuthan 48.21 306 eP **P** **09 32 45.7 -1.0**
comp=Z,30nm,0.7s
GRNR Gornyy 48.65 9 eP P 09 32 44.5 -4.9
HYB Hyderabad 48.87 291 *i* P **P** **09 32 52.0 +0.3**
TYV Tymovskoe 49.95 14 eP **P** **09 33 01.1 +1.8**
TYV pmax pmax
comp=Z,8.0nm,1.0s
ZAK Zakamensk 51.25 341 eP **P** **09 33 08.6 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.8s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
TLY Talaya 52.28 343 LR LR 09 57 26.0
comp=Z,76nm,18.4s,baz=146,slow=38
TLY Talaya 52.28 343 eP **P** **09 33 18.1 +1.3**
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,85nm,17.0s
WMQ Urumqi 53.18 326 P **P** **09 33 23.4 -0.2**
WMQ pP sP 09 33 51.8 -0.1
WMQ sP pP 09 34 01.0 +18
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,350nm,4.9s
WMQ LR LR
comp=Z,400nm,28.1s
WMQ LR LR
comp=Z,360nm,22.7s
WMQ LR LR
comp=Z,250nm,24.1s
BOD Bodaibo 55.75 352 eP **P** **09 33 41.6 -0.3**
BOD pmax pmax
comp=Z,20nm,1.7s
PETK Petropavlovsk- 56.58 22 P **P** **09 33 49.7 +1.8**
comp=Z,5.1nm,0.5s,baz=187,slow=4.7,SNR=15
PDGK Podgornoye 57.78 321 P **P** **09 33 56.3 -0.5**
PDGK pmax pmax
comp=Z,6.0nm,1.3s
MK01 Makanchi Array 57.99 326 eP **P** **09 33 56.7 -1.3**
MK31 Makanchi Array 58.01 326 eP **P** **09 33 57.0 -1.2**
MK31 Makanchi Array 58.01 326 eP **P** **09 33 57.0 -1.2**
MKAR Makanchi Array 58.01 326 P **P** **09 33 56.9 -1.3**
comp=Z,1.6nm,0.3s,baz=120,slow=7.8,SNR=62
MKAR PcP **PcP** **09 34 48.5 -0.9**
comp=Z,3.3nm,0.5s,baz=122,slow=6.8,SNR=8.9
MKAR ScP **ScP** **09 38 42.0 -0.8**
comp=Z,1.2nm,0.6s,baz=117,slow=4.7,SNR=7.8
MKAR LR LR 10 00 38.9
comp=Z,56nm,20.4s,baz=96,slow=38
MKAR Makanchi Array 58.01 326 eP **P** **09 33 57.0 -1.2**
comp=Z,30nm,0.6s
MKAR PcP **PcP** **09 34 48.5 -0.9**
MKAR ScP **ScP** **09 38 42.0 -0.8**
MAKZ Makanchi 58.20 326 eP **P** **09 33 58.2 -1.3**
comp=Z,4.7nm,0.8s
MAKZ Makanchi 58.20 326 eP **P** **09 33 58.2 -1.3**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
KSH Kashi 58.31 316 eP **P** **09 34 02.6 +2.1**
KSH sP sP 09 34 37.6 +8.7
KSH ScP **ScP** **09 38 42.1 -2.3**
KSH S **S** **09 41 55.4 -1.8**
KSH sS sS 09 42 36.4 +5.5
KSH ScS **ScS** **09 43 37.6 -5.8**
KSH pmax pmax
comp=Z,7.0nm,0.5s
KSH pmax pmax
comp=Z,62nm,6.9s
KSH LR LR
comp=Z,140nm,5.0s
KSH LR LR
comp=Z,72nm,5.8s
KSH LR LR
comp=Z,100nm,8.1s
KDJ Kajisay 58.67 319 P **P** **09 34 02.5 -0.6**
KDJ pmax pmax
comp=Z,7.0nm,0.9s
NRN Naryn 59.13 318 P **P** **09 34 05.3 -1.1**
NRN pmax pmax
comp=Z,3.0nm,0.9s
YAK Yakutsk 59.21 2 eP **P** **09 34 06.3 +0.1**
comp=Z,33nm,0.8s
YAK Yakutsk 59.21 2 eP **P** **09 34 05.3 -0.8**
YAK e*PP **pP** **09 34 23.0 -3.0**
YAK *e* 09 34 52.7
YAK *e* 09 36 16.5
YAK ePPP PPP 09 37 41.1
YAK eS **S** **09 42 06.8 -1.0**
YAK *e* 09 43 45.8
YAK eSS **SS** **09 46 05.4 +1.9**
YAK pmax pmax
comp=Z,33nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,79nm,4.6s
YAK pmax pmax
comp=N,77nm,4.8s
YAK pmax pmax
comp=E,38nm,5.3s
YAK smax smax
comp=N,51nm,2.1s
YAK smax smax
comp=E,96nm,2.0s
MA2 Magadan 59.81 14⇓e P **P** **09 34 11.6 +1.2**
AAK Ala-Archa 60.67 318 eP **P** **09 34 16.5 -0.3**
comp=E,5.4nm,1.1s
AAK Ala-Archa 60.67 318 eP **P** **09 34 16.5 -0.3**
AAK pmax pmax
comp=Z,5.0nm,1.1s
ZALV Zalesovo Beam 61.19 334 P **P** **09 34 17.7 -2.1**
comp=Z,1.2nm,0.4s,baz=128,slow=4.7,SNR=5.7
ZALV LR LR 10 02 25.3
comp=Z,55nm,18.4s,baz=74,slow=38
ZALV Zalesovo Beam 61.19 334 eP **P** **09 34 17.3 -2.5**
ZALV Zalesovo Beam 61.19 334 eP **P** **09 34 17.3 -2.5**
MNAS Manas 61.94 318 P **P** **09 34 26.2 +0.9**
MNAS pmax pmax
comp=Z,4.0nm,1.4s
KURK Kurchatov 62.24 328 eP **P** **09 34 25.8 -1.1**
comp=Z,8.7nm,0.8s
KURK Kurchatov 62.24 328*c*iP **P** **09 34 25.1 -1.8**
KURK pmax pmax
comp=Z,5.0nm,0.5s
URZ Urewera 62.26 136 LR LR 10 03 21.1
comp=Z,59nm,18.7s,baz=302,slow=38
NVS Novosibirsk 62.47 334 eP P 09 34 43.7 +15
SEY Seymchan 63.13 13⇑*i*P **P** **09 34 35.1 +2.5**
KKAR Karatay Array 63.53 318 eP **P** **09 34 33.5 -2.1**
KKAR Karatay Array 63.53 318 eP **P** **09 34 33.6 -2.1**
BVAR Borovoye Array 67.81 327 P **P** **09 35 01.8 -1.2**
comp=Z,2.4nm,0.5s,baz=148,slow=9.6,SNR=18
BRVK Borovoye 67.88 327 eP **P** **09 35 02.3 -1.2**
comp=Z,13nm,1.3s
BRVK Borovoye 67.88 327⇓*i*P **P** **09 35 02.1 -1.4**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
WSAR Wadi Sarin 68.25 294 LR LR 10 06 20.0
comp=Z,36nm,20.9s,baz=108,slow=37
TIXI Tiksi 68.84 1 eP **P** **09 35 08.6 -0.5**
comp=Z,8.3nm,0.6s
TIXI Tiksi 68.84 1⇑eP **P** **09 35 09.0 -0.1**
TIXI pmax pmax
comp=Z,20nm,1.7s
BILL Bilibino 70.67 15⇓*i*P **P** **09 35 21.2 +0.8**
BILL *e* 09 38 01.5
BILL eS **SKiKP** **09 44 56.8 +0.4**
BILL eSS **SS** **09 49 06.7 +5.3**
BILL pmax pmax
comp=Z,3.0nm,1.1s
GEYT Alibeck 71.03 309 P **P** **09 35 22.4 -0.8**
comp=Z,1.3nm,0.8s,baz=141,slow=5.5,SNR=3.2
GEYT LR LR 10 09 25.9
comp=Z,53nm,20.4s,baz=205,slow=38
ABKAR Akbulak array 72.52 321 eP **P** **09 35 30.3 -1.6**
comp=Z,19nm,0.8s
AKTO Aktyubinsk 74.05 322 P **P** **09 35 39.8 -1.0**
comp=Z,1.7nm,0.3s,baz=114,slow=7.4,SNR=8.3
AKTO LR LR 10 11 09.6
comp=Z,89nm,19.4s,baz=103,slow=38
ARU Arti 75.44 328 eP **P** **09 35 47.0 -1.8**
comp=Z,4.1nm,0.6s
ARU Arti 75.44 328*d*iP **P** **09 35 46.9 -1.8**
ARU *PP **pP** **09 36 08.9 -0.4**
ARU 09 38 33.7
ARU S **S** **09 45 19.0 -3.7**
ARU pmax pmax
comp=Z,8.0nm,1.4s
GAMB Gambell 75.55 24 eP **P** **09 35 49.2 0.0**
comp=Z,12nm,1.2s
RAR Rarotonga 76.24 112 LR LR 10 06 41.2
comp=Z,17nm,21.8s,baz=269,slow=33

VNDA	**Vanda**	**82.53**	**173**	P	**P**	**09 36 27.9**	**+0.8**
	comp=Z,4.0nm,0.5s,baz=316,slow=7.3,SNR=26						
NCK	**Nalchik**	**82.68**	**313**	⇑*e*P	**P**	**09 36 27.1**	**-1.6**
NCK				pmax	pmax		
	comp=Z,22nm,0.4s						
ATD	**Arta Tunnel**	**82.85**	**281**	LR	LR	10 13 54.0	
	comp=Z,17nm,18.6s,baz=24,slow=36						
KBZ	**Khabaz**	**83.20**	**314**	P	**P**	**09 36 31.3**	**0.0**
	comp=Z,1.8nm,0.9s,baz=108,slow=3.2,SNR=2.5						
KBZ				LR	LR	10 19 09.4	
	comp=Z,44nm,18.0s,baz=24,slow=40						
SPU	**Mount Spurr**	**83.67**	**29**	*e*P	**P**	**09 36 33.2**	**-0.2**
SUA	**Susitna One**	**84.33**	**29**	*e*P	**P**	**09 36 36.5**	**-0.3**
	comp=Z,14nm,0.9s						
VRH	**Novokhopyorsk**	**84.35**	**321**	*e*P	**P**	**09 36 38.9**	**+1.9**
VRH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KTH	**Kantishna Hill**	**84.43**	**27**	P	**P**	**09 36 36.4**	**-0.9**
	comp=Z,25nm,1.6s						
MLY	**Manley**	**84.64**	**25**	*e*P	**P**	**09 36 40.0**	**+1.8**
	comp=Z,6.4nm,1.0s						
RC01	**Rabbit Creek A**	**84.79**	**29**	*e*P	**P**	**09 36 39.1**	**+0.1**
	comp=Z,22nm,1.2s						
COLD	**Coldfoot**	**85.04**	**23**	*e*P	**P**	**09 36 40.8**	**+0.6**
	comp=Z,5.6nm,0.7s						
PMR	**Palmer**	**85.11**	**29**	*e*P	**P**	**09 36 40.6**	**0.0**
	comp=Z,54nm,1.8s						
PMR	**Palmer**	**85.11**	**29**	*e*P	**P**	**09 36 40.6**	**0.0**
PMR				pmax	pmax		
	comp=Z,54nm,1.8s						
PPT	**Papeete**	**85.41**	**108**	LR	LR	10 14 36.9	
	comp=Z,50nm,19.6s,baz=269,slow=35						
KLMR	**Klimovskoe**	**85.96**	**331**	*e*P	**P**	**09 36 42.6**	**-2.2**
KLMR				pmax	pmax		
	comp=Z,20nm,1.4s						
KLMR	**Klimovskoe**	**85.96**	**331**	*e*P	**P**	**09 36 42.6**	**-2.2**
KLMR				AMP		09 36 45.9	
	comp=Z,20nm,1.4s						
VSR	**Storozhevoye**	**85.96**	**321**	*e*P	**P**	**09 36 43.3**	**-1.7**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LPSR	**Galich'ya Gora**	**86.12**	**322**	*e*P	**P**	**09 36 45.8**	**0.0**
LPSR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**	**09 36 46.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=246,slow=4.8,SNR=12						
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**	**09 36 46.0**	**-0.3**
OBN	**Obninsk**	**87.51**	**325**	⇓*e*P	**P**	**09 36 51.2**	**-1.2**
OBN				*e*		09 37 11.7	
OBN				pmax	pmax		
	comp=Z,37nm,1.3s						
KMBO	**Kilima Mbogo**	**88.90**	**269**	LR	LR	10 14 21.9	
	comp=Z,34nm,19.5s,baz=90,slow=34						
BRTR	**Keskin Array B**	**90.17**	**310**	P	**P**	**09 37 04.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=111,slow=8.0,SNR=2.9						
ARCES	**ARCESS Array B**	**91.16**	**340**	P	**P**	**09 37 08.4**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=85,slow=4.5,SNR=15						
INK	**Inuvik**	**91.31**	**21**	*e*P	**P**	**09 37 10.7**	**+0.7**
	comp=Z,15nm,1.7s						
SPITS	**Spitsbergen Ar**	**91.33**	**349**	P	**P**	**09 37 10.2**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=48,slow=8.6,SNR=12						
SPITS				LR	LR	10 24 33.3	
	comp=Z,59nm,18.1s,baz=195,slow=40						
AKASG	**Malin Array Be**	**92.26**	**321**	P	**P**	**09 37 13.1**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=75,slow=4.3,SNR=7.3						
AKASG	**Malin Array Be**	**92.26**	**321**	*i* P	**P**	**09 37 14.0**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKBB	**Malin Array Si**	**92.26**	**321**	*e*P	**P**	**09 37 14.1**	**-0.7**
	comp=Z,22nm,1.5s						
KIEV	**Kiev**	**92.27**	**321**	*e*P	**P**	**09 37 13.4**	**-1.4**
	comp=Z,22nm,1.5s						
KIEV	**Kiev**	**92.27**	**321**	⇓*e*P	**P**	**09 37 13.4**	**-1.4**
KIEV				pmax	pmax		
	comp=Z,17nm,1.5s						
FINES	**FINESS Array B**	**92.40**	**332**	P	**P**	**09 37 14.1**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=56,slow=5.6,SNR=19						
FINES				LR	LR	10 21 34.8	
	comp=Z,93nm,18.3s,baz=266,slow=37						
VSU	**Vasula**	**92.58**	**329**	⇑*e*P	**P**	**09 37 12.8**	**-3.3**
VSU				pmax	pmax		
	comp=Z,58nm,1.2s						
TLCR		**93.21**	**315**	⇑*i*P	**P**	**09 37 16.7**	**-2.6**
TLCR		**93.21**	**315**	P	**P**	**09 37 16.7**	**-2.6**
MLR	**Muntele Rosu**	**95.17**	**316**	LR	LR	10 27 52.5	
	comp=Z,8.8nm,18.2s,baz=12,slow=40						
BURAR	**Bucovina Array**	**95.32**	**318**	⇑*i*P	**P**	**09 37 28.9**	**-0.2**
BURAR	**Bucovina Array**	**95.32**	**318**	P	**P**	**09 37 28.9**	**-0.2**
BUR04	**Bucovina Ar. S**	**95.32**	**318**	*e*P	**P**	**09 37 28.2**	**-0.9**
BUR08	**Bucovina Ar. S**	**95.32**	**318**	*e*P	**P**	**09 37 28.8**	**-0.3**
DRGR		**97.15**	**318**	⇑*i*P	**P**	**09 37 36.8**	**-0.6**
DRGR		**97.15**	**318**	P	**P**	**09 37 36.8**	**-0.6**
IDI	**Anoyia**	**97.56**	**306**	LR	LR	10 31 02.2	
	comp=Z,38nm,18.2s,baz=92,slow=41						
HFS	**Hagfors**	**98.60**	**332**	P	**P**	**09 37 42.3**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=100,slow=8.1,SNR=9.8						
HFS				LR	LR	10 24 17.6	
	comp=Z,109nm,20.6s,baz=328,slow=37						
NB2	**NORSAR Subarra**	**99.39**	**333**	P	**Pdif**	**09 37 45.8**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=68,slow=4.6						
NOA	**NORSAR Array B**	**99.39**	**333**	P	**Pdif**	**09 37 45.9**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=70,slow=4.5,SNR=4.2						
NOA				LR	LR	10 27 13.3	
	comp=Z,46nm,18.0s,baz=70,slow=38						
YKA	**Yellowknife Ar**	**100.66**	**24**	P	**Pdif**	**09 37 53.7**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=301,slow=4.5,SNR=9.4						
CLL	**Collm**	**102.07**	**324**	*e*P	**Pdif**	**09 37 56.0**	**-3.1**
GERES	**GERESS Array B**	**102.47**	**321**	P	**Pdif**	**09 38 00.0**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=30,slow=8.2,SNR=3.8						
PDAR	**Pinedale Array**	**112.51**	**41**	PKiKP	**PKiKP**	**09 42 42.3**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=214,slow=2.9,SNR=3.0						
SCHQ	**Schefferville**	**121.64**	**9**	PKP	**PKPdf**	**09 42 58.7**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=297,slow=2.6,SNR=11						
TORD	**Torodi Ar. Bea**	**122.62**	**287**	PKP	**PKPdf**	**09 43 01.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=51,slow=2.2,SNR=5.9						
TORD				PKKPab	**PKKPab**	**09 52 56.5**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=254,slow=3.2,SNR=4.2						
JCT	**Junction City**	**125.18**	**49**	*e*PKPdf	**PKPdf**	**09 43 06.9**	**+1.1**
JCT	**Junction City**	**125.18**	**49**	*e*PKIKP	**PKPdf**	**09 43 06.9**	**+1.1**
MIAR	**Mount Ida**	**127.43**	**42**	*e*PKPdf	**PKPdf**	**09 43 11.2**	**+1.4**
MIAR	**Mount Ida**	**127.43**	**42**	*e*PKIKP	**PKPdf**	**09 43 11.3**	**+1.4**
DBIC	**Dimbokro**	**130.16**	**281**	SKPbc	**SKPab**	**09 46 31.1**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=68,slow=4.6,SNR=4.4						
TKL	**Tuckaleechee C**	**132.67**	**33**	PKP	**PKPdf**	**09 43 21.9**	**+2.1**
	comp=Z,1.9nm,0.4s,baz=158,slow=5.9,SNR=7.8						
TRQA	**Tornquist**	**144.08**	**169**	*e*PKPdf	PKPbc	09 43 39.2	+0.5
TRQA	**Tornquist**	**144.08**	**169**	*e*PKIKP	PKPbc	09 43 39.2	+0.5
JTS	**JuntasAbangare**	**146.48**	**67**	PKPbc	**PKPab**	**09 43 48.6**	**+0.7**
	comp=Z,3.7nm,0.4s,baz=310,slow=7.9,SNR=4.2						

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*ISCJB **03** 09:38:04.5±0.2, 21°.22S±0°.03×67°.43W±0°.03, h197km±2km, mb4.3/27, Error ellipse: s-maj=5.3km s-min=3.8km az=151.8*
*SCB **03** 09:38:04.2±0.3, 20°.97S×67°.21W, h175km, Ml4.0/1, Error ellipse: s-maj=8.5km s-min=3.4km az=44.0*
*NEIC **03** 09:38:05.2±0.5, 21°.23S×67°.39W, h185km±5km, mb4.5/12, Error ellipse: s-maj=9.0km s-min=6.2km az=72.0*
*GUC **03** 09:38:05.9±0.5, 21°.18S×67°.87W, h220km±6km, ML4.8*
*IDC **03** 09:38:06.2±1.4, 21°.05S×67°.19W, h187km±11km, mb3.9/17, mb1 4.0/21, mb1mx3.9/41, mbtmp4.4/21, Error ellipse: s-maj=15.4km s-min=10.0km az=59.0*
*SJA **03** 09:38:06.9±0.5, 21°.25S×66°.98W, h216km±18km, ML3.7, MW3.8*
ISC 03 09:38:04.6±0.6**, 21°.20S**±0°.04×**67°.36W**±0°.04**, h180**km±5km**, n91, σ2s.00**/120**, mb4.3**/27**, 16C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.61**	**92**	⇑*i*Pn	**Pn**	**09 38 40.4**	**+2.3**
MOCB				⇑*i*Sn	**Sn**	**09 39 06.6**	**+2.6**
PB09	**IPOC Station P**	**1.85**	**251**	⇑*i*P	**Pn**	**09 38 42.3**	**+2.0**
PB09				*e*S	**Sn**	**09 39 09.8**	**+1.8**
PB09				IAML		09 39 13.0	
	comp=N,5µm,0.3s						
PB08	**IPOC Station P**	**1.98**	**302**	⇑*i*P	**Pn**	**09 38 43.9**	**+1.9**
PB08				*e*S	**Sn**	**09 39 12.6**	**+1.8**
PB08				IAML		09 39 12.9	
	comp=N,1µm,0.4s						
PB01	**IPOC Station P**	**1.99**	**274**	*e*Pn	**Pn**	**09 38 42.9**	**+1.1**
PB01				*e*Sn	**Sn**	**09 39 11.8**	**+1.3**
PB01	**IPOC Station P**	**1.99**	**274**	*e*P	**Pn**	**09 38 42.8**	**+1.0**
PB01				*i* S	**Sn**	**09 39 10.9**	**+0.4**
PB01				IAML		09 39 13.5	
	comp=E,3µm,0.2s						
PB02	**IPOC Station P**	**2.37**	**267**	⇑*i*P	**Pn**	**09 38 46.9**	**+0.9**
PB02				*e*S	**Sn**	**09 39 17.6**	**-0.5**
PB02				IAML		09 39 19.8	
	comp=E,5µm,0.0s						
PB07	**IPOC Station P**	**2.41**	**257**	⇑*i*P	**Pn**	**09 38 47.4**	**+0.9**
PB07				*e*S	**Sn**	**09 39 18.5**	**-0.5**
PB07				IAML		09 39 19.4	
	comp=E,5µm,0.5s						
PB06	**IPOC Station P**	**2.54**	**233**	⇑*i*P	**Pn**	**09 38 49.3**	**+1.3**
PB06				*e*S	**Sn**	**09 39 22.5**	**+0.7**
PB11	**IPOC Station P**	**2.58**	**303**	*e*Pn	**Pn**	**09 38 49.4**	**+0.9**
PB11				*e*Sn	**Sn**	**09 39 22.8**	**+0.2**
PB11	**IPOC Station P**	**2.58**	**303**	⇑*i*P	**Pn**	**09 38 49.3**	**+0.8**
PB11				*e*S	**Sn**	**09 39 22.8**	**+0.2**
HJA	**Humahuaca**	**2.70**	**138**	*i* P	**Pn**	**09 38 52.7**	**+2.7**
PB04	**IPOC Station P**	**2.83**	**246**	*e*Pn	**Pn**	**09 38 52.3**	**+0.9**
PB04				*e*Sn	**Sn**	**09 39 27.1**	**-0.7**
PB04	**IPOC Station P**	**2.83**	**246**	*e*P	**Pn**	**09 38 52.1**	**+0.7**
PB04				*e*S	**Sn**	**09 39 26.8**	**-1.0**
MNMC	**Minye Minye**	**2.94**	**314**	*e*Pn	**Pn**	**09 38 54.3**	**+1.4**
MNMC				*e*Sn	**Sn**	**09 39 31.3**	**+0.9**
MNMC	**Minye Minye**	**2.94**	**314**	⇑*i*P	**Pn**	**09 38 54.1**	**+1.2**
MNMC				*e*S	**Sn**	**09 39 30.7**	**+0.3**
MNMC				IAML		09 39 33.1	
	comp=E,5µm,0.4s						
PSGC	**Pisagua**	**3.04**	**301**	*e*P	**Pn**	**09 38 53.7**	**-0.2**
PSGC				*e*S	**Sn**	**09 39 30.5**	**-1.8**
PSGC				IAML		09 39 31.7	
	comp=N,2µm,0.9s						
AZAP	**Zapla**	**3.68**	**145**	*i* P	**Pn**	**09 39 03.5**	**+1.5**
AZAP				*i* S	**Sn**	**09 39 46.0**	**-0.9**
AZAP				IAML		09 39 49.0	
	comp=Z,292nm,0.6s						
PB10	**IPOC Station P**	**3.75**	**231**	*e*Pn	**Pn**	**09 39 03.1**	**+0.5**
PB10				*e*Sn	**Sn**	**09 39 44.7**	**-3.2**
PB12	**IPOC Station P**	**3.80**	**312**	*e*P	**Pn**	**09 39 02.5**	**-0.8**
ASTB	**Santa Barbara**	**3.83**	**136**	*i* P	**Pn**	**09 39 05.0**	**+1.2**
ALOL	**LOMAS DE OLMED**	**4.07**	**130**	*i* P	**Pn**	**09 39 07.1**	**+0.5**
BBOJ	**La Paz, Jacaqu**	**4.27**	**349**	⇑*i*Pn	**Pn**	**09 39 12.3**	**+2.5**
BBOJ				⇑*i*Sn	**Sn**	**09 40 01.3**	**+0.6**
BBOE	**La Paz, Chanca**	**4.40**	**352**	⇑*i*Pn	**Pn**	**09 39 14.1**	**+2.6**
BBOD	**La Paz, Gloria**	**4.68**	**345**	⇑*i*Pn	**Pn**	**09 39 17.4**	**+2.3**
BBOD				⇑*i*Sn	**Sn**	**09 40 11.2**	**+0.9**
LPAZ	**La Paz**	**4.94**	**351**	P	**Pn**	**09 39 20.2**	**+1.7**
	comp=Z,9.2nm,0.3s,baz=155,slow=6.4,SNR=253						
LPAZ				S	**Sn**	**09 40 15.7**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=278,slow=20,SNR=4.8						
LPAZ	**La Paz**	**4.94**	**351**	*e*Pn	**Pn**	**09 39 20.3**	**+1.7**
LPAZ				*e*Sn	**Sn**	**09 40 18.6**	**+2.3**
LPAZ	**La Paz**	**4.94**	**351**	⇑*i*Pn	**Pn**	**09 39 20.1**	**+1.7**
LPAZ				*e*Sn	**Sn**	**09 40 15.7**	**-0.5**
BBOB	**La Paz, Bander**	**5.08**	**352**	⇓*i*Pn	**Pn**	**09 39 21.7**	**+1.5**
BBOB				⇑*i*Sn	**Sn**	**09 40 18.5**	**-1.0**
	comp=Z,122nm,0.9s						
AHML	**Horco Molle**	**5.86**	**162**	*i* P	**Pn**	**09 39 31.7**	**+1.8**
AHML				IAML		09 39 33.2	
	comp=Z,8.6nm,0.6s						
SIV	**San Ignacio**	**7.89**	**50**	*e*P	**Pn**	**09 39 54.1**	**-2.5**
SIV				*e*S	**Sn**	**09 41 19.0**	**-6.3**
LCO	**Las Campanas**	**8.35**	**201**	*e*Pn	**Pn**	**09 40 00.3**	**-2.5**
CPUP	**Villa Florida**	**10.51**	**121**	P	**Pn**	**09 40 32.5**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=301,slow=11,SNR=12						
CPUP				S	**Sn**	**09 42 19.3**	**-8.3**
	comp=Z,0.5nm,0.3s,baz=328,slow=18,SNR=2.1						
SAML	**Samuel**	**12.82**	**19**	*e*Pn	**Pn**	**09 40 59.8**	**-0.8**
NNA	**Nana**	**12.90**	**314**	P	**Pn**	**09 41 03.9**	**+2.3**
	comp=Z,1.2nm,0.3s,baz=159,slow=12,SNR=9.4						
NNA				S	**Sn**	**09 43 19.8**	**-5.3**
	comp=Z,0.8nm,0.3s,baz=229,slow=18,SNR=2.5						
NNA	**Nana**	**12.90**	**314**	*e*Pn	**Pn**	**09 41 00.7**	**-0.9**
NNA				S	**Sn**	**09 43 19.8**	**-5.3**
TRQA	**Tornquist**	**17.43**	**166**	*e*P	**Pn**	**09 41 55.9**	**-1.1**
	comp=Z,30nm,1.8s						
ATAH	**Atahualpa**	**17.59**	**321**	P	**Pn**	**09 42 04.5**	**+5.1**
	comp=Z,0.5nm,0.3s,baz=90,slow=5.7,SNR=4.7						
SPB	**Sao Paulo**	**18.58**	**101**	*e*P	**P**	**09 42 09.1**	**+0.9**
	comp=Z,21nm,0.8s						
PLCA	**Paso Flores**	**19.66**	**187**	P	**Pn**	**09 42 21.8**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=31,slow=9.9,SNR=19						
PLCA	**Paso Flores**	**19.66**	**187**	*e*P	**P**	**09 42 19.6**	**-0.1**
	comp=Z,23nm,1.7s						
PTGA	**Pitinga**	**21.58**	**20**	P	**P**	**09 42 38.6**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=165,slow=20,SNR=4.0						
PTGA	**Pitinga**	**21.58**	**20**	*e*P	**P**	**09 42 42.9**	**+2.5**
	comp=Z,22nm,1.8s						
OTAV	**Otavalo**	**23.90**	**332**	*e*P	**P**	**09 43 04.0**	**+1.5**
	comp=Z,8.0nm,1.4s						
SOTA	**Rioblanco**	**24.89**	**338**	*e*P	**P**	**09 43 11.4**	**-0.2**
HORQ	**Saladito**	**26.15**	**339**	*e*P	**P**	**09 43 22.0**	**-0.7**
CHIC	**Chingaza**	**26.42**	**346**	*e*P	**P**	**09 43 24.7**	**-0.5**
RREF	**El Recreo**	**27.09**	**342**	*e*P	**P**	**09 43 31.3**	**-0.1**
RUSC	**La Rusia**	**27.50**	**348**	*e*P	**P**	**09 43 34.8**	**-0.2**
	comp=Z,14nm,1.8s						
RUSC	**La Rusia**	**27.50**	**348**	*e*P	**P**	**09 43 32.7**	**-2.3**
BARC	**Barichara**	**28.20**	**348**	*e*P	P	09 43 36.6	-4.2
HELC	**Santa Helena**	**28.37**	**343**	*e*P	**P**	**09 43 41.4**	**-1.2**
	comp=Z,11nm,0.6s						
HELC	**Santa Helena**	**28.37**	**343**	*e*P	**P**	**09 43 40.6**	**-1.9**
PTBC	**PUERTO BERRIO,**	**28.43**	**345**	*e*P	P	09 43 38.6	-4.0
ZARC	**Zaragoza, Cauc**	**29.45**	**345**	*e*P	**P**	**09 43 48.6**	**-3.0**
SDV	**Santo Domingo**	**30.07**	**354**	*e*P	**P**	**09 43 56.5**	**-0.8**
	comp=Z,26nm,1.8s						
PCRV	**Puerto La Cruz**	**31.29**	**5**	P	**P**	**09 44 07.3**	**-0.5**
	comp=Z,3.1nm,0.5s,baz=203,slow=13,SNR=2.9						
RCBR	**Riachuelo**	**34.08**	**68**	P	**P**	**09 44 31.5**	**-0.8**
	comp=Z,13nm,0.7s,baz=232,slow=7.9,SNR=3.2						
RCBR	**Riachuelo**	**34.08**	**68**	*e*P	**P**	**09 44 32.6**	**+0.4**
	comp=Z,40nm,1.4s						
SVB	**Belmont**	**34.77**	**10**	*e*P	**P**	**09 44 38.3**	**+0.3**
	comp=Z,386nm,1.8s						
ZAIG	**Zacatecas**	**55.57**	**320**	*e*P	**P**	**09 47 21.7**	**-0.2**
	comp=Z,4.1nm,0.8s						
TKL	**Tuckaleechee C**	**58.65**	**344**	P	**P**	**09 47 42.7**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=151,slow=10,SNR=3.2						
VNA3	**Neumayer Olymp**	**59.90**	**162**	P	**P**	**09 47 52.8**	**+1.7**
JCT	**Junction City**	**60.10**	**328**	*e*P	**P**	**09 47 53.7**	**+0.6**
	comp=Z,7.1nm,0.8s						
VNA2	**Neumayer--Watz**	**60.46**	**161**	P	**P**	**09 47 56.7**	**+1.8**
	baz=293,slow=6.7						
TXAR	**Lajitas Array**	**61.22**	**324**	P	**P**	**09 48 01.1**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=148,slow=8.6,SNR=8.1						
SNAA	**Sanae**	**62.09**	**161**	P	**P**	**09 48 07.6**	**+1.6**
SNAA	**Sanae**	**62.09**	**161**	P	**P**	**09 48 07.3**	**+1.4**
	comp=Z,4.0nm,0.6s,baz=286,slow=5.3,SNR=28						
SNAA	**Sanae**	**62.09**	**161**	*e*P	**P**	**09 48 05.2**	**-0.8**
	comp=Z,244nm,0.7s						
MSTX	**Muleshoe**	**64.40**	**328**	*e*P	**P**	**09 48 21.9**	**+0.3**
	comp=Z,9.8nm,0.9s						
LIC	**Lamto**	**66.92**	**73**	*e*P	**P**	**09 48 37.1**	**-0.9**
	comp=Z,37nm,1.6s						
TIC	**Toumodi**	**67.11**	**73**	*e*P	**P**	**09 48 38.6**	**-0.6**
KIC	**Kosan Boka**	**67.23**	**73**	*e*P	**P**	**09 48 39.3**	**-0.7**
	comp=Z,16nm,1.0s						
DBIC	**Dimbokro**	**67.26**	**73**	P	**P**	**09 48 39.3**	**-0.9**
	comp=Z,6.4nm,0.8s,baz=204,slow=7.6,SNR=9.2						
KOWA	**Kowa**	**71.57**	**66**	P	**P**	**09 49 06.0**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=247,slow=8.8,SNR=12						
PDAR	**Pinedale Array**	**74.58**	**329**	P	**P**	**09 49 24.9**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=120,slow=7.9,SNR=9.1						
ULM	**Lac du Bonnet**	**75.48**	**342**	P	**P**	**09 49 28.6**	**0.0**
	comp=Z,7.0nm,0.5s,baz=153,slow=5.5,SNR=30						
SCHQ	**Schefferville**	**75.72**	**0**	P	**P**	**09 49 29.8**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=81,slow=3.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**75.89**	**70**	P	**P**	**09 49 31.4**	**-0.4**
	comp=Z,10nm,0.4s,baz=256,slow=5.7,SNR=103						
NVAR	**Mina Array Bea**	**76.16**	**321**	P	**P**	**09 49 34.4**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=173,slow=5.7,SNR=6.2						
YBH	**Yreka Blue Hor**	**80.87**	**321**	P	**P**	**09 49 58.1**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=117,slow=9.0,SNR=4.4						
BOSA	**Boshof**	**82.31**	**118**	P	**P**	**09 50 07.2**	**+0.6**
	comp=Z,2.4nm,0.4s,baz=220,slow=3.2,SNR=11						
ESDC	**Sonseca Array**	**84.61**	**44**	P	**P**	**09 50 18.8**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=236,slow=4.8,SNR=3.8						
YKA	**Yellowknife Ar**	**91.39**	**340**	P	**P**	**09 50 50.3**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=132,slow=4.5,SNR=52						
H11S1	**WAKE ISLAND Hy**	**129.28**	**277**	T	T	12 17 33.5	
	SNR=11						
ASAR	**Alice Springs**	**130.84**	**206**	PKP	**PKPdf**	**09 56 56.0**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=138,slow=2.1,SNR=3.2						
ASAR				SKPbc	**SKPab**	**10 00 02.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=142,slow=3.7,SNR=6.9						
WRA	**Warramunga Arr**	**133.93**	**209**	PKP	**PKPdf**	**09 57 02.7**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=139,slow=1.6,SNR=3.0						
WRA				SKPbc	**SKPbc**	**10 00 13.3**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=144,slow=3.4,SNR=6.4						
KSH	**Kashi**	**143.78**	**51**	*e*PKP	**PKPdf**	**09 57 21.5**	**+2.9**
KSH				pPKP	pPKPdf	09 58 03.7	-2.1
KSH				PP	**PP**	**10 00 39.2**	**+5.6**
MKAR	**Makanchi Array**	**144.53**	**37**	PKP	**PKPdf**	**09 57 19.6**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=345,slow=2.7,SNR=34						
SONM	**Songino Array**	**152.95**	**9**	PKPbc	**PKPbc**	**09 57 41.3**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=347,slow=4.4,SNR=2.7						
SONM				PKPab	**PKPab**	**09 57 52.3**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=318,slow=1.9,SNR=4.9						
KAPI	**Kappang**	**153.03**	**196**	*e*PKPdf	**PKPdf**	**09 57 32.3**	**-1.9**
HHC	**Hu-ho-hao-te**	**160.39**	**2**	*e*PKP	**PKPdf**	**09 57 37.2**	**-5.7**
HHC				PP	**PP**	**10 02 05.4**	**-1.0**
HHC				SKS	SKSdf	10 04 18.6	-13

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*IDC **03** 09:45:39.9±4.2, 2°.84S×100°.40E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.4/62, mbtmp3.5/5, Error ellipse: s-maj=182.6km s-min=22.8km az=55.0*
*DJA **03** 09:45:41.8±0.7, 3°S±4°×10°0E±°, h33km±4km, M3.6/6, MLv3.6/6*
ISC 03 09:45:43.6±0.8**, 2°.84S**±0°.06×**100°.19E**±0°.05**, h28**km**, n16, σ1s.20**/20**, mb3.6**/5**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.20**	**291**	P	**Pb**	**09 45 49.3**	**-0.2**
PPSI				Pg	**Pn**	**09 45 49.4**	**-1.3**
PPSI				Sg	**Sb**	**09 45 55.4**	**+1.9**
PPSI				S	**Sb**	**09 45 55.5**	**+1.9**
SISI	**Saibi**	**1.86**	**324**	P	**Pn**	**09 46 12.6**	**-1.0**
SISI				S	**Sn**	**09 46 36.3**	**+0.1**
PDSI	**Padang**	**1.93**	**8**	P	**Pn**	**09 46 15.5**	**+0.9**
PDSI				S	**Sb**	**09 46 42.6**	**+0.8**
MASI	**Maura Aman, Be**	**2.07**	**99**	P	**Pn**	**09 46 17.3**	**+0.8**
SDSI	**Sungai Dareh**	**2.26**	**33**	P	**Pb**	**09 46 21.8**	**-1.9**
MNAI	**Manna**	**3.15**	**119**	P	**Pn**	**09 46 30.8**	**-0.5**
MNAI				S	**Sn**	**09 47 07.1**	**-0.9**
MDSI	**Maura Dua**	**4.30**	**113**	P	**Pn**	**09 46 47.1**	**-0.1**
MDSI				S	**Sn**	**09 47 38.3**	**+1.8**
H08S2	**Diego Garcia H**	**27.98**	**259**	T	T	10 20 21.5	
	baz=81,slow=75,SNR=182						
H08S3	**Diego Garcia H**	**27.99**	**259**	T	T	10 20 21.5	
	baz=81,slow=75,SNR=142						
H08S1	**Diego Carcia H**	**28.00**	**259**	T	T	10 20 21.5	
	baz=81,slow=75,SNR=143						
WRA	**Warramunga Arr**	**37.41**	**120**	P	**P**	**09 52 53.4**	**-1.2**
	0.2nm,0.6s,baz=303,slow=8.8,SNR=6.9						
ASAR	**Alice Springs**	**38.61**	**125**	P	**P**	**09 53 03.6**	**-1.1**
	0.1nm,0.6s,baz=304,slow=8.7,SNR=3.7						
SONM	**Songino Array**	**50.75**	**5**	P	**P**	**09 54 41.5**	**+0.3**
	0.4nm,0.6s,baz=186,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**51.88**	**344**	P	**P**	**09 54 50.2**	**+0.7**
	0.8nm,0.7s,baz=149,slow=8.4,SNR=11						
ZALV	**Zalesovo Beam**	**58.02**	**349**	P	**P**	**09 55 34.8**	**+1.0**
	0.3nm,0.3s,baz=144,slow=5.4,SNR=3.2						
TXAR	**Lajitas Array**	**145.24**	**38**	PKPbc	**PKPab**	**10 05 19.3**	**0.0**
	0.4nm,0.6s,baz=298,slow=3.8,SNR=2.7						

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*ISCJB **03** 09:50:55.0±0.6, 18°.1S±0°.1×178°.0W±0°.1, h590km, mb4.0/14, Error ellipse: s-maj=18.5km s-min=10.6km az=144.7*
*IDC **03** 09:50:58.4±1.1, 18°.10S×177°.88W, h623km±15km, mb3.4/15, mb1 3.6/17, mb1mx3.4/44, mbtmp4.4/17, Error ellipse: s-maj=20.9km s-min=8.9km az=149.0*
ISC 03 09:50:56.3±0.6**, 18°.0S**±0°.2×**178°.0W**±0°.1**, h590**km**, n24, σ1s.44**/28**, mb3.9**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.23**	**56**	P	**P**	**09 52 50.4**	**+2.1**
	10nm,0.3s,baz=35,slow=1.4,SNR=27						
AFI				S	**S**	**09 54 22.6**	**+2.8**
	0.7nm,0.3s,baz=12,slow=19,SNR=2.3						
DZM	**Mont Dzumac**	**15.18**	**252**	P	**P**	**09 54 09.0**	**+2.4**
	1.3nm,0.3s,baz=250,slow=22,SNR=20						
URZ	**Urewera**	**20.62**	**191**	P	**P**	**09 54 54.7**	**-1.2**
	4.2nm,0.4s,baz=360,slow=19,SNR=4.9						
RPZ	**Rata Peaks**	**27.24**	**198**	P	**P**	**09 55 54.3**	**-0.2**
	15nm,1.0s,baz=59,slow=11,SNR=2.4						
CTA	**Charters Tower**	**33.83**	**261**	P	**P**	**09 56 52.5**	**+1.3**
	6.4nm,0.6s,baz=99,slow=11,SNR=17						
PMG	**Port Moresby**	**34.88**	**280**	P	**P**	**09 57 02.1**	**+2.1**
	5.4nm,0.6s,baz=108,slow=20,SNR=2.4						
STKA	**Stephens Creek**	**38.93**	**241**	P	**P**	**09 57 34.5**	**+1.6**
	7.0nm,0.8s,baz=101,slow=8.9,SNR=15						
WRA	**Warramunga Arr**	**45.01**	**260**	P	**P**	**09 58 21.1**	**+0.4**
	5.2nm,0.3s,baz=96,slow=7.0,SNR=84						
WRA				PcP	**PcP**	**09 59 48.3**	**-0.6**
	0.2nm,0.3s,baz=88,slow=4.1,SNR=2.4						
WRA				S	**S**	**10 04 16.3**	**-1.2**
	0.5nm,0.8s,baz=92,slow=14,SNR=4.0						
ASAR	**Alice Springs**	**45.15**	**254**	P	**P**	**09 58 22.5**	**+0.7**
	17nm,0.6s,baz=92,slow=7.6,SNR=171						
ASAR				PcP	**PcP**	**09 59 48.8**	**-0.6**
	0.7nm,0.5s,baz=112,slow=3.5,SNR=3.8						
ASAR				S	**S**	**10 04 17.4**	**-2.0**
	2.2nm,1.1s,baz=91,slow=14,SNR=9.0						
FITZ	**Fitzroy Crossi**	**53.41**	**261**	P	**P**	**09 59 22.8**	**+0.4**
	1.1nm,0.3s,baz=87,slow=7.3						
MJAR	**Matsushiro Arr**	**68.24**	**323**	P	**P**	**10 00 58.8**	**-0.4**
	0.8nm,0.5s,baz=168,slow=6.1,SNR=5.7						
PETK	**Petropavlovsk-**	**73.89**	**345**	P	**P**	**10 01 31.6**	**-0.2**
	1.0nm,0.5s,baz=114,slow=8.3,SNR=4.1						
NVAR	**Mina Array Bea**	**79.22**	**44**	P	**P**	**10 02 01.1**	**-0.5**
	1.9nm,0.7s,baz=230,slow=9.9,SNR=12						
TXAR	**Lajitas Array**	**85.71**	**57**	P	**P**	**10 02 34.7**	**+0.5**
	2.6nm,0.7s,baz=218,slow=5.9,SNR=18						
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**10 02 32.6**	**-1.5**
	0.5nm,0.4s,baz=217,slow=5.2,SNR=19						
PDAR	**Pinedale Array**	**87.16**	**43**	P	**P**	**10 02 40.1**	**-0.8**
	1.1nm,0.7s,baz=235,slow=2.7,SNR=8.8						
YKA	**Yellowknife Ar**	**94.26**	**25**	P	**P**	**10 03 11.3**	**-1.5**
	0.3nm,0.6s,baz=241,slow=4.4,SNR=8.5						
MKAR	**Makanchi Array**	**109.50**	**314**	PKiKP	**PKiKP**	**10 08 18.6**	**-2.0**
	0.1nm,0.6s,baz=127,slow=2.3,SNR=4.2						
BVAR	**Borovoye Array**	**117.19**	**321**	PKP	**PKPdf**	**10 08 33.1**	**-1.9**
	0.2nm,0.3s,baz=106,slow=2.1,SNR=2.5						
ARCES	**ARCESS Array B**	**126.49**	**350**	PKP	**PKPdf**	**10 08 51.5**	**-1.0**
	4.3nm,1.1s,baz=25,slow=2.4,SNR=4.1						
AKASG	**Malin Array Be**	**140.84**	**333**	PKhKP	PKPpre	10 09 13.1	
	0.3nm,0.4s,baz=64,slow=2.2,SNR=2.8						
BRTR	**Keskin Array B**	**145.15**	**315**	PKPbc	**PKPdf**	**10 09 27.0**	**-0.9**
	0.8nm,0.8s,baz=121,slow=5.2,SNR=2.7						
MMAI	**Mount Meron Ar**	**146.54**	**303**	PKPbc	**PKPbc**	**10 09 32.8**	**-0.1**
	0.5nm,0.3s,baz=76,slow=6.1,SNR=2.2						
GERES	**GERESS Array B**	**147.82**	**345**	PKPbc	**PKPbc**	**10 09 34.8**	**-1.0**
	0.5nm,0.5s,baz=20,slow=4.4,SNR=6.0						

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*SJA **03** 10:10:57.4±0.7, 34°.19S×73°.18W, h21km±31km, ML3.9, MW3.8*
*IDC **03** 10:11:01.1±2.0, 33°.91S×72°.08W, h0km, mb4.0/3, mb1 3.9/5, mb1mx3.7/33, mbtmp3.8/5, ML4.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/30, Error ellipse: s-maj=77.0km s-min=30.2km az=98.0*
*GUC **03** 10:11:03.3±0.5, 33°.98S×72°.38W, h35km±3km, ML3.7*
ISC 03 10:11:01.2±1.7**, 33°.98S**±0°.04×**72°.39W**±0°.06**, h7**km±10km**, n33, σ1s.98**/49**, mb4.1**/3**, 1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.10**	**160**	*i* P	**Pg**	**10 11 22.4**	**0.0**
GO05				*i* S	**Sg**	**10 11 37.8**	**+1.3**
GO05	**HualaæØ**	**1.10**	**160**	⇓*i*P	**Pg**	**10 11 22.3**	**0.0**
GO05				*e*S	**Sg**	**10 11 36.1**	**-0.5**
GO05				IAML		10 11 39.9	
	comp=E,3µm,0.0s						
ANTU	**Antumapu**	**1.52**	**75**	*e*P	**Pn**	**10 11 28.8**	**-0.1**
ANTU				*e*S	**Sn**	**10 11 47.6**	**-1.5**
ANTU				IAML		10 11 47.8	
	comp=N,2µm,0.3s						
FSR	**Penalolen**	**1.63**	**73**	*e*P	**Pn**	**10 11 30.5**	**0.0**
FSR				*e*S	**Sn**	**10 11 51.1**	**-0.7**
LMEL	**Las Melosas**	**1.82**	**87**	*i* P	**Pn**	**10 11 33.1**	**-0.1**
LMEL				*e*S	**Sn**	**10 11 56.2**	**-0.5**
LMEL				IAML		10 12 01.6	
	comp=N,988nm,0.1s						
FCH	**Farellones**	**1.87**	**70**	*e*P	**Pn**	**10 11 34.1**	**+0.1**
FCH				*e*S	**Sn**	**10 11 57.5**	**-0.6**
FCH				IAML		10 12 04.5	
	comp=N,1µm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COCH	Cobquecura	2.17	188	eP	Pn	10 11 37.8	0.0
CCHI	Chillan	2.63	174	eP	Pn	10 11 45.9	+1.7
CCHI				eS	Sb	10 12 23.9	+2.6
AUSP	Uspallata	3.07	56	i P	Pb	10 11 55.2	-1.1
AUSP				i S	Sb	10 12 37.6	+3.4
AAGR	Agrelo	3.11	74	i P	Pb	10 11 56.0	-0.9
AAGR				i S	Sg	10 12 42.8	+1.7
ARCO	CERRO ARCO	3.11	70	i P	Pb	10 11 55.9	-1.1
ARCO				IAML		10 12 01.2	
	comp=Z,318nm,0.5s						
ARCO				i S	Sg	10 12 40.3	-0.8
ASAL	Salagasta	3.29	66	i P	Pb	10 12 00.5	+0.6
ASAL				i S	Sg	10 12 45.5	-1.3
RTLS	Leoncito	3.39	51	i P	Pb	10 12 02.5	+0.6
RTLS				i S	Sg	10 12 49.5	-0.8
RTLS				IAML		10 12 51.8	
	comp=Z,185nm,0.6s						
RTCV	Cerro Valdivia	3.87	58	i P	Pb	10 12 08.1	-1.7
RTCV				i S	Sb	10 13 01.5	+4.7
ZON	Zonda	3.96	53	i P	Pb	10 12 09.6	-1.8
ZON				i S	Sg	10 13 08.1	-0.3
ZON				IAML		10 13 20.0	
	comp=Z,36nm,0.5s						
GO04	Tololo Observa	4.03	20	eP	Pn	10 12 03.5	-0.1
TLL	Tololo Astrono	4.03	20	eP	Pn	10 12 04.3	+0.6
RTLL	Cerro Villicun	4.23	52	i P	Pb	10 12 13.2	-2.9
RTLL				i S	Sb	10 13 09.6	+2.2
RTLL				IAML		10 13 16.0	
	comp=Z,93nm,0.7s						
AMOG	MOGNA	4.48	48	i P	Pn	10 12 11.2	+1.6
AMOG				i S	Sb	10 13 21.2	+6.7
ACAN	Cantantal	4.69	70	i P	Pn	10 12 18.1	+5.6
ACAN				i S	Sb	10 13 19.8	-0.7
LCO	Las Campanas	5.16	17	i P	Pn	10 12 18.8	-0.4
AGUA	GUANDACOL	5.58	38	i P	Pn	10 12 26.4	+1.7
MRA	San Martin	5.81	76	i P	Pn	10 12 30.2	+2.3
MRA				IAML		10 13 52.5	
	comp=Z,29nm,0.5s						
APLL	PUNTA DE LOS L	6.12	56	i P	Pn	10 12 37.3	+5.1
APLL				i S	Sn	10 13 53.2	+11
APLL				IAML		10 13 55.2	
	comp=Z,28nm,0.7s						
VCA	Vinchina	6.33	36	i P	Pn	10 12 37.5	+2.3
PLCA	Paso Flores	6.90	168	Pn	Pn	10 12 43.8	+0.9
	comp=Z,0.8nm,0.3s,baz=0.9,slow=10,SNR=33						
PLCA				Sn	Sb	10 14 18.8	-5.4
	baz=49,slow=20,SNR=2.0						
PLCA				LR	LR	10 15 28.2	
	comp=Z,102nm,18.9s,baz=356,slow=39						
CPUP	Villa Florida	15.09	64	Pn	Pn	10 14 32.2	-2.6
	comp=Z,0.1nm,0.3s,baz=191,slow=10,SNR=2.1						
CPUP				Lg	Lg	10 18 30.4	
	comp=Z,0.1nm,0.3s,baz=337,slow=20,SNR=2.2						
CPUP				LR	LR	10 20 51.9	
	comp=Z,101nm,18.1s,baz=228,slow=40						
SNAA	Sanae	51.72	158	P	P	10 20 09.3	+0.6
	comp=Z,1.4nm,0.9s,baz=270,slow=14,SNR=6.4						
KOWA	Kowa	80.90	66	P	P	10 23 16.3	-0.2
	comp=Z,0.7nm,0.3s,baz=236,slow=2.7,SNR=3.1						
TORD	Torodi Ar. Bea	84.48	70	P	P	10 23 34.4	-0.8
	comp=Z,1.0nm,0.9s,baz=247,slow=1.3,SNR=6.0						
BVAR	Borovoye Array	147.46	43	PKPbc	PKPbc	10 30 45.9	+0.4
	comp=Z,0.8nm,0.5s,baz=208,slow=2.3,SNR=4.5						
ZALV	Zalesovo Beam	154.36	32	PKPbc	PKPbc	10 31 01.9	+0.1
	comp=Z,0.9nm,0.4s,baz=299,slow=3.4,SNR=5.0						
MKAR	Makanchi Array	156.97	49	PKPab	PKPab	10 31 26.9	-0.6
	comp=Z,0.3nm,0.5s,baz=301,slow=3.1,SNR=3.8						

*ISCJB **03** 10:11:55.6±0.8, 20°.6S±0°.1×177°.9W±0°.1, h534km, mb3.5/8, Error ellipse: s-maj=24.7km s-min=9.4km az=138.3*
*IDC **03** 10:11:56.6±1.7, 20°.68S×177°.92W, h541km±23km, mb3.0/8, mb1 3.2/11, mb1mx3.0/42, mbtmp4.0/11, Error ellipse: s-maj=33.9km s-min=14.1km az=135.0*
ISC 03 10:11:56.0±1.1**, 20°.6S**±0°.2×**177°.9W**±0°.2**, h534**km**, n13,** $\sigma 1^{s}$**21**/14**, mb3.5**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.88	42	P	P	10 14 02.4	0.0
	2.7nm,0.3s,baz=165,slow=5.5,SNR=5.1						
AFI				S	S	10 15 44.3	-1.8
	1.3nm,0.3s,baz=49,slow=20,SNR=2.8						
DZM	Mont Dzumac	14.65	262	P	P	10 15 02.6	+0.3
	0.2nm,0.3s,baz=98,slow=17,SNR=4.5						
URZ	Urewera	18.09	193	P	P	10 15 35.6	+0.3
	1.0nm,0.3s,baz=41,slow=9.3,SNR=5.5						
STKA	Stephens Creek	37.81	244	P	P	10 18 26.8	-0.2
	0.6nm,0.5s,baz=100,slow=17,SNR=2.8						
ASAR	Alice Springs	44.58	257	P	P	10 19 21.2	+0.4
	1.2nm,0.7s,baz=100,slow=7.6,SNR=16						
ASAR				S	S	10 25 15.2	-2.7
	0.5nm,0.7s,baz=96,slow=17,SNR=3.6						
WRA	Warramunga Arr	44.67	262	P	P	10 19 21.3	-0.2
	0.2nm,0.3s,baz=92,slow=6.5,SNR=22						
MJAR	Matsushiro Arr	70.36	324	P	P	10 22 16.0	-0.2
	0.7nm,0.4s,baz=135,slow=6.2,SNR=4.1						
ASAJ	Asahikawa	73.88	332	P	P	10 22 38.0	+1.6
	3.6nm,0.7s,baz=93,slow=18,SNR=4.7						
PETK	Petropavlovsk-	76.42	345	P	P	10 22 51.1	+0.8
	2.3nm,0.9s,baz=141,slow=9.3,SNR=2.6						
KSRS	Korea Array	77.04	319	P	P	10 22 55.4	+1.3
	0.5nm,0.5s,baz=129,slow=5.4,SNR=2.2						
ILAR	Eielson Array	88.42	13	P	P	10 23 50.6	-0.1
	0.3nm,0.3s,baz=223,slow=5.1,SNR=5.9						
AKASG	Malin Array Be	143.17	331	PKP	PKPab	10 30 26.7	-0.2
	0.9nm,0.5s,baz=39,slow=4.0,SNR=6.0						
BRTR	Keskin Array B	146.99	312	PKPbc	PKPbc	10 30 38.8	-0.3
	0.7nm,0.8s,baz=110,slow=3.8,SNR=2.6						

*IDC **03** 10:15:06.0±14.0, 30°.52S×179°.94E, h180km±132km, mb4.0/3, mb1 4.2/4, mb1mx3.5/41, mbtmp4.5/4, Error ellipse: s-maj=141.4km s-min=53.9km az=9.0*
*WEL **03** 10:15:24.8±0.9, 32°S±13°×17°9W±3°2, h323km±11km*
ISC 03 10:15:22.1±1.0**, 32°.1S**±0°.1×**179°.9W**±0°.2**, h350**km**, n40,** $\sigma 1^{s}$**77**/38**, mb3.8**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.33	32	P	Pn	10 16 24.2	-0.4
GLKZ	Green Lake	3.33	32	S	S	10 17 14.8	0.0
MXZ	Matakaoa Point	5.63	194	S	S	10 17 59.0	+0.3
MXZ	Matakaoa Point	5.63	194	P	Pn	10 16 50.6	+2.0
KUZ	Kuaotunu	5.85	217	P	Pn	10 16 56.6	+5.5
HAZ	Te Kaha	5.94	198	P	Pn	10 16 54.0	+1.9
HAZ	Te Kaha	5.94	198	S	S	10 18 04.6	-0.4
PUZ	Puketiti	6.13	193	S	S	10 18 08.5	-0.6
PUZ	Puketiti	6.13	193	P	Pn	10 16 58.5	+4.2
RUGZ	Raukumara Rang	6.16	198	S	S	10 18 07.1	-2.9
RUGZ	Raukumara Rang	6.16	198	P	Pn	10 16 57.6	+2.8
TGRZ	Tauranga	6.42	208	P	Pn	10 17 02.0	+4.4
URZ	Urewera	6.60	201	P	Pn	10 17 00.1	+0.6
	10nm,0.3s,baz=267,slow=4.8,SNR=110						
URZ				S	S	10 18 16.8	-2.0
	9.4nm,0.3s,baz=94,slow=23,SNR=20						
URZ	Urewera	6.60	201	S	S	10 18 17.9	-0.9
URZ	Urewera	6.60	201	P	Pn	10 17 00.2	+0.6
RAHZ	Arahi	7.21	199	P	Pn	10 17 09.4	+2.5
RAHZ	Arahi	7.21	199	S	S	10 18 30.8	-1.3
NMHZ	Naumai	7.46	200	P	Pn	10 17 12.7	+2.9
NMHZ	Naumai	7.46	200	S	S	10 18 36.0	-1.5
BKZ	Black Stump Fm	7.62	201	P	Pn	10 17 13.4	+1.8
MCHZ	McNeill Hill	7.81	200	P	Pn	10 17 16.7	+2.8
KWHZ	Kaweka Forest	7.88	201	P	Pn	10 17 16.5	+1.8
BHHZ	Black Hill Sta	8.05	203	P	Pn	10 17 17.3	+0.6
MOVZ	Moawhango	8.08	204	P	Pn	10 17 18.3	+1.2
KAHZ	Kahuranaki	8.09	198	P	P	10 17 19.9	-0.3
KRHZ	Kereru	8.09	201	P	Pn	10 17 17.9	+0.7
VRZ	Vera Road	8.22	210	P	P	10 17 21.7	+0.1
PXZ	Pawanui	8.32	197	P	P	10 17 21.8	-0.8
PNHZ	Pukenui	8.39	201	P	Pn	10 17 21.7	+0.9
WPHZ	Waipukurau	8.46	199	P	Pn	10 17 23.1	+1.6
TSZ	Takapari Road	8.60	202	P	Pn	10 17 23.9	+0.7
DVHZ	Dannevirke	8.76	200	P	Pn	10 17 25.2	+0.1
ANWZ	Angora Road	8.82	198	P	P	10 17 27.3	-0.9
POWZ	Post Office Ro	8.96	202	P	Pn	10 17 27.2	-0.4
PRWZ	Pori Road	9.05	200	P	Pn	10 17 29.5	+1.0
BFZ	Birch Farm	9.09	199	P	Pn	10 17 29.6	+0.5
STKA	Stephens Creek	32.51	260	P	P	10 21 21.3	-0.1
	2.3nm,0.5s,baz=103,slow=10,SNR=12						
ASAR	Alice Springs	41.40	270	P	P	10 22 33.8	-1.9
	1.7nm,0.4s,baz=107,slow=7.2,SNR=40						
WRA	Warramunga Arr	42.55	275	P	P	10 22 42.7	-2.2
	4.0nm,0.3s,baz=112,slow=7.9,SNR=130						
FINES	FINESS Array B	146.13	338	PKP	PKPdf	10 34 19.6	+0.4
	1.5nm,0.7s,baz=45,slow=2.2,SNR=7.8						

*CSEM **03** 10:17:42.7, 67°.61N×30°.56E, h0km, ML2.1, Mining explosion. After HEL*
*HEL **03** 10:17:42.7±0.5, 67°.61N×30°.56E, h0km, ML2.1, Explosion*
*IDC **03** 10:17:43.2±2.1, 67°.60N×30°.87E, h0km, mb1 3.3/5, mb1mx3.0/66, mbtmp3.3/5, ML2.4/5, Error ellipse: s-maj=29.8km s-min=9.4km az=88.0*
ISC 03 10:17:40.2±1.3**, 67°.67N**±0°.04×**30°.74E**±0°.07**, h0**km**, n26,** $\sigma 1^{s}$**13**/36**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRF	Varrio	0.44	280	Pg	Pb	10 17 50.0	-0.8
VRF				Sg	Sg	10 17 54.6	+0.4
VRF	Varrio	0.44	280	PG	Pb	10 17 50.0	-0.8
	baz=103						
VRF				SG	Sg	10 17 54.6	+0.4
SGF	Sodankyl	1.63	264	Pg	Pg	10 18 11.3	-0.2
SGF				Sn	Sn	10 18 31.9	+0.1
SGF	Sodankyl	1.63	264	PG	Pg	10 18 11.3	-0.2
	baz=75						
SGF				SN	Sn	10 18 31.9	+0.1
KU6	Riekki	1.69	192	Pg	Pb	10 18 11.8	-0.3
KU6	Riekki	1.69	192	PG	Pb	10 18 11.8	-0.3
	baz=1.0						
KU6				MSG		10 18 31.2	
	comp=Z,9.0nm,0.2s						
MSF	Maaselka	1.89	202	Pg	Pn	10 18 12.8	-1.0
MSF				Sg	Sn	10 18 38.3	0.0
MSF	Maaselka	1.89	202	PG	Pn	10 18 12.8	-1.0
MSF				SG	Sn	10 18 38.3	0.0
ARCES	ARCESS Array B	2.68	317	Pn	Pb	10 18 28.8	-0.2
	comp=Z,0.7nm,0.3s,baz=136,slow=16,SNR=11						
ARCES				Sn	Sb	10 19 02.3	-0.1
	comp=Z,2.5nm,0.3s,baz=132,slow=29,SNR=12						
ARE0	ARCESS Array S	2.68	317	Pb	Pb	10 18 28.9	-0.1
ARE0	ARCESS Array S	2.68	317	PB	Pb	10 18 28.9	-0.1
	baz=135						
HEF	Hetta	2.76	289	Pg	Pb	10 18 30.8	+0.4
HEF				Sg	Sb	10 19 04.5	-0.2
HEF	Hetta	2.76	289	PG	Pb	10 18 30.8	+0.4
	baz=102						
HEF				MSG		10 19 02.8	
	comp=Z,13nm,0.2s						
HEF				SG	Sb	10 19 04.5	-0.2
TOF	Tornio	2.99	241	MSG		10 19 08.2	
	comp=Z,6.7nm,0.2s						
TOF				SG	Sb	10 19 09.5	-1.9
OUL	Oulu	3.25	219	Sb	Sn	10 19 13.9	+2.3
OUL	Oulu	3.25	219	SB	Sn	10 19 13.9	+2.3
KALU	Kalix	3.45	242	Sg	Sb	10 19 24.5	+0.1
KALU	Kalix	3.45	242	SG	Sb	10 19 24.5	+0.1
KIF	Kilpisjarvi	3.92	295	Pg	Pg	10 18 53.2	-2.0
KIF	Kilpisjarvi	3.92	295	PG	Pg	10 18 53.2	-2.0
OUF	Merijarvi	4.13	219	Pn	Pn	10 18 45.0	+0.6
OUF	Merijarvi	4.13	219	PN	Pn	10 18 45.0	+0.6
FINES	FINESS Array B	6.57	200	Pn	Pn	10 19 19.6	+1.7
	comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=5.7						
FINES				Sn	Sn	10 20 30.4	-3.0
	comp=Z,0.1nm,0.3s,baz=13,slow=25,SNR=3.5						
FINES				Lg	Lg	10 21 05.8	
	comp=Z,0.2nm,0.3s,baz=17,slow=30,SNR=3.1						
HFS	Hagfors	10.62	233	Pn	Pn	10 20 13.1	-0.3
	comp=Z,0.0nm,0.3s,baz=36,slow=14,SNR=5.5						
NOA	NORSAR Array B	10.72	241	Pn	Pn	10 20 16.3	+1.5
	comp=Z,0.1nm,0.3s,baz=5.6,slow=13,SNR=0.8						
SPITS	Spitsbergen Ar	11.31	345	Pn	Pn	10 20 23.9	+1.1
	baz=152,slow=7.5,SNR=3.7						

MEX 03 10:19:58.4±0.5**, 14°.30N**×**93°.40W, h16**km±95km**, MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.41	7	eP	Pn	10 20 19.9	-3.5
PCIG				eS	Sn	10 20 36.1	-5.5
CCIG	Comitan	2.32	32	i P	Pn	10 20 33.7	-2.4
CCIG				i S	Sn	10 21 00.2	-4.2
TGIG		2.48	6	i P	Pn	10 20 35.6	-2.6
TGIG				i S	Sn	10 21 03.5	-4.6

*NIED **03** 10:28:00, 33°.60N×140°.70E, h47km, Mw3.8 Best double couple: $M_0 4.99000\times10^{14}$ NP1:ϕ_s285.00000°, δ19.00000°, λ-151.00000°. NP2:ϕ_s167.00000°, δ81.00000°, λ-74.00000°.*
*IDC **03** 10:28:06.8±3.6, 33°.41N×140°.86E, h34km±29km, mb3.6/12, mb1 3.8/14, mb1mx3.6/70, mbtmp3.9/14, ML3.9/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/62, Error ellipse: s-maj=18.6km s-min=14.2km az=85.0*
*JMA **03** 10:28:07.1±0.1, 33°.60N×140°.73E, h46km, M3.8*
ISC 03 10:28:05.6±1.7**, 33°.49N**±0°.05×**140°.84E**±0°.06**, h26**km±13km**, n36,** $\sigma 1^{s}$**54**/40**, mb3.9**/13**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.93	247	P	Pb	10 28 23.8	+0.6
JHJ2				S	Sb	10 28 35.0	-0.1
JHJ	Hachijo jima 2	0.96	248	Pn	Pb	10 28 23.9	+0.3
	481nm,0.3s,baz=333,slow=19,SNR=93						
JHJ				Sn	Sb	10 28 34.8	-1.0
	3µm,0.3s,baz=59,slow=19,SNR=71						
JHCJ	Hachijojimakas	0.96	245	P	Pn	10 28 24.1	+0.6
JHCJ				S	Sb	10 28 35.4	-0.6
BSO1	Boso 1	1.17	6	P	Pn	10 28 26.1	+0.3
BSO1				eX		10 28 40.4	
BSO3	Boso 3	1.34	348	P	Pn	10 28 28.4	0.0
BSO3				X		10 28 44.5	
BSO4	Boso 4	1.55	345	P	Pn	10 28 31.6	+0.1
BSO4				X		10 28 49.8	
JKO	Kozu shima	1.58	297	P	Pn	10 28 31.7	-0.2
JKO				S	Sn	10 28 49.2	-2.3
JIM2	Oshima 3	1.69	317	P	Pn	10 28 32.8	-0.7
JIM2				S	Sn	10 28 52.0	-2.4
JIZS	Izushimoda	2.04	308	P	Pn	10 28 38.2	0.0
JIZS				S	Sn	10 29 00.9	-1.9
KTJJ	Kamata 2	2.05	315	P	Pn	10 28 37.9	-0.6
KTJJ				S	Sn	10 29 00.2	-3.0
JOD2	Odawara 2	2.29	321	P	Pn	10 28 41.0	-0.7
JOD2				S	Sn	10 29 05.1	-3.9
MJAR	Matsushiro Arr	3.73	325	Pn	Pn	10 29 02.9	+1.3
	5.3nm,0.3s,baz=163,slow=13,SNR=45						
MJAR				Sn	Sn	10 29 45.0	+0.3
	2.9nm,0.3s,baz=179,slow=31,SNR=6.5						
MAT	Matsushiro	3.73	325	P	Pn	10 29 03.0	+1.4
MAT				S	Sn	10 29 43.5	-1.2
JCJ	Chichijima	6.48	169	Pn	Pn	10 29 37.7	-1.6
	4.2nm,0.3s,baz=288,slow=19,SNR=2.1						
JCJ				Sn	Sn	10 30 49.5	-2.9
	2.4nm,0.3s,baz=311,slow=20,SNR=2.9						
JNU	Nakatsue	8.34	270	LR	LR	10 33 12.3	
	comp=Z,66nm,19.7s,baz=52,slow=36						
ASAJ	Asahikawa	10.70	7	Pn	Pn	10 30 35.7	-1.5
	0.4nm,0.3s,baz=180,slow=9.1,SNR=5.0						
ASAJ				Sn	Sn	10 32 27.6	-8.5
	0.2nm,0.3s,baz=45,slow=17,SNR=2.2						
KSRS	Korea Array	11.25	294	Pn	Pn	10 30 48.4	+3.8
	0.1nm,0.3s,baz=103,slow=14,SNR=2.8						
KSRS				LR	LR	10 34 40.5	
	comp=Z,32nm,19.4s,baz=120,slow=35						
H11N2	WAKE ISLAND Hy	26.94	114	T	T	11 02 41.1	
	baz=306,slow=75,SNR=54						
H11N1	WAKE ISLAND Hy	26.94	114	T	T	11 02 35.0	
	baz=306,slow=75,SNR=69						
H11N3	WAKE ISLAND Hy	26.95	114	T	T	11 02 35.9	
	baz=306,slow=75,SNR=68						
H11S3	WAKE ISLAND Hy	27.52	116	T	T	11 03 23.5	
	baz=307,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	27.52	116	T	T	11 03 23.3	
	baz=307,slow=75,SNR=9.6						
H11S2	WAKE ISLAND Hy	27.53	116	T	T	11 03 23.6	
	baz=307,slow=75,SNR=7.8						
ZALV	Zalesovo Beam	44.02	315	P	P	10 36 11.2	+0.4
	0.3nm,0.3s,baz=116,slow=8.5,SNR=2.9						
MKAR	Makanchi Array	45.68	305	P	P	10 36 23.0	-1.2
	0.7nm,0.7s,baz=87,slow=9.6,SNR=6.7						
KDAK	Kodiak Island	50.08	40	P	P	10 36 58.6	+0.5
	18nm,1.0s,baz=256,slow=4.2,SNR=3.3						
BVAR	Borovoye Array	52.65	314	P	P	10 37 19.1	+1.7
	0.2nm,0.3s,baz=96,slow=9.3,SNR=3.4						
ILAR	Eielson Array	52.76	31	P	P	10 37 18.1	+0.1
	0.7nm,0.7s,baz=270,slow=6.9,SNR=11						
WRA	Warramunga Arr	53.49	188	P	P	10 37 23.2	-0.6
	1.2nm,0.3s,baz=4.9,slow=7.6,SNR=36						
ASAR	Alice Springs	57.22	188	P	P	10 37 50.1	-0.5
	0.6nm,0.4s,baz=5.0,slow=6.9,SNR=32						
INK	Inuvik	57.76	26	P	P	10 37 54.6	+0.6
	1.3nm,0.9s,baz=269,slow=6.3,SNR=3.7						
AKTO	Aktyubinsk	60.72	313	P	P	10 38 16.1	+1.3
	0.7nm,0.6s,baz=76,slow=6.5,SNR=3.8						
YKA	Yellowknife Ar	67.11	29	P	P	10 38 56.8	+0.2
	0.2nm,0.5s,baz=300,slow=6.2,SNR=4.1						
FINES	FINESS Array B	71.73	333	P	P	10 39 24.5	-0.6
	1.0nm,0.8s,baz=41,slow=4.4,SNR=3.1						
AKASG	Malin Array Be	76.81	323	P	P	10 39 56.5	+1.6
	0.2nm,0.3s,baz=48,slow=6.0,SNR=4.2						
HFS	Hagfors	77.12	336	P	P	10 39 56.3	-0.2
	2.0nm,0.9s,baz=60,slow=8.5,SNR=2.5						

*ISCJB **03** 10:30:21.8±1.3, 15°.8S±0°.1×75°.8W±0°.2, h35km, mb3.8/6, Error ellipse: s-maj=30.9km s-min=10.3km az=143.2*
*IDC **03** 10:30:31.5±7.2, 14°.93S×75°.23W, h71km±31km, mb3.6/6, mb1 3.8/8, mb1mx3.5/43, mbtmp4.0/8, ML4.2/2, Error ellipse: s-maj=166.9km s-min=20.3km az=31.0*
ISC 03 10:30:23.7±1.5**, 15°.8S**±0°.2×**75°.9W**±0°.2**, h35**km**, n15,** $\sigma 1^{s}$**10**/10**, mb4.0**/6**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	3.90	346	P	Pn	10 31 21.1	-0.2
	10.0nm,0.3s,baz=125,slow=10,SNR=19						
NNA				S	Sn	10 32 05.9	0.0
	7.4nm,0.3s,baz=238,slow=21,SNR=7.1						
LPAZ	La Paz	7.44	95	P	Pn	10 32 11.4	+1.0
	5.2nm,0.3s,baz=274,slow=9.1,SNR=90						
TXAR	Lajitas Array	52.29	329	P	P	10 39 33.7	+1.7
	0.4nm,0.7s,baz=143,slow=12,SNR=2.6						
ULM	Lac du Bonnet	68.08	346	P	P	10 41 18.7	-1.0
	0.6nm,0.5s,baz=135,slow=5.7,SNR=3.1						
DBIC	Dimbokro	73.73	78	P	P	10 41 53.0	-1.8
	1.6nm,0.8s,baz=259,slow=6.2,SNR=3.6						
KOWA	Kowa	77.09	71	P	P	10 42 13.9	-0.1
	1.9nm,0.6s,baz=244,slow=6.2,SNR=7.3						
TORD	Torodi Ar. Bea	81.89	74	P	P	10 42 39.8	-0.4
	1.8nm,0.7s,baz=261,slow=4.6,SNR=12						
YKA	Yellowknife Ar	83.74	343	P	P	10 42 48.5	-0.2
	0.2nm,0.7s,baz=138,slow=5.1,SNR=3.9						
H11N3	WAKE ISLAND Hy	120.39	284	T	T	13 01 28.4	
	baz=98						
H11N2	WAKE ISLAND Hy	120.40	284	T	T	13 01 25.5	
	baz=98						
H11N1	WAKE ISLAND Hy	120.40	284	T	T	13 01 35.1	
	baz=98						
H11S2	WAKE ISLAND Hy	120.42	282	T	T	13 01 15.2	
	baz=99						
H11S1	WAKE ISLAND Hy	120.42	282	T	T	13 01 45.5	
	baz=99						
H11S3	WAKE ISLAND Hy	120.44	282	T	T	13 01 09.2	
	baz=99						
SONM	Songino Array	148.00	357	PKPbc	PKPbc	10 50 06.0	+0.4
	1.3nm,0.8s,baz=335,slow=1.1,SNR=6.9						

*ISCJB **03** 10:40:33.3±0.6, 6°.86N±0°.09×126°.5E±0°.1, h200km, mb3.7/14, Error ellipse: s-maj=15.0km s-min=11.4km az=30.7*
*IDC **03** 10:40:34.5±0.8, 6°.90N×126°.50E, h195km±5km, mb3.6/14, mb1 3.7/14, mb1mx3.4/60, mbtmp4.1/14, Error ellipse: s-maj=22.1km s-min=12.8km az=73.0*
ISC 03 10:40:34.7±0.8**, 6°.9N**±0°.1×**126°.4E**±0°.1**, h200**km**, n17,** $\sigma 0^{s}$**77**/19**, mb4.0**/14**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.85	285	P	Pn	10 41 03.2	-0.2
	50nm,0.3s,baz=85,slow=1.1,SNR=7.3						
DAV				S	Sn	10 41 25.8	+0.1
	82nm,0.3s,baz=286,slow=23,SNR=9.1						
GSPH	General Santos	1.63	243	⇓ i P	Pn	10 41 09.1	-0.6
GSPH				i S	Sn	10 41 36.1	-0.8
PSI	Prapat	27.67	263	P	P	10 46 04.7	+0.2
	2.1nm,0.4s,baz=131,slow=6.5,SNR=3.7						
WRA	Warramunga Arr	27.74	164	P	P	10 46 06.4	+1.5
	0.5nm,1.1s,baz=342,slow=8.7,SNR=2.9						
ASAR	Alice Springs	31.20	167	P	P	10 46 35.6	+0.2
	0.2nm,0.4s,baz=342,slow=7.1,SNR=12						
ASAJ	Asahikawa	39.74	18	P	P	10 47 47.6	-0.2
	4.6nm,0.9s,baz=170,slow=6.1,SNR=4.7						
SONM	Songino Array	44.26	341	P	P	10 48 24.4	-0.1
	0.2nm,0.3s,baz=168,slow=7.4,SNR=3.0						
MKAR	Makanchi Array	54.84	324	P	P	10 49 45.3	+1.1
	1.3nm,0.5s,baz=119,slow=7.4,SNR=21						
ZALV	Zalesovo Beam	57.69	332	P	P	10 50 04.3	+0.1
	1.4nm,0.4s,baz=126,slow=7.5,SNR=6.9						
BVAR	Borovoye Array	64.55	326	P	P	10 50 51.6	+1.2
	1.8nm,0.7s,baz=116,slow=6.8,SNR=7.4						
AKTO	Aktyubinsk	71.04	321	P	P	10 51 31.8	+0.9
	0.6nm,0.6s,baz=114,slow=10.0,SNR=3.1						
ARU	Arti	72.15	327	P	P	10 51 37.7	+0.3
	2.6nm,0.4s,baz=86,slow=14,SNR=5.7						
ILAR	Eielson Array	82.45	26	P	P	10 52 33.1	-1.3
	0.5nm,0.6s,baz=244,slow=5.2,SNR=12						
ARCES	ARCESS Array B	87.43	340	P	P	10 52 58.7	-0.4
	13nm,1.2s,baz=76,slow=5.6,SNR=7.3						
FINES	FINESS Array B	88.95	332	P	P	10 53 05.9	-0.4
	4.5nm,1.1s,baz=106,slow=4.6,SNR=3.3						
YKA	Yellowknife Ar	96.81	24	P	P	10 53 42.2	-0.3
	0.3nm,0.7s,baz=302,slow=4.7,SNR=6.3						
TORD	Torodi Ar. Bea	121.60	290	PKP	PKPdf	10 59 06.1	+0.5
	0.1nm,0.4s,baz=48,slow=2.1,SNR=3.0						

*IDC **03** 10:53:58.6±2.4, 22°.36S×176°.33W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/40, mbtmp4.0/5, Error ellipse: s-maj=132.7km s-min=26.6km az=147.0*
*ISCJB **03** 10:54:02.2±1.9, 22°.6S±0°.4×176°.4W±0°.3, h35km, mb4.3/10, Error ellipse: s-maj=61.4km s-min=24.7km az=151.3*
*NEIC **03** 10:54:04.5±6.3, 22°.47S×176°.38W, h42km±45km, mb4.2/4, Error ellipse: s-maj=61.0km s-min=20.6km az=138.0*
ISC 03 10:54:03.9±1.5**, 22°.4S**±0°.5×**176°.4W**±0°.2**, h35**km**, n18,** $\sigma 0^{s}$**65**/19**, mb4.3**/10**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.93	268	ePn	Pn	10 57 45.6	+0.1
	8.0nm,1.3s						
ARMA	Armidale	29.68	248	eP	P	11 00 05.0	-1.6
	41nm,1.7s						
EIDS	Eidsvold	29.87	258	eP	P	11 00 07.9	-0.3
	5.4nm,0.9s						
CTAO	Charters Tower	34.86	267	eP	P	11 00 52.6	+0.5
	13nm,0.4s						
STKA	Stephens Creek	38.38	247	P	P	11 01 22.6	+0.8
	1.0nm,0.5s,baz=67,slow=10,SNR=4.4						
COEN	Coen	39.26	275	eP	P	11 01 29.1	-0.2
	2.8nm,0.8s						
ASAR	Alice Springs	45.60	258	P	P	11 02 21.4	+0.4
	2.1nm,0.5s,baz=104,slow=7.1,SNR=49						
ASAR				PcP	PcP	11 03 58.9	-0.2
	0.5nm,0.6s,baz=102,slow=3.2,SNR=4.1						
WRAB	Tennant Creek	45.87	264	eP	P	11 02 22.5	-0.6
	2.0nm,0.5s						
WRA	Warramunga Arr	45.88	264	P	P	11 02 22.6	-0.5
	1.7nm,0.6s,baz=96,slow=8.4,SNR=36						
WRA				PcP	PcP	11 04 00.1	0.0
	0.1nm,0.3s,baz=92,slow=3.2,SNR=3.0						
FITZ	Fitzroy Crossi	54.30	263	P	P	11 03 27.6	+0.5
	1.6nm,0.5s,baz=108,slow=16,SNR=7.1						
ILAR	Eielson Array	89.86	12	P	P	11 06 59.1	+0.6
	0.2nm,0.3s,baz=219,slow=5.4,SNR=8.4						
MKAR	Makanchi Array	113.62	313	PKiKP	PKiKP	11 12 38.2	-0.2
	0.1nm,0.3s,baz=116,slow=3.4,SNR=2.3						
ARCES	ARCESS Array B	131.08	350	PKP	PKPdf	11 13 11.2	0.0
	4.3nm,1.0s,baz=61,slow=1.6,SNR=9.0						
HFS	Hagfors	141.66	352	PKhKP	PKPpre	11 13 26.1	
	2.3nm,0.9s,baz=28,slow=3.7,SNR=9.0						
AKASG	Malin Array Be	145.43	331	PKPbc	PKPdf	11 13 36.9	-1.1
	1.0nm,0.4s,baz=43,slow=4.4,SNR=9.4						
BRTR	Keskin Array B	149.26	311	PKPbc	PKPbc	11 13 48.6	-0.6
	1.1nm,0.8s,baz=134,slow=5.6,SNR=3.0						
MMAI	Mount Meron Ar	150.07	298	PKPbc	PKPbc	11 13 51.6	+0.3
	0.9nm,0.4s,baz=69,slow=7.9,SNR=2.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GERES	GERESS Array B	152.45	346	PKPbc	PKPbc	11 13 56.5	+0.1
	0.2nm,0.3s,baz=19,slow=4.5,SNR=4.5						

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*SJA **03** 11:01:44.7±0.8, 30.°33S×71.°71W, h41^{km}±27^{km}, ML5.3, MW5.6*

*ISCJB **03** 11:01:45.6±0.1, 30.°30S±0.°02×71.°25W±0.°04, h49^{km}, mb5.5/140, MS4.9/27, Error ellipse: s-maj=4.6km s-min=2.8km az=171.8*

*MOS **03** 11:01:45.9±0.9, 30.°24S×71.°22W, h46^{km}, mb5.5/38, MS4.7/4, Error ellipse: s-maj=13.8km s-min=6.1km az=106.8*

*NEIC **03** 11:01:47.2±0.1, 30.°35S×71.°13W, mb5.5/112, ML5.6(GUC), Error ellipse: s-maj=4.9km s-min=3.1km az=73.0*

NEIC Felt [V] at Coquimbo, La Serena, Monte Patria and Ovalle; [IV] at La Higuera; [III] at Alto del Carmen, Copiapo, Punitaqui, Tierra Amarilla, Vallenar and Vicuna; [II] at Los Vilos, Petorca and Santiago. Also felt at Colina, Quillota, Valparaiso and Vina del Mar.

*GCMT **03** 11:01:47.2±0.2, 30.°48S×71.°55W, h66^{km}±1^{km}, MW5.2/95, Moment Tensor Solution. s90,c124; s95,c135; Duration: 1.°0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.65±.02; $M_{\theta\theta}$0.03±.02; $M_{\phi\phi}$-0.67±.02; $M_{r\theta}$0.02±.01; $M_{\theta\phi}$-0.00±.02; $M_{\phi r}$0.64±.02; Best double couple: $M_0$0.91900×10^{17} NP1:ϕ_s1.00000°, δ67.00000°, λ91.00000°. NP2:ϕ_s179.00000°, δ23.00000°, λ88.00000°. Principal axes: T 0.9060, Plg68.0000°, Azm273.0000°; N 0.0260, Plg1.0000°, Azm181.0000°; P -0.9320, Plg22.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **03** 11:01:48.0±2.3, 30.°38S×71.°25W, h57^{km}±20^{km}, mb4.8/22, mb1 4.9/26, mb1mx4.8/32, mbtmp5.1/26, ML4.6/4, MS4.6/19, Ms1 4.6/19, ms1mx4.4/26 Error ellipse: s-maj=15.2km s-min=10.3km az=73.0*

*GUC **03** 11:01:47.5±0.7, 30.°19S×71.°45W, h35^{km}±4^{km}, ML5.6*

ISC 03 11:01:45.2±0.3, **30.°41S**±0.°02×**71.°32W**±0.°04, **h33**^{km}±1^{km}, **n1059**, σ**1.°07**/1160, **mb5.6**/140, **MS4.8**/27, **17C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.51	62	eP	Pn	11 01 58.9	+2.5
TLL				eS	Sn	11 02 07.9	+3.8
TLL				IAML		11 02 08.6	
	comp=E,372µm,0.4s						
GO04	Tololo Observa	0.51	62	⇑iP	Pn	11 01 59.0	+2.6
GO04				eS	Sn	11 02 07.5	+3.4
GO04				IAML		11 02 08.3	
	comp=E,898µm,0.4s						
LCO	Las Campanas	1.50	21	ePn	Pb	11 02 11.2	-1.4
LCO				eSn	Sn	11 02 29.1	+0.7
LCO	Las Campanas	1.50	21	P	Pn	11 02 10.8	+0.9
LCO				S	Sn	11 02 29.1	+0.7
LCO	Las Campanas	1.50	21	iP	Pb	11 02 11.7	-0.9
LCO	Las Campanas	1.50	21	⇑iP	Pb	11 02 11.4	-1.1
LCO				eS	Sn	11 02 29.3	+0.9
LCO				IAML		11 02 35.1	
	comp=E,92µm,0.6s						
VACH	Vallenar	1.89	15	eP	Pb	11 02 24.4	+5.3
VACH				eS	Sb	11 02 46.6	+4.2
RTLS	Leoncito	2.22	129	iP	Pb	11 02 26.1	+1.3
RTLS				IAML		11 02 57.8	
	comp=Z,14µm,0.7s						
AUSP	Uspallata	2.45	138	iP	Pb	11 02 28.9	+0.2
AMOG	MOGNA	2.49	103	iP	Pb	11 02 29.7	+0.4
ZON	Zonda	2.54	117	⇓iP	Pb	11 02 30.1	+0.1
SJA	San Juan	2.62	116	iP	Pb	11 02 31.3	-0.1
AGUA	GUANDACOL	2.62	70	iP	Pb	11 02 31.4	-0.1
RTCV	Cerro Valdivia	2.79	122	iP	Pb	11 02 33.4	-1.0
GO03	Copiap	2.96	19	⇑iP	Pn	11 02 31.4	+1.4
GO03				iS	Sn	11 03 05.1	+0.7
GO03				IAML		11 03 14.2	
	comp=E,43µm,0.7s						
FCH	Farellones	3.04	164	eP	Pb	11 02 36.7	-2.1
FCH				eS	Sb	11 03 15.5	0.0
CLCH	Cerro Calan	3.05	168	⇑iP	Pb	11 02 35.5	-3.3
CLCH				iS	Sb	11 03 15.0	-0.6
CLCH				IAML		11 03 28.9	
	comp=N,43µm,0.8s						
CPCH	Copiapo	3.16	16	eP	Pn	11 02 34.3	+1.7
CPCH				eS	Sb	11 03 15.6	-3.1
VCA	Vinchina	3.19	59	iP	Pb	11 02 38.8	-2.3
VCA				iS	Sb	11 03 17.9	-1.8
ANTU	Antumapu	3.20	170	eP	Pb	11 02 37.9	-3.5
ANTU				iS	Sb	11 03 16.9	-3.1
LMEL	Las Melosas	3.56	165	⇑iP	Pb	11 02 43.5	-4.0
LMEL				iS	Sb	11 03 26.8	-3.5
CHPI	Pichilemu	4.01	188	eP	Pn	11 02 45.0	+0.7
NICH	Los Niches	4.58	179	eP	Pn	11 02 55.7	+3.6
NICH				iS	Sn	11 03 47.2	+3.0
GO05	HualaæØ	4.62	186	ePn	Pn	11 02 54.0	+1.4
PB10	IPOC Station P	6.90	6	ePn	Pn	11 03 21.2	-2.9
PB04	IPOC Station P	8.11	8	ePn	Pn	11 03 37.2	-3.6
PB01	IPOC Station P	9.47	10	ePn	Pn	11 03 57.0	-2.4
PLCA	Paso Flores	10.32	177	P	Pn	11 04 13.2	+2.3
	comp=N,0.6nm,0.3s,baz=3.7,slow=12,SNR=27						
PLCA				S	Sn	11 06 09.8	+4.3
	comp=N,1.1nm,0.3s,baz=34,slow=17,SNR=1.8						
PB11	IPOC Station P	10.71	8	ePn	Pn	11 04 20.6	+4.1
TRQA	Tornquist	10.85	137	ePn	Pn	11 04 20.0	+1.8
TRQA				eSn	Sn	11 06 16.4	-2.1
TRQA	Tornquist	10.85	137	P	Pn	11 04 20.6	+2.4
MNMC	Minye Minye	11.34	8	ePn	Pn	11 04 20.9	-4.2
CPUP	Villa Florida	12.97	75	P	Pn	11 04 46.8	-0.4
	comp=N,0.6nm,0.3s,baz=254,slow=11,SNR=15						
CPUP				S	Sn	11 07 11.7	+1.3
	comp=N,1.4nm,0.3s,baz=226,slow=17,SNR=2.0						
CPUP				LR	LR	11 10 16.8	
	comp=N,6µm,20.0s,baz=259,slow=39						
LPAZ	La Paz	14.36	12	P	Pn	11 05 08.3	+1.6
	comp=N,3.9nm,0.3s,baz=178,slow=7.1,SNR=123						
LPAZ				S	Sn	11 07 47.8	+2.7
	baz=197,slow=9.1,SNR=2.3						
LPAZ	La Paz	14.36	12	ePn	Pn	11 05 05.6	-1.1
LPAZ				S	Sn	11 07 47.8	+2.7
CHRN	Cochrane	16.84	183	eP	P	11 05 40.7	+0.6
	comp=N,46nm,1.0s						
NNA	Nana	19.04	343	P	Pn	11 06 05.3	-0.1
	comp=N,1.6nm,0.3s,baz=178,slow=15,SNR=16						
NNA	Nana	19.04	343	eP	Pn	11 06 05.2	-0.3
	comp=N,70nm,0.8s						
NNA	Nana	19.04	343	eP	P	11 06 04.2	-0.4
SPB	Sao Paulo	22.32	78	eP	P	11 06 38.9	-1.1
	comp=N,196nm,1.3s						
SPB				eS	S	11 10 39.6	-3.9
SAML	Samuel	22.67	21	eP	P	11 06 42.5	-1.2
	comp=N,215nm,1.5s						
EFI	East Falkland	23.41	159	eP	P	11 06 51.8	+0.8
	comp=N,132nm,1.1s						
EFI	East Falkland	23.41	159	eP	P	11 06 51.8	+0.8
EFI				pmax	pmax		
	comp=Z,132nm,1.1s						
ATAH	Atahualpa	24.09	343	P	P	11 06 58.4	+0.2
	comp=Z,10nm,1.0s,baz=154,slow=5.4,SNR=8.4						
OTAV	Otavalo	31.23	346	eP	P	11 08 04.1	+1.9
	comp=Z,73nm,1.5s						
PTGA	Pitinga	31.43	22	eP	P	11 08 02.5	-0.9
CMBC	Cumbal	31.79	348	eP	P	11 08 08.7	+1.6
GCUF	Volcan Galeras	31.98	349	eP	P	11 08 10.8	+1.9
FLOC	Florencia	32.08	352	eP	P	11 08 10.4	+1.1
SOTA	Rioblanco	32.76	350	eP	P	11 08 18.0	+2.3
PCON	Cinco Dias	32.91	351	eP	P	11 08 19.5	+2.4
RPN	Rapa Nui	33.38	266	LR	LR	11 18 18.3	
	comp=Z,1µm,18.8s,baz=76,slow=30						
GRGC	Isla de Gorgon	33.86	348	eP	P	11 08 23.9	-0.9
HORQ	Saladito	34.08	351	eP	P	11 08 26.9	-0.1
PRAC	Prado	34.10	354	eP	P	11 08 28.3	+1.4
	comp=Z,133nm,1.0s						
PRAC	Prado	34.10	354	eP	P	11 08 28.1	+1.2
VILC	Villavicencio,	34.40	356	eP	P	11 08 31.0	+1.4
YOTC	Yotoco, Valle	34.54	351	eP	P	11 08 30.7	-0.1
PAYG	Puerto Ayora	34.63	325	eP	P	11 08 33.7	+2.2
	comp=Z,165nm,1.3s						
PMSA	Palmer Station	34.68	175	eP	P	11 08 32.2	+0.9
	comp=Z,129nm,1.3s						
CHIC	Chingaza	34.92	356	eP	P	11 08 34.9	+0.5
ANIL	Santa Ana	34.92	353	eP	P	11 08 34.9	+0.6
TOLC	Tolima	35.01	353	eP	P	11 08 37.2	+2.2
ROSC	El Rosal	35.17	355	P	P	11 08 38.5	+2.0
	comp=Z,33nm,0.9s,baz=156,slow=6.7,SNR=12						
ROSC	El Rosal	35.17	355	eP	P	11 08 38.5	+2.0
	comp=Z,39nm,1.0s						
ROSC	El Rosal	35.17	355	eP	P	11 08 39.6	+3.1
RREF	El Recreo	35.32	353	eP	P	11 08 40.4	+2.3
PLMC	San Jos˜' del	35.44	351	eP	P	11 08 37.9	-0.6
NORC	Norcasia	35.93	354	eP	P	11 08 44.0	+1.3
RUSC	La Rusia	36.14	357	eP	P	11 08 45.9	+1.0
	comp=Z,116nm,1.1s						
RUSC	La Rusia	36.14	357	eP	P	11 08 45.2	+0.3
HELC	Santa Helena	36.62	353	eP	P	11 08 49.2	+0.3
	comp=Z,197nm,1.1s						
HELC	Santa Helena	36.62	353	eP	P	11 08 49.3	+0.4
BARC	Barichara	36.84	357	eP	P	11 08 49.3	-1.3
PTBC	PUERTO BERRIO,	36.86	355	eP	P	11 08 48.3	-2.3
ZARC	Zaragoza, Cauc	37.84	354	eP	P	11 08 58.4	-0.5
SDV	Santo Domingo	39.08	1	P	P	11 09 08.7	-0.8
	comp=Z,43nm,1.0s,baz=210,slow=8.9,SNR=17						
SDV				LR	LR	11 27 44.9	
	comp=Z,522nm,19.2s,baz=214,slow=40						
SDV	Santo Domingo	39.08	1	eP	P	11 09 08.4	-1.0
	comp=Z,44nm,0.9s						
MOTC	Monteria, Cord	39.19	353	eP	P	11 09 09.5	-0.6
CODC	Agustˆ›n Codaz	40.16	357	eP	P	11 09 16.4	-1.9
PCRV	Puerto La Cruz	40.86	10	P	P	11 09 23.5	-0.6
	comp=Z,26nm,1.0s,baz=137,slow=2.8,SNR=5.7						
PCRV				LR	LR	11 29 51.3	
	comp=Z,1µm,19.1s,baz=180,slow=41						
JTS	JuntasAbangare	42.54	340	P	P	11 09 38.8	+1.0
	comp=Z,23nm,0.8s,baz=196,slow=9.3,SNR=19						
JTS	JuntasAbangare	42.54	340	eP	P	11 09 38.1	+0.3
	comp=Z,23nm,0.8s						
SKI	Saint Kitts	48.18	11	eP	P	11 10 21.3	-1.2
	comp=Z,500nm,0.9s						
SKI	Saint Kitts	48.18	11	eP	P	11 10 21.3	-1.2
SKI				pmax	pmax		
	comp=Z,500nm,0.9s						
SJG	San Juan	48.50	7	eP	P	11 10 23.3	-1.6
	comp=Z,113nm,1.1s						
SJG	San Juan	48.50	7	eP	P	11 10 23.3	-1.6
SJG				pmax	pmax		
	comp=Z,113nm,1.1s						
MPR	Mayaguez	48.51	5	eP	P	11 10 24.0	-0.9
	comp=Z,119nm,1.1s						
MTP	Monte Pirata	48.55	7	eP	P	11 10 23.1	-2.2
	comp=Z,89nm,1.2s						
HUMP	Col San Antoni	48.56	7	eP	P	11 10 23.1	-2.2
	comp=Z,78nm,1.2s						
CBYP	Canovanas	48.69	7	eP	P	11 10 24.9	-1.5
	comp=Z,196nm,1.1s						
SDDR	Presa de Saban	49.11	0	eP	P	11 10 27.8	-1.8
	comp=Z,24nm,0.8s						
GTBY	Guantanamo Bay	50.18	355	eP	P	11 10 37.7	0.0
	comp=Z,99nm,0.9s						
VNA3	Neumayer Olymp	52.46	159	P	P	11 10 55.5	+1.2
VNA1	Neumayer--Stat	52.75	158	P	P	11 10 55.9	-0.5
VNA2	Neumayer--Watz	53.09	158	P	P	11 10 59.9	+0.9
	baz=290,slow=8.1						
SNAA	Sanae	54.69	159	P	P	11 11 11.3	+0.6
SNAA	Sanae	54.69	159	P	P	11 11 11.2	+0.6
	comp=Z,33nm,1.1s,baz=274,slow=7.3,SNR=29						
SNAA				LR	LR	11 34 44.3	
	comp=Z,420nm,19.4s,baz=308,slow=36						
SNAA	Sanae	54.69	159	eP	P	11 11 11.3	+0.6
SNAA				epP	sP	11 11 25.1	+0.5
SNAA	Sanae	54.69	159	c iP	P	11 11 11.1	+0.4
RKT	Rikitea	56.66	261	eLR	LR	11 28 09.0	
	comp=Z,1µm,28.8s						
RKT	Rikitea	56.66	261	eT	T	12 12 16.0	
	comp=Z,11nm,0.2s						
JRQG	Juriquilla Cam	58.03	328	eP	P	11 11 35.4	+0.2
	comp=Z,65nm,1.0s						
JRQG				epP	sP	11 11 50.3	+1.1
NVL	N'lazarevskaya	59.38	158	eP	P	11 11 45.0	+1.3
NVL				pmax	pmax		
	comp=Z,67nm,1.9s						
QSPA	South Pole Qui	59.81	180	eP	P	11 11 48.1	+1.1
	comp=Z,318nm,1.0s						
QSPA				epP	sP	11 12 02.2	+1.1
QSPA				ePcP	PcP	11 12 33.9	+0.5
757A	Oxford	59.91	349	P	P	11 11 47.7	-0.1
	baz=169						
658A	Bunnell	60.25	350	P	P	11 11 49.5	-0.6
	baz=170						
656A	Willston	60.40	349	P	P	11 11 50.5	-0.7
	baz=169						
657A	Interlachen	60.50	349	P	P	11 11 51.5	-0.3
	baz=169						
ZAIG	Zacatecas	60.80	327	eP	P	11 11 55.4	+1.0
	comp=Z,27nm,1.2s						
ZAIG				epP	sP	11 12 09.4	+0.9
557A	Orange Park	60.90	350	P	P	11 11 54.3	-0.3
	baz=170						
556A	Lake Butler	61.00	349	P	P	11 11 55.1	-0.2
	baz=169						
555A	McAlpin	61.21	348	P	P	11 11 56.5	-0.1
	baz=168,SNR=5.6						
LNIG	Linares	61.26	331	eP	P	11 11 57.0	-0.1
	comp=Z,24nm,1.1s						
LNIG				epP	sP	11 12 10.8	-0.4
554A	Perry	61.30	348	P	P	11 11 56.7	-0.6
	baz=168						
553A	Crawfordville	61.54	347	P	P	11 11 59.0	+0.1
	baz=167						
456A	Hilliard	61.65	350	P	P	11 12 00.0	+0.4
	baz=169						
455A	Stateville	61.83	349	P	P	11 12 00.8	0.0
	baz=168						
454A	Quitman	61.91	348	P	P	11 12 01.1	-0.2
	baz=168,SNR=5.6						
453A	Whigham	62.17	347	P	P	11 12 03.1	0.0
	baz=167,SNR=5.3						
TIGA	Tifton	62.60	348	P	P	11 12 05.8	-0.2
	baz=168						
TIGA	Tifton	62.60	348	eP	P	11 12 05.7	-0.4
	comp=Z,93nm,1.3s						
351A	Pinckard	62.83	346	P	P	11 12 07.3	-0.3
	baz=166,SNR=6.9						
BRAL	Brewton	63.04	345	P	P	11 12 09.1	+0.2
	baz=165						
350A	Dozier	63.12	346	P	P	11 12 09.4	-0.1
	baz=165						
446A	Poplarville	63.24	343	P	P	11 12 11.3	+1.0
	baz=162						
349A	Repton	63.25	345	P	P	11 12 10.6	+0.3
	baz=164,SNR=5.1						
445A	Amite	63.44	342	P	P	11 12 13.2	+1.6
	baz=162						
348A	Jackson	63.47	344	P	P	11 12 11.8	+0.1
	baz=164						
444A	Pine Grove	63.53	341	P	P	11 12 13.3	+1.1
	baz=161						
251A	Midway	63.58	347	P	P	11 12 11.7	-0.8
	baz=166,SNR=18						
347A	Saraland	63.61	344	P	P	11 12 12.9	+0.2
	baz=163,SNR=5.2						
250A	Grady	63.65	346	P	P	11 12 12.3	-0.7
	baz=166,SNR=5.8						
NHSC	New Hope	63.73	352	P	P	11 12 14.5	+1.1
	baz=171						
NHSC	New Hope	63.73	352	eP	P	11 12 13.9	+0.4
NHSC				epP	sP	11 12 27.1	-0.4
346A	Big Creek Wild	63.83	343	P	P	11 12 14.4	+0.3
	baz=162,SNR=7.9						
249A	Camden	63.83	345	P	P	11 12 14.4	+0.3
	baz=165,SNR=8.2						
443A	Delano Plantat	63.87	340	P	P	11 12 15.1	+0.6
	baz=160						
345A	Thompson Farm,	63.90	342	P	P	11 12 15.0	+0.4
	baz=162,SNR=5.9						
151A	Opelika	63.99	347	P	P	11 12 14.4	-0.8
	baz=166,SNR=12						
248A	Dixon Mills	64.08	345	P	P	11 12 15.9	+0.1
	baz=164,SNR=6.2						
150A	Eclectic	64.20	346	P	P	11 12 16.2	-0.4
	baz=166,SNR=10						
344A	Westbrook Farm	64.23	342	P	P	11 12 17.5	+0.7
	baz=161,SNR=11						
247A	Quitman	64.25	344	P	P	11 12 18.6	+1.7
	baz=163						
833A	Chaparral WMA,	64.26	333	P	P	11 12 17.8	+0.7
	baz=153,SNR=26						
149A	Jones	64.36	346	P	P	11 12 17.0	-0.6
	baz=165,SNR=7.6						
HKT	Hockley	64.41	336	eP	P	11 12 15.4	-2.5
HKT				epP	sP	11 12 32.5	+0.5
HKT	Hockley	64.41	336	eP	P	11 12 15.4	-2.5
HKT				e*PP	sP	11 12 32.5	+0.5
GOGA	Godfrey	64.51	349	P	P	11 12 17.9	-0.6
	baz=168,SNR=5.0						
GOGA	Godfrey	64.51	349	eP	P	11 12 18.0	-0.6
	comp=Z,70nm,1.6s						
GOGA	Godfrey	64.51	349	eP	P	11 12 18.0	-0.6
GOGA				pmax	pmax		
	comp=Z,70nm,1.6s						
245A	Little AP, Sta	64.55	343	P	P	11 12 19.1	+0.2
	baz=162,SNR=21						
148A	Greensboro	64.58	345	P	P	11 12 18.6	-0.5
	baz=164,SNR=7.4						
342A	Flagon Creek P	64.60	340	P	P	11 12 20.1	+0.9
	baz=160,SNR=6.3						
147A	Livingston	64.76	344	P	P	11 12 19.8	-0.4
	baz=164						
244A	Avery, Jackson	64.77	342	P	P	11 12 20.6	+0.3
	baz=161,SNR=22						
Z50A	Ashland	64.81	346	P	P	11 12 20.1	-0.5
	baz=166,SNR=16						
341A	Kurthwood	64.82	339	P	P	11 12 21.1	+0.5
	baz=159,SNR=6.9						
LRAL	Lakeview Retre	64.82	345	P	P	11 12 20.0	-0.6
	baz=165,SNR=8.8						
LRAL	Lakeview Retre	64.82	345	eP	P	11 12 19.8	-0.9
LRAL				epP	sP	11 12 33.6	-1.1
Z49A	Columbiana	64.88	346	P	P	11 12 20.1	-0.9
	baz=165,SNR=11						
VBMS	Vicksburg	64.89	342	P	P	11 12 21.7	+0.6
	baz=162,SNR=7.6						
VBMS	Vicksburg	64.89	342	eP	P	11 12 21.7	+0.6
VBMS				epP	sP	11 12 35.5	+0.3
146A	Union	64.92	344	P	P	11 12 21.3	+0.1
	baz=163,SNR=6.7						
JSC	Jenkinsville	65.03	351	eP	P	11 12 21.6	-0.3
	comp=Z,27nm,1.0s						
JSC	Jenkinsville	65.03	351	eP	P	11 12 21.6	-0.3
JSC				pmax	pmax		
	comp=Z,27nm,1.0s						
145A	Houston Renfro	65.11	343	P	P	11 12 23.3	+0.9
	baz=162						
242A	Grayson	65.20	341	P	P	11 12 23.6	+0.6
	baz=160,SNR=17						
Z47A	Carrollton	65.22	345	P	P	11 12 22.7	-0.5
	baz=164,SNR=11						
144A	Alexander Plac	65.26	342	P	P	11 12 23.0	-0.5
	baz=162						
Z48A	Northport	65.28	345	P	P	11 12 23.2	-0.4
	baz=164,SNR=9.5						
241A	Mo Tay, Goldon	65.39	340	P	P	11 12 26.2	+1.9
	baz=159						
Y50A	Piedmont	65.39	347	P	P	11 12 23.6	-0.7
	baz=166,SNR=12						
Z46A	Louisville	65.42	344	P	P	11 12 25.2	+0.7
	baz=163,SNR=7.6						
Y49A	Blount Mountai	65.49	346	P	P	11 12 24.0	-1.0
	baz=166,SNR=5.5						
143A	Socs Landing,	65.59	341	P	P	11 12 26.4	+0.8
	baz=161,SNR=9.2						
CNNC	Cliffs of the	65.59	354	P	P	11 12 25.9	+0.4
	baz=174,SNR=6.4						
CNNC	Cliffs of the	65.59	354	eP	P	11 12 25.3	-0.2
CNNC				epP	sP	11 12 39.3	-0.4
142A	Monroe	65.60	341	P	P	11 12 26.5	+0.9
	baz=160						
240A	Hunter Patters	65.66	339	P	P	11 12 26.8	+0.7
	baz=159						
NATX	Nacogdoches	65.68	338	P	P	11 12 27.1	+0.9
	baz=158						
NATX	Nacogdoches	65.68	338	eP	P	11 12 26.8	+0.6
Y48A	Jasper	65.71	346	P	P	11 12 25.4	-1.0
	baz=165,SNR=6.5						
Z45A	Winona	65.77	343	P	P	11 12 27.4	+0.7
	baz=162,SNR=9.4						
435B	Jarrell	65.78	335	P	P	11 12 27.6	+0.7
	baz=155,SNR=7.7						
HPIG		65.81	326	eP	P	11 12 28.0	+0.6
	comp=Z,65nm,1.2s						
Y47A	UCPARC, Winfie	65.85	345	P	P	11 12 26.8	-0.4
	baz=164,SNR=27						
LPIG	La Paz	65.85	321	LR	LR	11 35 44.2	
	comp=Z,86nm,21.2s,baz=84,slow=31						
Z44A	Pea Ridge, Bel	65.87	343	P	P	11 12 27.9	+0.5
	baz=162,SNR=7.9						
KMSC	Kings Mountain	65.88	351	P	P	11 12 26.7	-0.7
	baz=170,SNR=7.6						
KMSC	Kings Mountain	65.88	351	eP	P	11 12 27.2	-0.2
	comp=Z,51nm,1.2s						
141A	Papa Simpson,	65.92	340	P	P	11 12 28.4	+0.6
	baz=160						
X50A	Fort Payne	65.92	347	P	P	11 12 26.9	-0.9
	baz=166,SNR=10						
BG3	Lake Jocassee	65.97	350	eP	P	11 12 28.1	0.0
	comp=Z,55nm,1.2s						
Y46A	Houston	66.06	344	P	P	11 12 28.1	-0.5
	baz=163,SNR=8.2						
X49A	Woodville	66.11	346	P	P	11 12 28.3	-0.7
	baz=166,SNR=6.4						
140A	Cam and Jess,	66.16	340	P	P	11 12 30.0	+0.8
	baz=159						
X48A	Hartselle	66.20	346	P	P	11 12 28.9	-0.6
	baz=165,SNR=25						
Y45A	Yeager Farm, C	66.21	343	P	P	11 12 29.7	+0.1
	baz=163,SNR=16						
Z42A	Norrel Spur, H	66.28	341	P	P	11 12 30.0	-0.1
	baz=160						
JCT	Junction City	66.34	333	P	P	11 12 30.6	+0.1
	baz=153,SNR=27						
X47A	Russelville	66.44	345	P	P	11 12 30.3	-0.8
	baz=164,SNR=21						
Y44A	Strider, Charl	66.47	343	P	P	11 12 30.8	-0.4
	baz=162						
Z41A	Richland Creek	66.51	340	P	P	11 12 31.8	+0.4
	baz=160,SNR=6.9						
Y43A	Makayla and Ka	66.61	342	P	P	11 12 32.4	+0.3
	baz=162,SNR=8.1						
X46A	Booneville	66.64	345	P	P	11 12 32.6	+0.3
	baz=164						
CPCT	Cooper Cave	66.68	348	eP	P	11 12 32.0	-0.5
	comp=Z,70nm,1.1s						
Z40A	Long Farm, Mag	66.68	340	P	P	11 12 33.1	+0.5
	baz=159						
X45A	UM Field Stati	66.70	344	P	P	11 12 32.1	-0.7
	baz=163,SNR=23						
SWET	Sewanee	66.71	347	eP	P	11 12 32.4	-0.5
	comp=Z,64nm,1.0s						
TKL	Tuckaleechee C	66.75	349	P	P	11 12 32.5	-0.6
	comp=Z,27nm,0.9s,baz=164,slow=8.0,SNR=17						
TKL	Tuckaleechee C	66.75	349	eP	P	11 12 32.2	-0.8
	comp=Z,98nm,1.4s						
Y42A	Garnett, Star	66.76	342	P	P	11 12 32.9	-0.2
	baz=161						
OXF	Oxford	66.79	344	P	P	11 12 32.5	-0.8
	baz=163,SNR=19						
OXF	Oxford	66.79	344	eP	P	11 12 32.6	-0.7
	comp=Z,198nm,1.1s						
OXF	Oxford	66.79	344	eP	P	11 12 32.6	-0.7
OXF				pmax	pmax		
	comp=Z,198nm,1.1s						
WHTX	Lake Whitney,	66.83	336	P	P	11 12 33.7	+0.2
	baz=156,SNR=10						
WHTX	Lake Whitney,	66.83	336	eP	P	11 12 33.8	+0.2
WHTX				epP	sP	11 12 47.8	0.0
W48A	Pulaski	66.84	346	P	P	11 12 33.0	-0.6
	baz=165,SNR=11						
PLAL	Pickwick Lake	66.93	345	eP	P	11 12 33.4	-0.8
	comp=Z,48nm,1.1s						
TX31	Lajitas Ar. Si	66.93	329	eP	P	11 12 34.7	+0.3
TXAR	Lajitas Array	66.93	329	P	P	11 12 34.7	+0.2
	comp=Z,10nm,0.9s,baz=145,slow=9.0,SNR=42						
TXAR				LR	LR	11 37 11.7	
	comp=Z,395nm,20.6s,baz=0.0,slow=32						
X44A	Crenshaw	66.96	343	P	P	11 12 33.8	-0.6
	baz=162,SNR=10						
WLAR	White Oak Lake	67.00	340	eP	P	11 12 35.6	+1.0
	comp=Z,212nm,1.3s						
Y41A	Eaglette Beard	67.03	341	P	P	11 12 35.3	+0.4
	baz=160,SNR=6.7						
W47A	Westpoint	67.09	346	P	P	11 12 34.4	-0.8
	baz=165,SNR=12						
W46A	Michie	67.15	345	P	P	11 12 35.1	-0.4
	baz=164						
X43A	Marvell	67.17	343	P	P	11 12 35.4	-0.2
	baz=162,SNR=5.4						
TAOE	Nuku Hiva Isla	67.33	273	eS	S	11 21 32.6	+1.6
	comp=Z,169nm,30.7s						
TAOE	Nuku Hiva Isla	67.33	273	eLR	LR	11 32 56.8	

comp=Z,836nm,29.3s,baz=132
Y40A Okolona 67.35 340 P **P** 11 12 36.4 -0.4
baz=159,SNR=9.1
W45A Hickory Valley 67.36 344 P **P** 11 12 36.4 -0.5
baz=163,SNR=7.8
X42A Stuttgart 67.40 342 P **P** 11 12 37.3 +0.2
baz=161
V48A Smith Brothers 67.40 346 P **P** 11 12 36.5 -0.6
baz=165,SNR=23
W44A Shelby Farms P 67.49 344 P **P** 11 12 37.4 -0.3
baz=163
TZTN Tazewell 67.58 349 P **P** 11 12 37.9 -0.5
baz=168,SNR=7.8
TZTN Tazewell 67.58 349 *e*P **P** 11 12 37.9 -0.5
comp=Z,84nm,1.4s
V47A Nunnelly 67.63 346 P **P** 11 12 37.5 -1.0
baz=165,SNR=9.2
W43A Forest City 67.66 343 P **P** 11 12 38.9 +0.1
baz=162
X40A Basin Creek Fa 67.67 341 P **P** 11 12 38.1 -0.8
baz=160
V46A Holladay 67.73 345 P **P** 11 12 38.0 -1.2
baz=164,SNR=6.0
VNDA Vanda 67.73 191 P **P** 11 12 39.9 +1.1
comp=Z,3.9nm,1.0s,baz=153,slow=9.0,SNR=2.1
VWCC Virginia Weste 67.79 353 *e*P **P** 11 12 39.5 -0.1
BLA Blacksburg 67.81 352 P **P** 11 12 39.3 -0.4
baz=171
BLA Blacksburg 67.81 352 *e*P **P** 11 12 39.2 -0.5
comp=Z,12nm,1.0s
BLA *ep*P **sP** 11 12 55.0 +1.1
BLA Blacksburg 67.81 352 *e*P **P** 11 12 39.2 -0.5
BLA *e**PP **sP** 11 12 55.0 +1.1
BLA pmax pmax
comp=Z,12nm,1.0s
V45A Humboldt 67.86 345 P **P** 11 12 39.1 -0.9
baz=164,SNR=6.1
MIAR Mount Ida 67.93 340 P **P** 11 12 40.2 -0.4
baz=159,SNR=12
WVT Waverly 67.98 346 P **P** 11 12 39.8 -1.0
baz=164
WVT Waverly 67.98 346 *e*P **P** 11 12 40.1 -0.7
comp=Z,82nm,1.1s
WVT Waverly 67.98 346 *e*P **P** 11 12 40.1 -0.7
WVT pmax pmax
comp=Z,82nm,1.1s
W42A Bald Knob 68.05 342 P **P** 11 12 41.5 +0.3
baz=161
X39A Fountain Ranch 68.06 340 P **P** 11 12 41.4 +0.1
baz=159,SNR=12
U48A Cassie Pea, Po 68.09 347 P **P** 11 12 40.8 -0.7
baz=166,SNR=14
W41B Gary Mavity, V 68.15 342 P **P** 11 12 41.5 -0.3
baz=160
IP05 Hopewell Churc 68.15 355 *e*P **P** 11 12 42.4 +0.6
comp=Z,80nm,0.9s
U47A Clarksville 68.17 346 P **P** 11 12 41.2 -0.7
baz=165,SNR=23
ABTX Abilene, Hawle 68.19 334 P **P** 11 12 42.1 -0.2
baz=154,SNR=40
ABTX Abilene, Hawle 68.19 334 *e*P **P** 11 12 42.3 +0.1
comp=Z,160nm,1.1s
X301 Greenbrier Sit 68.25 342 *e*P **P** 11 12 42.8 +0.3
comp=Z,77nm,1.2s
IP07 Quail 68.26 354 *e*P **P** 11 12 43.0 +0.4
comp=Z,79nm,1.1s
WHAR Wooly Hollow 68.27 342 *e*P **P** 11 12 42.7 +0.1
comp=Z,48nm,1.1s
IP06 Yanceyville 68.28 354 *e*P **P** 11 12 43.5 +0.9
comp=Z,45nm,1.1s
IP06 *ep*P **sP** 11 12 57.0 +0.2
U46A Springville 68.28 345 P **P** 11 12 42.0 -0.6
baz=164,SNR=12
V43A Jonesboro 68.28 343 P **P** 11 12 43.2 +0.5
baz=162
IP01 Cuckoo 68.29 354 *e*P **P** 11 12 43.5 +0.9
comp=Z,88nm,1.1s
IP01 *ep*P **sP** 11 12 57.1 +0.2
SPRD Spring Road, M 68.36 354 *e*P **P** 11 12 43.5 +0.5
comp=Z,88nm,1.3s
IP03 Louisa 68.36 354 *e*P **P** 11 12 44.0 +0.9
comp=Z,59nm,1.0s
CVRD Centerville Ro 68.39 354 *e*P **P** 11 12 44.2 +0.9
comp=Z,94nm,1.4s
W40A Ferguson Farm, 68.39 341 P **P** 11 12 43.8 +0.4
baz=160,SNR=7.2
W40A Ferguson Farm, 68.39 341 *e*P **P** 11 12 44.0 +0.6
comp=Z,74nm,1.1s
U45A Rockin P Farm, 68.40 345 P **P** 11 12 43.2 -0.2
baz=164
UTMT University of 68.42 345 *e*P **P** 11 12 43.7 +0.3
comp=Z,272nm,1.1s
SPFD Spotsylvania F 68.44 355 *e*P **P** 11 12 44.3 +0.7
comp=Z,48nm,1.0s
GLAT Glass 68.44 344 *e*P **P** 11 12 44.0 +0.4
comp=Z,241nm,1.3s
IP04 Greensprings 68.44 354 *e*P **P** 11 12 44.5 +0.9
comp=Z,72nm,1.0s
CBN Corbin Frederi 68.50 355 P **P** 11 12 44.4 +0.5
baz=174
V42A Cord 68.52 343 P **P** 11 12 43.4 -0.7
baz=161
U44B Burton Farm, H 68.52 344 P **P** 11 12 44.2 0.0
baz=163,SNR=6.3
W39A Magazine 68.60 340 P **P** 11 12 45.0 +0.4
baz=159,SNR=19
T48A Bowling Green 68.64 347 P **P** 11 12 44.0 -0.8
baz=166,SNR=5.5
T47A Sharon Grove 68.66 346 P **P** 11 12 44.3 -0.7
baz=165,SNR=19
V41A Mountainview 68.70 342 P **P** 11 12 44.5 -0.8
baz=161,SNR=9.5
U44A Portageville 68.76 344 P **P** 11 12 45.8 +0.1
baz=163,SNR=5.4
TBI Tubuai 68.80 255 *e*LR LR 11 33 37.3
comp=Z,1µm,28.5s,baz=110
TBI Tubuai 68.80 255 *e*T T 12 27 25.5
comp=Z,21nm,0.2s
U43A Rector 68.80 344 P **P** 11 12 45.6 -0.3
baz=162
T46A Princeton 68.88 346 P **P** 11 12 46.0 -0.4
baz=165,SNR=28
V40A Witts Springs 68.90 341 P **P** 11 12 46.0 -0.6
baz=160,SNR=7.0
PARMO Parma 68.93 344 *e*P **P** 11 12 47.2 +0.5
comp=Z,167nm,1.0s
SYO Syowa Base 68.98 159‖ *e*P **P** 11 12 45.4 -1.3
SYO Syowa Base 68.98 159‖ *i*pP pP 11 12 56.5 -0.5
U42A Revenden 69.00 343 P **P** 11 12 46.5 -0.6
baz=162,SNR=13
T45A Paducah 69.02 345 P **P** 11 12 46.6 -0.6
baz=164
S48A Wiedeman Farm, 69.10 348 P **P** 11 12 46.5 -1.3
baz=166,SNR=12
V39A Pettigrew 69.16 341 P **P** 11 12 48.0 -0.3
baz=159
U41A Viola 69.16 342 P **P** 11 12 47.6 -0.6
baz=161,SNR=8.6
BBTS Babate 69.18 58 P **P** 11 12 49.2 +0.5
comp=Z,18nm,0.6s,baz=240,slow=2.2,SNR=2.4
PBMO Poplar Bluff 69.20 344 *e*P **P** 11 12 48.0 -0.3
comp=Z,94nm,1.0s
T44A Benton 69.29 344 P **P** 11 12 48.5 -0.4
baz=163,SNR=12
U40A Yellville 69.43 342 P **P** 11 12 49.4 -0.4
baz=160,SNR=20
T43A Greenville 69.45 344 P **P** 11 12 49.3 -0.7
baz=162,SNR=20
S46A Don Dixon Farm 69.46 346 P **P** 11 12 49.0 -1.0
baz=165,SNR=12
T42A Van Buren 69.60 343 P **P** 11 12 49.8 -1.0
baz=162,SNR=7.3
U39A Green Forest 69.62 341 P **P** 11 12 50.6 -0.5
baz=160,SNR=14
S45A Carrier Mills 69.63 345 P **P** 11 12 50.2 -0.8
baz=164,SNR=9.7
SDMD Soldier's Deli 69.65 355 *e*P **P** 11 12 51.9 +0.8
comp=Z,31nm,1.1s
SDMD *ep*P **sP** 11 13 05.4 +0.1
HHAR Hobbs 69.66 341 *e*P **P** 11 12 50.9 -0.4
comp=Z,90nm,1.1s
WCI Wyandotte Cave 69.70 347 P **P** 11 12 50.1 -1.4
baz=166
WCI Wyandotte Cave 69.70 347 *e*P **P** 11 12 50.1 -1.4
comp=Z,136nm,1.7s
WCI Wyandotte Cave 69.70 347 *e*P **P** 11 12 50.1 -1.4
WCI pmax pmax
comp=Z,136nm,1.7s
MNTX Cornudas Mount 69.72 329 P **P** 11 12 50.9 -0.8
baz=149,SNR=28
MNTX Cornudas Mount 69.72 329 *e*P **P** 11 12 50.9 -0.8
comp=Z,38nm,1.0s
USIN University of 69.72 346 *e*P **P** 11 12 51.0 -0.5
comp=Z,185nm,1.4s
WMOK Wichita Mounta 69.78 336 P **P** 11 12 51.4 -0.7
baz=155,SNR=17
WMOK Wichita Mounta 69.78 336 *e*P **P** 11 12 51.4 -0.7
comp=Z,44nm,1.2s
WMOK Wichita Mounta 69.78 336 *e*P **P** 11 12 51.4 -0.7
WMOK pmax pmax
comp=Z,44nm,1.2s
T41A Mountain View 69.78 343 P **P** 11 12 51.4 -0.6
baz=161,SNR=12
R48A Northridge Ran 69.79 348 P **P** 11 12 51.1 -0.9
baz=166,SNR=6.5
S44A Carbondale 69.80 345 P **P** 11 12 51.5 -0.6
baz=163,SNR=12
OK022 N3560 Road, Pr 69.80 338 *e*P **P** 11 12 51.2 -1.0
comp=Z,59nm,1.2s
SIUC Southern Illin 69.81 345 *e*P **P** 11 12 51.5 -0.6
comp=Z,82nm,0.9s
R47A Wooly Knot Far 69.81 347 P **P** 11 12 50.5 -1.6
baz=166,SNR=5.2
TUL1 Leonard 69.87 339 P **P** 11 12 52.1 -0.4
baz=158,SNR=17
TUL1 Leonard 69.87 339 *e*P **P** 11 12 52.1 -0.4
comp=Z,119nm,1.0s
OK020 N3440 Road, Me 69.87 338 *e*P **P** 11 12 52.2 -0.4
comp=Z,74nm,1.1s
S43A Fulton Ridge, 69.87 344 P **P** 11 12 51.9 -0.6
baz=163,SNR=25
OK021 N3530 Road, Sp 69.88 338 *e*P **P** 11 12 51.8 -0.8
comp=Z,60nm,1.1s
R46A Gibon Southern 69.92 346 P **P** 11 12 51.8 -1.1
baz=165
T40A Mansfield 70.08 342 P **P** 11 12 53.3 -0.5
baz=160,SNR=6.6
R45A Skylar, Fairfi 70.16 346 P **P** 11 12 53.2 -1.1
baz=164,SNR=15
MCWV Mont Chateau 70.16 353 P **P** 11 12 54.0 -0.2
baz=172
MCWV Mont Chateau 70.16 353 *e*P **P** 11 12 54.5 +0.3
comp=Z,41nm,0.9s
T39A Clever 70.20 341 P **P** 11 12 53.8 -0.7
baz=160,SNR=11
MVL Millersville 70.21 356 *e*P **P** 11 12 55.5 +1.0
comp=Z,40nm,1.1s
S42A Caledonia 70.23 344 P **P** 11 12 53.7 -1.0
baz=162,SNR=8.3
EPT El Paso 70.28 329 *e*P **P** 11 12 55.7 +0.4
EPT *ep*P **sP** 11 13 09.7 +0.2
R44A Waltonville 70.29 345 P **P** 11 12 54.2 -0.8
baz=164,SNR=9.0
S41A Jillco Farms, 70.29 343 P **P** 11 12 54.8 -0.3
baz=161,SNR=13
FVM French Village 70.34 344 *e*P **P** 11 12 55.0 -0.4
comp=Z,137nm,1.1s
FVM French Village 70.34 344 *e*P **P** 11 12 55.0 -0.4
FVM pmax pmax
comp=Z,137nm,1.1s
Q47A Bedord North L 70.41 348 P **P** 11 12 55.9 +0.1
baz=166
PAGS Pennsylvania G 70.46 356 *e*P **P** 11 12 56.7 +0.6
comp=Z,46nm,1.0s
T38A Diamond 70.46 341 P **P** 11 12 55.8 -0.4
baz=159,SNR=32
S40A Lebanon 70.50 342 P **P** 11 12 56.0 -0.3
baz=161,SNR=9.3
R43A Red Bud 70.51 345 P **P** 11 12 55.8 -0.6
baz=163,SNR=5.9
OLIL Olney 70.55 346 *e*P **P** 11 12 55.9 -0.7
comp=Z,86nm,1.2s
OLIL *ep*P **sP** 11 13 09.6 -1.2
MSTX Muleshoe 70.59 333 P **P** 11 12 57.0 -0.2
baz=151,SNR=49
MSTX Muleshoe 70.59 333 *e*P **P** 11 12 56.8 -0.3
comp=Z,143nm,1.0s
CCM Cathedral Cave 70.61 343 P **P** 11 12 56.6 -0.4
baz=162
CCM Cathedral Cave 70.61 343 *e*P **P** 11 12 56.6 -0.4
comp=Z,114nm,1.1s
CCM Cathedral Cave 70.61 343 *e*P **P** 11 12 56.6 -0.4
CCM pmax pmax
comp=Z,114nm,1.1s
O56A Blue Knob Stat 70.64 354 P **P** 11 12 57.4 +0.2
baz=173
BLO Bloomington 70.66 348 *e*P **P** 11 12 56.6 -0.7
comp=Z,28nm,0.9s
BLO Bloomington 70.66 348 *e*P **P** 11 12 56.6 -0.7
BLO pmax pmax
comp=Z,28nm,0.9s
Q46A CEJHS Indians, 70.68 347 P **P** 11 12 56.5 -0.8
baz=165,SNR=5.6
Q45A Warren Harvey, 70.71 346 P **P** 11 12 57.0 -0.6
baz=164,SNR=15
R42A Luebbering 70.72 344 P **P** 11 12 57.1 -0.5
baz=162,SNR=11
LUPA Lehigh Univers 70.75 357 *e*P **P** 11 12 59.0 +1.2
comp=Z,3.7nm,1.0s
VAH Vaihoa 70.80 263 *e*P **P** 11 13 00.2 +1.5
comp=Z,103nm,1.3s
S39A Bolivar 70.81 342 P **P** 11 12 57.7 -0.5
baz=160,SNR=20
R41A Rosebud 70.87 343 P **P** 11 12 58.0 -0.6
baz=162,SNR=16
Q44A Meyer Farm, Va 70.90 345 P **P** 11 12 58.1 -0.7
baz=164,SNR=6.0
S38A Stockton 70.91 341 P **P** 11 12 58.5 -0.4
baz=159,SNR=28
P47A Martinsville 70.92 348 P **P** 11 12 58.0 -0.8
baz=166
SLM Saint Louis 70.92 344 *e*P **P** 11 12 58.9 0.0
SLM *ep*P **sP** 11 13 12.7 -0.4
SLM Saint Louis 70.92 344 *e*P **P** 11 12 58.9 0.0
SLM *e**PP **sP** 11 13 12.7 -0.4
SSPA Standing Stone 70.95 355 P **P** 11 12 58.8 -0.3
baz=174
SSPA Standing Stone 70.95 355 *e*P **P** 11 12 59.6 +0.5
comp=Z,37nm,1.0s
AMTX Amarillo 70.97 334 P **P** 11 12 59.4 0.0
baz=152
AMTX Amarillo 70.97 334 *e*P **P** 11 12 59.8 +0.3
comp=Z,118nm,1.1s
T35A Sooner Cattle 71.02 339 P **P** 11 12 59.2 -0.3
baz=157,SNR=15
TVO Taravao 71.03 260 *e*P **P** 11 13 02.0 +1.7
comp=Z,32nm,1.4s
TVO Taravao 71.03 260 *e*T T 12 30 19.5
comp=Z,2.2nm,0.2s
N59A State Game Lan 71.09 356 P **P** 11 13 00.6 +0.7
baz=176,SNR=7.4
N59A State Game Lan 71.09 356 *e*P **P** 11 13 01.1 +1.2
comp=Z,64nm,1.0s
N59A *ep*P **sP** 11 13 14.2 +0.1
Q43A New Douglas 71.09 345 P **P** 11 12 59.3 -0.6
baz=163,SNR=9.7
R40A Maddies Statio 71.09 343 P **P** 11 12 59.5 -0.5
baz=161,SNR=28
ACSO Alum Creek Sta 71.11 351 P **P** 11 12 59.4 -0.6
baz=165,SNR=8.5
ACSO Alum Creek Sta 71.11 351 *e*P **P** 11 12 59.7 -0.4
comp=Z,76nm,1.0s
ACSO *ep*P **sP** 11 13 13.4 -0.8
ODNJ Ogdensburg 71.20 357 *e*P **P** 11 13 01.4 +0.9
comp=Z,64nm,1.1s
TIAR Tiarei 71.22 260 *e*T T 12 30 32.8
comp=Z,12nm,0.2s
P46A Rosedale 71.22 347 P **P** 11 12 59.9 -0.8
baz=165
P45A Graceland, Par 71.24 347 P **P** 11 12 59.9 -0.9
baz=165,SNR=9.7
Q42A Golden Eagle 71.25 344 P **P** 11 13 00.5 -0.4
baz=162,SNR=9.6
S37A Fort Scott 71.29 341 P **P** 11 13 00.7 -0.4
baz=159,SNR=17
R39A Chumby, Stover 71.31 342 P **P** 11 13 00.7 -0.6
baz=160,SNR=12
T34A McClaskey Farm 71.33 338 P **P** 11 13 01.2 -0.3
baz=156,SNR=21
P44A Sand Creek, Wi 71.36 346 P **P** 11 13 00.6 -0.9
baz=164
PAE Paea 71.37 260 *e*P **P** 11 13 03.7 +1.5
comp=Z,15nm,1.2s
PAE Paea 71.37 260 *e*T T 12 30 41.0
comp=Z,0.8nm,0.2s
PPTF Pamatai, Papee 71.39 260 *e*P **P** 11 13 03.9 +1.5
comp=Z,146nm,1.1s
PPT2 Papeete2 71.40 260 *e*P **P** 11 13 04.2 +1.7
comp=Z,87nm,1.2s
PPT2 *e*S **S** 11 22 22.9 +4.1
comp=Z,248nm,27.5s
PPT2 Papeete2 71.40 260 *e*LR LR 11 34 56.0
comp=Z,1µm,24.2s,baz=118
PPT2 Papeete2 71.40 260 *e*T T 12 30 33.8
comp=Z,1.8nm,0.2s
PPT Papeete 71.41 260 P **P** 11 13 03.3 +0.8
comp=Z,68nm,1.0s,baz=96,slow=6.7,SNR=6.4
PPT LR LR 11 35 59.1
comp=Z,650nm,20.3s,baz=118,slow=29
R38A Fenwick Farm, 71.43 341 P **P** 11 13 01.1 -0.9
baz=159,SNR=12
Q41A Truxton 71.46 344 P **P** 11 13 01.5 -0.7
baz=162,SNR=18
N54A Moraine State 71.47 353 P **P** 11 13 01.7 -0.5
baz=172
N54A Moraine State 71.47 353 *e*P **P** 11 13 02.5 +0.3
comp=Z,84nm,1.1s
121A Cookes Peak, D 71.50 328 P **P** 11 13 03.6 +0.8
baz=147,SNR=16
121A Cookes Peak, D 71.50 328 *e*P **P** 11 13 03.6 +0.8
comp=Z,82nm,1.1s
121A *ep*P **sP** 11 13 17.9 +0.9
O47A Sheridan 71.63 348 P **P** 11 13 02.1 -1.0
baz=166,SNR=7.0
S35A Otter Creek Ra 71.66 339 P **P** 11 13 02.7 -0.7
baz=157,SNR=12
Q40A Laux Farm, Aux 71.71 343 P **P** 11 13 03.4 -0.3
baz=161,SNR=14
P43A Skaggs, Pawnee 71.72 345 P **P** 11 13 03.0 -0.7
baz=163,SNR=7.0
R37A Teagarden Farm 71.81 341 P **P** 11 13 03.6 -0.7
baz=159,SNR=8.3
P42A Winchester 71.85 345 P **P** 11 13 03.8 -0.7
baz=163,SNR=7.8
S34A Willow Spring 71.92 339 P **P** 11 13 04.7 -0.3
baz=157
O45A Potomac 71.93 347 P **P** 11 13 03.8 -1.1
baz=165,SNR=5.7
SFIN Lafayette 71.94 347 P **P** 11 13 04.4 -0.6
baz=166
BRYW Bryant College 71.97 360 *e*P **P** 11 13 06.2 +1.1
comp=Z,70nm,1.0s
M54A Oil Creek Stat 71.97 353 P **P** 11 13 04.9 -0.3
baz=172
Q39A Willow Grove F 71.99 342 P **P** 11 13 04.6 -0.7
baz=160,SNR=10
O44A Mansfield 71.99 346 P **P** 11 13 04.6 -0.7
baz=164
R36A Gordon, Harris 72.01 340 P **P** 11 13 05.1 -0.4
baz=158
Q38A Cooks Store, C 72.08 342 P **P** 11 13 05.2 -0.6
baz=160,SNR=15
P41A Barry, Barry 72.11 344 P **P** 11 13 05.3 -0.7
baz=162,SNR=6.1
P40A Paris 72.21 343 P **P** 11 13 05.8 -0.8
baz=161,SNR=21
R35A Emporia Munici 72.22 340 P **P** 11 13 06.3 -0.5
baz=158
Q37A Longview Farm, 72.23 341 P **P** 11 13 06.1 -0.6
baz=159
O43A Sugar Creek Fa 72.29 346 P **P** 11 13 06.3 -0.9
baz=164
P39B Salisbury 72.34 343 P **P** 11 13 06.8 -0.6
baz=160,SNR=14
BNM Barren Site 72.35 330 *e*P **P** 11 13 08.7 +0.8
N46A Monticello 72.37 348 P **P** 11 13 06.7 -0.8
baz=166
O42A Bath 72.38 345 P **P** 11 13 06.8 -0.8
baz=163,SNR=5.8
BINY Binghamton 72.38 356 P **P** 11 13 07.9 +0.3
baz=176
BINY Binghamton 72.38 356 *e*P **P** 11 13 08.2 +0.6
comp=Z,153nm,1.8s
N45A Kentland 72.47 347 P **P** 11 13 07.5 -0.7
baz=165
O41A Passleys Farm, 72.48 344 P **P** 11 13 07.4 -0.9
baz=162,SNR=7.8
LPM Los Pinos Moun 72.49 330 *e*P **P** 11 13 09.5 +0.8
R34A Isabella, Hill 72.52 339 P **P** 11 13 08.1 -0.4
baz=157,SNR=23
N44A Piper City 72.54 347 P **P** 11 13 07.7 -0.9
baz=165
HDIL Hopedale 72.55 346 P **P** 11 13 08.3 -0.4
baz=164
HDIL Hopedale 72.55 346 *e*P **P** 11 13 08.3 -0.4
HDIL *ep*P **sP** 11 13 22.0 -0.9
HRV Adam Dziewonsk 72.56 360 P **P** 11 13 08.7 +0.1
baz=180
PLIO Pelee Island, 72.56 351 P **P** 11 13 08.2 -0.5
baz=170
Q36A Arnold C. Orve 72.59 340 P **P** 11 13 08.5 -0.4
baz=158
ERPA Erie 72.61 353 P **P** 11 13 08.1 -0.9
baz=172
Q35A Mercer Eighty, 72.66 340 P **P** 11 13 08.5 -0.9
baz=158
P38A Dawn 72.68 342 P **P** 11 13 08.8 -0.6
baz=160,SNR=8.9
O40A La Belle 72.72 344 P **P** 11 13 09.0 -0.7
baz=161,SNR=12
TUC Tucson 72.73 326 P **P** 11 13 10.2 +0.1
baz=145
TUC Tucson 72.73 326 *e*P **P** 11 13 10.5 +0.5
TUC *ep*P **sP** 11 13 25.0 +0.7
TUC Tucson 72.73 326 *e*P **P** 11 13 10.5 +0.5
TUC *e**PP **sP** 11 13 25.0 +0.7
LAZ Ladron 72.78 330 *e*P **P** 11 13 11.4 +1.0
TRY Troy 72.81 358 *e*P **P** 11 13 11.4 +1.2
comp=Z,111nm,1.0s
P37A Lathrop 72.86 342 P **P** 11 13 10.0 -0.6
baz=159
N43A Stutzman Famil 72.89 346 P **P** 11 13 10.3 -0.4
baz=164
ANMO Albuquerque 72.95 330 P **P** 11 13 11.8 +0.4
baz=149
ANMO Albuquerque 72.95 330 *e*P **P** 11 13 12.0 +0.5
comp=Z,53nm,1.4s
ANMO Albuquerque 72.95 330 *e*P **P** 11 13 12.0 +0.5
ANMO pmax pmax
comp=Z,53nm,1.4s
N42A Yates City 72.97 345 P **P** 11 13 10.4 -0.7
baz=163
Q34A Chapman 72.99 339 P **P** 11 13 10.9 -0.5
baz=157,SNR=15
O39A Kirksville 73.02 343 P **P** 11 13 11.3 -0.1
baz=161,SNR=11
N41A Harden Midland 73.04 345 P **P** 11 13 11.1 -0.4
baz=162,SNR=5.2
KSU1 Kansas State U 73.06 340 P **P** 11 13 10.8 -0.9
baz=157,SNR=5.0
KSU1 Kansas State U 73.06 340 *e*P **P** 11 13 11.5 -0.2
comp=Z,58nm,1.1s
LIC Lamto 73.08 72 *e*P **P** 11 13 12.0 -0.4
comp=Z,94nm,1.3s
M44A Midewin, Midew 73.09 347 P **P** 11 13 11.3 -0.6
baz=165
O38A Galt 73.13 342 P **P** 11 13 11.4 -0.7
baz=160
P36A Good Intent, A 73.13 341 P **P** 11 13 11.2 -0.9
baz=158
AAM Ann Arbor 73.24 350 P **P** 11 13 12.2 -0.5
baz=169
P35A Duane Minner, 73.28 340 P **P** 11 13 12.2 -0.8
baz=158,SNR=5.7
TIC Toumodi 73.32 72 *e*P **P** 11 13 13.6 -0.3
M43A Waltham Townsh 73.32 346 P **P** 11 13 12.9 -0.3
baz=164
O37A Wolven Farm, M 73.35 342 P **P** 11 13 12.6 -0.8
baz=159
N40A Mertquake, Sal 73.38 344 P **P** 11 13 12.7 -0.8
baz=162,SNR=5.3
KIC Kosan Boka 73.39 72 *e*P **P** 11 13 13.8 -0.5
comp=Z,102nm,1.2s
214A Organ Pipe Nat 73.45 324 P **P** 11 13 15.3 +1.0
baz=143,SNR=17
214A Organ Pipe Nat 73.45 324 *e*P **P** 11 13 14.9 +0.7
comp=Z,314nm,1.2s
ACCN Adirondack Com 73.47 358 *e*P **P** 11 13 14.8 +0.7
comp=Z,56nm,1.2s
DBIC Dimbokro 73.47 72 P **P** 11 13 14.4 -0.3
comp=Z,7.7nm,0.8s,baz=207,slow=6.4,SNR=13
DBIC LR LR 11 43 28.5
comp=Z,917nm,19.5s,baz=208,slow=34
MEDO Medina 73.51 355 P **P** 11 13 14.2 0.0

M42A Sheffield 73.51 346 P P 11 13 13.3 -1.0
baz=173
P34A Walnut Farm, R 73.53 340 P P 11 13 14.3 -0.3
baz=163
O36A Bolckow 73.54 341 P P 11 13 13.4 -1.1
baz=157,SNR=9.4
TYNO Tyneside 73.57 353 P P 11 13 13.5 -1.1
baz=159,SNR=6.2
N39A Derby Farms, D 73.59 343 P P 11 13 14.1 -0.7
baz=172
M41A Milan 73.61 345 P P 11 13 13.9 -1.0
baz=161,SNR=6.5
STCO Saint Catharin 73.61 354 P P 11 13 14.6 -0.2
baz=163
N38A Joes South For 73.70 343 P P 11 13 14.8 -0.6
baz=173
HNH Hanover 73.76 359 eP P 11 13 17.1 +1.3
baz=160
CBKS Cedar Bluff 73.79 337 P P 11 13 16.2 +0.1
comp=Z,60nm,1.0s
CBKS Cedar Bluff 73.79 337 eP P 11 13 16.7 +0.6
baz=155,SNR=7.3
CBKS epP sP 11 13 30.6 +0.3
CBKS Cedar Bluff 73.79 337 eP P 11 13 16.7 +0.6
CBKS e*PP sP 11 13 30.6 +0.3
M40A Post Highland 73.86 344 P P 11 13 15.6 -0.8
baz=162,SNR=6.9
N37A Lee Faris, Mou 73.92 342 P P 11 13 16.1 -0.6
baz=159
O35A Humboldt 73.93 341 P P 11 13 16.4 -0.4
baz=158
L43A Garden Prairie 74.00 347 P P 11 13 16.4 -0.8
baz=164
T25A Trinidad 74.00 333 P P 11 13 18.1 +0.5
baz=150,SNR=33
T25A Trinidad 74.00 333 eP P 11 13 18.5 +0.9
comp=Z,110nm,1.1s
L42A Oliver, Polo 74.02 346 P P 11 13 16.5 -0.8
baz=163
NCB Newcomb 74.07 358 eP P 11 13 17.5 -0.1
comp=Z,28nm,1.2s
O34A Beatrice 74.08 340 P P 11 13 17.3 -0.4
baz=157,SNR=12
ACTO Acton 74.09 353 P P 11 13 17.3 -0.4
baz=172
MHTCO State Highway 74.10 333 eP P 11 13 19.2 +1.0
comp=Z,123nm,1.1s
X18A Snowflake 74.16 328 eP P 11 13 19.9 +1.4
X18A epP sP 11 13 31.7 -1.1
N36A Muff Farm, Cla 74.17 342 P P 11 13 17.6 -0.6
baz=159,SNR=6.3
O33A Hebron 74.25 339 P P 11 13 18.4 -0.3
baz=156,SNR=16
WLVO Wesleyville 74.26 355 P P 11 13 19.1 +0.5
baz=174
L41A Preston 74.26 345 P P 11 13 18.0 -0.7
baz=163,SNR=7.0
M38A Pleasantville 74.28 343 P P 11 13 18.3 -0.5
baz=160,SNR=5.6
LBNH Lisbon 74.29 360 P P 11 13 18.5 -0.4
baz=179,SNR=6.4
LBNH Lisbon 74.29 360 eP P 11 13 19.9 +1.1
comp=Z,73nm,1.1s
LBNH Lisbon 74.29 360 eP P 11 13 19.9 +1.1
LBNH pmax pmax
comp=Z,73nm,1.1s
PKRO Pickering 74.36 354 P P 11 13 19.2 0.0
baz=173,SNR=6.0
N35A Tabor 74.41 341 P P 11 13 18.9 -0.6
baz=158,SNR=9.5
L40A Anamosa 74.41 345 P P 11 13 19.0 -0.6
baz=162,SNR=9.9
K43A Burlington 74.42 347 P P 11 13 19.0 -0.6
baz=165
M37A Trindle Farm, 74.48 342 P P 11 13 19.8 -0.2
baz=160,SNR=9.5
W18A Petrified Fore 74.55 328 P P 11 13 20.8 0.0
baz=146,SNR=6.4
W18A Petrified Fore 74.55 328 eP P 11 13 22.2 +1.4
N34A Lincoln 74.63 340 P P 11 13 20.1 -0.7
baz=158,SNR=9.2
L39A Vinton 74.65 344 P P 11 13 20.2 -0.7
baz=161
K42A Prairie Point, 74.69 346 P P 11 13 20.8 -0.4
baz=164,SNR=5.9
M36A Felix, Anita 74.73 342 P P 11 13 20.9 -0.6
baz=159,SNR=5.4
K41A Shullsburg 74.73 346 P P 11 13 20.8 -0.6
baz=163,SNR=11
LONY Lake Ozonia 74.73 358 eP P 11 13 21.9 +0.5
comp=Z,57nm,1.1s
SCIA State Center 74.74 343 P P 11 13 21.2 -0.3
baz=160
SCIA State Center 74.74 343 eP P 11 13 22.2 +0.7
SCIA epP sP 11 13 36.0 +0.3
X16A Lo Mia Camp, P 74.77 326 eP P 11 13 23.1 +1.0
N33A J Bar K, Exete 74.82 340 P P 11 13 22.0 0.0
baz=157
EMMW East Machias 74.84 3 eP P 11 13 23.1 +1.2
comp=Z,34nm,0.9s
FRNY Flat Rock 74.91 358 eP P 11 13 23.0 +0.6
comp=Z,46nm,1.0s
SDCO Great Sand Dun 74.96 333 P P 11 13 23.3 +0.1
baz=150,SNR=22
SDCO Great Sand Dun 74.96 333 eP P 11 13 23.9 +0.6
comp=Z,47nm,1.1s
KSCO Kaye Shedlock' 74.97 335 P P 11 13 23.6 +0.5
baz=152,SNR=12
KSCO Kaye Shedlock' 74.97 335 eP P 11 13 23.8 +0.7
comp=Z,178nm,1.2s
M35A Neola 74.98 341 P P 11 13 22.2 -0.7
baz=158
K40A Colesburg 75.00 345 P P 11 13 22.2 -0.7
baz=162,SNR=7.2
JFWS Jewell Farm 75.01 346 P P 11 13 22.2 -0.8
baz=163
JFWS Jewell Farm 75.01 346 eP P 11 13 23.6 +0.6
comp=Z,84nm,1.2s
JFWS epP PcP 11 13 36.8 +0.2
JFWS Jewell Farm 75.01 346 eP P 11 13 23.6 +0.6
JFWS e*PP PcP 11 13 36.8 +0.2
JFWS pmax pmax
comp=Z,84nm,1.2s
L37A Phoenix Point, 75.08 343 P P 11 13 22.7 -0.7
baz=160
J43A Natural Harves 75.09 347 P P 11 13 22.7 -0.7
baz=165
Y14A Wickenburg 75.14 325 eP P 11 13 24.7 +0.7
SADO Sadowa 75.16 354 eP P 11 13 23.7 -0.1
J42A Columbus 75.17 347 P P 11 13 22.6 -1.3
baz=164
K39A Oelwein 75.18 344 P P 11 13 23.5 -0.5
baz=162
M34A Aspy Farms, Fr 75.27 341 P P 11 13 24.1 -0.5
baz=158
PLVO Plevna 75.27 356 P P 11 13 24.2 -0.3
baz=175
L36A Harm Buss Farm 75.30 342 P P 11 13 24.0 -0.7
baz=159
K38A Parkersburg 75.33 344 P P 11 13 24.3 -0.6
baz=161
PKME Peaks-Kenny Pk 75.34 1 P P 11 13 25.2 +0.4
baz=182
GLA Glamis 75.36 323 P P 11 13 26.1 +0.7
baz=142,SNR=6.3
GLA Glamis 75.36 323 eP P 11 13 26.0 +0.7
comp=Z,26nm,1.0s
GLA epP sP 11 13 40.7 +1.1
GLA Glamis 75.36 323 eP P 11 13 26.0 +0.7
GLA e*PP sP 11 13 40.7 +1.1
GLA pmax pmax
comp=Z,26nm,1.0s
J41A Loganville 75.39 346 P P 11 13 25.8 +0.5
baz=163
S22A 4UR Ranch, Cre 75.50 332 P P 11 13 27.0 +0.6
baz=149,SNR=13
S22A 4UR Ranch, Cre 75.50 332 eP P 11 13 27.1 +0.8
M33A Taylor Creek F 75.51 340 P P 11 13 26.1 +0.2
baz=157
I43A Langenfeld Bro 75.52 348 P P 11 13 26.3 +0.3
baz=165
L35A Bielow Farm, R 75.54 342 P P 11 13 25.7 -0.4
baz=158,SNR=6.1
J40A Soldiers Grove 75.58 346 P P 11 13 25.5 -0.8
baz=163,SNR=5.4
WUAZ Wupatki 75.63 327 P P 11 13 27.8 +0.8
baz=145,SNR=32
WUAZ Wupatki 75.63 327 eP P 11 13 28.0 +1.0
comp=Z,86nm,1.1s
L34A Svendsen Farm, 75.64 341 P P 11 13 26.0 -0.7
baz=158,SNR=5.2
BGNE Belgrade 75.64 339 P P 11 13 26.5 -0.2
baz=156,SNR=9.2
BGNE Belgrade 75.64 339 eP P 11 13 27.1 +0.3
K37A Belmond 75.66 343 P P 11 13 26.5 -0.3
baz=160
I42A Draeger Farm, 75.68 347 P P 11 13 27.1 +0.3
baz=164
IKP In-Ko-Pah, Jac 75.71 322 P P 11 13 28.0 +0.6
baz=141,SNR=9.8
J39A Decorah 75.73 345 P P 11 13 26.4 -0.8
baz=162,SNR=6.3
K36A Gilmore City 75.74 343 P P 11 13 26.9 -0.4
baz=159
MVCO Mesa Verde 75.75 330 P P 11 13 28.3 +0.6
baz=147,SNR=28
MVCO Mesa Verde 75.75 330 eP P 11 13 28.4 +0.7
comp=Z,77nm,1.1s
ALFO Alfred 75.75 357 P P 11 13 27.1 -0.1
baz=177,SNR=9.4
Y12C Blythe 75.75 324 P P 11 13 28.3 +0.8
baz=142,SNR=11
Y12C Blythe 75.75 324 eP P 11 13 28.5 +1.0
SWSC Sam W. Stewart 75.78 323 P P 11 13 28.5 +0.9
baz=141,SNR=11
KLBO Killbear Provi 75.84 354 P P 11 13 27.4 -0.3
baz=172,SNR=5.7
TOBO Tobermory, Bru 75.85 353 P P 11 13 27.0 -0.7
baz=171
BUKO Buck Lake 75.85 354 P P 11 13 27.3 -0.5
baz=173
GLMI Grayling 75.85 350 P P 11 13 26.9 -0.9
baz=168
Q24A Divide 75.88 333 P P 11 13 29.0 +0.5
baz=150,SNR=30
Q24A Divide 75.88 333 eP P 11 13 29.3 +0.8
comp=Z,82nm,0.9s
J38A Wedel Dairy, R 75.89 344 P P 11 13 27.5 -0.6
baz=161
PEMO Pembroke 75.92 356 P P 11 13 27.4 -0.7
baz=175
PDMCI Parker Dam,Lak 76.00 325 P P 11 13 29.0 +0.1
baz=143
H43A Windswept, Lux 76.02 348 P P 11 13 28.8 0.0
baz=165
I40A Norwalk 76.02 346 P P 11 13 28.4 -0.5
baz=163
K35A Storm Lake 76.02 342 P P 11 13 28.9 +0.1
baz=159
I41A Arkdale 76.03 346 P P 11 13 29.0 +0.2
baz=163
MONP2 Monument Peak 76.06 322 P P 11 13 30.1 +0.5
baz=141,SNR=8.6
L33A Hoskins 76.08 340 P P 11 13 29.2 0.0
baz=157
LMN Caledonia Moun 76.13 5 eP P 11 13 29.9 +0.5
L32A Elgin 76.14 340 P P 11 13 29.4 -0.2
baz=156,SNR=5.6
J37A Redenius Farm, 76.15 343 P P 11 13 29.2 -0.3
baz=160
BC3 Big Chuckawall 76.15 323 P P 11 13 30.9 +0.9
baz=142,SNR=11
I39A Houston 76.19 345 P P 11 13 29.0 -0.7
baz=162,SNR=7.3
H42A Shiocton 76.20 347 P P 11 13 30.1 +0.3
baz=165
K34A Le Mars 76.22 341 P P 11 13 29.9 -0.1
baz=158
TRQ Mont Tremblant 76.33 358 eP P 11 13 30.7 +0.1
TRQ epP sP 11 13 44.4 -0.5
J36A Seneca 1, Swea 76.36 343 P P 11 13 30.9 +0.1
baz=160
IRM Iron Mountain 76.39 324 P P 11 13 31.9 +0.7
baz=142,SNR=20
K33A Hardington 76.40 341 P P 11 13 31.3 +0.2
baz=157
109C Camp Elliot, M 76.43 322 P P 11 13 32.6 +1.3
baz=140
MAW Mawson 76.44 164 P P 11 13 31.7 +0.7
comp=Z,40nm,0.9s,baz=202,slow=6.1,SNR=5.3
MAW LR LR 11 47 50.8
comp=Z,390nm,19.5s,baz=233,slow=36
OGNE Ogallala 76.48 337 P P 11 13 31.9 +0.3
baz=153
H41A Junction City 76.52 347 P P 11 13 31.5 -0.1
baz=164
I38A Scanlan Farm, 76.55 345 P P 11 13 31.0 -0.8
baz=161,SNR=12
PV01 Paradox Valley 76.55 331 eP P 11 13 33.1 +0.8
NEE2 Needles Airpor 76.60 325 P P 11 13 33.1 +0.8
baz=142
XPFO Piæon Flat 76.64 323 eP P 11 13 34.2 +1.5
comp=Z,48nm,1.1s
PFO Pinyon Flats O 76.64 323 P P 11 13 33.7 +1.0
baz=141,SNR=17
PFO Pinyon Flats O 76.64 323 eP P 11 13 34.2 +1.4
comp=Z,45nm,1.1s
PFO Pinyon Flats O 76.64 323 eP P 11 13 34.2 +1.4
PFO pmax pmax
comp=Z,45nm,1.1s
H40A Chili 76.67 346 P P 11 13 32.1 -0.4
baz=163
BELC Belle Mtn. Jos 76.70 323 P P 11 13 33.9 +0.8
baz=141,SNR=9.5
PV05 Paradox Valley 76.73 330 eP P 11 13 34.0 +0.7
K32A Verdigre 76.73 340 P P 11 13 32.4 -0.5
baz=156
J34A George 76.74 342 P P 11 13 32.5 -0.4
baz=158
G43A Wallace 76.77 348 P P 11 13 33.0 0.0
baz=165
I37A Lemond, Waseca 76.77 344 P P 11 13 32.6 -0.5
baz=160,SNR=6.9
ISCO Idaho Springs 76.78 334 P P 11 13 34.2 +0.6
baz=150,SNR=11
SMCO Snowmass 76.78 332 eP P 11 13 34.7 +1.0
comp=Z,116nm,1.1s
PQI Presque Isle 76.78 2 eP P 11 13 34.0 +1.0
F46A Macinaw City C 76.80 350 P P 11 13 32.7 -0.4
baz=168
F45A CMU Biological 76.83 350 P P 11 13 32.9 -0.3
baz=167
G42A Mountain 76.89 348 P P 11 13 33.3 -0.4
baz=165,SNR=5.5
PV04 Paradox Valley 76.91 331 eP P 11 13 34.8 +0.6
PV04 epP sP 11 13 48.9 +0.4
H39A Augusta 76.92 346 P P 11 13 33.4 -0.4
baz=162
I36A Fitzsimmons Fa 76.93 343 P P 11 13 33.9 -0.1
baz=160
K31A O'Neill 76.93 340 P P 11 13 34.2 +0.1
baz=156,SNR=32
PV10 Paradox Valley 76.96 330 eP P 11 13 34.8 +0.3
G41A Antigo 77.00 347 P P 11 13 34.6 +0.3
baz=164
I35A Creekview Farm 77.02 343 P P 11 13 34.2 -0.3
baz=159
MURC Murrieta 77.02 322 P P 11 13 35.1 +0.3
baz=140,SNR=18
J33A Davis 77.05 341 P P 11 13 34.2 -0.5
baz=157,SNR=6.5
LDFC Landfair 77.09 324 eP P 11 13 37.2 +1.9
comp=Z,68nm,1.1s
PV09 Paradox Valley 77.10 330 eP P 11 13 36.5 +1.1
H38A Maiden Rock 77.14 345 P P 11 13 35.3 +0.2
baz=161
GMRC Granite Mounta 77.14 324 P P 11 13 36.4 +0.8
baz=142,SNR=34
H37A Dicke Farm, C 77.19 344 P P 11 13 35.2 -0.2
baz=161
F43A Flat Rock, Esc 77.23 349 P P 11 13 35.1 -0.5
baz=166
F44A Big Bay de Noc 77.25 349 P P 11 13 35.4 -0.3
baz=166
G40A Rib Lake 77.25 346 P P 11 13 35.9 +0.2
baz=163
SCI2 San Clemente I 77.28 321 P P 11 13 35.8 -0.3
baz=139
F42A Maple Grove Fa 77.33 348 P P 11 13 36.6 +0.4
baz=165
ECSD EROS Data Cent 77.34 341 P P 11 13 36.0 -0.3
baz=158,SNR=38
ECSD EROS Data Cent 77.34 341 eP P 11 13 36.1 -0.2
comp=Z,115nm,1.1s
J32A Parkston 77.35 341 P P 11 13 35.9 -0.4
baz=157,SNR=8.7
BBRC Big Bear Solar 77.39 323 P P 11 13 38.2 +1.1
baz=141,SNR=11
I34A Hadley 77.42 342 P P 11 13 36.9 +0.2
baz=158
H36A Jessenland, He 77.43 344 P P 11 13 36.9 +0.1
baz=160,SNR=5.6
E45A Wooded Hills, 77.43 350 P P 11 13 37.0 +0.3
baz=168
G39A Holcombe 77.47 346 P P 11 13 37.0 0.0
baz=162
F41A Three Lakes 77.49 347 P P 11 13 37.3 +0.2
baz=164
G38A Ridgeland 77.51 345 P P 11 13 37.5 +0.4
baz=162,SNR=5.7
HEC Hector,Ludlow 77.52 323 P P 11 13 38.6 +1.0
baz=141,SNR=15
CIS Catalina Islan 77.53 321 P P 11 13 38.1 +0.5
baz=140,SNR=5.5
KNB Kanab 77.53 327 eP P 11 13 38.9 +1.2
KNB Kanab 77.53 327 eP P 11 13 38.9 +1.2
J31A Geddes 77.54 340 P P 11 13 37.5 +0.1
baz=156
I33A Coleman 77.68 341 P P 11 13 38.3 +0.2
baz=158
FMP Fort Macarthur 77.70 321 P P 11 13 38.5 0.0
baz=140
LCMT Little Creek M 77.72 327 eP P 11 13 39.4 +0.6
E43A Lone Tree Farm 77.73 349 P P 11 13 38.6 +0.2
baz=166
BFSC Mount Baldy Ra 77.76 322 P P 11 13 39.4 +0.4
baz=140,SNR=24
H35A Sunnyside Ranc 77.77 343 P P 11 13 38.6 0.0
baz=159,SNR=13
SPMN Marine on St. 77.78 345 P P 11 13 38.1 -0.5
baz=161,SNR=5.9
SPMN Marine on St. 77.78 345 eP P 11 13 38.1 -0.5
SPMN epP sP 11 13 52.0 -0.9
TUQ Turquoise Moun 77.79 324 P P 11 13 40.1 +1.0
baz=142,SNR=38
I32A Karley and Nic 77.84 341 P P 11 13 39.0 -0.1
baz=157
COWI Conover 77.85 347 eP P 11 13 39.0 0.0
COWI epP sP 11 13 53.0 -0.4
N23A Red Feather La 77.85 334 P P 11 13 40.3 +0.8
baz=150,SNR=13
N23A Red Feather La 77.85 334 eP P 11 13 40.4 +0.8
F40A Park Falls 77.86 347 P P 11 13 39.1 0.0
baz=163,SNR=7.4
RRX Edison Barstow 77.90 323 P P 11 13 40.4 +0.7
baz=141
E42A Champion 77.94 348 P P 11 13 39.5 -0.1
baz=165
MWC Mount Wilson 77.96 322 eP P 11 13 41.0 +0.8
comp=Z,40nm,1.0s
MWC Mount Wilson 77.96 322 eP P 11 13 41.0 +0.8
MWC pmax pmax
comp=Z,40nm,1.0s
H34A Spellman Lake, 77.98 342 P P 11 13 40.0 +0.2
baz=158
PASC Pasadena Art C 77.99 322 eP P 11 13 41.5 +1.4
G36A St. Michael 78.00 344 P P 11 13 39.8 -0.1
baz=160,SNR=6.4
SNCC San Nicolas Is 78.02 320 P P 11 13 40.6 +0.3
baz=139
PHWY Pilot Hill 78.02 334 eP P 11 13 41.3 +0.8
PHWY epP sP 11 13 55.4 +0.6
F39A Loretta 78.02 346 P P 11 13 40.0 -0.1
baz=163,SNR=5.7
MTPU Mount Pierson 78.07 328 eP P 11 13 41.6 +0.7
comp=Z,31nm,1.1s
O20A White River Ci 78.11 332 P P 11 13 41.3 +0.5
baz=148,SNR=36
O20A White River Ci 78.11 332 eP P 11 13 41.5 +0.7
SZCU Shurtz Canyon 78.12 327 eP P 11 13 42.1 +1.1
comp=Z,45nm,1.2s
DECC Green Verdugo 78.13 322 P P 11 13 42.0 +1.0
baz=140,SNR=7.2
GSC Goldstone, Bar 78.13 323 P P 11 13 41.9 +0.9
baz=141,SNR=19
GSC Goldstone, Bar 78.13 323 eP P 11 13 42.0 +1.0
comp=Z,40nm,1.1s
GSC Goldstone, Bar 78.13 323 eP P 11 13 42.0 +1.0
GSC pmax pmax
comp=Z,40nm,1.1s
E41A Kenton 78.17 348 P P 11 13 41.1 +0.3
baz=164
G35A Watkins 78.17 343 P P 11 13 41.0 +0.1
baz=160
SRU San Rafael Swe 78.21 330 eP P 11 13 41.9 +0.4
SRU San Rafael Swe 78.21 330 eP P 11 13 41.9 +0.4
F37A Hinrichs Farm, 78.21 345 P P 11 13 41.0 0.0
baz=161,SNR=7.5
CCUT Cedar City 78.22 327 eP P 11 13 43.1 +1.5
SHPR Sheep Range 78.25 325 eP P 11 13 42.7 +1.0
H33A Prehn Over Nor 78.25 342 P P 11 13 41.2 -0.1
baz=158,SNR=18
F38A Pierce - Schro 78.27 346 P P 11 13 41.4 +0.1
baz=162,SNR=9.0
H32A Carlson Farm, 78.28 341 P P 11 13 41.4 -0.1
baz=157,SNR=10
RAR Rarotonga 78.29 252 LR LR 11 39 44.3
comp=Z,412nm,18.4s,baz=128,slow=29
E40A Wakefield 78.32 347 P P 11 13 41.6 -0.1
baz=164
SHOC Shoshone, Teco 78.33 324 P P 11 13 42.5 +0.6
baz=141
Q16A Castle Valley 78.33 329 eP P 11 13 43.2 +1.0
E39A Mellen 78.39 347 P P 11 13 42.5 +0.4
baz=163
BLG Laguna Peak, P 78.41 321 P P 11 13 41.9 -0.6
baz=139
EDW2 Edwards Air Fo 78.43 322 P P 11 13 43.0 +0.4
baz=140,SNR=23
MSU Marysvale 78.45 328 eP P 11 13 43.7 +0.8
MSU Marysvale 78.45 328 eP P 11 13 43.7 +0.8
G34A Benson 78.48 343 P P 11 13 42.2 -0.4
baz=159
F36A Milaca 78.54 344 P P 11 13 42.1 -0.8
baz=160,SNR=8.3
H31A Wolsey 78.55 341 P P 11 13 43.0 0.0
baz=156
P17A Butcher Ranch, 78.60 330 eP P 11 13 44.1 +0.5
KOWA Kowa 78.61 66 P P 11 13 43.8 -0.1
comp=Z,9.4nm,0.8s,baz=232,slow=4.4,SNR=23
KOWA LR LR 11 47 53.9
comp=Z,884nm,19.4s,baz=212,slow=35
KOWA Kowa 78.61 66 eP P 11 13 43.9 0.0
OSI Osito Audit: C 78.61 322 P P 11 13 44.8 +1.1
baz=140,SNR=5.3
OSI Osito Audit: C 78.61 322 eP P 11 13 44.7 +1.1
OSI epP sP 11 13 59.5 +1.5
SCZ2 Santa Cruz Isl 78.64 321 P P 11 13 44.6 +0.9
baz=139,SNR=8.7
G33A Ortonville 78.64 342 P P 11 13 43.1 -0.4
baz=158,SNR=6.4
SUSD Miller 78.65 340 P P 11 13 43.3 -0.2
baz=156
TMUT Trail Mountain 78.66 330 eP P 11 13 44.9 +0.8
D41A Chassel 78.67 348 P P 11 13 43.6 0.0
baz=165
LRMC Laurel Mtn Rad 78.72 323 P P 11 13 44.7 +0.4
baz=140,SNR=35
F35A Swanville 78.79 344 P P 11 13 44.2 0.0
baz=160,SNR=9.6
F34A Alexandria 78.90 343 P P 11 13 44.8 0.0
baz=159
G32A Webster 78.98 341 P P 11 13 44.8 -0.6
baz=157
ARVC Arvin 79.06 322 P P 11 13 46.8 +0.8
baz=140,SNR=7.3
FURC Furnace Creek, 79.07 324 P P 11 13 46.6 +0.7
baz=141,SNR=32
MPMC Manual Prospec 79.07 323 P P 11 13 46.7 +0.4
baz=141,SNR=22
E36A McGregor 79.10 345 P P 11 13 45.4 -0.6
baz=161,SNR=6.7
TPNV Topopah Spring 79.13 325 P P 11 13 47.5 +0.9
baz=142,SNR=23
TPNV Topopah Spring 79.13 325 eP P 11 13 47.6 +1.1
TPNV Topopah Spring 79.13 325 eP P 11 13 47.7 +1.1
F33A 5 Mile Ranch, 79.20 343 P P 11 13 46.1 -0.4
baz=158,SNR=6.1
PSUT Pine Spring 79.24 327 eP P 11 13 48.1 +0.9
ISA Isabella, Lake 79.28 323 P P 11 13 48.1 +0.8
baz=140,SNR=39
ISA Isabella, Lake 79.28 323 eP P 11 13 48.4 +1.1

ISA	Isabella, Lake	79.28	323	eP	P	11 13 48.4	+1.1
DAC	Darwin (Calif)	79.29	324	eP	P	11 13 48.1	+0.6
DAC	Darwin (Calif)	79.29	324	eP	P	11 13 48.1	+0.6
E35A	Pequot Lakes	79.40	344	P	P	11 13 47.1	-0.5
	baz=160,SNR=7.4						
PKM	Mcpherson Peak	79.41	321	P	P	11 13 49.0	+0.9
	baz=139,SNR=34						
MPU	Maple Canyon	79.44	330	eP	P	11 13 48.8	+0.6
D37A	Cotton	79.52	346	P	P	11 13 47.7	-0.5
	baz=161						
E34A	Wadena	79.55	344	P	P	11 13 48.2	-0.2
	baz=159,SNR=6.7						
NLU	North Lily Min	79.58	329	eP	P	11 13 49.7	+0.7
K22A	Casper	79.58	334	P	P	11 13 49.4	+0.5
	baz=150,SNR=25						
K22A	Casper	79.58	334	eP	P	11 13 49.5	+0.5
TSUM	Tsumeb	79.61	106	eP	P	11 13 50.7	+1.0
CWC	Cottonwood Cre	79.67	323	P	P	11 13 50.1	+0.6
	baz=140						
C39A	Grand Marais	79.69	347	P	P	11 13 49.4	+0.3
	baz=163						
D36A	Goodland	79.70	345	P	P	11 13 49.8	+0.5
	baz=161						
GRAC	Grapevine Rang	79.73	324	P	P	11 13 51.0	+1.3
	baz=141						
VES	Vestal, Richgr	79.73	322	P	P	11 13 50.5	+0.8
	baz=139,SNR=24						
F31A	Hecla	79.75	341	P	P	11 13 49.2	-0.3
	baz=156,SNR=12						
C38A	Sawbill Land.	79.81	346	P	P	11 13 49.4	-0.4
	baz=162,SNR=7.1						
D35A	Remer	79.81	344	P	P	11 13 49.6	-0.2
	baz=160,SNR=7.0						
SMMC	Simmler	79.82	321	P	P	11 13 51.3	+1.1
	baz=139,SNR=13						
JLU	Jordanelle	79.84	330	eP	P	11 13 50.8	+0.4
R11A	Troy Canyon, C	79.91	326	P	P	11 13 51.4	+0.6
	baz=142,SNR=34						
R11A	Troy Canyon, C	79.91	326	eP	P	11 13 51.7	+0.9
RSSD	Black Hills	79.98	337	P	P	11 13 51.2	+0.1
	baz=152						
RSSD	Black Hills	79.98	337	eP	P	11 13 51.3	+0.3
RSSD	Black Hills	79.98	337	eP	P	11 13 51.3	+0.3
C37A	Embarrass	80.01	346	P	P	11 13 51.1	+0.2
	baz=162						
CTU	Camp Tracy	80.04	330	eP	P	11 13 51.9	+0.5
EYMN	Ely	80.08	346	P	P	11 13 51.2	0.0
	baz=162,SNR=6.5						
EYMN	Ely	80.08	346	eP	P	11 13 51.4	+0.1
EYMN				epP	sP	11 14 05.4	-0.1
D34A	Park Rapids	80.09	344	P	P	11 13 51.1	-0.2
	baz=159						
DUG	Dugway, Tooele	80.10	329	P	P	11 13 52.2	+0.4
	baz=144,SNR=24						
DUG	Dugway, Tooele	80.10	329	eP	P	11 13 52.3	+0.6
DUG	Dugway, Tooele	80.10	329	eP	P	11 13 52.3	+0.6
RCTC	Rector, Farmer	80.17	323	P	P	11 13 52.0	0.0
	baz=139,SNR=11						
C36A	Pine Crest Far	80.18	345	P	P	11 13 51.9	+0.1
	baz=161,SNR=5.7						
TIN	Tinemaha, Big	80.22	324	P	P	11 13 53.6	+1.2
	baz=140						
TCUT	Toone Canyon	80.25	330	eP	P	11 13 53.4	+0.7
PAGB	Antelope Grade	80.27	322	eP	P	11 13 54.1	+1.5
E31A	Nome	80.29	342	P	P	11 13 52.1	-0.3
	baz=157,SNR=11						
D33A	AnnSam, Waubun	80.30	343	P	P	11 13 52.0	-0.4
	baz=159,SNR=9.4						
C35A	Jirik Farms, M	80.38	345	P	P	11 13 52.6	-0.2
	baz=160,SNR=13						
C34A	RKJ Ranch, Bem	80.55	344	P	P	11 13 53.4	-0.4
	baz=159						
D32A	Dogwood Acres,	80.59	343	P	P	11 13 54.2	+0.2
	baz=158						
BGU	Big Grassy Mou	80.79	329	eP	P	11 13 55.9	+0.4
SPUT	South Promonto	80.85	330	eP	P	11 13 56.5	+0.8
SPUT				epP	sP	11 14 11.1	+1.0
BW06	Boulder Array	80.86	333	P	P	11 13 55.6	-0.3
	baz=147,SNR=16						
BW06	Boulder Array	80.86	333	eP	P	11 13 55.5	-0.3
PD31	Pinedale Array	80.86	333	eP	P	11 13 55.5	-0.3
PDAR	Pinedale Array	80.86	333	P	P	11 13 55.2	-0.7
	comp=Z,10nm,1.1s,baz=134,slow=4.3,SNR=36						
PDAR				LR	LR	11 46 19.5	
	comp=Z,267nm,20.4s,baz=153,slow=33						
PDAR	Pinedale Array	80.86	333	eP	P	11 13 55.3	-0.5
C33A	Trail	80.86	344	P	P	11 13 55.2	-0.2
	baz=159,SNR=8.4						
PMPB	Monarch Peak	80.93	321	eP	P	11 13 58.5	+2.3
B35A	Bob, Littlefor	80.95	345	P	P	11 13 55.5	-0.3
	baz=160,SNR=14						
MLAC	Mammoth, Mammo	80.97	324	P	P	11 13 57.3	+0.8
	baz=140,SNR=12						
MDPB	Devils Postpil	81.09	323	eP	P	11 13 58.2	+1.0
BOSA	Boshof	81.20	118	P	P	11 13 58.0	-0.1
	comp=Z,19nm,0.9s,baz=227,slow=4.4,SNR=22						
BOSA				LR	LR	11 44 52.0	
	comp=Z,368nm,21.0s,baz=234,slow=32						
BOSA	Boshof	81.20	118	P	P	11 13 58.0	-0.1
BOSA				pmax	pmax		
	comp=Z,19nm,0.9s						
B34A	Aery, Baudette	81.27	345	P	P	11 13 57.2	-0.4
	baz=160,SNR=8.0						
B33A	Robert and Kas	81.29	344	P	P	11 13 57.5	-0.2
	baz=159,SNR=10						
NVAR	Mina Array Bea	81.31	324	P	P	11 13 58.9	+0.5
	comp=Z,15nm,0.9s,baz=152,slow=5.9,SNR=75						
NVAR				LR	LR	11 43 14.8	
	comp=Z,200nm,21.3s,baz=264,slow=31						
HVU	Hansel Valley	81.38	330	eP	P	11 13 58.4	-0.1
HVU	Hansel Valley	81.38	330	eP	P	11 13 58.4	-0.1
AGMN	Agassiz Nation	81.38	344	P	P	11 13 58.0	-0.2
	baz=159,SNR=16						
AGMN	Agassiz Nation	81.38	344	eP	P	11 13 57.8	-0.4
C31A	Landman Farms,	81.39	342	P	P	11 13 58.2	-0.1
	baz=157,SNR=12						
AHID	Auburn Hatcher	81.48	332	eP	P	11 13 59.1	-0.1
RYN	Ryan	81.57	324	eP	P	11 14 00.6	+1.0
B32A	Ashes, Strandq	81.64	343	P	P	11 13 59.4	-0.1
	baz=158,SNR=38						
SAO	San Andreas Ge	81.69	321	eP	P	11 14 01.2	+1.1
SAO				epP	sP	11 14 15.8	+1.4
SAO	San Andreas Ge	81.69	321	eP	P	11 14 01.2	+1.1
SAO				e*PP	sP	11 14 15.8	+1.4
A33A	Warroad	81.87	344	P	P	11 14 00.2	-0.6
	baz=159,SNR=29						
REDW	Red Top Meadow	81.87	332	eP	P	11 14 01.1	-0.2
SNOW	Snow King Moun	81.92	332	eP	P	11 14 01.9	+0.4
WAKR	Walker	81.94	324	eP	P	11 14 02.8	+1.1
MDND	Maddock	81.94	341	P	P	11 14 01.2	0.0
	baz=156,SNR=9.2						
MDND	Maddock	81.94	341	epP	pP	11 14 15.3	+3.6
B31A	Greenbush Farm	81.95	343	P	P	11 14 01.0	-0.1
	baz=157,SNR=8.1						
LOHW	Long Hollow	81.98	332	eP	P	11 14 02.1	+0.3
CMB	Columbia Colle	82.07	323	eP	P	11 14 02.3	+0.1
CMB	Columbia Colle	82.07	323	eP	P	11 14 02.3	+0.1
A32A	Rocking H Ranc	82.11	344	P	P	11 14 02.1	+0.1
	baz=158,SNR=11						
MOOW	Moose Ponds	82.15	332	eP	P	11 14 02.9	+0.3
FXWY	Fox Creek	82.17	332	eP	P	11 14 02.7	-0.1
YERR	Yerington	82.20	324	eP	P	11 14 03.9	+0.9
BMN	Battle Mountai	82.33	326	eP	P	11 14 03.6	0.0
BMN	Battle Mountai	82.33	326	eP	P	11 14 03.6	0.0
RDG13	Poverty Ridge	82.34	322	eP	P	11 14 05.0	+1.4
RDG13				epP	sP	11 14 19.6	+1.6
TOA0	Torodi Ar. Sit	82.42	70	eP	P	11 14 04.2	-0.2
TORD	Torodi Ar. Bea	82.42	70	P	P	11 14 04.1	-0.3
	comp=Z,26nm,1.0s,baz=253,slow=4.5,SNR=82						
TORD				LR	LR	11 48 04.8	
	comp=Z,1µm,20.9s,baz=225,slow=34						
PNTR	Pine Nut	82.47	324	eP	P	11 14 05.3	+0.9
H17A	Grant Village	82.62	333	P	P	11 14 06.0	+0.9
	baz=146						
H17A	Grant Village	82.62	333	eP	P	11 14 07.1	+2.0
VCNR	Virginia City	82.65	324	eP	P	11 14 06.3	+0.9
LKWY	Lake	82.70	333	eP	P	11 14 06.9	+1.4
LKWY	Lake	82.70	333	eP	P	11 14 06.9	+1.4
RUBR	Rubicon Trail	82.72	324	eP	P	11 14 07.1	+1.4
RLMT	Red Lodge	82.73	334	P	P	11 14 05.3	-0.3
	baz=148,SNR=8.4						
RLMT	Red Lodge	82.73	334	eP	P	11 14 05.5	-0.1
YFT	Old Faithful	82.77	333	eP	P	11 14 07.7	+1.8
PAHR	Pah Rah Range	82.83	325	eP	P	11 14 07.0	+0.8
LAO	LASA Array	82.97	337	P	P	11 14 06.5	-0.2

	baz=150,SNR=12						
LAO	LASA Array	82.97	337	eP	P	11 14 06.5	-0.2
YMR	Madison River	83.00	333	eP	P	11 14 08.2	+1.2
YHH	Holmes Hill	83.06	333	eP	P	11 14 08.1	+0.7
AFDM	Forest Hills D	83.06	323	eP	P	11 14 07.6	+0.4
YHB	Horse Butte	83.17	333	eP	P	11 14 08.9	+1.0
ULM	Lac du Bonnet	83.21	344	P	P	11 14 06.7	-0.9
	comp=Z,41nm,1.0s,baz=157,slow=3.5,SNR=38						
QLMT	Earthquake Lak	83.32	333	eP	P	11 14 09.9	+1.1
QLMT				epP	sP	11 14 24.1	+1.0
BEKR	Beckworth	83.44	324	eP	P	11 14 09.9	+0.6
HLID	Hailey	83.53	330	P	P	11 14 09.9	+0.2
	baz=144,SNR=40						
HLID	Hailey	83.53	330	eP	P	11 14 10.1	+0.4
ORV	Oroville	83.79	323	eP	P	11 14 11.6	+0.6
ORV	Oroville	83.79	323	eP	P	11 14 11.6	+0.6
MCMT	McKenzie Canyo	83.90	332	eP	P	11 14 12.3	+0.6
MFID	Camas Ranch	84.03	329	eP	P	11 14 12.4	+0.2
BOZ	Bozeman (W)	84.04	333	P	P	11 14 12.1	-0.2
	baz=146,SNR=6.3						
BOZ	Bozeman (W)	84.04	333	eP	P	11 14 12.4	+0.1
BOZ				epP	sP	11 14 26.5	-0.1
BOZ	Bozeman (W)	84.04	333	eP	P	11 14 12.4	+0.1
BOZ				e*PP	sP	11 14 26.5	-0.1
DLMT	Dillon	84.23	332	eP	P	11 14 13.9	+0.6
O03D	Paynes Creek	84.49	324	P	P	11 14 14.0	-0.6
	baz=138,SNR=12						
LRM	Limekiln Ridge	84.55	332	eP	P	11 14 15.7	+0.7
WVOR	Wild Horse Val	84.55	327	eP	P	11 14 15.0	+0.1
WVOR	Wild Horse Val	84.55	327	eP	P	11 14 15.0	+0.1
SCHQ	Schefferville	84.98	3	P	P	11 14 15.8	-0.8
	comp=Z,35nm,1.1s,baz=171,slow=3.6,SNR=23						
SCHQ				LR	LR	11 51 27.6	
	comp=Z,78nm,21.0s,baz=202,slow=35						
HRY	Holter Researc	85.04	333	eP	P	11 14 17.8	+0.6
WDC	Whiskeytown Da	85.08	323	eP	P	11 14 16.6	-0.8
WDC	Whiskeytown Da	85.08	323	eP	P	11 14 16.6	-0.8
J08A	Circle Bar Ran	85.19	328	eP	P	11 14 18.5	+0.5
EGMT	Eagleton	85.36	335	P	P	11 14 18.2	-0.5
	baz=147,SNR=9.6						
EGMT	Eagleton	85.36	335	eP	P	11 14 18.5	-0.3
N02D	Trinity Center	85.45	324	P	P	11 14 19.1	-0.3
	baz=137						
M04C	Macdoel	85.61	325	P	P	11 14 20.5	+0.3
	baz=138,SNR=22						
BMO	Blue Mountains	85.82	329	eP	P	11 14 20.8	-0.3
BMO	Blue Mountains	85.82	329	eP	P	11 14 20.8	-0.3
M02C	Callahan	85.84	324	P	P	11 14 21.3	0.0
	baz=137						
KHMM	Horse Mountain	85.91	323	eP	P	11 14 23.1	+1.3
MSO	Missoula	85.97	332	P	P	11 14 22.0	+0.1
	baz=144,SNR=9.0						
MSO	Missoula	85.97	332	eP	P	11 14 21.9	+0.1
YBH	Yreka Blue Hor	86.02	324	LR	LR	11 46 39.6	
	comp=Z,160nm,20.8s,baz=141,slow=31						
YBH	Yreka Blue Hor	86.02	324	eP	P	11 14 21.5	-0.7
YBH				epP	sP	11 14 35.9	-0.7
YBH	Yreka Blue Hor	86.02	324	eP	P	11 14 21.5	-0.7
YBH				e*PP	sP	11 14 35.9	-0.7
K04D	Chiloquin, OR	86.20	325	P	P	11 14 23.6	+0.4
	baz=138						
I07A	Izee	86.22	327	eP	P	11 14 23.8	+0.6
J05D	Fort Rock, OR	86.44	326	P	P	11 14 24.7	+0.3
	baz=138,SNR=20						
F10A	Beach Ranch, E	86.66	330	eP	P	11 14 25.2	0.0
PINE	Pine Mountain	86.68	326	eP	P	11 14 26.3	+0.7
L02D	Cave Junction,	86.78	324	P	P	11 14 26.3	+0.5
	baz=137,SNR=6.6						
HUMO	Hull Mountain	86.78	325	eP	P	11 14 25.9	0.0
J04D	Umpqua Nationa	86.83	325	P	P	11 14 26.5	+0.2
	baz=138,SNR=9.6						
JTMT	Jette	86.85	333	eP	P	11 14 26.3	+0.1
G08A	Pilot Rock	86.90	329	eP	P	11 14 26.5	0.0
I05D	Terrebonne, OR	87.28	327	P	P	11 14 28.6	+0.4
	baz=138,SNR=11						
I04A	Tendick Farm,	87.39	326	P	P	11 14 28.6	-0.2
	baz=138,SNR=6.0						
G06A	Carlson Farm,	87.62	328	eP	P	11 14 30.6	+0.7
G06A				epP	sP	11 14 45.1	+0.9
KEBM	Edson Butte	87.67	324	eP	P	11 14 31.8	+1.6
KEBM				epP	sP	11 14 46.0	+1.4
WALA	Waterton Lakes	87.77	334	eP	P	11 14 30.4	-0.2
E08A	Dider Farm, El	87.86	329	eP	P	11 14 30.3	-0.6
E08A				epP	sP	11 14 45.7	+0.4
H04A	Detroit Lake	87.94	326	eP	P	11 14 31.5	+0.1
G05D	Wamic, OR	87.94	327	P	P	11 14 32.2	+0.7
	baz=138,SNR=7.7						
D08A	Wollman Farm,	88.24	330	eP	P	11 14 32.5	-0.2
D08A				epP	sP	11 14 47.2	+0.1
E07A	Sunnyside	88.27	329	eP	P	11 14 33.5	+0.6
E07A				epP	sP	11 14 47.7	+0.4
NEW	Newport	88.41	331	P	P	11 14 33.2	-0.4
	baz=142,SNR=6.8						
NEW	Newport	88.41	331	eP	P	11 14 32.8	-0.8
NEW				epP	sP	11 14 47.1	-0.9
NEW	Newport	88.41	331	eP	P	11 14 32.8	-0.8
NEW				e*PP	sP	11 14 47.1	-0.9
C09A	Chrisman Ranch	88.53	330	eP	P	11 14 34.3	+0.2
C09A				epP	sP	11 14 48.4	-0.2
FFC	Flin Flon	88.81	343	eP	P	11 14 33.8	-1.4
FFC	Flin Flon	88.81	343	eP	P	11 14 33.8	-1.4
LTY	Liberty	89.17	329	eP	P	11 14 37.1	0.0
LON	Longmire	89.30	328	eP	P	11 14 37.6	-0.2
LON	Longmire	89.30	328	eP	P	11 14 37.6	-0.2
B08A	Colville Reser	89.42	330	eP	P	11 14 37.8	-0.5
PBDV	Barranco-do-Ve	89.70	46	eP	P	11 14 40.3	+0.4
D05A	Enumclaw	89.71	328	eP	P	11 14 39.8	+0.1
D05A				epP	sP	11 14 54.5	+0.5
PNCL	Nicolau / Gran	89.89	45	eP	P	11 14 42.0	+1.3
LSZ	Lusaka	90.33	108	eP	P	11 14 45.2	+1.6
LSZ	Lusaka	90.33	108	eP	P	11 14 45.2	+1.6
B06A	Marblemount	90.47	329	eP	P	11 14 42.7	-0.4
B05A	Bryant	90.56	329	P	P	11 14 43.3	-0.2
	baz=138						
PMTG	Montargil	90.68	44	eP	P	11 14 44.9	+0.6
TAM	Tamanrasset	90.72	64	eP	P	11 14 45.7	+0.6
TAM				epP	sP	11 14 59.2	-0.3
TAM	Tamanrasset	90.72	64	eP	P	11 14 45.7	+0.6
TAM				e*PP	sP	11 14 59.2	-0.3
FCC	Fort Churchill	90.84	348	eP	P	11 14 44.5	-0.1
FCC	Fort Churchill	90.84	348	eP	P	11 14 44.5	-0.1
PESTR	Estremoz	90.93	44	eP	P	11 14 46.8	+1.2
EDM	Edmonton	90.95	336	eP	P	11 14 44.0	-1.3
EDM	Edmonton	90.95	336	eP	P	11 14 44.0	-1.3
LLLB	Lillooet	92.21	330	eP	P	11 14 50.5	-0.7
MVO	Moncorvo	92.71	43	eP	P	11 14 53.9	+0.1
ESDC	Sonseca Array	93.65	46	P	P	11 14 58.4	+0.2
	comp=Z,1.2nm,0.7s,baz=255,slow=4.2,SNR=9.2						
ESDC				LR	LR	11 54 45.9	
	comp=Z,285nm,20.6s,baz=230,slow=34						
ES19	SONSECA Array	93.70	46	eP	P	11 14 58.4	-0.1
YKA	Yellowknife Ar	98.86	341	P	P	11 15 20.1	-1.1
	comp=Z,5.3nm,0.9s,baz=142,slow=4.6,SNR=49						
YKA				PP	PP	11 19 18.8	-4.7
	comp=Z,0.4nm,0.7s,baz=140,slow=7.4,SNR=3.9						
DZM	Mont Dzumac	103.84	234	eLR	LR	11 50 01.6	
	comp=Z,981nm,24.2s						
GERES	GERESS Array B	109.18	44	PKiKP	PKiKP	11 20 11.2	-0.2
	comp=Z,1.5nm,0.9s,baz=288,slow=0.9,SNR=9.2						
KHC	Kasperske Hory	109.23	44	ePKP	PKiKP	11 20 11.3	-0.1
CLL	Collm	109.78	42	e(Pdif)		11 16 17.0	
	comp=Z,7.0nm,1.3s						
CLL				i PKiKP	PKiKP	11 20 12.4	+0.1
CLL				ePS	PS	11 30 11.0	-2.5
CLL				Lm	MLR	12 07 00.0	
	comp=Z,300nm,19.6s						
CLL	Collm	109.78	42	eP	Pdif	11 16 17.0	+7.0
CLL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CLL				MLR	MLR		
	comp=Z,300nm,19.6s						
PRU	Pruhonice	110.15	43	AMS	AMS	12 07 50.0	
	comp=Z,500nm,17.8s						
GOPC	GO Pecny, Ondr	110.27	43	AMS	AMS	12 08 00.0	
	comp=Z,400nm,21.6s						
ILAR	Eielson Array	111.27	334	PKiKP	PKiKP	11 20 13.8	-0.9
	comp=Z,1.2nm,0.9s,baz=197,slow=1.6,SNR=9.5						
ILAR				PP	PP	11 20 48.0	-7.5
	comp=Z,1.0nm,1.0s,baz=142,slow=4.6,SNR=5.6						
DPC	Dobruska-Polom	111.34	43	ePKP	PKiKP	11 20 15.4	0.0
DPC	Dobruska-Polom	111.34	43	ePKIKP	PKiKP	11 20 15.4	0.0
COLD	Coldfoot	113.52	335	ePKPdf	PKiKP	11 20 18.1	-0.9
MMAI	Mount Meron Ar	118.82	67	PKP	PKPdf	11 20 29.7	-0.6

	comp=Z,0.8nm,0.4s,baz=159,slow=0.9,SNR=4.6						
SPITS	Spitsbergen Ar	119.06	14	PKP	PKPdf	11 20 28.4	-1.0
	comp=Z,5.1nm,0.9s,baz=321,slow=2.0,SNR=2.7						
KIEV	Kiev	119.28	46	ePKPdf	PKPdf	11 20 29.1	-1.3
KIEV	Kiev	119.28	46⇑	iPKIKP	PKPdf	11 20 28.7	-1.8
AKASG	Malin Array Be	119.29	46	PKP	PKPdf	11 20 28.8	-1.7
	comp=Z,1.0nm,0.4s,baz=264,slow=2.6,SNR=15						
BRTR	Keskin Array B	119.51	59	PKP	PKPdf	11 20 30.8	-0.7
	comp=Z,2.1nm,0.9s,baz=187,slow=5.0,SNR=6.3						
FINES	FINESS Array B	119.68	33	PKP	PKPdf	11 20 30.2	-0.7
	comp=Z,2.3nm,0.8s,baz=217,slow=0.7,SNR=7.0						
ARCES	ARCESS Array B	120.50	24	PKP	PKPdf	11 20 31.7	-0.7
	comp=Z,3.3nm,0.8s,baz=292,slow=4.8,SNR=4.0						
ASAR	Alice Springs	121.03	207	PKP	PKPdf	11 20 33.2	-1.7
	comp=Z,1.0nm,0.8s,baz=138,slow=1.8,SNR=14						
ASAR				PKKPbc	PKKPbc	11 30 37.1	-0.2
	comp=Z,1.5nm,0.9s,baz=328,slow=3.4,SNR=9.3						
ASAR				PKKP	PKKPdf	11 31 12.4	+2.1
	comp=Z,0.5nm,0.7s,baz=318,slow=2.6,SNR=6.3						
ASAR				SKKP		11 34 49.0	
	comp=Z,0.9nm,1.0s,baz=335,slow=4.1,SNR=4.2						
WRA	Warramunga Arr	124.18	210	PKP	PKPdf	11 20 39.5	-1.5
	comp=Z,2.1nm,0.8s,baz=155,slow=1.7,SNR=28						
WRA				PKKPbc	PKKPbc	11 30 25.2	+0.1
	comp=Z,1.8nm,0.8s,baz=336,slow=4.3,SNR=15						
OBN	Obninsk	124.38	41⇓	iPKIKP	PKPdf	11 20 39.5	-0.6
OBN				e		11 22 24.1	
OBN				eSS	SS	11 39 16.3	-0.3
OBN				pmax	pmax		
	comp=Z,29nm,1.3s						
OBN				MLR	MLR		
	comp=Z,257nm,22.0s						
LPSR	Galich'ya Gora	125.56	45	ePKIKP	PKPdf	11 20 42.3	-0.2
LPSR				pmax	pmax		
	comp=Z,20nm,1.0s						
VSR	Storozhevoye	125.57	46	ePKIKP	PKPdf	11 20 41.2	-1.4
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLMR	Klimovskoe	126.13	35	ePKIKP	PKPdf	11 20 38.5	-4.8
KLMR				pmax	pmax		
	comp=Z,23nm,1.1s						
KLMR	Klimovskoe	126.13	35	ePKPdf	PKPdf	11 20 38.5	-4.8
KLMR				AMP		11 20 43.9	
	comp=Z,23nm,1.1s						
H11S2	WAKE ISLAND Hy	126.36	271	T	T	13 39 46.9	
	baz=116,slow=75,SNR=713						
H11S1	WAKE ISLAND Hy	126.38	271	T	T	13 39 43.9	
	baz=116,slow=75,SNR=304						
H11S3	WAKE ISLAND Hy	126.38	271	T	T	13 39 48.4	
	baz=116,slow=75,SNR=416						
KIV	Kislovodsk	127.03	56	i PKIKP	PKPdf	11 20 44.4	-1.3
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KBZ	Khabaz	127.14	56	PKP	PKPdf	11 20 45.8	0.0
	comp=Z,4.6nm,1.0s,baz=219,slow=7.1,SNR=3.4						
VRH	Novokhopyorsk	127.17	47	ePKIKP	PKPdf	11 20 44.8	-0.8
VRH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BILL	Bilibino	129.85	336c	iPKIKP	PKPdf	11 20 50.0	-0.2
BILL				e		11 23 02.5	
BILL				ePPP	PPP	11 25 51.4	
BILL				pmax	pmax		
	comp=Z,20nm,1.1s						
BILL				MLR	MLR		
	comp=Z,162nm,18.0s						
WSAR	Wadi Sarin	135.06	87	PKP	PKPdf	11 21 01.7	+0.3
	comp=Z,1.2nm,0.4s,baz=284,slow=4.2,SNR=1.9						
ARU	Arti	136.60	38	ePKPdf	PKPdf	11 21 03.5	+0.3
ARU				eSKPbc	SKPbc	11 24 31.7	-1.6
ARU	Arti	136.60	38	i PKIKP	PKPdf	11 21 03.2	-0.1
ARU						11 23 41.8	
SEY	Seymchan	137.19	332⇑	ePKIKP	PKPdf	11 21 04.7	+0.6
TIXI	Tiksi	137.27	351	ePKPdf	PKPdf	11 21 03.0	-1.1
TIXI	Tiksi	137.27	351⇓	ePKIKP	PKPdf	11 21 02.3	-1.8
AKTO	Aktyubinsk	137.51	47	PKP	PKPdf	11 21 05.0	-0.1
	comp=Z,6.1nm,1.0s,baz=264,slow=2.8,SNR=9.4						
SVE	Sverdlovsk	137.58	37	ePKIKP	PKPdf	11 21 04.0	-1.1
SVE				pmax	pmax		
	comp=Z,14nm,1.1s						
GEYT	Alibeck	137.92	66	PKP	PKPdf	11 21 05.1	-1.3
	comp=Z,5.2nm,1.0s,baz=258,slow=5.9,SNR=7.0						
PETK	Petropavlovsk-	138.02	317	PKP	PKPdf	11 21 05.4	-0.6
	comp=Z,10nm,0.9s,baz=102,slow=5.1,SNR=5.5						
PETK	Petropavlovsk-	138.02	317	PKIKP	PKPdf	11 21 05.4	-0.6
PETK				pmax	pmax		
	comp=Z,11nm,1.0s						
ABKAR	Akbulak array	138.92	49	ePKPdf	PKPdf	11 21 07.4	-0.4
MA2	Magadan	139.45	328⇑	ePKIKP	PKPdf	11 21 08.3	-0.1
BRVK	Borovoye	144.12	40	ePKPdf	PKPbc	11 21 15.5	+0.4
BRVK	Borovoye	144.12	40c	iPKIKP	PKPbc	11 21 15.2	+0.1
BVA0	Borovoye Array	144.19	40	i PKIKP	PKPbc	11 21 15.4	+0.1
BVA0				pmax	pmax		
	comp=Z,30nm,1.5s						
BVAR	Borovoye Array	144.19	40	PKP	PKPbc	11 21 16.2	+0.9
	comp=Z,6.4nm,0.6s,baz=290,slow=2.0,SNR=44						
PALK	Pallekele	145.11	126	ePKPbc	PKPbc	11 21 18.7	-0.7
PALK	Pallekele	145.11	126	i PKIKP	PKPab	11 21 19.8	+0.3
YAK	Yakutsk	145.53	343	ePKPbc	PKPdf	11 21 18.6	-0.5
YAK				epPKPdf	sPKPdf	11 21 33.6	-0.2
YAK	Yakutsk	145.53	343c	iPKIKP	PKPdf	11 21 18.8	-0.3
YAK				e		11 21 32.8	
YAK				e		11 24 39.9	
YAK				eSS	SS	11 43 34.9	+5.7
YAK				pmax	pmax		
	comp=Z,641nm,1.2s						
YAK				pmax	pmax		
	comp=N,118nm,1.5s						
YAK				pmax	pmax		
	comp=E,94nm,1.5s						
YAK				pmax	pmax		
	comp=Z,67nm,3.8s						
YAK				pmax	pmax		
	comp=N,22nm,2.1s						
YAK				pmax	pmax		
	comp=E,42nm,3.3s						
POO	Poona	146.30	102	eP	PKPab	11 21 28.0	+4.2
OTUK	Ortayu	147.12	47	PKIKP	PKPdf	11 21 22.4	+0.1
OTUK				pmax	pmax		
	comp=Z,61nm,1.0s						
KK31	Karatay Array	147.18	57	i PKP2	PKPbc	11 21 24.2	-0.6
KK31				pmax	pmax		
	comp=Z,46nm,1.1s						
KKAR	Karatay Array	147.18	57	ePKPbc	PKPbc	11 21 24.6	-0.3
KKAR				epPKPdf	sPKPbc	11 21 39.0	-0.4
KKAR	Karatay Array	147.18	57	ePKP2	PKPbc	11 21 24.6	-0.3
TYV	Tymovskoe	147.52	319	ePKIKP	PKPdf	11 21 23.6	+0.8
TYV				pmax	pmax		
	comp=Z,70nm,1.3s						
KLRI	Killari	148.38	105	ePKPbc	PKPdf	11 21 26.9	+1.6
SKHT	Srikalahasti	148.57	115	ePKPbc	PKPbc	11 21 28.2	-1.1
MNAS	Manas	148.73	57	PKIKP	PKPdf	11 21 25.3	0.0
MNAS				pmax	pmax		
	comp=Z,62nm,1.3s						
YSS	Yuzh-Sakhalins	148.99	312	ePKPdf	PKPdf	11 21 25.8	+0.4
YSS				ePKPbc	PKPbc	11 21 28.8	-0.6
YSS				ePKPab	PKPab	11 21 33.2	-0.4
YSS	Yuzh-Sakhalins	148.99	312⇑	iPKP2	PKPbc	11 21 28.9	-0.6
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
GSI	Gunungsitoli	149.19	158	ePKPbc	PKPbc	11 21 31.1	+0.1
SRLM	Srisailam	149.26	111	ePKPbc	PKPbc	11 21 29.9	-1.2
NVS	Novosibirsk	149.55	29⇑	iPKHKP	PKPpre	11 21 26.4	
NVS				pmax	pmax		
	comp=Z,99nm,1.4s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,17nm,1.0s						
EKS2	Erkin-Say	149.62	57	P	PKPbc	11 21 31.2	-0.1
	SNR=45						
AML	Almayashu	149.67	58	P	PKPbc	11 21 32.1	+0.3
	SNR=23						
HYB	Hyderabad	149.68	108	i PKP	PKPbc	11 21 32.0	-0.1
HYBB	Hyderabad (bro	149.68	108	ePKPbc	PKPbc	11 21 31.1	-1.0
KURK	Kurchatov	149.78	39	ePKPdf	PKPdf	11 21 26.4	-0.1
KURK				ePKPbc	PKPbc	11 21 31.2	-0.1
KURK	Kurchatov	149.78	39c	iPKHKP	PKPbc	11 21 26.2	-5.1
NJS	Nagarjunasagar	149.84	111	ePKPbc	PKPbc	11 21 30.7	-1.8
SFK	Sufi-Kurgan	149.87	62	PKP2	PKPbc	11 21 32.1	-0.1
SFK				pmax	pmax		
	comp=Z,82nm,1.4s						
ASAJ	Asahikawa	149.97	307	PKP	PKPdf	11 21 27.5	+0.5
	comp=Z,27nm,1.0s,baz=158,slow=5.4,SNR=2.8						

ASAJ				PKPbc	**PKPbc**	**11 21 32.1**	**+0.1**
	comp=Z,55nm,1.0s,baz=263,slow=6.8,SNR=17						
ASAJ	**Asahikawa**	**149.97**	**307**	*e*PKPdf	**PKPdf**	**11 21 26.0**	**-1.0**
ASAJ				*e*PKPbc	**PKPbc**	**11 21 31.8**	**-0.1**
ADKI	**Addanki**	**149.99**	**112**	*e*PKiKP	**PKiKP**	**11 21 33.6**	**-0.1**
USP	**Ospenovka**	**150.00**	**55**	P	**PKPbc**	**11 21 32.6**	**+0.4**
	SNR=26						
ERM	**Erimo**	**150.06**	**302**	*d i*PKIKP	**PKPbc**	**11 21 32.6**	**+0.4**
AAK	**Ala-Archa**	**150.14**	**56**	P	**PKPbc**	**11 21 33.4**	**+0.8**
	SNR=20						
AAK	**Ala-Archa**	**150.14**	**56**	*e*PKPbc	**PKPbc**	**11 21 33.2**	**+0.6**
AAK				LR	LR		
	comp=Z,3μm,21.0s						
AAK	**Ala-Archa**	**150.14**	**56**	PKP2	**PKPbc**	**11 21 33.0**	**+0.3**
AAK				pmax	pmax		
	comp=Z,88nm,1.1s						
FRU	**Bishkek**	**150.19**	**56**	*e*PKIKP	**PKPbc**	**11 21 32.0**	**-0.6**
FRU				*i*		11 21 45.0	
FRU				pmax	pmax		
	comp=Z,180nm,1.6s						
CHMS	**Chumysh**	**150.24**	**56**	P	**PKPbc**	**11 21 33.1**	**+0.3**
	SNR=25						
UCH	**Uchtor**	**150.25**	**57**	P	**PKPbc**	**11 21 34.1**	**+0.8**
	SNR=53						
SRSP	**Sriramsagar**	**150.25**	**106**	*e*PKPbc	**PKPbc**	**11 21 32.1**	**-1.3**
KBK	**Karagaybulak**	**150.46**	**56**	P	**PKPbc**	**11 21 34.0**	**+0.5**
	SNR=19						
KZA	**Kyzart**	**150.81**	**57**	P	**PKPbc**	**11 21 35.2**	**+0.6**
	SNR=30						
ZALV	**Zalesovo Beam**	**150.84**	**29**	PKP	**PKPdf**	**11 21 27.8**	**-0.3**
	comp=Z,11nm,1.0s,baz=282,slow=2.9,SNR=16						
ZALV				PKPbc	**PKPbc**	**11 21 33.9**	**+0.2**
	comp=Z,78nm,0.8s,baz=305,slow=3.1,SNR=109						
TKM2	**Tokmak 2**	**150.86**	**55**	P	**PKPdf**	**11 21 28.6**	**-0.1**
	SNR=5.1						
TKM2	**Tokmak 2**	**150.86**	**55**	PKIKP	**PKPbc**	**11 21 34.2**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,52nm,1.0s						
GRNR	**Gornyy**	**151.00**	**322**	*e*PKIKP	**PKPdf**	**11 21 29.8**	**+1.4**
GRNR				pmax	pmax		
	comp=Z,130nm,1.0s						
KSM	**Kuching**	**151.18**	**183**	*e*PKPbc	**PKPbc**	**11 21 35.1**	**-0.7**
KSM				*e*PKPab	**PKPab**	**11 21 43.6**	**+0.2**
CLNS	**Chul'man**	**151.25**	**341**	*e*PKIKP	**PKPbc**	**11 21 34.0**	**-0.6**
CLNS				pmax	pmax		
	comp=Z,84nm,1.1s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CLNS				pmax	pmax		
	comp=N,21nm,0.8s						
ULHL	**Ulahol**	**151.49**	**57**	P	**PKPbc**	**11 21 36.5**	**+0.6**
	SNR=14						
KSH	**Kashi**	**151.82**	**62**	PKPbc	**PKPdf**	**11 21 30.2**	**0.0**
KSH				pPKP	sPKPdf	11 21 44.7	-0.2
KSH				sPKP		11 21 50.2	
KSH				PKS	**PKSdf**	**11 25 04.3**	**-0.6**
KSH				PP	**PP**	**11 25 16.2**	**-1.5**
KSH				SKS	**SKSdf**	**11 28 32.8**	**-2.5**
KSH				SKKS	**SKKSac**	**11 32 04.3**	**-1.4**
KSH				AMB	AMB		
	comp=N,180nm,5.2s						
KSH				LR	LR		
	comp=N,190nm,10.0s						
KSH				LR	LR		
	comp=N,310nm,12.2s						
KSH				LR	LR		
	comp=N,420nm,12.3s						
BOD	**Bodaibo**	**152.35**	**354**	*e*PKIKP	**PKPdf**	**11 21 28.9**	**-1.3**
BOD				pmax	pmax		
	comp=Z,63nm,1.2s						
ZEA	**Zeya**	**153.08**	**335**	*e*PKIKP	**PKPdf**	**11 21 30.1**	**-1.3**
ZEA				pmax	pmax		
	comp=Z,39nm,1.2s						
MK31	**Makanchi Array**	**153.85**	**44**	*i* PKIKP	**PKPdf**	**11 21 31.7**	**-1.1**
MKAR	**Makanchi Array**	**153.85**	**44**	PKP	**PKPdf**	**11 21 32.2**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=298,slow=2.6,SNR=17						
MKAR				PKPbc	**PKPbc**	**11 21 40.2**	**-0.6**
	comp=Z,9.4nm,0.9s,baz=306,slow=2.2,SNR=34						
MKAR				PKPab	**PKPab**	**11 21 54.6**	**+0.7**
	comp=Z,14nm,1.0s,baz=298,slow=2.6,SNR=17						
KLR	**Kul'dur**	**154.34**	**324**	PKP	**PKPdf**	**11 21 32.9**	**-0.5**
	comp=Z,0.6nm,1.1s,baz=6.6,slow=2.6,SNR=9.9						
KLR				PKPbc	**PKPbc**	**11 21 41.1**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=32,slow=3.2,SNR=8.8						
KLR				PKPab	**PKPab**	**11 21 55.8**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=343,slow=5.6,SNR=8.6						
KLR	**Kul'dur**	**154.34**	**324**	*c i*PKIKP	**PKPdf**	**11 21 31.8**	**-1.6**
MJAR	**Matsushiro Arr**	**154.68**	**292**	PKP	**PKPdf**	**11 21 32.3**	**-2.0**
	comp=Z,2.0nm,0.9s,baz=226,slow=3.4,SNR=5.4						
MJAR				PKPbc	**PKPbc**	**11 21 42.9**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=33,slow=0.6,SNR=6.3						
MJAR				PKPab	**PKPab**	**11 21 57.8**	**0.0**
	comp=Z,19nm,1.0s,baz=136,slow=1.4,SNR=20						
MJAR	**Matsushiro Arr**	**154.68**	**292**	PKIKP	**PKPdf**	**11 21 32.3**	**-2.0**
MJAR						11 21 42.9	
MJAR						11 21 57.8	
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MAJO	**Matsushiro**	**154.68**	**292**	*e*PKPdf	**PKPdf**	**11 21 32.2**	**-2.1**
MAJO				*e*PKPbc	**PKPbc**	**11 21 42.8**	**-0.1**
MAJO				*e*PKPab	**sPKPbc**	**11 21 57.0**	**-0.5**
MAJO				LR	LR		
	comp=Z,20μm,21.0s						
MAJO	**Matsushiro**	**154.68**	**292**	⇑*e*PKIKP	**PKPdf**	**11 21 33.1**	**-1.2**
MAT	**Matsushiro**	**154.68**	**292**	PKP	**PKPbc**	**11 21 41.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**157.01**	**313**	PKP	**PKPdf**	**11 21 36.2**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=72,slow=4.7,SNR=3.2						
IRK	**Irkutsk**	**157.95**	**7**	*e*PKIKP	**PKPdf**	**11 21 38.0**	**0.0**
IRK				pmax	pmax		
	comp=Z,83nm,1.7s						
MDJ	**Mudanjiang**	**158.26**	**317**	*e*PKPdf	**PKPdf**	**11 21 38.4**	**-0.2**
TLY	**Talaya**	**158.42**	**9**	*e*PKPdf	**PKPdf**	**11 21 37.8**	**-0.8**
TLY				*e*PKPbc	**sPKPdf**	**11 21 54.3**	**+1.0**
TLY				*e*PKPab	**PKPab**	**11 22 13.7**	**+0.4**
TLY	**Talaya**	**158.42**	**9**	*e*PKIKP	**PKPdf**	**11 21 38.4**	**-0.3**
TLY				*e*		11 22 13.1	
TLY				pmax	pmax		
	comp=Z,10.0nm,1.8s						
WMQ	**Urumqi**	**158.65**	**45**	*e*PKP	**PKPdf**	**11 21 39.2**	**-0.1**
WMQ				LR	LR		
	comp=Z,270nm,24.3s						
WMQ				LR	LR		
	comp=Z,370nm,27.9s						
WMQ				LR	LR		
	comp=Z,430nm,27.9s						
ZAK	**Zakamensk**	**159.64**	**10**	*e*PKIKP	PKPdf	11 21 54.2	+14
ZAK				*e*		11 22 18.3	
ZAK				pmax	pmax		
	comp=Z,3.0nm,2.1s						
ZAK				pmax	pmax		
	comp=Z,14nm,1.3s						
CN2	**Changchun**	**161.14**	**320**	*e*PKP	**PKPdf**	**11 21 43.9**	**+1.9**
CN2				*e*pPKP	sPKPdf	11 21 55.8	-0.8
CN2				*e*PP	**PP**	**11 26 14.3**	**+5.9**
CN2				*e*SS	SS	11 46 23.6	+2.6
CN2				AMB	AMB		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=Z,300nm,20.0s						
CN2				LR	LR		
	comp=Z,600nm,20.0s						
CN2				LR	LR		
	comp=Z,500nm,22.0s						
SONM	**Songino Array**	**162.51**	**5**	PKP	**PKPdf**	**11 21 43.1**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=67,slow=1.2,SNR=8.3						
SONM				PKPab	**PKPab**	**11 22 31.8**	**+0.4**
	comp=Z,8.3nm,0.9s,baz=311,slow=4.1,SNR=19						
SONM				PP	**PP**	**11 26 14.5**	**-0.6**
	comp=Z,5.6nm,1.1s,baz=346,slow=3.0,SNR=11						
ULN	**Ulaanbaatar**	**162.53**	**4**	*i* PKIKP	**PKPdf**	**11 21 42.8**	**-0.7**
KSRS	**Korea Array**	**162.57**	**299**	PKP	**PKPdf**	**11 21 43.0**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=243,slow=0.6,SNR=4.3						
KSRS				PKPab	**PKPab**	**11 22 32.5**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=127,slow=4.2,SNR=4.7						
KSAR	**Wonju Array Be**	**162.60**	**299**	PKP	**PKPdf**	**11 21 43.0**	**-0.6**
KSAR				PKPab	**PKPab**	**11 22 32.5**	**+0.5**
KSAR	**Wonju Array Be**	**162.60**	**299**	PKIKP	**PKPdf**	**11 21 43.0**	**-0.6**
KSAR						11 22 32.6	
CMAR	**Chiang Mai Arr**	**165.17**	**141**	PKP	**PKPdf**	**11 21 46.2**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=253,slow=2.3,SNR=7.4						
CMAR				PKPab	**PKPab**	**11 22 42.5**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=232,slow=4.4,SNR=3.2						
GTA	**Gaotai**	**168.45**	**37**	*e*PKP	**PKPdf**	**11 21 49.0**	**+0.4**
GTA				PKPab	**PKPab**	**11 22 58.1**	**+0.2**
HHC	**Hu-ho-hao-te**	**169.32**	**348**	*e*PKP	**PKPdf**	**11 21 50.4**	**+1.3**
HHC				PP	**PP**	**11 26 55.6**	**+5.2**
HHC				SKS	**SKSdf**	**11 28 49.0**	**-1.3**
HHC				SKKS	**SKKSac**	**11 33 37.5**	**+1.8**
HHC				SS	**SS**	**11 47 46.1**	**+2.6**
HHC				AMB	AMB		
	comp=Z,80nm,6.1s						
HHC				LR	LR		
	comp=Z,99nm,19.8s						
HHC				LR	LR		
	comp=Z,120nm,19.0s						
HHC				LR	LR		
	comp=Z,170nm,20.2s						
TIA	**Tai'an**	**170.87**	**312**	PKP	**PKPdf**	**11 21 49.7**	**-0.3**
NJ2	**Nanjing**	**171.14**	**283**	*e*PKP	**PKPdf**	**11 21 48.1**	**-2.1**
KMI	**Kunming**	**172.56**	**134**	PKP	**PKPdf**	**11 21 50.4**	**-1.0**
LZH	**Lanzhou**	**173.04**	**34**	*e*PKP	**PKPdf**	**11 21 53.0**	**+1.8**
LZH				pPKP	pPKPdf	11 22 02.4	+0.2
LZH				sPKP		11 22 07.8	
LZH				LR	LR		
	comp=Z,120nm,16.0s						
LZH				LR	LR		
	comp=Z,140nm,17.8s						
LZH				LR	LR		
	comp=Z,200nm,19.9s						
GYA	**Guiyang**	**175.68**	**155**	PKP	**PKPdf**	**11 21 51.0**	**-1.3**
GYA				sPKP		11 22 13.2	
GYA				PKPab	**PKPab**	**11 23 31.6**	**+1.5**
GYA				PKS	**PKSdf**	**11 25 22.8**	**-1.9**
GYA				PP	**PP**	**11 27 25.5**	**+3.5**
GYA				AMB	AMB		
	comp=Z,150nm,8.9s						
CD2	**Chengdu**	**175.73**	**82**	PKP	**PKPdf**	**11 21 51.4**	**-0.7**
CD2				pPKP	sPKPdf	11 22 06.4	-0.4
CD2				sPKP		11 22 12.0	
CD2				PP	**PP**	**11 27 22.0**	**-1.8**
CD2				SKKS		11 34 03.6	
CD2				SS	**SS**	**11 48 45.0**	**-4.3**
CD2				AMB	AMB		
	comp=Z,370nm,7.4s						
XAN	**Xi'an**	**176.38**	**357**	PKP	**PKPdf**	**11 21 51.0**	**-1.1**
XAN				pPKP	sPKPdf	11 22 05.6	-1.2
XAN				LR	LR		
	comp=Z,210nm,9.6s						
XAN				LR	LR		
	comp=Z,54nm,3.8s						
XAN				LR	LR		
	comp=Z,140nm,6.3s						

IDC 03 11:04:22.6±1.8, 2.46N×125.27E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/53, mbtmp3.5/4, Error ellipse: s-maj=189.4km s-min=23.0km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**159**	P	P	11 09 38.5	-0.4
	0.7nm,0.3s,baz=337,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.29**	**163**	P	P	11 10 09.9	+0.8
	0.2nm,0.3s,baz=347,slow=12,SNR=4.0						
STKA	**Stephens Creek**	**37.50**	**157**	P	P	11 11 38.1	-0.2
	0.7nm,0.6s,baz=350,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**57.78**	**326**	P	P	11 14 15.4	-0.3
	0.1nm,0.3s,baz=115,slow=6.5,SNR=4.0						

IDC 03 11:04:36.3±2.0, 8.39S×130.77E, h0km, mb3.2/1, mb1 3.1/3, mb1mx3.1/44, mbtmp3.0/3, ML2.8/2, Error ellipse: s-maj=51.4km s-min=31.8km az=70.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.24**	**255**	Pn	Pn	11 06 22.7	-0.8
	3.4nm,0.3s,baz=76,slow=4.2,SNR=3.5						
BATI				Sn	Sn	11 07 37.0	-10
	1.7nm,0.3s,baz=74,slow=7.4,SNR=2.8						
WRA	**Warramunga Arr**	**12.00**	**164**	Pn	Pn	11 07 28.1	-0.7
	0.1nm,0.3s,baz=348,slow=14,SNR=5.9						
ASAR	**Alice Springs**	**15.49**	**169**	Pn	Pn	11 08 17.7	+1.4
	0.0nm,0.3s,baz=355,slow=9.8,SNR=3.5						
MKAR	**Makanchi Array**	**69.79**	**327**	P	P	11 15 48.7	+0.1
	0.1nm,0.4s,baz=121,slow=8.1,SNR=2.7						

IDC 03 11:06:27.0±1.5, 1.85S×141.23E, h0km, mb3.2/2, mb1 3.9/5, mb1mx3.5/45, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=34.1km s-min=25.4km az=115.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.55**	**142**	Pn	Pn	11 08 46.1	+0.2
	0.5nm,0.3s,baz=311,slow=11,SNR=2.4						
PMG				Sn	Sn	11 10 36.9	+2.9
	0.4nm,0.3s,baz=342,slow=17,SNR=2.1						
WRA	**Warramunga Arr**	**19.21**	**200**	P	P	11 10 52.2	-0.5
	0.3nm,0.3s,baz=20,slow=12,SNR=5.9						
BATI	**Baumata**	**19.33**	**244**	P	P	11 10 53.3	-0.8
	2.5nm,0.3s,baz=72,slow=9.6,SNR=2.5						
FITZ	**Fitzroy Crossi**	**22.25**	**222**	P	P	11 11 27.4	+1.8
	31μm,1.1s,baz=57,slow=5.8						
ASAR	**Alice Springs**	**22.82**	**198**	P	P	11 11 30.8	-1.0
	0.6nm,0.6s,baz=27,slow=10,SNR=9.7						
ILAR	**Eielson Array**	**84.01**	**24**	P	P	11 18 59.1	0.0
	0.2nm,0.7s,baz=258,slow=4.2,SNR=3.4						

*SJA **03** 11:16:00.4±0.4, 30.24S×71.74W, h31km±9km, ML3.9, MW4.0*
*ISCJB **03** 11:16:02.9±1.9, 30.25S±0.03×71.6W±0.1, h19km±11km, Error ellipse: s-maj=15.2km s-min=5.4km az=8.9*
*GUC **03** 11:16:03.9±0.6, 30.26S×71.50W, h34km±4km, ML3.7*
ISC 03 11:16:06.9±1.8, 30.27S±0.03×71.39W±0.09, h25km±14km, n15, σ1s60/24, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.52**	**79**	*e*P	**Pb**	**11 16 16.4**	**-1.2**
TLL				*e*S	**Sb**	**11 16 25.4**	**+0.5**
TLL				IAML		11 16 25.6	
	comp=E,6μm,0.6s						
GO04	**Tololo Observa**	**0.52**	**79**	*e*P	**Pb**	**11 16 16.4**	**-1.2**
GO04				*e*S	**Sb**	**11 16 25.3**	**+0.4**
GO04				IAML		11 16 26.1	
	comp=N,14μm,0.4s						
LCO	**Las Campanas**	**1.39**	**26**	*i* P	**Pn**	**11 16 27.9**	**-3.0**
LCO				*i* S	**Sn**	**11 16 48.1**	**-0.6**
LCO	**Las Campanas**	**1.39**	**26**	*e*P	**Pn**	**11 16 28.8**	**-2.1**
LCO				*e*S	**Sn**	**11 16 46.6**	**-2.0**
LCO				IAML		11 16 47.4	
	comp=E,1μm,0.2s						
VACH	**Vallenar**	**1.78**	**18**	*e*P	**Pb**	**11 16 41.1**	**+2.3**
VACH				*e*S	**Sb**	**11 17 03.8**	**+3.1**
RTLS	**Leoncito**	**2.35**	**131**	*i* P	**Pn**	**11 16 43.6**	**-0.6**
RTLS				IAML		11 17 21.4	
	comp=Z,232nm,0.3s						
AMOG	**MOGNA**	**2.58**	**106**	*i* P	**Pn**	**11 16 47.1**	**0.0**
AUSP	**Uspallata**	**2.59**	**139**	*i* P	**Pn**	**11 16 46.8**	**-0.7**
AGUA	**GUANDACOL**	**2.63**	**73**	*i* P	**Pn**	**11 16 47.5**	**-0.4**
GO03	**Copiap**	**2.85**	**21**	*e*P	**Pn**	**11 16 49.5**	**-1.4**
GO03				*e*S	**Sn**	**11 17 24.0**	**-0.4**
GO03				IAML		11 17 36.8	
	comp=N,375nm,0.3s						
RTCV	**Cerro Valdivia**	**2.91**	**124**	*i* P	**Pn**	**11 16 51.1**	**-0.6**
VCA	**Vinchina**	**3.17**	**62**	*i* P	**Pn**	**11 16 54.7**	**-0.6**
VCA				IAML		11 17 01.6	
	comp=Z,564nm,0.2s						
VCA				*i* S	**Sn**	**11 17 35.2**	**+2.8**
FCH	**Farellones**	**3.19**	**163**	*e*P	**Pn**	**11 16 55.1**	**-0.6**
FCH				*e*S	**Sn**	**11 17 34.1**	**+1.1**
CLCH	**Cerro Calan**	**3.20**	**167**	*e*S	**Sn**	**11 17 32.9**	**-0.1**
LMEL	**Las Melosas**	**3.71**	**165**	*e*P	**Pn**	**11 17 01.5**	**-1.2**
LMEL				*e*S	**Sn**	**11 17 45.4**	**-0.2**

SJA 03 11:25:01.5±0.7, 30.34S×71.69W, h40km±999km, ML3.0, MW3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.58**	**33**	*i* P	Pn	11 25 29.1	+1.8
LCO				*i* S	Sn	11 25 48.8	+2.2
RTLS	**Leoncito**	**2.52**	**126**	*i* P	Pn	11 25 43.1	+2.8
RTLS				IAML		11 26 15.9	
	comp=Z,38nm,0.5s						
AUSP	**Uspallata**	**2.73**	**134**	*i* P	Pn	11 25 45.5	+2.5
AMOG	**MOGNA**	**2.82**	**103**	*i* P	Pn	11 25 46.4	+2.2
AGUA	**GUANDACOL**	**2.91**	**74**	*i* P	Pn	11 25 47.9	+2.6
RTCV	**Cerro Valdivia**	**3.10**	**120**	*i* P	Pn	11 25 50.4	+2.3
ASAL	**Salagasta**	**3.32**	**133**	*i* P	Pn	11 25 53.4	+2.3
VCA	**Vinchina**	**3.43**	**63**	*i* P	Pn	11 25 55.0	+2.4
VCA				IAML		11 26 01.7	
	comp=Z,93nm,0.2s						
ARCO	**CERRO ARCO**	**3.44**	**137**	*i* P	Pn	11 25 54.8	+2.1
ARCO				IAML		11 26 50.9	
	comp=Z,21nm,0.3s						

*DJA **03** 11:32:19.1±0.7, 7°S±5°×13°0E±°, h87km±33km, M4.4/9, mb4.4/5, MLv4.4/9*
*ISCJB **03** 11:32:22.3±0.7, 6.39S±0.06×130.35E±0.09, h10km, mb3.6/3, MS3.4/1, Error ellipse: s-maj=13.3km s-min=8.7km az=164.3*
*IDC **03** 11:32:25.7±1.5, 6.70S×129.04E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/45, mbtmp3.9/5, ML3.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/53, Error ellipse: s-maj=221.7km s-min=22.0km az=66.0*
ISC 03 11:32:24.2±0.8, 6.41S±0.07×130.1E±0.1, h10km, n17, σ3s44/12, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.88**	**353**	P	**Pn**	**11 32 53.3**	**-3.2**
SAUI	**Saumlaki**	**1.95**	**144**	P	Pn	11 32 50.6	-6.7
MSAI	**Masohi**	**3.27**	**338**	P	Pn	11 33 10.7	-4.8
FAKI	**Fak Fak**	**4.05**	**31**	P	**Pn**	**11 33 24.8**	**-1.5**
NLAI	**Namlea**	**4.36**	**316**	P	Pn	11 33 23.2	-7.4
KMPI	**Kaimana, Papua**	**4.48**	**53**	P	**Pn**	**11 33 30.6**	**-1.6**
SWI	**Sorong**	**5.62**	**12**	P	**Pn**	**11 33 45.1**	**-2.7**
SANI	**Sanana**	**5.99**	**316**	P	**Pn**	**11 33 53.8**	**+0.9**
LBMI	**Labuha**	**6.30**	**335**	P	Pn	11 33 51.5	-5.8
APSI	**Ampana**	**10.07**	**302**	P	Pn	11 34 54.5	+5.4
MRSI	**Marisa**	**10.66**	**310**	P	Pn	11 35 01.9	+4.8
WRA	**Warramunga Arr**	**14.06**	**164**	Pn	**Pn**	**11 35 45.8**	**+2.1**
	0.5nm,0.3s,baz=337,slow=14,SNR=24						
WRA				Sn	**Sn**	**11 38 16.4**	**-3.5**
	0.5nm,0.3s,baz=351,slow=20,SNR=7.0						
ASAR	**Alice Springs**	**17.54**	**168**	P	**P**	**11 36 31.4**	**+1.3**
	0.5nm,0.3s,baz=348,slow=12,SNR=34						
ASAR				S	**Sn**	**11 39 38.2**	**-6.3**
	0.1nm,0.3s,baz=348,slow=27,SNR=3.9						
STKA	**Stephens Creek**	**27.51**	**159**	P	**P**	**11 38 15.6**	**+4.6**
	0.7nm,0.3s,baz=326,slow=9.4,SNR=10						
NWAO	**Narrogin (SRO)**	**28.99**	**203**	LR	LR	11 50 12.5	
	comp=Z,90nm,18.9s,baz=174,slow=38						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**11 43 23.7**	**+1.2**
	0.4nm,0.7s,baz=115,slow=8.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**71.11**	**334**	P	**P**	**11 43 44.3**	**+1.6**
	0.3nm,0.3s,baz=133,slow=6.3,SNR=1.9						

MEX 03 11:40:54.0±0.5, 13.93N×93.07W, h16km±999km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.77**	**355**	*i* P	Pn	11 41 20.4	-3.5
PCIG				*i* S	Sn	11 41 41.3	-4.7
CCIG	**Comitan**	**2.50**	**21**	*e*P	Pn	11 41 31.7	-2.4
CCIG				*i* S	Sn	11 41 60.0	-4.5
TGIG		**2.83**	**359**	*e*P	Pn	11 41 36.6	-2.0
TGIG				*i* S	Sn	11 42 08.4	-4.0

*IDC **03** 12:02:05.9±0.9, 38.31N×43.85E, h0km, mb3.5/13, mb1 3.6/18, mb1mx3.5/58, mbtmp3.4/18, ML2.9/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/64, Error ellipse: s-maj=15.1km s-min=10.1km az=152.0*
*ISN **03** 12:02:07.0±1.6, 38.84N×43.66E, h15km±84km, ML4.0*
*ISK **03** 12:02:09.9, 38.78N×43.54E, h5km, ML4.1/13*
*DDA **03** 12:02:10.5, 38.74N×43.61E, h16km, Ml4.0*
*CSEM **03** 12:02:12.2±0.2, 38.73N×43.45E, h5km, ML4.1, Error ellipse: s-maj=4.5km s-min=3.7km az=151.0*
*TEH **03** 12:02:13.7, 38.77N×43.48E, h15km, ML3.9*
ISC 03 12:02:11.3±0.8, 38.74N±0.01×43.59E±0.01, h18km±4km, n132, σ2s67/196, mb3.5/13, 37C-29D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**228**	PG	**Pg**	**12 02 17.1**	**+0.6**
VANB				SG	**Sg**	**12 02 22.1**	**+2.1**
VANB	**Van**	**0.21**	**228**	*e*Pg	**Pg**	**12 02 17.1**	**+0.6**
VANB				*e*Sg	**Sg**	**12 02 22.1**	**+2.1**
VMUR	**Van-Muradiye**	**0.25**	**357**	⇑*i*P	**Pg**	**12 02 16.1**	**-1.0**
VMUR				*i* S	**Sb**	**12 02 21.4**	**0.0**
VMUR	**Van-Muradiye**	**0.25**	**357**	P	**Pg**	**12 02 16.1**	**-1.0**
VMUR				S	**Sb**	**12 02 21.4**	**0.0**
ERCV	**ERCIS-VAN**	**0.34**	**325**	PG	**Pg**	**12 02 17.2**	**-1.5**
ERCV				SG	**Sg**	**12 02 22.3**	**-1.4**
ERCV	**ERCIS-VAN**	**0.34**	**325**	*e*Pg	**Pg**	**12 02 17.2**	**-1.5**
ERCV				*e*Sg	**Sg**	**12 02 22.3**	**-1.4**
CLDR	**Caldiran**	**0.48**	**32**	PG	**Pg**	**12 02 19.7**	**-1.4**
CLDR				SG	**Sb**	**12 02 28.0**	**-0.2**
CLDR	**Caldiran**	**0.48**	**32**	⇑*i*P	**Pg**	**12 02 19.6**	**-1.5**
CLDR				*i* S	**Sb**	**12 02 29.7**	**+1.5**
CLDR	**Caldiran**	**0.48**	**32**	P	**Pg**	**12 02 19.5**	**-1.5**
CLDR	**Caldiran**	**0.48**	**32**	*e*Pg	**Pg**	**12 02 19.7**	**-1.4**
CLDR				*e*Sg	**Sb**	**12 02 28.0**	**-0.2**
CLDR				S	**Sb**	**12 02 29.7**	**+1.5**
GEVA	**Gevas**	**0.59**	**225**	⇑*i*P	**Pg**	**12 02 22.3**	**-0.8**
GEVA				*i* S	**Sb**	**12 02 32.8**	**+1.4**
GEVA	**Gevas**	**0.59**	**225**	P	**Pg**	**12 02 22.3**	**-0.8**
GEVA				S	**Sb**	**12 02 32.8**	**+1.4**
ADCV	**BITLIS_Adilcev**	**0.68**	**276**	⇑*i*P	**Pg**	**12 02 23.9**	**-0.8**
ADCV				*i* S	**Sg**	**12 02 34.5**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.68**	**276**	P	**Pg**	**12 02 23.9**	**-0.8**
ADCV				S	**Sg**	**12 02 34.5**	**+0.7**
BASK	**Baskale_VAN**	**0.76**	**154**	*i* P	**Pg**	**12 02 24.7**	**-1.5**
BASK				*i* S	**Sn**	**12 02 38.8**	**+0.4**
BASK	**Baskale_VAN**	**0.76**	**154**	P	**Pg**	**12 02 24.7**	**-1.5**
BASK				S	**Sn**	**12 02 38.8**	**+0.4**
DYDN	**Diyadin**	**0.81**	**5**	⇑*i*P	**Pg**	**12 02 25.9**	**-1.2**
DYDN				*i* S	**Sb**	**12 02 40.0**	**+2.4**
DYDN	**Diyadin**	**0.81**	**5**	P	**Pg**	**12 02 25.9**	**-1.2**
DYDN				S	**Sb**	**12 02 40.0**	**+2.4**
TUTA	**Tutak**	**0.90**	**318**	⇓*i*P	**Pg**	**12 02 26.9**	**-1.9**
TUTA				*i* S	**Sg**	**12 02 39.5**	**-1.2**
TUTA	**Tutak**	**0.90**	**318**	P	**Pg**	**12 02 26.9**	**-1.9**
TUTA				S	**Sg**	**12 02 39.5**	**-1.2**
AGRB	**Hanur-Agry**	**0.96**	**331**	PG	**Pg**	**12 02 28.3**	**-1.6**
AGRB	**Hanur-Agry**	**0.96**	**331**	*e*Pg	**Pg**	**12 02 28.3**	**-1.6**
HAKT	**HAKKARI**	**1.18**	**175**	⇓*i*P	**Pg**	**12 02 33.1**	**-1.1**
HAKT				*i* S	**Sn**	**12 02 54.7**	**+5.8**
HAKT	**HAKKARI**	**1.18**	**175**	P	**Pg**	**12 02 33.1**	**-1.1**
HAKT				S	**Sn**	**12 02 54.7**	**+5.8**
IGDI	**IGDIR**	**1.19**	**18**	⇑*i*P	**Pg**	**12 02 33.3**	**-1.1**
IGDI				*i* S	**Sn**	**12 02 53.4**	**+4.5**
GURO	**Guroymak-BITLI**	**1.23**	**262**	PN	**Pg**	**12 02 33.2**	**-1.9**
GURO	**Guroymak-BITLI**	**1.23**	**262**	*i* Pn	**Pg**	**12 02 33.2**	**-1.9**
YOVA	**Hakkari_Yˆ...kse**	**1.27**	**154**	*i* P	**Pn**	**12 02 35.4**	**+1.0**
YOVA				*i* S	**Sn**	**12 02 57.8**	**+6.6**
YOVA	**Hakkari_Yˆ...kse**	**1.27**	**154**	P	**Pn**	**12 02 35.4**	**+1.0**
YOVA				S	**Sn**	**12 02 57.8**	**+6.6**
EKAR	**Karacoban**	**1.30**	**294**	*i* P	**Pg**	**12 02 34.5**	**-1.8**
EKAR				*i* S	**Sb**	**12 02 54.5**	**+2.8**
EKAR	**Karacoban**	**1.30**	**294**	P	**Pg**	**12 02 34.5**	**-1.8**
EKAR				S	**Sb**	**12 02 54.5**	**+2.8**
TASB	**TASBURUN-IGDIR**	**1.34**	**22**	PN	**Pg**	**12 02 35.9**	**-1.3**
TASB	**TASBURUN-IGDIR**	**1.34**	**22**	*e*Pn	**Pg**	**12 02 35.9**	**-1.3**
HYR	**Heyderabad**	**1.39**	**45**	⇑P	**Pb**	**12 02 39.3**	**+2.6**
HYR				⇑S	**Sn**	**12 03 02.4**	**+8.7**
EATA	**Eleskirt**	**1.41**	**323**	*i* P	**Pn**	**12 02 37.4**	**+1.0**
EATA				*i* S	**Sb**	**12 02 57.3**	**+2.2**
EATA	**Eleskirt**	**1.41**	**323**	P	**Pn**	**12 02 37.4**	**+1.0**
EATA				S	**Sb**	**12 02 57.3**	**+2.2**
CUKT	**Cukurca**	**1.49**	**179**	PN	**Pg**	**12 02 39.7**	**-0.3**
CUKT	**Cukurca**	**1.49**	**179**	*i* P	**Pn**	**12 02 38.1**	**+0.8**
CUKT				*i* S	**Sn**	**12 03 02.1**	**+5.8**
CUKT	**Cukurca**	**1.49**	**179**	P	**Pn**	**12 02 38.1**	**+0.8**
CUKT	**Cukurca**	**1.49**	**179**	*e*Pn	**Pg**	**12 02 39.7**	**-0.3**
CUKT				S	**Sn**	**12 03 02.1**	**+5.8**
SRTM	**Siirt_Merkez**	**1.51**	**241**	⇑*i*P	**Pn**	**12 02 39.6**	**+2.1**
SRTM				*i* S	**Sg**	**12 03 00.4**	**+0.4**
SRTM	**Siirt_Merkez**	**1.51**	**241**	P	**Pn**	**12 02 39.6**	**+2.1**
SRTM				S	**Sg**	**12 03 00.4**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SIRT	Sirnak	1.53	217	PN	Pb	12 02 39.8	+0.6
SIRT	Sirnak	1.53	217	ePn	Pb	12 02 39.8	+0.6
NAX	Nakhchivan	1.55	73	⇓P	Pg	12 02 41.9	+0.8
NAX				⇓S	Sg	12 03 06.6	+5.3
SIRN	S˜–rnak	1.55	217	iP	Pn	12 02 39.8	+1.7
SIRN				iS	Sg	12 03 01.1	-0.2
SIRN	S˜–rnak	1.55	217	P	Pn	12 02 39.8	+1.7
SIRN				S	Sg	12 03 01.1	-0.2
IMRD	Marand	1.65	90	ePn	Pg	12 02 43.0	-0.1
IMRD				eAMB	AMB	12 02 49.8	
	comp=Z,28μm,0.2s						
IMRD	Marand	1.65	90	ePn	Pg	12 02 43.0	-0.1
ISHB	Shabestar	1.65	105	ePn	Pg	12 02 42.9	-0.2
ISHB				eAMB	AMB	12 02 44.4	
	comp=Z,19μm,0.2s						
ISHB				eSg	Sg	12 03 08.3	+3.6
SBZ	Shahbuz	1.66	66	⇑P	Pg	12 02 43.4	+0.1
SBZ				⇓S	Sg	12 03 10.4	+5.4
GNI	Garni	1.67	32	Pn	Pg	12 02 42.7	-0.7
	comp=Z,72nm,0.3s,baz=226,slow=3.0,SNR=118						
GNI				Sn	Sg	12 03 08.3	+3.2
	comp=Z,38nm,0.3s,baz=111,slow=17,SNR=10						
GNI				LR	LR	12 03 44.1	
	comp=Z,515nm,21.9s,baz=220,slow=50						
ORD	Ordubad	1.89	83	⇑P	Pg	12 02 46.7	-0.9
ORD				⇑S	Sg	12 03 17.0	+4.9
BNGL	BINGOL	1.92	277	iP	Pb	12 02 46.2	+0.4
BNGL				iS	Sb	12 03 11.6	+2.1
KARS	Kars	1.93	348	PN	Pn	12 02 43.4	+0.1
KARS	Kars	1.93	348	ePn	Pn	12 02 43.4	+0.1
BTMN	Batman	2.01	246	iP	Pn	12 02 46.5	+2.1
BTMN				iS	Sg	12 03 15.5	-0.5
BTMN	Batman	2.01	246	P	Pn	12 02 46.5	+2.1
BTMN				S	Sg	12 03 15.5	-0.5
SENK	Senkaya-Erzuru	2.06	333	PN	Pn	12 02 46.4	+1.2
SENK	Senkaya-Erzuru	2.06	333	ePn	Pn	12 02 46.4	+1.2
ITBZ	Tabriz	2.07	103	ePn	Pg	12 02 49.6	-1.4
ITBZ				eAMB	AMB	12 03 00.6	
	comp=Z,3μm,0.2s						
ITBZ	Tabriz	2.07	103	ePn	Pg	12 02 49.6	-1.4
ERZM	Erzurum	2.08	305	iP	Pn	12 02 47.3	+1.7
ERZM				iS	Sn	12 03 13.6	+2.4
ERZM	Erzurum	2.08	305	P	Pn	12 02 47.3	+1.7
ERZM				S	Sn	12 03 13.6	+2.4
GDB	GEDABAY	2.59	39	⇓P	Pg	12 02 58.9	-2.1
GDB				⇓S	Sg	12 03 37.0	+2.4
AKH	Akhalkalaki	2.67	358	PN	Pn	12 02 55.4	+1.8
AKH	Akhalkalaki	2.67	358	ePn	Pn	12 02 55.4	+1.8
QZX	Qazax, Azerbai	2.69	30	⇑P	Pb	12 02 59.5	+0.5
QZX				⇑S	Sg	12 03 38.1	+0.3
IHRS	Heris	2.74	98	eAMB	AMB	12 03 12.6	
	comp=Z,3μm,0.4s						
DIY	Diyarbakir	2.78	253	ePn	Pn	12 02 57.8	+2.9
MAZI	Mazidag	2.79	244	PN	Pn	12 02 56.6	+1.4
MAZI	Mazidag	2.79	244	ePn	Pn	12 02 56.6	+1.4
DYBB	Diyarbakir	2.82	255	PN	Pn	12 02 57.8	+2.2
GANJ	Ganja	2.84	47	⇑P	Pb	12 03 01.3	-0.2
GANJ				⇓S	Sg	12 03 41.9	-0.7
BAYT	Ayd˜–ntepe-Bay	3.14	303	PN	Pn	12 03 01.7	+1.7
BAYT	Ayd˜–ntepe-Bay	3.14	303	ePn	Pn	12 03 01.7	+1.7
BRDA	Brd	3.17	60	⇑P	Pb	12 03 04.8	-2.2
BRDA				⇑S	Sb	12 03 48.1	+2.8
PTK	Pertek	3.28	274	PN	Pn	12 03 04.3	+2.3
PTK	Pertek	3.28	274	ePn	Pn	12 03 04.3	+2.3
MNGR	Mingechevir, A	3.38	52	⇑P	Pb	12 03 08.4	-2.2
MNGR				⇓S	Sb	12 03 53.6	+2.3
ZRD	Zardab	3.52	63	⇓P	Pb	12 03 09.7	-3.3
ZRD				⇓S	Sb	12 03 56.7	+1.2
SEKA	Sheki	3.71	47	⇑P	Pb	12 03 13.6	-2.8
SEKA				⇓S	Sb	12 04 04.1	+3.1
LRK	Lerik	3.72	90	⇑P	Pn	12 03 10.2	+2.2
LRK				⇓S	Sb	12 03 58.1	-3.2
GLBA	Clilabad	3.78	81	⇑P	Pn	12 03 12.2	+3.6
GLBA				⇓S	Sb	12 04 00.4	-2.4
KDMR	Kurdemir	3.91	64	⇑P	Pn	12 03 14.8	+4.4
KDMR				⇓S	Sb	12 04 05.9	-0.7
SAAT	Saatly	3.91	72	⇑P	Pn	12 03 14.1	+3.6
QBL	Gabala	3.94	55	⇑P	Pn	12 03 15.6	+4.6
QBL				⇑S	Sb	12 04 07.9	+0.2
ILIC	ilic-Erzincan	3.97	282	PN	Pn	12 03 13.8	+2.4
ILIC	ilic-Erzincan	3.97	282	ePn	Pn	12 03 13.8	+2.4
URFA	Urfa	3.98	252	PN	Pn	12 03 13.6	+2.1
URFA	Urfa	3.98	252	ePn	Pn	12 03 13.6	+2.1
LKRN	Lenkeran, Azer	4.06	89	⇓P	Pn	12 03 15.2	+2.7
LKRN				⇑S	Sn	12 04 05.8	+6.3
MALT	Malatya	4.07	266	PN	Pn	12 03 15.4	+2.6
MALT	Malatya	4.07	266	ePn	Pn	12 03 15.4	+2.6
ASTR	Astara	4.08	91	⇓P	Pn	12 03 15.2	+2.5
ASTR				⇑S	Sb	12 04 06.6	-4.9
IML	Ismayilli	4.09	58	⇑P	Pn	12 03 17.6	+4.6
IML				⇓S	Sb	12 04 10.8	-1.1
XNQ	Khinaliq	4.26	54	⇓P	Pn	12 03 19.9	+4.5
XNQ				⇓S	Sb	12 04 15.3	-1.6
PQL	Pirkuli	4.37	60	⇑P	Pn	12 03 21.2	+4.3
PQL				⇑S	Sb	12 04 17.8	-2.1
ALIB	Äli-Bayra	4.37	72	⇓P	Pn	12 03 20.4	+3.6
ALIB				⇑S	Sb	12 04 16.5	-3.5
GBS	Qobustan	4.50	65	⇓P	Pn	12 03 23.2	+4.5
GBS				⇑S	Sb	12 04 19.9	-4.0
QSAR	Qusar	4.53	51	⇓P	Pn	12 03 24.0	+5.0
QSAR				⇑S	Sb	12 04 22.9	-1.7
QUBA	Quba, Azerbaij	4.58	54	⇓P	Pn	12 03 24.6	+4.9
QUBA				⇓S	Sb	12 04 23.9	-2.1
ATGJ	Altiaghaj	4.63	61	⇑P	Pn	12 03 24.7	+4.2
ATGJ				⇓S	Sb	12 04 23.6	-4.0
SIZA	Siyzn	4.70	59	⇓P	Pn	12 03 25.9	+4.5
SIZA				⇓S	Sb	12 04 25.8	-3.8
KBZ	Khabaz	5.01	354	Pn	Pn	12 03 32.0	+6.4
	comp=Z,0.1nm,0.3s,baz=164,slow=18,SNR=2.2						
GOBA	Gobu	5.03	69	⇓P	Pn	12 03 29.1	+3.3
GOBA				⇑S	Sb	12 04 32.9	-6.0
KVAR	Kislovodsk Arr	5.26	353	Pn	Pn	12 03 35.4	+6.4
	baz=171,slow=13,SNR=2.3						
NDR	Nardaran	5.27	68	⇑P	Pn	12 03 33.6	+4.5
NDR				⇑S	Sb	12 04 38.8	-6.9
BHD	Baghdad	5.49	173	ePn	Pn	12 03 32.0	-0.2
	SNR=5.0						
BHD				iSn	Sn	12 04 32.0	-2.9
	SNR=5.0						
RTB	Rutbah	6.29	206	ePn	Pn	12 03 43.0	-0.2
	SNR=5.0						
RTB				iSn	Sn	12 04 51.0	-3.6
	SNR=5.0						
BRTR	Keskin Array B	7.79	280	Pn	Pn	12 04 07.6	+3.8
	baz=87,slow=13,SNR=2.4						
ASF	Jabal al Asfar	8.53	222	Pn	Pn	12 04 11.2	-2.7
	comp=Z,0.1nm,0.3s,baz=42,slow=12,SNR=2.4						
MMAI	Mount Meron Ar	8.76	232	Pn	Pn	12 04 21.7	+4.6
	comp=Z,0.7nm,0.3s,baz=66,slow=15,SNR=2.8						
GEYT	Alibeck	11.44	90	Pn	Pn	12 04 44.8	-9.0
	comp=Z,0.3nm,0.3s,baz=268,slow=8.4,SNR=2.6						
AKTO	Aktyubinsk	15.54	37	Pn	Pn	12 05 45.1	-4.2
	comp=Z,0.1nm,0.3s,baz=186,slow=19,SNR=3.1						
AKASG	Malin Array Be	15.69	324	Pn	Pn	12 05 52.0	+0.7
	comp=Z,0.2nm,0.3s,baz=129,slow=12,SNR=3.2						
KECS	Kecovo	19.29	308	eP	P	12 06 32.4	-2.6
ARU	Arti	20.30	24	P	P	12 06 45.5	-0.4
	comp=Z,4.9nm,0.7s,baz=274,slow=19,SNR=3.1						
ARU				LR	LR	12 17 59.2	
	comp=Z,170nm,18.7s,baz=290,slow=46						
VYHS	Vyhne	20.32	307	e	Pn	12 06 53.4	+5.0
VAE	Valguarnera	22.95	276	P	P	12 07 15.4	+0.8
	comp=Z,11nm,0.5s,baz=61,slow=13,SNR=3.3						
BVAR	Borovoye Array	23.32	43	P	P	12 07 16.4	-1.7
	comp=Z,0.2nm,0.3s,baz=229,slow=11,SNR=1.8						
GERES	GERESS Array B	23.68	305	P	P	12 07 21.5	-0.4
	comp=Z,0.2nm,0.5s,baz=113,slow=8.8,SNR=2.5						
AAK	Ala-Archa	23.69	71	P	P	12 07 17.8	-4.2
	comp=Z,2.2nm,0.7s,baz=219,slow=14,SNR=3.8						
HFS	Hagfors	28.49	328	P	P	12 08 07.3	+2.1
	comp=Z,1.4nm,0.7s,baz=135,slow=18,SNR=3.2						
MKAR	Makanchi Array	29.29	61	P	P	12 08 09.7	-2.8
	comp=Z,0.4nm,0.6s,baz=263,slow=11,SNR=3.5						
NOA	NORSAR Array B	30.02	329	P	P	12 08 18.6	-0.2
	comp=Z,1.0nm,0.9s,baz=112,slow=10,SNR=2.4						
ZALV	Zalesovo Beam	31.75	48	P	P	12 08 32.8	-1.3
	comp=Z,0.2nm,0.3s,baz=248,slow=11,SNR=2.3						
EKA	Eskdalemuir Ar	35.15	314	P	P	12 09 04.3	+0.6
	comp=Z,0.7nm,0.5s,baz=100,slow=8.1,SNR=3.1						
ESDC	Sonseca Array	36.52	287	P	P	12 09 15.8	0.0
	comp=Z,0.3nm,0.5s,baz=65,slow=9.4,SNR=4.5						
TORD	Torodi Ar. Bea	44.93	247	P	P	12 10 21.3	-4.0
	comp=Z,0.2nm,0.7s,baz=37,slow=12,SNR=2.4						
CMAR	Chiang Mai Arr	51.82	97	P	P	12 11 15.6	-2.8
	comp=Z,0.3nm,0.3s,baz=296,slow=6.9,SNR=2.6						
YKA	Yellowknife Ar	77.59	350	P	P	12 14 07.8	+2.0
	comp=Z,0.2nm,0.7s,baz=15,slow=5.1,SNR=3.0						

NNC 03 12:03:21.2±1.1, 49°.12N×68°.41E, h0km, mb3.5, mpv3.1, 6C-1D, Error ellipse: s-maj=10.9km s-min=7.1km az=39.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTUK	Ortayu	2.75	107	⇑Pn	Pn	12 04 06.4	-0.1
	8.3nm,0.7s						
OTUK				⇑Sn	Sn	12 04 41.6	+1.2
	16nm,0.5s						
BVA0	Borovoye Array	4.10	17	⇓Pg	Pb	12 04 34.9	+0.6
	2.0nm,0.5s,baz=25,slow=19,SNR=3.0						
BVA0				⇑Lg	Lg	12 05 32.8	
	8.0nm,0.7s,baz=198,slow=28,SNR=9.1						
AB31	Akbulak array	5.56	275	⇑Lg	Lg	12 06 18.1	
	1.4nm,0.5s						
KK31	Karatay Array	6.19	166	⇑Lg	Lg	12 06 38.5	
	5.5nm,0.8s,baz=348,slow=27,SNR=3.9						
MK31	Makanchi Array	9.60	99	⇑Lg	Lg	12 08 21.9	
	2.7nm,0.8s,baz=300,slow=29,SNR=5.6						

MAN 03 12:03:51, 10°.21N×123°.28E, h1km, mb4.2, ML3.0, MS2.7, 3C, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.69	81	eP	Pg	12 04 03.8	-0.4
LLP				eS	Sb	12 04 14.8	-1.0
TBP	Tagbilaran	0.77	132	eP	Pb	12 04 06.6	-0.7
GUIM	Jordan	0.79	301	eP	Pg	12 04 06.7	+0.4
GUIM				eS	Sb	12 04 18.9	0.0
SNPH	Sibulan	0.86	183	⇑iP	Pg	12 04 07.4	-0.1
SNPH				iS	Sg	12 04 16.9	-1.9
RCP	Roxas	1.44	339	⇑eP	Pb	12 04 20.2	+1.5
RCP				eS	Sn	12 04 42.8	+4.9
MSLP	Maasin	1.56	93	eP	Pn	12 04 19.3	-0.5
MSLP				eS	Sg	12 04 42.1	+1.0
DCPH	Dipolog City	1.62	177	⇑eP	Pn	12 04 17.0	-3.7

IDC ***03*** *12:19:52.7±0.3, 22°.09S×170°.43E, h0km, mb5.9/39, mb1 5.9/43, mb1mx5.8/44, mbtmp5.9/43, ML5.6/5, MS6.3/40, Ms1 6.3/40, ms1mx6.2/45, Error ellipse: s-maj=11.3km s-min=9.8km az=34.0*

ISCJB ***03*** *12:19:53.9±1.3, 22°.15S±0°.02×170°.30E±0°.02, h14km±7km, mb6.2/231, MS6.4/247, Error ellipse: s-maj=3.8km s-min=2.7km az=2.9*

NEIC ***03*** *12:19:55.1±0.1, 22°.14S×170°.34E, h14km, mb6.5/123, ME7.4, MS6.4/158, MW6.6, MW6.6, MW6.6, Error ellipse: s-maj=3.3km s-min=2.9km az=136.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^{18}Nm; Mrr-0.75; Mθθ-1.87; Mφφ2.62; Mrθ1.32; Mθφ8.08; Mφr0.84; Best double couple: Mo8.60000×10^{18} NP1:φs82.00000°, δ87.00000°, λ9.00000°. NP2:φs352.00000°, δ81.00000°, λ177.00000°. Principal axes: T 8.9800, Plg9.0000°, Azm308.0000°; N -0.9300, Plg80.0000°, Azm100.0000°; P -8.0500, Plg4.0000°, Azm217.0000°; Broadband fault plane solution: P waves. NP1:φs260.00000°, δ85.00000°, λ5.00000°. NP2:φs170.00000°, δ85.00000°, λ175.00000°. Principal axes: T Plg7.0000°, Azm125.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm35.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

GCMT ***03*** *12:19:55.1±0.0, 22°.33S×170°.22E, h24km, MW6.6/150, Moment Tensor Solution. s150,c377; s150,c622; Duration: 4s8 Moment tensor: Scale 10^{19}Nm; Mrr0.00±.00; Mθθ-0.36±.00; Mφφ0.35±.00; Mrθ0.19±.01; Mθφ0.86±.00; Mφr-0.03±.01; Best double couple: Mo0.95300×10^{19} NP1:φs258.00000°, δ87.00000°, λ-11.00000°. NP2:φs349.00000°, δ79.00000°, λ-176.00000°. Principal axes: T 0.9390, Plg5.0000°, Azm304.0000°; N 0.0280, Plg78.0000°, Azm61.0000°; P -0.9680, Plg10.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***03*** *12:19:55.8±1.0, 22°.12S×170°.33E, h28km, mb6.2/82, MS6.4/78 Error ellipse: s-maj=6.5km s-min=6.0km az=78.3*

BJI ***03*** *12:19:55.0, 22°.10S×170°.30E, h20km, mb6.1/81, mB6.5/63, Ms6.6/96, Ms7 6.4/83*

WEL ***03*** *12:19:55.0, 22°.14S×170°.34E, h14km*

NEIC ***03*** *12:19:55.0±0.0, 22°.06S×170°.10E, h23km, Moment Tensor Solution. s26 Moment tensor: Scale 10^{18}Nm; Mrr-0.12; Mθθ-3.63; Mφφ3.74; Mrθ2.34; Mθφ7.52; Mφr-2.15; Best double couple: Mo9.00000×10^{18} NP1:φs348.00000°, δ80.00000°, λ-163.00000°. NP2:φs255.00000°, δ74.00000°, λ-10.00000°. Principal axes: T 8.4700, Plg4.0000°, Azm121.0000°; N 0.9000, Plg70.0000°, Azm18.0000°; P -9.3700, Plg18.0000°, Azm212.0000°;*

NEIC ***03*** *12:20:13.6±0.0, 22°.48N×170°.16E, h10km, Moment Tensor Solution. s83 Moment tensor: Scale 10^{18}Nm; Mrr-0.62; Mθθ-2.52; Mφφ3.14; Mrθ2.41; Mθφ7.10; Mφr-4.25; Best double couple: Mo9.00000×10^{18} NP1:φs351.00000°, δ82.00000°, λ-149.00000°. NP2:φs256.00000°, δ60.00000°, λ-9.00000°. Principal axes: T 8.5400, Plg15.0000°, Azm120.0000°; N 1.0000, Plg59.0000°, Azm3.0000°; P -9.5400, Plg27.0000°, Azm218.0000°;*

ISC 03 12:19:55.7±0.3, **22°.12S**±0°.03×**170°.39E**±0°.03, **h17**km±1km, **h18**km**:pP-P, n1821,** σ**1s49**/1891, **mb6.4**/242, **MS6.5**/273, **114C-54D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I22FR	PORTLAGUERRE I	3.28	268	Pn	Pn	12 20 45.7	-0.7
	baz=90,slow=28,SNR=6.4						
DZM	Mont Dzumac	3.66	270	Pn	Pn	12 20 49.3	-2.3
	730nm,0.3s,baz=127,slow=9.9,SNR=3140						
DZM				Sn	Sn	12 21 31.9	-2.5
	676nm,0.3s,baz=90,slow=20,SNR=5.0						
DZM				LR	LR	12 22 08.4	
	comp=Z,701μm,21.0s,baz=90,slow=37						
DZM	Mont Dzumac	3.66	270	ePn	Pn	12 20 48.8	-2.8
	3μm,0.2s						
DZM				eSn	Sn	12 21 30.0	-4.4
	5μm,0.3s						
DZM	Mont Dzumac	3.66	270	ePn	Pn	12 20 49.8	-1.8
DZM				eSn	Sn	12 21 32.2	-2.2
RAO	Raoul Island	12.71	126	Pn	Pn	12 22 55.8	+0.1
	94nm,0.3s,baz=131,slow=19,SNR=7.2						
RAO	Raoul Island	12.71	126	ePn	Pn	12 22 56.0	+0.4
RAO	Raoul Island	12.71	126	eP	Pn	12 22 56.0	+0.4
OUZ	Omahuta	13.35	169	ePn	Pn	12 23 04.8	+0.4
LHI	Lord Howe Isla	13.77	225	ePn	Pn	12 23 07.0	-3.2
GRZ	Great Barrier	14.75	164	P	Pn	12 23 24.5	+0.9
ABAZ	Army Bay	14.94	166	P	P	12 23 33.0	+1.5
WIAZ	Waiheke Island	15.19	165	P	Pn	12 23 29.6	+0.2
WTAZ	Waiatarua	15.20	167	P	P	12 23 32.7	-1.8
KUZ	Kuaotunu	15.29	164	P	Pn	12 23 31.5	+0.7
ETAZ	East Tamaki Re	15.29	166	P	P	12 23 34.0	-1.6
AWAZ	Awhitu Peninsu	15.34	167	P	P	12 23 35.7	-0.4
MKAZ	Moumakai	15.49	166	P	Pn	12 23 34.6	+1.2
FUNA	Funafuti	15.96	33	ePn	Pn	12 23 40.9	+1.4
	15μm,1.9s						
HNR	Honiara	16.12	320	Pn	Pn	12 23 41.3	-0.3
	9.8nm,0.3s,baz=188,slow=3.1,SNR=14						
HNR				LR	LR	12 28 38.5	
	comp=Z,78μm,18.1s,baz=142,slow=33						
HNR	Honiara	16.12	320	eP	Pn	12 23 42.0	+0.4
HNR				eS	Sn	12 26 34.0	-6.0
HNR	Honiara	16.12	320	ePn	Pn	12 23 41.7	+0.1
	18μm,1.5s						
HNR	Honiara	16.12	320	eP	Pn	12 23 41.7	+0.1
TOZ	Tahuroa Road	16.17	165	P	Pn	12 23 43.3	+1.2
HIZ	Hauiti	16.78	168	ePn	Pn	12 23 50.1	+0.1
	6μm,1.4s						
HIZ	Hauiti	16.78	168	P	Pn	12 23 50.3	+0.4
HAZ	Te Kaha	16.84	159	P	P	12 23 54.8	+2.2
MXZ	Matakaoa Point	16.84	158	ePn	Pn	12 23 51.0	+0.4
	4μm,2.0s						
URZ	Urewera	17.09	162	P	Pn	12 23 53.4	-0.4
	10nm,0.3s,baz=288,slow=4.3,SNR=33						
URZ	Urewera	17.09	162	ePn	Pn	12 23 54.3	+0.5
	12μm,1.9s						
URZ	Urewera	17.09	162	P	P	12 23 55.9	+0.4
MWZ	Matawai	17.29	161	P	P	12 23 59.0	+1.4
BKZ	Black Stump Fm	17.77	164	ePn	P	12 24 03.0	-0.1
	5μm,1.5s						
EIDS	Eidsvold	17.97	256	P	Pn	12 24 04.6	-0.2
	baz=18,SNR=60						
EIDS	Eidsvold	17.97	256	ePn	Pn	12 24 04.6	-0.2
	2μm,1.3s						
NIUE	Niue	18.68	84	P	P	12 24 12.8	-0.3
	baz=19,SNR=30						
ARMA	Armidale	18.73	240	P	Pn	12 24 14.2	+0.1
	baz=19,SNR=68						
ARMA	Armidale	18.73	240	eP	Pn	12 24 14.8	+0.6
	2μm,1.9s						
AFI	Afiamalu	18.81	67	P	P	12 24 14.0	-0.6
	36nm,0.3s,baz=231,slow=6.2,SNR=110						
AFI				PcP	PcP	12 28 42.3	+0.7
	2.2nm,0.3s,baz=270,slow=3.0,SNR=4.7						
AFI				ScP	ScP	12 32 17.4	+0.8
	0.8nm,0.3s,baz=150,slow=1.1,SNR=6.9						
AFI	Afiamalu	18.81	67	eP	P	12 24 13.9	-0.8
	2μm,1.1s						
AFI				PcP	PcP	12 28 42.4	+0.7
AFI				ScP	ScP	12 32 17.4	+0.8
BFZ	Birch Farm	19.16	166	eP	P	12 24 18.2	0.0
	3μm,1.5s						
SNZO	South Karori	19.48	170	eP	P	12 24 21.5	-0.1
	5μm,1.5s						
THZ	Tophouse	19.70	174	eP	P	12 24 24.8	+0.7
	3μm,1.3s						
RMQ	Roma	20.18	253	P	P	12 24 30.0	+0.5
	baz=20,SNR=328						
MGCD	Mangrove Creek	20.30	233	P	P	12 24 31.6	+0.8
	baz=20,SNR=55						
KHZ	Kahutara	20.41	173	eP	P	12 24 31.4	-0.4
	4μm,1.2s						
RIV	Riverview	20.56	231	P	P	12 24 34.6	+1.0
	baz=21,SNR=32						
LTZ	Lake Taylor	20.66	176	ePn	P	12 24 34.5	-0.2
	3μm,1.3s						
OXZ	Oxford	21.19	177	eP	P	12 24 39.6	-0.7
	2μm,1.1s						
FOZ	Fox Glacier	21.36	181	eP	P	12 24 42.6	+0.5
	3μm,1.3s						
CRLZ	Canterbury Las	21.48	176	eP	P	12 24 42.9	-0.5
	6μm,1.6s						
RPZ	Rata Peaks	21.54	179	P	P	12 24 43.8	-0.3
	521nm,1.1s,baz=28,slow=1.6,SNR=32						
RPZ				LR	LR	12 32 08.6	
	comp=Z,101μm,18.6s,baz=0.0,slow=34						
RPZ	Rata Peaks	21.54	179	eP	P	12 24 43.7	-0.4
	2μm,1.2s						
MQZ	McQueen's Vall	21.61	176	eP	P	12 24 43.3	-1.4
	3μm,1.6s						
LBZ	Lake Benmore	22.21	180	eP	P	12 24 50.9	-0.3
	2μm,1.5s						
CNB	Canberra Magne	22.59	230	P	P	12 24 55.3	-0.2
	baz=23,SNR=56						
CTA	Charters Tower	22.60	271	P	P	12 24 55.1	-0.6
	662nm,1.2s,baz=96,slow=12,SNR=86						
CTA				LR	LR	12 33 00.0	
	comp=Z,156μm,18.6s,baz=92,slow=35						
CTA	Charters Tower	22.60	271	P	P	12 24 55.1	-0.6
CTA				pmax	pmax		
	comp=Z,662nm,1.2s						
CTA				MLR	MLR		
	comp=Z,156μm,18.7s						
CTAO	Charters Tower	22.60	271	eP	P	12 24 55.4	-0.3
	comp=Z,2μm,1.4s						
CTAO				LR	LR		
	comp=Z,211μm,19.0s						
CTAO	Charters Tower	22.60	271	eP	P	12 24 55.4	-0.3
CTAO				pmax	pmax		
	comp=Z,2μm,1.4s						
WKZ	Wanaka	22.68	183	eP	P	12 24 56.7	+0.5
	comp=Z,4μm,1.4s						
YNG	Young	22.81	233	P	P	12 24 57.5	-0.2
	baz=23,SNR=72						
CAN	Canberra	22.85	230	eP	P	12 24 58.2	0.0
	comp=Z,2μm,1.6s						
CAN				LR	LR		
	comp=Z,91μm,21.0s						
CAN	Canberra	22.85	230	eP	P	12 24 58.2	0.0
CAN				pmax	pmax		
	comp=Z,2μm,1.6s						
ODZ	Otahua Downs	22.86	180	eP	P	12 24 58.0	-0.2
	comp=Z,2μm,1.5s						
MLZ	Mavora Lakes	23.26	184	eP	P	12 25 04.6	+2.3
	comp=Z,2μm,1.6s						
DCZ	Deep Cove	23.43	186	eP	P	12 25 05.2	+1.3
	comp=Z,4μm,1.9s						
TARA	Tarawa	23.46	6	eP	P	12 25 05.0	+0.5
	comp=Z,3μm,1.4s						
TARA				LR	LR		
	comp=Z,7μm,19.0s						
WHZ	Wether Hill Ro	23.80	184	eP	P	12 25 08.4	+0.9
CMSA	Cobar Meteorol	23.91	242	P	P	12 25 07.8	-0.9
	baz=24,SNR=577						
PYZ	Puysegur Point	24.18	186	eP	P	12 25 11.4	+0.3
PYZ				epP	pP	12 25 13.9	-2.5
QLP	Quilpie	24.22	254	P	P	12 25 10.2	-1.5
	baz=24,SNR=826						
MTSU	Mount Surprise	24.79	275	P	P	12 25 17.3	+0.4
	baz=25,SNR=222						
RABL	Rabaul	25.09	313	eP	P	12 25 19.6	-0.1
	comp=Z,3μm,1.8s						
PMG	Port Moresby	25.63	296	P	P	12 25 24.5	-0.1
	comp=Z,725nm,1.0s,baz=106,slow=6.8,SNR=136						
PMG				LR	LR	12 34 09.1	
	comp=Z,138μm,18.5s,baz=136,slow=33						
PMG	Port Moresby	25.63	296	eP	P	12 25 24.5	-0.1
	comp=Z,1μm,1.1s						
PMG	Port Moresby	25.63	296c	iP	P	12 25 24.4	-0.1
PMG				pmax	pmax		
	comp=Z,6μm,1.2s						
PMG				MLR	MLR		
	comp=Z,841μm,14.0s						
KNTN	Kanton	25.92	45	eP	P	12 25 27.7	+0.6
	comp=Z,3μm,1.4s						
TOO	Toolangi	26.41	229	P	P	12 25 30.6	-0.9
	baz=26,SNR=44						
TOO	Toolangi	26.41	229	P	P	12 25 31.7	+0.2
TOO				pmax	pmax		
	comp=Z,466nm,1.8s						
COEN	Coen	27.09	283	P	P	12 25 38.0	+0.3
	baz=27,SNR=248						
COEN	Coen	27.09	283	eP	P	12 25 38.1	+0.3
	comp=Z,1μm,1.1s						
STKA	Stephens Creek	27.36	243	P	P	12 25 39.8	-0.3
	comp=Z,256nm,0.9s,baz=75,slow=9.6,SNR=44						
STKA				LR	LR	12 35 17.9	
	comp=Z,86μm,20.2s,baz=72,slow=34						
STKA	Stephens Creek	27.36	243	P	P	12 25 39.1	-1.0
	baz=27,SNR=64						
STKA	Stephens Creek	27.36	243	eP	P	12 25 39.1	-1.0
	comp=Z,170nm,1.3s						
STKA	Stephens Creek	27.36	243	eP	P	12 25 39.1	-1.0
STKA				pmax	pmax		
	comp=Z,171nm,1.3s						
RAR	Rarotonga	27.73	94	P	P	12 25 43.2	-0.2
	comp=Z,28nm,0.9s,baz=241,slow=9.8,SNR=5.0						
RAR				LR	LR	12 36 36.5	
	comp=Z,26μm,18.1s,baz=260,slow=36						
RAR	Rarotonga	27.73	94	eP	P	12 25 44.0	+0.6
	comp=Z,573nm,1.5s						
RAR	Rarotonga	27.73	94	eP	P	12 25 44.0	+0.6
RAR				pmax	pmax		
	comp=Z,573nm,1.5s						
MOO	Moorlands	28.04	218	P	P	12 25 46.7	+0.7
	baz=28,SNR=24						
TAU	Tasmania Unive	28.26	217	eP	P	12 25 47.4	-0.6
	comp=Z,1μm,1.9s						
TAU				LR	LR		
	comp=Z,59μm,19.0s						
TAU	Tasmania Unive	28.26	217	eP	P	12 25 47.4	-0.6
TAU				pmax	pmax		
	comp=Z,1μm,1.9s						
QIS	Mount Isa	28.69	267	P	P	12 25 51.6	-0.5
	baz=29,SNR=65						
ARPS	Mount Arapiles	28.70	233	P	P	12 25 52.6	+0.7
	baz=29,SNR=26						
HTT	Hallett	29.92	241	P	P	12 26 01.5	-1.4
	baz=30,SNR=139						
MANU	Manus Island	29.99	309	eP	P	12 26 04.7	+1.1

comp=Z,742nm,1.3s
BBOO Buckleboo 32.14 243 P **P** **12 26 21.9 -0.6**
baz=32,SNR=38
BBOO Buckleboo 32.14 243 *e*P **P** **12 26 21.2 -1.2**
comp=Z,875nm,1.1s
MCQ Macquarie Isla 33.46 192 P **P** **12 26 35.0 +1.3**
baz=34,SNR=4.4
MCQ Macquarie Isla 33.46 192 *e*P **P** **12 26 32.6 -1.0**
comp=Z,7µm,1.3s
MCQ Macquarie Isla 33.46 192 *e*P **P** **12 26 32.6 -1.0**
MCQ pmax pmax
comp=Z,7µm,1.3s
AS01 Alice Springs 33.55 260 *e*P **P** **12 26 33.0 -1.9**
AS31 Alice Springs 33.59 260 *e*P **P** **12 26 33.5 -1.7**
comp=Z,235nm,1.6s
ASAR Alice Springs 33.59 260 P **P** **12 26 33.5 -1.7**
comp=Z,150nm,0.9s,baz=94,slow=6.8,SNR=141
ASAR PcP **PcP** **12 29 16.4 +0.8**
comp=Z,22nm,0.9s,baz=69,slow=3.1,SNR=3.5
ASAR ScP **ScP** **12 33 03.1 +3.6**
comp=Z,9.6nm,0.9s,baz=127,slow=3.0,SNR=5.4
ASAR PKiKP **PKiKP** **12 36 39.9 -0.9**
comp=Z,2.4nm,0.9s,baz=91,slow=1.3,SNR=7.8
ASAR LR LR 12 39 15.7
comp=Z,89µm,18.2s,baz=91,slow=35
ASAR P3KPbc 12 57 45.9
comp=Z,1.9nm,0.8s,baz=286,slow=4.1,SNR=19
ASAR Alice Springs 33.59 260 P **P** **12 26 33.6 -1.7**
ASAR 12 29 16.4
ASAR pmax pmax
comp=Z,146nm,0.9s
ASAR MLR MLR
comp=Z,89µm,18.2s
WRAB Tennant Creek 33.66 267 *e*P **P** **12 26 34.2 -1.6**
comp=Z,1µm,1.5s
WRAB Tennant Creek 33.66 267 *e*P **P** **12 26 34.3 -1.6**
WRAB pmax pmax
comp=Z,1µm,1.5s
WRA Warramunga Arr 33.67 267 P **P** **12 26 34.0 -2.0**
comp=Z,182nm,0.9s,baz=102,slow=8.4,SNR=274
WRA PcP **PcP** **12 29 16.4 +0.6**
comp=Z,30nm,1.0s,baz=98,slow=2.4,SNR=3.1
WRA S S 12 32 09.1 +11
comp=Z,6.3nm,1.0s,baz=104,slow=12,SNR=4.8
WRA ScP **ScP** **12 33 04.2 +4.4**
comp=Z,10nm,1.0s,baz=96,slow=4.1,SNR=4.7
WRA PKiKP **PKiKP** **12 36 40.6 -0.2**
comp=Z,6.2nm,1.1s,baz=63,slow=0.4,SNR=7.3
WRA LR LR 12 39 03.8
comp=Z,161µm,21.2s,baz=95,slow=34
WRA P3KPbc 12 57 46.0
comp=Z,0.7nm,0.6s,baz=294,slow=3.2,SNR=7.9
WRA Warramunga Arr 33.67 267 P **P** **12 26 34.0 -2.0**
WRA 12 29 16.4
WRA pmax pmax
comp=Z,182nm,0.9s
WRA MLR MLR
comp=Z,161µm,21.2s
JAY Jayapura 34.80 300 P **P** **12 26 46.1 +0.3**
comp=Z,12µm,1.4s,comp=Z,176µmcomp=Z,277µm
GENI Genyem 35.19 299 P **P** **12 26 49.7 +0.6**
comp=Z,2µm,1.5s,comp=Z,37µmcomp=Z,35µm
TBI Tubuai 36.97 100 *e*S **S** **12 32 48.7 -0.3**
comp=Z,32µm,24.4s
TBI *e*LQ LQ 12 35 23.6
comp=Z,114µm,34.5s
TBI eLR LR 12 37 03.0
comp=Z,122µm,31.5s,baz=256
PAE Paea 37.83 91 *e*P **P** **12 27 12.0 +0.4**
comp=Z,21nm,1.3s
PPT2 Papeete2 37.85 90 *e*P **P** **12 27 12.3 +0.4**
PPT2 *e*S **S** **12 33 03.9 +1.3**
comp=Z,28µm,26.2s
PPT2 *e*LQ LQ 12 35 44.3
comp=Z,231µm,31.8s
PPT2 eLR LR 12 37 28.6
comp=Z,126µm,29.8s,baz=244
PPT Papeete 37.85 90 P **P** **12 27 13.6 +1.8**
comp=Z,28nm,0.8s,baz=270,slow=14,SNR=5.5
PPT PcP **PcP** **12 29 30.2 +2.0**
comp=Z,80nm,1.0s,baz=109,slow=3.5,SNR=3.8
PPT LR LR 12 39 13.4
comp=Z,17µm,20.8s,baz=254,slow=31
TIAR Tiarei 38.07 91 *e*P **P** **12 27 14.0 +0.3**
comp=Z,56nm,1.2s
TVO Taravao 38.10 91 *e*P **P** **12 27 14.2 +0.1**
comp=Z,39nm,1.1s
WRKA Warakurna 38.58 257 P **P** **12 27 16.0 -1.9**
baz=38,SNR=246
KNRA Kununurra 39.81 272 P **P** **12 27 27.8 -0.4**
baz=40,SNR=84
KMPI Kaimana, Papua 40.02 292 P **P** **12 27 30.3 +0.3**
comp=Z,3µm,1.4s,comp=Z,36µm
PMOR Pomariorio Ree 40.08 87 *e*P **P** **12 27 30.7 +0.2**
comp=Z,303nm,1.0s
SAUI Saumlaki 40.14 284 P **P** **12 27 31.1 +0.1**
comp=Z,1µm,1.1s,comp=Z,22µmcomp=Z,29µm
SAUI Saumlaki 40.14 284 *e*P **P** **12 27 32.1 +1.1**
comp=Z,2µm,1.2s
VAH Vaihoa 40.26 88 *e*P **P** **12 27 32.0 0.0**
comp=Z,206nm,0.9s
H11S2 WAKE ISLAND Hy 40.52 355 T T 13 11 52.2
baz=171,slow=76,SNR=24
H11S3 WAKE ISLAND Hy 40.53 355 T T 13 11 49.0
baz=171,slow=76,SNR=19
H11S1 WAKE ISLAND Hy 40.54 355 T T 13 11 49.9
baz=171,slow=76,SNR=16
WAKE Wake Island 41.31 355 *e*P **P** **12 27 41.7 +1.2**
comp=Z,784nm,1.4s
WAKE LR LR
comp=Z,90µm,21.0s
FAKI Fak Fak 41.64 292 P **P** **12 27 43.4 0.0**
comp=Z,2µm,1.5s,comp=Z,30µmcomp=Z,28µm
FAKI Fak Fak 41.64 292 *e*P **P** **12 27 42.5 -0.9**
comp=Z,3µm,1.2s
H11N1 WAKE ISLAND Hy 41.72 355 T T 13 13 16.0
baz=172,slow=76,SNR=16
H11N3 WAKE ISLAND Hy 41.72 355 T T 13 13 11.3
baz=172,slow=76,SNR=8.0
H11N2 WAKE ISLAND Hy 41.74 355 T T 13 13 14.2
baz=172,slow=76,SNR=11
BNDI Bandanaira 42.91 288 P **P** **12 27 51.8 -2.0**
comp=Z,2µm,1.4s,comp=Z,28µm
JOHN Johnston Islan 43.34 29 *e*P **P** **12 27 57.6 +0.6**
comp=Z,3µm,1.4s
JOHN LR LR
comp=Z,2µm,20.0s
GUMO Guam 43.43 322 P **P** **12 27 57.8 0.0**
comp=Z,107nm,0.5s,baz=160,slow=8.5,SNR=7.9
GUMO Guam 43.43 322 *e*P **P** **12 27 57.7 -0.1**
GUMO *e*S **S** **12 34 33.5 +8.0**
GUMO LR LR
comp=Z,31µm,21.0s
GUMO Guam 43.43 322 *e*P **P** **12 27 57.7 -0.1**
GUMO *e*S **S** **12 34 33.5 +8.0**
SWI Sorong 43.55 294 P **P** **12 27 57.7 -1.2**
comp=Z,2µm,1.4s,comp=Z,20µmcomp=Z,30µm
KMBL Kambalda 43.99 247 P **P** **12 28 01.1 -1.3**
baz=44,SNR=74
MSAI Masohi 44.32 289 P **P** **12 28 05.2 +0.1**
comp=Z,75nm,1.3s,comp=Z,2µm
AAI Ambon 44.81 288 P **P** **12 28 08.6 -0.4**
comp=Z,537nm,1.2s,comp=Z,9µmcomp=Z,25µm
SARN Sarigan 45.49 326 *e*P **P** **12 28 14.0 -0.4**
PALU Palau 45.78 306 P **P** **12 28 17.9 +1.2**
baz=46,SNR=8.7
SOEI Soe 45.85 278 P **P** **12 28 18.4 +0.9**
comp=Z,1µm,1.2s,comp=Z,17µm
SOEI Soe 45.85 278 *e*P **P** **12 28 18.4 +0.9**
comp=Z,2µm,1.3s
NLAI Namlea 45.98 288 P **P** **12 28 19.2 +0.9**
comp=Z,1µm,1.8s,comp=Z,17µm
BATI Baumata 46.24 277 P **P** **12 28 21.6 +1.1**
comp=Z,268nm,0.7s,baz=118,slow=12,SNR=76
BATI LR LR 12 47 51.7
comp=Z,98µm,18.6s,baz=152,slow=36
BATI Baumata 46.24 277 P **P** **12 28 21.9 +1.5**
comp=Z,352nm,1.0s,comp=Z,5µm
LBMI Labuha 46.88 291 P **P** **12 28 26.9 +1.5**
comp=Z,988nm,1.2s,comp=Z,18µm
MBWA Marble Bar 46.92 261 *e*P **P** **12 28 24.5 -1.2**
comp=Z,1µm,1.3s
MBWA LR LR
comp=Z,52µm,21.0s
MBWA Marble Bar 46.92 261 P **P** **12 28 24.9 -0.7**
SNR=62
MEEK Meekatharra 47.12 254 P **P** **12 28 25.0 -2.2**
baz=47,SNR=185

KLBR Kellerberrin 47.51 247 P **P** **12 28 28.8 -1.3**
baz=48,SNR=47
SANI Sanana 47.52 289 P **P** **12 28 30.4 0.0**
comp=Z,2µm,1.5s,comp=Z,28µmcomp=Z,23µm
TNTI Ternate 47.71 293 *e*P **P** **12 28 32.5 +0.7**
comp=Z,4µm,2.0s
NWAO Narrogin (SRO) 47.92 245 LR LR 12 48 08.9
comp=Z,110µm,19.1s,slow=35
NWAO Narrogin (SRO) 47.92 245 P **P** **12 28 31.5 -1.8**
baz=48,SNR=136
NWAO P **P** **12 28 31.5 -1.8**
baz=48,SNR=136
NWAO Narrogin (SRO) 47.92 245 *e*P **P** **12 28 32.3 -1.0**
comp=Z,647nm,1.0s
NWAO Narrogin (SRO) 47.92 245 *e*P **P** **12 28 32.3 -1.0**
NWAO pmax pmax
comp=Z,647nm,1.0s
NWAO Narrogin (SRO) 47.92 245 P **P** **12 28 32.5 -0.8**
SNR=39
RKGY Rocky Gully 48.12 243 P **P** **12 28 34.2 -0.7**
baz=48,SNR=20
MMRI Maumere 48.12 278 P **P** **12 28 34.8 -0.2**
comp=Z,827nm,1.1s,comp=Z,14µm
MMRI Maumere 48.12 278 *e*P **P** **12 28 34.9 -0.2**
comp=Z,755nm,1.0s
BLDU Balliduu 48.45 248 P **P** **12 28 36.2 -1.3**
baz=48,SNR=58
EDFI Ende, Flores 48.58 278 P **P** **12 28 38.1 -0.6**
comp=Z,388nm,1.7s,comp=Z,7µm
MUN Mundaring 48.81 246 P **P** **12 28 39.3 -0.9**
baz=49,SNR=30
BBSI Bau Bau 49.05 282 P **P** **12 28 43.8 +1.6**
comp=Z,146nm,1.2s
BASI Baing, Sumba 49.08 276 P **P** **12 28 43.0 +0.5**
comp=Z,2µm,1.4s,comp=Z,34µm
MORW Morawa 49.15 250 P **P** **12 28 42.1 -0.7**
baz=49,SNR=107
TAOE Nuku Hiva Isla 49.24 83 *e*P **P** **12 28 44.2 +0.4**
comp=Z,378nm,1.5s
TAOE *e*S **S** **12 35 48.2 -1.3**
comp=Z,20µm,26.9s
TAOE *e*LQ LQ 12 40 39.4
comp=Z,56µm,25.9s
TAOE *e*LR LR 12 42 43.0
comp=Z,35µm,23.1s,baz=248
TAOE Nuku Hiva Isla 49.24 83 *e*P **P** **12 28 43.8 -0.1**
comp=Z,268nm,1.0s
RKT Rikitea 50.19 102 *e*P **P** **12 28 51.5 +0.7**
comp=Z,180nm,1.3s
RKT *e*S **S** **12 36 01.6 -0.7**
comp=Z,48µm,27.5s
RKT *e*LQ LQ 12 40 35.0
comp=Z,50µm,30.8s
RKT *e*LR LR 12 43 10.1
comp=Z,76µm,31.8s,baz=260
WBSI Waikabubak, Su 50.38 276 P **P** **12 28 51.1 -1.3**
comp=Z,1µm,1.3s,comp=Z,14µm
BSSI Bau Bau, Buton 50.67 281 P **P** **12 28 55.8 +1.2**
comp=Z,414nm,1.4s,comp=Z,8µm
SGSI Sangihe 50.80 295 P **P** **12 28 56.7 +1.2**
LUWI Luwuk 50.82 288 P **P** **12 28 56.0 +0.3**
comp=Z,2µm,1.6s,comp=Z,24µm
LUWI Luwuk 50.82 288 *e*P **P** **12 28 57.0 +1.3**
comp=Z,3µm,1.4s
MIDW Midway 51.42 14 PFAKE 12 29 10.0 +10
MIDW LR LR
comp=Z,32µm,22.0s
GIRL Giralia 51.65 258 P **P** **12 29 02.6 +0.7**
baz=52,SNR=16
BNSI Bone 51.73 282 P **P** **12 29 01.2 -1.3**
comp=Z,842nm,1.7s,comp=Z,14µmcomp=Z,17µm
KAPI Kappang 51.80 281 *e*P **P** **12 29 03.1 0.0**
comp=Z,2µm,1.4s
KAPI LR LR
comp=Z,43µm,22.0s
KAPI Kappang 51.80 281 P **P** **12 29 04.1 +1.0**
SNR=105
APSI Ampana 51.88 287 P **P** **12 29 04.9 +1.3**
comp=Z,1µm,1.6s,comp=Z,16µm
PLAI Plampang 52.15 276 P **P** **12 29 06.0 +0.3**
comp=Z,889nm,1.3s,comp=Z,13µm
MRSI Marisa 52.27 289 P **P** **12 29 06.0 -0.5**
comp=Z,194nm,1.7s,comp=Z,5µmcomp=Z,12µm
TTSI Tana Toraja 52.56 284 P **P** **12 29 08.9 +0.2**
comp=Z,421nm,1.5s,comp=Z,7µm
DAV Davao City (W) 52.62 298 P **P** **12 29 08.6 -0.5**
comp=Z,341nm,0.8s,baz=90,slow=6.1,SNR=34
DAV Davao City (W) 52.62 298 ⇑*i*P **P** **12 29 09.0 -0.1**
DAV Davao City (W) 52.62 298 *e*P **P** **12 29 09.4 +0.3**
comp=Z,2µm,1.5s
DAV LR LR
comp=Z,18µm,19.0s
DAV Davao City (W) 52.62 298 P **P** **12 29 09.8 +0.8**
SNR=39
KEKH Kekaha 52.65 36 *e*P **P** **12 29 10.0 +0.9**
comp=Z,1µm,1.1s
KKH Kailua Kona 52.93 41 *e*P **P** **12 29 14.0 +2.8**
KKH Kailua Kona 52.93 41 *e*P **P** **12 29 14.0 +2.8**
HON Honolulu 53.06 38 *e*P **P** **12 29 15.1 +2.9**
comp=Z,556nm,1.4s
HON Honolulu 53.06 38 *e*P **P** **12 29 15.1 +2.9**
HON pmax pmax
comp=Z,556nm,1.4s
MLOA Mauna Loa Obse 53.11 41 *e*P **P** **12 29 13.7 +0.6**
comp=Z,897nm,1.5s
KIP Kipapa 53.14 38 *e*P **P** **12 29 13.3 +0.6**
comp=Z,190nm,0.8s
KIP LR LR
comp=Z,21µm,20.0s
KIP Kipapa 53.14 38 *e*P **P** **12 29 13.3 +0.6**
KIP pmax pmax
comp=Z,190nm,0.8s
UWE Uwekahuna 53.20 42 *e*P **P** **12 29 14.7 +1.3**
comp=Z,2µm,1.7s
POHA Pohakuloa 53.31 41 *e*P **P** **12 29 16.3 +2.0**
comp=Z,1µm,1.8s
POHA LR LR
comp=Z,36µm,19.0s
OPA Opana 53.35 37 *e*P **P** **12 29 15.1 +0.8**
comp=Z,564nm,1.0s
OPA Opana 53.35 37 *e*P **P** **12 29 15.1 +0.8**
OPA pmax pmax
comp=Z,565nm,1.0s
MHA Mahukona 53.41 40 *e*P **P** **12 29 16.2 +1.5**
MHA Mahukona 53.41 40 *e*P **P** **12 29 16.2 +1.5**
HPAH Hawaii Prepara 53.41 41 *e*P **P** **12 29 15.8 +0.9**
comp=Z,1µm,1.3s
BUKP Musuan 53.50 299 *e*P **P** **12 29 17.2 +1.6**
HLK Haleakala 53.64 40 *e*P **P** **12 29 18.0 +1.3**
comp=Z,529nm,1.1s
BUTP Butuan 53.67 300 *e*P **P** **12 29 17.6 +0.8**
MPSI Mapaga 54.00 288 P **P** **12 29 19.0 -0.3**
comp=Z,343nm,1.9s,comp=Z,5µm
PTCN Pitcairn Islan 54.24 106 PFAKE 12 29 30.0 +9.0
PTCN LR LR
comp=Z,27µm,21.0s
DNP Denpasar 54.58 275 P **P** **12 29 24.9 +1.4**
comp=Z,1µm,1.5s,comp=Z,27µm
IGBI Denpasar 54.59 275 P **P** **12 29 22.6 -1.0**
comp=Z,3µm,1.3s,comp=Z,36µm
SRBI Singaraja 54.78 276 P **P** **12 29 25.0 0.0**
comp=Z,775nm,1.2s,comp=Z,9µm
PAGZ Pagadian 54.85 298 *e*P **P** **12 29 27.1 +1.7**
MSLP Maassin 54.96 301 *e*P **P** **12 29 26.6 +0.4**
PLP Palo 55.47 302⇓*e*P **P** **12 29 27.9 -2.0**
VNDA Vanda 55.60 182 P **P** **12 29 29.4 -0.6**
comp=Z,29nm,0.8s,baz=354,slow=7.2,SNR=36
VNDA LR LR 12 50 23.1
comp=Z,28µm,18.8s,baz=18,slow=33
VNDA Vanda 55.60 182 *e*P **P** **12 29 29.2 -0.8**
comp=Z,423nm,1.8s
JAGI Jajag, Banyuwa 55.63 275 P **P** **12 29 30.4 -0.7**
comp=Z,1µm,1.1s,comp=Z,13µm
JAGI Jajag, Banyuwa 55.63 275 *e*P **P** **12 29 30.2 -0.9**
comp=Z,2µm,1.2s
OCLP Ormoc 55.70 302 *e*P **P** **12 29 32.3 +0.8**
KBKI Kotabaru 55.76 282 P **P** **12 29 32.4 +0.3**
comp=Z,262nm,1.7s,comp=Z,5µm
LLP Lapu-Lapu 55.78 300 *e*P **P** **12 29 32.2 +0.1**
ABJI Asem Bagus 55.79 276 P **P** **12 29 32.5 +0.2**
comp=Z,396nm,1.1s,comp=Z,7µm
SBA Scott Base 55.81 181 *e*P **P** **12 29 31.7 +0.3**
comp=Z,1µm,1.8s
SBA LR LR
comp=Z,20µm,20.0s
SBA Scott Base 55.81 181 *e*P **P** **12 29 31.7 +0.3**
SBA pmax pmax
comp=Z,1µm,1.8s
SBA MLR MLR
comp=Z,20µm,20.0s
BKB Balikpapan 55.96 284 P **P** **12 29 37.0 +3.5**
comp=Z,662nm,1.5s,comp=Z,13µmcomp=Z,22µm
CBIJ Chichi jima 56.02 329 *e*P **P** **12 29 33.9 +0.3**
comp=Z,1µm,1.5s
JCJ Chichijima 56.02 329 P **P** **12 29 32.3 -1.3**
comp=Z,266nm,0.9s,baz=177,slow=4.7,SNR=9.5
JCJ LR LR 12 50 00.2
comp=Z,15µm,21.6s,baz=140,slow=32
KMMI Kalianget 56.31 276 P **P** **12 29 37.1 +1.1**
comp=Z,734nm,1.3s,comp=Z,11µm
GMJI Gumukmas 56.35 275 P **P** **12 29 35.9 -0.4**
comp=Z,373nm,1.0s,comp=Z,6µm
BLJI Banyuglugur 56.40 275 P **P** **12 29 36.8 +0.2**
comp=Z,473nm,1.1s,comp=Z,7µm
CNP Catarman 56.53 303 *e*P **P** **12 29 38.0 +0.6**
RCP Roxas 57.47 301⇑*e*P **P** **12 29 45.4 +1.2**
MYLDM Lahad Datu 57.56 292 *e*P **P** **12 29 47.2 +2.3**
comp=Z,906nm,1.4s
PVCP Virac 57.58 304 *e*P **P** **12 29 45.9 +1.0**
PVCP *e*S **S** **12 37 45.5 +3.2**
TSM Tawau 57.66 291⇑P **P** **12 29 47.1 +1.5**
GRJI Gresik 57.73 276 P **P** **12 29 46.9 +0.8**
comp=Z,455nm,0.9s,comp=Z,4µm
MTKI Muara Teweh, K 57.90 283 P **P** **12 29 47.4 +0.1**
CASY Casey 57.94 204 *e*P **P** **12 29 46.3 -0.4**
comp=Z,630nm,1.4s
CASY LR LR
comp=Z,5µm,21.0s
PWJI Pagerwojo 57.96 274 P **P** **12 29 47.1 -0.5**
comp=Z,401nm,1.1s,comp=Z,7µm
TBJI Tambak Boyo 58.35 276 P **P** **12 29 51.1 +0.7**
comp=Z,916nm,1.5s,comp=Z,14µm
PCJI Pacitan 58.47 274 P **P** **12 29 51.9 +0.6**
comp=Z,1µm,1.5s,comp=Z,17µm
OTRP Odiongan 58.51 301 *e*P **P** **12 29 51.5 0.0**
SDKM Sandakan 58.91 291⇑P **P** **12 29 55.9 +1.5**
GQP Guinayangan 59.08 303⇑*e*P **P** **12 29 54.8 -0.6**
UGM Wanagama 59.18 274 P **P** **12 29 56.7 +0.5**
comp=Z,748nm,0.9s,comp=Z,11µm
UGM Wanagama 59.18 274 *e*P **P** **12 29 56.7 +0.5**
comp=Z,778nm,1.0s
SJMP San Jose 59.29 301 *e*P **P** **12 29 56.9 +0.1**
BOAC Boac 59.29 302 *e*P **P** **12 29 57.2 +0.4**
SMRI Semarang 59.57 275 P **P** **12 29 59.7 +0.8**
comp=Z,607nm,2.2s,comp=Z,12µm
SMRI Semarang 59.57 275 *e*P **P** **12 29 59.6 +0.8**
comp=Z,468nm,1.0s
BUSP Coron 59.77 300 *e*P **P** **12 30 00.9 +0.8**
KDM Kudat 59.86 293⇑P **P** **12 30 03.9 +3.0**
ENPP El Nido 59.95 298 *e*P **P** **12 30 02.4 +0.9**
ENPP *e*S S 12 38 30.4 +17
KKM Kota Kinabalu 59.96 291⇑P **P** **12 30 03.1 +1.5**
KKM Kota Kinabalu 59.96 291 *e*P **P** **12 30 01.8 +0.1**
comp=Z,3µm,1.9s
KKM LR LR
comp=Z,23µm,19.0s
BATP Bataraza 60.00 295 *e*P **P** **12 30 02.5 +0.7**
PBKI Pangkalan Bun 60.10 280 P **P** **12 30 02.7 +0.2**
comp=Z,961nm,1.1s
TGY Tagaytay City 60.38 302 P **P** **12 30 04.6 +0.2**
comp=Z,251nm,0.4s,baz=130,slow=6.7,SNR=16
LUBP Lubang 60.71 301 *e*P **P** **12 30 05.8 -0.9**
LUBP *e*S **S** **12 38 20.6 -2.4**
BALP Baler 60.85 304 *e*P **P** **12 30 06.4 -1.1**
PCPH Palayan 61.12 303⇑*e*P **P** **12 30 09.4 +0.1**
CMJI Cimerak 61.15 273 P **P** **12 30 09.7 0.0**
comp=Z,588nm,1.1s,comp=Z,7µm
BTM Bintulu 61.36 287 ⇓P **P** **12 30 13.1 +2.0**
CAUP Cauayan 61.39 305 *e*P **P** **12 30 11.8 +0.7**
CAUP *e*S **S** **12 38 38.1 +6.6**
STKI Sintang 61.42 283 P **P** **12 30 12.3 +0.8**
JCJI Jatiwangi 61.77 275 P **P** **12 30 13.8 -0.1**
SBUM Sibu 61.79 286⇑P **P** **12 30 16.0 +2.0**
SBUM Sibu 61.79 286 *e*P **P** **12 30 14.5 +0.5**
comp=Z,2µm,2.0s
CISI Cisompet, Garu 61.81 273 P **P** **12 30 13.8 -0.5**
CISI Cisompet, Garu 61.81 273 *e*P **P** **12 30 14.0 -0.3**
comp=Z,1µm,1.2s
JHJ Hachijo jima 2 62.22 331 P **P** **12 30 15.5 -0.9**
comp=Z,194nm,0.5s,baz=57,slow=12,SNR=3.0
JHJ LR LR 13 00 42.2
comp=Z,9µm,18.0s,baz=153,slow=39
LEM Lembang 62.26 274 P **P** **12 30 18.1 +0.8**
comp=Z,774nm,0.9s,baz=109,slow=8.6,SNR=87
LEM LR LR 12 58 11.7
comp=Z,49µm,19.3s,baz=127,slow=37
LEM Lembang 62.26 274 P **P** **12 30 18.0 +0.6**
APYP Conner 62.38 306 *e*P **P** **12 30 17.4 -0.4**
BOLP Bolinao 62.51 303 *e*P **P** **12 30 17.0 -1.8**
ABRA Dolores 62.66 305 *e*P **P** **12 30 18.4 -1.2**
KSM Kuching 63.08 284⇑P **P** **12 30 23.9 +1.3**
KSM Kuching 63.08 284 *e*P **P** **12 30 22.6 0.0**
comp=Z,558nm,1.1s
KSM LR LR
comp=Z,31µm,19.0s
SKJI Sukabumi 63.17 273 P **P** **12 30 22.9 -0.4**
TNG Tangerang 63.39 274 P **P** **12 30 25.0 +0.3**
JOW Kunigami 63.48 318 *e*P **P** **12 30 26.5 +1.5**
comp=Z,453nm,1.4s
CGJI Cibinong 64.11 273 P **P** **12 30 29.0 -0.5**
BLSI Bandar Lampung 64.98 274 P **P** **12 30 34.2 -1.0**
YOJ Yonaguni jima 65.29 312 *e*P **P** **12 30 37.8 +0.9**
comp=Z,543nm,1.1s
YOJ Yonaguni jima 65.29 312 *e*P **P** **12 30 37.8 +0.9**
YOJ pmax pmax
comp=Z,543nm,1.1s
INU Inuyama 65.33 330 *e*P **P** **12 30 36.3 -0.6**
comp=Z,781nm,1.5s
PPBI Pangkal Pinang 65.38 278 P **P** **12 30 38.2 +0.4**
KLI Kotabumi 65.53 275 P **P** **12 30 37.7 -1.0**
TWG Pinlang 65.59 310 *e*P **P** **12 30 38.2 -0.6**
comp=Z,2µm,1.6s
KASI Kota Agung 65.62 274 P **P** **12 30 37.7 -1.6**
YULB Yu-li 65.79 310 *e*P **P** **12 30 39.9 -0.3**
comp=Z,542nm,1.8s
MJAR Matsushiro Arr 65.79 332 P **P** **12 30 39.1 -0.8**
comp=Z,204nm,1.0s,baz=169,slow=6.8,SNR=215
MJAR PKPPKP **P'P'df** **12 59 17.5 +4.4**
comp=Z,1.9nm,0.9s,baz=312,slow=9.3,SNR=5.2
MJAR LR LR 13 01 15.2
comp=Z,10µm,18.4s,baz=140,slow=38
MAJO Matsushiro 65.79 332 *e*P **P** **12 30 38.6 -1.3**
comp=Z,616nm,1.3s
MAJO LR LR
comp=Z,20µm,21.0s
MAJO Matsushiro 65.79 332*c i*P **P** **12 30 40.2 +0.3**
MAJO pmax pmax
comp=Z,529nm,1.3s
MAJO MLR MLR
comp=Z,17µm,18.0s
MAT Matsushiro 65.79 332 P **P** **12 30 39.3 -0.6**
MAT S **S** **12 39 26.4 +0.6**
MJB9 Matsu-Tunnel 65.80 332 *e*P **P** **12 30 39.5 -0.4**
comp=Z,626nm,1.3s
NACB Ninganchiao 66.08 311 *e*P **P** **12 30 42.6 +0.6**
comp=Z,1µm,1.4s
TPUB Ta-pu 66.20 310 *e*P **P** **12 30 42.1 -0.7**
comp=Z,2µm,1.8s
LWLI Liwa 66.21 274 P **P** **12 30 42.7 -0.6**
SSLB Suanglung 66.28 311 *e*P **P** **12 30 42.6 -0.7**
comp=Z,291nm,1.1s
MDSI Maura Dua 66.30 275 P **P** **12 30 42.1 -1.6**
PMBI Palembang 66.34 277 P **P** **12 30 43.6 -0.3**
YHNB Yeheng 66.55 312 *e*P **P** **12 30 45.5 +0.3**
comp=Z,779nm,1.1s
YHNB LR LR
comp=Z,21µm,21.0s
JNU Nakatsue 66.63 324 P **P** **12 30 44.3 -1.1**
comp=Z,391nm,1.0s,baz=101,slow=0.8,SNR=81
JNU LR LR 12 59 37.0
comp=Z,7µm,18.1s,baz=124,slow=36
JNU Nakatsue 66.63 324 *e*P **P** **12 30 44.6 -0.7**
comp=Z,530nm,1.1s
TATO Taipei 66.67 312 *e*P **P** **12 30 46.5 +0.7**
comp=Z,2µm,1.4s
TATO LR LR
comp=Z,29µm,22.0s
TATO Taipei 66.67 312 P **P** **12 30 46.5 +0.7**
SNR=9.3
MNAI Manna 67.47 275 *e*P **P** **12 30 50.5 -0.7**
comp=Z,2µm,1.2s
QSPA South Pole Qui 67.95 180 *e*P **P** **12 30 52.0 -1.5**
QSPA LR LR

	comp=Z,15µm,19.0s							
ERM	**Erimo**	**68.61**	**339**	*e*P		**P**	**12 30 54.0**	**-3.6**
ERM				LR		LR		
	comp=Z,28µm,20.0s							
ERM	**Erimo**	**68.61**	**339**⇓	*e*P		**P**	**12 30 58.8**	**+1.2**
ERM				pmax		pmax		
	comp=Z,111nm,1.4s							
ERM				MLR		MLR		
	comp=Z,19µm,18.0s							
QZH	**Quanzhou**	**68.68**	**310**⇑	*i*P		**P**	**12 30 59.7**	**+1.3**
QZH				sP		**sP**	**12 31 06.8**	**+0.6**
QZH				PcP		**PcP**	**12 31 22.1**	**-1.1**
QZH				S		**S**	**12 40 03.9**	**+3.0**
QZH				SS		**SS**	**12 44 28.2**	**+2.1**
QZH				pmax		pmax		
	comp=Z,210nm,1.5s							
QZH				pmax		pmax		
	comp=Z,8µm,5.7s							
QZH				LR		LR		
	comp=Z,8µm,17.1s							
QZH				LR		LR		
	comp=Z,9µm,18.0s							
QZH				LR		LR		
	comp=Z,14µm,20.8s							
MYKOM	**Kota Tinggi**	**69.06**	**281**	⇑P		**P**	**12 31 02.5**	**+1.4**
MYKOM	**Kota Tinggi**	**69.06**	**281**	*e*P		**P**	**12 31 01.3**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**69.57**	**341**	*d i*P		**P**	**12 31 03.2**	**-0.3**
YUK				*i* *PP		**pP**	**12 31 08.1**	**-1.1**
YUK				*i*			12 31 25.5	
YUK				*i*			12 33 33.4	
YUK				*i* S		**S**	**12 40 08.9**	**-1.8**
YUK				*i*			12 41 02.1	
YUK				*e*SS		**SS**	**12 44 34.5**	**-4.7**
YUK				pmax		pmax		
	comp=Z,955nm,2.1s							
YUK				pmax		pmax		
	comp=Z,289nm,1.4s							
YUK				pmax		pmax		
	comp=E,144nm,1.1s							
YUK				pmax		pmax		
	comp=N,71nm,1.5s							
YUK				MLR		MLR		
	comp=Z,20µm,19.0s							
YUK				MLR		MLR		
	comp=E,11µm,16.0s							
YUK				MLR		MLR		
	comp=N,12µm,20.0s							
KGM	**Kluang**	**69.64**	**281**	⇓P		**P**	**12 31 06.1**	**+1.4**
KUR	**Kuril'sk**	**70.11**	**343**	*c i*P		**P**	**12 31 07.9**	**+1.1**
KUR				*e*			12 31 30.4	
KUR				*e*			12 33 40.7	
KUR				*e*PPP		PPP	12 35 26.0	
KUR				*i* S		**S**	**12 40 15.6**	**-1.3**
KUR				*e*			12 40 59.1	
KUR				pmax		pmax		
	comp=N,135nm,1.3s							
KUR				pmax		pmax		
	comp=Z,706nm,1.3s							
KUR				pmax		pmax		
	comp=E,129nm,1.4s							
KUR				pmax		pmax		
	comp=Z,4µm,3.9s							
KUR				MLR		MLR		
	comp=N,27µm,18.0s							
KUR				MLR		MLR		
	comp=Z,13µm,18.0s							
KUR				MLR		MLR		
	comp=E,4µm,19.0s							
HKC	**Hong Kong Obse**	**70.35**	**305**	⇑P		**P**	**12 31 11.0**	**+2.2**
COCO	**West Island**	**70.41**	**264**	*e*P		**P**	**12 31 11.6**	**+2.2**
	comp=E,2µm,1.6s							
COCO				LR		LR		
	comp=Z,65µm,22.0s							
COCO	**West Island**	**70.41**	**264**	*e*P		**P**	**12 31 11.6**	**+2.2**
COCO				pmax		pmax		
	comp=Z,2µm,1.6s							
COCO				MLR		MLR		
	comp=Z,65µm,22.0s							
ASAJ	**Asahikawa**	**70.67**	**339**	P		**P**	**12 31 11.7**	**+1.4**
	comp=Z,66nm,0.7s,baz=217,slow=7.2,SNR=59							
ASAJ	**Asahikawa**	**70.67**	**339**	*e*P		**P**	**12 31 11.6**	**+1.4**
	comp=Z,105nm,0.9s							
MCO	**Taipa Grande**	**70.72**	**305**	P		**P**	**12 31 13.0**	**+1.9**
SSE	**Sheshan**	**70.89**	**317**	P		**P**	**12 31 12.4**	**+0.4**
SSE				S		**S**	**12 40 29.5**	**+2.8**
SSE				pmax		pmax		
	comp=Z,140nm,1.5s							
SSE				pmax		pmax		
	comp=Z,2µm,8.2s							
SSE				LR		LR		
	comp=Z,2µm,21.4s							
SSE				LR		LR		
	comp=Z,3µm,22.0s							
TJN	**Taejon**	**70.97**	**324**	*c i*P		**P**	**12 31 13.2**	**+0.9**
BKNI	**Bangkinang**	**71.04**	**278**	*e*P		**P**	**12 31 13.9**	**+0.6**
	comp=Z,1µm,1.4s							
KTGM	**Kuala Trenggan**	**71.19**	**284**	⇓P		**P**	**12 31 16.0**	**+1.8**
GZH	**Guangzhou**	**71.43**	**305**	P		**P**	**12 31 16.7**	**+1.3**
GZH				pP		**pP**	**12 31 21.8**	**+0.7**
GZH				S		**S**	**12 40 34.6**	**+1.4**
GZH				pmax		pmax		
	comp=Z,8µm,5.9s							
GZH				LR		LR		
	comp=Z,10µm,17.3s							
GZH				LR		LR		
	comp=Z,15µm,20.6s							
KSRS	**Korea Array**	**71.48**	**325**	P		**P**	**12 31 15.6**	**+0.2**
	comp=Z,116nm,0.9s,baz=143,slow=6.3,SNR=206							
KSRS				LR		LR	13 02 18.5	
	comp=Z,10µm,18.5s,baz=140,slow=36							
KS15	**Wonju Array Si**	**71.49**	**325**	*e*P		**P**	**12 31 16.5**	**+1.1**
KSAR	**Wonju Array Be**	**71.49**	**325**	P		**P**	**12 31 15.6**	**+0.1**
KSAR	**Wonju Array Be**	**71.49**	**325**	P		**P**	**12 31 15.6**	**+0.1**
KS01	**Wonju Array Si**	**71.51**	**325**	*e*P		**P**	**12 31 14.7**	**-0.9**
FRIM	**Kepong**	**71.68**	**281**	⇓P		**P**	**12 31 17.5**	**+0.3**
QIZ	**Qiongzhong**	**71.94**	**300**	P		**P**	**12 31 20.4**	**+1.8**
QIZ				sP		**sP**	**12 31 27.9**	**+1.6**
QIZ				S		**S**	**12 40 43.2**	**+3.9**
QIZ				sS		**sS**	**12 40 48.2**	**-0.5**
QIZ	**Qiongzhong**	**71.94**	**300**	sS		sS	12 45 19.4	+2.9
QIZ	**Qiongzhong**	**71.94**	**300**	P		**P**	**12 31 20.6**	**+2.0**
QIZ				sP		**sP**	**12 31 28.0**	**+1.6**
QIZ				S		**S**	**12 40 44.6**	**+5.3**
QIZ				sS		**sS**	**12 40 48.5**	**-0.2**
QIZ				pmax		pmax		
	comp=Z,230nm,1.7s							
QIZ				LR		LR		
	comp=Z,7µm,23.5s							
QIZ				LR		LR		
	comp=Z,9µm,29.4s							
QIZ				LR		LR		
	comp=Z,24µm,31.4s							
QIZ	**Qiongzhong**	**71.94**	**300**	*e*P		**P**	**12 31 19.1**	**+0.5**
	comp=Z,1µm,1.9s							
QIZ				*e*S		**S**	**12 40 43.6**	**+4.3**
QIZ				LR		LR		
	comp=Z,12µm,20.0s							
RPN	**Rapa Nui**	**71.98**	**113**	P		**P**	**12 31 19.2**	**+0.5**
	comp=Z,94nm,0.9s,baz=300,slow=4.0,SNR=7.5							
RPN				LR		LR	12 55 23.1	
	comp=Z,12µm,20.9s,baz=255,slow=30							
RPN	**Rapa Nui**	**71.98**	**113**	*e*P		**P**	**12 31 20.3**	**+1.5**
RPN	**Rapa Nui**	**71.98**	**113**	*e*P		**P**	**12 31 20.3**	**+1.5**
INCN	**Inchon**	**72.19**	**325**	*e*P		**P**	**12 31 20.8**	**+1.2**
	comp=Z,699nm,1.0s							
INCN				LR		LR		
	comp=Z,16µm,20.0s							
INCN	**Inchon**	**72.19**	**325**	P		**P**	**12 31 20.5**	**+0.9**
	SNR=31							
IPM	**Ipoh**	**72.74**	**282**	⇑P		**P**	**12 31 24.6**	**+1.1**
IPM	**Ipoh**	**72.74**	**282**	*e*P		**P**	**12 31 22.9**	**-0.5**
NJ2	**Nanjing**	**73.02**	**316**	⇑P		**P**	**12 31 25.4**	**+0.7**
NJ2				pP		**pP**	**12 31 29.2**	**-1.2**
NJ2				sP		**sP**	**12 31 33.1**	**+0.6**
NJ2				S		**S**	**12 40 51.8**	**+0.7**
NJ2				sS		**sS**	**12 40 59.8**	**-0.8**
NJ2				SS		**SS**	**12 45 34.9**	**+2.3**
NJ2				pmax		pmax		
	comp=Z,260nm,1.2s							
NJ2				pmax		pmax		
	comp=Z,2µm,4.3s							
NJ2				LR		LR		
	comp=Z,14µm,20.1s							
NJ2				LR		LR		
	comp=Z,12µm,18.4s							
NJ2				LR		LR		
	comp=Z,23µm,20.6s							
YSS	**Yuzh-Sakhalins**	**73.14**	**341**	*e*P		**P**	**12 31 26.4**	**+1.3**
YSS				LR		LR		
	comp=Z,12µm,20.0s							
YSS	**Yuzh-Sakhalins**	**73.14**	**341**ᴋ	*i*P		**P**	**12 31 25.5**	**+0.4**
YSS				*i*			12 31 35.0	
YSS				*e*			12 34 10.1	
YSS				*e*PPP		PPP	12 35 52.7	
YSS				*e*S		**S**	**12 40 52.5**	**+0.6**
YSS				pmax		pmax		
	comp=Z,130nm,1.4s							
YSS				pmax		pmax		
	comp=N,80nm,0.9s							
YSS				pmax		pmax		
	comp=E,90nm,1.1s							
YSS				pmax		pmax		
	comp=Z,1µm,2.1s							
YSS				pmax		pmax		
	comp=N,570nm,2.3s							
YSS				pmax		pmax		
	comp=E,530nm,2.4s							
YSS				smax		smax		
	comp=N,5µm,11.0s							
YSS				smax		smax		
	comp=E,5µm,10.1s							
YSS				MLR		MLR		
	comp=E,8µm,16.0s							
KULM	**Kulim**	**73.41**	**283**	⇓P		**P**	**12 31 28.5**	**+1.0**
KULM	**Kulim**	**73.41**	**283**	*e*P		**P**	**12 31 27.4**	**0.0**
KULM				LR		LR		
	comp=Z,54µm,20.0s							
SKR	**Severo-Kuril's**	**73.57**	**351**	*e*P		**P**	**12 31 25.6**	**-1.9**
SKR				*e*			12 31 47.5	
SKR				*e*			12 34 18.6	
SKR				*e*SS		SS	12 45 35.7	-4.7
SKR				pmax		pmax		
	comp=Z,283nm,1.1s							
SKR				pmax		pmax		
	comp=Z,3µm,6.6s							
SKR				pmax		pmax		
	comp=Z,4µm,9.2s							
TEY	**Ternei**	**73.60**	**336**	*e*P		**P**	**12 31 27.5**	**-0.3**
TEY				*e*			12 41 04.0	
TEY				pmax		pmax		
	comp=Z,1µm,2.0s							
TEY				pmax		pmax		
	comp=N,70nm,1.2s							
TEY				pmax		pmax		
	comp=Z,139nm,1.2s							
PSI	**Prapat**	**73.96**	**280**	P		P	12 31 45.0	+14
	comp=Z,102nm,0.9s,baz=134,slow=6.1,SNR=81							
PSI				LR		LR	13 05 16.8	
	comp=Z,40µm,20.1s,baz=121,slow=37							
PSI	**Prapat**	**73.96**	**280**	*e*P		**P**	**12 31 30.2**	**-0.7**
PSI	**Prapat**	**73.96**	**280**	*e*P		**P**	**12 31 30.2**	**-0.7**
SKLT	**Songkhla**	**74.23**	**285**	P		**P**	**12 31 32.2**	**0.0**
	comp=Z,549nm,1.6s							
TSI	**Tuntungan**	**74.57**	**280**	P		**P**	**12 31 34.4**	**+0.1**
GSI	**Gunungsitoli**	**74.61**	**278**	P		**P**	**12 31 35.7**	**+1.2**
GSI	**Gunungsitoli**	**74.61**	**278**	*e*P		**P**	**12 31 34.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**74.78**	**332**	P		**P**	**12 31 35.2**	**+0.5**
	comp=Z,100nm,1.0s,baz=144,slow=4.5,SNR=94							
USRK				LR		LR	13 04 10.7	
	comp=Z,12µm,18.9s,baz=134,slow=36							
WHN	**Wuhan**	**75.07**	**312**	⇓P		**P**	**12 31 36.6**	**-0.1**
WHN				S		**S**	**12 41 13.8**	**-0.5**
WHN				LR		LR		
	comp=Z,25µm,18.2s							
WHN				LR		LR		
	comp=Z,18µm,18.6s							
WHN				LR		LR		
	comp=Z,112µm,39.9s							
CHBT	**CHBT**	**75.17**	**291**	P		**P**	**12 31 39.0**	**+1.4**
	comp=Z,296nm,1.6s,comp=Z,43µm							
TRTT	**Trang**	**75.35**	**285**	P		**P**	**12 31 38.4**	**-0.3**
	comp=Z,132nm,1.8s,comp=Z,2µm							
PET	**Petropavlovsk**	**75.52**	**353**	*e*P		**P**	**12 31 38.9**	**+0.1**
PET				LR		LR		
	comp=Z,49µm,20.0s							
PET	**Petropavlovsk**	**75.52**	**353**	*e*P		**P**	**12 31 38.8**	**+0.1**
PET				*e*S		**S**	**12 41 17.4**	**-0.9**
PET				pmax		pmax		
	comp=Z,149nm,1.3s							
PET				pmax		pmax		
	comp=Z,2µm,6.0s							
PET				pmax		pmax		
	comp=Z,3µm,8.6s							
PET				smax		smax		
	comp=N,3µm,9.4s							
PET				smax		smax		
	comp=N,3µm,10.7s							
PEA0B	**Petropavlovsk-**	**75.72**	**352**	*e*P		**P**	**12 31 40.6**	**+0.7**
PETK	**Petropavlovsk-**	**75.72**	**352**	P		**P**	**12 31 40.5**	**+0.6**
	comp=N,182nm,0.9s,baz=116,slow=6.8,SNR=72							
PETK				PKPPKP		**P'P'df**	**12 59 02.4**	**+7.4**
	comp=N,2.6nm,0.8s,baz=114,slow=15,SNR=2.5							
PETK				LR		LR	13 00 07.2	
	comp=N,57µm,20.7s,baz=146,slow=32							
PETK	**Petropavlovsk-**	**75.72**	**352**	*e*P		**P**	**12 31 39.8**	**-0.2**
PETK				P'P'			12 59 02.4	
SKNT	**Sakolnakorn**	**75.73**	**295**	P		**P**	**12 31 40.2**	**-0.6**
	comp=N,275nm,2.0s,comp=N,5µm							
TPTI		**75.74**	**280**	P		**P**	**12 31 40.3**	**-0.7**
DL2	**Dalian**	**75.95**	**323**⇓	*i*P		**P**	**12 31 40.6**	**-1.0**
DL2				pP		**sP**	**12 31 50.7**	**+1.3**
DL2				S		**S**	**12 41 23.4**	**-0.3**
DL2				pmax		pmax		
	comp=N,700nm,1.1s							
DL2				pmax		pmax		
	comp=N,5µm,8.4s							
DL2				LR		LR		
	comp=N,14µm,28.6s							
DL2				LR		LR		
	comp=N,13µm,28.8s							
DL2				LR		LR		
	comp=N,27µm,31.8s							
MDJ	**Mudanjiang**	**76.16**	**331**	P		**P**	**12 31 42.2**	**-0.4**
MDJ				S		**S**	**12 41 26.3**	**+0.5**
MDJ				sS		sS	12 41 33.9	-1.4
MDJ				pmax		pmax		
	comp=N,1µm,2.4s							
MDJ				LR		LR		
	comp=N,13µm,19.1s							
MDJ				LR		LR		
	comp=N,18µm,18.3s							
MDJ				LR		LR		
	comp=N,19µm,19.1s							
MDJ	**Mudanjiang**	**76.16**	**331**	*e*P		**P**	**12 31 42.3**	**-0.3**
	comp=N,282nm,1.3s							
MDJ				LR		LR		
	comp=Z,18µm,21.0s							
MAW	**Mawson**	**76.18**	**202**	P		**P**	**12 31 42.3**	**-0.2**
	comp=Z,75nm,0.7s,baz=119,slow=7.4,SNR=9.8							
MAW				LR		LR	13 02 07.2	
	comp=Z,17µm,18.0s,baz=110,slow=33							
MAW	**Mawson**	**76.18**	**202**	P		**P**	**12 31 43.2**	**+0.7**
	baz=76,SNR=4.4							
MAW	**Mawson**	**76.18**	**202**	*e*P		**P**	**12 31 43.4**	**+0.9**
MAW	**Mawson**	**76.18**	**202**	*e*P		**P**	**12 31 43.4**	**+0.9**
KHON	**Khomkaen**	**76.40**	**294**	P		**P**	**12 31 46.0**	**+1.4**
	comp=Z,112nm,1.2s,comp=Z,1µm							
SURT	**Suratani**	**76.62**	**286**	P		**P**	**12 31 46.2**	**+0.2**
	comp=Z,227nm,1.7s,comp=Z,3µm							
TYV	**Tymovskoe**	**76.67**	**342**	*e*P		**P**	**12 31 46.3**	**+0.9**
TYV				*e*S		**S**	**12 41 34.3**	**+3.2**
TYV				pmax		pmax		
	comp=Z,174nm,1.0s							
TYV				pmax		pmax		
	comp=Z,700nm,5.0s							
TYV				smax		smax		
	comp=E,3µm,7.6s							
TYV				MLR		MLR		
	comp=Z,22µm,15.0s							
LHMI	**Lhok Sumawe**	**76.75**	**281**	P		**P**	**12 31 46.8**	**+0.1**
LHMI	**Lhok Sumawe**	**76.75**	**281**	*e*P		**P**	**12 31 47.5**	**+0.9**
NAYO	**Nakonayok**	**76.75**	**292**	P		**P**	**12 31 48.2**	**+1.5**
	comp=Z,162nm,1.9s,comp=Z,5µm							
TIA	**Tai'an**	**76.80**	**318**	P		**P**	**12 31 46.5**	**0.0**
TIA				pP		**PcP**	**12 31 56.7**	**-1.0**
TIA				S		**S**	**12 41 33.7**	**+0.5**
TIA				SS		**SS**	**12 46 34.3**	**+4.2**
TIA				pmax		pmax		
	comp=Z,540nm,1.0s							
TIA				LR		LR		
	comp=Z,12µm,28.4s							
TIA				LR		LR		
	comp=Z,9µm,23.9s							
TIA				LR		LR		
	comp=Z,29µm,27.5s							
MLSI	**Meulaboh, Aceh**	**76.85**	**280**	P		**P**	**12 31 47.7**	**+0.4**
CHAI	**Chaiyaphum**	**76.91**	**293**	P		**P**	**12 31 48.2**	**+0.7**
	comp=Z,48nm,1.3s,comp=Z,588nm							
SNY	**Shenyang**	**76.97**	**326**	⇑P		**P**	**12 31 47.8**	**+0.5**
SNY				S		**S**	**12 41 36.5**	**+1.8**
SNY				pmax		pmax		
	comp=Z,1µm,2.5s							
SNY				LR		LR		
	comp=Z,23µm,21.4s							
SNY				LR		LR		
	comp=Z,16µm,20.2s							
SNY				LR		LR		
	comp=Z,20µm,27.3s							
CN2	**Changchun**	**77.47**	**328**	⇑P		**P**	**12 31 50.7**	**+0.6**
CN2				*e*pP		sP	12 31 56.8	-1.1
CN2				*e*S		**S**	**12 41 40.1**	**0.0**
CN2				LR		LR		
	comp=Z,14µm,17.0s							
CN2				LR		LR		
	comp=Z,7µm,17.0s							
CN2				LR		LR		
	comp=Z,10µm,19.0s							
UNV	**Unalaska Valle**	**78.25**	**14**	*e*P		**P**	**12 31 53.4**	**-0.7**
ENH	**Enshi**	**78.33**	**309**	*e*P		**P**	**12 31 54.8**	**-0.4**
	comp=Z,924nm,1.3s							
ENH				LR		LR		
	comp=Z,14µm,19.0s							
GYA	**Guiyang**	**78.34**	**305**⇑	*i*P		**P**	**12 31 56.0**	**+0.5**
GYA				PcP		**PcP**	**12 32 07.4**	**+2.6**
GYA				PP		**PP**	**12 34 57.5**	**+4.5**
GYA				S		**S**	**12 41 51.6**	**+1.0**
GYA				pmax		pmax		
	comp=Z,230nm,1.0s							
GYA				pmax		pmax		
	comp=Z,4µm,8.7s							
GYA				LR		LR		
	comp=Z,11µm,21.1s							
GYA				LR		LR		
	comp=Z,9µm,22.6s							
GYA				LR		LR		
	comp=Z,12µm,19.8s							
GRNR	**Gornyy**	**78.52**	**339**⇑	*i*P		**P**	**12 31 57.8**	**+2.1**
GRNR				*e*			12 41 55.8	
GRNR				pmax		pmax		
	comp=N,130nm,1.0s							
GRNR				pmax		pmax		
	comp=E,84nm,1.0s							
GRNR				pmax		pmax		
	comp=Z,360nm,1.0s							
SRDT	**SRDT**	**78.67**	**291**	P		**P**	**12 31 58.4**	**+1.0**
	comp=Z,495nm,2.1s,comp=Z,10µm							
PHIT	**Phitsanulok**	**78.84**	**294**	P		**P**	**12 31 59.9**	**+1.7**
	comp=Z,136nm,0.9s,comp=Z,2µm							
KLR	**Kul'dur**	**78.93**	**335**	P		**P**	**12 31 57.8**	**-0.3**
	comp=Z,7.4nm,1.1s,baz=125,slow=3.5,SNR=103							
KLR				LR		LR	13 05 00.8	
	comp=Z,1µm,19.9s,baz=150,slow=34							
KLR	**Kul'dur**	**78.93**	**335**	*d i*P		**P**	**12 31 58.0**	**0.0**
UTHA	**Uthaitani**	**78.93**	**292**	P		**P**	**12 32 00.3**	**+1.5**
	comp=Z,68nm,1.5s,comp=Z,1µm							
NKL	**Nikolayevsk**	**79.27**	**342**	*e*P		**P**	**12 32 00.0**	**+0.2**
NKL				*e*S		**S**	**12 42 02.0**	**+3.0**
NKL				pmax		pmax		
	comp=N,2µm,10.0s							
NKL				pmax		pmax		
	comp=E,1µm,10.0s							
NKL				pmax		pmax		
	comp=Z,6µm,11.0s							
NANT	**Nan**	**79.34**	**295**	P		**P**	**12 32 02.4**	**+1.4**
	comp=Z,68nm,1.2s,comp=Z,871nm							
PHRA	**Phrae**	**79.60**	**295**	P		**P**	**12 32 03.9**	**+1.5**
	comp=Z,3µm,1.6s,comp=Z,45µm							
BJT	**Baijiatuau**	**79.83**	**321**	*e*P		**P**	**12 32 03.1**	**-0.1**
	comp=Z,443nm,1.3s							
BJT				*e*S		**S**	**12 42 09.4**	**+3.8**
BJT				LR		LR		
	comp=Z,25µm,21.0s							
BJT	**Baijiatuau**	**79.83**	**321**	*e*P		**P**	**12 32 03.1**	**-0.1**
BJT				*e*S		**S**	**12 42 09.4**	**+3.8**
BJT				pmax		pmax		
	comp=Z,443nm,1.3s							
BJI	**Beijing**	**79.84**	**321**	P		**P**	**12 32 04.2**	**+1.0**
BJI				S		**S**	**12 42 08.1**	**+2.4**
BJI				pmax		pmax		
	comp=Z,330nm,1.2s							
BJI				LR		LR		
	comp=Z,7µm,20.8s							
BJI				LR		LR		
	comp=Z,8µm,23.4s							
PAF	**Port-aux-Franc**	**79.86**	**221**	*e*P		**P**	**12 32 04.6**	**+1.3**
PAF				LR		LR		
	comp=Z,22µm,20.0s							
PAF	**Port-aux-Franc**	**79.86**	**221**	*e*P		**P**	**12 32 04.6**	**+1.3**
PAF				MLR		MLR		
	comp=Z,22µm,20.0s							
LAMP	**Lampang**	**80.11**	**295**	P		**P**	**12 32 07.0**	**+1.8**
	comp=Z,102nm,1.0s,comp=Z,1µm							
CMAR	**Chiang Mai Arr**	**80.66**	**294**	P		**P**	**12 32 08.5**	**+0.3**
	comp=Z,67nm,0.9s,baz=134,slow=4.0,SNR=336							
CMAR				PKKPbc		**PKKPbc**	**12 50 48.4**	**+0.3**
	comp=Z,6.0nm,0.7s,baz=284,slow=3.8,SNR=19							
CMAR				PKPPKP		**P'P'df**	**12 58 46.9**	**-4.7**
	comp=Z,1.9nm,0.9s,baz=280,slow=3.6,SNR=4.4							
CMAR				LR		LR	13 11 36.6	
	comp=Z,10µm,18.4s,baz=165,slow=38							
TIY	**Taiyuan**	**80.67**	**317**	*e*P		**P**	**12 32 09.1**	**+1.2**
TIY				S		**S**	**12 42 13.8**	**-0.9**
TIY				sS		**ScS**	**12 42 32.2**	**-1.7**
TIY				SS		**SS**	**12 47 30.6**	**+2.3**
TIY				pmax		pmax		
	comp=Z,630nm,1.5s							
TIY				LR		LR		
	comp=Z,11µm,16.2s							
TIY				LR		LR		
	comp=Z,6µm,15.5s							
TIY				LR		LR		
	comp=Z,16µm,20.3s							
KMI	**Kunming**	**80.70**	**302**	P		**P**	**12 32 09.2**	**+0.7**
KMI				pP		pP	12 32 14.4	+0.1
KMI				sP		sP	12 32 16.9	+0.5
KMI				PP		**PP**	**12 35 14.0**	**+1.2**
KMI				S		**S**	**12 42 17.2**	**+1.3**
KMI				pmax		pmax		
	comp=Z,580nm,1.6s							
KMI				pmax		pmax		
	comp=Z,4µm,3.1s							
KMI				LR		LR		
	comp=Z,9µm,17.9s							
KMI				LR		LR		
	comp=Z,35µm,18.8s							
KMI				LR		LR		
	comp=Z,17µm,17.9s							
CMMT	**Chiang Mai**	**80.82**	**295**	P		**P**	**12 32 09.2**	**+0.2**
	comp=Z,366nm,1.9s,comp=Z,9µm							
CHTO	**Chiang Mai**	**80.82**	**295**	P		**P**	**12 32 10.4**	**+1.4**
	comp=Z,2µm,1.9s,comp=Z,40µm							
CHTO	**Chiang Mai**	**80.82**	**295**	*e*P		**P**	**12 32 10.1**	**+1.1**
CHTO				LR		LR		
	comp=Z,17µm,20.0s							
CHTO	**Chiang Mai**	**80.82**	**295**	*e*P		**P**	**12 32 10.1**	**+1.1**
CHTO				MLR		MLR		
	comp=Z,17µm,20.0s							
CHTO	**Chiang Mai**	**80.82**	**295**	P		**P**	**12 32 10.9**	**+1.9**
	SNR=243							
XAN	**Xi'an**	**80.84**	**312**	P		**P**	**12 32 10.2**	**+1.4**
XAN				pP		sP	12 32 18.1	+1.4
XAN				S		**S**	**12 42 17.6**	**+1.0**
XAN				pmax		pmax		
	comp=Z,380nm,1.3s							
XAN				pmax		pmax		
	comp=Z,2µm,3.0s							
XAN				LR		LR		
	comp=Z,5µm,17.7s							
XAN				LR		LR		
	comp=Z,13µm,17.6s							
XAN				LR		LR		
	comp=Z,14µm,16.3s							
SDPT	**Sand Point**	**81.07**	**16**	*e*P		**P**	**12 32 11.0**	**+1.6**
CMAI	**Chiengmai2**	**81.25**	**296**	P		**P**	**12 32 13.2**	**+1.8**
	comp=Z,2µm,1.9s,comp=Z,59µm							
SYO	**Syowa Base**	**82.47**	**196**⇓	*i*P		**P**	**12 32 14.6**	**-2.3**
SYO	**Syowa Base**	**82.47**	**196**⇓	*i*pP		**P**	**12 32 18.7**	**+1.8**

CD2 **Chengdu** 82.83 307 ⇑P **P** 12 32 19.6 +0.2
CD2 pP pP 12 32 24.7 -0.5
CD2 PP **PP** 12 35 30.1 0.0
CD2 S **S** 12 42 35.9 -1.4
CD2 sS sS 12 42 47.3 +0.4
CD2 SS **SS** 12 48 03.1 +2.3
CD2 pmax pmax
comp=Z,220nm,0.7s
CD2 pmax pmax
comp=Z,9µm,8.0s
CD2 LR LR
comp=Z,20µm,17.8s
CD2 LR LR
comp=Z,34µm,18.8s
CD2 LR LR
comp=Z,20µm,19.4s
MA2 Magadan 82.98 350 P **P** 12 32 17.4 -2.0
comp=Z,41nm,1.1s,baz=162,slow=6.3,SNR=39
MA2 LR LR 13 04 53.9
comp=Z,27µm,20.7s,baz=171,slow=33
MA2 Magadan 82.98 350*d* iP **P** 12 32 18.2 -1.2
HHC Hu-ho-hao-te 83.10 319 *e*P **P** 12 32 22.0 +1.4
HHC pP pP 12 32 26.8 +0.4
HHC sP sP 12 32 29.0 +0.5
HHC PP **PP** 12 35 35.6 +3.5
HHC SKS **S** 12 42 39.7 0.0
HHC S **SKSac** 12 42 40.9 -1.0
HHC sS sS 12 42 48.8 -0.4
HHC SS **SS** 12 48 09.0 +4.6
HHC pmax pmax
comp=Z,250nm,1.4s
HHC pmax pmax
comp=Z,5µm,8.5s
HHC LR LR
comp=Z,11µm,25.0s
HHC LR LR
comp=Z,10µm,23.9s
HHC LR LR
comp=Z,17µm,25.0s
PBA Port Blair 83.15 285 *e*P P 12 32 18.7 -2.6
PBA IAmb IAmb 12 32 22.6
comp=Z,11µm,4.4s
DGPR DIGLIPUR 83.61 287 *e*P **P** 12 32 22.9 -0.7
DGPR IAmb IAmb 12 32 26.9
comp=Z,368nm,1.0s
PMSA Palmer Station 83.85 159 *e*P **P** 12 32 24.2 +0.2
PMSA LR LR
comp=Z,11µm,19.0s
BTO Baotou 83.90 318 *e*P **P** 12 32 25.8 +1.1
HIA Hailar 84.13 329 *e*P **P** 12 32 24.7 -0.9
comp=Z,64nm,1.0s
HIA *e*PP **PP** 12 35 37.2 -3.0
HIA LR LR
comp=Z,15µm,20.0s
HIA Hailar 84.13 329*d* iP **P** 12 32 24.8 -0.9
HIA pmax pmax
comp=Z,84nm,1.1s
HIA MLR MLR
comp=Z,14µm,19.0s
ZEA Zeya 84.22 336 *e*P **P** 12 32 26.0 +0.1
ZEA *e*PS 12 42 44.0
ZEA pmax pmax
comp=N,230nm,1.2s
ZEA pmax pmax
comp=Z,390nm,1.2s
ZEA pmax pmax
comp=Z,5µm,8.0s
ZEA pmax pmax
comp=E,1µm,7.0s
ZEA pmax pmax
comp=N,2µm,6.0s
OHAK Old Harbor 84.71 19 *e*P **P** 12 32 26.0 -2.3
KDAK Kodiak Island 85.39 19 P **P** 12 32 31.0 -0.6
comp=N,54nm,1.0s,baz=237,slow=3.8,SNR=14
KDAK Kodiak Island 85.39 19 *e*P **P** 12 32 31.2 -0.4
comp=N,131nm,1.1s
KDAK LR LR
comp=Z,6µm,20.0s
KDAK Kodiak Island 85.39 19 *i* P **P** 12 32 32.2 +0.5
LZH Lanzhou 85.45 312 ⇓P **P** 12 32 34.2 +1.5
LZH pP pP 12 32 38.7 +0.1
LZH sP sP 12 32 41.7 +1.1
LZH S **S** 12 43 05.3 +1.8
LZH sS ScS 12 43 16.0 +2.5
LZH SS **SS** 12 48 43.1 +3.7
LZH pmax pmax
comp=Z,1µm,1.5s
LZH pmax pmax
comp=Z,3µm,5.7s
LZH LR LR
comp=Z,10µm,15.0s
LZH LR LR
comp=Z,12µm,15.5s
LZH LR LR
comp=Z,15µm,16.2s
SEY Seymchan 85.96 352 P **P** 12 32 33.6 -0.8
comp=Z,112nm,1.0s,baz=158,slow=6.2,SNR=211
SEY PKKPbc **PKKPbc** 12 50 40.5 +2.6
comp=Z,3.1nm,1.0s,baz=30,slow=2.8,SNR=4.5
SEY PKPPKP **P'P'df** 12 58 41.1 +4.5
comp=Z,2.4nm,0.9s,baz=262,slow=2.5,SNR=9.1
SEY LR LR 13 06 51.5
comp=Z,54µm,20.3s,baz=156,slow=33
SEY Seymchan 85.96 352*d* iP **P** 12 32 33.9 -0.5
NVL N'lazarevskaya 86.14 187 *e*P **P** 12 32 36.3 +0.8
NVL *e*S **SKSac** 12 42 58.6 -1.9
NVL *e*SSS SSS 12 52 19.2
NVL pmax pmax
comp=Z,476nm,1.8s
NVL MLR MLR
comp=Z,55µm,25.0s
SNAA Sanae 86.34 182 P **P** 12 32 35.7 -0.8
SNAA Sanae 86.34 182 P **P** 12 32 35.2 -1.4
comp=Z,273nm,1.1s,baz=185,slow=6.9,SNR=121
SNAA PKKPbc **PKKPbc** 12 50 32.2 -3.6
comp=Z,3.5nm,0.7s,baz=304,slow=2.8,SNR=12
SNAA LR LR 13 08 11.8
comp=Z,16µm,19.9s,baz=176,slow=34
SNAA Sanae 86.34 182 *e*P **P** 12 32 34.1 -2.4
SNAA PKKPbc **PKKPbc** 12 50 32.2 -3.6
SNAA Sanae 86.34 182*c* iP **P** 12 32 35.0 -1.5
SNCC San Nicolas Is 86.54 52 P **P** 12 32 38.9 +0.9
baz=241
SNCC San Nicolas Is 86.54 52 *e*P **P** 12 32 39.5 +1.5
MCCM Marconi Confer 86.64 47 *e*P **P** 12 32 41.4 +3.1
GAMB Gambell 86.76 8 *e*P **P** 12 32 39.1 +0.8
SCZ2 Santa Cruz Isl 86.82 51 P **P** 12 32 40.1 +0.7
baz=241
VNA3 Neumayer Olymp 86.89 180 P **P** 12 32 36.9 -2.3
SAO San Andreas Ge 86.92 48 *e*P **P** 12 32 40.5 +0.7
SAO San Andreas Ge 86.92 48 *e*P **P** 12 32 40.5 +0.7
HOPS Hopland Field 86.96 46 *e*P **P** 12 32 40.6 +0.6
SBC Santa Barbara 86.98 51 P **P** 12 32 41.2 +1.1
baz=241
KCPM Cahto Peak 86.99 45 *e*P **P** 12 32 41.3 +1.1
RDG13 Poverty Ridge 87.05 48 *e*P **P** 12 32 40.9 +0.4
PMPB Monarch Peak 87.09 49 *e*P **P** 12 32 41.7 +1.0
SCI2 San Clemente I 87.13 53 P **P** 12 32 41.4 +0.5
baz=241
PKM Mcpherson Peak 87.13 51 P **P** 12 32 42.0 +0.9
baz=240
KMRM Mail Ridge 87.19 44 *e*P **P** 12 32 42.3 +1.2
VNA2 Neumayer--Watz 87.19 181 P **P** 12 32 38.6 -2.0
baz=164,slow=4.0
SMMC Simmler 87.21 50 P **P** 12 32 42.3 +1.0
baz=240
PAGB Antelope Grade 87.23 50 *e*P **P** 12 32 42.2 +0.8
BLG Laguna Peak, P 87.29 52 P **P** 12 32 42.3 +0.6
baz=241
JCC Jacoby Creek, 87.30 44 *e*P **P** 12 32 43.7 +2.3
SVW2 Sparrevohn 87.36 16 *e*P **P** 12 32 39.9 -1.4
CIS Catalina Islan 87.43 52 P **P** 12 32 42.9 +0.5
baz=241
CLNS Chul'man 87.45 337 *e*P **P** 12 32 41.6 -0.3
CLNS *e* 12 32 47.4
CLNS *e**PP **sP** 12 32 52.8 +3.0
CLNS *e* 12 36 10.2
CLNS *e*PPP PPP 12 38 05.5
CLNS *e*S **SKSac** 12 43 05.9 -2.7
CLNS *e*SSS SSS 12 52 40.2
CLNS pmax pmax
comp=Z,252nm,1.2s
CLNS pmax pmax
comp=E,37nm,1.3s
CLNS pmax pmax
comp=N,145nm,1.2s
CLNS pmax pmax
comp=N,25nm,1.4s
CLNS pmax pmax
comp=Z,19nm,1.3s
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS smax smax
comp=E,2µm,14.1s
CLNS smax smax
comp=N,2µm,9.4s
CLNS MLR MLR
comp=Z,13µm,19.0s
CLNS MLR MLR
comp=N,8µm,16.0s
CLNS MLR MLR
comp=E,5µm,18.0s
VNA1 Neumayer--Stat 87.48 180 P **P** 12 32 40.0 -2.0
KHMM Horse Mountain 87.52 44 *e*P **P** 12 32 44.0 +1.2
FMP Fort Macarthur 87.67 52 P **P** 12 32 43.6 +0.2
baz=241
OSI Osito Audit: C 87.78 51 P **P** 12 32 44.5 +0.4
baz=241
OSI Osito Audit: C 87.78 51 *e*P **P** 12 32 44.8 +0.7
DECC Green Verdugo 87.89 52 P **P** 12 32 44.8 +0.3
baz=241
KBO Bosley Butte 87.92 43 *e*P **P** 12 32 46.2 +1.6
ARVC Arvin 87.95 51 P **P** 12 32 45.1 +0.3
baz=241,SNR=24
PASC Pasadena Art C 87.96 52 *e*P **P** 12 32 44.9 0.0
MWC Mount Wilson 88.08 52 *e*P **P** 12 32 45.8 +0.1
MWC Mount Wilson 88.08 52 *e*P **P** 12 32 45.8 +0.1
VES Vestal, Richgr 88.11 50 P **P** 12 32 45.6 0.0
baz=241,SNR=36
WDC Whiskeytown Da 88.14 45 *e*P **P** 12 32 46.2 +0.7
WDC Whiskeytown Da 88.14 45 *e*P **P** 12 32 46.2 +0.7
109C Camp Elliot, M 88.16 53 P **P** 12 32 46.5 +0.7
baz=242
KEBM Edson Butte 88.21 42 *e*P **P** 12 32 47.2 +1.3
RCTC Rector, Farmer 88.23 50 P **P** 12 32 46.5 +0.4
baz=241
N02D Trinity Center 88.23 44 P **P** 12 32 47.3 +1.2
baz=238,SNR=18
CMB Columbia Colle 88.28 48 *e*P **P** 12 32 46.4 0.0
CMB Columbia Colle 88.28 48 *e*P **P** 12 32 46.4 0.0
L02D Cave Junction, 88.28 43 P **P** 12 32 47.3 +1.1
baz=238
ORV Oroville 88.29 46 *e*P **P** 12 32 46.4 +0.1
ORV Oroville 88.29 46 *e*P **P** 12 32 46.4 +0.1
AFDM Forest Hills D 88.34 47 *e*P **P** 12 32 46.6 0.0
M02C Callahan 88.36 44 P **P** 12 32 47.7 +1.0
baz=238,SNR=36
SPU Mount Spurr 88.36 17 *e*P **P** 12 32 46.6 +0.4
BFSC Mount Baldy Ra 88.38 52 P **P** 12 32 47.3 +0.3
baz=242,SNR=45
BAR Barrett 88.38 54 *e*P **P** 12 32 47.9 +1.0
MGL Magalia 88.39 46 *e*P **P** 12 32 47.1 +0.2
MURC Murrieta 88.42 53 P **P** 12 32 47.7 +0.6
baz=242,SNR=19
EDW2 Edwards Air Fo 88.44 51 P **P** 12 32 48.0 +0.8
baz=242,SNR=54
ISA Isabella, Lake 88.47 50 P **P** 12 32 47.5 +0.2
baz=241,SNR=89
ISA Isabella, Lake 88.47 50 *e*P **P** 12 32 47.6 +0.3
ISA Isabella, Lake 88.47 50 *e*P **P** 12 32 47.6 +0.3
O03D Paynes Creek 88.47 45 P **P** 12 32 47.8 +0.5
baz=239,SNR=52
YBH Yreka Blue Hor 88.63 44 P **P** 12 32 47.3 -0.7
comp=E,11nm,0.7s,baz=230,slow=4.0,SNR=17
YBH LR LR 13 06 15.8
comp=E,9µm,19.1s,baz=240,slow=31
YBH Yreka Blue Hor 88.63 44 *e*P **P** 12 32 48.8 +0.9
YBH Yreka Blue Hor 88.63 44 *e*P **P** 12 32 48.8 +0.9
MONP2 Monument Peak 88.67 54 P **P** 12 32 49.0 +0.4
baz=242,SNR=22
IKP In-Ko-Pah, Jac 88.79 54 P **P** 12 32 49.7 +0.8
baz=243,SNR=16
CIT Chita 88.91 329 *e*P **P** 12 32 49.8 +0.8
CIT *e* 12 32 56.8
CIT *e*S **SKSac** 12 43 17.9 +0.3
CIT pmax pmax
comp=Z,695nm,2.0s
HUMO Hull Mountain 88.93 43 *e*P **P** 12 32 49.9 +0.6
BBRC Big Bear Solar 88.93 52 P **P** 12 32 50.2 +0.4
baz=242
RC01 Rabbit Creek A 88.94 18 *e*P **P** 12 32 47.9 -1.0
RUBR Rubicon Trail 88.94 47 *e*P **P** 12 32 50.3 +0.6
LRMC Laurel Mtn Rad 88.95 51 P **P** 12 32 50.2 +0.5
baz=242,SNR=53
PFO Pinyon Flats O 88.97 53 P **P** 12 32 50.5 +0.6
baz=242,SNR=13
PFO Pinyon Flats O 88.97 53 *e*P **P** 12 32 50.1 +0.3
PFO LR LR
comp=Z,22µm,19.0s
PFO Pinyon Flats O 88.97 53 *e*P **P** 12 32 50.1 +0.3
PFO MLR MLR
comp=Z,22µm,19.0s
XPFO Piæon Flat 88.97 53 *e*P **P** 12 32 50.1 +0.3
MDPB Devils Postpil 88.99 48 *e*P **P** 12 32 50.5 +0.5
LBCM Butte Creek Ri 89.04 45 *e*P **P** 12 32 50.2 +0.2
CWC Cottonwood Cre 89.11 50 P **P** 12 32 50.9 +0.4
baz=242
MLAC Mammoth, Mammo 89.15 49 P **P** 12 32 51.4 +0.7
baz=241,SNR=31
SWSC Sam W. Stewart 89.16 54 P **P** 12 32 50.9 +0.4
baz=243,SNR=14
RRX Edison Barstow 89.16 52 P **P** 12 32 51.4 +0.8
baz=242
WAKR Walker 89.16 48 *e*P **P** 12 32 50.6 -0.1
M04C Macdoel 89.21 44 P **P** 12 32 51.4 +0.6
baz=239,SNR=14
BEKR Beckworth 89.21 46 *e*P **P** 12 32 51.0 +0.1
TIN Tinemaha, Big 89.30 49 P **P** 12 32 52.1 +0.8
baz=241
PNTR Pine Nut 89.34 47 *e*P **P** 12 32 52.2 +0.6
MPMC Manual Prospec 89.36 50 P **P** 12 32 51.9 +0.3
baz=242,SNR=59
DAC Darwin (Calif) 89.38 50 *e*P **P** 12 32 52.1 +0.3
DAC Darwin (Calif) 89.38 50 *e*P **P** 12 32 52.1 +0.3
VCNR Virginia City 89.41 47 *e*P **P** 12 32 52.4 +0.6
BELC Belle Mtn. Jos 89.49 53 P **P** 12 32 52.8 +0.5
baz=243,SNR=39
GSC Goldstone, Bar 89.50 51 P **P** 12 32 52.4 +0.2
baz=242,SNR=32
GSC Goldstone, Bar 89.50 51 *e*P **P** 12 32 52.5 +0.3
GSC Goldstone, Bar 89.50 51 *e*P **P** 12 32 52.5 +0.3
PMR Palmer 89.52 18 *e*P **P** 12 32 51.0 -0.4
PMR Palmer 89.52 18 *e*P **P** 12 32 51.1 -0.4
YERR Yerington 89.53 47 *e*P **P** 12 32 52.8 +0.4
GLI Glacier Island 89.56 19 *e*P **P** 12 32 52.2 +0.4
HEC Hector,Ludlow 89.62 52 P **P** 12 32 53.1 +0.3
baz=242,SNR=36
SHL Shillong 89.64 298 *e*P **P** 12 32 52.7 -0.6
SHL IAmb IAmb 12 32 55.3
comp=Z,228nm,1.0s
K04D Chiloquin, OR 89.69 43 P **P** 12 32 53.5 +0.5
baz=239
LPIG La Paz 89.70 64 P **P** 12 32 52.2 -1.0
comp=Z,19nm,0.4s,baz=108,slow=3.2,SNR=3.5
LPIG LR LR 13 04 17.4
comp=Z,10µm,21.4s,baz=244,slow=30
BC3 Big Chuckawall 89.74 53 P **P** 12 32 54.0 +0.6
baz=243,SNR=13
COR Corvallis 89.75 41 *e*P **P** 12 32 52.9 -0.1
COR Corvallis 89.75 41 *e*P **P** 12 32 52.9 -0.1
PAHR Pah Rah Range 89.79 47 *e*P **P** 12 32 53.7 +0.2
J04D Umpqua Nationa 89.79 42 P **P** 12 32 54.2 +0.7
baz=239,SNR=14
ULN Ulaanbaatar 89.81 323 *e*P **P** 12 32 53.2 -0.2
ULN LR LR
comp=Z,13µm,21.0s
ULN Ulaanbaatar 89.81 323*d* iP **P** 12 32 52.9 -0.5
ULN pmax pmax
comp=Z,375nm,1.3s
ULN MLR MLR
comp=Z,10µm,19.0s
ULN Ulaanbaatar 89.81 323 P **P** 12 32 53.3 -0.2
SNR=182
RYN Ryan 89.85 48 *e*P **P** 12 32 54.1 +0.2
GRAC Grapevine Rang 89.88 50 P **P** 12 32 54.6 +0.6
baz=242,SNR=12
I04A Tendick Farm, 89.89 42 P **P** 12 32 53.8 +0.1
baz=239
NV01 Mina Array Sit 89.91 48 *e*P **P** 12 32 54.0 -0.2
NVAR Mina Array Bea 89.91 48 P **P** 12 32 54.3 +0.1
comp=Z,31nm,0.9s,baz=226,slow=8.3,SNR=76
NVAR PKiKP **PKiKP** 12 37 53.9 +3.1
comp=Z,1.6nm,0.7s,baz=210,slow=2.0,SNR=3.5
NVAR PKKPbc **PKKPbc** 12 50 28.3 +1.1
comp=Z,3.0nm,1.1s,baz=110,slow=3.2,SNR=6.6
NVAR PKPPKP **P'P'df** 12 58 34.4 +1.5
comp=Z,1.5nm,1.0s,baz=67,slow=1.6,SNR=4.6
NVAR LR LR 13 07 27.4
comp=Z,18µm,19.3s,baz=110,slow=32
SML Sawmill 89.92 18 *e*P **P** 12 32 51.8 -1.7
comp=Z,37nm,1.5s
SML Sawmill 89.92 18 *e*P **P** 12 32 51.8 -1.7
SML pmax pmax
comp=Z,37nm,1.5s
YAK Yakutsk 89.93 342 P **P** 12 32 52.5 -0.9
comp=Z,44nm,0.6s,baz=47,slow=1.5,SNR=72
YAK LR LR 13 12 33.5
comp=Z,21µm,18.9s,baz=94,slow=35
YAK Yakutsk 89.93 342 *e*P **P** 12 32 53.3 -0.1
YAK Yakutsk 89.93 342*d* iP **P** 12 32 52.1 -1.3
YAK *e**PP **sP** 12 33 02.2 +0.9
YAK *e* 12 36 35.2
YAK *e*PPP PPP 12 38 27.3
YAK *e*S **SKSac** 12 43 18.9 -4.1
YAK *e**SS **SKKSac** 12 43 36.9 +0.8
YAK *e*SS **SS** 12 49 45.7 +2.2
YAK pmax pmax
comp=Z,147nm,1.0s
YAK pmax pmax
comp=N,29nm,1.3s
YAK pmax pmax
comp=E,18nm,1.1s
YAK pmax pmax
comp=Z,2µm,7.1s
YAK pmax pmax
comp=N,794nm,7.3s
YAK pmax pmax
comp=E,271nm,3.2s
YAK smax smax
comp=E,930nm,2.5s
YAK smax smax
comp=N,2µm,2.7s
GLA Glamis 89.94 54 P **P** 12 32 55.2 +0.9
baz=243,SNR=17
GLA Glamis 89.94 54 *e*P **P** 12 32 55.2 +0.9
GLA Glamis 89.94 54 *e*P **P** 12 32 55.2 +0.9
BILL Bilibino 89.94 358*d* iP **P** 12 32 52.2 -1.2
BILL *e* 12 36 29.0
BILL *i* S **SKSac** 12 43 17.1 -5.8
BILL *e*SSS SSS 12 53 12.9
BILL pmax pmax
comp=Z,239nm,1.2s
BILL MLR MLR
comp=Z,13µm,18.0s
FURC Furnace Creek, 89.99 50 P **P** 12 32 54.9 +0.6
baz=242,SNR=32
NV11 Mina Array Sit 90.01 48 *e*P **P** 12 32 54.3 -0.3
GMRC Granite Mounta 90.09 52 P **P** 12 32 55.3 +0.2
baz=243,SNR=23
G03D McMinnville, O 90.11 40 P **P** 12 32 55.3 +0.6
baz=238
SHOC Shoshone, Teco 90.15 51 P **P** 12 32 55.5 +0.3
baz=243,SNR=30
SONM Songino Array 90.16 323 P **P** 12 32 54.9 -0.2
comp=Z,142nm,1.0s,baz=144,slow=4.5,SNR=441
SONM PKKP **PKKPdf** 12 50 22.8 -0.8
comp=Z,0.6nm,0.7s,baz=64,slow=44,SNR=7.3
SONM PKKPbc **PKKPbc** 12 50 26.8 -0.1
comp=Z,4.2nm,0.8s,baz=259,slow=2.5,SNR=10.0
SONM PKPPKP **P'P'df** 12 58 33.4 +2.3
comp=Z,1.1nm,0.9s,baz=256,slow=3.1,SNR=5.4
SONM LR LR 13 14 51.4
comp=Z,10µm,18.3s,baz=123,slow=37
DIV Divide 90.16 20 *e*P **P** 12 32 53.2 -1.4
comp=Z,134nm,1.3s
DIV *e*PP **PP** 12 36 25.9 -2.7
IRM Iron Mountain 90.19 53 P **P** 12 32 56.2 +0.8
baz=243,SNR=60
TUQ Turquoise Moun 90.20 52 P **P** 12 32 56.0 +0.5
baz=243,SNR=17
SCM Sheep Creek Mo 90.23 19 *e*P **P** 12 32 54.6 -0.4
SCM Sheep Creek Mo 90.23 19 *e*P **P** 12 32 54.6 -0.4
MOD Modoc Plateau 90.26 44 *e*P **P** 12 32 55.6 -0.1
J05D Fort Rock, OR 90.36 43 P **P** 12 32 56.7 +0.6
baz=240
BMRM Bremner River 90.41 20 *e*P **P** 12 32 55.1 -0.7
comp=Z,250nm,1.4s
Y12C Blythe 90.47 54 P **P** 12 32 57.4 +0.7
baz=244,SNR=31
Y12C Blythe 90.47 54 *e*P **P** 12 32 57.4 +0.7
H04A Detroit Lake 90.48 41 *e*P **P** 12 32 56.3 -0.2
KTH Kantishna Hill 90.61 16 *e*P **P** 12 32 54.9 -1.8
comp=Z,49nm,1.1s
LDFC Landfair 90.63 52 *e*P **P** 12 32 57.8 +0.3
E03A Lebam 90.64 39 *e*P **P** 12 32 57.9 +0.8
TPNV Topopah Spring 90.65 50 P **P** 12 32 57.9 +0.2
baz=243,SNR=45
TPNV Topopah Spring 90.65 50 *e*P **P** 12 32 57.8 +0.2
TPNV Topopah Spring 90.65 50 *e*P **P** 12 32 57.8 +0.2
TRF Thorofare Moun 90.70 17 *e*P **P** 12 32 55.5 -1.7
comp=Z,75nm,1.1s
CHRN Cochrane 90.74 143 *e*P **P** 12 32 59.3 +1.5
PINE Pine Mountain 90.80 42 *e*P **P** 12 32 58.9 +0.7
I05D Terrebonne, OR 90.83 42 P **P** 12 32 58.5 +0.3
baz=239
NLWA Neilton Lookou 90.91 38 *e*P **P** 12 32 59.2 +0.8
NLWA LR LR
comp=Z,10µm,20.0s
214A Organ Pipe Nat 90.99 56 P **P** 12 32 59.9 +0.8
baz=244,SNR=9.9
214A Organ Pipe Nat 90.99 56 *e*P **P** 12 32 58.9 -0.3
comp=Z,210nm,1.1s
PDMCI Parker Dam,Lak 91.00 53 P **P** 12 32 60.0 +0.8
baz=244,SNR=30
BPAW Bear Paw Mtn. 91.05 16 *e*P **P** 12 32 55.8 -2.8
comp=Z,11nm,1.5s
BPAW *e*PP **PP** 12 36 35.4 -0.2
DHY Denali Highway 91.19 18 *e*P **P** 12 32 58.4 -1.2
HSIG 91.21 59 *e*P **P** 12 33 00.6 +0.4
SHPR Sheep Range 91.23 51 *e*P **P** 12 33 01.0 +0.6
MCK McKinley 91.28 17 *e*P **P** 12 32 57.7 -2.1
comp=Z,49nm,1.1s
MCK McKinley 91.28 17 *e*P **P** 12 32 57.7 -2.1
MCK pmax pmax
comp=Z,49nm,1.1s
G05D Wamic, OR 91.30 41 P **P** 12 33 01.0 +0.7
baz=239
HARP HAARP 91.33 19 *e*P **P** 12 32 59.8 -0.2
BMN Battle Mountai 91.59 47 *e*P **P** 12 33 02.3 +0.4
BMN Battle Mountai 91.59 47 *e*P **P** 12 33 02.3 +0.4
WVOR Wild Horse Val 91.60 44 *e*P **P** 12 33 02.3 +0.4
WVOR LR LR
comp=Z,16µm,20.0s
WVOR Wild Horse Val 91.60 44 *e*P **P** 12 33 02.3 +0.4
WVOR MLR MLR
comp=Z,16µm,20.0s
PAX Paxson 91.67 19 *e*P **P** 12 33 00.1 -1.5
comp=Z,125nm,1.6s
PAX Paxson 91.67 19 *e*P **P** 12 33 00.2 -1.5
PAX pmax pmax
comp=Z,125nm,1.6s
G06A Carlson Farm, 91.71 41 *e*P **P** 12 33 02.3 +0.1
R11A Troy Canyon, C 91.76 49 P **P** 12 33 02.6 -0.2
baz=243,SNR=39
R11A Troy Canyon, C 91.76 49 *e*P **P** 12 33 02.2 -0.5
comp=Z,32nm,1.2s
LON Longmire 91.77 40 *e*P **P** 12 33 02.2 -0.2
LON Longmire 91.77 40 *e*P **P** 12 33 02.3 -0.2
PGC Sidney 91.82 37 *e*P **P** 12 33 01.6 -0.9
comp=Z,84nm,1.1s
I07A Izee 91.84 43 *e*P **P** 12 33 03.4 +0.5
MLY Manley 91.87 15 *e*P **P** 12 33 01.0 -1.5
WRAK Wrangell Islan 91.87 28 *e*P **P** 12 33 02.9 +0.3
comp=Z,126nm,1.1s
WRAK *e*PP **PP** 12 36 44.1 +1.9
WRAK LR LR
comp=Z,20µm,20.0s
D05A Enumclaw 91.89 39 *e*P **P** 12 33 04.2 +1.3
LSA Lhasa 91.94 301 P **P** 12 33 05.0 +0.8
LSA pmax pmax
comp=Z,110nm,1.7s
LSA LR LR
comp=Z,4µm,31.0s
LSA LR LR
comp=Z,3µm,31.0s
LSA LR LR

comp=Z,13µm,33.4s
LSA Lhasa 91.94 301 *e*P **P 12 33 04.1 -0.1**
comp=Z,152nm,1.2s
LSA LR LR
comp=Z,11µm,20.0s
LSA Lhasa 91.94 301 *e*P **P 12 33 04.1 -0.1**
LSA pmax pmax
comp=Z,152nm,1.2s
LSA MLR MLR
comp=Z,11µm,20.0s
LSA Lhasa 91.94 301 P **P 12 33 03.4 -0.8**
LSA Lhasa 91.94 301 P **P 12 33 03.4 -0.8**
J08A Circle Bar Ran 92.15 44 *e*P **P 12 33 04.3 -0.1**
MENT Mentasta 92.17 19 *e*P **P 12 33 03.4 -0.5**
A04D Lummi Island 92.27 38 P **P 12 33 05.3 +0.7**
baz=239
BOD Bodaibo 92.38 334↓ *i*P **P 12 33 03.9 -1.0**
BOD *e* 12 43 31.1
BOD pmax pmax
comp=Z,145nm,1.5s
B05A Bryant 92.39 38 P **P 12 33 06.1 +0.9**
baz=239
PALK Pallekele 92.41 277 P **P 12 33 05.7 -0.4**
comp=Z,36nm,0.9s,baz=116,slow=4.9,SNR=29
PALK Pallekele 92.41 277 *e*P **P 12 33 06.6 +0.4**
PALK Pallekele 92.41 277 *i*P **P 12 33 07.3 +1.1**
PALK Pallekele 92.41 277 P **P 12 33 07.5 +1.3**
SNR=21
PALK Pallekele 92.41 277 *i*P **P 12 33 04.9 -1.3**
SNR=23
PALK Pallekele 92.41 277 *i*P **P 12 33 04.9 -1.3**
SNR=23
F07A Phinny Hill Vi 92.47 41 *e*P **P 12 33 06.0 +0.4**
COLA College 92.48 17 *e*P **P 12 33 03.7 -1.5**
COLA LR LR
comp=Z,18µm,22.0s
COLA College 92.48 17 *e*P **P 12 33 03.7 -1.5**
COLA MLR MLR
comp=Z,18µm,22.0s
DOT Dot Lake 92.59 19 *e*P **P 12 33 05.0 -0.8**
ILAR Eielson Array 92.66 17 P **P 12 33 04.4 -1.6**
comp=Z,28nm,0.9s,baz=236,slow=4.4,SNR=101
ILAR PKiKP **PKiKP 12 37 53.2 -1.1**
comp=Z,1.3nm,0.5s,baz=274,slow=2.9,SNR=15
ILAR PKKP **PKKPdf 12 50 17.6 -1.9**
comp=Z,3.9nm,1.0s,baz=350,slow=2.2,SNR=8.9
ILAR PKPPKP P'P'df 12 58 33.9 +9.1
comp=Z,4.5nm,1.4s,baz=326,slow=1.1,SNR=6.1
ILAR LR LR 13 10 53.0
comp=Z,13µm,20.2s,baz=240,slow=33
ILAR Eielson Array 92.66 17 P **P 12 33 04.4 -1.6**
ILAR 12 50 17.7
ILAR pmax pmax
comp=Z,27nm,0.9s
ILB Eielson Array 92.66 17 *e*P **P 12 33 04.5 -1.6**
TUC Tucson 92.69 56 P **P 12 33 07.2 +0.1**
baz=246
TUC Tucson 92.69 56 *e*P **P 12 33 07.4 +0.3**
TUC LR LR
comp=Z,25µm,19.0s
TUC Tucson 92.69 56 *e*P **P 12 33 07.4 +0.3**
TUC MLR MLR
comp=Z,25µm,19.0s
LTY Liberty 92.70 40 *e*P **P 12 33 06.5 -0.3**
G08A Pilot Rock 92.77 42 *e*P **P 12 33 07.3 +0.1**
LCMT Little Creek M 92.84 51 *e*P **P 12 33 08.2 +0.5**
E07A Sunnyside 92.84 40 *e*P **P 12 33 07.7 +0.3**
CCUT Cedar City 92.98 51 *e*P **P 12 33 09.3 +0.7**
PSUT Pine Spring 93.06 50 *e*P **P 12 33 09.1 +0.2**
KNB Kanab 93.14 51 *e*P **P 12 33 08.4 -0.8**
KNB Kanab 93.14 51 *e*P **P 12 33 08.4 -0.8**
SZCU Shurtz Canyon 93.20 51 *e*P **P 12 33 10.2 +0.7**
ZAK Zakamensk 93.25 324 *e*P **P 12 33 08.1 -1.2**
ZAK pmax pmax
comp=Z,160nm,1.4s
WUAZ Wupatki 93.57 53 P **P 12 33 11.4 +0.2**
baz=245
WUAZ Wupatki 93.57 53 *e*P **P 12 33 11.5 +0.2**
WUAZ LR LR
comp=Z,14µm,19.0s
BMO Blue Mountains 93.60 43 *e*P **P 12 33 10.5 -0.5**
BMO LR LR
comp=Z,23µm,19.0s
BMO Blue Mountains 93.60 43 *e*P **P 12 33 10.5 -0.5**
BMO MLR MLR
comp=Z,23µm,19.0s
D08A Wollman Farm, 93.65 40 *e*P **P 12 33 11.1 +0.1**
IRK Irkutsk 93.69 326 *e*P **P 12 33 10.4 -0.8**
IRK *e* 12 37 02.5
IRK pmax pmax
comp=Z,198nm,3.4s
TLY Talaya 93.73 325 P **P 12 33 11.4 +0.1**
baz=160,slow=3.5
TLY LR LR 13 11 29.8
comp=Z,6µm,21.2s,baz=114,slow=33
TLY Talaya 93.73 325 *e*P **P 12 33 11.3 -0.1**
comp=Z,67nm,1.0s
TLY Talaya 93.73 325 *e*P **P 12 33 11.0 -0.3**
TLY *e*S **SKSac 12 43 44.5 -0.5**
TLY *e*SS **SS 12 50 35.4 -3.3**
TLY pmax pmax
comp=Z,116nm,1.2s
TLY MLR MLR
comp=Z,7µm,19.0s
TLY Talaya 93.73 325 P **P 12 33 11.9 +0.6**
SNR=42
COLD Coldfoot 93.78 14 *e*P **P 12 33 10.9 -0.3**
comp=Z,126nm,0.6s
TAPN Taplejung 93.78 298 *e*P **P 12 33 13.0 +0.5**
comp=Z,448nm,1.3s
ODAN Odare 93.86 297 *e*P **P 12 33 13.6 +0.8**
comp=Z,886nm,1.6s
MFID Camas Ranch 93.88 45 *e*P **P 12 33 12.2 -0.2**
VIS Vishakhapatnam 93.89 287 *i*P **P 12 33 12.8 0.0**
VIS *i* x x 12 36 45.4
BOK Bokaro 93.95 294 *e*P **P 12 33 14.2 +1.1**
BOK IAmb IAmb 12 33 15.0
comp=Z,97nm,0.8s
B08A Colville Reser 94.03 39 *e*P **P 12 33 12.2 -0.7**
MTPU Mount Pierson 94.04 51 *e*P **P 12 33 14.5 +1.0**
DLBC Dease Lake 94.10 27 *e*P **P 12 33 12.8 -0.2**
comp=Z,75nm,1.3s
DLBC *e*PP **PP 12 37 01.3 +1.5**
F10A Beach Ranch, E 94.17 42 *e*P **P 12 33 12.9 -0.7**
MSU Marysvale 94.24 50 *e*P **P 12 33 15.0 +0.7**
MSU Marysvale 94.24 50 *e*P **P 12 33 15.0 +0.7**
EGAK Eagle 94.29 19 *e*P **P 12 33 12.3 -1.3**
EGAK LR LR
comp=Z,13µm,21.0s
DAWY Dawson 94.32 20 *e*P **P 12 33 13.2 -0.6**
comp=Z,140nm,1.3s
DUG Dugway, Tooele 94.50 48 P **P 12 33 15.6 +0.3**
baz=245
DUG Dugway, Tooele 94.50 48 *e*P **P 12 33 16.1 +0.7**
DUG LR LR
comp=Z,22µm,20.0s
DUG Dugway, Tooele 94.50 48 *e*P **P 12 33 16.1 +0.7**
DUG MLR MLR
comp=Z,22µm,20.0s
DGAR Diego Garcia 94.53 260 *e*P **P 12 33 16.3 +0.4**
comp=Z,56nm,0.8s
DGAR *e*PP **PP 12 37 04.8 +1.0**
DGAR LR LR
comp=Z,65µm,21.0s
DGAR Diego Garcia 94.53 260 *e*P **P 12 33 16.3 +0.4**
DGAR *e* 12 37 04.8
DGAR pmax pmax
comp=Z,56nm,0.8s
DGAR MLR MLR
comp=Z,65µm,21.0s
RAMN Ramite 94.54 297 *e*P **P 12 33 16.6 +0.6**
comp=Z,752nm,1.7s
W18A Petrified Fore 94.64 54 P **P 12 33 16.5 +0.4**
baz=246
W18A Petrified Fore 94.64 54 *e*P **P 12 33 17.1 +1.0**
comp=Z,83nm,1.4s
BGU Big Grassy Mou 94.66 48 *e*P **P 12 33 19.6 +3.6**
HLID Hailey 94.87 45 P **P 12 33 17.7 +0.7**
baz=244
HLID Hailey 94.87 45 *e*P **P 12 33 19.1 +2.1**
HLID LR LR
comp=Z,15µm,20.0s
NLU North Lily Min 94.92 49 *e*P **P 12 33 18.3 +1.0**
MDRS Chennai 94.95 282 *e*P **P 12 33 17.9 +0.1**
MDRS IAmb IAmb 12 33 21.8
comp=Z,3µm,4.2s
121A Cookes Peak, D 95.11 57 P **P 12 33 18.7 +0.3**
baz=247
121A Cookes Peak, D 95.11 57 *e*P **P 12 33 18.6 +0.3**
comp=Z,27nm,1.1s
Q16A Castle Valley 95.12 50 *e*P **P 12 33 19.6 +1.3**
JIRN Jiri 95.15 298 *e*P **P 12 33 19.7 +0.8**
comp=Z,618nm,1.6s
EFI East Falkland 95.16 152 *e*P **P 12 33 17.8 -0.3**
EFI LR LR
comp=Z,7µm,21.0s
EFI East Falkland 95.16 152 *e*P **P 12 33 17.8 -0.3**
EFI MLR MLR
comp=Z,7µm,21.0s
HVU Hansel Valley 95.20 47 *e*P **P 12 33 19.1 +0.7**
HVU Hansel Valley 95.20 47 *e*P **P 12 33 19.2 +0.7**
PVM Polavaram 95.23 286 *e*P **P 12 33 19.0 0.0**
PVM IAmb IAmb 12 33 20.8
comp=Z,561nm,2.3s
PVM *e*PP **PP 12 37 10.9 +1.5**
PVM IVMs_BB IVMs_BB 13 14 00.6
comp=Z,5µm,19.7s
MPU Maple Canyon 95.25 49 *e*P **P 12 33 19.7 +0.8**
TMUT Trail Mountain 95.25 50 *e*P **P 12 33 21.1 +2.1**
NEW Newport 95.29 40 PFAKE 12 33 30.0 +11
NEW LR LR
comp=Z,8µm,21.0s
CTU Camp Tracy 95.45 48 *e*P **P 12 33 20.5 +0.8**
GUN Gumba 95.50 298 *e*P **P 12 33 21.1 +0.6**
comp=Z,229nm,1.1s
JLU Jordanelle 95.62 48 *e*P **P 12 33 21.3 +0.7**
P17A Butcher Ranch, 95.66 50 *e*P **P 12 33 24.5 +3.8**
SRU San Rafael Swe 95.66 50 *e*P **P 12 33 21.4 +0.7**
SRU San Rafael Swe 95.66 50 *e*P **P 12 33 21.4 +0.7**
PLCA Paso Flores 95.68 138 P **P 12 33 21.2 +0.4**
comp=Z,32nm,1.0s,baz=242,slow=4.5,SNR=21
PLCA PKKPbc **PKKPbc 12 50 11.3 -0.2**
comp=Z,9.9nm,1.1s,baz=46,slow=2.5,SNR=7.9
PLCA LR LR 13 06 13.9
comp=Z,6µm,21.2s,baz=252,slow=29
PLCA Paso Flores 95.68 138 P **P 12 33 21.2 +0.4**
PLCA pmax pmax
comp=Z,47nm,1.2s
PLCA pmax pmax
comp=Z,10.0nm,1.1s
SKHT Srikalahasti 95.68 282 *e*P **P 12 33 22.2 +1.1**
SKHT IAmb IAmb 12 33 23.6
comp=Z,810nm,2.3s
SKHT IVMs_BB IVMs_BB 13 10 16.1
comp=Z,7µm,25.8s
ZAIG Zacatecas 95.74 68 *e*P **P 12 33 22.4 +0.8**
PKI Pulchoki 95.76 297 *e*P **P 12 33 21.6 0.0**
comp=Z,460nm,1.4s
PKIN Phulchoki 95.77 297 *e*P **P 12 33 21.5 -0.1**
comp=Z,478nm,1.6s
PKIN Phulchoki 95.77 297 *e*P **P 12 33 22.8 +1.2**
comp=Z,182nm,1.3s
EPT El Paso 95.82 58 *e*P **P 12 33 23.9 +2.3**
TCUT Toone Canyon 95.86 48 *e*P **P 12 33 23.2 +1.5**
KKN Kakani 95.95 297 *e*P **P 12 33 22.8 +0.5**
comp=Z,282nm,1.2s
DMN Daman 96.02 297 *e*P **P 12 33 23.5 +0.8**
comp=Z,508nm,1.3s
ADKI Addanki 96.21 285 *e*P **P 12 33 24.5 +1.0**
ADKI IAmb IAmb 12 33 25.8
comp=Z,577nm,2.3s
ADKI IVMs_BB IVMs_BB 13 17 04.2
comp=Z,7µm,19.5s
TRD Trivandrum 96.31 277 *e*P **P 12 33 24.6 +0.6**
LAZ Ladron 96.32 56 *e*P **P 12 33 24.9 +1.0**
MVCO Mesa Verde 96.38 53 PFAKE 12 33 40.0 +16
MVCO LR LR
comp=Z,20µm,19.0s
PV09 Paradox Valley 96.42 51 *e*P **P 12 33 27.2 +2.8**
MCMT McKenzie Canyo 96.43 44 *e*P **P 12 33 28.4 +4.2**
GKN Gorkha 96.55 297 *e*P **P 12 33 24.9 -0.1**
comp=Z,0.5nm,0.4s
MSO Missoula 96.58 42 P **P 12 33 25.6 +1.0**
baz=245
BNM Barren Site 96.62 56 *e*P **P 12 33 25.5 +0.2**
MNTX Cornudas Mount 96.68 59 P **P 12 33 25.6 +0.2**
baz=248
MNTX Cornudas Mount 96.68 59 *e*P **P 12 33 25.2 -0.2**
MNTX LR LR
comp=Z,9µm,20.0s
PV01 Paradox Valley 96.68 52 *e*P **P 12 33 27.9 +2.4**
AHID Auburn Hatcher 96.74 47 *e*P **P 12 33 25.1 -0.5**
comp=Z,11nm,1.3s
AHID LR LR
comp=Z,8µm,20.0s
ANMO Albuquerque 97.05 55 P Pdif 12 33 27.2 0.0
baz=248
ANMO Albuquerque 97.05 55 *e*P **P 12 33 27.1 -0.1**
ANMO LR LR
comp=Z,15µm,19.0s
ANMO Albuquerque 97.05 55↑ *e*P Pdif 12 33 27.3 0.0
ANMO pmax pmax
comp=Z,9.0nm,1.2s
ANMO MLR MLR
comp=Z,8µm,16.0s
NJS Nagarjunasagar 97.06 285 *e*P Pdif 12 33 27.5 +0.1
NJS IAmb IAmb 12 33 29.3
comp=Z,1µm,2.3s
NJS IVMs_BB IVMs_BB 13 08 39.7
comp=Z,6µm,39.2s
TXAR Lajitas Array 97.19 61 P **P 12 33 27.7 -0.1**
comp=Z,2.8nm,0.9s,baz=204,slow=2.7,SNR=13
TXAR PKKP **PKKPdf 12 50 08.9 -1.0**
comp=Z,2.0nm,0.8s,baz=78,slow=4.3,SNR=9.1
TXAR LR LR 13 08 00.7
comp=Z,11µm,22.0s,baz=0.0,slow=30
SRLM Srisailam 97.27 284 *e*P Pdif 12 33 29.0 +0.6
SRLM IAmb IAmb 12 33 30.4
comp=Z,1µm,2.3s
SRLM IVMs_BB IVMs_BB 13 15 55.4
comp=Z,7µm,20.2s
KOLN Koldanda 97.33 297 *e*P Pdif 12 33 28.6 -0.1
comp=Z,237nm,1.5s
QLMT Earthquake Lak 97.35 45 *e*P Pdif 12 33 33.0 +4.6
MOOW Moose Ponds 97.37 46 *e*P Pdif 12 33 30.8 +2.3
DANN Dangsing 97.40 297 *e*P Pdif 12 33 29.4 +0.3
YHB Horse Butte 97.47 45 *e*P Pdif 12 33 32.8 +3.9
BOZ Bozeman (W) 97.53 44 *e*P **P 12 33 28.6 -0.4**
BOZ LR LR
comp=Z,22µm,20.0s
BOZ Bozeman (W) 97.53 44 *e*P **P 12 33 28.6 -0.4**
BOZ MLR MLR
comp=Z,22µm,20.0s
O20A White River Ci 97.69 50 P Pdif 12 33 30.3 +0.4
baz=248
H17A Grant Village 97.74 45 P Pdif 12 33 30.7 +0.5
baz=247
H17A Grant Village 97.74 45 *e*P Pdif 12 33 31.3 +1.2
comp=Z,15nm,1.1s
TIXI Tiksi 97.77 348 P **P 12 33 27.8 -1.5**
comp=Z,16nm,1.1s,baz=134,slow=6.2,SNR=27
TIXI LR LR 13 18 45.0
comp=Z,7µm,18.2s,baz=118,slow=36
TIXI Tiksi 97.77 348 *e*P **P 12 33 27.8 -1.5**
comp=Z,37nm,1.3s
TIXI Tiksi 97.77 348*c i*P **P 12 33 27.9 -1.3**
TIXI pmax pmax
comp=Z,34nm,1.3s
TIXI MLR MLR
comp=Z,13µm,19.0s
BW06 Boulder Array 97.78 47 P Pdif 12 33 30.4 +0.1
baz=247
BW06 Boulder Array 97.78 47 *e*P Pdif 12 33 30.3 -0.1
BW06 LR LR
comp=Z,6µm,19.0s
PDAR Pinedale Array 97.78 47 P **P 12 33 29.4 -0.9**
comp=Z,0.7nm,0.6s,baz=219,slow=1.9,SNR=6.9
PDAR PP **PP 12 37 26.8 -2.1**
comp=Z,16nm,1.2s,baz=256,slow=4.3,SNR=5.9
PDAR PKiKP **PKiKP 12 38 07.2 +2.9**
comp=Z,2.3nm,0.8s,baz=213,slow=0.9,SNR=7.1
PDAR PKKPbc **PKKPbc 12 50 05.8 -0.7**
comp=Z,1.5nm,0.8s,baz=76,slow=6.3,SNR=5.5
PDAR PKPPKP **P'P'df 12 58 18.1 -0.1**
comp=Z,1.3nm,1.1s,baz=116,slow=2.1,SNR=3.1
PDAR LR LR 13 10 08.7
comp=Z,6µm,19.9s,baz=264,slow=31
S22A 4UR Ranch, Cre 97.81 53 P Pdif 12 33 31.2 +0.4
baz=248
HRY Holter Researc 97.85 43 *e*P Pdif 12 33 35.0 +4.5
RPR Rampur 97.88 287 *e*P Pdif 12 33 31.0 0.0
RPR IAmb IAmb 12 33 32.3
comp=Z,495nm,2.5s
RPR IVMs_BB IVMs_BB 13 18 01.1
comp=Z,5µm,20.5s
LKWY Lake 97.92 45 PFAKE 12 33 40.0 +9.0
LKWY LR LR
comp=Z,19µm,19.0s
PYUN Piuthan 97.95 297 *e*P **P 12 33 31.1 -0.3**
comp=Z,207nm,1.2s
HYB Hyderabad 98.03 285 *i*P Pdif 12 33 32.0 +0.2
HYB *e*PP **PP 12 37 32.0 +0.9**
HYB *e*SKS **SKSac 12 44 10.0 +0.8**
HYB *e*PS **PS 12 46 24.0 -0.2**
HYB *e*PSS PSS 12 51 30.0
HYB Hyderabad 98.03 285 *e*P **P 12 33 30.0 -1.7**
HYB IAmb IAmb 12 33 33.2
HYBB Hyderabad (bro 98.03 285 *e*P Pdif 12 33 31.9 +0.1
HYBB IAmb IAmb 12 33 33.2
comp=Z,535nm,2.5s
HYBB *e*PP **PP 12 37 28.8 -2.3**
HYBB IVMs_BB IVMs_BB 13 09 29.6
comp=Z,6µm,31.2s
URV Uravakonda 98.33 283 *e*P Pdif 12 33 33.6 +0.4
URV IAmb IAmb 12 33 35.0
comp=Z,724nm,2.4s
URV IVMs_BB IVMs_BB 13 16 59.3
comp=Z,6µm,19.2s
PAYG Puerto Ayora 98.39 94 PFAKE 12 33 40.0 +6.5
PAYG LR LR
comp=Z,8µm,20.0s
SRSP Sriramsagar 98.75 287 *e*P **P 12 33 34.8 -0.1**
SRSP IAmb IAmb 12 33 36.2
comp=Z,375nm,2.3s
SRSP IVMs_BB IVMs_BB 13 10 45.3
comp=Z,4µm,37.1s
JBP Jabalpur 98.77 291↑ *e*P **P 12 33 34.5 -0.4**
JBP IAmb IAmb 12 33 36.2
SDCO Great Sand Dun 98.79 53 P **P 12 33 34.4 -0.6**
baz=249
SDCO Great Sand Dun 98.79 53 *e*P Pdif 12 33 37.0 +1.9
SDCO LR LR
comp=Z,14µm,19.0s
RLMT Red Lodge 98.88 45 P Pdif 12 33 35.7 +0.5
baz=248
RLMT Red Lodge 98.88 45 *e*P Pdif 12 33 39.2 +4.1
RLMT LR LR
comp=Z,8µm,20.0s
NGP Nagpur 98.89 289 *e*P **P 12 33 32.3 -3.2**
INK Inuvik 98.93 18 P **P 12 33 33.4 -1.2**
comp=Z,33nm,1.2s,baz=243,slow=4.7,SNR=26
INK PKiKP **PKiKP 12 38 05.0 -0.2**
comp=Z,6.4nm,0.6s,baz=310,slow=2.4,SNR=17
INK PKKPbc **PKKPbc 12 50 01.5 -2.4**
comp=Z,2.3nm,0.8s,baz=22,slow=8.4,SNR=5.1
INK PKPPKP **P'P'df 12 58 14.1 +0.9**
comp=Z,5.4nm,1.3s,baz=29,slow=5.4,SNR=4.6
INK LR LR 13 13 23.5
comp=Z,13µm,21.9s,baz=228,slow=32
INK Inuvik 98.93 18 *e*P **P 12 33 33.3 -1.2**
comp=Z,121nm,1.4s
INK PKiKP **PKiKP 12 38 05.0 -0.2**
INK PKKPbc **PKKPbc 12 50 01.5 -2.4**
INK P'P' 12 58 14.1
HVS Khovu-Aksy 98.99 322↓ *e*P Pdif 12 33 36.0 +0.7
HVS pmax pmax
comp=Z,38nm,1.1s
HVS MLR MLR
comp=Z,18µm,16.0s
T25A Trinidad 99.39 54 P **Pdif 12 33 37.7 +0.1**
baz=249
ISCO Idaho Springs 99.44 51 PFAKE 12 33 50.0 +12
ISCO LR LR
comp=Z,6µm,20.0s
Q24A Divide 99.48 52 P **Pdif 12 33 38.6 +0.4**
baz=249
MSTX Muleshoe 99.54 57 P **Pdif 12 33 38.6 +0.4**
baz=250
N23A Red Feather La 99.59 50 P **Pdif 12 33 38.3 -0.2**
baz=249
EGMT Eagleton 99.67 42 PFAKE 12 33 50.0 +12
EGMT LR LR
comp=Z,11µm,19.0s
K22A Casper 99.81 48 P **Pdif 12 33 39.7 +0.3**
baz=249
WMQ Urumqi 99.96 313 P **Pdif 12 33 40.5 +0.7**
WMQ pP pP 12 33 43.8 -1.9
WMQ sP sP 12 33 51.3 +3.5
WMQ PP **PP 12 37 48.9 +3.6**
WMQ SKS **SKSac 12 44 18.3 +0.5**
WMQ S **S 12 45 14.5 +0.8**
WMQ pmax pmax
comp=Z,110nm,1.3s
WMQ pmax pmax
comp=Z,1µm,3.8s
WMQ LR LR
comp=Z,17µm,19.9s
WMQ LR LR
comp=Z,16µm,22.1s
WMQ LR LR
comp=Z,21µm,22.1s
KLRI Killari 100.00 285 *e*P **Pdif 12 33 40.5 0.0**
KLRI IAmb IAmb 12 33 53.0
comp=Z,68nm,1.3s
KLRI *e*PP **PP 12 37 44.8 -1.3**
KLRI IVMs_BB IVMs_BB 13 09 56.8
comp=Z,8µm,41.6s
HOPE Hope Point 100.47 164 PFAKE 12 33 50.0 +8.1
HOPE LR LR
comp=Z,7µm,22.0s
AMTX Amarillo 100.70 57 P **Pdif 12 33 43.8 +0.5**
baz=250
AMTX Amarillo 100.70 57 *e*Pdif **Pdif 12 33 43.2 -0.1**
comp=Z,20nm,1.3s
JCT Junction City 100.74 61 P **Pdif 12 33 43.5 -0.1**
baz=251
JCT Junction City 100.74 61 PFAKE 12 34 00.0 +16
JCT LR LR
comp=Z,10µm,22.0s
BHPL Bhopal 101.01 291 *e*P **Pdif 12 33 43.5 -1.4**
KVTX Kingsville 101.36 65 PFAKE 12 34 00.0 +14
KVTX LR LR
comp=Z,7µm,22.0s
KRAR Krasnoyarsk 101.37 326↓ *e*P **Pdif 12 33 46.2 +0.5**
LAO LASA Array 101.42 44 P **Pdif 12 33 46.7 +0.4**
baz=250
LAO LASA Array 101.42 44 PFAKE 12 34 00.0 +14
LAO LR LR
comp=Z,20µm,19.0s
ABTX Abilene, Hawle 101.56 59 P **Pdif 12 33 47.4 +0.2**
baz=251
ABTX Abilene, Hawle 101.56 59 *e*Pdif **Pdif 12 33 47.1 -0.1**
comp=Z,21nm,1.2s
GOA Goa 101.63 282 *e*P **Pdif 12 33 47.1 -0.7**
RSSD Black Hills 102.02 47 P **Pdif 12 33 49.2 +0.1**
baz=251
RSSD Black Hills 102.02 47 *e*Pdif **Pdif 12 33 48.5 -0.7**
comp=Z,8.1nm,1.1s
RSSD Black Hills 102.02 47 *e*P **Pdif 12 33 48.5 -0.7**
RSSD pmax pmax
comp=Z,8.0nm,1.1s
LCO Las Campanas 102.24 128 *e*Pdif **Pdif 12 33 51.7 +1.0**
comp=Z,29nm,1.2s
LCO LR LR
comp=Z,12µm,20.0s
OGNE Ogallala 102.40 51 PFAKE 12 34 00.0 +9.2
OGNE LR LR
comp=Z,9µm,20.0s
TRQA Tornquist 102.54 140 *e*Pdif **Pdif 12 33 50.6 -1.0**
TRQA LR LR
comp=Z,11µm,19.0s
POO Poona 102.62 285 *e*P **Pdif 12 33 51.1 -1.1**
YKA Yellowknife Ar 102.72 27 Pdiff **Pdif 12 33 50.6 -0.9**
comp=Z,2.2nm,0.6s,baz=252,slow=4.6,SNR=29
YKA PKiKP **PKiKP 12 38 11.0 -1.1**
comp=Z,1.0nm,0.5s,baz=252,slow=1.5,SNR=25
YKA PKKPbc **PKKPbc 12 49 49.6 -3.1**
comp=Z,1.1nm,0.9s,baz=60,slow=2.9,SNR=4.8
YKA PKP **PKKPdf 12 49 57.7 -3.0**
comp=Z,0.4nm,0.5s,baz=60,slow=3.0,SNR=6.1
YKA PKPPKP **P'P'df 12 58 09.2 +2.5**
comp=Z,0.7nm,1.0s,baz=76,slow=3.7,SNR=4.7
DDI Dehra Dun 102.75 298 *e*P **Pdif 12 33 52.0 -0.6**
DDI IAmb IAmb 12 33 53.6
comp=Z,2µm,3.8s
WMOK Wichita Mounta 102.91 58 PFAKE 12 34 00.0 +6.9
WMOK LR LR

comp=Z,14µm,21.0s
ZSN Zaisan 103.05 316 *e*Pdif Pdif 12 33 53.8 +0.4
ZSN *i* PP **PP 12 38 09.3 +0.8**
ZSN *i* S **SKSac 12 44 33.1 +0.8**
ZSN LR LR 13 21 49.0
comp=Z,880nm,16.7s
RER Riviere de l'E 103.09 241 PFAKE 12 34 10.0 +16
RER LR LR
comp=Z,38µm,22.0s
CBKS Cedar Bluff 103.42 53 PFAKE 12 34 10.0 +15
CBKS LR LR
comp=Z,8µm,19.0s
SMLA Simla 103.73 298 *e*P Pdif 12 33 55.1 -1.7
SMLA IAmb IAmb 12 33 59.7
comp=Z,516nm,2.5s
MKAR Makanchi Array 104.53 315 Pdiff **Pdif 12 34 00.3 +0.3**
comp=Z,7.0nm,0.8s,baz=101,slow=6.4,SNR=38
MKAR PKiKP **PKiKP 12 38 15.3 -0.7**
comp=Z,22nm,1.2s,baz=199,slow=1.8,SNR=9.0
MKAR PKKPbc **PKKPbc 12 49 45.1 -1.7**
comp=Z,9.9nm,0.8s,baz=283,slow=2.6,SNR=24
MKAR PKKP **PKKPdf 12 49 55.4 -1.5**
comp=Z,10nm,0.9s,baz=293,slow=3.4,SNR=9.9
MKAR PKPPKP **P'P'df 12 58 08.0 +3.0**
comp=Z,1.9nm,1.0s,baz=321,slow=3.1,SNR=7.8
DHRM DHARAMSHALA 104.77 299 *e*P Pdif 12 33 59.7 -1.9
DHRM IAmb IAmb 12 34 01.5
comp=Z,50nm,1.3s
ZALV Zalesovo Beam 105.05 322 Pdiff **Pdif 12 34 01.6 -0.5**
comp=Z,8.6nm,0.8s,baz=118,slow=4.6,SNR=18
ZALV PKiKP **PKiKP 12 38 18.6 +2.0**
comp=Z,3.1nm,0.8s,baz=190,slow=1.3,SNR=3.9
ZALV PKKPbc **PKKPbc 12 49 43.6 -1.7**
comp=Z,1.6nm,0.5s,baz=289,slow=5.0,SNR=6.9
ZALV PKPPKP **P'P'df 12 58 09.6 +6.4**
comp=Z,1.8nm,1.0s,baz=316,slow=4.1,SNR=4.3
R34A Isabella, Hill 105.14 55 P **PKiKP 12 38 17.6 +0.2**
baz=254
NATX Nacogdoches 105.33 62 PFAKE 12 38 30.0
NATX LR LR
comp=Z,13µm,19.0s
O33A Hebron 105.38 53 P **PKiKP 12 38 17.3 -0.5**
baz=254
SHLS Shalkode 105.44 311 *e*Pdif Pdif 12 34 06.4 +2.2
SHLS ⇑ *i* PP **PP 12 38 27.4 +1.0**
SHLS *e*SKS **SKSdf 12 45 32.4 +3.3**
Q34A Chapman 105.54 54 P **PKiKP 12 38 17.7 -0.4**
baz=254
TUL1 Leonard 105.59 57 P **PKiKP 12 38 18.0 -0.2**
baz=254
S35A Otter Creek Ra 105.67 55 P **PKiKP 12 38 17.9 -0.5**
baz=254
UZB Uzynbulak 105.74 311 *e*Pdif Pdif 12 34 03.9 -1.8
UZB *i* PP **PP 12 38 26.4 -2.3**
UZB *e*SP SP 12 47 41.6 -1.3
UZB LR LR 13 24 03.1
comp=Z,2µm,17.4s
P34A Walnut Farm, R 105.80 53 P **PKiKP 12 38 18.5 0.0**
baz=254
KSU1 Kansas State U 105.84 54 P **PKiKP 12 38 18.5 -0.2**
baz=254
KSU1 Kansas State U 105.84 54 PFAKE 12 38 30.0
KSU1 LR LR
comp=Z,14µm,19.0s
NNA Nana 105.90 110 PKPdf **PKiKP 12 38 19.1 -0.4**
NNA LR LR
comp=Z,4µm,19.0s
KPKS Kokpek 106.06 311 *e*Pdif Pdif 12 34 05.1 -1.9
KPKS *i* PP **PP 12 38 29.0 -2.0**
KPKS *e*SS SS 12 53 31.2 -0.3
O34A Beatrice 106.07 53 P **PKiKP 12 38 19.0 0.0**
baz=254
SATY Saty 106.15 310 *e*Pdif Pdif 12 34 06.4 -1.0
SATY *i* PP **PP 12 38 30.1 -1.7**
SATY LR LR 13 24 40.2
comp=Z,2µm,18.9s
ZHN Zhinishke 106.16 310 *e*Pdif Pdif 12 34 06.3 -1.2
ZHN *i* PP **PP 12 38 30.0 -1.8**
ZHN LR LR 13 24 39.4
comp=Z,2µm,18.2s
NVS Novosibirsk 106.19 323 ⇓ *i*P Pdif 12 34 08.5 +1.4
NVS pmax pmax
comp=Z,34nm,1.8s
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,21nm,1.9s
P35A Duane Minner, 106.40 54 P **PKiKP 12 38 19.2 -0.4**
baz=255
FFC Flin Flon 106.43 37 *e*PKPdf PKiKP 12 38 18.5 -0.7
FFC LR LR
comp=Z,11µm,20.0s
X39A Fountain Ranch 106.53 59 P **PKiKP 12 38 19.5 -0.6**
baz=254
TDK Taldyqorghan 106.66 312 *e*Pdif Pdif 12 34 07.9 -1.6
TDK *i* PP **PP 12 38 33.0 -2.2**
H32A Carlson Farm, 106.66 48 P **PKiKP 12 38 19.1 -0.9**
baz=255
SEM Semipalatinsk 106.81 318 *e*Pdif Pdif 12 34 08.6 -1.7
SEM *e*PP **PP 12 38 34.5 -2.0**
SEM *e*SP SP 12 47 52.7 -0.8
SEM *e*SS **SS 12 53 41.9 +0.4**
G32A Webster 106.81 48 P **PKiKP 12 38 19.6 -0.6**
baz=255
E31A Nome 106.87 46 P **PKiKP 12 38 19.1 -1.2**
baz=256
MIAR Mount Ida 106.97 59 PFAKE 12 38 30.0
MIAR LR LR
comp=Z,11µm,22.0s
KSH Kashi 107.01 306 Pdif **Pdif 12 34 13.4 +2.0**
KSH PP **PP 12 38 41.0 +2.8**
KSH S **Sdif 12 46 16.6 +3.8**
KSH AMB AMB
comp=Z,2µm,5.7s
KSH LR LR
comp=Z,5µm,16.6s
KSH LR LR
comp=Z,7µm,20.4s
KSH LR LR
comp=Z,9µm,22.4s
ECSD EROS Data Cent 107.04 49 P **PKiKP 12 38 19.7 -1.1**
baz=256
ECSD EROS Data Cent 107.04 49 *e*PKPdf PKiKP 12 38 19.6 -1.1
ECSD LR LR
comp=Z,14µm,20.0s
T38A Diamond 107.06 56 P **PKiKP 12 38 19.8 -1.1**
baz=255
M35A Neola 107.13 52 P **PKiKP 12 38 19.7 -1.3**
baz=255
MDOK Medeo 107.14 310 *e*PP PP 12 38 36.9 -2.2
MDOK *e*PPP PPP 12 40 52.1
MDOK *e*SP SP 12 47 56.5 -0.9
MDOK *e*SS **SS 12 53 45.0 -1.3**
MDOK LR LR 13 25 05.2
comp=Z,3µm,18.2s
AAA Alma-Ata 107.25 310 *i* PP PP 12 38 37.9 -1.8
AAA LR LR 13 25 07.5
comp=Z,2µm,18.2s
AAA Alma-Ata 107.25 310 *e*P Pdif 12 34 22.0 +10
AAA pmax pmax
comp=Z,800nm,9.7s
V39A Pettigrew 107.25 58 P **PKiKP 12 38 20.7 -0.8**
baz=255
C31A Landman Farms, 107.28 45 P **PKiKP 12 38 20.0 -1.0**
baz=256
JTS JuntasAbangare 107.30 86 PFAKE 12 38 30.0
JTS LR LR
comp=Z,7µm,20.0s
S38A Stockton 107.51 56 P **PKiKP 12 38 20.4 -1.3**
baz=255
U39A Green Forest 107.52 57 P **PKiKP 12 38 20.6 -1.3**
baz=255
G33A Ortonville 107.52 48 P **PKiKP 12 38 20.2 -1.3**
baz=256
R38A Fenwick Farm, 107.65 55 P **PKiKP 12 38 20.4 -1.6**
baz=256
T39A Clever 107.76 57 P **PKiKP 12 38 21.3 -1.0**
baz=255
F33A 5 Mile Ranch, 107.77 47 P **PKiKP 12 38 21.5 -0.5**
baz=256
BHJ Bhuj 107.81 288 *e*P Pdif 12 34 14.4 -0.7
KUU Kurty 107.82 311 *e*Pdif Pdif 12 34 12.5 -2.2
KUU *e*PP **PP 12 38 41.5 -2.4**
KUU *e*SP SP 12 48 02.8 -1.3
KUU *e*SS **SS 12 53 54.5 -0.7**
KUU LR LR 13 26 41.4
comp=Z,2µm,17.4s
V40A Witts Springs 107.89 58 P **PKiKP 12 38 21.7 -0.9**
baz=255
KURK Kurchatov 107.89 318 *e*Pdif Pdif 12 34 15.1 +0.3
comp=Z,90nm,1.3s
KURK LR LR
comp=Z,26µm,19.0s
KURK Kurchatov 107.89 318 *e*P Pdif 12 34 15.1 +0.3
KURK pmax pmax
comp=Z,91nm,1.3s
KURK MLR MLR
comp=Z,26µm,19.0s
S39A Bolivar 107.97 56 P **PKiKP 12 38 21.6 -1.0**
baz=256
U40A Yellville 108.00 57 P **PKiKP 12 38 21.3 -1.4**
baz=256
Q38A Cooks Store, C 108.06 55 P **PKiKP 12 38 21.2 -1.5**
baz=256
BMNS Besmoynak 108.11 310 *e*Pdif Pdif 12 34 14.8 -1.4
BMNS *e*PP **PP 12 38 43.5 -2.7**
BMNS *e*SP SP 12 48 05.8 -1.5
BMNS *e*SS **SS 12 53 58.3 -1.1**
BMNS LR LR 13 25 24.9
comp=Z,3µm,18.2s
E33A Westby DABS, E 108.12 46 P **PKiKP 12 38 21.8 -0.9**
baz=257
W41B Gary Mavity, V 108.19 59 P **PKiKP 12 38 21.8 -1.3**
baz=255
B32A Ashes, Strandq 108.20 44 P **PKiKP 12 38 21.4 -1.3**
baz=257
P38A Dawn 108.28 54 P **PKiKP 12 38 22.3 -0.9**
baz=256
M37A Trindle Farm, 108.31 52 P **PKiKP 12 38 22.3 -0.9**
baz=256
K36A Gilmore City 108.31 51 P **PKiKP 12 38 22.2 -0.9**
baz=257
A32A Rocking H Ranc 108.34 44 P **PKiKP 12 38 21.6 -1.4**
baz=257
R39A Chumby, Stover 108.34 55 P **PKiKP 12 38 22.0 -1.3**
baz=256
V41A Mountainview 108.41 58 P **PKiKP 12 38 21.9 -1.7**
baz=256
T40A Mansfield 108.46 57 P **PKiKP 12 38 22.4 -1.1**
baz=256
344A Westbrook Farm 108.47 63 P **PKiKP 12 38 23.0 -0.7**
baz=255
H35A Sunnyside Ranc 108.52 49 P **PKiKP 12 38 22.3 -1.1**
baz=257
J36A Seneca 1, Swea 108.55 50 P **PKiKP 12 38 22.6 -0.9**
baz=257
C33A Trail 108.56 45 P **PKiKP 12 38 22.3 -1.2**
baz=257
Q39A Willow Grove F 108.56 55 P **PKiKP 12 38 22.3 -1.4**
baz=256
AGMN Agassiz Nation 108.61 45 PFAKE 12 38 40.0
AGMN LR LR
comp=Z,21µm,19.0s
244A Avery, Jackson 108.66 62 P **PKiKP 12 38 23.4 -0.6**
baz=255
E34A Wadena 108.69 47 P **PKiKP 12 38 22.5 -1.2**
baz=257
U41A Viola 108.73 58 P **PKiKP 12 38 22.9 -1.2**
baz=256
N38A Joes South For 108.78 53 P **PKiKP 12 38 23.5 -0.5**
baz=257
D34A Park Rapids 108.79 46 P **PKiKP 12 38 22.9 -1.0**
baz=258
FRU Bishkek 108.80 309 *e*P Pdif 12 34 19.0 -0.1
FRU *i* 12 38 47.0
FRU *e* 12 44 54.0
FRU *e* 12 48 14.0
P39B Salisbury 108.83 54 P **PKiKP 12 38 23.1 -1.0**
baz=256
AAK Ala-Archa 108.84 309 Pdiff **Pdif 12 34 20.4 +0.9**
comp=Z,0.6nm,0.6s,baz=110,slow=9.0,SNR=4.3
AAK PKKPbc **PKKPbc 12 49 34.0 +0.6**
comp=Z,8.7nm,0.9s,baz=197,slow=1.9,SNR=12
AAK PKPPKP P'P'df 12 58 07.2 +10
comp=Z,2.4nm,0.9s,baz=258,slow=5.1,SNR=4.3
AAK Ala-Archa 108.84 309 *e*Pdif Pdif 12 34 19.6 +0.1
comp=Z,14nm,1.5s
AAK PKKPbc **PKKPbc 12 49 34.0 +0.6**
AAK P'P' 12 58 07.2
AAK LR LR
comp=Z,15µm,19.0s
R40A Maddies Statio 108.92 56 P **PKiKP 12 38 23.2 -1.2**
baz=256
K37A Belmond 108.93 51 P **PKiKP 12 38 23.5 -0.8**
baz=257
M38A Pleasantville 108.95 52 P **PKiKP 12 38 23.4 -0.9**
baz=257
F35A Swanville 108.95 47 P **PKiKP 12 38 23.2 -1.0**
baz=258
ULM Lac du Bonnet 109.02 43 Pdiff **Pdif 12 34 20.9 +1.1**
comp=Z,1.5nm,0.8s,baz=225,slow=2.9,SNR=2.9
ULM PKiKP **PKiKP 12 38 22.4 -1.8**
comp=Z,9.0nm,0.6s,baz=267,slow=2.6,SNR=30
ULM PKKPbc **PKKPbc 12 49 33.5 +0.6**
comp=Z,3.3nm,0.7s,baz=33,slow=4.8,SNR=5.1
ULM Lac du Bonnet 109.02 43 P **Pdif 12 34 21.0 +1.1**
ULM pmax pmax
comp=Z,2.0nm,0.8s
V42A Cord 109.02 58 P **PKiKP 12 38 23.2 -1.4**
baz=256
SCIA State Center 109.04 52 PFAKE 12 38 40.0
SCIA LR LR
comp=Z,17µm,20.0s
A33A Warroad 109.06 44 P **PKiKP 12 38 23.2 -1.1**
baz=258
J37A Redenius Farm, 109.11 50 P **PKiKP 12 38 23.4 -1.2**
baz=257
H36A Jessenland, He 109.12 49 P **PKiKP 12 38 23.5 -1.1**
baz=258
S41A Jillco Farms, 109.16 56 P **PKiKP 12 38 23.4 -1.4**
baz=256
E35A Pequot Lakes 109.21 47 P **PKiKP 12 38 23.7 -1.0**
baz=258
Q40A Laux Farm, Aux 109.23 55 P **PKiKP 12 38 23.5 -1.5**
baz=257
U42A Revenden 109.27 58 P **PKiKP 12 38 23.6 -1.4**
baz=256
L38A Oak Wood Farm, 109.28 52 P **PKiKP 12 38 24.1 -0.9**
baz=257
N39A Derby Farms, D 109.34 53 P **PKiKP 12 38 24.0 -1.1**
baz=257
I37A Lemond, Waseca 109.37 49 P **PKiKP 12 38 23.8 -1.2**
baz=258
P40A Paris 109.38 54 P **PKiKP 12 38 23.6 -1.6**
baz=257
G36A St. Michael 109.38 48 P **PKiKP 12 38 24.2 -0.8**
baz=258
K38A Parkersburg 109.53 51 P **PKiKP 12 38 24.1 -1.2**
baz=258
T42A Van Buren 109.54 57 P **PKiKP 12 38 24.2 -1.3**
baz=257
R41A Rosebud 109.61 56 P **PKiKP 12 38 24.4 -1.3**
baz=257
O40A La Belle 109.64 54 P **PKiKP 12 38 24.2 -1.5**
baz=257
OTAV Otavalo 109.65 98 PFAKE 12 38 40.0
OTAV LR LR
comp=Z,4µm,19.0s
CCM Cathedral Cave 109.66 56 P **PKiKP 12 38 24.5 -1.2**
baz=257
F36A Milaca 109.67 48 P **PKiKP 12 38 24.0 -1.5**
baz=258
C35A Jirik Farms, M 109.73 46 P **PKiKP 12 38 24.1 -1.6**
baz=259
Q41A Truxton 109.86 55 P **PKiKP 12 38 25.2 -0.9**
baz=257
S42A Caledonia 109.94 56 P **PKiKP 12 38 25.1 -1.2**
baz=257
E36A McGregor 109.98 47 P **PKiKP 12 38 24.8 -1.4**
baz=259
TUMC Tumaco 110.01 96 *e*P PKiKP 12 38 29.1 +1.9
N40A Mertquake, Sal 110.02 53 P **PKiKP 12 38 25.9 -0.5**
baz=258
B35A Bob, Littlefor 110.02 45 P **PKiKP 12 38 24.3 -1.8**
baz=259
Y45A Yeager Farm, C 110.03 61 P **PKiKP 12 38 26.3 -0.3**
baz=256
SPMN Marine on St. 110.03 48 P **PKiKP 12 38 24.6 -1.6**
baz=258
SPMN Marine on St. 110.03 48 *e*PKPdf PKiKP 12 38 24.7 -1.6
R42A Luebbering 110.05 56 P **PKiKP 12 38 25.0 -1.6**
baz=257
P41A Barry, Barry 110.15 54 P **PKiKP 12 38 25.5 -1.1**
baz=258
D36A Goodland 110.17 46 P **PKiKP 12 38 24.7 -1.7**
baz=259
K39A Oelwein 110.17 51 P **PKiKP 12 38 24.7 -1.9**
baz=258
T43A Greenville 110.18 57 P **PKiKP 12 38 25.3 -1.4**
baz=257
M40A Post Highland 110.18 53 P **PKiKP 12 38 25.8 -0.8**
baz=258
X45A UM Field Stati 110.28 60 P **PKiKP 12 38 25.9 -1.1**
baz=257
247A Quitman 110.36 63 P **PKiKP 12 38 26.9 -0.4**
baz=256
O41A Passleys Farm, 110.38 54 P **PKiKP 12 38 26.1 -1.0**
baz=258
Q42A Golden Eagle 110.39 55 P **PKiKP 12 38 25.8 -1.4**
baz=258
J39A Decorah 110.43 50 P **PKiKP 12 38 25.3 -1.8**
baz=258
S43A Fulton Ridge, 110.45 57 P **PKiKP 12 38 25.7 -1.6**
baz=257
C36A Pine Crest Far 110.50 46 P **PKiKP 12 38 26.4 -0.7**
baz=259
N41A Harden Midland 110.52 53 P **PKiKP 12 38 26.2 -1.1**
baz=258
D37A Cotton 110.66 46 P **PKiKP 12 38 26.5 -0.9**
baz=260
I39A Houston 110.66 50 P **PKiKP 12 38 25.8 -1.7**
baz=259
G38A Ridgeland 110.68 49 P **PKiKP 12 38 25.8 -1.7**
baz=259
R43A Red Bud 110.71 56 P **PKiKP 12 38 26.0 -1.8**
baz=258
K40A Colesburg 110.72 51 P **PKiKP 12 38 25.7 -1.9**
baz=259
T44A Benton 110.72 57 P **PKiKP 12 38 26.5 -1.3**
baz=257
147A Livingston 110.79 62 P **PKiKP 12 38 27.0 -1.0**
baz=256
F38A Pierce - Schro 110.81 48 P **PKiKP 12 38 26.5 -1.2**
baz=259
C37A Embarrass 110.92 46 P **PKiKP 12 38 26.5 -1.4**
baz=260
X46A Booneville 110.97 60 P **PKiKP 12 38 27.6 -0.7**
baz=257
H39A Augusta 110.99 49 P **PKiKP 12 38 26.7 -1.3**
baz=259
O42A Bath 111.00 54 P **PKiKP 12 38 27.2 -1.0**
baz=258
ABPO Ambohimpanom 111.01 238 PFAKE 12 38 40.0
ABPO LR LR
comp=Z,11µm,19.0s
Z47A Carrollton 111.08 62 P **PKiKP 12 38 27.4 -1.2**
baz=257
S44A Carbondale 111.11 57 P **PKiKP 12 38 27.2 -1.3**
baz=258
J40A Soldiers Grove 111.13 51 P **PKiKP 12 38 27.1 -1.3**
baz=259
LPAZ La Paz 111.14 119 Pdiff **Pdif 12 34 32.2 +1.3**
comp=Z,0.9nm,0.6s,baz=242,slow=4.7,SNR=2.9
LPAZ PKiKP **PKiKP 12 38 29.9 -0.1**
comp=Z,2.3nm,0.8s,baz=68,slow=3.2,SNR=5.5
LPAZ PKKPbc **PKKPbc 12 49 26.1 +0.2**
comp=Z,3.2nm,0.9s,baz=62,slow=6.8,SNR=3.9
LPAZ PKKPab **PKKPab 12 49 35.8 -1.5**
comp=Z,19nm,1.3s,baz=23,slow=4.3,SNR=8.7
DZA Taraz 111.17 309 *i* PP PP 12 39 05.8 -2.4
DZA *e*SP SP 12 48 35.1 -2.0
G39A Holcombe 111.18 48 P **PKiKP 12 38 26.9 -1.6**
baz=260
K41A Shullsburg 111.30 51 P **PKiKP 12 38 27.2 -1.6**
baz=259
P43A Skaggs, Pawnee 111.31 55 P **PKiKP 12 38 28.2 -0.6**
baz=258
148A Greensboro 111.36 62 P **PKiKP 12 38 28.3 -0.9**
baz=257
R44A Waltonville 111.36 56 P **PKiKP 12 38 27.6 -1.4**
baz=258
JFWS Jewell Farm 111.40 51 P **PKiKP 12 38 27.7 -1.2**
baz=259
JFWS Jewell Farm 111.40 51 *e*PKPdf PKiKP 12 38 27.0 -1.9
JFWS LR LR
comp=Z,19µm,19.0s
JFWS Jewell Farm 111.40 51 *e*PKiKP PKiKP 12 38 27.0 -1.9
JFWS MLR MLR
comp=Z,19µm,19.0s
Y47A UCPARC, Winfie 111.41 61 P **PKiKP 12 38 27.8 -1.4**
baz=257
EYMN Ely 111.42 46 P **PKiKP 12 38 28.0 -0.9**
baz=260
EYMN Ely 111.42 46 *e*PKPdf PKiKP 12 38 27.3 -1.5
EYMN LR LR
comp=Z,19µm,19.0s
BRAL Brewton 111.45 64 PFAKE 12 38 40.0
BRAL LR LR
comp=Z,6µm,20.0s
F39A Loretta 111.46 48 P **PKiKP 12 38 27.7 -1.2**
baz=260
FCC Fort Churchill 111.47 34 *e*PKPdf PKiKP 12 38 26.5 -2.0
FCC *e*PP **PP 12 39 06.7 -3.1**
FCC Fort Churchill 111.47 34 *e*PKiKP PKiKP 12 38 26.5 -2.0
FCC *e* 12 39 06.7
BRZS Berezniki 111.48 317 *e*PP PP 12 39 08.1 -2.2
Z48A Northport 111.54 62 P **PKiKP 12 38 28.0 -1.5**
baz=257
X47A Russelville 111.54 60 P **PKiKP 12 38 27.6 -1.8**
baz=257
Q44A Meyer Farm, Va 111.54 56 P **PKiKP 12 38 28.2 -1.0**
baz=258
249A Camden 111.58 63 P **PKiKP 12 38 28.8 -0.8**
baz=257
V46A Holladay 111.61 59 P **PKiKP 12 38 27.7 -1.8**
baz=258
J41A Loganville 111.65 51 P **PKiKP 12 38 28.1 -1.3**
baz=260
L42A Oliver, Polo 111.65 52 P **PKiKP 12 38 28.1 -1.3**
baz=259
BCIP Isla Barro Col 111.66 89 PFAKE 12 38 40.0
BCIP LR LR
comp=Z,4µm,20.0s
HDIL Hopedale 111.66 54 PFAKE 12 38 40.0
HDIL LR LR
comp=Z,14µm,19.0s
450A Crestview 111.75 64 P **PKiKP 12 38 29.9 -0.1**
baz=256
KKAR Karatay Array 111.80 309 Pdif **Pdif 12 34 31.1 -1.3**
KKAR Karatay Array 111.80 309 *e*P **Pdif 12 34 31.1 -1.3**
G40A Rib Lake 111.85 49 P **PKiKP 12 38 28.4 -1.3**
baz=260
WVT Waverly 111.91 59 P **PKiKP 12 38 28.1 -2.0**
baz=258
W47A Westpoint 111.91 60 P **PKiKP 12 38 28.4 -1.8**
baz=258
LRAL Lakeview Retre 111.92 62 P **PKiKP 12 38 28.9 -1.3**
baz=257
LRAL Lakeview Retre 111.92 62 *e*PKPdf PKiKP 12 38 29.1 -1.1
P44A Sand Creek, Wi 111.95 55 P **PKiKP 12 38 29.0 -1.1**
baz=259
Y48A Jasper 111.97 61 P **PKiKP 12 38 28.8 -1.5**
baz=258
R45A Skylar, Fairfi 111.99 56 P **PKiKP 12 38 28.9 -1.3**
baz=259
149A Jones 111.99 63 P **PKiKP 12 38 29.2 -1.1**
baz=257
F40A Park Falls 112.01 48 P **PKiKP 12 38 28.6 -1.4**
baz=261
T46A Princeton 112.04 58 P **PKiKP 12 38 29.7 -0.6**
baz=258
SOTA Rioblanco 112.08 97 *e*P **PKiKP 12 38 30.2 -1.5**
V47A Nunnelly 112.09 59 P **PKiKP 12 38 28.5 -2.0**
baz=258
X48A Hartselle 112.18 61 P **PKiKP 12 38 29.0 -1.7**
baz=258
Q45A Warren Harvey, 112.20 56 P **PKiKP 12 38 29.7 -0.9**
baz=259
O44A Mansfield 112.20 54 P **PKiKP 12 38 29.6 -0.9**
baz=259
E40A Wakefield 112.25 47 P **PKiKP 12 38 29.5 -0.9**
baz=261
BRLS Borolday 112.28 309 *e*PP PP 12 39 13.1 -3.1
BRLS *e*SP SP 12 48 45.2 -2.1
250A Grady 112.28 63 P **PKiKP 12 38 29.6 -1.4**
baz=257
CHM Chimkent 112.32 308 *e*Pdif **Pdif 12 34 33.3 -1.5**
CHM *e*PP **PP 12 39 14.5 -2.0**
CHM *e*SP SP 12 48 46.7 -1.1
CHM LR LR 13 28 12.3
comp=Z,2µm,17.4s

Z49A Columbiana 112.33 62 P PKiKP 12 38 29.8 -1.2
baz=258
PCON Cinco Dias 112.35 97 eP PKiKP 12 38 33.8 +1.4
U47A Clarksville 112.40 58 P PKiKP 12 38 29.2 -1.8
baz=258
RES Resolute Bay 112.41 17 PKKPbc PKKPbc 12 49 21.1 -1.2
comp=Z,5.5nm,1.1s,baz=57,slow=4.9,SNR=5.0
RES PKKPab PKKPab 12 49 28.9 +2.2
comp=Z,16nm,1.1s,baz=90,slow=6.1,SNR=9.1
RES Resolute Bay 112.41 17 ePKPdf PKiKP 12 38 28.1 -1.8
RES PKKPbc PKKPbc 12 49 21.1 -1.2
RES PKKPab PKKPab 12 49 28.9 +2.2
RES Resolute Bay 112.41 17 ePKIKP PKiKP 12 38 28.1 -1.8
W48A Pulaski 112.42 60 P PKiKP 12 38 29.1 -2.0
baz=258
I42A Draeger Farm, 112.53 50 P PKiKP 12 38 29.4 -1.6
baz=260
Y49A Blount Mountai 112.57 61 P PKiKP 12 38 29.9 -1.5
baz=258
150A Eclectic 112.62 63 P PKiKP 12 38 30.4 -1.1
baz=258
P45A Graceland, Par 112.63 55 P PKiKP 12 38 30.5 -0.9
baz=259
351A Pinckard 112.68 64 P PKiKP 12 38 31.1 -0.6
baz=257
F41A Three Lakes 112.69 48 P PKiKP 12 38 30.0 -1.3
baz=261
COWI Conover 112.72 48 ePKPdf PKiKP 12 38 30.1 -1.3
COWI LR LR
comp=Z,8µm,19.0s
X49A Woodville 112.78 61 P PKiKP 12 38 30.0 -1.8
baz=258
O45A Potomac 112.78 54 P PKiKP 12 38 30.5 -1.1
baz=260
Z50A Ashland 112.84 62 P PKiKP 12 38 30.9 -1.0
baz=258
MARP Paez Belalcaza 112.96 97 eP PKiKP 12 38 32.4 -0.8
U48A Cassie Pea, Po 113.00 58 P PKiKP 12 38 30.6 -1.6
baz=259
251A Midway 113.02 63 P PKiKP 12 38 31.7 -0.6
baz=258
YOTC Yotoco, Valle 113.03 95 eP PKiKP 12 38 31.5 -1.5
P46A Rosedale 113.06 55 P PKiKP 12 38 31.2 -1.0
baz=260
Y50A Piedmont 113.13 61 P PKiKP 12 38 30.9 -1.6
baz=258
151A Opelika 113.18 63 P PKiKP 12 38 31.6 -1.0
baz=258
T48A Bowling Green 113.23 58 P PKiKP 12 38 31.2 -1.4
baz=259
CPUP Villa Florida 113.25 134 PKiKP PKiKP 12 38 32.6 -0.4
comp=Z,2.9nm,0.7s,baz=264,slow=0.8,SNR=6.2
CPUP PKKPbc PKKPbc 12 49 16.2 -2.1
comp=Z,2.0nm,0.7s,baz=63,slow=4.5,SNR=3.3
BVAR Borovoye Array 113.31 320 Pdiff Pdif 12 34 38.7 -0.2
comp=Z,1.2nm,0.5s,baz=239,slow=38,SNR=3.5
BVAR PKiKP PKiKP 12 38 32.2 0.0
comp=Z,6.1nm,0.5s,baz=116,slow=3.4,SNR=16
BVAR PKKPbc PKKPbc 12 49 16.6 -2.2
comp=Z,2.9nm,0.6s,baz=299,slow=3.6,SNR=9.0
X50A Fort Payne 113.31 61 P PKiKP 12 38 31.0 -1.9
baz=258
R47A Wooly Knot Far 113.34 57 P PKiKP 12 38 31.0 -1.7
baz=260
BRVK Borovoye 113.37 320 ePKPdf PKiKP 12 38 31.2 -1.1
BRVK LR LR
comp=Z,8µm,20.0s
BRVK Borovoye 113.37 320c iPKIKP PKiKP 12 38 31.3 -1.1
WCI Wyandotte Cave 113.51 57 P PKiKP 12 38 31.7 -1.4
baz=260
WCI Wyandotte Cave 113.51 57 ePKPdf PKiKP 12 38 30.4 -2.7
WCI Wyandotte Cave 113.51 57 ePKIKP PKiKP 12 38 30.4 -2.7
Q47A Bedord North L 113.53 56 P PKiKP 12 38 32.0 -1.1
baz=260
S48A Wiedeman Farm, 113.59 57 P PKiKP 12 38 31.5 -1.7
baz=260
453A Whigham 113.67 65 P PKiKP 12 38 33.1 -0.5
baz=258
P47A Martinsville 113.75 55 P PKiKP 12 38 32.1 -1.4
baz=260
R48A Northridge Ran 113.87 57 P PKiKP 12 38 32.8 -0.9
baz=260
554A Perry 114.03 66 P PKPdf 12 38 33.4 -0.9
baz=257
F43A Flat Rock, Esc 114.04 48 P PKiKP 12 38 33.0 -0.8
baz=262
ANIL Santa Ana 114.09 95 eP PKPdf 12 38 34.2 -1.1
454A Quitman 114.22 65 P PKPdf 12 38 33.3 -1.3
baz=258
PRAC Prado 114.28 96 eP PKPdf 12 38 34.1 -1.2
RREF El Recreo 114.30 95 eP PKPdf 12 38 35.0 -1.1
GUYC Guyana, Colomb 114.38 94 eP PKPdf 12 38 34.9 -1.1
TIGA Tifton 114.40 64 P PKPdf 12 38 34.2 -0.8
baz=258
F44A Big Bay de Noc 114.58 48 P PKPdf 12 38 33.9 -1.0
baz=263
HELC Santa Helena 114.60 93 eP PKPdf 12 38 35.1 -1.3
555A McAlpin 114.65 66 P PKPdf 12 38 34.6 -0.9
baz=258
455A Stateville 114.73 65 P PKPdf 12 38 34.2 -1.4
baz=258
656A Willston 114.86 67 P PKPdf 12 38 34.9 -1.1
baz=258
857A Zephyrhills 114.88 68 P PKPdf 12 38 35.3 -0.7
baz=257
GOGA Godfrey 114.89 62 P PKPdf 12 38 34.9 -0.9
baz=259
GOGA Godfrey 114.89 62 ePKPdf PKPdf 12 38 34.8 -1.1
GOGA ePP PP 12 39 36.3 +1.4
GOGA LR LR
comp=Z,10µm,22.0s
GOGA Godfrey 114.89 62 ePKIKP PKPdf 12 38 34.8 -1.1
GOGA e 12 39 36.3
GOGA MLR MLR
comp=Z,10µm,22.0s
SJAC San Juan de Ar 114.97 97 eP PKPpre 12 38 33.5
NORC Norcasia 114.98 94 eP PKPdf 12 38 34.8 -1.9
TKL Tuckaleechee C 115.05 60 PKP PKPdf 12 38 34.9 -1.3
comp=Z,19nm,0.7s,baz=240,slow=7.5,SNR=35
ROSC El Rosal 115.22 95 PKP PKPdf 12 38 36.2 -1.4
comp=Z,6.0nm,0.4s,baz=301,slow=15,SNR=3.0
ROSC El Rosal 115.22 95 eP PKPpre 12 38 33.5
TZTN Tazewell 115.38 59 P PKPdf 12 38 35.9 -0.9
baz=260
TZTN Tazewell 115.38 59 ePKPdf PKPdf 12 38 35.9 -0.9
MOTC Monteria, Cord 115.39 91 eP PKPdf 12 38 35.7 -1.7
E45A Wooded Hills, 115.48 48 P PKPdf 12 38 35.5 -1.1
baz=264
DWPF Disney Wildern 115.53 68 P PKPdf 12 38 36.5 -0.8
baz=257
858A St. Cloud 115.62 68 P PKPdf 12 38 37.4 0.0
baz=258
CHIC Chingaza 115.69 96 eP PKPdf 12 38 36.6 -1.9
ZARC Zaragoza, Cauc 115.69 92 eP PKPdf 12 38 36.3 -1.7
GLMI Grayling 115.71 50 PFAKE 12 38 50.0 +13
GLMI LR LR
comp=Z,15µm,19.0s
PTBC PUERTO BERRIO,115.72 93 eP PKPdf 12 38 35.5 -2.6
859A Kempfer Cattle 115.98 69 P PKPdf 12 38 37.9 -0.2
baz=258
AAM Ann Arbor 116.11 53 P PKPdf 12 38 37.4 -0.6
baz=263
AAM Ann Arbor 116.11 53 PFAKE 12 38 50.0 +12
AAM LR LR
comp=Z,13µm,19.0s
ACSO Alum Creek Sta 116.36 55 P PKPdf 12 38 37.0 -1.5
baz=263
ACSO Alum Creek Sta 116.36 55 ePKPdf PKPdf 12 38 36.8 -1.7
ACSO LR LR
comp=Z,12µm,20.0s
MTDJ Mount Denham 116.59 80 PFAKE 12 38 50.0 +10
MTDJ LR LR
comp=Z,3µm,20.0s
RUSC La Rusia 116.75 95 eP PKPdf 12 38 38.7 -1.9
KMSC Kings Mountain 116.93 61 P PKPdf 12 38 38.7 -1.1
baz=261
KMSC Kings Mountain 116.93 61 ePKPdf PKPdf 12 38 38.8 -0.9
OCAC Ocana 117.38 92 eP PKPdf 12 38 41.8 +0.4
NHSC New Hope 117.55 63 PFAKE 12 38 50.0 +9.0
NHSC LR LR
comp=Z,8µm,22.0s
WSAR Wadi Sarin 117.58 285 PKP PKPdf 12 38 41.0 -0.3
comp=Z,30nm,1.1s,baz=46,slow=0.8,SNR=9.3
WSAR PKKPbc PKKPbc 12 49 02.5 -0.6
comp=Z,6.6nm,0.7s,baz=250,slow=3.6,SNR=8.6
BLA Blacksburg 117.96 59 P PKPdf 12 38 40.9 -0.9
baz=262
BLA Blacksburg 117.96 59 ePKPdf PKPdf 12 38 40.8 -0.9
BLA LR LR
comp=Z,8µm,19.0s
BLA Blacksburg 117.96 59 ePKIKP PKPdf 12 38 40.8 -0.9
BLA MLR MLR
comp=Z,8µm,19.0s
BIDO Bidbid 118.10 286 P PKPdf 12 38 42.7 +0.4
SNR=10
SUR Sutherland 118.49 209 PKP PKPdf 12 38 43.5 +0.3
comp=Z,1.6nm,1.1s,baz=115,slow=5.5,SNR=6.6
SUR PP PP 12 40 05.6 +6.7
comp=Z,2.3nm,1.1s,baz=119,slow=4.0,SNR=3.7
SUR Sutherland 118.49 209 PKP PKPdf 12 38 43.5 +0.3
SUR PP PP 12 40 05.6 +6.7
SUR LR LR
comp=Z,29µm,20.0s
N54A Moraine State 118.71 54 P PKPdf 12 38 41.8 -1.2
baz=265
M54A Oil Creek Stat 119.00 54 P PKPdf 12 38 42.6 -0.9
baz=265
SVE Sverdlovsk 119.01 324 ePKIKP PKPdf 12 38 41.8 -1.3
SVE e 12 42 34.5
SVE e 12 49 39.1
SVE e 12 56 14.6
SVE pmax pmax
comp=Z,73nm,2.0s
SAML Samuel 119.09 115 ePKPdf PKPdf 12 38 43.8 -0.7
SAML ePP PP 12 40 02.2 -1.9
SAML LR LR
comp=Z,21µm,22.0s
GTBY Guantanamo Bay 119.25 79 PFAKE 12 39 00.0 +15
GTBY LR LR
comp=Z,3µm,19.0s
BOSA Boshof 119.38 215 PKP PKPdf 12 38 44.8 -0.1
comp=Z,17nm,1.1s,baz=173,slow=1.6,SNR=11
BUKO Buck Lake 119.44 49 P PKPdf 12 38 43.0 -1.3
baz=268
PKRO Pickering 119.60 51 P PKPdf 12 38 44.1 -0.5
baz=267
SOHO SOHO 119.66 286 i PKPdf PKPdf 12 38 44.7 -0.6
SNR=40
SOHO SOHO 119.66 286 i P PKPdf 12 38 44.7 -0.6
SNR=40
AB31 Akbulak array 119.67 315 PKIKP PKPdf 12 38 43.0 -1.6
AB31 pmax pmax
comp=Z,12nm,1.0s
ABKAR Akbulak array 119.67 315 ePKPdf PKPdf 12 38 44.0 -0.6
O56A Blue Knob Stat 119.73 55 P PKPdf 12 38 44.1 -0.9
baz=265
CNNC Cliffs of the 119.73 61 P PKPdf 12 38 44.5 -0.6
baz=263
CNNC Cliffs of the 119.73 61 ePKPdf PKPdf 12 38 44.3 -0.8
CNNC LR LR
comp=Z,9µm,20.0s
SDV Santo Domingo 120.09 92 PKP PKPdf 12 38 45.4 -1.3
comp=Z,30nm,0.7s,baz=249,slow=4.8,SNR=24
SDV SKP 12 42 21.7
comp=Z,2.4nm,0.5s,baz=109,slow=7.7,SNR=3.4
SDV PKKPbc PKKPbc 12 48 54.2 +0.1
comp=Z,2.6nm,0.5s,baz=120,slow=20,SNR=3.0
SDV Santo Domingo 120.09 92 ePKPdf PKPdf 12 38 44.9 -1.7
SDV eSKPdf SKPdf 12 42 21.0 -0.5
SDV PKKPbc PKKPbc 12 48 54.2 +0.1
SDV LR LR
comp=Z,4µm,20.0s
MDH Madha 120.11 287 i PKPdf PKPdf 12 38 45.5 -0.6
SNR=8.3
MDH Madha 120.11 287 i P PKPdf 12 38 45.5 -0.6
SNR=8.3
UOSS Minazif 120.12 287 i PKPdf PKPdf 12 38 45.2 -1.0
SNR=6.7
UOSS Minazif 120.12 287 i P PKPdf 12 38 45.2 -1.0
SNR=6.7
HATD Hatta, Dubai 120.16 287 i PKPdf PKPdf 12 38 46.0 -0.3
SNR=16
HATD Hatta, Dubai 120.16 287 i P PKPdf 12 38 46.0 -0.3
SNR=16
ARU Arti 120.19 323 PKKPbc PKKPbc 12 48 53.5 -0.9
comp=Z,4.5nm,0.5s,baz=290,slow=3.0,SNR=7.1
ARU Arti 120.19 323 ePKPdf PKPdf 12 38 44.5 -0.8
ARU PKKPbc PKKPab 12 48 53.5 +0.3
ARU LR LR
comp=Z,11µm,20.0s
ARU Arti 120.19 323 i PKIKP PKPdf 12 38 45.6 +0.3
ARU 12 40 13.7
ARU PPP PPP 12 42 46.3
ARU 12 45 56.7
ARU SP SP 12 50 02.8 +4.6
ARU MLR MLR
comp=Z,13µm,22.0s
ASHO Ashiyiah 120.20 286 P PKPdf 12 38 46.0 -0.4
SNR=12
ASHO Ashiyiah 120.20 286 i PKPdf PKPdf 12 38 45.9 -0.6
SNR=17
ASHO Ashiyiah 120.20 286 i P PKPdf 12 38 45.9 -0.6
SNR=17
MSFE Esma-Masafi 120.25 287 i PKPdf PKPdf 12 38 45.9 -0.6
SNR=10
MSFE Esma-Masafi 120.25 287 i P PKPdf 12 38 45.9 -0.6
SNR=10
SSPA Standing Stone 120.27 55 P PKPdf 12 38 44.9 -1.1
baz=266
SSPA Standing Stone 120.27 55 ePKPdf PKPdf 12 38 44.7 -1.3
ALNE Al Ain 120.34 286 i PKPdf PKPdf 12 38 46.2 -0.4
SNR=10
ALNE Al Ain 120.34 286 i P PKPdf 12 38 46.2 -0.4
SNR=10
BANO Bancroft 120.46 50 P PKPdf 12 38 44.9 -1.3
baz=268
CBN Corbin Frederi 120.47 58 P PKPdf 12 38 45.6 -0.8
baz=265
CBN Corbin Frederi 120.47 58 PFAKE 12 39 00.0 +14
CBN LR LR
comp=Z,10µm,20.0s
GEYT Alibeck 120.47 302 PKP PKPdf 12 38 46.6 0.0
comp=Z,36nm,1.2s,baz=302,slow=3.3,SNR=22
GEYT PKKPbc PKKPab 12 48 52.0 -0.9
comp=Z,2.3nm,0.6s,baz=253,slow=4.5,SNR=6.2
NAZ Nazwa, Dubai 120.61 287 i PKPdf PKPdf 12 38 48.0 +0.8
SNR=12
NAZ Nazwa, Dubai 120.61 287 i P PKPdf 12 38 48.0 +0.8
SNR=12
SOKR Solikamsk 120.74 327c iPKIKP PKPdf 12 38 44.4 -1.8
SOKR 12 40 16.2
SOKR 12 45 52.1
SOKR PS PS 12 50 03.5 -2.5
SOKR SSS SSS 13 01 17.9
SOKR pmax pmax
comp=Z,112nm,1.3s
AKTO Aktyubinsk 120.90 316 PKP PKPdf 12 38 46.5 -0.4
comp=Z,15nm,0.9s,baz=78,slow=2.3,SNR=26
AKTO PKKPbc PKKPab 12 48 50.4 0.0
comp=Z,5.0nm,0.6s,baz=203,slow=1.9,SNR=10
PEMO Pembroke 120.95 49 P PKPdf 12 38 45.8 -1.3
baz=269
SPB Sao Paulo 121.53 139 ePKPdf PKPdf 12 38 48.3 -0.7
SPB LR LR
comp=Z,12µm,19.0s
BINY Binghamton 121.78 53 P PKPdf 12 38 48.0 -0.9
baz=268
BINY Binghamton 121.78 53 ePKPdf PKPdf 12 38 47.9 -0.9
BINY LR LR
comp=Z,18µm,19.0s
KULLO Kullorsuaq 121.87 13 i P PKPdf 12 38 46.9 -1.2
comp=Z,83nm,0.9s
KULLO Kullorsuaq 121.87 13 i PKIKP PKPdf 12 38 46.9 -1.2
KULLO pmax pmax
comp=Z,83nm,0.9s
KULLO MLR MLR
comp=Z,10µm,22.0s
N59A State Game Lan 121.89 55 P PKPdf 12 38 48.0 -1.2
baz=267
LBTB Lobatse 122.00 218 PKP PKPdf 12 38 50.2 +0.2
comp=Z,27nm,1.2s,baz=149,slow=2.6,SNR=8.4
KBS Kingsbay 122.28 355 PFAKE 12 39 00.0 +11
KBS LR LR
comp=Z,7µm,19.0s
KBS Kingsbay 122.28 355 e 12 40 30.6
SDDR Presa de Saban 122.50 81 ePKPdf PKPdf 12 38 49.8 -1.2
SDDR eSKPdf SKiKP 12 42 27.8 +1.5
SDDR LR LR
comp=Z,7µm,22.0s
SPA0 Spitsbergen Ar 122.56 354 e PP 12 40 31.6 +5.2
SPITS Spitsbergen Ar 122.56 354 PKP PKPdf 12 38 48.7 -0.7
comp=Z,22nm,0.6s,baz=20,slow=4.6,SNR=37
SPITS SKP 12 42 24.8
comp=Z,21nm,1.1s,baz=322,slow=13,SNR=5.6
SPITS PKKPbc PKKPab 12 48 43.1 +0.8
comp=Z,25nm,1.1s,baz=239,slow=8.2,SNR=3.5
ALFO Alfred 122.61 49 P PKPdf 12 38 48.9 -1.4
baz=271
LONY Lake Ozonia 122.84 50 P PKPdf 12 38 49.5 -1.4
baz=270
LONY Lake Ozonia 122.84 50 PFAKE 12 39 00.0 +9.2
LONY LR LR
comp=Z,20µm,19.0s
GRTK Grand Turk 123.25 78 PFAKE 12 39 00.0 +7.8
GRTK LR LR
comp=Z,6µm,22.0s
PAL Palisades 123.31 55 P PKPdf 12 38 51.2 -0.6
baz=269
HSPB Hornsund (broa 123.69 353 e 12 40 40.1
LBNH Lisbon 124.75 51 P PKPdf 12 38 53.9 -0.6
baz=272
HRV Adam Dziewonsk 125.07 53 P PKPdf 12 38 54.6 -0.5
baz=271
HRV Adam Dziewonsk 125.07 53 ePKPdf PKPdf 12 38 53.7 -1.4
HRV Adam Dziewonsk 125.07 53 ePKIKP PKPdf 12 38 53.7 -1.4
DAG Danmarks Havn 125.12 3 i P PKPdf 12 38 53.2 -1.1
comp=Z,30nm,0.8s
DAG Danmarks Havn 125.12 3 i PKIKP PKPdf 12 38 53.2 -1.1
DAG pmax pmax
comp=Z,30nm,0.8s
PTGA Pitinga 125.93 108 PKP PKPdf 12 38 56.9 -0.8
comp=Z,30nm,0.6s,baz=248,slow=2.8
PTGA Pitinga 125.93 108 PKP PKPdf 12 38 56.9 -0.8
PTGA LR LR
comp=Z,43µm,20.0s
PCRV Puerto La Cruz 126.09 93 PKP PKPdf 12 38 56.3 -1.7
comp=Z,10nm,0.5s,baz=179,slow=3.4,SNR=6.3
PKME Peaks-Kenny Pk 126.56 49 P PKPdf 12 38 57.3 -0.6
baz=275
PKME Peaks-Kenny Pk 126.56 49 ePKPdf PKPdf 12 38 57.1 -0.8
PKME LR LR
comp=Z,15µm,20.0s
SCHQ Schefferville 126.57 37 PKP PKPdf 12 38 56.0 -1.6
comp=Z,55nm,1.0s,baz=302,slow=2.5,SNR=34
ILULI Ilulissat 126.70 17⇑iP PKPdf 12 38 56.6 -0.9
comp=Z,135nm,0.9s
ILULI Ilulissat 126.70 17⇑iPKIKP PKPdf 12 38 56.6 -0.9
ILULI pmax pmax
comp=Z,140nm,0.9s
LVZ Lovozero 126.72 341 PFAKE 12 39 10.0 +12
LVZ LR LR
comp=Z,21µm,20.0s
SUMG Summit 126.99 10 i P PKPdf 12 38 58.2 -0.3
comp=Z,219nm,1.2s
SUMG i 12 39 09.8
SUMG e 12 42 14.3
SUMG Summit 126.99 10 ePKPdf PKPdf 12 38 58.0 -0.5
SUMG Summit 126.99 10 i PKIKP PKPdf 12 38 58.2 -0.3
SUMG i 12 39 09.8
SUMG pmax pmax
comp=Z,220nm,1.2s
SUMG MLR MLR
comp=Z,8µm,17.0s
SJG San Juan 127.01 84 ePKPdf PKPdf 12 38 58.4 -1.2
SJG LR LR
comp=Z,3µm,21.0s
SJG San Juan 127.01 84 ePKIKP PKPdf 12 38 58.4 -1.2
SJG MLR MLR
comp=Z,3µm,21.0s
APA Apatity 127.30 341⇓iPKIKP PKPdf 12 38 55.0 -3.6
APA i 12 39 00.0
APA i 12 41 00.0
APA i 12 46 04.0
APA i PS PS 12 50 54.0 -10
APA pmax pmax
comp=Z,13nm,0.8s
APA pmax pmax
comp=Z,47nm,1.0s
LSZ Lusaka 127.52 228 PKP PKPdf 12 39 01.5 +0.7
comp=Z,29nm,1.2s,baz=99,slow=1.1,SNR=18
LSZ Lusaka 127.52 228 ePKPdf PKPdf 12 39 01.5 +0.7
LSZ ePP PP 12 41 05.5 +4.9
LSZ LR LR
comp=Z,19µm,20.0s
LSZ Lusaka 127.52 228 P PKPdf 12 39 01.8 +1.0
SNR=13
KEV Kevo 127.59 345 PFAKE 12 39 10.0 +11
KEV LR LR
comp=Z,14µm,22.0s
TMCR Tamitsa 127.61 336 ePKIKP PKPdf 12 38 58.3 -1.0
TMCR pmax pmax
comp=Z,159nm,1.5s
HAMF Hammerfest 127.69 347 e 12 40 53.5
LKRN Lenkeran, Azer 127.84 302 PKIKP PKPdf 12 38 59.7 -0.8
ARCES ARCESS Array B 128.12 345 PKP PKPdf 12 38 60.0 -0.2
comp=Z,17nm,0.5s,baz=73,slow=1.5,SNR=65
ARE0 ARCESS Array S 128.12 345 ePKPdf PKPdf 12 39 00.2 0.0
ARE0 ePP PP 12 41 05.2 +1.6
SFJD Kangerlussuaq 128.26 19⇑iP PKPdf 12 38 59.3 -1.2
SFJD Kangerlussuaq 128.26 19 ePKPdf PKPdf 12 38 59.3 -1.2
SFJD LR LR
comp=Z,14µm,21.0s
SFJD Kangerlussuaq 128.26 19⇑iPKIKP PKPdf 12 38 59.3 -1.2
DAMY Dhamar 128.41 271 ePKPdf PKPdf 12 39 04.7 +2.0
DAMY ePP PP 12 41 02.8 -5.0
AKT Akhty 128.54 306 i PKIKP PKPdf 12 39 02.0 0.0
AKT e 12 41 13.6
AKT pmax pmax
comp=Z,80nm,1.3s
KLMR Klimovskoe 128.57 332 ePKIKP PKPdf 12 38 58.6 -2.7
KLMR pmax pmax
comp=Z,194nm,1.3s
KLMR Klimovskoe 128.57 332 ePKPdf PKPdf 12 38 58.7 -2.6
KLMR AMP 12 39 05.8
comp=Z,194nm,1.3s
KLMR PP PP 12 40 49.4 -17
KLMR SKKSac SKKSac 12 47 39.3 -24
KLMR SKKSac SKKSac 12 47 39.3 -24
KLMR SS SS 12 57 56.4 -26
KLMR SS SS 12 57 56.4 -26
KLMR SSS SSS 13 02 52.7
KLMR SSS SSS 13 02 52.7
KLMR LQ LQ 13 13 33.8
KLMR LQ LQ 13 13 33.8
KLMR LR LR 13 22 52.4
KLMR AMP 13 40 51.7
comp=Z,2µm,17.2s
MAK Makhachkala 128.59 308 eP Pdif 12 35 35.0 -12
MAK e 12 41 05.0
MAK ePPP PPP 12 43 56.5
MAK e 12 52 51.8
MAK eSS SS 12 58 16.0 -8.3
MAK pmax pmax
comp=Z,189nm,1.5s
MAK pmax pmax
comp=Z,2µm,3.4s
KMBO Kilima Mbogo 128.80 249 PKP PKPdf 12 39 05.0 +1.5
comp=Z,45nm,1.1s,baz=47,slow=5.9,SNR=3.5
KMBO Kilima Mbogo 128.80 249 ePKPdf PKPdf 12 39 04.6 +1.1
KMBO LR LR
comp=Z,24µm,21.0s
KMBO Kilima Mbogo 128.80 249 PKIKP PKPdf 12 39 05.0 +1.5
KMBO pmax pmax
comp=Z,45nm,1.1s
KMBO Kilima Mbogo 128.80 249 PKPdf PKPdf 12 39 04.8 +1.3
KMBO Kilima Mbogo 128.80 249 P PKPdf 12 39 04.8 +1.3
ATD Arta Tunnel 128.91 267 PKP PKPdf 12 39 05.2 +1.8
comp=Z,6.1nm,0.4s,baz=64,slow=2.8,SNR=21
ATD PP PP 12 41 12.9 +2.3
comp=Z,10.0nm,0.8s,baz=81,slow=6.0,SNR=3.9
SEKA Sheki 128.96 306 PKIKP PKPdf 12 39 01.6 -1.1
MNGR Mingechevir, A 129.07 305 PKIKP PKPdf 12 39 02.0 -0.8
ZKTA Zakatala 129.36 306 PKIKP PKPdf 12 39 02.5 -0.9
RAYN Ar Rayn 129.45 283 ePKPdf PKPdf 12 39 04.5 +0.4
RAYN LR LR
comp=Z,22µm,21.0s
TRO Tromso 129.49 347 ePKPdf PKPdf 12 39 02.2 -0.5
GRGR Grenville 129.49 92 PFAKE 12 39 20.0 +16
GRGR LR LR
comp=Z,3µm,19.0s
GANJ Ganja 129.66 305 PKIKP PKPdf 12 39 03.1 -0.9
GROC Groznyy 129.82 308 i PKIKP PKPdf 12 39 00.8 -3.4
GROC pmax pmax
comp=Z,116nm,1.4s
SKI Saint Kitts 129.96 86 eP PKPdf 12 39 05.1 -0.1
SVB Belmont 130.22 91 eP PKPdf 12 39 04.6 -1.2

TOSP Speyside 130.26 94 *e*P **PKPdf** 12 39 06.3 **+0.4**
NAX Nakhchivan 130.38 303 PKIKP **PKPdf** 12 39 04.4 **-1.1**
BBSR BB Station 130.44 66 *e*PKPdf **PKPdf** 12 39 05.1 **-0.5**
BBSR LR LR
comp=Z,5µm,19.0s
PCM Pelee Case Pet 130.71 89 *e*P **PKPdf** 12 39 06.3 **-0.4**
FDF Fort de France 130.74 89 *e*PKPdf **PKPdf** 12 39 06.3 **-0.5**
FDF *e*SKPbc **SKPbc** 12 42 30.1 **0.0**
FDF LR LR
comp=Z,3µm,19.0s
FDF Fort de France 130.74 89 *e*PKIKP **PKPdf** 12 39 06.3 **-0.5**
FDF MLR MLR
comp=Z,3µm,19.0s
FDF Fort de France 130.74 89 *e*P **PKPdf** 12 39 06.2 **-0.5**
CXM Morne La Croix 130.75 89 *e*P **PKPdf** 12 39 06.6 **-0.3**
TRMF Trois Ilets 130.78 90 *e*P **PKPdf** 12 39 06.9 **+0.1**
ZAM Aeronautique 130.81 90 *e*P **PKPdf** 12 39 06.7 **-0.1**
LPMF Morne Lapointe 130.87 90 *e*P **PKPdf** 12 39 07.6 **+0.6**
GNI Garni 130.90 305 PKP **PKPdf** 12 39 08.2 **+1.6**
comp=Z,24nm,0.9s,baz=59,slow=5.9,SNR=3.2
GNI Garni 130.90 305 *e*PKPdf **PKPdf** 12 39 06.8 **+0.3**
GNI LR LR
comp=Z,9µm,19.0s
GNI Garni 130.90 305*c i*PKIKP **PKPdf** 12 39 07.2 **+0.6**
MVM Montagne Vaucl 130.93 90 *e*P **PKPdf** 12 39 08.4 **+1.3**
ANWB Willy Bob 130.93 85 PFAKE 12 39 20.0 +13
ANWB LR LR
comp=Z,4µm,20.0s
ANWB Willy Bob 130.93 85 *e*P **PKPdf** 12 39 06.3 **-0.8**
VRH Novokhopyorsk 130.96 319 *e*PKIKP **PKPdf** 12 39 05.6 **-0.5**
VRH *e* 12 41 24.6
VRH pmax pmax
comp=Z,70nm,1.3s
TSUM Tsumeb 131.07 215 PKP **PKPdf** 12 39 06.1 **-1.4**
comp=Z,21nm,1.1s,baz=124,slow=2.1,SNR=20
TSUM SKPab **SKPab** 12 42 34.3 **+2.7**
comp=Z,16nm,1.2s,baz=124,slow=3.5,SNR=3.4
TSUM PKKP **PKKPdf** 12 49 04.6 **-0.6**
comp=Z,3.3nm,0.6s,baz=311,slow=3.4,SNR=12
TSUM Tsumeb 131.07 215 *e*PKPdf **PKPdf** 12 39 07.1 **-0.4**
TSUM SKPab **SKPab** 12 42 34.3 **+2.7**
TSUM PKKP **PKKPdf** 12 49 04.6 **-0.6**
TSUM LR LR
comp=Z,32µm,20.0s
SCO Scoresbysund 131.08 5⇑ *i*P **PKPdf** 12 39 05.8 **0.0**
comp=Z,201nm,1.4s
SCO *i* 12 42 26.1
SCO *i* 12 42 29.0
SCO Scoresbysund 131.08 5⇑ *i*PKIKP **PKPdf** 12 39 05.8 **0.0**
SCO pmax pmax
comp=Z,200nm,1.4s
JMIC Jan Mayen 131.12 360 *e* **PP** 12 41 27.1 **+4.1**
ZEI Tsey 131.25 308 *i* PKIKP **PKPdf** 12 39 05.9 **-1.3**
ZEI pmax pmax
comp=Z,67nm,1.6s
NCK Nalchik 131.37 309⇑ *e*PKIKP **PKPdf** 12 39 06.4 **-0.8**
GOF Gofitskoye 131.51 311⇑ *e*PKIKP **PKPdf** 12 39 08.4 **+1.0**
GOF pmax pmax
comp=Z,64nm,1.3s
STEI Steigen 131.65 348 *e*PKPdf **PKPdf** 12 39 06.7 **-0.2**
MOS Moscow 131.67 326 *i* PKIKP PKPpre 12 39 00.5
MOS *e* 12 41 27.9
MOS pmax pmax
comp=Z,131nm,1.5s
MOS pmax pmax
comp=Z,400nm,2.4s
AKH Akhalkalaki 131.72 306⇑ *i*P **PKPdf** 12 39 09.5 **+1.4**
BBGH Gun Hill 131.75 92 PFAKE 12 39 20.0 +11
BBGH LR LR
comp=Z,8µm,20.0s
KBZ Khabaz 131.84 309 PKP **PKPdf** 12 39 07.7 **-0.3**
comp=Z,2.7nm,0.9s,baz=95,slow=8.7,SNR=5.3
KBZ PP **PP** 12 41 24.2 **-4.6**
comp=Z,7.8nm,1.0s,baz=124,slow=7.3,SNR=3.6
KVAR Kislovodsk Arr 131.95 310 PKP **PKPdf** 12 39 08.9 **+0.6**
comp=Z,5.6nm,0.6s,baz=177,slow=2.3,SNR=2.8
KVAR PP PP 12 41 20.7 -9.0
comp=Z,68nm,1.3s,baz=281,slow=6.4,SNR=3.1
KVAR SKP 12 42 43.2
comp=Z,22nm,0.9s,baz=28,slow=7.9,SNR=3.7
KIV Kislovodsk 131.95 310 *e*PKPdf **PKPdf** 12 39 08.4 **+0.1**
KIV *e*PP **PP** 12 41 27.4 **-2.3**
KIV LR LR
comp=Z,7µm,20.0s
KIV Kislovodsk 131.95 310 *i* PKIKP **PKPdf** 12 39 08.3 **-0.1**
KIV *e* 12 41 28.0
KIV *e*PS **PS** 12 51 42.7 **-2.6**
KIV *e*SS SS 12 59 06.4 +0.7
KIV pmax pmax
comp=Z,26nm,1.1s
KIV Kislovodsk 131.95 310 P **PKPdf** 12 39 08.8 **+0.4**
SNR=5.3
NEY Neytrino 132.04 309*d i*PKIKP **PKPdf** 12 39 10.5 **+1.8**
LPSR Galich'ya Gora 132.16 322 *e*PKIKP **PKPdf** 12 39 08.7 **+0.4**
LPSR *e* 12 41 30.1
LPSR pmax pmax
comp=Z,50nm,1.0s
VORR Voronezh 132.31 321 *e*PKIKP **PKPdf** 12 39 06.0 **-2.6**
OBN Obninsk 132.48 326 PKP **PKPdf** 12 39 09.9 **+1.1**
comp=Z,21nm,0.5s,baz=72,slow=3.1,SNR=8.3
OBN PP **PP** 12 41 29.2 **-3.1**
comp=Z,20nm,0.4s,baz=9.5,slow=6.1,SNR=3.9
OBN SKPab **SKPab** 12 42 37.6 **+1.4**
comp=Z,15nm,0.4s,baz=267,slow=23,SNR=7.3
OBN Obninsk 132.48 326 *e*PKPdf **PKPdf** 12 39 08.0 **-0.9**
OBN PP **PP** 12 41 29.2 **-3.1**
OBN SKPab **SKPab** 12 42 37.6 **+1.4**
OBN LR LR
comp=Z,15µm,19.0s
OBN Obninsk 132.48 326*c i*PKIKP **PKPdf** 12 39 08.6 **-0.2**
OBN *i* 12 41 28.2
OBN *i* SS SS 12 59 17.5 +6.7
OBN pmax pmax
comp=Z,220nm,2.3s
VSR Storozhevoye 132.49 320 *e*PKIKP **PKPdf** 12 39 08.6 **-0.4**
VSR *e* 12 41 29.2
VSR pmax pmax
comp=Z,40nm,1.2s
PUL Pulkovo 133.06 334⇓ *i*PKIKP **PKPdf** 12 39 10.2 **+0.4**
PUL MLR MLR
comp=Z,18µm,20.0s
FINES FINESS Array B 133.65 337 PKhKP PKPpre 12 38 55.5
comp=Z,3.1nm,0.6s,baz=75,slow=3.5,SNR=8.6
FINES PKP **PKiKP** 12 39 11.6 **-0.5**
comp=Z,39nm,1.0s,baz=65,slow=2.1,SNR=18
FINES SKPab **SKPbc** 12 42 37.9 **-0.9**
comp=Z,31nm,0.9s,baz=85,slow=4.4,SNR=10.0
FINES SKP 12 42 45.8
comp=Z,19nm,0.9s,baz=64,slow=4.4,SNR=5.0
NRS Narsarsuaq 133.79 23 *i* P **PKPdf** 12 39 09.5 **-1.6**
NRS Narsarsuaq 133.79 23 *i* PKIKP **PKPdf** 12 39 09.5 **-1.6**
SOC Sochi 134.14 310 *i* P **Pdif** 12 36 01.9 **-10**
SOC *i* 12 39 10.4
SOC *e* 12 41 41.3
SOC *e*PS **PS** 12 51 50.0 **-14**
SOC *e*SSS SSS 13 04 23.1
SOC MLR MLR
comp=Z,5µm,17.0s
MBAR Mbarara 134.65 246 SKP 12 42 52.4
comp=Z,9.9nm,0.2s,baz=114,slow=2.3,SNR=4.0
MBAR Mbarara 134.65 246 PFAKE 12 39 30.0 +16
MBAR LR LR
comp=Z,869nm,21.0s
NSS Namsos 135.27 347 *e* PKPdf 12 39 26.2 +12
VSU Vasula 135.32 334*c i*PKIKP **PKPdf** 12 39 13.2 **-0.9**
VSU MLR MLR
comp=Z,23µm,20.0s
ANN Anapa 135.46 312 *i* PKIKP **PKPdf** 12 39 14.7 **-0.1**
ANN *e* 12 39 19.8
ANN *e* 12 41 49.3
ANN *e* 12 46 25.4
ANN pmax pmax
comp=Z,117nm,1.2s
BORG Borgarnes 136.69 7 PKP **PKPdf** 12 39 15.9 **-0.6**
comp=Z,30nm,0.9s,baz=350,slow=1.2,SNR=4.3
BORG Borgarnes 136.69 7 PKP **PKPdf** 12 39 15.9 **-0.6**
BORG LR LR
comp=Z,6µm,22.0s
MICGM Minsk 137.16 329 *e*PKP **PKPdf** 12 39 16.0 **-1.6**
MICGM *e*PP PP 12 42 10.0 +8.1
MICGM *e*PPP PPP 12 45 14.0
MICGM *e*SKKS 12 48 20.0
MICGM *e*SKKKS 12 48 52.0
MICGM *e*SKSP 12 52 06.0
MICGM *e*PS **PS** 12 52 24.0 **-4.9**
MICGM *e*SS SS 13 00 22.0 +15
MICGM *e*SSS SSS 13 05 24.0
MICGM *e*LQ LQ 13 17 32.0
MICGM *e*LR LR 13 29 24.0
MICGM LRM MLR 13 41 44.0
comp=Z,16nm,20.0s
MNK Minsk 137.16 329 *e*PKIKP **PKPdf** 12 39 16.0 **-1.6**
MNK *e* 12 42 10.0
MNK *e*PS **PS** 12 52 24.0 **-4.9**
IZAR Zarasai 137.20 331 *e*P PKPpre 12 39 12.5
IZAR IAmb IAmb 12 39 24.6
comp=Z,39nm,1.3s
IDID Didziasalis 137.23 330 *e*P PKPpre 12 39 13.9
IDID IAmb IAmb 12 39 24.5
comp=Z,52nm,1.2s
ISAL Salakas 137.36 331 *e*P PKPpre 12 39 13.9
ISAL IAmb IAmb 12 39 23.5
comp=Z,64nm,1.6s
IIGN Ignalina 137.45 330 *e*P PKPpre 12 39 14.3
IIGN IAmb IAmb 12 39 25.1
comp=Z,49nm,1.1s
NACGM Naroch 137.45 330 *e*PKP PKPpre 12 39 12.0
NACGM *e*PKP **PKPdf** 12 39 16.0 **-2.1**
NACGM *e*PP **PP** 12 42 06.0 **+2.3**
NACGM *e*PPP PPP 12 45 16.0
NACGM *e*SKS **SKSdf** 12 46 21.0 **-7.0**
NACGM *e*SKKS SKKSac 12 48 44.0 -14
NACGM *e*PS **PS** 12 52 28.0 **-3.4**
NACGM *e*SS **SS** 13 00 04.0 **-6.3**
NACGM *e*SSS SSS 13 05 10.0
NACGM *e*LQ LQ 13 20 06.0
NACGM *e*LR LR 13 31 40.0
NACGM LRM MLR 13 43 04.0
comp=Z,30nm,20.0s
SIM Simferopol' 137.68 313 *e*PKIKP PKPdf 12 39 27.9 +9.0
SIM *e* 12 42 15.0
SIM pmax pmax
comp=Z,800nm,9.9s
ASF Jabal al Asfar 137.70 294 PKP **PKPdf** 12 39 19.0 **-0.5**
comp=Z,20nm,1.1s,baz=78,slow=1.7,SNR=9.0
ASF PP **PP** 12 42 02.7 **-3.9**
comp=Z,4.3nm,0.7s,baz=82,slow=4.7,SNR=3.4
DOMB Dombas 138.09 347 *e*PKPdf **PKPdf** 12 39 19.2 **0.0**
DOMB *e*PP **PP** 12 42 07.1 **-0.2**
AKASG Malin Array Be 138.44 323 PKhKP PKPpre 12 39 08.3
comp=Z,2.1nm,0.5s,baz=51,slow=4.0,SNR=9.6
AKASG PKP **PKPdf** 12 39 20.0 **-0.1**
comp=Z,13nm,0.8s,baz=54,slow=2.7,SNR=19
AKASG PP **PP** 12 42 05.9 **-4.1**
comp=Z,7.1nm,0.9s,baz=56,slow=6.6,SNR=5.7
AKASG SKPab **SKPbc** 12 42 54.6 **+0.8**
comp=Z,33nm,1.0s,baz=46,slow=3.6,SNR=13
AKASG PKKP **PKKPdf** 12 48 53.0 **+1.1**
comp=Z,0.4nm,0.3s,baz=197,slow=6.0,SNR=6.3
KIEV Kiev 138.45 323 *e*PKPdf **PKPdf** 12 39 19.6 **-0.5**
KIEV LR LR
comp=Z,19µm,20.0s
KIEV Kiev 138.45 323 *e*PKIKP **PKPdf** 12 39 19.6 **-0.5**
KIEV MLR MLR
comp=Z,19µm,20.0s
KIEV Kiev 138.45 323 *i* PKPdf **PKPdf** 12 39 18.6 **-1.5**
SNR=10.0
KIEV Kiev 138.45 323 *i* P **PKPdf** 12 39 18.6 **-1.5**
SNR=10.0
NB2 NORSAR Subarra 138.49 345 PKPdf PKPpre 12 39 08.8
comp=Z,203nm,2.0s,baz=39,slow=1.8
NB2 NORSAR Subarra 138.49 345 PKIKP **PKPdf** 12 39 21.0 **+1.0**
NB2 pmax pmax
comp=Z,6.0nm,0.7s
NB2 NORSAR Subarra 138.49 345 PKPdf PKPpre 12 39 08.8
baz=39,slow=1.8
NOA NORSAR Array B 138.49 345 PKhKP PKPpre 12 39 08.7
comp=Z,4.0nm,0.7s,baz=32,slow=2.7,SNR=11
NOA PKP **PKPdf** 12 39 20.2 **+0.3**
comp=Z,5.2nm,0.8s,baz=36,slow=2.6,SNR=9.6
NOA PP **PP** 12 42 11.6 **+1.8**
comp=Z,5.4nm,1.0s,baz=30,slow=6.3,SNR=3.0
NOA SKPab **SKPbc** 12 42 52.9 **-0.8**
comp=Z,20nm,1.0s,baz=17,slow=4.2,SNR=11
HFS Hagfors 138.62 343 PKhKP PKPpre 12 39 08.6
comp=Z,9.6nm,0.9s,baz=67,slow=3.9,SNR=22
HFS PKP **PKPdf** 12 39 19.0 **-1.2**
comp=Z,6.9nm,0.6s,baz=108,slow=3.3,SNR=12
HFS PP **PP** 12 42 12.8 **+2.2**
comp=Z,16nm,1.1s,baz=72,slow=4.8,SNR=3.9
HFS SKPbc **SKPbc** 12 42 54.4 **+0.3**
comp=Z,19nm,0.8s,baz=214,slow=1.1,SNR=8.6
HFS SKPab **SKPab** 12 43 00.7 **-2.3**
comp=Z,22nm,0.9s,baz=50,slow=2.3,SNR=7.8
MMAI Mount Meron Ar 138.92 295 PKhKP PKPpre 12 39 14.1
comp=Z,7.8nm,0.8s,baz=116,slow=3.4,SNR=3.7
MMAI PKP **PKPdf** 12 39 20.3 **-1.4**
comp=Z,7.2nm,0.7s,baz=47,slow=2.6,SNR=4.0
MMAI SKPbc **SKiKP** 12 42 58.0 **-1.3**
comp=Z,24nm,1.1s,baz=267,slow=1.5,SNR=4.4
FOO Floro 139.27 349 *e* PKPdf 12 39 32.6 +11
BRTR Keskin Array B 139.40 306 PKhKP PKPpre 12 39 15.1
comp=Z,8.1nm,1.2s,baz=52,slow=2.0,SNR=7.4
BRTR PKP **PKPdf** 12 39 22.1 **-0.4**
comp=Z,18nm,1.0s,baz=120,slow=3.6,SNR=10
BRTR PP **PP** 12 42 14.3 **-2.5**
comp=Z,4.8nm,1.0s,baz=122,slow=7.0,SNR=3.2
BRTR SKPbc **SKiKP** 12 43 01.2 **+1.0**
comp=Z,13nm,1.1s,baz=141,slow=2.6,SNR=3.7
EIL Elat 139.41 290 PKP **PKPdf** 12 39 23.2 **+0.7**
comp=Z,42nm,1.1s,baz=66,slow=2.4,SNR=6.4
OSL Oslo 139.57 344 *e* PKPdf 12 39 32.7 +11
SUW Suwalki 139.67 330 *e*PKP PKPpre 12 39 15.8
SUW *e*PP **PP** 12 42 23.0 **+5.6**
SUW LMZ LR 13 39 46.1
comp=Z,16µm,25.6s
SUW Suwalki 139.67 330 *e*PKHKP PKPpre 12 39 15.8
SUW *e* 12 42 23.0
SUW MLR MLR
comp=Z,16µm,25.6s
SUE Sulen 139.82 349 *e*PKPdf **PKPdf** 12 39 23.9 **+1.6**
ANTO Ankara 140.00 306 *e*PKPdf **PKPdf** 12 39 21.2 **-2.2**
ANTO *e*PP **PP** 12 42 22.2 **+1.8**
ANTO LR LR
comp=Z,7µm,21.0s
ANTO Ankara 140.00 306 *e*PKIKP **PKPdf** 12 39 21.2 **-2.2**
ANTO *e* 12 42 22.2
ANTO MLR MLR
comp=Z,7µm,21.0s
ANTO Ankara 140.00 306 P **PKPdf** 12 39 21.9 **-1.5**
SNR=8.7
KONO Kongsberg 140.10 345 *e*PKPdf **PKPdf** 12 39 21.8 **-1.1**
SORM Soroca 140.15 320 *i*/P PKPpre 12 39 15.9
SORM Soroca 140.15 320 PKHKP PKPpre 12 39 15.9
BER Bergen 140.35 348 *e*P **PKPdf** 12 39 23.3 **0.0**
KIS Kishinev 140.37 318 *e*PKP PKPpre 12 39 18.0
KIS Kishinev 140.37 318 *i* PsP 12 39 31.0
KIS Kishinev 140.37 318 *i* PP PP 12 42 24.0 +1.9
comp=Z,3µm,10.0s
KIS *i* SKP 12 42 56.0
KIS Kishinev 140.37 318 *i* PPP PPP 12 45 00.0
KIS *e*SKS SKSdf 12 46 00.0 -33
KIS Kishinev 140.37 318 *e*PKKP PKKPdf 12 48 40.0 -8.2
KIS *e*SKKS 12 48 50.0
KIS *e*SKSP 12 52 10.0
KIS Kishinev 140.37 318 *e*PS 12 52 50.0
KIS LRM MLR 13 47 04.0
comp=Z,14µm,20.0s
KIS Kishinev 140.37 318 *e*PKIKP PKPpre 12 39 18.0
KIS *i* 12 39 31.0
KIS *i* 12 42 24.0
KIS pmax pmax
comp=Z,3µm,10.0s
KIS pmax pmax
comp=Z,3µm,10.0s
CSS Mathiatis 140.45 299 *e*PKPdf **PKPdf** 12 39 23.2 **-1.1**
CSS LR LR
comp=Z,4µm,21.0s
ODD1 Odda 140.53 347 *e* PKPpre 12 39 17.2
BLS5 Blasjo 141.01 347 *e*pPKPdf pPKPdf 12 39 29.8 -0.8
TLCR 141.12 316⇓ *i*/P **PKPdf** 12 39 23.1 **-2.0**
TLCR 141.12 316 PKIKP **PKPdf** 12 39 23.1 **-2.0**
HOMB Homborsund 141.59 345 *e* **PKPdf** 12 39 26.2 **+0.6**
LVV L'vov 141.75 325 *e*PKIKP PKPpre 12 39 21.0
LVV *e* 12 42 27.2
LVV *e* 12 46 30.8
PRAR RASCA 141.78 320⇑ *i*/P **PKPdf** 12 39 25.4 **-0.9**
TLB Topalu 141.86 315⇓ *i*/P PKPpre 12 39 23.3
TLB Topalu 141.86 315 PKIKP PKPpre 12 39 23.3
HARR Harsova 141.89 315⇓ *i*/P PKPpre 12 39 23.7
HARR Harsova 141.89 315 PKIKP PKPpre 12 39 23.7
TESR Tescani 141.92 319⇓ *i*/P PKPpre 12 39 22.9
SHEL Horse Pasture 141.97 186 PFAKE 12 39 40.0 +12
SHEL LR LR
comp=Z,7µm,19.0s
RCBR Riachuelo 142.12 134 PKPbc PKPbc 12 39 21.9
comp=Z,63nm,0.8s,baz=196,slow=3.1,SNR=11
RCBR Riachuelo 142.12 134 *e*PKPdf PKPbc 12 39 21.7
RCBR LR LR
comp=Z,9µm,22.0s
VRI Vrincioaia 142.16 318⇑ *i*/P **PKPdf** 12 39 25.4 **-1.7**
VRI Vrincioaia 142.16 318 PKIKP **PKPdf** 12 39 25.4 **-1.7**
BEL Belsk 142.17 329 *e*PKP PKPpre 12 39 23.1
BEL *e*PP **PP** 12 42 35.8 **+3.1**
BEL LMZ LR 13 37 14.7
comp=Z,15µm,26.8s
BEL Belsk 142.17 329 *e*PKIKP PKPpre 12 39 23.1
BEL *e* 12 42 35.8
ISP Isparta 142.19 304 PFAKE 12 39 40.0 +13
ISP LR LR
comp=Z,7µm,20.0s
ICOR Ion Corvin 142.21 314⇓ *i*/P **PKPdf** 12 39 26.5 **-0.6**
PLOR Plostina 142.22 318⇑ *i*/P PKPpre 12 39 22.7
PLOR Plostina 142.22 318 PKIKP PKPpre 12 39 22.7
GRER 142.22 317⇓ *i*/P **PKPdf** 12 39 28.5 **+1.4**
BURAR Bucovina Array 142.25 321⇑ *i*/P PKPpre 12 39 23.7
BURAR Bucovina Array 142.25 321 PKIKP PKPpre 12 39 23.7
BSD Bornholm Skovb 142.29 337 *i* P **PKPdf** 12 39 24.6 **-2.3**
comp=Z,99nm,1.1s
BSD *i* 12 43 01.9
BSD Bornholm Skovb 142.29 337 *i* PKIKP **PKPdf** 12 39 24.6 **-2.3**
BSD pmax pmax
comp=Z,99nm,1.1s
BSD MLR MLR
comp=Z,17µm,20.0s
KWP Kalwaria Pacla 142.56 325 *e*PKP PKPpre 12 39 24.0
KWP *e*PP **PP** 12 42 40.6 **+5.4**
KWP LMZ LR 13 40 12.2
comp=Z,10µm,26.5s
KWP Kalwaria Pacla 142.56 325 *e*PKIKP PKPpre 12 39 24.0
KWP *e* 12 42 40.6
KWP MLR MLR
comp=Z,10µm,26.5s
COP Copenhagen 142.69 339⇓ *i*/P **PKPdf** 12 39 24.7 **-2.9**
comp=Z,76nm,1.1s
COP Copenhagen 142.69 339⇓ *i*PKIKP **PKPdf** 12 39 24.7 **-2.9**
COP pmax pmax
comp=Z,76nm,1.1s
COP MLR MLR
comp=Z,8µm,22.0s
GKP Gorka Klasztor 142.77 333 *e*PKP PKPpre 12 39 24.0
GKP *e*PP PP 12 43 04.2 +28
GKP LMZ LR 13 34 44.2
comp=Z,16µm,28.6s
GKP Gorka Klasztor 142.77 333 *e*PKIKP PKPpre 12 39 24.0
MLR Muntele Rosu 142.82 317 PKhKP PKPpre 12 39 24.3
comp=Z,20nm,1.2s,baz=4.3,slow=1.6,SNR=17
MLR Muntele Rosu 142.82 317⇑ *i*/P PKPpre 12 39 24.5
PRD Provadia 142.83 313 *i* P PKPpre 12 39 24.4
SECR 142.95 317⇓ *i*/P PKPpre 12 39 26.0
DOPR Dopca 142.95 318⇑ *i*/P PKPpre 12 39 25.6
SULR 142.98 316⇑ *i*/P PKPpre 12 39 25.3
MUD Monsted U'grnd 143.01 343 *i* P PKPbc 12 39 25.6 **+0.7**
comp=Z,214nm,1.5s
MUD Monsted U'grnd 143.01 343 *e*PKIKP PKPbc 12 39 25.6 +0.7
MUD pmax pmax
comp=Z,210nm,1.5s
MUD MLR MLR
comp=Z,11µm,22.0s
ARCR ARCALIA 143.02 321⇑ *i*/P PKPbc 12 39 26.4 +1.1
LLD Lille Linde 143.05 339 *i* P PKPbc 12 39 25.1 +0.1
comp=Z,107nm,0.9s
LLD Lille Linde 143.05 339 *i* PKIKP PKPbc 12 39 25.1 +0.1
LLD pmax pmax
comp=Z,110nm,0.9s
BMR Baia Mare 143.22 322⇓ *i*/P PKPbc 12 39 26.3 +0.5
BMR Baia Mare 143.22 322 PKIKP PKPbc 12 39 26.3 +0.5
UZH Uzhgorod 143.36 324 *e*PKHKP PKPpre 12 39 24.0
UZH *i* 12 42 40.0
UZH *e*SS SS 13 01 15.0 -4.7
SGNR Singureni 143.36 315⇑ *i*/P PKPbc 12 39 26.9 +0.6
STHS Stebnicka Huta 143.46 326 *e*PKIKP PKPbc 12 39 27.3 +0.8
STHS Stebnicka Huta 143.46 326 *e*PKP PKPbc 12 39 27.3 +0.8
MDB Medias 143.48 319⇓ *i*/P PKPbc 12 39 27.9 +1.3
MDB Medias 143.48 319 PKIKP PKPbc 12 39 27.9 +1.3
MTUR Matau 143.50 317⇑ *i*/P PKPab 12 39 25.8 0.0
MTUR Matau 143.50 317 PKIKP PKPab 12 39 25.8 0.0
CRVS Cervenica-Dubn 143.65 325 *e*PKIKP PKPbc 12 39 28.1 +1.1
CRVS *e* 12 42 51.5
CRVS Cervenica-Dubn 143.65 325 *e*PKP PKPbc 12 39 28.1 +1.1
CRVS *e*PP PP 12 42 51.5 +10
CJR Cluj-Napoca 143.66 321⇑ *i*/P PKPbc 12 39 28.1 +0.9
CJR Cluj-Napoca 143.66 321 PKIKP PKPbc 12 39 28.1 +0.9
JMB Yambol 143.66 312 *i* P PKPbc 12 39 27.8 +0.5
OJC Ojcow 143.69 328 *e*PKP PKPbc 12 39 26.7 -0.4
OJC *e*PP **PP** 12 42 45.7 **+3.7**
OJC *e*SS SS 13 01 27.5 +4.1
OJC LMZ LR 13 38 41.3
comp=Z,18µm,26.0s
OJC Ojcow 143.69 328 *e*PKIKP PKPbc 12 39 26.7 -0.4
OJC *e* 12 42 45.7
OJC *e*SS SS 13 01 27.5 +4.1
ARR Arges 143.70 318⇑ *i*/P PKPbc 12 39 28.2 +0.8
GOLR 143.74 317⇓ *i*/P PKPbc 12 39 28.4 +1.0
SZH Strazhica 143.79 314 *i* P PKPbc 12 39 28.0 +0.4
HUMR Humele 143.87 316⇑ *i*/P PKPbc 12 39 27.8 0.0
NIE Niedzica 143.94 326 *e*PKP PKPbc 12 39 28.3 +0.4
NIE *e*PP **PP** 12 42 48.2 **+4.6**
NIE *e*SS SS 13 01 23.2 -3.2
NIE LMZ LR 13 42 23.0
comp=Z,10µm,23.0s
NIE Niedzica 143.94 326 *e*PKIKP PKPbc 12 39 28.3 +0.4
NIE *e* 12 42 48.2
NIE *e*SS SS 13 01 23.2 -3.3
NIE MLR MLR
comp=Z,10µm,23.0s
YER Yerkesik 144.08 303 P PKPbc 12 39 29.0 +0.2
DRGR 144.14 321⇓ *i*/P **PKPab** 12 39 28.2 **0.0**
DRGR 144.14 321 PKIKP **PKPab** 12 39 28.2 **0.0**
RRH Rhenigidale 144.18 357⇑ *e*P **PKPab** 12 39 27.6 **-0.2**
LOT Lotru 144.19 319⇓ *i*/P PKPbc 12 39 29.2 +0.3
RRR Rubha Reidh 144.20 357⇑ *e*P **PKPab** 12 39 27.3 **-0.6**
PVL Pavlikeni 144.21 314 *i* P **PKPdf** 12 39 30.0 **-0.7**
MCD Coleburn Disti 144.28 354⇑ *e*P **PKPab** 12 39 27.7 **-0.5**
ARG Arkhangelos 144.41 302 P PKPbc 12 39 30.2 +0.4
KECS Kecovo 144.42 325 *e*PKIKP **PKPdf** 12 39 30.2 **-0.7**
KECS Kecovo 144.42 325 *e*PKP **PKPdf** 12 39 30.2 **-0.7**
DEV Deva 144.50 320⇓ *i*/P PKPbc 12 39 29.7 0.0
DEV Deva 144.50 320 PKIKP PKPbc 12 39 29.7 0.0
MME1 Meikle Cairn 144.51 354⇑ *e*P **PKPab** 12 39 27.8 **-1.4**
MDO Dochfour 144.51 355⇑ *i*/P **PKPab** 12 39 28.7 **-0.5**
KAC Achnashellach 144.52 356⇑ *i*/P **PKPab** 12 39 29.1 **-0.1**
LANS Liptovska Anna 144.54 327 *e*PKIKP **PKPdf** 12 39 30.9 **-0.3**
LANS Liptovska Anna 144.54 327 *e*PKP **PKPdf** 12 39 30.9 **-0.3**
DIM Dimitrovgrad 144.54 312 *i* P **PKPdf** 12 39 30.6 **-0.7**
RAC Raciborz 144.56 329 *e*PKIKP **PKPdf** 12 39 30.8 **-0.3**
ENEZ Enez 144.60 310 P PKPbc 12 39 30.5 +0.3
ALN Alexandroupoli 144.62 310 P **PKPab** 12 39 28.1 **-2.0**
KPL Plockton 144.71 356⇑ *e*P **PKPab** 12 39 29.6 **-0.2**
KPL IAmb IAmb 12 39 31.0
comp=Z,1µm,1.2s
KPL IAMs_20 IAMs_20 13 44 34.7
comp=Z,8µm,27.8s
CRAR CRAIOVA 144.71 317⇑ *i*/P **PKPdf** 12 39 31.8 **+0.3**
CRAR CRAIOVA 144.71 317 PKIKP **PKPdf** 12 39 31.8 **+0.3**
OKC Ostrava-Krasne 144.75 328 *e*PKP PKPbc 12 39 30.8 +0.4
OKC *ex* x 12 39 42.4
OKC *ex* x 12 43 23.3
OKC AMS AMS 13 47 10.0
comp=Z,10µm,19.0s
OKC Ostrava-Krasne 144.75 328 *e*PKIKP PKPbc 12 39 30.8 +0.4
OKC *e* 12 39 42.4
OKC MLR MLR
comp=Z,10µm,19.0s
KDZ Kurdzhali 144.78 312 *i* P **PKPdf** 12 39 31.5 **-0.3**
KSB Sheil Bridge 144.82 356⇑ *e*P **PKPab** 12 39 30.1 **-0.2**
BODT Bodrum 144.85 303 P **PKPab** 12 39 30.5 **-0.6**
RDO Rodhopi 144.89 311 P **PKPab** 12 39 30.5 **-0.5**
RDO Rodhopi 144.89 311 P **PKPab** 12 39 30.5 **-0.5**
KSP Ksiaz 144.92 331 *e*PKP **PKPab** 12 39 30.7 **-0.2**

KSP LMZ LR 13 37 00.6
comp=Z,14µm,29.8s
KSP Ksiaz 144.92 331 *e*PKIKP **PKPab 12 39 30.7 -0.2**
SRE Strehaia 144.93 318⇑*i*P **PKPdf 12 39 31.5 -0.4**
SRE Strehaia 144.93 318 PKIKP **PKPdf 12 39 31.5 -0.4**
GADA Gvkgeada 144.97 309 P **PKPab 12 39 30.4 -1.0**
PRK Paraskevi 145.01 307 P **PKPbc 12 39 31.1 -0.5**
PRK Paraskevi 145.01 307 PKIKP **PKPbc 12 39 31.1 -0.5**
PRK Paraskevi 145.01 307 P **PKPbc 12 39 31.1 -0.5**
SIRR Siria 145.03 321⇑*i*P **PKPbc 12 39 31.4 0.0**
SMG Samos 145.05 305 P **PKPbc 12 39 30.4 -1.4**
SMG Samos 145.05 305 P **PKPbc 12 39 30.4 -1.4**
PSZ Piszkesteto 145.07 325⇓*i*P **PKPbc 12 39 30.8 -0.8**
PSZ Piszkesteto 145.07 325⇑*e*PKPbc **PKPbc 12 39 32.1 -0.1**
PSZ Piszkesteto 145.07 325 *e*PKPdf **PKPbc 12 39 31.2 -0.4**
PSZ LR LR
comp=Z,21µm,22.0s
PSZ Piszkesteto 145.07 325 *e*PKIKP **PKPbc 12 39 31.2 -0.4**
PSZ MLR MLR
comp=Z,21µm,22.0s
MORC Moravsky Berou 145.08 329⇓*i*P **PKPbc 12 39 28.9 -2.6**
MORC Moravsky Berou 145.08 329 *e*PKPbc **PKPdf 12 39 32.2 +0.1**
MORC Moravsky Berou 145.08 329 *e*PKIKP **PKPdf 12 39 32.2 +0.1**
PLD Plovdiv 145.09 313 *i*P **PKPdf 12 39 32.0 -0.3**
NISR Nisiros 145.11 303 P **PKPbc 12 39 31.1 -0.8**
SMTH Samothraki Isl 145.14 310 P **PKPbc 12 39 30.6 -1.4**
RZN Rozhen 145.25 312 *i*P **PKPdf 12 39 33.0 +0.2**
DPC Dobruska-Polom 145.26 331 *e*PKP **PKPbc 12 39 31.6 -0.5**
DPC *ex* x 12 39 44.1
DPC *ex* x 12 53 03.4
DPC *e*SS SS 13 01 40.6 -0.7
DPC AMS AMS 13 42 10.0
comp=Z,10µm,23.8s
DPC Dobruska-Polom 145.26 331 *e*PKIKP **PKPbc 12 39 31.6 -0.5**
DPC *e* 12 39 44.1
DPC *e*SS SS 13 01 40.6 -0.7
DPC MLR MLR
comp=Z,10µm,23.8s
PGB Panagyurishte 145.26 314 *i*P **PKPdf 12 39 33.0 +0.3**
EDU Dundee 145.27 354 *e*P **PKPbc 12 39 30.8 -1.1**
VYHS Vyhne 145.28 326 *e*PKIKP **PKPdf 12 39 33.2 +0.8**
VYHS *e*SS SS 13 01 40.1 -1.6
VYHS MLR MLR
comp=Z,10µm,20.4s
VYHS Vyhne 145.28 326 *e*PKP **PKPdf 12 39 33.2 +0.8**
VYHS *e*SS SS 13 01 40.1 -1.6
UPC Upice 145.28 331 *e*PKP **PKPab 12 39 32.2 0.0**
UPC *ex* x 12 53 09.5
UPC AMS AMS 13 51 20.0
comp=Z,10µm,19.6s
UPC Upice 145.28 331 *e*PKIKP **PKPab 12 39 32.2 0.0**
UPC MLR MLR
comp=Z,10µm,19.6s
KARP Karpathos 145.33 301 P **PKPbc 12 39 32.5 -0.3**
BZS Buzias 145.41 320⇓*i*P **PKPbc 12 39 31.6 -1.0**
BZS Buzias 145.41 320 PKIKP **PKPbc 12 39 31.7 -0.9**
CHOS Chios island 145.44 306 P **PKPdf 12 39 33.1 0.0**
TIM Timisoara 145.58 321⇑*i*P **PKPab 12 39 34.3 +0.9**
TIM Timisoara 145.58 321 PKIKP **PKPab 12 39 34.3 +0.9**
LIA Limnos Island 145.59 309 P **PKPab 12 39 34.1 +0.4**
KAVA Kavala 145.66 311 P **PKPab 12 39 34.2 +0.3**
EAB Aberfoyle 145.75 355 *e*P **PKPdf 12 39 32.6 -0.3**
MDVR Moldovita 145.79 319⇑*i*P **PKPbc 12 39 33.9 0.0**
BUD Budapest 145.81 325⇑*e*PKPdf **PKPab 12 39 34.8 +0.6**
BANR Banloc 145.82 320⇓*i*P **PKPab 12 39 34.7 +0.4**
ESY Stoneypath 145.85 353 *e*P **PKPdf 12 39 32.6 -0.5**
VRAC Vranov 145.85 329 PKPbc **PKPbc 12 39 33.8 -0.2**
comp=Z,910nm,1.2s,baz=55,slow=3.0,SNR=269
VRAC Vranov 145.85 329⇑*i*P **PKPdf 12 39 33.4 0.0**
VTS Vitosha 145.88 314⇑*i*P **PKPdf 12 39 33.7 -0.1**
VTS Vitosha 145.88 314 P **PKPbc 12 39 34.2 -0.3**
VTS Vitosha 145.88 314 PKP2 **PKPbc 12 39 34.2 -0.3**
VTS Vitosha 145.88 314 *i*P **PKPab 12 39 35.2 +0.3**
VTS Vitosha 145.88 314 P **PKPbc 12 39 34.2 -0.3**
PVCC Panska Ves 145.91 332 *e*PKP **PKPdf 12 39 33.6 +0.2**
PVCC AMS AMS 13 43 10.0
comp=Z,16µm,23.0s
PVCC Panska Ves 145.91 332 *e*PKP2 **PKPdf 12 39 33.6 +0.2**
PVCC MLR MLR
comp=Z,16µm,23.0s
BRG Berggiesshubel 145.92 333 *i*PKP **PKPdf 12 39 33.5 +0.1**
comp=Z,2.7nm,0.8s
BRG *i* 12 39 34.9
comp=Z,2µm,1.3s
BRG *i* 12 39 43.6
comp=Z,1µm,1.1s
BRG *i*SKP 12 43 14.2
comp=Z,84nm,1.3s
BRG SS SS 13 01 42.0 -6.5
BRG Berggiesshubel 145.92 333 *i*PKP2 **PKPdf 12 39 33.5 +0.1**
BRG *i* 12 39 34.8
BRG *i* 12 39 43.6
BRG SS SS 13 01 42.0 -6.5
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=N,11µm,21.5s
BRG MLR MLR
comp=E,8µm,20.9s
BRG MLR MLR
comp=Z,15µm,21.2s
MMB Musomiste 145.97 313 *i*P **PKPab 12 39 35.0 -0.1**
CLL Collm 145.97 334 *e*PKPdf **PKPbc 12 39 34.0 -0.2**
CLL ⇑*i*PKPbc **PKPab 12 39 34.6 -0.1**
comp=Z,1µm,1.3s
CLL ⇓*i*pPKPbc **PKiKP 12 39 37.3 -0.3**
comp=Z,2µm,1.5s
CLL *i*pPKiKP **pPKiKP 12 39 44.0 +0.4**
CLL *i*sPKiKP **sPKiKP 12 39 45.6 -0.1**
comp=Z,953nm,1.1s
CLL *e* 12 40 00.0
CLL *e*SKPdf **SKPdf 12 43 07.0 0.0**
comp=Z,139nm,1.6s
CLL *e*PKSdf **PKSdf 12 43 10.0 +1.3**
CLL *i*PKSbc **PKSbc 12 43 14.9 +0.4**
CLL *e* 12 49 24.0
CLL *e*SKKSac **SKKSac 12 49 48.0 +1.0**
CLL *e* 12 52 40.0
CLL *e*PSKS 12 53 09.0
CLL *e*PPS PPS 12 55 36.0
CLL *e* 12 56 52.0
CLL *e*SS **SS 13 01 51.0 +2.0**
CLL *e*SSS SSS 13 07 18.0
CLL *e* 13 12 54.0
CLL Lm MLR 13 47 00.0
comp=N,11µm,20.9s
CLL Lm MLR 13 47 00.0
comp=E,7µm,20.7s
CLL Lm MLR 13 47 00.0
comp=Z,12µm,21.4s
CLL Collm 145.97 334⇑*i*PKP2 **PKPab 12 39 34.6 -0.1**
CLL pmax pmax
comp=Z,1µm,1.3s
CLL MLR MLR
comp=Z,12µm,21.4s
NVR Nevrokopi 145.97 312 P **PKPdf 12 39 33.5 -0.4**
SMOL Smolenice 145.98 327 *e*PKP2 **PKPab 12 39 35.7 +0.8**
SMOL Smolenice 145.98 327 *e*PKP **PKPab 12 39 35.7 +0.8**
PGBU Glenifferbraes 146.14 355 *e*P **PKPbc 12 39 34.1 -0.5**
PGBU IAmb IAmb 12 39 35.8
comp=Z,3µm,1.5s
PGBU IAMs_20 IAMs_20 13 55 51.0
comp=Z,7µm,22.0s
ZKR Zakros 146.17 300 P **PKPbc 12 39 34.9 -0.5**
APE Apeiranthos 146.22 304⇑*i*P **PKPdf 12 39 33.0 -1.4**
APE Apeiranthos 146.22 304 PKIKP **PKPdf 12 39 33.0 -1.4**
APE Apeiranthos 146.22 304 P **PKPdf 12 39 33.9 -0.6**
SRS Serrai 146.25 312 P **PKPbc 12 39 35.4 0.0**
SRS Serrai 146.25 312 PKP2 **PKPbc 12 39 35.4 0.0**
SRS Serrai 146.25 312 P **PKPbc 12 39 35.4 0.0**
GOPC GO Pecny, Ondr 146.26 331 *e*pPKP **pPKPdf 12 39 46.5 +6.4**
GOPC *e*PP **PP 12 43 01.5 +4.3**
GOPC *ex* x 12 53 29.3
GOPC *e*SS SS 13 01 47.0 -5.6
GOPC AMS AMS 13 52 50.0
comp=Z,13µm,19.4s
GOPC GO Pecny, Ondr 146.26 331 *e*PKP2 PKPab 12 39 46.5 +11
GOPC *e* 12 43 01.5
KKB Krupnik 146.28 313 *i*P **PKPab 12 39 35.9 -0.4**
CSKK Cs‡kako 146.29 325⇑*e*PKPdf **PKPbc 12 39 35.5 +0.2**
OUR Ouranopolis 146.29 310 P **PKPdf 12 39 34.2 -0.2**
PRU Pruhonice 146.31 332 *e*PKP **PKPdf 12 39 34.2 +0.1**
PRU *ex* x 12 39 46.4
PRU *e*PP **PP 12 42 58.1 +0.6**
PRU *ex* x 12 53 25.8
PRU *e*SS SS 13 01 56.4 +3.3
PRU AMS AMS 13 42 50.0
comp=Z,18µm,23.2s
PRU Pruhonice 146.31 332 *e*PKP2 **PKPdf 12 39 34.2 +0.1**
PRU *e* 12 42 58.1
PRU *e*SS SS 13 01 56.4 +3.3
PRU MLR MLR
comp=Z,18µm,23.2s
ZST Bratislava 146.35 327 *e*PKP2 **PKPdf 12 39 34.0 -0.2**
ZST *e*SS SS 13 01 56.1 +2.3
ZST MLR MLR
comp=Z,4µm,19.9s
ZST Bratislava 146.35 327 *e*PKP **PKPdf 12 39 34.0 -0.2**
ZST *e*SS SS 13 01 56.0 +2.2
TREC Trest 146.38 330 *e*PKP **PKPdf 12 39 34.6 +0.3**
TREC *ex* x 12 39 47.3
TREC *e*PP **PP 12 42 58.1 +0.1**
TREC *e*SS SS 13 01 56.6 +2.5
TREC AMS AMS 13 48 20.0
comp=Z,12µm,18.4s
TREC Trest 146.38 330 *e*PKP2 **PKPdf 12 39 34.6 +0.3**
TREC *e* 12 42 58.1
TREC *e*SS SS 13 01 56.6 +2.5
TREC MLR MLR
comp=Z,12µm,18.4s
THR2 Thira island, 146.47 303 P **PKPbc 12 39 35.9 -0.3**
SANT Santorini 146.47 303⇑*i*P **PKPdf 12 39 33.3 -1.6**
SANT Santorini 146.47 303 *e*PKPbc **PKPdf 12 39 34.5 -0.4**
SANT *e*PP **PP 12 42 57.5 -1.9**
SANT LR LR
comp=Z,8µm,20.0s
THR7 Fira-Santorini 146.48 303 P **PKPbc 12 39 36.2 -0.1**
THT2 Imerovigli 146.48 303 P **PKPbc 12 39 36.6 +0.3**
CMBO Columbo, Santo 146.48 303 P **PKPdf 12 39 33.5 -1.3**
EKA Eskdalemuir Ar 146.49 353 PKPbc **PKPdf 12 39 34.7 +0.5**
comp=Z,133nm,0.7s,baz=357,slow=2.4,SNR=336
EKA SKPbc **SKPbc 12 43 13.4 -0.4**
comp=Z,21nm,1.1s,baz=352,slow=3.6,SNR=4.3
THT1 Athinios (Pele 146.49 303 P **PKPdf 12 39 34.9 +0.1**
THR3 Thira Island, 146.50 303 P **PKPdf 12 39 34.9 0.0**
ESK Eskdalemuir 146.51 353 *e*PKPdf **PKPdf 12 39 34.1 -0.2**
ESK *e*PKPbc **PKPbc 12 39 35.4 -0.3**
ESK LR LR
comp=Z,9µm,21.0s
ESK Eskdalemuir 146.51 353 *e*PKP2 **PKPdf 12 39 34.1 -0.2**
ESK MLR MLR
comp=Z,9µm,21.0s
ESK Eskdalemuir 146.51 353 *e*P **PKPdf 12 39 33.3 -1.0**
ESK IAMs_20 IAMs_20 13 48 57.1
comp=Z,9µm,24.2s
THR6 Thira Island, 146.52 303 P **PKPbc 12 39 36.2 -0.1**
SOH Sokhos 146.53 312 P **PKPdf 12 39 34.5 -0.4**
THR5 Thira Island, 146.54 303 P **PKPbc 12 39 36.1 -0.3**
THR9 Santorini-Faro 146.55 303 P **PKPdf 12 39 35.6 +0.7**
NPS Neapolis 146.62 301 P **PKPbc 12 39 36.2 -0.5**
PLG Polygyros 146.65 311 P **PKPdf 12 39 34.8 -0.3**
PAIG Paliouri 146.66 310 P **PKPdf 12 39 33.4 -1.6**
GMK Mull of Kintyr 146.69 356 *e*P **PKPdf 12 39 34.3 -0.2**
BHH Howats Hill 146.73 353⇑*e*P **PKPdf 12 39 33.5 -1.1**
LAST Lasithi 146.75 301 P **PKPdf 12 39 36.1 +0.6**
KARY Karystos 146.76 306 P **PKPdf 12 39 35.0 -0.3**
HORT Hortiatis 146.80 311 P **PKPdf 12 39 34.8 -0.6**
EDMD Edmundbyers 146.84 352 *e*P **PKPdf 12 39 35.2 +0.4**
EDMD IAMs_20 IAMs_20 13 52 46.4
comp=Z,11µm,23.2s
VAY Valandovo 146.87 313 P **PKPdf 12 39 35.1 -0.2**
VAY Valandovo 146.87 313 *i*PKP **PKPbc 12 39 36.7 -0.4**
THE Thessaloniki 146.88 311 P **PKPdf 12 39 34.0 -1.4**
SOP Sopron 146.96 327⇑*e*PKPdf **PKPdf 12 39 35.3 0.0**
CLGH Cloghs, Cushen 146.98 356 *e*P **PKPdf 12 39 35.4 +0.3**
CLGH IAMs_20 IAMs_20 13 48 19.6
comp=Z,9µm,19.9s
NKC Novy Kostel 147.02 334 *e*PKP **PKPdf 12 39 34.8 -0.6**
NKC *e*SS SS 13 02 04.8 +3.7
NKC AMS AMS 13 46 20.0
comp=Z,10µm,21.0s
NKC Novy Kostel 147.02 334 *e*PKIKP **PKPdf 12 39 34.8 -0.6**
NKC *e*SS SS 13 02 04.8 +3.7
NKC MLR MLR
comp=Z,10µm,21.0s
MOX Moxa 147.04 335 PKP2 **PKPdf 12 39 35.7 +0.4**
IDGL Inch Island, C 147.06 358 *e*P **PKPbc 12 39 36.8 -0.4**
BBO1 Bothel 147.08 353⇑*e*P **PKPdf 12 39 34.8 -0.4**
SKIA Skiathos 147.09 309 P **PKPdf 12 39 35.9 +0.1**
GAL1 Galloway 147.10 355 *e*P **PKPdf 12 39 36.0 +0.7**
GAL1 IAMs_20 IAMs_20 13 54 15.5
comp=Z,4µm,24.6s
GRG Griva 147.14 312 P **PKPbc 12 39 36.0 +0.1**
CONA Conrad Observa 147.15 328 *i*PKPdf **PKPdf 12 39 35.4 -0.3**
comp=Z,408nm,1.1s,SNR=181
PTL Penteli 147.19 307 P **PKPdf 12 39 35.2 -0.8**
IDI Anoyia 147.19 301 PKPbc **PKPdf 12 39 36.6 +0.4**
comp=Z,148nm,0.6s,baz=7.2,slow=5.9,SNR=29
IDI Anoyia 147.19 301 P **PKPdf 12 39 36.3 +0.1**
MHLO Agia Marina, M 147.20 304 P **PKPdf 12 39 35.6 -0.4**
KESW Keswick, Cumbr 147.21 353 *e*P **PKPbc 12 39 37.6 -0.2**
KESW IAMs_20 IAMs_20 13 53 04.5
comp=Z,10µm,21.3s
NEO Neokhori 147.21 309 P **PKPdf 12 39 35.8 -0.2**
XOR Xorichti 147.22 309 P **PKPdf 12 39 34.8 -1.2**
VLY Voula,Athens 147.30 306 P **PKPdf 12 39 34.8 -1.4**
SIVA Sivas 147.32 301 P **PKPdf 12 39 36.9 +0.6**
SIVA Sivas 147.32 301 P **PKPdf 12 39 36.9 +0.6**
ATH Athens Observa 147.32 306 P **PKPdf 12 39 35.6 -0.6**
SKO Skopje 147.34 315 *i*PKP **PKPdf 12 39 35.7 -0.4**
KHC Kasperske Hory 147.37 331 *e*PKP **PKPdf 12 39 35.5 -0.5**
KHC *ex* x 12 39 50.0
KHC *ex* x 12 40 09.5
KHC *ex* x 12 42 53.8
KHC *e*SS SS 13 02 12.4 +7.2
KHC AMS AMS 13 43 40.0
comp=Z,19µm,24.1s
KHC Kasperske Hory 147.37 331 *e*PKPdf **PKPdf 12 39 36.0 0.0**
KHC *e*PKPbc **PKPbc 12 39 39.0 +0.6**
KHC Kasperske Hory 147.37 331 *e*PKIKP **PKPdf 12 39 36.0 0.0**
KHC *e* 12 39 39.0
SMIA Simia 147.38 308 P **PKPdf 12 39 35.6 -0.7**
SLPK Sellapark 147.41 353⇑*e*P **PKPbc 12 39 38.1 -0.1**
LIT Litokhoron 147.43 311 P **PKPdf 12 39 35.5 -0.9**
GERES GERESS Array B 147.53 331 PKPbc **PKPbc 12 39 39.1 +0.2**
comp=Z,275nm,1.1s,baz=36,slow=3.0,SNR=82
GERES SKP 12 43 10.6
comp=Z,11nm,1.1s,baz=270,slow=2.6,SNR=3.4
VILL Villia 147.56 307 P **PKPdf 12 39 35.7 -1.0**
WTSB Winterswijk 147.62 341 *e*PKP **PKPdf 12 39 35.7 -0.5**
comp=Z,3µm,2.3s
LKR Lokris 147.62 308 P **PKPdf 12 39 35.3 -1.4**
LKR Lokris 147.62 308 P **PKPdf 12 39 35.3 -1.4**
BEHE Becsehely 147.64 325⇑*e*PKPdf **PKPbc 12 39 39.9 +0.7**
HPK Haverah Park 147.64 351 *e*P **PKPbc 12 39 38.6 -0.3**
HPK IAmb IAmb 12 39 42.0
comp=Z,1µm,1.3s
HPK IAMs_20 IAMs_20 13 48 01.6
comp=Z,10µm,20.3s
IOMK Kirk Michael 147.68 354 *e*P **PKPbc 12 39 38.0 -1.0**
IOMK IAMs_20 IAMs_20 13 56 25.9
comp=Z,7µm,20.1s
VAM Vamos 147.71 302 P **PKPdf 12 39 37.9 +1.0**
VAM Vamos 147.71 302 PKP2 **PKPdf 12 39 37.9 +1.0**
VAM Vamos 147.71 302 P **PKPdf 12 39 37.9 +1.0**
KRUS Krusevo 147.74 314 *i*PKP **PKPdf 12 39 35.7 -1.3**
ARSA Arzberg 147.78 327 *i*PKPdf **PKPdf 12 39 36.1 -0.6**
comp=Z,326nm,1.4s,SNR=60
DID Didima 147.83 306 P **PKPdf 12 39 35.0 -2.1**
DID Didima 147.83 306 P **PKPdf 12 39 35.0 -2.1**
BIA Bitola 147.84 313 P **PKPbc 12 39 40.4 +0.4**
BIA Bitola 147.84 313 *i*PKP **PKPdf 12 39 36.4 -0.7**
KZN Kozani 147.85 312 P **PKPdf 12 39 35.7 -1.4**
LTK Loutraki 147.86 307 P **PKPdf 12 39 36.9 -0.2**
LTK Loutraki 147.86 307 P **PKPdf 12 39 36.9 -0.2**
IMMV Iera Moni Meta 147.87 302 P **PKPdf 12 39 37.2 0.0**
LOUT Loutraki 147.87 307 P **PKPbc 12 39 39.3 -0.8**
IVA Berane 147.90 317⇑*i*PKP **PKPdf 12 39 36.2 -0.9**
KOGS Kog 147.93 325 *i*PKPdf **PKPdf 12 39 36.4 -0.5**
GVD Gavdhos 147.94 301 P **PKPdf 12 39 37.8 +0.5**
GVD Gavdhos 147.94 301 P **PKPdf 12 39 37.8 +0.5**
GRFO Grafenberg 147.94 334 *e*PKPdf **PKPdf 12 39 37.0 +0.1**
GRFO *e*PKPbc **PKPbc 12 39 39.9 0.0**
GRFO Grafenberg 147.94 334 *e*PKIKP **PKPdf 12 39 37.0 +0.1**
GRFO *e* 12 39 39.9
AGG Agios Georgios 147.96 309 P **PKPdf 12 39 35.4 -1.9**
AGG Agios Georgios 147.96 309 PKIKP **PKPdf 12 39 35.4 -1.9**
AGG Agios Georgios 147.96 309 P **PKPdf 12 39 35.4 -1.9**
PLE Plievlja 147.97 318⇑*i*PKP **PKPdf 12 39 36.2 -1.1**
MOA Molln 147.98 329 *i*PKPdf **PKPdf 12 39 36.6 -0.4**
comp=Z,368nm,1.4s,SNR=50
THL Klokotos Trika 147.98 310 P **PKPdf 12 39 35.9 -1.3**
PVY Plav 148.00 317⇑*i*PKP **PKPdf 12 39 36.2 -1.2**
DSF Desfina 148.05 308 P **PKPdf 12 39 37.1 -0.4**
DSF Desfina 148.05 308 P **PKPdf 12 39 37.1 -0.4**
THAL Thalero 148.08 307 P **PKPdf 12 39 37.5 +0.1**
KOME Kolasin 148.15 317⇑*i*PKP **PKPdf 12 39 37.3 -0.2**
OHR Ohrid 148.16 314 *i*PKP **PKPdf 12 39 36.7 -0.9**
LBWR Ladybower, Pea 148.19 351 *e*P **PKPbc 12 39 39.4 -1.0**
KPRO Kipourio 148.28 311 P **PKPdf 12 39 37.2 -0.6**
ANKY Antikythira Is 148.29 303 P **PKPdf 12 39 39.1 +1.2**
ANKY Antikythira Is 148.29 303 P **PKPdf 12 39 39.1 +1.2**
NEST Nestorio 148.30 312 P **PKPbc 12 39 40.2 -1.1**
VLI Veliai 148.31 305 P **PKPdf 12 39 37.7 -0.2**
VLI Veliai 148.31 305 P **PKPdf 12 39 37.7 -0.2**
PENT Pentalofos 148.33 312 P **PKPdf 12 39 38.8 +0.9**
KALE Kalithea 148.34 308 P **PKPdf 12 39 39.0 +1.0**
KALE Kalithea 148.34 308 P **PKPdf 12 39 39.0 +1.0**
SOKA Soboth 148.41 327 *i*PKPdf **PKPdf 12 39 37.3 -0.6**
comp=Z,363nm,1.2s,SNR=73
WACR West Acre 148.45 348 *e*P **PKPdf 12 39 39.1 +1.5**
WACR IAMs_20 IAMs_20 13 47 56.8
comp=Z,12µm,21.9s
KLV Kalavryta, Ach 148.46 307 P **PKPdf 12 39 38.2 0.0**
KLV Kalavryta, Ach 148.46 307 P **PKPdf 12 39 38.2 0.0**
BLY Banja Luka 148.48 322⇑*i*P **PKPdf 12 39 38.0 +0.1**
NKY Niksic 148.49 318⇑*i*PKP **PKPdf 12 39 37.0 -1.1**
PDG Podgorica 148.53 317⇓*i*P **PKPdf 12 39 36.4 -1.6**
TTG Podgorica 148.53 317⇑*i*PKP **PKPdf 12 39 37.1 -0.9**
WPS Cemaes, Angles 148.53 354 *e*P **PKPbc 12 39 39.8 -1.5**
WPS IAmb IAmb 12 39 42.1
comp=Z,779nm,1.3s
NKME Niksic 148.54 318⇑*i*PKP **PKPdf 12 39 37.3 -0.8**
TIR Tirane 148.67 315⇑*i*P **PKPdf 12 39 37.8 -0.5**
TIR Tirane 148.67 315 *e*PKPdf **PKPdf 12 39 38.9 +0.6**
TIR *e*PKPbc **PKPbc 12 39 42.4 +0.3**
TIR *e*PKPab **sPKPdf 12 39 46.2 -0.2**
TIR LR LR
comp=Z,17µm,20.0s
TIR Tirane 148.67 315 *e*PKIKP **PKPdf 12 39 38.9 +0.6**
TIR *e* 12 39 42.4
TIR *e* 12 39 46.2
TIR MLR MLR
comp=Z,17µm,20.0s
CEME Cevo 148.68 317⇑*i*PKP **PKPdf 12 39 36.7 -1.7**
DRME Dracevica, Mon 148.70 316⇑*i*PKP **PKPdf 12 39 37.1 -1.2**
PVO Paravola 148.70 309 P **PKPdf 12 39 40.1 +1.7**
H10S2 ASCENSION HYDR 148.72 170 PKPbc **PKPab 12 39 45.8 -0.4**
baz=253,slow=4.1,SNR=23
H10S3 ASCENSION HYDR 148.72 170 PKPbc **PKPbc 12 39 43.8 +1.2**
baz=253,slow=4.1,SNR=12
BRY Bratogost 148.73 318⇑*i*PKP **PKPdf 12 39 37.5 -1.1**
H10S1 ASCENSION HYDR 148.74 170 PKPbc **PKPab 12 39 45.8 -0.5**
baz=253,slow=4.1,SNR=30
JAN Janina 148.76 311 P **PKPdf 12 39 39.0 +0.4**
JAN Janina 148.76 311 PKIKP **PKPdf 12 39 39.0 +0.4**
JAN Janina 148.76 311 P **PKPdf 12 39 39.0 +0.4**
OBKA Obir 148.77 327 *i*PKPdf **PKPdf 12 39 38.0 -0.5**
comp=Z,223nm,1.2s,SNR=40
ULC Ulcinj 148.77 316⇑*i*PKP **PKPdf 12 39 37.5 -1.0**
CWF Charnwood Fore 148.78 350 *e*P **PKPdf 12 39 39.2 +1.1**
CWF IAMs_20 IAMs_20 13 57 49.1
comp=Z,10µm,20.7s
DSL Palaion Diasel 148.80 310 P **PKPdf 12 39 39.3 +0.6**
DSL Palaion Diasel 148.80 310 P **PKPdf 12 39 39.3 +0.6**
DRO Drossia 148.81 307 P **PKPdf 12 39 38.3 -0.4**
BUM Brajici-Budva 148.82 317⇑*i*PKP **PKPdf 12 39 37.5 -1.1**
DSB Dublin 148.83 356 *e*PKPdf **PKPdf 12 39 37.1 -1.0**
DSB *e*PKPbc **PKPbc 12 39 41.9 -0.2**
OZLJ Ozalj 148.89 325 *i*P **PKPdf 12 39 37.1 -1.4**
ITM Ithomi 148.93 306 P **PKPdf 12 39 39.0 +0.1**
ITM Ithomi 148.93 306 P **PKPdf 12 39 39.0 +0.1**
HGN Heimansgroeve 148.93 341 *e*PKP **PKPdf 12 39 37.3 -1.1**
comp=Z,918nm,1.3s
AMT Artemida-Makis 148.97 307 P **PKPdf 12 39 40.0 +1.0**
BEBN Eben Emael 148.98 341⇓*i*PKPbc **PKPbc 12 39 42.0 -0.5**
HCY Herceg Novi 149.00 317⇑*i*PKP **PKPdf 12 39 37.8 -1.0**
MEM Membach 149.04 341⇑*i*PKPbc **PKPbc 12 39 41.8 -0.9**
BOJS Bojanci 149.07 325 *e*PKPdf **PKPdf 12 39 38.8 0.0**
LJU Ljubljana 149.10 326 *i*PKPdf **PKPdf 12 39 38.7 -0.2**
MYKA Terra Mystica 149.14 328 *i*PKPdf **PKPdf 12 39 38.1 -0.9**
comp=Z,354nm,1.7s,SNR=67
PYL PYLOS 149.16 306 P **PKPdf 12 39 40.4 +1.1**
PYL PYLOS 149.16 306 P **PKPdf 12 39 40.4 +1.1**
VTN Vitineika 149.21 308 P **PKPdf 12 39 38.7 -0.6**
HLM1 Long Mynd 149.22 352 *e*P **PKPdf 12 39 40.5 +1.7**
HLM1 IAMs_20 IAMs_20 13 54 58.5
comp=Z,8µm,21.4s
STON Ston 149.26 319 *i*P **PKPdf 12 39 36.4 -2.8**
UCC Uccle 149.36 343⇑*i*PKPbc **PKPbc 12 39 43.8 +0.3**
UDBI Udbina 149.42 323 *i*P **PKPdf 12 39 38.5 -1.0**
BCLA Clavier 149.43 341⇑*i*PKP **PKPdf 12 39 40.3 +1.0**
BCLA ⇑*i*PKPbc **PKPbc 12 39 43.6 0.0**
KFL Anninata 149.43 308 P **PKPbc 12 39 43.4 -0.7**
STU Stuttgart 149.48 335 *e*PKPdf **PKPdf 12 39 39.0 -0.4**
STU *e*PKPbc **PKPbc 12 39 44.4 +0.5**
VLS Valsamata 149.55 309 P **PKPbc 12 39 42.5 -1.9**
VLS Valsamata 149.55 309 PKHKP **PKPbc 12 39 42.5 -1.9**
VLS Valsamata 149.55 309 P **PKPbc 12 39 42.5 -1.9**
ABTA Abfaltersbach 149.60 329 *i*PKPdf **PKPdf 12 39 38.7 -1.1**
comp=Z,681nm,1.3s,SNR=95
WATA Walderalm 149.60 331 *i*PKPdf **PKPdf 12 39 39.1 -0.7**
comp=Z,21nm,1.1s,SNR=49
WATA *i*PKiKP **PKiKP 12 39 45.0 -0.5**
comp=Z,495nm,1.2s,SNR=23
SSW Stow on the Wo 149.61 350⇑*i*P **PKPbc 12 39 44.2 +0.2**
WTTA Wattenberg 149.63 331 *i*PKPdf **PKPdf 12 39 39.5 -0.4**
comp=Z,61nm,1.4s,SNR=62
WTTA *i*PKiKP **PKPbc 12 39 44.7 +0.2**
comp=Z,497nm,1.1s,SNR=16
SNF Seneffe 149.64 342 ⇑PKPbc **PKPbc 12 39 44.4 +0.2**
SKP1 Kophill 149.67 349⇑*i*P **PKPbc 12 39 43.7 -0.5**
TRI Trieste 149.72 327 *e*PKPdf **PKPdf 12 39 39.1 -0.7**
TRI *e*PKPbc **PKPbc 12 39 44.3 -0.3**
TRI Trieste 149.72 327 *e*PKHKP **PKPdf 12 39 39.1 -0.7**
TRI *e* 12 39 44.3
IWEX Carrickbyrne, 149.72 357 *e*P **PKPbc 12 39 42.5 -1.8**
MCH1 Michaelchurch 149.74 352 *e*P **PKPbc 12 39 43.9 -0.4**
MCH1 IAmb IAmb 12 39 47.3
comp=Z,2µm,1.7s
MCH1 IAMs_20 IAMs_20 13 54 14.6
comp=Z,9µm,20.7s
LPW Lampeter 149.76 353 *e*P **PKPbc 12 39 44.2 -0.2**
LPW IAmb IAmb 12 39 45.5
comp=Z,985nm,1.3s
LPW IAMs_20 IAMs_20 13 59 47.5
comp=Z,7µm,16.4s
ASCN Ascension 149.77 171 *e*PKPdf **PKPdf 12 39 40.8 -0.2**
ASCN *e*PKPbc **PKiKP 12 39 46.6 -0.1**
ASCN LR LR
comp=Z,12µm,20.0s
MOTA Moosalm 149.81 331 *i*PKPdf **PKPdf 12 39 39.3 -0.9**
comp=Z,682nm,1.2s,SNR=92
WLF Walferdange 149.82 339⇑PKP **PKPdf 12 39 40.8 +0.9**
WLF ⇓PKPbc **PKiKP 12 39 45.4 -0.3**
WLF Walferdange 149.82 339 *e*PKPdf **PKPdf 12 39 39.9 0.0**
WLF *e*PKPbc **PKiKP 12 39 45.3 -0.3**
WLF LR LR
comp=Z,15µm,22.0s
WLF Walferdange 149.82 339 *e*PKHKP **PKPdf 12 39 39.9 0.0**
WLF *e* 12 39 45.3
WLF MLR MLR
comp=Z,15µm,22.0s
H10N1 ASCENSION HYDR 149.84 170 PKPbc **PKPbc 12 39 46.9 +1.4**
baz=177,slow=5.4,SNR=14
H10N3 ASCENSION HYDR 149.84 170 PKPbc **PKPbc 12 39 46.3 +0.9**
baz=177,slow=5.4,SNR=15
STRD Stroud 149.84 351⇑*e*P **PKPbc 12 39 44.3 -0.3**
STRD IAMs_20 IAMs_20 13 49 19.1
comp=Z,11µm,25.4s
RETA Reutte 149.85 332 *i*PKPdf **PKPdf 12 39 39.8 -0.3**
comp=Z,291nm,1.1s,SNR=44
RETA *e*PKiKP **pPKPdf 12 39 45.9 -0.2**
SNR=11
H10N2 ASCENSION HYDR 149.85 170 PKPbc **PKPbc 12 39 47.0 +1.5**
baz=177,slow=5.4,SNR=20
MONM Monmouth 149.87 352⇑*e*P **PKPbc 12 39 44.3 -0.4**
MONM IAMs_20 IAMs_20 13 45 59.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,9µm,22.7s						
NVLJ	**Novalja**	**149.89**	**324**	*i* P	**PKPdf**	**12 39 37.8**	**-2.3**
DOU	**Dourbes**	**149.92**	**342**	⥣PKP	**PKPdf**	**12 39 39.7**	**-0.3**
DOU				⥣PKPbc	**PKPbc**	**12 39 45.1**	**+0.2**
OLDB	**Oldbury-Upon-S**	**150.01**	**351**	*e*P	**PKPbc**	**12 39 44.3**	**-0.7**
OLDB				IAmb	IAmb	12 39 46.7	
	comp=Z,869nm,1.4s						
OLDB				IAMs_20	IAMs_20	13 57 06.7	
	comp=Z,9µm,18.7s						
SWN1	**Swindon**	**150.04**	**350**	⥣*e*P	**PKPbc**	**12 39 45.2**	**+0.1**
SWN1				IAmb	IAmb	12 39 49.2	
	comp=Z,2µm,1.1s						
SWN1				IAMs_20	IAMs_20	13 55 07.5	
	comp=Z,9µm,20.0s						
WOL	**Wolverton**	**150.14**	**349**	⥣*e*P	**PKPbc**	**12 39 45.2**	**-0.2**
WOL				IAmb	IAmb	12 39 49.2	
	comp=Z,2µm,1.3s						
WOL				IAMs_20	IAMs_20	13 57 18.7	
	comp=Z,9µm,18.6s						
BFO	**Black Forest**	**150.18**	**336**	*e*PKPdf	**PKPdf**	**12 39 39.6**	**-0.9**
BFO				*e*PKPbc	**PKPbc**	**12 39 45.6**	**0.0**
BFO				LR	LR		
	comp=Z,9µm,20.0s						
BFO	**Black Forest**	**150.18**	**336**	*e*PKIKP	**PKPdf**	**12 39 39.6**	**-0.9**
BFO				*e*		12 39 45.6	
BFO				MLR	MLR		
	comp=Z,9µm,20.0s						
BATH	**Bath**	**150.19**	**351**	*e*P	**PKPbc**	**12 39 44.9**	**-0.6**
BATH				IAMs_20	IAMs_20	13 51 03.1	
	comp=Z,9µm,18.7s						
FETA	**Feichten**	**150.22**	**331**	*i* PKPdf	**PKPdf**	**12 39 40.6**	**-0.3**
	comp=Z,482nm,1.1s,SNR=57						
VAL	**Valentia**	**150.23**	**1**	*e*P	**PKPab**	**12 39 50.2**	**-1.4**
VAL				*e*SS	SS	13 02 25.8	-10
HMNX	**Herstmonceux**	**150.27**	**347**	⥣*e*P	**PKPbc**	**12 39 45.1**	**-0.5**
HMNX				IAmb	IAmb	12 39 49.2	
	comp=Z,1µm,1.2s						
HMNX				IAMs_20	IAMs_20	13 50 03.4	
	comp=Z,11µm,18.3s						
DAVA	**Damuels**	**150.38**	**333**	*i* PKPdf	**PKPdf**	**12 39 40.8**	**-0.3**
	comp=Z,579nm,1.4s,SNR=42						
MATE	**Matera**	**151.09**	**316**	⥣*i*P	**PKPdf**	**12 39 40.1**	**-2.0**
TUE	**Stuetta**	**151.25**	**332**	*e*PKPdf	**PKPdf**	**12 39 41.8**	**-0.7**
TUE				*e*PKPbc	**PKPbc**	**12 39 48.5**	**0.0**
TUE				LR	LR		
	comp=Z,14µm,21.0s						
TIP	**Timpagrande**	**151.80**	**313**	⥥*i*P	**PKPdf**	**12 39 42.0**	**-1.4**
TIP	**Timpagrande**	**151.80**	**313**	*e*PKPdf	**PKPdf**	**12 39 43.1**	**-0.3**
TIP				*e*PKPbc	**PKiKP**	**12 39 50.1**	**-0.1**
TIP				LR	LR		
	comp=Z,11µm,22.0s						
TIP	**Timpagrande**	**151.80**	**313**	P	**PKPdf**	**12 39 42.3**	**-1.1**
CUC	**Castrocucco**	**152.01**	**315**	*e*PKPdf	**PKPdf**	**12 39 40.7**	**-2.9**
CUC				*e*PKPbc	**PKPbc**	**12 39 49.1**	**-1.1**
CUC				*e*PKPab	**PKPab**	**12 39 58.9**	**-0.7**
CUC				LR	LR		
	comp=Z,8µm,21.0s						
AQU	**L'Aquila**	**152.12**	**322**	*e*PKPdf	**PKPdf**	**12 39 42.3**	**-1.5**
AQU				*e*PKPbc	**PKPbc**	**12 39 50.4**	**0.0**
AQU				*e*PKPab	**PKPab**	**12 40 00.0**	**+0.1**
AQU				LR	LR		
	comp=Z,11µm,20.0s						
AQU	**L'Aquila**	**152.12**	**322**	*e*PKIKP	**PKPdf**	**12 39 42.3**	**-1.5**
AQU				*e*		12 39 50.4	
AQU				*e*		12 40 00.0	
AQU				MLR	MLR		
	comp=Z,11µm,20.0s						
VLC	**Villacollemand**	**152.51**	**328**	*e*PKPdf	**PKPdf**	**12 39 44.0**	**-0.3**
VLC				*e*PKPbc	**PKPbc**	**12 39 50.7**	**-0.5**
VLC				*e*PP	**PP**	**12 43 34.6**	**+1.0**
VLC				LR	LR		
	comp=Z,12µm,20.0s						
CEL	**Celeste**	**152.84**	**312**	*e*PKPdf	**PKPdf**	**12 39 43.8**	**-1.1**
CEL				*e*PKPbc	**PKPbc**	**12 39 51.6**	**-0.5**
CEL				*e*PKPab	**PKPab**	**12 40 04.4**	**+1.3**
CEL				LR	LR		
	comp=Z,9µm,22.0s						
BNI	**Bardonecchia**	**153.51**	**334**	*e*PKPdf	**PKPdf**	**12 39 45.4**	**-0.4**
BNI				*e*PKPbc	**PKiKP**	**12 39 54.6**	**+1.0**
BNI				*e*PKPab	**PKPab**	**12 40 07.4**	**+1.6**
BNI				LR	LR		
	comp=Z,10µm,21.0s						
BNI	**Bardonecchia**	**153.51**	**334**	*e*PKIKP	**PKPdf**	**12 39 45.4**	**-0.4**
BNI				*e*		12 39 54.6	
BNI				MLR	MLR		
	comp=Z,10µm,21.0s						
SSB	**Saint Sauveur**	**154.15**	**337**	*e*PKPdf	**PKPdf**	**12 39 46.2**	**-0.4**
SSB				*e*PKPbc	**sPKPdf**	**12 39 54.5**	**-0.1**
SSB				*e*PKPab	**PKPab**	**12 40 07.8**	**-0.5**
SSB				LR	LR		
	comp=Z,8µm,20.0s						
SSB	**Saint Sauveur**	**154.15**	**337**	*e*PKIKP	**PKPdf**	**12 39 46.2**	**-0.4**
SSB				*e*		12 39 54.5	
SSB				*e*		12 40 07.8	
SSB				MLR	MLR		
	comp=Z,8µm,20.0s						
VAE	**Valguarnera**	**154.24**	**312**	PKP	**PKPdf**	**12 39 46.5**	**-0.4**
	comp=Z,4.0nm,0.4s,baz=116,slow=3.7,SNR=3.1						
VAE				PKPab	**PKPab**	**12 40 09.9**	**+0.8**
	comp=Z,69nm,1.1s,baz=342,slow=3.2,SNR=7.9						
H07S1	**FLORES T-PHASE**	**154.80**	**42**	*e*PKPdf	**PKPdf**	**12 39 48.1**	**+0.4**
WDD	**Wied Dalam**	**154.93**	**308**	PFAKE		12 40 00.0	+3.4
WDD				LR	LR		
	comp=Z,13µm,20.0s						
CLTB	**Caltabellotta**	**155.01**	**313**	*e*PKPdf	**PKPdf**	**12 39 47.7**	**-0.3**
CLTB				*e*PKPbc	PKPbc	12 39 57.1	
CLTB				LR	LR		
	comp=Z,7µm,21.0s						
VSL	**Villasalto**	**156.29**	**321**	*e*PKPbc	PKPbc	12 39 58.6	
VSL				*e*PP	**PP**	**12 43 54.7**	**-0.3**
VSL				LR	LR		
	comp=Z,10µm,22.0s						
PGRA	**Graciosa**	**156.96**	**39**	*e*PKPdf	**PKPdf**	**12 39 51.0**	**+0.5**
PICO	**Pico**	**157.04**	**40**	*e*PKPdf	**PKPdf**	**12 39 51.1**	**+0.4**
KEST	**Kesra**	**158.62**	**314**	PKP	**PKPdf**	**12 39 52.7**	**0.0**
	comp=Z,10nm,1.1s,baz=138,slow=5.1,SNR=5.7						
CMLA	**Cha da Macela**	**159.24**	**38**	*e*PKPdf	**PKPdf**	**12 39 54.5**	**+1.2**
CMLA	**Cha da Macela**	**159.24**	**38**	PFAKE		12 40 00.0	+6.7
CMLA				LR	LR		
	comp=Z,13µm,21.0s						
CMAH	**Djebel Manchou**	**159.33**	**318**	P	**PKPdf**	**12 39 52.0**	**-1.6**
ABSA	**Djebel Ababsia**	**159.52**	**317**	P	**PKPdf**	**12 39 53.1**	**-0.7**
CAEH	**'Ain El Ouahch**	**159.58**	**319**	P	**PKPdf**	**12 39 52.7**	**-1.1**
CKFL	**Kef-Lekhel**	**159.91**	**319**	P	**PKPdf**	**12 39 54.3**	**0.0**
PSMN	**Pico do Norte,**	**160.03**	**39**	*e*PKPdf	**PKPdf**	**12 39 54.7**	**+0.4**
CASM	**Ain Smara**	**160.14**	**319**	P	**PKPdf**	**12 39 54.3**	**-0.2**
PGAV	**Gavieira, Arco**	**160.18**	**357**	*e*PKPab	**PKPab**	**12 40 34.2**	**-0.2**
PGAV	**Gavieira, Arco**	**160.18**	**357**	*e*LQ	LQ	13 25 34.7	
PBRG	**Braganca**	**160.23**	**354**	*e*PKPdf	**PKPdf**	**12 39 54.0**	**-0.4**
PBRG	**Braganca**	**160.23**	**354**	*e*PKPab	**PKPab**	**12 40 34.0**	**-0.6**
PBRG	**Braganca**	**160.23**	**354**	*e*LQ	LQ	13 26 25.3	
CTEI	**Djebel Teioual**	**160.32**	**318**	P	**PKPdf**	**12 39 54.5**	**-0.3**
DFRA	**Djebel Bou Aff**	**160.32**	**320**	P	**PKPdf**	**12 39 54.9**	**+0.1**
PCAB	**Cabril**	**160.42**	**356**	*e*PKPdf	**PKPdf**	**12 39 54.1**	**-0.5**
PCAB	**Cabril**	**160.42**	**356**	*e*PKPab	**PKPab**	**12 40 35.5**	**+0.1**
POLO	**Lamas de Olo**	**160.74**	**356**	*e*PKPdf	**PKPdf**	**12 39 55.6**	**+0.6**
POLO	**Lamas de Olo**	**160.74**	**356**	*e*PKPab	**PKPab**	**12 40 36.7**	**-0.2**
POLO	**Lamas de Olo**	**160.74**	**356**	*e*LQ	LQ	13 26 44.4	
POLO				*e*LR	LR	13 36 08.6	
	comp=Z,6µm,16.0s						
SET	**Setif**	**160.84**	**320**	P	**PKPdf**	**12 39 56.0**	**+0.7**
PVRL	**Vila Real**	**160.84**	**356**	*e*PKPdf	**PKPdf**	**12 39 55.5**	**+0.4**
PVRL	**Vila Real**	**160.84**	**356**	*e*PKPab	**PKPab**	**12 40 36.8**	**-0.4**
MVO	**Moncorvo**	**160.89**	**354**	*e*PKPdf	**PKPdf**	**12 39 54.0**	**-1.2**
MVO	**Moncorvo**	**160.89**	**354**	*e*PKPab	**PKPab**	**12 40 36.6**	**-0.9**
MVO	**Moncorvo**	**160.89**	**354**	*e*LQ	LQ	13 26 39.4	
MVO	**Moncorvo**	**160.89**	**354**	*e*LR	LR	13 39 15.2	
	comp=Z,12µm,18.0s						
CKHR	**Kef el Ahmar**	**160.89**	**320**	P	**PKPdf**	**12 39 55.3**	**-0.1**
PTO	**Porto**	**161.02**	**358**	*e*PKPab	**PKPab**	**12 40 38.5**	**+0.6**
PVIS	**Viseu**	**161.41**	**356**	*e*PKPdf	**PKPdf**	**12 39 55.1**	**-0.6**
PVIS	**Viseu**	**161.41**	**356**	*e*PKPab	**PKPab**	**12 40 39.7**	**0.0**
MTE	**Manteigas**	**161.69**	**355**	*e*PKPdf	**PKPdf**	**12 39 55.5**	**-0.5**
MTE	**Manteigas**	**161.69**	**355**	*e*LQ	LQ	13 26 54.9	
MTE				*e*LR	LR	13 36 20.7	
	comp=Z,10µm,16.0s						
MTE	**Manteigas**	**161.69**	**355**	*e*PKPdf	**PKPdf**	**12 39 55.8**	**-0.3**
MTE				*e*PKPab	**PKPab**	**12 40 41.1**	**+0.1**
MTE				LR	LR		
	comp=Z,11µm,19.0s						
ESDC	**Sonseca Array**	**161.85**	**346**	PKP	**PKPdf**	**12 39 55.8**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=18,slow=1.1,SNR=15						
ESDC				PKPab	**PKPab**	**12 40 41.8**	**+0.1**
	comp=Z,21nm,1.1s,baz=24,slow=3.2,SNR=12						
ESDC				PP	**PP**	**12 44 27.4**	**+2.9**
	comp=Z,4.6nm,0.9s,baz=14,slow=5.7,SNR=4.8						
PAB	**San Pablo**	**162.06**	**347**	*e*PKPdf	**PKPdf**	**12 39 55.7**	**-0.8**
PAB				*e*PKPab	**PKPab**	**12 40 42.4**	**-0.3**
PAB				*e*PP	**PP**	**12 44 20.6**	**-5.1**
PAB				LR	LR		
	comp=Z,14µm,19.0s						
PAB	**San Pablo**	**162.06**	**347**	*e*PKIKP	**PKPdf**	**12 39 55.7**	**-0.8**
PAB				*e*		12 40 42.4	
PAB				*e*		12 44 20.6	
PAB				MLR	MLR		
	comp=Z,14µm,19.0s						
PCAS	**Casmilo, Conde**	**162.10**	**357**	*e*PKPab	**PKPab**	**12 40 42.6**	**-0.1**
PCAS	**Casmilo, Conde**	**162.10**	**357**	*e*LQ	LQ	13 24 33.0	
PCAS	**Casmilo, Conde**	**162.10**	**357**	*e*LR	LR	13 34 35.9	
	comp=Z,9µm,18.0s						
EMHD	**Djebel Mahouad**	**162.22**	**325**	P	**PKPdf**	**12 39 56.3**	**-0.5**
PCBR	**Castelo Branco**	**162.24**	**355**	*e*PKPdf	**PKPdf**	**12 39 56.1**	**-0.4**
PCBR	**Castelo Branco**	**162.24**	**355**	*e*PKPab	**PKPab**	**12 40 43.5**	**+0.2**
PMRV	**Marv??o**	**162.65**	**354**	*e*PKPdf	**PKPdf**	**12 39 56.6**	**-0.4**
PMRV	**Marv??o**	**162.65**	**354**	*e*PKPab	**PKPab**	**12 40 44.8**	**-0.4**
PMRV	**Marv??o**	**162.65**	**354**	*e*LQ	LQ	13 26 52.1	
PMRV	**Marv??o**	**162.65**	**354**	*e*LR	LR	13 37 09.7	
	comp=Z,13µm,20.0s						
PMTG	**Montargil**	**163.07**	**356**	*e*PKPdf	**PKPdf**	**12 39 56.8**	**-0.5**
PMTG	**Montargil**	**163.07**	**356**	*e*PKPab	**PKPab**	**12 40 46.5**	**-0.5**
PMTG	**Montargil**	**163.07**	**356**	*e*LQ	LQ	13 25 58.0	
PMTG	**Montargil**	**163.07**	**356**	*e*LR	LR	13 37 18.1	
	comp=Z,13µm,16.0s						
PMAFR	**Mafra**	**163.22**	**359**	*e*PKPdf	**PKPdf**	**12 39 57.6**	**+0.1**
PMAFR	**Mafra**	**163.22**	**359**	*e*PKPab	**PKPab**	**12 40 46.2**	**-1.5**
PMAFR	**Mafra**	**163.22**	**359**	*e*LQ	LQ	13 27 11.2	
PESTR	**Estremoz**	**163.22**	**355**	*e*PKPdf	**PKPdf**	**12 39 57.2**	**-0.3**
PESTR	**Estremoz**	**163.22**	**355**	*e*PKPab	**PKPab**	**12 40 47.5**	**-0.2**
PESTR	**Estremoz**	**163.22**	**355**	*e*LQ	LQ	13 26 36.7	
PESTR	**Estremoz**	**163.22**	**355**	*e*LR	LR	13 37 32.2	
	comp=Z,11µm,18.0s						
PMST	**Lisbon--Monsan**	**163.44**	**359**	*e*PKPdf	**PKPdf**	**12 39 57.5**	**-0.2**
LIS	**Lisbon**	**163.46**	**359**	*e*P	**PKPdf**	**12 39 57.3**	**-0.4**
LIS				AMS	AMS	14 03 04.2	
	comp=Z,10µm,20.2s						
LIS	**Lisbon**	**163.46**	**359**	*e*PKIKP	**PKPdf**	**12 39 57.3**	**-0.4**
EVO	**Evora**	**163.59**	**356**	*e*PKPdf	**PKPdf**	**12 39 57.2**	**-0.7**
EVO	**Evora**	**163.59**	**356**	*e*PKPdf	**PKPdf**	**12 39 57.7**	**-0.2**
EVO	**Evora**	**163.59**	**356**	*e*PKPab	**PKPab**	**12 40 48.7**	**-0.6**
LIC	**Lamto**	**163.59**	**196**	*e*PKIKP	**PKPdf**	**12 39 57.7**	**-0.9**
	comp=Z,5.1nm,0.3s						
KIC	**Kosan Boka**	**163.64**	**197**	*e*PKIKP	**PKPdf**	**12 39 57.2**	**-1.5**
	comp=Z,1.0nm,0.3s						
ETRT	**Tiaret**	**163.70**	**327**	P	**PKPdf**	**12 39 58.3**	**+0.1**
PBAR	**Barrancos**	**163.85**	**353**	*e*PKPdf	**PKPdf**	**12 39 58.0**	**-0.1**
PBAR	**Barrancos**	**163.85**	**353**	*e*PKPab	**PKPab**	**12 40 50.3**	**-0.1**
PBAR	**Barrancos**	**163.85**	**353**	*e*LQ	LQ	13 27 32.7	
PBAR	**Barrancos**	**163.85**	**353**	*e*LR	LR	13 37 56.8	
	comp=Z,24µm,20.0s						
TIC	**Toumodi**	**163.99**	**197**	*e*PKIKP	**PKPdf**	**12 39 57.7**	**-1.3**
PNCL	**Nicolau / Gran**	**164.04**	**357**	*e*PKPdf	**PKPdf**	**12 39 58.1**	**-0.2**
PNCL	**Nicolau / Gran**	**164.04**	**357**	*e*LQ	LQ	13 27 46.2	
PNCL				*e*LR	LR	13 37 41.3	
	comp=Z,10µm,18.0s						
MESJ	**Messejana**	**164.29**	**356**	*e*P	**PKPdf**	**12 39 58.0**	**-0.5**
MESJ				AMS	AMS	14 02 08.5	
	comp=Z,14µm,13.4s						
MESJ	**Messejana**	**164.29**	**356**	*e*P	**PKPdf**	**12 39 58.0**	**-0.5**
MESJ	**Messejana**	**164.29**	**356**	A	A	14 02 08.5	
	comp=Z,14µm,13.4s						
MESJ	**Messejana**	**164.29**	**356**	*e*PKIKP	**PKPdf**	**12 39 58.0**	**-0.5**
PCVE	**Castro Verde**	**164.48**	**355**	*e*PKPdf	**PKPdf**	**12 39 58.0**	**-0.7**
PCVE	**Castro Verde**	**164.48**	**355**	*e*PKPab	**PKPab**	**12 40 53.5**	**+0.3**
PCVE	**Castro Verde**	**164.48**	**355**	*e*LQ	LQ	13 28 24.9	
PCVE				*e*LR	LR	13 37 36.3	
	comp=Z,16µm,18.0s						
PTEO	**Sao Teotonio**	**164.61**	**357**	*e*PKPdf	**PKPdf**	**12 39 58.7**	**-0.1**
PTEO	**Sao Teotonio**	**164.61**	**357**	*e*PKPab	**PKPab**	**12 40 53.6**	**-0.2**
PVAQ	**Vaqueiros**	**164.68**	**354**	*e*PKPdf	**PKPdf**	**12 39 58.8**	**-0.1**
PVAQ	**Vaqueiros**	**164.68**	**354**	*e*PKPab	**PKPab**	**12 40 54.5**	**+0.4**
PVAQ	**Vaqueiros**	**164.68**	**354**	*e*LQ	LQ	13 28 55.8	
PVAQ				*e*LR	LR	13 37 50.5	
	comp=Z,12µm,20.0s						
MORF	**Marmelete**	**164.84**	**357**	*e*P	**PKPdf**	**12 39 58.4**	**-0.7**
MORF				AMS	AMS	14 13 40.5	
	comp=Z,13µm,19.9s						
MORF	**Marmelete**	**164.84**	**357**	*e*PKPdf	**PKPdf**	**12 39 59.1**	**0.0**
MORF	**Marmelete**	**164.84**	**357**	*e*PKPab	**PKPab**	**12 40 54.8**	**-0.1**
MORF	**Marmelete**	**164.84**	**357**	*e*LQ	LQ	13 28 57.5	
MORF	**Marmelete**	**164.84**	**357**	*e*PKIKP	**PKPdf**	**12 39 58.4**	**-0.7**
PBDV	**Barranco-do-Ve**	**164.86**	**355**	*e*PKPdf	**PKPdf**	**12 39 59.4**	**+0.3**
PBDV	**Barranco-do-Ve**	**164.86**	**355**	*e*PKPab	**PKPab**	**12 40 55.5**	**+0.6**
PBDV	**Barranco-do-Ve**	**164.86**	**355**	*e*LQ	LQ	13 27 59.1	
PBDV				*e*LR	LR	13 37 25.9	
	comp=Z,12µm,18.0s						
SACV	**Santiago Islan**	**164.95**	**116**	PFAKE		12 40 10.0	+10
SACV				LR	LR		
	comp=Z,6µm,20.0s						
PFVI	**Vila Bisbo**	**165.03**	**358**	*e*PKPdf	**PKPdf**	**12 39 59.3**	**+0.1**
PFVI	**Vila Bisbo**	**165.03**	**358**	*e*PKPab	**PKPab**	**12 40 55.3**	**-0.3**
PFVI	**Vila Bisbo**	**165.03**	**358**	*e*LQ	LQ	13 28 09.4	
PFVI	**Vila Bisbo**	**165.03**	**358**	*e*LR	LR	13 38 12.3	
	comp=Z,12µm,18.0s						
TAM	**Tamanrasset**	**165.99**	**276**	*e*PKPdf	**PKPdf**	**12 40 00.6**	**0.0**
TAM				*e*PKPab	**PKPab**	**12 41 01.5**	**+0.7**
TAM				LR	LR		
	comp=Z,26µm,20.0s						
TAM	**Tamanrasset**	**165.99**	**276**	*e*PKIKP	**PKPdf**	**12 40 00.6**	**0.0**
TAM				*e*		12 41 01.5	
TAM				MLR	MLR		
	comp=Z,26µm,20.0s						
TORD	**Torodi Ar. Bea**	**166.01**	**232**	PKP	**PKPdf**	**12 40 00.6**	**0.0**
	comp=Z,58nm,1.1s,baz=40,slow=0.3,SNR=165						
TORD				PKPab	**PKPab**	**12 41 01.9**	**+1.2**
	comp=Z,6.1nm,0.7s,baz=107,slow=2.1,SNR=4.3						
TORD				PP	PP	12 44 58.0	+10
	comp=Z,22nm,1.2s,baz=139,slow=5.8,SNR=4.3						
PMOZ	**Porto Moniz, M**	**167.40**	**31**	*e*PKPdf	**PKPdf**	**12 40 02.5**	**+1.2**
PMOZ	**Porto Moniz, M**	**167.40**	**31**	*e*LR	LR	13 38 06.8	
	comp=Z,10µm,18.0s						
PMPS	**Porto Santo**	**167.59**	**27**	*e*PKPdf	**PKPdf**	**12 40 02.5**	**+1.2**
PMAR	**Madeira**	**167.61**	**30**	*e*PKPdf	**PKPdf**	**12 40 01.5**	**-0.1**
FUL	**Funchal**	**167.69**	**30**	*e*PKPdf	**PKPdf**	**12 40 01.5**	**+0.1**
RTC	**Rabat Centre**	**167.93**	**349**	PFAKE		12 40 10.0	+8.5
RTC				LR	LR		
	comp=Z,55µm,20.0s						
BBTS	**Babate**	**170.09**	**137**	PKP	**PKPdf**	**12 40 04.5**	**+1.1**
	comp=Z,200nm,1.2s,baz=306,slow=0.7,SNR=13						
KOWA	**Kowa**	**170.74**	**216**	PKP	**PKPdf**	**12 40 03.9**	**+0.1**
	comp=Z,197nm,1.3s,baz=118,slow=0.3,SNR=69						
KOWA				PKPab	**PKPab**	**12 41 22.7**	**+1.2**
	comp=Z,39nm,1.0s,baz=149,slow=5.2,SNR=5.7						
KOWA				PP	**PP**	**12 45 12.2**	**+1.2**
	comp=Z,24nm,1.2s,baz=134,slow=4.1,SNR=3.8						

MAN 03 12:32:57, 13°.61N×120°.53E, h44km, mb4.0, ML2.7, MS2.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**295**	*e*P	Pn	12 33 07.9	+2.3
LUBP				*e*S	Sn	12 33 16.0	+4.3
PGP	**Puerto Galera**	**0.43**	**104**	⥣*i*P	Pn	12 33 09.2	+2.1
PGP				*i* S	Sn	12 33 17.9	+3.7
SJMP	**San Jose**	**1.28**	**153**	*e*P	Pn	12 33 20.6	+2.1
SJMP				*e*S	Sn	12 33 37.8	+3.4
BUSP	**Coron**	**1.62**	**191**	*e*P	Pn	12 33 24.2	+1.0
BUSP				*e*S	Sn	12 33 44.5	+1.6

*ISCJB **03** 12:32:58.9±1.0, 22°.3S±0°.2×170°.3E±0°.1, h10km, mb4.1/9, Error ellipse: s-maj=26.8km s-min=13.4km az=4.2*
*IDC **03** 12:32:58.2±1.2, 22°.34S×170°.39E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.0/45, mbtmp4.2/10, ML4.0/1, Error ellipse: s-maj=32.8km s-min=27.2km az=146.0*
ISC 03 12:33:00.5±1.0**, 22°.4S**±0°.2×**170°.3E**±0°.1**, h10km, n13, σ0s.82**/14**, mb4.1**/9**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.54**	**274**	Pn	**Pn**	**12 33 55.5**	**-0.3**
	12nm,0.3s,baz=113,slow=12,SNR=14						
DZM				Sn	**Sn**	**12 34 37.5**	**-0.3**
	27nm,0.3s,baz=15,slow=18,SNR=14						
PMG	**Port Moresby**	**25.62**	**296**	P	**P**	**12 38 31.2**	**+0.8**
	7.2nm,0.8s,baz=48,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**27.15**	**243**	P	**P**	**12 38 45.0**	**+0.9**
	3.9nm,0.7s,baz=78,slow=13,SNR=8.2						
ASAR	**Alice Springs**	**33.43**	**261**	P	**P**	**12 39 39.9**	**0.0**
	1.1nm,0.6s,baz=91,slow=9.2,SNR=17						
WRA	**Warramunga Arr**	**33.54**	**267**	P	**P**	**12 39 39.9**	**-0.9**
	1.4nm,0.6s,baz=70,slow=7.2,SNR=8.8						
NWAO	**Narrogin (SRO)**	**47.71**	**245**	P	**P**	**12 41 38.0**	**+0.3**
	9.2nm,0.8s,baz=316,slow=11						
KSRS	**Korea Array**	**71.60**	**326**	P	**P**	**12 44 21.3**	**-0.7**
	1.4nm,0.8s,baz=145,slow=3.9,SNR=4.3						
CMAR	**Chiang Mai Arr**	**80.64**	**294**	P	**P**	**12 45 14.8**	**+0.7**
	0.3nm,0.4s,baz=120,slow=3.6,SNR=5.7						
SNAA	**Sanae**	**86.11**	**182**	P	**P**	**12 45 40.6**	**-0.8**
	1.5nm,0.8s,baz=243,slow=6.8,SNR=5.0						
SONM	**Songino Array**	**90.26**	**323**	P	**P**	**12 46 01.4**	**-0.1**
	1.0nm,0.8s,baz=128,slow=7.8,SNR=4.1						
NOA	**NORSAR Array B**	**138.68**	**345**	PKP	**PKPdf**	**12 52 25.8**	**-0.6**
	1.0nm,0.9s,baz=28,slow=3.5,SNR=2.7						
EKA	**Eskdalemuir Ar**	**146.69**	**353**	PKPbc	**PKPdf**	**12 52 40.5**	**-0.2**
	1.2nm,0.7s,baz=0.8,slow=2.4,SNR=7.1						
GERES	**GERESS Array B**	**147.66**	**331**	PKPbc	**PKPdf**	**12 52 44.3**	**+1.7**
	0.7nm,0.8s,baz=25,slow=3.2,SNR=3.8						

IDC 03 12:38:47.4±4.7**, 21°.01S**×**169°.87E, h0km, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.6**/43**, mbtmp3.6**/4**, ML3.5**/1**, Error ellipse: s-maj=122.8km s-min=65.1km az=154.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.36**	**251**	Pn	Pn	12 39 41.5	+0.2
	4.8nm,0.3s,baz=111,slow=7.4,SNR=11						
DZM				Sn	Sn	12 40 22.3	+0.4
	3.6nm,0.3s,baz=126,slow=19,SNR=6.4						
STKA	**Stephens Creek**	**27.46**	**241**	P	P	12 44 34.8	-0.5
	0.6nm,0.5s,baz=109,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**33.26**	**265**	P	P	12 45 25.5	-1.2
	0.5nm,1.0s,baz=99,slow=8.3,SNR=2.7						
ASAR	**Alice Springs**	**33.32**	**259**	P	P	12 45 28.8	+1.6
	0.8nm,0.8s,baz=85,slow=9.4,SNR=7.2						

*IDC **03** 12:41:27.1±2.4, 37°.21N×142°.57E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.2/74, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=50.2km s-min=33.0km az=86.0*
*ISCJB **03** 12:41:28.4±1.0, 37°.24N±0°.07×142°.31E±0°.07, h19km, mb3.4/2, Error ellipse: s-maj=10.1km s-min=7.8km az=177.5*
*JMA **03** 12:41:28.5±0.3, 37°.23N×142°.29E, h23km±5km, M3.5*
ISC 03 12:41:30.3±1.4**, 37°.22N**±0°.07×**142°.11E**±0°.07**, h19km, n15, σ1s.14**/18**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.00**	**279**	*e*S	**Sn**	**12 42 03.4**	**+0.5**
JMM	**Marumori**	**1.23**	**302**	P	**Pb**	**12 41 52.2**	**-0.7**
JMM				*e*S	**Sn**	**12 42 08.7**	**+0.1**
JIO	**Ouri**	**1.38**	**334**	P	**Pn**	**12 41 53.3**	**-1.1**
JFT	**Otama**	**1.45**	**283**	P	**Pb**	**12 41 56.5**	**-0.1**
JFT				*e*S	**Sg**	**12 42 16.3**	**-0.8**
JOU	**Okura**	**1.62**	**315**	P	**Pb**	**12 41 58.4**	**-1.2**
JOU				*e*S	**Sb**	**12 42 19.9**	**+0.2**
JMK	**Ichinoseki**	**1.87**	**338**	P	**Pn**	**12 42 00.9**	**-0.3**
JYS	**Shirataka**	**1.91**	**302**	*e*S	**Sb**	**12 42 28.6**	**+0.7**
JFY	**Yanaizu**	**1.93**	**276**	*e*S	**Sb**	**12 42 28.5**	**0.0**
JYK	**Kaneyama**	**2.19**	**321**	P	**Pn**	**12 42 06.0**	**+0.3**
JAG	**Ashikaga**	**2.28**	**250**	P	**Pn**	**12 42 07.3**	**+0.5**
JOM	**Ohasama**	**2.34**	**344**	P	**Pn**	**12 42 07.6**	**-0.2**
MJAR	**Matsushiro Arr**	**3.20**	**259**	Pn	**Pb**	**12 42 23.6**	**-2.9**
	0.9nm,0.3s,baz=91,slow=15,SNR=11						
ASAJ	**Asahikawa**	**6.90**	**3**	Pn	**Pn**	**12 43 09.6**	**-0.8**
	0.4nm,0.3s,baz=264,slow=19,SNR=5.8						
SONM	**Songino Array**	**28.15**	**304**	P	**P**	**12 47 23.6**	**+2.3**
	0.5nm,0.8s,baz=100,slow=7.5,SNR=2.2						
WRA	**Warramunga Arr**	**57.32**	**189**	P	**P**	**12 51 17.1**	**+0.1**
	0.2nm,0.4s,baz=6.0,slow=7.6,SNR=1.5						

*ISCJB **03** 12:52:40.2±0.4, 25°.62N±0°.09×124°.45E±0°.06, h156km±7km, mb3.4/7, Error ellipse: s-maj=16.0km s-min=5.6km az=154.4*
*JMA **03** 12:52:41.8±0.2, 25°.59N×124°.44E, h148km, M3.5*
*IDC **03** 12:52:48.6±5.1, 25°.61N×124°.24E, h222km±51km, mb3.1/7, mb1 3.2/8, mb1mx3.0/65, mbtmp3.6/8, Error ellipse: s-maj=41.2km s-min=17.6km az=67.0*
ISC 03 12:52:41.1±0.8**, 25°.64N**±0°.10×**124°.45E**±0°.06**, h151km**±10km**, n23, σ0s.61**/37**, mb3.5**/7**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.02**	**134**	P	**Pn**	**12 53 06.8**	**+0.7**
JIKM				*e*S	**Sn**	**12 53 25.4**	**+0.3**
JTJ	**Tarama**	**1.02**	**167**	P	**Pn**	**12 53 06.5**	**+0.4**
JTJ				S	**Sn**	**12 53 25.0**	**-0.2**
JIRB	**Irabujima**	**1.04**	**141**	P	**Pn**	**12 53 06.6**	**+0.3**
JIRB				S	**Sn**	**12 53 24.7**	**-0.8**
JISG	**Ishigakijimahi**	**1.06**	**187**	P	**Pn**	**12 53 06.6**	**+0.2**
JISG				S	**Sn**	**12 53 25.4**	**-0.3**
JMJ	**Miyako jima 2**	**1.12**	**137**	P	**Pn**	**12 53 07.7**	**+0.7**
JMJ				S	**Sn**	**12 53 26.8**	**0.0**
JOGS	**Gusukube**	**1.24**	**135**	P	**Pn**	**12 53 09.0**	**+0.9**
JOGS				S	**Sn**	**12 53 28.8**	**+0.2**
JIJ	**Ishigaki jima**	**1.30**	**192**	P	**Pn**	**12 53 08.4**	**-0.3**
JIJ				S	**Sn**	**12 53 28.3**	**-1.5**
JKRS	**Kuro-shima**	**1.45**	**196**	P	**Pn**	**12 53 10.2**	**0.0**
JKRS				S	**Sn**	**12 53 31.9**	**-0.6**
IRIF	**Iriomote-Funau**	**1.45**	**207**	P	**Pn**	**12 53 10.1**	**-0.1**
IRIF				S	**Sn**	**12 53 32.0**	**-0.5**
HATJ	**Hateruma jima**	**1.68**	**200**	P	**Pn**	**12 53 12.6**	**-0.1**
HATJ				S	**Sn**	**12 53 36.2**	**-0.7**
YOJ	**Yonaguni jima**	**1.75**	**228**	P	**Pn**	**12 53 14.2**	**+0.8**
YOJ				S	**Sn**	**12 53 38.3**	**+0.1**
JYNG	**Yonagunijimaku**	**1.80**	**229**	P	**Pn**	**12 53 15.5**	**+1.5**
JYNG				*e*S	**Sn**	**12 53 39.2**	**0.0**
JKE	**Kume jima 2**	**2.21**	**72**	P	**Pn**	**12 53 19.0**	**+0.2**
JAGN	**Aguni-jima**	**2.69**	**69**	P	**Pn**	**12 53 24.5**	**0.0**
JAGN				*e*S	**Sn**	**12 53 57.0**	**-1.0**
JJT2	**Tamagusuku 2**	**3.02**	**80**	P	**Pn**	**12 53 29.2**	**+0.5**
JJT2				*e*S	**Sn**	**12 54 05.5**	**0.0**
KSRS	**Korea Array**	**12.14**	**13**	P	**P**	**12 55 35.4**	**0.0**
	0.2nm,0.3s,baz=198,slow=11,SNR=5.1						
SONM	**Songino Array**	**26.33**	**332**	P	**P**	**12 58 03.6**	**+0.7**
	0.2nm,0.7s,baz=133,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**39.42**	**313**	P	**P**	**12 59 56.3**	**0.0**
	0.8nm,0.6s,baz=96,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**40.70**	**325**	P	**P**	**13 00 06.0**	**-0.7**
	0.5nm,0.4s,baz=110,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**46.32**	**167**	P	**P**	**13 00 52.4**	**+0.4**
	0.4nm,0.8s,baz=351,slow=9.7,SNR=2.3						
ARCES	**ARCESS Array B**	**69.30**	**338**	P	**P**	**13 03 31.3**	**-0.3**
	2.2nm,0.9s,baz=69,slow=10.0,SNR=2.9						
FINES	**FINESS Array B**	**71.68**	**330**	P	**P**	**13 03 45.6**	**-0.6**
	1.0nm,0.8s,baz=65,slow=7.8,SNR=3.0						
YKA	**Yellowknife Ar**	**80.47**	**24**	P	**P**	**13 04 36.0**	**+0.2**
	0.3nm,0.8s,baz=308,slow=5.1,SNR=4.2						

MEX 03 12:52:41.0±0.6**, 14°.49N**×**93°.10W, h145km**±17km**, MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.21**	**355**	*e*P	Pn	12 53 06.3	-0.9
PCIG				*i* S	Sn	12 53 25.1	-2.2
CCIG	**Comitan**	**2.01**	**27**	*i* P	Pn	12 53 14.2	-1.9
CCIG				*i* S	Sn	12 53 41.3	-1.8
TGIG		**2.27**	**360**	*i* P	Pn	12 53 17.9	-1.3
TGIG				*i* S	Sn	12 53 47.2	-1.4

*ISCJB **03** 13:03:25.4±0.7, 44°.77N±0°.06×148°.49E±0°.10, h117km±7km, mb3.4/7, Error ellipse: s-maj=13.4km s-min=8.1km az=40.3*
*MOS **03** 13:03:25.1±2.7, 44°.75N×148°.37E, h114km, mb3.9/3, Error ellipse: s-maj=17.6km s-min=10.8km az=51.2*
*SKHL **03** 13:03:25.6±0.1, 44°.66N×148°.63E, h110km±3km, mb4.7/3, msh5.5/3*
*JMA **03** 13:03:25.5±0.5, 44°.44N×148°.43E, h0km*
*IDC **03** 13:03:30.1±2.8, 45°.23N×148°.01E, h123km±25km, mb3.1/7,*

mb1 3.3/10, mb1mx3.1/64, mbtmp3.5/10, Error ellipse: s-maj=42.6km s-min=23.0km az=163.0

ISC 03 13:03:26.2±0.9**, 44°.78N**±0°.07×**148°.52E**±0°.08**, h99**^{km}±8^{km}**, n40,** σ1^{s}**43**/54**, mb3.2**/7**, 3C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.65	314	i P	Pn	13 03 44.4	+1.4
KUR				AMB	AMB	13 03 44.8	
	99nm,0.3s						
KUR				AMB	AMB	13 03 44.8	
	74nm,0.3s						
KUR				AMB	AMB	13 03 44.8	
	378nm,0.3s						
KUR				i S	Sn	13 03 58.6	+3.0
KUR				A	A	13 03 58.9	
	990nm,0.4s						
KUR				A	A	13 03 58.9	
	390nm,0.4s						
KUR	Kuril'sk	0.65	314	i PN	Pn	13 03 41.5	-1.5
KUR				i S	Sn	13 03 53.1	-2.5
SHO	Shikotan	1.52	234	eP	Pn	13 03 51.4	-1.2
SHO				AMB	AMB	13 03 52.4	
	65nm,0.2s						
SHO				i S	Sn	13 04 10.7	-1.9
SHO				A	A	13 04 11.9	
	123nm,0.3s						
SHO				A	A	13 04 11.9	
	700nm,0.3s						
YUK	Yuzh-Kuril'sk	2.05	250	eP	Pn	13 04 00.4	+1.1
YUK				AMB	AMB	13 04 02.5	
	27nm,0.2s						
YUK				AMB	AMB	13 04 02.5	
	33nm,0.2s						
YUK				AMB	AMB	13 04 02.5	
	86nm,0.2s						
YUK				eS	Sn	13 04 26.7	+2.1
YUK				A	A	13 04 26.9	
	312nm,0.4s						
YUK				A	A	13 04 26.9	
	475nm,0.4s						
YUK	Yuzh-Kuril'sk	2.05	250	ePN	Pn	13 04 00.4	+1.1
YUK				eS	Sn	13 04 25.7	+1.1
YUK				pmax	pmax		
	comp=N,27nm,0.2s						
YUK				pmax	pmax		
	comp=E,33nm,0.2s						
YUK				pmax	pmax		
	comp=Z,86nm,0.2s						
YUK				smax	smax		
	comp=N,312nm,0.3s						
YUK				smax	smax		
	comp=E,474nm,0.4s						
LAGR	Lagunnoye	2.09	251	eP	Pn	13 04 00.9	+1.1
LAGR				i S	Sn	13 04 26.5	+0.9
LAGR	Lagunnoye	2.09	251	ePN	Pn	13 04 00.9	+1.1
LAGR				i S	Sn	13 04 26.5	+0.9
GRPR	Tuman	2.12	249	eP	Pn	13 04 00.6	+0.3
GRPR				eS	Sn	13 04 25.8	-0.6
GRPR	Tuman	2.12	249	ePN	Pn	13 04 00.6	+0.3
GRPR				eS	Sn	13 04 25.8	-0.6
GLVR	Golovnino	2.40	245	eP	Pn	13 04 04.8	+1.0
GLVR				eS	Sn	13 04 33.3	+0.6
GLVR	Golovnino	2.40	245	⇑i PN	Pn	13 04 04.8	+1.0
GLVR				eS	Sn	13 04 33.3	+0.6
NEM2	Nemuro 2	2.45	236	P	Pn	13 04 04.1	-0.5
NEM2				eS	Sn	13 04 32.8	-1.3
JRA	Rausu	2.58	252	P	Pn	13 04 07.3	+1.0
JRA				eS	Sn	13 04 38.1	+1.0
JNK	Nakash	2.99	248	P	Pn	13 04 12.8	+1.1
JNK				eS	Sn	13 04 48.0	+1.2
JAK	Akkeshi	3.29	238	P	Pn	13 04 15.9	+0.1
JTKR	Abashiri--Toko	3.41	258	P	Pn	13 04 17.1	-0.2
JAR	Ashorobuto	3.73	248	P	Pn	13 04 23.4	+1.7
JKK2	Kamakawa 2	4.24	260	P	Pn	13 04 29.1	+0.5
JKA	Kamikawa-asahi	4.29	263	eP	Pn	13 04 29.8	+0.6
ASAJ	Asahikawa	4.29	263	P	Pn	13 04 29.8	+0.5
	comp=E,0.8nm,0.3s,baz=77,slow=10.0,SNR=12						
JCH	Churui	4.32	242	P	Pn	13 04 30.7	+1.0
YSS	Yuzh-Sakhalins	4.58	300	⇑i PN	Pn	13 04 32.1	-0.9
YSS				eS	Sn	13 05 25.9	+0.9
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				pmax	pmax		
	comp=N,10.0nm,0.6s						
YSS				pmax	pmax		
	comp=E,10.0nm,0.6s						
ERM	Erimo	4.79	237	cePN	Pn	13 04 28.3	-7.7
PETK	Petropavlovsk-	10.28	33	P	Pn	13 05 51.5	+1.0
	comp=E,0.3nm,0.3s,baz=183,slow=7.0,SNR=7.4						
SEY	Seymchan	18.32	6	P	Pn	13 07 31.9	-1.4
	comp=E,0.1nm,0.3s,baz=163,slow=19,SNR=4.3						
SEY	Seymchan	18.32	6	eP	Pn	13 07 32.0	-1.4
SEY	Seymchan	18.32	6	P	Pn	13 07 32.0	-1.4
ILAR	Eielson Array	40.07	37	P	P	13 10 51.8	+0.5
	comp=E,0.1nm,0.5s,baz=278,slow=9.9,SNR=6.0						
ILAR	Eielson Array	40.07	37	eP	P	13 10 53.4	+2.1
ILAR	Eielson Array	40.07	37	eP	P	13 10 53.4	+2.1
INK	Inuvik	45.01	31	P	P	13 11 31.3	+0.1
	comp=E,0.4nm,0.5s,baz=313,slow=12,SNR=6.8						
INK	Inuvik	45.01	31	P	P	13 11 31.3	+0.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	54.39	35	P	P	13 12 41.2	-1.1
	comp=Z,0.1nm,0.5s,baz=300,slow=7.0,SNR=3.3						
FINES	FINESS Array B	64.40	333	P	P	13 13 48.7	-2.4
	comp=Z,1.8nm,1.0s,baz=345,slow=5.9,SNR=5.3						
FINES	FINESS Array B	64.40	333	eP	P	13 13 49.6	-1.5
FINES	FINESS Array B	64.40	333	eP	P	13 13 49.6	-1.5
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	Warramunga Arr	65.70	195	i P	P	13 13 57.5	-2.5
NVAR	Mina Array Bea	66.20	59	P	P	13 14 05.5	+2.1
	comp=Z,0.1nm,0.3s,baz=287,slow=9.1,SNR=2.7						
HFS	Hagfors	69.11	338	P	P	13 14 19.0	-2.1
	comp=Z,2.4nm,0.9s,baz=55,slow=5.5,SNR=2.8						
TXAR	Lajitas Array	81.26	57	P	P	13 15 34.0	+2.6
	comp=Z,0.2nm,0.5s,baz=304,slow=4.9,SNR=3.6						

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*ISCJB **03** 13:03:52.2±0.5, 40°.17N±0°.03×141°.73E±0°.07, h66^{km}±3^{km}, mb3.5/15, Error ellipse: s-maj=9.4km s-min=5.3km az=8.0*

*IDC **03** 13:03:52.8±0.7, 40°.06N×141°.53E, h58^{km}±7^{km}, mb3.4/15, mb1 3.6/16, mb1mx3.4/65, mbtmp3.7/16, Error ellipse: s-maj=19.6km s-min=14.2km az=89.0*

*JMA **03** 13:03:53.4, 40°.15N×141°.70E, h59^{km}±1^{km}, M3.8 Broadband fault plane solution: P waves. NP1: ϕ_s93.00000°, δ49.00000°, λ98.00000°. NP2: ϕ_s262.00000°, δ41.00000°, λ81.00000°. Principal axes: T Plg83.0000°, Azm54.0000°; N Plg6.0000°, Azm268.0000°; P Plg4.0000°, Azm178.0000°;*

JMA Felt II J1.

ISC 03 13:03:53.1±0.6**, 40°.17N**±0°.04×**141°.71E**±0°.06**, h58**^{km}±5^{km}**, n36,** σ1^{s}**19**/43**, mb3.7**/15**, 4C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JANG	Nango	0.25	325	⇑P	Pn	13 04 03.1	+0.5
JANG				S	Sn	13 04 10.1	+0.6
JTH	Tanohata	0.26	152	⇑P	Pn	13 04 03.1	+0.5
JTH				S	Sn	13 04 10.2	+0.7
JKZ	Kuzumaki	0.34	238	⇑P	Pn	13 04 03.8	+0.5
JKZ				S	Sn	13 04 11.1	+0.4
JOM	Ohasama	0.76	205	⇓P	Pn	13 04 08.0	+0.1
JOM				eS	Sn	13 04 18.5	-0.3
JTM	Tenmabayashi	0.79	322	⇓P	Pn	13 04 08.7	+0.4
JTM				S	Sn	13 04 19.8	+0.4
JAH	Hinai	0.82	272	⇑P	Pn	13 04 08.8	+0.1
JAH				S	Sn	13 04 20.9	+0.8
JRG	Rokugo	1.13	227	⇓P	Pn	13 04 13.1	+0.4
JRG				S	Sn	13 04 28.1	+0.8
JMK	Ichinoseki	1.27	197	⇓P	Pn	13 04 14.6	0.0
JOT	Ohata	1.31	338	⇓P	Pn	13 04 15.5	+0.3
JOT				eS	Sn	13 04 32.6	+0.9
ASAJ	Asahikawa	4.00	9	P	Pn	13 04 53.0	+1.1
	8.5nm,0.3s,baz=232,slow=12,SNR=34						
ASAJ				S	Sn	13 05 36.7	-0.7
	0.8nm,0.3s,baz=114,slow=20,SNR=1.2						
MAT	Matsushiro	4.54	218	P	Pn	13 05 01.1	+1.8
MAT				eS	Sn	13 05 55.5	+4.7
MJAR	Matsushiro Arr	4.54	218	P	Pn	13 05 00.0	+0.7
	3.2nm,0.3s,baz=23,slow=16,SNR=39						
USRK	Ussuriysk Ar.	8.26	302	P	Pn	13 05 53.0	+2.8
	0.2nm,0.3s,baz=123,slow=12,SNR=3.7						
KSRS	Korea Array	11.09	260	P	Pn	13 06 34.8	+6.0
	0.2nm,0.3s,baz=67,slow=14,SNR=3.3						
SEY	Seymchan	23.68	12	P	P	13 09 00.6	+1.5
	0.6nm,0.5s,baz=252,slow=20,SNR=5.8						
SONM	Songino Array	26.35	299	P	P	13 09 23.4	-0.4
	0.3nm,0.5s,baz=87,slow=7.9,SNR=3.3						
H11N2	WAKE ISLAND Hy	29.68	126	T	T	13 40 38.5	
	baz=318,slow=75,SNR=214						
H11N1	WAKE ISLAND Hy	29.69	126	T	T	13 40 38.2	
	baz=318,slow=75,SNR=178						
H11N3	WAKE ISLAND Hy	29.69	126	T	T	13 40 33.4	
	baz=318,slow=75,SNR=209						
H11S1	WAKE ISLAND Hy	30.48	128	T	T	13 41 37.4	
	baz=312,slow=74						
H11S3	WAKE ISLAND Hy	30.48	128	T	T	13 41 38.1	
	baz=312,slow=74						
H11S2	WAKE ISLAND Hy	30.50	128	T	T	13 41 42.0	
	baz=312						
ZALV	Zalesovo Beam	40.03	310	P	P	13 11 22.0	-0.2
	1.6nm,0.5s,baz=98,slow=7.3,SNR=11						
ZALV				PcP	PcP	13 13 25.5	-0.5
	0.4nm,0.4s,baz=38,slow=2.6,SNR=2.9						
MKAR	Makanchi Array	42.72	299	P	P	13 11 43.9	-0.4
	0.7nm,0.7s,baz=83,slow=9.8,SNR=8.4						
ILAR	Eielson Array	46.75	34	P	P	13 12 17.4	+1.2
	0.4nm,0.6s,baz=260,slow=5.6,SNR=7.3						
BVAR	Borovoye Array	48.68	310	P	P	13 12 31.0	-0.2
	0.9nm,0.5s,baz=80,slow=7.6,SNR=8.2						
BVAR				PcP	PcP	13 13 55.7	0.0
	0.3nm,0.4s,baz=64,slow=3.4,SNR=2.5						
WRA	Warramunga Arr	60.19	188	P	P	13 13 53.5	-1.5
	0.6nm,0.6s,baz=6.8,slow=6.9,SNR=6.8						
WRA				pP	pP	13 14 09.3	-1.2
	1.8nm,0.9s,baz=5.3,slow=7.0,SNR=7.6						
YKA	Yellowknife Ar	61.00	31	P	P	13 14 00.9	+0.9
	0.2nm,0.6s,baz=301,slow=6.6,SNR=4.6						
ASAR	Alice Springs	63.92	188	P	P	13 14 19.1	-0.8
	0.4nm,0.4s,baz=1.8,slow=6.3,SNR=11						
ASAR				pP	pP	13 14 34.8	-0.8
	0.8nm,0.7s,baz=12,slow=5.7,SNR=7.0						
FINES	FINESS Array B	66.16	332	P	P	13 14 33.6	-0.5
	0.9nm,0.8s,baz=30,slow=11,SNR=3.7						
FINES				pP	pP	13 14 49.5	-0.3
	0.7nm,0.6s,baz=32,slow=8.2,SNR=1.9						
HFS	Hagfors	71.34	335	P	P	13 15 06.0	-0.3
	1.4nm,0.7s,baz=29,slow=3.3,SNR=5.6						
NOA	NORSAR Array B	71.39	337	P	P	13 15 06.3	-0.3
	0.9nm,0.7s,baz=67,slow=8.1,SNR=3.3						
AKASG	Malin Array Be	71.97	322	P	P	13 15 08.8	-1.5
	0.2nm,0.3s,baz=36,slow=14,SNR=3.5						
PDAR	Pinedale Array	75.32	46	P	P	13 15 31.4	+1.1
	0.5nm,0.5s,baz=251,slow=0.7,SNR=8.4						
GERES	GERESS Array B	80.18	328	P	P	13 15 55.8	-1.3
	0.1nm,0.3s,baz=47,slow=11,SNR=2.1						
SNAA	Sanae	143.80	198	PKP	PKPab	13 23 17.3	-0.3
	1.1nm,0.7s,baz=218,slow=8.4,SNR=6.1						

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*ISCJB **03** 13:04:55.5±0.3, 19°.39S±0°.07×169°.10E±0°.07, h150^{km}, mb4.3/29, Error ellipse: s-maj=12.1km s-min=6.5km az=141.5*

*IDC **03** 13:04:55.8±1.8, 19°.43S×169°.21E, h142^{km}±15^{km}, mb3.9/16, mb1 4.1/18, mb1mx3.9/41, mbtmp4.3/18, Error ellipse: s-maj=18.5km s-min=14.0km az=140.0*

*NEIC **03** 13:04:57.9±1.4, 19°.42S×169°.13E, h162^{km}±13^{km}, mb4.6/15, Error ellipse: s-maj=12.8km s-min=8.0km az=168.0*

ISC 03 13:04:56.7±0.5**, 19°.43S**±0°.10×**169°.16E**±0°.09**, h150**^{km}**, n65,** σ1^{s}**07**/66**, mb4.4**/29**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.66	224	P	Pn	13 05 52.4	-0.1
	35nm,0.3s,baz=30,slow=20,SNR=53						
DZM				S	Sn	13 06 34.6	-1.3
	48nm,0.3s,baz=144,slow=22,SNR=5.1						
AFI	Afiamalu	19.06	76	P	Pn	13 09 10.8	+0.6
	1.2nm,0.3s,baz=210,slow=16,SNR=3.4						
AFI	Afiamalu	19.06	76	eP	Pn	13 09 10.8	+0.6
	158nm,2.0s						
URZ	Urewera	19.99	161	P	P	13 09 19.1	+1.6
	0.5nm,0.3s,baz=350,slow=1.7,SNR=4.1						
CTA	Charters Tower	21.57	264	P	P	13 09 35.1	+0.5
	2.7nm,0.6s,baz=87,slow=13,SNR=5.4						
STKA	Stephens Creek	27.68	238	P	P	13 10 31.8	+1.0
	7.2nm,0.5s,baz=65,slow=9.0,SNR=18						
STKA	Stephens Creek	27.68	238	eP	P	13 10 31.8	+1.0
	1.8nm,0.7s						
WR1	Warramunga Arr	32.76	263	eP	P	13 11 15.4	-0.3
	8.2nm,1.3s						
WRA	Warramunga Arr	32.76	263	P	P	13 11 15.4	-0.3
	2.2nm,0.8s,baz=92,slow=8.6,SNR=26						
WRA				ScP	ScP	13 17 27.6	-0.1
	0.7nm,1.0s,baz=101,slow=4.5,SNR=3.9						
AS01	Alice Springs	32.97	256	eP	P	13 11 17.7	+0.2
AS31	Alice Springs	33.01	256	eP	P	13 11 18.1	+0.2
	5.8nm,0.5s						
ASAR	Alice Springs	33.01	256	P	P	13 11 18.1	+0.3
	11nm,0.6s,baz=87,slow=8.7,SNR=280						
ASAR				PcP	PcP	13 13 58.0	-0.3
	0.3nm,0.8s,baz=64,slow=2.2,SNR=2.7						
ASAR				ScP	ScP	13 17 30.0	+1.4
	0.5nm,0.7s,baz=101,slow=3.6,SNR=5.7						
FITZ	Fitzroy Crossi	41.15	264	P	P	13 12 27.3	+0.7
	baz=90,slow=20						
MJAR	Matsushiro Arr	62.89	332	P	P	13 15 06.8	-0.1
	1.5nm,0.7s,baz=148,slow=5.7,SNR=3.7						
MAJO	Matsushiro	62.89	332	eP	P	13 15 06.8	-0.1
JNU	Nakatsue	63.78	325	P	P	13 15 12.6	-0.3
	6.8nm,1.0s,baz=89,slow=18,SNR=3.1						
ASAJ	Asahikawa	67.76	340	P	P	13 15 39.1	+1.1
	3.0nm,0.7s,baz=180,slow=0.8,SNR=4.6						
ASAJ	Asahikawa	67.76	340	eP	P	13 15 36.5	-1.5
	8.2nm,1.0s						
QSPA	South Pole Qui	70.62	180	eP	P	13 15 55.0	-0.7
	11nm,1.1s						
CMAR	Chiang Mai Arr	78.52	294	P	P	13 16 42.0	+0.2
	0.8nm,0.6s,baz=131,slow=4.4,SNR=6.4						
SEY	Seymchan	83.15	352	P	P	13 17 06.8	+1.4
	0.6nm,0.5s,baz=89,slow=22,SNR=4.9						
ORV	Oroville	87.27	46	eP	P	13 17 27.0	+0.6
	4.7nm,0.9s						
SONA0	Songino Array	87.33	323	eP	P	13 17 27.3	+0.6
SONM	Songino Array	87.33	323	P	P	13 17 27.3	+0.6
	1.6nm,0.7s,baz=150,slow=6.4,SNR=17						
SONA1	Songino Array	87.33	323	eP	P	13 17 26.4	-0.4
CMB	Columbia Colle	87.34	48	eP	P	13 17 27.0	+0.1
	4.2nm,0.8s						
AFDM	Forest Hills D	87.35	47	eP	P	13 17 27.1	+0.2
	6.5nm,1.0s						
YBH	Yreka Blue Hor	87.49	44	P	P	13 17 28.2	+0.6
	2.7nm,0.6s,baz=253,slow=19,SNR=2.4						
BEKR	Beckworth	88.19	47	eP	P	13 17 31.1	+0.1
	7.4nm,1.3s						
SNAA	Sanae	88.97	183	P	P	13 17 33.4	-0.6
	2.5nm,0.9s,baz=194,slow=14,SNR=10						
SNAA	Sanae	88.97	183	eP	P	13 17 33.4	-0.6
	29nm,2.0s						
NV01	Mina Array Sit	88.98	49	eP	P	13 17 34.1	-0.8
NVAR	Mina Array Bea	88.98	49	P	P	13 17 35.2	+0.4
	2.4nm,0.9s,baz=227,slow=8.2,SNR=13						
MOD	Modoc Plateau	89.16	45	eP	P	13 17 35.1	-0.4
	7.0nm,1.0s						
PINE	Pine Mountain	89.61	43	eP	P	13 17 37.2	-0.4
	9.5nm,0.8s						
TPNV	Topopah Spring	89.83	51	eP	P	13 17 38.9	+0.1
	5.8nm,0.8s						
DOT	Dot Lake	90.43	19	eP	P	13 17 40.1	-0.7
	54nm,1.2s						
ILAR	Eielson Array	90.44	17	P	P	13 17 39.0	-1.8
	1.0nm,0.7s,baz=236,slow=5.1,SNR=12						
ILB	Eielson Array	90.44	17	eP	P	13 17 38.5	-2.3
WVOR	Wild Horse Val	90.50	45	eP	P	13 17 41.2	-0.5
	7.5nm,1.1s						
J08A	Circle Bar Ran	91.01	44	eP	P	13 17 44.8	+0.7
	5.7nm,0.8s						
MTLAZ	Mount Logan	91.84	52	eP	P	13 17 52.2	+4.0
MCMT	McKenzie Canyo	95.31	44	eP	P	13 18 00.6	-3.4
INK	Inuvik	96.75	18	P	P	13 18 08.2	-1.4
	0.3nm,0.5s,baz=245,slow=5.7,SNR=3.2						
LTX	Lajitas	96.92	61	eP	P	13 18 10.4	-1.0
TXAR	Lajitas Array	96.92	61	P	P	13 18 10.4	-1.0
	0.2nm,0.7s,baz=226,slow=6.2,SNR=2.3						
YKA	Yellowknife Ar	100.87	27	P	Pdif	13 18 29.0	+0.9
	0.6nm,0.6s,baz=254,slow=4.5,SNR=9.8						
MKAR	Makanchi Array	101.83	315	P	Pdif	13 18 34.2	+1.4
	0.2nm,0.5s,baz=104,slow=7.1,SNR=2.8						
ARCES	ARCESS Array B	125.24	345	PKP	PKPdf	13 23 38.2	-0.7
	2.7nm,0.7s,baz=54,slow=1.8,SNR=20						
FINES	FINESS Array B	130.74	338	PKP	PKPdf	13 23 49.1	-0.4
	0.5nm,0.4s,baz=1.4,slow=5.6,SNR=3.5						
AKASG	Malin Array Be	135.61	324	PKP	PKPdf	13 23 59.5	+0.6
	0.3nm,0.3s,baz=54,slow=2.4,SNR=3.4						
NOA	NORSAR Array B	135.61	345	PKP	PKPdf	13 23 57.3	-1.5
	0.7nm,0.7s,baz=300,slow=9.8,SNR=2.7						
EKA	Eskdalemuir Ar	143.69	353	PKP	PKPab	13 24 10.6	0.0
	0.8nm,0.5s,baz=1.0,slow=2.6,SNR=5.8						
NKC	Novy Kostel	144.12	334	ePKP	PKPab	13 24 13.2	+0.7
CONA	Conrad Observa	144.27	329	i PKPdf	PKPbc	13 24 15.4	+1.8
	3.8nm,0.8s						
KHC	Kasperske Hory	144.47	332	ePKP	PKPab	13 24 14.2	+0.3
GEC2	GERESS Array S	144.63	332	ePKPdf	PKPab	13 24 14.6	+0.1
GERES	GERESS Array B	144.63	332	PKP	PKPab	13 24 14.6	+0.1
	4.2nm,0.6s,baz=35,slow=4.7,SNR=47						
IDI	Anoyia	144.78	304	PKP	PKPab	13 24 15.1	-0.5
	3.4nm,0.5s,baz=127,slow=10,SNR=6.5						
ARSA	Arzberg	144.90	328	i PKPdf	PKPbc	13 24 15.8	+0.4
	4.6nm,0.9s						
MOA	Molln	145.09	330	ePKPdf	PKPbc	13 24 16.5	+0.5
	13nm,0.7s,SNR=7.1						
SOKA	Soboth	145.54	328	i PKPab	PKPdf	13 24 17.5	+0.4
	5.4nm,0.6s,SNR=5.2						
ABTA	Abfaltersbach	146.71	330	i PKPbc	PKPdf	13 24 20.3	+1.1
	4.1nm,0.5s						
MOTA	Moosalm	146.91	332	ePKPab	PKPdf	13 24 21.3	+1.8
	4.2nm,0.6s						
FETA	Feichten	147.32	332	i PKPab	PKPbc	13 24 22.9	+0.1
	6.2nm,0.6s						

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*ISCJB **03** 13:16:17.7±0.5, 24°.74N±0°.03×122°.41E±0°.02, h105^{km}±4^{km}, Error ellipse: s-maj=4.4km s-min=2.4km az=168.5*

*TAP **03** 13:16:17.5, 24°.76N×122°.42E, h105^{km}±1^{km}, ML3.6, D*

*JMA **03** 13:16:17.2±0.2, 24°.72N×122°.38E, h110^{km}±2^{km}, M2.8*

ISC 03 13:16:18.4±1.4**, 24°.72N**±0°.04×**122°.40E**±0°.02**, h102**^{km}±8^{km}**, n65,** σ0^{s}**70**/127**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.30	236	eP	Pn	13 16 33.5	+0.4
	baz=231						
TWB1	Santiao Chiao	0.47	307	eP	Pn	13 16 34.1	-0.1
	baz=302						
TWB1				eS	Sn	13 16 46.0	0.0
	baz=302						
TWC	Suao	0.52	258	i P	Pn	13 16 34.4	0.0
	baz=253						
TWC				eS	Sn	13 16 46.3	-0.1
	baz=253						
JYNG	Yonagunijimaku	0.56	118	P	Pn	13 16 34.9	+0.1
JYNG				S	Sn	13 16 48.1	+1.0
TIPB	Shuangxi	0.58	296	P	Pn	13 16 33.8	-1.1
	baz=290						
TIPB				S	Sn	13 16 46.2	-1.2
	baz=290						
ILA	Ilan	0.60	275	eP	Pn	13 16 34.1	-0.9
	baz=270						
ILA				eS	Sn	13 16 47.8	+0.3
	baz=270						
YOJ	Yonaguni jima	0.61	115	P	Pn	13 16 35.3	+0.1
YOJ				eS	Sn	13 16 48.7	+1.0
NWF	Wu-fen Shan	0.67	302	P	Pn	13 16 35.5	-0.2
	baz=297						
NWF				S	Sn	13 16 48.7	-0.1
	baz=297						
ENA	Nanau	0.67	244	eP	Pn	13 16 36.0	+0.3
	baz=241						
ENA				eS	Sn	13 16 49.5	+0.9
	baz=241						
TWE	Neicheng	0.67	270	P	Pn	13 16 35.6	0.0
	baz=266						
TWE				eS	Sn	13 16 48.5	-0.2
	baz=266						
ENTT	Nioudou	0.77	264	eP	Pn	13 16 36.8	+0.3
	baz=260						
ENTT				eS	Sn	13 16 50.4	+0.2
	baz=260						
TWA	Mucha	0.79	289	eP	Pn	13 16 36.3	-0.5
	baz=285						
TWA				S	Sn	13 16 50.0	-0.6
	baz=285						
NWLT	Wulai	0.82	274	eP	Pn	13 16 36.8	-0.3
	baz=270						
NWLT				eS	Sn	13 16 51.5	+0.3
	baz=270						
YM10	YM10	0.88	300	eP	Pn	13 16 37.3	-0.5
	baz=296						
YM10				eS	Sn	13 16 51.8	-0.4
	baz=296						
YM04	YM04	0.90	299	eP	Pn	13 16 37.9	0.0
	baz=295						
YM04				eS	Sn	13 16 52.1	-0.4
	baz=295						
YM03	YM03	0.91	300	eP	Pn	13 16 38.1	+0.1
	baz=297						
YM03				eS	Sn	13 16 52.9	0.0
	baz=297						
TWY	Chenhua	0.92	307	eP	Pn	13 16 37.7	-0.3
	baz=304						
TWY				eS	Sn	13 16 52.6	-0.2
	baz=304						
TWS1	Kuangyinshan	0.97	293	eP	Pn	13 16 38.3	-0.3
	baz=290						
TWS1				eS	Sn	13 16 53.5	-0.4
	baz=290						
NNSH	Datong	0.97	253	eP	Pn	13 16 39.0	+0.2
	baz=250						
NNSH				eS	Sn	13 16 53.9	-0.2
	baz=250						
TWD	Chiawan	0.97	229	eP	Pn	13 16 38.4	-0.2
	baz=227						
TWD				S	Sn	13 16 54.2	+0.4
	baz=227						
NNS	Nan Shan	0.98	254	eP	Pn	13 16 39.1	+0.2
	baz=251						
NNS				S	Sn	13 16 54.4	+0.2
	baz=251						
HWA	Hwalien	1.04	225	eP	Pn	13 16 39.9	+0.6
	baz=223						
HWA				eS	Sn	13 16 56.1	+1.0
	baz=223						
WLTB	Daxi	1.05	277	eP	Pn	13 16 39.3	-0.2
	baz=274						
WLTB				S	Sn	13 16 56.3	+0.9
	baz=274						
ENLB	Shoufeng	1.09	222	P	Pn	13 16 39.8	-0.2
	baz=221						
ENLB				S	Sn	13 16 57.0	+0.8
	baz=221						
NCU	National Centr	1.13	283	eP	Pn	13 16 40.4	0.0
	baz=280						
NCU				eS	Sn	13 16 57.7	+0.7
	baz=280						
WHF	Hehuan Shan	1.18	241	P	Pn	13 16 41.3	-0.2
	baz=239						
WHF				S	Sn	13 16 58.2	-0.6
	baz=239						
TWT	Tachien	1.21	248	eP	Pn	13 16 42.1	+0.6
	baz=246						
TWT				i S	Sn	13 16 59.7	+0.8
	baz=246						
ESL	Shilin	1.26	225	eP	Pn	13 16 40.8	-1.1
	baz=223						
ESL				eS	Sn	13 16 58.4	-1.3
	baz=223						
LIOB	Emei	1.26	267	P	Pn	13 16 41.7	-0.2
	baz=264						
LIOB				i S	Sn	13 16 59.5	-0.3
	baz=264						
IRIF	Iriomote-Funau	1.27	107	P	Pn	13 16 41.7	-0.2
IRIF				eS	Sn	13 16 59.9	+0.2
NSTT	Nanjuang	1.28	266	eP	Pn	13 16 41.7	-0.3
	baz=264						
NSTT				i S	Sn	13 16 59.5	-0.5
	baz=264						
HSN	Hsinchu	1.31	274	eP	Pn	13 16 41.7	-0.7
	baz=272						
HSN				eS	Sn	13 16 59.9	-0.6
	baz=272						
OWD	Renai	1.35	236	eP	Pn	13 16 42.9	-0.3
	baz=234						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OWD				eS	Sn	13 17 02.0	+0.2
	baz=234						
EGFH	Guangfu	1.37	221	eP	Pn	13 16 42.3	-0.9
	baz=219						
EGFH				S	Sn	13 17 01.2	-0.7
	baz=219						
HATJ	Hateruma jima	1.44	117	eS	Sn	13 17 03.6	+0.3
NMLH	Miaoli	1.48	263	eP	Pn	13 16 44.5	0.0
	baz=261						
NMLH				eS	Sn	13 17 03.8	-0.4
	baz=261						
DPDB	Guoxing	1.51	243	P	Pn	13 16 45.8	+0.9
	baz=241						
DPDB				eS	Sn	13 17 06.3	+1.3
	baz=241						
NSY	Sanyi	1.52	259	eS	Sn	13 17 05.7	+0.4
	baz=257						
TWQ1	Liyutan	1.53	256	P	Pn	13 16 44.9	-0.2
	baz=254						
TWQ1				S	Sn	13 17 05.3	-0.1
	baz=254						
JKRS	Kuro-shima	1.54	108	P	Pn	13 16 45.4	+0.2
JKRS				S	Sn	13 17 06.0	+0.4
EHY	Hungye	1.56	219	eP	Pn	13 16 44.0	-1.5
	baz=218						
EHY				eS	Sn	13 17 04.0	-2.0
	baz=218						
PTSB	Yuanli	1.57	260	eP	Pn	13 16 46.4	+0.8
	baz=258						
PTSB				eS	Sn	13 17 06.9	+0.6
	baz=258						
SMLT	Sun Moon Lake	1.60	239	iP	Pn	13 16 46.8	+0.6
	baz=237						
SMLT				S	Sn	13 17 08.8	+1.6
	baz=237						
JIJ	Ishigaki jima	1.62	102	P	Pn	13 16 45.9	-0.3
JIJ				S	Sn	13 17 07.2	-0.2
TYC	Yuchr	1.63	240	P	Pn	13 16 47.1	+0.9
	baz=238						
TYC				eS	Sn	13 17 08.4	+0.9
	baz=238						
TWF1	Yuli	1.70	217	eP	Pn	13 16 45.9	-1.3
	baz=216						
TWF1				eS	Sn	13 17 06.8	-2.2
	baz=216						
JISG	Ishigakijimahi	1.74	94	P	Pn	13 16 47.4	-0.3
JISG				S	Sn	13 17 09.5	-0.5
WJS	Zhushan	1.77	240	eP	Pn	13 16 49.1	+1.0
	baz=238						
WJS				eS	Sn	13 17 12.0	+1.2
	baz=238						
WNT	Mingjian	1.78	242	eP	Pn	13 16 48.5	+0.4
	baz=240						
WNT				eS	Sn	13 17 11.3	+0.4
	baz=240						
YUS	Yu-Shan	1.81	228	eP	Pn	13 16 49.0	0.0
	baz=226						
YUS				eS	Sn	13 17 11.9	-0.3
	baz=226						
FULB	Fuli	1.82	214	eP	Pn	13 16 48.4	-0.4
	baz=213						
FULB				eS	Sn	13 17 12.2	+0.2
	baz=213						
ALS	Alishan	1.89	231	P	Pn	13 16 50.4	+0.5
	baz=229						
ALS				eS	Sn	13 17 14.3	+0.4
	baz=229						
CHN5	Tsauling	1.93	235	eP	Pn	13 16 50.5	+0.3
	baz=233						
CHN5				S	Sn	13 17 15.5	+1.0
	baz=233						
ELDTW	Lidau	1.98	220	eP	Pn	13 16 49.9	-1.0
	baz=219						
ELDTW				eS	Sn	13 17 15.6	-0.1
	baz=219						
JTJ	Tarama	2.09	92	P	Pn	13 16 52.2	0.0
JTJ				S	Sn	13 17 17.9	-0.2
CHN4	Tsaushan	2.14	231	P	Pn	13 16 53.0	+0.2
	baz=229						
CHN4				S	Sn	13 17 19.5	+0.2
	baz=229						
STYT	Tauyuan	2.16	225	eP	Pn	13 16 53.7	+0.5
	baz=223						
STYT				eS	Sn	13 17 20.9	+1.1
	baz=223						
WTP	Ta-pu	2.20	228	eP	Pn	13 16 53.4	-0.2
	baz=227						
WTP				eS	Sn	13 17 21.7	+1.1
	baz=227						
TWG	Pinlang	2.25	213	eP	Pn	13 16 52.9	-1.4
	baz=212						
TWG				eS	Sn	13 17 19.8	-2.0
	baz=212						
WSF	Szhu	2.26	242	eP	Pn	13 16 53.9	-0.5
	baz=240						
WSF				eS	Sn	13 17 22.9	+0.9
	baz=240						
CHN1	Nanshi	2.30	229	P	Pn	13 16 55.1	+0.2
	baz=227						
CHN1				eS	Sn	13 17 23.8	+0.9
	baz=227						
SGST	Jiashian	2.33	226	eP	Pn	13 16 55.6	+0.3
	baz=225						
SGST				eS	Sn	13 17 24.2	+0.5
	baz=225						
JIRB	Irabujima	2.52	87	P	Pn	13 16 58.0	+0.2
JIRB				S	Sn	13 17 27.5	-0.5
JIKM	Ikemajima	2.59	85	P	Pn	13 16 59.1	+0.4
JIKM				eS	Sn	13 17 29.3	-0.5
JOGS	Gusukube	2.73	89	P	Pn	13 17 01.0	+0.4
JOGS				eS	Sn	13 17 33.6	+0.6

*ISCJB **03** 13:26:17.6±0.5, 38°.93N±0°.03×142°.05E±0°.06, h55km±3km, mb4.2/44, Error ellipse: s-maj=8.0km s-min=4.0km az=30.6*
*MOS **03** 13:26:18.2±0.9, 38°.97N×142°.02E, h57km, mb4.4/25, Error ellipse: s-maj=8.8km s-min=5.7km az=90.1*
*JMA **03** 13:26:19.3±0.1, 38°.92N×141°.93E, h52km±1km, M3.9*
JMA Felt II J1.
*NEIC **03** 13:26:21.1±0.6, 38°.97N×141°.90E, h67km±4km, mb4.6/5, Error ellipse: s-maj=8.7km s-min=4.5km az=122.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.
*IDC **03** 13:26:22.7±2.3, 38°.90N×141°.87E, h83km±20km, mb3.8/27, mb1 3.9/30, mb1mx3.8/69, mbtmp4.2/30, Error ellipse: s-maj=16.7km s-min=12.2km az=109.0*
ISC 03 13:26:18.4±0.9**, 38°.83N**±0°.05×**142°.11E**±0°.06**, h48**km±7km**, n122,** σ1°.98/145**, mb4.3**/47**, 10C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.43	306	P	Pn	13 26 28.4	-0.3
OFUJ				iS	Sn	13 26 34.5	-1.5
JIO	Ouri	0.71	238	P	Pn	13 26 32.3	+0.1
JIO				S	Sn	13 26 41.2	-0.9
JMK	Ichinoseki	0.71	280	P	Pn	13 26 31.4	-0.8
JMK				S	Sn	13 26 39.9	-2.2
JOM	Ohasama	0.91	315	P	Pn	13 26 33.8	-1.0
JOM				iS	Sn	13 26 44.4	-2.4
JOU	Okura	1.23	248	P	Pn	13 26 38.8	-0.4
JOU				S	Sn	13 26 53.5	-1.2
JRG	Rokugo	1.28	297	P	Pn	13 26 38.7	-1.2
JRG				eS	Sn	13 26 53.2	-2.8
JYK	Kaneyama	1.37	274	P	Pn	13 26 40.3	-0.8
JMM	Marumori	1.42	228	P	Pn	13 26 41.6	-0.1
JMM				S	Sn	13 26 58.8	-0.4
JANG	Nango	1.61	343	P	Pn	13 26 43.4	-1.0
JANG				S	Sn	13 27 03.4	-0.6
ERM	Erimo	3.28	14	ePn	Pn	13 27 08.1	+0.9
ERM				eSn	Sn	13 27 41.8	-3.2
ERM	Erimo	3.28	14⇓	eP	Pn	13 27 07.9	+0.7
MJA0	Matsu Arr-Jizo	3.82	235	eP	Pn	13 27 17.2	+2.4
MJA0				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MAJO	Matsushiro	3.85	235	ePn	Pn	13 27 17.1	+1.9
MAJO				eSn	Sn	13 27 52.9	-6.2
MAJO	Matsushiro	3.85	235	eP	Pn	13 27 17.1	+1.9
MAJO				e		13 27 52.9	
MAT	Matsushiro	3.85	235	P	Pn	13 27 16.8	+1.7
MAT				eS	Sn	13 28 00.4	+1.3
MJAR	Matsushiro Arr	3.85	235	P	Pn	13 27 17.2	+2.1
	comp=Z,6.7nm,0.3s,baz=35,slow=12,SNR=62						
MJB9	Matsu-Tunnel	3.85	235	ePn	Pn	13 27 16.7	+1.5
MJB9				eSn	Sn	13 27 52.9	-6.2
ASAJ	Asahikawa	5.29	4	P	Pn	13 27 35.1	+0.2
	comp=Z,3.1nm,0.3s,baz=205,slow=14,SNR=32						
ASAJ				S	Sn	13 28 31.3	-3.3
	comp=Z,1.9nm,0.3s,baz=252,slow=20,SNR=2.3						
INU	Inuyama	5.35	231	ePn	Pn	13 27 38.4	+2.6
YUK	Yuzh-Kuril'sk	5.91	27d	iP	Pn	13 27 43.1	-0.3
YUK				iS	Sn	13 28 47.1	-2.6
YUK				pmax	pmax		
	comp=Z,73nm,0.6s						
YUK				pmax	pmax		
	comp=E,40nm,0.3s						
YUK				pmax	pmax		
	comp=N,68nm,0.5s						
YUK				smax	smax		
	comp=E,192nm,0.6s						
YUK				smax	smax		
	comp=N,335nm,0.4s						
JHJ2	Mitsune	6.00	199	eSn	Sn	13 28 47.0	-5.0
SHO	Shikotan	6.16	34c	iP	Pn	13 27 45.1	-1.6
SHO				iS	Sn	13 28 50.3	-5.5
SHO				pmax	pmax		
	comp=N,8.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,8.0nm,0.3s						
SHO				pmax	pmax		
	comp=Z,15nm,0.3s						
SHO				smax	smax		
	comp=N,248nm,0.4s						
SHO				smax	smax		
	comp=E,195nm,0.3s						
KUR	Kuril'sk	7.70	32	eP	Pn	13 28 08.4	+0.6
KUR				iS	Sn	13 29 30.6	-3.0
KUR				pmax	pmax		
	comp=Z,15nm,0.3s						
KUR				pmax	pmax		
	comp=E,5.0nm,0.1s						
KUR				pmax	pmax		
	comp=N,8.0nm,0.4s						
YSS	Yuzh-Sakhalins	8.13	3⇑	eP	Pn	13 28 15.1	+1.3
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
USRK	Ussuriysk Ar.	9.29	308	P	Pn	13 28 32.2	+2.5
	comp=Z,1.5nm,0.3s,baz=114,slow=14,SNR=24						
MDJ	Mudanjiang	10.99	306	P	Pn	13 28 52.6	-0.4
MDJ				pP		13 28 59.7	
MDJ				S	Sn	13 31 01.5	+7.1
MDJ				ScP	ScP	13 38 12.0	-4.8
KSRS	Korea Array	11.26	267	P	Pn	13 28 59.8	+3.2
	comp=Z,0.4nm,0.3s,baz=81,slow=14,SNR=8.8						
KSAR	Wonju Array Be	11.29	267	P	Pn	13 28 59.8	+2.7
KSAR	Wonju Array Be	11.29	267	P	Pn	13 28 59.8	+2.7
KLR	Kul'dur	12.78	328	P	Pn	13 29 16.2	-1.0
	comp=Z,0.0nm,0.3s,baz=122,slow=19,SNR=3.1						
CN2	Changchun	13.47	297	eP	Pn	13 29 29.4	+2.6
ZEA	Zeya	18.05	331	eP	P	13 30 22.8	-2.6
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
NJ2	Nanjing	20.09	257	eP	P	13 30 48.0	+0.1
MA2	Magadan	21.48	12	P	P	13 31 02.9	+0.2
	comp=Z,2.2nm,0.6s,baz=206,slow=9.6,SNR=4.9						
MA2	Magadan	21.48	12⇑	iP	P	13 31 02.8	+0.1
HHC	Hu-ho-hao-te	23.49	285	eP	P	13 31 22.6	-1.3
HHC				pP	pP	13 31 31.9	-3.9
HHC				sP	sP	13 31 35.9	-5.8
HHC				PP	PnPn	13 31 56.2	+4.2
HHC				S	S	13 35 32.8	-1.3
WHN	Wuhan	24.21	258	⇑P	P	13 31 33.0	+2.5
YAK	Yakutsk	24.45	346	P	P	13 31 30.9	-1.4
	comp=Z,5.0nm,0.3s,baz=196,slow=3.2,SNR=5.1						
YAK	Yakutsk	24.45	346	eP	P	13 31 31.0	-1.4
	comp=Z,14nm,0.7s						
YAK	Yakutsk	24.45	346	eP	P	13 31 31.4	-1.0
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
SEY	Seymchan	24.92	11	P	P	13 31 37.9	+1.3
	comp=N,2.6nm,0.8s,baz=220,slow=8.0,SNR=14						
SEY	Seymchan	24.92	11⇑	iP	P	13 31 38.0	+1.3
BOD	Bodaibo	26.34	325	eP	P	13 31 44.1	-5.4
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SONA1	Songino Array	27.29	301	eP	P	13 31 56.8	-1.6
SONM	Songino Array	27.29	301	P	P	13 31 57.6	-0.8
	comp=Z,0.7nm,0.5s,baz=98,slow=8.2,SNR=10						
SONM				PcP	PcP	13 35 16.4	-0.5
	comp=Z,0.3nm,0.6s,baz=151,slow=3.3,SNR=2.9						
H11N2	WAKE ISLAND Hy	28.65	125	T	T	14 02 38.1	
	baz=317,slow=75,SNR=873						
H11N1	WAKE ISLAND Hy	28.66	125	T	T	14 02 38.6	
	baz=317,slow=75,SNR=1080						
H11N3	WAKE ISLAND Hy	28.67	125	T	T	14 02 39.9	
	baz=317,slow=75,SNR=853						
H11S1	WAKE ISLAND Hy	29.43	127	T	T	14 03 37.1	
	baz=319,slow=76,SNR=140						
H11S3	WAKE ISLAND Hy	29.43	127	T	T	14 03 36.8	
	baz=319,slow=76,SNR=214						
H11S2	WAKE ISLAND Hy	29.44	127	T	T	14 03 35.6	
	baz=319,slow=76,SNR=225						
TLY	Talaya	29.61	308	eP	P	13 32 18.3	-0.6
TLY				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAK	Zakamensk	29.63	306	eP	P	13 32 17.6	-1.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
LZH	Lanzhou	30.36	277	eP	P	13 32 26.8	+1.0
LZH				pP	pP	13 32 36.2	-2.1
LZH				sP	sP	13 32 41.4	-2.7
BILL	Bilibino	32.15	17⇑	eP	P	13 32 42.0	+1.0
BILL				e		13 33 55.0	
BILL				eS	S	13 37 52.7	+2.7
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CD2	Chengdu	32.26	268	eP	P	13 32 41.5	-1.0
GTA	Gaotai	32.60	285	eP	P	13 32 45.5	0.0
GTA				pP	pP	13 32 49.6	-8.5
GTA				sP	sP	13 32 52.7	-11
KMI	Kunming	35.81	259	P	P	13 33 13.1	-0.4
WMQ	Urumqi	40.55	295	P	P	13 33 53.3	+0.3
ZAA0	Zalesovo Array	41.14	311	eP	P	13 33 56.5	-1.0
	comp=Z,6.0nm,0.8s						
ZALV	Zalesovo Beam	41.14	311	P	P	13 33 56.8	-0.8
	comp=Z,5.2nm,0.5s,baz=89,slow=8.0,SNR=28						
ZALV				PcP	PcP	13 35 55.5	-0.7
	comp=Z,1.0nm,0.3s,baz=93,slow=3.1,SNR=5.7						
ZALV	Zalesovo Beam	41.14	311	eP	P	13 33 56.1	-1.4
ZALV				PcP	PcP	13 35 55.5	-0.7
CMAR	Chiang Mai Arr	42.51	254	P	P	13 34 08.7	-0.5
	comp=Z,0.6nm,0.6s,baz=39,slow=5.9,SNR=4.3						
CMAR	Chiang Mai Arr	42.51	254	iP	P	13 34 08.6	-0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MK01	Makanchi Array	43.66	301	eP	P	13 34 17.2	-1.0
MK31	Makanchi Array	43.66	301	eP	P	13 34 17.4	-0.9
MK31	Makanchi Array	43.66	301	eP	P	13 34 17.4	-0.9
MKAR	Makanchi Array	43.66	301	P	P	13 34 17.5	-0.7
	comp=Z,7.3nm,0.7s,baz=86,slow=9.9,SNR=78						
MKAR				PcP	PcP	13 36 04.2	-0.5
	comp=Z,0.4nm,0.7s,baz=57,slow=5.3,SNR=2.4						
MKAR	Makanchi Array	43.66	301	eP	P	13 34 17.4	-0.9
	comp=Z,67nm,0.9s						
MKAR				PcP	PcP	13 36 04.2	-0.5
MKAR	Makanchi Array	43.66	301	eP	P	13 34 17.4	-0.9
MKAR						13 36 04.2	
MKAR				pmax	pmax		
	comp=Z,67nm,0.9s						
MAKZ	Makanchi	43.87	301	eP	P	13 34 18.5	-1.4
	comp=Z,7.6nm,0.9s						
MAKZ	Makanchi	43.87	301	eP	P	13 34 18.5	-1.4
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURK	Kurchatov	45.28	307⇑	eP	P	13 34 29.9	-1.2
KURK				pmax	pmax		
	comp=Z,16nm,1.0s						
ILAR	Eielson Array	47.69	33	P	P	13 34 51.1	+1.4
	comp=Z,0.6nm,0.5s,baz=263,slow=6.0,SNR=11						
BVAR	Borovoye Array	49.79	311	P	P	13 35 05.4	-0.7
	comp=Z,3.8nm,0.4s,baz=69,slow=8.0,SNR=39						
BVAR				PcP	PcP	13 36 26.3	+0.1
	comp=Z,1.0nm,0.4s,baz=45,slow=2.2,SNR=4.7						
BRVK	Borovoye	49.84	311	eP	P	13 35 05.4	-1.0
	comp=Z,4.1nm,0.5s						
BRVK	Borovoye	49.84	311⇑	eP	P	13 35 05.7	-0.7
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	Ala-Archa	50.14	297	P	P	13 35 08.4	-0.7
	comp=Z,1.8nm,0.4s,baz=78,slow=3.6,SNR=10						
KSH	Kashi	50.20	293	eP	P	13 35 13.1	+3.6
KSH				S	S	13 42 23.5	+5.3
KSH				sS	sS	13 42 43.7	+3.5
INK	Inuvik	52.54	28	P	P	13 35 27.9	+1.5
	comp=Z,0.9nm,0.6s,baz=301,slow=8.0,SNR=5.2						
KKAR	Karatay Array	52.72	299	eP	P	13 35 27.1	-1.1
KKAR	Karatay Array	52.72	299	eP	P	13 35 27.1	-1.1
SVE	Sverdlovsk	54.18	318	eP	P	13 35 38.1	-0.5
SVE				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU	Arti	55.39	318	eP	P	13 35 46.2	-1.2
	comp=Z,12nm,1.0s						
ARU	Arti	55.39	318c	iP	P	13 35 46.7	-0.7
ARU						13 37 51.3	
ARU				S	S	13 43 27.4	-0.8
ARU				pmax	pmax		
	comp=Z,15nm,1.2s						
ABKAR	Akbulak array	57.22	309	eP	P	13 35 59.3	-1.2
	comp=Z,57nm,0.6s						
AKTO	Aktyubinsk	57.90	311	P	P	13 36 04.2	-1.1
	comp=Z,1.4nm,0.3s,baz=73,slow=13,SNR=10						
SPITS	Spitsbergen Ar	58.87	349	P	P	13 36 11.7	0.0
	comp=Z,3.1nm,0.9s,baz=64,slow=13,SNR=3.6						
WRA	Warramunga Arr	58.91	189	P	P	13 36 13.1	+0.5
	comp=Z,1.9nm,0.6s,baz=5.7,slow=6.9,SNR=35						
RES	Resolute Bay	60.73	15	P	P	13 36 24.8	+0.4
	comp=Z,1.3nm,0.6s,baz=309,slow=6.1,SNR=8.3						
YKA	Yellowknife Ar	61.98	31	P	P	13 36 34.0	+1.0
	comp=Z,0.3nm,0.7s,baz=299,slow=6.3,SNR=5.4						
ARCES	ARCESS Array B	62.51	339	P	P	13 36 35.9	-0.7
	comp=Z,3.1nm,0.9s,baz=18,slow=8.1,SNR=3.9						
ARCES	ARCESS Array B	62.51	339	eP	P	13 36 38.0	+1.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAR	Alice Springs	62.64	188	P	P	13 36 38.6	+0.7
	comp=Z,0.6nm,0.6s,baz=350,slow=3.6,SNR=16						
GEYT	Alibeck	63.46	298	P	P	13 36 42.5	-0.9
	comp=Z,1.7nm,0.7s,baz=29,slow=3.4,SNR=4.5						
OBN	Obninsk	66.99	323⇓	eP	P	13 37 05.3	-0.6
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	FINESS Array B	67.49	332	P	P	13 37 08.2	-0.7
	comp=Z,2.6nm,0.6s,baz=29,slow=9.9,SNR=18						
FINES	FINESS Array B	67.49	332	iP	P	13 37 08.1	-0.8
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	Kislovodsk	70.15	311	eP	P	13 37 26.8	+0.9
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KBZ	Khabaz	70.16	310	P	P	13 37 26.1	+0.3
	comp=Z,3.2nm,0.8s,baz=122,slow=1.6,SNR=4.1						
HFS	Hagfors	72.68	336	P	P	13 37 40.2	-0.6
	comp=Z,1.5nm,0.6s,baz=51,slow=6.8,SNR=10						
NB2	NORSAR Subarra	72.75	337	P	P	13 37 40.2	-1.0
	comp=Z,1.1nm,0.6s,baz=36,slow=6.5						
NOA	NORSAR Array B	72.75	337	P	P	13 37 40.4	-0.8
	comp=Z,0.8nm,0.8s,baz=38,slow=5.9,SNR=3.7						
NOA	NORSAR Array B	72.75	337	eP	P	13 37 42.3	+1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	73.22	322	P	P	13 37 43.2	-0.8
	comp=Z,1.2nm,0.3s,baz=46,slow=6.0,SNR=10						
KIEV	Kiev	73.23	322⇑	eP	P	13 37 43.2	-1.0
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	78.08	312	P	P	13 38 11.9	-0.3
	comp=Z,0.8nm,0.4s,baz=120,slow=3.0,SNR=10						
DPC	Dobruska-Polom	79.23	328	eP	P	13 38 18.9	+0.6
DPC	Dobruska-Polom	79.23	328	eP	P	13 38 18.9	+0.6
CLL	Collm	79.81	330	eP	P	13 38 21.0	-0.4
CLL	Collm	79.81	330	eP	P	13 38 21.0	-0.4
CONA	Conrad Observa	81.28	327	ePcP	P	13 38 33.6	+4.1
	comp=Z,5.8nm,1.5s						
KHC	Kasperske Hory	81.30	329	eP	P	13 38 29.5	0.0
KHC	Kasperske Hory	81.30	329	eP	P	13 38 29.5	0.0
GERES	GERESS Array B	81.47	328	P	P	13 38 29.7	-0.8
	comp=Z,0.5nm,0.4s,baz=38,slow=7.4,SNR=5.4						
GERES	GERESS Array B	81.47	328	eP	P	13 38 30.2	-0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SOKA	Soboth	82.61	326	ePcP	P	13 38 36.9	+0.4
	comp=Z,2.5nm,0.9s						
OBKA	Obir	82.95	327	eP	P	13 38 38.2	0.0
	comp=Z,1.8nm,0.8s						
MYKA	Terra Mystica	83.24	327	eP	P	13 38 37.0	-2.7
	comp=Z,2.1nm,0.9s						
RETA	Reutte	83.75	329	eP	P	13 38 40.5	-1.8
	comp=Z,5.2nm,1.2s						
FETA	Feichten	84.14	329	ePcP	P	13 38 44.2	-0.2
	comp=Z,4.3nm,1.1s						
IDI	Anoyia	86.17	313	P	P	13 38 53.6	-1.1
	comp=Z,5.4nm,0.8s,baz=342,slow=14,SNR=2.7						

IDC 03 13:35:27.6±3.8**, 21°.69S**×**170°.07E, h0**km**, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.5**/38**, mbtmp3.4**/3**, ML3.6**/1**, Error ellipse: s-maj=185.8km s-min=37.5km az=161.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.39	263	Pn	Pn	13 36 22.9	+1.0
	5.3nm,0.3s,baz=118,slow=12,SNR=40						
DZM				Sn	Sn	13 37 02.7	-0.1
	4.8nm,0.3s,baz=107,slow=19,SNR=3.9						
ASAR	Alice Springs	33.37	260	P	P	13 42 07.9	0.0
	0.6nm,1.0s,baz=89,slow=8.3,SNR=5.7						
WRA	Warramunga Arr	33.40	266	P	P	13 42 07.6	-0.5
	0.2nm,0.4s,baz=99,slow=8.4,SNR=4.4						
GERES	GERESS Array B	147.00	331	PKPbc	PKPbc	13 55 11.7	-0.7
	0.3nm,0.6s,baz=38,slow=5.0,SNR=3.1						

*ISCJB **03** 13:35:53.8±0.3, 60°.11N±0°.03×152°.82W±0°.05, h125km±2km, mb4.0/21, Error ellipse: s-maj=4.3km s-min=3.8km az=152.8*
*NEIC **03** 13:35:55.9±0.0, 60°.05N×152°.86W, h114km, mb4.3/4, ML4.2(AEIC), After AEIC.*
NEIC Felt at Anchorage, Cooper Landing and Homer.
*IDC **03** 13:35:57.3±2.4, 60°.39N×152°.82W, h125km±18km, mb3.7/21, mb1 3.8/23, mb1mx3.6/70, mbtmp4.1/23, Error ellipse: s-maj=21.9km s-min=11.0km az=171.0*
ISC 03 13:35:55.1±0.6**, 60°.08N**±0°.03×**152°.90W**±0°.04**, h123**km±5km**, n116,** σ1°.61/148**, mb4.1**/21**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	Iliamna West	0.12	258	ePn	Pn	13 36 11.3	-0.8
RSO	Redoubt South	0.39	11	ePn	Pn	13 36 12.3	-0.7
RSO				eSn	Sn	13 36 26.2	-0.3
HOM	Homer	0.77	123	ePn	Pn	13 36 15.2	0.0
HOM				eSn	Sn	13 36 30.2	-0.2
HOM				eSn	Sn	13 36 30.6	+0.2
BRLK	Bradley Lake	1.07	107	ePn	Pn	13 36 17.5	-0.5
BRLK				eSn	Sn	13 36 34.1	-1.3
BRLK				eSn	Sn	13 36 34.3	-1.0
SPU	Mount Spurr	1.18	20	ePn	Pn	13 36 19.0	-0.2
SPU				eSn	Sn	13 36 36.8	-0.7
FOSS	Fourpeaked Sta	1.35	198	ePn	Pn	13 36 20.1	-0.9
SLKM	Skilak Lake	1.40	71	ePn	Pn	13 36 20.8	-0.8
VOGL	Vogel Lake	1.53	52	ePn	Pn	13 36 23.9	+1.0
SVW2	Sparrevohn	1.67	309	ePn	Pn	13 36 23.9	-0.7
SVW2				eSn	Sn	13 36 44.9	-2.2
FIB	Fire Island	1.73	50	ePn	Pn	13 36 25.9	+0.7
SEW	Seward	1.73	88	ePn	Pn	13 36 24.2	-1.1
SEW				eSn	Sn	13 36 46.9	-1.5
SUA	Susitna One	1.74	37	ePn	Pn	13 36 25.8	+0.2
SUA				eSn	Sn	13 36 49.1	+0.1
RC01	Rabbit Creek A	1.86	56	ePn	Pn	13 36 26.4	-0.5
RC01				eSn	Sn	13 36 50.1	-1.1
SKT	Skwentna	2.02	19	ePn	Pn	13 36 28.6	-0.2
SKT				eSn	Sn	13 36 54.4	-0.2
KDAK	Kodiak Island	2.31	176	P	Pn	13 36 30.9	-1.7
	44nm,0.3s,baz=48,slow=11,SNR=1522						
KDAK				S	Sn	13 36 58.5	-2.8
	86nm,0.3s,baz=295,slow=22,SNR=20						
KDAK	Kodiak Island	2.31	176	ePn	Pn	13 36 30.8	-1.7
KDAK				eSn	Sn	13 36 58.1	-3.2
PMR	Palmer	2.39	49	ePn	Pn	13 36 32.5	-1.0
PMR				eSn	Sn	13 37 01.2	-1.7
KNK	Knik Glacier	2.56	57	ePn	Pn	13 36 34.5	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNK				eSn	Sn	13 37 04.8	-2.1
GHO	Glory Hole Cre	2.58	47	ePn	Pn	13 36 35.0	-1.0
SML	Sawmill	2.82	50	ePn	Pn	13 36 38.1	-1.0
SML				eSn	Sn	13 37 11.2	-1.8
PPLA	Purkeypile	2.84	7	ePn	Pn	13 36 40.1	+0.6
OHAK	Old Harbor	2.88	184	ePn	Pn	13 36 37.6	-2.2
OHAK				eSn	Sn	13 37 11.0	-3.2
GLI	Glacier Island	2.98	72	ePn	Pn	13 36 38.9	-2.3
GLI				eSn	Sn	13 37 13.6	-3.1
TT01	Tatalina	3.20	334	ePn	Pn	13 36 43.4	-0.6
SCM	Sheep Creek Mo	3.24	55	ePn	Pn	13 36 43.8	-0.7
JPK	Jack Peak	3.26	70	ePn	Pn	13 36 43.1	-1.7
CAST	Castle Rocks	3.37	6	ePn	Pn	13 36 46.2	-0.1
CAST				eSn	Sn	13 37 24.1	-1.7
MID	Middleton Isla	3.39	98	ePn	Pn	13 36 45.9	-0.5
EYAK	Cordova Ski Ar	3.59	79	ePn	Pn	13 36 47.2	-1.9
EYAK				eSn	Sn	13 37 29.4	-1.5
TRF	Thorofare Moun	3.60	19	ePn	Pn	13 36 49.1	-0.3
TRF				eSn	Sn	13 37 27.9	-3.6
KTH	Kantishna Hill	3.61	14	ePn	Pn	13 36 48.9	-0.5
DIV	Divide	3.67	70	ePn	Pn	13 36 49.0	-1.2
DIV				eSn	Sn	13 37 29.4	-3.5
KLU	Klutina	3.70	65	ePn	Pn	13 36 49.5	-1.2
KLU				eSn	Sn	13 37 30.9	-2.9
RND	Reindeer	3.85	28	ePn	Pn	13 36 52.0	-0.7
DHY	Denali Highway	4.00	39	ePn	Pn	13 36 54.1	-0.6
DHY				eSn	Sn	13 37 39.3	-1.6
MCK	McKinley	4.11	25	ePn	Pn	13 36 55.7	-0.4
BPAW	Bear Paw Mtn.	4.13	12	ePn	Pn	13 36 55.2	-1.1
BMRM	Bremner River	4.20	74	ePn	Pn	13 36 55.5	-1.7
BMRM				eSn	Sn	13 37 42.5	-3.0
HARP	HAARP	4.41	55	ePn	Pn	13 36 59.5	-0.5
PAX	Paxson	4.59	48	ePn	Pn	13 37 02.1	-0.4
PAX				eSn	Sn	13 37 53.2	-1.6
PS10	TAPS Pump St10	4.76	42	ePn	Pn	13 37 05.5	+0.7
CHGN	Chignik	4.78	220	ePn	Pn	13 37 03.9	-1.1
MLY	Manley	5.07	10	ePn	Pn	13 37 07.4	-1.4
HDA	Harding Lake	5.16	30	ePn	Pn	13 37 09.3	-0.6
CCB	Clear Creek Bu	5.16	25	ePn	Pn	13 37 09.0	-1.0
MENT	Mentasta	5.25	53	ePn	Pn	13 37 10.0	-1.2
RIDG	Independ'e Rid	5.29	43	ePn	Pn	13 37 11.6	-0.2
PS08	TAPS Pump Stn8	5.30	30	ePn	Pn	13 37 11.1	-0.8
COLA	College	5.35	24	ePn	Pn	13 37 11.5	-1.0
MDM	Murphy Dome	5.35	22	ePn	Pn	13 37 11.5	-1.1
ILAR	Eielson Array	5.47	28	P	Pn	13 37 13.4	-0.8
	29nm,0.3s,baz=215,slow=14,SNR=2190						
ILAR				S	Sn	13 38 10.4	-5.5
	14nm,0.3s,baz=209,slow=17,SNR=6.5						
ILB	Eielson Array	5.47	28	ePn	Pn	13 37 13.2	-1.0
ILB				eSn	Sn	13 38 10.4	-5.5
DOT	Dot Lake	5.50	46	ePn	Pn	13 37 13.5	-1.2
IM3	Indian Mountai	5.94	357	ePn	Pn	13 37 20.2	-0.3
PS06	TAPS Pump Stn6	5.97	13	ePn	Pn	13 37 20.8	-0.1
BCA3	Beaver Creek A	6.09	56	ePn	Pn	13 37 21.9	-0.7
SDPT	Sand Point	6.24	224	ePn	Pn	13 37 23.6	-1.1
PCA	Pinnacle	6.33	84	ePn	Pn	13 37 26.2	+0.3
BCPM	Bancas Point	6.66	85	ePn	Pn	13 37 30.8	+0.6
PNL	Peninsula	6.81	88	ePn	Pn	13 37 32.2	-0.2
PS05	TAPS Pump Stn5	6.83	7	ePn	Pn	13 37 32.9	+0.4
COLD	Coldfoot	7.27	8	ePn	Pn	13 37 38.4	0.0
FYU	Fort Yukon	7.36	25	ePn	Pn	13 37 38.5	-1.1
DAWY	Dawson	7.49	52	ePn	Pn	13 37 41.5	0.0
HYT	Haines Junctio	7.65	78	ePn	Pn	13 37 43.2	-0.6
BM3	Burnt Mountain	8.22	23	ePn	Pn	13 37 49.5	-1.9
PLBC	Pleasant Camp	8.37	87	ePn	Pn	13 37 53.4	+0.1
WHY	Whitehorse	8.95	79	ePn	Pn	13 38 00.6	-0.6
BESE	Bessie Mountai	9.34	91	ePn	Pn	13 38 07.4	+0.9
CRAG	Craig	11.51	105	ePn	Pn	13 38 36.3	+0.8
INK	Inuvik	11.74	37	P	Pn	13 38 37.0	-1.4
	0.8nm,0.3s,baz=235,slow=18,SNR=29						
INK				S	Sn	13 40 41.8	-5.7
	0.3nm,0.3s,baz=278,slow=12,SNR=3.1						
DLBC	Dease Lake	11.81	88	ePn	Pn	13 38 41.2	+1.8
YKW3	Yellowknife Ar	18.36	66	eP	Pn	13 40 00.9	-0.3
	9.9nm,0.6s						
YKA	Yellowknife Ar	18.37	66	P	Pn	13 40 01.0	-0.4
	1.7nm,0.3s,baz=277,slow=10.0,SNR=312						
YKA				ScP	ScP	13 47 49.9	+1.0
	0.1nm,0.3s,baz=288,slow=2.1,SNR=25						
YKB5	Yellowknife Ar	18.37	66	eP	Pn	13 40 01.0	-0.4
YKB5				eScP	ScP	13 47 49.9	+1.0
RES	Resolute Bay	25.21	32	P	P	13 41 09.3	+0.6
	1.3nm,0.4s,baz=249,slow=12,SNR=9.6						
RES	Resolute Bay	25.21	32	eP	P	13 41 09.3	+0.6
	25nm,1.9s						
SEY	Seymchan	25.59	300	P	P	13 41 14.1	+1.8
	0.9nm,0.6s,baz=97,slow=13,SNR=5.6						
PEA1	Petropavlovsk-	27.49	278	eP	P	13 41 30.5	+1.0
PETK	Petropavlovsk-	27.50	278	P	P	13 41 30.5	+1.0
	2.7nm,0.7s,baz=68,slow=15,SNR=13						
MA2	Magadan	27.59	294	P	P	13 41 32.5	+2.2
	6.5nm,0.7s,baz=77,slow=11,SNR=12						
NVAR	Mina Array Bea	30.72	119	ScP	ScP	13 48 25.6	+1.7
	0.5nm,0.8s,baz=302,slow=4.1,SNR=3.2						
PD31	Pinedale Array	31.37	104	eP	P	13 42 06.5	+2.5
PDAR	Pinedale Array	31.37	104	P	P	13 42 06.5	+2.5
	0.3nm,0.5s,baz=334,slow=4.9,SNR=3.9						
ULM	Lac du Bonnet	33.01	81	P	P	13 42 19.6	+1.5
	2.4nm,0.6s,baz=312,slow=8.2,SNR=6.2						
SPA0	Spitsbergen Ar	41.83	3	eP	P	13 43 31.4	-0.6
SPITS	Spitsbergen Ar	41.83	3	P	P	13 43 31.4	-0.6
	4.9nm,0.7s,baz=352,slow=9.0,SNR=12						
SCHQ	Schefferville	43.48	57	P	P	13 43 45.6	+0.1
	1.7nm,0.4s,baz=288,slow=15,SNR=2.7						
SCHQ	Schefferville	43.48	57	eP	P	13 43 45.6	+0.1
	8.2nm,1.3s						
ARA0	ARCESS Array S	50.67	1	eP	P	13 44 40.6	-0.5
ARCES	ARCESS Array B	50.67	1	P	P	13 44 40.6	-0.5
	5.5nm,0.9s,baz=0.0,slow=8.5,SNR=4.3						
KSRS	Korea Array	53.21	283	P	P	13 45 01.8	+1.5
	3.6nm,0.8s,baz=42,slow=7.2,SNR=9.7						
KS15	Wonju Array Si	53.24	283	eP	P	13 45 01.8	+1.3
SONA0	Songino Array	54.78	306	eP	P	13 45 13.7	+1.9
SONM	Songino Array	54.78	306	P	P	13 45 13.7	+1.9
	3.6nm,0.8s,baz=42,slow=7.2,SNR=24						
ZAA1	Zalesovo Array	57.33	324	eP	P	13 45 30.3	+0.7
ZALV	Zalesovo Beam	57.33	324	P	P	13 45 30.3	+0.7
	1.6nm,0.6s,baz=24,slow=6.5,SNR=7.8						
HHC	Hu-ho-hao-te	58.19	297	eP	P	13 45 34.8	-1.1
HHC				pP	pP	13 46 04.8	-0.5
HHC				sP	sP	13 46 18.9	+0.1
HHC				PP	PP	13 47 46.3	+0.7
HHC				S	S	13 53 23.5	-4.2
HHC				sS	sS	13 54 15.7	-2.5
HHC				ScS	ScS	13 55 08.1	-5.2
NB200	NORSAR Array S	58.58	9	eP	P	13 45 37.7	-0.6
NOA	NORSAR Array B	58.58	9	P	P	13 45 37.7	-0.6
	0.6nm,0.8s,baz=324,slow=6.1,SNR=2.6						
FIA0	FINESS Array S	58.80	1	eP	P	13 45 39.7	0.0
FINES	FINESS Array B	58.80	1	P	P	13 45 39.7	0.0
	2.3nm,1.0s,baz=357,slow=8.0,SNR=4.1						
HFS	Hagfors	59.66	8	P	P	13 45 45.3	-0.4
	1.4nm,0.6s,baz=316,slow=8.1,SNR=5.3						
BVAR	Borovoye Array	62.02	332	P	P	13 46 02.1	+0.4
	0.6nm,0.5s,baz=18,slow=4.8,SNR=5.9						
EKA	Eskdalemuir Ar	62.44	19	P	P	13 46 04.5	+0.1
	2.1nm,0.6s,baz=332,slow=5.2,SNR=6.7						
MK32	Makanchi Array	64.40	321	eP	P	13 46 17.6	+0.1
MKAR	Makanchi Array	64.40	321	P	P	13 46 17.6	+0.1
	0.4nm,0.6s,baz=44,slow=6.2,SNR=5.7						
WMQ	Urumqi	65.23	316	eP	P	13 46 23.5	+0.5
CD2	Chengdu	69.94	297	eP	P	13 46 53.0	+0.2
GEC2	GERESS Array S	70.88	9	eP	P	13 46 58.7	+0.5
	6.9nm,1.5s						
GERES	GERESS Array B	70.88	9	P	P	13 46 58.7	+0.5
	0.2nm,0.4s,baz=1.4,slow=7.9,SNR=2.9						
KMI	Kunming	75.36	295	P	P	13 47 23.1	-2.0
ESDC	Sonseca Array	77.36	24	P	P	13 47 36.0	+0.1
	1.1nm,0.8s,baz=343,slow=5.8,SNR=7.7						
CM31	Chiang Mai Arr	82.87	295	eP	P	13 48 06.3	+0.5
CMAR	Chiang Mai Arr	82.87	295	P	P	13 48 06.3	+0.5
	0.8nm,0.9s,baz=22,slow=4.7,SNR=5.6						
BOSA	Boshof	148.51	3	PKPbc	PKPbc	13 55 26.6	-0.3
	2.4nm,1.0s,baz=14,slow=8.3,SNR=3.1						

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*IDC **03** 13:40:06.3±0.8, 22°.42S×170°.45E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/39, mbtmp4.2/12, ML4.2/1, MS4.9/2, Ms1 4.9/2, ms1mx4.2/37, Error ellipse: s-maj=31.0km s-min=20.6km az=155.0*
*NEIC **03** 13:40:08.4±0.6, 22°.35S×170°.22E, h10km, mb4.1/3, Error ellipse: s-maj=26.1km s-min=11.2km az=164.0*
*ISCJB **03** 13:40:10.5±0.5, 22°.4S±0°.1×170°.25E±0°.06, h33km, mb4.3/14, MS5.5/1, Error ellipse: s-maj=18.4km s-min=7.7km az=171.4*
ISC 03 13:40:11.8±0.6**, 22°.4S**±0°.2×**170°.26E**±0°.08**, h33km, n56,** σ**1s.29**/65**, mb4.2**/14**, 1D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.55	274	Pn	Pn	13 41 04.7	0.0
	18nm,0.3s,baz=88,slow=18,SNR=35						
DZM				Sn	Sn	13 41 46.5	+0.9
	18nm,0.3s,baz=37,slow=21,SNR=4.5						
DZM				LR	LR	13 42 33.5	
	comp=Z,6μm,19.7s,baz=71,slow=40						
DZM	Mont Dzumac	3.55	274	ePn	Pn	13 41 00.7	-3.9
DZM				ePg	Pb	13 41 04.7	-9.3
DZM				eSn	Sn	13 41 46.5	+0.9
AFI	Afiamalu	19.02	67	P	Pn	13 44 32.8	+0.8
	0.6nm,0.3s,baz=256,slow=17,SNR=3.1						
CTA	Charters Tower	22.49	271	P	P	13 45 10.6	+2.0
	8.2nm,1.0s,baz=82,slow=14,SNR=4.2						
STKA	Stephens Creek	27.14	243	P	P	13 45 53.1	+1.1
	3.8nm,0.7s,baz=85,slow=11,SNR=8.2						
STKA	Stephens Creek	27.14	243	eP	P	13 45 53.3	+1.3
	2.6nm,1.1s						
AS01	Alice Springs	33.39	261	eP	P	13 46 45.1	-2.4
AS31	Alice Springs	33.43	261	eP	P	13 46 48.2	+0.4
	1.7nm,0.9s						
ASAR	Alice Springs	33.43	261	P	P	13 46 48.3	+0.5
	3.0nm,1.0s,baz=93,slow=9.3,SNR=23						
ASAR				PcP	PcP	13 49 28.8	0.0
	0.8nm,1.0s,baz=123,slow=3.4,SNR=3.2						
WR1	Warramunga Arr	33.54	267	eP	P	13 46 48.0	-0.8
	42nm,1.9s						
WRA	Warramunga Arr	33.54	267	P	P	13 46 48.0	-0.8
	4.8nm,1.1s,baz=100,slow=8.3,SNR=12						
WRA				PcP	PcP	13 49 29.1	0.0
	0.7nm,0.9s,baz=132,slow=1.2,SNR=3.5						
MJAR	Matsushiro Arr	65.96	332	P	P	13 50 54.0	-0.8
	2.2nm,0.9s,baz=163,slow=7.3,SNR=4.3						
MAJO	Matsushiro	65.96	332	eP	P	13 50 54.0	-0.8
KSRS	Korea Array	71.62	326	P	P	13 51 30.7	+0.8
	1.7nm,0.9s,baz=140,slow=4.9,SNR=4.4						
KSAR	Wonju Array Be	71.63	326	P	P	13 51 30.7	+0.7
CM01	Chiang Mai Arr	80.63	294	eP	P	13 52 22.5	+0.9
CMAR	Chiang Mai Arr	80.66	294	P	P	13 52 24.1	+2.2
	3.6nm,1.0s,baz=130,slow=3.9,SNR=20						
CHTO	Chiang Mai	80.82	295	P	P	13 52 25.5	+2.8
	54nm,1.1s						
CHTO	Chiang Mai	80.82	295	eP	P	13 52 23.5	+0.8
	14nm,1.1s						
SNAA	Sanae	86.08	182	P	P	13 52 48.6	-0.3
SNAA	Sanae	86.08	182	P	P	13 52 47.8	-1.2
	5.7nm,1.2s,baz=155,slow=6.0,SNR=4.5						
VNA2	Neumayer--Watz	86.94	181	P	P	13 52 52.8	-0.3
	baz=184,slow=3.7						
NVAR	Mina Array Bea	90.16	48	P	P	13 53 09.6	+0.6
	0.5nm,0.7s,baz=221,slow=10,SNR=4.0						
SONA0	Songino Array	90.29	323	eP	P	13 53 09.2	-0.1
SONM	Songino Array	90.29	323	P	P	13 53 09.2	-0.1
	2.4nm,1.0s,baz=146,slow=4.3,SNR=13						
SONA1	Songino Array	90.29	323	eP	P	13 53 08.0	-1.3
LON	Longmire	92.04	40	eP	P	13 53 19.0	+1.6
MTLAZ	Mount Logan	92.83	52	eP	P	13 53 19.4	-2.2
ILAR	Eielson Array	92.93	17	P	P	13 53 20.1	-0.9
	0.5nm,0.8s,baz=222,slow=4.9,SNR=2.9						
GCAZ	Grand Canyon	93.48	52	eP	P	13 53 25.7	+1.2
INK	Inuvik	99.21	18	LR	LR	14 34 45.8	
	comp=Z,2μm,19.9s,baz=73,slow=33						
MKAR	Makanchi Array	104.63	315	Pdiff	Pdif	13 54 13.2	-0.9
	0.2nm,0.7s,baz=106,slow=4.7,SNR=1.8						
ARCES	ARCESS Array B	128.33	345	PKP	PKPdf	13 59 14.2	0.0
	4.6nm,1.0s,baz=35,slow=3.3,SNR=4.5						
FINES	FINESS Array B	133.84	337	PKP	PKPdf	13 59 24.6	-0.2
	1.5nm,1.0s,baz=108,slow=0.4,SNR=2.5						
DPC	Dobruska-Polom	145.42	330	ePKP	PKPbc	13 59 45.8	-0.4
DPC				epPKP	PKiKP	13 59 52.9	+2.7
UPC	Upice	145.45	331	ePKP	PKPdf	13 59 45.7	-0.5
UPC				epPKP	PKiKP	13 59 53.5	+3.3
PVCC	Panska Ves	146.07	332	ePKP	PKPab	13 59 48.5	-0.3
BRG	Berggiesshubel	146.09	333	i PKP	PKPdf	13 59 47.6	+0.3
	25nm,1.2s						
CLL	Collm	146.15	334	⇓i PKPbc	PKPdf	13 59 47.3	-0.1
	comp=Z,22nm,1.3s						
CLL				i		13 59 54.2	
	comp=Z,24nm,1.3s						
GOPC	GO Pecny, Ondr	146.42	331	ePKP	PKPab	13 59 50.9	+0.7
GOPC				epPKP	pPKPdf	13 59 56.5	-2.3
PRU	Pruhonice	146.48	331	ePKP	PKPbc	13 59 48.8	-0.6
PRU				epPKP	pPKPdf	13 59 55.9	-2.9
EKA	Eskdalemuir Ar	146.72	353	PKPbc	PKPdf	13 59 48.3	+0.1
	comp=Z,3.6nm,0.8s,baz=359,slow=3.2,SNR=5.1						
CONA	Conrad Observa	147.30	327	ePKPab	PKPab	13 59 53.1	-0.7
	comp=Z,12nm,1.4s						
KHC	Kasperske Hory	147.53	331	ePKP	PKPbc	13 59 51.7	-0.8
KHC				epPKP	pPKPdf	13 59 59.1	-1.6
GERES	GERESS Array B	147.69	331	PKP	PKPdf	13 59 50.2	0.0
	comp=Z,3.4nm,1.1s,baz=350,slow=4.4,SNR=12						
GERES				PKPbc	PKPbc	13 59 52.5	-0.5
	comp=Z,3.5nm,1.1s,baz=24,slow=3.4,SNR=11						
ARSA	Arzberg	147.92	327	ePKPab	PKPab	13 59 55.8	-0.4
	comp=Z,6.1nm,1.3s						
MOA	Molln	148.13	329	esPKPdf	PKPbc	13 59 54.8	+0.7
	comp=Z,7.1nm,1.5s						
SOKA	Soboth	148.56	326	epPKPdf	PKPbc	13 59 54.5	-0.8
	comp=Z,10nm,1.5s						
ABTA	Abfaltersbach	149.76	329	ePKPbc	PKPbc	13 59 58.5	+0.2
	comp=Z,16nm,1.4s						
WATA	Walderalm	149.76	331	ePKPbc	PKPbc	13 59 58.5	+0.1
	comp=Z,2.9nm,0.5s						
WTTA	Wattenberg	149.79	330	ePKiKP	PKiKP	13 59 59.1	-0.4
	comp=Z,20nm,1.7s						
MOTA	Moosalm	149.97	331	esPKPdf	PKPbc	13 59 57.8	-1.1
	comp=Z,3.8nm,0.6s						
RETA	Reutte	150.01	332	esPKPdf	PKPbc	13 59 58.3	-0.6
	comp=Z,11nm,1.3s						
FETA	Feichten	150.38	331	ePKPbc	PKPbc	13 59 59.4	-0.6
	comp=Z,6.3nm,1.0s						
DAVA	Damuels	150.55	332	ePKiKP	PKiKP	14 00 01.0	0.0
	comp=Z,8.4nm,0.8s						
TORD	Torodi Ar. Bea	165.77	232	PKP	PKPdf	14 00 14.0	0.0
	comp=Z,1.2nm,1.2s,baz=143,slow=5.0,SNR=2.7						

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*ISCJB **03** 13:54:56.9±0.7, 2°.53S±0°.05×99°.98E±0°.09, h10km, mb3.5/1, Error ellipse: s-maj=12.9km s-min=5.8km az=161.3*
*DJA **03** 13:54:56.4±0.8, 3°S±10°×10°0E±°, h14km±5km, M3.0/6, MLv3.0/6*
*IDC **03** 13:55:14.8±5.7, 0°.02N×99°.14E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/57, mbtmp3.4/3, Error ellipse: s-maj=294.4km s-min=28.6km az=54.0*
ISC 03 13:54:57.0±1.1**, 2°.56S**±0°.08×**99°.9E**±0°.1**, h10km, n14,** σ**0s.88**/8**, mb3.4**/3**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.23	155	P	Pg	13 55 01.9	+0.2
PPSI				S	Sg	13 55 05.8	+1.0
SISI	Saibi	1.47	326	P	Pn	13 55 23.4	-0.2
SISI				S	Sn	13 55 43.9	+0.9
PDSI	Padang	1.72	18	P	Pn	13 55 26.8	-0.3
SDSI	Sungai Dareh	2.21	43	P	Pn	13 55 34.4	+0.6
MASI	Maura Aman, Be	2.39	104	P	Pn	13 55 35.5	-0.8
H08S2	Diego Garcia H	27.77	258	T	T	14 29 39.2	
	baz=81,slow=76,SNR=120						
H08S3	Diego Garcia H	27.77	259	T	T	14 29 38.1	
	baz=81,slow=76,SNR=106						
H08S1	Diego Carcia H	27.79	258	T	T	14 29 40.1	
	baz=81,slow=76,SNR=86						
H08N1	Diego Carcia H	29.05	262	T	T	14 31 39.7	
	baz=166						
H08N2	Diego Garcia H	29.07	262	T	T	14 31 37.5	
	baz=166						
H08N3	Diego Garcia H	29.07	262	T	T	14 31 37.5	
	baz=166						
WRA	Warramunga Arr	37.79	120	P	P	14 02 49.3	+35
	0.1nm,0.3s,baz=298,slow=8.4,SNR=5.4						
ASAR	Alice Springs	39.00	125	P	P	14 03 01.4	+37
	0.4nm,0.4s,baz=301,slow=7.9,SNR=20						
MKAR	Makanchi Array	51.54	345	P	P	14 04 02.2	-0.9
	0.3nm,0.4s,baz=151,slow=9.2,SNR=5.3						

IDC 03 13:55:22.9±2.5**, 4°.81N**×**126°.66E, h0km, mb3.1**/3**, mb1 3.3**/3**, mb1mx3.1**/54**, mbtmp3.1**/3**, Error ellipse: s-maj=214.7km s-min=26.2km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.73	163	P	P	14 00 55.0	-0.3
	0.3nm,0.9s,baz=343,slow=10.0,SNR=4.9						
ASAR	Alice Springs	29.17	166	P	P	14 01 26.4	+0.3
	0.2nm,0.8s,baz=350,slow=6.9,SNR=5.1						
MKAR	Makanchi Array	56.63	325	P	P	14 05 07.8	-0.1
	0.1nm,0.5s,baz=142,slow=7.3,SNR=2.5						

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*IDC **03** 14:24:35.3±1.8, 0°.63N×124°.62E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/58, mbtmp3.7/4, Error ellipse: s-maj=181.5km s-min=25.2km az=63.0*
*ISCJB **03** 14:24:47.4±1.1, 0°.47N±0°.10×125°.29E±0°.06, h35km, mb3.7/4, Error ellipse: s-maj=15.3km s-min=5.5km az=25.8*
*DJA **03** 14:24:48.4±1.4, 0°N±6°×12°5E±°, h26km±15km, M3.8/8, mB4.4/1, mb4.0/1, MLv3.7/8, Mw(mB)3.6/1*
ISC 03 14:24:45.8±1.5**, 0°.6N**±0°.1×**125°.32E**±0°.06**, h35km, n12,** σ**2s.53**/15**, mb3.7**/4**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.34	270	P	Pn	14 25 09.1	+1.1
KMSI				S	Sn	14 25 26.1	+1.6
LBMI	Labuha	2.50	119	P	Pn	14 25 26.1	+2.1
LBMI				S	Sn	14 25 56.4	+3.1
SANI	Sanana	2.70	166	P	Pn	14 25 27.7	+0.9
SANI				S	Sn	14 25 59.2	+0.9
LUWI	Luwuk	3.01	238	P	Pn	14 25 34.3	+3.2
MRSI	Marisa	3.38	268	P	Pn	14 25 38.4	+2.3
NLAI	Namlea	4.20	155	P	Pn	14 25 49.4	+2.1
NLAI				S	Sn	14 26 36.1	+1.0
AAI	Ambon	5.12	146	P	Pn	14 26 03.0	+2.9
MSAI	Masohi	5.32	137	P	Pn	14 26 05.0	+2.2
WRA	Warramunga Arr	22.23	157	P	P	14 29 36.8	-2.9
	1.2nm,0.5s,baz=333,slow=11,SNR=22						
ASAR	Alice Springs	25.51	161	P	P	14 30 08.8	-2.4
	1.1nm,0.4s,baz=348,slow=12,SNR=21						
STKA	Stephens Creek	35.78	156	P	P	14 31 38.7	-3.0
	1.4nm,0.6s,baz=328,slow=8.2,SNR=3.8						
MKAR	Makanchi Array	59.36	327	P	P	14 34 36.5	-8.1
	0.2nm,0.5s,baz=128,slow=6.2,SNR=4.2						

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*KRSC **03** 14:30:56.8±1.2, 51°.90N×158°.68E, h99km±11km, ML3.9*
*ISCJB **03** 14:30:57.4±0.5, 51°.96N±0°.04×158°.48E±0°.09, h113km±3km, mb3.6/8, Error ellipse: s-maj=11.1km s-min=4.8km az=33.9*
*IDC **03** 14:30:59.8±1.5, 52°.32N×158°.55E, h128km±7km, mb3.4/8, mb1 3.5/9, mb1mx3.2/77, mbtmp3.9/9, Error ellipse: s-maj=36.2km s-min=19.8km az=87.0*
ISC 03 14:30:57.1±0.9**, 51°.95N**±0°.07×**158°.59E**±0°.06**, h113km**±6km**, n40,** σ**1s.45**/50**, mb3.5**/8**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	0.35	247	i P	Pn	14 31 13.2	-0.2
KDTR				i S	Sn	14 31 23.9	-1.7
RUS	Russkaya	0.49	354	eP	Pn	14 31 14.3	+0.1
RUS				eS	Sn	14 31 26.1	-0.9
MTVR	Mutnovka	0.59	335	eP	Pn	14 31 15.4	+0.3
MTVR				eS	Sn	14 31 28.1	-0.5
ASAK	Asacha	0.61	316	eP	Pn	14 31 15.6	+0.5
ASAK				eS	Sn	14 31 28.8	+0.1
KRMR	Karymshinskiy	0.93	342	eP	Pn	14 31 18.3	+0.5
KRMR				eS	Sn	14 31 33.2	-0.2
PET	Petropavlovsk	1.08	2	i P	Pn	14 31 20.0	+0.7
PET				eS	Sn	14 31 36.1	0.0
DALK	Dalny	1.09	5	eP	Pn	14 31 20.1	+0.7
DALK				eS	Sn	14 31 36.0	-0.3
PAU	Pauzhetka	1.21	247	eP	Pn	14 31 21.2	+0.5
PAU				eS	Sn	14 31 38.9	+0.4
UGLR	Uglovaya	1.27	6	eP	Pn	14 31 22.9	+1.4
UGLR				eS	Sn	14 31 40.5	+0.5
PETK	Petropavlovsk-	1.28	335	P	Pn	14 31 22.7	+1.1
	33nm,0.3s,baz=133,slow=14,SNR=824						
PETK				S	Sn	14 31 39.4	-0.8
	12nm,0.3s,baz=160,slow=9.0,SNR=18						
NLC	Nalytchevo	1.31	20	eP	Pn	14 31 22.1	+0.3
NLC				eS	Sn	14 31 39.7	-0.8
APC	Apacha	1.31	319	eP	Pn	14 31 22.8	+0.9
APC				eS	Sn	14 31 40.8	+0.1
AVH	Avacha	1.32	4	eP	Pn	14 31 23.6	+1.5
AVH				eS	Sn	14 31 42.0	+1.0
SMAR	Somma	1.32	5	i P	Pn	14 31 23.4	+1.2
SMAR				eS	Sn	14 31 41.6	+0.3
SDLR	Sedlovina	1.34	7	eP	Pn	14 31 23.3	+0.9
SDLR				eS	Sn	14 31 41.1	-0.4
KOK	Koryaka	1.35	1	eP	Pn	14 31 24.3	+1.9
KOK				eS	Sn	14 31 43.1	+1.6
KRX	Arik	1.42	1	eP	Pn	14 31 24.7	+1.5
KRX				eS	Sn	14 31 43.6	+0.6
SPN	Mys Shipunski	1.45	37	eP	Pn	14 31 24.7	+1.3
SPN				eS	Sn	14 31 43.4	0.0
GNL	Ganaly	1.79	348	eP	Pn	14 31 28.8	+1.1
GNL				eS	Sn	14 31 50.9	-0.2
SKR	Severo-Kuril's	2.00	232	eP	Pn	14 31 30.8	+0.6
SKR				eS	Sn	14 31 54.8	-0.7
KII	Karymskiy	2.16	14	eP	Pn	14 31 34.7	+2.5
KII				eS	Sn	14 32 01.5	+2.4
KZV	Kizimen	3.33	17	eP	Pn	14 31 50.8	+3.2
TUMR	Tumrok	3.47	15	eP	Pn	14 31 52.9	+3.5
BKI	Bering	5.47	51	eP	Pn	14 32 17.9	+1.7
BKI				eS	Sn	14 33 14.3	-3.6
ASAJ	Asahikawa	13.24	240	P	Pn	14 34 01.6	+0.9
	0.4nm,0.3s,baz=58,slow=14,SNR=6.4						
YAK	Yakutsk	18.54	314	P	P	14 35 02.9	-1.7
	0.0nm,0.3s,baz=40,slow=1.2,SNR=4.4						
H11N2	WAKE ISLAND Hy	32.80	165	T	T	15 12 24.9	
	baz=353,SNR=16						
H11N3	WAKE ISLAND Hy	32.82	165	T	T	15 12 26.1	
	baz=353,slow=74,SNR=12						
H11N1	WAKE ISLAND Hy	32.82	165	T	T	15 12 26.2	
	baz=353,slow=74,SNR=17						
H11S1	WAKE ISLAND Hy	33.97	166	T	T	15 13 52.5	
	baz=351,slow=76,SNR=4.9						
H11S3	WAKE ISLAND Hy	33.98	166	T	T	15 13 53.7	
	baz=351,slow=76,SNR=7.3						
H11S2	WAKE ISLAND Hy	33.99	166	T	T	15 13 54.2	
	baz=351,slow=76,SNR=3.8						
MKAR	Makanchi Array	47.83	296	P	P	14 39 22.0	-1.1
	0.2nm,0.5s,baz=42,slow=5.2,SNR=4.1						
BVAR	Borovoye Array	50.38	308	P	P	14 39 41.3	-1.1
	0.6nm,0.4s,baz=60,slow=8.5,SNR=6.3						
FINES	FINESS Array B	60.80	336	P	P	14 40 56.2	-0.4
	1.4nm,0.8s,baz=13,slow=13,SNR=2.5						
NOA	NORSAR Array B	64.38	343	P	P	14 41 17.7	-2.8
	0.5nm,0.7s,baz=28,slow=9.4,SNR=2.7						
SCHQ	Schefferville	67.09	27	P	P	14 41 36.2	-1.7
	3.2nm,0.6s,baz=269,slow=14,SNR=3.6						
WRA	Warramunga Arr	74.66	204	P	P	14 42 26.2	+2.2
	0.5nm,0.7s,baz=17,slow=6.3,SNR=3.9						
GERES	GERESS Array B	75.22	337	P	P	14 42 27.9	+0.7
	0.4nm,0.6s,baz=24,slow=7.7,SNR=3.7						
ASAR	Alice Springs	78.34	203	P	P	14 42 48.0	+3.3
	0.4nm,0.8s,baz=15,slow=5.0,SNR=6.1						

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*IDC **03** 14:38:52.6±0.9, 3°.07N×84°.40W, h0km, mb3.9/10, mb1 4.2/14, mb1mx4.0/52, mbtmp4.1/14, ML3.0/3, MS4.6/2, Ms1 4.6/2, ms1mx3.9/46, Error ellipse: s-maj=29.1km s-min=16.4km az=56.0*
*ISCJB **03** 14:38:54.5±0.6, 3°.06N±0°.06×84°.32W±0°.05, h28km, mb3.9/10, MS4.5/2, Error ellipse: s-maj=10.1km s-min=5.4km az=34.4*
*NEIC **03** 14:38:57.7±0.5, 3°.08N×84°.32W, h35km, mb4.0/2, Error ellipse: s-maj=11.7km s-min=7.4km az=215.0*
*IGQ **03** 14:38:57.0±12.0, 3°N±63°×8°4W±8°9, h20km, mB5.4/4, mb5.4/5, MLv5.1/6, Mw(mB)4.8/4*
ISC 03 14:38:56.3±0.7**, 3°.11N**±0°.08×**84°.4W**±0°.1**, h28km, n52,** σ**1s.41**/47**, mb3.9**/10**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	Isla de la Pla	5.43	143	P	Pn	14 40 13.0	-2.6
OTAV	Otavalo	6.54	116	ePn	Pn	14 40 30.0	-1.3

OTAV	**Otavalo**	**6.54**	**116**	P	**Pn**	**14 40 29.9**	**-1.3**
TERV	**Terraza Guagua**	**6.60**	**119**	P	**Pn**	**14 40 31.5**	**-0.6**
YANA	**Yana**	**6.60**	**119**	P	**Pn**	**14 40 31.4**	**-0.6**
COTA	**Cotacachi**	**6.61**	**115**	P	**Pn**	**14 40 31.7**	**-0.4**
URCU	**Urcuqui**	**6.64**	**113**	P	**Pn**	**14 40 31.9**	**-0.5**
IMBA	**Imbabura, San**	**6.76**	**114**	P	**Pn**	**14 40 35.4**	**+1.3**
YAHU	**Yahuarcocha**	**6.83**	**113**	P	**Pn**	**14 40 35.5**	**+0.3**
CMBC	**Cumbal**	**6.86**	**108**	*e*P	**Pn**	**14 40 34.6**	**-0.9**
JTS	**JuntasAbangare**	**7.16**	**355**	Pn	**Pn**	**14 40 38.7**	**-0.6**
	22nm,0.3s,baz=166,slow=13,SNR=62						
JTS				Sn	**Sn**	**14 41 55.3**	**-4.6**
	baz=267,slow=17,SNR=1.9						
GCUF	**Volcan Galeras**	**7.24**	**105**	*e*P	**Pn**	**14 40 40.3**	**-0.5**
CRUC	**La Cruz**	**7.55**	**102**	*e*P	**Pn**	**14 40 46.7**	**+1.9**
POPC	**Popayan, Colom**	**7.68**	**94**	*e*P	**Pn**	**14 40 44.7**	**-1.9**
HORQ	**Saladito**	**7.72**	**87**	*e*P	**Pn**	**14 40 46.5**	**-0.7**
SOTA	**Rioblanco**	**7.79**	**97**	*e*P	**Pn**	**14 40 48.9**	**+0.5**
PCON	**Cinco Dias**	**7.98**	**95**	*e*P	**Pn**	**14 40 52.6**	**+1.6**
YOTC	**Yotoco, Valle**	**8.03**	**84**	*e*P	**Pn**	**14 40 50.8**	**-0.6**
PLMC	**San Jos˜' del**	**8.24**	**77**	*e*P	**Pn**	**14 40 54.2**	**+0.1**
MARP	**Paez Belalcaza**	**8.38**	**92**	*e*P	**Pn**	**14 40 57.7**	**+1.3**
FLOC	**Florencia**	**8.82**	**100**	*e*P	**Pn**	**14 40 59.7**	**-2.3**
ANIL	**Santa Ana**	**9.03**	**81**	*e*P	**Pn**	**14 41 06.9**	**+1.7**
TOLC	**Tolima**	**9.12**	**80**	*e*P	**Pn**	**14 41 06.3**	**-0.2**
RREF	**El Recreo**	**9.15**	**78**	*e*P	**Pn**	**14 41 08.1**	**+0.9**
HELC	**Santa Helena**	**9.31**	**70**	*e*Pn	**Pn**	**14 41 09.9**	**+0.9**
PRAC	**Prado**	**9.46**	**86**	*e*P	Pn	14 41 05.6	-5.3
NORC	**Norcasia**	**9.76**	**75**	*e*P	**Pn**	**14 41 18.0**	**+3.0**
ROSC	**El Rosal**	**10.15**	**80**	Pn	**Pn**	**14 41 22.1**	**+1.5**
	2.2nm,0.3s,baz=235,slow=17,SNR=2.9						
MOTC	**Monteria, Cord**	**10.31**	**56**	*e*P	**Pn**	**14 41 23.5**	**+1.1**
PTBC	**PUERTO BERRIO,**	**10.43**	**71**	*e*P	**Pn**	**14 41 25.1**	**+1.0**
RUSC	**La Rusia**	**11.56**	**76**	*e*P	Pn	14 41 49.1	+9.0
SDV	**Santo Domingo**	**14.79**	**67**	Pn	**Pn**	**14 42 25.3**	**+1.4**
	0.2nm,0.3s,baz=240,slow=20,SNR=2.3						
CMIG	**Matias Romero**	**17.33**	**324**	P	**P**	**14 42 57.6**	**+0.1**
	0.2nm,0.3s,baz=226,slow=19,SNR=2.2						
PCRV	**Puerto La Cruz**	**20.79**	**69**	P	Pn	14 43 36.8	-1.2
	24nm,1.0s,baz=198,slow=2.8,SNR=4.5						
SJG	**San Juan**	**23.25**	**49**	LR	LR	14 52 27.3	
	comp=Z,1μm,18.6s,baz=38,slow=35						
SAML	**Samuel**	**24.26**	**120**	*e*P	**P**	**14 44 09.7**	**-1.6**
	1.4nm,0.6s						
LPAZ	**La Paz**	**25.07**	**141**	P	**P**	**14 44 19.8**	**+0.5**
	2.7nm,1.1s,baz=327,slow=6.7,SNR=7.1						
LPAZ	**La Paz**	**25.07**	**141**	*e*P	**P**	**14 44 19.6**	**+0.3**
	11nm,1.4s						
H06E1	**SOCORRO T-PHAS**	**30.31**	**303**	T	T	15 16 56.4	
ANMO	**Albuquerque**	**37.75**	**330**	P	**P**	**14 46 11.3**	**+1.2**
	1.9nm,0.9s,baz=75,slow=20,SNR=5.7						
PLCA	**Paso Flores**	**45.42**	**165**	P	**P**	**14 47 12.4**	**-0.3**
	0.6nm,0.9s,baz=18,slow=20,SNR=2.1						
PDAR	**Pinedale Array**	**45.44**	**334**	P	**P**	**14 47 13.2**	**+0.1**
	1.1nm,1.0s,baz=117,slow=5.2,SNR=4.5						
NV01	**Mina Array Sit**	**46.86**	**323**	*e*P	**P**	**14 47 24.8**	**+0.5**
NVAR	**Mina Array Bea**	**46.86**	**323**	P	**P**	**14 47 25.9**	**+1.5**
	0.9nm,0.7s,baz=133,slow=6.8,SNR=9.1						
ULM	**Lac du Bonnet**	**47.98**	**350**	P	**P**	**14 47 32.2**	**-0.4**
	7.1nm,0.9s,baz=170,slow=7.4,SNR=6.0						
NEW	**Newport**	**53.06**	**333**	LR	LR	15 10 27.4	
	comp=Z,663nm,19.0s,baz=86,slow=36						
FRB	**Frobisher Bay**	**61.61**	**8**	P	**P**	**14 49 11.8**	**+0.8**
	1.2nm,0.6s,baz=244,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**63.38**	**345**	P	**P**	**14 49 22.8**	**0.0**
	0.7nm,0.9s,baz=146,slow=7.1,SNR=3.7						
ILAR	**Eielson Array**	**75.76**	**337**	P	**P**	**14 50 39.8**	**+0.5**
	0.7nm,0.9s,baz=133,slow=4.8,SNR=3.5						
ASAR	**Alice Springs**	**137.77**	**238**	PKP	**PKPdf**	**14 58 20.7**	**+1.7**
	1.0nm,1.1s,baz=122,slow=2.0,SNR=4.1						
WR1	**Warramunga Arr**	**138.72**	**243**	*e*PKPdf	**PKPdf**	**14 58 22.1**	**+1.3**
WRA	**Warramunga Arr**	**138.72**	**243**	PKP	**PKPdf**	**14 58 22.1**	**+1.3**
	0.3nm,0.8s,baz=106,slow=2.4,SNR=3.3						

*ISCJB **03** 14:39:08.2±0.7, 44°.52N±0°.05×105°.79W±0°.10, h0km, Error ellipse: s-maj=10.2km s-min=7.5km az=19.8*
*NEIC **03** 14:39:10.4±1.2, 44°.53N×105°.67W, h0km, MN2.7, Error ellipse: s-maj=18.2km s-min=16.6km az=109.0, Suspected Mining explosion.*
NEIC 30 km [18 miles] NNW of Gillette.
*IDC **03** 14:39:11.1±1.2, 44°.50N×105°.79W, h0km, mb1 3.2/4, mb1mx3.1/72, mbtmp2.9/4, ML3.0/3, Error ellipse: s-maj=26.5km s-min=10.3km az=143.0*
ISC 03 14:39:08.5±0.9**, 44°.39N**±0°.07×**105°.74W**±0°.06**, h0km, n12, σ1s.22**/12**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.25**	**102**	*e*Pn	**Pg**	**14 39 33.0**	**+0.5**
K22A	**Casper**	**1.82**	**199**	*e*Pn	**Pg**	**14 39 44.0**	**+0.5**
K22A				*e*Sn	**Sg**	**14 40 07.4**	**+0.3**
LAO	**LASA Array**	**2.33**	**352**	Pn	**Pn**	**14 39 47.7**	**-0.5**
RLMT	**Red Lodge**	**2.62**	**288**	Pn	**Pn**	**14 39 50.2**	**-2.1**
BW06	**Boulder Array**	**3.21**	**241**	*e*Pn	**Pb**	**14 40 05.2**	**-1.4**
PDAR	**Pinedale Array**	**3.21**	**241**	Pn	**Pb**	**14 40 06.4**	**-0.1**
	0.5nm,0.3s,baz=63,slow=20,SNR=8.6						
PDAR				Pg	**Pg**	**14 40 12.1**	**+2.0**
	1.9nm,0.3s,baz=61,slow=19,SNR=30						
PDAR				Lg	Lg	14 40 53.2	
	2.9nm,0.3s,baz=62,slow=29,SNR=5.7						
LKWY	**Lake**	**3.34**	**275**	Pn	**Pn**	**14 40 01.2**	**-1.0**
EGMT	**Eagleton**	**4.58**	**324**	P	Pn	14 40 23.3	+4.1
I10CA	**LAC DU BONNET**	**8.79**	**45**	*i*		15 36 10.0	
	baz=223,slow=331,SNR=2.2						
ULM	**Lac du Bonnet**	**8.90**	**45**	Pn	**Pn**	**14 41 18.5**	**+0.3**
	0.1nm,0.3s,baz=242,slow=11,SNR=3.0						
ULM				Lg	Lg	14 43 39.4	
	0.1nm,0.3s,baz=287,slow=19,SNR=3.2						
TXAR	**Lajitas Array**	**15.11**	**173**	Pn	**P**	**14 42 49.1**	**+0.3**
	0.1nm,0.3s,baz=351,slow=6.0,SNR=2.1						
YKA	**Yellowknife Ar**	**18.86**	**347**	P	**Pn**	**14 43 31.2**	**+0.8**
	0.0nm,0.3s,baz=160,slow=12,SNR=5.3						

*PGC **03** 14:45:05.8±0.6, 48°.46N×128°.83W, h10km, mb4.1, MLSn3.1/35, Mw3.7/35, 226km Wsw of Tofino, Bc Vancouver Island, Canada Region*
*IDC **03** 14:45:08.3±1.0, 48°.69N×128°.50W, h0km, mb3.6/5, mb1 3.8/13, mb1mx3.6/77, mbtmp3.6/13, ML3.0/7, Error ellipse: s-maj=21.7km s-min=10.4km az=59.0*
*NEIC **03** 14:45:10.6±0.6, 48°.77N×128°.40W, h10km, mb4.1/13, MW3.7(OTT), Error ellipse: s-maj=11.3km s-min=5.2km az=63.0*
ISC 03 14:45:07.6±0.6**, 48°.55N**±0°.04×**128°.74W**±0°.04**, h10km, n136, σ2s.20**/147**, mb3.9**/8**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCHR	**NEPTUNE Canada**	**0.62**	**202**	P	**Pg**	**14 45 15.8**	**-3.7**
NCHR				S	**Sg**	**14 45 22.8**	**-4.6**
KEMF	**NEPTUNE Canada**	**0.64**	**202**	P	**Pg**	**14 45 16.1**	**-3.9**
NC27	**ODP1027**	**1.03**	**140**	P	**Pg**	**14 45 23.1**	**-4.1**
ETB	**Estevan Point**	**1.67**	**59**	Pn	**Pn**	**14 45 35.0**	**-1.9**
EDB	**Eliza Dome**	**1.70**	**38**	Pn	**Pn**	**14 45 34.6**	**-2.7**
BPBC	**Brooks Peninsu**	**1.73**	**21**	Pn	**Pn**	**14 45 34.7**	**-3.0**
BPBC				Sn	**Sn**	**14 45 57.3**	**-2.7**
PACB	**Port Alice, BC**	**2.06**	**23**	Pn	**Pn**	**14 45 38.8**	**-3.4**
PACB				Sn	**Sn**	**14 46 02.9**	**-5.0**
MAYB	**Maynard**	**2.12**	**28**	Pn	**Pn**	**14 45 41.2**	**-2.0**
HOLB	**Holberg**	**2.13**	**11**	Pn	**Pn**	**14 45 42.0**	**-1.2**
HOLB				Sn	**Sn**	**14 46 06.8**	**-3.0**
B012	**Ucluelet**	**2.15**	**79**	Pn	**Pn**	**14 45 40.9**	**-2.6**
B012				Sn	**Sn**	**14 46 06.1**	**-4.0**
GDR	**Gold River**	**2.17**	**54**	Pn	**Pn**	**14 45 41.6**	**-2.1**
OZB	**Mount Ozzard**	**2.19**	**78**	Pn	**Pn**	**14 45 41.3**	**-2.7**
OZB				Sn	**Sn**	**14 46 07.5**	**-3.7**
BTB	**Buttle Lake**	**2.31**	**65**	Pn	**Pn**	**14 45 44.1**	**-1.8**
BTB				Sn	**Sn**	**14 46 11.3**	**-3.1**
PHC	**Port Hardy**	**2.32**	**21**	Pn	**Pn**	**14 45 43.5**	**-2.3**
B928	**Bamfield**	**2.41**	**82**	Pn	**Pn**	**14 45 44.1**	**-2.8**
B928				Sn	**Sn**	**14 46 12.8**	**-3.6**
B928	**Bamfield**	**2.41**	**82**	*e*Pn	**Pn**	**14 45 45.6**	**-1.3**
MWAB	**Mount Washingt**	**2.56**	**61**	Pn	**Pn**	**14 45 46.9**	**-2.2**
CBB	**Campbell River**	**2.67**	**55**	Pn	**Pn**	**14 45 49.4**	**-1.1**
CBB				Sn	**Sn**	**14 46 21.0**	**-1.9**
B927	**Port Alberni**	**2.68**	**74**	Pn	**Pn**	**14 45 48.3**	**-2.4**
B927				Sn	**Sn**	**14 46 21.2**	**-2.0**
OCP	**Olym-Cheeka Pk**	**2.75**	**94**	Pn	**Pn**	**14 45 50.3**	**-1.5**
OCP				Sn	**Sn**	**14 46 23.6**	**-1.5**
PFB	**Port Renfrew**	**2.86**	**88**	Pn	**Pn**	**14 45 51.2**	**-2.0**
PFB				Sn	**Sn**	**14 46 23.6**	**-4.0**
TXB	**Texada**	**3.05**	**66**	Pn	**Pn**	**14 45 54.8**	**-1.2**
B926	**Mesachie Lake**	**3.07**	**83**	Pn	**Pn**	**14 45 54.3**	**-1.8**
B926				Sn	**Sn**	**14 46 29.2**	**-3.6**
NLLB	**Nanaimo Lost L**	**3.21**	**76**	Pn	**Pn**	**14 45 57.3**	**-0.7**
NLLB				Sn	**Sn**	**14 46 34.8**	**-1.5**
LZB	**Mount Lazard**	**3.27**	**87**	Pn	**Pn**	**14 45 56.9**	**-1.9**
LZB				Sn	**Sn**	**14 46 34.6**	**-3.2**
BPCB	**Bare Point**	**3.36**	**82**	Sn	**Sn**	**14 46 37.9**	**-1.9**
SHB	**Sechelt**	**3.37**	**70**	Pn	**Pn**	**14 45 59.3**	**-1.0**
SHB				Sn	**Sn**	**14 46 38.0**	**-2.3**
NLWA	**Neilton Lookou**	**3.47**	**108**	*e*Pn	**Pn**	**14 46 00.5**	**-1.2**
B009	**North Saanich**	**3.51**	**86**	Pn	**Pn**	**14 46 00.4**	**-1.8**
B009				Sn	**Sn**	**14 46 41.4**	**-2.4**
B010	**North Saanich**	**3.51**	**86**	Pn	**Pn**	**14 46 00.4**	**-1.7**
B010				Sn	**Sn**	**14 46 41.3**	**-2.5**
PGC	**Sidney**	**3.51**	**86**	Pn	**Pn**	**14 46 00.2**	**-2.0**
PGC				Sn	**Sn**	**14 46 41.7**	**-2.0**
PGC	**Sidney**	**3.51**	**86**	*e*Pn	**Pn**	**14 46 01.4**	**-0.7**
PA02	**PA02 Ocean**	**3.52**	**86**	Pn	**Pn**	**14 46 00.2**	**-2.0**
PA02				Sn	**Sn**	**14 46 41.1**	**-2.7**
PA12	**PA12 Sannich**	**3.52**	**86**	Pn	**Pn**	**14 45 59.7**	**-2.5**
PA12				Sn	**Sn**	**14 46 41.2**	**-2.5**
B011	**North Saanich**	**3.52**	**86**	Pn	**Pn**	**14 45 59.8**	**-2.4**
B011				Sn	**Sn**	**14 46 41.4**	**-2.4**
PA01	**PA01 North**	**3.52**	**86**	Sn	**Sn**	**14 46 41.2**	**-2.7**
PA04	**PA04 Cage**	**3.52**	**86**	Pn	**Pn**	**14 45 59.7**	**-2.5**
PA04				Sn	**Sn**	**14 46 41.5**	**-2.3**
PA05	**PA05 Willingdo**	**3.52**	**86**	Sn	**Sn**	**14 46 41.5**	**-2.3**
VGZ	**Gonzales**	**3.61**	**90**	Pn	**Pn**	**14 46 01.9**	**-1.5**
VGZ				Sn	**Sn**	**14 46 42.6**	**-3.4**
BBB	**Bella Bella**	**3.66**	**6**	Pn	**Pn**	**14 46 03.4**	**-0.8**
	20nm,0.3s,baz=187,slow=6.1,SNR=114						
BBB				Sn	**Sn**	**14 46 44.0**	**-3.4**
	7.7nm,0.3s,baz=104,slow=17,SNR=8.9						
BBB	**Bella Bella**	**3.66**	**6**	Pn	**Pn**	**14 46 03.2**	**-1.0**
BBB				Sn	**Sn**	**14 46 43.5**	**-4.0**
BIB	**Bowen Island**	**3.68**	**74**	Pn	**Pn**	**14 46 02.5**	**-2.0**
BIB				Sn	**Sn**	**14 46 46.8**	**-1.1**
SNB	**Saturna Island**	**3.70**	**84**	Pn	**Pn**	**14 46 04.3**	**-0.4**
SNB				Sn	**Sn**	**14 46 47.4**	**-1.0**
WPB	**Watts Point**	**3.80**	**71**	Pn	**Pn**	**14 46 05.3**	**-0.8**
WPB				Sn	**Sn**	**14 46 52.8**	**+1.9**
BLN	**Blyn Mountain**	**3.89**	**96**	Pn	**Pn**	**14 46 06.4**	**-1.0**
BLN				Sn	**Sn**	**14 46 52.5**	**-0.6**
MCW	**Mount Constitu**	**3.92**	**86**	Pn	**Pn**	**14 46 07.1**	**-0.8**
MCW				Sn	**Sn**	**14 46 53.1**	**-0.9**
WSLR	**Whistler**	**4.12**	**65**	Pn	**Pn**	**14 46 10.0**	**-0.7**
VDB	**Vedder Mountai**	**4.42**	**81**	Pn	**Pn**	**14 46 13.3**	**-1.3**
VDB				Sn	**Sn**	**14 47 04.9**	**-1.1**
B05A	**Bryant**	**4.44**	**91**	P	**Pn**	**14 46 14.6**	**-0.2**
	baz=275						
MBW	**Mount Baker**	**4.54**	**84**	Pn	**Pn**	**14 46 15.8**	**-0.7**
MBW				Sn	**Sn**	**14 47 09.8**	**+0.4**
JCW	**Jim Creek**	**4.55**	**92**	Pn	**Pn**	**14 46 16.2**	**-0.3**
JCW				Sn	**Sn**	**14 47 08.2**	**-1.3**
C05A	**Tolt Reservoir**	**4.80**	**98**	Sn	**Sn**	**14 47 15.4**	**-0.2**
B06A	**Marblemount**	**4.82**	**88**	Pn	**Pn**	**14 46 21.0**	**+0.9**
LLLB	**Lillooet**	**4.92**	**63**	Pn	**Pn**	**14 46 20.8**	**-0.7**
LLLB	**Lillooet**	**4.92**	**63**	*e*Pn	**Pn**	**14 46 21.2**	**-0.3**
LON	**Longmire**	**5.02**	**108**	Pn	**Pn**	**14 46 23.0**	**+0.1**
FMW	**Mount Fremont**	**5.04**	**106**	Pn	**Pn**	**14 46 23.6**	**+0.3**
GPW	**Glacier Peak**	**5.09**	**92**	Pn	**Pn**	**14 46 24.1**	**0.0**
GPW				Sn	**Sn**	**14 47 21.7**	**-1.3**
UBRB	**Upper Baezaeko**	**5.26**	**32**	Pn	**Pn**	**14 46 24.4**	**-1.9**
LTY	**Liberty**	**5.58**	**100**	Pn	**Pn**	**14 46 31.2**	**+0.6**
LTY				Sn	**Sn**	**14 47 34.2**	**-0.7**
LTY	**Liberty**	**5.58**	**100**	*e*Pn	**Pn**	**14 46 31.4**	**+0.8**
H04A	**Detroit Lake**	**5.94**	**128**	*e*Pn	**Pn**	**14 46 36.4**	**+0.8**
PNT	**Penticton**	**6.06**	**79**	Pn	**Pn**	**14 46 35.0**	**-2.2**
B08A	**Colville Reser**	**6.26**	**88**	Pn	**Pn**	**14 46 40.9**	**+0.9**
DOWB	**Downie Slide**	**7.23**	**62**	P	**Pn**	**14 46 51.0**	**-2.2**
MNB	**Mounoet Dainar**	**7.56**	**57**	P	**Pn**	**14 46 58.7**	**+0.6**
NEW	**Newport**	**7.74**	**88**	Pn	**Pn**	**14 46 59.9**	**-0.4**
	0.2nm,0.3s,baz=315,slow=14,SNR=3.3						
YBH	**Yreka Blue Hor**	**8.04**	**146**	Pn	Pn	14 47 08.7	+4.3
	0.1nm,0.3s,baz=322,slow=17,SNR=6.4						
YBH	**Yreka Blue Hor**	**8.04**	**146**	*e*Pn	Pn	14 47 08.2	+3.8
M04C	**Macdoel**	**8.34**	**142**	P	Pn	14 47 11.9	+3.4
	baz=326						
BMO	**Blue Mountains**	**8.69**	**111**	*e*Pn	**Pn**	**14 47 13.9**	**+0.6**
MOD	**Modoc Plateau**	**8.92**	**135**	*e*Pn	**Pn**	**14 47 18.6**	**+2.1**
LTIM	**Timbered Crate**	**8.99**	**142**	*e*Pn	**Pn**	**14 47 17.3**	**-0.1**
WDC	**Whiskeytown Da**	**9.11**	**149**	*e*Pn	Pn	14 47 22.9	+3.9
WVOR	**Wild Horse Val**	**9.36**	**127**	*e*Pn	Pn	14 47 26.5	+3.9
ORV	**Oroville**	**10.39**	**147**	*e*Pn	Pn	14 47 39.8	+3.2
BEKR	**Beckworth**	**10.55**	**142**	*e*Pn	Pn	14 47 43.6	+4.6
FNBB	**Fort Nelson**	**10.90**	**16**	P	**Pn**	**14 47 42.9**	**-0.6**
PAHR	**Pah Rah Range**	**11.10**	**139**	*e*Pn	Pn	14 47 50.5	+4.2
AFDM	**Forest Hills D**	**11.11**	**147**	*e*Pn	**Pn**	**14 47 46.8**	**+0.4**
VCNR	**Virginia City**	**11.33**	**141**	*e*Pn	Pn	14 47 54.3	+4.7
RUBR	**Rubicon Trail**	**11.33**	**144**	*e*Pn	Pn	14 47 54.0	+4.3
PNTR	**Pine Nut**	**11.52**	**142**	*e*Pn	Pn	14 47 57.0	+4.7
YERR	**Yerington**	**11.76**	**141**	*e*Pn	Pn	14 48 00.1	+4.6
RYN	**Ryan**	**12.37**	**140**	*e*Pn	**Pn**	**14 48 04.4**	**+0.7**
NV01	**Mina Array Sit**	**12.62**	**139**	*e*Pn	Pn	14 48 10.5	+3.2
NVAR	**Mina Array Bea**	**12.62**	**139**	Pn	Pn	14 48 11.3	+4.0
	baz=320,slow=11,SNR=18						
NV11	**Mina Array Sit**	**12.69**	**139**	*e*Pn	Pn	14 48 11.7	+3.6
SFJWR	**San Luis Fatjo**	**12.76**	**151**	*e*Pn	Pn	14 48 13.7	+4.8
PDAR	**Pinedale Array**	**14.59**	**106**	Pn	**P**	**14 48 36.9**	**-3.8**
	0.0nm,0.3s,baz=304,slow=9.7,SNR=3.6						
JLU	**Jordanelle**	**14.64**	**116**	*e*Pn	**P**	**14 48 38.2**	**-3.1**
TPNV	**Topopah Spring**	**14.76**	**137**	P	**P**	**14 48 39.6**	**-2.9**
	baz=325						
MPMC	**Manual Prospec**	**14.98**	**142**	P	**P**	**14 48 42.5**	**-2.6**
	baz=330						
SHPR	**Sheep Range**	**15.62**	**135**	*e*Pn	**P**	**14 48 50.3**	**-1.9**
	21nm,1.8s						
CCUT	**Cedar City**	**15.69**	**129**	*e*Pn	**P**	**14 48 50.7**	**-2.3**
	22nm,1.8s						
YKA	**Yellowknife Ar**	**16.05**	**24**	Pn	**Pn**	**14 48 50.7**	**-2.3**
	0.0nm,0.3s,baz=210,slow=12,SNR=11						
SCZ2	**Santa Cruz Isl**	**16.05**	**152**	P	**P**	**14 48 54.7**	**-2.0**
	baz=337						
YKW3	**Yellowknife Ar**	**16.10**	**24**	P	**Pn**	**14 48 52.9**	**-0.8**
SRU	**San Rafael Swe**	**16.15**	**119**	*e*Pn	**P**	**14 48 58.1**	**+0.2**
	35nm,2.0s						
LCMT	**Little Creek M**	**16.16**	**130**	*e*Pn	**P**	**14 49 00.6**	**+2.5**
	13nm,1.1s						
KNB	**Kanab**	**16.38**	**129**	*e*Pn	**P**	**14 49 01.3**	**+0.8**
	21nm,1.4s						
U15A	**North Rim**	**17.10**	**129**	*e*Pn	**P**	**14 49 08.2**	**-0.5**
	8.8nm,1.0s						
PV09	**Paradox Valley**	**17.36**	**118**	*e*Pn	**Pn**	**14 49 09.1**	**-1.1**
FFC	**Flin Flon**	**17.66**	**59**	*e*Pn	**P**	**14 49 13.7**	**-0.7**
	14nm,1.2s						
PV01	**Paradox Valley**	**17.94**	**118**	*e*Pn	**P**	**14 49 19.4**	**+1.6**
MVCO	**Mesa Verde**	**18.61**	**120**	P	**Pn**	**14 49 27.7**	**+2.2**
	baz=314						
MVCO	**Mesa Verde**	**18.61**	**120**	*e*P	**Pn**	**14 49 28.1**	**+2.7**
	26nm,1.6s						
ISCO	**Idaho Springs**	**18.70**	**109**	P	**Pn**	**14 49 30.1**	**+3.5**
	baz=305						
ILAR	**Eielson Array**	**18.95**	**336**	P	**Pn**	**14 49 30.2**	**+1.1**
	0.0nm,0.3s,baz=148,slow=11,SNR=13						
CCB	**Clear Creek Bu**	**19.11**	**335**	*e*P	**Pn**	**14 49 33.1**	**+2.0**
	21nm,1.3s						
S22A	**4UR Ranch, Cre**	**19.22**	**116**	P	**Pn**	**14 49 34.8**	**+1.9**
	baz=311						
INK	**Inuvik**	**19.96**	**355**	P	Pn	14 49 40.7	-0.5
	0.0nm,0.3s,baz=153,slow=8.4,SNR=3.7						
KSCO	**Kaye Shedlock'**	**21.04**	**107**	P	**P**	**14 49 54.4**	**+2.9**
	baz=305						
T25A	**Trinidad**	**21.08**	**114**	P	**P**	**14 49 54.8**	**+2.7**
	baz=310						
T25A	**Trinidad**	**21.08**	**114**	*e*P	**P**	**14 49 54.5**	**+2.4**
	23nm,1.2s						
ANMO	**Albuquerque**	**21.37**	**121**	P	**P**	**14 49 56.0**	**+0.7**
	2.6nm,0.9s,baz=270,slow=18,SNR=6.4						
ANMO	**Albuquerque**	**21.37**	**121**	P	**P**	**14 49 57.3**	**+2.0**
	baz=316						
ANMO	**Albuquerque**	**21.37**	**121**	*e*P	**P**	**14 49 57.6**	**+2.3**
	6.6nm,1.1s						
COLD	**Coldfoot**	**21.71**	**337**	*e*P	**P**	**14 50 01.1**	**+2.7**
	15nm,1.6s						
BNM	**Barren Site**	**21.86**	**123**	*e*P	**P**	**14 50 03.5**	**+3.0**
MSTX	**Muleshoe**	**24.20**	**117**	P	**P**	**14 50 28.0**	**+3.6**
	baz=315						
AMTX	**Amarillo**	**24.23**	**114**	P	**P**	**14 50 26.2**	**+1.7**
	baz=312						
AMTX	**Amarillo**	**24.23**	**114**	*e*P	**P**	**14 50 25.6**	**+1.1**
	15nm,1.0s						
TXAR	**Lajitas Array**	**27.16**	**126**	P	**P**	**14 50 54.6**	**+3.6**
	0.4nm,0.7s,baz=325,slow=6.1,SNR=2.8						
TIXI	**Tiksi**	**48.42**	**336**	P	**P**	**14 53 51.7**	**+2.4**
	0.4nm,0.3s,baz=107,slow=8.1,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**58.56**	**265**	T	T	15 58 27.8	
	baz=44,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**58.56**	**264**	T	T	15 58 28.2	
	baz=44,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**58.57**	**265**	T	T	15 58 29.7	
	baz=44,slow=75,SNR=55						
H11S1	**WAKE ISLAND Hy**	**59.56**	**264**	T	T	15 59 45.5	
	baz=58,slow=78,SNR=11						
H11S2	**WAKE ISLAND Hy**	**59.57**	**264**	T	T	15 59 41.6	
	baz=58,slow=78,SNR=34						
H11S3	**WAKE ISLAND Hy**	**59.57**	**264**	T	T	15 59 46.7	
	baz=58,slow=78,SNR=12						
SONM	**Songino Array**	**72.76**	**325**	P	**P**	**14 56 38.7**	**+2.8**
	0.3nm,0.4s,baz=64,slow=6.6,SNR=5.1						
HHC	**Hu-ho-hao-te**	**76.28**	**317**	*e*P	P	14 56 59.8	+3.4
MKAR	**Makanchi Array**	**81.27**	**339**	P	**P**	**14 57 23.8**	**+0.2**
	0.2nm,0.7s,baz=14,slow=3.0,SNR=2.4						
WMQ	**Urumqi**	**82.61**	**334**	*e*P	P	14 57 35.4	+4.6
KMI	**Kunming**	**93.42**	**315**	P	**P**	**14 58 25.5**	**+2.0**

JMA 03 14:46:18.2±0.1**, 37°.25N×141°.53E, h46km**±2km**, M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54**	**283**	P	Pn	14 46 29.6	-0.1
JFK				S	Sn	14 46 37.3	-0.6
ONAJ	**Iwakimizuishiy**	**0.60**	**256**	P	Pn	14 46 30.6	0.0
ONAJ				S	Sn	14 46 39.1	-0.4
JMM	**Marumori**	**0.85**	**317**	P	Pn	14 46 33.7	-0.1
JFT	**Otama**	**0.99**	**286**	P	Pn	14 46 36.6	+0.9
JFT				*e*S	Sn	14 46 49.2	+0.7
JHO	**Hitachi**	**1.00**	**231**	P	Pn	14 46 35.4	-0.4
JHO				S	Sn	14 46 48.0	-0.8
JIO	**Ouri**	**1.21**	**353**	P	Pn	14 46 38.4	-0.3
JOU	**Okura**	**1.31**	**329**	P	Pn	14 46 40.4	+0.3
JFY	**Yanaizu**	**1.46**	**277**	P	Pn	14 46 43.1	+0.9
JYS	**Shirataka**	**1.51**	**310**	P	Pn	14 46 43.7	+0.9
MAT	**Matsushiro**	**2.76**	**256**	P	Pn	14 47 02.1	+2.2
MAT				*e*S	Sn	14 47 34.3	+2.3

*IDC **03** 14:46:44.0±2.3, 22°.16S×170°.41E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/40, mbtmp3.9/7, ML4.4/1, MS4.0/1, Ms1 4.0/1, ms1mx3.3/40, Error ellipse: s-maj=84.9km s-min=29.2km az=153.0*
ISC 03 14:46:51.4±1.4**, 22°.1S**±0°.4×**170°.2E**±0°.1**, h35km, n11, σ1s.55**/12**, mb3.7**/6**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.44**	**269**	Pn	**Pn**	**14 47 42.8**	**+0.1**
	30nm,0.3s,baz=132,slow=12,SNR=518						
DZM				Sn	**Sn**	**14 48 23.2**	**+0.9**
	45nm,0.3s,baz=91,slow=19,SNR=6.7						
DZM				LR	LR	14 49 07.8	
	comp=Z,2μm,18.0s,baz=192,slow=39						
CTA	**Charters Tower**	**22.39**	**271**	P	**P**	**14 51 47.3**	**+0.4**
	2.2nm,0.7s,baz=94,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**27.19**	**243**	P	**P**	**14 52 30.8**	**-1.0**
	2.6nm,0.9s,baz=125,slow=3.1,SNR=4.3						
ASAR	**Alice Springs**	**33.39**	**260**	P	**P**	**14 53 26.6**	**-0.1**
	0.4nm,0.6s,baz=95,slow=8.5,SNR=11						
WRA	**Warramunga Arr**	**33.46**	**267**	P	**P**	**14 53 26.5**	**-0.9**
	0.9nm,0.9s,baz=98,slow=8.5,SNR=11						
CMAR	**Chiang Mai Arr**	**80.45**	**294**	P	**P**	**14 58 58.7**	**-1.3**
	0.5nm,0.9s,baz=140,slow=3.8,SNR=2.7						
SONM	**Songino Array**	**89.99**	**323**	P	**P**	**14 59 46.4**	**-0.9**
	0.9nm,1.1s,baz=152,slow=6.5,SNR=3.8						
MKAR	**Makanchi Array**	**104.35**	**315**	Pdiff	**Pdif**	**15 00 54.3**	**+2.1**
	0.2nm,0.6s,baz=90,slow=1.4,SNR=2.6						
EKA	**Eskdalemuir Ar**	**146.42**	**353**	PKPbc	**PKPdf**	**15 06 26.3**	**-0.7**
	0.9nm,0.4s,baz=357,slow=2.8,SNR=10						
GERES	**GERESS Array B**	**147.38**	**331**	PKPbc	**PKPdf**	**15 06 30.0**	**+1.0**
	2.2nm,1.0s,baz=48,slow=2.0,SNR=9.7						
VAE	**Valguarnera**	**154.05**	**312**	PKPbc	**PKPdf**	**15 06 42.9**	**+3.2**
	13nm,0.3s,baz=124,slow=3.6,SNR=4.8						

*IDC **03** 15:05:58.7±2.0, 3°.04S×129°.53E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/48, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=170.8km s-min=24.8km az=71.0*
*ISCJB **03** 15:06:00.2±0.8, 3°.0S±0°.1×129°.72E±0°.08, h28km, mb3.4/2, Error ellipse: s-maj=15.1km s-min=11.1km az=155.4*
*DJA **03** 15:06:00.4±2.3, 3°S±10°×13°0E±°, h19km±23km, M2.8/5, MLv2.8/5*
ISC 03 15:06:01.8±1.0**, 2°.9S**±0°.1×**129°.66E**±0°.07**, h28km, n8, σ1s.92**/8**, mb3.3**/3**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.85**	**239**	P	**Pb**	**15 06 18.8**	**+0.7**
SWI	**Sorong**	**2.58**	**38**	P	**Pn**	**15 06 39.9**	**-1.8**
NLAI	**Namlea**	**2.58**	**263**	P	**Pn**	**15 06 40.6**	**-1.1**
FAKI	**Fak Fak**	**2.58**	**90**	P	**Pn**	**15 06 42.3**	**+0.5**
WRA	**Warramunga Arr**	**17.54**	**165**	Pn	**Pn**	**15 10 01.7**	**-2.8**
	0.0nm,0.3s,baz=347,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**21.04**	**169**	P	**P**	**15 10 44.0**	**+0.4**
	0.9nm,0.7s,baz=344,slow=9.1,SNR=20						
MKAR	**Makanchi Array**	**64.65**	**326**	P	**P**	**15 16 39.0**	**+2.0**
	0.2nm,0.7s,baz=134,slow=5.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**67.79**	**333**	P	**P**	**15 16 58.2**	**+1.2**
	0.3nm,0.4s,baz=127,slow=3.8,SNR=2.4						

MEX 03 15:15:36.9±0.8**, 15°.23N×92°.01W, h181km**±8km**, MD3.7, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.41**	**218**	*e*P	Pn	15 15 59.9	-1.5
CCIG	**Comitan**	**1.05**	**353**	*e*P	Pn	15 16 04.6	-0.7
CCIG				*e*S	Sn	15 16 24.6	-2.8
PCIG		**1.26**	**292**	*e*P	Pn	15 16 06.2	-0.5
PCIG				*e*S	Sn	15 16 27.7	-2.1
TGIG		**1.88**	**325**	*i* P	Pn	15 16 11.5	-1.3
TGIG				*i* S	Sn	15 16 38.0	-2.7
HUIG	**Huatulco**	**3.99**	**278**	*e*P	Pn	15 16 37.0	-0.9
HUIG				*i* S	Sn	15 17 23.4	-2.2

*ISK **03** 15:19:38.7, 37°.76N×38°.06E, h9km, ML2.4/2*
*CSEM **03** 15:19:39.1±0.2, 37°.75N×38°.05E, h8km, ML2.8, Error ellipse: s-maj=4.6km s-min=3.6km az=113.0*
*DDA **03** 15:19:39.1, 37°.73N×38°.04E, h7km, Ml2.8*
ISC 03 15:19:39.4±1.2**, 37°.75N**±0°.03×**38°.04E**±0°.03**, h5km**±11km**, n22, σ0s.63**/33**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.55**	**350**	*i* P	**Pg**	**15 19 49.7**	**-0.4**
AKCD				*i* S	**Sg**	**15 19 58.0**	**+0.6**
AKCD	**Akcadag**	**0.55**	**350**	P	**Pg**	**15 19 49.7**	**-0.4**
AKCD				S	**Sg**	**15 19 58.0**	**+0.6**
MALT	**Malatya**	**0.64**	**28**	PG	**Pg**	**15 19 51.3**	**-0.5**
MALT				SG	**Sg**	**15 20 00.6**	**+0.5**
MALT	**Malatya**	**0.64**	**28**	*e*Pg	**Pg**	**15 19 51.3**	**-0.5**
MALT				*e*Sg	**Sg**	**15 20 00.6**	**+0.5**
URFA	**Urfa**	**0.69**	**116**	PG	**Pg**	**15 19 52.2**	**-0.5**
URFA	**Urfa**	**0.69**	**116**	*e*Pg	**Pg**	**15 19 52.2**	**-0.5**
GAZ	**Gaziantep**	**0.88**	**229**	PG	**Pg**	**15 19 56.2**	**-0.1**
GAZ				SG	**Sb**	**15 20 09.6**	**+0.4**
GAZ	**Gaziantep**	**0.88**	**229**	*e*Pg	**Pg**	**15 19 56.2**	**-0.1**
GAZ				*e*Sg	**Sb**	**15 20 09.6**	**+0.4**
DARE	**Darende-Malaty**	**0.93**	**332**	PG	**Pg**	**15 19 56.5**	**-0.8**
DARE	**Darende-Malaty**	**0.93**	**332**	*e*Pg	**Pg**	**15 19 56.5**	**-0.8**
KMRS	**Kahramanmaras**	**0.94**	**255**	PG	**Pg**	**15 19 56.9**	**-0.6**
KMRS	**Kahramanmaras**	**0.94**	**255**	*e*Pg	**Pg**	**15 19 56.9**	**-0.6**
SURC	**SANLIURFA_SURC**	**0.98**	**152**	*i* P	**Pg**	**15 19 58.1**	**-0.1**
SURC				*i* S	**Sn**	**15 20 14.5**	**+0.4**
SURC	**SANLIURFA_SURC**	**0.98**	**152**	P	**Pg**	**15 19 58.1**	**-0.1**
HEKM	**Malatya_Hekimh**	**1.13**	**357**	*i* P	**Pn**	**15 20 02.3**	**+0.2**
HEKM				*i* S	**Sn**	**15 20 18.6**	**+0.5**
HEKM	**Malatya_Hekimh**	**1.13**	**357**	P	**Pn**	**15 20 02.3**	**+0.2**
KUZU	**Kuzuini**	**1.24**	**219**	*i* P	**Pn**	**15 20 02.7**	**-0.8**
KUZU				*i* S	**Sn**	**15 20 20.8**	**+0.2**
KUZU	**Kuzuini**	**1.24**	**219**	P	**Pn**	**15 20 02.7**	**-0.8**
KUZU				S	**Sn**	**15 20 20.8**	**+0.2**
ANDN	**Andirin**	**1.36**	**263**	*i* P	**Pn**	**15 20 04.2**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANDN				*i* S	Sg	15 20 24.6	+1.5
ANDN	Andirin	1.36	263	P	Pn	15 20 04.2	-0.9
MAZI	Mazidag	1.93	98	PN	Pn	15 20 12.4	-0.6
MAZI	Mazidag	1.93	98	*e*Pn	Pn	15 20 12.4	-0.6

IDC 03 15:31:42.8±3.3, 20°16N×145°92E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/57, mbtmp3.6/6, Error ellipse: s-maj=134.6km s-min=27.7km az=81.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.44	197	P	P	15 39 31.2	-0.1
	0.3nm,0.8s,baz=16,slow=8.5,SNR=2.9						
SONM	Songino Array	42.15	320	P	P	15 39 37.4	+0.3
	0.2nm,0.4s,baz=127,slow=7.0,SNR=5.0						
ZALV	Zalesovo Beam	57.00	322	P	P	15 41 30.1	-0.1
	1.1nm,0.6s,baz=97,slow=6.1,SNR=5.4						
MKAR	Makanchi Array	57.61	313	P	P	15 41 34.1	-0.6
	0.2nm,0.6s,baz=90,slow=8.4,SNR=4.8						
BVAR	Borovoye Array	65.49	320	P	P	15 42 28.2	+0.4
	0.6nm,0.3s,baz=92,slow=6.9,SNR=8.0						
FINES	FINESS Array B	85.65	335	P	P	15 44 22.8	-0.4
	0.4nm,0.4s,baz=67,slow=4.7,SNR=7.9						

NNC 03 15:33:51.7±4.0, 37°11N×70°49E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=35.0km s-min=27.2km az=146.0
ISC 03 15:33:46.6±2.4, 36°43N±0°10×70°8E±0°2, h110km, n13, σ1^{s}77/16, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.17	30	⇑Pn	Pn	15 34 50.5	+2.1
	5.1nm,0.5s						
SFK				⇑Sn	Sn	15 35 38.3	+2.0
	12nm,0.4s						
MNAS	Manas	6.20	12	⇓Pn	Pn	15 35 16.8	+1.1
	0.8nm,0.3s						
MNAS				⇓Sn	Sn	15 36 22.3	-2.8
	8.5nm,0.7s						
KK31	Karatay Array	6.67	358	⇑Pn	Pn	15 35 23.4	+1.4
	0.2nm,0.3s,baz=180,slow=13,SNR=19						
KK31				Sn	Sn	15 36 31.4	-5.2
	0.8nm,0.4s,baz=180,slow=23,SNR=6.7						
AAK	Ala-Archa	6.83	24	⇓Pn	Pn	15 35 24.3	+0.1
	1.8nm,0.6s						
AAK				Sn	Sn	15 36 38.7	-1.8
	7.6nm,0.7s						
PYUN	Piuthan	13.23	125	*e*P	Pn	15 36 50.9	+0.5
	6.0nm,0.4s						
KOLN	Koldanda	13.85	125	*e*P	Pn	15 36 58.6	+0.2
	3.2nm,0.4s						
DMN	Daman	14.97	122	*e*P	Pn	15 37 12.5	-0.2
	5.2nm,0.4s						
PKIN	Phulchoki	15.19	121	*e*P	Pn	15 37 15.4	-0.1
	5.4nm,0.4s						
PKI	Pulchoki	15.20	121	*e*P	Pn	15 37 15.2	-0.5
	4.1nm,0.3s						
GUN	Gumba	15.32	119	*e*P	Pn	15 37 16.7	-0.5
	4.2nm,0.3s						
JIRN	Jiri	15.69	119	*e*P	Pn	15 37 20.9	-1.0
	20nm,0.4s						
RAMN	Ramite	16.41	121	*e*P	Pn	15 37 28.7	-2.0
	6.1nm,0.5s						
ODAN	Odare	17.02	119	*e*P	Pn	15 37 34.8	-3.3
	7.0nm,0.7s						

ISCJB 03 15:43:37.3±0.3, 29°60S±0°03×176°47W±0°05, h21km, mb4.7/31, MS4.5/9, Error ellipse: s-maj=6.2km s-min=4.0km az=28.5
IDC 03 15:43:37.4±0.7, 29°10S×176°71W, h0km, mb4.5/17, mb1 4.7/17, mb1mx4.5/45, mbtmp4.5/17, MS4.5/10, Ms1 4.5/10, ms1mx4.1/35, Error ellipse: s-maj=30.3km s-min=15.3km az=159.0
NEIC 03 15:43:37.8±0.3, 29°34S×176°64W, h10km, mb4.9/21, Error ellipse: s-maj=11.0km s-min=6.8km az=145.0
WEL 03 15:43:40.6±2.0, 30°S±10°×17°7W±1°5, h12km, ML5.2/2
ISC 03 15:43:39.4±0.4, 29°44S±0°07×176°49W±0°06, h21km, n132, σ1^{s}89/118, mb4.9/31, MS4.4/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.26	278	P	Pn	15 44 01.8	0.0
RAO	Raoul Island	1.26	278	Pn	Pn	15 44 01.0	-0.8
	616nm,0.3s,baz=137,slow=9.1,SNR=16						
RAO				Sn	Sb	15 44 19.5	+1.2
	2μm,0.3s,baz=73,slow=20,SNR=15						
RAO				LR	LR	15 44 29.6	
	comp=Z,5μm,21.8s,baz=96,slow=49						
RAO	Raoul Island	1.26	278	*e*Pn	Pb	15 44 02.2	-0.3
RAO				*e*Sn	Sb	15 44 19.6	+1.2
RIZ	Raoul Island	1.27	279	P	Pn	15 44 02.1	+0.1
RIZ	Raoul Island	1.27	279	S	Sb	15 44 19.8	+1.2
PKGZ	Pakihiroa	9.56	207	P	Pn	15 45 56.1	+0.2
PKGZ	Pakihiroa	9.56	207	S	Sn	15 47 40.9	-1.8
HAZ	Te Kaha	9.57	208	P	Pn	15 45 54.5	-1.4
HAZ	Te Kaha	9.57	208	S	Sn	15 47 46.1	+3.4
RUGZ	Raukumara Rang	9.79	208	P	Pn	15 45 59.6	+0.5
MWZ	Matawai	10.16	208	P	Pn	15 46 01.7	-2.4
MWZ	Matawai	10.16	208	S	Sn	15 47 57.1	-0.4
OPRZ	Ohinepanea	10.19	213	P	Pn	15 46 03.9	-0.4
URZ	Urewera	10.27	209	Pn	Pn	15 46 03.3	-2.2
	0.9nm,0.3s,baz=40,slow=17,SNR=6.7						
URZ				Sn	Sn	15 47 57.4	-2.7
	4.8nm,0.3s,baz=318,slow=2.5,SNR=7.0						
URZ	Urewera	10.27	209	P	Pn	15 46 03.7	-1.9
URZ	Urewera	10.27	209	S	Sn	15 47 57.5	-2.6
MUGZ	Murupara	10.60	210	P	Pn	15 46 08.2	-1.9
RAHZ	Arahi	10.84	208	P	Pn	15 46 14.0	+0.7
NMHZ	Naumai	11.11	208	P	Pn	15 46 17.2	+0.1
BKZ	Black Stump Fm	11.30	209	P	Pn	15 46 17.5	-2.2
HIZ	Hauiti	11.54	216	P	Pn	15 46 27.6	+4.6
BHHZ	Black Hill Sta	11.75	210	P	Pn	15 46 26.4	+0.5
VRZ	Vera Road	12.06	215	P	Pn	15 46 30.9	+0.9
BFZ	Birch Farm	12.69	206	P	Pn	15 46 39.0	+0.5
THZ	Tophouse	15.00	212	*e*Pn	Pn	15 47 10.7	+0.5
	310nm,1.9s						
KHZ	Kahutara	15.24	209	*e*Pn	Pn	15 47 14.1	+0.8
	48nm,0.7s						
KHZ				*e*Sn	Sn	15 49 53.0	-8.5
AFI	Afiamalu	16.06	17	Sn	Sn	15 50 06.2	-16
	1.5nm,0.3s,baz=168,slow=20,SNR=2.6						
OXZ	Oxford	16.63	210	*e*Pn	Pn	15 47 29.1	-2.1
	159nm,1.6s						
OXZ				*e*Sn	Sn	15 50 19.5	-16
DZM	Mont Dzumac	17.03	292	LR	LR	15 53 00.7	
	comp=Z,2μm,18.5s,baz=140,slow=34						
DZM	Mont Dzumac	17.03	292	*e*P	P	15 47 40.1	+2.0
	143nm,1.4s						
DZM				*e*LR	LR	15 51 40.2	
	2μm,23.1s						
DZM	Mont Dzumac	17.03	292	*e*Pn	Pn	15 47 34.4	-2.0
	62nm,1.2s						
RAR	Rarotonga	17.18	65	P	Pn	15 47 34.0	-4.2
	0.9nm,0.3s,baz=208,slow=7.3,SNR=4.2						
RAR	Rarotonga	17.18	65	Pn	Pn	15 47 38.2	0.0
	134nm,1.5s						
RPZ	Rata Peaks	17.38	212	P	Pn	15 47 36.3	-4.2
	1.0nm,0.3s,baz=11,slow=16,SNR=5.2						
TBI	Tubuai	24.93	82	*e*LR	LR	15 55 07.3	
	897nm,28.8s						
TBI	Tubuai	24.93	82	*e*T	T	16 14 35.2	
	7.8nm,0.4s						
PAE	Paea	27.24	71	*e*T	T	16 17 23.5	
	2.8nm,0.3s						
PPT2	Papeete2	27.28	70	*e*LR	LR	15 56 24.0	
	530nm,22.0s						
PPT2	Papeete2	27.28	70	*e*T	T	16 17 27.6	
	2.3nm,0.4s						
TVO	Taravao	27.45	71	*e*T	T	16 17 40.7	
	0.9nm,0.4s						
HNR	Honiara	29.72	307	LR	LR	15 59 09.6	
	comp=Z,426nm,19.3s,baz=147,slow=32						
VAH	Vaihoa	30.10	68	*e*T	T	16 20 57.5	
	4.7nm,0.2s						
CTA	Charters Tower	34.97	277	P	P	15 50 29.9	-0.4
	10nm,0.6s,baz=101,slow=10,SNR=16						
CTAO	Charters Tower	34.97	277	*e*P	P	15 50 28.0	-2.3
	12nm,0.7s						
STKA	Stephens Creek	35.98	255	P	P	15 50 39.1	+0.2
	4.7nm,0.6s,baz=105,slow=11,SNR=12						
STKA				LR	LR	16 04 23.4	
	comp=Z,1μm,18.1s,baz=53,slow=35						
STKA	Stephens Creek	35.98	255	*e*P	P	15 50 39.3	+0.4
	2.5nm,0.8s						
RKT	Rikitea	37.60	90	*e*LR	LR	16 00 55.6	
	512nm,30.0s						
PMG	Port Moresby	39.41	293	LR	LR	16 04 42.3	
	comp=Z,993nm,18.1s,baz=159,slow=32						
TAOE	Nuku Hiva Isla	39.72	66	*e*LR	LR	16 02 03.0	
	422nm,24.6s						
AS01	Alice Springs	44.44	265	*e*P	P	15 51 47.5	-1.6
AS31	Alice Springs	44.48	265	*e*P	P	15 51 48.3	-1.2
	3.9nm,0.6s						
ASAR	Alice Springs	44.48	265	P	P	15 51 48.4	-1.1
	8.5nm,0.5s,baz=102,slow=6.4,SNR=276						
ASAR				PcP	PP	15 53 35.1	+1.8
	1.4nm,0.6s,baz=118,slow=4.2,SNR=4.6						
ASAR				ScP	ScP	15 57 28.5	+4.7
	0.8nm,0.9s,baz=111,slow=5.1,SNR=4.1						
ASAR				LR	LR	16 10 27.3	
	comp=Z,1μm,18.1s,baz=118,slow=36						
WR1	Warramunga Arr	45.39	270	*e*P	P	15 51 55.3	-1.4
	17nm,0.7s						
WRA	Warramunga Arr	45.39	270	P	P	15 51 55.3	-1.4
	11nm,0.6s,baz=109,slow=7.6,SNR=92						
WRA				PcP	PcP	15 53 36.8	+0.9
	2.2nm,1.0s,baz=112,slow=3.9,SNR=4.9						
WRA				ScP	ScP	15 57 33.2	+5.6
	0.5nm,0.8s,baz=88,slow=3.5,SNR=3.3						
FITZ	Fitzroy Crossi	53.69	268	P	P	15 52 58.0	-2.0
	16nm,1.2s,baz=120,slow=10,SNR=7.8						
GUMO	Guam	56.75	313	LR	LR	16 16 13.3	
	comp=Z,254nm,18.1s,baz=110,slow=35						
MBWA	Marble Bar	57.64	262	*e*P	P	15 53 26.8	-1.6
	14nm,0.8s						
BATI	Baumata	58.84	276	LR	LR	16 19 24.5	
	comp=Z,1μm,18.4s,baz=142,slow=37						
MJAR	Matsushiro Arr	78.22	324	P	P	15 55 36.2	-1.2
	2.6nm,0.7s,baz=166,slow=5.8,SNR=6.7						
MAJO	Matsushiro	78.22	324	*e*P	P	15 55 36.2	-1.2
SNAA	Sanae	79.07	178	P	P	15 55 45.1	+3.3
SNAA	Sanae	79.07	178	*e*P	P	15 55 44.5	+2.8
	21nm,1.4s						
VNA3	Neumayer Olymp	79.16	176	P	P	15 55 45.2	+3.0
VNA2	Neumayer--Watz	79.61	176	P	P	15 55 48.2	+3.5
	baz=167,slow=5.4						
JNU	Nakatsue	79.73	317	P	P	15 55 45.7	-0.1
	21nm,1.0s,baz=82,slow=5.3,SNR=4.2						
JNU	Nakatsue	79.73	317	*e*P	P	15 55 43.1	-2.7
	182nm,1.9s						
VNA1	Neumayer--Stat	79.83	176	P	P	15 55 49.3	+3.5
PLCA	Paso Flores	82.19	132	LR	LR	16 30 57.1	
	comp=Z,97nm,18.0s,baz=271,slow=34						
ASAJ	Asahikawa	82.21	332	P	P	15 55 59.3	+0.6
	4.0nm,0.7s,baz=212,slow=11,SNR=4.6						
ASAJ	Asahikawa	82.21	332	*e*P	P	15 55 58.6	-0.1
	18nm,1.4s						
KSRS	Korea Array	84.48	319	P	P	15 56 10.7	+0.1
	2.3nm,0.9s,baz=142,slow=6.3,SNR=6.7						
KSAR	Wonju Array Be	84.50	319	P	P	15 56 10.7	+0.1
KS01	Wonju Array Si	84.52	319	*e*P	P	15 56 07.9	-2.8
ISA	Isabella, Lake	84.70	44	*e*P	P	15 56 10.8	-1.0
	18nm,1.6s						
CMB	Columbia Colle	85.18	41	*e*P	P	15 56 12.5	-1.6
	5.7nm,1.1s						
PETK	Petropavlovsk-	85.23	345	P	P	15 56 13.2	-0.8
	4.7nm,0.9s,baz=112,slow=7.6,SNR=9.2						
PEA1	Petropavlovsk-	85.23	345	*e*P	P	15 56 13.2	-0.8
GSC	Goldstone, Bar	85.48	45	*e*P	P	15 56 16.2	+0.4
	28nm,1.8s						
WDC	Whiskeytown Da	85.75	38	*e*P	P	15 56 17.6	+0.7
	8.2nm,1.0s						
NV01	Mina Array Sit	86.65	42	*e*P	P	15 56 22.2	+0.5
NVAR	Mina Array Bea	86.65	42	P	P	15 56 23.0	+1.3
	2.0nm,0.8s,baz=221,slow=6.9,SNR=12						
USRK	Ussuriysk Ar.	87.10	326	P	P	15 56 23.0	-0.4
	1.8nm,0.8s,baz=158,slow=4.2,SNR=3.7						
TUC	Tucson	87.49	51	*e*P	P	15 56 25.1	-0.6
	8.9nm,1.1s						
LCMT	Little Creek M	88.79	46	*e*P	P	15 56 30.8	-1.1
	6.6nm,1.1s						
U15A	North Rim	89.02	47	*e*P	P	15 56 32.7	-0.4
	8.2nm,1.1s						
BABE	Bainbridge Sch	90.73	33	*e*P	P	15 56 40.1	-0.3
LTX	Lajitas	90.77	57	*e*P	P	15 56 42.9	+1.6
TX31	Lajitas Ar. Si	90.77	57	*e*P	P	15 56 43.1	+1.9
TXAR	Lajitas Array	90.77	57	P	P	15 56 42.9	+1.6
	2.1nm,1.0s,baz=203,slow=6.1,SNR=10						
KLR	Kul'dur	90.88	329	P	P	15 56 41.3	+0.2
	0.2nm,0.8s,baz=46,slow=2.9,SNR=5.2						
G08A	Pilot Rock	90.91	37	*e*P	P	15 56 42.5	+1.0
	10nm,1.4s						
ANMO	Albuquerque	91.96	51	P	P	15 56 48.4	+1.6
	0.4nm,0.3s,baz=311,slow=20,SNR=3.1						
ANMO	Albuquerque	91.96	51	*e*P	P	15 56 48.2	+1.4
	8.2nm,0.4s						
ENH	Enshi	92.16	304	*e*P	P	15 56 47.2	-0.3
	32nm,0.9s						
CMAR	Chiang Mai Arr	94.33	289	P	P	15 56 58.9	+1.1
	0.3nm,0.7s,baz=121,slow=4.3,SNR=3.1						
SEY	Seymchan	95.36	346	P	P	15 57 00.9	-0.5
	1.2nm,0.8s,baz=130,slow=7.9,SNR=7.2						
ILAR	Eielson Array	96.71	12	P	P	15 57 07.2	-0.4
	0.6nm,0.9s,baz=228,slow=5.7,SNR=5.0						
LPAZ	La Paz	97.33	113	LR	LR	16 34 51.3	
	comp=Z,60nm,18.6s,baz=158,slow=32						
CPUP	Villa Florida	99.53	127	LR	LR	16 38 06.1	
	comp=Z,74nm,19.0s,baz=205,slow=33						
MKAR	Makanchi Array	118.16	310	PKP	PKPdf	16 02 24.4	-0.3
	0.8nm,0.8s,baz=56,slow=3.6,SNR=7.2						
AAK	Ala-Archa	122.67	304	PKP	PKPdf	16 02 32.0	-1.7
	0.7nm,0.7s,baz=184,slow=16,SNR=2.7						
BVAR	Borovoye Array	126.63	316	PKP	PKPdf	16 02 40.9	+0.1
	1.7nm,0.5s,baz=135,slow=1.8,SNR=7.7						
GEYT	Alibeck	134.34	296	PKP	PKPdf	16 02 57.1	+1.2
	1.8nm,0.9s,baz=64,slow=3.4,SNR=5.0						
AKTO	Aktyubinsk	134.42	313	PKP	PKPdf	16 02 55.9	+0.3
	0.7nm,0.6s,baz=348,slow=8.3,SNR=3.0						
H10S3	ASCENSION HYDR	138.00	153	T	T	18 38 34.7	
	baz=206						
H10S2	ASCENSION HYDR	138.00	153	T	T	18 38 37.4	
	baz=206						
H10S1	ASCENSION HYDR	138.02	153	T	T	18 38 36.4	
	baz=206						
H10N3	ASCENSION HYDR	139.07	152	T	T	18 39 55.3	
	baz=204						
H10N1	ASCENSION HYDR	139.08	152	T	T	18 39 59.2	
	baz=204						
H10N2	ASCENSION HYDR	139.09	152	T	T	18 39 57.5	
	baz=204						
FIA0	FINESS Array S	144.68	341	*e*PKPdf	PKPab	16 03 11.9	-0.6
FINES	FINESS Array B	144.68	341	PKP	PKPab	16 03 11.9	-0.6
	2.5nm,0.5s,baz=58,slow=3.1,SNR=23						
OBN	Obninsk	145.12	327	PKP	PKPbc	16 03 14.3	0.0
	9.8nm,0.4s,baz=143,slow=3.3,SNR=5.8						
AKH	Akhalkalaki	145.59	301	*e*PKPdf	PKPab	16 03 18.2	+1.4
KBZ	Khabaz	145.65	305	PKPbc	PKPab	16 03 16.9	+0.2
	3.8nm,0.9s,baz=164,slow=7.1,SNR=5.1						
NB2	NORSAR Subarra	147.99	353	PKP	PKPbc	16 03 22.4	-0.2
	comp=Z,1.2nm,0.5s,baz=13,slow=2.9						
NB200	NORSAR Array S	147.99	353	*e*PKPbc	PKPbc	16 03 21.9	-0.7
NOA	NORSAR Array B	147.99	353	PKPbc	PKPbc	16 03 21.9	-0.7
	comp=Z,0.7nm,0.5s,baz=59,slow=1.5,SNR=7.2						
HFS	Hagfors	148.55	350	PKPbc	PKPbc	16 03 23.8	-0.2
	comp=Z,7.5nm,1.1s,baz=40,slow=2.5,SNR=6.8						
ASF	Jabal al Asfar	151.26	284	PKPbc	PKPbc	16 03 33.2	+1.5
	comp=Z,10.0nm,1.1s,baz=72,slow=3.5,SNR=5.0						
AKASG	Malin Array Be	151.31	325	PKPbc	PKPbc	16 03 31.1	+0.1
	comp=Z,2.2nm,0.5s,baz=46,slow=3.0,SNR=20						
AKASG				PKPab	PKPab	16 03 36.5	-2.7
	comp=Z,7.0nm,0.6s,baz=46,slow=3.9,SNR=33						
AKBB	Malin Array Si	151.31	325	*e*PKPbc	PKPbc	16 03 31.3	+0.3
AK11	Malin Array Si	151.35	325	*e*PKPbc	PKPbc	16 03 31.3	+0.2
MMAI	Mount Meron Ar	152.55	286	PKPbc	PKPbc	16 03 36.2	+1.6
	comp=Z,4.3nm,0.5s,baz=72,slow=8.0,SNR=10						
EIL	Elat	152.69	278	PKPbc	PKPbc	16 03 36.9	+2.0
	comp=Z,8.2nm,0.7s,baz=52,slow=0.9,SNR=12						
BR101	Keskin Array S	153.27	301	*e*PKPbc	PKPbc	16 03 36.5	+0.5
BRTR	Keskin Array B	153.27	301	PKPbc	PKPbc	16 03 36.5	+0.5
	comp=Z,2.0nm,0.9s,baz=113,slow=3.2,SNR=6.7						
BRTR				PKPab	PKPab	16 03 47.4	-0.6
	comp=Z,2.9nm,0.8s,baz=125,slow=4.4,SNR=7.2						
DPC	Dobruska-Polom	156.99	339	*e*PKPAB	PKPab	16 04 02.1	-1.2
DPC				*e*x	x	16 04 12.7	
CLL	Collm	157.03	345	*e*PKPab	PKPab	16 04 03.0	-0.4
VRAC	Vranov	157.79	337	PKPab	PKPab	16 04 07.0	+0.2
	comp=Z,1.0nm,0.5s,baz=24,slow=5.2,SNR=3.9						
KHC	Kasperske Hory	158.89	341	*e*PKPAB	PKPab	16 04 11.4	-0.1
TORD	Torodi Ar. Bea	163.70	174	PKPab	PKPab	16 04 35.8	+2.6
	comp=Z,5.3nm,1.0s,baz=184,slow=3.8,SNR=17						

CSEM 03 15:48:47.8±0.5, 32°51N×46°84E, h2km, ML3.0, Error ellipse: s-maj=15.7km s-min=6.7km az=21.0
ISN 03 15:48:51.0±0.3, 32°68N×46°87E, h0km, ML3.2
TEH 03 15:48:51.9, 32°61N×47°00E, h15km, ML3.2, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.61	108	*e*Pg	Pn	15 49 19.9	+0.2
SHGR				*e*Sg	Sg	15 49 43.0	-0.7
IKOM	Komasi	1.62	15	*e*Pn	Pn	15 49 19.7	-0.4
IKOM				*e*AMB	AMB	15 49 23.4	
	comp=Z,2μm,0.2s						
IKOM				*e*Sg	Sb	15 49 42.9	+0.9
IGHG	Ghaleghazi	1.75	348	*e*AMB	AMB	15 49 56.2	
	comp=E,5μm,0.3s						
SNGE	Sanandaj	2.50	7	*e*Pn	Pn	15 49 31.9	-0.3
SNGE				*e*Sg	Sg	15 50 10.1	-2.1
KHMZ	Khomeyn	2.73	65	*e*Pn	Pn	15 49 36.0	+0.6
IPIR	Pirpir	3.29	88	*e*Pn	Pn	15 49 43.4	+0.2
IPIR				*e*AMB	AMB	15 50 26.8	
	comp=Z,362nm,0.2s						
IZEF	Zefreh	4.50	85	*e*Pn	Pn	15 49 58.8	-1.0

ISCJB 03 15:49:34.0±0.4, 49°89N±0°03×18°43E±0°03, h0km, Error ellipse: s-maj=4.8km s-min=2.4km az=11.9
IPEC 03 15:49:35.5±1.8, 49°82N×18°57E, h0km, ML2.1/3, Error ellipse: s-maj=21.4km s-min=10.8km az=161.0
CSEM 03 15:49:35.5±0.2, 49°85N×18°45E, h2km, ML2.7/10, Error ellipse: s-maj=5.9km s-min=2.9km az=8.0
VIE 03 15:49:35.9±2.0, 49°83N×18°43E, h0km, mb2.0/2, ML2.5/3, Error ellipse: s-maj=15.5km s-min=12.6km az=49.0, Suspected Mining induced.
PRU 03 15:49:36.1, 49°89N×18°45E, h0km
ISC 03 15:49:35.3±0.8, 49°82N±0°03×18°51E±0°02, h0km, n29, σ1^{s}05/52, 4D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.23	274	⇓*i*PG	Pg	15 49 40.9	+1.1
OKC				*e*SG	Sg	15 49 43.4	+0.6
	comp=Z,185nm,0.5s						
OKC	Ostrava-Krasne	0.23	274	Pg	Pg	15 49 40.9	+1.1
OKC				Sg	Sg	15 49 43.4	+0.6
	185nm,0.5s						
MORC	Moravsky Berou	0.63	266	*e*Pg	Pg	15 49 47.8	+0.5
	baz=86						
MORC				*e*Sg	Sg	15 49 56.2	+0.8
	31nm,0.3s,baz=86						
LANS	Liptovska Anna	0.92	137	*e*Pg	Pb	15 49 53.9	-0.3
LANS				*e*Sg	Sb	15 50 07.6	+0.7
LANS	Liptovska Anna	0.92	137	*e*PG	Pb	15 49 53.9	-0.3
LANS				*e*SG	Sb	15 50 07.6	+0.7
OJC	Ojcow	0.92	64	*e*Pg	Pg	15 49 52.8	-0.2
OJC				*e*Sg	Sg	15 50 04.9	0.0
OJC	Ojcow	0.92	64	*e*Pg	Pg	15 49 52.8	-0.2
OJC				*e*Sg	Sg	15 50 04.9	0.0
NIE	Niedzica	1.23	109	*e*Pg	Pn	15 49 59.7	-0.2
NIE				*e*Sg	Sn	15 50 17.4	+0.2
VYHS	Vyhne	1.35	171	*e*Pg	Pg	15 50 01.1	-0.1
VYHS				*e*Sn	Sb	15 50 19.6	+0.4
VYHS	Vyhne	1.35	171	*e*PG	Pg	15 50 01.0	-0.1
VYHS				*e*SN	Sb	15 50 19.6	+0.4
VYHS				*e*LG	Lg	15 50 21.1	
VRAC	Vranov	1.35	248	*e*Pg	Pg	15 50 01.1	-0.1
VRAC				*e*Sg	Sg	15 50 19.1	+0.5
	30nm,0.4s,baz=67						
DPC	Dobruska-Polom	1.50	291	*e*PG	Pn	15 50 03.3	-0.3
DPC				*e*SG	Sg	15 50 23.2	-0.4
	comp=Z,15nm,0.4s						
DPC	Dobruska-Polom	1.50	291	Pg	Pn	15 50 03.3	-0.3
DPC				Sg	Sg	15 50 23.2	-0.4
	15nm,0.4s						
KRUC	Moravsky	1.58	242	*e*Pg	Pn	15 50 04.5	0.0
	baz=61						
KRUC				*e*Sg	Sn	15 50 26.1	+0.5
	14nm,0.3s,baz=61						
UPC	Upice	1.75	294	⇓*e*PG	Pn	15 50 07.1	+0.2
UPC				*e*SG	Sb	15 50 30.9	+0.2
	comp=Z,10nm,0.4s						
UPC	Upice	1.75	294	Pg	Pn	15 50 07.1	+0.2
UPC				Sg	Sb	15 50 30.9	+0.2
	10nm,0.4s						
STHS	Stebnicka Huta	1.82	102	*e*Pn	Pg	15 50 10.2	-0.1
STHS	Stebnicka Huta	1.82	102	*e*PN	Pg	15 50 10.2	-0.1
STHS				*e*SN	Sg	15 50 37.0	+3.1
STHS				*e*LG	Lg	15 50 41.9	
KECS	Kecovo	1.87	135	*e*Pn	Pb	15 50 10.4	+0.1
KECS				*e*Sn	Sb	15 50 34.4	+0.2
KECS	Kecovo	1.87	135	*e*PN	Pb	15 50 10.4	+0.1
KECS				*e*SN	Sb	15 50 34.4	+0.2
KECS				*e*LG	Lg	15 50 39.7	
TREC	Trest	2.04	256	⇓*e*SG	Sb	15 50 39.0	-0.1
	comp=Z,7.7nm,0.3s						
TREC	Trest	2.04	256	Sg	Sb	15 50 39.0	-0.1
	7.7nm,0.3s						
PRU	Pruhonice	2.57	275	⇓*e*SG	Sb	15 50 54.9	+0.5
	comp=Z,5.7nm,0.5s						
PRU	Pruhonice	2.57	275	Sg	Sb	15 50 54.9	+0.5
	5.7nm,0.5s						
CONA	Conrad Observa	2.58	224	Pn	Pn	15 50 17.6	-0.8
	50nm,0.0s						
CONA				Sn	Sn	15 50 49.8	-0.7
	0.8nm,0.2s						
CONA	Conrad Observa	2.58	224	*e*Pn	Pn	15 50 17.6	-0.8
	50nm,0.0s						
CONA				*e*Sn	Sn	15 50 49.8	-0.7
	0.8nm,0.2s						
BRG	Berggiesshubel	3.11	292	PG	Pb	15 50 32.1	+0.7
BRG				SG	Sg	15 51 13.2	-1.9
	5.1nm,0.6s						
KHC	Kasperske Hory	3.29	260	*e*PN	Pn	15 50 24.0	-4.1
KHC				*e*SG	Sb	15 51 18.4	+3.3
	comp=Z,7.0nm,0.5s						
CLL	Collm	3.81	295	*e*Sg	Sg	15 51 36.0	-1.7

PGC 03 15:52:10.1±0.8, 48°50N×128°88W, h10km, MLSn2.8/28, Mw3.4/28, Mw3.4/28, 228km Wsw of Tofino, Bc Vancouver Island, Canada Region
ISCJB 03 15:52:11.5±0.7, 48°66N±0°03×128°57W±0°05, h10km, mb2.9/1, Error ellipse: s-maj=5.9km s-min=3.5km az=42.3
IDC 03 15:52:12.3±2.5, 48°62N×129°14W, h0km, mb3.3/1, mb1 3.6/7, mb1mx3.3/74, mbtmp3.3/7, ML3.3/6, Error ellipse: s-maj=51.4km s-min=15.4km az=70.0
ISC 03 15:52:10.3±0.9, 48°53N±0°04×128°80W±0°05, h10km, n55, σ1^{s}90/75, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCHR	NEPTUNE Canada	0.59	199	P	Pg	15 52 20.5	-1.1
KEMF	NEPTUNE Canada	0.62	199	P	Pg	15 52 20.6	-1.5
NC27	ODP1027	1.04	138	P	Pb	15 52 27.6	-2.4
NC89	ODP889	1.30	83	P	Pb	15 52 35.4	+0.7
NC89				S	Sb	15 52 49.9	-1.4
ETB	Estevan Point	1.71	60	Sn	Sn	15 52 57.4	-4.6
EDB	Eliza Dome	1.73	39	Pn	Pn	15 52 39.3	-1.1
EDB				Sn	Sn	15 52 59.4	-3.2
BPBC	Brooks Peninsu	1.76	22	Pn	Pn	15 52 39.4	-1.5
BPBC				Sn	Sn	15 53 00.6	-2.7
PACB	Port Alice, BC	2.08	24	Pn	Pn	15 52 43.0	-2.3
PACB				Sn	Sn	15 53 07.2	-4.0
MAYB	Maynard	2.15	29	Pn	Pn	15 52 45.7	-0.6
MAYB				Sn	Sn	15 53 11.0	-2.1
HOLB	Holberg	2.15	11	Pn	Pn	15 52 46.9	+0.6
HOLB				Sn	Sn	15 53 11.3	-1.7
B012	Ucluelet	2.19	79	Pn	Pn	15 52 45.6	-1.1
B012				Sn	Sn	15 53 11.3	-2.5
GDR	Gold River	2.20	54	Pn	Pn	15 52 46.2	-0.7
GDR				Sn	Sn	15 53 11.5	-2.6
OZB	Mount Ozzard	2.23	78	Pn	Pn	15 52 45.5	-1.8
OZB				Sn	Sn	15 53 11.9	-2.9
PHC	Port Hardy	2.35	22	Pn	Pn	15 52 48.5	-0.4
PHC				Sn	Sn	15 53 14.5	-3.3
BTB	Buttle Lake	2.35	65	Pn	Pn	15 52 48.7	-0.4
BTB				Sn	Sn	15 53 16.5	-1.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
B928	Bamfield	2.45	82	Pn	Pn	15 52 49.4	-0.7
B928				Sn	Sn	15 53 17.6	-2.5
CBB	Campbell River	2.70	55	Pn	Pn	15 52 54.0	+0.3
CBB				Sn	Sn	15 53 25.6	-0.9
B927	Port Alberni	2.72	74	Pn	Pn	15 52 53.2	-0.7
B927				Sn	Sn	15 53 23.6	-3.2
OCP	Olym-Cheeka Pk	2.79	93	Pn	Pn	15 52 55.2	+0.2
OCP				Sn	Sn	15 53 27.5	-1.2
PFB	Port Renfrew	2.90	88	Pn	Pn	15 52 55.8	-0.6
PFB				Sn	Sn	15 53 27.0	-4.2
TXB	Texada	3.09	66	Pn	Pn	15 52 59.2	0.0
TXB				Sn	Sn	15 53 34.7	-1.5
B926	Mesachie Lake	3.11	83	Pn	Pn	15 52 58.3	-0.9
B926				Sn	Sn	15 53 33.5	-2.9
GHNB	Nanoose	3.11	74	Pn	Pn	15 52 59.7	+0.5
GHNB				Sn	Sn	15 53 34.2	-2.2
NLLB	Nanaimo Lost L	3.25	76	Pn	Pn	15 53 02.1	+0.9
NLLB				Sn	Sn	15 53 39.3	-0.7
LZB	Mount Lazard	3.30	87	Pn	Pn	15 53 01.2	-0.9
LZB				Sn	Sn	15 53 39.2	-2.2
BPCB	Bare Point	3.39	82	Sn	Sn	15 53 42.0	-1.5
SHB	Sechelt	3.41	70	Pn	Pn	15 53 03.8	+0.2
SHB				Sn	Sn	15 53 42.5	-1.5
B009	North Saanich	3.55	86	Sn	Sn	15 53 46.4	-1.0
B010	North Saanich	3.55	86	Sn	Sn	15 53 46.6	-0.8
PGC	Sidney	3.55	86	Sn	Sn	15 53 45.8	-1.6
B011	North Saanich	3.55	86	Pn	Pn	15 53 05.6	+0.2
B011				Sn	Sn	15 53 46.4	-1.0
VGZ	Gonzales	3.64	90	Sn	Sn	15 53 46.6	-3.1
BBB	Bella Bella	3.68	7	Pn	Pn	15 53 07.9	+0.8
	12nm,0.3s,baz=194,slow=15,SNR=68						
BBB				Sn	Sn	15 53 49.1	-1.5
	9.2nm,0.3s,baz=153,slow=4.5,SNR=10						
BBB	Bella Bella	3.68	7	Pn	Pn	15 53 07.7	+0.6
BBB				Sn	Sn	15 53 48.6	-2.0
BIB	Bowen Island	3.72	74	Pn	Pn	15 53 07.5	-0.2
BIB				Sn	Sn	15 53 48.1	-3.5
SNB	Saturna Island	3.74	84	Sn	Sn	15 53 51.7	-0.3
MCW	Mount Constitu	3.96	86	Sn	Sn	15 53 59.1	+1.5
WSLR	Whistler	4.16	65	Pn	Pn	15 53 14.4	+0.5
WSLR				Sn	Sn	15 54 03.7	+1.2
MBW	Mount Baker	4.58	84	Pn	Pn	15 53 19.9	+0.2
MBW				Sn	Sn	15 54 13.2	+0.2
JCW	Jim Creek	4.59	92	Pn	Pn	15 53 21.1	+1.4
JCW				Sn	Sn	15 54 13.1	0.0
LLLB	Lillooet	4.96	63	Pn	Pn	15 53 25.8	+1.0
DOWB	Downie Slide	7.26	62	P	Pn	15 53 57.4	+0.9
MNB	Mounoet Dainar	7.60	57	P	Pn	15 54 02.7	+1.5
YBH	Yreka Blue Hor	8.05	145	Pn	Pn	15 54 13.6	+6.4
	0.1nm,0.3s,baz=310,slow=3.2,SNR=4.3						
NVAR	Mina Array Bea	12.64	139	Pn	Pn	15 55 17.2	+7.0
	baz=322,slow=13,SNR=7.8						
PDAR	Pinedale Array	14.62	106	Pn	P	15 55 48.2	+4.4
	0.1nm,0.3s,baz=292,slow=7.8,SNR=7.4						
YKA	Yellowknife Ar	16.07	24	Pn	Pn	15 55 56.4	+0.4
	0.0nm,0.3s,baz=211,slow=12,SNR=5.0						
ILAR	Eielson Array	18.95	336	P	Pn	15 56 34.3	+2.5
	0.0nm,0.3s,baz=142,slow=12,SNR=4.9						
TXAR	Lajitas Array	27.18	126	P	P	15 58 01.6	+7.6
	0.3nm,0.7s,baz=316,slow=6.3,SNR=2.1						
H11N2	WAKE ISLAND Hy	58.52	264	T	T	17 05 32.2	
	baz=44,slow=76,SNR=11						
H11N3	WAKE ISLAND Hy	58.52	264	T	T	17 05 32.9	
	baz=44,slow=76,SNR=9.7						
H11N1	WAKE ISLAND Hy	58.54	264	T	T	17 05 34.2	
	baz=44,slow=76,SNR=9.0						
H11S1	WAKE ISLAND Hy	59.52	264	T	T	17 06 48.9	
	baz=69,slow=74,SNR=4.0						
H11S2	WAKE ISLAND Hy	59.53	264	T	T	17 06 51.6	
	baz=69,slow=74,SNR=7.3						
H11S3	WAKE ISLAND Hy	59.54	264	T	T	17 06 51.7	
	baz=69						

*ISCJB **03** 15:55:28.4±0.5, 33°.98N±0°.10×136°.5E±0°.1, h376^{km}, mb3.0/4, Error ellipse: s-maj=14.4km s-min=12.5km az=42.4*
*IDC **03** 15:55:28.1±1.0, 33°.95N×136°.71E, h382^{km}±17^{km}, mb2.8/4, mb1 2.9/8, mb1mx2.7/76, mbtmp3.6/8, Error ellipse: s-maj=29.1km s-min=17.6km az=63.0*
*JMA **03** 15:55:28.7±0.1, 33°.91N×136°.51E, h376^{km}±1^{km}, M2.8*
ISC 03 15:55:28.4±0.9**, 33°.9N**±0°.1×**136°.6E**±0°.1**, h376**^{km}**, n18, σ0^{s}.76**/21**, mb3.0**/4**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TTO1	TONANKAI O.B.S	0.36	153	P	Pn	15 56 16.0	+1.0
JKN2	Miekihoku	0.40	318	P	Pn	15 56 15.8	+0.5
TTO2	TONANKAI O.B.S	0.42	120	P	Pn	15 56 16.2	+1.2
JIE	Ise	0.46	12	P	Pn	15 56 16.2	+0.8
JIE				S	S	15 56 53.3	0.0
TSUJ	Tsu 2	0.78	349	P	Pn	15 56 16.9	+0.8
TTO4	TONANKAI O.B.S	0.79	85	P	Pn	15 56 16.8	+1.0
JAA	Atsumi	0.83	33	P	Pn	15 56 17.0	+0.8
JAA				S	S	15 56 55.5	+0.7
JWZ	Kozaga	0.84	241	P	Pn	15 56 16.3	-0.1
TK02	Tokai 2	0.97	89	P	Pn	15 56 17.5	+1.0
JWM	Minabe	1.03	265	P	Pn	15 56 17.2	+0.2
MJAR	Matsushiro Arr	2.91	27	P	Pn	15 56 29.1	+0.2
	1.4nm,0.3s,baz=186,slow=9.6,SNR=23						
MJAR				S	S	15 57 17.9	+0.1
	0.2nm,0.3s,baz=184,slow=15,SNR=4.6						
KSRS	Korea Array	7.87	299	P	P	15 57 22.6	+0.5
	0.2nm,0.3s,baz=120,slow=11,SNR=6.6						
USRK	Ussuriysk Ar.	10.85	342	P	P	15 57 56.1	+0.2
	0.7nm,0.3s,baz=146,slow=11,SNR=8.7						
ASAJ	Asahikawa	11.18	23	P	P	15 57 58.5	-1.1
	0.6nm,0.3s,baz=205,slow=15,SNR=11						
SONM	Songino Array	26.52	311	P	P	16 00 34.0	+0.8
	0.5nm,0.8s,baz=122,slow=9.5,SNR=3.6						
CMAR	Chiang Mai Arr	36.90	255	P	P	16 02 02.7	-0.2
	0.3nm,0.5s,baz=54,slow=9.1,SNR=3.8						
BVAR	Borovoye Array	49.79	314	P	P	16 03 43.4	-0.8
	0.3nm,0.3s,baz=104,slow=6.1,SNR=3.5						
WRA	Warramunga Arr	53.63	183	P	P	16 04 11.8	-0.7
	0.7nm,0.3s,baz=0.1,slow=7.6,SNR=23						

IDC 03 16:08:57.4±1.5**, 51°.32N**×**96°.14E, h0**^{km}**, mb1 2.9**/2**, mb1mx2.6**/67**, mbtmp2.9**/2**, ML2.7**/2**, Error ellipse: s-maj=43.5km s-min=12.6km az=174.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLY	Talaya	4.70	83	Pg	Pb	16 10 20.2	-0.4
	baz=270,slow=11						
TLY				Lg	Lg	16 11 16.8	
	0.0nm,0.3s,baz=291,slow=8.6,SNR=2.9						
ZALV	Zalesovo Beam	7.38	295	Pn	Pn	16 10 44.5	-1.7
	0.2nm,0.3s,baz=110,slow=13,SNR=3.3						
ZALV				Lg	Lg	16 12 36.0	
	0.7nm,0.3s,baz=108,slow=26,SNR=8.1						
SONM	Songino Array	7.52	114	Pg	Pb	16 11 13.0	+4.3
	0.3nm,0.3s,baz=303,slow=18,SNR=16						
SONM				Lg	Lg	16 12 55.0	
	0.6nm,0.3s,baz=301,slow=30,SNR=7.2						
MKAR	Makanchi Array	10.15	249	Pn	Pn	16 11 25.1	+0.8
	0.2nm,0.3s,baz=65,slow=13,SNR=5.6						
MKAR				Pg		16 12 05.8	
	0.0nm,0.3s,baz=59,slow=14,SNR=3.8						
MKAR				Lg	Lg	16 14 15.6	
	0.1nm,0.3s,baz=60,slow=29,SNR=3.8						

MAN 03 16:25:13, 10°.27N×**123°.26E, h1**^{km}**, mb4.3, ML3.1, MS2.8, 2C-1D, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.69	86	⇓*e*P	Pb	16 25 27.4	-0.5
LLP				*i* S	Sb	16 25 37.3	-0.7
GUIM	Jordan	0.75	298	*e*P	Pb	16 25 29.2	+0.3
GUIM				*e*S	Sn	16 25 43.2	+0.4
TBP	Tagbilaran	0.82	134	*e*P	Pb	16 25 30.2	+0.1
TBP				*i* S	Sn	16 25 44.1	-0.5
SNPH	Sibulan	0.92	182	⇑*i*P	Pb	16 25 32.1	+0.2
SNPH				*i* S	Sg	16 25 42.3	-0.3
RCP	Roxas	1.38	338	⇑*e*P	Pb	16 25 42.0	+2.4
OCLP	Ormoc	1.53	59	*e*P	Pg	16 25 44.5	+2.1
OCLP				*e*S	Sg	16 26 06.3	+4.0
MSLP	Maasin	1.58	95	*e*P	Pb	16 25 42.6	-0.4
MSLP				*e*S	Sg	16 26 04.8	+1.1

MAN 03 16:28:19, 9°.97N×**124°.71E, h64**^{km}**, mb3.9, ML2.7, MS2.2, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	Maasin	0.22	41	*e*P	Pn	16 28 32.0	+2.9
MSLP				*e*S	Sn	16 28 38.9	+2.6
OCLP	Ormoc	1.08	355	*e*P	Pn	16 28 39.7	+1.4
OCLP				*e*S	Sn	16 28 54.1	+1.4
BUTP	Butuan	1.34	138	*e*P	Pn	16 28 42.5	+0.9

IDC 03 16:36:46.1±4.6**, 13°.04N**×**125°.58E, h0**^{km}**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.1**/58**, mbtmp3.2**/3**, Error ellipse: s-maj=367.3km s-min=27.0km az=65.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.89	165	P	P	16 43 30.4	-0.4
	0.2nm,0.7s,baz=344,slow=8.4,SNR=2.9						
ASAR	Alice Springs	37.38	167	P	P	16 44 01.1	+0.2
	0.1nm,0.4s,baz=349,slow=6.9,SNR=6.0						
MKAR	Makanchi Array	49.44	322	P	P	16 45 37.9	-0.1
	0.4nm,0.7s,baz=112,slow=7.0,SNR=6.2						

MAN 03 16:52:40, 10°.19N×**123°.17E, h26**^{km}**, mb4.0, ML2.7, MS2.3, 1C, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	0.72	308	*e*P	Pn	16 52 54.2	-0.3
GUIM				*e*S	Sn	16 53 06.0	+1.4
SNPH	Sibulan	0.84	175	⇑*i*P	Pn	16 52 56.5	+0.3
SNPH				*i* S	Sn	16 53 08.3	+0.6
MSLP	Maasin	1.67	92	*e*P	Pn	16 53 07.5	0.0
MSLP				*e*S	Sb	16 53 29.5	-1.2

*IDC **03** 16:56:43.2±1.9, 49°.90N×88°.08E, h0^{km}, mb1 3.4/5, mb1mx3.1/70, mbtmp3.4/5, ML3.1/5, Error ellipse: s-maj=19.4km s-min=13.0km az=99.0*
*NNC **03** 16:56:45.9±4.0, 49°.93N×87°.98E, h0^{km}, mb3.7, mpv3.4, Error ellipse: s-maj=50.7km s-min=15.9km az=103.0*
ISC 03 16:56:48.3±2.6**, 49°.88N**±0°.08×**87°.5E**±0°.2**, h10**^{km}**, n13, σ1^{s}.74**/14**, 9C-3D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	4.40	339	⇑Pn	Pn	16 57 53.7	-1.4
	2.1nm,0.6s						
ZAA0				⇑Pg	Pb	16 58 07.6	+2.0
	5.6nm,0.5s						
ZAA0				⇑Lg	Lg	16 59 09.4	
	6.1nm,0.5s						
ZALV	Zalesovo Beam	4.40	339	Pn	Pn	16 57 54.3	-0.8
	1.4nm,0.3s,baz=157,slow=13,SNR=18						
ZALV				Pg	Pb	16 58 05.2	-0.4
	2.7nm,0.3s,baz=149,slow=16,SNR=13						
ZALV				Sn	Sn	16 58 47.7	+1.4
	2.8nm,0.3s,baz=153,slow=24,SNR=5.9						
ZALV				Lg	Lg	16 59 04.9	
	3.8nm,0.3s,baz=153,slow=26,SNR=6.6						
MK31	Makanchi Array	4.66	230	⇑Pn	Pn	16 58 00.3	+1.6
	2.4nm,0.5s,baz=54,slow=14,SNR=62						
MK31				⇑Pg	Pg	16 58 14.6	-2.8
	3.1nm,0.4s,baz=54,slow=14,SNR=2.8						
MK31				⇓Lg	Lg	16 59 21.6	
	25nm,0.6s,baz=56,slow=30,SNR=11						
MKAR	Makanchi Array	4.66	230	Pn	Pn	16 58 00.7	+2.1
	1.5nm,0.3s,baz=51,slow=13,SNR=30						
MKAR				Sn	Sn	16 58 55.4	+2.6
	2.0nm,0.3s,baz=48,slow=22,SNR=4.1						
MKAR				Lg	Lg	16 59 20.9	
	7.6nm,0.3s,baz=50,slow=30,SNR=13						
MAKZ	Makanchi	4.81	232	⇑Pn	Pn	16 58 01.0	+0.3
	2.4nm,0.4s						
MAKZ				⇑Lg	Lg	16 59 25.4	
	26nm,0.6s						
PDGK	Podgornoye	8.57	223	⇓Pn	Pn	16 59 00.4	+8.0
	0.6nm,0.3s						
PDGK				⇓Lg	Lg	17 01 24.1	
	7.7nm,0.8s						
OTUK	Ortayu	10.10	266	⇑Lg	Lg	17 02 16.4	
	15nm,1.0s						
TKM2	Tokmak 2	10.77	234	⇑Lg	Lg	17 02 36.0	
	4.0nm,1.1s						
BVA0	Borovoye Array	11.14	293	Pn	Pn	16 59 33.8	+6.3
	0.2nm,0.3s,baz=105,slow=14,SNR=8.6						
BVAR	Borovoye Array	11.14	293	Pn	Pn	16 59 26.2	-1.2
	0.1nm,0.3s,baz=98,slow=16,SNR=3.8						
BVAR				Sn	Sn	17 01 32.4	+0.4
	0.3nm,0.3s,baz=100,slow=24,SNR=4.4						
AAK	Ala-Archa	11.56	236	Pn	Pn	16 59 34.5	+1.2
	0.2nm,0.3s,baz=91,slow=11,SNR=5.7						
SONM	Songino Array	12.60	92	Pg	Pn	17 00 26.2	+39
	0.1nm,0.3s,baz=292,slow=17,SNR=2.6						
SONM				Lg	Lg	17 03 09.6	
	0.1nm,0.3s,baz=288,slow=27,SNR=8.3						
AKTO	Aktyubinsk	18.86	283	P	P	17 01 07.7	-0.6
	0.1nm,0.3s,baz=85,slow=12,SNR=2.4						

*NIED **03** 16:58:00, 37°.00N×141°.70E, h35^{km}, Mw3.4 Best double couple: $M_0 1.40000\times10^{14}$ NP1:ϕ_s171.00000°, δ20.00000°, λ-99.00000°. NP2:ϕ_s0.00000°, δ70.00000°, λ-87.00000°.*
*IDC **03** 16:58:09.1±6.2, 36°.77N×142°.08E, h0^{km}, mb3.6/4, mb1 3.5/6, mb1mx3.3/68, mbtmp3.5/6, ML3.0/2, Error ellipse: s-maj=107.9km s-min=34.8km az=141.0*
*ISCJB **03** 16:58:14.2±1.2, 37°.06N±0°.04×141°.74E±0°.07, h21^{km}±6^{km}, mb3.5/4, Error ellipse: s-maj=9.7km s-min=5.8km az=29.8*
*JMA **03** 16:58:16.4±0.2, 37°.06N×141°.60E, h44^{km}±3^{km}, M3.8*
JMA Felt I J1.
ISC 03 16:58:14.0±2.6**, 37°.07N**±0°.05×**141°.72E**±0°.08**, h13**^{km}±13^{km}**, n24, σ1^{s}.11**/31**, mb3.5**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.74	273	P	Pb	16 58 29.0	+0.2
ONAJ				S	Sg	16 58 37.9	-0.2
JFK	Kawauchi	0.74	294	P	Pb	16 58 29.1	+0.3
JFK				*e*S	Sg	16 58 38.1	0.0
JHO	Hitachi	1.03	244	P	Pb	16 58 32.9	-0.8
JHO				S	Sb	16 58 45.0	-2.1
JMM	Marumori	1.09	318	P	Pn	16 58 34.6	-0.3
JMM				S	Sb	16 58 47.6	-1.2
JFT	Otama	1.19	293	P	Pb	16 58 36.7	+0.2
JFT				S	Sb	16 58 50.9	-0.9
JIO	Ouri	1.42	348	P	Pn	16 58 39.4	-0.1
JIO				S	Sn	16 58 55.7	-2.3
JOU	Okura	1.54	327	P	Pb	16 58 42.4	-0.1
JOU				S	Sn	16 59 01.0	-0.2
JFY	Yanaizu	1.64	283	P	Pn	16 58 43.2	+0.6
JFY				S	Sn	16 59 03.4	-0.2
JYS	Shirataka	1.75	312	P	Pn	16 58 45.1	+1.1
JYS				S	Sn	16 59 06.6	+0.4
JMK	Ichinoseki	1.92	348	P	Pn	16 58 47.1	+0.7
JMK				*e*S	Sn	16 59 09.6	-0.9
JAG	Ashikaga	1.93	251	P	Pn	16 58 46.6	+0.1
JAG				S	Sn	16 59 08.2	-2.5
MJAR	Matsushiro Arr	2.87	261	Pn	Pn	16 59 00.9	+1.4
	1.3nm,0.3s,baz=86,slow=15,SNR=17						
MJAR				Sn	Sn	16 59 36.1	+2.3
	3.9nm,0.3s,baz=99,slow=15,SNR=9.1						
MAT	Matsushiro	2.87	261	P	Pn	16 59 00.8	+1.3
MAT				S	Sn	16 59 33.9	+0.1
ASAJ	Asahikawa	7.07	5	Pn	Pn	16 59 58.4	+1.2
	0.3nm,0.3s,baz=213,slow=17,SNR=8.2						
H11N2	WAKE ISLAND Hy	27.95	121	T	T	17 33 23.3	
	baz=316						
H11N1	WAKE ISLAND Hy	27.96	121	T	T	17 33 25.0	
	baz=316						
SONM	Songino Array	27.97	304	P	P	17 04 05.3	+0.9
	0.8nm,0.8s,baz=116,slow=9.3,SNR=2.2						
H11N3	WAKE ISLAND Hy	27.97	121	T	T	17 33 23.3	
	baz=316						
H11S1	WAKE ISLAND Hy	28.67	123	T	T	17 34 13.1	
	baz=315						
H11S3	WAKE ISLAND Hy	28.67	123	T	T	17 34 13.4	
	baz=315						
H11S2	WAKE ISLAND Hy	28.69	123	T	T	17 34 12.0	
	baz=315						
ZALV	Zalesovo Beam	42.07	312	P	P	17 06 05.0	-0.3
	0.5nm,0.5s,baz=99,slow=7.8,SNR=3.2						
MKAR	Makanchi Array	44.31	302	P	P	17 06 23.3	-0.2
	0.5nm,0.6s,baz=90,slow=9.8,SNR=4.7						
BVAR	Borovoye Array	50.73	312	P	P	17 07 13.6	+0.3
	0.5nm,0.7s,baz=90,slow=8.6,SNR=2.6						

*IDC **03** 17:00:10.9±0.7, 22°.15S×170°.50E, h0^{km}, mb4.4/16, mb1 4.5/17, mb1mx4.3/41, mbtmp4.4/17, ML4.2/1, MS3.9/18, Ms1 3.9/18, ms1mx3.7/38, Error ellipse: s-maj=21.2km s-min=17.6km az=149.0*
*NEIC **03** 17:00:11.7±3.4, 22°.12S×170°.44E, h5^{km}±20^{km}, mb4.8/23, Error ellipse: s-maj=8.5km s-min=7.7km az=199.0*
*BJI **03** 17:00:11.8, 21°.73S×170°.55E, h5^{km}, mb4.9/29, mB5.1/11, Ms4.9/6, Ms7 4.8/4*
*ISCJB **03** 17:00:15.1±0.4, 22°.16S±0°.06×170°.32E±0°.06, h35^{km}, mb4.7/44, MS4.0/16, Error ellipse: s-maj=9.0km s-min=8.1km az=165.4*
ISC 03 17:00:16.2±0.4**, 22°.22S**±0°.08×**170°.39E**±0°.06**, h35**^{km}**, n150, σ1^{s}.43**/150**, mb4.8**/44**, MS4.0**/16**, 7C-12D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.66	272	Pn	Pn	17 01 09.1	-1.4
	17nm,0.3s,baz=106,slow=12,SNR=188						
DZM				Sn	Sn	17 01 50.9	-1.7
	10nm,0.3s,baz=174,slow=15,SNR=6.3						
DZM				LR	LR	17 01 51.5	
	comp=Z,442nm,20.5s,baz=65,slow=27						
DZM	Mont Dzumac	3.66	272	*e*Pn	Pn	17 01 09.0	-1.5
	64nm,0.2s						
DZM				*e*Sn	Sn	17 01 45.6	-7.0
	56nm,0.2s						
DZM				*e*LR	LR	17 01 55.3	
	2μm,27.6s						
DZM	Mont Dzumac	3.66	272	*e*Pn	Pn	17 01 09.0	-1.5
DZM				*e*Sn	Sn	17 01 51.7	-0.9
HNR	Honiara	16.19	320	LR	LR	17 08 57.3	
	comp=Z,387nm,21.2s,baz=122,slow=32						
HNR	Honiara	16.19	320	*e*Pn	Pn	17 03 59.4	-1.8
	228nm,1.3s						
URZ	Urewera	17.00	162	LR	LR	17 09 25.4	
	comp=Z,760nm,19.0s,baz=343,slow=33						
BKZ	Black Stump Fm	17.68	164	*e*Pn	P	17 04 21.8	+1.4
	130nm,1.6s						
EIDS	Eidsvold	17.95	256	*e*Pn	P	17 04 25.0	+1.6
	63nm,1.8s						
ARMA	Armidale	18.68	240	*e*P	Pn	17 04 32.2	+0.1
	25nm,1.2s						
AFI	Afiamalu	18.85	67	LR	LR	17 09 53.8	
	comp=Z,144nm,18.2s,baz=245,slow=31						
AFI	Afiamalu	18.85	67	*e*P	P	17 04 31.3	-2.1
AFI				*e*Pn	Pn	17 04 31.5	-2.7
RPZ	Rata Peaks	21.45	179	LR	LR	17 12 10.6	
	comp=Z,341nm,18.7s,baz=348,slow=34						
CTA	Charters Tower	22.61	271	P	P	17 05 15.1	+1.0
	5.3nm,0.7s,baz=91,slow=14,SNR=8.5						
CTA				LR	LR	17 13 33.6	
	comp=Z,418nm,18.6s,baz=101,slow=35						
PMG	Port Moresby	25.68	296	P	P	17 05 43.6	+0.4
	8.7nm,0.7s,baz=95,slow=21,SNR=4.0						
PMG				LR	LR	17 14 28.7	
	comp=Z,429nm,19.7s,baz=122,slow=33						
PMG	Port Moresby	25.68	296	*e*P	P	17 05 42.0	-1.2
	11nm,0.8s						
STKA	Stephens Creek	27.32	243	P	P	17 05 59.3	+1.5
	7.4nm,0.9s,baz=94,slow=10,SNR=12						
STKA	Stephens Creek	27.32	243	*e*P	P	17 05 58.5	+0.6
	2.5nm,1.0s						
AS01	Alice Springs	33.53	260	*e*P	P	17 06 52.0	-0.9
AS31	Alice Springs	33.58	260	*e*P	P	17 06 51.9	-1.4
	1.4nm,0.9s						
ASAR	Alice Springs	33.58	260	P	P	17 06 53.1	-0.2
	2.5nm,0.9s,baz=95,slow=8.7,SNR=34						
ASAR				PcP	PcP	17 09 32.8	-0.6
	1.3nm,0.8s,baz=111,slow=3.6,SNR=6.4						
ASAR				LR	LR	17 20 45.4	
	comp=Z,140nm,18.2s,baz=92,slow=37						
WR1	Warramunga Arr	33.67	267	*e*P	P	17 06 52.9	-1.1
	12nm,1.4s						
WR1				*e*PcP	PcP	17 09 32.3	-1.3
WRA	Warramunga Arr	33.67	267	P	P	17 06 52.9	-1.2
	2.7nm,0.7s,baz=101,slow=8.5,SNR=24						
WRA				PcP	PcP	17 09 32.3	-1.3
	1.0nm,0.8s,baz=108,slow=2.5,SNR=4.6						
TBI	Tubuai	36.95	100	*e*LR	LR	17 17 40.9	
	310nm,26.8s						
PPT2	Papeete2	37.84	90	*e*LR	LR	17 18 04.4	
	330nm,28.2s						
MTN	Manton Dam	38.48	277	*e*P	P	17 07 34.7	-0.6
	36nm,1.4s						
FAKI	Fak Fak	41.68	292	*e*P	P	17 08 01.1	-0.7
	24nm,0.9s						
GUMO	Guam	43.51	323	LR	LR	17 24 19.5	
	comp=Z,134nm,20.5s,baz=116,slow=33						
BATI	Baumata	46.26	277	P	P	17 08 39.6	+1.0
	6.1nm,0.5s,baz=153,slow=9.0,SNR=3.4						
BATI				LR	LR	17 27 39.9	
	comp=Z,434nm,21.0s,baz=150,slow=36						
MBWA	Marble Bar	46.91	261	*e*P	P	17 08 43.6	0.0
	9.1nm,0.8s						
TAOE	Nuku Hiva Isla	49.25	82	*e*LR	LR	17 23 21.2	
	160nm,25.8s						
DAV	Davao City (W)	52.67	298	LR	LR	17 31 31.6	
	comp=Z,81nm,19.7s,baz=160,slow=36						
VNDA	Vanda	55.51	182	P	P	17 09 48.4	+1.1
	3.4nm,0.9s,baz=8.2,slow=11,SNR=3.7						
VNDA				LR	LR	17 29 38.1	
	comp=Z,138nm,20.4s,baz=354,slow=32						
VNDA	Vanda	55.51	182	*e*P	P	17 09 45.9	-1.4
LEM	Lembang	62.27	274	P	P	17 10 35.8	+0.4
	18nm,0.8s,baz=176,slow=16,SNR=4.7						
MJAR	Matsushiro Arr	65.88	332	P	P	17 10 57.8	-0.6
	2.1nm,0.6s,baz=161,slow=6.7,SNR=8.7						
MAJO	Matsushiro	65.88	332	*e*P	P	17 10 57.8	-0.6
	6.1nm,0.7s						
MAT	Matsushiro	65.88	332	P	P	17 10 57.9	-0.5
MJB9	Matsu-Tunnel	65.88	332	*e*P	P	17 10 57.6	-0.9
	6.3nm,0.7s						
TPUB	Ta-pu	66.27	310	*e*P	P	17 11 00.6	-0.6
	230nm,2.0s						
SSLB	Suanglung	66.35	311	*e*P	P	17 11 00.9	-0.8
	91nm,1.9s						
QSPA	South Pole Qui	67.85	180	*e*P	P	17 11 11.1	+0.3
	15nm,1.0s						
KSRS	Korea Array	71.56	326	P	P	17 11 34.1	+0.4
	3.4nm,0.8s,baz=149,slow=5.9,SNR=11						
KS15	Wonju Array Si	71.57	325	*e*P	P	17 11 33.8	-0.1
KSAR	Wonju Array Be	71.57	325	P	P	17 11 34.1	+0.3
KS01	Wonju Array Si	71.59	325	*e*P	P	17 11 33.2	-0.8
IPM	Ipoh	72.76	282	*e*P	P	17 11 42.0	+0.5
	13nm,0.9s						
NJ2	Nanjing	73.09	316	*e*P	P	17 11 43.4	+0.4
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
PSI	Prapat	73.98	280	LR	LR	17 43 42.3	
	comp=Z,107nm,21.8s,baz=102,slow=35						
PSI	Prapat	73.98	280	*e*P	P	17 11 46.8	-2.1
	14nm,1.1s						
USRK	Ussuriysk Ar.	74.86	332	LR	LR	17 39 27.1	
	comp=Z,43nm,20.8s,baz=143,slow=32						
PETK	Petropavlovsk-	75.81	352	LR	LR	17 38 45.8	
	comp=Z,119nm,19.9s,baz=156,slow=31						
TIA	Tai'an	76.88	318	P	P	17 12 05.4	+0.6
TIA				pmax	pmax		
	comp=Z,15nm,0.7s						
CN2	Changchun	77.55	328	*e*P	P	17 12 11.3	+2.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ENH	Enshi	78.39	309	*e*P	P	17 12 13.5	+0.1
	17nm,1.0s						
GYA	Guiyang	78.40	305	*e*P	P	17 12 16.0	+2.3
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	Kul'dur	79.02	335	P	P	17 12 17.0	+0.6
	0.1nm,0.7s,baz=114,slow=5.3,SNR=5.1						
CM01	Chiang Mai Arr	80.67	294	*e*P	P	17 12 27.6	+1.5
CM31	Chiang Mai Arr	80.70	294	*e*P	P	17 12 27.6	+1.4
CMAR	Chiang Mai Arr	80.70	294	P	P	17 12 28.6	+2.4
	4.8nm,1.0s,baz=132,slow=3.8,SNR=27						
CMAR				PKKPbc	PKKPbc	17 31 05.2	-0.5
	0.5nm,0.8s,baz=278,slow=3.4,SNR=4.2						
KMI	Kunming	80.76	302	P	P	17 12 28.4	+1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMI				pmax	pmax		
	comp=Z,17nm,1.1s						
CHTO	**Chiang Mai**	**80.87**	**295**	*e*P	**P**	**17 12 28.9**	**+1.8**
	9.9nm,1.0s						
XAN	**Xi'an**	**80.91**	**312**	P	**P**	**17 12 28.0**	**+0.9**
XAN				pmax	pmax		
	comp=Z,11nm,1.3s						
CD2	**Chengdu**	**82.89**	**307**	*e*P	**P**	**17 12 38.0**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**83.17**	**319**	*e*P	**P**	**17 12 39.6**	**+0.7**
HHC				pP	PcP	17 12 44.4	+1.0
HHC				sP	pP	17 12 46.6	-3.3
HHC				PP	**PP**	**17 15 53.2**	**+2.4**
HHC				S	**S**	**17 22 58.4**	**+1.8**
HHC				sS	ScS	17 23 06.4	-4.0
HHC				SS	**SS**	**17 28 26.6**	**+4.6**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				LR	LR		
	comp=N,120nm,18.4s						
HHC				LR	LR		
	comp=E,130nm,18.0s						
LZH	**Lanzhou**	**85.51**	**312**	*e*P	**P**	**17 12 52.7**	**+1.8**
LZH				pP	PcP	17 12 56.5	+2.6
LZH				sP	pP	17 12 58.7	-3.3
LZH				PP	**PP**	**17 16 15.0**	**+5.0**
LZH				*e*S	**S**	**17 23 15.2**	**-5.1**
LZH				sS	ScS	17 23 27.0	-3.1
LZH				SS	**SS**	**17 29 01.1**	**+4.2**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.2s						
LZH				LR	LR		
	comp=N,470nm,12.4s						
LZH				LR	LR		
	comp=E,610nm,14.0s						
LZH				LR	LR		
	comp=Z,760nm,15.4s						
SEY	**Seymchan**	**86.05**	**352**	P	**P**	**17 12 52.5**	**-0.2**
	1.7nm,0.8s,baz=158,slow=6.2,SNR=8.5						
SNAA	**Sanae**	**86.24**	**182**	P	**P**	**17 12 54.0**	**+0.1**
SNAA	**Sanae**	**86.24**	**182**	P	**P**	**17 12 54.0**	**+0.1**
	4.8nm,0.8s,baz=222,slow=6.2,SNR=10.0						
SNAA	**Sanae**	**86.24**	**182**	*e*P	**P**	**17 12 52.9**	**-1.0**
	8.3nm,1.0s						
VNA3	**Neumayer Olymp**	**86.79**	**180**	P	**P**	**17 12 56.5**	**0.0**
GAMB	**Gambell**	**86.85**	**8**	*e*P	**P**	**17 12 56.3**	**-0.3**
	3.4nm,0.8s						
VNA2	**Neumayer--Watz**	**87.10**	**181**	P	**P**	**17 12 58.1**	**+0.1**
	baz=165,slow=4.0						
ULN	**Ulaanbaatar**	**89.88**	**323**	*e*P	**P**	**17 13 11.6**	**-0.1**
	9.6nm,1.3s						
GTA	**Gaotai**	**89.94**	**313**	*e*P	**P**	**17 13 12.9**	**+0.8**
GTA				pP	PcP	17 13 17.2	+3.9
GTA				sP	pP	17 13 20.2	-3.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NV01	**Mina Array Sit**	**89.97**	**48**	*e*P	**P**	**17 13 11.6**	**-0.8**
NVAR	**Mina Array Bea**	**89.97**	**48**	P	**P**	**17 13 12.0**	**-0.4**
	0.4nm,0.6s,baz=247,slow=12,SNR=5.4						
SONA0	**Songino Array**	**90.23**	**323**	*e*P	**P**	**17 13 13.7**	**+0.5**
SONM	**Songino Array**	**90.23**	**323**	P	**P**	**17 13 13.7**	**+0.5**
	3.7nm,0.9s,baz=143,slow=5.6,SNR=27						
SONM				LR	LR	17 53 22.9	
	comp=Z,48nm,19.0s,baz=152,slow=35						
SONA1	**Songino Array**	**90.24**	**323**	*e*P	**P**	**17 13 12.8**	**-0.5**
LSA	**Lhasa**	**92.00**	**301**	*e*P	**P**	**17 13 22.9**	**+0.6**
	2.2nm,0.8s						
ILAR	**Eielson Array**	**92.75**	**17**	P	**P**	**17 13 22.3**	**-2.0**
	0.9nm,0.7s,baz=227,slow=4.8,SNR=6.5						
ILAR				LR	LR	17 53 07.6	
	comp=Z,30nm,18.9s,baz=137,slow=34						
ILB	**Eielson Array**	**92.75**	**17**	*e*P	**P**	**17 13 23.4**	**-1.0**
PLCA	**Paso Flores**	**95.60**	**138**	LR	LR	17 46 42.6	
	comp=Z,55nm,19.2s,baz=234,slow=29						
WMQ	**Urumqi**	**100.03**	**313**	P	**Pdif**	**17 13 59.8**	**+1.8**
YKA	**Yellowknife Ar**	**102.81**	**27**	PKiKP	**PKiKP**	**17 18 29.4**	**-0.6**
	0.2nm,0.6s,baz=232,slow=1.6,SNR=3.9						
MK32	**Makanchi Array**	**104.60**	**315**	*e*Pdif	**Pdif**	**17 14 19.2**	**+1.0**
MKAR	**Makanchi Array**	**104.60**	**315**	Pdiff	**Pdif**	**17 14 19.2**	**+1.0**
	0.4nm,0.7s,baz=102,slow=6.3,SNR=5.4						
KSH	**Kashi**	**107.07**	**306**	*e*Pdif	**Pdif**	**17 14 34.5**	**+5.0**
CBYP	**Canovanas**	**127.33**	**83**	*e*PKPdf	**PKPdf**	**17 19 19.0**	**+1.0**
ARA0	**ARCESS Array S**	**128.21**	**345**	*e*PKPdf	**PKPdf**	**17 19 18.1**	**0.0**
ARCES	**ARCESS Array B**	**128.21**	**345**	PKP	**PKPdf**	**17 19 18.1**	**0.0**
	1.4nm,0.5s,baz=75,slow=1.9,SNR=12						
PLOR	**Plostina**	**142.29**	**317**	⇑*i*P	**PKPdf**	**17 19 44.8**	**-0.3**
ARCR	**ARCALIA**	**143.10**	**321**	⇑*i*P	**PKPdf**	**17 19 44.7**	**-1.7**
BMR	**Baia Mare**	**143.29**	**322**	⇓*i*P	**PKPdf**	**17 19 46.7**	**0.0**
HUMR	**Humele**	**143.94**	**316**	⇑*i*P	PKPbc	17 19 46.4	+0.6
DRGR		**144.22**	**321**	⇓*i*P	PKPbc	17 19 47.2	+0.5
LOT	**Lotru**	**144.27**	**318**	⇓*i*P	PKPbc	17 19 47.3	+0.3
KECS	**Kecovo**	**144.50**	**325**	*e*PKP	PKPbc	17 19 47.5	+0.1
LANS	**Liptovska Anna**	**144.62**	**327**	*e*PKP	**PKPdf**	**17 19 49.2**	**+0.1**
OKC	**Ostrava-Krasne**	**144.83**	**328**	*e*PKP	**PKPdf**	**17 19 48.7**	**-0.6**
SIRR	**Siria**	**145.11**	**321**	⇓*i*P	**PKPdf**	**17 19 51.0**	**+1.0**
PSZ	**Piszkesteto**	**145.15**	**325**	⇓*i*P	**PKPdf**	**17 19 50.8**	**+0.7**
PSZ	**Piszkesteto**	**145.15**	**325**	⇓*e*PKPbc	**PKPdf**	**17 19 49.9**	**-0.2**
PSZ	**Piszkesteto**	**145.15**	**325**	*e*PKPbc	**PKPdf**	**17 19 50.0**	**0.0**
MORC	**Moravsky Berou**	**145.16**	**329**	⇑*i*P	**PKPdf**	**17 19 50.2**	**+0.2**
MORC	**Moravsky Berou**	**145.16**	**329**	*e*PKPbc	**PKPdf**	**17 19 50.0**	**0.0**
DPC	**Dobruska-Polom**	**145.34**	**330**	*e*PKP	**PKPab**	**17 19 50.5**	**+0.2**
VYHS	**Vyhne**	**145.36**	**326**	*e*PKP	**PKPab**	**17 19 51.2**	**+0.8**
UPC	**Upice**	**145.37**	**331**	*e*PKP	**PKPab**	**17 19 50.7**	**+0.3**
UPC				*e*x	x	17 19 57.9	
BZS	**Buzias**	**145.48**	**320**	⇑*i*P	**PKPab**	**17 19 51.6**	**+0.7**
MDVR	**Moldovita**	**145.86**	**319**	⇓*i*P	**PKPab**	**17 19 52.9**	**+0.5**
VRAC	**Vranov**	**145.94**	**329**	⇓*i*P	**PKPab**	**17 19 52.6**	**+0.1**
VTS	**Vitosha**	**145.95**	**314**	⇓*i*P	**PKPab**	**17 19 53.1**	**+0.1**
VTS	**Vitosha**	**145.95**	**314**	*e*PKPdf	**PKPab**	**17 19 52.7**	**-0.3**
PVCC	**Panska Ves**	**145.99**	**332**	*e*PKP	**PKPab**	**17 19 52.9**	**+0.2**
BRG	**Berggiesshubel**	**146.00**	**333**	*i* PKP	**PKPab**	**17 19 52.4**	**-0.3**
	24nm,0.8s						
CLL	**Collm**	**146.06**	**334**	⇓*i*PKPbc	**PKPbc**	**17 19 52.2**	**-0.1**
	comp=Z,26nm,0.9s						
CLL				*i*		17 20 00.1	
CLL	**Collm**	**146.06**	**334**	*e*PKPdf	**PKPbc**	**17 19 52.0**	**-0.3**
GOPC	**GO Pecny, Ondr**	**146.34**	**331**	*e*PKP	**PKPab**	**17 19 53.6**	**-0.5**
CSKK	**Csˆ‡kako**	**146.37**	**325**	⇓*e*PKPdf	**PKPab**	**17 19 54.8**	**+0.6**
PRU	**Pruhonice**	**146.40**	**331**	*e*PKP	**PKPab**	**17 19 53.6**	**-0.6**
EKA	**Eskdalemuir Ar**	**146.58**	**353**	PKPbc	**PKPbc**	**17 19 53.4**	**-0.3**
	comp=Z,9.1nm,0.6s,baz=357,slow=2.5,SNR=31						
NKC	**Novy Kostel**	**147.11**	**334**	*e*PKP	**PKPbc**	**17 19 55.9**	**+0.5**
CONA	**Conrad Observa**	**147.23**	**328**	*e*pPKPbc	**PKPab**	**17 19 56.7**	**-0.9**
	comp=Z,7.7nm,0.9s						
DIVS	**Divibare**	**147.27**	**319**	*e*PKPbc	**PKPbc**	**17 19 56.7**	**+0.5**
KHC	**Kasperske Hory**	**147.46**	**331**	*e*PKP	**PKPbc**	**17 19 55.7**	**-0.7**
KHC				*e*pPKP	**PKPab**	**17 19 56.8**	**-1.7**
KHC				*e*x	x	17 20 04.0	
KHC	**Kasperske Hory**	**147.46**	**331**	*e*PKPbc	**PKPbc**	**17 19 57.1**	**+0.7**
GEC2	**GERESS Array S**	**147.61**	**331**	*e*PKPbc	**PKPbc**	**17 19 57.4**	**+0.4**
GERES	**GERESS Array B**	**147.61**	**331**	PKPbc	**PKPbc**	**17 19 57.3**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=29,slow=3.0,SNR=24						
GEA0	**GERESS Array S**	**147.62**	**331**	*e*PKPbc	**PKPbc**	**17 19 56.8**	**-0.1**
ARSA	**Arzberg**	**147.86**	**327**	*i* PKiKP	**PKPab**	**17 20 00.1**	**0.0**
ARSA				*i* PKiKP	**PKPab**	**17 20 00.1**	**0.0**
	comp=Z,9.4nm,1.6s						
ARSA				*i* PKiKP	**PKPab**	**17 20 00.1**	**0.0**
MOA	**Molln**	**148.06**	**329**	*e*sPKPbc	**PKPab**	**17 19 59.7**	**-1.2**
	comp=Z,6.1nm,1.0s,SNR=4.1						
SOKA	**Soboth**	**148.49**	**327**	*e*PKPbc	**PKPbc**	**17 19 59.3**	**0.0**
	comp=Z,9.6nm,1.5s						
PDG	**Podgorica**	**148.60**	**317**	⇓*i*P	**PKPbc**	**17 20 00.2**	**+0.6**
OBKA	**Obir**	**148.85**	**327**	*e*sPKPdf	**PKPdf**	**17 19 58.1**	**+1.7**
	comp=Z,4.5nm,1.2s						
MEM	**Membach**	**149.14**	**340**	⇑PKP	**PKPbc**	**17 20 01.0**	**+0.3**
ABTA	**Abfaltersbach**	**149.69**	**329**	*e*PKPbc	**PKPbc**	**17 20 01.8**	**-0.5**
	comp=Z,13nm,1.4s,SNR=4.9						
WTTA	**Wattenberg**	**149.71**	**331**	*e*PKiKP	**PKPbc**	**17 20 02.8**	**+0.3**
	comp=Z,5.2nm,0.6s						
MOTA	**Moosalm**	**149.89**	**331**	*e*PKPbc	**PKPbc**	**17 20 02.8**	**-0.1**
	comp=Z,4.6nm,0.6s						
WLF	**Walferdange**	**149.91**	**339**	⇑PKP	**PKPbc**	**17 20 03.0**	**+0.4**
WLF	**Walferdange**	**149.91**	**339**	*e*PKPbc	**PKPbc**	**17 20 02.8**	**+0.1**
BFO	**Black Forest**	**150.26**	**336**	*e*PKPbc	**PKPbc**	**17 20 03.7**	**+0.1**
FETA	**Feichten**	**150.30**	**331**	*e*PKiKP	**PKiKP**	**17 20 04.3**	**-0.4**
	comp=Z,8.6nm,1.0s						
DAVA	**Damuels**	**150.47**	**333**	*e*PKiKP	**PKiKP**	**17 20 04.6**	**-0.4**
	comp=Z,9.9nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**150.81**	**331**	*e*PKPbc	**PKPbc**	**17 20 05.8**	**+0.5**
TUE	**Stuetta**	**151.33**	**332**	*e*PKPbc	**PKPbc**	**17 20 06.5**	**+0.1**
ESDC	**Sonseca Array**	**161.95**	**346**	PKPab	**PKPab**	**17 20 59.8**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=2.4,slow=3.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**165.96**	**232**	PKP	**PKPdf**	**17 20 18.7**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=289,slow=0.4,SNR=6.2						
TOA1	**Torodi Ar. Sit**	**165.97**	**232**	*e*PKPdf	**PKPdf**	**17 20 18.7**	**+0.4**
KOWA	**Kowa**	**170.67**	**216**	PKP	**PKPdf**	**17 20 21.6**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=213,slow=1.7,SNR=5.1						

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*IDC **03** 17:05:06.5±1.8, 22°.15S×170°.36E, h25km±4km, mb3.7/7, mb1 3.9/8, mb1mx3.7/38, mbtmp3.9/8, ML3.6/1, Error ellipse: s-maj=59.4km s-min=22.1km az=146.0*

ISC 03 17:05:07.1±1.2**, 22°.2S**±0°.3×**170°.3E**±0°.1**, h35km, n15, σ1s.48**/21**, mb4.1**/7**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.62**	**272**	Pn	**Pn**	**17 06 00.2**	**-0.5**
	5.1nm,0.3s,baz=136,slow=13,SNR=20						
DZM				Sn	**Sn**	**17 06 42.1**	**-0.1**
	7.4nm,0.3s,baz=154,slow=12,SNR=5.3						
CTA	**Charters Tower**	**22.56**	**271**	P	**P**	**17 10 07.1**	**+2.7**
	3.7nm,0.8s,baz=107,slow=16,SNR=3.8						
STKA	**Stephens Creek**	**27.28**	**243**	P	**P**	**17 10 50.1**	**+1.8**
	1.9nm,0.7s,baz=95,slow=13,SNR=4.0						
STKA				pP	**pP**	**17 10 57.5**	**-0.8**
	5.1nm,0.8s,baz=92,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**33.53**	**260**	P	**P**	**17 11 43.8**	**+0.1**
	0.6nm,0.8s,baz=94,slow=8.4,SNR=9.8						
ASAR				pP	**pP**	**17 11 51.8**	**-2.0**
	1.0nm,0.6s,baz=93,slow=9.0,SNR=7.1						
WRA	**Warramunga Arr**	**33.62**	**267**	P	**P**	**17 11 44.1**	**-0.4**
	0.6nm,0.6s,baz=100,slow=8.3,SNR=11						
WRA				pP	**pP**	**17 11 51.4**	**-3.2**
	1.7nm,0.7s,baz=100,slow=8.0,SNR=8.6						
MJAR	**Matsushiro Arr**	**65.86**	**332**	P	**P**	**17 15 49.0**	**-0.1**
	1.0nm,0.8s,baz=174,slow=8.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**80.66**	**294**	P	**P**	**17 17 18.8**	**+1.9**
	0.9nm,0.9s,baz=136,slow=4.5,SNR=7.3						
CMAR				pP	**pP**	**17 17 27.1**	**-0.8**
	2.1nm,0.9s,baz=134,slow=3.8,SNR=9.8						
SONM	**Songino Array**	**90.21**	**323**	P	**P**	**17 18 04.6**	**+0.6**
	1.2nm,0.9s,baz=132,slow=4.8,SNR=7.3						
DPC	**Dobruska-Polom**	**145.32**	**330**	*e*PKP	**PKPdf**	**17 24 41.9**	**+0.8**
DPC				*e*x	x	17 24 49.3	
UPC	**Upice**	**145.35**	**331**	*e*PKP	**PKPdf**	**17 24 41.9**	**+0.8**
UPC				*e*x	x	17 24 49.6	
BRG	**Berggiesshubel**	**145.98**	**333**	*i* PKP	**PKPab**	**17 24 43.5**	**0.0**
	12nm,1.1s						
BRG				*e*		17 24 50.9	
	8.7nm,0.9s						
CLL	**Collm**	**146.04**	**334**	*i* PKPbc	**PKPab**	**17 24 43.7**	**+0.1**
	comp=Z,9.0nm,1.0s						
CLL				*i*		17 24 50.5	
	comp=Z,9.0nm,1.1s						
EKA	**Eskdalemuir Ar**	**146.58**	**353**	PKPbc	**PKPbc**	**17 24 44.1**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=358,slow=2.4,SNR=10						
EKA				pPKPbc	**pPKPdf**	**17 24 52.1**	**-2.4**
	comp=Z,3.5nm,0.8s,baz=352,slow=2.9,SNR=3.2						
KHC	**Kasperske Hory**	**147.44**	**331**	*e*PKP	**PKPab**	**17 24 48.1**	**-1.1**
KHC				*e*x	x	17 24 56.1	
GERES	**GERESS Array B**	**147.59**	**331**	PKPbc	**PKPbc**	**17 24 47.4**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=45,slow=4.0,SNR=7.8						

MAN 03 17:06:16, 10°.00N×123°.17E, h3km, mb4.2, ML3.0, MS2.7, 1C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.66**	**174**	⇓*i*P	Pg	17 06 29.0	+0.4
SNPH				*i* S	Sg	17 06 36.9	-0.2
TBP	**Tagbilaran**	**0.75**	**114**	*e*P	Pb	17 06 31.5	-0.3
GUIM	**Jordan**	**0.84**	**318**	*e*P	Pb	17 06 33.4	+0.1
GUIM				*e*S	Sn	17 06 47.7	+0.1
LLP	**Lapu-Lapu**	**0.85**	**68**	⇑*e*P	Pg	17 06 32.3	0.0
LLP				*e*S	Sn	17 06 48.0	+0.2
RCP	**Roxas**	**1.60**	**345**	⇓*e*P	Pg	17 06 47.4	+0.6
RCP				*e*S	Sg	17 07 10.7	+3.1
MSLP	**Maasin**	**1.67**	**85**	*e*P	Pn	17 06 46.2	0.0
MSLP				*e*S	Sg	17 07 09.8	-0.1
OCLP	**Ormoc**	**1.76**	**54**	*e*P	Pn	17 06 47.7	+0.3
OCLP				*e*S	Sg	17 07 13.8	+1.2

IDC 03 17:08:36.8±28.0**, 21°.61S×172°.35W, h0km, mb4.0**/4**, mb1 4.1**/4**, mb1mx3.6**/39**, mbtmp4.0**/4**, MS3.6**/4**, Ms1 3.6**/4**, ms1mx3.0**/42**, Error ellipse: s-maj=521.7km s-min=175.9km az=73.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**21.82**	**83**	LR	LR	17 20 45.9	
	comp=Z,32nm,18.6s,baz=258,slow=33						
CTA	**Charters Tower**	**38.64**	**265**	P	P	17 16 02.1	-0.1
	3.8nm,0.3s,baz=92,slow=11,SNR=16						
STKA	**Stephens Creek**	**42.11**	**246**	P	P	17 16 30.4	-0.5
	0.8nm,0.7s,baz=86,slow=9.5,SNR=3.2						
ASAR	**Alice Springs**	**49.41**	**257**	P	P	17 17 28.6	-0.1
	0.6nm,0.5s,baz=92,slow=7.2,SNR=16						
WRA	**Warramunga Arr**	**49.67**	**262**	P	P	17 17 30.9	+0.1
	0.8nm,0.3s,baz=89,slow=6.2,SNR=77						
RPN	**Rapa Nui**	**57.15**	**109**	LR	LR	17 35 16.3	
	comp=Z,84nm,20.4s,baz=242,slow=28						
LPAZ	**La Paz**	**96.75**	**110**	LR	LR	17 56 33.0	
	comp=Z,34nm,20.2s,baz=286,slow=30						
ULM	**Lac du Bonnet**	**98.11**	**39**	LR	LR	18 03 15.3	
	comp=Z,54nm,18.5s,baz=15,slow=33						

IDC 03 17:10:14.8±4.8**, 21°.51S×170°.35E, h0km, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.3**/38**, mbtmp3.5**/4**, ML3.4**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.7**/23**, Error ellipse: s-maj=116.3km s-min=67.0km az=178.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.67**	**261**	Pn	Pn	17 11 13.6	+0.6
	3.4nm,0.3s,baz=126,slow=8.1,SNR=18						
DZM				Sn	Sn	17 11 56.4	-0.6
	2.8nm,0.3s,baz=145,slow=22,SNR=3.7						
RAO	**Raoul Island**	**13.11**	**128**	LR	LR	17 16 27.8	
	comp=Z,96nm,20.5s,baz=176,slow=28						
STKA	**Stephens Creek**	**27.61**	**242**	P	P	17 16 04.2	+0.1
	0.8nm,0.5s,baz=92,slow=16,SNR=2.5						
ASAR	**Alice Springs**	**33.66**	**259**	P	P	17 16 57.2	-0.4
	0.2nm,0.6s,baz=92,slow=8.5,SNR=5.0						
WRA	**Warramunga Arr**	**33.67**	**266**	P	P	17 16 57.7	0.0
	0.2nm,0.4s,baz=98,slow=8.3,SNR=6.1						

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*ISK **03** 17:21:27.2, 38°.51N×43°.25E, h10km, ML2.7/5*
*CSEM **03** 17:21:27.6±0.3, 38°.51N×43°.33E, h10km, MD2.4, Error ellipse: s-maj=7.5km s-min=5.0km az=131.0*
*ISCJB **03** 17:21:28.1±0.5, 38°.50N±0°.03×43°.29E±0°.04, h9km±4km, Error ellipse: s-maj=6.5km s-min=4.0km az=142.5*
*DDA **03** 17:21:28.1, 38°.47N×43°.28E, h6km, Md2.4*

ISC 03 17:21:28.1±0.8**, 38°.52N**±0°.03×**43°.29E**±0°.03**, h9km**±5km**, n30, σ1s.05**/48**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.09**	**81**	*i* P	**Pg**	**17 21 30.7**	**0.0**
TVAN				*i* S	**Sg**	**17 21 33.0**	**+0.4**
TVAN	**Van**	**0.09**	**81**	P	**Pg**	**17 21 30.7**	**0.0**
TVAN				S	**Sg**	**17 21 33.0**	**+0.4**
VANB	**Van**	**0.11**	**44**	PG	**Pg**	**17 21 30.5**	**-0.4**
VANB				SG	**Sg**	**17 21 32.9**	**0.0**
VANB	**Van**	**0.11**	**44**	*i* Pg	**Pg**	**17 21 30.5**	**-0.4**
VANB				*e*Sg	**Sg**	**17 21 32.9**	**0.0**
GEVA	**Gevas**	**0.27**	**222**	*i* P	**Pg**	**17 21 33.1**	**-0.6**
GEVA				*i* S	**Sb**	**17 21 38.7**	**-1.3**
GEVA	**Gevas**	**0.27**	**222**	P	**Pg**	**17 21 33.1**	**-0.6**
GEVA				S	**Sb**	**17 21 38.7**	**-1.3**
VMUR	**Van-Muradiye**	**0.52**	**25**	*i* P	**Pb**	**17 21 39.0**	**-0.5**
VMUR				*i* S	**Sb**	**17 21 48.1**	**+0.9**
VMUR	**Van-Muradiye**	**0.52**	**25**	P	**Pb**	**17 21 39.0**	**-0.5**
VMUR				S	**Sb**	**17 21 48.1**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.53**	**304**	*i* P	**Pb**	**17 21 38.8**	**-0.9**
ADCV				*i* S	**Sb**	**17 21 47.4**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.53**	**304**	P	**Pb**	**17 21 38.8**	**-0.9**
ADCV				S	**Sb**	**17 21 47.4**	**-0.1**
CLDR	**Caldiran**	**0.79**	**38**	PG	**Pg**	**17 21 42.7**	**-0.7**
CLDR				SG	**Sb**	**17 21 55.6**	**+0.5**
CLDR	**Caldiran**	**0.79**	**38**	*i* P	**Pg**	**17 21 41.9**	**-1.6**
CLDR				*i* S	**Sn**	**17 21 57.5**	**-0.2**
CLDR	**Caldiran**	**0.79**	**38**	P	**Pg**	**17 21 41.9**	**-1.6**
CLDR	**Caldiran**	**0.79**	**38**	*e*Pg	**Pg**	**17 21 42.7**	**-0.7**
CLDR				*e*Sg	**Sb**	**17 21 55.6**	**+0.5**
GURO	**Guroymak-BITLI**	**0.99**	**272**	PG	**Pg**	**17 21 45.6**	**-1.5**
GURO				SG	**Sb**	**17 21 59.9**	**-0.7**
GURO	**Guroymak-BITLI**	**0.99**	**272**	*e*Pg	**Pg**	**17 21 45.6**	**-1.5**
GURO				*e*Sg	**Sb**	**17 21 59.9**	**-0.7**
HAKT	**HAKKARI**	**1.01**	**161**	*i* P	**Pg**	**17 21 46.8**	**-0.7**
HAKT				*i* S	**Sn**	**17 22 04.7**	**+1.6**
HAKT	**HAKKARI**	**1.01**	**161**	P	**Pg**	**17 21 46.8**	**-0.7**
AGRB	**Hanur-Agry**	**1.08**	**348**	PN	**Pg**	**17 21 48.3**	**-0.7**
AGRB	**Hanur-Agry**	**1.08**	**348**	*e*Pn	**Pg**	**17 21 48.3**	**-0.7**
SRTM	**Siirt_Merkez**	**1.20**	**245**	*i* P	**Pg**	**17 21 51.7**	**+0.6**
SRTM				*i* S	**Sn**	**17 22 11.2**	**+3.7**
SRTM	**Siirt_Merkez**	**1.20**	**245**	P	**Pg**	**17 21 51.7**	**+0.6**
SIRT	**Sirnak**	**1.22**	**214**	PN	**Pg**	**17 21 50.7**	**-0.7**
SIRT	**Sirnak**	**1.22**	**214**	*e*Pn	**Pg**	**17 21 50.7**	**-0.7**
CUKT	**Cukurca**	**1.29**	**169**	PN	**Pn**	**17 21 51.5**	**-0.9**
CUKT	**Cukurca**	**1.29**	**169**	*e*Pn	**Pn**	**17 21 51.5**	**-0.9**
BTMN	**Batman**	**1.71**	**249**	*i* P	**Pg**	**17 21 59.9**	**-1.0**
BTMN				*i* S	**Sg**	**17 22 24.3**	**+1.2**
BTMN	**Batman**	**1.71**	**249**	P	**Pg**	**17 21 59.9**	**-1.0**
MAZI	**Mazidag**	**2.48**	**246**	PN	**Pn**	**17 22 09.9**	**+1.1**
MAZI	**Mazidag**	**2.48**	**246**	*e*Pn	**Pn**	**17 22 09.9**	**+1.1**

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*NEIC **03** 17:29:53.0±0.4, 22°.09S×170°.34E, h10km, mb5.0/19, Error ellipse: s-maj=10.6km s-min=9.9km az=46.0*
*ISCJB **03** 17:29:54.9±0.4, 22°.17S±0°.07×170°.26E±0°.06, h35km, mb4.8/26, MS3.0/2, Error ellipse: s-maj=10.0km s-min=8.0km az=11.2*
*IDC **03** 17:29:56.2±1.6, 22°.15S×170°.25E, h28km±5km, mb3.8/7, mb1 4.0/8, mb1mx3.8/39, mbtmp3.9/8, ML4.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/37, Error ellipse: s-maj=51.8km s-min=21.7km az=149.0*

ISC 03 17:29:57.0±0.5**, 22°.12S**±0°.09×**170°.27E**±0°.07**, h35km, n48, σ1s.46**/51**, mb4.9**/26**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.55**	**270**	Pn	**Pn**	**17 30 49.2**	**-0.4**
	13nm,0.3s,baz=141,slow=13,SNR=17						
DZM				Sn	**Sn**	**17 31 29.5**	**-0.9**
	11nm,0.3s,baz=175,slow=21,SNR=4.7						
DZM	**Mont Dzumac**	**3.55**	**270**	*e*Pn	**Pn**	**17 30 48.9**	**-0.7**
DZM				*e*Sn	**Sn**	**17 31 28.7**	**-1.7**
URZ	**Urewera**	**17.13**	**161**	LR	LR	17 38 42.1	
	comp=Z,128nm,18.4s,baz=4.5,slow=31						
BKZ	**Black Stump Fm**	**17.80**	**164**	*e*Pn	**Pn**	**17 34 03.4**	**+1.4**
	185nm,1.9s						
EIDS	**Eidsvold**	**17.86**	**256**	*e*Pn	**P**	**17 34 05.3**	**+2.1**
	16nm,1.1s						
ARMA	**Armidale**	**18.63**	**240**	*e*P	**Pn**	**17 34 15.8**	**+3.5**
	43nm,1.5s						
BFZ	**Birch Farm**	**19.18**	**166**	*e*P	**P**	**17 34 16.5**	**-1.1**
THZ	**Tophouse**	**19.71**	**174**	*e*P	**P**	**17 34 22.5**	**-0.9**
	186nm,1.8s						
PMG	**Port Moresby**	**25.53**	**296**	LR	LR	17 42 44.4	
	comp=Z,94nm,18.7s,baz=163,slow=30						
KNTN	**Kanton**	**26.00**	**45**	*e*P	**P**	**17 35 27.9**	**+1.1**
	137nm,1.4s						
COEN	**Coen**	**26.98**	**283**	*e*P	**P**	**17 35 36.5**	**+0.8**
	12nm,1.2s						
STKA	**Stephens Creek**	**27.26**	**243**	P	**P**	**17 35 38.7**	**+0.6**
	2.4nm,0.6s,baz=94,slow=12,SNR=7.8						
STKA				pP	**pP**	**17 35 46.8**	**-1.3**
	4.2nm,0.7s,baz=87,slow=9.6,SNR=6.0						
STKA	**Stephens Creek**	**27.26**	**243**	*e*P	**P**	**17 35 38.9**	**+0.8**
	1.2nm,0.8s						
RAR	**Rarotonga**	**27.84**	**94**	LR	LR	17 46 04.3	
	comp=Z,19nm,19.2s,baz=227,slow=35						
AS01	**Alice Springs**	**33.44**	**260**	*e*P	**P**	**17 36 32.7**	**-0.1**
AS31	**Alice Springs**	**33.48**	**260**	*e*P	**P**	**17 36 32.1**	**-1.1**
	0.9nm,0.9s						
ASAR	**Alice Springs**	**33.48**	**260**	P	**P**	**17 36 32.5**	**-0.7**
	0.7nm,0.6s,baz=94,slow=9.0,SNR=16						
ASAR				pP	**pP**	**17 36 41.5**	**-1.8**
	1.2nm,0.6s,baz=98,slow=8.9,SNR=8.0						
WRAB	**Tennant Creek**	**33.55**	**267**	*e*P	**P**	**17 36 35.4**	**+1.6**
	10.0nm,0.8s						
WR1	**Warramunga Arr**	**33.56**	**267**	*e*P	**P**	**17 36 32.9**	**-1.0**
WRA	**Warramunga Arr**	**33.56**	**267**	P	**P**	**17 36 32.9**	**-1.0**
	0.6nm,0.5s,baz=102,slow=8.4,SNR=16						
WRA				pP	**pP**	**17 36 40.5**	**-3.5**
	0.9nm,0.5s,baz=101,slow=8.2,SNR=6.6						
MTN	**Manton Dam**	**38.35**	**277**	*e*P	**P**	**17 37 13.7**	**-1.3**
	22nm,1.4s						
SOEI	**Soe**	**45.74**	**278**	*e*P	**P**	**17 38 17.2**	**+1.9**
	12nm,0.8s						
NWAO	**Narrogin (SRO)**	**47.81**	**245**	*e*P	**P**	**17 38 30.8**	**-0.5**
	19nm,1.1s						
VNDA	**Vanda**	**55.60**	**182**	*e*P	**P**	**17 39 28.7**	**0.0**
	40nm,1.8s						
UGM	**Wanagama**	**59.07**	**274**	*e*P	**P**	**17 39 54.3**	**+0.1**
	585nm,1.5s						
KKM	**Kota Kinabalu**	**59.85**	**291**	*e*P	**P**	**17 39 59.8**	**+0.1**
	35nm,1.3s						
YULB	**Yu-li**	**65.70**	**310**	*e*P	**P**	**17 40 37.2**	**-1.1**
	35nm,1.5s						
MJAR	**Matsushiro Arr**	**65.74**	**332**	P	**P**	**17 40 38.1**	**-0.1**
	1.2nm,0.7s,baz=169,slow=6.9,SNR=4.4						
MAJO	**Matsushiro**	**65.74**	**332**	*e*P	**P**	**17 40 38.2**	**-0.1**
	59nm,1.9s						
MJB9	**Matsu-Tunnel**	**65.74**	**332**	*e*P	**P**	**17 40 38.2**	**-0.1**
	58nm,1.9s						
QSPA	**South Pole Qui**	**67.94**	**180**	*e*P	**P**	**17 40 51.4**	**-0.7**
	5.7nm,1.1s						
IPM	**Ipoh**	**72.63**	**282**	*e*P	**P**	**17 41 22.0**	**+0.5**
	35nm,1.8s						
KULM	**Kulim**	**73.30**	**283**	*e*P	**P**	**17 41 23.7**	**-1.7**
	47nm,1.8s						
CMAR	**Chiang Mai Arr**	**80.56**	**294**	P	**P**	**17 42 08.3**	**+2.1**
	1.0nm,0.9s,baz=132,slow=3.9,SNR=7.9						
CMAR				pP	**PcP**	**17 42 16.5**	**+3.4**
	1.3nm,1.0s,baz=115,slow=3.4,SNR=5.6						
OHAK	**Old Harbor**	**84.75**	**19**	*e*P	**P**	**17 42 25.6**	**-1.5**
	292nm,1.8s						
SNAA	**Sanae**	**86.33**	**182**	*e*P	**P**	**17 42 33.3**	**-1.8**
	18nm,1.7s						
SONA0	**Songino Array**	**90.09**	**323**	*e*P	**P**	**17 42 54.2**	**+0.9**
SONM	**Songino Array**	**90.09**	**323**	P	**P**	**17 42 54.2**	**+0.9**
	1.0nm,0.9s,baz=132,slow=4.4,SNR=7.0						
CRAG	**Craig**	**90.99**	**28**	*e*P	**P**	**17 42 55.8**	**-1.3**
	280nm,1.8s						
ILAR	**Eielson Array**	**92.69**	**17**	P	**P**	**17 43 04.1**	**-0.7**
	0.5nm,1.1s,baz=239,slow=6.1,SNR=3.6						
ARA0	**ARCESS Array S**	**128.09**	**345**	*e*PKPdf	**PKPdf**	**17 48 57.7**	**-1.0**
ARCES	**ARCESS Array B**	**128.09**	**345**	PKP	**PKPdf**	**17 48 57.7**	**-1.0**
	2.8nm,1.0s,baz=324,slow=3.3,SNR=4.4						
DPC	**Dobruska-Polom**	**145.20**	**330**	*e*PKP	**PKPbc**	**17 49 30.1**	**-0.3**
DPC				*e*x	x	17 49 38.7	
UPC	**Upice**	**145.23**	**331**	*e*PKP	**PKPbc**	**17 49 30.8**	**+0.3**
CLL	**Collm**	**145.92**	**334**	*i* PKPbc	**PKPdf**	**17 49 32.3**	**+0.4**
	comp=Z,7.0nm,0.8s						
CLL				*i*		17 49 39.8	
	comp=Z,5.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**146.47**	**353**	PKPbc	**PKPdf**	**17 49 32.9**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=1.0,slow=2.6,SNR=11						
KHC	**Kasperske Hory**	**147.32**	**331**	*e*PKP	**PKPdf**	**17 49 36.8**	**+2.4**
KHC				*e*x	x	17 49 44.7	
GERES	**GERESS Array B**	**147.47**	**331**	PKPbc	**PKPdf**	**17 49 37.3**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=64,slow=3.1,SNR=7.2						

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*IDC **03** 17:44:54.4±3.1, 35°.35S×179°.14W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/38, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=78.2km s-min=35.8km az=130.0*
*NEIC **03** 17:45:14.1±2.0, 36°.20S×179°.64E, h112km±15km, mb4.5/2, Error ellipse: s-maj=25.3km s-min=17.5km az=60.0*

ISC 03 17:44:59.5±1.8**, 35°.7S**±0°.1×**179°.1W**±0°.2**, h35km, n20, σ2s.44**/26**, mb4.1**/4**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.79**	**227**	*e*Pn	**Pn**	**17 45 44.4**	**+2.8**
URZ	**Urewera**	**3.96**	**228**	Pn	**Pn**	**17 45 59.5**	**+1.8**
	3.1nm,0.3s,baz=274,slow=3.8,SNR=18						
URZ				Sn	**Sn**	**17 46 48.7**	**+5.8**
	3.4nm,0.3s,baz=92,slow=23,SNR=17						
URZ	**Urewera**	**3.96**	**228**	*e*Pn	**Pn**	**17 45 59.3**	**+1.6**
URZ				*e*Sn	**Sn**	**17 46 37.9**	**-5.0**
BKZ	**Black Stump Fm**	**4.92**	**224**	*e*Pn	**Pn**	**17 46 11.8**	**+0.8**
BKZ				*e*Sn	**Sn**	**17 47 10.1**	**+3.3**
HIZ	**Hauiti**	**5.58**	**238**	*e*Pn	**Pn**	**17 46 18.0**	**-1.9**

OUZ	Omahuta	5.95	272	ePn	Pn	17 46 27.5	+2.6
BFZ	Birch Farm	6.18	215	ePn	Pn	17 46 30.2	+2.0
BFZ				eSn	Sn	17 47 39.0	+1.3
SNZO	South Karori	7.42	219	ePn	Pn	17 46 45.0	-0.1
SNZO				eSn	Sn	17 48 08.0	+0.1
THZ	Tophouse	8.70	223	ePn	Pn	17 47 01.6	-1.1
THZ				eSn	Sn	17 48 36.3	-3.2
KHZ	Kahutara	8.82	218	ePn	Pn	17 47 03.6	-0.7
KHZ				eSn	Sn	17 48 38.2	-4.2
OXZ	Oxford	10.24	219	ePn	Pn	17 47 26.0	+2.2
WHZ	Wether Hill Ro	14.12	220	ePn	Pn	17 48 16.8	0.0
AS01	Alice Springs	42.12	273	eP	P	17 52 48.7	+0.2
ASAR	Alice Springs	42.16	273	P	P	17 52 49.1	+0.3
	1.2nm,0.5s,baz=116,slow=8.3,SNR=10						
WC3	Warramunga Arr	43.59	278	eP	P	17 52 59.8	-0.5
	10nm,1.5s						
WR1	Warramunga Arr	43.62	278	eP	P	17 52 59.9	-0.7
	26nm,2.0s						
WRA	Warramunga Arr	43.62	278	P	P	17 52 59.9	-0.7
	0.7nm,0.5s,baz=119,slow=7.6,SNR=8.9						
JCW	Jim Creek	97.84	35	eP	Pdif	17 58 41.5	+11
FIA0	FINESS Array S	149.66	336	ePKPdf	PKPbc	18 04 43.8	-0.7
FINES	FINESS Array B	149.66	336	PKPbc	PKPbc	18 04 43.8	-0.7
	2.0nm,0.8s,baz=82,slow=2.9,SNR=3.9						

IDC 03 17:45:59.1±3.2, 35°.38S×179°.11W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/38, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=81.3km s-min=37.1km az=131.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.18	225	Pn	Pn	17 47 04.9	+0.8
	4.1nm,0.3s,baz=140,slow=8.9,SNR=3.5						
URZ				Sn	Sn	17 47 53.3	-0.3
	2.4nm,0.3s,baz=330,slow=23,SNR=5.7						
ASAR	Alice Springs	42.17	273	P	P	17 53 53.8	+0.1
	1.7nm,0.7s,baz=118,slow=7.5,SNR=9.0						
WRA	Warramunga Arr	43.61	278	P	P	17 54 04.7	-0.6
	1.0nm,0.5s,baz=121,slow=7.3,SNR=8.2						
FINES	FINESS Array B	149.41	336	PKPbc	PKPbc	18 05 48.8	-0.4
	2.0nm,0.8s,baz=23,slow=4.1,SNR=6.2						

*NIED **03** 17:48:00, 36°.30N×141°.00E, h41km, Mw4.3 Best double couple: $M_0$3.12000×10^{15} NP1:ϕ_s247.00000°, δ28.00000°, λ140.00000°. NP2:ϕ_s14.00000°, δ73.00000°, λ68.00000°.*
*IDC **03** 17:48:15.2±0.6, 36°.30N×141°.03E, h0km, mb4.2/23, mb1 4.3/26, mb1mx4.1/69, mbtmp4.2/26, ML4.0/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/62, Error ellipse: s-maj=15.5km s-min=13.2km az=118.0*
*ISCJB **03** 17:48:19.0±0.5, 36°.37N±0°.03×141°.11E±0°.05, h40km±3km, mb4.4/65, MS3.4/3, Error ellipse: s-maj=6.6km s-min=4.0km az=22.8*
*JMA **03** 17:48:20.0±0.1, 36°.33N×140°.99E, h45km±1km, M3.9*
JMA Felt I J1.
*MOS **03** 17:48:21.3±0.9, 36°.50N×140°.96E, h52km, mb4.6/35, Error ellipse: s-maj=10.0km s-min=6.2km az=121.9*
*NEIC **03** 17:48:35.2±1.1, 37°.09N×139°.39E, h82km±10km, mb4.5/29, Error ellipse: s-maj=15.4km s-min=12.1km az=160.0*
NEIC Recorded [1 JMA] in Fukushima and Ibaraki.
ISC 03 17:48:20.0±0.7, 36°.36N±0°.04×141°.07E±0°.05, h34km±2km, n175, σ1s53/171, mb4.4/65, MS3.3/3, 5C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.47	302	P	Pb	17 48 30.0	-0.3
JHO				eS	Sb	17 48 37.0	-0.4
CHOJ	Chosi	0.67	195	P	Pn	17 48 32.6	-0.5
CHOJ				S	Sn	17 48 41.1	-1.3
JYT	Yasato	0.72	260	P	Pn	17 48 32.8	-0.9
JYT				eS	Sn	17 48 41.7	-1.8
ONAJ	Iwakimizuishiy	0.77	344	P	Pn	17 48 34.4	-0.2
ONAJ				S	Sn	17 48 44.1	-1.0
JFK	Kawauchi	1.02	351	P	Pn	17 48 37.6	-0.4
JFK				eS	Sn	17 48 49.9	-1.2
JFT	Otama	1.30	333	P	Pn	17 48 42.8	+1.0
JFT				eS	Sn	17 48 58.7	+0.7
JAG	Ashikaga	1.30	273	P	Pn	17 48 41.3	-0.5
JFY	Yanaizu	1.51	314	P	Pn	17 48 45.3	+0.6
JKT	Katashina	1.52	286	P	Pn	17 48 45.2	+0.3
MJAR	Matsushiro Arr	2.31	275	Pn	Pn	17 48 55.6	-0.1
	30nm,0.3s,baz=116,slow=8.2,SNR=502						
MJAR				Sn	Sn	17 49 23.8	+0.8
	16nm,0.3s,baz=102,slow=7.7,SNR=6.6						
MJAR				LR	LR	17 49 58.3	
	comp=Z,647nm,20.7s,baz=125,slow=46						
MAJO	Matsushiro	2.31	275	ePn	Pn	17 48 56.2	+0.5
MAJO	Matsushiro	2.31	275c	iP	Pn	17 48 56.5	+0.8
MAT	Matsushiro	2.31	275	P	Pn	17 48 56.3	+0.6
MAT				S	Sn	17 49 23.3	+0.3
MJB9	Matsu-Tunnel	2.32	276	ePn	Pn	17 48 56.5	+0.7
JHJ	Hachijo jima 2	3.40	198	Pn	Pn	17 49 11.9	+1.2
	15nm,0.3s,baz=233,slow=20,SNR=3.0						
JHJ				Sn	Sn	17 49 51.3	+1.6
	50nm,0.3s,baz=49,slow=19,SNR=4.2						
INU	Inuyama	3.44	254	ePn	Pn	17 49 12.4	+1.2
INU				eSn	Sn	17 49 54.4	+3.6
ERM	Erimo	5.88	15	ePn	Pn	17 49 46.6	+1.9
ERM				eSn	Sn	17 50 50.0	-0.8
ERM	Erimo	5.88	15⇓	eP	Pn	17 49 46.1	+1.4
ASAJ	Asahikawa	7.84	8	Pn	Pn	17 50 12.2	+0.6
	2.1nm,0.3s,baz=224,slow=8.4,SNR=26						
ASAJ				Sn	Sn	17 51 38.3	-0.8
	baz=11,slow=16,SNR=2.4						
ASAJ	Asahikawa	7.84	8	ePn	Pn	17 50 12.6	+1.1
ASAJ				eSn	Sn	17 51 40.5	+1.4
YUK	Yuzh-Kuril'sk	8.50	24	eP	Pn	17 50 20.2	-0.4
YUK				eS	Sn	17 51 50.9	-4.4
YUK				pmax	pmax		
	comp=Z,56nm,0.8s						
SHO	Shikotan	8.70	29	eP	Pn	17 50 20.5	-2.9
SHO				pmax	pmax		
	comp=Z,57nm,0.8s						
JNU	Nakatsue	8.98	252	LR	LR	17 54 12.4	
	comp=Z,331nm,19.3s,baz=1.5,slow=40						
JNU	Nakatsue	8.98	252	ePn	Pn	17 50 23.6	-3.8
KUR	Kuril'sk	10.25	28	P	Pn	17 50 44.2	-0.4
KUR				eS	Sn	17 52 33.6	-4.7
KUR				pmax	pmax		
	comp=Z,50nm,0.5s						
USRK	Ussuriysk Ar.	10.46	321	Pn	Pn	17 50 48.7	+1.2
	comp=Z,0.2nm,0.3s,baz=105,slow=15,SNR=2.7						
USRK				LR	LR	17 54 33.9	
	comp=Z,152nm,19.8s,baz=129,slow=36						
KSRS	Korea Array	10.58	280	Pn	Pn	17 50 53.4	+4.2
	comp=Z,0.3nm,0.3s,baz=94,slow=14,SNR=10						
KSRS				LR	LR	17 54 33.1	
	comp=Z,212nm,21.6s,baz=70,slow=36						
KS15	Wonju Array Si	10.61	280	ePn	Pn	17 50 37.9	-12
YSS	Yuzh-Sakhalins	10.66	6	ePn	Pn	17 50 56.5	+6.3
YSS	Yuzh-Sakhalins	10.66	6	eP	Pn	17 50 58.0	+7.8
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ	Mudanjiang	12.01	317	P	Pn	17 51 08.2	-0.4
MDJ				S	Sn	17 53 07.2	-14
CN2	Changchun	14.07	307	eP	Pn	17 51 32.2	-4.6
KLR	Kul'dur	14.55	335	Pn	Pn	17 51 44.5	+1.1
	comp=Z,0.0nm,0.3s,baz=72,slow=8.6,SNR=2.9						
NJ2	Nanjing	18.86	263	eP	P	17 52 35.9	-1.3
ZEA	Zeya	19.87	335	eP	P	17 52 48.7	+0.6
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PETK	Petropavlovsk-	20.41	30	LR	LR	18 00 58.8	
	comp=Z,36nm,18.4s,baz=232,slow=37						
HHC	Hu-ho-hao-te	23.43	290	eP	P	17 53 24.1	-2.1
HHC				pP	sP	17 53 40.8	+0.9
HHC				sP	pP	17 53 50.2	+15
HHC				PP	PnPn	17 53 52.8	-0.3
HHC				S	S	17 57 16.3	-21
HHC				sS	pS	17 57 43.8	-3.5
HHC				SS	Sn	17 57 59.2	+1.3
MA2	Magadan	24.07	12	P	P	17 53 32.7	+0.7
	comp=Z,4.1nm,0.8s,baz=199,slow=10.0,SNR=5.1						
MA2	Magadan	24.07	12⇓	eP	P	17 53 33.4	+1.4
YAK	Yakutsk	26.67	348	P	P	17 53 54.4	-1.0
	comp=Z,5.1nm,0.5s,baz=56,slow=0.8,SNR=6.9						
YAK	Yakutsk	26.67	348	eP	P	17 53 55.0	-0.5
	comp=Z,29nm,0.4s						
YAK	Yakutsk	26.67	348	eP	P	17 53 54.1	-1.3
YAK				pmax	pmax		
	comp=Z,11nm,1.2s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.3s						
ENH	Enshi	27.00	266	eP	P	17 53 56.2	-2.6
	comp=N,9.5nm,0.8s						
SEY	Seymchan	27.51	11	P	P	17 54 03.4	+0.4
	comp=N,1.4nm,0.6s,baz=30,slow=20,SNR=3.0						
SEY	Seymchan	27.51	11⇑	eP	P	17 54 06.3	+3.3
ULN	Ulaanbaatar	27.51	305	eP	P	17 53 59.9	-3.5
	comp=N,3.7nm,0.8s						
ULN	Ulaanbaatar	27.51	305	eP	P	17 53 59.9	-3.5
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONA1	Songino Array	27.93	305	eP	P	17 54 06.6	-0.5
SONA0	Songino Array	27.94	305	eP	P	17 54 07.0	-0.2
SONM	Songino Array	27.94	305	P	P	17 54 07.0	-0.2
	comp=Z,2.9nm,0.7s,baz=108,slow=8.2,SNR=15						
SONM				PcP	PcP	17 57 22.8	+1.0
	comp=Z,0.5nm,0.6s,baz=146,slow=3.0,SNR=4.0						
BOD	Bodaibo	27.96	329	eP	P	17 54 06.3	-0.8
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s						
H11N2	WAKE ISLAND Hy	28.05	119	T	T	18 23 43.8	
	baz=312,slow=75,SNR=64						
H11N1	WAKE ISLAND Hy	28.06	119	T	T	18 23 47.4	
	baz=312,slow=75,SNR=95						
H11N3	WAKE ISLAND Hy	28.07	119	T	T	18 23 41.5	
	baz=312,slow=75,SNR=71						
H11S1	WAKE ISLAND Hy	28.74	121	T	T	18 24 33.8	
	baz=314,slow=75,SNR=123						
H11S3	WAKE ISLAND Hy	28.74	121	T	T	18 24 27.2	
	baz=314,slow=75,SNR=108						
H11S2	WAKE ISLAND Hy	28.75	121	T	T	18 24 28.8	
	baz=314,slow=75,SNR=109						
ZAK	Zakamensk	30.48	309	eP	P	17 54 28.5	-1.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
TLY	Talaya	30.57	312	eP	P	17 54 30.1	-0.2
	comp=Z,4.7nm,0.7s						
TLY	Talaya	30.57	312	eP	P	17 54 30.1	-0.2
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CD2	Chengdu	31.40	271	eP	P	17 54 38.2	+0.3
GTA	Gaotai	32.50	288	eP	P	17 54 47.0	-0.6
GTA				pP	pP	17 54 51.3	-6.2
GTA				sP	sP	17 54 54.8	-6.8
PATS	Pohnpei	33.35	148	eP	P	17 55 19.2	+24
	comp=Z,696nm,2.0s						
KMI	Kunming	34.59	262	P	P	17 55 08.8	+2.8
TIXI	Tiksi	35.93	353	eP	P	17 55 17.0	+0.3
	comp=Z,4.4nm,1.3s						
TIXI	Tiksi	35.93	353⇑	eP	P	17 55 16.5	-0.2
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHTO	Chiang Mai	40.86	256	eP	P	17 56 01.6	+2.8
	comp=Z,13nm,2.0s						
CHTO	Chiang Mai	40.86	256	eP	P	17 56 01.6	+2.8
CHTO				pmax	pmax		
	comp=Z,13nm,2.0s						
WMQ	Urumqi	40.90	297	P	P	17 56 00.5	+1.5
WMQ				pP	pP	17 56 11.1	+2.1
WMQ				sP	sP	17 56 25.7	+13
CMAR	Chiang Mai Arr	41.06	256	P	P	17 56 00.6	+0.2
	comp=Z,0.5nm,0.7s,baz=42,slow=7.3,SNR=7.2						
CMAR				LR	LR	18 15 13.7	
	comp=Z,42nm,19.4s,baz=175,slow=40						
CM01	Chiang Mai Arr	41.07	256	eP	P	17 56 01.6	+1.1
LSA	Lhasa	42.00	276	eP	P	17 56 09.6	+1.0
	comp=Z,6.7nm,1.4s						
LSA	Lhasa	42.00	276	eP	P	17 56 09.6	+1.0
LSA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ZAA0	Zalesovo Array	42.17	313	eP	P	17 56 08.5	-0.6
	comp=Z,6.0nm,0.8s						
ZAA1	Zalesovo Array	42.17	313	eP	P	17 56 09.7	+0.6
ZALV	Zalesovo Beam	42.17	313	P	P	17 56 09.7	+0.6
	comp=Z,6.7nm,0.8s,baz=88,slow=6.8,SNR=33						
ZALV				PcP	PcP	17 58 03.0	0.0
	comp=Z,1.1nm,0.7s,baz=128,slow=2.4,SNR=4.0						
ZALV	Zalesovo Beam	42.17	313	eP	P	17 56 08.9	-0.1
ZALV				ePcP	PcP	17 58 02.9	0.0
ZALV	Zalesovo Beam	42.17	313	eP	P	17 56 09.0	-0.1
ZALV				e		17 58 02.9	
NVS	Novosibirsk	43.11	314	eP	P	17 56 17.2	+0.5
MK01	Makanchi Array	44.24	303	eP	P	17 56 25.2	-0.8
MK01				ePP	PcP	17 58 10.2	+0.1
MK31	Makanchi Array	44.24	303	eP	P	17 56 25.0	-1.0
MK31				ePP	PcP	17 58 10.0	-0.1
MK31	Makanchi Array	44.24	303	eP	P	17 56 25.0	-1.0
MK31				e		17 58 10.0	
MK32	Makanchi Array	44.24	303	eP	P	17 56 26.9	+0.9
MKAR	Makanchi Array	44.24	303	P	P	17 56 26.9	+0.9
	comp=Z,3.0nm,0.8s,baz=87,slow=9.7,SNR=25						
MKAR				PcP	PcP	17 58 10.6	+0.5
	comp=Z,0.3nm,0.5s,baz=72,slow=5.4,SNR=3.7						
MKAR	Makanchi Array	44.24	303	eP	P	17 56 25.7	-0.3
	comp=Z,20nm,0.8s						
MKAR				ePP	PcP	17 58 10.3	+0.2
MKAR	Makanchi Array	44.24	303	iP	P	17 56 27.2	+1.2
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAKZ	Makanchi	44.46	303	eP	P	17 56 27.6	-0.1
	comp=Z,3.7nm,0.6s						
MAKZ	Makanchi	44.46	303	eP	P	17 56 27.6	-0.1
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TAPN	Taplejung	45.71	274	eP	P	17 56 38.2	-0.1
	comp=Z,12nm,1.1s						
KURK	Kurchatov	46.13	309	eP	P	17 56 40.0	-0.9
	comp=Z,13nm,0.6s						
KURK	Kurchatov	46.13	309⇑	eP	P	17 56 40.7	-0.2
KURK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ODAN	Odare	46.18	274	eP	P	17 56 41.9	0.0
	comp=Z,7.2nm,0.7s						
RAMN	Ramite	46.78	275	eP	P	17 56 46.6	0.0
	comp=Z,42nm,1.1s						
JIRN	Jiri	46.80	276	eP	P	17 56 47.4	+0.5
	comp=Z,34nm,0.9s						
PDGK	Podgornoye	46.85	298	P	P	17 56 47.0	+0.2
PDGK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PKI	Pulchoki	47.47	276	eP	P	17 56 51.8	-0.3
	comp=Z,12nm,0.8s						
PKIN	Phulchoki	47.48	276	eP	P	17 56 51.9	-0.1
	comp=Z,12nm,1.0s						
KKN	Kakani	47.48	276	eP	P	17 56 52.0	0.0
	comp=Z,25nm,1.1s						
PRZ	Przheval'sk	47.83	298	P	P	17 56 55.7	+1.2
PRZ				pmax	pmax		
	comp=Z,11nm,1.3s						
SPU	Mount Spurr	47.94	37	eP	P	17 57 08.7	+14
DANN	Dangsing	48.46	278	eP	P	17 57 00.6	+0.9
	comp=Z,3.2nm,1.0s						
KDJ	Kajisay	48.79	297	P	P	17 57 02.1	+0.1
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KOLN	Koldanda	48.83	277	eP	P	17 57 03.0	+0.5
	comp=Z,14nm,0.9s						
PYUN	Piuthan	49.18	278	eP	P	17 57 05.7	+0.6
	comp=Z,51nm,1.1s						
NRN	Naryn	49.84	297	P	P	17 57 10.1	0.0
NRN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	Eielson Array	50.22	32	P	P	17 57 13.8	+1.6
	comp=Z,1.8nm,0.7s,baz=267,slow=5.5,SNR=16						
KSH	Kashi	50.43	294	P	P	17 57 18.7	+4.3
KSH				pP	sP	17 57 36.8	+8.2
KSH				ScP	ScP	18 02 28.0	+2.3
KSH				S	S	18 04 17.1	-8.6
KSH				sS	sS	18 04 50.1	+7.6
KSH	Kashi	50.43	294	SS	SS	18 07 45.2	-14
AAK	Ala-Archa	50.57	299	eP	P	17 57 15.8	+0.4
	comp=Z,2.4nm,1.0s						
AAK	Ala-Archa	50.57	299	eP	P	17 57 15.8	+0.4
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OTUK	Ortayu	50.60	306	P	P	17 57 15.6	+0.2
OTUK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BVAR	Borovoye Array	50.82	313	P	P	17 57 17.5	+0.5
	comp=Z,2.1nm,0.6s,baz=75,slow=6.9,SNR=19						
BRVK	Borovoye	50.88	313	eP	P	17 57 17.5	+0.1
	comp=Z,5.2nm,0.8s						
BRVK	Borovoye	50.88	313⇓	eP	P	17 57 17.7	+0.3
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
DOT	Dot Lake	51.52	33	eP	P	17 57 34.8	+13
	comp=Z,94nm,1.4s						
SFK	Sufi-Kurgan	52.08	296	P	P	17 57 27.4	+0.6
SFK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LEM	Lembang	53.19	223	P	P	17 57 35.4	+0.2
	comp=Z,15nm,0.7s,baz=288,slow=20,SNR=4.3						
GSI	Gunungsitoli	53.21	239	eP	P	17 57 35.4	+0.1
	comp=Z,62nm,1.3s						
KKAR	Karatay Array	53.22	300	eP	P	17 57 35.1	0.0
KKAR	Karatay Array	53.22	300	eP	P	17 57 35.1	0.0
INK	Inuvik	55.12	27	P	P	17 57 50.4	+2.0
	comp=Z,1.8nm,0.6s,baz=304,slow=5.9,SNR=13						
SVE	Sverdlovsk	55.47	319	eP	P	17 57 51.9	+0.8
SVE				pmax	pmax		
	comp=Z,12nm,0.8s						
WRAB	Tennant Creek	56.34	188	eP	P	17 58 08.6	+11
	comp=Z,22nm,0.9s						
WRAB	Tennant Creek	56.34	188	eP	P	17 58 08.6	+11
WRAB				pmax	pmax		
	comp=Z,22nm,0.9s						
WRA	Warramunga Arr	56.35	188	P	P	17 57 57.1	-0.6
	comp=Z,4.9nm,0.7s,baz=5.2,slow=7.5,SNR=61						
ARU	Arti	56.68	319	eP	P	17 57 59.1	-0.6
	comp=Z,10nm,0.7s						
ARU	Arti	56.68	319c	iP	P	17 57 59.7	-0.1
ARU				*PP	sP	17 58 12.4	-1.7
ARU						17 59 02.2	
ARU						18 00 02.4	
ARU				S	S	18 05 43.7	-6.0
ARU				pmax	pmax		
	comp=Z,12nm,0.8s						
ABKAR	Akbulak array	58.16	310	eP	P	17 58 09.6	-0.7
	comp=Z,42nm,0.7s						
AKTO	Aktyubinsk	58.92	312	P	P	17 58 15.7	+0.1
	comp=Z,1.9nm,0.7s,baz=84,slow=8.9,SNR=7.1						
ASAR	Alice Springs	60.08	188	P	P	17 58 23.4	-0.4
	comp=Z,2.7nm,0.7s,baz=14,slow=7.6,SNR=44						
YKA	Yellowknife Ar	64.53	30	P	P	17 58 53.9	+0.8
	comp=Z,0.7nm,0.7s,baz=302,slow=6.6,SNR=12						
VSR	Storozhevoye	69.26	319⇓	eP	P	17 59 26.4	+3.0
VSR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
FIA0	FINESS Array S	69.28	332	eP	P	17 59 23.5	+0.2
FIA0	FINESS Array S	69.28	332	eP	P	17 59 23.5	+0.2
FINES	FINESS Array B	69.28	332	P	P	17 59 23.5	+0.2
	comp=Z,2.9nm,0.8s,baz=73,slow=8.4,SNR=8.3						
KBZ	Khabaz	71.13	311	P	P	17 59 35.7	+0.7
	comp=Z,3.3nm,0.8s,baz=185,slow=7.4,SNR=4.0						
GNI	Garni	71.89	307	LR	LR	18 34 58.1	
	comp=Z,86nm,18.1s,baz=343,slow=39						
FFC	Flin Flon	74.42	32	eP	P	18 00 07.2	+13
	comp=Z,6.0nm,1.0s						
CMB	Columbia Colle	74.49	54	eP	P	18 00 08.8	+14
	comp=Z,2.5nm,0.9s						
AKASG	Malin Array Be	74.66	322	P	P	17 59 54.7	-1.1
	comp=Z,2.4nm,0.6s,baz=47,slow=6.1,SNR=12						
AKBB	Malin Array Si	74.66	322	eP	P	17 59 55.2	-0.6
	comp=Z,11nm,1.4s						
AKBB	Malin Array Si	74.66	322	eP	P	17 59 55.2	-0.6
AKBB				pmax	pmax		
	comp=Z,11nm,1.4s						
KIEV	Kiev	74.67	322⇓	eP	P	17 59 55.8	0.0
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NB2	NORSAR Subarra	74.70	337	P	P	17 59 56.0	+0.1
	comp=Z,3.5nm,0.8s,baz=40,slow=5.9						
NB200	NORSAR Array S	74.70	337	eP	P	17 59 56.0	+0.1
NOA	NORSAR Array B	74.70	337	P	P	17 59 56.0	+0.1
	comp=Z,2.3nm,0.7s,baz=40,slow=5.8,SNR=7.9						
EGMT	Eagleton	74.96	41	eP	P	18 00 09.9	+12
	comp=Z,7.8nm,1.1s						
H17A	Grant Village	76.75	44	eP	P	18 00 22.5	+14
	comp=Z,7.8nm,1.1s						
TPNV	Topopah Spring	77.80	53	eP	P	18 00 27.1	+13
	comp=Z,18nm,1.9s						
PD31	Pinedale Array	78.34	45	eP	P	18 00 28.3	+11
PDAR	Pinedale Array	78.34	45	P	P	18 00 17.9	+0.7
	comp=Z,0.3nm,0.6s,baz=299,slow=3.1,SNR=3.7						
BUR08	Bucovina Ar. S	78.66	322	eP	P	18 00 18.5	-0.1
BUR04	Bucovina Ar. S	78.67	322	eP	P	18 00 18.9	+0.2
MPU	Maple Canyon	78.83	48	eP	P	18 00 33.1	+13
	comp=Z,2.6nm,0.9s						
BR101	Keskin Array S	79.09	311	eP	P	18 00 21.7	+0.5
BRTR	Keskin Array B	79.09	311	P	P	18 00 21.7	+0.5
	comp=Z,1.3nm,0.9s,baz=93,slow=4.3,SNR=4.1						
BRTR	Keskin Array B	79.09	311	iP	P	18 00 21.2	0.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MSU	Marysvale	79.43	50	eP	P	18 00 36.9	+14
P17A	Butcher Ranch,	79.71	48	eP	P	18 00 39.0	+14
	comp=Z,14nm,1.4s						
SRU	San Rafael Swe	80.07	49	eP	P	18 00 39.2	+13
	comp=Z,20nm,1.9s						
RAYN	Ar Rayn	80.65	292	eP	P	18 00 29.4	-0.4
	comp=Z,4.1nm,0.8s						
DPC	Dobruska-Polom	80.88	328	eP	P	18 00 31.1	+0.6
DPC	Dobruska-Polom	80.88	328	eP	P	18 00 31.1	+0.6
PV10	Paradox Valley	81.43	48	eP	P	18 00 49.1	+15
CLL	Collm	81.54	330	iP	P	18 00 34.0	+0.1
	comp=Z,3.0nm,0.8s						
CLL	Collm	81.54	330	iP	P	18 00 34.0	+0.1
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
N23A	Red Feather La	81.61	45	eP	P	18 00 48.3	+13
	comp=Z,13nm,1.3s						
KHC	Kasperske Hory	82.97	328	eP	P	18 00 41.1	-0.4
KHC				epP	sP	18 00 55.0	-1.2
KHC	Kasperske Hory	82.97	328	eP	P	18 00 41.1	-0.4
KHC				e		18 00 55.0	
GERES	GERESS Array B	83.14	328	P	P	18 00 42.5	0.0
	comp=Z,0.8nm,0.7s,baz=32,slow=5.3,SNR=9.2						
S22A	4UR Ranch, Cre	83.17	48	eP	P	18 00 57.7	+15
	comp=Z,4.3nm,1.2s						
TTG	Podgorica	85.31	321	eP	P	18 00 52.9	-0.6
	comp=Z,7.4nm,0.9s						
TTG	Podgorica	85.31	321	eP	P	18 00 52.9	-0.6
TTG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TXAR	Lajitas Array	90.75	52	P	P	18 01 21.3	+1.4
	comp=Z,0.2nm,0.7s,baz=267,slow=3.6,SNR=2.3						
LPAZ	La Paz	147.27	60	PKPbc	PKPbc	18 08 01.4	+0.3
	comp=Z,1.3nm,0.7s,baz=311,slow=6.1,SNR=5.0						

*ISCJB **03** 17:53:48.8±0.3, 23°.89S±0°.04×177°.13W±0°.06, h120km, mb4.7/36, Error ellipse: s-maj=8.4km s-min=5.9km az=23.8*
*NEIC **03** 17:53:49.5±1.0, 23°.93S×177°.07W, h116km±9km, mb5.0/34, Error ellipse: s-maj=8.2km s-min=5.4km az=121.0*
*IDC **03** 17:53:49.5±3.4, 23°.97S×177°.12W, h110km±28km, mb4.0/11, mb1 4.2/13, mb1mx3.9/41, mbtmp4.4/13, Error ellipse: s-maj=21.9km s-min=15.9km az=133.0*
ISC 03 17:53:50.2±0.4, 23°.88S±0°.07×177°.08W±0°.08, h120km, n93, σ1s20/105, mb4.9/36, 4C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	11.11	28	P	Pn	17 56 26.1	+0.3
	3.2nm,0.3s,baz=14,slow=2.3,SNR=5.8						
AFI				S	Sn	17 58 17.6	-11
	5.4nm,0.3s,baz=89,slow=20,SNR=5.3						
AFI	Afiamalu	11.11	28	ePn	Pn	17 56 25.6	-0.3
AFI				eSn	Sn	17 58 18.9	-9.4
MXZ	Matakaoa Point	14.20	195	ePn	Pn	17 57 06.3	+0.4
URZ	Urewera	15.17	198	P	Pn	17 57 18.5	+0.4
	2.2nm,0.3s,baz=316,slow=5.3,SNR=10						
URZ				S	Sn	17 59 51.5	-14
	0.6nm,0.3s,baz=355,slow=11,SNR=6.0						
URZ	Urewera	15.17	198	ePn	Pn	17 57 18.5	+0.4
URZ				eSn	Sn	17 59 48.5	-17
URZ				eSn	Sn	17 59 51.5	-14
FUNA	Funafuti	15.68	346	ePn	Pn	17 57 24.6	0.0
	204nm,1.5s						
HIZ	Hauiti	16.12	203	ePn	Pn	17 57 29.9	-0.1
	375nm,1.9s						
BKZ	Black Stump Fm	16.19	198	ePn	Pn	17 57 29.6	-1.2
	156nm,1.7s						
RAR	Rarotonga	16.21	84	ePn	Pn	17 57 29.4	-1.8
	104nm,1.6s						
BFZ	Birch Farm	17.67	197	eP	P	17 57 44.4	-3.6
	232nm,1.6s						
THZ	Tophouse	19.69	203	eP	P	17 58 07.1	-2.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	156nm,1.8s						
KHZ	**Kahutara**	**20.06**	**201**	*e*P	**P**	**17 58 10.9**	**-3.0**
	170nm,1.5s						
LTZ	**Lake Taylor**	**20.81**	**203**	*e*P	**P**	**17 58 22.1**	**0.0**
	58nm,1.3s						
OXZ	**Oxford**	**21.37**	**202**	*e*P	**P**	**17 58 27.1**	**-0.9**
	72nm,1.3s						
CRLZ	**Canterbury Las**	**21.40**	**201**	*e*P	**P**	**17 58 27.8**	**-0.5**
	341nm,1.8s						
RPZ	**Rata Peaks**	**22.06**	**203**	P	**P**	**17 58 33.3**	**-2.0**
	18nm,0.7s,baz=34,slow=2.7,SNR=9.0						
FOZ	**Fox Glacier**	**22.38**	**206**	*e*P	**P**	**17 58 37.2**	**-1.3**
	75nm,1.2s						
LHI	**Lord Howe Isla**	**22.42**	**245**	*e*P	**P**	**17 58 41.0**	**+2.0**
	98nm,1.1s						
LBZ	**Lake Benmore**	**22.96**	**204**	*e*P	**P**	**17 58 45.7**	**+1.5**
	93nm,1.6s						
ODZ	**Otahua Downs**	**23.36**	**202**	*e*P	**P**	**17 58 47.0**	**-1.0**
	78nm,1.4s						
WKZ	**Wanaka**	**23.77**	**205**	*e*P	**P**	**17 58 49.9**	**-1.8**
	162nm,1.7s						
MLZ	**Mavora Lakes**	**24.58**	**206**	*e*P	**P**	**17 58 58.0**	**-1.0**
	148nm,1.8s						
DCZ	**Deep Cove**	**25.05**	**207**	*e*P	**P**	**17 59 02.5**	**-0.6**
	73nm,1.6s						
WHZ	**Wether Hill Ro**	**25.08**	**205**	*e*P	**P**	**17 59 01.9**	**-1.6**
	60nm,1.3s						
PPT	**Papeete**	**26.45**	**81**	*e*P	**P**	**17 59 16.1**	**-0.1**
PPTF	**Pamatai, Papee**	**26.46**	**82**	*e*P	**P**	**17 59 16.0**	**-0.4**
	76nm,1.3s						
TARA	**Tarawa**	**26.90**	**337**	*e*P	**P**	**17 59 18.8**	**-1.3**
	409nm,1.8s						
ARMA	**Armidale**	**28.53**	**250**	*e*P	**P**	**17 59 33.8**	**-1.0**
	37nm,1.4s						
CTA	**Charters Tower**	**34.15**	**269**	P	**P**	**18 00 24.8**	**+0.7**
	10nm,0.4s,baz=94,slow=10,SNR=13						
CTAO	**Charters Tower**	**34.15**	**269**	*e*P	**P**	**18 00 24.2**	**+0.2**
	14nm,0.6s						
TAU	**Tasmania Unive**	**34.92**	**228**	*e*P	**P**	**18 00 30.8**	**+0.4**
	86nm,1.3s						
PMG	**Port Moresby**	**37.03**	**287**	P	**P**	**18 00 48.9**	**+0.3**
	11nm,0.7s,baz=127,slow=6.1,SNR=5.4						
STKA	**Stephens Creek**	**37.21**	**248**	P	**P**	**18 00 50.6**	**+0.5**
	4.9nm,0.4s,baz=87,slow=12,SNR=14						
STKA	**Stephens Creek**	**37.21**	**248**	*e*P	**P**	**18 00 50.1**	**+0.1**
	1.1nm,0.5s						
COEN	**Coen**	**38.75**	**277**	*e*P	**P**	**18 01 03.8**	**+0.6**
	7.4nm,1.0s						
BBOO	**Buckleboo**	**41.91**	**247**	*e*P	**P**	**18 01 27.5**	**-1.5**
	63nm,1.7s						
AS01	**Alice Springs**	**44.63**	**260**	*e*P	**P**	**18 01 50.7**	**-0.3**
AS31	**Alice Springs**	**44.67**	**260**	*e*P	**P**	**18 01 50.5**	**-0.8**
	2.2nm,1.2s						
AS31				*e*PcP	**PcP**	**18 03 31.6**	**-0.4**
ASAR	**Alice Springs**	**44.67**	**260**	P	**P**	**18 01 50.9**	**-0.5**
	1.3nm,0.3s,baz=93,slow=6.6,SNR=41						
ASAR				PcP	**PcP**	**18 03 32.0**	**0.0**
	1.5nm,0.6s,baz=115,slow=4.0,SNR=9.5						
WC3	**Warramunga Arr**	**45.03**	**265**	*e*P	**P**	**18 01 53.2**	**-1.1**
	8.7nm,1.3s						
WB2	**Warramunga Arr**	**45.06**	**265**	*e*PcP	**PcP**	**18 03 32.6**	**-0.7**
WR1	**Warramunga Arr**	**45.07**	**265**	*e*P	**P**	**18 01 53.2**	**-1.3**
WR1				*e*PcP	**PcP**	**18 03 32.6**	**-0.8**
WRA	**Warramunga Arr**	**45.07**	**265**	P	**P**	**18 01 53.2**	**-1.4**
	2.4nm,0.4s,baz=103,slow=8.5,SNR=96						
WRA				PcP	**PcP**	**18 03 32.6**	**-0.8**
	2.0nm,0.7s,baz=99,slow=3.2,SNR=9.6						
MTN	**Manton Dam**	**50.12**	**273**	*e*P	**P**	**18 02 33.1**	**-0.4**
	25nm,1.5s						
VNDA	**Vanda**	**54.64**	**186**	P	**P**	**18 03 08.6**	**+2.5**
	1.7nm,0.7s,baz=43,slow=7.9,SNR=3.3						
VNDA	**Vanda**	**54.64**	**186**	*e*P	**P**	**18 03 08.3**	**+2.3**
SOEI	**Soe**	**57.50**	**274**	*e*P	**P**	**18 03 29.1**	**+1.5**
	11nm,1.0s						
NWAO	**Narrogin (SRO)**	**57.67**	**245**	*e*P	**P**	**18 03 27.4**	**-0.9**
	66nm,1.8s						
MBWA	**Marble Bar**	**58.00**	**259**	*e*P	**P**	**18 03 29.1**	**-1.7**
	18nm,1.4s						
CASY	**Casey**	**61.30**	**206**	*e*P	**P**	**18 03 52.7**	**+0.1**
	83nm,1.5s						
QSPA	**South Pole Qui**	**66.21**	**180**	*e*P	**P**	**18 04 26.1**	**+1.1**
PETK	**Petropavlovsk-**	**79.74**	**345**	P	**P**	**18 05 44.8**	**+0.2**
	3.0nm,0.9s,baz=105,slow=6.5,SNR=4.1						
PEA1	**Petropavlovsk-**	**79.74**	**345**	*e*P	**P**	**18 05 44.8**	**+0.2**
YBH	**Yreka Blue Hor**	**82.41**	**38**	*e*P	**P**	**18 05 58.8**	**-0.3**
	9.2nm,1.1s						
NV01	**Mina Array Sit**	**82.91**	**43**	*e*P	**P**	**18 06 02.2**	**+0.3**
NVAR	**Mina Array Bea**	**82.91**	**43**	P	**P**	**18 06 03.3**	**+1.4**
	0.1nm,0.3s,baz=224,slow=7.6,SNR=5.1						
SNAA	**Sanae**	**84.62**	**178**	P	**P**	**18 06 10.4**	**+0.3**
SNAA	**Sanae**	**84.62**	**178**	P	**P**	**18 06 09.5**	**-0.5**
	3.8nm,0.8s,baz=214,slow=7.3,SNR=16						
SNAA	**Sanae**	**84.62**	**178**	*e*P	**P**	**18 06 09.3**	**-0.7**
	3.9nm,0.9s						
VNA3	**Neumayer Olymp**	**84.73**	**176**	P	**P**	**18 06 10.8**	**+0.3**
VNA2	**Neumayer--Watz**	**85.18**	**177**	P	**P**	**18 06 13.5**	**+0.8**
	baz=182,slow=3.6						
ILAR	**Eielson Array**	**91.41**	**12**	P	**P**	**18 06 43.4**	**+1.2**
	0.4nm,0.7s,baz=203,slow=8.8,SNR=3.9						
CM31	**Chiang Mai Arr**	**92.03**	**289**	*e*P	**P**	**18 06 47.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**92.03**	**289**	P	**P**	**18 06 47.1**	**+1.0**
	0.7nm,0.7s,baz=141,slow=3.0,SNR=5.4						
KKAR	**Karatay Array**	**121.98**	**307**	*e*PKPdf	**PKPdf**	**18 12 29.5**	**-1.0**
BVAR	**Borovoye Array**	**122.18**	**319**	PKP	**PKPdf**	**18 12 30.4**	**-0.2**
	0.7nm,0.4s,baz=79,slow=0.8,SNR=8.6						
ARA0	**ARCESS Array S**	**132.38**	**349**	*e*PKPdf	**PKPdf**	**18 12 49.8**	**+0.2**
ARCES	**ARCESS Array B**	**132.38**	**349**	PKP	**PKPdf**	**18 12 49.8**	**+0.2**
	4.4nm,0.9s,baz=56,slow=3.1,SNR=10						
FIA0	**FINESS Array S**	**139.24**	**343**	*e*PKPpre	PKPpre	18 12 55.4	
FIA0				*e*PKPdf	**PKiKP**	**18 13 04.9**	**+0.2**
FINES	**FINESS Array B**	**139.24**	**343**	PKhKP	PKPpre	18 12 55.4	
	1.0nm,0.6s,baz=67,slow=5.0,SNR=4.5						
FINES				PKP	**PKiKP**	**18 13 04.9**	**+0.2**
	0.8nm,0.5s,baz=124,slow=5.8,SNR=5.5						
NB200	**NORSAR Array S**	**142.42**	**353**	*e*PKPdf	**PKPdf**	**18 13 06.1**	**-2.2**
NOA	**NORSAR Array B**	**142.42**	**353**	PKP	**PKPdf**	**18 13 06.1**	**-2.2**
	0.5nm,0.6s,baz=22,slow=3.9,SNR=2.9						
HFS	**Hagfors**	**142.99**	**351**	PKhKP	PKPpre	18 13 06.0	
	2.3nm,0.6s,baz=46,slow=4.2,SNR=17						
MARD	**Mardin**	**145.00**	**301**	*e*PKPbc	**PKPbc**	**18 13 12.3**	**-1.0**
AKASG	**Malin Array Be**	**146.35**	**329**	PKPbc	**PKPbc**	**18 13 16.4**	**-0.4**
	8.1nm,0.5s,baz=42,slow=4.4,SNR=36						
AKBB	**Malin Array Si**	**146.35**	**329**	*e*PKPdf	**PKPdf**	**18 13 14.8**	**-0.6**
KIEV	**Kiev**	**146.37**	**329**	*e*PKPdf	**PKPdf**	**18 13 15.1**	**-0.3**
AK11	**Malin Array Si**	**146.40**	**329**	*e*PKPdf	**PKPbc**	**18 13 16.2**	**-0.7**
EKA	**Eskdalemuir Ar**	**148.26**	**7**	PKPbc	**PKPbc**	**18 13 22.4**	**+0.5**
	1.2nm,0.5s,baz=323,slow=2.2,SNR=5.4						
BR101	**Keskin Array S**	**149.67**	**309**	*e*PKPbc	**PKPbc**	**18 13 25.6**	**-0.6**
BRTR	**Keskin Array B**	**149.67**	**309**	PKPbc	**PKPbc**	**18 13 25.6**	**-0.6**
	0.9nm,0.6s,baz=155,slow=6.6,SNR=5.1						
MMAI	**Mount Meron Ar**	**150.12**	**295**	PKPbc	**PKPbc**	**18 13 28.4**	**+1.0**
	3.1nm,0.5s,baz=57,slow=5.3,SNR=13						
BUR04	**Bucovina Ar. S**	**150.39**	**329**	*e*PKPbc	**PKPbc**	**18 13 27.8**	**+0.2**
CLL	**Collm**	**151.53**	**347**	⇓*i*PKPbc	**PKPbc**	**18 13 30.4**	**+0.4**
	comp=Z,9.0nm,1.0s						
CLL				*i* PKPab	**PKPab**	**18 13 39.6**	**+0.8**
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**151.53**	**347**	*e*PKPbc	**PKPbc**	**18 13 29.9**	**0.0**
UPC	**Upice**	**151.53**	**342**	⇑*e*PKP	**PKPbc**	**18 13 31.0**	**+1.0**
UPC				*e*PKPAB	**PKPab**	**18 13 40.5**	**+1.6**
DPC	**Dobruska-Polom**	**151.59**	**342**	⇑*e*PKP	**PKPbc**	**18 13 31.2**	**+1.0**
DPC				*e*PKPAB	**PKPab**	**18 13 40.9**	**+1.8**
BRG	**Berggiesshubel**	**151.73**	**345**	*i* PKP	**PKPbc**	**18 13 31.2**	**+0.8**
	comp=Z,6.1nm,0.5s						
BRG				*e*		18 13 37.8	
	comp=Z,4.1nm,0.8s						
PVCC	**Panska Ves**	**151.90**	**344**	⇑*e*PKP	**PKPbc**	**18 13 32.0**	**+1.2**
PVCC				*e*PKPAB	**PKPab**	**18 13 42.0**	**+1.6**
KHC	**Kasperske Hory**	**153.43**	**344**	⇑*e*PKP	**PKPbc**	**18 13 35.0**	**+0.7**
KHC				*e*PKPAB	**PKPab**	**18 13 42.8**	**-4.1**
KHC				*e*PKPAB	**PKPab**	**18 13 48.2**	**+1.3**
GERES	**GERESS Array B**	**153.67**	**344**	PKPbc	**PKPbc**	**18 13 35.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=28,slow=6.0,SNR=4.0						
GERES				PKPab	**PKPab**	**18 13 49.0**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=2.9,slow=5.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**169.26**	**174**	PKP	**PKPdf**	**18 13 43.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=330,slow=1.8,SNR=5.1						
TORD				PKPab	**PKPab**	**18 14 57.2**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=192,slow=3.1,SNR=7.7						
TOA1	**Torodi Ar. Sit**	**169.27**	**174**	*e*PKPdf	**PKPdf**	**18 13 43.7**	**-0.4**
TOA1				*e*PKPab	**PKPab**	**18 14 57.2**	**+0.6**

*IDC **03** 17:56:51.4±3.6, 21°.96S×170°.50E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/40, mbtmp3.9/4, ML4.0/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/35, Error ellipse: s-maj=133.2km s-min=40.1km az=164.0*

ISC 03 17:56:54.1±2.8**, 22°.4S**±0°.9×**170°.4E**±0°.1**, h35km, n18, σ1s.70**/14**, mb3.8**/3**, 1D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.67**	**274**	Pn	**Pn**	**17 57 48.7**	**+0.2**
	10nm,0.3s,baz=132,slow=14,SNR=30						
DZM				Sn	**Sn**	**17 58 30.2**	**-0.4**
	12nm,0.3s,baz=73,slow=22,SNR=11						
RAO	**Raoul Island**	**12.57**	**126**	LR	LR	18 03 43.0	
	comp=Z,142nm,20.6s,baz=336,slow=32						
HNR	**Honiara**	**16.29**	**320**	LR	LR	18 05 47.1	
	comp=Z,39nm,21.9s,baz=188,slow=33						
URZ	**Urewera**	**16.88**	**162**	LR	LR	18 05 38.0	
	comp=Z,81nm,18.8s,baz=14,slow=31						
PMG	**Port Moresby**	**25.74**	**296**	LR	LR	18 09 41.6	
	comp=Z,114nm,20.4s,baz=130,slow=30						
KSRS	**Korea Array**	**71.67**	**326**	P	P	18 08 13.7	+1.5
	1.5nm,0.8s,baz=145,slow=6.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**80.76**	**294**	P	P	18 09 07.8	+3.4
	0.8nm,0.7s,baz=121,slow=4.0,SNR=8.0						
ILAR	**Eielson Array**	**92.87**	**17**	P	**P**	**18 10 02.3**	**-0.4**
	0.3nm,0.7s,baz=231,slow=5.7,SNR=3.8						
DPC	**Dobruska-Polom**	**145.45**	**330**	*e*P	**PKPdf**	**18 16 30.6**	**+2.3**
DPC				*e*x	x	18 16 37.4	
UPC	**Upice**	**145.48**	**331**	*e*P	**PKPdf**	**18 16 30.5**	**+2.2**
PVCC	**Panska Ves**	**146.11**	**332**	*e*P	**PKPab**	**18 16 32.7**	**+1.8**
BRG	**Berggiesshubel**	**146.12**	**333**	*i* PKP	**PKPab**	**18 16 32.3**	**+1.4**
	12nm,0.9s						
CLL	**Collm**	**146.17**	**334**	*e*P	**PKPdf**	**18 16 26.0**	**-3.4**
CLL				⇓*i*sP	**PKiKP**	**18 16 32.1**	**-1.5**
	comp=Z,10.0nm,0.8s						
GOPC	**GO Pecny, Ondr**	**146.46**	**331**	*e*P	**PKPab**	**18 16 33.2**	**+0.9**
PRU	**Pruhonice**	**146.51**	**331**	*e*P	**PKPab**	**18 16 33.6**	**+1.1**
EKA	**Eskdalemuir Ar**	**146.71**	**353**	PKPbc	**PKPab**	**18 16 33.0**	**0.0**
	comp=Z,3.8nm,0.6s,baz=5.0,slow=2.6,SNR=20						
KHC	**Kasperske Hory**	**147.57**	**331**	*e*P	**PKPab**	**18 16 36.5**	**-0.2**
GERES	**GERESS Array B**	**147.72**	**331**	PKPbc	**PKPab**	**18 16 37.2**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=30,slow=3.2,SNR=9.6						

*NIED **03** 18:03:00, 25°.50N×127°.30E, h26km, Mw3.8 Best double couple: M0 6.57000×10^14 NP1: φs82.00000°, δ43.00000°, λ-50.00000°. NP2: φs213.00000°, δ59.00000°, λ-121.00000°.*

*NEIC **03** 18:03:54.1±2.1, 25°.54N×127°.17E, h13km±13km, mb4.6/17, Error ellipse: s-maj=6.0km s-min=5.0km az=135.0*

*ISCJB **03** 18:03:56.6±0.5, 25°.52N±0°.04×127°.18E±0°.04, h48km±4km, mb4.2/25, MS3.2/1, Error ellipse: s-maj=7.5km s-min=4.3km az=136.7*

*JMA **03** 18:03:56.3±0.2, 25°.49N×127°.27E, h47km, M3.6*

*IDC **03** 18:03:57.9±0.8, 25°.56N×127°.04E, h40km±6km, mb3.6/10, mb1 3.8/11, mb1mx3.5/60, mbtmp3.9/11, ML4.2/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/57, Error ellipse: s-maj=32.9km s-min=12.9km az=68.0*

ISC 03 18:03:57.5±0.6**, 25°.52N**±0°.06×**127°.18E**±0°.05**, h36**km±1km**, n80, σ0s.98**/96**, mb4.2**/25**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.81**	**40**	P	**Pn**	**18 04 11.1**	**-1.2**
JJT2				S	**Sn**	**18 04 22.8**	**-0.3**
JKE	**Kume jima 2**	**0.88**	**336**	P	**Pn**	**18 04 13.6**	**+0.3**
JKE				*e*S	**Sn**	**18 04 26.1**	**+1.3**
JAGN	**Aguni-jima**	**1.07**	**3**	P	**Pn**	**18 04 15.7**	**-0.1**
JAGN				*e*S	**Sn**	**18 04 29.5**	**+0.1**
JNTH	**Nagotoyohara**	**1.25**	**37**	P	**Pn**	**18 04 17.0**	**-1.4**
JNTH				S	**Sn**	**18 04 34.6**	**+0.6**
JOW	**Kunigami**	**1.64**	**37**	P	**Pn**	**18 04 22.6**	**-1.1**
JOW	**Kunigami**	**1.64**	**37**	*e*Pn	**Pn**	**18 04 23.7**	**0.0**
JOW				*e*Sn	**Sn**	**18 04 45.6**	**+2.0**
JIH	**Iheya**	**1.67**	**25**	P	**Pn**	**18 04 23.5**	**-0.6**
JIH				*e*S	**Sn**	**18 04 45.6**	**+1.4**
JOGS	**Gusukube**	**1.77**	**245**	P	**Pn**	**18 04 26.7**	**+1.1**
JOGS				*e*S	**Sn**	**18 04 47.6**	**+0.7**
JIKM	**Ikemajima**	**1.84**	**252**	P	**Pn**	**18 04 27.7**	**+1.2**
JMJ	**Miyako jima 2**	**1.84**	**248**	P	**Pn**	**18 04 27.1**	**+0.5**
JIRB	**Irabujima**	**1.94**	**250**	P	**Pn**	**18 04 28.4**	**+0.5**
JOKE	**Okinoerabujima**	**2.22**	**34**	P	**Pn**	**18 04 31.8**	**+0.1**
NACB	**Ninganchiao**	**5.25**	**256**	*e*Pn	**Pn**	**18 05 12.5**	**-0.8**
YHNB	**Yeheng**	**5.33**	**262**	*e*Pn	**Pn**	**18 05 15.8**	**+1.3**
YULB	**Yu-li**	**5.76**	**250**	*e*Pn	**Pn**	**18 05 17.8**	**-2.7**
SSLB	**Suanglung**	**5.92**	**254**	*e*Pn	**Pn**	**18 05 21.6**	**-1.0**
TPUB	**Ta-pu**	**6.36**	**251**	*e*Pn	**Pn**	**18 05 26.7**	**-2.0**
JNU	**Nakatsue**	**8.23**	**22**	P	**Pn**	**18 05 54.4**	**0.0**
	2.5nm,0.3s,baz=226,slow=5.6,SNR=26						
JNU				LR	LR	18 09 33.1	
	comp=Z,72nm,19.4s,baz=307,slow=41						
JNU	**Nakatsue**	**8.23**	**22**	*e*Pn	**Pn**	**18 05 53.8**	**-0.6**
MAJO	**Matsushiro**	**14.48**	**38**	*e*Pn	**Pn**	**18 07 18.1**	**-1.8**
MAJO				*e*pP	**P**	**18 07 26.3**	**+0.3**
MJAR	**Matsushiro Arr**	**14.48**	**38**	P	**P**	**18 07 26.3**	**+0.3**
	0.3nm,0.3s,baz=217,slow=9.4,SNR=4.1						
MJB9	**Matsu-Tunnel**	**14.48**	**38**	*e*Pn	**Pn**	**18 07 18.1**	**-1.8**
ENH	**Enshi**	**16.34**	**291**	*e*Pn	**Pn**	**18 07 41.3**	**-2.8**
	20nm,1.6s						
YSS	**Yuzh-Sakhalins**	**24.72**	**26**	*e*P	**P**	**18 09 15.7**	**+0.5**
	9.1nm,0.8s						
ULN	**Ulaanbaatar**	**27.37**	**330**	*e*P	**P**	**18 09 40.5**	**+1.1**
	4.0nm,1.3s						
SONA0	**Songino Array**	**27.65**	**329**	*e*P	**P**	**18 09 40.9**	**-1.0**
SONM	**Songino Array**	**27.65**	**329**	P	**P**	**18 09 40.9**	**-1.0**
	0.7nm,0.5s,baz=144,slow=10,SNR=9.7						
SONM				pP	**pP**	**18 09 53.1**	**+0.9**
	1.8nm,0.9s,baz=142,slow=3.7,SNR=8.9						
SONM				LR	LR	18 22 52.0	
	comp=Z,63nm,18.4s,baz=186,slow=41						
SONA1	**Songino Array**	**27.66**	**329**	*e*P	**P**	**18 09 42.6**	**+0.7**
GSI	**Gunungsitoli**	**37.33**	**235**	*e*P	**P**	**18 11 08.4**	**+1.8**
MTN	**Manton Dam**	**38.33**	**174**	*e*P	**P**	**18 11 16.0**	**+1.1**
	13nm,1.2s						
PMG	**Port Moresby**	**39.80**	**148**	*e*P	**P**	**18 11 27.1**	**-0.1**
	40nm,1.8s						
MK01	**Makanchi Array**	**41.30**	**313**	*e*P	**P**	**18 11 38.2**	**-1.2**
MK31	**Makanchi Array**	**41.31**	**313**	*e*P	**P**	**18 11 38.7**	**-0.8**
MK32	**Makanchi Array**	**41.31**	**313**	*e*P	**P**	**18 11 38.8**	**-0.7**
MK32				*e*PcP	**PcP**	**18 13 37.3**	**-0.3**
MKAR	**Makanchi Array**	**41.31**	**313**	P	**P**	**18 11 38.8**	**-0.7**
	1.3nm,0.5s,baz=99,slow=11,SNR=28						
MKAR				pP	**pP**	**18 11 49.1**	**-0.9**
	1.4nm,0.4s,baz=98,slow=11,SNR=12						
MKAR				PcP	**PcP**	**18 13 37.3**	**-0.3**
	0.1nm,0.3s,baz=97,slow=4.8,SNR=3.0						
MKAR	**Makanchi Array**	**41.31**	**313**	*e*P	**P**	**18 11 38.4**	**-1.1**
	11nm,0.6s						
MKAR				PcP	**PcP**	**18 13 37.3**	**-0.3**
MAKZ	**Makanchi**	**41.52**	**313**	*e*P	**P**	**18 11 40.8**	**-0.4**
	2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**42.24**	**324**	P	**P**	**18 11 45.1**	**-1.9**
	0.6nm,0.6s,baz=124,slow=7.2,SNR=3.2						
ZAA1	**Zalesovo Array**	**42.25**	**324**	*e*P	**P**	**18 11 45.1**	**-1.9**
FITZ	**Fitzroy Crossi**	**43.38**	**182**	*e*P	**P**	**18 11 55.5**	**-1.0**
	18nm,1.9s						
KURK	**Kurchatov**	**44.69**	**317**	*e*P	**P**	**18 12 05.9**	**-0.8**
	5.8nm,1.4s						
WR1	**Warramunga Arr**	**45.72**	**171**	*e*P	**P**	**18 12 15.1**	**-0.1**
WRA	**Warramunga Arr**	**45.72**	**171**	P	**P**	**18 12 15.1**	**-0.1**
	1.3nm,0.6s,baz=353,slow=8.6,SNR=18						
WRA				pP	**pP**	**18 12 27.0**	**+1.1**
	2.1nm,0.6s,baz=352,slow=8.2,SNR=9.4						
KK05	**Karatay Array**	**49.04**	**306**	*e*P	**P**	**18 12 40.3**	**-0.6**
KK02	**Karatay Array**	**49.05**	**306**	*e*P	**P**	**18 12 41.9**	**+0.9**
KK31	**Karatay Array**	**49.05**	**306**	*e*P	**P**	**18 12 42.1**	**+1.1**
KKAR	**Karatay Array**	**49.05**	**306**	*e*P	**P**	**18 12 40.9**	**-0.1**
KK01	**Karatay Array**	**49.05**	**306**	*e*P	**P**	**18 12 42.0**	**+1.0**
KK04	**Karatay Array**	**49.05**	**306**	*e*P	**P**	**18 12 41.9**	**+0.9**
KK03	**Karatay Array**	**49.06**	**306**	*e*P	**P**	**18 12 42.0**	**+1.0**
KK07	**Karatay Array**	**49.06**	**306**	*e*P	**P**	**18 12 41.6**	**+0.6**
KK08	**Karatay Array**	**49.07**	**306**	*e*P	**P**	**18 12 41.9**	**+0.7**
AS31	**Alice Springs**	**49.33**	**172**	*e*P	**P**	**18 12 42.8**	**-0.4**
	3.3nm,1.8s						
ASAR	**Alice Springs**	**49.33**	**172**	P	**P**	**18 12 43.5**	**+0.2**
	0.4nm,0.6s,baz=356,slow=13,SNR=8.5						
ASAR				pP	**pP**	**18 12 55.8**	**+1.9**
	1.1nm,0.6s,baz=356,slow=14,SNR=10						
BVAR	**Borovoye Array**	**50.18**	**319**	P	**P**	**18 12 48.9**	**-0.4**
	0.5nm,0.4s,baz=109,slow=8.1,SNR=4.5						
BRVK	**Borovoye**	**50.25**	**319**	*e*P	**P**	**18 12 49.1**	**-0.7**
	9.3nm,1.4s						
KBL	**Kabul**	**50.53**	**295**	*e*P	**P**	**18 12 52.8**	**+0.1**
	3.6nm,0.8s						
AB06	**Akbulak array**	**56.42**	**314**	*e*P	**P**	**18 13 35.2**	**-0.1**
AB07	**Akbulak array**	**56.43**	**314**	*e*P	**P**	**18 13 35.4**	**+0.1**
AB02	**Akbulak array**	**56.44**	**314**	*e*P	**P**	**18 13 35.2**	**-0.2**
AB05	**Akbulak array**	**56.44**	**314**	*e*P	**P**	**18 13 35.5**	**+0.1**
AB01	**Akbulak array**	**56.44**	**314**	*e*P	**P**	**18 13 35.6**	**+0.2**
AB03	**Akbulak array**	**56.44**	**314**	*e*P	**P**	**18 13 35.4**	**-0.1**
AB31	**Akbulak array**	**56.44**	**314**	*e*P	**P**	**18 13 35.8**	**+0.3**
ABKAR	**Akbulak array**	**56.44**	**314**	*e*P	**P**	**18 13 35.5**	**0.0**
	25nm,0.5s						
AB04	**Akbulak array**	**56.45**	**314**	*e*P	**P**	**18 13 35.9**	**+0.5**
AB08	**Akbulak array**	**56.45**	**314**	*e*P	**P**	**18 13 35.5**	**-0.1**
AB09	**Akbulak array**	**56.46**	**314**	*e*P	**P**	**18 13 35.6**	**+0.1**
MCK	**McKinley**	**64.75**	**29**	*e*P	**P**	**18 14 31.9**	**0.0**
	37nm,1.9s						
RND	**Reindeer**	**64.83**	**30**	*e*P	**P**	**18 14 32.3**	**-0.2**
	28nm,1.6s						
MDM	**Murphy Dome**	**64.92**	**28**	*e*P	**P**	**18 14 33.7**	**+0.7**
	20nm,1.8s						
FIA0	**FINESS Array S**	**73.01**	**330**	*e*P	**P**	**18 15 22.5**	**-0.7**
FINES	**FINESS Array B**	**73.01**	**330**	P	**P**	**18 15 22.5**	**-0.7**
	1.0nm,0.8s,baz=52,slow=7.5,SNR=4.3						
AKASG	**Malin Array Be**	**75.45**	**319**	P	**P**	**18 15 36.0**	**-1.6**
	0.3nm,0.3s,baz=64,slow=5.5,SNR=3.2						
AKBB	**Malin Array Si**	**75.45**	**319**	*e*P	**P**	**18 15 37.4**	**-0.3**
	17nm,1.8s						
BR101	**Keskin Array S**	**76.72**	**308**	*e*P	**P**	**18 15 46.0**	**+0.7**
BRTR	**Keskin Array B**	**76.72**	**308**	P	**P**	**18 15 46.0**	**+0.7**
	1.2nm,0.9s,baz=123,slow=7.1,SNR=3.5						
BRTR				pP	**pP**	**18 15 56.5**	**0.0**
	0.8nm,0.7s,baz=149,slow=4.2,SNR=2.7						
YKA	**Yellowknife Ar**	**79.56**	**25**	P	**P**	**18 16 00.8**	**+0.4**
	1.3nm,0.7s,baz=298,slow=5.4,SNR=17						
YKB5	**Yellowknife Ar**	**79.56**	**25**	*e*P	**P**	**18 15 59.9**	**-0.5**
FRIS	**Frissel Point**	**86.11**	**42**	*e*P	**P**	**18 16 34.7**	**-0.3**

MAN 03 18:13:57, 9°.80N×122°.74E, h41km, mb3.9, ML2.7, MS2.2, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.66**	**133**	⇓*i*P	Pn	18 14 11.3	+1.2
SNPH				*i* S	Sn	18 14 18.7	-0.7
GUIM	**Jordan**	**0.84**	**350**	*e*P	Pn	18 14 13.3	+0.9
GUIM				*e*S	Sn	18 14 25.3	+1.8
MSLP	**Maasin**	**2.11**	**81**	*e*P	Pn	18 14 30.5	+0.7
MSLP				*e*S	Sn	18 14 56.0	+1.2

MAN 03 18:15:35, 13°.68N×122°.91E, h27km, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.43**	**213**	*e*P	Pn	18 15 45.7	+0.3
AUQP				*e*S	Sn	18 15 53.6	+1.3
GQP	**Guinayangan**	**0.50**	**296**	⇑*i*P	Pn	18 15 45.9	-0.5
GQP				*i* S	Sb	18 15 52.2	-0.1
BOAC	**Boac**	**1.06**	**258**	*e*P	Pn	18 15 54.2	+0.1
BOAC				*e*S	Sb	18 16 08.6	+0.3

*IDC **03** 18:19:50.6±2.5, 22°.18S×170°.34E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/40, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=91.8km s-min=31.3km az=150.0*

*NEIC **03** 18:19:52.5±1.1, 22°.20S×170°.24E, h10km, mb4.2/2, Error ellipse: s-maj=41.8km s-min=16.0km az=158.0*

ISC 03 18:19:55.6±1.3**, 22°.1S**±0°.4×**170°.2E**±0°.1**, h25km, n16, σ0s.69**/18**, mb3.8**/6**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.44**	**270**	Pn	**Pn**	**18 20 47.8**	**+0.2**
	6.7nm,0.3s,baz=136,slow=16,SNR=24						
DZM				Sn	**Sn**	**18 21 27.8**	**+0.2**
	2.8nm,0.3s,baz=106,slow=20,SNR=4.9						
DZM	**Mont Dzumac**	**3.44**	**270**	*e*Pn	**Pn**	**18 20 47.6**	**0.0**
DZM				*e*Sn	**Sn**	**18 21 27.5**	**-0.1**
STKA	**Stephens Creek**	**27.17**	**243**	P	**P**	**18 25 37.9**	**+0.7**
	1.9nm,0.7s,baz=84,slow=14,SNR=3.4						
STKA	**Stephens Creek**	**27.17**	**243**	*e*P	**P**	**18 25 37.0**	**-0.2**
	2.2nm,1.5s						
ASAR	**Alice Springs**	**33.37**	**260**	P	**P**	**18 26 31.9**	**-0.3**
	0.4nm,0.7s,baz=93,slow=9.3,SNR=8.6						
WR1	**Warramunga Arr**	**33.45**	**267**	*e*P	**P**	**18 26 31.9**	**-0.9**
	16nm,1.6s						
WRA	**Warramunga Arr**	**33.45**	**267**	P	**P**	**18 26 31.9**	**-0.9**
	0.7nm,0.7s,baz=99,slow=8.2,SNR=6.2						
CM01	**Chiang Mai Arr**	**80.42**	**294**	*e*P	**P**	**18 32 05.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**80.45**	**294**	P	**P**	**18 32 07.3**	**+1.6**
	0.9nm,0.8s,baz=124,slow=4.0,SNR=6.9						
SONA0	**Songino Array**	**90.01**	**323**	*e*P	**P**	**18 32 52.8**	**-0.2**
SONM	**Songino Array**	**90.01**	**323**	P	**P**	**18 32 52.8**	**-0.2**
	0.8nm,0.8s,baz=144,slow=3.3,SNR=6.9						
BRG	**Berggiesshubel**	**145.80**	**333**	*i* PKP	**PKPdf**	**18 39 31.6**	**-0.3**
	6.9nm,0.9s						
CLL	**Collm**	**145.86**	**334**	*i* PKPbc	**PKPdf**	**18 39 31.4**	**-0.5**
	comp=Z,5.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**146.44**	**353**	PKPbc	**PKPdf**	**18 39 32.1**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=5.0,slow=2.8,SNR=13						
GERES	**GERESS Array B**	**147.40**	**331**	PKPbc	**PKPdf**	**18 39 35.8**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=352,slow=2.7,SNR=7.2						
GEA0	**GERESS Array S**	**147.41**	**331**	*e*PKPdf	**PKPdf**	**18 39 35.3**	**+0.6**

*IDC **03** 18:22:30.3±0.7, 22°.13S×170°.47E, h0km, mb4.6/18, mb1 4.7/20, mb1mx4.5/41, mbtmp4.7/20, ML4.6/2, MS4.3/28, Ms1 4.2/28, ms1mx4.2/34, Error ellipse: s-maj=23.3km s-min=16.0km az=149.0*

*BJI **03** 18:22:31.0, 21°.57S×170°.66E, h6km, mb5.0/48, mB5.3/30, Ms4.9/18, Ms7 4.6/20*

*NEIC **03** 18:22:32.5±0.2, 21°.99S×170°.31E, h10km, mb5.1/48, Error ellipse: s-maj=6.5km s-min=5.8km az=58.0*

*GCMT **03** 18:22:32.5±0.2, 22°.16S×170°.37E, h13km±1km, MW5.0/83, Moment Tensor Solution. s28,c43; s83,c125; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.93±.21; Mθθ-0.02±.13; Mφφ2.95±.15; Mrθ-0.14±.34; Mθφ2.55±.09; Mφr-0.25±.29; Best double couple: M0 3.68500×10^16 NP1: φs30.00000°, δ47.00000°, λ-90.00000°. NP2: φs210.00000°, δ43.00000°, λ-90.00000°. Principal axes: T 4.4280, Plg2.0000°, Azm120.0000°; N -1.4850, Plg0.0000°, Azm30.0000°; P -2.9420, Plg88.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **03** 18:22:33.4±0.2, 22°.07S±0°.04×170°.25E±0°.05, h25km, mb5.0/78, MS4.3/34 Error ellipse: s-maj=6.2km s-min=5.6km az=150.2*

*MOS **03** 18:22:35.8±1.5, 21°.96S×170°.17E, h33km, mb5.1/25, MS4.3/12, Error ellipse: s-maj=12.0km s-min=9.2km az=42.8*

ISC 03 18:22:35.4±0.3**, 22°.10S**±0°.06×**170°.15E**±0°.05**, h25km, n296, σ1s.60**/295**, mb5.0**/78**, MS4.3**/35**, 16C-23D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.44**	**270**	Pn	**Pn**	**18 23 28.4**	**+0.9**
	38nm,0.3s,baz=92,slow=7.0,SNR=65						
DZM				Sn	**Sn**	**18 24 08.0**	**+0.6**
	62nm,0.3s,baz=85,slow=20,SNR=4.8						
DZM	**Mont Dzumac**	**3.44**	**270**	*e*Pn	**Pn**	**18 23 27.9**	**+0.4**
	102nm,0.2s						
DZM				*e*Sn	**Sn**	**18 24 05.6**	**-1.9**
	256nm,0.2s						
DZM				*e*LR	LR	18 24 14.0	
	10μm,26.2s						
DZM	**Mont Dzumac**	**3.44**	**270**	*e*Pn	**Pn**	**18 23 28.1**	**+0.6**
DZM				*e*Sn	**Sn**	**18 24 06.8**	**-0.7**
RAO	**Raoul Island**	**12.90**	**126**	LR	LR	18 29 32.8	
	comp=Z,3μm,18.4s,baz=305,slow=33						
OUZ	**Omahuta**	**13.41**	**168**	*e*Pn	**Pn**	**18 25 45.3**	**+1.1**
HNR	**Honiara**	**15.96**	**321**	Pn	**Pn**	**18 26 18.2**	**-0.2**
	2.7nm,0.3s,baz=291,slow=2.4,SNR=2.9						
HNR	**Honiara**	**15.96**	**321**	P	**P**	**18 26 24.0**	**+2.2**
HNR	**Honiara**	**15.96**	**321**	*e*Pn	**Pn**	**18 26 18.8**	**+0.4**
	255nm,1.1s						
HNR	**Honiara**	**15.96**	**321**	*e*P	**Pn**	**18 26 18.8**	**+0.4**
HNR				pmax	pmax		
	comp=Z,255nm,1.1s						
URZ	**Urewera**	**17.18**	**161**	P	**P**	**18 26 35.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=39,slow=7.9,SNR=7.8						
URZ				LR	LR	18 31 45.9	
	comp=Z,779nm,18.5s,baz=344,slow=33						

URZ Urewera 17.18 161 *e*P **Pn** **18 26 33.9 +0.1**
comp=Z,117nm,1.6s
EIDS Eidsvold 17.76 256 *e*Pn **P** **18 26 44.3 +2.6**
comp=Z,34nm,1.3s
BKZ Black Stump Fm 17.86 164 *e*Pn **P** **18 26 44.1 +1.4**
comp=Z,120nm,1.5s
AFI Afiamalu 19.01 68 P **P** **18 26 55.2 -0.4**
comp=Z,1.0nm,0.3s,baz=53,slow=20,SNR=2.4
AFI Afiamalu 19.01 68 *e*P **P** **18 26 55.6 0.0**
comp=Z,56nm,1.3s
AFI Afiamalu 19.01 68 *e*P **P** **18 26 55.6 0.0**
AFI pmax pmax
comp=Z,56nm,1.3s
BFZ Birch Farm 19.23 166 *e*P **P** **18 26 57.8 0.0**
comp=Z,216nm,1.6s
THZ Tophouse 19.74 174 *e*P **P** **18 27 04.0 +0.6**
comp=Z,238nm,2.0s
KHZ Kahutara 20.45 173 *e*P **P** **18 27 12.1 +1.0**
comp=Z,281nm,1.6s
LTZ Lake Taylor 20.70 176 *e*P Pn 18 27 16.1 -0.1
comp=Z,120nm,1.5s
RPZ Rata Peaks 21.57 178 LR LR 18 33 39.9
comp=Z,300nm,19.2s,baz=354,slow=31
CTA Charters Tower 22.38 271 P **P** **18 27 34.4 +2.4**
comp=Z,5.2nm,0.6s,baz=92,slow=13,SNR=6.6
CTA LR LR 18 36 07.5
comp=Z,862nm,19.1s,baz=91,slow=36
CTAO Charters Tower 22.38 271 *e*P **P** **18 27 34.2 +2.2**
comp=Z,25nm,1.1s
CTAO Charters Tower 22.38 271 *e*P **P** **18 27 34.2 +2.2**
CTAO pmax pmax
comp=Z,25nm,1.1s
PMG Port Moresby 25.42 296 LR LR 18 36 35.6
comp=Z,2μm,20.4s,baz=114,slow=33
COEN Coen 26.86 283 *e*P **P** **18 28 13.3 -1.1**
comp=Z,16nm,0.9s
STKA Stephens Creek 27.17 243 P **P** **18 28 18.2 +1.2**
comp=Z,5.3nm,0.6s,baz=93,slow=12,SNR=14
STKA PcP **PcP** **18 31 37.8 +0.6**
comp=Z,1.2nm,0.7s,baz=116,slow=7.8,SNR=2.9
STKA LR LR 18 38 02.3
comp=Z,254nm,19.0s,baz=67,slow=34
STKA Stephens Creek 27.17 243 *e*P **P** **18 28 17.9 +0.9**
comp=Z,2.6nm,0.9s
STKA PcP **PcP** **18 31 37.8 +0.6**
STKA Stephens Creek 27.17 243 *e*P **P** **18 28 17.9 +0.9**
RAR Rarotonga 27.95 94 LR LR 18 39 17.1
comp=Z,291nm,18.1s,baz=266,slow=36
BBOO Buckleboo 31.95 243 *e*P **P** **18 28 59.5 +0.1**
comp=Z,21nm,1.0s
AS01 Alice Springs 33.33 260 *e*P **P** **18 29 11.3 -0.4**
AS31 Alice Springs 33.37 260 *e*P **P** **18 29 11.4 -0.6**
comp=Z,2.5nm,1.0s
ASAR Alice Springs 33.37 260 P **P** **18 29 12.1 0.0**
comp=Z,2.2nm,0.7s,baz=98,slow=8.4,SNR=17
ASAR LR LR 18 42 32.8
comp=Z,685nm,19.1s,baz=98,slow=36
WR1 Warramunga Arr 33.45 267 *e*P **P** **18 29 12.2 -0.5**
comp=Z,31nm,1.6s
WR1 *e*PcP **PcP** **18 31 54.1 +0.4**
WRA Warramunga Arr 33.45 267 P **P** **18 29 12.2 -0.5**
comp=Z,2.1nm,0.6s,baz=98,slow=8.2,SNR=22
WRA PcP **PcP** **18 31 54.1 +0.4**
comp=Z,1.0nm,0.8s,baz=97,slow=2.6,SNR=4.8
WRA LR LR 18 43 43.9
comp=Z,806nm,18.0s,baz=105,slow=38
TBI Tubuai 37.19 100 *e*S **S** **18 35 37.0 +6.7**
comp=Z,170nm,26.0s
TBI *e*LQ LQ 18 37 46.7
comp=Z,390nm,33.2s
TBI *e*LR LR 18 39 50.9
comp=Z,1μm,28.2s
PPT2 Papeete2 38.07 91 *e*S **S** **18 35 50.0 +6.1**
comp=Z,116nm,23.5s
PPT2 *e*LQ LQ 18 38 20.4
comp=Z,561nm,31.5s
PPT2 *e*LR LR 18 40 14.8
comp=Z,1μm,28.5s
PPT Papeete 38.08 91 LR LR 18 41 33.8
comp=Z,366nm,19.2s,baz=224,slow=30
MTN Manton Dam 38.24 277 *e*P **P** **18 29 53.6 -0.2**
comp=Z,10nm,0.8s
FAKI Fak Fak 41.43 292 *e*P **P** **18 30 20.6 +0.3**
comp=Z,22nm,0.9s
FITZ Fitzroy Crossi 41.88 267 P **P** **18 30 24.7 +0.7**
comp=Z,8.1nm,0.9s,baz=143,slow=7.7,SNR=9.5
FITZ LR LR 18 48 18.2
comp=Z,429nm,18.5s,baz=104,slow=37
GUMO Guam 43.27 323 LR LR 18 48 43.0
comp=Z,250nm,19.2s,baz=126,slow=36
SWI Sorong 43.33 294 P **P** **18 30 36.2 +0.4**
SWI pmax pmax
comp=Z,32nm,1.4s
BATI Baumata 46.02 277 P **P** **18 30 59.2 +2.0**
comp=Z,13nm,0.7s,baz=198,slow=3.2,SNR=4.2
BATI LR LR 18 50 30.0
comp=Z,2μm,20.2s,baz=147,slow=36
MBWA Marble Bar 46.70 261 *e*P **P** **18 31 02.6 0.0**
comp=Z,18nm,0.9s
NWAO Narrogin (SRO) 47.72 245 P **P** **18 31 10.5 +0.1**
comp=Z,11nm,0.8s,baz=301,slow=6.1,SNR=6.7
NWAO Narrogin (SRO) 47.72 245 *e*P **P** **18 31 09.8 -0.6**
comp=Z,36nm,1.1s
MMRI Maumere 47.90 278 *e*P **P** **18 31 11.5 -0.4**
comp=Z,24nm,0.9s
TAOE Nuku Hiva Isla 49.46 83 *e*S **S** **18 38 36.2 +5.8**
comp=Z,172nm,26.3s
TAOE *e*LR LR 18 45 34.5
comp=Z,724nm,25.6s
RKT Rikitea 50.41 102 *e*S **S** **18 38 49.5 +6.2**
comp=Z,328nm,27.0s
RKT *e*LR LR 18 45 59.2
comp=Z,734nm,29.0s
LUWI Luwuk 50.60 288 *e*P **P** **18 31 32.0 -0.6**
comp=Z,44nm,1.2s
DAV Davao City (W) 52.41 298 LR LR 18 54 20.5
comp=Z,201nm,20.3s,baz=122,slow=36
PTCN Pitcairn Islan 54.46 106 *e*P **P** **18 31 58.7 -2.4**
comp=Z,2μm,2.0s
UGM Wanagama 58.96 274 *e*P **P** **18 32 32.8 -0.4**
comp=Z,887nm,1.9s
KKM Kota Kinabalu 59.74 291 *e*P **P** **18 32 39.0 +0.2**
comp=Z,24nm,1.1s
CISI Cisompet, Garu 61.59 273 *e*P **P** **18 32 51.5 +0.2**
comp=Z,78nm,1.3s
LEM Lembang 62.03 274 P **P** **18 32 55.8 +1.4**
comp=Z,19nm,0.7s,baz=94,slow=14,SNR=8.5
LEM LR LR 18 59 55.1
comp=Z,338nm,21.7s,baz=126,slow=36
JHJ Hachijo jima 2 62.09 331 LR LR 19 00 10.5
comp=Z,111nm,19.0s,baz=72,slow=36
KSM Kuching 62.85 284 *e*P **P** **18 33 00.2 +0.5**
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 65.67 332 P **P** **18 33 17.1 -0.6**
comp=Z,8.9nm,0.9s,baz=166,slow=6.8,SNR=23
MJAR LR LR 19 02 50.9
comp=Z,73nm,19.0s,baz=145,slow=37
MAJO Matsushiro 65.67 332 *e*P **P** **18 33 17.0 -0.7**
comp=Z,15nm,0.8s
MAJO Matsushiro 65.67 332⇓ *e*P **P** **18 33 17.1 -0.6**
MAJO pmax pmax
comp=Z,18nm,0.9s
MAT Matsushiro 65.67 332 P **P** **18 33 17.0 -0.7**
MAT *e*S **S** **18 42 04.4 +2.3**
MJB9 Matsu-Tunnel 65.67 332 *e*P **P** **18 33 17.2 -0.5**
comp=Z,15nm,0.8s
NACB Ninganchiao 65.90 311 *e*P **P** **18 33 19.3 -0.1**
comp=Z,125nm,1.9s
TPUB Ta-pu 66.02 310 *e*P **P** **18 33 19.6 -0.6**
comp=Z,49nm,1.2s
SSLB Suanglung 66.10 311 *e*P **P** **18 33 19.9 -0.8**
comp=Z,13nm,0.8s
YHNB Yeheng 66.37 312 *e*P **P** **18 33 23.7 +1.2**
comp=Z,172nm,1.8s
JNU Nakatsue 66.48 325 P **P** **18 33 22.6 -0.4**
comp=Z,18nm,0.8s,baz=212,slow=9.5,SNR=7.1
JNU LR LR 19 02 31.0
comp=Z,116nm,18.5s,baz=125,slow=36
JNU Nakatsue 66.48 325 *e*P **P** **18 33 23.5 +0.5**
QSPA South Pole Qui 67.97 180 *e*P **P** **18 33 31.5 -0.6**
comp=Z,9.8nm,1.0s
ASAJ Asahikawa 70.57 339 *e*P **P** **18 33 49.2 +1.0**
comp=Z,8.0nm,1.0s
TJN Taejon 70.83 325⇓ *i*P **P** **18 33 50.1 +0.1**
KSRS Korea Array 71.34 326 P **P** **18 33 53.6 +0.6**
KSRS comp=Z,7.8nm,0.8s,baz=142,slow=6.3,SNR=26
LR LR 19 02 52.6
comp=Z,124nm,20.9s,baz=141,slow=34

KS15 Wonju Array Si 71.35 326 *e*P **P** **18 33 53.1 0.0**
KSAR Wonju Array Be 71.35 326 P **P** **18 33 53.6 +0.5**
KSAR Wonju Array Be 71.35 326 P **P** **18 33 53.6 +0.5**
KS01 Wonju Array Si 71.37 326 *e*P **P** **18 33 53.4 +0.1**
INCN Inchon 72.04 325 *e*P **P** **18 33 57.6 +0.3**
comp=Z,94nm,1.6s
RPN Rapa Nui 72.19 113 LR LR 18 57 36.4
comp=Z,332nm,18.6s,baz=260,slow=29
NJ2 Nanjing 72.85 316 *e*P **P** **18 34 02.7 +0.5**
NJ2 pmax pmax
comp=Z,24nm,0.8s
YSS Yuzh-Sakhalins 73.05 341 *e*P **P** **18 34 03.4 +0.4**
comp=Z,14nm,0.8s
YSS Yuzh-Sakhalins 73.05 341⇑ *i*P **P** **18 34 03.9 +0.8**
YSS *e* 18 34 25.8
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,250nm,16.0s
KULM Kulim 73.19 283 *e*P **P** **18 34 05.0 +0.4**
comp=Z,12nm,1.0s
GSI Gunungsitoli 74.38 278 *e*P **P** **18 34 12.9 +1.2**
comp=Z,36nm,1.4s
USRK Ussuriysk Ar. 74.66 333 P **P** **18 34 11.7 -0.9**
comp=Z,6.7nm,0.9s,baz=79,slow=8.4,SNR=7.4
USRK LR LR 19 04 44.3
comp=Z,88nm,20.9s,baz=150,slow=34
PETK Petropavlovsk- 75.67 352 P **P** **18 34 17.9 -0.3**
comp=Z,7.2nm,0.8s,baz=159,slow=5.3,SNR=6.3
PETK LR LR 19 02 40.6
comp=Z,285nm,20.6s,baz=154,slow=32
PEA1 Petropavlovsk- 75.67 352 *e*P **P** **18 34 17.9 -0.4**
DL2 Dalian 75.80 323 P **P** **18 34 20.0 +0.7**
DL2 pmax pmax
comp=Z,31nm,0.5s
MDJ Mudanjiang 76.03 331 P **P** **18 34 19.9 -0.6**
MDJ pP pP 18 34 23.4 -5.1
MDJ S **S** **18 44 07.2 +5.0**
MDJ sS pS 18 44 12.4 +0.2
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,240nm,4.6s
MDJ LR LR
comp=Z,140nm,18.3s
MDJ LR LR
comp=Z,160nm,8.0s
MDJ LR LR
comp=Z,330nm,23.8s
MDJ Mudanjiang 76.03 331 *e*P **P** **18 34 20.8 +0.4**
comp=Z,13nm,1.0s
MAW Mawson 76.11 202 LR LR 19 06 19.7
comp=Z,99nm,18.2s,baz=54,slow=34
MAW Mawson 76.11 202 *e*P **P** **18 34 19.2 -1.4**
comp=Z,45nm,1.4s
MAW Mawson 76.11 202 *e*P **P** **18 34 19.3 -1.4**
MAW pmax pmax
comp=Z,45nm,1.4s
LHMI Lhok Sumawe 76.52 281 *e*P **P** **18 34 22.7 -1.2**
comp=Z,106nm,1.0s
TYV Tymovskoe 76.59 342 *e*P **P** **18 34 23.5 +0.1**
TYV pmax pmax
comp=Z,8.0nm,0.7s
TIA Tai'an 76.64 318 P **P** **18 34 24.6 +0.5**
TIA pmax pmax
comp=Z,34nm,0.8s
CN2 Changchun 77.33 329 *e*P **P** **18 34 27.5 -0.3**
CN2 *es*P pP 18 34 34.0 -1.9
CN2 *e*S **S** **18 44 17.3 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,600nm,19.0s
ENH Enshi 78.14 310 *e*P **P** **18 34 32.6 -0.1**
comp=Z,29nm,1.0s
UNV Urumqi 78.28 14 *e*P **P** **18 34 31.0 -1.8**
comp=Z,50nm,1.3s
GRNR Gornyy 78.42 339 *e*P **P** **18 34 34.9 +1.2**
GRNR pmax pmax
comp=Z,26nm,1.0s
SRDT SRDT 78.46 291 P **P** **18 34 36.6 +1.9**
comp=Z,21nm,2.1s
UTHA Uthaitani 78.72 292 P **P** **18 34 39.1 +3.0**
comp=Z,2.9nm,0.9s,comp=Z,86nm
KLR Kul'dur 78.81 335 LR LR 19 06 02.7
comp=Z,7.8nm,21.6s,slow=33
KLR Kul'dur 78.81 335 *ce*P **P** **18 34 35.6 -0.3**
NANT Nan 79.13 295 P **P** **18 34 40.6 +2.2**
comp=Z,4.8nm,0.9s,comp=Z,46nm
BJT Baijiatuan 79.67 321 *e*P **P** **18 34 41.1 +0.2**
comp=Z,12nm,0.8s
BJT Baijiatuan 79.67 321 *e*P **P** **18 34 41.1 +0.2**
BJT pmax pmax
comp=Z,12nm,0.8s
LAMP Lampang 79.90 295 P **P** **18 34 45.4 +2.8**
comp=Z,5.7nm,0.9s
CM01 Chiang Mai Arr 80.42 294 *e*P **P** **18 34 47.2 +1.9**
CM31 Chiang Mai Arr 80.45 294 *e*P **P** **18 34 47.9 +2.3**
CMAR Chiang Mai Arr 80.45 294 P **P** **18 34 47.7 +2.2**
comp=Z,5.3nm,0.9s,baz=135,slow=4.2,SNR=37
CMAR PKKPbc **PKKPbc** **18 53 25.9 -1.1**
comp=Z,0.9nm,0.8s,baz=286,slow=4.5,SNR=7.6
KMI Kunming 80.50 302 P **P** **18 34 47.8 +1.8**
KMI pP PcP 18 34 50.0 -2.9
KMI pmax pmax
comp=Z,20nm,1.2s
CMMT Chiang Mai 80.61 295 P **P** **18 34 50.1 +3.7**
comp=Z,9.5nm,1.2s
CHTO Chiang Mai 80.61 295 P **P** **18 34 48.3 +1.9**
comp=Z,76nm,1.2s
CHTO Chiang Mai 80.61 295 *e*P **P** **18 34 48.3 +1.9**
comp=Z,13nm,1.0s
CHTO Chiang Mai 80.61 295 *e*P **P** **18 34 48.3 +1.9**
CHTO pmax pmax
comp=Z,13nm,1.0s
XAN Xi'an 80.66 312 P **P** **18 34 47.1 +0.7**
XAN pmax pmax
comp=Z,20nm,0.9s
CMAI Chiengmai2 81.04 296 P **P** **18 34 51.2 +2.3**
comp=Z,457nm,1.2s
CD2 Chengdu 82.64 307 *e*P **P** **18 34 57.4 +0.5**
CD2 pP PcP 18 35 01.0 -0.9
CD2 sP pP 18 35 02.4 -2.7
CD2 S **S** **18 45 16.7 +3.6**
CD2 SKS **SKSac** **18 45 18.1 +1.2**
CD2 SS **SS** **18 50 40.7 +4.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,310nm,20.8s
CD2 LR LR
comp=Z,210nm,18.8s
MA2 Magadan 82.92 350 LR LR 19 07 34.2
comp=Z,224nm,20.7s,baz=152,slow=33
MA2 Magadan 82.92 350⇑ *e*P **P** **18 34 57.0 -0.6**
ZEA Zeya 84.11 336 *e*P **P** **18 35 03.5 -0.3**
ZEA pmax pmax
comp=Z,12nm,1.0s
OHAK Old Harbor 84.76 19 *e*P **P** **18 35 06.8 -0.2**
comp=Z,209nm,1.8s
LZH Lanzhou 85.27 312 *e*P **P** **18 35 12.0 +1.6**
LZH pP pP 18 35 17.6 -0.9
LZH sP sP 18 35 20.4 -1.0
LZH PP **PP** **18 38 25.0 -3.6**
LZH *e*S **S** **18 45 39.5 0.0**
LZH sS sS 18 45 54.1 +1.2
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.5s
LZH LR LR
comp=Z,630nm,12.7s
LZH LR LR
comp=Z,700nm,14.3s
LZH LR LR
comp=Z,860nm,15.7s
SEY Seymchan 85.91 352⇓ *i*P **P** **18 35 11.5 -1.2**
SNAA Sanae 86.35 182 P **P** **18 35 13.6 -1.5**

SNAA Sanae 86.35 182 P **P** **18 35 13.4 -1.7**
comp=Z,3.8nm,1.0s,baz=165,slow=4.4,SNR=7.6
SNAA Sanae 86.35 182 *e*P **P** **18 35 13.5 -1.7**
comp=Z,16nm,1.4s
SNAA Sanae 86.35 182⇑ *e*P **P** **18 35 13.9 -1.2**
GAMB Gambell 86.77 8 *e*P **P** **18 35 16.5 -0.4**
comp=Z,5.7nm,0.8s
VNA3 Neumayer Olymp 86.91 180 P **P** **18 35 16.1 -1.6**
VNA2 Neumayer--Watz 87.21 181 P **P** **18 35 18.0 -1.2**
baz=162,slow=4.1
ULN Ulaanbaatar 89.66 323 *e*P **P** **18 35 31.3 0.0**
comp=Z,11nm,1.1s
ULN Ulaanbaatar 89.66 323 *d i*P **P** **18 35 31.2 0.0**
ULN pmax pmax
comp=Z,11nm,1.1s
GTA Gaotai 89.70 313 *e*P **P** **18 35 32.6 +1.0**
GTA pP PcP 18 35 36.8 +3.9
GTA sP pP 18 35 40.0 +0.2
GTA pmax pmax
comp=Z,7.0nm,1.0s
YAK Yakutsk 89.84 342 LR LR 19 11 19.3
comp=Z,124nm,21.7s,baz=92,slow=33
YAK Yakutsk 89.84 342 *e*P **P** **18 35 29.9 -1.6**
comp=Z,11nm,0.8s
YAK Yakutsk 89.84 342 *e*P **P** **18 35 29.6 -1.9**
YAK pmax pmax
comp=Z,7.0nm,0.8s
BILL Bilibino 89.92 359⇓ *i*P **P** **18 35 30.1 -1.7**
BILL *e*S **S** **18 46 14.2 -8.1**
BILL pmax pmax
comp=Z,10.0nm,1.1s
BILL MLR MLR
comp=Z,134nm,17.0s
SONA0 Songino Array 90.01 323 *e*P **P** **18 35 32.8 0.0**
SONM Songino Array 90.01 323 P **P** **18 35 32.8 0.0**
comp=Z,8.1nm,0.9s,baz=143,slow=5.5,SNR=59
SONM LR LR 19 17 22.8
comp=Z,89nm,18.9s,baz=162,slow=36
SONA1 Songino Array 90.01 323 *e*P **P** **18 35 32.2 -0.6**
NV01 Mina Array Sit 90.06 48 *e*P **P** **18 35 31.3 -2.2**
NVAR Mina Array Bea 90.06 48 P **P** **18 35 31.8 -1.7**
comp=Z,0.8nm,0.7s,baz=219,slow=9.3,SNR=7.3
NVAR LR LR 19 07 26.9
comp=Z,105nm,21.2s,baz=96,slow=30
FRIS Frissel Point 90.43 42 *e*P **P** **18 35 34.4 -0.5**
MTMW Mount Mitchell 91.29 40 *e*P **P** **18 35 36.0 -2.8**
LSA Lhasa 91.74 301 *e*P **P** **18 35 40.3 -1.5**
comp=Z,3.6nm,0.6s
LSA Lhasa 91.74 301 *e*P **P** **18 35 40.3 -1.5**
LSA pmax pmax
comp=Z,4.0nm,0.6s
COLA College 92.52 17⇓ *e*P **P** **18 35 41.7 -2.2**
COLA pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 92.70 17 P **P** **18 35 42.0 -2.8**
comp=Z,1.6nm,0.8s,baz=234,slow=5.2,SNR=11
ILAR LR LR 19 12 44.7
comp=Z,119nm,19.7s,baz=248,slow=32
ILAR Eielson Array 92.70 17 P **P** **18 35 42.0 -2.8**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR MLR MLR
comp=Z,119nm,19.7s
ILB Eielson Array 92.70 17 *e*P **P** **18 35 41.6 -3.2**
TAPN Taplejung 93.58 298 *e*P **P** **18 35 50.6 +0.5**
comp=Z,12nm,1.1s
ODAN Odare 93.65 297 *e*P **P** **18 35 50.7 +0.3**
comp=Z,12nm,0.7s
RAMN Ramite 94.34 297 *e*P **P** **18 35 52.9 -0.6**
comp=Z,6.1nm,0.8s
EGAK Eagle 94.34 19 *e*P **P** **18 35 50.1 -2.2**
comp=Z,11nm,0.3s
GUN Gumba 95.29 298 *e*P **P** **18 35 58.8 +0.8**
comp=Z,6.5nm,0.9s
PKI Pulchoki 95.55 297 *e*P **P** **18 35 59.2 0.0**
comp=Z,8.8nm,0.8s
PKIN Phulchoki 95.56 297 *e*P **P** **18 35 59.1 -0.1**
comp=Z,5.6nm,0.8s
KKN Kakani 95.74 298 *e*P **P** **18 36 00.3 +0.4**
comp=Z,8.1nm,0.7s
DMN Daman 95.81 297 *e*P **P** **18 36 00.9 +0.6**
comp=Z,14nm,0.9s
WMQ Urumqi 99.78 313 P **Pdif** **18 36 18.2 +0.7**
WMQ LR LR
comp=Z,170nm,21.7s
WMQ LR LR
comp=Z,290nm,24.1s
WMQ LR LR
comp=Z,230nm,26.5s
YKA Yellowknife Ar 102.81 27 Pdiff **Pdif** **18 36 29.9 -0.5**
comp=Z,0.3nm,0.8s,baz=251,slow=4.4,SNR=5.2
YKA PKiKP **PP** **18 40 47.8 +3.1**
comp=Z,0.2nm,0.7s,baz=245,slow=1.4,SNR=4.2
MK32 Makanchi Array 104.36 315 *e*Pdif **Pdif** **18 36 36.8 -1.0**
MK32 *e*PKiKP **PKiKP** **18 40 53.1 -1.0**
MK32 *e*PKKPbc **PKKPbc** **18 52 22.6 -3.2**
MKAR Makanchi Array 104.36 315 Pdiff **Pdif** **18 36 36.8 -1.0**
comp=Z,0.6nm,0.7s,baz=107,slow=4.2,SNR=7.3
MKAR PKiKP **PKiKP** **18 40 53.1 -1.0**
comp=Z,1.0nm,1.0s,baz=107,slow=1.5,SNR=4.7
MKAR PKKPbc **PKKPbc** **18 52 22.6 -3.2**
comp=Z,0.3nm,0.7s,baz=302,slow=2.7,SNR=4.1
KSH Kashi 106.82 306 *e*Pdif **Pdif** **18 36 51.9 +2.9**
KSH PP **PP** **18 41 21.6 +6.3**
KSH S **Sdif** **18 48 51.9 +3.0**
KSH AMB AMB
comp=Z,110nm,5.8s
KSH LR LR
comp=Z,50nm,6.6s
KSH LR LR
comp=Z,84nm,7.4s
KSH LR LR
comp=Z,140nm,7.5s
PTGA Pitinga 126.15 108 PKP **PKPdf** **18 41 35.0 -1.6**
comp=Z,3.7nm,0.7s,baz=203,slow=3.9,SNR=5.4
SUMG Summit 127.01 10 *e*PKPdf **PKPdf** **18 41 35.5 -1.5**
SUMG Summit 127.01 10 *e*PKIKP **PKPdf** **18 41 35.5 -1.5**
BDFB Brasilia 127.03 132 *e*PKPpre PKPpre 18 41 25.3
BDFB Brasilia 127.03 132 *e*PKHKP PKPpre 18 41 25.3
HUMP Col San Antoni 127.51 84 *e*PKPdf **PKPdf** **18 41 37.0 -1.9**
ARA0 ARCESS Array S 128.04 345 *e*PKPdf **PKPdf** **18 41 37.9 -0.6**
ARCES ARCESS Array B 128.04 345 PKP **PKPdf** **18 41 37.9 -0.6**
comp=Z,4.2nm,0.9s,baz=45,slow=4.1,SNR=7.9
NCK Nalchik 131.19 309⇓ *i*PKIKP **PKPdf** **18 41 44.7 -0.6**
KIV Kislovodsk 131.77 310 *i* PKIKP **PKPdf** **18 41 45.4 -1.1**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,158nm,23.0s
FIA0 FINESS Array S 133.54 337 *e*PKPdf **PKPdf** **18 41 46.1 -3.0**
FIA0 FINESS Array S 133.54 337 *e*PKIKP **PKPdf** **18 41 46.1 -3.0**
FINES FINESS Array B 133.54 337 PKP **PKPdf** **18 41 46.1 -3.0**
comp=Z,1.3nm,0.9s,baz=134,slow=8.2,SNR=4.7
AKASG Malin Array Be 138.29 323 PKP **PKPdf** **18 41 56.6 -1.7**
comp=Z,0.2nm,0.4s,baz=36,slow=3.4,SNR=2.9
AKASG Malin Array Be 138.29 323 *i* PKIKP **PKPdf** **18 42 01.6 +3.3**
KIEV Kiev 138.30 323⇑ *i*PKIKP **PKPdf** **18 41 59.5 +1.2**
NB200 NORSAR Array S 138.41 345 *e*PKPpre PKPpre 18 41 50.1
NOA NORSAR Array B 138.41 345 PKhKP PKPpre 18 41 50.1
comp=Z,1.1nm,0.8s,baz=15,slow=5.0,SNR=3.4
PSN Preselentsi 141.94 314 *e*P PKPdf 18 42 16.2 +11
BMR Baia Mare 143.06 322⇓ *i*P PKPab 18 42 01.6 -0.8
BMR Baia Mare 143.06 322 PKHKP PKPpre 18 42 01.6
UZH Uzhgorod 143.21 324 *e*PKHKP PKPpre 18 42 00.6
STHS Stebnicka Huta 143.31 326 *e*PKIKP **PKPdf** **18 42 08.3 +0.8**
STHS Stebnicka Huta 143.31 326 *e*PKP **PKPdf** **18 42 08.3 +0.8**
MTUR Matau 143.33 317⇑ *i*P PKPbc 18 42 06.6 +1.8
MTUR Matau 143.33 317 PKIKP PKPbc 18 42 06.6 +1.8
CJR Cluj-Napoca 143.50 320⇑ *i*P PKPab 18 42 04.9 +0.7
CJR Cluj-Napoca 143.50 320 PKIKP PKPab 18 42 04.9 +0.7
ARR Arges 143.53 318⇑ *i*P PKPab 18 42 04.8 +0.4
HUMR Humele 143.70 316⇑ *i*P PKPab 18 42 05.6 +0.6
DRGR 143.98 321⇑ *i*P PKPab 18 42 06.9 +0.8
DRGR 143.98 321 PKIKP PKPab 18 42 06.9 +0.8
LOT Lotru 144.03 318⇓ *i*P **PKPab** **18 42 07.0 +0.6**
KECS Kecovo 144.27 325 *e*PKIKP **PKPab** **18 42 07.2 +0.1**
KECS Kecovo 144.27 325 *e*PKP **PKPab** **18 42 07.2 +0.1**
LANS Liptovska Anna 144.40 326 *e*PKIKP **PKPdf** **18 42 09.6 +0.2**
LANS Liptovska Anna 144.40 326 *e*PKP **PKPdf** **18 42 09.6 +0.2**
OKC Ostrava-Krasne 144.61 328 *e*PKP **PKPab** **18 42 08.3 0.0**
OKC Ostrava-Krasne 144.61 328 *e*PKIKP **PKPab** **18 42 08.3 0.0**
KSP Ksiaz 144.79 331 *e*PKP **PKPab** **18 42 08.7 -0.2**
KSP Ksiaz 144.79 331 *e*PKIKP **PKPab** **18 42 08.7 -0.2**
SIRR Siria 144.88 321⇓ *i*P PKPbc 18 42 10.0 +0.6
PSZ Piszkesteto 144.93 324⇓ *i*P **PKPab** **18 42 09.4 -0.2**

PSZ	Piszkesteto	144.93	324	⇓ePKPbc	PKPab	18 42 09.5	-0.1
PSZ	Piszkesteto	144.93	324	ePKPdf	PKPab	18 42 09.3	-0.3
PSZ	Piszkesteto	144.93	324	PKIKP	PKPab	18 42 09.4	-0.1
MORC	Moravsky Berou	144.95	329	⇓iP	PKPab	18 42 09.6	0.0
MORC	Moravsky Berou	144.95	329	ePKPbc	PKPab	18 42 09.5	0.0
MORC	Moravsky Berou	144.95	329	PKIKP	PKPab	18 42 09.6	0.0
PGB	Panagyurishte	145.09	314	eP	PKPdf	18 42 13.4	+2.6
DPC	Dobruska-Polom	145.13	330	ePKP	PKPbc	18 42 10.2	+0.1
DPC	Dobruska-Polom	145.13	330	ePKIKP	PKPbc	18 42 10.2	+0.1
VYHS	Vyhne	145.13	326	ePKIKP	PKPbc	18 42 10.4	+0.2
VYHS	Vyhne	145.13	326	ePKP	PKPbc	18 42 10.4	+0.2
UPC	Upice	145.16	331	ePKP	PKPbc	18 42 10.3	+0.1
UPC	Upice	145.16	331	ePKIKP	PKPbc	18 42 10.3	+0.1
BZS	Buzias	145.25	320	⇑iP	PKPbc	18 42 10.5	-0.1
BZS	Buzias	145.25	320	PKIKP	PKPbc	18 42 10.5	-0.1
MDVR	Moldovita	145.62	319	⇓iP	PKPdf	18 42 11.7	0.0
BUD	Budapest	145.66	325	⇓ePKPdf	PKPdf	18 42 11.7	+0.2
VTS	Vitosha	145.71	314	⇑iP	PKPdf	18 42 12.7	+0.7
VTS	Vitosha	145.71	314	ePKPdf	PKPdf	18 42 12.4	+0.4
VTS	Vitosha	145.71	314	ePKP2	PKPdf	18 42 12.4	+0.4
VTS	Vitosha	145.71	314	eP	PKPdf	18 42 12.6	+0.6
VRAC	Vranov	145.72	329	⇓iP	PKPdf	18 42 12.4	+0.8
VRAC	Vranov	145.72	329	PKP2	PKPdf	18 42 12.4	+0.8
PVCC	Panska Ves	145.78	332	ePKP	PKPdf	18 42 12.5	+0.8
PVCC	Panska Ves	145.78	332	ePKP2	PKPdf	18 42 12.5	+0.8
MMB	Musomiste	145.79	312	eP	PKPdf	18 42 12.1	+0.1
BRG	Berggiesshubel	145.80	333	⇓iPKP	PKPdf	18 42 11.9	+0.2
	comp=Z,56nm,0.9s						
BRG	Berggiesshubel	145.80	333	⇓iPKP2	PKPdf	18 42 11.9	+0.2
BRG				pmax	pmax		
	comp=Z,56nm,0.9s						
SMOL	Smolenice	145.84	327	ePKP2	PKPbc	18 42 13.0	+0.6
SMOL	Smolenice	145.84	327	ePKP	PKPbc	18 42 13.0	+0.6
CLL	Collm	145.85	334	⇓iPKPbc	PKPdf	18 42 11.8	0.0
	comp=Z,51nm,0.9s						
CLL	Collm	145.85	334	ePKPdf	PKPdf	18 42 11.8	0.0
CLL	Collm	145.85	334	⇓iPKP2	PKPdf	18 42 11.8	0.0
CLL				pmax	pmax		
	comp=Z,51nm,0.9s						
GOPC	GO Pecny, Ondr	146.13	331	ePKP	PKPdf	18 42 13.2	+0.9
GOPC	GO Pecny, Ondr	146.13	331	ePKP2	PKPdf	18 42 13.2	+0.9
CSKK	Csˆ‡kako	146.14	325	⇓ePKPdf	PKPdf	18 42 12.8	+0.4
PRU	Pruhonice	146.19	331	ePKP	PKPdf	18 42 13.4	+1.0
PRU	Pruhonice	146.19	331	ePKP2	PKPdf	18 42 13.4	+1.0
EKA	Eskdalemuir Ar	146.44	353	PKPbc	PKPdf	18 42 12.7	0.0
	comp=Z,14nm,0.6s,baz=359,slow=2.7,SNR=52						
NKC	Novy Kostel	146.91	333	ePKP	PKPbc	18 42 15.6	+0.1
NKC	Novy Kostel	146.91	333	ePKP2	PKPbc	18 42 15.6	+0.1
CONA	Conrad Observa	147.01	328	ePKPab	PKPbc	18 42 16.3	+0.3
	comp=Z,9.8nm,0.8s,SNR=6.8						
DIVS	Divibare	147.03	319	ePKPbc	PKPbc	18 42 15.9	-0.2
KHC	Kasperske Hory	147.25	331	ePKP	PKPbc	18 42 16.3	-0.2
KHC				epPKP	pPKPdf	18 42 23.2	+0.5
KHC	Kasperske Hory	147.25	331	ePKPbc	PKPbc	18 42 16.0	-0.5
KHC	Kasperske Hory	147.25	331	ePKP2	PKPbc	18 42 16.3	-0.2
GEC2	GERESS Array S	147.40	331	ePKPbc	PKPbc	18 42 16.7	-0.4
GEC2	GERESS Array S	147.40	331	ePKP2	PKPbc	18 42 16.7	-0.4
GERES	GERESS Array B	147.40	331	PKPbc	PKPdf	18 42 16.2	+1.7
	comp=Z,10nm,1.0s,baz=43,slow=2.7,SNR=40						
GEA0	GERESS Array S	147.40	331	ePKPbc	PKPbc	18 42 16.4	-0.6
BEHE	Becsehely	147.50	325	⇓ePKPdf	PKPbc	18 42 18.8	+1.5
ARSA	Arzberg	147.64	327	ePKiKP	PKiKP	18 42 19.3	-0.4
	comp=Z,10nm,1.4s						
FNA	Florina	147.74	312	PKP2	PKPdf	18 42 17.3	+1.9
MOA	Molln	147.85	329	epPKPdf	PKPbc	18 42 18.0	-0.2
	comp=Z,8.7nm,0.8s						
SOKA	Soboth	148.27	327	epPKPdf	PKPbc	18 42 18.8	-0.7
	comp=Z,12nm,1.5s						
BLY	Banja Luka	148.33	322	⇑iP	PKPab	18 42 23.1	+0.4
BLY	Banja Luka	148.33	322	ePKPbc	PKPbc	18 42 19.2	-0.3
PDG	Podgorica	148.36	317	⇑iP	PKPdf	18 42 15.3	-0.9
TTG	Podgorica	148.36	317	ePKPdf	PKPdf	18 42 14.4	-1.8
TTG				ePKPbc	PKPbc	18 42 19.0	-0.7
TTG	Podgorica	148.36	317	ePKHKP	PKPdf	18 42 14.4	-1.8
TTG				e		18 42 19.0	
OBKA	Obir	148.63	327	esPKPdf	PKPbc	18 42 19.6	-0.8
	comp=Z,5.2nm,0.8s						
MEM	Membach	148.95	340	⇑PKP	PKPbc	18 42 20.5	-0.5
MYKA	Terra Mystica	149.00	328	ePKPbc	PKPbc	18 42 20.3	-1.0
	comp=Z,8.7nm,0.9s						
ABTA	Abfaltersbach	149.47	329	ePKPbc	PKPbc	18 42 21.0	-1.5
	comp=Z,9.7nm,0.7s						
WTTA	Wattenberg	149.50	331	ePKiKP	PKPbc	18 42 22.3	-0.4
	comp=Z,5.9nm,0.7s						
MOTA	Moosalm	149.68	331	ePKPbc	PKPbc	18 42 22.0	-1.1
	comp=Z,8.9nm,1.0s,SNR=7.7						
WLF	Walferdange	149.72	339	⇓PKP	PKPbc	18 42 23.0	+0.1
WLF	Walferdange	149.72	339	ePKPbc	PKPbc	18 42 22.6	-0.3
WLF	Walferdange	149.72	339	PKP2	PKPbc	18 42 22.6	-0.3
RETA	Reutte	149.72	332	ePKPbc	PKPbc	18 42 22.5	-0.6
	comp=Z,8.5nm,1.2s						
DOU	Dourbes	149.83	341	⇑PKP	PKPbc	18 42 21.8	-1.4
BFO	Black Forest	150.06	335	ePKPbc	PKPbc	18 42 22.9	-0.9
BFO	Black Forest	150.06	335	ePKHKP	PKPbc	18 42 22.9	-0.9
FETA	Feichten	150.09	331	ePKPbc	PKPbc	18 42 23.5	-0.6
	comp=Z,11nm,1.1s,SNR=5.8						
DAVA	Damuels	150.26	332	ePKiKP	PKPbc	18 42 24.0	-0.5
	comp=Z,15nm,1.0s						
FUORN	Ofenpass-Fuorn	150.60	331	ePKPbc	PKPbc	18 42 25.1	-0.4
FUORN				ePKPab	PKPab	18 42 32.5	+0.3
TUE	Stuetta	151.12	332	ePKPbc	PKPbc	18 42 25.6	-1.0
TUE				ePKPab	sPKPdf	18 42 31.4	-0.6
AQU	L'Aquila	151.97	321	ePKPbc	PKPbc	18 42 28.0	-0.5
AQU				ePKPab	pPKPbc	18 42 36.9	0.0
AQU	L'Aquila	151.97	321	ePKIKP	PKPbc	18 42 28.0	-0.5
AQU				e		18 42 36.9	
BNI	Bardonecchia	153.39	333	ePKPbc	PKPbc	18 42 31.0	-0.7
BNI	Bardonecchia	153.39	333	ePKIKP	PKPbc	18 42 31.0	-0.7
ES19	SONSECA Array	161.74	345	ePKPdf	PKPdf	18 42 34.1	-0.5
ES19				ePKPab	PKPab	18 43 16.6	-3.1
ESDC	Sonseca Array	161.78	345	PKPab	PKPab	18 43 19.0	-0.9
	comp=Z,1.3nm,0.8s,baz=15,slow=4.0,SNR=7.2						
TORD	Torodi Ar. Bea	165.85	233	PKP	PKPdf	18 42 38.5	-0.5
	comp=Z,1.7nm,0.9s,baz=302,slow=1.3,SNR=9.2						
TOA1	Torodi Ar. Sit	165.86	233	ePKPdf	PKPdf	18 42 38.5	-0.5

*DJA **03** 18:30:59.6±1.8, 4˚S±12˚×14˚0E±1˚5, h10km, M4.3/2, MLv4.3/2*
*IDC **03** 18:31:01.5±3.7, 2°.56S×139°.44E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/42, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=119.9km s-min=28.9km az=91.0*
*ISCJB **03** 18:31:04.5±1.1, 2°.6S±0°.2×139°.38E±0°.08, h35km, mb3.3/2, Error ellipse: s-maj=23.6km s-min=9.4km az=161.1*
ISC 03 18:31:06.2±1.3, **2°.6S**±0°.2×**139°.41E**±0°.09, **h35km, n6, σ2s.03**/8, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.76	93	P	Pn	18 31 18.7	-1.8
GENI				S	Sn	18 31 34.3	+3.5
JAY	Jayapura	1.30	88	P	Pn	18 31 26.0	-1.9
JAY				S	Sn	18 31 44.3	+0.2
WRA	Warramunga Arr	17.97	196	P	Pn	18 35 14.1	+0.6
	0.2nm,0.3s,baz=15,slow=13,SNR=9.3						
FITZ	Fitzroy Crossi	20.51	220	P	P	18 35 41.7	+0.1
	0.5nm,0.6s,baz=72,slow=9.6,SNR=2.2						
ASAR	Alice Springs	21.65	194	P	P	18 35 53.2	-0.6
	0.3nm,0.4s,baz=23,slow=9.3,SNR=13						
MKAR	Makanchi Array	70.09	322	P	P	18 42 15.8	+0.8
	0.6nm,0.7s,baz=108,slow=6.8,SNR=4.8						

MEX 03 18:31:54.1±0.4, **14°.06N×93°.61W, h10km, MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.68	13	eP	Pn	18 32 20.2	-3.2
PCIG				iS	Sn	18 32 39.7	-5.3
CCIG	Comitan	2.62	33	eP	Pn	18 32 34.4	-2.3
CCIG				iS	Sn	18 33 04.6	-4.2
TGIG		2.74	10	eP	Pn	18 32 35.1	-3.1
TGIG				iS	Sn	18 33 08.3	-3.2

*ISCJB **03** 18:38:32.7±0.6, 22°.39S±0°.04×68°.73W±0°.10, h121km±8km, mb3.9/3, Error ellipse: s-maj=15.2km s-min=6.8km az=12.4*
*GUC **03** 18:38:33.3±0.7, 22°.35S×68°.73W, h114km±5km, ML4.2*
*IDC **03** 18:38:35.2±3.0, 22°.35S×68°.48W, h122km±25km, mb3.6/3, mb1 3.5/6, mb1mx3.3/34, mbtmp3.8/6, Error ellipse: s-maj=36.7km s-min=21.6km az=83.0*
ISC 03 18:38:33.7±0.8, **22°.37S**±0°.05×**68°.73W**±0°.09, **h115km**±8km, **n19, σ0s.86**/28, **mb3.9**/3, **7C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.74	320	⇓iP	Pn	18 38 52.9	-0.2
PB09				iS	Sn	18 39 07.5	-0.2
PB09				IAML		18 39 08.5	
	comp=E,30µm,0.5s						
PB06	IPOC Station P	0.85	246	⇑iP	Pn	18 38 54.2	+0.1
PB06				iS	Sn	18 39 09.8	+0.4
PB06				IAML		18 39 12.4	
	comp=E,4µm,0.2s						
PB07	IPOC Station P	1.25	300	⇑iP	Pn	18 38 58.4	+0.2
PB07				iS	Sn	18 39 16.9	+0.3
PB07				IAML		18 39 20.7	
	comp=N,7µm,0.3s						
PB04	IPOC Station P	1.31	271	⇑iP	Pn	18 38 59.1	+0.2
PB04				iS	Sn	18 39 18.7	+0.7
PB04				IAML		18 39 23.1	
	comp=E,3µm,0.2s						
PB01	IPOC Station P	1.49	332	⇑iP	Pn	18 39 00.7	-0.2
PB01				iS	Sn	18 39 21.5	0.0
PB01				IAML		18 39 22.6	
	comp=E,2µm,0.2s						
PB02	IPOC Station P	1.50	314	⇑iP	Pn	18 39 01.0	0.0
PB02				iS	Sn	18 39 21.4	-0.2
PB02				IAML		18 39 24.8	
	comp=E,5µm,0.3s						
PB10	IPOC Station P	2.03	235	eP	Pn	18 39 07.5	+0.1
PB10				iS	Sn	18 39 31.4	-1.7
PB10				IAML		18 39 41.5	
	comp=E,3µm,0.4s						
PB08	IPOC Station P	2.25	350	⇑iP	Pn	18 39 10.7	+0.2
PB08				iS	Sn	18 39 39.9	+1.3
PB08				IAML		18 39 45.0	
	comp=N,475nm,0.6s						
PB11	IPOC Station P	2.73	341	⇑iP	Pn	18 39 15.5	-1.1
PB11				iS	Sn	18 39 49.4	0.0
PB12	IPOC Station P	4.02	338	eP	Pn	18 39 31.1	-2.5
LPAZ	La Paz	6.07	5	P	Pn	18 40 02.7	+1.0
	comp=N,1.3nm,0.3s,baz=161,slow=3.9,SNR=25						
CPUP	Villa Florida	11.12	113	P	Pn	18 41 08.6	-0.8
	comp=N,0.1nm,0.3s,baz=14,slow=8.3,SNR=2.1						
PLCA	Paso Flores	18.38	184	P	P	18 42 40.1	+0.5
	comp=N,0.1nm,0.3s,baz=5.4,slow=10,SNR=3.7						
SNAA	Sanae	61.41	161	P	P	18 48 37.9	+0.4
	comp=N,1.1nm,0.6s,baz=273,slow=9.2,SNR=5.7						
TORD	Torodi Ar. Bea	77.49	70	P	P	18 50 16.1	-1.0
	comp=N,0.7nm,0.4s,baz=256,slow=5.3,SNR=12						
YKA	Yellowknife Ar	92.05	341	P	P	18 51 30.1	+0.9
	comp=N,0.4nm,0.6s,baz=132,slow=4.5,SNR=9.0						
ASAR	Alice Springs	129.22	207	PKP	PKPdf	18 57 29.8	+0.6
	comp=N,0.5nm,0.8s,baz=136,slow=1.7,SNR=5.8						
WRA	Warramunga Arr	132.29	210	PKP	PKPdf	18 57 35.7	+0.6
	comp=N,0.2nm,0.4s,baz=154,slow=1.7,SNR=8.2						
MKAR	Makanchi Array	146.23	37	PKPbc	PKPbc	18 58 00.6	-0.2
	comp=N,0.8nm,0.6s,baz=315,slow=3.4,SNR=11						

IDC 03 18:45:57.5±2.7, **35°.27S×178°.85E, h0km, mb3.4**/2, **mb1 3.6**/3, **mb1mx3.4**/39, **mbtmp3.4**/3, **ML3.0**/1, **Error ellipse: s-maj=59.7km s-min=42.9km az=104.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	3.29	205	Pn	Pn	18 46 49.8	-0.4
	1.6nm,0.3s,baz=250,slow=4.8,SNR=4.8						
URZ				Sn	Sb	18 47 38.7	+1.3
	1.8nm,0.3s,baz=280,slow=22,SNR=11						
ASAR	Alice Springs	40.49	274	P	P	18 53 38.5	+0.2
	0.5nm,0.7s,baz=116,slow=7.7,SNR=11						
WRA	Warramunga Arr	41.94	279	P	P	18 53 49.6	-0.5
	0.2nm,0.5s,baz=119,slow=7.7,SNR=7.3						
FINES	FINESS Array B	148.62	335	PKPbc	PKPbc	19 05 45.1	-0.5
	1.1nm,0.8s,baz=90,slow=2.8,SNR=2.8						

*IDC **03** 18:51:34.3±1.7, 35°.23N×141°.69E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.2/66, mbtmp3.4/7, ML3.3/3, MS3.7/2, Ms1 3.7/2, ms1mx2.9/34, Error ellipse: s-maj=45.4km s-min=20.1km az=76.0*
*ISCJB **03** 18:51:38.5±1.1, 35°.22N±0°.04×141°.37E±0°.08, h33km±6km, mb3.4/4, MS3.7/2, Error ellipse: s-maj=10.9km s-min=7.0km az=171.1*
*JMA **03** 18:51:39.3±0.1, 35°.26N×141°.30E, h27km±2km, M2.8*
ISC 03 18:51:39.1±1.7, **35°.27N**±0°.04×**141°.33E**±0°.09, **h27km**±11km, **n25, σ1s.13**/22, **mb3.4**/4, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.57	319	P	Pb	18 51 50.5	-0.2
CHOJ				S	Sb	18 51 59.0	+0.5
BSO1	Boso 1	0.68	205	P	Pb	18 51 52.0	0.0
BSO1				X		18 52 01.3	
BSO3	Boso 3	0.82	235	P	Pn	18 51 53.9	-0.7
KTR	Katsuura	0.84	262	P	Pn	18 51 54.3	-0.8
KTR				eS	Sb	18 52 05.6	-0.3
BSO4	Boso 4	0.86	251	P	Pn	18 51 55.1	-0.2
BSO4				X		18 52 07.6	
JCN	Nagara	0.93	279	eS	Sb	18 52 08.0	-0.6
JYT	Yasato	1.33	316	P	Pn	18 52 02.5	+0.6
JYT				eS	Sn	18 52 19.2	+0.6
JHO	Hitachi	1.47	336	P	Pn	18 52 04.2	+0.3
JIM2	Oshima 3	1.65	251	eS	Sn	18 52 26.6	-0.1
JHJ	Hachijo jima 2	2.50	211	Pn	Pn	18 52 18.1	+0.2
	14nm,0.3s,baz=72,slow=20,SNR=2.9						
JHJ				Sn	Sn	18 52 46.8	-0.8
	21nm,0.3s,baz=192,slow=20,SNR=3.3						
MJAR	Matsushiro Arr	2.83	298	Pn	Pn	18 52 24.6	+2.0
	2.0nm,0.3s,baz=79,slow=12,SNR=29						
MAT	Matsushiro	2.83	298	P	Pn	18 52 24.7	+2.1
MAT				eS	Sn	18 52 53.6	-2.3
ASAJ	Asahikawa	8.89	6	Pn	Pn	18 53 44.2	-1.5
	0.4nm,0.3s,baz=234,slow=10,SNR=11						
H11N2	WAKE ISLAND Hy	27.35	118	T	T	19 26 05.1	
	baz=310,slow=75,SNR=7.0						
H11N1	WAKE ISLAND Hy	27.36	118	T	T	19 26 10.0	
	baz=310,slow=75,SNR=8.7						
H11N3	WAKE ISLAND Hy	27.37	118	T	T	19 26 09.5	
	baz=310,slow=75,SNR=7.5						
H11S1	WAKE ISLAND Hy	28.00	120	T	T	19 26 55.5	
	baz=312,slow=75,SNR=23						
H11S3	WAKE ISLAND Hy	28.00	120	T	T	19 26 48.4	
	baz=312,slow=75,SNR=20						
H11S2	WAKE ISLAND Hy	28.02	120	T	T	19 26 57.5	
	baz=312,slow=75,SNR=19						
DAV	Davao City (W)	31.58	211	LR	LR	19 12 16.2	
	comp=Z,49nm,18.3s,baz=278,slow=39						
ZALV	Zalesovo Beam	43.06	314	P	P	18 59 37.6	+1.2
	0.4nm,0.4s,baz=106,slow=11,SNR=3.0						
MKAR	Makanchi Array	45.01	304	P	P	18 59 53.2	+1.0
	0.2nm,0.4s,baz=86,slow=11,SNR=3.9						
WRA	Warramunga Arr	55.31	188	P	P	19 01 09.8	-0.6
	0.6nm,0.6s,baz=3.8,slow=7.4,SNR=11						
ASAR	Alice Springs	59.04	188	P	P	19 01 35.8	-0.9
	0.2nm,0.8s,baz=3.2,slow=7.0,SNR=7.4						
MMAI	Mount Meron Ar	82.93	305	LR	LR	19 43 37.3	
	comp=Z,86nm,20.5s,baz=315,slow=38						

IDC 03 19:14:49.4±3.2, **22°.99S×170°.29E, h0km, mb3.0**/2, **mb1 3.3**/3, **mb1mx3.2**/39, **mbtmp3.1**/3, **ML3.4**/1, **Error ellipse: s-maj=116.2km s-min=51.4km az=169.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.67	284	Pn	Pn	19 15 48.0	+0.5
	3.1nm,0.3s,baz=126,slow=13,SNR=53						
DZM				Sn	Sn	19 16 27.5	-4.1
	4.8nm,0.3s,baz=297,slow=22,SNR=9.7						
ASAR	Alice Springs	33.36	262	P	P	19 21 29.3	-0.3
	0.2nm,0.8s,baz=93,slow=9.4,SNR=2.7						
WRA	Warramunga Arr	33.54	268	P	P	19 21 31.0	-0.2
	0.1nm,0.6s,baz=99,slow=8.5,SNR=2.7						
GERES	GERESS Array B	148.23	330	PKPbc	PKPbc	19 34 36.9	-0.5
	0.3nm,0.5s,baz=80,slow=1.5,SNR=3.9						

*CSEM **03** 19:22:16.6±0.1, 39°.43N×29°.02E, h5km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.8km az=127.0*
*DDA **03** 19:22:16.5, 39°.42N×28°.98E, h7km, Md2.3*
*ISK **03** 19:22:16.2, 39°.43N×29°.03E, h6km, MD2.6/4*
ISC 03 19:22:16.9±1.0, **39°.43N**±0°.02×**29°.01E**±0°.02, **h6km**±11km, **n35, σ0s.62**/46, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.34	183	PG	Pg	19 22 24.1	+0.5
SIMA				SG	Sg	19 22 28.6	+0.4
SIMA	Simav-Kutahya	0.34	183	ePg	Pg	19 22 24.1	+0.5
SIMA				eSg	Sg	19 22 28.6	+0.4
TVSB	Tavsanli	0.35	86	PG	Pg	19 22 23.3	-0.5
TVSB				SG	Sg	19 22 28.4	-0.1
TVSB	Tavsanli	0.35	86	ePg	Pg	19 22 23.3	-0.5
TVSB				eSg	Sg	19 22 28.4	-0.1
DEMI	Demirci	0.45	210	iP	Pg	19 22 25.4	0.0
DEMI				iS	Sg	19 22 31.5	+0.2
DEMI	Demirci	0.45	210	P	Pg	19 22 25.5	0.0
GDZ	Gediz	0.50	132	iP	Pg	19 22 25.9	-0.7
GDZ	Gediz	0.50	132	P	Pg	19 22 25.9	-0.7
ORLT	Orhaneli	0.62	352	PG	Pg	19 22 28.8	-0.1
ORLT	Orhaneli	0.62	352	ePg	Pg	19 22 28.8	-0.1
IGD	Bursa	0.85	10	iP	Pg	19 22 32.7	-0.5
IGD				iS	Sg	19 22 44.1	-0.1
BALB	Balikesir	0.90	284	PG	Pb	19 22 34.6	-0.2
BALB	Balikesir	0.90	284	ePg	Pb	19 22 34.6	-0.2
MDNY	Mudanya-Bursa	0.94	354	PG	Pg	19 22 34.7	-0.3
MDNY	Mudanya-Bursa	0.94	354	ePg	Pg	19 22 34.7	-0.3
KULA	Kula-Manisa	0.95	197	PG	Pg	19 22 34.7	-0.4
KULA	Kula-Manisa	0.95	197	ePg	Pg	19 22 34.7	-0.4
KCTX	Karacabey (Bur	0.97	329	PG	Pg	19 22 35.5	-0.1
KCTX	Karacabey (Bur	0.97	329	ePg	Pg	19 22 35.5	-0.1
STEP	BALIKESIR_Sava	1.00	268	iP	Pg	19 22 36.0	-0.1
STEP				iS	Sg	19 22 48.8	-0.2
STEP	BALIKESIR_Sava	1.00	268	P	Pg	19 22 36.0	-0.1
STEP				S	Sg	19 22 48.8	-0.2
CAVI	Cavuskoy	1.01	40	PG	Pg	19 22 35.5	-0.7
CAVI	Cavuskoy	1.01	40	ePg	Pg	19 22 35.5	-0.7
ARMT	Armutlu	1.14	355	PN	Pg	19 22 38.2	-0.6
ARMT	Armutlu	1.14	355	ePn	Pg	19 22 38.2	-0.6
ADVT	Abdulvahap	1.15	29	PN	Pg	19 22 38.8	-0.2
ADVT	Abdulvahap	1.15	29	ePn	Pg	19 22 38.8	-0.2
BORA	Eskisehir	1.21	68	iP	Pg	19 22 39.6	-0.4
BORA				iS	Sn	19 22 57.8	+0.7
BORA	Eskisehir	1.21	68	P	Pg	19 22 39.6	-0.4
GEYV	SAKARYA_Geyve	1.45	43	iP	Pg	19 22 44.7	0.0
GEYV				iS	Sg	19 23 05.7	+2.2
GEYV	SAKARYA_Geyve	1.45	43	P	Pg	19 22 44.7	0.0
GEYV				S	Sg	19 23 05.7	+2.2
GULT	Gulveren	1.54	49	PN	Pn	19 22 44.6	-0.3
GULT	Gulveren	1.54	49	ePn	Pn	19 22 44.6	-0.3
SVRH	Sivrihisar-ESK	1.95	89	PN	Pn	19 22 50.5	-0.1
SVRH	Sivrihisar-ESK	1.95	89	ePn	Pn	19 22 50.5	-0.1

IDC 03 19:45:27.4±1.6, **0°.64N×26°.53W, h0km, mb3.8**/4, **mb1 4.0**/4, **mb1mx3.6**/49, **mbtmp3.8**/4, **MS3.7**/7, **Ms1 3.7**/7, **ms1mx3.3**/51, **Error ellipse: s-maj=64.5km s-min=29.7km az=167.0, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	ASCENSION HYDR	14.65	125	T	T	20 04 42.4	
	baz=303,slow=75,SNR=38						
H10N2	ASCENSION HYDR	14.66	125	T	T	20 04 38.4	
	baz=303,slow=75,SNR=35						
H10N1	ASCENSION HYDR	14.67	125	T	T	20 04 39.6	
	baz=303,slow=75,SNR=47						
H10S3	ASCENSION HYDR	15.18	129	T	T	20 05 20.5	
	baz=307,slow=74,SNR=37						
H10S1	ASCENSION HYDR	15.18	129	T	T	20 05 18.8	
	baz=307,slow=74,SNR=41						
H10S2	ASCENSION HYDR	15.20	129	T	T	20 05 22.1	
	baz=307,slow=74,SNR=38						
KOWA	Kowa	26.17	57	P	P	19 51 04.6	+0.8
	2.0nm,0.7s,baz=240,slow=10,SNR=7.4						
KOWA				LR	LR	20 00 19.2	
	comp=Z,222nm,19.3s,baz=210,slow=34						
TORD	Torodi Ar. Bea	30.60	65	P	P	19 51 44.7	+1.3
	0.7nm,0.5s,baz=257,slow=9.4,SNR=9.7						
TORD				LR	LR	20 02 00.8	
	comp=Z,103nm,19.5s,baz=350,slow=32						
CPUP	Villa Florida	40.01	226	LR	LR	20 09 04.9	
	comp=Z,162nm,18.6s,baz=56,slow=35						
LPAZ	La Paz	44.36	246	LR	LR	20 11 18.6	
	comp=Z,89nm,19.7s,baz=80,slow=35						
KEST	Kesra	48.27	40	LR	LR	20 14 17.2	
	comp=Z,144nm,18.2s,baz=263,slow=36						
PLCA	Paso Flores	57.37	219	LR	LR	20 17 36.6	
	comp=Z,37nm,21.1s,baz=94,slow=34						
BOSA	Boshof	57.41	125	LR	LR	20 15 10.5	
	comp=Z,64nm,21.0s,baz=248,slow=31						
AKASG	Malin Array Be	68.51	34	P	P	19 56 29.8	-1.8
	0.4nm,0.4s,baz=244,slow=6.2,SNR=3.1						
TXAR	Lajitas Array	78.48	300	P	P	19 57 31.9	+0.9
	0.6nm,0.8s,baz=110,slow=7.8,SNR=3.1						
ASAR	Alice Springs	150.26	142	PKPbc	PKPbc	20 05 20.3	-1.1
	0.3nm,0.6s,baz=202,slow=1.8,SNR=4.8						

*NNC **03** 19:57:07.7±4.5, 38°.70N×75°.28E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=34.1km s-min=18.4km az=171.0*
*SOME **03** 19:57:07.0, 39°.17N×76°.02E, h5km*
ISC 03 19:57:09.6±2.7, **38°.6N**±0°.1×**75°.16E**±0°.07, **h20km, n29, σ2s.72**/44, **5C-9D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.90	318	⇓P	Pb	19 57 45.3	+1.5
	62nm,0.4s						
SFK				⇓S	Sn	19 58 07.1	+2.5
	133nm,0.4s						
KZA	Kyzart	3.47	1	P	Pn	19 57 58.9	-3.9
	SNR=6.9						
UCH	Uchtor	3.65	352	P	Pn	19 58 02.7	-2.7
	SNR=12						
AML	Almayashu	3.69	343	P	Pn	19 58 05.0	-0.9
	SNR=9.1						
ULHL	Ulahol	3.73	12	P	Pn	19 58 04.9	-1.3
	SNR=40						
KBK	Karagaybulak	4.05	358	P	Pn	19 58 13.8	+3.2
	SNR=29						
AAK	Ala-Archa	4.06	353	⇓Pn	Pn	19 58 08.3	-2.4
	17nm,0.5s						
AAK				⇑Sn	Sn	19 58 55.1	-2.6
	24nm,0.6s						
AAK	Ala-Archa	4.06	353	P	Pn	19 58 08.4	-2.3
	SNR=13						
EKS2	Erkin-Say	4.18	346	P	Pn	19 58 17.8	+5.3
	SNR=7.2						
TKM2	Tokmak 2	4.32	4	⇑Pn	Pn	19 58 10.2	-4.2
	8.5nm,0.5s						
TKM2				⇓Sn	Sn	19 59 05.8	+1.6
	16nm,0.5s						
TKM2	Tokmak 2	4.32	4	P	Pn	19 58 16.0	+1.7
	SNR=9.3						
MNAS	Manas	4.37	333	⇓Pg	Pb	19 58 25.7	-0.1
	3.2nm,0.5s						
MNAS				⇑Lg	Lg	19 59 30.7	
	12nm,0.6s						
MRKS	Merke	4.39	341	eP	Pb	19 58 23.1	-3.0
	13nm,0.5s						
MRKS				eS	Sb	19 59 17.8	-0.7
	27nm,0.6s						
CHMS	Chumysh	4.40	356	P	Pn	19 58 20.6	+5.3
	SNR=5.7						
KST	Kastek	4.47	8	eP	Pn	19 58 18.3	+2.0
	5.9nm,0.6s						
KST				eS	Sn	19 59 10.1	+2.2
	35nm,0.7s						
IZV	Izvestkoviy	4.56	14	eP	Pn	19 58 18.6	+1.0
	28nm,0.6s						
IZV				eS	Sn	19 59 10.2	+0.1
	39nm,0.8s						
TNSS	Tian-Shan	4.63	16	eP	Pn	19 58 17.5	-1.3
	22nm,0.7s						
TNSS				eS	Sn	19 59 08.2	-3.9
	19nm,1.1s						
DGS	Degeres	4.65	6	eP	Pn	19 58 21.1	+2.3
	19nm,0.5s						
DGS				eS	Sn	19 59 14.5	+2.2
	29nm,0.7s						
MDOK	Medeo	4.77	17	Pn	Pn	19 58 20.5	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	10nm,0.6s						
MDOK				Sn	Sn	19 59 15.5	+0.3
	49nm,0.8s						
MDOK	Medeo	4.77	17	eP	Pn	19 58 22.3	+1.8
	13nm,0.6s						
MDOK				eS	Sn	19 59 16.2	+1.0
	18nm,0.7s						
KNDC	Almaty	4.80	16	⇓Pn	Pn	19 58 17.4	-3.5
	6.3nm,0.4s						
KNDC				⇓Sn	Sn	19 59 16.6	+0.7
	26nm,0.6s						
KOTS	Kotyrbulak	4.85	17	eP	Pn	19 58 22.2	+0.6
KOTS				eS	Sn	19 59 16.2	-1.1
KTBS	Karatobe	5.23	12	eP	Pn	19 58 29.4	+2.8
KTBS				eS	Sn	19 59 28.7	+2.4
KURS	Kuram	5.38	24	eP	Pn	19 58 30.6	+1.8
KURS				eS	Sn	19 59 30.7	+0.5
CHKK	Chushkaly	5.42	14	eP	Pn	19 58 33.3	+4.0
	22nm,0.4s						
CHKK				eS	Sn	19 59 35.7	+4.6
	25nm,0.3s						
KK31	Karatay Array	5.71	323	⇑Pn	Pn	19 58 33.7	+0.5
	0.2nm,0.2s,baz=142,slow=17,SNR=15						
KK31				Sn	Sn	19 59 41.0	+2.9
	2.4nm,0.3s,baz=140,slow=29						
PDGK	Podgornoye	5.74	33	⇓Pn	Pn	19 58 29.9	-3.9
	11nm,0.7s						
PDGK				⇑Sn	Sn	19 59 44.6	+5.4
	50nm,0.8s						
ARXS	Arharly	5.95	19	eP	Pn	19 58 42.2	+5.6
	12nm,0.6s						
ARXS				eS	Sn	19 59 50.8	+6.6
	19nm,0.7s						
AB31	Akbulak array	15.25	319	⇓P	Pn	20 00 42.0	-1.6
	1.5nm,0.8s,baz=126,slow=13,SNR=10						

*ISCJB **03** 20:11:40.2±0.8, 51°.48N±0°.04×16°.04E±0°.04, h0km, Error ellipse: s-maj=6.1km s-min=3.4km az=16.3*
*CSEM **03** 20:11:41.8±0.4, 51°.46N×16°.05E, h2km, ML2.9/8, Error ellipse: s-maj=6.3km s-min=3.8km az=5.0*
*PRU **03** 20:11:42.6, 51°.46N×16°.05E, h0km*
*VIE **03** 20:11:44.4±0.6, 51°.24N×16°.09E, h0km, ML2.2/4, Error ellipse: s-maj=4.8km s-min=4.1km az=25.0, Suspected Mining induced.*
ISC 03 20:11:42.3±1.2, **51°.42N**±0°.06×**16°.08E**±0°.03, **h0km, n26, σ0.60**/51, **Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.59	167	ePg	Pb	20 11 54.7	-0.8
KSP				eSg	Sb	20 12 03.9	-0.5
KSP	Ksiaz	0.59	167	ePg	Pb	20 11 54.7	-0.8
KSP				eSg	Sb	20 12 03.9	-0.5
UPC	Upice	0.91	183	ePG	Pb	20 12 00.7	-0.3
UPC				eSG	Sb	20 12 13.7	0.0
	comp=Z,27nm,0.3s						
UPC	Upice	0.91	183	Pg	Pb	20 12 00.7	-0.3
UPC				Sg	Sb	20 12 13.7	0.0
	27nm,0.3s						
DPC	Dobruska-Polom	1.08	172	ePG	Pb	20 12 03.3	-0.6
DPC				eSG	Sb	20 12 18.3	-0.2
	comp=Z,14nm,0.3s						
DPC	Dobruska-Polom	1.08	172	Pg	Pb	20 12 03.3	-0.6
DPC				Sg	Sb	20 12 18.3	-0.2
	14nm,0.3s						
PVCC	Panska Ves	1.31	228	ePG	Pg	20 12 07.4	+0.1
PVCC				eSG	Sn	20 12 25.8	-0.2
	comp=Z,39nm,0.2s						
PVCC	Panska Ves	1.31	228	Pg	Pg	20 12 07.4	+0.1
PVCC				Sg	Sn	20 12 25.8	-0.2
	39nm,0.2s						
BRG	Berggiesshubel	1.46	249	PG	Pn	20 12 09.6	-0.2
BRG				SG	Sn	20 12 29.5	0.0
	13nm,0.5s						
GOPC	GO Pecny, Ondr	1.72	209	ePN	Pn	20 12 13.4	-0.1
GOPC				ePG	Pg	20 12 15.4	+0.2
GOPC				eSG	Sg	20 12 38.3	+0.9
GOPC	GO Pecny, Ondr	1.72	209	Pn	Pn	20 12 13.4	-0.1
PRU	Pruhonice	1.73	215	ePG	Pg	20 12 15.9	+0.4
PRU				eSG	Sn	20 12 36.6	+0.1
	comp=Z,5.6nm,0.3s						
PRU	Pruhonice	1.73	215	Pg	Pg	20 12 15.9	+0.4
PRU				Sg	Sn	20 12 36.6	+0.1
	5.6nm,0.3s						
MORC	Moravsky Berou	1.89	150	ePn	Pn	20 12 15.5	-0.3
MORC				eSg	Sg	20 12 44.2	+1.3
CLL	Collm	1.94	268	ePg	Pn	20 12 17.0	+0.6
CLL				e		20 12 20.0	
CLL				eSg	Sb	20 12 43.0	-0.1
	comp=Z,7.0nm,0.7s						
VRAC	Vranov	2.14	171	ePn	Pn	20 12 20.1	+0.9
VRAC				eSg	Sg	20 12 52.3	+1.4
NKC	Novy Kostel	2.59	244	ePN	Pn	20 12 24.7	-0.8
NKC				ePG	Pg	20 12 31.5	-0.5
NKC				eSG	Sg	20 13 06.1	+0.6
	comp=Z,8.3nm,0.3s						
NKC	Novy Kostel	2.59	244	Pn	Pn	20 12 24.7	-0.8
OJC	Ojcow	2.64	116	ePg	Pg	20 12 32.7	-0.2
OJC				eSg	Sg	20 13 08.5	+1.4
OJC	Ojcow	2.64	116	ePg	Pg	20 12 32.7	-0.2
OJC				eSg	Sg	20 13 08.5	+1.4
KHC	Kasperske Hory	2.80	216	ePN	Pn	20 12 28.5	+0.2
KHC				ePG	Pb	20 12 34.2	+1.1
KHC				eSN	Sn	20 13 02.6	-0.2
KHC				eSG	Sg	20 13 11.1	-1.0
	comp=Z,4.6nm,0.3s						
KHC	Kasperske Hory	2.80	216	Pn	Pn	20 12 28.5	+0.2
LANS	Liptovska Anna	3.14	135	eSg	Sg	20 13 22.6	-0.5
LANS	Liptovska Anna	3.14	135	eSG	Sg	20 13 22.6	-0.5
CONA	Conrad Observa	3.50	182	i Pn	Pn	20 12 37.8	-0.1
	comp=Z,0.1nm,0.1s						
CONA				Sg	Sg	20 13 34.2	-0.4
	comp=Z,2.4nm,0.3s						
MOA	Molln	3.76	199	i Pn	Pn	20 12 41.9	+0.3
	comp=Z,0.2nm,0.1s						
MOA				eSg	Sg	20 13 42.9	-0.2
	comp=Z,1.3nm,0.2s						

*ISCJB **03** 20:24:04.8±0.6, 38°.58N±0°.03×41°.47E±0°.04, h5km±6km, Error ellipse: s-maj=6.0km s-min=4.2km az=42.1*
*CSEM **03** 20:24:04.6±0.2, 38°.60N×41°.48E, h8km, ML2.7, Error ellipse: s-maj=4.0km s-min=3.3km az=16.0*
*DDA **03** 20:24:04.7, 38°.58N×41°.44E, h7km, Md2.6*
*ISK **03** 20:24:04.2, 38°.56N×41°.47E, h8km, ML2.7/5*
ISC 03 20:24:04.8±1.1, **38°.59N**±0°.03×**41°.46E**±0°.02, **h9km**±10km, **n29, σ0.59**/46, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNGL	BINGOL	0.44	326	i P	Pg	20 24 13.4	-0.1
BNGL				i S	Sg	20 24 20.7	+1.3
GURO	Guroymak-BITLI	0.45	94	PG	Pg	20 24 13.2	-0.4
GURO				SG	Sg	20 24 19.9	+0.4
GURO	Guroymak-BITLI	0.45	94	ePg	Pg	20 24 13.2	-0.4
GURO				eSg	Sg	20 24 19.9	+0.4
SRTM	Siirt_Merkez	0.69	149	i P	Pb	20 24 18.9	-0.3
SRTM				i S	Sn	20 24 31.4	-0.5
SRTM	Siirt_Merkez	0.69	149	P	Pb	20 24 18.9	-0.3
SRTM				S	Sn	20 24 31.4	-0.5
BTMN	Batman	0.71	192	i P	Pb	20 24 18.7	-0.7
BTMN	Batman	0.71	192	P	Pb	20 24 18.7	-0.7
EKAR	Karacoban	0.82	35	i P	Pg	20 24 20.8	+0.2
EKAR	Karacoban	0.82	35	P	Pg	20 24 20.8	+0.2
HANI	Diyarbakir_Han	0.85	259	i P	Pg	20 24 21.1	-0.1
HANI				i S	Sb	20 24 34.4	+1.0
HANI	Diyarbakir_Han	0.85	259	P	Pg	20 24 21.1	-0.1
HANI				S	Sb	20 24 34.4	+1.0
ECAT	Cat-ERZURUM	1.09	340	i P	Pg	20 24 24.3	-1.5
ECAT				i S	Sn	20 24 41.6	-0.2
ECAT	Cat-ERZURUM	1.09	340	P	Pg	20 24 24.3	-1.5
ECAT				S	Sn	20 24 41.6	-0.2
DIY	Diyarbakir	1.19	235	ePn	Pn	20 24 27.9	+0.1
DIY				eSn	Sn	20 24 44.9	+0.7
DYBB	Diyarbakir	1.22	239	PN	Pb	20 24 27.9	-0.2
DYBB				SN	Sn	20 24 44.9	+0.1
DIYA	Diyarbakir	1.25	238	i P	Pn	20 24 28.1	-0.5
DIYA				i S	Sn	20 24 45.2	-0.3
DIYA	Diyarbakir	1.25	238	P	Pn	20 24 28.1	-0.5
DIYA				S	Sn	20 24 45.2	-0.3
SIRN	S˜–rnak	1.32	145	i P	Pn	20 24 29.3	-0.3
SIRN				i S	Sn	20 24 48.4	+1.1
SIRN	S˜–rnak	1.32	145	P	Pn	20 24 29.3	-0.3
SIRN				S	Sn	20 24 48.4	+1.1
SIRT	Sirnak	1.33	144	PN	Pn	20 24 29.4	-0.3
SIRT	Sirnak	1.33	144	ePn	Pn	20 24 29.4	-0.3
MAZI	Mazidag	1.38	216	PN	Pn	20 24 30.2	-0.2
MAZI	Mazidag	1.38	216	ePn	Pn	20 24 30.2	-0.2
TNCL	Tunceli-Merkez	1.59	290	i P	Pn	20 24 33.6	+0.3
TNCL				i S	Sg	20 24 56.2	+0.2
TNCL	Tunceli-Merkez	1.59	290	P	Pn	20 24 33.6	+0.3
TNCL				S	Sg	20 24 56.2	+0.2
PTK	Pertek	1.65	281	PN	Pn	20 24 34.3	+0.1
PTK	Pertek	1.65	281	ePn	Pn	20 24 34.3	+0.1
CUKT	Cukurca	2.16	128	PN	Pn	20 24 41.1	0.0
CUKT	Cukurca	2.16	128	ePn	Pn	20 24 41.1	0.0

MAN 03 20:38:28, 9°.73N×122°.88E, h32km, mb3.5, ML2.2, MS1.6, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.94	342	eP	Pn	20 38 45.3	+0.3
GUIM				eS	Sb	20 38 57.6	-0.3
MSLP	Maasin	2.00	78	eP	Pn	20 38 60.0	+0.4
MSLP				eS	Sn	20 39 07.5	-16
OCLP	Ormoc	2.15	52	eP	Pn	20 39 02.7	+1.0

MAN 03 20:39:44, 10°.27N×123°.23E, h1km, mb4.3, ML3.1, MS2.9, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.72	300	eP	Pg	20 39 58.5	+0.7
GUIM				eS	Sb	20 40 11.1	+1.4
LLP	Lapu-Lapu	0.73	86	eP	Pg	20 39 58.6	+0.6
LLP				eS	Sb	20 40 11.6	+1.6
TBP	Tagbilaran	0.85	132	eP	Pb	20 40 01.6	+0.1
TBP				i S	Pb	20 40 01.6	+0.1
SNPH	Sibulan	0.92	179	⇓iP	Pg	20 40 01.9	+0.3
SNPH				i S	Sg	20 40 11.9	-1.7
RCP	Roxas	1.37	340	⇑eP	Pb	20 40 11.1	+0.6
RCP				eS	Sn	20 40 32.8	+3.8
OCLP	Ormoc	1.57	60	eP	Pg	20 40 14.3	+0.2
OCLP				eS	Sg	20 40 39.5	+5.1
MSLP	Maasin	1.61	95	eP	Pn	20 40 13.9	+0.3
MSLP				eS	Sg	20 40 37.2	+1.3

GUC 03 20:42:42.5±0.5, **19°.10S×69°.55W, h101km**±3km, **ML3.5, 6C, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNMC	Minye Minye	0.06	234	⇑iP	Pn	20 42 57.0	+0.1
MNMC				i S	Sn	20 43 08.1	+0.5
MNMC				IAML		20 43 12.0	
	comp=N,3µm,0.1s						
PB11	IPOC Station P	0.67	189	⇑iP	Pn	20 43 00.5	+0.5
PB11				i S	Sn	20 43 13.5	+0.5
PB12	IPOC Station P	0.88	303	⇑iP	Pn	20 43 02.2	+0.3
PB12				i S	Sn	20 43 17.0	+0.5
PB12				IAML		20 43 18.1	
	comp=N,4µm,0.3s						
PB08	IPOC Station P	1.10	160	⇑iP	Pn	20 43 05.2	+0.6
PB08				i S	Sn	20 43 22.5	+1.3
PB08				IAML		20 43 23.3	
	comp=E,508nm,0.3s						
PB01	IPOC Station P	1.94	178	⇑iP	Pn	20 43 15.0	+0.6
PB01				i S	Sn	20 43 39.9	+1.2
PB01				IAML		20 43 43.2	
	comp=N,273nm,0.4s						
PB02	IPOC Station P	2.24	188	eP	Pn	20 43 19.0	+0.7
PB02				i S	Sn	20 43 47.5	+1.9
PB02				AMP		20 43 55.1	
	comp=E,410nm,0.4s						
PB07	IPOC Station P	2.64	187	⇑iP	Pn	20 43 25.1	+1.5
PB07				i S	Sn	20 43 59.5	+4.3
PB07				IAML		20 44 03.6	
	comp=E,242nm,0.3s						

*NIED **03** 20:45:00, 39°.70N×142°.30E, h47km, Mw3.9 Best double couple: M0 7.22000×10^14 NP1:φs 178.00000°, δ20.00000°, λ66.00000°. NP2:φs 23.00000°, δ72.00000°, λ98.00000°.*
*ISCJB **03** 20:45:39.2±0.7, 39°.73N±0°.04×142°.26E±0°.09, h52km±5km, mb3.8/15, MS3.6/2, Error ellipse: s-maj=11.2km s-min=5.8km az=10.1*
*JMA **03** 20:45:39.8±0.1, 39°.73N×142°.26E, h43km±1km, M3.5*
*IDC **03** 20:45:42.3±2.1, 39°.73N×142°.23E, h66km±17km, mb3.6/15, mb1 3.6/19, mb1mx3.4/75, mbtmp3.8/19, MS2.8/6, Ms1 2.9/6, ms1mx2.6/58, Error ellipse: s-maj=20.0km s-min=12.1km az=108.0*
ISC 03 20:45:40.3±1.1, **39°.72N**±0°.04×**142°.24E**±0°.08, **h45km**±9km, **n38, σ1.14**/39, **mb3.9**/15, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.36	246	P	Pn	20 45 49.1	-0.5
MIYJ				S	Sn	20 45 55.6	-0.6
JTH	Tanohata	0.36	307	P	Pn	20 45 49.2	-0.5
JTH				S	Sn	20 45 55.6	-0.7
JKZ	Kuzumaki	0.75	291	P	Pn	20 45 54.3	-0.3
JKZ				S	Sn	20 46 04.5	-0.4
JOM	Ohasama	0.78	252	P	Pn	20 45 54.8	-0.1
JOM				S	Sn	20 46 05.4	0.0
OFUJ	Ofunato	0.78	215	P	Pn	20 45 54.5	-0.4
OFUJ				S	Sn	20 46 04.8	-0.7
JANG	Nango	0.86	320	P	Pn	20 45 55.3	-0.7
JANG				S	Sn	20 46 06.1	-1.3
JMK	Ichinoseki	1.10	226	P	Pn	20 45 59.2	-0.1
JMK				S	Sn	20 46 13.4	0.0
JRG	Rokugo	1.28	256	P	Pn	20 46 01.8	0.0
JAH	Hinai	1.32	291	P	Pn	20 46 02.4	+0.1
JAH				eS	Sn	20 46 18.7	0.0
JTM	Tenmabayashi	1.39	320	P	Pn	20 46 03.0	-0.3
ASAJ	Asahikawa	4.40	3	P	Pn	20 46 45.0	+0.5
	1.3nm,0.3s,baz=228,slow=14,SNR=14						
ASAJ				S	Sn	20 47 36.2	+1.8
	2.2nm,0.3s,baz=260,slow=17,SNR=2.6						
MAT	Matsushiro	4.49	226	P	Pn	20 46 48.6	+2.8
MJAR	Matsushiro Arr	4.49	226	P	Pn	20 46 48.9	+3.1
	1.5nm,0.3s,baz=29,slow=13,SNR=22						
MJAR				LR	LR	20 48 48.8	
	comp=Z,43nm,18.0s,baz=50,slow=42						
USRK	Ussuriysk Ar.	8.85	304	P	Pn	20 47 48.1	+2.6
	0.3nm,0.3s,baz=102,slow=13,SNR=4.3						
USRK				LR	LR	20 50 56.1	
	comp=Z,78nm,20.8s,baz=81,slow=36						
KSRS	Korea Array	11.44	263	P	Pn	20 48 23.6	+2.7
	0.3nm,0.3s,baz=72,slow=14,SNR=5.4						
KSRS				LR	LR	20 52 32.8	
	comp=Z,28nm,18.7s,baz=330,slow=36						
KLR	Kul'dur	12.09	325	LR	LR	20 53 02.9	
	comp=Z,5.7nm,20.0s,baz=34,slow=36						
SEY	Seymchan	24.03	11	P	P	20 50 50.2	-0.4
	1.8nm,0.9s,baz=228,slow=11,SNR=6.2						
SONM	Songino Array	26.93	299	P	P	20 51 16.9	-0.4
	0.7nm,0.7s,baz=100,slow=8.5,SNR=7.2						
H11N2	WAKE ISLAND Hy	29.08	126	T	T	21 22 11.1	
	baz=319,slow=75,SNR=326						
H11N1	WAKE ISLAND Hy	29.09	126	T	T	21 22 10.8	
	baz=319,slow=75,SNR=256						
H11N3	WAKE ISLAND Hy	29.10	126	T	T	21 22 15.7	
	baz=319,slow=75,SNR=170						
H11S1	WAKE ISLAND Hy	29.89	128	T	T	21 23 20.6	
	baz=320,slow=76,SNR=39						
H11S3	WAKE ISLAND Hy	29.89	128	T	T	21 23 18.8	
	baz=320,slow=76,SNR=19						
H11S2	WAKE ISLAND Hy	29.90	128	T	T	21 23 20.4	
	baz=320,slow=76,SNR=22						
ZALV	Zalesovo Beam	40.63	310	P	P	20 53 15.3	-0.3
	0.9nm,0.4s,baz=98,slow=6.8,SNR=5.4						
MKAR	Makanchi Array	43.30	300	P	P	20 53 37.1	-0.4
	0.7nm,0.5s,baz=85,slow=9.8,SNR=13						
ILAR	Eielson Array	46.89	34	P	P	20 54 06.3	+0.6
	0.5nm,0.7s,baz=260,slow=5.9,SNR=7.3						
ILAR				LR	LR	21 17 22.9	
	comp=Z,35nm,18.9s,baz=104,slow=40						
BVAR	Borovoye Array	49.28	311	P	P	20 54 24.4	+0.1
	0.5nm,0.4s,baz=75,slow=9.4,SNR=4.8						
INK	Inuvik	51.71	28	P	P	20 54 43.1	+0.8
	0.3nm,0.5s,baz=234,slow=3.2,SNR=3.3						
ARU	Arti	54.80	317	P	P	20 55 04.9	-0.3
	1.9nm,0.5s,baz=10,slow=5.0,SNR=6.0						
AKTO	Aktyubinsk	57.39	311	P	P	20 55 23.8	0.0
	1.4nm,0.7s,baz=64,slow=10,SNR=3.9						
WRA	Warramunga Arr	59.81	189	P	P	20 55 40.0	-1.0
	0.7nm,0.6s,baz=7.1,slow=7.1,SNR=12						
GEYT	Alibeck	63.12	298	LR	LR	21 27 49.8	
	comp=Z,68nm,18.8s,baz=350,slow=40						
ASAR	Alice Springs	63.54	189	P	P	20 56 05.5	-0.5
	0.4nm,0.7s,baz=7.7,slow=6.3,SNR=7.0						
FINES	FINESS Array B	66.75	332	P	P	20 56 24.7	-1.6
	1.0nm,0.7s,baz=39,slow=12,SNR=5.8						
HFS	Hagfors	71.91	336	P	P	20 56 58.1	-0.2
	0.7nm,0.4s,baz=28,slow=6.7,SNR=7.1						
AKASG	Malin Array Be	72.58	322	P	P	20 57 01.8	-0.6
	1.1nm,0.4s,baz=45,slow=6.3,SNR=8.8						
FRB	Frobisher Bay	74.01	14	P	P	20 57 10.5	-0.2
	2.0nm,0.7s,baz=72,slow=8.2,SNR=4.4						

JMA 03 20:45:50.8, 32°.25N×132°.03E, h22km±1km, M1.3, Shikoku

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTSN	Tsuno	0.45	270	P	Pb	20 45 59.8	-0.2
JTSN				eS	Sb	20 46 06.2	0.0
JKIT	Kitakata	0.61	308	P	Pb	20 46 02.7	-0.2
JTO	Tosashimizu	0.89	47	P	Pb	20 46 07.4	-0.2
JTO				eS	Sb	20 46 19.1	0.0

JMA 03 20:47:30.7, 36°.34N×138°.23E, h14km±1km, M0.9, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.12	302	P	Pg	20 47 34.2	0.0
JNG				S	Sg	20 47 36.5	-0.1
MAT	Matsushiro	0.20	355	⇑P	Pg	20 47 35.3	0.0
MAT				S	Sg	20 47 38.2	-0.3
MAT	Matsushiro	0.20	355	P	Pg	20 47 35.2	-0.1
MAT				S	Sg	20 47 38.2	-0.3
JNT	Takato	0.47	189	P	Pg	20 47 40.0	-0.1
JNT				S	Sg	20 47 46.4	0.0

*ISCJB **03** 20:48:25.3±0.2, 44°.50N±0°.01×6°.69E±0°.02, h8km±2km, Error ellipse: s-maj=2.4km s-min=1.9km az=148.5*
*ROM **03** 20:48:25.7±0.6, 44°.49N×6°.75E, h8km±3km, Md2.0/9, Ml1.7/7, Error ellipse: s-maj=5.5km s-min=3.0km az=58.0*
*CSEM **03** 20:48:25.9±0.1, 44°.50N×6°.70E, h2km, ML2.2/21, Error ellipse: s-maj=2.1km s-min=1.6km az=48.0*
*LDG **03** 20:48:26.5±0.1, 44°.51N×6°.74E, h2km, Md2.4/4, Ml2.3/16, Error ellipse: s-maj=1.8km s-min=1.3km az=50.0*
*GEN **03** 20:48:26.2, 44°.49N×6°.69E, h5km, ML1.7*
*STR **03** 20:48:27.0±0.3, 44°.46N±0°.02×6°.73E±0°.02, h5km, MLv2.7/9*
ISC 03 20:48:26.3±0.9, **44°.49N**±0°.01×**6°.71E**±0°.02, **h13km**±7km, **n105, σ1.10**/167, **France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	Montbardon	0.24	11	ePg	Pg	20 48 31.3	-0.2
MBDF				eSg	Sg	20 48 34.9	-0.2
	44nm,0.2s						
MBDF	Montbardon	0.24	11	ePg	Pg	20 48 31.3	-0.2
MBDF				eSg	Sg	20 48 34.9	-0.2
	22nm,0.2s						
PZZ	Stroppo	0.29	87	Pg	Pg	20 48 31.5	-1.0
PZZ				Sg	Sg	20 48 35.8	-0.8
	273nm,0.2s						
DOI	San Damiano	0.39	88	Pg	Pg	20 48 34.2	+0.1
DOI				Sg	Sg	20 48 39.6	+0.3
	79nm,0.2s						
DOI	San Damiano	0.39	88	Pg	Pg	20 48 34.2	+0.1
DOI				Sg	Sg	20 48 39.6	+0.3
	79nm,0.2s						
RRL	Rocca Remolon	0.43	8	Pg	Pg	20 48 34.1	-0.9
RRL				S	Sg	20 48 40.1	-0.8
RRL	Rocca Remolon	0.43	8	Pg	Pg	20 48 34.1	-0.9
RRL				Sg	Sg	20 48 40.3	-0.6
	56nm,0.3s						
STV	Sant Anna di V	0.51	119	Pg	Pg	20 48 35.4	-0.9
STV				Sg	Sg	20 48 41.9	-1.2
	35nm,0.3s						
STV	Sant Anna di V	0.51	119	Pg	Pg	20 48 35.4	-0.9
STV				Sg	Sg	20 48 41.9	-1.2
	35nm,0.3s						
BHB	Bricherasio	0.53	49	P	Pg	20 48 36.7	0.0
BHB				S	Sg	20 48 43.7	0.0
BHB	Bricherasio	0.53	49	Pg	Pg	20 48 36.8	0.0
BHB				Sg	Sg	20 48 43.8	0.0
BNI	Bardonecchia	0.56	358	Pg	Pg	20 48 37.3	-0.1
BNI				Sg	Sg	20 48 44.6	-0.2
	77nm,1.8s						
BNI	Bardonecchia	0.56	358	Pg	Pg	20 48 37.3	-0.1
BNI				Sg	Sg	20 48 44.6	-0.2
	77nm,1.8s						
ENR	Entracque	0.58	117	P	Pg	20 48 37.3	-0.3
ENR	Entracque	0.58	117	Pg	Pg	20 48 37.6	0.0
	41nm,0.1s						
ENR				S	Sg	20 48 44.8	-0.5
ENR	Entracque	0.58	117	Pg	Pg	20 48 37.6	0.0
	41nm,0.1s						
ORIF	Oris-en-Rattie	0.73	306	ePg	Pg	20 48 39.7	-0.8
ORIF				eSg	Sg	20 48 49.6	-0.4
	25nm,0.3s						
ORIF	Oris-en-Rattie	0.73	306	ePg	Pg	20 48 39.7	-0.8
ORIF				eSg	Sg	20 48 49.6	-0.4
	12nm,0.3s						
LUCF	Luceram	0.76	142	Pg	Pg	20 48 40.4	-0.6
LUCF				Sg	Sg	20 48 50.2	-0.7
LUCF	Luceram	0.76	142	Pg	Pg	20 48 40.5	-0.6
RSP	Reno Superiore	0.77	31	P	Pg	20 48 41.1	-0.1
RSP				S	Sg	20 48 51.1	-0.2
RSP	Reno Superiore	0.77	31	Pg	Pg	20 48 41.3	+0.1
RSP				Sg	Sg	20 48 51.3	0.0
	19nm,0.3s						
SBF	Sospel	0.82	140	ePg	Pg	20 48 42.3	+0.1
SBF				eSg	Sg	20 48 53.3	+0.4
	13nm,0.2s						
SBF	Sospel	0.82	140	ePg	Pg	20 48 42.3	+0.1
SBF				eSg	Sg	20 48 53.3	+0.4
	6.3nm,0.2s						
GBOS	Grotte di Boss	0.85	107	P	Pg	20 48 42.5	-0.3
GBOS				S	Sg	20 48 53.3	-0.6
REVF	Revere	0.89	147	Pg	Pg	20 48 43.4	-0.1
REVF				Sg	Sb	20 48 55.9	+0.4
REVF	Revere	0.89	147	Pg	Pg	20 48 43.5	-0.1
FRF	La Foret Royal	0.93	183	ePg	Pg	20 48 44.1	-0.2
FRF				eSg	Sg	20 48 56.0	-0.5
	13nm,0.2s						
FRF	La Foret Royal	0.93	183	ePg	Pg	20 48 44.1	-0.2
FRF				eSg	Sg	20 48 56.0	-0.5
	6.5nm,0.2s						
SMRF	Simiane la Rot	0.96	238	ePg	Pb	20 48 45.5	+0.6
SMRF				eSg	Sb	20 48 59.0	+1.4
	15nm,0.3s						
SMRF	Simiane la Rot	0.96	238	ePg	Pb	20 48 45.5	+0.6
SMRF				eSg	Sb	20 48 59.0	+1.4
	7.3nm,0.3s						
NEGI	Seborga	0.96	132	P	Pg	20 48 43.8	-1.1
NEGI				S	Sg	20 48 56.0	-1.5
LPG	La Plagne	1.01	2	ePg	Pg	20 48 45.4	-0.4
LPG				eSg	Sg	20 48 58.8	-0.1
	14nm,0.3s						
LPG	La Plagne	1.01	2	ePg	Pg	20 48 45.4	-0.4
LPG				eSg	Sg	20 48 58.8	-0.1
	6.8nm,0.3s						
LSD	Lago del Serru	1.01	17	P	Pg	20 48 45.3	-0.6
LSD	Lago del Serru	1.01	17	Pg	Pg	20 48 45.8	-0.1
LSD				S	Sg	20 48 56.9	-2.3
LSD				Sg	Sg	20 48 58.9	-0.3
LSD	Lago del Serru	1.01	17	Pg	Pg	20 48 45.8	-0.1
LSD				Sg	Sg	20 48 58.9	-0.3
LPL	La Plagne	1.02	1	ePg	Pg	20 48 46.0	-0.1
LPL				eSg	Sg	20 48 59.5	0.0
	8.2nm,0.3s						
LPL	La Plagne	1.02	1	ePg	Pg	20 48 46.0	-0.1
LPL				eSg	Sg	20 48 59.5	0.0
	4.1nm,0.3s						
IMI	Imperia	1.03	124	P	Pg	20 48 45.9	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMI				S	Sg	20 48 59.0	-0.7
RORO	Rocca Rossa	1.05	111	P	Pg	20 48 44.7	-1.8
RORO				S	Sg	20 48 58.1	-2.1
LMR	La Mourre	1.17	187	ePg	Pb	20 48 48.7	+0.3
LMR				eSg	Sb	20 49 03.7	+0.3
	13nm,0.2s						
LMR	La Mourre	1.17	187	ePg	Pb	20 48 48.7	+0.3
LMR				eSg	Sb	20 49 03.7	+0.3
	6.4nm,0.2s						
LEPF	PUYLOUBIER	1.21	217	Pg	Pn	20 48 49.5	+0.5
LEPF				Sg	Sn	20 49 06.1	+0.8
LEPF	PUYLOUBIER	1.21	217	Pg	Pn	20 48 49.6	+0.5
CIRO	Champorcher	1.27	29	P	Pg	20 48 50.4	-0.3
PCP	Piancastagn	1.32	87	P	Pg	20 48 49.7	-1.9
VIVF	Saint-Julien-l	1.50	285	ePn	Pn	20 48 53.4	+0.4
VIVF	Saint-Julien-l	1.50	285	ePg	Pg	20 48 54.9	-0.1
VIVF				eSn	Sb	20 49 12.6	-0.3
	12nm,0.5s						
VIVF	Saint-Julien-l	1.50	285	ePn	Pn	20 48 53.4	+0.4
VIVF	Saint-Julien-l	1.50	285	ePg	Pg	20 48 54.9	-0.1
VIVF				eSn	Sb	20 49 12.6	-0.3
	6.2nm,0.5s						
LASF	Ste Croix	2.09	259	eP	Pn	20 49 02.2	+1.1
LASF	Ste Croix	2.09	259	ePg	Pg	20 49 06.0	-0.4
LASF				eSn	Sn	20 49 26.8	-0.2
	1.7nm,0.2s						
LASF	Ste Croix	2.09	259	eP	Pn	20 49 02.2	+1.1
LASF	Ste Croix	2.09	259	ePg	Pg	20 49 06.0	-0.4
LASF				eSn	Sn	20 49 26.8	-0.2
	0.9nm,0.2s						
CABF	La Chapelle	2.16	349	eP	Pn	20 49 04.4	+2.2
CABF	La Chapelle	2.16	349	ePg	Pg	20 49 07.2	-0.6
CABF				eSg	Sg	20 49 35.3	-0.6
	1.2nm,0.2s						
CABF	La Chapelle	2.16	349	eP	Pn	20 49 04.4	+2.2
CABF	La Chapelle	2.16	349	ePg	Pg	20 49 07.2	-0.6
CABF				eSg	Sg	20 49 35.3	-0.6
	0.6nm,0.2s						
PGF	Pioggiola	2.56	139	ePn	Pn	20 49 08.3	+0.6
PGF				eSn	Sn	20 49 38.2	-0.6
	1.4nm,0.2s						
PGF	Pioggiola	2.56	139	ePn	Pn	20 49 08.3	+0.6
PGF				eSn	Sn	20 49 38.2	-0.6
	0.7nm,0.2s						
LBL	Lubilhac	2.57	288	Pn	Pn	20 49 07.6	-0.2
LBL				Sg	Sg	20 49 52.4	+3.6
LBL	Lubilhac	2.57	288	Pn	Pn	20 49 07.6	-0.2
PYM	Petit Puy Mans	2.90	297	Pg	Pg	20 49 22.2	+0.2
PYM	Petit Puy Mans	2.90	297	Pg	Pg	20 49 22.2	+0.2
SMF	Signal de Mont	2.95	318	eP	Pn	20 49 14.3	+1.4
SMF	Signal de Mont	2.95	318	ePg	Pg	20 49 21.7	-1.1
SMF				eSg	Sg	20 49 59.6	-1.4
	2.6nm,0.4s						
SMF	Signal de Mont	2.95	318	eP	Pn	20 49 14.3	+1.4
SMF	Signal de Mont	2.95	318	ePg	Pg	20 49 21.7	-1.1
SMF				eSg	Sg	20 49 59.6	-1.4
	1.3nm,0.4s						
AVF	Avril sur Loir	3.29	316	eP	Pn	20 49 18.9	+1.3
AVF	Avril sur Loir	3.29	316	ePg	Pg	20 49 28.9	-0.4
AVF				eSg	Sg	20 50 09.7	-2.2
	0.5nm,0.3s						
AVF	Avril sur Loir	3.29	316	eP	Pn	20 49 18.9	+1.3
AVF	Avril sur Loir	3.29	316	ePg	Pg	20 49 28.9	-0.4
AVF				eSg	Sg	20 50 09.7	-2.2
	0.2nm,0.3s						
HINF	Hinteralfeld	3.33	2	eSn	Sn	20 49 57.0	-0.6
	0.6nm,0.2s						
HINF	Hinteralfeld	3.33	2	eSn	Sn	20 49 57.0	-0.6
	0.3nm,0.2s						
CAF	Calviac	3.34	279	eP	Pn	20 49 19.1	+0.8
CAF	Calviac	3.34	279	ePg	Pg	20 49 28.9	-1.4
CAF	Calviac	3.34	279	eP	Pn	20 49 19.1	+0.8
CAF	Calviac	3.34	279	ePg	Pg	20 49 28.9	-1.4
SSF	Saint Saulge	3.41	320	eP	Pn	20 49 21.1	+1.9
SSF	Saint Saulge	3.41	320	ePg	Pg	20 49 30.1	-1.5
SSF				eSg	Sg	20 50 14.3	-1.4
	0.8nm,0.2s						
SSF	Saint Saulge	3.41	320	eP	Pn	20 49 21.1	+1.9
SSF	Saint Saulge	3.41	320	ePg	Pg	20 49 30.1	-1.5
SSF				eSg	Sg	20 50 14.3	-1.4
	0.4nm,0.2s						
BGF	Bois d'Agland	3.41	309	eP	Pn	20 49 20.8	+1.5
BGF	Bois d'Agland	3.41	309	ePg	Pg	20 49 30.7	-0.9
BGF				eSg	Sg	20 50 15.6	-0.2
	5.9nm,0.5s						
BGF	Bois d'Agland	3.41	309	eP	Pn	20 49 20.8	+1.5
BGF	Bois d'Agland	3.41	309	ePg	Pg	20 49 30.7	-0.9
BGF				eSg	Sg	20 50 15.6	-0.2
	3.0nm,0.5s						
LOR	Lormes	3.42	325	eP	Pn	20 49 20.7	+1.4
	baz=148						
LOR	Lormes	3.42	325	ePg	Pg	20 49 30.4	-1.3
	baz=141						
LOR				eSn	Sn	20 49 58.7	-1.0
LOR				eSg	Sg	20 50 13.7	-2.3
	0.9nm,0.3s						
LOR	Lormes	3.42	325	eP	Pn	20 49 20.7	+1.4
LOR	Lormes	3.42	325	ePg	Pg	20 49 30.4	-1.3
LOR				eSn	Sn	20 49 58.7	-1.0
LOR				eSg	Sg	20 50 13.7	-2.3
	0.4nm,0.3s						
MTLF	Montolieu	3.44	252	ePg	Pg	20 49 30.8	-1.4
MTLF	Montolieu	3.44	252	ePg	Pg	20 49 30.8	-1.4
HAU	Haudompre	3.52	356	eP	Pn	20 49 23.7	+2.9
HAU	Haudompre	3.52	356	ePg	Pg	20 49 31.8	-2.0
HAU				eSn	Sn	20 50 00.8	-1.6
	3.9nm,0.3s						
HAU	Haudompre	3.52	356	eP	Pn	20 49 23.7	+2.9
HAU	Haudompre	3.52	356	ePg	Pg	20 49 31.8	-2.0
TCF	Toulx Ste Croi	3.64	301	eP	Pn	20 49 23.7	+1.2
TCF	Toulx Ste Croi	3.64	301	eP	Pn	20 49 23.7	+1.2
SFTF	Sexfontaines	3.89	343	eP	Pn	20 49 27.3	+1.5
	baz=164						
SFTF	Sexfontaines	3.89	343	eP	Pn	20 49 27.3	+1.5
HYF	Humbligny	3.97	316	eP	Pn	20 49 29.1	+2.1
HYF	Humbligny	3.97	316	eP	Pn	20 49 29.1	+2.1
PAGF	Fort de Pagny	4.12	351	eP	Pn	20 49 31.1	+2.1
	baz=177						
PAGF	Fort de Pagny	4.12	351	eP	Pn	20 49 31.1	+2.1

*SJA **03** 20:49:14.6±0.5, 30.32°S×71.71°W, h41km±12km, ML3.4, MW3.6*
*ISCJB **03** 20:49:16.9±1.3, 30.31°S±0.06°×71.5°W±0.1°, h33km, Error ellipse: s-maj=14.0km s-min=7.0km az=24.8*
*GUC **03** 20:49:16.3±0.7, 30.34°S×70.82°W, h75km, ML3.2*
ISC 03 20:49:16.7±1.9**, 30.28°S**±0.06°×**71.48°W**±0.10°**, h33km, n11, σ2.18s**/15**, 1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.59	79⇑	iP	Pn	20 49 29.1	0.0
TLL				iS	Sn	20 49 37.8	+0.1
TLL				IAML		20 49 38.4	
	comp=E,3μm,0.1s						
GO04	Tololo Observa	0.60	80⇓	iP	Pn	20 49 28.9	-0.2
GO04				iS	Sn	20 49 37.9	+0.1
LCO	Las Campanas	1.43	28	iP	Pn	20 49 41.6	+0.9
LCO	Las Campanas	1.43	28⇓	iP	Pn	20 49 41.3	+0.6
LCO				iS	Sn	20 49 59.3	+0.8
LCO				IAML		20 50 04.0	
	comp=E,388nm,0.2s						
RTLS	Leoncito	2.41	130	iP	Pn	20 49 56.0	+1.9
RTLS				IAML		20 50 36.5	
	comp=Z,72nm,0.3s						
AMOG	MOGNA	2.66	105	iP	Pn	20 49 59.6	+2.3
AGUA	GUANDACOL	2.71	74	iP	Pn	20 50 00.9	+2.8
ROCH	El Roble	2.71	172	eP	Pn	20 49 58.5	+0.2
ROCH				IAML		20 50 44.0	
	comp=E,140nm,0.4s						
ROC1	El Roble	2.72	172	iP	Pn	20 49 58.1	-0.2
RTCV	Cerro Valdivia	2.97	123	iP	Pn	20 50 03.5	+1.8
VCA	Vinchina	3.24	62	iP	Pn	20 50 08.7	+3.2
VCA				IAML		20 50 14.2	
	comp=Z,162nm,0.2s						
VCA				iS	Sb	20 50 47.8	-4.9

*IDC **03** 20:49:27.4±2.1, 38.51°N×145.08°E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.4/75, mbtmp3.6/7, ML3.1/3, Error ellipse: s-maj=56.4km s-min=22.7km az=67.0*
*ISCJB **03** 20:49:31.4±0.9, 38.52°N±0.07°×144.68°E±0.07°, h35km, mb3.6/4, Error ellipse: s-maj=10.7km s-min=8.4km az=1.7*
*JMA **03** 20:49:31.4±0.2, 38.53°N×144.63°E, h33km, M3.4*
ISC 03 20:49:33.1±1.4**, 38.65°N**±0.08°×**144.73°E**±0.10°**, h35km, n18, σ1.92s**/25**, mb3.5**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.43	281	P	Pn	20 50 09.6	-0.7
OFUJ				eS	Sn	20 50 38.0	-0.8
MIYJ	Miyakonagasawa	2.45	293	P	Pn	20 50 09.9	-0.6
JIO	Ouri	2.66	267	P	Pn	20 50 12.3	-1.2
JIO				eS	Sn	20 50 42.0	-2.5
JMK	Ichinoseki	2.76	277	P	Pn	20 50 14.4	-0.4
JOM	Ohasama	2.80	288	P	Pn	20 50 15.3	-0.1
JOM				eS	Sn	20 50 48.5	+0.5
JANG	Nango	3.02	306	P	Pn	20 50 18.2	-0.3
JOU	Okura	3.20	266	P	Pn	20 50 20.5	-0.5
JOU				eS	Sn	20 50 56.4	-1.5
JRG	Rokugo	3.28	284	P	Pn	20 50 22.4	+0.4
JYK	Kaneyama	3.43	276	P	Pn	20 50 24.2	+0.2
JFT	Otama	3.65	253	P	Pn	20 50 26.6	-0.5
JFT				eS	Sn	20 51 07.0	-1.9
MJAR	Matsushiro Arr	5.59	250	Pn	Pn	20 50 53.6	-0.2
	1.4nm,0.3s,baz=51,slow=9.0,SNR=16						
MAT	Matsushiro	5.59	250	P	Pn	20 50 53.8	0.0
MAT				eS	Sn	20 51 53.1	-3.7
ASAJ	Asahikawa	5.69	344	Pn	Pn	20 50 55.0	-0.1
	0.6nm,0.3s,baz=167,slow=16,SNR=5.6						
ASAJ				Sn	Sn	20 51 53.5	-5.6
	0.3nm,0.3s,baz=319,slow=20,SNR=1.9						
USRK	Ussuriysk Ar.	11.05	304	Pn	Pn	20 52 10.4	+1.8
	0.2nm,0.3s,baz=108,slow=15,SNR=7.4						
SONM	Songino Array	29.14	301	P	P	20 55 34.3	+3.4
	1.3nm,1.2s,baz=92,slow=8.9,SNR=2.8						
MKAR	Makanchi Array	45.50	301	P	P	20 57 50.2	+1.2
	0.3nm,0.8s,baz=78,slow=7.3,SNR=3.2						
WRA	Warramunga Arr	59.09	191	P	P	20 59 28.8	-1.2
	0.8nm,0.7s,baz=14,slow=7.1,SNR=5.2						
ASAR	Alice Springs	62.82	191	P	P	20 59 54.3	-0.9
	0.4nm,0.8s,baz=5.3,slow=7.4,SNR=5.2						

IDC 03 21:02:42.3±5.8**, 21.51°S**×**170.20°E, h0km, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.4**/37**, mbtmp3.3**/3**, ML3.5**/1**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.6**/12**, Error ellipse: s-maj=271.7km s-min=44.4km az=155.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.53	260	Pn	Pn	21 03 37.1	-1.4
	3.8nm,0.3s,baz=95,slow=11,SNR=20						
DZM				Sn	Sn	21 04 18.4	-2.7
	5.6nm,0.3s,baz=321,slow=20,SNR=7.7						
DZM				LR	LR	21 04 54.6	
	comp=Z,177nm,18.3s,baz=71,slow=38						
ASAR	Alice Springs	33.52	259	P	P	21 09 24.6	+0.7
	0.3nm,0.7s,baz=94,slow=8.5,SNR=3.2						
WRA	Warramunga Arr	33.53	266	P	P	21 09 23.9	-0.1
	0.2nm,0.5s,baz=100,slow=7.9,SNR=2.6						
GERES	GERESS Array B	146.91	331	PKPbc	PKPdf	21 22 25.7	+0.8
	0.4nm,0.6s,baz=36,slow=4.0,SNR=3.5						

*CSEM **03** 21:05:08.3±0.1, 39.11°N×29.16°E, h2km, ML3.2, Error ellipse: s-maj=1.9km s-min=1.8km az=94.0*
*DDA **03** 21:05:08.5, 39.13°N×29.13°E, h6km, Ml3.7*
*ISK **03** 21:05:08.1, 39.11°N×29.15°E, h7km, ML3.2/35*
ISC 03 21:05:08.1±1.1**, 39.11°N**±0.02°×**29.17°E**±0.02°**, h4km**±11km**, n111, σ0.49s**/119**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.15	259	PG	Pg	21 05 11.4	+0.3
SIMA				SG	Sg	21 05 13.4	+0.3
SIMA	Simav-Kutahya	0.15	259	ePg	Pg	21 05 11.4	+0.3
SIMA				eSg	Sg	21 05 13.4	+0.3
GDZ	Gediz	0.24	95	iP	Pg	21 05 12.1	-0.7
GDZ	Gediz	0.24	95	P	Pg	21 05 12.1	-0.7
DEMI	Demirci	0.36	259	iP	Pg	21 05 15.6	+0.5
DEMI				iS	Sg	21 05 19.9	+0.1
DEMI	Demirci	0.36	259	P	Pg	21 05 15.6	+0.5
DEMI				S	Sg	21 05 19.9	+0.1
TVSB	Tavsanli	0.41	34	PG	Pg	21 05 15.9	-0.1
TVSB	Tavsanli	0.41	34	ePg	Pg	21 05 15.9	-0.1
DST	Dursunbey	0.65	319	PG	Pg	21 05 20.4	-0.2
DST	Dursunbey	0.65	319	ePg	Pg	21 05 20.4	-0.2
KULA	Kula-Manisa	0.72	214	PG	Pg	21 05 21.7	-0.2
KULA	Kula-Manisa	0.72	214	ePg	Pg	21 05 21.7	-0.2
KHAL	Karahalli	0.78	161	iP	Pb	21 05 24.2	-0.1
KHAL	Karahalli	0.78	161	P	Pb	21 05 24.2	-0.1
KHL	Karahalli	0.83	161	PG	Pg	21 05 24.8	+0.7
KHL	Karahalli	0.83	161	ePg	Pg	21 05 24.8	+0.7
ORLT	Orhaneli	0.96	347	PG	Pg	21 05 26.7	+0.2
ORLT				SG	Sb	21 05 40.0	-0.3
ORLT	Orhaneli	0.96	347	ePg	Pg	21 05 26.7	+0.2
ORLT				eSg	Sb	21 05 40.0	-0.3
AKHS	Akhisar	1.08	258	iP	Pg	21 05 28.5	-0.4
AKHS	Akhisar	1.08	258	P	Pg	21 05 28.5	-0.4
AKS	Akhisar	1.08	258	PG	Pb	21 05 29.2	-0.2
AKS	Akhisar	1.08	258	ePg	Pb	21 05 29.2	-0.2
BALB	Balikesir	1.13	298	PN	Pn	21 05 30.8	+0.1
BALB	Balikesir	1.13	298	ePn	Pn	21 05 30.8	+0.1
KZIL	AFYON_Kizioren	1.14	138	iP	Pg	21 05 30.3	+0.3
KZIL	AFYON_Kizioren	1.14	138	P	Pg	21 05 30.3	+0.3
IGD	Bursa	1.15	1	iP	Pg	21 05 29.4	-0.8
STEP	BALIKESIR_Sava	1.16	284	iP	Pn	21 05 31.1	0.0
STEP	BALIKESIR_Sava	1.16	284	P	Pn	21 05 31.1	0.0
CAVI	Cavuskoy	1.21	25	PN	Pn	21 05 32.2	+0.4
CAVI	Cavuskoy	1.21	25	ePn	Pn	21 05 32.2	+0.4
SHUT	Suhut-Afyon	1.21	117	PN	Pn	21 05 32.1	+0.1
SHUT	Suhut-Afyon	1.21	117	ePn	Pn	21 05 32.1	+0.1
BORA	Eskisehir	1.25	52	iP	Pn	21 05 32.6	+0.1
BORA	Eskisehir	1.25	52	P	Pn	21 05 32.6	+0.1
MDNY	Mudanya-Bursa	1.27	350	PN	Pg	21 05 33.0	+0.4
MDNY	Mudanya-Bursa	1.27	350	ePn	Pg	21 05 33.0	+0.4
KCTX	Karacabey (Bur	1.31	332	PN	Pg	21 05 33.4	+0.1
KCTX	Karacabey (Bur	1.31	332	ePn	Pg	21 05 33.4	+0.1
GEMT	Gemlik	1.32	1	PN	Pg	21 05 33.9	+0.5
GEMT	Gemlik	1.32	1	ePn	Pg	21 05 33.9	+0.5
BALY	Balya	1.36	298	iP	Pn	21 05 33.5	-0.4
BALY	Balya	1.36	298	P	Pn	21 05 33.5	-0.4
ADVT	Abdulvahap	1.39	18	PN	Pb	21 05 34.8	+0.2
ADVT	Abdulvahap	1.39	18	ePn	Pb	21 05 34.8	+0.2
GPA	Golpazari	1.47	36	PN	Pg	21 05 36.5	+0.3
GPA	Golpazari	1.47	36	ePn	Pg	21 05 36.5	+0.3
ARMT	Armutlu	1.47	351	PN	Pn	21 05 35.4	0.0
ARMT	Armutlu	1.47	351	ePn	Pn	21 05 35.4	0.0
GONE	Gonen-Balikesi	1.48	310	PN	Pb	21 05 36.1	-0.1
GONE	Gonen-Balikesi	1.48	310	ePn	Pb	21 05 36.1	-0.1
EDC	Edincik	1.59	321	PN	Pn	21 05 36.6	-0.5
EDC	Edincik	1.59	321	ePn	Pn	21 05 36.6	-0.5
GEYV	SAKARYA_Geyve	1.62	32	iP	Pg	21 05 39.4	+0.2
GEYV	SAKARYA_Geyve	1.62	32	P	Pg	21 05 39.4	+0.2
GULT	Gulveren	1.68	38	PN	Pb	21 05 39.2	-0.4
GULT	Gulveren	1.68	38	ePn	Pb	21 05 39.2	-0.4
BUY	Buyukada	1.74	359	PN	Pn	21 05 39.2	+0.1
BUY	Buyukada	1.74	359	ePn	Pn	21 05 39.2	+0.1
HRT	Hereke	1.75	12	PN	Pn	21 05 39.6	+0.3
HRT	Hereke	1.75	12	ePn	Pn	21 05 39.6	+0.3
SPNC	Sapanca-Adapaz	1.80	29	PN	Pn	21 05 40.5	+0.6
SPNC	Sapanca-Adapaz	1.80	29	ePn	Pn	21 05 40.5	+0.6
SBT2	Guzelce-Avcila	1.83	344	PN	Pn	21 05 41.0	+0.7
SBT2	Guzelce-Avcila	1.83	344	ePn	Pn	21 05 41.0	+0.7
SAUV	Serdivan-Sakar	1.85	28	PN	Pn	21 05 41.3	+0.7
SAUV	Serdivan-Sakar	1.85	28	ePn	Pn	21 05 41.3	+0.7
SVRH	Sivrihisar-ESK	1.86	79	PN	Pn	21 05 41.1	+0.3
SVRH	Sivrihisar-ESK	1.86	79	ePn	Pn	21 05 41.1	+0.3
KRBG	Karabiga-Canak	1.93	312	PN	Pn	21 05 42.2	+0.5
KRBG	Karabiga-Canak	1.93	312	ePn	Pn	21 05 42.2	+0.5
KAVV	Kandilli-Istan	1.95	358	PN	Pn	21 05 42.7	+0.7
KAVV	Kandilli-Istan	1.95	358	ePn	Pn	21 05 42.7	+0.7
ISK	Istanbul-Kandi	1.95	358	PN	Pn	21 05 42.7	+0.7
ISK	Istanbul-Kandi	1.95	358	ePn	Pn	21 05 42.7	+0.7
SBT3	Marmara-Eregli	2.00	333	PN	Pn	21 05 43.0	+0.6
SBT3	Marmara-Eregli	2.00	333	ePn	Pn	21 05 43.0	+0.6
MDUB	Mudurnu	2.07	48	PN	Pn	21 05 44.7	+1.0
MDUB	Mudurnu	2.07	48	ePn	Pn	21 05 44.7	+1.0
SILT	Sile	2.07	10	PN	Pn	21 05 44.8	+1.2
SILT	Sile	2.07	10	ePn	Pn	21 05 44.8	+1.2
BGKT	Bogazkoy	2.09	352	PN	Pn	21 05 43.7	-0.2
BGKT	Bogazkoy	2.09	352	ePn	Pn	21 05 43.7	-0.2
YER	Yerkesik	2.10	200	PN	Pn	21 05 44.4	+0.4
YER	Yerkesik	2.10	200	iPn	Pn	21 05 44.4	+0.4
ELBA	Catalca	2.11	345	iP	Pb	21 05 45.9	-1.0
ELBA	Catalca	2.11	345	P	Pb	21 05 45.9	-1.0
BAYC	CANAKKALE_Bayr	2.13	288	iP	Pg	21 05 49.0	+0.1
BAYC				iS	Sg	21 06 16.1	-0.4
BAYC	CANAKKALE_Bayr	2.13	288	P	Pg	21 05 49.0	+0.1
BAYC				S	Sg	21 06 16.1	-0.4
KLYT	Kilyos	2.14	357	PN	Pn	21 05 44.8	+0.2
KLYT	Kilyos	2.14	357	ePn	Pn	21 05 44.8	+0.2
SUTC	Sutluce-Ispart	2.18	138	PN	Pn	21 05 45.8	+0.6
SUTC	Sutluce-Ispart	2.18	138	ePn	Pn	21 05 45.8	+0.6
CTKS	Kestanelik-??a	2.18	347	PN	Pn	21 05 45.3	+0.2
CTKS	Kestanelik-??a	2.18	347	ePn	Pn	21 05 45.3	+0.2
RKY	Sarkoy-Tekirda	2.20	316	PN	Pn	21 05 46.3	+0.9
RKY	Sarkoy-Tekirda	2.20	316	ePn	Pn	21 05 46.3	+0.9
SLVT	Silivri	2.24	341	PN	Pn	21 05 46.5	+0.5
SLVT	Silivri	2.24	341	ePn	Pn	21 05 46.5	+0.5
LPK	Lapseki	2.25	305	PN	Pn	21 05 46.5	+0.5
LPK	Lapseki	2.25	305	ePn	Pn	21 05 46.5	+0.5
TURN	Turunc	2.28	192	PN	Pb	21 05 48.9	-0.9
TURN	Turunc	2.28	192	ePn	Pb	21 05 48.9	-0.9
ELL	Elmali	2.43	166	PN	Pn	21 05 49.2	+0.5
ELL	Elmali	2.43	166	ePn	Pn	21 05 49.2	+0.5
GELI	Tayfur-Gelibol	2.44	303	PN	Pn	21 05 49.4	+0.7
GELI	Tayfur-Gelibol	2.44	303	ePn	Pn	21 05 49.4	+0.7
FETY	Fethiye	2.47	182	PN	Pn	21 05 49.0	-0.2
FETY	Fethiye	2.47	182	ePn	Pn	21 05 49.0	-0.2
SIGR	SIGRI	2.58	273	PN	Pn	21 05 51.2	+0.6
SIGR	SIGRI	2.58	273	ePn	Pn	21 05 51.2	+0.6

*IDC **03** 21:16:18.8±3.5, 10.34°N×124.14°E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/58, mbtmp3.3/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/32, Error ellipse: s-maj=334.9km s-min=27.8km az=64.0*
*ISCJB **03** 21:16:21.9±1.1, 9.84°N±0.04°×122.84°E±0.04°, h12km±8km, mb3.4/3, Error ellipse: s-maj=7.3km s-min=5.0km az=43.6*
*MAN **03** 21:16:21, 9.81°N×122.81°E, h9km, mb4.6, ML3.5, MS3.3*
ISC 03 21:16:22.0±1.2**, 9.82°N**±0.03°×**122.85E**±0.04°**, h10km**±10km**, n18, σ1.84s**/26**, mb3.4**/3**, 4C-1D, Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.61	141⇑	iP	Pb	21 16 35.0	+0.2
SNPH				iS	Sb	21 16 44.4	+1.0
GUIM	Jordan	0.84	342	eP	Pg	21 16 36.9	-1.4
GUIM				eS	Sb	21 16 48.8	-1.4
TBP	Tagbilaran	1.00	97	eP	Pg	21 16 40.6	-0.9
TBP				iS	Sn	21 16 58.1	+1.7
LLP	Lapu-Lapu	1.21	66⇓	eP	Pn	21 16 42.1	-2.9
LLP				eS	Sb	21 16 58.5	-2.2
JAP	San Jose, Anti	1.28	316⇑	eP	Pg	21 16 47.8	+1.0
DCPH	Dipolog City	1.32	158⇑	eP	Pn	21 16 45.1	-1.5
DCPH				eS	Sg	21 17 04.0	-0.6
RCP	Roxas	1.73	357⇑	eP	Pb	21 16 52.5	-1.6
RCP				eS	Sg	21 17 18.5	+0.6
MSLP	Maasin	2.00	81	eP	Pn	21 16 55.9	-0.1
MSLP				eS	Sb	21 17 23.5	-0.1
PAGZ	Pagadian	2.03	165	eP	Pn	21 16 56.6	+0.4
PAGZ				eS	Sg	21 17 26.7	-0.6
OCLP	Ormoc	2.12	55	eP	Pn	21 16 57.3	-0.3
OCLP				eS	Sg	21 17 36.5	+6.2
BUKP	Musuan	2.91	131	eP	Pn	21 17 10.4	+1.9
BUSP	Coron	3.39	310	eP	Pn	21 17 16.0	+0.9
ENPP	El Nido	3.64	293	eP	Pn	21 17 18.7	+0.3
ENPP				eS	Sn	21 18 02.5	+1.0
DAV	Davao City (W)	3.84	135	LR	LR	21 18 42.3	
	comp=Z,70nm,19.0s,baz=334,slow=40						
BATI	Baumata	19.91	178	LR	LR	21 31 14.9	
	comp=Z,113nm,18.1s,baz=290,slow=44						
WRA	Warramunga Arr	31.66	159	P	P	21 22 45.1	-0.7
	0.6nm,1.1s,baz=342,slow=9.6,SNR=3.0						
ASAR	Alice Springs	34.99	162	P	P	21 23 13.7	-1.1
	0.3nm,0.8s,baz=342,slow=7.0,SNR=4.8						
MKAR	Makanchi Array	50.39	325	P	P	21 25 20.2	+0.7
	0.4nm,0.8s,baz=133,slow=9.1,SNR=4.4						

IDC 03 21:21:07.9±1.4**, 3.77°S**×**136.92°E, h0km, mb3.4**/2**, mb1 3.7**/4**, mb1mx3.4**/40**, mbtmp3.5**/4**, ML3.3**/2**, Error ellipse: s-maj=61.0km s-min=28.9km az=90.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.27	189	Pn	Pn	21 24 57.5	-0.5
	0.1nm,0.3s,baz=10,slow=12,SNR=7.3						
ASAR	Alice Springs	19.99	188	P	P	21 25 42.4	+0.2
	0.1nm,0.3s,baz=9.2,slow=12,SNR=12						
MKAR	Makanchi Array	69.55	323	P	P	21 32 19.2	+0.4
	0.2nm,0.7s,baz=122,slow=7.4,SNR=2.5						
ILAR	Eielson Array	87.53	25	P	P	21 33 57.0	-0.5
	0.4nm,0.9s,baz=270,slow=4.5,SNR=3.3						

IDC 03 21:21:37.4±2.1**, 9.66°S**×**71.07°W, h638km**±38km**, mb2.9**/5**, mb1 3.1**/7**, mb1mx2.8**/40**, mbtmp3.9**/7**, Error ellipse: s-maj=57.7km s-min=22.0km az=27.0, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.19	157	P	P	21 23 31.4	-0.2
	0.9nm,0.3s,baz=329,slow=6.9,SNR=15						
PTGA	Pitinga	14.16	52	P	P	21 24 37.9	+1.3
	0.6nm,0.3s,baz=300,slow=20,SNR=3.3						
PDAR	Pinedale Array	62.90	329	P	P	21 31 04.0	+0.4
	0.3nm,0.5s,baz=122,slow=9.6,SNR=4.4						
ULM	Lac du Bonnet	63.46	342	P	P	21 31 06.3	-0.4
	0.6nm,0.3s,baz=139,slow=6.8,SNR=6.6						
KOWA	Kowa	70.68	71	P	P	21 31 51.7	+0.3
	1.1nm,0.6s,baz=243,slow=9.0,SNR=4.1						
TORD	Torodi Ar. Bea	75.70	74	P	P	21 32 19.9	0.0
	0.5nm,0.6s,baz=247,slow=4.0,SNR=11						
YKA	Yellowknife Ar	79.38	341	P	P	21 32 39.0	+0.4
	0.5nm,0.6s,baz=137,slow=5.5,SNR=12						
MKAR	Makanchi Array	136.60	27	PKP	PKPdf	21 39 48.7	0.0
	0.2nm,0.8s,baz=311,slow=2.7,SNR=2.7						

*ISK **03** 21:22:49.6, 39.08°N×29.19°E, h6km, ML2.7/8*
*ISCJB **03** 21:22:50.7±0.5, 39.14°N±0.03°×29.10°E±0.03°, h0km±6km, Error ellipse: s-maj=4.8km s-min=4.0km az=161.7*
*CSEM **03** 21:22:50.9±0.1, 39.14°N×29.11°E, h5km, ML2.7, Error ellipse: s-maj=2.6km s-min=2.3km az=123.0*
*DDA **03** 21:22:50.9, 39.13°N×29.11°E, h7km, Md2.3*
ISC 03 21:22:51.0±0.9**, 39.13°N**±0.02°×**29.11°E**±0.02°**, h9km**±6km**, n33, σ0.41s**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.11	242	PG	Pg	21 22 53.8	0.0
SIMA				SG	Sg	21 22 55.9	+0.2
SIMA	Simav-Kutahya	0.11	242	iPg	Pg	21 22 53.8	0.0
SIMA				iSg	Sg	21 22 55.9	+0.2
GDZ	Gediz	0.29	99	iP	Pg	21 22 56.6	-0.4
GDZ				iS	Sg	21 23 01.1	+0.1
GDZ	Gediz	0.29	99	P	Pg	21 22 56.6	-0.4
GDZ				S	Sg	21 23 01.1	+0.1
DEMI	Demirci	0.32	253	iP	Pg	21 22 57.4	0.0
DEMI				iS	Sg	21 23 01.5	-0.1
DEMI	Demirci	0.32	253	P	Pg	21 22 57.4	0.0
DEMI				S	Sg	21 23 01.5	-0.1
TVSB	Tavsanli	0.42	41	PG	Pg	21 22 58.5	-0.8
TVSB				SG	Sg	21 23 04.4	-0.4
TVSB	Tavsanli	0.42	41	ePg	Pg	21 22 58.5	-0.8
TVSB				eSg	Sg	21 23 04.4	-0.4
KULA	Kula-Manisa	0.71	210	PG	Pg	21 23 04.0	-0.7
KULA				SG	Sg	21 23 13.1	-0.9
KULA	Kula-Manisa	0.71	210	ePg	Pg	21 23 04.0	-0.7
KULA				eSg	Sg	21 23 13.1	-0.9
KHAL	Karahalli	0.82	158	iP	Pg	21 23 06.8	0.0
KHAL				iS	Sg	21 23 17.9	+0.4
KHAL	Karahalli	0.82	158	P	Pg	21 23 06.8	0.0
KHAL				S	Sg	21 23 17.9	+0.4
BALB	Balikesir	1.08	298	PN	Pn	21 23 12.3	0.0
BALB	Balikesir	1.08	298	ePn	Pn	21 23 12.3	0.0
IGD	Bursa	1.13	4	iP	Pg	21 23 12.8	0.0
IGD				iS	Sn	21 23 28.6	-0.1
KZIL	AFYON_Kizioren	1.19	137	iP	Pb	21 23 13.9	0.0
KZIL				iS	Sn	21 23 30.8	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZIL	**AFYON_Kizioren**	**1.19**	**137**	P	**Pb**	**21 23 13.9**	**0.0**
KZIL				S	**Sn**	**21 23 30.8**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	PN	**Pg**	**21 23 14.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*Pn	**Pg**	**21 23 14.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**333**	PN	**Pb**	**21 23 15.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.27**	**333**	*e*Pn	**Pb**	**21 23 15.3**	**+0.2**
BORA	**Eskisehir**	**1.28**	**54**	*i* P	**Pg**	**21 23 15.9**	**+0.2**
BORA				*i* S	**Sn**	**21 23 33.2**	**+0.7**
BORA	**Eskisehir**	**1.28**	**54**	P	**Pg**	**21 23 15.9**	**+0.2**
BORA				S	**Sn**	**21 23 33.2**	**+0.7**
ADVT	**Abdulvahap**	**1.39**	**20**	PN	**Pn**	**21 23 16.4**	**-0.1**
ADVT	**Abdulvahap**	**1.39**	**20**	*e*Pn	**Pn**	**21 23 16.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.43**	**310**	PN	**Pb**	**21 23 17.8**	**0.0**
GONE	**Gonen-Balikesi**	**1.43**	**310**	*e*Pn	**Pb**	**21 23 17.8**	**0.0**
ARMT	**Armutlu**	**1.44**	**353**	PN	**Pn**	**21 23 17.8**	**+0.5**
ARMT	**Armutlu**	**1.44**	**353**	*e*Pn	**Pn**	**21 23 17.8**	**+0.5**
EDC	**Edincik**	**1.54**	**322**	PN	**Pb**	**21 23 19.5**	**-0.3**
EDC	**Edincik**	**1.54**	**322**	*e*Pn	**Pb**	**21 23 19.5**	**-0.3**
GULT	**Gulveren**	**1.69**	**39**	PN	**Pn**	**21 23 20.4**	**-0.4**
GULT	**Gulveren**	**1.69**	**39**	*e*Pn	**Pn**	**21 23 20.4**	**-0.4**

IDC 03 21:31:13.5±3.4**, 20°.14S×169°.10E, h0^{km}, mb3.6**/2**, mb1 3.8**/3**, mb1mx3.5**/39**, mbtmp3.5**/3**, ML3.3**/1**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.7**/26**, Error ellipse: s-maj=117.5km s-min=32.7km az=138.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.14**	**232**	Pn	Pn	21 32 04.1	-0.2
	3.8nm,0.3s,baz=119,slow=13,SNR=18						
DZM				Sn	Sn	21 32 43.9	+1.3
	5.0nm,0.3s,baz=263,slow=22,SNR=6.0						
WRA	**Warramunga Arr**	**32.62**	**264**	P	P	21 37 47.5	+0.3
	0.4nm,0.7s,baz=90,slow=8.5,SNR=3.7						
ASAR	**Alice Springs**	**32.80**	**257**	P	P	21 37 48.2	-0.5
	0.7nm,0.7s,baz=89,slow=8.5,SNR=4.0						
VNDA	**Vanda**	**57.53**	**182**	LR	LR	22 01 21.9	
	comp=Z,59nm,18.7s,baz=322,slow=31						
EKA	**Eskdalemuir Ar**	**144.38**	**352**	PKP	PKPab	21 50 49.0	-0.4
	1.8nm,0.8s,baz=6.5,slow=2.5,SNR=4.3						
GERES	**GERESS Array B**	**145.22**	**331**	PKPbc	PKPdf	21 50 53.1	-0.1
	0.4nm,0.6s,baz=35,slow=3.6,SNR=4.9						

IDC 03 21:35:15.7±3.3**, 22°.67S×170°.38E, h0^{km}, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.4**/36**, mbtmp3.3**/3**, ML3.5**/1**, Error ellipse: s-maj=136.2km s-min=48.5km az=166.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.69**	**279**	Pn	Pn	21 36 14.1	0.0
	3.8nm,0.3s,baz=123,slow=14,SNR=17						
DZM				Sn	Sn	21 36 52.7	-5.7
	6.8nm,0.3s,baz=299,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**33.49**	**261**	P	P	21 41 57.5	+0.5
	0.2nm,0.7s,baz=84,slow=9.4,SNR=2.1						
WRA	**Warramunga Arr**	**33.63**	**268**	P	P	21 41 57.6	-0.7
	0.3nm,0.7s,baz=103,slow=8.5,SNR=3.4						
GERES	**GERESS Array B**	**147.99**	**330**	PKPbc	PKPbc	21 55 02.5	-0.7
	0.5nm,0.7s,baz=35,slow=4.9,SNR=5.4						

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*IDC **03** 21:36:22.8±1.8, 35°.45N×141°.95E, h0^{km}, mb3.3/3, mb1 3.5/6, mb1mx3.3/63, mbtmp3.4/6, ML3.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/31, Error ellipse: s-maj=45.1km s-min=23.1km az=75.0*

*ISCJB **03** 21:36:27.1±1.3, 35°.27N±0°.06×141°.5E±0°.1, h25^{km}, mb3.4/3, MS3.1/1, Error ellipse: s-maj=15.3km s-min=7.2km az=162.2*

*JMA **03** 21:36:31.3±0.2, 35°.25N×141°.20E, h15^{km}±5^{km}, M2.6*

ISC 03 21:36:27.6±1.4**, 35°.35N**±0°.07×**141°.6E**±0°.1**, h25^{km}, n19, σ2^{s}02**/15**, mb3.4**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.67**	**302**	P	**Pb**	**21 36 41.7**	**+1.1**
CHOJ				*e*S	**Sb**	**21 36 48.5**	**-0.9**
BSO1	**Boso 1**	**0.84**	**214**	P	**Pn**	**21 36 43.3**	**0.0**
BSO3	**Boso 3**	**1.02**	**238**	P	**Pn**	**21 36 44.2**	**-1.8**
TATJ	**Tateyama 2**	**1.40**	**257**	P	**Pn**	**21 36 51.5**	**0.0**
JYO	**Yokosk**	**1.55**	**266**	P	**Pn**	**21 36 54.4**	**+0.8**
JHJ	**Hachijo jima 2**	**2.67**	**214**	Pn	**Pn**	**21 37 09.4**	**+0.4**
	8.9nm,0.3s,baz=76,slow=19,SNR=2.7						
JHJ				Sn	**Sn**	**21 37 38.3**	**-2.2**
	19nm,0.3s,baz=53,slow=20,SNR=4.7						
MJAR	**Matsushiro Arr**	**2.96**	**295**	Pn	**Pn**	**21 37 15.3**	**+2.3**
	2.1nm,0.3s,baz=98,slow=27,SNR=17						
MAT	**Matsushiro**	**2.96**	**295**	P	**Pn**	**21 37 15.7**	**+2.7**
MAT				*e*S	**Sn**	**21 37 46.4**	**-1.4**
ASAJ	**Asahikawa**	**8.79**	**5**	Pn	**Pn**	**21 38 28.2**	**-4.8**
	0.2nm,0.3s,baz=65,slow=19,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**27.22**	**118**	T	T	22 10 51.8	
	baz=301,slow=74,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**27.23**	**118**	T	T	22 10 58.6	
	baz=301,slow=74,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**27.24**	**118**	T	T	22 11 05.5	
	baz=301						
H11S1	**WAKE ISLAND Hy**	**27.88**	**120**	T	T	22 11 44.9	
	baz=312,slow=75,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**27.88**	**120**	T	T	22 11 51.0	
	baz=312,slow=75,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**27.90**	**120**	T	T	22 11 45.7	
	baz=312,slow=75,SNR=7.6						
MKAR	**Makanchi Array**	**45.12**	**304**	P	**P**	**21 44 42.7**	**+0.8**
	0.2nm,0.6s,baz=86,slow=11,SNR=3.5						
HNR	**Honiara**	**47.81**	**155**	LR	LR	22 06 43.7	
	comp=Z,20nm,18.0s,baz=133,slow=38						
WRA	**Warramunga Arr**	**55.42**	**188**	P	**P**	**21 46 00.1**	**+0.2**
	0.5nm,0.5s,baz=1.0,slow=7.3,SNR=8.6						
ASAR	**Alice Springs**	**59.14**	**188**	P	**P**	**21 46 26.4**	**+0.2**
	0.1nm,0.3s,baz=350,slow=5.4,SNR=3.3						

IDC 03 22:03:53.9±1.8**, 8°.19S×124°.94E, h0^{km}, mb3.1**/1**, mb1 3.3**/4**, mb1mx3.1**/45**, mbtmp3.1**/4**, ML3.1**/3**, Error ellipse: s-maj=44.5km s-min=25.1km az=89.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.37**	**212**	Pn	Pn	22 04 34.6	+0.5
	6.0nm,0.3s,baz=334,slow=7.1,SNR=8.9						
BATI				Sn	Sn	22 05 04.2	+0.2
	3.2nm,0.3s,baz=90,slow=20,SNR=5.5						
WRA	**Warramunga Arr**	**14.82**	**143**	Pn	Pn	22 07 26.6	+1.7
	0.1nm,0.3s,baz=316,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**17.63**	**152**	P	Pn	22 07 59.9	-1.3
	0.0nm,0.3s,baz=331,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**66.58**	**330**	P	P	22 14 46.0	0.0
	0.1nm,0.5s,baz=122,slow=5.2,SNR=2.6						

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*IDC **03** 22:12:52.6±0.5, 35°.67S×72°.85W, h0^{km}, mb4.8/12, mb1 4.9/14, mb1mx4.7/29, mbtmp4.8/14, ML4.5/2, MS4.5/21, Ms1 4.5/21, ms1mx4.4/35, Error ellipse: s-maj=26.6km s-min=15.8km az=70.0*

*GCMT **03** 22:12:55.0±0.3, 35°.77S×73°.17W, h31^{km}, MW5.1/75, Moment Tensor Solution. s58,c75; s75,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.14±.23; $M_{\theta\theta}$-1.85±.15; $M_{\phi\phi}$-3.28±.18; $M_{r\theta}$-1.56±.20; $M_{\theta\phi}$-3.10±.11; $M_{\phi r}$-2.91±.27; Best double couple: $M_0$6.37000×10^{16} NP1:ϕ_s213.00000°,δ61.00000°,λ84.00000°. NP2: ϕ_s45.00000°,δ30.00000°,λ101.00000°. Principal axes: T 6.0950, Plg74.0000°, Azm107.0000°; N 0.5610, Plg5.0000°, Azm216.0000°; P -6.6450, Plg15.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 22:12:55.0±0.0, 35°.75S×72°.80W, h13^{km}, mb4.9/21, MW5.0, ML4.9(GUC), Moment Tensor Solution. s8 Moment tensor: Scale 10^{16}Nm; M_{rr}2.16; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$-1.41; $M_{r\theta}$-1.13; $M_{\theta\phi}$-0.92; $M_{\phi r}$-2.44; Best double couple: $M_0$3.40000×10^{16} NP1:ϕ_s207.00000°,δ71.00000°, λ85.00000°. NP2:ϕ_s42.00000°,δ20.00000°,λ104.00000°. Principal axes: T 3.4800, Plg64.0000°, Azm109.0000°; N -0.1400, Plg5.0000°, Azm209.0000°; P -3.3400, Plg26.0000°, Azm301.0000°; After GUC.*

NEIC Felt [V] at Cauquenes and [IV] at Chanco, Chiguayante, Chillan, Chillan Viejo, Cobquecura, Concepcion, Constitucion, Hualpen, La Laja, Linares, Pelluhue, Penco, San Pedro de la Paz, Talca, Talcahuano and Tome. Felt widely in Araucania, Bio-Bio, Maule and O'Higgins.

*ISCJB **03** 22:12:55.3±0.8, 35°.68S±0°.02×72°.82W±0°.05, h25^{km}±5^{km}, mb5.0/29, MS4.6/20 Error ellipse: s-maj=7.2km s-min=4.1km az=177.5*

*GUC **03** 22:12:56.2±0.7, 35°.74S×73°.00W, h11^{km}±3^{km}, ML4.9*

*BJI **03** 22:12:56.0, 35°.10S×73°.04W, h30^{km}, mB5.1/9, Ms5.3/9, Ms7 5.1/9*

ISC 03 22:12:56.1±0.6**, 35°.70S**±0°.03×**72°.89W**±0°.06**, h21**^{km}±5^{km}**, n481, σ0^{s}96**/472**, mb5.0**/29**, MS4.6**/20**, 4C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.44**	**169**	⇓*i*P	**Pb**	**22 13 04.3**	**-0.8**
COCH				*i* S	**Sb**	**22 13 09.8**	**-1.4**
COCH				IAML		22 13 11.2	
	comp=E,83µm,0.5s						
GO05	**HualaæØ**	**1.04**	**49**	*e*Pn	**Pn**	**22 13 16.2**	**+0.6**
GO05				*e*Sn	**Sn**	**22 13 31.6**	**+2.1**
GO05	**HualaæØ**	**1.04**	**49**	⇑*i*P	**Pn**	**22 13 15.4**	**-0.1**
GO05				*i* S	**Sn**	**22 13 30.4**	**+0.8**
GO05				IAML		22 13 32.0	
	comp=N,20µm,0.3s						
CCHI	**Chillan**	**1.12**	**144**	⇓*i*P	**Pn**	**22 13 15.6**	**-0.9**
CCHI				*i* S	**Sb**	**22 13 30.6**	**-0.2**
CCHI				IAML		22 13 39.1	
	comp=N,113µm,0.6s						
CHPI	**Pichilemu**	**1.49**	**29**	*e*P	**Pn**	**22 13 20.9**	**-0.8**
CHPI				*i* S	**Sn**	**22 13 39.4**	**-1.2**
CHPI				IAML		22 13 47.7	
	comp=E,10µm,0.8s						
NICH	**Los Niches**	**1.52**	**63**	*e*P	**Pb**	**22 13 23.7**	**0.0**
NICH				*i* S	**Sb**	**22 13 44.5**	**+1.9**
ANTU	**Antumapu**	**2.82**	**42**	IAML		22 14 31.9	
	comp=N,6µm,0.6s						
LMEL	**Las Melosas**	**2.88**	**51**	⇑*i*P	**Pb**	**22 13 43.8**	**-3.1**
FSR	**Penalolen**	**2.95**	**42**	*e*P	**Pb**	**22 13 45.1**	**-2.9**
TMU	**Temuco**	**3.04**	**176**	⇓*i*P	**Pn**	**22 13 42.8**	**-0.2**
TMU				*i* S	**Sn**	**22 14 20.1**	**+1.3**
TMU				IAML		22 14 34.6	
	comp=E,14µm,0.8s						
ROC1	**El Roble**	**3.13**	**30**	*e*Pn	**Pn**	**22 13 45.8**	**+1.4**
ROCH	**El Roble**	**3.13**	**30**	IAML		22 14 53.6	
	comp=N,4µm,0.6s						
FCH	**Farellones**	**3.19**	**43**	IAML		22 14 42.0	
	comp=N,3µm,0.4s						
PLCA	**Paso Flores**	**5.35**	**161**	Pn	**Pn**	**22 14 15.9**	**+1.0**
	comp=N,8.7nm,0.3s,baz=354,slow=12,SNR=33						
PLCA				Lg	Lg	22 15 37.2	
	comp=N,22nm,0.3s,baz=286,slow=17,SNR=4.3						
PLCA				LR	LR	22 16 11.7	
	comp=N,4µm,21.8s,baz=357,slow=37						
LCO	**Las Campanas**	**6.92**	**16**	*e*Pn	**Pn**	**22 14 35.9**	**-0.7**
TRQA	**Tornquist**	**9.05**	**108**	*e*Pn	**Pn**	**22 15 07.3**	**+1.7**
CHRN	**Cochrane**	**11.54**	**179**	*e*Pn	**Pn**	**22 15 38.4**	**-1.2**
PB04	**IPOC Station P**	**13.53**	**11**	*e*Pn	**Pn**	**22 16 07.6**	**+0.6**
PB01	**IPOC Station P**	**14.90**	**12**	*e*Pn	**Pn**	**22 16 25.8**	**+0.1**
GO09	**Cerro Castillo**	**15.57**	**179**	*e*Pn	**Pn**	**22 16 34.1**	**-0.2**
	comp=N,87nm,1.2s						
PB11	**IPOC Station P**	**16.13**	**11**	*e*Pn	**Pn**	**22 16 42.7**	**+0.9**
	comp=N,99nm,1.0s						
CPUP	**Villa Florida**	**16.27**	**59**	Pn	**Pn**	**22 16 43.5**	**+0.1**
	comp=N,0.1nm,0.3s,baz=236,slow=12,SNR=5.9						
CPUP				Lg	Lg	22 21 22.1	
	comp=N,0.2nm,0.3s,baz=240,slow=14,SNR=2.8						
CPUP				LR	LR	22 23 28.6	
	comp=N,2µm,21.3s,baz=236,slow=39						
CPUP	**Villa Florida**	**16.27**	**59**	*e*Pn	**P**	**22 16 45.2**	**-1.1**
	comp=N,14nm,1.0s						
MNMC	**Minye Minye**	**16.76**	**11**	*e*Pn	**Pn**	**22 16 50.2**	**+0.3**
	comp=N,71nm,0.9s						
EFI	**East Falkland**	**19.18**	**151**	*e*P	**Pn**	**22 17 18.8**	**-0.3**
	comp=N,52nm,0.9s						
LPAZ	**La Paz**	**19.79**	**14**	P	**Pn**	**22 17 27.8**	**+0.4**
	comp=N,0.4nm,0.3s,baz=162,slow=9.8,SNR=19						
LPAZ	**La Paz**	**19.79**	**14**	*e*P	**Pn**	**22 17 27.1**	**-0.3**
	comp=N,63nm,1.4s						
NNA	**Nana**	**23.88**	**350**	P	**P**	**22 18 10.4**	**+2.0**
	comp=N,4.3nm,0.4s,baz=165,slow=12,SNR=2.3						
NNA				LR	LR	22 25 39.2	
	comp=N,1µm,18.5s,baz=186,slow=32						
SPB	**Sao Paulo**	**25.12**	**68**	*e*P	**P**	**22 18 19.5**	**-0.2**
SPB				*e*pP	**P**	**22 18 19.9**	**+0.2**
SAML	**Samuel**	**28.06**	**21**	*e*P	**P**	**22 18 46.0**	**-0.2**
	comp=N,9.9nm,1.0s						
ATAH	**Atahualpa**	**28.87**	**349**	LR	LR	22 28 32.5	
	comp=N,946nm,18.7s,baz=192,slow=33						
PMSA	**Palmer Station**	**29.59**	**172**	*e*P	**P**	**22 19 00.7**	**+1.4**
	comp=N,115nm,1.2s						
HOPE	**Hope Point**	**31.27**	**138**	*e*P	**P**	**22 19 14.6**	**+0.3**
	comp=N,90nm,1.4s						
OTAV	**Otavalo**	**36.12**	**351**	*e*P	**P**	**22 19 58.2**	**+0.9**
	comp=N,10nm,1.0s						
PRAC	**Prado**	**39.25**	**357**	*e*P	**P**	**22 20 25.1**	**+1.8**
	comp=N,30nm,1.1s						
RUSC	**La Rusia**	**41.37**	**360**	*e*P	**P**	**22 20 42.3**	**+0.9**
	comp=N,44nm,1.6s						
HELC	**Santa Helena**	**41.74**	**356**	*e*P	**P**	**22 20 45.2**	**+1.0**
	comp=N,217nm,2.0s						
SDV	**Santo Domingo**	**44.39**	**3**	P	**P**	**22 21 05.0**	**-0.5**
	comp=N,8.1nm,0.9s,baz=232,slow=6.5,SNR=7.4						
SDV	**Santo Domingo**	**44.39**	**3**	*e*P	**P**	**22 21 05.1**	**-0.5**
	comp=N,32nm,1.4s						
PCRV	**Puerto La Cruz**	**46.29**	**11**	LR	LR	22 42 09.6	
	comp=N,727nm,20.6s,baz=174,slow=38						
JTS	**JuntasAbangare**	**47.14**	**344**	LR	LR	22 36 55.5	
	comp=N,365nm,20.6s,baz=187,slow=31						
VNA3	**Neumayer Olymp**	**48.06**	**157**	P	**P**	**22 21 34.2**	**+0.6**
VNA1	**Neumayer--Stat**	**48.40**	**156**	P	**P**	**22 21 37.5**	**+1.3**
VNA2	**Neumayer--Watz**	**48.73**	**157**	P	**P**	**22 21 39.5**	**+0.7**
	baz=292,slow=8.9						
PTCN	**Pitcairn Islan**	**49.86**	**266**	*e*P	**P**	**22 21 51.6**	**+3.5**
	comp=N,483nm,0.4s						
SNAA	**Sanae**	**50.29**	**157**	P	**P**	**22 21 51.4**	**+0.7**
SNAA	**Sanae**	**50.29**	**157**	P	**P**	**22 21 51.1**	**+0.4**
	comp=N,53nm,0.9s,baz=278,slow=7.6,SNR=91						
SNAA	**Sanae**	**50.29**	**157**	*e*P	**P**	**22 21 51.1**	**+0.4**
	comp=N,83nm,1.0s						
CBYP	**Canovanas**	**54.09**	**8**	*e*P	**P**	**22 22 17.8**	**-1.6**
	comp=N,49nm,1.1s						
QSPA	**South Pole Qui**	**54.54**	**180**	*e*P	**P**	**22 22 22.6**	**+0.2**
RKT	**Rikitea**	**54.71**	**265**	*e*S	**S**	**22 30 02.7**	**-0.8**
	comp=N,279nm,31.5s						
RKT				*e*LR	LR	22 38 18.3	
	comp=N,325nm,24.5s						
RKT	**Rikitea**	**54.71**	**265**	*e*T	T	23 21 11.2	
	comp=N,1.8nm,0.2s						
VNDA	**Vanda**	**62.30**	**192**	P	**P**	**22 23 17.3**	**+1.1**
	comp=N,3.7nm,0.9s,baz=168,slow=9.1,SNR=3.8						
VNDA				LR	LR	22 46 04.1	
	comp=N,238nm,20.0s,baz=122,slow=32						
SYO	**Syowa Base**	**64.55**	**158**	⇑*i*P	**P**	**22 23 29.6**	**-1.5**
SYO	**Syowa Base**	**64.55**	**158**	⇑*i*pP	pP	22 23 38.4	+0.6
TBI	**Tubuai**	**66.25**	**258**	*e*S	**S**	**22 32 29.5**	**-1.7**
	comp=N,399nm,29.2s						
TBI	**Tubuai**	**66.25**	**258**	*e*LR	LR	22 43 43.4	
	comp=N,678nm,24.8s						
TAOE	**Nuku Hiva Isla**	**66.43**	**276**	*e*S	**S**	**22 32 31.5**	**-2.3**
	comp=N,188nm,26.2s						
TAOE	**Nuku Hiva Isla**	**66.43**	**276**	*e*LR	LR	22 43 45.5	
	comp=N,297nm,27.0s						
348A	**Jackson**	**68.23**	**346**	P	**P**	**22 23 56.7**	**+1.7**
	baz=167						
347A	**Saraland**	**68.35**	**346**	P	**P**	**22 23 56.6**	**+0.8**
	baz=166						
833A	**Chaparral WMA,**	**68.41**	**335**	P	**P**	**22 23 57.3**	**+1.1**
	baz=157						
251A	**Midway**	**68.45**	**349**	P	**P**	**22 23 56.4**	**-0.1**
	baz=169						
TVO	**Taravao**	**68.95**	**263**	*e*T	T	23 38 59.0	
	comp=N,1.5nm,0.2s						
247A	**Quitman**	**68.99**	**346**	P	**P**	**22 24 00.3**	**+0.5**
	baz=166						
150A	**Eclectic**	**69.05**	**348**	P	**P**	**22 24 00.4**	**+0.2**
	baz=169						
TIAR	**Tiarei**	**69.14**	**263**	*e*T	T	23 39 13.8	
	comp=N,5.4nm,0.2s						
LPIG	**La Paz**	**69.21**	**324**	LR	LR	22 47 53.3	
	comp=N,316nm,18.6s,baz=183,slow=30						
PAE	**Paea**	**69.28**	**263**	*e*T	T	23 39 22.4	
	comp=N,0.9nm,0.2s						
PPT2	**Papeete2**	**69.31**	**263**	*e*S	**S**	**22 33 07.1**	**-1.1**
	comp=N,215nm,23.8s						
PPT2	**Papeete2**	**69.31**	**263**	*e*LR	LR	22 45 05.2	
	comp=N,669nm,23.5s						
PPT	**Papeete**	**69.32**	**263**	LR	LR	22 46 07.4	
	comp=N,401nm,19.2s,baz=140,slow=29						
341A	**Kurthwood**	**69.34**	**342**	P	**P**	**22 24 03.3**	**+1.2**
	baz=162						
244A	**Avery, Jackson**	**69.42**	**344**	P	**P**	**22 24 03.4**	**+0.9**
	baz=165						
GOGA	**Godfrey**	**69.46**	**351**	P	**P**	**22 24 02.6**	**-0.1**
	baz=171						
147A	**Livingston**	**69.53**	**346**	P	**P**	**22 24 03.0**	**-0.1**
	baz=167						
LRAL	**Lakeview Retre**	**69.64**	**347**	P	**P**	**22 24 03.9**	**+0.1**
	baz=168						
Z50A	**Ashland**	**69.67**	**348**	P	**P**	**22 24 03.9**	**-0.2**
	baz=169						
Z47A	**Carrollton**	**70.00**	**346**	P	**P**	**22 24 06.6**	**+0.6**
	baz=167						
Z48A	**Northport**	**70.07**	**347**	P	**P**	**22 24 06.8**	**+0.4**
	baz=167						
435B	**Jarrell**	**70.08**	**338**	P	**P**	**22 24 07.8**	**+1.2**
	baz=159						
NATX	**Nacogdoches**	**70.15**	**340**	P	**P**	**22 24 08.0**	**+1.1**
	baz=161						
NATX	**Nacogdoches**	**70.15**	**340**	*e*P	**P**	**22 24 08.2**	**+1.2**
Z46A	**Louisville**	**70.16**	**346**	P	**P**	**22 24 08.5**	**+1.4**
	baz=166						
143A	**Socs Landing,**	**70.22**	**343**	P	**P**	**22 24 08.4**	**+1.0**
	baz=164						
Y50A	**Piedmont**	**70.26**	**349**	P	**P**	**22 24 07.6**	**0.0**
	baz=169						
Y49A	**Blount Mountai**	**70.34**	**348**	P	**P**	**22 24 08.4**	**+0.3**
	baz=168						
JCT	**Junction City**	**70.52**	**336**	P	**P**	**22 24 10.1**	**+0.7**
	baz=157						
JCT	**Junction City**	**70.52**	**336**	*e*P	**P**	**22 24 09.7**	**+0.3**
Y48A	**Jasper**	**70.53**	**347**	P	**P**	**22 24 09.0**	**-0.3**
	baz=168						
Y47A	**UCPARC, Winfie**	**70.64**	**347**	P	**P**	**22 24 10.2**	**+0.3**
	baz=167,SNR=13						
X50A	**Fort Payne**	**70.81**	**349**	P	**P**	**22 24 11.1**	**+0.1**
	baz=169						
Y46A	**Houston**	**70.81**	**346**	P	**P**	**22 24 11.2**	**+0.2**
	baz=166						
TXAR	**Lajitas Array**	**70.88**	**332**	P	**P**	**22 24 12.3**	**+0.6**
	comp=N,2.0nm,0.6s,baz=153,slow=8.6,SNR=18						
TXAR				LR	LR	22 50 46.5	
	comp=N,590nm,18.2s,baz=0.0,slow=32						
TX31	**Lajitas Ar. Si**	**70.88**	**332**	*e*P	**P**	**22 24 12.4**	**+0.7**
KMSC	**Kings Mountain**	**70.92**	**353**	P	**P**	**22 24 11.7**	**+0.1**
	baz=173						
KMSC	**Kings Mountain**	**70.92**	**353**	*e*P	**P**	**22 24 11.5**	**-0.1**
Y45A	**Yeager Farm, C**	**70.93**	**345**	P	**P**	**22 24 12.3**	**+0.6**
	baz=166						
BG3	**Lake Jocassee**	**70.95**	**351**	*e*P	**P**	**22 24 12.1**	**+0.3**
X48A	**Hartselle**	**71.03**	**348**	P	**P**	**22 24 12.7**	**+0.4**
	baz=168,SNR=6.7						
Z41A	**Richland Creek**	**71.08**	**342**	P	**P**	**22 24 13.4**	**+0.7**
	baz=163						
WHTX	**Lake Whitney,**	**71.17**	**338**	P	**P**	**22 24 13.4**	**+0.2**
	baz=159						
WHTX	**Lake Whitney,**	**71.17**	**338**	*e*P	**P**	**22 24 13.8**	**+0.6**
X47A	**Russelville**	**71.24**	**347**	P	**P**	**22 24 13.4**	**-0.2**
	baz=167						
X45A	**UM Field Stati**	**71.44**	**346**	P	**P**	**22 24 14.6**	**-0.2**
	baz=166						
OXF	**Oxford**	**71.53**	**346**	P	**P**	**22 24 15.5**	**+0.2**
	baz=166						
SWET	**Sewanee**	**71.59**	**349**	*e*P	**P**	**22 24 15.8**	**+0.1**
CPCT	**Cooper Cave**	**71.61**	**350**	*e*P	**P**	**22 24 15.9**	**+0.1**
Y41A	**Eaglette Beard**	**71.63**	**343**	P	**P**	**22 24 16.5**	**+0.6**
	baz=163						
W48A	**Pulaski**	**71.68**	**348**	P	**P**	**22 24 16.5**	**+0.3**
	baz=168						
TKL	**Tuckaleechee C**	**71.71**	**351**	P	**P**	**22 24 16.0**	**-0.4**
	comp=N,8.8nm,0.9s,baz=141,slow=6.5,SNR=4.6						
PLAL	**Pickwick Lake**	**71.73**	**347**	*e*P	**P**	**22 24 16.3**	**-0.2**
MAW	**Mawson**	**71.75**	**164**	LR	LR	22 58 29.6	
	comp=N,803nm,18.1s,baz=234,slow=38						
W47A	**Westpoint**	**71.91**	**347**	P	**P**	**22 24 17.4**	**-0.2**
	baz=167,SNR=6.0						
Y40A	**Okolona**	**71.92**	**342**	P	**P**	**22 24 17.5**	**-0.2**
	baz=163						
W45A	**Hickory Valley**	**72.11**	**346**	P	**P**	**22 24 19.0**	**+0.2**
	baz=166						
V48A	**Smith Brothers**	**72.25**	**348**	P	**P**	**22 24 19.5**	**-0.1**
	baz=168,SNR=24						
X40A	**Basin Creek Fa**	**72.27**	**343**	P	**P**	**22 24 20.0**	**+0.2**
	baz=163						
ABTX	**Abilene, Hawle**	**72.44**	**337**	P	**P**	**22 24 21.5**	**+0.6**
	baz=157						
ABTX	**Abilene, Hawle**	**72.44**	**337**	*e*P	**P**	**22 24 21.0**	**+0.1**
V47A	**Nunnelly**	**72.45**	**348**	P	**P**	**22 24 20.6**	**-0.2**
	baz=168,SNR=10						
V46A	**Holladay**	**72.53**	**347**	P	**P**	**22 24 20.8**	**-0.5**
	baz=167						
X39A	**Fountain Ranch**	**72.61**	**342**	P	**P**	**22 24 22.3**	**+0.5**
	baz=162						
W41B	**Gary Mavity, V**	**72.78**	**343**	P	**P**	**22 24 22.8**	**0.0**
	baz=164						
WVT	**Waverly**	**72.80**	**347**	P	**P**	**22 24 22.5**	**-0.4**
	baz=167						
WVT	**Waverly**	**72.80**	**347**	*e*P	**P**	**22 24 22.5**	**-0.4**
X301	**Greenbrier Sit**	**72.88**	**343**	*e*P	**P**	**22 24 23.7**	**+0.4**
WHAR	**Wooly Hollow**	**72.90**	**343**	*e*P	**P**	**22 24 23.8**	**+0.2**
U48A	**Cassie Pea, Po**	**72.95**	**349**	P	**P**	**22 24 24.2**	**+0.4**
	baz=168						
U47A	**Clarksville**	**73.01**	**348**	P	**P**	**22 24 23.8**	**-0.3**
	baz=168,SNR=12						
U46A	**Springville**	**73.09**	**347**	P	**P**	**22 24 24.2**	**-0.4**
	baz=167,SNR=8.2						
BBTS	**Babate**	**73.12**	**57**	LR	LR	22 55 39.7	
	comp=N,987nm,19.6s,baz=232,slow=35						
W39A	**Magazine**	**73.17**	**342**	P	**P**	**22 24 25.3**	**+0.2**
	baz=162						
U45A	**Rockin P Farm,**	**73.19**	**347**	P	**P**	**22 24 25.4**	**+0.3**
	baz=167						
IP05	**Hopewell Churc**	**73.30**	**356**	*e*P	**P**	**22 24 27.0**	**+1.3**
V41A	**Mountainview**	**73.35**	**344**	P	**P**	**22 24 25.7**	**-0.5**
	baz=164,SNR=7.1						
IP07	**Quail**	**73.40**	**356**	*e*P	**P**	**22 24 27.6**	**+1.3**
T47A	**Sharon Grove**	**73.52**	**348**	P	**P**	**22 24 26.8**	**-0.2**
	baz=168,SNR=5.3						
T48A	**Bowling Green**	**73.52**	**349**	P	**P**	**22 24 26.8**	**-0.3**
	baz=169						
V40A	**Witts Springs**	**73.52**	**343**	P	**P**	**22 24 26.8**	**-0.4**
	baz=163						
IP04	**Greensprings**	**73.58**	**356**	*e*P	**P**	**22 24 28.3**	**+0.8**
MNTX	**Cornudas Mount**	**73.65**	**332**	P	**P**	**22 24 27.7**	**-0.4**
	baz=153,SNR=8.5						
MNTX	**Cornudas Mount**	**73.65**	**332**	*e*P	**P**	**22 24 27.6**	**-0.4**
U42A	**Revenden**	**73.69**	**345**	P	**P**	**22 24 27.9**	**-0.2**
	baz=164,SNR=6.9						
T46A	**Princeton**	**73.70**	**348**	P	**P**	**22 24 28.1**	**-0.1**
	baz=167,SNR=5.3						
V39A	**Pettigrew**	**73.75**	**343**	P	**P**	**22 24 28.7**	**+0.1**
	baz=162,SNR=5.9						
U41A	**Viola**	**73.83**	**344**	P	**P**	**22 24 28.7**	**-0.2**
	baz=164						
S48A	**Wiedeman Farm,**	**74.00**	**349**	P	**P**	**22 24 29.2**	**-0.7**
	baz=169						
U40A	**Yellville**	**74.06**	**343**	P	**P**	**22 24 30.2**	**-0.1**
	baz=163,SNR=6.7						
WMOK	**Wichita Mounta**	**74.12**	**338**	P	**P**	**22 24 30.5**	**-0.3**
	baz=158,SNR=5.3						
WMOK	**Wichita Mounta**	**74.12**	**338**	*e*P	**P**	**22 24 30.6**	**-0.2**
T43A	**Greenville**	**74.19**	**346**	P	**P**	**22 24 30.7**	**-0.4**
	baz=165,SNR=5.3						
U39A	**Green Forest**	**74.23**	**343**	P	**P**	**22 24 30.9**	**-0.4**
	baz=163						
HHAR	**Hobbs**	**74.24**	**342**	*e*P	**P**	**22 24 31.4**	**0.0**
OK022	**N3560 Road, Pr**	**74.25**	**340**	*e*P	**P**	**22 24 31.1**	**-0.3**
S46A	**Don Dixon Farm**	**74.30**	**348**	P	**P**	**22 24 31.2**	**-0.4**
	baz=168						
T42A	**Van Buren**	**74.31**	**345**	P	**P**	**22 24 31.1**	**-0.6**
	baz=165,SNR=5.3						
OK020	**N3440 Road, Me**	**74.31**	**340**	*e*P	**P**	**22 24 31.7**	**-0.1**
TUL1	**Leonard**	**74.37**	**341**	P	**P**	**22 24 32.0**	**-0.1**
	baz=161						
TUL1	**Leonard**	**74.37**	**341**	*e*P	**P**	**22 24 32.1**	**0.0**
T41A	**Mountain View**	**74.47**	**344**	P	**P**	**22 24 32.5**	**-0.2**
	baz=164						
S44A	**Carbondale**	**74.58**	**347**	P	**P**	**22 24 33.3**	**0.0**
	baz=166						
S43A	**Fulton Ridge,**	**74.62**	**346**	P	**P**	**22 24 33.2**	**-0.4**
	baz=166,SNR=12						
R47A	**Wooly Knot Far**	**74.70**	**349**	P	**P**	**22 24 33.6**	**-0.4**

baz=168
R48A Northridge Ran 74.70 349 P P 22 24 33.5 -0.5
baz=169
MSTX Muleshoe 74.73 335 P P 22 24 34.4 +0.1
baz=155,SNR=6.7
MSTX Muleshoe 74.73 335 eP P 22 24 34.6 +0.2
R46A Gibon Southern 74.78 348 P P 22 24 33.9 -0.6
baz=168
T39A Clever 74.81 343 P P 22 24 34.2 -0.5
baz=163
S42A Caledonia 74.96 345 P P 22 24 34.8 -0.7
baz=165,SNR=5.4
S41A Jillco Farms, 74.99 345 P P 22 24 35.4 -0.3
baz=164,SNR=8.9
R45A Skylar, Fairfi 74.99 348 P P 22 24 35.2 -0.4
baz=167
T38A Diamond 75.05 342 P P 22 24 35.8 -0.3
baz=162,SNR=6.3
R44A Waltonville 75.09 347 P P 22 24 35.8 -0.4
baz=166
FVM French Village 75.09 346 eP P 22 24 35.8 -0.4
S40A Lebanon 75.16 344 P P 22 24 36.7 0.0
baz=164,SNR=7.3
AMTX Amarillo 75.18 336 P P 22 24 37.4 +0.5
baz=156
AMTX Amarillo 75.18 336 eP P 22 24 37.6 +0.6
MCWV Mont Chateau 75.26 354 P P 22 24 37.2 0.0
baz=174
R43A Red Bud 75.28 346 P P 22 24 37.3 0.0
baz=166
CCM Cathedral Cave 75.33 345 P P 22 24 37.5 -0.2
baz=165
CCM Cathedral Cave 75.33 345 eP P 22 24 37.4 -0.2
121A Cookes Peak, D 75.34 330 P P 22 24 39.4 +1.3
baz=151,SNR=5.3
121A Cookes Peak, D 75.34 330 eP P 22 24 39.2 +1.2
comp=N,15nm,1.0s
S39A Bolivar 75.44 343 P P 22 24 38.2 -0.1
baz=163,SNR=7.6
RAR Rarotonga 75.51 254 LR LR 22 49 00.9
comp=N,132nm,21.8s,baz=100,slow=29
T35A Sooner Cattle 75.51 341 P P 22 24 38.9 +0.2
baz=160,SNR=5.6
S38A Stockton 75.52 343 P P 22 24 38.3 -0.4
baz=162,SNR=8.9
Q45A Warren Harvey, 75.55 348 P P 22 24 38.4 -0.5
baz=167
R41A Rosebud 75.59 345 P P 22 24 39.0 -0.1
baz=164,SNR=7.9
R40A Maddies Statio 75.77 344 P P 22 24 39.7 -0.4
baz=164
T34A McClaskey Farm 75.79 340 P P 22 24 40.8 +0.5
baz=160,SNR=6.2
Q43A New Douglas 75.88 347 P P 22 24 40.4 -0.3
baz=166
R39A Chumby, Stover 75.97 344 P P 22 24 41.0 -0.2
baz=163,SNR=6.8
LIC Lamto 75.97 72 eP P 22 24 41.1 -0.8
comp=N,96nm,1.2s
Q42A Golden Eagle 76.01 346 P P 22 24 41.2 -0.3
baz=165
R38A Fenwick Farm, 76.05 343 P P 22 24 41.0 -0.7
baz=162
P46A Rosedale 76.10 349 P P 22 24 41.4 -0.6
baz=168
ACSO Alum Creek Sta 76.13 352 P P 22 24 41.8 -0.3
baz=172
ACSO Alum Creek Sta 76.13 352 eP P 22 24 41.9 -0.3
S35A Otter Creek Ra 76.18 341 P P 22 24 42.5 0.0
baz=161
Q41A Truxton 76.19 345 P P 22 24 42.5 0.0
baz=165,SNR=10
TIC Toumodi 76.24 71 eP P 22 24 43.6 +0.1
KIC Kosan Boka 76.28 72 eP P 22 24 42.5 -1.2
comp=N,128nm,1.2s
BNM Barren Site 76.31 332 eP P 22 24 44.9 +1.3
Q40A Laux Farm, Aux 76.41 345 P P 22 24 43.5 -0.2
baz=164,SNR=9.8
TUC Tucson 76.41 328 P P 22 24 45.1 +1.0
baz=149
TUC Tucson 76.41 328 eP P 22 24 45.3 +1.3
P43A Skaggs, Pawnee 76.52 347 P P 22 24 43.9 -0.5
baz=166,SNR=6.3
O47A Sheridan 76.55 350 P P 22 24 43.8 -0.7
baz=169
P42A Winchester 76.62 346 P P 22 24 44.6 -0.3
baz=166
Q39A Willow Grove F 76.65 344 P P 22 24 44.6 -0.5
baz=163
Q38A Cooks Store, C 76.72 344 P P 22 24 45.1 -0.4
baz=163
LAZ Ladron 76.72 331 eP P 22 24 47.5 +1.6
R35A Emporia Munici 76.75 341 P P 22 24 45.6 -0.1
baz=161
O45A Potomac 76.80 348 P P 22 24 45.4 -0.6
baz=168
O44A Mansfield 76.83 348 P P 22 24 45.6 -0.5
baz=167
P40A Paris 76.92 345 P P 22 24 46.5 -0.1
baz=164,SNR=16
ANMO Albuquerque 76.94 332 P P 22 24 48.0 +0.9
baz=153
ANMO Albuquerque 76.94 332 eP P 22 24 48.0 +0.9
R34A Isabella, Hill 77.00 341 P P 22 24 47.5 +0.3
baz=160
P39B Salisbury 77.03 344 P P 22 24 47.0 -0.3
baz=164
O42A Bath 77.16 347 P P 22 24 47.8 -0.2
baz=166
Q35A Mercer Eighty, 77.21 342 P P 22 24 48.0 -0.3
baz=161
O41A Passleys Farm, 77.24 346 P P 22 24 47.8 -0.6
baz=165
N46A Monticello 77.28 349 P P 22 24 47.8 -0.8
baz=168
P38A Dawn 77.33 344 P P 22 24 48.7 -0.3
baz=163,SNR=6.4
HDIL Hopedale 77.37 347 P P 22 24 48.5 -0.6
baz=166
O40A La Belle 77.45 345 P P 22 24 49.6 0.0
baz=164
P37A Lathrop 77.49 343 P P 22 24 49.2 -0.7
baz=162
Q34A Chapman 77.50 341 P P 22 24 50.0 +0.1
baz=160
KSU1 Kansas State U 77.59 341 P P 22 24 51.2 +0.8
baz=160
O39A Kirksville 77.72 345 P P 22 24 50.9 -0.1
baz=164,SNR=5.1
N41A Harden Midland 77.81 346 P P 22 24 51.3 -0.3
baz=165
O37A Wolven Farm, M 77.99 344 P P 22 24 52.3 -0.3
baz=162
P34A Walnut Farm, R 78.06 341 P P 22 24 53.1 0.0
baz=163
N40A Mertquake, Sal 78.12 346 P P 22 24 53.0 -0.3
baz=164
T25A Trinidad 78.16 335 P P 22 24 54.9 +1.0
baz=154,SNR=15
T25A Trinidad 78.16 335 eP P 22 24 54.9 +1.0
MHTCO State Highway 78.24 335 eP P 22 24 55.6 +1.2
N39A Derby Farms, D 78.31 345 P P 22 24 53.9 -0.4
baz=164,SNR=6.7
N38A Joes South For 78.38 344 P P 22 24 54.6 -0.2
baz=163,SNR=7.9
W18A Petrified Fore 78.39 330 P P 22 24 56.2 +1.0
baz=150
M41A Milan 78.39 347 P P 22 24 54.3 -0.5
baz=165
O34A Beatrice 78.63 342 P P 22 24 56.2 +0.1
baz=160
O33A Hebron 78.76 341 P P 22 24 57.3 +0.4
baz=160
M39A Webster 78.81 345 P P 22 24 56.7 -0.4
baz=164
L42A Oliver, Polo 78.84 347 P P 22 24 57.0 -0.2
baz=166
L43A Garden Prairie 78.85 348 P P 22 24 56.9 -0.4
baz=167
ELFO Elginfield 78.89 354 P P 22 24 58.4 +0.9
baz=173
M38A Pleasantville 78.97 345 P P 22 24 57.4 -0.6
baz=163,SNR=5.8
N35A Tabor 79.00 343 P P 22 24 58.0 -0.2
baz=161,SNR=5.2
L41A Preston 79.06 347 P P 22 24 57.9 -0.5
baz=166
SDCO Great Sand Dun 79.08 334 P P 22 24 59.2 +0.1
baz=154
SDCO Great Sand Dun 79.08 334 eP P 22 25 00.0 +1.0
IKP In-Ko-Pah, Jac 79.14 324 P P 22 25 01.1 +1.9
baz=146
M37A Trindle Farm, 79.15 344 P P 22 24 59.0 0.0
baz=163
L40A Anamosa 79.19 346 P P 22 24 58.7 -0.5
baz=165
N34A Lincoln 79.19 342 P P 22 24 58.9 -0.4
baz=161
ACTO Acton 79.20 355 P P 22 25 00.0 +0.8
baz=174
WUAZ Wupatki 79.41 329 P P 22 25 02.5 +1.7
baz=149
WUAZ Wupatki 79.41 329 eP P 22 25 02.3 +1.5
TSUM Tsumeb 79.42 106 eP P 22 25 02.3 +0.9
SCIA State Center 79.44 345 P P 22 25 01.7 +1.1
baz=163
MONP2 Monument Peak 79.48 324 P P 22 25 02.7 +1.4
baz=145
K42A Prairie Point, 79.54 348 P P 22 25 00.9 -0.2
baz=166
K41A Shullsburg 79.54 347 P P 22 25 00.9 -0.1
baz=166
S22A 4UR Ranch, Cre 79.56 333 P P 22 25 02.9 +1.2
baz=152
S22A 4UR Ranch, Cre 79.56 333 eP P 22 25 03.0 +1.2
BC3 Big Chuckawall 79.65 325 P P 22 25 03.5 +1.4
baz=146
MVCO Mesa Verde 79.72 332 P P 22 25 03.7 +1.2
baz=151
MVCO Mesa Verde 79.72 332 eP P 22 25 03.2 +0.7
K40A Colesburg 79.78 346 P P 22 25 02.5 +0.1
baz=165
JFWS Jewell Farm 79.83 347 P P 22 25 03.0 +0.3
baz=166
BOSA Boshof 79.90 118 P P 22 25 03.9 0.0
comp=N,33nm,0.9s,baz=233,slow=4.3,SNR=33
BOSA LR LR 22 55 46.8
comp=N,396nm,19.5s,baz=231,slow=32
BOSA Boshof 79.90 118 eP P 22 25 04.2 +0.4
IRM Iron Mountain 79.92 326 P P 22 25 05.0 +1.5
baz=146
K39A Oelwein 79.94 346 P P 22 25 02.4 -0.8
baz=164
L36A Harm Buss Farm 79.95 344 P P 22 25 03.2 -0.1
baz=162
Q24A Divide 80.05 335 P P 22 25 05.2 +0.9
baz=154
Q24A Divide 80.05 335 eP P 22 25 05.5 +1.2
XPFO Piæon Flat 80.09 324 eP P 22 25 06.1 +1.7
PFO Pinyon Flats O 80.09 324 P P 22 25 06.1 +1.7
baz=145,SNR=5.6
PFO Pinyon Flats O 80.09 324 eP P 22 25 06.1 +1.7
L35A Bielow Farm, R 80.17 343 P P 22 25 04.7 +0.2
baz=161
BELC Belle Mtn. Jos 80.19 325 P P 22 25 06.6 +1.6
baz=146
J41A Loganville 80.22 347 P P 22 25 04.7 -0.1
baz=166
K37A Belmond 80.36 345 P P 22 25 05.0 -0.5
baz=163
J40A Soldiers Grove 80.38 347 P P 22 25 05.2 -0.4
baz=165
K36A Gilmore City 80.41 344 P P 22 25 05.8 0.0
baz=162
J39A Decorah 80.51 346 P P 22 25 06.0 -0.3
baz=165
I42A Draeger Farm, 80.54 348 P P 22 25 06.2 -0.3
baz=167
PV01 Paradox Valley 80.55 332 eP P 22 25 08.2 +1.2
GMRC Granite Mounta 80.68 326 P P 22 25 09.4 +1.8
baz=146,SNR=5.8
K34A Le Mars 80.84 343 P P 22 25 08.4 +0.2
baz=161
J37A Redenius Farm, 80.86 345 P P 22 25 07.9 -0.3
baz=163
SMCO Snowmass 80.88 334 eP P 22 25 10.4 +1.5
ISCO Idaho Springs 80.96 335 P P 22 25 10.2 +1.0
baz=154
ISCO Idaho Springs 80.96 335 eP P 22 25 10.2 +1.0
I39A Houston 80.97 346 P P 22 25 08.5 -0.2
baz=165
J36A Seneca 1, Swea 81.05 344 P P 22 25 09.2 0.0
baz=162,SNR=5.4
PV09 Paradox Valley 81.08 332 eP P 22 25 11.0 +1.1
BFSC Mount Baldy Ra 81.18 324 P P 22 25 11.8 +1.6
baz=145
KNB Kanab 81.30 329 eP P 22 25 11.8 +0.9
I38A Scanlan Farm, 81.31 346 P P 22 25 10.3 -0.3
baz=164,SNR=5.5
TUQ Turquoise Moun 81.34 326 P P 22 25 12.8 +1.7
baz=146,SNR=8.2
J34A George 81.37 343 P P 22 25 11.2 +0.2
baz=161
K31A O'Neill 81.45 341 P P 22 25 11.9 +0.5
baz=159,SNR=8.5
LCMT Little Creek M 81.47 328 eP P 22 25 13.1 +1.3
I37A Lemond, Waseca 81.50 345 P P 22 25 11.4 -0.1
baz=163
GSC Goldstone, Bar 81.64 325 P P 22 25 13.7 +1.0
baz=145
GSC Goldstone, Bar 81.64 325 eP P 22 25 13.9 +1.3
J33A Davis 81.65 342 P P 22 25 12.4 0.0
baz=160
I35A Creekview Farm 81.69 344 P P 22 25 12.6 0.0
baz=162
EDW2 Edwards Air Fo 81.86 324 P P 22 25 14.2 +0.4
baz=144
SHPR Sheep Range 81.88 327 eP P 22 25 15.7 +1.7
MTPU Mount Pierson 81.90 330 eP P 22 25 15.6 +1.3
J32A Parkston 81.92 342 P P 22 25 14.0 +0.2
baz=160
H37A Dierke Farm, C 81.94 346 P P 22 25 13.9 0.0
baz=164
ECSD EROS Data Cent 81.95 343 P P 22 25 13.9 -0.1
baz=161,SNR=22
ECSD EROS Data Cent 81.95 343 eP P 22 25 13.9 -0.1
KOWA Kowa 81.97 66 P P 22 25 14.9 +0.2
comp=N,30nm,0.6s,baz=227,slow=4.3,SNR=106
KOWA LR LR 22 59 20.6
comp=N,317nm,20.7s,baz=230,slow=34
KOWA Kowa 81.97 66 eP P 22 25 15.2 +0.4
CCUT Cedar City 81.98 329 eP P 22 25 16.2 +1.6
N23A Red Feather La 82.05 335 P P 22 25 15.4 +0.5
baz=153
H36A Jessenland, He 82.15 345 P P 22 25 15.5 +0.6
baz=163
SRU San Rafael Swe 82.15 331 eP P 22 25 16.2 +0.8
O20A White River Ci 82.18 333 P P 22 25 16.7 +1.2
baz=152
LRMC Laurel Mtn Rad 82.20 325 P P 22 25 16.9 +1.3
baz=145
LBTB Lobatse 82.22 115 eP P 22 25 16.3 +0.1
Q16A Castle Valley 82.24 331 eP P 22 25 17.2 +1.3
MSU Marysvale 82.30 330 eP P 22 25 17.7 +1.5
H35A Sunnyside Ranc 82.46 344 P P 22 25 16.7 +0.1
baz=162,SNR=6.6
P18A Preston Nutter 82.49 332 eP P 22 25 18.5 +1.2
SPMN Marine on St. 82.54 346 P P 22 25 16.5 -0.5
baz=164
SPMN Marine on St. 82.54 346 eP P 22 25 16.5 -0.5
P17A Butcher Ranch, 82.55 331 eP P 22 25 18.4 +0.9
MPMC Manual Prospec 82.58 325 P P 22 25 18.8 +1.1
baz=145
TMUT Trail Mountain 82.58 331 eP P 22 25 18.9 +1.1
H34A Spellman Lake, 82.64 344 P P 22 25 17.6 0.0
baz=161
ISA Isabella, Lake 82.72 324 P P 22 25 20.1 +1.8
baz=144,SNR=8.0
ISA Isabella, Lake 82.72 324 eP P 22 25 20.0 +1.8
TPNV Topopah Spring 82.74 326 P P 22 25 19.7 +1.2
baz=146,SNR=7.1
TPNV Topopah Spring 82.74 326 eP P 22 25 19.6 +1.2
PKM Mcpherson Peak 82.75 323 P P 22 25 20.2 +1.6
baz=143
DAC Darwin (Calif) 82.80 325 eP P 22 25 20.1 +1.3
F39A Loretta 82.85 347 P P 22 25 18.6 -0.1
baz=165
H33A Prehn Over Nor 82.88 343 P P 22 25 19.1 +0.3
baz=161,SNR=6.3
F37A Hinrichs Farm, 82.98 346 P P 22 25 19.2 -0.1
baz=164
PSUT Pine Spring 83.01 329 eP P 22 25 21.4 +1.5
F38A Pierce - Schro 83.07 347 P P 22 25 20.1 +0.4
baz=164
H31A Wolsey 83.11 342 P P 22 25 20.2 +0.2
baz=159
VES Vestal, Richgr 83.16 324 P P 22 25 21.7 +1.3
baz=144
CWC Cottonwood Cre 83.16 325 P P 22 25 22.1 +1.4
baz=144
F36A Milaca 83.29 346 P P 22 25 20.6 -0.3
baz=163
MPU Maple Canyon 83.37 331 eP P 22 25 22.8 +1.1
NLU North Lily Min 83.49 331 eP P 22 25 23.6 +1.3
F34A Alexandria 83.59 344 P P 22 25 22.7 +0.2
baz=162
G32A Webster 83.60 343 P P 22 25 22.4 -0.2
baz=160
R11A Troy Canyon, C 83.60 328 P P 22 25 24.2 +1.3
baz=146,SNR=14
R11A Troy Canyon, C 83.60 328 eP P 22 25 24.1 +1.2
TIN Tinemaha, Big 83.73 325 P P 22 25 25.5 +1.9
baz=144
K22A Casper 83.81 336 P P 22 25 24.6 +0.8
baz=153
K22A Casper 83.81 336 eP P 22 25 24.8 +0.9
F33A 5 Mile Ranch, 83.87 344 P P 22 25 23.6 -0.2
baz=161
E36A McGregor 83.87 346 P P 22 25 23.4 -0.4
baz=163
DUG Dugway, Tooele 83.99 330 P P 22 25 25.7 +0.9
baz=148,SNR=14
DUG Dugway, Tooele 83.99 330 eP P 22 25 26.0 +1.2
E35A Pequot Lakes 84.14 345 P P 22 25 24.9 -0.3
baz=162
RSSD Black Hills 84.34 338 P P 22 25 27.1 +0.5
baz=155
RSSD Black Hills 84.34 338 eP P 22 25 26.9 +0.4
MLAC Mammoth, Mammo 84.48 325 P P 22 25 29.4 +1.9
baz=144
C39A Grand Marais 84.56 348 P P 22 25 27.2 -0.1
baz=166
D35A Remer 84.57 346 P P 22 25 27.3 -0.1
baz=163
BGU Big Grassy Mou 84.70 331 eP P 22 25 29.8 +1.4
HWUT Hardware Ranch 84.71 332 eP P 22 25 29.1 +0.6
NVAR Mina Array Bea 84.88 326 P P 22 25 30.8 +1.3
comp=N,5.8nm,1.0s,baz=145,slow=5.8,SNR=18
NVAR LR LR 23 00 14.2
comp=N,167nm,18.2s,baz=259,slow=34
BW06 Boulder Array 84.97 334 P P 22 25 30.1 +0.3
baz=151
BW06 Boulder Array 84.97 334 eP P 22 25 29.8 0.0
PDAR Pinedale Array 84.97 334 P P 22 25 29.5 -0.3
comp=N,1.1nm,0.6s,baz=134,slow=4.3,SNR=14
D33A AnnSam, Waubun 85.00 344 P P 22 25 29.3 -0.3
baz=161
RYN Ryan 85.14 326 eP P 22 25 32.1 +1.4
C35A Jirik Farms, M 85.14 346 P P 22 25 30.0 -0.3
baz=163
HVU Hansel Valley 85.32 331 eP P 22 25 32.0 +0.5
D31A Mcclaflin, Tow 85.34 343 P P 22 25 31.2 0.0
baz=160
TORD Torodi Ar. Bea 85.44 70 P P 22 25 32.4 -0.2
comp=N,15nm,1.0s,baz=243,slow=4.4,SNR=60
TORD LR LR 23 02 09.4
comp=N,312nm,19.1s,baz=240,slow=35
WAKR Walker 85.47 325 eP P 22 25 34.3 +2.0
AHID Auburn Hatcher 85.53 333 eP P 22 25 33.0 +0.4
CMB Columbia Colle 85.54 324 eP P 22 25 33.8 +1.2
B35A Bob, Littlefor 85.73 346 P P 22 25 32.9 -0.2
baz=163
YERR Yerington 85.76 326 eP P 22 25 35.5 +1.6
PNTR Pine Nut 86.01 325 eP P 22 25 36.9 +1.8
C31A Landman Farms, 86.04 344 P P 22 25 34.8 +0.1
baz=160
AGMN Agassiz Nation 86.10 345 P P 22 25 35.0 0.0
baz=161
AGMN Agassiz Nation 86.10 345 eP P 22 25 35.0 0.0
RUBR Rubicon Trail 86.24 325 eP P 22 25 38.6 +2.4
B32A Ashes, Strandq 86.34 344 P P 22 25 35.9 -0.2
baz=161
PAHR Pah Rah Range 86.41 326 eP P 22 25 38.5 +1.5
MDND Maddock 86.54 342 P P 22 25 37.3 +0.1
baz=158
MDND Maddock 86.54 342 eP P 22 25 37.4 +0.3
comp=N,4.0nm,0.4s
AFDM Forest Hills D 86.54 324 eP P 22 25 38.5 +1.0
BEKR Beckworth 86.98 325 eP P 22 25 41.1 +1.3
YHH Holmes Hill 87.18 334 eP P 22 25 41.7 +0.9
LAO LASA Array 87.32 338 P P 22 25 41.0 -0.1
baz=153
LAO LASA Array 87.32 338 eP P 22 25 41.3 +0.2
QLMT Earthquake Lak 87.43 334 eP P 22 25 43.3 +1.4
HLID Hailey 87.47 331 P P 22 25 42.7 +0.7
baz=147
MFID Camas Ranch 87.91 330 eP P 22 25 45.0 +0.9
MCMT McKenzie Canyo 87.95 333 eP P 22 25 45.6 +1.2
ULM Lac du Bonnet 87.96 345 P P 22 25 43.2 -0.7
comp=N,13nm,0.9s,baz=175,slow=4.2,SNR=18
O03D Paynes Creek 88.00 325 P P 22 25 44.6 +0.1
baz=142
BOZ Bozeman (W) 88.16 334 P P 22 25 45.5 +0.3
baz=149
WVOR Wild Horse Val 88.28 328 eP P 22 25 47.1 +1.2
DGMT Dagmar 88.33 340 eP P 22 25 45.9 +0.1
comp=N,38nm,0.9s
MOD Modoc Plateau 88.59 327 eP P 22 25 48.0 +0.7
comp=N,2.0nm,0.7s
N02D Trinity Center 88.95 325 P P 22 25 49.9 +0.9
baz=142
AFI Afiamalu 89.04 254 LR LR 22 55 49.4
comp=N,279nm,21.3s,baz=132,slow=29
M04C Macdoel 89.19 326 P P 22 25 51.3 +1.1
baz=142
YBH Yreka Blue Hor 89.55 325 P P 22 25 51.7 -0.1
comp=N,1.9nm,0.9s,baz=139,slow=9.3,SNR=5.4
J05D Fort Rock, OR 90.10 327 P P 22 25 55.7 +1.3
baz=143
L02D Cave Junction, 90.30 325 P P 22 25 57.1 +1.9
baz=141
SCHQ Schefferville 90.32 4 LR LR 23 06 36.1
comp=N,156nm,20.1s,baz=250,slow=36
J04D Umpqua Nationa 90.46 326 P P 22 25 57.1 +1.0
baz=142
TAM Tamanrasset 94.18 65 eP P 22 26 13.6 -0.2
comp=N,5.4nm,1.1s
DZM Mont Dzumac 99.67 234 LR LR 23 03 14.1
comp=N,117nm,19.6s,baz=62,slow=30
DZM Mont Dzumac 99.67 234 eLR LR 22 59 08.8
comp=N,275nm,24.3s
BBB Bella Bella 99.90 329 LR LR 23 08 26.1
comp=N,87nm,20.0s,baz=153,slow=33
YKA Yellowknife Ar 103.44 341 Pdiff Pdif 22 26 53.5 -0.7
comp=N,0.9nm,1.0s,baz=146,slow=4.6,SNR=7.3
KMBO Ulima Mbogo 105.60 103 ePKP PKiKP 22 31 18.2 -0.6
GERES GERESS Array B 113.84 46 PKiKP PKiKP 22 31 32.1 -0.8
comp=N,1.1nm,1.0s,baz=215,slow=1.6,SNR=7.0
ILAR Eielson Array 115.38 333 PKP PKPdf 22 31 34.5 -0.8
comp=N,0.5nm,0.8s,baz=211,slow=3.6,SNR=5.1
ILAR PKKPab PKKPab 22 42 12.8 +0.5
comp=N,0.5nm,0.8s,baz=294,slow=4.7,SNR=4.6
ASAR Alice Springs 115.74 207 PKP PKPdf 22 31 36.2 -1.3
comp=N,0.8nm,1.0s,baz=120,slow=1.8,SNR=4.3
ASAR PKKPbc PKKPbc 22 42 08.9 +0.2
comp=N,0.4nm,0.5s,baz=335,slow=2.9,SNR=11
WRA Warramunga Arr 118.94 209 PKP PKPdf 22 31 42.3 -1.4
comp=N,2.0nm,0.9s,baz=160,slow=1.7,SNR=9.8
BRTR Keskin Array B 123.26 62 PKP PKPdf 22 31 50.1 -1.3
comp=N,1.0nm,0.9s,baz=184,slow=3.7,SNR=3.8
AKASG Malin Array Be 123.85 48 PKP PKPdf 22 31 50.1 -1.9
comp=N,0.5nm,0.5s,baz=265,slow=2.1,SNR=6.8
FINES FINESS Array B 124.78 35 PKP PKPdf 22 31 52.9 -0.5
comp=N,0.6nm,0.5s,baz=49,slow=4.2,SNR=4.4
H11S2 WAKE ISLAND Hyl 25.03 268 T T 00 49 26.6
baz=107
H11S1 WAKE ISLAND Hyl 25.05 268 T T 00 49 28.8
baz=107
H11S3 WAKE ISLAND Hyl 25.05 268 T T 00 49 30.4
baz=107
H11N3 WAKE ISLAND Hyl 25.49 270 T T 00 49 50.4
baz=122,slow=76,SNR=11
H11N1 WAKE ISLAND Hyl 25.50 270 T T 00 49 55.8
baz=122,slow=76,SNR=20
H11N2 WAKE ISLAND Hyl 25.51 270 T T 00 49 54.5
baz=122,slow=76,SNR=20
ARCES ARCESS Array B 125.85 25 PKP PKPdf 22 31 55.0 -0.3
comp=N,3.6nm,1.1s,baz=262,slow=3.7,SNR=8.0
KLMR Klimovskoe 131.18 37 ePKPdf PKPdf 22 32 00.9 -4.7
KLMR AMP 22 32 07.0
comp=Z,24nm,1.5s
PETK Petropavlovsk- 140.81 313 PKP PKPdf 22 32 26.2 +2.4

	comp=Z,7.0nm,0.9s,baz=66,slow=5.0,SNR=4.3						
SEY	Seymchan	141.13	329	PKhKP	PKPpre	22 32 17.5	
	comp=Z,2.4nm,0.2s,baz=264,slow=10,SNR=4.3						
SEY				PKP	PKPdf	22 32 24.3	+0.2
	comp=Z,2.9nm,0.8s,baz=120,slow=4.0,SNR=11						
AKTO	Aktyubinsk	141.95	52	PKhKP	PKPpre	22 32 19.8	
	comp=Z,0.9nm,0.5s,baz=270,slow=2.0,SNR=3.2						
AKTO				PKP	PKPdf	22 32 24.6	-1.4
	comp=Z,0.8nm,0.5s,baz=0.0,slow=0.0,SNR=4.2						
ABKAR	Akbulak array	143.27	53	*e*PKPdf	PKPbc	22 32 25.3	-0.1
GSI	Gunungsitoli	144.65	163	*e*PKPdf	PKPbc	22 32 31.2	+0.6
PSI	Prapat	146.40	165	PKPbc	PKPbc	22 32 49.4	+13
	comp=Z,22nm,1.0s,baz=183,slow=9.1,SNR=9.7						
HYB	Hyderabad	148.80	118	*i* PKP	PKPbc	22 32 43.0	+0.4
BRVK	Borovoye	148.92	44	*e*PKPbc	PKPbc	22 32 41.8	0.0
BVAR	Borovoye Array	148.99	45	PKPbc	PKPdf	22 32 38.8	+0.9
	comp=Z,4.6nm,0.6s,baz=235,slow=5.1,SNR=20						
YAK	Yakutsk	150.07	339	*e*PKPbc	PKPbc	22 32 44.0	-0.3
KKAR	Karatay Array	150.94	64	*e*PKPbc	PKPbc	22 32 46.7	-0.4
ASAJ	Asahikawa	151.68	298	PKPbc	PKPbc	22 32 48.6	0.0
	comp=Z,9.2nm,1.0s,baz=191,slow=5.2,SNR=5.1						
AAK	Ala-Archa	153.89	65	*e*PKPdf	PKPdf	22 32 46.1	+0.2
AAK				*e*PKPbc	PKiKP	22 32 54.2	+0.2
KSH	Kashi	155.11	72	PKPbc	PKPdf	22 32 47.4	-0.3
KSH				pPKP	pPKPdf	22 32 55.8	+1.1
KSH				PKS	PKSdf	22 36 21.6	-0.2
KSH				PP	PP	22 36 47.3	-1.8
KSH				SKKS		22 43 36.9	
KSH				AMB	AMB		
	comp=Z,170nm,6.4s						
KSH				LR	LR		
	comp=Z,140nm,9.1s						
KSH				LR	LR		
	comp=Z,74nm,10.3s						
KSH				LR	LR		
	comp=Z,61nm,11.4s						
ZALV	Zalesovo Beam	156.03	33	PKP	PKPdf	22 32 47.6	-0.6
	comp=Z,1.0nm,0.4s,baz=298,slow=3.2,SNR=9.0						
ZALV				PKPab	PKPab	22 33 16.1	+0.5
	comp=Z,8.3nm,0.8s,baz=295,slow=5.0,SNR=12						
MKAR	Makanchi Array	158.39	52	PKP	PKPdf	22 32 51.0	-0.5
	comp=Z,1.7nm,1.0s,baz=300,slow=2.7,SNR=10.0						
MKAR				PKPab	PKPab	22 33 26.0	-0.2
	comp=Z,1.5nm,0.8s,baz=265,slow=3.5,SNR=6.3						
MKAR				PP	PP	22 37 05.2	-1.4
	comp=Z,1.0nm,0.9s,baz=256,slow=4.9,SNR=4.3						
KOLN	Koldanda	158.53	105	*e*P	PKPab	22 33 26.8	-0.8
	comp=Z,52nm,1.3s						
DMN	Daman	159.64	107	*e*P	PKPab	22 33 32.3	-0.1
	comp=Z,63nm,1.0s						
PKIN	Phulchoki	159.85	108	*e*P	PKPab	22 33 32.8	-0.5
	comp=Z,51nm,1.1s						
PKI	Pulchoki	159.85	108	*e*P	PKPab	22 33 32.9	-0.5
	comp=Z,70nm,1.2s						
KKN	Kakani	159.86	107	*e*P	PKPab	22 33 33.0	-0.3
	comp=Z,72nm,1.1s						
GUN	Gumba	160.38	107	*e*P	PKPab	22 33 35.4	-0.4
	comp=Z,64nm,1.2s						
RAMN	Ramite	160.46	111	*e*P	PKPab	22 33 35.8	-0.2
	comp=Z,17nm,0.8s						
JIRN	Jiri	160.50	108	*e*P	PKPab	22 33 36.0	-0.3
	comp=Z,79nm,1.1s						
ODAN	Odare	161.01	112	*e*P	PKPab	22 33 38.0	-0.4
CMAR	Chiang Mai Arr	161.37	155	PKP	PKPdf	22 32 55.4	-0.3
	comp=Z,0.7nm,0.3s,baz=257,slow=2.9,SNR=10						
CMAR				PKPab	PKPab	22 33 38.9	-0.7
	comp=Z,2.5nm,0.9s,baz=227,slow=5.2,SNR=12						
TAPN	Taplejung	161.51	111	*e*P	PKPab	22 33 40.0	-0.6
	comp=Z,14nm,1.1s						
WMQ	Urumqi	163.04	56	*e*PKP	PKPdf	22 32 57.3	+0.6
WMQ				LR	LR		
	comp=Z,250nm,24.1s						
WMQ				LR	LR		
	comp=Z,300nm,26.7s						
WMQ				LR	LR		
	comp=Z,250nm,24.1s						
CN2	Changchun	163.76	305	*e*PKP	PKPdf	22 32 57.0	-0.3
LSA	Lhasa	165.30	110	*e*PKPdf	PKPdf	22 32 59.5	-0.2
SONM	Songino Array	167.86	2	PKP	PKPdf	22 32 59.8	-0.8
	comp=Z,1.5nm,1.2s,baz=132,slow=2.1,SNR=5.8						
SONM				PKPab	PKPab	22 34 08.0	+0.4
	comp=Z,2.8nm,0.9s,baz=330,slow=3.2,SNR=12						
NJ2	Nanjing	169.58	253	*e*PKP	PKPdf	22 33 02.9	+0.8
GYA	Guiyang	170.78	178	*e*PKP	PKPdf	22 33 03.0	-0.1
GYA				PKPab	PKPab	22 34 23.0	+2.0
GYA				PKS	PKSdf	22 36 34.3	-1.4
GYA				PP	PP	22 38 14.6	+4.1
GYA				AMB	AMB		
	comp=Z,120nm,8.2s						
GTA	Gaotai	173.12	55	PKP	PKPdf	22 33 03.6	-0.2
HHC	Hu-ho-hao-te	173.78	327	*e*PKP	PKPdf	22 33 02.7	-1.3
HHC				PP	PP	22 38 28.0	+2.2
HHC				SKS	SKSdf	22 40 00.6	-5.4
HHC				SKKS	SKKSac	22 45 09.1	-2.2
HHC				AMB	AMB		
	comp=Z,71nm,5.9s						
HHC				LR	LR		
	comp=Z,110nm,20.0s						
HHC				LR	LR		
	comp=Z,100nm,20.0s						
HHC				LR	LR		
	comp=Z,94nm,22.2s						
CD2	Chengdu	174.46	149	PKP	PKPdf	22 33 04.5	0.0
LZH	Lanzhou	177.32	81	*e*PKP	PKPdf	22 33 04.9	-0.2
LZH				pPKP	sPKPdf	22 33 14.5	-0.1
LZH				sPKP		22 33 19.0	
LZH				LR	LR		
	comp=Z,130nm,16.4s						
LZH				LR	LR		
	comp=Z,160nm,17.8s						
LZH				LR	LR		
	comp=Z,200nm,20.1s						

ISCJB 03 22:13:38.2±0.5, 40.15N±0.01×24.08E±0.02, h8km±3km, Error ellipse: s-maj=2.5km s-min=2.4km az=175.0
THE 03 22:13:38.7, 40.13N×24.07E, h4km±1km, ML3.2/7, Error ellipse: s-maj=1.1km s-min=0.5km az=298.0
CSEM 03 22:13:38.4±0.1, 40.12N×24.07E, h5km, MD3.5, Error ellipse: s-maj=1.8km s-min=1.6km az=167.0
ATH 03 22:13:38.3, 40.15N×24.05E, h22km±1km, ML3.1/11, Error ellipse: s-maj=1.4km s-min=0.8km az=330.0
ISK 03 22:13:38.0, 40.14N×24.10E, h9km, ML3.4/12
BEO 03 22:13:38.9±1.0, 40.07N×24.03E, h12km±4km, M2.9/5
SOF 03 22:13:39.3, 40.25N×24.11E, h3km, MD2.9
DDA 03 22:13:58.8, 40.15N×24.53E, h21km, Md3.5

ISC 03 22:13:38.8±0.9, 40.13N±0.01×24.06E±0.01, h11km±6km, n199, σ0.80/257, 9C-10D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.21	343	PG	Pg	22 13 43.8	+0.5
OUR				SG	Sg	22 13 46.8	+0.4
OUR	Ouranopolis	0.21	343	P	Pg	22 13 43.1	-0.2
OUR				S	Sg	22 13 46.1	-0.2
OUR				AML	AML	22 13 47.1	
	comp=E,29060μm,0.3s						
OUR				AML	AML	22 13 47.2	
	comp=N,33457μm,0.5s						
OUR	Ouranopolis	0.21	343	P	Pg	22 13 43.2	-0.2
OUR	Ouranopolis	0.21	343	*e*Pg	Pg	22 13 43.8	+0.5
OUR				S	Sg	22 13 46.2	-0.2
OUR	Ouranopolis	0.21	343	P	Pg	22 13 43.2	-0.2
OUR				S	Sg	22 13 46.2	-0.2
PAIG	Paliouri	0.36	236	P	Pg	22 13 45.6	-0.2
PAIG				S	Sg	22 13 50.5	-0.2
PAIG				AML	AML	22 13 55.7	
	comp=N,3838μm,0.2s						
PAIG				AML	AML	22 13 56.7	
	comp=E,3744μm,0.2s						
PAIG	Paliouri	0.36	236	P	Pg	22 13 45.7	-0.2
PAIG				S	Sg	22 13 51.1	+0.5
PAIG	Paliouri	0.36	236	P	Pg	22 13 45.7	-0.2
PAIG				S	Sg	22 13 51.2	+0.6
PLG	Polygyros	0.53	298	P	Pg	22 13 49.1	-0.1
PLG				S	Sg	22 13 55.6	-0.6
PLG				AML	AML	22 13 58.0	
	comp=N,2626μm,0.3s						
PLG				AML	AML	22 13 58.5	
	comp=E,2539μm,0.3s						
PLG	Polygyros	0.53	298	P	Pg	22 13 48.9	-0.3
PLG				S	Sg	22 13 55.7	-0.6
PLG	Polygyros	0.53	298	P	Pg	22 13 48.9	-0.3
PLG				S	Sg	22 13 55.7	-0.6
HORT	Hortiatis	0.87	303	PG	Pg	22 13 54.9	-0.8
HORT				SG	Sb	22 14 07.5	-0.3
HORT	Hortiatis	0.87	303	P	Pg	22 13 54.9	-0.8
HORT				S	Sg	22 14 06.1	-1.0
HORT				AML	AML	22 14 10.1	
	comp=E,1287μm,0.4s						
HORT				AML	AML	22 14 10.3	
	comp=N,2741μm,0.3s						
HORT	Hortiatis	0.87	303	P	Pg	22 13 54.9	-0.8
HORT				S	Sg	22 14 06.5	-0.6
HORT				*e*Sg	Sb	22 14 07.5	-0.3
HORT	Hortiatis	0.87	303	P	Pg	22 13 55.2	-0.5
HORT				S	Sg	22 14 07.2	+0.1
SOH	Sokhos	0.88	322	P	Pg	22 13 55.5	-0.2
SOH				S	Sb	22 14 07.4	-0.5
SOH				AML	AML	22 14 11.0	
	comp=E,1766μm,0.7s						
SOH				AML	AML	22 14 11.4	
	comp=N,2341μm,0.5s						
SOH	Sokhos	0.88	322	P	Pg	22 13 55.2	-0.5
SOH				S	Sg	22 14 07.2	0.0
SOH	Sokhos	0.88	322	P	Pg	22 13 55.3	-0.5
LIA	Limnos Island	0.89	105	P	Pg	22 13 55.8	-0.2
LIA				AML	AML	22 14 09.1	
	comp=E,6161μm,0.5s						
LIA				AML	AML	22 14 09.6	
	comp=N,7507μm,0.5s						
LIA				S	Sn	22 14 09.7	-0.6
LIA	Limnos Island	0.89	105	P	Pg	22 13 55.7	-0.2
LIA				S	Sb	22 14 08.8	+0.6
LIA	Limnos Island	0.89	105	P	Pb	22 13 56.1	-0.2
LIA				S	Sb	22 14 08.8	+0.6
KAVA	Kavala	0.93	21	P	Pg	22 13 56.3	-0.5
KAVA				S	Sg	22 14 08.4	-0.5
KAVA				AML	AML	22 14 10.7	
	comp=E,5017μm,0.4s						
KAVA				AML	AML	22 14 12.3	
	comp=N,2303μm,0.6s						
KAVA	Kavala	0.93	21	P	Pg	22 13 56.1	-0.7
KAVA				S	Sg	22 14 08.6	-0.4
KAVA	Kavala	0.93	21	P	Pg	22 13 56.5	-0.3
KAVA				S	Sb	22 14 09.2	-0.3
THE	Thessaloniki	0.98	301	P	Pg	22 13 56.9	-0.8
THE	Thessaloniki	0.98	301	P	Pg	22 13 56.8	-0.8
THE	Thessaloniki	0.98	301	P	Pb	22 13 57.7	-0.1
XOR	Xorichti	1.01	222	P	Pb	22 13 58.6	+0.2
XOR				S	Sn	22 14 13.2	-0.1
XOR				AML	AML	22 14 13.5	
	comp=N,2903μm,0.5s						
XOR				AML	AML	22 14 13.6	
	comp=E,2173μm,0.5s						
XOR	Xorichti	1.01	222	P	Pg	22 13 57.7	-0.6
XOR				S	Sg	22 14 11.9	+0.4
XOR	Xorichti	1.01	222	P	Pg	22 13 57.7	-0.6
XOR				S	Sg	22 14 11.9	+0.4
NEO	Neokhori	1.04	219	P	Pn	22 13 59.6	+0.1
NEO	Neokhori	1.04	219	P	Pb	22 13 59.1	+0.1
SRS	Serrai	1.05	340	*e*Pg	Pg	22 13 58.7	-0.3
SRS	Serrai	1.05	340	P	Pb	22 13 59.1	+0.1
SRS	Serrai	1.05	340	*e*Pg	Pg	22 13 58.7	-0.3
SRS	Serrai	1.05	340	P	Pg	22 13 58.7	-0.3
SKIA	Skiathos	1.06	206	P	Pg	22 13 58.9	-0.4
SKIA				S	Sb	22 14 13.7	+0.4
SKIA				AML	AML	22 14 14.2	
	comp=E,1738μm,0.6s						
SKIA				AML	AML	22 14 16.0	
	comp=N,1848μm,0.5s						
SKIA	Skiathos	1.06	206	P	Pg	22 13 57.9	-1.4
SKIA				S	Sb	22 14 13.6	+0.4
SKIA	Skiathos	1.06	206	P	Pg	22 13 57.9	-1.4
SKIA				S	Sb	22 14 13.6	+0.4
FYTO	Fytoko, Volos	1.12	231	P	Pb	22 14 00.2	-0.1
FYTO				S	Sb	22 14 15.4	+0.4
FYTO				AML	AML	22 14 15.9	
	comp=E,1014μm,0.9s						
FYTO				AML	AML	22 14 16.6	
	comp=N,1322μm,0.6s						
FYTO	Fytoko, Volos	1.12	231	P	Pb	22 14 00.0	-0.3
FYTO				S	Sb	22 14 15.5	+0.6
FYTO	Fytoko, Volos	1.12	231	P	Pb	22 14 00.0	-0.3
SMTH	Samothraki Isl	1.17	73	P	Pb	22 13 59.1	-2.0
SMTH	Samothraki Isl	1.17	73	P	Pb	22 13 59.8	-1.4
SMTH	Samothraki Isl	1.17	73	P	Pb	22 13 59.8	-1.4
LIT	Litokhoron	1.21	269	P	Pb	22 14 01.1	-0.7
LIT				S	Sn	22 14 18.4	+0.4
LIT				AML	AML	22 14 19.0	
	comp=E,623μm,0.3s						
LIT				AML	AML	22 14 24.8	
	comp=N,540μm,0.4s						
LIT	Litokhoron	1.21	269	P	Pb	22 14 01.0	-0.7
LIT				S	Sn	22 14 18.1	0.0
LIT	Litokhoron	1.21	269	P	Pb	22 14 01.0	-0.7
NVR	Nevrokopi	1.23	353	P	Pb	22 14 01.4	-0.8
NVR	Nevrokopi	1.23	353	P	Pb	22 14 01.3	-0.8
NVR	Nevrokopi	1.23	353	P	Pb	22 14 01.4	-0.8
KNT	Kendrikon	1.36	320	PN	Pb	22 14 04.1	-0.3
KNT				SN	Sg	22 14 22.6	0.0
KNT	Kendrikon	1.36	320	P	Pn	22 14 03.9	0.0
KNT	Kendrikon	1.36	320	P	Pn	22 14 03.8	0.0
KNT	Kendrikon	1.36	320	*e*Pn	Pb	22 14 04.1	-0.3
KNT				*e*Sn	Sg	22 14 22.6	0.0
KNT	Kendrikon	1.36	320	P	Pb	22 14 04.0	-0.3
LRSO	Larissa Observ	1.36	251	P	Pn	22 14 03.9	+0.1
LRSO	Larissa Observ	1.36	251	P	Pn	22 14 03.9	+0.1
GADA	Gvkgeada	1.41	87	PN	Pn	22 14 03.6	-0.8
GADA	Gvkgeada	1.41	87	P	Pn	22 14 03.7	-0.7
GADA	Gvkgeada	1.41	87	P	Pn	22 14 03.7	-0.7
SMIA	Simia	1.41	208	P	Pn	22 14 03.7	-0.8
SMIA	Simia	1.41	208	P	Pn	22 14 04.0	-0.5
SMIA	Simia	1.41	208	P	Pn	22 14 04.0	-0.5
GOKC	Gokceada-Canak	1.42	87	PN	Pn	22 14 04.2	-0.5
GOKC	Gokceada-Canak	1.42	87	*e*Pn	Pn	22 14 04.2	-0.5
MMB	Musomiste	1.48	350	*i* P	Pn	22 14 04.6	-0.9
GRG	Griva	1.51	304	PN	Pb	22 14 06.6	-0.3
GRG	Griva	1.51	304	P	Pn	22 14 06.4	+0.5
GRG	Griva	1.51	304	P	Pn	22 14 05.6	-0.3
GRG	Griva	1.51	304	*e*Pn	Pb	22 14 06.6	-0.3
GRG				S	Sb	22 14 26.7	+0.5
GRG	Griva	1.51	304	P	Pn	22 14 05.6	-0.3
GRG				S	Sb	22 14 26.7	+0.5
RDO	Rodhopi	1.52	47	P	Pb	22 14 07.2	+0.2
RDO	Rodhopi	1.52	47	P	Pn	22 14 05.0	-0.9
RDO	Rodhopi	1.52	47	P	Pn	22 14 05.0	-0.9
RZN	Rozhen	1.64	17	*i* P	Pn	22 14 07.8	0.0
VAY	Valandovo	1.65	317	P	Pn	22 14 07.0	-0.7
VAY				S	Sb	22 14 30.4	+0.5
VAY	Valandovo	1.65	317	P	Pn	22 14 07.0	-0.7
VAY				S	Sb	22 14 30.4	+0.5
VAY	Valandovo	1.65	317	*i* Pn	Pg	22 14 10.1	-0.2
VAY				*e*Sn	Sg	22 14 31.8	+0.1
SIGR	SIGRI	1.66	123	PN	Pn	22 14 07.7	-0.2
SIGR	SIGRI	1.66	123	P	Pn	22 14 06.6	-1.3
SIGR	SIGRI	1.66	123	*e*Pn	Pn	22 14 07.7	-0.2
SIGR	SIGRI	1.66	123	P	Pn	22 14 07.7	-0.2
THL	Klokotos Trika	1.67	251	P	Pn	22 14 07.5	-0.6
THL	Klokotos Trika	1.67	251	P	Pn	22 14 07.9	-0.2
THL	Klokotos Trika	1.67	251	P	Pn	22 14 07.9	-0.2
ALN	Alexandroupoli	1.70	62	PN	Pn	22 14 08.1	-0.3
ALN	Alexandroupoli	1.70	62	P	Pn	22 14 08.7	+0.3
ALN	Alexandroupoli	1.70	62	P	Pn	22 14 07.4	-1.0
ALN	Alexandroupoli	1.70	62	*e*Pn	Pn	22 14 08.1	-0.3
ALN	Alexandroupoli	1.70	62	P	Pn	22 14 07.4	-1.0
ENEZ	Enez	1.71	68	PN	Pn	22 14 08.4	-0.1
ENEZ	Enez	1.71	68	P	Pn	22 14 07.7	-0.8
ENEZ	Enez	1.71	68	*e*Pn	Pn	22 14 08.4	-0.1
ENEZ				S	Sb	22 14 31.0	-0.7
ENEZ	Enez	1.71	68	P	Pn	22 14 07.7	-0.8
ENEZ				S	Sb	22 14 31.0	-0.7
AGG	Agios Georgios	1.73	231	PN	Pn	22 14 09.7	+0.7
AGG	Agios Georgios	1.73	231	P	Pn	22 14 08.2	-0.8
AGG	Agios Georgios	1.73	231	P	Pn	22 14 08.8	-0.2
AGG	Agios Georgios	1.73	231	*e*Pn	Pn	22 14 09.7	+0.7
AGG				S	Sb	22 14 33.0	+0.4
AGG	Agios Georgios	1.73	231	P	Pn	22 14 09.5	+0.5
AGG				S	Sb	22 14 33.0	+0.4
AXAR	Agios Charalam	1.74	219	P	Pb	22 14 10.8	-0.1
AXAR	Agios Charalam	1.74	219	P	Pb	22 14 10.2	-0.6
KZN	Kozani	1.76	277	P	Pn	22 14 09.4	+0.1
KZN	Kozani	1.76	277	P	Pn	22 14 09.5	+0.1
KZN	Kozani	1.76	277	P	Pn	22 14 09.7	+0.3
GELI	Tayfur-Gelibol	1.86	81	PN	Pn	22 14 09.9	-0.8
GELI	Tayfur-Gelibol	1.86	81	*e*Pn	Pn	22 14 09.9	-0.8
KKB	Krupnik	1.89	337	*i* P	Pn	22 14 10.9	-0.2
PRK	Paraskevi	1.92	117	P	Pn	22 14 12.1	+0.6
PRK	Paraskevi	1.92	117	P	Pn	22 14 12.1	+0.6
ERIK	Erikli-Kesan	1.95	73	PN	Pn	22 14 11.3	-0.6
ERIK	Erikli-Kesan	1.95	73	*e*Pn	Pn	22 14 11.3	-0.6
PLD	Plovdiv	2.03	14	*i* P	Pg	22 14 17.8	0.0
KPRO	Kipourio	2.08	266	P	Pn	22 14 14.4	+0.6
KPRO	Kipourio	2.08	266	P	Pn	22 14 14.2	+0.5
KPRO	Kipourio	2.08	266	P	Pn	22 14 14.3	+0.6
LPK	Lapseki	2.08	82	PN	Pn	22 14 13.0	-0.7
LPK	Lapseki	2.08	82	*e*Pn	Pn	22 14 13.0	-0.7
KESN	Edirne-Kesan	2.12	70	*i* P	Pn	22 14 14.2	-0.3
KESN				*i* S	Sb	22 14 45.0	+1.2
KESN	Edirne-Kesan	2.12	70	P	Pn	22 14 14.2	-0.3
FNA	Florina	2.15	289	PN	Pn	22 14 15.5	+0.8
FNA	Florina	2.15	289	*e*Pn	Pn	22 14 14.8	+0.1
FNA				*e*Sn	Sn	22 14 40.3	-1.2
FNA	Florina	2.15	289	P	Pn	22 14 14.9	+0.2
FNA				*e*Sn	Sn	22 14 40.3	-1.2
FNA	Florina	2.15	289	P	Pn	22 14 14.9	+0.2
DIM	Dimitrovgrad	2.22	30	*i* P	Pg	22 14 20.5	-0.8
PENT	Pentalofos	2.24	273	P	Pn	22 14 17.1	+1.1
PENT	Pentalofos	2.24	273	P	Pn	22 14 16.8	+0.8
BIA	Bitola	2.27	294	*i* Pn	Pn	22 14 17.4	+1.1
VLY	Voula,Athens	2.28	185	P	Pn	22 14 16.5	0.0
VLY	Voula,Athens	2.28	185	P	Pn	22 14 16.5	0.0
KALE	Kalithea	2.29	221	P	Pn	22 14 16.8	+0.2
KALE	Kalithea	2.29	221	P	Pn	22 14 16.8	+0.2
SERG	Sergoula	2.31	223	P	Pn	22 14 17.1	+0.2
SERG	Sergoula	2.31	223	P	Pn	22 14 17.1	+0.2
CHOS	Chios island	2.33	138	PN	Pn	22 14 17.7	+0.5
CHOS	Chios island	2.33	138	*e*Pn	Pn	22 14 17.7	+0.5
RKY	Sarkoy-Tekirda	2.44	76	PN	Pn	22 14 18.8	+0.1
RKY	Sarkoy-Tekirda	2.44	76	*e*Pn	Pn	22 14 18.8	+0.1
KRUS	Krusevo	2.47	301	*i* Pn	Pn	22 14 19.7	+0.6
KRBG	Karabiga-Canak	2.49	83	PN	Pn	22 14 19.8	+0.5
KRBG	Karabiga-Canak	2.49	83	*e*Pn	Pn	22 14 19.8	+0.5
DSL	Palaion Diasel	2.50	248	P	Pn	22 14 20.4	+1.0
DSL	Palaion Diasel	2.50	248	P	Pn	22 14 20.4	+1.0
VTS	Vitosha	2.54	346	*e*Pn	Pn	22 14 20.8	+0.6
VTS				*e*Sn	Sn	22 14 50.9	-0.4
VTS	Vitosha	2.54	346⇓	*i*P	Pn	22 14 20.8	+0.6
VTS	Vitosha	2.54	346⇓	*i*P	Pn	22 14 20.8	+0.6
VTS				*e*Sn	Sn	22 14 50.9	-0.4
VTS				S	Sb	22 14 53.0	-3.0
VTS	Vitosha	2.54	346	P	Pn	22 14 20.6	+0.4
GUR	Goura	2.57	212	P	Pn	22 14 20.5	0.0
GUR	Goura	2.57	212	P	Pn	22 14 20.5	0.0
EDRB	Edirne	2.66	49	PN	Pn	22 14 22.0	+0.4
EDRB	Edirne	2.66	49	*e*Pn	Pn	22 14 22.0	+0.4
OHR	Ohrid	2.67	293	*i* Pn	Pb	22 14 28.2	+1.5
SKO	Skopje	2.71	314	*i* Pn	Pn	22 14 23.0	+0.7
BALY	Balya	2.76	97	*i* P	Pn	22 14 21.5	-1.6
STEP	BALIKESIR_Sava	2.92	104	*i* P	Pn	22 14 26.4	+1.2
STEP	BALIKESIR_Sava	2.92	104	P	Pn	22 14 26.4	+1.2
EDC	Edincik	2.92	84	PN	Pn	22 14 26.2	+1.0
EDC	Edincik	2.92	84	*e*Pn	Pn	22 14 26.2	+1.0
BALB	Balikesir	2.98	98	PN	Pn	22 14 26.5	+0.5
BALB	Balikesir	2.98	98	*e*Pn	Pn	22 14 26.5	+0.5
PHSR	Pinarhisar	3.02	59	PN	Pn	22 14 27.5	+0.8
PHSR	Pinarhisar	3.02	59	*e*Pn	Pn	22 14 27.5	+0.8
BARS	Barje	3.17	329	*e*Pn	Pn	22 14 29.1	+0.4
BARS				*e*Sn	Sn	22 15 07.4	+0.8
BARS	Barje	3.17	329	*e*Pn	Pn	22 14 29.1	+0.4
BARS				*e*Sn	Sn	22 15 07.4	+0.8
APE	Apeiranthos	3.26	159⇓	*i*P	Pn	22 14 30.4	+0.4
APE	Apeiranthos	3.26	159⇓	*i*P	Pn	22 14 30.4	+0.4
APE				S	Sn	22 15 09.7	+0.8
ZAPS	Zavoj	3.32	342	*e*Pn	Pn	22 14 32.5	+1.7
ZAPS				*e*Sn	Sn	22 15 12.1	+1.9
SLVT	Silivri	3.34	69	PN	Pn	22 14 31.9	+0.9
SLVT	Silivri	3.34	69	*e*Pn	Pn	22 14 31.9	+0.9
CTYL	Yalikoy Yolu	3.48	66	PN	Pn	22 14 33.9	+1.0
CTYL	Yalikoy Yolu	3.48	66	*e*Pn	Pn	22 14 33.9	+1.0
CTKS	Kestanelik-??a	3.56	70	PN	Pn	22 14 34.7	+0.7
CTKS	Kestanelik-??a	3.56	70	*e*Pn	Pn	22 14 34.7	+0.7
BGKT	Bogazkoy	3.73	72	PN	Pn	22 14 37.6	+1.2
BGKT	Bogazkoy	3.73	72	*e*Pn	Pn	22 14 37.6	+1.2
SELS	Selova	3.79	325	*e*Pn	Pn	22 14 36.6	-0.7
ZAGS	Zajecar	3.93	340	*e*Pn	Pn	22 14 38.2	-0.8
ZAGS	Zajecar	3.93	340	*e*Pn	Pn	22 14 38.2	-0.8
PDG	Podgorica	4.29	304⇓	*i*P	Pn	22 14 43.8	-0.2
PDG	Podgorica	4.29	304⇓	*i*P	Pn	22 14 43.8	-0.2
SJES	Sjenica	4.38	317	*e*Pn	Pn	22 14 46.2	+0.8
GRUS	Gruza	4.51	328	*e*Pn	Pn	22 14 47.2	+0.1
GRUS	Gruza	4.51	328	*e*Pn	Pn	22 14 47.2	+0.1
IVAS	Ivanjica	4.52	321	*e*Pn	Pn	22 14 47.2	0.0
IVAS	Ivanjica	4.52	321	*e*Pn	Pn	22 14 47.2	0.0
ARR	Arges	5.25	4⇑	*i*P	Pn	22 14 57.9	+0.5
ARR	Arges	5.25	4⇑	*i*P	Pn	22 14 57.9	+0.5
ARR				S	Sn	22 16 00.3	+2.4
VOIR		5.36	7⇓	*i*P	Pn	22 14 59.5	+0.7
VOIR		5.36	7⇓	*i*P	Pn	22 14 59.5	+0.7
VOIR				S	Sn	22 16 01.7	+1.2
MATE	Matera	5.64	278⇑	*i*P	Pn	22 14 59.7	-2.9
MATE	Matera	5.64	278	S	Sn	22 16 04.2	-3.2
DOPR	Dopca	5.92	9⇑	*i*P	Pn	22 15 07.9	+1.5
DOPR	Dopca	5.92	9⇑	*i*P	Pn	22 15 07.9	+1.5
DOPR				S	Sn	22 16 15.8	+1.6
VRI	Vrincioaia	6.06	18⇑	*i*P	Pn	22 15 10.2	+1.8
VRI	Vrincioaia	6.06	18⇑	*i*P	Pn	22 15 10.2	+1.8
VRI				S	Sn	22 16 19.8	+2.1
TESR	Tescani	6.65	16⇑	*i*P	Pn	22 15 18.2	+1.7
TESR	Tescani	6.65	16⇑	*i*P	Pn	22 15 18.2	+1.7
BURAR	Bucovina Array	7.53	6⇓	*i*P	Pn	22 15 30.0	+1.4
BURAR	Bucovina Array	7.53	6⇓	*i*P	Pn	22 15 30.0	+1.4

MAN 03 22:27:33, 9.89N×122.90E, h1km, mb3.9, ML2.7, MS2.3, 1C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.64	149⇑	*i*P	Pb	22 27 46.3	-0.7
SNPH				*i* S	Sb	22 27 55.2	-1.2
GUIM	Jordan	0.79	337	*e*P	Pg	22 27 48.2	0.0
GUIM				*e*S	Sb	22 28 01.1	+0.3
DCPH	Dipolog City	1.37	161⇓	*e*P	Pn	22 27 56.6	-2.7
RCP	Roxas	1.67	355⇓	*e*P	Pb	22 28 04.5	0.0
RCP				*e*S	Sg	22 28 27.6	+1.0
MSLP	Maasin	1.94	83	*e*P	Pn	22 28 07.5	+0.3
MSLP				*e*S	Sg	22 28 35.2	-0.4

IDC 03 22:28:51.1±5.3, 5.11S×132.33E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/46, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=345.7km s-min=32.4km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.88	173	Pn	Pn	22 32 21.9	-1.0
	0.2nm,0.3s,baz=353,slow=13,SNR=6.7						
WRA				Sn	Sn	22 34 56.2	-12
	0.1nm,0.3s,baz=359,slow=22,SNR=3.8						
ASAR	Alice Springs	18.52	175	P	Pn	22 33 09.5	+0.3
	0.1nm,0.3s,baz=348,slow=8.9,SNR=7.0						
MKAR	Makanchi Array	67.96	325	P	P	22 39 52.0	0.0
	0.3nm,0.6s,baz=115,slow=7.8,SNR=4.4						

IDC 03 22:38:09.0±6.1, 18.31S×169.06E, h200km±72km, mb3.0/3, mb1 3.3/4, mb1mx3.1/38, mbtmp3.6/4, Error ellipse: s-maj=116.8km s-min=32.0km az=158.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.47	213	P	Pn	22 39 16.3	-0.4
	6.5nm,0.3s,baz=244,slow=13,SNR=61						
DZM				S	Sn	22 40 10.8	+0.7
	0.9nm,0.3s,baz=114,slow=20,SNR=3.2						
WRA	Warramunga Arr	32.81	261	P	P	22 44 23.8	-0.1
	0.1nm,0.3s,baz=83,slow=6.5,SNR=2.4						
ASAR	Alice Springs	33.19	255	P	P	22 44 26.9	-0.2
	0.4nm,0.4s,baz=86,slow=8.7,SNR=11						
ILAR	Eielson Array	89.40	17	P	P	22 50 42.5	0.0
	0.2nm,0.4s,baz=236,slow=5.1,SNR=5.0						
ARCES	ARCESS Array B	124.13	345	PKP	PKPdf	22 56 42.8	-0.2
	1.9nm,0.8s,baz=64,slow=2.1,SNR=5.0						

ISCJB ***03*** *22:44:28.6±0.6, 31°.83N±0°.04×104°.33E±0°.07, h15km, mb3.6/7, Error ellipse: s-maj=9.4km s-min=5.1km az=20.2*
IDC ***03*** *22:44:28.8±1.0, 31°.89N×104°.34E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/65, mbtmp3.6/7, Error ellipse: s-maj=75.0km s-min=18.3km az=59.0*
BJI ***03*** *22:44:30.7, 31°.82N×104°.06E, h12km, ML3.3/11, Ms3.2/2, Ms7 3.2/1*
ISC 03 22:44:31.4±0.7**, 31°.80N**±0°.05×**104°.08E**±0°.06**, h15km, n12,** σ**1s.80**/17**, mb3.7**/7**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.93**	**197**	Pg	**Pb**	**22 44 49.7**	**+0.4**
CD2				Sg	**Sb**	**22 45 02.3**	**+0.8**
CD2				smax	smax		
	comp=N,940nm,0.6s						
CD2				smax	smax		
	comp=E,1μm,0.5s						
LZH	**Lanzhou**	**4.28**	**357**	*e*Pg	**Pb**	**22 45 45.9**	**-0.5**
LZH				Sg	**Sg**	**22 46 49.6**	**+0.8**
LZH				smax	smax		
	comp=N,46nm,0.7s						
LZH				smax	smax		
	comp=E,39nm,0.5s						
LZH				LR	LR		
	comp=N,160nm,5.4s						
LZH				LR	LR		
	comp=E,140nm,5.0s						
LZH				LR	LR		
	comp=Z,180nm,6.1s						
XAN	**Xi'an**	**4.64**	**60**	Pn	**Pn**	**22 45 42.4**	**+1.3**
XAN				Pg	**Pb**	**22 45 53.9**	**+1.3**
XAN				Sn	**Sn**	**22 46 38.5**	**+3.7**
XAN				Sg	**Sg**	**22 46 55.8**	**-4.8**
XAN				smax	smax		
	comp=N,95nm,0.9s						
XAN				smax	smax		
	comp=E,80nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.07**	**200**	Pn	**P**	**22 47 57.8**	**-0.3**
	0.4nm,0.3s,baz=8.0,slow=9.1,SNR=16						
WMQ	**Urumqi**	**17.61**	**318**	*e*P	**P**	**22 48 36.5**	**-0.7**
MKAR	**Makanchi Array**	**22.44**	**318**	P	**P**	**22 49 30.9**	**+1.2**
	0.6nm,0.8s,baz=118,slow=11,SNR=6.1						
ZALV	**Zalesovo Beam**	**26.08**	**334**	P	**P**	**22 50 04.3**	**0.0**
	0.6nm,0.6s,baz=142,slow=7.3,SNR=3.3						
ARCES	**ARCESS Array B**	**56.61**	**336**	P	**P**	**22 54 12.7**	**-0.6**
	3.8nm,0.9s,baz=88,slow=7.3,SNR=3.3						
FINES	**FINESS Array B**	**56.97**	**326**	P	**P**	**22 54 15.6**	**-0.4**
	0.4nm,0.4s,baz=126,slow=4.9,SNR=8.5						
WRA	**Warramunga Arr**	**59.07**	**146**	P	**P**	**22 54 30.4**	**-0.8**
	0.5nm,0.7s,baz=322,slow=9.8,SNR=4.1						
ASAR	**Alice Springs**	**62.10**	**149**	P	**P**	**22 54 51.5**	**-0.4**
	0.3nm,0.5s,baz=328,slow=6.5,SNR=3.3						
YKA	**Yellowknife Ar**	**81.03**	**17**	P	**P**	**22 56 44.6**	**-0.7**
	0.2nm,0.5s,baz=330,slow=4.7,SNR=3.5						

IDC ***03*** *22:45:37.2±0.8, 35°.58S×72°.73W, h0km, mb4.5/9, mb1 4.7/10, mb1mx4.4/30, mbtmp4.5/10, ML3.5/1, MS3.6/3, Ms1 3.5/3, ms1mx3.1/33, Error ellipse: s-maj=37.9km s-min=19.8km az=60.0*
ISCJB ***03*** *22:45:39.1±1.0, 35°.74S±0°.04×72°.98W±0°.06, h22km±7km, mb4.6/41, MS3.9/1, Error ellipse: s-maj=9.1km s-min=5.4km az=21.5*
GUC ***03*** *22:45:40.2±0.6, 35°.73S×72°.97W, h10km, ML4.7*
NEIC ***03*** *22:45:40.0±0.0, 35°.73S×72°.97W, h10km, mb4.7/34, ML4.7(GUC), After GUC.*
NEIC Felt [IV] at Constitucion, [III] at Cauquenes and [II] at Chanco, Curico, Pelluhue and Pencahue.
ISC 03 22:45:40.8±1.0**, 35°.74S**±0°.04×**72°.87W**±0°.07**, h25km**±7km**, n84,** σ**1s.12**/87**, mb4.7**/41**, 5C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.40**	**171**⇑	*i*P	Pb	22 45 47.8	-1.6
COCH				*i* S	**Sb**	**22 45 53.8**	**-1.4**
COCH				IAML		22 45 55.2	
	comp=E,22μm,1.0s						
GO05	**HualaæØ**	**1.05**	**47**⇑	*i*P	**Pn**	**22 45 59.3**	**-0.8**
GO05				*i* S	**Sn**	**22 46 13.7**	**-0.2**
GO05				IAML		22 46 16.7	
	comp=N,12μm,0.2s						
CCHI	**Chillan**	**1.08**	**144**	*e*P	**Pn**	**22 45 60.0**	**-0.4**
CCHI				*i* S	**Sn**	**22 46 14.6**	**+0.1**
CCHI				IAML		22 46 22.6	
	comp=N,14μm,0.6s						
CHPI	**Pichilemu**	**1.52**	**28**⇑	*i*P	**Pn**	**22 46 06.2**	**-0.2**
CHPI				*i* S	**Sb**	**22 46 26.6**	**-0.5**
NICH	**Los Niches**	**1.52**	**62**⇑	*i*P	**Pn**	**22 46 07.2**	**+0.8**
NICH				*i* S	**Sn**	**22 46 27.6**	**+2.1**
NICH				IAML		22 46 32.1	
	comp=E,38μm,0.6s						
ANTU	**Antumapu**	**2.84**	**41**	*e*P	**Pb**	**22 46 31.1**	**+0.2**
ANTU				*i* S	**Sb**	**22 47 06.0**	**+0.8**
ANTU				IAML		22 47 15.2	
	comp=N,6μm,0.6s						
LMEL	**Las Melosas**	**2.89**	**50**	*e*P	**Pn**	**22 46 28.0**	**+2.6**
LMEL				*i* S	**Sb**	**22 47 04.2**	**-2.5**
LMEL				IAML		22 47 12.9	
	comp=N,3μm,1.0s						
CLCH	**Cerro Calan**	**3.02**	**40**⇑	*i*P	**Pn**	**22 46 28.1**	**+0.9**
CLCH				*i* S	**Sb**	**22 47 08.7**	**-1.8**
CLCH				IAML		22 47 24.4	
	comp=N,5μm,0.7s						
PLCA	**Paso Flores**	**5.31**	**161**	Pn	**Pn**	**22 46 59.5**	**+0.9**
	comp=N,0.3nm,0.3s,baz=354,slow=11,SNR=6.2						
PLCA				Lg	Lg	22 48 22.2	
	comp=N,2.0nm,0.3s,baz=287,slow=19,SNR=2.9						
PLCA				LR	LR	22 48 53.7	
	comp=N,317nm,20.1s,baz=0.5,slow=36						
PLCA	**Paso Flores**	**5.31**	**161**	*e*Pn	**Pn**	**22 46 58.4**	**-0.2**
PLCA				Lg	Lg	22 48 22.2	
LCO	**Las Campanas**	**6.95**	**16**	*e*Pn	**Pn**	**22 47 18.7**	**-2.7**
TRQA	**Tornquist**	**9.02**	**108**	*e*Pn	**Pn**	**22 47 49.0**	**-0.5**
PB01	**IPOC Station P**	**14.94**	**12**	*e*Pn	**Pn**	**22 49 08.2**	**-2.2**
PB11	**IPOC Station P**	**16.16**	**11**	*e*Pn	**Pn**	**22 49 24.5**	**-2.0**
	comp=N,29nm,1.0s						
CPUP	**Villa Florida**	**16.27**	**59**	Pn	**Pn**	**22 49 29.6**	**+1.9**
	comp=N,0.1nm,0.3s,baz=238,slow=11,SNR=3.0						
CPUP				LR	LR	22 56 56.9	
	comp=N,153nm,18.2s,baz=238,slow=42						
MNMC	**Minye Minye**	**16.79**	**11**	*e*Pn	**Pn**	**22 49 33.3**	**-1.3**
	comp=N,25nm,1.0s						
LPAZ	**La Paz**	**19.82**	**14**	P	**Pn**	**22 50 11.5**	**-0.5**
	comp=N,0.4nm,0.3s,baz=174,slow=11,SNR=16						
LPAZ	**La Paz**	**19.82**	**14**	*e*P	**P**	**22 50 10.7**	**+0.3**
	comp=N,11nm,0.8s						
PTGA	**Pitinga**	**36.84**	**22**	*e*P	**P**	**22 52 46.1**	**-1.0**
	comp=N,7.4nm,0.6s						
PRAC	**Prado**	**39.29**	**357**	*e*P	**P**	**22 53 09.0**	**+1.3**
	comp=N,7.0nm,0.8s						
RUSC	**La Rusia**	**41.41**	**360**	*e*P	**P**	**22 53 26.4**	**+0.6**
	comp=N,4.1nm,0.8s						
SDV	**Santo Domingo**	**44.43**	**3**	P	**P**	**22 53 48.8**	**-1.1**
	comp=N,5.1nm,0.8s,baz=190,slow=6.1,SNR=6.0						
VNA2	**Neumayer--Watz**	**48.69**	**157**	P	**P**	**22 54 23.3**	**+0.7**
	baz=286,slow=9.2						
SNAA	**Sanae**	**50.24**	**157**	P	**P**	**22 54 35.0**	**+0.4**
SNAA	**Sanae**	**50.24**	**157**	*e*P	**P**	**22 54 34.9**	**+0.4**
	comp=N,8.8nm,1.0s						
QSPA	**South Pole Qui**	**54.51**	**180**	*e*P	**P**	**22 55 06.9**	**+0.6**
	comp=N,6.0nm,0.9s						
PPT	**Papeete**	**69.34**	**263**	LR	LR	23 20 53.6	
	comp=N,70nm,19.4s,baz=3.5,slow=30						
JCT	**Junction City**	**70.57**	**336**	*e*P	**P**	**22 56 54.0**	**+0.2**
	comp=N,8.2nm,0.9s						
TXAR	**Lajitas Array**	**70.92**	**332**	P	**P**	**22 56 56.2**	**+0.2**
	comp=N,1.2nm,0.6s,baz=145,slow=8.6,SNR=12						
TX31	**Lajitas Ar. Si**	**70.93**	**332**	*e*P	**P**	**22 56 56.2**	**+0.2**
TKL	**Tuckaleechee C**	**71.75**	**351**	P	**P**	**22 56 59.5**	**-1.3**
	comp=N,5.6nm,0.9s,baz=180,slow=14,SNR=3.7						
ABTX	**Abilene, Hawle**	**72.48**	**337**	*e*P	**P**	**22 57 05.2**	**0.0**
	comp=N,8.1nm,0.8s						
WVT	**Waverly**	**72.84**	**347**	*e*P	**P**	**22 57 06.6**	**-0.6**
	comp=N,14nm,0.8s						
X301	**Greenbrier Sit**	**72.92**	**343**	*e*P	**P**	**22 57 07.6**	**-0.1**
	comp=N,12nm,0.8s						
MNTX	**Cornudas Mount**	**73.69**	**331**	*e*P	**P**	**22 57 11.4**	**-1.0**
	comp=N,16nm,1.8s						
MSTX	**Muleshoe**	**74.77**	**335**	*e*P	**P**	**22 57 18.6**	**-0.1**
	comp=N,7.1nm,0.8s						
CCM	**Cathedral Cave**	**75.37**	**345**	*e*P	**P**	**22 57 21.2**	**-0.8**
	comp=N,15nm,0.8s						
LIC	**Lamto**	**75.97**	**72**	*e*P	**P**	**22 57 25.7**	**-0.3**
	comp=N,43nm,1.5s						
TIC	**Toumodi**	**76.24**	**71**	*e*P	**P**	**22 57 27.1**	**-0.4**
KIC	**Kosan Boka**	**76.27**	**72**	*e*P	**P**	**22 57 27.3**	**-0.4**
	comp=N,18nm,0.8s						
ANMO	**Albuquerque**	**76.99**	**332**	*e*P	**P**	**22 57 30.6**	**-0.9**
	comp=N,3.9nm,1.0s						
T25A	**Trinidad**	**78.20**	**335**	*e*P	**P**	**22 57 38.8**	**+0.6**
	comp=N,7.1nm,0.8s						
MHTCO	**State Highway**	**78.29**	**335**	*e*P	**P**	**22 57 39.8**	**+1.0**
	comp=N,6.5nm,0.8s						
BOSA	**Boshof**	**79.87**	**118**	P	**P**	**22 57 47.7**	**0.0**
	comp=N,4.7nm,0.8s,baz=239,slow=3.9,SNR=12						
SMCO	**Snowmass**	**80.92**	**334**	*e*P	**P**	**22 57 54.3**	**+1.1**
	comp=N,5.0nm,1.0s						
PV10	**Paradox Valley**	**80.98**	**332**	*e*P	**P**	**22 57 53.7**	**+0.3**
KNB	**Kanab**	**81.34**	**329**	*e*P	**P**	**22 57 56.4**	**+1.2**
	comp=N,6.3nm,1.0s						
MTPU	**Mount Pierson**	**81.94**	**330**	*e*P	**P**	**22 57 59.3**	**+0.7**
	comp=N,12nm,1.7s						
KOWA	**Kowa**	**81.97**	**66**	P	**P**	**22 57 59.2**	**+0.4**
	comp=N,13nm,0.6s,baz=226,slow=6.2,SNR=48						
KOWA	**Kowa**	**81.97**	**66**	*e*P	**P**	**22 57 59.7**	**+0.8**
	comp=N,14nm,0.6s						
ECSD	**EROS Data Cent**	**82.00**	**343**	*e*P	**P**	**22 57 58.1**	**-0.2**
	comp=N,9.5nm,0.8s						
SRU	**San Rafael Swe**	**82.20**	**331**	*e*P	**P**	**22 58 00.3**	**+0.6**
	comp=N,15nm,1.7s						
P18A	**Preston Nutter**	**82.53**	**332**	*e*P	**P**	**22 58 02.4**	**+0.8**
	comp=N,15nm,1.5s						
DAC	**Darwin (Calif)**	**82.85**	**325**	*e*P	**P**	**22 58 04.0**	**+0.8**
	comp=N,3.2nm,0.8s						
PSUT	**Pine Spring**	**83.06**	**329**	*e*P	**P**	**22 58 05.6**	**+1.4**
	comp=N,4.4nm,1.0s						
R11A	**Troy Canyon, C**	**83.64**	**328**	*e*P	**P**	**22 58 07.9**	**+0.6**
	comp=N,2.6nm,0.9s						
DUG	**Dugway, Tooele**	**84.03**	**330**	*e*P	**P**	**22 58 09.9**	**+0.8**
	comp=N,5.2nm,1.1s						
NV01	**Mina Array Sit**	**84.92**	**326**	*e*P	**P**	**22 58 14.2**	**+0.4**
NVAR	**Mina Array Bea**	**84.92**	**326**	P	**P**	**22 58 14.5**	**+0.7**
	comp=N,1.8nm,0.7s,baz=156,slow=6.7,SNR=10						
PDAR	**Pinedale Array**	**85.01**	**334**	P	**P**	**22 58 13.2**	**-0.9**
	comp=N,0.4nm,0.6s,baz=132,slow=4.2,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**85.44**	**70**	*e*P	**P**	**22 58 16.2**	**-0.3**
	comp=N,16nm,1.6s						
TORD	**Torodi Ar. Bea**	**85.44**	**70**	P	**P**	**22 58 15.4**	**-1.1**
	comp=N,3.7nm,1.0s,baz=264,slow=4.0,SNR=17						
PNTR	**Pine Nut**	**86.05**	**325**	*e*P	**P**	**22 58 20.8**	**+1.4**
	comp=N,3.8nm,0.8s						
BEKR	**Beckworth**	**87.03**	**325**	*e*P	**P**	**22 58 25.3**	**+1.2**
	comp=N,7.2nm,0.6s						
ORV	**Oroville**	**87.31**	**324**	*e*P	**P**	**22 58 26.4**	**+1.1**
	comp=N,4.7nm,1.1s						
ORV				*e*pP	**pP**	**22 58 34.7**	**+1.3**
ULM	**Lac du Bonnet**	**88.00**	**345**	P	**P**	**22 58 26.9**	**-1.3**
	comp=N,6.3nm,0.8s,baz=193,slow=3.9,SNR=11						
MOD	**Modoc Plateau**	**88.63**	**327**	*e*P	**P**	**22 58 32.5**	**+0.9**
	comp=N,5.2nm,0.7s						
YKA	**Yellowknife Ar**	**103.48**	**341**	Pdiff	**Pdif**	**22 59 37.7**	**-0.8**
	comp=N,0.1nm,0.3s,baz=138,slow=4.9,SNR=3.6						
WRA	**Warramunga Arr**	**118.92**	**209**	PKP	**PKPdf**	**23 04 29.6**	**+1.9**
	comp=N,0.3nm,0.6s,baz=165,slow=1.7,SNR=2.6						
H11S2	**WAKE ISLAND Hy**	**125.05**	**268**	T	T	01 22 17.8	
	baz=118						
H11S1	**WAKE ISLAND Hy**	**125.07**	**268**	T	T	01 22 19.4	
	baz=118						
H11S3	**WAKE ISLAND Hy**	**125.07**	**268**	T	T	01 22 15.9	
	baz=118						
H11N3	**WAKE ISLAND Hy**	**125.51**	**270**	T	T	01 22 41.5	
	baz=106						
H11N1	**WAKE ISLAND Hy**	**125.52**	**270**	T	T	01 22 38.3	
	baz=106,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**125.53**	**270**	T	T	01 22 41.5	
	baz=106						
SEY	**Seymchan**	**141.18**	**329**	PKhKP	PKPpre	23 05 01.2	
	comp=N,0.4nm,0.3s,baz=186,slow=19,SNR=3.1						
SEY				PKP	**PKPdf**	**23 05 08.6**	**+0.4**
	comp=N,1.4nm,0.5s,baz=116,slow=7.4,SNR=5.9						
TIXI	**Tiksi**	**142.27**	**349**	PKhKP	PKPpre	23 05 02.2	
	comp=N,3.8nm,0.4s,baz=313,slow=2.9,SNR=2.4						
TIXI				PKP	**PKPdf**	**23 05 07.9**	**-2.0**
	comp=N,5.1nm,0.5s,baz=9.3,slow=2.1,SNR=4.8						
BVAR	**Borovoye Array**	**149.00**	**45**	PKPbc	**PKPbc**	**23 05 26.2**	**+0.1**
	comp=N,1.9nm,0.6s,baz=340,slow=3.8,SNR=14						
ZALV	**Zalesovo Beam**	**156.05**	**34**	PKPab	**PKPab**	**23 06 00.0**	**+0.2**
	comp=N,2.3nm,0.6s,baz=305,slow=5.0,SNR=9.3						
MKAR	**Makanchi Array**	**158.39**	**52**	PKPab	**PKPab**	**23 06 09.3**	**-0.9**
	comp=N,0.4nm,0.7s,baz=282,slow=3.2,SNR=4.4						
CMAR	**Chiang Mai Arr**	**161.32**	**155**	PKP	**PKPdf**	**23 05 39.4**	**-0.3**
	comp=N,0.5nm,0.3s,baz=93,slow=1.8,SNR=4.5						
CMAR				PKPab	**PKPab**	**23 06 23.1**	**-0.5**
	comp=N,0.3nm,0.3s,baz=264,slow=3.6,SNR=2.3						
SONM	**Songino Array**	**167.90**	**2**	PKPab	**PKPab**	**23 06 51.9**	**+0.1**
	comp=N,1.0nm,0.8s,baz=337,slow=3.3,SNR=6.4						
HHC	**Hu-ho-hao-te**	**173.82**	**327**	*e*PKP	**PKPdf**	**23 05 47.8**	**-0.3**
HHC				PP	**PP**	**23 11 13.6**	**+3.5**
CD2	**Chengdu**	**174.42**	**149**	PKP	**PKPdf**	**23 05 47.8**	**-0.7**

ISCJB ***03*** *23:04:18.0±0.3, 67°.14N±0°.04×158°.42W±0°.07, h10km, mb4.0/13, MS3.5/3, Error ellipse: s-maj=5.7km s-min=3.2km az=32.3*
IDC ***03*** *23:04:19.3±0.7, 67°.46N×158°.64W, h0km, mb3.8/15, mb1 4.1/18, mb1mx3.8/77, mbtmp3.9/18, ML3.5/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/79, Error ellipse: s-maj=22.4km s-min=11.2km az=36.0*
NEIC ***03*** *23:04:20.5±0.0, 67°.14N×158°.46W, h19km, ML3.8(AEIC), After AEIC.*
ISC 03 23:04:19.5±0.6**, 67°.16N**±0°.06×**158°.53W**±0°.05**, h10km, n49,** σ**1s.21**/62**, mb4.0**/13**, MS3.7**/3**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**1.90**	**300**	P	**Pn**	**23 04 52.5**	**+0.5**
RDOG				S	**Sb**	**23 05 17.8**	**-0.2**
IM3	**Indian Mountai**	**2.25**	**120**	P	**Pn**	**23 04 56.5**	**-0.2**
PS05	**TAPS Pump Stn5**	**3.11**	**93**	P	**Pn**	**23 05 08.3**	**-0.3**
PS05				S	**Sn**	**23 05 45.5**	**-0.2**
COLD	**Coldfoot**	**3.25**	**85**	*e*Pn	**Pn**	**23 05 10.7**	**+0.3**
COLD				*e*Sn	**Sn**	**23 05 49.2**	**+0.2**
MLY	**Manley**	**3.82**	**120**	P	**Pn**	**23 05 18.2**	**-0.2**
MLY				S	**Sn**	**23 06 03.8**	**+0.5**
BPAW	**Bear Paw Mtn.**	**4.38**	**131**	*e*Pn	**Pn**	**23 05 26.8**	**+0.8**
BPAW				*e*Sn	**Sn**	**23 06 16.4**	**-0.7**
TT01	**Tatalina**	**4.40**	**165**	P	**Pn**	**23 05 26.4**	**+0.1**
CAST	**Castle Rocks**	**4.63**	**141**	P	**Pn**	**23 05 30.1**	**+0.7**
MDM	**Murphy Dome**	**4.74**	**113**	P	**Pn**	**23 05 31.1**	**+0.2**
MDM				S	**Sn**	**23 06 24.8**	**-1.1**
PS01	**TAPS Pump Stn**	**4.77**	**45**	P	**Pn**	**23 05 32.9**	**+1.6**
KTH	**Kantishna Hill**	**4.82**	**135**	*e*Pn	**Pn**	**23 05 32.5**	**+0.4**
KTH				*e*Sn	**Sn**	**23 06 24.6**	**-3.4**
COLA	**College**	**4.92**	**113**	*e*Pn	**Pn**	**23 05 33.0**	**-0.4**
COLA				*e*Sn	**Sn**	**23 06 28.6**	**-1.7**
PPLA	**Purkeypile**	**5.05**	**145**	*e*Pn	**Pn**	**23 05 35.9**	**+0.5**
	58nm,0.5s						
PPLA				*e*Sn	**Sn**	**23 06 31.5**	**-2.2**
CCB	**Clear Creek Bu**	**5.07**	**115**	P	**Pn**	**23 05 35.5**	**+0.2**
TRF	**Thorofare Moun**	**5.08**	**133**	*e*Pn	**Pn**	**23 05 36.2**	**+0.5**
	88nm,0.7s						
TRF				*e*Sn	**Sn**	**23 06 33.5**	**-0.9**
MCK	**McKinley**	**5.28**	**126**	*e*Pn	**Pn**	**23 05 38.5**	**+0.3**
	25nm,0.3s						
MCK				*e*Sn	**Sn**	**23 06 38.0**	**-1.1**
ILAR	**Eielson Array**	**5.33**	**111**	Pn	**Pn**	**23 05 39.0**	**+0.1**
	11nm,0.3s,baz=290,slow=14,SNR=262						
ILAR				Sn	**Sn**	**23 06 37.7**	**-2.6**
	3.3nm,0.3s,baz=292,slow=18,SNR=4.1						
ILB	**Eielson Array**	**5.33**	**111**	P	**Pn**	**23 05 39.3**	**+0.4**
BM3	**Burnt Mountain**	**5.40**	**81**	P	**Pn**	**23 05 40.0**	**0.0**
RND	**Reindeer**	**5.54**	**128**	P	**Pn**	**23 05 42.5**	**+0.6**
SKT	**Skwentna**	**6.01**	**147**	P	**Pn**	**23 05 49.7**	**+1.3**
SVW2	**Sparrevohn**	**6.22**	**167**	P	**Pn**	**23 05 51.6**	**+0.3**
GAMB	**Gambell**	**6.45**	**244**	*e*Pn	**Pn**	**23 05 54.8**	**+0.5**
	12nm,0.8s						
PMR	**Palmer**	**6.91**	**140**	*e*Pn	**Pn**	**23 06 00.2**	**-0.4**
	17nm,0.4s						
PAX	**Paxson**	**6.93**	**121**	*e*Pn	**Pn**	**23 06 02.1**	**+1.0**
	9.1nm,0.5s						
PAX				*e*Sn	**Sn**	**23 07 19.1**	**-0.8**
SML	**Sawmill**	**6.94**	**136**	*e*Pn	**Pn**	**23 06 01.7**	**+0.6**
	3.8nm,0.5s						
RC01	**Rabbit Creek A**	**7.20**	**144**	*e*Pn	**Pn**	**23 06 06.0**	**+1.3**
	11nm,0.4s						
EGAK	**Eagle**	**7.48**	**101**	*e*Pn	**Pn**	**23 06 08.9**	**+0.5**
	7.6nm,0.6s						
DAWY	**Dawson**	**8.49**	**102**	*e*Pn	**Pn**	**23 06 22.7**	**+0.4**
	4.2nm,0.6s						
DAWY				Sn	**Sn**	**23 07 53.3**	**-4.8**
INK	**Inuvik**	**9.53**	**72**	Pn	**Pn**	**23 06 38.4**	**+1.9**
	0.4nm,0.3s,baz=287,slow=12,SNR=18						
INK				Sn	**Sn**	**23 08 23.4**	**-0.2**
	0.9nm,0.3s,baz=105,slow=19,SNR=4.2						
INK				LR	LR	23 10 23.7	
	comp=Z,82nm,21.5s,baz=89,slow=38						
KDAK	**Kodiak Island**	**9.80**	**161**	Pn	**Pn**	**23 06 42.0**	**+1.8**
	0.8nm,0.3s,baz=25,slow=3.8,SNR=5.9						
YKA	**Yellowknife Ar**	**18.92**	**83**	P	**Pn**	**23 08 40.6**	**0.0**
	0.1nm,0.3s,baz=305,slow=11,SNR=11						
SEY	**Seymchan**	**20.67**	**282**	P	**P**	**23 08 59.9**	**+0.9**
	1.7nm,0.5s,baz=80,slow=4.9,SNR=6.4						
RES	**Resolute Bay**	**20.99**	**42**	P	**P**	**23 09 03.3**	**+0.9**
	0.9nm,0.7s,baz=220,slow=7.9,SNR=7.4						
TIXI	**Tiksi**	**24.46**	**313**	P	**P**	**23 09 37.5**	**-0.5**
	0.6nm,0.4s,baz=96,slow=10,SNR=2.4						
TIXI				LR	LR	23 21 01.0	
	comp=Z,36nm,18.2s,baz=0.0,slow=41						
PDAR	**Pinedale Array**	**35.75**	**108**	P	**P**	**23 11 20.2**	**+1.9**
	0.5nm,0.4s,baz=333,slow=7.4,SNR=8.5						
NVAR	**Mina Array Bea**	**36.49**	**121**	P	**P**	**23 11 26.4**	**+1.7**
	1.7nm,0.9s,baz=317,slow=7.3,SNR=1.9						
SONM	**Songino Array**	**48.92**	**297**	P	**P**	**23 13 06.0**	**+0.6**
	1.1nm,0.9s,baz=33,slow=5.5,SNR=4.9						
KSRS	**Korea Array**	**49.80**	**272**	LR	LR	23 35 16.9	
	comp=Z,76nm,19.0s,baz=54,slow=37						
TXAR	**Lajitas Array**	**49.84**	**111**	P	**P**	**23 13 13.7**	**+1.2**
	1.2nm,0.8s,baz=330,slow=7.2,SNR=4.8						
ZALV	**Zalesovo Beam**	**50.28**	**317**	P	**P**	**23 13 14.9**	**-0.5**
	1.5nm,0.7s,baz=30,slow=7.1,SNR=8.0						
FINES	**FINESS Array B**	**51.65**	**357**	P	**P**	**23 13 25.2**	**-0.4**
	0.5nm,0.6s,baz=313,slow=3.9,SNR=3.4						
LPIG	**La Paz**	**52.30**	**121**	LR	LR	23 35 26.1	
	comp=Z,89nm,19.1s,baz=28,slow=36						
BVAR	**Borovoye Array**	**54.64**	**326**	P	**P**	**23 13 47.3**	**-0.5**
	1.7nm,0.5s,baz=44,slow=6.4,SNR=11						
EKA	**Eskdalemuir Ar**	**56.44**	**17**	P	**P**	**23 14 00.8**	**+0.1**
	6.0nm,1.1s,baz=8.5,slow=5.7,SNR=3.0						
MKAR	**Makanchi Array**	**57.44**	**315**	P	**P**	**23 14 06.6**	**-1.3**
	0.6nm,0.4s,baz=26,slow=6.2,SNR=23						
AKASG	**Malin Array Be**	**62.32**	**354**	P	**P**	**23 14 40.6**	**-0.6**
	0.7nm,0.4s,baz=4.2,slow=6.9,SNR=8.0						
BRTR	**Keskin Array B**	**73.04**	**350**	P	**P**	**23 15 48.4**	**-0.9**
	1.6nm,1.1s,baz=323,slow=2.9,SNR=5.1						
CMAR	**Chiang Mai Arr**	**77.92**	**289**	P	**P**	**23 16 17.4**	**0.0**
	1.1nm,0.3s,baz=1.6,slow=6.3,SNR=6.7						

MAN 03 23:06:07, 13°.80N×120°.66E, h138km, mb3.9, ML2.6, MS2.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.41**	**260**	*e*P	Pn	23 06 28.7	+2.2
LUBP				*e*S	Sn	23 06 44.0	+2.8
PGP	**Puerto Galera**	**0.41**	**136**⇓	*i*P	Pn	23 06 28.5	+1.9
PGP				*i* S	Sn	23 06 44.6	+3.1
SJMP	**San Jose**	**1.41**	**161**	*e*P	Pn	23 06 36.0	+1.3
SJMP				*e*S	Sn	23 06 57.5	+1.7
BUSP	**Coron**	**1.84**	**194**	*e*P	Pn	23 06 40.6	+1.0
BUSP				*e*S	Sn	23 07 06.6	+2.1
BOLP	**Bolinao**	**2.66**	**344**	*e*P	Pn	23 06 51.1	+1.5

IDC ***03*** *23:09:30.7±7.4, 7°.70S×117°.57E, h230km±67km, mb3.4/5, mb1 3.6/6, mb1mx3.1/59, mbtmp4.1/6, Error ellipse: s-maj=109.6km s-min=16.4km az=61.0*
ISCJB ***03*** *23:09:31.4±0.5, 7°.91S±0°.09×117°.52E±0°.06, h250km, mb3.7/4, Error ellipse: s-maj=13.8km s-min=6.0km az=22.6*
DJA ***03*** *23:09:32.8±0.4, 8°S±7°×11°8E±°, h238km±5km, M4.4/12, mb4.6/5, mB4.8/3, MLv4.3/12, Mw(mB)4.0/3*
ISC 03 23:09:32.0±0.9**, 7°.9S**±0°.1×**117°.52E**±0°.08**, h250km, n18,** σ**1s.12**/21**, mb3.7**/4**, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.94**	**164**	P	**Pn**	**23 10 06.5**	**-0.2**
PLAI				S	**S**	**23 10 32.4**	**-1.7**
IGBI	**Denpasar**	**2.52**	**249**	P	**Pn**	**23 10 19.0**	**-0.4**
WBSI	**Waikabubak, Su**	**2.52**	**133**	P	**Pn**	**23 10 19.0**	**-0.5**
WBSI				S	**S**	**23 10 55.7**	**-1.4**
BASI	**Baing, Sumba**	**3.79**	**127**	P	**Pn**	**23 10 33.7**	**+0.4**
EDFI	**Ende, Flores**	**4.21**	**102**	P	**Pn**	**23 10 39.0**	**+0.6**
MMRI	**Maumere**	**4.72**	**99**	P	**Pn**	**23 10 45.2**	**+0.8**
KBKI	**Kotabaru**	**4.78**	**344**	P	**Pn**	**23 10 45.8**	**+0.7**
GRJI	**Gresik**	**5.10**	**281**	P	**Pn**	**23 10 49.6**	**+0.6**
PWJI	**Pagerwojo**	**5.66**	**269**	P	**Pn**	**23 10 55.9**	**-0.1**
PCJI	**Pacitan**	**6.29**	**267**	P	**Pn**	**23 11 03.4**	**-0.3**
BATI	**Baumata**	**6.48**	**111**	P	**Pn**	**23 11 06.5**	**+0.3**
	14nm,0.3s,baz=287,slow=9.8,SNR=17						
BATI				S	**S**	**23 12 19.0**	**-2.7**
	9.0nm,0.3s,baz=156,slow=20,SNR=9.9						
BATI	**Baumata**	**6.48**	**111**	P	**Pn**	**23 11 06.5**	**+0.3**
SOEI	**Soe**	**6.91**	**106**	P	**Pn**	**23 11 11.9**	**+0.2**
WRA	**Warramunga Arr**	**20.21**	**128**	P	**P**	**23 13 49.5**	**+1.1**
	2.0nm,0.3s,baz=301,slow=12,SNR=35						
ASAR	**Alice Springs**	**22.18**	**137**	P	**P**	**23 14 09.6**	**+1.7**
	2.5nm,0.3s,baz=311,slow=9.1,SNR=38						
STKA	**Stephens Creek**	**32.72**	**140**	P	**P**	**23 15 42.9**	**+1.5**
	1.6nm,0.4s,baz=316,slow=10,SNR=6.0						
SONM	**Songino Array**	**56.37**	**351**	P	**P**	**23 18 47.4**	**0.0**
	0.4nm,0.4s,baz=171,slow=9.0,SNR=4.6						
MKAR	**Makanchi Array**	**62.83**	**334**	P	**P**	**23 19 30.2**	**-1.1**
	0.3nm,0.3s,baz=146,slow=6.1,SNR=11						

IDC ***03*** *23:10:49.8±1.4, 5°.54N×124°.35E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/63, mbtmp3.8/4, MS3.5/5, Ms1 3.5/5, ms1mx3.0/64, Error ellipse: s-maj=38.6km s-min=20.2km az=94.0*
ISCJB ***03*** *23:10:52.6±0.8, 5°.49N±0°.07×124°.30E±0°.06, h33km, mb3.7/4, MS3.4/4, Error ellipse: s-maj=10.0km s-min=9.1km az=19.7*
ISC 03 23:10:54.7±1.0**, 5°.6N**±0°.1×**124°.32E**±0°.07**, h35km, n10,** σ**1s.09**/8**, mb3.6**/4**, MS3.5**/4**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.96**	**40**	Pn	**Pn**	**23 11 24.4**	**-1.1**
	133nm,0.3s,baz=204,slow=0.7,SNR=18						
DAV				Sn	**Sn**	**23 11 49.8**	**+1.0**
	201nm,0.3s,baz=266,slow=20,SNR=15						
ZCP	**Zamboanga City**	**2.61**	**302**⇓	*i*P	**Pn**	**23 11 34.1**	**-0.3**
ZCP				*i* S	**Sn**	**23 12 04.9**	**-0.2**
BATI	**Baumata**	**15.68**	**182**	LR	LR	23 23 08.5	
	comp=Z,205nm,18.1s,baz=225,slow=47						
GUMO	**Guam**	**21.76**	**67**	LR	LR	23 24 28.1	
	comp=Z,56nm,20.1s,baz=90,slow=38						
WRA	**Warramunga Arr**	**27.19**	**159**	P	**P**	**23 16 34.1**	**-1.2**
	1.2nm,0.7s,baz=339,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**30.52**	**162**	P	**P**	**23 17 04.2**	**-0.7**
	0.9nm,0.8s,baz=330,slow=5.5,SNR=6.5						
ASAR				LR	LR	23 30 25.3	
	comp=Z,93nm,19.4s,baz=162,slow=39						
MJAR	**Matsushiro Arr**	**33.36**	**21**	LR	LR	23 29 08.2	
	comp=Z,101nm,21.6s,baz=120,slow=33						
USRK	**Ussuriysk Ar.**	**39.07**	**9**	LR	LR	23 33 58.0	
	comp=Z,104nm,21.9s,baz=111,slow=36						
STKA	**Stephens Creek**	**40.71**	**157**	P	**P**	**23 18 33.3**	**+1.2**
	2.2nm,0.7s,baz=332,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**54.70**	**326**	P	**P**	**23 20 20.9**	**+0.4**
	0.4nm,0.6s,baz=125,slow=7.4,SNR=4.4						

ISCJB ***03*** *23:18:20.7±0.4, 41°.33N±0°.02×43°.96E±0°.03, h6km±4km, Error ellipse: s-maj=4.6km s-min=2.8km az=144.4*
CSEM ***03*** *23:18:20.7±0.2, 41°.33N×43°.95E, h7km±2km, ML2.3, Error ellipse: s-maj=4.4km s-min=2.7km az=148.0*
ISK ***03*** *23:18:20.7, 41°.32N×44°.00E, h6km, ML2.8/2*
TIF ***03*** *23:18:20.6, 41°.35N×43°.97E, h14km±2km*
DDA ***03*** *23:18:21.6, 41°.29N×43°.79E, h5km, Md2.6*
ISC 03 23:18:20.7±0.9**, 41°.33N**±0°.02×**43°.96E**±0°.02**, h11km**±8km**, n39,** σ**0s.55**/74**, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.28**	**256**	P	**Pg**	**23 18 26.0**	**-0.4**
BGD				S	**Sg**	**23 18 30.1**	**-0.2**
BGD	**Bogdanovka**	**0.28**	**256**	P	**Pg**	**23 18 26.0**	**-0.4**
BGD				S	**Sg**	**23 18 30.1**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KZR	**Kazreti**	**0.35**	**82**	P	**Pb**	**23 18 28.4**	**-0.6**
KZR				S	**Sg**	**23 18 33.2**	**+0.8**
KZR	**Kazreti**	**0.35**	**82**	P	**Pb**	**23 18 28.4**	**-0.6**
KZR				S	**Sg**	**23 18 33.2**	**+0.8**
AKH	**Akhalkalaki**	**0.36**	**283**	PG	**Pb**	**23 18 29.5**	**+0.3**
AKH				SG	**Sb**	**23 18 34.4**	**-0.5**
AKH	**Akhalkalaki**	**0.36**	**283**	P	**Pg**	**23 18 28.1**	**+0.2**
AKH				S	**Sg**	**23 18 33.0**	**+0.4**
AKH	**Akhalkalaki**	**0.36**	**283**	P	**Pg**	**23 18 28.0**	**+0.2**
AKH	**Akhalkalaki**	**0.36**	**283**	*e*Pg	**Pb**	**23 18 29.5**	**+0.3**
AKH				S	**Sg**	**23 18 33.0**	**+0.4**
AKH				*e*Sg	**Sb**	**23 18 34.4**	**-0.5**
EAK	**Akyaka**	**0.70**	**202**	*i* P	**Pg**	**23 18 33.5**	**-0.7**
EAK				*i* S	**Sg**	**23 18 43.5**	**+0.1**
EAK	**Akyaka**	**0.70**	**202**	P	**Pg**	**23 18 33.5**	**-0.7**
EAK				S	**Sg**	**23 18 43.5**	**+0.1**
TBLG	**Delisi**	**0.71**	**56**	PG	**Pg**	**23 18 34.6**	**+0.1**
TBLG				SG	**Sb**	**23 18 44.5**	**-0.4**
TBLG	**Delisi**	**0.71**	**56**	P	**Pg**	**23 18 34.5**	**+0.1**
TBLG				S	**Sb**	**23 18 44.6**	**-0.4**
TBLG	**Delisi**	**0.71**	**56**	*e*Pg	**Pg**	**23 18 34.6**	**+0.1**
TBLG				*e*Sg	**Sb**	**23 18 44.5**	**-0.4**
BTNK	**Botanikuri**	**0.72**	**61**	P	**Pg**	**23 18 34.8**	**+0.1**
BTNK				S	**Sg**	**23 18 44.4**	**+0.2**
BTNK	**Botanikuri**	**0.72**	**61**	P	**Pg**	**23 18 34.8**	**+0.1**
BTNK				S	**Sg**	**23 18 44.4**	**+0.2**
SEAG	**Tbilisi Sea**	**0.77**	**56**	P	**Pb**	**23 18 36.4**	**+0.2**
SEAG				S	**Sb**	**23 18 47.0**	**+0.4**
SEAG	**Tbilisi Sea**	**0.77**	**56**	P	**Pb**	**23 18 36.4**	**+0.2**
SEAG				S	**Sb**	**23 18 47.0**	**+0.4**
EPOS	**Posof**	**0.94**	**281**	*i* P	**Pg**	**23 18 37.7**	**-1.1**
EPOS				*i* S	**Sg**	**23 18 50.3**	**-0.8**
EPOS	**Posof**	**0.94**	**281**	P	**Pg**	**23 18 37.7**	**-1.1**
EPOS				S	**Sg**	**23 18 50.3**	**-0.8**
KARS	**Kars**	**0.97**	**224**	PG	**Pb**	**23 18 39.9**	**+0.3**
KARS				SG	**Sb**	**23 18 53.7**	**+1.3**
KARS	**Kars**	**0.97**	**224**	*e*Pg	**Pb**	**23 18 39.9**	**+0.3**
KARS				*e*Sg	**Sb**	**23 18 53.7**	**+1.3**
DIGO	**Kars**	**1.02**	**206**	*i* P	**Pg**	**23 18 39.7**	**-0.6**
DIGO				*i* S	**Sg**	**23 18 53.3**	**-0.2**
DIGO	**Kars**	**1.02**	**206**	P	**Pg**	**23 18 39.7**	**-0.6**
DIGO				S	**Sg**	**23 18 53.3**	**-0.2**
GUDG	**Gudauri**	**1.20**	**19**	P	**Pg**	**23 18 43.0**	**-0.8**
GUDG				S	**Sg**	**23 18 59.0**	**-0.3**
GUDG	**Gudauri**	**1.20**	**19**	P	**Pg**	**23 18 43.0**	**-0.8**
GUDG				S	**Sg**	**23 18 59.0**	**-0.3**
ONI	**Oni**	**1.31**	**344**	P	**Pn**	**23 18 45.4**	**+0.3**
ONI				S	**Sg**	**23 19 03.1**	**+0.2**
ONI	**Oni**	**1.31**	**344**	P	**Pn**	**23 18 45.4**	**+0.3**
ONI				S	**Sg**	**23 19 03.1**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.36**	**171**	PN	**Pg**	**23 18 46.7**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.36**	**171**	*e*Pn	**Pg**	**23 18 46.7**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.44**	**238**	PN	**Pb**	**23 18 48.1**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.44**	**238**	*e*Pn	**Pb**	**23 18 48.1**	**+0.4**
IGDI	**IGDIR**	**1.47**	**176**	*i* P	**Pb**	**23 18 47.9**	**-0.1**
IGDI				*i* S	**Sg**	**23 19 07.5**	**-0.4**
ARTV	**Artvin**	**1.54**	**265**	*i* P	**Pn**	**23 18 48.7**	**+0.4**
ARTV				*i* S	**Sn**	**23 19 08.4**	**+0.1**
ARTV	**Artvin**	**1.54**	**265**	P	**Pn**	**23 18 48.7**	**+0.4**
ARTV				S	**Sn**	**23 19 08.4**	**+0.1**
DAGI	**Agillar**	**1.56**	**261**	*i* P	**Pg**	**23 18 50.7**	**0.0**
DAGI				*i* S	**Sg**	**23 19 11.2**	**+0.3**
DDEM	**Demirkent**	**1.72**	**256**	*i* P	**Pn**	**23 18 49.7**	**-1.1**
DDEM				*i* S	**Sb**	**23 19 14.4**	**+0.2**
DDEM	**Demirkent**	**1.72**	**256**	P	**Pn**	**23 18 49.7**	**-1.1**
DDEM				S	**Sb**	**23 19 14.4**	**+0.2**
DBAD	**Bademkaya**	**1.73**	**260**	*i* P	**Pn**	**23 18 50.7**	**-0.2**
DBAD				*i* S	**Sb**	**23 19 15.7**	**+1.2**
DBAD	**Bademkaya**	**1.73**	**260**	P	**Pn**	**23 18 50.7**	**-0.2**
DBAD				S	**Sb**	**23 19 15.7**	**+1.2**

*ISCJB **03** 23:20:13.3±0.7, 37°.86S±0°.04×75°.07W±0°.07, h33km, mb4.2/9, MS4.4/1, Error ellipse: s-maj=8.2km s-min=6.1km az=160.9*
*IDC **03** 23:20:14.7±5.6, 38°.08S×75°.31W, h37km±43km, mb3.7/7, mb1 3.9/9, mb1mx3.8/29, mbtmp3.9/9, ML3.8/2, MS3.6/2, Ms1 3.5/2, ms1mx2.9/32, Error ellipse: s-maj=40.8km s-min=20.8km az=70.0*
*GUC **03** 23:20:14.6±0.5, 37°.87S×74°.88W, h23km±6km, ML3.9*
ISC 03 23:20:14.7±0.7**, 37°.91S**±0°.05×**75°.12W**±0°.09**, h35km, n21,** σ**1s.62**/26**, mb4.2**/9**, 1C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**2.15**	**113**	⇓ *i*P	**Pn**	**23 20 47.9**	**0.0**
TMU				*i* S	**Sn**	**23 21 13.1**	**-0.3**
TMU				IAML		23 21 17.6	
	comp=N,526nm,0.6s						
VLCH	**Valdivia**	**2.39**	**143**	*e*P	**Pn**	**23 20 48.7**	**-2.6**
VLCH				*e*S	**Sn**	**23 21 15.6**	**-3.8**
COCH	**Cobquecura**	**2.58**	**47**	*e*P	**Pn**	**23 20 52.9**	**-0.9**
COCH				*i* S	**Sn**	**23 21 22.4**	**-1.6**
COCH				IAML		23 21 26.3	
	comp=N,492nm,0.8s						
CCHI	**Chillan**	**2.76**	**63**	*e*P	**Pn**	**23 20 55.8**	**-0.5**
CCHI				IAML		23 21 34.0	
	comp=N,1μm,0.3s						
GO06	**Curarrehue**	**3.31**	**121**	⇑ *i*P	**Pn**	**23 21 04.3**	**+0.2**
GO06				*i* S	**Sn**	**23 21 42.4**	**+0.2**
GO06				IAML		23 21 45.7	
	comp=N,125nm,0.6s						
GO05	**HualaæØ**	**3.87**	**43**	*e*P	**Pn**	**23 21 10.2**	**-1.6**
GO05				*i* S	**Sn**	**23 21 54.5**	**-1.5**
PLCA	**Paso Flores**	**4.53**	**130**	Pn	**Pn**	**23 21 20.6**	**-0.2**
	comp=N,1.1nm,0.3s,baz=326,slow=8.8,SNR=20						
PLCA				Sn	**Sn**	**23 22 14.2**	**+2.0**
	comp=N,1.4nm,0.3s,baz=198,slow=20,SNR=1.7						
PLCA				LR	LR	23 23 08.2	
	comp=N,158nm,20.6s,baz=15,slow=38						
CPUP	**Villa Florida**	**18.95**	**58**	P	**Pn**	**23 24 34.3**	**+0.7**
	comp=N,0.1nm,0.3s,baz=208,slow=17,SNR=2.3						
LPAZ	**La Paz**	**22.41**	**18**	P	**P**	**23 25 13.6**	**+2.7**
	comp=N,2.5nm,0.8s,baz=184,slow=5.3,SNR=7.4						
SNAA	**Sanae**	**48.96**	**156**	P	**P**	**23 28 56.2**	**-0.9**
	comp=N,2.3nm,0.9s,baz=276,slow=6.1,SNR=4.2						
TXAR	**Lajitas Array**	**72.03**	**334**	P	**P**	**23 31 35.5**	**+0.5**
	comp=N,1.0nm,0.8s,baz=154,slow=8.9,SNR=6.6						
BOSA	**Boshof**	**80.43**	**119**	P	**P**	**23 32 23.4**	**+0.3**
	comp=N,5.2nm,1.1s,baz=190,slow=12,SNR=2.9						
RAO	**Raoul Island**	**81.70**	**239**	LR	LR	00 00 26.1	
	comp=N,173nm,21.8s,baz=172,slow=30						
KOWA	**Kowa**	**84.50**	**67**	P	**P**	**23 32 45.4**	**+1.2**
	comp=N,1.0nm,0.6s,baz=237,slow=12,SNR=4.6						
PDAR	**Pinedale Array**	**86.19**	**335**	P	**P**	**23 32 52.2**	**0.0**
	comp=N,0.4nm,0.6s,baz=199,slow=3.1,SNR=5.0						
AFI	**Afiamalu**	**86.72**	**255**	P	**P**	**23 32 57.9**	**+2.4**
	comp=N,10.0nm,0.2s,baz=329,slow=21,SNR=4.0						
TORD	**Torodi Ar. Bea**	**87.86**	**72**	P	**P**	**23 33 01.1**	**+0.4**
	comp=N,0.3nm,0.7s,baz=248,slow=4.4,SNR=2.7						
ULM	**Lac du Bonnet**	**89.67**	**347**	P	**P**	**23 33 05.8**	**-2.6**
	comp=N,1.6nm,0.8s,baz=113,slow=2.5,SNR=3.3						
BVAR	**Borovoye Array**	**151.81**	**46**	PKPbc	**PKPbc**	**23 40 05.6**	**+0.6**
	comp=N,0.8nm,0.5s,baz=310,slow=3.8,SNR=10						
ZALV	**Zalesovo Beam**	**158.86**	**34**	PKPab	**PKPab**	**23 40 44.1**	**-0.1**
	comp=N,0.8nm,0.6s,baz=308,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	**161.15**	**55**	PKP	**PKPdf**	**23 40 09.3**	**-1.5**
	comp=N,0.6nm,0.9s,baz=72,slow=4.0,SNR=4.3						

IDC 03 23:23:10.8±1.1**, 15°.62S**×**162°.94E, h0km, mb3.9**/6**, mb1 4.1**/7**, mb1mx3.8**/46**, mbtmp3.9**/7**, ML4.0**/1**, Error ellipse: s-maj=35.9km s-min=26.4km az=150.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.23**	**153**	Pn	Pn	23 24 57.9	0.0
	2.3nm,0.3s,baz=24,slow=9.5,SNR=54						
DZM				Sn	Sn	23 26 14.3	-6.4
	3.6nm,0.3s,baz=320,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**27.55**	**257**	P	P	23 28 59.2	-0.5
	0.8nm,1.0s,baz=86,slow=8.8,SNR=3.4						
ASAR	**Alice Springs**	**28.45**	**249**	P	P	23 29 08.2	+0.5
	0.6nm,0.6s,baz=77,slow=9.0,SNR=11						
SONM	**Songino Array**	**80.78**	**325**	P	P	23 35 26.7	+0.3
	0.6nm,0.6s,baz=135,slow=5.5,SNR=5.1						
ILAR	**Eielson Array**	**88.70**	**19**	P	P	23 36 05.9	+0.1
	0.7nm,1.1s,baz=234,slow=7.7,SNR=3.1						
NVAR	**Mina Array Bea**	**91.04**	**50**	P	P	23 36 17.8	+0.2
	0.1nm,0.3s,baz=237,slow=8.3,SNR=3.7						
MKAR	**Makanchi Array**	**94.98**	**317**	P	P	23 36 35.3	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.6nm,0.7s,baz=95,slow=6.5,SNR=7.3						
ARCES	**ARCESS Array B**	**120.00**	**344**	PKP	PKPdf	23 42 01.8	-1.1
	4.0nm,1.0s,baz=91,slow=3.6,SNR=4.4						

*IDC **03** 23:23:36.8±0.9, 37°.00N×144°.61E, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.6/68, mbtmp3.8/7, ML3.8/2, Error ellipse: s-maj=28.8km s-min=20.7km az=114.0*
*ISCJB **03** 23:23:39.4±0.6, 37°.24N±0°.04×144°.49E±0°.05, h33km, mb3.9/7, Error ellipse: s-maj=6.2km s-min=5.2km az=37.5*
*JMA **03** 23:23:40.7±0.2, 37°.25N×144°.40E, h47km, M3.9*
*NEIC **03** 23:23:41.8±0.8, 37°.11N×144°.58E, h35km, mb4.3/2, Error ellipse: s-maj=16.4km s-min=13.7km az=141.0*
ISC 03 23:23:40.9±1.0**, 37°.26N**±0°.05×**144°.54E**±0°.08**, h35km, n39,** σ**2s.05**/50**, mb4.0**/7**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.79**	**296**	P	**Pn**	**23 24 23.2**	**+0.2**
JIO				*e*S	**Sn**	**23 24 54.7**	**-0.8**
OFUJ	**Ofunato**	**2.90**	**310**	P	**Pn**	**23 24 24.4**	**-0.1**
OFUJ				*e*S	**Sn**	**23 24 57.5**	**-0.7**
JFK	**Kawauchi**	**2.92**	**273**	P	**Pn**	**23 24 24.5**	**-0.4**
JMK	**Ichinoseki**	**3.12**	**304**	P	**Pn**	**23 24 27.7**	**+0.2**
JMK				*e*S	**Sn**	**23 25 03.0**	**-0.5**
JOU	**Okura**	**3.26**	**291**	P	**Pn**	**23 24 30.1**	**+0.6**
JOU				*e*S	**Sn**	**23 25 07.4**	**+0.3**
JFT	**Otama**	**3.36**	**276**	P	**Pn**	**23 24 31.6**	**+0.8**
JFT				*e*S	**Sn**	**23 25 08.7**	**-0.7**
JOM	**Ohasama**	**3.38**	**312**	P	**Pn**	**23 24 31.7**	**+0.6**
JOM				*e*S	**Sn**	**23 25 09.5**	**-0.4**
JYK	**Kaneyama**	**3.69**	**298**	P	**Pn**	**23 24 36.4**	**+1.0**
JYK				*e*S	**Sn**	**23 25 17.8**	**+0.2**
JRG	**Rokugo**	**3.74**	**306**	P	**Pn**	**23 24 36.8**	**+0.7**
JRG				*e*S	**Sn**	**23 25 19.4**	**+0.6**
BSO1	**Boso 1**	**3.89**	**229**	P	**Pn**	**23 24 36.3**	**-1.3**
JAH	**Hinai**	**4.23**	**315**	P	**Pn**	**23 24 44.0**	**+1.2**
JAH				*e*S	**Sn**	**23 25 30.9**	**0.0**
JTM	**Tenmabayashi**	**4.44**	**324**	P	**Pn**	**23 24 46.2**	**+0.5**
JTM				*e*S	**Sn**	**23 25 33.8**	**-2.3**
JRY	**Ryogami san**	**4.70**	**256**	P	**Pn**	**23 24 48.8**	**-0.5**
JRY				*e*S	**Sn**	**23 25 39.8**	**-2.8**
JOD2	**Odawara 2**	**4.83**	**247**	P	**Pn**	**23 24 50.9**	**-0.2**
JOD2				*e*S	**Sn**	**23 25 42.6**	**-3.3**
JOT	**Ohata**	**4.93**	**328**	P	**Pn**	**23 24 52.9**	**+0.5**
JOT				*e*S	**Sn**	**23 25 45.6**	**-2.5**
MJAR	**Matsushiro Arr**	**5.12**	**264**	Pn	**Pn**	**23 24 55.6**	**+0.5**
	2.6nm,0.3s,baz=71,slow=9.7,SNR=34						
MAJO	**Matsushiro**	**5.12**	**264**	*e*Pn	**Pn**	**23 24 56.9**	**+1.8**
	21nm,0.6s						
MAT	**Matsushiro**	**5.12**	**264**	P	**Pn**	**23 24 56.4**	**+1.3**
MAT				S	**Sn**	**23 25 50.0**	**-3.1**
JKB	**Kayabe**	**5.36**	**331**	P	**Pn**	**23 24 59.3**	**+1.0**
JCH	**Churui**	**5.42**	**351**	P	**Pn**	**23 24 58.2**	**-1.0**
JCH				*e*S	**Sn**	**23 25 57.1**	**-3.3**
JHJ	**Hachijo jima 2**	**5.67**	**225**	Pn	**Pn**	**23 25 00.5**	**-2.2**
	14nm,0.3s,baz=310,slow=7.0,SNR=2.8						
JHJ				Sn	**Sn**	**23 26 00.7**	**-5.9**
	14nm,0.3s,baz=43,slow=19,SNR=2.7						
NEM2	**Nemuro 2**	**6.17**	**8**	P	**Pn**	**23 25 06.4**	**-3.0**
NEM2				*e*S	**Sn**	**23 26 12.6**	**-6.1**
JOSM	**Okushiri--Mats**	**6.20**	**323**	P	**Pn**	**23 25 10.3**	**+0.4**
JTKR	**Abashiri--Toko**	**6.72**	**356**	P	**Pn**	**23 25 15.8**	**-1.2**
JTKR				*e*S	**Sn**	**23 26 27.3**	**-5.0**
ASAJ	**Asahikawa**	**7.01**	**348**	Pn	**Pn**	**23 25 21.4**	**+0.5**
	0.9nm,0.3s,baz=206,slow=13,SNR=6.1						
ASAJ				Sn	**Sn**	**23 26 36.3**	**-3.0**
	0.7nm,0.3s,baz=97,slow=17,SNR=3.2						
KLR	**Kul'dur**	**15.14**	**326**	Pn	**P**	**23 27 16.5**	**-0.2**
	0.0nm,0.3s,baz=121,slow=14,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**26.18**	**126**	T	T	23 56 02.2	
	baz=317,slow=74,SNR=240						
H11N1	**WAKE ISLAND Hy**	**26.19**	**126**	T	T	23 56 05.8	
	baz=317,slow=74,SNR=84						
H11N3	**WAKE ISLAND Hy**	**26.20**	**126**	T	T	23 56 05.6	
	baz=317,slow=74,SNR=101						
H11S1	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	23 57 01.2	
	baz=318,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	23 57 09.0	
	baz=318,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**26.97**	**128**	T	T	23 57 02.5	
	baz=318,slow=76,SNR=33						
COLA	**College**	**47.55**	**32**	P	P	23 32 15.2	+2.8
	1.4nm,0.6s						
BVAR	**Borovoye Array**	**52.26**	**313**	P	**P**	**23 32 50.9**	**+2.4**
	0.2nm,0.3s,baz=90,slow=9.7,SNR=3.0						
INK	**Inuvik**	**53.04**	**27**	P	**P**	**23 32 55.6**	**+1.7**
	0.5nm,0.6s,baz=329,slow=4.5,SNR=3.8						
WRA	**Warramunga Arr**	**57.70**	**191**	P	**P**	**23 33 27.2**	**-0.8**
	1.4nm,0.5s,baz=9.6,slow=7.1,SNR=16						
ASAR	**Alice Springs**	**61.42**	**191**	P	**P**	**23 33 53.2**	**-0.4**
	0.9nm,0.8s,baz=6.5,slow=7.4,SNR=11						
NVAR	**Mina Array Bea**	**72.84**	**55**	P	P	23 35 09.2	+2.8
	0.3nm,0.7s,baz=267,slow=5.1,SNR=3.3						
LAO	**LASA Array**	**75.15**	**42**	*e*P	**P**	**23 35 20.1**	**+0.6**
	1.0nm,0.3s						

MAN 03 23:25:34, 10°.20N×**123°.20E, h1km, mb4.4, ML3.3, MS3.1, 1C-4D, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.74**	**305**	*e*P	Pg	23 25 48.1	0.0
GUIM				*e*S	Sb	23 26 00.7	+0.5
LLP	**Lapu-Lapu**	**0.76**	**81**	⇓ *e*P	Pg	23 25 48.3	-0.3
LLP				*e*S	Sb	23 26 00.4	-0.6
SNPH	**Sibulan**	**0.85**	**178**	⇓ *i*P	Pb	23 25 51.5	-0.1
SNPH				*i* S	Sb	23 26 03.0	-0.5
JAP	**San Jose, Anti**	**1.35**	**294**	⇓ *e*P	Pb	23 26 00.2	+0.1
RCP	**Roxas**	**1.43**	**342**	⇑ *e*P	Pn	23 26 00.8	-0.3
RCP				*e*S	Sn	23 26 23.3	+2.8
DCPH	**Dipolog City**	**1.61**	**175**	⇓ *e*P	Pn	23 26 01.4	-2.2
DCPH				*i* S	Sn	23 26 22.1	-2.9
OCLP	**Ormoc**	**1.62**	**58**	*e*P	Pn	23 26 04.2	+0.4
OCLP				*e*S	Sg	23 26 26.6	+0.3
MSLP	**Maasin**	**1.63**	**92**	*e*P	Pn	23 26 03.5	-0.4
MSLP				*e*S	Sg	23 26 27.5	+0.9
PAGZ	**Pagadian**	**2.34**	**176**	*e*P	Pn	23 26 13.3	-0.3

*IDC **03** 23:41:25.7±1.0, 35°.54S×72°.67W, h0km, mb4.2/7, mb1 4.3/9, mb1mx4.1/35, mbtmp4.1/9, ML3.9/2, Error ellipse: s-maj=41.4km s-min=17.5km az=71.0*
*ISCJB **03** 23:41:27.1±0.7, 35°.52S±0°.08×72°.7W±0°.2, h20km, mb4.2/9, Error ellipse: s-maj=18.3km s-min=10.7km az=162.0*
*NEIC **03** 23:41:30.0±3.3, 35°.53S×72°.73W, h28km±23km, mb4.6/2, Error ellipse: s-maj=18.8km s-min=9.6km az=78.0*
ISC 03 23:41:29.0±0.8**, 35°.47S**±0°.09×**72°.6W**±0°.1**, h20km, n16,** σ**0s.58**/16**, mb4.2**/9**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.50**	**163**	Pn	**Pn**	**23 42 50.2**	**+0.4**
	0.8nm,0.3s,baz=354,slow=11,SNR=16						
PLCA				Lg	Lg	23 44 18.4	
	1.8nm,0.3s,baz=76,slow=23,SNR=3.7						
LCO	**Las Campanas**	**6.65**	**15**	*e*Pn	**Pn**	**23 43 05.3**	**-0.5**
TRQA	**Tornquist**	**8.92**	**110**	*e*Pn	**Pn**	**23 43 37.3**	**+0.5**
CPUP	**Villa Florida**	**15.96**	**59**	Pn	**P**	**23 45 15.4**	**-0.5**
	0.1nm,0.3s,baz=215,slow=17,SNR=1.9						
LPAZ	**La Paz**	**19.52**	**13**	P	**Pn**	**23 45 58.0**	**+0.8**
	0.2nm,0.3s,baz=180,slow=5.2,SNR=9.1						
SNAA	**Sanae**	**50.41**	**157**	P	**P**	**23 50 24.2**	**-0.4**
	2.7nm,0.9s,baz=269,slow=8.0,SNR=5.4						
DWPF	**Disney Wildern**	**63.79**	**351**	P	**P**	**23 52 00.0**	**+0.5**
	5.8nm,0.6s						
TXAR	**Lajitas Array**	**70.79**	**332**	P	**P**	**23 52 44.5**	**+0.4**
	0.8nm,0.5s,baz=156,slow=9.9,SNR=10.0						
MIAR	**Mount Ida**	**72.36**	**342**	P	**P**	**23 52 53.1**	**-0.1**
	1.0nm,0.4s						
BOSA	**Boshof**	**79.81**	**118**	P	**P**	**23 53 36.0**	**-0.3**
	3.0nm,1.1s,baz=250,slow=6.4,SNR=5.2						
KOWA	**Kowa**	**81.68**	**66**	P	**P**	**23 53 46.3**	**+0.1**
	3.5nm,0.7s,baz=243,slow=3.9,SNR=10						
NVAR	**Mina Array Bea**	**84.82**	**326**	P	**P**	**23 54 02.8**	**+0.6**
	0.6nm,0.8s,baz=135,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**85.16**	**70**	P	**P**	**23 54 04.2**	**0.0**
	1.3nm,0.8s,baz=244,slow=4.4,SNR=6.1						
ULM	**Lac du Bonnet**	**87.80**	**345**	P	**P**	**23 54 14.8**	**-1.3**
	1.8nm,0.7s,baz=272,slow=2.2,SNR=4.1						
AAK	**Ala-Archa**	**153.60**	**64**	PKPab	**PKPab**	**00 01 39.1**	**+0.2**
	0.9nm,0.5s,baz=182,slow=11,SNR=4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZALV	**Zalesovo Beam**	**155.72**	**33**	PKPab	**PKPab**	**00 01 47.3**	**0.0**
	0.6nm,0.5s,baz=328,slow=5.4,SNR=3.6						

*IDC **03** 23:42:43.9±0.9, 8°.84S×109°.42E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.1/61, mbtmp4.3/17, ML4.9/1, MS3.1/1, Ms1 3.3/1, ms1mx2.7/52, Error ellipse: s-maj=34.6km s-min=14.2km az=50.0*
*ISCJB **03** 23:42:46.1±0.6, 9°.41S±0°.06×109°.11E±0°.04, h33km, mb4.2/18, MS3.0/1, Error ellipse: s-maj=8.8km s-min=4.2km az=23.4*
*DJA **03** 23:42:47.2±1.4, 9°S±7°×10°9E±°, h11km±14km, M4.8/12, mB5.4/2, mb5.2/2, MLv4.6/12, Mw(mB)4.8/2*
*NEIC **03** 23:42:51.8±1.5, 9°.06S×109°.33E, h69km±11km, mb4.4/2, Error ellipse: s-maj=24.5km s-min=9.9km az=214.0*
ISC 03 23:42:47.7±0.7**, 9°.27S**±0°.09×**109°.18E**±0°.06**, h35km, n41,** σ**2s.00**/48**, mb4.3**/18**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.65**	**334**	P	**Pn**	**23 43 15.2**	**+1.0**
UGM	**Wanagama**	**1.90**	**45**	P	**Pn**	**23 43 19.1**	**+1.5**
UGM				S	**Sn**	**23 43 41.1**	**+0.8**
CISI	**Cisompet, Garu**	**2.17**	**322**	P	**Pn**	**23 43 22.7**	**+1.2**
CISI				S	**Sn**	**23 43 47.4**	**+0.1**
CISI	**Cisompet, Garu**	**2.17**	**322**	*e*Pn	**Pn**	**23 43 22.9**	**+1.4**
CISI				*e*Sn	**Sn**	**23 43 48.1**	**+0.8**
PCJI	**Pacitan**	**2.25**	**62**	P	**Pn**	**23 43 23.7**	**+1.3**
SMRI	**Semarang**	**2.54**	**30**	P	**Pn**	**23 43 29.7**	**+3.2**
SMRI	**Semarang**	**2.54**	**30**	*e*Pn	**Pn**	**23 43 29.7**	**+3.2**
CNJI	**Cibinong**	**2.81**	**314**	P	**Pn**	**23 43 31.4**	**+1.2**
PWJI	**Pagerwojo**	**2.88**	**65**	P	**Pn**	**23 43 32.8**	**+1.7**
LEM	**Lembang**	**2.88**	**327**	Pn	**Pn**	**23 43 35.4**	**+4.1**
	9.5nm,0.3s,baz=339,slow=22,SNR=5.3						
LEM				Sn	**Sn**	**23 44 08.6**	**+3.8**
	45nm,0.3s,baz=350,slow=20,SNR=8.4						
LEM	**Lembang**	**2.88**	**327**	P	**Pn**	**23 43 32.7**	**+1.4**
TBJI	**Tambak Boyo**	**3.59**	**47**	P	**Pn**	**23 43 44.2**	**+3.2**
GRJI	**Gresik**	**4.02**	**55**	P	**Pn**	**23 43 49.7**	**+2.9**
GMJI	**Gumukmas**	**4.33**	**77**	P	**Pn**	**23 43 53.7**	**+2.6**
CGJI	**Cibinong**	**4.35**	**307**	P	**Pn**	**23 43 52.8**	**+1.5**
BLJI	**Banyuglugur**	**4.62**	**71**	P	**Pn**	**23 43 58.0**	**+2.9**
JAGI	**Jajag, Banyuwa**	**4.98**	**81**	P	**Pn**	**23 44 02.4**	**+2.4**
JAGI	**Jajag, Banyuwa**	**4.98**	**81**	*e*Pn	**Pn**	**23 44 02.1**	**+2.1**
JAGI				*e*Sn	**Sn**	**23 44 57.2**	**+0.8**
ABJI	**Asem Bagus**	**5.21**	**74**	P	**Pn**	**23 44 06.4**	**+3.2**
IGBI	**Denpasar**	**5.91**	**86**	P	**Pn**	**23 44 15.0**	**+2.2**
SRBI	**Singaraja**	**6.08**	**79**	P	**Pn**	**23 44 17.8**	**+2.6**
PLAI	**Plampang**	**8.50**	**88**	P	**Pn**	**23 44 47.9**	**-0.6**
BATI	**Baumata**	**14.31**	**95**	Pn	**Pn**	**23 46 06.0**	**-2.0**
	5.3nm,0.3s,baz=257,slow=7.2,SNR=6.3						
BATI				Sn	Sn	23 48 35.5	-10
	1.7nm,0.3s,baz=18,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**26.52**	**116**	P	**P**	**23 48 23.4**	**+1.2**
	3.2nm,0.7s,baz=288,slow=12,SNR=19						
WRA				PcP	**PcP**	**23 51 48.0**	**+1.3**
	0.8nm,0.7s,baz=306,slow=2.0,SNR=5.0						
ASAR	**Alice Springs**	**27.63**	**124**	P	**P**	**23 48 34.5**	**+2.2**
	0.5nm,0.5s,baz=296,slow=9.5,SNR=10						
ASAR				PcP	**PcP**	**23 51 50.6**	**+1.3**
	0.6nm,0.4s,baz=326,slow=2.1,SNR=5.4						
CMAR	**Chiang Mai Arr**	**29.35**	**340**	P	**P**	**23 48 47.5**	**-0.1**
	0.4nm,0.3s,baz=173,slow=8.5,SNR=5.4						
CMAR				LR	LR	00 01 18.0	
	comp=Z,36nm,19.8s,baz=20,slow=38						
STKA	**Stephens Creek**	**37.53**	**132**	P	**P**	**23 50 00.8**	**+2.2**
	4.7nm,0.6s,baz=309,slow=8.0,SNR=13						
MJAR	**Matsushiro Arr**	**53.12**	**29**	P	**P**	**23 51 59.0**	**-3.0**
	1.3nm,0.6s,baz=207,slow=8.5,SNR=3.7						
SONM	**Songino Array**	**56.91**	**358**	P	**P**	**23 52 28.5**	**-0.8**
	2.2nm,0.6s,baz=176,slow=8.4,SNR=20						
ULN	**Ulaanbaatar**	**56.92**	**358**	*e*P	**P**	**23 52 28.3**	**-1.1**
	2.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**57.09**	**19**	P	**P**	**23 52 29.1**	**-1.4**
	2.1nm,0.5s,baz=141,slow=3.9,SNR=3.7						
MKAR	**Makanchi Array**	**60.75**	**339**	P	**P**	**23 52 55.2**	**-0.8**
	3.4nm,0.5s,baz=147,slow=7.6,SNR=42						
ZALV	**Zalesovo Beam**	**66.27**	**345**	P	**P**	**23 53 30.8**	**-1.4**
	1.6nm,0.3s,baz=154,slow=5.7,SNR=12						
GEYT	**Alibeck**	**66.89**	**318**	P	**P**	**23 53 38.2**	**+1.7**
	0.6nm,0.4s,baz=154,slow=11,SNR=3.9						
BVAR	**Borovoye Array**	**70.30**	**336**	P	**P**	**23 53 56.8**	**-0.6**
	2.0nm,0.5s,baz=150,slow=10.0,SNR=17						
ABKAR	**Akbulak array**	**72.46**	**329**	*e*P	**P**	**23 54 10.1**	**-0.5**
	2.7nm,0.6s						
AKTO	**Aktyubinsk**	**74.17**	**329**	P	**P**	**23 54 21.6**	**+0.9**
	0.9nm,0.6s,baz=94,slow=14,SNR=4.0						
PETK	**Petropavlovsk-**	**74.55**	**28**	P	**P**	**23 54 21.7**	**-1.1**
	1.8nm,0.5s,baz=148,slow=0.6,SNR=9.4						
SEY	**Seymchan**	**79.23**	**19**	P	**P**	**23 54 48.0**	**-1.0**
	1.3nm,0.4s,baz=169,slow=4.0,SNR=9.9						
TIXI	**Tiksi**	**81.80**	**6**	P	**P**	**23 55 01.0**	**-1.6**
	3.3nm,0.6s,baz=343,slow=9.8,SNR=11						
BRTR	**Keskin Array B**	**84.94**	**311**	P	**P**	**23 55 20.1**	**+0.4**
	1.2nm,0.8s,baz=128,slow=8.0,SNR=5.3						

*ISCJB **03** 23:43:01.7±1.0, 35°.67S±0°.03×73°.00W±0°.04, h11km±6km, mb4.9/37, MS4.1/1, Error ellipse: s-maj=5.6km s-min=4.8km az=20.5*
*IDC **03** 23:43:01.2±0.6, 35°.64S×72°.86W, h0km, mb4.8/11, mb1 4.8/13, mb1mx4.5/35, mbtmp4.7/13, ML4.1/2, MS4.0/3, Ms1 4.0/3, ms1mx3.4/28, Error ellipse: s-maj=29.8km s-min=16.6km az=68.0*
*NEIC **03** 23:43:04.0±0.0, 35°.74S×72°.98W, h10km, mb4.9/30, ML4.8(GUC), After GUC.*
NEIC Felt [V] at Constitucion; [IV] at Cobquecura and Talca; [III] at Cauquenes, Chanco, Chiguayante, Concepcion, Linares, Longavi, Maule, Molina, Pelluhue, Penco, Quirihue, Ranquil, San Pedro de la Paz, Tome, Trehuaco and Villa Alegre; [II] at Rancagua.
*GUC **03** 23:43:05.1±0.5, 35°.74S×72°.94W, h8km±4km, ML5.0*
ISC 03 23:43:04.6±0.4**, 35°.71S**±0°.03×**72°.89W**±0°.07**, h20km**±3km**, n368,** σ**0s.87**/371**, mb5.0**/37**, 3C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.43**	**169**	⇓ *i*P	**Pb**	**23 43 12.9**	**-0.6**
COCH				*i* S	**Sb**	**23 43 18.1**	**-1.4**
GO05	**HualaæØ**	**1.05**	**49**	*e*Pn	**Pn**	**23 43 24.5**	**+0.4**
GO05				*e*Sn	**Sn**	**23 43 39.1**	**+0.9**
GO05	**HualaæØ**	**1.05**	**49**	⇑ *i*P	**Pn**	**23 43 23.9**	**-0.2**
GO05				*i* S	**Sn**	**23 43 38.9**	**+0.7**
GO05				IAML		23 43 42.2	
	comp=E,23μm,0.7s						
CCHI	**Chillan**	**1.11**	**144**	⇑ *i*P	**Pn**	**23 43 24.4**	**-0.6**
CCHI				*i* S	**Sn**	**23 43 39.1**	**-0.6**
CCHI				IAML		23 43 46.5	
	comp=N,52μm,0.9s						
CHPI	**Pichilemu**	**1.50**	**29**	*e*P	**Pb**	**23 43 31.3**	**-0.5**
CHPI				*i* S	**Sb**	**23 43 51.1**	**+0.7**
NICH	**Los Niches**	**1.53**	**63**	*e*P	**Pb**	**23 43 31.8**	**-0.4**
NICH				*i* S	**Sb**	**23 43 52.4**	**+1.2**
ANTU	**Antumapu**	**2.83**	**42**	IAML		23 44 41.3	
	comp=N,11μm,0.6s						
LMEL	**Las Melosas**	**2.89**	**51**	⇑ *i*P	**Pb**	**23 43 52.9**	**-2.6**
LMEL				IAML		23 44 41.6	
	comp=E,4μm,0.5s						
CLCH	**Cerro Calan**	**3.02**	**41**	IAML		23 44 46.2	
	comp=E,8μm,0.5s						
TMU	**Temuco**	**3.03**	**176**	IAML		23 44 43.6	
	comp=E,1μm,0.8s						
ROC1	**El Roble**	**3.13**	**30**	*e*Pn	**Pn**	**23 43 52.9**	**-0.2**
ROCH	**El Roble**	**3.14**	**30**	IAML		23 44 48.5	
	comp=N,6μm,0.5s						
FCH	**Farellones**	**3.20**	**43**	IAML		23 44 47.1	
	comp=E,3μm,0.3s						
PLCA	**Paso Flores**	**5.35**	**161**	Pn	**Pn**	**23 44 24.6**	**+1.4**
	comp=E,1.9nm,0.3s,baz=293,slow=23,SNR=4.7						
PLCA				Lg	Lg	23 45 46.7	
	comp=E,8.3nm,0.3s,baz=279,slow=19,SNR=4.4						
PLCA				LR	LR	23 46 19.5	
	comp=E,805nm,20.1s,baz=356,slow=37						
PLCA	**Paso Flores**	**5.35**	**161**	*e*Pn	**Pn**	**23 44 22.6**	**-0.7**
LCO	**Las Campanas**	**6.93**	**16**	*e*Pn	**Pn**	**23 44 43.7**	**-1.5**
TRQA	**Tornquist**	**9.05**	**108**	*e*Pn	**Pn**	**23 45 15.3**	**+1.2**
CHRN	**Cochrane**	**11.54**	**179**	*e*Pn	**Pn**	**23 45 47.6**	**-0.5**
PB04	**IPOC Station P**	**13.54**	**11**	*e*Pn	**Pn**	**23 46 14.7**	**-1.0**
PB01	**IPOC Station P**	**14.91**	**12**	*e*Pn	**Pn**	**23 46 33.5**	**-0.8**
PB11	**IPOC Station P**	**16.14**	**11**	*e*Pn	**Pn**	**23 46 48.8**	**-1.6**

comp=E,86nm,1.1s
CPUP **Villa Florida** 16.27 59 Pn Pn 23 46 50.1 -1.8
comp=E,0.1nm,0.3s,baz=204,slow=5.5,SNR=3.4
CPUP Lg Lg 23 51 22.6
comp=E,0.1nm,0.3s,baz=335,slow=17,SNR=2.8
CPUP LR LR 23 53 36.6
comp=E,695nm,18.9s,baz=234,slow=39
CPUP **Villa Florida** 16.27 59 *e*Pn Pn 23 46 52.7 +0.8
comp=E,14nm,1.3s
MNMC **Minye Minye** 16.77 11 *e*Pn Pn 23 46 57.1 -1.4
comp=E,45nm,0.9s
LPAZ **La Paz** 19.80 14 P Pn 23 47 36.1 +0.1
comp=E,0.4nm,0.3s,baz=183,slow=7.7,SNR=12
LPAZ **La Paz** 19.80 14 *e*P P 23 47 33.9 -0.5
comp=E,26nm,1.0s
SPB **Sao Paulo** 25.13 68 *e*P P 23 48 28.4 +0.2
comp=E,42nm,1.1s
SAML **Samuel** 28.07 21 *e*P P 23 48 54.4 -0.4
comp=E,6.5nm,1.1s
RPN **Rapa Nui** 32.11 275 LR LR 23 58 54.3
comp=E,376nm,18.9s,baz=104,slow=30
OTAV **Otavalo** 36.13 351 *e*P P 23 50 05.9 0.0
comp=E,11nm,1.3s
PTGA **Pitinga** 36.82 22 P P 23 50 09.2 -2.1
comp=E,8.3nm,0.4s,baz=166,slow=4.2,SNR=6.4
PRAC **Prado** 39.26 357 *e*P P 23 50 32.2 +0.3
comp=E,55nm,1.7s
RUSC **La Rusia** 41.38 360 *e*P P 23 50 50.0 0.0
comp=E,8.8nm,0.9s
HELC **Santa Helena** 41.75 356 *e*P P 23 50 52.6 -0.3
comp=E,27nm,1.0s
SDV **Santo Domingo** 44.40 3 P P 23 51 13.5 -0.6
comp=E,11nm,0.8s,baz=248,slow=2.3,SNR=12
SDV **Santo Domingo** 44.40 3 *e*P P 23 51 13.8 -0.4
comp=E,12nm,0.9s
VNA3 **Neumayer Olymp** 48.05 157 P P 23 51 42.5 +0.4
VNA1 **Neumayer--Stat** 48.39 156 P P 23 51 45.9 +1.3
VNA2 **Neumayer--Watz** 48.72 157 P P 23 51 47.7 +0.5
baz=287,slow=9.0
SNAA **Sanae** 50.28 157 P P 23 51 59.6 +0.3
SNAA **Sanae** 50.28 157 P P 23 51 59.5 +0.3
comp=E,16nm,0.9s,baz=289,slow=5.9,SNR=28
SNAA **Sanae** 50.28 157 *e*P P 23 51 59.5 +0.3
comp=E,24nm,1.0s
QSPA **South Pole Qui** 54.53 180 *e*P P 23 52 31.6 +0.7
comp=E,50nm,1.0s
TBI **Tubuai** 66.25 258 *e*LR LR 00 13 54.6
comp=E,170nm,27.0s
251A **Midway** 68.46 349 P P 23 54 04.2 -0.8
baz=169
250A **Grady** 68.49 348 P P 23 54 04.6 -0.7
baz=168
151A **Opelika** 68.87 349 P P 23 54 06.8 -0.8
baz=169
247A **Quitman** 69.00 346 P P 23 54 09.2 +0.8
baz=166
150A **Eclectic** 69.06 348 P P 23 54 08.6 -0.2
baz=169
342A **Flagon Creek P** 69.18 342 P P 23 54 10.9 +1.4
baz=163
PPT2 **Papeete2** 69.31 263 *e*LR LR 00 15 16.6
comp=E,138nm,24.0s
341A **Kurthwood** 69.35 342 P P 23 54 11.1 +0.5
baz=163
148A **Greensboro** 69.38 347 P P 23 54 11.1 +0.4
baz=167
GOGA **Godfrey** 69.47 351 P P 23 54 11.0 -0.3
baz=171
147A **Livingston** 69.53 346 P P 23 54 12.2 +0.5
baz=167
Z47A **Carrollton** 70.00 346 P P 23 54 15.1 +0.5
baz=167,SNR=5.9
Z48A **Northport** 70.08 347 P P 23 54 15.0 0.0
baz=168
NATX **Nacogdoches** 70.15 340 P P 23 54 15.9 +0.4
baz=161
NATX **Nacogdoches** 70.15 340 *e*P P 23 54 15.2 -0.3
comp=E,38nm,1.0s
Z46A **Louisville** 70.17 346 P P 23 54 16.5 +0.9
baz=166
143A **Socs Landing,** 70.23 343 P P 23 54 17.1 +1.2
baz=164
Y50A **Piedmont** 70.27 349 P P 23 54 16.0 -0.3
baz=169
Y49A **Blount Mountai** 70.35 348 P P 23 54 16.4 -0.3
baz=168
Z45A **Winona** 70.50 345 P P 23 54 18.0 +0.4
baz=166
JCT **Junction City** 70.53 336 P P 23 54 18.4 +0.5
baz=157
JCT **Junction City** 70.53 336 *e*P P 23 54 17.6 -0.3
comp=E,23nm,1.2s
Y48A **Jasper** 70.53 347 P P 23 54 18.0 +0.2
baz=168
Y47A **UCPARC, Winfie** 70.65 347 P P 23 54 18.5 0.0
baz=167,SNR=6.6
TX31 **Lajitas Ar. Si** 70.89 332 *e*P P 23 54 20.9 +0.6
TXAR **Lajitas Array** 70.89 332 P P 23 54 20.8 +0.5
comp=E,2.7nm,0.8s,baz=153,slow=8.0,SNR=18
Y45A **Yeager Farm, C** 70.94 345 P P 23 54 20.9 +0.6
baz=166
X49A **Woodville** 70.97 348 P P 23 54 20.6 +0.1
baz=169
X48A **Hartselle** 71.04 348 P P 23 54 20.9 +0.1
baz=168,SNR=5.2
Z41A **Richland Creek** 71.09 342 P P 23 54 22.0 +0.8
baz=163
WHTX **Lake Whitney,** 71.18 338 P P 23 54 22.2 +0.4
baz=159
X47A **Russelville** 71.25 347 P P 23 54 22.1 -0.1
baz=167
Y43A **Makayla and Ka** 71.28 344 P P 23 54 23.1 +0.8
baz=165
X46A **Booneville** 71.42 346 P P 23 54 23.2 0.0
baz=167
X45A **UM Field Stati** 71.45 346 P P 23 54 23.1 -0.2
baz=166
OXF **Oxford** 71.54 346 P P 23 54 23.4 -0.4
baz=166
SWET **Sewanee** 71.60 349 *e*P P 23 54 24.5 +0.2
comp=E,28nm,0.9s
Y41A **Eaglette Beard** 71.64 343 P P 23 54 25.2 +0.7
baz=163,SNR=6.5
W48A **Pulaski** 71.69 348 P P 23 54 25.0 +0.2
baz=168
TKL **Tuckaleechee C** 71.72 351 P P 23 54 24.3 -0.7
comp=E,6.7nm,0.8s,baz=150,slow=9.2,SNR=5.5
PLAL **Pickwick Lake** 71.74 347 *e*P P 23 54 24.8 -0.3
comp=E,13nm,0.9s
W47A **Westpoint** 71.91 347 P P 23 54 26.1 0.0
baz=168
V48A **Smith Brothers** 72.26 348 P P 23 54 27.9 -0.3
baz=168,SNR=14
X40A **Basin Creek Fa** 72.27 343 P P 23 54 28.4 +0.1
baz=163
ABTX **Abilene, Hawle** 72.45 337 P P 23 54 29.3 -0.1
baz=158
ABTX **Abilene, Hawle** 72.45 337 *e*P P 23 54 29.5 +0.1
V47A **Nunnelly** 72.46 348 P P 23 54 29.0 -0.4
baz=168,SNR=9.1
V46A **Holladay** 72.54 347 P P 23 54 29.1 -0.8
baz=167
X39A **Fountain Ranch** 72.61 342 P P 23 54 30.2 -0.1
baz=162
W41B **Gary Mavity, V** 72.79 343 P P 23 54 31.0 -0.4
baz=164
WVT **Waverly** 72.81 347 P P 23 54 30.8 -0.6
baz=167
WVT **Waverly** 72.81 347 *e*P P 23 54 28.5 -2.9
comp=E,32nm,0.9s
X301 **Greenbrier Sit** 72.89 343 *e*P P 23 54 32.2 +0.2
comp=E,20nm,0.9s
WHAR **Wooly Hollow** 72.91 343 *e*P P 23 54 32.1 0.0
comp=E,43nm,1.5s
U48A **Cassie Pea, Po** 72.96 349 P P 23 54 32.5 +0.1
baz=168
W40A **Ferguson Farm,** 73.00 343 P P 23 54 33.3 +0.7
baz=163
U47A **Clarksville** 73.02 348 P P 23 54 32.2 -0.5
baz=168,SNR=8.3
W39A **Magazine** 73.18 342 P P 23 54 33.9 +0.2
baz=162,SNR=5.9
V42A **Cord** 73.20 344 P P 23 54 33.1 -0.7
baz=164
V41A **Mountainview** 73.36 344 P P 23 54 34.2 -0.6
baz=164,SNR=6.8
T48A **Bowling Green** 73.53 349 P P 23 54 35.1 -0.6
baz=169
V40A **Witts Springs** 73.53 343 P P 23 54 35.1 -0.7
baz=163
IP04 **Greensprings** 73.59 356 *e*P P 23 54 37.1 +1.1
MNTX **Cornudas Mount** 73.66 332 P P 23 54 36.2 -0.5
baz=153,SNR=6.5
MNTX **Cornudas Mount** 73.66 332 *e*P P 23 54 36.1 -0.5
comp=E,6.3nm,0.9s
U42A **Revenden** 73.70 345 P P 23 54 35.9 -0.8
baz=165
T46A **Princeton** 73.71 348 P P 23 54 36.6 -0.1
baz=167
V39A **Pettigrew** 73.76 343 P P 23 54 36.8 -0.3
baz=163,SNR=5.7
U41A **Viola** 73.84 344 P P 23 54 36.8 -0.8
baz=164
PBMO **Poplar Bluff** 73.94 345 *e*P P 23 54 37.8 -0.2
comp=E,10nm,0.7s
S48A **Wiedeman Farm,** 74.01 349 P P 23 54 37.4 -1.1
baz=169
U40A **Yellville** 74.06 343 P P 23 54 38.4 -0.5
baz=163,SNR=6.0
WMOK **Wichita Mounta** 74.13 338 P P 23 54 38.2 -1.2
baz=158
WMOK **Wichita Mounta** 74.13 338 *e*P P 23 54 37.5 -1.8
comp=E,21nm,1.7s
U39A **Green Forest** 74.24 343 P P 23 54 39.2 -0.7
baz=163
HHAR **Hobbs** 74.25 342 *e*P P 23 54 39.7 -0.3
comp=E,5.5nm,0.7s
OK022 **N3560 Road, Pr** 74.26 340 *e*P P 23 54 39.6 -0.4
comp=E,19nm,0.9s
S46A **Don Dixon Farm** 74.31 348 P P 23 54 39.1 -1.1
baz=168
T42A **Van Buren** 74.32 345 P P 23 54 39.9 -0.4
baz=165
OK020 **N3440Road, Me** 74.32 340 *e*P P 23 54 40.1 -0.3
comp=E,15nm,0.8s
TUL1 **Leonard** 74.38 341 P P 23 54 40.4 -0.2
baz=161
TUL1 **Leonard** 74.38 341 *e*P P 23 54 40.6 -0.1
S45A **Carrier Mills** 74.45 347 P P 23 54 40.0 -1.1
baz=167
T41A **Mountain View** 74.47 344 P P 23 54 40.8 -0.5
baz=164
S44A **Carbondale** 74.59 347 P P 23 54 41.3 -0.6
baz=169
WCI **Wyandotte Cave** 74.61 349 P P 23 54 41.5 -0.5
baz=169
S43A **Fulton Ridge,** 74.63 346 P P 23 54 41.4 -0.7
baz=166,SNR=5.7
R47A **Wooly Knot Far** 74.71 349 P P 23 54 41.5 -1.0
baz=169
R48A **Northridge Ran** 74.71 349 P P 23 54 42.1 -0.4
baz=169
MSTX **Muleshoe** 74.73 335 P P 23 54 42.4 -0.6
baz=155
MSTX **Muleshoe** 74.73 335 *e*P P 23 54 43.1 +0.1
T40A **Mansfield** 74.75 344 P P 23 54 42.0 -0.8
baz=164
R46A **Gibon Southern** 74.79 348 P P 23 54 41.7 -1.3
baz=168
T39A **Clever** 74.82 343 P P 23 54 42.6 -0.6
baz=163
S42A **Caledonia** 74.97 345 P P 23 54 43.1 -1.0
baz=165
S41A **Jillco Farms,** 74.99 345 P P 23 54 44.7 +0.4
baz=164,SNR=5.6
R45A **Skylar, Fairfi** 75.00 348 P P 23 54 43.1 -1.1
baz=167
T38A **Diamond** 75.06 342 P P 23 54 44.1 -0.5
baz=162
R44A **Waltonville** 75.10 347 P P 23 54 44.4 -0.3
baz=167
FVM **Frech Village** 75.10 346 *e*P P 23 54 44.5 -0.3
S40A **Lebanon** 75.17 344 P P 23 54 45.0 -0.2
baz=164,SNR=5.6
AMTX **Amarillo** 75.19 336 P P 23 54 45.7 +0.2
baz=156
AMTX **Amarillo** 75.19 336 *e*P P 23 54 45.8 +0.2
comp=E,22nm,1.0s
R43A **Red Bud** 75.28 346 P P 23 54 45.7 -0.2
baz=166
CCM **Cathedral Cave** 75.34 345 P P 23 54 46.1 -0.1
baz=165
CCM **Cathedral Cave** 75.34 345 *e*P P 23 54 45.9 -0.2
S39A **Bolivar** 75.45 343 P P 23 54 46.5 -0.4
baz=163
R42A **Luebbering** 75.46 346 P P 23 54 46.6 -0.3
baz=165
T35A **Sooner Cattle** 75.52 341 P P 23 54 47.3 +0.1
baz=160,SNR=5.5
S38A **Stockton** 75.53 343 P P 23 54 46.5 -0.8
baz=163,SNR=7.5
R41A **Rosebud** 75.60 345 P P 23 54 47.5 -0.2
baz=165,SNR=8.5
R40A **Maddies Statio** 75.78 344 P P 23 54 48.5 -0.2
baz=164,SNR=6.7
T34A **McClaskey Farm** 75.80 340 P P 23 54 49.1 +0.2
baz=160,SNR=5.4
Q43A **New Douglas** 75.89 347 P P 23 54 48.8 -0.5
baz=166,SNR=5.4
R39A **Chumby, Stover** 75.98 344 P P 23 54 49.5 -0.4
baz=163
LIC **Lamto** 75.98 72 *e*P P 23 54 50.3 -0.2
comp=E,71nm,1.4s
Q42A **Golden Eagle** 76.02 346 P P 23 54 49.9 -0.2
baz=165
R38A **Fenwick Farm,** 76.06 343 P P 23 54 49.4 -0.9
baz=163
P45A **Graceland, Par** 76.11 348 P P 23 54 50.1 -0.4
baz=168
P46A **Rosedale** 76.11 349 P P 23 54 50.1 -0.5
baz=168
S35A **Otter Creek Ra** 76.18 341 P P 23 54 51.1 0.0
baz=161
Q41A **Truxton** 76.20 345 P P 23 54 50.9 -0.2
baz=165,SNR=6.6
TIC **Toumodi** 76.25 71 *e*P P 23 54 51.9 -0.1
KIC **Kosan Boka** 76.28 72 *e*P P 23 54 52.2 0.0
comp=E,39nm,1.0s
Q40A **Laux Farm, Aux** 76.42 345 P P 23 54 52.2 -0.1
baz=164,SNR=7.9
P43A **Skaggs, Pawnee** 76.53 347 P P 23 54 52.4 -0.5
baz=166
O47A **Sheridan** 76.55 350 P P 23 54 51.9 -1.2
baz=169
P42A **Winchester** 76.63 346 P P 23 54 53.0 -0.5
baz=166
Q38A **Cooks Store, C** 76.73 344 P P 23 54 53.8 -0.3
baz=163
R35A **Emporia Munici** 76.76 341 P P 23 54 54.4 +0.1
baz=161
O45A **Potomac** 76.81 348 P P 23 54 53.4 -1.1
baz=168
O44A **Mansfield** 76.84 348 P P 23 54 53.6 -1.1
baz=167
P40A **Paris** 76.92 345 P P 23 54 54.9 -0.3
baz=164,SNR=12
ANMO **Albuquerque** 76.95 332 P P 23 54 56.5 +0.8
baz=153
ANMO **Albuquerque** 76.95 332 *e*P P 23 54 56.8 +1.1
R34A **Isabella, Hill** 77.01 341 P P 23 54 55.9 +0.2
baz=160
214A **Organ Pipe Nat** 77.02 326 P P 23 54 54.0 -2.0
baz=148
P39B **Salisbury** 77.04 344 P P 23 54 55.2 -0.6
baz=164
O41A **Passleys Farm,** 77.25 346 P P 23 54 56.4 -0.6
baz=165
P38A **Dawn** 77.34 344 P P 23 54 57.1 -0.4
baz=163,SNR=6.9
N45A **Kentland** 77.36 349 P P 23 54 56.3 -1.3
baz=168
HDIL **Hopedale** 77.38 347 P P 23 54 56.8 -0.9
baz=166
N44A **Piper City** 77.41 348 P P 23 54 57.1 -0.8
baz=168
O40A **La Belle** 77.46 345 P P 23 54 57.4 -0.7
baz=164,SNR=5.4
P37A **Lathrop** 77.50 343 P P 23 54 57.2 -1.2
baz=162
Q34A **Chapman** 77.51 341 P P 23 54 58.1 -0.4
baz=160
ERPA **Erie** 77.72 355 P P 23 54 58.2 -1.4
baz=174
O39A **Kirksville** 77.72 345 P P 23 54 59.6 0.0
baz=164
N43A **Stutzman Famil** 77.73 347 P P 23 54 59.2 -0.4
baz=167
P36A **Good Intent, A** 77.73 343 P P 23 54 58.7 -1.0
baz=162
N42A **Yates City** 77.78 347 P P 23 54 59.2 -0.7
baz=166
O38A **Galt** 77.80 344 P P 23 54 59.6 -0.5
baz=163
N41A **Harden Midland** 77.81 346 P P 23 54 59.7 -0.4
baz=165
P35A **Duane Minner,** 77.85 342 P P 23 54 60.0 -0.4
baz=161
M44A **Midewin, Midew** 77.97 348 P P 23 55 00.5 -0.5
baz=168
O37A **Wolven Farm, M** 78.00 344 P P 23 54 59.7 -1.5
baz=163
T25A **Trinidad** 78.16 335 P P 23 55 03.0 +0.5
baz=154,SNR=12
T25A **Trinidad** 78.16 335 *e*P P 23 55 03.4 +0.9
MHTCO **State Highway** 78.25 335 *e*P P 23 55 04.4 +1.4
N39A **Derby Farms, D** 78.31 345 P P 23 55 02.5 -0.4
baz=164,SNR=5.7
N38A **Joes South For** 78.39 344 P P 23 55 03.1 -0.2
baz=163,SNR=5.0
M41A **Milan** 78.40 347 P P 23 55 02.6 -0.7
baz=166
M39A **Webster** 78.82 345 P P 23 55 04.4 -1.3
baz=164
L42A **Oliver, Polo** 78.85 347 P P 23 55 05.2 -0.7
baz=166
L43A **Garden Prairie** 78.86 348 P P 23 55 05.5 -0.4
baz=167
M38A **Pleasantville** 78.98 345 P P 23 55 06.2 -0.4
baz=163
N35A **Tabor** 79.01 343 P P 23 55 06.3 -0.5
baz=161
L41A **Preston** 79.07 347 P P 23 55 06.7 -0.3
baz=166
SDCO **Great Sand Dun** 79.09 334 P P 23 55 08.5 +0.9
baz=154
SDCO **Great Sand Dun** 79.09 334 *e*P P 23 55 08.5 +0.9
M37A **Trindle Farm,** 79.16 344 P P 23 55 07.6 0.0
baz=163
N34A **Lincoln** 79.20 342 P P 23 55 07.6 -0.2
baz=161
WUAZ **Wupatki** 79.42 329 P P 23 55 10.7 +1.4
baz=149
WUAZ **Wupatki** 79.42 329 *e*P P 23 55 10.9 +1.6
K42A **Prairie Point,** 79.54 348 P P 23 55 09.2 -0.4
baz=167
K41A **Shullsburg** 79.55 347 P P 23 55 09.1 -0.5
baz=166
S22A **4UR Ranch, Cre** 79.57 333 P P 23 55 11.3 +1.0
baz=153
S22A **4UR Ranch, Cre** 79.57 333 *e*P P 23 55 11.4 +1.2
BC3 **Big Chuckawall** 79.66 325 P P 23 55 11.9 +1.2
baz=146
MVCO **Mesa Verde** 79.72 332 P P 23 55 11.4 +0.3
baz=151
MVCO **Mesa Verde** 79.72 332 *e*P P 23 55 12.1 +1.1
BOSA **Boshof** 79.90 118 P P 23 55 12.3 0.0
comp=E,15nm,0.8s,baz=228,slow=5.6,SNR=15
BOSA **Boshof** 79.90 118 *e*P P 23 55 12.6 +0.3
IRM **Iron Mountain** 79.93 326 P P 23 55 13.2 +1.2
baz=146
L36A **Harm Buss Farm** 79.96 344 P P 23 55 11.8 -0.1
baz=162
Q24A **Divide** 80.06 335 P P 23 55 14.0 +1.1
baz=154,SNR=5.3
Q24A **Divide** 80.06 335 *e*P P 23 55 13.8 +0.9
PFO **Pinyon Flats O** 80.10 324 P P 23 55 14.3 +1.2
baz=146
J41A **Loganville** 80.23 347 P P 23 55 12.6 -0.7
baz=166
K37A **Belmond** 80.37 345 P P 23 55 13.2 -0.9
baz=163
J40A **Soldiers Grove** 80.39 347 P P 23 55 13.7 -0.5
baz=166
K36A **Gilmore City** 80.42 344 P P 23 55 13.8 -0.6
baz=162
PV01 **Paradox Valley** 80.56 332 *e*P P 23 55 16.6 +1.1
J38A **Wedel Dairy, R** 80.65 346 P P 23 55 15.3 -0.3
baz=164
K35A **Storm Lake** 80.68 344 P P 23 55 16.2 +0.4
baz=162
GMRC **Granite Mounta** 80.69 326 P P 23 55 17.7 +1.5
baz=146
K34A **Le Mars** 80.85 343 P P 23 55 17.2 +0.5
baz=161
SMCO **Snowmass** 80.89 334 *e*P P 23 55 18.7 +1.2
PV04 **Paradox Valley** 80.91 332 P P 23 55 17.7 +0.3
PV10 **Paradox Valley** 80.95 332 *e*P P 23 55 18.1 +0.4
comp=E,58nm,0.8s
ISCO **Idaho Springs** 80.96 335 P P 23 55 18.3 +0.5
baz=154
I39A **Houston** 80.98 346 P P 23 55 16.9 -0.5
baz=165
K33A **Hardington** 80.99 342 P P 23 55 17.6 +0.1
baz=160
J36A **Seneca 1, Swea** 81.06 344 P P 23 55 17.5 -0.2
baz=163
KNB **Kanab** 81.30 329 *e*P P 23 55 21.1 +1.7
I38A **Scanlan Farm,** 81.32 346 P P 23 55 18.8 -0.3
baz=164
TUQ **Turquoise Moun** 81.35 326 P P 23 55 21.1 +1.4
baz=146,SNR=5.4
J34A **George** 81.38 343 P P 23 55 19.4 -0.1
baz=161
K31A **O'Neill** 81.46 341 P P 23 55 20.6 +0.6
baz=159,SNR=6.6
I37A **Lemond, Waseca** 81.51 345 P P 23 55 20.1 -0.1
baz=163
I36A **Fitzsimmons Fa** 81.64 345 P P 23 55 20.4 -0.5
baz=163
GSC **Goldstone, Bar** 81.65 325 P P 23 55 22.0 +0.7
baz=145
J33A **Davis** 81.66 342 P P 23 55 20.7 -0.2
baz=160
I35A **Creekview Farm** 81.70 344 P P 23 55 21.2 0.0
baz=162
SHPR **Sheep Range** 81.89 327 *e*P P 23 55 24.1 +1.6
MTPU **Mount Pierson** 81.91 330 *e*P P 23 55 24.0 +1.1
ECSD **EROS Data Cent** 81.96 343 P P 23 55 22.4 -0.2
baz=161,SNR=15
ECSD **EROS Data Cent** 81.96 343 *e*P P 23 55 22.3 -0.3
KOWA **Kowa** 81.98 66 P P 23 55 23.6 +0.3
comp=E,20nm,0.6s,baz=232,slow=5.4,SNR=53
CCUT **Cedar City** 81.98 329 *e*P P 23 55 25.0 +1.9
H36A **Jessenland, He** 82.16 345 P P 23 55 23.9 +0.4
baz=163
SRU **San Rafael Swe** 82.16 331 *e*P P 23 55 24.7 +0.7
O20A **White River Ci** 82.19 333 P P 23 55 25.1 +1.0
baz=152
LRMC **Laurel Mtn Rad** 82.20 325 P P 23 55 25.6 +1.4
baz=145
Q16A **Castle Valley** 82.25 331 *e*P P 23 55 25.6 +1.2
I33A **Coleman** 82.30 343 P P 23 55 24.7 +0.3
baz=161
MSU **Marysvale** 82.31 330 *e*P P 23 55 26.1 +1.3
H35A **Sunnyside Ranc** 82.47 344 P P 23 55 24.7 -0.5
baz=162
P18A **Preston Nutter** 82.50 332 *e*P P 23 55 27.0 +1.1
SPMN **Marine on St.** 82.55 346 P P 23 55 25.0 -0.5
baz=164
P17A **Butcher Ranch,** 82.56 331 *e*P P 23 55 26.9 +0.9
MPMC **Manual Prospec** 82.58 325 P P 23 55 27.3 +1.1
baz=145
TMUT **Trail Mountain** 82.59 331 *e*P P 23 55 27.4 +1.1
ISA **Isabella, Lake** 82.73 324 P P 23 55 28.1 +1.3
baz=144,SNR=6.3
ISA **Isabella, Lake** 82.73 324 *e*P P 23 55 28.6 +1.7
TPNV **Topopah Spring** 82.75 326 P P 23 55 28.4 +1.3
baz=146,SNR=5.8
TPNV **Topopah Spring** 82.75 326 *e*P P 23 55 28.3 +1.3
PKM **Mcpherson Peak** 82.75 323 P P 23 55 28.7 +1.6
baz=143
DAC **Darwin (Calif)** 82.81 325 *e*P P 23 55 28.9 +1.5
H32A **Carlson Farm,** 82.89 343 P P 23 55 27.0 -0.4
baz=160
H33A **Prehn Over Nor** 82.89 343 P P 23 55 27.7 +0.3
baz=161
F37A **Hinrichs Farm,** 82.99 346 P P 23 55 27.5 -0.4
baz=164
PSUT **Pine Spring** 83.02 329 *e*P P 23 55 29.9 +1.4
H31A **Wolsey** 83.12 342 P P 23 55 28.4 -0.2
baz=159
G34A **Benson** 83.16 344 P P 23 55 28.3 -0.5
baz=162

VES Vestal, Richgr 83.16 324 P P 23 55 30.8 +1.9
baz=144
CWC Cottonwood Cre 83.17 325 P P 23 55 30.5 +1.2
baz=145
F36A Milaca 83.30 346 P P 23 55 29.1 -0.4
baz=163
MPU Maple Canyon 83.37 331 eP P 23 55 31.3 +1.0
F34A Alexandria 83.60 344 P P 23 55 31.1 +0.1
baz=162
G32A Webster 83.61 343 P P 23 55 31.1 0.0
baz=160
R11A Troy Canyon, C 83.61 328 P P 23 55 32.7 +1.3
baz=146,SNR=10.0
R11A Troy Canyon, C 83.61 328 eP P 23 55 33.0 +1.5
JLU Jordanelle 83.81 331 eP P 23 55 33.3 +0.7
K22A Casper 83.82 336 P P 23 55 33.2 +0.8
baz=153
K22A Casper 83.82 336 eP P 23 55 33.2 +0.8
F33A 5 Mile Ranch, 83.88 344 P P 23 55 31.8 -0.6
baz=161
E36A McGregor 83.88 346 P P 23 55 31.8 -0.6
baz=164
DUG Dugway, Tooele 84.00 330 P P 23 55 34.3 +0.9
baz=148,SNR=6.7
DUG Dugway, Tooele 84.00 330 eP P 23 55 34.5 +1.1
RSSD Black Hills 84.34 338 P P 23 55 35.1 0.0
baz=155
RSSD Black Hills 84.34 338 eP P 23 55 35.4 +0.3
comp=E,0.8nm,0.9s
F31A Hecla 84.36 342 P P 23 55 34.9 0.0
baz=160
D35A Remer 84.58 346 P P 23 55 35.7 -0.3
baz=163
C38A Sawbill Land. 84.67 348 P P 23 55 35.4 -1.0
baz=165
BGU Big Grassy Mou 84.70 331 eP P 23 55 38.3 +1.3
HWUT Hardware Ranch 84.71 332 eP P 23 55 37.2 +0.2
D34A Park Rapids 84.82 345 P P 23 55 37.0 -0.2
baz=162
NV11 Mina Array Sit 84.82 326 eP P 23 55 38.9 +1.3
NV01 Mina Array Sit 84.89 326 eP P 23 55 38.8 +0.7
NVAR Mina Array Bea 84.89 326 P P 23 55 39.3 +1.2
comp=E,3.6nm,0.8s,baz=153,slow=6.0,SNR=18
PD31 Pinedale Array 84.97 334 eP P 23 55 39.0 +0.7
PDAR Pinedale Array 84.97 334 P P 23 55 36.5 -1.8
comp=E,0.6nm,0.6s,baz=192,slow=2.7,SNR=6.1
PDAR Pinedale Array 84.97 334 eP P 23 55 36.0 -2.3
D33A AnnSam, Waubun 85.01 345 P P 23 55 38.1 0.0
baz=162
RYN Ryan 85.15 326 eP P 23 55 40.6 +1.3
C35A Jirik Farms, M 85.15 346 P P 23 55 38.6 -0.2
baz=163
D31A Mcclaflin, Tow 85.34 343 P P 23 55 40.1 +0.3
baz=160
TORD Torodi Ar. Bea 85.45 70 P P 23 55 40.8 -0.3
comp=E,6.1nm,0.8s,baz=259,slow=4.3,SNR=11
WAKR Walker 85.47 325 eP P 23 55 42.8 +1.9
C33A Trail 85.58 345 P P 23 55 41.0 0.0
baz=162
B35A Bob, Littlefor 85.73 346 P P 23 55 41.6 -0.1
baz=163
YERR Yerington 85.77 326 eP P 23 55 43.8 +1.5
PNTR Pine Nut 86.02 325 eP P 23 55 45.3 +1.6
B34A Aery, Baudette 86.04 346 P P 23 55 42.9 -0.3
baz=162
C31A Landman Farms, 86.05 344 P P 23 55 43.1 -0.2
baz=160
AGMN Agassiz Nation 86.11 345 P P 23 55 43.4 -0.1
baz=162
FXWY Fox Creek 86.26 333 eP P 23 55 45.0 +0.3
B32A Ashes, Strandq 86.35 344 P P 23 55 44.3 -0.5
baz=161
PAHR Pah Rah Range 86.42 326 eP P 23 55 47.0 +1.5
AFDM Forest Hills D 86.55 324 eP P 23 55 47.0 +1.0
A33A Warroad 86.62 345 P P 23 55 46.0 0.0
baz=162
BEKR Beckworth 86.99 325 eP P 23 55 49.6 +1.2
YHH Holmes Hill 87.19 334 eP P 23 55 50.2 +0.8
ORV Oroville 87.28 325 eP P 23 55 50.9 +1.4
LAO LASA Array 87.33 338 P P 23 55 49.6 0.0
baz=154
LAO LASA Array 87.33 338 eP P 23 55 49.3 -0.3
HLID Hailey 87.48 331 P P 23 55 51.7 +1.1
baz=148
HLID Hailey 87.48 331 eP P 23 55 50.8 +0.2
comp=E,4.2nm,1.2s
HLID epP sP 23 56 02.3 +2.6
MCMT McKenzie Canyo 87.95 333 eP P 23 55 54.1 +1.1
ULM Lac du Bonnet 87.97 345 P P 23 55 51.7 -0.8
comp=E,10nm,0.8s,baz=177,slow=4.1,SNR=19
O03D Paynes Creek 88.00 325 P P 23 55 53.3 +0.2
baz=142
WVOR Wild Horse Val 88.29 328 eP P 23 55 55.6 +1.2
MOD Modoc Plateau 88.59 327 eP P 23 55 56.9 +0.9
J08A Circle Bar Ran 88.97 329 eP P 23 55 58.8 +1.1
M04C Macdoel 89.19 326 P P 23 56 00.1 +1.4
baz=142
PINE Pine Mountain 90.38 327 eP P 23 56 05.8 +1.5
TAM Tamanrasset 94.19 65 eP P 23 56 22.5 +0.2
YKA Yellowknife Ar 103.45 341 Pdiff Pdif 23 57 02.0 -0.7
comp=E,0.3nm,0.8s,baz=144,slow=4.2,SNR=5.2
WRA Warramunga Arr 118.93 209 PKP PKPdf 00 01 50.8 -1.3
comp=E,0.8nm,1.0s,baz=157,slow=1.9,SNR=3.8
AKASG Malin Array Be 123.85 48 PKP PKPdf 00 01 58.7 -1.8
comp=E,0.1nm,0.3s,baz=255,slow=2.9,SNR=4.7
H11N1 WAKE ISLAND Hy125.50 270 T T 02 20 00.6
baz=271,slow=74,SNR=5.6
H11N2 WAKE ISLAND Hy125.50 270 T T 02 20 03.6
baz=123,slow=74,SNR=4.8
SEY Seymchan 141.14 329 PKhKP PKPpre 00 02 26.0
comp=E,0.3nm,0.3s,baz=102,slow=20,SNR=4.2
SEY PKP PKPdf 00 02 33.1 +0.6
comp=E,2.6nm,0.8s,baz=155,slow=2.8,SNR=9.7
TIXI Tiksi 142.24 349 PKhKP PKPpre 00 02 26.2
comp=E,1.4nm,0.4s,baz=53,slow=5.1,SNR=3.9
BVAR Borovoye Array 149.00 45 PKPbc PKPbc 00 02 51.1 +0.6
comp=E,3.3nm,0.6s,baz=295,slow=2.4,SNR=15
YAK Yakutsk 150.08 339 PKPbc PKPbc 00 02 51.7 -1.1
comp=E,6.8nm,0.3s,baz=259,slow=0.8,SNR=6.2
KKAR Karatay Array 150.95 64 ePKPbc PKPbc 00 02 55.2 -0.4
KKAR ePKPab PKPab 00 03 03.3 +0.2
AAK Ala-Archa 153.90 65 PKPbc PKPbc 00 03 02.5 0.0
comp=E,2.6nm,0.9s,baz=103,slow=3.5,SNR=7.3
ZALV Zalesovo Beam 156.04 34 PKP PKPdf 00 02 55.8 -1.0
comp=E,1.8nm,1.0s,baz=270,slow=5.8,SNR=6.4
ZALV PKPbc sPKPdf 00 03 06.2 +0.2
comp=E,1.7nm,0.8s,baz=309,slow=4.0,SNR=5.7
MKAR Makanchi Array 158.39 52 PKP PKPdf 00 02 59.0 -1.0
comp=E,0.6nm,0.9s,baz=270,slow=3.4,SNR=3.8
MKAR PKPab PKPab 00 03 34.4 -0.3
comp=E,0.9nm,0.8s,baz=291,slow=1.9,SNR=3.9
CMAR Chiang Mai Arr 161.36 155 PKP PKPdf 00 03 03.0 -1.2
comp=E,0.9nm,0.4s,baz=251,slow=3.7,SNR=4.6
CMAR PKPab PKPab 00 03 47.3 -0.8
comp=E,0.8nm,0.5s,baz=226,slow=4.9,SNR=7.0
GYA Guiyang 170.77 178 PKP PKPdf 00 03 11.2 -0.4
GYA PKP PKPab 00 04 31.0 +1.5
GYA PKS PKSdf 00 06 42.8 -1.4
GYA PP PP 00 08 22.6 +3.7
CD2 Chengdu 174.46 149 PKP PKPdf 00 03 13.0 0.0

ISCJB 03 23:47:21.0±1.1, 24°.9S±0°.2×14°.6W±0°.1, h10km, mb4.0/9, MS4.0/13, Error ellipse: s-maj=30.7km s-min=18.9km az=2.5
IDC 03 23:47:21.7±6.2, 24°.81S×14°.54W, h0km, mb4.2/6, mb1 4.2/6, mb1mx3.8/50, mbtmp4.2/6, MS4.0/13, Ms1 4.0/13, ms1mx3.6/44, Error ellipse: s-maj=159.4km s-min=41.0km az=60.0
NEIC 03 23:47:22.9±0.9, 24°.85S×14°.59W, h10km, mb4.1/3, Error ellipse: s-maj=25.3km s-min=15.6km az=182.0
ISC 03 23:47:22.9±1.2**, 24°.9S**±0°.3×**14°.6W**±0°.2**, h10**km**, n22,** σ**0s.72**/9**, mb4.1**/9**, MS4.0**/13**, Southern Mid-Atlantic Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H10S2 ASCENSION HYDR15.81 360 T T 00 07 09.6
baz=176,slow=74,SNR=9.8
H10S3 ASCENSION HYDR15.81 360 T T 00 07 09.5
baz=176,slow=74,SNR=10
H10S1 ASCENSION HYDR15.83 360 T T 00 07 11.0
baz=176,slow=74,SNR=12
BOSA Boshof 35.67 105 P P 23 54 21.8 +0.2
2.1nm,0.8s,baz=267,slow=7.2,SNR=3.1
BOSA LR LR 00 06 10.0
comp=Z,190nm,18.7s,baz=302,slow=32
CPUP Villa Florida 38.45 258 LR LR 00 08 08.1
comp=Z,146nm,21.5s,baz=105,slow=32
KOWA Kowa 40.45 16 P P 23 55 02.3 +0.6
2.6nm,0.9s,baz=217,slow=10,SNR=4.3
KOWA LR LR 00 08 38.6
comp=Z,197nm,18.8s,baz=201,slow=32
TORD Torodi Ar. Bea 40.98 25 P P 23 55 05.5 -0.6
7.0nm,0.8s,baz=206,slow=9.2,SNR=38
TORD LR LR 00 08 45.0
comp=Z,172nm,18.9s,baz=200,slow=31
SAML Samuel 48.83 280 P P 23 56 09.6 +0.7
1.7nm,0.9s
PLCA Paso Flores 48.84 237 LR LR 00 16 06.9
comp=Z,138nm,18.7s,baz=104,slow=35
LPAZ La Paz 50.58 269 LR LR 00 16 26.8
comp=Z,147nm,21.7s,baz=116,slow=34
KMBO Kilima Mbogo 55.30 73 LR LR 00 18 27.3
comp=Z,177nm,18.7s,baz=263,slow=34
KMBO Kilima Mbogo 55.30 73 P P 23 56 56.9 -0.3
0.4nm,0.5s
OPO Ambohidratompo 57.33 97 LR LR 00 18 23.5
comp=Z,212nm,20.8s,baz=191,slow=32
SDV Santo Domingo 64.07 294 LR LR 00 24 49.8
comp=Z,204nm,19.4s,baz=80,slow=35
SDV Santo Domingo 64.07 294 P P 23 57 56.6 -1.1
1.9nm,0.6s
KEST Kesra 64.37 21 P P 23 57 59.6 +0.6
4.8nm,1.0s,baz=172,slow=7.1,SNR=3.6
ROSC El Rosal 65.08 288 LR LR 00 25 47.5
comp=Z,147nm,18.6s,baz=241,slow=35
ATD Arta Tunnel 66.66 64 LR LR 00 24 29.9
comp=Z,146nm,20.5s,baz=290,slow=34
JTS JuntasAbangare 76.92 288 LR LR 00 35 24.7
comp=Z,54nm,18.5s,baz=178,slow=38
VNDA Vanda 77.83 179 LR LR 00 28 56.5
comp=Z,63nm,20.2s,baz=312,slow=32
MLR Muntele Rosu 79.13 28 P P 23 59 27.3 -0.4
0.6nm,0.6s,baz=282,slow=9.3,SNR=3.3
AKASG Malin Array Be 84.59 26 P P 23 59 56.4 +0.2
0.2nm,0.3s,baz=221,slow=5.4,SNR=4.7

IDC 03 23:58:01.6±15.0, 0°.72S×127°.23E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/55, mbtmp3.5/3, Error ellipse: s-maj=232.5km s-min=152.5km az=151.0
DJA 03 23:58:23.8±0.4, 3°S±3°×12°7E±°, h10km, M3.6/4, MLv3.6/4
ISCJB 03 23:58:24.5±0.8, 2°.8S±0°.1×126°.7E±0°.1, h32km, mb3.4/2, Error ellipse: s-maj=21.9km s-min=6.6km az=141.1
ISC 03 23:58:24.1±1.0**, 2°.9S**±0°.1×**126°.6E**±0°.1**, h32**km**, n6,** σ**2s.04**/8**, Ceram Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NLAI Namlea 0.59 129 P Pn 23 58 37.0 +0.7
NLAI S Sn 23 58 45.5 +0.6
SANI Sanana 1.04 321 P Pb 23 58 43.9 +0.4
SANI S Sn 23 58 56.4 +0.6
LBMI Labuha 2.38 21 P Pn 23 59 01.0 +0.1
WRA Warramunga Arr 18.57 157 P Pn 00 02 40.1 +1.2
0.7nm,0.6s,baz=339,slow=12,SNR=7.1
ASAR Alice Springs 21.84 162 P P 00 03 16.2 +2.1
0.4nm,0.6s,baz=339,slow=12,SNR=9.9
STKA Stephens Creek 32.11 156 P P 00 04 44.9 -3.7
0.6nm,0.4s,baz=322,slow=12,SNR=2.7

BJI 04 00:01:19.5, 51°.70N×96°.18E, h15km, mb4.3/17, mB4.5/13, ML4.3/1, Ms4.0/11, Ms7 3.7/10
ISCJB 04 00:01:20.9±0.2, 51°.55N±0°.04×96°.18E±0°.04, h10km, mb4.1/36, MS3.0/4, Error ellipse: s-maj=6.4km s-min=4.0km az=9.1
IDC 04 00:01:21.6±0.5, 51°.68N×96°.19E, h0km, mb4.0/19, mb1 4.0/23, mb1mx3.9/70, mbtmp3.9/23, ML3.0/5, MS3.0/7, Ms1 3.1/7, ms1mx2.8/68, Error ellipse: s-maj=14.4km s-min=8.9km az=3.0
MOS 04 00:01:22.0±1.3, 51°.67N×96°.09E, h13km, mb4.3/19, Error ellipse: s-maj=8.9km s-min=7.4km az=15.1
NEIC 04 00:01:22.4±0.3, 51°.53N×96°.23E, h10km, mb4.7/9, Error ellipse: s-maj=9.6km s-min=5.2km az=184.0
ISC 04 00:01:22.9±0.4**, 51°.59N**±0°.06×**96°.24E**±0°.04**, h10**km**, n103,** σ**1s.37**/105**, mb4.2**/36**, MS3.2**/4**, 11C-4D, Southwestern Siberia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HVS Khovu-Aksy 1.65 255⇓iP Pn 00 01 50.1 -1.9
HVS Khovu-Aksy 1.65 255d iPN Pn 00 01 50.1 -1.9
ORL Orlik 2.41 65 eP Pb 00 02 04.8 -1.5
ORL Orlik 2.41 65⇓iPN Pb 00 02 04.8 -1.5
ORL e 00 02 36.2
ORL pmax pmax
comp=Z,235nm,0.4s
ORL smax smax
comp=N,2μm,0.7s
MOY Mondy 2.97 87 ePN Pb 00 02 15.3 -0.6
MOY e 00 02 55.3
MOY pmax pmax
comp=Z,257nm,0.6s
MOY smax smax
comp=N,1μm,1.1s
ARS Arshan 3.86 83 ePN Pb 00 02 31.8 +0.7
ARS e 00 03 23.1
ARS pmax pmax
comp=Z,302nm,0.9s
ARS smax smax
comp=E,2μm,0.9s
ZAK Zakamensk 4.61 102 ePN Pn 00 02 37.3 +4.6
ZAK e 00 02 44.7
ZAK e 00 03 46.2
ZAK pmax pmax
comp=Z,92nm,1.0s
ZAK smax smax
comp=N,425nm,0.9s
TLY Talaya 4.62 86 Pg Pb 00 02 44.2 +0.3
comp=N,0.1nm,0.3s,baz=285,slow=14,SNR=18
TLY Lg Lg 00 03 45.5
comp=N,0.2nm,0.3s,baz=49,slow=19,SNR=16
TLY LR LR 00 04 18.9
comp=N,129nm,18.2s,baz=288,slow=38
TLY Talaya 4.62 86 ePn Pn 00 02 30.9 -1.8
TLY ePg Pb 00 02 44.9 +0.9
TLY Talaya 4.62 86⇑ePN Pn 00 02 34.7 +2.0
IRK Irkutsk 5.02 79 ePN Pb 00 02 52.2 +1.5
IRK e 00 03 56.6
IRK pmax pmax
comp=Z,121nm,0.6s
IRK smax smax
comp=N,1μm,1.0s
TRG Tyrgan 6.33 75 ePN Pn 00 02 59.1 +2.8
TRG e 00 03 16.7
TRG e 00 04 33.9
TRG pmax pmax
comp=Z,28nm,0.8s
TRG smax smax
comp=N,370nm,1.4s
OGRR Ongureny 7.22 69 eP Pn 00 03 08.7 +0.3
OGRR pmax pmax
comp=Z,22nm,0.9s
ZAA0 Zalesovo Array 7.32 293 ePn Pn 00 03 10.0 +0.3
ZALV Zalesovo Beam 7.32 293 Pn Pn 00 03 10.2 +0.4
comp=Z,0.4nm,0.3s,baz=99,slow=12,SNR=13
ZALV Pg Pb 00 03 32.2 +2.3
comp=Z,1.0nm,0.3s,baz=111,slow=14,SNR=10
ZALV Lg Lg 00 05 07.5
comp=Z,6.0nm,0.3s,baz=106,slow=26,SNR=13
ZALV LR LR 00 05 50.3
comp=Z,87nm,20.4s,baz=56,slow=37
SONA1 Songino Array 7.58 116 ePn Pn 00 03 11.1 -2.3
SONM Songino Array 7.58 116 Pn Pn 00 03 16.3 +2.9
comp=Z,0.1nm,0.3s,baz=297,slow=15,SNR=4.0
SONM Pg Pb 00 03 39.7 +5.2
comp=Z,1.0nm,0.3s,baz=305,slow=15,SNR=35
SONM Lg Lg 00 05 22.8
comp=Z,5.1nm,0.3s,baz=306,slow=28,SNR=9.3
ULN Ulaanbaatar 7.94 114 ePn Pn 00 03 16.1 -2.3
ULN Ulaanbaatar 7.94 114⇑eP Pn 00 03 19.1 +0.7
NVS Novosibirsk 8.46 298 eP Pn 00 03 19.4 -5.9
SYVR Suvo 8.63 71 eP Pn 00 03 41.0 +13
SYVR pmax pmax
comp=Z,18nm,1.8s
WMQ Urumqi 9.66 220 P Pn 00 03 42.4 +0.4
WMQ Urumqi 9.66 220 P Pn 00 03 42.4 +0.4
WMQ smax smax
comp=Z,120nm,1.1s
WMQ smax smax
comp=Z,180nm,1.1s
MK31 Makanchi Array 10.31 248 ePn Pn 00 03 49.5 -1.2
MK31 Makanchi Array 10.31 248 eP Pn 00 03 49.5 -1.2
MKAR Makanchi Array 10.31 248 Pn Pn 00 03 50.6 -0.1
comp=Z,0.2nm,0.3s,baz=55,slow=13,SNR=16
MKAR Pg 00 04 29.6
comp=Z,0.7nm,0.3s,baz=62,slow=16,SNR=8.1
MKAR Lg Lg 00 06 48.0
comp=Z,1.2nm,0.3s,baz=54,slow=32,SNR=4.0
MKAR LR LR 00 08 18.5
comp=Z,101nm,19.6s,baz=40,slow=40
MKAR Makanchi Array 10.31 248 ePn Pn 00 03 49.6 -1.2
KURK Kurchatov 11.10 272⇓eP Pn 00 04 02.9 +1.4
KURK pmax pmax
comp=Z,7.0nm,2.1s
GTA Gaotai 12.43 167 eP Pn 00 04 29.3 +9.4
GTA pP 00 04 33.5
GTA sP 00 04 36.3
GTA S Sn 00 06 54.5 +16
GTA sS 00 07 00.0
GTA SS SbSb 00 07 09.4 -20
HHC Hu-ho-hao-te 15.06 129 eP Pn 00 04 55.0 -0.7
HHC PP sP 00 05 07.2 +2.0
HHC S Sn 00 07 40.6 -2.0
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,59nm,4.4s
HIA Hailar 15.15 90⇑eP Pn 00 04 57.0 +0.3
BVAR Borovoye Array 15.85 285 Pn Pn 00 05 03.8 -2.0
comp=Z,0.1nm,0.3s,baz=89,slow=12,SNR=3.0
BRVK Borovoye 15.91 286 ePn Pn 00 05 07.5 +0.8
comp=Z,5.5nm,0.6s
BRVK Borovoye 15.91 286⇑eP Pn 00 05 07.1 +0.5
BRVK pmax pmax
comp=Z,2.0nm,0.6s
KDJ Kajisay 16.06 241 P Pn 00 05 07.9 -0.9
KDJ pmax pmax
comp=Z,6.0nm,0.8s
LZH Lanzhou 16.42 158 eP Pn 00 05 11.0 -2.5
LZH pP P 00 05 13.9 -2.4
LZH pmax pmax
comp=Z,16nm,1.1s
LZH pmax pmax
comp=Z,94nm,4.5s
LZH LR LR
comp=Z,190nm,5.4s
LZH LR LR
comp=Z,200nm,5.2s
LZH LR LR
comp=Z,280nm,8.4s
AAK Ala-Archa 17.24 247 P Pn 00 05 22.8 -1.0
comp=Z,0.1nm,0.3s,baz=31,slow=8.1,SNR=2.5
KSH Kashi 18.55 237 P Pn 00 05 44.1 +4.2
KSH S S 00 09 10.2 -1.1
KSH SS SnSn 00 09 35.1 +14
KSH pmax pmax
comp=Z,14nm,2.0s
KSH pmax pmax
comp=Z,88nm,5.1s
KSH LR LR
comp=Z,120nm,5.5s
KSH LR LR
comp=Z,160nm,8.4s
KSH LR LR
comp=Z,98nm,8.8s
YAK Yakutsk 20.83 47⇑eP P 00 06 03.5 -0.8
YAK pmax pmax
comp=Z,10.0nm,0.6s
SVE Sverdlovsk 21.30 298 eP P 00 06 08.6 -0.8
SVE pmax pmax
comp=Z,14nm,1.0s
CD2 Chengdu 21.39 162 eP P 00 06 08.0 -2.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
ARU Arti 22.46 297 P P 00 06 22.3 +0.5
comp=Z,3.7nm,0.6s,baz=95,slow=10,SNR=9.0
ARU LR LR 00 15 56.7
comp=Z,73nm,20.0s,baz=51,slow=39
ARU Arti 22.46 297 eP P 00 06 22.4 +0.6
comp=Z,15nm,1.4s
ARU Arti 22.46 297c iP P 00 06 22.3 +0.5
ARU 00 06 41.6
ARU S S 00 10 30.4 +2.3
ARU SS SnSn 00 10 54.5 -1.6
ARU pmax pmax
comp=Z,7.0nm,1.0s
KLR Kul'dur 22.62 82 P P 00 06 24.7 +1.1
comp=Z,0.1nm,0.6s,baz=280,slow=5.3,SNR=4.8
KLR LR LR 00 15 48.7
comp=Z,7.2nm,19.4s,baz=295,slow=38
KLR Kul'dur 22.62 82⇑iP P 00 06 25.4 +1.8
ABKAR Akbulak array 23.09 279 eP P 00 06 28.3 -0.3
comp=Z,12nm,0.8s
AKTO Aktyubinsk 23.90 282 P P 00 06 36.2 -0.2
comp=Z,5.4nm,0.6s,baz=82,slow=12,SNR=22
TIXI Tiksi 24.81 24 P P 00 06 44.1 -0.5
comp=Z,29nm,0.7s,baz=237,slow=6.3,SNR=55
TIXI Tiksi 24.81 24 eP P 00 06 44.6 -0.1
comp=Z,26nm,0.7s
TIXI Tiksi 24.81 24c iP P 00 06 45.1 +0.5
TIXI pmax pmax
comp=Z,27nm,0.7s
WHN Wuhan 24.94 140⇑iP P 00 06 46.6 +0.5
NJ2 Nanjing 25.61 131 eP P 00 06 51.0 -1.2
NJ2 pmax pmax
comp=Z,11nm,0.5s
INCN Inchon 25.63 111 eP P 00 06 50.4 -2.0
comp=Z,83nm,1.8s
KMI Kunming 26.89 167 P P 00 07 04.3 +0.2
KMI pmax pmax
comp=Z,4.0nm,0.8s
GEYT Alibeck 29.94 258 P P 00 07 31.8 +0.8
comp=Z,0.7nm,0.6s,baz=44,slow=13,SNR=3.5
YSS Yuzh-Sakhalins 30.30 80 eP P 00 07 38.0 +4.0
SEY Seymchan 31.36 47⇑eP P 00 07 44.3 +1.1
CMAR Chiang Mai Arr 33.12 175 P P 00 08 01.4 +2.3
comp=Z,0.6nm,0.4s,baz=351,slow=8.9,SNR=6.2
CMAR Chiang Mai Arr 33.12 175c eP P 00 08 02.5 +3.4
CMAR pmax pmax
comp=Z,1.0nm,0.6s
VRH Novokhopyorsk 33.35 291 eP P 00 07 59.7 -1.1
VRH pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 34.83 292 eP P 00 08 12.0 -1.6
VSR pmax pmax
comp=Z,10.0nm,1.4s
OBN Obninsk 34.85 300 i P P 00 08 12.7 -1.0
OBN i 00 09 36.2
OBN i 00 10 46.3
OBN pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 36.07 279 eP P 00 08 24.7 +0.2
KIV pmax pmax
comp=Z,8.0nm,1.1s
BILL Bilibino 36.46 37 i P P 00 08 28.4 +0.9
BILL pmax pmax
comp=Z,2.0nm,1.2s
ARCES ARCESS Array B 36.49 326 P P 00 08 26.3 -1.3
comp=Z,4.9nm,1.0s,baz=71,slow=7.8,SNR=5.2
FINES FINESS Array B 38.08 313 P P 00 08 41.1 -0.1
comp=Z,1.5nm,0.5s,baz=74,slow=9.5,SNR=12
AKASG Malin Array Be 40.70 296 P P 00 09 02.4 -0.8
comp=Z,0.7nm,0.5s,baz=57,slow=8.7,SNR=4.7
BRTR Keskin Array B 44.03 280 P P 00 09 31.8 +1.1
comp=Z,2.6nm,0.9s,baz=85,slow=4.6,SNR=11
BRTR LR LR 00 29 51.2
comp=Z,33nm,19.8s,baz=310,slow=39
HFS Hagfors 44.18 315 P P 00 09 31.1 -0.4
comp=Z,1.7nm,0.5s,baz=72,slow=10,SNR=7.5
BR231 Keskin MP Arra 44.49 281 eP P 00 09 32.1 -2.2
BUR08 Bucovina Ar. S 44.53 294 eP P 00 09 34.7 +0.2
BUR04 Bucovina Ar. S 44.54 294 eP P 00 09 34.5 -0.1
NB2 NORSAR Subarra 44.84 317 P P 00 09 36.0 -0.8
comp=Z,2.0nm,0.6s,baz=61,slow=8.6
NOA NORSAR Array B 44.84 317 P P 00 09 35.9 -0.9
comp=Z,0.8nm,0.8s,baz=129,slow=8.7,SNR=5.5
NOA LR LR 00 32 10.3
comp=Z,64nm,18.1s,baz=15,slow=41
ASF Jabal al Asfar 46.85 269 P P 00 09 53.9 +0.9
comp=Z,2.9nm,0.8s,baz=262,slow=3.1,SNR=3.9

VYHS	**Vyhne**	**47.62**	**298**	*e*P	**P**	**00 09 59.3**	**+0.6**
VYHS	**Vyhne**	**47.62**	**298**	*e*P	**P**	**00 09 59.3**	**+0.6**
DPC	**Dobruska-Polom**	**47.93**	**302**	*e*P	**P**	**00 10 01.6**	**+0.5**
DPC	**Dobruska-Polom**	**47.93**	**302**	*e*P	**P**	**00 10 01.6**	**+0.5**
PRU	**Pruhonice**	**49.07**	**302**	*e*P	P	00 10 04.0	-5.9
CLL	**Collm**	**49.12**	**304**	*i* P	**P**	**00 10 10.5**	**+0.3**
CLL	**Collm**	**49.12**	**304**	*i* P	**P**	**00 10 10.5**	**+0.3**
KHC	**Kasperske Hory**	**50.09**	**302**	*e*P	**P**	**00 10 18.2**	**+0.5**
KHC	**Kasperske Hory**	**50.09**	**302**	*e*P	**P**	**00 10 18.2**	**+0.5**
GERES	**GERESS Array B**	**50.19**	**301**	P	**P**	**00 10 18.6**	**0.0**
	comp=Z,0.4nm,0.7s,baz=60,slow=7.9,SNR=4.6						
COLD	**Coldfoot**	**51.48**	**27**	*e*P	**P**	**00 10 28.5**	**+0.6**
	comp=Z,3.7nm,1.0s						
ILAR	**Eielson Array**	**54.18**	**28**	P	**P**	**00 10 47.8**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=324,slow=4.8,SNR=8.5						
INK	**Inuvik**	**54.86**	**20**	*e*P	**P**	**00 10 52.9**	**+0.2**
	comp=Z,16nm,1.9s						
INK	**Inuvik**	**54.86**	**20**	*e*P	**P**	**00 10 52.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,16nm,1.9s						
BNI	**Bardonecchia**	**56.31**	**302**	*e*P	**P**	**00 11 03.8**	**+0.1**
	comp=Z,24nm,1.6s						
BNI	**Bardonecchia**	**56.31**	**302**	*e*P	**P**	**00 11 03.8**	**+0.1**
BNI				pmax	pmax		
	comp=Z,24nm,1.6s						
YKA	**Yellowknife Ar**	**63.68**	**15**	P	**P**	**00 11 52.7**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=339,slow=7.0,SNR=4.3						
ES19	**SONSECA Array**	**65.64**	**304**	*e*P	**P**	**00 12 06.9**	**-0.1**
ESDC	**Sonseca Array**	**65.69**	**304**	P	**P**	**00 12 06.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=38,slow=6.4,SNR=8.9						
ULM	**Lac du Bonnet**	**78.02**	**8**	P	**P**	**00 13 19.6**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=301,slow=4.1,SNR=3.4						
WRA	**Warramunga Arr**	**78.64**	**144**	P	**P**	**00 13 24.9**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=338,slow=5.5,SNR=5.5						
BOZ	**Bozeman (W)**	**80.26**	**19**	*e*P	**P**	**00 13 32.8**	**-0.9**
	comp=Z,11nm,0.7s						
BOZ	**Bozeman (W)**	**80.26**	**19**	*e*P	**P**	**00 13 32.8**	**-0.9**
BOZ				pmax	pmax		
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**81.90**	**146**	P	**P**	**00 13 42.8**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=324,slow=5.2,SNR=8.5						
TORD	**Torodi Ar. Bea**	**82.62**	**282**	P	**P**	**00 13 45.6**	**-0.7**
	comp=Z,1.4nm,1.0s,baz=37,slow=4.6,SNR=7.3						
CPUP	**Villa Florida**	**147.79**	**311**	PKPbc	**PKPbc**	**00 21 07.0**	**-0.7**
	comp=Z,1.6nm,1.0s,baz=68,slow=4.6,SNR=2.8						
CPUP	**Villa Florida**	**147.79**	**311**	PKP2	**PKPbc**	**00 21 07.0**	**-0.7**
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.0s						

IDC 04 00:04:47.1±9.1**, 21°.45S×170°.16E, h52**km±61km**, mb3.3**/3**, mb1 3.6**/4**, mb1mx3.2**/42**, mbtmp3.6**/4**, ML4.0**/1**, MS2.9**/2**, Ms1 2.9**/2**, ms1mx2.7**/13**, Error ellipse: s-maj=127.2km s-min=58.6km az=170.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.51**	**259**	P	Pn	00 05 39.1	-0.1
	14nm,0.3s,baz=140,slow=18,SNR=248						
DZM				S	Sn	00 06 20.0	+0.5
	9.8nm,0.3s,baz=323,slow=20,SNR=5.9						
DZM				LR	LR	00 06 41.7	
	comp=Z,77nm,19.6s,baz=60,slow=33						
PMG	**Port Moresby**	**25.15**	**295**	LR	LR	00 19 12.3	
	comp=Z,60nm,18.1s,baz=178,slow=34						
STKA	**Stephens Creek**	**27.48**	**242**	P	P	00 10 28.8	+0.3
	0.7nm,0.4s,baz=86,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**33.50**	**259**	P	P	00 11 21.7	-0.1
	0.5nm,0.8s,baz=92,slow=9.5,SNR=6.1						
WRA	**Warramunga Arr**	**33.50**	**266**	P	P	00 11 21.6	-0.2
	0.2nm,0.4s,baz=99,slow=8.4,SNR=3.0						

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*IDC **04** 00:11:43.3±2.1, 10°.19S×121°.05E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.2/44, mbtmp3.2/4, ML3.5/3, Error ellipse: s-maj=71.6km s-min=26.8km az=38.0*
*ISCJB **04** 00:11:49.7±1.0, 9°.74S±0°.05×122°.19E±0°.07, h10km, mb3.2/1, Error ellipse: s-maj=9.5km s-min=7.8km az=6.1*
*DJA **04** 00:11:54.7±0.4, 10°S±3°×12°2E±°, h10km, M3.6/7, MLv3.6/7*
ISC 04 00:11:52.5±0.8**, 9°.62S**±0°.06×**122°.09E**±0°.04**, h10**km**, n11, σ2**s**.25**/14**, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.95**	**336**	P	**Pb**	**00 12 11.4**	**+0.2**
EDFI				S	**Sb**	**00 12 23.4**	**-0.5**
MMRI	**Maumere**	**0.99**	**9**	P	**Pb**	**00 12 11.6**	**-0.2**
MMRI				S	**Sb**	**00 12 24.0**	**-0.9**
BASI	**Baing, Sumba**	**1.60**	**248**	P	**Pg**	**00 12 24.4**	**+1.2**
BATI	**Baumata**	**1.66**	**111**	Pn	**Pg**	**00 12 26.5**	**+2.2**
	18nm,0.3s,baz=276,slow=10,SNR=26						
BATI				Sn	**Sg**	**00 12 46.2**	**+0.4**
	25nm,0.3s,baz=255,slow=20,SNR=9.8						
BATI	**Baumata**	**1.66**	**111**	P	**Pb**	**00 12 23.4**	**+0.3**
SOEI	**Soe**	**2.15**	**94**	P	**Pn**	**00 12 30.3**	**+1.7**
WBSI	**Waikabubak, Su**	**2.66**	**269**	P	**Pn**	**00 12 37.9**	**+2.4**
WBSI				S	**Sn**	**00 13 07.2**	**-0.6**
PLAI	**Plampang**	**4.33**	**280**	P	**Pn**	**00 12 59.7**	**+1.3**
WRA	**Warramunga Arr**	**15.66**	**132**	Pn	**Pn**	**00 15 29.1**	**-4.3**
	0.1nm,0.3s,baz=305,slow=14,SNR=4.8						
WRA				Sn	Sn	00 18 11.5	-16
	0.4nm,0.3s,baz=299,slow=22,SNR=8.5						
ASAR	**Alice Springs**	**17.96**	**142**	P	**Pn**	**00 15 58.1**	**-4.4**
	0.1nm,0.3s,baz=316,slow=12,SNR=6.3						
ASAR				S	Sn	00 19 08.3	-15
	0.1nm,0.3s,baz=312,slow=21,SNR=5.0						
MKAR	**Makanchi Array**	**66.43**	**331**	P	P	00 22 34.4	-7.5
	0.1nm,0.4s,baz=142,slow=7.2,SNR=2.6						

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*BJI **04** 00:51:35.3, 17°.90S×178°.50W, h540km, mb4.9/41, mB4.8/30*
*MOS **04** 00:51:37.2±1.2, 17°.70S×178°.67W, h542km, mb4.9/13, Error ellipse: s-maj=11.0km s-min=9.7km az=134.3*
*ISCJB **04** 00:51:37.1±0.6, 17°.82S±0°.04×178°.61W±0°.04, h553km±8km, mb5.0/146, Error ellipse: s-maj=6.2km s-min=4.7km az=147.3*
*IDC **04** 00:51:38.5±0.5, 17°.85S×178°.61W, h553km±5km, mb3.8/21, mb1 4.0/23, mb1mx3.9/40, mbtmp4.7/23, Error ellipse: s-maj=9.5km s-min=7.6km az=127.0*
*NEIC **04** 00:51:39.3±0.2, 17°.84S×178°.59W, h569km±2km, mb5.2/61, Error ellipse: s-maj=5.5km s-min=4.0km az=132.0*
*GCMT **04** 00:51:39.3±0.6, 17°.86S×178°.89W, h572km±3km, MW5.3/48, Moment Tensor Solution. s48,c59; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-0.13±.04; Mθθ0.36±.06; Mφφ-0.23±.06; Mrθ-0.10±.06; Mθφ0.87±.06; Mφr-0.54±.06; Best double couple: M0 1.07500×10^17 NP1:φs11.00000°, δ86.00000°, λ-149.00000°. NP2: φs279.00000°, δ59.00000°, λ-5.00000°. Principal axes: T 1.1180, Plg18.0000°, Azm141.0000°; N -0.0860, Plg59.0000°, Azm18.0000°; P -1.0330, Plg25.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s.*
ISC 04 00:51:38.6±0.4**, 17°.81S**±0°.05×**178°.56W**±0°.05**, h561**km±4km**, h562**km**:pP-P, n543, σ1**s**.04**/564**, mb5.1**/146**, 35C-41D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.59**	**60**	P	**P**	**00 53 30.5**	**-2.4**
	80nm,0.3s,baz=7.0,slow=2.3,SNR=42						
NIUE	**Niue**	**8.29**	**100**	P	**P**	**00 53 40.1**	**+0.6**
	baz=8.3,SNR=22						
FUNA	**Funafuti**	**9.48**	**346**	*e*P	**P**	**00 53 50.0**	**-1.6**
RAO	**Raoul Island**	**11.40**	**177**	P	**P**	**00 54 10.0**	**-1.0**
	120nm,0.3s,baz=107,slow=22,SNR=5.3						
DZM	**Mont Dzumac**	**14.73**	**251**	P	**P**	**00 54 44.2**	**-1.1**
	11nm,0.3s,baz=75,slow=13,SNR=90						
DZM	**Mont Dzumac**	**14.73**	**251**	*e*P	**P**	**00 54 44.0**	**-1.2**
	455nm,1.2s						
DZM	**Mont Dzumac**	**14.73**	**251**	*e*P	**P**	**00 54 44.1**	**-1.2**
KNTN	**Kanton**	**16.38**	**25**	*e*P	**P**	**00 55 00.2**	**-1.2**
	172nm,1.4s						
RAR	**Rarotonga**	**18.02**	**104**	P	**P**	**00 55 16.5**	**+0.3**
	2.1nm,0.3s,baz=244,slow=9.4,SNR=6.9						
RAR	**Rarotonga**	**18.02**	**104**	*e*P	**P**	**00 55 16.5**	**+0.3**
	56nm,0.9s						
RAR	**Rarotonga**	**18.02**	**104**	*e*P	**P**	**00 55 16.5**	**+0.3**
RAR				pmax	pmax		
	comp=Z,56nm,0.9s						
URZ	**Urewera**	**20.72**	**190**	P	**P**	**00 55 38.9**	**-1.6**
	comp=Z,32nm,0.5s,baz=266,slow=1.0,SNR=17						
URZ				S	**S**	**00 58 54.3**	**-1.8**
	comp=Z,18nm,0.6s,baz=241,slow=23,SNR=5.8						
TARA	**Tarawa**	**20.81**	**335**	*e*P	**P**	**00 55 40.4**	**-1.2**
	comp=Z,651nm,1.4s						
LHI	**Lord Howe Isla**	**24.43**	**232**	P	**P**	**00 56 15.0**	**+1.3**
	baz=24,SNR=5.1						
LHI	**Lord Howe Isla**	**24.43**	**232**	*e*P	**P**	**00 56 13.7**	**-0.1**
	comp=Z,114nm,0.8s						
THZ	**Tophouse**	**24.97**	**195**	*e*P	**P**	**00 56 18.5**	**+0.1**
	comp=Z,188nm,1.9s						
KHZ	**Kahutara**	**25.44**	**194**	*e*P	**P**	**00 56 22.3**	**-0.1**
	comp=Z,81nm,1.1s						
LTZ	**Lake Taylor**	**26.09**	**195**	*e*P	**P**	**00 56 27.7**	**-0.5**
	comp=Z,174nm,1.8s						
OXZ	**Oxford**	**26.66**	**195**	*e*P	**P**	**00 56 32.3**	**-0.8**
	comp=Z,31nm,0.7s						
RPZ	**Rata Peaks**	**27.28**	**197**	P	**P**	**00 56 38.2**	**-0.4**
	comp=Z,9.6nm,0.5s,baz=0.3,slow=3.5,SNR=7.1						
FOZ	**Fox Glacier**	**27.46**	**199**	*e*P	**P**	**00 56 39.9**	**-0.3**
	comp=Z,45nm,0.6s						
PAE	**Paea**	**27.59**	**94**	*e*P	**P**	**00 56 42.1**	**+0.4**
	comp=Z,13nm,1.3s						
PPT2	**Papeete2**	**27.60**	**94**	*e*P	**P**	**00 56 42.6**	**+0.7**
	comp=Z,75nm,1.3s						
PPT	**Papeete**	**27.60**	**94**	P	**P**	**00 56 42.9**	**+1.1**
	comp=Z,44nm,0.7s,baz=74,slow=7.5,SNR=9.4						
PPTF	**Pamatai, Papee**	**27.61**	**94**	*e*P	**P**	**00 56 42.4**	**+0.5**
	comp=Z,52nm,0.8s						
TIAR	**Tiarei**	**27.82**	**94**	*e*P	**P**	**00 56 44.8**	**+1.1**
	comp=Z,21nm,1.0s						
TVO	**Taravao**	**27.89**	**94**	*e*P	**P**	**00 56 45.0**	**+0.6**
	comp=Z,12nm,0.8s						
LBZ	**Lake Benmore**	**28.14**	**197**	*e*P	**P**	**00 56 45.0**	**-1.1**
	comp=Z,56nm,1.3s						
WKZ	**Wanaka**	**28.88**	**198**	*e*P	**P**	**00 56 52.0**	**-0.6**
	comp=Z,202nm,1.6s						
EIDS	**Eidsvold**	**29.17**	**250**	P	**P**	**00 56 55.0**	**-0.4**
	baz=29,SNR=37						
EIDS	**Eidsvold**	**29.17**	**250**	*e*P	**P**	**00 56 55.0**	**-0.4**
	comp=Z,125nm,0.8s						
MLZ	**Mavora Lakes**	**29.64**	**199**	*e*P	**P**	**00 56 59.8**	**+0.6**
	comp=Z,58nm,0.7s						
ARMA	**Armidale**	**29.87**	**240**	P	**P**	**00 57 02.5**	**+1.0**
	baz=30,SNR=171						
ARMA	**Armidale**	**29.87**	**240**	*e*P	**P**	**00 57 01.9**	**+0.4**
	comp=Z,165nm,0.6s						
DCZ	**Deep Cove**	**30.04**	**200**	*e*P	**P**	**00 57 02.5**	**0.0**
	comp=Z,64nm,1.4s						
WHZ	**Wether Hill Ro**	**30.17**	**199**	*e*P	**P**	**00 57 04.0**	**+0.3**
	comp=Z,39nm,0.7s						
MGCD	**Mangrove Creek**	**31.24**	**235**	P	**P**	**00 57 14.2**	**+1.1**
	baz=31,SNR=21						
RMQ	**Roma**	**31.41**	**248**	P	**P**	**00 57 15.3**	**+0.6**
	baz=32,SNR=75						
RIV	**Riverview**	**31.43**	**234**	P	**P**	**00 57 15.6**	**+0.9**
	baz=32,SNR=5.0						
CTAO	**Charters Tower**	**33.33**	**260**	*e*P	**P**	**00 57 30.7**	**-0.3**
	comp=Z,103nm,0.8s						
CTAO	**Charters Tower**	**33.33**	**260**	*e*P	**P**	**00 57 30.7**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,103nm,0.8s						
CNB	**Canberra Magne**	**33.38**	**232**	P	**P**	**00 57 32.3**	**+1.1**
	baz=34,SNR=92						
CAN	**Canberra**	**33.65**	**232**	*e*P	**P**	**00 57 34.2**	**+0.7**
	comp=Z,125nm,0.8s						
CAN	**Canberra**	**33.65**	**232**	*e*P	**P**	**00 57 34.2**	**+0.7**
CAN				pmax	pmax		
	comp=Z,125nm,0.8s						
YNG	**Young**	**33.74**	**234**	P	**P**	**00 57 35.2**	**+1.0**
	baz=34,SNR=12						
PMG	**Port Moresby**	**34.31**	**280**	P	**P**	**00 57 39.9**	**+0.6**
	comp=Z,264nm,0.8s,baz=78,slow=6.4,SNR=86						
PMG	**Port Moresby**	**34.31**	**280**	*e*P	**P**	**00 57 40.0**	**+0.8**
	comp=Z,276nm,0.8s						
PMG	**Port Moresby**	**34.31**	**280**	*d i*P	**P**	**00 57 39.8**	**+0.6**
PMG				pmax	pmax		
	comp=Z,1μm,0.9s						
CMSA	**Cobar Meteorol**	**35.08**	**240**	P	**P**	**00 57 45.8**	**+0.4**
	baz=35,SNR=307						
MTSU	**Mount Surprise**	**35.28**	**264**	P	**P**	**00 57 47.0**	**-0.3**
	baz=35,SNR=55						
QLP	**Quilpie**	**35.44**	**249**	P	**P**	**00 57 48.3**	**-0.2**
	baz=36,SNR=227						
MANU	**Manus Island**	**36.93**	**291**	*e*P	**P**	**00 58 01.4**	**+0.4**
	comp=Z,164nm,0.8s						
COEN	**Coen**	**36.97**	**270**	P	**P**	**00 58 01.3**	**+0.1**
	baz=37,SNR=107						
COEN	**Coen**	**36.97**	**270**	*e*P	**P**	**00 58 01.6**	**+0.4**
	comp=Z,148nm,0.8s						
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**00 58 03.1**	**+0.9**
	baz=37,SNR=143						
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**00 58 03.0**	**+0.7**
TOO				pmax	pmax		
	comp=Z,407nm,0.9s						
MOO	**Moorlands**	**38.07**	**223**	P	**P**	**00 58 10.9**	**+1.1**
	baz=38,SNR=10						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**00 58 14.8**	**+0.9**
	comp=Z,148nm,0.6s,baz=92,slow=10,SNR=361						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**00 58 14.8**	**+0.9**
	baz=39,SNR=260						
STKA	**Stephens Creek**	**38.55**	**241**	*e*P	**P**	**00 58 14.8**	**+0.9**
	comp=Z,66nm,1.1s						
QIS	**Mount Isa**	**39.54**	**259**	P	**P**	**00 58 21.1**	**-0.9**
	baz=40,SNR=11						
ARPS	**Mount Arapiles**	**39.60**	**233**	P	**P**	**00 58 22.7**	**+0.4**
	baz=40,SNR=40						
MMPI	**Merauke**	**40.97**	**278**	P	**P**	**00 58 33.3**	**-0.2**
HTT	**Hallett**	**41.08**	**239**	P	**P**	**00 58 34.8**	**+0.6**
	baz=41,SNR=132						
JAY	**Jayapura**	**42.75**	**286**	P	**P**	**00 58 47.8**	**+0.3**
	comp=Z,1μm,1.1s,comp=Z,13μm						
GENI	**Genyem**	**43.21**	**286**	P	**P**	**00 58 52.3**	**+1.2**
	comp=Z,458nm,0.8s,comp=Z,5μm						
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**00 58 52.1**	**+0.3**
	baz=43,SNR=343						
BBOO	**Buckleboo**	**43.33**	**241**	*e*P	**P**	**00 58 52.2**	**+0.3**
	comp=Z,357nm,0.8s						
WC3	**Warramunga Arr**	**44.48**	**259**	*e*P	**P**	**00 59 00.2**	**-0.7**
	comp=Z,112nm,0.6s						
WRAB	**Tennant Creek**	**44.50**	**259**	*e*P	**P**	**00 59 00.1**	**-1.0**
	comp=Z,99nm,0.7s						
WRAB	**Tennant Creek**	**44.50**	**259**	*e*P	**P**	**00 59 00.1**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,99nm,0.7s						
WR1	**Warramunga Arr**	**44.51**	**259**	*e*P	**P**	**00 59 00.3**	**-0.8**
	comp=Z,138nm,0.7s						
WR1				*e*PcP	**PcP**	**01 00 32.4**	**+0.1**
WR1				*e*ScP	**ScP**	**01 03 33.4**	**+2.2**
WRA	**Warramunga Arr**	**44.51**	**259**	P	**P**	**00 59 00.3**	**-0.8**
	comp=Z,84nm,0.7s,baz=92,slow=7.0,SNR=364						
WRA				PcP	**PcP**	**01 00 32.4**	**+0.1**
	comp=Z,15nm,0.7s,baz=92,slow=3.7,SNR=5.8						
WRA				ScP	**ScP**	**01 03 33.4**	**+2.2**
	comp=Z,6.2nm,1.1s,baz=89,slow=4.4,SNR=6.8						
AS01	**Alice Springs**	**44.64**	**254**	*e*P	**P**	**00 59 01.7**	**-0.4**
AS31	**Alice Springs**	**44.68**	**254**	*e*P	**P**	**00 59 02.3**	**-0.1**
	comp=Z,203nm,0.6s						
AS31				*e*PcP	**PcP**	**01 00 32.8**	**0.0**
AS31				*e*ScP	**ScP**	**01 03 34.5**	**+2.6**
AS31				*e*S	**S**	**01 04 56.4**	**-2.3**
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**00 59 02.3**	**-0.1**
	comp=Z,748nm,0.6s,baz=90,slow=8.0,SNR=7942						
ASAR				PcP	**PcP**	**01 00 32.8**	**0.0**
	comp=Z,24nm,0.7s,baz=113,slow=3.6,SNR=6.0						
ASAR				ScP	**ScP**	**01 03 34.5**	**+2.6**
	comp=Z,5.5nm,0.8s,baz=100,slow=3.6,SNR=6.3						
ASAR				S	**S**	**01 04 56.4**	**-2.3**
	comp=Z,2.6nm,0.8s,baz=94,slow=16,SNR=4.8						
GUMO	**Guam**	**47.71**	**308**	P	**P**	**00 59 25.5**	**+0.3**
	comp=Z,125nm,0.8s,baz=197,slow=12,SNR=3.6						
MTN	**Manton Dam**	**48.66**	**268**	*e*P	**P**	**00 59 31.6**	**-0.9**
	comp=Z,104nm,0.8s						
MTN				*e*S	**S**	**01 05 51.7**	**-2.3**
KMPI	**Kaimana, Papua**	**48.80**	**281**	P	**P**	**00 59 34.1**	**+0.6**
	comp=Z,219nm,1.0s,comp=Z,3μm						
SAUI	**Saumlaki**	**49.71**	**275**	P	**P**	**00 59 40.8**	**+0.5**
	comp=Z,268nm,1.0s,comp=Z,3μm						
SAUI	**Saumlaki**	**49.71**	**275**	*e*P	**P**	**00 59 40.2**	**0.0**
	comp=Z,298nm,1.1s						
WRKA	**Warakurna**	**49.74**	**252**	P	**P**	**00 59 40.3**	**-0.1**
	baz=50,SNR=600						
KNRA	**Kununurra**	**50.36**	**264**	P	**P**	**00 59 44.4**	**-0.5**
	baz=50,SNR=57						
FAKI	**Fak Fak**	**50.42**	**281**	P	**P**	**00 59 45.0**	**-0.4**
FAKI	**Fak Fak**	**50.42**	**281**	*e*P	**P**	**00 59 45.0**	**-0.4**
	comp=Z,239nm,1.9s						
BNDI	**Bandanaira**	**52.08**	**278**	P	**P**	**00 59 53.9**	**-3.5**
SWI	**Sorong**	**52.09**	**283**	P	**P**	**00 59 57.3**	**-0.2**
	comp=Z,521nm,0.8s,comp=Z,4μm						
MSAI	**Masohi**	**53.39**	**279**	P	**P**	**01 00 06.5**	**-0.3**
	comp=Z,30nm,0.7s,comp=Z,2μm						
AAI	**Ambon**	**53.97**	**279**	P	**P**	**01 00 10.2**	**-0.6**
	comp=Z,166nm,0.5s,comp=Z,2μm						
NLAI	**Namlea**	**55.15**	**279**	P	**P**	**01 00 18.9**	**-0.2**
	comp=Z,193nm,0.7s,comp=Z,2μm						
KMBL	**Kambalda**	**55.23**	**244**	P	**P**	**01 00 18.5**	**-0.9**
	baz=55,SNR=19						
LBMI	**Labuha**	**55.66**	**282**	P	**P**	**01 00 23.1**	**+0.4**
	comp=Z,182nm,0.9s						
SOEI	**Soe**	**55.93**	**270**	P	**P**	**01 00 25.7**	**+1.0**
	comp=Z,469nm,0.8s,comp=Z,3μm						
SOEI	**Soe**	**55.93**	**270**	*e*P	**P**	**01 00 25.3**	**+0.6**
	comp=Z,305nm,0.7s						
BATI	**Baumata**	**56.39**	**269**	P	**P**	**01 00 29.1**	**+1.4**
	comp=Z,91nm,0.6s,baz=76,slow=6.2,SNR=37						
BATI	**Baumata**	**56.39**	**269**	P	**P**	**01 00 28.8**	**+1.1**
	comp=Z,76nm,0.8s						
SANI	**Sanana**	**56.59**	**280**	P	**P**	**01 00 28.4**	**-0.7**
MBWA	**Marble Bar**	**57.96**	**256**	*e*P	**P**	**01 00 37.9**	**-0.4**
	comp=Z,337nm,1.6s						
MMRI	**Maumere**	**58.16**	**271**	P	**P**	**01 00 38.5**	**-1.2**
MMRI	**Maumere**	**58.16**	**271**	*e*P	**P**	**01 00 39.1**	**-0.6**
	comp=Z,110nm,0.7s						
MEEK	**Meekatharra**	**58.34**	**249**	P	**P**	**01 00 40.1**	**-0.7**
	baz=58,SNR=29						
EDFI	**Ende, Flores**	**58.65**	**270**	P	**P**	**01 00 42.7**	**-0.5**
KLBR	**Kellerberrin**	**58.75**	**243**	P	**P**	**01 00 42.9**	**-0.6**
	baz=59,SNR=9.4						
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P	**P**	**01 00 45.7**	**-0.3**
	baz=59,SNR=9.7						
NWAO				P	**P**	**01 00 45.7**	**-0.3**
	baz=59,SNR=9.7						
NWAO	**Narrogin (SRO)**	**59.13**	**242**	*e*P	**P**	**01 00 45.7**	**-0.3**
	comp=Z,143nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.13**	**242**	*e*P	**P**	**01 00 45.7**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,143nm,1.4s						
RKGY	**Rocky Gully**	**59.30**	**240**	P	**P**	**01 00 47.4**	**+0.3**
	baz=59,SNR=5.4						
BASI	**Baing, Sumba**	**59.33**	**269**	P	**P**	**01 00 48.3**	**+0.7**
	comp=Z,227nm,0.9s,comp=Z,2μm						
KMSI	**Cibinong**	**59.38**	**282**	P	**P**	**01 00 48.3**	**+0.4**
	comp=Z,218nm,0.8s						
BLDU	**Ballidu**	**59.70**	**245**	P	**P**	**01 00 49.2**	**-0.7**
	baz=60,SNR=61						
LUWI	**Luwuk**	**59.95**	**279**	P	**P**	**01 00 52.5**	**+0.8**
	comp=Z,188nm,1.1s,comp=Z,2μm						
LUWI	**Luwuk**	**59.95**	**279**	*e*P	**P**	**01 00 51.7**	**0.0**
	comp=Z,269nm,1.2s						
MUN	**Mundaring**	**60.04**	**243**	P	**P**	**01 00 51.7**	**-0.4**
	baz=60,SNR=15						
MORW	**Morawa**	**60.39**	**246**	P	**P**	**01 00 53.9**	**-0.6**
	baz=60,SNR=16						
VNDA	**Vanda**	**60.53**	**185**	P	**P**	**01 00 56.5**	**+2.1**
	comp=Z,3.1nm,0.9s,baz=50,slow=8.2,SNR=6.2						
VNDA	**Vanda**	**60.53**	**185**	*e*P	**P**	**01 00 54.7**	**+0.2**
VNDA	**Vanda**	**60.53**	**185**	*e*P	**P**	**01 00 54.7**	**+0.2**
WBSI	**Waikabubak, Su**	**60.61**	**269**	P	**P**	**01 00 56.3**	**+0.2**
	comp=Z,122nm,1.1s,comp=Z,3μm						
APSI	**Ampana**	**61.05**	**279**	P	**P**	**01 00 59.8**	**+0.8**
	comp=Z,311nm,1.1s,comp=Z,3μm						
MRSI	**Marisa**	**61.26**	**281**	P	**P**	**01 01 00.2**	**-0.1**
	comp=Z,66nm,0.8s						
BNSI	**Bone**	**61.40**	**275**	P	**P**	**01 01 01.5**	**+0.3**
	comp=Z,135nm,1.1s,comp=Z,1μm						
TTSI	**Tana Toraja**	**62.09**	**276**	P	**P**	**01 01 05.8**	**+0.1**
	comp=Z,49nm,0.9s,comp=Z,683nm						
PLAI	**Plampang**	**62.36**	**269**	P	**P**	**01 01 06.9**	**-0.6**
	comp=Z,287nm,0.9s,comp=Z,2μm						
GIRL	**Giralia**	**62.79**	**253**	P	**P**	**01 01 11.0**	**+0.8**
	baz=63,SNR=57						
MPSI	**Mapaga**	**63.12**	**280**	P	**P**	**01 01 12.0**	**-0.4**
	comp=Z,110nm,1.0s,comp=Z,845nm						
IGBI	**Denpasar**	**64.86**	**268**	P	**P**	**01 01 23.7**	**+0.2**
	comp=Z,682nm,0.8s,comp=Z,7μm						
SRBI	**Singaraja**	**65.00**	**269**	P	**P**	**01 01 24.0**	**-0.3**
	comp=Z,87nm,0.9s						
KBKI	**Kotabaru**	**65.47**	**275**	P	**P**	**01 01 28.5**	**+1.2**
	comp=Z,70nm,1.1s						
JAGI	**Jajag, Banyuwa**	**65.90**	**269**	P	**P**	**01 01 28.6**	**-1.4**
JAGI	**Jajag, Banyuwa**	**65.90**	**269**	*e*P	**P**	**01 01 28.6**	**-1.4**
	comp=Z,178nm,0.7s						
MYLDM	**Lahad Datu**	**66.15**	**284**	*e*P	**P**	**01 01 31.4**	**-0.1**
	comp=Z,112nm,1.3s						
MJAR	**Matsushiro Arr**	**67.75**	**323**	P	**P**	**01 01 40.4**	**-0.5**
	comp=Z,9.0nm,0.8s,baz=164,slow=6.1,SNR=26						
MAJO	**Matsushiro**	**67.75**	**323**	*e*P	**P**	**01 01 40.7**	**-0.2**
	comp=Z,12nm,0.8s						
MAJO	**Matsushiro**	**67.75**	**323**	*e*P	**P**	**01 01 40.7**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MAT	**Matsushiro**	**67.75**	**323**	P	**P**	**01 01 40.2**	**-0.7**
MAT				*e*S	**S**	**01 09 57.8**	**+3.0**
MJB9	**Matsu-Tunnel**	**67.75**	**323**	*e*P	**P**	**01 01 40.9**	**0.0**
	comp=Z,12nm,0.8s						
KKM	**Kota Kinabalu**	**68.58**	**284**	*e*P	**P**	**01 01 46.5**	**0.0**
	comp=Z,52nm,0.8s						
UGM	**Wanagama**	**69.51**	**268**	*e*P	**P**	**01 01 51.4**	**-0.6**
	comp=Z,250nm,0.5s						
SMRI	**Semarang**	**69.83**	**269**	*e*P	**P**	**01 01 53.6**	**-0.2**
	comp=Z,137nm,0.8s						
SBUM	**Sibu**	**71.05**	**279**	*e*P	**P**	**01 02 01.7**	**+0.6**
	comp=Z,24nm,0.8s						
ASAJ	**Asahikawa**	**71.12**	**331**	P	**P**	**01 02 01.6**	**+0.7**
	comp=Z,4.3nm,0.5s,baz=291,slow=16,SNR=5.4						
ASAJ	**Asahikawa**	**71.12**	**331**	*e*P	**P**	**01 02 01.6**	**+0.7**
	comp=Z,5.8nm,0.7s						
YULB	**Yu-li**	**71.60**	**303**	*e*P	**P**	**01 02 02.7**	**-1.4**
	comp=Z,82nm,1.8s						
NACB	**Ninganchiao**	**71.75**	**304**	*e*P	**P**	**01 02 04.6**	**-0.3**
	comp=Z,75nm,1.1s						
SSLB	**Suanglung**	**72.07**	**303**	*e*P	**P**	**01 02 05.6**	**-1.3**
	comp=Z,20nm,0.6s						
TPUB	**Ta-pu**	**72.09**	**302**	*e*P	**P**	**01 02 05.8**	**-1.1**
	comp=Z,65nm,0.7s						
CISI	**Cisompet, Garu**	**72.19**	**268**	*e*P	**P**	**01 02 06.8**	**-1.0**
	comp=Z,146nm,0.7s						
QSPA	**South Pole Qui**	**72.24**	**180**	*e*P	**P**	**01 02 08.6**	**+1.4**
	comp=Z,20nm,1.0s						
KSM	**Kuching**	**72.53**	**277**	*e*P	**P**	**01 02 10.1**	**+0.3**
	comp=Z,153nm,0.8s						
LEM	**Lembang**	**72.58**	**268**	P	**P**	**01 02 10.6**	**+0.4**
	comp=Z,260nm,0.7s,baz=78,slow=8.9,SNR=50						
YSS	**Yuzh-Sakhalins**	**73.27**	**333**	⇑*e*P	**P**	**01 02 12.0**	**-1.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PETK	**Petropavlovsk-**	**73.55**	**345**	P	**P**	**01 02 15.1**	**+0.4**
	comp=Z,6.9nm,0.7s,baz=125,slow=8.0,SNR=6.2						
PEA1	**Petropavlovsk-**	**73.56**	**345**	*e*P	**P**	**01 02 15.1**	**+0.4**
QZH	**Quanzhou**	**74.51**	**303**	⇑*i*P	**P**	**01 02 21.5**	**+0.9**
KSRS	**Korea Array**	**74.54**	**318**	P	**P**	**01 02 21.4**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=132,slow=6.4,SNR=10						
KS01	**Wonju Array Si**	**74.57**	**318**	*e*P	**P**	**01 02 21.3**	**+0.6**
TYV	**Tymovskoe**	**76.38**	**336**	*e*P	**P**	**01 02 30.9**	**+0.4**
TYV				pmax	pmax		
	comp=Z,13nm,1.0s						
USRK	**Ussuriysk Ar.**	**76.46**	**326**	P	**P**	**01 02 32.4**	**+1.4**
	comp=Z,3.5nm,0.6s,baz=101,slow=3.5,SNR=7.4						
MHDM	**Hidden Dam**	**77.68**	**44**	*e*P	**P**	**01 02 38.7**	**+0.8**
NJ2	**Nanjing**	**77.77**	**310**	*e*P	**P**	**01 02 39.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,35nm,0.8s						
ISA	**Isabella, Lake**	**77.85**	**46**	*e*pP	pP	01 04 39.7	+2.4
CMB	**Columbia Colle**	**77.86**	**43**	*e*pP	pP	01 04 40.2	+2.8
AFDM	**Forest Hills D**	**78.00**	**42**	*e*pP	pP	01 04 40.5	+2.4
MDJ	**Mudanjiang**	**78.03**	**325**	P	**P**	**01 02 39.4**	**-0.2**
MDJ				pP	pP	01 04 34.6	-3.4
MDJ				sP	sP	01 05 31.8	-3.7
MDJ				S	**S**	**01 11 51.7**	**+3.8**
MDJ				SS	**SS**	**01 17 09.1**	**+3.1**
MDJ				pmax	pmax		
	comp=Z,39nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.9s						
MDJ	**Mudanjiang**	**78.03**	**325**	*e*P	**P**	**01 02 40.7**	**+1.2**
	comp=Z,27nm,0.8s						
YBH	**Yreka Blue Hor**	**78.54**	**39**	P	**P**	**01 02 44.2**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=146,slow=3.6,SNR=3.9						
YBH				pP	**pP**	**01 04 40.8**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=296,slow=4.9,SNR=4.3						
WAKR	**Walker**	**78.75**	**43**	*e*pP	pP	01 04 45.0	+2.4
MYKOM	**Kota Tinggi**	**78.75**	**276**	*e*P	**P**	**01 02 44.6**	**+0.5**
	comp=Z,29nm,0.7s						
GSC	**Goldstone, Bar**	**78.82**	**47**	*e*pP	pP	01 04 45.7	+2.8
BEKR	**Beckworth**	**78.91**	**42**	*e*pP	pP	01 04 45.4	+2.0

NKL	Nikolayevsk	78.94	336	eP	P	01 02 43.0	-1.1
NKL				pmax	pmax		
	comp=Z,20nm,1.0s						
PNTR	Pine Nut	78.96	43	eP	P	01 02 45.2	+0.2
PNTR				epP	pP	01 04 46.0	+2.2
YERR	Yerington	79.14	43	eP	P	01 02 46.0	+0.1
YERR				epP	pP	01 04 46.8	+2.0
RYN	Ryan	79.41	44	epP	pP	01 04 48.2	+1.9
PAHR	Pah Rah Range	79.44	42	epP	pP	01 04 48.6	+2.2
NV01	Mina Array Sit	79.45	44	epP	pP	01 04 47.6	+1.0
NVAR	Mina Array Bea	79.45	44	P	P	01 02 48.9	+1.3
	comp=Z,1.5nm,0.3s,baz=223,slow=19,SNR=18						
NVAR				pP	pP	01 04 46.2	-0.4
	comp=Z,4.8nm,0.9s,baz=230,slow=9.1,SNR=12						
NV11	Mina Array Sit	79.55	44	epP	pP	01 04 48.6	+1.5
CN2	Changchun	79.86	322	eP	P	01 02 49.5	+0.2
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
KLR	Kul'dur	79.96	329	P	P	01 02 50.1	+0.4
	comp=Z,0.2nm,0.6s,baz=103,slow=5.3,SNR=10						
KLR	Kul'dur	79.96	329⇓	eP	P	01 02 50.3	+0.6
IRO	Indian Ridge	80.16	38	eP	P	01 02 50.6	-0.5
WHN	Wuhan	80.44	306⇑	iP	P	01 02 53.6	+1.0
PINE	Pine Mountain	80.80	38	epP	pP	01 04 56.3	+2.2
BKNI	Bangkinang	80.96	273	eP	P	01 02 55.7	-0.1
	comp=Z,90nm,0.8s						
MA2	Magadan	81.06	345	P	P	01 02 54.1	-1.1
	comp=Z,4.6nm,0.6s,baz=144,slow=3.9,SNR=5.7						
MA2	Magadan	81.06	345⇓	eP	P	01 02 54.3	-0.9
TIA	Tai'an	81.08	312	P	P	01 02 56.4	+0.6
R11A	Troy Canyon, C	81.22	45	epP	pP	01 04 59.0	+2.5
BMN	Battle Mountai	81.23	43	eP	P	01 02 56.6	-0.1
BMN				epP	pP	01 04 58.5	+2.1
BMN	Battle Mountai	81.23	43	eP	P	01 02 56.6	-0.1
BMN				e*PP	pP	01 04 58.5	+2.1
X16A	Lo Mia Camp, P	82.23	50	eP	P	01 03 01.7	-0.3
	comp=Z,16nm,1.3s						
IPM	Ipoh	82.27	277	eP	P	01 03 03.0	+0.6
	comp=Z,73nm,0.8s						
U15A	North Rim	82.56	48	eP	P	01 03 05.0	+1.3
	comp=Z,24nm,1.5s						
G08A	Pilot Rock	82.82	38	epP	pP	01 05 06.9	+1.9
KULM	Kulim	82.88	278	eP	P	01 03 06.1	+0.6
	comp=Z,32nm,1.0s						
SKLT	Songkhla	83.51	280	P	P	01 03 08.9	+0.3
	comp=Z,93nm,0.9s,comp=Z,1µm						
CAST	Castle Rocks	83.56	12	eP	P	01 03 06.6	-1.2
	comp=Z,7.9nm,0.8s						
BJT	Baijiatuau	83.61	315	eP	P	01 03 08.7	+0.2
	comp=Z,28nm,1.0s						
BJT	Baijiatuau	83.61	315	eP	P	01 03 08.7	+0.2
BJT				pmax	pmax		
	comp=Z,28nm,1.0s						
BJI	Beijing	83.62	315⇓	iP	P	01 03 09.2	+0.7
BJI				pmax	pmax		
	comp=Z,35nm,0.8s						
SEY	Seymchan	83.65	347	P	P	01 03 08.0	-0.1
	comp=Z,11nm,0.6s,baz=152,slow=5.8,SNR=43						
SEY	Seymchan	83.65	347⇓	eP	P	01 03 07.8	-0.3
PSI	Prapat	83.74	275	eP	P	01 03 09.3	-0.6
	comp=Z,61nm,0.8s						
PSI	Prapat	83.74	275	eP	P	01 03 09.3	-0.6
PSI				pmax	pmax		
	comp=Z,61nm,0.8s						
TRF	Thorofare Moun	83.95	12	eP	P	01 03 09.3	-0.6
	comp=Z,72nm,1.8s						
ENH	Enshi	84.10	304	eP	P	01 03 12.2	+1.0
	comp=Z,61nm,0.8s						
SRAK	Srakaew	84.44	287	P	P	01 03 11.7	-1.4
	comp=Z,83nm,1.2s,comp=Z,795nm						
KHON	Khomkaen	84.52	289	P	P	01 03 15.1	+1.6
	comp=Z,15nm,0.9s,comp=Z,1µm						
GSI	Gunungsitoli	84.56	273	eP	P	01 03 14.2	+0.5
	comp=Z,95nm,0.8s						
GYA	Guiyang	84.87	300	P	P	01 03 16.0	+0.9
GYA				pP	pP	01 05 17.4	+1.2
GYA				PP	PP	01 06 45.0	+2.6
GYA				SKS	SKSac	01 12 46.2	-0.4
GYA				S	S	01 12 58.5	+0.9
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.4s						
ZEA	Zeya	85.03	331	eP	P	01 03 16.0	+0.9
ZEA				pmax	pmax		
	comp=Z,26nm,0.8s						
CHAI	Chaiyaphum	85.13	288	P	P	01 03 16.8	+0.4
	comp=Z,7.4nm,0.7s,comp=Z,101nm						
NAYO	Nakonayok	85.20	287	P	P	01 03 18.0	+1.2
	comp=Z,21nm,1.2s						
IL1	Eielson Array	85.82	13	eP	P	01 03 17.2	-1.5
ILAR	Eielson Array	85.82	13	P	P	01 03 17.6	-1.0
	comp=Z,1.9nm,0.8s,baz=228,slow=6.1,SNR=11						
ILAR				pP	pP	01 05 18.9	-1.4
	comp=Z,3.2nm,1.1s,baz=236,slow=6.8,SNR=3.4						
TX31	Lajitas Ar. Si	86.06	58	eP	P	01 03 18.0	-2.8
TX31				epP	pP	01 05 23.9	+1.5
LTX	Lajitas	86.06	58	eP	P	01 03 23.2	+2.4
LTX	Lajitas	86.06	58	eP	P	01 03 23.2	+2.4
TXAR	Lajitas Array	86.06	58	P	P	01 03 23.2	+2.4
	comp=Z,1.4nm,0.8s,baz=222,slow=6.2,SNR=15						
TXAR				pP	pP	01 05 21.9	-0.4
	comp=Z,1.6nm,1.1s,baz=235,slow=4.4,SNR=5.5						
XAN	Xi'an	86.09	307	P	P	01 03 21.8	+1.1
XAN				pmax	pmax		
	comp=Z,54nm,1.1s						
ANMO	Albuquerque	86.14	52	epP	pP	01 05 25.3	+2.5
HIA	Hailar	86.21	325⇑	eP	P	01 03 21.8	+0.9
HIA				pmax	pmax		
	comp=Z,20nm,1.5s						
PHET	Kaeng Krachan	86.29	285	P	P	01 03 23.7	+1.7
	comp=Z,34nm,0.8s,comp=Z,278nm						
BILL	Bilibino	86.32	354	i P	P	01 03 20.0	-1.0
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LHMI	Lhok Sumawe	86.36	277	eP	P	01 03 22.5	+0.1
	comp=Z,74nm,0.8s						
PHIT	Phitsanulok	86.98	289	P	P	01 03 26.3	+1.1
	comp=Z,19nm,0.9s,comp=Z,283nm						
S22A	4UR Ranch, Cre	87.05	49	epP	pP	01 05 29.1	+1.7
HHC	Hu-ho-hao-te	87.11	315	eP	P	01 03 27.0	+1.6
HHC				S	S	01 13 15.2	-3.0
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,6.1s						
NANT	Nan	87.26	291	P	P	01 03 27.2	+0.7
	comp=Z,4.4nm,0.9s						
UTHA	Uthaitani	87.32	287	P	P	01 03 28.1	+1.3
	comp=Z,8.7nm,0.9s,comp=Z,91nm						
PD31	Pinedale Array	87.38	43	eP	P	01 03 27.1	+0.2
PD31				epP	pP	01 05 31.5	+2.5
PDAR	Pinedale Array	87.38	43	P	P	01 03 27.6	+0.8
	comp=Z,0.9nm,0.5s,baz=209,slow=3.1,SNR=10.0						
PDAR				pP	pP	01 05 29.1	+0.1
	comp=Z,1.3nm,0.8s,baz=197,slow=3.1,SNR=6.5						
PDAR	Pinedale Array	87.38	43	eP	P	01 03 27.2	+0.4
PDAR				epP	pP	01 05 30.7	+1.8
PHRA	Phrae	87.58	290	P	P	01 03 29.1	+1.1
	comp=Z,72nm,1.3s,comp=Z,3µm						
KMI	Kunming	87.66	297	P	P	01 03 29.7	+1.1
KMI				pmax	pmax		
	comp=Z,26nm,0.9s						
LAMP	Lampang	88.12	290	P	P	01 03 31.9	+1.3
	comp=Z,12nm,0.9s,comp=Z,132nm						
CM01	Chiang Mai Arr	88.69	290	eP	P	01 03 34.3	+1.1
CM31	Chiang Mai Arr	88.72	290	ePP	PP	01 07 13.6	+0.7
CMAR	Chiang Mai Arr	88.72	290	P	P	01 03 34.6	+1.2
	comp=Z,14nm,0.9s,baz=109,slow=2.9,SNR=74						
CMAR				PP	PP	01 07 13.6	+0.7
	comp=Z,0.8nm,0.3s,baz=124,slow=6.9,SNR=4.2						
CMAR	Chiang Mai Arr	88.72	290	i P	P	01 03 34.5	+1.2
CMAR				pmax	pmax		
	comp=Z,16nm,0.9s						
CMMT	Chiang Mai	88.83	290	P	P	01 03 33.6	-0.3
	comp=Z,28nm,1.0s						
CHTO	Chiang Mai	88.84	290	P	P	01 03 34.7	+0.8
	comp=Z,124nm,1.0s						
CHTO	Chiang Mai	88.84	290	eP	P	01 03 34.3	+0.4
	comp=Z,21nm,0.9s						
CHTO	Chiang Mai	88.84	290	eP	P	01 03 34.3	+0.4
CHTO				pmax	pmax		
	comp=Z,21nm,0.9s						
CD2	Chengdu	88.90	303	eP	P	01 03 34.0	0.0
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.0s						
CMAI	Chiengmai2	89.11	291	P	P	01 03 36.2	+0.9
	comp=Z,378nm,1.1s						
SYO	Syowa Base	89.22	193⇑	eP	P	01 03 33.0	-1.6
SYO	Syowa Base	89.22	193⇓	epP	pP	01 05 36.1	-1.1
YAK	Yakutsk	89.43	338⇓	eP	P	01 03 34.9	-0.7
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SNAA	Sanae	90.70	179	P	P	01 03 41.7	+0.1
SNAA	Sanae	90.70	179	P	P	01 03 41.5	-0.1
	comp=Z,4.7nm,0.6s,baz=201,slow=11,SNR=67						
SNAA	Sanae	90.70	179	eP	P	01 03 41.4	-0.2
	comp=Z,20nm,1.3s						
SNAA	Sanae	90.70	179⇑	iP	P	01 03 42.0	+0.4
LZH	Lanzhou	90.72	308	eP	P	01 03 43.2	+0.8
LZH				pP	pP	01 05 47.2	+1.9
LZH				PP	PP	01 07 27.6	-0.8
LZH				SKS	SKSac	01 13 24.8	+3.9
LZH				eS	S	01 13 52.0	+0.6
LZH				pmax	pmax		
	comp=Z,37nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.8s						
VNA3	Neumayer Olymp	90.84	176	P	P	01 03 42.5	+0.3
VNA2	Neumayer--Watz	91.28	177	P	P	01 03 44.6	+0.4
	baz=169,slow=3.9						
VNA1	Neumayer--Stat	91.51	177	P	P	01 03 44.6	-0.6
INK	Inuvik	91.83	15	P	P	01 03 46.2	-0.3
	comp=Z,3.1nm,1.0s,baz=267,slow=3.0,SNR=6.8						
INK	Inuvik	91.83	15	eP	P	01 03 46.2	-0.3
	comp=Z,18nm,2.0s						
INK	Inuvik	91.83	15	eP	P	01 03 46.2	-0.3
INK				pmax	pmax		
	comp=Z,18nm,2.0s						
ULN	Ulaanbaatar	92.99	320	eP	P	01 03 52.1	-0.5
	comp=Z,6.8nm,0.9s						
ULN	Ulaanbaatar	92.99	320d	iP	P	01 03 52.4	-0.2
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SONA0	Songino Array	93.39	319	eP	P	01 03 50.4	-3.9
SONA1	Songino Array	93.39	319	eP	P	01 03 54.3	-0.1
SONM	Songino Array	93.39	319	P	P	01 03 50.4	-3.9
	comp=Z,1.4nm,0.7s,baz=132,slow=4.3,SNR=12						
YKA	Yellowknife Ar	94.30	25	P	P	01 03 57.9	-0.1
	comp=Z,1.0nm,0.8s,baz=246,slow=4.4,SNR=14						
YKA				pP	pP	01 06 01.9	+0.7
	comp=Z,0.5nm,0.9s,baz=241,slow=5.2,SNR=2.6						
YKA				PKKPbc	PKKPdf	01 20 55.1	-1.6
	comp=Z,0.2nm,0.5s,baz=39,slow=2.3,SNR=8.3						
YKB5	Yellowknife Ar	94.30	25	epP	pP	01 06 01.9	+0.8
YKB5				ePKKPdf	PKKPdf	01 20 55.1	-1.5
GTA	Gaotai	94.86	310	eP	P	01 04 01.8	+0.5
GTA				pP	pP	01 06 03.4	-1.1
GTA				sP	sP	01 06 57.1	-3.5
TIXI	Tiksi	96.03	345	P	P	01 04 04.1	-1.5
	comp=Z,1.5nm,0.7s,baz=115,slow=2.3,SNR=3.0						
TIXI	Tiksi	96.03	345⇓	eP	P	01 04 04.3	-1.3
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAK	Zakamensk	96.23	321	eP	P	01 04 05.3	-1.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TLY	Talaya	96.46	322⇑	eP	P	01 04 09.3	+1.3
TLY				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ZAA1	Zalesovo Array	108.07	322	ePKiKP	PKiKP	01 09 01.8	-0.9
ZALV	Zalesovo Beam	108.07	322	PKiKP	PKiKP	01 09 01.8	-0.9
	comp=Z,2.5nm,0.6s,baz=151,slow=1.2,SNR=17						
MK32	Makanchi Array	108.97	314	ePKiKP	PKiKP	01 09 03.9	-0.8
MKAR	Makanchi Array	108.97	314	PKiKP	PKiKP	01 09 03.9	-0.8
	comp=Z,2.9nm,0.5s,baz=207,slow=0.7,SNR=35						
KURK	Kurchatov	111.66	318c	iPKIKP	PKiKP	01 09 08.7	-0.9
KSH	Kashi	112.91	306	ePKP	PKiKP	01 09 09.2	-3.4
KSH				PP	PP	01 10 16.1	+3.9
KSH				PKS	PKSdf	01 12 49.7	+0.3
KSH				AMB	AMB		
	comp=Z,110nm,9.5s						
BVAR	Borovoye Array	116.68	321	PKP	PKPdf	01 09 18.8	-0.5
	comp=Z,5.3nm,0.4s,baz=111,slow=1.2,SNR=35						
BRVK	Borovoye	116.74	321d	iPKIKP	PKPdf	01 09 18.5	-0.8
BRVK				pmax	pmax		
	comp=Z,29nm,1.7s						
KKAR	Karatay Array	117.15	310	ePKPdf	PKPdf	01 09 19.9	-0.6
KKAR	Karatay Array	117.15	310	ePKIKP	PKPdf	01 09 19.9	-0.6
KBL	Kabul	118.12	300	ePKPdf	PKPdf	01 09 22.8	-0.1
KBL	Kabul	118.12	300	ePKIKP	PKPdf	01 09 22.8	-0.1
SPA0	Spitsbergen Ar	119.16	357	ePKPdf	PKPdf	01 09 23.0	-0.4
SPITS	Spitsbergen Ar	119.16	357	PKP	PKPdf	01 09 23.2	-0.2
	comp=Z,20nm,0.9s,baz=285,slow=2.8,SNR=5.4						
SVE	Sverdlovsk	121.48	326	ePKIKP	PKPdf	01 09 28.2	-0.1
SVE				pmax	pmax		
	comp=Z,12nm,0.8s						
OPO	Ambohidratompo	122.31	233	PKP	PKPdf	01 09 32.1	+0.8
	comp=Z,6.5nm,1.1s,baz=90,slow=4.0,SNR=4.6						
SOKR	Solikamsk	122.50	330⇑	iPKIKP	PKPdf	01 09 28.4	-1.7
SOKR				pmax	pmax		
	comp=Z,24nm,1.0s						
ARU	Arti	122.69	326	ePKPdf	PKPdf	01 09 30.1	-0.5
ARU	Arti	122.69	326	i PKIKP	PKPdf	01 09 30.4	-0.3
ARU						01 11 17.4	
ARU						01 15 48.8	
ARU				SS	SS	01 27 12.2	-5.1
ABKAR	Akbulak array	123.77	318	ePKPdf	PKPdf	01 09 32.6	-0.4
AKTO	Aktyubinsk	124.70	320	PKP	PKPdf	01 09 34.2	-0.5
	comp=Z,6.2nm,0.7s,baz=66,slow=3.1,SNR=23						
ARA0	ARCESS Array S	126.19	350	ePKPdf	PKPdf	01 09 37.2	+0.1
ARCES	ARCESS Array B	126.19	350	PKP	PKPdf	01 09 37.2	+0.1
	comp=Z,8.4nm,0.9s,baz=35,slow=1.2,SNR=15						
GEYT	Alibeck	126.87	304	PKP	PKPdf	01 09 39.7	+0.3
	comp=Z,8.8nm,0.8s,baz=191,slow=0.8,SNR=23						
GEYT				PP	PP	01 11 44.7	-1.6
	comp=Z,0.5nm,0.3s,baz=46,slow=7.0,SNR=4.3						
BOSA	Boshof	128.42	207	PKP	PKPdf	01 09 43.1	+0.3
	comp=Z,4.8nm,0.8s,baz=154,slow=1.5,SNR=5.9						
BOSA				PP	PP	01 11 58.2	+3.1
	comp=Z,4.7nm,1.0s,baz=144,slow=13,SNR=3.0						
KLMR	Klimovskoe	129.21	337	ePKIKP	PKPdf	01 09 40.9	-2.1
KLMR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KLMR	Klimovskoe	129.21	337	ePKPdf	PKPdf	01 09 40.9	-2.1
KLMR				AMP		01 09 43.9	
	comp=Z,7.0nm,0.7s						
KLMR				ePP	pPKPdf	01 11 55.4	+1.4
FIA0	FINESS Array S	133.06	344	ePKPdf	PKPdf	01 09 49.5	-0.7
FIA0				ePP	SKPab	01 12 27.5	-1.0
FIA0	FINESS Array S	133.06	344	ePKIKP	PKPdf	01 09 49.5	-0.7
FIA0				e		01 12 27.5	
FINES	FINESS Array B	133.06	344	PKhKP	PKPpre	01 09 38.1	
	comp=Z,1.6nm,1.1s,baz=70,slow=6.3,SNR=4.5						
FINES				PKP	PKPdf	01 09 49.5	-0.7
	comp=Z,5.1nm,0.8s,baz=22,slow=2.1,SNR=6.4						
FINES				SKPbc	SKPab	01 12 27.5	-1.0
	comp=Z,2.6nm,0.7s,baz=57,slow=7.0,SNR=5.9						
OBN	Obninsk	134.15	333	i PKIKP	PKPdf	01 09 53.0	+0.6
OBN				i		01 12 31.5	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VSR	Storozhevoye	135.26	327⇓	ePKIKP	PKPdf	01 09 55.0	+0.3
NCK	Nalchik	136.26	315⇓	iPKIKP	PKPdf	01 09 58.8	+2.0
NB2	NORSAR Subarra	136.26	353	PKP	PKPpre	01 09 49.1	
	comp=Z,4.2nm,1.1s,baz=17,slow=2.6						
NB200	NORSAR Array S	136.26	353	ePKPdf	PKPdf	01 09 55.8	-0.5
NOA	NORSAR Array B	136.26	353	PKP	PKPdf	01 09 55.8	-0.5
	comp=Z,2.2nm,0.8s,baz=13,slow=4.1,SNR=5.0						
GNI	Garni	136.61	310⇑	iPKIKP	PKPdf	01 09 59.0	+1.2
KBZ	Khabaz	136.64	316	PKP	PKPdf	01 09 59.0	+1.6
	comp=Z,4.0nm,0.9s,baz=90,slow=1.2,SNR=6.1						
KIV	Kislovodsk	136.69	316	ePKIKP	PKPdf	01 09 57.7	0.0
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
HFS	Hagfors	136.81	351	PKhKP	PKPpre	01 09 50.9	
	comp=Z,2.2nm,0.6s,baz=346,slow=3.0,SNR=14						
NEY	Neytrino	136.94	315⇓	iPKIKP	PKPdf	01 09 58.5	+0.2
RAYN	Ar Rayn	138.51	286	ePKPdf	PKPdf	01 10 00.2	-1.4
KMBO	Kilima Mbogo	140.04	246	PKhKP	PKPpre	01 09 59.3	
	comp=Z,2.6nm,0.9s,baz=44,slow=4.6,SNR=5.8						
KMBO				PKP	PKPdf	01 10 04.9	0.0
	comp=Z,4.3nm,0.8s,baz=278,slow=4.4,SNR=10						
KMBO				SKPbc	SKiKP	01 12 50.0	-0.8
	comp=Z,2.3nm,0.7s,baz=64,slow=1.7,SNR=5.6						
KMBO	Kilima Mbogo	140.04	246	ePKPdf	PKPdf	01 10 04.5	-0.4
KMBO				eSKPbc	SKiKP	01 12 50.0	-0.8
KMBO	Kilima Mbogo	140.04	246	ePKIKP	PKPdf	01 10 04.5	-0.4
SUW	Suwalki	140.15	340	ePKP	PKPdf	01 10 06.2	+2.6
SUW	Suwalki	140.15	340	ePKIKP	PKPdf	01 10 06.2	+2.6
AKASG	Malin Array Be	140.41	332	PKhKP	PKPpre	01 09 57.0	
	comp=Z,1.9nm,0.4s,baz=42,slow=4.2,SNR=17						
AKASG				PKP	PKPdf	01 10 03.2	-0.9
	comp=Z,3.2nm,0.6s,baz=44,slow=3.2,SNR=8.6						
AKASG				SKPbc	SKiKP	01 12 49.5	-0.5
	comp=Z,0.3nm,0.3s,baz=38,slow=3.9,SNR=4.1						
AKASG	Malin Array Be	140.41	332c	iPKIKP	PKPdf	01 10 06.4	+2.3
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKBB	Malin Array Si	140.41	332	eSKPbc	SKiKP	01 12 49.5	-0.5
KIEV	Kiev	140.42	332⇑	ePKIKP	PKPdf	01 10 02.3	-1.8
EKA	Eskdalemuir Ar	142.38	4	PKhKP	PKPpre	01 10 03.9	
	comp=Z,1.4nm,0.5s,baz=355,slow=3.2,SNR=9.9						
TOKA	Tokat	142.41	314	ePKPdf	PKPdf	01 10 05.9	-2.2
SORM	Soroca	142.64	330⇓	iP	PKPdf	01 10 05.0	-3.2
SORM	Soroca	142.64	330	PKHKP	PKPpre	01 10 05.0	
BEL	Belsk	142.76	340	ePKP	PKPdf	01 10 07.2	-1.1
BEL	Belsk	142.76	340	ePKIKP	PKPdf	01 10 07.2	-1.1
LVV	L'vov	143.26	335⇑	iPKIKP	PKPbc	01 10 07.7	0.0
IAS	Iasi	143.68	330⇑	iP	PKPbc	01 10 09.4	+0.4
IAS	Iasi	143.68	330	PKIKP	PKPbc	01 10 09.4	+0.4
LEOM	Leova	143.84	328⇓	iP	PKPab	01 10 09.8	+0.2
LEOM	Leova	143.84	328	PKIKP	PKPab	01 10 09.8	+0.2
ILGA	Ilgaz	143.91	317	ePKPbc	PKPdf	01 10 11.5	+0.5
KWP	Kalwaria Pacla	143.93	336	ePKP	PKPab	01 10 10.0	+0.1
KWP	Kalwaria Pacla	143.93	336	ePKPbc	PKPab	01 10 10.0	+0.1
KWP	Kalwaria Pacla	143.93	336	ePKIKP	PKPab	01 10 10.0	+0.1
PRAR	RASCA	144.19	331⇓	iP	PKPab	01 10 11.1	+0.1
LMK	Market Rasen	144.40	2	eP	PKPbc	01 10 10.0	-1.1
TLCR		144.41	326⇓	iP	PKPab	01 10 12.0	+0.1
TLCR		144.41	326	PKIKP	PKPab	01 10 12.0	+0.1
BUR08	Bucovina Ar. S	144.45	332	ePKPdf	PKPab	01 10 12.3	+0.3
BUR04	Bucovina Ar. S	144.46	332	ePKPdf	PKPbc	01 10 11.8	+0.2
BURAR	Bucovina Array	144.46	332⇓	iP	PKPab	01 10 11.9	-0.2
BURAR	Bucovina Array	144.46	332	PKIKP	PKPab	01 10 11.9	-0.2
OJC	Ojcow	144.47	340	ePKP	PKPbc	01 10 11.5	+0.1
OJC	Ojcow	144.47	340	ePKPdf	PKPbc	01 10 11.5	+0.1
OJC	Ojcow	144.47	340	ePKIKP	PKPbc	01 10 11.5	+0.1
TESR	Tescani	144.60	329⇓	iP	PKPbc	01 10 11.9	-0.1
BR101	Keskin Array S	144.62	315	ePKPdf	PKPdf	01 10 11.9	-0.2
BR131	Keskin Array S	144.62	315	ePKPdf	PKPdf	01 10 12.1	-0.1
BRTR	Keskin Array B	144.62	315	PKP	PKPdf	01 10 11.9	-0.1
	comp=Z,28nm,0.8s,baz=144,slow=4.6,SNR=115						
BRTR	Keskin Array B	144.62	315c	iPKIKP	PKPdf	01 10 12.0	-0.1
BRTR				pmax	pmax		
	comp=Z,28nm,0.8s						
STHS	Stebnicka Huta	144.65	338	ePKIKP	PKPbc	01 10 12.3	+0.3
STHS	Stebnicka Huta	144.65	338	ePKP	PKPbc	01 10 12.3	+0.3
FOEL	Foel Wylfa	144.81	5	eP	PKPdf	01 10 11.4	-0.4
PETR	Petresti	144.87	328⇑	iP	PKPdf	01 10 11.8	-0.3
UZH	Uzhgorod	144.90	336c	iPKIKP	PKPbc	01 10 12.4	-0.3
UZH				e		01 12 11.6	
KSP	Ksiaz	144.98	344	ePKP	PKPab	01 10 13.6	-0.3
KSP	Ksiaz	144.98	344	ePKIKP	PKPab	01 10 13.6	-0.3
NIE	Niedzica	144.98	338	ePKP	PKPab	01 10 13.8	-0.3
NIE	Niedzica	144.98	338	ePKIKP	PKPab	01 10 13.7	-0.3
CRVS	Cervenica-Dubn	144.99	337	ePKIKP	PKPbc	01 10 13.1	0.0
CRVS	Cervenica-Dubn	144.99	337	ePKP	PKPbc	01 10 13.1	0.0
VRI	Vrincioaia	145.02	329⇑	iP	PKPbc	01 10 13.4	+0.1
VRI	Vrincioaia	145.02	329	PKIKP	PKPbc	01 10 13.4	+0.1
PLOR	Plostina	145.07	329⇓	iP	PKPbc	01 10 13.4	0.0
PLOR	Plostina	145.07	329	PKIKP	PKPbc	01 10 13.4	0.0
CWF	Charnwood Fore	145.08	3	eP	PKPdf	01 10 12.1	-0.2
TIRR	Tirgusor	145.11	325⇑	iP	PKPbc	01 10 13.7	+0.2
TIRR	Tirgusor	145.11	325	ePKPdf	PKPbc	01 10 13.9	+0.4
TIRR	Tirgusor	145.11	325	PKIKP	PKPbc	01 10 13.7	+0.2
ANTO	Ankara	145.11	316	ePKPdf	PKPbc	01 10 13.5	-0.3
ANTO	Ankara	145.11	316	ePKIKP	PKPbc	01 10 13.5	-0.3
BR231	Keskin MP Arra	145.14	316	ePKPdf	PKPdf	01 10 12.4	-0.6
BR231				ePKPdf	PKPbc	01 10 14.1	+0.1
WACR	West Acre	145.15	1	eP	PKPbc	01 10 13.1	-0.2
BMR	Baia Mare	145.17	334⇑	iP	PKPbc	01 10 13.8	+0.2
BMR	Baia Mare	145.17	334	PKIKP	PKPbc	01 10 13.8	+0.2
HLM1	Long Mynd	145.20	5	eP	PKPbc	01 10 13.6	+0.1
HARR	Harsova	145.21	326⇓	iP	PKPab	01 10 14.5	-0.5
HARR	Harsova	145.21	326	PKP2	PKPab	01 10 14.5	-0.5
GRER		145.24	328⇑	iP	PKPab	01 10 15.1	0.0
OKC	Ostrava-Krasne	145.34	341	i PKP	PKPbc	01 10 14.1	+0.1
OKC	Ostrava-Krasne	145.34	341	i PKIKP	PKPbc	01 10 14.1	+0.1
CLL	Collm	145.34	347⇓	iPKPbc	PKPbc	01 10 14.1	+0.1
	comp=Z,41nm,0.7s						
CLL	Collm	145.34	347	ePKPdf	PKPbc	01 10 13.8	-0.2
CLL	Collm	145.34	347	ePKIKP	PKPbc	01 10 13.8	-0.2
UPC	Upice	145.36	344	i PKP	PKPbc	01 10 14.6	+0.5
UPC	Upice	145.36	344	i PKP2	PKPbc	01 10 14.6	+0.5
DPC	Dobruska-Polom	145.41	343	i PKP	PKPab	01 10 15.0	-0.6
DPC				epPKP	pPKPdf	01 12 28.8	+4.5
DPC	Dobruska-Polom	145.41	343	i PKP2	PKPab	01 10 15.0	-0.6
LPW	Lampeter	145.50	6	eP	PKPbc	01 10 14.3	-0.1
LANS	Liptovska Anna	145.50	339	ePKP2	PKPab	01 10 15.7	-0.3
LANS	Liptovska Anna	145.50	339	ePKP	PKPab	01 10 15.7	-0.3
BRG	Berggiesshubel	145.54	346	ePKP	PKPdf	01 10 13.7	+0.6
	comp=Z,5.0nm,0.9s						
BRG				i		01 10 14.9	
	comp=Z,43nm,1.2s						
BRG	Berggiesshubel	145.54	346	ePKIKP	PKPdf	01 10 13.7	+0.6
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PGOR	Pogoanele	145.56	327⇑	iP	PKPdf	01 10 13.4	+0.1
MORC	Moravsky Berou	145.57	341⇑	iP	PKPbc	01 10 14.2	-0.6
MORC	Moravsky Berou	145.57	341	ePKPdf	PKPdf	01 10 13.9	+0.6
MORC	Moravsky Berou	145.57	341	PKIKP	PKPbc	01 10 14.2	-0.6
DOPR	Dopca	145.60	330⇑	iP	PKPbc	01 10 14.7	-0.3
ISR	Istrita	145.64	328⇓	iP	PKPbc	01 10 15.8	+0.7
ISR	Istrita	145.64	328	PKP2	PKPbc	01 10 15.8	+0.7
WTSB	Winterswijk	145.66	354	ePKP	PKPbc	01 10 14.3	-0.5
	comp=Z,44nm,0.9s						
ICOR	Ion Corvin	145.66	325⇑	iP	PKPbc	01 10 15.9	+0.8
MLR	Muntele Rosu	145.68	329⇓	iP	PKPbc	01 10 15.1	-0.2
MLR	Muntele Rosu	145.68	329	ePKPdf	PKPdf	01 10 14.3	+0.6
MLR	Muntele Rosu	145.68	329	ePKIKP	PKPdf	01 10 14.3	+0.6
KECS	Kecovo	145.70	337	ePKIKP	PKPbc	01 10 15.2	+0.1
KECS	Kecovo	145.70	337	ePKP	PKPbc	01 10 15.2	+0.1
MCH1	Michaelchurch	145.71	5	eP	PKPbc	01 10 14.8	-0.1
PVCC	Panska Ves	145.71	345	ePKP	PKPbc	01 10 14.3	-0.8
PVCC				i x	x	01 10 15.8	
PVCC	Panska Ves	145.71	345	ePKIKP	PKPbc	01 10 14.3	-0.8
PVCC				i		01 10 15.8	
SSW	Stow on the Wo	145.82	4	eP	PKPbc	01 10 15.7	+0.3
MBAR	Mbarara	145.86	241	ePKPdf	PKPbc	01 10 16.6	-0.2
MBAR	Mbarara	145.86	241	ePKIKP	PKPbc	01 10 16.7	-0.2
CJR	Cluj-Napoca	145.87	332⇓	iP	PKPbc	01 10 16.2	+0.5
CJR	Cluj-Napoca	145.87	332	PKP2	PKPbc	01 10 16.2	+0.5
MONM	Monmouth	145.88	5	eP	PKPbc	01 10 15.5	0.0
SECR		145.94	328⇑	iP	PKPbc	01 10 16.4	+0.5
MMAI	Mount Meron Ar	145.97	303	PKPbc	PKPab	01 10 17.5	-1.0
	comp=Z,30nm,0.6s,baz=67,slow=4.7,SNR=55						
STRD	Stroud	145.99	4	eP	PKPbc	01 10 15.3	-0.5
PLAR	PLOIESTI	146.04	328⇓	iP	PKPbc	01 10 17.1	+0.9
HGH	Gray Hill	146.08	5	eP	PKPbc	01 10 15.7	-0.3
SULR		146.09	328⇓	iP	PKPbc	01 10 16.1	-0.2
VOIR		146.15	330⇑	iP	PKPdf	01 10 15.2	+0.7
VOIR		146.15	330	PKIKP	PKPdf	01 10 15.2	+0.7
DRGR		146.19	333⇓	iP	PKPbc	01 10 16.7	+0.1
DRGR		146.19	333	PKIKP	PKPbc	01 10 16.7	+0.1
PRU	Pruhonice	146.22	345	ePKP	PKPdf	01 10 14.7	+0.4
PRU				i x	x	01 10 16.9	
PRU				ex	x	01 10 19.2	
PRU	Pruhonice	146.22	345	ePKIKP	PKPdf	01 10 14.7	+0.4
PRU				e		01 10 19.2	
GOPC	GO Pecny, Ondr	146.22	344	i PKP	PKPbc	01 10 17.0	+0.4
GOPC	GO Pecny, Ondr	146.22	344	i PKP2	PKPbc	01 10 17.0	+0.4
SWN1	Swindon	146.27	4	eP	PKPbc	01 10 16.7	+0.1
VRAC	Vranov	146.28	342⇑	iP	PKPbc	01 10 17.0	+0.3
VRAC	Vranov	146.28	342	PKP2	PKPbc	01 10 17.0	+0.3
VYHS	Vyhne	146.28	339	ePKP2	PKPbc	01 10 17.3	+0.5
VYHS	Vyhne	146.28	339	ePKP	PKPbc	01 10 17.3	+0.5
PSZ	Piszkesteto	146.39	337⇓	iP	PKPbc	01 10 17.3	+0.1
PSZ	Piszkesteto	146.39	337	ePKPdf	PKPbc	01 10 16.4	-0.7
PSZ	Piszkesteto	146.39	337	ePKIKP	PKPbc	01 10 16.4	-0.7
NKC	Novy Kostel	146.47	347	ePKP	PKPdf	01 10 15.1	+0.3
NKC				i x	x	01 10 17.6	
NKC	Novy Kostel	146.47	347	ePKIKP	PKPdf	01 10 15.1	+0.3
NKC				i		01 10 17.6	
WOL	Wolverton	146.51	3	eP	PKPbc	01 10 17.2	0.0
SGRR	Singureni	146.56	327⇓	iP	PKPbc	01 10 17.1	-0.5
TREC	Trest	146.60	343	ePKP	PKPdf	01 10 15.3	+0.3
TREC				i x	x	01 10 17.9	
TREC	Trest	146.60	343	ePKIKP	PKPdf	01 10 15.3	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TREC				i		01 10 17.9	
LOT	**Lotru**	**146.75**	**331**	⇓iP	**PKPdf**	**01 10 16.3**	**+0.8**
DEV	**Deva**	**146.81**	**332**	⇑iP	**PKPbc**	**01 10 18.6**	**+0.3**
DEV	**Deva**	**146.81**	**332**	PKP2	**PKPbc**	**01 10 18.6**	**+0.3**
HUMR	**Humele**	**146.84**	**329**	⇓iP	**PKPbc**	**01 10 17.5**	**-0.9**
CSS	**Mathiatis**	**146.91**	**307**	ePKPbc	**PKPbc**	**01 10 19.0**	**+0.1**
BEBN	**Eben Emael**	**146.92**	**355**	⇑PKPbc	**PKPbc**	**01 10 18.8**	**+0.5**
HGN	**Heimansgroeve**	**146.93**	**355**	ePKP	**PKPbc**	**01 10 18.4**	**0.0**
	comp=Z,64nm,1.8s						
SIRR	**Siria**	**147.05**	**334**	⇓iP	**PKPbc**	**01 10 19.4**	**+0.5**
SRO2	**Moca**	**147.06**	**339**	ePKIKP	**PKPbc**	**01 10 18.4**	**-0.4**
SRO2	**Moca**	**147.06**	**339**	ePKP	**PKPbc**	**01 10 18.4**	**-0.4**
MEM	**Membach**	**147.07**	**355**	⇓PKPbc	**PKPbc**	**01 10 18.8**	**0.0**
DYA	**Yadsworthy**	**147.17**	**6**	eP	**PKPdf**	**01 10 17.4**	**+1.5**
GRFO	**Grafenberg**	**147.23**	**348**	ePKPbc	**PKPbc**	**01 10 20.0**	**+0.7**
GRFO	**Grafenberg**	**147.23**	**348**	ePKP2	**PKPbc**	**01 10 20.0**	**+0.7**
SZH	**Strazhica**	**147.24**	**326**	eP	**PKPbc**	**01 10 19.6**	**+0.1**
KHC	**Kasperske Hory**	**147.25**	**345**	ePKP	**PKPdf**	**01 10 16.2**	**+0.1**
KHC				ix	x	01 10 19.7	
KHC				ex	x	01 10 23.7	
KHC				ex	x	01 12 34.6	
KHC	**Kasperske Hory**	**147.25**	**345**	ePKPbc	**PKPbc**	**01 10 20.0**	**+0.6**
KHC	**Kasperske Hory**	**147.25**	**345**	ePKIKP	**PKPdf**	**01 10 16.2**	**+0.1**
KHC				e		01 10 23.7	
ZIMR		**147.27**	**327**	⇓iP	**PKPbc**	**01 10 19.8**	**+0.3**
ZIMR		**147.27**	**327**	PKP2	**PKPbc**	**01 10 19.8**	**+0.3**
SNF	**Seneffe**	**147.30**	**357**	⇓PKPbc	**PKPbc**	**01 10 19.6**	**+0.2**
BCLA	**Clavier**	**147.32**	**355**	⇑PKPbc	**PKPbc**	**01 10 19.5**	**+0.1**
GEC2	**GERESS Array S**	**147.48**	**345**	ePKPbc	**PKPbc**	**01 10 20.3**	**+0.2**
GEC2	**GERESS Array S**	**147.48**	**345**	ePKP2	**PKPbc**	**01 10 20.3**	**+0.2**
GERES	**GERESS Array B**	**147.48**	**345**	PKPbc	**PKPbc**	**01 10 20.2**	**+0.2**
	comp=Z,17nm,0.7s,baz=25,slow=3.0,SNR=134						
GEA0	**GERESS Array S**	**147.49**	**345**	ePKPbc	**PKPbc**	**01 10 20.1**	**+0.1**
BZS	**Buzias**	**147.58**	**333**	⇓iP	**PKPdf**	**01 10 16.3**	**-0.4**
BZS	**Buzias**	**147.58**	**333**	PKHKP	PKPpre	01 10 16.3	
SRE	**Strehaia**	**147.60**	**330**	⇑iP	**PKPbc**	**01 10 21.1**	**+0.7**
SRE	**Strehaia**	**147.60**	**330**	PKP2	**PKPbc**	**01 10 21.1**	**+0.7**
DOU	**Dourbes**	**147.69**	**356**	⇓PKPbc	**PKPbc**	**01 10 20.6**	**+0.2**
CONA	**Conrad Observa**	**147.73**	**342**	ePKiKP	**PKPbc**	**01 10 21.1**	**+0.4**
	comp=Z,26nm,0.7s,SNR=12						
CONA				pPKPab	**pPKPab**	**01 12 31.6**	**+0.9**
	comp=Z,4.8nm,1.8s						
WLF	**Walferdange**	**148.00**	**354**	⇑PKPbc	**PKPbc**	**01 10 21.9**	**+0.7**
WLF	**Walferdange**	**148.00**	**354**	ePKPbc	**PKPbc**	**01 10 22.1**	**+0.9**
WLF	**Walferdange**	**148.00**	**354**	ePKP2	**PKPbc**	**01 10 22.1**	**+0.9**
MDVR	**Moldovita**	**148.20**	**332**	⇓iP	**PKPbc**	**01 10 21.9**	**0.0**
MOA	**Molln**	**148.25**	**343**	ePKiKP	**PKPbc**	**01 10 22.1**	**+0.2**
	comp=Z,21nm,1.3s,SNR=7.4						
ARSA	**Arzberg**	**148.44**	**342**	ePKPbc	**PKPbc**	**01 10 22.3**	**-0.2**
	comp=Z,15nm,1.6s,SNR=5.9						
RZN	**Rozhen**	**148.97**	**325**	eP	**PKPbc**	**01 10 24.5**	**+0.4**
BFO	**Black Forest**	**149.04**	**351**	ePKPbc	**PKPbc**	**01 10 23.8**	**-0.1**
BFO	**Black Forest**	**149.04**	**351**	i PKHKP	PKPpre	01 10 21.0	
AKAS	**Kas**	**149.09**	**312**	ePKPbc	**PKPbc**	**01 10 23.2**	**-1.3**
SOKA	**Soboth**	**149.10**	**342**	ePKPbc	**PKPbc**	**01 10 23.6**	**-0.5**
	comp=Z,21nm,1.1s,SNR=12						
SOKA				epPKPdf	**pPKPdf**	**01 12 28.6**	**-2.1**
	comp=Z,5.1nm,1.5s						
PERS	**Pernice**	**149.11**	**342**	i PKPbc	**PKPbc**	**01 10 23.5**	**-0.6**
VTS	**Vitosha**	**149.13**	**328**	⇓iP	**PKPbc**	**01 10 24.6**	**+0.2**
VTS	**Vitosha**	**149.13**	**328**	ePKPbc	**PKPbc**	**01 10 24.3**	**-0.1**
VTS	**Vitosha**	**149.13**	**328**	eP	**PKPbc**	**01 10 24.8**	**+0.4**
OBKA	**Obir**	**149.40**	**342**	ePKPbc	**PKPbc**	**01 10 24.2**	**-0.6**
	comp=Z,12nm,1.4s						
WATA	**Walderalm**	**149.40**	**346**	i PKiKP	**PKPbc**	**01 10 24.9**	**0.0**
	comp=Z,11nm,0.5s,SNR=12						
RETA	**Reutte**	**149.43**	**348**	ePKiKP	**PKPbc**	**01 10 24.9**	**0.0**
	comp=Z,8.0nm,0.5s,SNR=7.2						
WTTA	**Wattenberg**	**149.45**	**346**	i PKiKP	**PKPbc**	**01 10 25.3**	**+0.2**
	comp=Z,20nm,0.6s,SNR=9.7						
DIVS	**Divibare**	**149.49**	**333**	ePKPbc	**PKPbc**	**01 10 25.4**	**+0.2**
MOTA	**Moosalm**	**149.49**	**347**	ePKiKP	**PKPbc**	**01 10 25.0**	**-0.2**
	comp=Z,11nm,0.6s,SNR=12						
MOTA				epPKPdf	**pPKPdf**	**01 12 32.3**	**+0.9**
	comp=Z,2.0nm,0.9s						
MYKA	**Terra Mystica**	**149.54**	**343**	ePKPbc	**PKPbc**	**01 10 24.5**	**-0.6**
	comp=Z,14nm,0.5s,SNR=12						
MMB	**Musomiste**	**149.58**	**326**	eP	**PKPbc**	**01 10 25.7**	**+0.3**
KKB	**Krupnik**	**149.72**	**327**	eP	**PKPbc**	**01 10 25.6**	**-0.1**
ABTA	**Abfaltersbach**	**149.73**	**345**	ePKPbc	**PKPbc**	**01 10 25.1**	**-0.5**
	comp=Z,30nm,0.7s,SNR=12						
ABTA				epPKPdf	**pPKPdf**	**01 12 27.8**	**-3.9**
	comp=Z,2.4nm,0.9s						
DAVA	**Damuels**	**149.79**	**349**	ePKiKP	**PKPbc**	**01 10 25.6**	**-0.2**
	comp=Z,18nm,0.8s,SNR=8.2						
FETA	**Feichten**	**149.88**	**347**	ePKiKP	**PKPbc**	**01 10 26.1**	**0.0**
	comp=Z,28nm,1.0s,SNR=8.0						
VISS	**Visnje**	**149.94**	**341**	ePKPdf	**PKPdf**	**01 10 18.1**	**-2.4**
VISS				ePKPbc	**PKPbc**	**01 10 25.9**	**-0.1**
VISS				i PKPab	**PKPab**	**01 10 33.8**	**-0.3**
BLY	**Banja Luka**	**150.07**	**337**	ePKPbc	**PKPbc**	**01 10 26.4**	**+0.1**
BOJS	**Bojanci**	**150.08**	**340**	i PKPdf	**PKPdf**	**01 10 17.9**	**-2.8**
BOJS				i PKPbc	**PKiKP**	**01 10 26.8**	**-0.2**
BOJS				i		01 12 47.9	
JAVS	**Javornik**	**150.09**	**342**	i PKPbc	**PKPbc**	**01 10 25.7**	**-0.8**
FUORN	**Ofenpass-Fuorn**	**150.36**	**348**	ePKPbc	**PKPbc**	**01 10 27.8**	**+0.5**
VAY	**Valandovo**	**150.38**	**327**	i PKP	**PKPbc**	**01 10 26.4**	**-0.8**
SKO	**Skopje**	**150.47**	**329**	i PKP	**PKPbc**	**01 10 27.5**	**+0.1**
TUE	**Stuetta**	**150.68**	**349**	ePKPbc	**PKPbc**	**01 10 28.4**	**+0.3**
KRUS	**Krusevo**	**151.02**	**328**	i PKP	**PKPbc**	**01 10 28.3**	**-0.5**
SENIN	**Lac Senin/Sane**	**151.12**	**352**	ePKPbc	**PKPbc**	**01 10 29.5**	**+0.5**
PDG	**Podgorica**	**151.15**	**332**	⇓iP	**PKPbc**	**01 10 28.4**	**-0.5**
TTG	**Podgorica**	**151.15**	**332**	ePKPbc	**PKPbc**	**01 10 28.6**	**-0.3**
TTG	**Podgorica**	**151.15**	**332**	ePKIKP	**PKPbc**	**01 10 28.6**	**-0.3**
BIA	**Bitola**	**151.24**	**328**	ePKP	**PKPbc**	**01 10 29.1**	**-0.2**
OHR	**Ohrid**	**151.44**	**328**	i PKP	**PKPbc**	**01 10 28.5**	**-1.2**
TIR	**Tirane**	**151.72**	**330**	⇑iP	**PKPbc**	**01 10 30.3**	**+0.1**
TIR	**Tirane**	**151.72**	**330**	ePKPbc	**PKPbc**	**01 10 30.1**	**-0.1**
TIR	**Tirane**	**151.72**	**330**	ePKIKP	**PKPbc**	**01 10 30.1**	**-0.1**
SANT	**Santorini**	**151.87**	**316**	⇑iP	**PKPbc**	**01 10 29.1**	**-1.7**
AGG	**Agios Georgios**	**152.12**	**324**	ePKPbc	**PKPbc**	**01 10 30.3**	**-1.0**
AGG	**Agios Georgios**	**152.12**	**324**	ePKIKP	**PKPbc**	**01 10 30.3**	**-1.0**
BNI	**Bardonecchia**	**152.49**	**352**	ePKPbc	**PKPbc**	**01 10 31.1**	**-0.9**
BNI	**Bardonecchia**	**152.49**	**352**	ePKIKP	**PKPbc**	**01 10 31.1**	**-0.9**
IDI	**Anoyia**	**152.85**	**314**	PKPbc	**PKPbc**	**01 10 33.9**	**+0.9**
	comp=Z,12nm,0.6s,baz=0.0,slow=3.0,SNR=9.2						
ES19	**SONSECA Array**	**157.70**	**11**	ePKPdf	**PKPdf**	**01 10 31.8**	**+0.3**
ESDC	**Sonseca Array**	**157.71**	**11**	PKP	**PKPdf**	**01 10 31.8**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=24,slow=3.5,SNR=5.7						
ESDC				PKPab	**PKPab**	**01 11 06.8**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=333,slow=4.5,SNR=5.1						
KEST	**Kesra**	**160.82**	**340**	PKPab	**PKPab**	**01 11 21.6**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=259,slow=1.7,SNR=4.4						
LIC	**Lamto**	**166.86**	**150**	ePKIKP	**PKPdf**	**01 10 39.9**	**-1.3**
	comp=Z,38nm,1.4s						
KIC	**Kosan Boka**	**167.12**	**151**	ePKIKP	**PKPdf**	**01 10 40.3**	**-1.1**
	comp=Z,16nm,1.0s						
TIC	**Toumodi**	**167.23**	**150**	ePKIKP	**PKPdf**	**01 10 40.6**	**-0.9**
DBIC	**Dimbokro**	**167.34**	**150**	PKP	**PKPdf**	**01 10 41.0**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=168,slow=1.8,SNR=5.0						
KOWA	**Kowa**	**173.80**	**121**	ePKPdf	**PKPdf**	**01 10 44.6**	**-0.3**
TOA0	**Torodi Ar. Sit**	**175.36**	**183**	ePKPdf	**PKPdf**	**01 10 44.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**175.36**	**183**	PKP	**PKPdf**	**01 10 44.8**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=334,slow=1.0,SNR=22						
TORD				PKPab	**PKPab**	**01 12 26.0**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=169,slow=4.0,SNR=12						
TORD				PP	**PP**	**01 16 20.0**	**+2.6**
	comp=Z,0.8nm,0.8s,baz=157,slow=3.9,SNR=4.6						
TOA1	**Torodi Ar. Sit**	**175.36**	**183**	ePKPdf	**PKPdf**	**01 10 44.8**	**-0.6**
TOA1				ePKPab	**PKPab**	**01 12 26.0**	**+0.2**
TOA1				ePP	**PP**	**01 16 20.0**	**+2.6**

MAN 04 00:53:32, 10°.11N×123°.10E, h1km, mb4.2, ML3.0, MS2.6, 1C-3D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.71**	**316**	eP	Pg	00 53 45.9	+0.1
GUIM				eS	Sb	00 53 56.4	-1.2
SNPH	**Sibulan**	**0.78**	**170**	⇓iP	Pb	00 53 47.7	-0.7
SNPH				i S	Sg	00 53 57.3	+0.3
TBP	**Tagbilaran**	**0.86**	**119**	eP	Pb	00 53 50.0	+0.2
TBP				i S	Sb	00 54 02.7	+0.9
LLP	**Lapu-Lapu**	**0.88**	**77**	⇓eP	Pg	00 53 48.6	-0.3
LLP				eS	Sb	00 54 01.4	-0.9
RCP	**Roxas**	**1.48**	**346**	⇑eP	Pn	00 53 59.8	0.0
RCP				eS	Sn	00 54 21.9	+2.1
DCPH	**Dipolog City**	**1.54**	**171**	⇓iP	Pn	00 53 57.7	-2.9
DCPH				eS	Sn	00 54 17.5	-3.8
MSLP	**Maasin**	**1.73**	**89**	eP	Pn	00 54 03.5	+0.2
MSLP				eS	Sb	00 54 27.1	+0.2
OCLP	**Ormoc**	**1.75**	**58**	eP	Pn	00 54 03.8	+0.2
PAGZ	**Pagadian**	**2.27**	**173**	eP	Pn	00 54 10.5	-0.2
PAGZ				eS	Sb	00 54 40.9	-1.5

IDC 04 00:55:36.5±4.5**, 64°.21N×174°.66W, h0km, mb3.5**/3**, mb1 3.8**/5**, mb1mx3.4**/72**, mbtmp3.6**/5**, ML3.4**/2**, MS3.3**/2**, Ms1 3.3**/2**, ms1mx2.6**/54**, Error ellipse: s-maj=130.3km s-min=22.3km az=5.0, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**11.95**	**75**	Pn	Pn	00 58 23.0	-4.8
	0.3nm,0.3s,baz=282,slow=13,SNR=12						
KDAK	**Kodiak Island**	**12.45**	**111**	LR	LR	01 02 57.6	
	comp=Z,95nm,19.9s,baz=108,slow=35						
INK	**Inuvik**	**16.81**	**58**	Pn	Pn	00 59 30.3	-2.6
	0.1nm,0.3s,baz=272,slow=7.3,SNR=11						
TIXI	**Tiksi**	**21.65**	**314**	P	P	01 00 27.7	-0.2
	2.7nm,0.6s,baz=102,slow=11,SNR=6.2						
YKA	**Yellowknife Ar**	**26.13**	**66**	P	P	01 01 10.2	-1.5
	0.4nm,0.6s,baz=301,slow=8.5,SNR=5.2						
TLY	**Talaya**	**42.01**	**293**	LR	LR	01 22 53.9	
	comp=Z,43nm,19.0s,baz=349,slow=39						
MKAR	**Makanchi Array**	**54.16**	**304**	P	P	01 05 03.4	+0.4
	0.2nm,0.5s,baz=46,slow=8.3,SNR=2.6						

*ISCJB **04** 00:55:55.1±0.8, 35°.25N±0°.04×141°.31E±0°.09, h35km, mb3.6/7, MS2.7/1, Error ellipse: s-maj=10.8km s-min=6.1km az=172.4*
*JMA **04** 00:55:55.0±0.1, 35°.23N×141°.26E, h31km±2km, M2.9*
*IDC **04** 00:55:59.1±3.2, 35°.26N×141°.09E, h50km±28km, mb3.4/7, mb1 3.6/9, mb1mx3.3/68, mbtmp3.6/9, ML3.3/2, MS2.6/2, Ms1 2.6/2, ms1mx2.4/36, Error ellipse: s-maj=33.4km s-min=13.9km az=84.0*
ISC 04 00:55:56.6±0.9**, 35°.25N**±0°.05×**141°.3E**±0°.1**, h35km, n24, σ1s63**/20**, mb3.7**/7**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.57**	**322**	P	**Pn**	**00 56 06.4**	**-1.9**
CHOJ				eS	**Sn**	**00 56 14.7**	**-1.7**
BSO1	**Boso 1**	**0.65**	**203**	P	**Pn**	**00 56 07.0**	**-1.9**
BSO3	**Boso 3**	**0.78**	**235**	P	**Pn**	**00 56 09.3**	**-1.6**
BSO4	**Boso 4**	**0.82**	**252**	P	**Pn**	**00 56 10.3**	**-1.3**
JHO	**Hitachi**	**1.48**	**337**	P	**Pn**	**00 56 20.6**	**-0.1**
JIM2	**Oshima 3**	**1.62**	**251**	P	**Pn**	**00 56 20.3**	**-2.4**
JHJ	**Hachijo jima 2**	**2.47**	**211**	P	**Pn**	**00 56 34.4**	**0.0**
	29nm,0.3s,baz=344,slow=20,SNR=7.5						
JHJ				S	**Sn**	**00 57 04.6**	**+1.3**
	60nm,0.3s,baz=119,slow=22,SNR=6.9						
MJAR	**Matsushiro Arr**	**2.81**	**298**	P	**Pn**	**00 56 40.2**	**+1.1**
	3.5nm,0.3s,baz=102,slow=15,SNR=29						
MJAR				LR	LR	00 57 58.2	
	comp=Z,66nm,20.0s,baz=75,slow=45						
MAT	**Matsushiro**	**2.81**	**298**	P	**Pn**	**00 56 40.6**	**+1.5**
MAT				eS	**Sn**	**00 57 12.6**	**+0.7**
JCJ	**Chichijima**	**8.17**	**174**	P	**Pn**	**00 57 49.3**	**-3.4**
	8.8nm,0.3s,baz=356,slow=21,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**27.37**	**118**	T	T	01 30 17.6	
	baz=310,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**27.37**	**118**	T	T	01 30 23.0	
	baz=310,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**27.39**	**118**	T	T	01 30 29.5	
	baz=310,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	01 31 07.4	
	baz=312,slow=76,SNR=82						
H11S3	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	01 31 04.5	
	baz=312,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy**	**28.03**	**120**	T	T	01 31 08.0	
	baz=312,slow=76,SNR=56						
SONM	**Songino Array**	**28.73**	**307**	P	**P**	**01 01 50.8**	**+0.1**
	0.2nm,0.5s,baz=114,slow=6.5,SNR=2.6						
DAV	**Davao City (W)**	**31.55**	**211**	LR	LR	01 14 41.6	
	comp=Z,16nm,19.8s,baz=340,slow=36						
ZALV	**Zalesovo Beam**	**43.05**	**314**	P	**P**	**01 03 51.4**	**-1.4**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**45.00**	**304**	P	**P**	**01 04 08.6**	**+0.1**
	0.4nm,0.5s,baz=86,slow=9.5,SNR=5.1						
ILAR	**Eielson Array**	**51.05**	**32**	P	**P**	**01 04 56.6**	**+1.5**
	0.9nm,0.9s,baz=244,slow=5.6,SNR=2.9						
WRA	**Warramunga Arr**	**55.29**	**188**	P	**P**	**01 05 26.2**	**-0.4**
	0.8nm,0.3s,baz=6.4,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**59.02**	**188**	P	**P**	**01 05 54.7**	**+1.8**
	0.6nm,0.7s,baz=1.0,slow=7.0,SNR=3.5						
FINES	**FINESS Array B**	**70.34**	**333**	P	**P**	**01 07 06.9**	**+0.6**
	0.5nm,0.5s,baz=46,slow=5.9,SNR=3.2						

*IDC **04** 01:25:07.3±6.2, 14°.43N×60°.71W, h88km±60km, mb3.4/6, mb1 3.8/9, mb1mx3.4/52, mbtmp3.9/9, ML3.5/3, Error ellipse: s-maj=48.0km s-min=41.5km az=91.0*
*ISCJB **04** 01:25:10.4±0.4, 14°.25N±0°.02×60°.92W±0°.05, h128km±2km, mb3.5/6, Error ellipse: s-maj=7.7km s-min=2.7km az=175.5*
*NEIC **04** 01:25:10.8±0.0, 14°.23N×60°.97W, h120km, MD4.0(TRN), After TRN.*
*TRN **04** 01:25:10.8, 14°.23N×60°.97W, h120km, MD4.0*
TRN Felt MMI II in Saint Lucia.
ISC 04 01:25:10.6±0.7**, 14°.23N**±0°.02×**60°.95W**±0°.05**, h123**km±4km**, n81, σ1s34**/128**, mb3.7**/6**, 8C-1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLW	**Petit Monier**	**0.21**	**176**	eP	**Pn**	**01 25 27.8**	**+0.2**
H05S1	**Guadeloupe/Mar**	**0.22**	**31**	P	**Pn**	**01 25 28.6**	**+1.0**
H05S1				S	**Sn**	**01 25 40.5**	**+0.1**
BIM	**Bigot**	**0.30**	**338**	eP	**Pn**	**01 25 28.4**	**+0.4**
BIM				eS	**Sn**	**01 25 41.2**	**+0.2**
TRMF	**Trois Ilets**	**0.32**	**342**	eP	**Pn**	**01 25 28.6**	**+0.7**
MVM	**Montagne Vaucl**	**0.32**	**10**	eP	**Pn**	**01 25 28.8**	**+0.8**
LPMF	**Morne Lapointe**	**0.34**	**358**	eP	**Pn**	**01 25 28.7**	**+0.7**
ZAM	**Aeronautique**	**0.34**	**348**	eP	**Pn**	**01 25 29.0**	**+1.0**
SLB	**Belfond**	**0.41**	**192**	eP	**Pn**	**01 25 30.0**	**+1.5**
SLB				eS	**Sn**	**01 25 42.5**	**+0.6**
SLB	**Belfond**	**0.41**	**192**	⇑eP	**Pn**	**01 25 30.0**	**+1.5**
SLB				eS	**Sn**	**01 25 43.7**	**+1.8**
MCLT	**Moule a Chique**	**0.52**	**179**	eP	**Pn**	**01 25 29.2**	**+0.2**
MCLT				eS	**Sn**	**01 25 42.9**	**0.0**
MCLT	**Moule a Chique**	**0.52**	**179**	eP	**Pn**	**01 25 30.2**	**+1.2**
MCLT				eS	**Sn**	**01 25 43.2**	**+0.4**
FDF	**Fort de France**	**0.53**	**339**	eP	**Pn**	**01 25 29.8**	**+0.7**
FDF				eS	**Sn**	**01 25 44.6**	**+1.6**
FDF	**Fort de France**	**0.53**	**339**	eP	**Pn**	**01 25 29.8**	**+0.7**
FDF				eS	**Sn**	**01 25 43.1**	**+0.1**
PML	**Morne Lenard**	**0.59**	**338**	eP	**Pn**	**01 25 30.6**	**+1.1**
CXM	**Morne La Croix**	**0.61**	**340**	eP	**Pn**	**01 25 31.1**	**+1.4**
CXM				eS	**Sn**	**01 25 45.9**	**+1.7**
PCM	**Pelee Case Pet**	**0.63**	**337**	eP	**Pn**	**01 25 30.3**	**+0.6**
PCM	**Pelee Case Pet**	**0.63**	**337**	eP	**Pn**	**01 25 30.4**	**+0.6**
SVN	**Savane Anatole**	**0.64**	**341**	eP	**Pn**	**01 25 30.7**	**+0.9**
SSV	**Crater Summit**	**0.93**	**195**	i P	**Pn**	**01 25 33.5**	**+1.2**
SSV	**Crater Summit**	**0.93**	**195**	i P	**Pn**	**01 25 33.5**	**+1.2**
SVV	**Soufriere Volc**	**0.95**	**196**	i P	**Pn**	**01 25 33.8**	**+1.4**
SVV				eS	**Sn**	**01 25 49.5**	**+0.7**
SVV	**Soufriere Volc**	**0.95**	**196**	i P	**Pn**	**01 25 33.8**	**+1.4**
SVV				eS	**Sn**	**01 25 49.5**	**+0.7**
SVCV	**St. Vincent, C**	**0.97**	**191**	⇑iP	**Pn**	**01 25 33.0**	**+0.3**
SVB	**Belmont**	**1.00**	**197**	i P	**Pn**	**01 25 33.2**	**+0.3**
SVB				eS	**Sn**	**01 25 49.3**	**-0.4**
SVB	**Belmont**	**1.00**	**197**	⇑iP	**Pn**	**01 25 33.2**	**+0.3**
SVB				eS	**Sn**	**01 25 49.3**	**-0.4**
FCV	**Fort Charlotte**	**1.11**	**195**	i P	**Pn**	**01 25 35.0**	**+1.0**
FCV				eS	**Sn**	**01 25 53.1**	**+1.4**
FCV	**Fort Charlotte**	**1.11**	**195**	⇑iP	**Pn**	**01 25 35.0**	**+1.0**
FCV				eS	**Sn**	**01 25 53.1**	**+1.4**
DLPL	**La Plaine**	**1.13**	**345**	eP	**Pn**	**01 25 34.9**	**+0.7**
DLPL				eS	**Sn**	**01 25 52.5**	**+0.4**
DLPL	**La Plaine**	**1.13**	**345**	⇑eP	**Pn**	**01 25 34.9**	**+0.7**
DLPL				eS	**Sn**	**01 25 52.5**	**+0.4**
BBL	**Barber's Block**	**1.38**	**339**	eP	**Pn**	**01 25 37.5**	**+0.6**
BBL				eS	**Sn**	**01 25 57.5**	**+0.7**
BBL	**Barber's Block**	**1.38**	**339**	⇑eP	**Pn**	**01 25 37.5**	**+0.6**
BBL				eS	**Sn**	**01 25 57.5**	**+0.7**
MDPO	**Dominica; Chan**	**1.42**	**340**	eP	**Pn**	**01 25 38.9**	**+1.7**
MDPO				eS	**Sn**	**01 25 59.0**	**+1.5**
MDMP	**Dominica, Moor**	**1.42**	**342**	eP	**Pn**	**01 25 38.4**	**+1.1**
MDVC	**Dominica, Viel**	**1.44**	**342**	eP	**Pn**	**01 25 38.6**	**+1.1**
MDVC				eS	**Sn**	**01 25 59.3**	**+1.3**
MDPV	**Dominica, Penn**	**1.46**	**342**	eP	**Pn**	**01 25 38.0**	**+0.2**
MDPV				eS	**Sn**	**01 26 00.1**	**+1.7**
MGG	**Marie-Galante**	**1.71**	**348**	eP	**Pn**	**01 25 41.1**	**+0.4**
MGG				eS	**Sn**	**01 26 03.8**	**+0.2**
MGG	**Marie-Galante**	**1.71**	**348**	eP	**Pn**	**01 25 41.1**	**+0.4**
MGG				eS	**Sn**	**01 26 03.8**	**+0.2**
BBGH	**Gun Hill**	**1.74**	**128**	eP	**Pn**	**01 25 43.4**	**+2.4**
BBGH				eS	**Sn**	**01 26 05.1**	**+1.0**
BBGH	**Gun Hill**	**1.74**	**128**	e	**Pn**	**01 25 42.7**	**+1.7**
BBGH	**Gun Hill**	**1.74**	**128**	eP	**Pn**	**01 25 43.4**	**+2.4**
BBGH				eS	**Sn**	**01 26 05.1**	**+1.0**
TBG	**Guadaloupe-3**	**1.74**	**338**	eP	**Pn**	**01 25 41.8**	**+0.8**
TBG				eS	**Sn**	**01 26 05.2**	**+0.9**
BBSP	**Saint Philip**	**1.84**	**128**	eS	**Sn**	**01 26 08.0**	**+1.7**
SFG	**Saint Francois**	**2.02**	**353**	eP	**Pn**	**01 25 45.0**	**+0.6**
GRSS	**Sisters**	**2.03**	**199**	i P	**Pn**	**01 25 45.3**	**+0.8**
GRSS				eS	**Sn**	**01 26 11.3**	**+0.8**
GRSS	**Sisters**	**2.03**	**199**	⇓iP	**Pn**	**01 25 45.3**	**+0.8**
GRSS				eS	**Sn**	**01 26 11.3**	**+0.8**
LZG	**Guadaloupe-1**	**2.06**	**337**	⇑iP	**Pn**	**01 25 45.9**	**+1.0**
DEG	**La Desirade**	**2.07**	**357**	eP	**Pn**	**01 25 45.1**	**0.0**
DEG				eS	**Sn**	**01 26 12.5**	**+1.0**
DEG	**La Desirade**	**2.07**	**357**	⇑eP	**Pn**	**01 25 45.1**	**0.0**
DEG				eS	**Sn**	**01 26 12.5**	**+1.0**
H05N1	**Guadeloupe/Mar**	**2.07**	**357**	P	**Pn**	**01 25 45.3**	**+0.2**
	SNR=269						
H05N1				S	**Sn**	**01 26 10.4**	**-1.2**
GRHS	**Sauteurs**	**2.11**	**199**	eP	**Pn**	**01 25 46.7**	**+1.1**
GRHS				eS	**Sn**	**01 26 13.9**	**+1.6**
GRHS	**Sauteurs**	**2.11**	**199**	eP	**Pn**	**01 25 46.6**	**+1.0**
GRHS				eS	**Sn**	**01 26 13.9**	**+1.6**
GDHS	**Morne Mazeau,**	**2.17**	**339**	eP	**Pn**	**01 25 47.8**	**+1.4**
GDHS				eS	**Sn**	**01 26 14.5**	**+0.7**
GRGR	**Grenville**	**2.20**	**198**	eP	**Pn**	**01 25 47.1**	**+0.4**
GRGR				eS	**Sn**	**01 26 14.9**	**+0.6**
GRGR	**Grenville**	**2.20**	**198**	eP	**Pn**	**01 25 47.1**	**+0.4**
GRGR				eS	**Sn**	**01 26 14.9**	**+0.6**
TOSP	**Speyside**	**2.95**	**172**	eP	**Pn**	**01 25 57.3**	**+1.0**
TOSP	**Speyside**	**2.95**	**172**	eP	**Pn**	**01 25 57.3**	**+1.0**
TOSP				eS	**Sn**	**01 26 30.9**	**-0.5**
ANWB	**Willy Bob**	**3.51**	**347**	eP	**Pn**	**01 26 04.0**	**+0.3**
ANWB				eS	**Sn**	**01 26 45.0**	**+0.4**
ANWB	**Willy Bob**	**3.51**	**347**	eP	**Pn**	**01 26 04.5**	**+0.8**
ANWB				eS	**Sn**	**01 26 45.0**	**+0.4**
SKI	**Saint Kitts**	**3.53**	**331**	eP	**Pn**	**01 26 05.3**	**+1.4**
SKI				eS	**Sn**	**01 26 44.8**	**-0.4**
SKI	**Saint Kitts**	**3.53**	**331**	eP	**Pn**	**01 26 05.3**	**+1.4**
SKI				eS	**Sn**	**01 26 44.8**	**-0.4**
TRN	**Trinidad (W)**	**3.59**	**187**	eP	**Pn**	**01 26 06.6**	**+1.9**
TRN				eS	**Sn**	**01 26 46.5**	**-0.2**
TRN	**Trinidad (W)**	**3.59**	**187**	eP	**Pn**	**01 26 06.6**	**+1.9**
TRN				eS	**Sn**	**01 26 46.5**	**-0.2**
TBH	**Brigand Hill**	**3.73**	**182**	eP	**Pn**	**01 26 08.6**	**+1.9**
TBH	**Brigand Hill**	**3.73**	**182**	eP	**Pn**	**01 26 08.6**	**+1.9**
TPP	**Pointe-a-Pierr**	**3.92**	**187**	eP	**Pn**	**01 26 10.2**	**+1.0**
TPP	**Pointe-a-Pierr**	**3.92**	**187**	eP	**Pn**	**01 26 10.2**	**+1.0**
PCRV	**Puerto La Cruz**	**5.41**	**222**	P	**Pn**	**01 26 29.7**	**+0.6**
	0.7nm,0.3s,baz=16,slow=7.4,SNR=3.9						
PCRV				S	**Sn**	**01 27 34.5**	**+4.2**
	2.0nm,0.3s,baz=194,slow=16,SNR=7.5						
SJG	**San Juan**	**6.31**	**308**	P	**Pn**	**01 26 42.6**	**+1.4**
	1.5nm,0.3s,baz=23,slow=7.7,SNR=4.6						
CODC	**Agust˜›n Codaz**	**12.94**	**252**	eP	**P**	**01 28 13.8**	**-2.1**
BARC	**Barichara**	**14.22**	**239**	eP	**P**	**01 28 29.6**	**-0.8**
RUSC	**La Rusia**	**14.53**	**236**	eP	**P**	**01 28 35.7**	**+1.6**
PTGA	**Pitinga**	**14.90**	**176**	P	**Pn**	**01 28 33.8**	**-1.4**
	1.4nm,0.3s,baz=353,slow=15,SNR=21						
PTGA				S	**Sn**	**01 31 12.0**	**-8.1**
	0.8nm,0.3s,baz=232,slow=23,SNR=5.4						
ZARC	**Zaragoza, Cauc**	**15.21**	**245**	eP	**Pn**	**01 28 39.0**	**0.0**
ROSC	**El Rosal**	**16.14**	**236**	P	**P**	**01 28 53.3**	**+1.4**
	1.3nm,0.3s,baz=86,slow=16,SNR=5.0						
RREF	**El Recreo**	**16.94**	**238**	eP	**Pn**	**01 29 02.9**	**+1.9**
TXAR	**Lajitas Array**	**42.16**	**298**	P	**P**	**01 32 51.1**	**-0.3**
	0.2nm,0.5s,baz=98,slow=9.0,SNR=6.6						
TXAR				PcP	**PcP**	**01 34 45.0**	**+1.4**
	0.1nm,0.5s,baz=110,slow=4.9,SNR=3.6						
ULM	**Lac du Bonnet**	**45.75**	**329**	P	**P**	**01 33 19.4**	**-0.1**
	2.1nm,0.6s,baz=140,slow=7.7,SNR=8.5						
PDAR	**Pinedale Array**	**50.40**	**314**	P	**P**	**01 33 55.9**	**+0.1**
	0.9nm,0.4s,baz=114,slow=9.6,SNR=15						
NVAR	**Mina Array Bea**	**55.80**	**307**	P	**P**	**01 34 36.4**	**+1.0**
	0.3nm,0.6s,baz=100,slow=8.3,SNR=2.8						
YKA	**Yellowknife Ar**	**61.10**	**335**	P	**P**	**01 35 11.5**	**+0.1**
	0.8nm,0.5s,baz=109,slow=7.3,SNR=16						
ILAR	**Eielson Array**	**75.51**	**334**	P	**P**	**01 36 41.5**	**+0.4**
	0.5nm,0.7s,baz=93,slow=4.6,SNR=8.1						

*ISK **04** 01:28:25.8, 38°.63N×43°.20E, h12km, ML2.5/4*
*ISCJB **04** 01:28:26.9±0.5, 38°.62N±0°.03×43°.22E±0°.05, h19km±6km, Error ellipse: s-maj=6.5km s-min=5.0km az=35.1*
*CSEM **04** 01:28:26.2±0.2, 38°.64N×43°.22E, h15km, ML2.5, Error ellipse: s-maj=4.5km s-min=3.6km az=122.0*
*DDA **04** 01:28:27.1, 38°.58N×43°.18E, h7km, Md2.1*
ISC 04 01:28:26.4±1.2**, 38°.63N**±0°.02×**43°.21E**±0°.02**, h11**km±9km**, n28, σ0s86**/41**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**104**	PG	**Pg**	**01 28 30.6**	**+0.6**
VANB				SG	**Sb**	**01 28 34.3**	**+1.8**
VANB	**Van**	**0.15**	**104**	ePg	**Pg**	**01 28 30.6**	**+0.6**
VANB				eSg	**Sb**	**01 28 34.3**	**+1.8**
TVAN	**Van**	**0.19**	**123**	i P	**Pg**	**01 28 30.7**	**0.0**
TVAN				i S	**Sb**	**01 28 35.0**	**+1.4**
TVAN	**Van**	**0.19**	**123**	P	**Pg**	**01 28 30.7**	**0.0**
TVAN				S	**Sb**	**01 28 35.0**	**+1.4**
GEVA	**Gevas**	**0.34**	**200**	i P	**Pg**	**01 28 33.0**	**-0.3**
GEVA				i S	**Sb**	**01 28 40.2**	**+0.2**
GEVA	**Gevas**	**0.34**	**200**	P	**Pg**	**01 28 33.0**	**-0.3**
GEVA				S	**Sb**	**01 28 40.2**	**+0.2**
ERCV	**ERCIS-VAN**	**0.40**	**15**	PG	**Pg**	**01 28 34.3**	**-0.2**
ERCV	**ERCIS-VAN**	**0.40**	**15**	ePg	**Pg**	**01 28 34.3**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.42**	**295**	i P	**Pg**	**01 28 34.9**	**+0.2**
ADCV				i S	**Sb**	**01 28 42.4**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.42**	**295**	P	**Pg**	**01 28 34.9**	**+0.2**
ADCV				S	**Sb**	**01 28 42.4**	**+0.1**
VMUR	**Van-Muradiye**	**0.46**	**38**	i P	**Pg**	**01 28 35.2**	**-0.3**
VMUR				i S	**Sb**	**01 28 44.8**	**+1.3**
VMUR	**Van-Muradiye**	**0.46**	**38**	P	**Pg**	**01 28 35.2**	**-0.3**
VMUR				S	**Sb**	**01 28 44.8**	**+1.3**
CLDR	**Caldiran**	**0.76**	**47**	PG	**Pg**	**01 28 40.9**	**-0.2**
CLDR				SG	**Sb**	**01 28 51.9**	**-0.2**
CLDR	**Caldiran**	**0.76**	**47**	ePg	**Pg**	**01 28 40.9**	**-0.2**
CLDR				eSg	**Sb**	**01 28 51.9**	**-0.2**
GURO	**Guroymak-BITLI**	**0.92**	**265**	PG	**Pg**	**01 28 43.9**	**-0.4**
GURO	**Guroymak-BITLI**	**0.92**	**265**	ePg	**Pg**	**01 28 43.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.96**	**350**	PG	**Pg**	**01 28 44.7**	**-0.2**
AGRB	**Hanur-Agry**	**0.96**	**350**	ePg	**Pg**	**01 28 44.7**	**-0.2**
HAKT	**HAKKARI**	**1.14**	**160**	i P	**Pb**	**01 28 47.3**	**-1.0**
HAKT				i S	**Sn**	**01 29 07.3**	**+3.0**
HAKT	**HAKKARI**	**1.14**	**160**	P	**Pb**	**01 28 47.3**	**-1.0**
SRTM	**Siirt_Merkez**	**1.20**	**238**	i P	**Pg**	**01 28 49.8**	**+0.4**
SRTM	**Siirt_Merkez**	**1.20**	**238**	P	**Pg**	**01 28 49.8**	**+0.4**
SIRT	**Sirnak**	**1.28**	**208**	PN	**Pn**	**01 28 50.2**	**-0.1**
SIRT	**Sirnak**	**1.28**	**208**	ePn	**Pn**	**01 28 50.2**	**-0.1**
CUKT	**Cukurca**	**1.42**	**167**	PN	**Pn**	**01 28 51.9**	**-0.3**
CUKT	**Cukurca**	**1.42**	**167**	ePn	**Pn**	**01 28 51.9**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.57**	**30**	PN	**Pn**	**01 28 54.1**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.57**	**30**	ePn	**Pn**	**01 28 54.1**	**-0.2**

DJA 04 01:47:18.2±0.7**, 10°S**±5°×**11°4E**±°**, h10km, M3.6**/7**, MLv3.6**/7**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.30**	**13**	P	Pn	01 47 40.7	-1.7
JAGI				S	Sb	01 47 59.1	-0.3
GMJI	**Gumukmas**	**1.51**	**345**	P	Pn	01 47 43.5	-1.8
GMJI				S	Sb	01 48 06.0	+0.4
IGBI	**Denpasar**	**1.57**	**54**	P	Pb	01 47 47.1	-0.3
IGBI				S	Sn	01 48 03.4	-3.2
BLJI	**Banyuglugur**	**2.00**	**353**	P	Pb	01 47 53.9	-0.8
SRBI	**Singaraja**	**2.12**	**39**	P	Pb	01 47 57.5	+0.7
SRBI				S	Sn	01 48 21.0	+0.7
PWJI	**Pagerwojo**	**2.65**	**310**	P	Pn	01 47 58.5	-2.5
PWJI				S	Sn	01 48 31.6	-1.5

*NEIC **04** 02:08:11.3±0.0, 17°.26N×94°.62W, h129km, MD4.0(MEX), After MEX.*

MEX 04 02:08:11.3±0.5, 17°.26N×94°.62W, h129km±9km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.80**	**14**	*i* P	Pn	02 08 32.0	-0.3
TGIG		**1.51**	**108**	*e*P	Pn	02 08 38.5	-1.1
TGIG				*i* S	Sn	02 08 59.3	-1.8
TGIG		**1.51**	**108**	*e*P	Pn	02 08 38.5	-1.1
TGIG				*i* S	Sn	02 08 59.3	-1.8
VHO	**Vista Hermosa**	**2.03**	**265**	*e*P	Pn	02 08 44.5	-1.2
VHO				*e*S	Sn	02 09 09.7	-2.4
VHO	**Vista Hermosa**	**2.03**	**265**	*e*P	Pn	02 08 44.5	-1.2
VHO				*e*S	Sn	02 09 09.7	-2.4
PCIG		**2.05**	**139**	*e*P	Pn	02 08 44.3	-1.6
PCIG				*e*S	Sn	02 09 10.3	-1.9
PCIG		**2.05**	**139**	*e*P	Pn	02 08 44.3	-1.6
PCIG				*e*S	Sn	02 09 10.3	-1.9
HUIG	**Huatulco**	**2.06**	**224**	*e*P	Pn	02 08 41.4	-4.5
HUIG				*i* S	Sn	02 09 08.0	-4.4
HUIG	**Huatulco**	**2.06**	**224**	*e*P	Pn	02 08 41.4	-4.5
HUIG				*i* S	Sn	02 09 08.0	-4.4
CCIG	**Comitan**	**2.57**	**112**	*i* P	Pn	02 08 51.5	-1.0
CCIG				*i* S	Sn	02 09 22.7	-1.6
CCIG	**Comitan**	**2.57**	**112**	*i* P	Pn	02 08 51.5	-1.0
CCIG				*i* S	Sn	02 09 22.7	-1.6
TPIG	**Tehuac#an**	**2.85**	**294**	*i* P	Pn	02 08 55.5	-0.6
TPIG				*e*S	Sn	02 09 28.7	-2.0
TPIG	**Tehuac#an**	**2.85**	**294**	*i* P	Pn	02 08 55.5	-0.6
TPIG				*e*S	Sn	02 09 28.7	-2.0

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*NEIC **04** 02:33:56.7±0.6, 9°.52N×123°.42E, h10km, mb4.4/8, Error ellipse: s-maj=13.6km s-min=8.6km az=99.0*
NEIC Felt [III PIVS] at Ayungon and Tayasan and [II PIVS] at Pulupandan, Negros. Felt [II PIVS] at Iloilo and [I PIVS] at Calinog, Panay.
*MAN **04** 02:34:00, 9°.84N×122°.93E, h11km, mb5.0, ML4.0, MS4.0*
*ISCJB **04** 02:34:01.4±0.6, 9°.89N±0°.03×123°.01E±0°.03, h28km±4km, mb4.1/22, MS3.3/8, Error ellipse: s-maj=5.5km s-min=3.9km az=149.5*
*IDC **04** 02:34:15.8±2.4, 9°.75N×123°.07E, h164km±24km, mb3.6/14, mb1 3.8/16, mb1mx3.6/54, mbtmp4.1/16, MS3.5/10, Ms1 3.5/10, ms1mx3.2/52, Error ellipse: s-maj=23.6km s-min=11.3km az=72.0*
ISC 04 02:34:00.0±1.3, 9°.83N±0°.02×123°.04E±0°.03, h17km±8km, n74, σ1s.58/85, mb4.1/22, MS3.2/8, 5C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.52**	**158**	⇓*e*P	**Pn**	**02 34 13.0**	**+0.2**
SNPH				*e*S	**Sn**	**02 34 21.7**	**+0.4**
TBP	**Tagbilaran**	**0.82**	**100**	*e*P	**Pn**	**02 34 17.6**	**+0.7**
TBP				*i* S	**Sn**	**02 34 29.8**	**+1.2**
GUIM	**Jordan**	**0.91**	**331**	*e*P	**Pb**	**02 34 15.1**	**-2.2**
GUIM				*e*S	**Sb**	**02 34 27.5**	**-1.5**
LLP	**Lapu-Lapu**	**1.03**	**62**	⇑*i*P	**Pb**	**02 34 18.4**	**-1.1**
LLP				*e*S	**Sb**	**02 34 32.9**	**+0.2**
DCPH	**Dipolog City**	**1.28**	**166**	⇑*e*P	**Pb**	**02 34 23.3**	**-0.3**
DCPH				*e*S	**Sg**	**02 34 41.5**	**+0.1**
JAP	**San Jose, Anti**	**1.41**	**310**	⇑*i*P	**Pn**	**02 34 25.7**	**+0.8**
RCP	**Roxas**	**1.74**	**350**	⇑*e*P	**Pn**	**02 34 29.6**	**+0.1**
RCP				*e*S	**Sb**	**02 34 53.4**	**+0.2**
MSLP	**Maasin**	**1.82**	**80**	*e*P	**Pb**	**02 34 31.9**	**-0.9**
MSLP				*e*S	**Sg**	**02 34 57.9**	**-0.7**
OCLP	**Ormoc**	**1.96**	**52**	*e*P	**Pn**	**02 34 33.0**	**+0.5**
OCLP				*e*S	**Sg**	**02 35 02.5**	**-0.8**
PAGZ	**Pagadian**	**2.00**	**170**	*e*P	**Pb**	**02 34 35.5**	**-0.4**
PAGZ				*e*S	**Sg**	**02 35 05.5**	**+1.0**
PLP	**Palo**	**2.32**	**55**	⇓*e*P	**Pn**	**02 34 37.4**	**-0.1**
MMPH	**Masbate**	**2.58**	**13**	⇑*i*P	**Pn**	**02 34 43.1**	**+2.1**
MMPH				*i* S	**Sb**	**02 35 18.2**	**+1.0**
BUTP	**Butuan**	**2.69**	**108**	*e*P	**Pn**	**02 34 43.6**	**+1.1**
BUTP				*e*S	**Sb**	**02 35 20.5**	**+0.1**
OTRP	**Odiongan**	**2.71**	**338**	*e*P	**Pn**	**02 34 43.7**	**+1.0**
OTRP				*e*S	**Sn**	**02 35 17.3**	**+2.1**
BUKP	**Musuan**	**2.79**	**134**	*e*P	**Pb**	**02 34 47.6**	**-1.8**
BUKP				*e*S	**Sb**	**02 35 23.5**	**+0.3**
CTBH	**Cotabato--PC H**	**2.85**	**155**	⇓*i*P	**Pb**	**02 34 48.4**	**-2.1**
CTBH				*i* S	**Sb**	**02 35 24.8**	**-0.4**
CNP	**Catarman**	**3.10**	**31**	*e*P	**Pn**	**02 34 50.7**	**+2.5**
BUSP	**Coron**	**3.53**	**308**	*e*P	**Pn**	**02 34 54.3**	**+0.2**
DAV	**Davao City (W)**	**3.72**	**137**	P	**Pg**	**02 35 13.3**	**+1.9**
	44nm,0.3s,baz=317,slow=12,SNR=7.8						
DAV				S	**Sg**	**02 35 56.1**	**-3.6**
	61nm,0.3s,baz=261,slow=24,SNR=2.5						
DAV				LR	LR	02 36 46.9	
	comp=Z,2μm,18.3s,baz=349,slow=41						
ENPP	**El Nido**	**3.81**	**291**	*e*P	**Pn**	**02 34 58.4**	**+0.4**
LQP	**Lukban**	**4.50**	**341**	*e*P	**Pb**	**02 35 15.3**	**-3.4**
TGY	**Tagaytay City**	**4.72**	**334**	LR	LR	02 37 15.2	
	comp=Z,828nm,20.0s,baz=134,slow=37						
MYLDM	**Lahad Datu**	**6.45**	**225**	*e*Pn	**Pn**	**02 35 37.3**	**+3.0**
JOW	**Kunigami**	**17.62**	**16**	*e*Pn	**P**	**02 38 05.8**	**+0.1**
	50nm,1.1s						
SOEI	**Soe**	**19.50**	**176**	*e*P	**P**	**02 38 20.9**	**-5.6**
	20nm,0.9s						
BATI	**Baumata**	**19.92**	**178**	P	**Pn**	**02 38 34.1**	**+1.4**
	1.3nm,0.3s,baz=218,slow=6.1,SNR=10						
JAGI	**Jajag, Banyuwa**	**20.22**	**206**	*e*P	**P**	**02 38 31.4**	**-3.0**
GUMO	**Guam**	**21.69**	**78**	LR	LR	02 45 53.6	
	comp=Z,69nm,21.7s,baz=100,slow=32						
IPM	**Ipoh**	**22.47**	**258**	*e*P	**P**	**02 38 59.9**	**+1.2**
	37nm,1.4s						
KULM	**Kulim**	**22.64**	**260**	*e*P	**P**	**02 39 01.9**	**+1.4**
	7.1nm,0.7s						
JNU	**Nakatsue**	**24.28**	**16**	LR	LR	02 48 29.3	
	comp=Z,73nm,20.0s,baz=308,slow=35						
CM01	**Chiang Mai Arr**	**24.84**	**293**	*e*P	**P**	**02 39 24.3**	**+2.5**
CMAR	**Chiang Mai Arr**	**24.86**	**293**	P	**P**	**02 39 24.0**	**+2.0**
	1.5nm,0.4s,baz=104,slow=6.8,SNR=11						
CMAR				LR	LR	02 49 21.0	
	comp=Z,77nm,18.1s,baz=95,slow=36						
PSI	**Prapat**	**24.95**	**255**	*e*P	**P**	**02 39 23.9**	**+1.0**
	23nm,1.2s						
GSI	**Gunungsitoli**	**26.70**	**253**	*e*P	**P**	**02 39 39.4**	**+0.8**
	26nm,0.9s						
TIA	**Tai'an**	**26.80**	**349**	P	**P**	**02 39 37.0**	**-2.3**
CD2	**Chengdu**	**27.60**	**322**	*e*P	**P**	**02 39 49.2**	**+2.6**
KSRS	**Korea Array**	**27.85**	**8**	P	**P**	**02 39 50.5**	**+1.8**
	2.3nm,0.7s,baz=187,slow=10,SNR=6.9						
KSRS				LR	LR	02 51 51.4	
	comp=Z,41nm,20.0s,baz=194,slow=38						
MJAR	**Matsushiro Arr**	**29.94**	**25**	LR	LR	02 50 48.4	
	comp=Z,42nm,21.1s,baz=95,slow=33						
WRA	**Warramunga Arr**	**31.61**	**159**	P	**P**	**02 40 21.1**	**-1.1**
	2.3nm,0.9s,baz=337,slow=9.3,SNR=10.0						
ASAR	**Alice Springs**	**34.95**	**162**	P	**P**	**02 40 51.4**	**0.0**
	2.4nm,0.8s,baz=342,slow=7.0,SNR=51						
AS01	**Alice Springs**	**34.96**	**162**	*e*P	P	02 40 44.5	-6.9
USRK	**Ussuriysk Ar.**	**35.11**	**11**	P	**P**	**02 40 53.9**	**+1.4**
	5.4nm,0.8s,baz=180,slow=6.7,SNR=7.8						
MDJ	**Mudanjiang**	**35.12**	**8**	P	**P**	**02 40 52.7**	**+0.2**
GTA	**Gaotai**	**36.01**	**329**	*e*P	**P**	**02 41 02.5**	**+2.0**
GTA				pP	pP	02 41 06.9	+1.1
GTA				sP	sP	02 41 09.5	+1.5
TAPN	**Taplejung**	**37.56**	**302**	*e*P	**P**	**02 41 15.6**	**+1.5**
	43nm,1.2s						
RAMN	**Ramite**	**38.36**	**301**	*e*P	**P**	**02 41 22.5**	**+1.8**
	49nm,1.2s						
JIRN	**Jiri**	**38.94**	**302**	*e*P	**P**	**02 41 26.9**	**+1.2**
	32nm,0.8s						
GUN	**Gumba**	**39.28**	**302**	*e*P	**P**	**02 41 30.1**	**+1.5**
	63nm,1.0s						
PKI	**Pulchoki**	**39.56**	**302**	*e*P	**P**	**02 41 31.9**	**+1.0**
	19nm,1.0s						
PKIN	**Phulchoki**	**39.57**	**302**	*e*P	**P**	**02 41 32.0**	**+1.1**
	7.9nm,0.6s						
KKN	**Kakani**	**39.74**	**302**	*e*P	**P**	**02 41 34.2**	**+1.9**
	17nm,0.5s						
DMN	**Daman**	**39.83**	**302**	*e*P	**P**	**02 41 34.7**	**+1.7**
	17nm,0.8s						
ULN	**Ulaanbaatar**	**40.24**	**343**	*e*P	**P**	**02 41 37.2**	**+1.2**
	3.6nm,1.1s						
SONM	**Songino Array**	**40.40**	**343**	P	**P**	**02 41 37.9**	**+0.6**
	1.0nm,0.5s,baz=169,slow=9.1,SNR=7.5						
SONM				LR	LR	02 58 48.3	
	comp=Z,108nm,18.0s,baz=180,slow=36						
SONA1	**Songino Array**	**40.41**	**343**	*e*P	**P**	**02 41 38.4**	**+1.0**
KOLN	**Koldanda**	**41.15**	**301**	*e*P	**P**	**02 41 45.2**	**+1.3**
	26nm,1.0s						
DANN	**Dangsing**	**41.19**	**302**	*e*P	**P**	**02 41 45.9**	**+1.6**
	1.9nm,1.0s						
PYUN	**Piuthan**	**41.76**	**301**	*e*P	**P**	**02 41 50.5**	**+1.6**
	70nm,1.2s						
STKA	**Stephens Creek**	**45.11**	**158**	P	**P**	**02 42 15.7**	**+0.1**
	1.6nm,0.7s,baz=350,slow=7.9,SNR=5.5						
MK01	**Makanchi Array**	**50.47**	**324**	*e*P	**P**	**02 42 57.8**	**+0.7**
MK31	**Makanchi Array**	**50.49**	**324**	*e*P	**P**	**02 42 58.3**	**+1.1**
MKAR	**Makanchi Array**	**50.49**	**324**	P	**P**	**02 42 57.1**	**0.0**
	1.9nm,1.0s,baz=108,slow=4.0,SNR=9.0						
MKAR				PcP	**PcP**	**02 44 14.9**	**-0.3**
	0.6nm,0.6s,baz=129,slow=4.8,SNR=3.7						
MKAR				LR	LR	03 06 09.3	
	comp=Z,66nm,18.6s,baz=49,slow=38						
ZALV	**Zalesovo Beam**	**53.52**	**333**	P	**P**	**02 43 19.2**	**-0.4**
	0.5nm,0.4s,baz=122,slow=5.8,SNR=3.5						
ZALV				LR	LR	03 09 08.3	
	comp=Z,59nm,18.6s,baz=68,slow=39						
KURK	**Kurchatov**	**54.66**	**327**	*e*P	**P**	**02 43 27.9**	**0.0**
	5.7nm,1.1s						
GEYT	**Alibeck**	**64.27**	**307**	P	**P**	**02 44 35.0**	**+0.4**
	1.2nm,1.0s,baz=33,slow=8.6,SNR=2.8						
ABKAR	**Akbulak array**	**65.14**	**320**	*e*P	**P**	**02 44 39.8**	**-0.2**
	0.3nm,0.4s						
RAYN	**Ar Rayn**	**74.78**	**292**	*e*P	**P**	**02 45 39.5**	**-0.4**
	2.4nm,0.9s						
ILAR	**Eielson Array**	**81.22**	**26**	P	**P**	**02 46 13.2**	**-1.5**
	0.6nm,0.8s,baz=250,slow=5.5,SNR=4.4						
BRTR	**Keskin Array B**	**83.34**	**309**	P	**P**	**02 46 25.2**	**-1.3**
	1.8nm,1.0s,baz=82,slow=1.7,SNR=4.1						
FINES	**FINESS Array B**	**84.76**	**331**	P	**P**	**02 46 31.0**	**-2.1**
	2.5nm,1.0s,baz=357,slow=3.1,SNR=3.9						
INK	**Inuvik**	**85.85**	**21**	*e*P	**P**	**02 46 38.8**	**+0.3**
YKA	**Yellowknife Ar**	**95.43**	**23**	P	**P**	**02 47 22.4**	**-1.1**
	0.3nm,0.7s,baz=305,slow=4.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**117.45**	**290**	PKP	**PKPdf**	**02 52 44.6**	**-1.3**
	0.9nm,0.9s,baz=340,slow=1.7,SNR=5.2						

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*ISCJB **04** 02:50:57.9±0.6, 48°.59N±0°.03×128°.64W±0°.05, h10km, mb3.0/2, MS3.3/3, Error ellipse: s-maj=5.4km s-min=4.1km az=141.1*
*PGC **04** 02:50:57.8±0.0, 48°.47N×128°.84W, h10km, MLSn2.9/25, Mw3.5/25, Mw3.5/25, 226km Wsw of Tofino, Bc Vancouver Island, Canada Region*
*IDC **04** 02:51:00.6±2.2, 48°.73N×128°.08W, h0km, mb3.1/2, mb1 3.5/7, mb1mx3.2/67, mbtmp3.2/7, ML2.6/4, MS3.3/10, Ms1 3.3/10, ms1mx3.1/17, Error ellipse: s-maj=62.4km s-min=12.7km az=71.0*
ISC 04 02:50:57.5±0.9, 48°.57N±0°.05×128°.77W±0°.06, h10km, n53, σ1s.67/58, MS3.3/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCHR	**NEPTUNE Canada**	**0.63**	**199**	P	**Pg**	**02 51 07.6**	**-1.9**
KEMF	**NEPTUNE Canada**	**0.66**	**200**	P	**Pg**	**02 51 08.2**	**-1.8**
NC27	**ODP1027**	**1.05**	**139**	P	**Pb**	**02 51 15.1**	**-2.5**
EDB	**Eliza Dome**	**1.70**	**39**	Pn	**Pn**	**02 51 26.5**	**-0.7**
BPBC	**Brooks Peninsu**	**1.72**	**22**	Pn	**Pn**	**02 51 26.8**	**-0.7**
BPBC				Sn	**Sn**	**02 51 48.9**	**-0.7**
PACB	**Port Alice, BC**	**2.05**	**24**	Pn	**Pn**	**02 51 30.3**	**-1.6**
PACB				Sn	**Sn**	**02 51 55.1**	**-2.4**
MAYB	**Maynard**	**2.11**	**29**	Pn	**Pn**	**02 51 33.2**	**+0.2**
HOLB	**Holberg**	**2.12**	**11**	Pn	**Pn**	**02 51 33.5**	**+0.6**
HOLB				Sn	**Sn**	**02 51 59.7**	**+0.4**
GDR	**Gold River**	**2.17**	**55**	Pn	**Pn**	**02 51 33.6**	**0.0**
OZB	**Mount Ozzard**	**2.21**	**78**	Pn	**Pn**	**02 51 32.7**	**-1.5**
OZB				Sn	**Sn**	**02 51 59.7**	**-1.8**
PHC	**Port Hardy**	**2.31**	**22**	Pn	**Pn**	**02 51 36.0**	**+0.4**
B928	**Bamfield**	**2.42**	**82**	Pn	**Pn**	**02 51 36.9**	**-0.2**
B928				Sn	**Sn**	**02 52 04.8**	**-2.0**
CBB	**Campbell River**	**2.67**	**55**	Pn	**Pn**	**02 51 41.0**	**+0.5**
CBB				Sn	**Sn**	**02 52 13.3**	**+0.4**
PFB	**Port Renfrew**	**2.88**	**88**	Pn	**Pn**	**02 51 43.4**	**+0.1**
PFB				Sn	**Sn**	**02 52 16.0**	**-2.0**
OFR	**Olym-F Res Ctr**	**2.99**	**101**	Sn	**Sn**	**02 52 20.2**	**-0.7**
TXB	**Texada**	**3.06**	**67**	Pn	**Pn**	**02 51 46.6**	**+0.6**
B926	**Mesachie Lake**	**3.08**	**84**	Pn	**Pn**	**02 51 46.5**	**+0.3**
B926				Sn	**Sn**	**02 52 21.7**	**-1.4**
NLLB	**Nanaimo Lost L**	**3.23**	**76**	Pn	**Pn**	**02 51 49.7**	**+1.6**
NLLB				Sn	**Sn**	**02 52 26.8**	**+0.3**
LZB	**Mount Lazard**	**3.29**	**87**	Pn	**Pn**	**02 51 49.0**	**-0.1**
LZB				Sn	**Sn**	**02 52 27.3**	**-0.9**
BPCB	**Bare Point**	**3.37**	**82**	Sn	**Sn**	**02 52 29.5**	**-0.7**
SHB	**Sechelt**	**3.38**	**70**	Pn	**Pn**	**02 51 51.2**	**+0.9**
SHB				Sn	**Sn**	**02 52 30.0**	**-0.6**
B009	**North Saanich**	**3.53**	**87**	Pn	**Pn**	**02 51 52.3**	**0.0**
B009				Sn	**Sn**	**02 52 34.0**	**-0.1**
B010	**North Saanich**	**3.53**	**87**	Sn	**Sn**	**02 52 33.9**	**-0.2**
B011	**North Saanich**	**3.53**	**87**	Pn	**Pn**	**02 51 52.3**	**0.0**
B011				Sn	**Sn**	**02 52 34.1**	**0.0**
BBB	**Bella Bella**	**3.65**	**6**	Pn	**Pn**	**02 51 55.1**	**+1.2**
	13nm,0.3s,baz=195,slow=14,SNR=84						
BBB				Sn	**Sn**	**02 52 36.0**	**-1.0**
	8.0nm,0.3s,baz=299,slow=22,SNR=7.5						
BBB				LR	LR	02 53 10.7	
	comp=Z,249nm,21.4s,baz=140,slow=38						
BBB	**Bella Bella**	**3.65**	**6**	Pn	**Pn**	**02 51 55.2**	**+1.3**
BBB				Sn	**Sn**	**02 52 35.4**	**-1.5**
BIB	**Bowen Island**	**3.70**	**75**	Pn	**Pn**	**02 51 54.7**	**+0.2**
BIB				Sn	**Sn**	**02 52 40.2**	**+2.1**
WPB	**Watts Point**	**3.81**	**71**	Pn	**Pn**	**02 51 57.4**	**+1.1**
WSLR	**Whistler**	**4.13**	**66**	Pn	**Pn**	**02 52 02.2**	**+1.6**
MBW	**Mount Baker**	**4.56**	**85**	Pn	**Pn**	**02 52 08.0**	**+1.4**
LLLB	**Lillooet**	**4.93**	**63**	Pn	**Pn**	**02 52 12.9**	**+1.4**
LON	**Longmire**	**5.04**	**109**	Pn	**Pn**	**02 52 15.5**	**+2.3**
FMW	**Mount Fremont**	**5.06**	**106**	Pn	**Pn**	**02 52 16.2**	**+2.7**
UBRB	**Upper Baezaeko**	**5.25**	**33**	Pn	**Pn**	**02 52 17.7**	**+1.6**
BLBC	**Blue River**	**7.03**	**57**	P	**Pn**	**02 52 42.5**	**+1.9**
MNB	**Mounoet Dainar**	**7.57**	**57**	P	**Pn**	**02 52 50.3**	**+2.3**
YBH	**Yreka Blue Hor**	**8.06**	**146**	Pn	**Pn**	**02 52 58.5**	**+3.8**
	0.1nm,0.3s,baz=336,slow=16,SNR=6.2						
YBH				LR	LR	02 55 38.4	
	comp=Z,197nm,20.5s,baz=342,slow=35						
FNBB	**Fort Nelson**	**10.89**	**16**	P	**Pn**	**02 53 35.9**	**+2.7**
NVAR	**Mina Array Bea**	**12.65**	**139**	Pn	Pn	02 54 02.4	+4.8
	baz=324,slow=10,SNR=11						
NVAR				LR	LR	02 58 46.4	
	comp=Z,190nm,19.2s,baz=66,slow=37						
PDAR	**Pinedale Array**	**14.62**	**106**	LR	LR	03 00 33.0	
	comp=Z,166nm,19.4s,baz=309,slow=40						
YKA	**Yellowknife Ar**	**16.04**	**24**	Pn	**Pn**	**02 54 39.1**	**-3.7**
	0.0nm,0.3s,baz=214,slow=11,SNR=3.1						
YKA				LR	LR	03 01 18.2	
	comp=Z,13nm,18.5s,baz=180,slow=39						
KDAK	**Kodiak Island**	**16.91**	**312**	LR	LR	02 59 22.7	
	comp=Z,132nm,18.5s,baz=103,slow=29						
ILAR	**Eielson Array**	**18.92**	**336**	P	**Pn**	**02 55 23.2**	**+4.5**
	0.0nm,0.3s,baz=148,slow=10,SNR=8.4						
ILAR				LR	LR	03 01 57.2	
	comp=Z,102nm,18.2s,baz=148,slow=35						
INK	**Inuvik**	**19.94**	**355**	P	Pn	02 55 36.2	+5.3
	0.0nm,0.3s,baz=182,slow=12,SNR=3.8						
ANMO	**Albuquerque**	**21.40**	**121**	P	**P**	**02 55 46.4**	**+0.9**
	1.5nm,0.8s,baz=311,slow=20,SNR=4.1						
ANMO				LR	LR	03 03 59.3	
	comp=Z,69nm,19.5s,baz=128,slow=37						
TXAR	**Lajitas Array**	**27.18**	**126**	P	**P**	**02 56 44.3**	**+3.0**
	0.1nm,0.5s,baz=342,slow=5.7,SNR=2.6						
TXAR				LR	LR	03 08 35.0	
	comp=Z,82nm,19.4s,baz=0.0,slow=39						
SCHQ	**Schefferville**	**37.77**	**56**	LR	LR	03 15 11.1	
	comp=Z,71nm,19.5s,baz=326,slow=39						
H11N2	**WAKE ISLAND Hy**	**58.54**	**264**	T	T	04 04 18.5	
	baz=44,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**58.54**	**264**	T	T	04 04 17.9	
	baz=44,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**58.56**	**264**	T	T	04 04 21.0	
	baz=44,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**59.54**	**264**	T	T	04 05 35.8	
	baz=44						
H11S2	**WAKE ISLAND Hy**	**59.55**	**264**	T	T	04 05 35.9	
	baz=44,SNR=19						
H11S3	**WAKE ISLAND Hy**	**59.56**	**264**	T	T	04 05 35.5	
	baz=44,SNR=7.2						

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*ISCJB **04** 02:51:11.4±0.8, 36°.19N±0°.05×139°.84E±0°.07, h73km±6km, mb3.3/3, Error ellipse: s-maj=9.9km s-min=8.1km az=16.1*
*IDC **04** 02:51:12.5±4.5, 36°.44N×139°.90E, h89km±30km, mb3.0/3, mb1 3.2/3, mb1mx2.8/64, mbtmp3.3/3, Error ellipse: s-maj=52.3km s-min=20.6km az=78.0*
*JMA **04** 02:51:13.5±0.1, 36°.21N×139°.80E, h56km±1km, M3.1*
ISC 04 02:51:11.8±1.0, 36°.21N±0°.05×139°.80E±0°.06, h70km±8km, n12, σ1s.57/20, mb3.4/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.32**	**87**	P	**Pn**	**02 51 23.5**	**+0.4**
JYT				S	**Sn**	**02 51 30.7**	**-0.6**
JAG	**Ashikaga**	**0.35**	**307**	P	**Pn**	**02 51 23.7**	**+0.4**
JAG				S	**Sn**	**02 51 30.9**	**-0.9**
JKT	**Katashina**	**0.71**	**321**	P	**Pn**	**02 51 27.4**	**+0.5**
JKT				S	**Sn**	**02 51 38.1**	**+0.1**
JRY	**Ryogami san**	**0.75**	**255**	P	**Pn**	**02 51 28.2**	**+0.9**
JRY				S	**Sn**	**02 51 38.7**	**-0.1**
JOD2	**Odawara 2**	**1.11**	**212**	P	**Pn**	**02 51 33.2**	**+1.5**
JOD2				S	**Sn**	**02 51 47.4**	**+0.9**
JFY	**Yanaizu**	**1.19**	**356**	P	**Pn**	**02 51 34.1**	**+1.3**
JFY				S	**Sn**	**02 51 50.7**	**+2.3**
JHK	**Hiroka**	**1.21**	**329**	P	**Pn**	**02 51 34.1**	**+1.2**
MJAR	**Matsushiro Arr**	**1.32**	**285**	P	**Pn**	**02 51 34.9**	**+0.5**
	11nm,0.3s,baz=100,slow=9.0,SNR=105						
MJAR				S	**Sn**	**02 51 54.4**	**+2.9**
	5.3nm,0.3s,baz=95,slow=28,SNR=6.3						
MAT	**Matsushiro**	**1.33**	**285**	P	**Pn**	**02 51 35.5**	**+1.0**
MAT				S	**Sn**	**02 51 49.2**	**-2.3**
ZALV	**Zalesovo Beam**	**41.52**	**313**	P	**P**	**02 58 51.0**	**-1.0**
	0.3nm,0.4s,baz=99,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**43.46**	**303**	P	**P**	**02 59 04.8**	**-3.0**
	0.1nm,0.3s,baz=64,slow=6.6,SNR=3.0						
WRA	**Warramunga Arr**	**56.09**	**186**	P	**P**	**03 00 44.6**	**+0.8**
	0.2nm,0.5s,baz=1.3,slow=7.5,SNR=7.1						

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*IDC **04** 03:12:05.8±2.0, 38°.43N×144°.90E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.4/65, mbtmp3.6/8, ML3.2/3, Error ellipse: s-maj=54.9km s-min=22.3km az=69.0*
*ISCJB **04** 03:12:09.0±0.9, 38°.39N±0°.07×144°.62E±0°.08, h29km, mb3.5/5, Error ellipse: s-maj=10.9km s-min=7.4km az=145.9*
*JMA **04** 03:12:10.1±0.3, 38°.53N×144°.44E, h16km, M3.5*
ISC 04 03:12:10.8±1.3, 38°.55N±0°.08×144°.6E±0°.1, h29km, n22, σ1s.64/26, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.37**	**284**	P	**Pn**	**03 12 47.4**	**-0.4**
MIYJ	**Miyakonagasawa**	**2.42**	**296**	P	**Pn**	**03 12 47.8**	**-0.6**
JIO	**Ouri**	**2.58**	**269**	P	**Pn**	**03 12 50.0**	**-0.5**
JIO				S	**Sn**	**03 13 19.9**	**-1.0**
JMK	**Ichinoseki**	**2.70**	**280**	P	**Pn**	**03 12 52.3**	**+0.1**
JOU	**Okura**	**3.12**	**268**	P	**Pn**	**03 12 58.3**	**+0.3**
JOU				S	**Sn**	**03 13 33.8**	**-0.5**
JRG	**Rokugo**	**3.23**	**286**	P	**Pn**	**03 13 00.1**	**+0.6**
JYK	**Kaneyama**	**3.36**	**278**	P	**Pn**	**03 13 01.9**	**+0.6**
JFT	**Otama**	**3.54**	**254**	P	**Pn**	**03 13 04.2**	**+0.4**
JFT				*e*S	**Sn**	**03 13 44.7**	**-0.1**
JTM	**Tenmabayashi**	**3.54**	**310**	P	**Pn**	**03 13 05.0**	**+1.2**
JRY	**Ryogami san**	**5.22**	**243**	P	**Pn**	**03 13 26.4**	**-0.5**
JRY				*e*S	**Sn**	**03 14 24.0**	**-2.1**
MJAR	**Matsushiro Arr**	**5.48**	**251**	Pn	**Pn**	**03 13 31.1**	**+0.5**
	1.3nm,0.3s,baz=52,slow=9.9,SNR=12						
MJAR				Sn	**Sn**	**03 14 31.1**	**-1.4**
	baz=87,slow=15,SNR=3.9						
MAT	**Matsushiro**	**5.48**	**251**	P	**Pn**	**03 13 31.3**	**+0.8**
MAT				*e*S	**Sn**	**03 14 29.3**	**-3.3**
ASAJ	**Asahikawa**	**5.77**	**345**	Pn	**Pn**	**03 13 35.2**	**+0.8**
	1.0nm,0.3s,baz=177,slow=32,SNR=4.6						
ASAJ				Sn	**Sn**	**03 14 34.7**	**-4.9**
	0.1nm,0.3s,baz=156,slow=20,SNR=2.1						
USRK	**Ussuriysk Ar.**	**11.04**	**305**	Pn	**Pn**	**03 14 49.4**	**+2.6**
	0.2nm,0.3s,baz=106,slow=13,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**26.89**	**128**	T	T	03 45 39.7	
	baz=311,slow=72						
H11N1	**WAKE ISLAND Hy**	**26.90**	**128**	T	T	03 45 39.5	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**26.91**	**128**	T	T	03 45 43.7	
	baz=311,slow=72						
SONM	**Songino Array**	**29.12**	**301**	P	**P**	**03 18 09.8**	**+0.7**
	0.3nm,0.5s,baz=79,slow=7.5,SNR=3.2						
MKAR	**Makanchi Array**	**45.49**	**301**	P	**P**	**03 20 27.7**	**+0.3**
	0.1nm,0.4s,baz=100,slow=7.4,SNR=2.7						
BVAR	**Borovoye Array**	**51.45**	**312**	P	**P**	**03 21 15.1**	**+2.0**
	0.7nm,0.9s,baz=66,slow=8.0,SNR=3.1						
WRA	**Warramunga Arr**	**58.98**	**191**	P	**P**	**03 22 06.1**	**-1.6**
	0.9nm,0.8s,baz=12,slow=7.3,SNR=5.9						
ASAR	**Alice Springs**	**62.70**	**191**	P	**P**	**03 22 32.5**	**-0.5**
	0.5nm,0.8s,baz=14,slow=7.3,SNR=5.2						

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*TAP **04** 03:13:10.9, 24°.64N×121°.91E, h58km, ML3.6, C*
*JMA **04** 03:13:10.4±0.1, 24°.62N×121°.92E, h68km±2km, M2.9*
*ISCJB **04** 03:13:11.3±0.4, 24°.66N±0°.02×121°.97E±0°.02, h58km±3km, Error ellipse: s-maj=3.6km s-min=2.5km az=157.0*
ISC 04 03:13:11.7±1.2, 24°.66N±0°.03×121°.96E±0°.02, h56km±6km, n56, σ0s.74/111, 3C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.11**	**246**	⇑P	**Pn**	**03 13 20.2**	**-0.1**
	baz=233						
TWC				S	**Sn**	**03 13 26.7**	**+0.3**
	baz=233						
EGS		**0.19**	**351**	*e*P	**Pn**	**03 13 21.1**	**+0.4**
	baz=21						
EGS				*e*S	**Sn**	**03 13 28.6**	**+1.5**
	baz=21						
ILA	**Ilan**	**0.22**	**299**	*e*P	**Pn**	**03 13 21.3**	**+0.5**
	baz=319						
ILA				*e*S	**Sn**	**03 13 28.7**	**+1.3**
	baz=319						
NTC	**Toucheng**	**0.23**	**328**	*e*P	**Pn**	**03 13 20.8**	**-0.1**
	baz=353						
NTC				*e*S	**Sn**	**03 13 27.8**	**+0.3**
	baz=353						
ENAH	**Nanao**	**0.25**	**214**	⇑P	**Pn**	**03 13 20.9**	**-0.1**
	baz=206						
ENAH				*e*S	**Sn**	**03 13 28.1**	**+0.5**
	baz=206						
TWE	**Neicheng**	**0.28**	**284**	⇓P	**Pn**	**03 13 21.4**	**+0.1**
	baz=291						
TWE				*e*S	**Sn**	**03 13 28.4**	**+0.4**
	baz=291						
ENA	**Nanau**	**0.30**	**222**	⇑*i*P	**Pn**	**03 13 21.2**	**-0.3**
	baz=214						
ENA				S	**Sn**	**03 13 28.7**	**+0.3**
	baz=214						
SLBB	**Yuanshan**	**0.31**	**288**	⇓*e*P	**Pn**	**03 13 21.8**	**+0.3**
	baz=300						
SLBB				*e*S	**Sn**	**03 13 29.2**	**+0.6**
	baz=300						
TIPB	**Shuangxi**	**0.34**	**338**	*e*P	**Pn**	**03 13 20.7**	**-1.1**
	baz=338						
TIPB				*e*S	**Sn**	**03 13 26.9**	**-2.1**
	baz=338						
TWB1	**Santiao Chiao**	**0.35**	**4**	*e*P	**Pn**	**03 13 21.6**	**-0.3**
	baz=19						
TWB1				*e*S	**Sn**	**03 13 28.8**	**-0.4**
	baz=19						
ENTT	**Nioudou**	**0.36**	**268**	⇓P	**Pn**	**03 13 21.8**	**-0.1**
	baz=274						
ENTT				*e*S	**Sn**	**03 13 29.5**	**+0.2**
	baz=274						
NWLT	**Wulai**	**0.44**	**286**	⇓*e*P	**Pn**	**03 13 22.5**	**-0.3**
	baz=290						
NWLT				*e*S	**Sn**	**03 13 30.5**	**-0.2**
	baz=290						
NWF	**Wu-fen Shan**	**0.45**	**338**	*e*P	**Pn**	**03 13 22.8**	**-0.1**
	baz=346						
NWF				*e*S	**Sn**	**03 13 30.3**	**-0.6**
	baz=346						
NNSH	**Datong**	**0.57**	**247**	⇓*e*P	**Pn**	**03 13 23.9**	**-0.4**
	baz=247						
NNSH				*e*S	**Sn**	**03 13 32.7**	**-0.9**
	baz=247						
NNS	**Nan Shan**	**0.58**	**248**	⇓P	**Pn**	**03 13 24.0**	**-0.4**
	baz=247						
NNS				*e*S	**Sn**	**03 13 33.1**	**-0.4**
	baz=247						
YM10	**YM10**	**0.62**	**324**	*e*P	**Pn**	**03 13 24.4**	**-0.4**
	baz=329						
YM10				*e*S	**Sn**	**03 13 33.1**	**-1.1**
	baz=329						
YM03	**YM03**	**0.65**	**324**	*e*P	**Pn**	**03 13 24.7**	**-0.5**
	baz=328						
YM03				*e*S	**Sn**	**03 13 34.1**	**-0.8**
	baz=328						
TWD	**Chiawan**	**0.66**	**210**	P	**Pn**	**03 13 24.5**	**-0.8**
	baz=217						

TWD				eS	Sn	03 13 34.6	-0.5
	baz=217						
TWS1	Kuangyinshan	0.66	312⇓	eP	Pn	03 13 25.1	-0.2
	baz=321						
TWS1				eS	Sn	03 13 35.4	+0.2
	baz=321						
WLTB	Daxi	0.68	287	eP	Pn	03 13 25.3	-0.2
	baz=281						
WLTB				eS	Sn	03 13 35.8	+0.4
	baz=281						
NTST	Danshui	0.69	317	eP	Pn	03 13 25.3	-0.3
	baz=328						
NTST				eS	Sn	03 13 35.3	-0.4
	baz=328						
TWY	Chenhua	0.70	332	eP	Pn	03 13 25.6	-0.1
	baz=338						
TWY				eS	Sn	03 13 36.3	+0.4
	baz=338						
NCU	National Centr	0.77	294	eP	Pn	03 13 26.4	-0.3
	baz=296						
NCU				eS	Sn	03 13 37.9	+0.3
	baz=296						
NCUH	Zhongli	0.77	294	eP	Pn	03 13 26.2	-0.5
	baz=296						
NCUH				eS	Sn	03 13 37.5	-0.1
	baz=296						
WHF	Hehuan Shan	0.81	231	P	Pn	03 13 27.1	-0.5
	baz=224						
WHF				eS	Sn	03 13 38.9	-0.3
	baz=224						
ENLB	Shoufeng	0.82	204	eP	Pn	03 13 27.4	+0.2
	baz=188						
ENLB				eS	Sn	03 13 39.5	+0.9
	baz=188						
TWT	Tachien	0.82	241	eP	Pn	03 13 27.6	+0.2
	baz=231						
TWT				eS	Sn	03 13 38.9	-0.1
	baz=231						
LIOB	Emei	0.86	269⇓	eP	Pn	03 13 27.4	-0.4
	baz=270						
LIOB				eS	Sn	03 13 39.9	+0.3
	baz=270						
NSTT	Nanjuang	0.88	269	eP	Pn	03 13 27.2	-0.8
	baz=278						
NSTT				eS	Sn	03 13 39.5	-0.4
	baz=278						
JYNG	Yonagunijimaku	0.92	103	P	Pn	03 13 28.4	-0.1
JYNG				eS	Sn	03 13 41.0	+0.1
ESL	Shilin	0.97	210	eP	Pn	03 13 27.8	-1.4
	baz=214						
ESL				eS	Sn	03 13 40.7	-1.4
	baz=214						
YOJ	Yonaguni jima	0.97	101	P	Pn	03 13 29.0	-0.3
YOJ				eS	Sn	03 13 42.1	-0.1
OWD	Renai	1.00	226	eP	Pn	03 13 29.3	-0.5
	baz=214						
OWD				eS	Sn	03 13 41.9	-1.2
	baz=214						
EGFH	Guangfu	1.10	207	eP	Pn	03 13 31.6	+0.6
	baz=211						
EGFH				eS	Sn	03 13 43.5	-1.6
	baz=211						
NSY	Sanyi	1.12	258	eP	Pn	03 13 31.3	0.0
	baz=257						
NSY				eS	Sn	03 13 46.2	+0.5
	baz=257						
TWQ1	Liyutan	1.13	254	eP	Pn	03 13 31.1	-0.2
	baz=253						
TWQ1				eS	Sn	03 13 46.4	+0.5
	baz=253						
DPDB	Guoxing	1.13	237	eP	Pn	03 13 31.6	+0.2
	baz=235						
DPDB				eS	Sn	03 13 47.3	+1.3
	baz=235						
SMLT	Sun Moon Lake	1.24	232	eP	Pn	03 13 33.9	+1.0
	baz=229						
SMLT				eS	Sn	03 13 49.0	+0.3
	baz=229						
TYC	Yuchr	1.26	234	eP	Pn	03 13 33.5	+0.5
	baz=223						
TYC				eS	Sn	03 13 49.4	+0.4
	baz=223						
EHY	Hungye	1.29	207	eP	Pn	03 13 33.1	-0.3
	baz=210						
EHY				eS	Sn	03 13 47.9	-1.8
	baz=210						
WJS	Zhushan	1.40	234	eP	Pn	03 13 34.7	-0.3
	baz=244						
WJS				eS	Sn	03 13 53.6	+1.2
	baz=244						
WNT	Mingjian	1.40	237	eS	Sn	03 13 53.6	+1.2
	baz=247						
TWF1	Yuli	1.43	205	eP	Pn	03 13 34.4	-1.1
	baz=208						
TWF1				eS	Sn	03 13 51.4	-1.8
	baz=208						
YUS	Yu-Shan	1.48	219	eP	Pn	03 13 36.3	-0.3
	baz=208						
YUS				eS	Sn	03 13 55.1	-0.1
	baz=208						
ALS	Alishan	1.56	223	eP	Pn	03 13 38.1	+0.7
	baz=229						
ALS				eS	Sn	03 13 57.6	+1.0
	baz=229						
FULB	Fuli	1.57	203	eP	Pn	03 13 36.3	-1.1
	baz=207						
FULB				eS	Sn	03 13 56.7	0.0
	baz=207						
CHN5	Tsauling	1.58	228	eP	Pn	03 13 38.1	+0.6
	baz=237						
CHN5				eS	Sn	03 13 58.0	+1.2
	baz=237						
IRIF	Iriomote-Funau	1.64	101	P	Pn	03 13 37.8	-0.4
IRIF				S	Sn	03 13 57.9	-0.4
ELDTW	Lidau	1.70	211	eP	Pn	03 13 38.6	-0.6
	baz=197						
ELDTW				eS	Sn	03 13 58.3	-1.5
	baz=197						
HATJ	Hateruma jima	1.78	109	P	Pn	03 13 40.6	+0.4
HATJ				eS	Sn	03 14 02.2	+0.5
CHN4	Tsaushan	1.81	224	eP	Pn	03 13 41.7	+1.2
	baz=220						
CHN4				eS	Sn	03 14 04.2	+1.9
	baz=220						
JKRS	Kuro-shima	1.91	102	P	Pn	03 13 42.0	+0.1
JKRS				S	Sn	03 14 05.4	+0.6
CHN1	Nanshi	1.97	222	eP	Pn	03 13 43.1	+0.4
	baz=232						
CHN1				eS	Sn	03 14 07.4	+1.2
	baz=232						
JIJ	Ishigaki jima	2.01	98	P	Pn	03 13 42.8	-0.4
JIJ				S	Sn	03 14 06.5	-0.7
JISG	Ishigakijimahi	2.14	91	P	Pn	03 13 44.8	-0.2
JISG				S	Sn	03 14 10.7	+0.3
JTJ	Tarama	2.49	90	P	Pn	03 13 50.6	+0.8
JTJ				eS	Sn	03 14 20.0	+0.9

*IDC **04** 03:14:34.9±3.7, 35°.15N×141°.49E, h0km, mb3.2/3, mb1 3.2/4, mb1mx3.1/64, mbtmp3.1/4, ML2.6/1, Error ellipse: s-maj=119.3km s-min=26.1km az=54.0*
*JMA **04** 03:14:41.0±0.2, 35°.77N×141°.27E, h26km±2km, M2.9*
ISC 04 03:14:38.1±1.6**, 35°.5N**±0°.2×**141°.5E**±0°.1**, h25**km**, n13,** σ**2.25**/8**, mb3.2**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.55	290	P	Pb	03 14 48.6	-0.5
JYT	Yasato	1.27	304	P	Pn	03 14 58.0	-2.3
JHO	Hitachi	1.32	326	P	Pn	03 14 59.1	-1.9
MJAR	Matsushiro Arr	2.85	292	Pn	Pn	03 15 22.6	+0.5
	0.7nm,0.3s,baz=96,slow=9.3,SNR=5.4						
MJAR				Sn	Sb	03 16 01.8	-1.0
	0.7nm,0.3s,baz=80,slow=25,SNR=2.8						
H11N2	WAKE ISLAND Hy	27.35	118	T	T	03 49 27.3	
	baz=310,slow=75						
H11N1	WAKE ISLAND Hy	27.35	118	T	T	03 49 24.7	
	baz=310						
H11N3	WAKE ISLAND Hy	27.36	118	T	T	03 49 25.7	
	baz=310,slow=75						
H11S1	WAKE ISLAND Hy	28.01	121	T	T	03 50 16.9	
	baz=314,slow=75						
H11S3	WAKE ISLAND Hy	28.01	121	T	T	03 50 13.9	
	baz=314,slow=75						
H11S2	WAKE ISLAND Hy	28.03	121	T	T	03 50 09.9	
	baz=314,slow=75						
SONM	Songino Array	28.71	306	P	P	03 20 36.2	+2.9
	0.2nm,0.7s,baz=100,slow=6.0,SNR=2.2						
MKAR	Makanchi Array	44.99	303	P	P	03 22 53.1	+1.8
	0.2nm,0.6s,baz=90,slow=8.5,SNR=2.6						
ASAR	Alice Springs	59.30	188	P	P	03 24 35.9	-1.9
	0.3nm,0.8s,baz=22,slow=7.5,SNR=3.4						

IDC 04 03:19:26.9±12.0**, 12°.80S**×**166°.64E, h148**km±134km**, mb3.3**/5**, mb1 3.4**/6**, mb1mx3.2**/48**, mbtmp3.7**/6**, ML3.1**/1**, Error ellipse: s-maj=101.7km s-min=31.6km az=155.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.22	181	P	Pn	03 21 37.5	+0.7
	0.2nm,0.3s,baz=312,slow=23,SNR=3.2						
DZM				S	Sn	03 23 18.7	-0.5
	0.5nm,0.3s,baz=138,slow=20,SNR=4.8						
WRA	Warramunga Arr	31.75	253	P	P	03 25 37.1	-0.2
	0.3nm,0.6s,baz=86,slow=9.0,SNR=4.2						
ASAR	Alice Springs	32.84	246	P	P	03 25 46.6	-0.2
	0.5nm,0.8s,baz=67,slow=9.7,SNR=9.0						
SONM	Songino Array	80.59	324	P	P	03 31 23.6	+0.5
	0.2nm,0.3s,baz=131,slow=5.9,SNR=2.8						
ILAR	Eielson Array	84.89	18	P	P	03 31 44.4	-0.4
	0.5nm,0.5s,baz=236,slow=4.4,SNR=6.7						
MKAR	Makanchi Array	95.39	317	P	P	03 32 34.8	+0.2
	0.2nm,0.5s,baz=94,slow=6.2,SNR=4.0						

*IDC **04** 03:26:59.1±0.7, 35°.26N×141°.27E, h0km, mb3.8/14, mb1 4.0/17, mb1mx3.8/75, mbtmp3.8/17, ML3.5/3, MS3.0/4, Ms1 3.0/4, ms1mx2.7/62, Error ellipse: s-maj=19.6km s-min=15.5km az=105.0*
*ISCJB **04** 03:27:00.8±0.5, 35°.22N±0°.04×141°.30E±0°.06, h25km, mb3.9/17, Error ellipse: s-maj=7.4km s-min=5.6km az=5.2*
*NEIC **04** 03:27:00.3±0.4, 35°.25N×141°.29E, h10km, mb4.2/2, Error ellipse: s-maj=8.5km s-min=8.1km az=78.0*
*JMA **04** 03:27:01.4±0.1, 35°.26N×141°.25E, h25km±2km, M3.3*
ISC 04 03:27:02.6±0.6**, 35°.26N**±0°.05×**141°.20E**±0°.07**, h25**km**, n39,** σ**0.96**/33**, mb3.9**/17**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.52	328	P	Pb	03 27 12.2	-0.9
CHOJ				S	Sb	03 27 20.0	-0.3
BSO1	Boso 1	0.63	197	P	Pb	03 27 13.7	-1.0
BSO3	Boso 3	0.73	231	P	Pb	03 27 15.8	-0.6
BSO4	Boso 4	0.76	249	P	Pb	03 27 16.6	-0.4
JYT	Yasato	1.26	320	P	Pn	03 27 24.9	+0.3
JHJ	Hachijo jima 2	2.44	209	Pn	Pn	03 27 41.0	+0.2
	18nm,0.3s,baz=42,slow=15,SNR=5.8						
JHJ				Sn	Sn	03 28 07.8	-2.0
	35nm,0.3s,baz=77,slow=17,SNR=3.0						
MJAR	Matsushiro Arr	2.74	299	Pn	Pn	03 27 46.1	+1.1
	2.5nm,0.3s,baz=286,slow=13,SNR=17						
MJAR				LR	LR	03 28 23.9	
	comp=Z,72nm,18.6s,baz=120,slow=31						
MAJO	Matsushiro	2.75	299	ePn	Pn	03 27 45.7	+0.7
MAT	Matsushiro	2.75	299	P	Pn	03 27 47.0	+2.0
MAT				eS	Sb	03 28 22.8	-1.4
ERM	Erimo	6.91	12	ePn	Pn	03 28 41.1	-1.2
JNU	Nakatsue	8.81	259	LR	LR	03 32 48.5	
	comp=Z,75nm,20.2s,baz=125,slow=39						
ASAJ	Asahikawa	8.91	7	Pn	Pn	03 29 07.6	-2.0
	0.9nm,0.3s,baz=214,slow=7.9,SNR=5.3						
KSRS	Korea Array	10.93	285	LR	LR	03 34 07.2	
	comp=Z,121nm,18.5s,baz=126,slow=39						
USRK	Ussuriysk Ar.	11.39	324	LR	LR	03 34 02.6	
	comp=Z,142nm,19.8s,baz=189,slow=37						
MA2	Magadan	25.12	11	P	P	03 32 25.4	+0.2
	6.0nm,0.8s,baz=180,slow=6.8,SNR=5.3						
H11N2	WAKE ISLAND Hy	27.44	118	T	T	04 01 36.1	
	baz=310,slow=75,SNR=10						
H11N1	WAKE ISLAND Hy	27.44	118	T	T	04 01 47.4	
	baz=310,slow=75,SNR=19						
H11N3	WAKE ISLAND Hy	27.45	118	T	T	04 01 48.3	
	baz=310,slow=75,SNR=64						
H11S3	WAKE ISLAND Hy	28.09	120	T	T	04 02 18.2	
	baz=312,slow=75,SNR=286						
H11S1	WAKE ISLAND Hy	28.09	120	T	T	04 02 16.5	
	baz=312,slow=75,SNR=254						
H11S2	WAKE ISLAND Hy	28.10	120	T	T	04 02 10.7	
	baz=312,slow=75,SNR=258						
SONM	Songino Array	28.67	307	P	P	03 32 58.9	+1.5
	0.4nm,0.8s,baz=114,slow=12,SNR=3.4						
TIXI	Tiksi	37.03	354	P	P	03 34 10.0	+0.1
	1.2nm,0.4s,baz=152,slow=4.0,SNR=8.5						
ZALV	Zalesovo Beam	43.00	314	P	P	03 34 59.8	+0.2
	1.1nm,0.6s,baz=102,slow=6.6,SNR=5.6						
MKAR	Makanchi Array	44.93	304	P	P	03 35 15.3	0.0
	0.7nm,0.7s,baz=94,slow=10.0,SNR=6.4						
KURK	Kurchatov	46.90	309	eP	P	03 35 30.9	+0.2
	14nm,0.6s						
ILAR	Eielson Array	51.09	32	P	P	03 36 02.1	-0.5
	0.8nm,0.8s,baz=272,slow=5.8,SNR=8.4						
BVAR	Borovoye Array	51.65	313	P	P	03 36 07.4	+0.5
	0.3nm,0.5s,baz=102,slow=6.7,SNR=3.6						
WRAB	Tennant Creek	55.27	188	eP	P	03 36 32.9	-0.9
	2.0nm,0.4s						
WRA	Warramunga Arr	55.29	188	P	P	03 36 33.9	-0.1
	3.7nm,0.8s,baz=5.6,slow=7.5,SNR=14						
ASAR	Alice Springs	59.01	188	P	P	03 37 00.2	0.0
	0.5nm,0.6s,baz=16,slow=10,SNR=6.4						
RES	Resolute Bay	64.36	14	P	P	03 37 35.7	+0.1
	1.2nm,0.9s,baz=302,slow=4.2,SNR=4.3						
YKA	Yellowknife Ar	65.43	30	P	P	03 37 42.8	0.0
	0.4nm,0.8s,baz=300,slow=6.7,SNR=7.2						
NVAR	Mina Array Bea	76.19	53	P	P	03 38 50.2	+1.2
	1.1nm,0.8s,baz=282,slow=6.4,SNR=8.7						
R11A	Troy Canyon, C	77.99	51	eP	P	03 38 59.5	+0.4
	0.7nm,0.8s						
PDAR	Pinedale Array	79.03	45	P	P	03 39 05.7	+0.9
	0.8nm,0.7s,baz=242,slow=2.5,SNR=7.6						
TXAR	Lajitas Array	91.34	52	P	P	03 40 07.6	+1.0
	0.6nm,0.8s,baz=316,slow=5.2,SNR=6.1						
SAML	Samuel	145.61	46	ePKPbc	PKPbc	03 46 38.5	-0.9
LCO	Las Campanas	152.35	86	ePKPdf	PKPdf	03 46 49.6	-0.4

*IDC **04** 03:28:23.9±2.4, 22°.57S×170°.64E, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.8/40, mbtmp4.0/5, MS3.3/4, Ms1 3.3/4, ms1mx3.0/34, Error ellipse: s-maj=85.6km s-min=32.7km az=144.0*
*NEIC **04** 03:28:29.7±1.6, 22°.13S×169°.99E, h10km, mb4.0/6, Error ellipse: s-maj=30.4km s-min=19.1km az=118.0*
ISC 04 03:28:31.7±0.8**, 22°.2S**±0°.2×**169°.91E**±0°.08**, h25**km**, n38,** σ**1.84**/33**, mb3.9**/11**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.21	272	Pn	Pn	03 29 20.9	+0.2
	9.9nm,0.3s,baz=131,slow=15,SNR=70						
DZM				Sn	Sb	03 30 03.9	-3.0
	2.8nm,0.3s,baz=131,slow=19,SNR=3.1						
DZM				LR	LR	03 30 38.9	
	comp=Z,367nm,18.9s,baz=60,slow=34						
DZM	Mont Dzumac	3.21	272	ePn	Pn	03 29 20.6	-0.1
	38nm,0.2s						
DZM				eSn	Sn	03 29 57.7	-0.6
	46nm,0.3s						
DZM				eLR	LR	03 30 06.1	
	602nm,27.1s						
URZ	Urewera	17.12	160	LR	LR	03 37 24.2	
	comp=Z,109nm,20.6s,baz=342,slow=33						
CTAO	Charters Tower	22.16	271	eP	P	03 33 27.5	+1.6
	0.8nm,0.3s						
CAN	Canberra	22.43	230	P	P	03 33 30.7	+2.0
	1.3nm,0.3s						
PMG	Port Moresby	25.29	297	LR	LR	03 42 42.4	
	comp=Z,114nm,19.3s,baz=161,slow=33						
PMG	Port Moresby	25.29	297	P	P	03 33 56.3	0.0
	1.7nm,0.4s						
STKA	Stephens Creek	26.91	243	P	P	03 34 10.7	-0.2
	2.3nm,0.7s,baz=68,slow=11,SNR=3.5						
RAR	Rarotonga	28.17	94	LR	LR	03 43 31.2	
	comp=Z,37nm,20.7s,baz=255,slow=33						
ASAR	Alice Springs	33.13	260	P	P	03 35 07.2	+1.0
	0.7nm,0.9s,baz=84,slow=9.4,SNR=5.3						
WRAB	Tennant Creek	33.21	267	P	P	03 35 07.8	+1.0
	0.3nm,0.4s						
WRA	Warramunga Arr	33.22	267	P	P	03 35 08.7	+1.8
	0.9nm,0.9s,baz=103,slow=7.9,SNR=3.8						
PPT2	Papeete2	38.30	90	eLR	LR	03 46 16.2	
	73nm,28.8s						
SOEI	Soe	45.42	278	P	P	03 36 49.6	+0.7
	2.2nm,0.5s						
MBWA	Marble Bar	46.46	261	P	P	03 36 57.5	+0.6
	7.1nm,0.6s						
TAOE	Nuku Hiva Isla	49.70	83	eLR	LR	03 51 26.4	
	80nm,25.1s						
MJAR	Matsushiro Arr	65.69	332	P	P	03 39 13.5	-0.6
	1.0nm,0.7s,baz=156,slow=5.6,SNR=2.8						
CMAR	Chiang Mai Arr	80.30	294	P	P	03 40 42.6	+1.5
	3.0nm,0.3s,baz=124,slow=4.9,SNR=3.1						
SNAA	Sanae	86.20	182	P	P	03 41 05.3	-5.4
VNA3	Neumayer Olymp	86.77	180	P	P	03 41 09.1	-4.3
VNA2	Neumayer--Watz	87.07	181	P	P	03 41 12.6	-2.2
ARCES	ARCESS Array B	128.11	345	PKP	PKPdf	03 47 32.4	-2.6
	1.7nm,1.0s,baz=79,slow=1.9,SNR=3.1						
DPC	Dobruska-Polom	145.14	330	ePKP	PKPab	03 48 03.4	-3.1
DPC				ex	x	03 48 13.0	
UPC	Upice	145.17	331	ePKP	PKPbc	03 48 04.8	-1.7
UPC				ex	x	03 48 10.8	
UPC				ex	x	03 48 13.4	
PVCC	Panska Ves	145.80	332	ePKP	PKPdf	03 48 06.7	-1.3
PVCC				ex	x	03 48 15.4	
CLL	Collm	145.88	334	ePKPbc	PKPdf	03 48 07.0	-1.1
CLL				e		03 48 12.0	
PRU	Pruhonice	146.20	331	ePKP	PKPdf	03 48 08.4	-0.3
PRU				ex	x	03 48 13.6	
EKA	Eskdalemuir Ar	146.55	353	PKPbc	PKPdf	03 48 07.0	-2.1
	2.1nm,0.7s,baz=6.1,slow=3.2,SNR=10						
NKC	Novy Kostel	146.93	333	ePKP	PKPbc	03 48 13.0	+1.1
CONA	Conrad Observa	147.01	327	epPKPdf	PKPbc	03 48 13.4	+1.1
	2.9nm,1.1s						
KHC	Kasperske Hory	147.26	331	ePKP	PKPdf	03 48 10.9	+0.3
KHC				ex	x	03 48 18.9	
GERES	GERESS Array B	147.41	330	PKPbc	PKPdf	03 48 10.8	-0.1
	0.6nm,0.6s,baz=33,slow=3.2,SNR=8.2						
ARSA	Arzberg	147.63	327	epPKPdf	PKPbc	03 48 14.3	+0.3
	1.6nm,0.9s						
SOKA	Soboth	148.26	326	epPKiKP	PKPab	03 48 21.1	+2.3
	2.6nm,1.0s						
ABTA	Abfaltersbach	149.47	329	epPKiKP	PKPab	03 48 23.8	+0.1
	3.9nm,1.1s						
WTTA	Wattenberg	149.51	330	esPKiKP	PKPab	03 48 25.0	+1.1
	4.9nm,0.9s						
MOTA	Moosalm	149.69	331	esPKPdf	PKPbc	03 48 18.8	-0.6
	2.4nm,0.8s						
RETA	Reutte	149.74	331	esPKPab	PKPab	03 48 30.7	+6.0
	7.8nm,1.5s						

*ISCJB **04** 03:29:12.2±0.5, 40°.14N±0°.01×24°.09E±0°.02, h10km±3km, mb3.1/3, Error ellipse: s-maj=2.6km s-min=2.2km az=35.3*
*CSEM **04** 03:29:12.6±0.1, 40°.14N×24°.07E, h10km, ML3.2, Error ellipse: s-maj=1.4km s-min=1.2km az=139.0*
*ATH **04** 03:29:12.2, 40°.14N×24°.06E, h25km, ML3.0/26, Error ellipse: s-maj=1.0km s-min=0.7km az=330.0*
*ISK **04** 03:29:12.1, 40°.16N×24°.11E, h13km, ML3.2/8*
*IDC **04** 03:29:12.1±1.2, 40°.22N×24°.06E, h0km, mb3.3/3, mb1 3.4/6, mb1mx3.1/68, mbtmp3.3/6, ML2.6/3, Error ellipse: s-maj=22.0km s-min=17.0km az=123.0*
ISC 04 03:29:12.8±0.9**, 40°.14N**±0°.02×**24°.08E**±0°.02**, h9**km±7km**, n158,** σ**0.76**/213**, mb3.2**/3**, 10C-12D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.21	339	PG	Pg	03 29 17.3	+0.2
OUR				SG	Sg	03 29 20.5	+0.6
OUR	Ouranopolis	0.21	339	P	Pg	03 29 16.9	-0.1
OUR	Ouranopolis	0.21	339	P	Pg	03 29 17.5	+0.4
OUR				eSg	Sg	03 29 20.5	+0.6
PAIG	Paliouri	0.37	235	P	Pg	03 29 19.4	-0.7
PAIG				S	Sg	03 29 24.6	-0.4
PAIG				AML	AML	03 29 26.9	
	comp=E,5827µm,0.4s						
PAIG				AML	AML	03 29 27.3	
	comp=N,8876µm,0.4s						
PAIG	Paliouri	0.37	235	P	Pg	03 29 19.8	-0.3
PAIG				S	Sg	03 29 25.4	+0.4
PLG	Polygyros	0.54	296	P	Pg	03 29 22.9	-0.3
PLG				S	Sg	03 29 30.0	-0.3
PLG				AML	AML	03 29 30.4	
	comp=E,4323µm,0.5s						
PLG				AML	AML	03 29 30.9	
	comp=N,3699µm,0.3s						
PLG	Polygyros	0.54	296	P	Pg	03 29 22.9	-0.3
PLG				S	Sg	03 29 30.4	+0.1
HORT	Hortiatis	0.88	302	PG	Pg	03 29 29.5	-0.2
HORT	Hortiatis	0.88	302	P	Pg	03 29 28.6	-1.0
HORT				S	Sg	03 29 39.9	-1.2
HORT				AML	AML	03 29 44.5	
	comp=N,4216µm,0.3s						
HORT				AML	AML	03 29 45.0	
	comp=E,1329µm,0.3s						
HORT	Hortiatis	0.88	302	P	Pg	03 29 28.8	-0.9
HORT	Hortiatis	0.88	302	ePg	Pg	03 29 29.5	-0.2
HORT				S	Sg	03 29 40.5	-0.6
SOH	Sokhos	0.88	321	P	Pg	03 29 29.5	-0.2
SOH				S	Sg	03 29 40.4	-0.7
SOH				AML	AML	03 29 43.4	
	comp=N,4609µm,0.5s						
SOH				AML	AML	03 29 46.0	
	comp=E,2881µm,0.4s						
SOH	Sokhos	0.88	321	P	Pg	03 29 29.3	-0.4
SOH				S	Sg	03 29 40.9	-0.2
LIA	Limnos Island	0.88	106	P	Pn	03 29 31.3	-0.1
LIA				AML	AML	03 29 43.7	
	comp=N,5444µm,0.5s						
LIA				AML	AML	03 29 43.7	
	comp=E,4552µm,0.7s						
LIA				S	Sn	03 29 44.3	-0.1
LIA	Limnos Island	0.88	106	P	Pb	03 29 30.5	+0.2
LIA				S	Sn	03 29 43.3	-1.1
KAVA	Kavala	0.92	21	P	Pb	03 29 31.0	0.0
KAVA				S	Sn	03 29 43.9	-1.4
KAVA				AML	AML	03 29 45.1	
	comp=N,2841µm,0.2s						
KAVA				AML	AML	03 29 46.3	
	comp=E,4181µm,0.3s						
KAVA	Kavala	0.92	21	P	Pb	03 29 30.5	-0.4
KAVA				S	Sb	03 29 43.4	+0.1
THE	Thessaloniki	0.98	300	P	Pg	03 29 30.1	-1.6
THE				S	Sg	03 29 42.4	-2.0
THE				AML	AML	03 29 48.1	
	comp=E,844µm,0.6s						
THE				AML	AML	03 29 48.1	
	comp=N,1573µm,0.5s						
THE	Thessaloniki	0.98	300	P	Pg	03 29 30.5	-1.2
THE				S	Sg	03 29 43.5	-0.9
XOR	Xorichti	1.03	222	P	Pn	03 29 33.8	+0.3
XOR				AML	AML	03 29 47.4	
	comp=E,5042µm,0.6s						
XOR				S	Sn	03 29 47.5	-0.6
XOR				AML	AML	03 29 47.5	
	comp=N,5583µm,0.5s						
XOR	Xorichti	1.03	222	P	Pb	03 29 32.8	-0.1
XOR				S	Sb	03 29 46.9	+0.4
SRS	Serrai	1.04	339	P	Pn	03 29 33.5	-0.2
SRS				S	Sg	03 29 45.7	-0.8
SRS				AML	AML	03 29 49.1	
	comp=E,1233µm,0.4s						
SRS				AML	AML	03 29 50.9	
	comp=N,1051µm,0.2s						
SRS	Serrai	1.04	339	P	Pb	03 29 32.8	-0.3
SRS				S	Sg	03 29 46.1	-0.3
NEO	Neokhori	1.06	219	P	Pb	03 29 32.9	-0.5
NEO				S	Sb	03 29 47.1	-0.2
NEO				AML	AML	03 29 47.9	
	comp=E,6009µm,0.7s						
NEO				AML	AML	03 29 48.0	
	comp=N,8468µm,0.4s						
NEO	Neokhori	1.06	219	P	Pb	03 29 32.7	-0.7
NEO				S	Sb	03 29 47.2	-0.2
SKIA	Skiathos	1.08	206	P	Pb	03 29 33.3	-0.4
SKIA				S	Sg	03 29 48.0	+0.4
SKIA				AML	AML	03 29 48.6	
	comp=E,3466µm,0.6s						
SKIA				AML	AML	03 29 49.8	
	comp=N,3130µm,0.6s						
SKIA	Skiathos	1.08	206	P	Pb	03 29 33.1	-0.6
SKIA				S	Sg	03 29 48.0	+0.4
FYTO	Fytoko, Volos	1.14	231	P	Pb	03 29 33.8	-0.9
FYTO				S	Sb	03 29 49.1	-0.6
FYTO				AML	AML	03 29 50.3	
	comp=E,1598µm,0.7s						

FYTO				AML	AML	03 29 50.5	
	comp=N,2014µm,0.6s						
FYTO	Fytoko, Volos	1.14	231	P	Pb	03 29 33.8	-0.9
FYTO				S	Sb	03 29 49.3	-0.4
SMTH	Samothraki Isl	1.16	73	P	Pb	03 29 33.4	-1.7
SMTH				S	Sg	03 29 50.4	+0.2
SMTH				AML	AML	03 29 53.8	
	comp=E,1032µm,0.3s						
SMTH				AML	AML	03 29 54.1	
	comp=N,1149µm,0.4s						
SMTH	Samothraki Isl	1.16	73	P	Pb	03 29 34.0	-1.1
SMTH				S	Sn	03 29 50.7	-0.6
LIT	Litokhoron	1.22	269	P	Pn	03 29 34.9	-1.2
LIT				S	Sn	03 29 52.1	-0.6
LIT				AML	AML	03 29 52.7	
	comp=N,759µm,0.4s						
LIT				AML	AML	03 29 54.7	
	comp=E,1017µm,0.4s						
LIT	Litokhoron	1.22	269	P	Pn	03 29 35.0	-1.1
LIT				S	Sg	03 29 52.0	0.0
NVR	Nevrokopi	1.22	352	P	Pb	03 29 35.7	-0.4
NVR				S	Sg	03 29 51.7	-0.4
NVR				AML	AML	03 29 53.5	
	comp=N,1734µm,0.5s						
NVR				AML	AML	03 29 55.0	
	comp=E,796µm,0.3s						
NVR	Nevrokopi	1.22	352	P	Pn	03 29 35.5	-0.6
NVR				S	Sg	03 29 51.9	-0.2
KNT	Kendrikon	1.36	319	PN	Pn	03 29 37.5	-0.5
KNT	Kendrikon	1.36	319	P	Pb	03 29 38.3	-0.2
KNT				S	Sg	03 29 56.5	0.0
KNT				AML	AML	03 29 59.0	
	comp=N,1158µm,0.5s						
KNT				AML	AML	03 29 59.7	
	comp=E,971µm,0.5s						
KNT	Kendrikon	1.36	319	ePn	Pn	03 29 37.5	-0.5
KNT	Kendrikon	1.36	319	P	Pb	03 29 37.9	-0.6
KNT				S	Sg	03 29 56.2	-0.3
GADA	Gvkgeada	1.40	87	PN	Pn	03 29 37.9	-0.6
GADA	Gvkgeada	1.40	87	ePn	Pn	03 29 37.9	-0.6
GOKC	Gokceada-Canak	1.41	87	PN	Pn	03 29 37.9	-0.8
GOKC	Gokceada-Canak	1.41	87	ePn	Pn	03 29 37.9	-0.8
SMIA	Simia	1.43	208	P	Pn	03 29 38.4	-0.6
SMIA				S	Sg	03 29 58.6	-0.1
SMIA				AML	AML	03 29 59.4	
	comp=E,2074µm,0.5s						
SMIA				AML	AML	03 30 01.8	
	comp=N,3359µm,0.5s						
SMIA	Simia	1.43	208	P	Pn	03 29 38.4	-0.6
SMIA				S	Sb	03 29 58.1	+0.2
RDO	Rodhopi	1.50	47	P	Pn	03 29 38.4	-1.6
RDO				S	Sn	03 29 58.4	-1.2
RDO				AML	AML	03 30 04.8	
	comp=E,655µm,0.3s						
RDO				AML	AML	03 30 05.1	
	comp=N,877µm,0.2s						
RDO	Rodhopi	1.50	47	P	Pn	03 29 39.0	-0.9
RDO				S	Sn	03 29 59.0	-0.6
GRG	Griva	1.52	303	PN	Pn	03 29 39.7	-0.5
GRG	Griva	1.52	303	P	Pb	03 29 41.0	-0.1
GRG				S	Sn	03 29 59.5	-0.5
GRG				AML	AML	03 30 05.3	
	comp=E,930µm,0.6s						
GRG				AML	AML	03 30 10.1	
	comp=N,788µm,0.7s						
GRG	Griva	1.52	303	ePn	Pn	03 29 39.7	-0.5
GRG	Griva	1.52	303	P	Pb	03 29 40.3	-0.8
GRG				S	Sn	03 29 59.6	-0.5
VAY	Valandovo	1.64	316	i Pn	Pn	03 29 41.8	-0.1
VAY				eSn	Sn	03 30 02.4	-0.8
SIGR	SIGRI	1.66	123	PN	Pn	03 29 41.7	-0.4
SIGR	SIGRI	1.66	123	P	Pn	03 29 42.2	+0.1
SIGR	SIGRI	1.66	123	ePn	Pn	03 29 41.7	-0.4
SIGR	SIGRI	1.66	123	P	Pn	03 29 42.1	0.0
ALN	Alexandroupoli	1.68	63	PN	Pn	03 29 41.5	-0.9
ALN	Alexandroupoli	1.68	63	P	Pn	03 29 40.9	-1.5
ALN				S	Sb	03 30 05.2	+0.1
ALN				AML	AML	03 30 13.0	
	comp=E,410µm,0.8s						
ALN				AML	AML	03 30 13.5	
	comp=N,409µm,0.4s						
ALN	Alexandroupoli	1.68	63	P	Pn	03 29 41.6	-0.9
ALN				S	Sb	03 30 04.8	-0.4
THL	Klokotos Trika	1.69	251	P	Pn	03 29 41.6	-0.9
THL	Klokotos Trika	1.69	251	P	Pn	03 29 41.8	-0.7
ENEZ	Enez	1.69	69	PN	Pn	03 29 41.8	-0.8
ENEZ	Enez	1.69	69	ePn	Pn	03 29 41.8	-0.8
LKR	Lokris	1.71	210	P	Pn	03 29 41.5	-1.3
LKR	Lokris	1.71	210	P	Pn	03 29 42.0	-0.8
EREA	Eretria	1.72	184	P	Pn	03 29 43.0	0.0
EREA	Eretria	1.72	184	P	Pn	03 29 42.8	-0.2
AGG	Agios Georgios	1.75	231	PN	Pn	03 29 43.2	-0.2
AGG	Agios Georgios	1.75	231	P	Pn	03 29 42.5	-0.9
AGG	Agios Georgios	1.75	231	P	Pn	03 29 42.7	-0.7
AGG	Agios Georgios	1.75	231	ePn	Pn	03 29 43.2	-0.2
KZN	Kozani	1.77	276	P	Pn	03 29 44.0	+0.2
KZN	Kozani	1.77	276	P	Pn	03 29 43.6	-0.2
GELI	Tayfur-Gelibol	1.85	81	PN	Pn	03 29 44.2	-0.6
GELI	Tayfur-Gelibol	1.85	81	ePn	Pn	03 29 44.2	-0.6
PRK	Paraskevi	1.91	117	P	Pb	03 29 47.0	-0.9
PRK				S	Sn	03 30 08.0	-1.8
PRK				AML	AML	03 30 18.1	
	comp=N,1004µm,0.7s						
PRK				AML	AML	03 30 18.5	
	comp=E,1138µm,0.6s						
PRK	Paraskevi	1.91	117	P	Pn	03 29 46.3	+0.7
PRK				S	Sn	03 30 08.9	-0.9
ERIK	Erikli-Kesan	1.93	73	PN	Pn	03 29 45.0	-0.9
ERIK	Erikli-Kesan	1.93	73	ePn	Pn	03 29 45.0	-0.9
LPK	Lapseki	2.07	83	PN	Pn	03 29 46.3	-1.4
LPK	Lapseki	2.07	83	ePn	Pn	03 29 46.3	-1.4
PROD	Prodromos	2.09	206	P	Pn	03 29 46.8	-1.2
PROD	Prodromos	2.09	206	P	Pn	03 29 47.3	-0.8
KPRO	Kipourio	2.09	266	P	Pn	03 29 48.8	+0.6
KPRO	Kipourio	2.09	266	P	Pn	03 29 48.3	+0.2
PTL	Penteli	2.10	185	P	Pn	03 29 47.7	-0.4
PTL				S	Sn	03 30 13.3	-1.0
PTL				AML	AML	03 30 22.9	
	comp=E,186µm,0.7s						
PTL				AML	AML	03 30 26.9	
	comp=N,170µm,0.9s						
PTL	Penteli	2.10	185	P	Pn	03 29 47.8	-0.4
PTL				S	Sn	03 30 13.7	-0.7
DSF	Desfina	2.10	215	P	Pn	03 29 46.8	-1.5
DSF	Desfina	2.10	215	P	Pn	03 29 47.4	-0.9
EVR	Evrytania	2.14	236	P	Pn	03 29 48.6	-0.3
EVR				S	Sn	03 30 15.7	+0.2
EVR				AML	AML	03 30 30.8	
	comp=E,214µm,0.8s						
EVR				AML	AML	03 30 33.5	
	comp=N,212µm,0.7s						
EVR	Evrytania	2.14	236	P	Pn	03 29 48.5	-0.3
EVR				S	Sn	03 30 15.3	-0.2
FNA	Florina	2.16	288	PN	Pn	03 29 49.4	+0.3
FNA	Florina	2.16	288	P	Pn	03 29 48.5	-0.5
FNA	Florina	2.16	288	P	Pn	03 29 48.5	-0.5
FNA	Florina	2.16	288	ePn	Pn	03 29 49.4	+0.3
ATHU	Athens Univers	2.18	186	P	Pn	03 29 48.2	-1.1
ATHU				S	Sn	03 30 16.0	-0.4
ATHU				AML	AML	03 30 27.7	
	comp=E,59µm,1.0s						
ATHU				AML	AML	03 30 34.4	
	comp=N,75µm,0.6s						
ATHU	Athens Univers	2.18	186	P	Pn	03 29 48.7	-0.6
ATHU				S	Sn	03 30 16.1	-0.4
PENT	Pentalofos	2.25	272	P	Pn	03 29 50.0	-0.4
PENT	Pentalofos	2.25	272	P	Pn	03 29 50.0	-0.4
BIA	Bitola	2.27	294	i Pn	Pn	03 29 51.7	+1.0
LTK	Loutraki	2.28	203	P	Pn	03 29 50.2	-0.5
LTK	Loutraki	2.28	203	P	Pn	03 29 50.4	-0.3
VLY	Voula,Athens	2.29	186	P	Pn	03 29 51.5	+0.6
VLY	Voula,Athens	2.29	186	P	Pn	03 29 51.2	+0.3
KALE	Kalithea	2.31	221	P	Pn	03 29 51.1	0.0
KALE				S	Sn	03 30 20.0	+0.4
KALE				AML	AML	03 30 22.9	
	comp=E,307µm,0.6s						
KALE				AML	AML	03 30 29.2	
	comp=N,288µm,0.5s						
KALE	Kalithea	2.31	221	P	Pn	03 29 50.9	-0.2
KALE				S	Sn	03 30 19.4	-0.2
SERG	Sergoula	2.33	223	P	Pn	03 29 50.7	-0.7
SERG	Sergoula	2.33	223	P	Pn	03 29 50.9	-0.5
NEST	Nestorio	2.33	278	P	Pn	03 29 51.6	+0.1
NEST	Nestorio	2.33	278	P	Pn	03 29 51.3	-0.2
TRIZ	Trizonia	2.36	222	P	Pn	03 29 51.5	-0.2
TRIZ	Trizonia	2.36	222	P	Pn	03 29 51.5	-0.2
EFP	Efpalio	2.40	225	P	Pn	03 29 52.0	-0.3
EFP	Efpalio	2.40	225	P	Pn	03 29 52.1	-0.3
RKY	Sarkoy-Tekirda	2.43	76	PN	Pn	03 29 52.3	-0.5
RKY	Sarkoy-Tekirda	2.43	76	ePn	Pn	03 29 52.3	-0.5
KRUS	Krusevo	2.47	301	i Pn	Pn	03 29 53.7	+0.3
KRBG	Karabiga-Canak	2.48	83	PN	Pn	03 29 53.0	-0.4
KRBG	Karabiga-Canak	2.48	83	ePn	Pn	03 29 53.0	-0.4
KLV	Kalavryta, Ach	2.58	216	P	Pn	03 29 54.1	-0.6
KLV				S	Sn	03 30 24.7	-1.6
KLV				AML	AML	03 30 29.4	
	comp=E,83µm,0.8s						
KLV				AML	AML	03 30 30.3	
	comp=N,88µm,0.9s						
KLV	Kalavryta, Ach	2.58	216	P	Pn	03 29 54.4	-0.4
KLV				S	Sn	03 30 25.1	-1.2
GUR	Goura	2.58	212	P	Pn	03 29 54.4	-0.5
GUR	Goura	2.58	212	P	Pn	03 29 54.6	-0.3
EDRB	Edirne	2.64	49	PN	Pn	03 29 54.8	-0.8
EDRB	Edirne	2.64	49	ePn	Pn	03 29 54.8	-0.8
OHR	Ohrid	2.68	292	ePn	Pn	03 29 55.2	-1.0
DID	Didima	2.71	194	P	Pn	03 29 55.1	-1.5
DID	Didima	2.71	194	P	Pn	03 29 55.9	-0.7
DRO	Drossia	2.86	221	P	Pn	03 29 58.9	+0.3
DRO	Drossia	2.86	221	P	Pn	03 29 58.7	+0.1
PDG	Podgorica	4.29	304	⇓ iP	Pn	03 30 20.0	+1.7
PDG	Podgorica	4.29	304	⇓ iP	Pn	03 30 20.0	+1.7
ICOR	Ion Corvin	4.84	34	⇓ iP	Pn	03 30 26.3	+0.4
ICOR	Ion Corvin	4.84	34	⇓ iP	Pn	03 30 26.3	+0.4
IDI	Anoyia	4.89	172	Pn	Pn	03 30 28.5	+1.9
	comp=N,0.5nm,0.3s,baz=343,slow=10,SNR=5.6						
ARR	Arges	5.24	4	⇓ iP	Pn	03 30 32.0	+0.6
ARR	Arges	5.24	4	⇓ iP	Pn	03 30 32.0	+0.6
LOT	Lotru	5.31	358	⇑ iP	Pn	03 30 32.0	-0.4
LOT	Lotru	5.31	358	⇑ iP	Pn	03 30 32.0	-0.4
VOIR		5.34	7	⇓ iP	Pn	03 30 33.4	+0.6
VOIR		5.34	7	⇓ iP	Pn	03 30 33.4	+0.6
TIRR	Tirgusor	5.38	35	⇑ iP	Pn	03 30 33.1	-0.1
TIRR	Tirgusor	5.38	35	⇑ iP	Pn	03 30 33.1	-0.1
MLR	Muntele Rosu	5.52	14	Pn	Pn	03 30 33.9	-1.4
	comp=N,0.1nm,0.3s,baz=187,slow=17,SNR=2.3						
MLR				Lg	Lg	03 32 08.1	
	comp=N,0.1nm,0.3s,baz=142,slow=13,SNR=2.3						
MATE	Matera	5.65	278	⇓ iP	Pn	03 30 37.0	0.0
BZS	Buzias	5.76	343	⇑ iP	Pn	03 30 38.4	-0.1
DOPR	Dopca	5.90	9	⇑ iP	Pn	03 30 41.7	+1.2
PLOR	Plostina	6.01	17	⇓ iP	Pn	03 30 43.6	+1.6
VRI	Vrincioaia	6.04	18	⇓ iP	Pn	03 30 44.3	+1.9
TLCR		6.13	33	⇑ iP	Pn	03 30 44.1	+0.5
TESR	Tescani	6.64	16	⇑ iP	Pn	03 30 51.1	+0.6
BLY	Banja Luka	6.87	314	⇓ iP	Pn	03 30 54.9	+1.2
GIRR	Girov	7.04	14	⇑ iP	Pn	03 30 55.8	-0.2
BRTR	Keskin Array B	7.36	90	Pn	Pn	03 31 01.4	+0.8
	comp=N,0.3nm,0.3s,baz=274,slow=12,SNR=14						
BURAR	Bucovina Array	7.52	6	⇑ iP	Pn	03 31 03.7	+1.0
ESDC	Sonseca Array	21.48	278	P	P	03 34 03.0	+1.3
	comp=N,0.4nm,0.5s,baz=72,slow=11,SNR=3.8						
TORD	Torodi Ar. Bea	33.32	222	P	P	03 35 51.4	+0.3
	comp=N,0.2nm,0.6s,baz=31,slow=9.8,SNR=5.3						
MKAR	Makanchi Array	41.93	61	P	P	03 37 05.8	+2.1
	comp=N,0.3nm,0.6s,baz=282,slow=6.8,SNR=3.5						

*TIR **04** 03:31:03.7, 40°.14N×24°.25E, h16^{km}*

*PRU **04** 03:31:04.9, 40°.04N×24°.36E, h0^{km}, M5.4*

*ISCJB **04** 03:31:07.0±0.3, 40°.182N±0°.008×24°.058E±0°.009, h5^{km}±1^{km}, mb5.2/268, MS4.9/164, Error ellipse: s-maj=1.4km s-min=1.2km az=29.6*

*ISK **04** 03:31:07.3, 40°.15N×24°.08E, h10^{km}, ML5.2/39*

*BJI **04** 03:31:07.4, 40°.10N×24°.10E, h5^{km}, mb5.0/59, mB5.3/48, Ms5.2/50, Ms7 4.9/48*

*ATH **04** 03:31:07.9, 40°.13N×24°.06E, h24^{km}, ML5.0/14, Error ellipse: s-maj=0.9km s-min=0.6km az=326.0*

*CSEM **04** 03:31:08.0±0.0, 40°.14N×24°.07E, h2^{km}, mb5.4/99, Ms4.9, Mw5.3, Error ellipse: s-maj=1.4km s-min=1.2km az=28.0*

*THE **04** 03:31:08.4, 40°.13N×24°.06E, h2^{km}, ML5.0/16, Error ellipse: s-maj=0.6km s-min=0.3km az=313.0*

*NEIC **04** 03:31:08.4±0.0, 40°.13N×24°.06E, h2^{km}, mb5.4/177, MS4.9/100, MW5.2, ML5.0(THE), Moment Tensor Solution. s22 Moment tensor: Scale 10^{16}Nm; M_{rr}-9.03; $M_{\theta\theta}$7.60; $M_{\phi\phi}$1.43; $M_{r\theta}$0.31; $M_{\theta\phi}$-3.77; $M_{\phi r}$-0.43; Best double couple: $M_0$9.20000×10^{16} NP1:ϕ_s114.00000°, δ44.00000°, λ-92.00000°. NP2:ϕ_s297.00000°, δ46.00000°, λ-88.00000°. Principal axes: T 9.4000, Plg1.0000°, Azm25.0000°; N -0.3400, Plg2.0000°, Azm115.0000°; P -9.0500, Plg88.0000°, Azm254.0000°; After THE.*

NEIC Felt at Thasos, Thessaloniki and Xanthi. Also felt at Sofia, Bulgaria and at Skopje, Macedonia.

*PDG **04** 03:31:08.2±0.6, 40°.14N×24°.06E, h14^{km}, MD5.1/6, ML5.0/9 Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

*GCMT **04** 03:31:08.4±0.1, 40°.07N×24°.01E, h12^{km}, MW5.3/121, Moment Tensor Solution. s70,c106; s121,c241; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.04±.01; $M_{\theta\theta}$0.76±.01; $M_{\phi\phi}$0.27±.01; $M_{r\theta}$-0.02±.04; $M_{\theta\phi}$-0.51±.01; $M_{\phi r}$-0.14±.05; Best double couple: $M_0$1.07100×10^{17} NP1:ϕ_s309.00000°, δ47.00000°, λ-80.00000°. NP2:ϕ_s115.00000°, δ44.00000°, λ-101.00000°. Principal axes: T 1.0840, Plg2.0000°, Azm32.0000°; N -0.0250, Plg7.0000°, Azm123.0000°; P -1.0580, Plg83.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **04** 03:31:09.5±1.1, 40°.21N×24°.01E, h23^{km}, mb5.4/76, MS5.0/64 Error ellipse: s-maj=3.9km s-min=2.3km az=98.7*

*IDC **04** 03:31:09.3±2.5, 40°.14N×24°.02E, h13^{km}±16^{km}, mb4.5/40, mb1 4.5/52, mb1mx4.5/73, mbtmp4.6/52, ML4.0/11, MS4.8/51, Ms1 4.8/51, ms1mx4.7/63, Error ellipse: s-maj=8.0km s-min=7.7km az=80.0*

*BEO **04** 03:31:11.3±0.7, 40°.19N×23°.58E, h4^{km}±2^{km}, M5.2/1*

*BGS **04** 03:31:13.0±2.5, 40°.85N×24°.08E, h10^{km}±999^{km}, mb5.3*

*DDA **04** 03:31:49.2, 40°.27N×24°.16E, h6^{km}, Ml5.0*

ISC 04 03:31:09.2±0.6**, 40°.17N**±0°.01×**24°.04E**±0°.01**, h8**^{km}±3^{km}**, n1819, σ1s55**/1983**, mb5.3**/285**, MS4.9**/164**, 80C-84D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.17	346	PG	Pg	03 31 13.9	+1.2
OUR	Ouranopolis	0.17	346	P	Pg	03 31 12.6	-0.1
OUR				S	Sg	03 31 16.2	+1.2
OUR				AML	AML	03 31 17.1	
OUR				AML	AML	03 31 17.4	
OUR	Ouranopolis	0.17	346	P	Pg	03 31 13.1	+0.4
OUR				S	Sg	03 31 15.6	+0.5
OUR	Ouranopolis	0.17	346	P	Pg	03 31 13.1	+0.4
OUR	Ouranopolis	0.17	346	ePg	Pg	03 31 13.9	+1.2
OUR				S	Sg	03 31 16.9	+1.8
OUR	Ouranopolis	0.17	346	P	Pg	03 31 13.1	+0.4
OUR				S	Sg	03 31 15.6	+0.5
PAIG	Paliouri	0.36	229	P	Pg	03 31 15.2	-1.1
PAIG				S	Sg	03 31 20.5	-0.6
PAIG				AML	AML	03 31 24.1	
PAIG				AML	AML	03 31 26.3	
PAIG	Paliouri	0.36	229	P	Pg	03 31 15.5	-0.8
PAIG				S	Sg	03 31 20.8	-0.3
PAIG	Paliouri	0.36	229	P	Pg	03 31 15.4	-0.8
PAIG				S	Sg	03 31 20.8	-0.3
PAIG	Paliouri	0.36	229	P	Pg	03 31 15.5	-0.8
PAIG				S	Sg	03 31 20.8	-0.3
PLG	Polygyros	0.49	295	P	Pg	03 31 18.2	-0.6
PLG				S	Sg	03 31 25.6	+0.4
PLG				AML	AML	03 31 32.5	
PLG				AML	AML	03 31 35.1	
PLG	Polygyros	0.49	295	P	Pg	03 31 18.4	-0.4
PLG				S	Sg	03 31 26.0	+0.7
PLG	Polygyros	0.49	295	P	Pg	03 31 18.6	-0.2
PLG				S	Sg	03 31 25.8	+0.5
HORT	Hortiatis	0.83	301	PG	Pg	03 31 24.3	-0.9
HORT				SG	Sb	03 31 37.1	-0.3
HORT	Hortiatis	0.83	301	P	Pg	03 31 24.6	-0.6
HORT				S	Sb	03 31 36.9	-0.4
HORT				AML	AML	03 31 41.9	
HORT				AML	AML	03 31 44.0	
HORT	Hortiatis	0.83	301	ePg	Pg	03 31 24.3	-0.9
HORT	Hortiatis	0.83	301	P	Pg	03 31 24.6	-0.6
HORT				eSg	Sb	03 31 37.1	-0.3
HORT	Hortiatis	0.83	301	P	Pg	03 31 24.5	-0.6
HORT				S	Sb	03 31 36.8	-0.6
SOH	Sokhos	0.83	322	P	Pb	03 31 25.6	-0.4
SOH				S	Sb	03 31 37.2	-0.2
SOH				AML	AML	03 31 41.2	
SOH				AML	AML	03 31 41.5	
SOH	Sokhos	0.83	322	P	Pg	03 31 25.1	-0.1
SOH				S	Sb	03 31 36.8	-0.6
SOH	Sokhos	0.83	322	P	Pg	03 31 25.1	-0.1
SOH				S	Sb	03 31 37.1	-0.2
SOH	Sokhos	0.83	322	P	Pg	03 31 25.1	-0.1
SOH				S	Sb	03 31 36.8	-0.6
KAVA	Kavala	0.90	24	P	Pb	03 31 27.0	-0.1
KAVA				S	Sb	03 31 39.1	-0.3
KAVA				AML	AML	03 31 40.8	
KAVA				AML	AML	03 31 41.4	
KAVA	Kavala	0.90	24	P	Pg	03 31 26.4	-0.1
KAVA				S	Sb	03 31 39.0	-0.3
KAVA	Kavala	0.90	24	P	Pg	03 31 26.1	-0.4
KAVA				S	Sb	03 31 39.1	-0.3
LIA	Limnos Island	0.92	107	P	Pg	03 31 26.1	-0.8
LIA				S	Sg	03 31 38.3	-0.6
LIA				AML	AML	03 31 39.6	
LIA				AML	AML	03 31 39.6	
LIA	Limnos Island	0.92	107	P	Pg	03 31 25.6	-1.3
LIA				S	Sg	03 31 38.0	-0.9
LIA	Limnos Island	0.92	107	P	Pg	03 31 25.9	-1.0
LIA				S	Sg	03 31 38.8	-0.1
THE	Thessaloniki	0.94	300	i PG	Pg	03 31 25.8	-1.4
THE				i SG	Sb	03 31 40.5	+0.1
THE	Thessaloniki	0.94	300	P	Pg	03 31 25.3	-1.9
THE				AML	AML	03 31 43.3	
THE				AML	AML	03 31 47.3	
THE	Thessaloniki	0.94	300	P	Pg	03 31 26.1	-1.1
THE				S	Sb	03 31 40.4	+0.1
THE	Thessaloniki	0.94	300	P	Pg	03 31 26.1	-1.1
THE				i Sg	Sb	03 31 40.5	+0.1
THE	Thessaloniki	0.94	300	P	Pg	03 31 26.1	-1.1
SRS	Serrai	1.00	341	ePg	Pg	03 31 28.1	-0.4
SRS	Serrai	1.00	341	P	Pg	03 31 28.2	-0.3
SRS				S	Sn	03 31 43.7	-0.3
SRS	Serrai	1.00	341	P	Pg	03 31 28.2	-0.3
SRS				S	Sb	03 31 42.7	+0.4
SRS	Serrai	1.00	341	P	Pg	03 31 28.0	-0.4
SRS				S	Sb	03 31 43.0	+0.7
SRS	Serrai	1.00	341	P	Pg	03 31 28.2	-0.3
SRS				S	Sb	03 31 42.7	+0.4
XOR	Xorichti	1.03	219	P	Pg	03 31 28.1	-0.9
XOR				S	Sg	03 31 42.2	-0.2
XOR				AML	AML	03 31 44.4	
XOR				AML	AML	03 31 44.5	
XOR	Xorichti	1.03	219	P	Pg	03 31 27.7	-1.3
XOR				S	Sg	03 31 41.8	-0.6
XOR	Xorichti	1.03	219	P	Pg	03 31 27.5	-1.5
XOR				S	Sg	03 31 42.3	-0.1
NEO	Neokhori	1.06	216	P	Pg	03 31 28.8	-0.9
NEO				S	Sg	03 31 43.4	0.0
NEO				AML	AML	03 31 44.2	
NEO				AML	AML	03 31 45.1	
NEO	Neokhori	1.06	216	P	Pg	03 31 28.3	-1.3
NEO				S	Sg	03 31 42.9	-0.5
NEO	Neokhori	1.06	216	P	Pg	03 31 28.1	-1.5
SKIA	Skiathos	1.09	204	P	Pg	03 31 28.9	-1.3
SKIA				S	Sg	03 31 43.4	-1.0
SKIA	Skiathos	1.09	204	P	Pg	03 31 28.5	-1.7
SKIA				S	Sg	03 31 43.2	-1.2
SKIA	Skiathos	1.09	204	P	Pg	03 31 28.7	-1.5
SKIA				S	Sg	03 31 43.6	-0.8
FYTO	Fytoko, Volos	1.14	228	P	Pg	03 31 29.4	-1.6
FYTO				S	Sg	03 31 45.1	-0.6
FYTO	Fytoko, Volos	1.14	228	P	Pg	03 31 29.4	-1.6
FYTO				S	Sg	03 31 45.1	-0.6
SMTH	Samothraki Isl	1.18	75	P	Pg	03 31 28.9	-3.0
SMTH	Samothraki Isl	1.18	75	P	Pg	03 31 29.7	-2.2
SMTH	Samothraki Isl	1.18	75	P	Pg	03 31 29.7	-2.2
LIT	Litokhoron	1.19	267	P	Pg	03 31 31.2	-0.8
LIT				AML	AML	03 31 50.8	
	comp=E,42670µm,0.4s						
LIT				AML	AML	03 31 51.5	
	comp=N,38312µm,0.3s						
LIT	Litokhoron	1.19	267	P	Pg	03 31 31.0	-0.9
LIT	Litokhoron	1.19	267	P	Pg	03 31 31.0	-0.9
LIT	Litokhoron	1.19	267	P	Pg	03 31 31.1	-0.8
NVR	Nevrokopi	1.19	354	P	Pg	03 31 31.2	-0.7
NVR				S	Sg	03 31 47.4	0.0
NVR	Nevrokopi	1.19	354	P	Pg	03 31 31.2	-0.7
NVR				S	Sb	03 31 47.8	+0.3
NVR	Nevrokopi	1.19	354	P	Pg	03 31 30.9	-1.1
KNT	Kendrikon	1.31	319	PN	Pn	03 31 32.5	-1.4
KNT	Kendrikon	1.31	319	P	Pn	03 31 33.4	-0.5
KNT				S	Sb	03 31 50.6	-0.6
KNT				AML	AML	03 31 54.5	
KNT				AML	AML	03 31 54.5	
KNT	Kendrikon	1.31	319	P	Pn	03 31 33.2	-0.7
KNT	Kendrikon	1.31	319	ePn	Pn	03 31 32.5	-1.4
KNT	Kendrikon	1.31	319	P	Pn	03 31 33.4	-0.5
KNT				S	Sb	03 31 51.3	+0.1
KNT	Kendrikon	1.31	319	P	Pn	03 31 33.2	-0.7
KNT				S	Sn	03 31 53.1	+1.4
SKY	Skiros Island	1.35	163	P	Pn	03 31 32.0	-2.4
SKY				S	Sb	03 31 51.4	-0.7
SKY	Skiros Island	1.35	163	P	Pn	03 31 32.3	-2.0
SKY				S	Sb	03 31 51.0	-1.2
SKY	Skiros Island	1.35	163	P	Pn	03 31 32.6	-1.8
LRSO	Larissa Observ	1.36	249	P	Pn	03 31 33.8	-0.6
LRSO	Larissa Observ	1.36	249	P	Pn	03 31 33.8	-0.6
GADA	Gvkgeada	1.43	89	PN	Pn	03 31 33.4	-2.0
GADA				SN	Sb	03 31 52.3	-2.1
GADA	Gvkgeada	1.43	89	P	Pn	03 31 33.4	-2.0
GADA				eSn	Sb	03 31 52.3	-2.1
GADA	Gvkgeada	1.43	89	P	Pn	03 31 33.4	-2.0
SMIA	Simia	1.44	207	P	Pn	03 31 34.0	-1.6
SMIA				S	Sb	03 31 54.3	-0.4
SMIA	Simia	1.44	207	P	Pn	03 31 34.0	-1.6
SMIA				S	Sb	03 31 54.3	-0.4
GOKC	Gokceada-Canak	1.44	88	PN	Pn	03 31 33.7	-1.9
GOKC	Gokceada-Canak	1.44	88	ePn	Pn	03 31 33.7	-1.9
GRG	Griva	1.47	303	PN	Pn	03 31 35.2	-0.9
GRG	Griva	1.47	303	P	Pn	03 31 35.9	-0.2
GRG				S	Sg	03 31 56.2	-0.3
GRG				AML	AML	03 32 03.1	
	comp=E,98732µm,0.7s						
GRG				AML	AML	03 32 03.2	
	comp=N,94098µm,0.6s						
GRG	Griva	1.47	303	P	Pn	03 31 35.6	-0.5
GRG				S	Sg	03 31 56.7	+0.2
GRG	Griva	1.47	303	ePn	Pn	03 31 35.2	-0.9
GRG	Griva	1.47	303	P	Pn	03 31 35.7	-0.4
GRG				S	Sb	03 31 55.9	+0.2
GRG	Griva	1.47	303	P	Pn	03 31 35.6	-0.5
GRG				S	Sg	03 31 56.7	+0.2
RDO	Rodhopi	1.50	49	P	Pn	03 31 34.5	-1.9
RDO				S	Sg	03 31 57.5	0.0
RDO	Rodhopi	1.50	49	P	Pn	03 31 34.5	-1.9
RDO				S	Sg	03 31 57.5	0.0
VAY	Valandovo	1.60	316	P	Pn	03 31 37.6	-0.2
VAY	Valandovo	1.60	316	P	Pn	03 31 37.6	-0.2
VAY	Valandovo	1.60	316	P	Pn	03 31 37.6	-0.2
VAY	Valandovo	1.60	316	i Pn	Pn	03 31 37.3	-0.5
VAY				eSn	Sg	03 32 03.0	+2.4
THL	Klokotos Trika	1.67	249	P	Pn	03 31 37.4	-1.3
THL	Klokotos Trika	1.67	249	P	Pn	03 31 37.6	-1.1
THL	Klokotos Trika	1.67	249	P	Pn	03 31 37.4	-1.3
ALN	Alexandroupoli	1.70	64	PN	Pn	03 31 37.5	-1.6
ALN	Alexandroupoli	1.70	64	P	Pn	03 31 36.8	-2.3
ALN	Alexandroupoli	1.70	64	P	Pn	03 31 36.8	-2.3
ALN	Alexandroupoli	1.70	64	ePn	Pn	03 31 37.5	-1.6
ALN	Alexandroupoli	1.70	64	P	Pn	03 31 36.8	-2.3
SIGR	SIGRI	1.70	124	PN	Pn	03 31 37.1	-2.0
SIGR	SIGRI	1.70	124	P	Pn	03 31 37.7	-1.4
SIGR	SIGRI	1.70	124	ePn	Pn	03 31 37.1	-2.0
SIGR	SIGRI	1.70	124	P	Pn	03 31 37.7	-1.4
SIGR	SIGRI	1.70	124	P	Pn	03 31 37.7	-1.4
ENEZ	Enez	1.71	70	PN	Pn	03 31 37.3	-2.0
ENEZ	Enez	1.71	70	ePn	Pn	03 31 37.3	-2.0

ENEZ	Enez	1.71	70	P	Pn	03 31 37.6	-1.7
ENEZ	Enez	1.71	70	P	Pn	03 31 37.6	-1.7
LKR	Lokris	1.72	208	P	Pn	03 31 37.2	-2.1
LKR	Lokris	1.72	208	P	Pn	03 31 37.7	-1.7
LKR	Lokris	1.72	208	P	Pn	03 31 37.7	-1.7
KZN	Kozani	1.74	275	P	Pn	03 31 39.9	+0.1
KZN	Kozani	1.74	275	P	Pn	03 31 39.4	-0.4
KZN	Kozani	1.74	275	P	Pn	03 31 39.1	-0.7
AGG	Agios Georgios	1.75	230	PN	Pn	03 31 38.6	-1.3
AGG	Agios Georgios	1.75	230	P	Pn	03 31 38.5	-1.3
AGG	Agios Georgios	1.75	230	*e*Pn	Pn	03 31 38.4	-1.3
AGG	Agios Georgios	1.75	230	*e*P	Pn	03 31 38.4	-1.3
AGG	Agios Georgios	1.75	230	P	Pn	03 31 38.6	-1.3
AGG	Agios Georgios	1.75	230	P	Pn	03 31 38.5	-1.3
EREA	Eretria	1.75	183	P	Pn	03 31 37.9	-1.9
EREA	Eretria	1.75	183	P	Pn	03 31 38.1	-1.8
EREA				S	Sn	03 32 01.7	-0.7
EREA	Eretria	1.75	183	P	Pn	03 31 38.1	-1.8
EREA				S	Sn	03 32 01.7	-0.7
GPNR	Gulpinar-Canak	1.77	113	PN	Pn	03 31 38.1	-1.9
GPNR	Gulpinar-Canak	1.77	113	*e*Pn	Pn	03 31 38.1	-1.9
GELI	Tayfur-Gelibol	1.88	82	PN	Pn	03 31 39.8	-1.8
GELI	Tayfur-Gelibol	1.88	82	*e*Pn	Pn	03 31 39.8	-1.8
ERIK	Erikli-Kesan	1.96	74	PN	Pn	03 31 41.3	-1.4
ERIK	Erikli-Kesan	1.96	74	*e*Pn	Pn	03 31 41.3	-1.4
PRK	Paraskevi	1.96	117	P	Pn	03 31 41.6	-1.1
PRK				AML	AML	03 32 14.1	
	comp=E,65542µm,0.8s						
PRK				AML	AML	03 32 14.7	
	comp=N,55930µm,1.3s						
PRK	Paraskevi	1.96	117	P	Pn	03 31 41.5	-1.2
PRK				S	Sn	03 32 07.2	-0.2
PRK	Paraskevi	1.96	117	P	Pn	03 31 41.4	-1.2
PRK				S	Sn	03 32 07.2	-0.2
BAYC	CANAKKALE_Bayr	1.98	102	*i* P	Pn	03 31 40.8	-2.2
BAYC	CANAKKALE_Bayr	1.98	102	P	Pn	03 31 40.8	-2.2
KPRO	Kipourio	2.06	265	P	Pn	03 31 44.5	+0.3
KPRO	Kipourio	2.06	265	P	Pn	03 31 44.0	-0.3
KPRO	Kipourio	2.06	265	P	Pn	03 31 43.9	-0.3
VILL	Villia	2.08	196	P	Pn	03 31 43.1	-1.3
VILL	Villia	2.08	196	P	Pn	03 31 43.1	-1.3
LPK	Lapseki	2.10	84	PN	Pn	03 31 42.7	-1.9
LPK	Lapseki	2.10	84	*e*Pn	Pn	03 31 42.7	-1.9
PROD	Prodromos	2.10	205	P	Pn	03 31 42.3	-2.4
PROD	Prodromos	2.10	205	P	Pn	03 31 42.9	-1.8
DSF	Desfina	2.11	214	P	Pn	03 31 42.5	-2.4
DSF	Desfina	2.11	214	P	Pn	03 31 43.1	-1.8
DSF	Desfina	2.11	214	P	Pn	03 31 43.0	-1.8
FNA	Florina	2.12	288	*i* PN	Pn	03 31 44.6	-0.4
FNA				*i* SN	Sb	03 32 14.0	-0.4
FNA	Florina	2.12	288	PN	Pn	03 31 44.0	-1.0
FNA	Florina	2.12	288	*e*Pg	Pn	03 31 44.5	-0.4
FNA				*e*Sg	Sn	03 32 06.2	-5.3
FNA	Florina	2.12	288	P	Pn	03 31 45.1	+0.1
FNA	Florina	2.12	288	P	Pn	03 31 44.4	-0.6
FNA	Florina	2.12	288	*e*Pg	Pn	03 31 44.5	-0.4
FNA	Florina	2.12	288	P	Pn	03 31 44.8	-0.2
FNA				S	Sn	03 32 12.9	+1.4
FNA				*i* Sn	Sb	03 32 14.0	-0.4
FNA	Florina	2.12	288	P	Pn	03 31 44.6	-0.4
FNA				S	Sn	03 32 12.9	+1.4
KESN	Edirne-Kesan	2.12	71	*i* P	Pn	03 31 42.9	-2.4
KESN	Edirne-Kesan	2.12	71	P	Pn	03 31 42.9	-2.4
PTL	Penteli	2.12	184	P	Pn	03 31 42.6	-2.4
PTL	Penteli	2.12	184	P	Pn	03 31 43.1	-1.9
PTL	Penteli	2.12	184	P	Pn	03 31 43.0	-1.9
EVR	Evrytania	2.13	235	P	Pn	03 31 44.5	-0.6
EVR	Evrytania	2.13	235	P	Pn	03 31 44.3	-0.8
EVR	Evrytania	2.13	235	P	Pn	03 31 44.1	-1.0
KARY	Karystos	2.16	172	P	Pn	03 31 43.0	-2.4
KARY	Karystos	2.16	172	P	Pn	03 31 43.7	-1.7
KARY				S	Sn	03 32 12.1	-0.3
KARY	Karystos	2.16	172	P	Pn	03 31 43.7	-1.7
KARY				S	Sn	03 32 12.1	-0.3
ATH	Athens Observa	2.21	187	P	Pn	03 31 44.5	-1.6
ATH	Athens Observa	2.21	187	P	Pn	03 31 44.6	-1.6
ATH	Athens Observa	2.21	187	P	Pn	03 31 44.7	-1.4
ATH				S	Sn	03 32 12.8	-0.8
ATH	Athens Observa	2.21	187	P	Pn	03 31 44.6	-1.6
ATH				S	Sn	03 32 12.8	-0.8
ATHU	Athens Univers	2.21	185	P	Pn	03 31 43.3	-2.9
ATHU	Athens Univers	2.21	185	P	Pn	03 31 44.1	-2.1
PENT	Pentalofos	2.22	272	P	Pn	03 31 46.6	+0.2
PENT	Pentalofos	2.22	272	P	Pn	03 31 46.2	-0.2
PENT	Pentalofos	2.22	272	P	Pn	03 31 46.2	-0.2
BIA	Bitola	2.23	293	P	Pn	03 31 47.0	+0.5
BIA				S	Sb	03 32 16.3	-1.3
BIA	Bitola	2.23	293	P	Pn	03 31 47.0	+0.5
BIA				S	Sb	03 32 16.3	-1.3
BIA	Bitola	2.23	293	*i* Pn	Pn	03 31 46.9	+0.3
NEST	Nestorio	2.30	277	P	Pn	03 31 48.2	+0.7
NEST	Nestorio	2.30	277	P	Pn	03 31 47.6	+0.1
NEST	Nestorio	2.30	277	P	Pn	03 31 47.1	-0.4
LTK	Loutraki	2.30	202	P	Pn	03 31 45.0	-2.4
LTK	Loutraki	2.30	202	P	Pn	03 31 45.9	-1.5
LTK	Loutraki	2.30	202	P	Pn	03 31 45.9	-1.5
KALE	Kalithea	2.31	220	P	Pn	03 31 46.4	-1.2
KALE	Kalithea	2.31	220	P	Pn	03 31 46.7	-0.9
KALE	Kalithea	2.31	220	P	Pn	03 31 46.7	-0.9
VLY	Voula,Athens	2.32	185	P	Pn	03 31 45.0	-2.7
VLY	Voula,Athens	2.32	185	P	Pn	03 31 46.2	-1.5
VLY	Voula,Athens	2.32	185	P	Pn	03 31 46.2	-1.5
LOUT	Loutraki	2.33	201	P	Pn	03 31 46.5	-1.3
LOUT	Loutraki	2.33	201	P	Pn	03 31 46.5	-1.3
SERG	Sergoula	2.33	222	P	Pn	03 31 46.4	-1.5
SERG	Sergoula	2.33	222	P	Pn	03 31 47.2	-0.7
SERG	Sergoula	2.33	222	P	Pn	03 31 47.2	-0.7
TRIZ	Trizonia	2.36	221	P	Pn	03 31 47.2	-1.0
TRIZ	Trizonia	2.36	221	P	Pn	03 31 47.2	-1.0
CHOS	Chios island	2.37	138	PN	Pn	03 31 47.1	-1.3
CHOS	Chios island	2.37	138	P	Pn	03 31 47.2	-1.3
CHOS	Chios island	2.37	138	P	Pn	03 31 47.2	-1.3
CHOS				S	Sn	03 32 16.9	-0.9
CHOS	Chios island	2.37	138	P	Pn	03 31 47.2	-1.3
CHOS				S	Sn	03 32 16.9	-0.9
THAL	Thalero	2.38	207	P	Pn	03 31 46.8	-1.7
THAL	Thalero	2.38	207	P	Pn	03 31 47.1	-1.4
THAL	Thalero	2.38	207	P	Pn	03 31 47.1	-1.4
EFP	Efpalio	2.40	224	P	Pn	03 31 48.3	-0.5
EFP				S	Sn	03 32 18.5	+0.2
EFP	Efpalio	2.40	224	P	Pn	03 31 48.3	-0.5
EFP				S	Sn	03 32 18.5	+0.2
KRUS	Krusevo	2.43	300	*i* Pn	Pn	03 31 49.0	-0.3
RKY	Sarkoy-Tekirda	2.45	77	PN	Pn	03 31 47.9	-1.7
RKY	Sarkoy-Tekirda	2.45	77	*e*Pn	Pn	03 31 47.9	-1.7
SART	Tekirdag	2.46	77	*i* P	Pn	03 31 46.9	-2.7
SART	Tekirdag	2.46	77	P	Pn	03 31 46.9	-2.7
PVO	Paravola	2.49	232	P	Pn	03 31 50.5	+0.5
PVO	Paravola	2.49	232	P	Pn	03 31 49.8	-0.2
PVO	Paravola	2.49	232	P	Pn	03 31 50.2	+0.2
DSL	Palaion Diasel	2.49	246	P	Pn	03 31 50.1	0.0
DSL	Palaion Diasel	2.49	246	P	Pn	03 31 49.7	-0.4
DSL				S	Sn	03 32 21.5	+0.8
DSL	Palaion Diasel	2.49	246	P	Pn	03 31 49.8	-0.4
DSL				S	Sn	03 32 21.5	+0.8
VTS	Vitosha	2.50	346	⇓*i*P	Pn	03 31 50.6	+0.2
VTS	Vitosha	2.50	346	*e*Pn	Pn	03 31 50.5	+0.2
VTS				*e*Sn	Sg	03 32 28.1	-1.3
VTS	Vitosha	2.50	346	*e*P	Pn	03 31 50.5	+0.2
VTS				*e*		03 32 28.1	
VTS	Vitosha	2.50	346	*e*P	Pn	03 31 50.5	+0.2
VTS				S	Sn	03 32 21.8	+0.7
VTS	Vitosha	2.50	346	P	Pn	03 31 50.3	0.0
JAN	Janina	2.50	259	P	Pn	03 31 51.3	+1.1
JAN	Janina	2.50	259	P	Pn	03 31 49.9	-0.3
JAN	Janina	2.50	259	P	Pn	03 31 49.9	-0.3
KRBG	Karabiga-Canak	2.51	84	PN	Pn	03 31 48.7	-1.5
KRBG	Karabiga-Canak	2.51	84	*e*Pn	Pn	03 31 48.7	-1.5
KRBN	Karaburun	2.51	128	PN	Pn	03 31 49.1	-1.2
KRBN	Karaburun	2.51	128	*e*Pn	Pn	03 31 49.1	-1.2
KBN	Korca	2.52	281	*i* PN	Pn	03 31 50.0	-0.6
KBN				*i* SN	Sb	03 32 25.1	-0.9
KBN	Korca	2.52	281	P	Pn	03 31 49.9	-0.6
KBN				S	Sb	03 32 25.1	-0.9
KBN	Korca	2.52	281	*i* Pn	Pn	03 31 50.0	-0.6
KBN				*i* Sn	Sb	03 32 25.1	-0.9
CESE	ˆe¯me	2.54	136	PN	Pn	03 31 49.4	-1.3
CESE	ˆe¯me	2.54	136	*e*Pn	Pn	03 31 49.4	-1.3
FOCM	Foˆ§a	2.54	124	PN	Pn	03 31 49.3	-1.4
FOCM	Foˆ§a	2.54	124	*e*Pn	Pn	03 31 49.3	-1.4
KLV	Kalavryta, Ach	2.58	215	P	Pn	03 31 49.7	-1.6
KLV	Kalavryta, Ach	2.58	215	P	Pn	03 31 50.5	-0.8
KLV	Kalavryta, Ach	2.58	215	P	Pn	03 31 50.5	-0.8
GUR	Goura	2.59	211	P	Pn	03 31 50.1	-1.4
GUR	Goura	2.59	211	P	Pn	03 31 50.1	-1.4
OHR	Ohrid	2.64	292	P	Pn	03 31 52.3	+0.2
OHR	Ohrid	2.64	292	P	Pn	03 31 52.3	+0.2
OHR	Ohrid	2.64	292	*i* Pn	Pn	03 31 52.3	+0.2
OHR				*e*Sn	Sb	03 32 29.5	+0.3
EDRB	Edirne	2.65	50	PN	Pn	03 31 51.5	-0.7
EDRB	Edirne	2.65	50	*e*Pn	Pn	03 31 51.5	-0.7
SKO	Skopje	2.66	313	P	Pn	03 31 52.6	+0.2
SKO	Skopje	2.66	313	P	Pn	03 31 52.6	+0.2
SKO	Skopje	2.66	313	*i* Pn	Pn	03 31 52.0	-0.4
SKO				*e*Sn	Sb	03 32 29.4	-0.6
URLA	Izmir	2.69	131	PN	Pn	03 31 50.5	-2.3
URLA	Izmir	2.69	131	*i* P	Pn	03 31 49.5	-3.2
URLA	Izmir	2.69	131	P	Pn	03 31 49.5	-3.2
URLA	Izmir	2.69	131	*e*Pn	Pn	03 31 50.5	-2.3
ZEY	˜zmir	2.72	134	*i* P	Pn	03 31 52.0	-1.1
DID	Didima	2.73	193	P	Pn	03 31 50.8	-2.6
DID	Didima	2.73	193	P	Pn	03 31 51.5	-1.9
DID				S	Sn	03 32 26.5	-0.1
DID	Didima	2.73	193	P	Pn	03 31 51.5	-1.9
DID				S	Sn	03 32 26.5	-0.1
BALY	Balya	2.79	98	*i* P	Pn	03 31 52.2	-2.0
BALY	Balya	2.79	98	P	Pn	03 31 52.2	-2.0
TKR	Tekirdag	2.79	72	PN	Pn	03 31 53.1	-1.0
TKR	Tekirdag	2.79	72	*e*Pn	Pn	03 31 53.1	-1.0
GONE	Gonen-Balikesi	2.80	91	PN	Pn	03 31 53.3	-1.0
GONE	Gonen-Balikesi	2.80	91	*e*Pn	Pn	03 31 53.3	-1.0
DRO	Drossia	2.86	220	P	Pn	03 31 53.9	-1.2
DRO	Drossia	2.86	220	P	Pn	03 31 54.1	-1.0
DRO				S	Sn	03 32 30.8	+1.0
DRO	Drossia	2.86	220	P	Pn	03 31 54.6	-0.5
DRO				S	Sn	03 32 30.8	+1.0
KRND	KRANIDI	2.87	194	P	Pn	03 31 52.9	-2.3
KRND	KRANIDI	2.87	194	P	Pn	03 31 54.1	-1.1
KRND	KRANIDI	2.87	194	P	Pn	03 31 54.1	-1.1
RLS	Riolos of Patr	2.91	224	P	Pn	03 31 56.7	+1.0
RLS	Riolos of Patr	2.91	224	P	Pn	03 31 56.7	+1.0
EDC	Edincik	2.94	85	PN	Pn	03 31 55.0	-1.1
EDC	Edincik	2.94	85	*e*Pn	Pn	03 31 55.0	-1.1
STEP	BALIKESIR_Sava	2.95	104	*i* P	Pn	03 31 55.2	-1.2
STEP	BALIKESIR_Sava	2.95	104	P	Pn	03 31 55.2	-1.2
LKD2	Lefkada island	2.96	243	*i* PN	Pn	03 31 57.9	+1.4
LKD2				*i* SN	Sb	03 32 35.9	-2.5
LKD2	Lefkada island	2.96	243	P	Pn	03 31 57.8	+1.4
LKD2				*i* Sn	Sb	03 32 35.9	-2.5
LKD2	Lefkada island	2.96	243	P	Pn	03 31 57.8	+1.4
CRLT	Corlu	2.97	70	PN	Pn	03 31 55.5	-1.2
CRLT	Corlu	2.97	70	*e*Pn	Pn	03 31 55.5	-1.2
SGD	Sagiada	2.98	260	P	Pn	03 31 58.3	+1.6
SGD	Sagiada	2.98	260	P	Pn	03 31 58.3	+1.6
TRIP	Tripoli	2.98	208	P	Pn	03 31 55.9	-0.9
TRIP	Tripoli	2.98	208	P	Pn	03 31 55.8	-0.9
BALB	Balikesir	3.00	99	PN	Pn	03 31 56.1	-1.0
BALB	Balikesir	3.00	99	*e*Pn	Pn	03 31 56.1	-1.0
PHSR	Pinarhisar	3.02	60	PN	Pn	03 31 56.2	-1.1
PHSR	Pinarhisar	3.02	60	*e*Pn	Pn	03 31 56.2	-1.1
DGB	˜zmir	3.06	133	*i* P	Pn	03 31 57.8	-0.1
VLX	Vlachokerasia	3.08	205	P	Pn	03 31 56.7	-1.5
VLX	Vlachokerasia	3.08	205	P	Pn	03 31 57.0	-1.2
VLX	Vlachokerasia	3.08	205	P	Pn	03 31 57.5	-0.7
SBT3	Marmara-Eregli	3.09	75	PN	Pn	03 31 57.0	-1.1
SBT3	Marmara-Eregli	3.09	75	*e*Pn	Pn	03 31 57.0	-1.1
SRN	Sarande	3.11	266	*i* PN	Pn	03 31 59.8	+1.2
SRN				*i* SN	Sb	03 32 40.4	-2.4
SRN	Sarande	3.11	266	*i* Pn	Pn	03 31 59.8	+1.2
SRN				*i* Sn	Sb	03 32 40.4	-2.4
PHP	Peshkopia	3.12	300	*i* PN	Pn	03 31 58.5	-0.2
PHP				*i* SN	Sb	03 32 42.0	-1.1
PHP	Peshkopia	3.12	300	P	Pn	03 31 58.5	-0.2
PHP	Peshkopia	3.12	300	*i* Pn	Pn	03 31 58.5	-0.2
BARS	Barje	3.13	328	*e*Pn	Pn	03 31 59.1	+0.3
BARS	Barje	3.13	328	*e*Pn	Pn	03 31 59.1	+0.3
AKHS	Akhisar	3.19	113	*i* P	Pn	03 32 00.4	+0.7
AKHS	Akhisar	3.19	113	P	Pn	03 32 00.4	+0.7
PVL	Pavlikeni	3.20	17	P	Pn	03 31 57.9	-1.8
PVL	Pavlikeni	3.20	17	P	Pn	03 31 57.9	-1.8
AMT	Artemida-Makis	3.20	215	P	Pn	03 32 00.0	+0.2
AMT				S	Sn	03 32 38.0	-0.1
AMT	Artemida-Makis	3.20	215	P	Pn	03 32 00.0	+0.2
AMT				S	Sn	03 32 38.0	-0.1
KFL	Anninata	3.26	232	P	Pn	03 32 01.6	+1.0
KFL	Anninata	3.26	232	P	Pn	03 32 01.6	+1.0
ZAPS	Zavoj	3.27	342	*e*Pn	Pn	03 32 02.8	+2.0
ZAPS				*e*Sn	Sn	03 32 39.3	-0.7
SMG	Samos	3.29	137	P	Pn	03 31 59.9	-1.1
SMG	Samos	3.29	137	P	Pn	03 31 59.9	-1.1
APE	Apeiranthos	3.31	159	PN	Pn	03 32 00.4	-0.9
APE	Apeiranthos	3.31	159	⇓*i*P	Pn	03 31 59.5	-1.8
APE	Apeiranthos	3.31	159	*de*P	Pn	03 31 59.4	-1.8
APE	Apeiranthos	3.31	159	P	Pn	03 31 59.6	-1.8
APE	Apeiranthos	3.31	159	*e*Pn	Pn	03 32 00.4	-0.9
APE				S	Sn	03 32 36.6	-4.3
APE	Apeiranthos	3.31	159	P	Pn	03 31 59.6	-1.8
KCTX	Karacabey (Bur	3.31	87	PN	Pn	03 32 00.7	-0.6
KCTX	Karacabey (Bur	3.31	87	*e*Pn	Pn	03 32 00.7	-0.6
VLS	Valsamata	3.34	234	P	Pn	03 32 02.0	+0.3
VLS	Valsamata	3.34	234	P	Pn	03 32 02.0	+0.3
SLVT	Silivri	3.35	70	PN	Pn	03 32 00.9	-0.9
SLVT	Silivri	3.35	70	P	Pn	03 31 57.4	-4.4
SLVT	Silivri	3.35	70	*e*Pn	Pn	03 32 00.9	-0.9
TIR	Tirane	3.38	292	*i* PN	Pn	03 32 02.4	+0.2
TIR				*i* SN	Sb	03 32 48.6	-1.9
TIR	Tirane	3.38	292	⇑*i*P	Pn	03 32 03.1	+0.9
TIR	Tirane	3.38	292	*e*Pn	Pn	03 32 03.7	+1.5
TIR	Tirane	3.38	292	*e*P	Pn	03 32 03.7	+1.5
TIR	Tirane	3.38	292	*i* Pn	Pn	03 32 02.4	+0.2
TIR	Tirane	3.38	292	*e*P	Pn	03 32 03.7	+1.5
TIR				S	Sn	03 32 43.5	+1.0
ITM	Ithomi	3.41	210	P	Pn	03 32 03.4	+0.7
ITM	Ithomi	3.41	210	P	Pn	03 32 03.4	+0.7
CTYL	Yalikoy Yolu	3.48	67	PN	Pn	03 32 03.2	-0.4
CTYL	Yalikoy Yolu	3.48	67	*e*Pn	Pn	03 32 03.2	-0.4
ELBA	Catalca	3.48	72	*i* P	Pn	03 32 00.8	-2.9
ELBA	Catalca	3.48	72	P	Pn	03 32 00.8	-2.9
MHLO	Agia Marina, M	3.49	175	P	Pn	03 32 02.7	-1.0
MHLO	Agia Marina, M	3.49	175	P	Pn	03 32 02.7	-1.0
SBT2	Guzelce-Avcila	3.49	77	PN	Pn	03 32 02.9	-0.7
SBT2	Guzelce-Avcila	3.49	77	*e*Pn	Pn	03 32 02.9	-0.7
GCAM	G?zelcaml?	3.51	134	PN	Pn	03 32 03.2	-0.8
GCAM	G?zelcaml?	3.51	134	*i* P	Pn	03 32 03.1	-0.9
GCAM	G?zelcaml?	3.51	134	P	Pn	03 32 03.1	-0.9
VLI	Veliai	3.55	194	P	Pn	03 32 03.6	-1.0
VLI	Veliai	3.55	194	P	Pn	03 32 03.6	-1.0
CTKS	Kestanelik-??a	3.56	71	PN	Pn	03 32 03.5	-1.2
CTKS	Kestanelik-??a	3.56	71	*e*Pn	Pn	03 32 03.5	-1.2
DST	Dursunbey	3.57	98	PN	Pn	03 32 04.2	-0.8
DST	Dursunbey	3.57	98	*e*Pn	Pn	03 32 04.2	-0.8
ZIMR		3.62	15	⇓*i*P	Pn	03 32 05.3	-0.3
ZIMR		3.62	15	P	Pn	03 32 05.3	-0.3
PUK	Puka	3.65	302	*i* PN	Pn	03 32 06.4	+0.4
PUK				*i* SN	Sg	03 33 10.6	+4.4
PUK	Puka	3.65	302	*i* Pn	Pn	03 32 06.4	+0.4
ARMT	Armutlu	3.71	82	PN	Pn	03 32 06.1	-0.7
ARMT	Armutlu	3.71	82	*e*Pn	Pn	03 32 06.1	-0.7
MDNY	Mudanya-Bursa	3.71	85	PN	Pn	03 32 06.5	-0.4
MDNY	Mudanya-Bursa	3.71	85	*e*Pn	Pn	03 32 06.5	-0.4
ORLT	Orhaneli	3.73	90	PN	Pn	03 32 06.1	-1.0
ORLT	Orhaneli	3.73	90	*e*Pn	Pn	03 32 06.1	-1.0
BGKT	Bogazkoy	3.74	73	PN	Pn	03 32 06.6	-0.6
BGKT	Bogazkoy	3.74	73	*e*Pn	Pn	03 32 06.6	-0.6
SELS	Selova	3.75	325	*e*Pn	Pn	03 32 06.7	-0.7
SELS				*e*Sn	Sn	03 32 50.0	-1.7
DEMI	Demirci	3.79	106	*i* P	Pn	03 32 07.6	-0.3
DEMI	Demirci	3.79	106	P	Pn	03 32 07.6	-0.3
CMBO	Columbo, Santo	3.85	163	P	Pn	03 32 07.1	-1.6
CMBO	Columbo, Santo	3.85	163	P	Pn	03 32 07.1	-1.6
SAP3	Santorini-Thir	3.87	164	P	Pn	03 32 07.7	-1.3
SAP3	Santorini-Thir	3.87	164	P	Pn	03 32 07.7	-1.3
BOVS	Bovan	3.87	334	*e*Pn	Pn	03 32 09.2	+0.1
BOVS				*e*Sn	Sn	03 32 52.2	-2.5
BOVS	Bovan	3.87	334	*e*Pn	Pn	03 32 09.2	+0.1
BOVS				*e*Sn	Sn	03 32 52.2	-2.5
THR2	Thira island,	3.88	163	P	Pn	03 32 07.6	-1.5
THR2	Thira island,	3.88	163	P	Pn	03 32 07.6	-1.5
ZAGS	Zajecar	3.88	340	*e*Pn	Pn	03 32 08.6	-0.5
ZAGS				*e*Sn	Sn	03 32 54.0	-0.9
ZAGS	Zajecar	3.88	340	*e*Pn	Pn	03 32 08.6	-0.5
ZAGS				*e*Sn	Sn	03 32 54.0	-0.9
THT2	Imerovigli	3.88	163	P	Pn	03 32 08.2	-1.0
THT2	Imerovigli	3.88	163	P	Pn	03 32 08.2	-1.0
THR3	Thira Island,	3.91	164	P	Pn	03 32 08.1	-1.4
THR3	Thira Island,	3.91	164	P	Pn	03 32 08.1	-1.4
PVY	Plav	3.91	310	⇓*i*Pn	Pn	03 32 10.0	+0.4
PVY				*e*Sn	Sn	03 32 56.6	+0.8
PVY	Plav	3.91	310	⇓*i*Pn	Pn	03 32 10.0	+0.4
PVY				*e*Sn	Sn	03 32 56.6	+0.8
ISK	Istanbul-Kandi	3.93	75	PN	Pn	03 32 09.0	-0.8
ISK	Istanbul-Kandi	3.93	75	*e*Pn	Pn	03 32 09.0	-0.8
KAVV	Kandilli-Istan	3.93	75	PN	Pn	03 32 08.7	-1.1
KAVV	Kandilli-Istan	3.93	75	*e*Pn	Pn	03 32 08.7	-1.1
BUY	Buyukada	3.94	78	PN	Pn	03 32 09.5	-0.4
BUY	Buyukada	3.94	78	*i* P	Pn	03 32 07.6	-2.3
BUY	Buyukada	3.94	78	P	Pn	03 32 07.6	-2.3
BUY	Buyukada	3.94	78	*e*Pn	Pn	03 32 09.5	-0.4
KULA	Kula-Manisa	3.95	113	PN	Pn	03 32 09.6	-0.6
KULA	Kula-Manisa	3.95	113	*e*Pn	Pn	03 32 09.6	-0.6
SANT	Santorini	3.96	163	⇑*i*P	Pb	03 32 21.1	+1.9
SANT	Santorini	3.96	163	S	Sb	03 33 10.9	+3.7
SANT	Santorini	3.96	163	*e*Pn	Pn	03 32 10.1	-0.1
SANT	Santorini	3.96	163	*e*Pn	Pn	03 32 10.1	-0.1
THR6	Thira Island,	3.96	164	P	Pn	03 32 08.4	-1.8
THR6	Thira Island,	3.96	164	P	Pn	03 32 08.4	-1.8
IGD	Bursa	3.96	87	*i* P	Pn	03 32 09.9	-0.3
KLYT	Kilyos	3.96	73	PN	Pn	03 32 09.5	-0.7
KLYT	Kilyos	3.96	73	*e*Pn	Pn	03 32 09.5	-0.7
SIMA	Simav-Kutahya	3.97	104	PN	Pn	03 32 09.5	-1.0
SIMA	Simav-Kutahya	3.97	104	*e*Pn	Pn	03 32 09.5	-1.0
KYTH	Kithira	3.98	192	P	Pn	03 32 09.7	-0.8
BODT	Bodrum	4.03	139	PN	Pn	03 32 09.5	-1.7
BODT	Bodrum	4.03	139	*e*Pn	Pn	03 32 09.5	-1.7
BODT	Bodrum	4.03	139	P	Pn	03 32 09.3	-1.9
ULC	Ulcinj	4.04	298	⇓*i*Pn	Pn	03 32 12.5	+1.1
ULC				*e*Sn	Sn	03 32 59.4	+0.5
ULC	Ulcinj	4.04	298	⇓*i*Pn	Pn	03 32 12.5	+1.1
ULC				*e*Sn	Sn	03 32 59.4	+0.5
BEY	Berane	4.12	312	⇓*i*Pn	Pn	03 32 13.3	+0.8
BEY				*e*Sn	Sn	03 33 01.7	+0.8
IVA	Berane	4.12	312	⇓*i*Pn	Pn	03 32 13.3	+0.8
IVA				*e*Sn	Sn	03 33 01.7	+0.8
CRAR	CRAIOVA	4.16	358	⇑*i*P	Pn	03 32 12.7	-0.2
CRAR	CRAIOVA	4.16	358	S	Sg	03 33 21.8	-0.8
CRAR	CRAIOVA	4.16	358	P	Pn	03 32 12.7	-0.2
CRAR	CRAIOVA	4.16	358	P	Pn	03 32 12.7	-0.2
DRME	Dracevica, Mon	4.18	300	⇑*i*Pn	Pn	03 32 14.0	+0.8
DRME				*e*Sn	Sn	03 33 03.0	+0.7
DRME	Dracevica, Mon	4.18	300	⇑*i*Pn	Pn	03 32 14.0	+0.8
DRME	Dracevica, Mon	4.18	300	⇓*i*P	Pn	03 32 14.8	+1.6
DRME				*e*Sn	Sn	03 33 03.0	+0.7
TVSB	Tavsanli	4.24	98	PN	Pn	03 32 13.2	-1.0
TVSB	Tavsanli	4.24	98	*e*Pn	Pn	03 32 13.2	-1.0
PDG	Podgorica	4.25	304	⇓*i*P	Pn	03 32 15.7	+1.6
PDG	Podgorica	4.25	304	⇓*i*Pn	Pn	03 32 15.2	+1.0
PDG	Podgorica	4.25	304	⇓*i*P	Pn	03 32 15.6	+1.4
PDG				*e*Sn	Sn	03 33 04.5	+0.5
TTG	Podgorica	4.25	304	⇓*i*Pn	Pn	03 32 15.2	+1.0
TTG				*e*Sn	Sn	03 33 04.5	+0.5
TTG	Podgorica	4.25	304	*e*Pn	Pn	03 32 15.8	+1.6
TTG	Podgorica	4.25	304	*e*P	Pn	03 32 15.8	+1.6
TTG	Podgorica	4.25	304	*e*P	Pn	03 32 15.8	+1.6
SCTE	Santa Cesarea	4.27	270	*i* PN	Pn	03 32 15.0	+0.5
SCTE				*i* SN	Sb	03 33 17.3	+1.1
SCTE	Santa Cesarea	4.27	270	*i* Pn	Pn	03 32 15.0	+0.5
SGRR	Singureni	4.30	19	⇑*i*P	Pn	03 32 14.3	-0.6
SGRR	Singureni	4.30	19	S	Sg	03 33 27.4	+0.2
SGRR	Singureni	4.30	19	⇑*i*P	Pn	03 32 14.3	-0.6
KOME	Kolasin	4.32	310	⇑*i*Pn	Pn	03 32 15.8	+0.5
KOME				*e*Sn	Sn	03 33 06.4	+0.4
KOME	Kolasin	4.32	310	⇑*i*Pn	Pn	03 32 15.8	+0.5
KOME				*e*Sn	Sn	03 33 06.4	+0.4
ANKY	Antikythira Is	4.33	188	P	Pn	03 32 14.3	-1.1
ANKY	Antikythira Is	4.33	188	P	Pn	03 32 14.3	-1.1
SJES	Sjenica	4.33	317	*e*Pn	Pn	03 32 16.2	+0.7
SJES				*e*Sn	Sn	03 33 00.9	-5.3
HRT	Hereke	4.34	80	PN	Pn	03 32 14.3	-1.3
HRT	Hereke	4.34	80	*e*Pn	Pn	03 32 14.3	-1.3
ADVT	Abdulvahap	4.37	85	PN	Pn	03 32 15.5	-0.3
ADVT	Abdulvahap	4.37	85	*e*Pn	Pn	03 32 15.5	-0.3
SILT	Sile	4.38	75	PN	Pn	03 32 15.4	-0.5
SILT	Sile	4.38	75	*e*Pn	Pn	03 32 15.4	-0.5
HUMR	Humele	4.41	9	⇑*i*P	Pn	03 32 16.1	-0.3
HUMR	Humele	4.41	9	S	Sb	03 33 22.7	+2.4
HUMR	Humele	4.41	9	⇑*i*P	Pn	03 32 16.1	-0.3
BUM	Brajici-Budva	4.42	300	⇑*i*Pn	Pn	03 32 17.6	+0.9
BUM				*e*Sn	Sn	03 33 08.6	+0.2
BUM	Brajici-Budva	4.42	300	⇑*i*Pn	Pn	03 32 17.6	+0.9
BUM				*e*Sn	Sn	03 33 08.6	+0.2
BUC1	Bucharest	4.43	19	⇑*i*P	Pn	03 32 16.4	-0.3
BUC1	Bucharest	4.43	19	P	Pn	03 32 16.4	-0.3
BUC1	Bucharest	4.43	19	P	Pn	03 32 16.4	-0.3
CAVI	Cavuskoy	4.45	88	PN	Pn	03 32 16.1	-0.9
CAVI	Cavuskoy	4.45	88	*e*Pn	Pn	03 32 16.1	-0.9
GRUS	Gruza	4.46	327	*e*Pn	Pn	03 32 16.9	-0.2
GRUS				*e*Sn	Sn	03 33 05.6	-3.7
GRUS	Gruza	4.46	327	*e*Pn	Pn	03 32 16.9	-0.2
GRUS				*e*Sn	Sn	03 33 05.6	-3.7
IVAS	Ivanjica	4.47	321	*e*Pn	Pn	03 32 17.2	-0.1
IVAS	Ivanjica	4.47	321	*e*Pn	Pn	03 32 17.2	-0.1
YER	Yerkesik	4.50	131	PN	Pn	03 32 17.3	-0.4
YER	Yerkesik	4.50	131	*e*Pn	Pn	03 32 17.3	-0.4
YER	Yerkesik	4.50	131	P	Pn	03 32 17.4	-0.3
CEME	Cevo	4.52	303	⇓*i*Pn	Pn	03 32 19.4	+1.4
CEME				*e*Sn	Sn	03 33 11.4	+0.5
CEME	Cevo	4.52	303	⇓*i*Pn	Pn	03 32 19.4	+1.4
CEME				*e*Sn	Sn	03 33 11.4	+0.5
SRE	Strehaia	4.53	352	⇓*i*P	Pn	03 32 18.5	+0.4
SRE	Strehaia	4.53	352	P	Pn	03 32 18.5	+0.4
SRE	Strehaia	4.53	352	P	Pn	03 32 18.5	+0.4
KUBS	Kucevo	4.59	338	*e*Pn	Pn	03 32 16.7	-2.2
KUBS				*e*Sn	Sn	03 33 10.1	-2.2
KUBS	Kucevo	4.59	338	*e*Pn	Pn	03 32 16.7	-2.2
KUBS				*e*Sn	Sn	03 33 10.1	-2.2
SVIS	Svilajnac	4.60	334	*e*Pn	Pn	03 32 17.3	-1.7
SVIS				*e*Sg	Sg	03 33 31.8	-5.0
NKME	Niksic	4.62	306	⇓*i*Pn	Pn	03 32 20.2	+0.9
NKME				*e*Sn	Sn	03 33 13.9	+0.8
NKME	Niksic	4.62	306	⇓*i*Pn	Pn	03 32 20.2	+0.9
NKME				*e*Sn	Sn	03 33 13.9	+0.8
NKY	Niksic	4.62	307	*e*Pn	Pn	03 32 20.4	+1.0
NKY				*e*Sn	Sn	03 33 13.4	+0.2
NKY	Niksic	4.62	307	*e*Pn	Pn	03 32 20.4	+1.0
NKY				*e*Sn	Sn	03 33 13.4	+0.2
DJES	Djerdap	4.63	346	*e*Pn	Pn	03 32 18.4	-1.1
DJES				*e*Sn	Sn	03 33 12.4	-1.0
PLE	Pljevlja	4.70	314	⇑*i*Pn	Pn	03 32 21.2	+0.8
PLE				*e*Sn	Sn	03 33 15.5	+0.3
PLE	Pljevlja	4.70	314	P	Pn	03 32 21.6	+1.2
PLE				S	Sn	03 33 15.0	-0.2
PLE	Pljevlja	4.70	314	⇑*i*Pn	Pn	03 32 21.2	+0.8
PLE	Pljevlja	4.70	314	P	Pn	03 32 21.6	+1.2
PLE				S	Sn	03 33 15.0	-0.2
IMMV	Iera Moni Meta	4.70	181	PN	Pn	03 32 20.5	+0.1
IMMV	Iera Moni Meta	4.70	181	*e*Pn	Pn	03 32 20.5	+0.1
IMMV	Iera Moni Meta	4.70	181	P	Pn	03 32 21.1	+0.7
IMMV	Iera Moni Meta	4.70	181	P	Pn	03 32 21.1	+0.7
GOLR		4.72	8	⇓*i*P	Pn	03 32 21.0	+0.4
GOLR		4.72	8	⇓*i*P	Pn	03 32 21.0	+0.4
HCY	Herceg Novi	4.75	300	⇓*i*Pn	Pn	03 32 21.6	+0.4
HCY				*e*Sn	Sn	03 33 16.9	+0.5
HCY	Herceg Novi	4.75	300	⇓*i*P	Pn	03 32 21.5	+0.4
HCY				*e*Sn	Sn	03 33 16.9	+0.5
VAM	Vamos	4.76	178	P	Pn	03 32 21.0	-0.2
VAM	Vamos	4.76	178	P	Pn	03 32 21.0	-0.2
SULR		4.80	19	⇑*i*P	Pn	03 32 21.5	-0.2
SULR		4.80	19	S	Sg	03 33 47.6	+4.5
SULR		4.80	19	⇑*i*P	Pn	03 32 21.5	-0.2
SPNC	Sapanca-Adapaz	4.82	82	PN	Pn	03 32 22.0	0.0
SPNC	Sapanca-Adapaz	4.82	82	*e*Pn	Pn	03 32 22.0	0.0
SAUV	Serdivan-Sakar	4.83	81	PN	Pn	03 32 22.0	-0.2
SAUV	Serdivan-Sakar	4.83	81	*e*Pn	Pn	03 32 22.0	-0.2
ICOR	Ion Corvin	4.84	34	⇑*i*P	Pn	03 32 21.6	-0.7
ICOR	Ion Corvin	4.84	34	⇑*i*P	Pn	03 32 21.6	-0.7
TURN	Turunc	4.86	131	PN	Pn	03 32 20.2	-2.4
TURN	Turunc	4.86	131	*e*Pn	Pn	03 32 20.2	-2.4

TRUS Trudelj 4.87 328 ePn Pn 03 32 22.2 -0.5
TRUS Trudelj 4.87 328 ePn Pn 03 32 22.2 -0.5
MDVR Moldovita 4.92 340 ╢iP Pn 03 32 22.5 -0.9
MDVR Moldovita 4.92 340 S Sb 03 33 29.2 -5.7
MDVR Moldovita 4.92 340 ╢iP Pn 03 32 22.5 -0.9
IDI Anoyia 4.92 172 Pn Pn 03 32 22.4 -1.1
comp=N,7,3nm,0.3s,baz=352,slow=17,SNR=3.6
IDI Lg Lg 03 33 43.7
comp=N,3.7nm,0.3s,baz=92,slow=5.6,SNR=3.6
IDI Anoyia 4.92 172 P Pn 03 32 22.8 -0.7
IDI Lg Lg 03 33 43.7
IDI Anoyia 4.92 172 P Pn 03 32 22.8 -0.7
DIVS Divibare 4.94 324 ePn Pn 03 32 23.4 -0.5
DIVS eSn Sn 03 33 16.9 -4.4
DIVS Divibare 4.94 324 ePn Pn 03 32 23.3 -0.5
DIVS Divibare 4.94 324 ╢iP Pn 03 32 23.4 -0.5
BRY Bratogost 4.95 305 ⇑iPn Pn 03 32 24.9 +1.0
BRY eSn Sn 03 33 21.2 -0.2
BRY Bratogost 4.95 305 ⇑iPn Pn 03 32 24.9 +1.0
BRY Bratogost 4.95 305 ╢iP Pn 03 32 25.2 +1.3
BRY eSn Sn 03 33 21.2 -0.2
GULT Gulveren 4.96 85 PN Pn 03 32 23.6 -0.5
GULT Gulveren 4.96 85 ePn Pn 03 32 23.6 -0.5
PLAR PLOIESTI 4.96 17 ╢iP Pn 03 32 24.5 +0.5
PLAR PLOIESTI 4.96 17 ╢iP Pn 03 32 24.5 +0.5
TREB Trebinje 4.97 303 eP Pn 03 32 24.9 +0.8
MANR Mangalia 4.98 41 ╢iP Pn 03 32 23.4 -0.8
MANR Mangalia 4.98 41 S Sg 03 33 46.2 -2.8
MANR Mangalia 4.98 41 ╢iP Pn 03 32 23.4 -0.8
CGL1 Ceglie Messapi 5.03 278 ePn Pn 03 32 25.0 +0.1
NPS Neapolis 5.06 165 P Pn 03 32 23.8 -1.5
NPS Neapolis 5.06 165 P Pn 03 32 23.8 -1.5
SECR 5.09 16 ╢iP Pn 03 32 26.3 +0.5
SECR 5.09 16 S Sg 03 33 56.2 +3.7
SECR 5.09 16 ╢iP Pn 03 32 26.3 +0.5
ARG Arkhangelos 5.09 139 P Pn 03 32 24.5 -1.3
ARG Arkhangelos 5.09 139 P Pn 03 32 24.5 -1.3
CVDA Cernavoda 5.11 34 ╢iP Pn 03 32 25.8 -0.2
CVDA Cernavoda 5.11 34 ╢iP Pn 03 32 25.8 -0.2
LAST Lasithi 5.13 167 P Pn 03 32 25.3 -1.1
LAST Lasithi 5.13 167 P Pn 03 32 25.3 -1.1
FASA Fasano 5.13 279 ePn Pn 03 32 25.8 -0.6
TAR1 Taranto 5.17 276 ePn Pn 03 32 25.3 -1.5
SIVA Sivas 5.18 173 P Pn 03 32 28.1 +1.1
SIVA Sivas 5.18 173 P Pn 03 32 28.1 +1.1
EFOR EFORIE 5.19 40 ╢iP Pn 03 32 25.7 -0.6
EFOR EFORIE 5.19 40 S Sg 03 33 58.2 +2.4
EFOR EFORIE 5.19 40 ╢iP Pn 03 32 26.5 -0.6
PGOR Pogoanele 5.21 24 ╢iP Pn 03 32 28.5 +1.1
PGOR Pogoanele 5.21 24 ╢iP Pn 03 32 28.5 +1.1
ARR Arges 5.21 5 ⇑iP Pn 03 32 27.2 -0.3
ARR Arges 5.21 5 ⇑iP Pn 03 32 27.2 -0.3
KARP Karpathos 5.24 151 PN Pn 03 32 27.8 0.0
KARP Karpathos 5.24 151 ePn Pn 03 32 26.8 -1.0
KARP Karpathos 5.24 151 ePn Pn 03 32 26.8 -1.0
LOT Lotru 5.28 358 ╢iP Pn 03 32 28.3 -0.2
LOT Lotru 5.28 358 S Sg 03 33 58.4 -0.2
LOT Lotru 5.28 358 ╢iP Pn 03 32 28.3 -0.2
MASS Massafra 5.28 277 ePn Pn 03 32 27.8 -0.6
SHUT Suhut-Afyon 5.30 106 PN Pn 03 32 29.4 +0.6
SHUT Suhut-Afyon 5.30 106 ePn Pn 03 32 29.4 +0.6
FETY Fethiye 5.31 130 PN Pn 03 32 28.4 -0.4
FETY Fethiye 5.31 130 ePn Pn 03 32 28.4 -0.4
FETY Fethiye 5.31 130 P Pn 03 32 28.6 -0.2
VOIR 5.32 8 ⇑iP Pn 03 32 28.7 -0.3
VOIR 5.32 8 P Pn 03 32 28.7 -0.3
VOIR 5.32 8 P Pn 03 32 28.7 -0.3
GVD Gavdhos 5.32 180 PN Pn 03 32 29.4 +0.5
GVD Gavdhos 5.32 180 ePn Pn 03 32 29.4 +0.5
GVD Gavdhos 5.32 180 P Pn 03 32 29.6 +0.7
BEO Beograd 5.33 332 P Pn 03 32 32.0 +2.9
BEO pmax pmax
comp=Z,51nm,0.9s
ZKR Zakros 5.33 160 PN Pn 03 32 28.8 -0.3
ZKR Zakros 5.33 160 ePn Pn 03 32 28.8 -0.3
HARR Harsova 5.36 31 ╢iP Pn 03 32 28.9 -0.5
HARR Harsova 5.36 31 P Pn 03 32 28.9 -0.5
HARR Harsova 5.36 31 P Pn 03 32 28.9 -0.5
TIRR Tirgusor 5.38 36 ⇑iP Pn 03 32 28.7 -0.9
TIRR Tirgusor 5.38 36 S Sg 03 33 52.3 +0.6
TIRR Tirgusor 5.38 36 ePn Pn 03 32 28.9 -0.7
TIRR ePg Pg 03 32 49.7 -2.4
TIRR eSg Sg 03 33 58.9 -2.8
TIRR Tirgusor 5.38 36 eP Pn 03 32 28.9 -0.7
TIRR Tirgusor 5.38 36 eP Pn 03 32 28.9 -0.7
HAPS Han Pijesak,BI 5.44 318 ⇑iP Pn 03 32 30.1 -0.6
STON Ston 5.47 302 P Pn 03 32 30.2 -0.7
MDUB Mudurnu 5.48 85 PN Pn 03 32 31.1 -0.2
MDUB Mudurnu 5.48 85 ePn Pn 03 32 31.1 -0.2
MLR Muntele Rosu 5.50 14 Pn Pn 03 32 32.5 +1.0
comp=Z,1.4nm,0.3s,baz=201,slow=7.4,SNR=8.2
MLR Lg Lg 03 34 05.8
comp=Z,5.3nm,0.3s,baz=193,slow=21,SNR=5.3
MLR Muntele Rosu 5.50 14 ⇑iP Pn 03 32 31.9 +0.4
MLR Muntele Rosu 5.50 14 S Sg 03 34 10.1 +4.4
MLR Muntele Rosu 5.50 14 ePn Pn 03 32 32.0 +0.5
MLR Lg Lg 03 34 05.8
MLR Muntele Rosu 5.50 14 ePn Pn 03 32 32.0 +0.5
TEKS Tekeris 5.50 324 ePn Pn 03 32 31.6 +0.1
TEKS eSn Sn 03 33 31.5 -3.4
TEKS Tekeris 5.50 324 eP Pn 03 32 31.0 -0.5
TEKS Tekeris 5.50 324 ePn Pn 03 32 31.6 +0.1
BAI Bari 5.52 282 ePn Pn 03 32 31.0 -0.7
ISP Isparta 5.57 113 PN Pn 03 32 32.6 +0.1
ISP Isparta 5.57 113 ╢iP Pn 03 32 29.9 -2.6
ISP Isparta 5.57 113 ePn Pn 03 32 32.6 +0.1
ISP Isparta 5.57 113 eP Pn 03 32 32.6 +0.1
ISP Isparta 5.57 113 ╢iP Pn 03 32 29.9 -2.6
ISP Isparta 5.57 113 ePn Pn 03 32 32.6 +0.1
MATE Matera 5.62 277 ╢iP Pn 03 32 31.9 -1.1
MATE Matera 5.62 277 ╢iP Pn 03 32 31.9 -1.1
MATE S Sn 03 33 37.7 +0.1
BANR Banloc 5.63 339 ╢iP Pn 03 32 31.1 -2.0
BANR Banloc 5.63 339 S Sg 03 34 04.9 -5.0
BANR Banloc 5.63 339 ╢iP Pn 03 32 31.1 -2.0
GRER 5.64 22 ⇑iP Pn 03 32 34.5 +1.2
GRER 5.64 22 S Sg 03 34 20.2 +10
GRER 5.64 22 ⇑iP Pn 03 32 34.5 +1.2
SG1 Sgolgore (BA) 5.65 279 ePn Pn 03 32 32.5 -0.9
TIP Timpagrande 5.70 262 ╢iP Pn 03 32 33.5 -0.7
TIP Timpagrande 5.70 262 S Sn 03 33 37.4 -2.5
TIP Timpagrande 5.70 262 ePn Pn 03 32 33.5 -0.7
TIP Timpagrande 5.70 262 P Pn 03 32 33.6 -0.7
TIP Timpagrande 5.70 262 P Pn 03 32 33.6 -0.7
BZS Buzias 5.73 343 ⇑iP Pn 03 32 33.6 -0.9
BZS Buzias 5.73 343 S Sg 03 34 10.3 -2.7
BZS Buzias 5.73 343 P Pn 03 32 33.6 -0.9
BZS Buzias 5.73 343 P Pn 03 32 33.6 -0.9
ELL Elmali 5.74 125 PN Pn 03 32 34.5 -0.3
ELL Elmali 5.74 125 ePn Pn 03 32 34.5 -0.3
DEV Deva 5.77 352 ╢iP Pn 03 32 35.4 +0.3
DEV Deva 5.77 352 S Sg 03 34 14.0 -0.4
DEV Deva 5.77 352 P Pn 03 32 35.4 +0.3
DEV Deva 5.77 352 P Pn 03 32 35.4 +0.3
BCK Bucak 5.79 116 PN Pn 03 32 35.9 +0.5
BCK Bucak 5.79 116 ePn Pn 03 32 35.9 +0.5
FGSL Fruska Gora 5.88 329 ePn Pn 03 32 36.2 -0.4
FRGS Fruska Gora 5.88 329 ePn Pn 03 32 36.2 -0.4
FRGS eSn Sn 03 33 39.2 -4.9
DOPR Dopca 5.88 9 ⇑iP Pn 03 32 37.1 +0.5
DOPR Dopca 5.88 9 ⇑iP Pn 03 32 37.1 +0.5
AKAS Kas 5.89 130 PN Pn 03 32 37.2 +0.3
AKAS Kas 5.89 130 ePn Pn 03 32 39.4 +2.5
AKAS Kas 5.89 130 ePn Pn 03 32 37.2 +0.3
TIM Timisoara 5.93 341 S Sg 03 34 21.0 +1.4
MDB Medias 5.97 2 ⇑iP Pn 03 32 38.7 +0.9
MDB Medias 5.97 2 P Pn 03 32 38.8 +0.9
MDB Medias 5.97 2 P Pn 03 32 38.8 +0.9
PLOR Plostina 5.99 18 ⇑iP Pn 03 32 38.5 +0.3
PLOR Plostina 5.99 18 P Pn 03 32 38.5 +0.3
PLOR Plostina 5.99 18 P Pn 03 32 38.5 +0.3
PETR Petresti 6.03 22 ⇑iP Pn 03 32 39.1 +0.5
PETR Petresti 6.03 22 S Sg 03 34 28.8 +6.3
PETR Petresti 6.03 22 ⇑iP Pn 03 32 39.1 +0.5
VRI Vrincioaia 6.03 18 ⇑iP Pn 03 32 39.2 +0.6
VRI Vrincioaia 6.03 18 S Sg 03 34 28.9 +6.3
VRI Vrincioaia 6.03 18 P Pn 03 32 39.2 +0.6
VRI Vrincioaia 6.03 18 P Pn 03 32 39.2 +0.6
MRVN Minervino Murg 6.03 281 i PN Pn 03 32 36.4 -2.3
MRVN i SN Sg 03 34 19.6 -3.1
MRVN Minervino Murg 6.03 281 i Pn Pn 03 32 36.4 -2.3
SUTC Sutluce-Ispart 6.07 114 PN Pn 03 32 39.6 +0.3
SUTC Sutluce-Ispart 6.07 114 ePn Pn 03 32 39.6 +0.3
TLCR 6.13 34 ╢iP Pn 03 32 39.5 -0.5
TLCR 6.13 34 P Pn 03 32 39.5 -0.5
TLCR 6.13 34 P Pn 03 32 39.5 -0.5
ANTB Antalya 6.13 120 PN Pn 03 32 40.6 +0.6
ANTB Antalya 6.13 120 ePn Pn 03 32 40.6 +0.6
GIUM Giurgiulesti 6.13 29 ╢iP Pn 03 32 39.9 -0.2
GIUM Giurgiulesti 6.13 29 ╢iP Pn 03 32 39.9 -0.2
CUC Castrocucco 6.31 271 ePn Pn 03 32 42.8 +0.3
CUC eSn Sn 03 33 53.1 -1.7
CUC Castrocucco 6.31 271 ePn Pn 03 32 42.8 +0.3
CUC eSn Sn 03 33 53.1 -1.7
MS1 Monte Sant'Ang 6.32 287 ePn Pn 03 32 41.4 -1.3
SIRR Siria 6.34 345 ⇑iP Pn 03 32 41.8 -1.1
SIRR Siria 6.34 345 S Sg 03 34 28.2 -4.3
CJR Cluj-Napoca 6.55 357 ⇑iP Pn 03 32 46.1 +0.3
CJR Cluj-Napoca 6.55 357 P Pn 03 32 46.1 +0.3
CJR Cluj-Napoca 6.55 357 P Pn 03 32 46.1 +0.3
CEL Celeste 6.60 256 ePn Pn 03 32 46.1 -0.5
CEL eSn Sn 03 33 56.5 -5.6
CEL Celeste 6.60 256 ePn Pn 03 32 46.1 -0.5
TESR Tescani 6.62 16 ⇑iP Pn 03 32 46.0 -0.8
TESR Tescani 6.62 16 S Sg 03 35 07.5 +26
TESR Tescani 6.62 16 ⇑iP Pn 03 32 46.0 -0.8
JOSR Joseni 6.62 9 ⇑iP Pn 03 32 46.4 -0.4
JOSR Joseni 6.62 9 ⇑iP Pn 03 32 46.4 -0.4
DRGR 6.69 352 ⇑iP Pn 03 32 46.9 -0.9
DRGR 6.69 352 S Sg 03 34 37.4 -6.4
DRGR 6.69 352 P Pn 03 32 46.9 -0.9
DRGR 6.69 352 P Pn 03 32 46.9 -0.9
DRGR 6.69 352 P Pn 03 32 46.9 -0.9
BR231 Keskin MP Arra 6.72 90 ePn Pn 03 32 48.2 0.0
BR231 Keskin MP Arra 6.72 90 ePn Pn 03 32 48.2 0.0
ANTO Ankara 6.73 90 ePn Pn 03 32 47.5 -0.9
ANTO ePg Pg 03 33 17.1 -1.0
ANTO eSg Sb 03 34 34.1 +7.1
ANTO Ankara 6.73 90 eP Pn 03 32 47.5 -0.9
ANTO Ankara 6.73 90 P Pn 03 32 47.9 -0.5
ANTO Ankara 6.73 90 eP Pn 03 32 47.5 -0.9
BLY Banja Luka 6.83 314 ╢iP Pn 03 32 50.2 +0.7
BLY Banja Luka 6.83 314 S Sg 03 34 48.2 0.0
BLY Banja Luka 6.83 314 ePn Pn 03 32 50.3 +0.7
BLY Banja Luka 6.83 314 ╢iP Pn 03 32 50.1 +0.5
ARCR ARCALIA 6.92 2 ╢iP Pn 03 32 51.4 +0.6
ARCR ARCALIA 6.92 2 ╢iP Pn 03 32 51.4 +0.6
LEOM Leova 7.01 25 ╢iP Pn 03 32 52.1 0.0
LEOM Leova 7.01 25 P Pn 03 32 52.1 0.0
LEOM Leova 7.01 25 P Pn 03 32 52.1 0.0
GIRR Girov 7.01 14 ╢iP Pn 03 32 52.7 +0.5
GIRR Girov 7.01 14 ╢iP Pn 03 32 52.7 +0.5
PRAR RASCA 7.36 12 ╢iP Pn 03 32 58.0 +1.0
PRAR RASCA 7.36 12 ╢iP Pn 03 32 58.0 +1.0
BR131 Keskin Array S 7.39 90 ePn Pn 03 32 57.1 -0.4
BR131 Keskin Array S 7.39 90 P Pn 03 32 57.1 -0.4
BR131 Keskin Array S 7.39 90 P Pn 03 32 57.1 -0.4
BRTR Keskin Array B 7.39 90 Pn Pn 03 32 57.3 -0.2
comp=Z,6.2nm,0.3s,baz=263,slow=12,SNR=16.1
BRTR Sn Sn 03 34 17.4 -4.3
baz=281,slow=21,SNR=5.5
ILGA Ilgaz 7.42 80 ePn Pn 03 32 57.9 -0.1
ILGA Ilgaz 7.42 80 ePn Pn 03 32 57.9 -0.1
BURAR Bucovina Array 7.49 6 ⇑iP Pn 03 32 59.2 +0.4
BURAR Bucovina Array 7.49 6 S Sb 03 34 51.3 +2.4
BURAR Bucovina Array 7.49 6 P Pn 03 32 59.2 +0.4
BURAR Bucovina Array 7.49 6 ⇑iP Pn 03 32 59.2 +0.4
BUR04 Bucovina Ar. S 7.50 6 ePn Pn 03 32 58.8 -0.1
BUR04 Bucovina Ar. S 7.50 6 ePn Pn 03 32 58.8 -0.1
BMR Baia Mare 7.51 357 ⇑iP Pn 03 32 58.5 -0.5
BMR Baia Mare 7.51 357 P Pn 03 32 58.5 -0.5
BMR Baia Mare 7.51 357 P Pn 03 32 58.5 -0.5
UDBI Udbina 7.51 308 P Pn 03 33 00.5 +1.4
BUR08 Bucovina Ar. S 7.52 6 ePn Pn 03 32 59.0 -0.2
BUR08 Bucovina Ar. S 7.52 6 ePn Pn 03 32 59.0 -0.2
KIS Kishinev 7.66 25 eP Pn 03 33 00.0 -1.0
KIS i S Sn 03 34 25.0 -2.9
KIS i Li 03 35 06.0
KIS i LQ LQ 03 35 26.0
KIS i LR LR 03 35 54.0
comp=Z,23µm,12.0s
KIS Kishinev 7.66 25 eP Pn 03 33 00.0 -1.0
KIS i S Sn 03 34 25.0 -2.9
KIS MLR MLR
comp=Z,20µm,16.0s
KIS MLR MLR
comp=N,23µm,12.0s
KIS MLR MLR
comp=E,11µm,10.0s
KIS MLR MLR
comp=Z,21µm,12.0s
KIS Kishinev 7.66 25 eP Pn 03 33 00.0 -1.0
VAE Valguarnera 7.98 253 Pn Pn 03 33 05.8 +0.3
comp=Z,1.9nm,0.3s,baz=82,slow=2.2,SNR=24
VAE Sn Sn 03 34 36.1 +0.2
comp=Z,3.8nm,0.3s,baz=12,slow=13,SNR=2.5
TRPA Tarpa 8.03 353 ⇑ePn Pn 03 33 06.6 +0.5
TRPA Tarpa 8.03 353 ⇑eP Pn 03 33 06.6 +0.5
NVLJ Novalja 8.08 306 P Pn 03 33 06.5 -0.3
NVLJ Novalja 8.08 306 i P Pn 03 33 06.5 -0.3
BUD Budapest 8.16 335 ⇑epPn Pn 03 33 12.8 +5.0
BUD Budapest 8.16 335 P Pn 03 33 09.4 +1.6
BUD pmax pmax
comp=Z,61nm,0.9s
BUD Budapest 8.16 335 P Pn 03 33 09.4 +1.6
comp=Z,61nm,0.9s
ZAG Zagreb 8.17 316 P Pn 03 33 09.1 +1.1
ZAG pmax pmax
comp=Z,406nm,1.1s
ZAG Zagreb 8.17 316 P Pn 03 33 09.1 +1.1
comp=Z,406nm,1.1s
BEHE Becsehely 8.22 322 ⇑ePn Pn 03 33 09.5 +0.8
BEHE Becsehely 8.22 322 ╢iP Pn 03 33 07.7 -1.0
PSZ Piszkesteto 8.30 340 ╢iP Pn 03 33 08.8 -1.1
PSZ Piszkesteto 8.30 340 ⇑ePn Pn 03 33 09.4 -0.5
PSZ Piszkesteto 8.30 340 ePn Pn 03 33 08.8 -1.1
PSZ eLg Lg 03 35 35.3
PSZ Piszkesteto 8.30 340 P Pn 03 33 08.8 -1.1
PSZ Piszkesteto 8.30 340 P Pn 03 33 08.8 -1.1
AQU L'Aquila 8.30 289 ePn Pn 03 33 09.7 -0.2
AQU L'Aquila 8.30 289 eP Pn 03 33 09.7 -0.2
AQU L'Aquila 8.30 289 eP Pn 03 33 09.7 -0.2
CSKK Cs˙tkako 8.31 332 ⇑ePn Pn 03 33 10.3 +0.3
CSKK Cs˙tkako 8.31 332 ⇑eP Pn 03 33 10.3 +0.3
OZLJ Ozalj 8.31 314 P Pn 03 33 10.4 +0.4
OZLJ Ozalj 8.31 314 i P Pn 03 33 10.3 +0.4
SEV Sevastopol' 8.36 55 eP Pn 03 33 07.7 -3.0
SEV eS Sn 03 34 41.4 -3.9
BOJS Bojanci 8.37 312 ePn Pn 03 33 11.4 +0.7
BOJS Bojanci 8.37 312 ePn Pn 03 33 11.4 +0.7
CRES Cresnjev 8.45 315 ╢iP Pn 03 33 11.9 0.0
SORM Soroca 8.54 20 ⇑iP Pn 03 33 12.0 -1.1
SORM Soroca 8.54 20 P Pn 03 33 12.0 -1.1
SORM Soroca 8.54 20 P Pn 03 33 12.0 -1.1
UZH Uzhgorod 8.55 352 deP Pn 03 33 15.1 +1.9
UZH eS Sn 03 34 52.9 +3.1
UZH MLR MLR
comp=N,18µm,16.0s
UZH MLR MLR
comp=E,30µm,16.0s
UZH MLR MLR
comp=Z,7µm,16.0s
UZH Uzhgorod 8.55 352 eP Pn 03 33 15.1 +1.9
YAL Yalta 8.65 57 eP Pn 03 33 11.4 -3.1
YAL eS Sn 03 34 47.2 -5.0
WDD Wied Dalam 8.66 243 ePn Pn 03 33 13.2 -1.6
comp=Z,3µm,1.3s
KECS Kecovo 8.69 344 eP Pn 03 33 14.7 -0.5
KECS Kecovo 8.69 344 eP Pn 03 33 14.7 -0.5
KECS Kecovo 8.69 344 ePN Pn 03 33 14.6 -0.6
KECS Kecovo 8.69 344 eSG Sg 03 35 45.5 -2.4
VISS Visnje 8.78 313 ePn Pn 03 33 16.8 +0.4
VISS Visnje 8.78 313 ePn Pn 03 33 16.8 +0.4
CLTB Caltabellotta 8.83 256 ePn Pn 03 33 18.1 +1.0
CLTB Caltabellotta 8.83 256 ePn Pn 03 33 18.1 +1.0
SIM Simferopol' 8.84 54 eP Pn 03 33 19.6 +2.4
SIM eS Sn 03 34 54.0 -3.0
SIM pmax pmax
comp=Z,67nm,0.4s
SIM MLR MLR
comp=Z,5µm,15.5s
ALU Alushta 8.89 56 eP Pn 03 33 14.8 -3.1
ALU eS Sn 03 34 52.8 -5.5
CRVS Cervenica-Dubn 8.92 349 eP Pn 03 33 18.8 +0.5
CRVS Cervenica-Dubn 8.92 349 eP Pn 03 33 18.8 +0.5
CRVS Cervenica-Dubn 8.92 349 ePN Pn 03 33 18.8 +0.5
CRVS e 03 33 23.8
CRVS Cervenica-Dubn 8.92 349 eSG Sg 03 35 50.2 -5.1
CEY Cerknica 8.97 311 ╢iP Pn 03 33 19.5 +0.4
CSS Mathiatis 9.02 122 ePn Pn 03 33 19.9 +0.2
CSS Mathiatis 9.02 122 ePn Pn 03 33 20.0 +0.2
LJU Ljubljana 9.10 313 ╢iP Pn 03 33 20.9 +0.2
VYHS Vyhne 9.12 338 eP Pn 03 33 19.8 -1.2
VYHS Vyhne 9.12 338 eP Pn 03 33 19.8 -1.2
VYHS Vyhne 9.12 338 ePN Pn 03 33 19.8 -1.2
VYHS Vyhne 9.12 338 eSG 03 36 08.3
VYHS e 03 48 05.0
PERS Pernice 9.15 318 ePn Pn 03 33 22.3 +0.7
PERS Pernice 9.15 318 ePn Pn 03 33 22.3 +0.7
SOKA Soboth 9.23 318 Pn Pn 03 33 22.5 -0.1
comp=Z,26nm,0.5s,SNR=43
SOKA Soboth 9.23 318 ePn Pn 03 33 22.5 -0.1
comp=Z,26nm,0.5s,SNR=43
SOP Sopron 9.24 327 ⇑ePn Pn 03 33 22.9 +0.2
SOP Sopron 9.24 327 P Pn 03 33 22.6 -0.1
SOP Sopron 9.24 327 P Pn 03 33 22.6 -0.1
JAVS Javornik 9.27 311 ePn Pn 03 33 23.2 0.0
JAVS Javornik 9.27 311 ePn Pn 03 33 23.2 0.0
TRI Trieste 9.34 310 ePn Pn 03 33 24.6 +0.5
TRI eSn Sn 03 35 03.1 -6.3
TRI Trieste 9.34 310 eP Pn 03 33 24.6 +0.5
TRI e 03 35 03.1
TRI Trieste 9.34 310 eP Pn 03 33 24.6 +0.5
SUDU Sudak 9.37 56 ⇑iP Pn 03 33 22.9 -1.5
SUDU eS Sn 03 35 07.6 -2.3
SUDU Sudak 9.37 56 i P Pn 03 33 22.9 -1.5
OBKA Obir 9.37 316 Pn Pn 03 33 25.6 +1.0
comp=Z,35nm,0.5s,SNR=38
OBKA Obir 9.37 316 ePn Pn 03 33 25.6 +1.0
comp=Z,35nm,0.5s,SNR=38
ARSA Arzberg 9.38 322 Pn Pn 03 33 24.4 -0.3
comp=Z,28nm,0.5s,SNR=50
ARSA Arzberg 9.38 322 ePn Pn 03 33 24.4 -0.3
comp=Z,28nm,0.5s,SNR=50
ARSA Sn Sn 03 35 04.4 -5.9
comp=Z,25nm,0.7s
ZST Bratislava 9.44 331 eSG 03 36 12.7
STHS Stebnicka Huta 9.46 349 eP Pn 03 33 25.1 -0.6
STHS Stebnicka Huta 9.46 349 eP Pn 03 33 25.1 -0.6
STHS Stebnicka Huta 9.46 349 ePN Pn 03 33 25.1 -0.6
STHS e 03 33 30.6
STHS Stebnicka Huta 9.46 349 eSG 03 36 17.4
KWP Kalwaria Pacla 9.51 355 eP Pn 03 33 28.1 +1.7
KWP eS Sn 03 35 55.0 +42
KWP Kalwaria Pacla 9.51 355 ePn Pn 03 33 28.0 +1.7
KWP Kalwaria Pacla 9.51 355 eP Pn 03 33 28.1 +1.7
KWP Kalwaria Pacla 9.51 355 ePn Pn 03 33 28.0 +1.7
TOKA Tokat 9.52 85 ePn Pn 03 33 27.1 +0.5
TOKA Tokat 9.52 85 ePn Pn 03 33 27.1 +0.5
SMOL Smolenice 9.59 333 eP Pn 03 33 30.0 +2.6
SMOL Smolenice 9.59 333 eP Pn 03 33 30.0 +2.6
SMOL Smolenice 9.59 333 ePN Pn 03 33 30.0 +2.6
SMOL e 03 33 37.7
SMOL Smolenice 9.59 333 eSG Sn 03 36 14.7 +59
NIE Niedzica 9.62 345 eP Pn 03 33 30.0 +2.1
NIE eS Sn 03 35 54.0 +38
NIE Niedzica 9.62 345 eP Pn 03 33 30.0 +2.1
NIE Niedzica 9.62 345 eP Pn 03 33 30.0 +2.1
LVV L'vov 9.65 360 eP Pn 03 33 30.2 +1.9
LVV eS Sn 03 35 20.9 +4.1
LVV MLR MLR
comp=N,6µm,10.0s
LVV MLR MLR
comp=E,7µm,10.0s
LVV MLR MLR
comp=Z,6µm,10.0s
LVV L'vov 9.65 360 eP Pn 03 33 30.2 +1.9
FEO Feodosiya 9.67 56 eP Pn 03 33 39.7 +11
CONA Conrad Observa 9.73 326 Pn Pn 03 33 29.7 +0.2
comp=Z,25nm,0.7s,SNR=25
CONA Conrad Observa 9.73 326 i Pn Pn 03 33 29.7 +0.2
comp=Z,25nm,0.7s,SNR=25
MYKA Terra Mystica 9.94 314 Pn Pn 03 33 33.7 +1.4
comp=Z,24nm,0.5s,SNR=28
MYKA Terra Mystica 9.94 314 ePn Pn 03 33 33.7 +1.4
comp=Z,24nm,0.5s,SNR=28
MOA Molln 10.41 321 Pn Pn 03 33 40.6 +1.9
comp=Z,16nm,0.7s,SNR=31
MOA Molln 10.41 321 ePn Pn 03 33 40.6 +1.9
comp=Z,16nm,0.7s,SNR=31
MOA Sn Sn 03 35 31.8 -3.6
comp=Z,25nm,0.7s
OJC Ojcow 10.48 345 eP Pn 03 33 41.9 +2.3
OJC eS Sn 03 36 04.9 +28
OJC Ojcow 10.48 345 ePn Pn 03 33 42.0 +2.3
OJC Ojcow 10.48 345 eP Pn 03 33 42.0 +2.3
OJC Ojcow 10.48 345 eP Pn 03 33 42.0 +2.3
OKC Ostrava-Krasne 10.52 339 eP Pn 03 33 43.2 +3.0
OKC ex x 03 33 48.4
OKC AMS AMS 03 38 20.0
comp=Z,13µm,12.0s
OKC Ostrava-Krasne 10.52 339 eP Pn 03 33 43.2 +3.0
OKC MLR MLR
comp=Z,13µm,12.0s
VRAC Vranov 10.55 332 Pn Pn 03 33 40.0 -0.7
comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=4.8
VRAC LR LR 03 37 58.6
comp=Z,5µm,18.2s,baz=150,slow=39
VRAC Vranov 10.55 332 ⇑iP Pn 03 33 40.4 -0.3
VRAC Vranov 10.55 332 P Pn 03 33 40.4 -0.3
VRAC Vranov 10.55 332 P Pn 03 33 40.4 -0.3
VRAC Vranov 10.55 332 ePn Pn 03 33 41.6 +0.9
ABTA Abfaltersbach 10.64 312 Pn Pn 03 33 41.5 -0.4
comp=Z,18nm,0.5s,SNR=33
ABTA Sn Sn 03 35 44.8 +3.5
comp=Z,32nm,1.0s
ABTA Abfaltersbach 10.64 312 ePn Pn 03 33 41.5 -0.4
comp=Z,18nm,0.5s,SNR=33
ABTA eSn Sn 03 35 44.8 +3.5
comp=Z,32nm,1.0s
MORC Moravsky Berou 10.64 337 ╢iP Pn 03 33 42.4 +0.4
MORC Moravsky Berou 10.64 337 ePn Pn 03 33 40.9 -1.1
MORC Moravsky Berou 10.64 337 P Pn 03 33 42.4 +0.4
MORC Moravsky Berou 10.64 337 ePn Pn 03 33 40.9 -1.1
MORC Moravsky Berou 10.64 337 P Pn 03 33 42.4 +0.4
VLC Villacollemand 10.89 296 ePn Pn 03 33 45.8 +0.5
comp=Z,88nm,1.3s
VLC Villacollemand 10.89 296 ePn Pn 03 33 45.8 +0.5
comp=Z,88nm,1.3s
ANN Anapa 10.92 61 eP Pn 03 33 39.8 -5.9
ANN pmax pmax
comp=Z,65nm,1.4s
ANN MLR MLR
comp=Z,2µm,11.0s
TREC Trest 10.96 329 eP Pn 03 33 45.8 -0.4
TREC ex x 03 33 55.0
TREC AMS AMS 03 39 30.0
comp=Z,5µm,8.6s
TREC Trest 10.96 329 eP Pn 03 33 45.8 -0.4
TREC MLR MLR
comp=Z,5µm,8.6s
TREC Trest 10.96 329 eP Pn 03 33 45.8 -0.4
comp=Z,5µm,8.6s
AK11 Malin Array Si 11.11 17 ePn Pn 03 33 46.9 -1.3
AK11 Malin Array Si 11.11 17 ePn Pn 03 33 46.9 -1.3
KIEV Kiev 11.13 17 ePn Pn 03 33 47.1 -1.4
KIEV Kiev 11.13 17 ╢iP Pn 03 33 48.1 -0.4
KIEV Kiev 11.13 17 ePn Pn 03 33 47.2 -1.4
KIEV Kiev 11.13 17 i P Pn 03 33 48.1 -0.4
AKASG Malin Array Be 11.14 17 Pn Pn 03 33 47.0 -1.7
comp=Z,6.2nm,0.3s,baz=198,slow=12,SNR=44
AKASG Sn Sn 03 35 46.1 -7.3
comp=Z,2.7nm,0.3s,baz=201,slow=21,SNR=2.9
AKASG Lg Lg 03 37 04.9
baz=212,slow=27,SNR=2.9
AKASG LR LR 03 38 28.2
comp=Z,7µm,21.4s,baz=195,slow=39
AKASG Malin Array Be 11.14 17 i P Pn 03 33 47.0 -1.7
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG Malin Array Be 11.14 17 i P Pn 03 33 47.0 -1.7
comp=Z,13nm,0.7s
AKBB Malin Array Si 11.14 17 ePn Pn 03 33 47.2 -1.5
AKBB Malin Array Si 11.14 17 eP Pn 03 33 47.2 -1.5
AKBB Malin Array Si 11.14 17 eP Pn 03 33 47.2 -1.5

VSL Villasalto 11.29 271 *e*Pn Pn 03 33 49.4 -1.4
GEA0 GERESS Array S 11.37 323 *e*Pn Pn 03 33 51.4 -0.6
GEA0 GERESS Array S 11.37 323 *e*Pn Pn 03 33 51.3 -0.6
GEC2 GERESS Array S 11.38 323 *e*Pn Pn 03 33 52.6 +0.6
GEC2 GERESS Array S 11.38 323 *e*P Pn 03 33 52.6 +0.6
GEC2 GERESS Array S 11.38 323 *e*P Pn 03 33 52.6 +0.6
GERES GERESS Array B 11.38 323 Pn Pn 03 33 53.4 +1.3
comp=Z,0.9nm,0.3s,baz=126,slow=14,SNR=38
GERES Sn Sn 03 35 56.2 -3.1
comp=Z,0.3nm,0.3s,baz=161,slow=25,SNR=2.7
GERES LR LR 03 38 39.8
comp=Z,4µm,21.5s,baz=136,slow=40
WTTA Wattenberg 11.43 312 Pn Pn 03 33 54.1 +1.3
comp=Z,20nm,0.5s,SNR=18
WTTA Sn Sn 03 36 01.2 +0.5
comp=Z,18nm,0.7s
WTTA Wattenberg 11.43 312 *e*Pn Pn 03 33 54.1 +1.3
comp=Z,20nm,0.5s,SNR=18
WTTA Sn Sn 03 36 01.2 +0.5
comp=Z,18nm,0.7s
WATA Walderalm 11.50 313 Pn Pn 03 33 54.8 +1.0
comp=Z,14nm,0.4s,SNR=50
WATA Walderalm 11.50 313 *e*Pn Pn 03 33 54.8 +1.0
comp=Z,14nm,0.4s,SNR=50
DPC Dobruska-Polom 11.53 335 *e*P Pn 03 33 53.5 -0.6
DPC AMS AMS 03 39 10.0
comp=Z,7µm,8.8s
DPC Dobruska-Polom 11.53 335 *e*P Pn 03 33 53.5 -0.6
DPC MLR MLR
comp=Z,7µm,8.8s
DPC Dobruska-Polom 11.53 335 *e*P Pn 03 33 53.5 -0.6
comp=Z,7µm,8.8s
MMAI Mount Meron Ar 11.59 124 Pn Pn 03 33 53.7 -1.3
comp=Z,2.2nm,0.3s,baz=306,slow=12,SNR=12
MMAI LR LR 03 39 29.5
comp=Z,1µm,19.2s,baz=280,slow=43
KHC Kasperske Hory 11.64 324 *e*P Pn 03 33 55.4 -0.1
KHC *e*x x 03 33 59.3
KHC *e*x x 03 36 30.5
KHC AMS AMS 03 38 50.0
comp=Z,9µm,12.9s
KHC Kasperske Hory 11.64 324 *e*Pn Pn 03 33 55.5 -0.1
KHC Kasperske Hory 11.64 324 *e*P Pn 03 33 55.5 -0.1
KHC Kasperske Hory 11.64 324 *e*P Pn 03 33 55.5 -0.1
GOPC GO Pecny, Ondr 11.72 329 *e*P Pn 03 33 56.6 -0.1
GOPC AMS AMS 03 38 20.0
comp=Z,6µm,10.8s
GOPC GO Pecny, Ondr 11.72 329 *e*P Pn 03 33 56.6 -0.1
GOPC MLR MLR
comp=Z,6µm,10.8s
GOPC GO Pecny, Ondr 11.72 329 *e*P Pn 03 33 56.6 -0.1
comp=Z,6µm,10.8s
UPC Upice 11.77 334 *e*P Pn 03 33 58.2 +0.9
UPC AMS AMS 03 39 00.0
comp=Z,8µm,11.1s
UPC Upice 11.77 334 *e*P Pn 03 33 58.2 +0.9
UPC MLR MLR
comp=Z,8µm,11.1s
UPC Upice 11.77 334 *e*P Pn 03 33 58.2 +0.9
comp=Z,8µm,11.1s
MOTA Moosalm 11.77 312 Pn Pn 03 33 57.3 -0.2
comp=Z,29nm,0.7s,SNR=30
MOTA Moosalm 11.77 312 *e*Pn Pn 03 33 57.3 -0.2
comp=Z,29nm,0.7s,SNR=30
FETA Feichten 11.82 310 Pn Pn 03 33 58.2 0.0
comp=Z,38nm,0.9s,SNR=22
FETA Sn Sn 03 36 10.2 -0.1
comp=Z,16nm,0.9s
FETA Feichten 11.82 310 *e*Pn Pn 03 33 58.2 0.0
comp=Z,38nm,0.9s,SNR=22
FETA Sn Sn 03 36 10.2 -0.1
comp=Z,16nm,0.9s
PRU Pruhonice 11.88 329 *e*P Pn 03 33 59.1 +0.3
PRU AMS AMS 03 38 20.0
comp=Z,7µm,8.9s
PRU Pruhonice 11.88 329 *e*P Pn 03 33 59.1 +0.3
PRU MLR MLR
comp=Z,7µm,8.9s
PRU Pruhonice 11.88 329 *e*P Pn 03 33 59.1 +0.3
comp=Z,7µm,8.9s
BEL Belsk 11.88 350 *e*P Pn 03 34 02.6 +3.8
BEL Belsk 11.88 350 *e*P Pn 03 34 02.6 +3.8
FUORN Ofenpass-Fuorn 11.90 307 *e*Pn Pn 03 33 59.5 +0.1
FUORN Ofenpass-Fuorn 11.90 307 *e*Pn Pn 03 33 59.5 +0.1
KSP Ksiaz 11.97 336 *e*P Pn 03 34 02.7 +2.7
KSP *e*S Sn 03 37 00.8 +47
KSP Ksiaz 11.97 336 *e*P Pn 03 34 02.7 +2.7
KSP Ksiaz 11.97 336 *e*P Pn 03 34 02.7 +2.7
WET Wettzell 11.97 322 P Pn 03 34 00.8 +0.7
WET Wettzell 11.97 322 P Pn 03 34 00.8 +0.7
RETA Reutte 12.05 312 Pn Pn 03 34 01.2 0.0
comp=Z,9.2nm,0.6s,SNR=19
RETA Reutte 12.05 312 *e*Pn Pn 03 34 01.2 0.0
comp=Z,9.2nm,0.6s,SNR=19
RETA Sn Sn 03 36 21.8 +6.1
comp=Z,14nm,0.9s
SOC Sochi 12.18 69 *e*P Pn 03 34 00.8 -2.1
SOC *e* 03 36 16.4
SOC MLR MLR
comp=Z,1µm,13.0s
SOC Sochi 12.18 69 *e*P Pn 03 34 00.8 -2.1
PVCC Panska Ves 12.30 330 AMS AMS 03 38 40.0
comp=Z,6µm,10.4s
TUE Stuetta 12.40 305 *e*Pn Pn 03 34 06.2 0.0
TUE Stuetta 12.40 305 *e*Pn Pn 03 34 06.2 0.0
KEST Kesra 12.41 254 Pn Pn 03 34 06.2 0.0
comp=Z,0.6nm,0.3s,baz=351,slow=3.7,SNR=26
KEST LR LR 03 40 18.7
comp=Z,3µm,19.7s,baz=6.5,slow=44
KEST Kesra 12.41 254 *e*Pn Pn 03 34 04.9 -1.3
KEST Kesra 12.41 254 *e*Pn Pn 03 34 04.9 -1.3
DAVA Damuels 12.46 309 Pn Pn 03 34 07.2 +0.4
comp=Z,10nm,0.7s
DAVA Damuels 12.46 309 *e*Pn Pn 03 34 07.2 +0.4
comp=Z,10nm,0.7s
DAVA Sn Sn 03 36 30.4 +4.5
comp=Z,19nm,0.8s
KOPT Kop Dagi 12.61 85 *e*Pn Pn 03 34 11.7 +2.6
BRG Berggiesshubel 12.82 330 *e*P Pn 03 34 02.2 -9.4
comp=Z,8.6nm,1.3s
BRG *e* 03 34 17.5
comp=Z,80nm,2.2s
BRG SCP ScP 03 42 57.0 -23
BRG Berggiesshubel 12.82 330 *e*P Pn 03 34 02.2 -9.4
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG MLR MLR
comp=N,5µm,14.4s
BRG MLR MLR
comp=E,7µm,14.0s
BRG MLR MLR
comp=Z,7µm,11.1s
SBF Sospel 12.88 292 *e*P Pn 03 34 12.2 -0.4
SBF Sospel 12.88 292 *e*P Pn 03 34 12.2 -0.4
NKC Novy Kostel 12.95 325 *e*P Pn 03 34 13.8 +0.4
NKC AMS AMS 03 39 40.0
comp=Z,8µm,11.9s
NKC Novy Kostel 12.95 325 *e*P Pn 03 34 13.8 +0.4
NKC MLR MLR
comp=Z,8µm,11.9s
NKC Novy Kostel 12.95 325 *e*P Pn 03 34 13.8 +0.4
comp=Z,8µm,11.9s
ASF Jabal al Asfar 13.09 124 Pn Pn 03 34 17.7 +2.2
comp=Z,0.2nm,0.3s,baz=210,slow=9.3,SNR=4.6
ASF LR LR 03 40 27.3
comp=Z,998nm,18.9s,baz=262,slow=43
GRF Grafenberg Arr 13.14 321 P Pn 03 34 20.1 +4.1
GRFO Grafenberg 13.14 321 *e*Pn Pn 03 34 13.7 -2.3
GRFO *e*Lg Lg 03 38 10.8
GRFO Grafenberg 13.14 321 *e*P Pn 03 34 13.7 -2.3
GRFO Grafenberg 13.14 321 *e*Pn Pn 03 34 13.7 -2.3
MARD Mardin 13.38 97 *e*Pn Pn 03 34 21.6 +2.1
SPAK Spaichingen-Ko 13.50 311 *e*P Pn 03 34 19.6 -1.5
CLL Collm 13.52 329 *e*P Pn 03 34 20.0 -1.2
CLL *e*PP PnPn 03 34 29.0 -0.1
CLL *e* 03 34 50.0
CLL *e*S Sn 03 36 50.0 -1.6
CLL *e* 03 38 32.0
CLL Lmax 03 40 00.0
CLL Collm 13.52 329 *e*Pn Pn 03 34 22.6 +1.4
CLL Collm 13.52 329 *e*P Pn 03 34 22.6 +1.4
CLL Collm 13.52 329 *e*P Pn 03 34 22.6 +1.4
MOX Moxa 13.61 324 P Pn 03 34 23.5 +1.1
MOX pmax pmax
comp=Z,73nm,2.3s
MOX Moxa 13.61 324 P Pn 03 34 23.5 +1.1
comp=Z,73nm,2.3s
STU Stuttgart 13.63 314 *e*Pn Pn 03 34 22.0 -0.7
STU *e*Lg Lg 03 38 38.2
STU Stuttgart 13.63 314 *e*P Pn 03 34 22.0 -0.7
STU Stuttgart 13.63 314 *e*P Pn 03 34 22.0 -0.7
SENIN Lac Senin/Sane 13.66 302 *e*Pn Pn 03 34 22.5 -0.9
SENIN Lac Senin/Sane 13.66 302 *e*Pn Pn 03 34 22.5 -0.9
BNI Bardonecchia 13.68 297 *e*Pn Pn 03 34 23.0 -0.5
BNI Bardonecchia 13.68 297 *e*P Pn 03 34 23.0 -0.5
BNI Bardonecchia 13.68 297 *e*P Pn 03 34 23.0 -0.5
EIL Elat 13.77 136 Pn Pn 03 34 27.0 +2.3
comp=Z,0.5nm,0.3s,baz=331,slow=8.3,SNR=6.6
SUW Suwalki 13.86 358 *e*P Pn 03 34 25.4 -0.4
SUW *e*S S 03 38 51.0 +89
SUW Suwalki 13.86 358 *e*Pn Pn 03 34 25.6 -0.2
SUW Suwalki 13.86 358 *e*P Pn 03 34 25.6 -0.2
SUW Suwalki 13.86 358 *e*P Pn 03 34 25.6 -0.2
BFO Black Forest 13.88 311 *e*Pn Pn 03 34 25.2 -1.0
BFO Black Forest 13.88 311 *i* P Pn 03 34 27.1 +0.9
OG01 Vacheresse 14.05 302 *e*P Pn 03 34 28.9 +0.3
LEPF PUYLOUBIER 14.07 290 *e*P Pn 03 34 30.2 +1.4
KIV Kislovodsk 14.36 69 *e*Pn Pn 03 34 33.1 +0.4
KIV Kislovodsk 14.36 69 *e*P Pn 03 34 31.0 -1.8
KIV *e*S Sn 03 37 11.0 -1.3
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,684nm,10.0s
KIV Kislovodsk 14.36 69 P Pn 03 34 32.5 -0.3
KIV Kislovodsk 14.36 69 *e*Pn Pn 03 34 33.2 +0.4
KVAR Kislovodsk Arr 14.37 69 Pn Pn 03 34 31.4 -1.5
baz=262,slow=7.1,SNR=4.3
KBZ Khabaz 14.48 70 Pn Pn 03 34 33.9 -0.5
comp=Z,0.1nm,0.3s,baz=287,slow=13,SNR=6.0
MICGM Minsk 14.57 9 *e*P Pn 03 34 30.0 -5.5
MICGM *e*S Sn 03 37 04.0 -13
MICGM *e*LQ LQ 03 38 56.0
MICGM LQM 03 39 44.0
comp=E,9.6nm,11.0s
MICGM *e*LR LR 03 39 50.0
MICGM LRM MLR 03 40 48.0
comp=Z,30nm,15.0s
KLNR Kaliningrad 14.67 351⇓*e*P Pn 03 34 36.0 -0.8
AKH Akhalkalaki 14.79 79 *e*Pn P 03 34 42.8 -2.1
AKH Akhalkalaki 14.79 79 *e*P P 03 34 42.8 -2.1
AKH Akhalkalaki 14.79 79 *e*P P 03 34 42.8 -2.1
GOF Gofitskoye 14.82 65⇑*e*P P 03 34 47.8 +2.9
GOF pmax pmax
comp=Z,88nm,1.4s
NACGM Naroch 14.86 6 *e*P Pn 03 34 36.0 -3.4
NACGM *e*PPP PPP 03 35 07.0
NACGM *e*S Sn 03 37 18.0 -6.1
NACGM *e*SS SbSb 03 38 16.0 -10
NACGM *e*LQ LQ 03 39 16.0
NCK Nalchik 14.95 71⇓*e*P Pn 03 34 43.2 +2.4
ZEI Tsey 15.12 74 *e*P Pn 03 34 45.3 +2.1
ZEI pmax pmax
comp=Z,25nm,1.4s
SSB Saint Sauveur 15.20 296 *e*Pn Pn 03 34 44.0 -0.1
SSB Saint Sauveur 15.20 296 *e*P Pn 03 34 44.1 -0.1
SSB Saint Sauveur 15.20 296 *e*Pn Pn 03 34 44.0 -0.1
VSR Storozhevoye 15.26 39 *e*P Pn 03 34 43.6 -1.2
VSR pmax pmax
comp=Z,150nm,1.3s
VSR MLR MLR
comp=Z,12µm,13.0s
IIGN Ignalina 15.26 5 *e*P Pn 03 34 42.8 -2.0
IIGN IAmb IAmb 03 34 45.3
comp=Z,100nm,1.5s
IDID Didziasalis 15.26 6 *e*P Pn 03 34 42.7 -2.1
SNR=40
IDID Didziasalis 15.26 6 *e*P Pn 03 34 42.7 -2.1
IDID IAmb IAmb 03 34 45.9
comp=Z,19nm,1.0s
ISAL Salakas 15.47 4 *e*P Pn 03 34 45.3 -2.3
SNR=40
ISAL Salakas 15.47 4 *e*P Pn 03 34 45.4 -2.3
ISAL IAmb IAmb 03 34 46.6
comp=Z,31nm,1.0s
VORR Voronezh 15.58 37 P Pn 03 34 48.0 -1.0
VORR pmax pmax
comp=Z,350nm,1.4s
IZAR Zarasai 15.66 5 *e*P Pn 03 34 47.5 -2.5
IZAR IAmb IAmb 03 34 48.8
comp=Z,34nm,1.1s
TBLG Delisi 15.72 78 *e*Pn Pn 03 34 52.6 +1.6
comp=Z,106nm,1.8s
TBLG Delisi 15.72 78 *e*P Pn 03 34 52.6 +1.6
TBLG pmax pmax
comp=Z,106nm,1.8s
TBLG Delisi 15.72 78 *e*Pn Pn 03 34 52.6 +1.6
comp=Z,106nm,1.8s
WLF Walferdange 15.79 313 ⇑P Pn 03 34 52.4 +0.6
comp=Z,91nm,2.3s
WLF Walferdange 15.79 313 *e*Pn Pn 03 34 52.1 +0.3
comp=Z,158nm,1.5s
WLF Walferdange 15.79 313 *e*P Pn 03 34 52.1 +0.3
WLF pmax pmax
comp=Z,158nm,1.5s
GNI Garni 15.83 83 Pn P 03 34 55.6 -0.8
comp=Z,0.4nm,0.3s,baz=24,slow=7.4,SNR=8.1
GNI LR LR 03 41 03.6
comp=Z,3µm,18.1s,baz=267,slow=38
GNI Garni 15.83 83 *e*Pn Pn 03 34 53.4 +0.8
comp=Z,302nm,1.8s
GNI Garni 15.83 83 P P 03 34 55.6 -0.8
GNI MLR MLR
comp=Z,3µm,18.1s
GNI Garni 15.83 83 P Pn 03 34 52.6 0.0
SNR=6.9
GNI Garni 15.83 83 *e*Pn Pn 03 34 53.4 +0.8
comp=Z,302nm,1.8s
GNI Garni 15.83 83 P P 03 34 55.6 -0.8
comp=Z,3µm,18.1s
LPSR Galich'ya Gora 16.09 34 *e*P Pn 03 34 53.8 -1.8
LPSR pmax pmax
comp=Z,70nm,1.2s
LPSR MLR MLR
comp=Z,3µm,11.0s
BUG Bochum--Univer 16.19 320 P P 03 35 01.9 +1.8
BUG Bochum--Univer 16.19 320 P P 03 35 01.9 +1.8
AGO Saint Agoulin 16.34 298 *e*P P 03 35 02.7 +0.9
MEM Membach 16.37 316 ⇑P P 03 35 02.1 0.0
comp=Z,50nm,1.4s
MEM Membach 16.37 316 P P 03 35 02.0 0.0
comp=Z,50nm,1.4s
AKET Djebel Ketaf 16.38 262 P Pn 03 35 00.5 +0.9
AKET Djebel Ketaf 16.38 262 P Pn 03 35 00.5 +0.9
HGN Heimansgroeve 16.49 316 *e*P P 03 35 04.0 +0.6
comp=Z,998nm,2.1s
HGN *e*L L 03 42 07.3
comp=Z,2µm,19.2s
VRH Novokhopyorsk 16.52 42 *e*P Pn 03 35 00.6 -0.5
VRH pmax pmax
comp=Z,130nm,1.4s
VRH MLR MLR
comp=Z,5µm,19.0s
GROC Groznyy 16.53 72 *e*P P 03 35 03.2 -0.7
GROC pmax pmax
comp=Z,65nm,1.3s
GROC Groznyy 16.53 72 *e*P P 03 35 03.2 -0.7
comp=Z,65nm,1.3s
BEBN Eben Emael 16.64 316 ⇑P P 03 35 06.0 +0.8
BCLA Clavier 16.65 314 ⇓P P 03 35 06.0 +0.7
comp=Z,80nm,2.0s
BCLA Clavier 16.65 314 P P 03 35 05.9 +0.7
comp=Z,80nm,2.0s
ADJB Djebel Djouab 16.68 263 P Pn 03 35 03.8 +0.4
ADJB Djebel Djouab 16.68 263 P Pn 03 35 03.8 +0.4
WTSB Winterswijk 16.75 320 *e*P P 03 35 06.2 -0.1
comp=Z,561nm,2.1s
WTSB Winterswijk 16.75 320 *e*P P 03 35 06.2 -0.1
comp=Z,561nm,2.1s
ABA Alger-Bouzarea 16.78 265 P Pn 03 35 03.1 -1.4
DOU Dourbes 16.88 312 ⇑P P 03 35 08.4 +0.7
comp=Z,43nm,2.3s
TCF Toulx Ste Croi 17.02 298 *e*P Pn 03 35 07.4 -0.1
TCF pmax pmax
comp=Z,395nm,1.8s
TCF Toulx Ste Croi 17.02 298 *e*P Pn 03 35 07.4 -0.1
comp=Z,395nm,1.8s
OBN Obninsk 17.13 25 Pn Pn 03 35 05.7 -3.1
comp=Z,7.3nm,0.3s,baz=12,slow=1.3,SNR=34
OBN Obninsk 17.13 25 *e*Pn Pn 03 35 05.3 -3.4
comp=Z,205nm,1.2s
OBN Obninsk 17.13 25*d* *i*P Pn 03 35 05.5 -3.2
OBN *i* S Sn 03 38 11.9 -7.3
OBN pmax pmax
comp=Z,227nm,1.3s
OBN MLR MLR
comp=Z,6µm,16.0s
SNF Seneffe 17.26 313 ⇑P P 03 35 13.2 +1.3
SNF Seneffe 17.26 313 P P 03 35 13.2 +1.3
RJF Les Rejaudoux 17.30 295 *e*P P 03 35 11.9 -0.6
RJF pmax pmax
comp=Z,50nm,2.3s
RJF Les Rejaudoux 17.30 295 *e*P P 03 35 11.9 -0.6
comp=Z,50nm,2.3s
UCC Uccle 17.36 314 *e*Pn P 03 35 12.8 -0.2
comp=Z,62nm,1.0s
UCC Uccle 17.36 314 *e*P P 03 35 12.8 -0.2
UCC pmax pmax
comp=Z,62nm,1.0s
UCC Uccle 17.36 314 *e*P P 03 35 12.8 -0.2
comp=Z,62nm,1.0s
MAK Makhachkala 17.77 73 *e*P Pn 03 35 13.2 -3.6
MAK *e*S Sn 03 38 29.5 -5.5
MAK pmax pmax
comp=Z,27nm,0.4s
MAK MLR MLR
comp=Z,1µm,15.0s
AKT Akhty 17.97 78 *e*P P 03 35 22.5 +2.5
AKT pmax pmax
comp=Z,45nm,1.4s
MOS Moscow 17.99 25 *e*P Pn 03 35 15.1 -4.3
MOS *e*S Sn 03 38 37.1 -2.9
MOS pmax pmax
comp=Z,491nm,1.8s
MOS pmax pmax
comp=Z,1µm,2.2s
MOS MLR MLR
comp=Z,6µm,17.0s
MOS MLR MLR
comp=N,5µm,14.0s
MOS MLR MLR
comp=E,3µm,14.0s
VSU Vasula 18.39 5*de*P Pn 03 35 22.2 -2.1
VSU pmax pmax
comp=Z,566nm,1.7s
FLN La Foliniere 19.43 304 *e*P P 03 35 36.2 +0.4
FLN pmax pmax
comp=Z,348nm,1.9s
FLN La Foliniere 19.43 304 *e*P P 03 35 36.2 +0.4
comp=Z,348nm,1.9s
GRR Gorron 19.56 303 *e*P P 03 35 37.3 0.0
GRR pmax pmax
comp=Z,274nm,1.9s
GRR Gorron 19.56 303 *e*P P 03 35 37.3 0.0
comp=Z,274nm,1.9s
CART Cartagena 19.64 271 *e*P P 03 35 37.3 -1.0
comp=Z,78nm,0.9s
CART Cartagena 19.64 271 *e*P P 03 35 37.3 -1.0
comp=Z,78nm,0.9s
HMNX Herstmonceux 19.67 311 *e*P P 03 35 37.9 -0.5
HMNX IAmb IAmb 03 35 40.2
comp=Z,124nm,1.1s
PUL Pulkovo 20.01 9⇑*i*P Pn 03 35 44.4 +0.6
PUL pmax pmax
comp=Z,43nm,0.6s
WACR West Acre 20.33 316 *e*P P 03 35 46.0 +0.5
WACR IAmb IAmb 03 35 47.1
comp=Z,216nm,0.9s
SGMF Saint Gilles 20.63 302 *e*P Pn 03 35 50.8 -0.4
SGMF pmax pmax
comp=Z,144nm,1.2s
HFS Hagfors 21.01 345 P P 03 35 51.7 -1.2
comp=Z,6.8nm,0.7s,baz=145,slow=11,SNR=14
HFS LR LR 03 45 30.8
comp=Z,5µm,19.4s,baz=159,slow=41
ROSF Rostrenen 21.11 302 *e*P P 03 35 52.6 -1.5
ROSF pmax pmax
comp=Z,240nm,1.7s
ROSF Rostrenen 21.11 302 *e*P P 03 35 52.6 -1.5
comp=Z,240nm,1.7s
FINES FINESS Array B 21.34 3 P P 03 35 54.8 -1.6
comp=Z,8.8nm,0.8s,baz=185,slow=8.6,SNR=35
FINES PcP PcP 03 39 59.0 -1.2
comp=Z,0.7nm,0.5s,baz=159,slow=5.7,SNR=4.0
FINES LR LR 03 44 57.4
comp=Z,13µm,19.0s,baz=183,slow=39
FIA1 FINESS Array S 21.34 3 *e*P P 03 35 55.4 -1.1
comp=Z,203nm,1.6s
CWF Charnwood Fore 21.38 314 *e*P P 03 35 55.0 -2.0
CWF IAmb IAmb 03 36 00.6
comp=Z,176nm,1.4s
ES19 SONSECA Array 21.39 278 *e*P P 03 35 57.2 -0.1
ES19 SONSECA Array 21.39 278 *e*P P 03 35 57.2 -0.1
BATH Bath 21.44 310 *e*P P 03 35 56.8 -0.8
BATH IAmb IAmb 03 35 58.2
comp=Z,775nm,1.9s
ESDC Sonseca Array 21.45 278 P P 03 35 56.1 -1.7
comp=Z,18nm,0.7s,baz=76,slow=10,SNR=52
ESDC LR LR 03 43 45.3
comp=Z,495nm,21.1s,baz=70,slow=35
ESLA Sonseca Array 21.45 278 *e*P P 03 35 57.2 -0.7
comp=Z,84nm,1.2s
ESLA Sonseca Array 21.45 278 *e*P P 03 35 57.2 -0.7
comp=Z,84nm,1.2s
STRD Stroud 21.47 311 *e*P P 03 35 58.4 +0.5
STRD IAmb IAmb 03 36 00.3
comp=Z,128nm,0.8s
KONO Kongsberg 21.51 340 *e*P P 03 35 58.5 +0.2
comp=Z,89nm,1.2s
KONO Kongsberg 21.51 340⇓*e*P P 03 35 59.1 +0.8
KONO pmax pmax
comp=Z,211nm,2.2s
PAB San Pablo 21.76 278 *e*P P 03 36 00.6 -0.7
comp=Z,96nm,1.1s
PAB LR LR
comp=Z,2µm,20.0s
PAB San Pablo 21.76 278 *e*P P 03 36 00.6 -0.7
PAB pmax pmax
comp=Z,96nm,1.1s
PAB MLR MLR
comp=Z,2µm,20.0s
PAB San Pablo 21.76 278 *e*P P 03 36 00.6 -0.7
comp=Z,96nm,1.1s
HGH Gray Hill 21.79 311 *e*P P 03 35 60.0 -1.3
MONM Monmouth 21.86 311 *e*P P 03 36 01.4 -0.7
MONM IAmb IAmb 03 36 03.1
comp=Z,167nm,0.9s
LBWR Ladybower, Pea 21.90 316 *e*P P 03 36 00.0 -2.6
NC602 NORSAR Array S 22.00 344 *e*P P 03 36 02.1 -1.4
MCH1 Michaelchurch 22.03 311 *e*P P 03 36 02.3 -1.6
MCH1 IAmb IAmb 03 36 06.0
comp=Z,193nm,1.1s
NC605 NORSAR Array S 22.06 343 *e*P P 03 36 02.1 -2.2
HPK Haverah Park 22.10 317 *e*P P 03 36 03.8 -0.9
HPK IAmb IAmb 03 36 05.6
comp=Z,160nm,1.2s
HLM1 Long Mynd 22.16 313 *e*P P 03 36 04.2 -1.2
HLM1 Long Mynd 22.16 313 *e*P P 03 36 04.2 -1.2
NAO01 NORSAR Array S 22.24 343 *e*P P 03 36 05.6 -0.6
NC405 NORSAR Array S 22.30 344 *e*P P 03 36 05.8 -1.0
NB201 NORSAR Array S 22.33 344 *e*P P 03 36 06.6 -0.6
NB2 NORSAR Subarra 22.34 343 P P 03 36 06.1 -1.2
comp=Z,196nm,1.4s,baz=150,slow=11
NB2 NORSAR Subarra 22.34 343 P P 03 36 06.1 -1.2
baz=150,slow=11
NOA NORSAR Array B 22.34 343 P P 03 36 05.8 -1.5
comp=Z,14nm,0.8s,baz=147,slow=11,SNR=32
NOA LR LR 03 45 27.7
comp=Z,3µm,18.2s,baz=145,slow=38
NBO02 NORSAR Array S 22.43 343 *e*P P 03 36 06.5 -1.7
NBO00 NORSAR Array S 22.43 343 *e*P P 03 36 07.1 -1.1
NC303 NORSAR Array S 22.48 344 *e*P P 03 36 08.8 +0.1
FOEL Foel Wylfa 22.49 314 *e*P P 03 36 06.7 -2.1
FOEL IAmb IAmb 03 36 08.4
comp=Z,91nm,0.9s
SUF Sumiainen 22.62 3 *e*P P 03 36 09.3 -0.8
SUF pmax pmax
comp=Z,72nm,1.7s
NC204 NORSAR Array S 22.65 343 *e*P P 03 36 10.1 -0.6
LPW Lampeter 22.69 311 *e*P P 03 36 09.3 -1.7
EDMD Edmundbyers 22.70 319 *e*P P 03 36 09.5 -1.6
KLMR Klimovskoe 22.81 20 *e*P P 03 36 08.6 -3.6
KLMR *e*S S 03 40 16.8 -4.6
KLMR pmax pmax
comp=Z,317nm,1.5s
KLMR MLR MLR

comp=Z,955nm,11.0s
KLMR Klimovskoe 22.81 20 *e*P **P 03 36 08.6 -3.6**
KLMR AMP 03 36 15.9
comp=Z,317nm,1.5s
KLMR *e*S **S 03 40 16.8 -4.6**
KLMR *e*S **S 03 40 16.8 -4.6**
KLMR LQ LQ 03 43 05.2
KLMR LQ LQ 03 43 05.2
KLMR LR LR 03 44 10.1
KLMR AMP 03 45 32.3
comp=Z,955nm,10.8s
JOF Joensuu 23.20 8 *e*P **P 03 36 17.0 +0.8**
JOF pmax pmax
comp=Z,68nm,1.5s
PBRG Braganca 23.23 284 *e*P **P 03 36 16.9 +0.1**
comp=Z,101nm,1.7s
PBRG *e*LQ LQ 03 42 01.3
PBRG *e*LR LR 03 44 40.8
comp=Z,857nm,18.0s
PBRG Braganca 23.23 284 *e*P **P 03 36 16.9 +0.1**
comp=Z,101nm,1.7s
TAM Tamanrasset 23.36 228 *e*P **P 03 36 18.7 +0.4**
comp=Z,57nm,1.3s
TAM LR LR
comp=Z,3µm,19.0s
TAM Tamanrasset 23.36 228 *e*P **P 03 36 18.7 +0.4**
TAM pmax pmax
comp=Z,57nm,1.3s
TAM MLR MLR
comp=Z,3µm,19.0s
TAM Tamanrasset 23.36 228 *e*P **P 03 36 18.7 +0.4**
comp=Z,57nm,1.3s
WPS Cemaes, Angles 23.41 314 *e*P **P 03 36 17.6 -0.8**
BHH Howats Hill 23.46 319 *e*P **P 03 36 17.9 -1.0**
MVO Moncorvo 23.52 283 *e*P **P 03 36 19.4 -0.4**
comp=Z,155nm,1.5s
MVO *e*S **S 03 40 25.8 -8.1**
MVO *e*LQ LQ 03 42 06.7
MVO *e*LR LR 03 44 52.8
comp=Z,563nm,16.0s
MVO Moncorvo 23.52 283 *e*P **P 03 36 19.4 -0.4**
comp=Z,155nm,1.5s
EKA Eskdalemuir Ar 23.55 319 P **P 03 36 18.5 -1.2**
comp=Z,23nm,0.7s,baz=116,slow=9.7,SNR=90
ESK Eskdalemuir 23.56 319 *e*P **P 03 36 18.4 -1.5**
comp=Z,62nm,0.9s
ESK Eskdalemuir 23.56 319 *e*P **P 03 36 18.4 -1.5**
ESK pmax pmax
comp=Z,61nm,0.9s
ESK Eskdalemuir 23.56 319 *e*P **P 03 36 17.7 -2.2**
SFS San Fernando 23.95 271 *e*P **P 03 36 21.3 -2.6**
comp=Z,67nm,0.9s
SFS San Fernando 23.95 271 *e*P **P 03 36 21.3 -2.6**
SFS pmax pmax
comp=Z,67nm,0.9s
SFS San Fernando 23.95 271 *e*P **P 03 36 21.3 -2.6**
comp=Z,67nm,0.9s
PVRL Vila Real 24.02 283 *e*P **P 03 36 24.4 -0.2**
comp=Z,96nm,2.0s
PVRL Vila Real 24.02 283 *e*P **P 03 36 24.4 -0.2**
comp=Z,96nm,2.0s
MTE Manteigas 24.03 281 *e*P **P 03 36 24.3 -0.3**
comp=Z,120nm,1.6s
MTE *e*S **S 03 40 36.8 -5.1**
MTE *e*LQ LQ 03 42 17.5
MTE *e*LR LR 03 44 40.1
comp=Z,887nm,16.0s
MTE Manteigas 24.03 281 *e*P **P 03 36 24.4 -0.3**
comp=Z,96nm,1.1s
MTE LR LR
comp=Z,1µm,20.0s
POLO Lamas de Olo 24.07 283 *e*P **P 03 36 24.9 -0.1**
comp=Z,37nm,2.3s
POLO *e*LQ LQ 03 42 24.3
POLO *e*LR LR 03 44 55.9
comp=Z,308nm,16.0s
PCBR Castelo Branco 24.08 279 *e*P **P 03 36 24.9 -0.1**
comp=Z,111nm,2.7s
EDU Dundee 24.09 322 *e*P **P 03 36 23.5 -1.4**
PMRV Marv??o 24.10 278 *e*P **P 03 36 25.1 -0.1**
comp=Z,87nm,1.6s
PMRV *e*S **S 03 40 43.5 +0.6**
PMRV *e*LQ LQ 03 42 18.3
PMRV *e*LR LR 03 44 55.9
comp=Z,731nm,20.0s
PMRV Marv??o 24.10 278 *e*P **P 03 36 25.1 -0.1**
comp=Z,87nm,1.6s
PMRV *e*S **S 03 40 43.5 +0.6**
PBAR Barrancos 24.11 275 *e*P **P 03 36 23.6 -1.8**
comp=Z,148nm,1.7s
PBAR *e*LQ LQ 03 42 13.8
PBAR *e*LR LR 03 44 46.4
comp=Z,2µm,18.0s
PBAR Barrancos 24.11 275 *e*P **P 03 36 23.6 -1.8**
comp=Z,148nm,1.7s
GAL1 Galloway 24.12 317 *e*P **P 03 36 24.4 -0.8**
GAL1 IAmb IAmb 03 36 26.4
comp=Z,86nm,1.4s
PVIS Viseu 24.24 282 *e*P **P 03 36 26.7 +0.1**
comp=Z,91nm,2.0s
PVIS Viseu 24.24 282 *e*P **P 03 36 26.7 +0.1**
comp=Z,91nm,2.0s
PGAV Gavieira, Arco 24.35 285 *e*P **P 03 36 27.9 +0.3**
comp=Z,346nm,1.8s
PGAV *e*S **S 03 40 55.9 +8.8**
PGAV *e*LR LR 03 44 55.9
comp=Z,680nm,20.0s
PESTR Estremoz 24.37 277 *e*P **P 03 36 26.6 -1.1**
comp=Z,75nm,1.6s
PESTR *e*S **S 03 40 40.6 -6.7**
PESTR *e*LQ LQ 03 42 28.5
PESTR Estremoz 24.37 277 *e*P **P 03 36 25.2 -2.5**
comp=Z,40nm,1.3s
PESTR Estremoz 24.37 277 *e*P **P 03 36 26.6 -1.1**
comp=Z,75nm,1.6s
DSB Dublin 24.40 313 *e*P **P 03 36 26.6 -1.2**
comp=Z,74nm,1.4s
GMM Mts of Mourne 24.53 315 *e*P **P 03 36 28.6 -0.4**
EAB Aberfoyle 24.54 320 *e*P **P 03 36 28.7 -0.4**
RAYN Ar Rayn 24.56 126 *e*P **P 03 36 31.7 +2.1**
comp=Z,70nm,1.4s
RAYN LR LR
comp=Z,852nm,22.0s
PTO Porto 24.70 283 *e*P **P 03 36 31.2 +0.5**
PTO Porto 24.70 283 *e*P **P 03 36 31.2 +0.5**
MCD Coleburn Disti 24.75 324 *e*P **P 03 36 29.3 -1.7**
EVO Evora 24.77 277 *e*P **P 03 36 30.6 -0.7**
comp=Z,64nm,1.3s
EVO Evora 24.77 277 *e*P **P 03 36 30.6 -0.7**
comp=Z,64nm,1.3s
PMTG Montargil 24.81 278 *e*P **P 03 36 30.8 -0.9**
comp=Z,112nm,1.3s
PMTG *e*LR LR 03 45 37.4
comp=Z,788nm,16.0s
PMTG Montargil 24.81 278 *e*P **P 03 36 30.8 -0.9**
comp=Z,112nm,1.3s
PCAS Casmilo, Conde 24.81 280 *e*P **P 03 36 31.7 0.0**
comp=Z,197nm,1.6s
PCAS *e*S **S 03 40 52.5 -1.9**
PCAS *e*LQ LQ 03 42 37.0
PCAS *e*LR LR 03 45 05.4
comp=Z,673nm,16.0s
PVAQ Vaqueiros 24.84 274 *e*P **P 03 36 31.3 -0.6**
comp=Z,132nm,2.5s
PVAQ *e*S **S 03 41 02.4 +7.5**
PVAQ *e*LR LR 03 46 08.6
comp=Z,695nm,16.0s
PVAQ Vaqueiros 24.84 274 *e*P **P 03 36 31.3 -0.6**
comp=Z,132nm,2.5s
PCVE Castro Verde 25.02 275 *e*P **P 03 36 32.6 -1.0**
comp=Z,112nm,2.0s
PCVE Castro Verde 25.02 275 *e*P **P 03 36 32.6 -1.0**
comp=Z,112nm,2.0s
PBDV Barranco-do-Ve 25.05 274 *e*P **P 03 36 33.1 -0.8**
comp=Z,234nm,1.3s
PBDV *e*LR LR 03 43 21.3
comp=Z,734nm,18.0s
PBDV Barranco-do-Ve 25.05 274 *e*P **P 03 36 33.1 -0.8**
comp=Z,234nm,1.3s
PNCL Nicolau / Gran 25.27 276 *e*P **P 03 36 35.5 -0.3**
comp=Z,112nm,1.6s
PNCL *e*S **S 03 40 58.0 -3.7**
PNCL *e*LQ LQ 03 42 42.8
PNCL *e*LR LR 03 45 18.0
comp=Z,996nm,14.0s
PNCL Nicolau / Gran 25.27 276 *e*P **P 03 36 35.5 -0.3**

comp=Z,112nm,1.6s
KIB El Ksiba 25.29 262 *i* P **P 03 36 38.0 +1.8**
RTC Rabat Centre 25.33 266 PFAKE 03 36 50.0 +14
RTC LR LR
comp=Z,2µm,19.0s
TMCR Tamitsa 25.40 14 *e*P **P 03 36 37.2 +0.5**
TMCR pmax pmax
comp=Z,102nm,1.5s
PTEO Sao Teotonio 25.57 275 *e*P **P 03 36 37.7 -0.8**
comp=Z,145nm,2.1s
PTEO Sao Teotonio 25.57 275 *e*P **P 03 36 37.7 -0.8**
comp=Z,145nm,2.1s
MORF Marmelete 25.58 274 *e*P **P 03 36 38.5 -0.1**
MORF AMb AMB 03 36 41.3
comp=Z,91nm,1.9s
MORF Marmelete 25.58 274 *e*P **P 03 36 37.6 -1.1**
comp=Z,92nm,2.2s
MORF *e*S **S 03 41 03.0 -3.8**
MORF Marmelete 25.58 274 *e*P **P 03 36 38.6 -0.1**
MORF Marmelete 25.58 274 *e*P **P 03 36 38.6 -0.1**
LIS Lisbon 25.59 278 *e*P **P 03 36 39.1 +0.4**
LIS AMb AMB 03 36 41.2
comp=Z,150nm,1.4s
LIS Lisbon 25.59 278 *e*P **P 03 36 39.1 +0.4**
PMST Lisbon--Monsan 25.61 278 *e*P **P 03 36 39.5 +0.6**
PMAFR Mafra 25.63 278 *e*S **S 03 41 05.0 -2.6**
PMAFR *e*LR LR 03 45 30.7
comp=Z,728nm,16.0s
PFVI Vila Bisbo 25.76 274 *e*P **P 03 36 39.4 -0.9**
comp=Z,143nm,2.0s
PFVI *e*S **S 03 41 07.2 -2.4**
PFVI *e*LR LR 03 44 55.9
comp=Z,680nm,18.0s
PFVI Vila Bisbo 25.76 274 *e*P **P 03 36 39.4 -0.9**
comp=Z,118nm,1.2s
PFVI Vila Bisbo 25.76 274 *e*P **P 03 36 39.4 -0.9**
comp=Z,118nm,1.2s
AKTO Aktyubinsk 25.80 55 P **P 03 36 40.9 +0.3**
comp=Z,17nm,1.1s,baz=263,slow=9.6,SNR=29
AKTO LR LR 03 48 57.0
comp=Z,2µm,20.3s,baz=260,slow=41
TZC Tazercounte 25.82 262 *i* P **P 03 36 42.0 +0.9**
GEYT Alibeck 26.47 84 P **P 03 36 47.5 +0.7**
comp=Z,15nm,1.1s,baz=315,slow=15,SNR=5.5
GEYT LR LR 03 48 05.3
comp=Z,984nm,20.8s,baz=270,slow=38
AB31 Akbulak array 26.87 58 *e*P **P 03 36 50.2 0.0**
AB31 pmax pmax
comp=Z,38nm,1.5s
ABKAR Akbulak array 26.87 58 *e*P **P 03 36 49.9 -0.3**
OUK Oukaimeden 27.29 261 *i* P **P 03 36 54.0 -0.6**
ARU Arti 27.75 43 P **P 03 36 58.4 +0.3**
comp=Z,2.2nm,0.5s,baz=245,slow=6.7,SNR=18
ARU LR LR 03 48 43.2
comp=Z,4µm,18.1s,baz=235,slow=38
ARU Arti 27.75 43 *e*P **P 03 36 59.2 +1.1**
comp=Z,74nm,1.5s
ARU Arti 27.75 43 *c i*P **P 03 36 58.9 +0.8**
ARU 03 37 45.0
ARU 03 40 18.3
ARU S **S 03 41 43.2 +2.6**
ARU SS **SnSn 03 42 57.2 +4.7**
ARU pmax pmax
comp=Z,62nm,1.7s
ARU MLR MLR
comp=Z,4µm,15.0s
APA Apatity 27.94 8 ⇓ *i*P **P 03 37 03.7 +4.1**
APA *i* 03 38 06.7
APA *i* S **S 03 41 47.0 +3.7**
APA MLR MLR
comp=Z,14µm,14.0s
SOKR Solikamsk 28.24 36 *d i*P **P 03 37 02.6 +0.3**
SOKR S **S 03 41 45.9 -2.2**
SOKR pmax pmax
comp=Z,104nm,1.9s
SOKR MLR MLR
comp=Z,4µm,20.0s
LVZ Lovozero 28.39 8 PFAKE 03 37 20.0 +16
LVZ LR LR
comp=Z,4µm,20.0s
SVE Sverdlovsk 28.97 43 *d e*P **P 03 37 10.0 +1.1**
SVE *e*S **S 03 42 01.5 +1.8**
SVE pmax pmax
comp=Z,75nm,1.8s
SVE MLR MLR
comp=N,2µm,11.0s
SVE MLR MLR
comp=E,4µm,13.0s
SVE MLR MLR
comp=Z,4µm,13.0s
ARCES ARCESS Array B 29.44 1 P **P 03 37 10.8 -2.2**
comp=Z,2.2nm,0.7s,baz=182,slow=8.1,SNR=11
ARCES LR LR 03 49 57.7
comp=Z,10µm,19.2s,baz=180,slow=38
KEV Kevo 29.69 2 PFAKE 03 37 30.0 +15
KEV LR LR
comp=Z,8µm,20.0s
DAMY Dhamar 31.10 139 *e*P **P 03 37 28.3 -0.2**
comp=Z,33nm,1.2s
ATD Arta Tunnel 33.02 145 *e*P **P 03 37 44.1 -0.9**
comp=Z,48nm,1.3s
TOA0 Torodi Ar. Sit 33.32 222 *e*P **P 03 37 48.2 +0.6**
TOA0 Torodi Ar. Sit 33.32 222 P **P 03 37 46.9 -0.7**
TORD Torodi Ar. Bea 33.32 222 P **P 03 37 47.3 -0.3**
comp=Z,41nm,1.1s,baz=32,slow=8.1,SNR=116
TORD PcP **PcP 03 40 28.4 -1.2**
comp=Z,3.9nm,0.9s,baz=98,slow=0.5,SNR=9.0
TORD LR LR 03 52 49.0
comp=Z,1µm,18.8s,baz=15,slow=39
PMAR Madeira 33.53 270 *e*P **P 03 37 51.4 +1.8**
PMAR Madeira 33.53 270 *e*P **P 03 37 51.4 +1.8**
BRVK Borovoye 33.68 52 *e*P **P 03 37 51.4 +0.9**
comp=Z,61nm,1.4s
BRVK LR LR
comp=Z,510nm,21.0s
BRVK Borovoye 33.68 52 *c i*P **P 03 37 52.1 +1.7**
BRVK pmax pmax
comp=Z,60nm,1.5s
BRVK Borovoye 33.68 52 P **P 03 37 52.3 +1.9**
SNR=20
BVA0 Borovoye Array 33.74 52 *i* P **P 03 37 51.8 +0.8**
BVA0 pmax pmax
comp=Z,41nm,1.5s
BVAR Borovoye Array 33.74 52 P **P 03 37 51.4 +0.4**
comp=Z,5.7nm,0.9s,baz=266,slow=4.5,SNR=32
BVAR LR LR 03 52 36.2
comp=Z,1µm,18.9s,baz=264,slow=38
KK31 Karatay Array 34.52 70 *i* P **P 03 37 58.9 +1.1**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 34.52 70 *e*P **P 03 37 59.1 +1.3**
comp=Z,2.2nm,0.6s
KKAR Karatay Array 34.52 70 *e*P **P 03 37 59.1 +1.3**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
JMIC Jan Mayen 35.04 342 LR LR 03 54 12.4
comp=Z,2µm,18.0s,baz=102,slow=39
OTUK Ortayu 35.05 60 P P 03 38 13.3 +11
OTUK pmax pmax
comp=Z,7.0nm,1.3s
KOWA Kowa 35.43 232 P **P 03 38 05.5 -0.4**
comp=Z,24nm,1.1s,baz=38,slow=9.2,SNR=34
KOWA PcP **PcP 03 40 35.2 -0.4**
comp=Z,6.9nm,0.7s,baz=57,slow=3.3,SNR=9.9
KOWA LR LR 03 53 59.5
comp=Z,4µm,18.8s,baz=36,slow=39
KOWA Kowa 35.43 232 *e*P **P 03 38 05.2 -0.7**
comp=Z,20nm,0.9s
KOWA *e*PcP **PcP 03 40 35.6 0.0**
BORG Borgarnes 35.77 329 LR LR 03 53 10.6
comp=Z,964nm,19.1s,baz=112,slow=37
KBL Kabul 35.92 84 *e*P **P 03 38 10.3 +0.2**
comp=Z,20nm,1.5s
KBL Kabul 35.92 84 *e*P **P 03 38 10.4 +0.2**
KBL pmax pmax
comp=Z,20nm,1.5s
KBL Kabul 35.92 84 *e*P **P 03 38 10.4 +0.2**
comp=Z,20nm,1.5s
MNAS Manas 36.08 70 P **P 03 38 12.2 +0.7**
MNAS pmax pmax
comp=Z,10.0nm,1.5s
EKS2 Erkin-Say 36.96 69 P **P 03 38 20.5 +1.6**
SNR=14
AAK Ala-Archa 37.48 69 P **P 03 38 25.3 +1.9**
comp=Z,4.1nm,1.0s,baz=253,slow=9.7,SNR=29
AAK LR LR 03 57 24.2
comp=Z,850nm,18.1s,baz=278,slow=42
AAK Ala-Archa 37.48 69 P **P 03 38 26.2 +2.8**
SNR=15
FRU Bishkek 37.52 69 *i* P **P 03 38 24.5 +0.9**
FRU *i* 03 38 36.0
FRU *e* 03 39 52.0
FRU pmax pmax
comp=Z,260nm,2.1s
CHMS Chumysh 37.58 69 P **P 03 38 26.3 +2.2**
SNR=5.4
UCH Uchtor 37.59 70 P **P 03 38 23.0 -1.7**
SNR=8.6
KZA Kyzart 38.16 70 P **P 03 38 32.6 +3.2**
SNR=14
TKM2 Tokmak 2 38.20 69 P **P 03 38 31.6 +2.1**
SNR=5.7
SPITS Spitsbergen Ar 38.25 357 P **P 03 38 30.0 +0.7**
comp=Z,1.8nm,0.7s,baz=182,slow=12,SNR=4.0
SPITS LR LR 03 55 37.8
comp=Z,4µm,18.7s,baz=165,slow=38
SPITS Spitsbergen Ar 38.25 357 P **P 03 38 30.0 +0.7**
SPITS pmax pmax
comp=Z,2.0nm,0.7s
SPITS MLR MLR
comp=Z,4µm,18.7s
SCO Scoresbysund 38.36 337 *i* P **P 03 38 31.1 +0.8**
SCO Scoresbysund 38.36 337 *e*P **P 03 38 31.1 +0.8**
comp=Z,234nm,1.9s
ULHL Ulahol 38.83 69 P **P 03 38 37.7 +2.9**
SNR=5.9
NRN Naryn 38.87 71 P **P 03 38 38.0 +2.7**
KURK Kurchatov 38.90 56 *e*P **P 03 38 35.7 +0.6**
comp=Z,111nm,1.7s
KURK LR LR
comp=Z,3µm,20.0s
KURK Kurchatov 38.90 56 *c i*P **P 03 38 36.4 +1.4**
KURK pmax pmax
comp=Z,69nm,1.7s
KURK MLR MLR
comp=Z,2µm,18.0s
KURK Kurchatov 38.90 56 P **P 03 38 36.7 +1.7**
SNR=21
KBS Kingsbay 39.17 356 PFAKE 03 38 50.0 +13
KBS LR LR
comp=Z,2µm,21.0s
KSH Kashi 39.41 74 P **P 03 38 39.1 -0.5**
KSH sP sP 03 38 46.1 +3.1
KSH PP **PP 03 40 09.7 -0.2**
KSH S **S 03 44 38.5 -3.0**
KSH sS sS 03 44 45.4 -0.1
KSH SS **SS 03 47 24.5 -11**
KSH pmax pmax
comp=Z,72nm,2.0s
KSH pmax pmax
comp=Z,250nm,5.4s
KSH LR LR
comp=Z,770nm,14.2s
KSH LR LR
comp=Z,560nm,11.2s
KSH LR LR
comp=Z,720nm,15.4s
KDJ Kajisay 39.53 69 P **P 03 38 43.6 +2.9**
KDJ pmax pmax
comp=Z,337nm,2.0s
DAG Danmarks Havn 40.98 346 *i* P P 03 39 00.2 +8.2
DAG Danmarks Havn 40.98 346 *e*P P 03 39 00.2 +8.2
MBAR Mbarara 41.04 170 P **P 03 38 52.6 -0.7**
comp=Z,12nm,0.8s,baz=328,slow=7.3,SNR=6.3
MBAR Mbarara 41.04 170 P **P 03 38 52.6 -0.7**
MBAR LR LR
comp=Z,774nm,20.0s
MBAR Mbarara 41.04 170 P **P 03 38 52.6 -0.7**
MBAR pmax pmax
comp=Z,7.0nm,0.7s
NVS Novosibirsk 41.32 49 ⇑ *i*P **P 03 38 58.5 +3.5**
NVS *e* 03 40 29.0
NVS *i* S **S 03 45 13.9 +4.6**
NVS pmax pmax
comp=N,27nm,1.6s
NVS pmax pmax
comp=Z,158nm,1.6s
NVS pmax pmax
comp=E,52nm,1.7s
NVS smax smax
comp=N,23nm,1.6s
NVS smax smax
comp=E,1.0nm,0.3s
MAKZ Makanchi 41.73 61 *e*P **P 03 38 59.7 +1.1**
comp=E,120nm,1.9s
MAKZ Makanchi 41.73 61 *e*P **P 03 38 59.7 +1.1**
MAKZ pmax pmax
comp=Z,120nm,1.9s
MK31 Makanchi Array 41.94 61 *e*P **P 03 39 00.6 +0.3**
MK31 Makanchi Array 41.94 61 *i* P **P 03 39 00.5 +0.2**
MK31 pmax pmax
comp=Z,31nm,1.0s
MKAR Makanchi Array 41.94 61 P **P 03 39 00.6 +0.3**
comp=Z,12nm,0.8s,baz=278,slow=6.7,SNR=73
MKAR PcP **PcP 03 40 54.1 -1.5**
comp=Z,4.3nm,0.8s,baz=275,slow=3.5,SNR=3.8
MKAR LR LR 04 00 33.6
comp=Z,1µm,19.1s,baz=272,slow=42
MKAR Makanchi Array 41.94 61 *e*P **P 03 39 00.6 +0.3**
comp=Z,111nm,0.9s
MKAR PcP **PcP 03 40 54.1 -1.5**
MK01 Makanchi Array 41.95 61 *e*P **P 03 38 59.9 -0.5**
DBIC Dimbokro 42.22 226 P **P 03 39 01.5 -1.3**
comp=Z,10.0nm,0.7s,baz=14,slow=10,SNR=14
DBIC LR LR 03 57 42.6
comp=Z,1µm,19.8s,baz=15,slow=38
ZAA0 Zalesovo Array 42.33 50 *e*P **P 03 39 03.3 0.0**
ZALV Zalesovo Beam 42.33 50 P **P 03 39 03.3 0.0**
comp=Z,8.0nm,0.6s,baz=275,slow=9.2,SNR=47
ZALV LR LR 03 58 08.0
comp=Z,1µm,19.6s,baz=258,slow=38
ZALV Zalesovo Beam 42.33 50 *e*P **P 03 39 02.5 -0.8**
TIC Toumodi 42.33 226 *e*P **P 03 39 02.7 -1.1**
DHRM DHARAMSHALA 42.39 84 *e*P **P 03 39 04.2 -0.2**
DHRM IAmb IAmb 03 39 06.3
comp=Z,47nm,1.1s
KIC Kosan Boka 42.42 225 *e*P **P 03 39 03.6 -0.8**
comp=Z,170nm,1.4s
LIC Lamto 42.69 225 *e*P **P 03 39 05.8 -0.8**
comp=Z,276nm,1.4s
KMBO Kilima Mbogo 42.84 160 P **P 03 39 09.4 +1.3**
comp=Z,2.4nm,0.7s,baz=344,slow=7.1,SNR=7.6
KMBO LR LR 03 59 43.9
comp=Z,661nm,18.3s,baz=348,slow=40
KMBO Kilima Mbogo 42.84 160 *e*P **P 03 39 09.2 +1.0**
comp=Z,6.8nm,1.1s
KMBO Kilima Mbogo 42.84 160 *i* P **P 03 39 09.3 +1.2**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
BBTS Babate 43.53 246 P **P 03 39 15.1 +1.6**
comp=Z,47nm,1.0s,baz=80,slow=3.1,SNR=5.4
BBTS LR LR 03 59 48.8
comp=Z,2µm,19.8s,baz=53,slow=40
SMLA Simla 43.55 85 *e*P **P 03 39 12.8 -0.7**
SMLA IAmb IAmb 03 39 16.1
comp=Z,19nm,0.4s
SUMG Summit 44.00 337 *i* P **P 03 39 17.1 0.0**
comp=Z,138nm,1.7s
SUMG Summit 44.00 337 *e*P **P 03 39 16.9 -0.2**
comp=Z,166nm,1.8s
SUMG Summit 44.00 337 *i* P **P 03 39 17.1 0.0**
SUMG pmax pmax
comp=Z,140nm,1.7s
DDI Dehra Dun 44.60 85 *e*P **P 03 39 20.9 -1.2**
WMQ Urumqi 46.42 64 P **P 03 39 37.1 +0.8**
WMQ pP sP 03 39 38.8 -0.9
WMQ sP pP 03 39 45.5 +6.8
WMQ PP **PP 03 41 29.9 +4.8**
WMQ S **S 03 46 30.3 +6.1**
WMQ ScS **ScS 03 49 33.8 +2.0**
WMQ pmax pmax
comp=Z,76nm,2.1s
WMQ pmax pmax
comp=Z,1µm,3.8s
WMQ LR LR
comp=Z,3µm,10.9s
WMQ LR LR
comp=Z,3µm,14.9s
WMQ LR LR
comp=Z,1µm,20.7s
BHPL Bhopal 47.74 94 *e*P **P 03 39 45.8 -1.0**
BHPL IAmb IAmb 03 39 48.6

comp=Z,33nm,1.1s
POO Poona 47.77 102 *e*P **P 03 39 46.6 -0.5**
POO ⇓*i*P **P 03 39 47.0 -0.1**
comp=Z,46nm,0.2s
SFJD Kangerlussuaq 47.89 329 *e*P **P 03 39 47.5 +0.2**
comp=Z,42nm,1.4s
SFJD LR LR
comp=Z,935nm,20.0s
SFJD Kangerlussuaq 47.89 329 *e*P **P 03 39 47.5 +0.2**
SFJD pmax pmax
comp=Z,42nm,1.4s
SFJD MLR MLR
comp=Z,935nm,20.0s
ILULI Ilulissat 47.91 332 *e*P **P 03 39 46.8 -0.6**
comp=Z,72nm,1.7s
ILULI Ilulissat 47.91 332 *e*P **P 03 39 46.8 -0.6**
ILULI pmax pmax
comp=Z,72nm,1.7s
HVS Khovu-Aksy 48.19 52⇑*e*P **P 03 39 50.7 +0.7**
HVS pmax pmax
comp=Z,10.0nm,0.7s
SACV Santiago Islan 48.40 253 *e*P **P 03 39 51.8 -0.1**
comp=Z,112nm,1.1s
SACV LR LR
comp=Z,379nm,19.0s
PYUN Piuthan 49.45 85 *e*P **P 03 39 59.9 -0.2**
comp=Z,182nm,1.6s
GOA Goa 49.65 105 *e*P **P 03 40 02.7 +1.2**
DANN Dangsing 49.91 84 *e*P **P 03 40 04.5 +0.8**
comp=Z,4.0nm,1.1s
KOLN Koldanda 50.08 85 *e*P **P 03 40 04.2 -0.7**
comp=Z,202nm,1.8s
NGP Nagpur 50.16 95 *e*P **P 03 40 05.1 -0.3**
NGP IAmb IAmb 03 40 07.8
comp=Z,61nm,1.7s
DMN Daman 51.31 84 *e*P **P 03 40 14.3 0.0**
comp=Z,179nm,1.7s
PKI Pulchoki 51.56 84 *e*P **P 03 40 16.0 -0.2**
comp=Z,241nm,2.0s
GUN Gumba 51.74 84 *e*P **P 03 40 17.8 +0.2**
comp=Z,264nm,1.9s
HYB Hyderabad 51.99 99 *i*P **P 03 40 20.0 +0.8**
HYB Hyderabad 51.99 99 *e*P **P 03 40 17.6 -1.6**
HYB IAmb IAmb 03 40 18.0
comp=Z,99nm,2.2s
TULEG Thule 52.00 343 *e*P **P 03 40 17.4 -1.0**
comp=Z,155nm,1.7s
JIRN Jiri 52.11 84 *e*P **P 03 40 20.4 0.0**
comp=Z,367nm,2.0s
MOY Mondy 52.38 50 *e*P **P 03 40 24.6 +2.8**
MOY pmax pmax
comp=Z,77nm,3.0s
RAMN Ramite 52.79 84 *e*P **P 03 40 24.3 -1.0**
comp=Z,53nm,1.1s
ODAN Odare 53.44 84 *e*P **P 03 40 29.3 -0.7**
comp=Z,328nm,2.1s
BOK Bokaro 53.92 88 *e*P **P 03 40 32.4 -1.0**
BOK IAmb IAmb 03 40 36.6
comp=Z,1μm,3.9s
TLY Talaya 53.92 49 P **P 03 40 35.6 +2.5**
comp=Z,1.6nm,0.3s,baz=255,slow=20,SNR=6.0
TLY LR LR 04 05 24.4
comp=Z,2μm,20.1s,baz=298,slow=38
TLY Talaya 53.92 49 *e*P **P 03 40 35.1 +2.1**
comp=Z,79nm,1.6s
TLY Talaya 53.92 49 *e*P **P 03 40 35.3 +2.3**
TLY *e* 03 41 40.4
TLY *e*S S 03 48 19.2 +11
TLY pmax pmax
comp=Z,61nm,1.8s
TLY MLR MLR
comp=Z,2μm,20.0s
TLY Talaya 53.92 49 P **P 03 40 35.6 +2.5**
SNR=16
IRK Irkutsk 54.08 48 *e*P **P 03 40 35.1 +0.9**
IRK pmax pmax
comp=Z,105nm,2.3s
ZAK Zakamensk 54.19 51 *e*P **P 03 40 36.1 +1.0**
ZAK pmax pmax
comp=Z,16nm,1.8s
LSA Lhasa 54.83 79 *e*P **P 03 40 40.7 +0.2**
comp=Z,43nm,1.3s
LSA LR LR
comp=Z,643nm,21.0s
LSA Lhasa 54.83 79 *e*P **P 03 40 40.7 +0.2**
LSA pmax pmax
comp=Z,43nm,1.3s
LSA MLR MLR
comp=Z,643nm,21.0s
LSZ Lusaka 55.30 175 *e*P **P 03 40 43.5 +0.1**
comp=Z,18nm,1.4s
LSZ LR LR
comp=Z,1μm,19.0s
LSZ Lusaka 55.30 175 *e*P **P 03 40 43.5 +0.1**
LSZ pmax pmax
comp=Z,18nm,1.4s
LSZ MLR MLR
comp=Z,1μm,19.0s
VIS Vishakhapatnam 55.44 96 *e*P **P 03 40 44.0 -0.3**
MDRS Chennai 55.97 102 *e*P **P 03 40 48.5 +0.2**
GTA Gaotai 56.49 64 P **P 03 40 52.5 +0.6**
GTA pP sP 03 40 57.6 +2.3
GTA sP pP 03 41 00.9 +6.6
GTA S **S 03 48 41.6 -1.8**
GTA sS sS 03 48 51.1 +3.6
GTA SS **SS 03 52 32.0 +1.8**
GTA pmax pmax
comp=Z,15nm,2.0s
GTA pmax pmax
comp=Z,170nm,5.0s
GTA LR LR
comp=Z,770nm,18.1s
GTA LR LR
comp=Z,620nm,18.1s
GTA LR LR
comp=Z,1μm,17.6s
TRD Trivandrum 56.54 109 *e*P **P 03 40 52.6 +0.3**
TIXI Tiksi 56.82 21 *e*P **P 03 40 53.6 +0.1**
comp=Z,46nm,1.5s
TIXI LR LR
comp=Z,4μm,19.0s
TIXI Tiksi 56.82 21*c i*P **P 03 40 54.8 +1.3**
TIXI pmax pmax
comp=Z,57nm,2.5s
SONA1 Songino Array 57.08 53 *e*P **P 03 40 55.1 -0.9**
SONM Songino Array 57.08 53 P **P 03 40 55.8 -0.2**
comp=Z,5.1nm,1.1s,baz=289,slow=8.9,SNR=29
SONM LR LR 04 07 56.2
comp=Z,2μm,18.1s,baz=320,slow=39
BOD Bodaibo 57.11 40 *e*P **P 03 40 54.6 -1.2**
BOD pmax pmax
comp=Z,35nm,1.8s
ULN Ulaanbaatar 57.47 52 *e*P **P 03 40 58.9 +0.2**
comp=Z,11nm,1.2s
ULN LR LR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 57.47 52*d i*P **P 03 40 58.1 -0.6**
ULN pmax pmax
comp=Z,45nm,2.5s
ULN Ulaanbaatar 57.47 52 P **P 03 41 00.6 +1.9**
SNR=12
SHL Shillong 57.54 83 *e*P **P 03 40 59.0 -0.5**
RES Resolute Bay 58.61 344 P **P 03 41 05.9 -0.1**
comp=Z,2.4nm,0.6s,baz=49,slow=10,SNR=15
RES Resolute Bay 58.61 344 *e*P **P 03 41 06.3 +0.2**
comp=Z,87nm,1.9s
RES Resolute Bay 58.61 344 *e*P **P 03 41 06.3 +0.2**
RES pmax pmax
comp=Z,87nm,1.9s
SCHQ Schefferville 58.85 317 P **P 03 41 06.7 -1.3**
comp=Z,3.2nm,0.5s,baz=39,slow=5.0,SNR=8.4
SCHQ LR LR 04 05 21.2
comp=Z,506nm,18.3s,baz=68,slow=35
SCHQ Schefferville 58.85 317 *e*P **P 03 41 08.2 +0.1**
comp=Z,85nm,1.8s
TSUM Tsumeb 59.37 187 *e*P **P 03 41 11.9 -0.2**
comp=Z,4.5nm,1.0s
TSUM LR LR
comp=Z,2μm,20.0s
PALK Pallekele 60.10 107 P **P 03 41 15.5 -1.7**
comp=Z,18nm,1.1s,baz=297,slow=3.7,SNR=8.7
PALK Pallekele 60.10 107 *e*P **P 03 41 17.0 -0.2**
comp=Z,39nm,1.3s
PALK Pallekele 60.10 107 *i*P **P 03 41 19.9 +2.6**
PALK Pallekele 60.10 107 P **P 03 41 17.9 +0.7**
SNR=5.2
LZH Lanzhou 60.88 66 *e*P **P 03 41 23.7 +1.1**
LZH pP sP 03 41 27.3 +1.3
LZH sP pP 03 41 28.9 +3.8
LZH PP **PP 03 43 39.5 +3.1**
LZH *e*S **S 03 49 42.0 +1.3**
LZH sS sS 03 49 51.2 +6.4
LZH SS **SS 03 53 37.4 -1.9**
LZH pmax pmax
comp=Z,53nm,1.3s
LZH pmax pmax
comp=Z,170nm,4.6s
LZH LR LR
comp=Z,2μm,16.1s
LZH LR LR
comp=Z,2μm,14.0s
LZH LR LR
comp=Z,2μm,16.4s
YAK Yakutsk 62.02 31 P **P 03 41 29.1 -0.4**
comp=Z,7.0nm,0.4s,baz=260,slow=3.8,SNR=6.3
YAK LR LR 04 10 41.9
comp=Z,1μm,19.9s,baz=272,slow=38
YAK Yakutsk 62.02 31 *e*P **P 03 41 28.8 -0.8**
comp=Z,88nm,1.6s
YAK Yakutsk 62.02 31*c i*P **P 03 41 29.8 +0.3**
YAK *e**PP **sP 03 41 33.3 +0.3**
YAK *e* 03 42 10.1
YAK *e* 03 43 47.5
YAK *e*S **S 03 49 56.7 +2.8**
YAK *e**SS sS 03 50 09.5 +11
YAK *e* 03 51 19.6
YAK *e*SS **SS 03 54 02.9 +7.3**
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,41nm,3.7s
YAK pmax pmax
comp=Z,113nm,3.8s
YAK pmax pmax
comp=E,55nm,3.2s
YAK smax smax
comp=N,142nm,4.8s
YAK smax smax
comp=E,173nm,5.4s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK MLR MLR
comp=N,2μm,19.0s
YAK MLR MLR
comp=E,600nm,16.0s
OPO Ambohidratompo 62.30 155 LR LR 04 10 29.0
comp=E,342nm,19.7s,baz=338,slow=38
SHEL Horse Pasture 62.34 213 PFAKE 03 41 40.0 +7.7
SHEL LR LR
comp=Z,508nm,20.0s
BTO Baotou 62.78 59 *e*P **P 03 41 34.3 -0.9**
PQI Presque Isle 63.45 310 *e*P **P 03 41 39.5 +0.1**
comp=Z,93nm,1.5s
CD2 Chengdu 63.52 71 P **P 03 41 40.0 -0.2**
CD2 pP sP 03 41 43.2 -0.4
CD2 PcS 03 46 14.2
CD2 S **S 03 50 13.3 -0.6**
CD2 sS sS 03 50 18.8 +0.8
CD2 SS **SS 03 54 21.2 +0.6**
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,220nm,5.0s
CD2 LR LR
comp=Z,730nm,15.4s
CD2 LR LR
comp=Z,690nm,18.9s
CD2 LR LR
comp=Z,860nm,19.9s
HHC Hu-ho-hao-te 63.66 58 *e*P **P 03 41 41.3 +0.3**
HHC sP sP 03 41 47.4 +2.9
HHC PP **PP 03 44 08.0 +7.4**
HHC S **S 03 50 14.4 -1.1**
HHC sS sS 03 50 21.3 +1.7
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,180nm,7.0s
HHC LR LR
comp=Z,770nm,17.7s
HHC LR LR
comp=Z,580nm,16.1s
HHC LR LR
comp=Z,930nm,19.0s
HIA Hailar 64.18 46 *e*P **P 03 41 45.9 +1.7**
comp=Z,49nm,1.5s
HIA LR LR
comp=Z,650nm,21.0s
HIA Hailar 64.18 46 *e*P **P 03 41 45.9 +1.7**
HIA pmax pmax
comp=Z,49nm,1.5s
HIA MLR MLR
comp=Z,650nm,21.0s
LBTB Lobatse 64.86 178 *e*P **P 03 41 49.4 +0.5**
comp=Z,29nm,1.0s
LBTB Lobatse 64.86 178 *e*P **P 03 41 49.4 +0.5**
LBTB pmax pmax
comp=Z,29nm,1.0s
PKME Peaks-Kenny Pk 64.94 309 P **P 03 41 49.0 -0.2**
baz=58
PKME Peaks-Kenny Pk 64.94 309 PFAKE 03 42 00.0 +11
PKME LR LR
comp=Z,630nm,19.0s
XAN Xi'an 65.50 65 P **P 03 41 54.5 +1.4**
XAN pmax pmax
comp=Z,35nm,1.9s
XAN pmax pmax
comp=Z,330nm,3.0s
XAN LR LR
comp=Z,640nm,15.4s
XAN LR LR
comp=Z,430nm,20.1s
XAN LR LR
comp=Z,580nm,17.3s
DGPR DIGLIPUR 65.53 93 *e*P **P 03 41 53.7 +0.3**
DGPR IAmb IAmb 03 41 56.6
comp=Z,41nm,0.9s
ZEA Zeya 65.62 39 *e*P **P 03 41 54.8 +1.4**
ZEA *e*S **S 03 50 42.0 +3.0**
ZEA pmax pmax
comp=Z,32nm,1.8s
ZEA smax smax
comp=E,200nm,10.0s
ZEA MLR MLR
comp=E,900nm,16.0s
ZEA MLR MLR
comp=Z,2μm,16.0s
ZEA MLR MLR
comp=N,1μm,15.0s
KMI Kunming 65.96 77 P **P 03 41 57.5 +1.1**
KMI pP sP 03 42 00.5 +0.6
KMI sP pP 03 42 01.8 +2.9
KMI PP **PP 03 44 24.1 +2.8**
KMI S **S 03 50 40.0 -4.5**
KMI SKS **SKSac 03 51 50.0 -3.1**
KMI SS **SS 03 54 53.8 -5.4**
KMI pmax pmax
comp=N,15nm,1.2s
KMI pmax pmax
comp=N,300nm,5.8s
KMI LR LR
comp=N,260nm,17.5s
KMI LR LR
comp=N,430nm,21.6s
KMI LR LR
comp=N,600nm,25.2s
CMAI Chiengmai2 66.16 84 P **P 03 41 58.7 +1.1**
comp=N,175nm,1.8s,comp=N,6μm
PBA Port Blair 66.32 95 *e*P P 03 41 58.3 -0.3
CHTO Chiang Mai 66.74 85 P **P 03 42 01.4 +0.2**
comp=N,166nm,1.7s,comp=N,3μm
CHTO Chiang Mai 66.74 85 *e*P **P 03 42 00.3 -0.9**
comp=N,45nm,1.4s
CHTO LR LR
comp=Z,299nm,20.0s
CHTO Chiang Mai 66.74 85 *e*P **P 03 42 00.3 -0.9**
CHTO pmax pmax
comp=Z,45nm,1.4s
CHTO MLR MLR
comp=Z,299nm,20.0s
CHTO Chiang Mai 66.74 85 P **P 03 42 01.3 +0.2**
SNR=12
CHTO Chiang Mai 66.74 85 *e*P **P 03 42 00.3 -0.9**
comp=Z,45nm,1.4s
CMMT Chiang Mai 66.74 85 P **P 03 42 00.3 -0.9**
comp=Z,25nm,2.1s,comp=Z,701nm
CMAR Chiang Mai Arr 66.95 85 P **P 03 42 01.4 -1.2**
comp=Z,4.7nm,0.6s,baz=304,slow=7.8,SNR=20
CM01 Chiang Mai Arr 66.98 85 *e*P **P 03 42 02.3 -0.4**
BJI Beijing 67.06 56 P **P 03 42 03.6 +0.7**
BJI S **S 03 50 59.4 +2.5**
BJI pmax pmax
comp=Z,31nm,2.2s
BJI LR LR
comp=Z,960nm,31.4s
BJI LR LR
comp=Z,930nm,29.9s
BJT Baijiatuau 67.07 56 PFAKE 03 42 20.0 +17
BJT LR LR
comp=Z,2μm,20.0s
LAMP Lampang 67.44 84 P **P 03 42 08.3 +2.7**
comp=Z,5.6nm,1.2s,comp=Z,112nm
HRV Adam Dziewonsk 67.83 307 P **P 03 42 07.3 -0.5**
baz=55
PHRA Phrae 67.90 84 P **P 03 42 08.9 +0.4**
comp=Z,123nm,2.3s,comp=Z,6μm
ENH Enshi 67.99 68 *e*P **P 03 42 09.1 +0.2**
ENH LR LR
comp=Z,656nm,20.0s
ALFO Alfred 68.01 312 P **P 03 42 07.9 -0.9**
baz=55
GYA Guiyang 68.11 73⇑*i*P **P 03 42 09.9 0.0**
GYA PP **PP 03 44 43.0 +3.1**
GYA S **S 03 51 08.5 -1.7**
GYA SKS **SKiKP 03 52 05.4 -0.3**
GYA SS **SS 03 55 32.0 -0.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,6.2s
GYA LR LR
comp=Z,620nm,19.8s
GYA LR LR
comp=Z,590nm,20.0s
GYA LR LR
comp=Z,610nm,20.2s
LONY Lake Ozonia 68.42 311 P **P 03 42 11.1 -0.3**
baz=54
LONY Lake Ozonia 68.42 311 *e*P **P 03 42 13.2 +1.8**
comp=Z,110nm,1.5s
BILL Bilibino 68.44 14⇑*i*P **P 03 42 10.9 -0.2**
BILL *i* 03 42 24.7
BILL *i* 03 42 35.7
BILL *i*S S 03 51 27.8 +15
BILL *i*SS **SS 03 55 36.7 +1.6**
BILL pmax pmax
comp=Z,18nm,1.6s
BILL MLR MLR
comp=Z,1μm,20.0s
BOSA Boshof 68.44 179 P **P 03 42 10.8 -0.9**
comp=Z,11nm,0.8s,baz=356,slow=6.9,SNR=21
BOSA LR LR 04 15 47.4
comp=Z,785nm,18.5s,baz=357,slow=39
ACCN Adirondack Com 68.60 309 *e*P **P 03 42 14.3 +1.7**
comp=Z,81nm,1.4s
PHIT Phitsanulok 68.83 85 P **P 03 42 15.9 +1.6**
comp=Z,14nm,1.0s
FCC Fort Churchill 68.89 330 *e*P **P 03 42 14.1 +0.1**
comp=Z,44nm,1.9s
FCC Fort Churchill 68.89 330 *e*P **P 03 42 14.1 +0.1**
FCC pmax pmax
comp=Z,44nm,1.9s
UTHA Uthaitani 69.06 87 P **P 03 42 18.0 +2.2**
comp=Z,3.9nm,1.1s,comp=Z,3μm
SEY Seymchan 69.28 23 P **P 03 42 15.8 -0.6**
comp=Z,2.9nm,0.5s,baz=314,slow=6.9,SNR=17
SEY LR LR 04 16 40.1
comp=Z,2μm,19.1s,baz=330,slow=39
PEMO Pembroke 69.33 313 P **P 03 42 16.4 -0.6**
baz=53
SRDT SRDT 69.55 88 P **P 03 42 19.2 +0.4**
comp=Z,39nm,2.3s,comp=Z,3μm
TIA Tai'an 69.85 59 P **P 03 42 21.6 +1.2**
TIA pmax pmax
comp=Z,15nm,1.0s
CPNY Central Park 70.29 307 *e*P **P 03 42 25.0 +2.0**
comp=Z,307nm,1.9s
CN2 Changchun 70.53 49 *e*P **P 03 42 24.6 +0.2**
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,1μm,15.0s
INK Inuvik 70.54 351 P **P 03 42 23.2 -0.9**
comp=Z,2.7nm,0.8s,baz=15,slow=11,SNR=9.0
INK Inuvik 70.54 351 *e*P **P 03 42 23.4 -0.7**
comp=Z,64nm,1.9s
INK Inuvik 70.54 351 *e*P **P 03 42 23.4 -0.7**
INK pmax pmax
comp=Z,64nm,1.9s
KLR Kul'dur 70.59 41 P **P 03 42 24.2 -0.5**
comp=Z,0.7nm,0.8s,baz=308,slow=7.4,SNR=17
KLR LR LR 04 15 18.2
comp=Z,83nm,21.1s,slow=38
KLR Kul'dur 70.59 41⇑*e*P **P 03 42 24.0 -0.7**
BINY Binghamton 70.67 309 P **P 03 42 25.3 -0.2**
baz=53
BINY Binghamton 70.67 309 *e*P **P 03 42 27.7 +2.3**
comp=Z,138nm,1.7s
BINY LR LR
comp=Z,516nm,22.0s
SADO Sadowa 70.94 313 *e*P **P 03 42 28.9 +2.0**
comp=Z,336nm,1.9s
KLBO Killbear Provi 71.18 314 P **P 03 42 28.2 -0.1**
baz=52
NAYO Nakonayok 71.26 87 P **P 03 42 30.8 +1.5**
comp=Z,19nm,1.5s,comp=Z,1μm
WHN Wuhan 71.26 66 P **P 03 42 29.6 +0.5**
N59A State Game Lan 71.32 308 P **P 03 42 29.1 -0.2**
baz=53
N59A State Game Lan 71.32 308 *e*P **P 03 42 31.6 +2.2**
comp=Z,89nm,1.4s
MA2 Magadan 71.35 25 P **P 03 42 29.5 +0.4**
comp=Z,4.7nm,0.6s,baz=316,slow=6.3,SNR=11
MA2 LR LR 04 16 15.9
comp=Z,979nm,21.1s,baz=313,slow=38
MA2 Magadan 71.35 25*c i*P **P 03 42 30.7 +1.5**
RCBR Riachuelo 71.51 245 *e*P **P 03 42 30.6 -0.2**
comp=Z,29nm,1.1s
RCBR LR LR
comp=Z,2μm,22.0s
GRNR Gornyy 71.88 38 *e*P **P 03 42 29.5 -3.0**
SRAK Srakaew 71.99 87 P P 03 42 38.5 +4.8
comp=Z,34nm,1.4s,comp=Z,963nm
NKL Nikolayevsk 72.19 34 *e*P **P 03 42 34.0 -0.3**
NKL pmax pmax
comp=Z,150nm,2.0s
MVL Millersville 72.23 307 *e*P **P 03 42 36.9 +2.1**
comp=Z,82nm,1.5s
SUR Sutherland 72.25 183 PFAKE 03 42 50.0 +15
SUR LR LR
comp=Z,2μm,21.0s
MDJ Mudanjiang 72.36 46 PFAKE 03 42 50.0 +14
MDJ LR LR
comp=Z,586nm,19.0s
YKW3 Yellowknife Ar 72.37 341 *e*P **P 03 42 34.4 -0.8**
YKA Yellowknife Ar 72.42 341 P **P 03 42 34.8 -0.7**
comp=Z,1.2nm,0.8s,baz=31,slow=5.2,SNR=20
YKA LR LR 04 16 07.3
comp=Z,49nm,18.9s,baz=0.0,slow=37
SSPA Standing Stone 72.76 309 P **P 03 42 37.8 -0.2**
baz=52
SSPA Standing Stone 72.76 309 *e*P **P 03 42 38.9 +0.9**
comp=Z,109nm,1.6s
COLD Coldfoot 72.84 358 *e*P **P 03 42 37.4 -0.6**
comp=Z,42nm,1.6s
SDMD Soldier's Deli 72.89 307 *e*P **P 03 42 40.5 +1.8**
comp=Z,36nm,1.4s
M54A Oil Creek Stat 73.27 310 P **P 03 42 40.6 -0.3**
baz=51
FYU Fort Yukon 73.27 356 *e*P **P 03 42 43.0 +2.5**

comp=Z,142nm,2.0s
O56A Blue Knob Stat 73.39 309 P P 03 42 41.4 -0.4
baz=51
NJ2 Nanjing 73.46 62 eP P 03 42 44.2 +2.0
NJ2 pmax pmax
comp=Z,18nm,0.7s
N54A Moraine State 73.80 310 P P 03 42 43.9 -0.2
baz=51
N54A Moraine State 73.80 310 eP P 03 42 45.1 +1.0
comp=Z,92nm,1.4s
GLMI Grayling 73.92 315 PFAKE 03 43 00.0 +15
GLMI LR LR
comp=Z,817nm,19.0s
USRK Ussuriysk Ar. 73.95 45 P P 03 42 44.2 -0.6
comp=Z,4.4nm,0.6s,baz=291,slow=6.5,SNR=15
USRK PP PP 03 45 33.8 +4.4
comp=Z,2.2nm,0.8s,baz=356,slow=12,SNR=4.1
USRK LR LR 04 18 44.0
comp=Z,1µm,18.8s,baz=313,slow=39
CBN Corbin Frederi 73.96 307 P P 03 42 44.8 -0.3
baz=51
CBN Corbin Frederi 73.96 307 PFAKE 03 43 00.0 +15
CBN LR LR
comp=Z,503nm,21.0s
IP07 Quail 74.54 307 eP P 03 42 50.8 +2.3
comp=Z,48nm,1.6s
MSHR Mys Shultsa 74.54 47 eP P 03 42 48.1 -0.3
MCWV Mont Chateau 74.54 309 P P 03 42 48.2 -0.2
baz=50
MCWV Mont Chateau 74.54 309 eP P 03 42 49.2 +0.8
comp=Z,193nm,1.8s
EGAK Eagle 74.75 353 eP P 03 42 49.2 0.0
comp=Z,28nm,1.7s
EGAK LR LR
comp=Z,538nm,19.0s
FFC Flin Flon 74.81 331 eP P 03 42 50.6 +0.9
comp=Z,33nm,1.9s
FFC LR LR
comp=Z,862nm,19.0s
FFC Flin Flon 74.81 331 eP P 03 42 50.6 +0.9
FFC pmax pmax
comp=Z,33nm,1.9s
FFC MLR MLR
comp=Z,862nm,19.0s
QIZ Qiongzhong 74.86 78 PFAKE 03 43 00.0 +9.4
QIZ LR LR
comp=Z,289nm,19.0s
MDM Murphy Dome 75.03 357 eP P 03 42 52.6 +1.7
comp=Z,84nm,1.9s
AAM Ann Arbor 75.04 313 PFAKE 03 43 00.0 +8.7
AAM LR LR
comp=Z,369nm,20.0s
MLY Manley 75.06 358 eP P 03 42 52.8 +1.7
comp=Z,94nm,1.9s
COLA College 75.10 356 eP P 03 42 50.7 -0.5
comp=Z,30nm,1.8s
COLA LR LR
comp=Z,595nm,22.0s
COLA College 75.10 356 eP P 03 42 50.7 -0.5
COLA pmax pmax
comp=Z,30nm,1.8s
COLA MLR MLR
comp=Z,595nm,22.0s
INCN Inchon 75.14 53 PFAKE 03 43 00.0 +8.0
INCN LR LR
comp=Z,1µm,19.0s
IL1 Eielson Array 75.15 356 eP P 03 42 52.2 +0.7
ILAR Eielson Array 75.15 356 P P 03 42 50.1 -1.4
comp=Z,1.1nm,0.8s,baz=184,slow=14,SNR=10
DAWY Dawson 75.28 353 eP P 03 42 52.2 -0.2
comp=Z,29nm,1.4s
EYMN Ely 75.31 321 PFAKE 03 43 00.0 +7.2
EYMN LR LR
comp=Z,400nm,20.0s
CCB Clear Creek Bu 75.33 356 eP P 03 42 53.5 +1.0
comp=Z,70nm,2.0s
COWI Conover 75.42 319 PFAKE 03 43 10.0 +17
COWI LR LR
comp=Z,512nm,22.0s
HDA Harding Lake 75.52 356 eP P 03 42 54.7 +1.0
comp=Z,49nm,1.6s
GAMB Gambell 75.64 7 eP P 03 42 53.6 -0.7
comp=Z,66nm,1.9s
ULM Lac du Bonnet 75.68 325 P P 03 42 53.5 -1.4
comp=Z,6.5nm,0.9s,baz=39,slow=4.6,SNR=12
ULM Lac du Bonnet 75.68 325 eP P 03 42 54.2 -0.6
comp=Z,62nm,1.5s
ULM Lac du Bonnet 75.68 325 eP P 03 42 54.2 -0.6
ULM pmax pmax
comp=Z,62nm,1.5s
KS01 Wonju Array Si 75.92 53 eP P 03 42 55.7 -0.7
KSAR Wonju Array Be 75.94 53 P P 03 42 55.6 -0.9
KSAR Wonju Array Be 75.94 53 P P 03 42 55.6 -0.9
KSRS Korea Array 75.95 53 P P 03 42 55.6 -1.0
comp=Z,5.9nm,0.7s,baz=313,slow=4.7,SNR=14
KSRS LR LR 04 21 34.5
comp=Z,715nm,18.0s,baz=318,slow=40
BPAW Bear Paw Mtn. 76.00 358 eP P 03 42 55.5 -0.9
comp=Z,38nm,1.8s
ACSO Alum Creek Sta 76.01 311 P P 03 42 56.5 -0.4
baz=49
ACSO Alum Creek Sta 76.01 311 eP P 03 42 58.1 +1.1
comp=Z,141nm,1.8s
ACSO LR LR
comp=Z,622nm,21.0s
F40A Park Falls 76.05 319 P P 03 42 56.5 -0.5
baz=46
RIDG Independ'e Rid 76.06 355 eP P 03 42 58.8 +2.0
comp=Z,115nm,1.9s
B35A Bob, Littlefor 76.07 323 P P 03 42 56.6 -0.5
baz=44
C36A Pine Crest Far 76.08 322 P P 03 42 57.0 -0.2
baz=45
CNNC Cliffs of the 76.14 304 PFAKE 03 43 10.0 +12
CNNC LR LR
comp=Z,562nm,19.0s
VWCC Virginia Weste 76.16 307 eP P 03 42 59.6 +1.7
MCK McKinley 76.29 357 eP P 03 42 58.4 +0.3
comp=Z,26nm,1.3s
MCK McKinley 76.29 357 eP P 03 42 58.4 +0.3
MCK pmax pmax
comp=Z,26nm,1.3s
KULM Kulim 76.38 95 eP P 03 42 59.2 -0.1
comp=Z,10.0nm,0.8s
B34A Aery, Baudette 76.41 323 P P 03 42 58.7 -0.4
baz=44
A33A Warroad 76.42 324 P P 03 42 58.7 -0.4
baz=43
BLA Blacksburg 76.45 307 PFAKE 03 43 10.0 +10
BLA LR LR
comp=Z,332nm,19.0s
KTH Kantishna Hill 76.54 358 eP P 03 43 03.0 +3.4
comp=Z,55nm,1.7s
TRF Thorofare Moun 76.62 357 eP P 03 43 00.2 0.0
comp=Z,97nm,2.0s
C35A Jirik Farms, M 76.66 322 P P 03 43 00.1 -0.4
baz=44
CAST Castle Rocks 76.71 358 eP P 03 43 00.6 +0.2
comp=Z,20nm,1.3s
DHY Denali Highway 76.87 356 eP P 03 43 03.0 +1.4
comp=Z,21nm,1.3s
F38A Pierce - Schro 76.89 320 P P 03 43 01.5 -0.3
baz=45
A32A Rocking H Ranc 76.93 324 P P 03 43 01.4 -0.5
baz=43
G39A Holcombe 77.01 319 P P 03 43 01.9 -0.6
baz=45
FDF Fort de France 77.02 278 PFAKE 03 43 10.0 +7.0
FDF LR LR
comp=Z,345nm,19.0s
H40A Chili 77.08 318 P P 03 43 02.6 -0.3
baz=46
AGMN Agassiz Nation 77.10 324 P P 03 43 02.3 -0.7
baz=43
AGMN Agassiz Nation 77.10 324 eP P 03 43 02.1 -0.8
comp=Z,65nm,1.8s
AGMN LR LR
comp=Z,563nm,21.0s
E36A McGregor 77.17 321 P P 03 43 02.6 -0.7
baz=44
IPM Ipoh 77.18 95 eP P 03 43 03.7 -0.2
B32A Ashes, Strandq 77.33 324 P P 03 43 03.8 -0.5
baz=42
K43A Burlington 77.33 316 P P 03 43 04.0 -0.3
baz=46
G38A Ridgeland 77.44 319 P P 03 43 03.7 -1.2
baz=45
C33A Trail 77.45 323 P P 03 43 04.6 -0.4
baz=43
YSS Yuzh-Sakhalins 77.53 38 eP P 03 43 05.6 +0.2
comp=Z,146nm,1.6s
YSS LR LR
comp=Z,768nm,19.0s
YSS Yuzh-Sakhalins 77.53 38 oeP P 03 43 06.3 +1.0
YSS e 03 43 16.0
YSS e 03 46 03.2
YSS eS S 03 52 59.2 +2.6
YSS pmax pmax
comp=Z,40nm,1.2s
YSS MLR MLR
comp=E,1µm,14.0s
E35A Pequot Lakes 77.69 322 P P 03 43 06.3 0.0
baz=44
J41A Loganville 77.77 317 P P 03 43 06.2 -0.5
baz=46
F36A Milaca 77.77 321 P P 03 43 06.1 -0.6
baz=44
O47A Sheridan 77.83 313 P P 03 43 06.5 -0.7
baz=47
SPMN Marine on St. 77.87 320 eP P 03 43 08.2 +0.9
comp=E,87nm,1.8s
SML Sawmill 78.18 356 eP P 03 43 10.2 +1.4
comp=E,97nm,1.8s
SML Sawmill 78.18 356 eP P 03 43 10.2 +1.4
SML pmax pmax
comp=Z,97nm,1.8s
JFWS Jewell Farm 78.20 317 PFAKE 03 43 20.0 +11
JFWS LR LR
comp=Z,845nm,20.0s
C31A Landman Farms, 78.32 324 P P 03 43 09.1 -0.6
baz=42
G36A St. Michael 78.33 320 P P 03 43 09.3 -0.5
baz=44
KMSC Kings Mountain 78.36 306 P P 03 43 10.9 +0.7
baz=49
KMSC Kings Mountain 78.36 306 eP P 03 43 11.8 +1.6
comp=Z,58nm,1.4s
H37A Dierke Farm, C 78.39 319 P P 03 43 09.2 -1.0
baz=44
P47A Martinsville 78.39 312 P P 03 43 09.8 -0.5
baz=47
MNSI Mandailing Nat 78.46 99 P P 03 43 09.3 -1.7
SUA Susitna One 78.63 357 eP P 03 43 12.7 +1.4
comp=Z,178nm,1.9s
J39A Decorah 78.67 318 P P 03 43 11.2 -0.5
baz=45
SJG San Juan 78.69 284 PFAKE 03 43 20.0 +7.8
SJG LR LR
comp=Z,217nm,19.0s
BLO Bloomington 78.75 312 eP P 03 43 12.2 -0.1
comp=Z,259nm,2.0s
BLO Bloomington 78.75 312 eP P 03 43 12.2 -0.1
BLO pmax pmax
comp=Z,259nm,2.0s
K40A Colesburg 78.82 317 P P 03 43 12.8 +0.2
baz=45
PETK Petropavlovsk- 78.83 26 LR LR 04 20 36.1
comp=Z,970nm,21.9s,baz=311,slow=38
Q47A Bedord North L 78.86 312 P P 03 43 12.2 -0.7
baz=47
L41A Preston 78.92 316 P P 03 43 12.8 -0.4
baz=45
SPU Mount Spurr 78.95 358 eP P 03 43 14.2 +1.2
GRGR Grenville 79.02 277 PFAKE 03 43 30.0 +16
GRGR LR LR
comp=Z,406nm,21.0s
I37A Lemond, Waseca 79.04 319 P P 03 43 12.7 -1.0
baz=44
J38A Wedel Dairy, R 79.07 318 P P 03 43 13.3 -0.7
baz=44
SVW2 Sparrevohn 79.08 360 eP P 03 43 14.4 +0.7
comp=Z,29nm,1.3s
F33A 5 Mile Ranch, 79.11 322 P P 03 43 13.5 -0.6
baz=42
O44A Mansfield 79.17 314 P P 03 43 13.6 -0.9
baz=46
P45A Graceland, Par 79.20 313 P P 03 43 13.6 -1.1
baz=46
K39A Oelwein 79.21 318 P P 03 43 13.5 -1.2
baz=44
PET Petropavlovsk 79.23 26 PFAKE 03 43 30.0 +15
PET LR LR
comp=Z,2µm,19.0s
PET Petropavlovsk 79.23 26 eP P 03 43 17.9 +3.3
PET eS S 03 53 16.8 +2.2
PET eSS SS 03 58 25.2 +5.6
PET pmax pmax
comp=Z,100nm,13.9s
PET MLR MLR
comp=Z,2µm,18.0s
G34A Benson 79.24 321 P P 03 43 14.1 -0.7
baz=43
H35A Sunnyside Ranc 79.25 321 P P 03 43 14.8 -0.1
baz=43
WCI Wyandotte Cave 79.26 311 P P 03 43 14.0 -1.1
baz=47
WCI Wyandotte Cave 79.26 311 eP P 03 43 15.8 +0.7
comp=Z,192nm,1.9s
WCI Wyandotte Cave 79.26 311 eP P 03 43 15.8 +0.7
WCI pmax pmax
comp=Z,192nm,1.9s
L40A Anamosa 79.32 317 P P 03 43 14.2 -1.2
baz=45
HDIL Hopedale 79.34 315 P P 03 43 14.5 -1.0
baz=46
HDIL Hopedale 79.34 315 eP P 03 43 16.1 +0.6
comp=Z,154nm,1.7s
HDIL LR LR
comp=Z,683nm,20.0s
R47A Wooly Knot Far 79.35 311 P P 03 43 14.5 -1.0
baz=47,SNR=5.2
TKL Tuckaleechee C 79.51 308 P P 03 43 16.4 -0.1
comp=Z,13nm,1.1s,baz=114,slow=6.1,SNR=4.6
TKL LR LR 04 19 02.5
comp=Z,435nm,18.4s,baz=46,slow=36
TKL Tuckaleechee C 79.51 308 eP P 03 43 18.0 +1.5
comp=Z,169nm,1.9s
TKL Tuckaleechee C 79.51 308 eP P 03 43 18.0 +1.5
TKL pmax pmax
comp=Z,169nm,1.9s
S48A Wiedeman Farm, 79.52 311 P P 03 43 15.6 -0.9
baz=47
ASAJ Asahikawa 79.52 40 P P 03 43 16.2 -0.2
comp=Z,5.4nm,0.7s,baz=276,slow=10,SNR=5.5
N42A Yates City 79.55 315 P P 03 43 15.9 -0.7
baz=45
J37A Redenius Farm, 79.62 319 P P 03 43 15.9 -1.1
baz=44
G33A Ortonville 79.66 322 P P 03 43 16.4 -0.7
baz=42
L39A Vinton 79.68 317 P P 03 43 16.1 -1.1
baz=44
H34A Spellman Lake, 79.73 321 P P 03 43 18.6 +1.0
baz=42
P44A Sand Creek, Wi 79.73 313 P P 03 43 16.8 -0.8
baz=46
YHNB Yeheng 79.77 66 PFAKE 03 43 30.0 +12
YHNB LR LR
comp=Z,393nm,20.0s
Q45A Warren Harvey, 79.87 313 P P 03 43 17.2 -1.1
baz=46
M40A Post Highland 79.94 316 P P 03 43 18.1 -0.6
baz=44
OLIL Olney 79.95 313 eP P 03 43 19.1 +0.3
comp=Z,270nm,1.9s
EDM Edmonton 79.96 336 eP P 03 43 19.4 +0.7
comp=Z,29nm,1.4s
EDM Edmonton 79.96 336 eP P 03 43 19.4 +0.7
EDM pmax pmax
comp=Z,29nm,1.4s
J36A Seneca 1, Swea 80.00 319 P P 03 43 18.4 -0.6
baz=43
O42A Bath 80.02 315 P P 03 43 18.4 -0.7
baz=45
K37A Belmond 80.06 319 P P 03 43 18.2 -1.2
baz=44
N41A Harden Midland 80.08 316 P P 03 43 18.4 -1.1
baz=45
T48A Bowling Green 80.08 310 P P 03 43 18.5 -1.1
baz=47,SNR=9.4
CPCT Cooper Cave 80.10 308 eP P 03 43 21.5 +1.8
comp=Z,79nm,1.5s
P43A Skaggs, Pawnee 80.11 314 P P 03 43 18.6 -1.1
baz=45
G32A Webster 80.11 322 P P 03 43 19.7 +0.1
baz=41
L38A Oak Wood Farm, 80.16 318 P P 03 43 18.7 -1.2
baz=44
H33A Prehn Over Nor 80.18 322 P P 03 43 18.7 -1.4
baz=42
M39A Webster 80.23 317 P P 03 43 19.2 -1.1
baz=44
SKR Severo-Kuril's 80.27 29 eP P 03 43 15.8 -4.5
SKR eS S 03 53 16.6 -9.0
SKR MLR MLR
comp=Z,800nm,20.0s
Q44A Meyer Farm, Va 80.34 313 P P 03 43 19.8 -1.2
baz=46
N40A Mertquake, Sal 80.34 316 P P 03 43 19.8 -1.1
baz=44
R45A Skylar, Fairfi 80.35 312 P P 03 43 19.8 -1.2
baz=46
S46A Don Dixon Farm 80.45 312 P P 03 43 20.5 -1.0
baz=46
SCIA State Center 80.47 318 PFAKE 03 43 30.0 +8.5
SCIA LR LR
comp=Z,764nm,20.0s
O41A Passleys Farm, 80.51 315 P P 03 43 20.7 -1.2
baz=45
K36A Gilmore City 80.56 319 P P 03 43 21.0 -1.0
baz=43
U48A Cassie Pea, Po 80.58 310 P P 03 43 21.1 -1.2
baz=46,SNR=7.4
T47A Sharon Grove 80.58 311 P P 03 43 21.2 -1.0
baz=46,SNR=7.0
P42A Winchester 80.60 314 P P 03 43 21.2 -1.1
baz=45
JNU Nakatsue 80.61 54 LR LR 04 24 11.2
comp=Z,1µm,18.4s,baz=304,slow=40
Q43A New Douglas 80.70 314 P P 03 43 21.7 -1.1
baz=45
M38A Pleasantville 80.81 317 P P 03 43 22.2 -1.2
baz=44
ECSD EROS Data Cent 80.82 321 P P 03 43 22.2 -1.3
baz=42
ECSD EROS Data Cent 80.82 321 eP P 03 43 22.6 -0.9
comp=Z,74nm,2.0s
ECSD LR LR
comp=Z,329nm,19.0s
GOGA Godfrey 80.83 306 eP P 03 43 26.0 +2.4
comp=Z,113nm,1.8s
GOGA Godfrey 80.83 306 eP P 03 43 26.0 +2.4
GOGA pmax pmax
comp=Z,113nm,1.8s
N39A Derby Farms, D 80.83 317 P P 03 43 22.3 -1.2
baz=44
K35A Storm Lake 80.89 319 P P 03 43 22.7 -1.2
baz=42
S45A Carrier Mills 80.95 312 P P 03 43 23.1 -1.1
baz=46
T46A Princeton 81.00 311 P P 03 43 23.3 -1.1
baz=46
O40A La Belle 81.04 316 P P 03 43 23.4 -1.3
baz=44
U47A Clarksville 81.06 311 P P 03 43 23.8 -1.0
baz=46,SNR=7.5
Q42A Golden Eagle 81.18 314 P P 03 43 24.3 -1.1
baz=45
M37A Trindle Farm, 81.26 318 P P 03 43 24.8 -1.0
baz=43
V48A Smith Brothers 81.28 310 P P 03 43 25.1 -0.9
baz=46
N38A Joes South For 81.28 317 P P 03 43 24.7 -1.2
baz=44
SIUC Southern Illin 81.29 313 eP P 03 43 25.9 -0.1
comp=Z,185nm,1.9s
R43A Red Bud 81.29 313 P P 03 43 24.9 -1.2
baz=45,SNR=6.0
O39A Kirksville 81.31 316 P P 03 43 24.9 -1.2
baz=44
S44A Carbondale 81.32 313 P P 03 43 25.0 -1.2
baz=45
ERM Erimo 81.34 41 PFAKE 03 43 40.0 +14
ERM LR LR
comp=Z,554nm,19.0s
X50A Fort Payne 81.45 308 P P 03 43 25.9 -1.1
baz=47,SNR=5.4
L35A Bielow Farm, R 81.50 319 P P 03 43 25.9 -1.2
baz=42
I31A Royce, Wessing 81.52 322 P P 03 43 26.0 -1.2
baz=41
Q41A Truxton 81.53 315 P P 03 43 26.1 -1.2
baz=44
P40A Paris 81.56 315 P P 03 43 26.3 -1.1
baz=44
WVT Waverly 81.60 311 P P 03 43 26.6 -1.0
baz=46
WVT Waverly 81.60 311 eP P 03 43 26.5 -1.1
comp=Z,40nm,1.5s
WVT Waverly 81.60 311 eP P 03 43 26.5 -1.1
WVT pmax pmax
comp=Z,40nm,1.5s
M36A Felix, Anita 81.61 318 P P 03 43 26.5 -1.1
baz=43
V47A Nunnelly 81.62 310 P P 03 43 26.7 -1.1
baz=46
U46A Springville 81.64 311 P P 03 43 26.7 -1.2
baz=46
W48A Pulaski 81.75 309 P P 03 43 27.3 -1.2
baz=46
R42A Luebbering 81.77 314 P P 03 43 27.3 -1.3
baz=44
FVM French Village 81.78 313 eP P 03 43 28.6 0.0
comp=Z,85nm,1.6s
FVM French Village 81.78 313 eP P 03 43 28.6 0.0
FVM pmax pmax
comp=Z,85nm,1.6s
N37A Lee Faris, Mou 81.81 317 P P 03 43 27.6 -1.2
baz=43
X49A Woodville 81.82 309 P P 03 43 27.8 -1.1
baz=46,SNR=5.2
S43A Fulton Ridge, 81.87 313 P P 03 43 27.9 -1.2
baz=45,SNR=13
O38A Galt 81.89 317 P P 03 43 28.1 -1.1
baz=43
SDDR Presa de Saban 81.92 288 eP P 03 43 30.6 +0.9
comp=Z,158nm,1.8s
SDDR Presa de Saban 81.92 288 eP P 03 43 30.6 +0.9
comp=Z,158nm,1.8s
Q40A Laux Farm, Aux 81.96 315 P P 03 43 28.4 -1.1
baz=44
P39B Salisbury 81.97 316 P P 03 43 28.6 -0.9
baz=44
V46A Holladay 81.99 311 P P 03 43 28.7 -1.0
baz=46,SNR=6.7
M35A Neola 82.05 319 P P 03 43 28.7 -1.3
baz=42
W47A Westpoint 82.07 310 P P 03 43 29.1 -1.1
baz=46
R41A Rosebud 82.08 314 P P 03 43 29.0 -1.2
baz=44,SNR=5.7
S42A Caledonia 82.13 313 P P 03 43 29.3 -1.1
baz=44
CCM Cathedral Cave 82.18 314 P P 03 43 29.7 -1.0
baz=44
CCM Cathedral Cave 82.18 314 eP P 03 43 30.1 -0.6
comp=Z,97nm,1.8s
CCM Cathedral Cave 82.18 314 eP P 03 43 30.1 -0.6
CCM pmax pmax
comp=Z,97nm,1.8s
O37A Wolven Farm, M 82.21 317 P P 03 43 29.8 -1.1
baz=43
P38A Dawn 82.28 316 P P 03 43 30.1 -1.2
baz=43
X48A Hartselle 82.30 309 P P 03 43 30.3 -1.1
baz=46
L33A Hoskins 82.32 320 P P 03 43 30.3 -1.2
baz=41
T43A Greenville 82.33 313 P P 03 43 30.6 -1.0
baz=45,SNR=5.8
KDAK Kodiak Island 82.37 358 PFAKE 03 43 40.0 +8.7
KDAK LR LR
comp=Z,496nm,22.0s
Q39A Willow Grove F 82.41 316 P P 03 43 30.8 -1.1
baz=43
PLAL Pickwick Lake 82.54 310 eP P 03 43 31.8 -0.8
comp=Z,67nm,1.5s
R40A Maddies Statio 82.57 315 P P 03 43 31.7 -1.0
baz=44,SNR=8.7
W46A Michie 82.61 310 P P 03 43 31.8 -1.2
baz=46
PBMO Poplar Bluff 82.63 313 eP P 03 43 34.3 +1.2

comp=Z,179nm,2.0s
MAJO Matsushiro 82.63 48 *e*P **P 03 43 33.8 +0.6**
comp=Z,13nm,1.1s
MAJO LR LR
comp=Z,894nm,20.0s
MAJO Matsushiro 82.63 48⇑ *e*P **P 03 43 34.3 +1.2**
MAJO pmax pmax
comp=Z,35nm,2.0s
MJAR Matsushiro Arr 82.64 48 LR LR 04 23 57.3
comp=Z,772nm,18.4s,baz=15,slow=38
O36A Bolckow 82.66 317 P **P 03 43 32.0 -1.3**
baz=42
X47A Russelville 82.73 309 P **P 03 43 32.4 -1.2**
baz=46
P37A Lathrop 82.74 317 P **P 03 43 32.3 -1.3**
baz=43,SNR=6.4
Y48A Jasper 82.74 309 P **P 03 43 32.6 -1.1**
baz=46
S41A Jillco Farms, 82.79 314 P **P 03 43 32.9 -1.1**
baz=44,SNR=11
LAO LASA Array 82.81 328 P **P 03 43 32.5 -1.4**
baz=36,SNR=5.4
LAO LASA Array 82.81 328 *e*P **P 03 43 34.6 +0.7**
comp=Z,134nm,1.8s
LAO LR LR
comp=Z,589nm,20.0s
Q38A Cooks Store, C 82.81 316 P **P 03 43 32.8 -1.2**
baz=43,SNR=6.1
T42A Van Buren 82.83 313 P **P 03 43 33.0 -1.1**
baz=44,SNR=13
Z49A Columbiana 82.85 308 P **P 03 43 33.5 -0.8**
baz=46
251A Midway 82.92 306 P **P 03 43 33.8 -0.9**
baz=47
N34A Lincoln 82.93 319 P **P 03 43 33.5 -1.1**
baz=42
R39A Chumby, Stover 82.97 315 P **P 03 43 34.2 -0.6**
baz=43,SNR=10
EGMT Eagleton 83.09 331 P **P 03 43 35.8 +0.4**
baz=34,SNR=6.1
EGMT Eagleton 83.09 331 *e*P **P 03 43 35.8 +0.4**
comp=Z,99nm,1.8s
EGMT LR LR
comp=Z,734nm,20.0s
X46A Booneville 83.13 310 P **P 03 43 35.0 -0.8**
baz=45,SNR=5.7
P36A Good Intent, A 83.17 317 P **P 03 43 34.7 -1.1**
baz=42
T41A Mountain View 83.19 313 P **P 03 43 35.7 -0.3**
baz=44,SNR=15
S40A Lebanon 83.20 314 P **P 03 43 35.3 -0.8**
baz=44,SNR=9.2
LRAL Lakeview Retre 83.25 308 P **P 03 43 35.2 -1.1**
baz=46
LRAL Lakeview Retre 83.25 308 *e*P **P 03 43 36.1 -0.2**
comp=Z,150nm,1.8s
BGNE Belgrade 83.32 320 P **P 03 43 36.0 -0.7**
baz=41
BGNE Belgrade 83.32 320 *e*P **P 03 43 36.0 -0.7**
comp=Z,115nm,1.4s
Z48A Northport 83.34 308 P **P 03 43 35.7 -1.1**
baz=46
U42A Revenden 83.39 313 P **P 03 43 36.4 -0.6**
baz=44,SNR=10
149A Jones 83.42 307 P **P 03 43 36.2 -1.1**
baz=46
O34A Beatrice 83.51 318 P **P 03 43 37.0 -0.6**
baz=41
T40A Mansfield 83.53 314 P **P 03 43 37.3 -0.5**
baz=44,SNR=13
R38A Fenwick Farm, 83.53 316 P **P 03 43 37.2 -0.5**
baz=43,SNR=9.3
S39A Bolivar 83.58 315 P **P 03 43 37.3 -0.7**
baz=43,SNR=13
OXF Oxford 83.65 310 *e*P **P 03 43 38.6 +0.2**
comp=Z,226nm,2.0s
OXF Oxford 83.65 310 *e*P **P 03 43 38.6 +0.2**
OXF pmax pmax
comp=Z,226nm,2.0s
P35A Duane Minner, 83.66 318 P **P 03 43 37.8 -0.6**
baz=42
X45A UM Field Stati 83.70 310 P **P 03 43 37.5 -1.1**
baz=45
Y46A Houston 83.77 310 P **P 03 43 37.8 -1.2**
baz=45
U41A Viola 83.78 313 P **P 03 43 38.4 -0.7**
baz=44,SNR=10
Q36A Arnold C. Orve 83.79 317 P **P 03 43 37.8 -1.3**
baz=42
V42A Cord 83.87 312 P **P 03 43 38.8 -0.7**
baz=44,SNR=12
S38A Stockton 83.94 315 P **P 03 43 38.7 -1.2**
baz=43,SNR=12
RSSD Black Hills 83.95 325 P **P 03 43 38.3 -1.7**
baz=37
RSSD Black Hills 83.95 325 *e*P **P 03 43 38.9 -1.2**
comp=Z,72nm,1.9s
RSSD Black Hills 83.95 325 *e*P **P 03 43 38.9 -1.2**
RSSD pmax pmax
comp=Z,72nm,1.9s
O33A Hebron 84.04 319 P **P 03 43 39.3 -1.1**
baz=41
249A Camden 84.06 307 P **P 03 43 39.4 -1.1**
baz=46
P34A Walnut Farm, R 84.06 318 P **P 03 43 39.7 -0.7**
baz=41,SNR=13
T39A Clever 84.09 314 P **P 03 43 39.5 -1.1**
baz=43
Q35A Mercer Eighty, 84.16 317 P **P 03 43 39.6 -1.3**
baz=42
Y45A Yeager Farm, C 84.18 310 P **P 03 43 39.9 -1.2**
baz=45
147A Livingston 84.27 308 P **P 03 43 41.1 -0.5**
baz=45
KSU1 Kansas State U 84.28 318 P **P 03 43 40.4 -1.1**
baz=41,SNR=6.2
KSU1 Kansas State U 84.28 318 *e*P **P 03 43 40.6 -1.0**
comp=Z,85nm,1.4s
KSU1 LR LR
comp=Z,722nm,20.0s
U40A Yellville 84.29 314 P **P 03 43 41.0 -0.6**
baz=43,SNR=6.6
V41A Mountainview 84.31 313 P **P 03 43 40.6 -1.2**
baz=44,SNR=11
Q34A Chapman 84.58 318 P **P 03 43 42.4 -0.7**
baz=41,SNR=5.6
T38A Diamond 84.58 315 P **P 03 43 42.5 -0.7**
baz=42,SNR=12
U39A Green Forest 84.62 314 P **P 03 43 42.0 -1.3**
baz=43,SNR=15
Z45A Winona 84.62 310 P **P 03 43 42.8 -0.6**
baz=45
V40A Witts Springs 84.67 313 P **P 03 43 42.5 -1.2**
baz=43,SNR=7.8
WHAR Wooly Hollow 84.75 313 *e*P **P 03 43 44.0 0.0**
comp=Z,334nm,2.0s
LLLB Lillooet 84.79 339 *e*P **P 03 43 45.1 +1.2**
comp=Z,19nm,1.4s
W41B Gary Mavity, V 84.81 312 P **P 03 43 43.0 -1.3**
baz=44,SNR=12
X301 Greenbrier Sit 84.85 313 *e*P **P 03 43 44.4 -0.1**
comp=Z,211nm,1.9s
X42A Stuttgart 84.90 312 P **P 03 43 43.6 -1.2**
baz=44
247A Quitman 84.90 308 P **P 03 43 44.8 0.0**
baz=45
HHAR Hobbs 84.94 314 *e*P **P 03 43 44.7 -0.3**
comp=Z,102nm,1.7s
JTMT Jette 84.96 333 *e*P **P 03 43 46.5 +1.5**
comp=Z,64nm,1.7s
V39A Pettigrew 85.11 314 P **P 03 43 45.2 -0.7**
baz=43,SNR=8.9
Z44A Pea Ridge, Bel 85.12 310 P **P 03 43 44.7 -1.1**
baz=44
UALR University of 85.15 312 *e*P **P 03 43 46.0 0.0**
comp=Z,81nm,1.6s
S35A Otter Creek Ra 85.19 317 P **P 03 43 45.5 -0.7**
baz=42,SNR=10.0
R34A Isabella, Hill 85.21 318 P **P 03 43 45.0 -1.2**
baz=41,SNR=8.8
W40A Ferguson Farm, 85.26 313 *e*P **P 03 43 47.2 +0.7**
comp=Z,72nm,1.6s
RLMT Red Lodge 85.31 329 PFAKE 03 44 00.0 +13
RLMT LR LR
comp=Z,742nm,19.0s
NEW Newport 85.45 335 P **P 03 43 47.2 -0.1**
baz=29
NEW Newport 85.45 335 *e*P **P 03 43 47.0 -0.4**
comp=Z,46nm,1.8s
NEW LR LR
comp=Z,640nm,22.0s
NEW Newport 85.45 335 *e*P **P 03 43 47.0 -0.4**
NEW pmax pmax
comp=Z,46nm,1.8s
NEW MLR MLR
comp=Z,640nm,22.0s
OGNE Ogallala 85.54 322 PFAKE 03 44 00.0 +12
OGNE LR LR
comp=Z,435nm,20.0s
S34A Willow Spring 85.59 317 P **P 03 43 47.7 -0.5**
baz=41
MSO Missoula 85.62 333 P **P 03 43 47.6 -0.7**
baz=31
MSO Missoula 85.62 333 *e*P **P 03 43 49.0 +0.7**
comp=Z,40nm,1.9s
X40A Basin Creek Fa 85.64 312 P **P 03 43 47.8 -0.6**
baz=43
W39A Magazine 85.65 313 P **P 03 43 47.9 -0.6**
baz=43,SNR=8.6
245A Little AP, Sta 85.69 309 P **P 03 43 47.9 -0.8**
baz=44
BOZ Bozeman (W) 85.83 331 *e*P **P 03 43 49.8 +0.4**
comp=Z,42nn,1.5s
BOZ LR LR
comp=Z,610nm,19.0s
BOZ Bozeman (W) 85.83 331 *e*P **P 03 43 49.8 +0.4**
BOZ pmax pmax
comp=Z,42nn,1.5s
BOZ MLR MLR
comp=Z,610nm,19.0s
T35A Sooner Cattle 85.86 316 P **P 03 43 49.7 +0.2**
baz=41,SNR=8.0
PTGA Pitinga 85.88 266 P **P**
comp=Z,18nm,1.0s,baz=28,slow=6.8,SNR=14
PTGA Pitinga 85.88 266 *e*P **P 03 43 50.9 +1.0**
comp=Z,60nn,1.3s
PTGA LR LR
comp=Z,46µm,22.0s
346A Big Creek Wild 85.89 308 P **P 03 43 49.2 -0.5**
baz=45
VBMS Vicksburg 85.93 309 P **P 03 43 49.2 -0.7**
baz=44
JHJ Hachijo jima 2 85.98 49 LR LR 04 26 08.3
comp=Z,327nm,18.6s,baz=3.5,slow=38
Z42A Norrel Spur, H 86.01 311 P **P 03 43 50.0 -0.3**
baz=44
MIAR Mount Ida 86.01 313 P **P 03 43 49.7 -0.6**
baz=43
MIAR Mount Ida 86.01 313 *e*P **P 03 43 49.8 -0.6**
comp=Z,134nm,1.6s
MIAR LR LR
comp=Z,596nm,19.0s
MIAR Mount Ida 86.01 313 *e*P **P 03 43 49.8 -0.6**
MIAR pmax pmax
comp=Z,134nm,1.6s
MIAR MLR MLR
comp=Z,596nm,19.0s
CBKS Cedar Bluff 86.08 319 PFAKE 03 44 00.0 +9.3
CBKS LR LR
comp=Z,679nm,20.0s
143A Socs Landing, 86.10 310 P **P 03 43 50.3 -0.5**
baz=44
T34A McClaskey Farm 86.14 317 P **P 03 43 50.2 -0.7**
baz=41,SNR=5.2
244A Avery, Jackson 86.15 309 P **P 03 43 50.5 -0.5**
baz=44
TGY Tagaytay City 86.20 75 LR LR 04 28 44.3
comp=Z,218nm,19.9s,baz=148,slow=40
KSM Kuching 86.20 91 *e*P **P 03 43 51.9 +0.4**
comp=Z,100nm,1.7s
KSM LR LR
comp=Z,354nm,20.0s
K22A Casper 86.21 326 P **P 03 43 50.6 -0.8**
baz=36
K22A Casper 86.21 326 *e*P **P 03 43 51.1 -0.3**
comp=Z,62nm,1.6s
YHH Holmes Hill 86.21 330 *e*P **P 03 43 53.3 +1.8**
comp=Z,49nm,2.0s
LKWY Lake 86.22 329 PFAKE 03 44 00.0 +8.5
LKWY LR LR
comp=Z,1µm,20.0s
TUL1 Leonard 86.23 315 P **P 03 43 50.8 -0.5**
baz=42,SNR=7.5
TUL1 Leonard 86.23 315 *e*P **P 03 43 51.2 -0.2**
comp=Z,100nm,1.6s
C09A Chrisman Ranch 86.23 336 *e*P **P 03 43 52.5 +1.3**
comp=Z,61nm,1.8s
Y40A Okolona 86.23 312 P **P 03 43 50.7 -0.7**
baz=43
X39A Fountain Ranch 86.34 313 P **P 03 43 51.4 -0.6**
baz=42
YMR Madison River 86.36 330 *e*P **P 03 43 54.9 +2.8**
comp=Z,19nm,1.1s
WLAR White Oak Lake 86.38 312 *e*P **P 03 43 53.3 +1.2**
comp=Z,185nm,1.8s
YHB Horse Butte 86.38 330 *e*P **P 03 43 54.2 +1.9**
comp=Z,79nm,2.0s
DLMT Dillon 86.39 331 *e*P **P 03 43 53.6 +1.4**
comp=Z,40nm,1.7s
QLMT Earthquake Lak 86.40 330 *e*P **P 03 43 54.2 +1.9**
H17A Grant Village 86.44 329 *e*P **P 03 43 52.8 +0.2**
comp=Z,67nm,1.9s
Z41A Richland Creek 86.51 311 P **P 03 43 52.2 -0.6**
baz=43
YPP Pitchstone Pla 86.63 329 *e*P **P 03 43 56.7 +3.1**
comp=Z,66nm,1.9s
MCMT McKenzie Canyo 86.94 331 *e*P **P 03 43 56.5 +1.5**
OK021 N3530 Road, Sp 86.96 315 *e*P **P 03 43 56.2 +1.3**
comp=Z,190nm,1.8s
OK022 N3560 Road, Pr 86.98 315 *e*P **P 03 43 56.2 +1.2**
comp=Z,191nm,2.0s
MOOW Moose Ponds 87.04 329 *e*P **P 03 43 57.2 +1.7**
comp=Z,29nm,1.9s
OK020 N3440 Road, Me 87.09 316 *e*P **P 03 43 56.5 +0.9**
comp=Z,150nm,1.9s
FXWY Fox Creek 87.25 329 *e*P **P 03 43 57.5 +1.0**
comp=Z,11nm,1.6s
N23A Red Feather La 87.38 324 P **P 03 43 57.4 +0.1**
baz=36
N23A Red Feather La 87.38 324 *e*P **P 03 43 58.2 +1.0**
comp=Z,80nm,1.9s
PDAR Pinedale Array 87.39 328 P **P 03 43 55.9 -1.3**
comp=Z,0.8nm,0.9s,baz=46,slow=6.4,SNR=5.0
PDAR LR LR 04 24 56.3
comp=Z,382nm,18.4s,baz=36,slow=37
PDAR Pinedale Array 87.39 328 *e*P **P 03 43 55.7 -1.5**
BW06 Boulder Array 87.39 328 *e*P **P 03 43 56.6 -0.6**
comp=Z,26nm,1.8s
BW06 LR LR
comp=Z,578nm,20.0s
SDV Santo Domingo 87.88 280 P **P 03 43 59.8 -0.1**
comp=Z,9.8nm,0.9s,baz=8.2,slow=1.5,SNR=11
SDV LR LR 04 20 29.8
comp=Z,125nm,21.0s,baz=68,slow=34
SDV Santo Domingo 87.88 280 *e*P **P 03 44 00.9 +1.0**
comp=Z,56nm,1.4s
AHID Auburn Hatcher 88.01 329 PFAKE 03 44 10.0 +10
AHID LR LR
comp=Z,731nm,20.0s
ISCO Idaho Springs 88.11 324 PFAKE 03 44 10.0 +9.2
ISCO LR LR
comp=Z,471nm,20.0s
NLWA Neilton Lookou 88.26 339 PFAKE 03 44 10.0 +9.0
NLWA LR LR
comp=Z,835nm,20.0s
BMO Blue Mountains 88.51 334 *e*P **P 03 44 02.9 +0.6**
comp=Z,25nm,2.0s
BMO LR LR
comp=Z,688nm,19.0s
BMO Blue Mountains 88.51 334 *e*P **P 03 44 02.9 +0.6**
BMO pmax pmax
comp=Z,25nm,2.0s
BMO MLR MLR
comp=Z,688nm,19.0s
Q24A Divide 88.57 323 P **P 03 44 01.9 -1.1**
baz=36
Q24A Divide 88.57 323 *e*P **P 03 44 03.6 +0.6**
comp=Z,44nm,1.7s
HLID Hailey 88.60 331 PFAKE 03 44 10.0 +7.1
HLID LR LR
comp=Z,870nm,19.0s
NATX Nacogdoches 88.67 312 *e*P **P 03 44 04.4 +1.2**
comp=Z,48nm,1.5s
NATX LR LR
comp=Z,479nm,20.0s
WMOK Wichita Mounta 88.71 316 P **P 03 44 02.7 -0.7**
baz=40
WMOK Wichita Mounta 88.71 316 *e*P **P 03 44 02.4 -1.0**
comp=Z,39nm,1.8s
WMOK LR LR
comp=Z,654nm,19.0s
WMOK Wichita Mounta 88.71 316 *e*P **P 03 44 02.4 -1.0**
WMOK pmax pmax
comp=Z,39nm,1.8s
WMOK MLR MLR
comp=Z,654nm,19.0s
O20A White River Ci 89.01 325 P **P 03 44 03.9 -1.0**
baz=34
O20A White River Ci 89.01 325 *e*P **P 03 44 05.2 +0.3**
comp=Z,86nm,2.0s
HWUT Hardware Ranch 89.17 328 *e*P **P 03 44 04.8 -0.8**
HWUT LR LR
comp=Z,609nm,20.0s
SMCO Snowmass 89.23 324 *e*P **P 03 44 07.5 +1.3**
comp=Z,19nm,1.5s
MFID Camas Ranch 89.25 332 *e*P **P 03 44 05.2 -0.7**
comp=Z,66nm,1.9s
HVU Hansel Valley 89.50 329 *e*P **P 03 44 08.9 +1.8**
comp=Z,42nn,1.8s
HVU Hansel Valley 89.50 329 *e*P **P 03 44 08.9 +1.8**
HVU pmax pmax
comp=Z,42nn,1.8s
T25A Trinidad 89.68 321 P **P 03 44 07.1 -1.0**
baz=37
T25A Trinidad 89.68 321 *e*P **P 03 44 08.7 +0.5**
comp=Z,34nn,1.5s
SDCO Great Sand Dun 89.71 322 P **P 03 44 07.3 -1.0**
baz=36
SDCO Great Sand Dun 89.71 322 *e*P **P 03 44 06.4 -1.9**
SDCO LR LR
comp=Z,523nm,19.0s
MHTCO State Highway 89.83 321 *e*P **P 03 44 08.6 -0.2**
comp=Z,108nm,1.8s
JLU Jordanelle 89.97 328 *e*P **P 03 44 10.9 +1.5**
comp=Z,40nm,1.9s
WHTX Lake Whitney, 90.08 314 *e*P **P 03 44 11.0 +1.2**
comp=Z,23nm,1.1s
S22A 4UR Ranch, Cre 90.33 323 P **P 03 44 10.1 -1.2**
baz=35
S22A 4UR Ranch, Cre 90.33 323 *e*P **P 03 44 11.9 +0.6**
comp=Z,52nm,1.8s
BGU Big Grassy Mou 90.33 329 *e*P **P 03 44 12.9 +1.9**
comp=Z,33nm,1.8s
MPU Maple Canyon 90.54 328 *e*P **P 03 44 13.5 +1.5**
comp=Z,18nm,1.7s
HKT Hockley 90.69 311 *e*P **P 03 44 14.5 +1.9**
comp=Z,70nm,1.8s
HKT Hockley 90.69 311 *e*P **P 03 44 14.5 +1.9**
HKT pmax pmax
comp=Z,70nm,1.8s
PV04 Paradox Valley 90.73 325 *e*P **P 03 44 11.8 -1.2**
PV09 Paradox Valley 90.75 325 *e*P **P 03 44 13.9 +0.7**
NLU North Lily Min 90.77 328 *e*P **P 03 44 14.9 +1.8**
comp=Z,17nm,1.6s
ABTX Abilene, Hawle 90.79 315 P **P 03 44 12.6 -0.6**
baz=40
ABTX Abilene, Hawle 90.79 315 *e*P **P 03 44 11.9 -1.2**
comp=Z,60nm,1.7s
PV01 Paradox Valley 90.80 325 *e*P **P 03 44 13.8 +0.5**
PV10 Paradox Valley 90.81 325 *e*P **P 03 44 14.9 +1.5**
SRU San Rafael Swe 90.84 326 *e*P **P 03 44 14.3 +0.9**
comp=Z,21nm,1.6s
SRU San Rafael Swe 90.84 326 *e*P **P 03 44 14.3 +0.9**
SRU pmax pmax
comp=Z,21nm,1.6s
DUG Dugway, Tooele 90.87 328 *e*P **P 03 44 15.4 +1.9**
comp=Z,19nm,1.8s
DUG LR LR
comp=Z,551nm,20.0s
DUG Dugway, Tooele 90.87 328 *e*P **P 03 44 15.4 +1.9**
DUG pmax pmax
comp=Z,19nm,1.8s
DUG MLR MLR
comp=Z,551nm,20.0s
PV05 Paradox Valley 91.08 325 *e*P **P 03 44 14.8 +0.2**
WVOR Wild Horse Val 91.10 333 *e*P **P 03 44 15.7 +1.2**
comp=Z,14nm,1.6s
WVOR LR LR
comp=Z,990nm,19.0s
WVOR Wild Horse Val 91.10 333 *e*P **P 03 44 15.7 +1.2**
WVOR pmax pmax
comp=Z,14nm,1.6s
WVOR MLR MLR
comp=Z,990nm,19.0s
MVCO Mesa Verde 91.53 324 P **P 03 44 16.9 +0.1**
baz=34
MVCO Mesa Verde 91.53 324 PFAKE 03 44 30.0 +13
MVCO LR LR
comp=Z,597nm,20.0s
SPB Sao Paulo 91.85 240 *e*P **P 03 44 19.7 +1.8**
SPB LR LR
comp=Z,2µm,19.0s
MSU Marysvale 92.04 327 *e*P **P 03 44 20.1 +1.0**
MSU Marysvale 92.04 327 *e*P **P 03 44 20.1 +1.0**
MOD Modoc Plateau 92.13 334 *e*P **P 03 44 20.9 +1.5**
comp=Z,40nm,2.0s
ANMO Albuquerque 92.43 321 *e*P **P 03 44 18.8 -2.1**
comp=Z,20nm,1.8s
ANMO LR LR
comp=Z,626nm,19.0s
ANMO Albuquerque 92.43 321⇓ *e*P **P 03 44 19.6 -1.3**
ANMO pmax pmax
comp=Z,17nm,2.1s
MTPU Mount Pierson 92.44 327 *e*P **P 03 44 23.1 +2.0**
comp=Z,26nm,1.8s
JCT Junction City 92.53 314 P **P 03 44 20.6 -0.6**
baz=40
JCT Junction City 92.53 314 *e*P **P 03 44 20.4 -0.8**
comp=Z,59nm,1.8s
JCT LR LR
comp=Z,610nm,19.0s
JCT Junction City 92.53 314 *e*P **P 03 44 20.4 -0.8**
JCT pmax pmax
comp=Z,59nm,1.8s
JCT MLR MLR
comp=Z,610nm,19.0s
YBH Yreka Blue Hor 93.07 336 LR LR 04 28 22.8
comp=Z,668nm,18.1s,baz=9.5,slow=37
BNM Barren Site 93.16 321 *e*P **P 03 44 25.2 +0.9**
LAZ Ladron 93.20 321 *e*P **P 03 44 25.3 +0.9**
ROSC El Rosal 93.27 279 LR LR 04 24 38.9
comp=Z,75nm,21.0s,baz=338,slow=34
HELC Santa Helena 93.31 281 *e*P **P 03 44 27.0 +1.5**
comp=Z,61nm,1.7s
HELC Santa Helena 93.31 281 *e*P **P 03 44 27.0 +1.5**
comp=Z,61nm,1.7s
CCUT Cedar City 93.34 327 *e*P **P 03 44 26.6 +1.5**
comp=Z,7.7nm,0.5s
R11A Troy Canyon, C 93.55 329 P **P 03 44 27.1 +1.1**
baz=30
R11A Troy Canyon, C 93.55 329 *e*P **P 03 44 25.0 -1.0**
SAML Samuel 93.59 261 *e*P **P 03 44 24.6 -1.6**
comp=Z,5.1nm,1.2s
SAML LR LR
comp=Z,384nm,21.0s
PAHR Pah Rah Range 93.78 333 *e*P **P 03 44 28.3 +1.3**
comp=Z,31nm,1.9s
U15A North Rim 93.85 326 *e*P **P 03 44 27.9 +0.4**
833A Chaparral WMA, 93.95 312 P **P 03 44 28.1 +0.3**
baz=40
WUAZ Wupatki 94.22 325 *e*P **P 03 44 26.2 -2.9**
comp=Z,27nm,1.6s
WUAZ LR LR
comp=Z,379nm,20.0s
DAV Davao City (W) 94.22 77 PFAKE 03 44 40.0 +11
DAV LR LR
comp=Z,226nm,20.0s
YERR Yerington 94.36 332 *e*P **P 03 44 31.2 +1.4**
comp=Z,22nm,1.7s
NV01 Mina Array Sit 94.52 331 *e*P **P 03 44 30.7 +0.2**
NVAR Mina Array Bea 94.52 331 P **P 03 44 30.1 -0.4**
comp=Z,0.5nm,0.7s,baz=63,slow=5.1,SNR=4.6
NVAR LR LR 04 30 55.1
comp=Z,889nm,18.1s,baz=308,slow=38
MNTX Cornudas Mount 94.52 319 P **P 03 44 29.2 -1.2**
baz=36
MNTX Cornudas Mount 94.52 319 *e*P **P 03 44 29.8 -0.6**
comp=Z,24nm,1.8s
MNTX LR LR
comp=Z,572nm,19.0s
TX31 Lajitas Ar. Si 95.51 316 *e*P **P 03 44 34.9 -0.2**
TXAR Lajitas Array 95.51 316 P **P 03 44 34.1 -0.9**
comp=Z,1.6nm,0.9s,baz=76,slow=4.1,SNR=12

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TXAR				LR	LR	04 26 47.9	
	comp=Z,318nm,21.6s,baz=0.0,slow=35						
TUC	Tucson	96.64	323	eP	P	03 44 41.1	+1.0
TUC				LR	LR		
	comp=Z,882nm,19.0s						
TUC	Tucson	96.64	323	eP	P	03 44 41.1	+1.0
TUC				MLR	MLR		
	comp=Z,882nm,19.0s						
JTS	JuntasAbangare	97.55	290	LR	LR	04 24 05.9	
	comp=Z,164nm,20.6s,baz=100,slow=33						
KAPI	Kappang	97.58	90	PFAKE		03 45 00.0	+16
KAPI				LR	LR		
	comp=Z,242nm,20.0s						
PFO	Pinyon Flats O	98.01	328	PFAKE		03 45 00.0	+14
PFO				LR	LR		
	comp=Z,621nm,20.0s						
OTAV	Otavalo	99.38	278	PFAKE		03 45 00.0	+6.9
OTAV				LR	LR		
	comp=Z,186nm,20.0s						
NNA	Nana	105.91	268	PFAKE		03 49 50.0	
NNA				LR	LR		
	comp=Z,160nm,21.0s						
HOPE	Hope Point	107.42	212	PFAKE		03 49 50.0	
HOPE				LR	LR		
	comp=Z,257nm,21.0s						
MBWA	Marble Bar	107.55	103	PFAKE		03 49 50.0	
MBWA				LR	LR		
	comp=Z,496nm,19.0s						
TRQA	Tornquist	110.63	237	PFAKE		03 49 50.0	
TRQA				LR	LR		
	comp=Z,670nm,21.0s						
LCO	Las Campanas	111.43	250	PFAKE		03 50 00.0	
LCO				LR	LR		
	comp=Z,353nm,22.0s						
EFI	East Falkland	115.92	223	PFAKE		03 50 00.0	+8.2
EFI				LR	LR		
	comp=Z,982nm,22.0s						
WRA	Warramunga Arr	117.91	93	PKP	PKPdf	03 49 53.7	-2.9
	comp=Z,1.1nm,0.9s,baz=301,slow=2.4,SNR=6.8						
ASAR	Alice Springs	119.69	97	PKP	PKPdf	03 49 57.8	-2.2
	comp=Z,1.9nm,0.6s,baz=309,slow=1.5,SNR=22						
ASAR				PKKPab	PKKPab	04 00 10.7	-0.8
	comp=Z,0.4nm,0.8s,baz=123,slow=3.8,SNR=4.4						
PMG	Port Moresby	121.17	75	PFAKE		03 50 10.0	+6.9
PMG				LR	LR		
	comp=Z,231nm,20.0s						
CASY	Casey	124.66	151	PFAKE		03 50 20.0	+12
CASY				LR	LR		
	comp=Z,68nm,19.0s						
CTAO	Charters Tower	127.11	86	PFAKE		03 50 30.0	+16
CTAO				LR	LR		
	comp=Z,334nm,20.0s						
STKA	Stephens Creek	129.74	101	PKP	PKPdf	03 50 17.0	-2.0
	comp=Z,3.1nm,0.8s,baz=11,slow=4.5,SNR=3.6						
STKA	Stephens Creek	129.74	101	PKIKP	PKPdf	03 50 17.0	-2.0
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TARA	Tarawa	129.85	42	PFAKE		03 50 30.0	+10
TARA				LR	LR		
	comp=Z,69nm,20.0s						
DZM	Mont Dzumac	143.44	72	eLR	LR	04 37 36.8	
	comp=Z,471nm,28.9s						
TAOE	Nuku Hiva Isla	145.78	331	eLR	LR	04 38 52.5	
	comp=Z,345nm,31.4s						
PPT2	Papeete2	156.83	344	eLR	LR	04 44 03.9	
	comp=Z,555nm,28.0s						
TBI	Tubuai	162.35	340	eLR	LR	04 46 31.8	
	comp=Z,433nm,29.5s						

MAN 04 03:38:07, 9°.88N×122°.92E, h8km, mb4.9, ML3.8, MS3.8, 5C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.61	150⇑	eP	Pb	03 38 20.7	+0.6
SNPH				eS	Sb	03 38 29.2	+0.4
GUIM	Jordan	0.81	336	eP	Pg	03 38 22.8	+0.1
GUIM				eS	Sb	03 38 35.1	+0.6
TBP	Tagbilaran	0.95	101	eP	Pg	03 38 25.3	+0.1
TBP				i S	Sb	03 38 38.5	+0.1
LLP	Lapu-Lapu	1.12	67⇑	eP	Pg	03 38 26.1	-2.4
LLP				eS	Sg	03 38 40.7	-2.4
JAP	San Jose, Anti	1.29	312⇑	eP	Pg	03 38 34.1	+2.3
DCPH	Dipolog City	1.35	162⇑	eP	Pn	03 38 30.8	-1.4
DCPH				eS	Sb	03 38 49.2	-0.9
RCP	Roxas	1.68	354⇑	eP	Pn	03 38 37.3	+0.6
RCP				eS	Sg	03 39 01.9	+0.7
MSLP	Maasin	1.93	82	eP	Pn	03 38 40.2	+0.1
MSLP				eS	Sb	03 39 05.9	-0.7
OCLP	Ormoc	2.03	55	eP	Pn	03 38 42.8	+1.2
OCLP				eS	Sg	03 39 11.9	-0.4
PAGZ	Pagadian	2.07	167	eP	Pn	03 38 43.4	+1.4
PAGZ				eS	Sb	03 39 09.6	-1.0
OTRP	Odiongan	2.62	340	eP	Pn	03 38 51.2	+1.4
ENPP	El Nido	3.68	291	eP	Pn	03 39 06.1	+1.8

*ISCJB **04** 03:47:38.5±0.5, 42°.11N±0°.01×7°.58E±0°.02, h8km±3km, mb4.5/79, Error ellipse: s-maj=2.2km s-min=1.9km az=175.1*
*BJI **04** 03:47:38.8, 42°.32N×7°.63E, h5km, mb4.6/28, mB5.1/12, Ms4.9/11, Ms7 4.7/11*
*CRAAG **04** 03:47:39.0, 42°.03N×7°.63E, Mb4.6*
*IDC **04** 03:47:39.2±0.4, 42°.02N×7°.60E, h0km, mb4.1/26, mb1 4.2/35, mb1mx4.1/69, mbtmp4.1/35, ML4.4/8, Error ellipse: s-maj=13.0km s-min=9.7km az=129.0*
*MOS **04** 03:47:40.9±1.2, 42°.18N×7°.60E, h21km, mb4.6/37, Error ellipse: s-maj=4.9km s-min=2.7km az=90.0*
*GEN **04** 03:47:40.5, 42°.12N×7°.71E, h1km, ML4.2*
*SFS **04** 03:47:40.0, 41°.92N×7°.28E, h0km, ML4.7*
*NEIC **04** 03:47:40.9±0.2, 42°.07N×7°.62E, h10km, mb4.8/43, ML4.5(LDG), Error ellipse: s-maj=3.6km s-min=3.1km az=28.0*
NEIC Felt at Calacuccia, Calvi, Cauro, Corbara, Corte, Cuttoli-Corticchiato, Montegrosso and Venaco, Corsica. Also felt at Sassari, Sardinia.
*CSEM **04** 03:47:42.1±0.1, 42°.10N×7°.60E, h20km, mb4.8/41, ML4.7/17, Error ellipse: s-maj=3.2km s-min=2.7km az=173.0*
*ROM **04** 03:47:42.0±0.1, 42°.10N×7°.66E, h40km, Ml3.9/74, Error ellipse: s-maj=1.5km s-min=1.2km az=141.0*
*LDG **04** 03:47:43.5±0.1, 42°.04N×7°.66E, h26km, Ml4.5/37, Error ellipse: s-maj=2.8km s-min=2.1km az=149.0*
*PRU **04** 03:47:46.3, 42°.54N×7°.63E, h0km, M4.6*
*STR **04** 03:47:46.2±0.4, 42°.36N±0°.02×7°.22E±0°.04, h10km, MLv4.5/28*

ISC 04 03:47:40.3±0.8**, 42°.08N**±0°.03×**7°.57E**±0°.03**, h10**km±4km**, n800, σ2s.23**/988**, mb4.6**/79**, 12C-30D, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGF	Pioggiola	1.16	66	ePn	Pb	03 48 01.2	-1.3
PGF				eSn	Sg	03 48 14.1	-3.6
	8μm,0.3s,SNR=1.0						
PGF	Pioggiola	1.16	66	ePn	Pb	03 48 01.2	-1.3
PGF				eSn	Sg	03 48 14.1	-3.6
PGF	Pioggiola	1.16	66	eP	Pb	03 48 01.2	-1.3
PGF				e		03 48 14.1	
LMR	La Mourre	1.48	328	ePn	Pn	03 48 06.6	-0.3
	SNR=1.0						
LMR				eSn	Sn	03 48 23.9	-2.4
	5μm,0.4s,SNR=1.0						
LMR	La Mourre	1.48	328	ePn	Pn	03 48 06.6	-0.3
LMR				eSn	Sn	03 48 23.9	-2.4
LMR	La Mourre	1.48	328	eP	Pn	03 48 06.6	-0.3
LMR				e		03 48 23.9	
LMR	La Mourre	1.48	328	ePn	Pn	03 48 06.6	-0.3
	SNR=1.0						
LMR				eSn	Sn	03 48 23.9	-2.4
	2μm,0.4s,SNR=1.0						
FRF	La Foret Royal	1.63	336	ePn	Pn	03 48 08.8	-0.2
	SNR=1.0						
FRF				eSn	Sn	03 48 27.6	-2.4
	2μm,0.3s						
FRF	La Foret Royal	1.63	336	ePn	Pn	03 48 08.8	-0.2
FRF				eSn	Sn	03 48 27.6	-2.4
FRF	La Foret Royal	1.63	336	eP	Pn	03 48 08.8	-0.2
FRF				e		03 48 27.6	
FRF	La Foret Royal	1.63	336	ePn	Pn	03 48 08.8	-0.2
	SNR=1.0						
FRF				eSn	Sn	03 48 27.6	-2.4
	822nm,0.3s						
REVF	Revere	1.67	355	Pn	Pn	03 48 09.8	+0.2
REVF				Sn	Sn	03 48 29.1	-1.9
REVF				Sg	Sb	03 48 31.0	-1.1
REVF	Revere	1.67	355	Pn	Pn	03 48 09.8	+0.2
NEGI	Seborga	1.77	3	P	Pn	03 48 09.1	-1.9
NEGI				e		03 48 28.4	
NEGI	Seborga	1.77	3	P	Pn	03 48 09.1	-1.9
NEGI				S	Sn	03 48 28.8	-4.8
NEGI				Sn	Sn	03 48 29.3	-4.3
	1μm,0.3s						
NEGI	Seborga	1.77	3⇓	iPn	Pn	03 48 09.0	-1.9
NEGI				Sn	Sn	03 48 29.3	-4.3
	1μm,0.3s						
SBF	Sospel	1.78	357	ePn	Pn	03 48 10.4	-0.8
SBF				eSn	Sn	03 48 30.4	-3.6
	3μm,0.4s						
SBF	Sospel	1.78	357	ePn	Pn	03 48 10.4	-0.8
SBF				eSn	Sn	03 48 30.4	-3.6
SBF	Sospel	1.78	357	eP	Pn	03 48 10.4	-0.8
SBF				e		03 48 30.4	
SBF	Sospel	1.78	357	ePn	Pn	03 48 10.4	-0.8
LUCF	Luceram	1.82	355	Pn	Pn	03 48 12.2	+0.5
LUCF				Sg	Sb	03 48 36.4	-0.2
LUCF	Luceram	1.82	355	Pn	Pn	03 48 12.2	+0.5
IMI	Imperia	1.84	7	P	Pn	03 48 11.1	-1.0
IMI				S	Sn	03 48 31.9	-3.5
IMI	Imperia	1.84	7	P	Pn	03 48 11.1	-1.0
IMI				S	Sn	03 48 32.0	-3.5
IMI	Imperia	1.84	7	Pn	Pn	03 48 11.0	-1.0
IMI				Sn	Sn	03 48 31.8	-3.7
	1μm,0.3s						
SAOF	Saorge	1.91	360	eP	Pn	03 48 11.9	-1.0
SAOF	Saorge	1.91	360	eP	Pn	03 48 11.9	-1.0
LEPF	PUYLOUBIER	1.99	317	Pn	Pn	03 48 13.7	-0.3
LEPF	PUYLOUBIER	1.99	317	Pn	Pn	03 48 13.7	-0.3
RORO	Rocca Rossa	2.06	10	Pn	Pn	03 48 13.0	-2.0
RORO				Sn	Sn	03 48 36.5	-4.3
	1μm,0.5s						
RORO	Rocca Rossa	2.06	10	Pn	Pn	03 48 13.0	-2.0
RORO				Sn	Sn	03 48 36.5	-4.3
	1μm,0.5s						
ENR	Entracque	2.15	357	P	Pn	03 48 16.1	-0.2
ENR	Entracque	2.15	357	Pn	Pn	03 48 16.5	+0.2
ENR				S	Sn	03 48 40.8	-2.2
ENR	Entracque	2.15	357	Pn	Pn	03 48 16.5	+0.2
ENR				Sn	Sn	03 48 40.8	-2.2
	1μm,0.4s						
GBOS	Grotte di Boss	2.17	5	P	Pn	03 48 15.9	-0.6
GBOS	Grotte di Boss	2.17	5	Pn	Pn	03 48 16.2	-0.3
GBOS				Sn	Sn	03 48 40.5	-3.0
	836nm,0.4s						
GBOS	Grotte di Boss	2.17	5	Pn	Pn	03 48 16.2	-0.3
GBOS				Sn	Sn	03 48 40.5	-3.0
	836nm,0.4s						
STV	Sant Anna di V	2.17	355	P	Pn	03 48 16.0	-0.6
STV				S	Sn	03 48 40.7	-2.9
STV	Sant Anna di V	2.17	355	P	Pn	03 48 16.0	-0.6
STV				S	Sn	03 48 40.7	-2.9
STV	Sant Anna di V	2.17	355	P	Pn	03 48 16.0	-0.6
STV				S	Sn	03 48 40.7	-2.9
STV	Sant Anna di V	2.17	355⇓	iPn	Pn	03 48 15.9	-0.6
STV				Sn	Sn	03 48 40.4	-3.2
	1μm,0.3s						
QLNO	Quiliano	2.31	14	Pn	Pn	03 48 16.6	-1.9
QLNO	Quiliano	2.31	14	Pn	Pn	03 48 16.6	-1.9
QLNO				Sn	Sn	03 48 42.3	-4.7
	541nm,0.4s						
SMRF	Simiane la Rot	2.39	323	ePn	Pn	03 48 20.7	+1.1
	SNR=1.0						
SMRF				eSn	Sn	03 48 48.0	-0.9
	749nm,0.4s,SNR=1.0						
SMRF	Simiane la Rot	2.39	323	ePn	Pn	03 48 20.7	+1.1
SMRF				eSn	Sn	03 48 48.0	-0.9
SMRF	Simiane la Rot	2.39	323	ePn	Pn	03 48 20.7	+1.1
	SNR=1.0						
SMRF				eSn	Sn	03 48 48.0	-0.9
	374nm,0.4s,SNR=1.0						
DOI	San Damiano	2.43	355⇓	iPn	Pn	03 48 20.9	+0.7
DOI				Sn	Sn	03 48 48.5	-1.6
	3μm,0.3s						
DOI	San Damiano	2.43	355⇓	iPn	Pn	03 48 20.9	+0.7
DOI				Sn	Sn	03 48 48.5	-1.6
	3μm,0.3s						
PZZ	Stroppo	2.45	352	P	Pn	03 48 20.4	0.0
PZZ				S	Sn	03 48 48.4	-2.1
PZZ				Sn	Sn	03 48 49.1	-1.4
	2μm,0.4s						
PZZ	Stroppo	2.45	352	Pn	Pn	03 48 20.4	0.0
PZZ				Sn	Sn	03 48 49.1	-1.4
	2μm,0.4s						
OG25	Le Caire	2.54	335	Pn	Pn	03 48 21.7	+0.2
OG25	Le Caire	2.54	335	Pn	Pn	03 48 21.8	+0.2
GENL	Genova Univers	2.54	23	P	Pn	03 48 20.0	-1.5
CASP	Castiglione de	2.54	73⇓	iPn	Pn	03 48 20.3	-1.3
CASP				Sn	Sn	03 48 47.7	-4.9
	2μm,0.6s						
PCP	Piancastagn	2.56	16	P	Pn	03 48 19.8	-2.1
PCP	Piancastagn	2.56	16	Pn	Pn	03 48 20.1	-1.8
PCP	Piancastagn	2.56	16	Pn	Pn	03 48 20.1	-1.8
PCP				Sn	Sn	03 48 48.5	-4.7
	471nm,0.3s						
PLMA	Palmaria, Port	2.58	40	Pn	Pn	03 48 21.4	-0.7
	201nm,0.5s						
PLMA	Palmaria, Port	2.58	40	Pn	Pn	03 48 21.4	-0.7
	201nm,0.5s						
MSSA	Maissana	2.65	32	Pn	Pn	03 48 22.7	-0.5
	262nm,0.5s						
MSSA	Maissana	2.65	32	Pn	Pn	03 48 22.7	-0.5
	262nm,0.5s						
MAON	Monte Argentar	2.67	81⇓	iPn	Pn	03 48 21.4	-1.9
	398nm,0.7s						
TRIF	Trifonti	2.67	66	Pn	Pn	03 48 22.3	-1.1
	610nm,0.4s						
TRIF	Trifonti	2.67	66	Pn	Pn	03 48 22.3	-1.1
	610nm,0.4s						
MBDF	Montbardon	2.71	348	ePn	Pn	03 48 25.7	+1.7
	SNR=1.0						
MBDF				eSn	Sn	03 48 54.4	-2.5
	721nm,0.4s,SNR=1.0						
MBDF	Montbardon	2.71	348	ePn	Pn	03 48 25.7	+1.7
MBDF				eSn	Sn	03 48 54.4	-2.5
MBDF	Montbardon	2.71	348	eP	Pn	03 48 25.7	+1.7
MBDF				e		03 48 54.4	
MBDF	Montbardon	2.71	348	ePn	Pn	03 48 25.7	+1.7
	SNR=1.0						
MBDF				eSn	Sn	03 48 54.4	-2.5
	360nm,0.4s,SNR=1.0						
SC2M	Scurtabo	2.73	31	P	Pn	03 48 23.4	-0.8
SC2M	Scurtabo	2.73	31⇓	iPn	Pn	03 48 23.9	-0.3
	548nm,0.4s						
SC2M	Scurtabo	2.73	31⇓	iPn	Pn	03 48 23.9	-0.3
	548nm,0.4s						
BHB	Bricherasio	2.77	356	P	Pn	03 48 24.2	-0.5
BHB	Bricherasio	2.77	356	Pn	Pn	03 48 24.7	0.0
	382nm,0.5s						
BHB				S	Sn	03 48 54.5	-3.7
BHB	Bricherasio	2.77	356	Pn	Pn	03 48 24.7	0.0
	382nm,0.5s						
OG22	Abries	2.78	351	Pn	Pn	03 48 25.4	+0.4
OG22	Abries	2.78	351	Pn	Pn	03 48 25.4	+0.4
MAIM	Mastiano	2.82	49	P	Pn	03 48 24.4	-1.0
MAIM	Mastiano	2.82	49	Pn	Pn	03 48 24.8	-0.6
	214nm,0.9s						
MAIM	Mastiano	2.82	49	Pn	Pn	03 48 24.8	-0.6
	214nm,0.9s						
CODM	Codolo	2.85	35	P	Pn	03 48 24.8	-1.0
FROS	Frosini	2.88	66⇓	iPn	Pn	03 48 25.4	-0.8
	890nm,0.9s						
FROS	Frosini	2.88	66⇓	iPn	Pn	03 48 25.4	-0.8
	890nm,0.9s						
RRL	Rocca Remolon	2.89	349	P	Pn	03 48 27.3	+0.7
RRL	Rocca Remolon	2.89	349⇓	iPn	Pn	03 48 27.9	+1.3
	578nm,0.8s						
RRL	Rocca Remolon	2.89	349⇓	iPn	Pn	03 48 27.9	+1.3
	578nm,0.8s						
VSL	Villasalto	2.93	151	ePn	Pn	03 48 24.8	-2.1
VSL				eSn	Sn	03 48 55.7	-6.4
VSL	Villasalto	2.93	151	ePn	Pn	03 48 24.8	-2.1
VSL				eSn	Sn	03 48 55.7	-6.4
VSL	Villasalto	2.93	151	Pn	Pn	03 48 25.1	-1.8
	1μm,0.2s						
VLC	Villacollemand	2.93	44	ePn	Pn	03 48 26.4	-0.5
VLC	Villacollemand	2.93	44	ePn	Pn	03 48 26.4	-0.5
VLC	Villacollemand	2.93	44	Pn	Pn	03 48 26.5	-0.5
	165nm,0.9s						
SARO	Sassorosso	2.96	44	P	Pn	03 48 25.9	-1.4
BDI	Bagni Di Lucca	2.98	47	Pn	Pn	03 48 27.1	-0.5
	151nm,0.6s						
BDI	Bagni Di Lucca	2.98	47	Pn	Pn	03 48 27.1	-0.5
	151nm,0.6s						
ARCI	Arcidosso	2.99	74⇓	iPn	Pn	03 48 26.5	-1.4
	291nm,0.7s						
BOB	Bobbio (Coli)	3.02	26	Pn	Pn	03 48 28.4	+0.2
	376nm,0.4s						
BOB	Bobbio (Coli)	3.02	26	Pn	Pn	03 48 28.4	+0.2
	376nm,0.4s						
CGL	Cagliari Serpe	3.02	154⇓	iPn	Pn	03 48 26.3	-1.9
	436nm,0.2s						
GRAM	Graiana	3.02	36	P	Pn	03 48 28.5	+0.2
CRMI	Carmignano	3.03	55	Pn	Pn	03 48 27.7	-0.6
CRMI	Carmignano	3.03	55	Pn	Pn	03 48 27.7	-0.6
BNI	Bardonecchia	3.04	348	ePn	Pn	03 48 30.8	+2.2
BNI				eSn	Sn	03 49 05.2	+0.1
BNI	Bardonecchia	3.04	348	eP	Pn	03 48 30.8	+2.2
BNI				e		03 49 05.2	
BNI	Bardonecchia	3.04	348	Pn	Pn	03 48 30.7	+2.2
	156nm,0.6s						
BNI				eS	Sn	03 49 05.2	+0.1
BNI	Bardonecchia	3.04	348	Pn	Pn	03 48 30.7	+2.2
	156nm,0.6s						
RSP	Reno Superiore	3.07	356	Pn	Pn	03 48 29.2	+0.2
	298nm,0.4s						
RSP	Reno Superiore	3.07	356	Pn	Pn	03 48 29.2	+0.2
	298nm,0.4s						
ORIF	Oris-en-Rattie	3.09	337	ePn	Pn	03 48 30.7	+1.5
	SNR=1.0						
ORIF				eSn	Sn	03 49 04.8	-1.5
	480nm,0.5s						
ORIF	Oris-en-Rattie	3.09	337	ePn	Pn	03 48 30.7	+1.5
ORIF				eSn	Sn	03 49 04.8	-1.5
ORIF	Oris-en-Rattie	3.09	337	eP	Pn	03 48 30.7	+1.5
ORIF				e		03 49 04.8	
ORIF	Oris-en-Rattie	3.09	337	ePn	Pn	03 48 30.7	+1.5
	SNR=1.0						
ORIF				eSn	Sn	03 49 04.8	-1.5
	240nm,0.5s						
MCIV	Monte Civitell	3.12	76⇓	iPn	Pn	03 48 28.4	-1.2
	196nm,0.4s						
LATE	Laterza	3.19	79	Pn	Pn	03 48 29.1	-1.4
	1μm,1.3s						
GDM	Grand'Maison	3.29	342	Pn	Pn	03 48 31.8	-0.2
GDM	Grand'Maison	3.29	342	Pn	Pn	03 48 31.9	-0.2
TOLF	Tolfa	3.30	89	Pn	Pn	03 48 29.4	-2.6
	321nm,0.5s						
SACS	San Casciano d	3.30	75	Pn	Pn	03 48 31.0	-1.1
	133nm,0.7s						
FNVD	Fontana Vidola	3.34	50	Pn	Pn	03 48 32.2	-0.4
	142nm,0.4s						
FNVD	Fontana Vidola	3.34	50	Pn	Pn	03 48 32.2	-0.4
	142nm,0.4s						
LASF	Ste Croix	3.37	308	ePn	Pn	03 48 32.6	-0.4
	SNR=1.0						
LASF				eSn	Sn	03 49 10.8	-2.3
	450nm,0.2s						
LASF	Ste Croix	3.37	308	ePn	Pn	03 48 32.6	-0.4
LASF				eSn	Sn	03 49 10.8	-2.3
LASF	Ste Croix	3.37	308	ePn	Pn	03 48 32.6	-0.4
	SNR=1.0						
LASF				eSn	Sn	03 49 10.8	-2.3
	225nm,0.2s						
LSD	Lago del Serru	3.39	355	P	Pn	03 48 34.3	+0.8
LSD	Lago del Serru	3.39	355	Pn	Pn	03 48 34.4	+0.9
	406nm,0.6s						
TRAV	Traversella	3.43	2	P	Pn	03 48 32.6	-1.3
TRAV	Traversella	3.43	2	Pn	Pn	03 48 32.4	-1.5
	216nm,0.4s						
MGAB	Montegabbione	3.46	75⇓	iPn	Pn	03 48 33.1	-1.2
	224nm,0.9s						
LPG	La Plagne	3.47	350	ePn	Pn	03 48 37.5	+2.9
	SNR=1.0						
LPG				eSn	Sn	03 49 15.8	0.0
	483nm,0.4s						
LPG	La Plagne	3.47	350	ePn	Pn	03 48 37.5	+2.9
LPG				eSn	Sn	03 49 15.8	0.0
LPG	La Plagne	3.47	350	eP	Pn	03 48 37.5	+2.9
LPG				e		03 49 15.8	
LPG	La Plagne	3.47	350	ePn	Pn	03 48 37.5	+2.9
	SNR=1.0						
LPG				eSn	Sn	03 49 15.8	0.0
	241nm,0.4s						
CAFI	Castiglion Fio	3.48	67	Pn	Pn	03 48 33.6	-0.8
CAFI	Castiglion Fio	3.48	67	Pn	Pn	03 48 33.6	-0.8
VIVF	Saint-Julien-l	3.48	324	ePn	Pn	03 48 34.6	+0.1
	SNR=1.0						
VIVF				eSn	Sn	03 49 12.1	-3.7
	79nm,0.2s,SNR=1.0						
VIVF	Saint-Julien-l	3.48	324	ePn	Pn	03 48 34.6	+0.1
VIVF				eSn	Sn	03 49 12.1	-3.7
VIVF	Saint-Julien-l	3.48	324	eP	Pn	03 48 34.6	+0.1
VIVF				e		03 49 12.1	
VIVF	Saint-Julien-l	3.48	324	ePn	Pn	03 48 34.6	+0.1
	SNR=1.0						
VIVF				eSn	Sn	03 49 12.1	-3.7
	40nm,0.2s,SNR=1.0						
LPL	La Plagne	3.49	350	ePn	Pn	03 48 37.3	+2.5
	SNR=1.0						
LPL				eSn	Sn	03 49 13.5	-2.7
	280nm,0.5s						
LPL	La Plagne	3.49	350	ePn	Pn	03 48 37.3	+2.5
LPL				eSn	Sn	03 49 13.5	-2.7
LPL	La Plagne	3.49	350	eP	Pn	03 48 37.3	+2.5
LPL				e		03 49 13.5	
LPL	La Plagne	3.49	350	ePn	Pn	03 48 37.3	+2.5
	SNR=1.0						
LPL				eSn	Sn	03 49 13.5	-2.7
	140nm,0.5s						
SJAF	Saint Jean de	3.50	278	Pn	Pn	03 48 35.4	+0.7
SJAF	Saint Jean de	3.50	278	Pn	Pn	03 48 35.4	+0.7
CIRO	Champorcher	3.52	0	Pn	Pn	03 48 34.8	-0.5
	241nm,0.7s						
CIRO	Champorcher	3.52	0	Pn	Pn	03 48 34.8	-0.5
	241nm,0.7s						
CRE	Caprese Michel	3.57	63	Pn	Pn	03 48 35.2	-0.6
	100nm,0.5s						
CRE	Caprese Michel	3.57	63	Pn	Pn	03 48 35.2	-0.6
	100nm,0.5s						
ATMC	Monte Cedrone	3.67	67	Pn	Pn	03 48 36.7	-0.4
	395nm,0.9s						
ATMC	Monte Cedrone	3.67	67	Pn	Pn	03 48 36.7	-0.4
	395nm,0.9s						
ATTE	AVT- Monte Tez	3.71	71	Pn	Pn	03 48 36.6	-1.0
	97nm,0.4s						
ATTE	AVT- Monte Tez	3.71	71	Pn	Pn	03 48 36.6	-1.0
	97nm,0.4s						
MRGE	Morge	3.71	355	Pn	Pn	03 48 39.7	+2.0
	405nm,0.8s						
MRGE	Morge	3.71	355	Pn	Pn	03 48 39.7	+2.0
	405nm,0.8s						
FILF	Fillols	3.74	279	Pn	Pn	03 48 39.5	+1.4
SAMA	S.Maria delle	3.76	93	Pn	Pn	03 48 36.5	-1.8
PARC	Parchiule	3.77	64	Pn	Pn	03 48 38.6	0.0
	78nm,0.8s						
PARC	Parchiule	3.77	64	Pn	Pn	03 48 38.6	0.0
	78nm,0.8s						
ATVO	AVT- Monte Val	3.80	68	Pn	Pn	03 48 38.3	-0.6
	110nm,0.5s						
ATVO	AVT- Monte Val	3.80	68	Pn	Pn	03 48 38.3	-0.6
	110nm,0.5s						
SATI	Passo dei Sala	3.80	3	Pn	Pn	03 48 38.9	-0.3
	148nm,0.6s						
SATI	Passo dei Sala	3.80	3	Pn	Pn	03 48 38.9	-0.3
	148nm,0.6s						
MA9	Marino	3.81	93	Pn	Pn	03 48 37.1	-2.0
	252nm,0.5s						
RMP	Rome, Mte Porz	3.84	92	Pn	Pn	03 48 37.5	-1.9
	268nm,0.8s						
MURB	Monte Urbino	3.84	70	Pn	Pn	03 48 39.0	-0.5
	358nm,0.5s						
MURB	Monte Urbino	3.84	70	Pn	Pn	03 48 39.0	-0.5
	358nm,0.5s						
MTCE	Montecelio	3.85	89⇓	iPn	Pn	03 48 37.3	-2.3
	191nm,0.4s						
ATPC	Poggio Castell	3.86	67	Pn	Pn	03 48 39.4	-0.4
	106nm,0.6s						
ATPC	Poggio Castell	3.86	67	Pn	Pn	03 48 39.4	-0.4
	106nm,0.6s						
SSB	Saint Sauveur	3.88	327	ePn	Pn	03 48 40.2	+0.2

SSB eSn Sn 03 49 23.2 -2.3
SSB Saint Sauveur 3.88 327 eP Pn 03 48 40.2 +0.2
SSB e 03 49 23.3
SSB Saint Sauveur 3.88 327 Pn Pn 03 48 39.1 -0.9
SSB Saint Sauveur 3.88 327 eP Pn 03 48 40.2 +0.2
SSB eS Sn 03 49 23.3 -2.3
ATCC AVT- Casa Cast 3.90 72 Pn Pn 03 48 39.7 -0.6
243nm,0.8s
ATCC AVT- Casa Cast 3.90 72 Pn Pn 03 48 39.7 -0.6
243nm,0.8s
PIEI Pieia 3.94 67 Pn Pn 03 48 40.9 +0.1
46nm,0.7s
PIEI Pieia 3.94 67 Pn Pn 03 48 40.9 +0.1
46nm,0.7s
MMK Mattmark 3.98 4 Pn Pn 03 48 41.6 0.0
218nm,0.7s
MMK Mattmark 3.98 4 Pn Pn 03 48 41.6 0.0
218nm,0.7s
MUGIO Muggio 3.98 15 Pn Pn 03 48 41.8 +0.3
130nm,0.7s
MUGIO Muggio 3.98 15 Pn Pn 03 48 41.8 +0.3
130nm,0.7s
EMV Vieux Emosson 4.01 353 Pn Pn 03 48 44.2 +2.2
172nm,0.7s
EMV Vieux Emosson 4.01 353 Pn Pn 03 48 44.2 +2.2
172nm,0.7s
CERT Cerreto 4.04 90 Pn Pn 03 48 39.8 -2.4
316nm,0.6s
CESI CESI - Serrava 4.05 75 Pn Pn 03 48 41.8 -0.6
22nm,0.6s
CESI CESI - Serrava 4.05 75 Pn Pn 03 48 41.8 -0.6
22nm,0.6s
LNSS Leonessa 4.09 81 Pn Pn 03 48 41.8 -1.2
209nm,0.7s
CARF Carcanieres 4.09 281 Pn Pn 03 48 42.9 -0.1
CARF Carcanieres 4.09 281 Pn Pn 03 48 43.0 -0.1
FIAM Fiamignano 4.13 86 Pn Pn 03 48 41.6 -1.9
124nm,0.7s
VALF Valcebollere 4.13 276 Pn Pn 03 48 43.1 -0.5
VALF Valcebollere 4.13 276 Pn Pn 03 48 43.1 -0.5
SALO Salr 4.13 30 Pn Pn 03 48 45.1 +1.6
427nm,0.6s
SALO Salr 4.13 30 Pn Pn 03 48 45.1 +1.6
427nm,0.6s
MTLF Montolieu 4.14 290 ePn Pn 03 48 42.9 -0.6
SNR=1.0
MTLF eSn Sn 03 49 28.9 -3.0
718nm,0.4s
MTLF Montolieu 4.14 290 ePn Pn 03 48 42.9 -0.6
MTLF eSn Sn 03 49 28.9 -3.0
MTLF Montolieu 4.14 290 eP Pn 03 48 42.9 -0.6
MTLF e 03 49 28.9
MTLF Montolieu 4.14 290 ePn Pn 03 48 42.9 -0.6
SNR=1.0
MTLF eSn Sn 03 49 28.9 -3.0
359nm,0.4s
NRCA Norcia 4.17 78 Pn Pn 03 48 43.5 -0.6
111nm,1.0s
NRCA Norcia 4.17 78 Pn Pn 03 48 43.5 -0.6
111nm,1.0s
FDMO Fiordimonte 4.19 75 Pn Pn 03 48 43.0 -1.2
43nm,0.7s
GIUL Giuliano Di Ro 4.28 95 Pn Pn 03 48 42.7 -2.8
88nm,0.9s
SENIN Lac Senin/Sane 4.29 358 ePn Pn 03 48 48.4 +2.6
SENIN eSn Sn 03 49 35.4 -0.5
SENIN Lac Senin/Sane 4.29 358 ePn Pn 03 48 48.4 +2.6
SENIN eSn Sn 03 49 35.4 -0.5
OG01 Vacheresse 4.29 352 Pn Pn 03 48 46.3 +0.6
OG01 Vacheresse 4.29 352 Pn Pn 03 48 46.4 +0.6
MAGA Magasa 4.30 30 Pn Pn 03 48 46.8 +0.9
544nm,0.5s
MAGA Magasa 4.30 30 Pn Pn 03 48 46.8 +0.9
544nm,0.5s
SMA1 SAN MARTINO 4.31 81 Pn Pn 03 48 45.5 -0.5
239nm,0.8s
SMA1 SAN MARTINO 4.31 81 Pn Pn 03 48 45.5 -0.5
239nm,0.8s
AQU L'Aquila 4.34 84 ePn Pn 03 48 45.5 -0.9
AQU L'Aquila 4.34 84 eP Pn 03 48 45.5 -0.9
AQU L'Aquila 4.34 84 ePn Pn 03 48 45.5 -0.9
CAMP Campotosto 4.36 82⇓ iPn Pn 03 48 46.2 -0.4
65nm,0.6s
CAMP Campotosto 4.36 82⇓ iPn Pn 03 48 46.2 -0.4
65nm,0.6s
ROVR Rover¯¤ Verone 4.37 34 Pn Pn 03 48 47.8 +0.9
226nm,0.5s
ROVR Rover¯¤ Verone 4.37 34 Pn Pn 03 48 47.8 +0.9
226nm,0.5s
LBL Lubilhac 4.44 317 Pn Pn 03 48 47.1 -0.7
LBL Lubilhac 4.44 317 Pn Pn 03 48 47.1 -0.7
FAGN Fagnano 4.48 86 Pn Pn 03 48 48.2 0.0
329nm,0.5s
FAGN Fagnano 4.48 86 Pn Pn 03 48 48.2 0.0
329nm,0.5s
MABI Malga Bissina 4.50 27 Pn Pn 03 48 49.6 +0.9
399nm,0.6s
MABI Malga Bissina 4.50 27 Pn Pn 03 48 49.6 +0.9
399nm,0.6s
TERO Teramo 4.51 81 Pn Pn 03 48 48.1 -0.5
93nm,0.8s
TERO Teramo 4.51 81 Pn Pn 03 48 48.1 -0.5
93nm,0.8s
VVLD Villa Vallelon 4.52 91 Pn Pn 03 48 47.2 -1.6
79nm,0.6s
GIMEL St. Georges / 4.55 349 Pn Pn 03 48 50.1 +0.8
400nm,2.0s
GIMEL St. Georges / 4.55 349 Pn Pn 03 48 50.1 +0.8
400nm,2.0s
TUE Stuetta 4.57 16 ePn Pn 03 48 50.5 +0.8
TUE eSn Sn 03 49 40.1 -2.9
TUE Stuetta 4.57 16 ePn Pn 03 48 50.5 +0.8
TUE eSn Sn 03 49 40.1 -2.9
VENT Ventotene 4.59 104 Pn Pn 03 48 46.5 -3.1
388nm,0.5s
POFI Posta Fibreno 4.60 92 Pn Pn 03 48 47.6 -2.4
51nm,0.6s
CABF La Chapelle 4.65 347 ePn Pn 03 48 51.5 +0.8
SNR=1.0
CABF eSn Sn 03 49 39.2 -5.5
125nm,0.6s,SNR=1.0
CABF La Chapelle 4.65 347 ePn Pn 03 48 51.5 +0.8
CABF eSn Sn 03 49 39.2 -5.5
CABF La Chapelle 4.65 347 eP Pn 03 48 51.5 +0.8
CABF e 03 49 39.2
CABF La Chapelle 4.65 347 ePn Pn 03 48 51.5 +0.8
SNR=1.0
VCEL Villa Celiera 4.67 84 Pn Pn 03 48 50.8 -0.1
246nm,1.2s
VCEL Villa Celiera 4.67 84 Pn Pn 03 48 50.8 -0.1
246nm,1.2s
SALF Salau 4.77 280 Pn Pn 03 48 51.9 -0.3
SALF Salau 4.77 280 Pn Pn 03 48 52.0 -0.3
MODR Mondragone 4.82 99 Pn Pn 03 48 50.0 -2.9
71nm,0.3s
CAF Calviac 4.91 307 ePn Pn 03 48 54.6 +0.5
SNR=1.0
CAF eSn Sn 03 49 43.0 -8.0
216nm,0.4s,SNR=1.0
CAF Calviac 4.91 307 ePn Pn 03 48 54.6 +0.5
CAF eSn Sn 03 49 43.0 -8.0
CAF Calviac 4.91 307 eP Pn 03 48 54.6 +0.5
CAF e 03 49 43.0
CAF Calviac 4.91 307 ePn Pn 03 48 54.6 +0.5
SNR=1.0
PYM Petit Puy Mans 4.93 320 Pn Pn 03 48 54.0 -0.4
PYM Petit Puy Mans 4.93 320 Pn Pn 03 48 54.0 -0.4
FUORN Ofenpass-Fuorn 4.93 22 ePn Pn 03 48 57.0 +2.3
FUORN Ofenpass-Fuorn 4.93 22 ePn Pn 03 48 57.0 +2.3
DAVOX Davos/Dischmat 4.98 19 P Pn 03 48 55.1 -0.2
DAVOX pmax pmax
comp=Z,14nm,0.2s
AGO Saint Agoulin 5.10 323 Pn Pn 03 48 56.5 -0.2
AGO Saint Agoulin 5.10 323 Pn Pn 03 48 56.5 -0.2
SMF Signal de Mont 5.29 331 ePn Pn 03 48 59.6 +0.3
SNR=1.0
SMF eSn Sn 03 49 54.7 -5.6
comp=Z,58nm,0.3s,SNR=1.0
SMF Signal de Mont 5.29 331 ePn Pn 03 48 59.6 +0.3
SMF eSn Sn 03 49 54.7 -5.6
SMF Signal de Mont 5.29 331 eP Pn 03 48 59.6 +0.3
SMF e 03 49 54.7
SMF Signal de Mont 5.29 331 ePn Pn 03 48 59.6 +0.3
SNR=1.0
LOMF Lomont 5.30 355 Pn Pn 03 48 59.3 -0.2
LOMF Lomont 5.30 355 Pn Pn 03 48 59.3 -0.2
CAEH 'Ain El Ouahch 5.32 186 P Pn 03 48 54.5 -5.3
CAEH 'Ain El Ouahch 5.32 186 P Pn 03 48 54.5 -5.3
EPF Esparros 5.42 283 ePn Pn 03 49 00.2 -1.0
SNR=1.0
EPF eSn Sn 03 50 01.5 -2.2
comp=Z,346nm,0.4s
EPF Esparros 5.42 283 ePn Pn 03 49 00.2 -1.0
EPF eSn Sn 03 50 01.5 -2.2
EPF Esparros 5.42 283 eP Pn 03 49 00.2 -1.0
EPF e 03 50 01.5
EPF Esparros 5.42 283 ePn Pn 03 49 00.2 -1.0
SNR=1.0
EPF eSn Sn 03 50 01.5 -2.2
comp=Z,173nm,0.4s
FETA Feichten 5.43 24 Pn Pn 03 49 04.7 +3.2
comp=Z,16nm,0.4s,SNR=10
FETA Sn Sn 03 50 04.8 +0.7
comp=Z,94nm,0.8s
FETA Feichten 5.43 24 ePn Pn 03 49 04.7 +3.2
comp=Z,16nm,0.4s,SNR=10
FETA eSn Sn 03 50 04.8 +0.7
comp=Z,94nm,0.8s
RJF Les Rejaudoux 5.44 308 ePn Pn 03 49 01.8 +0.4
SNR=1.0
RJF eSn Sn 03 49 59.8 -4.3
comp=Z,100nm,0.3s,SNR=1.0
RJF Les Rejaudoux 5.44 308 ePn Pn 03 49 01.8 +0.4
RJF eSn Sn 03 49 59.8 -4.3
RJF Les Rejaudoux 5.44 308 eP Pn 03 49 01.8 +0.4
RJF e 03 49 59.8
RJF Les Rejaudoux 5.44 308 ePn Pn 03 49 01.8 +0.4
SNR=1.0
RJF eSn Sn 03 49 59.8 -4.3
comp=Z,50nm,0.3s,SNR=1.0
CMAH Djebel Manchou 5.45 181 P Pn 03 48 58.1 -3.5
CMAH Djebel Manchou 5.45 181 P Pn 03 48 58.1 -3.5
DAVA Damuels 5.46 17 Pn Pn 03 49 03.6 +1.8
comp=Z,7.8nm,0.3s
DAVA Sn Sn 03 50 06.4 +1.7
comp=Z,101nm,0.6s
DAVA Damuels 5.46 17 ePn Pn 03 49 03.6 +1.8
comp=Z,7.8nm,0.3s
DAVA eSn Sn 03 50 06.4 +1.7
comp=Z,101nm,0.6s
AVF Avril sur Loir 5.59 329 ePn Pn 03 49 04.5 +1.0
SNR=1.0
AVF eSn Sn 03 50 04.3 -3.4
comp=Z,97nm,0.6s
AVF Avril sur Loir 5.59 329 ePn Pn 03 49 04.5 +1.0
AVF eSn Sn 03 50 04.3 -3.4
AVF Avril sur Loir 5.59 329 eP Pn 03 49 04.5 +1.0
AVF e 03 50 04.3
AVF Avril sur Loir 5.59 329 ePn Pn 03 49 04.5 +1.0
SNR=1.0
AVF eSn Sn 03 50 04.3 -3.4
comp=Z,48nm,0.6s
BGF Bois d'Agland 5.61 325 ePn Pn 03 49 04.9 +1.1
SNR=1.0
BGF Bois d'Agland 5.61 325 ePn Pn 03 49 04.9 +1.1
BGF Bois d'Agland 5.61 325 eP Pn 03 49 04.9 +1.1
BGF Bois d'Agland 5.61 325 ePn Pn 03 49 04.9 +1.1
SNR=1.0
LABF Labassere 5.62 282 Pn Pn 03 49 02.8 -1.1
VIEF Viey 5.63 281 Pn Pn 03 49 03.7 -0.4
DFRA Djebel Bou Aff 5.68 194 P Pn 03 48 56.1 -8.7
DFRA Djebel Bou Aff 5.68 194 P Pn 03 48 56.1 -8.7
TCF Toulx Ste Croi 5.70 319 ePn Pn 03 49 05.6 +0.6
SNR=1.0
TCF Toulx Ste Croi 5.70 319 ePn Pn 03 49 05.6 +0.6
TCF Toulx Ste Croi 5.70 319 eP Pn 03 49 05.6 +0.6
TCF Toulx Ste Croi 5.70 319 ePn Pn 03 49 05.6 +0.6
SNR=1.0
CKFL Kef-Lekhel 5.71 187 P Pn 03 49 03.3 -2.0
CKFL Kef-Lekhel 5.71 187 P Pn 03 49 03.3 -2.0
SLE Schleitheim 5.72 6 eP Pn 03 49 04.2 -1.1
SLE pmax pmax
comp=Z,10.0nm,0.2s
LFF La Frestale 5.73 302 ePn Pn 03 49 05.8 +0.5
SNR=1.0
LFF eSn Sn 03 50 07.3 -3.8
comp=Z,168nm,0.4s,SNR=1.0
LFF La Frestale 5.73 302 ePn Pn 03 49 05.8 +0.5
LFF eSn Sn 03 50 07.3 -3.8
LFF La Frestale 5.73 302 eP Pn 03 49 05.8 +0.5
LFF e 03 50 07.3
LFF La Frestale 5.73 302 ePn Pn 03 49 05.8 +0.5
SNR=1.0
LFF eSn Sn 03 50 07.3 -3.8
comp=Z,84nm,0.4s,SNR=1.0
HINF Hinteralfeld 5.76 355 ePn Pn 03 49 05.5 -0.3
SNR=1.0
HINF eSn Sn 03 50 06.3 -5.6
comp=Z,35nm,0.3s,SNR=1.0
HINF Hinteralfeld 5.76 355 ePn Pn 03 49 05.5 -0.3
HINF eSn Sn 03 50 06.3 -5.6
HINF Hinteralfeld 5.76 355 eP Pn 03 49 05.5 -0.3
HINF e 03 50 06.3
HINF Hinteralfeld 5.76 355 ePn Pn 03 49 05.5 -0.3
SNR=1.0
SSF Saint Saulge 5.76 331 ePn Pn 03 49 06.8 +1.0
SNR=1.0
SSF eSn Sn 03 50 08.9 -3.1
comp=Z,58nm,0.5s
SSF Saint Saulge 5.76 331 ePn Pn 03 49 06.8 +1.0
SSF eSn Sn 03 50 08.9 -3.1
SSF Saint Saulge 5.76 331 eP Pn 03 49 06.8 +1.0
SSF e 03 50 08.9
SSF Saint Saulge 5.76 331 ePn Pn 03 49 06.8 +1.0
SNR=1.0
SSF eSn Sn 03 50 08.9 -3.1
comp=Z,29nm,0.5s
TRI Trieste 5.76 49 ePn Pn 03 49 03.7 -2.1
TRI Trieste 5.76 49 eP Pn 03 49 03.7 -2.1
TRI Trieste 5.76 49 ePn Pn 03 49 03.7 -2.1
MOF Molkenrain 5.78 357 Pn Pn 03 49 05.8 -0.4
ABSA Djebel Ababsia 5.80 181 P Pn 03 49 02.6 -3.9
ABSA Djebel Ababsia 5.80 181 P Pn 03 49 02.6 -3.9
FELD Feldberg im Sc 5.80 3 Pn Pn 03 49 06.2 -0.3
LOR Lormes 5.82 334 ePn Pn 03 49 07.7 +1.1
SNR=1.0
LOR eSn Sn 03 50 09.8 -3.6
comp=Z,51nm,0.3s
LOR Lormes 5.82 334 ePn Pn 03 49 07.7 +1.1
LOR eSn Sn 03 50 09.8 -3.6
LOR Lormes 5.82 334 eP Pn 03 49 07.7 +1.1
LOR e 03 50 09.8
LOR Lormes 5.82 334 ePn Pn 03 49 07.7 +1.1
SNR=1.0
LOR eSn Sn 03 50 09.8 -3.6
comp=Z,25nm,0.3s
MOTA Moosalm 5.83 24 Pn Pn 03 49 09.7 +2.7
comp=Z,18nm,0.3s,SNR=49
MOTA Moosalm 5.83 24 ePn Pn 03 49 09.7 +2.7
comp=Z,18nm,0.3s,SNR=49
ABTA Abfaltersbach 5.86 36 Pn Pn 03 49 09.6 +2.4
comp=Z,20nm,0.5s,SNR=17
ABTA Sn Sn 03 50 14.1 -0.3
comp=Z,78nm,0.7s
ABTA Abfaltersbach 5.86 36 ePn Pn 03 49 09.6 +2.4
comp=Z,20nm,0.5s,SNR=17
ABTA Sn Sn 03 50 14.1 -0.3
comp=Z,78nm,0.7s
RETA Reutte 5.86 22 Pn Pn 03 49 09.5 +2.2
comp=Z,11nm,0.4s,SNR=10
RETA Sn Sn 03 50 14.2 -0.4
comp=Z,50nm,0.7s
RETA Reutte 5.86 22 i Pn Pn 03 49 09.5 +2.2
comp=Z,11nm,0.4s,SNR=10
RETA Sn Sn 03 50 14.2 -0.4
comp=Z,50nm,0.7s
CASM Ain Smara 5.87 189 P Pn 03 48 57.3 -10
CASM Ain Smara 5.87 189 P Pn 03 48 57.3 -10
NVLJ Novalja 5.88 63 ePn Pn 03 49 08.8 +1.4
NVLJ Sn Sn 03 50 10.8 -4.0
WTTA Wattenberg 5.94 28 Pn Pn 03 49 11.0 +2.6
comp=Z,13nm,0.3s,SNR=8.9
WTTA Wattenberg 5.94 28 ePn Pn 03 49 11.0 +2.6
comp=Z,13nm,0.3s,SNR=8.9
WTTA Sn Sn 03 50 14.8 -1.8
comp=Z,38nm,0.5s
REYF Montagne du Re 5.96 282 Pn Pn 03 49 07.4 -1.2
ROBS Robic 5.97 44 i Pn Pn 03 49 08.3 -0.3
ROBS i Sn Sn 03 50 13.4 -3.5
WATA Walderalm 5.98 27 Pn Pn 03 49 11.6 +2.7
comp=Z,9.7nm,0.2s,SNR=32
WATA Walderalm 5.98 27 ePn Pn 03 49 11.6 +2.7
comp=Z,9.7nm,0.2s,SNR=32
HAU Haudompre 5.99 352 ePn Pn 03 49 09.0 +0.1
SNR=1.0
HAU eSn Sn 03 50 13.3 -4.2
comp=Z,83nm,0.3s
HAU Haudompre 5.99 352 ePn Pn 03 49 09.0 +0.1
HAU eSn Sn 03 50 13.3 -4.2
HAU Haudompre 5.99 352 eP Pn 03 49 09.0 +0.1
HAU e 03 50 13.3
HAU Haudompre 5.99 352 ePn Pn 03 49 09.0 +0.1
SNR=1.0
VOJS Vojsko 6.03 47 i Pn Pn 03 49 09.4 -0.1
VOJS i Sn Sn 03 50 15.4 -3.2
JAVS Javornik 6.04 49 ePn Pn 03 49 09.5 -0.3
JAVS i 03 49 12.2
JAVS i Sn Sn 03 50 15.9 -3.1
SPAK Spaichingen-Ko 6.08 8 Pn Pn 03 49 10.3 +0.1
THEF They Montfort 6.25 350 Pn Pn 03 49 12.6 +0.1
CLTB Caltabellotta 6.25 134 ePn Pn 03 49 11.9 -0.8
CLTB eSn Sn 03 50 17.7 -6.5
CLTB Caltabellotta 6.25 134 ePn Pn 03 49 11.9 -0.8
CLTB eSn Sn 03 50 17.7 -6.5
HYF Humbligny 6.26 328 ePn Pn 03 49 13.9 +1.2
HYF Humbligny 6.26 328 ePn Pn 03 49 13.9 +1.2
HYF Humbligny 6.26 328 ePn Pn 03 49 13.9 +1.2
BFO Black Forest 6.27 5 ePn Pn 03 49 12.3 -0.5
BFO eSn Sn 03 50 21.1 -3.5
BFO Black Forest 6.27 5 i P Pn 03 49 13.3 +0.5
BFO Black Forest 6.27 5 ePn Pn 03 49 12.4 -0.5
BFO eSn Sn 03 50 21.1 -3.5
MYKA Terra Mystica 6.30 42 Pn Pn 03 49 16.0 +2.8
comp=Z,1.9nm,0.2s
MYKA Terra Mystica 6.30 42 ePn Pn 03 49 16.0 +2.8
comp=Z,1.9nm,0.2s
MYKA eSn Sn 03 50 23.7 -1.5
comp=Z,8.8nm,0.4s
CDF Champ du Feu 6.33 358 ePn Pn 03 49 13.4 -0.4
SNR=1.0
CDF eSn Sn 03 50 21.3 -4.9
comp=Z,41nm,0.5s,SNR=1.0
CDF Champ du Feu 6.33 358 ePn Pn 03 49 13.4 -0.4
CDF eSn Sn 03 50 21.3 -4.9
CDF Champ du Feu 6.33 358 eP Pn 03 49 13.4 -0.4
CDF e 03 50 21.3
CDF Champ du Feu 6.33 358 ePn Pn 03 49 13.4 -0.4
SNR=1.0
SFTF Sexfontaines 6.38 345 ePn Pn 03 49 14.9 +0.6
SFTF eSn Sn 03 50 22.4 -4.8
comp=Z,64nm,0.3s
SFTF Sexfontaines 6.38 345 ePn Pn 03 49 14.9 +0.6
SFTF eSn Sn 03 50 22.4 -4.8
SFTF Sexfontaines 6.38 345 ePn Pn 03 49 14.9 +0.6
VISS Visnje 6.43 52 i Pn Pn 03 49 15.0 -0.1
VISS i Sn Sn 03 50 24.9 -3.6
UDBI Udbina 6.46 65 ePn Pn 03 49 16.7 +1.2
UDBI Sn Sn 03 50 25.7 -3.6
KEST Kesra 6.49 167 Pn Pn 03 49 15.8 -0.1
comp=Z,7.7nm,0.3s,baz=300,slow=3.8,SNR=114
KEST Sn Sn 03 50 23.2 -6.8
comp=Z,6.0nm,0.3s,baz=320,slow=24,SNR=7.7
KEST Kesra 6.49 167 ePn Pn 03 49 16.3 +0.4
KEST eSn Sn 03 50 23.4 -6.6
KEST Kesra 6.49 167 ePn Pn 03 49 16.3 +0.4
KEST eSn Sn 03 50 23.4 -6.6
SJPF Ste Jean 6.57 282 ePn Pn 03 49 16.2 -0.7
SNR=1.0
SJPF eSn Sn 03 50 27.9 -4.0
comp=Z,158nm,0.5s,SNR=1.0
SJPF Ste Jean 6.57 282 ePn Pn 03 49 16.2 -0.7
SJPF eSn Sn 03 50 27.9 -4.0
SJPF Ste Jean 6.57 282 eP Pn 03 49 16.2 -0.7
SJPF e 03 50 27.9
SJPF Ste Jean 6.57 282 ePn Pn 03 49 16.2 -0.7
SNR=1.0
SJPF eSn Sn 03 50 27.9 -4.0
comp=Z,79nm,0.5s,SNR=1.0
CUC Castrocucco 6.58 106 ePn Pn 03 49 13.9 -3.2
CUC Castrocucco 6.58 106 ePn Pn 03 49 13.9 -3.2
PAGF Fort de Pagny 6.60 349 ePn Pn 03 49 17.9 +0.5
PAGF eSn Sn 03 50 27.5 -5.2
comp=Z,24nm,0.6s
PAGF Fort de Pagny 6.60 349 ePn Pn 03 49 17.9 +0.5
PAGF eSn Sn 03 50 27.5 -5.2
PAGF Fort de Pagny 6.60 349 ePn Pn 03 49 17.9 +0.5
OSSF Osses 6.61 283 Pn Pn 03 49 17.0 -0.5
MEZF Maizieres J'vi 6.66 345 ePn Pn 03 49 18.8 +0.7
SNR=1.0
MEZF eSn Sn 03 50 29.7 -4.4
comp=Z,10nm,0.2s
MEZF Maizieres J'vi 6.66 345 ePn Pn 03 49 18.8 +0.7
MEZF eSn Sn 03 50 29.7 -4.4
MEZF Maizieres J'vi 6.66 345 ePn Pn 03 49 18.8 +0.7
SNR=1.0
MEZF eSn Sn 03 50 29.7 -4.4
comp=Z,5.1nm,0.2s
OBKA Obir 6.69 46 Pn Pn 03 49 20.1 +1.5
comp=Z,4.4nm,0.4s
OBKA Obir 6.69 46 ePn Pn 03 49 20.1 +1.5
comp=Z,4.4nm,0.4s
STU Stuttgart 6.79 9 ePn Pn 03 49 19.8 -0.1
STU eSn Sn 03 50 27.3 -10
STU Stuttgart 6.79 9 eP Pn 03 49 19.8 -0.1
STU e 03 50 27.3
STU Stuttgart 6.79 9 ePn Pn 03 49 19.8 -0.1
STU eSn Sn 03 50 27.3 -10
VAE Valguarnera 6.99 129 Pn Pn 03 49 23.4 +0.6
comp=Z,4.3nm,0.3s,baz=345,slow=6.2,SNR=12
SOKA Soboth 7.05 47 Pn Pn 03 49 25.3 +1.7
comp=Z,2.2nm,0.4s
SOKA Soboth 7.05 47 ePn Pn 03 49 25.3 +1.7
comp=Z,2.2nm,0.4s
SOKA eSn Sn 03 50 43.3 -0.5
comp=Z,5.2nm,0.6s
MFF Saint Martin d 7.14 312 ePn Pn 03 49 25.3 +0.6
SNR=1.0
MFF eSn Sn 03 50 42.2 -3.6
comp=Z,36nm,0.5s
MFF Saint Martin d 7.14 312 ePn Pn 03 49 25.3 +0.6
MFF eSn Sn 03 50 42.2 -3.6
MFF Saint Martin d 7.14 312 eP Pn 03 49 25.3 +0.6
MFF e 03 50 42.2
MFF Saint Martin d 7.14 312 ePn Pn 03 49 25.3 +0.6
SNR=1.0
MFF eSn Sn 03 50 42.2 -3.6
comp=Z,18nm,0.5s
MOA Molln 7.47 37 Pn Pn 03 49 30.8 +1.5
comp=Z,7.4nm,0.6s
MOA Molln 7.47 37 ePn Pn 03 49 30.8 +1.5
comp=Z,7.4nm,0.6s
MOA eSn Sn 03 50 52.0 -2.1
comp=Z,14nm,0.5s
BLY Banja Luka 7.49 66 ePn Pn 03 49 31.1 +1.5
BLY Banja Luka 7.49 66 ePn Pn 03 49 31.1 +1.5
TIP Timpagrande 7.57 109 ePn Pn 03 49 28.7 -2.0
TIP Timpagrande 7.57 109 ePn Pn 03 49 28.7 -2.0
WLF Walferdange 7.65 353⇓ PN Pn 03 49 32.4 +0.7
WLF ⇑ SN Sn 03 50 58.3 -0.1
comp=E,16nm,0.0s
WLF Walferdange 7.65 353 ePn Pn 03 49 32.1 +0.4
WLF Walferdange 7.65 353 eP Pn 03 49 32.1 +0.4
WLF Walferdange 7.65 353 ePn Pn 03 49 32.1 +0.4
WLF Sn Sn 03 50 58.3 -0.1
ARSA Arzberg 7.67 45 Pn Pn 03 49 33.9 +1.8
comp=E,3.6nm,0.3s
ARSA Arzberg 7.67 45 ePn Pn 03 49 33.9 +1.8
comp=E,3.6nm,0.3s
ARSA eSn Sn 03 50 57.6 -1.4
comp=E,6.4nm,0.6s
WET Wettzell 7.98 26 P Pn 03 49 36.5 +0.2
WET pmax pmax
comp=Z,10.0nm,0.5s
GEA0 GERESS Array S 8.01 30 ePn Pn 03 49 36.5 -0.3
GEA0 eSn Sn 03 51 01.4 -6.1
GEA0 GERESS Array S 8.01 30 ePn Pn 03 49 36.5 -0.3
GEA0 eSn Sn 03 51 01.4 -6.1
GEC2 GERESS Array S 8.02 30 ePn Pn 03 49 37.2 +0.3
GEC2 eSn Sn 03 51 01.6 -6.0
GEC2 GERESS Array S 8.02 30 eP Pn 03 49 37.2 +0.3
GEC2 e 03 51 01.6
GEC2 GERESS Array S 8.02 30 ePn Pn 03 49 37.2 +0.3
GEC2 eSn Sn 03 51 01.6 -6.0
GERES GERESS Array B 8.02 30 Pn Pn 03 49 36.9 0.0

comp=Z,3.8nm,0.3s,baz=206,slow=13,SNR=139
GERES Sn **Sn** 03 51 02.2 -5.4

GRFO Grafenberg 8.03 17 *e*Pn **Pn** 03 49 36.6 -0.3
GRFO *e*Sn **Sn** 03 51 00.3 -7.4
GRFO Grafenberg 8.03 17 *e*P **Pn** 03 49 36.6 -0.3
GRFO *e* 03 51 00.3
GRFO Grafenberg 8.03 17 *e*Pn **Pn** 03 49 36.6 -0.3
GRFO *e*Sn **Sn** 03 51 00.3 -7.4
KHC Kasperske Hory 8.21 29 *e*PN **Pn** 03 49 39.3 -0.2
KHC *e*SN **Sn** 03 51 04.6 -7.7
KHC Kasperske Hory 8.21 29 *e*Pn **Pn** 03 49 39.5 0.0
KHC *e*Sn **Sn** 03 51 05.7 -6.6
KHC Kasperske Hory 8.21 29 *e*P **Pn** 03 49 39.5 0.0
KHC *e* 03 51 05.7
KHC Kasperske Hory 8.21 29 Pn **Pn** 03 49 39.3 -0.2
KHC Sn **Sn** 03 51 04.6 -7.7
GIVF Givet 8.25 348 *e*Pn **Pn** 03 49 40.3 +0.4
SNR=1.0
GIVF Givet 8.25 348 *e*Pn **Pn** 03 49 40.3 +0.4
GIVF Givet 8.25 348 *e*P **Pn** 03 49 40.3 +0.4
GIVF Givet 8.25 348 *e*Pn **Pn** 03 49 40.3 +0.4
SNR=1.0
DOU Dourbes 8.28 347 ⇑PN **Pn** 03 49 41.0 +0.6
DOU ⇑SN **Sn** 03 51 09.4 -4.4
comp=E,8.6nm,0.0s
DOU Dourbes 8.28 347 Pn **Pn** 03 49 40.9 +0.6
CONA Conrad Observa 8.29 42 Pn **Pn** 03 49 42.4 +1.9
comp=E,3.6nm,0.4s
CONA Conrad Observa 8.29 42 *e*Pn **Pn** 03 49 42.4 +1.9
comp=E,3.6nm,0.4s
CONA *e*Sn **Sn** 03 51 11.2 -3.0
comp=E,3.7nm,0.4s
BAIF Baives 8.31 345 *e*Pn **Pn** 03 49 40.9 +0.1
SNR=1.0
BAIF Baives 8.31 345 *e*Pn **Pn** 03 49 40.9 +0.1
BAIF Baives 8.31 345 *e*P **Pn** 03 49 40.9 +0.1
BAIF Baives 8.31 345 *e*Pn **Pn** 03 49 40.9 +0.1
SNR=1.0
LDF La Druitiere 8.47 323 *e*Pn **Pn** 03 49 44.2 +1.3
SNR=1.0
LDF *e*Sg **Sg** 03 52 09.5 -2.3
comp=E,39nm,0.8s
LDF La Druitiere 8.47 323 *e*Pn **Pn** 03 49 44.2 +1.3
LDF *e*Sg **Sg** 03 52 09.5 -2.3
LDF La Druitiere 8.47 323 *e*P **Pn** 03 49 44.2 +1.3
LDF La Druitiere 8.47 323 *e*Pn **Pn** 03 49 44.2 +1.3
SNR=1.0
BCLA Clavier 8.49 350 ⇑PN **Pn** 03 49 43.8 +0.6
BCLA ⇑SN **Sn** 03 51 16.2 -2.8
comp=N,9.6nm,0.0s
BCLA Clavier 8.49 350 Pn **Pn** 03 49 43.7 +0.6
BCLA Sn **Sn** 03 51 16.1 -2.8
MEM Membach 8.60 353 ⇑PN **Pn** 03 49 45.6 +0.8
MEM ⇑SN **Sn** 03 51 18.7 -3.1
comp=E,10nm,0.0s
MEM Membach 8.60 353 Pn **Pn** 03 49 45.5 +0.8
MEM Sn **Sn** 03 51 18.6 -3.1
GRR Gorron 8.66 320 *e*Pn **Pn** 03 49 46.5 +0.9
SNR=1.0
GRR Gorron 8.66 320 *e*Pn **Pn** 03 49 46.5 +0.9
GRR Gorron 8.66 320 *e*P **Pn** 03 49 46.5 +0.9
GRR Gorron 8.66 320 *e*Pn **Pn** 03 49 46.5 +0.9
SNR=1.0
TTG Podgorica 8.68 84 *e*Pn **Pn** 03 49 45.3 -0.5
TTG Podgorica 8.68 84 *e*P **Pn** 03 49 45.3 -0.5
TTG Podgorica 8.68 84 *e*Pn **Pn** 03 49 45.3 -0.5
SNF Seneffe 8.73 346 ⇑PN **Pn** 03 49 47.2 +0.7
SNF Seneffe 8.73 346 Pn **Pn** 03 49 47.2 +0.7
FLN La Foliniere 8.75 322 *e*Pn **Pn** 03 49 48.4 +1.6
SNR=1.0
FLN La Foliniere 8.75 322 *e*Pn **Pn** 03 49 48.4 +1.6
FLN La Foliniere 8.75 322 *e*P **Pn** 03 49 48.4 +1.6
FLN La Foliniere 8.75 322 *e*Pn **Pn** 03 49 48.4 +1.6
SNR=1.0
BEBN Eben Emael 8.81 352 ⇓PN **Pn** 03 49 49.0 +1.4
BEBN Eben Emael 8.81 352 Pn **Pn** 03 49 49.0 +1.4
NKC Novy Kostel 8.83 21 *e*PN **Pn** 03 49 47.4 -0.5
NKC *ex* x 03 51 19.5
NKC Novy Kostel 8.83 21 *e*P **Pn** 03 49 47.4 -0.5
NKC *e* 03 51 19.5
NKC Novy Kostel 8.83 21 Pn **Pn** 03 49 47.4 -0.5
NKC Sn **Sn** 03 51 19.5 -7.9
UCC Uccle 8.99 347 *e*Pn **Pn** 03 49 51.8 +1.7
UCC Uccle 8.99 347 *e*P **Pn** 03 49 51.8 +1.7
UCC Uccle 8.99 347 *e*Pn **Pn** 03 49 51.8 +1.7
ES19 SONSECA Array 9.00 258 *e*Pn **Pn** 03 49 50.9 +0.5
ES19 SONSECA Array 9.00 258 *e*Pn **Pn** 03 49 50.9 +0.5
ESDC Sonseca Array 9.06 258 Pn **Pn** 03 49 50.0 -1.1
comp=E,2.5nm,0.3s,baz=68,slow=14,SNR=32
ESDC Sn **Sn** 03 51 26.0 -7.2
comp=E,4.2nm,0.3s,baz=67,slow=24,SNR=9.4
ESLA Sonseca Array 9.06 258 *e*Pn **Pn** 03 49 50.9 -0.2
ESLA Sonseca Array 9.06 258 *e*Pn **Pn** 03 49 50.9 -0.2
TREC Trest 9.09 35 *e*PN **Pn** 03 49 52.1 +0.6
TREC *e*SN **Sn** 03 51 25.9 -8.0
TREC Trest 9.09 35 *e*P **Pn** 03 49 52.1 +0.6
TREC *e* 03 51 25.9
TREC Trest 9.09 35 Pn **Pn** 03 49 52.1 +0.6
TREC Sn **Sn** 03 51 25.9 -8.0
PRU Pruhonice 9.27 29 *e*PN **Pn** 03 49 53.6 -0.4
PRU *e*SN **Sn** 03 51 30.5 -7.8
PRU Pruhonice 9.27 29 *e*P **Pn** 03 49 53.6 -0.4
PRU *e* 03 51 30.5
PRU Pruhonice 9.27 29 Pn **Pn** 03 49 53.6 -0.4
PRU Sn **Sn** 03 51 30.5 -7.8
GOPC GO Pecny, Ondr 9.30 30 *e*PN **Pn** 03 49 54.2 -0.2
GOPC *e*SN **Sn** 03 51 31.3 -7.8
GOPC GO Pecny, Ondr 9.30 30 *e*P **Pn** 03 49 54.2 -0.2
GOPC *e* 03 51 31.3
GOPC GO Pecny, Ondr 9.30 30 Pn **Pn** 03 49 54.2 -0.2
GOPC Sn **Sn** 03 51 31.3 -7.8
PAB San Pablo 9.38 258 *e*Pn **Pn** 03 49 56.3 +0.7
PAB San Pablo 9.38 258 *e*P **Pn** 03 49 56.3 +0.7
PAB San Pablo 9.38 258 *e*Pn **Pn** 03 49 56.3 +0.7
SGMF Saint Gilles 9.44 314 *e*Pn **Pn** 03 49 56.6 +0.3
SNR=1.0
SGMF Saint Gilles 9.44 314 *e*Pn **Pn** 03 49 56.6 +0.3
SGMF Saint Gilles 9.44 314 *e*P **Pn** 03 49 56.6 +0.3
SGMF Saint Gilles 9.44 314 *e*Pn **Pn** 03 49 56.6 +0.3
SNR=1.0
QUIF Quistinic 9.58 311 *e*Pn **Pn** 03 49 58.6 +0.5
SNR=1.0
QUIF *e*Sn **Sn** 03 51 39.0 -6.7
comp=E,19nm,0.4s
QUIF Quistinic 9.58 311 *e*Pn **Pn** 03 49 58.6 +0.5
QUIF *e*Sn **Sn** 03 51 39.0 -6.7
QUIF Quistinic 9.58 311 *e*P **Pn** 03 49 58.6 +0.5
QUIF *e* 03 51 39.0
QUIF Quistinic 9.58 311 *e*Pn **Pn** 03 49 58.6 +0.5
SNR=1.0
VRAC Vranov 9.59 38 Pn **Pn** 03 49 58.6 +0.2
comp=E,0.5nm,0.3s,baz=239,slow=14,SNR=3.6
VRAC Sn **Sn** 03 51 39.8 -6.4
comp=E,0.4nm,0.3s,baz=143,slow=20,SNR=3.0
BRG Berggiesshubel 9.83 24 PN **Pn** 03 50 00.5 -1.1
BRG SG **Sn** 03 51 43.9 -8.0
comp=E,12nm,1.1s
BRG Berggiesshubel 9.83 24 P **Pn** 03 50 00.5 -1.1
BRG 03 51 43.9
BRG smax smax
comp=N,12nm,1.1s
ROSF Rostrenen 9.88 313 *e*Pn **Pn** 03 50 03.0 +0.8
SNR=1.0
ROSF *e*Sn **Sn** 03 51 47.3 -5.8
comp=N,38nm,0.6s
ROSF Rostrenen 9.88 313 *e*Pn **Pn** 03 50 03.0 +0.8
ROSF *e*Sn **Sn** 03 51 47.3 -5.8
ROSF Rostrenen 9.88 313 *e*P **Pn** 03 50 03.0 +0.8
ROSF *e* 03 51 47.3
ROSF Rostrenen 9.88 313 *e*Pn **Pn** 03 50 03.0 +0.8
SNR=1.0
ROSF *e*Sn **Sn** 03 51 47.3 -5.8
comp=N,19nm,0.6s
CLL Collm 9.95 20 *e*Pn **Pn** 03 50 03.0 -0.3
CLL *e*Sn **Sn** 03 51 46.0 -8.9
CLL Collm 9.95 20 *e*P **Pn** 03 50 03.0 -0.3
CLL *e* 03 51 46.0
VYHS Vyhne 10.20 47 *e*P **Pn** 03 50 07.6 +0.9
VYHS *e* 03 51 55.0
VYHS Vyhne 10.20 47 *e*PN **Pn** 03 50 07.6 +0.9
VYHS *e*SN **Sn** 03 51 55.0 -6.1
UPC Upice 10.25 32 *e*PN **Pn** 03 50 06.7 -0.6
UPC *ex* x 03 51 53.8
UPC Upice 10.25 32 *e*P **Pn** 03 50 06.7 -0.6
UPC *e* 03 51 53.8
UPC Upice 10.25 32 Pn **Pn** 03 50 06.7 -0.6
UPC Sn **Sn** 03 51 53.8 -8.4
DPC Dobruska-Polom 10.25 33 *e*PN **Pn** 03 50 06.7 -0.7
DPC Dobruska-Polom 10.25 33 *e*P **Pn** 03 50 06.7 -0.7
DPC Dobruska-Polom 10.25 33 Pn **Pn** 03 50 06.7 -0.7
MORC Moravsky Berou 10.36 39 *e*Pn **Pn** 03 50 08.9 0.0
MORC Moravsky Berou 10.36 39 *e*P **Pn** 03 50 08.9 0.0
MORC Moravsky Berou 10.36 39 *e*Pn **Pn** 03 50 08.9 0.0
FNA Florina 10.45 93 P **Pn** 03 50 08.2 -2.0
PSZ Piszkesteto 10.50 52 *e*Pn **Pn** 03 50 10.5 -0.3
PSZ Piszkesteto 10.50 52 *e*P **Pn** 03 50 10.5 -0.3
PSZ Piszkesteto 10.50 52 *e*Pn **Pn** 03 50 10.5 -0.3
PBRG Braganca 10.66 273 *e*P **Pn** 03 50 12.2 -0.9
comp=N,42nm,1.8s
PBRG *e*S **Sn** 03 52 04.8 -7.8
PBRG Braganca 10.66 273 *e*P **Pn** 03 50 12.2 -0.9
comp=N,42nm,1.8s
MVO Moncorvo 10.97 270 *e*P **Pn** 03 50 16.6 -0.7
comp=N,27nm,1.7s
MVO *e*S **Sn** 03 52 11.6 -8.4
MVO Moncorvo 10.97 270 *e*P **Pn** 03 50 16.6 -0.7
comp=N,27nm,1.7s
PVRL Vila Real 11.46 271 *e*P **Pn** 03 50 23.0 -1.0
comp=N,42nm,1.8s
PVRL *e*S Sn 03 52 23.3 -8.8
PVRL Vila Real 11.46 271 *e*P **Pn** 03 50 23.0 -1.0
comp=N,42nm,1.8s
MTE Manteigas 11.50 267 *e*S Sn 03 52 24.6 -8.5
POLO Lamas de Olo 11.50 272 *e*P **Pn** 03 50 23.8 -0.8
comp=N,39nm,1.8s
POLO *e*S **Sn** 03 52 26.6 -6.6
POLO Lamas de Olo 11.50 272 *e*P **Pn** 03 50 23.8 -0.8
comp=N,39nm,1.8s
PCBR Castelo Branco 11.59 264 *e*P **Pn** 03 50 25.9 +0.1
comp=N,27nm,1.7s
PCBR *e*S **Sn** 03 52 28.0 -7.3
PCBR Castelo Branco 11.59 264 *e*P **Pn** 03 50 25.9 +0.1
comp=N,27nm,1.7s
PMRV Marv??o 11.65 262 *e*P **Pn** 03 50 26.9 +0.3
comp=N,25nm,1.9s
PMRV *e*S **Sn** 03 52 28.9 -7.8
PMRV Marv??o 11.65 262 *e*P **Pn** 03 50 26.9 +0.3
comp=N,25nm,1.9s
DEV Deva 11.68 66 P **Pn** 03 50 28.8 +1.8
DEV pmax pmax
comp=Z,18nm,0.8s
PVIS Viseu 11.70 268 *e*P **Pn** 03 50 27.3 +0.1
comp=Z,33nm,1.5s
PVIS *e*S Sn 03 52 29.0 -8.8
PVIS Viseu 11.70 268 *e*P **Pn** 03 50 27.3 +0.1
comp=Z,33nm,1.5s
PGAV Gavieira, Arco 11.78 275 *e*S **Sn** 03 52 35.6 -4.4
PGAV Gavieira, Arco 11.78 275 *e*S **Sn** 03 52 35.6 -4.4
PBAR Barrancos 11.84 256 *e*P **Pn** 03 50 30.3 +1.2
comp=Z,31nm,1.9s
PBAR *e*S **Sn** 03 52 34.7 -6.6
PBAR Barrancos 11.84 256 *e*P **Pn** 03 50 30.3 +1.2
comp=Z,31nm,1.9s
PESTR Estremoz 11.98 259 *e*P **Pn** 03 50 30.2 -0.9
comp=Z,18nm,1.7s
PESTR Estremoz 11.98 259 *e*P **Pn** 03 50 30.2 -0.9
comp=Z,18nm,1.7s
UZH Uzhgorod 12.25 53 *c i*P **Pn** 03 50 37.3 +2.7
PCAS Casmilo, Conde 12.29 266 *e*S **Sn** 03 52 44.2 -8.2
PMTG Montargil 12.38 261 *e*S **Sn** 03 52 46.3 -8.2
EKA Eskdalemuir Ar 15.01 336 Pn **Pn** 03 51 12.7 +0.4
baz=137,slow=15,SNR=30
EKA Sn Sn 03 53 48.9 -9.5
baz=142,slow=26,SNR=3.8
ESK Eskdalemuir 15.01 336 *e*Pn **Pn** 03 51 11.7 -0.5
comp=Z,160nm,1.9s
ESK Eskdalemuir 15.01 336 *e*P **Pn** 03 51 11.7 -0.5
ESK pmax pmax
comp=Z,160nm,1.9s
ESK Eskdalemuir 15.01 336 *e*Pn **Pn** 03 51 11.7 -0.5
comp=Z,160nm,1.9s
KLNR Kaliningrad 15.06 29⇓ *e*P **Pn** 03 51 12.9 0.0
KIEV Kiev 17.19 53 *e*Pn **Pn** 03 51 39.5 -0.8
KIEV Kiev 17.19 53⇑ *e*P **P** 03 51 42.3 +0.4
KIEV Kiev 17.19 53 *e*Pn **Pn** 03 51 39.5 -0.8
AKASG Malin Array Be 17.20 53 P **P** 03 51 41.9 -0.1
comp=Z,0.4nm,0.3s,baz=246,slow=11,SNR=3.3
HFS Hagfors 18.47 10 P **Pn** 03 51 57.3 +1.3
comp=Z,0.3nm,0.3s,baz=256,slow=28,SNR=4.6
NB2 NORSAR Subarra 19.12 5 P **Pn** 03 52 05.7 +1.7
comp=Z,5.0nm,0.8s,baz=188,slow=11
NOA NORSAR Array B 19.12 5 P **Pn** 03 52 05.3 +1.3
comp=Z,0.3nm,0.3s,baz=0.2,slow=16,SNR=8.7
TAM Tamanrasset 19.31 186 *e*P **Pn** 03 52 06.9 +0.2
comp=Z,2.4nm,0.7s
TAM Tamanrasset 19.31 186 *e*P **Pn** 03 52 06.9 +0.2
TAM pmax pmax
comp=Z,2.0nm,0.7s
TAM Tamanrasset 19.31 186 *e*P **Pn** 03 52 06.9 +0.2
comp=Z,2.4nm,0.7s
BRTR Kesh Array B 19.83 88 P **Pn** 03 52 12.1 -0.7
comp=Z,0.1nm,0.3s,baz=282,slow=9.1,SNR=5.4
VSU Vasula 20.34 30⇓ *e*P Pn 03 52 18.9 +0.4
VSU pmax pmax
comp=Z,54nm,1.0s
CSS Mathiatis 21.32 101 *e*P **P** 03 52 27.6 +0.3
comp=Z,8.6nm,0.9s
CSS Mathiatis 21.32 101 *e*P **P** 03 52 27.6 +0.3
comp=Z,8.6nm,0.9s
FINES FINESS Array B 22.37 24 P **P** 03 52 39.3 +1.0
comp=Z,3.3nm,0.6s,baz=217,slow=9.9,SNR=21
FINES PcP **PcP** 03 56 33.2 +0.3
comp=Z,1.4nm,0.8s,baz=195,slow=4.2,SNR=3.4
FIA1 FINESS Array S 22.37 24 *e*P **P** 03 52 39.4 +1.1
OBN Obninsk 22.99 45 *e*P **P** 03 52 44.1 -0.8
comp=Z,20nm,1.0s
OBN Obninsk 22.99 45 *i* P **P** 03 52 44.7 -0.2
OBN *i* 03 52 50.6
OBN *i* 03 56 33.3
OBN pmax pmax
comp=Z,21nm,1.5s
VSR Storozhevoye 23.38 56 *e*P **P** 03 52 48.3 -0.6
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 23.53 53 *e*P **P** 03 52 52.1 +1.7
LPSR pmax pmax
comp=Z,7.0nm,0.7s
VRH Novokhopyorsk 24.97 57 *e*P **P** 03 53 05.0 +1.3
VRH pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 25.63 74 *e*P **P** 03 53 09.1 -0.9
KIV pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 26.95 35 *e*P **P** 03 53 20.6 -0.9
KLMR pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 26.95 35 *e*P **P** 03 53 20.7 -0.8
KLMR AMP 03 53 30.3
comp=Z,13nm,1.0s
ARCES ARCESS Array B 29.06 13 P **P** 03 53 39.8 -0.6
comp=Z,1.3nm,0.7s,baz=198,slow=8.3,SNR=3.7
ARCES PcP **PcP** 03 56 47.9 -0.2
comp=Z,1.8nm,0.7s,baz=197,slow=3.8,SNR=5.5
KOWA Kowa 29.26 203 P **P** 03 53 41.6 -0.9
comp=Z,0.9nm,0.6s,baz=16,slow=10.0,SNR=5.1
KOWA PcP **PcP** 03 56 49.6 +0.2
comp=Z,1.6nm,0.7s,baz=74,slow=5.4,SNR=4.7
TORD Torodi Ar. Bea 29.28 192 P **P** 03 53 42.3 -0.4
comp=Z,0.9nm,0.7s,baz=3.3,slow=8.9,SNR=8.7
TORD PcP **PcP** 03 56 49.5 0.0
comp=Z,1.4nm,0.6s,baz=340,slow=2.3,SNR=17
AKTO Aktyubinsk 35.27 59 P **P** 03 54 35.5 +0.5
comp=Z,1.5nm,0.8s,baz=251,slow=18,SNR=4.8
ARU Arti 35.37 48 P **P** 03 54 36.1 +0.4
comp=Z,1.8nm,0.3s,baz=278,slow=19,SNR=8.5
ARU Arti 35.37 48 *e*P **P** 03 54 36.2 +0.4
comp=Z,16nm,0.9s
ARU Arti 35.37 48 *d i*P **P** 03 54 35.7 0.0
ARU 03 55 52.2
ARU 03 57 04.6
ARU S **S** 04 00 11.0 +1.1
ARU SS **SnSn** 04 02 24.5 -3.6
ARU pmax pmax
comp=Z,6.0nm,0.8s
SVE Sverdlovsk 36.52 48 *e*P **P** 03 54 46.8 +1.2
SVE pmax pmax
comp=Z,16nm,1.1s
ABKAR Akbulak array 36.66 60 *e*P **P** 03 54 47.7 +0.8
comp=Z,21nm,1.1s
DBIC Dimbokro 36.95 201 P **P** 03 54 48.8 -0.7
comp=Z,1.2nm,0.4s,baz=7.3,slow=10,SNR=5.2
LIC Lamto 37.42 201 *e*P **P** 03 54 55.1 +1.5
comp=Z,31nm,1.3s
LIC Lamto 37.42 201 *e*P **P** 03 54 55.1 +1.5
comp=Z,31nm,1.3s
GEYT Alibeck 38.49 79 P **P** 03 55 02.8 +0.2
comp=Z,1.0nm,0.5s,baz=282,slow=22,SNR=3.3
BRVK Borovoye 42.41 53 *e*P **P** 03 55 35.5 +0.7
comp=Z,6.4nm,0.8s
BRVK Borovoye 42.41 53⇑ *e*P **P** 03 55 36.1 +1.3
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 42.48 53 P **P** 03 55 36.4 +1.1
comp=Z,1.2nm,0.8s,baz=281,slow=8.1,SNR=6.2
KKAR Karatay Array 45.36 66 *e*P **P** 03 56 00.1 +1.4
KKAR Karatay Array 45.36 66 *e*P **P** 03 56 00.1 +1.4
KURK Kurchatov 48.01 54 *e*P **P** 03 56 19.1 0.0
comp=Z,3.2nm,0.8s
KURK Kurchatov 48.01 54⇑ *e*P **P** 03 56 19.7 +0.5
KURK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 48.25 66 P **P** 03 56 23.2 +1.8
comp=Z,1.5nm,0.7s,baz=239,slow=7.6,SNR=5.2
SCHQ Schefferville 48.67 312 P **P** 03 56 24.6 +0.3
comp=Z,6.0nm,0.7s,baz=78,slow=6.5,SNR=16
SCHQ Schefferville 48.67 312 *e*P **P** 03 56 25.4 +1.2
comp=Z,7.2nm,0.7s
KDJ Kajisay 50.27 65 P **P** 03 56 38.7 +1.8
KDJ pmax pmax
comp=Z,7.0nm,0.9s
ZALV Zalesovo Beam 50.53 48 P **P** 03 56 38.9 +0.4
comp=Z,0.7nm,0.5s,baz=284,slow=8.2,SNR=3.6
KSH Kashi 50.58 69 P **P** 03 56 39.8 +0.6
KSH PcP **PcP** 03 57 57.0 +0.1
KSH S **S** 04 03 51.7 -1.9
KSH sS sS 04 04 00.0 +1.2
KSH pmax pmax
comp=Z,5.0nm,1.0s
KSH pmax pmax
comp=Z,250nm,5.6s
KSH LR LR
comp=Z,190nm,12.3s
KSH LR LR
comp=Z,220nm,13.4s
KSH LR LR
comp=Z,120nm,11.3s
MK31 Makanchi Array 51.69 58 *e*P **P** 03 56 48.3 +1.0
MK31 Makanchi Array 51.69 58 *e*P **P** 03 56 48.3 +1.0
MKAR Makanchi Array 51.69 58 P **P** 03 56 48.4 +1.0
comp=Z,5.3nm,0.7s,baz=290,slow=6.0,SNR=57
MKAR Makanchi Array 51.69 58 *e*P **P** 03 56 48.3 +1.0
comp=Z,32nm,0.7s
MK01 Makanchi Array 51.71 58 *e*P **P** 03 56 48.0 +0.5
WMQ Urumqi 56.42 59 P **P** 03 57 25.2 +3.2
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ LR LR
comp=Z,470nm,20.3s
WMQ LR LR
comp=Z,570nm,20.3s
WMQ LR LR
comp=Z,370nm,21.7s
TIXI Tiksi 59.28 18 *e*P **P** 03 57 43.1 +1.6
comp=Z,4.4nm,1.2s
TIXI Tiksi 59.28 18⇓ *i*P **P** 03 57 42.9 +1.4
TIXI pmax pmax
comp=Z,4.0nm,1.1s
FCC Fort Churchill 60.56 324 *e*P **P** 03 57 51.3 +0.8
comp=Z,2.0nm,0.5s
FCC Fort Churchill 60.56 324 *e*P **P** 03 57 51.3 +0.8
FCC pmax pmax
comp=Z,2.0nm,0.5s
TLY Talaya 61.74 45 *e*P **P** 03 58 01.3 +2.6
TLY pmax pmax
comp=Z,6.0nm,1.3s
SONA1 Songino Array 65.39 47 *e*P **P** 03 58 23.9 +1.0
SONM Songino Array 65.39 47 P **P** 03 58 24.5 +1.5
comp=Z,3.0nm,1.0s,baz=298,slow=6.0,SNR=19
ULN Ulaanbaatar 65.73 47 *e*P **P** 03 58 25.2 0.0
comp=Z,3.4nm,1.0s
ULN Ulaanbaatar 65.73 47⇓ *e*P **P** 03 58 26.8 +1.6
ULN pmax pmax
comp=Z,6.0nm,1.7s
YKA Yellowknife Ar 65.96 335 P **P** 03 58 27.4 +1.2
comp=Z,1.0nm,0.6s,baz=44,slow=6.2,SNR=41
INK Inuvik 66.14 345 P **P** 03 58 28.4 +1.2
comp=Z,0.8nm,0.8s,baz=30,slow=8.6,SNR=3.3
YAK Yakutsk 66.28 26 *e*P **P** 03 58 29.3 +1.1
comp=Z,22nm,0.8s
YAK Yakutsk 66.28 26 *e*P **P** 03 58 27.7 -0.5
YAK *e**PP **sP** 03 58 33.3 +0.6
YAK *e* 03 58 52.4
YAK *e*PPP PPP 04 02 39.8
YAK *e*S **S** **04 07 18.0 +0.8**
YAK *e**SS sS 04 07 36.8 +14
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=Z,205nm,4.7s
YAK pmax pmax
comp=N,108nm,4.7s
YAK pmax pmax
comp=E,101nm,4.0s
YAK smax smax
comp=E,90nm,6.3s
YAK smax smax
comp=N,973nm,12.1s
YAK MLR MLR
comp=Z,233nm,19.0s
YAK MLR MLR
comp=N,320nm,23.0s
YAK MLR MLR
comp=E,132nm,17.0s
ULM Lac du Bonnet 66.37 317 P **P** 03 58 29.8 +0.7
comp=E,5.9nm,0.7s,baz=49,slow=5.6,SNR=13
ULM Lac du Bonnet 66.37 317 *e*P **P** 03 58 29.7 +0.6
comp=E,25nm,1.5s
GTA Gaotai 66.45 58 P **P** 03 58 30.8 +0.9
GTA pP sP 03 58 35.3 +1.0
GTA sP pP 03 58 37.9 +4.8
GTA pmax pmax
comp=E,2.0nm,1.0s
L44A Lake County Fo 66.81 306 P **P** 03 58 32.5 +0.5
baz=54
B34A Aery, Baudette 66.82 315 P **P** 03 58 32.2 +0.3
baz=52
A33A Warroad 66.93 316 P **P** 03 58 32.9 +0.2
baz=52
E36A McGregor 67.27 313 P **P** 03 58 35.3 +0.5
baz=52
H39A Augusta 67.28 310 P **P** 03 58 34.8 -0.2
baz=53
J41A Loganville 67.34 308 P **P** 03 58 35.3 -0.1
baz=52
D35A Remer 67.36 314 P **P** 03 58 35.8 +0.4
baz=52
F37A Hinrichs Farm, 67.41 312 P **P** 03 58 35.8 +0.1
baz=52
A32A Rocking H Ranc 67.51 316 P **P** 03 58 36.6 +0.3
baz=51
AGMN Agassiz Nation 67.57 315 P **P** 03 58 36.8 +0.1
baz=52
SPMN Marine on St. 67.81 311 P **P** 03 58 38.8 +0.5
baz=52
C33A Trail 67.86 315 P **P** 03 58 38.8 +0.2
baz=51
B32A Ashes, Strandq 67.86 316 P **P** 03 58 39.0 +0.5
baz=51,SNR=6.5
E35A Pequot Lakes 67.87 313 P **P** 03 58 38.9 +0.2
baz=52
D34A Park Rapids 67.97 314 P **P** 03 58 39.6 +0.3
baz=52
WCI Wyandotte Cave 68.16 302 P **P** 03 58 41.0 +0.3
baz=53
I38A Scanlan Farm, 68.27 310 P **P** 03 58 41.1 -0.1
baz=52
D33A AnnSam, Waubun 68.28 314 P **P** 03 58 41.1 -0.2
baz=51
J39A Decorah 68.34 309 P **P** 03 58 41.7 0.0
baz=52

B31A Greenbush Farm 68.42 316 P P 03 58 42.1 +0.1
baz=50
HDIL Hopedale 68.61 306 P P 03 58 43.7 +0.3
baz=52
O43A Sugar Creek Fa 68.79 305 P P 03 58 44.6 +0.1
baz=52
C31A Landman Farms, 68.86 316 P P 03 58 45.0 +0.2
baz=50
T48A Bowling Green 68.90 301 P P 03 58 45.6 +0.4
baz=53
I36A Fitzsimmons Fa 69.23 311 P P 03 58 47.2 0.0
baz=51
H35A Sunnyside Ranc 69.26 312 P P 03 58 47.7 +0.3
baz=51
F33A 5 Mile Ranch, 69.34 314 P P 03 58 48.2 +0.3
baz=50
G34A Benson 69.36 313 P P 03 58 48.1 +0.1
baz=51
R45A Skylar, Fairfi 69.37 303 P P 03 58 48.3 +0.2
baz=52
S46A Don Dixon Farm 69.38 302 P P 03 58 48.4 +0.2
baz=52
J37A Redenius Farm, 69.42 310 P P 03 58 48.3 -0.1
baz=51
T47A Sharon Grove 69.42 302 P P 03 58 48.9 +0.4
baz=52,SNR=5.5
K37A Belmond 69.81 310 P P 03 58 51.0 +0.2
baz=51
H34A Spellman Lake, 69.81 312 P P 03 58 51.1 +0.3
baz=50
O41A Passleys Farm, 69.84 306 P P 03 58 51.0 0.0
baz=52
P42A Winchester 69.84 305 P P 03 58 50.9 -0.1
baz=52
Q43A New Douglas 69.85 305 P P 03 58 51.5 +0.4
baz=52
J36A Seneca 1, Swea 69.85 310 P P 03 58 51.0 0.0
baz=51
U47A Clarksville 69.87 301 P P 03 58 51.7 +0.5
baz=52,SNR=6.9
T46A Princeton 69.89 302 P P 03 58 51.2 -0.2
baz=52
R44A Waltonville 69.89 304 P P 03 58 51.4 +0.1
baz=52
V48A Smith Brothers 70.00 300 P P 03 58 52.0 -0.1
baz=52
P41A Barry, Barry 70.22 306 P P 03 58 53.1 -0.2
baz=51
L37A Phoenix Point, 70.28 309 P P 03 58 53.4 -0.3
baz=51
M38A Pleasantville 70.40 308 P P 03 58 54.7 +0.3
baz=51
R43A Red Bud 70.40 304 P P 03 58 54.8 +0.4
baz=52
WVT Waverly 70.41 301 P P 03 58 54.4 -0.2
baz=52
O40A La Belle 70.43 307 P P 03 58 54.9 +0.3
baz=51
Q41A Truxton 70.77 305 P P 03 58 56.8 0.0
baz=51
V46A Holladay 70.80 301 P P 03 58 57.1 +0.1
baz=52
ECSD EROS Data Cent 70.87 312 P P 03 58 57.6 +0.3
baz=50,SNR=6.4
ECSD EROS Data Cent 70.87 312 *e*P P 03 58 57.9 +0.7
comp=E,54nm,1.9s
P40A Paris 70.91 306 P P 03 58 57.6 0.0
baz=51
S43A Fulton Ridge, 70.93 304 P P 03 58 57.6 -0.1
baz=51
X48A Hartselle 70.94 299 P P 03 58 57.9 +0.1
baz=52
LZH Lanzhou 71.00 58 *e*P P 03 58 59.7 +1.3
LZH pP sP 03 59 03.9 +1.1
LZH sP pP 03 59 06.3 +4.7
LZH pmax pmax
comp=E,12nm,1.0s
S42A Caledonia 71.25 304 P P 03 58 60.0 +0.3
baz=51
K34A Le Mars 71.25 311 P P 03 58 59.9 +0.2
baz=50
R41A Rosebud 71.28 305 P P 03 59 00.0 +0.2
baz=51
HIA Hailar 71.31 40⇓*e*P P 03 59 00.5 +0.6
HIA pmax pmax
comp=Z,7.0nm,1.0s
J33A Davis 71.33 312 P P 03 59 00.3 +0.2
baz=49
CCM Cathedral Cave 71.34 305 P P 03 59 00.2 0.0
baz=51
CCM Cathedral Cave 71.34 305 *e*P P 03 59 00.7 +0.5
comp=Z,50nm,1.9s
CCM Cathedral Cave 71.34 305 *e*P P 03 59 00.7 +0.5
CCM pmax pmax
comp=Z,50nm,1.9s
T43A Greenville 71.36 303 P P 03 59 00.8 +0.4
baz=51,SNR=6.1
W46A Michie 71.38 301 P P 03 59 00.4 0.0
baz=51
N37A Lee Faris, Mou 71.41 308 P P 03 59 00.9 +0.3
baz=50
150A Eclectic 71.41 297 P P 03 59 01.2 +0.5
baz=52
X47A Russelville 71.42 300 P P 03 59 00.7 -0.1
baz=51
IL1 Eielson Array 71.61 349 *e*P P 03 59 02.9 +1.5
ILAR Eielson Array 71.61 349 P P 03 59 03.6 +2.2
comp=Z,1.2nm,1.0s,baz=16,slow=4.2,SNR=6.5
SEY Seymchan 71.61 16⇓*e*P P 03 59 03.3 +1.9
PBMO Poplar Bluff 71.64 303 *e*P P 03 59 01.5 -0.5
comp=Z,20nm,0.8s
I31A Royce, Wessing 71.73 313 P P 03 59 02.3 -0.2
baz=49
P38A Dawn 71.73 307 P P 03 59 02.9 +0.4
baz=50
O37A Wolven Farm, M 71.75 308 P P 03 59 03.1 +0.5
baz=50
Q39A Willow Grove F 71.77 306 P P 03 59 03.0 +0.2
baz=50
J32A Parkston 71.78 312 P P 03 59 02.6 -0.2
baz=49
LRAL Lakeview Retre 71.79 298 P P 03 59 03.0 0.0
baz=51
Y47A UCPARC, Winfie 71.80 299 P P 03 59 03.1 0.0
baz=51
R40A Maddies Statio 71.82 305 P P 03 59 03.1 0.0
baz=50
T42A Van Buren 71.90 304 P P 03 59 03.5 0.0
baz=51
149A Jones 71.92 298 P P 03 59 04.3 +0.5
baz=51
Z48A Northport 71.94 299 P P 03 59 04.3 +0.5
baz=51
S41A Jillco Farms, 71.95 304 P P 03 59 04.3 +0.4
baz=50,SNR=8.4
Q38A Cooks Store, C 72.21 307 P P 03 59 05.6 +0.2
baz=50
BOSA Boshof 72.21 164 P P 03 59 05.1 -0.3
comp=Z,2.0nm,0.7s,baz=258,slow=4.8,SNR=3.1
P37A Lathrop 72.24 307 P P 03 59 06.0 +0.4
baz=50
R39A Chumby, Stover 72.27 306 P P 03 59 06.4 +0.5
baz=50,SNR=7.5
T41A Mountain View 72.31 304 P P 03 59 06.3 +0.3
baz=50,SNR=5.2
S40A Lebanon 72.40 305 P P 03 59 06.9 +0.2
baz=50,SNR=5.4
HHC Hu-ho-hao-te 72.64 50 *e*P P 03 59 08.9 +0.8
HHC sP PcP 03 59 19.8 -5.8
HHC S S 04 08 35.2 +2.1
HHC sS sS 04 08 39.1 +0.7
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,120nm,8.3s
HHC LR LR
comp=Z,310nm,15.8s
HHC LR LR
comp=Z,240nm,14.9s
HHC LR LR
comp=Z,380nm,14.4s
S39A Bolivar 72.84 305 P P 03 59 09.5 +0.3
baz=50
U41A Viola 72.85 304 P P 03 59 09.6 +0.3
baz=50
V42A Cord 72.86 303 P P 03 59 09.7 +0.4
baz=50,SNR=5.4
R38A Fenwick Farm, 72.88 306 P P 03 59 09.7 +0.3
baz=50
MCK McKinley 72.89 349 *e*P P 03 59 09.7 +0.6
comp=Z,17nm,1.4s
MCK McKinley 72.89 349 *e*P P 03 59 09.7 +0.6
MCK pmax pmax
comp=Z,17nm,1.4s
Y45A Yeager Farm, C 72.92 300 P P 03 59 10.1 +0.4
baz=50
S38A Stockton 73.24 306 P P 03 59 11.9 +0.3
baz=50,SNR=5.9
W42A Bald Knob 73.28 302 P P 03 59 12.3 +0.5
baz=50
Y44A Strider, Charl 73.29 301 P P 03 59 12.2 +0.3
baz=50
Q36A Arnold C. Orve 73.30 308 P P 03 59 12.3 +0.4
baz=49
T39A Clever 73.31 305 P P 03 59 12.3 +0.3
baz=50
V41A Mountainview 73.35 303 P P 03 59 12.7 +0.4
baz=50,SNR=5.3
U40A Yellville 73.42 304 P P 03 59 13.2 +0.5
baz=50
Q35A Mercer Eighty, 73.71 308 P P 03 59 14.2 -0.2
baz=49
P34A Walnut Farm, R 73.72 309 P P 03 59 14.7 +0.3
baz=49
V40A Witts Springs 73.75 304 P P 03 59 15.0 +0.3
baz=50
U39A Green Forest 73.79 304 P P 03 59 15.2 +0.3
baz=49
W41B Gary Mavity, V 73.80 303 P P 03 59 15.2 +0.3
baz=50
T38A Diamond 73.86 305 P P 03 59 15.6 +0.3
baz=49
KSU1 Kansas State U 73.89 308 P P 03 59 15.8 +0.4
baz=49
KSU1 Kansas State U 73.89 308 *e*P P 03 59 16.4 +1.1
comp=Z,16nm,0.8s
HHAR Hobbs 74.13 305 *e*P P 03 59 17.7 +0.8
comp=Z,9.2nm,0.8s
Q34A Chapman 74.20 308 P P 03 59 17.4 +0.3
baz=48
CD2 Chengdu 74.20 63 *e*P P 03 59 16.3 -1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
V39A Pettigrew 74.24 304 P P 03 59 17.9 +0.3
baz=49,SNR=5.5
Y42A Garnett, Star 74.37 301 P P 03 59 18.7 +0.4
baz=50
RSSD Black Hills 74.58 316 P P 03 59 19.3 -0.3
baz=46
EGMT Eagleton 74.60 322 P P 03 59 19.5 +0.1
baz=43
X40A Basin Creek Fa 74.61 303 P P 03 59 20.1 +0.4
baz=49
W39A Magazine 74.74 304 P P 03 59 20.9 +0.5
baz=49
R34A Isabella, Hill 74.79 308 P P 03 59 21.1 +0.4
baz=48
MIAR Mount Ida 75.04 303 P P 03 59 22.6 +0.5
baz=49
S34A Willow Spring 75.11 307 P P 03 59 22.7 +0.3
baz=48
T35A Sooner Cattle 75.27 307 P P 03 59 23.8 +0.3
baz=48
SDV Santo Domingo 75.35 269 P P 03 59 25.8 +1.4
comp=Z,5.6nm,0.7s,baz=28,slow=2.8,SNR=9.5
SDV Santo Domingo 75.35 269 *e*P P 03 59 25.9 +1.4
comp=Z,6.6nm,0.8s
RAGM Ragged Mountai 75.38 346 *e*P P 03 59 25.1 +1.4
comp=Z,255nm,0.6s
XAN Xi'an 75.50 57 P P 03 59 34.0 +9.1
XAN pP PcP 03 59 45.8 +7.9
TUL1 Leonard 75.51 305 P P 03 59 24.9 +0.1
baz=48
T34A McClaskey Farm 75.61 307 P P 03 59 25.6 +0.2
baz=48
BJI Beijing 75.79 49⇓*i*P P 03 59 27.8 +1.5
BJI PcP PcP 03 59 35.7 -3.2
BJI pmax pmax
comp=Z,17nm,0.8s
BJI LR LR
comp=Z,920nm,16.7s
BJI LR LR
comp=Z,2μm,17.7s
BJI LR LR
comp=Z,2μm,17.6s
KLR Kul'dur 76.70 34⇓*e*P P 03 59 31.5 +0.1
KMI Kunming 77.23 68 P P 03 59 35.6 +0.6
KMI pmax pmax
comp=Z,4.0nm,0.5s
WMOK Wichita Mounta 78.10 306 P P 03 59 40.1 +0.6
baz=47
WMOK Wichita Mounta 78.10 306 *e*P P 03 59 40.2 +0.7
comp=Z,8.6nm,0.8s
WMOK Wichita Mounta 78.10 306 *e*P P 03 59 40.2 +0.7
WMOK pmax pmax
comp=Z,9.0nm,0.8s
PD31 Pinedale Array 78.36 318 *e*P P 03 59 42.1 +1.0
PDAR Pinedale Array 78.36 318 P P 03 59 41.4 +0.3
comp=Z,0.7nm,0.6s,baz=40,slow=5.7,SNR=8.6
CMAR Chiang Mai Arr 78.86 75 P P 03 59 43.5 -0.4
comp=Z,0.8nm,0.3s,baz=308,slow=7.2,SNR=5.0
CMAR Chiang Mai Arr 78.86 75 *i*P P 03 59 44.2 +0.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
O20A White River Ci 79.62 315 P P 03 59 48.0 0.0
baz=43
O20A White River Ci 79.62 315 *e*P P 03 59 50.0 +2.0
comp=Z,6.6nm,0.8s
ABTX Abilene, Hawle 80.07 305 P P 03 59 50.9 +0.5
baz=46
ABTX Abilene, Hawle 80.07 305 *e*P P 03 59 52.0 +1.7
comp=Z,7.8nm,0.9s
HWUT Hardware Ranch 80.22 318 *e*P P 03 59 53.0 +1.9
comp=Z,5.5nm,0.8s
BMO Blue Mountains 80.41 324 *e*P P 03 59 53.2 +1.2
comp=Z,5.6nm,1.0s
BMO Blue Mountains 80.41 324 *e*P P 03 59 53.3 +1.2
BMO pmax pmax
comp=Z,6.0nm,1.0s
S22A 4UR Ranch, Cre 80.60 313 P P 03 59 53.3 -0.1
baz=43
USRK Ussuriysk Ar. 80.72 37 P P 03 59 53.8 +0.2
comp=Z,1.1nm,0.7s,baz=354,slow=1.9,SNR=4.3
P18A Preston Nutter 81.03 316 *e*P P 03 59 57.5 +1.7
comp=Z,9.4nm,0.9s
PV01 Paradox Valley 81.26 314 *e*P P 03 59 58.3 +1.4
comp=Z,222nm,0.9s
PV09 Paradox Valley 81.29 315 *e*P P 03 59 59.3 +2.2
PV10 Paradox Valley 81.33 315 *e*P P 03 59 59.7 +2.4
SRU San Rafael Swe 81.56 316 *e*P P 04 00 00.0 +1.6
comp=Z,6.9nm,0.8s
SRU San Rafael Swe 81.56 316 *e*P P 04 00 00.0 +1.6
SRU pmax pmax
comp=Z,7.0nm,0.8s
JCT Junction City 81.65 304 *e*P P 04 00 00.7 +1.9
comp=Z,9.6nm,1.0s
JCT Junction City 81.65 304 *e*P P 04 00 00.7 +1.9
JCT pmax pmax
comp=Z,10.0nm,1.0s
TMUT Trail Mountain 81.77 317 *e*P P 04 00 01.8 +2.2
comp=Z,4.6nm,0.9s
MVCO Mesa Verde 81.90 314 P P 04 00 00.5 +0.2
baz=42
DUG Dugway, Tooele 81.90 318 P P 04 00 00.4 +0.3
baz=40
DUG Dugway, Tooele 81.90 318 *e*P P 04 00 02.2 +2.1
comp=Z,2.9nm,1.0s
DUG Dugway, Tooele 81.90 318 *e*P P 04 00 02.2 +2.1
DUG pmax pmax
comp=Z,3.0nm,1.0s
SAML Samuel 81.99 250 *e*P P 04 00 00.9 +0.3
comp=Z,3.0nm,0.9s
ANMO Albuquerque 82.43 311 P P 04 00 03.3 +0.3
baz=43
ANMO Albuquerque 82.43 311 *e*P P 04 00 06.1 +3.0
comp=Z,5.7nm,1.4s
ANMO Albuquerque 82.43 311 *e*P P 04 00 06.1 +3.0
ANMO pmax pmax
comp=Z,6.0nm,1.4s
YSS Yuzh-Sakhalins 82.84 29 *e*P P 04 00 05.6 +0.9
YSS *e* 04 00 13.8
YSS pmax pmax
comp=Z,10.0nm,0.8s
MSU Marysvale 82.86 317 *e*P P 04 00 07.5 +2.2
MSU Marysvale 82.86 317 *e*P P 04 00 07.5 +2.2
NJ2 Nanjing 82.93 53 *e*P P 04 00 07.1 +1.7
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MTPU Mount Pierson 83.22 316 *e*P P 04 00 09.9 +2.6
comp=Z,3.9nm,0.8s
PSUT Pine Spring 83.69 318 *e*P P 04 00 12.2 +2.7
comp=Z,5.7nm,0.9s
SZCU Shurtz Canyon 84.02 317 *e*P P 04 00 13.8 +2.5
comp=Z,5.0nm,0.9s
MOD Modoc Plateau 84.08 324 *e*P P 04 00 13.4 +2.0
comp=Z,16nm,1.9s
MNTX Cornudas Mount 84.16 308 P P 04 00 12.0 +0.2
baz=43
CCUT Cedar City 84.20 317 *e*P P 04 00 14.8 +2.7
comp=Z,5.5nm,0.9s
U15A North Rim 84.50 315 *e*P P 04 00 15.7 +1.9
R11A Troy Canyon, C 84.69 319 P P 04 00 16.7 +2.1
baz=39
R11A Troy Canyon, C 84.69 319 *e*P P 04 00 16.3 +1.7
comp=Z,9.5nm,0.9s
WUAZ Wupatki 84.70 314 P P 04 00 16.7 +2.0
baz=41
WUAZ Wupatki 84.70 314 *e*P P 04 00 17.2 +2.5
comp=Z,4.4nm,0.9s
TX31 Lajitas Ar. Si 84.83 305 *e*P P 04 00 17.8 +2.4
TXAR Lajitas Array 84.83 305 P P 04 00 17.4 +2.0
comp=Z,2.3nm,0.7s,baz=61,slow=5.8,SNR=29
X16A Lo Mia Camp, P 85.57 314 *e*P P 04 00 22.6 +3.5
SHPR Sheep Range 85.92 317 *e*P P 04 00 23.7 +3.0
comp=Z,5.5nm,1.0s
NVAR Mina Array Bea 85.94 320 P P 04 00 23.4 +2.4
comp=Z,0.3nm,0.7s,baz=52,slow=5.8,SNR=3.5
QIZ Qiongzhong 86.18 68 P P 04 00 27.0 +4.9
QIZ S S 04 10 54.8 -2.3
QIZ pmax pmax
comp=Z,21nm,1.6s
QIZ LR LR
comp=Z,320nm,20.4s
QIZ LR LR
comp=Z,350nm,22.4s
TUQ Turquoise Moun 87.14 317 P P 04 00 28.9 +2.2
baz=38
ISA Isabella, Lake 88.23 319 *e*P P 04 00 34.1 +2.2
comp=Z,2.9nm,1.0s
ISA Isabella, Lake 88.23 319 *e*P P 04 00 34.1 +2.2
ISA pmax pmax
comp=Z,3.0nm,1.0s
CPUP Villa Florida 90.64 234 P P 04 00 44.5 +1.6
comp=Z,1.5nm,1.0s,baz=40,slow=5.1,SNR=3.7
WRA Warramunga Arr 130.21 81 PKP PKPdf 04 06 51.0 +0.1
comp=Z,0.6nm,0.8s,baz=321,slow=1.7,SNR=6.9
WRA Warramunga Arr 130.21 81 PKIKP PKPdf 04 06 51.0 +0.1
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 132.14 85 PKP PKPdf 04 06 54.5 0.0
comp=Z,0.7nm,0.7s,baz=295,slow=1.6,SNR=11

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*IDC **04** 04:03:29.1±0.6, 22°.13S×170°.47E, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.3/41, mbtmp4.4/17, ML3.9/2, MS4.2/18, Ms1 4.2/18, ms1mx4.0/36, Error ellipse: s-maj=20.8km s-min=18.2km az=100.0*

*GCMT **04** 04:03:31.5±0.2, 21°.95S×170°.58E, h15km, MW5.0/86, Moment Tensor Solution. s35,c42; s86,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.81±.20; $M_{\theta\theta}$1.79±.13; $M_{\phi\phi}$2.03±.13; $M_{r\theta}$1.88±.29; $M_{\theta\phi}$1.58±.07; $M_{\phi r}$-1.41±.25; Best double couple: $M_0$4.18700×10^{16} NP1:ϕ_s246.00000°, δ52.00000°, λ-59.00000°. NP2: ϕ_s22.00000°, δ48.00000°, λ-124.00000°. Principal axes: T 3.5050, Plg2.0000°, Azm315.0000°; N 1.3740, Plg24.0000°, Azm46.0000°; P -4.8690, Plg66.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 04:03:31.5±0.3, 21°.96S×170°.33E, h10km, mb4.9/15 Error ellipse: s-maj=9.6km s-min=8.4km az=53.0*

*ISCJB **04** 04:03:32.3±0.3, 22°.16S±0°.06×170°.25E±0°.06, h25km, mb4.8/41, MS4.2/15, Error ellipse: s-maj=9.3km s-min=7.3km az=12.1*

*BJI **04** 04:03:34.2, 22°.00S×170°.20E, h30km, mb4.8/30, mB5.4/17, Ms5.1/8, Ms7 4.8/7*

ISC 04 04:03:33.9±0.4**, 22°.10S**±0°.08×**170°.22E**±0°.06**, h25km, n153,** σ**1s.33**/151**, mb4.9**/41**, MS4.3**/15**, 14C-5D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.50**	**270**	Pn	**Pn**	**04 04 27.2**	**+0.4**
	25nm,0.3s,baz=146,slow=12,SNR=107						
DZM				LR	LR	04 04 58.1	
	comp=Z,816nm,20.4s,baz=58,slow=24						
DZM				Sn	**Sn**	**04 05 09.6**	**+2.0**
	14nm,0.3s,baz=127,slow=20,SNR=6.3						
DZM	**Mont Dzumac**	**3.50**	**270**	*e*Pn	**Pn**	**04 04 27.3**	**+0.4**
	88nm,0.2s						
DZM				*e*Sn	**Sn**	**04 05 06.5**	**-1.1**
	161nm,0.3s						
DZM				*e*LR	LR	04 05 14.9	
	6μm,27.0s						
DZM	**Mont Dzumac**	**3.50**	**270**	*e*Pn	**Pn**	**04 04 26.9**	**0.0**
DZM				*e*Sn	**Sn**	**04 05 06.9**	**-0.7**
RAO	**Raoul Island**	**12.84**	**126**	LR	LR	04 10 20.1	
	comp=Z,2μm,20.7s,baz=282,slow=32						
HNR	**Honiara**	**16.00**	**320**	LR	LR	04 12 15.7	
	comp=Z,802nm,21.8s,baz=146,slow=33						
URZ	**Urewera**	**17.16**	**161**	P	**Pn**	**04 07 30.5**	**-1.4**
	0.2nm,0.3s,baz=335,slow=14,SNR=3.7						
URZ				LR	LR	04 12 51.5	
	comp=Z,1μm,18.3s,baz=342,slow=33						
URZ	**Urewera**	**17.16**	**161**	*e*Pn	**P**	**04 07 32.9**	**-0.5**
	113nm,1.5s						
BKZ	**Black Stump Fm**	**17.83**	**164**	*e*Pn	**P**	**04 07 44.3**	**+3.3**
	172nm,1.7s						
OXZ	**Oxford**	**21.22**	**176**	*e*P	**P**	**04 08 21.2**	**+3.3**
	69nm,1.1s						
RPZ	**Rata Peaks**	**21.56**	**178**	LR	LR	04 16 17.6	
	comp=Z,557nm,18.0s,baz=358,slow=36						
CTAO	**Charters Tower**	**22.44**	**271**	*e*P	**P**	**04 08 32.3**	**+1.0**
	503nm,1.8s						
CTAO				*e*		04 08 42.0	
PMG	**Port Moresby**	**25.48**	**296**	P	**P**	**04 08 58.7**	**-1.6**
	9.9nm,0.8s,baz=124,slow=11,SNR=2.0						
PMG				LR	LR	04 17 36.5	
	comp=Z,1μm,20.7s,baz=124,slow=33						
PMG	**Port Moresby**	**25.48**	**296**	*e*P	**P**	**04 08 59.8**	**-0.6**
	19nm,0.9s						
COEN	**Coen**	**26.93**	**283**	*e*P	**P**	**04 09 14.0**	**+0.5**
	24nm,1.1s						
STKA	**Stephens Creek**	**27.23**	**243**	P	**P**	**04 09 17.4**	**+1.3**
	3.5nm,0.6s,baz=100,slow=13,SNR=7.0						
STKA				LR	LR	04 19 40.8	
	comp=Z,117nm,19.3s,baz=63,slow=35						
STKA	**Stephens Creek**	**27.23**	**243**	*e*P	**P**	**04 09 17.6**	**+1.5**
	7.4nm,1.8s						
RAR	**Rarotonga**	**27.89**	**94**	LR	LR	04 20 22.3	
	comp=Z,143nm,18.3s,baz=272,slow=37						
BBOO	**Buckleboo**	**32.01**	**243**	*e*P	**P**	**04 09 58.6**	**+0.2**
	16nm,1.0s						
AS01	**Alice Springs**	**33.39**	**260**	*e*P	**P**	**04 10 10.9**	**+0.2**
ASAR	**Alice Springs**	**33.44**	**260**	P	**P**	**04 10 11.4**	**+0.3**
	1.9nm,0.8s,baz=95,slow=8.6,SNR=15						
ASAR				PcP	**PcP**	**04 12 52.2**	**+0.1**
	1.4nm,0.9s,baz=90,slow=4.6,SNR=4.6						
ASAR				LR	LR	04 23 32.8	
	comp=Z,392nm,19.6s,baz=94,slow=36						
WRA	**Warramunga Arr**	**33.51**	**267**	P	**P**	**04 10 11.0**	**-0.7**
	2.9nm,0.8s,baz=100,slow=8.4,SNR=16						
WRA				PcP	**PcP**	**04 12 52.1**	**-0.3**
	1.4nm,1.0s,baz=104,slow=2.8,SNR=5.5						
WRA				LR	LR	04 24 34.9	
	comp=Z,858nm,18.1s,baz=100,slow=38						
TBI	**Tubuai**	**37.13**	**100**	*e*LQ	LQ	04 18 58.2	
	444nm,38.8s						
TBI				*e*LR	LR	04 20 43.1	
	826nm,27.8s,baz=257						
PPT2	**Papeete2**	**38.01**	**91**	*e*S	**S**	**04 16 42.6**	**+1.1**
	159nm,25.2s						
PPT2				*e*LQ	LQ	04 19 17.7	
	692nm,33.0s						
PPT2				*e*LR	LR	04 21 09.5	
	734nm,27.8s,baz=252						
PPT	**Papeete**	**38.01**	**91**	LR	LR	04 22 17.1	
	comp=Z,232nm,20.2s,baz=252,slow=30						
FAKI	**Fak Fak**	**41.49**	**292**	*e*P	**P**	**04 11 21.0**	**+1.7**
	25nm,1.0s						

SOEI	Soe	45.69	278	eP	P	04 11 53.8	+0.5
	14nm,0.7s						
BATI	Baumata	46.08	277	LR	LR	04 31 19.9	
	comp=Z,1µm,20.9s,baz=142,slow=36						
MBWA	Marble Bar	46.76	261	eP	P	04 12 01.5	-0.1
	28nm,0.8s						
TAOE	Nuku Hiva Isla	49.40	83	eS	S	04 19 34.9	+6.9
	138nm,25.4s						
TAOE				eLR	LR	04 26 39.0	
	430nm,25.4s,baz=248						
RKT	Rikitea	50.35	102	eLR	LR	04 26 33.2	
	451nm,32.0s						
VNDA	Vanda	55.61	182	P	P	04 13 06.2	-1.0
	1.9nm,0.9s,baz=354,slow=5.8,SNR=5.7						
KKM	Kota Kinabalu	59.81	291	eP	P	04 13 38.4	+0.7
	26nm,1.0s						
LEM	Lembang	62.10	274	LR	LR	04 40 32.5	
	comp=Z,293nm,22.0s,baz=104,slow=36						
MJAR	Matsushiro Arr	65.70	332	P	P	04 14 15.7	-0.7
	5.2nm,1.0s,baz=158,slow=6.9,SNR=8.1						
MAJO	Matsushiro	65.70	332	eP	P	04 14 15.7	-0.7
	5.3nm,0.6s						
MJB9	Matsu-Tunnel	65.71	332	eP	P	04 14 14.8	-1.7
	42nm,1.6s						
QSPA	South Pole Qui	67.96	180	eP	P	04 14 29.7	-1.0
KSRS	Korea Array	71.38	326	P	P	04 14 53.0	+1.2
	4.8nm,1.0s,baz=143,slow=5.7,SNR=7.3						
KSRS				LR	LR	04 44 44.3	
	comp=Z,110nm,19.9s,baz=140,slow=35						
KSAR	Wonju Array Be	71.39	326	P	P	04 14 53.0	+1.1
KS01	Wonju Array Si	71.41	326	eP	P	04 14 52.6	+0.6
INCN	Inchon	72.08	325	eP	P	04 14 56.0	-0.1
	103nm,1.6s						
IPM	Ipoh	72.58	282	eP	P	04 15 00.7	+1.1
	19nm,1.3s						
NJ2	Nanjing	72.90	316	eP	P	04 15 02.1	+1.1
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
PSI	Prapat	73.81	280	LR	LR	04 50 55.8	
	comp=Z,206nm,18.4s,baz=102,slow=38						
PSI	Prapat	73.81	280	eP	P	04 15 06.3	-0.7
	27nm,1.6s						
USRK	Ussuriysk Ar.	74.69	333	P	P	04 15 11.5	+0.2
	12nm,1.3s,baz=152,slow=6.5,SNR=5.3						
PETK	Petropavlovsk-	75.68	352	P	P	04 15 16.6	-0.2
	6.5nm,1.0s,baz=108,slow=4.8,SNR=3.8						
PETK				LR	LR	04 41 29.0	
	comp=Z,172nm,21.7s,baz=186,slow=30						
ENH	Enshi	78.19	310	eP	P	04 15 31.8	+0.2
	12nm,0.9s						
GYA	Guiyang	78.20	305	eP	P	04 15 33.0	+1.2
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CM01	Chiang Mai Arr	80.48	294	eP	P	04 15 46.2	+1.9
CMAR	Chiang Mai Arr	80.51	294	P	P	04 15 46.2	+1.8
	4.1nm,0.9s,baz=125,slow=4.1,SNR=18						
CMAR				LR	LR	04 55 42.5	
	comp=Z,42nm,18.3s,baz=50,slow=39						
KMI	Kunming	80.56	302	P	P	04 15 46.6	+1.8
KMI				pmax	pmax		
	comp=Z,18nm,1.2s						
CHTO	Chiang Mai	80.67	295	eP	P	04 15 46.8	+1.5
	23nm,1.4s						
XAN	Xi'an	80.71	312	P	P	04 15 46.3	+1.1
XAN				pP	pP	04 15 54.0	+0.7
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
CD2	Chengdu	82.70	307	eP	P	04 15 56.6	+0.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC	Hu-ho-hao-te	82.98	319	eP	P	04 15 58.4	+1.3
HHC				pP	sP	04 16 09.4	+1.3
HHC				S	S	04 26 13.0	-1.8
HHC				sS	ScS	04 26 31.6	+2.5
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,260nm,6.4s						
HHC				LR	LR		
	comp=N,120nm,14.9s						
HHC				LR	LR		
	comp=E,170nm,15.1s						
HHC				LR	LR		
	comp=Z,150nm,14.5s						
LZH	Lanzhou	85.32	312	eP	P	04 16 11.3	+2.1
LZH				pP	sP	04 16 20.6	+0.4
LZH				sP	pP	04 16 24.1	+6.8
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,98nm,4.5s						
SEY	Seymchan	85.92	352	P	P	04 16 09.3	-2.0
	2.2nm,0.9s,baz=155,slow=8.9,SNR=8.2						
SNAA	Sanae	86.35	182	P	P	04 16 10.5	-3.1
SNAA	Sanae	86.35	182	P	P	04 16 11.4	-2.2
	4.6nm,0.8s,baz=193,slow=5.9,SNR=16						
SNAA	Sanae	86.35	182	eP	P	04 16 12.3	-1.3
	27nm,1.3s						
VNA3	Neumayer Olymp	86.90	180	P	P	04 16 14.1	-2.2
KFPM	Farley Peak	87.17	45	eP	P	04 16 19.1	+1.1
VNA2	Neumayer--Watz	87.21	181	P	P	04 16 16.1	-1.7
	baz=183,slow=4.2						
VNA1	Neumayer--Stat	87.49	181	P	P	04 16 18.2	-0.8
ULN	Ulaanbaatar	89.70	323	eP	P	04 16 30.3	+0.4
	7.4nm,1.1s						
GTA	Gaotai	89.75	313	eP	P	04 16 31.5	+1.1
GTA				pP	sP	04 16 41.9	+0.4
GTA				sP	pP	04 16 45.8	+7.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
NVAR	Mina Array Bea	90.01	48	P	P	04 16 30.8	-1.0
	0.6nm,0.7s,baz=227,slow=6.0,SNR=4.2						
SONM	Songino Array	90.05	323	P	P	04 16 32.2	+0.7
	4.7nm,0.9s,baz=140,slow=4.3,SNR=26						
SONA1	Songino Array	90.05	323	eP	P	04 16 31.4	-0.1
COLA	College	92.51	17	eP	P	04 16 41.4	-0.9
	3.2nm,0.8s						
ILAR	Eielson Array	92.69	17	P	P	04 16 40.9	-2.3
	1.1nm,0.9s,baz=237,slow=6.1,SNR=8.8						
PLCA	Paso Flores	95.79	138	P	P	04 16 57.9	-0.5
	1.8nm,1.0s,baz=231,slow=6.5,SNR=1.9						
TXAR	Lajitas Array	97.32	61	LR	LR	04 53 58.8	
	comp=Z,126nm,19.1s,baz=0.0,slow=31						
WMQ	Urumqi	99.83	313	P	Pdif	04 17 17.4	+1.1
YKA	Yellowknife Ar	102.78	27	PKiKP	PKiKP	04 21 48.1	-1.1
	0.1nm,0.5s,baz=254,slow=1.5,SNR=5.3						
MKAR	Makanchi Array	104.41	315	Pdiff	Pdif	04 17 29.5	-7.0
	0.2nm,0.7s,baz=97,slow=7.4,SNR=2.4						
MKAR				PP	PP	04 21 55.3	-0.4
	0.7nm,1.0s,baz=123,slow=5.3,SNR=3.4						
KSH	Kashi	106.87	306	ePdif	Pdif	04 17 50.1	+2.3
RES	Resolute Bay	112.44	17	ePKP	PKiKP	04 22 04.9	-2.1
SUMG	Summit	127.00	10	ePKPdf	PKPdf	04 22 35.2	-0.3
ARCES	ARCESS Array B	128.06	345	PKP	PKPdf	04 22 35.6	-1.6
	0.9nm,0.4s,baz=76,slow=1.7,SNR=15						
FINES	FINESS Array B	133.57	337	PKhKP	PKPpre	04 22 37.2	
	0.9nm,0.8s,baz=69,slow=9.2,SNR=3.0						
FINES				PKP	PKPdf	04 22 46.4	-1.3
	1.5nm,0.9s,baz=46,slow=4.0,SNR=5.0						
CJR	Cluj-Napoca	143.55	320	⇓iP	PKPbc	04 23 04.1	+0.2
ARR	Arges	143.58	318	⇑iP	PKPbc	04 23 05.1	+1.1
DRGR		144.03	321	⇑iP	PKPbc	04 23 05.6	+0.3
KECS	Kecovo	144.31	325	ePKP	PKPbc	04 23 06.5	+0.4
KECS				e		04 23 13.2	
LANS	Liptovska Anna	144.44	327	ePKP	PKPdf	04 23 08.5	+0.5
OKC	Ostrava-Krasne	144.65	328	ePKP	PKPbc	04 23 07.7	+0.6
KSP	Ksiaz	144.83	331	ePKP	PKPab	04 23 07.8	+0.2
SIRR	Siria	144.92	321	⇓iP	PKPdf	04 23 09.3	+0.4
PSZ	Piszkesteto	144.97	325	⇓iP	PKPbc	04 23 08.7	+0.4
PSZ	Piszkesteto	144.97	325	⇑eSKKPdf	PKPbc	04 23 08.9	+0.6
PSZ	Piszkesteto	144.97	325	ePKPdf	PKPbc	04 23 08.6	+0.4
MORC	Moravsky Berou	144.98	329	⇑iP	PKPdf	04 23 08.9	0.0
MORC	Moravsky Berou	144.98	329	ePKPdf	PKPbc	04 23 07.8	-0.5
DPC	Dobruska-Polom	145.16	330	ePKP	PKPab	04 23 09.1	+0.2
DPC				epPKP	pPKPab	04 23 16.6	-0.4
VYHS	Vyhne	145.17	326	ePKP	PKPab	04 23 09.2	+0.3
VYHS				e		04 23 18.6	
UPC	Upice	145.19	331	ePKP	PKPdf	04 23 09.6	+0.4
UPC				epPKP	pPKPab	04 23 16.8	-0.3
BZS	Buzias	145.29	320	⇑iP	PKPdf	04 23 09.8	+0.3
MDVR	Moldovita	145.67	319	⇑iP	PKPdf	04 23 10.4	+0.1
VRAC	Vranov	145.76	329	⇑iP	PKPab	04 23 11.3	+0.2
VTS	Vitosha	145.76	314	⇑iP	PKPab	04 23 12.4	+0.9
VTS	Vitosha	145.76	314	ePKPdf	PKPab	04 23 12.0	+0.5
PVCC	Panska Ves	145.82	332	ePKP	PKPbc	04 23 11.2	+0.4
PVCC				epPKP	pPKPdf	04 23 17.2	-1.5
BRG	Berggiesshubel	145.83	333	i PKP	PKPbc	04 23 10.8	0.0
	33nm,0.9s						
BRG				i		04 23 18.6	
	37nm,1.1s						
SMOL	Smolenice	145.88	327	ePKP	PKPab	04 23 12.3	+0.8
CLL	Collm	145.89	334	ePKPdf	PKPdf	04 23 10.0	-0.3
CLL				⇑iPKPbc	PKPdf	04 23 10.8	+0.5
	comp=Z,31nm,1.0s						
CLL				i (pPKiKP)		04 23 18.5	
	comp=Z,41nm,1.1s						
CLL	Collm	145.89	334	ePKPdf	PKPdf	04 23 10.8	+0.5
GOPC	GO Pecny, Ondr	146.17	331	ePKP	PKPbc	04 23 12.4	+0.5
GOPC				epPKP	pPKPdf	04 23 19.2	-0.1
CSKK	Csˆ‡kako	146.18	325	⇓eSKKPdf	PKPab	04 23 13.1	+0.4
PRU	Pruhonice	146.22	331	ePKP	PKPdf	04 23 11.6	+0.6
PRU				epPKP	pPKPdf	04 23 19.7	+0.3
TREC	Trest	146.29	330	ePKP	PKPbc	04 23 12.4	+0.1
EKA	Eskdalemuir Ar	146.45	353	PKPbc	PKPdf	04 23 11.0	-0.2
	comp=Z,7.7nm,0.6s,baz=12,slow=3.6,SNR=41						
ESK	Eskdalemuir	146.47	353	ePKPbc	PKPdf	04 23 11.5	+0.3
NKC	Novy Kostel	146.94	334	ePKP	PKPbc	04 23 14.7	+0.5
NKC				epPKP	pPKPbc	04 23 22.3	-0.2
CONA	Conrad Observa	147.05	328	epPKPdf	PKPbc	04 23 14.9	+0.2
	comp=Z,7.9nm,1.2s,SNR=8.5						
DIVS	Divibare	147.08	319	ePKPdf	PKPbc	04 23 15.0	+0.1
KHC	Kasperske Hory	147.28	331	ePKP	PKPbc	04 23 14.8	-0.4
KHC				epPKP	pPKPbc	04 23 23.3	-0.2
KHC	Kasperske Hory	147.28	331	ePKPbc	PKPbc	04 23 15.0	-0.2
GEC2	GERESS Array S	147.43	331	ePKPdf	PKPbc	04 23 15.8	+0.1
GERES	GERESS Array B	147.43	331	PKPbc	PKPbc	04 23 15.3	-0.4
	comp=Z,4.1nm,0.9s,baz=37,slow=2.5,SNR=30						
GEA0	GERESS Array S	147.44	331	ePKPdf	PKPbc	04 23 14.8	-0.8
ARSA	Arzberg	147.68	327	epPKPbc	PKPab	04 23 19.0	+0.4
	comp=Z,2.1nm,0.8s						
GRFO	Grafenberg	147.86	334	ePKPbc	PKPbc	04 23 17.1	+0.4
MOA	Molln	147.88	329	epPKPdf	PKPbc	04 23 16.8	0.0
	comp=Z,5.8nm,1.0s						
SOKA	Soboth	148.31	327	esPKPdf	PKPbc	04 23 18.2	+0.1
	comp=Z,6.3nm,1.0s						
BLY	Banja Luka	148.37	322	⇑iP	PKPbc	04 23 18.8	+0.6
BLY	Banja Luka	148.37	322	ePKPbc	PKPbc	04 23 18.4	+0.2
PDG	Podgorica	148.41	317	⇓iP	PKPbc	04 23 17.6	-0.7
MEM	Membach	148.97	340	⇑PKPbc	PKPbc	04 23 19.2	-0.3
MYKA	Terra Mystica	149.04	328	ePKPbc	PKPbc	04 23 18.9	-1.0
	comp=Z,0.5nm,0.3s						
BCLA	Clavier	149.36	341	⇑PKPbc	PKPdf	04 23 18.0	+1.9
STU	Stuttgart	149.40	335	ePKPbc	PKPbc	04 23 20.8	+0.1
STU				ePKPab	PKPab	04 23 25.3	-0.1
ABTA	Abfaltersbach	149.50	329	ePKPbc	PKPbc	04 23 20.1	-1.0
	comp=Z,3.3nm,0.5s						
WATA	Walderalm	149.51	331	ePKiKP	PKPbc	04 23 21.1	-0.1
	comp=Z,2.9nm,0.5s,SNR=5.5						
WTTA	Wattenberg	149.53	331	esPKPdf	PKPbc	04 23 21.1	-0.2
	comp=Z,10.0nm,1.1s						
MOTA	Moosalm	149.71	331	ePKPbc	PKPbc	04 23 21.3	-0.4
	comp=Z,5.5nm,0.7s						
WLF	Walferdange	149.75	339	⇑PKPbc	PKPbc	04 23 22.4	+0.9
WLF	Walferdange	149.75	339	ePKPbc	PKPbc	04 23 21.9	+0.4
RETA	Reutte	149.76	332	ePKPbc	PKPbc	04 23 21.1	-0.6
	comp=Z,7.7nm,1.3s,SNR=4.9						
DOU	Dourbes	149.86	341	⇑PKPbc	PKPbc	04 23 21.1	-0.6
BFO	Black Forest	150.09	335	ePKPbc	PKPbc	04 23 21.5	-0.9
BFO				ePKPab	PKPab	04 23 27.9	-0.4
FETA	Feichten	150.13	331	ePKiKP	PKPbc	04 23 22.6	-0.1
	comp=Z,6.3nm,0.7s,SNR=6.6						
FETA				ePKiKP	PKiKP	04 23 23.4	-0.2
	SNR=5.8						
DAVA	Damuels	150.29	332	ePKPbc	PKPbc	04 23 22.5	-0.6
	comp=Z,9.5nm,0.9s						
FUORN	Ofenpass-Fuorn	150.64	331	ePKPbc	PKPbc	04 23 24.5	+0.4
TUE	Stuetta	151.16	332	ePKPbc	PKPbc	04 23 24.6	-0.7
TUE				ePKPab	PKPab	04 23 32.9	-0.1
CUC	Castrocucco	151.89	315	ePKPbc	PKPbc	04 23 27.1	+0.1
CUC				ePKPab	PKPab	04 23 36.3	+0.2
BNI	Bardonecchia	153.42	333	ePKPbc	PKPbc	04 23 29.9	-0.4
SSB	Saint Sauveur	154.07	336	ePKPbc	PKPbc	04 23 30.4	-1.2
TOA0	Torodi Ar. Sit	165.90	233	ePKPdf	PKPdf	04 23 37.6	+0.1
TORD	Torodi Ar. Bea	165.90	233	PKP	PKPdf	04 23 37.1	-0.5
	comp=Z,1.8nm,1.0s,baz=295,slow=2.0,SNR=7.3						
TORD				PKPab	PKPab	04 24 38.5	+1.2
	comp=Z,0.6nm,1.1s,baz=142,slow=4.9,SNR=2.2						
BBTS	Babate	170.21	138	PKP	PKPdf	04 23 38.8	-1.6
	comp=Z,43nm,1.2s,baz=255,slow=1.6,SNR=2.3						
KOWA	Kowa	170.66	217	PKP	PKPdf	04 23 38.9	-1.9
	comp=Z,1.4nm,0.8s,baz=180,slow=1.0,SNR=3.5						

*RSNC **04** 04:23:17.2±1.3, 2°.02N×75°.94W, h4km±5km, ML3.4*
*IGQ **04** 04:23:23.2±1.6, 1°N±24°×7°5W±1°1, h20km, MLv4.0/7*
ISC 04 04:23:15.7±1.2, **2°.04N**±0°.03×**75°.96W**±0°.04, **h1**km±13km, **n25**, σ**1s.01**/37, **1C-2D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCON	Cinco Dias	0.52	303	⇓iP	Pb	04 23 27.6	-0.3
PCON				eS	Sb	04 23 35.2	-1.0
PCON				i		04 23 36.7	
	comp=Z,5µm,0.1s						
FLOC	Florencia	0.55	146	⇓iP	Pg	04 23 26.0	-0.3
FLOC				eS	Sg	04 23 33.2	-0.3
FLOC				i		04 23 35.8	
	comp=Z,2µm,0.3s						
SOTA	Rioblanco	0.65	278	⇑iP	Pb	04 23 29.9	-0.3
SOTA				eS	Sb	04 23 39.4	-0.6
SOTA				i		04 23 39.8	
	comp=Z,2µm,0.1s						
MARP	Paez Belalcaza	0.80	1	eP	Pg	04 23 31.5	+0.6
MARP				eS	Sb	04 23 42.5	-1.4
BETC	Betania	0.82	39	eP	Pg	04 23 32.3	+0.8
BETC				eS	Sg	04 23 42.7	+0.6
POPC	Popayan, Colom	0.87	305	eP	Pb	04 23 33.6	-0.1
POPC				eS	Sb	04 23 45.9	-0.1
POPC				i		04 23 47.0	
	comp=Z,2µm,0.1s						
CRUC	La Cruz	1.09	245	eP	Pb	04 23 37.8	+0.1
CRUC				eS	Sb	04 23 52.4	-0.2
CPAS2	Pasto	1.52	238	eP	Pn	04 23 44.4	0.0
CPAS2				eS	Sg	04 24 04.9	+0.2
CPAS2				AML	AML	04 24 09.8	
	comp=Z,630nm,0.3s						
HORQ	Saladito	1.58	335	eP	Pb	04 23 45.4	-0.5
HORQ				i		04 23 47.5	
	comp=Z,203nm,0.6s						
HORQ				eS	Sg	04 24 06.7	+0.2
GCUF	Volcan Galeras	1.60	240	eP	Pn	04 23 45.8	+0.2
GCUF				eS	Sn	04 24 07.2	-0.1
GCUF				i		04 24 15.2	
	comp=Z,264nm,0.4s						
YOTC	Yotoco, Valle	1.97	349	eP	Pn	04 23 51.0	+0.7
YOTC				eS	Sb	04 24 16.9	-0.6
PRAC	Prado	1.98	33	eP	Pn	04 23 50.4	0.0
MALC	Bahia Malaga	2.39	325	eP	Pn	04 23 55.8	-0.2
TOLC	Tolima	2.61	14	eP	Pn	04 23 59.6	+0.3
YAHU	Yahuarcocha	2.68	232	P	Pb	04 24 03.1	-1.7
YAHU				S	Sb	04 24 39.9	+1.4
LITE1	Lita	2.70	243	P	Pb	04 24 03.1	-1.8
URCU	Urcuqui	2.79	235	P	Pg	04 24 08.8	-0.4
IMBA	Imbabura, San	2.84	232	P	Pb	04 24 07.8	+0.2
COTA	Cotacachi	2.92	235	P	Pb	04 24 10.5	+1.7
OTAV	Otavalo	3.07	234	P	Pb	04 24 11.5	+0.1
PULU	Pululahua	3.24	232	P	Pg	04 24 17.4	-0.4
ANTI	Antisana	3.31	222	P	Pb	04 24 13.7	-1.9
VC1	Cotopaxi 1	3.61	222	P	Pn	04 24 16.3	+2.9
BTAM	Cotopaxi Volca	3.63	222	P	Pn	04 24 15.1	+1.5
AAM2	Ambato 2 (Merc	4.22	219	P	Pb	04 24 30.0	-1.1

*ISCJB **04** 04:37:39.4±0.6, 40°.15N±0°.02×24°.03E±0°.03, h8km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=135.3*
*THE **04** 04:37:39.8, 40°.16N×24°.04E, h8km±1km, ML2.4/5, Error ellipse: s-maj=1.4km s-min=0.6km az=299.0*
*CSEM **04** 04:37:39.5±0.1, 40°.15N×24°.04E, h10km, ML2.4, Error ellipse: s-maj=2.2km s-min=2.0km az=146.0*
*ATH **04** 04:37:39.4, 40°.16N×24°.02E, h23km±1km, ML2.4/10, Error ellipse: s-maj=1.5km s-min=0.9km az=309.0*
ISC 04 04:37:39.6±0.9, **40°.16N**±0°.02×**24°.04E**±0°.02, **h13**km±6km, **n79**, σ**0s.56**/109, **3C-4D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.18	347	P	Pg	04 37 43.2	-0.5
OUR	Ouranopolis	0.18	347	P	Pg	04 37 43.9	+0.1
OUR				S	Sg	04 37 47.0	+0.4
OUR	Ouranopolis	0.18	347	P	Pg	04 37 43.9	+0.1
OUR				S	Sg	04 37 47.0	+0.4
PAIG	Paliouri	0.36	230	P	Pg	04 37 46.3	-0.5
PAIG				S	Sg	04 37 51.2	-0.4
PAIG				AML	AML	04 37 52.4	
	comp=E,1930µm,0.2s						
PAIG				AML	AML	04 37 52.5	
	comp=N,1504µm,0.2s						
PAIG	Paliouri	0.36	230	P	Pg	04 37 46.6	-0.2
PAIG				S	Sg	04 37 51.8	+0.1
PAIG	Paliouri	0.36	230	P	Pg	04 37 46.6	-0.2
PAIG				S	Sg	04 37 51.9	+0.2
PLG	Polygyros	0.50	296	P	Pg	04 37 49.5	0.0
PLG				S	Sg	04 37 55.8	-0.4
PLG				AML	AML	04 37 57.2	
	comp=N,1294µm,0.3s						
PLG				AML	AML	04 37 57.5	
	comp=E,734µm,0.2s						
PLG	Polygyros	0.50	296	P	Pg	04 37 49.4	-0.1
PLG				S	Sg	04 37 56.1	-0.1
PLG	Polygyros	0.50	296	P	Pg	04 37 49.4	-0.1
PLG				S	Sg	04 37 56.1	-0.1
HORT	Hortiatis	0.84	302	P	Pg	04 37 55.0	-1.0
HORT				AML	AML	04 38 07.6	
	comp=N,536µm,0.4s						
HORT				S	Sb	04 38 08.1	+0.7
HORT				AML	AML	04 38 09.2	
	comp=E,394µm,0.3s						
HORT	Hortiatis	0.84	302	P	Pg	04 37 55.4	-0.5
HORT				S	Sb	04 38 07.3	-0.1
HORT	Hortiatis	0.84	302	P	Pg	04 37 55.4	-0.5
HORT				S	Sb	04 38 07.3	-0.1
SOH	Sokhos	0.84	322	P	Pg	04 37 55.7	-0.4
SOH				S	Sb	04 38 07.8	+0.4
SOH				AML	AML	04 38 09.0	
	comp=E,688µm,0.4s						
SOH				AML	AML	04 38 11.9	
	comp=N,582µm,0.6s						
SOH	Sokhos	0.84	322	P	Pg	04 37 55.6	-0.4
SOH				S	Sb	04 38 07.6	+0.1
SOH	Sokhos	0.84	322	P	Pg	04 37 55.6	-0.4
SOH				S	Sb	04 38 07.6	+0.1
KAVA	Kavala	0.91	23	P	Pb	04 37 57.5	+0.1
KAVA				S	Sn	04 38 10.7	-0.6
KAVA				AML	AML	04 38 11.3	
	comp=E,507µm,0.5s						
KAVA				AML	AML	04 38 13.2	
	comp=N,276µm,0.2s						
KAVA	Kavala	0.91	23	P	Pb	04 37 57.3	-0.1
KAVA				S	Sb	04 38 09.7	+0.2
KAVA	Kavala	0.91	23	P	Pb	04 37 57.5	+0.1
KAVA				S	Sb	04 38 09.7	+0.2
LIA	Limnos Island	0.92	106	P	Pn	04 37 58.4	+0.1
LIA				AML	AML	04 38 11.0	
	comp=E,655µm,0.5s						
LIA				S	Sn	04 38 11.2	-0.1
LIA				AML	AML	04 38 11.5	
	comp=N,865µm,0.5s						
LIA	Limnos Island	0.92	106	P	Pb	04 37 57.6	+0.2
LIA				S	Sn	04 38 10.7	-0.6
LIA	Limnos Island	0.92	106	P	Pb	04 37 57.6	+0.2
LIA				S	Sb	04 38 10.0	+0.5
THE	Thessaloniki	0.94	300	P	Pg	04 37 56.7	-1.2
THE	Thessaloniki	0.94	300	P	Pg	04 37 57.1	-0.8
THE	Thessaloniki	0.94	300	P	Pg	04 37 57.1	-0.8
SRS	Serrai	1.02	341	P	Pb	04 37 59.2	+0.1
SRS	Serrai	1.02	341	P	Pg	04 37 58.9	-0.4
SRS	Serrai	1.02	341	P	Pg	04 37 59.1	-0.2
XOR	Xorichti	1.02	220	P	Pn	04 37 59.9	+0.1
XOR	Xorichti	1.02	220	P	Pg	04 37 59.2	-0.2
XOR	Xorichti	1.02	220	P	Pg	04 37 59.2	-0.2
NEO	Neokhori	1.05	217	P	Pn	04 38 00.5	+0.3
NEO				AML	AML	04 38 14.6	
	comp=N,594µm,0.4s						
NEO				S	Sn	04 38 14.6	-0.2
NEO				AML	AML	04 38 15.0	
	comp=E,439µm,0.7s						
NEO	Neokhori	1.05	217	P	Pb	04 37 59.9	+0.1
NEO				S	Sb	04 38 14.4	+0.9
SKIA	Skiathos	1.08	204	P	Pg	04 38 00.3	-0.2
SKIA	Skiathos	1.08	204	P	Pg	04 38 00.1	-0.4
SMTH	Samothraki Isl	1.19	74	P	Pb	04 38 00.9	-1.1
SMTH				S	Sn	04 38 18.4	+0.4
SMTH				AML	AML	04 38 21.1	
	comp=E,126µm,0.3s						
SMTH				AML	AML	04 38 22.4	
	comp=N,144µm,0.6s						
SMTH	Samothraki Isl	1.19	74	P	Pb	04 38 01.5	-0.5
SMTH				S	Sn	04 38 18.6	+0.6
SMTH	Samothraki Isl	1.19	74	P	Pb	04 38 00.9	-1.1
LIT	Litokhoron	1.19	268	P	Pb	04 38 02.0	-0.1
LIT	Litokhoron	1.19	268	P	Pb	04 38 01.8	-0.2
LIT	Litokhoron	1.19	268	P	Pg	04 38 02.5	0.0
NVR	Nevrokopi	1.20	354	P	Pg	04 38 02.5	-0.2
NVR	Nevrokopi	1.20	354	P	Pb	04 38 02.3	0.0
NVR	Nevrokopi	1.20	354	P	Pb	04 38 01.9	-0.4
KNT	Kendrikon	1.32	320	P	Pn	04 38 03.8	-0.1
KNT	Kendrikon	1.32	320	P	Pn	04 38 04.1	+0.2
KNT	Kendrikon	1.32	320	P	Pn	04 38 04.2	+0.3
GADA	Gvkgeada	1.43	88	P	Pn	04 38 04.7	-0.6
GADA	Gvkgeada	1.43	88	P	Pn	04 38 04.7	-0.6
SMIA	Simia	1.43	207	P	Pn	04 38 05.5	+0.2
SMIA	Simia	1.43	207	P	Pn	04 38 05.5	+0.2
GRG	Griva	1.48	303	P	Pg	04 38 07.7	-0.3
GRG				S	Sg	04 38 26.9	-0.4
GRG				AML	AML	04 38 32.7	
	comp=E,319µm,0.3s						
GRG				AML	AML	04 38 34.3	
	comp=N,241µm,0.5s						
GRG	Griva	1.48	303	P	Pn	04 38 06.4	+0.4
GRG				S	Sg	04 38 26.6	-0.7
GRG	Griva	1.48	303	P	Pn	04 38 06.4	+0.4
RDO	Rodhopi	1.51	49	P	Pn	04 38 06.1	-0.3
RDO				S	Sg	04 38 29.3	+1.0
RDO				AML	AML	04 38 29.8	
	comp=E,152µm,0.4s						
RDO				AML	AML	04 38 31.3	
	comp=N,160µm,0.6s						
RDO	Rodhopi	1.51	49	P	Pn	04 38 06.7	+0.3
RDO				S	Sg	04 38 28.4	+0.1
RDO	Rodhopi	1.51	49	P	Pn	04 38 06.3	-0.1
VAY	Valandovo	1.61	317	P	Pn	04 38 07.7	-0.1
VAY	Valandovo	1.61	317	P	Pn	04 38 07.7	-0.1
THL	Klokotos Trika	1.66	250	P	Pn	04 38 09.2	+0.7
THL	Klokotos Trika	1.66	250	P	Pn	04 38 09.2	+0.7
SIGR	SIGRI	1.69	123	P	Pn	04 38 09.3	+0.4
SIGR	SIGRI	1.69	123	P	Pn	04 38 09.3	+0.4
ALN	Alexandroupoli	1.70	64	P	Pn	04 38 08.5	-0.5
ALN				S	Sn	04 38 31.4	+0.7
ALN	Alexandroupoli	1.70	64	P	Pn	04 38 08.5	-0.5
ALN				S	Sn	04 38 31.4	+0.7
LKR	Lokris	1.71	208	P	Pn	04 38 08.3	-0.8
LKR	Lokris	1.71	208	P	Pn	04 38 09.1	0.0
EVR	Evrytania	2.12	235	P	Pn	04 38 16.1	+1.2
EVR	Evrytania	2.12	235	P	Pn	04 38 15.8	+0.9
VTS	Vitosha	2.51	346	⇓iP	Pn	04 38 21.5	+1.2
VTS	Vitosha	2.51	346	⇓iP	Pn	04 38 21.5	+1.2
KLV	Kalavryta, Ach	2.57	215	P	Pn	04 38 21.1	+0.1
KLV	Kalavryta, Ach	2.57	215	P	Pn	04 38 21.5	+0.4
GUR	Goura	2.58	211	P	Pn	04 38 20.8	-0.5
GUR	Goura	2.58	211	P	Pn	04 38 21.4	+0.2
ARR	Arges	5.23	5	⇓iP	Pn	04 38 58.6	+1.0
ARR	Arges	5.23	5	⇓iP	Pn	04 38 58.6	+1.0
VOIR		5.33	8	⇑iP	Pn	04 39 00.0	+1.0
VOIR		5.33	8	⇑iP	Pn	04 39 00.0	+1.0
DEV	Deva	5.78	352	⇑iP	Pb	04 39 18.4	-1.9

*DDA **04** 04:38:20.8, 39°.14N×28°.15E, h7km, Md2.4*
*ISK **04** 04:38:20.7, 39°.11N×28°.15E, h8km, ML2.7/11*
*ISCJB **04** 04:38:21.0±0.4, 39°.12N±0°.03×28°.15E±0°.03, h8km±4km, Error ellipse: s-maj=4.9km s-min=3.3km az=21.9*
*CSEM **04** 04:38:21.1±0.1, 39°.11N×28°.15E, h10km, ML2.7, Error ellipse: s-maj=3.3km s-min=2.3km az=28.0*
ISC 04 04:38:21.1±0.9, **39°.11N**±0°.03×**28°.14E**±0°.02, **h17**km±9km,

n40, σ0^{s}39/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.34**	**228**	*i* P	**Pg**	**04 38 28.1**	**-0.1**
AKHS				*i* S	**Sg**	**04 38 33.4**	**+0.3**
AKHS	**Akhisar**	**0.34**	**228**	P	**Pg**	**04 38 28.1**	**-0.1**
AKS	**Akhisar**	**0.34**	**228**	PG	**Pg**	**04 38 28.1**	**-0.1**
AKS				SG	**Sg**	**04 38 33.2**	**+0.1**
AKS	**Akhisar**	**0.34**	**228**	*e*Pg	**Pg**	**04 38 28.1**	**-0.1**
AKS				*e*Sg	**Sg**	**04 38 33.2**	**+0.1**
STEP	**BALIKESIR_Sava**	**0.42**	**310**	*i* P	**Pg**	**04 38 29.5**	**-0.2**
STEP				*i* S	**Sg**	**04 38 35.8**	**+0.3**
STEP	**BALIKESIR_Sava**	**0.42**	**310**	P	**Pg**	**04 38 29.5**	**-0.2**
DEMI	**Demirci**	**0.46**	**98**	*i* P	**Pg**	**04 38 30.2**	**-0.1**
DEMI				*i* S	**Sg**	**04 38 36.5**	**0.0**
DEMI	**Demirci**	**0.46**	**98**	P	**Pg**	**04 38 30.2**	**-0.1**
DEMI				S	**Sg**	**04 38 36.5**	**0.0**
BALB	**Balikesir**	**0.57**	**340**	PG	**Pb**	**04 38 32.6**	**0.0**
BALB				SG	**Sb**	**04 38 41.0**	**+0.6**
BALB	**Balikesir**	**0.57**	**340**	*e*Pg	**Pb**	**04 38 32.6**	**0.0**
BALB				*e*Sg	**Sb**	**04 38 41.0**	**+0.6**
DST	**Dursunbey**	**0.62**	**37**	PG	**Pg**	**04 38 33.1**	**-0.3**
DST	**Dursunbey**	**0.62**	**37**	*e*Pg	**Pg**	**04 38 33.1**	**-0.3**
SIMA	**Simav-Kutahya**	**0.66**	**92**	PG	**Pg**	**04 38 34.0**	**-0.1**
SIMA				SG	**Sg**	**04 38 42.6**	**-0.3**
SIMA	**Simav-Kutahya**	**0.66**	**92**	*e*Pg	**Pg**	**04 38 34.0**	**-0.1**
SIMA				*e*Sg	**Sg**	**04 38 42.6**	**-0.3**
KULA	**Kula-Manisa**	**0.72**	**145**	PG	**Pg**	**04 38 35.2**	**0.0**
KULA	**Kula-Manisa**	**0.72**	**145**	*e*Pg	**Pg**	**04 38 35.2**	**0.0**
BALY	**Balya**	**0.75**	**328**	*i* P	**Pg**	**04 38 34.9**	**-0.8**
BALY				*i* S	**Sg**	**04 38 44.9**	**-0.7**
BALY	**Balya**	**0.75**	**328**	P	**Pg**	**04 38 34.9**	**-0.8**
GONE	**Gonen-Balikesi**	**1.00**	**340**	PG	**Pg**	**04 38 40.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.00**	**340**	*e*Pg	**Pg**	**04 38 40.3**	**-0.2**
GDZ	**Gediz**	**1.05**	**91**	*i* P	**Pb**	**04 38 40.3**	**-0.6**
GDZ				*i* S	**Sb**	**04 38 54.1**	**-0.3**
GDZ	**Gediz**	**1.05**	**91**	P	**Pb**	**04 38 40.3**	**-0.6**
GDZ				S	**Sb**	**04 38 54.1**	**-0.3**
TVSB	**Tavsanli**	**1.08**	**71**	PG	**Pb**	**04 38 41.2**	**-0.3**
TVSB	**Tavsanli**	**1.08**	**71**	*e*Pg	**Pb**	**04 38 41.2**	**-0.3**
ORLT	**Orhaneli**	**1.11**	**32**	PN	**Pn**	**04 38 42.4**	**+0.5**
ORLT	**Orhaneli**	**1.11**	**32**	*e*Pn	**Pn**	**04 38 42.4**	**+0.5**
KCTX	**Karacabey (Bur**	**1.17**	**8**	PN	**Pn**	**04 38 43.2**	**+0.5**
KCTX	**Karacabey (Bur**	**1.17**	**8**	*e*Pn	**Pn**	**04 38 43.2**	**+0.5**
EDC	**Edincik**	**1.25**	**350**	PN	**Pb**	**04 38 44.7**	**+0.4**
EDC	**Edincik**	**1.25**	**350**	*e*Pn	**Pb**	**04 38 44.7**	**+0.4**
KHAL	**Karahalli**	**1.29**	**124**	*i* P	**Pg**	**04 38 45.5**	**-0.5**
KHAL				*i* S	**Sg**	**04 39 03.0**	**+0.1**
KHAL	**Karahalli**	**1.29**	**124**	P	**Pg**	**04 38 45.5**	**-0.5**
KHAL				S	**Sg**	**04 39 03.0**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.38**	**298**	*i* P	**Pn**	**04 38 45.5**	**-0.2**
BAYC				*i* S	**Sg**	**04 39 05.3**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**1.38**	**298**	P	**Pn**	**04 38 45.5**	**-0.2**
BAYC				S	**Sg**	**04 39 05.3**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.39**	**24**	PN	**Pb**	**04 38 47.0**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.39**	**24**	*e*Pn	**Pb**	**04 38 47.0**	**+0.5**
ARMT	**Armutlu**	**1.56**	**21**	PN	**Pn**	**04 38 48.8**	**+0.7**
ARMT	**Armutlu**	**1.56**	**21**	*e*Pn	**Pn**	**04 38 48.8**	**+0.7**
SBT3	**Marmara-Eregli**	**1.78**	**356**	PN	**Pb**	**04 38 52.9**	**-0.3**
SBT3	**Marmara-Eregli**	**1.78**	**356**	*e*Pn	**Pb**	**04 38 52.9**	**-0.3**

MEX 04 04:41:02.4±0.5**, 16°.21N×98°.02W, h2**km±5km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**330**	*i* P	Pg	04 41 06.1	-0.3
PNIG				*i* S	Sg	04 41 09.3	+0.2
TLIG	**Tlapa**	**1.44**	**339**	*e*P	Pn	04 41 26.3	-3.4
TLIG				*e*S	Sg	04 41 43.9	-4.8
VHO	**Vista Hermosa**	**1.50**	**55**	*e*P	Pn	04 41 26.5	-4.0
VHO				*e*S	Sg	04 41 46.0	-4.7

*CSEM **04** 04:47:30.7±0.1, 50°.43N×5°.73E, h15km, ML3.0/28, Error ellipse: s-maj=1.8km s-min=1.5km az=125.0*
*LDG **04** 04:47:31.6±0.1, 50°.46N×5°.75E, h10km, Md3.0/3, Ml2.9/27, Error ellipse: s-maj=1.2km s-min=1.0km az=145.0*
*UCC **04** 04:47:31.7, 50°.46N×5°.74E, h14km, ML2.1*
*BGR **04** 04:47:31.6±0.3, 50°.47N×5°.80E, h10km, ML2.6/7, Error ellipse: s-maj=4.4km s-min=3.3km az=67.0*
*BNS **04** 04:47:32.0±0.5, 50°.47N×5°.75E, h12km±3km, ML2.2*
*STR **04** 04:47:34.3±1.7, 50°N±10°×°±°, h19km±9km, M3.0/4, MLv3.0/4*
ISC 04 04:47:30.7±0.7**, 50°.45N**±0°.01×**5°.73E**±0°.01**, h14**km**, n223, σ1^{s}72/365, 21C-19D, Belgium**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSTI	**Sart Tilman**	**0.17**	**322**	⇓P	**Pg**	**04 47 35.7**	**+1.0**
BSTI	**Sart Tilman**	**0.17**	**322**	P	**Pg**	**04 47 35.7**	**+1.0**
BLCH	**La Chartreuse**	**0.21**	**336**	⇓P	**Pg**	**04 47 36.2**	**+0.9**
BLCH				S	**Sg**	**04 47 39.4**	**+1.0**
	comp=N,102nm,0.2s						
BLCH	**La Chartreuse**	**0.21**	**336**	P	**Pg**	**04 47 36.2**	**+0.9**
BLCH				S	**Sg**	**04 47 39.4**	**+1.0**
	comp=N,102nm,0.2s						
MEM	**Membach**	**0.24**	**48**	P	**Pg**	**04 47 36.5**	**+0.6**
MEM	**Membach**	**0.24**	**48**	⇑P	**Pg**	**04 47 36.5**	**+0.6**
MEM				S	**Sg**	**04 47 39.8**	**+0.5**
	comp=N,266nm,0.3s						
MEM	**Membach**	**0.24**	**48**	⇑*e*Pg	**Pg**	**04 47 36.5**	**+0.6**
MEM				*e*Sg	**Sg**	**04 47 39.8**	**+0.5**
MEM	**Membach**	**0.24**	**48**	P	**Pg**	**04 47 36.4**	**+0.6**
MEM				Sg	**Sg**	**04 47 39.8**	**+0.5**
BCLA	**Clavier**	**0.28**	**263**	P	**Pg**	**04 47 37.6**	**+1.1**
BCLA				S	**Sg**	**04 47 41.7**	**+1.3**
	comp=E,147nm,0.2s						
BCLA	**Clavier**	**0.28**	**263**	P	**Pg**	**04 47 37.6**	**+1.1**
BCLA				S	**Sg**	**04 47 41.6**	**+1.3**
	comp=E,147nm,0.2s						
HGN	**Heimansgroeve**	**0.34**	**22**	⇑*e*Pg	**Pg**	**04 47 38.1**	**+0.5**
HGN				*e*Sg	**Sg**	**04 47 42.5**	**+0.2**
HGN	**Heimansgroeve**	**0.34**	**22**	*e*Pg	**Pg**	**04 47 38.1**	**+0.5**
HGN				*e*Sg	**Sg**	**04 47 42.5**	**+0.2**
HGN	**Heimansgroeve**	**0.34**	**22**	*e*Pg	**Pg**	**04 47 38.1**	**+0.5**
HGN				*e*Sg	**Sg**	**04 47 42.5**	**+0.2**
BEBN	**Eben Emael**	**0.35**	**355**	⇓P	**Pg**	**04 47 38.3**	**+0.6**
BEBN				S	**Sg**	**04 47 42.8**	**+0.3**
BEBN	**Eben Emael**	**0.35**	**355**	P	**Pg**	**04 47 38.3**	**+0.6**
BEBN				S	**Sg**	**04 47 42.8**	**+0.3**
DREG	**Dreilaegerbach**	**0.39**	**56**	⇑*i*Pg	**Pg**	**04 47 38.9**	**+0.5**
DREG				*e*Sg	**Sg**	**04 47 43.9**	**+0.2**
	comp=E,83nm,0.1s						
DREG	**Dreilaegerbach**	**0.39**	**56**	Pg	**Pg**	**04 47 38.9**	**+0.5**
DREG				Sg	**Sg**	**04 47 43.9**	**+0.2**
	comp=E,83nm,0.1s						
BGES	**Gesves**	**0.42**	**261**	P	**Pg**	**04 47 40.1**	**+1.1**
BGES				S	**Sg**	**04 47 45.9**	**+1.3**
	comp=N,73nm,0.2s						
BGES	**Gesves**	**0.42**	**261**	P	**Pg**	**04 47 40.1**	**+1.1**
BGES				S	**Sg**	**04 47 45.9**	**+1.3**
	comp=N,73nm,0.2s						
KLL	**Kalltalsperre**	**0.42**	**62**	⇑*i*Pg	**Pg**	**04 47 39.5**	**+0.5**
KLL				*e*Sg	**Sg**	**04 47 45.0**	**+0.2**
	comp=N,164nm,0.2s						
KLL	**Kalltalsperre**	**0.42**	**62**	Pg	**Pg**	**04 47 39.5**	**+0.5**
KLL				Sg	**Sg**	**04 47 45.0**	**+0.2**
	comp=N,164nm,0.2s						
BLI	**Bleialf**	**0.42**	**121**	⇓*i*P*	**Pg**	**04 47 40.2**	**+1.1**
BLI				PmP		04 47 42.0	
BLI				S*	**Sg**	**04 47 45.4**	**+0.7**
BLI	**Bleialf**	**0.42**	**121**	Pb	**Pg**	**04 47 40.2**	**+1.1**
BLI	**Bleialf**	**0.42**	**121**	P	**Pb**	**04 47 42.0**	**+2.1**
BLI				Sb	**Sg**	**04 47 45.4**	**+0.7**
LKLB	**Kalborn**	**0.43**	**145**	⇓P	**Pg**	**04 47 40.5**	**+1.3**
LKLB				S	**Sg**	**04 47 46.0**	**+1.0**
	comp=N,91nm,0.2s						
LKLB	**Kalborn**	**0.43**	**145**	P	**Pg**	**04 47 40.5**	**+1.3**
LKLB				S	**Sg**	**04 47 45.9**	**+1.0**
	comp=N,91nm,0.2s						
RCHB	**Rochefort**	**0.44**	**228**	⇑P	**Pg**	**04 47 40.4**	**+1.1**
RCHB				S	**Sg**	**04 47 46.4**	**+1.2**
RCHB	**Rochefort**	**0.44**	**228**	⇑*e*Pg	**Pg**	**04 47 40.4**	**+1.1**
RCHB	**Rochefort**	**0.44**	**228**	P	**Pg**	**04 47 40.4**	**+1.1**
RCHB				S	**Sg**	**04 47 46.4**	**+1.2**
OLFT	**Oleftalsperre**	**0.44**	**84**	⇑*i*Pg	**Pg**	**04 47 40.1**	**+0.6**
OLFT				*e*Sg	**Sg**	**04 47 45.7**	**+0.2**
OLFT	**Oleftalsperre**	**0.44**	**84**	Pg	**Pg**	**04 47 40.1**	**+0.6**
OLFT				Sg	**Sg**	**04 47 45.7**	**+0.2**
GSH	**Grosshau**	**0.50**	**55**	⇑*i*Pg	**Pg**	**04 47 41.1**	**+0.5**
GSH				*e*Sg	**Sg**	**04 47 47.4**	**+0.1**
	comp=N,78nm,0.1s						
GSH	**Grosshau**	**0.50**	**55**	Pg	**Pg**	**04 47 41.1**	**+0.5**
GSH				Sg	**Sg**	**04 47 47.4**	**+0.1**
	comp=N,78nm,0.1s						
LOH	**Wallersheim-Lo**	**0.58**	**117**	⇓*e*Pg	**Pg**	**04 47 43.0**	**+0.9**
LOH				*e*Sg	**Sg**	**04 47 50.8**	**+1.0**
	comp=N,80nm,0.1s						
LOH	**Wallersheim-Lo**	**0.58**	**117**	Pg	**Pg**	**04 47 43.0**	**+0.9**
LOH				Sg	**Sg**	**04 47 50.8**	**+1.0**
	comp=N,80nm,0.1s						
LVIA	**Vianden**	**0.60**	**149**	⇑P	**Pg**	**04 47 43.7**	**+1.3**
LVIA				S	**Sg**	**04 47 51.3**	**+0.9**
LVIA	**Vianden**	**0.60**	**149**	P	**Pg**	**04 47 43.7**	**+1.3**
LVIA				S	**Sg**	**04 47 51.2**	**+0.9**
HILG	**Hillesheim**	**0.63**	**104**	⇓*e*Pg	**Pg**	**04 47 43.8**	**+0.8**
HILG	**Hillesheim**	**0.63**	**104**	Pg	**Pg**	**04 47 43.8**	**+0.8**
JUE	**Julich**	**0.63**	**43**	⇓*e*Pg	**Pg**	**04 47 43.4**	**+0.4**
JUE	**Julich**	**0.63**	**43**	Pg	**Pg**	**04 47 43.4**	**+0.4**
BMRD	**Maredsous**	**0.63**	**257**	⇑P	**Pg**	**04 47 43.9**	**+0.9**
BMRD				S	**Sg**	**04 47 52.6**	**+1.2**
BMRD	**Maredsous**	**0.63**	**257**	P	**Pg**	**04 47 43.9**	**+0.9**
BMRD				S	**Sg**	**04 47 52.6**	**+1.2**
GIVF	**Givet**	**0.68**	**239**	*e*Pg	**Pg**	**04 47 44.7**	**+0.8**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**04 47 54.0**	**+1.2**
	comp=N,104nm,0.3s,SNR=1.0						
GIVF	**Givet**	**0.68**	**239**	*e*Pg	**Pg**	**04 47 44.7**	**+0.8**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**04 47 54.0**	**+1.2**
	comp=N,52nm,0.3s,SNR=1.0						
RWB	**Wassenberg**	**0.70**	**22**	*e*Pg	**Pg**	**04 47 44.9**	**+0.5**
RWB				*e*Sg	**Sg**	**04 47 53.8**	**+0.1**
	comp=N,41nm,0.2s						
RWB	**Wassenberg**	**0.70**	**22**	Pg	**Pg**	**04 47 44.9**	**+0.5**
RWB				Sg	**Sg**	**04 47 53.8**	**+0.1**
	comp=N,41nm,0.2s						
STB	**Steinbach**	**0.72**	**78**	⇑*e*Pg	**Pg**	**04 47 44.9**	**+0.2**
STB	**Steinbach**	**0.72**	**78**	Pg	**Pg**	**04 47 44.9**	**+0.2**
RODG	**Roetgen-Dahlhe**	**0.75**	**22**	⇑*e*Pg	**Pg**	**04 47 45.7**	**+0.4**
RODG	**Roetgen-Dahlhe**	**0.75**	**22**	Pg	**Pg**	**04 47 45.7**	**+0.4**
BCES	**Court-Saint-Et**	**0.75**	**282**	⇓P	**Pg**	**04 47 45.9**	**+0.6**
BCES				S	**Sg**	**04 47 56.0**	**+0.8**
BCES	**Court-Saint-Et**	**0.75**	**282**	P	**Pg**	**04 47 45.8**	**+0.6**
BCES				S	**Sg**	**04 47 55.9**	**+0.8**
HKB	**Herkenbosch**	**0.79**	**20**	⇑P	**Pg**	**04 47 46.3**	**+0.3**
HKB				S	**Sg**	**04 47 56.2**	**-0.1**
HKB	**Herkenbosch**	**0.79**	**20**	P	**Pg**	**04 47 46.3**	**+0.3**
HKB				S	**Sg**	**04 47 56.2**	**-0.1**
DOU	**Dourbes**	**0.81**	**244**	⇑P	**Pg**	**04 47 47.0**	**+0.6**
DOU				S	**Sg**	**04 47 57.6**	**+0.6**
	comp=N,37nm,0.2s						
DOU	**Dourbes**	**0.81**	**244**	P	**Pg**	**04 47 47.0**	**+0.6**
DOU				S	**Sg**	**04 47 57.6**	**+0.6**
	comp=N,37nm,0.2s						
WLF	**Walferdange**	**0.83**	**161**	⇑P	**Pg**	**04 47 48.0**	**+1.1**
WLF				S	**Sg**	**04 47 58.2**	**+0.5**
	comp=N,31nm,0.1s						
WLF	**Walferdange**	**0.83**	**161**	⇑*e*Pg	**Pg**	**04 47 47.9**	**+1.1**
WLF				*e*Sg	**Sg**	**04 47 58.8**	**+1.1**
WLF	**Walferdange**	**0.83**	**161**	P	**Pg**	**04 47 47.9**	**+1.1**
WLF				S	**Sg**	**04 47 58.2**	**+0.5**
	comp=N,31nm,0.1s						
WLF				Sg	**Sg**	**04 47 58.8**	**+1.1**
AHRW	**Bad Neuenahr-A**	**0.86**	**84**	⇑*e*Pg	**Pg**	**04 47 47.4**	**0.0**
AHRW	**Bad Neuenahr-A**	**0.86**	**84**	Pg	**Pg**	**04 47 47.4**	**0.0**
BMOL	**Mol**	**0.87**	**332**	⇑P	**Pb**	**04 47 48.5**	**+1.0**
BMOL				S	**Sg**	**04 47 59.6**	**+0.8**
BMOL	**Mol**	**0.87**	**332**	P	**Pb**	**04 47 48.5**	**+1.0**
BMOL				S	**Sg**	**04 47 59.5**	**+0.8**
BDSL	**Dessel**	**0.88**	**331**	P	**Pg**	**04 47 48.6**	**+0.9**
BDSL				S	**Sg**	**04 47 59.5**	**+0.4**
BDSL	**Dessel**	**0.88**	**331**	P	**Pg**	**04 47 48.5**	**+0.9**
BDSL				S	**Sg**	**04 47 59.4**	**+0.4**
PLH	**Pulheim**	**0.89**	**51**	*e*Pg	**Pg**	**04 47 47.8**	**0.0**
PLH				*e*Sg	**Sg**	**04 47 59.1**	**-0.3**
	comp=N,193nm,0.1s						
PLH	**Pulheim**	**0.89**	**51**	Pg	**Pg**	**04 47 47.8**	**0.0**
PLH				Sg	**Sg**	**04 47 59.1**	**-0.3**
	comp=N,193nm,0.1s						
SNF	**Seneffe**	**0.93**	**274**	⇓P	**Pb**	**04 47 48.9**	**+0.4**
SNF	**Seneffe**	**0.93**	**274**	P	**Pb**	**04 47 48.8**	**+0.4**
BHE	**Schloss Buerre**	**0.93**	**96**	*e*Pg	**Pb**	**04 47 48.9**	**+0.3**
BHE				*e*Sg	**Sb**	**04 48 00.5**	**-0.4**
	comp=N,76nm,0.1s						
BHE	**Schloss Buerre**	**0.93**	**96**	Pg	**Pb**	**04 47 48.9**	**+0.3**
BHE				Sg	**Sb**	**04 48 00.5**	**-0.4**
	comp=N,76nm,0.1s						
UCC	**Uccle**	**0.94**	**292**	P	**Sg**	**04 48 00.5**	**-0.6**
UCC	**Uccle**	**0.94**	**292**	⇑*e*Pg	**Pb**	**04 47 49.3**	**+0.6**
UCC				*e*Sg	**Sb**	**04 48 01.3**	**+0.3**
UCC	**Uccle**	**0.94**	**292**	Pg	**Pb**	**04 47 49.3**	**+0.6**
UCC				Sg	**Sb**	**04 48 01.3**	**+0.3**
FSH	**Hochheid**	**0.96**	**112**	⇓*e*P*	**Pb**	**04 47 49.6**	**+0.5**
FSH	**Hochheid**	**0.96**	**112**	Pb	**Pb**	**04 47 49.6**	**+0.5**
BRQR	**Ronqui˜¤re**	**0.97**	**280**	⇓P	**Pb**	**04 47 49.5**	**+0.2**
BRQR	**Ronqui˜¤re**	**0.97**	**280**	P	**Pb**	**04 47 49.5**	**+0.2**
RIVT	**Riveris**	**1.00**	**138**	⇓*e*P*	**Pb**	**04 47 50.3**	**+0.5**
RIVT	**Riveris**	**1.00**	**138**	Pb	**Pb**	**04 47 50.3**	**+0.5**
WBS	**Wahnbachtalspe**	**1.05**	**70**	*e*Pg	**Pb**	**04 47 50.7**	**+0.1**
WBS				*e*Sg	**Sb**	**04 48 03.8**	**-0.5**
	comp=N,139nm,0.2s						
WBS	**Wahnbachtalspe**	**1.05**	**70**	Pg	**Pb**	**04 47 50.7**	**+0.1**
WBS				Sg	**Sb**	**04 48 03.8**	**-0.5**
	comp=N,139nm,0.2s						
BAIF	**Baives**	**1.05**	**249**	*e*Pn	**Pb**	**04 47 51.1**	**+0.5**
	SNR=1.0						
BAIF				*e*Sn	**Sb**	**04 48 04.9**	**+0.6**
	comp=N,62nm,0.3s,SNR=1.0						
BAIF	**Baives**	**1.05**	**249**	*e*Pn	**Pb**	**04 47 51.1**	**+0.5**
	SNR=1.0						
BAIF				*e*Sn	**Sb**	**04 48 04.9**	**+0.6**
	comp=N,31nm,0.3s,SNR=1.0						
BNS	**Bensberg**	**1.05**	**60**	*e*Pg	**Pb**	**04 47 50.8**	**+0.1**
BNS	**Bensberg**	**1.05**	**60**	Pg	**Pb**	**04 47 50.8**	**+0.1**
BGG	**Burgeitz**	**1.06**	**103**	⇓*e*Pg	**Pb**	**04 47 50.9**	**+0.2**
BGG	**Burgeitz**	**1.06**	**103**	Pg	**Pb**	**04 47 50.9**	**+0.2**
BSKQ	**Steenkerk**	**1.07**	**281**	⇓P	**Pb**	**04 47 51.4**	**+0.5**
BSKQ				S	**Sb**	**04 48 05.2**	**+0.4**
	comp=E,19nm,0.1s						
BSKQ	**Steenkerk**	**1.07**	**281**	P	**Pb**	**04 47 51.4**	**+0.5**
BSKQ				S	**Sb**	**04 48 05.2**	**+0.4**
	comp=E,19nm,0.1s						
RUP	**Ruppelstein**	**1.14**	**131**	P	**Pb**	**04 47 52.2**	**0.0**
RUP	**Ruppelstein**	**1.14**	**131**	P	**Pb**	**04 47 52.2**	**0.0**
OPLO	**Oploo**	**1.14**	**3**	⇑*e*Pg	**Pb**	**04 47 52.6**	**+0.5**
OPLO				*e*Sg	**Sn**	**04 48 08.7**	**+1.1**
OPLO	**Oploo**	**1.14**	**3**	*e*Pg	**Pb**	**04 47 52.6**	**+0.5**
OPLO				*e*Sg	**Sn**	**04 48 08.5**	**+0.9**
OPLO	**Oploo**	**1.14**	**3**	Pg	**Pb**	**04 47 52.6**	**+0.5**
OPLO				*e*Sg	**Sn**	**04 48 08.5**	**+0.9**
BBOU	**Bougnies**	**1.14**	**268**	⇓P	**Pn**	**04 47 52.8**	**+0.6**
BBOU	**Bougnies**	**1.14**	**268**	P	**Pn**	**04 47 52.8**	**+0.6**
HOBG	**Hohbusch**	**1.15**	**62**	⇓*e*Pg	**Pb**	**04 47 52.1**	**-0.2**
HOBG	**Hohbusch**	**1.15**	**62**	Pg	**Pb**	**04 47 52.1**	**-0.2**
LAUG	**Laupendahl**	**1.18**	**40**	⇓*e*Pg	**Pn**	**04 47 52.5**	**-0.3**
LAUG	**Laupendahl**	**1.18**	**40**	Pg	**Pn**	**04 47 52.5**	**-0.3**
DUP	**Duppenweiler**	**1.25**	**146**	P	**Pn**	**04 47 53.8**	**+0.1**
DUP	**Duppenweiler**	**1.25**	**146**	P	**Pn**	**04 47 53.8**	**+0.1**
KOE	**Koeppel**	**1.28**	**90**	*e*Pg	**Pn**	**04 47 54.1**	**-0.1**
KOE	**Koeppel**	**1.28**	**90**	Pg	**Pn**	**04 47 54.1**	**-0.1**
ABH	**Alteburg**	**1.30**	**115**	⇓*i*P	**Pn**	**04 47 54.5**	**0.0**
ABH	**Alteburg**	**1.30**	**115**	P	**Pn**	**04 47 54.5**	**0.0**
ENTS	**Ennepetalsperr**	**1.33**	**53**	*e*Sg	**Sb**	**04 48 11.2**	**-1.0**
	comp=E,28nm,0.1s						
ENTS	**Ennepetalsperr**	**1.33**	**53**	Sg	**Sb**	**04 48 11.2**	**-1.0**
	comp=E,28nm,0.1s						
BIW	**Bindweide**	**1.37**	**77**	Pg	**Pn**	**04 47 56.6**	**+1.2**
BIW	**Bindweide**	**1.37**	**77**	Pg	**Pn**	**04 47 56.6**	**+1.2**
BUG	**Bochum--Univer**	**1.39**	**44**	*e*Pn	**Pn**	**04 47 55.9**	**+0.3**
FACH	**Fachingen**	**1.45**	**93**	Pg	**Pn**	**04 47 56.8**	**+0.3**
FACH	**Fachingen**	**1.45**	**93**	Pg	**Pn**	**04 47 56.8**	**+0.3**
IMS	**Imsbach**	**1.64**	**121**	P	**Pn**	**04 47 59.0**	**-0.1**
IMS	**Imsbach**	**1.64**	**121**	P	**Pn**	**04 47 59.0**	**-0.1**
WTSB	**Winterswijk**	**1.66**	**24**	*e*Pn	**Pn**	**04 47 59.7**	**+0.4**
WTSB				*e*Pg	**Pb**	**04 48 01.8**	**+0.8**
WTSB	**Winterswijk**	**1.66**	**24**	*e*Pg	**Pn**	**04 48 00.8**	**+1.5**
WTSB				*e*Sg	**Sb**	**04 48 23.1**	**+1.4**
WTSB	**Winterswijk**	**1.66**	**24**	Pn	**Pn**	**04 47 59.7**	**+0.4**
WTSB	**Winterswijk**	**1.66**	**24**	*e*Pg	**Pn**	**04 48 00.8**	**+1.5**
WTSB				*e*Sg	**Sb**	**04 48 23.1**	**+1.4**
TNS	**Taunus Mts**	**1.76**	**96**	P	**Pn**	**04 48 00.7**	**0.0**
TNS	**Taunus Mts**	**1.76**	**96**	P	**Pn**	**04 48 00.7**	**0.0**
PEB	**Petersbachel**	**1.89**	**136**	P	**Pn**	**04 48 02.2**	**-0.4**
PEB	**Petersbachel**	**1.89**	**136**	P	**Pn**	**04 48 02.2**	**-0.4**
PAGF	**Fort de Pagny**	**1.90**	**180**	*e*Pn	**Pn**	**04 48 03.0**	**+0.4**
PAGF	**Fort de Pagny**	**1.90**	**180**	*e*Pg	**Pb**	**04 48 07.2**	**+2.1**
PAGF				*e*Sn	**Sn**	**04 48 24.8**	**-1.5**
PAGF				*e*Sg	**Sb**	**04 48 30.7**	**+2.1**
	comp=E,4.3nm,0.2s						
PAGF	**Fort de Pagny**	**1.90**	**180**	*e*Pn	**Pn**	**04 48 03.0**	**+0.4**
PAGF	**Fort de Pagny**	**1.90**	**180**	*e*Pg	**Pb**	**04 48 07.2**	**+2.1**
PAGF				*e*Sn	**Sn**	**04 48 24.8**	**-1.5**
PAGF				*e*Sg	**Sb**	**04 48 30.7**	**+2.1**
	comp=E,2.2nm,0.2s						
MEZF	**Maizieres J'vi**	**2.00**	**193**	*e*Pn	**Pn**	**04 48 04.8**	**+0.8**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**2.00**	**193**	*e*Pg	**Pb**	**04 48 08.6**	**+1.8**
MEZF				*e*Sn	**Sn**	**04 48 28.6**	**-0.2**
	comp=E,22nm,0.3s,SNR=1.0						
MEZF				*e*Sg	**Sb**	**04 48 34.2**	**+2.6**
	comp=E,28nm,0.3s						
MEZF	**Maizieres J'vi**	**2.00**	**193**	*e*Pn	**Pn**	**04 48 04.8**	**+0.8**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**2.00**	**193**	*e*Pg	**Pb**	**04 48 08.6**	**+1.8**
MEZF				*e*Sn	**Sn**	**04 48 28.6**	**-0.2**
	comp=E,11nm,0.3s,SNR=1.0						
MEZF				*e*Sg	**Sb**	**04 48 34.2**	**+2.6**
	comp=E,14nm,0.3s						
THEF	**They Montfort**	**2.23**	**176**	Pn	**Pn**	**04 48 07.0**	**-0.2**
THEF				Sg	**Sb**	**04 48 41.5**	**+3.2**
THEF	**They Montfort**	**2.23**	**176**	Pn	**Pn**	**04 48 07.1**	**-0.2**
IBBN	**Ibbenburen**	**2.25**	**34**	*e*Pg	**Pg**	**04 48 13.4**	**-0.4**
IBBN	**Ibbenburen**	**2.25**	**34**	Pg	**Pg**	**04 48 13.4**	**-0.4**
CDF	**Champ du Feu**	**2.28**	**153**	*e*Pn	**Pn**	**04 48 08.1**	**+0.2**
	SNR=1.0						
CDF	**Champ du Feu**	**2.28**	**153**	*e*Pg	**Pb**	**04 48 13.6**	**+2.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**04 48 33.6**	**-2.2**
CDF				*e*Sg	**Sb**	**04 48 41.7**	**+2.1**
	comp=E,7.0nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**2.28**	**153**	*e*Pn	**Pn**	**04 48 08.1**	**+0.2**
	SNR=1.0						
CDF	**Champ du Feu**	**2.28**	**153**	*e*Pg	**Pb**	**04 48 13.6**	**+2.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**04 48 33.6**	**-2.2**
CDF				*e*Sg	**Sb**	**04 48 41.7**	**+2.1**
	comp=E,3.5nm,0.2s,SNR=1.0						
MENF	**Mencas**	**2.29**	**274**	Pn	**Pn**	**04 48 07.7**	**-0.2**
MENF				Sg	**Sb**	**04 48 41.9**	**+2.2**
MENF	**Mencas**	**2.29**	**274**	Pn	**Pn**	**04 48 07.8**	**-0.2**
SFTF	**Sexfontaines**	**2.29**	**192**	*e*Pg	**Pb**	**04 48 14.0**	**+2.2**
SFTF				*e*Sn	**Sn**	**04 48 35.3**	**-0.8**
SFTF				*e*Sg	**Sg**	**04 48 43.6**	**-0.7**
	comp=E,23nm,0.2s						
SFTF	**Sexfontaines**	**2.29**	**192**	*e*Pg	**Pb**	**04 48 14.0**	**+2.2**
SFTF				*e*Sn	**Sn**	**04 48 35.3**	**-0.8**
SFTF				*e*Sg	**Sg**	**04 48 43.6**	**-0.7**
	comp=E,12nm,0.2s						
WLS	**Welschbruch**	**2.30**	**152**	P	**Pn**	**04 48 08.2**	**0.0**
WLS	**Welschbruch**	**2.30**	**152**	P	**Pn**	**04 48 08.2**	**0.0**
HAU	**Haudompre**	**2.48**	**170**	*e*Pn	**Pn**	**04 48 11.6**	**+0.9**
	SNR=1.0						
HAU	**Haudompre**	**2.48**	**170**	*e*Pg	**Pg**	**04 48 17.9**	**-0.3**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**04 48 39.0**	**-1.8**
	SNR=1.0						
HAU				*e*Sg	**Sb**	**04 48 49.2**	**+3.8**
	comp=E,30nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**2.48**	**170**	*e*Pg	**Pg**	**04 48 17.9**	**-0.3**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**04 48 39.0**	**-1.8**
	SNR=1.0						
HAU				*e*Sg	**Sb**	**04 48 49.2**	**+3.8**
	comp=E,15nm,0.3s,SNR=1.0						
BFO	**Black Forest**	**2.72**	**140**	*e*Pn	**Pn**	**04 48 14.1**	**+0.2**
SIND	**Sindeldorf**	**2.74**	**112**	P	**Pn**	**04 48 14.6**	**+0.4**
SIND	**Sindeldorf**	**2.74**	**112**	P	**Pn**	**04 48 14.6**	**+0.4**
HINF	**Hinteralfeld**	**2.74**	**164**	*e*Pn	**Pn**	**04 48 14.7**	**+0.5**
	SNR=1.0						
HINF	**Hinteralfeld**	**2.74**	**164**	*e*Pg	**Pb**	**04 48 22.0**	**+2.6**
HINF				*e*Sn	**Sn**	**04 48 44.3**	**-2.8**
	SNR=1.0						
HINF				*e*Sg	**Sb**	**04 48 56.2**	**+3.4**
	comp=E,14nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**2.74**	**164**	*e*Pn	**Pn**	**04 48 14.7**	**+0.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**04 48 44.3**	**-2.8**
	SNR=1.0						
HINF				*e*Sg	**Sb**	**04 48 56.2**	**+3.4**
	comp=E,6.8nm,0.3s,SNR=1.0						
UBBA	**Unterbreizbach**	**2.74**	**81**	*e*Sg	**Sb**	**04 48 55.8**	**+3.0**
UBBA	**Unterbreizbach**	**2.74**	**81**	Sg	**Sb**	**04 48 55.8**	**+3.0**
MOF	**Molkenrain**	**2.76**	**160**	Pn	**Pn**	**04 48 14.9**	**+0.3**
MOF				Sg	**Sg**	**04 48 59.4**	**+0.1**
MOF	**Molkenrain**	**2.76**	**160**	Pn	**Pn**	**04 48 14.9**	**+0.3**
FELD	**Feldberg im Sc**	**2.98**	**149**	P	**Pn**	**04 48 18.8**	**+1.2**
FELD	**Feldberg im Sc**	**2.98**	**149**	Pn	**Pn**	**04 48 17.7**	**+0.1**
FELD	**Feldberg im Sc**	**2.98**	**149**	P	**Pn**	**04 48 18.8**	**+1.2**
FELD	**Feldberg im Sc**	**2.98**	**149**	Pn	**Pn**	**04 48 17.8**	**+0.1**
FELD	**Feldberg im Sc**	**2.98**	**149**	Sg	**Sg**	**04 49 07.8**	**+1.5**
ENDD	**Endenburg**	**3.04**	**154**	P	**Pn**	**04 48 19.5**	**+1.1**
BUCH	**Bad Urach**	**3.10**	**129**	P	**Pn**	**04 48 19.7**	**+0.5**
LOMF	**Lomont**	**3.19**	**166**	Pn	**Pn**	**04 48 20.9**	**+0.5**
LOMF				Sg	**Sg**	**04 49 13.0**	**0.0**
LOMF	**Lomont**	**3.19**	**166**	Pn	**Pn**	**04 48 21.0**	**+0.5**
CLZ	**Clausthal**	**3.24**	**63**	*e*Sg	**Sb**	**04 49 10.3**	**+3.1**
CLZ	**Clausthal**	**3.24**	**63**	Sg	**Sb**	**04 49 10.3**	**+3.1**
GUT	**Gutenstein**	**3.25**	**136**	P	**Pn**	**04 48 21.9**	**+0.6**
GUT	**Gutenstein**	**3.25**	**136**	P	**Pn**	**04 48 21.9**	**+0.6**
LOR	**Lormes**	**3.42**	**202**	*e*Pn	**Pn**	**04 48 23.7**	**+0.2**
	SNR=1.0						
LOR	**Lormes**	**3.42**	**202**	*e*Pg	**Pb**	**04 48 34.8**	**+3.8**
LOR				*e*Sn	**Sn**	**04 49 02.0**	**-1.8**
	comp=E,17nm,0.3s,SNR=1.0						
LOR				*e*Sg	**Sg**	**04 49 18.2**	**-2.1**
	comp=E,9.6nm,0.3s,SNR=1.0						
LOR	**Lormes**	**3.42**	**202**	*e*Pn	**Pn**	**04 48 23.7**	**+0.2**
	SNR=1.0						
LOR	**Lormes**	**3.42**	**202**	*e*Pg	**Pb**	**04 48 34.8**	**+3.8**
LOR				*e*Sn	**Sn**	**04 49 02.0**	**-1.8**
	comp=E,8.4nm,0.3s,SNR=1.0						
LOR				*e*Sg	**Sg**	**04 49 18.2**	**-2.1**
	comp=E,4.8nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.70**	**204**	*e*Pn	**Pn**	**04 48 27.5**	**+0.1**
	SNR=1.0						
SSF	**Saint Saulge**	**3.70**	**204**	*e*Pg	**Pg**	**04 48 40.1**	**-1.4**
SSF				*e*Sn	**Sn**	**04 49 07.6**	**-3.1**
	comp=E,3.2nm,0.2s,SNR=1.0						
SSF				*e*Sg	**Sg**	**04 49 26.7**	**-2.6**
	comp=E,19nm,0.6s						
SSF	**Saint Saulge**	**3.70**	**204**	*e*Pn	**Pn**	**04 48 27.5**	**+0.1**
	SNR=1.0						
SSF	**Saint Saulge**	**3.70**	**204**	*e*Pg	**Pg**	**04 48 40.1**	**-1.4**
SSF				*e*Sn	**Sn**	**04 49 07.6**	**-3.1**
	comp=E,1.6nm,0.2s,SNR=1.0						
SSF				*e*Sg	**Sg**	**04 49 26.7**	**-2.6**
	comp=E,9.6nm,0.6s						
HYF	**Humbligny**	**3.78**	**214**	*e*Pg	**Pb**	**04 48 41.4**	**+4.2**
HYF				*e*Sg	**Sg**	**04 49 29.7**	**-2.4**
HYF	**Humbligny**	**3.78**	**214**	*e*Pg	**Pb**	**04 48 41.4**	**+4.2**
HYF				*e*Sg	**Sg**	**04 49 29.7**	**-2.4**
CABF	**La Chapelle**	**3.85**	**176**	*e*Pn	**Pn**	**04 48 30.1**	**+0.6**
	SNR=1.0						
CABF	**La Chapelle**	**3.85**	**176**	*e*Pg	**Pg**	**04 48 43.8**	**-0.6**
CABF				*e*Sn	**Sn**	**04 49 10.7**	**-3.9**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**04 49 32.7**	**-1.6**
	comp=E,4.2nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**3.85**	**176**	*e*Pn	**Pn**	**04 48 30.1**	**+0.6**
	SNR=1.0						
CABF	**La Chapelle**	**3.85**	**176**	*e*Pg	**Pg**	**04 48 43.8**	**-0.6**
CABF				*e*Sn	**Sn**	**04 49 10.7**	**-3.9**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**04 49 32.7**	**-1.6**
	comp=E,2.1nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.99**	**204**	*e*Pn	**Pn**	**04 48 31.5**	**+0.2**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.99**	**204**	*e*Pg	**Pg**	**04 48 45.8**	**-1.2**
AVF				*e*Sn	**Sn**	**04 49 14.9**	**-3.0**
AVF				*e*Sg	**Sg**	**04 49 36.4**	**-2.3**
	comp=E,3.0nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.99**	**204**	*e*Pn	**Pn**	**04 48 31.5**	**+0.2**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.99**	**204**	*e*Pg	**Pg**	**04 48 45.8**	**-1.2**

AVF				eSn	Sn	04 49 14.9	-3.0
AVF				eSg	Sg	04 49 36.4	-2.3
	comp=E,1.5nm,0.3s,SNR=1.0						
SMF	Signal de Mont	4.01	199	ePn	Pn	04 48 32.2	+0.5
	SNR=1.0						
SMF	Signal de Mont	4.01	199	ePg	Pg	04 48 45.6	-1.8
SMF				eSn	Sn	04 49 15.8	-2.6
	comp=E,2.9nm,0.2s						
SMF				eSg	Sg	04 49 37.6	-1.8
	comp=E,7.4nm,0.2s,SNR=1.0						
SMF	Signal de Mont	4.01	199	ePn	Pn	04 48 32.2	+0.5
	SNR=1.0						
SMF	Signal de Mont	4.01	199	ePg	Pg	04 48 45.6	-1.8
SMF				eSn	Sn	04 49 15.8	-2.6
	comp=E,1.5nm,0.2s						
SMF				eSg	Sg	04 49 37.6	-1.8
	comp=E,3.7nm,0.2s,SNR=1.0						
LDF	La Druitiere	4.24	246	ePg	Pg	04 48 50.4	-1.5
LDF				eSn	Sn	04 49 20.6	-3.5
	SNR=1.0						
LDF				eSg	Sg	04 49 45.1	-1.7
	comp=E,3.9nm,0.3s,SNR=1.0						
LDF	La Druitiere	4.24	246	ePg	Pg	04 48 50.4	-1.5
LDF				eSn	Sn	04 49 20.6	-3.5
	SNR=1.0						
LDF				eSg	Sg	04 49 45.1	-1.7
	comp=E,2.0nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	4.34	207	ePn	Pn	04 48 36.4	+0.2
	SNR=1.0						
BGF	Bois d'Agland	4.34	207	eP	Pn	04 48 39.9	+3.7
BGF	Bois d'Agland	4.34	207	ePg	Pb	04 48 51.5	+4.8
BGF				eSn	Sn	04 49 23.0	-3.6
	SNR=1.0						
BGF				eSg	Sg	04 49 48.5	-1.5
	comp=E,15nm,0.5s,SNR=1.0						
BGF	Bois d'Agland	4.34	207	ePn	Pn	04 48 36.4	+0.2
	SNR=1.0						
BGF	Bois d'Agland	4.34	207	eP	Pn	04 48 39.9	+3.7
BGF	Bois d'Agland	4.34	207	ePg	Pb	04 48 51.5	+4.8
BGF				eSn	Sn	04 49 23.0	-3.6
	SNR=1.0						
BGF				eSg	Sg	04 49 48.5	-1.5
	comp=E,7.6nm,0.5s,SNR=1.0						
FLN	La Foliniere	4.38	250	eSg	Sb	04 49 46.5	+6.5
	comp=E,6.1nm,0.3s						
GRR	Gorron	4.77	247	eSn	Sn	04 49 33.3	-3.8
GRR				eSg	Sg	04 50 01.0	-2.7
	comp=E,2.6nm,0.2s						
GRR	Gorron	4.77	247	eSn	Sn	04 49 33.3	-3.8
GRR				eSg	Sg	04 50 01.0	-2.7
	comp=E,1.3nm,0.2s						
TCF	Toulx Ste Croi	4.78	211	ePn	Pn	04 48 42.2	-0.1
TCF	Toulx Ste Croi	4.78	211	ePg	Pg	04 49 00.0	-2.2
TCF				eSn	Sn	04 49 34.0	-3.5
	comp=E,2.2nm,0.2s,SNR=1.0						
TCF				eSg	Sg	04 50 01.8	-2.3
TCF	Toulx Ste Croi	4.78	211	ePn	Pn	04 48 42.2	-0.1
TCF	Toulx Ste Croi	4.78	211	ePg	Pg	04 49 00.0	-2.2
TCF				eSn	Sn	04 49 34.0	-3.5
	comp=E,1.1nm,0.2s,SNR=1.0						
TCF				eSg	Sg	04 50 01.8	-2.3
LPL	La Plagne	4.98	172	ePn	Pn	04 48 45.4	+0.2
LPL				eSn	Sn	04 49 39.0	-3.7
LPL				eSg	Sg	04 50 05.8	-4.8
LPL	La Plagne	4.98	172	ePn	Pn	04 48 45.4	+0.2
LPL				eSn	Sn	04 49 39.0	-3.7
LPG	La Plagne	5.00	172	ePn	Pn	04 48 46.5	+0.9
	SNR=1.0						
LPG				eSn	Sn	04 49 40.4	-2.9
	comp=E,1.5nm,0.3s,SNR=1.0						
LPG	La Plagne	5.00	172	ePn	Pn	04 48 46.5	+0.9
	SNR=1.0						
LPG				eSn	Sn	04 49 40.4	-2.9
	comp=E,0.8nm,0.3s,SNR=1.0						
MFF	Saint Martin d	5.48	228	eSn	Sn	04 49 50.1	-4.6
MFF				eSg	Sg	04 50 22.6	-4.0
ORIF	Oris-en-Rattie	5.54	179	ePn	Pn	04 48 52.8	+0.1
	SNR=1.0						
ORIF				eSg	Sg	04 50 24.3	-4.0
VIVF	Saint-Julien-l	5.64	188	eSn	Sn	04 49 54.2	-4.5
	comp=E,1.2nm,0.2s,SNR=1.0						
MBDF	Montbardon	5.77	173	ePn	Pn	04 48 56.3	+0.3
RJF	Les Rejaudoux	5.88	210	eSn	Sn	04 49 58.9	-5.5
RJF				eSg	Sg	04 50 35.5	-3.7
LFF	La Frestale	6.46	213	eSn	Sn	04 50 14.3	-4.5
	SNR=1.0						
LFF				eSg	Sb	04 50 48.9	+9.1
	comp=E,4.1nm,0.5s,SNR=1.0						
LASF	Ste Croix	6.50	192	ePn	Pn	04 49 05.9	0.0
FRF	La Foret Royal	6.92	174	eSn	Sn	04 50 25.1	-5.0
LMR	La Mourre	7.14	175	eSn	Sn	04 50 31.3	-4.2

*NDI **04** 04:55:06.4±1.8, 24°.71N×93°.35E, h30km±5km, ML3.1*

ISC 04 04:55:07.1±1.4**, 24°.69N**±0°.05×**93°.41E**±0°.05**, h43**km±22km**,**
n8, σ1s.05/15**, 1C, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	0.51	74⇑	iP	Pn	04 55 17.1	-1.1
IMP				eS	Sn	04 55 27.0	+1.0
IMP				eS		04 55 27.2	
SILR	SILCHAR	0.56	280	eP	Pn	04 55 17.9	-0.8
SILR				eS	Sn	04 55 27.7	+0.8
SILR				IAML		04 55 37.5	
	comp=N,474nm,0.3s						
SILR				IAML		04 55 37.8	
	comp=E,927nm,0.3s						
AZL	Aizawl	1.15	215	eP	Pn	04 55 26.5	-0.4
AZL				eS	Sn	04 55 42.9	+1.4
KOHI	KOHIMA	1.21	32	eP	Pn	04 55 26.9	-0.9
KOHI				eS	Sn	04 55 44.1	+1.1
KOHI				IAML		04 55 45.6	
	comp=N,950nm,0.3s						
MOKO	MOKOCHONG	1.91	31	eP	Pn	04 55 37.2	-0.2
MOKO				eS	Sn	04 56 01.2	+1.0
MOKO				IAML		04 56 06.8	
	comp=E,157nm,0.0s						
GUWA	GUWAHATI	2.16	314	eP	Pn	04 55 39.0	-1.6
GUWA				IAML		04 56 16.6	
	comp=E,91nm,0.1s						
SAIH	SAIHA	2.22	190	eP	Pn	04 55 41.1	-0.5
SAIH				eS	Sn	04 56 07.5	-0.4
SAIH				IAML		04 56 11.9	
	comp=E,79nm,0.5s						
SAIH				IAML		04 56 12.2	
	comp=N,57nm,0.2s						
TURI	Tura	2.92	288	eP	Pn	04 55 51.6	+0.6
TURI				eS	Sn	04 56 24.8	-0.1
TURI				IAML		04 56 28.0	
	comp=N,176nm,0.5s						
TURI				IAML		04 56 28.5	
	comp=E,189nm,0.1s						

MEX 04 05:02:46.9±0.3**, 14°.87N×93°.19W, h72**km±7km**, MD3.6,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.83	358	eP	Pn	05 03 02.2	-1.3
PCIG				eS	Sn	05 03 13.9	-1.8
CCIG	Comitan	1.74	36	eP	Pn	05 03 13.6	-1.7
CCIG				eS	Sn	05 03 34.9	-1.8
TGIG		1.90	2	iP	Pn	05 03 16.0	-1.4
TGIG				eS	Sn	05 03 38.8	-1.7

*IDC **04** 05:03:42.2±2.0, 8°.48S×118°.22E, h125km±16km, mb4.0/12, mb1 4.0/14, mb1mx3.7/53, mbtmp4.4/14, Error ellipse: s-maj=23.1km s-min=9.1km az=59.0*
*ISCJB **04** 05:03:43.0±0.2, 8°.60S±0°.04×118°.43E±0°.02, h152km, mb4.2/17, Error ellipse: s-maj=5.5km s-min=3.0km az=16.8*
*NEIC **04** 05:03:43.1±0.7, 8°.56S×118°.31E, h138km±7km, mb4.5/6, Error ellipse: s-maj=10.2km s-min=6.1km az=47.0*
*DJA **04** 05:03:44.9±0.2, 9°S±3°×11°8E±°, h126km±3km, M4.6/13, mb4.8/4, mB4.9/3, MLv4.6/13, Mw(mB)4.2/3*

ISC 04 05:03:44.6±0.4**, 8°.57S**±0°.05×**118°.43E**±0°.04**, h152**km**, n69,**
σ1s.75/86**, mb4.4**/17**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.69	248	P	Pn	05 04 05.6	-1.6
PLAI				S	Sn	05 04 21.4	-3.1
WBSI	Waikabubak, Su	1.43	138	P	Pn	05 04 11.6	-2.0
WBSI				S	Sn	05 04 32.7	-3.2
BASI	Baing, Sumba	2.68	128	P	Pn	05 04 27.7	-0.3
BASI				S	Sn	05 04 59.8	-1.8
BSSI	Bau Bau, Buton	3.16	40	P	Pn	05 04 33.9	-0.2
DNP	Denpasar	3.18	268	P	Pn	05 04 35.0	+0.7
DNP				S	Sn	05 05 17.1	+4.2
SRBI	Singaraja	3.22	278	P	Pn	05 04 34.8	0.0
EDFI	Ende, Flores	3.23	93	P	Pn	05 04 34.7	-0.4
EDFI				S	Sn	05 05 13.5	-0.6
IGBI	Denpasar	3.25	265	P	Pn	05 04 35.1	-0.1
IGBI				S	Sn	05 05 13.3	-1.2
KAPI	Kappang	3.77	21	ePn	Pn	05 04 42.1	+0.3
MMRI	Maumere	3.77	91	P	Pn	05 04 41.9	0.0
MMRI				S	Sn	05 05 26.1	-0.3
MMRI	Maumere	3.77	91	ePn	Pn	05 04 41.7	-0.2
ABJI	Asem Bagus	4.22	280	P	Pn	05 04 48.9	+1.1
JAGI	Jajag, Banyuwa	4.23	271	P	Pn	05 04 45.9	-2.0
JAGI	Jajag, Banyuwa	4.23	271	ePn	Pn	05 04 45.4	-2.5
BNSI	Bone	4.46	22	P	Pn	05 04 52.6	+1.6
KMMI	Kalianget	4.67	289	P	Pn	05 04 56.3	+2.6
BLJI	Banyuglugur	4.85	279	P	Pn	05 04 57.3	+1.2
GMJI	Gumukmas	4.94	273	P	Pn	05 04 57.2	0.0
GMJI				S	Sn	05 05 54.0	+0.1
BATI	Baumata	5.42	108	P	Pn	05 05 03.0	-0.6
	36nm,0.3s,baz=279,slow=9.5,SNR=14						
BATI				S	Sn	05 06 02.4	-3.0
	61nm,0.3s,baz=292,slow=19,SNR=4.3						
BATI	Baumata	5.42	108	P	Pn	05 05 03.3	-0.3
	52nm,0.4s,2µm0.5nm						
TTSI	Tana Toraja	5.66	14	P	Pn	05 05 09.0	+2.2
	90nm,0.8s,867nm						
SOEI	Soe	5.89	102	P	Pn	05 05 09.1	-0.8
	110nm,0.7s,2µm						
SOEI				S	Sn	05 06 15.5	-1.2
	110nm,0.7s,2µm						
SOEI	Soe	5.89	102	ePn	Pn	05 05 10.2	+0.3
PWJI	Pagerwojo	6.58	274	P	Pn	05 05 23.1	+4.1
PWJI				S	Sn	05 06 32.3	-0.7
PCJI	Pacitan	7.18	272	P	Pn	05 05 28.1	+1.0
SMKI	Samarinda	8.16	351	P	Pn	05 05 36.3	-3.8
MBWA	Marble Bar	12.58	174	ePn	Pn	05 06 35.9	-2.4
KSM	Kuching	12.84	321	ePn	Pn	05 06 40.0	-1.8
KKM	Kota Kinabalu	14.68	351	eP	P	05 07 08.8	+1.5
FAKI	Fak Fak	14.85	69	ePn	Pn	05 07 06.4	-0.8
WRA	Warramunga Arr	19.10	128	P	P	05 07 55.9	0.0
	1.7nm,0.3s,baz=302,slow=12,SNR=60						
WRA				S	S	05 11 24.5	-0.1
	1.0nm,0.3s,baz=300,slow=24,SNR=5.9						
WRA				ScP	ScP	05 15 36.3	+0.6
	0.1nm,0.3s,baz=314,slow=2.3,SNR=5.0						
WRAB	Tennant Creek	19.11	128	eP	P	05 07 56.2	+0.4
	6.8nm,0.6s						
WB2	Warramunga Arr	19.11	128	eP	P	05 07 54.9	-1.1
AS31	Alice Springs	21.10	137	eP	P	05 08 17.6	+0.4
	5.5nm,0.3s						
ASAR	Alice Springs	21.10	137	P	P	05 08 18.1	+0.8
	8.7nm,0.5s,baz=308,slow=9.3,SNR=162						
ASAR				S	S	05 12 09.9	+6.5
	5.1nm,0.7s,baz=312,slow=24,SNR=12						
ASAR				ScP	ScP	05 15 41.1	+0.7
	1.7nm,0.6s,baz=308,slow=2.1,SNR=6.1						
AS01	Alice Springs	21.13	137	eP	P	05 08 17.9	+0.4
PSI	Prapat	22.49	299	P	P	05 08 28.1	-3.6
	6.5nm,0.8s,baz=137,slow=13,SNR=3.7						
STKA	Stephens Creek	31.64	140	P	P	05 09 54.7	+1.3
	3.1nm,0.5s,baz=315,slow=8.6,SNR=16						
KMI	Kunming	36.81	336	P	P	05 10 39.5	+1.3
NJ2	Nanjing	40.39	1	eP	P	05 11 07.0	-0.7
CD2	Chengdu	41.70	341	eP	P	05 11 19.0	+0.5
LZH	Lanzhou	46.49	344	eP	P	05 11 58.9	+2.2
LZH				pP	pP	05 12 36.1	+5.2
LZH				sP	sP	05 12 54.3	+6.4
KSAR	Wonju Array Be	46.62	10	P	P	05 11 59.1	+1.7
KSRS	Korea Array	46.63	10	P	P	05 11 59.1	+1.6
	2.8nm,0.5s,baz=188,slow=10,SNR=8.1						
HHC	Hu-ho-hao-te	49.58	353	eP	P	05 12 22.0	+1.7
HHC				sP	sP	05 13 10.6	-1.1
HHC				S	S	05 19 14.1	-2.7
HHC				sS	sS	05 20 30.2	+13
GTA	Gaotai	50.76	341	eP	P	05 12 30.3	+1.0
GTA				pP	pP	05 13 07.0	+3.0
GTA				sP	sP	05 13 25.4	+4.6
GTA				S	S	05 19 33.4	+0.1
USRK	Ussuriysk Ar.	53.94	12	P	P	05 12 52.2	-0.2
	4.8nm,0.4s,baz=190,slow=6.4,SNR=14						
SONM	Songino Array	57.16	350	P	P	05 13 15.6	+0.1
	2.2nm,0.4s,baz=167,slow=8.4,SNR=25						
SONA1	Songino Array	57.17	350	eP	P	05 13 15.5	-0.1
WMQ	Urumqi	59.12	334	P	P	05 13 30.1	+0.9
KSH	Kashi	61.92	324	eP	P	05 13 49.1	+0.8
KSH				S	S	05 21 57.5	-3.0
KBL	Kabul	63.39	316	eP	P	05 13 56.9	-1.3
	4.3nm,0.6s						
MK01	Makanchi Array	63.79	333	eP	P	05 13 59.5	-0.9
MK31	Makanchi Array	63.82	333	eP	P	05 14 00.1	-0.5
MKAR	Makanchi Array	63.82	333	P	P	05 14 00.1	-0.5
	1.4nm,0.4s,baz=155,slow=6.0,SNR=13						
MKAR	Makanchi Array	63.82	333	eP	P	05 14 00.1	-0.5
	12nm,0.8s						
ZAA0	Zalesovo Array	68.44	339	eP	P	05 14 28.5	-1.4
	2.6nm,0.6s						
ZALV	Zalesovo Beam	68.44	339	P	P	05 14 28.6	-1.3
	2.9nm,0.5s,baz=142,slow=5.1,SNR=17						
PETK	Petropavlovsk-	69.91	24	P	P	05 14 39.7	+0.8
	2.2nm,0.6s,baz=231,slow=2.6,SNR=6.5						
VNDA	Vanda	72.50	171	P	P	05 14 56.5	+2.3
	1.1nm,0.4s,baz=314,slow=7.6,SNR=17						
BVAR	Borovoye Array	73.65	332	P	P	05 15 00.4	-0.9
	0.6nm,0.6s,baz=120,slow=7.3,SNR=3.9						
ABKAR	Akbulak array	76.88	325	eP	P	05 15 18.4	-1.4
	11nm,0.9s						
TIXI	Tiksi	80.34	3	eP	P	05 15 37.2	-1.1
	11nm,1.4s						
SNAA	Sanae	91.26	196	P	P	05 16 34.5	+2.1
	0.7nm,0.6s,baz=166,slow=8.3,SNR=5.3						
YKA	Yellowknife Ar	114.03	24	PKP	PKPdf	05 22 05.4	+0.1
	0.2nm,0.4s,baz=306,slow=1.9,SNR=13						
TORD	Torodi Ar. Bea	117.83	280	PKP	PKPdf	05 22 14.1	+0.2
	0.7nm,0.5s,baz=40,slow=2.3,SNR=19						
NVAR	Mina Array Bea	121.18	50	PKP	PKPdf	05 22 21.8	+1.7
	0.5nm,0.8s,baz=243,slow=3.3,SNR=4.4						
CPUP	Villa Florida	145.07	187	PKPbc	PKPdf	05 23 06.1	+1.4
	2.8nm,0.9s,baz=87,slow=4.8,SNR=5.5						
TKL	Tuckaleechee C	146.26	34	PKPbc	PKPbc	05 23 07.8	+0.1
	3.4nm,0.7s,baz=305,slow=3.0,SNR=2.4						

IDC 04 05:19:51.8±4.4**, 1°.13S×137°.88E, h0**km**, mb3.5**/3**,**
mb1 3.8/4**, mb1mx3.5**/42**, mbtmp3.7**/4**, ML3.9**/1**, Error**
ellipse: s-maj=224.7km s-min=25.3km az=86.0, Near
north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.02	190	P	Pn	05 24 16.2	+0.1
	0.4nm,0.3s,baz=14,slow=12,SNR=26						
ASAR	Alice Springs	22.73	189	P	P	05 24 56.0	+0.3
	0.8nm,0.5s,baz=20,slow=9.3,SNR=7.9						
SONM	Songino Array	55.94	335	P	P	05 29 33.3	+1.4
	0.2nm,0.4s,baz=116,slow=3.4,SNR=1.8						
BVAR	Borovoye Array	77.55	325	P	P	05 31 47.7	-1.9
	0.5nm,0.5s,baz=110,slow=8.5,SNR=2.4						

*ISCJB **04** 05:25:07.2±2.2, 30°.28S±0°.04×71°.7W±0°.1, h20km±15km, Error ellipse: s-maj=17.7km s-min=6.9km az=8.7*
*SJA **04** 05:25:08.0±0.7, 30°.25S×71°.62W, h41km±14km, ML3.5, MW4.2*
*GUC **04** 05:25:10.1±0.3, 30°.29S×70°.83W, h69km±1km, ML4.0*

ISC 04 05:25:10.4±1.8**, 30°.32S**±0°.04×**71°.48W**±0°.09**, h29**km±15km**,**
n16, σ1s.68/22**, 4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.60	76⇑	iP	Pb	05 25 21.7	-1.0
TLL				iS	Sb	05 25 30.3	-0.7
TLL				IAML		05 25 31.1	
	comp=E,12µm,0.3s						
GO04	Tololo Observa	0.61	76⇑	iP	Pb	05 25 21.7	-1.0
GO04				iS	Sb	05 25 30.4	-0.7
LCO	Las Campanas	1.47	28	iP	Pn	05 25 33.8	-1.5
LCO				iS	Sn	05 25 52.9	-0.8
LCO	Las Campanas	1.47	28⇑	iP	Pn	05 25 34.0	-1.3
LCO				iS	Sn	05 25 52.0	-1.7
LCO				IAML		05 25 56.8	
	comp=E,2µm,0.3s						
VACH	Vallenar	1.85	20⇑	iP	Pb	05 25 47.2	+3.6
VACH				iS	Sb	05 26 09.0	+2.7
RTLS	Leoncito	2.38	129	iP	Pn	05 25 49.2	+1.4
RTLS				IAML		05 26 20.1	
	comp=Z,228nm,0.3s						
AUSP	Uspallata	2.61	137	iP	Pn	05 25 52.1	+1.2
AMOG	MOGNA	2.65	104	iP	Pn	05 25 52.5	+1.2
ROCH	El Roble	2.67	172	eP	Pn	05 25 49.7	-2.1
ROCH				eS	Sn	05 26 22.0	-1.3
ROCH				IAML		05 26 36.7	
	comp=N,641nm,0.4s						
ROC1	El Roble	2.68	172	iP	Pn	05 25 52.5	+0.6
AGUA	GUANDACOL	2.72	73	iP	Pn	05 25 53.4	+1.1
SJA	San Juan	2.78	116	iP	Pn	05 25 54.3	+1.2
GO03	Copiap	2.93	22	eP	Pn	05 25 53.5	-1.6
GO03				IAML		05 26 38.9	
	comp=N,572nm,0.4s						
RTCV	Cerro Valdivia	2.95	122	iP	Pn	05 25 56.3	+0.9
CPCH	Copiapo	3.11	19⇓	iP	Pn	05 25 56.0	-1.7
CLCH	Cerro Calan	3.17	166	eP	Pn	05 25 58.2	-0.2
CLCH				IAML		05 26 48.2	
	comp=E,685nm,0.5s						

*ISK **04** 06:00:07.7, 38°.69N×30°.39E, h29km, ML2.6/2*
*ISCJB **04** 06:00:08.3±0.5, 38°.69N±0°.04×30°.21E±0°.03, h9km±6km, Error ellipse: s-maj=6.2km s-min=3.9km az=20.8*
*DDA **04** 06:00:08.3, 38°.68N×30°.23E, h7km, Md2.3*
*CSEM **04** 06:00:08.4±0.1, 38°.69N×30°.22E, h12km, ML2.6, Error ellipse: s-maj=2.2km s-min=1.4km az=20.0*

ISC 04 06:00:08.5±1.0**, 38°.69N**±0°.04×**30°.23E**±0°.02**, h15**km±9km**,**
n16, σ0s.30/32**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	Suhut-Afyon	0.28	117	PG	Pg	06 00 14.6	0.0
SHUT				SG	Sg	06 00 18.9	+0.2
SHUT	Suhut-Afyon	0.28	117	ePg	Pg	06 00 14.6	0.0
SHUT				eSg	Sg	06 00 18.9	+0.2
KZIL	AFYON_Kizioren	0.43	189	iP	Pg	06 00 16.8	-0.4
KZIL				iS	Sg	06 00 23.2	+0.1
KZIL	AFYON_Kizioren	0.43	189	P	Pg	06 00 16.8	-0.4
KZIL				S	Sg	06 00 23.2	+0.1
BOLV	Bolvadin	0.56	86	iP	Pg	06 00 19.7	0.0
BOLV				iS	Sb	06 00 27.6	-0.5
BOLV	Bolvadin	0.56	86	P	Pg	06 00 19.7	0.0
BOLV				S	Sb	06 00 27.6	-0.5
KHAL	Karahalli	0.66	242	iP	Pg	06 00 21.3	-0.1
KHAL				iS	Sg	06 00 29.9	-0.2
KHAL	Karahalli	0.66	242	P	Pg	06 00 21.3	-0.1
KHAL				S	Sg	06 00 29.9	-0.2
GDZ	Gediz	0.71	305	iP	Pg	06 00 22.2	-0.2
GDZ				iS	Sb	06 00 32.5	+0.2
GDZ	Gediz	0.71	305	P	Pg	06 00 22.2	-0.2
GDZ				S	Sb	06 00 32.5	+0.2
TVSB	Tavsanli	0.97	322	PG	Pg	06 00 26.7	-0.6
TVSB				SG	Sb	06 00 40.3	+0.5
TVSB	Tavsanli	0.97	322	ePg	Pg	06 00 26.7	-0.6
TVSB				eSg	Sb	06 00 40.3	+0.5
KULA	Kula-Manisa	1.24	263	PN	Pn	06 00 31.5	+0.1
KULA				SN	Sn	06 00 48.1	+0.2
KULA	Kula-Manisa	1.24	263	ePn	Pn	06 00 31.5	+0.1
KULA				eSn	Sn	06 00 48.1	+0.2
DOGA	KONYA_Doganhis	1.27	117	iP	Pb	06 00 32.3	+0.1
DOGA				iS	Sg	06 00 49.4	-0.1
DOGA	KONYA_Doganhis	1.27	117	P	Pb	06 00 32.3	+0.1
DOGA				S	Sg	06 00 49.4	-0.1

*ISCJB **04** 06:02:56.9±1.0, 61°.2S±0°.2×23°.8W±0°.7, h10km, mb3.9/3, Error ellipse: s-maj=53.2km s-min=13.0km az=153.4*
*IDC **04** 06:02:57.6±1.2, 61°.06S×23°.80W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/28, mbtmp4.2/4, ML4.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/24, Error ellipse: s-maj=54.2km s-min=31.5km az=62.0*

ISC 04 06:02:59.1±1.0**, 61°.1S**±0°.2×**23°.8W**±0°.3**, h10**km**, n10,**
σ0s.88/10**, mb3.9**/3**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	11.41	153	P	Pn	06 05 42.0	+0.2
VNA3	Neumayer Olymp	11.59	157	P	Pn	06 05 44.0	-0.3
VNA2	Neumayer--Watz	11.81	153	P	Pn	06 05 46.6	-0.8
	baz=307,slow=15						
SNAA	Sanae	13.38	151	P	Pn	06 06 08.1	-0.7
SNAA	Sanae	13.38	151	Pn	Pn	06 06 08.1	-0.7
	2.3nm,0.3s,baz=322,slow=16,SNR=128						
SNAA				Sn	Sn	06 08 27.4	-10
	0.3nm,0.3s,baz=324,slow=19,SNR=5.1						
SNAA				LR	LR	06 10 04.6	
	comp=Z,110nm,18.2s,baz=318,slow=32						
CPUP	Villa Florida	41.52	312	P	P	06 10 45.5	-0.8
	1.2nm,0.9s,baz=165,slow=4.4,SNR=4.8						
TORD	Torodi Ar. Bea	76.76	26	P	P	06 14 50.2	-0.2
	3.4nm,0.9s,baz=191,slow=6.1,SNR=16						
ASAR	Alice Springs	93.58	160	P	P	06 16 16.1	+0.8
	0.4nm,0.8s,baz=182,slow=5.0,SNR=3.6						
YKA	Yellowknife Ar	141.05	312	PKP	PKPdf	06 22 29.3	+1.5
	0.3nm,0.6s,baz=131,slow=2.4,SNR=6.2						
INK	Inuvik	150.77	314	PKPbc	PKPbc	06 22 49.6	-0.1
	2.4nm,0.9s,baz=72,slow=1.7,SNR=8.2						

*ISCJB **04** 06:43:51.1±1.0, 37°.26N±0°.06×144°.59E±0°.08, h33km, mb3.5/2, Error ellipse: s-maj=9.5km s-min=8.9km az=151.5*
*IDC **04** 06:43:52.8±11.0, 36°.49N×144°.44E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/63, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=260.9km s-min=46.8km az=32.0*
*JMA **04** 06:43:53.9±0.3, 37°.29N×144°.40E, h50km, M3.1*

ISC 04 06:43:52.3±1.5**, 37°.26N**±0°.07×**144°.60E**±0°.09**, h35**km**, n16,**
σ1s.51/20**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.84	296	P	Pn	06 44 35.9	+0.8
OFUJ	Ofunato	2.94	309	P	Pn	06 44 37.3	+0.8
OFUJ				eS	Sn	06 45 09.9	-0.7
JFK	Kawauchi	2.97	273	P	Pn	06 44 37.4	+0.4
JFK				eS	Sn	06 45 09.7	-1.7
JMK	Ichinoseki	3.16	303	P	Pn	06 44 40.6	+1.1
JFT	Otama	3.40	276	P	Pn	06 44 44.6	+1.6
JFT				eS	Sn	06 45 21.9	-0.2
JOM	Ohasama	3.41	311	P	Pn	06 44 44.5	+1.5
JOM				eS	Sn	06 45 22.3	0.0
JYK	Kaneyama	3.73	298	P	Pn	06 44 49.1	+1.6
JRY	Ryogami san	4.75	257	P	Pn	06 45 01.4	0.0
JRY				eS	Sn	06 45 52.0	-3.2
MJAR	Matsushiro Arr	5.17	264	Pn	Pn	06 45 09.0	+1.8
	0.5nm,0.3s,baz=89,slow=14,SNR=5.6						
JCH	Churui	5.43	350	P	Pn	06 45 11.1	+0.3
JCH				eS	Sn	06 46 10.1	-2.0
JTKR	Abashiri--Toko	6.73	356	P	Pn	06 45 29.7	+1.2
JTKR				eS	Sn	06 46 41.7	-2.2
H11N2	WAKE ISLAND Hy	26.14	126	T	T	07 16 32.0	
	baz=317,slow=74,SNR=25						
H11N1	WAKE ISLAND Hy	26.15	126	T	T	07 16 27.1	
	baz=317,slow=74,SNR=11						
H11N3	WAKE ISLAND Hy	26.16	126	T	T	07 16 29.3	
	baz=317,slow=74,SNR=16						
WRA	Warramunga Arr	57.71	191	P	P	06 53 39.0	-0.6
	0.2nm,0.4s,baz=8.5,slow=7.0,SNR=4.9						
ASAR	Alice Springs	61.43	191	P	P	06 54 06.2	+1.1
	0.3nm,0.7s,baz=22,slow=8.5,SNR=3.3						

IDC 04 06:51:13.3±53.0**, 19°.12S×177°.40W, h0**km**, mb3.8**/3**,**
mb1 4.0/3**, mb1mx3.5**/44**, mbtmp3.8**/3**, Error ellipse:**
s-maj=974.4km s-min=163.7km az=81.0, Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.91	243	P	P	06 58 40.5	-0.5
	1.9nm,1.0s,baz=63,slow=9.0,SNR=3.5						
WRA	Warramunga Arr	45.37	261	P	P	06 59 33.6	-0.2
	0.7nm,0.8s,baz=95,slow=7.4,SNR=14						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.40**	**255**	P	P	06 59 34.2	+0.1
	1.1nm,0.7s,baz=97,slow=7.9,SNR=16						

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*NIED **04** 06:55:00, 37.°30N×144.°40E, h8km, Mw4.3 Best double couple: M₀2.85000×10^{15} NP1:φs36.00000°, δ23.00000°, λ-86.00000°. NP2:φs212.00000°, δ67.00000°, λ-92.00000°.*
*IDC **04** 06:55:34.9±0.7, 36.°99N×144.°74E, h0km, mb4.0/15, mb1 4.2/19, mb1mx4.0/64, mbtmp4.0/19, ML3.4/5, MS3.4/17, Ms1 3.4/17, ms1mx3.1/67, Error ellipse: s-maj=17.5km s-min=15.0km az=136.0*
*NEIC **04** 06:55:36.9±0.2, 37.°08N×144.°56E, h10km, mb4.6/23, Error ellipse: s-maj=6.8km s-min=4.7km az=160.0*
*ISCJB **04** 06:55:37.7±0.3, 37.°15N±0.°03×144.°40E±0.°03, h26km, mb4.3/44, MS3.5/12, Error ellipse: s-maj=4.8km s-min=3.2km az=170.5*
*JMA **04** 06:55:39.1±0.2, 37.°26N×144.°41E, h61km, M4.1*
ISC 04 06:55:39.6±0.6**, 37.°17N**±0.°05×**144.°51E**±0.°06**, h26**km**, n108, σ1.s73**/109**, mb4.5**/44**, MS3.4**/12**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.81**	**298**	P	**Pn**	**06 56 21.3**	**-1.6**
JIO				S	**Sn**	**06 56 53.2**	**-2.7**
JFK	**Kawauchi**	**2.90**	**275**	P	**Pn**	**06 56 22.9**	**-1.3**
JFK				S	**Sn**	**06 56 55.6**	**-2.7**
OFUJ	**Ofunato**	**2.94**	**311**	P	**Pn**	**06 56 22.7**	**-2.0**
JMK	**Ichinoseki**	**3.15**	**306**	P	**Pn**	**06 56 26.0**	**-1.5**
JMK				eS	**Sn**	**06 57 01.9**	**-2.3**
JFT	**Otama**	**3.34**	**277**	P	**Pn**	**06 56 30.0**	**-0.2**
JFT				eS	**Sn**	**06 57 07.2**	**-1.8**
JOM	**Ohasama**	**3.42**	**313**	P	**Pn**	**06 56 29.9**	**-1.4**
JOM				eS	**Sn**	**06 57 08.0**	**-2.9**
JRY	**Ryogami san**	**4.65**	**257**	P	**Pn**	**06 56 46.9**	**-1.3**
JRY				S	**Sn**	**06 57 37.9**	**-3.5**
JOD2	**Odawara 2**	**4.77**	**248**	P	**Pn**	**06 56 49.4**	**-0.5**
ERM	**Erimo**	**4.95**	**348**	ePn	**Pn**	**06 56 49.8**	**-2.5**
ERM				eSn	**Sn**	**06 57 43.9**	**-4.8**
JOT	**Ohata**	**4.99**	**329**	P	**Pn**	**06 56 51.1**	**-1.7**
MJAR	**Matsushiro Arr**	**5.09**	**265**	Pn	**Pn**	**06 56 53.5**	**-0.7**
	6.4nm,0.3s,baz=155,slow=6.7,SNR=60						
MJAR				Sn	**Sn**	**06 57 51.8**	**-0.3**
	2.7nm,0.3s,baz=60,slow=24,SNR=5.8						
MJAR				LR	LR	06 59 25.7	
	comp=Z,225nm,18.0s,baz=75,slow=44						
MAJO	**Matsushiro**	**5.09**	**265**	ePn	**Pn**	**06 56 54.9**	**+0.6**
MAT	**Matsushiro**	**5.09**	**265**	P	**Pn**	**06 56 54.0**	**-0.2**
MAT				eS	**Sn**	**06 57 49.1**	**-3.1**
MJB9	**Matsu-Tunnel**	**5.09**	**265**	ePn	**Pn**	**06 56 54.9**	**+0.6**
JKB	**Kayabe**	**5.43**	**331**	P	**Pn**	**06 56 57.6**	**-1.2**
JCH	**Churui**	**5.51**	**351**	P	**Pn**	**06 56 57.0**	**-3.0**
JHJ2	**Mitsune**	**5.58**	**225**	ePn	**Pn**	**06 56 58.9**	**-2.0**
JHJ2				eSn	**Sn**	**06 58 02.3**	**-1.9**
JHJ	**Hachijo jima 2**	**5.59**	**225**	Pn	**Pn**	**06 56 58.0**	**-3.2**
	15nm,0.3s,baz=233,slow=20,SNR=2.9						
JHJ				Sn	**Sn**	**06 58 01.1**	**-3.4**
	59nm,0.3s,baz=100,slow=21,SNR=5.0						
JOSM	**Okushiri--Mats**	**6.26**	**323**	P	**Pn**	**06 57 08.9**	**-1.3**
INU	**Inuyama**	**6.32**	**256**	ePn	**Pn**	**06 57 10.6**	**-0.5**
ASAJ	**Asahikawa**	**7.09**	**349**	Pn	**Pn**	**06 57 20.0**	**-1.7**
	3.2nm,0.3s,baz=206,slow=16,SNR=5.6						
ASAJ				Sn	**Sn**	**06 58 39.3**	**-2.1**
	0.9nm,0.3s,baz=72,slow=32,SNR=5.6						
ASAJ	**Asahikawa**	**7.09**	**349**	ePn	**Pn**	**06 57 20.1**	**-1.7**
ASAJ				eSn	**Sn**	**06 58 41.3**	**-0.1**
YSS	**Yuzh-Sakhalins**	**9.87**	**353**	ePn	**Pn**	**06 58 02.3**	**+2.6**
USRK	**Ussuriysk Ar.**	**11.81**	**310**	Pn	**Pn**	**06 58 26.5**	**+0.2**
	0.5nm,0.3s,baz=117,slow=15,SNR=7.0						
USRK				LR	LR	07 02 42.5	
	comp=Z,155nm,21.9s,baz=140,slow=35						
JNU	**Nakatsue**	**11.86**	**254**	LR	LR	07 03 41.6	
	comp=Z,52nm,18.1s,baz=118,slow=41						
KSRS	**Korea Array**	**13.21**	**276**	Pn	**Pn**	**06 58 47.2**	**+1.8**
	0.3nm,0.3s,baz=88,slow=13,SNR=6.6						
KSRS				LR	LR	07 03 27.9	
	comp=Z,116nm,20.3s,baz=92,slow=35						
KSAR	**Wonju Array Be**	**13.24**	**276**	Pn	**Pn**	**06 58 47.2**	**+1.3**
MDJ	**Mudanjiang**	**13.50**	**308**	P	**Pn**	**06 58 48.0**	**-1.4**
MDJ	**Mudanjiang**	**13.50**	**308**	ePn	**Pn**	**06 58 47.6**	**-1.8**
MDJ				eSn	**Sn**	**07 01 14.6**	**-4.0**
KLR	**Kul'dur**	**15.20**	**326**	Pn	**P**	**06 59 15.7**	**-1.5**
	0.0nm,0.3s,baz=132,slow=14,SNR=11						
KLR				LR	LR	07 05 10.7	
	comp=Z,8.8nm,18.4s,baz=128,slow=37						
PETK	**Petropavlovsk-**	**18.41**	**26**	LR	LR	07 07 17.8	
	comp=Z,16nm,21.6s,baz=100,slow=38						
NJ2	**Nanjing**	**21.69**	**264**	eP	**P**	**07 00 28.2**	**-0.3**
MA2	**Magadan**	**22.79**	**8**	LR	LR	07 10 11.4	
	comp=Z,37nm,18.8s,baz=291,slow=38						
HHC	**Hu-ho-hao-te**	**25.77**	**288**	eP	**P**	**07 01 08.7**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**26.15**	**125**	T	T	07 28 05.2	
	baz=317,slow=75,SNR=731						
H11N1	**WAKE ISLAND Hy**	**26.16**	**126**	T	T	07 28 03.0	
	baz=317,slow=75,SNR=340						
H11N3	**WAKE ISLAND Hy**	**26.17**	**125**	T	T	07 28 03.6	
	baz=317,slow=75,SNR=727						
SEY	**Seymchan**	**26.25**	**8**	P	**P**	**07 01 12.2**	**-0.1**
	1.1nm,0.2s,baz=187,slow=6.2,SNR=10.0						
H11S1	**WAKE ISLAND Hy**	**26.92**	**128**	T	T	07 29 02.3	
	baz=319,slow=76,SNR=82						
H11S3	**WAKE ISLAND Hy**	**26.92**	**128**	T	T	07 29 02.3	
	baz=319,slow=76,SNR=87						
H11S2	**WAKE ISLAND Hy**	**26.93**	**128**	T	T	07 29 01.4	
	baz=319,slow=76,SNR=74						
ULN	**Ulaanbaatar**	**29.34**	**303**	eP	**P**	**07 01 40.3**	**0.0**
	2.2nm,0.8s						
SONM	**Songino Array**	**29.77**	**303**	P	**P**	**07 01 46.8**	**+2.7**
	1.1nm,1.0s,baz=112,slow=9.5,SNR=6.4						
SONM				LR	LR	07 13 52.8	
	comp=Z,62nm,19.4s,baz=359,slow=37						
LZH	**Lanzhou**	**32.48**	**281**	eP	**P**	**07 02 07.4**	**-0.7**
LZH				pP	pP	07 02 09.7	-6.2
LZH				sP	sP	07 02 11.0	-8.0
CD2	**Chengdu**	**34.14**	**272**	eP	**P**	**07 02 21.5**	**-1.1**
GTA	**Gaotai**	**34.88**	**288**	eP	**P**	**07 02 32.5**	**+3.5**
GTA				pP	pP	07 02 35.8	-0.9
GTA				sP	sP	07 02 38.6	-1.3
GTA				S	**S**	**07 08 04.8**	**+6.1**
KMI	**Kunming**	**37.43**	**263**	P	**P**	**07 02 50.2**	**-0.8**
WMQ	**Urumqi**	**42.98**	**297**	P	**P**	**07 03 39.0**	**+2.4**
ZALV	**Zalesovo Beam**	**43.65**	**312**	P	**P**	**07 03 44.2**	**+2.4**
	0.5nm,0.5s,baz=111,slow=6.9,SNR=2.4						
ZALV				LR	LR	07 23 02.8	
	comp=Z,48nm,18.7s,baz=70,slow=38						
ZALV	**Zalesovo Beam**	**43.65**	**312**	eP	**P**	**07 03 42.7**	**+0.9**
ZALV				epwP	**sP**	**07 03 52.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**43.93**	**258**	LR	LR	07 24 39.4	
	comp=Z,48nm,18.6s,baz=6.5,slow=40						
MK01	**Makanchi Array**	**46.13**	**303**	eP	**P**	**07 04 02.5**	**+0.7**
MK31	**Makanchi Array**	**46.14**	**303**	eP	**P**	**07 04 01.9**	**+0.2**
MKAR	**Makanchi Array**	**46.14**	**303**	P	**P**	**07 04 02.1**	**+0.3**
	1.9nm,0.9s,baz=83,slow=10.0,SNR=14						
MKAR				LR	LR	07 23 39.9	
	comp=Z,45nm,19.0s,baz=212,slow=36						
MKAR	**Makanchi Array**	**46.14**	**303**	eP	**P**	**07 04 02.1**	**+0.3**
	17nm,1.0s						
KURK	**Kurchatov**	**47.79**	**308**	eP	**P**	**07 04 14.4**	**-0.1**
	20nm,1.1s						
ILAR	**Eielson Array**	**48.06**	**32**	P	**P**	**07 04 14.8**	**-1.6**
	0.7nm,0.9s,baz=271,slow=7.6,SNR=6.1						
RAGM	**Ragged Mountai**	**49.27**	**38**	eP	**P**	**07 04 25.1**	**-0.8**
	221nm,0.8s						
BVAR	**Borovoye Array**	**52.30**	**313**	P	**P**	**07 04 49.6**	**+0.9**
	1.2nm,0.8s,baz=77,slow=9.0,SNR=5.0						
AAK	**Ala-Archa**	**52.59**	**299**	LR	LR	07 28 18.5	
	comp=Z,32nm,20.6s,baz=74,slow=37						
KSH	**Kashi**	**52.60**	**295**	eP	**P**	**07 04 53.4**	**+2.1**
KSH				S	**S**	**07 12 19.4**	**+2.4**
KSH				sS	pS	07 12 27.4	+0.9
KSH	**Kashi**	**52.60**	**295**	SS	**SS**	**07 15 59.1**	**+4.0**
INK	**Inuvik**	**53.14**	**27**	P	**P**	**07 04 54.0**	**-0.6**
	1.6nm,0.7s,baz=303,slow=5.3,SNR=13						
WRAB	**Tennant Creek**	**57.59**	**191**	eP	**P**	**07 05 25.4**	**-1.9**
WRA	**Warramunga Arr**	**57.60**	**191**	P	**P**	**07 05 25.6**	**-1.7**
	4.4nm,0.4s,baz=12,slow=7.2,SNR=41						
AS01	**Alice Springs**	**61.32**	**191**	eP	**P**	**07 05 51.5**	**-1.4**
AS31	**Alice Springs**	**61.32**	**191**	eP	**P**	**07 05 51.3**	**-1.7**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**61.33**	**191**	P	**P**	**07 05 51.5**	**-1.5**
	1.9nm,0.5s,baz=9.8,slow=7.2,SNR=54						
YKA	**Yellowknife Ar**	**62.44**	**31**	P	**P**	**07 05 59.4**	**-0.6**
	0.4nm,0.7s,baz=300,slow=6.7,SNR=9.0						
AFI	**Afiamalu**	**65.36**	**132**	LR	LR	07 34 39.2	
	comp=Z,13nm,18.5s,baz=92,slow=36						
PINE	**Pine Mountain**	**68.35**	**51**	eP	**P**	**07 06 39.4**	**+0.5**
	5.4nm,1.0s						
FINES	**FINESS Array B**	**69.83**	**333**	LR	LR	07 43 30.5	
	comp=Z,81nm,20.0s,baz=24,slow=41						
J08A	**Circle Bar Ran**	**70.10**	**50**	eP	**P**	**07 06 50.2**	**+0.6**
	6.0nm,1.1s						
CMB	**Columbia Colle**	**71.77**	**56**	eP	**P**	**07 06 59.8**	**0.0**
	6.0nm,1.3s						
FFC	**Flin Flon**	**72.24**	**34**	eP	**P**	**07 07 02.1**	**-0.1**
	11nm,1.3s						
DLMT	**Dillon**	**72.49**	**46**	eP	**P**	**07 07 04.7**	**+0.6**
	14nm,1.5s						
KBZ	**Khabaz**	**72.67**	**312**	LR	LR	07 42 20.3	
	comp=Z,61nm,18.2s,baz=58,slow=38						
BOZ	**Bozeman (W)**	**72.91**	**45**	eP	**P**	**07 07 06.1**	**-0.5**
	4.1nm,0.8s						
NV01	**Mina Array Sit**	**72.91**	**55**	eP	**P**	**07 07 07.0**	**+0.1**
NVAR	**Mina Array Bea**	**72.91**	**55**	P	**P**	**07 07 06.8**	**-0.1**
	2.0nm,0.9s,baz=292,slow=6.3,SNR=12						
H17A	**Grant Village**	**74.22**	**46**	eP	**P**	**07 07 16.0**	**+1.5**
	7.2nm,1.0s						
FXWY	**Fox Creek**	**74.41**	**47**	eP	**P**	**07 07 16.4**	**+0.8**
	5.5nm,1.1s						
MOOW	**Moose Ponds**	**74.51**	**47**	eP	**P**	**07 07 16.7**	**+0.6**
	6.0nm,1.4s						
HFS	**Hagfors**	**74.96**	**337**	LR	LR	07 46 34.4	
	comp=Z,65nm,20.7s,baz=60,slow=41						
NOA	**NORSAR Array B**	**75.00**	**338**	P	**P**	**07 07 20.1**	**+1.8**
	0.8nm,0.7s,baz=38,slow=5.6,SNR=3.3						
NOA				LR	LR	07 47 52.3	
	comp=Z,23nm,21.1s,baz=355,slow=42						
TPNV	**Topopah Spring**	**75.09**	**55**	eP	**P**	**07 07 19.7**	**+0.1**
	3.7nm,1.0s						
DUG	**Dugway, Tooele**	**75.38**	**51**	eP	**P**	**07 07 21.4**	**+0.2**
	4.4nm,0.9s						
AKASG	**Malin Array Be**	**75.68**	**324**	P	**P**	**07 07 22.8**	**+0.3**
	0.5nm,0.4s,baz=43,slow=5.7,SNR=6.6						
PSUT	**Pine Spring**	**75.71**	**52**	eP	**P**	**07 07 23.0**	**-0.2**
	5.2nm,1.2s						
PDAR	**Pinedale Array**	**75.79**	**47**	P	**P**	**07 07 23.1**	**-0.4**
	0.9nm,0.7s,baz=277,slow=2.4,SNR=11						
PDAR	**Pinedale Array**	**75.79**	**47**	eP	**P**	**07 07 22.3**	**-1.3**
NLU	**North Lily Min**	**75.98**	**50**	eP	**P**	**07 07 24.7**	**0.0**
	2.6nm,0.9s						
SHPR	**Sheep Range**	**76.06**	**55**	eP	**P**	**07 07 25.5**	**+0.4**
	5.4nm,1.3s						
CCUT	**Cedar City**	**76.61**	**53**	eP	**P**	**07 07 28.3**	**0.0**
	3.2nm,0.9s						
LCMT	**Little Creek M**	**77.00**	**53**	eP	**P**	**07 07 30.4**	**0.0**
	4.9nm,1.1s						
MTPU	**Mount Pierson**	**77.06**	**52**	eP	**P**	**07 07 31.4**	**+0.4**
	4.1nm,1.0s						
P17A	**Butcher Ranch,**	**77.09**	**50**	eP	**P**	**07 07 30.9**	**0.0**
	4.2nm,0.8s						
Q16A	**Castle Valley**	**77.16**	**51**	eP	**P**	**07 07 31.9**	**+0.5**
	5.8nm,1.1s						
KNB	**Kanab**	**77.27**	**53**	eP	**P**	**07 07 32.5**	**+0.5**
	6.8nm,1.1s						
SRU	**San Rafael Swe**	**77.44**	**50**	eP	**P**	**07 07 32.8**	**-0.1**
	6.6nm,0.7s						
PV10	**Paradox Valley**	**78.81**	**50**	eP	**P**	**07 07 40.5**	**-0.1**
PV05	**Paradox Valley**	**78.96**	**50**	eP	**P**	**07 07 41.6**	**+0.2**
WUAZ	**Wupatki**	**79.11**	**54**	eP	**P**	**07 07 42.2**	**0.0**
	4.7nm,1.0s						
S22A	**4UR Ranch, Cre**	**80.56**	**50**	eP	**P**	**07 07 50.5**	**+0.3**
	7.8nm,1.4s						
ANMO	**Albuquerque**	**82.59**	**52**	eP	**P**	**07 08 00.7**	**-0.1**
	8.9nm,1.6s						
GERES	**GERESS Array B**	**83.87**	**330**	LR	LR	07 47 36.1	
	comp=Z,56nm,19.1s,baz=358,slow=37						
UCC	**Uccle**	**85.66**	**336**	eP	**P**	**07 08 16.4**	**+0.6**
	22nm,0.5s						
TXAR	**Lajitas Array**	**88.06**	**54**	P	**P**	**07 08 26.9**	**-1.2**
	0.3nm,0.8s,baz=306,slow=2.7,SNR=4.9						

IDC 04 07:06:02.4±8.2**, 7.°00S**×**129.°69E, h142**km±86km**, mb3.0**/1**, mb1 3.4**/4**, mb1mx3.1**/46**, mbtmp3.8**/4**, Error ellipse: s-maj=74.4km s-min=28.3km az=36.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.75**	**241**	P	Pn	07 07 40.2	+1.0
	1.5nm,0.3s,baz=100,slow=18,SNR=3.2						
BATI				S	Sn	07 08 54.8	-0.2
	2.8nm,0.3s,baz=21,slow=17,SNR=2.9						
WRA	**Warramunga Arr**	**13.64**	**161**	P	Pn	07 09 08.5	-1.6
	0.3nm,0.3s,baz=339,slow=13,SNR=5.0						
WRA				S	Sn	07 11 35.1	-6.0
	0.4nm,0.3s,baz=336,slow=21,SNR=6.5						
ASAR	**Alice Springs**	**17.07**	**167**	P	Pn	07 09 53.4	+0.8
	0.3nm,0.3s,baz=346,slow=12,SNR=36						
ASAR				S	S	07 12 55.6	-7.2
	0.1nm,0.3s,baz=354,slow=27,SNR=4.4						
MKAR	**Makanchi Array**	**68.05**	**327**	P	P	07 16 46.5	-0.1
	0.2nm,0.4s,baz=114,slow=9.8,SNR=3.3						

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*ISCJB **04** 07:22:18.6±0.6, 50.°03N±0.°04×78.°60E±0.°08, h0km, Error ellipse: s-maj=7.4km s-min=4.9km az=162.4*
*IDC **04** 07:22:21.0±1.0, 49.°97N×78.°73E, h0km, mb1 3.3/4, mb1mx3.1/63, mbtmp3.3/4, ML3.1/4, Error ellipse: s-maj=16.0km s-min=8.4km az=46.0*
*NNC **04** 07:22:20.4±0.8, 50.°08N×78.°65E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=10.1km s-min=5.2km az=81.0, Suspected Mining explosion.*
ISC 04 07:22:19.9±0.8**, 50.°04N**±0.°05×**78.°72E**±0.°07**, h0**km**, n14, σ1.s51**/18**, 13C-6D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**0.68**	**355**	⇑P	**Pg**	**07 22 32.3**	**-0.5**
	20nm,0.4s						
KURK				⇓S	**Sg**	**07 22 41.9**	**+0.2**
	43nm,0.5s						
MAKZ	**Makanchi**	**3.89**	**145**	⇓Pn	**Pb**	**07 23 26.3**	**-3.0**
	7.4nm,0.6s						
MAKZ				⇑Lg	Lg	07 24 22.1	
	21nm,0.8s						
MK31	**Makanchi Array**	**4.02**	**142**	Pn	**Pn**	**07 23 23.4**	**+0.6**
	0.6nm,0.3s,baz=322,slow=9.9,SNR=17						
MK31				⇑Pg	**Pb**	**07 23 31.4**	**-0.2**
	2.1nm,0.3s,baz=326,slow=14,SNR=21						
MK31				⇓Lg	Lg	07 24 30.0	
	33nm,0.6s,baz=331,slow=26,SNR=10						
MKAR	**Makanchi Array**	**4.02**	**142**	Pn	**Pn**	**07 23 23.5**	**+0.7**
	0.9nm,0.3s,baz=327,slow=10,SNR=21						
MKAR				Pg	**Pb**	**07 23 31.7**	**+0.1**
	2.4nm,0.3s,baz=326,slow=16,SNR=19						
MKAR				Lg	Lg	07 24 26.2	
	3.1nm,0.3s,baz=328,slow=24,SNR=16						
OTUK	**Ortayu**	**4.56**	**249**	⇑Pn	**Pn**	**07 23 30.5**	**+0.4**
	2.8nm,0.3s						
OTUK				⇑Lg	Lg	07 24 43.9	
	7.7nm,0.5s						
ZALV	**Zalesovo Beam**	**5.43**	**42**	Pn	**Pn**	**07 23 43.8**	**+1.7**
	2.4nm,0.3s,baz=232,slow=14,SNR=20						
ZALV				Lg	Lg	07 25 12.1	
	0.8nm,0.3s,baz=218,slow=30,SNR=6.3						
I46RU	**ZALESOVO INFRA**	**5.43**	**42**	i		07 55 30.0	
	baz=223,slow=335,SNR=5.6						
BVA0	**Borovoye Array**	**6.00**	**303**	⇓Pn	**Pn**	**07 23 49.7**	**-0.1**
	0.5nm,0.3s,baz=121,slow=15,SNR=4.2						
BVA0				⇓Sn	**Sn**	**07 25 01.4**	**+2.3**
	5.2nm,0.7s,baz=116,slow=22,SNR=9.9						
BVA0				⇑Lg	Lg	07 25 29.9	
	6.7nm,0.8s,baz=112,slow=25,SNR=3.9						
BVAR	**Borovoye Array**	**6.00**	**303**	Pn	**Pn**	**07 23 50.4**	**+0.6**
	0.4nm,0.3s,baz=117,slow=13,SNR=4.6						
BVAR				Sn	**Sn**	**07 24 59.6**	**+0.5**
	1.4nm,0.3s,baz=115,slow=22,SNR=15						
BVAR				Lg	Lg	07 25 34.9	
	1.2nm,0.3s,baz=111,slow=29,SNR=5.4						
BRVK	**Borovoye**	**6.07**	**303**	⇑Pn	**Pn**	**07 23 50.2**	**-0.6**
	1.2nm,0.6s						
BRVK				⇑Sn	**Sn**	**07 25 00.3**	**-0.6**
	5.3nm,0.6s						
BRVK				⇑Lg	Lg	07 25 30.1	
	4.1nm,0.7s						
MDOK	**Medeo**	**6.97**	**190**	⇑Sn	**Sn**	**07 25 26.3**	**+2.9**
	3.9nm,0.7s						
MDOK				⇑Lg	Lg	07 26 00.2	
	4.8nm,0.8s						
AAK	**Ala-Archa**	**7.96**	**203**	Pn	**Pn**	**07 24 16.3**	**-0.6**
	0.7nm,0.3s,baz=23,slow=13,SNR=7.0						
AAK				Lg	Lg	07 26 31.1	
	0.3nm,0.3s,baz=305,slow=16,SNR=4.7						
AAK	**Ala-Archa**	**7.96**	**203**	⇓Lg	Lg	07 26 32.7	
	3.5nm,0.7s						
KK31	**Karatay Array**	**8.95**	**222**	⇑Pn	**Pn**	**07 24 28.0**	**-2.3**
	0.1nm,0.3s,baz=34,slow=12,SNR=4.2						
KK31				⇑Lg	Lg	07 27 03.0	
	1.5nm,0.5s,baz=38,slow=29,SNR=4.1						

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*NIED **04** 07:33:00, 37.°20N×144.°40E, h5km, Mw4.0 Best double couple: M₀1.03000×10^{15} NP1:φs358.00000°, δ14.00000°, λ-93.00000°. NP2:φs181.00000°, δ76.00000°, λ-89.00000°.*
*IDC **04** 07:33:26.2±0.7, 36.°97N×144.°70E, h0km, mb3.8/13, mb1 4.0/16, mb1mx3.9/68, mbtmp3.8/16, ML3.9/3, MS2.7/4, Ms1 2.7/4, ms1mx2.4/58, Error ellipse: s-maj=20.0km s-min=15.5km az=133.0*
*NEIC **04** 07:33:27.8±0.5, 37.°12N×144.°64E, h10km, mb4.1/1, Error ellipse: s-maj=10.5km s-min=8.4km az=130.0*
*ISCJB **04** 07:33:28.7±0.5, 37.°22N±0.°03×144.°44E±0.°04, h26km, mb3.8/14, Error ellipse: s-maj=5.4km s-min=3.9km az=147.4*
*JMA **04** 07:33:30.1±0.2, 37.°22N×144.°43E, h50km, M3.8*
ISC 04 07:33:30.4±0.7**, 37.°23N**±0.°05×**144.°53E**±0.°07**, h26**km**, n48, σ2.s41**/60**, mb3.9**/14**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.80**	**297**	P	**Pn**	**07 34 12.9**	**-0.6**
JIO				eS	**Sn**	**07 34 44.5**	**-1.8**
OFUJ	**Ofunato**	**2.91**	**310**	P	**Pn**	**07 34 14.6**	**-0.5**
OFUJ				eS	**Sn**	**07 34 47.1**	**-2.1**
JFK	**Kawauchi**	**2.92**	**274**	P	**Pn**	**07 34 14.4**	**-0.7**
JFK				eS	**Sn**	**07 34 47.5**	**-1.9**
ONAJ	**Iwakimizuishiy**	**2.98**	**269**	P	**Pn**	**07 34 15.3**	**-0.8**
ONAJ				eS	**Sn**	**07 34 49.1**	**-1.9**
JMK	**Ichinoseki**	**3.12**	**304**	P	**Pn**	**07 34 18.2**	**+0.2**
JMK				eS	**Sn**	**07 34 53.2**	**-1.2**
JFT	**Otama**	**3.35**	**276**	P	**Pn**	**07 34 21.2**	**+0.1**
JFT				eS	**Sn**	**07 34 59.3**	**-0.8**
JOM	**Ohasama**	**3.39**	**312**	P	**Pn**	**07 34 21.2**	**-0.4**
JOM				eS	**Sn**	**07 34 59.4**	**-1.6**
BSO1	**Boso 1**	**3.86**	**229**	eS	**Sn**	**07 35 09.9**	**-1.9**
JRY	**Ryogami san**	**4.68**	**257**	P	**Pn**	**07 34 38.2**	**-1.2**
JRY				eS	**Sn**	**07 35 29.7**	**-3.3**
JOD2	**Odawara 2**	**4.81**	**248**	P	**Pn**	**07 34 40.1**	**-1.1**
JOD2				eS	**Sn**	**07 35 34.4**	**-1.8**
ERM	**Erimo**	**4.89**	**348**	ePn	**Pn**	**07 34 42.7**	**+0.4**
ERM				eSn	**Sn**	**07 35 35.1**	**-2.9**
JOT	**Ohata**	**4.95**	**328**	P	**Pn**	**07 34 43.6**	**+0.6**
JOT				eS	**Sn**	**07 35 37.4**	**-1.9**
MJAR	**Matsushiro Arr**	**5.11**	**264**	Pn	**Pn**	**07 34 45.8**	**+0.5**
	6.3nm,0.3s,baz=77,slow=9.0,SNR=69						
MJAR				Sn	**Sn**	**07 35 42.0**	**-1.4**
	1.6nm,0.3s,baz=116,slow=12,SNR=5.0						
MJAR				LR	LR	07 37 04.2	
	comp=Z,108nm,21.1s,baz=85,slow=42						
MAJO	**Matsushiro**	**5.11**	**264**	ePn	**Pn**	**07 34 46.2**	**+0.9**
	40nm,0.6s						
MAJO				eSn	**Sn**	**07 35 43.6**	**+0.1**
MAT	**Matsushiro**	**5.11**	**264**	P	**Pn**	**07 34 45.8**	**+0.5**
MAT				eS	**Sn**	**07 35 40.6**	**-2.9**
JKB	**Kayabe**	**5.38**	**331**	P	**Pn**	**07 34 49.4**	**+0.5**
JKB				eS	**Sn**	**07 35 45.7**	**-4.3**
JCH	**Churui**	**5.45**	**351**	P	**Pn**	**07 34 48.2**	**-1.7**
JCH				eS	**Sn**	**07 35 46.7**	**-5.1**
JHJ	**Hachijo jima 2**	**5.65**	**225**	Pn	**Pn**	**07 34 48.3**	**-4.3**
	18nm,0.3s,baz=342,slow=20,SNR=3.4						
JHJ				Sn	**Sn**	**07 35 49.8**	**-6.9**
	22nm,0.3s,baz=73,slow=19,SNR=3.1						
JHJ				LR	LR	07 37 36.4	
	comp=Z,46nm,19.3s,baz=289,slow=45						
NEM2	**Nemuro 2**	**6.20**	**8**	P	Pn	07 34 56.3	-3.9
NEM2				eS	**Sn**	**07 36 03.1**	**-7.0**
JTKR	**Abashiri--Toko**	**6.75**	**356**	P	**Pn**	**07 35 06.1**	**-1.6**
JTKR				eS	**Sn**	**07 36 17.7**	**-6.0**
ASAJ	**Asahikawa**	**7.03**	**349**	Pn	**Pn**	**07 35 10.7**	**-0.9**
	0.9nm,0.3s,baz=238,slow=12,SNR=8.0						
ASAJ	**Asahikawa**	**7.03**	**349**	Pn	**Pn**	**07 35 10.7**	**-0.9**
ASAJ				eSn	**Sn**	**07 36 33.7**	**+3.0**
YSS	**Yuzh-Sakhalins**	**9.81**	**353**	Pn	**Pn**	**07 35 49.4**	**-0.2**
KSRS	**Korea Array**	**13.22**	**276**	Pn	**Pn**	**07 36 37.9**	**+1.6**
	0.2nm,0.3s,baz=89,slow=12,SNR=5.3						
KSRS				LR	LR	07 41 29.1	
	comp=Z,38nm,18.2s,baz=72,slow=36						
KSAR	**Wonju Array Be**	**13.25**	**276**	Pn	**Pn**	**07 36 37.9**	**+1.1**
KLR	**Kul'dur**	**15.16**	**326**	Pn	**P**	**07 37 07.0**	**-0.5**
	0.0nm,0.3s,baz=132,slow=17,SNR=4.5						
PETK	**Petropavlovsk-**	**18.34**	**26**	LR	LR	07 46 54.6	
	comp=Z,25nm,18.1s,baz=199,slow=44						
H11N2	**WAKE ISLAND Hy**	**26.17**	**126**	T	T	08 06 03.7	
	baz=317,slow=74,SNR=149						
H11N1	**WAKE ISLAND Hy**	**26.18**	**126**	T	T	08 06 02.0	
	baz=317,slow=74,SNR=68						
SEY	**Seymchan**	**26.18**	**8**	P	**P**	**07 39 03.5**	**+1.1**
	5.8nm,0.8s,baz=182,slow=6.5,SNR=23						
H11N3	**WAKE ISLAND Hy**	**26.19**	**126**	T	T	08 06 04.6	
	baz=317,slow=74,SNR=139						
YAK	**Yakutsk**	**26.49**	**344**	eP	**P**	**07 39 01.6**	**-3.7**
H11S1	**WAKE ISLAND Hy**	**26.94**	**128**	T	T	08 06 51.7	
	baz=319,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**26.94**	**128**	T	T	08 06 53.2	
	baz=319,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**26.96**	**128**	T	T	08 06 52.8	
	baz=319,slow=76,SNR=24						
SONM	**Songino Array**	**29.75**	**303**	P	**P**	**07 39 38.1**	**+3.3**
	0.5nm,0.9s,baz=104,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	**46.12**	**302**	P	**P**	**07 41 53.3**	**+0.9**
	0.7nm,0.6s,baz=92,slow=7.3,SNR=5.8						
ILAR	**Eielson Array**	**47.99**	**32**	P	**P**	**07 42 07.1**	**+0.4**
	0.5nm,0.8s,baz=256,slow=7.3,SNR=6.3						
INK	**Inuvik**	**53.07**	**27**	P	**P**	**07 42 45.5**	**+0.6**
	1.3nm,0.6s,baz=310,slow=6.6,SNR=12						
WRAB	**Tennant Creek**	**57.66**	**191**	eP	**P**	**07 43 16.1**	**-2.4**
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**57.67**	**191**	P	**P**	**07 43 16.6**	**-2.0**
	0.8nm,0.5s,baz=8.9,slow=7.1,SNR=14						
AKTO	**Aktyubinsk**	**60.38**	**313**	P	**P**	**07 43 39.6**	**+2.4**
	0.9nm,0.7s,baz=52,slow=15,SNR=2.8						
ASAR	**Alice Springs**	**61.39**	**191**	P	**P**	**07 43 43.0**	**-1.3**
	0.5nm,0.8s,baz=6.2,slow=7.2,SNR=7.3						
YKA	**Yellowknife Ar**	**62.37**	**31**	P	**P**	**07 43 50.9**	**+0.6**
	0.4nm,0.7s,baz=302,slow=6.6,SNR=9.7						
NVAR	**Mina Array Bea**	**72.86**	**55**	P	**P**	**07 44 58.4**	**+1.0**
	1.3nm,0.9s,baz=288,slow=6.0,SNR=7.5						
AKASG	**Malin Array Be**	**75.64**	**324**	P	**P**	**07 45 13.7**	**+0.7**
	0.6nm,0.5s,baz=46,slow=5.8,SNR=6.0						
PDAR	**Pinedale Array**	**75.73**	**47**	P	**P**	**07 45 14.7**	**+0.7**
	0.7nm,0.7s,baz=279,slow=2.1,SNR=7.8						
TXAR	**Lajitas Array**	**88.01**	**54**	P	**P**	**07 46 19.2**	**+0.6**
	0.5nm,0.7s,baz=306,slow=3.1,SNR=7.1						

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*SOME **04** 07:35:06.6, 38.°70N×72.°48E, h0km*
*NNC **04** 07:35:25.7±2.7, 39.°48N×71.°80E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=23.9km s-min=16.3km az=41.0*
ISC 04 07:35:18.9±4.8**, 38.°9N**±0.°3×**71.°4E**±0.°2**, h10**km**, n14, σ0.s63**/16**, 4C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.65**	**28**	P	**Pn**	**07 36 16.1**	**+0.3**
	SNR=55						
MNAS	**Manas**	**3.65**	**13**	⇑Pn	**Pn**	**07 36 15.8**	**+0.2**
	7.5nm,0.4s						
MNAS				⇑Lg	Lg	07 36 59.9	
	16nm,0.6s						
MRKS	**Merke**	**4.05**	**20**	⇑iP	**Pn**	**07 36 21.4**	**+0.3**
	13nm,0.3s						
MRKS				eS	**Sn**	**07 37 08.7**	**0.0**
	13nm,0.4s						
UCH	**Uchtor**	**4.06**	**35**	P	**Pn**	**07 36 22.4**	**+0.9**
	SNR=18						
EKS2	**Erkin-Say**	**4.14**	**25**	P	**Pn**	**07 36 23.3**	**+1.0**
	SNR=18						
KK31	**Karatay Array**	**4.21**	**351**	Pn	**Pn**	**07 36 23.3**	**+0.1**
	2.0nm,0.3s,baz=170,slow=9.4,SNR=84						
KK31				⇓Sn	**Sn**	**07 37 11.8**	**-0.6**
	4.5nm,0.3s,baz=164,slow=21,SNR=8.2						
KK31				⇓Lg	Lg	07 37 23.4	
	13nm,0.7s						
KZA	**Kyzart**	**4.31**	**42**	P	**Pn**	**07 36 24.8**	**-0.1**
	SNR=30						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AAK	**Ala-Archa**	**4.39**	**32**	⇓Pn	**Pn**	**07 36 25.5**	**-0.3**
	2.9nm,0.3s						
AAK				⇓Lg	Lg	07 37 24.9	
	6.3nm,0.7s						
AAK	**Ala-Archa**	**4.39**	**32**	P	**Pn**	**07 36 26.0**	**+0.2**
	SNR=14						
KBK	**Karagaybulak**	**4.60**	**35**	P	**Pn**	**07 36 29.6**	**+0.9**
	SNR=9.6						
CHMS	**Chumysh**	**4.79**	**31**	P	**Pn**	**07 36 31.8**	**+0.6**
	SNR=6.5						
USP	**Ospenovka**	**4.93**	**28**	P	**Pn**	**07 36 32.8**	**-0.2**
	SNR=12						
TKM2	**Tokmak 2**	**5.10**	**37**	⇑Pn	**Pn**	**07 36 34.9**	**-0.7**
	1.5nm,0.4s						
TKM2				⇓Lg	Lg	07 37 49.2	
	1.8nm,0.5s						
TKM2	**Tokmak 2**	**5.10**	**37**	P	**Pn**	**07 36 34.7**	**-0.9**
	SNR=6.9						

*NIED **04** 07:39:00,37°.60N×141°.90E,h11km,Mw3.6 Best double couple: M0 2.47000×10^14 NP1:φs17.00000°,δ22.00000°, λ-57.00000°. NP2:φs162.00000°,δ72.00000°, λ-102.00000°.*
*IDC **04** 07:39:00.5±0.9,37°.62N×141°.91E,h0km,mb3.5/10, mb1 3.6/13,mb1mx3.5/68,mbtmp3.5/13,ML3.3/2,Error ellipse: s-maj=23.4km s-min=18.0km az=100.0*
*ISCJB **04** 07:39:01.3±1.2,37°.64N±0°.04×141°.96E±0°.06,h17km±7km, mb3.4/10,Error ellipse: s-maj=9.0km s-min=5.8km az=25.3*
*JMA **04** 07:39:02.2±0.1,37°.64N×141°.91E,h26km±2km,M3.8*
ISC 04 07:39:02.1±1.9**,37°.66N**±0°.05×**141°.87E**±0°.07**,h11**km±11km**, n25,**σ**0.82**/35**,mb3.5**/10**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.84**	**250**	P	**Pb**	**07 39 18.2**	**-0.5**
JFK				eS	**Sg**	**07 39 29.4**	**+0.1**
JMM	**Marumori**	**0.88**	**284**	P	**Pg**	**07 39 19.0**	**0.0**
JMM				eS	**Sg**	**07 39 30.5**	**+0.1**
JIO	**Ouri**	**0.89**	**333**	P	**Pb**	**07 39 19.2**	**-0.4**
JIO				eS	**Sg**	**07 39 31.2**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.01**	**237**	P	**Pb**	**07 39 20.5**	**-1.2**
JOU	**Okura**	**1.18**	**307**	P	**Pn**	**07 39 24.3**	**-0.3**
JOU				eS	**Sb**	**07 39 40.2**	**+0.3**
JFT	**Otama**	**1.22**	**264**	P	**Pb**	**07 39 24.8**	**-0.4**
JFT				eS	**Sb**	**07 39 41.1**	**+0.1**
JMK	**Ichinoseki**	**1.39**	**339**	P	**Pn**	**07 39 26.7**	**-0.7**
JMK				eS	**Sn**	**07 39 44.5**	**-1.3**
JYS	**Shirataka**	**1.53**	**292**	P	**Pn**	**07 39 29.4**	**0.0**
JYS				eS	**Sb**	**07 39 50.1**	**+0.2**
JYK	**Kaneyama**	**1.73**	**317**	P	**Pn**	**07 39 32.2**	**+0.1**
JFY	**Yanaizu**	**1.73**	**262**	P	**Pn**	**07 39 32.6**	**+0.4**
JFY				eS	**Sn**	**07 39 54.5**	**+0.1**
JOM	**Ohasama**	**1.87**	**346**	P	**Pn**	**07 39 33.6**	**-0.4**
JOM				eS	**Sn**	**07 39 56.4**	**-1.2**
MJAR	**Matsushiro Arr**	**3.13**	**250**	Pn	**Pn**	**07 39 52.6**	**+1.3**
	2.3nm,0.3s,baz=80,slow=16,SNR=19						
MAT	**Matsushiro**	**3.13**	**250**	P	**Pn**	**07 39 52.6**	**+1.2**
MAT				eS	**Sb**	**07 40 34.6**	**-1.3**
ASAJ	**Asahikawa**	**6.48**	**5**	Pn	**Pn**	**07 40 37.2**	**-0.1**
	0.8nm,0.3s,baz=242,slow=13,SNR=4.6						
USRK	**Ussuriysk Ar.**	**9.92**	**314**	Pn	**Pn**	**07 41 26.9**	**+2.4**
	0.1nm,0.3s,baz=137,slow=45,SNR=2.3						
MA2	**Magadan**	**22.67**	**12**	P	**P**	**07 44 03.8**	**+0.6**
	1.2nm,0.3s,baz=155,slow=19,SNR=3.7						
SEY	**Seymchan**	**26.11**	**11**	P	**P**	**07 44 36.3**	**+0.6**
	0.3nm,0.3s,baz=217,slow=20,SNR=3.2						
SONM	**Songino Array**	**27.74**	**303**	P	**P**	**07 44 51.5**	**+0.7**
	0.3nm,0.6s,baz=105,slow=9.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**07 46 50.8**	**-0.4**
	0.2nm,0.3s,baz=111,slow=7.9,SNR=2.5						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**07 47 09.2**	**-1.1**
	0.3nm,0.7s,baz=94,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**57.73**	**188**	P	**P**	**07 48 52.4**	**-0.6**
	0.4nm,0.5s,baz=4.8,slow=7.2,SNR=7.1						
ASAR	**Alice Springs**	**61.45**	**188**	P	**P**	**07 49 18.9**	**+0.2**
	0.3nm,0.8s,baz=11,slow=6.6,SNR=4.3						
YKA	**Yellowknife Ar**	**63.09**	**30**	P	**P**	**07 49 29.0**	**-0.1**
	0.2nm,0.6s,baz=304,slow=7.2,SNR=4.3						
FINES	**FINESS Array B**	**68.43**	**332**	P	**P**	**07 50 04.7**	**+1.1**
	0.8nm,0.9s,baz=50,slow=13,SNR=3.4						
TXAR	**Lajitas Array**	**89.46**	**53**	P	**P**	**07 51 59.8**	**+0.3**
	0.1nm,0.5s,baz=256,slow=3.6,SNR=3.2						

*ISK **04** 07:41:55.8,40°.08N×24°.06E,h8km,ML3.5/18*
*IDC **04** 07:41:56.3±1.3,40°.20N×24°.09E,h0km,mb3.7/2, mb1 3.4/6,mb1mx3.2/59,mbtmp3.4/6,ML3.0/4,Error ellipse: s-maj=26.7km s-min=16.5km az=101.0*
*ATH **04** 07:41:56.7,40°.15N×24°.08E,h25km±1km,ML3.4/14,Error ellipse: s-maj=1.2km s-min=0.8km az=304.0*
*ISCJB **04** 07:41:56.7±0.4,40°.17N±0°.01×24°.09E±0°.02,h10km±3km, mb3.6/2,Error ellipse: s-maj=2.3km s-min=2.1km az=21.9*
*THE **04** 07:41:57.4,40°.15N×24°.05E,h5km,ML3.3/8,Error ellipse: s-maj=0.9km s-min=0.4km az=297.0*
*CSEM **04** 07:41:57.3±0.1,40°.14N×24°.06E,h10km,ML3.3,Error ellipse: s-maj=1.5km s-min=1.5km az=151.0*
*SOF **04** 07:41:58.7,40°.32N×24°.14E,h2km,MD2.9*
*BEO **04** 07:41:59.3±0.8,40°.21N×23°.87E,M3.2/9*
ISC 04 07:41:57.6±0.7**,40°.16N**±0°.01×**24°.05E**±0°.02**,h13**km±4km**, n295,**σ**0.92**/368**,22C-15D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.18**	**343**	PG	**Pg**	**07 42 01.4**	**-0.3**
OUR				SG	**Sb**	**07 42 05.6**	**-0.7**
OUR	**Ouranopolis**	**0.18**	**343**	P	**Pg**	**07 42 00.9**	**-0.8**
OUR	**Ouranopolis**	**0.18**	**343**	ePg	**Pg**	**07 42 01.4**	**-0.3**
OUR				S	**Sg**	**07 42 04.7**	**+0.1**
OUR				eSg	**Sb**	**07 42 05.6**	**-0.7**
OUR	**Ouranopolis**	**0.18**	**343**	P	**Pg**	**07 42 01.6**	**-0.1**
OUR				S	**Sg**	**07 42 04.7**	**+0.1**
PAIG	**Paliouri**	**0.37**	**231**	P	**Pg**	**07 42 03.9**	**-1.0**
PAIG				S	**Sg**	**07 42 09.5**	**-0.4**
PAIG				AML	AML	07 42 12.0	
	comp=E,7342µm,0.3s						
PAIG				AML	AML	07 42 12.5	
	comp=N,7530µm,0.4s						
PAIG	**Paliouri**	**0.37**	**231**	P	**Pg**	**07 42 04.6**	**-0.3**
PAIG				S	**Sg**	**07 42 10.2**	**+0.3**
PAIG	**Paliouri**	**0.37**	**231**	P	**Pg**	**07 42 04.6**	**-0.3**
PAIG				S	**Sg**	**07 42 10.4**	**+0.5**
PLG	**Polygyros**	**0.51**	**295**	P	**Pg**	**07 42 07.5**	**-0.1**
PLG				S	**Sg**	**07 42 13.8**	**-0.6**
PLG				AML	AML	07 42 15.2	
	comp=N,7938µm,0.3s						
PLG				AML	AML	07 42 16.6	
	comp=E,8133µm,0.4s						
PLG	**Polygyros**	**0.51**	**295**	P	**Pg**	**07 42 07.5**	**-0.1**
PLG				S	**Sg**	**07 42 14.7**	**+0.3**
PLG	**Polygyros**	**0.51**	**295**	P	**Pg**	**07 42 07.5**	**-0.1**
PLG				S	**Sg**	**07 42 14.4**	**0.0**
HORT	**Hortiatis**	**0.85**	**301**	PG	**Pg**	**07 42 14.0**	**0.0**
HORT				SG	**Sb**	**07 42 26.2**	**+0.6**
HORT	**Hortiatis**	**0.85**	**301**	P	**Pg**	**07 42 13.0**	**-1.0**
HORT				S	**Sb**	**07 42 25.9**	**+0.3**
HORT				AML	AML	07 42 29.3	
	comp=N,8373µm,0.4s						
HORT				AML	AML	07 42 29.4	
	comp=E,4432µm,0.3s						
HORT	**Hortiatis**	**0.85**	**301**	P	**Pg**	**07 42 13.3**	**-0.8**
HORT	**Hortiatis**	**0.85**	**301**	ePg	**Pg**	**07 42 14.0**	**0.0**
HORT				S	**Sg**	**07 42 25.3**	**+0.2**
HORT				eSg	**Sb**	**07 42 26.2**	**+0.6**
HORT	**Hortiatis**	**0.85**	**301**	P	**Pg**	**07 42 13.2**	**-0.8**
HORT				S	**Sg**	**07 42 25.3**	**+0.2**
SOH	**Sokhos**	**0.85**	**322**	P	**Pb**	**07 42 14.4**	**+0.2**
SOH				S	**Sg**	**07 42 24.7**	**-0.4**
SOH				AML	AML	07 42 28.4	
	comp=E,7786µm,0.4s						
SOH				AML	AML	07 42 30.1	
	comp=N,7972µm,0.6s						
SOH	**Sokhos**	**0.85**	**322**	P	**Pg**	**07 42 14.0**	**0.0**
SOH				S	**Sg**	**07 42 25.4**	**+0.3**
SOH	**Sokhos**	**0.85**	**322**	P	**Pg**	**07 42 13.8**	**-0.2**
SOH				S	**Sg**	**07 42 25.4**	**+0.3**
KAVA	**Kavala**	**0.91**	**23**	P	**Pg**	**07 42 14.8**	**-0.3**
KAVA				AML	AML	07 42 28.2	
	comp=E,5868µm,0.6s						
KAVA				S	**Sn**	**07 42 28.6**	**-0.5**
KAVA				AML	AML	07 42 28.7	
	comp=N,8224µm,0.6s						
KAVA	**Kavala**	**0.91**	**23**	P	**Pg**	**07 42 14.4**	**-0.7**
KAVA				S	**Sb**	**07 42 27.8**	**+0.6**
KAVA	**Kavala**	**0.91**	**23**	P	**Pg**	**07 42 14.4**	**-0.7**
KAVA				S	**Sb**	**07 42 28.0**	**+0.8**
LIA	**Limnos Island**	**0.91**	**106**	P	**Pb**	**07 42 15.5**	**+0.3**
LIA				S	**Sb**	**07 42 27.2**	**0.0**
LIA				AML	AML	07 42 28.0	
	comp=N,5288µm,0.5s						
LIA				AML	AML	07 42 28.0	
	comp=E,4332µm,0.5s						
LIA	**Limnos Island**	**0.91**	**106**	P	**Pg**	**07 42 14.6**	**-0.5**
LIA				S	**Sg**	**07 42 26.7**	**-0.3**
LIA	**Limnos Island**	**0.91**	**106**	P	**Pg**	**07 42 14.9**	**-0.2**
LIA				S	**Sb**	**07 42 27.4**	**+0.2**
THE	**Thessaloniki**	**0.95**	**300**	P	**Pb**	**07 42 14.4**	**-1.6**
THE				S	**Sg**	**07 42 28.6**	**+0.2**
THE				AML	AML	07 42 32.2	
	comp=E,1751µm,0.4s						
THE				AML	AML	07 42 32.4	
	comp=N,2344µm,0.6s						
THE	**Thessaloniki**	**0.95**	**300**	P	**Pb**	**07 42 15.2**	**-0.8**
THE				S	**Sb**	**07 42 28.8**	**+0.3**
THE	**Thessaloniki**	**0.95**	**300**	P	**Pb**	**07 42 15.2**	**-0.8**
THE				S	**Sb**	**07 42 28.8**	**+0.3**
SRS	**Serrai**	**1.02**	**340**	ePg	**Pb**	**07 42 16.6**	**-0.5**
SRS				eSg	**Sb**	**07 42 29.6**	**-0.8**
SRS	**Serrai**	**1.02**	**340**	P	**Pg**	**07 42 17.4**	**+0.1**
SRS				S	**Sg**	**07 42 30.9**	**+0.4**
SRS				AML	AML	07 42 33.9	
	comp=E,2530µm,0.5s						
SRS				AML	AML	07 42 36.0	
	comp=N,2501µm,0.4s						
SRS	**Serrai**	**1.02**	**340**	ePg	**Pb**	**07 42 16.6**	**-0.5**
SRS	**Serrai**	**1.02**	**340**	P	**Pb**	**07 42 16.9**	**-0.2**
SRS				eSg	**Sb**	**07 42 29.6**	**-0.8**
SRS				S	**Sg**	**07 42 30.9**	**+0.4**
SRS	**Serrai**	**1.02**	**340**	P	**Pb**	**07 42 16.7**	**-0.4**
SRS				S	**Sg**	**07 42 31.2**	**+0.7**
XOR	**Xorichti**	**1.03**	**220**	P	**Pn**	**07 42 17.9**	**+0.1**
XOR				AML	AML	07 42 32.6	
	comp=E,6007µm,0.6s						
XOR				S	**Sn**	**07 42 33.4**	**+1.3**
XOR				AML	AML	07 42 33.6	
	comp=N,7575µm,0.5s						
XOR	**Xorichti**	**1.03**	**220**	P	**Pb**	**07 42 17.2**	**-0.1**
XOR				S	**Sn**	**07 42 32.0**	**-0.1**
XOR	**Xorichti**	**1.03**	**220**	P	**Pb**	**07 42 17.2**	**-0.1**
XOR				S	**Sn**	**07 42 32.0**	**-0.1**
NEO	**Neokhori**	**1.06**	**217**	P	**Pg**	**07 42 18.1**	**0.0**
NEO				S	**Sn**	**07 42 32.9**	**0.0**
NEO				AML	AML	07 42 33.1	
	comp=E,7194µm,0.6s						
NEO				AML	AML	07 42 34.0	
	comp=N,9508µm,0.5s						
NEO	**Neokhori**	**1.06**	**217**	P	**Pb**	**07 42 17.4**	**-0.4**
NEO				S	**Sg**	**07 42 32.2**	**+0.3**
NEO	**Neokhori**	**1.06**	**217**	P	**Pb**	**07 42 17.4**	**-0.4**
NEO				S	**Sg**	**07 42 32.2**	**+0.3**
SKIA	**Skiathos**	**1.09**	**205**	P	**Pb**	**07 42 18.0**	**-0.3**
SKIA				S	**Sn**	**07 42 33.6**	**+0.1**
SKIA				AML	AML	07 42 33.6	
	comp=N,5072µm,0.6s						
SKIA				AML	AML	07 42 35.1	
	comp=E,4019µm,0.5s						
SKIA	**Skiathos**	**1.09**	**205**	P	**Pb**	**07 42 17.8**	**-0.5**
SKIA				S	**Sg**	**07 42 33.0**	**+0.3**
SKIA	**Skiathos**	**1.09**	**205**	P	**Pb**	**07 42 17.6**	**-0.7**
SKIA				S	**Sg**	**07 42 33.0**	**+0.3**
FYTO	**Fytoko, Volos**	**1.14**	**229**	P	**Pb**	**07 42 18.9**	**-0.1**
FYTO				S	**Sn**	**07 42 34.5**	**-0.1**
FYTO	**Fytoko, Volos**	**1.14**	**229**	P	**Pb**	**07 42 19.0**	**-0.1**
FYTO				S	**Sn**	**07 42 34.6**	**-0.1**
FYTO	**Fytoko, Volos**	**1.14**	**229**	P	**Pb**	**07 42 19.0**	**-0.1**
FYTO				S	**Sn**	**07 42 34.8**	**+0.1**
SMTH	**Samothraki Isl**	**1.17**	**74**	P	**Pb**	**07 42 18.0**	**-1.8**
SMTH	**Samothraki Isl**	**1.17**	**74**	P	**Pb**	**07 42 18.9**	**-0.8**
SMTH	**Samothraki Isl**	**1.17**	**74**	P	**Pb**	**07 42 18.9**	**-0.8**
LIT	**Litokhoron**	**1.20**	**268**	P	**Pn**	**07 42 19.5**	**-0.6**
LIT	**Litokhoron**	**1.20**	**268**	P	**Pn**	**07 42 19.7**	**-0.4**
LIT	**Litokhoron**	**1.20**	**268**	P	**Pn**	**07 42 19.5**	**-0.6**
NVR	**Nevrokopi**	**1.20**	**353**	P	**Pn**	**07 42 19.8**	**-0.3**
NVR				AML	AML	07 42 38.2	
	comp=N,1538µm,0.4s						
NVR				AML	AML	07 42 38.2	
	comp=E,1018µm,0.3s						
NVR				S	**Sn**	**07 42 38.6**	**+2.4**
NVR	**Nevrokopi**	**1.20**	**353**	P	**Pn**	**07 42 19.8**	**-0.3**
NVR				S	**Sn**	**07 42 37.6**	**+1.3**
NVR	**Nevrokopi**	**1.20**	**353**	P	**Pn**	**07 42 19.8**	**-0.3**
KNT	**Kendrikon**	**1.33**	**319**	PN	**Pb**	**07 42 22.7**	**+0.3**
KNT	**Kendrikon**	**1.33**	**319**	P	**Pg**	**07 42 23.1**	**-0.1**
KNT				S	**Sb**	**07 42 39.6**	**+0.2**
KNT				AML	AML	07 42 41.8	
	comp=E,2676µm,0.7s						
KNT				AML	AML	07 42 41.8	
	comp=N,2156µm,0.6s						
KNT	**Kendrikon**	**1.33**	**319**	P	**Pb**	**07 42 22.5**	**+0.1**
KNT				S	**Sn**	**07 42 40.0**	**+0.5**
KNT	**Kendrikon**	**1.33**	**319**	P	**Pb**	**07 42 22.5**	**+0.1**
KNT				S	**Sg**	**07 42 40.7**	**+0.2**
SKY	**Skiros Island**	**1.34**	**163**	P	**Pn**	**07 42 21.6**	**-0.3**
SKY	**Skiros Island**	**1.34**	**163**	P	**Pn**	**07 42 21.6**	**-0.3**
LRSO	**Larissa Observ**	**1.36**	**250**	P	**Pb**	**07 42 22.7**	**-0.3**
LRSO	**Larissa Observ**	**1.36**	**250**	P	**Pb**	**07 42 22.7**	**-0.3**
GADA	**Gvkgeada**	**1.42**	**88**	PN	**Pn**	**07 42 22.5**	**-0.5**
GADA	**Gvkgeada**	**1.42**	**88**	ePn	**Pn**	**07 42 22.5**	**-0.5**
GADA	**Gvkgeada**	**1.42**	**88**	P	**Pn**	**07 42 22.9**	**-0.1**
GADA	**Gvkgeada**	**1.42**	**88**	P	**Pn**	**07 42 22.9**	**-0.1**
GOKC	**Gokceada-Canak**	**1.43**	**88**	PN	**Pn**	**07 42 22.7**	**-0.5**
GOKC	**Gokceada-Canak**	**1.43**	**88**	ePn	**Pn**	**07 42 22.7**	**-0.5**
SMIA	**Simia**	**1.43**	**207**	P	**Pn**	**07 42 23.1**	**-0.2**
SMIA	**Simia**	**1.43**	**207**	P	**Pn**	**07 42 23.1**	**-0.2**
SMIA				S	**Sb**	**07 42 42.7**	**+0.4**
SMIA	**Simia**	**1.43**	**207**	P	**Pn**	**07 42 22.9**	**-0.4**
SMIA				S	**Sb**	**07 42 42.7**	**+0.4**
MMB	**Musomiste**	**1.45**	**350**	i P	**Pn**	**07 42 23.1**	**-0.5**
GRG	**Griva**	**1.49**	**303**	PN	**Pn**	**07 42 24.2**	**+0.1**
GRG	**Griva**	**1.49**	**303**	P	**Pb**	**07 42 25.4**	**+0.3**
GRG	**Griva**	**1.49**	**303**	ePn	**Pn**	**07 42 24.2**	**+0.1**
GRG	**Griva**	**1.49**	**303**	P	**Pn**	**07 42 24.6**	**+0.5**
GRG	**Griva**	**1.49**	**303**	P	**Pn**	**07 42 24.6**	**+0.5**
RDO	**Rodhopi**	**1.50**	**48**	P	**Pn**	**07 42 22.5**	**-1.7**
RDO				S	**Sn**	**07 42 43.6**	**0.0**
RDO				AML	AML	07 42 46.8	
	comp=E,1071µm,0.5s						
RDO				AML	AML	07 42 50.5	
	comp=N,1133µm,0.4s						
RDO	**Rodhopi**	**1.50**	**48**	P	**Pn**	**07 42 23.4**	**-0.8**
RDO				S	**Sn**	**07 42 43.7**	**0.0**
RDO	**Rodhopi**	**1.50**	**48**	P	**Pn**	**07 42 23.4**	**-0.8**
RDO				S	**Sg**	**07 42 45.8**	**-0.1**
RZN	**Rozhen**	**1.61**	**18**	i P	**Pn**	**07 42 25.8**	**-0.1**
VAY	**Valandovo**	**1.62**	**316**	P	**Pb**	**07 42 26.8**	**-0.5**
VAY	**Valandovo**	**1.62**	**316**	P	**Pb**	**07 42 26.8**	**-0.5**
VAY	**Valandovo**	**1.62**	**316**	i Pn	**Pb**	**07 42 26.9**	**-0.3**
VAY				i Sn	**Sg**	**07 42 49.0**	**-0.6**
THL	**Klokotos Trika**	**1.68**	**250**	P	**Pn**	**07 42 26.1**	**-0.4**
THL	**Klokotos Trika**	**1.68**	**250**	P	**Pn**	**07 42 26.5**	**-0.1**
THL	**Klokotos Trika**	**1.68**	**250**	P	**Pn**	**07 42 26.5**	**-0.1**
SIGR	**SIGRI**	**1.68**	**124**	PN	**Pn**	**07 42 25.9**	**-0.8**
SIGR	**SIGRI**	**1.68**	**124**	P	**Pn**	**07 42 26.5**	**-0.3**
SIGR	**SIGRI**	**1.68**	**124**	ePn	**Pn**	**07 42 25.9**	**-0.8**
SIGR	**SIGRI**	**1.68**	**124**	P	**Pn**	**07 42 26.4**	**-0.3**
SIGR	**SIGRI**	**1.68**	**124**	P	**Pn**	**07 42 26.4**	**-0.3**
ALN	**Alexandroupoli**	**1.69**	**63**	PN	**Pn**	**07 42 27.4**	**+0.6**
ALN	**Alexandroupoli**	**1.69**	**63**	P	**Pn**	**07 42 25.1**	**-1.7**
ALN	**Alexandroupoli**	**1.69**	**63**	P	**Pn**	**07 42 26.8**	**0.0**
ALN	**Alexandroupoli**	**1.69**	**63**	ePn	**Pn**	**07 42 27.4**	**+0.6**
ALN				S	**Sb**	**07 42 49.6**	**-0.1**
ALN	**Alexandroupoli**	**1.69**	**63**	P	**Pn**	**07 42 26.8**	**0.0**
ALN				S	**Sb**	**07 42 49.6**	**-0.1**
ENEZ	**Enez**	**1.71**	**70**	PN	**Pn**	**07 42 26.7**	**-0.3**
ENEZ	**Enez**	**1.71**	**70**	P	**Pn**	**07 42 26.1**	**-0.9**
ENEZ	**Enez**	**1.71**	**70**	ePn	**Pn**	**07 42 26.7**	**-0.3**
ENEZ	**Enez**	**1.71**	**70**	P	**Pn**	**07 42 26.1**	**-0.9**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**07 42 26.2**	**-0.9**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**07 42 26.7**	**-0.4**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**07 42 26.6**	**-0.5**
EREA	**Eretria**	**1.74**	**183**	P	**Pn**	**07 42 26.8**	**-0.7**
EREA	**Eretria**	**1.74**	**183**	P	**Pn**	**07 42 26.8**	**-0.7**
AGG	**Agios Georgios**	**1.75**	**230**	PN	**Pn**	**07 42 25.8**	**-1.8**
AGG	**Agios Georgios**	**1.75**	**230**	P	**Pn**	**07 42 27.3**	**-0.3**
AGG	**Agios Georgios**	**1.75**	**230**	ePn	**Pn**	**07 42 25.8**	**-1.8**
AGG	**Agios Georgios**	**1.75**	**230**	P	**Pn**	**07 42 27.5**	**-0.1**
AGG				S	**Sb**	**07 42 51.3**	**-0.1**
AGG	**Agios Georgios**	**1.75**	**230**	P	**Pn**	**07 42 26.8**	**-0.8**
AGG				S	**Sb**	**07 42 51.3**	**-0.1**
KZN	**Kozani**	**1.75**	**276**	P	**Pb**	**07 42 28.8**	**-0.8**
KZN	**Kozani**	**1.75**	**276**	P	**Pn**	**07 42 28.3**	**+0.6**
KZN	**Kozani**	**1.75**	**276**	P	**Pn**	**07 42 27.9**	**+0.2**
KKB	**Krupnik**	**1.86**	**337**	i P	**Pn**	**07 42 29.8**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.87**	**82**	PN	**Pn**	**07 42 28.6**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.87**	**82**	ePn	**Pn**	**07 42 28.6**	**-0.7**
PRK	**Paraskevi**	**1.94**	**117**	P	**Pn**	**07 42 31.2**	**+1.0**
PRK	**Paraskevi**	**1.94**	**117**	P	**Pn**	**07 42 31.2**	**+1.0**
ERIK	**Erikli-Kesan**	**1.95**	**74**	PN	**Pn**	**07 42 29.9**	**-0.4**
ERIK	**Erikli-Kesan**	**1.95**	**74**	ePn	**Pn**	**07 42 29.9**	**-0.4**
PLD	**Plovdiv**	**2.01**	**14**	i P	**Pb**	**07 42 32.8**	**-1.1**
KPRO	**Kipourio**	**2.07**	**265**	P	**Pb**	**07 42 33.7**	**-1.4**
KPRO	**Kipourio**	**2.07**	**265**	P	**Pn**	**07 42 32.7**	**+0.6**
KPRO	**Kipourio**	**2.07**	**265**	P	**Pn**	**07 42 32.7**	**+0.6**
VILL	**Villia**	**2.07**	**196**	P	**Pn**	**07 42 31.7**	**-0.4**
VILL	**Villia**	**2.07**	**196**	P	**Pn**	**07 42 31.7**	**-0.4**
LPK	**Lapseki**	**2.08**	**83**	PN	**Pn**	**07 42 31.4**	**-0.8**
LPK	**Lapseki**	**2.08**	**83**	ePn	**Pn**	**07 42 31.4**	**-0.8**
PROD	**Prodromos**	**2.10**	**206**	P	**Pn**	**07 42 31.7**	**-0.7**
PROD	**Prodromos**	**2.10**	**206**	P	**Pn**	**07 42 32.1**	**-0.3**
DSF	**Desfina**	**2.11**	**215**	P	**Pn**	**07 42 32.1**	**-0.5**
DSF	**Desfina**	**2.11**	**215**	P	**Pn**	**07 42 32.1**	**-0.5**
PTL	**Penteli**	**2.11**	**184**	P	**Pn**	**07 42 32.0**	**-0.7**
PTL	**Penteli**	**2.11**	**184**	P	**Pn**	**07 42 32.3**	**-0.3**
PTL	**Penteli**	**2.11**	**184**	P	**Pn**	**07 42 31.9**	**-0.7**
EVR	**Evrytania**	**2.13**	**235**	P	**Pn**	**07 42 33.5**	**+0.5**
EVR	**Evrytania**	**2.13**	**235**	P	**Pn**	**07 42 33.5**	**+0.5**
FNA	**Florina**	**2.13**	**288**	PN	**Pn**	**07 42 33.2**	**+0.2**
FNA	**Florina**	**2.13**	**288**	ePn	**Pn**	**07 42 33.8**	**+0.8**
FNA				eSn	**Sn**	**07 42 56.8**	**-2.5**
FNA	**Florina**	**2.13**	**288**	P	**Pb**	**07 42 34.6**	**-1.5**
FNA	**Florina**	**2.13**	**288**	ePn	**Pn**	**07 42 33.2**	**+0.2**
FNA	**Florina**	**2.13**	**288**	P	**Pn**	**07 42 34.0**	**+1.0**
FNA				eSn	**Sn**	**07 42 56.8**	**-2.5**
FNA	**Florina**	**2.13**	**288**	P	**Pn**	**07 42 34.0**	**+1.0**
KARY	**Karystos**	**2.15**	**172**	P	**Pn**	**07 42 32.3**	**-0.8**
KARY	**Karystos**	**2.15**	**172**	P	**Pn**	**07 42 32.7**	**-0.4**
KARY	**Karystos**	**2.15**	**172**	P	**Pn**	**07 42 32.6**	**-0.5**
DIM	**Dimitrovgrad**	**2.20**	**30**	i P	**Pn**	**07 42 34.6**	**+0.8**
ATHU	**Athens Univers**	**2.20**	**185**	P	**Pn**	**07 42 32.7**	**-1.1**
ATHU	**Athens Univers**	**2.20**	**185**	P	**Pn**	**07 42 33.3**	**-0.5**
PENT	**Pentalofos**	**2.23**	**272**	P	**Pn**	**07 42 35.4**	**+1.1**
PENT	**Pentalofos**	**2.23**	**272**	P	**Pn**	**07 42 35.4**	**+1.1**
BIA	**Bitola**	**2.25**	**293**	P	**Pn**	**07 42 35.9**	**+1.4**
BIA	**Bitola**	**2.25**	**293**	P	**Pn**	**07 42 35.9**	**+1.4**
BIA	**Bitola**	**2.25**	**293**	i Pn	**Pn**	**07 42 36.0**	**+1.4**
LTK	**Loutraki**	**2.29**	**202**	P	**Pn**	**07 42 35.1**	**0.0**
LTK	**Loutraki**	**2.29**	**202**	P	**Pn**	**07 42 35.1**	**0.0**
KALE	**Kalithea**	**2.31**	**221**	P	**Pn**	**07 42 35.5**	**+0.2**
KALE	**Kalithea**	**2.31**	**221**	P	**Pn**	**07 42 35.4**	**+0.1**
KALE	**Kalithea**	**2.31**	**221**	P	**Pn**	**07 42 35.4**	**+0.1**
NEST	**Nestorio**	**2.31**	**277**	P	**Pb**	**07 42 37.4**	**-1.8**
NEST	**Nestorio**	**2.31**	**277**	P	**Pn**	**07 42 36.6**	**+1.2**
NEST	**Nestorio**	**2.31**	**277**	P	**Pn**	**07 42 37.0**	**+1.6**
VLY	**Voula,Athens**	**2.31**	**185**	P	**Pn**	**07 42 35.2**	**-0.2**
VLY	**Voula,Athens**	**2.31**	**185**	P	**Pn**	**07 42 35.2**	**-0.2**
CHOS	**Chios island**	**2.36**	**138**	PN	**Pn**	**07 42 35.3**	**-0.7**
CHOS	**Chios island**	**2.36**	**138**	ePn	**Pn**	**07 42 35.3**	**-0.7**
TRIZ	**Trizonia**	**2.36**	**221**	P	**Pn**	**07 42 36.5**	**+0.6**
TRIZ	**Trizonia**	**2.36**	**221**	P	**Pn**	**07 42 36.4**	**+0.4**
THAL	**Thalero**	**2.38**	**207**	P	**Pn**	**07 42 36.3**	**+0.1**
THAL	**Thalero**	**2.38**	**207**	P	**Pn**	**07 42 36.3**	**+0.1**
EFP	**Efpalio**	**2.40**	**225**	P	**Pn**	**07 42 37.1**	**+0.5**
EFP	**Efpalio**	**2.40**	**225**	P	**Pn**	**07 42 37.1**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.44**	**77**	PN	**Pn**	**07 42 36.8**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.44**	**77**	ePn	**Pn**	**07 42 36.8**	**-0.4**
KRUS	**Krusevo**	**2.45**	**301**	i Pn	**Pn**	**07 42 38.3**	**+1.0**
PVO	**Paravola**	**2.49**	**233**	P	**Pn**	**07 42 39.0**	**+1.2**
PVO	**Paravola**	**2.49**	**233**	P	**Pn**	**07 42 39.0**	**+1.2**
KRBG	**Karabiga-Canak**	**2.50**	**84**	PN	**Pn**	**07 42 37.9**	**0.0**
KRBG	**Karabiga-Canak**	**2.50**	**84**	ePn	**Pn**	**07 42 37.9**	**0.0**
DSL	**Palaion Diasel**	**2.50**	**247**	P	**Pn**	**07 42 39.0**	**+1.0**
DSL	**Palaion Diasel**	**2.50**	**247**	P	**Pn**	**07 42 39.0**	**+1.0**
VTS	**Vitosha**	**2.51**	**346**	⇓iP	**Pn**	**07 42 39.5**	**+1.2**
VTS	**Vitosha**	**2.51**	**346**	P	**Pn**	**07 42 39.5**	**+1.2**
VTS				S	**Sn**	**07 43 09.7**	**+0.9**
VTS	**Vitosha**	**2.51**	**346**	P	**Pn**	**07 42 39.5**	**+1.2**
KLV	**Kalavryta, Ach**	**2.58**	**216**	P	**Pn**	**07 42 39.0**	**-0.1**
KLV	**Kalavryta, Ach**	**2.58**	**216**	P	**Pn**	**07 42 39.0**	**-0.1**
GUR	**Goura**	**2.59**	**211**	P	**Pn**	**07 42 39.4**	**+0.2**
GUR	**Goura**	**2.59**	**211**	P	**Pn**	**07 42 39.4**	**+0.2**
EDRB	**Edirne**	**2.65**	**50**	PN	**Pn**	**07 42 40.8**	**+0.9**
EDRB	**Edirne**	**2.65**	**50**	ePn	**Pn**	**07 42 40.8**	**+0.9**
OHR	**Ohrid**	**2.65**	**292**	i Pn	**Pn**	**07 42 41.6**	**+1.6**
URLA	**Izmir**	**2.67**	**131**	PN	**Pn**	**07 42 39.4**	**-0.9**
URLA	**Izmir**	**2.67**	**131**	ePn	**Pn**	**07 42 39.4**	**-0.9**
SKO	**Skopje**	**2.68**	**313**	i Pn	**Pn**	**07 42 41.6**	**+1.2**
DRO	**Drossia**	**2.86**	**220**	P	**Pn**	**07 42 43.9**	**+1.0**
DRO	**Drossia**	**2.86**	**220**	P	**Pn**	**07 42 43.9**	**+1.0**
EDC	**Edincik**	**2.92**	**85**	PN	**Pn**	**07 42 43.9**	**+0.1**
EDC	**Edincik**	**2.92**	**85**	ePn	**Pn**	**07 42 43.9**	**+0.1**
LKD2	**Lefkada island**	**2.96**	**244**	P	**Pn**	**07 42 46.8**	**+2.5**
LKD2	**Lefkada island**	**2.96**	**244**	P	**Pn**	**07 42 46.8**	**+2.5**
BALB	**Balikesir**	**2.99**	**99**	PN	**Pn**	**07 42 44.6**	**-0.1**
BALB	**Balikesir**	**2.99**	**99**	ePn	**Pn**	**07 42 44.6**	**-0.1**
VLX	**Vlachokerasia**	**3.08**	**206**	P	**Pn**	**07 42 46.5**	**+0.5**
VLX	**Vlachokerasia**	**3.08**	**206**	P	**Pn**	**07 42 46.5**	**+0.5**
SBT3	**Marmara-Eregli**	**3.08**	**75**	PN	**Pn**	**07 42 46.7**	**+1.0**
SBT3	**Marmara-Eregli**	**3.08**	**75**	ePn	**Pn**	**07 42 46.7**	**+1.0**
BARS	**Barje**	**3.14**	**328**	ePn	**Pn**	**07 42 47.8**	**+1.0**
BARS				eSn	**Sn**	**07 43 22.8**	**-1.3**
BARS	**Barje**	**3.14**	**328**	ePn	**Pn**	**07 42 47.8**	**+1.0**
BARS				eSn	**Sn**	**07 43 22.8**	**-1.3**
ZAPS	**Zavoj**	**3.29**	**342**	ePn	**Pn**	**07 42 49.4**	**+0.6**
APE	**Apeiranthos**	**3.30**	**159**	PN	**Pn**	**07 42 48.2**	**-0.7**
APE	**Apeiranthos**	**3.30**	**159**	⇑iP	**Pn**	**07 42 45.0**	**-3.9**
APE	**Apeiranthos**	**3.30**	**159**	⇑iP	**Pn**	**07 42 45.0**	**-3.9**
APE	**Apeiranthos**	**3.30**	**159**	ePn	**Pn**	**07 42 48.2**	**-0.7**
APE				S	**Sn**	**07 43 23.9**	**-4.1**
KCTX	**Karacabey (Bur**	**3.30**	**87**	PN	**Pn**	**07 42 49.7**	**+0.7**
KCTX	**Karacabey (Bur**	**3.30**	**87**	ePn	**Pn**	**07 42 49.7**	**+0.7**
SLVT	**Silivri**	**3.34**	**70**	PN	**Pn**	**07 42 50.3**	**+0.8**
SLVT	**Silivri**	**3.34**	**70**	ePn	**Pn**	**07 42 50.3**	**+0.8**
SBT2	**Guzelce-Avcila**	**3.48**	**77**	PN	**Pn**	**07 42 52.4**	**+1.1**
SBT2	**Guzelce-Avcila**	**3.48**	**77**	ePn	**Pn**	**07 42 52.4**	**+1.1**
CTKS	**Kestanelik-??a**	**3.56**	**71**	PN	**Pn**	**07 42 53.0**	**+0.6**
CTKS	**Kestanelik-??a**	**3.56**	**71**	ePn	**Pn**	**07 42 53.0**	**+0.6**
BGKT	**Bogazkoy**	**3.73**	**73**	PN	**Pn**	**07 42 56.3**	**+1.4**
BGKT	**Bogazkoy**	**3.73**	**73**	ePn	**Pn**	**07 42 56.3**	**+1.4**
SELS	**Selova**	**3.76**	**325**	ePn	**Pn**	**07 42 55.6**	**+0.3**
SELS				eSn	**Sn**	**07 43 38.0**	**-1.5**
ZAGS	**Zajecar**	**3.89**	**340**	eSn	**Sn**	**07 43 41.9**	**-0.8**
ZAGS	**Zajecar**	**3.89**	**340**	eSn	**Sn**	**07 43 41.9**	**-0.8**
ISK	**Istanbul-Kandi**	**3.92**	**75**	PN	**Pn**	**07 42 58.3**	**+0.9**
ISK	**Istanbul-Kandi**	**3.92**	**75**	ePn	**Pn**	**07 42 58.3**	**+0.9**
BUY	**Buyukada**	**3.92**	**78**	PN	**Pn**	**07 42 58.5**	**+1.0**
BUY	**Buyukada**	**3.92**	**78**	ePn	**Pn**	**07 42 58.5**	**+1.0**
KULA	**Kula-Manisa**	**3.93**	**113**	PN	**Pn**	**07 42 57.9**	**+0.2**
KULA	**Kula-Manisa**	**3.93**	**113**	ePn	**Pn**	**07 42 57.9**	**+0.2**
KLYT	**Kilyos**	**3.95**	**72**	PN	**Pn**	**07 42 58.1**	**+0.3**
KLYT	**Kilyos**	**3.95**	**72**	ePn	**Pn**	**07 42 58.1**	**+0.3**
TVSB	**Tavsanli**	**4.23**	**98**	PN	**Pn**	**07 43 01.5**	**-0.3**
TVSB	**Tavsanli**	**4.23**	**98**	ePn	**Pn**	**07 43 01.5**	**-0.3**
HRT	**Hereke**	**4.33**	**79**	PN	**Pn**	**07 43 03.6**	**+0.4**
HRT	**Hereke**	**4.33**	**79**	ePn	**Pn**	**07 43 03.6**	**+0.4**
SJES	**Sjenica**	**4.35**	**317**	ePn	**Pn**	**07 43 04.3**	**+0.8**
GRUS	**Gruza**	**4.48**	**327**	ePn	**Pn**	**07 43 05.7**	**+0.6**
GRUS				eSn	**Sn**	**07 43 54.7**	**-2.4**
GRUS	**Gruza**	**4.48**	**327**	ePn	**Pn**	**07 43 05.7**	**+0.6**
GRUS				eSn	**Sn**	**07 43 54.7**	**-2.4**
IVAS	**Ivanjica**	**4.49**	**321**	ePn	**Pn**	**07 43 05.1**	**-0.2**
IVAS				eSn	**Sn**	**07 43 55.1**	**-2.3**
IVAS	**Ivanjica**	**4.49**	**321**	ePn	**Pn**	**07 43 05.1**	**-0.2**
IVAS				eSn	**Sn**	**07 43 55.1**	**-2.3**
SRE	**Strehaia**	**4.54**	**352**	⇑iP	Pn	07 43 00.1	-5.9
KUBS	**Kucevo**	**4.60**	**338**	ePn	**Pn**	**07 43 05.3**	**-1.5**
KUBS				eSn	**Sn**	**07 43 57.9**	**-2.2**
KUBS	**Kucevo**	**4.60**	**338**	ePn	**Pn**	**07 43 05.3**	**-1.5**
KUBS				eSn	**Sn**	**07 43 57.9**	**-2.2**
HERR	**Herculane**	**4.87**	**346**	⇑iP	**Pn**	**07 43 10.2**	**-0.3**

TRUS	**Trudelj**	**4.88**	**328**	*e*Pn	**Pn**	**07 43 10.7**	**0.0**
TRUS	**Trudelj**	**4.88**	**328**	*e*Pn	**Pn**	**07 43 10.7**	**0.0**
IDI	**Anoyia**	**4.91**	**172**	Pn	**Pn**	**07 43 11.5**	**+0.4**
	comp=N,0.8nm,0.3s,baz=313,slow=9.6,SNR=4.3						
MDVR	**Moldovita**	**4.93**	**340**	⇓*i*P	**Pn**	**07 43 11.9**	**+0.5**
MDVR	**Moldovita**	**4.93**	**340**	⇓*i*P	**Pn**	**07 43 11.9**	**+0.5**
DIVS	**Divibare**	**4.96**	**324**	*e*Pn	**Pn**	**07 43 12.2**	**+0.4**
DIVS				*e*Sn	**Sn**	**07 44 07.0**	**-2.1**
DIVS	**Divibare**	**4.96**	**324**	*e*Pn	**Pn**	**07 43 12.2**	**+0.4**
DIVS				*e*Sn	**Sn**	**07 44 07.0**	**-2.1**
ARR	**Arges**	**5.22**	**5**	⇓*i*P	**Pn**	**07 43 16.3**	**+0.9**
ARR	**Arges**	**5.22**	**5**	⇓*i*P	**Pn**	**07 43 16.3**	**+0.9**
ISR	**Istrita**	**5.29**	**20**	⇑*i*P	**Pn**	**07 43 15.7**	**-0.6**
ISR	**Istrita**	**5.29**	**20**	⇑*i*P	**Pn**	**07 43 15.7**	**-0.6**
LOT	**Lotru**	**5.29**	**358**	⇓*i*P	**Pn**	**07 43 16.9**	**+0.5**
LOT	**Lotru**	**5.29**	**358**	⇓*i*P	**Pn**	**07 43 16.9**	**+0.5**
VOIR		**5.33**	**8**	⇓*i*P	**Pn**	**07 43 17.4**	**+0.5**
VOIR		**5.33**	**8**	⇓*i*P	**Pn**	**07 43 17.4**	**+0.5**
TIRR	**Tirgusor**	**5.38**	**36**	⇑*i*P	**Pn**	**07 43 18.0**	**+0.5**
TIRR	**Tirgusor**	**5.38**	**36**	⇑*i*P	**Pn**	**07 43 18.0**	**+0.5**
MLR	**Muntele Rosu**	**5.51**	**14**	Pn	**Pn**	**07 43 18.9**	**-0.5**
	comp=N,0.1nm,0.3s,baz=180,slow=20,SNR=3.7						
MLR				Lg	Lg	07 44 56.4	
	comp=N,0.2nm,0.3s,baz=267,slow=11,SNR=3.8						
MLR	**Muntele Rosu**	**5.51**	**14**	⇑*i*P	**Pn**	**07 43 20.1**	**+0.7**
MLR	**Muntele Rosu**	**5.51**	**14**	⇑*i*P	**Pn**	**07 43 20.1**	**+0.7**
MATE	**Matera**	**5.63**	**277**	⇑*i*P	**Pn**	**07 43 19.7**	**-1.2**
MATE	**Matera**	**5.63**	**277**	⇑*i*P	**Pn**	**07 43 19.7**	**-1.2**
BZS	**Buzias**	**5.74**	**343**	⇑*i*P	**Pn**	**07 43 22.2**	**-0.2**
BZS	**Buzias**	**5.74**	**343**	⇑*i*P	**Pn**	**07 43 22.2**	**-0.2**
DOPR	**Dopca**	**5.89**	**9**	⇓*i*P	**Pn**	**07 43 25.5**	**+1.0**
DOPR	**Dopca**	**5.89**	**9**	⇓*i*P	**Pn**	**07 43 25.5**	**+1.0**
PLOR	**Plostina**	**6.00**	**18**	⇑*i*P	**Pn**	**07 43 26.5**	**+0.4**
PLOR	**Plostina**	**6.00**	**18**	⇑*i*P	**Pn**	**07 43 26.5**	**+0.4**
VRI	**Vrincioaia**	**6.03**	**18**	⇑*i*P	**Pn**	**07 43 27.6**	**+1.1**
VRI	**Vrincioaia**	**6.03**	**18**	⇑*i*P	**Pn**	**07 43 27.6**	**+1.1**
TESR	**Tescani**	**6.63**	**16**	⇓*i*P	**Pn**	**07 43 35.7**	**+1.1**
TESR	**Tescani**	**6.63**	**16**	⇓*i*P	**Pn**	**07 43 35.7**	**+1.1**
DRGR		**6.70**	**352**	⇑*i*P	**Pn**	**07 43 35.8**	**+0.1**
DRGR		**6.70**	**352**	⇑*i*P	**Pn**	**07 43 35.8**	**+0.1**
BLY	**Banja Luka**	**6.84**	**314**	⇓*i*P	**Pn**	**07 43 37.4**	**-0.2**
BLY	**Banja Luka**	**6.84**	**314**	⇓*i*P	**Pn**	**07 43 37.4**	**-0.2**
BRTR	**Keskin Array B**	**7.38**	**90**	Pn	**Pn**	**07 43 45.5**	**+0.4**
	comp=N,0.3nm,0.3s,baz=267,slow=11,SNR=7.8						
SORM	**Soroca**	**8.55**	**20**	⇑*i*P	**Pn**	**07 44 00.9**	**-0.1**
SORM	**Soroca**	**8.55**	**20**	⇑*i*P	**Pn**	**07 44 00.9**	**-0.1**
VISS	**Visnje**	**8.79**	**313**	*i* Pn	**Pn**	**07 44 06.6**	**+2.2**
VISS	**Visnje**	**8.79**	**313**	*i* Pn	**Pn**	**07 44 06.6**	**+2.2**
PERS	**Pernice**	**9.17**	**318**	*i* Pn	**Pn**	**07 44 11.6**	**+2.0**
PERS	**Pernice**	**9.17**	**318**	*i* Pn	**Pn**	**07 44 11.6**	**+2.0**
JAVS	**Javornik**	**9.29**	**311**	*i* Pn	**Pn**	**07 44 12.4**	**+1.2**
JAVS	**Javornik**	**9.29**	**311**	*i* Pn	**Pn**	**07 44 12.4**	**+1.2**
AKASG	**Malin Array Be**	**11.15**	**17**	Pn	**Pn**	**07 44 36.2**	**-0.4**
	comp=N,0.6nm,0.3s,baz=200,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**33.32**	**222**	P	**P**	**07 48 36.3**	**+1.1**
	comp=N,1.0nm,0.8s,baz=28,slow=9.2,SNR=5.6						
MKAR	**Makanchi Array**	**41.94**	**61**	P	**P**	**07 49 49.0**	**+1.1**
	comp=N,0.7nm,0.8s,baz=275,slow=7.6,SNR=5.8						

*ISK **04** 07:45:16.1, 40°.11N×24°.01E, h6km, ML3.6/19*

*IDC **04** 07:45:16.8±1.0, 40°.16N×24°.06E, h0km, mb3.4/6, mb1 3.5/11, mb1mx3.4/59, mbtmp3.4/11, ML3.3/5, MS3.0/3, Ms1 3.1/3, ms1mx2.5/44, Error ellipse: s-maj=16.2km s-min=15.6km az=20.0*

*ATH **04** 07:45:16.8, 40°.17N×24°.06E, h25km±1km, ML3.5/17, Error ellipse: s-maj=1.1km s-min=0.7km az=333.0*

*THE **04** 07:45:17.4, 40°.15N×24°.03E, h2km±1km, ML3.4/8, Error ellipse: s-maj=1.0km s-min=0.4km az=301.0*

*CSEM **04** 07:45:17.7±0.1, 40°.14N×24°.02E, h10km, ML3.5, Error ellipse: s-maj=1.7km s-min=1.6km az=169.0*

*ISCJB **04** 07:45:17.2±0.4, 40°.17N±0°.01×24°.04E±0°.02, h11km±3km, mb3.4/6, MS2.9/1, Error ellipse: s-maj=2.1km s-min=2.0km az=29.9*

*BEO **04** 07:45:17.4±0.8, 40°.15N×24°.11E, M3.5/5*

*SOF **04** 07:45:18.5, 40°.26N×24°.14E, h9km, MD3.0*

*DDA **04** 07:46:09.6, 40°.20N×24°.13E, h20km, Md3.8*

ISC 04 07:45:17.7±0.8, **40°.16N**±0°.01×**24°.05E**±0°.01, **h10**km±6km, **n317**, σ0s.**86**/391, **mb3.5**/6, **14C-21D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.18**	**344**	PG	**Pg**	**07 45 21.7**	**+0.1**
OUR				SG	**Sg**	**07 45 24.4**	**+0.1**
OUR	**Ouranopolis**	**0.18**	**344**	P	**Pg**	**07 45 21.1**	**-0.5**
OUR	**Ouranopolis**	**0.18**	**344**	*e*Pg	**Pg**	**07 45 21.7**	**+0.1**
OUR				*e*Sg	**Sg**	**07 45 24.4**	**+0.1**
OUR	**Ouranopolis**	**0.18**	**344**	P	**Pg**	**07 45 21.6**	**0.0**
OUR				S	**Sg**	**07 45 24.7**	**+0.4**
PAIG	**Paliouri**	**0.36**	**231**	P	**Pg**	**07 45 24.6**	**-0.3**
PAIG				S	**Sg**	**07 45 30.2**	**+0.5**
PAIG	**Paliouri**	**0.36**	**231**	P	**Pg**	**07 45 24.8**	**-0.1**
PAIG				S	**Sg**	**07 45 28.9**	**-0.8**
PAIG	**Paliouri**	**0.36**	**231**	P	**Pg**	**07 45 24.8**	**-0.1**
PAIG				S	**Sg**	**07 45 28.9**	**-0.8**
PLG	**Polygyros**	**0.51**	**295**	P	**Pg**	**07 45 27.3**	**-0.3**
PLG				S	**Sg**	**07 45 34.0**	**-0.4**
PLG				AML	AML	07 45 34.9	
	comp=E,14818μm,0.3s						
PLG				AML	AML	07 45 35.5	
	comp=N,23196μm,0.2s						
PLG	**Polygyros**	**0.51**	**295**	P	**Pg**	**07 45 27.4**	**-0.2**
PLG				S	**Sg**	**07 45 34.5**	**+0.2**
PLG	**Polygyros**	**0.51**	**295**	P	**Pg**	**07 45 27.4**	**-0.2**
PLG				S	**Sg**	**07 45 34.5**	**+0.2**
HORT	**Hortiatis**	**0.85**	**302**	PG	**Pg**	**07 45 33.0**	**-1.1**
HORT				SG	**Sg**	**07 45 44.3**	**-0.8**
HORT	**Hortiatis**	**0.85**	**302**	P	**Pg**	**07 45 33.0**	**-1.1**
HORT				S	**Sg**	**07 45 43.9**	**-1.2**
HORT				AML	AML	07 45 48.8	
	comp=N,16333μm,0.3s						
HORT				AML	AML	07 45 49.3	
	comp=E,7159μm,0.3s						
HORT	**Hortiatis**	**0.85**	**302**	P	**Pg**	**07 45 33.2**	**-0.8**
HORT				*e*Sg	**Sg**	**07 45 44.3**	**-0.8**
HORT	**Hortiatis**	**0.85**	**302**	P	**Pg**	**07 45 33.2**	**-0.8**
HORT				S	**Sg**	**07 45 44.7**	**-0.4**
SOH	**Sokhos**	**0.85**	**322**	P	**Pb**	**07 45 34.2**	**-0.4**
SOH				S	**Sg**	**07 45 44.3**	**-0.8**
SOH				AML	AML	07 45 49.0	
	comp=E,16600μm,0.6s						
SOH				AML	AML	07 45 49.7	
	comp=N,24077μm,0.6s						
SOH	**Sokhos**	**0.85**	**322**	P	**Pg**	**07 45 33.6**	**-0.5**
SOH				S	**Sg**	**07 45 44.8**	**-0.3**
SOH	**Sokhos**	**0.85**	**322**	P	**Pg**	**07 45 33.6**	**-0.5**
SOH				S	**Sg**	**07 45 45.3**	**+0.2**
LIA	**Limnos Island**	**0.91**	**106**	P	**Pg**	**07 45 34.8**	**-0.4**
LIA				S	**Sb**	**07 45 47.4**	**-0.3**
LIA				AML	AML	07 45 48.3	
	comp=E,3062μm,0.4s						
LIA				AML	AML	07 45 48.9	
	comp=N,4047μm,0.5s						
LIA	**Limnos Island**	**0.91**	**106**	P	**Pg**	**07 45 34.5**	**-0.7**
LIA				S	**Sb**	**07 45 47.1**	**-0.6**
LIA	**Limnos Island**	**0.91**	**106**	P	**Pb**	**07 45 35.5**	**0.0**
LIA				S	**Sb**	**07 45 48.1**	**+0.4**
KAVA	**Kavala**	**0.91**	**23**	P	**Pb**	**07 45 35.1**	**-0.4**
KAVA				AML	AML	07 45 48.1	
	comp=N,4260μm,0.3s						
KAVA				S	**Sb**	**07 45 48.2**	**+0.4**
KAVA				AML	AML	07 45 49.0	
	comp=E,7373μm,0.6s						
KAVA	**Kavala**	**0.91**	**23**	P	**Pg**	**07 45 34.7**	**-0.5**
KAVA				S	**Sb**	**07 45 47.5**	**-0.3**
KAVA	**Kavala**	**0.91**	**23**	P	**Pg**	**07 45 34.8**	**-0.5**
KAVA				S	**Sb**	**07 45 47.5**	**-0.3**
THE	**Thessaloniki**	**0.95**	**300**	P	**Pg**	**07 45 34.5**	**-1.5**
THE				S	**Sg**	**07 45 46.6**	**-1.8**
THE				AML	AML	07 45 50.9	
	comp=E,3590μm,0.8s						
THE				AML	AML	07 45 51.9	
	comp=N,5758μm,0.5s						
THE	**Thessaloniki**	**0.95**	**300**	P	**Pg**	**07 45 34.9**	**-1.1**
THE				S	**Sg**	**07 45 47.8**	**-0.6**
THE	**Thessaloniki**	**0.95**	**300**	P	**Pg**	**07 45 35.0**	**-1.1**
THE				S	**Sg**	**07 45 48.3**	**-0.1**
SRS	**Serrai**	**1.02**	**340**	*e*Pg	**Pg**	**07 45 36.7**	**-0.6**
SRS				*e*Sg	**Sb**	**07 45 51.2**	**+0.3**
SRS	**Serrai**	**1.02**	**340**	P	**Pb**	**07 45 37.3**	**-0.1**
SRS				S	**Sg**	**07 45 50.3**	**-0.2**
SRS				AML	AML	07 45 55.5	
	comp=E,2423μm,0.2s						
SRS				AML	AML	07 45 56.0	
	comp=N,2365μm,0.2s						
SRS	**Serrai**	**1.02**	**340**	P	**Pg**	**07 45 36.7**	**-0.6**
SRS				S	**Sg**	**07 45 50.4**	**-0.2**
SRS				*e*Sg	**Sb**	**07 45 51.2**	**+0.3**
SRS	**Serrai**	**1.02**	**340**	P	**Pg**	**07 45 36.7**	**-0.6**
SRS				S	**Sb**	**07 45 50.9**	**0.0**
XOR	**Xorichti**	**1.03**	**220**	P	**Pn**	**07 45 38.3**	**+0.1**
XOR				AML	AML	07 45 52.9	
	comp=N,8022μm,0.4s						
XOR				AML	AML	07 45 53.4	
	comp=E,3506μm,0.3s						
XOR				S	**Sn**	**07 45 53.7**	**+1.0**
XOR	**Xorichti**	**1.03**	**220**	P	**Pg**	**07 45 37.3**	**-0.2**
XOR				S	**Sn**	**07 45 52.6**	**-0.1**
XOR	**Xorichti**	**1.03**	**220**	P	**Pg**	**07 45 37.3**	**-0.2**
NEO	**Neokhori**	**1.06**	**217**	P	**Pb**	**07 45 38.1**	**-0.1**
NEO				S	**Sn**	**07 45 53.1**	**-0.3**
NEO				AML	AML	07 45 54.9	
	comp=E,7094μm,0.3s						
NEO				AML	AML	07 45 55.1	
	comp=N,9455μm,0.3s						
NEO	**Neokhori**	**1.06**	**217**	P	**Pg**	**07 45 37.8**	**-0.3**
NEO				S	**Sb**	**07 45 52.8**	**+0.7**
SKIA	**Skiathos**	**1.09**	**205**	P	**Pg**	**07 45 38.0**	**-0.5**
SKIA				S	**Sb**	**07 45 53.1**	**+0.3**
SKIA				AML	AML	07 45 53.6	
	comp=N,5408μm,0.5s						
SKIA				AML	AML	07 45 54.1	
	comp=E,5539μm,0.4s						
SKIA	**Skiathos**	**1.09**	**205**	P	**Pg**	**07 45 37.9**	**-0.7**
SKIA				S	**Sb**	**07 45 52.9**	**+0.1**
SKIA	**Skiathos**	**1.09**	**205**	P	**Pg**	**07 45 37.9**	**-0.7**
SKIA				S	**Sb**	**07 45 52.9**	**+0.1**
FYTO	**Fytoko, Volos**	**1.14**	**229**	P	**Pb**	**07 45 39.0**	**-0.4**
FYTO				S	**Sn**	**07 45 54.9**	**-0.4**
FYTO				AML	AML	07 45 56.6	
	comp=E,2145μm,0.4s						
FYTO				AML	AML	07 45 57.8	
	comp=N,3257μm,0.7s						
FYTO	**Fytoko, Volos**	**1.14**	**229**	P	**Pb**	**07 45 38.8**	**-0.6**
FYTO				S	**Sg**	**07 45 53.7**	**-0.5**
FYTO	**Fytoko, Volos**	**1.14**	**229**	P	**Pb**	**07 45 38.8**	**-0.6**
FYTO				S	**Sg**	**07 45 53.7**	**-0.5**
SMTH	**Samothraki Isl**	**1.18**	**74**	P	**Pb**	**07 45 38.3**	**-1.8**
SMTH				S	**Sb**	**07 45 55.1**	**-0.3**
SMTH				AML	AML	07 45 57.7	
	comp=E,1240μm,0.3s						
SMTH				AML	AML	07 45 59.1	
	comp=N,1021μm,0.4s						
SMTH	**Samothraki Isl**	**1.18**	**74**	P	**Pb**	**07 45 38.7**	**-1.4**
SMTH				S	**Sb**	**07 45 55.1**	**-0.3**
SMTH	**Samothraki Isl**	**1.18**	**74**	P	**Pb**	**07 45 39.2**	**-0.9**
LIT	**Litokhoron**	**1.20**	**268**	P	**Pb**	**07 45 39.3**	**-1.2**
LIT				S	**Sg**	**07 45 56.6**	**+0.4**
LIT				AML	AML	07 45 58.9	
	comp=E,2164μm,0.2s						
LIT				AML	AML	07 45 59.9	
	comp=N,2511μm,0.3s						
LIT	**Litokhoron**	**1.20**	**268**	P	**Pb**	**07 45 39.2**	**-1.2**
LIT				S	**Sb**	**07 45 55.9**	**-0.1**
LIT	**Litokhoron**	**1.20**	**268**	P	**Pb**	**07 45 39.2**	**-1.2**
LIT				S	**Sb**	**07 45 55.9**	**-0.1**
NVR	**Nevrokopi**	**1.20**	**353**	P	**Pb**	**07 45 39.8**	**-0.8**
NVR	**Nevrokopi**	**1.20**	**353**	P	**Pb**	**07 45 39.5**	**-1.0**
NVR	**Nevrokopi**	**1.20**	**353**	P	**Pb**	**07 45 39.5**	**-1.0**
KNT	**Kendrikon**	**1.33**	**319**	PN	**Pn**	**07 45 42.3**	**-0.1**
KNT	**Kendrikon**	**1.33**	**319**	P	**Pg**	**07 45 43.1**	**-0.2**
KNT				S	**Sn**	**07 46 00.3**	**+0.1**
KNT				AML	AML	07 46 01.9	
	comp=E,6031μm,0.6s						
KNT				AML	AML	07 46 06.9	
	comp=N,3453μm,0.5s						
KNT	**Kendrikon**	**1.33**	**319**	*e*Pn	**Pn**	**07 45 42.3**	**-0.1**
KNT				S	**Sn**	**07 46 00.2**	**+0.1**
KNT	**Kendrikon**	**1.33**	**319**	P	**Pb**	**07 45 42.5**	**-0.3**
KNT				S	**Sg**	**07 46 01.0**	**+0.5**
SKY	**Skiros Island**	**1.34**	**163**	P	**Pn**	**07 45 41.8**	**-0.6**
SKY	**Skiros Island**	**1.34**	**163**	P	**Pn**	**07 45 41.8**	**-0.6**
SKY	**Skiros Island**	**1.34**	**163**	P	**Pn**	**07 45 41.8**	**-0.6**
LRSO	**Larissa Observ**	**1.36**	**250**	P	**Pn**	**07 45 42.8**	**+0.1**
LRSO	**Larissa Observ**	**1.36**	**250**	P	**Pn**	**07 45 42.8**	**+0.1**
GADA	**Gvkgeada**	**1.42**	**88**	PN	**Pn**	**07 45 43.3**	**-0.2**
GADA	**Gvkgeada**	**1.42**	**88**	P	**Pn**	**07 45 42.7**	**-0.8**
GADA	**Gvkgeada**	**1.42**	**88**	*e*Pn	**Pn**	**07 45 43.3**	**-0.2**
GADA	**Gvkgeada**	**1.42**	**88**	P	**Pn**	**07 45 42.7**	**-0.8**
SMIA	**Simia**	**1.43**	**207**	P	**Pn**	**07 45 43.3**	**-0.4**
SMIA	**Simia**	**1.43**	**207**	P	**Pn**	**07 45 43.3**	**-0.4**
MMB	**Musomiste**	**1.45**	**350**	*i* P	**Pn**	**07 45 43.0**	**-1.0**
GRG	**Griva**	**1.49**	**303**	PN	**Pn**	**07 45 44.6**	**+0.1**
GRG	**Griva**	**1.49**	**303**	P	**Pb**	**07 45 45.2**	**-0.2**
GRG				S	**Sb**	**07 46 04.4**	**+0.1**
GRG				AML	AML	07 46 11.1	
	comp=N,6260μm,0.6s						
GRG				AML	AML	07 46 11.5	
	comp=E,6355μm,0.5s						
GRG	**Griva**	**1.49**	**303**	*e*Pn	**Pn**	**07 45 44.6**	**+0.1**
GRG				S	**Sn**	**07 46 04.2**	**+0.2**
GRG	**Griva**	**1.49**	**303**	P	**Pn**	**07 45 44.5**	**+0.1**
GRG				S	**Sg**	**07 46 05.5**	**0.0**
RDO	**Rodhopi**	**1.50**	**48**	P	**Pn**	**07 45 43.7**	**-1.0**
RDO	**Rodhopi**	**1.50**	**48**	P	**Pn**	**07 45 43.9**	**-0.8**
RDO	**Rodhopi**	**1.50**	**48**	P	**Pn**	**07 45 44.1**	**-0.6**
RZN	**Rozhen**	**1.61**	**18**	*i* P	**Pn**	**07 45 45.9**	**-0.5**
VAY	**Valandovo**	**1.62**	**316**	P	**Pn**	**07 45 46.4**	**+0.2**
VAY	**Valandovo**	**1.62**	**316**	P	**Pn**	**07 45 46.4**	**+0.2**
VAY	**Valandovo**	**1.62**	**316**	*i* Pn	**Pn**	**07 45 46.5**	**+0.2**
VAY				*i* Sn	**Sb**	**07 46 07.9**	**-0.2**
THL	**Klokotos Trika**	**1.67**	**250**	P	**Pn**	**07 45 46.0**	**-1.0**
THL	**Klokotos Trika**	**1.67**	**250**	P	**Pn**	**07 45 46.4**	**-0.6**
THL	**Klokotos Trika**	**1.67**	**250**	P	**Pn**	**07 45 46.5**	**-0.6**
SIGR	**SIGRI**	**1.69**	**124**	PN	**Pn**	**07 45 46.6**	**-0.6**
SIGR	**SIGRI**	**1.69**	**124**	P	**Pn**	**07 45 46.7**	**-0.5**
SIGR	**SIGRI**	**1.69**	**124**	P	**Pn**	**07 45 46.7**	**-0.5**
ALN	**Alexandroupoli**	**1.69**	**63**	PN	**Pb**	**07 45 47.9**	**-1.0**
ALN	**Alexandroupoli**	**1.69**	**63**	P	**Pn**	**07 45 45.5**	**-1.7**
ALN	**Alexandroupoli**	**1.69**	**63**	P	**Pn**	**07 45 46.2**	**-1.1**
ALN	**Alexandroupoli**	**1.69**	**63**	*e*Pn	**Pb**	**07 45 47.9**	**-1.0**
ALN				S	**Sg**	**07 46 10.8**	**-1.3**
ALN	**Alexandroupoli**	**1.69**	**63**	P	**Pn**	**07 45 46.5**	**-0.8**
ALN				S	**Sg**	**07 46 10.8**	**-1.3**
ENEZ	**Enez**	**1.71**	**70**	PN	**Pn**	**07 45 47.5**	**0.0**
ENEZ	**Enez**	**1.71**	**70**	P	**Pn**	**07 45 47.7**	**+0.2**
ENEZ	**Enez**	**1.71**	**70**	P	**Pn**	**07 45 47.7**	**+0.2**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**07 45 46.3**	**-1.3**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**07 45 46.8**	**-0.7**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**07 45 46.9**	**-0.6**
EREA	**Eretria**	**1.74**	**183**	P	**Pn**	**07 45 47.4**	**-0.5**
EREA	**Eretria**	**1.74**	**183**	P	**Pn**	**07 45 47.4**	**-0.5**
AGG	**Agios Georgios**	**1.75**	**230**	PN	**Pn**	**07 45 46.9**	**-1.2**
AGG	**Agios Georgios**	**1.75**	**230**	P	**Pn**	**07 45 47.5**	**-0.5**
AGG	**Agios Georgios**	**1.75**	**230**	*e*Pn	**Pn**	**07 45 46.9**	**-1.2**
AGG	**Agios Georgios**	**1.75**	**230**	P	**Pn**	**07 45 47.7**	**-0.4**
AGG	**Agios Georgios**	**1.75**	**230**	P	**Pn**	**07 45 47.7**	**-0.4**
KZN	**Kozani**	**1.75**	**276**	P	**Pn**	**07 45 48.8**	**+0.6**
KZN	**Kozani**	**1.75**	**276**	P	**Pn**	**07 45 47.9**	**-0.3**
KZN	**Kozani**	**1.75**	**276**	P	**Pn**	**07 45 47.9**	**-0.3**
KKB	**Krupnik**	**1.86**	**337**	*i* P	**Pn**	**07 45 49.6**	**0.0**
GELI	**Tayfur-Gelibol**	**1.87**	**82**	PN	**Pb**	**07 45 50.5**	**-1.5**
GELI	**Tayfur-Gelibol**	**1.87**	**82**	*e*Pn	**Pb**	**07 45 50.5**	**-1.5**
PRK	**Paraskevi**	**1.94**	**117**	P	**Pn**	**07 45 50.7**	**0.0**
PRK	**Paraskevi**	**1.94**	**117**	P	**Pn**	**07 45 50.7**	**0.0**
ERIK	**Erikli-Kesan**	**1.95**	**74**	PN	**Pn**	**07 45 50.4**	**-0.4**
ERIK	**Erikli-Kesan**	**1.95**	**74**	*e*Pn	**Pn**	**07 45 50.4**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.97**	**101**	*i* P	**Pn**	**07 45 51.3**	**+0.2**
BAYC				*i* S	**Sg**	**07 46 21.0**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.97**	**101**	P	**Pn**	**07 45 51.3**	**+0.2**
PLD	**Plovdiv**	**2.01**	**14**	*i* P	**Pn**	**07 45 52.2**	**+0.6**
KPRO	**Kipourio**	**2.07**	**265**	P	**Pn**	**07 45 52.7**	**+0.1**
KPRO	**Kipourio**	**2.07**	**265**	P	**Pn**	**07 45 52.7**	**+0.1**
VILL	**Villia**	**2.07**	**196**	P	**Pn**	**07 45 51.9**	**-0.6**
VILL	**Villia**	**2.07**	**196**	P	**Pn**	**07 45 51.9**	**-0.6**
LPK	**Lapseki**	**2.09**	**83**	PN	**Pn**	**07 45 52.3**	**-0.4**
LPK	**Lapseki**	**2.09**	**83**	*e*Pn	**Pn**	**07 45 52.3**	**-0.4**
PROD	**Prodromos**	**2.10**	**206**	P	**Pn**	**07 45 53.8**	**+1.0**
PROD	**Prodromos**	**2.10**	**206**	P	**Pn**	**07 45 53.3**	**+0.5**
DSF	**Desfina**	**2.10**	**215**	P	**Pn**	**07 45 51.4**	**-1.6**
DSF				S	**Sn**	**07 46 18.4**	**-0.8**
DSF				AML	AML	07 46 21.3	
	comp=N,679μm,0.6s						
DSF				AML	AML	07 46 25.2	
	comp=E,526μm,0.3s						
DSF	**Desfina**	**2.10**	**215**	P	**Pn**	**07 45 52.1**	**-0.9**
DSF				S	**Sn**	**07 46 18.9**	**-0.4**
DSF	**Desfina**	**2.10**	**215**	P	**Pn**	**07 45 52.1**	**-0.9**
PTL	**Penteli**	**2.11**	**184**	P	**Pn**	**07 45 52.7**	**-0.4**
PTL	**Penteli**	**2.11**	**184**	P	**Pn**	**07 45 52.7**	**-0.4**
KESN	**Edirne-Kesan**	**2.12**	**71**	*i* P	**Pn**	**07 45 53.0**	**-0.4**
KESN				*i* S	**Sg**	**07 46 24.5**	**-1.2**
KESN	**Edirne-Kesan**	**2.12**	**71**	P	**Pn**	**07 45 53.0**	**-0.4**
EVR	**Evrytania**	**2.13**	**235**	P	**Pn**	**07 45 53.9**	**+0.5**
EVR	**Evrytania**	**2.13**	**235**	P	**Pn**	**07 45 53.6**	**+0.2**
EVR	**Evrytania**	**2.13**	**235**	P	**Pn**	**07 45 53.6**	**+0.2**
FNA	**Florina**	**2.13**	**288**	PN	**Pn**	**07 45 53.0**	**-0.4**
FNA	**Florina**	**2.13**	**288**	*e*Pn	**Pn**	**07 45 53.5**	**+0.1**
FNA				*e*Sn	**Sn**	**07 46 19.9**	**-0.1**
FNA	**Florina**	**2.13**	**288**	*e*Pn	**Pn**	**07 45 53.0**	**-0.4**
FNA	**Florina**	**2.13**	**288**	P	**Pn**	**07 45 53.8**	**+0.4**
FNA				*e*Sn	**Sn**	**07 46 19.9**	**-0.1**
FNA	**Florina**	**2.13**	**288**	P	**Pn**	**07 45 53.8**	**+0.4**
KARY	**Karystos**	**2.14**	**172**	P	**Pn**	**07 45 52.9**	**-0.6**
KARY	**Karystos**	**2.14**	**172**	P	**Pn**	**07 45 52.9**	**-0.6**
ATHU	**Athens Univers**	**2.20**	**185**	P	**Pn**	**07 45 52.9**	**-1.3**
ATHU	**Athens Univers**	**2.20**	**185**	P	**Pn**	**07 45 53.6**	**-0.6**
DIM	**Dimitrovgrad**	**2.20**	**30**	*i* P	**Pn**	**07 45 54.4**	**+0.1**
PENT	**Pentalofos**	**2.23**	**272**	P	**Pn**	**07 45 55.9**	**+1.2**
PENT	**Pentalofos**	**2.23**	**272**	P	**Pn**	**07 45 55.3**	**+0.5**
BIA	**Bitola**	**2.25**	**293**	P	**Pn**	**07 45 55.1**	**+0.1**
BIA	**Bitola**	**2.25**	**293**	P	**Pn**	**07 45 55.1**	**+0.1**
BIA	**Bitola**	**2.25**	**293**	*i* Pn	**Pn**	**07 45 56.0**	**+1.1**
LTK	**Loutraki**	**2.29**	**202**	P	**Pn**	**07 45 55.4**	**-0.1**
LTK	**Loutraki**	**2.29**	**202**	P	**Pn**	**07 45 55.4**	**-0.1**
KALE	**Kalithea**	**2.30**	**221**	P	**Pn**	**07 45 55.8**	**0.0**
KALE	**Kalithea**	**2.30**	**221**	P	**Pn**	**07 45 55.6**	**-0.1**
KALE	**Kalithea**	**2.30**	**221**	P	**Pn**	**07 45 55.6**	**-0.1**
NEST	**Nestorio**	**2.31**	**277**	P	**Pn**	**07 45 57.2**	**+1.3**
NEST	**Nestorio**	**2.31**	**277**	P	**Pn**	**07 45 56.5**	**+0.6**
NEST	**Nestorio**	**2.31**	**277**	P	**Pn**	**07 45 56.5**	**+0.6**
VLY	**Voula,Athens**	**2.31**	**185**	P	**Pn**	**07 45 55.5**	**-0.3**
VLY	**Voula,Athens**	**2.31**	**185**	P	**Pn**	**07 45 55.5**	**-0.3**
LOUT	**Loutraki**	**2.32**	**201**	P	**Pn**	**07 45 55.9**	**-0.1**
LOUT	**Loutraki**	**2.32**	**201**	P	**Pn**	**07 45 55.9**	**-0.1**
SERG	**Sergoula**	**2.33**	**222**	P	**Pn**	**07 45 55.3**	**-0.8**
SERG				S	**Sn**	**07 46 22.3**	**-2.4**
SERG				AML	AML	07 46 27.9	
	comp=N,495μm,0.7s						
SERG				AML	AML	07 46 30.0	
	comp=E,558μm,0.6s						
SERG	**Sergoula**	**2.33**	**222**	P	**Pn**	**07 45 55.7**	**-0.4**
SERG				S	**Sn**	**07 46 23.5**	**-1.2**
TRIZ	**Trizonia**	**2.36**	**221**	P	**Pn**	**07 45 56.5**	**+0.1**
TRIZ	**Trizonia**	**2.36**	**221**	P	**Pn**	**07 45 56.5**	**+0.1**
CHOS	**Chios island**	**2.36**	**138**	PN	**Pn**	**07 45 55.8**	**-0.7**
CHOS	**Chios island**	**2.36**	**138**	P	**Pn**	**07 45 56.7**	**+0.2**
CHOS	**Chios island**	**2.36**	**138**	*e*Pn	**Pn**	**07 45 55.8**	**-0.7**
CHOS	**Chios island**	**2.36**	**138**	P	**Pn**	**07 45 56.5**	**0.0**
CHOS	**Chios island**	**2.36**	**138**	P	**Pn**	**07 45 56.5**	**0.0**
THAL	**Thalero**	**2.38**	**207**	P	**Pn**	**07 45 56.3**	**-0.4**
THAL	**Thalero**	**2.38**	**207**	P	**Pn**	**07 45 56.3**	**-0.4**
KRUS	**Krusevo**	**2.45**	**301**	*i* Pn	**Pn**	**07 45 58.2**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.45**	**76**	PN	**Pn**	**07 45 58.4**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.45**	**76**	*e*Pn	**Pn**	**07 45 58.4**	**+0.7**
SART	**Tekirdag**	**2.45**	**76**	*i* P	**Pn**	**07 45 55.5**	**-2.3**
SART				*i* S	**Sg**	**07 46 34.5**	**-1.9**
SART	**Tekirdag**	**2.45**	**76**	P	**Pn**	**07 45 55.5**	**-2.3**
DSL	**Palaion Diasel**	**2.50**	**247**	P	**Pn**	**07 45 58.9**	**+0.5**
DSL	**Palaion Diasel**	**2.50**	**247**	P	**Pn**	**07 45 58.9**	**+0.5**
KRBG	**Karabiga-Canak**	**2.50**	**84**	PN	**Pn**	**07 45 59.0**	**+0.6**
KRBG	**Karabiga-Canak**	**2.50**	**84**	*e*Pn	**Pn**	**07 45 59.0**	**+0.6**
JAN	**Janina**	**2.51**	**260**	P	**Pn**	**07 45 58.9**	**+0.3**
JAN	**Janina**	**2.51**	**260**	P	**Pn**	**07 45 58.9**	**+0.3**
VTS	**Vitosha**	**2.51**	**346**	⇓*i*P	**Pn**	**07 45 59.6**	**+0.9**
VTS				S	**Sn**	**07 46 29.4**	**-0.1**
VTS	**Vitosha**	**2.51**	**346**	⇓*i*P	**Pn**	**07 45 59.6**	**+0.9**
VTS				S	**Sn**	**07 46 29.4**	**-0.1**
VTS	**Vitosha**	**2.51**	**346**	*i* P	**Pn**	**07 45 59.3**	**+0.5**
VTS	**Vitosha**	**2.51**	**346**	P	**Pn**	**07 45 59.2**	**+0.5**
GUR	**Goura**	**2.58**	**211**	P	**Pn**	**07 45 59.3**	**-0.4**
GUR	**Goura**	**2.58**	**211**	P	**Pn**	**07 45 59.3**	**-0.4**
EDRB	**Edirne**	**2.65**	**50**	PN	**Pn**	**07 46 01.9**	**+1.5**
EDRB	**Edirne**	**2.65**	**50**	*e*Pn	**Pn**	**07 46 01.9**	**+1.5**
OHR	**Ohrid**	**2.65**	**292**	*i* Pn	**Pn**	**07 46 01.1**	**+0.6**
URLA	**Izmir**	**2.67**	**131**	PN	**Pn**	**07 46 00.3**	**-0.5**
URLA	**Izmir**	**2.67**	**131**	*i* P	**Pn**	**07 45 59.4**	**-1.4**
URLA				*i* S	**Sg**	**07 46 44.7**	**+1.2**
URLA	**Izmir**	**2.67**	**131**	P	**Pn**	**07 45 59.4**	**-1.4**
URLA	**Izmir**	**2.67**	**131**	*e*Pn	**Pn**	**07 46 00.3**	**-0.5**
SKO	**Skopje**	**2.68**	**313**	*e*Pn	**Pn**	**07 46 01.3**	**+0.5**
SKO	**Skopje**	**2.68**	**313**	P	**Pn**	**07 46 00.3**	**-0.6**
SKO	**Skopje**	**2.68**	**313**	*e*Pn	**Pn**	**07 46 01.3**	**+0.5**
SKO	**Skopje**	**2.68**	**313**	P	**Pn**	**07 46 00.3**	**-0.6**
SKO	**Skopje**	**2.68**	**313**	*i* Pn	**Pn**	**07 46 01.4**	**+0.5**
SKO				*i* Sn	**Sn**	**07 46 32.4**	**-0.9**
ZEY	**˜zmir**	**2.70**	**134**	*i* P	**Pn**	**07 46 00.9**	**-0.3**
ZEY				*i* S	**Sb**	**07 46 40.5**	**+1.1**
TKR	**Tekirdag**	**2.78**	**71**	PN	**Pn**	**07 46 02.9**	**+0.6**
TKR	**Tekirdag**	**2.78**	**71**	*e*Pn	**Pn**	**07 46 02.9**	**+0.6**
GONE	**Gonen-Balikesi**	**2.79**	**91**	PN	**Pn**	**07 46 03.3**	**+0.9**
GONE	**Gonen-Balikesi**	**2.79**	**91**	*e*Pn	**Pn**	**07 46 03.3**	**+0.9**
DRO	**Drossia**	**2.86**	**220**	P	**Pn**	**07 46 01.8**	**-1.5**
DRO	**Drossia**	**2.86**	**220**	P	**Pn**	**07 46 01.8**	**-1.5**
EDC	**Edincik**	**2.93**	**85**	PN	**Pn**	**07 46 05.1**	**+0.8**
EDC	**Edincik**	**2.93**	**85**	*e*Pn	**Pn**	**07 46 05.1**	**+0.8**
LKD2	**Lefkada island**	**2.96**	**244**	P	**Pn**	**07 46 07.0**	**+2.3**
LKD2	**Lefkada island**	**2.96**	**244**	P	**Pn**	**07 46 07.0**	**+2.3**
TRIP	**Tripoli**	**2.97**	**208**	P	**Pn**	**07 46 04.8**	**-0.1**
TRIP	**Tripoli**	**2.97**	**208**	P	**Pn**	**07 46 04.9**	**0.0**
BALB	**Balikesir**	**2.99**	**99**	PN	**Pn**	**07 46 05.9**	**+0.7**
BALB	**Balikesir**	**2.99**	**99**	*e*Pn	**Pn**	**07 46 05.9**	**+0.7**
PHSR	**Pinarhisar**	**3.02**	**60**	PN	**Pn**	**07 46 06.7**	**+1.2**
PHSR	**Pinarhisar**	**3.02**	**60**	*e*Pn	**Pn**	**07 46 06.7**	**+1.2**
SBT3	**Marmara-Eregli**	**3.08**	**75**	PN	**Pn**	**07 46 07.8**	**+1.6**
SBT3	**Marmara-Eregli**	**3.08**	**75**	*e*Pn	**Pn**	**07 46 07.8**	**+1.6**
BARS	**Barje**	**3.14**	**328**	*e*Pn	**Pn**	**07 46 07.5**	**+0.3**
BARS				*e*Sn	**Sn**	**07 46 45.2**	**+0.4**
BARS	**Barje**	**3.14**	**328**	*e*Pn	**Pn**	**07 46 07.5**	**+0.3**
BARS				*e*Sn	**Sn**	**07 46 45.2**	**+0.4**
SMG	**Samos**	**3.27**	**137**	P	**Pn**	**07 46 09.1**	**+0.1**
SMG	**Samos**	**3.27**	**137**	P	**Pn**	**07 46 09.1**	**+0.1**
ZAPS	**Zavoj**	**3.29**	**342**	*e*Pn	**Pn**	**07 46 10.4**	**+1.1**
APE	**Apeiranthos**	**3.29**	**159**	P	**Pn**	**07 46 08.0**	**-1.4**
APE	**Apeiranthos**	**3.29**	**159**	P	**Pn**	**07 46 08.7**	**-0.7**
APE	**Apeiranthos**	**3.29**	**159**	P	**Pn**	**07 46 08.9**	**-0.5**
KCTX	**Karacabey (Bur**	**3.30**	**87**	PN	**Pn**	**07 46 10.7**	**+1.3**
KCTX	**Karacabey (Bur**	**3.30**	**87**	*e*Pn	**Pn**	**07 46 10.7**	**+1.3**
SLVT	**Silivri**	**3.34**	**70**	PN	**Pn**	**07 46 11.5**	**+1.5**
SLVT	**Silivri**	**3.34**	**70**	*e*Pn	**Pn**	**07 46 11.5**	**+1.5**
TIR	**Tirane**	**3.39**	**292**	*e*Pn	**Pn**	**07 46 12.0**	**+1.3**
TIR	**Tirane**	**3.39**	**292**	*e*Pn	**Pn**	**07 46 12.0**	**+1.3**
CTYL	**Yalikoy Yolu**	**3.48**	**66**	PN	**Pn**	**07 46 13.4**	**+1.6**
CTYL	**Yalikoy Yolu**	**3.48**	**66**	*e*Pn	**Pn**	**07 46 13.4**	**+1.6**
SBT2	**Guzelce-Avcila**	**3.48**	**77**	PN	**Pn**	**07 46 13.4**	**+1.6**
SBT2	**Guzelce-Avcila**	**3.48**	**77**	*e*Pn	**Pn**	**07 46 13.4**	**+1.6**
CTKS	**Kestanelik-??a**	**3.56**	**71**	PN	**Pn**	**07 46 14.4**	**+1.5**
CTKS	**Kestanelik-??a**	**3.56**	**71**	*e*Pn	**Pn**	**07 46 14.4**	**+1.5**
BGKT	**Bogazkoy**	**3.74**	**73**	PN	**Pn**	**07 46 17.0**	**+1.6**
BGKT	**Bogazkoy**	**3.74**	**73**	*e*Pn	**Pn**	**07 46 17.0**	**+1.6**
SELS	**Selova**	**3.76**	**325**	*e*Pn	**Pn**	**07 46 15.3**	**-0.5**
ZAGS	**Zajecar**	**3.90**	**340**	*e*Pn	**Pn**	**07 46 17.1**	**-0.5**
ZAGS				*e*Sn	**Sn**	**07 47 01.7**	**-1.6**
ZAGS	**Zajecar**	**3.90**	**340**	*e*Pn	**Pn**	**07 46 17.1**	**-0.5**
ZAGS				*e*Sn	**Sn**	**07 47 01.7**	**-1.6**
ISK	**Istanbul-Kandi**	**3.92**	**75**	PN	**Pn**	**07 46 19.7**	**+1.8**
ISK	**Istanbul-Kandi**	**3.92**	**75**	*e*Pn	**Pn**	**07 46 19.7**	**+1.8**
KAVV	**Kandilli-Istan**	**3.92**	**75**	PN	**Pn**	**07 46 19.7**	**+1.8**
KAVV	**Kandilli-Istan**	**3.92**	**75**	*e*Pn	**Pn**	**07 46 19.7**	**+1.8**
KULA	**Kula-Manisa**	**3.94**	**113**	PN	**Pn**	**07 46 19.5**	**+1.3**
KULA	**Kula-Manisa**	**3.94**	**113**	*e*Pn	**Pn**	**07 46 19.5**	**+1.3**
TVSB	**Tavsanli**	**4.23**	**98**	PN	**Pn**	**07 46 22.4**	**+0.1**
TVSB	**Tavsanli**	**4.23**	**98**	*e*Pn	**Pn**	**07 46 22.4**	**+0.1**
SGRR	**Singureni**	**4.31**	**19**	⇑*i*P	**Pg**	**07 46 40.0**	**-0.2**
SJES	**Sjenica**	**4.35**	**317**	*e*Pn	**Pn**	**07 46 24.9**	**+1.0**
IVAS	**Ivanjica**	**4.49**	**321**	*e*Pn	**Pn**	**07 46 25.8**	**0.0**
IVAS	**Ivanjica**	**4.49**	**321**	*e*Pn	**Pn**	**07 46 25.8**	**0.0**
SRE	**Strehaia**	**4.54**	**352**	⇓*i*P	**Pb**	**07 46 37.7**	**+0.2**
KUBS	**Kucevo**	**4.60**	**338**	*e*Pn	**Pn**	**07 46 25.2**	**-2.1**
KUBS				*e*Sn	**Sn**	**07 47 19.3**	**-1.5**
KUBS	**Kucevo**	**4.60**	**338**	*e*Pn	**Pn**	**07 46 25.2**	**-2.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KUBS				eSn	Sn	07 47 19.3	-1.5
ICOR	Ion Corvin	4.84	34	⇑iP	Pn	07 46 30.8	+0.2
ICOR	Ion Corvin	4.84	34	⇑iP	Pn	07 46 30.8	+0.2
HERR	Herculane	4.87	346	⇑iP	Pn	07 46 30.2	-0.8
TRUS	Trudelj	4.88	328	ePn	Pn	07 46 30.7	-0.4
TRUS	Trudelj	4.88	328	ePn	Pn	07 46 30.7	-0.4
IDI	Anoyia	4.91	172	Pn	Pn	07 46 32.7	+1.2
	comp=E,1.1nm,0.3s,baz=299,slow=21,SNR=6.0						
IDI				LR	LR	07 48 34.7	
	comp=E,97nm,20.1s,baz=303,slow=40						
MDVR	Moldovita	4.93	340	⇑iP	Pn	07 46 31.4	-0.5
MDVR	Moldovita	4.93	340	S	Sg	07 47 55.6	-0.4
MDVR	Moldovita	4.93	340	⇑iP	Pn	07 46 31.4	-0.5
DIVS	Divibare	4.96	324	ePn	Pn	07 46 32.1	-0.2
DIVS	Divibare	4.96	324	ePn	Pn	07 46 32.1	-0.2
ARR	Arges	5.22	5	⇓iP	Pn	07 46 36.3	+0.4
ARR	Arges	5.22	5	⇓iP	Pn	07 46 36.3	+0.4
ISR	Istrita	5.29	20	⇓iP	Pn	07 46 36.9	+0.1
ISR	Istrita	5.29	20	⇓iP	Pn	07 46 36.9	+0.1
LOT	Lotru	5.29	358	⇓iP	Pn	07 46 36.6	-0.3
LOT	Lotru	5.29	358	⇓iP	Pn	07 46 36.6	-0.3
VOIR		5.33	8	⇓iP	Pn	07 46 37.8	+0.5
VOIR		5.33	8	⇓iP	Pn	07 46 37.8	+0.5
TIRR	Tirgusor	5.38	36	⇑iP	Pn	07 46 37.8	-0.1
TIRR	Tirgusor	5.38	36	S	Sg	07 48 09.6	-0.7
TIRR	Tirgusor	5.38	36	⇑iP	Pn	07 46 37.8	-0.1
MLR	Muntele Rosu	5.51	14	Pn	Pn	07 46 41.0	+1.1
	comp=E,0.4nm,0.3s,baz=349,slow=12,SNR=4.9						
MLR	Muntele Rosu	5.51	14	⇓iP	Pn	07 46 41.2	+1.3
MLR	Muntele Rosu	5.51	14	⇓iP	Pn	07 46 41.2	+1.3
TEKS	Tekeris	5.52	324	ePn	Pn	07 46 40.1	+0.2
TEKS	Tekeris	5.52	324	ePn	Pn	07 46 40.1	+0.2
MATE	Matera	5.63	277	⇓iP	Pn	07 46 42.0	+0.7
MATE	Matera	5.63	277	⇓iP	Pn	07 46 42.0	+0.7
MATE				S	Sn	07 47 43.9	-2.1
BZS	Buzias	5.74	343	⇑iP	Pn	07 46 42.2	-0.7
BZS	Buzias	5.74	343	⇑iP	Pn	07 46 42.2	-0.7
DOPR	Dopca	5.89	9	⇑iP	Pn	07 46 45.8	+0.8
DOPR	Dopca	5.89	9	⇑iP	Pn	07 46 45.8	+0.8
FGSL	Fruska Gora	5.89	329	ePn	Pn	07 46 44.9	-0.1
FRGS	Fruska Gora	5.89	329	ePn	Pn	07 46 44.9	-0.1
PLOR	Plostina	6.00	18	⇓iP	Pn	07 46 47.3	+0.7
PLOR	Plostina	6.00	18	⇓iP	Pn	07 46 47.3	+0.7
VRI	Vrincioaia	6.04	18	⇓iP	Pn	07 46 47.6	+0.6
VRI	Vrincioaia	6.04	18	⇓iP	Pn	07 46 47.6	+0.6
DRGR		6.70	352	⇑iP	Pn	07 46 55.8	-0.4
DRGR		6.70	352	⇑iP	Pn	07 46 55.8	-0.4
BRTR	Keskin Array B	7.38	90	Pn	Pn	07 47 05.5	-0.1
	comp=E,0.2nm,0.3s,baz=264,slow=10,SNR=6.7						
BURAR	Bucovina Array	7.50	6	⇓iP	Pn	07 47 08.0	+0.8
BURAR	Bucovina Array	7.50	6	⇓iP	Pn	07 47 08.0	+0.8
VISS	Visnje	8.79	313	i Pn	Pn	07 47 26.7	+1.9
VISS	Visnje	8.79	313	i Pn	Pn	07 47 26.7	+1.9
PERS	Pernice	9.17	318	i Pn	Pn	07 47 31.4	+1.3
PERS	Pernice	9.17	318	i Pn	Pn	07 47 31.4	+1.3
JAVS	Javornik	9.29	311	i Pn	Pn	07 47 33.0	+1.3
JAVS	Javornik	9.29	311	i Pn	Pn	07 47 33.0	+1.3
VRAC	Vranov	10.57	332	LR	LR	07 52 54.9	
	comp=E,127nm,18.5s,baz=168,slow=43						
AKASG	Malin Array Be	11.15	17	Pn	Pn	07 47 55.0	-2.0
	comp=E,0.5nm,0.3s,baz=201,slow=11,SNR=3.0						
GERES	GERESS Array B	11.39	323	Pn	Pn	07 48 02.7	+2.3
	comp=E,0.1nm,0.3s,baz=138,slow=12,SNR=3.4						
ESDC	Sonseca Array	21.46	278	P	P	07 50 05.7	-0.5
	comp=E,0.9nm,0.8s,baz=72,slow=11,SNR=4.9						
NOA	NORSAR Array B	22.36	343	P	P	07 50 16.0	+0.4
	comp=E,1.4nm,0.9s,baz=155,slow=11,SNR=3.0						
NOA				LR	LR	07 59 56.6	
	comp=E,48nm,19.6s,baz=10.0,slow=39						
EKA	Eskdalemuir Ar	23.56	319	P	P	07 50 27.4	-0.7
	comp=E,1.0nm,0.7s,baz=116,slow=9.7,SNR=3.5						
TORD	Torodi Ar. Bea	33.31	222	P	P	07 51 56.1	+0.3
	comp=E,0.7nm,0.6s,baz=34,slow=8.5,SNR=5.7						
MKAR	Makanchi Array	41.94	61	P	P	07 53 09.8	+1.4
	comp=E,0.3nm,0.5s,baz=272,slow=7.4,SNR=5.6						
ZALV	Zalesovo Beam	42.33	50	P	P	07 53 13.5	+2.0
	comp=E,0.6nm,0.7s,baz=270,slow=8.6,SNR=2.6						

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*MOS **04** 08:21:06.3±2.3, 51°.67N×96°.21E, h1km, mb4.2/1, Error ellipse: s-maj=54.4km s-min=21.3km az=167.8*
*IDC **04** 08:21:07.1±1.6, 51°.11N×96°.20E, h0km, mb1 2.9/2, mb1mx2.6/69, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=43.9km s-min=13.4km az=174.0*
ISC 04 08:21:06.6±1.4, **51°.8N**±0°.1×**96°.05E**±0°.10, **h10**km, **n12**, σ1s.**19**/11, **Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORL	Orlik	2.43	71	ePN	Pb	08 21 49.2	-1.2
ORL				e		08 22 21.5	
ORL				pmax	pmax		
	comp=Z,39nm,0.4s						
ORL				smax	smax		
	comp=N,218nm,0.9s						
MOY	Mondy	3.08	91	ePN	Pb	08 22 00.2	-1.2
MOY				e		08 22 39.9	
MOY				pmax	pmax		
	comp=Z,52nm,0.6s						
MOY				smax	smax		
	comp=N,294nm,1.0s						
ARS	Arshan	3.95	86	ePN	Pb	08 22 15.8	-0.5
ARS				e		08 23 07.8	
ARS				pmax	pmax		
	comp=Z,27nm,0.2s						
ARS				smax	smax		
	comp=E,371nm,0.8s						
TLY	Talaya	4.72	88	Pg	Pb	08 22 29.3	-0.1
	comp=E,0.0nm,0.3s,baz=286,slow=16,SNR=3.9						
TLY				Lg	Lg	08 23 31.4	
	comp=E,0.1nm,0.3s,baz=117,slow=4.5,SNR=8.8						
TLY	Talaya	4.72	88	ePN	Pb	08 22 30.0	+0.6
TLY				e		08 23 27.2	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TLY				smax	smax		
	comp=N,49nm,0.8s						
ZAK	Zakamensk	4.77	104	ePN	Pb	08 22 28.0	-2.3
ZAK				e		08 23 31.5	
ZAK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ZAK				smax	smax		
	comp=N,92nm,1.1s						
IRK	Irkutsk	5.10	82	ePN	Pb	08 22 36.3	+0.5
IRK				e		08 23 39.3	
IRK				pmax	pmax		
	comp=Z,92nm,0.1s						
IRK				smax	smax		
	comp=N,199nm,0.4s						
TRG	Tyrgan	6.39	77	ePN	Pn	08 22 41.1	+0.3
TRG				e		08 23 00.5	
TRG				e		08 24 21.1	
TRG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
TRG				smax	smax		
	comp=N,55nm,1.1s						
ZALV	Zalesovo Beam	7.13	292	Pn	Pn	08 22 58.2	+7.4
	comp=N,0.2nm,0.3s,baz=91,slow=13,SNR=2.8						
ZALV				Lg	Lg	08 24 47.2	
	comp=N,0.9nm,0.3s,baz=118,slow=23,SNR=6.0						
OGRR	Ongureny	7.25	71	eP	Pn	08 22 53.5	+1.0
OGRR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM	Songino Array	7.78	117	Pg	Pb	08 23 22.4	+1.0
	comp=Z,0.3nm,0.3s,baz=301,slow=17,SNR=8.9						
SONM				Lg	Lg	08 25 03.5	
	comp=Z,1.2nm,0.3s,baz=300,slow=28,SNR=13						
MKAR	Makanchi Array	10.28	246	Pn	Pn	08 23 33.9	-0.2
	comp=Z,0.1nm,0.3s,baz=67,slow=13,SNR=3.5						
MKAR				Lg	Lg	08 26 27.0	
	comp=Z,0.1nm,0.3s,baz=62,slow=28,SNR=3.3						

IDC 04 08:30:24.3±5.3, **48°.49N**×**78°.27E**, **h0**km, **mb1 1.9**/1, **mb1mx1.9**/63, **mbtmp1.9**/1, **ML1.9**/1, **4C**, **Error ellipse: s-maj=72.4km s-min=43.1km az=31.0**, **Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	2.24	6	⇑Pn	Pn	08 30 56.2	-6.5
	2.3nm,0.4s						
KURK				⇑Sn	Sn	08 31 24.2	-6.8
	4.6nm,0.6s						
MK31	Makanchi Array	3.20	120	⇑Pg	Pn	08 31 16.1	+0.1
	0.1nm,0.3s,baz=296,slow=16,SNR=7.6						
MK31				⇑Lg	Lg	08 32 05.5	
	1.7nm,0.6s,baz=305,slow=26,SNR=4.9						
MKAR	Makanchi Array	3.20	120	Pn	Pn	08 31 16.5	+0.6
	0.1nm,0.3s,baz=300,slow=13,SNR=4.6						
MKAR				Lg	Lg	08 32 06.5	
	0.2nm,0.3s,baz=304,slow=29,SNR=5.9						
I46RU	ZALESOVO INFRA	6.84	34	i		09 12 40.0	
	baz=219,slow=338,SNR=4.6						
I34MN	SONGINO INFRAS	18.75	81	i		10 23 50.0	
	baz=280,slow=342,SNR=0.4						

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*IDC **04** 08:40:43.9±1.1, 25°.54N×126°.99E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/57, mbtmp3.4/5, Error ellipse: s-maj=51.9km s-min=21.8km az=70.0*
*ISCJB **04** 08:40:45.8±0.8, 25°.40N±0°.05×127°.19E±0°.09, h19km, mb3.5/5, Error ellipse: s-maj=11.5km s-min=7.2km az=1.8*
*JMA **04** 08:40:48.9±0.4, 25°.52N×127°.24E, h34km±4km, M2.8*
ISC 04 08:40:46.8±1.0, **25°.47N**±0°.07×**127°.14E**±0°.09, **h19**km, **n11**, σ1s.**03**/14, **mb3.5**/5, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.86	39	P	Pb	08 41 03.4	+0.3
JKE	Kume jima 2	0.91	339	P	Pn	08 41 05.4	+0.8
JKE				eS	Sg	08 41 17.6	+1.0
JAGN	Aguni-jima	1.12	5	P	Pn	08 41 08.0	+0.6
JAGN				eS	Sb	08 41 21.5	-0.1
JNTH	Nagotoyohara	1.31	37	P	Pn	08 41 10.3	+0.3
JNTH				S	Sn	08 41 25.6	-1.4
JOW	Kunigami	1.69	37	P	Pn	08 41 15.9	+0.5
JIH	Iheya	1.72	25	P	Pn	08 41 17.2	+1.4
MKAR	Makanchi Array	41.32	313	P	P	08 48 30.0	-1.2
	0.5nm,0.5s,baz=99,slow=10.0,SNR=7.9						
WRA	Warramunga Arr	45.68	171	P	P	08 49 06.5	-0.1
	0.4nm,0.8s,baz=350,slow=8.5,SNR=4.1						
ASAR	Alice Springs	49.28	172	P	P	08 49 36.0	+1.4
	0.5nm,0.9s,baz=355,slow=6.4,SNR=3.4						
BVAR	Borovoye Array	50.19	319	P	P	08 49 40.0	-1.2
	0.3nm,0.4s,baz=90,slow=4.5,SNR=3.6						
YKA	Yellowknife Ar	79.62	25	P	P	08 52 52.9	+0.4
	0.2nm,0.5s,baz=301,slow=5.4,SNR=8.6						

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*IDC **04** 08:50:15.7±1.6, 2°.09N×127°.54E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/49, mbtmp3.9/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/54, Error ellipse: s-maj=157.6km s-min=18.8km az=66.0*
*DJA **04** 08:50:22.9±1.1, 2°N±6°×12°7E±°, h74km±15km, M4.1/8, mB4.6/2, mb4.1/3, MLv4.1/8, Mw(mB)3.9/2*
*ISCJB **04** 08:50:27.6±1.0, 1°.75N±0°.07×126°.9E±0°.1, h112km, mb3.7/5, Error ellipse: s-maj=15.9km s-min=8.3km az=152.2*
ISC 04 08:50:29.2±1.2, **1°.7N**±0°.1×**127°.0E**±0°.1, **h112**km, **n13**, σ1s.**26**/13, **mb3.9**/5, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBMI	Labuha	2.40	167	P	Pn	08 51 05.4	-2.1
LBMI				S	Sn	08 51 37.6	+0.7
SGSI	Sangihe	2.42	324	P	Pn	08 50 57.3	-11
SGSI				S	Sn	08 51 27.5	-10
KMSI	Cibinong	3.20	249	P	Pn	08 51 15.2	-2.8
SANI	Sanana	3.87	195	P	Pn	08 51 27.4	+0.4
NLAI	Namlea	4.93	179	P	Pn	08 51 40.8	-0.4
NLAI				S	Sn	08 52 37.1	-0.1
MRSI	Marisa	5.18	256	P	Pn	08 51 43.9	-0.7
APSI	Ampana	5.93	244	P	Pn	08 51 55.5	+0.8
WRA	Warramunga Arr	22.71	162	P	P	08 55 20.9	-0.9
	3.8nm,0.5s,baz=342,slow=10.0,SNR=48						
ASAR	Alice Springs	26.12	165	P	P	08 55 53.1	+0.2
	0.6nm,0.6s,baz=349,slow=7.3,SNR=18						
STKA	Stephens Creek	36.18	159	P	P	08 57 21.6	+0.5
	1.5nm,0.6s,baz=330,slow=9.0,SNR=5.1						
MKAR	Makanchi Array	59.34	326	P	P	09 00 19.7	+0.1
	0.4nm,0.4s,baz=117,slow=6.4,SNR=9.7						
YAK	Yakutsk	60.20	1	LR	LR	09 30 12.4	
	comp=Z,11nm,19.2s,baz=270,slow=40						
BVAR	Borovoye Array	69.13	327	P	P	09 01 24.1	+0.8
	0.5nm,0.7s,baz=119,slow=8.9,SNR=4.2						

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*IDC **04** 09:00:20.1±2.5, 5°.29S×102°.68E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/60, mbtmp3.8/8, Error ellipse: s-maj=117.6km s-min=17.1km az=54.0*
*ISCJB **04** 09:00:22.6±0.8, 5°.55S±0°.07×102°.61E±0°.06, h34km, mb3.8/8, Error ellipse: s-maj=11.2km s-min=6.3km az=36.0*
*DJA **04** 09:00:26.9±1.4, 5°S±7°×10°3E±°, h26km±11km, M3.8/4, MLv3.8/4*
ISC 04 09:00:25.1±1.0, **5°.44S**±0°.09×**102°.71E**±0°.08, **h34**km, **n20**, σ1s.**23**/20, **mb3.8**/8, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.10	13	P	Pn	09 00 43.5	-0.7
LWLI	Liwa	1.41	73	P	Pn	09 00 48.2	-0.3
LWLI				S	Sn	09 01 05.2	-0.8
MDSI	Maura Dua	1.75	57	P	Pn	09 00 52.7	-0.3
KASI	Kota Agung	1.78	93	P	Pn	09 00 54.9	+1.4
KASI				S	Sn	09 01 16.0	+1.0
KLI	Kotabumi	2.21	75	P	Pb	09 01 05.9	+1.3
MASI	Maura Aman, Be	2.33	348	P	Pn	09 01 03.0	+1.8
MASI				S	Sn	09 01 30.9	+2.2
CGJI	Cibinong	3.19	112	S	Sn	09 01 49.2	-0.6
PMBI	Palembang	3.24	40	P	Pn	09 01 14.8	+1.2
CMAR	Chiang Mai Arr	24.04	351	P	P	09 05 35.6	-1.6
	1.1nm,0.3s,baz=177,slow=9.8,SNR=7.1						
H08S2	Diego Garcia H	30.09	264	T	T	09 37 45.7	
	baz=88,slow=76,SNR=8.1						
H08S3	Diego Garcia H	30.10	264	T	T	09 37 46.5	
	baz=88,slow=76,SNR=9.8						
H08S1	Diego Carcia H	30.11	264	T	T	09 37 47.3	
	baz=88,slow=76,SNR=10						
WRA	Warramunga Arr	33.96	118	P	P	09 07 05.9	+0.2
	0.3nm,0.4s,baz=305,slow=9.0,SNR=9.0						
ASAR	Alice Springs	35.07	124	P	P	09 07 16.4	+1.1
	0.2nm,0.4s,baz=298,slow=8.2,SNR=8.2						
STKA	Stephens Creek	44.86	131	P	P	09 08 37.2	+0.7
	1.1nm,0.7s,baz=324,slow=6.2,SNR=4.6						
SONM	Songino Array	53.15	3	P	P	09 09 38.4	-1.4
	0.4nm,0.6s,baz=180,slow=8.3,SNR=3.9						
MKAR	Makanchi Array	55.07	343	P	P	09 09 53.0	-0.7
	1.1nm,0.5s,baz=144,slow=8.4,SNR=14						
ZALV	Zalesovo Beam	61.05	348	P	P	09 10 34.2	-1.2
	1.8nm,0.4s,baz=162,slow=5.3,SNR=11						
BVAR	Borovoye Array	64.33	339	P	P	09 10 56.1	-1.2
	0.4nm,0.5s,baz=151,slow=9.9,SNR=3.2						
TXAR	Lajitas Array	145.56	43	PKPbc	PKPab	09 20 01.3	+0.1
	0.7nm,0.6s,baz=298,slow=0.7,SNR=12						

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*ISCJB **04** 09:07:16.6±0.6, 44°.14N±0°.04×12°.34E±0°.04, h25km±5km, Error ellipse: s-maj=6.5km s-min=4.8km az=150.9*
*CSEM **04** 09:07:16.7±0.2, 44°.11N×12°.34E, h20km, ML2.6/11, Error ellipse: s-maj=3.6km s-min=2.7km az=165.0*
*ROM **04** 09:07:16.1±0.2, 44°.13N×12°.35E, h26km±2km, Md2.5/24, Ml2.0/19, Error ellipse: s-maj=2.1km s-min=1.9km az=36.0*
ISC 04 09:07:16.7±1.0, **44°.12N**±0°.03×**12°.35E**±0°.03, **h25**km±6km, **n52**, σ0s.**67**/78, **Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLLA	Bellaria	0.09	74	Pg	Pb	09 07 20.7	-0.5
BLLA				Sg	Sb	09 07 24.3	0.0
	524nm,0.3s						
BLLA	Bellaria	0.09	74	Pg	Pb	09 07 20.7	-0.5
BLLA				Sg	Sb	09 07 24.3	0.0
	524nm,0.3s						
CPGN	Carpegna, Ital	0.32	183	Pg	Pb	09 07 23.9	-0.2
CPGN				Sg	Sb	09 07 29.9	+0.8
	11μm,8.1s						
CPGN	Carpegna, Ital	0.32	183	Pg	Pb	09 07 23.9	-0.2
CPGN				Sg	Sb	09 07 29.9	+0.8
	11μm,8.1s						
PESA	Pesaro	0.40	116	Pg	Pb	09 07 24.9	-0.3
PESA				Sg	Sn	09 07 32.2	-1.4
	167nm,0.4s						
PESA	Pesaro	0.40	116	Pg	Pb	09 07 24.9	-0.3
PESA				Sg	Sn	09 07 32.2	-1.4
	167nm,0.4s						
SFI	Santa Sofia	0.42	240	Pg	Pb	09 07 25.2	-0.4
SFI				Sg	Sb	09 07 32.6	+1.0
	108nm,0.3s						
SFI	Santa Sofia	0.42	240	Pg	Pb	09 07 25.2	-0.4
SFI				Sg	Sb	09 07 32.6	+1.0
	108nm,0.3s						
PARC	Parchiule	0.47	189	Pg	Pb	09 07 25.8	-0.7
PARC				Sg	Sb	09 07 33.2	0.0
	56nm,0.3s						
PARC	Parchiule	0.47	189	Pg	Pb	09 07 25.8	-0.7
PARC				Sg	Sb	09 07 33.2	0.0
	56nm,0.3s						
FSSB	Fossombrone	0.53	144	Pg	Pb	09 07 26.3	-1.1
FSSB	Fossombrone	0.53	144	Pg	Pb	09 07 26.3	-1.1
MPAG	Monte Paganucc	0.57	148	Pg	Pb	09 07 28.4	+0.2
MPAG				Sg	Sb	09 07 36.0	0.0
	57nm,0.4s						
MPAG	Monte Paganucc	0.57	148	Pg	Pb	09 07 28.4	+0.2
MPAG				Sg	Sb	09 07 36.0	0.0
	57nm,0.4s						
CRE	Caprese Michel	0.57	210	Pg	Pb	09 07 27.6	-0.6
CRE				Sg	Sn	09 07 37.2	-0.9
	119nm,0.5s						
CRE	Caprese Michel	0.57	210	Pg	Pb	09 07 27.6	-0.6
CRE				Sg	Sn	09 07 37.2	-0.9
	119nm,0.5s						
PIEI	Pieia	0.60	167	Pg	Pb	09 07 27.8	-0.8
PIEI				Sg	Sb	09 07 37.3	+0.7
	66nm,0.3s						
PIEI	Pieia	0.60	167	Pg	Pb	09 07 27.8	-0.8
PIEI				Sg	Sb	09 07 37.3	+0.7
	66nm,0.3s						
VMG	Vicchio	0.60	255	Pg	Pb	09 07 28.6	0.0
VMG	Vicchio	0.60	255	Pg	Pb	09 07 28.6	0.0
BADI	Badiali	0.61	187	Pg	Pb	09 07 28.0	-0.8
BADI				Sg	Sb	09 07 37.6	+0.6
	52nm,0.5s						
BADI	Badiali	0.61	187	Pg	Pb	09 07 28.0	-0.8
BADI				Sg	Sb	09 07 37.6	+0.6
	52nm,0.5s						
ATPC	Poggio Castell	0.64	173	Pg	Pb	09 07 28.9	-0.4
ATPC				Sg	Sn	09 07 39.0	-0.7
	67nm,0.5s						
ATPC	Poggio Castell	0.64	173	Pg	Pb	09 07 28.9	-0.4
ATPC				Sg	Sn	09 07 39.0	-0.7
	67nm,0.5s						
FRON	Frontone	0.66	155	Pg	Pb	09 07 29.3	-0.3
	55nm,0.7s						
FRON	Frontone	0.66	155	Pg	Pb	09 07 29.3	-0.3
	55nm,0.7s						
ATMC	Monte Cedrone	0.68	189	Pg	Pb	09 07 29.3	-0.7
	72nm,0.6s						
ATMC	Monte Cedrone	0.68	189	Pg	Pb	09 07 29.3	-0.7
	72nm,0.6s						
SEI	Scarperia	0.72	265	Pg	Pn	09 07 31.1	-0.2
SEI	Scarperia	0.72	265	Pg	Pn	09 07 31.1	-0.2
ATVO	AVT- Monte Val	0.74	177	Pg	Pb	09 07 30.5	-0.4
ATVO				Sg	Sn	09 07 41.7	-0.3
	44nm,0.4s						
ATVO	AVT- Monte Val	0.74	177	Pg	Pb	09 07 30.5	-0.4
ATVO				Sg	Sn	09 07 41.7	-0.3
	44nm,0.4s						
ARVD	Arcevia	0.76	145	Pg	Pb	09 07 31.2	0.0
	34nm,0.6s						
ARVD	Arcevia	0.76	145	Pg	Pb	09 07 31.2	0.0
	34nm,0.6s						
CAFI	Castiglion Fio	0.83	199	Pg	Pb	09 07 32.2	-0.4
CAFI	Castiglion Fio	0.83	199	Pg	Pb	09 07 32.2	-0.4
MURB	Monte Urbino	0.86	171	Pg	Pb	09 07 32.9	-0.2
	85nm,0.3s						
MURB	Monte Urbino	0.86	171	Pg	Pb	09 07 32.9	-0.2
	85nm,0.3s						
ATTE	AVT- Monte Tez	0.92	180	Pg	Pb	09 07 33.9	-0.1
	34nm,0.5s						
ATTE	AVT- Monte Tez	0.92	180	Pg	Pb	09 07 33.9	-0.1
	34nm,0.5s						
ATCC	AVT- Casa Cast	0.96	167	Pg	Pb	09 07 34.4	-0.2
	56nm,0.5s						
ATCC	AVT- Casa Cast	0.96	167	Pg	Pb	09 07 34.4	-0.2
	56nm,0.5s						
CING	Cingoli	0.96	140	Pg	Pn	09 07 35.6	+0.9
	24nm,0.6s						
CING	Cingoli	0.96	140	Pg	Pn	09 07 35.6	+0.9
	24nm,0.6s						
SNTG	Esanatoglia	0.96	153	Pg	Pn	09 07 35.3	+0.6
	31nm,0.4s						
SNTG	Esanatoglia	0.96	153	Pg	Pn	09 07 35.3	+0.6
	31nm,0.4s						
FDMO	Fiordimonte	1.21	153	Pg	Pn	09 07 38.1	+0.1
	26nm,0.8s						
FDMO	Fiordimonte	1.21	153	Pg	Pn	09 07 38.1	+0.1
	26nm,0.8s						
NVLJ	Novalja	1.87	75	ePn	Pn	09 07 47.6	+0.6
NVLJ				Sn	Sn	09 08 10.4	+0.6
NVLJ	Novalja	1.87	75	ePn	Pn	09 07 47.6	+0.6
NVLJ				Sn	Sn	09 08 10.4	+0.6
UDBI	Udbina	2.49	79	ePn	Pb	09 07 59.1	-1.6
UDBI				Sn	Sn	09 08 26.6	+1.3
UDBI	Udbina	2.49	79	ePn	Pb	09 07 59.1	-1.6
UDBI				Sn	Sn	09 08 26.5	+1.3

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*IDC **04** 09:08:56.5±2.2, 37°.19N×144°.79E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.2/68, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=58.6km s-min=32.7km az=75.0*
*ISCJB **04** 09:08:59.4±1.0, 37°.19N±0°.06×144°.52E±0°.08, h26km, mb3.7/2, Error ellipse: s-maj=9.2km s-min=8.8km az=8.9*
*JMA **04** 09:09:03.2±0.3, 37°.22N×144°.36E, h58km, M3.2*
ISC 04 09:09:00.5±1.5, **37°.20N**±0°.08×**144°.56E**±0°.10, **h26**km, **n13**, σ1s.**31**/18, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.83	297	P	Pn	09 09 45.2	+1.1
JFK	Kawauchi	2.94	274	P	Pn	09 09 46.5	+0.8
JFK				eS	Sn	09 10 18.8	-1.4
OFUJ	Ofunato	2.95	310	P	Pn	09 09 46.6	+0.9
OFUJ				eS	Sn	09 10 19.1	-1.2
ONAJ	Iwakimizuishiy	3.01	269	P	Pn	09 09 47.3	+0.8
ONAJ				eS	Sn	09 10 20.5	-1.3
JFT	Otama	3.38	277	P	Pn	09 09 53.6	+2.0
JOM	Ohasama	3.43	312	P	Pn	09 09 53.9	+1.6
JOM				eS	Sn	09 10 31.6	-0.5
JRY	Ryogami san	4.70	257	P	Pn	09 10 10.7	+0.9
JRY				eS	Sn	09 11 01.3	-2.3
JOT	Ohata	4.99	328	P	Pn	09 10 15.6	+1.9
MJAR	Matsushiro Arr	5.13	265	Pn	Pn	09 10 16.6	+0.9
	0.9nm,0.3s,baz=81,slow=8.8,SNR=8.5						
JCH	Churui	5.49	351	P	Pn	09 10 20.5	0.0
ASAJ	Asahikawa	7.07	348	Pn	Pn	09 10 41.9	-0.3
	0.4nm,0.3s,baz=242,slow=15,SNR=4.0						
WRA	Warramunga Arr	57.65	191	P	P	09 18 49.0	+0.5
	0.5nm,0.5s,baz=9.3,slow=7.1,SNR=8.9						
ASAR	Alice Springs	61.37	191	P	P	09 19 13.9	-0.3
	0.4nm,0.8s,baz=9.6,slow=7.3,SNR=5.3						

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*SJA **04** 09:10:17.7±0.6, 34°.72S×72°.25W, h6km±5km, ML2.9, MW3.2*
*GUC **04** 09:10:22.3±0.5, 34°.95S×71°.86W, h59km±4km, ML3.5*
*ISCJB **04** 09:10:24.2±1.1, 34°.71S±0°.06×72°.0W±0°.2, h29km±8km, Error ellipse: s-maj=22.4km s-min=6.9km az=22.2*
ISC 04 09:10:23.4±1.4, **34°.69S**±0°.06×**71°.9W**±0°.1, **h17**km±10km, **n14**, σ1s.**64**/23, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO05	HualaæØ	0.32	186	eP	Pg	09 10 31.3	+1.0
GO05				eS	Sb	09 10 37.4	+1.7
ANTU	Antumapu	1.53	43	eP	Pn	09 10 49.7	-0.2
ANTU				eS	Sg	09 11 10.6	-2.0
ANTU				IAML		09 11 12.6	
	comp=E,797nm,0.3s						
LMEL	Las Melosas	1.63	59	eP	Pn	09 10 50.5	-1.0
LMEL				eS	Sb	09 11 12.4	-1.0
LMEL				IAML		09 11 15.6	
	comp=N,812nm,0.1s						
CLCH	Cerro Calan	1.71	41	eP	Pn	09 10 52.6	+0.1
CLCH				eS	Sb	09 11 15.5	-0.1
CLCH				IAML		09 11 20.9	
	comp=N,618nm,0.3s						
ROC1	El Roble	1.86	23	i P	Pn	09 10 55.0	+0.4
ROC1				i S	Sg	09 11 22.2	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROCH	El Roble	1.86	23	eP	Pn	09 10 55.3	+0.6
ROCH				eS	Sg	09 11 22.6	-0.8
ROCH				IAML		09 11 27.1	
	comp=N,349nm,0.2s						
FCH	Farellones	1.90	45	eP	Pn	09 10 55.4	+0.1
FCH				eS	Sb	09 11 20.8	-0.5
FCH				IAML		09 11 23.3	
	comp=N,655nm,0.2s						
CCHI	Chillan	1.92	185	iP	Pn	09 10 52.6	-2.6
CCHI	Chillan	1.92	185	eP	Pn	09 10 54.2	-1.1
CCHI				eS	Sn	09 11 19.5	+0.5
AAGR	Agrelo	3.00	59	iP	Pn	09 11 12.9	+2.5
ARCO	CERRO ARCO	3.08	54	iP	Pn	09 11 13.6	+2.2
ARCO				IAML		09 11 31.7	
	comp=Z,22nm,0.6s						
AUSP	Uspallata	3.23	41	iP	Pn	09 11 15.5	+2.0
ASAL	Salagasta	3.29	51	iP	Pn	09 11 16.4	+2.1
RTLS	Leoncito	3.61	38	iP	Pn	09 11 20.4	+1.6
RTLS				iS	Sb	09 12 07.6	-2.9
RTLS				IAML		09 12 23.8	
	comp=Z,20nm,0.5s						

*NIED **04** 09:20:00, 36°.30N×141°.70E, h11^{km}, Mw3.9 Best double couple: $M_0$8.20000×10^{14} NP1:ϕ_s167.00000°, δ17.00000°, λ51.00000°. NP2:ϕ_s28.00000°, δ77.00000°, λ101.00000°.*
*IDC **04** 09:20:40.3±0.9, 36°.22N×141°.90E, h0^{km}, mb3.8/12, mb1 3.9/17, mb1mx3.7/70, mbtmp3.8/17, ML3.6/4, MS2.9/2, Ms1 2.9/2, ms1mx2.5/64, Error ellipse: s-maj=22.0km s-min=16.7km az=94.0*
*MOS **04** 09:20:43.2±1.2, 36°.34N×141°.94E, h33^{km}, mb4.4/9, Error ellipse: s-maj=11.3km s-min=7.7km az=100.9*
*ISCJB **04** 09:20:43.5±0.4, 36°.29N±0°.04×141°.95E±0°.05, h39^{km}, mb4.2/22, Error ellipse: s-maj=5.9km s-min=5.0km az=39.4*
*NEIC **04** 09:20:45.0±0.3, 36°.19N×141°.93E, h35^{km}, mb4.6/10, Error ellipse: s-maj=7.0km s-min=4.9km az=87.0*
*JMA **04** 09:20:44.9±0.2, 36°.30N×141°.71E, h39^{km}±5^{km}, M3.7*
ISC 04 09:20:45.0±0.5**, 36°.24N**±0°.05×**141°.98E**±0°.07**, h39^{km}, n83, σ1s.54**/83**, mb4.1**/22**, 1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.06	240	P	Pn	09 21 01.4	-1.9
JHO	Hitachi	1.20	289	P	Pn	09 21 02.3	-3.0
ONAJ	Iwakimizuishiy	1.29	312	P	Pn	09 21 03.8	-2.7
JFK	Kawauchi	1.44	322	P	Pn	09 21 06.2	-2.4
JFT	Otama	1.84	315	P	Pn	09 21 12.8	-1.3
BSO3	Boso 3	1.87	220	P	Pn	09 21 13.6	-0.6
JMM	Marumori	1.89	330	P	Pn	09 21 13.1	-1.6
JAG	Ashikaga	2.05	276	P	Pn	09 21 14.8	-2.2
JFY	Yanaizu	2.17	303	P	Pn	09 21 17.6	-1.0
JKT	Katashina	2.27	284	P	Pn	09 21 18.5	-1.5
JIO	Ouri	2.27	347	P	Pn	09 21 18.6	-1.4
MJAR	Matsushiro Arr	3.06	277	Pn	Pn	09 21 29.7	-1.1
	15nm,0.3s,baz=117,slow=8.6,SNR=122						
MJAR				Sn	Sn	09 22 07.0	+0.8
	6.9nm,0.3s,baz=81,slow=24,SNR=6.9						
MJAR				LR	LR	09 22 43.5	
	comp=Z,164nm,19.9s,baz=110,slow=42						
MAJO	Matsushiro	3.06	277	ePn	Pn	09 21 30.1	-0.8
MAJO	Matsushiro	3.06	277	eP	Pn	09 21 30.1	-0.8
MAT	Matsushiro	3.06	277	P	Pn	09 21 29.0	-1.9
MAT				S	Sn	09 22 06.9	+0.6
MJB9	Matsu-Tunnel	3.07	277	ePn	Pn	09 21 30.4	-0.5
JHJ2	Mitsune	3.59	210	ePn	Pn	09 21 38.1	-0.1
JHJ	Hachijo jima 2	3.60	211	Pn	Pn	09 21 37.6	-0.7
	31nm,0.3s,baz=68,slow=23,SNR=6.3						
JHJ				Sn	Sn	09 22 15.8	-3.7
	62nm,0.3s,baz=75,slow=21,SNR=7.1						
INU	Inuyama	4.13	259	ePn	Pn	09 21 45.3	-0.3
ERM	Erimo	5.84	9	ePn	Pn	09 22 08.7	-0.3
ERM	Erimo	5.84	9	eP	Pn	09 22 08.7	-0.3
ASAJ	Asahikawa	7.88	3	Pn	Pn	09 22 36.1	-0.9
	0.7nm,0.3s,baz=213,slow=9.3,SNR=12						
ASAJ				Sn	Sn	09 24 02.9	-2.0
	0.6nm,0.3s,baz=84,slow=19,SNR=3.3						
ASAJ	Asahikawa	7.88	3	ePn	Pn	09 22 35.6	-1.4
ASAJ				eSn	Sn	09 24 02.9	-2.0
YUK	Yuzh-Kuril'sk	8.33	20	eP	Pn	09 22 42.2	-1.0
YUK				eS	Sn	09 24 09.1	-6.8
YUK				pmax	pmax		
	comp=Z,21nm,0.3s						
SHO	Shikotan	8.48	24	⇓iP	Pn	09 22 42.8	-2.4
SHO				eS	Sn	09 24 10.4	-9.1
SHO				pmax	pmax		
	comp=Z,25nm,0.8s						
CBIJ	Chichi jima	9.12	179	eSn	Sn	09 24 31.6	-3.7
JCJ	Chichijima	9.12	179	Sn	Sn	09 24 31.6	-3.7
	comp=Z,5.5nm,0.3s,baz=297,slow=21,SNR=4.3						
YSS	Yuzh-Sakhalins	10.72	3	eP	Pn	09 23 15.0	-0.9
USRK	Ussuriysk Ar.	11.02	319	Pn	Pn	09 23 20.4	+0.4
	comp=Z,0.1nm,0.3s,baz=250,slow=10,SNR=2.6						
KSRS	Korea Array	11.33	280	Pn	Pn	09 23 24.5	+0.3
	comp=Z,0.1nm,0.3s,baz=95,slow=14,SNR=3.0						
KSRS				LR	LR	09 27 03.1	
	comp=Z,71nm,18.8s,baz=62,slow=34						
KSAR	Wonju Array Be	11.37	280	Pn	Pn	09 23 24.5	-0.2
KSAR	Wonju Array Be	11.37	280	P	Pn	09 23 24.5	-0.2
KLR	Kul'dur	14.98	333	Pn	Pn	09 24 12.4	-1.5
	comp=Z,0.0nm,0.3s,baz=152,slow=17,SNR=3.9						
YAK	Yakutsk	26.95	347	eP	P	09 26 22.2	-0.2
	comp=Z,14nm,0.5s						
YAK	Yakutsk	26.95	347	eP	P	09 26 22.2	-0.2
YAK				pmax	pmax		
	comp=Z,14nm,0.5s						
H11N2	WAKE ISLAND Hy	27.35	120	T	T	09 55 14.3	
	baz=312,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	27.36	120	T	T	09 55 18.5	
	baz=312,slow=75,SNR=10						
H11N3	WAKE ISLAND Hy	27.37	120	T	T	09 55 16.4	
	baz=312,slow=75,SNR=14						
SEY	Seymchan	27.49	10	P	P	09 26 29.3	+2.0
	comp=Z,2.1nm,0.4s,baz=217,slow=20,SNR=2.6						
H11S1	WAKE ISLAND Hy	28.04	122	T	T	09 56 42.8	
	baz=314,slow=75,SNR=9.9						
H11S3	WAKE ISLAND Hy	28.04	122	T	T	09 56 11.7	
	baz=314,slow=75,SNR=12						
H11S2	WAKE ISLAND Hy	28.06	122	T	T	09 56 12.1	
	baz=314,slow=75,SNR=7.3						
SONA1	Songino Array	28.61	305	eP	P	09 26 37.6	0.0
SONA0	Songino Array	28.61	305	eP	P	09 26 37.5	-0.1
SONM	Songino Array	28.61	305	P	P	09 26 37.5	-0.1
	comp=Z,2.2nm,0.8s,baz=104,slow=9.1,SNR=10						
ZAA1	Zalesovo Array	42.79	313	eP	P	09 28 38.9	+0.3
ZALV	Zalesovo Beam	42.79	313	P	P	09 28 38.9	+0.3
	comp=Z,1.8nm,0.7s,baz=90,slow=5.9,SNR=6.5						
MK01	Makanchi Array	44.93	303	eP	P	09 28 56.2	+0.2
MK31	Makanchi Array	44.93	303	eP	P	09 28 56.3	+0.3
MK31	Makanchi Array	44.93	303	eP	P	09 28 56.3	+0.3
MK32	Makanchi Array	44.93	303	eP	P	09 28 56.5	+0.6
MKAR	Makanchi Array	44.93	303	P	P	09 28 56.5	+0.6
	comp=Z,1.3nm,0.7s,baz=87,slow=9.6,SNR=12						
MKAR	Makanchi Array	44.93	303	eP	P	09 28 56.1	+0.2
	comp=Z,14nm,0.8s						
MKAR	Makanchi Array	44.93	303	eP	P	09 28 56.1	+0.2
MKAR				pmax	pmax		
	comp=Z,14nm,0.8s						
KURK	Kurchatov	46.79	309	eP	P	09 29 10.8	+0.4
	comp=Z,6.1nm,0.8s						
KURK	Kurchatov	46.79	309	eP	P	09 29 10.8	+0.4
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ILAR	Eielson Array	49.92	32	P	P	09 29 36.6	+2.2
	comp=Z,0.2nm,0.6s,baz=257,slow=4.6,SNR=4.3						
BVAR	Borovoye Array	51.45	313	P	P	09 29 47.1	+1.0
	comp=Z,0.6nm,0.5s,baz=92,slow=8.7,SNR=3.4						
BRVK	Borovoye	51.50	313	eP	P	09 29 48.2	+1.7
	comp=Z,1.7nm,0.6s						
BRVK	Borovoye	51.50	313	eP	P	09 29 48.2	+1.7
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WR1	Warramunga Arr	56.34	189	eP	P	09 30 22.4	+0.4
	comp=Z,6.3nm,1.3s						
WRA	Warramunga Arr	56.34	189	P	P	09 30 22.4	+0.4
	comp=Z,0.6nm,0.7s,baz=6.5,slow=7.3,SNR=9.2						
ABKAR	Akbulak array	58.80	311	eP	P	09 30 38.8	-0.4
	comp=Z,12nm,0.7s						
AS31	Alice Springs	60.06	189	eP	P	09 30 49.2	+1.1
	comp=Z,1.2nm,1.4s						
ASAR	Alice Springs	60.07	189	P	P	09 30 49.2	+1.1
	comp=Z,0.5nm,1.0s,baz=14,slow=8.3,SNR=4.4						
YKA	Yellowknife Ar	64.27	30	P	P	09 31 17.5	+1.7
	comp=Z,0.2nm,0.6s,baz=303,slow=7.3,SNR=3.6						
FIA1	FINESS Array S	69.73	333	eP	P	09 31 51.8	+1.3
FIA0	FINESS Array S	69.73	333	eP	P	09 31 51.0	+0.5
FIA0	FINESS Array S	69.73	333	eP	P	09 31 51.0	+0.5
FINES	FINESS Array B	69.73	333	P	P	09 31 51.0	+0.5
	comp=Z,1.8nm,0.8s,baz=19,slow=8.1,SNR=5.7						
FINES	FINESS Array B	69.73	333	P	P	09 31 51.0	+0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NC204	NORSAR Array S	75.05	338	eP	P	09 32 23.5	+1.2
AKASG	Malin Array Be	75.21	323	P	P	09 32 23.1	-0.3
	comp=Z,0.6nm,0.4s,baz=46,slow=6.4,SNR=7.6						
AKBB	Malin Array Si	75.21	323	eP	P	09 32 23.1	-0.2
	comp=Z,6.6nm,1.4s						
AKBB	Malin Array Si	75.21	323	eP	P	09 32 23.1	-0.2
AKBB				pmax	pmax		
	comp=Z,7.0nm,1.4s						
P18A	Preston Nutter	79.44	48	eP	P	09 32 48.0	+0.4
	comp=Z,2.8nm,0.7s						
GEC2	GERESS Array S	83.63	329	eP	P	09 33 10.8	+1.5
GEC2	GERESS Array S	83.63	329	eP	P	09 33 10.8	+1.5
GERES	GERESS Array B	83.63	329	P	P	09 33 09.8	+0.5
	comp=Z,0.3nm,0.4s,baz=26,slow=6.4,SNR=3.6						
GEA0	GERESS Array S	83.64	329	eP	P	09 33 10.4	+1.0
LBZ	Lake Benmore	84.23	160	eP	P	09 33 12.9	+0.9
	comp=Z,48nm,1.4s						
PYZ	Puysegur Point	84.99	163	eP	P	09 33 15.5	-0.3
	comp=Z,116nm,1.4s						
PB11	IPOC Station P	147.79	68	ePKPdf	PKPdf	09 40 23.5	+0.2

MEX 04 09:23:07.1±0.5**, 15°.10N**×**92°.03W, h145^{km}**±6^{km}**, MD3.5, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.18	355	eP	Pn	09 23 32.4	-0.8
CCIG				eS	Sn	09 23 51.0	-2.2
PCIG		1.29	298	eP	Pn	09 23 33.0	-1.2
PCIG				eS	Sn	09 23 53.0	-1.8
TGIG		1.97	328	eP	Pn	09 23 40.1	-1.5
TGIG				eS	Sn	09 24 06.2	-2.1

*ISCJB **04** 09:29:21.5±0.6, 21°.11S±0°.03×69°.0W±0°.1, h120^{km}±6^{km}, mb3.5/2, Error ellipse: s-maj=18.0km s-min=5.5km az=4.0*
*GUC **04** 09:29:21.6±0.5, 21°.08S×68°.96W, h110^{km}±3^{km}, ML3.8*
*IDC **04** 09:29:23.1±1.2, 21°.07S×68°.89W, h118^{km}±8^{km}, mb3.4/2, mb1 3.3/4, mb1mx3.1/38, mbtmp3.6/4, Error ellipse: s-maj=45.2km s-min=27.5km az=92.0*
ISC 04 09:29:21.8±0.8**, 21°.09S**±0°.04×**68°.97W**±0°.10**, h116^{km}**±7^{km}**, n15, σ1s.45**/29**, 8C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.49	275	⇑eP	Pn	09 29 38.8	-0.7
PB01				eS	Sn	09 29 51.7	-0.9
PB01				IAML		09 29 52.6	
	comp=E,5μm,0.2s						
PB09	IPOC Station P	0.75	200	⇓eP	Pn	09 29 40.9	-0.6
PB09				eS	Sn	09 29 55.9	-0.3
PB09				IAML		09 29 57.7	
	comp=N,8μm,0.2s						
PB02	IPOC Station P	0.90	255	⇑eP	Pn	09 29 42.4	-0.2
PB02				eS	Sn	09 29 58.2	-0.2
PB02				IAML		09 29 59.0	
	comp=E,6μm,0.2s						
PB08	IPOC Station P	0.96	350	⇑eP	Pn	09 29 43.5	-0.1
PB08				eS	Sn	09 30 00.3	+0.3
PB07	IPOC Station P	1.06	233	⇑eP	Pn	09 29 43.9	-0.5
PB07				eS	Sn	09 30 00.9	-0.6
PB07				IAML		09 30 02.2	
	comp=N,2μm,0.1s						
PB11	IPOC Station P	1.47	334	eP	Pn	09 29 48.7	-0.2
PB11				eS	Sn	09 30 09.4	0.0
PB04	IPOC Station P	1.66	221	⇑eP	Pn	09 29 50.5	-0.6
PB04				eS	Sn	09 30 12.4	-0.9
PB04				IAML		09 30 18.2	
	comp=N,836nm,0.3s						
PB06	IPOC Station P	1.70	199	⇑eP	Pn	09 29 51.1	-0.5
PB06				eS	Sn	09 30 13.6	-0.8
PB06				IAML		09 30 13.8	
	comp=E,1μm,0.4s						
PSGC	Pisagua	1.84	324	⇑eP	Pn	09 29 52.4	-0.8
PSGC				eS	Sn	09 30 16.4	-0.8
MNMC	Minye Minye	2.04	343	⇑eP	Pn	09 29 56.0	+0.1
MNMC				eS	Sn	09 30 21.9	0.0
MNMC				IAML		09 30 26.5	
	comp=N,474nm,0.2s						
LPAZ	La Paz	4.84	10	P	Pn	09 30 34.7	+1.4
	comp=N,0.3nm,0.3s,baz=202,slow=9.4,SNR=5.9						
LPAZ				S	Sn	09 31 22.2	-6.4
	comp=N,0.3nm,0.3s,baz=169,slow=5.9,SNR=3.9						
PLCA	Paso Flores	19.63	184	P	Pn	09 33 43.0	-0.8
	comp=N,0.1nm,0.3s,baz=0.0,slow=9.1,SNR=3.4						
TORD	Torodi Ar. Bea	77.27	70	P	P	09 41 04.5	+0.6
	comp=N,1.2nm,0.5s,baz=238,slow=6.2,SNR=6.1						
TORD				pP	pP	09 41 33.5	+0.2
	comp=N,0.3nm,0.6s,baz=231,slow=6.0,SNR=1.5						
YKA	Yellowknife Ar	90.78	341	P	P	09 42 11.8	+0.5
	comp=N,0.1nm,0.6s,baz=135,slow=4.5,SNR=5.3						
YKA				pP	pP	09 42 42.8	+1.2
	comp=N,0.3nm,0.9s,baz=126,slow=4.6,SNR=5.0						
MKAR	Makanchi Array	145.33	36	PKPbc	PKPdf	09 48 46.5	+0.5
	comp=N,0.4nm,0.6s,baz=289,slow=3.1,SNR=2.8						
MKAR				pPKPbc	pPKPdf	09 49 17.9	+0.4
	comp=N,0.4nm,0.8s,baz=316,slow=4.0,SNR=2.7						

*IDC **04** 09:39:23.9±0.9, 2°.88N×84°.30W, h0^{km}, mb3.9/14, mb1 4.1/17, mb1mx4.0/48, mbtmp4.0/17, ML4.4/2, Error ellipse: s-maj=33.9km s-min=15.5km az=45.0*
*ISCJB **04** 09:39:26.4±2.1, 2°.81N±0°.06×84°.33W±0°.05, h21^{km}±15^{km}, mb4.4/49, Error ellipse: s-maj=11.8km s-min=7.4km az=33.0*
*NEIC **04** 09:39:26.2±0.3, 2°.77N×84°.39W, h10^{km}, mb4.6/38, Error ellipse: s-maj=9.3km s-min=5.3km az=210.0*
ISC 04 09:39:29.7±0.6**, 2°.80N**±0°.08×**84°.36W**±0°.08**, h39^{km}**±3^{km}**, n83, σ1s.10**/88**, mb4.4**/49**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUMC	Tumaco	5.71	100	ePn	Pn	09 40 50.8	-1.3
OTAV	Otavalo	6.43	113	ePn	Pn	09 41 01.2	-1.2
PAYG	Puerto Ayora	6.86	240	ePn	Pn	09 41 07.5	-0.3
HDC	Heredia	7.16	2	ePn	Pn	09 41 12.8	+0.8
JTS	JuntasAbangare	7.46	356	Pn	Pn	09 41 15.2	-1.0
	7.7nm,0.3s,baz=228,slow=5.9,SNR=48						
HELC	Santa Helena	9.43	69	ePn	Pn	09 41 45.0	+1.6
PRAC	Prado	9.50	84	ePn	Pn	09 41 45.5	+1.3
ROSC	El Rosal	10.22	78	Pn	Pn	09 41 54.5	+0.2
	0.3nm,0.3s,baz=311,slow=19,SNR=1.7						
ROSC	El Rosal	10.22	78	ePn	Pn	09 41 55.0	+0.7
RUSC	La Rusia	11.66	74	ePn	Pn	09 42 13.4	-0.6
SDV	Santo Domingo	14.93	66	Pn	Pn	09 42 56.9	-1.4
	0.1nm,0.3s,baz=107,slow=19,SNR=3.0						
SDV	Santo Domingo	14.93	66	ePn	P	09 43 02.3	-1.2
NNA	Nana	16.48	153	Pn	Pn	09 43 18.6	+0.3
	0.9nm,0.3s,baz=284,slow=17,SNR=3.2						
NNA	Nana	16.48	153	ePn	Pn	09 43 18.8	+0.5
	60nm,1.5s						
SAML	Samuel	24.12	119	eP	P	09 44 43.0	+0.8
	18nm,1.3s						
PTGA	Pitinga	24.64	98	P	P	09 44 46.8	-0.1
	2.6nm,0.3s,baz=314,slow=20,SNR=5.1						
PTGA	Pitinga	24.64	98	eP	P	09 44 48.7	+1.7
	34nm,1.6s						
LPAZ	La Paz	24.84	140	P	P	09 44 49.5	+0.1
	2.5nm,0.7s,baz=355,slow=20,SNR=8.4						
LPAZ	La Paz	24.84	140	eP	P	09 44 50.2	+0.9
	37nm,1.6s						
SMRT	St. Maarten	25.79	53	eP	P	09 44 58.4	+1.1
	194nm,1.1s						
LRAL	Lakeview Retre	30.18	356	eP	P	09 45 36.8	+0.4
	33nm,1.6s						
TXAR	Lajitas Array	32.14	327	P	P	09 45 53.0	-0.9
	0.5nm,0.9s,baz=145,slow=4.6,SNR=4.1						
TXAR				PcP	PcP	09 48 42.3	-0.1
	0.6nm,1.0s,baz=177,slow=4.5,SNR=3.4						
MNTX	Cornudas Mount	34.91	328	eP	P	09 46 18.1	+0.3
	3.0nm,0.9s						
BNM	Barren Site	37.47	329	eP	P	09 46 42.3	+2.3
ANMO	Albuquerque	38.01	330	P	P	09 46 44.9	+0.4
	1.1nm,0.6s,baz=330,slow=9.7,SNR=6.4						
ANMO	Albuquerque	38.01	330	eP	P	09 46 44.7	+0.2
	6.1nm,1.0s						
T25A	Trinidad	38.83	334	eP	P	09 46 52.6	+1.2
	8.8nm,1.1s						
SDCO	Great Sand Dun	39.82	333	eP	P	09 47 01.4	+1.8
	7.3nm,1.0s						
113A	Mohawk Valley,	40.60	321	eP	P	09 47 07.3	+1.4
	5.3nm,1.0s						
Y14A	Wickenburg	40.91	323	eP	P	09 47 09.9	+1.4
	29nm,1.2s						
WUAZ	Wupatki	41.06	326	eP	P	09 47 11.1	+1.2
	6.3nm,1.0s						
SMCO	Snowmass	41.65	333	eP	P	09 47 16.4	+1.5
	7.3nm,0.9s						
ECSD	EROS Data Cent	42.19	347	eP	P	09 47 18.4	-0.3
	25nm,1.8s						
W13A	Hualapai Mount	42.23	323	eP	P	09 47 20.6	+1.1
	3.9nm,1.2s						
U15A	North Rim	42.23	326	eP	P	09 47 21.1	+1.5
	13nm,1.5s						
PHWY	Pilot Hill	42.78	336	eP	P	09 47 25.8	+1.9
	81nm,1.8s						
SRU	San Rafael Swe	43.28	330	eP	P	09 47 29.2	+1.3
	7.4nm,1.1s						
SZCU	Shurtz Canyon	43.51	326	eP	P	09 47 30.4	+0.6
	8.3nm,1.5s						
CCUT	Cedar City	43.63	326	eP	P	09 47 32.7	+1.8
	7.5nm,1.2s						
SHPR	Sheep Range	43.95	324	eP	P	09 47 33.7	+0.4
	6.3nm,1.2s						
PDAR	Pinedale Array	45.70	334	P	P	09 47 47.2	0.0
	0.8nm,0.9s,baz=109,slow=13,SNR=4.3						
PDAR				PcP	PcP	09 49 24.4	-0.4
	0.8nm,0.9s,baz=144,slow=5.3,SNR=5.0						
PDAR	Pinedale Array	45.70	334	eP	P	09 47 48.0	+0.7
PDAR				PcP	PcP	09 49 24.4	-0.4
HWUT	Hardware Ranch	45.71	331	eP	P	09 47 47.7	+0.4
	6.1nm,0.9s						
BGU	Big Grassy Mou	45.91	330	eP	P	09 47 49.8	+0.9
	4.0nm,1.1s						
REDW	Red Top Meadow	46.75	333	eP	P	09 47 56.1	+0.6
	16nm,1.4s						
NV11	Mina Array Sit	47.00	323	eP	P	09 47 58.2	+0.7
	0.8nm,1.4s						
MDPB	Devils Postpil	47.05	322	eP	P	09 47 58.6	+0.5
	4.6nm,1.1s						
NV01	Mina Array Sit	47.09	323	eP	P	09 47 59.3	+1.1
NV01				ePcP	PcP	09 49 30.4	+0.6
NVAR	Mina Array Bea	47.09	323	P	P	09 47 58.8	+0.5
	0.5nm,0.7s,baz=133,slow=7.3,SNR=4.9						
NVAR				PcP	PcP	09 49 30.4	+0.6
	0.7nm,0.7s,baz=130,slow=3.8,SNR=5.2						
BBGB	Big Mountain B	47.65	319	eP	P	09 48 05.0	+2.5
LAO	LASA Array	47.67	340	eP	P	09 48 05.6	+3.2
	25nm,0.7s						
ULM	Lac du Bonnet	48.28	350	P	P	09 48 05.3	-1.7
	2.4nm,0.9s,baz=154,slow=6.6,SNR=4.0						
HSPM	Sheep	48.28	320	eP	P	09 48 12.5	+5.2
CYBM	Yerba Buena Is	49.23	320	eP	P	09 48 16.2	+1.7
WVOR	Wild Horse Val	49.94	327	eP	P	09 48 20.2	+0.2
	6.9nm,1.2s						
FCC	Fort Churchill	56.33	354	eP	P	09 49 07.4	+0.9
	14nm,1.3s						
YKA	Yellowknife Ar	63.66	345	P	P	09 49 55.3	-1.5
	0.2nm,0.6s,baz=144,slow=6.6,SNR=5.7						
YKA				PcP	PcP	09 50 32.4	-0.3
	0.5nm,0.8s,baz=140,slow=4.5,SNR=5.7						
BESE	Bessie Mountai	68.02	334	eP	P	09 50 25.6	+0.6
	70nm,1.6s						
INK	Inuvik	73.27	343	P	P	09 50 56.0	-0.7
	1.6nm,0.8s,baz=126,slow=2.9,SNR=5.5						
INK	Inuvik	73.27	343	eP	P	09 50 56.9	+0.2
	11nm,1.4s						
EGAK	Eagle	73.85	338	eP	P	09 51 00.6	+0.4
	15nm,1.6s						
RIDG	Independ'e Rid	74.79	336	eP	P	09 51 06.5	+0.7
	22nm,1.5s						
IL1	Eielson Array	76.03	337	eP	P	09 51 12.4	-0.4
ILAR	Eielson Array	76.03	337	P	P	09 51 12.4	-0.4
	0.8nm,0.8s,baz=166,slow=4.8,SNR=9.2						
FYU	Fort Yukon	76.18	339	eP	P	09 51 14.4	+0.8
	48nm,2.0s						
MCK	McKinley	76.45	336	eP	P	09 51 16.4	+1.1
	30nm,1.7s						
BPAW	Bear Paw Mtn.	77.43	336	eP	P	09 51 20.6	-0.1
	13nm,0.2s						
PPLA	Purkeypile	77.54	334	eP	P	09 51 21.9	+0.4
	72nm,1.9s						
COLD	Coldfoot	78.24	339	eP	P	09 51 26.3	+1.1
	6.6nm,1.3s						
SVW2	Sparrevohn	78.54	332	eP	P	09 51 26.3	-0.6
	63nm,2.0s						
IM3	Indian Mountai	79.15	337	eP	P	09 51 30.1	-0.1
KOWA	Kowa	79.96	76	P	P	09 51 35.2	-0.5
	3.7nm,0.9s,baz=303,slow=4.1,SNR=9.0						
ESDC	Sonseca Array	80.82	50	P	P	09 51 39.4	-0.5
	0.6nm,0.6s,baz=281,slow=6.8,SNR=5.7						
ES19	SONSECA Array	80.88	50	eP	P	09 51 41.9	+1.7
EKA	Eskdalemuir Ar	82.70	35	P	P	09 51 48.8	-0.5
	3.5nm,0.9s,baz=268,slow=4.8,SNR=5.8						
TORD	Torodi Ar. Bea	85.53	77	P	P	09 52 03.9	-0.7
	0.6nm,0.6s,baz=274,slow=5.4,SNR=5.2						
MKAR	Makanchi Array	129.23	12	PKP	PKPdf	09 58 32.9	-1.3
	0.3nm,1.0s,baz=48,slow=1.8,SNR=3.6						
KSH	Kashi	134.17	21	ePKP	PKPdf	09 58 43.4	-0.5
AS01	Alice Springs	137.56	237	ePKPdf	PKPdf	09 58 52.3	+1.8
ASAR	Alice Springs	137.60	237	PKP	PKPdf	09 58 51.0	+0.5
	0.4nm,0.8s,baz=139,slow=1.9,SNR=4.7						
WRA	Warramunga Arr	138.57	243	PKP	PKPdf	09 58 51.3	-1.1
	0.7nm,0.8s,baz=101,slow=2.0,SNR=8.0						
LZH	Lanzhou	140.56	350	ePKP	PKPdf	09 58 53.7	-2.1
LZH				sPKP		09 59 07.8	
CMAR	Chiang Mai Arr	158.63	351	PKPab	PKPab	09 59 58.3	-0.9
	0.5nm,0.3s,baz=29,slow=2.1,SNR=4.6						

IDC 04 09:42:59.9±2.5**, 7°.93N**×**84°.09W, h0^{km}, mb3.4**/4**, mb1 3.8**/5**, mb1mx3.6**/52**, mbtmp3.4**/5**, ML3.2**/1**, Error ellipse: s-maj=108.7km s-min=27.3km az=73.0, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	2.50	340	Pn	Pn	09 43 41.7	-0.2
	4.8nm,0.3s,baz=159,slow=16,SNR=9.7						
JTS				Lg	Lg	09 44 18.9	
	11nm,0.3s,baz=238,slow=6.3,SNR=9.8						
TXAR	Lajitas Array	28.15	322	P	P	09 48 55.4	+1.2
	1.2nm,1.0s,baz=150,slow=9.1,SNR=4.6						
PDAR	Pinedale Array	41.30	331	P	P	09 50 49.2	+1.7
	0.7nm,0.9s,baz=126,slow=9.1,SNR=3.4						
NVAR	Mina Array Bea	43.27	320	P	P	09 51 01.8	-1.9
	0.6nm,0.8s,baz=128,slow=6.9,SNR=3.0						
YKA	Yellowknife Ar	58.83	344	P	P	09 52 59.3	-0.7
	0.2nm,0.7s,baz=142,slow=6.0,SNR=4.8						

*IDC **04** 09:44:12.8±0.5, 2°.78N×84°.43W, h0^{km}, mb4.8/28, mb1 5.0/34, mb1mx4.9/53, mbtmp4.9/34, ML3.7/5, MS4.8/44, Ms1 4.8/44, ms1mx4.8/49, Error ellipse: s-maj=17.6km s-min=10.7km az=52.0*
*BJI **04** 09:44:13.7, 2°.70N×84°.30W, h9^{km}, mB5.6/30, Ms5.6/35, Ms7 5.3/35*
*CASC **04** 09:44:13.1±1.0, 2°.62N×83°.80W, h178^{km}±23^{km}, ML4.8*
*NEIC **04** 09:44:14.6±0.1, 2°.69N×84°.34W, h9^{km}, mb5.5/299, MS5.0/297, MW5.5, Error ellipse: s-maj=3.3km s-min=2.2km az=46.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.42; $M_{\theta\theta}$0.74; $M_{\phi\phi}$-0.33; $M_{r\theta}$1.25; $M_{\theta\phi}$1.36; $M_{\phi r}$-0.26; Best double couple: $M_0$2.00000×10^{17} NP1:ϕ_s276.00000°, δ82.00000°, λ-43.00000°. NP2:ϕ_s14.00000°, δ48.00000°, λ-169.00000°. Principal axes: T 2.0300, Plg22.0000°, Azm332.0000°; N -0.1100, Plg46.0000°, Azm87.0000°; P -1.9200, Plg35.0000°, Azm226.0000°;*
*GCMT **04** 09:44:14.6±0.1, 2°.68N×84°.47W, h12^{km}, MW5.5/131, Moment Tensor Solution. s103,c183; s131,c261; Duration: 1s.3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.64±.02; $M_{\theta\theta}$1.83±.02; $M_{\phi\phi}$-0.19±.02; $M_{r\theta}$0.93±.05; $M_{\theta\phi}$0.09±.02; $M_{\phi r}$0.45±.05; Best double couple: $M_0$2.02400×10^{17} NP1:ϕ_s255.00000°, δ60.00000°, λ-103.00000°. NP2:ϕ_s101.00000°, δ32.00000°, λ-68.00000°. Principal axes: T 2.0800, Plg15.0000°,*

Azm355.0000°; N -0.1130, Plg11.0000°, Azm262.0000°; P -1.9680, Plg71.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*MOS **04** 09:44:15.4±0.9, 2°.79N×84°.38W, h22km, mb5.8/99, MS5.0/59 Error ellipse: s-maj=7.9km s-min=4.1km az=103.1*

*ISCJB **04** 09:44:15.7±0.7, 2°.77N±0°.02×84°.33W±0°.02, h25km±4km, mb5.4/406, MS5.0/356, Error ellipse: s-maj=4.2km s-min=2.1km az=44.9*

*IGQ **04** 09:44:20.2±0.2, 3°N±2°×8°4W±°, h12km, mB5.8, mb5.4/4, MLv5.6/7, Mw(mB)5.3, MwMwp5.3/2, Mwp5.5/2*

ISC 04 09:44:15.8±0.6, 2°.64N±0°.04×84°.41W±0°.05, h18km±3km, h18km:pP-P, n1352, σ1§17/1335, mb5.5/413, MS5.0/357, 25C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	Magdalena	5.36	120	P	Pn	09 45 34.1	-1.0
TUMC	Tumaco	5.74	98	ePn	Pn	09 45 39.9	-0.3
TUMC	Tumaco	5.74	98	eP	Pn	09 45 38.3	-1.9
GRGC	Isla de Gorgon	6.25	87	eP	Pn	09 45 46.2	-1.0
LITE1	Lita	6.32	107	P	Pn	09 45 46.2	-2.1
OTAV	Otavalo	6.42	112	ePn	Pn	09 45 49.0	-1.0
OTAV	Otavalo	6.42	112	P	Pn	09 45 48.9	-1.0
YANA	Yana	6.45	115	P	Pn	09 45 49.3	-1.1
PULU	Pululahua	6.46	114	P	Pn	09 45 49.6	-0.8
COTA	Cotacachi	6.49	111	P	Pn	09 45 50.4	-0.6
URCU	Urcuqui	6.53	109	P	Pn	09 45 50.1	-1.4
ILLI	Illinizas Sur	6.59	120	P	Pn	09 45 52.6	+0.3
IMBA	Imbabura, San	6.64	111	P	Pn	09 45 53.3	+0.3
YAHU	Yahuarcocha	6.73	110	P	Pn	09 45 54.2	+0.1
PAYG	Puerto Ayora	6.73	241	ePn	Pn	09 45 56.3	+2.4
PAYG	Puerto Ayora	6.73	241	P	Pn	09 45 57.3	+3.4
BNAS	Cotopaxi Volca	6.78	119	P	Pn	09 45 54.7	-0.3
CMBC	Cumbal	6.80	104	eP	Pn	09 45 54.2	-0.9
BREF	Cotopaxi Volca	6.82	119	P	Pn	09 45 57.3	+1.7
BVC2	Cotopaxi Volca	6.84	119	P	Pn	09 45 56.9	+1.1
VC1	Cotopaxi 1	6.84	118	P	Pn	09 45 57.3	+1.5
BTAM	Cotopaxi Volca	6.86	119	P	Pn	09 45 57.6	+1.5
ANTI	Antisana	6.96	116	P	Pn	09 45 59.2	+1.6
PISA	Pisayambo	7.06	121	P	Pn	09 46 00.8	+2.0
IGUA	Igualata	7.08	125	P	Pn	09 46 00.9	+1.7
MALC	Bahia Malaga	7.20	79	eP	Pn	09 46 00.8	+0.6
POND	Pondoa	7.20	124	P	Pn	09 46 01.9	+1.3
GCUF	Volcan Galeras	7.20	101	eP	Pn	09 46 00.7	-0.1
HDC	Heredia	7.32	2	ePn	Pn	09 46 01.4	-0.6
CRUC	La Cruz	7.53	98	eP	Pn	09 46 06.6	+1.4
JTS	JuntasAbangare	7.62	356	Pn	Pn	09 46 05.2	-0.8
	44nm,0.3s,baz=235,slow=7.7,SNR=65						
JTS				LR	LR	09 48 20.1	
	comp=Z,25μm,21.6s,baz=262,slow=33						
POPC	Popayan, Colom	7.73	91	eP	Pn	09 46 08.3	+0.5
CASO	Castillo	7.75	358⇓	eP	Pn	09 46 07.1	-0.7
CEDE	Laguna Cedeˆ–o	7.80	358⇑	eP	Pn	09 46 07.4	-1.1
SOTA	Rioblanco	7.81	94	eP	Pn	09 46 09.5	+0.3
HORQ	Saladito	7.82	84	eP	Pn	09 46 07.9	-1.2
SOLC	Bahia Solano	7.84	63	eP	Pn	09 46 08.8	-0.2
BCIP	Isla Barro Col	7.92	35	ePn	Pn	09 46 13.4	+3.3
BCIP	Isla Barro Col	7.92	35	P	Pn	09 46 14.0	+3.9
CUI	Cuipilapa	8.00	355	eP	Pn	09 46 10.4	-0.9
COLC	Colonia	8.01	354	eP	Pn	09 46 11.3	-0.2
PCON	Cinco Dias	8.01	92	eP	Pn	09 46 12.8	+0.8
NY14	Universidad de	8.03	352	eP	Pn	09 46 11.4	-0.3
PTEN	Parque Tenorio	8.04	356	eP	Pn	09 46 12.3	+0.4
LIM1	Limonal	8.05	354	eP	Pn	09 46 11.9	0.0
GUAB	Guayabo de Bag	8.05	354	eP	Pn	09 46 12.3	+0.2
HORNC	Hornillas	8.05	355	eP	Pn	09 46 11.9	-0.2
MESS	Mesas	8.08	355	eP	Pn	09 46 12.2	-0.3
GPS2	Hotel Rincˆ‡n	8.11	353	eP	Pn	09 46 13.0	+0.1
GPS3	Bodega del ICE	8.11	353⇑	eP	Pn	09 46 13.3	+0.4
GPS1	Guardaparques	8.13	353	eP	Pn	09 46 13.4	+0.2
LAPC	Finca la Perla	8.13	353	eP	Pn	09 46 12.2	-1.0
BUEV	Buena Vista	8.16	353	eP	Pn	09 46 13.1	-0.5
YOTC	Yotoco, Valle	8.16	80	eP	Pn	09 46 13.5	-0.2
GB1A	Borinquen Arri	8.18	353	eP	Pn	09 46 13.4	-0.4
BUAI	Buenos Aires	8.23	354	eP	Pn	09 46 15.1	+0.6
PLMC	San Josˆ' del	8.42	74	eP	Pn	09 46 16.8	-0.3
MARP	Paez Belalcaza	8.45	88	eP	Pn	09 46 18.8	+1.1
FLOC	Florencia	8.82	97	eP	Pn	09 46 22.8	+0.3
ANIL	Santa Ana	9.18	78	eP	Pn	09 46 28.8	+1.1
CAPC	Capurgana	9.21	49	eP	Pn	09 46 28.1	+0.3
TOLC	Tolima	9.28	78	eP	Pn	09 46 30.8	+1.7
ACON	Acoyapa	9.30	355	P	Pn	09 46 30.5	+1.5
ACON				P	Pn	09 46 30.5	+1.5
RREF	El Recreo	9.32	76	eP	Pn	09 46 31.4	+1.5
ESPN	Las Esperanzas	9.49	1	eP	Pn	09 46 28.6	-3.1
ESPN				eS	Sn	09 48 18.5	+0.5
ESPN	Las Esperanzas	9.49	1	P	Pn	09 46 32.9	+1.2
HELC	Santa Helena	9.53	68	ePn	Pn	09 46 34.7	+2.1
HELC	Santa Helena	9.53	68	eP	Pn	09 46 32.8	+0.1
PRAC	Prado	9.57	83	ePn	Pn	09 46 34.0	+1.2
PRAC	Prado	9.57	83	eP	Pn	09 46 34.7	+1.9
MGAN	Managua	9.62	349	eP	Pn	09 46 34.0	+0.5
COPN	Copaltepe	9.72	347	eP	Pn	09 46 35.7	+0.8
COPN				eS	Sn	09 48 22.6	-1.1
MOMN	Momotombo	9.93	348	eP	Pn	09 46 39.0	+1.2
NORC	Norcasia	9.95	73	eP	Pn	09 46 40.7	+2.6
CNGN	Cerro Negro	10.05	347	P	Pn	09 46 42.6	+3.1
ROSC	El Rosal	10.30	77	Pn	Pn	09 46 44.3	+1.1
	7.0nm,0.3s,baz=265,slow=9.3,SNR=17						
ROSC	El Rosal	10.30	77	ePn	Pn	09 46 46.1	+2.8
ROSC	El Rosal	10.30	77	eP	Pn	09 46 46.0	+2.8
CRIN	San Cristobal	10.33	345	eP	Pn	09 46 45.6	+2.3
CRIN	San Cristobal	10.33	345	P	Pn	09 46 47.4	+4.2
MATN	Matagalpa	10.33	352	eP	Pn	09 46 44.2	+0.8
SJAC	San Juan de Ar	10.47	86	eP	Pn	09 46 47.4	+2.1
ESTN	Estel	10.57	350	eP	Pn	09 46 47.6	+1.0
ESTN	Estel	10.57	350	P	Pn	09 46 49.8	+3.2
MOTC	Monteria, Cord	10.62	55	eP	Pn	09 46 48.0	+0.8
PTBC	PUERTO BERRIO,	10.65	68	eP	Pn	09 46 50.0	+2.4
ZARC	Zaragoza, Cauc	10.66	63	eP	Pn	09 46 49.4	+1.5
VILC	Villavicencio,	10.80	82	eP	Pn	09 46 51.4	+1.6
CHIC	Chingaza	10.84	79	eP	Pn	09 46 52.0	+1.4
LCND	La Caˆ–ada	11.14	342	eP	Pn	09 46 55.2	+0.8
ATAH	Atahualpa	11.42	148	Pn	Pn	09 47 01.3	+2.7
	1.7nm,0.3s,baz=10,slow=6.0,SNR=11						
PACA	Pacayal	11.43	340	eP	Pn	09 46 59.8	+1.4
PACA				eS	Sn	09 49 08.7	+2.8
TECA	Tecapa	11.52	340	eP	Pn	09 47 00.9	+1.3
BRRC	Barranca, Sant	11.54	67	eP	Pn	09 47 01.3	+1.4
RUSC	La Rusia	11.75	74	ePn	Pn	09 47 05.5	+2.3
RUSC	La Rusia	11.75	74	eP	Pn	09 47 04.0	+0.9
LFRS	El Faro	11.84	337	eP	Pn	09 47 06.2	+2.1
LFRS				eS	Sn	09 49 20.4	+4.6
LBRS	Las Brisas	11.94	338	eP	Pn	09 47 06.7	+1.4
SOYA	Soyapango	11.95	337	eP	Pn	09 47 07.6	+2.1
SNET	Serv Nac Est T	11.96	337	IAML		09 47 18.1	
	comp=Z,174nm,0.3s						
COLS	Colinas	11.97	336	eP	Pn	09 47 07.7	+1.8
LFU	La Fuente	11.97	337	eP	Pn	09 47 07.3	+1.5
BOQS	Boqueron	12.03	337	eP	Pn	09 47 09.5	+2.9
OCAC	Ocana	12.36	63	eP	Pn	09 47 13.3	+2.1
CODC	Agustˆ›n Codaz	13.08	56	eP	Pn	09 47 21.3	+0.3
SDV	Santo Domingo	15.04	65	Pn	Pn	09 47 47.5	-0.4
	comp=Z,1.1nm,0.3s,baz=232,slow=9.9,SNR=8.3						
SDV				LR	LR	09 53 14.4	
	comp=Z,3μm,19.7s,baz=248,slow=36						
SDV	Santo Domingo	15.04	65	ePn	Pn	09 47 47.7	-0.1
SDV	Santo Domingo	15.04	65	P	Pn	09 47 48.2	+0.4
URIC	Uribia, Colomb	15.25	53	eP	Pn	09 47 49.2	-1.2
NNA	Nana	16.37	153	Pn	Pn	09 48 05.9	+1.0
	comp=Z,1.3nm,0.3s,baz=321,slow=13,SNR=8.7						
NNA				LR	LR	09 54 24.1	
	comp=Z,3μm,18.9s,baz=318,slow=37						
NNA	Nana	16.37	153	ePn	Pn	09 48 05.7	+0.8
	comp=Z,855nm,1.9s						
NNA	Nana	16.37	153	ceP	P	09 48 06.3	-1.4
NNA	Nana	16.37	153	P	P	09 48 06.6	-1.1
MCJ	Malvern	16.56	23⇑	iP	P	09 48 10.7	+0.9
FSCY	Frank Sound, G	16.87	11	ePn	Pn	09 48 11.2	0.0
	comp=Z,2μm,1.8s						
MTDJ	Mount Denham	16.89	23	ePn	P	09 48 13.1	-0.5
	comp=Z,1μm,1.6s						
MTDJ	Mount Denham	16.89	23	P	P	09 48 16.7	+3.1
WBCY	West Bay, Gran	16.89	10	ePn	Pn	09 48 10.5	-0.9
	comp=Z,939nm,1.5s						
HOJ	Hope	17.02	26	iP	P	09 48 16.9	+2.0
STH	Stony Hill	17.05	25⇓	iP	P	09 48 18.1	+2.8
BBJ	Bamboo Saint A	17.14	24⇑	iP	P	09 48 18.9	+2.6
CMIG	Matias Romero	17.66	325	P	Pn	09 48 20.2	-1.0
	comp=Z,0.1nm,0.3s,baz=123,slow=6.5,SNR=8.7						
CMIG				LR	LR	09 53 48.2	
	comp=Z,5μm,21.2s,baz=146,slow=33						
TEIG	Tepich	17.88	348	P	P	09 48 32.2	+7.8
GTBY	Guantanamo Bay	19.43	27	eP	P	09 48 40.8	-0.7
	comp=Z,562nm,1.6s						
GTBY	Guantanamo Bay	19.43	27	P	Pn	09 48 44.5	+1.9
LGNH	LØogne	19.56	35	eP	Pn	09 48 44.0	-0.1
	comp=Z,1μm,1.8s						
LVIG	Laguna Verde	20.64	326	PFAKE		09 49 10.0	+13
LVIG				LR	LR		
	comp=Z,3μm,20.0s						
SDDR	Presa de Saban	20.70	37	eP	Pn	09 48 57.0	-0.8
	comp=Z,439nm,1.4s						
SDDR				LR	LR		
	comp=Z,2μm,20.0s						
SDDR	Presa de Saban	20.70	37	P	Pn	09 48 57.0	-0.8
PCRV	Puerto La Cruz	21.02	68	P	P	09 48 59.4	+0.6
	comp=Z,180nm,1.1s,baz=238,slow=4.3,SNR=26						
PCRV				LR	LR	09 58 16.2	
	comp=Z,3μm,21.1s,baz=261,slow=40						
SDD	Santo Domingo	21.19	41	PFAKE		09 49 10.0	+10
SDD				LR	LR		
	comp=Z,5μm,20.0s						
UNM	Universidad Na	21.99	320	eP	P	09 49 12.5	+3.0
UNM				LR	LR		
	comp=Z,4μm,19.0s						
UNM	Universidad Na	21.99	320	eP	P	09 49 12.5	+3.0
UNM				MLR	MLR		
	comp=Z,4μm,19.0s						
GRTK	Grand Turk	22.77	34	PFAKE		09 49 30.0	+12
GRTK				LR	LR		
	comp=Z,4μm,22.0s						
MPR	Mayaguez	22.94	46	PFAKE		09 49 30.0	+11
MPR				LR	LR		
	comp=Z,1μm,22.0s						
MOIG	Morelia	23.57	317	eP	P	09 49 27.9	+2.0
	comp=Z,398nm,1.7s						
MOIG				LR	LR		
	comp=Z,6μm,18.0s						
SJG	San Juan	23.60	48	P	P	09 49 25.2	-0.7
	comp=Z,55nm,1.2s,baz=264,slow=4.9,SNR=11						
SJG				LR	LR	09 58 47.9	
	comp=Z,1μm,20.0s,baz=235,slow=37						
SJG	San Juan	23.60	48	eP	P	09 49 26.2	+0.3
	comp=Z,428nm,1.5s						
SJG	San Juan	23.60	48	eP	P	09 49 26.2	+0.3
SJG				pmax	pmax		
	comp=Z,428nm,1.5s						
SJG	San Juan	23.60	48	P	P	09 49 28.4	+2.5
JRQG	Juriquilla Cam	23.80	320	eP	P	09 49 28.9	+0.8
	comp=Z,369nm,1.5s						
JRQG				LR	LR		
	comp=Z,10μm,22.0s						
CBYP	Canovanas	23.92	48	eP	P	09 49 28.9	-0.1
	comp=Z,579nm,1.8s						
SAML	Samuel	24.09	119	eP	P	09 49 31.1	+0.4
	comp=Z,234nm,1.1s						
SAML				LR	LR		
	comp=Z,1μm,20.0s						
SAML	Samuel	24.09	119	P	P	09 49 31.4	+0.8
STVI	Saint Thomas	24.64	49	eP	P	09 49 36.2	+0.5
	comp=Z,46nm,0.9s						
STVI				LR	LR		
	comp=Z,2μm,22.0s						
PTGA	Pitinga	24.67	97	P	P	09 49 36.9	+1.0
	comp=Z,23nm,0.9s,baz=279,slow=12,SNR=27						
PTGA				LR	LR	09 59 18.5	
	comp=Z,2μm,19.2s,baz=278,slow=37						
PTGA	Pitinga	24.67	97	eP	P	09 49 36.6	+0.7
	comp=Z,422nm,1.5s						
LPAZ	La Paz	24.75	140	P	P	09 49 39.5	+2.2
	comp=Z,28nm,0.8s,baz=315,slow=7.8,SNR=47						
LPAZ				LR	LR	10 00 25.6	
	comp=Z,5μm,21.3s,baz=305,slow=39						
LPAZ	La Paz	24.75	140	eP	P	09 49 39.6	+2.2
	comp=Z,264nm,1.4s						
LPAZ	La Paz	24.75	140	eP	P	09 49 39.7	+2.4
LPAZ	La Paz	24.75	140	P	P	09 49 39.8	+2.4
SVB	Belmont	25.22	64	eP	P	09 49 41.7	+0.8
	comp=Z,533nm,1.4s						
PB12	IPOC Station P	25.27	147	P	P	09 49 44.5	+3.1
ABVI	Anegada Island	25.34	49	eP	P	09 49 42.7	+0.8
	comp=Z,434nm,1.1s						
ABVI				LR	LR		
	comp=Z,2μm,20.0s						
DWPF	Disney Wildern	25.48	6	PFAKE		09 49 50.0	+6.9
DWPF				LR	LR		
	comp=Z,7μm,20.0s						
SABA	Saba	25.56	53	PFAKE		09 49 50.0	+6.0
SABA				LR	LR		
	comp=Z,2μm,22.0s						
MCLT	Moule a Chique	25.67	63	eP	P	09 49 44.5	-0.5
SEUS	St. Eustatius	25.70	54	PFAKE		09 50 00.0	+15
SEUS				LR	LR		
	comp=Z,2μm,21.0s						
SKI	Saint Kitts	25.81	54	PFAKE		09 50 00.0	+14
SKI				LR	LR		
	comp=Z,3μm,18.0s						
PCM	Pelee Case Pet	25.89	61	eP	P	09 49 50.9	+3.9
FDF	Fort de France	25.90	61	eP	P	09 49 47.6	+0.4
	comp=Z,311nm,1.2s						
FDF	Fort de France	25.90	61	eP	P	09 49 47.6	+0.4
FDF				pmax	pmax		
	comp=Z,311nm,1.2s						
FDF	Fort de France	25.90	61	eP	P	09 49 54.2	+7.0
SMRT	St. Maarten	25.93	52	eP	P	09 49 46.5	-0.8
	comp=Z,493nm,1.7s						
ZAM	Aeronautique	25.94	61	eP	P	09 49 48.6	+1.1
MNMC	Minye Minye	26.09	147	eP	P	09 49 50.9	+1.9
	comp=Z,441nm,2.0s						
MNMC				LR	LR		
	comp=Z,5μm,21.0s						
MNMC	Minye Minye	26.09	147	P	P	09 49 52.5	+3.5
PSGC	Pisagua	26.18	148	P	P	09 49 55.1	+5.4
LNIG	Linares	26.46	328	eP	P	09 49 52.5	+0.4
	comp=Z,66nm,1.4s						
LNIG				LR	LR		
	comp=Z,2μm,19.0s						
PB11	IPOC Station P	26.57	148	eP	P	09 49 55.3	+2.1
	comp=Z,158nm,1.2s						
PB11				LR	LR		
	comp=Z,4μm,21.0s						
PB11	IPOC Station P	26.57	148	P	P	09 49 57.2	+4.0
ZAIG	Zacatecas	26.65	320	eP	P	09 49 55.6	+1.5
	comp=Z,30nm,1.1s						
ZAIG				LR	LR		
	comp=Z,4μm,18.0s						
ANWB	Willy Bob	26.76	55	PFAKE		09 50 10.0	+15
ANWB				LR	LR		
	comp=Z,1μm,21.0s						
PB08	IPOC Station P	27.15	147	P	P	09 50 07.2	+8.5
PB01	IPOC Station P	27.71	149	eP	P	09 50 05.8	+2.3
	comp=Z,121nm,1.9s						
PB01				LR	LR		
	comp=Z,2μm,22.0s						
PB01	IPOC Station P	27.71	149	P	P	09 50 17.0	+14
PB02	IPOC Station P	27.73	150	P	P	09 50 13.6	+10
KVTX	Kingsville	27.92	334	eP	P	09 50 05.8	+0.7
	comp=Z,378nm,1.9s						
PB07	IPOC Station P	28.08	150	P	P	09 50 16.8	+10
PB09	IPOC Station P	28.46	149	P	P	09 50 19.8	+10
PB04	IPOC Station P	28.47	151	PFAKE		09 50 20.0	+10
PB04				LR	LR		
	comp=Z,2μm,20.0s						
351A	Pinckard	28.50	358	P	P	09 50 11.1	+0.9
	baz=177						
541A	Lake Charles	28.51	344	P	P	09 50 11.3	+0.9
	baz=161						
444A	Pine Grove	28.56	349	P	P	09 50 11.8	+1.0
	baz=167						
TIGA	Tifton	28.65	1	PFAKE		09 50 20.0	+8.4
TIGA				LR	LR		
	comp=Z,6μm,18.0s						
349A	Repton	28.68	355	P	P	09 50 12.9	+1.1
	baz=174						
350A	Dozier	28.68	357	P	P	09 50 13.0	+1.1
	baz=176						
346A	Big Creek Wild	28.99	351	P	P	09 50 15.5	+1.0
	baz=169						
345A	Thompson Farm,	29.00	350	P	P	09 50 16.0	+1.3
	baz=168,SNR=5.8						
PB06	IPOC Station P	29.06	151	P	P	09 50 25.8	+10
441A	DeRidder	29.16	344	P	P	09 50 17.3	+1.1
	baz=162						
250A	Grady	29.23	357	P	P	09 50 17.7	+0.9
	baz=176,SNR=6.2						
HKT	Hockley	29.24	339	eP	P	09 50 17.3	+0.5
	comp=Z,215nm,1.8s						
HKT				LR	LR		
	comp=Z,700nm,20.0s						
HKT	Hockley	29.24	339	eP	P	09 50 17.3	+0.5
HKT				pmax	pmax		
	comp=Z,215nm,1.8s						
HKT				MLR	MLR		
	comp=Z,700nm,20.0s						
833A	Chaparral WMA,	29.27	332	P	P	09 50 18.1	+1.0
	baz=148,SNR=6.5						
344A	Westbrook Farm	29.27	349	P	P	09 50 18.1	+1.0
	baz=167,SNR=13						
249A	Camden	29.29	355	P	P	09 50 17.9	+0.6
	baz=174						
PB10	IPOC Station P	29.29	153	eP	P	09 50 19.1	+1.7
	comp=Z,40nm,1.5s						
PB10				LR	LR		
	comp=Z,2μm,20.0s						
251A	Midway	29.31	358	P	P	09 50 18.1	+0.7
	baz=178						
248A	Dixon Mills	29.46	354	P	P	09 50 19.7	+0.9
	baz=173						
247A	Quitman	29.52	353	P	P	09 50 20.0	+0.7
	baz=171,SNR=7.3						
342A	Flagon Creek P	29.54	346	P	P	09 50 20.0	+0.5
	baz=164						
245A	Little AP, Sta	29.69	351	P	P	09 50 21.7	+0.9
	baz=169,SNR=7.1						
341A	Kurthwood	29.71	345	P	P	09 50 21.6	+0.6
	baz=162						
151A	Opelika	29.74	358	P	P	09 50 21.7	+0.4
	baz=178						
244A	Avery, Jackson	29.84	349	P	P	09 50 22.7	+0.7
	baz=167,SNR=5.6						
243A	Waterproof	29.84	348	P	P	09 50 22.9	+0.8
	baz=166						
150A	Eclectic	29.84	357	P	P	09 50 22.9	+0.7
	baz=177						
149A	Jones	29.88	356	P	P	09 50 23.2	+0.7
	baz=175						
VBMS	Vicksburg	29.98	350	P	P	09 50 23.9	+0.6
	baz=168						
VBMS	Vicksburg	29.98	350	eP	P	09 50 24.1	+0.8
	comp=Z,113nm,1.3s						
VBMS				LR	LR		
	comp=Z,1μm,19.0s						
148A	Greensboro	29.99	355	P	P	09 50 23.8	+0.3
	baz=174,SNR=7.4						
147A	Livingston	30.09	354	P	P	09 50 25.3	+0.9
	baz=172,SNR=6.0						
146A	Union	30.15	352	P	P	09 50 25.4	+0.5
	baz=171,SNR=6.5						
242A	Grayson	30.16	347	P	P	09 50 25.7	+0.7
	baz=164						
LRAL	Lakeview Retre	30.33	356	P	P	09 50 26.7	+0.2
	baz=175,SNR=6.8						
LRAL	Lakeview Retre	30.33	356	eP	P	09 50 26.8	+0.2
	comp=Z,106nm,1.5s						
LRAL				LR	LR		
	comp=Z,2μm,19.0s						
Z49A	Columbiana	30.46	356	P	P	09 50 28.5	+0.9
	baz=176						
CSU	Charleston Sou	30.46	7	eP	P	09 50 28.1	+0.5
Z50A	Ashland	30.48	358	P	P	09 50 28.4	+0.6
	baz=177						
H06E1	SOCORRO T-PHAS	30.51	304	T	T	10 22 27.4	
NATX	Nacogdoches	30.53	343	P	P	09 50 29.0	+0.7
	baz=159						
NATX	Nacogdoches	30.53	343	eP	P	09 50 28.8	+0.5
	comp=Z,57nm,1.4s						
NATX				LR	LR		
	comp=Z,1μm,20.0s						
NHSC	New Hope	30.56	7	PFAKE		09 50 40.0	+11
NHSC				LR	LR		
	comp=Z,7μm,20.0s						
142A	Monroe	30.58	347	P	P	09 50 29.5	+0.9
	baz=165						
Z47A	Carrollton	30.59	354	P	P	09 50 29.2	+0.4
	baz=173						
143A	Socs Landing,	30.61	348	P	P	09 50 29.2	+0.2
	baz=166						
GOGA	Godfrey	30.62	2	P	P	09 50 29.1	+0.1
	baz=182,SNR=6.4						
GOGA	Godfrey	30.62	2	eP	P	09 50 28.9	-0.2
	comp=Z,139nm,1.5s						
GOGA				LR	LR		
	comp=Z,5μm,20.0s						
GOGA	Godfrey	30.62	2	eP	P	09 50 28.9	-0.2
GOGA				pmax	pmax		
	comp=Z,139nm,1.5s						
GOGA				MLR	MLR		
	comp=Z,5μm,20.0s						
435B	Jarrell	30.64	337	P	P	09 50 30.2	+0.9
	baz=153						
Z48A	Northport	30.72	355	P	P	09 50 30.1	+0.2
	baz=174,SNR=6.4						
141A	Papa Simpson,	30.85	346	P	P	09 50 31.6	+0.5
	baz=163						
Z45A	Winona	30.97	351	P	P	09 50 32.6	+0.6
	baz=170						
Z44A	Pea Ridge, Bel	30.99	350	P	P	09 50 32.9	+0.6
	baz=168,SNR=7.1						
Z43A	Armstrong Fami	31.07	349	P	P	09 50 33.2	+0.2
	baz=167,SNR=7.0						
Y50A	Piedmont	31.11	358	P	P	09 50 33.8	+0.4
	baz=177						
Y48A	Jasper	31.22	356	P	P	09 50 34.6	+0.3
	baz=175						
Z42A	Norrel Spur, H	31.28	348	P	P	09 50 35.0	+0.2
	baz=165						
JCT	Junction City	31.29	334	P	P	09 50 35.5	+0.4
	baz=149,SNR=11						
JCT	Junction City	31.29	334	eP	P	09 50 35.6	+0.6
	comp=Z,151nm,1.8s						
JCT				LR	LR		
	comp=Z,1μm,20.0s						
JCT	Junction City	31.29	334	eP	P	09 50 35.6	+0.6
JCT				pmax	pmax		
	comp=Z,151nm,1.8s						
JCT				MLR	MLR		
	comp=Z,1μm,20.0s						
Y46A	Houston	31.36	353	P	P	09 50 35.6	+0.1
	baz=171,SNR=9.3						
Y45A	Yeager Farm, C	31.43	352	P	P	09 50 36.4	+0.2
	baz=170,SNR=11						
Z41A	Richland Creek	31.45	346	P	P	09 50 36.7	+0.4
	baz=164						
HODGE	Hodges	31.49	3	eP	P	09 50 37.0	+0.3
	comp=Z,124nm,1.4s						
HODGE				LR	LR		
	comp=Z,5μm,21.0s						
HPIG		31.59	322	eP	P	09 50 38.6	+0.6
	comp=Z,33nm,1.4s						
HPIG				LR	LR		
	comp=Z,6μm,19.0s						
JSC	Jenkinsville	31.61	5	eP	P	09 50 38.3	+0.5
	comp=Z,90nm,1.4s						
JSC				LR	LR		
	comp=Z,7μm,18.0s						
JSC	Jenkinsville	31.61	5	eP	P	09 50 38.3	+0.5
JSC				pmax	pmax		
	comp=Z,90nm,1.4s						
JSC				MLR	MLR		
	comp=Z,7μm,18.0s						
Y44A	Strider, Charl	31.63	351	P	P	09 50 38.1	+0.3
	baz=169						
WHTX	Lake Whitney,	31.67	339	P	P	09 50 38.8	+0.5
	baz=154,SNR=8.9						
WHTX	Lake Whitney,	31.67	339	eP	P	09 50 38.7	+0.3
	comp=Z,119nm,1.7s						
WHTX				LR	LR		
	comp=Z,2μm,22.0s						
X50A	Fort Payne	31.68	358	P	P	09 50 38.2	-0.2
	baz=178						
X48A	Hartselle	31.74	356	P	P	09 50 38.7	-0.2
	baz=175,SNR=5.4						
X49A	Woodville	31.76	357	P	P	09 50 39.2	+0.1
	baz=176						
Y42A	Garnett, Star	31.79	348	P	P	09 50 39.4	0.0
	baz=166						
CCAR	Cane Creek	31.86	348	eP	P	09 50 40.4	+0.5
	comp=Z,280nm,1.5s						
CCAR				LR	LR		
	comp=Z,2μm,20.0s						
X47A	Russelville	31.88	355	P	P	09 50 39.8	-0.3

baz=173,SNR=10
WLAR White Oak Lake 31.94 346 *e*P P 09 50 40.9 +0.3
comp=Z,166nm,1.5s
WLAR LR LR
comp=Z,3µm,22.0s
X45A UM Field Stati 31.96 352 P P 09 50 40.4 -0.4
baz=170,SNR=16
X46A Booneville 31.99 353 P P 09 50 40.8 -0.3
baz=172,SNR=8.2
OXF Oxford 32.05 352 P P 09 50 40.9 -0.7
baz=170,SNR=9.8
OXF Oxford 32.05 352 *e*P P 09 50 40.9 -0.7
comp=Z,118nm,1.3s
OXF LR LR
comp=Z,2µm,20.0s
OXF Oxford 32.05 352 *e*P P 09 50 40.9 -0.7
OXF pmax pmax
comp=Z,118nm,1.3s
OXF MLR MLR
comp=Z,2µm,20.0s
X44A Crenshaw 32.14 351 P P 09 50 42.7 +0.3
baz=169
BG3 Lake Jocassee 32.22 2 *e*P P 09 50 43.4 +0.2
comp=Z,153nm,1.5s
BG3 LR LR
comp=Z,4µm,19.0s
TXAR Lajitas Array 32.24 327 P P 09 50 44.0 +0.5
comp=Z,9.4nm,1.2s,baz=145,slow=7.5,SNR=22
TXAR PcP PcP 09 53 32.4 +0.4
comp=Z,3.5nm,0.9s,baz=178,slow=3.3,SNR=11
TXAR LR LR 10 02 58.8
comp=Z,1µm,20.5s,baz=0.0,slow=35
TX31 Lajitas Ar. Si 32.24 327 *e*P P 09 50 44.0 +0.4
X43A Marvell 32.28 350 P P 09 50 44.4 +0.8
baz=168
Y40A Okolona 32.29 346 P P 09 50 43.9 +0.2
baz=163
PLAL Pickwick Lake 32.36 354 *e*P P 09 50 44.1 -0.2
comp=Z,113nm,1.8s
PLAL LR LR
comp=Z,2µm,21.0s
SLBS Sierra La Lagu 32.37 312 *e*P P 09 50 46.0 +1.3
comp=Z,212nm,1.9s
W48A Pulaski 32.42 356 P P 09 50 45.1 +0.3
baz=175,SNR=8.5
SWET Sewanee 32.44 358 *e*P P 09 50 44.4 -0.7
comp=Z,128nm,1.8s
SWET LR LR
comp=Z,2µm,20.0s
X42A Stuttgart 32.45 349 P P 09 50 45.3 +0.1
baz=166
KMSC Kings Mountain 32.46 5 P P 09 50 45.0 -0.2
baz=186,SNR=7.5
KMSC Kings Mountain 32.46 5 *e*P P 09 50 45.0 -0.2
comp=Z,130nm,1.4s
KMSC LR LR
comp=Z,6µm,20.0s
W46A Michie 32.54 354 P P 09 50 45.3 -0.5
baz=172,SNR=6.2
X41A Kaden, Bauxite 32.58 348 P P 09 50 46.0 -0.3
baz=165,SNR=11
W47A Westpoint 32.58 355 P P 09 50 46.0 -0.2
baz=174,SNR=12
X40A Basin Creek Fa 32.64 347 P P 09 50 46.5 -0.3
baz=164
CPCT Cooper Cave 32.64 360 *e*P P 09 50 46.8 0.0
comp=Z,157nm,1.8s
CPCT LR LR
comp=Z,4µm,22.0s
W45A Hickory Valley 32.65 353 P P 09 50 46.5 -0.4
baz=171
MET Memphis--Engin 32.72 352 *e*P P 09 50 46.8 -0.7
comp=Z,166nm,1.1s
MET LR LR
comp=Z,2µm,19.0s
W43A Forest City 32.81 350 P P 09 50 48.1 -0.1
baz=168
UALR University of 32.81 348 *e*P P 09 50 47.8 -0.5
comp=Z,109nm,1.5s
UALR LR LR
comp=Z,1µm,21.0s
TKL Tuckaleechee C 32.86 1 P P 09 50 47.8 -0.9
comp=Z,14nm,0.9s,baz=164,slow=12,SNR=7.6
TKL LR LR 10 03 52.4
comp=Z,4µm,18.9s,baz=178,slow=36
TKL Tuckaleechee C 32.86 1 *e*P P 09 50 48.4 -0.3
comp=Z,108nm,1.4s
TKL Tuckaleechee C 32.86 1 *e*P P 09 50 48.4 -0.3
TKL pmax pmax
comp=Z,108nm,1.4s
MIAR Mount Ida 32.87 346 P P 09 50 48.7 -0.2
baz=163
MIAR Mount Ida 32.87 346 *e*P P 09 50 48.2 -0.5
comp=Z,26nm,1.2s
MIAR LR LR
comp=Z,2µm,22.0s
MIAR Mount Ida 32.87 346 *e*P P 09 50 48.3 -0.5
MIAR pmax pmax
comp=Z,26nm,1.2s
MIAR MLR MLR
comp=Z,2µm,22.0s
X39A Fountain Ranch 32.97 345 P P 09 50 49.9 +0.2
baz=162
CNNC Cliffs of the 32.99 10 P P 09 50 49.9 0.0
baz=192
CNNC Cliffs of the 32.99 10 PFAKE 09 51 00.0 +10
CNNC LR LR
comp=Z,6µm,19.0s
V48A Smith Brothers 33.01 356 P P 09 50 49.7 -0.4
baz=176,SNR=12
ABTX Abilene, Hawle 33.08 336 P P 09 50 50.9 +0.2
baz=151,SNR=16
ABTX Abilene, Hawle 33.08 336 *e*P P 09 50 50.2 -0.5
comp=Z,178nm,1.8s
ABTX LR LR
comp=Z,900nm,21.0s
W42A Bald Knob 33.13 349 P P 09 50 51.2 +0.1
baz=167
V47A Nunnelly 33.15 355 P P 09 50 50.3 -0.9
baz=174,SNR=8.1
V46A Holladay 33.17 354 P P 09 50 50.7 -0.7
baz=173,SNR=7.9
W41B Gary Mavity, V 33.18 348 P P 09 50 51.3 -0.1
baz=166,SNR=7.7
V45A Humboldt 33.20 353 P P 09 50 51.3 -0.4
baz=172,SNR=5.6
HBAR Harrisburg 33.26 351 *e*P P 09 50 51.8 -0.4
comp=Z,325nm,1.6s
HBAR LR LR
comp=Z,1µm,19.0s
X301 Greenbrier Sit 33.27 348 *e*P P 09 50 52.1 -0.2
comp=Z,134nm,1.9s
X301 LR LR
comp=Z,2µm,21.0s
WHAR Wooly Hollow 33.30 348 *e*P P 09 50 52.0 -0.6
comp=Z,94nm,1.5s
WHAR LR LR
comp=Z,1µm,20.0s
W40A Ferguson Farm, 33.37 347 P P 09 50 53.0 -0.1
baz=164,SNR=7.0
W40A Ferguson Farm, 33.37 347 *e*P P 09 50 53.2 +0.1
comp=Z,77nm,1.3s
W40A LR LR
comp=Z,2µm,21.0s
HALT Halls 33.42 353 *e*P P 09 50 53.2 -0.3
comp=Z,350nm,1.7s
HALT LR LR
comp=Z,2µm,19.0s
V43A Jonesboro 33.46 351 P P 09 50 54.5 +0.6
baz=169
WVT Waverly 33.47 355 P P 09 50 53.6 -0.4
baz=174
WVT Waverly 33.47 355 *e*P P 09 50 52.8 -1.2
comp=Z,85nm,1.6s
WVT LR LR
comp=Z,2µm,19.0s
WVT Waverly 33.47 355 *e*P P 09 50 52.8 -1.2
WVT pmax pmax
comp=Z,85nm,1.6s
WVT MLR MLR
comp=Z,2µm,19.0s
W39A Magazine 33.54 346 P P 09 50 54.7 +0.1
baz=163,SNR=5.8
V42A Cord 33.63 350 P P 09 50 54.9 -0.5
baz=167,SNR=6.8
U46A Springville 33.73 355 P P 09 50 55.7 -0.6
baz=173,SNR=6.7
U47A Clarksville 33.74 356 P P 09 50 56.0 -0.3
baz=175
TZTN Tazewell 33.74 1 P P 09 50 57.0 +0.5
baz=181,SNR=6.7
TZTN Tazewell 33.74 1 *e*P P 09 50 56.3 -0.1
comp=Z,118nm,1.4s
TZTN LR LR
comp=Z,3µm,18.0s
V41A Mountainview 33.75 349 P P 09 50 55.9 -0.6
baz=166,SNR=7.2
U48A Cassie Pea, Po 33.76 357 P P 09 50 56.1 -0.5
baz=176,SNR=6.6
GLAT Glass 33.76 353 *e*P P 09 50 57.0 +0.5
comp=Z,328nm,1.6s
GLAT LR LR
comp=Z,2µm,18.0s
U45A Rockin P Farm, 33.78 354 P P 09 50 56.5 -0.2
baz=172
UTMT University of 33.78 354 *e*P P 09 50 56.5 -0.2
comp=Z,210nm,1.5s
U44B Burton Farm, H 33.84 353 P P 09 50 57.2 -0.1
baz=171
V40A Witts Springs 33.91 348 P P 09 50 57.2 -0.7
baz=165,SNR=11
PVMO Portageville 33.96 352 *e*P P 09 50 58.0 -0.3
comp=Z,382nm,1.8s
PVMO LR LR
comp=Z,2µm,18.0s
U43A Rector 34.02 351 P P 09 50 58.6 -0.2
baz=169
U44A Portageville 34.05 352 P P 09 50 59.3 +0.3
baz=170
LCO Las Campanas 34.11 158 *e*P P 09 51 01.1 +1.1
comp=Z,20nm,1.1s
LCO LR LR
comp=Z,2µm,21.0s
LCO Las Campanas 34.11 158 P P 09 51 01.1 +1.1
V39A Pettigrew 34.12 347 P P 09 50 59.3 -0.5
baz=163,SNR=7.7
U42A Revenden 34.13 350 P P 09 50 59.2 -0.6
baz=168,SNR=18
PARMO Parma 34.21 352 *e*P P 09 50 60.0 -0.5
comp=Z,315nm,1.8s
PARMO LR LR
comp=Z,1µm,19.0s
U41A Viola 34.25 349 P P 09 51 00.2 -0.6
baz=166
T47A Sharon Grove 34.27 356 P P 09 51 00.4 -0.6
baz=175,SNR=8.3
T48A Bowling Green 34.35 357 P P 09 51 01.2 -0.4
baz=176
T46A Princeton 34.38 355 P P 09 51 01.5 -0.5
baz=174,SNR=11
PBMO Poplar Bluff 34.42 351 *e*P P 09 51 01.8 -0.5
comp=Z,77nm,1.4s
PBMO LR LR
comp=Z,2µm,19.0s
U40A Yellville 34.44 348 P P 09 51 02.0 -0.6
baz=165,SNR=16
BLA Blacksburg 34.60 6 P P 09 51 03.3 -0.6
baz=187,SNR=7.2
BLA Blacksburg 34.60 6 *e*P P 09 51 03.3 -0.6
comp=Z,199nm,1.4s
BLA LR LR
comp=Z,6µm,20.0s
BLA Blacksburg 34.60 6 *e*P P 09 51 03.3 -0.6
BLA pmax pmax
comp=Z,199nm,1.4s
BLA MLR MLR
comp=Z,6µm,20.0s
U39A Green Forest 34.60 347 P P 09 51 03.2 -0.7
baz=164,SNR=14
T44A Benton 34.61 353 P P 09 51 03.2 -0.6
baz=171
HHAR Hobbs 34.61 346 *e*P P 09 51 03.3 -0.7
comp=Z,66nm,1.6s
HHAR LR LR
comp=Z,2µm,22.0s
WMOK Wichita Mounta 34.62 339 P P 09 51 03.4 -0.7
baz=154,SNR=13
WMOK Wichita Mounta 34.62 339 *e*P P 09 51 03.7 -0.4
comp=Z,100nm,1.8s
WMOK LR LR
comp=Z,2µm,22.0s
WMOK Wichita Mounta 34.62 339 *e*P P 09 51 03.7 -0.4
WMOK pmax pmax
comp=Z,100nm,1.8s
WMOK MLR MLR
comp=Z,2µm,22.0s
OK022 N3560 Road, Pr 34.65 342 PFAKE 09 51 20.0 +16
OK022 LR LR
comp=Z,1µm,22.0s
VWCC Virginia Weste 34.68 6 *e*P P 09 51 03.5 -1.1
T43A Grenville 34.70 352 P P 09 51 04.0 -0.6
baz=170,SNR=11
OK020 N3440 Road, Me 34.71 342 *e*P P 09 51 04.1 -0.8
comp=Z,37nm,1.4s
OK020 LR LR
comp=Z,1µm,21.0s
OK021 N3530 Road, Sp 34.72 342 PFAKE 09 51 20.0 +15
OK021 LR LR
comp=Z,1µm,22.0s
TUL1 Leonard 34.74 344 P P 09 51 04.6 -0.5
baz=160,SNR=5.5
TUL1 Leonard 34.74 344 *e*P P 09 51 04.2 -0.9
comp=Z,54nm,1.4s
TUL1 LR LR
comp=Z,2µm,22.0s
T42A Van Buren 34.77 351 P P 09 51 04.4 -0.9
baz=168,SNR=14
S48A Wiedeman Farm, 34.88 358 P P 09 51 05.2 -1.1
baz=177
BBSR BB Station 34.90 30 PFAKE 09 51 20.0 +14
BBSR LR LR
comp=Z,2µm,22.0s
T41A Mountain View 34.90 350 P P 09 51 05.8 -0.7
baz=167,SNR=18
S46A Don Dixon Farm 35.01 355 P P 09 51 06.6 -0.7
baz=174,SNR=5.5
MNTX Cornudas Mount 35.01 328 P P 09 51 07.7 +0.2
baz=141,SNR=36
MNTX Cornudas Mount 35.01 328 *e*P P 09 51 07.8 +0.2
comp=Z,135nm,1.7s
MNTX LR LR
comp=Z,2µm,19.0s
S45A Carrier Mills 35.08 354 P P 09 51 07.3 -0.6
baz=173
T40A Mansfield 35.14 349 P P 09 51 08.1 -0.4
baz=166,SNR=6.5
S43A Fulton Ridge, 35.15 352 P P 09 51 07.8 -0.8
baz=170,SNR=8.7
S44A Carbondale 35.16 353 P P 09 51 08.0 -0.7
baz=172,SNR=8.7
SIUC Southern Illin 35.18 353 *e*P P 09 51 08.3 -0.6
comp=Z,195nm,1.6s
SIUC LR LR
comp=Z,2µm,19.0s
T39A Clever 35.20 348 P P 09 51 08.3 -0.8
baz=164,SNR=20
USIN University of 35.28 356 *e*P P 09 51 08.8 -0.9
comp=Z,219nm,1.6s
USIN LR LR
comp=Z,2µm,20.0s
T38A Diamond 35.41 346 P P 09 51 10.3 -0.6
baz=163,SNR=13
S41A Jillco Farms, 35.42 350 P P 09 51 10.4 -0.6
baz=167,SNR=17
S42A Caledonia 35.45 351 P P 09 51 10.1 -1.0
baz=169,SNR=11
WCI Wyandotte Cave 35.46 357 P P 09 51 10.4 -0.9
baz=177
WCI Wyandotte Cave 35.46 357 *e*P P 09 51 10.2 -1.0
comp=Z,144nm,1.5s
WCI LR LR
comp=Z,1µm,18.0s
WCI Wyandotte Cave 35.46 357 *e*P P 09 51 10.2 -1.0
WCI pmax pmax
comp=Z,145nm,1.5s
WCI MLR MLR
comp=Z,1µm,18.0s
R46A Gibon Southern 35.51 356 P P 09 51 10.9 -0.8
baz=175,SNR=10.0
R47A Wooly Knot Far 35.54 357 P P 09 51 11.2 -0.7
baz=176
IP05 Hopewell Churc 35.55 9 *e*P P 09 51 11.5 -0.5
comp=Z,96nm,1.6s
IP05 LR LR
comp=Z,7µm,20.0s
MSTX Muleshoe 35.57 333 P P 09 51 12.4 -0.1
baz=147,SNR=12
MSTX Muleshoe 35.57 333 *e*P P 09 51 12.0 -0.4
comp=Z,52nm,1.3s
MSTX LR LR
comp=Z,802nm,20.0s
S40A Lebanon 35.57 349 P P 09 51 11.8 -0.5
baz=166,SNR=22
IP07 Quail 35.59 9 *e*P P 09 51 12.1 -0.3
comp=Z,104nm,1.4s
IP07 LR LR
comp=Z,6µm,20.0s
FVM French Village 35.60 352 *e*P P 09 51 11.4 -1.1
comp=Z,140nm,1.6s
FVM LR LR
comp=Z,2µm,19.0s
FVM French Village 35.60 352 *e*P P 09 51 11.4 -1.1
FVM pmax pmax
comp=Z,140nm,1.6s
FVM MLR MLR
comp=Z,2µm,19.0s
R48A Northridge Ran 35.61 358 P P 09 51 12.6 0.0
baz=177
IP06 Yanceyville 35.61 9 *e*P P 09 51 12.5 0.0
comp=Z,69nm,1.6s
IP06 LR LR
comp=Z,5µm,20.0s
IP01 Cuckoo 35.65 9 *e*P P 09 51 12.3 -0.5
comp=Z,171nm,1.6s
IP01 LR LR
comp=Z,7µm,20.0s
R45A Skylar, Fairfi 35.66 355 P P 09 51 12.2 -0.7
baz=173,SNR=7.3
EPT El Paso 35.67 327 *e*P P 09 51 13.6 +0.3
comp=Z,29nm,1.3s
EPT LR LR
comp=Z,2µm,20.0s
R44A Waltonville 35.69 354 P P 09 51 12.6 -0.6
baz=172,SNR=8.7
IP03 Louisa 35.69 9 *e*P P 09 51 13.0 -0.2
comp=Z,101nm,1.4s
IP03 LR LR
comp=Z,6µm,20.0s
SPRD Spring Road, M 35.72 9 *e*P P 09 51 13.3 -0.2
comp=Z,162nm,1.6s
IP04 Greensprings 35.75 9 *e*P P 09 51 12.8 -0.9
comp=Z,155nm,1.7s
IP04 LR LR
comp=Z,6µm,19.0s
CVRD Centerville Ro 35.77 9 *e*P P 09 51 13.7 -0.2
comp=Z,154nm,1.4s
CCM Cathedral Cave 35.80 351 P P 09 51 13.5 -0.7
baz=168
CCM Cathedral Cave 35.80 351 *e*P P 09 51 13.4 -0.7
comp=Z,361nm,1.9s
CCM LR LR
comp=Z,1µm,18.0s
CCM Cathedral Cave 35.80 351 *e*P P 09 51 13.4 -0.7
CCM pmax pmax
comp=Z,361nm,1.9s
CCM MLR MLR
comp=Z,1µm,18.0s
R43A Red Bud 35.82 353 P P 09 51 14.1 -0.2
baz=170,SNR=14
S39A Bolivar 35.83 348 P P 09 51 13.7 -0.7
baz=165,SNR=20
PTRD Partlow Road 35.85 9 *e*P P 09 51 14.6 0.0
comp=Z,154nm,1.3s
AMTX Amarillo 35.87 335 P P 09 51 14.9 -0.1
baz=150
AMTX Amarillo 35.87 335 *e*P P 09 51 15.1 +0.1
comp=Z,120nm,1.6s
AMTX LR LR
comp=Z,1µm,22.0s
SPFD Spotsylvania F 35.88 9 *e*P P 09 51 14.8 -0.1
comp=Z,122nm,1.3s
S38A Stockton 35.90 347 P P 09 51 14.3 -0.7
baz=164,SNR=7.7
R42A Luebbering 35.95 351 P P 09 51 15.0 -0.5
baz=169,SNR=9.8
CBN Corbin Frederi 35.98 9 P P 09 51 14.9 -0.8
baz=192,SNR=5.1
CBN Corbin Frederi 35.98 9 *e*P P 09 51 14.8 -0.8
comp=Z,111nm,1.4s
CBN LR LR
comp=Z,7µm,20.0s
R41A Rosebud 36.05 351 P P 09 51 15.6 -0.8
baz=168,SNR=15
OLIL Olney 36.08 355 *e*P P 09 51 15.9 -0.6
comp=Z,165nm,1.4s
OLIL LR LR
comp=Z,2µm,20.0s
Q47A Bedord North L 36.17 357 P P 09 51 16.4 -0.9
baz=176,SNR=7.4
T34A McClaskey Farm 36.18 343 P P 09 51 16.9 -0.6
baz=158
R40A Maddies Statio 36.20 350 P P 09 51 16.8 -0.8
baz=167,SNR=11
SLM Saint Louis 36.22 352 *e*P P 09 51 17.3 -0.4
comp=Z,127nm,1.4s
SLM LR LR
comp=Z,1µm,18.0s
SLM Saint Louis 36.22 352 *e*P P 09 51 17.3 -0.4
SLM pmax pmax
comp=Z,127nm,1.4s
SLM MLR MLR
comp=Z,1µm,18.0s
Q45A Warren Harvey, 36.24 355 P P 09 51 17.7 -0.3
baz=174,SNR=12
Q44A Meyer Farm, Va 36.33 354 P P 09 51 18.4 -0.3
baz=172
R39A Chumby, Stover 36.37 349 P P 09 51 18.6 -0.4
baz=165,SNR=24
HSIG 36.41 319 *e*P P 09 51 19.4 -0.1
comp=Z,62nm,1.6s
HSIG LR LR
comp=Z,3µm,20.0s
BLO Bloomington 36.41 357 *e*P P 09 51 18.8 -0.6
comp=Z,73nm,1.4s
BLO LR LR
comp=Z,1µm,18.0s
BLO Bloomington 36.41 357 *e*P P 09 51 18.8 -0.6
BLO pmax pmax
comp=Z,73nm,1.4s
BLO MLR MLR
comp=Z,1µm,18.0s
R38A Fenwick Farm, 36.43 347 P P 09 51 18.9 -0.7
baz=164,SNR=10
Q43A New Douglas 36.45 353 P P 09 51 19.5 -0.2
baz=171
Q42A Golden Eagle 36.53 352 P P 09 51 20.1 -0.3
baz=170,SNR=6.3
S35A Otter Creek Ra 36.55 344 P P 09 51 20.2 -0.4
baz=160,SNR=12
Q41A Truxton 36.67 351 P P 09 51 21.2 -0.4
baz=168,SNR=21
P45A Graceland, Par 36.84 356 P P 09 51 22.3 -0.7
baz=174,SNR=8.8
Q40A Laux Fux Farm, Aux 36.85 350 P P 09 51 22.5 -0.7
baz=167,SNR=9.9
P44A Sand Creek, Wi 36.85 355 P P 09 51 22.7 -0.5
baz=173,SNR=7.4
R36A Gordon, Harris 36.94 345 P P 09 51 23.9 +0.1
baz=161
121A Cookes Peak, D 36.96 326 P P 09 51 26.1 +1.7
baz=139,SNR=25
121A Cookes Peak, D 36.96 326 *e*P P 09 51 25.7 +1.4
comp=Z,393nm,1.8s
Q39A Willow Grove F 37.06 349 P P 09 51 24.9 -0.1
baz=166
MCWV Mont Chateau 37.08 6 P P 09 51 24.6 -0.5
baz=187
MCWV Mont Chateau 37.08 6 *e*P P 09 51 24.6 -0.5
comp=Z,99nm,1.4s
MCWV LR LR
comp=Z,7µm,19.0s
Q38A Cooks Store, C 37.11 348 P P 09 51 25.3 0.0
baz=165,SNR=21
P43A Skaggs, Pawnee 37.12 353 P P 09 51 25.4 0.0
baz=171,SNR=14
P42A Winchester 37.16 352 P P 09 51 25.6 -0.2
baz=170,SNR=6.0
SDMD Soldier's Deli 37.24 10 *e*P P 09 51 25.5 -0.9
comp=Z,74nm,1.7s
SDMD LR LR
comp=Z,3µm,20.0s
P41A Barry, Barry 37.35 352 P P 09 51 27.1 -0.3
baz=169,SNR=7.7
P40A Paris 37.37 350 P P 09 51 27.1 -0.4

baz=167,SNR=18
R34A Isabella, Hill 37.38 343 P **P** 09 51 27.7 0.0
baz=158,SNR=15
ACSO Alum Creek Sta 37.44 2 P **P** 09 51 27.6 -0.6
baz=182,SNR=7.3
ACSO Alum Creek Sta 37.44 2 eP **P** 09 51 27.3 -0.8
comp=Z,120nm,1.5s
ACSO LR LR
comp=Z,4µm,22.0s
P39B Salisbury 37.45 349 P **P** 09 51 27.6 -0.6
baz=166,SNR=9.9
O44A Mansfield 37.52 355 P **P** 09 51 28.5 -0.3
baz=173,SNR=5.3
Q36A Arnold C. Orve 37.53 346 P **P** 09 51 29.4 +0.5
baz=162
Q35A Mercer Eighty, 37.58 345 P **P** 09 51 28.7 -0.6
baz=161,SNR=5.8
BNM Barren Site 37.58 329 eP **P** 09 51 30.8 +1.1
ROC1 El Roble 37.62 161 eP **P** 09 51 31.6 +1.5
comp=Z,99nm,0.4s
SFIN Lafayette 37.64 357 P **P** 09 51 28.4 -1.5
baz=176,SNR=5.3
SFIN Lafayette 37.64 357 eP **P** 09 51 28.8 -1.0
comp=Z,94nm,1.4s
SFIN LR LR
comp=Z,1µm,18.0s
Y22D IRIS PASSCAL I 37.67 329 P **P** 09 51 31.2 +0.9
baz=141,SNR=8.4
Y22D IRIS PASSCAL I 37.67 329 eP **P** 09 51 32.3 +2.0
comp=Z,257nm,1.6s
Y22D LR LR
comp=Z,2µm,18.0s
Y22E IRIS PASSCAL I 37.67 329 P **P** 09 51 31.6 +1.3
baz=141,SNR=8.8
LPM Los Pinos Moun 37.70 329 eP **P** 09 51 31.5 +0.8
O42A Bath 37.73 353 P **P** 09 51 30.3 -0.3
baz=171,SNR=9.2
O43A Sugar Creek Fa 37.73 354 P **P** 09 51 30.4 -0.2
baz=172
P38A Dawn 37.73 348 P **P** 09 51 30.0 -0.7
baz=165,SNR=8.2
O41A Passleys Farm, 37.76 352 P **P** 09 51 30.0 -0.8
baz=169,SNR=7.9
O56A Blue Knob Stat 37.83 7 P **P** 09 51 31.3 -0.1
baz=189,SNR=6.2
P37A Lathrop 37.87 347 P **P** 09 51 30.8 -0.9
baz=164,SNR=5.3
Q34A Chapman 37.88 344 P **P** 09 51 31.6 -0.3
baz=159,SNR=11
MVL Millersville 37.90 10 eP **P** 09 51 32.1 +0.1
comp=Z,148nm,1.6s
O40A La Belle 37.91 351 P **P** 09 51 31.5 -0.7
baz=168,SNR=10
KSU1 Kansas State U 37.95 344 P **P** 09 51 31.7 -0.8
baz=160
KSU1 Kansas State U 37.95 344 eP **P** 09 51 32.0 -0.5
KSU1 epP **P** 09 51 32.2 -0.3
KSU1 LR LR
comp=Z,2µm,22.0s
PSUB Penn St. - Bra 37.99 11 eP **P** 09 51 32.2 -0.6
comp=Z,107nm,1.5s
PSUB LR LR
comp=Z,3µm,20.0s
HDIL Hopedale 38.00 354 P **P** 09 51 32.1 -0.8
baz=172,SNR=10
HDIL Hopedale 38.00 354 eP **P** 09 51 31.8 -1.1
comp=Z,370nm,1.8s
HDIL LR LR
comp=Z,1µm,19.0s
LAZ Ladron 38.04 329 eP **P** 09 51 34.6 +1.1
PAGS Pennsylvania G 38.06 10 eP **P** 09 51 33.0 -0.3
comp=Z,144nm,1.3s
PAGS LR LR
comp=Z,5µm,20.0s
P36A Good Intent, A 38.09 346 P **P** 09 51 33.7 0.0
baz=162,SNR=12
ANMO Albuquerque 38.12 330 P **P** 09 51 33.7 -0.5
comp=Z,24nm,1.1s,baz=329,slow=11,SNR=38
ANMO PcP **PcP** 09 53 48.8 -0.4
comp=Z,3.5nm,1.0s,baz=359,slow=6.8,SNR=5.1
ANMO LR LR 10 07 51.6
comp=Z,630nm,19.1s,baz=10.0,slow=37
ANMO Albuquerque 38.12 330 eP **P** 09 51 33.9 -0.3
baz=143
ANMO Albuquerque 38.12 330 eP **P** 09 51 34.3 +0.1
comp=Z,92nm,1.5s
ANMO PcP **PcP** 09 53 48.8 -0.4
ANMO Albuquerque 38.12 330 ceP **P** 09 51 35.2 +1.0
ANMO pmax pmax
comp=Z,73nm,1.7s
N44A Piper City 38.13 355 P **P** 09 51 32.8 -1.1
baz=174,SNR=7.7
RPN Rapa Nui 38.13 217 LR LR 10 03 01.4
comp=Z,4µm,21.2s,baz=40,slow=30
N45A Kentland 38.13 356 P **P** 09 51 32.6 -1.4
baz=175
O39A Kirksville 38.16 350 P **P** 09 51 33.8 -0.4
baz=167,SNR=11
O38A Galt 38.20 349 P **P** 09 51 34.0 -0.5
baz=165
P35A Duane Minner, 38.20 345 P **P** 09 51 34.7 0.0
baz=161,SNR=8.4
SSPA Standing Stone 38.28 8 P **P** 09 51 35.1 -0.1
baz=190
SSPA Standing Stone 38.28 8 eP **P** 09 51 34.4 -0.8
comp=Z,232nm,1.9s
SSPA LR LR
comp=Z,5µm,20.0s
N41A Harden Midland 38.34 352 P **P** 09 51 34.9 -0.8
baz=170
N42A Yates City 38.35 353 P **P** 09 51 35.4 -0.5
baz=171,SNR=11
N54A Moraine State 38.35 5 P **P** 09 51 35.3 -0.6
baz=187
N54A Moraine State 38.35 5 eP **P** 09 51 35.0 -0.9
comp=Z,146nm,1.7s
N54A LR LR
comp=Z,7µm,20.0s
N43A Stutzman Famil 38.37 354 P **P** 09 51 34.9 -1.0
baz=172,SNR=7.1
O37A Wolven Farm, M 38.38 348 P **P** 09 51 35.8 -0.3
baz=164,SNR=5.9
P34A Walnut Farm, R 38.43 344 P **P** 09 51 36.9 +0.4
baz=160,SNR=6.8
O36A Bolckow 38.52 347 P **P** 09 51 37.2 -0.1
baz=163,SNR=8.8
TUC Tucson 38.54 323 P **P** 09 51 38.3 +0.7
baz=135
TUC Tucson 38.54 323 eP **P** 09 51 38.6 +1.0
comp=Z,83nm,1.6s
TUC LR LR
comp=Z,5µm,20.0s
TUC Tucson 38.54 323 eP **P** 09 51 38.6 +1.0
TUC pmax pmax
comp=Z,83nm,1.6s
TUC MLR MLR
comp=Z,5µm,20.0s
N40A Mertquake, Sal 38.62 351 P **P** 09 51 38.0 -0.1
baz=168
CBKS Cedar Bluff 38.62 341 P **P** 09 51 38.7 +0.5
baz=155,SNR=7.1
CBKS Cedar Bluff 38.62 341 eP **P** 09 51 39.0 +0.8
comp=Z,107nm,1.2s
CBKS LR LR
comp=Z,1µm,22.0s
CBKS Cedar Bluff 38.62 341 eP **P** 09 51 39.0 +0.8
CBKS pmax pmax
comp=Z,107nm,1.2s
CBKS MLR MLR
comp=Z,1µm,22.0s
M46A Old House Fiel 38.63 358 P **P** 09 51 37.5 -0.7
baz=177
M45A Boilermakers S 38.66 357 P **P** 09 51 37.8 -0.6
baz=175
LUPA Lehigh Univers 38.66 11 eP **P** 09 51 37.9 -0.5
comp=Z,14nm,1.7s
LUPA LR LR
comp=Z,300nm,19.0s
M44A Midewin, Midew 38.71 356 P **P** 09 51 38.0 -0.8
baz=174
N39A Derby Farms, D 38.76 350 P **P** 09 51 38.8 -0.5
baz=167,SNR=23
N38A Joes South For 38.81 349 P **P** 09 51 39.3 -0.3
baz=166,SNR=11
M43A Waltham Townsh 38.84 355 P **P** 09 51 39.3 -0.5
baz=173
O35A Humboldt 38.87 346 P **P** 09 51 39.9 -0.3
baz=161,SNR=5.6

N59A State Game Lan 38.89 10 P **P** 09 51 40.3 -0.1
baz=194,SNR=6.3
N59A State Game Lan 38.89 10 eP **P** 09 51 40.5 +0.1
comp=Z,93nm,1.2s
N59A LR LR
comp=Z,5µm,19.0s
CPUP Villa Florida 38.92 139 P **P** 09 51 41.2 +0.4
comp=Z,2.0nm,0.8s,baz=332,slow=12,SNR=3.9
CPUP LR LR 10 09 48.6
comp=Z,2µm,18.4s,baz=321,slow=39
CPUP Villa Florida 38.92 139 eP **P** 09 51 40.7 -0.1
comp=Z,101nm,2.0s
CPUP Villa Florida 38.92 139 eP **P** 09 51 40.7 -0.1
CPUP pmax pmax
comp=Z,101nm,2.0s
M54A Oil Creek Stat 38.93 6 P **P** 09 51 40.8 +0.1
baz=187
M54A Oil Creek Stat 38.93 6 PFAKE 09 51 50.0 +9.3
M54A LR LR
comp=Z,7µm,19.0s
M42A Sheffield 38.94 354 P **P** 09 51 40.0 -0.7
baz=171
T25A Trinidad 38.95 334 P **P** 09 51 40.8 -0.4
baz=147,SNR=32
T25A Trinidad 38.95 334 eP **P** 09 51 42.5 +1.3
comp=Z,108nm,1.4s
T25A LR LR
comp=Z,1µm,22.0s
M41A Milan 38.95 353 P **P** 09 51 40.0 -0.9
baz=170,SNR=12
N37A Lee Faris, Mou 38.96 348 P **P** 09 51 40.7 -0.3
baz=164,SNR=6.9
O34A Beatrice 38.99 345 P **P** 09 51 41.9 +0.6
baz=160,SNR=9.7
ALLY Alegheny Colle 39.02 5 eP **P** 09 51 40.2 -1.3
comp=Z,127nm,1.5s
ALLY LR LR
comp=Z,7µm,20.0s
MHTCO State Highway 39.06 334 eP **P** 09 51 43.5 +1.4
comp=Z,160nm,1.6s
MHTCO LR LR
comp=Z,1µm,20.0s
M40A Post Highland 39.12 352 P **P** 09 51 41.6 -0.6
baz=169,SNR=5.9
O33A Hebron 39.13 344 P **P** 09 51 42.6 +0.2
baz=159,SNR=12
GO05 HualaaæØ 39.24 164 eP **P** 09 51 44.1 +0.7
comp=Z,48nm,0.5s
GO05 LR LR
comp=Z,2µm,21.0s
ODNJ Ogdensburg 39.28 12 PFAKE 09 51 50.0 +6.4
ODNJ LR LR
comp=Z,4µm,18.0s
M39A Webster 39.29 351 P **P** 09 51 43.0 -0.7
baz=168,SNR=11
PAL Palisades 39.35 13 P **P** 09 51 43.9 -0.3
baz=196
PAL Palisades 39.35 13 eP **P** 09 51 43.6 -0.5
comp=Z,102nm,1.4s
PAL LR LR
comp=Z,3µm,19.0s
PAL Palisades 39.35 13 eP **P** 09 51 43.7 -0.5
PAL pmax pmax
comp=Z,102nm,1.4s
PAL MLR MLR
comp=Z,3µm,19.0s
N35A Tabor 39.38 347 P **P** 09 51 44.2 -0.2
baz=162,SNR=7.3
L42A Oliver, Polo 39.47 354 P **P** 09 51 44.0 -1.2
baz=172,SNR=6.8
AAM Ann Arbor 39.49 1 PFAKE 09 52 00.0 +15
AAM LR LR
comp=Z,4µm,21.0s
ERPA Erie 39.50 5 PFAKE 09 52 00.0 +15
ERPA LR LR
comp=Z,7µm,20.0s
214A Organ Pipe Nat 39.55 321 P **P** 09 51 46.7 +0.7
baz=132,SNR=21
214A Organ Pipe Nat 39.55 321 eP **P** 09 51 46.8 +0.7
comp=Z,554nm,1.5s
M37A Trindle Farm, 39.55 349 P **P** 09 51 45.7 -0.2
baz=165
L43A Garden Prairie 39.56 355 P **P** 09 51 44.7 -1.2
baz=173
N34A Lincoln 39.56 346 P **P** 09 51 46.0 0.0
baz=161,SNR=5.7
L41A Preston 39.64 353 P **P** 09 51 45.5 -1.0
baz=170,SNR=10
X18A Snowflake 39.65 326 eP **P** 09 51 47.5 +0.5
comp=Z,111nm,1.5s
X18A LR LR
comp=Z,2µm,19.0s
N33A J Bar K, Exete 39.71 344 P **P** 09 51 47.4 +0.1
baz=159
L40A Anamosa 39.72 352 P **P** 09 51 46.3 -1.0
baz=169,SNR=12
M36A Felix, Anita 39.75 348 P **P** 09 51 46.9 -0.7
baz=164,SNR=6.8
KSCO Kaye Shedlock' 39.83 338 P **P** 09 51 49.1 +0.7
baz=151,SNR=10
KSCO Kaye Shedlock' 39.83 338 eP **P** 09 51 49.2 +0.7
comp=Z,146nm,1.3s
KSCO LR LR
comp=Z,2µm,21.0s
YLE Yale 39.86 14 eP **P** 09 51 48.3 -0.1
comp=Z,109nm,1.2s
YLE LR LR
comp=Z,4µm,20.0s
SCIA State Center 39.88 350 P **P** 09 51 48.3 -0.3
baz=166,SNR=7.1
SCIA State Center 39.88 350 eP **P** 09 51 48.1 -0.5
comp=Z,182nm,1.6s
SCIA LR LR
comp=Z,2µm,18.0s
L39A Vinton 39.89 351 P **P** 09 51 47.7 -1.0
baz=168
SDCO Great Sand Dun 39.94 334 P **P** 09 51 50.2 +0.7
baz=146,SNR=55
SDCO Great Sand Dun 39.94 334 eP **P** 09 51 50.6 +1.1
comp=Z,94nm,1.3s
SDCO LR LR
comp=Z,1µm,18.0s
W18A Petrified Fore 39.96 327 P **P** 09 51 50.4 +0.8
baz=138,SNR=6.7
W18A Petrified Fore 39.96 327 eP **P** 09 51 50.6 +0.9
comp=Z,188nm,1.5s
W18A LR LR
comp=Z,3µm,19.0s
L38A Oak Wood Farm, 40.06 350 P **P** 09 51 49.5 -0.6
baz=167,SNR=8.4
BINY Binghamton 40.10 10 P **P** 09 51 49.9 -0.6
baz=193,SNR=6.9
BINY Binghamton 40.10 10 eP **P** 09 51 49.8 -0.6
comp=Z,144nm,1.4s
BINY LR LR
comp=Z,4µm,18.0s
K41A Shullsburg 40.14 353 P **P** 09 51 49.5 -1.2
baz=171
L37A Phoenix Point, 40.19 349 P **P** 09 51 50.8 -0.4
baz=165,SNR=8.5
M34A Aspy Farms, Fr 40.21 346 P **P** 09 51 51.5 +0.1
baz=161
BDFB Brasilia 40.32 118 eP **P** 09 51 53.5 +0.7
comp=Z,56nm,1.1s
BDFB Brasilia 40.32 118 eP **P** 09 51 53.5 +0.7
BDFB pmax pmax
comp=Z,56nm,1.1s
K40A Colesburg 40.33 352 P **P** 09 51 51.4 -0.9
baz=170,SNR=5.6
MMNY Mt. Morris Dam 40.34 7 eP **P** 09 51 51.4 -0.9
comp=Z,111nm,1.3s
MMNY LR LR
comp=Z,5µm,20.0s
L36A Harm Buss Farm 40.35 348 P **P** 09 51 52.1 -0.4
baz=164,SNR=13
X16A Lo Mia Camp, P 40.41 325 eP **P** 09 51 54.7 +1.3
comp=Z,55nm,1.4s
X16A LR LR
comp=Z,5µm,19.0s
M33A Taylor Creek F 40.43 345 P **P** 09 51 52.8 -0.4
baz=160,SNR=7.3
JFWS Jewell Farm 40.43 353 P **P** 09 51 52.6 -0.6
baz=171
JFWS Jewell Farm 40.43 353 eP **P** 09 51 52.2 -0.9
comp=Z,96nm,1.5s
JFWS LR LR
comp=Z,1µm,20.0s
JFWS Jewell Farm 40.43 353 eP **P** 09 51 52.3 -0.9

JFWS pmax pmax
comp=Z,96nm,1.5s
JFWS MLR MLR
comp=Z,1µm,20.0s
K39A Oelwein 40.44 351 P **P** 09 51 52.1 -1.2
baz=168,SNR=11
BGNE Belgrade 40.53 344 eP **P** 09 51 54.4 +0.3
comp=Z,115nm,1.3s
BGNE LR LR
comp=Z,2µm,20.0s
K38A Parkersburg 40.53 350 P **P** 09 51 53.2 -0.8
baz=167,SNR=8.0
S22A 4UR Ranch, Cre 40.54 332 P **P** 09 51 55.6 +1.1
baz=144,SNR=28
S22A 4UR Ranch, Cre 40.54 332 eP **P** 09 51 55.6 +1.1
comp=Z,86nm,1.5s
S22A LR LR
comp=Z,2µm,21.0s
L35A Bielow Farm, R 40.55 347 P **P** 09 51 53.7 -0.4
baz=163
113A Mohawk Valley, 40.69 321 eP **P** 09 51 56.1 +0.6
comp=Z,137nm,1.6s
113A LR LR
comp=Z,3µm,21.0s
MEDO Medina 40.70 7 P **P** 09 51 54.0 -1.3
baz=189
J42A Columbus 40.72 355 P **P** 09 51 54.3 -1.2
baz=173,SNR=5.2
J43A Natural Harves 40.72 356 P **P** 09 51 54.0 -1.6
baz=174
K37A Belmond 40.79 350 P **P** 09 51 55.6 -0.6
baz=166,SNR=18
Q24A Divide 40.80 335 P **P** 09 51 56.9 +0.2
baz=147,SNR=13
Q24A Divide 40.80 335 eP **P** 09 51 57.4 +0.7
comp=Z,139nm,1.8s
Q24A LR LR
comp=Z,1µm,21.0s
K36A Gilmore City 40.82 349 P **P** 09 51 55.9 -0.5
baz=164,SNR=6.2
J41A Loganville 40.85 354 P **P** 09 51 55.8 -0.8
baz=171
MVCO Mesa Verde 40.92 330 P **P** 09 51 57.7 +0.1
baz=142,SNR=30
MVCO Mesa Verde 40.92 330 eP **P** 09 51 58.6 +1.0
comp=Z,163nm,1.4s
MVCO LR LR
comp=Z,2µm,18.0s
J40A Soldiers Grove 40.97 353 P **P** 09 51 56.3 -1.3
baz=170,SNR=7.9
ACTO Acton 40.97 5 P **P** 09 51 56.6 -1.1
baz=186
L33A Hoskins 41.00 345 P **P** 09 51 57.8 -0.1
baz=160,SNR=6.1
Y14A Wickenburg 41.00 323 eP **P** 09 51 59.3 +1.1
comp=Z,427nm,1.4s
Y14A LR LR
comp=Z,11µm,20.0s
J39A Decorah 41.04 352 P **P** 09 51 57.1 -1.1
baz=169
L32A Elgin 41.04 345 P **P** 09 51 58.7 +0.4
baz=159
TRY Troy 41.05 12 eP **P** 09 51 58.2 -0.1
comp=Z,136nm,1.3s
K35A Storm Lake 41.06 348 P **P** 09 51 58.2 -0.2
baz=163
J38A Wedel Dairy, R 41.13 351 P **P** 09 51 58.2 -0.8
baz=168
WUAZ Wupatki 41.16 326 P **P** 09 52 00.0 +0.5
baz=136,SNR=31
WUAZ Wupatki 41.16 326 eP **P** 09 52 00.9 +1.4
comp=Z,95nm,1.4s
WUAZ LR LR
comp=Z,3µm,19.0s
I43A Langenfeld Bro 41.20 356 P **P** 09 51 58.5 -1.0
baz=174
K34A Le Mars 41.22 347 P **P** 09 51 59.1 -0.5
baz=162,SNR=7.0
BASO Ashfield 41.27 3 P **P** 09 51 59.1 -0.9
baz=184
J37A Redenius Farm, 41.30 350 P **P** 09 51 59.9 -0.5
baz=166,SNR=9.8
OGNE Ogallala 41.31 340 P **P** 09 52 01.2 +0.6
baz=153
OGNE Ogallala 41.31 340 eP **P** 09 52 01.2 +0.6
comp=Z,138nm,1.4s
OGNE LR LR
comp=Z,800nm,20.0s
HRV Adam Dziewonsk 41.32 14 PFAKE 09 52 10.0 +9.5
HRV LR LR
comp=Z,2µm,19.0s
K33A Hardington 41.35 346 P **P** 09 52 00.6 -0.1
baz=161
BWLO Walkerton 41.40 4 P **P** 09 52 00.3 -0.8
baz=185
I40A Norwalk 41.44 353 P **P** 09 52 00.5 -1.0
baz=170,SNR=6.5
J36A Seneca 1, Swea 41.47 349 P **P** 09 52 01.2 -0.5
baz=165,SNR=10
I39A Houston 41.52 352 P **P** 09 52 01.3 -0.8
baz=169,SNR=11
I41A Arkdale 41.52 354 P **P** 09 52 01.4 -0.8
baz=172
GLA Glamis 41.55 320 P **P** 09 52 02.6 0.0
baz=130,SNR=7.6
GLA Glamis 41.55 320 eP **P** 09 52 04.0 +1.4
comp=Z,110nm,1.6s
GLA LR LR
comp=Z,2µm,22.0s
GLA Glamis 41.55 320 eP **P** 09 52 04.0 +1.4
GLA pmax pmax
comp=Z,110nm,1.6s
GLA MLR MLR
comp=Z,2µm,22.0s
K32A Verdigre 41.65 345 P **P** 09 52 02.7 -0.5
baz=159,SNR=14
J35A Milford 41.67 348 P **P** 09 52 02.8 -0.6
baz=164,SNR=6.2
PV01 Paradox Valley 41.68 331 eP **P** 09 52 04.7 +0.9
ACCN Adirondack Com 41.68 12 eP **P** 09 52 03.0 -0.5
comp=Z,92nm,1.4s
ACCN LR LR
comp=Z,4µm,19.0s
ISCO Idaho Springs 41.70 335 P **P** 09 52 04.4 +0.4
baz=147,SNR=8.1
ISCO Idaho Springs 41.70 335 eP **P** 09 52 04.7 +0.7
comp=Z,80nm,1.6s
ISCO LR LR
comp=Z,2µm,21.0s
ISCO Idaho Springs 41.70 335 eP **P** 09 52 04.7 +0.7
ISCO pmax pmax
comp=Z,81nm,1.6s
ISCO MLR MLR
comp=Z,2µm,21.0s
J34A George 41.75 347 P **P** 09 52 03.6 -0.5
baz=162
SMCO Snowmass 41.77 333 eP **P** 09 52 05.2 +0.4
comp=Z,60nm,1.1s
SMCO LR LR
comp=Z,1µm,20.0s
Y12C Blythe 41.81 321 P **P** 09 52 05.6 +0.9
baz=131,SNR=14
Y12C Blythe 41.81 321 eP **P** 09 52 06.1 +1.4
comp=Z,174nm,1.8s
Y12C LR LR
comp=Z,2µm,21.0s
I38A Scanlan Farm, 41.82 351 P **P** 09 52 03.4 -1.1
baz=168
K31A O'Neill 41.82 344 P **P** 09 52 05.2 +0.6
baz=158,SNR=8.7
PV05 Paradox Valley 41.89 330 eP **P** 09 52 06.0 +0.5
PDMCI Parker Dam,Lak 41.94 322 P **P** 09 52 06.6 +0.8
baz=132,SNR=11
I37A Lemond, Waseca 41.96 350 P **P** 09 52 04.9 -0.8
baz=166,SNR=9.7
GLMI Grayling 42.01 360 PFAKE 09 52 20.0 +14
GLMI LR LR
comp=Z,3µm,19.0s
J33A Davis 42.02 346 P **P** 09 52 05.6 -0.6
baz=161,SNR=15
PV04 Paradox Valley 42.04 331 eP **P** 09 52 07.0 +0.3
I36A Fitzsimmons Fa 42.07 350 P **P** 09 52 05.8 -0.8
baz=166,SNR=8.7
PV10 Paradox Valley 42.09 331 eP **P** 09 52 07.5 +0.3
I35A Creekview Farm 42.10 349 P **P** 09 52 06.0 -0.8
baz=164,SNR=20
SWSC Sam W. Stewart 42.11 319 P **P** 09 52 07.8 +0.6
baz=129,SNR=13

Sta	Name	Dist	Az	Phase	Phase	Time	Res
DELO	Deloro Mine	42.13	7	P	P	09 52 07.3	+0.2
	baz=190						
IKP	In-Ko-Pah, Jac	42.13	319	P	P	09 52 07.9	+0.5
	baz=128,SNR=20						
NCB	Newcomb	42.13	11	PFAKE		09 52 20.0	+13
NCB				LR	LR		
	comp=Z,3µm,20.0s						
H40A	Chili	42.14	354	P	P	09 52 06.3	-0.8
	baz=171,SNR=6.1						
SADO	Sadowa	42.21	6	P	P	09 52 06.2	-1.5
	comp=Z,20nm,1.0s,baz=200,slow=7.0,SNR=5.4						
SADO				LR	LR	10 08 55.6	
	comp=Z,4µm,21.5s,baz=187,slow=35						
SADO	Sadowa	42.21	6	eP	P	09 52 06.8	-0.9
	comp=Z,171nm,1.8s						
PV09	Paradox Valley	42.23	331	eP	P	09 52 09.1	+0.7
J32A	Parkston	42.28	345	P	P	09 52 07.5	-0.8
	baz=160,SNR=6.3						
HNH	Hanover	42.28	13	eP	P	09 52 08.1	-0.2
	comp=Z,115nm,1.6s						
H39A	Augusta	42.30	353	P	P	09 52 07.6	-0.9
	baz=170,SNR=17						
W13A	Hualapai Mount	42.33	323	eP	P	09 52 09.9	+0.8
	comp=Z,75nm,1.6s						
W13A				LR	LR		
	comp=Z,2µm,20.0s						
ECSD	EROS Data Cent	42.33	347	P	P	09 52 07.8	-1.0
	baz=162,SNR=21						
ECSD	EROS Data Cent	42.33	347	eP	P	09 52 07.8	-1.0
	comp=Z,121nm,1.5s						
ECSD				LR	LR		
	comp=Z,2µm,19.0s						
U15A	North Rim	42.34	326	eP	P	09 52 10.7	+1.4
	comp=Z,140nm,1.5s						
U15A				LR	LR		
	comp=Z,3µm,18.0s						
BC3	Big Chuckawall	42.34	320	P	P	09 52 09.5	+0.4
	baz=130,SNR=27						
H38A	Maiden Rock	42.43	352	P	P	09 52 08.5	-1.1
	baz=168,SNR=8.4						
H37A	Dierke Farm, C	42.44	351	P	P	09 52 08.9	-0.7
	baz=167						
J31A	Geddes	42.44	344	P	P	09 52 09.2	-0.5
	baz=158						
I34A	Hadley	42.45	348	P	P	09 52 09.4	-0.4
	baz=163,SNR=10						
IRM	Iron Mountain	42.47	321	P	P	09 52 10.4	+0.3
	baz=131,SNR=49						
MONP2	Monument Peak	42.49	319	P	P	09 52 10.7	+0.2
	baz=128,SNR=11						
BAR	Barrett	42.52	318	eP	P	09 52 09.6	-1.0
	comp=Z,75nm,1.7s						
BAR				LR	LR		
	comp=Z,2µm,21.0s						
H36A	Jessenland, He	42.60	350	P	P	09 52 10.0	-0.9
	baz=166,SNR=11						
G41A	Antigo	42.60	355	P	P	09 52 09.7	-1.2
	baz=173						
I33A	Coleman	42.67	347	P	P	09 52 10.8	-0.7
	baz=162						
LONY	Lake Ozonia	42.69	10	P	P	09 52 10.2	-1.5
	baz=194,SNR=6.6						
LONY	Lake Ozonia	42.69	10	eP	P	09 52 10.5	-1.2
	comp=Z,55nm,1.1s						
LONY				LR	LR		
	comp=Z,4µm,20.0s						
KLBO	Killbear Provi	42.70	4	P	P	09 52 10.4	-1.3
	baz=186						
N23A	Red Feather La	42.75	336	P	P	09 52 12.8	+0.2
	baz=147,SNR=9.1						
N23A	Red Feather La	42.75	336	eP	P	09 52 12.4	-0.1
	comp=Z,97nm,1.7s						
N23A				LR	LR		
	comp=Z,2µm,22.0s						
G40A	Rib Lake	42.76	354	P	P	09 52 11.1	-1.1
	baz=171						
VT1	Waterbury	42.78	12	eP	P	09 52 11.5	-0.8
	comp=Z,89nm,1.4s						
G38A	Ridgeland	42.86	352	P	P	09 52 11.9	-1.1
	baz=169,SNR=15						
LBNH	Lisbon	42.87	13	P	P	09 52 12.8	-0.4
	baz=198						
LBNH	Lisbon	42.87	13	eP	P	09 52 12.6	-0.6
	comp=Z,215nm,1.8s						
LBNH				LR	LR		
	comp=Z,2µm,18.0s						
LBNH	Lisbon	42.87	13	eP	P	09 52 12.6	-0.6
LBNH				pmax	pmax		
	comp=Z,215nm,1.8s						
LBNH				MLR	MLR		
	comp=Z,2µm,18.0s						
H35A	Sunnyside Ranc	42.88	349	P	P	09 52 12.2	-1.0
	baz=164,SNR=13						
G39A	Holcombe	42.88	353	P	P	09 52 12.2	-1.0
	baz=170,SNR=22						
PHWY	Pilot Hill	42.90	337	eP	P	09 52 13.7	-0.1
	comp=Z,102nm,1.4s						
PHWY				LR	LR		
	comp=Z,1µm,21.0s						
BELC	Belle Mtn. Jos	42.91	320	P	P	09 52 14.8	+1.0
	baz=130,SNR=36						
109C	Camp Elliot, M	42.94	318	P	P	09 52 14.5	+0.6
	baz=128,SNR=14						
TPFO	Pinon Flats	42.95	319	P	P	09 52 15.1	+1.0
	baz=129,SNR=19						
XPFO	Piæon Flat	42.96	319	eP	P	09 52 15.3	+1.1
	comp=Z,103nm,1.5s						
XPFO				LR	LR		
	comp=Z,2µm,21.0s						
F46A	Macinaw City C	42.96	360	P	P	09 52 13.1	-0.7
	baz=179						
PFO	Pinyon Flats O	42.96	319	P	P	09 52 14.2	0.0
	baz=129,SNR=20						
PFO	Pinyon Flats O	42.96	319	eP	P	09 52 15.3	+1.1
	comp=Z,97nm,1.5s						
PFO				LR	LR		
	comp=Z,2µm,20.0s						
PFO	Pinyon Flats O	42.96	319	eP	P	09 52 15.3	+1.1
PFO				pmax	pmax		
	comp=Z,97nm,1.5s						
PFO				MLR	MLR		
	comp=Z,2µm,20.0s						
H34A	Spellman Lake,	43.04	348	P	P	09 52 13.8	-0.7
	baz=163,SNR=25						
SPMN	Marine on St.	43.05	351	P	P	09 52 13.0	-1.5
	baz=168,SNR=22						
SPMN	Marine on St.	43.05	351	eP	P	09 52 14.1	-0.5
	comp=Z,113nm,1.3s						
SPMN				LR	LR		
	comp=Z,900nm,19.0s						
KNB	Kanab	43.05	326	eP	P	09 52 16.4	+1.4
	comp=Z,158nm,1.6s						
KNB				LR	LR		
	comp=Z,3µm,18.0s						
KNB	Kanab	43.05	326	eP	P	09 52 16.4	+1.4
KNB				pmax	pmax		
	comp=Z,158nm,1.6s						
KNB				MLR	MLR		
	comp=Z,3µm,18.0s						
LDFC	Landfair	43.05	322	eP	P	09 52 16.7	+1.8
	comp=Z,241nm,1.9s						
LDFC				LR	LR		
	comp=Z,2µm,21.0s						
PKCU	Pink Cliffs	43.08	327	eP	P	09 52 16.2	+0.8
	comp=Z,234nm,1.8s						
PKCU				LR	LR		
	comp=Z,2µm,21.0s						
FRNY	Flat Rock	43.09	11	eP	P	09 52 14.6	-0.3
	comp=Z,85nm,1.6s						
FRNY				LR	LR		
	comp=Z,3µm,21.0s						
O20A	White River Ci	43.12	333	P	P	09 52 15.3	-0.1
	baz=144,SNR=17						
O20A	White River Ci	43.12	333	eP	P	09 52 16.1	+0.7
	comp=Z,198nm,1.9s						
O20A				LR	LR		
	comp=Z,2µm,19.0s						
GMRC	Granite Mounta	43.20	321	P	P	09 52 16.6	+0.5
	baz=131,SNR=21						
G36A	St. Michael	43.21	350	P	P	09 52 15.3	-0.6
	baz=166						
H32A	Carlson Farm,	43.25	346	P	P	09 52 15.1	-1.1
	baz=161,SNR=9.2						
H33A	Prehn Over Nor	43.26	347	P	P	09 52 15.4	-0.9
	baz=162,SNR=19						
LCMT	Little Creek M	43.29	326	PFAKE		09 52 30.0	+13
LCMT				LR	LR		
	comp=Z,3µm,19.0s						
PEMO	Pembroke	43.32	7	P	P	09 52 15.1	-1.6
	baz=190,SNR=6.6						
G35A	Watkins	43.32	350	P	P	09 52 15.6	-1.2
	baz=165						
F40A	Park Falls	43.39	354	P	P	09 52 16.4	-1.0
	baz=172						
SRU	San Rafael Swe	43.40	330	eP	P	09 52 18.1	+0.4
	comp=Z,106nm,1.4s						
SRU				LR	LR		
	comp=Z,2µm,21.0s						
SRU	San Rafael Swe	43.40	330	eP	P	09 52 18.1	+0.4
SRU				pmax	pmax		
	comp=Z,106nm,1.4s						
SRU				MLR	MLR		
	comp=Z,2µm,21.0s						
MURC	Murrieta	43.43	319	P	P	09 52 17.7	-0.2
	baz=128,SNR=14						
MTPU	Mount Pierson	43.45	328	eP	P	09 52 19.3	+0.9
	comp=Z,127nm,2.0s						
MTPU				LR	LR		
	comp=Z,1µm,22.0s						
F39A	Loretta	43.47	353	P	P	09 52 16.9	-1.1
	baz=170						
H31A	Wolsey	43.48	345	P	P	09 52 17.1	-1.0
	baz=159						
COWI	Conover	43.48	355	eP	P	09 52 17.6	-0.4
	comp=Z,89nm,1.7s						
COWI				LR	LR		
	comp=Z,1µm,21.0s						
F37A	Hinrichs Farm,	43.51	352	P	P	09 52 17.6	-0.7
	baz=168,SNR=8.9						
G34A	Benson	43.56	348	P	P	09 52 17.9	-0.8
	baz=164						
SUSD	Miller	43.57	345	P	P	09 52 17.9	-0.9
	baz=159						
Q16A	Castle Valley	43.57	329	eP	P	09 52 20.1	+0.9
	comp=Z,104nm,1.6s						
Q16A				LR	LR		
	comp=Z,3µm,20.0s						
SZCU	Shurtz Canyon	43.62	326	eP	P	09 52 20.7	+1.2
	comp=Z,168nm,1.7s						
SZCU				LR	LR		
	comp=Z,3µm,18.0s						
E43A	Lone Tree Farm	43.62	357	P	P	09 52 18.3	-0.8
	baz=176						
ALFO	Alfred	43.62	10	P	P	09 52 17.9	-1.2
	baz=194,SNR=12						
F38A	Pierce - Schro	43.63	352	P	P	09 52 18.5	-0.8
	baz=169,SNR=13						
HEC	Hector,Ludlow	43.65	321	P	P	09 52 20.8	+1.1
	baz=130,SNR=11						
P18A	Preston Nutter	43.66	331	eP	P	09 52 20.4	+0.4
	comp=Z,104nm,1.6s						
P18A				LR	LR		
	comp=Z,2µm,18.0s						
BBRC	Big Bear Solar	43.67	320	P	P	09 52 21.3	+1.3
	baz=129,SNR=13						
G33A	Ortonville	43.68	348	P	P	09 52 18.9	-0.7
	baz=162,SNR=11						
WVL	Waterville	43.73	15	eP	P	09 52 21.0	+0.9
	comp=Z,116nm,1.3s						
CCUT	Cedar City	43.74	326	eP	P	09 52 21.7	+1.2
	comp=Z,99nm,1.5s						
CCUT				LR	LR		
	comp=Z,3µm,20.0s						
F36A	Milaca	43.78	351	P	P	09 52 19.3	-1.2
	baz=167,SNR=13						
P17A	Butcher Ranch,	43.78	330	eP	P	09 52 21.3	+0.5
	comp=Z,112nm,1.6s						
P17A				LR	LR		
	comp=Z,2µm,18.0s						
TUQ	Turquoise Moun	43.79	322	P	P	09 52 21.3	+0.4
	baz=131,SNR=5.0						
MSU	Marysvale	43.79	328	eP	P	09 52 21.9	+0.9
MSU	Marysvale	43.79	328	eP	P	09 52 21.9	+0.9
TMUT	Trail Mountain	43.88	330	eP	P	09 52 22.4	+0.6
	comp=Z,72nm,1.7s						
TMUT				LR	LR		
	comp=Z,2µm,20.0s						
E39A	Mellen	43.89	354	P	P	09 52 20.3	-1.0
	baz=171,SNR=6.4						
RWWY	Rawlins	43.94	335	eP	P	09 52 23.1	+0.9
	comp=Z,182nm,1.6s						
RWWY				LR	LR		
	comp=Z,2µm,21.0s						
F35A	Swanville	43.95	350	P	P	09 52 20.9	-0.9
	baz=165,SNR=20						
G32A	Webster	43.97	347	P	P	09 52 20.7	-1.3
	baz=161,SNR=7.7						
TCRU	Three Creeks R	44.01	328	eP	P	09 52 23.7	+0.9
	comp=Z,120nm,1.6s						
TCRU				LR	LR		
	comp=Z,1µm,21.0s						
F34A	Alexandria	44.02	349	P	P	09 52 21.3	-1.1
	baz=164,SNR=11						
SHPR	Sheep Range	44.04	324	eP	P	09 52 23.9	+1.0
	comp=Z,84nm,1.6s						
SHPR				LR	LR		
	comp=Z,2µm,20.0s						
RRX	Edison Barstow	44.10	320	P	P	09 52 24.1	+0.9
	baz=129						
CIS	Catalina Islan	44.12	318	P	P	09 52 24.0	+0.5
	baz=127,SNR=5.8						
BFSC	Mount Baldy Ra	44.13	319	P	P	09 52 24.7	+1.1
	baz=128,SNR=12						
GSC	Goldstone, Bar	44.25	321	P	P	09 52 25.1	+0.5
	baz=130,SNR=25						
GSC	Goldstone, Bar	44.25	321	eP	P	09 52 25.7	+1.2
	comp=Z,89nm,1.5s						
GSC				LR	LR		
	comp=Z,2µm,21.0s						
GSC	Goldstone, Bar	44.25	321	eP	P	09 52 25.7	+1.2
GSC				pmax	pmax		
	comp=Z,89nm,1.5s						
GSC				MLR	MLR		
	comp=Z,2µm,21.0s						
TRQ	Mont Tremblant	44.25	10	eP	P	09 52 23.4	-0.9
F33A	5 Mile Ranch,	44.26	348	P	P	09 52 23.2	-1.1
	baz=163,SNR=14						
SHOC	Shoshone, Teco	44.31	322	P	P	09 52 25.6	+0.7
	baz=131,SNR=28						
E36A	McGregor	44.38	351	P	P	09 52 23.8	-1.4
	baz=167,SNR=7.6						
MWC	Mount Wilson	44.38	319	eP	P	09 52 26.9	+1.2
	comp=Z,106nm,1.4s						
MWC	Mount Wilson	44.38	319	eP	P	09 52 26.9	+1.2
MWC				pmax	pmax		
	comp=Z,106nm,1.4s						
PASC	Pasadena Art C	44.43	319	eP	P	09 52 27.1	+1.2
	comp=Z,148nm,1.6s						
PASC				LR	LR		
	comp=Z,1µm,21.0s						
SPB	Sao Paulo	44.45	128	eP	P	09 52 25.8	-0.4
	comp=Z,65nm,1.7s						
SPB				LR	LR		
	comp=Z,2µm,20.0s						
K22A	Casper	44.46	337	P	P	09 52 26.3	+0.1
	baz=148,SNR=12						
K22A	Casper	44.46	337	eP	P	09 52 26.5	+0.3
	comp=Z,69nm,1.4s						
K22A				LR	LR		
	comp=Z,2µm,22.0s						
PKME	Peaks-Kenny Pk	44.48	15	P	P	09 52 26.1	+0.1
	baz=202,SNR=5.2						
PKME	Peaks-Kenny Pk	44.48	15	eP	P	09 52 25.8	-0.3
	comp=Z,307nm,1.9s						
PKME				LR	LR		
	comp=Z,2µm,19.0s						
DECC	Green Verdugo	44.58	319	P	P	09 52 28.3	+1.2
	baz=127						
E35A	Pequot Lakes	44.60	350	P	P	09 52 26.5	-0.5
	baz=166,SNR=16						
MPU	Maple Canyon	44.64	330	eP	P	09 52 28.2	+0.5
	comp=Z,49nm,1.6s						
MPU				LR	LR		
	comp=Z,3µm,19.0s						
E34A	Wadena	44.69	349	P	P	09 52 26.8	-1.0
	baz=165,SNR=5.6						
PSUT	Pine Spring	44.71	327	eP	P	09 52 29.2	+0.9
	comp=Z,78nm,1.7s						
PSUT				LR	LR		
	comp=Z,3µm,18.0s						
F31A	Hecla	44.72	346	P	P	09 52 26.5	-1.4
	baz=160						
EDW2	Edwards Air Fo	44.74	320	P	P	09 52 28.9	+0.4
	baz=128,SNR=35						
SNCC	San Nicolas Is	44.78	317	P	P	09 52 28.2	-0.6
	baz=125						
SNCC	San Nicolas Is	44.78	317	eP	P	09 52 29.3	+0.6
	comp=Z,46nm,1.0s						
RSSD	Black Hills	44.81	340	P	P	09 52 29.3	+0.3
	baz=152						
RSSD	Black Hills	44.81	340	eP	P	09 52 29.6	+0.6
	comp=Z,90nm,1.5s						
RSSD				LR	LR		
	comp=Z,800nm,18.0s						
RSSD	Black Hills	44.81	340	eP	P	09 52 29.6	+0.6
RSSD				pmax	pmax		
	comp=Z,90nm,1.5s						
RSSD				MLR	MLR		
	comp=Z,800nm,18.0s						
NLU	North Lily Min	44.81	330	eP	P	09 52 29.1	0.0
	comp=Z,47nm,1.6s						
NLU				LR	LR		
	comp=Z,3µm,20.0s						
E33A	Westby DABS, E	44.84	349	P	P	09 52 27.4	-1.6
	baz=163,SNR=8.1						
D37A	Cotton	44.88	352	P	P	09 52 28.3	-1.0
	baz=168,SNR=5.5						
LRMC	Laurel Mtn Rad	44.92	321	P	P	09 52 30.1	+0.1
	baz=129,SNR=40						
BLG	Laguna Peak, P	44.98	318	P	P	09 52 31.1	+0.8
	baz=126						
TPNV	Topopah Spring	44.99	323	P	P	09 52 31.7	+1.2
	baz=132,SNR=16						
TPNV	Topopah Spring	44.99	323	eP	P	09 52 31.7	+1.2
	comp=Z,92nm,1.8s						
TPNV				LR	LR		
	comp=Z,1µm,21.0s						
TPNV	Topopah Spring	44.99	323	eP	P	09 52 31.7	+1.2
TPNV				pmax	pmax		
	comp=Z,92nm,1.8s						
TPNV				MLR	MLR		
	comp=Z,1µm,21.0s						
PLCA	Paso Flores	44.99	165	P	P	09 52 31.6	+1.3
	comp=Z,6.4nm,0.8s,baz=16,slow=8.0,SNR=11						
PLCA				LR	LR	10 07 12.3	
	comp=Z,1µm,21.9s,baz=26,slow=31						
PLCA	Paso Flores	44.99	165	eP	P	09 52 31.9	+1.6
	comp=Z,153nm,1.9s						
PLCA	Paso Flores	44.99	165	eP	P	09 52 31.9	+1.6
PLCA				pmax	pmax		
	comp=Z,153nm,1.9s						
JLU	Jordanelle	44.99	331	eP	P	09 52 31.1	+0.5
	comp=Z,89nm,1.6s						
JLU				LR	LR		
	comp=Z,2µm,19.0s						
D36A	Goodland	45.01	352	P	P	09 52 29.4	-0.8
	baz=168,SNR=5.8						
FURC	Furnace Creek,	45.04	322	P	P	09 52 31.4	+0.7
	baz=131,SNR=26						
D35A	Remer	45.05	351	P	P	09 52 29.5	-1.1
	baz=166,SNR=7.9						
OSI	Osito Audit: C	45.05	319	eP	P	09 52 32.5	+1.6
	comp=Z,94nm,0.4s						
OSI				LR	LR		
	comp=Z,1µm,22.0s						
E32A	Braaten, Kindr	45.15	348	P	P	09 52 30.2	-1.2
	baz=162						
MPMC	Manual Prospec	45.16	321	P	P	09 52 31.8	-0.1
	baz=130,SNR=19						
CTU	Camp Tracy	45.21	331	eP	P	09 52 32.8	+0.5
	comp=Z,91nm,1.6s						
CTU				LR	LR		
	comp=Z,2µm,19.0s						
D34A	Park Rapids	45.25	350	P	P	09 52 31.0	-1.2
	baz=165,SNR=16						
E31A	Nome	45.29	347	P	P	09 52 31.9	-0.6
	baz=161						
DAC	Darwin (Calif)	45.37	322	eP	P	09 52 33.6	+0.1
	comp=Z,36nm,1.3s						
DAC				LR	LR		
	comp=Z,2µm,20.0s						
DAC	Darwin (Calif)	45.37	322	eP	P	09 52 33.6	+0.1
DAC				pmax	pmax		
	comp=Z,36nm,1.3s						
DAC				MLR	MLR		
	comp=Z,2µm,20.0s						
DUG	Dugway, Tooele	45.37	329	P	P	09 52 33.3	-0.1
	baz=138,SNR=12						
DUG	Dugway, Tooele	45.37	329	eP	P	09 52 34.2	+0.7
	comp=Z,54nm,1.6s						
DUG				LR	LR		
	comp=Z,2µm,22.0s						
DUG	Dugway, Tooele	45.37	329	eP	P	09 52 34.2	+0.7
DUG				pmax	pmax		
	comp=Z,54nm,1.6s						
DUG				MLR	MLR		
	comp=Z,2µm,22.0s						
TCUT	Toone Canyon	45.37	331	eP	P	09 52 34.3	+0.8
	comp=Z,101nm,1.2s						
TCUT				LR	LR		
	comp=Z,2µm,18.0s						
C37A	Embarrass	45.41	353	P	P	09 52 32.6	-0.9
	baz=169,SNR=6.8						
D33A	AnnSam, Waubun	45.42	349	P	P	09 52 32.9	-0.6
	baz=164,SNR=9.9						
ARVC	Arvin	45.44	319	P	P	09 52 34.7	+0.8
	baz=128,SNR=19						
TRQA	Tornquist	45.51	155	eP	P	09 52 35.6	+1.2
	comp=Z,136nm,1.6s						
TRQA				LR	LR		
	comp=Z,2µm,21.0s						
C36A	Pine Crest Far	45.53	352	P	P	09 52 33.9	-0.5
	baz=168,SNR=13						
ISA	Isabella, Lake	45.53	320	P	P	09 52 35.2	+0.4
	baz=128,SNR=22						
ISA	Isabella, Lake	45.53	320	eP	P	09 52 35.8	+1.1
	comp=Z,76nm,1.6s						
ISA				LR	LR		
	comp=Z,2µm,22.0s						
ISA	Isabella, Lake	45.53	320	eP	P	09 52 35.8	+1.1
ISA				pmax	pmax		
	comp=Z,76nm,1.6s						
ISA				MLR	MLR		
	comp=Z,2µm,22.0s						
EYMN	Ely	45.54	353	eP	P	09 52 33.8	-0.8
	comp=Z,129nm,1.6s						
EYMN				LR	LR		
	comp=Z,1µm,19.0s						
R11A	Troy Canyon, C	45.55	325	P	P	09 52 35.3	+0.4
	baz=134,SNR=23						
R11A	Troy Canyon, C	45.55	325	eP	P	09 52 35.4	+0.4
	comp=Z,62nm,1.6s						
R11A				LR	LR		
	comp=Z,4µm,18.0s						
SBC	Santa Barbara	45.61	318	P	P	09 52 36.4	+1.2
	baz=126						
C35A	Jirik Farms, M	45.64	351	P	P	09 52 34.5	-0.8
	baz=166,SNR=13						
D32A	Dogwood Acres,	45.65	348	P	P	09 52 34.4	-0.9
	baz=162						
GRAC	Grapevine Rang	45.69	323	P	P	09 52 36.5	+0.6
	baz=131,SNR=10						
D31A	Mcclaflin, Tow	45.72	347	P	P	09 52 35.0	-0.9
	baz=161						
C34A	RKJ Ranch, Bem	45.74	350	P	P	09 52 35.5	-0.6
	baz=165,SNR=13						
CWC	Cottonwood Cre	45.77	321	P	P	09 52 37.2	+0.4
	baz=129						
BW06	Boulder Array	45.82	334	P	P	09 52 36.6	-0.5
	baz=144,SNR=14						
BW06	Boulder Array	45.82	334	eP	P	09 52 36.7	-0.5
	comp=Z,34nm,1.1s						
BW06				LR	LR		
	comp=Z,3µm,20.0s						
PD31	Pinedale Array	45.82	334	eP	P	09 52 36.6	-0.4
PDAR	Pinedale Array	45.82	334	P	P	09 52 36.5	-0.6
	comp=Z,10nm,1.1s,baz=132,slow=4.2,SNR=32						
PDAR				PcP	PcP	09 54 13.7	-0.7
	comp=Z,6.2nm,0.9s,baz=140,slow=5.1,SNR=9.9						
PDAR				LR	LR	10 12 29.2	
	comp=Z,3µm,20.5s,baz=148,slow=37						
HWUT	Hardware Ranch	45.82	331	eP	P	09 52 37.0	-0.1
	comp=Z,47nm,0.9s						
HWUT				LR	LR		
	comp=Z,2µm,19.0s						
PKM	Mcpherson Peak	45.94	318	P	P	09 52 38.3	+0.2
	baz=126,SNR=18						
C33A	Trail	46.00	349	P	P	09 52 37.3	-0.8
	baz=164						
SPUT	South Promonto	46.02	331	eP	P	09 52 38.9	+0.3
	comp=Z,80nm,1.5s						
SPUT				LR	LR		
	comp=Z,2µm,19.0s						
BGU	Big Grassy Mou	46.02	330	eP	P	09 52 39.0	+0.4

comp=Z,94nm,1.6s
BGU LR LR
comp=Z,2µm,20.0s
VES Vestal, Richgr 46.03 320 P **P** 09 52 39.2 +0.6
baz=128,SNR=44
PQI Presque Isle 46.12 16 *e*P **P** 09 52 39.2 +0.2
comp=Z,141nm,1.4s
B35A Bob, Littlefor 46.24 351 P **P** 09 52 39.3 -0.7
baz=167,SNR=6.0
SMMC Simmler 46.31 319 P **P** 09 52 41.0 +0.2
baz=126,SNR=22
LMN Caledonia Moun 46.33 19 PFAKE 09 52 50.0 +9.2
LMN LR LR
comp=Z,2µm,20.0s
RCTC Rector, Farmer 46.42 320 P **P** 09 52 41.9 +0.3
baz=128,SNR=7.0
C31A Landman Farms, 46.43 348 P **P** 09 52 41.0 -0.5
baz=161,SNR=8.3
B33A Robert and Kas 46.46 350 P **P** 09 52 41.1 -0.6
baz=164,SNR=9.8
AHID Auburn Hatcher 46.51 333 *e*P **P** 09 52 42.2 -0.2
comp=Z,29nm,0.9s
AHID LR LR
comp=Z,3µm,21.0s
B34A Aery, Baudette 46.51 351 P **P** 09 52 41.4 -0.7
baz=166,SNR=23
AGMN Agassiz Nation 46.54 349 P **P** 09 52 41.8 -0.6
baz=164,SNR=24
AGMN Agassiz Nation 46.54 349 *e*P **P** 09 52 41.7 -0.6
comp=Z,178nm,1.5s
AGMN LR LR
comp=Z,1µm,22.0s
HVU Hansel Valley 46.54 331 *e*P **P** 09 52 42.6 -0.1
comp=Z,86nm,1.7s
HVU LR LR
comp=Z,2µm,19.0s
HVU Hansel Valley 46.54 331 *e*P **P** 09 52 42.6 -0.1
HVU pmax pmax
comp=Z,86nm,1.7s
HVU MLR MLR
comp=Z,2µm,19.0s
PAGB Antelope Grade 46.72 319 *e*P **P** 09 52 45.1 +1.0
comp=Z,273nm,1.9s
PAGB LR LR
comp=Z,2µm,22.0s
B32A Ashes, Strandq 46.76 349 P **P** 09 52 43.4 -0.6
baz=163,SNR=24
REDW Red Top Meadow 46.87 334 *e*P **P** 09 52 45.2 -0.1
comp=Z,170nm,1.4s
REDW LR LR
comp=Z,3µm,20.0s
SNOW Snow King Moun 46.90 334 *e*P **P** 09 52 45.6 0.0
comp=Z,70nm,1.3s
SNOW LR LR
comp=Z,3µm,19.0s
MDND Maddock 46.91 346 P **P** 09 52 45.1 -0.1
baz=159,SNR=19
MDND Maddock 46.91 346 *e*P **P** 09 52 45.2 0.0
comp=Z,389nm,1.4s
MDND LR LR
comp=Z,2µm,18.0s
LOHW Long Hollow 46.96 334 *e*P **P** 09 52 45.8 -0.1
comp=Z,22nm,1.0s
LOHW LR LR
comp=Z,1µm,22.0s
MLAC Mammoth, Mammo 46.99 322 P **P** 09 52 46.1 -0.3
baz=129,SNR=8.3
B31A Greenbush Farm 47.01 348 P **P** 09 52 44.8 -1.2
baz=162
A33A Warroad 47.07 350 P **P** 09 52 46.0 -0.5
baz=165,SNR=31
NV11 Mina Array Sit 47.10 323 *e*P **P** 09 52 48.0 +0.9
comp=Z,8.1nm,1.6s
NV11 LR LR
comp=Z,100nm,18.0s
MOOW Moose Ponds 47.13 334 *e*P **P** 09 52 47.0 -0.4
comp=Z,29nm,1.4s
MOOW LR LR
comp=Z,2µm,19.0s
MDPB Devils Postpil 47.15 322 *e*P **P** 09 52 48.3 +0.7
comp=Z,74nm,1.6s
MDPB LR LR
comp=Z,2µm,20.0s
FXWY Fox Creek 47.16 334 *e*P **P** 09 52 47.3 -0.3
comp=Z,23nm,1.2s
NV01 Mina Array Sit 47.19 323 *e*P **P** 09 52 48.5 +0.7
NVAR Mina Array Bea 47.19 323 P **P** 09 52 48.0 +0.1
comp=Z,6.4nm,0.8s,baz=140,slow=5.7,SNR=46
NVAR PcP **PcP** 09 54 19.7 +0.4
comp=Z,7.8nm,0.8s,baz=142,slow=4.3,SNR=9.8
NVAR LR LR 10 10 50.6
comp=Z,1µm,20.6s,baz=242,slow=34
A32A Rocking H Ranc 47.25 349 P **P** 09 52 47.1 -0.8
baz=163,SNR=13
PMPB Monarch Peak 47.37 319 *e*P **P** 09 52 49.9 +0.8
comp=Z,127nm,1.5s
PMPB LR LR
comp=Z,1µm,21.0s
RYN Ryan 47.45 323 *e*P **P** 09 52 50.6 +0.8
comp=Z,70nm,1.6s
RYN LR LR
comp=Z,1µm,22.0s
YPP Pitchstone Pla 47.57 334 *e*P **P** 09 52 51.2 +0.4
comp=Z,40nm,1.4s
YPP LR LR
comp=Z,2µm,19.0s
H17A Grant Village 47.57 335 P **P** 09 52 51.3 +0.5
baz=143,SNR=7.0
H17A Grant Village 47.57 335 *e*P **P** 09 52 52.7 +1.9
comp=Z,102nm,1.8s
H17A LR LR
comp=Z,3µm,18.0s
RLMT Red Lodge 47.62 336 P **P** 09 52 50.8 -0.3
baz=145,SNR=10.0
RLMT Red Lodge 47.62 336 *e*P **P** 09 52 50.8 -0.3
comp=Z,31nm,1.2s
RLMT LR LR
comp=Z,1µm,20.0s
LKWY Lake 47.63 335 *e*P **P** 09 52 52.2 +0.9
comp=Z,66nm,1.5s
LKWY LR LR
comp=Z,3µm,18.0s
LKWY Lake 47.63 335 *e*P **P** 09 52 52.2 +0.9
LKWY pmax pmax
comp=Z,66nm,1.5s
LKWY MLR MLR
comp=Z,3µm,18.0s
YFT Old Faithful 47.73 334 *e*P **P** 09 52 53.4 +1.4
comp=Z,49nm,1.2s
YFT LR LR
comp=Z,2µm,20.0s
LAO LASA Array 47.80 340 P **P** 09 52 52.3 -0.1
baz=150,SNR=5.5
LAO LASA Array 47.80 340 *e*P **P** 09 52 52.0 -0.3
comp=Z,177nm,1.7s
LAO LR LR
comp=Z,1µm,18.0s
YNR Norris Junctio 47.87 335 *e*P **P** 09 52 53.4 +0.3
comp=Z,25nm,1.3s
YNR LR LR
comp=Z,2µm,19.0s
BMN Battle Mountai 47.90 326 *e*P **P** 09 52 53.8 +0.5
comp=Z,129nm,1.8s
BMN LR LR
comp=Z,3µm,18.0s
BMN Battle Mountai 47.90 326 *e*P **P** 09 52 53.8 +0.5
BMN pmax pmax
comp=Z,129nm,1.8s
BMN MLR MLR
comp=Z,3µm,18.0s
WAKR Walker 47.92 323 *e*P **P** 09 52 54.6 +1.0
comp=Z,66nm,1.7s
WAKR LR LR
comp=Z,2µm,20.0s
YMR Madison River 47.96 335 *e*P **P** 09 52 54.4 +0.6
comp=Z,112nm,1.6s
YMR LR LR
comp=Z,2µm,20.0s
YHH Holmes Hill 48.00 335 *e*P **P** 09 52 54.6 +0.4
comp=Z,24nm,1.0s
YHH LR LR
comp=Z,2µm,19.0s
YERR Yerington 48.10 323 *e*P **P** 09 52 55.7 +0.7
comp=Z,66nm,1.6s
YERR LR LR
comp=Z,1µm,21.0s
SAO San Andreas Ge 48.11 319 *e*P **P** 09 52 55.2 +0.3
comp=Z,92nm,1.8s
SAO LR LR
comp=Z,2µm,21.0s
SAO San Andreas Ge 48.11 319 *e*P **P** 09 52 55.2 +0.3
SAO pmax pmax
comp=Z,92nm,1.8s
SAO MLR MLR
comp=Z,2µm,21.0s
YHB Horse Butte 48.12 334 *e*P **P** 09 52 55.9 +0.9
comp=Z,62nm,1.6s
YHB LR LR
comp=Z,2µm,18.0s
CMB Columbia Colle 48.20 322 *e*P **P** 09 52 55.9 +0.3
comp=Z,70nm,2.0s
CMB LR LR
comp=Z,1µm,19.0s
CMB Columbia Colle 48.20 322 *e*P **P** 09 52 55.9 +0.3
CMB pmax pmax
comp=Z,70nm,2.0s
CMB MLR MLR
comp=Z,1µm,19.0s
QLMT Earthquake Lak 48.29 334 *e*P **P** 09 52 57.3 +1.0
PNTR Pine Nut 48.38 323 *e*P **P** 09 52 58.3 +1.1
comp=Z,19nm,1.0s
PNTR LR LR
comp=Z,900nm,20.0s
ULM Lac du Bonnet 48.42 350 P **P** 09 52 55.6 -1.3
comp=Z,97nm,1.3s,baz=167,slow=7.7,SNR=37
ULM PcP **PcP** 09 54 22.0 -1.1
comp=Z,6.5nm,0.8s,baz=202,slow=3.9,SNR=4.3
ULM LR LR 10 13 54.9
comp=Z,834nm,19.5s,baz=161,slow=37
ULM Lac du Bonnet 48.42 350 *e*P **P** 09 52 56.0 -0.9
comp=Z,206nm,1.5s
ULM PcP **PcP** 09 54 22.0 -1.1
ULM Lac du Bonnet 48.42 350 *e*P **P** 09 52 56.0 -0.9
ULM 09 54 22.0
ULM pmax pmax
comp=Z,207nm,1.5s
VCNR Virginia City 48.55 323 *e*P **P** 09 52 59.1 +0.7
comp=Z,44nm,1.7s
VCNR LR LR
comp=Z,1µm,18.0s
PAHR Pah Rah Range 48.65 324 *e*P **P** 09 52 59.8 +0.7
comp=Z,68nm,1.9s
PAHR LR LR
comp=Z,1µm,18.0s
HLID Hailey 48.68 331 P **P** 09 52 59.4 +0.1
baz=138,SNR=28
HLID Hailey 48.68 331 *e*P **P** 09 52 59.5 +0.2
comp=Z,66nm,1.6s
HLID LR LR
comp=Z,2µm,22.0s
RUBR Rubicon Trail 48.70 323 *e*P **P** 09 52 59.8 +0.3
comp=Z,124nm,1.7s
RUBR LR LR
comp=Z,2µm,22.0s
RDG13 Poverty Ridge 48.70 320 *e*P **P** 09 53 00.1 +0.6
comp=Z,108nm,1.8s
RDG13 LR LR
comp=Z,2µm,22.0s
DGMT Dagmar 48.72 343 *e*P **P** 09 52 59.0 -0.3
comp=Z,44nm,1.3s
MCMT McKenzie Canyo 48.91 333 *e*P **P** 09 53 01.5 +0.4
BOZ Bozeman (W) 48.98 335 P **P** 09 53 01.6 0.0
baz=143,SNR=18
BOZ Bozeman (W) 48.98 335 *e*P **P** 09 53 01.6 0.0
comp=Z,86nm,1.7s
BOZ LR LR
comp=Z,1µm,20.0s
BOZ Bozeman (W) 48.98 335 *e*P **P** 09 53 01.6 0.0
BOZ pmax pmax
comp=Z,86nm,1.7s
BOZ MLR MLR
comp=Z,1µm,20.0s
AFDM Forest Hills D 49.13 322 *e*P **P** 09 53 03.0 +0.3
comp=Z,86nm,1.9s
AFDM LR LR
comp=Z,1µm,21.0s
RCBR Riachuelo 49.17 100 *e*P **P** 09 53 03.8 +0.4
comp=Z,139nm,1.9s
RCBR LR LR
comp=Z,1µm,18.0s
DLMT Dillon 49.21 334 *e*P **P** 09 53 03.6 +0.2
comp=Z,56nm,1.4s
DLMT LR LR
comp=Z,2µm,20.0s
MFID Camas Ranch 49.26 330 *e*P **P** 09 53 04.0 +0.3
comp=Z,146nm,1.8s
MFID LR LR
comp=Z,1µm,18.0s
BEKR Beckworth 49.33 323 *e*P **P** 09 53 04.9 +0.5
comp=Z,77nm,1.6s
BEKR LR LR
comp=Z,2µm,18.0s
LRM Limekiln Ridge 49.51 334 *e*P **P** 09 53 06.7 +1.0
ORV Oroville 49.83 322 *e*P **P** 09 53 08.5 +0.6
comp=Z,119nm,1.7s
ORV LR LR
comp=Z,2µm,22.0s
ORV Oroville 49.83 322 *e*P **P** 09 53 08.5 +0.6
ORV pmax pmax
comp=Z,119nm,1.7s
ORV MLR MLR
comp=Z,2µm,22.0s
MCCM Marconi Confer 49.84 320 *e*P **P** 09 53 08.9 +0.9
comp=Z,90nm,1.6s
HRY Holter Researc 49.95 336 *e*P **P** 09 53 09.0 +0.1
WVOR Wild Horse Val 50.04 327 *e*P **P** 09 53 09.5 -0.1
comp=Z,148nm,1.5s
WVOR LR LR
comp=Z,3µm,18.0s
WVOR Wild Horse Val 50.04 327 *e*P **P** 09 53 09.5 -0.1
WVOR pmax pmax
comp=Z,148nm,1.5s
WVOR MLR MLR
comp=Z,3µm,18.0s
GDXM Geysers 50.18 321 *e*P **P** 09 53 11.3 +0.6
comp=Z,52nm,1.8s
EGMT Eagleton 50.21 338 P **P** 09 53 10.9 +0.2
baz=146,SNR=9.1
EGMT Eagleton 50.21 338 *e*P **P** 09 53 10.7 -0.1
comp=Z,69nm,1.4s
EGMT LR LR
comp=Z,1µm,19.0s
HOPS Hopland Field 50.46 321 *e*P **P** 09 53 13.9 +1.1
comp=Z,91nm,1.6s
HOPS LR LR
comp=Z,1µm,20.0s
O03D Paynes Creek 50.46 323 P **P** 09 53 12.5 -0.4
baz=128,SNR=5.5
J08A Circle Bar Ran 50.59 328 *e*P **P** 09 53 13.4 -0.3
comp=Z,51nm,1.6s
J08A LR LR
comp=Z,4µm,18.0s
MOD Modoc Plateau 50.61 326 *e*P **P** 09 53 13.7 -0.3
comp=Z,46nm,1.5s
MOD LR LR
comp=Z,2µm,20.0s
MSO Missoula 50.94 334 P **P** 09 53 16.1 -0.2
baz=141,SNR=21
MSO Missoula 50.94 334 *e*P **P** 09 53 16.2 -0.2
comp=Z,97nm,1.4s
MSO LR LR
comp=Z,2µm,22.0s
BMO Blue Mountains 51.04 330 *e*P **P** 09 53 16.0 -1.1
comp=Z,43nm,1.6s
BMO LR LR
comp=Z,1µm,20.0s
BMO Blue Mountains 51.04 330 *e*P **P** 09 53 16.0 -1.1
BMO pmax pmax
comp=Z,43nm,1.6s
BMO MLR MLR
comp=Z,1µm,20.0s
WDC Whiskeytown Da 51.08 323 *e*P **P** 09 53 16.2 -1.2
comp=Z,30nm,1.4s
WDC LR LR
comp=Z,1µm,20.0s
WDC Whiskeytown Da 51.08 323 *e*P **P** 09 53 16.2 -1.2
WDC pmax pmax
comp=Z,30nm,1.4s
WDC MLR MLR
comp=Z,1µm,20.0s
KCPM Cahto Peak 51.19 321 *e*P **P** 09 53 18.9 +0.5
comp=Z,126nm,1.6s
M04C Macdoel 51.41 324 P **P** 09 53 20.5 +0.4
baz=129
KMRM Mail Ridge 51.58 322 *e*P **P** 09 53 22.1 +0.9
comp=Z,100nm,1.4s
KMRM LR LR
comp=Z,2µm,19.0s
I07A Izee 51.62 328 *e*P **P** 09 53 21.7 +0.1
comp=Z,14nm,1.2s
I07A LR LR
comp=Z,2µm,19.0s
M02C Callahan 51.77 323 P **P** 09 53 22.0 -0.6
baz=128
JTMT Jette 51.80 335 *e*P **P** 09 53 23.0 +0.2
comp=Z,40nm,1.1s
JTMT LR LR
comp=Z,2µm,20.0s
F10A Beach Ranch, E 51.81 331 *e*P **P** 09 53 22.4 -0.5
comp=Z,70nm,1.4s
F10A LR LR
comp=Z,2µm,21.0s
YBH Yreka Blue Hor 51.89 324 P **P** 09 53 22.1 -1.5
comp=Z,5.1nm,1.0s,baz=127,slow=6.3,SNR=7.7
YBH LR LR 10 15 43.2
comp=Z,1µm,18.9s,baz=143,slow=36
YBH Yreka Blue Hor 51.89 324 *e*P **P** 09 53 22.8 -0.8
comp=Z,34nm,1.6s
YBH Yreka Blue Hor 51.89 324 *e*P **P** 09 53 22.8 -0.8
YBH pmax pmax
comp=Z,34nm,1.6s
KHMM Horse Mountain 51.98 322 *e*P **P** 09 53 24.8 +0.5
comp=Z,159nm,1.6s
J05D Fort Rock, OR 52.03 326 P **P** 09 53 24.8 +0.2
baz=131,SNR=30
JCC Jacoby Creek, 52.13 322 *e*P **P** 09 53 25.6 +0.3
comp=Z,102nm,1.5s
PINE Pine Mountain 52.20 327 *e*P **P** 09 53 26.2 +0.3
comp=Z,169nm,1.9s
PINE LR LR
comp=Z,2µm,18.0s
J04D Umpqua Nationa 52.49 326 P **P** 09 53 28.2 +0.1
baz=130
HUMO Hull Mountain 52.58 325 PFAKE 09 53 40.0 +11
HUMO LR LR
comp=Z,1µm,20.0s
E09A Wood Farm, Sta 52.64 331 *e*P **P** 09 53 28.5 -0.4
comp=Z,123nm,1.4s
E09A LR LR
comp=Z,2µm,18.0s
WALA Waterton Lakes 52.67 336 *e*P **P** 09 53 29.0 -0.2
comp=Z,67nm,1.4s
I05D Terrebonne, OR 52.78 327 P **P** 09 53 30.2 +0.2
baz=131,SNR=11
G06A Carlson Farm, 53.00 328 *e*P **P** 09 53 32.2 +0.6
comp=Z,134nm,1.7s
G06A LR LR
comp=Z,3µm,18.0s
I04A Tendick Farm, 53.01 326 P **P** 09 53 31.4 -0.4
baz=130
E08A Dider Farm, El 53.07 331 *e*P **P** 09 53 31.3 -0.7
comp=Z,88nm,2.0s
E08A LR LR
comp=Z,2µm,20.0s
F07A Phinny Hill Vi 53.09 330 *e*P **P** 09 53 32.9 +0.7
comp=Z,152nm,1.9s
F07A LR LR
comp=Z,2µm,20.0s
G05D Wamic, OR 53.36 328 P **P** 09 53 34.3 0.0
baz=132,SNR=6.3
D08A Wollman Farm, 53.40 331 *e*P **P** 09 53 35.0 +0.5
comp=Z,17nm,1.0s
D08A LR LR
comp=Z,2µm,21.0s
NEW Newport 53.44 333 P **P** 09 53 32.9 -1.9
comp=Z,12nm,1.3s,baz=136,slow=8.0,SNR=15
NEW LR LR 10 16 54.5
comp=Z,837nm,19.6s,baz=142,slow=37
NEW Newport 53.44 333 P **P** 09 53 34.3 -0.5
baz=138,SNR=12
NEW Newport 53.44 333 *e*P **P** 09 53 33.6 -1.2
comp=Z,51nm,1.6s
NEW Newport 53.44 333 *e*P **P** 09 53 33.6 -1.2
NEW pmax pmax
comp=Z,51nm,1.6s
H04A Detroit Lake 53.46 327 *e*P **P** 09 53 34.1 -1.0
comp=Z,66nm,1.5s
H04A LR LR
comp=Z,2µm,19.0s
E07A Sunnyside 53.51 330 *e*P **P** 09 53 35.5 +0.1
comp=Z,125nm,2.0s
E07A LR LR
comp=Z,2µm,18.0s
KEBM Edson Butte 53.54 324 PFAKE 09 53 50.0 +14
KEBM LR LR
comp=Z,2µm,21.0s
C09A Chrisman Ranch 53.62 332 *e*P **P** 09 53 36.2 +0.1
comp=Z,14nm,1.0s
C09A LR LR
comp=Z,1µm,22.0s
FFC Flin Flon 53.86 347 *e*P **P** 09 53 37.2 -0.5
comp=Z,66nm,1.8s
FFC LR LR
comp=Z,1µm,20.0s
FFC Flin Flon 53.86 347 *e*P **P** 09 53 37.2 -0.5
FFC pmax pmax
comp=Z,66nm,1.8s
FFC MLR MLR
comp=Z,1µm,20.0s
SCHQ Schefferville 53.96 12 P **P** 09 53 36.6 -1.9
comp=Z,40nm,1.2s,baz=212,slow=6.5,SNR=12
SCHQ PcP **PcP** 09 54 42.8 -0.8
comp=Z,4.8nm,0.8s,baz=104,slow=2.4,SNR=2.9
SCHQ LR LR 10 17 10.5
comp=Z,2µm,18.4s,baz=225,slow=37
SCHQ Schefferville 53.96 12 *e*P **P** 09 53 36.5 -1.9
comp=Z,113nm,1.4s
SCHQ PcP **PcP** 09 54 42.8 -0.8
COR Corvallis 54.01 326 *e*P **P** 09 53 39.6 +0.7
comp=Z,160nm,1.5s
COR Corvallis 54.01 326 *e*P **P** 09 53 39.7 +0.7
COR pmax pmax
comp=Z,160nm,1.5s
LTY Liberty 54.39 330 *e*P **P** 09 53 41.9 0.0
comp=Z,62nm,1.7s
LTY LR LR
comp=Z,2µm,22.0s
B08A Colville Reser 54.52 332 *e*P **P** 09 53 43.1 +0.4
comp=Z,49nm,1.7s
B08A LR LR
comp=Z,2µm,20.0s
LON Longmire 54.62 329 *e*P **P** 09 53 43.6 +0.1
comp=Z,11nm,1.0s
LON LR LR
comp=Z,3µm,20.0s
LON Longmire 54.62 329 *e*P **P** 09 53 43.6 +0.1
LON pmax pmax
comp=Z,11nm,1.0s
LON MLR MLR
comp=Z,3µm,20.0s
D05A Enumclaw 55.01 329 *e*P **P** 09 53 45.2 -1.0
comp=Z,83nm,1.5s
E03A Lebam 55.40 328 PFAKE 09 54 00.0 +11
E03A LR LR
comp=Z,2µm,18.0s
RKT Rikitea 55.51 240 *e*S **S** 10 01 32.5 -2.5
comp=Z,714nm,30.0s
RKT *e*LQ LQ 10 07 50.0
comp=Z,1µm,32.8s
RKT *e*LR LR 10 10 12.6
comp=Z,1µm,27.8s,baz=67
EDM Edmonton 55.79 339 *e*P **P** 09 53 50.9 -0.9
comp=Z,172nm,1.5s
EDM LR LR
comp=Z,2µm,19.0s
EDM Edmonton 55.79 339 *e*P **P** 09 53 50.9 -0.9
EDM pmax pmax
comp=Z,172nm,1.5s
EDM MLR MLR
comp=Z,2µm,19.0s
NLWA Neilton Lookou 56.11 329 *e*P **P** 09 53 53.2 -1.0
comp=Z,91nm,1.5s
NLWA LR LR
comp=Z,3µm,19.0s
FCC Fort Churchill 56.48 354 *e*P **P** 09 53 55.8 -0.7
comp=Z,142nm,1.4s
FCC Fort Churchill 56.48 354 *e*P **P** 09 53 55.8 -0.7
FCC pmax pmax
comp=Z,142nm,1.4s
PGC Sidney 56.71 330 *e*P **P** 09 53 58.1 -0.3
comp=Z,74nm,1.5s
TAOE Nuku Hiva Isla 56.72 258 *e*S **S** 10 01 49.6 -2.0
comp=Z,162nm,28.6s
TAOE *e*LR LR 10 10 42.1

comp=Z,1µm,27.3s
LLLB Lillooet 57.28 333 *e*P **P** **09 54 02.6 +0.1**
comp=Z,47nm,1.4s
EFI East Falkland 58.56 161 *e*P **P** **09 54 11.8 +0.5**
comp=Z,74nm,1.1s
EFI East Falkland 58.56 161 *i* P **P** **09 54 12.4 +1.1**
EFI pmax pmax
comp=Z,39nm,1.0s
BBB Bella Bella 61.27 331 LR LR 10 23 29.0
comp=Z,539nm,18.9s,baz=130,slow=38
YKA Yellowknife Ar 63.80 345 P **P** **09 54 44.8 -1.9**
comp=Z,2.4nm,0.8s,baz=139,slow=6.6,SNR=38
YKA PcP **PcP** **09 55 21.5 -0.9**
comp=Z,4.0nm,0.8s,baz=144,slow=4.8,SNR=9.9
YKA LR LR 10 25 35.8
comp=Z,142nm,18.1s,baz=180,slow=39
YKW3 Yellowknife Ar 63.86 345 *e*P **P** **09 54 46.2 -0.9**
comp=Z,46nm,1.4s
YKW3 LR LR
comp=Z,1µm,19.0s
PMOR Pomariorio Ree 65.22 252 *e*P **P** **09 54 57.2 +0.4**
comp=Z,146nm,1.4s
DLBC Dease Lake 66.02 336 *e*P **P** **09 55 02.2 +0.9**
comp=Z,200nm,1.9s
PPT Papeete 67.26 250 LR LR 10 17 01.5
comp=Z,919nm,19.7s,baz=80,slow=29
PPT2 Papeete2 67.27 250 *e*S **S** **10 04 01.6 -3.3**
comp=Z,254nm,25.5s
PPT2 *e*LQ LQ 10 12 47.8
comp=Z,981nm,29.5s
PPT2 *e*LR LR 10 15 35.5
comp=Z,2µm,24.8s,baz=73
PAE Paea 67.28 250 *e*P **P** **09 55 10.3 +0.3**
comp=Z,7.4nm,1.0s
BESE Bessie Mountai 68.14 334 *e*P **P** **09 55 13.8 -1.1**
comp=Z,153nm,1.8s
BESE LR LR
comp=Z,2µm,21.0s
TBI Tubuai 68.33 244 *e*S **S** **10 04 15.3 -2.0**
comp=Z,501nm,28.5s
TBI *e*LQ LQ 10 13 15.2
comp=Z,701nm,38.0s
TBI *e*LR LR 10 16 08.5
comp=Z,2µm,26.0s,baz=74
SFJD Kangerlussuaq 68.38 14 *i* P **P** **09 55 13.7 -2.3**
comp=Z,39nm,1.2s
SFJD Kangerlussuaq 68.38 14 *e*P **P** **09 55 14.0 -2.0**
comp=Z,38nm,1.1s
SFJD LR LR
comp=Z,2µm,18.0s
SFJD Kangerlussuaq 68.38 14 *e*P **P** **09 55 14.0 -2.0**
SFJD pmax pmax
comp=Z,38nm,1.1s
SFJD MLR MLR
comp=Z,2µm,18.0s
HOPE Hope Point 69.18 152 *e*P **P** **09 55 22.1 +0.9**
comp=Z,112nm,0.6s
HOPE LR LR
comp=Z,1µm,20.0s
WHY Whitehorse 69.33 336 *e*P **P** **09 55 21.9 -0.3**
comp=Z,50nm,1.7s
ILULI Ilulissat 70.07 12 *e*P **P** **09 55 25.1 -1.4**
comp=Z,85nm,1.5s
ILULI Ilulissat 70.07 12 *e*P **P** **09 55 25.1 -1.4**
ILULI pmax pmax
comp=Z,85nm,1.5s
HYT Haines Junctio 70.50 335 *e*P **P** **09 55 30.0 +0.6**
comp=Z,135nm,1.8s
HYT LR LR
comp=Z,2µm,21.0s
RES Resolute Bay 72.23 357 P **P** **09 55 38.1 -1.4**
comp=Z,10nm,1.1s,baz=179,slow=7.4,SNR=18
RES LR LR 10 28 10.2
comp=Z,1µm,18.5s,baz=164,slow=37
RES Resolute Bay 72.23 357 *e*P **P** **09 55 38.8 -0.7**
comp=Z,88nm,1.7s
RES Resolute Bay 72.23 357 *e*P **P** **09 55 38.8 -0.7**
RES pmax pmax
comp=Z,88nm,1.7s
DAWY Dawson 72.95 338 *e*P **P** **09 55 43.7 -0.3**
comp=Z,98nm,1.8s
DAWY LR LR
comp=Z,2µm,20.0s
RAGM Ragged Mountai 73.39 333 *e*P **P** **09 55 48.5 +1.8**
comp=Z,257nm,1.6s
RAGM LR LR
comp=Z,2µm,19.0s
INK Inuvik 73.40 343 P **P** **09 55 45.7 -0.8**
comp=Z,21nm,1.2s,baz=128,slow=6.3,SNR=30
INK LR LR 10 31 14.1
comp=Z,1µm,18.0s,baz=129,slow=38
INK Inuvik 73.40 343 *e*P **P** **09 55 46.4 -0.1**
comp=Z,144nm,1.6s
INK Inuvik 73.40 343 *e*P **P** **09 55 46.4 -0.1**
INK pmax pmax
comp=Z,144nm,1.6s
BMRM Bremner River 73.61 334 *e*P **P** **09 55 48.6 +0.6**
comp=Z,161nm,1.4s
BMRM LR LR
comp=Z,1µm,19.0s
EYAK Cordova Ski Ar 73.94 333 PFAKE 09 56 00.0 +10
EYAK LR LR
comp=Z,2µm,19.0s
EGAK Eagle 73.97 338 *e*P **P** **09 55 50.0 0.0**
comp=Z,96nm,1.8s
MENT Mentasta 74.10 336 *e*P **P** **09 55 50.8 0.0**
comp=Z,42nm,1.4s
MENT LR LR
comp=Z,2µm,21.0s
DIV Divide 74.19 334 PFAKE 09 56 00.0 +8.6
DIV LR LR
comp=Z,2µm,22.0s
TULEG Thule 74.34 4 *e*P **P** **09 55 51.0 -0.8**
comp=Z,120nm,1.4s
TULEG LR LR
comp=Z,2µm,20.0s
FID Port Fidalgo 74.35 333 PFAKE 09 56 00.0 +7.7
FID LR LR
comp=Z,2µm,20.0s
KLU Klutina 74.41 334 *e*P **P** **09 55 53.0 +0.3**
comp=Z,132nm,1.8s
HARP HAARP 74.46 335 *e*P **P** **09 55 53.3 +0.4**
comp=Z,206nm,1.7s
DOT Dot Lake 74.56 336 *e*P **P** **09 55 53.9 +0.4**
comp=Z,300nm,1.6s
GLI Glacier Island 74.68 333 PFAKE 09 56 10.0 +16
GLI LR LR
comp=Z,2µm,20.0s
PAX Paxson 74.83 336 *e*P **P** **09 55 55.0 -0.1**
comp=Z,156nm,1.8s
PAX Paxson 74.83 336 *e*P **P** **09 55 55.0 -0.1**
PAX pmax pmax
comp=Z,156nm,1.8s
RIDG Independ'e Rid 74.91 336 *e*P **P** **09 55 55.8 +0.3**
comp=Z,129nm,1.7s
RIDG LR LR
comp=Z,2µm,19.0s
SCM Sheep Creek Mo 75.16 334 *e*P **P** **09 55 57.2 +0.2**
comp=Z,264nm,1.8s
SCM Sheep Creek Mo 75.16 334 *e*P **P** **09 55 57.2 +0.2**
SCM pmax pmax
comp=Z,264nm,1.8s
SUMG Summit 75.35 13 *i* P **P** **09 55 57.3 -1.0**
comp=Z,320nm,1.8s
SUMG Summit 75.35 13 *e*P **P** **09 55 57.5 -0.8**
comp=Z,298nm,1.7s
SUMG Summit 75.35 13 *e*P **P** **09 55 57.5 -0.8**
SUMG pmax pmax
comp=Z,298nm,1.7s
SML Sawmill 75.59 334 *e*P **P** **09 55 59.5 0.0**
comp=Z,159nm,1.5s
SML Sawmill 75.59 334 *e*P **P** **09 55 59.5 0.0**
SML pmax pmax
comp=Z,159nm,1.5s
DHY Denali Highway 75.67 335 *e*P **P** **09 55 59.6 -0.4**
comp=Z,64nm,1.7s
PMR Palmer 75.86 334 *e*P **P** **09 56 00.9 0.0**
comp=Z,110nm,1.8s
PMR LR LR
comp=Z,1µm,19.0s
PMR Palmer 75.86 334 *e*P **P** **09 56 00.9 0.0**
PMR pmax pmax
comp=Z,110nm,1.8s
PMR MLR MLR
comp=Z,1µm,19.0s
RC01 Rabbit Creek A 75.95 333 *e*P **P** **09 56 01.5 0.0**
comp=Z,124nm,1.8s
RC01 LR LR
comp=Z,1µm,20.0s
HDA Harding Lake 76.03 337 *e*P **P** **09 56 01.7 -0.2**
comp=Z,112nm,1.4s
IL1 Eielson Array 76.16 337 *e*P **P** **09 56 01.5 -1.1**
ILAR Eielson Array 76.16 337 P **P** **09 56 01.8 -0.8**
comp=Z,21nm,1.2s,baz=130,slow=3.3,SNR=45
ILAR PP **PP** **09 58 56.5 +2.9**
comp=Z,3.5nm,1.2s,baz=108,slow=6.7,SNR=5.4
ILAR LR LR 10 30 54.4
comp=Z,1µm,21.4s,baz=130,slow=37
ILB Eielson Array 76.16 337 *e*P **P** **09 56 02.0 -0.6**
KDAK Kodiak Island 76.25 329 LR LR 10 30 20.1
comp=Z,414nm,19.3s,baz=106,slow=36
FYU Fort Yukon 76.30 339 *e*P **P** **09 56 03.7 +0.3**
comp=Z,191nm,1.7s
BORG Borgarnes 76.39 23 LR LR 10 23 13.8
comp=Z,795nm,21.9s,baz=239,slow=31
RND Reindeer 76.42 335 *e*P **P** **09 56 04.0 -0.2**
comp=Z,228nm,1.7s
RND LR LR
comp=Z,1µm,21.0s
RND Reindeer 76.42 335 *e*P **P** **09 56 04.0 -0.2**
RND pmax pmax
comp=Z,228nm,1.7s
RND MLR MLR
comp=Z,1µm,21.0s
CCB Clear Creek Bu 76.47 337 *e*P **P** **09 56 04.1 -0.2**
comp=Z,48nm,1.8s
SUA Susitna One 76.54 333 *e*P **P** **09 56 05.0 +0.1**
comp=Z,79nm,1.4s
SUA LR LR
comp=Z,1µm,20.0s
MCK McKinley 76.57 336 *e*P **P** **09 56 04.9 -0.1**
comp=Z,105nm,1.6s
MCK LR LR
comp=Z,1µm,21.0s
MCK McKinley 76.57 336 *e*P **P** **09 56 04.9 -0.1**
MCK pmax pmax
comp=Z,105nm,1.6s
MCK MLR MLR
comp=Z,1µm,21.0s
COLA College 76.58 337 *e*P **P** **09 56 03.6 -1.3**
comp=Z,59nm,1.6s
COLA LR LR
comp=Z,2µm,21.0s
COLA College 76.58 337 *e*P **P** **09 56 03.6 -1.3**
COLA pmax pmax
comp=Z,59nm,1.6s
COLA MLR MLR
comp=Z,2µm,21.0s
MDM Murphy Dome 76.76 337 *e*P **P** **09 56 05.6 -0.4**
comp=Z,110nm,1.8s
PFVI Vila Bisbo 76.92 53 *e*P **P** **09 56 07.0 -0.5**
comp=Z,279nm,1.9s
TRF Thorofare Moun 77.03 335 *e*P **P** **09 56 07.5 -0.3**
comp=Z,193nm,1.9s
SPU Mount Spurr 77.05 333 *e*P **P** **09 56 07.5 -0.2**
MORF Marmelete 77.08 52 *e*P **P** **09 56 08.5 0.0**
MORF AMb AMB 09 56 11.6
comp=Z,117nm,1.4s
MORF Marmelete 77.08 52 *e*P **P** **09 56 08.9 +0.4**
comp=Z,185nm,1.7s
MORF Marmelete 77.08 52 *e*PcP **PcP** **09 56 15.3 -4.0**
MORF Marmelete 77.08 52 *e*P **P** **09 56 08.5 0.0**
KTH Kantishna Hill 77.33 335 *e*P **P** **09 56 09.1 -0.3**
comp=Z,125nm,1.9s
RAR Rarotonga 77.34 248 LR LR 10 22 47.9
comp=Z,157nm,21.4s,baz=79,slow=30
MESJ Messejana 77.48 52 *e*P **P** **09 56 10.1 -0.5**
MESJ AMb AMB 09 56 12.8
comp=Z,44nm,1.5s
MESJ Messejana 77.48 52 *e*P **P** **09 56 10.1 -0.5**
comp=Z,44nm,1.5s
MESJ Messejana 77.48 52 *e*P **P** **09 56 10.1 -0.5**
PCAS Casmilo, Conde 77.53 50 *e*P **P** **09 56 10.5 -0.3**
comp=Z,237nm,1.8s
PCAS Casmilo, Conde 77.53 50 *e*PcP **PcP** **09 56 18.3 -2.8**
BPAW Bear Paw Mtn. 77.55 336 *e*P **P** **09 56 09.7 -0.8**
comp=Z,105nm,1.4s
BPAW LR LR
comp=Z,800nm,21.0s
PCVE Castro Verde 77.60 52 *e*P **P** **09 56 11.9 +0.6**
comp=Z,97nm,1.8s
PCVE Castro Verde 77.60 52 *e*PcP **PcP** **09 56 18.9 -2.6**
PMTG Montargil 77.62 51 *e*P **P** **09 56 11.3 0.0**
comp=Z,66nm,1.7s
PMTG Montargil 77.62 51 *e*PcP **PcP** **09 56 18.4 -3.1**
PBDV Barranco-do-Ve 77.64 53 *e*P **P** **09 56 12.0 +0.4**
comp=Z,91nm,1.7s
PBDV Barranco-do-Ve 77.64 53 *e*PcP **PcP** **09 56 19.7 -2.0**
PPLA Purkeypile 77.66 334 *e*P **P** **09 56 11.0 -0.3**
comp=Z,204nm,1.6s
PPLA LR LR
comp=Z,1µm,21.0s
EVO Evora 77.72 51 *e*P **P** **09 56 11.8 -0.1**
comp=Z,89nm,1.7s
EVO Evora 77.72 51 *e*PcP **PcP** **09 56 18.9 -3.1**
MLY Manley 77.78 337 *e*P **P** **09 56 11.1 -0.6**
comp=Z,104nm,1.7s
MLY LR LR
comp=Z,1µm,22.0s
CAST Castle Rocks 77.78 335 *e*P **P** **09 56 11.1 -0.7**
comp=Z,115nm,1.5s
CAST LR LR
comp=Z,1µm,20.0s
PVIS Viseu 78.06 49 *e*P **P** **09 56 14.9 +1.0**
PVIS Viseu 78.06 49 *e*PcP **PcP** **09 56 21.0 -2.5**
PESTR Estremoz 78.09 51 *e*P **P** **09 56 13.6 -0.4**
comp=Z,94nm,1.6s
PESTR Estremoz 78.09 51 *e*PcP **PcP** **09 56 21.4 -2.2**
PESTR Estremoz 78.09 51 *e*P **P** **09 56 13.2 -0.9**
comp=Z,51nm,1.2s
PVRL Vila Real 78.27 49 *e*P **P** **09 56 15.2 +0.2**
PCBR Castelo Branco 78.28 50 *e*P **P** **09 56 14.7 -0.3**
comp=Z,59nm,1.6s
PCBR Castelo Branco 78.28 50 *e*PcP **PcP** **09 56 22.2 -2.2**
PMRV Marv??o 78.30 50 *e*P **P** **09 56 14.9 -0.3**
comp=Z,95nm,1.8s
PMRV Marv??o 78.30 50 *e*PcP **PcP** **09 56 22.0 -2.5**
COLD Coldfoot 78.37 339 *e*P **P** **09 56 15.5 +0.5**
comp=Z,119nm,1.7s
COLD LR LR
comp=Z,900nm,21.0s
PBAR Barrancos 78.44 52 *e*P **P** **09 56 15.3 -0.7**
comp=Z,164nm,1.7s
PBAR Barrancos 78.44 52 *e*PcP **PcP** **09 56 23.3 -1.8**
SCO Scoresbysund 78.56 18 *i* P **P** **09 56 20.4 +4.5**
comp=Z,41nm,1.4s
SCO Scoresbysund 78.56 18 *e*P **P** **09 56 20.4 +4.5**
SCO pmax pmax
comp=Z,41nm,1.4s
SVW2 Sparrevohn 78.66 332 *e*P **P** **09 56 16.0 -0.7**
comp=Z,74nm,1.4s
SVW2 LR LR
comp=Z,800nm,21.0s
MVO Moncorvo 78.77 49 *e*P **P** **09 56 18.4 +0.6**
comp=Z,86nm,1.5s
MVO Moncorvo 78.77 49 *e*PcP **PcP** **09 56 24.8 -1.8**
PBRG Braganca 79.05 48 *e*P **P** **09 56 17.8 -1.5**
comp=Z,69nm,1.7s
PBRG Braganca 79.05 48 *e*PcP **PcP** **09 56 26.1 -1.7**
TIC Toumodi 79.17 84 *e*P **P** **09 56 20.2 -0.2**
LIC Lamto 79.17 84 *e*P **P** **09 56 18.9 -1.5**
comp=Z,212nm,1.6s
IM3 Indian Mountai 79.28 337 *e*P **P** **09 56 19.2 -0.7**
KIC Kosan Boka 79.45 84 *e*P **P** **09 56 20.6 -1.4**
comp=Z,255nm,1.5s
KOWA Kowa 80.05 76 *e*P **P** **09 56 25.1 0.0**
comp=Z,290nm,1.8s
PAB San Pablo 80.66 51 *e*P **P** **09 56 28.1 0.0**
comp=Z,122nm,1.7s
PAB San Pablo 80.66 51 *e*P **P** **09 56 28.1 0.0**
PAB pmax pmax
comp=Z,122nm,1.7s
ESDC Sonseca Array 80.96 50 P **P** **09 56 28.8 -0.9**
comp=Z,11nm,1.0s,baz=275,slow=5.0,SNR=35
ESDC LR LR 10 26 53.4
comp=Z,173nm,21.3s,baz=265,slow=32
ESLA Sonseca Array 80.96 50 *e*P **P** **09 56 29.7 0.0**
comp=Z,96nm,1.4s
ES19 SONSECA Array 81.02 50 *e*P **P** **09 56 29.3 -0.7**
ESK Eskdalemuir 82.83 35 *e*P **P** **09 56 38.2 -0.9**
comp=Z,78nm,1.0s
ESK Eskdalemuir 82.83 35 *e*P **P** **09 56 38.2 -0.9**
ESK pmax pmax
comp=Z,78nm,1.0s
EKA Eskdalemuir Ar 82.85 35 P **P** **09 56 37.7 -1.5**
comp=Z,22nm,0.9s,baz=262,slow=4.1,SNR=24
EKA LR LR 10 27 14.0
comp=Z,422nm,21.8s,baz=270,slow=31
RJF Les Rejaudoux 85.27 45 *e*P **P** **09 56 51.6 -0.2**
RJF pmax pmax
comp=Z,132nm,1.5s
SPIA Saint Paul Isl 85.53 327 *e*P **P** **09 56 53.9 +1.2**
comp=Z,121nm,1.5s
TOA1 Torodi Ar. Sit 85.61 77 PFAKE 09 57 10.0 +16
TOA1 LR LR
comp=Z,400nm,18.0s
TOA0 Torodi Ar. Sit 85.62 77 *e*P **P** **09 56 53.4 -0.7**
comp=Z,96nm,1.4s
TORD Torodi Ar. Bea 85.62 77 P **P** **09 56 52.7 -1.4**
comp=Z,23nm,1.3s,baz=282,slow=2.5,SNR=43
TORD PP **PP** **10 00 15.8 +2.7**
comp=Z,3.0nm,1.1s,baz=269,slow=7.6,SNR=3.9
TORD LR LR 10 34 20.0
comp=Z,266nm,19.7s,baz=255,slow=35
CAF Calviac 85.65 45 *e*P **P** **09 56 53.6 -0.1**
CAF pmax pmax
comp=Z,115nm,1.4s
TCF Toulx Ste Croi 85.77 44 *e*P **P** **09 56 53.8 -0.5**
TCF pmax pmax
comp=Z,84nm,1.4s
BGF Bois d'Agland 86.21 44 *e*P **P** **09 56 54.6 -1.8**
GAMB Gambell 86.44 334 *e*P **P** **09 56 57.6 +0.5**
comp=Z,80nm,1.8s
GAMB LR LR
comp=Z,800nm,22.0s
AVF Avril sur Loir 86.56 43 *e*P **P** **09 56 55.9 -2.2**
AVF pmax pmax
comp=Z,46nm,1.2s
BAIF Baives 87.10 40 *e*P **P** **09 57 00.3 -0.4**
BAIF pmax pmax
comp=Z,82nm,1.4s
UCC Uccle 87.19 39 ⇑P **P** **09 57 00.7 -0.4**
UCC Uccle 87.19 39 ⇑XP sP 09 57 07.1 -1.9
comp=Z,105nm,1.7s
UCC Uccle 87.19 39 *e*P **P** **09 57 00.8 -0.4**
comp=Z,187nm,1.4s
UCC Uccle 87.19 39 *e*P **P** **09 57 00.8 -0.3**
UCC pmax pmax
comp=Z,187nm,1.4s
DOU Dourbes 87.35 40 ⇑P **P** **09 57 01.4 -0.4**
DOU ⇑XP **sP** **09 57 07.9 -1.9**
comp=Z,55nm,1.6s
SSB Saint Sauveur 87.40 45 *e*P **P** **09 57 02.2 -0.1**
comp=Z,105nm,1.7s
SSB Saint Sauveur 87.40 45 *e*P **P** **09 57 02.2 -0.1**
SSB pmax pmax
comp=Z,105nm,1.7s
VNA3 Neumayer Olymp 87.61 162 P **P** **09 57 02.7 0.0**
BCLA Clavier 87.80 40 ⇑P **P** **09 57 03.7 -0.3**
BCLA ⇑XP **sP** **09 57 10.4 -1.6**
comp=Z,65nm,1.9s
BEBN Eben Emael 88.03 39 ⇑P **P** **09 57 04.6 -0.5**
BEBN ⇓XP **sP** **09 57 11.9 -1.1**
AFI Afiamalu 88.07 256 LR LR 10 26 59.9
comp=Z,176nm,21.6s,baz=94,slow=29
MEM Membach 88.24 40 ⇑P **P** **09 57 05.7 -0.4**
MEM ⇓XP **sP** **09 57 12.9 -1.2**
comp=Z,64nm,1.7s
VNA2 Neumayer--Watz 88.25 161 P **P** **09 57 05.5 -0.2**
ORIF Oris-en-Rattie 88.36 45 *e*P **P** **09 57 07.7 +0.7**
ORIF pmax pmax
comp=Z,124nm,1.5s
WLF Walferdange 88.37 41 ⇑P **P** **09 57 06.2 -0.6**
WLF ⇓XP **sP** **09 57 13.2 -1.5**
comp=Z,93nm,1.5s
WLF Walferdange 88.37 41 *e*P **P** **09 57 06.8 0.0**
comp=Z,146nm,1.2s
WLF Walferdange 88.37 41 *e*P **P** **09 57 06.8 0.0**
WLF pmax pmax
comp=Z,146nm,1.2s
KBS Kingsbay 88.65 11 PFAKE 09 57 20.0 +12
KBS LR LR
comp=Z,900nm,18.0s
BNI Bardonecchia 88.92 45 *e*P **P** **09 57 10.2 +0.5**
comp=Z,47nm,1.7s
BNI Bardonecchia 88.92 45 *e*P **P** **09 57 10.2 +0.5**
BNI pmax pmax
comp=Z,47nm,1.7s
TAM Tamanrasset 88.93 67 *e*P **P** **09 57 10.5 +0.3**
comp=Z,29nm,1.2s
TAM Tamanrasset 88.93 67 *e*P **P** **09 57 10.5 +0.3**
TAM pmax pmax
comp=Z,29nm,1.2s
LPL La Plagne 88.94 45 *e*P **P** **09 57 12.2 +2.4**
LPL pmax pmax
comp=Z,19nm,1.4s
LPG La Plagne 88.95 45 *e*P **P** **09 57 10.7 +0.7**
LPG pmax pmax
comp=Z,72nm,1.7s
CDF Champ du Feu 89.17 42 *e*P **P** **09 57 10.1 -0.6**
CDF pmax pmax
comp=Z,74nm,1.8s
SENIN Lac Senin/Sane 89.29 44 *e*P **P** **09 57 11.3 -0.2**
comp=Z,64nm,1.6s
SBF Sospel 89.52 46 *e*P **P** **09 57 13.5 +1.1**
SBF pmax pmax
comp=Z,108nm,1.9s
SPITS Spitsbergen Ar 89.64 12 LR LR 10 38 29.6
comp=Z,2µm,19.3s,baz=210,slow=36
SNAA Sanae 89.84 162 P **P** **09 57 13.0 -0.2**
SNAA Sanae 89.84 162 LR LR 10 30 36.9
comp=Z,539nm,21.9s,baz=276,slow=31
SNAA Sanae 89.84 162 *e*P **P** **09 57 13.2 -0.1**
comp=Z,72nm,1.9s
SNAA Sanae 89.84 162 *i* P **P** **09 57 12.2 -1.1**
BFO Black Forest 89.87 42 *e*P **P** **09 57 15.1 +1.2**
NBO02 NORSAR Array S 90.26 29 *e*P **P** **09 57 15.3 -0.1**
NAO01 NORSAR Array S 90.30 29 *e*P **P** **09 57 15.4 -0.2**
STU Stuttgart 90.41 41 *e*P **P** **09 57 16.1 -0.3**
comp=Z,23nm,1.0s
STU Stuttgart 90.41 41 *e*P **P** **09 57 16.1 -0.3**
STU pmax pmax
comp=Z,23nm,1.0s
NB2 NORSAR Subarra 90.44 29 P **P** **09 57 15.7 -0.6**
comp=Z,36nm,1.4s,baz=272,slow=4.8
NB2 NORSAR Subarra 90.44 29 P **P** **09 57 15.7 -0.6**
baz=272,slow=4.8
NOA NORSAR Array B 90.44 29 P **P** **09 57 15.1 -1.2**
comp=Z,1.2nm,0.8s,baz=267,slow=10,SNR=3.4
NOA LR LR 10 33 18.3
comp=Z,293nm,21.3s,baz=270,slow=33
TUE Stuetta 90.70 44 *e*P **P** **09 57 17.7 -0.4**
comp=Z,26nm,1.3s
DAVA Damuels 90.99 43 *e*P **P** **09 57 18.4 -0.9**
comp=Z,20nm,1.8s
VSL Villasalto 91.27 51 *e*P **P** **09 57 20.8 +0.2**
comp=Z,71nm,1.1s
VSL LR LR
comp=Z,300nm,21.0s
FUORN Ofenpass-Fuorn 91.31 43 *e*P **P** **09 57 20.8 -0.2**
comp=Z,11nm,1.0s
KEST Kesra 91.53 54 P **P** **09 57 22.1 +0.2**
comp=Z,7.7nm,1.1s,baz=72,slow=16,SNR=2.6
KEST LR LR 10 33 47.8
comp=Z,126nm,21.7s,baz=213,slow=32
KEST Kesra 91.53 54 *e*P **P** **09 57 22.7 +0.7**
comp=Z,27nm,1.1s
RETA Reutte 91.57 43 *e*P **P** **09 57 21.2 -0.7**
comp=Z,14nm,1.6s,SNR=5.3
FETA Feichten 91.59 43 *e*PcP **P** **09 57 22.2 +0.1**
comp=Z,35nm,1.3s
HFS Hagfors 91.77 30 LR LR 10 33 32.9
comp=Z,364nm,21.2s,baz=272,slow=32
MOX Moxa 91.80 39 P **P** **09 57 23.7 +0.9**
MOX pmax pmax
comp=Z,34nm,1.7s
MOTA Moosalm 91.82 43 *e*P **P** **09 57 22.6 -0.5**
comp=Z,3.2nm,0.7s
WATA Walderalm 92.14 43 *e*PcP **P** **09 57 24.6 0.0**
comp=Z,16nm,1.4s
WTTA Wattenberg 92.19 43 *e*PcP **P** **09 57 24.5 -0.4**
comp=Z,22nm,2.0s
CLL Collm 92.59 39 *i* P **P** **09 57 25.6 -0.8**
comp=Z,58nm,1.8s
CLL *i* 09 57 32.1
comp=Z,32nm,1.3s
CLL *e*SKSac **SKSac** **10 07 59.0 -0.3**
CLL *e*S **S** **10 08 28.0 -2.2**
CLL *e*PS **PS** **10 09 43.0 -0.4**
CLL *e* 10 11 30.0
CLL *e*SS **SS** **10 14 44.0 +2.0**

CLL eSSS SSS 10 18 12.0
CLL eSSSS 10 21 36.0
CLL Lm MLR 10 34 00.0
comp=N,200nm,19.8s
CLL Lm MLR 10 34 00.0
comp=E,400nm,21.1s
CLL Lm MLR 10 34 00.0
comp=E,600nm,19.8s
CLL Collm 92.59 39 eP **P 09 57 25.5 -0.8**
comp=Z,28nm,1.2s
CLL Collm 92.59 39 i P **P 09 57 25.6 -0.8**
CLL i 09 57 32.1
CLL e 10 07 59.0
CLL eS **S 10 08 28.0 -2.2**
CLL pmax pmax
comp=Z,58nm,1.8s
CLL MLR MLR
comp=Z,600nm,19.8s
ABTA Abfaltersbach 92.84 43 ePcP **P 09 57 27.6 -0.2**
comp=Z,24nm,1.6s,SNR=9.0
BRG Berggiesshubel 93.24 39 eP **P 09 57 29.3 -0.1**
comp=Z,43nm,1.7s
BRG i 09 57 35.8
comp=Z,48nm,1.5s
BRG Berggiesshubel 93.24 39 eP **P 09 57 29.3 -0.1**
BRG i 09 57 35.8
BRG pmax pmax
comp=Z,43nm,1.7s
BRG MLR MLR
comp=N,508nm,23.7s
BRG MLR MLR
comp=E,407nm,19.2s
BRG MLR MLR
comp=Z,837nm,20.8s
KHC Kasperske Hory 93.25 41 eP **P 09 57 29.3 -0.3**
KHC ex x 09 57 36.3
KHC AMS AMS 10 31 20.0
comp=Z,900nm,19.5s
KHC Kasperske Hory 93.25 41 eP **P 09 57 28.3 -1.3**
comp=Z,24nm,1.5s
KHC LR LR
comp=Z,400nm,22.0s
KHC Kasperske Hory 93.25 41 eP **P 09 57 28.3 -1.3**
KHC pmax pmax
comp=Z,24nm,1.5s
KHC MLR MLR
comp=Z,400nm,22.0s
GEC2 GERESS Array S 93.37 41 eP **P 09 57 30.0 -0.2**
comp=Z,35nm,1.4s
GEC2 GERESS Array S 93.37 41 eP **P 09 57 30.0 -0.2**
GEC2 pmax pmax
comp=Z,35nm,1.4s
GERES GERESS Array B 93.37 41 P **P 09 57 29.7 -0.5**
comp=Z,2.5nm,0.9s,baz=270,slow=2.7,SNR=19
GERES PKKP **PKKPbc 10 14 43.9 +4.9**
comp=Z,0.2nm,0.3s,baz=73,slow=4.6,SNR=4.6
GERES LR LR 10 38 06.6
comp=Z,194nm,18.8s,baz=276,slow=35
GEA0 GERESS Array S 93.37 41 eP **P 09 57 29.6 -0.6**
MYKA Terra Mystica 93.63 43 ePcP **P 09 57 31.3 -0.1**
comp=Z,13nm,1.2s,SNR=5.7
PVCC Panska Ves 93.69 39 eP **P 09 57 31.6 +0.1**
PVCC ex x 09 57 39.3
PVCC Panska Ves 93.69 39 eP **P 09 57 31.6 +0.1**
PVCC e 09 57 39.3
PRU Pruhonice 93.75 40 eP **P 09 57 31.4 -0.4**
PRU ex x 09 57 38.7
PRU AMS AMS 10 31 50.0
comp=Z,1μm,24.3s
PRU Pruhonice 93.75 40 eP **P 09 57 31.4 -0.4**
PRU e 09 57 38.7
PRU MLR MLR
comp=Z,1μm,24.3s
TRI Trieste 93.83 44 eP **P 09 57 30.9 -1.3**
comp=Z,39nm,1.4s
TRI Trieste 93.83 44 eP **P 09 57 30.9 -1.3**
TRI pmax pmax
comp=Z,39nm,1.4s
MOA Molin 93.88 42 ePcP **PcP 09 57 32.5 -0.4**
comp=Z,8.2nm,1.5s
GOPC GO Pecny, Ondr 93.92 40 eP **P 09 57 32.2 -0.4**
GOPC ex x 09 57 40.6
GOPC AMS AMS 10 32 00.0
comp=Z,1μm,24.6s
GOPC GO Pecny, Ondr 93.92 40 eP **P 09 57 32.2 -0.4**
GOPC e 09 57 40.6
GOPC MLR MLR
comp=Z,1μm,24.6s
JAVS Javornik 94.02 44 i P **P 09 57 33.3 +0.1**
JAVS i 09 57 40.5
OBKA Obir 94.26 43 eP **P 09 57 33.1 -1.3**
comp=Z,12nm,1.3s
ARCES ARCESS Array B 94.41 19 P **P 09 57 33.7 -0.7**
comp=Z,1.0nm,0.8s,baz=320,slow=2.7,SNR=2.6
ARCES LR LR 10 38 48.7
comp=Z,244nm,19.3s,baz=294,slow=35
CLTB Caltabellotta 94.45 52 PFAKE 09 57 50.0 +15
CLTB LR LR
comp=Z,600nm,22.0s
TREC Trest 94.46 40 eP **P 09 57 35.1 0.0**
TREC ex x 09 57 41.9
TREC AMS AMS 10 32 10.0
comp=Z,1μm,25.0s
TREC Trest 94.46 40 eP **P 09 57 35.1 0.0**
TREC e 09 57 41.9
TREC MLR MLR
comp=Z,1μm,25.0s
VISS Visnje 94.57 44 eP P 09 57 42.7 +7.1
SOKA Soboth 94.57 43 eP **P 09 57 34.5 -1.2**
comp=Z,10nm,1.3s
UPC Upice 94.60 39 eP **P 09 57 35.7 0.0**
UPC ex x 09 57 42.7
UPC AMS AMS 10 32 10.0
comp=Z,1μm,22.1s
UPC Upice 94.60 39 eP **P 09 57 35.7 0.0**
UPC e 09 57 42.7
UPC MLR MLR
comp=Z,1μm,22.1s
PERS Pernice 94.63 43 i P P 09 57 42.6 +6.6
PERS i 09 57 49.5
BILL Bilibino 94.69 339c iP **P 09 57 36.1 +0.4**
BILL i 10 01 26.1
BILL pmax pmax
comp=Z,16nm,1.2s
BILL MLR MLR
comp=Z,717nm,22.0s
ARSA Arzberg 94.81 42 eP **P 09 57 36.0 -0.8**
comp=Z,4.0nm,0.9s
DPC Dobruska-Polom 94.82 39 eP **P 09 57 36.9 +0.1**
DPC ex x 09 57 44.1
DPC AMS AMS 10 32 10.0
comp=Z,1μm,22.9s
DPC Dobruska-Polom 94.82 39 eP **P 09 57 36.9 +0.1**
DPC e 09 57 44.1
DPC MLR MLR
comp=Z,1μm,22.9s
CONA Conrad Observa 94.93 42 eP **P 09 57 36.6 -0.8**
comp=Z,25nm,1.6s,SNR=8.1
VAE Valguarnera 95.40 52 LR LR 10 34 55.8
comp=Z,345nm,22.0s,baz=304,slow=32
MORC Moravsky Berou 95.70 40 eP **P 09 57 41.0 +0.2**
comp=Z,233nm,1.7s
MORC LR LR
comp=Z,5μm,22.0s
MORC Moravsky Berou 95.70 40 eP **P 09 57 41.0 +0.2**
MORC pmax pmax
comp=Z,233nm,1.7s
MORC MLR MLR
comp=Z,5μm,22.0s
OKC Ostrava-Krasne 96.07 39 eP **P 09 57 43.4 +1.0**
OKC ex x 09 57 49.7
OKC AMS AMS 10 33 10.0
comp=Z,1μm,22.4s
OKC Ostrava-Krasne 96.07 39 eP **P 09 57 43.4 +1.0**
OKC e 09 57 49.7
OKC MLR MLR
comp=Z,1μm,22.4s
CUC Castrocucco 96.14 49 eP **P 09 57 42.3 -0.8**
comp=Z,16nm,1.0s
CUC LR LR
comp=Z,300nm,20.0s
BLY Banja Luka 96.37 45 eP **P 09 57 43.4 -0.5**
comp=Z,26nm,1.4s
VYHS Vyhne 96.78 41 eP **P 09 57 45.8 +0.1**
VYHS e 09 57 52.5
VYHS Vyhne 96.78 41 eP **P 09 57 45.8 +0.1**
VYHS e 09 57 52.5
TIP Timpagrande 96.98 50 eP **P 09 57 46.3 -0.6**
comp=Z,17nm,1.1s
OJC Ojcow 97.03 39 eP **P 09 57 46.9 +0.1**
comp=Z,26nm,1.5s
OJC Ojcow 97.03 39 eP **P 09 57 46.9 +0.1**
OJC pmax pmax
comp=Z,26nm,1.5s
MORH M⇑r⇑gy, Hung 97.11 43⇑ePKiKP **P 09 57 47.1 -0.1**
FINES FINESS Array B 97.34 27 P Pdif 09 57 47.9 -0.1
comp=Z,2.9nm,1.0s,baz=299,slow=9.4,SNR=3.3
FINES LR LR 10 42 36.8
comp=Z,278nm,18.6s,baz=286,slow=36
PSZ Piszkesteto 97.59 41⇑ePKiKP **P 09 57 50.1 +0.6**
PSZ Piszkesteto 97.59 41 eP **P 09 57 49.1 -0.3**
comp=Z,39nm,1.6s
PSZ Piszkesteto 97.59 41 eP **P 09 57 49.2 -0.3**
PSZ pmax pmax
comp=Z,39nm,1.6s
VNDA Vanda 97.59 192 LR LR 10 33 36.3
comp=Z,441nm,20.0s,baz=128,slow=30
TTG Podgorica 98.28 47 eP **P 09 57 52.1 -0.4**
comp=Z,24nm,1.3s
TTG Podgorica 98.28 47 eP **P 09 57 52.1 -0.4**
TTG pmax pmax
comp=Z,24nm,1.3s
DIVS Divibare 98.47 45 eP Pdif 09 57 53.8 +0.3
comp=Z,21nm,1.3s
VSU Vasula 98.65 30ceP Pdif 09 57 53.8 0.0
VSU pmax pmax
comp=Z,87nm,2.5s
UZH Uzhgorod 98.99 40 eP **P 09 57 54.5 -1.1**
KIEV Kiev 102.66 37 i P **Pdif 09 58 12.4 +0.5**
KIEV pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 102.67 37 P **Pdif 09 58 10.5 -1.4**
comp=Z,0.1nm,0.3s,baz=286,slow=3.9,SNR=4.0
AKASG PP **PP 10 02 26.5 +1.4**
comp=Z,0.3nm,0.5s,baz=287,slow=6.5,SNR=5.6
AKASG Malin Array Be 102.67 37 i P **Pdif 09 58 11.8 -0.1**
AKASG i 10 02 33.9
TIXI Tiksi 102.77 350 P **Pdif 09 58 10.7 -1.3**
comp=Z,0.8nm,0.7s,baz=31,slow=4.9,SNR=6.0
TIXI Tiksi 102.77 350 eP **Pdif 09 58 10.9 -1.0**
TIXI Tiksi 102.77 350 i P **Pdif 09 58 11.1 -0.8**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
KLMR Klimovskoe 103.47 25 ePP PP 10 02 27.0 -3.7
KLMR AMP 10 02 37.8
comp=Z,18nm,1.4s
OBN Obninsk 104.95 31 eP **Pdif 09 58 20.6 -1.3**
OBN pmax pmax
comp=Z,7.0nm,1.0s
DZM Mont Dzumac 108.72 248 eLR LR 10 34 43.7
comp=Z,530nm,23.4s
BRTR Keskin Array B 109.46 46 PKKP **PKKPdf 10 14 08.2 +0.5**
comp=Z,1.7nm,1.1s,baz=88,slow=4.1,SNR=3.5
KIV Kislovodsk 113.80 39 i PKIKP **PKiKP 10 02 52.6 -1.3**
KIV pmax pmax
comp=Z,7.0nm,1.0s
YSS Kuzh-Sakhalins 115.59 326 ePKIKP **PKPdf 10 03 04.0 +6.9**
KLR Kul'dur 119.61 334 i PKIKP **PKPdf 10 03 10.0 +5.2**
ABKAR Akbulak array 119.82 26 ePKPdf **PKPdf 10 03 04.7 -0.5**
BRVK Borovoye 120.57 17c iPKIKP **PKPdf 10 03 07.7 +1.1**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BVAR Borovoye Array 120.63 17 PKP **PKPdf 10 03 05.9 -0.8**
comp=Z,1.1nm,0.8s,baz=340,slow=1.7,SNR=6.4
NVS Novosibirsk 121.81 8 ePKIKP **PKPdf 10 03 07.4 -1.5**
ZAA0 Zalesovo Array 122.90 8 ePKPdf **PKPdf 10 03 10.1 -0.9**
ZALV Zalesovo Beam 122.90 8 PKP **PKPdf 10 03 09.3 -1.7**
comp=Z,1.2nm,0.6s,baz=350,slow=6.0,SNR=11
ZALV PP **PP 10 04 46.5 -2.0**
comp=Z,1.6nm,0.9s,baz=328,slow=5.3,SNR=4.4
MDJ Mudanjiang 124.01 331 PKP **PKPdf 10 03 11.0 -2.4**
MJAR Matsushiro Arr 124.39 319 PKP **PKPdf 10 03 13.2 -1.2**
comp=Z,1.0nm,0.8s,baz=106,slow=6.7,SNR=3.0
KURK Kurchatov 124.89 13 ePKPdf **PKPdf 10 03 14.1 -0.8**
KURK Kurchatov 124.89 13c iPKIKP **PKPdf 10 03 14.1 -0.8**
KURK pmax pmax
comp=Z,71nm,1.7s
ZAK Zakamensk 126.77 354 ePKIKP **PKPdf 10 03 16.7 -2.0**
ZAK pmax pmax
comp=Z,55nm,1.7s
ZAK pmax pmax
comp=Z,3.0nm,1.6s
GEYT Alibeck 126.79 37 PKP **PKPdf 10 03 18.5 -0.6**
comp=Z,3.4nm,0.8s,baz=343,slow=1.5,SNR=10
CTAO Charters Tower 127.64 247 ePKPdf **PKPdf 10 03 19.6 -1.5**
CTAO Charters Tower 127.64 247 ePKIKP **PKPdf 10 03 19.6 -1.5**
STKA Stephens Creek 127.91 231 PKP **PKPdf 10 03 20.8 -0.4**
comp=Z,3.4nm,0.8s,baz=53,slow=3.4,SNR=5.2
STKA Stephens Creek 127.91 231 ePKPdf **PKPdf 10 03 21.6 +0.4**
STKA Stephens Creek 127.91 231 ePKIKP **PKPdf 10 03 21.6 +0.4**
ULN Ulaanbaatar 128.71 350 ePKPdf **PKPdf 10 03 21.8 -0.7**
ULN Ulaanbaatar 128.71 350c iPKIKP **PKPdf 10 03 22.5 -0.1**
ULN pmax pmax
comp=Z,30nm,2.5s
SONA1 Songino Array 128.84 351 ePKPdf **PKPdf 10 03 21.7 -1.1**
SONM Songino Array 128.85 351 PKP **PKPdf 10 03 20.9 -1.9**
comp=Z,2.3nm,0.9s,baz=298,slow=0.7,SNR=15
KKAR Karatay Array 129.16 24 ePKPdf **PKPdf 10 03 23.8 +0.4**
KKAR Karatay Array 129.16 24 ePKIKP **PKPdf 10 03 23.8 +0.4**
MAKZ Makanchi 129.32 12 ePKPdf **PKPdf 10 03 23.0 -0.6**
MAKZ Makanchi 129.32 12 ePKIKP **PKPdf 10 03 23.0 -0.6**
MK31 Makanchi Array 129.40 12 ePKPdf **PKPdf 10 03 22.1 -1.6**
MK31 Makanchi Array 129.40 12 ePKIKP **PKPdf 10 03 22.1 -1.6**
MKAR Makanchi Array 129.40 12 PKP **PKPdf 10 03 21.8 -2.0**
comp=Z,9nm,0.9s,baz=4.8,slow=1.5,SNR=18
MKAR Makanchi Array 129.40 12 ePKPdf **PKPdf 10 03 22.2 -1.5**
MKAR Makanchi Array 129.40 12 ePKIKP **PKPdf 10 03 22.2 -1.5**
MK01 Makanchi Array 129.42 12 ePKPdf **PKPdf 10 03 21.9 -1.8**
KS01 Wonju Array Si 130.09 326 ePKPdf **PKPdf 10 03 24.6 -0.6**
KSRS Korea Array 130.09 326 PKP **PKPdf 10 03 24.1 -1.1**
comp=Z,5.2nm,0.9s,baz=49,slow=0.9,SNR=13
KSAR Wonju Array Be 130.12 326 PKP **PKPdf 10 03 24.1 -1.2**
KSAR Wonju Array Be 130.12 326 PKIKP **PKPdf 10 03 24.1 -1.2**
USP Ospenovka 130.51 20 P **PKPdf 10 03 26.2 +0.3**
SNR=10
EKS2 Erkin-Say 130.78 21 P **PKPdf 10 03 27.1 +0.4**
SNR=16
FRU Bishkek 130.93 20 i PKIKP **PKPdf 10 03 26.0 -0.8**
FRU i 10 03 32.5
FRU pmax pmax
comp=Z,80nm,2.1s
FRU1 Bishkek 130.96 20 PKIKP **PKPdf 10 03 27.2 +0.3**
AAK Ala-Archa 131.06 21 P **PKPdf 10 03 27.4 +0.2**
SNR=11
AAK Ala-Archa 131.06 21 ePKPdf **PKPdf 10 03 27.4 +0.2**
AAK Ala-Archa 131.06 21 ePKIKP **PKPdf 10 03 27.4 +0.2**
TKM2 Tokmak 2 131.19 19 P **PKPdf 10 03 27.3 -0.2**
SNR=15
AML Almayashu 131.21 22 P **PKPdf 10 03 27.6 -0.2**
SNR=11
UCH Uchtor 131.43 21 P **PKPdf 10 03 28.9 +0.6**
SNR=18
COEN Coen 131.69 254 ePKPdf **PKPdf 10 03 28.7 -0.2**
KZA Kyzart 131.82 20 P **PKPdf 10 03 30.3 +1.4**
SNR=13
ULHL Ulahol 132.00 19 P **PKPdf 10 03 29.6 +0.5**
SNR=23
KDJ Kajisay 132.41 19 PKIKP **PKPdf 10 03 29.7 -0.1**
NRN Naryn 132.65 20 PKIKP **PKPdf 10 03 30.6 +0.2**
WMQ Urumqi 133.21 8 PKP **PKPdf 10 03 30.3 -0.8**
WMQ PP **PP 10 05 59.3 +2.9**
WMQ AMB AMB
comp=Z,68nm,11.5s
WMQ LR LR
comp=Z,2μm,27.5s
WMQ LR LR
comp=Z,1μm,21.7s
WMQ LR LR
comp=Z,3μm,24.9s
BJI Beijing 133.52 338 i PKP **PKPdf 10 03 31.8 +0.2**
BJI LR LR
comp=Z,620nm,23.7s
BJI LR LR
comp=Z,840nm,22.1s
HHC Hu-ho-hao-te 134.32 343 ePKP **PKPdf 10 03 33.2 -0.1**
HHC SS SS 10 23 57.4 +5.1
HHC AMB AMB
comp=Z,150nm,8.4s
HHC LR LR
comp=Z,420nm,18.6s
HHC LR LR
comp=Z,210nm,20.6s
HHC LR LR
comp=Z,410nm,21.0s
KSH Kashi 134.34 21 PKP **PKPdf 10 03 33.5 +0.1**
KSH sPKP 10 03 38.1
KSH PP **PP 10 06 05.2 +1.3**
KSH PKS **PKSdf 10 07 09.5 -0.4**
KSH SKS **SKSdf 10 10 43.7 -0.5**
KSH SKKS **SKKSac 10 13 00.2 0.0**
KSH AMB AMB
comp=Z,220nm,6.3s
KSH LR LR
comp=Z,120nm,9.5s
KSH LR LR
comp=Z,140nm,10.8s
KSH LR LR
comp=Z,260nm,20.2s
AS01 Alice Springs 137.43 237 ePKPpre PKPpre 10 03 32.2
AS31 Alice Springs 137.47 237 ePKPdf **PKPdf 10 03 38.7 -0.9**
ASAR Alice Springs 137.47 237 PKHKP PKPpre 10 03 30.7
comp=Z,0.7nm,0.8s,baz=119,slow=3.1,SNR=7.2
ASAR PKP **PKPdf 10 03 39.8 +0.2**
comp=Z,12nm,1.1s,baz=118,slow=2.9,SNR=16
GTA Gaotai 137.97 355 PKP **PKPdf 10 03 40.3 +0.1**
GTA PKS **PKSdf 10 07 14.4 -2.1**
GTA AMB AMB
comp=Z,210nm,8.0s
GTA LR LR
comp=Z,330nm,20.9s
GTA LR LR
comp=Z,250nm,19.0s
GTA LR LR
comp=Z,490nm,18.5s
WC3 Warramunga Arr 138.42 243 ePKPdf **PKPdf 10 03 40.7 -0.6**
WB2 Warramunga Arr 138.44 243 ePKPpre PKPpre 10 03 31.8
WB2 ePKPdf **PKPdf 10 03 40.6 -0.8**
WRA Warramunga Arr 138.46 243 PKHKP PKPpre 10 03 31.7
comp=Z,1.4nm,1.0s,baz=126,slow=3.2,SNR=5.4
WRA PKP **PKPdf 10 03 40.5 -0.9**
comp=Z,6.0nm,0.8s,baz=105,slow=1.8,SNR=25
NJ2 Nanjing 139.03 329 ePKP **PKPdf 10 03 42.1 0.0**
LZH Lanzhou 140.71 349 ePKP **PKPdf 10 03 42.2 -3.1**
LZH sPKP 10 03 52.8
LZH PP **PP 10 06 48.0 +4.5**
LZH PKS **PKSdf 10 07 14.5 -7.0**
LZH SKS **SKSdf 10 10 47.4 -7.8**
LZH SS **SS 10 25 07.3 -0.7**
LZH AMB AMB
comp=Z,150nm,4.1s
LZH LR LR
comp=Z,820nm,19.4s
LZH LR LR
comp=Z,450nm,19.2s
LZH LR LR
comp=Z,520nm,20.9s
XAN Xi'an 141.41 342 PKP **PKPdf 10 03 40.5 -6.0**
XAN SS SS 10 25 23.2 +7.0
XAN AMB AMB
comp=Z,180nm,10.6s
XAN LR LR
comp=Z,470nm,19.2s
XAN LR LR
comp=Z,520nm,21.1s
WHN Wuhan 142.46 333 PKP **PKPdf 10 03 50.4 +2.1**
SSLB Suanglung 143.95 318 ePKPdf **PKPdf 10 03 51.2 0.0**
SAUI Saumlaki 144.06 260 ePKPdf **PKPdf 10 03 51.0 -0.6**
TPUB Ta-pu 144.50 318 ePKPdf **PKPab 10 03 50.6 +0.2**
QZH Quanzhou 144.64 322⇑iPKP **PKPab 10 03 50.7 -0.2**
QZH ePP **PP 10 07 09.8 +1.9**
QZH LR LR
comp=Z,390nm,16.6s
QZH LR LR
comp=Z,440nm,18.0s
ENH Enshi 144.68 339 ePKPdf **PKPab 10 03 50.3 -0.7**
CD2 Chengdu 145.74 347 PKPbc **PKPdf 10 03 52.2 -2.0**
CD2 pPKP PKPab 10 03 55.5 +0.7
CD2 sPKP 10 03 56.7
CD2 PP **PP 10 07 13.0 -0.7**
CD2 SKKS 10 14 04.7
CD2 SS **SS 10 26 07.0 +1.1**
CD2 AMB AMB
comp=Z,320nm,6.5s
CD2 LR LR
comp=Z,680nm,19.8s
CD2 LR LR
comp=Z,590nm,19.4s
CD2 LR LR
comp=Z,750nm,16.9s
PYUN Piuthan 147.12 21 eP **PKPdf 10 03 56.2 -0.6**
comp=Z,679nm,1.3s
DANN Dangsing 147.15 19 eP **PKPdf 10 03 57.6 +0.7**
comp=Z,28nm,0.9s
LSA Lhasa 147.56 7 ePKPdf **PKPdf 10 03 58.0 +0.3**
LSA Lhasa 147.56 7 ePKP2 **PKPdf 10 03 58.1 +0.3**
KOLN Koldanda 147.63 20 eP **PKPdf 10 03 56.8 -0.8**
comp=Z,200nm,1.1s
TNTI Ternate 148.05 276 ePKPdf **PKPbc 10 04 00.7 -0.9**
KKN Kakani 148.16 17 eP **PKPdf 10 03 57.6 -0.9**
comp=Z,713nm,1.6s
GUN Gumba 148.22 16 eP **PKPdf 10 03 58.2 -0.6**
comp=Z,605nm,1.0s
DMN Daman 148.27 18 eP **PKPdf 10 03 58.1 -0.7**
comp=Z,851nm,1.8s
PKIN Phulchoki 148.39 17 eP **PKPdf 10 03 57.9 -1.1**
comp=Z,256nm,1.3s
PKI Pulchoki 148.40 17 eP **PKPdf 10 03 57.9 -1.2**
comp=Z,237nm,1.1s
JIRN Jiri 148.54 16 eP **PKPdf 10 03 58.3 -1.1**
comp=Z,692nm,1.4s
DAV Davao City (W) 148.55 288 PKPbc **PKPbc 10 04 02.9 +0.1**
comp=Z,220nm,0.4s,baz=236,slow=4.3,SNR=4.9
GYA Guiyang 149.15 340 PKPbc **PKPdf 10 03 59.0 -1.1**
GYA PKPab **sPKPbc 10 04 08.9 -3.4**
GYA PKS **PP 10 07 32.6 -1.4**
GYA PP PP 10 07 37.4 +3.4
GYA AMB AMB
comp=Z,150nm,8.2s
TAPN Taplejung 149.23 14 eP **PKPdf 10 03 59.1 -1.3**
comp=Z,453nm,1.7s
RAMN Ramite 149.33 16 eP **PKPdf 10 03 59.6 -0.9**
comp=Z,210nm,0.8s
ODAN Odare 149.62 15 eP **PKPdf 10 03 58.8 -2.1**
comp=Z,350nm,1.3s
POO Poona 149.99 45⇑iP PKPdf 10 03 52.0 -9.5
comp=Z,68nm,1.2s
MBWA Marble Bar 150.15 230 ePKPbc **PKPbc 10 04 05.8 -0.8**
SOEI Soe 150.65 255 ePKPdf **PKPdf 10 04 04.4 +1.7**
KMI Kunming 151.54 346 PKPbc **PKPdf 10 04 02.8 -1.2**
KMI sPKP 10 04 09.3
SHL Shillong 151.73 7 eP **PKPdf 10 04 00.0 -4.2**
LUWI Luwuk 152.78 273 ePKPdf **PKPdf 10 04 06.7 +0.9**
QIZ Qiongzhong 154.30 328 PKPbc **PKPdf 10 04 05.8 -2.0**
QIZ PP **PP 10 08 04.3 +0.6**
QIZ SS SS 10 27 44.3 +2.0
QIZ LR LR
comp=Z,110nm,4.4s
QIZ LR LR
comp=Z,240nm,35.9s
CMAI Chiengmai2 157.31 352 P **PKPdf 10 04 19.4 +7.4**
comp=Z,114nm,1.5s
CHTO Chiang Mai 158.42 351 P **PKPdf 10 04 13.6 +0.4**
comp=Z,54nm,1.9s
CHTO Chiang Mai 158.42 351 ePKPdf **PKPdf 10 04 12.1 -1.1**
CHTO ePKPab **PKPab 10 04 46.1 -1.3**
CHTO Chiang Mai 158.42 351 ePKIKP **PKPdf 10 04 12.1 -1.1**
CHTO e 10 04 46.1
CMMT Chiang Mai 158.42 351 P **PKPdf 10 04 12.5 -0.7**
PHRA Phrae 158.50 348 P **PKPdf 10 04 13.3 0.0**
comp=Z,63nm,1.5s
CM31 Chiang Mai Arr 158.77 351 ePKPdf **PKPdf 10 04 13.0 -0.7**
CM31 ePKPab **PKPab 10 04 48.3 -0.7**
CMAR Chiang Mai Arr 158.77 351 PKP **PKPdf 10 04 11.9 -1.7**
comp=Z,1.8nm,0.7s,baz=311,slow=2.3,SNR=11
CMAR PKPab **PKPab 10 04 47.7 -1.3**
comp=Z,7.3nm,1.1s,baz=356,slow=4.7,SNR=8.1
CMAR PP **PP 10 08 30.2 +2.4**
comp=Z,0.6nm,0.3s,baz=344,slow=6.3,SNR=8.6
CM01 Chiang Mai Arr 158.81 351 ePKPdf **PKPdf 10 04 12.8 -0.9**
CM01 ePKPab **PKPab 10 04 48.7 -0.5**
CHAI Chaiyaphum 160.52 341 P **PKPdf 10 04 16.9 +1.2**
UTHA Uthaitani 161.52 348 P **PKPdf 10 04 23.9 +7.2**
PALK Pallekele 162.18 56 PKPab **PKPab 10 05 03.7 -0.6**
comp=Z,1.1nm,0.3s,baz=298,slow=4.5,SNR=4.3
NAYO Nakonayok 162.22 342 P **PKPdf 10 04 18.2 +0.7**

	comp=Z,13nm,1.7s						
SBUM	**Sibu**	**162.62**	**287**	*e*PKPdf	**PKPdf**	**10 04 16.0**	**-2.0**
SRDT	**SRDT**	**162.76**	**348**	P	**PKPdf**	**10 04 24.0**	**+6.0**
KSM	**Kuching**	**164.73**	**285**	*e*PKPdf	**PKPdf**	**10 04 19.0**	**-0.9**
IPM	**Ipoh**	**171.08**	**322**	*e*PKPdf	**PKPdf**	**10 04 22.0**	**-2.3**
PSI	**Prapat**	**173.65**	**328**	*e*PKPdf	**PKPdf**	**10 04 23.9**	**-1.7**
PSI				*e*PKPab	**PKPab**	**10 05 53.6**	**-1.2**
PSI	**Prapat**	**173.65**	**328**	*e*PKIKP	**PKPdf**	**10 04 23.9**	**-1.7**
PSI				*e*		10 05 53.6	

*ISCJB **04** 09:58:10.8±0.3, 16°.76N±0°.03×94°.27W±0°.03, h124km±2km, mb4.3/74, Error ellipse: s-maj=5.4km s-min=3.7km az=30.7*
*IDC **04** 09:58:10.5±0.8, 16°.91N×94°.09W, h104km±11km, mb3.7/15, mb1 4.0/17, mb1mx3.7/54, mbtmp4.1/17, Error ellipse: s-maj=36.1km s-min=13.1km az=46.0*
*NEIC **04** 09:58:13.1±0.0, 16°.73N×94°.36W, h119km, mb4.4/83, MD4.2(MEX), After MEX.*
NEIC Felt at Ixhuatan and Zanatepec.
*MEX **04** 09:58:13.1±0.9, 16°.73N×94°.36W, h119km±12km, MD4.2*
ISC 04 09:58:11.3±0.6**, 16°.73N**±0°.04×**94°.38W**±0°.03**, h118**km±5km**, n229,** $\sigma 1^s.$**40**/246**, mb4.3**/74**, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.61**	**307**	P	**Pn**	**09 58 30.2**	**+0.4**
	258nm,0.3s,baz=177,slow=4.7,SNR=3397						
CMIG				S	**Sn**	**09 58 43.4**	**-0.3**
	881nm,0.3s,baz=308,slow=19,SNR=78						
TGIG		**1.20**	**87**	*i* P	**Pn**	**09 58 35.7**	**+0.4**
TGIG				*i* S	**Sn**	**09 58 52.9**	**-0.7**
TGIG		**1.20**	**87**	*i* P	**Pn**	**09 58 35.7**	**+0.4**
TGIG				*i* S	**Sn**	**09 58 52.9**	**-0.7**
TGBT	**Tuxtla Gutierr**	**1.23**	**87**	*e*P	**Pn**	**09 58 35.9**	**+0.2**
TGBT				*e*S	**Sn**	**09 58 53.3**	**-0.7**
TUIG	**Tuzandepetl**	**1.30**	**358**	*i* S	**Sn**	**09 58 55.7**	**+0.2**
TUIG	**Tuzandepetl**	**1.30**	**358**	*i* S	**Sn**	**09 58 55.7**	**+0.2**
PCIG		**1.51**	**132**	*i* P	**Pn**	**09 58 39.6**	**+0.8**
PCIG				*e*S	**Sn**	**09 58 59.6**	**+0.1**
PCIG		**1.51**	**132**	*i* P	**Pn**	**09 58 39.6**	**+0.8**
PCIG				*e*S	**Sn**	**09 58 59.6**	**+0.1**
HUIG	**Huatulco**	**1.92**	**240**	*i* P	**Pn**	**09 58 42.5**	**-1.1**
HUIG				*e*S	**Sn**	**09 59 07.7**	**-0.6**
HUIG	**Huatulco**	**1.92**	**240**	*i* P	**Pn**	**09 58 42.5**	**-1.1**
HUIG				*e*S	**Sn**	**09 59 07.7**	**-0.6**
CCIG	**Comitan**	**2.19**	**101**	*e*P	**Pn**	**09 58 48.1**	**+0.8**
CCIG				*e*S	**Sn**	**09 59 14.8**	**-0.1**
CCIG	**Comitan**	**2.19**	**101**	*e*P	**Pn**	**09 58 48.1**	**+0.8**
CCIG				*e*S	**Sn**	**09 59 14.8**	**-0.1**
PANG	**Puerto Angel**	**2.27**	**243**	*e*P	**Pn**	**09 58 47.3**	**-0.9**
PANG				*e*S	**Sn**	**09 59 15.6**	**-0.8**
VHO	**Vista Hermosa**	**2.28**	**279**	*e*P	**Pn**	**09 58 49.7**	**+1.2**
VHO				*e*S	**Sn**	**09 59 17.1**	**+0.2**
VHO	**Vista Hermosa**	**2.28**	**279**	*e*P	**Pn**	**09 58 49.7**	**+1.2**
VHO				*e*S	**Sn**	**09 59 17.1**	**+0.2**
TPIG	**Tehuac#an**	**3.31**	**301**	*e*P	**Pn**	**09 59 02.6**	**+0.8**
TPIG	**Tehuac#an**	**3.31**	**301**	*e*P	**Pn**	**09 59 02.6**	**+0.8**
LVIG	**Laguna Verde**	**3.56**	**327**	*e*Pn	**Pn**	**09 59 04.7**	**-0.2**
LVIG				*e*Sn	**Sn**	**09 59 42.0**	**-4.5**
PNIG	**Pinotepa**	**3.61**	**265**	*e*P	**Pn**	**09 59 04.8**	**-0.9**
PNIG				*i* S	**Sn**	**09 59 47.2**	**-0.6**
PNIG	**Pinotepa**	**3.61**	**265**	*e*P	**Pn**	**09 59 04.8**	**-0.9**
PNIG				*i* S	**Sn**	**09 59 47.2**	**-0.6**
MYIG	**MØrida**	**6.08**	**45**	*e*Pn	**Pn**	**09 59 38.1**	**-0.7**
JRQG	**Juriquilla Cam**	**6.98**	**305**	*e*Pn	**Pn**	**09 59 54.2**	**+2.9**
MOIG	**Morelia**	**7.11**	**295**	*e*Pn	**Pn**	**09 59 56.0**	**+3.0**
LNIG	**Linares**	**9.42**	**331**	*e*Pn	**Pn**	**10 00 26.3**	**+2.2**
ZAIG	**Zacatecas**	**9.78**	**309**	*e*Pn	**Pn**	**10 00 33.6**	**+4.4**
JTS	**JuntasAbangare**	**11.17**	**124**	P	**Pn**	**10 00 47.5**	**-0.3**
	2.7nm,0.3s,baz=32,slow=14,SNR=14						
JTS				S	**Sn**	**10 02 47.7**	**-3.2**
	0.4nm,0.3s,baz=338,slow=19,SNR=2.3						
833A	**Chaparral WMA,**	**12.44**	**339**	P	**Pn**	**10 01 05.7**	**+1.4**
	baz=157,SNR=9.1						
833A				S	**Sn**	**10 03 18.9**	**-2.3**
	baz=157						
FSCY	**Frank Sound, G**	**12.81**	**76**	*e*Pn	**Pn**	**10 01 09.9**	**+0.7**
435B	**Jarrell**	**14.30**	**349**	P	**P**	**10 01 31.8**	**-0.1**
	baz=168,SNR=7.3						
JCT	**Junction City**	**14.56**	**341**	P	**Pn**	**10 01 32.8**	**+1.0**
	baz=159,SNR=6.1						
JCT	**Junction City**	**14.56**	**341**	*e*Pn	**Pn**	**10 01 33.1**	**+1.3**
JCT				*e*Sn	**Sn**	**10 04 11.1**	**-1.5**
HPIG		**14.59**	**316**	*e*Pn	**P**	**10 01 34.9**	**-0.6**
342A	**Flagon Creek P**	**14.70**	**7**	P	**Pn**	**10 01 34.2**	**+0.7**
	baz=188						
NATX	**Nacogdoches**	**14.97**	**359**	*e*Pn	**P**	**10 01 38.6**	**-0.8**
345A	**Thompson Farm,**	**15.05**	**14**	P	**Pn**	**10 01 37.6**	**-0.2**
	baz=196						
TXAR	**Lajitas Array**	**15.18**	**327**	P	**P**	**10 01 41.3**	**-0.6**
	0.3nm,0.3s,baz=148,slow=14,SNR=65						
TX31	**Lajitas Ar. Si**	**15.18**	**327**	*e*Pn	**P**	**10 01 41.7**	**-0.2**
242A	**Grayson**	**15.40**	**7**	P	**P**	**10 01 43.8**	**-0.4**
	baz=188,SNR=5.6						
WHTX	**Lake Whitney,**	**15.45**	**350**	P	**Pn**	**10 01 43.5**	**+0.6**
	baz=169						
WHTX	**Lake Whitney,**	**15.45**	**350**	*e*Pn	**P**	**10 01 45.4**	**+0.5**
	16nm,0.6s						
WHTX				*e*Sn	**Sn**	**10 04 31.1**	**-3.0**
Z41A	**Richland Creek**	**16.52**	**5**	P	**P**	**10 01 56.5**	**-0.1**
	baz=185						
ABTX	**Abilene, Hawle**	**16.53**	**344**	P	**P**	**10 01 57.7**	**+1.0**
	baz=162,SNR=6.9						
ABTX	**Abilene, Hawle**	**16.53**	**344**	*e*Pn	**P**	**10 01 58.1**	**+1.3**
	14nm,0.6s						
ABTX				*e*Sn	S	10 05 16.1	+13
Z44A	**Pea Ridge, Bel**	**16.86**	**11**	P	**P**	**10 02 04.3**	**+4.0**
	baz=193						
LRAL	**Lakeview Retre**	**17.55**	**21**	P	**P**	**10 02 07.6**	**-0.4**
	baz=204						
LRAL	**Lakeview Retre**	**17.55**	**21**	*e*P	**Pn**	**10 02 08.5**	**-0.2**
	62nm,1.8s						
X39A	**Fountain Ranch**	**17.71**	**1**	P	**P**	**10 02 10.0**	**+0.3**
	baz=181						
X40A	**Basin Creek Fa**	**17.74**	**4**	P	**P**	**10 02 09.5**	**-0.5**
	baz=185						
MIAR	**Mount Ida**	**17.76**	**2**	P	**P**	**10 02 10.4**	**+0.2**
	baz=182						
MIAR	**Mount Ida**	**17.76**	**2**	*e*P	**P**	**10 02 10.3**	**0.0**
	50nm,1.8s						
X41A	**Kaden, Bauxite**	**17.77**	**5**	P	**P**	**10 02 10.1**	**-0.3**
	baz=186						
GDL2	**Guadalupe Moun**	**17.87**	**331**	*e*P	**Pn**	**10 02 15.3**	**+2.7**
MNTX	**Cornudas Mount**	**17.95**	**328**	P	**Pn**	**10 02 13.6**	**+0.2**
	baz=144						
MNTX	**Cornudas Mount**	**17.95**	**328**	*e*P	**Pn**	**10 02 14.0**	**+0.6**
	17nm,1.8s						
UALR	**University of**	**18.07**	**5**	*e*P	**Pn**	**10 02 14.6**	**-0.2**
	13nm,0.6s						
OXF	**Oxford**	**18.26**	**13**	*e*P	**P**	**10 02 15.1**	**-0.7**
	35nm,1.4s						
WMOK	**Wichita Mounta**	**18.37**	**348**	P	**P**	**10 02 17.3**	**+0.4**
	baz=166,SNR=6.8						
WMOK	**Wichita Mounta**	**18.37**	**348**	*e*P	**P**	**10 02 17.1**	**+0.2**
	4.8nm,0.6s						
WMOK				*e*S	**S**	**10 05 38.9**	**-2.0**
W39A	**Magazine**	**18.40**	**2**	P	**Pn**	**10 02 18.3**	**-0.4**
	baz=182						
W40A	**Ferguson Farm,**	**18.43**	**3**	*e*P	**P**	**10 02 18.3**	**+0.7**
	50nm,1.6s						
X301	**Greenbrier Sit**	**18.52**	**5**	*e*P	**Pn**	**10 02 19.6**	**-0.6**
	11nm,1.0s						
WHAR	**Wooly Hollow**	**18.58**	**5**	*e*P	**P**	**10 02 19.7**	**+0.4**
	46nm,1.8s						
MSTX	**Muleshoe**	**18.76**	**338**	P	**P**	**10 02 21.8**	**+0.5**
	baz=154,SNR=10						
MSTX	**Muleshoe**	**18.76**	**338**	*e*P	**P**	**10 02 22.0**	**+0.7**
	45nm,1.1s						
OK022	**N3560 Road, Pr**	**18.85**	**354**	*e*P	**P**	**10 02 22.4**	**+0.2**
	18nm,0.6s						
OK020	**N3440 Road, Me**	**18.87**	**354**	*e*P	**P**	**10 02 22.5**	**+0.1**
	19nm,1.0s						
OK021	**N3530 Road, Sp**	**18.92**	**354**	*e*P	**P**	**10 02 22.7**	**-0.2**
	24nm,0.9s						
PLAL	**Pickwick Lake**	**19.04**	**16**	*e*P	**P**	**10 02 22.6**	**-1.6**
	45nm,1.8s						
V39A	**Pettigrew**	**19.05**	**2**	P	**P**	**10 02 24.3**	**-0.1**
	baz=182,SNR=8.0						
V40A	**Witts Springs**	**19.05**	**4**	P	**P**	**10 02 23.9**	**-0.5**
	baz=184						
V41A	**Mountainview**	**19.09**	**6**	P	**P**	**10 02 24.0**	**-0.8**
	baz=186						
TUL1	**Leonard**	**19.15**	**356**	P	**P**	**10 02 25.2**	**-0.2**
	baz=176						
TUL1	**Leonard**	**19.15**	**356**	*e*P	**P**	**10 02 25.6**	**+0.2**
	12nm,0.8s						
V42A	**Cord**	**19.19**	**7**	P	**P**	**10 02 25.0**	**-0.8**
	baz=189						
AMTX	**Amarillo**	**19.23**	**341**	P	**P**	**10 02 27.0**	**+0.6**
	baz=158						
AMTX	**Amarillo**	**19.23**	**341**	*e*P	**P**	**10 02 27.2**	**+0.8**
	71nm,0.6s						
GOGA	**Godfrey**	**19.31**	**29**	*e*P	**P**	**10 02 27.1**	**0.0**
	78nm,1.9s						
HHAR	**Hobbs**	**19.48**	**1**	*e*P	**P**	**10 02 30.3**	**+1.2**
	14nm,1.5s						
U39A	**Green Forest**	**19.59**	**2**	P	**P**	**10 02 30.0**	**-0.3**
	baz=182						
U40A	**Yellville**	**19.60**	**4**	P	**P**	**10 02 30.2**	**-0.1**
	baz=184,SNR=6.3						
U41A	**Viola**	**19.66**	**6**	P	**P**	**10 02 30.0**	**-1.0**
	baz=187						
121A	**Cookes Peak, D**	**19.87**	**325**	P	**Pn**	**10 02 36.3**	**0.0**
	baz=139,SNR=21						
T35A	**Sooner Cattle**	**20.20**	**355**	P	**P**	**10 02 35.7**	**-1.1**
	baz=174						
T34A	**McClaskey Farm**	**20.37**	**354**	P	**P**	**10 02 40.0**	**+1.4**
	baz=172						
T41A	**Mountain View**	**20.37**	**6**	P	**P**	**10 02 38.3**	**-0.4**
	baz=187						
BNM	**Barren Site**	**20.55**	**330**	*e*P	Pn	10 02 43.3	-0.9
Y22D	**IRIS PASSCAL I**	**20.63**	**329**	P	Pn	10 02 44.4	-0.6
	baz=144						
Y22D	**IRIS PASSCAL I**	**20.63**	**329**	*e*P	Pn	10 02 44.7	-0.3
	29nm,0.7s						
Y22E	**IRIS PASSCAL I**	**20.63**	**329**	P	Pn	10 02 44.3	-0.7
	baz=144						
LPM	**Los Pinos Moun**	**20.68**	**330**	*e*P	Pn	10 02 44.4	-1.2
LAZ	**Ladron**	**21.00**	**329**	*e*P	**P**	**10 02 48.4**	**+2.8**
ANMO	**Albuquerque**	**21.12**	**331**	P	**P**	**10 02 47.9**	**+1.0**
	6.6nm,0.8s,baz=332,slow=12,SNR=33						
ANMO	**Albuquerque**	**21.12**	**331**	P	**P**	**10 02 48.7**	**+1.8**
	baz=146						
ANMO	**Albuquerque**	**21.12**	**331**	*e*P	**P**	**10 02 48.5**	**+1.6**
	8.6nm,0.9s						
CCM	**Cathedral Cave**	**21.43**	**7**	*e*P	**P**	**10 02 49.5**	**-0.4**
	37nm,1.9s						
FVM	**French Village**	**21.46**	**9**	*e*P	**P**	**10 02 50.4**	**+0.1**
	40nm,2.0s						
TUC	**Tucson**	**21.49**	**319**	P	**P**	**10 02 52.5**	**+1.8**
	baz=132						
TUC	**Tucson**	**21.49**	**319**	*e*P	**P**	**10 02 52.4**	**+1.6**
	6.3nm,0.9s						
R39A	**Chumby, Stover**	**21.54**	**3**	P	**P**	**10 02 50.7**	**-0.4**
	baz=183						
TZTN	**Tazewell**	**21.95**	**24**	*e*P	**P**	**10 02 53.4**	**-2.2**
	127nm,1.8s						
T25A	**Trinidad**	**22.18**	**338**	P	**P**	**10 02 59.9**	**+1.8**
	baz=154,SNR=13						
T25A	**Trinidad**	**22.18**	**338**	*e*P	**P**	**10 03 00.0**	**+1.8**
	14nm,0.8s						
MHTCO	**State Highway**	**22.27**	**338**	*e*P	**P**	**10 03 01.0**	**+1.9**
	19nm,0.9s						
KSU1	**Kansas State U**	**22.38**	**355**	P	**P**	**10 02 59.9**	**+0.1**
	baz=174						
KSU1	**Kansas State U**	**22.38**	**355**	*e*P	**P**	**10 02 59.7**	**-0.2**
	8.6nm,0.6s						
CBKS	**Cedar Bluff**	**22.50**	**349**	P	**P**	**10 03 01.3**	**+0.1**
	baz=166						
CBKS	**Cedar Bluff**	**22.50**	**349**	*e*P	**P**	**10 03 01.6**	**+0.4**
	24nm,0.8s						
X18A	**Snowflake**	**22.56**	**325**	*e*P	**P**	**10 03 04.6**	**+2.6**
	13nm,1.1s						
214A	**Organ Pipe Nat**	**22.57**	**316**	P	**P**	**10 03 04.0**	**+2.0**
	baz=128						
OTAV	**Otavalo**	**22.69**	**135**	*e*P	**P**	**10 03 05.4**	**+1.7**
	18nm,1.5s						
P35A	**Duane Minner,**	**22.77**	**357**	P	**P**	**10 03 02.0**	**-1.8**
	baz=176						
P40A	**Paris**	**22.81**	**5**	P	**P**	**10 03 01.8**	**-2.3**
	baz=186						
P41A	**Barry, Barry**	**23.05**	**7**	P	**P**	**10 03 04.3**	**-2.0**
	baz=188						
PRAC	**Prado**	**23.10**	**122**	*e*P	**P**	**10 03 08.5**	**+1.3**
	9.4nm,1.1s						
SDCO	**Great Sand Dun**	**23.12**	**337**	P	**P**	**10 03 08.7**	**+1.2**
	baz=152,SNR=7.9						
SDCO	**Great Sand Dun**	**23.12**	**337**	*e*P	**P**	**10 03 09.3**	**+1.9**
	8.0nm,0.9s						
X16A	**Lo Mia Camp, P**	**23.33**	**322**	*e*P	**P**	**10 03 11.9**	**+2.6**
	7.6nm,0.9s						
KSCO	**Kaye Shedlock'**	**23.35**	**344**	*e*P	**P**	**10 03 10.8**	**+1.5**
	15nm,0.9s						
RUSC	**La Rusia**	**23.46**	**115**	*e*P	**P**	**10 03 11.2**	**+0.2**
	7.8nm,1.7s						
S22A	**4UR Ranch, Cre**	**23.64**	**335**	P	**P**	**10 03 13.8**	**+1.6**
	baz=149,SNR=7.2						
S22A	**4UR Ranch, Cre**	**23.64**	**335**	*e*P	**P**	**10 03 14.5**	**+2.3**
	4.4nm,0.8s						
113A	**Mohawk Valley,**	**23.71**	**316**	*e*P	**P**	**10 03 15.9**	**+3.4**
	8.1nm,1.0s						
MVCO	**Mesa Verde**	**23.92**	**331**	P	**P**	**10 03 16.2**	**+1.5**
	baz=145						
MVCO	**Mesa Verde**	**23.92**	**331**	*e*P	**P**	**10 03 16.1**	**+1.5**
	7.3nm,0.8s						
Y14A	**Wickenburg**	**23.96**	**319**	*e*P	**P**	**10 03 18.1**	**+3.3**
	43nm,1.2s						
N38A	**Joes South For**	**24.00**	**2**	P	**P**	**10 03 14.7**	**-0.4**
	baz=183						
WUAZ	**Wupatki**	**24.08**	**324**	P	**P**	**10 03 19.3**	**+3.2**
	baz=137,SNR=8.6						
WUAZ	**Wupatki**	**24.08**	**324**	*e*P	**P**	**10 03 17.7**	**+1.7**
	13nm,1.0s						
N39A	**Derby Farms, D**	**24.12**	**3**	P	**P**	**10 03 16.0**	**-0.1**
	baz=184						
SDV	**Santo Domingo**	**24.41**	**106**	P	**P**	**10 03 17.0**	**-2.3**
	3.2nm,0.6s,baz=318,slow=7.0,SNR=4.1						
M37A	**Trindle Farm,**	**24.59**	**1**	P	**P**	**10 03 19.4**	**-1.0**
	baz=181						
M38A	**Pleasantville**	**24.63**	**2**	P	**P**	**10 03 19.4**	**-1.3**
	baz=183						
M36A	**Felix, Anita**	**24.65**	**359**	P	**P**	**10 03 20.3**	**-0.6**
	baz=179						
M35A	**Neola**	**24.68**	**358**	P	**P**	**10 03 20.3**	**-0.9**
	baz=177						
PV01	**Paradox Valley**	**24.71**	**332**	*e*P	**P**	**10 03 24.4**	**+2.6**
M40A	**Post Highland**	**24.72**	**5**	P	**P**	**10 03 19.7**	**-1.8**
	baz=186						
PV05	**Paradox Valley**	**24.90**	**332**	*e*P	**P**	**10 03 26.7**	**+3.2**
SMCO	**Snowmass**	**24.93**	**336**	*e*P	**P**	**10 03 26.0**	**+2.0**
	6.3nm,0.8s						
PV10	**Paradox Valley**	**25.12**	**332**	*e*P	**P**	**10 03 27.4**	**+1.9**
U15A	**North Rim**	**25.25**	**324**	*e*P	**P**	**10 03 29.2**	**+2.4**
	2.5nm,0.7s						
W13A	**Hualapai Mount**	**25.27**	**320**	*e*P	**P**	**10 03 28.6**	**+1.7**
	2.1nm,0.7s						
L36A	**Harm Buss Farm**	**25.29**	**359**	P	**P**	**10 03 25.5**	**-1.2**
	baz=179						
BC3	**Big Chuckawall**	**25.37**	**316**	P	**P**	**10 03 29.0**	**+1.3**
	baz=126						
KNB	**Kanab**	**25.97**	**325**	*e*P	**P**	**10 03 35.1**	**+1.9**
	19nm,1.8s						
K41A	**Shullsburg**	**26.03**	**7**	P	**P**	**10 03 33.1**	**-0.3**
	baz=189						
JFWS	**Jewell Farm**	**26.34**	**7**	*e*P	**P**	**10 03 37.0**	**+0.8**
MTPU	**Mount Pierson**	**26.38**	**327**	*e*P	**P**	**10 03 38.9**	**+1.8**
	2.4nm,0.9s						
ECSD	**EROS Data Cent**	**26.99**	**356**	*e*P	**P**	**10 03 41.3**	**-0.7**
	27nm,2.0s						
H32A	**Carlson Farm,**	**27.81**	**355**	P	**P**	**10 03 48.7**	**-0.7**
	baz=174						
TPNV	**Topopah Spring**	**27.92**	**320**	P	**P**	**10 03 52.2**	**+1.5**
	baz=130						
H33A	**Prehn Over Nor**	**27.94**	**356**	P	**P**	**10 03 49.5**	**-1.0**
	baz=175						
MVL	**Millersville**	**27.98**	**30**	*e*P	**P**	**10 03 51.4**	**+0.5**
	28nm,1.5s						
H39A	**Augusta**	**27.99**	**5**	P	**P**	**10 03 49.8**	**-1.1**
	baz=186						
G38A	**Ridgeland**	**28.44**	**4**	P	**P**	**10 03 53.5**	**-1.4**
	baz=185						
G39A	**Holcombe**	**28.60**	**5**	P	**P**	**10 03 55.0**	**-1.4**
	baz=186						
PDAR	**Pinedale Array**	**29.01**	**337**	P	**P**	**10 04 00.4**	**+0.1**
	0.6nm,0.8s,baz=132,slow=8.8,SNR=4.6						
E35A	**Pequot Lakes**	**29.75**	**360**	P	**P**	**10 04 05.7**	**-0.8**
	baz=180						
REDW	**Red Top Meadow**	**30.02**	**336**	*e*P	**P**	**10 04 11.1**	**+1.8**
	14nm,1.3s						
NV11	**Mina Array Sit**	**30.03**	**321**	*e*P	**P**	**10 04 11.7**	**+2.3**
	0.3nm,1.0s						
SNOW	**Snow King Moun**	**30.07**	**336**	*e*P	**P**	**10 04 11.4**	**+1.7**
	11nm,0.9s						
MDPB	**Devils Postpil**	**30.11**	**319**	*e*P	**P**	**10 04 12.0**	**+1.9**
	3.1nm,1.1s						
NV01	**Mina Array Sit**	**30.12**	**321**	*e*P	**P**	**10 04 12.3**	**+2.1**
NVAR	**Mina Array Bea**	**30.12**	**321**	P	**P**	**10 04 11.8**	**+1.6**
	2.8nm,0.7s,baz=136,slow=8.8,SNR=25						
LOHW	**Long Hollow**	**30.13**	**336**	*e*P	**P**	**10 04 11.6**	**+1.4**
	5.2nm,1.0s						
D35A	**Remer**	**30.27**	**0**	P	**P**	**10 04 09.8**	**-1.3**
	baz=181						
MOOW	**Moose Ponds**	**30.30**	**336**	*e*P	**P**	**10 04 13.1**	**+1.3**
	4.1nm,1.0s						
D33A	**AnnSam, Waubun**	**30.35**	**358**	P	**P**	**10 04 10.3**	**-1.6**
	baz=177						
RLMT	**Red Lodge**	**30.95**	**339**	P	**P**	**10 04 17.7**	**+0.3**
	baz=151						
RLMT	**Red Lodge**	**30.95**	**339**	*e*P	**P**	**10 04 19.0**	**+1.6**
	16nm,1.7s						
YERR	**Yerington**	**31.04**	**321**	*e*P	**P**	**10 04 20.6**	**+2.4**
	6.0nm,1.4s						
C31A	**Landman Farms,**	**31.10**	**356**	P	**P**	**10 04 17.4**	**-1.1**
	baz=174,SNR=9.2						
EYMN	**Ely**	**31.23**	**4**	*e*P	**P**	**10 04 17.9**	**-1.6**
	22nm,1.3s						
MDND	**Maddock**	**31.33**	**353**	P	**P**	**10 04 19.8**	**-0.7**
	baz=170						
AGMN	**Agassiz Nation**	**31.51**	**358**	P	**P**	**10 04 20.8**	**-1.2**
	baz=177,SNR=5.1						
AGMN	**Agassiz Nation**	**31.51**	**358**	*e*P	**P**	**10 04 21.0**	**-1.0**
	9.9nm,0.9s						
B35A	**Bob, Littlefor**	**31.55**	**1**	P	**P**	**10 04 20.8**	**-1.5**
	baz=181						
B32A	**Ashes, Strandq**	**31.63**	**357**	P	**P**	**10 04 22.0**	**-1.1**
	baz=176						
HLID	**Hailey**	**31.70**	**332**	P	**P**	**10 04 24.2**	**+0.2**
	baz=141						
HLID	**Hailey**	**31.70**	**332**	*e*P	**P**	**10 04 25.2**	**+1.2**
	12nm,1.8s						
B31A	**Greenbush Farm**	**31.73**	**356**	P	**P**	**10 04 23.3**	**-0.6**
	baz=174						
MCMT	**McKenzie Canyo**	**32.04**	**335**	*e*P	**P**	**10 04 29.5**	**+2.5**
A32A	**Rocking H Ranc**	**32.15**	**357**	P	**P**	**10 04 26.1**	**-1.5**
	baz=176						
BOZ	**Bozeman (W)**	**32.20**	**337**	P	**P**	**10 04 29.7**	**+1.4**
	baz=148						
DLMT	**Dillon**	**32.38**	**336**	*e*P	**P**	**10 04 31.5**	**+1.7**
	6.9nm,0.9s						
ULM	**Lac du Bonnet**	**33.46**	**358**	P	**P**	**10 04 36.9**	**-2.2**
	1.4nm,0.7s,baz=173,slow=9.4,SNR=4.9						
ULM	**Lac du Bonnet**	**33.46**	**358**	*e*P	**P**	**10 04 37.1**	**-1.9**
	31nm,1.9s						
J08A	**Circle Bar Ran**	**33.52**	**327**	*e*P	**P**	**10 04 41.9**	**+2.1**
	6.1nm,0.6s						
MSO	**Missoula**	**34.12**	**336**	P	**P**	**10 04 45.2**	**+0.3**
	baz=145						
MSO	**Missoula**	**34.12**	**336**	*e*P	**P**	**10 04 46.0**	**+1.1**
	5.5nm,1.1s						
YBH	**Yreka Blue Hor**	**34.82**	**322**	*e*P	**P**	**10 04 51.7**	**+0.7**
	27nm,1.9s						
F10A	**Beach Ranch, E**	**34.84**	**332**	*e*P	**P**	**10 04 52.1**	**+1.0**
	7.8nm,0.8s						
H04A	**Detroit Lake**	**36.38**	**326**	*e*P	**P**	**10 05 05.6**	**+1.4**
	17nm,1.4s						
NEW	**Newport**	**36.56**	**334**	P	**P**	**10 05 05.8**	**+0.2**
	3.0nm,0.9s,baz=149,slow=6.0,SNR=6.3						
NEW	**Newport**	**36.56**	**334**	P	**P**	**10 05 05.8**	**+0.2**
	baz=142						
NEW	**Newport**	**36.56**	**334**	*e*P	**P**	**10 05 06.3**	**+0.7**
	11nm,1.5s						
LTY	**Liberty**	**37.38**	**330**	*e*P	**P**	**10 05 13.8**	**+1.1**
	28nm,2.0s						
B08A	**Colville Reser**	**37.58**	**333**	*e*P	**P**	**10 05 15.0**	**+0.7**
	8.1nm,1.6s						
FFC	**Flin Flon**	**38.38**	**353**	*e*P	**P**	**10 05 20.4**	**-0.4**
	3.7nm,0.5s						
EDM	**Edmonton**	**39.34**	**342**	*e*P	**P**	**10 05 29.2**	**+0.2**
	24nm,1.6s						
SAML	**Samuel**	**40.04**	**127**	*e*P	**P**	**10 05 32.8**	**-2.4**
	7.7nm,1.3s						
LLLB	**Lillooet**	**40.36**	**333**	*e*P	**P**	**10 05 38.8**	**+1.4**
	15nm,1.4s						
LPAZ	**La Paz**	**41.78**	**140**	P	**P**	**10 05 50.6**	**+0.5**
	1.3nm,0.6s,baz=239,slow=8.0,SNR=5.3						
LPAZ	**La Paz**	**41.78**	**140**	*e*P	**P**	**10 05 50.6**	**+0.5**
	3.9nm,1.2s						
YKA	**Yellowknife Ar**	**47.87**	**347**	P	**P**	**10 06 36.6**	**-0.4**
	4.8nm,0.8s,baz=152,slow=7.5,SNR=68						
YKW3	**Yellowknife Ar**	**47.94**	**348**	*e*P	**P**	**10 06 37.5**	**-0.1**
	6.0nm,0.8s						
WHY	**Whitehorse**	**52.57**	**336**	*e*P	**P**	**10 07 14.2**	**+1.5**
	52nm,1.9s						
BDFB	**Brasilia**	**55.91**	**123**	*e*P	**P**	**10 07 37.1**	**-0.4**
	4μm,1.0s						
INK	**Inuvik**	**57.19**	**344**	P	**P**	**10 07 45.3**	**-0.4**
	2.0nm,0.8s,baz=131,slow=6.8,SNR=11						
INK	**Inuvik**	**57.19**	**344**	*e*P	**P**	**10 07 46.0**	**+0.4**
	6.9nm,1.4s						
EGAK	**Eagle**	**57.34**	**338**	*e*P	**P**	**10 07 47.2**	**+0.4**
IL1	**Eielson Array**	**59.45**	**337**	*e*P	**P**	**10 08 02.0**	**+0.5**
ILAR	**Eielson Array**	**59.45**	**337**	P	**P**	**10 08 01.8**	**+0.3**
	0.8nm,0.6s,baz=155,slow=4.7,SNR=8.3						
ILB	**Eielson Array**	**59.45**	**337**	*e*P	**P**	**10 08 01.9**	**+0.5**
SUA	**Susitna One**	**59.62**	**332**	*e*P	**P**	**10 08 04.3**	**+1.5**
	70nm,1.9s						
MDM	**Murphy Dome**	**60.04**	**337**	*e*P	**P**	**10 08 05.9**	**+0.4**
	21nm,1.9s						
TRF	**Thorofare Moun**	**60.21**	**335**	*e*P	**P**	**10 08 08.1**	**+1.3**
	49nm,1.9s						
MLY	**Manley**	**61.03**	**336**	*e*P	**P**	**10 08 12.8**	**+0.5**
	13nm,1.7s						
COLD	**Coldfoot**	**61.77**	**339**	*e*P	**P**	**10 08 18.2**	**+1.1**
	21nm,2.0s						
SUMG	**Summit**	**64.25**	**16**	*e*P	**P**	**10 08 33.4**	**-0.5**
	8.7nm,1.4s						
EKA	**Eskdalemuir Ar**	**77.11**	**36**	P	**P**	**10 09 50.3**	**-1.4**
	0.6nm,0.5s,baz=273,slow=5.4,SNR=7.1						
NB2	**NORSAR Subarra**	**82.85**	**28**	P	**P**	**10 10 23.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=292,slow=5.3						
NOA	**NORSAR Array B**	**82.85**	**28**	P	**P**	**10 10 22.4**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=290,slow=5.1,SNR=4.0						
NB201	**NORSAR Array S**	**82.88**	**28**	*e*P	**P**	**10 10 22.2**	**-0.5**
ARCES	**ARCESS Array B**	**84.27**	**18**	P	**P**	**10 10 29.3**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=286,slow=5.9,SNR=6.1						
SEY	**Seymchan**	**85.33**	**335**	P	**P**	**10 10 35.3**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=0.0,slow=20,SNR=3.4						
KOWA	**Kowa**	**86.25**	**76**	P	**P**	**10 10 39.6**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=298,slow=6.6,SNR=5.7						
HHC	**Hu-ho-hao-te**	**117.86**	**338**	*e*P	**PKPdf**	**10 16 48.2**	**+3.8**
WRA	**Warramunga Arr**	**133.77**	**258**	PKP	**PKPdf**	**10 17 15.5**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=90,slow=1.9,SNR=5.2						
WRA				pPKP	**pPKPdf**	**10 17 48.7**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=82,slow=2.2,SNR=4.9						
ASAR	**Alice Springs**	**134.34**	**253**	PKP	**PKPdf**	**10 17 16.1**	**0.0**
	comp=Z,0.3nm,0.9s,baz=114,slow=1.1,SNR=3.7						

*ISCJB **04** 10:13:06.6±0.3, 23°.93N±0°.01×121°.76E±0°.02, h25km±2km, Error ellipse: s-maj=2.8km s-min=1.7km az=37.5*
*JMA **04** 10:13:06.2±0.1, 23°.92N×121°.68E, h31km±1km, M2.7*
*TAP **04** 10:13:07.0, 23°.96N×121°.68E, h30km, ML3.3, C*
ISC 04 10:13:06.3±0.9**, 23°.91N**±0°.02×**121°.77E**±0°.02**, h30**km±6km**, n80,** $\sigma 0^s.$**86**/145**, 1C-1D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.16**	**293**	P	**Pn**	**10 13 12.6**	**-0.2**
	baz=283						
HWA				S	**Sb**	**10 13 17.3**	**+1.2**
	baz=283						
TWD	**Chiawan**	**0.23**	**316**	P	**Pb**	**10 13 12.6**	**-0.2**
	baz=324						
TWD				S	**Sb**	**10 13 16.8**	**-0.5**
	baz=324						
ESL	**Shilin**	**0.32**	**252**	*e*P	**Pb**	**10 13 13.9**	**-0.1**
	baz=241						
ESL				*e*S	**Sb**	**10 13 19.0**	**-0.3**
	baz=241						
EGFH	**Guangfu**	**0.40**	**232**	P	**Pb**	**10 13 15.2**	**+0.1**
	baz=228						
EGFH				S	**Sb**	**10 13 21.5**	**+0.4**
	baz=228						
ENA	**Nanau**	**0.51**	**357**	*e*P	**Pb**	**10 13 16.4**	**-0.5**
	baz=8.0						
WHF	**Hehuan Shan**	**0.52**	**297**	*e*P	**Pb**	**10 13 16.2**	**-1.0**
	baz=296						
WHF				*e*S	**Sb**	**10 13 22.2**	**-2.6**
	baz=296						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.54**	**4**	*e*P	**Pb**	**10 13 16.7**	**-0.5**
	baz=13						
ENAH				*e*S	**Sn**	**10 13 25.2**	**-0.7**
	baz=13						
OWD	**Renai**	**0.54**	**274**	⇓*i*P	**Pb**	**10 13 16.9**	**-0.6**
	baz=275						
OWD				*i* S	**Sb**	**10 13 23.7**	**-1.5**
	baz=275						
EHY	**Hungye**	**0.58**	**225**	*e*P	**Pb**	**10 13 17.3**	**-0.6**
	baz=223						
EHY				*e*S	**Sb**	**10 13 25.4**	**-0.5**
	baz=223						
NNSH	**Datong**	**0.62**	**326**	⇑*i*P	**Pb**	**10 13 17.8**	**-1.0**
	baz=324						
NNSH				*i* S	**Sb**	**10 13 25.6**	**-1.7**
	baz=324						
NNS	**Nan Shan**	**0.64**	**325**	P	**Pb**	**10 13 18.1**	**-1.0**
	baz=330						
NNS				S	**Sb**	**10 13 26.0**	**-1.7**
	baz=330						
TWT	**Tachien**	**0.64**	**302**	*e*P	**Pb**	**10 13 19.1**	**0.0**
	baz=301						
TWT				*e*S	**Sb**	**10 13 26.4**	**-1.4**
	baz=301						
TWC	**Suao**	**0.70**	**6**	*e*P	**Pn**	**10 13 20.8**	**+0.7**
	baz=10.0						
TWC				*e*S	**Sn**	**10 13 30.5**	**+0.6**
	baz=10.0						
TWF1	**Yuli**	**0.71**	**218**	*e*P	**Pb**	**10 13 19.4**	**-0.7**
	baz=209						
TWF1				*e*S	**Sb**	**10 13 28.8**	**-0.7**
	baz=209						
ENTT	**Nioudou**	**0.75**	**346**	P	**Pn**	**10 13 20.0**	**-0.8**
	baz=352						
ENTT				*e*S	**Sb**	**10 13 30.3**	**-0.4**
	baz=352						
DPDB	**Guoxing**	**0.78**	**279**	P	**Pn**	**10 13 20.5**	**-0.8**
	baz=269						
SMLT	**Sun Moon Lake**	**0.80**	**268**	P	**Pn**	**10 13 21.0**	**-0.6**
	baz=264						
SMLT				S	**Sb**	**10 13 31.0**	**-1.2**
	baz=264						
TWE	**Neicheng**	**0.81**	**353**	*e*P	**Pn**	**10 13 21.1**	**-0.5**
	baz=351						
TWE				*e*S	**Sn**	**10 13 33.0**	**+0.3**
	baz=351						
FULB	**Fuli**	**0.83**	**212**	*e*P	**Pb**	**10 13 22.2**	**0.0**
	baz=213						
FULB				*e*S	**Sn**	**10 13 34.7**	**+1.4**
	baz=213						
TYC	**Yuchr**	**0.83**	**270**	*e*P	**Pn**	**10 13 21.0**	**-1.0**
	baz=266						
TYC				*e*S	**Sb**	**10 13 31.8**	**-1.3**
	baz=266						
ILA	**Ilan**	**0.85**	**359**	*e*S	**Sn**	**10 13 34.5**	**+0.9**
	baz=352						
YUS	**Yu-Shan**	**0.86**	**241**	*e*P	**Pn**	**10 13 22.5**	**-0.2**
	baz=234						
YUS				*e*S	**Sb**	**10 13 33.2**	**-1.2**
	baz=234						
CHKT	**Chengkung**	**0.89**	**205**	*e*P	**Pb**	**10 13 22.9**	**-0.3**
	baz=185						
CHKT				*e*S	**Sb**	**10 13 35.9**	**+1.2**
	baz=185						
NWLT	**Wulai**	**0.89**	**344**	P	**Pn**	**10 13 22.5**	**-0.4**
	baz=349						
NWLT				*e*S	**Sn**	**10 13 34.1**	**-0.6**
	baz=349						
NTC	**Toucheng**	**0.94**	**3**	P	**Pb**	**10 13 24.2**	**+0.2**
	baz=356						
NTC				*e*S	**Sb**	**10 13 37.4**	**+1.3**
	baz=356						
EGS		**0.94**	**9**	*e*P	**Pb**	**10 13 25.1**	**+1.1**
	baz=16						
EGS				*e*S	**Sb**	**10 13 38.0**	**+1.9**
	baz=16						
WJS	**Zhushan**	**0.96**	**265**	*e*P	**Pn**	**10 13 24.0**	**+0.3**
	baz=261						
WJS				*e*S	**Sn**	**10 13 36.7**	**+0.4**
	baz=261						
ALS	**Alishan**	**0.97**	**246**	*e*P	**Pn**	**10 13 24.3**	**+0.2**
	baz=240						
ALS				*e*S	**Sn**	**10 13 36.5**	**-0.6**
	baz=240						
WNT	**Mingjian**	**0.99**	**268**	*e*P	**Pb**	**10 13 24.8**	**-0.1**
	baz=265						
WNT				*e*S	**Sn**	**10 13 37.8**	**+0.6**
	baz=265						
ELDTW	**Lidau**	**1.00**	**224**	*e*P	**Pn**	**10 13 23.2**	**-1.2**
	baz=212						
ELDTW				*e*S	**Sn**	**10 13 37.3**	**-0.2**
	baz=212						
NSTT	**Nanjuang**	**1.00**	**316**	P	**Pn**	**10 13 24.7**	**+0.4**
	baz=309						
NSTT				S	**Sn**	**10 13 36.6**	**-0.8**
	baz=309						
LIOB	**Emei**	**1.00**	**317**	*e*P	**Pb**	**10 13 24.8**	**-0.3**
	baz=318						
TWQ1	**Liyutan**	**1.01**	**296**	P	**Pb**	**10 13 25.0**	**-0.2**
	baz=295						
TWQ1				S	**Sn**	**10 13 38.0**	**+0.5**
	baz=295						
TCU	**Taichung**	**1.03**	**283**	*e*P	**Pb**	**10 13 25.8**	**+0.3**
	baz=281						
TCU				*e*S	**Sb**	**10 13 39.5**	**+0.9**
	baz=281						
WLTB	**Daxi**	**1.05**	**333**	*e*P	**Pb**	**10 13 25.9**	**+0.1**
	baz=347						
WLTB				*e*S	**Sn**	**10 13 39.0**	**+0.5**
	baz=347						
CHN5	**Tsauling**	**1.05**	**253**	*e*P	**Pb**	**10 13 25.7**	**-0.2**
	baz=248						
CHN5				*e*S	**Sn**	**10 13 39.0**	**+0.3**
	baz=248						
NSY	**Sanyi**	**1.05**	**299**	*e*P	**Pb**	**10 13 25.6**	**-0.2**
	baz=299						
NSY				*e*S	**Sn**	**10 13 39.4**	**+0.8**
	baz=299						
TWA	**Mucha**	**1.07**	**351**	*e*P	**Pb**	**10 13 25.9**	**-0.4**
	baz=356						
TWA				*e*S	**Sn**	**10 13 38.9**	**-0.4**
	baz=356						
NMLH	**Miaoli**	**1.09**	**305**	*e*P	**Pn**	**10 13 26.1**	**+0.6**
	baz=305						
NMLH				*e*S	**Sn**	**10 13 40.0**	**+0.5**
	baz=305						
PTSB	**Yuanli**	**1.11**	**299**	*e*P	**Pb**	**10 13 26.8**	**0.0**
	baz=298						
PTSB				*e*S	**Sn**	**10 13 40.5**	**+0.5**
	baz=298						
TWB1	**Santiao Chiao**	**1.11**	**10**	*e*P	**Pb**	**10 13 27.2**	**+0.4**
	baz=16						
TWB1				*e*S	**Sb**	**10 13 42.3**	**+1.4**
	baz=16						
WCHH	**Zhanghua**	**1.12**	**279**	*e*P	**Pb**	**10 13 26.8**	**-0.2**
	baz=276						
WCHH				*e*S	**Sb**	**10 13 42.2**	**+0.9**
	baz=276						
WGK	**Gukeng**	**1.13**	**259**	*e*P	**Pn**	**10 13 26.3**	**+0.3**
	baz=242						
WGK				*e*S	**Sb**	**10 13 42.6**	**+1.1**
	baz=242						
HSN	**Hsinchu**	**1.15**	**321**	*e*S	**Sb**	**10 13 42.2**	**+0.2**
	baz=341						
WDLH	**Douliu**	**1.15**	**259**	*e*P	**Pb**	**10 13 27.3**	**-0.2**
	baz=243						
WDLH				*e*S	**Sb**	**10 13 43.1**	**+1.0**
	baz=243						
NCUH	**Zhongli**	**1.18**	**333**	P	**Pb**	**10 13 27.4**	**-0.6**
	baz=336						
NCUH				S	**Sb**	**10 13 42.6**	**-0.3**
	baz=336						
NCU	**National Centr**	**1.18**	**333**	P	**Pb**	**10 13 27.4**	**-0.6**
	baz=336						
NCU				*e*S	**Sb**	**10 13 42.6**	**-0.3**
	baz=336						
STYT	**Tauyuan**	**1.19**	**231**	*e*P	**Pb**	**10 13 28.1**	**-0.2**
	baz=235						
STYT				*e*S	**Sb**	**10 13 43.9**	**+0.5**
	baz=235						
JYNG	**Yonagunijimaku**	**1.20**	**63**	P	**Pb**	**10 13 28.6**	**+0.2**
JYNG				*e*S	**Sb**	**10 13 43.9**	**+0.4**
CHN4	**Tsaushan**	**1.22**	**243**	*e*P	**Pb**	**10 13 28.2**	**-0.4**
	baz=230						
CHN4				*e*S	**Sb**	**10 13 44.5**	**+0.5**
	baz=230						
TWS1	**Kuangyinshan**	**1.22**	**345**	P	**Pb**	**10 13 28.5**	**-0.3**
	baz=349						
TWS1				S	**Sn**	**10 13 43.5**	**+0.6**
	baz=349						
CHN2	**Minshiung**	**1.25**	**252**	*e*P	**Pb**	**10 13 29.4**	**+0.3**
	baz=249						
CHN2				*e*S	**Sb**	**10 13 45.2**	**+0.4**
	baz=249						
WTP	**Ta-pu**	**1.25**	**238**	*e*P	**Pb**	**10 13 29.0**	**-0.3**
	baz=234						
WTP				*e*S	**Sb**	**10 13 45.3**	**+0.2**
	baz=234						
YM10	**YM10**	**1.25**	**351**	*e*P	**Pb**	**10 13 28.5**	**-0.8**
	baz=355						
YOJ	**Yonaguni jima**	**1.26**	**64**	P	**Pb**	**10 13 29.1**	**-0.3**
YOJ				S	**Sb**	**10 13 45.3**	**+0.1**
TWG	**Pinlang**	**1.26**	**211**	*e*P	**Pn**	**10 13 28.2**	**+0.3**
	baz=194						
TWG				*e*S	**Sn**	**10 13 44.4**	**+0.5**
	baz=194						
YM03	**YM03**	**1.28**	**351**	*e*S	**Sn**	**10 13 44.6**	**+0.3**
	baz=355						
NTST	**Danshui**	**1.28**	**347**	*e*S	**Sn**	**10 13 44.9**	**+0.7**
	baz=351						
CHY	**Chiayi**	**1.30**	**252**	*e*P	**Pb**	**10 13 29.4**	**-0.7**
	baz=248						
CHY				*e*S	**Sb**	**10 13 47.3**	**+0.9**
	baz=248						
CHN1	**Nanshi**	**1.35**	**238**	*e*P	**Pb**	**10 13 30.1**	**-0.8**
	baz=234						
CHN1				*e*S	**Sb**	**10 13 47.6**	**-0.2**
	baz=234						
WTCT	**Ta-ch'eng**	**1.36**	**268**	*e*P	**Pn**	**10 13 30.3**	**+1.0**
	baz=265						
WTCT				*e*S	**Sb**	**10 13 47.9**	**-0.3**
	baz=265						
SGST	**Jiashian**	**1.37**	**233**	*e*P	**Pb**	**10 13 31.1**	**-0.1**
	baz=229						
SGST				*e*S	**Sb**	**10 13 49.1**	**+0.7**
	baz=229						
SLGT	**Liugui**	**1.38**	**229**	*e*P	**Pb**	**10 13 31.5**	**0.0**
	baz=215						
SLGT				*e*S	**Sb**	**10 13 50.0**	**+1.3**
	baz=215						
WSF	**Szhu**	**1.44**	**259**	*e*P	**Pn**	**10 13 31.3**	**+1.0**
	baz=245						
WSF				*e*S	**Sb**	**10 13 50.8**	**+0.3**
	baz=245						
ECL	**Taimali**	**1.51**	**210**	*e*P	**Pn**	**10 13 30.8**	**-0.5**
	baz=197						
CHN8	**Yiju**	**1.54**	**249**	*e*S	**Sb**	**10 13 52.4**	**-0.8**
	baz=245						
SSD	**Sandimen**	**1.56**	**222**	*e*P	**Pb**	**10 13 34.0**	**-0.6**
	baz=219						
SSD				*e*S	**Sb**	**10 13 53.6**	**-0.3**
	baz=219						
TWM1	**Shoushan**	**1.65**	**229**	*e*P	**Pb**	**10 13 35.3**	**-0.7**
	baz=225						
SSPT	**Xinbi**	**1.80**	**218**	*e*P	**Pb**	**10 13 38.1**	**-0.5**
	baz=205						
SSPT				*e*S	**Sb**	**10 14 00.9**	**+0.1**
	baz=205						
IRIF	**Iriomote-Funau**	**1.84**	**76**	P	**Pb**	**10 13 37.4**	**-1.8**
IRIF				*e*S	**Sb**	**10 13 59.2**	**-2.7**
SCZT	**Fangliau**	**1.86**	**215**	*e*P	**Pb**	**10 13 38.5**	**-1.2**
	baz=213						
SCZT				*e*S	**Sb**	**10 14 01.9**	**-0.7**
	baz=213						
HATJ	**Hateruma jima**	**1.87**	**85**	*e*S	**Sb**	**10 14 00.8**	**-1.9**
LAY	**Lan-yu**	**1.88**	**186**	*e*S	**Sn**	**10 13 59.6**	**+0.5**
	baz=173						
WLCH	**Liuqiu**	**2.01**	**220**	*e*P	**Pb**	**10 13 41.7**	**-0.5**
	baz=217						
WDGT	**Dungji**	**2.04**	**252**	*e*P	**Pn**	**10 13 39.2**	**+0.6**
	baz=236						
WDGT				*e*S	**Sn**	**10 14 02.8**	**-0.2**
	baz=236						
PNG	**Penghu**	**2.06**	**261**	*e*P	**Pn**	**10 13 39.3**	**+0.5**
	baz=258						
PNG				*e*S	**Sn**	**10 14 04.2**	**+0.8**
	baz=258						
JKRS	**Kuro-shima**	**2.07**	**81**	P	**Pb**	**10 13 41.4**	**-1.8**
JKRS				*e*S	**Sb**	**10 14 06.6**	**-2.0**
JIJ	**Ishigaki jima**	**2.21**	**78**	P	**Pn**	**10 13 42.2**	**+1.2**
JIJ				*e*S	**Sn**	**10 14 08.2**	**+0.9**
JISG	**Ishigakijimahi**	**2.42**	**73**	P	**Pn**	**10 13 45.1**	**+1.4**
JISG				*e*S	**Sn**	**10 14 12.8**	**+0.5**
JTJ	**Tarama**	**2.77**	**74**	*e*S	**Sn**	**10 14 23.4**	**+2.3**

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*ISCJB **04** 10:14:41.6±0.5, 17.°94N±0.°04×102.°06W±0.°03, h58^{km}±6^{km}, mb3.7/7, Error ellipse: s-maj=7.0km s-min=4.0km az=18.2*
*NEIC **04** 10:14:43.2±0.0, 17.°99N×102.°03W, h6^{km}, MD4.1(MEX), After MEX.*
*MEX **04** 10:14:43.2±0.5, 17.°99N×102.°03W, h6^{km}±4^{km}, MD4.1*
*IDC **04** 10:14:51.6±4.8, 18.°52N×101.°40W, h108^{km}±34^{km}, mb3.4/7, mb1 3.6/9, mb1mx3.4/50, mbtmp3.6/9, Error ellipse: s-maj=75.1km s-min=22.2km az=34.0*
ISC 04 10:14:42.1±1.0**, 17.°94N**±0.°04×**102.°06W**±0.°03**, h49**^{km}±11^{km}**, n35,** σ**1^{s}05**/62**, mb3.7**/7**, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.66**	**120**	*i* P	**Pn**	**10 14 55.0**	**-0.3**
ZIIG				*i* S	**Sn**	**10 15 04.0**	**-0.7**
ZIIG	**Zihuatanejo**	**0.66**	**120**	*i* P	**Pn**	**10 14 55.0**	**-0.3**
ZIIG				*i* S	**Sn**	**10 15 04.0**	**-0.7**
MMIG	**Aquila**	**1.27**	**286**	*e*P	**Pn**	**10 15 03.8**	**+0.3**
MMIG				*i* S	**Sn**	**10 15 20.2**	**+0.8**
MMIG	**Aquila**	**1.27**	**286**	*e*P	**Pn**	**10 15 03.8**	**+0.3**
MMIG				*i* S	**Sn**	**10 15 20.2**	**+0.8**
ARIG	**Puente Sto Nin**	**1.66**	**78**	*e*P	**Pn**	**10 15 08.6**	**-0.3**
ARIG				*i* S	**Sn**	**10 15 28.4**	**-0.8**
MOIG	**Morelia**	**1.92**	**25**	*e*P	**Pn**	**10 15 12.0**	**-0.5**
MOIG				*i* S	**Sn**	**10 15 35.7**	**+0.1**
MOIG	**Morelia**	**1.92**	**25**	*e*P	**Pn**	**10 15 12.0**	**-0.5**
MOIG				*i* S	**Sn**	**10 15 35.7**	**+0.1**
EZ5V		**2.12**	**317**	*e*P	**Pn**	**10 15 16.8**	**+1.5**
EZ5V				*i* S	**Sn**	**10 15 41.1**	**+0.5**
MEIG	**Mezcala**	**2.32**	**90**	*e*P	**Pn**	**10 15 19.2**	**+1.2**
MEIG				*i* S	**Sn**	**10 15 45.6**	**+0.1**
MEIG	**Mezcala**	**2.32**	**90**	*e*P	**Pn**	**10 15 19.2**	**+1.2**
MEIG				*i* S	**Sn**	**10 15 45.6**	**+0.1**
ACP2	**Acapulco**	**2.33**	**117**	*i* P	**Pn**	**10 15 18.1**	**+0.1**
ACP2				*i* S	**Sn**	**10 15 47.4**	**+1.9**
ACX	**Acapulco**	**2.36**	**117**	*i* P	**Pn**	**10 15 18.4**	**0.0**
ACX				*i* S	**Sn**	**10 15 46.0**	**-0.1**
ACX	**Acapulco**	**2.36**	**117**	*i* P	**Pn**	**10 15 18.4**	**0.0**
ACX				*i* S	**Sn**	**10 15 46.0**	**-0.1**
PLIG	**Platanillo**	**2.47**	**79**	*e*P	**Pn**	**10 15 20.1**	**+0.1**
PLIG				*i* S	**Sn**	**10 15 49.4**	**+0.2**
PLIG	**Platanillo**	**2.47**	**79**	*e*P	**Pn**	**10 15 20.1**	**+0.1**
PLIG				*i* S	**Sn**	**10 15 49.4**	**+0.2**
TOVM	**TOLUCA**	**2.62**	**59**	*e*P	**Pn**	**10 15 22.8**	**+0.4**
TOVM				*i* S	**Sn**	**10 15 53.8**	**+0.7**
MAVM	**Malinalco, Edo**	**2.64**	**67**	*e*P	**Pn**	**10 15 22.8**	**+0.3**
MAVM				*i* S	**Sn**	**10 15 53.9**	**+0.6**
SFJM	**Santa Fe**	**2.70**	**340**	*e*P	**Pn**	**10 15 22.4**	**-0.8**
SFJM				*i* S	**Sn**	**10 15 53.7**	**-1.0**
SFJM	**Santa Fe**	**2.70**	**340**	*e*P	**Pn**	**10 15 22.4**	**-0.8**
SFJM				*i* S	**Sn**	**10 15 53.7**	**-1.0**
PBVM	**Pinon**	**3.19**	**62**	*e*P	**Pn**	**10 15 30.7**	**+0.9**
PBVM				*i* S	**Sn**	**10 16 06.8**	**+0.1**
PBVM	**Pinon**	**3.19**	**62**	*e*P	**Pn**	**10 15 30.7**	**+0.9**
PBVM				*i* S	**Sn**	**10 16 06.8**	**+0.1**
AMVM	**AMECAMECA**	**3.33**	**69**	*e*P	**Pn**	**10 15 32.5**	**+0.6**
AMVM				*i* S	**Sn**	**10 16 11.8**	**+1.4**
TLIG	**Tlapa**	**3.35**	**96**	*e*P	**Pn**	**10 15 33.5**	**+1.3**
TLIG				*i* S	**Sn**	**10 16 12.0**	**+1.3**
TLIG	**Tlapa**	**3.35**	**96**	*e*P	**Pn**	**10 15 33.5**	**+1.3**
TLIG				*i* S	**Sn**	**10 16 12.0**	**+1.3**
ZUVM	**ZUMPANGO**	**3.39**	**56**	*i* P	**Pn**	**10 15 33.7**	**+0.9**
ZUVM				*i* S	**Sn**	**10 16 13.1**	**+1.2**
VTVM	**Tizayuca**	**3.60**	**59**	*e*P	**Pn**	**10 15 36.1**	**+0.3**
VTVM				*i* S	**Sn**	**10 16 18.8**	**+1.5**
CMIG	**Matias Romero**	**6.90**	**96**	P	**Pn**	**10 16 22.4**	**+1.6**
	1.1nm,0.3s,baz=254,slow=13,SNR=16						
CMIG				S	**Sn**	**10 17 35.6**	**-2.4**
	0.8nm,0.3s,baz=310,slow=15,SNR=1.9						
TXAR	**Lajitas Array**	**11.44**	**353**	P	**Pn**	**10 17 25.7**	**+2.7**
	0.1nm,0.3s,baz=168,slow=17,SNR=6.8						
NVAR	**Mina Array Bea**	**24.86**	**328**	P	**P**	**10 20 02.9**	**+2.5**
	1.8nm,0.8s,baz=152,slow=9.2,SNR=17						
PDAR	**Pinedale Array**	**25.55**	**347**	P	**P**	**10 20 06.9**	**+0.2**
	0.8nm,0.6s,baz=148,slow=8.7,SNR=7.2						
ULM	**Lac du Bonnet**	**32.61**	**7**	P	**P**	**10 21 06.9**	**-2.1**
	1.1nm,0.5s,baz=175,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	**45.36**	**352**	P	**P**	**10 22 54.6**	**-0.8**
	0.6nm,0.7s,baz=160,slow=7.6,SNR=9.8						
INK	**Inuvik**	**54.12**	**346**	P	**P**	**10 24 02.2**	**+0.5**
	0.7nm,0.8s,baz=137,slow=6.0,SNR=3.3						
ILAR	**Eielson Array**	**55.53**	**339**	P	**P**	**10 24 13.3**	**+1.3**
	0.3nm,0.6s,baz=116,slow=6.9,SNR=5.5						
NOA	**NORSAR Array B**	**85.16**	**27**	P	**P**	**10 27 11.6**	**-1.5**
	1.0nm,0.8s,baz=276,slow=4.8,SNR=3.3						

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*IDC **04** 10:19:02.8±1.5, 7.°19S×130.°92E, h0^{km}, mb4.0/2, mb1 4.1/5, mb1mx3.7/50, mbtmp4.0/5, ML4.0/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/44, Error ellipse: s-maj=50.3km s-min=25.7km az=67.0*
*ISCJB **04** 10:19:06.3±0.4, 7.°39S±0.°03×130.°77E±0.°07, h35^{km}, mb4.4/5, Error ellipse: s-maj=9.6km s-min=4.6km az=3.7*
*NEIC **04** 10:19:07.5±0.4, 7.°27S×131.°02E, h35^{km}, mb4.1/6, Error ellipse: s-maj=13.4km s-min=6.8km az=73.0*
*DJA **04** 10:19:11.7±0.6, 7°S±5°×13°1E±°, h108^{km}±15^{km}, M4.4/8, mb4.4/6, MLv4.5/8*
ISC 04 10:19:08.1±0.6**, 7.°44S**±0.°05×**130.°73E**±0.°07**, h35**^{km}**, n36,** σ**2^{s}48**/42**, mb4.5**/5**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.79**	**134**	P	Pn	10 19 31.3	+8.6
SAUI				S	Sn	10 19 50.9	+18
BNDI	**Bandanaira**	**3.01**	**344**	P	**Pn**	**10 19 55.2**	**+2.0**
FAKI	**Fak Fak**	**4.74**	**19**	P	**Pn**	**10 20 17.7**	**+0.7**
FAKI				S	**Sn**	**10 21 08.2**	**-2.6**
KMPI	**Kaimana, Papua**	**4.78**	**38**	P	**Pn**	**10 20 19.4**	**+1.8**
KMPI				S	**Sn**	**10 21 11.9**	**+0.1**
MTN	**Manton Dam**	**5.39**	**176**	*e*Pn	**Pn**	**10 20 30.4**	**+4.4**
MTN				*e*Sn	**Sn**	**10 21 30.7**	**+3.8**
SWI	**Sorong**	**6.55**	**5**	P	**Pn**	**10 20 41.4**	**-0.6**
SOEI	**Soe**	**6.79**	**250**	P	**Pn**	**10 20 49.2**	**+3.8**
LBMI	**Labuha**	**7.48**	**334**	P	**Pn**	**10 20 54.6**	**-0.2**
BATI	**Baumata**	**7.50**	**248**	Pn	**Pn**	**10 20 59.0**	**+4.0**
	12nm,0.3s,baz=44,slow=7.3,SNR=7.2						
BATI				Sn	**Sn**	**10 22 15.9**	**-3.1**
	6.5nm,0.3s,baz=88,slow=20,SNR=2.7						
BATI				LR	LR	10 24 44.2	
	comp=Z,205nm,18.1s,baz=78,slow=44						
BATI	**Baumata**	**7.50**	**248**	P	Pn	10 21 00.5	+5.4
WRAB	**Tennant Creek**	**12.91**	**165**	*e*Pn	**Pn**	**10 22 08.6**	**-0.6**
WRAB				*e*Sn	**Sn**	**10 24 28.1**	**-3.6**
WR1	**Warramunga Arr**	**12.92**	**165**	*e*Pn	**Pn**	**10 22 09.2**	**0.0**
WR1				*e*Sn	**Sn**	**10 24 27.4**	**-4.5**
WRA	**Warramunga Arr**	**12.92**	**165**	Pn	**Pn**	**10 22 09.2**	**0.0**
	0.5nm,0.3s,baz=345,slow=14,SNR=10						
WRA				Sn	**Sn**	**10 24 27.4**	**-4.5**
	1.6nm,0.3s,baz=339,slow=24,SNR=8.2						
WC3	**Warramunga Arr**	**12.94**	**165**	*e*Pn	**Pn**	**10 22 09.3**	**-0.3**
COEN	**Coen**	**13.84**	**119**	*e*Pn	**Pn**	**10 22 24.0**	**+2.2**
DAV	**Davao City (W)**	**15.30**	**340**	LR	LR	10 28 44.9	
	comp=Z,112nm,21.1s,baz=257,slow=38						
AS31	**Alice Springs**	**16.42**	**170**	*e*Pn	**Pn**	**10 22 57.1**	**+1.1**
	1.4nm,0.5s						
AS31				*e*Sn	**Sn**	**10 25 51.3**	**-6.0**
ASAR	**Alice Springs**	**16.42**	**170**	Pn	**Pn**	**10 22 56.0**	**0.0**
	0.4nm,0.3s,baz=338,slow=8.8,SNR=10						
ASAR				Sn	**Sn**	**10 25 51.3**	**-6.0**
	0.3nm,0.3s,baz=350,slow=25,SNR=7.3						
AS01	**Alice Springs**	**16.43**	**169**	*e*Pn	**Pn**	**10 22 57.1**	**+1.0**
MBWA	**Marble Bar**	**17.29**	**217**	*e*Pn	**P**	**10 23 10.3**	**+2.3**
	10.0nm,1.3s						
BBOO	**Buckleboo**	**25.73**	**170**	*e*P	**P**	**10 24 35.5**	**+0.2**
	12nm,1.3s						
STKA	**Stephens Creek**	**26.34**	**159**	P	**P**	**10 24 42.6**	**+1.8**
	1.5nm,0.5s,baz=345,slow=7.4,SNR=3.2						
STKA	**Stephens Creek**	**26.34**	**159**	*e*P	**P**	**10 24 41.8**	**+0.9**
	1.2nm,1.2s						
NWAO	**Narrogin (SRO)**	**28.29**	**204**	*e*P	**P**	**10 24 59.1**	**+0.8**
	31nm,1.5s						
URZ	**Urewera**	**51.84**	**134**	*e*P	**P**	**10 28 11.6**	**-1.3**
	65nm,1.5s						
MK01	**Makanchi Array**	**68.96**	**327**	*e*P	**P**	**10 30 08.7**	**-1.1**
MK31	**Makanchi Array**	**68.98**	**327**	*e*P	**P**	**10 30 09.4**	**-0.5**
MK32	**Makanchi Array**	**68.98**	**327**	*e*P	**P**	**10 30 09.2**	**-0.7**
MKAR	**Makanchi Array**	**68.98**	**327**	P	**P**	**10 30 09.2**	**-0.7**
	0.6nm,0.3s,baz=117,slow=7.4,SNR=8.7						
MKAR	**Makanchi Array**	**68.98**	**327**	*e*P	**P**	**10 30 09.2**	**-0.7**
	6.7nm,0.6s						
HWUT	**Hardware Ranch**	**115.52**	**47**	*e*PKPdf	**PKPdf**	**10 37 46.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**129.60**	**281**	PKP	**PKPdf**	**10 38 14.8**	**+0.4**
	0.5nm,0.5s,baz=76,slow=1.7,SNR=3.6						
TOA1	**Torodi Ar. Sit**	**129.60**	**281**	*e*PKPdf	**PKPdf**	**10 38 14.8**	**+0.4**
HDC	**Heredia**	**145.48**	**83**	*e*PKPbc	**PKPbc**	**10 38 43.1**	**-0.7**
CPUP	**Villa Florida**	**145.54**	**167**	*e*PKPdf	**PKPbc**	**10 38 42.3**	**-1.1**
MNMC	**Minye Minye**	**146.86**	**143**	*e*PKPdf	**PKPdf**	**10 38 44.6**	**-1.6**

IDC 04 10:31:52.7±66.0**, 20.°69S**×**177.°73W, h0**^{km}**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/41**, mbtmp3.8**/3**, Error ellipse: s-maj=1206.0km s-min=172.3km az=83.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.93**	**244**	P	P	10 39 11.9	-0.1
	0.6nm,0.4s,baz=99,slow=13,SNR=1.6						
ASAR	**Alice Springs**	**44.72**	**257**	P	P	10 40 07.8	-0.3
	0.8nm,0.4s,baz=100,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**44.82**	**262**	P	P	10 40 08.9	0.0
	0.5nm,0.3s,baz=97,slow=8.4,SNR=20						

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*IDC **04** 10:34:16.5±2.2, 8.°73S×115.°48E, h0^{km}, mb3.3/5, mb1 3.5/5, mb1mx3.3/52, mbtmp3.3/5, Error ellipse: s-maj=118.1km s-min=22.8km az=54.0*
*ISCJB **04** 10:34:32.3±0.5, 8.°7S±0.°1×115.°98E±0.°04, h138^{km}±5^{km}, mb3.3/4, Error ellipse: s-maj=19.4km s-min=5.6km az=13.1*
*DJA **04** 10:34:34.2±0.3, 9°S±5°×11°6E±°, h111^{km}±4^{km}, M3.8/14, mb3.6/1, MLv3.8/14*
ISC 04 10:34:32.7±0.8**, 8.°7S**±0.°1×**116.°03E**±0.°04**, h135**^{km}±7^{km}**, n18,** σ**1^{s}46**/28**, mb3.3**/4**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.81**	**272**	P	**Pn**	**10 34 55.4**	**+1.0**
DNP				S	**Sn**	**10 35 10.7**	**-0.1**
IGBI	**Denpasar**	**0.88**	**262**	P	**Pn**	**10 34 55.0**	**+0.1**
IGBI				S	**Sn**	**10 35 10.6**	**-1.2**
SRBI	**Singaraja**	**1.01**	**307**	P	**Pn**	**10 34 56.0**	**-0.1**
SRBI				S	**Sn**	**10 35 13.9**	**0.0**
PLAI	**Plampang**	**1.73**	**94**	P	**Pn**	**10 35 04.5**	**+0.7**
PLAI				S	**Sn**	**10 35 27.5**	**0.0**
JAGI	**Jajag, Banyuwa**	**1.87**	**277**	P	**Pn**	**10 35 05.1**	**-0.3**
JAGI				S	**Sn**	**10 35 28.9**	**-1.4**
ABJI	**Asem Bagus**	**1.99**	**297**	P	**Pn**	**10 35 08.7**	**+1.9**
ABJI				S	**Sn**	**10 35 33.6**	**+0.7**
BLJI	**Banyuglugur**	**2.59**	**291**	P	**Pn**	**10 35 15.4**	**+1.2**
GMJI	**Gumukmas**	**2.59**	**279**	P	**Pn**	**10 35 14.8**	**+0.6**
GMJI				S	**Sn**	**10 35 44.8**	**-1.4**
KMMI	**Kalianget**	**2.62**	**309**	P	**Pn**	**10 35 15.0**	**+0.4**
WBSI	**Waikabubak, Su**	**3.45**	**106**	P	**Pn**	**10 35 26.9**	**+1.5**
WBSI				S	**Sn**	**10 36 01.5**	**-4.7**
PWJI	**Pagerwojo**	**4.23**	**279**	P	**Pn**	**10 35 36.4**	**+0.7**
PWJI				S	**Sn**	**10 36 24.7**	**+0.2**
BASI	**Baing, Sumba**	**4.74**	**109**	P	**Pn**	**10 35 44.6**	**+2.2**
PCJI	**Pacitan**	**4.82**	**276**	P	**Pn**	**10 35 44.4**	**+0.9**
PCJI				S	**Sn**	**10 36 36.7**	**-1.9**
WRA	**Warramunga Arr**	**20.94**	**124**	P	**P**	**10 39 05.7**	**+0.6**
	0.2nm,0.6s,baz=300,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**22.68**	**133**	P	**P**	**10 39 23.7**	**+0.7**
	0.4nm,0.5s,baz=306,slow=9.5,SNR=6.3						
STKA	**Stephens Creek**	**33.10**	**138**	P	**P**	**10 40 57.1**	**+1.2**
	1.7nm,0.8s,baz=315,slow=14,SNR=2.0						
SONM	**Songino Array**	**56.93**	**352**	P	**P**	**10 44 03.0**	**-0.9**
	0.4nm,0.7s,baz=167,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**62.89**	**335**	P	**P**	**10 44 43.5**	**-1.0**
	0.1nm,0.4s,baz=140,slow=5.6,SNR=1.7						

IDC 04 10:47:15.8±8.0**, 4.°17S**×**144.°85E, h226**^{km}±73^{km}**, mb2.3**/1**, mb1 2.6**/3**, mb1mx2.5**/45**, mbtmp3.1**/3**, Error ellipse: s-maj=80.5km s-min=54.7km az=141.0, Near north**

coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.68	156	P	Pn	10 48 40.0	+0.4
	1.0nm,0.3s,baz=222,slow=15,SNR=2.4						
PMG				S	S	10 49 45.9	-0.1
	0.1nm,0.3s,baz=172,slow=23,SNR=2.3						
WRA	Warramunga Arr	18.73	212	P	P	10 51 19.1	+1.2
	0.1nm,0.3s,baz=32,slow=11,SNR=2.4						
ASAR	Alice Springs	22.07	208	P	P	10 51 52.0	-0.7
	0.2nm,0.5s,baz=30,slow=12,SNR=2.4						
TORD	Torodi Ar. Bea	142.54	286	PKP	PKPdf	11 06 22.2	-0.7
	0.2nm,0.3s,baz=77,slow=2.6,SNR=2.4						

IDC ***04*** *10:56:36.6±1.6, 15°.60N×92°.06W, h134km±21km, mb3.5/4, mb1 3.9/7, mb1mx3.4/46, mbtmp4.0/7, Error ellipse: s-maj=50.4km s-min=13.9km az=34.0*
ISCJB ***04*** *10:56:37.3±0.6, 15°.35N±0°.08×92°.29W±0°.06, h146km, mb3.8/4, Error ellipse: s-maj=11.9km s-min=7.1km az=30.5*
MEX ***04*** *10:56:38.0±0.7, 15°.37N×92°.27W, h167km±5km, MD3.8*
ISC 04 10:56:37.3±0.9**, 15°.38N**±0°.08×**92°.28W**±0°.07**, h146**km**, n12, σ1s.81**/18**, mb3.9**/4**, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.47	178	*i* P	Pn	10 56 59.9	+1.9
THIG				*e*S	Sn	10 57 16.2	+2.4
CCIG	Comitan	0.91	9	*i* P	Pn	10 57 02.8	+1.6
CCIG				*i* S	Sn	10 57 21.4	+2.0
PCIG		0.96	290	*e*P	Pn	10 57 03.3	+2.0
PCIG				*e*S	Sn	10 57 22.9	+3.2
TGIG		1.61	330	*i* P	Pn	10 57 09.1	+1.2
TGIG				*e*S	Sn	10 57 32.5	+1.2
CMIG	Matias Romero	3.03	305	P	Pn	10 57 25.3	+0.4
	40nm,0.3s,baz=109,slow=7.2,SNR=306						
CMIG				S	Sn	10 58 01.5	-0.2
	80nm,0.3s,baz=350,slow=21,SNR=22						
HUIG	Huatulco	3.71	277	*e*P	Pn	10 57 33.3	-0.3
HUIG				*i* S	Sn	10 58 17.4	-0.1
JTS	JuntasAbangare	8.75	124	P	Pn	10 58 40.0	-0.8
	2.6nm,0.3s,baz=24,slow=16,SNR=14						
TXAR	Lajitas Array	17.41	325	P	Pn	11 00 32.0	+0.5
	0.2nm,0.3s,baz=152,slow=12,SNR=36						
TKL	Tuckaleechee C	21.59	19	P	P	11 01 13.8	-1.7
	4.5nm,0.8s,baz=187,slow=11,SNR=5.1						
SDV	Santo Domingo	22.11	104	P	P	11 01 19.7	-1.6
	1.8nm,0.5s,baz=286,slow=7.4,SNR=3.3						
NVAR	Mina Array Bea	32.44	320	P	P	11 02 55.4	+1.5
	2.0nm,0.6s,baz=130,slow=8.4,SNR=26						
YKA	Yellowknife Ar	49.63	347	P	P	11 05 10.9	-2.7
	0.6nm,0.5s,baz=149,slow=7.5,SNR=14						

ISCJB ***04*** *11:02:39.6±0.8, 14°.39N±0°.05×92°.94W±0°.04, h10km, mb3.5/2, MS3.5/2, Error ellipse: s-maj=7.8km s-min=5.4km az=24.5*
MEX ***04*** *11:02:41.3±0.5, 14°.24N×92°.84W, h13km±18km, MD3.9*
IDC ***04*** *11:02:41.8±3.3, 15°.00N×92°.39W, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.5/46, mbtmp3.5/5, ML3.5/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/30, Error ellipse: s-maj=126.8km s-min=27.1km az=37.0*
ISC 04 11:02:42.9±1.4**, 14°.53N**±0°.09×**92°.90W**±0°.06**, h10**km**, n12, σ1s.18**/12**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.72	58	*e*P	Pg	11 02 55.5	-1.4
THIG				*i* S	Sg	11 03 06.5	+0.1
PCIG		1.21	345	*e*P	Pn	11 03 04.0	-2.0
PCIG				*e*S	Sb	11 03 22.6	+0.9
CCIG	Comitan	1.90	23	*e*P	Pn	11 03 14.7	-0.9
CCIG				*e*S	Sn	11 03 38.8	-0.8
TGIG		2.25	355	*e*P	Pn	11 03 20.2	-0.1
TGIG				*e*S	Sn	11 03 49.9	+1.7
CMIG	Matias Romero	3.19	323	Pn	Pn	11 03 31.9	-1.3
	6.4nm,0.3s,baz=143,slow=12,SNR=28						
CMIG				Sn	Sn	11 04 10.6	-0.7
	15nm,0.3s,baz=70,slow=22,SNR=7.8						
HUIG	Huatulco	3.34	292	*i* P	Pn	11 03 32.9	-2.3
HUIG				*i* S	Sn	11 04 13.4	-1.5
JTS	JuntasAbangare	8.83	118	Pn	Pn	11 04 47.9	-2.8
	0.4nm,0.3s,baz=26,slow=21,SNR=4.8						
JTS				Sn	Sn	11 06 31.9	+1.5
	0.2nm,0.3s,baz=116,slow=20,SNR=2.1						
TXAR	Lajitas Array	17.79	328	P	Pn	11 06 51.4	+0.6
	0.1nm,0.3s,baz=148,slow=12,SNR=5.1						
SJG	San Juan	25.91	78	LR	LR	11 17 49.2	
	comp=Z,39nm,18.0s,baz=207,slow=36						
NVAR	Mina Array Bea	32.72	321	P	P	11 09 16.7	+0.6
	0.3nm,0.6s,baz=132,slow=8.6,SNR=4.5						
YKA	Yellowknife Ar	50.32	347	P	P	11 11 36.8	-2.8
	0.4nm,0.7s,baz=152,slow=7.4,SNR=8.1						
AKASG	Malin Array Be	97.77	33	LR	LR	12 01 06.7	
	comp=Z,42nm,19.4s,baz=335,slow=36						

NNC 04 11:07:52.4±7.5**, 36°.82N**×**70°.05E, h0**km**, mb3.6, mpv3.2, 5C-2D, Error ellipse: s-maj=58.3km s-min=49.6km az=162.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.18	39	⇓Pn	Pn	11 08 56.5	-1.2
	1.1nm,0.3s						
SFK				⇑Sn	Sn	11 09 48.4	+1.0
	1.3nm,0.3s						
MNAS	Manas	5.96	18	⇑Pn	Pn	11 09 23.8	+1.7
	0.7nm,0.3s						
MNAS				⇑Sn	Sn	11 10 30.6	-0.5
	0.6nm,0.4s						
KK31	Karatay Array	6.28	3	⇑Pn	Pn	11 09 29.4	+3.1
	0.8nm,0.3s,baz=181,slow=13,SNR=25						
KK31				⇓Sn	Sn	11 10 40.9	+2.1
	0.5nm,0.3s,baz=190,slow=27						
AAK	Ala-Archa	6.74	29	⇑Pn	Pn	11 09 30.9	-1.8
	1.0nm,0.3s						
AAK				Sn	Sn	11 10 52.5	+2.2
	1.5nm,0.7s						

IDC ***04*** *11:53:32.8±1.6, 36°.32N×142°.00E, h0km, mb3.5/6, mb1 3.5/10, mb1mx3.4/68, mbtmp3.5/10, ML3.3/4, MS2.9/3, Ms1 2.9/3, ms1mx2.6/46, Error ellipse: s-maj=34.0km s-min=21.2km az=72.0*
ISCJB ***04*** *11:53:34.0±0.8, 36°.29N±0°.05×141°.99E±0°.08, h19km, mb3.5/6, MS3.9/2, Error ellipse: s-maj=9.1km s-min=7.5km az=175.1*
JMA ***04*** *11:53:36.7±0.2, 36°.28N×141°.79E, h59km, M3.1*
ISC 04 11:53:35.4±1.2**, 36°.23N**±0°.06×**142°.0E**±0°.1**, h19**km**, n21, σ1s.15**/23**, mb3.5**/6**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.04	240	P	Pb	11 53 54.1	-0.6
JHO	Hitachi	1.18	289	P	Pn	11 53 55.1	-1.8
ONAJ	Iwakimizuishiy	1.27	313	P	Pn	11 53 57.1	-1.1
JFK	Kawauchi	1.43	323	P	Pn	11 53 59.6	-0.7
BSO1	Boso 1	1.77	207	P	Pn	11 54 05.1	+0.6
JFT	Otama	1.82	315	P	Pn	11 54 05.5	-0.3
BSO3	Boso 3	1.85	220	P	Pn	11 54 06.3	+0.4
JMM	Marumori	1.88	331	P	Pn	11 54 06.0	-0.4
JAG	Ashikaga	2.03	276	P	Pn	11 54 07.6	-1.0
MJAR	Matsushiro Arr	3.04	277	Pn	Pn	11 54 22.4	0.0
	5.5nm,0.3s,baz=118,slow=8.7,SNR=49						
MJAR				Sn	Sn	11 54 58.6	+0.3
	3.0nm,0.3s,baz=91,slow=12,SNR=6.4						
MJAR				LR	LR	11 55 36.4	
	comp=Z,94nm,19.2s,baz=105,slow=41						
MAT	Matsushiro	3.04	277	P	Pn	11 54 22.7	+0.2
MAT				S	Sn	11 54 58.4	0.0
JHJ	Hachijo jima 2	3.59	211	Pn	Pn	11 54 32.5	+2.6
	14nm,0.3s,baz=39,slow=12,SNR=1.3						
JHJ				Sn	Sn	11 55 09.6	-2.2
	36nm,0.3s,baz=76,slow=22,SNR=6.0						
ASAJ	Asahikawa	7.89	3	Pn	Pn	11 55 29.3	+0.3
	0.4nm,0.3s,baz=241,slow=8.9,SNR=5.8						
KSRS	Korea Array	11.31	280	Pn	Pn	11 56 18.2	+2.3
	0.1nm,0.3s,baz=93,slow=13,SNR=4.1						
KSRS				LR	LR	11 59 57.3	
	comp=Z,41nm,21.5s,baz=300,slow=34						
SONM	Songino Array	28.60	305	P	P	11 59 30.5	+0.1
	1.0nm,0.7s,baz=106,slow=9.2,SNR=7.4						
ZALV	Zalesovo Beam	42.78	313	P	P	12 01 31.7	+0.2
	0.7nm,0.5s,baz=91,slow=7.9,SNR=4.3						
MKAR	Makanchi Array	44.91	303	P	P	12 01 48.7	-0.1
	0.5nm,0.6s,baz=88,slow=11,SNR=7.5						
MKAR				LR	LR	12 19 47.3	
	comp=Z,46nm,18.1s,baz=346,slow=35						
BVAR	Borovoye Array	51.43	313	P	P	12 02 38.4	-0.7
	0.2nm,0.4s,baz=78,slow=13,SNR=1.8						
INK	Inuvik	54.90	27	LR	LR	12 27 14.2	
	comp=Z,386nm,21.9s,baz=144,slow=37						
WRA	Warramunga Arr	56.33	189	P	P	12 03 15.4	+0.3
	0.2nm,0.5s,baz=7.1,slow=7.1,SNR=2.0						
ASAR	Alice Springs	60.06	189	P	P	12 03 42.5	+1.4
	0.3nm,0.8s,baz=23,slow=10,SNR=1.2						

IDC ***04*** *12:09:27.8±1.7, 41°.09S×173°.31E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.7/36, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=37.1km s-min=24.4km az=120.0*
ISCJB ***04*** *12:09:31.4±0.2, 41°.50S±0°.03×173°.79E±0°.04, h82km±4km, mb3.6/2, Error ellipse: s-maj=5.9km s-min=2.9km az=39.9*
WEL ***04*** *12:09:32.5, 41°S±2°×17°4E±°, h61km±2km, ML4.3/20*
NEIC ***04*** *12:09:33.4±0.0, 41°.38S×173°.70E, h61km, ML4.3(WEL), After WEL.*
NEIC Felt in Marlborough.
ISC 04 12:09:32.2±1.0**, 41°.45S**±0°.03×**173°.74E**±0°.03**, h67**km±5km**, n195, σ1s.21**/197**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUWZ	Tuamarina	0.16	82	Pn	Pn	12 09 42.5	+0.1
TUWZ				Sn	Sn	12 09 49.0	-0.7
TUWZ	Tuamarina	0.16	82	P	Pn	12 09 42.5	+0.1
TUWZ	Tuamarina	0.16	82	S	Sn	12 09 49.1	-0.7
BSWZ	Blackbirch Sta	0.28	158	Pn	Pn	12 09 44.0	+0.9
BSWZ	Blackbirch Sta	0.28	158	P	Pn	12 09 44.0	+0.9
NNZ	Nelson	0.36	311	P	Pn	12 09 42.8	-0.7
NNZ	Nelson	0.36	311	S	Sn	12 09 50.3	-1.5
CMWZ	Cape Campbell	0.47	130	Pn	Pn	12 09 46.5	+2.1
CMWZ	Cape Campbell	0.47	130	P	Pn	12 09 46.6	+2.1
TCW	Tory Channel	0.47	59	Pn	Pn	12 09 45.1	+0.6
TCW	Tory Channel	0.47	59	P	Pn	12 09 45.2	+0.6
TCW	Tory Channel	0.47	59	S	Sn	12 09 53.3	-0.2
DUWZ	D'Urville Isla	0.67	12	Pn	Pn	12 09 46.2	-0.4
DUWZ	D'Urville Isla	0.67	12	P	Pn	12 09 46.2	-0.4
THZ	Tophouse	0.70	243	Pn	Pn	12 09 47.2	+0.2
THZ	Tophouse	0.70	243	P	Pn	12 09 47.2	+0.2
WEL	Wellington	0.79	78	Pn	Pn	12 09 49.1	+1.1
BHW	Baring Head	0.85	87	Pn	Pn	12 09 49.8	+1.1
BHW				Sn	Sn	12 10 02.2	+1.2
BHW	Baring Head	0.85	87	P	Pn	12 09 49.9	+1.1
KHZ	Kahutara	0.97	189	Pn	Pn	12 09 51.9	+1.7
KHZ	Kahutara	0.97	189	P	Pn	12 09 52.0	+1.7
KHZ	Kahutara	0.97	189	P	Pn	12 09 52.0	+1.7
KHZ	Kahutara	0.97	189	S	Sn	12 10 05.7	+2.1
CAW	Cannon Point	1.06	71	Pn	Pn	12 09 52.1	+0.7
CAW	Cannon Point	1.06	71	P	Pn	12 09 52.1	+0.7
KIW	Kapiti Island	1.06	57	Pn	Pn	12 09 52.5	+1.0
KIW	Kapiti Island	1.06	57	P	Pn	12 09 52.4	+1.0
QRZ	Quartz Range	1.11	304	Pn	Pn	12 09 52.0	0.0
QRZ	Quartz Range	1.11	304	P	Pn	12 09 52.0	0.0
MSWZ	Moikau Station	1.14	89	Pn	Pn	12 09 52.9	+0.6
MSWZ	Moikau Station	1.14	89	P	Pn	12 09 53.0	+0.6
PLWZ	Palliser	1.15	96	Pn	Pn	12 09 53.1	+0.6
PLWZ	Palliser	1.15	96	P	Pn	12 09 53.1	+0.6
OGWZ	Otaki Gorge	1.25	60	Pn	Pn	12 09 54.2	+0.4
OGWZ	Otaki Gorge	1.25	60	P	Pn	12 09 54.2	+0.4
PAWZ	Paruwai Farm	1.27	87	Pn	Pn	12 09 54.4	+0.3
PAWZ	Paruwai Farm	1.27	87	P	Pn	12 09 54.4	+0.3
MTW	Mount Morrison	1.36	78	Pn	Pn	12 09 55.4	+0.1
MTW	Mount Morrison	1.36	78	P	Pn	12 09 55.4	+0.1
HOWZ	Holdsworth Sta	1.45	68	Pn	Pn	12 09 56.6	+0.1
HOWZ	Holdsworth Sta	1.45	68	P	Pn	12 09 56.6	+0.1
TRWZ	Traveller	1.47	89	Pn	Pn	12 09 57.3	+0.6
TRWZ	Traveller	1.47	89	P	Pn	12 09 57.5	+0.8
DSZ	Denniston Nort	1.48	258	Pn	Pn	12 09 57.7	+0.8
DSZ	Denniston Nort	1.48	258	P	Pn	12 09 57.7	+0.8
MRZ	Mangatainoka R	1.60	61	Pn	Pn	12 09 58.5	+0.1
MRZ	Mangatainoka R	1.60	61	P	Pn	12 09 58.6	+0.1
TMWZ	Te Maipa	1.66	79	Pn	Pn	12 09 59.2	0.0
TMWZ	Te Maipa	1.66	79	P	Pn	12 09 59.3	0.0
LTZ	Lake Taylor	1.72	219	Pn	Pn	12 10 01.1	+1.0
LTZ	Lake Taylor	1.72	219	P	Pn	12 10 01.2	+1.0
OHWZ	Ohakea	1.73	44	P	Pn	12 10 01.5	+1.3
TIWZ	Tintock	1.76	68	Pn	Pn	12 10 00.4	-0.1
TIWZ	Tintock	1.76	68	P	Pn	12 10 00.5	-0.1
POWZ	Post Office Ro	1.87	56	Pn	Pn	12 10 02.0	0.0
POWZ	Post Office Ro	1.87	56	P	Pn	12 10 02.5	+0.5
PRWZ	Pori Road	1.91	63	Pn	Pn	12 10 02.6	0.0
PRWZ	Pori Road	1.91	63	P	Pn	12 10 02.7	0.0
WAZ	Wanganui	1.94	30	Pn	Pn	12 10 05.1	+2.0
WAZ	Wanganui	1.94	30	P	Pn	12 10 05.0	+2.0
NMEZ	Namu Road	2.04	3	Pn	Pn	12 10 05.7	+1.3
NMEZ	Namu Road	2.04	3	P	Pn	12 10 05.7	+1.3
BFZ	Birch Farm	2.05	69	Pn	Pn	12 10 03.8	-0.6
BFZ	Birch Farm	2.05	69	P	Pn	12 10 03.8	-0.6
LREZ	Lake Rotokare	2.05	15	P	Pn	12 10 07.2	+2.6
INZ	Inchbonnie	2.13	233	P	Pn	12 10 06.5	+1.0
PREZ	Palmer Road	2.13	9	Pn	Pn	12 10 07.2	+1.6
PREZ	Palmer Road	2.13	9	P	Pn	12 10 07.2	+1.6
DVHZ	Dannevirke	2.17	59	Pn	Pn	12 10 05.6	-0.6
DVHZ	Dannevirke	2.17	59	P	Pn	12 10 05.6	-0.6
NWEZ	Newall Road	2.18	3	Pn	Pn	12 10 07.8	+1.6
TSZ	Takapari Road	2.19	51	Pn	Pn	12 10 06.5	+0.1
TSZ	Takapari Road	2.19	51	P	Pn	12 10 06.5	+0.1
NEZ	North Egmont	2.20	7	Pn	Pn	12 10 07.8	+1.2
EYCZ	Eyrewell	2.22	207	P	Pn	12 10 07.0	+0.3
OXZ	Oxford	2.26	213	Pn	Pn	12 10 07.1	-0.2
OXZ	Oxford	2.26	213	P	Pn	12 10 07.1	-0.2
PKE	Pukeiti	2.26	5	Pn	Pn	12 10 08.7	+1.3
PKE	Pukeiti	2.26	5	P	Pn	12 10 08.7	+1.3
CRLZ	Canterbury Las	2.28	201	Pn	Pn	12 10 07.6	0.0
CRLZ	Canterbury Las	2.28	201	P	Pn	12 10 07.5	0.0
DREZ	Durham Road	2.29	9	Pn	Pn	12 10 09.2	+1.4
DREZ	Durham Road	2.29	9	P	Pn	12 10 09.4	+1.6
ANWZ	Angora Road	2.30	65	P	Pn	12 10 07.3	-0.6
MQZ	McQueen's Vall	2.39	199	P	Pn	12 10 08.4	-0.7
MHEZ	Mangahewa	2.42	11	Pn	Pn	12 10 11.6	+2.1
MHEZ	Mangahewa	2.42	11	P	Pn	12 10 11.5	+2.1
PNHZ	Pukenui	2.42	51	Pn	Pn	12 10 09.3	-0.3
PNHZ	Pukenui	2.42	51	P	Pn	12 10 09.3	-0.3
MTVZ	Mangateitei	2.45	33	P	Pn	12 10 12.6	+2.6
VRZ	Vera Road	2.45	19	Pn	Pn	12 10 11.8	+1.9
VRZ	Vera Road	2.45	19	P	Pn	12 10 11.9	+1.9
WPHZ	Waipukurau	2.48	57	P	Pn	12 10 11.1	+0.8
PKVZ	Pokaka	2.49	30	Pn	Pn	12 10 12.2	+1.7
PKVZ	Pokaka	2.49	30	P	Pn	12 10 12.2	+1.7
PRHZ	Porangahau	2.50	63	P	Pn	12 10 10.1	-0.5
WNVZ	Wahianoa	2.55	34	Pn	Pn	12 10 12.5	+1.0
MOVZ	Moawhango	2.56	38	Pn	Pn	12 10 11.9	+0.4
MOVZ	Moawhango	2.56	38	P	Pn	12 10 11.9	+0.4
DRZ	Dome Shelter	2.58	33	P	Pn	12 10 14.3	+2.3
WHVZ	Whangaehu Hut	2.59	34	Pn	Pn	12 10 13.0	+1.0
WHVZ	Whangaehu Hut	2.59	34	P	Pn	12 10 13.1	+1.1
FWVZ	Far West T-bar	2.60	33	Pn	Pn	12 10 13.1	+1.0
FWVZ	Far West T-bar	2.60	33	P	Pn	12 10 13.3	+1.1
TUVZ	Tukino	2.63	34	Pn	Pn	12 10 13.6	+1.2
TUVZ	Tukino	2.63	34	P	Pn	12 10 13.7	+1.2
COVZ	Chateau Observ	2.64	32	P	Pn	12 10 14.1	+1.5
BHHZ	Black Hill Sta	2.64	43	Pn	Pn	12 10 12.7	+0.1
BHHZ	Black Hill Sta	2.64	43	P	Pn	12 10 12.0	-0.7
NGZ	Ngauruhoe	2.68	33	Pn	Pn	12 10 14.4	+1.1
NGZ	Ngauruhoe	2.68	33	P	Pn	12 10 14.4	+1.1
KRHZ	Kereru	2.70	49	P	Pn	12 10 13.1	-0.2
TWVZ	Taurewa	2.71	29	Pn	Pn	12 10 14.3	+0.8
TWVZ	Taurewa	2.71	29	P	Pn	12 10 14.4	+0.8
OTVZ	Oturere	2.72	33	Pn	Pn	12 10 14.8	+1.0
WTVZ	West Tongariro	2.73	32	P	Pn	12 10 14.9	+1.0
WVZ	Waitaha Valley	2.75	233	Pn	Pn	12 10 14.9	+0.9
WVZ	Waitaha Valley	2.75	233	P	Pn	12 10 15.1	+1.1
PXZ	Pawanui	2.77	60	Pn	Pn	12 10 13.2	-0.9
KRVZ	Karewarewa	2.77	32	P	Pn	12 10 16.0	+1.6
KWHZ	Kaweka Forest	2.88	46	P	Pn	12 10 15.7	-0.2
KATZ	Kakaramea	2.89	32	Pn	Pn	12 10 19.1	+3.0
KATZ	Kakaramea	2.89	32	P	Pn	12 10 19.1	+3.0
KAHZ	Kahuranaki	2.91	56	P	Pn	12 10 15.7	-0.4
RITZ	Rihia Road	2.96	34	P	Pn	12 10 20.7	+3.8
RPZ	Rata Peaks	3.01	220	Pn	Pn	12 10 17.9	+0.4
	3.4nm,0.3s,baz=296,slow=1.9,SNR=16						
RPZ				Pg		12 10 23.9	
	15nm,0.3s,baz=333,slow=2.8,SNR=15						
RPZ				Sn	Sn	12 10 50.7	-1.6
	20nm,0.3s,baz=324,slow=23,SNR=13						
RPZ				Lg	Lg	12 10 59.7	
	22nm,0.3s,baz=32,slow=18,SNR=3.3						
RPZ	Rata Peaks	3.01	220	Pn	Pn	12 10 17.7	+0.2
RPZ	Rata Peaks	3.01	220	P	Pn	12 10 17.7	+0.2
RATZ	Rangitukua	3.02	32	P	Pn	12 10 22.3	+4.6
MCHZ	McNeill Hill	3.02	49	P	Pn	12 10 19.0	+1.3
HIZ	Hauiti	3.06	17	Pn	Pn	12 10 19.3	+1.1
HIZ	Hauiti	3.06	17	P	Pn	12 10 19.5	+1.3
BKZ	Black Stump Fm	3.11	44	Pn	Pn	12 10 18.4	-0.5
BKZ	Black Stump Fm	3.11	44	P	Pn	12 10 18.3	-0.6
WATZ	Wairara	3.14	30	P	Pn	12 10 22.8	+3.4
MRHZ	Matea Rd	3.33	39	P	Pn	12 10 21.6	-0.3
KUTZ	Kaahu Road	3.37	29	P	Pn	12 10 27.5	+5.1
TLZ	Tolley Road	3.41	25	Pn	Pn	12 10 24.8	+1.7
TLZ	Tolley Road	3.41	25	P	Pn	12 10 24.8	+1.7
ALRZ	Allen Road	3.51	36	P	Pn	12 10 25.2	+0.8
MTHZ	Maungataniwha	3.52	44	P	Pn	12 10 24.2	-0.4
FOZ	Fox Glacier	3.57	233	Pn	Pn	12 10 25.3	+0.2
FOZ	Fox Glacier	3.57	233	P	Pn	12 10 25.5	+0.4
PRRZ	Plateau Road	3.59	36	P	Pn	12 10 26.1	+0.7
RAHZ	Arahi	3.60	46	P	Pn	12 10 26.0	+0.4
RTZ	Ruatahuna	3.77	42	P	Pn	12 10 27.0	-1.0
MUGZ	Murupara	3.78	39	P	Pn	12 10 26.7	-1.3
LBZ	Lake Benmore	3.92	220	P	Pn	12 10 30.5	+0.5
TOZ	Tahuroa Road	3.96	21	Pn	Pn	12 10 31.3	+0.8
TOZ	Tahuroa Road	3.96	21	P	Pn	12 10 31.5	+1.0
KMRZ	Kaimai	3.98	26	P	Pn	12 10 38.4	+7.5
PRGZ	Paritu Road	4.06	53	P	Pn	12 10 32.0	+0.1
RAGZ	Rawiri	4.09	45	P	Pn	12 10 32.2	-0.1
URZ	Urewera	4.11	40	Pn	Pn	12 10 30.4	-2.2
	1.6nm,0.3s,baz=248,slow=5.8,SNR=28						
URZ				Sn	Sn	12 11 17.2	-2.2
	9.7nm,0.3s,baz=86,slow=18,SNR=10						
RIGZ	Rimuhau	4.13	50	P	Pn	12 10 32.1	-0.7
TGRZ	Tauranga	4.20	28	P	Pn	12 10 35.3	+1.6
ODZ	Otahua Downs	4.24	211	Pn	Pn	12 10 33.8	-0.5
ODZ	Otahua Downs	4.24	211	P	Pn	12 10 33.8	-0.5
MWZ	Matawai	4.27	44	Pn	Pn	12 10 32.8	-2.0
MWZ	Matawai	4.27	44	P	Pn	12 10 33.4	-1.3
TKGZ	Te Karaka	4.36	48	P	Pn	12 10 35.6	-0.4
AWAZ	Awhitu Peninsu	4.44	9	P	Pn	12 10 38.2	+1.2
KBAZ	Karaka Road Bo	4.44	12	P	Pn	12 10 36.5	-0.6
MKAZ	Moumakai	4.48	15	Pn	Pn	12 10 38.6	+1.0
MKAZ	Moumakai	4.48	15	P	Pn	12 10 38.6	+1.0
JCZ	Jackson Bay	4.49	233	Pn	Pn	12 10 38.0	+0.2
JCZ	Jackson Bay	4.49	233	P	Pn	12 10 38.1	+0.3
WTAZ	Waiatarua	4.56	8	Pn	Pn	12 10 40.2	+1.5
WTAZ	Waiatarua	4.56	8	P	Pn	12 10 40.3	+1.5
ETAZ	East Tamaki Re	4.59	12	Pn	Pn	12 10 40.1	+1.0
ETAZ	East Tamaki Re	4.59	12	P	Pn	12 10 40.1	+1.0
RUGZ	Raukumara Rang	4.62	42	P	Pn	12 10 38.6	-1.0
TWGZ	Tauwhareparae	4.62	46	P	Pn	12 10 39.6	-0.1
EPAZ	Eden Park BICE	4.64	10	P	Pn	12 10 41.4	+1.7
HBAZ	Herne Bay Bore	4.66	10	P	Pn	12 10 41.7	+1.7
RVAZ	Riverhead Bore	4.72	8	Pn	Pn	12 10 42.0	+1.1
RVAZ	Riverhead Bore	4.72	8	P	Pn	12 10 41.9	+1.1
MTAZ	Motutapu	4.75	11	Pn	Pn	12 10 42.5	+1.2
WIAZ	Waiheke Island	4.78	14	P	Pn	12 10 43.0	+1.3
WKZ	Wanaka	4.83	224	P	Pn	12 10 42.0	-0.3
HAZ	Te Kaha	4.83	42	P	Pn	12 10 42.1	-0.4
PKGZ	Pakihiroa	4.89	45	P	Pn	12 10 42.6	-0.6
ABAZ	Army Bay	4.92	10	Pn	Pn	12 10 44.8	+1.2
ABAZ	Army Bay	4.92	10	P	Pn	12 10 44.9	+1.2
KUZ	Kuaotunu	4.95	19	Pn	Pn	12 10 45.0	+1.0
KUZ	Kuaotunu	4.95	19	P	Pn	12 10 44.8	+0.8
MSZ	Milford Sound	5.34	231	Pn	Pn	12 10 50.8	+1.6
MSZ	Milford Sound	5.34	231	P	Pn	12 10 51.0	+1.8
TUZ	Tuapeka	5.39	212	Pn	Pn	12 10 49.7	-0.4
TUZ	Tuapeka	5.39	212	P	Pn	12 10 50.0	0.0
WCZ	Waipu Caves	5.53	5	Pn	Pn	12 10 53.3	+1.4
CTZ	Chatham Island	7.47	111	Pn	Pn	12 11 18.8	+0.3
ASAR	Alice Springs	37.58	286	P	P	12 16 40.1	-0.1
	0.5nm,0.4s,baz=129,slow=6.9,SNR=16						
WRA	Warramunga Arr	39.64	291	P	P	12 16 58.0	+0.5
	0.3nm,0.4s,baz=126,slow=8.3,SNR=10						
TORD	Torodi Ar. Bea	150.96	196	PKPbc	PKPab	12 29 24.1	-1.0
	0.2nm,0.5s,baz=148,slow=4.0,SNR=1.8						

SJA ***04*** *12:20:43.6±0.6, 30°.28S×71°.73W, h41km±999km, ML3.3, MW3.6*
ISCJB ***04*** *12:20:44.6±2.1, 30°.31S±0°.05×71°.6W±0°.1, h21km±11km, Error ellipse: s-maj=18.1km s-min=7.1km az=18.6*
GUC ***04*** *12:20:46.8±0.3, 30°.28S×70°.90W, h69km±2km, ML3.2*
ISC 04 12:20:45.5±2.1**, 30°.32S**±0°.04×**71°.57W**±0°.09**, h16**km±11km**, n14, σ1s.37**/20**, 3C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.68	77	⇑*i*P	Pg	12 20 58.4	-0.5
TLL				*i* S	Sg	12 21 07.2	-0.7
TLL				IAML		12 21 07.6	
	comp=N,1μm,0.2s						
GO04	Tololo Observa	0.68	77	⇑*i*P	Pg	12 20 58.4	-0.5
GO04				*i* S	Sg	12 21 07.2	-0.8
GO04				IAML		12 21 07.6	
	comp=N,4μm,0.4s						
LCO	Las Campanas	1.51	30	*i* P	Pn	12 21 10.7	-1.5
LCO				*i* S	Sn	12 21 30.3	-1.3
LCO	Las Campanas	1.51	30	⇑*i*P	Pn	12 21 10.7	-1.5
LCO				*i* S	Sn	12 21 28.6	-3.0
LCO				IAML		12 21 34.2	
	comp=E,400nm,0.3s						
VACH	Vallenar	1.88	22	*e*P	Pg	12 21 23.4	+1.9
VACH				*i* S	Sb	12 21 45.3	+2.5
RTLS	Leoncito	2.44	128	*i* P	Pn	12 21 25.3	+0.3
RTLS				IAML		12 22 06.2	
	comp=Z,54nm,0.2s						
AUSP	Uspallata	2.66	136	*i* P	Pn	12 21 28.8	+0.8
ROCH	El Roble	2.68	170	IAML		12 22 12.9	
	comp=E,143nm,0.5s						
ROC1	El Roble	2.69	170	*i* P	Pn	12 21 27.6	-0.8
AMOG	MOGNA	2.72	104	*i* P	Pn	12 21 29.1	+0.4
AGUA	GUANDACOL	2.80	73	*i* P	Pn	12 21 30.4	+0.6
RTCV	Cerro Valdivia	3.02	121	*i* P	Pn	12 21 33.1	+0.4
CLCH	Cerro Calan	3.19	164	*e*P	Pn	12 21 34.9	-0.2
CLCH				*e*S	Sn	12 22 12.1	-0.7
CLCH				IAML		12 22 34.4	
	comp=E,120nm,0.7s						
VCA	Vinchina	3.33	62	*i* P	Pn	12 21 37.4	+0.3
VCA				IAML		12 21 44.2	
	comp=Z,125nm,0.2s						
VCA				*i* S	Sn	12 22 17.1	+0.6

IDC 04 12:22:32.5±4.9**, 17°.66S**×**173°.73W, h0**km**, mb3.8**/3**, mb1 4.0**/4**, mb1mx3.6**/43**, mbtmp3.7**/4**, ML3.6**/1**, Error ellipse: s-maj=190.9km s-min=27.6km az=137.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.17	27	Pn	Pn	12 23 36.7	-0.8
	3.2nm,0.3s,baz=200,slow=18,SNR=5.9						
AFI				Sn	Sn	12 24 22.2	-4.9
	4.5nm,0.3s,baz=38,slow=21,SNR=2.2						
WRA	Warramunga Arr	49.05	259	P	P	12 31 21.4	-0.4
	0.7nm,0.5s,baz=96,slow=7.4,SNR=17						
ASAR	Alice Springs	49.14	254	P	P	12 31 22.4	0.0
	0.9nm,0.5s,baz=89,slow=7.3,SNR=32						
ILAR	Eielson Array	84.71	11	P	P	12 35 08.3	+0.4
	0.5nm,1.0s,baz=220,slow=6.4,SNR=5.4						

IDC 04 12:29:15.6±1.4**, 3°.25N**×**127°.49E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.5**/50**, mbtmp3.6**/5**, Error ellipse: s-maj=126.0km s-min=20.5km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.01	164	P	P	12 34 32.0	-0.3
	1.6nm,0.6s,baz=344,slow=10,SNR=16						
ASAR	Alice Springs	27.48	167	P	P	12 35 04.0	+0.3
	0.3nm,0.5s,baz=354,slow=7.4,SNR=11						
STKA	Stephens Creek	37.42	160	P	P	12 36 30.2	-0.4
	2.1nm,0.9s,baz=324,slow=9.3,SNR=3.4						
H11S3	WAKE ISLAND Hy	41.23	65	T	T	13 20 06.8	
	baz=253,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy	41.24	65	T	T	13 19 56.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=253,slow=75,SNR=9.4						
H11S2	WAKE ISLAND Hy	41.24	66	T	T	13 20 00.8	
	baz=253,slow=75,SNR=17						
SONM	Songino Array	47.99	341	P	P	12 37 57.2	+0.8
	0.2nm,0.7s,baz=167,slow=6.8,SNR=2.4						
MKAR	Makanchi Array	58.38	325	P	P	12 39 12.3	-0.6
	0.3nm,0.5s,baz=119,slow=8.5,SNR=4.6						

IDC 04 12:31:48.2±3.6**, 22°.30S**×**170°.14E, h0**km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/35**, mbtmp3.5**/4**, ML3.2**/1**, Error ellipse: s-maj=114.7km s-min=45.4km az=164.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.43	273	Pn	Pn	12 32 44.1	+1.1
	2.5nm,0.3s,baz=127,slow=14,SNR=3.1						
DZM				Sn	Sn	12 33 25.1	+0.6
	1.8nm,0.3s,baz=14,slow=20,SNR=2.8						
ASAR	Alice Springs	33.33	260	P	P	12 38 28.1	0.0
	0.5nm,0.8s,baz=88,slow=8.7,SNR=4.1						
WRA	Warramunga Arr	33.43	267	P	P	12 38 28.1	-0.9
	0.3nm,0.8s,baz=97,slow=8.4,SNR=2.3						
SONM	Songino Array	90.15	323	P	P	12 44 50.7	+0.3
	0.6nm,1.0s,baz=142,slow=4.9,SNR=3.5						

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*IDC **04** 12:46:25.9±3.4, 22°.51S×170°.53E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/42, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=121.8km s-min=40.9km az=157.0*

ISC 04 12:46:31.8±2.0**, 22°.3S**±0°.6×**170°.4E**±0°.2**, h33**km**, n8,** σ**0**s**.71**/9**, mb3.8**/4**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.64	273	Pn	Pn	12 47 25.6	-0.4
	6.3nm,0.3s,baz=86,slow=6.8,SNR=185						
DZM				Sn	Sn	12 48 08.1	+0.2
	10.0nm,0.3s,baz=185,slow=7.0,SNR=8.9						
ASAR	Alice Springs	33.53	261	P	P	12 53 09.0	+0.2
	0.5nm,0.8s,baz=102,slow=7.9,SNR=6.2						
WRA	Warramunga Arr	33.64	267	P	P	12 53 09.1	-0.6
	0.8nm,0.8s,baz=100,slow=7.9,SNR=5.5						
CMAR	Chiang Mai Arr	80.72	294	P	P	12 58 43.5	+1.3
	1.5nm,1.0s,baz=135,slow=4.2,SNR=7.8						
SONM	Songino Array	90.30	323	P	P	12 59 29.3	-0.2
	1.1nm,1.1s,baz=112,slow=6.4,SNR=3.7						
BRG	Berggiesshubel	146.09	333	*e*PKP	PKPbc	13 06 07.9	-0.3
	7.4nm,1.2s						
CLL	Collm	146.14	334	*e*PKP	PKPbc	13 06 08.0	-0.4
GERES	GERESS Array B	147.69	331	PKPbc	PKPbc	13 06 12.4	-0.7
	1.1nm,0.8s,baz=347,slow=2.1,SNR=6.6						

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*BJI **04** 12:48:59.9, 21°.08S×170°.27E, h7km, mb5.2/62, mB5.7/62, Ms5.3/65, Ms7 5.1/59*

*MOS **04** 12:49:01.2±1.1, 21°.60S×169°.77E, h16km, mb5.5/68, MS5.4/49, Error ellipse: s-maj=8.8km s-min=7.5km az=90.0*

*WEL **04** 12:49:02.0, 21°.53S×169°.77E, h14km*

*NEIC **04** 12:49:02.4±0.1, 21°.53S×169°.77E, h14km, mb5.4/151, ME5.2, MS5.4/220, MW5.6, MW5.7, Error ellipse: s-maj=4.4km s-min=3.7km az=119.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^{17}Nm; M_{rr}2.81; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-3.16; $M_{r\theta}$0.65; $M_{\theta\phi}$0.84; $M_{\phi r}$-1.49; Best double couple: $M_0$3.50000×10^{17} NP1:ϕ_s161.00000°, δ59.00000°, λ83.00000°. NP2:ϕ_s354.00000°, δ32.00000°, λ101.00000°. Principal axes: T 3.2400, Plg75.0000°, Azm52.0000°; N 0.5100, Plg6.0000°, Azm165.0000°; P -3.7400, Plg14.0000°, Azm256.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt at Noumea, New Caledonia.

*NEIC **04** 12:49:02.0±0.0, 21°.55S×169°.53E, h23km, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; M_{rr}4.83; $M_{\theta\theta}$-1.46; $M_{\phi\phi}$-3.37; $M_{r\theta}$1.94; $M_{\theta\phi}$2.47; $M_{\phi r}$-0.48; Best double couple: $M_0$5.30000×10^{17} NP1:ϕ_s131.00000°, δ55.00000°, λ73.00000°. NP2:ϕ_s339.00000°, δ38.00000°, λ113.00000°. Principal axes: T 5.3900, Plg73.0000°, Azm354.0000°; N -0.1000, Plg13.0000°, Azm141.0000°; P -5.2900, Plg8.0000°, Azm233.0000°;*

*GCMT **04** 12:49:02.4±0.1, 21°.77S×169°.64E, h28km, MW5.8/137, Moment Tensor Solution. s137,c278; s133,c353; Duration: 1s.9 Moment tensor: Scale 10^{17}Nm; M_{rr}4.57±.05; $M_{\theta\theta}$-1.24±.04; $M_{\phi\phi}$-3.33±.04; $M_{r\theta}$0.98±.08; $M_{\theta\phi}$2.69±.03; $M_{\phi r}$-2.92±.08; Best double couple: $M_0$5.77200×10^{17} NP1:ϕ_s155.00000°, δ61.00000°, λ100.00000°. NP2:ϕ_s315.00000°, δ30.00000°, λ73.00000°. Principal axes: T 5.5330, Plg72.0000°, Azm87.0000°; N 0.4760, Plg8.0000°, Azm330.0000°; P -6.0100, Plg16.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **04** 12:49:03.4±2.1, 21°.71S×169°.84E, h24km±12km, mb4.7/24, mb1 4.8/26, mb1mx4.7/40, mbtmp4.8/26, ML4.7/2, MS5.2/37, Ms1 5.2/37, ms1mx5.1/43 Error ellipse: s-maj=16.2km s-min=12.6km az=158.0*

*ISCJB **04** 12:49:04.4±0.1, 21°.56S±0°.02×169°.74E±0°.02, h36km, mb5.3/222, MS5.3/280, Error ellipse: s-maj=3.4km s-min=2.9km az=154.6*

ISC 04 12:49:05.2±0.2**, 21°.69S**±0°.04×**169°.88E**±0°.04**, h36**km**, n898,** σ**1**s**.55**/784**, mb5.3**/219**, MS5.4**/282**, 60C-11D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.21	263	Pn	Pn	12 49 51.2	-1.9
	104nm,0.3s,baz=122,slow=21,SNR=69						
DZM				Sn	Sn	12 50 25.8	-4.4
	134nm,0.3s,baz=94,slow=13,SNR=8.7						
DZM				LR	LR	12 50 33.9	
	comp=Z,28µm,21.9s,baz=92,slow=28						
DZM	Mont Dzumac	3.21	263	*e*Pn	Pn	12 49 51.2	-1.9
	3µm,1.5s						
DZM				*e*Sn	Sn	12 50 26.7	-3.5
	11µm,1.2s						
DZM	Mont Dzumac	3.21	263	*e*Pn	Pn	12 49 51.2	-1.9
DZM				*e*Sn	Sn	12 50 28.5	-1.7
RAO	Raoul Island	13.35	127	LR	LR	12 56 16.2	
	comp=Z,17µm,20.5s,baz=334,slow=32						
OUZ	Omahuta	13.87	167	*e*Pn	Pn	12 52 21.7	+2.5
WCZ	Waipu Caves	14.73	166	P	P	12 52 40.0	+3.6
GRZ	Great Barrier	15.31	163	P	P	12 52 45.4	+2.6
HNR	Honiara	15.48	320	Pn	P	12 52 44.0	-0.9
	7.1nm,0.3s,baz=56,slow=2.5,SNR=3.8						
HNR				LR	LR	12 58 18.8	
	comp=Z,6µm,18.8s,baz=147,slow=36						
HNR	Honiara	15.48	320	P	P	12 52 43.0	-1.9
HNR	Honiara	15.48	320	*e*P	P	12 52 44.1	-0.9
	294nm,1.1s						
HNR	Honiara	15.48	320	*e*P	P	12 52 44.1	-0.9
HNR				pmax	pmax		
	comp=Z,294nm,1.1s						
KUZ	Kuaotunu	15.84	163	P	P	12 52 52.2	+3.3
FUNA	Funafuti	15.87	36	*e*Pn	Pn	12 52 44.2	-1.7
	comp=Z,375nm,1.4s						
MKAZ	Moumakai	16.03	165	P	P	12 52 53.6	+2.6
HIZ	Hauiti	17.31	167	*e*Pn	P	12 53 08.2	+3.1
	comp=Z,219nm,1.1s						
HAZ	Te Kaha	17.41	159	P	P	12 53 09.5	+3.3
EIDS	Eidsvold	17.62	254	P	P	12 53 08.7	+0.1
	baz=18,SNR=5.4						
EIDS	Eidsvold	17.62	254	*e*Pn	Pn	12 53 07.7	-0.2
	comp=Z,290nm,1.7s						
URZ	Urewera	17.66	161	P	P	12 53 11.2	+2.3
	comp=Z,1.6nm,0.3s,baz=355,slow=5.7,SNR=20						
URZ				LR	LR	12 58 53.8	
	comp=Z,11µm,19.3s,baz=344,slow=34						
URZ	Urewera	17.66	161	*e*Pn	P	12 53 11.5	+2.6
	comp=Z,173nm,1.1s						
URZ	Urewera	17.66	161	P	P	12 53 11.5	+2.6
MWZ	Matawai	17.85	160	P	P	12 53 16.2	+5.0
TWGZ	Tauwhareparae	17.86	159	P	P	12 53 15.9	+4.7
PUZ	Puketiti	17.86	158	P	P	12 53 16.7	+5.5
RTZ	Ruatahuna	17.95	162	P	P	12 53 16.3	+4.1
RAHZ	Arahi	18.25	162	P	Pn	12 53 20.1	+4.5
BKZ	Black Stump Fm	18.32	163	*e*P	Pn	12 53 18.9	+2.5
	comp=Z,313nm,1.2s						
BKZ	Black Stump Fm	18.32	163	P	Pn	12 53 18.8	+2.3
BHHZ	Black Hill Sta	18.52	165	P	Pn	12 53 22.2	+3.4
ARMA	Armidale	18.54	238	P	Pn	12 53 20.8	+1.6
	baz=19,SNR=7.9						
ARMA	Armidale	18.54	238	*e*P	Pn	12 53 21.4	+2.1
	comp=Z,443nm,1.8s						
KWHZ	Kaweka Forest	18.55	164	P	Pn	12 53 22.8	+3.6
AFI	Afiamalu	19.09	69	P	P	12 53 25.1	+0.1
	comp=Z,2.3nm,0.3s,baz=83,slow=1.8,SNR=9.0						
AFI				LR	LR	12 59 27.8	
	comp=Z,5µm,21.9s,baz=237,slow=33						
AFI	Afiamalu	19.09	69	*e*P	Pn	12 53 25.8	-0.2
	comp=Z,130nm,1.0s						
NIUE	Niue	19.11	86	P	Pn	12 53 25.7	-0.4
	baz=19,SNR=4.6						
BFZ	Birch Farm	19.69	165	*e*P	Pn	12 53 33.1	+0.2
	comp=Z,175nm,1.2s						
RMQ	Roma	19.86	252	P	Pn	12 53 34.5	-0.5
	baz=20,SNR=61						
SNZO	South Karori	19.99	169	*e*P	Pn	12 53 36.8	+0.5
	comp=Z,946nm,1.9s						
SNZO				LR	LR		
	comp=Z,11µm,21.0s						
THZ	Tophouse	20.18	173	*e*P	Pn	12 53 39.0	+0.3
	comp=Z,485nm,1.5s						
THZ				LR	LR		
	comp=Z,8µm,20.0s						
MGCD	Mangrove Creek	20.19	231	P	Pn	12 53 39.7	+0.9
	baz=20,SNR=8.7						
RIV	Riverview	20.47	230	P	Pn	12 53 42.8	+0.7
	baz=21,SNR=4.1						
KHZ	Kahutara	20.90	172	*e*P	P	12 53 44.9	+0.7
	comp=Z,216nm,1.4s						
KHZ				LR	LR		
	comp=Z,7µm,21.0s						
LTZ	Lake Taylor	21.13	175	*e*P	P	12 53 49.1	+2.2
	comp=Z,196nm,1.3s						
LTZ				LR	LR		
	comp=Z,7µm,20.0s						
OXZ	Oxford	21.66	176	*e*P	P	12 53 54.7	+2.3
	comp=Z,152nm,1.1s						
OXZ				LR	LR		
	comp=Z,7µm,19.0s						
FOZ	Fox Glacier	21.79	180	*e*P	P	12 53 56.6	+2.8
	comp=Z,196nm,1.2s						
FOZ				LR	LR		
	comp=Z,10µm,20.0s						
RPZ	Rata Peaks	21.99	178	P	P	12 53 58.8	+2.8
	comp=Z,24nm,1.0s,baz=355,slow=7.7,SNR=3.4						
RPZ				LR	LR	13 01 54.3	
	comp=Z,12µm,18.1s,baz=358,slow=35						
RPZ	Rata Peaks	21.99	178	*e*P	P	12 53 58.8	+2.8
	comp=Z,166nm,1.2s						
MQZ	McQueen's Vall	22.08	175	*e*P	P	12 53 58.7	+1.7
	comp=Z,208nm,1.4s						
MQZ				LR	LR		
	comp=Z,6µm,19.0s						
CTAO	Charters Tower	22.12	270	*e*P	P	12 53 58.0	+0.3
	comp=Z,282nm,1.4s						
CTAO				LR	LR		
	comp=Z,24µm,18.0s						
CTAO	Charters Tower	22.12	270	*e*P	P	12 53 58.0	+0.3
CTAO				pmax	pmax		
	comp=Z,282nm,1.4s						
CTAO				MLR	MLR		
	comp=Z,24µm,18.0s						
CNB	Canberra Magne	22.51	228	P	P	12 54 03.2	+1.4
	baz=23,SNR=25						
LBZ	Lake Benmore	22.64	179	PFAKE		12 54 20.0	+17
LBZ				LR	LR		
	comp=Z,9µm,20.0s						
YNG	Young	22.69	232	P	P	12 54 04.8	+1.1
	baz=23,SNR=11						
CAN	Canberra	22.77	229	P	P	12 54 06.3	+1.8
	baz=23						
CAN	Canberra	22.77	229	*e*P	P	12 54 05.6	+1.1
	comp=Z,178nm,1.1s						
CAN				LR	LR		
	comp=Z,9µm,20.0s						
CAN	Canberra	22.77	229	*e*P	P	12 54 05.6	+1.1
CAN				pmax	pmax		
	comp=Z,178nm,1.1s						
CAN				MLR	MLR		
	comp=Z,9µm,20.0s						
WKZ	Wanaka	23.09	182	PFAKE		12 54 20.0	+12
WKZ				LR	LR		
	comp=Z,13µm,20.0s						
TARA	Tarawa	23.09	8	PFAKE		12 54 20.0	+12
TARA				LR	LR		
	comp=Z,6µm,19.0s						
ODZ	Otahua Downs	23.31	179	*e*P	P	12 54 11.6	+1.8
	comp=Z,170nm,1.7s						
ODZ				LR	LR		
	comp=Z,9µm,18.0s						
MILA	Mila	23.60	225	P	P	12 54 15.2	+2.3
	baz=24,SNR=8.5						
MLZ	Mavora Lakes	23.66	183	*e*P	P	12 54 16.7	+3.5
	comp=Z,99nm,1.4s						
MLZ				LR	LR		
	comp=Z,7µm,18.0s						
CMSA	Cobar Meteorol	23.70	240	P	P	12 54 14.6	+0.9
	baz=24,SNR=58						
DCZ	Deep Cove	23.82	185	*e*P	P	12 54 17.9	+3.2
	comp=Z,355nm,1.8s						
DCZ				LR	LR		
	comp=Z,4µm,20.0s						
QLP	Quilpie	23.88	253	P	P	12 54 16.1	+0.6
	baz=24,SNR=138						
WHZ	Wether Hill Ro	24.20	183	*e*P	P	12 54 19.2	+1.0
	comp=Z,179nm,1.6s						
WHZ				LR	LR		
	comp=Z,7µm,18.0s						
MTSU	Mount Surprise	24.28	274	P	P	12 54 20.0	+0.7
	baz=24,SNR=30						
RABL	Rabaul	24.45	313	*e*P	P	12 54 21.5	+0.7
	comp=Z,237nm,1.4s						
PYZ	Puysegur Point	24.56	185	PFAKE		12 54 30.0	+8.5
PYZ				LR	LR		
	comp=Z,4µm,22.0s						
PMG	Port Moresby	25.02	296	P	P	12 54 26.5	+0.6
	comp=Z,20nm,0.9s,baz=89,slow=4.1,SNR=6.6						
PMG				LR	LR	13 02 22.9	
	comp=Z,7µm,20.7s,baz=125,slow=32						
PMG	Port Moresby	25.02	296	*e*P	P	12 54 26.3	+0.4
	comp=Z,95nm,1.1s						
PMG	Port Moresby	25.02	296	*ce*P	P	12 54 25.2	-0.7
PMG				pmax	pmax		
	comp=Z,85nm,1.0s						
KNTN	Kanton	25.96	46	*e*P	P	12 54 36.1	+1.6
	comp=Z,389nm,1.4s						
KNTN				LR	LR		
	comp=Z,6µm,20.0s						
TOO	Toolangi	26.34	228	P	P	12 54 40.5	+2.7
	baz=26,SNR=5.4						
COEN	Coen	26.53	282	P	P	12 54 40.7	+1.1
	baz=26,SNR=10						
COEN	Coen	26.53	282	*e*P	P	12 54 41.0	+1.3
	comp=Z,40nm,1.1s						
COEN				LR	LR		
	comp=Z,12µm,21.0s						
STKA	Stephens Creek	27.14	242	P	P	12 54 45.6	+0.6
	comp=Z,15nm,0.7s,baz=83,slow=10,SNR=30						
STKA				LR	LR	13 04 45.4	
	comp=Z,12µm,20.1s,baz=97,slow=35						
STKA	Stephens Creek	27.14	242	P	P	12 54 45.9	+0.8
	baz=27,SNR=23						
STKA	Stephens Creek	27.14	242	*e*P	P	12 54 45.9	+0.8
	comp=Z,112nm,2.0s						
STKA	Stephens Creek	27.14	242	P	P	12 54 45.7	+0.6
STKA				pmax	pmax		
	comp=Z,15nm,0.7s						
STKA				MLR	MLR		
	comp=Z,12µm,20.1s						
MOO	Moorlands	28.09	217	P	P	12 54 55.1	+1.7
	baz=28,SNR=3.2						
RAR	Rarotonga	28.23	95	LR	LR	13 06 05.9	
	comp=Z,2µm,18.0s,baz=260,slow=36						
RAR	Rarotonga	28.23	95	PFAKE		12 55 10.0	+15
RAR				LR	LR		
	comp=Z,32µm,20.0s						
QIS	Mount Isa	28.24	267	P	P	12 54 54.9	-0.1
	baz=28,SNR=3.6						
TAU	Tasmania Unive	28.32	216	PFAKE		12 55 10.0	+15
TAU				LR	LR		
	comp=Z,10µm,18.0s						
ARPS	Mount Arapiles	28.58	232	P	P	12 54 59.1	+1.3
	baz=29,SNR=7.9						
MANU	Manus Island	29.34	309	PFAKE		12 55 20.0	+15
MANU				LR	LR		
	comp=Z,4µm,19.0s						
HTT	Hallett	29.72	240	P	P	12 55 08.6	+0.5
	baz=30,SNR=18						
PATS	Pohnpei	30.53	337	PFAKE		12 55 30.0	+15
PATS				LR	LR		
	comp=Z,6µm,18.0s						
BBOO	Buckleboo	31.91	242	P	P	12 55 27.6	+0.3
	baz=32,SNR=11						
BBOO	Buckleboo	31.91	242	*e*P	P	12 55 27.9	+0.5
	comp=Z,370nm,1.9s						
BBOO				LR	LR		
	comp=Z,13µm,19.0s						
AS01	Alice Springs	33.15	260	*e*P	P	12 55 37.8	-0.6
WC3	Warramunga Arr	33.19	266	*e*P	P	12 55 37.6	-1.0
	comp=Z,41nm,1.2s						
AS31	Alice Springs	33.20	260	*e*P	P	12 55 38.0	-0.8
	comp=Z,13nm,1.0s						
AS31				LR	LR		
	comp=Z,100nm,18.0s						
ASAR	Alice Springs	33.20	260	P	P	12 55 37.9	-0.9
	comp=Z,10.0nm,0.6s,baz=89,slow=8.6,SNR=72						
ASAR				PcP	PcP	12 58 20.4	-0.6
	comp=Z,4.0nm,0.8s,baz=87,slow=4.5,SNR=4.1						
ASAR				LR	LR	13 09 07.6	
	comp=Z,6µm,18.8s,baz=94,slow=36						
WB2	Warramunga Arr	33.21	266	*e*P	P	12 55 37.4	-1.5
WRAB	Tennant Creek	33.21	266	*e*P	P	12 55 37.0	-1.9
	comp=Z,35nm,1.1s						
WRAB	Tennant Creek	33.21	266	*e*P	P	12 55 37.0	-1.9
WRAB				pmax	pmax		
	comp=Z,35nm,1.1s						
WRA	Warramunga Arr	33.22	266	P	P	12 55 37.5	-1.4
	comp=Z,4.7nm,0.8s,baz=97,slow=7.9,SNR=23						
WRA				S	S	13 00 55.8	-0.9
	comp=Z,2.0nm,1.3s,baz=104,slow=13,SNR=5.7						
WRA				LR	LR	13 09 27.2	
	comp=Z,18µm,18.4s,baz=100,slow=37						
MCQ	Macquarie Isla	33.79	191	PFAKE		12 56 00.0	+17
MCQ				LR	LR		
	comp=Z,8µm,19.0s						
TBI	Tubuai	37.52	100	*e*S	S	13 02 03.0	+0.4
	comp=Z,2µm,28.8s						
TBI				*e*LQ	LQ	13 04 47.4	
	comp=Z,8µm,31.8s						
TBI				*e*LR	LR	13 06 22.2	
	comp=Z,4µm,25.5s,baz=271						
WRKA	Warakurna	38.21	257	P	P	12 56 21.1	-0.7
	baz=38,SNR=22						
PPT2	Papeete2	38.33	91	*e*S	S	13 02 15.5	+0.3
	comp=Z,2µm,26.0s						
PPT2				*e*LQ	LQ	13 05 07.5	
	comp=Z,9µm,28.8s						
PPT2				*e*LR	LR	13 06 45.3	
	comp=Z,3µm,23.5s,baz=250						
PPT	Papeete	38.34	91	LR	LR	13 08 13.7	
	comp=Z,2µm,19.3s,baz=254,slow=30						
KNRA	Kununurra	39.32	272	P	P	12 56 30.3	-0.7
	baz=39,SNR=13						
WAKE	Wake Island	40.84	355	PFAKE		12 56 50.0	+6.5
WAKE				LR	LR		
	comp=Z,4µm,19.0s						
FAKI	Fak Fak	41.04	292	P	P	12 56 45.4	0.0
FAKI				pP	pP	12 56 49.6	-6.3
FAKI	Fak Fak	41.04	292	*e*P	P	12 56 44.5	-0.9
	comp=Z,64nm,1.1s						
FITZ	Fitzroy Crossi	41.65	267	P	P	12 56 50.1	-0.2
	baz=42						
GUMO	Guam	42.79	323	LR	LR	13 13 42.0	
	comp=Z,1µm,21.0s,baz=137,slow=35						
GUMO	Guam	42.79	323	PFAKE		12 57 10.0	+10
GUMO				LR	LR		
	comp=Z,227µm,20.0s						
SWI	Sorong	42.94	294	P	P	12 57 01.5	+0.7
SWI				pP	pP	12 57 07.2	-4.2
KMBL	Kambalda	43.72	247	P	P	12 57 06.6	-0.4
	baz=44,SNR=7.8						
AAI	Ambon	44.22	288	P	P	12 57 10.7	-0.5
SOEI	Soe	45.31	278	P	P	12 57 20.4	+0.3
	comp=Z,89nm,1.0s,comp=Z,2µm						
SOEI	Soe	45.31	278	*e*P	P	12 57 19.6	-0.4
	comp=Z,190nm,1.3s						
NLAI	Namlea	45.39	288	P	P	12 57 19.4	-1.1
	comp=Z,35nm,1.3s,comp=Z,1µm						
BATI	Baumata	45.72	277	LR	LR	13 16 08.4	
	comp=Z,11µm,21.5s,baz=143,slow=36						
BATI	Baumata	45.72	277	P	P	12 57 23.0	-0.1
	comp=Z,23nm,1.1s,comp=Z,768nm						
LBMI	Labuha	46.28	291	P	P	12 57 32.0	+4.4
	comp=Z,57nm,1.1s,comp=Z,2µm						
MBWA	Marble Bar	46.51	261	*e*P	P	12 57 28.8	-0.6
	comp=Z,52nm,1.1s						
MBWA				LR	LR		
	comp=Z,3µm,20.0s						
MEEK	Meekatharra	46.78	253	P	P	12 57 30.7	-0.8
	baz=47,SNR=6.6						
SANI	Sanana	46.93	288	P	P	12 57 31.6	-1.0
	comp=Z,90nm,1.2s,comp=Z,2µm						
KLBR	Kellerberrin	47.25	247	P	P	12 57 34.1	-0.8
	baz=47,SNR=6.3						
MMRI	Maumere	47.59	278	P	P	12 57 36.7	-1.1
	comp=Z,79nm,1.1s,comp=Z,2µm						
NWAO	Narrogin (SRO)	47.67	245	P	P	12 57 38.1	-0.2
	baz=48,SNR=5.0						
NWAO				P	P	12 57 38.1	-0.2
	baz=48,SNR=5.0						
NWAO	Narrogin (SRO)	47.67	245	*e*P	P	12 57 38.0	-0.2
	comp=Z,46nm,0.9s						
NWAO				LR	LR		
	comp=Z,13µm,21.0s						
NWAO	Narrogin (SRO)	47.67	245	*e*P	P	12 57 38.0	-0.2
NWAO				pmax	pmax		
	comp=Z,46nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,13µm,21.0s						
EDFI	Ende, Flores	48.05	278	P	P	12 57 43.1	+1.6
	comp=Z,46nm,1.2s,comp=Z,2µm						
BLDU	Ballidu	48.17	248	P	P	12 57 41.1	-1.1
	baz=48,SNR=6.1						
BASI	Baing, Sumba	48.56	276	P	P	12 57 46.2	+0.9
	comp=Z,175nm,1.0s,comp=Z,3µm						
MORW	Morawa	48.85	250	P	P	12 57 47.1	-0.3
	baz=49,SNR=3.6						
TAOE	Nuku Hiva Isla	49.66	83	*e*S	S	13 04 59.2	-1.3
	comp=Z,3µm,25.5s						
TAOE				*e*LQ	LQ	13 09 54.4	
	comp=Z,3µm,23.4s						
TAOE				*e*LR	LR	13 12 00.0	
	comp=Z,4µm,23.5s,baz=250						
KMSI	Cibinong	49.94	290	P	P	12 58 00.7	+4.9
	comp=Z,94nm,1.0s						
LUWI	Luwuk	50.24	288	P	P	12 57 58.2	+0.1
	comp=Z,97nm,0.9s						
RKT	Rikitea	50.75	103	*e*S	S	13 05 14.9	-0.3
	comp=Z,2µm,28.2s						
RKT				*e*LQ	LQ	13 10 14.4	
	comp=Z,2µm,28.8s						
RKT				*e*LR	LR	13 12 28.6	
	comp=Z,2µm,25.0s,baz=264						
MIDW	Midway	51.12	14	PFAKE		12 58 20.0	+16
MIDW				LR	LR		
	comp=Z,3µm,19.0s						
BNSI	Bone	51.17	282	P	P	12 58 03.7	-1.5
	comp=Z,52nm,1.2s,comp=Z,1µm						
KAPI	Kappang	51.25	281	*e*P	P	12 58 02.6	-3.1
	comp=Z,127nm,1.2s						
KAPI				LR	LR		
	comp=Z,1µm,19.0s						
APSI	Ampana	51.29	287	P	P	12 58 06.8	+0.7
	comp=Z,104nm,1.4s,comp=Z,2µm						
PLAI	Plampang	51.63	276	P	P	12 58 06.3	-2.3
	comp=Z,64nm,1.2s,comp=Z,1µm						
MRSI	Marisa	51.68	289	P	P	12 58 10.0	+1.1
	comp=Z,24nm,1.3s,comp=Z,414nm						
DAV	Davao City (W)	51.99	298	LR	LR	13 20 51.0	
	comp=Z,1µm,19.9s,baz=118,slow=37						
DAV	Davao City (W)	51.99	298	PFAKE		12 58 20.0	+8.7
DAV				LR	LR		
	comp=Z,2µm,20.0s						
TTSI	Tana Toraja	52.00	284	P	P	12 58 11.8	+0.5
	comp=Z,45nm,1.0s,comp=Z,1µm						
KKO	Keanakako'i	53.20	42	PFAKE		12 58 30.0	+10
KKO				LR	LR		
	comp=Z,5µm,19.0s						
BYL	Byron's Ledge	53.21	42	PFAKE		12 58 30.0	+10
BYL				LR	LR		
	comp=Z,4µm,18.0s						

JCUZ Jacuzzi 53.29 43 PFAKE 12 58 30.0 +9.2
JCUZ LR LR
comp=Z,4μm,19.0s
NPOC North of Pu'u 53.29 43 PFAKE 12 58 30.0 +9.2
NPOC LR LR
comp=Z,5μm,20.0s
POHA Pohakuloa 53.30 42 PFAKE 12 58 30.0 +9.0
POHA LR LR
comp=Z,5μm,21.0s
MPSI Mapaga 53.42 288 P **P** **12 58 20.6 -1.2**
comp=Z,44nm,1.4s,comp=Z,821nm
SRBI Singaraja 54.27 276 P **P** **12 58 25.6 -2.4**
comp=Z,39nm,1.1s
SGKI Sangatta, Kali 55.08 285 P **P** **12 58 37.2 +3.3**
comp=Z,39nm,1.2s
JAGI Jajag, Banyuwa 55.12 275 P **P** **12 58 32.9 -1.3**
comp=Z,55nm,1.2s
KBKI Kotabaru 55.21 282 P **P** **12 58 36.8 +1.9**
comp=Z,16nm,0.9s
ABJI Asem Bagus 55.28 276 P **P** **12 58 32.1 -3.3**
comp=Z,28nm,0.9s
BKB Balikpapan 55.40 284 P **P** **12 58 39.1 +2.9**
comp=Z,73nm,1.4s,comp=Z,2μm
SMKI Samarinda 55.47 285 P **P** **12 58 39.5 +2.7**
comp=Z,52nm,0.5s
VNDA Vanda 56.02 182 P **P** **12 58 40.0 +0.3**
comp=Z,5.8nm,0.9s,baz=345,slow=5.8,SNR=7.1
VNDA LR LR 13 20 11.5
comp=Z,2μm,18.1s,baz=20,slow=33
VNDA Vanda 56.02 182 *e*P **P** **12 58 40.3 +0.5**
comp=Z,46nm,1.5s
VNDA Vanda 56.02 182 *e*P **P** **12 58 40.3 +0.5**
VNDA pmax pmax
comp=Z,46nm,1.5s
SBA Scott Base 56.24 181 *e*P **P** **12 58 43.0 +1.7**
comp=Z,64nm,1.1s
SBA LR LR
comp=Z,2μm,20.0s
SBA Scott Base 56.24 181 *e*P **P** **12 58 43.0 +1.7**
SBA pmax pmax
comp=Z,64nm,1.1s
SBA MLR MLR
comp=Z,2μm,20.0s
MTKI Muara Teweh, K 57.34 283 P **P** **12 58 51.7 +1.6**
PCJI Pacitan 57.97 274 P **P** **12 58 56.8 +2.3**
comp=Z,93nm,1.5s,comp=Z,2μm
CASY Casey 58.14 204 *e*P **P** **12 58 55.7 +0.8**
comp=Z,156nm,1.9s
CASY LR LR
comp=Z,3μm,19.0s
KKM Kota Kinabalu 59.36 291 *e*P **P** **12 59 03.7 -0.6**
comp=Z,156nm,1.4s
KKM LR LR
comp=Z,1μm,21.0s
PBKI Pangkalan Bun 59.55 280 P **P** **12 59 04.3 -1.3**
comp=Z,72nm,1.0s,comp=Z,1μm
TGY Tagaytay City 59.75 302 LR LR 13 23 42.6
comp=Z,791nm,20.1s,baz=116,slow=35
STKI Sintang 60.86 283 P **P** **12 59 13.3 -1.2**
comp=Z,16nm,0.8s
SBUM Sibu 61.21 286 PFAKE 12 59 30.0 +13
SBUM LR LR
comp=Z,1μm,19.0s
LEM Lembang 61.75 274 LR LR 13 25 31.2
comp=Z,2μm,21.4s,baz=118,slow=35
LEM Lembang 61.75 274 P **P** **12 59 21.2 +0.5**
comp=Z,421nm,1.5s,comp=Z,13μm
KSM Kuching 62.51 284 *e*P **P** **12 59 25.7 +0.1**
comp=Z,22nm,0.9s
KSM LR LR
comp=Z,2μm,20.0s
JOW Kunigami 62.84 318 PFAKE 12 59 40.0 +13
JOW LR LR
comp=Z,1μm,22.0s
BLSI Bandar Lampung 64.47 274 P **P** **12 59 36.1 -2.5**
INU Inuyama 64.72 331 PFAKE 12 59 50.0 +10
INU LR LR
comp=Z,1μm,20.0s
TWG Pinlang 64.94 310 PFAKE 12 59 50.0 +8.6
TWG LR LR
comp=Z,3μm,20.0s
MJAR Matsushiro Arr 65.18 332 P **P** **12 59 42.3 -0.4**
comp=Z,18nm,0.9s,baz=169,slow=6.6,SNR=31
MJAR LR LR 13 27 13.1
comp=Z,330nm,19.7s,baz=160,slow=35
MAJO Matsushiro 65.19 332 *e*P **P** **12 59 42.5 -0.2**
comp=Z,37nm,1.0s
MAJO LR LR
comp=Z,800nm,21.0s
MAJO Matsushiro 65.19 332 *i* P **P** **12 59 41.8 -0.9**
MAJO pmax pmax
comp=Z,32nm,1.0s
MAT Matsushiro 65.19 332 P **P** **12 59 41.5 -1.2**
MAT S **S** **13 08 25.8 +2.4**
MJB9 Matsu-Tunnel 65.19 332 *e*P **P** **12 59 42.5 -0.2**
comp=Z,38nm,1.0s
MJB9 LR LR
comp=Z,800nm,21.0s
NACB Ninganchiao 65.44 311 *e*P **P** **12 59 43.9 -0.7**
comp=Z,55nm,1.0s
TPUB Ta-pu 65.56 310 *e*P **P** **12 59 44.5 -1.0**
comp=Z,256nm,2.0s
SSLB Suanglung 65.64 311 *e*P **P** **12 59 44.9 -1.0**
comp=Z,24nm,0.8s
SSLB LR LR
comp=Z,1μm,21.0s
MDSI Maura Dua 65.78 275 P **P** **12 59 45.2 -1.9**
comp=Z,20nm,1.0s,comp=Z,588nm
YHNB Yeheng 65.91 312 *e*P **P** **12 59 47.3 -0.4**
comp=Z,48nm,1.0s
YHNB LR LR
comp=Z,1μm,22.0s
JNU Nakatsue 66.00 325 P **P** **12 59 48.0 -0.1**
comp=Z,25nm,0.9s,baz=94,slow=4.6,SNR=9.2
JNU LR LR 13 30 05.7
comp=Z,629nm,18.0s,baz=125,slow=37
JNU Nakatsue 66.00 325 *e*P **P** **12 59 47.7 -0.4**
comp=Z,80nm,1.2s
TATO Taipei 66.03 312 PFAKE 13 00 00.0 +12
TATO LR LR
comp=Z,1μm,20.0s
DSRI Dabo 66.94 279 P **P** **12 59 53.4 -1.1**
comp=Z,32nm,1.3s,comp=Z,3μm
JMBI JAMBI 67.35 278 P **P** **12 59 54.2 -2.9**
TPRI Tanjung Pinang 67.54 280 P **P** **12 59 58.1 -0.2**
ERM Erimo 68.03 339 PFAKE 13 00 10.0 +9.3
ERM LR LR
comp=Z,2μm,20.0s
QZH Quanzhou 68.04 310⇑ *i*P **P** **13 00 01.3 +0.2**
QZH S **S** **13 09 01.2 +3.0**
QZH SS **SS** **13 13 24.8 +3.4**
QZH pmax pmax
comp=Z,630nm,8.6s
QZH LR LR
comp=Z,590nm,13.2s
QZH LR LR
comp=Z,370nm,16.6s
QZH LR LR
comp=Z,630nm,17.8s
QSPA South Pole Qui 68.38 180 *e*P **P** **13 00 03.0 0.0**
comp=Z,69nm,1.1s
QSPA LR LR
comp=Z,2μm,19.0s
YUK Yuzh-Kuril'sk 69.01 342 *e*P P 13 00 01.4 -5.4
YUK *e*S **S** **13 09 02.5 -6.5**
YUK pmax pmax
comp=Z,429nm,1.8s
RGRI Rengat 69.05 278 P **P** **13 00 07.2 -0.6**
KUR Kuril'sk 69.55 344*c* *i*P **P** **13 00 11.7 +1.6**
KUR *i* 13 00 14.8
KUR *e* 13 00 32.2
KUR pmax pmax
comp=Z,310nm,1.3s
KUR MLR MLR
comp=Z,1μm,18.0s
KUR MLR MLR
comp=N,2μm,15.0s
KUR MLR MLR
comp=E,337nm,18.0s
COCO West Island 69.98 264 PFAKE 13 00 30.0 +17
COCO LR LR
comp=Z,4μm,19.0s
ASAJ Asahikawa 70.09 339 P **P** **13 00 14.3 +0.8**
comp=Z,10nm,0.5s,baz=241,slow=4.3,SNR=41
ASAJ Asahikawa 70.09 339 *e*P **P** **13 00 14.6 +1.2**
comp=Z,14nm,0.7s
SSE Sheshan 70.25 317 P **P** **13 00 14.9 +0.1**
SSE S **S** **13 09 27.3 +3.1**
SSE pmax pmax
comp=Z,32nm,0.7s
SSE pmax pmax
comp=Z,320nm,7.4s
SSE LR LR
comp=Z,290nm,17.9s
SSE LR LR
comp=Z,350nm,18.4s
TJN Taejon 70.35 325*ce*P **P** **13 00 16.6 +1.4**
BKNI Bangkinang 70.50 278 P **P** **13 00 14.6 -2.2**
GZH Guangzhou 70.79 306 P **P** **13 00 21.3 +3.1**
GZH sP **pP** **13 00 28.6 -0.7**
GZH PP **PP** **13 02 59.1 +3.5**
GZH S **S** **13 09 37.2 +6.5**
GZH SS **SS** **13 14 07.6 +3.7**
GZH pmax pmax
comp=Z,650nm,5.1s
GZH LR LR
comp=Z,550nm,19.7s
GZH LR LR
comp=Z,770nm,18.9s
KSRS Korea Array 70.85 326 P **P** **13 00 18.1 -0.1**
comp=Z,5.5nm,0.9s,baz=148,slow=6.3,SNR=15
KSAR Wonju Array Be 70.86 326 P **P** **13 00 18.1 -0.2**
KSAR Wonju Array Be 70.86 326 P **P** **13 00 18.2 -0.2**
KS01 Wonju Array Si 70.89 326 *e*P **P** **13 00 17.8 -0.7**
QIZ Qiongzhong 71.31 300 P P 13 00 11.4 -10
QIZ PP **PP** **13 03 00.8 +0.6**
QIZ S **S** **13 09 38.0 +1.0**
QIZ Qiongzhong 71.31 300 SS SS 13 14 18.1 +6.0
QIZ Qiongzhong 71.31 300 PFAKE 13 00 30.0 +8.5
QIZ LR LR
comp=Z,587nm,20.0s
INCN Inchon 71.56 325 PFAKE 13 00 30.0 +7.4
INCN LR LR
comp=Z,700nm,20.0s
IPM Ipoh 72.18 282 *e*P **P** **13 00 26.0 -0.9**
comp=Z,62nm,1.7s
IPM LR LR
comp=Z,2μm,19.0s
NJ2 Nanjing 72.38 316 *e*P **P** **13 00 29.0 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
YSS Yuzh-Sakhalins 72.58 341 *e*P **P** **13 00 29.5 +1.1**
comp=Z,42nm,0.8s
YSS LR LR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 72.58 341⇑ *e*P **P** **13 00 28.8 +0.4**
YSS *e**SP **pP** **13 00 36.6 -3.0**
YSS *e* 13 00 50.0
YSS *e*S **S** **13 09 53.5 +3.1**
YSS *e* 13 10 18.4
YSS pmax pmax
comp=Z,50nm,0.8s
YSS pmax pmax
comp=Z,200nm,4.0s
YSS smax smax
comp=N,400nm,14.0s
YSS MLR MLR
comp=E,400nm,15.0s
RPN Rapa Nui 72.59 113 LR LR 13 25 03.4
comp=E,1μm,19.8s,baz=250,slow=30
KULM Kulim 72.85 283 *e*P **P** **13 00 31.3 +0.5**
comp=E,17nm,1.0s
KULM LR LR
comp=Z,2μm,18.0s
TEY Ternei 73.00 336 *e*P **P** **13 00 31.0 0.0**
SKR Severo-Kuril's 73.07 351 *e*P P 13 00 36.8 +5.6
SKR MLR MLR
comp=Z,900nm,15.0s
SKR MLR MLR
comp=Z,1μm,15.0s
PSI Prapat 73.42 280 LR LR 13 33 07.7
comp=Z,2μm,21.9s,baz=124,slow=36
PSI Prapat 73.42 280 PFAKE 13 00 50.0 +16
PSI LR LR
comp=Z,3μm,18.0s
GSI Gunungsitoli 74.07 278 *e*P **P** **13 00 38.2 +0.1**
comp=Z,36nm,1.0s
USRK Ussuriysk Ar. 74.17 333 P **P** **13 00 38.6 +0.7**
comp=Z,16nm,0.9s,baz=146,slow=4.2,SNR=24
USRK LR LR 13 32 41.4
comp=Z,619nm,19.2s,baz=143,slow=35
WHN Wuhan 74.43 312⇓ P **P** **13 00 42.0 +2.3**
WHN S **S** **13 10 14.4 +2.3**
WHN LR LR
comp=Z,2μm,22.3s
TRTT Trang 74.77 285 P P 13 00 48.9 +6.8
PET Petropavlovsk 75.03 353 *e*P **P** **13 00 43.1 +0.5**
comp=Z,41nm,1.3s
PET LR LR
comp=Z,2μm,21.0s
PET Petropavlovsk 75.03 353 *e*P **P** **13 00 43.7 +1.0**
PET *e*S **S** **13 10 17.2 -0.6**
PET *e*PS **PnS** **13 10 53.2 -3.6**
PET *e*PPS PPS 13 11 05.2
PET pmax pmax
comp=Z,600nm,13.9s
PET pmax pmax
comp=Z,300nm,13.9s
SKNT Sakolnakorn 75.11 295 P **P** **13 00 43.5 -0.5**
comp=Z,16nm,0.9s
PEA0B Petropavlovsk- 75.23 352 *e*P **P** **13 00 44.0 +0.2**
comp=Z,100nm,1.4s
PEA0B LR LR
comp=Z,2μm,20.0s
PETK Petropavlovsk- 75.23 352 P **P** **13 00 44.0 +0.2**
comp=Z,14nm,0.7s,baz=128,slow=4.8,SNR=17
PETK LR LR 13 31 23.8
comp=Z,2μm,19.1s,baz=159,slow=34
PETK Petropavlovsk- 75.23 352 *e*P **P** **13 00 44.6 +0.8**
PETK Petropavlovsk- 75.23 352 P **P** **13 00 44.0 +0.2**
PETK pmax pmax
comp=Z,15nm,0.7s
DL2 Dalian 75.32 323⇑ *i*P **P** **13 00 44.0 -0.7**
DL2 S **S** **13 10 22.9 +1.3**
DL2 pmax pmax
comp=Z,47nm,1.3s
DL2 pmax pmax
comp=Z,2μm,8.9s
DL2 LR LR
comp=Z,2μm,16.1s
DL2 LR LR
comp=Z,2μm,10.6s
DL2 LR LR
comp=Z,850nm,27.0s
MDJ Mudanjiang 75.55 332 P **P** **13 00 45.0 -0.9**
MDJ pP pP 13 00 50.3 -6.8
MDJ sP PcP 13 00 52.3 -6.4
MDJ PP **PP** **13 03 32.9 -2.9**
MDJ S **S** **13 10 27.3 +3.3**
MDJ pmax pmax
comp=Z,43nm,1.0s
MDJ pmax pmax
comp=Z,150nm,5.9s
MDJ LR LR
comp=Z,790nm,22.3s
MDJ LR LR
comp=Z,530nm,21.6s
MDJ LR LR
comp=Z,1μm,20.4s
MDJ Mudanjiang 75.55 332 *e*P **P** **13 00 46.6 +0.7**
comp=Z,36nm,1.0s
MDJ LR LR
comp=Z,909nm,21.0s
KHON Khomkaen 75.79 294 P **P** **13 00 49.5 +1.6**
comp=Z,12nm,1.0s,comp=Z,325nm
TYV Tymovskoe 76.12 343 *e*P **P** **13 00 49.4 +0.5**
TYV *e* 13 10 35.1
TYV pmax pmax
comp=Z,33nm,1.1s
TYV pmax pmax
comp=Z,600nm,7.4s
TIA Tai'an 76.16 318 P **P** **13 00 49.7 +0.1**
TIA S **S** **13 10 38.2 +7.1**
TIA pmax pmax
comp=Z,22nm,1.6s
TIA pmax pmax
comp=Z,630nm,8.2s
TIA LR LR
comp=Z,590nm,19.8s
TIA LR LR
comp=Z,330nm,18.8s
TIA LR LR
comp=Z,760nm,22.8s
CHAI Chaiyaphum 76.30 293 P **P** **13 00 51.9 +1.1**
comp=Z,4.0nm,1.0s
MAW Mawson 76.40 202 LR LR 13 31 18.6
comp=Z,2μm,19.1s,baz=98,slow=33
MAW Mawson 76.40 202 PFAKE 13 01 00.0 +10
MAW LR LR
comp=Z,400nm,19.0s
CN2 Changchun 76.85 329 *e*P **P** **13 00 53.0 -0.3**
CN2 *e*S **S** **13 10 39.0 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,600nm,20.0s
CN2 LR LR
comp=Z,600nm,20.0s
PHET Kaeng Krachan 77.00 290 P P 13 01 01.1 +6.3
comp=Z,6.6nm,1.1s
ENH Enshi 77.68 310 *e*P **P** **13 00 58.6 +0.3**
comp=Z,83nm,1.4s
ENH LR LR
comp=Z,645nm,20.0s
GYA Guiyang 77.70 305⇑ *i*P **P** **13 00 58.9 +0.3**
GYA PP **PP** **13 03 58.4 +3.9**
GYA S **S** **13 10 51.0 +2.4**
GYA SKS **SKSac** **13 11 08.4 -1.5**
GYA SS **SS** **13 15 54.7 +5.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,6.2s
GYA LR LR
comp=Z,720nm,19.7s
GYA LR LR
comp=Z,690nm,20.1s
GYA LR LR
comp=Z,610nm,20.4s
UNV Unalaska Valle 77.94 14 *e*P **P** **13 00 59.1 0.0**
comp=Z,211nm,2.0s
UNV LR LR
comp=Z,2μm,20.0s
GRNR Gornyy 77.94 339 *e*P **P** **13 01 00.8 +1.6**
GRNR pmax pmax
comp=N,46nm,1.0s
GRNR pmax pmax
comp=E,42nm,1.0s
GRNR pmax pmax
comp=Z,150nm,1.0s
SRDT SRDT 78.07 291 P **P** **13 01 02.0 +1.3**
comp=Z,54nm,0.9s
PHIT Phitsanulok 78.23 294 P **P** **13 01 03.5 +1.9**
comp=Z,21nm,1.1s,comp=Z,192nm
KLR Kul'dur 78.33 336 P **P** **13 01 02.0 +0.6**
comp=Z,1.9nm,0.8s,baz=128,slow=4.0,SNR=74
KLR LR LR 13 31 28.2
comp=Z,101nm,21.8s,baz=160,slow=32
KLR Kul'dur 78.33 336*c* *i*P **P** **13 01 01.8 +0.4**
AKUT Akutan 78.37 14 *e*P **P** **13 01 00.9 -0.6**
comp=Z,98nm,1.2s
NKL Nikolayevsk 78.71 343 *i* P **P** **13 01 03.7 +0.3**
NKL *e* 13 11 00.5
NKL pmax pmax
comp=N,21nm,0.9s
NKL pmax pmax
comp=Z,80nm,0.9s
NKL pmax pmax
comp=N,400nm,10.0s
NKL pmax pmax
comp=Z,700nm,10.0s
PHRA Phrae 78.98 295 P **P** **13 01 07.2 +1.5**
comp=Z,214nm,1.4s,comp=Z,5μm
BJT Baijiatuau 79.19 321 PFAKE 13 01 20.0 +14
BJT LR LR
comp=Z,1μm,20.0s
BJI Beijing 79.20 321 P **P** **13 01 06.2 -0.2**
BJI S **S** **13 11 01.6 -2.2**
BJI pmax pmax
comp=Z,25nm,2.4s
BJI pmax pmax
comp=Z,1μm,8.6s
BJI LR LR
comp=Z,1μm,27.8s
BJI LR LR
comp=Z,960nm,19.0s
BJI LR LR
comp=Z,1μm,22.2s
LAMP Lampang 79.50 295 P **P** **13 01 10.7 +2.2**
comp=Z,10nm,1.0s,comp=Z,107nm
CM01 Chiang Mai Arr 80.02 294 *e*P **P** **13 01 12.9 +1.5**
TIY Taiyuan 80.03 317 *e*P **P** **13 01 13.5 +2.4**
TIY S **S** **13 11 11.3 -1.5**
TIY pmax pmax
comp=Z,610nm,5.8s
TIY LR LR
comp=Z,210nm,13.8s
TIY LR LR
comp=Z,430nm,14.3s
TIY LR LR
comp=Z,1μm,21.6s
CM31 Chiang Mai Arr 80.05 294 *e*P **P** **13 01 12.9 +1.4**
CMAR Chiang Mai Arr 80.05 294 P **P** **13 01 13.1 +1.5**
comp=Z,7.7nm,0.9s,baz=134,slow=4.1,SNR=38
CMAR PKKP **PKKPbc** **13 19 56.0 -0.1**
comp=Z,0.2nm,0.4s,baz=310,slow=3.9,SNR=4.4
CMAR LR LR 13 38 21.7
comp=Z,186nm,19.8s,baz=195,slow=37
KMI Kunming 80.07 302 P **P** **13 01 13.0 +1.2**
KMI pP PcP 13 01 18.6 -0.5
KMI sP pP 13 01 21.2 -1.9
KMI S **S** **13 11 16.3 +2.2**
KMI SS **SS** **13 16 27.9 +2.6**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI pmax pmax
comp=Z,550nm,7.0s
KMI LR LR
comp=Z,530nm,18.7s
KMI LR LR
comp=Z,530nm,23.5s
KMI LR LR
comp=Z,760nm,20.7s
XAN Xi'an 80.20 313 P **P** **13 01 12.5 +0.4**
XAN S **S** **13 11 19.6 +4.9**
XAN pmax pmax
comp=Z,18nm,1.1s
XAN pmax pmax
comp=Z,410nm,4.3s
XAN LR LR
comp=Z,420nm,17.3s
XAN LR LR
comp=Z,390nm,20.1s
XAN LR LR
comp=Z,1μm,20.2s
CMMT Chiang Mai 80.20 295 P **P** **13 01 12.6 +0.2**
comp=Z,26nm,1.1s,comp=Z,801nm
CHTO Chiang Mai 80.21 295 P **P** **13 01 13.7 +1.3**
comp=Z,115nm,1.3s,comp=Z,3μm
CHTO Chiang Mai 80.21 295 *e*P **P** **13 01 13.7 +1.3**
comp=Z,61nm,1.5s
CHTO LR LR
comp=Z,648nm,20.0s
CHTO Chiang Mai 80.21 295 *e*P **P** **13 01 13.7 +1.3**
CHTO pmax pmax
comp=Z,61nm,1.5s
CHTO MLR MLR
comp=Z,648nm,20.0s
CMAI Chiengmai2 80.63 296 P P 13 01 19.8 +5.0
comp=Z,399nm,1.6s
CHGN Chignik 82.18 17 PFAKE 13 01 30.0 +8.1
CHGN LR LR
comp=Z,2μm,21.0s
CD2 Chengdu 82.19 308 *e*P **P** **13 01 23.0 +0.3**
CD2 pP PcP 13 01 27.4 -0.6
CD2 sP pP 13 01 28.6 -5.4
CD2 PP **PP** **13 04 31.9 +0.2**
CD2 S **S** **13 11 38.5 +2.9**
CD2 SKS **SKKSac** **13 11 43.7 -0.6**
CD2 SS **SS** **13 17 00.3 +3.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,970nm,6.0s
CD2 LR LR

comp=Z,780nm,17.9s
CD2 LR LR
comp=Z,1μm,17.9s
CD2 LR LR
comp=Z,930nm,20.4s
HHC Hu-ho-hao-te 82.46 319 *e*P **P 13 01 24.2 +0.2**
HHC sP pP 13 01 36.1 +0.8
HHC S **S 13 11 42.6 +4.6**
HHC sS SKKSac 13 11 46.8 +0.9
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,670nm,8.9s
HHC LR LR
comp=Z,350nm,18.6s
HHC LR LR
comp=Z,590nm,17.7s
HHC LR LR
comp=Z,810nm,19.0s
MA2 Magadan 82.47 350 P **P 13 01 22.8 -0.6**
comp=Z,3.7nm,0.7s,baz=123,slow=6.2,SNR=6.6
MA2 LR LR 13 33 34.6
comp=Z,2μm,21.5s,baz=166,slow=32
MA2 Magadan 82.47 350 *ce*P **P 13 01 21.7 -1.7**
SYO Syowa Base 82.76 196 *‖e*X **P 13 01 21.7 -3.3**
SYO Syowa Base 82.76 196 *‖e*PcP **PcP 13 01 32.8 +3.0**
HIA Hailar 83.52 330 PFAKE 13 01 40.0 +11
HIA LR LR
comp=Z,785nm,19.0s
ZEA Zeya 83.63 336 *e*P **P 13 01 29.6 +0.1**
ZEA *e*S **S 13 11 53.0 +4.0**
ZEA *i* 13 17 23.0
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,71nm,1.2s
ZEA pmax pmax
comp=Z,700nm,9.0s
ZEA smax smax
comp=N,500nm,15.0s
OHAK Old Harbor 84.45 19 *e*P **P 13 01 34.4 +0.8**
comp=N,266nm,2.0s
OHAK LR LR
comp=Z,2μm,19.0s
LZH Lanzhou 84.80 312 *e*P **P 13 01 38.5 +2.3**
LZH pP PcP 13 01 42.7 +3.2
LZH sP pP 13 01 45.4 -2.1
LZH PP **PP 13 04 58.3 +5.2**
LZH *e*S **S 13 12 03.0 +1.0**
LZH sS ScS 13 12 09.4 -3.5
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,690nm,4.6s
LZH LR LR
comp=Z,1μm,15.0s
LZH LR LR
comp=Z,2μm,16.3s
LZH LR LR
comp=Z,2μm,19.3s
KDAK Kodiak Island 85.13 19 PFAKE 13 01 50.0 +13
KDAK LR LR
comp=Z,3μm,19.0s
SEY Seymchan 85.46 352 P **P 13 01 37.9 -0.7**
comp=Z,5.1nm,0.9s,baz=164,slow=5.3,SNR=14
SEY LR LR 13 38 27.0
comp=Z,2μm,19.0s,baz=159,slow=35
SEY Seymchan 85.46 352 *ce*P **P 13 01 38.2 -0.4**
GAMB Gambell 86.39 8 *e*P **P 13 01 43.4 +0.2**
comp=Z,39nm,1.2s
GAMB LR LR
comp=Z,1μm,20.0s
NVL N'lazarevskaya 86.52 187 *e*P **P 13 01 44.3 +0.4**
NVL *e*S **S 13 12 08.7 -8.8**
NVL *e*SS SS 13 18 10.0 +13
NVL pmax pmax
comp=Z,56nm,1.8s
MCCM Marconi Confer 86.69 47 PFAKE 13 02 00.0 +15
MCCM LR LR
comp=Z,2μm,18.0s
SNAA Sanae 86.75 182 P **P 13 01 44.5 -0.7**
SNAA Sanae 86.75 182 P **P 13 01 44.6 -0.6**
comp=Z,32nm,1.0s,baz=183,slow=5.6,SNR=35
SNAA LR LR 13 37 35.2
comp=Z,2μm,20.7s,baz=172,slow=34
SNAA Sanae 86.75 182 *e*P **P 13 01 44.3 -1.0**
comp=Z,58nm,1.1s
SNAA Sanae 86.75 182 *c i*P **P 13 01 44.2 -1.0**
CLNS Chul'man 86.87 337 *e*P **P 13 01 45.0 -0.7**
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=Z,32nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,1.1s
HOM Homer 86.96 18 PFAKE 13 02 00.0 +14
HOM LR LR
comp=Z,2μm,20.0s
SAO San Andreas Ge 86.98 49 *e*P **P 13 01 48.8 +2.0**
comp=Z,12nm,1.1s
SAO LR LR
comp=Z,2μm,19.0s
SAO San Andreas Ge 86.98 49 *e*P **P 13 01 48.8 +2.0**
SAO pmax pmax
comp=Z,12nm,1.1s
SAO MLR MLR
comp=Z,2μm,19.0s
HOPS Hopland Field 87.00 46 *e*P **P 13 01 48.0 +1.3**
comp=Z,42nm,1.4s
HOPS LR LR
comp=Z,2μm,18.0s
KCPM Cahto Peak 87.02 45 *e*P **P 13 01 48.5 +1.5**
comp=Z,37nm,1.2s
KCPM LR LR
comp=Z,2μm,20.0s
SVW2 Sparrevohn 87.07 16 *e*P **P 13 01 47.0 +0.4**
comp=Z,29nm,1.4s
SVW2 LR LR
comp=Z,2μm,20.0s
GDXM Geysers 87.09 46 PFAKE 13 02 00.0 +13
GDXM LR LR
comp=Z,2μm,20.0s
RDG13 Poverty Ridge 87.11 48 *e*P **P 13 01 48.8 +1.4**
comp=Z,47nm,1.6s
RDG13 LR LR
comp=Z,2μm,19.0s
PMPB Monarch Peak 87.17 49 PFAKE 13 02 00.0 +12
PMPB LR LR
comp=Z,2μm,18.0s
KMRM Mail Ridge 87.21 45 *e*P **P 13 01 50.0 +2.1**
comp=Z,111nm,2.0s
KMRM LR LR
comp=Z,2μm,20.0s
PKM Mcpherson Peak 87.23 51 P **P 13 01 48.8 +0.6**
baz=241
BRLK Bradley Lake 87.27 19 *e*P **P 13 01 49.1 +1.5**
comp=Z,189nm,2.0s
JCC Jacoby Creek, 87.32 44 PFAKE 13 02 00.0 +12
JCC LR LR
comp=Z,2μm,20.0s
PAGB Antelope Grade 87.32 50 *e*P **P 13 01 49.1 +0.7**
comp=Z,66nm,1.9s
PAGB LR LR
comp=Z,2μm,18.0s
VNA3 Neumayer Olymp 87.32 180 P **P 13 01 47.2 -0.7**
KHMM Horse Mountain 87.54 44 *e*P **P 13 01 51.1 +1.5**
comp=Z,24nm,1.1s
KHMM LR LR
comp=Z,2μm,18.0s
VNA2 Neumayer--Watz 87.62 181 P **P 13 01 48.9 -0.4**
baz=166,slow=4.3
OSI Osito Audit: C 87.89 51 P **P 13 01 51.8 +0.5**
baz=242
OSI Osito Audit: C 87.89 51 *e*P **P 13 01 52.6 +1.4**
comp=Z,38nm,1.5s
OSI LR LR
comp=Z,1μm,19.0s
VNA1 Neumayer--Stat 87.91 181 P **P 13 01 50.4 -0.2**
SEW Seward 87.97 19 PFAKE 13 02 00.0 +9.1
SEW LR LR
comp=Z,2μm,20.0s
ARVC Arvin 88.05 51 P **P 13 01 52.3 +0.4**
baz=242
WDC Whiskeytown Da 88.16 45 *e*P **P 13 01 54.3 +2.0**
comp=Z,25nm,1.4s
WDC LR LR
comp=Z,2μm,20.0s
WDC Whiskeytown Da 88.16 45 *e*P **P 13 01 54.3 +2.0**
WDC pmax pmax
comp=Z,25nm,1.4s
WDC MLR MLR
comp=Z,2μm,20.0s
MWC Mount Wilson 88.19 52 *e*P **P 13 01 54.6 +1.8**
comp=Z,23nm,1.3s
MWC LR LR
comp=Z,1μm,21.0s
MWC Mount Wilson 88.19 52 *e*P **P 13 01 54.6 +1.8**
MWC pmax pmax
comp=Z,23nm,1.3s
MWC MLR MLR
comp=Z,1μm,21.0s
VES Vestal, Richgr 88.20 50 P **P 13 01 53.1 +0.5**
baz=242,SNR=6.3
N02D Trinity Center 88.26 44 P **P 13 01 53.4 +0.5**
baz=239,SNR=11
L02D Cave Junction, 88.29 43 P **P 13 01 53.7 +0.7**
baz=239
ORV Oroville 88.33 46 *e*P **P 13 01 53.4 +0.2**
comp=Z,61nm,2.0s
ORV LR LR
comp=Z,1μm,19.0s
ORV Oroville 88.33 46 *e*P **P 13 01 53.4 +0.2**
ORV pmax pmax
comp=Z,61nm,2.0s
ORV MLR MLR
comp=Z,1μm,19.0s
CMB Columbia Colle 88.34 48 *e*P **P 13 01 53.4 +0.1**
comp=Z,28nm,1.6s
CMB LR LR
comp=Z,2μm,20.0s
CMB Columbia Colle 88.34 48 *e*P **P 13 01 53.4 +0.1**
CMB pmax pmax
comp=Z,28nm,1.6s
CMB MLR MLR
comp=Z,2μm,20.0s
M02C Callahan 88.37 44 P **P 13 01 53.9 +0.5**
baz=239,SNR=9.3
AFDM Forest Hills D 88.39 47 *e*P **P 13 01 54.1 +0.6**
comp=Z,48nm,1.9s
AFDM LR LR
comp=Z,1μm,20.0s
BFSC Mount Baldy Ra 88.49 52 P **P 13 01 54.6 +0.4**
baz=243,SNR=6.5
O03D Paynes Creek 88.50 45 P **P 13 01 54.7 +0.7**
baz=240,SNR=16
MURC Murrieta 88.54 53 P **P 13 01 54.7 +0.4**
baz=243
EDW2 Edwards Air Fo 88.54 52 P **P 13 01 54.7 +0.3**
baz=242,SNR=7.3
ISA Isabella, Lake 88.56 51 P **P 13 01 55.0 +0.5**
baz=242,SNR=17
ISA Isabella, Lake 88.56 51 *e*P **P 13 01 55.7 +1.3**
comp=Z,44nm,1.6s
ISA LR LR
comp=Z,1μm,20.0s
ISA Isabella, Lake 88.56 51 *e*P **P 13 01 55.7 +1.3**
ISA pmax pmax
comp=Z,44nm,1.6s
ISA MLR MLR
comp=Z,1μm,20.0s
YBH Yreka Blue Hor 88.64 44 P **P 13 01 55.1 +0.4**
comp=Z,5.9nm,1.1s,baz=293,slow=3.2,SNR=8.3
YBH LR LR 13 32 58.2
comp=Z,1μm,21.6s,baz=259,slow=30
YBH Yreka Blue Hor 88.64 44 *e*P **P 13 01 54.4 -0.3**
comp=Z,26nm,1.4s
YBH Yreka Blue Hor 88.64 44 *e*P **P 13 01 54.4 -0.3**
YBH pmax pmax
comp=Z,26nm,1.4s
RC01 Rabbit Creek A 88.67 18 *e*P **P 13 01 54.6 +0.4**
comp=Z,106nm,2.0s
SUA Susitna One 88.69 18 *e*P **P 13 01 55.5 +1.1**
comp=Z,33nm,1.5s
SUA LR LR
comp=Z,2μm,19.0s
MONP2 Monument Peak 88.80 54 P **P 13 01 56.0 +0.2**
baz=243
IKP In-Ko-Pah, Jac 88.92 54 P **P 13 01 56.5 +0.3**
baz=244
HUMO Hull Mountain 88.93 43 *e*P **P 13 01 56.8 +0.8**
comp=Z,83nm,2.0s
HUMO LR LR
comp=Z,2μm,20.0s
RUBR Rubicon Trail 89.00 47 *e*P **P 13 01 58.0 +1.4**
comp=Z,44nm,1.5s
RUBR LR LR
comp=Z,1μm,21.0s
SHL Shillong 89.02 298 *‖i*P **P 13 01 55.0 -2.0**
BBRC Big Bear Solar 89.04 52 P **P 13 01 57.1 +0.2**
baz=243
LRMC Laurel Mtn Rad 89.04 51 P **P 13 01 57.1 +0.3**
baz=243,SNR=8.7
MDPB Devils Postpil 89.06 49 *e*P **P 13 01 58.4 +1.5**
comp=Z,33nm,1.4s
MDPB LR LR
comp=Z,2μm,20.0s
PFO Pinyon Flats O 89.09 53 P **P 13 01 57.2 +0.2**
baz=243
PFO Pinon Flats O 89.09 53 *e*P **P 13 01 58.2 +1.1**
comp=Z,18nm,1.5s
PFO LR LR
comp=Z,2μm,22.0s
PFO Pinyon Flats O 89.09 53 *e*P **P 13 01 58.2 +1.1**
PFO pmax pmax
comp=Z,18nm,1.5s
PFO MLR MLR
comp=Z,2μm,22.0s
XPFO Piæon Flat 89.09 53 *e*P **P 13 01 58.1 +1.1**
comp=Z,19nm,1.5s
XPFO LR LR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 89.17 323 *e*P **P 13 01 57.2 +0.1**
comp=Z,18nm,1.0s
ULN LR LR
comp=Z,746nm,19.0s
ULN Ulaanbaatar 89.17 323 *ce*P **P 13 01 57.2 +0.1**
ULN pmax pmax
comp=Z,33nm,1.7s
CWC Cottonwood Cre 89.20 50 P **P 13 01 57.7 +0.2**
baz=242
WAKR Walker 89.22 48 *e*P **P 13 01 58.2 +0.5**
comp=Z,39nm,1.4s
WAKR LR LR
comp=Z,2μm,21.0s
GO09 Cerro Castillo 89.23 146 *e*P **P 13 01 58.8 +1.4**
comp=Z,84nm,1.3s
M04C Macdoel 89.23 44 P **P 13 01 58.0 +0.5**
baz=240
GTA Gaotai 89.23 313 P **P 13 01 57.8 +0.2**
GTA pP pP 13 02 08.2 -0.8
GTA sP sP 13 02 12.2 -0.9
GTA SKS **SKSac 13 12 27.7 +2.8**
GTA S **S 13 12 42.9 -1.6**
GTA sS sS 13 13 01.5 -1.9
GTA SS **SS 13 18 42.1 +2.3**
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,450nm,7.1s
GTA LR LR
comp=Z,300nm,20.0s
GTA LR LR
comp=Z,540nm,20.0s
GTA LR LR
comp=Z,530nm,20.4s
PMR Palmer 89.25 18 PFAKE 13 02 10.0 +13
PMR LR LR
comp=Z,2μm,20.0s
BEKR Beckworth 89.25 46 *e*P **P 13 01 58.6 +0.9**
comp=Z,40nm,1.6s
BEKR LR LR
comp=Z,2μm,21.0s
SWSC Sam W. Stewart 89.29 54 P **P 13 01 58.3 +0.5**
baz=244
YAK Yakutsk 89.37 342 P **P 13 01 56.9 -0.5**
comp=Z,14nm,0.5s,baz=202,slow=0.7,SNR=8.8
YAK Yakutsk 89.37 342 *e*P **P 13 01 57.3 -0.1**
comp=Z,32nm,0.8s
YAK LR LR
comp=Z,2μm,19.0s
YAK Yakutsk 89.37 342 *e*P **P 13 01 56.2 -1.2**
YAK *e* 13 01 58.7
YAK *e* 13 05 33.1
YAK *e* 13 12 44.4
YAK *e*PS **PnS 13 13 51.0 -2.8**
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,123nm,5.1s
YAK pmax pmax
comp=N,107nm,4.6s
YAK pmax pmax
comp=E,132nm,5.3s
YAK MLR MLR
comp=Z,2μm,19.0s
YAK MLR MLR
comp=N,3μm,22.0s
YAK MLR MLR
comp=E,743nm,22.0s
PNTR Pine Nut 89.39 47 *e*P **P 13 01 59.2 +0.8**
comp=E,38nm,1.5s
VCNR Virginia City 89.46 47 *e*P **P 13 01 59.8 +1.1**
comp=E,9.1nm,1.2s
VCNR LR LR
comp=Z,1μm,21.0s
DAC Darwin (Calif) 89.47 50 *e*P **P 13 01 59.9 +1.0**
comp=Z,34nm,1.8s
DAC LR LR
comp=Z,2μm,20.0s
DAC Darwin (Calif) 89.47 50 *e*P **P 13 01 59.9 +1.0**
DAC pmax pmax
comp=Z,34nm,1.8s
DAC MLR MLR
comp=Z,2μm,20.0s
BILL Bilibino 89.50 359 *c i*P **P 13 01 56.7 -1.2**
BILL pmax pmax
comp=Z,14nm,1.0s
BILL MLR MLR
comp=Z,571nm,19.0s
SONM Songino Array 89.52 323 P **P 13 01 58.6 -0.1**
comp=Z,11nm,1.0s,baz=142,slow=4.6,SNR=57
SONM PKKP **PKKPbc 13 19 34.1 -1.1**
comp=Z,0.7nm,0.9s,baz=258,slow=1.9,SNR=4.3
SONM LR LR 13 44 12.4
comp=Z,343nm,18.0s,baz=124,slow=37
SONA1 Songino Array 89.53 323 *e*P **P 13 01 58.9 +0.1**
YERR Yerington 89.59 47 *e*P **P 13 02 00.1 +0.8**
comp=Z,28nm,1.5s
YERR LR LR
comp=Z,2μm,20.0s
GSC Goldstone, Bar 89.60 52 P **P 13 02 00.2 +0.9**
baz=243
GSC Goldstone, Bar 89.60 52 *e*P **P 13 02 00.8 +1.5**
comp=Z,28nm,1.7s
GSC LR LR
comp=Z,1μm,18.0s
GSC Goldstone, Bar 89.60 52 *e*P **P 13 02 00.8 +1.5**
GSC pmax pmax
comp=Z,28nm,1.7s
GSC MLR MLR
comp=Z,1μm,18.0s
BELC Belle Mtn. Jos 89.61 53 P **P 13 01 60.0 +0.5**
baz=244,SNR=8.1
SML Sawmill 89.66 18 *e*P **P 13 02 00.2 +1.3**
comp=Z,23nm,1.2s
SML Sawmill 89.66 18 *e*P **P 13 02 00.2 +1.3**
SML pmax pmax
comp=Z,23nm,1.2s
SRIG Santa Rosalia 89.66 60 PFAKE 13 02 10.0 +10
SRIG LR LR
comp=Z,2μm,19.0s
HEC Hector,Ludlow 89.73 52 P **P 13 02 00.3 +0.3**
baz=243,SNR=8.7
COR Corvallis 89.74 41 PFAKE 13 02 10.0 +10
COR LR LR
comp=Z,2μm,22.0s
J04D Umpqua Nationa 89.79 43 P **P 13 02 00.8 +0.7**
baz=240
PAHR Pah Rah Range 89.83 47 *e*P **P 13 02 00.8 +0.3**
comp=Z,35nm,1.7s
BC3 Big Chuckawall 89.86 54 P **P 13 02 00.9 +0.3**
baz=244
RYN Ryan 89.91 48 *e*P **P 13 02 01.0 +0.1**
comp=Z,48nm,1.9s
RYN LR LR
comp=Z,2μm,20.0s
CAST Castle Rocks 89.92 16 *e*P **P 13 01 58.8 -1.2**
comp=Z,9.7nm,1.0s
LPIG La Paz 89.94 64 LR LR 13 34 03.6
comp=Z,2μm,19.4s,baz=217,slow=30
GRAC Grapevine Rang 89.97 50 P **P 13 02 01.6 +0.6**
baz=243
NV01 Mina Array Sit 89.97 48 *e*P **P 13 02 01.1 0.0**
NVAR Mina Array Bea 89.97 48 P **P 13 02 00.9 -0.2**
comp=Z,3.8nm,0.8s,baz=228,slow=7.1,SNR=32
NVAR LR LR 13 34 48.4
comp=Z,1μm,20.0s,baz=92,slow=30
SCM Sheep Creek Mo 89.97 19 *e*P **P 13 02 00.6 +0.2**
comp=Z,37nm,1.3s
SCM Sheep Creek Mo 89.97 19 *e*P **P 13 02 00.6 +0.2**
SCM pmax pmax
comp=Z,37nm,1.3s
GLA Glamis 90.07 54 P **P 13 02 02.0 +0.5**
baz=244
GLA Glamis 90.07 54 *e*P **P 13 02 03.0 +1.5**
comp=Z,76nm,1.9s
GLA Glamis 90.07 54 *e*P **P 13 02 03.0 +1.5**
GLA pmax pmax
comp=Z,76nm,1.9s
NV11 Mina Array Sit 90.08 48 *e*P **P 13 02 01.7 +0.1**
comp=Z,1.0nm,1.0s
FURC Furnace Creek, 90.08 51 P **P 13 02 01.8 +0.4**
baz=243
BMRM Bremner River 90.16 20 *e*P **P 13 02 02.3 +1.0**
comp=Z,83nm,1.7s
GMRC Granite Mounta 90.21 52 P **P 13 02 02.5 +0.3**
baz=244
SHOC Shoshone, Teco 90.25 51 P **P 13 02 02.6 +0.3**
baz=243
MOD Modoc Plateau 90.28 44 *e*P **P 13 02 02.6 +0.2**
comp=Z,34nm,1.8s
IRM Iron Mountain 90.31 53 P **P 13 02 03.2 +0.6**
baz=244,SNR=8.8
J05D Fort Rock, OR 90.37 43 P **P 13 02 03.3 +0.5**
baz=240
TRF Thorofare Moun 90.42 17 *e*P **P 13 02 02.0 -0.6**
comp=Z,62nm,2.0s
H04A Detroit Lake 90.47 41 *e*P **P 13 02 03.0 -0.2**
comp=Z,61nm,1.9s
Y12C Blythe 90.60 54 P **P 13 02 04.2 +0.3**
baz=244
Y12C Blythe 90.60 54 *e*P **P 13 02 05.2 +1.3**
comp=Z,10nm,1.0s
E03A Lebam 90.60 39 *e*P **P 13 02 03.2 -0.4**
comp=Z,36nm,1.1s
TPNV Topopah Spring 90.74 50 P **P 13 02 05.0 +0.3**
baz=243,SNR=13
TPNV Topopah Spring 90.74 50 *e*P **P 13 02 04.9 +0.2**
comp=Z,17nm,1.3s
TPNV Topopah Spring 90.74 50 *e*P **P 13 02 04.9 +0.2**
TPNV pmax pmax
comp=Z,17nm,1.3s
RND Reindeer 90.77 17 *e*P **P 13 02 04.4 +0.3**
comp=Z,64nm,1.7s
RND Reindeer 90.77 17 *e*P **P 13 02 04.4 +0.3**
RND pmax pmax
comp=Z,64nm,1.7s
PINE Pine Mountain 90.80 43 *e*P **P 13 02 05.4 +0.6**
comp=Z,21nm,1.2s
I05D Terrebonne, OR 90.82 42 P **P 13 02 05.3 +0.6**
baz=240
NLWA Neilton Lookou 90.87 38 *e*P **P 13 02 06.0 +1.1**
comp=Z,64nm,1.6s
NLWA LR LR
comp=Z,1μm,20.0s
DHY Denali Highway 90.93 18 *e*P **P 13 02 05.5 +0.6**
comp=Z,31nm,1.6s
MCK McKinley 91.01 17 *e*P **P 13 02 06.2 +1.1**
comp=Z,40nm,1.7s
MCK McKinley 91.01 17 *e*P **P 13 02 06.2 +1.1**
MCK pmax pmax
comp=Z,40nm,1.7s
PDMCI Parker Dam,Lak 91.12 53 P **P 13 02 06.9 +0.5**
baz=245
214A Organ Pipe Nat 91.14 56 P **P 13 02 07.0 +0.5**
baz=245

LSA Lhasa 91.31 301 *e*P P 13 02 08.8 +0.9
comp=Z,15nm,1.3s
LSA LR LR
comp=Z,629nm,20.0s
LSA Lhasa 91.31 301 *e*P P 13 02 08.8 +0.9
LSA pmax pmax
comp=Z,15nm,1.3s
LSA MLR MLR
comp=Z,629nm,20.0s
SHPR Sheep Range 91.33 51 *e*P P 13 02 08.3 +0.9
comp=Z,17nm,1.5s
PAX Paxson 91.41 19 *e*P P 13 02 08.6 +1.5
comp=Z,25nm,1.6s
PAX Paxson 91.41 19 *e*P P 13 02 08.6 +1.5
PAX pmax pmax
comp=Z,25nm,1.6s
MLY Manley 91.58 16 *e*P P 13 02 07.7 0.0
comp=Z,38nm,2.0s
WVOR Wild Horse Val 91.63 45 *e*P P 13 02 08.8 +0.2
comp=Z,17nm,1.4s
WVOR LR LR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 91.63 45 *e*P P 13 02 08.8 +0.2
WVOR pmax pmax
comp=Z,17nm,1.4s
WVOR MLR MLR
comp=Z,1μm,20.0s
BMN Battle Mountai 91.64 47 *e*P P 13 02 10.7 +1.9
comp=Z,29nm,1.8s
BMN Battle Mountai 91.64 47 *e*P P 13 02 10.7 +1.9
BMN pmax pmax
comp=Z,29nm,1.8s
IM3 Indian Mountai 91.65 14 *e*P P 13 02 08.2 +0.2
W13A Hualapai Mount 91.66 53 *e*P P 13 02 09.3 +0.2
comp=Z,8.6nm,1.1s
WRAK Wrangell Islan 91.71 28 PFAKE 13 02 20.0 +12
WRAK LR LR
comp=Z,1μm,19.0s
LON Longmire 91.74 40 *e*P P 13 02 09.3 +0.3
comp=Z,17nm,1.5s
LON Longmire 91.74 40 *e*P P 13 02 09.3 +0.3
LON pmax pmax
comp=Z,17nm,1.5s
BOD Bodaibo 91.78 334 *e*P P 13 02 06.5 -2.3
BOD pmax pmax
comp=Z,15nm,1.8s
R11A Troy Canyon, C 91.84 49 P P 13 02 09.8 0.0
baz=244
R11A Troy Canyon, C 91.84 49 *e*P P 13 02 10.0 +0.2
comp=Z,11nm,1.7s
MENT Mentasta 91.91 19 *e*P P 13 02 09.2 -0.2
comp=Z,21nm,1.4s
CCB Clear Creek Bu 92.03 17 *e*P P 13 02 09.3 -0.5
comp=Z,29nm,1.6s
HDA Harding Lake 92.08 17 *e*P P 13 02 10.1 +0.1
comp=Z,89nm,1.8s
J08A Circle Bar Ran 92.17 44 *e*P P 13 02 10.8 -0.2
comp=Z,7.1nm,1.0s
MDM Murphy Dome 92.17 17 *e*P P 13 02 09.5 -1.0
comp=Z,29nm,1.4s
RIDG Independ'e Rid 92.17 18 *e*P P 13 02 10.5 -0.1
comp=Z,37nm,1.5s
COLA College 92.20 17 *e*P P 13 02 09.6 -0.9
comp=Z,24nm,1.3s
COLA LR LR
comp=Z,1μm,20.0s
COLA College 92.20 17 *e*P P 13 02 09.6 -0.9
COLA pmax pmax
comp=Z,24nm,1.3s
COLA MLR MLR
comp=Z,1μm,20.0s
B05A Bryant 92.34 38 P P 13 02 12.4 +0.8
baz=240
IL1 Eielson Array 92.38 17 *e*P P 13 02 10.4 -1.0
ILAR Eielson Array 92.38 17 P P 13 02 09.2 -2.2
comp=Z,1.5nm,0.5s,baz=235,slow=5.3,SNR=30
PKKP **PKKPdf 13 19 26.2 -0.3**
ILAR comp=Z,0.4nm,0.9s,baz=5.4,slow=2.7,SNR=4.2
LR LR 13 43 00.7
comp=Z,1μm,18.0s,baz=234,slow=35
ILB Eielson Array 92.38 17 *e*P P 13 02 10.3 -1.1
HYT Haines Junctio 92.50 23 *e*P P 13 02 11.4 -0.9
ZAK Zakamensk 92.62 324 *e*P P 13 02 12.7 -0.3
ZAK pmax pmax
comp=Z,16nm,1.4s
LTY Liberty 92.67 40 *e*P P 13 02 13.7 +0.4
comp=Z,17nm,1.6s
E07A Sunnyside 92.82 41 *e*P P 13 02 15.0 +1.1
comp=Z,22nm,1.6s
TUC Tucson 92.85 56 P P 13 02 14.7 +0.2
baz=246
TUC Tucson 92.85 56 *e*P P 13 02 15.2 +0.7
comp=Z,14nm,1.5s
TUC LR LR
comp=Z,923nm,20.0s
TUC Tucson 92.85 56 *e*P P 13 02 15.2 +0.7
TUC pmax pmax
comp=Z,14nm,1.5s
TUC MLR MLR
comp=Z,923nm,20.0s
LCMT Little Creek M 92.94 51 *e*P P 13 02 15.9 +1.0
comp=Z,8.2nm,1.3s
CCUT Cedar City 93.08 51 *e*P P 13 02 17.2 +1.6
comp=Z,28nm,1.9s
TLY Talaya 93.10 325 *e*P P 13 02 14.7 -0.4
TLY *e* 13 13 08.9
TLY pmax pmax
comp=Z,19nm,1.5s
PSUT Pine Spring 93.14 50 *e*P P 13 02 18.8 +2.9
comp=Z,11nm,1.6s
TAPN Taplejung 93.16 298 *e*P P 13 02 16.4 +0.1
comp=Z,49nm,1.5s
X16A Lo Mia Camp, P 93.20 54 *e*P P 13 02 17.6 +1.3
comp=Z,7.7nm,1.1s
ODAN Odare 93.23 297 *e*P P 13 02 16.7 +0.1
comp=Z,44nm,1.1s
KNB Kanab 93.25 51 *e*P P 13 02 18.1 +1.8
comp=Z,30nm,1.7s
KNB Kanab 93.25 51 *e*P P 13 02 18.1 +1.8
KNB pmax pmax
comp=Z,30nm,1.7s
E08A Dider Farm, El 93.27 41 *e*P P 13 02 16.4 +0.4
comp=Z,7.1nm,1.1s
SZCU Shurtz Canyon 93.30 51 *e*P P 13 02 16.9 +0.3
comp=Z,18nm,1.7s
U15A North Rim 93.39 52 *e*P P 13 02 17.7 +0.5
comp=Z,18nm,1.4s
COLD Coldfoot 93.48 14 *e*P P 13 02 16.8 +0.3
comp=Z,7.6nm,1.0s
BMO Blue Mountains 93.60 43 *e*P P 13 02 18.7 +1.0
comp=Z,6.5nm,1.4s
BMO LR LR
comp=Z,2μm,19.0s
BMO Blue Mountains 93.60 43 *e*P P 13 02 18.7 +1.0
BMO pmax pmax
comp=Z,7.0nm,1.4s
BMO MLR MLR
comp=Z,2μm,19.0s
WUAZ Wupatki 93.70 53 P P 13 02 18.8 +0.4
baz=246
WUAZ Wupatki 93.70 53 *e*P P 13 02 19.6 +1.1
comp=Z,11nm,1.2s
WUAZ LR LR
comp=Z,1μm,19.0s
RAMN Ramite 93.92 297 *e*P P 13 02 19.8 0.0
comp=Z,40nm,1.5s
EGAK Eagle 94.03 19 *e*P P 13 02 18.9 -0.2
comp=Z,39nm,1.4s
EGAK LR LR
comp=Z,1μm,20.0s
DAWY Dawson 94.08 20 *e*P P 13 02 19.2 -0.2
comp=Z,16nm,1.3s
DGAR Diego Garcia 94.13 260 PFAKE 13 02 30.0 +9.3
DGAR LR LR
comp=Z,2μm,19.0s
F10A Beach Ranch, E 94.16 42 *e*P P 13 02 19.9 -0.3
comp=Z,26nm,1.8s
JIRN Jiri 94.53 298 *e*P P 13 02 22.8 +0.1
comp=Z,25nm,1.0s
DUG Dugway, Tooele 94.57 49 PFAKE 13 02 30.0 +7.7
DUG LR LR
comp=Z,2μm,20.0s
GUN Gumba 94.87 298 *e*P P 13 02 24.3 +0.1
comp=Z,31nm,1.4s
HLID Hailey 94.90 45 P P 13 02 24.0 +0.2
baz=245
HLID Hailey 94.90 45 PFAKE 13 02 40.0 +16
HLID LR LR
comp=Z,2μm,20.0s
PKI Pulchoki 95.14 297 *e*P P 13 02 25.1 -0.3
comp=Z,18nm,0.9s
PKIN Phulchoki 95.15 297 *e*P P 13 02 25.1 -0.3
comp=Z,42nm,1.4s
NEW Newport 95.26 40 PFAKE 13 02 40.0 +15
NEW LR LR
comp=Z,1μm,19.0s
DMN Daman 95.40 297 *e*P P 13 02 26.6 +0.1
comp=Z,23nm,0.9s
EFI East Falkland 95.77 152 PFAKE 13 02 40.0 +13
EFI LR LR
comp=Z,1μm,20.0s
HWUT Hardware Ranch 96.01 48 PFAKE 13 02 40.0 +11
HWUT LR LR
comp=Z,1μm,20.0s
PLCA Paso Flores 96.32 138 P P 13 02 29.4 -0.9
comp=Z,3.8nm,0.9s,baz=195,slow=3.1,SNR=4.5
PLCA LR LR 13 36 17.9
comp=Z,625nm,21.9s,baz=262,slow=29
MVCO Mesa Verde 96.49 53 PFAKE 13 02 40.0 +8.7
MVCO LR LR
comp=Z,1μm,19.0s
AHID Auburn Hatcher 96.79 47 PFAKE 13 02 40.0 +7.6
AHID LR LR
comp=Z,1μm,21.0s
MNTX Cornudas Mount 96.86 59 PFAKE 13 02 40.0 +7.2
MNTX LR LR
comp=Z,990nm,19.0s
ANMO Albuquerque 97.19 55 PFAKE 13 02 50.0 +15
ANMO LR LR
comp=Z,767nm,19.0s
ANMO Albuquerque 97.19 55 *i* P **P 13 02 32.9 -1.6**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 97.25 348 P P 13 02 31.0 -2.6
comp=Z,1.2nm,0.3s,baz=56,slow=2.3,SNR=4.4
TIXI Tiksi 97.25 348 P P 13 02 31.0 -2.6
TIXI LR LR
comp=Z,902nm,20.0s
TIXI Tiksi 97.25 348 *ce*P P 13 02 32.1 -1.4
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TXAR Lajitas Array 97.41 62 P Pdif 13 02 35.6 +0.1
comp=Z,0.5nm,1.0s,baz=198,slow=5.7,SNR=2.8
TXAR LR LR 13 39 18.2
comp=Z,2μm,19.2s,baz=0.0,slow=31
HYB Hyderabad 97.46 286 *i* P **P 13 02 34.0 -1.8**
BOZ Bozeman (W) 97.55 44 P Pdif 13 02 36.2 +0.4
baz=247
BOZ Bozeman (W) 97.55 44 PFAKE 13 02 50.0 +14
BOZ LR LR
comp=Z,2μm,21.0s
BW06 Boulder Array 97.83 47 PFAKE 13 02 50.0 +13
BW06 LR LR
comp=Z,912nm,20.0s
PDAR Pinedale Array 97.83 47 P Pdif 13 02 38.0 +0.7
comp=Z,0.5nm,0.9s,baz=191,slow=1.5,SNR=3.9
PDAR LR LR 13 39 50.0
comp=Z,697nm,21.0s,baz=272,slow=31
S22A 4UR Ranch, Cre 97.92 53 P Pdif 13 02 37.8 -0.1
baz=249
LKWY Lake 97.95 45 PFAKE 13 02 50.0 +12
LKWY LR LR
comp=Z,1μm,20.0s
INK Inuvik 98.67 18 P P 13 02 38.6 -1.4
comp=Z,5.2nm,1.1s,baz=229,slow=3.2,SNR=8.3
INK Inuvik 98.67 18 *e*P Pdif 13 02 39.8 -0.2
comp=Z,19nm,1.4s
RLMT Red Lodge 98.91 45 PFAKE 13 02 50.0 +8.1
RLMT LR LR
comp=Z,1μm,20.0s
SDCO Great Sand Dun 98.91 53 PFAKE 13 02 50.0 +7.8
SDCO LR LR
comp=Z,2μm,20.0s
WMQ Urumqi 99.32 313 P **Pdif 13 02 45.1 +1.5**
WMQ pP pP 13 02 50.3 -4.8
WMQ sP sP 13 02 52.6 -6.5
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,160nm,8.7s
WMQ LR LR
comp=Z,460nm,23.9s
WMQ LR LR
comp=Z,1μm,26.3s
WMQ LR LR
comp=Z,1μm,23.9s
ISCO Idaho Springs 99.54 51 PFAKE 13 03 00.0 +15
ISCO LR LR
comp=Z,961nm,20.0s
EGMT Eagleton 99.66 42 PFAKE 13 03 00.0 +15
EGMT LR LR
comp=Z,1μm,20.0s
JCT Junction City 100.95 62 PFAKE 13 03 00.0 +8.8
JCT LR LR
comp=Z,2μm,20.0s
HOPE Hope Point 101.01 165 PFAKE 13 03 00.0 +9.1
HOPE LR LR
comp=Z,778nm,19.0s
LAO LASA Array 101.45 44 PFAKE 13 03 00.0 +7.0
LAO LR LR
comp=Z,2μm,20.0s
KVTX Kingsville 101.61 65 PFAKE 13 03 10.0 +16
KVTX LR LR
comp=Z,1μm,19.0s
OGNE Ogallala 102.50 51 PFAKE 13 03 10.0 +12
OGNE LR LR
comp=Z,855nm,20.0s
YKA Yellowknife Ar 102.56 27 P **Pdif 13 02 56.8 -0.6**
comp=Z,1.0nm,0.9s,baz=254,slow=4.8,SNR=13
YKA PKiKP **PKiKP 13 07 17.9 -0.5**
comp=Z,0.5nm,0.8s,baz=252,slow=1.4,SNR=5.3
LCO Las Campanas 102.88 128 PFAKE 13 03 10.0 +10
LCO LR LR
comp=Z,1μm,22.0s
WMOK Wichita Mounta 103.08 58 PFAKE 13 03 10.0 +9.5
WMOK LR LR
comp=Z,1μm,19.0s
TRQA Tornquist 103.18 140 PFAKE 13 03 10.0 +9.0
TRQA LR LR
comp=Z,943nm,20.0s
CBKS Cedar Bluff 103.55 53 PFAKE 13 03 10.0 +7.5
CBKS LR LR
comp=Z,1μm,21.0s
MK01 Makanchi Array 103.87 315 *e*Pdif **Pdif 13 03 04.6 +0.8**
MK31 Makanchi Array 103.89 315 *e*Pdif **Pdif 13 03 04.7 +0.9**
MK31 Makanchi Array 103.89 315 *e*P **Pdif 13 03 04.7 +0.9**
MKAR Makanchi Array 103.89 315 Pdiff **Pdif 13 03 04.4 +0.6**
comp=Z,0.8nm,0.6s,baz=100,slow=6.3,SNR=9.4
MKAR PKiKP **PP 13 07 21.6 +0.1**
comp=Z,0.9nm,0.8s,baz=108,slow=0.4,SNR=4.4
MKAR PKKP **PKKPbc 13 18 54.4 -1.0**
comp=Z,0.6nm,0.5s,baz=268,slow=3.9,SNR=7.9
ZALV Zalesovo Beam 104.42 323 Pdiff **Pdif 13 03 05.5 -0.4**
comp=Z,0.9nm,0.7s,baz=105,slow=5.4,SNR=4.9
ZALV PKiKP **PKiKP 13 07 22.5 +0.5**
comp=Z,0.3nm,0.3s,baz=143,slow=3.6,SNR=3.5
ZALV Zalesovo Beam 104.42 323 *e*Pdif **Pdif 13 03 06.3 +0.5**
ZALV PKiKP **PKiKP 13 07 22.5 +0.5**
NATX Nacogdoches 105.54 62 PFAKE 13 07 40.0
NATX LR LR
comp=Z,3μm,19.0s
KSU1 Kansas State U 105.97 54 PFAKE 13 07 40.0
KSU1 LR LR
comp=Z,1μm,19.0s
KSH Kashi 106.37 306 *e*Pdif **Pdif 13 03 17.3 +2.2**
KSH PP **PP 13 07 42.6 +2.4**
KSH AMB AMB
comp=Z,220nm,5.5s
KSH LR LR
comp=Z,180nm,11.8s
KSH LR LR
comp=Z,140nm,7.3s
KSH LR LR
comp=Z,270nm,22.0s
FFC Flin Flon 106.37 37 PFAKE 13 07 40.0
FFC LR LR
comp=Z,1μm,21.0s
NNA Nana 106.49 110 PFAKE 13 07 40.0
NNA LR LR
comp=Z,457nm,20.0s
ECSD EROS Data Cent 107.12 49 PFAKE 13 07 40.0
ECSD LR LR
comp=Z,1μm,20.0s
MIAR Mount Ida 107.15 59 PFAKE 13 07 40.0
MIAR LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 107.25 318 PFAKE 13 07 40.0
KURK LR LR
comp=Z,945nm,19.0s
JTS JuntasAbangare 107.74 86 PFAKE 13 07 40.0
JTS LR LR
comp=Z,686nm,19.0s
TEIG Tepich 107.79 75 PFAKE 13 07 40.0
TEIG LR LR
comp=Z,8.0nm,19.0s
AAK Ala-Archa 108.20 309 PFAKE 13 07 40.0
AAK LR LR
comp=Z,601nm,22.0s
AGMN Agassiz Nation 108.64 45 PFAKE 13 07 40.0
AGMN LR LR
comp=Z,2μm,20.0s
ULM Lac du Bonnet 109.02 43 PKiKP **PKiKP 13 07 29.3 -1.4**
comp=Z,1.5nm,0.7s,baz=195,slow=4.6,SNR=3.3
SCIA State Center 109.15 52 PFAKE 13 07 40.0
SCIA LR LR
comp=Z,2μm,19.0s
OTAV Otavalo 110.18 98 PFAKE 13 07 50.0
OTAV LR LR
comp=Z,329nm,21.0s
ABPO Ambohimpanom 110.84 238 PFAKE 13 07 50.0
ABPO LR LR
comp=Z,882nm,19.0s
FCC Fort Churchill 111.38 34 *e*PKPdf **PKiKP 13 07 32.3 -2.6**
FCC Fort Churchill 111.38 34 *e*PKiKP **PKiKP 13 07 32.3 -2.6**
EYMN Ely 111.46 46 PFAKE 13 07 50.0
EYMN LR LR
comp=Z,2μm,22.0s
JFWS Jewell Farm 111.50 51 PFAKE 13 07 50.0
JFWS LR LR
comp=Z,2μm,19.0s
HDIL Hopedale 111.78 54 PFAKE 13 07 50.0
HDIL LR LR
comp=Z,1μm,20.0s
BCIP Isla Barro Col 112.12 89 PFAKE 13 07 50.0
BCIP LR LR
comp=Z,517nm,20.0s
BVAR Borovoye Array 112.67 320 PKiKP **PKiKP 13 07 36.5 -1.1**
comp=Z,1.9nm,0.6s,baz=96,slow=1.4,SNR=7.8
BRVK Borovoye 112.73 320 PFAKE 13 07 50.0
BRVK LR LR
comp=Z,395nm,21.0s
BRVK Borovoye 112.73 320 *c i* PKIKP **PKiKP 13 07 37.9 +0.2**
BRVK pmax pmax
comp=Z,15nm,1.2s
COWI Conover 112.78 48 PFAKE 13 07 50.0
COWI LR LR
comp=Z,1μm,20.0s
GOGA Godfrey 115.11 62 PFAKE 13 08 00.0 +17
GOGA LR LR
comp=Z,3μm,22.0s
GLMI Grayling 115.79 50 PFAKE 13 08 00.0 +16
GLMI LR LR
comp=Z,2μm,20.0s
AAM Ann Arbor 116.23 52 PFAKE 13 08 00.0 +15
AAM LR LR
comp=Z,1μm,20.0s
ACSO Alum Creek Sta 116.50 55 PFAKE 13 08 00.0 +15
ACSO LR LR
comp=Z,932nm,19.0s
MTDJ Mount Denham 116.99 80 PFAKE 13 08 00.0 +13
MTDJ LR LR
comp=Z,696nm,19.0s
RUSC La Rusia 117.27 95 *e*PKPdf **PKPdf 13 07 48.2 0.0**
BLA Blacksburg 118.14 58 PFAKE 13 08 00.0 +11
BLA LR LR
comp=Z,1μm,19.0s
SUR Sutherland 118.63 210 PFAKE 13 08 00.0 +10
SUR LR LR
comp=Z,2μm,20.0s
UOSS Minazif 119.54 287 *e*PKPdf **PKPdf 13 07 51.8 +0.1**
ARU Arti 119.56 323 PKP **PKPdf 13 07 49.9 -0.8**
comp=Z,6.8nm,0.6s,baz=212,slow=0.4,SNR=17
ARU Arti 119.56 323 *e*PKPdf **PKPdf 13 07 49.4 -1.3**
ARU LR LR
comp=Z,826nm,19.0s
ARU Arti 119.56 323 *i* PKIKP **PKPdf 13 07 50.3 -0.4**
ARU 13 09 14.1
ARU 13 15 02.2
ARU SP SP 13 18 58.2 +0.9
ARU PS **PS 13 19 06.9 +4.3**
GTBY Guantanamo Bay 119.64 79 PFAKE 13 08 00.0 +8.1
GTBY LR LR
comp=Z,775nm,20.0s
SAML Samuel 119.70 115 PFAKE 13 08 00.0 +7.7
SAML LR LR
comp=Z,1μm,22.0s
GEYT Alibeck 119.83 302 PKP **PKPdf 13 07 51.5 -0.4**
comp=Z,3.7nm,0.8s,baz=0.0,slow=0.1,SNR=9.3
CNNC Cliffs of the 119.94 61 PFAKE 13 08 00.0 +7.9
CNNC LR LR
comp=Z,3μm,21.0s
SOKR Solikamsk 120.12 327 ⇑ *i* PKIKP **PKPdf 13 07 48.7 -2.9**
SOKR pmax pmax
comp=Z,17nm,0.8s
AKTO Aktyubinsk 120.26 317 PKP **PKPdf 13 07 51.3 -0.9**
comp=Z,3.6nm,0.8s,baz=29,slow=0.8,SNR=17
SDV Santo Domingo 120.59 92 PFAKE 13 08 10.0 +16
SDV LR LR
comp=Z,333nm,19.0s
CBN Corbin Frederi 120.64 58 PFAKE 13 08 10.0 +17
CBN LR LR
comp=Z,1μm,19.0s
MVL Millersville 121.55 56 *e*PKPdf **PKPdf 13 07 53.6 -1.4**
KBS Kingsbay 121.81 355 PFAKE 13 08 10.0 +16
KBS LR LR
comp=Z,561nm,20.0s
BINY Binghamton 121.90 53 PFAKE 13 08 10.0 +14
BINY LR LR
comp=Z,2μm,19.0s
N59A State Game Lan 122.03 55 *e*PKPdf **PKPdf 13 07 55.6 -0.3**
SPA0 Spitsbergen Ar 122.08 354 *e*PKPdf **PKPdf 13 07 55.3 +0.3**
SPITS Spitsbergen Ar 122.08 354 PKP **PKPdf 13 07 54.8 -0.2**
comp=Z,6.4nm,0.8s,baz=2.2,slow=7.5,SNR=9.9
SPB Sao Paulo 122.17 139 PFAKE 13 08 10.0 +13
SPB LR LR
comp=Z,935nm,19.0s
SDDR Presa de Saban 122.91 81 PFAKE 13 08 10.0 +12
SDDR LR LR
comp=Z,1μm,22.0s
ODNJ Ogdensburg 122.92 54 *e*PKPdf **PKPdf 13 07 57.0 -0.6**
LONY Lake Ozonia 122.93 50 PFAKE 13 08 10.0 +12
LONY LR LR
comp=Z,2μm,20.0s
NCB Newcomb 123.20 51 *e*PKPdf **PKPdf 13 07 57.8 -0.3**
GRTK Grand Turk 123.62 78 PFAKE 13 08 10.0 +10
GRTK LR LR
comp=Z,551nm,21.0s
FRNY Flat Rock 123.63 50 *e*PKPdf **PKPdf 13 07 58.4 -0.4**
BRYW Bryant College 125.22 53 *e*PKPdf **PKPdf 13 08 01.6 -0.5**
LVZ Lovozero 126.15 341 PFAKE 13 08 20.0 +17
LVZ LR LR
comp=Z,1μm,21.0s
ILULI Ilulissat 126.43 17 *e*PKPdf **PKPdf 13 08 02.4 -1.1**
ILULI Ilulissat 126.43 17 *e*PKiKP **PKPdf 13 08 02.4 -1.1**
SCHQ Schefferville 126.51 37 PKP **PKPdf 13 08 02.6 -1.5**
comp=Z,8.8nm,1.0s,baz=224,slow=1.4,SNR=4.0
PKME Peaks-Kenny Pk 126.64 49 *e*PKPdf **PKPdf 13 08 04.0 -0.6**
PKME LR LR
comp=Z,2μm,20.0s
SUMG Summit 126.65 10 *e*PKPdf **PKPdf 13 08 03.8 -0.6**
SUMG Summit 126.65 10 *e*PKiKP **PKPdf 13 08 03.8 -0.6**
APA Apatity 126.73 341 ⇓ *i* PKIKP **PKPdf 13 08 02.7 -1.4**
APA pmax pmax
comp=Z,6.0nm,0.9s
APA MLR MLR
comp=Z,1μm,16.0s
KEV Kevo 127.05 345 *e*PKPdf **PKPdf 13 08 04.6 -0.1**
KEV LR LR
comp=Z,1μm,20.0s
KEV Kevo 127.05 345 *e*PKiKP **PKPdf 13 08 04.6 -0.1**
KEV MLR MLR
comp=Z,1μm,20.0s
PQI Presque Isle 127.36 47 *e*PKPpre PKPpre 13 08 04.5
PQI *e*PKPdf **PKPdf 13 08 05.0 -0.9**
SJG San Juan 127.43 83 PFAKE 13 08 20.0 +13
SJG LR LR
comp=Z,428nm,20.0s
LSZ Lusaka 127.45 229 PFAKE 13 08 20.0 +13

LSZ LR LR
comp=Z,2µm,20.0s
ARCES ARCESS Array B 127.57 345 PKP **PKPdf** 13 08 05.2 -0.6
comp=Z,4.0nm,0.5s,baz=65,slow=1.5,SNR=50
ARCES ARCESS Array B 127.57 345 *e*PKPdf **PKPdf** 13 08 05.3 -0.4
ARE0 ARCESS Array S 127.57 345 *e*PKPdf **PKPdf** 13 08 06.2 +0.5
MAK Makhachkala 127.95 308 *i* PKIKP **PKPdf** 13 08 06.9 -0.3
MAK *e* 13 10 11.9
MAK *e*PPP PPP 13 12 50.2
KLMR Klimovskoe 127.97 332 *e*PKIKP **PKPdf** 13 08 03.3 -3.4
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 127.97 332 *e*PKPdf **PKPdf** 13 08 03.3 -3.4
KLMR AMP 13 08 06.7
comp=Z,21nm,1.1s
SFJD Kangerlussuaq 128.01 19 *e*PKPdf **PKPdf** 13 08 06.6 0.0
SFJD LR LR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 128.01 19 *e*PKIKP **PKPdf** 13 08 06.6 0.0
SFJD MLR MLR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 128.50 250 PKP **PKPdf** 13 08 09.4 -0.1
comp=Z,4.2nm,1.0s,baz=3.5,slow=3.7,SNR=6.3
RAYN Ar Rayn 128.88 283 *e*PKPdf **PKPdf** 13 08 10.9 +1.2
RAYN LR LR
comp=Z,639nm,22.0s
GROC Groznyy 129.17 309 *i* PKIKP **PKPdf** 13 08 09.5 0.0
GROC *e* 13 10 15.8
GROC pmax pmax
comp=Z,12nm,0.8s
LMN Caledonia Moun 129.69 48 *e*PKPdf **PKPdf** 13 08 10.7 +0.2
GRGR Grenville 129.98 92 PFAKE 13 08 20.0 +8.1
GRGR LR LR
comp=Z,538nm,20.0s
GNI Garni 130.26 305 PFAKE 13 08 20.0 +8.1
GNI LR LR
comp=Z,609nm,20.0s
VRH Novokhopyorsk 130.32 320 *e*PKIKP **PKPdf** 13 08 11.6 +0.2
VRH pmax pmax
comp=Z,10.0nm,0.8s
BBSR BB Station 130.69 65 PFAKE 13 08 30.0 +17
BBSR LR LR
comp=Z,550nm,20.0s
TSUM Tsumeb 131.15 216 PFAKE 13 08 30.0 +16
TSUM LR LR
comp=Z,2µm,19.0s
KBZ Khabaz 131.19 310 PKP **PKPdf** 13 08 14.3 +1.0
comp=Z,2.3nm,0.8s,baz=123,slow=4.1,SNR=4.2
FDF Fort de France 131.21 89 PFAKE 13 08 30.0 +16
FDF LR LR
comp=Z,643nm,19.0s
KIV Kislovodsk 131.31 310 PFAKE 13 08 30.0 +16
KIV LR LR
comp=Z,550nm,20.0s
KIV Kislovodsk 131.31 310 *i* PKIKP **PKPdf** 13 08 13.7 0.0
KIV *e* 13 10 31.1
KIV *e*SS SS 13 28 05.5 +2.7
KIV pmax pmax
comp=Z,7.0nm,1.1s
ANWB Willy Bob 131.37 85 PFAKE 13 08 30.0 +16
ANWB LR LR
comp=Z,352nm,19.0s
LPSR Galich'ya Gora 131.52 322 *e*PKIKP **PKPdf** 13 08 14.5 +0.8
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 131.85 320 *e*PKIKP **PKPdf** 13 08 13.4 -0.9
VSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 131.85 326 PFAKE 13 08 30.0 +16
OBN LR LR
comp=Z,798nm,21.0s
OBN Obninsk 131.85 326 *i* PKIKP **PKPdf** 13 08 13.6 -0.6
OBN *i* 13 10 33.9
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,772nm,21.0s
FIA1 FINESS Array S 133.06 337 *e*PKPpre PKPpre 13 08 14.4
FIA1 *e*PKPpre PKPpre 13 08 16.5
FIA1 *e*PKPdf **PKiKP** 13 08 17.1 -0.4
FIA1 *e*PKPdf **PKPdf** 13 08 17.8 +1.5
FINES FINESS Array B 133.06 337 PKhKP PKPpre 13 08 06.5
comp=Z,0.4nm,0.5s,baz=95,slow=3.5,SNR=6.1
FINES PKP **PKPdf** 13 08 15.8 -0.5
comp=Z,5.7nm,0.7s,baz=102,slow=4.6,SNR=21
FINES SKPbc **SKPab** 13 11 43.8 +0.6
comp=Z,7.5nm,1.0s,baz=72,slow=6.2,SNR=9.6
SOC Sochi 133.49 310 *i* PKIKP **PKPdf** 13 08 14.5 -3.2
SOC *e* 13 10 43.6
SOC *e*PS **PS** 13 20 54.9 -10
SOC MLR MLR
comp=Z,289nm,16.0s
MBAR Mbarara 134.39 246 PFAKE 13 08 30.0 +9.5
MBAR LR LR
comp=Z,711nm,21.0s
VSU Vasula 134.72 334*c* *i*PKIKP **PKPdf** 13 08 19.0 -0.5
VSU pmax pmax
comp=Z,90nm,2.5s
AKASG Malin Array Be 137.81 323 PKP **PKPdf** 13 08 24.5 -1.0
comp=Z,5.3nm,0.8s,baz=60,slow=2.3,SNR=20
AKASG SKP 13 11 58.3
comp=Z,0.2nm,0.3s,baz=38,slow=2.6,SNR=4.4
AKBB Malin Array Si 137.81 323 *e*PKPdf **PKPdf** 13 08 24.9 -0.6
AKBB Malin Array Si 137.81 323 *e*PKIKP **PKPdf** 13 08 24.9 -0.6
KIEV Kiev 137.82 323 *e*PKPdf **PKPdf** 13 08 26.9 +1.4
KIEV LR LR
comp=Z,744nm,20.0s
KIEV Kiev 137.82 323 *i* PKIKP **PKPdf** 13 08 23.8 -1.7
AK11 Malin Array Si 137.85 323 *e*PKPpre PKPpre 13 08 24.8
AK11 *e*PKPdf **PKPdf** 13 08 25.9 +0.4
NB2 NORSAR Subarra 137.95 345 PKPdf **PKPdf** 13 08 25.8 +0.3
comp=Z,3.2nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 137.95 345 PKP **PKPdf** 13 08 27.1 +1.6
comp=Z,1.6nm,0.6s,baz=312,slow=19,SNR=6.5
HFS Hagfors 138.06 342 PKhKP PKPpre 13 08 14.9
comp=Z,1.9nm,0.8s,baz=144,slow=5.2,SNR=3.8
BRTR Keskin Array B 138.75 306 PKhKP PKPpre 13 08 21.6
comp=Z,2.0nm,1.1s,baz=346,slow=3.0,SNR=2.8
BRTR PKP **PKiKP** 13 08 29.1 -0.8
comp=Z,3.2nm,1.0s,baz=22,slow=4.7,SNR=6.3
BRTR Keskin Array B 138.75 306 PKIKP PKPpre 13 08 21.6
BRTR 13 08 29.2
BRTR pmax pmax
comp=Z,2.0nm,1.1s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
ANTO Ankara 139.36 306 PFAKE 13 08 40.0 +11
ANTO LR LR
comp=Z,486nm,20.0s
BR231 Keskin MP Arra 139.38 306 *e*PKPdf **PKPdf** 13 08 30.5 +1.6
SORM Soroca 139.51 320 ⇑*i*P PKPpre 13 08 22.3
SORM Soroca 139.51 320 PKHKP PKPpre 13 08 22.3
CSS Mathiatis 139.83 299 PFAKE 13 08 40.0 +10
CSS LR LR
comp=Z,237nm,21.0s
CVDA Cernavoda 141.32 315 ⇑*i*P **PKPdf** 13 08 33.0 +0.9
ISP Isparta 141.55 304 PFAKE 13 08 50.0 +17
ISP LR LR
comp=Z,691nm,19.0s
BEL Belsk 141.56 329 *e*PKP **PKPdf** 13 08 32.6 +0.3
BEL Belsk 141.56 329 *e*PKIKP **PKPdf** 13 08 32.6 +0.3
BURAR Bucovina Array 141.61 321 ⇓*i*P **PKPdf** 13 08 29.7 -3.0
BURAR Bucovina Array 141.61 321 PKIKP **PKPdf** 13 08 29.7 -3.0
KWP Kalwaria Pacla 141.93 325 *e*PKPdf **PKPdf** 13 08 33.7 +0.7
KWP Kalwaria Pacla 141.93 325 *e*PKIKP **PKPdf** 13 08 33.7 +0.7
MLR Muntele Rosu 142.18 318 ⇑*i*P **PKPdf** 13 08 31.7 -2.1
MLR Muntele Rosu 142.18 318 *e*PKPdf **PKPdf** 13 08 32.3 -1.5
MLR Muntele Rosu 142.18 318 PKIKP **PKPdf** 13 08 31.7 -2.1
DOPR Dopca 142.31 318 ⇓*i*P **PKPdf** 13 08 31.8 -2.1
ARCR ARCALIA 142.39 321 ⇓*i*P **PKPdf** 13 08 29.9 -4.1
UZH Uzhgorod 142.73 324 *e*PKIKP **PKPdf** 13 08 30.9 -3.6
UZH *e* 13 08 36.5
VOIR 142.76 318 ⇑*i*P PKPpre 13 08 29.8
VOIR 142.76 318 PKHKP PKPpre 13 08 29.8
RCBR Riachuelo 142.77 134 *e*PKPpre PKPpre 13 08 31.0
RCBR LR LR
comp=Z,4µm,21.0s
STHS Stebnicka Huta 142.83 326 *e*PKIKP **PKPdf** 13 08 32.3 -2.4
STHS Stebnicka Huta 142.83 326 *e*PKP **PKPdf** 13 08 32.2 -2.4
CRVS Cervenica-Dubn 143.02 325 *e*PKIKP PKPbc 13 08 32.3 +0.4
CRVS Cervenica-Dubn 143.02 325 *e*PKP PKPbc 13 08 32.3 +0.4
ARR Arges 143.06 318 ⇑*i*P PKPbc 13 08 32.7 +0.5
OJC Ojcow 143.07 328 *e*PKPdf **PKPdf** 13 08 34.1 -1.0
OJC Ojcow 143.07 328 *e*PKIKP **PKPdf** 13 08 34.1 -1.0

NIE Niedzica 143.32 326 *e*PKP **PKPdf** 13 08 35.8 +0.2
NIE Niedzica 143.32 326 *e*PKIKP **PKPdf** 13 08 35.8 +0.2
DRGR 143.50 321 ⇑*i*P PKPbc 13 08 33.2 -0.2
DRGR 143.50 321 PKIKP PKPbc 13 08 33.2 -0.2
LOT Lotru 143.55 319 ⇓*i*P PKPbc 13 08 33.7 +0.1
KECS Kecovo 143.79 325 *e*PKIKP PKPbc 13 08 34.0 0.0
KECS Kecovo 143.79 325 *e*PKP PKPbc 13 08 34.0 0.0
LANS Liptovska Anna 143.91 327 *e*PKIKP **PKPdf** 13 08 37.2 +0.6
LANS Liptovska Anna 143.91 327 *e*PKP **PKPdf** 13 08 37.2 +0.6
OKC Ostrava-Krasne 144.13 328 *e*PKP **PKPdf** 13 08 36.5 -0.4
OKC AMS AMS 14 11 10.0
comp=Z,800nm,20.3s
OKC Ostrava-Krasne 144.13 328 *e*PKIKP **PKPdf** 13 08 36.5 -0.4
OKC MLR MLR
comp=Z,800nm,20.3s
KDZ Kurdzhali 144.13 312 *e*P **PKPdf** 13 08 37.3 +0.1
KSP Ksiaz 144.31 331 *e*PKP PKPbc 13 08 35.8 +0.2
KSP Ksiaz 144.31 331 *e*PKIKP PKPbc 13 08 35.8 +0.2
DRUM Mains of Drumt 144.37 353 *e*P PKPbc 13 08 35.3 -0.2
SIRR Siria 144.40 321 ⇑*i*P PKPbc 13 08 36.6 +0.6
PLD Plovdiv 144.44 313 *e*P **PKPdf** 13 08 37.6 -0.1
PSZ Piszkesteto 144.44 325 ⇑*i*P PKPbc 13 08 36.4 +0.2
PSZ Piszkesteto 144.44 325 *e*PKPdf PKPbc 13 08 36.0 -0.2
PSZ Piszkesteto 144.44 325 *e*PKPdf PKPbc 13 08 36.5 +0.3
PSZ LR LR
comp=Z,1µm,20.0s
PSZ Piszkesteto 144.44 325 PKIKP PKPbc 13 08 36.4 +0.2
MORC Moravsky Berou 144.46 329 ⇑*i*P PKPbc 13 08 36.5 +0.4
MORC Moravsky Berou 144.46 329 *e*PKPdf PKPbc 13 08 36.2 0.0
MORC Moravsky Berou 144.46 329 *e*PKIKP PKPbc 13 08 36.2 +0.1
RZN Rozhen 144.60 312 *e*P PKPbc 13 08 36.8 -0.2
DPC Dobruska-Polom 144.64 330 *e*PKP **PKPab** 13 08 36.4 -0.1
DPC AMS AMS 14 11 50.0
comp=Z,900nm,21.5s
DPC Dobruska-Polom 144.64 330 *e*PKIKP **PKPab** 13 08 36.4 -0.1
DPC MLR MLR
comp=Z,900nm,21.5s
VYHS Vyhne 144.65 326 *e*PKP PKPbc 13 08 36.8 +0.1
HERR Herculane 144.66 319 ⇑*i*P PKPbc 13 08 36.9 0.0
UPC Upice 144.68 331 *e*PKP PKPbc 13 08 36.9 +0.2
UPC AMS AMS 14 14 20.0
comp=Z,1µm,21.9s
UPC Upice 144.68 331 *e*PKIKP PKPbc 13 08 36.9 +0.2
UPC MLR MLR
comp=Z,1µm,21.9s
KARP Karpathos 144.69 301 *e*PKPdf **PKPdf** 13 08 37.9 -0.5
BZS Buzias 144.77 320 ⇑*i*P PKPbc 13 08 37.2 0.0
BZS Buzias 144.77 320 PKIKP PKPbc 13 08 37.2 0.0
MDVR Moldovita 145.15 319 ⇓*i*P **PKPab** 13 08 38.5 -0.1
BUD Budapest 145.18 325 *e*PKPbc **PKPbc** 13 08 38.2 -0.2
BANR Banloc 145.18 320 ⇓*i*P **PKPdf** 13 08 40.0 +1.2
VRAC Vranov 145.24 329 ⇑*i*P **PKPab** 13 08 38.6 -0.1
VRAC Vranov 145.24 329 PKIKP **PKPab** 13 08 38.6 -0.1
VTS Vitosha 145.24 315 ⇑*i*P **PKPdf** 13 08 39.1 -0.2
VTS Vitosha 145.24 315 *e*PKPbc **PKPdf** 13 08 39.3 0.0
VTS Vitosha 145.24 315 PKIKP **PKPdf** 13 08 39.1 -0.2
VTS Vitosha 145.24 315 *e*P **PKPbc** 13 08 38.8 -0.2
VTS Vitosha 145.24 315 P **PKPbc** 13 08 38.1 -0.9
PVCC Panska Ves 145.30 332 *e*PKP **PKPdf** 13 08 38.9 0.0
PVCC Panska Ves 145.30 332 *e*PKIKP **PKPdf** 13 08 38.9 0.0
BRG Berggiesshubel 145.31 333 *i* PKP **PKPbc** 13 08 38.6 -0.1
comp=Z,79nm,0.9s
BRG *i* 13 08 59.0
comp=Z,78nm,1.2s
BRG Berggiesshubel 145.31 333 *i* PKIKP **PKPbc** 13 08 38.6 -0.1
BRG pmax pmax
comp=Z,79nm,0.9s
BRG MLR MLR
comp=N,960nm,19.5s
BRG MLR MLR
comp=E,543nm,21.8s
BRG MLR MLR
comp=Z,1µm,19.8s
MMB Musomiste 145.32 313 *e*P **PKPdf** 13 08 39.6 +0.3
NVR Nevrokopi 145.33 312 P **PKPbc** 13 08 38.5 -0.7
SMOL Smolenice 145.35 327 *e*PKIKP **PKPab** 13 08 39.6 +0.4
SMOL Smolenice 145.35 327 *e*PKP **PKPab** 13 08 39.6 +0.4
CLL Collm 145.37 334 ⇑*i*PKPdf **PKPbc** 13 08 38.6 -0.3
comp=Z,71nm,0.9s
CLL *i* 13 08 40.7
comp=Z,66nm,1.0s
CLL *i* 13 08 42.9
CLL *e*PKPlp 13 08 44.0
comp=Z,600nm,19.5s
CLL *e* 13 09 00.0
CLL *e*PP **PP** 13 11 56.0 -2.5
CLL *e*PSKS 13 22 18.0
CLL *e*PPS PPS 13 24 36.0
CLL *e*SS SS 13 31 00.0 +13
CLL *e* 13 33 18.0
CLL *e*SSS SSS 13 36 03.0
CLL *e*SSSS 13 40 18.0
CLL LmV 14 15 00.0
comp=Z,800nm,20.7s
CLL LmH 14 15 00.0
comp=N,400nm,20.9s
CLL LmH 14 15 00.0
comp=E,400nm,20.0s
CLL LmH 14 15 00.0
comp=Z,800nm,21.6s
CLL Collm 145.37 334 *e*PKPbc **PKPbc** 13 08 38.6 -0.3
CLL Collm 145.37 334 ⇑*i*PKIKP **PKPbc** 13 08 38.6 -0.3
CLL *i* 13 08 40.7
comp=Z,71nm,0.9s
CLL pmax pmax
comp=Z,800nm,20.7s
CLL MLR MLR
comp=Z,1µm,22.8s
GOPC GO Pecny, Ondr 145.65 331 *e*PKIKP **PKPbc** 13 08 39.6 -0.3
GOPC MLR MLR
comp=Z,1µm,22.8s
CSKK Cs˘ˇtkako 145.66 325 *e*PKPbc **PKPab** 13 08 40.1 -0.2
PGBU Glenifferbraes 145.66 354 *e*P **PKPdf** 13 08 38.6 -0.8
PRU Pruhonice 145.71 331 *e*PKP **PKPbc** 13 08 39.7 -0.3
PRU AMS AMS 14 11 40.0
comp=Z,1µm,23.4s
PRU Pruhonice 145.71 331 *e*PKIKP **PKPbc** 13 08 39.7 -0.3
PRU MLR MLR
comp=Z,1µm,23.4s
TREC Trest 145.77 330 *e*PKP **PKPdf** 13 08 39.9 +0.1
TREC AMS AMS 14 09 20.0
comp=Z,1µm,21.9s
TREC Trest 145.77 330 *e*PKIKP **PKPdf** 13 08 39.9 +0.1
TREC MLR MLR
comp=Z,1µm,21.9s
SANT Santorini 145.83 303 ⇑*i*P **PKPdf** 13 08 39.8 -0.5
SANT Santorini 145.83 303 *e*PKPdf **PKPdf** 13 08 39.8 -0.5
SANT LR LR
comp=Z,444nm,20.0s
EKA Eskdalemuir Ar 146.00 353 PKPbc **PKPdf** 13 08 39.9 -0.1
comp=Z,48nm,0.6s,baz=358,slow=2.7,SNR=119
ESK Eskdalemuir 146.02 353 *e*PKPdf **PKPdf** 13 08 39.9 -0.1
ESK Eskdalemuir 146.02 353 *e*PKP2 **PKPdf** 13 08 39.9 -0.1
ESK Eskdalemuir 146.02 353 *e*P **PKPdf** 13 08 38.6 -1.4
KNT Kendrikon 146.07 313 P **PKPdf** 13 08 37.2 -3.4
MORH M¨‡r¨igy, Hung 146.15 323 *e*PKPdf **PKPbc** 13 08 41.3 -0.2
VAY Valandovo 146.22 313 *i* PKP **PKPdf** 13 08 40.8 0.0
BHH Howats Hill 146.24 353 *e*P **PKPdf** 13 08 40.2 -0.2
EDMD Edmundbyers 146.34 351 *e*P **PKPdf** 13 08 40.9 +0.4
SOP Sopron 146.34 327 *e*PKPdf **PKPab** 13 08 42.3 -0.6
NKC Novy Kostel 146.42 334 *e*PKP **PKPbc** 13 08 42.2 0.0
NKC AMS AMS 14 16 10.0
comp=Z,800nm,21.1s
NKC Novy Kostel 146.42 334 *e*PKP2 **PKPbc** 13 08 42.2 0.0
NKC MLR MLR
comp=Z,800nm,21.1s
MOX Moxa 146.44 335 PKP2 **PKPbc** 13 08 42.1 -0.2
CLGH Cloghs, Cushen 146.52 356 *e*P **PKPbc** 13 08 41.5 -0.8
CONA Conrad Observa 146.53 328 *e*PKPab **PKPab** 13 08 43.1 -0.7
comp=Z,94nm,1.3s,SNR=36
PTL Penteli 146.54 307 P **PKPdf** 13 08 39.4 -2.1
DIVS Divibare 146.55 319 *e*PKPdf **PKPdf** 13 08 41.2 -0.2
DIVS *e*PKPbc **PKPab** 13 08 43.3 -0.6
BBO1 Bothel 146.59 353 *e*P **PKPbc** 13 08 41.8 -0.7
GAL1 Galloway 146.62 354 *e*P **PKPdf** 13 08 41.6 +0.6
SKO Skopje 146.69 315 ⇑*i*PKP **PKPbc** 13 08 43.2 -0.1
KESW Keswick, Cumbr 146.72 353 *e*P **PKPbc** 13 08 42.0 -0.9
KHC Kasperske Hory 146.76 331 *e*PKP **PKPdf** 13 08 41.0 -0.5
KHC *ex* x 13 08 43.2
KHC *ex* x 13 09 00.0
KHC AMS AMS 14 12 30.0
comp=Z,1µm,17.1s
KHC Kasperske Hory 146.76 331 *e*PKPdf **PKPdf** 13 08 41.2 -0.3
KHC *e*PKPbc **PKPbc** 13 08 43.7 +0.4
KHC Kasperske Hory 146.76 331 *e*PKIKP **PKPdf** 13 08 41.0 -0.5
KHC *e* 13 08 43.2
KHC MLR MLR
comp=Z,1µm,17.1s
LIT Litokhoron 146.78 311 P **PKPdf** 13 08 40.2 -1.6
GEC2 GERESS Array S 146.91 331 *e*PKPdf **PKPdf** 13 08 41.6 -0.3
GEC2 *e*PKPbc **PKPbc** 13 08 43.9 +0.1
GEC2 GERESS Array S 146.91 331 *e*PKIKP **PKPdf** 13 08 41.6 -0.3
GEC2 *e* 13 08 43.9
GERES GERESS Array B 146.91 331 PKPbc **PKPbc** 13 08 43.3 -0.5
comp=Z,46nm,0.8s,baz=40,slow=2.3,SNR=160
VILL Villia 146.91 307 P **PKPdf** 13 08 41.7 -0.4
GEA0 GERESS Array S 146.92 331 *e*PKPdf **PKPdf** 13 08 40.8 -1.1
GEA0 *e*PKPbc **PKPbc** 13 08 43.9 +0.1
BEHE Becsehely 147.01 325 *e*PKPdf **PKPbc** 13 08 44.1 +0.1
WTSB Winterswijk 147.05 341 *e*PKP **PKPbc** 13 08 43.1 -0.8
comp=Z,73nm,0.8s
KRUS Krusevo 147.09 314 ⇑*i*PKP **PKPbc** 13 08 43.7 -0.8
HPK Haverah Park 147.14 351 *e*P **PKPdf** 13 08 42.5 +0.6
ARSA Arzberg 147.15 327 *e*PKPbc **PKPbc** 13 08 44.2 -0.2
comp=Z,23nm,1.3s,SNR=11
DID Didima 147.19 306 P **PKPdf** 13 08 43.4 +0.8
DID Didima 147.19 306 P **PKPdf** 13 08 43.4 +0.8
IOMK Kirk Michael 147.20 354 *e*P **PKPbc** 13 08 43.2 -1.1
LTK Loutraki 147.22 307 P **PKPbc** 13 08 44.0 -0.9
LTK Loutraki 147.22 307 P **PKPbc** 13 08 44.0 -0.9
IVA Berane 147.25 317 ⇑*i*PKP **PKPbc** 13 08 44.4 -0.5
FNA Florina 147.27 313 PKIKP **PKPdf** 13 08 42.2 -0.5
FNA Florina 147.27 313 P **PKPab** 13 08 45.8 -1.0
AGG Agios Georgios 147.32 309 *e*PKPbc **PKPbc** 13 08 44.7 -0.5
AGG Agios Georgios 147.32 309 *e*PKP2 **PKPbc** 13 08 44.7 -0.5
AGG Agios Georgios 147.32 309 P **PKPbc** 13 08 45.9 +0.7
PLE Pljevlja 147.33 318 ⇑*i*PKP **PKPbc** 13 08 44.5 -0.7
GRFO Grafenberg 147.35 334 *e*PKPbc **PKPbc** 13 08 44.9 +0.1
GRFO Grafenberg 147.35 334 *e*PKP2 **PKPbc** 13 08 44.9 +0.1
PVY Plav 147.35 317 ⇑*i*PKP **PKPbc** 13 08 44.5 -0.8
MOA Molln 147.36 329 *e*PKPbc **PKPbc** 13 08 44.9 -0.1
comp=Z,47nm,1.3s,SNR=17
DSF Desfina 147.41 308 P **PKPbc** 13 08 45.9 +0.4
DSF Desfina 147.41 308 P **PKPbc** 13 08 45.9 +0.4
LMK Market Rasen 147.41 349 *e*P **PKPdf** 13 08 43.1 +0.8
KOME Kolasin 147.50 317 ⇑*i*PKP **PKPbc** 13 08 45.1 -0.5
OHR Ohrid 147.51 314 ⇑*i*PKP **PKPdf** 13 08 41.3 -1.7
NEST Nestorio 147.65 312 P **PKPab** 13 08 47.3 -1.1
LBWR Ladybower, Pea 147.69 351 *e*P **PKPdf** 13 08 44.1 +1.2
KALE Kalithea 147.70 308 P **PKPab** 13 08 47.7 -0.9
KALE Kalithea 147.70 308 P **PKPab** 13 08 47.7 -0.9
GUR Goura 147.71 307 P **PKPab** 13 08 47.8 -0.9
GUR Goura 147.71 307 P **PKPab** 13 08 47.8 -0.9
PERS Pernice 147.77 327 *i* PKPdf **PKPdf** 13 08 42.6 -0.7
PERS *i* PKPbc **PKPbc** 13 08 45.5 -0.7
SOKA Soboth 147.79 327 *e*PKPbc **PKPbc** 13 08 45.6 -0.6
comp=Z,54nm,1.7s,SNR=16
KLV Kalavryta, Ach 147.81 308 P **PKPbc** 13 08 46.7 +0.1
KLV Kalavryta, Ach 147.81 308 P **PKPbc** 13 08 46.7 +0.1
BLY Banja Luka 147.85 322 ⇑*i*P **PKPbc** 13 08 46.9 +0.5
BLY Banja Luka 147.85 322 *e*PKPbc **PKPbc** 13 08 46.8 +0.4
NKY Niksic 147.85 318 *e*PKP **PKPbc** 13 08 45.6 -1.0
PDG Podgorica 147.88 317 ⇑*i*P **PKPbc** 13 08 46.4 -0.1
TTG Podgorica 147.88 317 ⇑*i*PKP **PKPbc** 13 08 46.0 -0.5
TTG Podgorica 147.88 317 *e*PKPbc **PKPbc** 13 08 46.4 -0.1
TTG Podgorica 147.88 317 *e*PKP2 **PKPbc** 13 08 46.4 -0.1
NKME Niksic 147.90 318 ⇑*i*PKP **PKPbc** 13 08 45.9 -0.8
WACR West Acre 147.93 348 *e*P **PKPbc** 13 08 45.4 -0.9
TIR Tirane 148.03 315 ⇑*i*P **PKPdf** 13 08 43.5 -0.3
TIR Tirane 148.03 315 *e*PKPbc **PKPbc** 13 08 46.8 -0.1
TIR LR LR
comp=Z,695nm,19.0s
TIR Tirane 148.03 315 *e*PKP2 **PKPbc** 13 08 46.8 -0.1
TIR MLR MLR
comp=Z,695nm,19.0s
CEME Cevo 148.04 317 ⇑*i*PKP **PKPbc** 13 08 45.9 -1.1
DRME Dracevica, Mon 148.05 317 ⇑*i*PKP **PKPbc** 13 08 46.2 -0.8
BRY Bratogost 148.09 318 ⇑*i*PKP **PKPbc** 13 08 45.9 -1.4
ULC Ulcinj 148.13 316 ⇑*i*PKP **PKPbc** 13 08 46.1 -1.2
OBKA Obir 148.15 327 *e*PKPbc **PKPbc** 13 08 46.4 -0.9
comp=Z,17nm,0.9s,SNR=8.2
DSL Palaion Diasel 148.16 310 P **PKPab** 13 08 49.2 -1.2
BUM Brajici-Budva 148.18 317 ⇑*i*PKP **PKPbc** 13 08 46.5 -0.9
OZLJ Ozalj 148.26 325 P **PKPbc** 13 08 46.9 -0.5
CWF Charnwood Fore 148.27 350 *e*P **PKPdf** 13 08 45.1 +1.3
HCY Herceg Novi 148.36 317 ⇑*i*PKP **PKPbc** 13 08 46.7 -1.1
DSB Dublin 148.36 356 *e*PKPdf **PKPbc** 13 08 46.9 -0.5
HGN Heimansgroeve 148.36 340 *e*PKP **PKPbc** 13 08 47.1 -0.4
comp=Z,127nm,1.4s
FOEL Foel Wylfa 148.40 352 *e*P **PKPdf** 13 08 45.5 +1.4
BEBN Eben Emael 148.41 341 ⇑PKPbc **PKPbc** 13 08 47.1 -0.6
BOJS Bojanci 148.45 325 *i* PKPdf **PKPdf** 13 08 44.3 -0.1
BOJS *i* PKPbc **PKPbc** 13 08 48.0 +0.1
VISS Visnje 148.47 326 *i* PKPdf **PKPdf** 13 08 43.3 -1.1
VISS *i* PKPbc **PKPbc** 13 08 47.6 -0.4
MEM Membach 148.48 340 ⇑PKPbc **PKPbc** 13 08 47.4 -0.4
MYKA Terra Mystica 148.52 328 *e*PKPbc **PKPbc** 13 08 47.4 -0.8
comp=Z,27nm,0.9s,SNR=12
SGD Sagiada 148.57 312 P **PKPbc** 13 08 49.9 +1.5
LKD2 Lefkada island 148.61 310 P **PKPbc** 13 08 49.4 +0.8
HLM1 Long Mynd 148.72 351 *e*P **PKPbc** 13 08 47.2 -1.2
UDBI Udbina 148.78 323 P **PKPbc** 13 08 48.2 -0.7
UCC Uccle 148.80 342 ⇑PKPbc **PKPbc** 13 08 48.2 -0.4
UCC Uccle 148.80 342 *e*PKPbc **PKPbc** 13 08 49.0 +0.4
UCC Uccle 148.80 342 *e*PKP2 **PKPbc** 13 08 49.0 +0.4
JAVS Javornik 148.81 326 *i* PKPbc **PKPbc** 13 08 48.2 -0.8
BCLA Clavier 148.86 341 ⇑PKPbc **PKPbc** 13 08 48.2 -0.6
STU Stuttgart 148.89 335 *e*PKPbc **PKPbc** 13 08 48.8 -0.1
STU Stuttgart 148.89 335 *e*PKP2 **PKPbc** 13 08 48.8 -0.1
ABTA Abfaltersbach 148.99 329 *e*PKPbc **PKPbc** 13 08 48.4 -0.9
comp=Z,45nm,0.8s,SNR=15
WATA Walderalm 148.99 331 *e*PKPbc **PKPbc** 13 08 48.8 -0.7
comp=Z,44nm,0.9s,SNR=26
WTTA Wattenberg 149.02 331 *e*PKPbc **PKPbc** 13 08 49.2 -0.4
comp=Z,69nm,1.6s,SNR=17
SNF Seneffe 149.08 342 ⇑PKPbc **PKPbc** 13 08 49.1 -0.2
TRI Trieste 149.09 326 *e*PKPbc **PKPbc** 13 08 49.0 -0.5
TRI Trieste 149.09 326 *e*PKP2 **PKPbc** 13 08 49.0 -0.5
MOTA Moosalm 149.20 331 *e*PKPbc **PKPbc** 13 08 49.3 -0.7
comp=Z,62nm,0.9s,SNR=35
RETA Reutte 149.24 332 *e*PKPbc **PKPbc** 13 08 49.5 -0.5
comp=Z,19nm,0.7s,SNR=9.5
MCH1 Michaelchurch 149.24 351 *e*P **PKPbc** 13 08 48.9 -0.8
WLF Walferdange 149.25 339 ⇑PKPbc **PKPbc** 13 08 49.6 -0.2
WLF Walferdange 149.25 339 *e*PKPbc **PKPbc** 13 08 50.8 +1.0
WLF LR LR
comp=Z,1µm,21.0s
WLF Walferdange 149.25 339 *e*PKP2 **PKPbc** 13 08 50.8 +1.0
WLF MLR MLR
comp=Z,1µm,21.0s
NVLJ Novalja 149.26 324 P **PKPbc** 13 08 49.2 -0.7
STRD Stroud 149.33 350 *e*P **PKPbc** 13 08 49.1 -0.8
DOU Dourbes 149.36 341 ⇑PKPbc **PKPbc** 13 08 49.6 -0.5
MONM Monmouth 149.37 351 *e*P **PKPbc** 13 08 48.6 -1.4
SWN1 Swindon 149.53 350 *e*P **PKPbc** 13 08 49.6 -0.9
BFO Black Forest 149.58 335 *e*PKPbc **PKPbc** 13 08 50.6 -0.2
BFO LR LR
comp=Z,700nm,21.0s
BFO Black Forest 149.58 335 *e*PKP2 **PKPbc** 13 08 50.6 -0.2
BFO MLR MLR
comp=Z,700nm,21.0s
FETA Feichten 149.61 331 *ep*PKPdf **PKPbc** 13 08 50.8 -0.2
comp=Z,69nm,0.8s,SNR=20
WOL Wolverton 149.62 349 *e*P **PKPbc** 13 08 49.1 -1.5
DAVA Damuels 149.78 332 *ep*PKPdf **PKPbc** 13 08 51.0 -0.4
comp=Z,44nm,0.9s,SNR=20
VAL Valentia 149.80 0 *e*P **PKPdf** 13 08 46.7 +0.4
FUORN Ofenpass-Fuorn 150.12 331 *e*PKPbc **PKPbc** 13 08 52.6 +0.2
MATE Matera 150.44 316 ⇓*i*P **PKPbc** 13 08 51.4 -1.6
TUE Stuetta 150.64 332 *e*PKPbc **PKPbc** 13 08 53.8 +0.2
TUE LR LR
comp=Z,867nm,19.0s
TIP Timpagrande 151.16 313 ⇑*i*P **PKPbc** 13 08 55.1 +0.3
TIP Timpagrande 151.16 313 *e*PKPbc **PKPbc** 13 08 55.1 +0.3
TIP LR LR
comp=Z,593nm,21.0s
TIP Timpagrande 151.16 313 P **PKPbc** 13 08 56.7 +1.8
CUC Castrocucco 151.37 315 *ep*PKPdf **PKPbc** 13 08 53.9 -1.4
CUC LR LR
comp=Z,529nm,22.0s
SENIN Lac Senin/Sane 151.59 334 *e*PKPbc **PKPbc** 13 08 55.5 -0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLC	**Villacollemand**	**151.89**	**328**	*e*pPKPdf	**PKPbc**	**13 08 55.2**	**-1.1**
VLC				LR	LR		
	comp=Z,763nm,20.0s						
CEL	**Celeste**	**152.19**	**312**	PFAKE		13 09 00.0	+2.8
CEL				LR	LR		
	comp=Z,712nm,20.0s						
BNI	**Bardonecchia**	**152.91**	**333**	*e*PKPdf	**PKPdf**	**13 08 53.3**	**+1.8**
BNI				*e*PKPbc	**PKiKP**	**13 08 58.9**	**0.0**
BNI				LR	LR		
	comp=Z,1μm,21.0s						
BNI	**Bardonecchia**	**152.91**	**333**	*e*PKIKP	**PKPdf**	**13 08 53.3**	**+1.8**
BNI				*e*		13 08 58.9	
BNI				MLR	MLR		
	comp=Z,1μm,21.0s						
SSB	**Saint Sauveur**	**153.56**	**336**	*e*PKPbc	**PKPbc**	**13 08 58.9**	**-1.1**
SSB				LR	LR		
	comp=Z,677nm,20.0s						
SSB	**Saint Sauveur**	**153.56**	**336**	*e*PKIKP	**PKPbc**	**13 08 58.9**	**-1.1**
SSB				MLR	MLR		
	comp=Z,677nm,20.0s						
CLTB	**Caltabellotta**	**154.37**	**313**	*e*PKPbc	**PKPbc**	**13 09 03.1**	**+1.1**
CLTB				LR	LR		
	comp=Z,531nm,20.0s						
VSL	**Villasalto**	**155.66**	**321**	PFAKE		13 09 10.0	-12
VSL				LR	LR		
	comp=Z,802nm,20.0s						
MTE	**Manteigas**	**161.22**	**354**	*e*PKPab	**PKPab**	**13 09 46.4**	**+0.9**
MTE				LR	LR		
	comp=Z,1μm,22.0s						
ES19	**SONSECA Array**	**161.27**	**345**	*e*PKPab	**PKPab**	**13 09 45.1**	**-0.8**
ESDC	**Sonseca Array**	**161.31**	**345**	PKPab	**PKPab**	**13 09 45.3**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=4.9,slow=4.1,SNR=6.1						
PAB	**San Pablo**	**161.53**	**346**	PFAKE		13 09 10.0	+7.5
PAB				LR	LR		
	comp=Z,898nm,19.0s						
TAM	**Tamanrasset**	**165.47**	**277**	PFAKE		13 09 20.0	+13
TAM				LR	LR		
	comp=Z,883nm,20.0s						
SACV	**Santiago Islan**	**165.57**	**115**	PFAKE		13 09 20.0	+13
SACV				LR	LR		
	comp=Z,493nm,19.0s						
TOA0	**Torodi Ar. Sit**	**165.89**	**235**	*e*PKPdf	**PKPdf**	**13 09 06.3**	**-0.8**
TOA0				*e*PKPdf	**PKPdf**	**13 09 06.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**165.89**	**235**	PKP	**PKPdf**	**13 09 06.3**	**-0.8**
	comp=Z,6.1nm,1.2s,baz=173,slow=0.4,SNR=13						
TORD				PKPab	**PKPab**	**13 10 07.7**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=121,slow=3.3,SNR=5.9						
RTC	**Rabat Centre**	**167.41**	**347**	PFAKE		13 09 20.0	+12
RTC				LR	LR		
	comp=Z,7μm,20.0s						

IDC 04 12:58:15.4±4.0**, 21°.90S**×**170°.40E, h0**^{km}**, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.4**/42**, mbtmp3.6**/3**, ML3.8**/1**, Error ellipse: s-maj=193.6km s-min=45.8km az=160.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.67**	**267**	Pn	Pn	12 59 13.6	+0.1
	8.2nm,0.3s,baz=151,slow=12,SNR=19						
DZM				Sn	Sn	12 59 55.3	-2.3
	6.7nm,0.3s,baz=148,slow=11,SNR=10						
ASAR	**Alice Springs**	**33.64**	**260**	P	P	13 04 58.6	+0.6
	0.6nm,0.7s,baz=89,slow=8.9,SNR=6.0						
WRA	**Warramunga Arr**	**33.69**	**267**	P	P	13 04 57.5	-0.9
	0.5nm,0.8s,baz=101,slow=8.4,SNR=4.8						
BRTR	**Keskin Array B**	**139.27**	**306**	PKP	PKPdf	13 17 46.3	+1.5
	0.6nm,0.7s,baz=69,slow=4.8,SNR=1.4						
GERES	**GERESS Array B**	**147.33**	**331**	PKPbc	PKPbc	13 17 60.0	-1.1
	0.5nm,0.8s,baz=58,slow=3.3,SNR=4.6						

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*IDC **04** 12:59:40.9±1.3, 22°.34S×170°.60E, h0^{km}, mb3.9/5, mb1 4.1/6, mb1mx3.8/41, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=45.7km s-min=33.6km az=176.0*

*NEIC **04** 12:59:42.6±0.6, 22°.38S×170°.50E, h10^{km}, mb4.7/7, Error ellipse: s-maj=17.8km s-min=13.8km az=197.0*

*ISCJB **04** 12:59:46.1±0.8, 22°.4S±0°.1×170°.30E±0°.09, h33^{km}, mb4.2/12, Error ellipse: s-maj=20.8km s-min=10.0km az=23.0*

ISC 04 12:59:46.7±0.7**, 22°.4S**±0°.2×**170°.39E**±0°.09**, h33**^{km}**, n36, σ0^{s}94**/40**, mb4.4**/12**, 1C, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.67**	**274**	Pn	**Pn**	**13 00 40.7**	**-0.5**
	13nm,0.3s,baz=132,slow=6.3,SNR=5.3						
DZM				Sn	**Sn**	**13 01 23.6**	**+0.1**
	20nm,0.3s,baz=140,slow=8.9,SNR=6.6						
DZM	**Mont Dzumac**	**3.67**	**274**	*e*Pn	**Pn**	**13 00 40.6**	**-0.7**
DZM				*e*Sn	**Sn**	**13 01 23.2**	**-0.2**
DCZ	**Deep Cove**	**23.17**	**186**	*e*P	**P**	**13 04 49.5**	**-0.9**
	32nm,1.4s						
PMG	**Port Moresby**	**25.75**	**296**	*e*P	**P**	**13 05 16.0**	**+1.5**
	19nm,1.1s						
AS31	**Alice Springs**	**33.55**	**261**	*e*P	**P**	**13 06 23.6**	**-0.1**
	0.5nm,0.8s						
ASAR	**Alice Springs**	**33.55**	**261**	P	**P**	**13 06 24.9**	**+1.1**
	1.3nm,0.7s,baz=80,slow=8.9,SNR=8.8						
WRAB	**Tennant Creek**	**33.65**	**267**	*e*P	**P**	**13 06 22.4**	**-2.3**
	19nm,0.8s						
WR1	**Warramunga Arr**	**33.66**	**267**	*e*P	**P**	**13 06 24.4**	**-0.3**
	6.6nm,1.2s						
WRA	**Warramunga Arr**	**33.66**	**267**	P	**P**	**13 06 24.4**	**-0.3**
	0.8nm,0.7s,baz=100,slow=8.3,SNR=6.0						
MTN	**Manton Dam**	**38.50**	**278**	*e*P	**P**	**13 07 06.7**	**+0.6**
	4.1nm,0.6s						
QSPA	**South Pole Qui**	**67.68**	**180**	*e*P	**P**	**13 10 42.0**	**+1.5**
	11nm,1.0s						
CM01	**Chiang Mai Arr**	**80.74**	**294**	*e*P	**P**	**13 11 58.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**80.77**	**294**	P	**P**	**13 11 59.5**	**+2.1**
	0.6nm,0.8s,baz=139,slow=3.1,SNR=3.2						
SNAA	**Sanae**	**86.08**	**182**	P	**P**	**13 12 23.8**	**-0.1**
	2.6nm,0.8s,baz=223,slow=6.6,SNR=4.5						
SNAA	**Sanae**	**86.08**	**182**	*e*P	**P**	**13 12 23.8**	**-0.1**
	5.2nm,1.1s						
VNA3	**Neumayer Olymp**	**86.62**	**180**	P	**P**	**13 12 26.9**	**+0.4**
VNA2	**Neumayer--Watz**	**86.93**	**181**	P	**P**	**13 12 28.5**	**+0.5**
	baz=186,slow=2.8						
SONA0	**Songino Array**	**90.37**	**323**	*e*P	**P**	**13 12 44.3**	**-0.3**
SONM	**Songino Array**	**90.37**	**323**	P	**P**	**13 12 44.3**	**-0.3**
	0.5nm,1.0s,baz=132,slow=2.1,SNR=2.8						
CBYP	**Canovanas**	**127.35**	**84**	*e*PKPdf	**PKPdf**	**13 18 48.7**	**-0.1**
DPC	**Dobruska-Polom**	**145.48**	**330**	*e*PKP	**PKPdf**	**13 19 20.8**	**-0.5**
UPC	**Upice**	**145.51**	**331**	*e*PKP	**PKPdf**	**13 19 20.8**	**-0.5**
BRG	**Berggiesshubel**	**146.15**	**333**	*i* PKP	**PKPdf**	**13 19 22.5**	**+0.2**
	5.6nm,0.8s						
CLL	**Collm**	**146.21**	**334**	⇑*i*PKPbc	**PKPdf**	**13 19 22.5**	**+0.1**
	comp=Z,8.0nm,1.1s						
CLL	**Collm**	**146.21**	**334**	*e*PKPdf	**PKPdf**	**13 19 22.8**	**+0.4**
GOPC	**GO Pecny, Ondr**	**146.49**	**331**	*e*PKP	**PKPbc**	**13 19 24.1**	**-0.3**
PRU	**Pruhonice**	**146.54**	**331**	*e*PKP	**PKPbc**	**13 19 24.0**	**-0.5**
EKA	**Eskdalemuir Ar**	**146.75**	**353**	PKPbc	**PKPdf**	**13 19 23.1**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=4.5,slow=2.4,SNR=4.0						
NKC	**Novy Kostel**	**147.26**	**334**	*e*PKP	**PKPbc**	**13 19 26.0**	**-0.6**
KHC	**Kasperske Hory**	**147.60**	**331**	*e*PKP	**PKPbc**	**13 19 27.0**	**-0.6**
GEC2	**GERESS Array S**	**147.75**	**331**	*e*PKPbc	**PKPbc**	**13 19 27.0**	**-1.1**
GERES	**GERESS Array B**	**147.75**	**331**	PKPbc	**PKPbc**	**13 19 27.0**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=38,slow=5.0,SNR=8.8						
GEA0	**GERESS Array S**	**147.76**	**331**	*e*PKPbc	**PKPbc**	**13 19 27.1**	**-1.0**
FUORN	**Ofenpass-Fuorn**	**150.96**	**331**	*e*PKPbc	**PKPbc**	**13 19 36.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**165.85**	**231**	PKP	**PKPdf**	**13 19 47.2**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=147,slow=0.9,SNR=3.0						
TORD				PKPab	**PKPab**	**13 20 48.8**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=170,slow=4.1,SNR=2.5						
TOA1	**Torodi Ar. Sit**	**165.86**	**231**	*e*PKPdf	**PKPdf**	**13 19 47.2**	**-1.8**
TOA1				*e*PKPab	**PKPab**	**13 20 48.8**	**+0.2**

MEX 04 13:18:40.3±0.3**, 19°.10N**×**104°.13W, h10**^{km}±4^{km}**, MD3.9, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZ5V		**0.63**	**52**	*e*P	Pg	13 18 51.4	-1.1
EZ5V				*e*S	Sg	13 18 59.9	-0.9
CJM	**Chamela**	**0.95**	**295**	*e*P	Pg	13 18 55.7	-3.0
CJM				*e*S	Sg	13 19 08.0	-3.1
MMIG	**Aquila**	**1.09**	**137**	*e*P	Pb	13 18 57.9	-3.4
MMIG				*i* S	Sg	13 19 11.6	-4.0
SFJM	**Santa Fe**	**1.72**	**36**	*e*P	Pn	13 19 07.2	-3.3
SFJM				*i* S	Sn	13 19 27.7	-4.9
PUVA	**Puert Vallarta**	**1.84**	**326**	*e*P	Pn	13 19 09.3	-2.6
PUVA				*e*S	Sn	13 19 31.1	-4.1
MOIG	**Morelia**	**2.83**	**78**	*i* P	Pn	13 19 23.4	-2.5
MOIG				*i* S	Sn	13 19 56.1	-4.1
ZIIG	**Zihuatanejo**	**2.93**	**120**	*e*P	Pn	13 19 24.4	-2.5
ZIIG				*i* S	Sn	13 19 57.5	-4.7
ARIG	**Puente Sto Nin**	**3.67**	**102**	*e*P	Pn	13 19 34.8	-2.4
ARIG				*i* S	Sn	13 20 16.3	-4.3

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*NEIC **04** 13:18:48.9±0.4, 24°.13S×66°.98W, h156^{km}±3^{km}, mb4.4/51, Error ellipse: s-maj=5.8km s-min=4.0km az=62.0*

*SJA **04** 13:18:48.7±0.5, 24°.15S×67°.17W, h201^{km}±6^{km}, ML3.7, MW4.4*

*ISCJB **04** 13:18:50.3±0.2, 24°.14S±0°.03×67°.18W±0°.03, h181^{km}, mb4.3/62, Error ellipse: s-maj=4.8km s-min=3.4km az=36.4*

*IDC **04** 13:18:50.2±1.9, 24°.09S×67°.03W, h171^{km}±15^{km}, mb3.9/12, mb1 4.1/16, mb1mx3.9/39, mbtmp4.4/16, Error ellipse: s-maj=18.2km s-min=12.6km az=50.0*

*GUC **04** 13:18:51.8±0.6, 24°.06S×67°.63W, h210^{km}±13^{km}, ML4.9*

ISC 04 13:18:50.8±0.4**, 24°.09S**±0°.04×**67°.18W**±0°.05**, h181**^{km}**, n113, σ1^{s}60**/126**, mb4.3**/62**, 9C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.65**	**113**	*i* P	**Pn**	**13 19 24.5**	**-0.1**
SLA				IAML		13 19 26.0	
	comp=Z,848nm,0.8s						
SLA				*i* S	**Sn**	**13 19 51.0**	**+0.3**
HJA	**Humahuaca**	**1.84**	**62**	*i* P	**Pn**	**13 19 27.3**	**+0.5**
HJA				IAML		13 19 30.5	
	comp=Z,504nm,0.5s						
AZAP	**Zapla**	**1.94**	**94**	*i* P	**Pn**	**13 19 27.6**	**+0.1**
AZAP				IAML		13 19 28.2	
	comp=Z,978nm,0.6s						
AZAP				*i* S	**Sn**	**13 19 56.1**	**+0.1**
FSA	**Cafayete**	**2.29**	**152**	*i* P	**Pn**	**13 19 30.3**	**-1.1**
FSA				IAML		13 19 30.6	
	comp=Z,55nm,0.3s						
GO02	**Mina Guanaco**	**2.44**	**243**	⇑*i*P	**Pn**	**13 19 33.6**	**+0.4**
GO02				*i* S	**Sn**	**13 20 06.0**	**-0.2**
GO02				IAML		13 20 07.3	
	comp=N,4μm,0.3s						
ASTB	**Santa Barbara**	**2.50**	**87**	*i* P	**Pn**	**13 19 33.5**	**-0.3**
PB06	**IPOC Station P**	**2.59**	**302**	⇑*i*P	**Pn**	**13 19 35.5**	**+0.7**
PB06				*i* S	**Sn**	**13 20 08.3**	**-0.7**
PB06				IAML		13 20 10.3	
	comp=N,2μm,0.5s						
ALOL	**LOMAS DE OLMED**	**2.94**	**85**	*i* P	**Pn**	**13 19 38.4**	**-0.5**
PB09	**IPOC Station P**	**2.97**	**320**	⇑*i*P	**Pn**	**13 19 40.3**	**+1.0**
PB09				*i* S	**Sn**	**13 20 17.1**	**0.0**
ANCH	**Antofagasta**	**2.98**	**277**	⇑*i*P	**Pn**	**13 19 39.9**	**+0.6**
ANCH				*i* S	**Sn**	**13 20 15.6**	**-1.5**
PB14	**IPOC Station P**	**2.99**	**259**	*i* P	**Pn**	**13 19 39.1**	**-0.6**
PB14	**IPOC Station P**	**2.99**	**259**	⇑*i*P	**Pn**	**13 19 39.4**	**-0.3**
PB14				*i* S	**Sn**	**13 20 15.8**	**-2.0**
PB14				IAML		13 20 18.8	
	comp=E,2μm,0.4s						
PB10	**IPOC Station P**	**3.14**	**280**	*e*Pn	**Pn**	**13 19 41.5**	**+0.2**
PB10	**IPOC Station P**	**3.14**	**280**	*i* P	**Pn**	**13 19 41.0**	**-0.3**
PB10	**IPOC Station P**	**3.14**	**280**	⇑*i*P	**Pn**	**13 19 41.4**	**+0.2**
PB10				*i* S	**Sn**	**13 20 18.1**	**-2.5**
PB10				IAML		13 20 23.4	
	comp=N,2μm,0.3s						
AHML	**Horco Molle**	**3.16**	**149**	*i* P	**Pn**	**13 19 40.3**	**-1.3**
AHML				IAML		13 19 41.8	
	comp=Z,47nm,0.6s						
AHML				*i* S	**Sn**	**13 20 18.5**	**-2.8**
PB04	**IPOC Station P**	**3.24**	**302**	⇑*i*P	**Pn**	**13 19 42.7**	**0.0**
PB01	**IPOC Station P**	**3.70**	**324**	*e*Pn	**Pn**	**13 19 48.0**	**-0.3**
PB01	**IPOC Station P**	**3.70**	**324**	⇑*i*P	**Pn**	**13 19 48.1**	**-0.3**
PB01				*i* S	**Sn**	**13 20 31.8**	**-1.6**
PB01				IAML		13 20 34.4	
	comp=E,1μm,0.3s						
PB02	**IPOC Station P**	**3.72**	**317**	⇑*i*P	**Pn**	**13 19 48.2**	**-0.4**
PB11	**IPOC Station P**	**4.88**	**331**	*e*Pn	**Pn**	**13 20 01.9**	**-1.6**
MNMC	**Minye Minye**	**5.42**	**335**	*e*Pn	**Pn**	**13 20 09.8**	**-0.8**
LCO	**Las Campanas**	**5.83**	**212**	*e*Pn	**Pn**	**13 20 13.0**	**-2.9**
LPAZ	**La Paz**	**7.81**	**353**	P	**Pn**	**13 20 42.7**	**+0.4**
	comp=E,7.0nm,0.3s,baz=170,slow=7.7,SNR=108						
LPAZ				S	**Sn**	**13 22 08.6**	**-1.8**
	comp=E,0.6nm,0.3s,baz=352,slow=15,SNR=4.5						
LPAZ	**La Paz**	**7.81**	**353**	*e*Pn	**Pn**	**13 20 42.0**	**-0.3**
LPAZ				S	**Sn**	**13 22 08.6**	**-1.8**
ARE	**Arequipa**	**8.60**	**331**	*e*P	**Pn**	**13 20 51.0**	**-1.3**
ARE				*e*S	**Sn**	**13 22 23.0**	**-5.7**
CPUP	**Villa Florida**	**9.20**	**106**	P	**Pn**	**13 20 57.3**	**-2.5**
	comp=E,0.2nm,0.3s,baz=299,slow=11,SNR=24						
CPUP	**Villa Florida**	**9.20**	**106**	*e*Pn	**Pn**	**13 20 57.1**	**-2.7**
ROC1	**El Roble**	**9.48**	**200**	*e*Pn	**Pn**	**13 21 03.4**	**-0.3**
TRQA	**Tornquist**	**14.62**	**164**	*e*Pn	**Pn**	**13 22 06.4**	**-2.7**
NNA	**Nana**	**15.13**	**321**	P	**Pn**	**13 22 16.5**	**+0.9**
	comp=E,0.4nm,0.3s,baz=198,slow=13,SNR=4.4						
SAML	**Samuel**	**15.53**	**15**	*e*Pn	**Pn**	**13 22 18.6**	**-1.8**
	comp=E,4.9nm,0.7s						
PLCA	**Paso Flores**	**16.84**	**189**	P	**P**	**13 22 34.9**	**-0.4**
	comp=E,0.2nm,0.3s,baz=34,slow=13,SNR=5.3						
PLCA	**Paso Flores**	**16.84**	**189**	*e*P	**P**	**13 22 34.4**	**-0.8**
	comp=E,14nm,1.0s						
SPB	**Sao Paulo**	**18.08**	**92**	*e*P	**P**	**13 22 47.5**	**-1.4**
	comp=E,37nm,0.6s						
PTGA	**Pitinga**	**24.25**	**18**	P	**P**	**13 23 50.5**	**-0.8**
	comp=E,2.8nm,0.3s,baz=322,slow=22,SNR=5.8						
HELC	**Santa Helena**	**31.18**	**344**	*e*P	**P**	**13 24 52.9**	**-0.6**
	comp=E,15nm,0.5s						
RCBR	**Riachuelo**	**35.11**	**64**	P	**P**	**13 25 27.0**	**-0.3**
	comp=E,7.2nm,0.5s,baz=232,slow=11,SNR=6.5						
VNA3	**Neumayer Olymp**	**57.12**	**161**	P	**P**	**13 28 18.8**	**+0.7**
VNA2	**Neumayer--Watz**	**57.69**	**160**	P	**P**	**13 28 23.2**	**+1.2**
	baz=284,slow=8.3						
ZAIG	**Zacatecas**	**57.89**	**321**	*e*P	**P**	**13 28 26.3**	**+2.0**
	comp=E,5.5nm,0.9s						
CSU	**Charleston Sou**	**58.07**	**347**	*e*P	**P**	**13 28 26.5**	**+1.5**
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**13 28 34.0**	**+0.6**
JCT	**Junction City**	**62.63**	**328**	*e*P	**P**	**13 28 56.6**	**+0.5**
	comp=E,8.3nm,0.8s						
TXAR	**Lajitas Array**	**63.65**	**325**	P	**P**	**13 29 04.2**	**+1.3**
	comp=E,1.1nm,0.8s,baz=156,slow=8.4,SNR=9.1						
MNTX	**Cornudas Mount**	**66.42**	**325**	*e*P	**P**	**13 29 21.1**	**+0.5**
	comp=E,2.9nm,0.8s						
MSTX	**Muleshoe**	**66.92**	**328**	*e*P	**P**	**13 29 24.4**	**+0.5**
	comp=E,11nm,0.8s						
ANMO	**Albuquerque**	**69.53**	**326**	*e*P	**P**	**13 29 41.8**	**+1.6**
	comp=E,5.8nm,0.9s						
TUC	**Tucson**	**69.85**	**322**	*e*P	**P**	**13 29 43.7**	**+1.7**
	comp=E,13nm,1.8s						
T25A	**Trinidad**	**70.27**	**329**	*e*P	**P**	**13 29 46.4**	**+1.7**
	comp=E,150nm,1.1s						
X18A	**Snowflake**	**71.04**	**324**	*e*P	**P**	**13 29 51.3**	**+2.0**
	comp=E,3.8nm,1.0s						
SDCO	**Great Sand Dun**	**71.28**	**329**	*e*P	**P**	**13 29 52.6**	**+1.8**
	comp=E,29nm,0.3s						
X16A	**Lo Mia Camp, P**	**71.77**	**323**	*e*P	**P**	**13 29 55.8**	**+2.0**
	comp=E,6.8nm,1.2s						
MVCO	**Mesa Verde**	**72.32**	**326**	*e*P	**P**	**13 29 58.8**	**+1.8**
	comp=E,16nm,0.4s						
WUAZ	**Wupatki**	**72.55**	**323**	*e*P	**P**	**13 30 00.5**	**+2.2**
	comp=E,5.7nm,0.9s						
KOWA	**Kowa**	**72.62**	**65**	P	**P**	**13 29 58.7**	**-0.3**
	comp=E,4.4nm,0.6s,baz=246,slow=6.5,SNR=12						
KOWA	**Kowa**	**72.62**	**65**	*e*P	**P**	**13 29 58.7**	**-0.3**
	comp=E,8.0nm,0.8s						
PV01	**Paradox Valley**	**73.07**	**327**	*e*P	**P**	**13 30 03.5**	**+2.0**
	comp=E,155nm,0.9s						
SMCO	**Snowmass**	**73.11**	**329**	*e*P	**P**	**13 30 03.9**	**+2.1**
	comp=E,6.5nm,0.5s						
PV10	**Paradox Valley**	**73.49**	**327**	*e*P	**P**	**13 30 05.5**	**+1.6**
U15A	**North Rim**	**73.72**	**323**	*e*P	**P**	**13 30 07.4**	**+2.1**
	comp=E,5.2nm,0.9s						
XPFO	**Piæon Flat**	**74.10**	**319**	*e*P	**P**	**13 30 09.5**	**+2.1**
	comp=E,5.5nm,1.1s						
PFO	**Pinyon Flats O**	**74.10**	**319**	*e*P	**P**	**13 30 09.5**	**+2.1**
	comp=E,5.6nm,1.1s						
KNB	**Kanab**	**74.44**	**324**	*e*P	**P**	**13 30 11.8**	**+2.5**
	comp=E,10nm,0.9s						
O20A	**White River Ci**	**74.47**	**328**	*e*P	**P**	**13 30 11.5**	**+2.1**
	comp=E,8.7nm,0.9s						
VNDA	**Vanda**	**74.59**	**190**	P	**P**	**13 30 09.9**	**+0.5**
	comp=E,1.9nm,0.9s,baz=99,slow=6.2,SNR=3.6						
LCMT	**Little Creek M**	**74.67**	**323**	*e*P	**P**	**13 30 12.9**	**+2.2**
	comp=E,2.9nm,0.8s						
SRU	**San Rafael Swe**	**74.80**	**326**	*e*P	**P**	**13 30 13.1**	**+1.7**
	comp=E,6.4nm,0.7s						
MTPU	**Mount Pierson**	**74.86**	**325**	*e*P	**P**	**13 30 13.9**	**+2.0**
	comp=E,3.3nm,0.8s						
P18A	**Preston Nutter**	**75.06**	**327**	*e*P	**P**	**13 30 15.2**	**+2.2**
	comp=E,6.7nm,0.9s						
CCUT	**Cedar City**	**75.13**	**324**	*e*P	**P**	**13 30 16.0**	**+2.7**
	comp=E,8.3nm,0.8s						
MSU	**Marysvale**	**75.20**	**325**	*e*P	**P**	**13 30 16.1**	**+2.3**
SHPR	**Sheep Range**	**75.37**	**322**	*e*P	**P**	**13 30 16.6**	**+2.0**
	comp=E,3.6nm,1.1s						
MPU	**Maple Canyon**	**76.05**	**326**	*e*P	**P**	**13 30 20.1**	**+1.6**
	comp=E,3.4nm,1.0s						
PSUT	**Pine Spring**	**76.11**	**324**	*e*P	**P**	**13 30 21.2**	**+2.3**
	comp=E,4.9nm,0.8s						
TPNV	**Topopah Spring**	**76.30**	**321**	*e*P	**P**	**13 30 22.1**	**+2.2**
	comp=E,8.8nm,1.1s						
JLU	**Jordanelle**	**76.40**	**327**	*e*P	**P**	**13 30 22.5**	**+2.0**
	comp=E,14nm,1.9s						
DAC	**Darwin (Calif)**	**76.61**	**320**	*e*P	**P**	**13 30 23.6**	**+1.9**
	comp=E,3.6nm,0.9s						
TOA0	**Torodi Ar. Sit**	**76.75**	**69**	*e*P	**P**	**13 30 22.2**	**-0.5**
	comp=E,10nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.75**	**69**	P	**P**	**13 30 21.8**	**-0.9**
	comp=E,7.0nm,0.6s,baz=253,slow=5.5,SNR=41						
R11A	**Troy Canyon, C**	**76.92**	**323**	*e*P	**P**	**13 30 25.6**	**+2.2**
	comp=E,9.1nm,1.4s						
PDAR	**Pinedale Array**	**77.14**	**329**	P	**P**	**13 30 25.6**	**+1.1**
	comp=E,0.5nm,0.5s,baz=129,slow=7.0,SNR=8.2						
PDAR	**Pinedale Array**	**77.14**	**329**	*e*P	**P**	**13 30 25.4**	**+0.9**
HWUT	**Hardware Ranch**	**77.21**	**327**	*e*P	**P**	**13 30 26.3**	**+1.3**
	comp=E,2.3nm,0.6s						
AHID	**Auburn Hatcher**	**77.86**	**329**	*e*P	**P**	**13 30 30.1**	**+1.5**
	comp=E,9.1nm,0.8s						
ULM	**Lac du Bonnet**	**78.26**	**342**	P	**P**	**13 30 30.0**	**-0.3**
	comp=E,4.8nm,0.7s,baz=157,slow=6.6,SNR=9.3						
NV01	**Mina Array Sit**	**78.50**	**321**	*e*P	**P**	**13 30 33.8**	**+1.7**
NVAR	**Mina Array Bea**	**78.50**	**321**	P	**P**	**13 30 33.9**	**+1.7**
	comp=E,1.1nm,0.7s,baz=154,slow=5.8,SNR=11						
YMR	**Madison River**	**79.25**	**330**	*e*P	**P**	**13 30 38.4**	**+2.3**
	comp=E,4.9nm,0.8s						
YHH	**Holmes Hill**	**79.29**	**330**	*e*P	**P**	**13 30 38.6**	**+2.2**
	comp=E,11nm,1.4s						
YERR	**Yerington**	**79.42**	**321**	*e*P	**P**	**13 30 39.3**	**+2.2**
	comp=E,14nm,1.6s						
PNTR	**Pine Nut**	**79.69**	**321**	*e*P	**P**	**13 30 40.9**	**+2.3**
	comp=E,15nm,0.9s						
VCNR	**Virginia City**	**79.86**	**321**	*e*P	**P**	**13 30 41.6**	**+2.1**
	comp=E,3.4nm,0.7s						
PAHR	**Pah Rah Range**	**79.99**	**322**	*e*P	**P**	**13 30 42.3**	**+2.2**
	comp=E,6.6nm,0.9s						
HLID	**Hailey**	**80.07**	**327**	*e*P	**P**	**13 30 42.7**	**+2.2**
	comp=E,5.5nm,0.9s						
MCMT	**McKenzie Canyo**	**80.25**	**329**	*e*P	**P**	**13 30 43.6**	**+2.1**
BEKR	**Beckworth**	**80.65**	**321**	*e*P	**P**	**13 30 45.5**	**+1.9**
	comp=E,3.2nm,0.7s						
BOSA	**Boshof**	**80.84**	**117**	P	**P**	**13 30 44.7**	**-0.3**
	comp=E,5.7nm,0.5s,baz=256,slow=3.5,SNR=17						
MOD	**Modoc Plateau**	**81.99**	**323**	*e*P	**P**	**13 30 52.1**	**+1.5**
	comp=E,3.9nm,1.1s						
J08A	**Circle Bar Ran**	**82.00**	**325**	*e*P	**P**	**13 30 52.3**	**+1.7**
	comp=E,7.7nm,1.1s						
F10A	**Beach Ranch, E**	**83.20**	**327**	*e*P	**P**	**13 30 58.6**	**+1.9**
	comp=E,3.3nm,0.8s						
PINE	**Pine Mountain**	**83.60**	**324**	*e*P	**P**	**13 31 00.6**	**+1.6**
	comp=E,5.5nm,0.8s						
C09A	**Chrisman Ranch**	**84.99**	**328**	*e*P	**P**	**13 31 07.2**	**+1.5**
	comp=E,7.1nm,0.8s						
FCC	**Fort Churchill**	**85.50**	**346**	*e*P	**P**	**13 31 08.6**	**+0.8**
	comp=E,5.0nm,0.7s						
ESDC	**Sonseca Array**	**86.57**	**44**	P	**P**	**13 31 14.8**	**+1.1**
	comp=E,1.1nm,0.8s,baz=228,slow=4.0,SNR=3.1						
EDM	**Edmonton**	**86.77**	**334**	*e*P	**P**	**13 31 14.5**	**+0.2**
	comp=E,6.0nm,0.7s						
YKA	**Yellowknife Ar**	**94.15**	**340**	P	**P**	**13 31 49.1**	**+0.7**
	comp=E,1.5nm,0.8s,baz=131,slow=4.5,SNR=32						
ASAR	**Alice Springs**	**128.31**	**205**	PKP	**PKPdf**	**13 37 36.8**	**+0.3**
	comp=E,1.6nm,0.7s,baz=151,slow=2.0,SNR=20						
WRA	**Warramunga Arr**	**131.47**	**207**	PKP	**PKPdf**	**13 37 42.8**	**+0.2**
	comp=E,0.7nm,0.5s,baz=158,slow=1.9,SNR=5.5						
WRA				SKPbc	**SKPbc**	**13 40 51.3**	**+0.3**
	comp=E,1.4nm,0.7s,baz=150,slow=3.5,SNR=17						
ZALV	**Zalesovo Beam**	**143.55**	**28**	PKP	PKPbc	13 38 02.5	+1.0
	comp=E,0.8nm,0.4s,baz=297,slow=4.9,SNR=4.9						
MKAR	**Makanchi Array**	**146.70**	**39**	PKPbc	**PKPbc**	**13 38 11.3**	**+0.1**
	comp=E,1.7nm,0.7s,baz=304,slow=3.2,SNR=13						
KLR	**Kul'dur**	**150.83**	**334**	PKPbc	**PKPbc**	**13 38 21.6**	**-0.1**
	comp=E,0.4nm,0.7s,baz=42,slow=3.7,SNR=16						
CMAR	**Chiang Mai Arr**	**165.91**	**111**	PKPab	**PKPab**	**13 39 36.0**	**+0.4**
	comp=E,1.5nm,0.8s,baz=261,slow=5.0,SNR=10						

IDC 04 13:24:19.5±1.8**, 22°.99S**×**170°.21E, h0**^{km}**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.4**/41**, mbtmp3.5**/4**, ML3.9**/1**, Error ellipse: s-maj=66.7km s-min=35.5km az=162.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.60**	**284**	Pn	Pn	13 25 15.5	-1.1
	9.8nm,0.3s,baz=267,slow=20,SNR=24						
DZM				Sn	Sn	13 25 50.1	-10
	21nm,0.3s,baz=99,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**33.29**	**262**	P	P	13 31 00.1	+1.0
	0.3nm,0.6s,baz=100,slow=9.4,SNR=5.3						
WRA	**Warramunga Arr**	**33.47**	**268**	P	P	13 31 00.8	+0.2
	0.3nm,0.8s,baz=99,slow=8.2,SNR=3.5						
SONM	**Songino Array**	**90.74**	**323**	P	P	13 37 23.3	-1.2
	0.4nm,0.9s,baz=129,slow=3.9,SNR=3.0						
EKA	**Eskdalemuir Ar**	**147.32**	**353**	PKPbc	PKPbc	13 44 04.3	-0.4
	1.0nm,0.4s,baz=5.4,slow=2.3,SNR=11						
GERES	**GERESS Array B**	**148.19**	**330**	PKPbc	PKPbc	13 44 08.0	+0.5
	0.8nm,0.7s,baz=38,slow=2.4,SNR=8.8						
TORD	**Torodi Ar. Bea**	**165.34**	**230**	PKPab	PKPab	13 45 22.4	-2.1
	0.4nm,1.0s,baz=194,slow=2.4,SNR=3.8						

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*IDC **04** 13:27:39.9±0.8, 34°.96N×141°.29E, h0^{km}, mb3.8/13, mb1 4.0/15, mb1mx3.8/65, mbtmp3.8/15, ML3.5/2, Error ellipse: s-maj=19.8km s-min=18.6km az=117.0*

*JMA **04** 13:27:42.2±0.2, 35°.07N×141°.32E, h24^{km}±4^{km}, M3.2*

*ISCJB **04** 13:27:43.2±0.5, 34°.93N±0°.05×141°.27E±0°.06, h35^{km}, mb4.0/17, Error ellipse: s-maj=7.7km s-min=6.6km az=27.1*

*NEIC **04** 13:27:43.1±4.6, 35°.03N×141°.35E, h19^{km}±28^{km}, mb4.7/1, Error ellipse: s-maj=14.0km s-min=9.3km az=105.0*

ISC 04 13:27:44.6±0.6**, 35°.03N**±0°.06×**141°.36E**±0°.08**, h35**^{km}**, n41, σ2^{s}23**/37**, mb3.8**/17**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.49**	**220**	P	**Pn**	**13 27 52.2**	**-2.5**
BSO3	**Boso 3**	**0.74**	**252**	P	**Pn**	**13 27 56.0**	**-2.3**
BSO3				X		13 28 05.6	
CHOJ	**Chosi**	**0.79**	**328**	P	**Pn**	**13 27 55.9**	**-3.3**
BSO4	**Boso 4**	**0.84**	**267**	P	**Pn**	**13 27 58.0**	**-1.9**
BSO4				X		13 28 08.1	
KTR	**Katsuura**	**0.87**	**278**	P	**Pn**	**13 27 57.9**	**-2.4**
KTR				*e*S	**Sn**	**13 28 09.0**	**-2.7**
JYT	**Yasato**	**1.52**	**322**	P	**Pn**	**13 28 09.2**	**-0.2**
JHJ2	**Mitsune**	**2.31**	**214**	*e*Pn	**Pn**	**13 28 20.9**	**+0.8**
JHJ	**Hachijo jima 2**	**2.32**	**215**	Pn	**Pn**	**13 28 18.8**	**-1.5**
	25nm,0.3s,baz=43,slow=15,SNR=1.9						
JHJ				Sn	**Sn**	**13 28 42.4**	**-5.1**
	20nm,0.3s,baz=224,slow=23,SNR=1.5						
MJAR	**Matsushiro Arr**	**2.97**	**301**	Pn	**Pn**	**13 28 29.1**	**-0.2**
	7.1nm,0.3s,baz=100,slow=15,SNR=56						
MAJO	**Matsushiro**	**2.98**	**301**	*e*Pn	**Pn**	**13 28 29.9**	**+0.6**
MAT	**Matsushiro**	**2.98**	**301**	P	**Pn**	**13 28 29.9**	**+0.6**
MAT				*e*S	**Sn**	**13 29 08.0**	**+4.2**
ERM	**Erimo**	**7.11**	**11**	*e*Pn	**Pn**	**13 29 24.2**	**-1.9**
CBIJ	**Chichi jima**	**7.94**	**175**	*e*Pn	Pn	13 29 31.2	-6.5
JCJ	**Chichijima**	**7.94**	**175**	Pn	Pn	13 29 30.4	-7.3
	9.1nm,0.3s,baz=324,slow=17,SNR=5.9						
ASAJ	**Asahikawa**	**9.12**	**6**	Pn	**Pn**	**13 29 50.8**	**-2.9**
	2.1nm,0.3s,baz=209,slow=9.3,SNR=26						
ASAJ				Sn	**Sn**	**13 31 29.4**	**-5.6**
	0.2nm,0.3s,baz=126,slow=19,SNR=2.0						
KLR	**Kul'dur**	**15.86**	**336**	Pn	**Pn**	**13 31 21.4**	**-3.6**
	0.0nm,0.3s,baz=142,slow=18,SNR=2.6						
MA2	**Magadan**	**25.32**	**11**	P	**P**	**13 33 08.6**	**+0.9**
	3.3nm,0.7s,baz=192,slow=10,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**27.21**	**117**	T	T	14 01 55.8	
	baz=309,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.22**	**117**	T	T	14 01 53.6	
	baz=309,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.23**	**117**	T	T	14 01 57.6	
	baz=309,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**27.86**	**120**	T	T	14 02 46.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=312,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**27.86**	**120**	T	T	14 02 46.9	
	baz=312,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**27.87**	**120**	T	T	14 02 48.2	
	baz=312,slow=75,SNR=16						
SEY	**Seymchan**	**28.76**	**10**	P	**P**	**13 33 39.9**	**+1.2**
	1.0nm,0.9s,baz=190,slow=7.5,SNR=3.7						
SONM	**Songino Array**	**28.91**	**307**	P	**P**	**13 33 41.7**	**+1.3**
	0.8nm,0.7s,baz=110,slow=7.1,SNR=5.8						
ZALV	**Zalesovo Beam**	**43.25**	**314**	P	**P**	**13 35 42.3**	**-0.1**
	2.1nm,0.7s,baz=89,slow=5.8,SNR=8.4						
MKAR	**Makanchi Array**	**45.17**	**304**	P	**P**	**13 35 58.1**	**+0.2**
	0.9nm,0.7s,baz=88,slow=9.4,SNR=6.8						
KURK	**Kurchatov**	**47.15**	**310**	*e*P	**P**	**13 36 13.8**	**+0.4**
	26nm,0.5s						
ILAR	**Eielson Array**	**51.21**	**31**	P	**P**	**13 36 45.0**	**+0.8**
	0.9nm,1.1s,baz=271,slow=7.7,SNR=4.8						
BVAR	**Borovoye Array**	**51.90**	**313**	P	**P**	**13 36 50.6**	**+1.0**
	0.4nm,0.3s,baz=102,slow=5.0,SNR=4.7						
WRAB	**Tennant Creek**	**55.07**	**188**	*e*P	**P**	**13 37 12.4**	**-0.6**
	7.9nm,0.9s						
WRA	**Warramunga Arr**	**55.08**	**188**	P	**P**	**13 37 12.6**	**-0.5**
	8.0nm,0.8s,baz=5.0,slow=7.5,SNR=90						
MBWA	**Marble Bar**	**59.54**	**204**	*e*P	**P**	**13 37 45.0**	**+0.5**
	11nm,0.6s						
YKA	**Yellowknife Ar**	**65.56**	**30**	P	**P**	**13 38 24.8**	**+0.6**
	0.4nm,0.9s,baz=298,slow=7.1,SNR=4.7						
FINES	**FINESS Array B**	**70.56**	**333**	P	**P**	**13 38 54.9**	**-0.9**
	1.7nm,0.7s,baz=116,slow=4.4,SNR=5.8						
NB2	**NORSAR Subarra**	**76.01**	**337**	P	**P**	**13 39 29.0**	**+1.1**
	comp=Z,3.9nm,1.1s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**76.01**	**337**	P	**P**	**13 39 28.6**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=43,slow=5.8,SNR=4.5						
NVAR	**Mina Array Bea**	**76.22**	**53**	P	**P**	**13 39 32.3**	**+2.5**
	comp=Z,0.5nm,0.6s,baz=291,slow=5.6,SNR=4.4						
PDAR	**Pinedale Array**	**79.10**	**45**	P	**P**	**13 39 47.4**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=247,slow=2.3,SNR=4.6						
TXAR	**Lajitas Array**	**91.37**	**52**	P	**P**	**13 40 50.0**	**+2.8**
	comp=Z,0.2nm,0.7s,baz=38,slow=10,SNR=2.6						
PLCA	**Paso Flores**	**154.26**	**112**	PKPbc	**PKPbc**	**13 47 40.9**	**-0.1**
	comp=Z,5.3nm,1.2s,baz=47,slow=4.0,SNR=3.1						

MEX 04 13:43:03.4±0.6**, 16°.27N×98°.34W, h5^{km}, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**59**	*i* P	Pg	13 43 07.6	-0.6
PNIG				*e*S	Sg	13 43 11.1	-0.3
TLIG	**Tlapa**	**1.30**	**351**	*i* P	Pn	13 43 24.3	-4.1
TLIG				*i* S	Sg	13 43 40.9	-4.5
ACX	**Acapulco**	**1.57**	**293**	*e*P	Pn	13 43 26.4	-5.7
ACX				*i* S	Sn	13 43 46.4	-6.4
VHO	**Vista Hermosa**	**1.74**	**62**	*e*P	Pn	13 43 31.5	-2.9
VHO				*e*S	Sn	13 43 52.4	-4.7
MEIG	**Mezcala**	**2.05**	**324**	*e*P	Pn	13 43 34.9	-3.8
MEIG				*i* S	Sn	13 44 00.9	-3.9
HUIG	**Huatulco**	**2.21**	**103**	*e*P	Pn	13 43 37.8	-2.9
HUIG				*i* S	Sn	13 44 04.7	-3.7
TPIG	**Tehuac#an**	**2.34**	**23**	*e*P	Pn	13 43 40.3	-2.4
TPIG				*i* S	Sn	13 44 08.0	-3.9
PLIG	**Platanillo**	**2.39**	**332**	*e*P	Pn	13 43 40.2	-3.1
PLIG				*i* S	Sn	13 44 09.5	-3.5
ARIG	**Puente Sto Nin**	**2.77**	**317**	*e*P	Pn	13 43 45.6	-3.0
ARIG				*i* S	Sn	13 44 18.2	-4.2

*ATH **04** 13:48:10.8, 35°.78N×25°.72E, h29^{km}±1^{km}, ML2.2/7, Error ellipse: s-maj=1.5km s-min=0.8km az=263.0*
*ISCJB **04** 13:48:11.9±0.4, 35°.77N±0°.02×25°.70E±0°.04, h18^{km}±8^{km}, Error ellipse: s-maj=5.8km s-min=3.4km az=179.6*
*THE **04** 13:48:11.6, 35°.78N×25°.67E, h14^{km}±2^{km}, ML2.2/2, Error ellipse: s-maj=2.9km s-min=0.6km az=356.0*
*CSEM **04** 13:48:11.3±0.1, 35°.77N×25°.71E, h15^{km}, ML2.2, Error ellipse: s-maj=3.2km s-min=1.8km az=86.0*
*DDA **04** 13:48:45.0, 36°.49N×28°.46E, h5^{km}, Md2.6*
ISC 04 13:48:11.2±1.0**, 35°.78N**±0°.02×**25°.71E**±0°.03**, h12**^{km}±9^{km}**, n56, σ0^{s}62**/77**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.52**	**189**	P	**Pg**	**13 48 22.0**	**+0.6**
NPS				S	**Sb**	**13 48 29.8**	**+0.1**
NPS				AML	AML	13 48 31.4	
	comp=N,417µm,0.3s						
NPS				AML	AML	13 48 31.5	
	comp=E,510µm,0.3s						
NPS	**Neapolis**	**0.52**	**189**	P	**Pg**	**13 48 21.9**	**+0.6**
NPS				S	**Sb**	**13 48 29.8**	**+0.1**
NPS	**Neapolis**	**0.52**	**189**	P	**Pg**	**13 48 21.9**	**+0.6**
SANT	**Santorini**	**0.63**	**341**	P	**Pg**	**13 48 23.2**	**-0.3**
SANT				S	**Sb**	**13 48 33.5**	**+0.6**
SANT				AML	AML	13 48 35.0	
	comp=E,841µm,0.1s						
SANT				AML	AML	13 48 36.1	
	comp=N,399µm,0.2s						
SANT	**Santorini**	**0.63**	**341**	P	**Pg**	**13 48 23.5**	**+0.1**
SANT				S	**Sb**	**13 48 33.2**	**+0.3**
SANT	**Santorini**	**0.63**	**341**	P	**Pg**	**13 48 23.5**	**+0.1**
THR6	**Thira Island,**	**0.63**	**337**	P	**Pg**	**13 48 23.4**	**-0.1**
THR6	**Thira Island,**	**0.63**	**337**	P	**Pg**	**13 48 23.6**	**+0.1**
THR6	**Thira Island,**	**0.63**	**337**	P	**Pg**	**13 48 23.4**	**-0.1**
LAST	**Lasithi**	**0.64**	**197**	P	**Pg**	**13 48 23.6**	**-0.1**
LAST				S	**Sb**	**13 48 33.3**	**0.0**
LAST				AML	AML	13 48 34.3	
	comp=N,228µm,0.2s						
LAST				AML	AML	13 48 34.8	
	comp=E,147µm,0.1s						
LAST	**Lasithi**	**0.64**	**197**	P	**Pg**	**13 48 23.7**	**0.0**
LAST				S	**Sb**	**13 48 33.3**	**0.0**
LAST	**Lasithi**	**0.64**	**197**	P	**Pg**	**13 48 23.6**	**-0.1**
LAST				S	**Sb**	**13 48 33.4**	**+0.1**
THT1	**Athinios (Pele**	**0.65**	**340**	P	**Pg**	**13 48 23.6**	**-0.2**
THT1				S	**Sb**	**13 48 33.5**	**+0.1**
THT1				AML	AML	13 48 35.5	
	comp=E,289µm,0.1s						
THT1				AML	AML	13 48 35.8	
	comp=N,454µm,0.2s						
THT1	**Athinios (Pele**	**0.65**	**340**	P	**Pg**	**13 48 23.8**	**0.0**
THT1				S	**Sb**	**13 48 33.6**	**+0.1**
THT1	**Athinios (Pele**	**0.65**	**340**	P	**Pg**	**13 48 23.6**	**-0.2**
THR8	**Santorini-Mono**	**0.66**	**344**	P	**Pg**	**13 48 24.0**	**+0.1**
THR8	**Santorini-Mono**	**0.66**	**344**	P	**Pg**	**13 48 24.1**	**+0.1**
THR8	**Santorini-Mono**	**0.66**	**344**	P	**Pg**	**13 48 23.7**	**-0.3**
THR3	**Thira Island,**	**0.68**	**339**	P	**Pg**	**13 48 24.2**	**-0.2**
THR3	**Thira Island,**	**0.68**	**339**	P	**Pg**	**13 48 24.4**	**0.0**
THR3	**Thira Island,**	**0.68**	**339**	P	**Pg**	**13 48 24.2**	**-0.2**
THT2	**Imerovigli**	**0.70**	**341**	P	**Pb**	**13 48 25.5**	**+0.2**
THT2	**Imerovigli**	**0.70**	**341**	P	**Pb**	**13 48 25.5**	**+0.2**
THR5	**Thira Island,**	**0.70**	**336**	P	**Pb**	**13 48 25.8**	**+0.4**
THR5	**Thira Island,**	**0.70**	**336**	P	**Pg**	**13 48 25.3**	**+0.4**
THR5	**Thira Island,**	**0.70**	**336**	P	**Pg**	**13 48 25.3**	**+0.4**
THR2	**Thira island,**	**0.70**	**342**	P	**Pg**	**13 48 25.4**	**+0.5**
THR2	**Thira island,**	**0.70**	**342**	P	**Pg**	**13 48 25.0**	**+0.1**
THR2	**Thira island,**	**0.70**	**342**	P	**Pg**	**13 48 25.0**	**+0.1**
SAP3	**Santorini-Thir**	**0.72**	**336**	P	**Pg**	**13 48 25.2**	**0.0**
SAP3	**Santorini-Thir**	**0.72**	**336**	P	**Pg**	**13 48 25.2**	**0.0**
CMBO	**Columbo, Santo**	**0.74**	**341**	P	**Pg**	**13 48 25.7**	**+0.2**
CMBO				S	**Sg**	**13 48 35.4**	**+0.3**
CMBO	**Columbo, Santo**	**0.74**	**341**	P	**Pg**	**13 48 25.7**	**+0.2**
CMBO				S	**Sg**	**13 48 35.4**	**+0.3**
ZKR	**Zakros**	**0.78**	**148**	P	**Pb**	**13 48 27.2**	**+0.5**
ZKR				S	**Sb**	**13 48 38.0**	**+0.8**
ZKR				AML	AML	13 48 39.2	
	comp=N,346µm,0.3s						
ZKR				AML	AML	13 48 39.2	
	comp=E,1155µm,0.3s						
ZKR	**Zakros**	**0.78**	**148**	P	**Pg**	**13 48 26.6**	**+0.3**
ZKR				S	**Sb**	**13 48 37.6**	**+0.4**
IDI	**Anoyia**	**0.83**	**234**	P	**Pg**	**13 48 26.0**	**-1.2**
IDI				AML	AML	13 48 38.4	
	comp=E,272µm,0.2s						
IDI				AML	AML	13 48 38.4	
	comp=N,278µm,0.4s						
IDI	**Anoyia**	**0.83**	**234**	P	**Pg**	**13 48 26.6**	**-0.6**
IDI				S	**Sg**	**13 48 37.9**	**-0.1**
IDI	**Anoyia**	**0.83**	**234**	P	**Pg**	**13 48 26.6**	**-0.6**
IDI				S	**Sg**	**13 48 37.9**	**-0.1**
SIVA	**Sivas**	**1.05**	**224**	P	**Pb**	**13 48 31.4**	**0.0**
SIVA				AML	AML	13 48 45.1	
	comp=E,936µm,0.6s						
SIVA				AML	AML	13 48 45.1	
	comp=N,617µm,0.4s						
SIVA	**Sivas**	**1.05**	**224**	P	**Pb**	**13 48 31.2**	**-0.2**
KARP	**Karpathos**	**1.20**	**101**	P	**Pn**	**13 48 32.5**	**-1.4**
KARP	**Karpathos**	**1.20**	**101**	P	**Pn**	**13 48 32.9**	**-1.0**
KARP	**Karpathos**	**1.20**	**101**	P	**Pn**	**13 48 32.9**	**-1.0**
VAM	**Vamos**	**1.28**	**254**	P	**Pb**	**13 48 35.6**	**+0.4**
VAM	**Vamos**	**1.28**	**254**	P	**Pn**	**13 48 34.1**	**-0.8**
VAM	**Vamos**	**1.28**	**254**	P	**Pn**	**13 48 34.1**	**-0.8**
APE	**Apeiranthos**	**1.30**	**354**	P	**Pn**	**13 48 34.6**	**-0.6**
APE				S	**Sg**	**13 48 53.9**	**+0.8**
APE	**Apeiranthos**	**1.30**	**354**	P	**Pn**	**13 48 34.8**	**-0.4**
APE				S	**Sg**	**13 48 53.3**	**+0.2**
IMMV	**Iera Moni Meta**	**1.44**	**258**	P	**Pn**	**13 48 37.6**	**+0.5**
IMMV				S	**Sn**	**13 48 56.0**	**0.0**
IMMV	**Iera Moni Meta**	**1.44**	**258**	P	**Pn**	**13 48 37.4**	**+0.3**
IMMV				S	**Sn**	**13 48 56.1**	**+0.1**
AYDN	**Tasoluk**	**2.56**	**42**	*i* P	**Pg**	**13 49 01.5**	**+1.1**
AYDN				*i* S	**Sb**	**13 49 26.8**	**-1.9**
AYDN	**Tasoluk**	**2.56**	**42**	S	**Sb**	**13 49 26.8**	**-1.9**
TURN	**Turunc**	**2.58**	**64**	*i* P	**Pn**	**13 48 52.0**	**-0.8**
TURN				*i* S	Sn	13 49 10.6	-13
TURN	**Turunc**	**2.58**	**64**	P	**Pn**	**13 48 52.0**	**-0.7**
TAVA	**DENIZLI_Tavas**	**3.08**	**56**	*i* P	**Pb**	**13 49 04.9**	**-1.1**
TAVA				*i* S	**Sn**	**13 49 37.9**	**+1.4**
TAVA	**DENIZLI_Tavas**	**3.08**	**56**	S	**Sn**	**13 49 37.9**	**+1.4**

*ISCJB **04** 13:57:12.7±0.5, 22°.84S±0°.07×66°.68W±0°.05, h250^{km}, Error ellipse: s-maj=10.2km s-min=4.7km az=23.9*
*SJA **04** 13:57:13.3±0.6, 22°.84S×66°.56W, h246^{km}±6^{km}, ML3.3, MW3.1*
*GUC **04** 13:57:16.7±0.4, 22°.63S×67°.27W, h270^{km}±7^{km}, ML3.9*
ISC 04 13:57:12.2±1.3**, 22°.83S**±0°.08×**66°.62W**±0°.06**, h250**^{km}**, n15, σ1^{s}87**/25**, 7C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.17**	**109**	*i* P	**Pn**	**13 57 49.3**	**+0.6**
HJA				IAML		13 57 49.8	
	comp=Z,321nm,0.4s						
HJA				*i* S	**S**	**13 58 16.9**	**-0.5**
AZAP	**Zapla**	**1.99**	**135**	*i* P	**Pn**	**13 57 55.6**	**+0.8**
AZAP				IAML		13 57 56.5	
	comp=Z,108nm,0.4s						
AZAP				*i* S	**S**	**13 58 27.1**	**-1.3**
SLA	**San Lorenzo**	**2.14**	**152**	*i* P	**Pn**	**13 57 57.0**	**+0.9**
SLA				IAML		13 57 58.4	
	comp=Z,42nm,0.3s						
ASTB	**Santa Barbara**	**2.28**	**120**	*i* P	**Pn**	**13 57 58.5**	**+1.0**
ALOL	**LOMAS DE OLMED**	**2.61**	**113**	*i* P	Pn	13 58 01.2	+0.6
PB09	**IPOC Station P**	**2.64**	**292**	⇑*i*P	**Pn**	**13 58 03.1**	**+2.0**
PB09				*i* S	**S**	**13 58 38.2**	**-1.5**
PB09				IAML		13 58 42.9	
	comp=E,310nm,0.6s						
PB06	**IPOC Station P**	**2.73**	**272**	⇑*i*P	**Pn**	**13 58 03.9**	**+1.9**
PB06				*i* S	**S**	**13 58 40.0**	**-1.3**
PB06				IAML		13 58 42.5	
	comp=E,101nm,0.1s						
PB01	**IPOC Station P**	**3.21**	**303**	⇓*i*P	**Pn**	**13 58 08.6**	**+1.5**
PB01				*i* S	**S**	**13 58 48.4**	**-2.1**
PB01				IAML		13 58 49.8	
	comp=E,145nm,0.4s						
PB07	**IPOC Station P**	**3.22**	**289**	⇑*i*P	**Pn**	**13 58 08.9**	**+1.6**
PB07				*i* S	**S**	**13 58 48.2**	**-2.7**
PB07				IAML		13 58 50.1	
	comp=N,197nm,0.2s						
PB04	**IPOC Station P**	**3.30**	**278**	⇑*i*P	**Pn**	**13 58 09.8**	**+1.6**
PB04				*i* S	**S**	**13 58 50.1**	**-2.5**
PB04				IAML		13 58 56.4	
	comp=N,138nm,0.4s						
PB02	**IPOC Station P**	**3.39**	**296**	⇑*i*P	**Pn**	**13 58 10.4**	**+1.2**
PB02				*i* S	**S**	**13 58 51.2**	**-3.1**
PB02				IAML		13 58 53.7	
	comp=E,173nm,0.1s						
PB08	**IPOC Station P**	**3.57**	**318**	⇓*i*P	**Pn**	**13 58 14.0**	**+2.4**
PB08				*i* S	**S**	**13 58 57.2**	**-1.3**
PB08				IAML		13 58 58.5	
	comp=N,59nm,0.5s						
PB10	**IPOC Station P**	**3.69**	**259**	*i* P	**Pn**	**13 58 14.5**	**+2.1**
PB10	**IPOC Station P**	**3.69**	**259**	⇑*i*P	**Pn**	**13 58 14.3**	**+1.9**
PB10				*i* S	**S**	**13 58 58.5**	**-1.7**
PB10				IAML		13 59 02.5	
	comp=E,175nm,0.4s						
PB14	**IPOC Station P**	**3.90**	**242**	⇑*i*P	**Pn**	**13 58 17.1**	**+1.9**
PB14				*i* S	**S**	**13 59 03.6**	**-1.5**
PB14				IAML		13 59 05.2	
	comp=E,46nm,0.3s						

*ISCJB **04** 14:03:34.8±0.4, 5°.91S±0°.04×127°.90E±0°.06, h400^{km}, mb3.2/4, Error ellipse: s-maj=7.8km s-min=4.8km az=18.5*
*DJA **04** 14:03:36.1±0.5, 6°S±3°×12°8E±°, h388^{km}±6^{km}, M4.1/10, mb4.3/5, mB4.7/3, MLv4.0/10, Mw(mB)3.9/3*
*IDC **04** 14:03:37.7±2.7, 6°.10S×127°.68E, h414^{km}±30^{km}, mb3.0/4, mb1 3.3/8, mb1mx3.0/50, mbtmp4.1/8, Error ellipse: s-maj=42.9km s-min=11.0km az=64.0*
ISC 04 14:03:35.6±0.7**, 5°.89S**±0°.06×**127°.89E**±0°.07**, h400**^{km}**, n18, σ1^{s}93**/30**, mb3.3**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.21**	**8**	P	**Pn**	**14 04 33.5**	**+0.5**
AAI				S	**S**	**14 05 19.8**	**+0.5**
BNDI	**Bandanaira**	**2.43**	**56**	P	**Pn**	**14 04 34.5**	**0.0**
BNDI				S	**S**	**14 05 23.3**	**+1.3**
MSAI	**Masohi**	**2.73**	**22**	P	**Pn**	**14 04 36.6**	**-0.2**
MSAI				S	**S**	**14 05 22.4**	**-3.8**
NLAI	**Namlea**	**2.75**	**343**	P	**Pn**	**14 04 37.9**	**+1.0**
NLAI				S	**S**	**14 05 25.0**	**-1.4**
SANI	**Sanana**	**4.26**	**334**	P	**Pn**	**14 04 49.0**	**-1.3**
SANI				S	**S**	**14 05 47.9**	**-2.9**
LBMI	**Labuha**	**5.23**	**356**	P	**Pn**	**14 05 00.5**	**+0.4**
SOEI	**Soe**	**5.25**	**223**	P	**Pn**	**14 05 00.3**	**-0.1**
	35nm,0.7s,0.4nm						
SOEI				S	**S**	**14 06 06.3**	**-3.0**
	35nm,0.7s,0.4nm						
FAKI	**Fak Fak**	**5.26**	**56**	P	**Pn**	**14 05 00.6**	**+0.2**
	78nm,1.1s,2µm0.4nm						
FAKI				S	**S**	**14 06 05.2**	**-4.1**
	78nm,1.1s,2µm0.4nm						
BATI	**Baumata**	**5.99**	**224**	P	**Pn**	**14 05 08.5**	**+0.3**
	23nm,0.3s,baz=44,slow=1.7,SNR=45						
BATI				S	**S**	**14 06 19.9**	**-3.6**
	5.2nm,0.3s,baz=274,slow=18,SNR=15						
BATI	**Baumata**	**5.99**	**224**	P	**Pn**	**14 05 08.2**	**0.0**
	36nm,0.6s,827nm0.2nm						
BATI				S	**S**	**14 06 21.0**	**-2.6**
	36nm,0.6s,827nm0.2nm						
SWI	**Sorong**	**6.02**	**34**	P	**Pn**	**14 05 08.7**	**+0.1**
SWI				S	**S**	**14 06 20.8**	**-3.5**
FITZ	**Fitzroy Crossi**	**12.33**	**190**	P	**P**	**14 06 19.1**	**+0.1**
	0.2nm,0.3s,baz=11,slow=9.6,SNR=4.5						
WRA	**Warramunga Arr**	**15.31**	**156**	P	**P**	**14 06 51.7**	**+0.1**
	2.2nm,0.3s,baz=335,slow=11,SNR=170						
WRA				S	**S**	**14 09 31.3**	**-2.4**
	0.2nm,0.3s,baz=335,slow=21,SNR=7.5						
ASAR	**Alice Springs**	**18.60**	**162**	P	**P**	**14 07 26.6**	**0.0**
	1.3nm,0.3s,baz=343,slow=12,SNR=196						
ASAR				S	**S**	**14 10 36.0**	**-0.8**
	0.1nm,0.3s,baz=336,slow=18,SNR=7.6						
STKA	**Stephens Creek**	**28.86**	**155**	P	**P**	**14 09 00.0**	**+0.6**
	1.2nm,0.5s,baz=328,slow=12,SNR=7.6						
CMAR	**Chiang Mai Arr**	**37.42**	**311**	P	**P**	**14 10 14.8**	**+2.1**
	0.5nm,0.6s,baz=126,slow=6.1,SNR=5.2						
SONM	**Songino Array**	**56.75**	**343**	P	**P**	**14 12 41.2**	**+1.5**
	0.4nm,0.6s,baz=150,slow=6.0,SNR=3.8						
MKAR	**Makanchi Array**	**66.16**	**328**	P	**P**	**14 13 42.2**	**+0.5**
	0.5nm,0.5s,baz=116,slow=8.6,SNR=11						

IDC 04 14:12:53.5±5.1**, 20°.38S×169°.44E, h0**^{km}**, mb3.5**/2**, mb1 3.7**/3**, mb1mx3.5**/37**, mbtmp3.5**/3**, ML3.2**/1**, Error ellipse: s-maj=178.5km s-min=35.8km az=141.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.26**	**238**	Pn	Pn	14 13 45.2	-0.8
	2.8nm,0.3s,baz=133,slow=18,SNR=7.2						
DZM				Sn	Sn	14 14 25.3	-0.4
	7.9nm,0.3s,baz=185,slow=17,SNR=8.9						
WRA	**Warramunga Arr**	**32.91**	**265**	P	P	14 19 29.1	-0.8
	0.3nm,0.4s,baz=97,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**33.05**	**258**	P	P	14 19 32.5	+1.4
	0.7nm,0.7s,baz=80,slow=8.7,SNR=11						
GERES	**GERESS Array B**	**145.58**	**331**	PKPbc	PKPdf	14 32 32.8	-1.1
	0.7nm,0.6s,baz=46,slow=3.9,SNR=7.2						

*CSEM **04** 14:22:39.9±0.2, 39°.41N×40°.46E, h2^{km}, MD2.7, Error ellipse: s-maj=6.2km s-min=3.8km az=155.0*
*DDA **04** 14:22:39.6, 39°.40N×40°.49E, h7^{km}, Md2.7*
*ISK **04** 14:22:39.7, 39°.36N×40°.45E, h5^{km}, ML2.5/3*
ISC 04 14:22:39.8±1.2**, 39°.40N**±0°.03×**40°.48E**±0°.02**, h3**^{km}±11^{km}**, n28, σ0^{s}93**/45**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ECAT	**Cat-ERZURUM**	**0.44**	**61**	*i* P	**Pg**	**14 22 48.2**	**-0.1**
ECAT				*i* S	**Sg**	**14 22 54.9**	**+0.9**
ECAT	**Cat-ERZURUM**	**0.44**	**61**	P	**Pg**	**14 22 48.2**	**-0.1**
ECAT				S	**Sg**	**14 22 54.9**	**+0.9**
KOPT	**Kop Dagi**	**0.62**	**1**	*i* P	**Pg**	**14 22 52.1**	**+0.4**
KOPT				*i* S	**Sb**	**14 23 02.6**	**-0.2**
KOPT	**Kop Dagi**	**0.62**	**1**	P	**Pg**	**14 22 52.2**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.78**	**249**	*i* P	**Pg**	**14 22 54.4**	**-0.4**
TNCL				*i* S	**Sb**	**14 23 05.8**	**-1.3**
TNCL	**Tunceli-Merkez**	**0.78**	**249**	P	**Pg**	**14 22 54.4**	**-0.4**
TNCL				S	**Sb**	**14 23 05.8**	**-1.3**
ERZM	**Erzurum**	**0.85**	**53**	*i* P	**Pg**	**14 22 55.2**	**-1.0**
ERZM				*i* S	**Sg**	**14 23 06.5**	**-0.8**
ERZM	**Erzurum**	**0.85**	**53**	P	**Pg**	**14 22 55.2**	**-1.0**
ERZM				S	**Sg**	**14 23 06.5**	**-0.8**
BAYB	**BAYBURT**	**0.88**	**349**	*i* P	**Pg**	**14 22 56.1**	**-0.6**
BAYB				*i* S	**Sn**	**14 23 14.8**	**+2.1**
BAYB	**BAYBURT**	**0.88**	**349**	P	**Pg**	**14 22 56.1**	**-0.6**
PTK	**Pertek**	**0.98**	**240**	PG	**Pg**	**14 22 58.4**	**-0.3**
PTK				SG	**Sb**	**14 23 11.8**	**-1.3**
PTK	**Pertek**	**0.98**	**240**	*e*Pg	**Pg**	**14 22 58.4**	**-0.3**
PTK				*e*Sg	**Sb**	**14 23 11.8**	**-1.3**
BAYT	**Ayd˜–ntepe-Bay**	**1.03**	**346**	PG	**Pb**	**14 23 00.2**	**-0.2**
BAYT				SG	**Sn**	**14 23 15.7**	**-0.7**
BAYT	**Ayd˜–ntepe-Bay**	**1.03**	**346**	*e*Pg	**Pb**	**14 23 00.2**	**-0.2**
BAYT				*e*Sg	**Sn**	**14 23 15.7**	**-0.7**
KELT	**Kelkit**	**1.20**	**309**	*i* P	**Pb**	**14 23 02.8**	**-0.6**
KELT				*i* S	**Sn**	**14 23 22.9**	**+2.1**
KELT	**Kelkit**	**1.20**	**309**	P	**Pb**	**14 23 02.8**	**-0.6**
GURO	**Guroymak-BITLI**	**1.48**	**124**	PN	**Pb**	**14 23 07.9**	**-0.1**
GURO	**Guroymak-BITLI**	**1.48**	**124**	*e*Pn	**Pb**	**14 23 07.9**	**-0.1**
KEMA	**Kemaliye**	**1.54**	**266**	*i* P	**Pb**	**14 23 08.8**	**-0.3**
KEMA				*i* S	**Sg**	**14 23 31.6**	**+2.1**
KEMA	**Kemaliye**	**1.54**	**266**	P	**Pb**	**14 23 08.8**	**-0.3**
TUTA	**Tutak**	**1.81**	**89**	*i* P	**Pg**	**14 23 14.2**	**-0.3**
TUTA				*i* S	**Sg**	**14 23 40.2**	**+2.2**
TUTA	**Tutak**	**1.81**	**89**	P	**Pg**	**14 23 14.2**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.85**	**50**	PN	**Pn**	**14 23 13.0**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.85**	**50**	*e*Pn	**Pn**	**14 23 13.0**	**+0.3**
DBAD	**Bademkaya**	**1.87**	**30**	*i* P	**Pb**	**14 23 14.3**	**-0.4**
DBAD				*i* S	**Sb**	**14 23 37.9**	**-0.6**
DBAD	**Bademkaya**	**1.87**	**30**	P	**Pb**	**14 23 14.3**	**-0.4**
DBAD				S	**Sb**	**14 23 37.9**	**-0.6**
AGRB	**Hanur-Agry**	**1.95**	**84**	PN	**Pn**	**14 23 14.5**	**+0.4**
AGRB	**Hanur-Agry**	**1.95**	**84**	*e*Pn	**Pn**	**14 23 14.5**	**+0.4**

*IDC **04** 14:23:59.9±0.8, 19°.15S×173°.57W, h0^{km}, mb4.1/11, mb1 4.4/11, mb1mx4.2/39, mbtmp4.1/11, ML6.2/1, MS4.2/2, Ms1 4.2/2, ms1mx3.3/46, Error ellipse: s-maj=38.2km s-min=16.9km az=135.0*
*NEIC **04** 14:24:05.5±0.4, 19°.12S×173°.59W, h35^{km}, mb4.7/5, Error ellipse: s-maj=18.0km s-min=9.3km az=138.0*
ISC 04 14:24:03.8±0.6**, 18°.95S**±0°.10×**173°.6W**±0°.1**, h28**^{km}**, n36, σ1^{s}94**/32**, mb4.3**/16**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.29**	**19**	Pn	**Pn**	**14 25 18.9**	**-2.1**
	5.4nm,0.3s,baz=60,slow=6.7,SNR=8.8						
AFI				Sn	**Sn**	**14 26 16.9**	**-4.2**
	12nm,0.3s,baz=49,slow=20,SNR=3.2						
AFI	**Afiamalu**	**5.29**	**19**	*e*Pn	**Pn**	**14 25 19.5**	**-1.5**
AFI				Sn	**Sn**	**14 26 16.9**	**-4.2**
RAO	**Raoul Island**	**11.01**	**200**	Pn	**Pn**	**14 26 34.7**	**-4.7**
	167nm,0.3s,baz=66,slow=20,SNR=3.8						
RAR	**Rarotonga**	**13.14**	**102**	Pn	Pn	14 26 56.4	-12
	6.8nm,0.3s,baz=240,slow=4.3,SNR=9.8						
DZM	**Mont Dzumac**	**19.00**	**257**	*e*P	**Pn**	**14 28 24.1**	**-0.1**
	31nm,0.5s						
URZ	**Urewera**	**20.89**	**201**	P	**P**	**14 28 42.8**	**-1.0**
	12nm,0.9s,baz=264,slow=0.7,SNR=6.3						
PPT2	**Papeete2**	**22.80**	**90**	*e*LR	LR	14 34 12.0	
	209nm,21.2s						
PPT	**Papeete**	**22.80**	**90**	LR	LR	14 35 58.1	
	comp=Z,283nm,18.7s,baz=254,slow=32						
TBI	**Tubuai**	**22.88**	**105**	*e*LR	LR	14 34 19.5	
	232nm,26.5s						
RPZ	**Rata Peaks**	**27.88**	**204**	P	**P**	**14 29 49.8**	**-1.4**
	12nm,1.0s,baz=41,slow=9.3,SNR=1.8						
TAOE	**Nuku Hiva Isla**	**33.88**	**77**	*e*LR	LR	14 39 06.9	
	181nm,21.6s						
CTAO	**Charters Tower**	**37.84**	**261**	*e*P	**P**	**14 31 18.4**	**0.0**
	48nm,0.8s						
STKA	**Stephens Creek**	**42.23**	**243**	P	**P**	**14 31 53.0**	**-1.7**
	1.2nm,0.6s,baz=89,slow=15,SNR=2.4						
ASAR	**Alice Springs**	**48.96**	**255**	P	**P**	**14 32 47.7**	**-0.4**
	5.4nm,0.7s,baz=88,slow=8.3,SNR=50						
WRAB	**Tennant Creek**	**48.98**	**260**	P	**P**	**14 32 48.2**	**+0.1**
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**48.98**	**260**	P	**P**	**14 32 47.5**	**-0.8**
	2.8nm,0.6s,baz=92,slow=6.0,SNR=51						
SOEI	**Soe**	**60.68**	**269**	*e*P	**P**	**14 34 15.3**	**+2.1**
	25nm,0.8s						
QSPA	**South Pole Qui**	**71.12**	**180**	*e*P	**P**	**14 35 20.5**	**+1.0**
NVAR	**Mina Array Bea**	**77.06**	**41**	P	**P**	**14 35 55.7**	**+1.0**
	2.1nm,0.9s,baz=229,slow=9.1,SNR=11						
HLID	**Hailey**	**82.45**	**39**	*e*P	**P**	**14 36 25.7**	**+1.9**
	3.2nm,1.3s						
TXAR	**Lajitas Array**	**82.71**	**56**	P	**P**	**14 36 27.2**	**+1.9**
	1.5nm,1.0s,baz=235,slow=4.4,SNR=8.0						
NEW	**Newport**	**83.71**	**34**	LR	LR	15 09 26.3	
	comp=Z,252nm,18.4s,baz=66,slow=32						
MCK	**McKinley**	**84.61**	**11**	*e*P	**P**	**14 36 36.0**	**+1.7**
	7.3nm,1.0s						
PDAR	**Pinedale Array**	**84.99**	**42**	P	**P**	**14 36 36.9**	**0.0**
	0.8nm,1.0s,baz=208,slow=5.1,SNR=4.1						
COLA	**College**	**85.85**	**11**	*e*P	**P**	**14 36 41.5**	**+1.2**
	9.8nm,1.0s						
ILAR	**Eielson Array**	**85.93**	**11**	P	**P**	**14 36 43.0**	**+2.3**
	1.1nm,0.9s,baz=227,slow=5.3,SNR=8.6						
YKA	**Yellowknife Ar**	**93.39**	**23**	P	**P**	**14 37 16.1**	**+0.1**
	0.1nm,0.5s,baz=237,slow=4.3,SNR=2.9						
CMAR	**Chiang Mai Arr**	**93.58**	**288**	P	**P**	**14 37 19.2**	**+1.3**
	0.7nm,0.9s,baz=100,slow=2.8,SNR=4.6						
AKASG	**Malin Array Be**	**143.52**	**336**	PKP	**PKPdf**	**14 43 36.6**	**+0.9**
	0.2nm,0.4s,baz=25,slow=2.5,SNR=4.5						
CLL	**Collm**	**147.29**	**352**	*e*PKPbc	**PKPab**	**14 43 46.0**	**-0.3**
	comp=Z,13nm,1.6s						
CLL				*i*		14 43 50.2	
	comp=Z,15nm,1.3s						
DPC	**Dobruska-Polom**	**147.69**	**348**	*e*PKP	**PKPab**	**14 43 48.5**	**+0.5**
DPC				*e*x	x	14 43 53.0	
PRU	**Pruhonice**	**148.36**	**350**	*e*PKP	**PKPab**	**14 43 50.9**	**+0.3**
GOPC	**GO Pecny, Ondr**	**148.39**	**350**	*e*PKP	**PKPab**	**14 43 52.6**	**+1.9**
BRTR	**Keskin Array B**	**148.73**	**317**	PKPbc	**PKPbc**	**14 43 50.5**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=72,slow=4.0,SNR=6.5						
KHC	**Kasperske Hory**	**149.34**	**351**	*e*PKP	**PKPab**	**14 43 53.6**	**-1.0**
KHC				*e*x	x	14 43 58.3	
GERES	**GERESS Array B**	**149.60**	**351**	PKPbc	**PKPbc**	**14 43 53.0**	**+2.2**
	comp=Z,1.3nm,0.9s,baz=90,slow=2.7,SNR=10						

*SOME **04** 14:24:49.2, 39°.75N×71°.78E, h0^{km}*
*KRNET **04** 14:24:50.1±0.1, 39°.45N×72°.21E, mb3.6*
*NNC **04** 14:24:51.7±1.7, 39°.46N×72°.27E, h0^{km}, mb3.8, mpv3.5, Error ellipse: s-maj=16.6km s-min=5.9km az=175.0*
ISC 04 14:24:52.9±1.4**, 39°.57N**±0°.07×**72°.20E**±0°.04**, h10**^{km}**, n36, σ2^{s}43**/58**, 29C-15D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.09**	**66**	⇑P	**Pg**	**14 25 11.8**	**-2.2**
	10nm,0.3s						
SFK				⇑S	**Sb**	**14 25 28.4**	**-0.1**
	91nm,0.5s						
SFK	**Sufi-Kurgan**	**1.09**	**66**	⇑*i*P	**Pg**	**14 25 11.7**	**-2.2**
	baz=60						

SFK				⇑iS	Sb	14 25 28.4	-0.1
	baz=60						
ARSB	Arslanbob	1.85	19	⇓iP	Pb	14 25 26.7	-0.2
	baz=17						
ARSB				⇓iS	Sg	14 25 53.0	+0.7
	baz=17						
ARK	Arkit	2.23	355	⇑iP	Pb	14 25 32.9	-0.5
	baz=56						
ARK				⇑iS	Sb	14 26 02.8	+1.7
	baz=56						
TOKL	Toktogul	2.42	12	⇓iP	Pb	14 25 34.9	-1.6
	baz=11						
TOKL				⇓iS	Sb	14 26 07.6	+1.1
	baz=11						
AML	Almayashu	2.79	23	P	Pb	14 25 42.0	-1.1
	SNR=138						
AML	Almayashu	2.79	23	⇑iP	Pn	14 25 40.7	+2.7
	baz=22						
AML				⇑iS	Sb	14 26 17.1	-0.5
	baz=22						
TAS	Tashkent	2.83	309	⇑iP	Pn	14 25 40.8	+2.6
	baz=11						
TAS				⇑iS	Sb	14 26 17.8	-0.6
	baz=11						
MNAS	Manas	2.92	4	⇓Pn	Pn	14 25 41.6	+2.1
	8.9nm,0.5s						
MNAS				⇑Lg	Lg	14 26 27.8	
	26nm,0.5s						
MNAS	Manas	2.92	4	⇑iP	Pn	14 25 41.8	+2.3
	baz=4.0						
MNAS				⇑iS	Sb	14 26 20.7	-0.2
	baz=4.0						
UCH	Uchtor	3.18	33	P	Pb	14 25 47.1	-2.6
	SNR=29						
UCH	Uchtor	3.18	33	⇑iP	Pn	14 25 45.6	+2.2
	baz=31						
UCH				⇑iS	Sb	14 26 25.4	-3.2
	baz=31						
MRKS	Merke	3.26	13	eP	Pb	14 25 48.2	-2.7
	23nm,0.6s						
MRKS				eS	Sb	14 26 30.1	-0.6
	16nm,0.3s						
EKS2	Erkin-Say	3.31	21	P	Pb	14 25 48.9	-2.8
	SNR=34						
EKS2	Erkin-Say	3.31	21	⇑iP	Pn	14 25 48.2	+3.4
	baz=20						
EKS2				⇑iS	Sb	14 26 30.8	-1.2
	baz=20						
KZA	Kyzart	3.41	42	P	Pn	14 25 49.7	+3.3
	SNR=13						
KZA	Kyzart	3.41	42	⇑iP	Pn	14 25 48.6	+2.1
	baz=40						
KZA				⇑iS	Sn	14 26 31.0	+3.9
	baz=40						
NRN	Naryn	3.44	56	⇓eP	Pn	14 25 48.2	+1.4
	baz=54						
NRN				⇓iS	Sn	14 26 29.0	+1.2
	baz=54						
AAK	Ala-Archa	3.52	29	⇓Pn	Pn	14 25 50.3	+2.5
	11nm,0.5s						
AAK				⇓Lg	Lg	14 26 44.6	
	44nm,0.9s						
AAK	Ala-Archa	3.52	29	P	Pn	14 25 51.3	+3.6
	SNR=32						
AAK	Ala-Archa	3.52	29	⇓iP	Pn	14 25 50.9	+3.1
	baz=28						
AAK				⇓iS	Sb	14 26 36.3	-1.8
	baz=28						
KBK	Karagaybulak	3.71	33	P	Pb	14 25 55.0	-3.7
	SNR=21						
KK31	Karatay Array	3.75	341	Pn	Pn	14 25 52.2	+1.4
	3.8nm,0.5s,baz=152,slow=12,SNR=54						
KK31				⇑Pg	Pg	14 26 03.4	-1.3
	21nm,0.7s,baz=160,slow=16,SNR=24						
KK31				⇑Lg	Lg	14 26 52.8	
	9.2nm,0.3s,baz=157,slow=30,SNR=8.0						
CHMS	Chumysh	3.92	28	P	Pn	14 25 56.5	+3.3
	SNR=23						
CHMS	Chumysh	3.92	28	⇓iP	Pn	14 25 56.5	+3.3
	baz=28						
CHMS				⇓iS	Sb	14 26 45.2	-4.5
	baz=28						
ULHL	Ulahol	4.06	48	P	Pn	14 25 58.0	+2.7
	SNR=7.1						
USP	Ospenovka	4.07	24	P	Pn	14 25 58.2	+2.9
	SNR=30						
USP	Ospenovka	4.07	24	⇑iP	Pn	14 25 57.9	+2.6
	baz=24						
USP				⇑iS	Sn	14 26 47.1	+4.0
	baz=24						
TKM2	Tokmak 2	4.21	36	⇓Pn	Pn	14 26 00.3	+3.0
	5.0nm,0.5s						
TKM2				⇑Lg	Lg	14 27 05.4	
	12nm,0.8s						
TKM2	Tokmak 2	4.21	36	P	Pn	14 26 01.0	+3.7
	SNR=7.3						
KST	Kastek	4.47	38	eP	Pb	14 26 14.2	+2.6
	1.7nm,0.2s						
KST				eS	Sg	14 27 14.9	-1.6
	7.7nm,0.9s						
MDOK	Medeo	5.11	44	Pn	Pn	14 26 11.9	+2.2
	1.7nm,0.6s						
MDOK				Pg	Pb	14 26 25.0	+2.5
	3.6nm,0.8s						
MDOK				Lg	Lg	14 27 36.5	
	13nm,0.7s						
MDOK	Medeo	5.11	44	eP	Pb	14 26 25.6	+3.1
	2.3nm,0.5s						
MDOK				eS	Sg	14 27 35.8	-1.3
	8.4nm,1.4s						
PDGK	Podgornoye	6.63	53	⇑Pn	Pn	14 26 32.1	+1.5
	2.5nm,0.9s						
PDGK				⇑Lg	Lg	14 28 23.6	
	7.1nm,0.9s						
AB31	Akbulak array	13.04	322	⇓P	Pn	14 27 57.2	-0.9
	0.9nm,0.5s,baz=128,slow=14,SNR=34						
AB31				⇑S	Sn	14 30 22.5	-0.6
	1.2nm,0.7s,baz=130,slow=26,SNR=2.8						
AKTO	Aktyubinsk	14.76	322	⇑P	P	14 28 25.8	-1.8
	1.5nm,0.6s						
AKTO				⇑S	Sn	14 31 07.5	+2.4
	2.0nm,0.8s						

BJI ***04*** *14:26:17.2, 14.°20N×120.°85E, h154km, mb4.6/49, mB4.9/26*
ISCJB ***04*** *14:26:18.4±0.2, 14.°25N±0.°02×120.°55E±0.°04, h148km±2km, mb4.3/49, Error ellipse: s-maj=5.8km s-min=3.7km az=2.3*
IDC ***04*** *14:26:18.6±0.4, 14.°16N×120.°61E, h146km±3km, mb3.9/28, mb1 4.0/28, mb1mx3.9/62, mbtmp4.3/28, Error ellipse: s-maj=13.6km s-min=8.6km az=67.0*
MAN ***04*** *14:26:19, 14.°24N×120.°37E, h122km, mb5.0, ML4.0, MS4.0*
NEIC ***04*** *14:26:19.3±0.4, 14.°24N×120.°63E, h151km±4km, mb4.5/18, Error ellipse: s-maj=6.3km s-min=4.2km az=112.0*
NEIC Felt at Manila.
ISC 04 14:26:19.0±0.5, **14.°23N**±0.°03×**120.°44E**±0.°04, **h143**km±4km, **n141**, σ1**§70**/171, **mb4.3**/49, **4C-3D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.50	105	P	Pn	14 26 39.5	-0.1
	1µm,0.3s,baz=326,slow=1.1,SNR=44						
TGY				S	Sn	14 26 55.2	0.0
	1µm,0.3s,baz=186,slow=19,SNR=22						
TGY	Tagaytay City	0.50	105	⇑iP	Pn	14 26 39.7	+0.1
TGY				i S	Sn	14 26 55.4	+0.2
LUBP	Lubang	0.53	201	eP	Pn	14 26 39.2	-0.5
LUBP				eS	Sn	14 26 53.8	-1.6
PGP	Puerto Galera	0.88	145	⇑eP	Pn	14 26 41.4	-0.8
PGP				i S	Sn	14 26 59.3	-0.5
LQP	Lukban	1.07	96	⇑eP	Pn	14 26 44.2	+0.2
BOAC	Boac	1.56	119	eP	Pn	14 26 49.2	+0.4
BOAC				eS	Sn	14 27 11.0	-0.4
SCZP	Santa Cruz	1.62	342	eP	Pn	14 26 48.8	-0.6
SCZP				eS	Sn	14 27 10.1	-2.5
BALP	Baler	1.86	36	eP	Pn	14 26 51.9	-0.2
BALP				eS	Sn	14 27 19.4	+2.0
SJMP	San Jose	1.88	159	eP	Pn	14 26 52.0	-0.3
SJMP				eS	Sn	14 27 16.6	-1.3
GQP	Guinayangan	1.97	99	⇓iP	Pn	14 26 53.8	+0.4
BOLP	Bolinao	2.20	347	eP	Pn	14 26 55.6	-0.5
BOLP				eS	Sn	14 27 19.9	-4.7
BUSP	Coron	2.23	186	eP	Pn	14 26 55.9	-0.6
BUSP				eS	Sn	14 27 23.6	-1.7
AUQP	San Andres	2.35	112	eP	Pn	14 26 59.9	+1.9
AUQP				eS	Sn	14 27 32.9	+5.0
OTRP	Odiongan	2.41	140	eP	Pn	14 26 58.7	-0.1
OTRP				eS	Sn	14 27 28.1	-1.2
CAUP	Cauayan	3.01	26	eP	Pn	14 27 06.3	0.0
CAUP				eS	Sn	14 27 53.7	+11
ENPP	El Nido	3.17	198	eP	Pn	14 27 08.8	+0.5
ENPP				eS	Sn	14 27 46.1	-0.2
ABRA	Dolores	3.41	4	eP	Pn	14 27 10.2	-1.1
ABRA				eS	Sn	14 27 50.1	-1.8
RCP	Roxas	3.48	139	⇑eP	Pn	14 27 13.1	+0.8
PVCP	Virac	3.66	99	eP	Pn	14 27 15.7	+1.0
APYP	Conner	3.69	12	eP	Pn	14 27 14.8	-0.2
APYP				eS	Sn	14 27 58.9	+0.4
GUIM	Jordan	4.15	149	eP	Pn	14 27 22.9	+1.7
CNP	Catarman	4.45	112	eP	Pn	14 27 26.9	+1.8
CNP				eS	Sn	14 28 33.4	+17
PPR	Puerto Princes	4.73	201	⇓iP	Pn	14 27 30.4	+1.5
PLP	Palo	5.38	124	eS	Sn	14 28 44.6	+6.1
MSLP	Maasin	5.94	133	eP	Pn	14 27 46.7	+1.8
MSLP				eS	Sn	14 28 44.5	-7.5
BUKP	Musuan	7.77	144	eP	Pn	14 28 12.3	+2.7
TWG	Pinlang	8.56	4	ePn	Pn	14 28 18.5	-1.6
TPUB	Ta-pu	9.02	1	ePn	Pn	14 28 24.6	-1.6
KKM	Kota Kinabalu	9.14	207	ePn	Pn	14 28 29.2	+1.4
YULB	Yu-li	9.15	5	ePn	Pn	14 28 27.0	-0.8
SSLB	Suanglung	9.52	3	ePn	Pn	14 28 33.2	+0.4
NACB	Ninganchiao	9.95	6	ePn	Pn	14 28 37.6	-0.9
YHNB	Yeheng	10.42	5	ePn	Pn	14 28 45.0	+0.2
TATO	Taipei	10.73	5	ePn	Pn	14 28 50.6	+1.7
QIZ	Qiongzhong	11.22	297	ePn	Pn	14 28 58.6	+3.2
SBUM	Sibu	14.25	215	ePn	P	14 29 37.2	-0.3
JOW	Kunigami	14.52	29	ePn	Pn	14 29 37.6	-0.2
KSM	Kuching	16.16	219	ePn	P	14 30 00.7	+2.0
	18nm,0.8s						
GYA	Guiyang	17.72	315	P	Pn	14 30 20.0	+2.8
GYA				PP	pP	14 30 40.0	-0.8
GYA				sP	sP	14 31 03.2	+4.3
GYA				S	S	14 33 31.6	-1.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2	Nanjing	17.80	356	eP	P	14 30 17.1	+0.5
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
CHAI	Chaiyaphum	17.90	278	P	Pn	14 30 21.3	+2.1
	5.2nm,1.2s						
ENH	Enshi	18.89	329	eP	P	14 30 29.5	+0.9
	14nm,1.0s						
NANT	Nan	19.46	286	P	Pn	14 30 40.8	+3.3
	2.5nm,0.7s						
PHIT	Phitsanulok	19.50	281	P	Pn	14 30 42.6	+4.6
	9.1nm,0.9s						
KMI	Kunming	19.85	306	P	Pn	14 30 42.4	+0.1
KMI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
LAMP	Lampang	20.41	285	P	Pn	14 30 49.0	+0.3
	3.7nm,0.6s						
CM01	Chiang Mai Arr	21.03	284	eP	P	14 30 52.7	+1.0
CM31	Chiang Mai Arr	21.05	284	eP	P	14 30 54.1	+2.2
CMAR	Chiang Mai Arr	21.05	284	P	P	14 30 54.1	+2.2
	3.0nm,0.8s,baz=98,slow=7.5,SNR=22						
JNU	Nakatsue	21.07	25	P	P	14 30 51.6	-0.4
	5.3nm,0.7s,baz=37,slow=19,SNR=3.0						
IPM	Ipoh	21.45	245	eP	P	14 30 56.4	+0.1
	11nm,1.2s						
XAN	Xi'an	22.31	334	P	P	14 31 04.9	-0.1
XAN				pmax	pmax		
	comp=Z,15nm,0.6s						
CD2	Chengdu	22.59	320	eP	P	14 31 08.5	+0.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSAR	Wonju Array Be	24.05	15	P	P	14 31 20.3	-0.7
KSRS	Korea Array	24.07	15	P	P	14 31 20.3	-0.8
	2.8nm,0.8s,baz=197,slow=9.7,SNR=8.8						
KS01	Wonju Array Si	24.08	15	eP	P	14 31 20.5	-0.8
PSI	Prapat	24.09	244	eP	P	14 31 22.3	+0.5
	9.8nm,0.8s						
BJT	Baijiatuau	25.96	352	eP	P	14 31 37.7	-0.5
	50nm,1.2s						
BJI	Beijing	25.98	353	⇓iP	P	14 31 38.5	+0.1
BJI				pmax	pmax		
	comp=Z,44nm,0.9s						
LZH	Lanzhou	26.36	329	eP	P	14 31 43.8	+1.7
LZH				pP	pP	14 32 12.6	+0.5
LZH				sP	sP	14 32 31.3	+2.5
LZH				pmax	pmax		
	comp=Z,32nm,1.4s						
LZH				pmax	pmax		
	comp=Z,140nm,4.6s						
MJAR	Matsushiro Arr	27.32	32	P	P	14 31 48.2	-2.3
	0.8nm,0.5s,baz=199,slow=9.4,SNR=4.3						
HHC	Hu-ho-hao-te	27.63	345	eP	P	14 31 54.3	+1.0
HHC				pP	sP	14 32 29.1	-11
HHC				sP	PP	14 32 40.7	-18
HHC				S	S	14 36 25.9	+1.3
HHC				sS	sS	14 37 22.6	+4.7
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,5.8s						
GTA	Gaotai	30.96	328	eP	P	14 32 24.4	+1.6
GTA				pP	sP	14 33 00.5	-9.3
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LSA	Lhasa	31.10	305	eP	P	14 32 25.4	+0.8
	11nm,1.3s						
USRK	Ussuriysk Ar.	31.45	16	P	P	14 32 26.6	-0.4
	3.9nm,0.6s,baz=199,slow=6.5,SNR=7.5						
TAPN	Taplejung	33.15	298	eP	P	14 32 43.5	+1.1
	12nm,0.6s						
ODAN	Odare	33.29	297	eP	P	14 32 44.6	+1.1
	32nm,0.7s						
RAMN	Ramite	34.00	297	eP	P	14 32 50.9	+1.3
	30nm,0.7s						
JIRN	Jiri	34.53	298	eP	P	14 32 55.7	+1.3
	23nm,0.4s						
GUN	Gumba	34.87	299	eP	P	14 32 58.3	+1.1
	29nm,0.4s						
PKI	Pulchoki	35.18	298	eP	P	14 33 00.5	+0.6
	14nm,0.5s						
PKIN	Phulchoki	35.19	298	eP	P	14 33 00.4	+0.5
	9.8nm,0.4s						
ASAJ	Asahikawa	35.28	28	P	P	14 32 59.7	-0.4
	1.7nm,0.3s,baz=235,slow=11,SNR=15						
ULN	Ulaanbaatar	35.33	344	eP	P	14 33 01.1	+0.4
	15nm,0.7s						
KKN	Kakani	35.35	298	eP	P	14 33 02.0	+0.8
	6.8nm,0.4s						
PMG	Port Moresby	35.41	130	P	P	14 33 00.2	-1.4
	6.3nm,0.8s,baz=317,slow=18,SNR=2.5						
DMN	Daman	35.45	298	eP	P	14 33 03.1	+1.0
	11nm,0.4s						
SONM	Songino Array	35.48	344	P	P	14 33 02.4	+0.4
	15nm,0.6s,baz=165,slow=10,SNR=81						
SONA1	Songino Array	35.49	344	eP	P	14 33 02.3	+0.3
WRA	Warramunga Arr	36.61	158	P	P	14 33 10.1	-1.6
	3.1nm,0.6s,baz=336,slow=9.6,SNR=17						
WRA				pP	pP	14 33 41.2	-1.6
	3.0nm,0.6s,baz=335,slow=9.5,SNR=6.3						
WRA				S	S	14 38 35.4	-8.8
	0.4nm,0.5s,baz=330,slow=14,SNR=5.4						
ASAR	Alice Springs	39.90	161	P	P	14 33 38.1	-1.1
	1.2nm,0.3s,baz=335,slow=8.2,SNR=17						
ASAR				pP	pP	14 34 09.7	-1.0
	1.8nm,0.6s,baz=330,slow=7.0,SNR=4.8						
ASAR				S	S	14 39 29.3	-4.4
	1.1nm,1.1s,baz=353,slow=24,SNR=5.7						
WMQ	Urumqi	40.63	323	P	P	14 33 48.5	+3.4
MK01	Makanchi Array	45.44	323	eP	P	14 34 24.3	+0.6
MK31	Makanchi Array	45.46	323	eP	P	14 34 24.6	+0.7
MKAR	Makanchi Array	45.46	323	P	P	14 34 24.9	+1.1
	3.0nm,0.5s,baz=124,slow=9.2,SNR=40						
MKAR				PcP	PcP	14 36 00.5	+0.1
	1.5nm,0.8s,baz=114,slow=5.4,SNR=5.7						
MKAR				ScP	ScP	14 39 38.6	-1.4
	0.5nm,0.7s,baz=114,slow=5.4,SNR=3.8						
MKAR	Makanchi Array	45.46	323	eP	P	14 34 24.6	+0.8
	34nm,0.6s						
MKAR				PcP	PcP	14 36 00.5	+0.1
MKAR				ScP	ScP	14 39 38.6	-1.4
KSH	Kashi	46.36	312	P	P	14 34 33.7	+2.6
KSH				PP	PP	14 36 24.8	+2.5
KSH				PcS	PcS	14 39 59.1	+0.3
KSH				S	S	14 41 09.1	+1.2
KSH				sS	sS	14 42 12.1	+8.3
KSH				pmax	pmax		
	comp=Z,120nm,5.8s						
KSH				LR	LR		
	comp=N,140nm,7.2s						
KSH				LR	LR		
	comp=E,160nm,12.5s						
KSH				LR	LR		
	comp=Z,110nm,8.0s						
ULHL	Ulahol	47.17	315	P	P	14 34 39.3	+1.8
	SNR=24						
KZA	Kyzart	47.79	315	P	P	14 34 44.7	+2.2
	SNR=21						
TKM2	Tokmak 2	47.87	316	P	P	14 34 44.5	+1.6
	SNR=18						
YAK	Yakutsk	48.19	6	eP	P	14 34 43.3	-1.4
	11nm,0.7s						
KBK	Karagaybulak	48.21	315	P	P	14 34 47.5	+2.0
	SNR=17						
UCH	Uchtor	48.35	314	P	P	14 34 48.8	+1.9
	SNR=22						
ZAA0	Zalesovo Array	48.47	333	eP	P	14 34 46.8	-0.3
	5.2nm,0.4s						
ZALV	Zalesovo Beam	48.47	333	P	P	14 34 46.9	-0.1
	4.7nm,0.4s,baz=123,slow=6.8,SNR=40						
ZALV	Zalesovo Beam	48.47	333	eP	P	14 34 46.5	-0.5
CHMS	Chumysh	48.47	315	P	P	14 34 48.6	+1.3
	SNR=10						
AAK	Ala-Archa	48.51	315	P	P	14 34 49.6	+1.8
	SNR=7.4						
AAK	Ala-Archa	48.51	315	eP	P	14 34 49.0	+1.2
	4.7nm,0.9s						
PETK	Petropavlovsk-	48.68	29	P	P	14 34 48.0	-0.7
	4.6nm,0.7s,baz=216,slow=4.4,SNR=9.6						
USP	Ospenovka	48.74	316	P	P	14 34 50.7	+1.3
	SNR=16						
AML	Almayashu	48.89	314	P	P	14 34 52.8	+1.9
	SNR=19						
EKS2	Erkin-Say	49.02	315	P	P	14 34 53.2	+1.7
	SNR=14						
KURK	Kurchatov	49.61	326	eP	P	14 34 56.4	+0.7
	47nm,1.2s						
KKAR	Karatay Array	51.42	314	eP	P	14 35 10.5	+0.9
BVAR	Borovoye Array	55.19	326	P	P	14 35 37.7	+0.8
	10nm,0.5s,baz=107,slow=7.7,SNR=61						
BRVK	Borovoye	55.27	326	eP	P	14 35 38.0	+0.6
	22nm,0.6s						
TIXI	Tiksi	57.62	3	eP	P	14 35 52.2	-1.5
	2.9nm,0.7s						
WSAR	Wadi Sarin	58.85	289	P	P	14 36 02.5	-0.7
	11nm,1.0s,baz=101,slow=10,SNR=2.3						
GEYT	Alibeck	59.62	306	P	P	14 36 09.2	+1.0
	3.0nm,0.7s,baz=122,slow=5.4,SNR=8.5						
GEYT				PcP	PcP	14 36 54.8	+0.8
	1.2nm,0.5s,baz=115,slow=2.1,SNR=3.0						
AKTO	Aktyubinsk	61.65	320	P	P	14 36 22.1	+0.4
	2.4nm,0.5s,baz=91,slow=10,SNR=6.0						
ARU	Arti	62.80	327	eP	P	14 36 28.5	-0.8
	8.8nm,0.6s						
RAYN	Ar Rayn	70.84	290	eP	P	14 37 20.6	-0.2
	3.2nm,0.8s						
CAST	Castle Rocks	76.27	28	eP	P	14 37 51.4	-0.4
	4.1nm,0.7s						
BPAW	Bear Paw Mtn.	76.70	27	eP	P	14 37 53.6	-0.6
ILAR	Eielson Array	78.39	26	P	P	14 38 02.4	-1.1
	0.3nm,0.5s,baz=252,slow=4.8,SNR=4.6						
ARCES	ARCESS Array B	78.50	339	P	P	14 38 03.9	-0.2
	2.3nm,0.5s,baz=83,slow=6.3,SNR=25						
ARCES				sP	sP	14 38 55.7	+1.0
	1.2nm,0.5s,baz=75,slow=6.8,SNR=2.1						
BRTR	Keskin Array B	78.62	308	P	P	14 38 06.2	+0.7
	0.9nm,0.7s,baz=116,slow=4.3,SNR=3.5						
SPITS	Spitsbergen Ar	79.02	348	P	P	14 38 06.4	-0.4
	7.1nm,0.8s,baz=66,slow=7.1,SNR=7.1						
FINES	FINESS Array B	79.70	331	P	P	14 38 10.1	-0.6
	1.6nm,0.5s,baz=55,slow=5.6,SNR=39						
AKASG	Malin Array Be	79.89	320	P	P	14 38 10.8	-1.2
	0.4nm,0.3s,baz=70,slow=6.1,SNR=5.6						
MLR	Muntele Rosu	83.10	315	P	P	14 38 29.1	-0.1
	0.6nm,0.5s,baz=12,slow=14,SNR=5.7						
STHS	Stebnicka Huta	85.19	320	eP	P	14 38 40.9	+1.4
CRVS	Cervenica-Dubn	85.20	319	eP	P	14 38 39.8	+0.3
OJC	Ojcow	85.86	321	eP	P	14 38 42.0	-0.7
	7.4nm,0.7s						
HFS	Hagfors	85.89	331	P	P	14 38 41.7	-1.0
	3.1nm,0.6s,baz=112,slow=3.4,SNR=16						
NC405	NORSAR Array S	86.42	333	eP	P	14 38 43.2	-2.1
NB2	NORSAR Subarra	86.67	333	P	P	14 38 45.0	-1.6
	comp=Z,3.4nm,0.8s,baz=67,slow=4.8						
NOA	NORSAR Array B	86.67	333	P	P	14 38 45.3	-1.3
	comp=Z,3.6nm,0.7s,baz=68,slow=4.7,SNR=14						
CONA	Conrad Observa	89.05	319	ePKiKP	PKiKP	14 43 54.5	-1.9
	comp=Z,6.6nm,1.1s						
ARSA	Arzberg	89.50	319	ePKiKP	PKiKP	14 43 55.8	-1.3
	comp=Z,3.4nm,1.2s						
CLL	Collm	89.55	323	eP	P	14 39 00.0	-0.3
GERES	GERESS Array B	90.06	321	P	P	14 39 02.5	-0.4
	comp=Z,0.7nm,0.6s,baz=74,slow=4.9,SNR=9.0						
MOA	Molln	90.08	320	ePKiKP	PKiKP	14 43 56.3	-1.8
	comp=Z,4.3nm,1.5s						
ABTA	Abfaltersbach	91.60	319	ePKiKP	PKiKP	14 43 57.7	-3.0
	comp=Z,7.1nm,1.2s						
MOTA	Moosalm	92.25	320	ePKiKP	PKiKP	14 43 58.8	-3.2
	comp=Z,3.4nm,0.8s						
YKA	Yellowknife Ar	92.38	22	P	P	14 39 12.9	-0.3
	comp=Z,0.6nm,0.4s,baz=308,slow=4.5,SNR=18						
RETA	Reutte	92.40	320	PKiKP	PKiKP	14 43 58.3	-3.8
	comp=Z,6.0nm,1.5s						
FETA	Feichten	92.61	320	ePKiKP	PKiKP	14 43 58.7	-3.9
	comp=Z,4.5nm,1.4s						
KOWA	Kowa	118.08	295	PKP	PKPdf	14 44 49.8	-0.2
	comp=Z,0.7nm,0.5s,baz=91,slow=4.9,SNR=3.0						
TXAR	Lajitas Array	119.27	44	PKP	PKPdf	14 44 51.8	-0.4
	comp=Z,0.3nm,0.5s,baz=182,slow=0.4,SNR=6.1						

IDC ***04*** *14:31:08.2±2.6, 22.°87N×11.°73W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/52, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=76.7km s-min=28.1km az=68.0*
ISC 04 14:31:12.8±2.1, **22.°9N**±0.°2×**11.°2W**±0.°3, **h10**km, **n7**, σ1**§15**/8, **Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOWA	Kowa	10.78	140	Pn	Pn	14 33 47.5	+0.2
	0.5nm,0.3s,baz=321,slow=13,SNR=11						
KOWA				Sn	Sn	14 35 46.7	-1.5
	0.2nm,0.3s,baz=211,slow=18,SNR=2.7						
KOWA				Lg	Lg	14 37 01.2	
	0.3nm,0.3s,baz=255,slow=16,SNR=1.7						
I11CV	MAIO ISLAND IN	13.66	238	i		15 53 10.0	
	baz=52,slow=305,SNR=1.2						
TORD	Torodi Ar. Bea	15.62	126	Pn	Pn	14 34 54.3	+1.1
	0.2nm,0.3s,baz=312,slow=13,SNR=10						
TORD				Sn	Sn	14 37 47.5	+1.0
	0.1nm,0.3s,baz=313,slow=21,SNR=4.0						
TORD				Lg	Lg	14 39 41.9	
	baz=313,slow=24,SNR=2.4						
GERES	GERESS Array B	32.51	31	P	P	14 37 43.5	-0.3
	0.6nm,0.8s,baz=224,slow=9.3,SNR=5.7						
MKAR	Makanchi Array	75.93	45	P	P	14 42 59.1	-0.7
	0.3nm,0.5s,baz=288,slow=4.3,SNR=6.3						
WRA	Warramunga Arr	147.81	91	PKPbc	PKPdf	14 50 56.8	+0.9
	0.5nm,0.9s,baz=300,slow=1.8,SNR=7.5						
ASAR	Alice Springs	147.97	98	PKPbc	PKPdf	14 50 56.9	+0.8
	0.6nm,0.7s,baz=272,slow=1.9,SNR=8.9						

SJA ***04*** *14:31:48.1±0.4, 29.°38S×71.°94W, h4km±23km, ML3.3, MW3.6*
GUC ***04*** *14:31:50.1±0.4, 29.°49S×71.°86W, h37km±10km, ML3.6*
ISC 04 14:31:48.0±3.3, **29.°48S**±0.°07×**72.°0W**±0.°2, **h25**km, **n10**, σ1**§99**/14, **4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCO	Las Campanas	1.26	68	i P	Pn	14 32 10.7	+0.4
LCO				i S	Sb	14 32 27.7	+0.6
LCO	Las Campanas	1.26	68	⇓iP	Pn	14 32 11.2	+0.9
LCO				i S	Sb	14 32 27.8	+0.6
LCO				IAML		14 32 28.7	
	comp=E,1µm,0.3s						
TLL	Tololo Astrono	1.27	123	⇓iP	Pn	14 32 11.9	+1.4
TLL				i S	Sb	14 32 28.1	+0.6
TLL				IAML		14 32 33.3	
	comp=E,2µm,0.4s						
GO04	Tololo Observa	1.28	123	⇓iP	Pn	14 32 12.0	+1.4

GO04				iS	Sb	14 32 28.2	+0.5
GO04				IAML		14 32 33.5	
	comp=N,5µm,0.5s						
AGUA	GUANDACOL	3.09	91	iP	Pn	14 32 39.6	+4.2
RTLS	Leoncito	3.30	135	iP	Pb	14 32 44.3	-1.8
RTLS				iS	Sb	14 33 26.1	+0.1
RTLS				IAML		14 33 42.1	
	comp=Z,74nm,0.4s						
AMOG	MOGNA	3.40	116	iP	Pn	14 32 44.8	+5.3
VCA	Vinchina	3.43	78⇓	iP	Pb	14 32 46.9	-1.4
VCA				iS	Sb	14 33 26.6	-3.0
AUSP	Uspallata	3.56	141	iP	Pb	14 32 48.2	-2.3
RTCV	Cerro Valdivia	3.84	129	iP	Pn	14 32 51.2	+5.7

MAN 04 14:42:44, 10°.06N×123°.08E, h9km, mb4.7, ML3.6, MS3.6, 2C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.73	168⇓	iP	Pb	14 42 58.5	-0.4
SNPH				iS	Sg	14 43 06.2	-1.5
GUIM	Jordan	0.74	319	eP	Pn	14 43 00.1	-0.5
GUIM				eS	Sn	14 43 12.1	+0.1
TBP	Tagbilaran	0.86	115	eP	Pb	14 43 01.5	+0.5
LLP	Lapu-Lapu	0.91	74	eP	Pg	14 43 01.3	-0.3
LLP				eS	Sb	14 43 14.6	+0.4
JAP	San Jose, Anti	1.30	302⇑	eP	Pg	14 43 11.0	+1.9
DCPH	Dipolog City	1.49	170⇓	eP	Pn	14 43 08.4	-2.7
DCPH				iS	Sn	14 43 26.8	-3.9
RCP	Roxas	1.52	348⇑	eP	Pg	14 43 14.1	+0.8
RCP				eS	Sg	14 43 37.5	+4.4
MSLP	Maasin	1.75	88	eP	Pb	14 43 15.8	-0.6
MSLP				eS	Sg	14 43 40.4	-0.1
OCLP	Ormoc	1.80	57	eP	Pn	14 43 16.1	+0.9
ENPP	El Nido	3.77	288	eP	Pn	14 43 44.4	+2.1

MAN 04 14:44:27, 9°.90N×123°.02E, h15km, mb4.6, ML3.4, MS3.3, 4C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.59	159⇑	iP	Pb	14 44 39.9	+0.8
SNPH				iS	Sb	14 44 48.2	+0.8
GUIM	Jordan	0.83	330	eP	Pb	14 44 41.7	-1.5
GUIM				eS	Sg	14 44 53.6	-0.6
TBP	Tagbilaran	0.86	104	eP	Pb	14 44 42.9	-0.7
TBP				iS	Sb	14 44 54.5	-0.5
LLP	Lapu-Lapu	1.02	66	eP	Pb	14 44 43.3	-3.1
LLP				eS	Sb	14 44 56.0	-3.6
JAP	San Jose, Anti	1.35	309⇑	eP	Pg	14 44 52.7	-0.3
DCPH	Dipolog City	1.35	166⇑	eP	Pn	14 44 49.8	-1.5
DCPH				eS	Sn	14 45 08.2	-0.8
RCP	Roxas	1.67	351⇑	eP	Pn	14 44 55.5	-0.3
RCP				eS	Sb	14 45 18.7	+0.4
MSLP	Maasin	1.83	83	eP	Pn	14 44 57.4	-0.5
MSLP				eS	Sn	14 45 21.6	+0.7
OCLP	Ormoc	1.94	54	eP	Pn	14 44 57.3	-2.2
OCLP				eS	Sb	14 45 26.2	+0.2
PAGZ	Pagadian	2.07	170	eP	Pn	14 45 01.7	+0.4
OTRP	Odiongan	2.63	338	eP	Pn	14 45 10.2	+1.2
BUKP	Musuan	2.85	135	eP	Pn	14 45 12.0	0.0
BUSP	Coron	3.47	307	eP	Pn	14 45 21.0	+0.6
ENPP	El Nido	3.76	290	eP	Pn	14 45 25.4	+0.9

*ISCJB **04** 14:50:52.7±0.5, 38°.48N±0°.03×39°.34E±0°.03, h8km±6km, Error ellipse: s-maj=5.0km s-min=3.7km az=38.6*
*CSEM **04** 14:50:52.5±0.2, 38°.49N×39°.33E, h10km, MD2.3, Error ellipse: s-maj=4.4km s-min=3.8km az=47.0*
*DDA **04** 14:50:52.8, 38°.50N×39°.29E, h7km, Md2.3*
*ISK **04** 14:50:52.5, 38°.49N×39°.32E, h13km, ML2.6/6*
ISC 04 14:50:52.7±1.0, **38°.49N**±0°.03×**39°.35E**±0°.02, **h12**km±8km, **n28**, σ0s.**74**/45, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.28	272	iP	Pg	14 50 58.3	-0.3
ELZG				iS	Sg	14 51 02.6	0.0
ELZG	Elazig	0.28	272	P	Pg	14 50 58.3	-0.3
ELZG				S	Sg	14 51 02.6	0.0
PTK	Pertek	0.41	5	PG	Pg	14 51 00.8	0.0
PTK				SG	Sb	14 51 07.7	-0.5
PTK	Pertek	0.41	5	ePg	Pg	14 51 00.8	0.0
PTK				eSg	Sb	14 51 07.7	-0.5
TNCL	Tunceli-Merkez	0.64	14	iP	Pg	14 51 04.6	-0.6
TNCL				iS	Sb	14 51 15.0	0.0
TNCL	Tunceli-Merkez	0.64	14	P	Pg	14 51 04.6	-0.6
TNCL				S	Sb	14 51 15.0	0.0
MALT	Malatya	0.74	257	PG	Pg	14 51 06.6	-0.5
MALT				SG	Sb	14 51 17.7	-0.1
MALT	Malatya	0.74	257	ePg	Pg	14 51 06.6	-0.5
MALT				eSg	Sb	14 51 17.7	-0.1
DYBB	Diyarbakir	0.82	130	PG	Pb	14 51 09.2	+0.3
DYBB				SG	Sb	14 51 21.3	+1.3
DIYA	Diyarbakir	0.83	133	iP	Pb	14 51 09.9	+0.8
DIYA				iS	Sn	14 51 22.3	-0.2
DIYA	Diyarbakir	0.83	133	P	Pb	14 51 09.9	+0.8
DIYA				S	Sn	14 51 22.3	-0.2
DIY	Diyarbakir	0.91	130	ePg	Pg	14 51 09.2	-1.0
DIY				eSg	Sg	14 51 21.3	-0.8
KEMA	Kemaliye	1.03	320	iP	Pg	14 51 11.4	-1.1
KEMA				iS	Sb	14 51 25.7	-0.3
KEMA	Kemaliye	1.03	320	P	Pg	14 51 11.4	-1.1
KEMA				S	Sb	14 51 25.7	-0.3
URFA	Urfa	1.12	202	PN	Pn	14 51 14.6	+0.3
URFA	Urfa	1.12	202	ePn	Pn	14 51 14.6	+0.3
AKCD	Akcadag	1.14	261	iP	Pg	14 51 13.3	-1.2
AKCD				iS	Sn	14 51 29.3	-0.9
AKCD	Akcadag	1.14	261	P	Pg	14 51 13.3	-1.2
AKCD				S	Sn	14 51 29.3	-0.9
ILIC	ilic-Erzincan	1.14	328	PN	Pn	14 51 14.4	-0.2
ILIC	ilic-Erzincan	1.14	328	ePn	Pn	14 51 14.4	-0.2
MAZI	Mazidag	1.34	139	PN	Pn	14 51 17.5	+0.1
MAZI	Mazidag	1.34	139	ePn	Pn	14 51 17.5	+0.1
DARE	Darende-Malaty	1.47	274	PN	Pn	14 51 18.9	-0.1
CUKAN	kangal_SIVAS	1.69	300	iP	Pg	14 51 25.2	+0.2
CUKAN				iS	Sg	14 51 49.4	+2.5
GAZ	Gaziantep	2.14	233	PN	Pn	14 51 28.5	+0.2
GAZ	Gaziantep	2.14	233	ePn	Pn	14 51 28.5	+0.2
KMRS	Kahramanmaras	2.17	244	PN	Pn	14 51 29.6	+0.9
KMRS	Kahramanmaras	2.17	244	ePn	Pn	14 51 29.6	+0.9

DJA 04 14:56:55.6±1.1, **2°S**±9°×**14°1E**±°, **h10**km, **M4.4**/4, **mB6.9**/1, **mb5.3**/2, **MLv4.0**/4, **Mw(mB)6.8**/1, **Mwp7.4**/1, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.12	236	P	Pg	14 56 58.9	+0.4
JAY				S	Sg	14 57 02.0	+1.5
GENI	Genyem	0.65	257	P	Pg	14 57 08.1	-0.1
GENI				S	Sb	14 57 18.0	-0.1
MMPI	Merauke	5.99	184	P	Pn	14 58 25.1	+0.7
KMPI	Kaimana, Papua	7.19	260	P	Pn	14 58 41.2	+0.4

*ISCJB **04** 15:08:22.9±0.6, 47°.29N±0°.07×153°.4E±0°.1, h35km, mb3.6/8, Error ellipse: s-maj=14.5km s-min=3.6km az=44.3*
*SKHL **04** 15:08:24.5±0.7, 47°.20N×153°.57E, h44km±2km, mb4.3/6*
*IDC **04** 15:08:26.6±3.8, 47°.34N×153°.19E, h55km±34km, mb3.3/8, mb1 3.5/10, mb1mx3.2/63, mbtmp3.6/10, ML4.5/1, Error ellipse: s-maj=26.7km s-min=20.6km az=103.0*
ISC 04 15:08:24.1±0.8, **47°.17N**±0°.09×**153°.53E**±0°.09, **h35**km, **n39**, σ2s.**37**/46, **mb3.6**/8, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.91	25	eP	Pn	15 09 23.3	+1.7
SKR				AMB	AMB	15 09 23.9	
	50nm,0.4s						
SKR				eS	Sn	15 10 03.3	-2.8
SKR				A	A	15 10 11.0	
	35nm,0.4s						
SKR				A	A	15 10 11.0	
	36nm,0.4s						
KUR	Kuril'sk	4.38	246	eP	Pn	15 09 32.5	+4.4
KUR				AMB	AMB	15 09 34.4	
	6.0nm,0.4s						
KUR				eS	Sn	15 10 20.6	+2.7
KUR				A	A	15 10 36.0	
	142nm,0.6s						
KUR				A	A	15 10 36.0	
	147nm,0.6s						
PAU	Pauzhetka	4.80	25	eP	Pn	15 09 36.1	+2.2
PAU				AMB	AMB	15 09 38.3	
	90nm,1.0s						
PAU				eS	Sn	15 10 27.1	-1.2
PAU				A	A	15 10 41.2	
	278nm,0.9s						
SHO	Shikotan	5.75	237	eP	Pn	15 09 47.1	+0.2
SHO				AMB	AMB	15 09 50.1	
	21nm,0.5s						
SHO				eS	Sn	15 10 49.6	-2.0
SHO				A	A	15 11 26.0	
	98nm,0.6s						
SHO				A	A	15 11 26.0	
	51nm,0.6s						
YUK	Yuzh-Kuril'sk	6.23	243	eP	Pn	15 09 56.6	+3.1
YUK				AMB	AMB	15 10 04.2	
	26nm,0.4s						
YUK				AMB	AMB	15 10 04.2	
	28nm,0.4s						
YUK				AMB	AMB	15 10 04.2	
	45nm,0.4s						
YUK				eS	Sn	15 11 05.3	+2.0
YUK				A	A	15 11 35.1	
	79nm,0.6s						
YUK				A	A	15 11 35.1	
	45nm,0.6s						
PETK	Petropavlovsk-	6.52	23	P	Pn	15 09 58.6	+1.2
	0.4nm,0.3s,baz=178,slow=12,SNR=7.6						
GLVR	Golovnino	6.60	242	eP	Pn	15 10 01.6	+3.1
GLVR				eS	Sn	15 11 13.6	+1.2
NEM2	Nemuro 2	6.68	238	P	Pn	15 10 00.6	+0.9
NEM2				eS	Sn	15 11 13.1	-1.5
PET	Petropavlovsk	6.72	27	eP	Pn	15 10 02.5	+2.3
PET				eS	Sn	15 11 12.7	-2.7
JNK	Nakash	7.17	243	P	Pn	15 10 09.1	+2.7
YSS	Yuzh-Sakhalins	7.36	272	eP	Pn	15 10 12.0	+3.0
JAK	Akkeshi	7.52	239	P	Pn	15 10 11.6	+0.5
JAR	Ashorobuto	7.90	244	P	Pn	15 10 19.4	+2.9
JAR				eS	Sn	15 11 45.3	+0.7
TYV	Tymovskoe	8.04	301	eP	Pn	15 10 17.0	-1.4
TYV				AMB	AMB	15 10 25.9	
	6.0nm,0.6s						
ASAJ	Asahikawa	8.25	252	P	Pn	15 10 26.4	+5.2
	0.5nm,0.3s,baz=91,slow=16,SNR=8.3						
JKK2	Kamakawa 2	8.26	250	P	Pn	15 10 25.7	+4.4
JCH	Churui	8.53	241	P	Pn	15 10 26.3	+1.2
JCH				eS	Sn	15 11 56.8	-3.3
MYR	Moyori	8.77	240	eP	Pn	15 10 29.4	+1.0
MYR				eS	Sn	15 12 02.6	-3.3
JEM	Erimo	9.02	239	eS	Sn	15 12 06.8	-5.1
JBT2	Biratori 2	9.05	245	P	Pn	15 10 34.1	+1.9
JNBK	Urakawa-nobuka	9.10	241	P	Pn	15 10 32.9	+0.1
JNBK				eS	Sn	15 12 09.2	-4.7
JKB	Kayabe	10.37	244	P	Pn	15 10 50.0	-0.2
JANG	Nango	11.02	236	P	Pn	15 10 57.2	-2.0
MA2	Magadan	12.53	354	P	Pn	15 11 20.5	+0.8
	0.2nm,0.3s,baz=166,slow=11,SNR=3.7						
KLR	Kul'dur	14.66	286	P	P	15 11 56.2	+1.5
	0.0nm,0.3s,baz=112,slow=19,SNR=3.3						
H11N2	WAKE ISLAND Hy	29.47	154	T	T	15 46 22.3	
	baz=341,slow=76,SNR=140						
H11N1	WAKE ISLAND Hy	29.48	154	T	T	15 46 24.1	
	baz=341,slow=76,SNR=133						
H11N3	WAKE ISLAND Hy	29.48	154	T	T	15 46 19.2	
	baz=341,slow=76,SNR=110						
H11S1	WAKE ISLAND Hy	30.57	155	T	T	15 47 44.1	
	baz=341,slow=76,SNR=145						
H11S3	WAKE ISLAND Hy	30.57	155	T	T	15 47 40.7	
	baz=341,slow=76,SNR=183						
H11S2	WAKE ISLAND Hy	30.58	155	T	T	15 47 37.5	
	baz=341,slow=76,SNR=127						
SONM	Songino Array	31.46	289	P	P	15 14 39.0	-3.3
	0.2nm,0.7s,baz=57,slow=5.3,SNR=3.3						
YKA	Yellowknife Ar	50.41	37	P	P	15 17 17.8	+0.3
	0.2nm,0.5s,baz=297,slow=7.4,SNR=5.3						
FINES	FINESS Array B	63.78	335	P	P	15 18 51.1	-0.9
	0.5nm,0.4s,baz=18,slow=7.9,SNR=8.2						
HFS	Hagfors	68.16	340	P	P	15 19 19.4	-0.8
	0.8nm,0.5s,baz=42,slow=4.7,SNR=5.7						
WRA	Warramunga Arr	69.01	199	P	P	15 19 26.1	+0.2
	0.3nm,0.6s,baz=14,slow=6.5,SNR=6.3						
AKASG	Malin Array Be	71.35	326	P	P	15 19 38.4	-1.6
	0.3nm,0.3s,baz=34,slow=6.3,SNR=2.6						
ASAR	Alice Springs	72.70	199	P	P	15 19 49.8	+1.5
	0.7nm,0.5s,baz=10,slow=6.0,SNR=25						
ASAR				pP	sP	15 20 04.7	+1.5
	0.3nm,0.6s,baz=9.2,slow=5.9,SNR=2.8						
TXAR	Lajitas Array	77.04	61	P	P	15 20 13.7	0.0
	0.3nm,0.5s,baz=305,slow=5.1,SNR=6.3						
TXAR				pP	sP	15 20 30.5	+1.9
	0.2nm,0.5s,baz=305,slow=5.0,SNR=3.1						

*ISCJB **04** 15:22:08.5±1.0, 14°.80N±0°.10×92°.47E±0°.07, h18km, mb3.6/5, Error ellipse: s-maj=14.8km s-min=9.4km az=23.2*
*IDC **04** 15:22:08.2±1.9, 14°.52N×92°.39E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.3/57, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=59.1km s-min=22.2km az=65.0*
ISC 04 15:22:11.0±1.4, **14°.7N**±0°.1×**92°.4E**±0°.1, **h18**km, **n16**, σ1s.**87**/14, **mb3.7**/5, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.26	58	Pn	Pn	15 23 57.2	+0.9
	0.2nm,0.3s,baz=230,slow=14,SNR=1.8						
CMAR				Sn	Sn	15 25 16.2	-2.1
	baz=229,slow=19,SNR=1.6						
TAPN	Taplejung	13.31	341	eP	Pn	15 25 18.5	-1.0
	2.1nm,0.4s						
RAMN	Ramite	13.33	337	eP	Pn	15 25 19.4	-0.2
	7.1nm,0.4s						
JIRN	Jiri	14.12	337	eP	Pn	15 25 29.0	-1.6
	4.3nm,0.3s						
PKI	Pulchoki	14.36	334	eP	Pn	15 25 31.7	-2.1
	6.5nm,0.5s						
PKIN	Phulchoki	14.37	334	eP	Pn	15 25 31.8	-2.1
	6.2nm,0.5s						
GUN	Gumba	14.47	336	eP	Pn	15 25 33.2	-2.1
	2.7nm,0.4s						
DMN	Daman	14.52	333	eP	Pn	15 25 33.4	-2.6
	6.3nm,0.5s						
H08S3	Diego Garcia H	29.74	223	T	T	15 59 35.1	
	baz=44						
H08S2	Diego Garcia H	29.75	223	T	T	15 59 30.3	
	baz=44						
H08S1	Diego Carcia H	29.76	223	T	T	15 59 29.5	
	baz=44						
MKAR	Makanchi Array	33.08	347	P	P	15 28 47.3	+1.6
	1.3nm,0.8s,baz=163,slow=8.7,SNR=14						
SONM	Songino Array	34.99	16	P	P	15 29 04.4	+2.0
	0.7nm,0.7s,baz=212,slow=7.8,SNR=6.5						
ZALV	Zalesovo Beam	39.59	353	P	P	15 29 42.4	+1.2
	1.0nm,0.6s,baz=178,slow=9.6,SNR=6.3						
WRA	Warramunga Arr	53.71	129	P	P	15 31 31.4	-0.9
	0.1nm,0.4s,baz=308,slow=11,SNR=4.9						
ASAR	Alice Springs	55.67	133	P	P	15 31 45.8	-0.7
	0.3nm,0.7s,baz=310,slow=7.2,SNR=4.9						

MAN 04 15:39:43, 9°.14N×126°.17E, h48km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.57	253	eP	Pn	15 39 56.7	+1.7
BUTP				eS	Sn	15 40 07.2	+3.6
BIPH	Bislig	0.97	169⇑	iP	Pn	15 40 00.8	+0.6
BIPH				iS	Sn	15 40 08.7	-4.1
BUKP	Musuan	1.66	221	eP	Pn	15 40 11.0	+1.2
BUKP				eS	Sn	15 40 31.4	+1.4

*IDC **04** 15:41:02.5±2.0, 2°.75S×141°.23E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.3/45, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=219.8km s-min=31.8km az=111.0*
*ISCJB **04** 15:41:03.1±1.5, 2°.25S±0°.09×140°.43E±0°.06, h10km, mb3.4/2, Error ellipse: s-maj=12.8km s-min=8.7km az=172.1*
*DJA **04** 15:41:04.7±1.9, 2°S±17°×14°0E±°, h10km, M4.2/2, MLv4.2/2*
ISC 04 15:41:04.1±1.5, **2°.4S**±0°.2×**140°.45E**±0°.05, **h10**km, **n5**, σ0s.**79**/7, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.26	108	P	Pb	15 41 11.3	+0.3
JAY				S	Sb	15 41 16.1	+0.5
GENI	Genyem	0.33	241	P	Pb	15 41 12.4	+0.4
GENI				S	Sb	15 41 18.0	+0.6
WRA	Warramunga Arr	18.40	199	P	P	15 45 18.5	-1.0
	0.3nm,0.3s,baz=24,slow=12,SNR=17						
ASAR	Alice Springs	22.04	196	P	P	15 45 58.4	-0.7
	0.7nm,0.5s,baz=26,slow=11,SNR=28						
ILAR	Eielson Array	84.86	24	P	P	15 53 38.8	-0.1
	0.3nm,0.8s,baz=272,slow=4.4,SNR=2.3						

*ISCJB **04** 15:42:13.6±1.1, 8°.4N±0°.1×93°.4E±0°.2, h22km, mb3.5/6, Error ellipse: s-maj=30.5km s-min=17.2km az=153.6*
*IDC **04** 15:42:26.7±9.8, 8°.74N×93°.88E, h114km±83km, mb3.2/6, mb1 3.3/7, mb1mx3.0/63, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=88.5km s-min=18.4km az=54.0*
ISC 04 15:42:15.4±1.3, **8°.3N**±0°.2×**93°.3E**±0°.2, **h22**km, **n10**, σ1s.**54**/7, **mb3.6**/6, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.49	28	P	Pn	15 44 59.0	+0.8
	0.1nm,0.3s,baz=213,slow=15,SNR=7.5						
H08S3	Diego Garcia H	26.11	233	T	T	16 14 41.3	
	baz=51,slow=75,SNR=3.6						
H08S2	Diego Garcia H	26.11	233	T	T	16 14 45.1	
	baz=51,slow=75,SNR=6.1						
H08S1	Diego Carcia H	26.13	233	T	T	16 14 43.2	
	baz=51,slow=75,SNR=4.5						
MKAR	Makanchi Array	39.52	348	P	P	15 49 42.8	-1.8
	0.2nm,0.5s,baz=161,slow=7.9,SNR=3.2						
GEYT	Alibeck	43.36	318	P	P	15 50 18.1	+1.9
	0.7nm,0.6s,baz=128,slow=9.3,SNR=3.6						
ZALV	Zalesovo Beam	46.05	353	P	P	15 50 36.0	-1.3
	0.7nm,0.5s,baz=187,slow=8.4,SNR=5.0						
WRA	Warramunga Arr	49.15	125	P	P	15 51 02.4	+0.4
	0.3nm,0.5s,baz=305,slow=8.7,SNR=5.6						
ASAR	Alice Springs	50.79	130	P	P	15 51 14.2	-0.3
	0.3nm,0.9s,baz=298,slow=6.9,SNR=4.9						
ARCES	ARCESS Array B	74.61	340	P	P	15 53 52.0	-0.6
	1.0nm,0.7s,baz=108,slow=7.7,SNR=3.9						

*NIED **04** 15:43:00, 38°.50N×144°.50E, h5km, Mw3.7 Best double couple: $M_0$3.47000×10[14] NP1:ϕ_s30.00000°, δ37.00000°, λ-71.00000°. NP2:ϕ_s186.00000°, δ56.00000°, λ-104.00000°.*
*IDC **04** 15:43:28.5±0.7, 38°.45N×144°.85E, h0km, mb3.6/16, mb1 3.8/19, mb1mx3.7/65, mbtmp3.6/19, ML3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/61, Error ellipse: s-maj=18.6km s-min=16.6km az=117.0*
*ISCJB **04** 15:43:31.8±0.5, 38°.56N±0°.04×144°.64E±0°.04, h29km, mb3.5/15, Error ellipse: s-maj=6.2km s-min=4.2km az=172.2*
*JMA **04** 15:43:33.5±0.3, 38°.48N×144°.51E, h40km, M4.2*
ISC 04 15:43:33.3±0.7, **38°.55N**±0°.06×**144°.70E**±0°.06, **h29**km, **n40**, σ1s.**46**/54, **mb3.6**/15, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.43	284	P	Pn	15 44 10.0	-1.0
OFUJ				S	Sn	15 44 37.8	-1.9
MIYJ	Miyakonagasawa	2.47	295	P	Pn	15 44 10.7	-0.8
MIYJ				eS	Sn	15 44 38.5	-2.2
JIO	Ouri	2.63	269	P	Pn	15 44 12.5	-1.3
JIO				S	Sn	15 44 42.0	-2.8
JMK	Ichinoseki	2.75	279	P	Pn	15 44 15.5	+0.1
JMK				S	Sn	15 44 46.1	-1.6
JOM	Ohasama	2.81	290	P	Pn	15 44 15.9	-0.4
JOM				S	Sn	15 44 47.4	-1.8
JANG	Nango	3.07	307	P	Pn	15 44 19.0	-0.8
JANG				eS	Sn	15 44 54.1	-1.4
JOU	Okura	3.18	268	P	Pn	15 44 21.1	-0.2
JOU				eS	Sn	15 44 56.3	-1.9
JRG	Rokugo	3.28	286	P	Pn	15 44 22.9	+0.2
JRG				S	Sn	15 45 01.4	+0.6
JYK	Kaneyama	3.42	278	P	Pn	15 44 25.0	+0.4
JYK				eS	Sn	15 45 03.4	-0.7
JAH	Hinai	3.55	299	P	Pn	15 44 26.1	-0.3
JAH				S	Sn	15 45 06.6	-0.8
JTM	Tenmabayashi	3.58	310	P	Pn	15 44 26.7	-0.2
JTM				S	Sn	15 45 06.0	-2.2
JFT	Otama	3.60	255	P	Pn	15 44 26.9	-0.2
JFT				S	Sn	15 45 07.6	-1.0
JOT	Ohata	3.98	316	P	Pn	15 44 33.0	+0.6
JCH	Churui	4.18	346	P	Pn	15 44 33.2	-1.9
JCH				S	Sn	15 45 18.5	-4.5
JKB	Kayabe	4.36	321	P	Pn	15 44 38.8	+1.3
MJAR	Matsushiro Arr	5.54	251	Pn	Pn	15 44 53.6	-0.1
	2.4nm,0.3s,baz=197,slow=22,SNR=20						
MJAR				Sn	Sn	15 45 57.3	+0.9
	1.7nm,0.3s,baz=12,slow=17,SNR=4.8						
MAT	Matsushiro	5.54	251	P	Pn	15 44 53.8	0.0
MAT				eS	Sn	15 45 51.2	-5.2
ASAJ	Asahikawa	5.78	345	Pn	Pn	15 44 56.3	-0.8
	2.2nm,0.3s,baz=175,slow=10.0,SNR=28						
ASAJ				Sn	Sn	15 46 03.6	+1.3
	1.0nm,0.3s,baz=51,slow=14,SNR=5.0						
USRK	Ussuriysk Ar.	11.09	305	Pn	Pn	15 46 11.6	+1.8
	0.3nm,0.3s,baz=105,slow=16,SNR=6.0						
KSRS	Korea Array	13.28	270	LR	LR	15 50 38.8	
	comp=Z,52nm,19.7s,baz=14,slow=32						
SEY	Seymchan	24.86	8	P	P	15 48 53.4	+0.4
	1.9nm,0.6s,baz=260,slow=22,SNR=17						
YAK	Yakutsk	25.26	343	P	P	15 48 57.2	+0.6
H11N2	WAKE ISLAND Hy	26.85	128	T	T	16 16 58.5	
	baz=320,slow=75,SNR=7.8						
H11N1	WAKE ISLAND Hy	26.86	128	T	T	16 17 03.8	
	baz=320,slow=75,SNR=7.9						
H11N3	WAKE ISLAND Hy	26.87	128	T	T	16 17 04.6	
	baz=320,slow=75,SNR=8.2						
SONM	Songino Array	29.17	301	P	P	15 49 33.6	+1.5
	0.2nm,0.6s,baz=98,slow=9.2,SNR=2.9						
ZALV	Zalesovo Beam	42.85	311	P	P	15 51 29.5	+1.0
	0.5nm,0.4s,baz=104,slow=8.0,SNR=2.7						
ZALV				PcP	PcP	15 53 19.4	+0.2
	0.7nm,0.4s,baz=101,slow=5.0,SNR=4.7						
MKAR	Makanchi Array	45.54	301	P	P	15 51 51.2	+0.9
	1.0nm,0.8s,baz=82,slow=9.0,SNR=9.0						
ILAR	Eielson Array	46.81	33	P	P	15 51 59.5	-0.4
	0.3nm,0.8s,baz=255,slow=6.5,SNR=3.5						
BVAR	Borovoye Array	51.49	312	P	P	15 52 36.9	+1.0
	0.4nm,0.6s,baz=83,slow=12,SNR=4.1						
BVAR				PcP	PcP	15 53 50.5	+0.7
	0.5nm,0.6s,baz=91,slow=5.0,SNR=2.1						
WRA	Warramunga Arr	58.99	191	P	P	15 53 29.1	-1.2
	1.1nm,0.7s,baz=12,slow=7.2,SNR=10						
YKA	Yellowknife Ar	61.17	31	P	P	15 53 44.0	-0.7
	0.0nm,0.4s,baz=303,slow=6.8,SNR=4.4						
ASAR	Alice Springs	62.71	191	P	P	15 53 54.8	-0.8
	0.5nm,0.7s,baz=11,slow=7.0,SNR=7.2						
GEYT	Alibeck	65.36	300	P	P	15 54 13.5	+0.5
	0.8nm,0.7s,baz=64,slow=6.7,SNR=3.5						
FINES	FINESS Array B	68.67	333	P	P	15 54 33.4	-0.1
	1.7nm,0.7s,baz=52,slow=9.9,SNR=6.4						
NVAR	Mina Array Bea	71.99	55	P	P	15 54 55.2	+0.7
	0.1nm,0.3s,baz=290,slow=5.4,SNR=3.6						
AKASG	Malin Array Be	74.66	323	P	P	15 55 10.2	+0.4
	0.1nm,0.3s,baz=43,slow=6.3,SNR=3.2						
PDAR	Pinedale Array	74.73	47	P	P	15 55 10.5	-0.2
	0.4nm,0.7s,baz=289,slow=2.8,SNR=3.5						
GERES	GERESS Array B	82.75	330	P	P	15 55 54.5	+0.1
	0.3nm,0.6s,baz=34,slow=5.9,SNR=3.2						
TXAR	Lajitas Array	87.13	54	P	P	15 56 16.5	-0.3
	0.2nm,0.9s,baz=291,slow=2.8,SNR=2.9						

IDC 04 15:54:02.4±6.6, **18°.14S**×**176°.95W**, **h0**km, **mb3.9**/2, **mb1 4.1**/2, **mb1mx3.4**/45, **mbtmp3.9**/2, **Error ellipse: s-maj=337.1km s-min=52.8km az=147.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.96	260	P	P	16 02 27.0	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.3nm,0.5s,baz=96,slow=8.6,SNR=19						
ASAR	**Alice Springs**	**46.07**	**254**	P	P	16 02 28.9	+0.4
	2.9nm,0.5s,baz=90,slow=8.0,SNR=85						
GERES	**GERESS Array B**	**148.18**	**347**	PKPbc	PKPbc	16 13 49.7	-0.7
	0.3nm,0.5s,baz=28,slow=4.4,SNR=3.9						

*BJI **04** 15:59:00.6, 51.°98N×95.°97E, h12km, mb4.2/20, mB4.5/20, ML4.7/1, Ms4.2/13, Ms7 4.1/17*
*IDC **04** 15:59:02.5±0.5, 51.°67N×96.°15E, h0km, mb4.0/26, mb1 4.1/30, mb1mx4.0/71, mbtmp4.0/30, ML3.2/4, MS3.3/7, Ms1 3.3/7, ms1mx2.8/66, Error ellipse: s-maj=13.9km s-min=9.0km az=177.0*
*MOS **04** 15:59:03.0±1.4, 51.°74N×96.°12E, h12km, mb4.4/21, Error ellipse: s-maj=6.4km s-min=5.5km az=3.1*
*ASRS **04** 15:59:03.4±0.5, 51.°74N×96.°02E, h15km, Ms4.0/2*
*NEIC **04** 15:59:04.1±0.3, 51.°70N×96.°08E, h10km, mb4.6/12, Error ellipse: s-maj=7.4km s-min=4.2km az=173.0*
ISC 04 15:59:04.6±0.6**, 51.°73N**±0.°04×**96.°19E**±0.°03**, h10**km±3km**, h10**km**:pP-P, n160,** σ1.s**82**/186**, mb4.2**/41**, MS3.3**/7**, 9C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.67**	**355**	PG	**Pg**	**15 59 15.8**	**-1.8**
KZLR	**Kyzyl**	**1.08**	**269**	*e*PG	Pb	15 59 20.3	-5.1
KZLR	**Kyzyl**	**1.08**	**269**	*i* Pg	**Pb**	**15 59 20.8**	**-4.6**
KZLR				*e*Sg	**Sg**	**15 59 33.6**	**-5.8**
HVS	**Khovu-Aksy**	**1.67**	**250**	⇓ *i*P	**Pn**	**15 59 30.8**	**-3.2**
HVS	**Khovu-Aksy**	**1.67**	**250**	*d i*PN	**Pn**	**15 59 30.8**	**-3.2**
ORL	**Orlik**	**2.37**	**69**	*e*P	**Pn**	**15 59 45.8**	**+2.1**
ORL	**Orlik**	**2.37**	**69**	⇑ *i*PN	**Pb**	**15 59 46.0**	**-1.5**
ORL				*e*		16 00 17.6	
ORL				pmax	pmax		
	comp=Z,478nm,0.3s						
ORL				smax	smax		
	comp=E,2μm,0.7s						
MOY	**Mondy**	**2.99**	**89**	*e*PN	**Pn**	**15 59 54.3**	**+2.1**
MOY				*i*		16 00 01.3	
MOY				*e*		16 00 37.9	
MOY				*i*		16 00 46.2	
CERR	**Cheremushki**	**3.14**	**293**	PN	**Pn**	**15 59 53.5**	**-0.6**
CERR	**Cheremushki**	**3.14**	**293**	*e*Pn	**Pn**	**15 59 53.7**	**-0.5**
CERR				*e*Pg	**Pb**	**15 59 58.3**	**-2.2**
CERR				*e*Sg	**Sb**	**16 00 37.2**	**-1.6**
MINR	**Mina**	**3.39**	**340**	*e*PN	**Pn**	**15 59 59.2**	**+1.6**
TEL	**Teeli**	**3.82**	**262**	PN	**Pn**	**16 00 02.5**	**-1.1**
ARS	**Arshan**	**3.87**	**85**	*e*P	**Pn**	**16 00 06.3**	**+2.1**
ARS	**Arshan**	**3.87**	**85**	*e*PN	**Pn**	**16 00 06.3**	**+2.1**
VEH	**Verkhnyaya Baz**	**3.90**	**295**	*e*PN	**Pn**	**16 00 04.1**	**-0.6**
TLY	**Talaya**	**4.63**	**88**	*e*PN	**Pb**	**16 00 27.4**	**+1.4**
TLY				*e*		16 01 27.5	
TLY				pmax	pmax		
	comp=Z,55nm,0.5s						
ZAK	**Zakamensk**	**4.67**	**104**	*e*PN	**Pn**	**16 00 14.7**	**-0.6**
ZAK				*e*		16 00 26.8	
ZAK				*e*		16 01 30.7	
ZAK				pmax	pmax		
	comp=Z,169nm,1.0s						
ZAK				smax	smax		
	comp=N,609nm,0.7s						
LUZB	**Luzhba, Kemero**	**4.84**	**296**	*e*PN	**Pn**	**16 00 16.9**	**-0.5**
IRK	**Irkutsk**	**5.02**	**81**	*e*PN	**Pb**	**16 00 34.4**	**+1.9**
IRK				*e*		16 01 37.6	
IRK				pmax	pmax		
	comp=N,123nm,0.6s						
IRK				smax	smax		
	comp=N,2μm,0.6s						
TASR	**Tashtagol**	**5.21**	**285**	PN	**Pn**	**16 00 23.1**	**+0.5**
TASR	**Tashtagol**	**5.21**	**285**	*e*Pn	**Pn**	**16 00 24.2**	**+1.7**
TASR				*e*Pg	**Pb**	**16 00 36.0**	**+0.2**
TASR				*e*Sg	**Sb**	**16 01 42.5**	**+4.2**
CUR	**Chagan-Uzun**	**5.22**	**255**	PN	**Pn**	**16 00 22.1**	**-0.8**
ARTR	**Artybash**	**5.53**	**274**	PN	**Pn**	**16 00 27.3**	**+0.3**
ARTR	**Artybash**	**5.53**	**274**	*e*Pn	**Pn**	**16 00 26.5**	**-0.6**
ARTR				*e*Pg	**Pb**	**16 00 42.3**	**+1.0**
ARTR				*e*Sg	**Sb**	**16 01 52.1**	**+4.4**
AKAR	**Aktash**	**5.59**	**259**	PN	**Pn**	**16 00 27.9**	**0.0**
AKAR	**Aktash**	**5.59**	**259**	*e*Pn	**Pn**	**16 00 28.0**	**+0.1**
AKAR				*e*Pg	**Pb**	**16 00 42.7**	**+0.4**
AKAR				*e*Sg	**Sb**	**16 01 53.7**	**+4.3**
CHBI	**Chibit, Altay**	**5.67**	**259**	PN	**Pn**	**16 00 29.6**	**+0.7**
ELT	**Eltsovka**	**6.27**	**288**	*e*PN	**Pn**	**16 00 39.2**	**+2.1**
ELT	**Eltsovka**	**6.27**	**288**	*e*Pn	**Pn**	**16 00 37.6**	**+0.5**
ELT				*e*Pg	**Pb**	**16 00 54.6**	**+0.9**
ELT				*e*Sg	**Sb**	**16 02 12.1**	**+3.3**
TRG	**Tyrgan**	**6.32**	**77**	*e*PN	**Pn**	**16 00 35.6**	**-2.3**
OGRR	**Ongureny**	**7.19**	**70**	*e*P	**Pn**	**16 00 51.5**	**+1.7**
ZAA0	**Zalesovo Array**	**7.24**	**292**	*e*Pn	**Pn**	**16 00 49.2**	**-1.1**
ZALV	**Zalesovo Beam**	**7.24**	**292**	Pn	**Pn**	**16 00 50.8**	**+0.4**
	comp=N,0.6nm,0.3s,baz=98,slow=11,SNR=13						
ZALV				Pg	**Pb**	**16 01 13.3**	**+3.1**
	comp=N,4.2nm,0.3s,baz=115,slow=14,SNR=11						
ZALV				Sn	**Sn**	**16 02 12.1**	**-0.5**
	comp=N,1.7nm,0.3s,baz=102,slow=19,SNR=6.0						
ZALV				Lg	Lg	16 02 46.9	
	comp=N,8.4nm,0.3s,baz=113,slow=24,SNR=10						
ZALV	**Zalesovo Beam**	**7.24**	**292**	*e*Pn	**Pn**	**16 00 49.6**	**-0.7**
ZALV				Pg	**Pb**	**16 01 13.3**	**+3.1**
ZALV				Sn	**Sn**	**16 02 12.1**	**-0.5**
ZALV				Lg	Lg	16 02 46.9	
SONM	**Songino Array**	**7.67**	**117**	Pn	**Pn**	**16 00 58.6**	**+2.2**
	comp=N,0.2nm,0.3s,baz=296,slow=15,SNR=8.2						
SONM				Pg	**Pb**	**16 01 21.4**	**+3.7**
	comp=N,1.7nm,0.3s,baz=298,slow=15,SNR=7.2						
SONM				Lg	Lg	16 03 02.5	
	comp=N,9.6nm,0.3s,baz=302,slow=28,SNR=8.0						
ULN	**Ulaanbaatar**	**8.02**	**115**	*e*Pn	**Pn**	**16 01 00.2**	**-1.1**
ULN	**Ulaanbaatar**	**8.02**	**115**	*ce*P	Pn	16 01 05.9	+4.6
ULN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NVS	**Novosibirsk**	**8.36**	**297**	*e*P	**Pn**	**16 01 05.2**	**-0.6**
NVS	**Novosibirsk**	**8.36**	**297**	*e*Pn	**Pn**	**16 01 05.0**	**-0.8**
NVS				*e*Pg	Pb	16 01 36.9	+7.5
NVS				*e*Sg	Sb	16 03 20.5	+12
SYVR	**Suvo**	**8.61**	**72**	*e*P	**Pn**	**16 01 10.0**	**+0.8**
SYVR				pmax	pmax		
	comp=Z,21nm,1.3s						
NIZ	**Nizh Angarsk**	**8.88**	**58**	*e*P	**Pn**	**16 01 14.4**	**+1.5**
NIZ				pmax	pmax		
	comp=Z,33nm,0.6s						
YLYR	**Ulyunkhan**	**9.50**	**65**	*e*P	**Pn**	**16 01 23.2**	**+1.8**
YLYR				pmax	pmax		
	comp=Z,20nm,0.9s						
WMQ	**Urumqi**	**9.76**	**219**	P	**Pn**	**16 01 25.4**	**+0.3**
WMQ				S	**Sn**	**16 03 15.4**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,22nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,100nm,3.6s						
WMQ				LR	LR		
	comp=Z,340nm,14.7s						
MK31	**Makanchi Array**	**10.34**	**247**	*e*Pn	**Pn**	**16 01 31.0**	**-1.9**
MK31	**Makanchi Array**	**10.34**	**247**	*e*P	**Pn**	**16 01 31.0**	**-1.9**
MKAR	**Makanchi Array**	**10.34**	**247**	Pn	**Pn**	**16 01 31.6**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=74,slow=13,SNR=12						
MKAR				Pg		16 02 12.1	
	comp=Z,1.1nm,0.3s,baz=77,slow=19,SNR=9.6						
MKAR				Lg	Lg	16 04 23.1	
	comp=Z,1.1nm,0.3s,baz=51,slow=17,SNR=4.8						
MKAR				LR	LR	16 05 59.8	
	comp=Z,117nm,20.6s,baz=44,slow=41						
MKAR	**Makanchi Array**	**10.34**	**247**	*e*Pn	**Pn**	**16 01 31.0**	**-2.0**
MKAR				Pg		16 02 12.1	
MKAR				Lg	Lg	16 04 23.1	
MKAR	**Makanchi Array**	**10.34**	**247**	*e*P	**Pn**	**16 01 31.5**	**-1.4**
MK01	**Makanchi Array**	**10.35**	**247**	*e*Pn	**Pn**	**16 01 31.1**	**-2.0**
MAKZ	**Makanchi**	**10.51**	**248**	*e*Pn	**Pn**	**16 01 35.0**	**-0.3**
MAKZ	**Makanchi**	**10.51**	**248**	*e*P	**Pn**	**16 01 35.0**	**-0.3**
KURK	**Kurchatov**	**11.07**	**272**	*e*Pn	**Pn**	**16 01 42.2**	**-0.7**
KURK	**Kurchatov**	**11.07**	**272**	*i* P	**Pn**	**16 01 42.6**	**-0.3**
BOD	**Bodaibo**	**11.93**	**52**	*e*P	**Pn**	**16 01 54.2**	**-0.4**
GTA	**Gaotai**	**12.58**	**167**	*e*P		16 02 09.5	
GTA				pP	Pn	16 02 12.7	+9.0
GTA				sP		16 02 15.5	
GTA				S	Sn	16 04 34.3	+10
GTA				sS		16 04 39.8	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,66nm,4.9s						
GTA				LR	LR		
	comp=Z,620nm,7.9s						
GTA				LR	LR		
	comp=Z,460nm,7.0s						
GTA				LR	LR		
	comp=Z,630nm,9.3s						
HIA	**Hailar**	**15.17**	**90**	*e*Pn	**Pn**	**16 02 38.0**	**-0.9**
	comp=Z,12nm,0.9s						
HIA	**Hailar**	**15.17**	**90**	*e*P	**Pn**	**16 02 38.0**	**-0.9**
HIA				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC	**Hu-ho-hao-te**	**15.18**	**130**	*e*P	**Pn**	**16 02 37.7**	**-1.3**
HHC				sP	P	16 02 44.9	+0.8
HHC				S	**Sn**	**16 05 24.7**	**-2.5**
HHC				SS	**S**	**16 05 44.7**	**+0.4**
HHC				pmax	pmax		
	comp=Z,92nm,5.1s						
HHC				LR	LR		
	comp=Z,220nm,6.3s						
HHC				LR	LR		
	comp=Z,150nm,6.3s						
HHC				LR	LR		
	comp=Z,160nm,7.5s						
PRZ	**Przheval'sk**	**15.21**	**240**	P	**P**	**16 02 48.0**	**+3.4**
BVAR	**Borovoye Array**	**15.79**	**285**	Pn	**Pn**	**16 02 44.6**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=77,slow=14,SNR=7.2						
BRVK	**Borovoye**	**15.85**	**285**	*e*Pn	**Pn**	**16 02 47.2**	**-0.3**
	comp=Z,4.7nm,0.8s						
BRVK	**Borovoye**	**15.85**	**285**	*ce*P	**Pn**	**16 02 47.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,22nm,1.2s						
KDJ	**Kajisay**	**16.11**	**241**	P	**P**	**16 02 53.3**	**-1.3**
LZH	**Lanzhou**	**16.57**	**158**	*e*P	**Pn**	**16 02 57.5**	**+0.4**
LZH				pP	pP	16 03 00.7	-1.7
LZH				sP	sP	16 03 03.7	+0.1
LZH				PP	**PnPn**	**16 03 09.8**	**+3.6**
LZH				SS	S	16 06 28.0	+15
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=Z,540nm,8.2s						
LZH				LR	LR		
	comp=Z,480nm,8.9s						
LZH				LR	LR		
	comp=Z,690nm,9.4s						
FRU	**Bishkek**	**17.08**	**247**	*e*P	**Pn**	**16 03 03.0**	**-0.4**
FRU				pmax	pmax		
	comp=Z,20nm,1.9s						
FRU				pmax	pmax		
	comp=E,60nm,1.8s						
AAK	**Ala-Archa**	**17.27**	**247**	P	**Pn**	**16 03 03.8**	**-2.1**
	comp=E,0.1nm,0.3s,baz=53,slow=15,SNR=4.9						
AAK				Lg	Lg	16 08 00.7	
	comp=E,0.1nm,0.3s,baz=168,slow=20,SNR=3.0						
AAK				LR	LR	16 10 20.9	
	comp=E,42nm,18.9s,baz=36,slow=39						
AAK	**Ala-Archa**	**17.27**	**247**	*e*P	**Pn**	**16 03 05.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.9s						
KSH	**Kashi**	**18.61**	**237**	*e*P	**Pn**	**16 03 25.9**	**+3.5**
KSH				sP	sP	16 03 30.4	+4.3
KSH				PP	**PnPn**	**16 03 43.6**	**+10**
KSH				S	**S**	**16 06 53.1**	**-1.2**
KSH				SS	SnSn	16 07 19.2	+15
KSH				pmax	pmax		
	comp=Z,120nm,4.2s						
KSH				LR	LR		
	comp=Z,230nm,6.1s						
KKAR	**Karatay Array**	**19.32**	**254**	*e*P	**P**	**16 03 27.9**	**-1.9**
KKAR	**Karatay Array**	**19.32**	**254**	*e*P	**P**	**16 03 27.9**	**-1.9**
YAK	**Yakutsk**	**20.75**	**47**	P	**P**	**16 03 44.3**	**-0.9**
	comp=Z,15nm,0.6s,baz=81,slow=0.6,SNR=8.0						
YAK				Lg	Lg	16 09 49.3	
	comp=Z,1.9nm,0.3s,baz=0.0,slow=20,SNR=3.3						
YAK				LR	LR	16 13 03.9	
	comp=Z,30nm,19.6s,baz=270,slow=40						
YAK	**Yakutsk**	**20.75**	**47**	*e*P	**P**	**16 03 43.9**	**-1.3**
	comp=Z,25nm,0.7s						
YAK				Lg	Lg	16 09 49.3	
YAK	**Yakutsk**	**20.75**	**47**	*e*P	**P**	**16 03 45.5**	**+0.3**
YAK				*e**PP	**sP**	**16 03 52.2**	**+3.1**
YAK				*e*S	**S**	**16 07 36.9**	**+0.4**
YAK				*e*SS	**SnSn**	**16 07 58.8**	**+2.9**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,17nm,1.5s						
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,18nm,1.2s						
YAK				smax	smax		
	comp=N,123nm,5.1s						
YAK				smax	smax		
	comp=E,76nm,4.4s						
YAK				MLR	MLR		
	comp=Z,102nm,5.0s						
YAK				MLR	MLR		
	comp=N,57nm,7.0s						
YAK				MLR	MLR		
	comp=E,145nm,8.0s						
SVE	**Sverdlovsk**	**21.20**	**298**	⇓ *e*P	**P**	**16 03 49.4**	**-0.7**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**21.54**	**162**	*e*P	**P**	**16 03 53.0**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LSA	**Lhasa**	**22.33**	**192**	*e*P	**P**	**16 04 02.3**	**-0.6**
	comp=Z,7.1nm,1.3s						
LSA	**Lhasa**	**22.33**	**192**	*e*P	**P**	**16 04 02.3**	**-0.6**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ARU	**Arti**	**22.37**	**297**	P	**P**	**16 04 01.7**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=98,slow=5.0,SNR=8.9						
ARU	**Arti**	**22.37**	**297**	*e*P	**P**	**16 04 03.2**	**+0.6**
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**22.37**	**297**	*c i*P	**P**	**16 04 03.3**	**+0.7**
ARU						16 04 25.9	
ARU				S	**S**	**16 08 10.5**	**+2.3**
ARU				SS	**SnSn**	**16 08 36.5**	**+0.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KLR	**Kul'dur**	**22.63**	**82**	P	**P**	**16 04 06.0**	**+0.6**
	comp=Z,0.2nm,1.0s,baz=284,slow=5.2,SNR=5.7						
KLR				Lg	Lg	16 10 55.4	
	comp=Z,0.1nm,0.7s,baz=272,slow=13,SNR=2.6						
KLR				LR	LR	16 13 42.9	
	comp=Z,5.3nm,19.6s,baz=300,slow=39						
KLR	**Kul'dur**	**22.63**	**82**	*i* P	**P**	**16 04 06.7**	**+1.3**
AKTO	**Aktyubinsk**	**23.84**	**282**	P	**P**	**16 04 17.2**	**-0.5**
	comp=Z,6.0nm,0.6s,baz=87,slow=12,SNR=17						
TIXI	**Tiksi**	**24.69**	**24**	P	**P**	**16 04 25.5**	**+0.2**
	comp=Z,30nm,0.8s,baz=156,slow=0.4,SNR=5.1						
TIXI				Lg	Lg	16 11 51.7	
	comp=Z,10nm,1.1s,baz=262,slow=19,SNR=5.0						
TIXI				LR	LR	16 14 40.1	
	comp=Z,47nm,20.5s,baz=98,slow=38						
TIXI	**Tiksi**	**24.69**	**24**	*e*P	**P**	**16 04 24.8**	**-0.5**
	comp=Z,95nm,1.1s						
TIXI				Lg	Lg	16 11 51.7	
TIXI	**Tiksi**	**24.69**	**24**	*de*P	**P**	**16 04 25.0**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,79nm,1.0s						
USRK	**Ussuriysk Ar.**	**24.93**	**93**	P	**P**	**16 04 27.9**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=14,slow=9.9,SNR=5.7						
GUN	**Gumba**	**25.03**	**202**	*e*P	**P**	**16 04 28.6**	**-0.5**
	comp=Z,26nm,1.1s						
DANN	**Dangsing**	**25.15**	**207**	*e*P	**P**	**16 04 30.7**	**+0.5**
	comp=Z,1.6nm,0.8s						
TAPN	**Taplejung**	**25.18**	**198**	*e*P	**P**	**16 04 30.3**	**-0.2**
	comp=Z,18nm,1.0s						
JIRN	**Jiri**	**25.20**	**201**	*e*P	**P**	**16 04 30.7**	**0.0**
	comp=Z,25nm,0.9s						
KKN	**Kakani**	**25.29**	**203**	*e*P	**P**	**16 04 31.0**	**-0.3**
	comp=Z,14nm,0.8s						
PKIN	**Phulchoki**	**25.46**	**203**	*e*P	**P**	**16 04 32.7**	**-0.3**
	comp=Z,5.8nm,0.6s						
PKI	**Pulchoki**	**25.46**	**203**	*e*P	**P**	**16 04 32.9**	**-0.2**
	comp=Z,18nm,1.1s						
DMN	**Daman**	**25.50**	**203**	*e*P	**P**	**16 04 33.2**	**-0.1**
	comp=Z,12nm,0.9s						
PYUN	**Piuthan**	**25.60**	**208**	*e*P	**P**	**16 04 34.3**	**+0.1**
	comp=Z,15nm,0.7s						
ODAN	**Odare**	**25.72**	**198**	*e*P	**P**	**16 04 34.4**	**-0.9**
	comp=Z,12nm,0.7s						
NJ2	**Nanjing**	**25.73**	**131**	*e*P	**P**	**16 04 33.9**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
KOLN	**Koldanda**	**25.74**	**206**	*e*P	**P**	**16 04 35.0**	**-0.5**
	comp=Z,18nm,0.9s						
RAMN	**Ramite**	**25.79**	**200**	*e*P	**P**	**16 04 35.2**	**-0.8**
	comp=Z,14nm,0.7s						
KSAR	**Wonju Array Be**	**26.46**	**110**	P	**P**	**16 04 40.1**	**-1.5**
KSAR	**Wonju Array Be**	**26.46**	**110**	P	**P**	**16 04 40.2**	**-1.5**
KSRS	**Korea Array**	**26.47**	**110**	P	**P**	**16 04 40.2**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=317,slow=8.2,SNR=3.1						
KMI	**Kunming**	**27.04**	**167**	P	**P**	**16 04 48.4**	**+1.2**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MA2	**Magadan**	**30.96**	**54**	P	**P**	**16 05 22.3**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=286,slow=15,SNR=4.0						
MA2	**Magadan**	**30.96**	**54**	P	**P**	**16 05 22.3**	**+0.8**
MA2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SEY	**Seymchan**	**31.28**	**47**	P	**P**	**16 05 25.1**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=270,slow=14,SNR=11						
SEY	**Seymchan**	**31.28**	**47**	*i* P	**P**	**16 05 28.3**	**+4.0**
CMAR	**Chiang Mai Arr**	**33.27**	**175**	P	**P**	**16 05 42.5**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=356,slow=13,SNR=4.4						
CMAR				LR	LR	16 20 10.4	
	comp=Z,59nm,19.2s,baz=322,slow=38						
VSR	**Storozhevoye**	**34.74**	**292**	*i* P	**P**	**16 05 54.6**	**-0.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OBN	**Obninsk**	**34.75**	**300**	*i* P	**P**	**16 05 51.8**	**-2.8**
OBN				*i*		16 08 26.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	**ARCESS Array B**	**36.35**	**326**	P	**P**	**16 06 09.2**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=84,slow=9.2,SNR=3.5						
BILL	**Bilibino**	**36.36**	**37**	*i* P	**P**	**16 06 08.1**	**-0.3**
BILL				*i*		16 07 34.1	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,67nm,15.0s						
PETK	**Petropavlovsk-**	**36.52**	**63**	P	**P**	**16 06 11.6**	**+1.7**
	comp=Z,6.4nm,0.9s,baz=314,slow=5.1,SNR=8.5						
PETK	**Petropavlovsk-**	**36.52**	**63**	P	**P**	**16 06 11.6**	**+1.7**
PETK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SPITS	**Spitsbergen Ar**	**37.91**	**341**	LR	LR	16 23 09.8	
	comp=Z,71nm,18.4s,baz=170,slow=38						
FINES	**FINESS Array B**	**37.96**	**313**	P	**P**	**16 06 20.9**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=72,slow=8.1,SNR=14						
FINES	**FINESS Array B**	**37.96**	**313**	*ce*P	**P**	**16 06 21.8**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**40.62**	**296**	P	**P**	**16 06 42.9**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=57,slow=8.8,SNR=8.1						
AKASG	**Malin Array Be**	**40.62**	**296**	*ce*P	**P**	**16 06 45.7**	**+1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TGY	**Tagaytay City**	**42.47**	**143**	LR	LR	16 27 05.4	
	comp=Z,99nm,18.2s,baz=112,slow=40						
BR131	**Keskin Array S**	**43.98**	**280**	*e*P	**P**	**16 07 11.8**	**-0.3**
BRTR	**Keskin Array B**	**43.98**	**280**	P	**P**	**16 07 11.2**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=74,slow=6.3,SNR=9.5						
BRTR	**Keskin Array B**	**43.98**	**280**	*ce*P	**P**	**16 07 14.6**	**+2.6**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HFS	**Hagfors**	**44.06**	**314**	P	**P**	**16 07 11.6**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=70,slow=9.3,SNR=7.3						
BR231	**Keskin MP Arra**	**44.44**	**280**	*e*P	**P**	**16 07 12.5**	**-3.2**
NB2	**NORSAR Subarra**	**44.72**	**316**	P	**P**	**16 07 16.2**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=78,slow=7.9						
NOA	**NORSAR Array B**	**44.72**	**316**	P	**P**	**16 07 16.8**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=59,slow=8.0,SNR=6.0						
VYHS	**Vyhne**	**47.52**	**298**	*e*P	**P**	**16 07 39.7**	**-0.1**
VYHS	**Vyhne**	**47.52**	**298**	*e*P	**P**	**16 07 39.7**	**-0.1**
RAYN	**Ar Rayn**	**47.75**	**254**	*e*P	**P**	**16 07 40.9**	**-0.9**
	comp=Z,4.9nm,0.8s						
DPC	**Dobruska-Polom**	**47.83**	**302**	*e*P	**P**	**16 07 42.3**	**+0.2**
DPC				*e*pP	**pP**	**16 07 44.5**	**-0.6**
DPC	**Dobruska-Polom**	**47.83**	**302**	*e*P	**P**	**16 07 42.3**	**+0.2**
DPC				*e*		16 07 44.5	
UPC	**Upice**	**47.90**	**302**	*e*P	**P**	**16 07 45.1**	**+2.5**
UPC	**Upice**	**47.90**	**302**	*e*P	**P**	**16 07 45.1**	**+2.5**
CLL	**Collm**	**49.01**	**304**	*e*P	**P**	**16 07 51.0**	**-0.2**
CLL				*i* pP	**pP**	**16 07 53.0**	**-1.2**
	comp=Z,6.0nm,1.0s						
CLL				*i* sP	**sP**	**16 07 54.8**	**-0.6**
CLL	**Collm**	**49.01**	**304**	*e*P	**P**	**16 07 50.2**	**-0.9**
	comp=Z,4.8nm,0.9s						
CLL	**Collm**	**49.01**	**304**	*e*P	**P**	**16 07 51.0**	**-0.2**
CLL				*i*		16 07 53.0	
CLL				*i*		16 07 54.8	
KHC	**Kasperske Hory**	**49.98**	**302**	*e*P	**P**	**16 07 58.8**	**+0.1**
KHC				*e*pP	**pP**	**16 08 01.4**	**-0.3**
KHC	**Kasperske Hory**	**49.98**	**302**	*e*P	**P**	**16 07 58.8**	**+0.1**
KHC				*e*		16 08 01.4	
GERES	**GERESS Array B**	**50.09**	**301**	P	**P**	**16 07 59.1**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=56,slow=8.2,SNR=5.9						
IM3	**Indian Mountai**	**51.16**	**30**	*e*P	**P**	**16 08 06.3**	**-1.0**
COLD	**Coldfoot**	**51.36**	**27**	*e*P	**P**	**16 08 08.3**	**-0.5**
	comp=Z,3.3nm,1.0s						
IL1	**Eielson Array**	**54.06**	**28**	*e*P	**P**	**16 08 28.4**	**-0.4**
ILAR	**Eielson Array**	**54.06**	**28**	P	**P**	**16 08 28.6**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=328,slow=4.2,SNR=10						
INK	**Inuvik**	**54.73**	**20**	P	**P**	**16 08 33.1**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=320,slow=3.5,SNR=9.6						
BNI	**Bardonecchia**	**56.21**	**301**	*e*P	**P**	**16 08 43.6**	**-1.1**
	comp=Z,27nm,1.6s						
BNI	**Bardonecchia**	**56.21**	**301**	*e*P	**P**	**16 08 43.6**	**-1.1**
BNI				pmax	pmax		
	comp=Z,27nm,1.6s						
KLU	**Klutina**	**56.80**	**30**	*e*P	**P**	**16 08 44.3**	**-4.3**
	comp=Z,38nm,1.6s						
YKA	**Yellowknife Ar**	**63.54**	**15**	P	**P**	**16 09 33.6**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=339,slow=7.0,SNR=6.7						
YKA	**Yellowknife Ar**	**63.54**	**15**	*ce*P	**P**	**16 09 36.9**	**+2.3**
ESDC	**Sonseca Array**	**65.58**	**303**	P	**P**	**16 09 47.5**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=48,slow=7.2,SNR=6.7						
ULM	**Lac du Bonnet**	**77.88**	**8**	P	**P**	**16 11 00.1**	**-2.0**
	comp=Z,1.4nm,0.7s,baz=333,slow=3.6,SNR=3.6						
WRA	**Warramunga Arr**	**78.78**	**144**	P	**P**	**16 11 05.9**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=347,slow=5.9,SNR=9.8						
WRA	**Warramunga Arr**	**78.78**	**144**	*ce*P	**P**	**16 11 09.8**	**+2.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**82.04**	**146**	P	**P**	**16 11 23.6**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=331,slow=5.1,SNR=12						
TORD	**Torodi Ar. Bea**	**82.56**	**282**	P	**P**	**16 11 26.9**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=28,slow=5.1,SNR=9.1						
KOWA	**Kowa**	**84.95**	**287**	P	**P**	**16 11 41.4**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=27,slow=2.3,SNR=3.8						
NVAR	**Mina Array Bea**	**85.28**	**27**	P	**P**	**16 11 41.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=335,slow=2.9,SNR=3.6						
W13A	**Hualapai Mount**	**89.60**	**24**	*e*P	**P**	**16 11 59.9**	**-2.8**
	comp=Z,18nm,1.9s						

*IDC **04** 16:05:12.6±0.6, 22.°38S×174.°74W, h0km, mb4.7/21, mb1 4.8/22, mb1mx4.6/42, mbtmp4.7/22, ML3.8/1, MS4.0/8, Ms1 4.0/8, ms1mx3.6/49, Error ellipse: s-maj=22.0km s-min=14.3km az=141.0*
*BJI **04** 16:05:13.7, 21.°89S×174.°53W, h8km, mb5.3/45, mB5.5/26, Ms5.2/11, Ms7 5.0/8*
*NEIC **04** 16:05:14.1±3.9, 22.°31S×174.°80W, h8km±24km, mb5.1/47, Error ellipse: s-maj=9.8km s-min=6.5km az=146.0*
*ISCJB **04** 16:05:16.7±0.2, 22.°38S±0.°04×174.°81W±0.°05, h33km, mb5.0/88, MS4.1/8, Error ellipse: s-maj=7.9km s-min=4.6km az=42.0*
*MOS **04** 16:05:17.0±1.2, 22.°09S×174.°91W, h31km, mb5.1/18, Error ellipse: s-maj=13.8km s-min=12.4km az=113.6*
ISC 04 16:05:17.9±0.4**, 22.°36S**±0.°06×**174.°80W**±0.°08**, h33**km**, h33**km**:pP-P, n312,** σ1.s**29**/306**, mb5.0**/87**, MS4.1**/8**, 36C-9D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.61**	**55**	P	Pn	16 06 28.1	-11
	baz=5.1,SNR=16						
RAO	**Raoul Island**	**7.42**	**202**	Pn	**Pn**	**16 07 02.4**	**-1.4**
	235nm,0.3s,baz=206,slow=16,SNR=4.3						

RAO Sn **Sn** **16 08 25.8 -0.9**
34nm,0.3s,baz=252,slow=19,SNR=4.7
RAO Raoul Island 7.42 202 *e*Pn **Pn** **16 07 01.1 -2.7**
RAO Sn **Sn** **16 08 25.8 -0.9**
RAO Raoul Island 7.42 202 *e*P **Pn** **16 07 01.1 -2.7**
RAO 16 08 25.8
AFI Afiamalu 8.88 19 Pn Pn 16 07 14.8 -9.2
4.0nm,0.3s,baz=194,slow=1.7,SNR=4.1
AFI Sn Sn 16 08 45.5 -18
baz=120,slow=20,SNR=1.4
AFI LR LR 16 10 33.2
comp=Z,862nm,18.1s,baz=198,slow=36
AFI Afiamalu 8.88 19 *e*Pn Pn 16 07 14.0 -10
AFI Sn Sn 16 08 45.5 -18
AFI Afiamalu 8.88 19 *e*P Pn 16 07 14.0 -10
RAR Rarotonga 14.01 88 Pn Pn 16 08 22.2 -12
11nm,0.3s,baz=268,slow=7.6,SNR=37
RAR Sn Sn 16 10 40.7 -28
3.2nm,0.3s,baz=86,slow=20,SNR=2.2
RAR LR LR 16 13 28.3
comp=Z,832nm,19.6s,baz=276,slow=36
RAR Rarotonga 14.01 88 *e*Pn Pn 16 08 22.7 -11
RAR Sn Sn 16 10 40.7 -28
RAR Rarotonga 14.01 88 *e*P Pn 16 08 22.7 -11
MXZ Matakaoa Point 16.28 200 *e*Pn **P** **16 09 07.4 +0.7**
153nm,1.4s
OUZ Omahuta 16.34 216 *e*Pn **P** **16 09 06.5 -0.9**
126nm,2.0s
URZ Urewera 17.30 202 P **P** **16 09 17.2 -0.8**
0.3nm,0.3s,baz=72,slow=19,SNR=3.4
URZ S Sn 16 12 15.4 -13
0.7nm,0.3s,baz=143,slow=20,SNR=5.0
URZ Urewera 17.30 202 *e*Pn **P** **16 09 18.0 0.0**
81nm,1.7s
URZ S Sn 16 12 15.4 -13
DZM Mont Dzumac 17.37 267 P **P** **16 09 21.7 +2.6**
1.0nm,0.3s,baz=75,slow=19,SNR=9.0
DZM Mont Dzumac 17.37 267 *e*LR LR 16 12 56.8
530nm,22.9s
BKZ Black Stump Fm 18.33 202 *e*P **Pn** **16 09 28.9 -0.6**
56nm,1.5s
HIZ Hauiti 18.38 207 *e*P **Pn** **16 09 30.2 +0.1**
161nm,1.6s
KNTN Kanton 19.70 9 *e*P **P** **16 09 43.7 -0.8**
162nm,1.1s
BFZ Birch Farm 19.77 200 *e*P **P** **16 09 45.2 0.0**
102nm,1.2s
TBI Tubuai 23.36 97 *e*LQ LQ 16 14 48.2
565nm,26.0s
TBI *e*LR LR 16 16 03.6
368nm,21.5s,baz=272
PAE Paea 24.14 83 *e*T T 16 35 32.9
3.5nm,0.3s
PPT2 Papeete2 24.16 83 *e*LQ LQ 16 15 05.6
564nm,24.5s
PPT2 *e*LR LR 16 16 24.6
359nm,20.8s,baz=264
PPT2 Papeete2 24.16 83 *e*T T 16 35 35.6
2.7nm,0.3s
PPT Papeete 24.17 83 LR LR 16 18 18.6
comp=Z,487nm,18.8s,baz=256,slow=33
RPZ Rata Peaks 24.31 206 P **P** **16 10 31.0 -1.3**
9.4nm,0.9s,baz=34,slow=11,SNR=2.6
HNR Honiara 27.42 294 LR LR 16 20 35.3
comp=Z,115nm,19.6s,baz=170,slow=34
ARMA Armidale 31.04 248 P **P** **16 11 34.9 +2.0**
baz=32,SNR=5.9
ARMA Armidale 31.04 248 *e*P **P** **16 11 32.2 -0.7**
46nm,1.7s
EIDS Eidsvold 31.30 258 P **P** **16 11 35.8 +0.7**
baz=32,SNR=4.7
RMQ Roma 33.36 255 P **P** **16 11 54.3 +1.1**
baz=34,SNR=7.5
TAOE Nuku Hiva Isla 35.86 74 *e*LR LR 16 21 45.4
262nm,21.3s,baz=238
CMSA Cobar Meteorol 36.23 247 P **P** **16 12 17.9 0.0**
baz=37,SNR=16
CTAO Charters Tower 36.31 266 *e*P **P** **16 12 19.2 +0.5**
16nm,0.6s
CTAO Charters Tower 36.31 266 *e*P **P** **16 12 19.2 +0.5**
CTAO pmax pmax
comp=Z,16nm,0.6s
QLP Quilpie 37.41 255 P **P** **16 12 28.1 0.0**
baz=38,SNR=12
MTSU Mount Surprise 38.51 269 P **P** **16 12 37.6 +0.2**
baz=39,SNR=17
PMG Port Moresby 38.67 283 P **P** **16 12 38.0 -0.7**
comp=Z,8.6nm,0.7s,baz=76,slow=12,SNR=4.0
PMG Port Moresby 38.67 283 *i* P **P** **16 12 36.9 -1.8**
PMG pmax pmax
comp=Z,134nm,1.7s
STKA Stephens Creek 39.73 247 P **P** **16 12 47.1 -0.4**
comp=Z,2.3nm,0.5s,baz=96,slow=11,SNR=5.9
STKA LR LR 16 29 28.2
comp=Z,388nm,18.1s,baz=47,slow=37
STKA Stephens Creek 39.73 247 P **P** **16 12 49.4 +1.9**
baz=40,SNR=5.4
COEN Coen 40.69 274 P **P** **16 12 56.2 +0.7**
baz=41,SNR=4.6
HTT Hallett 42.06 244 P **P** **16 13 06.4 -0.3**
baz=42,SNR=4.4
BBOO Buckleboo 44.44 245 P **P** **16 13 26.0 +0.1**
baz=45,SNR=7.9
MMPI Merauke 45.18 281 P **P** **16 13 29.4 -2.5**
AS01 Alice Springs 46.98 258 *e*P **P** **16 13 45.9 -0.3**
AS31 Alice Springs 47.02 258 *e*P **P** **16 13 46.4 -0.1**
comp=Z,4.4nm,0.8s
ASAR Alice Springs 47.02 258 P **P** **16 13 46.0 -0.4**
comp=Z,20nm,0.9s,baz=105,slow=6.7,SNR=155
ASAR S **S** **16 20 37.9 +1.6**
comp=Z,0.4nm,0.9s,baz=124,slow=11,SNR=4.0
WRA Warramunga Arr 47.32 263 P **P** **16 13 48.0 -0.8**
comp=Z,8.7nm,0.6s,baz=99,slow=8.0,SNR=103
WRA PcP **PcP** **16 15 20.1 +0.6**
comp=Z,5.1nm,0.8s,baz=96,slow=3.7,SNR=7.0
WRA S **S** **16 20 41.6 +1.2**
comp=Z,0.6nm,0.9s,baz=95,slow=14,SNR=4.3
WRA LR LR 16 33 36.4
comp=Z,200nm,19.3s,baz=115,slow=36
WRA Warramunga Arr 47.32 263 *ce*P P 16 13 43.9 -4.9
WRA pmax pmax
comp=Z,5.0nm,0.7s
JAY Jayapura 47.46 288 P **P** **16 13 47.0 -2.9**
WRKA Warakurna 51.85 255 P **P** **16 14 23.0 -0.3**
baz=52,SNR=91
SAUI Saumlaki 53.67 277 P **P** **16 14 37.1 +0.3**
SWI Sorong 56.60 284 P **P** **16 14 57.3 -0.6**
SWI pP **pP** **16 15 00.9 -7.1**
PALU Palau 57.78 295 P **P** **16 15 06.7 +0.5**
baz=58,SNR=3.5
SOEI Soe 59.54 272 P **P** **16 15 19.8 +1.1**
BATI Baumata 59.94 271 P **P** **16 15 20.2 -1.2**
comp=Z,27nm,0.7s,baz=177,slow=1.7,SNR=13
BATI Baumata 59.94 271 P **P** **16 15 22.6 +1.2**
KLBR Kellerberrin 59.99 246 P **P** **16 15 21.6 +0.2**
baz=60,SNR=12
LBMI Labuha 60.08 283 P **P** **16 15 21.6 -0.7**
MEEK Meekatharra 60.14 251 P **P** **16 15 24.0 +1.4**
baz=61,SNR=3.9
MBWA Marble Bar 60.37 258 *e*P **P** **16 15 23.9 -0.3**
comp=Z,15nm,0.7s
SANI Sanana 60.86 281 P **P** **16 15 26.2 -1.4**
BLDU Ballidu 61.04 246 P **P** **16 15 29.0 +0.4**
baz=62,SNR=8.0
MUN Mundaring 61.23 245 P **P** **16 15 32.0 +2.1**
baz=62,SNR=3.4
MORW Morawa 61.89 248 P **P** **16 15 35.0 +0.6**
baz=62,SNR=5.9
BNSI Bone 65.32 276 P **P** **16 15 55.8 -1.4**
PLAI Plampang 65.86 270 P **P** **16 16 00.6 -0.1**
QSPA South Pole Qui 67.72 180 *e*P **P** **16 16 13.9 +2.0**
comp=Z,25nm,1.3s
SRBI Singaraja 68.50 270 P **P** **16 16 17.2 -0.2**
MTKI Muara Teweh, K 71.45 277 P **P** **16 16 35.5 -0.1**
PWJI Pagerwojo 71.68 269 P **P** **16 16 37.0 +0.1**
PCJI Pacitan 72.19 268 P **P** **16 16 40.8 +0.7**
MJAR Matsushiro Arr 73.49 322 P **P** **16 16 46.9 -0.3**
comp=Z,4.1nm,0.8s,baz=158,slow=5.6,SNR=8.1
MAJO Matsushiro 73.49 322 *e*P **P** **16 16 46.3 -0.9**
comp=Z,15nm,0.9s
MAJO Matsushiro 73.49 322 *e*P **P** **16 16 46.3 -0.9**
MAJO pmax pmax
comp=Z,15nm,0.9s
H06E1 SOCORRO T-PHAS 74.62 62 T T 17 38 56.5
LEM Lembang 75.98 268 P **P** **16 17 01.5 -0.9**
comp=Z,20nm,0.7s,baz=90,slow=15,SNR=5.6
LEM Lembang 75.98 268 P **P** **16 17 02.8 +0.4**

KSM Kuching 76.61 277 *e*P **P** **16 17 05.9 +0.1**
comp=Z,15nm,0.8s
ASAJ Asahikawa 76.80 330 P **P** **16 17 07.5 +1.4**
comp=Z,9.7nm,0.7s,baz=209,slow=4.7,SNR=16
ASAJ Asahikawa 76.80 330 *e*P **P** **16 17 08.0 +1.9**
comp=Z,12nm,0.8s
TPUB Ta-pu 77.49 302 *e*P **P** **16 17 09.6 -0.9**
comp=Z,50nm,1.0s
CGJI Cibinong 77.83 268 P **P** **16 17 12.6 0.0**
PET Petropavlovsk 78.53 344⇑ *e*P **P** **16 17 16.8 +1.3**
PET pmax pmax
comp=Z,37nm,1.3s
ISA Isabella, Lake 78.56 44 *e*P **P** **16 17 17.6 +1.4**
comp=Z,21nm,1.7s
ISA Isabella, Lake 78.56 44 *e*P **P** **16 17 17.6 +1.4**
ISA pmax pmax
comp=Z,21nm,1.7s
PETK Petropavlovsk- 78.86 344 P **P** **16 17 16.4 -0.9**
comp=Z,14nm,0.9s,baz=129,slow=9.1,SNR=12
PETK Petropavlovsk- 78.86 344 *e*P **P** **16 17 16.1 -1.2**
PETK Petropavlovsk- 78.86 344 *e*P **P** **16 17 16.1 -1.2**
YSS Yuzh-Sakhalins 78.91 332⇑ *e*P **P** **16 17 18.5 +0.8**
YSS *e*S S 16 27 22.4 +8.7
YSS pmax pmax
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 79.93 37 P **P** **16 17 22.8 -0.8**
comp=Z,1.9nm,0.8s,baz=292,slow=3.1,SNR=6.8
PNTR Pine Nut 80.00 40 *e*P **P** **16 17 24.3 +0.1**
comp=Z,9.2nm,1.1s
MDSI Mata Dua 80.02 269 P **P** **16 17 24.5 -0.1**
KSRS Korea Array 80.26 317 P **P** **16 17 26.4 +1.1**
comp=Z,5.1nm,1.0s,baz=124,slow=5.6,SNR=11
KSRS LR LR 16 51 14.0
comp=Z,48nm,18.8s,baz=100,slow=34
KSAR Wonju Array Be 80.28 317 P **P** **16 17 26.4 +1.0**
KSAR Wonju Array Be 80.28 317 P **P** **16 17 26.4 +1.0**
KS01 Wonju Array Si 80.29 317 *e*P **P** **16 17 25.7 +0.2**
RYN Ryan 80.36 41 *e*P **P** **16 17 28.4 +2.3**
comp=Z,35nm,1.9s
NV01 Mina Array Sit 80.38 42 *e*P **P** **16 17 25.3 -1.0**
NVAR Mina Array Bea 80.38 42 P **P** **16 17 25.6 -0.7**
comp=Z,1.2nm,0.7s,baz=222,slow=8.9,SNR=11
NV11 Mina Array Sit 80.47 42 *e*P **P** **16 17 26.8 +0.2**
comp=Z,0.5nm,1.3s
SHPR Sheep Range 81.20 45 *e*P **P** **16 17 31.2 +0.6**
comp=Z,13nm,1.7s
USRK Ussuriysk Ar. 82.19 324 P **P** **16 17 37.3 +1.9**
comp=Z,12nm,0.9s,baz=158,slow=2.7,SNR=20
MYKOM Kota Tinggi 82.68 275 *e*P **P** **16 17 39.0 +0.3**
comp=Z,27nm,1.2s
LCMT Little Creek M 82.75 45 *e*P **P** **16 17 40.5 +1.8**
comp=Z,8.6nm,1.6s
U15A North Rim 83.05 46 *e*P **P** **16 17 42.4 +1.9**
comp=Z,25nm,1.8s
SZCU Shurtz Canyon 83.18 45 *e*P **P** **16 17 41.8 +0.7**
comp=Z,8.3nm,1.3s
NJ2 Nanjing 83.36 308 *e*P **P** **16 17 41.9 +0.1**
NJ2 pmax pmax
comp=Z,11nm,0.6s
MDJ Mudanjiang 83.76 324 P **P** **16 17 43.6 0.0**
MDJ pP PcP 16 17 46.8 -0.8
MDJ sP pP 16 17 48.2 -5.8
MDJ PP **PP** **16 21 00.0 +2.7**
MDJ pmax pmax
comp=Z,38nm,0.8s
MDJ pmax pmax
comp=Z,220nm,4.8s
MDJ Mudanjiang 83.76 324 P **P** **16 17 44.2 +0.6**
comp=Z,24nm,0.9s
MTPU Mount Pierson 84.03 45 *e*P **P** **16 17 46.7 +1.2**
comp=Z,23nm,1.5s
MSU Marysvale 84.30 44 *e*P **P** **16 17 46.6 -0.1**
MSU Marysvale 84.30 44 *e*P **P** **16 17 46.6 -0.1**
GRNR Gornyy 84.54 331 *e*P **P** **16 17 48.8 +1.4**
GRNR pmax pmax
comp=Z,26nm,1.0s
E07A Sunnyside 84.66 35 *e*P **P** **16 17 48.0 -0.1**
comp=Z,40nm,1.9s
PDSI Padang 84.79 271 P **P** **16 17 49.3 -0.3**
TMUT Trail Mountain 85.36 44 *e*P **P** **16 17 53.4 +1.2**
comp=Z,26nm,1.6s
SYO Syowa Base 85.55 192⇑ *e*P **P** **16 17 51.8 -0.5**
TX31 Lajitas Ar. Si 85.58 56 *e*P **P** **16 17 53.6 +0.3**
TXAR Lajitas Array 85.58 56 P **P** **16 17 52.7 -0.5**
comp=Z,1.4nm,1.0s,baz=210,slow=7.2,SNR=6.7
CN2 Changchun 85.60 321 *e*P **P** **16 17 53.9 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 85.66 328 P **P** **16 17 54.5 +1.5**
comp=Z,0.2nm,0.9s,baz=102,slow=1.8,SNR=10
KLR Kul'dur 85.66 328 *i* P **P** **16 17 53.7 +0.7**
F10A Beach Ranch, E 85.69 36 *e*P **P** **16 17 52.6 -0.8**
comp=Z,7.3nm,1.0s
SRU San Rafael Swe 85.70 45 *e*P **P** **16 17 53.9 +0.1**
comp=Z,16nm,1.7s
SRU San Rafael Swe 85.70 45 *e*P **P** **16 17 53.9 +0.1**
SRU pmax pmax
comp=Z,16nm,1.7s
SUA Susitna One 85.75 11 *e*P **P** **16 17 52.8 -0.5**
comp=Z,14nm,0.9s
GAMB Gambell 85.88 1 *e*P **P** **16 17 53.7 -0.1**
comp=Z,12nm,0.8s
SNAA Sanae 86.05 177 P **P** **16 17 56.2 +1.3**
SNAA Sanae 86.05 177 *e*P **P** **16 17 56.8 +1.9**
comp=Z,8.2nm,1.1s
SNAA Sanae 86.05 177 *i* P **P** **16 17 56.8 +1.9**
VNA3 Neumayer Olymp 86.07 175 P **P** **16 17 56.3 +1.4**
MNSI Mandailing Nat 86.25 272 P **P** **16 17 57.0 +0.2**
ANMO Albuquerque 86.27 50 *e*P **P** **16 17 57.4 +0.7**
comp=Z,21nm,1.9s
ANMO Albuquerque 86.27 50 *ce*P **P** **16 17 56.6 -0.1**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
IPM Ipoh 86.31 276 *e*P **P** **16 17 58.1 +1.0**
comp=Z,37nm,0.7s
MA2 Magadan 86.39 343 *ce*P **P** **16 17 53.5 -2.9**
VNA2 Neumayer--Watz 86.55 176 P **P** **16 17 59.2 +1.9**
TIA Tai'an 86.73 311 P **P** **16 18 00.1 +1.4**
TIA pmax pmax
comp=Z,27nm,0.9s
KULM Kulim 86.97 277 *e*P **P** **16 18 00.8 +0.5**
comp=Z,15nm,0.8s
PSI Prapat 87.61 274 LR LR 17 00 08.9
comp=Z,65nm,18.3s,baz=96,slow=38
PSI Prapat 87.61 274 *e*P **P** **16 18 03.1 -0.5**
comp=Z,27nm,0.9s
PSI Prapat 87.61 274 *e*P **P** **16 18 03.1 -0.5**
PSI pmax pmax
comp=Z,27nm,0.9s
TRF Thorofare Moun 87.67 11 *e*P **P** **16 18 01.7 -1.0**
comp=Z,9.0nm,1.0s
SKLT Songkhla 87.72 279 P **P** **16 18 06.1 +2.2**
comp=Z,53nm,0.8s
MCK McKinley 88.17 11 *e*P **P** **16 18 04.2 -0.7**
comp=Z,71nm,1.9s
MCK McKinley 88.17 11 *e*P **P** **16 18 04.3 -0.7**
MCK pmax pmax
comp=Z,71nm,1.9s
GSI Gunungsitoli 88.29 272 P **P** **16 18 09.1 +2.4**
PDAR Pinedale Array 88.31 42 P **P** **16 18 05.8 -0.6**
comp=Z,0.3nm,0.6s,baz=245,slow=3.9,SNR=2.9
SKNT Sakolnakorn 88.54 289 P **P** **16 18 08.4 +0.7**
comp=Z,21nm,1.1s
BOZ Bozeman (W) 88.62 39 *e*P **P** **16 18 08.1 +0.4**
comp=Z,9.8nm,0.9s
BOZ Bozeman (W) 88.62 39 *e*P **P** **16 18 08.1 +0.4**
BOZ pmax pmax
comp=Z,10.0nm,0.9s
SEY Seymchan 88.88 346 P **P** **16 18 08.0 -0.3**
comp=Z,6.1nm,0.7s,baz=143,slow=6.8,SNR=36
CCB Clear Creek Bu 89.21 11 *e*P **P** **16 18 08.7 -1.1**
comp=Z,10nm,1.3s
KHON Khomkaen 89.31 288 P **P** **16 18 13.7 +2.4**
comp=Z,19nm,0.8s
BJI Beijing 89.31 314 P **P** **16 18 12.1 +1.3**
BJI pmax pmax
comp=Z,20nm,0.7s
COLA College 89.41 11 *e*P **P** **16 18 09.4 -1.3**
comp=Z,12nm,1.3s
COLA College 89.41 11 *e*P **P** **16 18 09.4 -1.3**
COLA pmax pmax
comp=Z,12nm,1.3s
MDM Murphy Dome 89.42 11 *e*P **P** **16 18 09.5 -1.3**
comp=Z,53nm,2.0s
IL1 Eielson Array 89.50 12 *e*P **P** **16 18 09.3 -1.8**
ILAR Eielson Array 89.50 12 P **P** **16 18 10.6 -0.6**

comp=Z,1.8nm,0.9s,baz=217,slow=5.9,SNR=13
IM3 Indian Mountai 89.52 8 *e*P **P** **16 18 10.6 -0.5**
ENH Enshi 89.55 303 *e*P **P** **16 18 13.3 +1.1**
comp=Z,38nm,1.0s
CHAI Chaiyaphum 89.87 287 P **P** **16 18 15.8 +1.8**
comp=Z,6.5nm,0.9s,comp=Z,96nm
GYA Guiyang 90.16 299 *e*P **P** **16 18 16.6 +1.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
COLD Coldfoot 91.19 9 *e*P **P** **16 18 18.6 -0.4**
comp=Z,13nm,1.8s
BILL Bilibino 91.21 353 *i* P **P** **16 18 17.1 -1.9**
BILL *i* 16 18 24.9
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,84nm,17.0s
XAN Xi'an 91.63 306 P **P** **16 18 23.9 +2.0**
XAN pmax pmax
comp=Z,42nm,0.8s
PHIT Phitsanulok 91.76 288 P **P** **16 18 25.3 +2.6**
comp=Z,25nm,0.9s,comp=Z,222nm
SRDT SRDT 91.82 285 P **P** **16 18 25.6 +2.5**
comp=Z,18nm,1.5s,comp=Z,3μm
HIA Hailar 91.95 323 *i* P **P** **16 18 22.0 -0.9**
HIA pmax pmax
comp=Z,3.0nm,0.9s
UTHA Uthaitani 92.00 286 P **P** **16 18 26.5 +2.6**
comp=Z,5.4nm,0.8s,comp=Z,56nm
HHC Hu-ho-hao-te 92.79 313 *e*P **P** **16 18 29.1 +2.0**
HHC pP pP 16 18 34.8 -2.9
HHC SKS **SKSac** **16 29 01.5 +2.9**
HHC S **ScS** **16 29 30.3 -1.9**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.8s
HHC LR LR
comp=Z,130nm,18.8s
HHC LR LR
comp=Z,110nm,16.5s
KMI Kunming 92.84 296 P **P** **16 18 29.5 +1.6**
KMI pP PcP 16 18 32.4 +3.8
KMI pmax pmax
comp=Z,19nm,1.0s
LAMP Lampang 92.96 289 P **P** **16 18 30.9 +2.6**
comp=Z,16nm,0.7s,comp=Z,132nm
CM01 Chiang Mai Arr 93.51 288 *e*P **P** **16 18 32.8 +1.9**
CMAR Chiang Mai Arr 93.54 288 P **P** **16 18 33.2 +2.3**
comp=Z,12nm,0.8s,baz=123,slow=2.9,SNR=88
CM31 Chiang Mai Arr 93.54 288 *e*P **P** **16 18 33.5 +2.5**
CMMT Chiang Mai 93.67 289 P **P** **16 18 32.6 +1.0**
comp=Z,25nm,0.9s
CHTO Chiang Mai 93.67 289 P **P** **16 18 33.7 +2.2**
comp=Z,108nm,0.9s
CHTO Chiang Mai 93.67 289 *e*P **P** **16 18 33.8 +2.2**
comp=Z,18nm,0.6s
CHTO Chiang Mai 93.67 289 *e*P **P** **16 18 33.8 +2.2**
CHTO pmax pmax
comp=Z,18nm,0.6s
JTS JuntasAbangare 93.71 80 P **P** **16 18 31.2 -0.6**
comp=Z,4.7nm,0.8s,baz=306,slow=8.7,SNR=3.2
CMAI Chiengmai2 94.00 290 P **P** **16 18 35.4 +2.1**
comp=Z,410nm,0.9s,comp=Z,130μm
CD2 Chengdu 94.30 302 *e*P **P** **16 18 34.0 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
YAK Yakutsk 94.96 337 P **P** **16 18 36.1 -0.4**
comp=Z,6.3nm,0.5s,baz=194,slow=0.1,SNR=5.3
YAK Yakutsk 94.96 337 *i* P **P** **16 18 34.4 -2.0**
YAK pmax pmax
comp=Z,4.0nm,0.9s
LZH Lanzhou 96.27 306 *e*P **P** **16 18 44.9 +1.6**
LZH pP PcP 16 18 47.4 +4.0
LZH sP pP 16 18 48.8 -5.1
LZH pmax pmax
comp=Z,17nm,0.9s
YKA Yellowknife Ar 96.97 24 P **P** **16 18 44.8 -0.8**
comp=Z,0.7nm,0.7s,baz=236,slow=4.3,SNR=19
ULN Ulaanbaatar 98.72 318 *e*P Pdif 16 18 55.0 +0.9
comp=Z,4.1nm,1.2s
ULN Ulaanbaatar 98.72 318 *i* P **P** **16 18 51.7 -2.4**
ULN pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 99.12 318 P **Pdif** **16 18 56.7 +0.9**
comp=Z,0.5nm,0.7s,baz=136,slow=5.9,SNR=5.1
GTA Gaotai 100.46 308 *e*P **Pdif** **16 19 04.5 +2.5**
GTA pP pPdif 16 19 09.3 -3.2
GTA sP pP 16 19 11.5 -1.1
GTA pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 101.32 344 P **Pdif** **16 19 04.2 -0.7**
comp=Z,1.1nm,0.3s,baz=65,slow=4.6,SNR=4.4
TIXI Tiksi 101.32 344 *i* P **Pdif** **16 19 04.5 -0.3**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
WMQ Urumqi 110.40 310 *e*PKP **PKiKP** **16 23 47.0 +0.2**
MKAR Makanchi Array 114.64 313 Pdiff **Pdif** **16 20 08.1 +3.3**
comp=Z,0.5nm,0.8s,baz=126,slow=3.4,SNR=4.1
MKAR PKP **PKiKP** **16 23 54.3 -0.4**
comp=Z,0.7nm,0.7s,baz=75,slow=1.2,SNR=8.8
KSH Kashi 118.39 304 *e*PKP **PKPdf** **16 24 03.6 +1.3**
KSH PKS **PKSdf** **16 27 39.4 +0.3**
KSH SKS **SKSdf** **16 31 15.1 +3.0**
KSH AMB AMB
comp=Z,100nm,5.6s
KSH LR LR
comp=Z,73nm,9.9s
KSH LR LR
comp=Z,74nm,7.3s
KSH LR LR
comp=Z,140nm,7.9s
BVAR Borovoye Array 122.42 319 PKP **PKPdf** **16 24 09.4 0.0**
comp=Z,1.1nm,0.7s,baz=67,slow=3.7,SNR=6.0
BRVK Borovoye 122.48 320 *c i* PKIKP **PKPdf** **16 24 09.8 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 122.73 308 *e*PKPdf **PKPdf** **16 24 10.2 -0.2**
KKAR Karatay Array 122.73 308 *e*PKIKP **PKPdf** **16 24 10.2 -0.2**
ARU Arti 128.42 325 *i* PKIKP **PKPdf** **16 24 21.4 +0.6**
ARU 16 26 24.6
ARU 16 31 32.2
AKTO Aktyubinsk 130.44 318 PKP **PKPdf** **16 24 26.0 +1.1**
comp=Z,1.3nm,0.7s,baz=16,slow=4.6,SNR=3.6
AKTO Aktyubinsk 130.44 318 PKIKP **PKPdf** **16 24 26.0 +1.1**
ARCES ARCESS Array B 131.26 351 PKP **PKPdf** **16 24 25.8 -0.1**
comp=Z,4.9nm,0.8s,baz=48,slow=1.8,SNR=10
GEYT Alibeck 132.29 301 PKP **PKPdf** **16 24 29.4 +0.6**
comp=Z,2.7nm,0.8s,baz=315,slow=0.2,SNR=9.5
KLMR Klimovskoe 134.76 337 *e*PKHKP PKPpre 16 24 24.0
KLMR pmax pmax
comp=Z,13nm,1.5s
KLMR Klimovskoe 134.76 337 *e*PKPdf PKPpre 16 24 24.0
KLMR AMP 16 24 33.6
comp=Z,13nm,1.5s
FINES FINESS Array B 138.36 345 PKP **PKPdf** **16 24 39.4 +0.1**
comp=Z,2.0nm,0.8s,baz=48,slow=2.8,SNR=7.1
FINES FINESS Array B 138.36 345 *c i* PKIKP **PKPdf** **16 24 44.5 +5.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 139.79 332 *i* PKIKP **PKPdf** **16 24 40.9 -1.2**
OBN *i* 16 27 39.4
OBN pmax pmax
comp=Z,5.0nm,0.9s
VSU Vasula 140.75 342 *i* PKIKP **PKPdf** **16 24 41.3 -2.4**
KMBO Kilima Mbogo 140.99 237 PKhKP PKPpre 16 24 40.7
comp=Z,0.8nm,0.5s,baz=41,slow=19,SNR=3.0
HFS Hagfors 141.79 353 PKhKP PKPpre 16 24 38.9
comp=Z,3.4nm,0.8s,baz=20,slow=4.6,SNR=9.9
SUW Suwalki 145.59 341 *e*PKP **PKPab** **16 24 52.9 0.0**
SUW Suwalki 145.59 341 *e*PKPdf **PKPab** **16 24 52.5 -0.4**
SUW Suwalki 145.59 341 *e*PKIKP **PKPab** **16 24 52.5 -0.4**
MARD Mardin 145.96 304 *e*PKPdf **PKPab** **16 24 53.8 -1.2**
AKASG Malin Array Be 146.06 332 PKPbc **PKPab** **16 24 53.8 -1.0**
comp=Z,11nm,0.6s,baz=41,slow=4.3,SNR=65
AKBB Malin Array Si 146.06 332 *e*PKPdf **PKPab** **16 24 53.5 -1.3**
AKBB Malin Array Si 146.06 332 *e*PKP2 **PKPab** **16 24 53.5 -1.3**
KIEV Kiev 146.07 332 *e*PKPdf **PKPbc** **16 24 53.5 -0.7**
KIEV Kiev 146.07 332 *i* PKIKP **PKPdf** **16 24 52.5 -0.8**
AK11 Malin Array Si 146.10 332 *e*PKPdf **PKPbc** **16 24 53.5 -0.9**
EKA Eskdalemuir Ar 146.49 9 PKPbc **PKPbc** **16 24 54.7 -0.6**
comp=Z,4.2nm,0.9s,baz=306,slow=2.4,SNR=6.1
SORM Soroca 148.32 330⇑ *i* P **PKPbc** **16 25 00.8 +0.2**

σ2^{s}06/204, **mb4.3**/50, **3D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.54**	**4**	PN	**Pn**	**16 26 45.7**	**+0.8**
SKR				S	**Sn**	**16 27 04.1**	**+0.4**
SKR	**Severo-Kuril's**	**1.54**	**4**	*i* P	**Pn**	**16 26 45.7**	**+0.8**
SKR				*e*S	**Sn**	**16 27 04.1**	**+0.4**
PAU	**Pauzhetka**	**2.39**	**13**	PN	**Pn**	**16 26 58.0**	**+1.5**
PAU				S	**Sn**	**16 27 26.4**	**+1.8**
PAU	**Pauzhetka**	**2.39**	**13**	*i* P	**Pn**	**16 26 58.0**	**+1.5**
PAU				*i* S	**Sn**	**16 27 26.4**	**+1.8**
KDTR	**Khodutka, Kamc**	**2.99**	**26**	*i* P	**Pn**	**16 27 05.8**	**+1.1**
KDTR				*e*S	**Sn**	**16 27 40.3**	**+0.9**
ASAK	**Asacha**	**3.47**	**20**	PN	**Pn**	**16 27 14.2**	**+2.8**
ASAK	**Asacha**	**3.47**	**20**	*e*P	**Pn**	**16 27 14.2**	**+2.8**
MTVR	**Mutnovka**	**3.63**	**22**	PN	**Pn**	**16 27 16.4**	**+2.7**
MTVR				S	**Sn**	**16 27 58.1**	**+2.8**
MTVR	**Mutnovka**	**3.63**	**22**	*e*P	**Pn**	**16 27 16.4**	**+2.7**
MTVR				*e*S	**Sn**	**16 27 58.1**	**+2.8**
RUS	**Russkaya**	**3.67**	**25**	PN	**Pn**	**16 27 15.8**	**+1.7**
RUS				S	**Sn**	**16 27 58.0**	**+1.9**
RUS	**Russkaya**	**3.67**	**25**	*e*P	**Pn**	**16 27 15.8**	**+1.7**
RUS				*e*S	**Sn**	**16 27 58.0**	**+1.9**
APC	**Apacha**	**3.86**	**11**	PN	**Pn**	**16 27 19.1**	**+2.4**
APC	**Apacha**	**3.86**	**11**	*e*P	**Pn**	**16 27 19.1**	**+2.4**
KRMR	**Karymshinskiy**	**3.94**	**20**	PN	**Pn**	**16 27 20.7**	**+3.0**
KRMR				S	**Sn**	**16 28 03.9**	**+1.2**
KRMR	**Karymshinskiy**	**3.94**	**20**	*e*P	**Pn**	**16 27 20.7**	**+3.0**
KRMR				*e*S	**Sn**	**16 28 03.9**	**+1.2**
PEA0B	**Petropavlovsk-**	**4.12**	**15**	*e*Pn	**Pn**	**16 27 23.9**	**+3.6**
PETK	**Petropavlovsk-**	**4.12**	**15**	P	**Pn**	**16 27 23.5**	**+3.2**
	12nm,0.3s,baz=171,slow=12,SNR=362						
PETK				S	**Sb**	**16 28 15.7**	**-5.1**
	2.5nm,0.3s,baz=181,slow=14,SNR=2.4						
PET	**Petropavlovsk**	**4.24**	**23**	*e*Pn	**Pn**	**16 27 24.4**	**+2.5**
PET	**Petropavlovsk**	**4.24**	**23**	*i* PN	**Pn**	**16 27 24.6**	**+2.7**
PET				*e*S	**Sn**	**16 28 13.6**	**+3.5**
PET				pmax	pmax		
	comp=Z,35nm,0.5s						
PET				smax	smax		
	comp=N,299nm,0.5s						
PET				smax	smax		
	comp=E,247nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
DALK	**Dalny**	**4.27**	**23**	PN	**Pn**	**16 27 24.8**	**+2.5**
DALK				S	**Sn**	**16 28 13.6**	**+2.7**
DALK	**Dalny**	**4.27**	**23**	*e*P	**Pn**	**16 27 24.8**	**+2.5**
DALK				*e*S	**Sn**	**16 28 13.6**	**+2.7**
UGLR	**Uglovaya**	**4.45**	**23**	PN	**Pn**	**16 27 28.0**	**+3.1**
UGLR	**Uglovaya**	**4.45**	**23**	*e*P	**Pn**	**16 27 28.0**	**+3.1**
AVH	**Avacha**	**4.48**	**22**	PN	**Pn**	**16 27 28.5**	**+3.2**
AVH	**Avacha**	**4.48**	**22**	*e*P	**Pn**	**16 27 28.5**	**+3.2**
KOK	**Koryaka**	**4.48**	**21**	PN	**Pn**	**16 27 26.4**	**+1.1**
KOK	**Koryaka**	**4.48**	**21**	*e*P	**Pn**	**16 27 26.4**	**+1.1**
SMAR	**Somma**	**4.50**	**22**	PN	**Pn**	**16 27 28.7**	**+3.1**
SMAR	**Somma**	**4.50**	**22**	*e*P	**Pn**	**16 27 28.7**	**+3.1**
SDLR	**Sedlovina**	**4.53**	**23**	PN	**Pn**	**16 27 28.5**	**+2.5**
SDLR	**Sedlovina**	**4.53**	**23**	*e*P	**Pn**	**16 27 28.5**	**+2.5**
KRX	**Arik**	**4.55**	**21**	PN	**Pn**	**16 27 30.0**	**+3.7**
KRX	**Arik**	**4.55**	**21**	*e*P	**Pn**	**16 27 30.0**	**+3.7**
NLC	**Nalytchevo**	**4.56**	**27**	PN	**Pn**	**16 27 27.5**	**+1.2**
NLC				S	**Sn**	**16 28 19.5**	**+1.5**
NLC	**Nalytchevo**	**4.56**	**27**	*e*P	**Pn**	**16 27 27.5**	**+1.2**
NLC				*e*S	**Sn**	**16 28 19.5**	**+1.5**
SPN	**Mys Shipunski**	**4.71**	**31**	PN	**Pn**	**16 27 30.3**	**+1.9**
SPN				S	**Sn**	**16 28 23.9**	**+2.1**
SPN	**Mys Shipunski**	**4.71**	**31**	*e*P	**Pn**	**16 27 30.3**	**+1.9**
SPN				*e*S	**Sn**	**16 28 23.9**	**+2.1**
GNL	**Ganaly**	**4.72**	**14**	PN	**Pn**	**16 27 32.5**	**+3.8**
GNL	**Ganaly**	**4.72**	**14**	*e*P	**Pn**	**16 27 32.5**	**+3.8**
KII	**Karymskiy**	**5.36**	**23**	PN	**Pn**	**16 27 40.4**	**+3.0**
KII				S	**Sn**	**16 28 39.3**	**+1.4**
KII	**Karymskiy**	**5.36**	**23**	*e*P	**Pn**	**16 27 40.4**	**+3.0**
KII				*e*S	**Sn**	**16 28 39.3**	**+1.4**
KZV	**Kizimen**	**6.55**	**22**	PN	**Pn**	**16 27 57.2**	**+3.5**
KZV	**Kizimen**	**6.55**	**22**	*e*P	**Pn**	**16 27 57.2**	**+3.5**
TUMR	**Tumrok**	**6.66**	**21**	PN	**Pn**	**16 27 59.3**	**+4.0**
TUMR	**Tumrok**	**6.66**	**21**	*e*P	**Pn**	**16 27 59.3**	**+4.0**
KUR	**Kuril'sk**	**6.76**	**238**	*i* PN	**Pn**	**16 27 59.0**	**+2.5**
KUR				S	**Sn**	**16 29 15.2**	**+2.9**
KUR				pmax	pmax		
	comp=Z,69nm,0.6s						
KUR				pmax	pmax		
	comp=N,32nm,0.5s						
KUR				pmax	pmax		
	comp=E,17nm,0.3s						
KUR				smax	smax		
	comp=N,82nm,0.8s						
KUR				smax	smax		
	comp=E,53nm,0.6s						
ESO	**Esso**	**7.00**	**13**	PN	**Pn**	**16 28 03.5**	**+3.8**
ESO	**Esso**	**7.00**	**13**	*e*P	**Pn**	**16 28 03.5**	**+3.8**
KMNR	**Kamenistaya**	**7.12**	**20**	PN	**Pn**	**16 28 04.4**	**+2.9**
KMNR	**Kamenistaya**	**7.12**	**20**	*e*P	**Pn**	**16 28 04.4**	**+2.9**
BZMR	**Bezymyannaya**	**7.34**	**20**	PN	**Pn**	**16 28 08.4**	**+3.8**
BZMR	**Bezymyannaya**	**7.34**	**20**	*e*P	**Pn**	**16 28 08.4**	**+3.8**
BZWR	**Bezymyannyi-We**	**7.37**	**20**	PN	**Pn**	**16 28 08.8**	**+3.8**
BZWR	**Bezymyannyi-We**	**7.37**	**20**	*e*P	**Pn**	**16 28 08.8**	**+3.8**
KRSR	**Krestovskiy**	**7.62**	**20**	PN	**Pn**	**16 28 11.7**	**+3.4**
KRSR	**Krestovskiy**	**7.62**	**20**	*e*P	**Pn**	**16 28 11.7**	**+3.4**
KLY	**Klyuchi**	**7.72**	**20**	PN	**Pn**	**16 28 12.9**	**+3.2**
KLY	**Klyuchi**	**7.72**	**20**	P	**Pn**	**16 28 12.9**	**+3.2**
SRKR	**Sorokina**	**8.15**	**21**	PN	**Pn**	**16 28 17.5**	**+1.8**
SRKR	**Sorokina**	**8.15**	**21**	*e*P	**Pn**	**16 28 17.5**	**+1.8**
SMKR	**Semkarok**	**8.16**	**22**	PN	**Pn**	**16 28 17.5**	**+1.7**
SMKR	**Semkarok**	**8.16**	**22**	*e*P	**Pn**	**16 28 17.5**	**+1.7**
KBTR	**Krutoberegovo**	**8.21**	**28**	PN	**Pn**	**16 28 17.7**	**+1.4**
KBTR	**Krutoberegovo**	**8.21**	**28**	*e*P	**Pn**	**16 28 17.7**	**+1.4**
KBTR				*e*S	**Sn**	**16 29 48.7**	**+0.9**
SHO	**Shikotan**	**8.21**	**233**	*e*PN	**Pn**	**16 28 15.9**	**-0.5**
SHO				pmax	pmax		
	comp=Z,61nm,0.4s						
SHO				pmax	pmax		
	comp=E,65nm,0.5s						
SHO				pmax	pmax		
	comp=N,20nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**8.63**	**237**	*e*PN	**Pn**	**16 28 23.5**	**+1.4**
YUK				*e*S	**Sn**	**16 29 59.6**	**+1.4**
YUK				pmax	pmax		
	comp=E,86nm,0.4s						
YUK				pmax	pmax		
	comp=Z,178nm,0.4s						
YUK				pmax	pmax		
	comp=N,45nm,0.2s						
BKI	**Bering**	**8.64**	**42**	PN	**Pn**	**16 28 22.9**	**+0.7**
BKI	**Bering**	**8.64**	**42**	*e*P	**Pn**	**16 28 22.9**	**+0.7**
BKI				*e*S	**Sn**	**16 29 53.7**	**-4.6**
LAGR	**Lagunnoye**	**8.66**	**238**	*e*PN	**Pn**	**16 28 24.1**	**+1.6**
GRPR	**Tuman**	**8.70**	**238**	*e*PN	**Pn**	**16 28 24.1**	**+0.9**
GLVR	**Golovnino**	**9.01**	**237**	*e*PN	**Pn**	**16 28 27.9**	**+0.6**
YSS	**Yuzh-Sakhalins**	**9.12**	**261**	*e*Pn	**Pn**	**16 28 30.8**	**+2.0**
YSS	**Yuzh-Sakhalins**	**9.12**	**261**	*e*PN	**Pn**	**16 28 30.5**	**+1.7**
YSS				*e*S	**Sn**	**16 30 09.9**	**-0.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS				smax	smax		
	comp=E,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,100nm,14.0s						
ASAJ	**Asahikawa**	**10.47**	**246**	P	**Pn**	**16 28 50.0**	**+2.6**
	comp=Z,3.7nm,0.3s,baz=66,slow=14,SNR=54						
ASAJ	**Asahikawa**	**10.47**	**246**	*e*Pn	**Pn**	**16 28 49.7**	**+2.3**
MA2	**Magadan**	**10.88**	**346**	P	**Pn**	**16 28 54.1**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=167,slow=9.4,SNR=19						
MA2				LR	LR	16 33 42.4	
	comp=Z,87nm,19.0s,baz=196,slow=41						
ERM	**Erimo**	**11.45**	**236**	*e*Pn	**Pn**	**16 29 00.5**	**-0.3**
ERM	**Erimo**	**11.45**	**236**	*e*PN	**Pn**	**16 29 00.5**	**-0.3**
SEY	**Seymchan**	**13.96**	**353**	P	**Pn**	**16 29 37.0**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=88,slow=23,SNR=7.4						
KLR	**Kul'dur**	**15.82**	**280**	P	**P**	**16 30 02.1**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=79,slow=10,SNR=10.0						
KLR				LR	LR	16 36 08.4	
	comp=Z,9.3nm,19.7s,baz=84,slow=38						
USRK	**Ussuriysk Ar.**	**17.15**	**262**	P	**Pn**	**16 30 16.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=68,slow=12,SNR=5.3						
MJB9	**Matsu-Tunnel**	**18.05**	**232**	*e*P	**P**	**16 30 28.1**	**0.0**
	comp=Z,30nm,1.3s						
MAJO	**Matsushiro**	**18.06**	**232**	*e*P	**P**	**16 30 27.9**	**-0.2**
	comp=Z,31nm,1.4s						
MAJO	**Matsushiro**	**18.06**	**232**	*e*P	**P**	**16 30 27.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,31nm,1.4s						
MJAR	**Matsushiro Arr**	**18.06**	**232**	P	**P**	**16 30 28.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=21,slow=12,SNR=5.1						
ZEA	**Zeya**	**18.41**	**295**	*i* P	Pn	16 30 39.8	+7.7
MDJ	**Mudanjiang**	**18.54**	**266**	P	**P**	**16 30 30.7**	**-2.7**
YAK	**Yakutsk**	**19.49**	**321**	P	**P**	**16 30 42.6**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=52,slow=2.4,SNR=6.3						
YAK				LR	LR	16 37 39.7	
	comp=Z,63nm,20.3s,baz=89,slow=35						
YAK	**Yakutsk**	**19.49**	**321**	*e*P	**P**	**16 30 42.7**	**-0.9**
	comp=Z,12nm,0.7s						
YAK	**Yakutsk**	**19.49**	**321**	*e*P	**P**	**16 30 43.0**	**-0.6**
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.5s						
INU	**Inuyama**	**19.59**	**232**	*e*P	**Pn**	**16 30 46.1**	**-0.2**
	comp=E,13nm,2.0s						
KSRS	**Korea Array**	**23.37**	**251**	P	**P**	**16 31 24.4**	**-0.8**
	comp=E,3.5nm,0.7s,baz=47,slow=10,SNR=6.0						
KSAR	**Wonju Array Be**	**23.40**	**251**	P	**P**	**16 31 24.4**	**-1.1**
KSAR	**Wonju Array Be**	**23.40**	**251**	P	**P**	**16 31 24.4**	**-1.1**
JNU	**Nakatsue**	**24.60**	**239**	P	**P**	**16 31 36.9**	**+0.2**
	comp=E,7.8nm,0.9s,baz=18,slow=3.2,SNR=3.4						
TIXI	**Tiksi**	**25.77**	**341**	P	**P**	**16 31 44.6**	**-2.3**
	comp=E,1.0nm,0.4s,baz=159,slow=8.8,SNR=4.5						
TIXI				LR	LR	16 42 49.3	
	comp=E,33nm,19.1s,baz=156,slow=39						
H11N2	**WAKE ISLAND Hy**	**30.63**	**159**	T	T	17 04 59.4	
	baz=350,slow=74						
H11N1	**WAKE ISLAND Hy**	**30.65**	**159**	T	T	17 05 06.4	
	baz=350						
H11N3	**WAKE ISLAND Hy**	**30.65**	**159**	T	T	17 05 03.5	
	baz=350,slow=74						
H11S1	**WAKE ISLAND Hy**	**31.77**	**160**	T	T	17 06 25.4	
	baz=346,slow=76,SNR=1793						
H11S3	**WAKE ISLAND Hy**	**31.78**	**160**	T	T	17 06 27.2	
	baz=346,slow=76,SNR=2108						
H11S2	**WAKE ISLAND Hy**	**31.79**	**160**	T	T	17 06 30.8	
	baz=346,slow=76,SNR=2405						
HHC	**Hu-ho-hao-te**	**32.08**	**272**	*e*P	**P**	**16 32 45.2**	**+1.7**
HHC				sP	sP	16 33 08.7	+11
HHC				PP	**PP**	**16 33 58.7**	**+2.6**
HHC				S	**S**	**16 37 52.4**	**-0.9**
HHC				sS	sS	16 38 12.5	+3.0
COLD	**Coldfoot**	**32.27**	**36**	*e*P	**P**	**16 32 46.0**	**+1.2**
	comp=E,4.5nm,1.0s						
SONM	**Songino Array**	**32.41**	**287**	P	**P**	**16 32 45.9**	**-0.4**
	comp=E,0.2nm,0.6s,baz=70,slow=9.9,SNR=2.6						
SONM				LR	LR	16 46 24.7	
	comp=E,54nm,19.6s,baz=54,slow=37						
NJ2	**Nanjing**	**32.54**	**252**	*e*P	**P**	**16 32 48.0**	**+0.5**
MDM	**Murphy Dome**	**32.91**	**40**	*e*P	**P**	**16 32 52.2**	**+1.8**
	comp=E,5.9nm,1.0s						
COLA	**College**	**33.07**	**41**	*e*P	**P**	**16 32 53.5**	**+1.7**
	comp=E,11nm,0.8s						
COLA	**College**	**33.07**	**41**	*e*P	**P**	**16 32 53.5**	**+1.7**
COLA				pmax	pmax		
	comp=Z,11nm,0.8s						
ILAR	**Eielson Array**	**33.48**	**41**	P	**P**	**16 32 56.6**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=258,slow=8.5,SNR=15						
ILAR				pP	**sP**	**16 33 10.3**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=258,slow=7.4,SNR=3.7						
ILB	**Eielson Array**	**33.48**	**41**	*e*P	**P**	**16 32 56.5**	**+1.1**
EGAK	**Eagle**	**35.93**	**41**	*e*P	**P**	**16 33 17.6**	**+1.1**
	comp=Z,8.8nm,0.9s						
INK	**Inuvik**	**38.60**	**34**	P	**P**	**16 33 40.8**	**+1.7**
	comp=Z,2.9nm,0.9s,baz=299,slow=8.3,SNR=8.1						
INK	**Inuvik**	**38.60**	**34**	*e*P	**P**	**16 33 40.7**	**+1.6**
LZH	**Lanzhou**	**39.75**	**271**	*e*P	**P**	**16 33 47.4**	**-1.8**
LZH				pP	sP	16 34 03.3	0.0
LZH				sP	pP	16 34 09.8	+11
ZALV	**Zalesovo Beam**	**42.80**	**305**	P	**P**	**16 34 11.5**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=72,slow=9.3,SNR=2.7						
ZALV				PcP	**PcP**	**16 36 04.5**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=101,slow=3.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**42.80**	**305**	*e*P	**P**	**16 34 12.2**	**-1.6**
ZALV				PcP	**PcP**	**16 36 04.5**	**-0.1**
WMQ	**Urumqi**	**45.86**	**290**	P	**P**	**16 34 39.8**	**+1.2**
KMI	**Kunming**	**47.56**	**260**	P	**P**	**16 34 51.9**	**-0.3**
MK31	**Makanchi Array**	**47.56**	**297**	*e*P	**P**	**16 34 49.8**	**-2.0**
MK31	**Makanchi Array**	**47.56**	**297**	*e*P	**P**	**16 34 49.8**	**-2.0**
MKAR	**Makanchi Array**	**47.56**	**297**	P	**P**	**16 34 50.1**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=61,slow=7.6,SNR=14						
MKAR				pP	**pP**	**16 35 03.5**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=62,slow=8.4,SNR=2.1						
MKAR				LR	LR	16 55 22.7	
	comp=Z,71nm,20.4s,baz=60,slow=37						
MKAR	**Makanchi Array**	**47.56**	**297**	*e*P	**P**	**16 34 49.9**	**-1.9**
	comp=Z,10nm,0.8s						
MKAR				pP	**pP**	**16 35 03.5**	**+1.6**
MKAR	**Makanchi Array**	**47.56**	**297**	*e*P	**P**	**16 34 49.9**	**-1.9**
MKAR				*PP	**pP**	**16 35 03.5**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MK01	**Makanchi Array**	**47.56**	**297**	*e*P	**P**	**16 34 50.0**	**-1.8**
KURK	**Kurchatov**	**47.65**	**303**	*e*P	**P**	**16 34 50.5**	**-1.8**
	comp=Z,6.8nm,1.3s						
KURK	**Kurchatov**	**47.65**	**303**	*e*P	**P**	**16 34 50.6**	**-1.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
YKA	**Yellowknife Ar**	**47.86**	**39**	P	**P**	**16 34 55.1**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=297,slow=7.3,SNR=8.6						
BVAR	**Borovoye Array**	**50.83**	**309**	P	**P**	**16 35 15.3**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=46,slow=8.4,SNR=7.6						
CHTO	**Chiang Mai**	**54.52**	**257**	*e*P	**P**	**16 35 44.0**	**-0.4**
	comp=Z,5.2nm,0.9s						
CHTO	**Chiang Mai**	**54.52**	**257**	*e*P	**P**	**16 35 44.0**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARU	**Arti**	**54.54**	**317**	*e*P	**P**	**16 35 41.8**	**-2.2**
	comp=Z,10.0nm,1.0s						
ARU	**Arti**	**54.54**	**317**	*e*P	**P**	**16 35 41.8**	**-2.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**54.78**	**257**	P	**P**	**16 35 46.8**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=33,slow=7.0,SNR=18						
CM01	**Chiang Mai Arr**	**54.80**	**257**	*e*P	**P**	**16 35 45.8**	**-0.6**
KSH	**Kashi**	**55.51**	**292**	*e*P	**P**	**16 35 56.1**	**+4.7**
KSH				S	**S**	**16 43 35.1**	**+0.8**
KSH				sS	sS	16 44 03.1	+12
ARCES	**ARCESS Array B**	**56.21**	**341**	P	**P**	**16 35 53.8**	**-2.1**
	comp=Z,1.8nm,0.7s,baz=44,slow=7.8,SNR=4.1						
AKTO	**Aktyubinsk**	**58.55**	**312**	P	**P**	**16 36 10.6**	**-2.0**
	comp=Z,0.9nm,0.5s,baz=76,slow=4.9,SNR=4.4						
NVAR	**Mina Array Bea**	**59.66**	**65**	P	**P**	**16 36 22.8**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=302,slow=7.7,SNR=4.7						
NVAR				pP	**sP**	**16 36 36.0**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=302,slow=7.1,SNR=4.7						
PDAR	**Pinedale Array**	**61.81**	**56**	P	**P**	**16 36 36.8**	**+1.5**
	comp=Z,1.4nm,1.0s,baz=311,slow=4.9,SNR=6.3						
PDAR				pP	**sP**	**16 36 49.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=319,slow=2.5,SNR=4.6						
PDAR	**Pinedale Array**	**61.81**	**56**	*e*P	**P**	**16 36 34.4**	**-1.0**
PDAR				pP	**sP**	**16 36 49.4**	**-0.3**
FINES	**FINESS Array B**	**62.67**	**335**	P	**P**	**16 36 38.5**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=35,slow=7.2,SNR=8.0						
HFS	**Hagfors**	**66.86**	**341**	P	**P**	**16 37 06.2**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=54,slow=7.3,SNR=4.0						
GEYT	**Alibeck**	**67.00**	**302**	P	**P**	**16 37 07.7**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=26,slow=3.8,SNR=4.3						
KBZ	**Khabaz**	**70.55**	**315**	P	**P**	**16 37 30.3**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=122,slow=2.3,SNR=7.9						
AKASG	**Malin Array Be**	**70.59**	**327**	P	**P**	**16 37 28.8**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=31,slow=6.4,SNR=3.9						
WRA	**Warramunga Arr**	**71.42**	**201**	P	**P**	**16 37 36.0**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=16,slow=6.7,SNR=11						
WRA	**Warramunga Arr**	**71.42**	**201**	P	**P**	**16 37 36.0**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**74.43**	**348**	P	**P**	**16 37 54.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=18,slow=5.4,SNR=6.2						
ABTX	**Abilene, Hawle**	**74.52**	**58**	P	**P**	**16 37 56.0**	**+1.1**
	comp=Z,12nm,0.9s						
TXAR	**Lajitas Array**	**74.67**	**63**	P	**P**	**16 37 57.5**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=302,slow=7.2,SNR=4.1						
CLL	**Collm**	**75.04**	**337**	*e*P	**P**	**16 37 57.0**	**-0.6**
ASAR	**Alice Springs**	**75.11**	**201**	P	**P**	**16 37 58.5**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=13,slow=5.0,SNR=17						
GERES	**GERESS Array B**	**77.11**	**335**	P	**P**	**16 38 08.7**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=34,slow=5.1,SNR=9.5						
CONA	**Conrad Observa**	**77.33**	**334**	*e*P	**P**	**16 38 10.9**	**+0.2**
	comp=Z,3.8nm,0.8s						
MEM	**Membach**	**77.34**	**341**	||P	**P**	**16 38 10.5**	**-0.2**
MOA	**Molln**	**77.86**	**335**	*e*P	**P**	**16 38 13.9**	**+0.3**

IDC 04 16:15:37.9±2.7, 22.12S×170.12E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/43, mbtmp3.7/4, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.9/33, Error ellipse: s-maj=109.1km s-min=31.3km az=161.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.41**	**270**	Pn	Pn	16 16 33.6	+1.1
	7.4nm,0.3s,baz=129,slow=9.6,SNR=118						
DZM				Sn	Sn	16 17 14.6	+0.8
	2.8nm,0.3s,baz=82,slow=19,SNR=7.4						
DZM				LR	LR	16 17 24.1	
	comp=Z,357nm,18.7s,baz=170,slow=31						
ASAR	**Alice Springs**	**33.35**	**260**	P	P	16 22 18.1	+0.1
	0.7nm,0.8s,baz=84,slow=8.2,SNR=8.6						
WRA	**Warramunga Arr**	**33.42**	**267**	P	P	16 22 17.6	-1.1
	0.6nm,1.0s,baz=99,slow=8.5,SNR=7.0						
SONM	**Songino Array**	**90.00**	**323**	P	P	16 28 40.2	+0.8
	0.7nm,0.9s,baz=134,slow=4.3,SNR=5.5						
EKA	**Eskdalemuir Ar**	**146.45**	**353**	PKPbc	PKPbc	16 35 20.5	-0.1
	0.2nm,0.3s,baz=12,slow=3.7,SNR=1.5						
GERES	**GERESS Array B**	**147.40**	**331**	PKPbc	PKPdf	16 35 21.7	+0.4
	0.3nm,0.7s,baz=46,slow=2.8,SNR=1.9						

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*ISCJB **04** 16:26:18.9±0.3, 49.14N±0.04×155.78E±0.07, h34km, mb4.2/50, MS3.6/1, Error ellipse: s-maj=8.0km s-min=2.2km az=40.7*

*KRSC **04** 16:26:18.8±2.0, 49.13N×155.95E, h76km±23km, ML4.8*

*MOS **04** 16:26:20.7±0.8, 49.23N×155.64E, h58km, mb4.3/18, Error ellipse: s-maj=10.2km s-min=3.4km az=73.1*

*IDC **04** 16:26:22.0±0.7, 49.26N×155.61E, h50km±6km, mb3.8/28, mb1 3.9/33, mb1mx3.8/75, mbtmp4.0/33, MS3.1/6, Ms1 3.1/6, ms1mx2.8/66, Error ellipse: s-maj=14.9km s-min=11.0km az=148.0*

*NEIC **04** 16:26:23.8±0.7, 49.25N×155.66E, h68km±5km, mb4.6/16, Error ellipse: s-maj=8.8km s-min=4.2km az=136.0*

ISC 04 16:26:19.8±0.5, 49.14N±0.06×155.96E±0.06, h34km, n173,

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.5nm,0.8s						
BRTR	Keskin Array B	77.92	318	P	P	16 38 13.7	-0.6
	comp=Z,1.8nm,0.9s,baz=34,slow=4.4,SNR=4.8						
SOKA	Soboth	78.70	334	eP	P	16 38 18.2	-0.1
	comp=Z,4.2nm,0.6s						
OBKA	Obir	79.00	334	eP	P	16 38 20.1	+0.1
	comp=Z,4.2nm,0.7s						
WATA	Walderalm	79.06	336	eP	P	16 38 21.6	+1.2
	comp=Z,4.6nm,0.9s						
WTTA	Wattenberg	79.11	336	eP	P	16 38 21.6	+0.9
	comp=Z,5.4nm,0.8s						
RETA	Reutte	79.14	337	eP	P	16 38 21.6	+0.9
	comp=Z,2.3nm,0.7s						
MOTA	Moosalm	79.18	337	eP	P	16 38 21.6	+0.5
	comp=Z,7.7nm,1.0s						
ABTA	Abfaltersbach	79.35	335	eP	P	16 38 22.0	+0.1
	comp=Z,3.7nm,0.7s						
DAVA	Damuels	79.55	337	eP	P	16 38 23.4	+0.3
	comp=Z,7.4nm,1.2s						
FETA	Feichten	79.57	337	eP	P	16 38 23.4	+0.1
	comp=Z,4.2nm,1.0s						
VTS	Vitosha	79.67	327	eP	P	16 38 22.7	-1.1
	comp=Z,5.7nm,0.8s						
VTS	Vitosha	79.67	327	eP	P	16 38 22.7	-1.1
VTS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FUORN	Ofenpass-Fuorn	80.07	337	eP	P	16 38 25.5	-0.5
	comp=Z,6.4nm,0.9s						
MMAI	Mount Meron Ar	82.62	313	P	P	16 38 39.5	0.0
	comp=Z,11nm,0.7s,baz=35,slow=5.3,SNR=11						
RAYN	Ar Rayn	84.92	300	eP	P	16 38 50.3	-1.1
	comp=Z,33nm,2.0s						
KEST	Kesra	90.44	333	P	P	16 39 17.4	-0.4
	comp=Z,1.7nm,0.6s,baz=103,slow=4.4,SNR=4.4						

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*IDC **04** 16:27:14.6±0.4, 21.°47S×69.°92W, $h0^{km}$, mb5.0/25, mb1 5.1/26, mb1mx5.0/39, mbtmp5.0/26, ML4.8/1, MS4.1/24, Ms1 4.1/24, ms1mx4.0/36, Error ellipse: s-maj=16.6km s-min=11.5km az=75.0*

*MOS **04** 16:27:18.9±1.1, 21.°45S×69.°89W, $h40^{km}$, mb5.3/51, Error ellipse: s-maj=17.0km s-min=6.0km az=115.4*

*ISCJB **04** 16:27:20.4±0.3, 21.°47S±0.°02×69.°97W±0.°04, $h55^{km}\pm2^{km}$, mb5.2/230, MS4.2/23, Error ellipse: s-maj=5.7km s-min=3.3km az=166.1*

*GUC **04** 16:27:20.3±0.7, 21.°60S×70.°06W, $h47^{km}\pm1^{km}$, ML5.3*

*BJI **04** 16:27:21.0, 21.°60S×69.°80W, $h36^{km}$, mB5.3/14, Ms5.4/7, Ms7 5.3/8*

*GCMT **04** 16:27:21.0±0.3, 21.°45S×70.°39W, $h45^{km}\pm1^{km}$, MW5.1/77, Moment Tensor Solution. s46,c52; s77,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.41±.24; $M_{\theta\theta}$0.76±.16; $M_{\phi\phi}$-5.17±.15; $M_{r\theta}$1.44±.12; $M_{\theta\phi}$0.05±.12; $M_{\phi r}$-2.00±.18; Best double couple: $M_0$5.41900×10^{16} NP1:ϕ_s163.00000°,δ59.00000°,λ71.00000°. NP2: ϕ_s17.00000°,δ36.00000°,λ119.00000°. Principal axes: T 5.2500, Plg70.0000°, Azm31.0000°; N 0.3360, Plg16.0000°, Azm173.0000°; P -5.5880, Plg12.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 16:27:21.0±0.1, 21.°55S×69.°85W, mb5.2/206, MW5.0, ML5.3(GUC) Error ellipse: s-maj=4.9km s-min=2.9km az=69.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{16}Nm; M_{rr}3.49; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-3.24; $M_{r\theta}$0.71; $M_{\theta\phi}$-0.02; $M_{\phi r}$-2.81; Best double couple: $M_0$4.40000×10^{16} NP1:ϕ_s171.00000°,δ65.00000°,λ83.00000°. NP2: ϕ_s8.00000°,δ25.00000°,λ105.00000°. Principal axes: T 4.6000, Plg69.0000°, Azm68.0000°; N -0.3300, Plg6.0000°, Azm174.0000°; P -4.2700, Plg20.0000°, Azm267.0000°;*

NEIC Felt [IV] at Alto Hospicio, Iquique and Pica; [III] at Huara, La Tirana, Oficina Maria Elena and Tocopilla. Also felt at Antofagasta and Calama.

ISC 04 16:27:20.7±0.4, **21.°57S**±0.°02×**70.°11W**±0.°04, **h43**$^{km}\pm3^{km}$, **n910**, σ**1.27**/945, **mb5.2**/231, **MS4.2**/23, **10C-11D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	IPOC Station P	0.26	127	⇓ iP	Pn	16 27 29.1	+0.1
PB07				iS	Sn	16 27 34.9	+0.1
PB07				IAML		16 27 36.2	
	comp=E,509µm,0.6s						
PB02	IPOC Station P	0.32	39	⇓ iP	Pn	16 27 29.8	+0.4
PB02				iS	Sn	16 27 36.2	+0.6
PB02				IAML		16 27 36.7	
	comp=N,287µm,0.7s						
PB04	IPOC Station P	0.76	183	ePn	Pn	16 27 34.8	-0.4
PB04				eSn	Sn	16 27 43.7	-2.0
PB04	IPOC Station P	0.76	183	⇑ iP	Pn	16 27 35.0	-0.2
PB04				iS	Sn	16 27 45.8	+0.1
PB04				IAML		16 27 48.9	
	comp=E,84µm,0.6s						
PB01	IPOC Station P	0.78	48	ePn	Pn	16 27 35.8	+0.5
PB01				eSn	Sn	16 27 45.0	-0.9
PB01	IPOC Station P	0.78	48	⇓ iP	Pn	16 27 35.6	+0.2
PB01				iS	Sn	16 27 45.2	-0.8
PB01				IAML		16 27 47.3	
	comp=E,264µm,0.2s						
PB09	IPOC Station P	0.84	106	⇓ iP	Pn	16 27 36.7	+0.5
PB09				iS	Sn	16 27 48.0	+0.5
PB06	IPOC Station P	1.24	156	⇑ iP	Pn	16 27 41.8	+0.1
PB06				iS	Sn	16 27 57.5	+0.3
PB06				IAML		16 27 58.5	
	comp=E,71µm,0.8s						
PB08	IPOC Station P	1.68	32	⇓ iP	Pn	16 27 49.6	+1.7
PB08				iS	Sn	16 28 11.4	+3.0
PB08				IAML		16 28 13.9	
	comp=N,70µm,0.9s						
PB11	IPOC Station P	1.85	13	ePn	Pn	16 27 51.2	+1.1
PB11	IPOC Station P	1.85	13	⇑ iP	Pn	16 27 51.0	+0.9
PB11				iS	Sn	16 28 14.4	+2.2
PSGC	Pisagua	1.96	360	⇑ iP	Pn	16 27 52.0	+0.5
PSGC				iS	Sn	16 28 15.9	+0.9
PSGC				IAML		16 28 27.8	
	comp=E,30µm,0.5s						
PB10	IPOC Station P	1.98	192	ePn	Pn	16 27 51.1	-0.6
PB10	IPOC Station P	1.98	192	⇓ iP	Pn	16 27 50.9	-0.8
PB10				iS	Sn	16 28 20.4	+5.1
PB10				IAML		16 28 33.5	
	comp=N,30µm,0.7s						
MNMC	Minye Minye	2.47	11	ePn	Pn	16 28 00.0	+1.2
MNMC	Minye Minye	2.47	11	⇑ iP	Pn	16 27 59.9	+1.1
MNMC				iS	Sn	16 28 29.9	+2.1
MNMC				IAML		16 28 47.8	
	comp=E,47µm,1.0s						
PB12	IPOC Station P	2.95	356	⇑ iP	Pn	16 28 05.3	+0.2
PB12				eS	Sn	16 28 37.9	-1.4
PB14	IPOC Station P	3.06	185	iP	Pn	16 28 05.7	-1.1
PB14	IPOC Station P	3.06	185	⇑ iP	Pn	16 28 05.7	-1.1
PB14				iS	Sn	16 28 49.9	+7.6
PB14				IAML		16 29 08.0	
	comp=E,6µm,0.5s						
GO02	Mina Guanaco	3.61	173	⇓ iP	Pn	16 28 14.7	+0.3
GO02				iS	Sn	16 28 57.4	+1.5
GO02				IAML		16 29 16.6	
	comp=N,9µm,1.0s						
HJA	Humahuaca	4.64	111	iP	Pn	16 28 33.1	+4.5
HJA				IAML		16 28 51.0	
	comp=Z,1µm,0.6s						
ARE	Arequipa	5.25	345	⇓ iP	Pn	16 28 36.6	-0.3
ARE				eS	Sn	16 29 30.0	-6.3
ARE	Arequipa	5.25	345	⇓ iP	Pn	16 28 36.6	-0.3
ARE				eS	Sn	16 29 30.0	-6.3
SLA	San Lorenzo	5.27	127	iP	Pn	16 28 41.7	+4.6
SLA				IAML		16 28 59.2	
	comp=Z,616nm,0.8s						
AZAP	Zapla	5.35	121	iP	Pn	16 28 41.8	+3.6
LPAZ	La Paz	5.58	20	Pn	Pn	16 28 46.3	+4.6
	comp=Z,24nm,0.3s,baz=206,slow=6.9,SNR=177						
LPAZ				Sn	Sn	16 29 53.5	+8.7
	baz=186,slow=18,SNR=1.3						
LPAZ				LR	LR	16 31 17.9	
	comp=Z,4µm,20.9s,baz=200,slow=45						
LPAZ	La Paz	5.58	20	ePn	Pn	16 28 45.6	+3.9
LPAZ				Sn	Sn	16 29 53.5	+8.7
LPAZ	La Paz	5.58	20	eP	Pn	16 28 45.6	+3.9
ASTB	Santa Barbara	5.73	115	iP	Pn	16 28 45.9	+2.5
FSA	Cafayete	5.89	141	iP	Pn	16 28 49.5	+3.9
ALOL	LOMAS DE OLMED	6.08	113	iP	Pn	16 28 49.8	+1.7
AHML	Horco Molle	6.78	141	iP	Pn	16 29 00.6	+2.9
VCA	Vinchina	7.34	167	iP	Pn	16 29 03.8	-1.7
VCA				iS	Sn	16 30 46.9	+19
VCA				IAML		16 31 02.0	
	comp=Z,285nm,0.7s						
LCO	Las Campanas	7.43	184	ePn	Pn	16 29 04.9	-1.9
LCO	Las Campanas	7.43	184	eP	Pn	16 29 04.9	-1.9
ROC1	El Roble	11.39	184	ePn	Pn	16 30 02.4	+1.3
NNA	Nana	11.50	325	Pn	Pn	16 30 03.7	+1.3
	comp=Z,1.5nm,0.3s,baz=176,slow=17,SNR=3.7						
NNA				Sn	Sn	16 32 04.2	-5.5
	comp=Z,3.9nm,0.3s,baz=207,slow=18,SNR=3.5						
NNA				LR	LR	16 34 21.9	
	comp=Z,651nm,21.2s,baz=148,slow=37						
NNA	Nana	11.50	325	eP	Pn	16 30 04.0	+1.6
CPUP	Villa Florida	12.61	115	Pn	Pn	16 30 17.1	-0.4
	comp=Z,0.3nm,0.3s,baz=291,slow=12,SNR=15						
CPUP				Sn	Sn	16 32 22.7	-14
	comp=Z,0.5nm,0.3s,baz=255,slow=17,SNR=1.9						
CPUP				Lg	Lg	16 33 39.8	
	comp=Z,0.4nm,0.3s,baz=218,slow=19,SNR=1.7						
CPUP				LR	LR	16 36 10.0	
	comp=Z,837nm,20.0s,baz=294,slow=43						
CPUP	Villa Florida	12.61	115	ePn	Pn	16 30 12.9	-4.5
CPUP				Sn	Sn	16 32 22.7	-14
CPUP				Lg	Lg	16 33 39.8	
SAML	Samuel	14.21	29	ePn	Pn	16 30 37.2	-2.1
ATAH	Atahualpa	16.43	330	Pn	P	16 31 12.3	+1.3
	comp=Z,0.7nm,0.3s,baz=174,slow=9.9,SNR=7.8						
ATAH				Sn	S	16 34 18.1	-2.9
	comp=Z,0.6nm,0.3s,baz=331,slow=19,SNR=2.4						
TRQA	Tornquist	17.87	159	ePn	Pn	16 31 24.7	-1.4
	comp=Z,56nm,0.8s						
TRQA	Tornquist	17.87	159	P	Pn	16 31 24.7	-1.4
PLCA	Paso Flores	19.11	181	P	P	16 31 39.8	-0.3
	comp=Z,0.6nm,0.3s,baz=19,slow=13,SNR=18						
PLCA				LR	LR	16 39 19.0	
	comp=Z,802nm,18.9s,baz=26,slow=38						
PLCA	Paso Flores	19.11	181	eP	P	16 31 40.3	+0.3
	comp=Z,33nm,0.9s						
PLCA	Paso Flores	19.11	181	eP	P	16 31 40.3	+0.3
PLCA				pmax	pmax		
	comp=Z,33nm,0.9s						
SPB	Sao Paulo	21.03	100	eP	P	16 31 59.8	-1.2
	comp=Z,93nm,0.8s						
BDFB	Brasilia	21.74	78	eP	P	16 32 06.1	-2.6
	comp=Z,5µm,1.0s						
BDFB	Brasilia	21.74	78	eP	P	16 32 06.1	-2.6
BDFB				pmax	pmax		
	comp=Z,5µm,1.0s						
PTGA	Pitinga	22.95	27	P	P	16 32 19.3	-2.2
	comp=Z,37nm,0.6s,baz=206,slow=11,SNR=42						
PTGA				S	S	16 36 27.4	-1.3
	comp=Z,8.3nm,0.8s,baz=311,slow=19,SNR=2.8						
PTGA				LR	LR	16 41 59.4	
	comp=Z,1µm,19.8s,baz=212,slow=39						
PTGA	Pitinga	22.95	27	eP	P	16 32 19.1	-2.4
	comp=Z,54nm,0.8s						
PTGA				S	S	16 36 27.4	-1.3
OTAV	Otavalo	23.15	338	eP	P	16 32 25.7	+1.7
	comp=Z,38nm,0.8s						
OTAV	Otavalo	23.15	338	P	P	16 32 25.7	+1.7
OTAV				pmax	pmax		
	comp=Z,38nm,0.9s						
CMBC	Cumbal	23.61	340	eP	P	16 32 36.6	+8.2
FLOC	Florencia	23.64	346	eP	P	16 32 27.6	-0.7
GCUF	Volcan Galeras	23.73	342	eP	P	16 32 34.2	+4.6
CRUC	La Cruz	23.95	343	eP	P	16 32 37.1	+5.6
SOTA	Rioblanco	24.40	344	eP	P	16 32 39.4	+3.6
PCON	Cinco Dias	24.53	345	eP	P	16 32 40.5	+3.5
PRAC	Prado	25.56	349	eP	P	16 32 46.1	+0.4
	comp=Z,51nm,0.8s						
PRAC	Prado	25.56	349	eP	P	16 32 46.2	+0.4
GRGC	Isla de Gorgon	25.66	341	eP	P	16 32 49.9	+3.2
CHRN	Cochrane	25.70	184	eP	P	16 32 46.5	-0.2
	comp=Z,12nm,0.7s						
HORQ	Saladito	25.70	345	eP	P	16 32 48.3	+1.0
VILC	Villavicencio,	25.76	352	eP	P	16 32 48.3	+0.5
YOTC	Yotoco, Valle	26.12	346	eP	P	16 32 51.9	+0.9
CHIC	Chingaza	26.28	352	eP	P	16 32 52.9	+0.2
MALC	Bahia Malaga	26.39	344	eP	P	16 32 59.1	+5.8
ROSC	El Rosal	26.57	351	P	P	16 32 54.4	-0.9
	comp=Z,5.4nm,0.4s,baz=81,slow=19,SNR=3.0						
ROSC				LR	LR	16 45 03.5	
	comp=Z,522nm,19.2s,baz=232,slow=40						
ROSC	El Rosal	26.57	351	eP	P	16 32 55.4	+0.1
	comp=Z,110nm,1.9s						
RREF	El Recreo	26.80	348	eP	P	16 33 01.0	+3.3
PLMC	San Jos˜' del	27.00	346	eP	P	16 33 01.0	+2.1
NORC	Norcasia	27.36	350	eP	P	16 33 03.4	+1.3
RUSC	La Rusia	27.45	354	eP	P	16 33 03.2	-0.1
	comp=Z,33nm,0.7s						
RUSC	La Rusia	27.45	354	eP	P	16 33 03.1	-0.1
HELC	Santa Helena	28.09	348	eP	P	16 33 09.0	0.0
	comp=Z,92nm,1.0s						
HELC	Santa Helena	28.09	348	eP	P	16 33 09.5	+0.5
PTBC	PUERTO BERRIO,	28.26	351	eP	P	16 33 07.4	-2.6
ZARC	Zaragoza, Cauc	29.25	350	eP	P	16 33 17.0	-1.8
SDV	Santo Domingo	30.27	359	P	P	16 33 26.4	-1.7
	comp=Z,7.5nm,0.6s,baz=147,slow=15,SNR=8.9						
SDV				LR	LR	16 46 42.6	
	comp=Z,762nm,19.2s,baz=186,slow=39						
SDV	Santo Domingo	30.27	359	eP	P	16 33 26.5	-1.5
	comp=Z,21nm,1.0s						
MOTC	Monteria, Cord	30.65	349	eP	P	16 33 30.3	-0.9
CODC	Agust˘›n Codaz	31.48	354	eP	P	16 33 33.9	-4.6
PCRV	Puerto La Cruz	32.00	10	P	P	16 33 42.9	-0.3
	comp=Z,12nm,0.5s,baz=280,slow=2.3,SNR=12						
PCRV				LR	LR	16 49 30.1	
	comp=Z,463nm,19.2s,baz=190,slow=42						
JTS	JuntasAbangare	34.86	334	P	P	16 34 10.0	+2.0
	comp=Z,9.9nm,1.0s,baz=149,slow=3.3,SNR=4.5						
JTS	JuntasAbangare	34.86	334	P	P	16 34 10.0	+2.0
JTS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RPN	Rapa Nui	36.06	253	LR	LR	16 45 19.1	
	comp=Z,383nm,20.9s,baz=91,slow=30						
RCBR	Riachuelo	36.61	70	P	P	16 34 22.5	-0.7
	comp=Z,41nm,0.6s,baz=246,slow=15,SNR=27						
RCBR	Riachuelo	36.61	70	eP	P	16 34 21.8	-1.4
	comp=Z,44nm,0.8s						
TGUH	Tegucigalpa,Un	39.21	333	eP	P	16 34 46.6	+1.7
	comp=Z,53nm,0.9s						
SJG	San Juan	39.63	6	P	P	16 34 46.0	-2.4
	comp=Z,60nm,0.6s,baz=143,slow=6.2,SNR=27						
SJG	San Juan	39.63	6	eP	P	16 34 46.0	-2.4
	comp=Z,67nm,0.7s						
SJG	San Juan	39.63	6	P	P	16 34 46.0	-2.4
SJG				pmax	pmax		
	comp=Z,60nm,0.6s						
MTP	Monte Pirata	39.67	7	eP	P	16 34 45.8	-2.9
	comp=Z,44nm,0.8s						
CMIG	Matias Romero	45.45	326	P	P	16 35 36.6	+0.9
	comp=Z,7.8nm,0.8s,baz=85,slow=6.9,SNR=5.3						
859A	Kempfer Cattle	50.43	348	P	P	16 36 15.1	+1.1
	baz=167						
656A	Willston	52.04	346	P	P	16 36 26.5	+0.4
	baz=165						
557A	Orange Park	52.49	347	P	P	16 36 30.3	+0.8
	baz=166						
456A	Hilliard	53.24	347	P	P	16 36 35.7	+0.7
	baz=166						
454A	Quitman	53.58	346	P	P	16 36 37.9	+0.5
	baz=164						
ZAIG	Zacatecas	54.25	322	eP	P	16 36 42.1	-0.8
	comp=Z,30nm,0.9s						
LNIG	Linares	54.29	327	eP	P	16 36 42.4	-0.4
	comp=Z,30nm,1.3s						
BRAL	Brewton	54.90	342	P	P	16 36 47.6	+0.6
	baz=160						
349A	Repton	55.11	342	P	P	16 36 48.8	+0.2
	baz=160						
251A	Midway	55.33	344	P	P	16 36 49.7	-0.5
	baz=162,SNR=5.5						
347A	Saraland	55.56	341	P	P	16 36 51.9	+0.1
	baz=159						
249A	Camden	55.68	342	P	P	16 36 52.5	-0.1
	baz=161						
151A	Opelika	55.73	344	P	P	16 36 52.3	-0.7
	baz=163						
346A	Big Creek Wild	55.83	340	P	P	16 36 53.6	-0.2
	baz=158						
248A	Dixon Mills	55.97	342	P	P	16 36 54.5	-0.2
	baz=160						
150A	Eclectic	55.98	344	P	P	16 36 54.1	-0.6
	baz=162						
149A	Jones	56.17	343	P	P	16 36 55.3	-0.8
	baz=161						
247A	Quitman	56.18	341	P	P	16 36 56.2	-0.1
	baz=159						
344A	Westbrook Farm	56.31	339	P	P	16 36 57.7	+0.5
	baz=157						
245A	Little AP, Sta	56.56	340	P	P	16 36 59.1	+0.1
	baz=158,SNR=5.4						
Z50A	Ashland	56.57	344	P	P	16 36 58.5	-0.6
	baz=162,SNR=5.3						
LRAL	Lakeview Retre	56.64	343	P	P	16 36 58.9	-0.6
	baz=161						
Z49A	Columbiana	56.67	344	P	P	16 36 59.0	-0.7
	baz=161						
342A	Flagon Creek P	56.79	337	P	P	16 37 01.7	+1.1
	baz=155,SNR=6.7						
146A	Union	56.86	341	P	P	16 37 01.7	+0.6
	baz=159						
833A	Chaparral WMA,	57.10	329	P	P	16 37 03.6	+0.8
	baz=147,SNR=5.6						
Z47A	Carrollton	57.10	342	P	P	16 37 02.1	-0.6
	baz=160						
145A	Houston Renfro	57.10	340	P	P	16 37 03.1	+0.3
	baz=158						
Z48A	Northport	57.12	343	P	P	16 37 02.1	-0.8
	baz=160						
Y50A	Piedmont	57.13	345	P	P	16 37 02.1	-0.9
	baz=162						
Y49A	Blount Mountai	57.27	344	P	P	16 37 03.1	-0.8
	baz=162						
242A	Grayson	57.35	338	P	P	16 37 04.5	0.0
	baz=155						
Y48A	Jasper	57.52	343	P	P	16 37 04.9	-0.8
	baz=161						
241A	Mo Tay, Goldon	57.59	337	P	P	16 37 07.7	+1.5
	baz=154,SNR=6.0						
X50A	Fort Payne	57.65	345	P	P	16 37 06.5	-0.1
	baz=163						
Y47A	UCPARC, Winfie	57.69	343	P	P	16 37 06.3	-0.6
	baz=160,SNR=8.7						
X49A	Woodville	57.87	344	P	P	16 37 07.4	-0.7
	baz=162						
Z44A	Pea Ridge, Bel	57.89	340	P	P	16 37 08.6	+0.3
	baz=157						
240A	Hunter Patters	57.92	336	P	P	16 37 09.3	+0.7
	baz=154						
Y46A	Houston	57.97	342	P	P	16 37 08.0	-0.9
	baz=159						
X48A	Hartselle	57.99	344	P	P	16 37 08.4	-0.6
	baz=161,SNR=9.8						
NATX	Nacogdoches	58.01	335	P	P	16 37 10.0	+0.8
	baz=153						
NATX	Nacogdoches	58.01	335	eP	P	16 37 09.8	+0.6
	comp=Z,52nm,0.9s						
141A	Papa Simpson,	58.11	337	P	P	16 37 10.8	+1.0
	baz=155,SNR=7.0						
X47A	Russelville	58.27	343	P	P	16 37 10.0	-1.0
	baz=160,SNR=9.3						
CPCT	Cooper Cave	58.33	346	eP	P	16 37 10.7	-0.7
	comp=Z,20nm,1.0s						
435B	Jarrell	58.36	332	P	P	16 37 12.3	+0.6
	baz=150						
TKL	Tuckaleechee C	58.37	347	P	P	16 37 10.9	-0.8
	comp=Z,25nm,0.8s,baz=158,slow=9.2,SNR=29						
TKL				LR	LR	17 03 16.4	
	comp=Z,141nm,18.5s,baz=164,slow=37						
TKL	Tuckaleechee C	58.37	347	eP	P	16 37 10.8	-0.9
	comp=Z,32nm,0.8s						
140A	Cam and Jess,	58.39	337	P	P	16 37 12.9	+1.1
	baz=154						
SWET	Sewanee	58.44	345	eP	P	16 37 11.1	-1.1
	comp=Z,32nm,0.6s						
X46A	Booneville	58.52	342	P	P	16 37 11.7	-0.9
	baz=160,SNR=5.7						
W48A	Pulaski	58.61	344	P	P	16 37 12.4	-1.0
	baz=161,SNR=8.5						
X45A	UM Field Stati	58.63	341	P	P	16 37 12.6	-0.9
	baz=159						
Z41A	Richland Creek	58.66	338	P	P	16 37 14.3	+0.6
	baz=155,SNR=8.1						
OXF	Oxford	58.71	341	P	P	16 37 13.4	-0.6
	baz=159						
PLAL	Pickwick Lake	58.77	343	eP	P	16 37 13.1	-1.4
	comp=Z,21nm,1.0s						
Z40A	Long Farm, Mag	58.88	337	P	P	16 37 16.1	+0.8
	baz=154,SNR=13						
W47A	Westpoint	58.89	343	P	P	16 37 14.5	-0.8
	baz=161,SNR=7.0						
JCT	Junction City	59.10	330	P	P	16 37 17.4	+0.6
	baz=147,SNR=8.2						
JCT	Junction City	59.10	330	eP	P	16 37 17.0	+0.1
	comp=Z,23nm,0.9s						
JCT	Junction City	59.10	330	eP	P	16 37 17.0	+0.1
JCT				pmax	pmax		
	comp=Z,23nm,0.9s						
V48A	Smith Brothers	59.16	344	P	P	16 37 16.4	-0.7
	baz=162,SNR=9.9						
WLAR	White Oak Lake	59.16	338	eP	P	16 37 17.8	+0.7
	comp=Z,168nm,0.8s						
Y41A	Eaglette Beard	59.16	338	P	P	16 37 16.8	-0.4
	baz=155,SNR=5.9						
TZTN	Tazewell	59.18	347	P	P	16 37 16.9	-0.3
	baz=165						
HPIG		59.25	323	eP	P	16 37 19.2	+1.0
	comp=Z,31nm,1.3s						
W45A	Hickory Valley	59.25	342	P	P	16 37 16.8	-0.9
	baz=159						
BLA	Blacksburg	59.27	350	P	P	16 37 18.1	+0.2
	baz=169						
WHTX	Lake Whitney,	59.35	333	P	P	16 37 18.2	-0.3
	baz=150,SNR=7.1						
WHTX	Lake Whitney,	59.35	333	eP	P	16 37 16.9	-1.6
	comp=Z,44nm,1.1s						
V47A	Nunnelly	59.42	344	P	P	16 37 17.7	-1.2
	baz=161						
Y40A	Okolona	59.52	338	P	P	16 37 19.9	+0.3
	baz=155,SNR=7.2						
V46A	Holladay	59.55	343	P	P	16 37 18.3	-1.5
	baz=160						
RKT	Rikitea	59.56	255	eLR	LR	16 55 10.2	
	comp=Z,798nm,28.5s,baz=106						
IP07	Quail	59.64	353	eP	P	16 37 20.9	+0.6
	comp=Z,52nm,1.2s						
IP01	Cuckoo	59.66	353	eP	P	16 37 21.0	+0.5
	comp=Z,38nm,1.0s						
V45A	Humboldt	59.73	342	P	P	16 37 20.1	-1.0
	baz=159						
IP03	Louisa	59.74	353	eP	P	16 37 21.5	+0.5
	comp=Z,51nm,0.8s						
CVRD	Centerville Ro	59.76	353	eP	P	16 37 21.6	+0.4
	comp=Z,36nm,1.0s						
WVT	Waverly	59.78	343	P	P	16 37 20.5	-0.9
	baz=161						
WVT	Waverly	59.78	343	eP	P	16 37 20.1	-1.4
	comp=Z,45nm,1.0s						
WVT	Waverly	59.78	343	eP	P	16 37 20.1	-1.4
WVT				pmax	pmax		
	comp=Z,45nm,1.0s						
PTRD	Partlow Road	59.79	353	eP	P	16 37 21.9	+0.5
	comp=Z,84nm,0.3s						
X40A	Basin Creek Fa	59.79	338	P	P	16 37 21.5	0.0
	baz=155						
U48A	Cassie Pea, Po	59.82	345	P	P	16 37 20.7	-0.9
	baz=162,SNR=6.1						
CBN	Corbin Frederi	59.85	353	P	P	16 37 22.0	+0.2
	baz=172						
UALR	University of	59.88	339	eP	P	16 37 21.7	-0.5
	comp=Z,22nm,0.8s						
U47A	Clarksville	59.94	344	P	P	16 37 21.7	-0.8
	baz=161,SNR=7.1						
TXAR	Lajitas Array	60.06	326	P	P	16 37 24.0	+0.4
	comp=Z,3.4nm,0.6s,baz=150,slow=8.6,SNR=45						
TXAR	Lajitas Array	60.06	326	P	P	16 37 24.0	+0.4
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TX31	Lajitas Ar. Si	60.06	326	eP	P	16 37 23.6	0.0
W42A	Bald Knob	60.07	340	P	P	16 37 23.0	-0.4
	baz=157						
U46A	Springville	60.09	343	P	P	16 37 23.1	-0.4
	baz=160,SNR=5.8						
MIAR	Mount Ida	60.10	338	P	P	16 37 23.7	+0.1
	baz=154,SNR=19						
MIAR	Mount Ida	60.10	338	eP	P	16 37 23.2	-0.4
	comp=Z,35nm,0.9s						
MIAR	Mount Ida	60.10	338	eP	P	16 37 23.3	-0.4
MIAR				pmax	pmax		
	comp=Z,35nm,0.9s						
W41B	Gary Mavity, V	60.22	339	P	P	16 37 24.2	-0.2

baz=156,SNR=5.5
U45A **Rockin P Farm,** 60.24 343 P P 16 37 23.8 -0.8
baz=160
X39A **Fountain Ranch** 60.26 337 P P 16 37 25.1 +0.3
baz=154,SNR=22
X301 **Greenbrier Sit** 60.33 339 *e*P P 16 37 24.7 -0.4
comp=Z,24nm,0.7s
WHAR **Wooly Hollow** 60.34 339 *e*P P 16 37 24.7 -0.5
comp=Z,21nm,0.8s
T48A **Bowling Green** 60.35 345 P P 16 37 24.4 -0.9
baz=162
VNA3 **Neumayer Olymp** 60.37 161 P P 16 37 25.6 +0.5
T47A **Sharon Grove** 60.41 344 P P 16 37 24.8 -0.9
baz=162,SNR=13
W40A **Ferguson Farm,** 60.51 338 P P 16 37 26.6 +0.2
baz=155,SNR=14
W40A **Ferguson Farm,** 60.51 338 *e*P P 16 37 27.0 +0.6
comp=Z,68nm,1.0s
V42A **Cord** 60.52 340 P P 16 37 25.6 -0.8
baz=157
VNA1 **Neumayer--Stat** 60.59 160 P P 16 37 24.0 -2.5
T46A **Princeton** 60.66 344 P P 16 37 26.8 -0.6
baz=161,SNR=14
V41A **Mountainview** 60.74 340 P P 16 37 27.5 -0.5
baz=156,SNR=14
W39A **Magazine** 60.76 338 P P 16 37 28.3 +0.2
baz=154,SNR=12
S48A **Wiedeman Farm,** 60.79 346 P P 16 37 27.8 -0.5
baz=163,SNR=6.2
ABTX **Abilene, Hawle** 60.84 332 P P 16 37 29.1 +0.4
baz=148,SNR=19
ABTX **Abilene, Hawle** 60.84 332 *e*P P 16 37 28.7 -0.1
comp=Z,44nm,0.8s
ABTX *e*pP **pP** 16 37 42.1 +1.0
T45A **Paducah** 60.84 343 P P 16 37 27.8 -0.9
baz=160,SNR=6.0
VNA2 **Neumayer--Watz** 60.96 160 P P 16 37 29.6 +0.5
baz=294,slow=7.7
U42A **Revenden** 60.97 341 P P 16 37 28.7 -0.8
baz=157,SNR=13
V40A **Witts Springs** 60.98 339 P P 16 37 28.6 -1.1
baz=156,SNR=8.8
PBMO **Poplar Bluff** 61.12 341 *e*P P 16 37 29.7 -0.8
comp=Z,40nm,0.8s
U41A **Viola** 61.18 340 P P 16 37 30.2 -0.8
baz=157,SNR=16
S46A **Don Dixon Farm** 61.22 344 P P 16 37 30.2 -1.0
baz=161,SNR=7.2
V39A **Pettigrew** 61.29 338 P P 16 37 31.7 -0.1
baz=155,SNR=45
T43A **Greenville** 61.36 342 P P 16 37 31.3 -0.9
baz=158,SNR=18
WCI **Wyandotte Cave** 61.39 346 P P 16 37 31.3 -1.1
baz=163
WCI **Wyandotte Cave** 61.39 346 *e*P P 16 37 31.0 -1.3
comp=Z,34nm,0.7s
WCI **Wyandotte Cave** 61.39 346 *e*P P 16 37 31.0 -1.3
WCI pmax pmax
comp=Z,34nm,0.7s
S45A **Carrier Mills** 61.44 343 P P 16 37 31.7 -1.0
baz=160,SNR=6.8
R48A **Northridge Ran** 61.46 346 P P 16 37 32.2 -0.6
baz=163,SNR=6.0
U40A **Yellville** 61.49 339 P P 16 37 32.2 -0.9
baz=156,SNR=20
R47A **Wooly Knot Far** 61.51 345 P P 16 37 32.2 -1.0
baz=162,SNR=7.3
MVL **Millersville** 61.52 355 *e*P P 16 37 33.5 +0.3
comp=Z,26nm,0.8s
T42A **Van Buren** 61.55 341 P P 16 37 32.8 -0.7
baz=158,SNR=7.1
MCWV **Mont Chateau** 61.58 351 P P 16 37 33.8 +0.2
baz=170,SNR=5.6
MCWV **Mont Chateau** 61.58 351 *e*P P 16 37 33.8 +0.2
comp=Z,30nm,0.8s
S44A **Carbondale** 61.64 343 P P 16 37 33.5 -0.6
baz=160,SNR=16
SIUC **Southern Illin** 61.65 343 *e*P P 16 37 33.5 -0.6
comp=Z,52nm,0.6s
R46A **Gibon Southern** 61.67 344 P P 16 37 33.2 -1.0
baz=161,SNR=5.8
U39A **Green Forest** 61.73 339 P P 16 37 34.1 -0.6
baz=155,SNR=17
S43A **Fulton Ridge,** 61.76 342 P P 16 37 33.8 -1.0
baz=159,SNR=12
T41A **Mountain View** 61.77 340 P P 16 37 34.4 -0.6
baz=157,SNR=6.7
HHAR **Hobbs** 61.79 338 *e*P P 16 37 34.7 -0.4
comp=Z,64nm,1.4s
R45A **Skylar, Fairfi** 61.94 344 P P 16 37 35.0 -1.0
baz=161,SNR=15
O56A **Blue Knob Stat** 62.02 353 P P 16 37 36.5 -0.1
baz=171
Q47A **Bedord North L** 62.10 346 P P 16 37 36.0 -1.1
baz=163,SNR=7.3
T40A **Mansfield** 62.11 340 P P 16 37 36.4 -0.8
baz=156,SNR=11
R44A **Waltonville** 62.11 343 P P 16 37 36.3 -0.9
baz=160,SNR=6.3
OK022 **N3560 Road, Pr** 62.12 336 *e*P P 16 37 36.8 -0.5
comp=Z,22nm,1.0s
TUL1 **Leonard** 62.12 337 P P 16 37 37.5 +0.2
baz=153,SNR=9.0
TUL1 **Leonard** 62.12 337 *e*P P 16 37 36.9 -0.5
comp=Z,46nm,1.0s
TUL1 *e*pP **pP** 16 37 50.4 +0.6
S42A **Caledonia** 62.15 342 P P 16 37 36.4 -1.0
baz=158,SNR=5.4
OK020 **N3440 Road, Me** 62.20 335 *e*P P 16 37 37.4 -0.5
comp=Z,26nm,0.6s
FVM **French Village** 62.24 342 *e*P P 16 37 37.7 -0.4
comp=Z,56nm,0.8s
FVM **French Village** 62.24 342 *e*P P 16 37 37.7 -0.4
FVM pmax pmax
comp=Z,56nm,0.8s
S41A **Jillco Farms,** 62.27 341 P P 16 37 37.6 -0.7
baz=157,SNR=21
WMOK **Wichita Mounta** 62.27 333 P P 16 37 37.5 -0.9
baz=150
WMOK **Wichita Mounta** 62.27 333 *e*P P 16 37 37.1 -1.3
comp=Z,7.9nm,0.9s
WMOK **Wichita Mounta** 62.27 333 *e*P P 16 37 37.1 -1.3
WMOK pmax pmax
comp=Z,8.0nm,0.9s
T39A **Clever** 62.28 339 P P 16 37 37.7 -0.7
baz=155,SNR=12
SSPA **Standing Stone** 62.31 353 P P 16 37 38.6 +0.2
baz=172
OLIL **Olney** 62.31 344 *e*P P 16 37 37.1 -1.4
comp=Z,38nm,0.8s
BLO **Bloomington** 62.35 346 *e*P P 16 37 37.5 -1.3
comp=Z,71nm,0.6s
BLO **Bloomington** 62.35 346 *e*P P 16 37 37.5 -1.3
BLO pmax pmax
comp=Z,71nm,0.6s
R43A **Red Bud** 62.37 342 P P 16 37 38.5 -0.4
baz=159,SNR=6.1
N59A **State Game Lan** 62.39 355 P P 16 37 39.4 +0.3
baz=174
Q45A **Warren Harvey,** 62.48 344 P P 16 37 38.8 -0.9
baz=161,SNR=11
S40A **Lebanon** 62.52 340 P P 16 37 39.4 -0.5
baz=156,SNR=19
CCM **Cathedral Cave** 62.55 341 P P 16 37 39.4 -0.8
baz=158
CCM **Cathedral Cave** 62.55 341 *e*P P 16 37 39.3 -0.8
comp=Z,29nm,0.8s
CCM **Cathedral Cave** 62.55 341 *e*P P 16 37 39.3 -0.8
CCM pmax pmax
comp=Z,29nm,0.8s
SNAA **Sanae** 62.58 161 P P 16 37 39.9 -0.1
SNAA **Sanae** 62.58 161 P P 16 37 40.0 -0.1
comp=Z,17nm,0.7s,baz=268,slow=6.9,SNR=69
SNAA **Sanae** 62.58 161 *e*P P 16 37 39.6 -0.5
comp=Z,22nm,0.8s
SNAA **Sanae** 62.58 161 *c i*P P 16 37 40.4 +0.3
P47A **Martinsville** 62.59 346 P P 16 37 39.2 -1.1
baz=163,SNR=12
T38A **Diamond** 62.59 338 P P 16 37 40.0 -0.5
baz=154,SNR=27
YLE **Yale** 62.62 358 *e*P P 16 37 40.8 +0.3
comp=Z,267nm,1.9s
R42A **Luebbering** 62.62 342 P P 16 37 39.8 -0.8
baz=158,SNR=18
ACSO **Alum Creek Sta** 62.64 349 P P 16 37 39.9 -0.8
baz=166,SNR=9.4
ACSO **Alum Creek Sta** 62.64 349 *e*P P 16 37 39.9 -0.8
comp=Z,59nm,1.0s
ACSO *e*pP **pP** 16 37 52.8 -0.3
Q44A **Meyer Farm, Va** 62.71 343 P P 16 37 40.2 -1.0
baz=160,SNR=10.0
GDL2 **Guadalupe Moun** 62.71 328 *e*P P 16 37 42.5 +1.0
R41A **Rosebud** 62.81 341 P P 16 37 41.2 -0.7
baz=158,SNR=26
MNTX **Cornudas Mount** 62.83 326 P P 16 37 42.0 -0.2
baz=143,SNR=23
MNTX **Cornudas Mount** 62.83 326 *e*P P 16 37 41.8 -0.3
comp=Z,14nm,0.8s
S39A **Bolivar** 62.86 339 P P 16 37 41.5 -0.7
baz=156,SNR=36
N54A **Moraine State** 62.88 352 P P 16 37 42.2 -0.1
baz=169
N54A **Moraine State** 62.88 352 *e*P P 16 37 42.2 -0.1
comp=Z,26nm,0.8s
N54A *e*pP **pP** 16 37 54.8 +0.1
Q43A **New Douglas** 62.93 343 P P 16 37 41.6 -1.0
baz=159,SNR=7.6
P46A **Rosedale** 62.93 345 P P 16 37 41.5 -1.2
baz=162,SNR=9.1
P45A **Graceland, Par** 62.98 345 P P 16 37 41.5 -1.4
baz=161,SNR=13
S38A **Stockton** 63.00 339 P P 16 37 42.6 -0.6
baz=155,SNR=19
R40A **Maddies Statio** 63.08 341 P P 16 37 43.0 -0.6
baz=157,SNR=16
Q42A **Golden Eagle** 63.13 342 P P 16 37 43.3 -0.7
baz=158,SNR=21
P44A **Sand Creek, Wi** 63.14 344 P P 16 37 42.9 -1.1
baz=160,SNR=6.1
BRYW **Bryant College** 63.18 359 *e*P P 16 37 44.0 -0.2
comp=Z,86nm,0.8s
BRYW *e*pP **pP** 16 37 57.1 +0.4
T35A **Sooner Cattle** 63.28 336 P P 16 37 45.5 +0.4
baz=152,SNR=8.4
O47A **Sheridan** 63.28 346 P P 16 37 43.8 -1.2
baz=163,SNR=13
R39A **Chumby, Stover** 63.34 340 P P 16 37 45.1 -0.3
baz=156,SNR=9.8
Q41A **Truxton** 63.38 342 P P 16 37 45.0 -0.6
baz=158,SNR=12
M54A **Oil Creek Stat** 63.38 352 P P 16 37 45.3 -0.3
baz=170,SNR=5.3
M54A **Oil Creek Stat** 63.38 352 *e*P P 16 37 45.5 -0.1
M54A *e*pP **pP** 16 37 58.2 +0.2
MSTX **Muleshoe** 63.39 330 P P 16 37 46.3 +0.3
baz=146,SNR=18
MSTX **Muleshoe** 63.39 330 *e*P P 16 37 46.1 +0.2
comp=Z,46nm,0.9s
MSTX *e*pP **pP** 16 37 59.5 +1.1
EPT **El Paso** 63.47 326 *e*P P 16 37 46.9 +0.4
comp=Z,24nm,1.0s
R38A **Fenwick Farm,** 63.51 339 P P 16 37 46.0 -0.5
baz=155,SNR=28
P43A **Skaggs, Pawnee** 63.54 343 P P 16 37 45.3 -1.3
baz=160,SNR=16
SFIN **Lafayette** 63.63 346 P P 16 37 45.8 -1.4
baz=162,SNR=8.8
SFIN **Lafayette** 63.63 346 *e*P P 16 37 45.6 -1.6
comp=Z,43nm,0.6s
T34A **McClaskey Farm** 63.63 336 P P 16 37 47.4 0.0
baz=152,SNR=9.3
AMTX **Amarillo** 63.65 331 P P 16 37 47.5 -0.1
baz=147
AMTX **Amarillo** 63.65 331 *e*P P 16 37 47.2 -0.4
comp=Z,20nm,1.1s
O45A **Potomac** 63.65 345 P P 16 37 46.0 -1.4
baz=162,SNR=7.6
Q40A **Laux Farm, Aux** 63.66 341 P P 16 37 46.7 -0.8
baz=157,SNR=8.4
BINY **Binghamton** 63.68 355 P P 16 37 47.9 +0.3
baz=174
BINY **Binghamton** 63.68 355 *e*P P 16 37 48.0 +0.4
comp=Z,39nm,1.0s
BBTS **Babate** 63.70 60 LR LR 17 04 52.5
comp=Z,293nm,19.3s,baz=242,slow=36
P42A **Winchester** 63.71 343 P P 16 37 46.8 -1.0
baz=159,SNR=12
O44A **Mansfield** 63.74 344 P P 16 37 46.7 -1.3
baz=161
HRV **Adam Dziewonsk** 63.77 359 P P 16 37 47.9 -0.2
baz=178
HRV **Adam Dziewonsk** 63.77 359 *e*P P 16 37 48.1 0.0
comp=Z,36nm,0.6s
HRV *e*pP **pP** 16 38 01.2 +0.8
HRV **Adam Dziewonsk** 63.77 359 *e*P P 16 37 48.1 0.0
HRV *e**PP **pP** 16 38 01.3 +0.8
HRV pmax pmax
comp=Z,36nm,0.6s
Q39A **Willow Grove F** 63.99 340 P P 16 37 49.4 -0.2
baz=156
P41A **Barry, Barry** 63.99 342 P P 16 37 48.6 -1.1
baz=158,SNR=16
N46A **Monticello** 64.04 346 P P 16 37 48.9 -1.0
baz=163
TRY **Troy** 64.06 357 *e*P P 16 37 50.6 +0.6
comp=Z,41nm,0.8s
TRY *e*pP **pP** 16 38 03.2 +0.7
O43A **Sugar Creek Fa** 64.09 344 P P 16 37 49.0 -1.3
baz=160
Q38A **Cooks Store, C** 64.11 340 P P 16 37 50.5 0.0
baz=155,SNR=31
P40A **Paris** 64.15 341 P P 16 37 49.9 -0.8
baz=157,SNR=15
N45A **Kentland** 64.17 345 P P 16 37 49.4 -1.4
baz=162
R36A **Gordon, Harris** 64.17 338 P P 16 37 50.5 -0.3
baz=154,SNR=5.7
S34A **Willow Spring** 64.20 336 P P 16 37 50.6 -0.5
baz=152
O42A **Bath** 64.21 343 P P 16 37 50.2 -0.9
baz=159
N44A **Piper City** 64.27 345 P P 16 37 50.6 -0.9
baz=161
Q37A **Longview Farm,** 64.31 339 P P 16 37 51.6 -0.2
baz=155,SNR=6.3
P39B **Salisbury** 64.32 341 P P 16 37 51.0 -0.9
baz=156,SNR=10
HDIL **Hopedale** 64.33 344 P P 16 37 50.2 -1.7
baz=160,SNR=7.1
HDIL **Hopedale** 64.33 344 *e*P P 16 37 50.2 -1.7
comp=Z,39nm,0.7s
O41A **Pleys Farm,** 64.35 342 P P 16 37 50.3 -1.7
baz=158,SNR=9.3
R35A **Emporia Munici** 64.42 337 P P 16 37 52.5 0.0
baz=153
O40A **La Belle** 64.64 342 P P 16 37 52.9 -0.9
baz=157,SNR=8.0
N43A **Stutzman Famil** 64.67 344 P P 16 37 53.1 -0.9
baz=160,SNR=6.7
P38A **Dawn** 64.69 340 P P 16 37 53.6 -0.6
baz=156,SNR=13
Q36A **Arnold C. Orve** 64.73 338 P P 16 37 54.4 -0.1
baz=154
121A **Cookes Peak, D** 64.74 325 P P 16 37 56.5 +1.5
baz=141,SNR=10.0
121A **Cookes Peak, D** 64.74 325 *e*P P 16 37 56.1 +1.2
comp=Z,23nm,1.0s
R34A **Isabella, Hill** 64.78 337 P P 16 37 54.6 -0.3
baz=152,SNR=7.6
N42A **Yates City** 64.78 343 P P 16 37 54.2 -0.6
baz=159,SNR=8.1
Q35A **Mercer Eighty,** 64.84 338 P P 16 37 55.0 -0.2
baz=153
N41A **Harden Midland** 64.89 343 P P 16 37 55.1 -0.4
baz=158
P37A **Lathrop** 64.92 339 P P 16 37 55.2 -0.5
baz=155,SNR=9.9
O39A **Kirksville** 64.96 341 P P 16 37 55.6 -0.4
baz=157,SNR=5.2
M43A **Waltham Townsh** 65.08 344 P P 16 37 55.7 -0.9
baz=160
O38A **Galt** 65.13 340 P P 16 37 56.7 -0.3
baz=156,SNR=5.9
Q34A **Chapman** 65.21 337 P P 16 37 57.5 -0.1
baz=152,SNR=8.1
KSU1 **Kansas State U** 65.25 338 P P 16 37 57.6 -0.3
baz=153
KSU1 **Kansas State U** 65.25 338 *e*P P 16 37 57.6 -0.3
comp=Z,31nm,1.1s
N40A **Mertquake, Sal** 65.26 342 P P 16 37 57.0 -0.9
baz=158,SNR=7.2
O37A **Wolven Farm, M** 65.38 340 P P 16 37 57.8 -0.9
baz=155,SNR=6.9
BNM **Barren Site** 65.41 327 *e*P P 16 37 59.8 +0.5
P35A **Duane Minner,** 65.43 338 P P 16 37 58.4 -0.7
baz=153,SNR=6.6
M41A **Milan** 65.43 343 P P 16 37 58.0 -1.0
baz=159,SNR=5.4
LBNH **Lisbon** 65.51 359 P P 16 38 01.2 +1.8
baz=178
N39A **Derby Farms, D** 65.52 341 P P 16 37 58.9 -0.7
baz=157,SNR=8.9
LPM **Los Pinos Moun** 65.54 327 *e*P P 16 38 01.5 +1.4
O36A **Bolckow** 65.61 339 P P 16 37 59.7 -0.5
baz=154,SNR=7.1
N38A **Joes South For** 65.67 341 P P 16 38 00.1 -0.4
baz=156,SNR=7.0
M40A **Post Highland** 65.73 342 P P 16 37 59.9 -1.0
baz=158,SNR=9.2
P34A **Walnut Farm, R** 65.73 338 P P 16 38 00.5 -0.5
baz=152,SNR=12
L43A **Garden Prairie** 65.73 345 P P 16 37 59.9 -1.0
baz=161,SNR=8.1
L42A **Oliver, Polo** 65.79 344 P P 16 38 00.4 -0.9
baz=160
LAZ **Ladron** 65.87 327 *e*P P 16 38 03.6 +1.4
N37A **Lee Faris, Mou** 65.94 340 P P 16 38 01.9 -0.3
baz=155,SNR=13
ANMO **Albuquerque** 65.95 328 P P 16 38 04.1 +1.4
baz=143
ANMO **Albuquerque** 65.95 328 *e*P P 16 38 03.1 +0.4
comp=Z,19nm,1.0s
ANMO **Albuquerque** 65.95 328 *d i*P P 16 38 04.4 +1.6
ANMO pmax pmax
comp=Z,23nm,1.1s
M39A **Webster** 65.98 342 P P 16 38 02.1 -0.5
baz=157
LONY **Lake Ozonia** 65.99 357 P P 16 38 03.5 +0.9
baz=175
L41A **Preston** 66.07 344 P P 16 38 02.0 -1.1
baz=159
K43A **Burlington** 66.12 345 P P 16 38 02.5 -0.9
baz=161
BWLO **Walkerton** 66.14 351 P P 16 38 03.0 -0.5
baz=169
FRNY **Flat Rock** 66.16 357 *e*P P 16 38 03.6 +0.1
FRNY *e*pP **pP** 16 38 16.6 +0.5
CBKS **Cedar Bluff** 66.17 335 P P 16 38 04.2 +0.3
baz=150,SNR=5.4
CBKS **Cedar Bluff** 66.17 335 *e*P P 16 38 04.3 +0.4
comp=Z,73nm,1.1s
CBKS **Cedar Bluff** 66.17 335 *e*P P 16 38 04.3 +0.4
CBKS pmax pmax
comp=Z,73nm,1.1s
TUC **Tucson** 66.21 323 P P 16 38 05.4 +1.0
baz=138
TUC **Tucson** 66.21 323 *e*P P 16 38 05.1 +0.7
comp=Z,14nm,1.1s
TUC **Tucson** 66.21 323 *e*P P 16 38 05.1 +0.7
TUC pmax pmax
comp=Z,14nm,1.1s
M38A **Pleasantville** 66.23 341 P P 16 38 03.4 -0.7
baz=158,SNR=15
N36A **Muff Farm, Cla** 66.23 340 P P 16 38 04.0 -0.2
baz=154,SNR=8.5
O34A **Beatrice** 66.25 338 P P 16 38 03.9 -0.4
baz=153
L40A **Anamosa** 66.26 343 P P 16 38 03.6 -0.6
baz=158,SNR=7.5
K42A **Prairie Point,** 66.44 345 P P 16 38 04.8 -0.7
baz=160,SNR=10
O33A **Hebron** 66.47 337 P P 16 38 05.3 -0.4
baz=152,SNR=8.2
M37A **Trindle Farm,** 66.47 341 P P 16 38 05.4 -0.3
baz=156,SNR=34
N35A **Tabor** 66.49 339 P P 16 38 05.2 -0.7
baz=154,SNR=5.8
PKME **Peaks-Kenny Pk** 66.51 1 P P 16 38 06.1 +0.3
baz=181
K41A **Shullsburg** 66.52 344 P P 16 38 05.1 -0.9
baz=159
L39A **Vinton** 66.53 342 P P 16 38 05.1 -1.0
baz=158,SNR=7.2
SCIA **State Center** 66.68 341 P P 16 38 06.6 -0.4
baz=156,SNR=6.4
SCIA **State Center** 66.68 341 *e*P P 16 38 05.0 -2.1
comp=Z,103nm,1.3s
T25A **Trinidad** 66.75 331 P P 16 38 08.2 +0.3
baz=145,SNR=8.1
T25A **Trinidad** 66.75 331 *e*P P 16 38 09.0 +1.1
comp=Z,15nm,0.9s
M36A **Felix, Anita** 66.75 340 P P 16 38 07.2 -0.4
baz=155,SNR=8.5
N34A **Lincoln** 66.76 338 P P 16 38 07.2 -0.4
baz=153,SNR=9.5
J43A **Natural Harves** 66.79 346 P P 16 38 07.3 -0.3
baz=161,SNR=6.2
JFWS **Jewell Farm** 66.79 344 P P 16 38 07.1 -0.6
baz=159,SNR=8.9
JFWS **Jewell Farm** 66.79 344 *e*P P 16 38 07.1 -0.6
comp=Z,46nm,0.7s
JFWS **Jewell Farm** 66.79 344 *e*P P 16 38 07.1 -0.6
JFWS pmax pmax
comp=Z,35nm,0.7s
L38A **Oak Wood Farm,** 66.82 342 P P 16 38 07.2 -0.6
baz=157,SNR=8.4
K40A **Colesburg** 66.83 343 P P 16 38 07.3 -0.6
baz=158,SNR=9.4
MHTCO **State Highway** 66.87 330 *e*P P 16 38 09.8 +1.2
comp=Z,28nm,1.2s
ALFO **Alfred** 67.02 356 P P 16 38 09.5 +0.5
baz=175
K39A **Oelwein** 67.03 343 P P 16 38 08.5 -0.8
baz=158,SNR=14
M35A **Neola** 67.06 339 P P 16 38 09.5 +0.1
baz=154
214A **Organ Pipe Nat** 67.11 321 P P 16 38 11.5 +1.5
baz=137,SNR=10
214A **Organ Pipe Nat** 67.11 321 *e*P P 16 38 12.0 +2.0
comp=Z,158nm,1.2s
J41A **Loganville** 67.16 344 P P 16 38 09.4 -0.6
baz=160,SNR=6.3
NVL **N'lazarevskaya** 67.17 159 *e*P P 16 38 12.0 +2.2
NVL pmax pmax
comp=Z,35nm,1.3s
I43A **Langenfeld Bro** 67.20 346 P P 16 38 09.6 -0.7
baz=162
KLBO **Killbear Provi** 67.24 352 P P 16 38 10.0 -0.4
baz=170
PEMO **Pembroke** 67.24 355 P P 16 38 10.2 -0.3
baz=173
L36A **Harm Buss Farm** 67.30 340 P P 16 38 10.5 -0.4
baz=155,SNR=9.6
I42A **Draeger Farm,** 67.39 345 P P 16 38 11.0 -0.4
baz=161,SNR=5.9
X18A **Snowflake** 67.43 325 *e*P P 16 38 13.1 +0.9
comp=Z,10nm,0.9s
X18A *e*pP **sP** 16 38 27.6 -1.9
KSCO **Kaye Shedlock'** 67.52 333 *e*P P 16 38 13.0 +0.4
comp=Z,55nm,1.3s
J39A **Decorah** 67.57 343 P P 16 38 12.2 -0.4
baz=158,SNR=20
L35A **Bielow Farm, R** 67.59 340 P P 16 38 12.4 -0.4
baz=154,SNR=8.5
TRQ **Mont Tremblant** 67.59 357 *e*P P 16 38 12.6 -0.2
TRQ *e*pP **pP** 16 38 25.0 -0.3
K37A **Belmond** 67.59 341 P P 16 38 11.9 -0.8
baz=156,SNR=8.9
H43A **Windswept, Lux** 67.67 346 P P 16 38 12.7 -0.5
baz=162
K36A **Gilmore City** 67.72 341 P P 16 38 13.3 -0.3
baz=155,SNR=9.5
L34A **Svendsen Farm,** 67.73 339 P P 16 38 13.2 -0.5
baz=153,SNR=6.7
SDCO **Great Sand Dun** 67.75 330 P P 16 38 15.2 +0.9
baz=144,SNR=27
SDCO **Great Sand Dun** 67.75 330 *e*P P 16 38 14.8 +0.6
comp=Z,38nm,1.3s
W18A **Petrified Fore** 67.77 326 P P 16 38 15.8 +1.6
baz=140,SNR=10.0
W18A **Petrified Fore** 67.77 326 *e*P P 16 38 15.4 +1.1
comp=Z,38nm,1.3s
J38A **Wedel Dairy, R** 67.77 343 P P 16 38 13.2 -0.7
baz=157,SNR=6.6
I41A **Arkdale** 67.77 345 P P 16 38 13.3 -0.6
baz=160
I40A **Norwalk** 67.80 344 P P 16 38 13.5 -0.6
baz=159
BGNE **Belgrade** 67.84 338 P P 16 38 14.5 +0.1
baz=152
BGNE **Belgrade** 67.84 338 *e*P P 16 38 14.6 +0.1
comp=Z,230nm,1.0s
H42A **Shiocton** 67.88 346 P P 16 38 14.1 -0.5
baz=161,SNR=7.4

I39A **Houston** 68.00 343 P P 16 38 15.0 -0.4
baz=158,SNR=5.3
K35A **Storm Lake** 68.04 340 P P 16 38 15.6 0.0
baz=155
J37A **Redenius Farm,** 68.07 342 P P 16 38 15.3 -0.5
baz=156,SNR=6.4
X16A **Lo Mia Camp, P** 68.15 324 eP P 16 38 18.3 +1.6
comp=Z,12nm,0.9s
H41A **Junction City** 68.25 345 P P 16 38 16.3 -0.6
baz=160
113A **Mohawk Valley,** 68.25 321 eP P 16 38 18.8 +1.6
comp=Z,11nm,1.0s
TAOE **Nuku Hiva Isla** 68.29 269 eLR LR 16 58 51.6
comp=Z,274nm,27.5s
J36A **Seneca 1, Swea** 68.32 341 P P 16 38 17.4 0.0
baz=156,SNR=10.0
S22A **4UR Ranch, Cre** 68.37 329 P P 16 38 19.2 +1.0
baz=143,SNR=8.9
S22A **4UR Ranch, Cre** 68.37 329 eP P 16 38 19.3 +1.1
comp=Z,10nm,1.0s
F45A **CMU Biological** 68.38 348 P P 16 38 16.9 -0.7
baz=164
I38A **Scanlan Farm,** 68.39 343 P P 16 38 17.4 -0.4
baz=158,SNR=13
G43A **Wallace** 68.41 347 P P 16 38 17.2 -0.6
baz=162
H40A **Chili** 68.43 345 P P 16 38 17.4 -0.6
baz=160,SNR=9.7
K33A **Hardington** 68.51 339 P P 16 38 18.8 +0.2
baz=153
G42A **Mountain** 68.55 346 P P 16 38 18.3 -0.4
baz=162
Q24A **Divide** 68.58 331 P P 16 38 20.9 +1.5
baz=145,SNR=7.7
Q24A **Divide** 68.58 331 eP P 16 38 20.8 +1.3
comp=Z,22nm,0.8s
QSPA **South Pole Qui** 68.62 180 eP P 16 38 20.2 +1.0
comp=Z,72nm,1.4s
Y14A **Wickenburg** 68.67 323 eP P 16 38 21.1 +1.3
comp=Z,113nm,0.4s
I37A **Lemond, Waseca** 68.67 342 P P 16 38 19.2 -0.3
baz=157
G41A **Antigo** 68.70 346 P P 16 38 19.4 -0.3
baz=161
H39A **Augusta** 68.71 344 P P 16 38 19.7 0.0
baz=159
MVCO **Mesa Verde** 68.75 328 P P 16 38 21.4 +0.9
baz=142,SNR=23
MVCO **Mesa Verde** 68.75 328 eP P 16 38 21.3 +0.8
comp=Z,28nm,0.8s
J34A **George** 68.78 340 P P 16 38 20.5 +0.3
baz=154
F44A **Big Bay de Noc** 68.83 348 P P 16 38 20.3 -0.2
baz=164
F43A **Flat Rock, Esc** 68.85 347 P P 16 38 19.7 -0.9
baz=163,SNR=5.5
I36A **Fitzsimmons Fa** 68.85 342 P P 16 38 20.3 -0.3
baz=156
WUAZ **Wupatki** 68.94 325 P P 16 38 23.2 +1.6
baz=139,SNR=19
WUAZ **Wupatki** 68.94 325 eP P 16 38 22.8 +1.2
comp=Z,29nm,0.9s
H38A **Maiden Rock** 68.97 343 P P 16 38 21.3 0.0
baz=158
I35A **Creekview Farm** 68.99 341 P P 16 38 21.2 -0.4
baz=155,SNR=6.8
G40A **Rib Lake** 68.99 345 P P 16 38 21.0 -0.5
baz=160
H37A **Dierke Farm, C** 69.05 343 P P 16 38 21.5 -0.4
baz=157
K31A **O'Neill** 69.12 338 P P 16 38 23.3 +0.9
baz=151
J33A **Davis** 69.13 339 P P 16 38 22.1 -0.4
baz=153,SNR=15
F41A **Three Lakes** 69.18 346 P P 16 38 22.2 -0.5
baz=161,SNR=7.6
G39A **Holcombe** 69.25 344 P P 16 38 22.4 -0.7
baz=159
G38A **Ridgeland** 69.31 344 P P 16 38 22.8 -0.7
baz=158
H36A **Jessemland, He** 69.33 342 P P 16 38 23.4 -0.2
baz=156,SNR=10
ECSD **EROS Data Cent** 69.39 340 P P 16 38 23.7 -0.3
baz=154,SNR=8.7
ECSD **EROS Data Cent** 69.39 340 eP P 16 38 23.7 -0.3
comp=Z,29nm,1.3s
Y12C **Blythe** 69.40 321 P P 16 38 25.6 +1.3
baz=136,SNR=6.7
Y12C **Blythe** 69.40 321 eP P 16 38 26.2 +1.9
comp=Z,19nm,0.9s
Y12C epP sP 16 38 40.2 -1.5
ISCO **Idaho Springs** 69.47 331 P P 16 38 26.0 +1.0
baz=145,SNR=9.7
ISCO **Idaho Springs** 69.47 331 eP P 16 38 25.3 +0.4
comp=Z,11nm,0.9s
ISCO **Idaho Springs** 69.47 331 eP P 16 38 25.3 +0.4
ISCO pmax pmax
comp=Z,11nm,0.9s
J32A **Parkston** 69.47 339 P P 16 38 24.6 +0.1
baz=152
LIC **Lamto** 69.48 74 eP P 16 38 24.3 -0.9
comp=Z,61nm,1.1s
PV01 **Paradox Valley** 69.51 328 eP P 16 38 26.4 +1.2
IKP **In-Ko-Pah, Jac** 69.56 320 P P 16 38 27.1 +1.7
baz=134,SNR=8.8
E42A **Champion** 69.57 347 P P 16 38 24.9 -0.2
baz=162
PDMCI **Parker Dam,Lak** 69.58 322 P P 16 38 26.5 +1.2
baz=136,SNR=6.9
SWSC **Sam W. Stewart** 69.58 320 P P 16 38 27.1 +1.7
baz=135
SMCO **Snowmass** 69.58 330 eP P 16 38 27.0 +1.2
comp=Z,12nm,0.7s
F40A **Park Falls** 69.58 345 P P 16 38 24.9 -0.2
baz=160,SNR=6.6
SPMN **Marine on St.** 69.62 343 P P 16 38 24.8 -0.6
baz=157,SNR=6.0
SPMN **Marine on St.** 69.62 343 eP P 16 38 24.6 -0.8
comp=Z,34nm,1.2s
TIC **Toumodi** 69.67 74 eP P 16 38 25.5 -0.9
H35A **Sunnyside Ranc** 69.71 341 P P 16 38 25.2 -0.7
baz=155,SNR=8.2
PV05 **Paradox Valley** 69.73 328 eP P 16 38 27.4 +0.9
I33A **Coleman** 69.73 340 P P 16 38 26.8 +0.7
baz=153
F39A **Loretta** 69.77 345 P P 16 38 26.0 -0.3
baz=159
KIC **Kosan Boka** 69.79 74 eP P 16 38 26.4 -0.8
comp=Z,71nm,0.9s
E41A **Kenton** 69.83 346 P P 16 38 26.0 -0.6
baz=161
BC3 **Big Chuckawall** 69.88 321 P P 16 38 29.1 +1.7
baz=135,SNR=8.6
G36A **St. Michael** 69.89 342 P P 16 38 27.2 +0.2
baz=156
MONP2 **Monument Peak** 69.92 320 P P 16 38 28.9 +1.2
baz=134,SNR=7.5
BAR **Barrett** 69.92 319 eP P 16 38 29.5 +1.9
comp=Z,20nm,0.9s
BAR epP pP 16 38 42.8 +2.6
PV10 **Paradox Valley** 69.93 328 eP P 16 38 27.5 -0.3
H34A **Spellman Lake,** 69.97 341 P P 16 38 27.1 -0.4
baz=154,SNR=8.1
W13A **Hualapai Mount** 70.01 323 eP P 16 38 29.1 +0.8
comp=Z,11nm,0.8s
E40A **Wakefield** 70.03 346 P P 16 38 27.5 -0.4
baz=160
F37A **Hinrichs Farm,** 70.03 343 P P 16 38 28.1 +0.2
baz=158
IRM **Iron Mountain** 70.05 321 P P 16 38 29.8 +1.5
baz=135,SNR=26
F38A **Pierce - Schro** 70.05 344 P P 16 38 27.4 -0.6
baz=158
PV09 **Paradox Valley** 70.07 328 eP P 16 38 29.9 +1.2
G35A **Watkins** 70.08 342 P P 16 38 28.3 0.0
baz=156
U15A **North Rim** 70.11 325 eP P 16 38 30.7 +1.7
comp=Z,23nm,0.9s
H33A **Prehn Over Nor** 70.28 340 P P 16 38 29.9 +0.4
baz=154,SNR=10.0
D41A **Chassel** 70.31 347 P P 16 38 30.0 +0.4
baz=162
H32A **Carlson Farm,** 70.34 340 P P 16 38 29.5 -0.3
baz=153,SNR=8.3
F36A **Milaca** 70.40 343 P P 16 38 29.5 -0.7
baz=157,SNR=8.7
XPFO **Piæon Flat** 70.44 320 eP P 16 38 32.6 +1.7
comp=Z,29nm,1.4s

BELC **Belle Mtn. Jos** 70.44 321 P P 16 38 32.4 +1.6
baz=135,SNR=6.1
PFO **Pinyon Flats O** 70.44 320 P P 16 38 32.0 +1.2
baz=134,SNR=7.0
PFO **Pinyon Flats O** 70.44 320 eP P 16 38 32.7 +1.8
comp=Z,27nm,1.4s
PFO **Pinyon Flats O** 70.44 320 eP P 16 38 32.7 +1.8
PFO pmax pmax
comp=Z,27nm,1.4s
N23A **Red Feather La** 70.51 332 P P 16 38 32.2 +1.0
baz=145,SNR=7.4
N23A **Red Feather La** 70.51 332 eP P 16 38 32.3 +1.0
comp=Z,18nm,0.9s
G33A **Ortonville** 70.64 341 P P 16 38 31.0 -0.7
baz=154,SNR=5.3
F35A **Swanville** 70.69 342 P P 16 38 31.6 -0.4
baz=156,SNR=5.9
GMRC **Granite Mounta** 70.80 322 P P 16 38 34.7 +1.7
baz=135,SNR=23
F34A **Alexandria** 70.83 342 P P 16 38 33.4 +0.6
baz=155
KNB **Kanab** 70.83 325 eP P 16 38 34.7 +1.4
comp=Z,57nm,1.1s
KNB **Kanab** 70.83 325 eP P 16 38 34.7 +1.4
KNB pmax pmax
comp=Z,57nm,1.1s
MURC **Murrieta** 70.87 320 P P 16 38 35.1 +1.8
baz=134
PKCU **Pink Cliffs** 70.88 326 eP P 16 38 35.8 +2.1
comp=Z,49nm,1.7s
E36A **McGregor** 70.93 343 P P 16 38 33.0 -0.4
baz=157
O20A **White River Ci** 70.93 330 P P 16 38 35.0 +1.2
baz=142,SNR=16
O20A **White River Ci** 70.93 330 eP P 16 38 35.1 +1.3
comp=Z,33nm,0.8s
LCMT **Little Creek M** 71.06 325 eP P 16 38 36.2 +1.7
comp=Z,17nm,1.0s
F33A **5 Mile Ranch,** 71.18 341 P P 16 38 34.4 -0.5
baz=154,SNR=5.1
HEC **Hector,Ludlow** 71.22 321 P P 16 38 37.9 +2.4
baz=135,SNR=8.8
SRU **San Rafael Swe** 71.23 328 eP P 16 38 36.8 +1.2
comp=Z,30nm,0.7s
SRU **San Rafael Swe** 71.23 328 eP P 16 38 36.8 +1.2
SRU pmax pmax
comp=Z,30nm,0.7s
MTPU **Mount Pierson** 71.26 326 eP P 16 38 37.2 +1.2
comp=Z,14nm,0.9s
SCI2 **San Clemente I** 71.28 318 P P 16 38 36.2 +0.4
baz=133
E35A **Pequot Lakes** 71.28 343 P P 16 38 35.4 -0.1
baz=156
C39A **Grand Marais** 71.37 346 P P 16 38 35.6 -0.4
baz=160
SZCU **Shurtz Canyon** 71.41 325 eP P 16 38 38.0 +1.3
comp=Z,66nm,1.8s
Q16A **Castle Valley** 71.41 327 eP P 16 38 38.3 +1.6
comp=Z,19nm,0.9s
E34A **Wadena** 71.46 342 P P 16 38 36.6 0.0
baz=155
P18A **Preston Nutter** 71.49 328 eP P 16 38 38.4 +1.1
comp=Z,33nm,0.9s
D36A **Goodland** 71.52 344 P P 16 38 36.7 -0.2
baz=157
CCUT **Cedar City** 71.52 325 eP P 16 38 39.3 +1.8
comp=Z,41nm,0.9s
BFSC **Mount Baldy Ra** 71.59 320 P P 16 38 38.5 +0.7
baz=134,SNR=11
MSU **Marysvale** 71.61 326 eP P 16 38 39.4 +1.4
MSU **Marysvale** 71.61 326 eP P 16 38 39.4 +1.4
P17A **Butcher Ranch,** 71.62 328 eP P 16 38 38.9 +1.0
comp=Z,34nm,0.9s
D35A **Remer** 71.67 343 P P 16 38 38.1 +0.3
baz=156
TMUT **Trail Mountain** 71.72 328 eP P 16 38 39.5 +0.9
comp=Z,8.1nm,0.7s
SHPR **Sheep Range** 71.74 323 eP P 16 38 40.6 +1.9
comp=Z,17nm,1.0s
C37A **Embarrass** 71.78 345 P P 16 38 38.0 -0.5
baz=158
EYMN **Ely** 71.81 345 P P 16 38 38.0 -0.6
baz=159
F31A **Hebo** 71.81 340 P P 16 38 38.4 -0.3
baz=152,SNR=6.6
MWC **Mount Wilson** 71.82 320 eP P 16 38 40.6 +1.4
comp=Z,45nm,1.4s
MWC **Mount Wilson** 71.82 320 eP P 16 38 40.7 +1.4
MWC pmax pmax
comp=Z,45nm,1.4s
GSC **Goldstone, Bar** 71.83 321 P P 16 38 40.5 +1.4
baz=134,SNR=13
GSC **Goldstone, Bar** 71.83 321 eP P 16 38 40.7 +1.6
comp=Z,47nm,1.7s
GSC **Goldstone, Bar** 71.83 321 eP P 16 38 40.7 +1.6
GSC pmax pmax
comp=Z,47nm,1.7s
C36A **Pine Crest Far** 71.97 344 P P 16 38 39.1 -0.5
baz=158,SNR=5.8
D34A **Park Rapids** 71.99 342 P P 16 38 39.1 -0.6
baz=155
K22A **Casper** 72.19 333 P P 16 38 41.7 +0.4
baz=144
K22A **Casper** 72.19 333 eP P 16 38 42.3 +1.0
comp=Z,39nm,1.5s
C35A **Jirik Farms, M** 72.21 343 P P 16 38 40.7 -0.4
baz=156,SNR=5.6
D33A **AnnSam, Waubun** 72.22 342 P P 16 38 40.4 -0.7
baz=155
EDW2 **Edwards Air Fo** 72.23 320 P P 16 38 42.9 +1.3
baz=133,SNR=15
E31A **Nome** 72.32 340 P P 16 38 42.0 +0.2
baz=153
RSSD **Black Hills** 72.38 335 P P 16 38 43.1 +0.6
baz=147
RSSD **Black Hills** 72.38 335 eP P 16 38 42.5 0.0
comp=Z,18nm,0.8s
RSSD **Black Hills** 72.38 335 eP P 16 38 42.5 0.0
RSSD pmax pmax
comp=Z,18nm,0.8s
TBI **Tubuai** 72.42 251 eLR LR 17 01 02.8
comp=Z,227nm,30.2s
C34A **RKJ Ranch, Bem** 72.42 343 P P 16 38 41.8 -0.5
baz=156,SNR=6.4
LRMC **Laurel Mtn Rad** 72.46 321 P P 16 38 44.6 +1.6
baz=134,SNR=12
MPU **Maple Canyon** 72.48 328 eP P 16 38 44.0 +1.0
comp=Z,22nm,1.0s
PSUT **Pine Spring** 72.51 325 eP P 16 38 44.9 +1.6
comp=Z,20nm,1.0s
NLU **North Lily Min** 72.65 327 eP P 16 38 45.2 +1.1
comp=Z,15nm,1.1s
TPNV **Topopah Spring** 72.67 323 P P 16 38 45.9 +1.6
baz=135,SNR=25
TPNV **Topopah Spring** 72.67 323 eP P 16 38 45.9 +1.6
comp=Z,24nm,1.0s
TPNV **Topopah Spring** 72.67 323 eP P 16 38 45.9 +1.6
TPNV pmax pmax
comp=Z,24nm,1.0s
FURC **Furnace Creek,** 72.68 322 P P 16 38 46.4 +2.4
baz=135,SNR=8.7
MPMC **Manual Prospec** 72.75 321 P P 16 38 46.0 +1.2
baz=134,SNR=12
B35A **Bob, Littlefor** 72.75 344 P P 16 38 43.8 -0.5
baz=157,SNR=7.9
C33A **Trail** 72.76 342 P P 16 38 43.9 -0.5
baz=155,SNR=5.3
JLU **Jordanelle** 72.83 328 eP P 16 38 46.8 +1.5
comp=Z,24nm,1.0s
DAC **Darwin (Calif)** 72.96 321 eP P 16 38 47.3 +1.2
comp=Z,15nm,0.8s
DAC **Darwin (Calif)** 72.96 321 eP P 16 38 47.3 +1.2
DAC pmax pmax
comp=Z,15nm,0.8s
GMU **Granite Mounta** 72.97 328 eP P 16 38 46.4 +0.4
CTU **Camp Tracy** 73.05 328 eP P 16 38 47.0 +0.6
comp=Z,9.0nm,1.1s
ISA **Isabella, Lake** 73.06 320 P P 16 38 47.8 +1.3
baz=133,SNR=19
ISA **Isabella, Lake** 73.06 320 eP P 16 38 47.4 +0.9
comp=Z,19nm,0.9s
ISA **Isabella, Lake** 73.06 320 eP P 16 38 47.4 +0.9
ISA pmax pmax
comp=Z,19nm,0.9s
B34A **Aery, Baudette** 73.11 343 P P 16 38 45.8 -0.6
baz=156
B33A **Robert and Kas** 73.18 343 P P 16 38 46.4 -0.4
baz=155

DUG **Dugway, Tooele** 73.20 327 P P 16 38 48.9 +1.6
baz=139,SNR=19
DUG **Dugway, Tooele** 73.20 327 eP P 16 38 48.3 +1.0
comp=Z,23nm,1.0s
DUG **Dugway, Tooele** 73.20 327 eP P 16 38 48.3 +1.0
DUG pmax pmax
comp=Z,23nm,1.0s
TCUT **Toone Canyon** 73.21 329 eP P 16 38 48.1 +0.6
comp=Z,21nm,0.7s
AGMN **Agassiz Nation** 73.28 342 P P 16 38 47.3 -0.1
baz=155,SNR=8.0
AGMN **Agassiz Nation** 73.28 342 eP P 16 38 47.0 -0.4
comp=Z,15nm,0.9s
R11A **Troy Canyon, C** 73.30 324 P P 16 38 49.5 +1.5
baz=136,SNR=20
R11A **Troy Canyon, C** 73.30 324 eP P 16 38 49.5 +1.5
comp=Z,27nm,1.4s
PKM **Mcpherson Peak** 73.34 319 P P 16 38 49.5 +1.2
baz=132,SNR=9.7
CWC **Cottonwood Cre** 73.36 321 P P 16 38 49.8 +1.4
baz=134
C31A **Landman Farms,** 73.37 341 P P 16 38 47.8 -0.1
baz=153,SNR=6.3
MCU **Monte Cristo P** 73.52 329 eP P 16 38 49.9 +0.5
VES **Vestal, Richgr** 73.54 320 P P 16 38 50.6 +1.4
baz=133,SNR=9.1
B32A **Ashes, Strandq** 73.56 342 P P 16 38 48.5 -0.6
baz=154,SNR=10.0
PD31 **Pinedale Array** 73.62 331 eP P 16 38 50.1 +0.2
PDAR **Pinedale Array** 73.62 331 P P 16 38 50.0 +0.2
comp=Z,2.4nm,0.5s,baz=137,slow=6.4,SNR=25
PDAR LR LR 17 13 22.4
comp=Z,108nm,19.2s,baz=137,slow=38
BW06 **Boulder Array** 73.62 331 P P 16 38 50.5 +0.6
baz=142,SNR=8.5
BW06 **Boulder Array** 73.62 331 eP P 16 38 50.2 +0.4
comp=Z,17nm,1.4s
HWUT **Hardware Ranch** 73.66 329 eP P 16 38 50.5 +0.5
comp=Z,23nm,0.7s
A33A **Warroad** 73.73 343 P P 16 38 49.8 -0.2
baz=155,SNR=8.3
SMMC **Simmler** 73.73 319 P P 16 38 52.0 +1.5
baz=132,SNR=7.4
BGU **Big Grassy Mou** 73.86 328 eP P 16 38 52.1 +0.9
comp=Z,15nm,1.0s
SPUT **South Promonto** 73.86 328 eP P 16 38 52.2 +1.1
comp=Z,23nm,0.9s
RCTC **Rector, Farmer** 73.95 321 P P 16 38 52.2 +0.6
baz=133
MDND **Maddock** 74.00 340 P P 16 38 52.9 +1.2
baz=151
MDND **Maddock** 74.00 340 eP P 16 38 52.2 +0.5
comp=Z,102nm,1.3s
MDND epP PcP 16 39 06.0 -0.7
A32A **Rocking H Ranc** 74.02 342 P P 16 38 51.7 0.0
baz=154
KOWA **Kowa** 74.07 67 P P 16 38 51.5 -1.2
comp=Z,14nm,0.6s,baz=245,slow=6.6,SNR=42
KOWA LR LR 17 11 18.4
comp=Z,411nm,19.6s,baz=214,slow=36
KOWA **Kowa** 74.07 67 eP P 16 38 51.7 -1.1
comp=Z,17nm,0.7s
PAGB **Antelope Grade** 74.17 320 eP P 16 38 54.2 +1.3
comp=Z,37nm,1.5s
PPT2 **Papeete2** 74.21 257 eLR LR 17 02 09.0
comp=Z,300nm,27.0s,baz=118
PPT **Papeete** 74.22 257 LR LR 17 01 14.2
comp=Z,22nm,21.2s,baz=111,slow=27
AHID **Auburn Hatcher** 74.33 330 eP P 16 38 54.3 +0.4
comp=Z,41nm,0.9s
HVU **Hansel Valley** 74.38 328 eP P 16 38 54.8 +0.6
comp=Z,15nm,0.8s
HVU **Hansel Valley** 74.38 328 eP P 16 38 54.8 +0.6
HVU pmax pmax
comp=Z,15nm,0.8s
MLAC **Mammoth, Mammo** 74.62 322 P P 16 38 57.3 +1.5
baz=133,SNR=6.0
REDW **Red Top Meadow** 74.68 330 eP P 16 38 56.8 +0.8
comp=Z,18nm,0.9s
SNOW **Snow King Moun** 74.71 331 eP P 16 38 57.0 +0.9
comp=Z,20nm,0.8s
LOHW **Long Hollow** 74.76 331 eP P 16 38 57.1 +0.7
comp=Z,35nm,1.4s
MDPB **Devils Postpil** 74.76 322 eP P 16 38 57.7 +1.1
comp=Z,14nm,1.1s
NV11 **Mina Array Sit** 74.78 323 eP P 16 38 58.0 +1.4
comp=Z,0.9nm,1.1s
NV01 **Mina Array Sit** 74.87 323 eP P 16 38 58.0 +0.8
NVAR **Mina Array Bea** 74.87 323 P P 16 38 58.8 +1.6
comp=Z,7.9nm,0.8s,baz=156,slow=6.7,SNR=42
MOOW **Moose Ponds** 74.93 331 eP P 16 38 58.0 +0.5
comp=Z,7.4nm,0.6s
FXWY **Fox Creek** 74.97 331 eP P 16 38 58.3 +0.6
comp=Z,9.3nm,1.0s
ULM **Lac du Bonnet** 75.05 343 P P 16 38 56.7 -1.0
comp=Z,11nm,0.7s,baz=153,slow=5.9,SNR=29
ULM **Lac du Bonnet** 75.05 343 eP P 16 38 56.9 -0.7
comp=Z,15nm,0.8s
ULM **Lac du Bonnet** 75.05 343 eP P 16 38 56.9 -0.7
ULM pmax pmax
comp=Z,15nm,0.8s
RYN **Ryan** 75.13 323 eP P 16 39 00.0 +1.4
comp=Z,17nm,1.2s
RLMT **Red Lodge** 75.35 332 P P 16 39 00.9 +1.1
baz=142,SNR=17
RLMT **Red Lodge** 75.35 332 eP P 16 39 00.3 +0.5
comp=Z,18nm,0.8s
H17A **Grant Village** 75.36 331 P P 16 39 01.4 +1.6
baz=141,SNR=7.0
H17A **Grant Village** 75.36 331 eP P 16 39 01.5 +1.6
comp=Z,5.7nm,0.8s
LAO **LASA Array** 75.37 335 P P 16 39 00.3 +0.6
baz=145,SNR=8.4
LAO **LASA Array** 75.37 335 eP P 16 39 00.6 +0.9
comp=Z,27nm,0.9s
LKWY **Lake** 75.41 331 eP P 16 38 59.8 -0.4
comp=Z,21nm,0.8s
LKWY **Lake** 75.41 331 eP P 16 38 59.8 -0.4
LKWY pmax pmax
comp=Z,21nm,0.8s
YFT **Old Faithful** 75.52 331 eP P 16 39 02.7 +1.9
comp=Z,13nm,1.0s
WAKR **Walker** 75.56 322 eP P 16 39 03.1 +2.0
comp=Z,21nm,1.5s
YNR **Norris Junctio** 75.65 331 eP P 16 39 03.3 +1.7
comp=Z,11nm,0.7s
YMR **Madison River** 75.74 331 eP P 16 39 04.1 +2.0
comp=Z,24nm,0.9s
YERR **Yerington** 75.78 323 eP P 16 39 04.0 +1.6
comp=Z,46nm,1.6s
YHH **Holmes Hill** 75.78 331 eP P 16 39 04.4 +2.0
comp=Z,23nm,0.8s
CMB **Columbia Colle** 75.79 321 eP P 16 39 02.9 +0.6
comp=Z,17nm,1.8s
CMB **Columbia Colle** 75.79 321 eP P 16 39 02.9 +0.6
CMB pmax pmax
comp=Z,17nm,1.8s
YHB **Horse Butte** 75.91 331 eP P 16 39 03.5 +0.5
comp=Z,25nm,0.9s
PNTR **Pine Nut** 76.05 322 eP P 16 39 05.5 +1.5
comp=Z,18nm,0.8s
QLMT **Earthquake Lak** 76.08 331 eP P 16 39 05.7 +1.7
SCHQ **Schefferville** 76.14 2 P P 16 39 02.7 -1.1
comp=Z,11nm,0.8s,baz=182,slow=5.0,SNR=9.7
SCHQ LR LR 17 15 32.3
comp=Z,118nm,18.9s,baz=212,slow=38
SCHQ **Schefferville** 76.14 2 eP P 16 39 03.5 -0.3
comp=Z,18nm,0.9s
SCHQ epP PcP 16 39 16.0 +0.2
VCNR **Virginia City** 76.22 323 eP P 16 39 06.5 +1.6
comp=Z,22nm,1.5s
RUBR **Rubicon Trail** 76.34 322 eP P 16 39 07.0 +1.4
comp=Z,15nm,1.0s
PAHR **Pah Rah Range** 76.36 323 eP P 16 39 06.9 +1.3
comp=Z,28nm,0.9s
HLID **Hailey** 76.51 329 P P 16 39 07.8 +1.4
baz=138,SNR=36
HLID **Hailey** 76.51 329 eP P 16 39 07.8 +1.4
comp=Z,17nm,0.8s
VNDA **Vanda** 76.59 190 P P 16 39 08.1 +1.9
comp=Z,3.6nm,0.8s,baz=133,slow=6.7,SNR=7.6
MCMT **McKenzie Canyo** 76.72 330 eP P 16 39 08.6 +0.9
AFDM **Forest Hills D** 76.74 322 eP P 16 39 08.2 +0.6
comp=Z,8.1nm,0.9s
BOZ **Bozeman (W)** 76.76 331 P P 16 39 08.3 +0.6
baz=140
BOZ **Bozeman (W)** 76.76 331 eP P 16 39 08.6 +0.9
comp=Z,8.7nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BOZ	Bozeman (W)	76.76	331	eP	P	16 39 08.6	+0.9
BOZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SYO	Syowa Base	76.83	160⇓	eP	P	16 39 06.2	-1.4
SYO	Syowa Base	76.83	160⇑	epP	pP	16 39 19.4	-0.9
BEKR	Beckworth	77.01	323	eP	P	16 39 10.8	+1.5
	comp=Z,12nm,0.9s						
DLMT	Dillon	77.01	331	eP	P	16 39 09.2	0.0
	comp=Z,19nm,1.3s						
MFID	Camas Ranch	77.10	328	eP	P	16 39 10.3	+0.7
	comp=Z,20nm,1.3s						
LRM	Limekiln Ridge	77.30	331	eP	P	16 39 11.1	+0.2
ORV	Oroville	77.45	322	eP	P	16 39 12.6	+1.0
	comp=Z,39nm,1.4s						
ORV	Oroville	77.45	322	eP	P	16 39 12.6	+1.0
ORV				pmax	pmax		
	comp=Z,39nm,1.4s						
WVOR	Wild Horse Val	77.84	325	eP	P	16 39 14.5	+0.7
	comp=Z,4.1nm,0.9s						
WVOR	Wild Horse Val	77.84	325	eP	P	16 39 14.5	+0.7
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EGMT	Eagleton	77.86	334	P	P	16 39 14.5	+0.8
	baz=142,SNR=9.4						
EGMT	Eagleton	77.86	334	eP	P	16 39 14.3	+0.6
	comp=Z,28nm,1.1s						
O03D	Paynes Creek	78.12	322	P	P	16 39 16.0	+0.6
	baz=132,SNR=5.6						
MOD	Modoc Plateau	78.37	324	eP	P	16 39 17.1	+0.4
	comp=Z,18nm,1.1s						
J08A	Circle Bar Ran	78.40	326	eP	P	16 39 17.6	+0.7
	comp=Z,7.6nm,0.6s						
TOA0	Torodi Ar. Sit	78.43	71	eP	P	16 39 15.9	-1.7
TORD	Torodi Ar. Bea	78.43	71	P	P	16 39 16.2	-1.3
	comp=Z,24nm,0.7s,baz=251,slow=5.2,SNR=107						
TORD				LR	LR	17 13 01.1	
	comp=Z,129nm,19.7s,baz=175,slow=35						
WDC	Whiskeytown Da	78.73	322	eP	P	16 39 18.4	-0.2
	comp=Z,7.9nm,0.7s						
WDC	Whiskeytown Da	78.73	322	eP	P	16 39 18.4	-0.2
WDC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MSO	Missoula	78.74	331	P	P	16 39 19.5	+0.8
	baz=139						
MSO	Missoula	78.74	331	eP	P	16 39 20.5	+1.8
	comp=Z,23nm,1.5s						
BMO	Blue Mountains	78.87	328	eP	P	16 39 20.0	+0.6
	comp=Z,15nm,0.8s						
BMO	Blue Mountains	78.87	328	eP	P	16 39 20.0	+0.6
BMO				pmax	pmax		
	comp=Z,15nm,0.8s						
N02D	Trinity Center	79.08	322	P	P	16 39 21.4	+0.7
	baz=131,SNR=7.5						
M04C	Macdoel	79.13	323	P	P	16 39 21.7	+0.7
	baz=132,SNR=11						
M02C	Callahan	79.44	322	P	P	16 39 23.5	+0.9
	baz=131						
I07A	Izee	79.44	326	eP	P	16 39 23.4	+0.8
	comp=Z,13nm,1.0s						
JTMT	Jette	79.58	331	eP	P	16 39 24.4	+1.2
	comp=Z,20nm,1.1s						
YBH	Yreka Blue Hor	79.59	323	P	P	16 39 23.3	-0.1
	comp=Z,3.7nm,0.7s,baz=59,slow=2.7,SNR=15						
YBH				LR	LR	17 12 36.1	
	comp=Z,82nm,18.7s,baz=134,slow=34						
YBH	Yreka Blue Hor	79.59	323	eP	P	16 39 23.4	+0.1
	comp=Z,4.1nm,0.7s						
YBH	Yreka Blue Hor	79.59	323	eP	P	16 39 23.5	+0.1
YBH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
F10A	Beach Ranch, E	79.64	329	eP	P	16 39 24.1	+0.5
	comp=Z,38nm,1.4s						
J05D	Fort Rock, OR	79.81	325	P	P	16 39 25.6	+1.0
	baz=132,SNR=9.0						
PINE	Pine Mountain	80.00	325	eP	P	16 39 26.7	+1.0
	comp=Z,19nm,0.7s						
J04D	Umpqua Nationa	80.25	324	P	P	16 39 28.4	+1.3
	baz=132						
L02D	Cave Junction,	80.37	323	P	P	16 39 28.4	+0.9
	baz=130						
WALA	Waterton Lakes	80.41	332	eP	P	16 39 28.0	+0.3
	comp=Z,24nm,0.9s						
E09A	Wood Farm, Sta	80.47	329	eP	P	16 39 28.5	+0.6
	comp=Z,26nm,1.5s						
I05D	Terrebonne, OR	80.58	325	P	P	16 39 29.9	+1.2
	baz=132,SNR=17						
FFC	Flin Flon	80.74	342	eP	P	16 39 29.0	-0.2
	comp=Z,14nm,1.2s						
FFC	Flin Flon	80.74	342	eP	P	16 39 29.0	-0.2
FFC				pmax	pmax		
	comp=Z,14nm,1.2s						
I04A	Tendick Farm,	80.79	325	P	P	16 39 30.2	+0.5
	baz=132						
G06A	Carlson Farm,	80.82	326	eP	P	16 39 30.7	+0.8
	comp=Z,22nm,1.1s						
E08A	Dider Farm, El	80.90	328	eP	P	16 39 30.8	+0.6
	comp=Z,6.0nm,0.6s						
F07A	Phinny Hill Vi	80.92	327	eP	P	16 39 31.2	+0.9
	comp=Z,19nm,1.1s						
TSUM	Tsumeb	81.09	107	eP	P	16 39 31.9	-0.3
	comp=Z,16nm,0.8s						
G05D	Wamic, OR	81.18	326	P	P	16 39 33.4	+1.6
	baz=133,SNR=8.4						
D08A	Wollman Farm,	81.23	329	eP	P	16 39 32.8	+0.8
	comp=Z,11nm,0.9s						
NEW	Newport	81.25	330	P	P	16 39 32.8	+0.7
	comp=Z,3.6nm,0.6s,baz=121,slow=5.7,SNR=8.8						
NEW	Newport	81.25	330	P	P	16 39 32.4	+0.3
	baz=136						
NEW	Newport	81.25	330	eP	P	16 39 32.3	+0.2
	comp=Z,25nm,1.7s						
H04A	Detroit Lake	81.26	325	eP	P	16 39 32.5	+0.3
	comp=Z,16nm,0.8s						
E07A	Sunnyside	81.34	328	eP	P	16 39 33.3	+0.6
	comp=Z,9.7nm,0.8s						
C09A	Chrisman Ranch	81.45	329	eP	P	16 39 33.4	+0.3
	comp=Z,40nm,0.6s						
COR	Corvallis	81.79	325	eP	P	16 39 36.7	+1.8
	comp=Z,36nm,0.9s						
COR	Corvallis	81.79	325	eP	P	16 39 36.7	+1.8
COR				pmax	pmax		
	comp=Z,36nm,0.9s						
RAR	Rarotonga	82.15	250	LR	LR	17 07 11.4	
	comp=Z,95nm,21.1s,baz=78,slow=29						
LTY	Liberty	82.23	328	eP	P	16 39 37.8	+0.4
	comp=Z,88nm,1.9s						
MORF	Marmelete	82.30	45	eP	P	16 39 40.1	+2.2
	comp=Z,49nm,1.2s						
B08A	Colville Reser	82.35	329	eP	P	16 39 38.1	+0.2
	comp=Z,18nm,1.2s						
FCC	Fort Churchill	82.45	348	eP	P	16 39 37.7	-0.4
	comp=Z,23nm,0.6s						
FCC	Fort Churchill	82.45	348	eP	P	16 39 37.7	-0.4
FCC				pmax	pmax		
	comp=Z,23nm,0.6s						
LON	Longmire	82.45	327	eP	P	16 39 38.6	+0.1
	comp=Z,3.7nm,0.7s						
LON	Longmire	82.45	327	eP	P	16 39 38.6	+0.1
LON				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PBDV	Barranco-do-Ve	82.73	45	eP	P	16 39 40.9	+0.7
PNCL	Nicolau / Gran	82.83	44	eP	P	16 39 41.1	+0.5
PCVE	Castro Verde	82.88	45	eP	P	16 39 41.2	+0.3
PVAQ	Vaqueiros	82.97	45	eP	P	16 39 42.0	+0.7
	comp=Z,37nm,1.9s						
EDM	Edmonton	83.36	335	eP	P	16 39 42.0	-1.0
	comp=Z,45nm,0.9s						
EDM	Edmonton	83.36	335	eP	P	16 39 42.0	-1.0
EDM				pmax	pmax		
	comp=Z,45nm,0.9s						
EVO	Evora	83.40	44	eP	P	16 39 42.7	-0.8
	comp=Z,33nm,1.3s						
B06A	Marblemount	83.49	328	eP	P	16 39 43.8	0.0
	comp=Z,30nm,0.6s						
PMTG	Montargil	83.56	44	eP	P	16 39 44.4	+0.1
	comp=Z,40nm,2.0s						
B05A	Bryant	83.62	328	P	P	16 39 44.7	+0.3
	baz=132,SNR=7.5						
PBAR	Barrancos	83.84	45	eP	P	16 39 46.2	+0.4
PESTR	Estremoz	83.86	44	eP	P	16 39 47.3	+1.4
	comp=Z,34nm,2.0s						
PESTR	Estremoz	83.86	44	eP	P	16 39 46.7	+0.8
	comp=Z,21nm,1.3s						
NLWA	Neilton Lookou	83.93	327	eP	P	16 39 47.1	+1.0
PMRV	Marv??o	84.30	44	eP	P	16 39 47.8	-0.3
BOSA	Boshof	84.40	118	P	P	16 39 48.4	-0.8
	comp=Z,16nm,0.8s,baz=278,slow=3.3,SNR=16						
BOSA	Boshof	84.40	118	eP	P	16 39 48.8	-0.4
	comp=Z,21nm,0.9s						
BOSA				epP	pP	16 40 02.3	+0.3
BOSA	Boshof	84.40	118	eP	P	16 39 48.8	-0.4
BOSA				e*PP	pP	16 40 02.3	+0.3
BOSA				pmax	pmax		
	comp=Z,21nm,0.9s						
PCBR	Castelo Branco	84.48	43	eP	P	16 39 46.2	-2.8
	comp=Z,36nm,1.9s						
MAW	Mawson	84.58	164	P	P	16 39 50.0	+0.9
	comp=Z,26nm,0.9s,baz=221,slow=11,SNR=4.3						
MAW				LR	LR	17 16 52.8	
	comp=Z,126nm,21.3s,baz=235,slow=35						
MAW	Mawson	84.58	164	P	P	16 39 50.0	+0.9
PVIS	Viseu	84.70	42	eP	P	16 39 51.2	+1.0
MTE	Manteigas	84.75	43	eP	P	16 39 51.1	+0.7
MTE	Manteigas	84.75	43	eP	P	16 39 50.5	+0.1
	comp=Z,31nm,1.0s						
LLLB	Lillooet	85.11	330	eP	P	16 39 51.8	-0.1
	comp=Z,12nm,0.8s						
PVRL	Vila Real	85.13	42	eP	P	16 39 52.4	+0.1
POLO	Lamas de Olo	85.13	42	eP	P	16 39 52.2	-0.2
MVO	Moncorvo	85.50	42	eP	P	16 39 54.6	+0.4
	comp=Z,46nm,1.6s						
TAM	Tamanrasset	85.85	64	eP	P	16 39 55.8	-0.6
	comp=Z,19nm,1.0s						
TAM	Tamanrasset	85.85	64	eP	P	16 39 55.8	-0.6
TAM				pmax	pmax		
	comp=Z,19nm,1.0s						
LBTB	Lobatse	86.00	115	eP	P	16 39 56.1	-1.1
	comp=Z,31nm,1.2s						
LBTB	Lobatse	86.00	115	eP	P	16 39 56.2	-1.1
LBTB				pmax	pmax		
	comp=Z,31nm,1.2s						
PBRG	Braganca	86.03	42	eP	P	16 39 55.8	-1.0
PAB	San Pablo	86.35	45	eP	P	16 39 59.1	+0.7
	comp=Z,17nm,0.9s						
PAB	San Pablo	86.35	45	eP	P	16 39 59.2	+0.7
PAB				pmax	pmax		
	comp=Z,17nm,0.9s						
ESDC	Sonseca Array	86.67	45	P	P	16 39 59.8	-0.2
	comp=Z,1.9nm,0.6s,baz=236,slow=5.5,SNR=16						
ESDC				LR	LR	17 15 28.7	
	comp=Z,66nm,22.0s,baz=270,slow=34						
ES19	SONSECA Array	86.72	45	eP	P	16 39 59.7	-0.5
ES19				epP	pP	16 40 14.3	+1.2
YKA	Yellowknife Ar	90.89	341	P	P	16 40 18.8	-0.5
	comp=Z,8.1nm,0.6s,baz=138,slow=4.3,SNR=168						
YKA				LR	LR	17 23 49.0	
	comp=Z,11nm,20.4s,baz=180,slow=37						
LSZ	Lusaka	91.94	107	eP	P	16 40 25.6	+0.1
	comp=Z,15nm,1.3s						
LSZ	Lusaka	91.94	107	eP	P	16 40 25.6	+0.1
LSZ				pmax	pmax		
	comp=Z,15nm,1.3s						
BORG	Borgarnes	93.84	19	LR	LR	17 21 03.2	
	comp=Z,69nm,20.1s,baz=190,slow=34						
EKA	Eskdalemuir Ar	95.26	32	P	P	16 40 38.4	-1.2
	comp=Z,3.1nm,0.8s,baz=248,slow=6.8,SNR=5.7						
EKA				LR	LR	17 20 51.3	
	comp=Z,60nm,18.7s,baz=240,slow=34						
AFI	Afiamalu	95.48	253	P	P	16 40 42.8	+1.1
	comp=Z,9.1nm,0.5s,baz=33,slow=19,SNR=4.1						
WLF	Walferdange	97.71	40	⇑P	P	16 40 50.4	-0.5
BFO	Black Forest	98.49	41	i P	Pdif	16 40 55.0	+0.5
VAE	Valguarnera	98.67	53	LR	LR	17 28 53.0	
	comp=Z,88nm,18.1s,baz=304,slow=38						
INK	Inuvik	100.63	340	P	Pdif	16 41 03.4	-0.1
	comp=Z,1.6nm,0.8s,baz=112,slow=3.6,SNR=6.0						
GERES	GERESS Array B	102.01	42	P	Pdif	16 41 10.1	-0.1
	comp=Z,0.4nm,0.7s,baz=235,slow=3.5,SNR=5.1						
CLL	Collm	102.38	40	ePdif	Pdif	16 41 11.0	-0.7
CLL				epPP		16 45 34.0	
CLL	Collm	102.38	40	eP	Pdif	16 41 11.0	-0.7
ILAR	Eielson Array	103.83	335	Pdiff	Pdif	16 41 17.1	-0.7
	comp=Z,0.5nm,0.7s,baz=152,slow=3.1,SNR=10						
ILAR				PP	PKiKP	16 45 38.2	+2.8
	comp=Z,0.6nm,0.8s,baz=122,slow=4.9,SNR=4.8						
DZM	Mont Dzumac	109.84	235	eLR	LR	17 18 13.0	
	comp=Z,214nm,28.2s						
ARCES	ARCESS Array B	111.97	22	PKKPbc	PKKPbc	16 56 44.8	-0.3
	comp=Z,2.0nm,0.9s,baz=101,slow=1.8,SNR=4.2						
AKASG	Malin Array Be	112.21	43	PKiKP	PKiKP	16 45 51.0	-0.5
	comp=Z,0.6nm,0.5s,baz=272,slow=2.7,SNR=4.7						
BRTR	Keskin Array B	113.78	55	PKiKP	PKiKP	16 45 55.1	+0.1
	comp=Z,1.0nm,0.7s,baz=197,slow=1.3,SNR=4.5						
OBN	Obninsk	116.91	38	i PKIKP	PKPdf	16 45 59.6	-0.7
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	Stephens Creek	118.79	211	PKP	PKPdf	16 46 05.3	+0.5
	comp=Z,1.8nm,0.8s,baz=107,slow=7.4,SNR=3.0						
KIV	Kislovodsk	120.88	51	i PKIKP	PKPdf	16 46 09.3	+0.8
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,123nm,22.0s						
KBZ	Khabaz	121.03	51	PKP	PKPdf	16 46 08.8	+0.2
	comp=Z,3.2nm,0.8s,baz=230,slow=1.9,SNR=6.0						
H11S2	WAKE ISLAND Hy	126.78	277	T	T	19 05 44.2	
	baz=103,slow=75,SNR=613						
H11S1	WAKE ISLAND Hy	126.79	277	T	T	19 05 47.6	
	baz=103,slow=75,SNR=764						
H11S3	WAKE ISLAND Hy	126.80	277	T	T	19 05 45.6	
	baz=103,slow=75,SNR=671						
H11N3	WAKE ISLAND Hy	126.87	279	T	T	19 05 48.3	
	baz=103,slow=75,SNR=1165						
H11N2	WAKE ISLAND Hy	126.88	279	T	T	19 05 49.8	
	baz=103,slow=75,SNR=804						
H11N1	WAKE ISLAND Hy	126.88	279	T	T	19 05 48.2	
	baz=103,slow=75,SNR=685						
TIXI	Tiksi	128.72	352	ePKPdf	PKPdf	16 46 22.1	-0.4
TIXI	Tiksi	128.72	352	ePKIKP	PKPdf	16 46 22.4	-0.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	Arti	128.83	34	i PKIKP	PKPdf	16 46 23.8	+0.6
ARU						16 48 29.6	
ARU						16 53 31.7	
ARU				SS	SS	17 05 47.2	+1.8
AS01	Alice Springs	129.31	209	ePKPdf	PKPdf	16 46 24.5	-0.8
ASAR	Alice Springs	129.32	209	PKP	PKPdf	16 46 24.9	-0.3
	comp=Z,5.5nm,0.9s,baz=142,slow=2.0,SNR=48						
ASAR	Alice Springs	129.32	209	PKIKP	PKPdf	16 46 25.0	-0.3
AS31	Alice Springs	129.32	209	ePKPdf	PKPdf	16 46 24.6	-0.7
SEY	Seymchan	129.72	336	i PKIKP	PKPdf	16 46 25.9	+1.3
PETK	Petropavlovsk-	131.95	323	PKP	PKPdf	16 46 30.1	+0.9
	comp=Z,7.1nm,0.9s,baz=42,slow=3.6,SNR=10						
MA2	Magadan	132.28	333	i PKIKP	PKPdf	16 46 29.8	+0.2
WB2	Warramunga Arr	132.31	212	ePKPdf	PKPdf	16 46 30.6	-0.3
WRA	Warramunga Arr	132.32	212	PKP	PKPdf	16 46 31.2	+0.2
	comp=Z,4.5nm,0.6s,baz=151,slow=1.8,SNR=74						
GEYT	Alibeck	132.78	58	PKP	PKPdf	16 46 31.7	+0.4
	comp=Z,1.6nm,0.6s,baz=300,slow=3.3,SNR=6.1						
WSAR	Wadi Sarin	132.78	78	PKP	PKPdf	16 46 31.7	0.0
	comp=Z,9.7nm,0.9s,baz=252,slow=3.2,SNR=3.0						
BRVK	Borovoye	136.41	34	i PKIKP	PKPdf	16 46 38.6	+1.0
BVAR	Borovoye Array	136.48	34	PKP	PKPdf	16 46 35.1	-2.6
	comp=Z,2.7nm,0.8s,baz=339,slow=3.6,SNR=4.0						
YAK	Yakutsk	137.33	346	ePKPdf	PKPdf	16 46 39.0	0.0
YAK	Yakutsk	137.33	346	ePKIKP	PKPdf	16 46 39.0	0.0
NVS	Novosibirsk	141.20	24	ePKHKP	PKPpre	16 46 38.4	
KURK	Kurchatov	141.99	32	ePKPpre	PKPpre	16 46 43.1	
KURK	Kurchatov	141.99	32	i PKIKP	PKPdf	16 46 48.2	+0.4
ZAA0	Zalesovo Array	142.48	24	ePKPpre	PKPpre	16 46 43.3	
ZALV	Zalesovo Beam	142.48	24	PKhKP	PKPpre	16 46 43.2	
	comp=Z,4.4nm,0.5s,baz=321,slow=4.2,SNR=25						
ZALV	Zalesovo Beam	142.48	24	ePKPpre	PKPpre	16 46 43.0	
YSS	Yuzh-Sakhalins	143.31	322	ePKIKP	PKPbc	16 46 48.0	+0.6
YSS				e		16 47 01.9	
BOD	Bodaibo	143.67	356	ePKIKP	PKPab	16 46 47.2	-0.1
BOD				pmax	pmax		
	comp=Z,20nm,1.0s						
AAK	Ala-Archa	143.76	46	PKP	PKPbc	16 46 49.3	+0.2
	comp=Z,7.3nm,0.9s,baz=246,slow=3.9,SNR=25						
AAK	Ala-Archa	143.76	46	ePKPdf	PKPbc	16 46 50.2	+1.0
AAK	Ala-Archa	143.76	46	i PKIKP	PKPbc	16 46 49.9	+0.8
FRU	Bishkek	143.76	46	ePKIKP	PKPbc	16 46 50.0	+1.1
GRNR	Gornyy	144.21	331	ePKIKP	PKPdf	16 46 52.4	+0.6
GRNR				pmax	pmax		
	comp=Z,57nm,1.0s						
ASAJ	Asahikawa	144.85	317	PKP	PKPdf	16 46 53.0	-0.1
	comp=Z,24nm,0.8s,baz=104,slow=2.1,SNR=28						
ASAJ	Asahikawa	144.85	317	ePKPbc	PKPdf	16 46 53.1	0.0
ASAJ	Asahikawa	144.85	317	PKIKP	PKPdf	16 46 53.0	-0.1
ASAJ				pmax	pmax		
	comp=Z,24nm,0.8s						
ZEA	Zeya	145.26	342	ePKIKP	PKPdf	16 46 53.8	+0.3
ZEA				pmax	pmax		
	comp=Z,57nm,1.2s						
NRN	Naryn	145.28	47	PKIKP	PKPab	16 46 54.2	-0.1
ERM	Erimo	145.46	314	ePKPdf	PKPab	16 46 56.0	+1.6
ERM	Erimo	145.46	314	ePKIKP	PKPab	16 46 56.0	+1.6
BATI	Baumata	145.65	205	PKPbc	PKPab	16 46 56.5	+0.5
	comp=Z,21nm,0.7s,baz=191,slow=5.2,SNR=8.5						
KDJ	Kajisay	145.78	46	PKIKP	PKPab	16 46 55.8	-0.1
GUMO	Guam	145.79	262	PKPbc	PKPbc	16 46 56.2	+0.2
	comp=Z,138nm,0.8s,baz=162,slow=19,SNR=3.5						
SOEI	Soe	145.82	206	ePKPdf	PKPab	16 46 57.0	+0.3
KSH	Kashi	146.01	51	PKPbc	PKPbc	16 46 56.1	-0.1
KSH				sPKP		16 47 10.0	
KSH				PP	PP	16 50 16.2	-1.9
KSH				PKS	PKSdf	16 50 29.7	-1.2
KSH				SKS	SKSdf	16 54 00.1	-1.1
KSH				SS	SS	17 09 07.7	-2.8
KSH				AMB	AMB		
	comp=Z,200nm,5.4s						
KSH				LR	LR		
	comp=Z,120nm,9.4s						
KSH				LR	LR		
	comp=Z,120nm,9.6s						
KSH				LR	LR		
	comp=Z,95nm,13.2s						
MAKZ	Makanchi	146.16	35	ePKPdf	PKPdf	16 46 54.6	-0.7
MAKZ				ePKPbc	PKPbc	16 46 56.4	+0.1
MAKZ	Makanchi	146.16	35	ePKP2	PKPdf	16 46 54.6	-0.7
MK31	Makanchi Array	146.34	35	ePKPdf	PKPdf	16 46 55.3	-0.3
MK31	Makanchi Array	146.34	35	ePKP2	PKPdf	16 46 55.3	-0.3
MKAR	Makanchi Array	146.34	35	PKPbc	PKPdf	16 46 55.7	+0.1
	comp=Z,13nm,0.6s,baz=326,slow=2.9,SNR=142						
MKAR	Makanchi Array	146.34	35	ePKPdf	PKPdf	16 46 55.3	-0.2
MK01	Makanchi Array	146.36	35	ePKPdf	PKPdf	16 46 55.2	-0.4
PRZ	Przheval'sk	146.42	44	PKP2	PKPab	16 46 58.2	-0.1
FAKI	Fak Fak	147.27	225	ePKPbc	PKPbc	16 47 01.0	+0.6
KLR	Kul'dur	147.39	333	i PKP2	PKPdf	16 46 58.2	+1.0
PALK	Pallekele	148.44	112	PKPbc	PKPbc	16 47 03.0	-0.6
	comp=Z,5.0nm,0.8s,baz=283,slow=2.6,SNR=5.1						
IRK	Irkutsk	149.07	7	ePKIKP	PKPdf	16 47 01.3	+1.4
IRK				pmax	pmax		
	comp=Z,56nm,2.0s						
MOY	Mondy	149.17	11	ePKP2	PKPbc	16 47 05.1	+0.7
MOY				pmax	pmax		
	comp=Z,42nm,1.9s						
TLY	Talaya	149.55	8	ePKP2	PKPbc	16 47 06.5	+1.2
TLY				pmax	pmax		
	comp=Z,12nm,0.9s						
JAGI	Jajag, Banyuwa	149.86	188	ePKPbc	PKPbc	16 47 06.8	-0.4
CBIJ	Chichi jima	150.12	287	PKPbc	PKPbc	16 47 07.5	+0.2
JCJ	Chichijima	150.12	287	PKPbc	PKPbc	16 47 07.5	+0.2
	comp=Z,67nm,0.5s,baz=300,slow=20,SNR=3.4						
HYB	Hyderabad	150.20	92	i PKP	PKPbc	16 47 09.0	+1.1
ZAK	Zakamensk	150.78	9	ePKIKP	PKPbc	16 47 07.9	-0.5
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
USRK	Ussuriysk Ar.	150.96	326	PKPbc	PKPbc	16 47 08.9	+0.1
	comp=Z,15nm,0.7s,baz=1.3,slow=0.9,SNR=20						
USRK				PKPab	PKPab	16 47 16.2	0.0
	comp=Z,6.2nm,0.6s,baz=316,slow=1.0,SNR=9.3						
CISI	Cisompet, Garu	150.99	176	ePKPbc	PKPbc	16 47 09.8	-0.1
WMQ	Urumqi	151.16	35	ePKPbc	PKPdf	16 47 02.8	-0.7
WMQ				LR	LR		
	comp=Z,190nm,27.1s						
WMQ				LR	LR		
	comp=Z,280nm,23.1s						
WMQ				LR	LR		
	comp=Z,210nm,27.1s						
MJAR	Matsushiro Arr	151.23	307	PKPbc	PKPbc	16 47 10.2	+0.4
	comp=Z,18nm,0.8s,baz=108,slow=1.3,SNR=36						
MAJO	Matsushiro	151.23	307	ePKPbc	PKPbc	16 47 09.9	+0.1
MAJO	Matsushiro	151.23	307	ePKIKP	PKPbc	16 47 09.9	+0.1
MAT	Matsushiro	151.23	307	PKP	PKPbc	16 47 09.7	-0.1
MJB9	Matsu-Tunnel	151.24	307	ePKPbc	PKPbc	16 47 10.1	+0.3
HIA	Hailar	151.27	347	ePKPbc	PKPbc	16 47 09.0	-0.5
HIA	Hailar	151.27	347	ePKIKP	PKPbc	16 47 09.0	-0.5
LEM	Lembang	151.69	175	PKPbc	PKPbc	16 47 12.3	+0.6
	comp=Z,66nm,0.7s,baz=322,slow=19,SNR=19						
MDJ	Mudanjiang	151.85	329	PKPbc	PKPbc	16 47 10.5	-0.4
SONM	Songino Array	153.64	5	PKP	PKPdf	16 47 07.8	+0.6
	comp=Z,2.0nm,0.8s,baz=296,slow=0.9,SNR=16						
SONM				PKPbc	PKPbc	16 47 15.2	+0.2
	comp=Z,3.7nm,0.8s,baz=303,slow=1.7,SNR=22						
SONM				PKPab	PKPab	16 47 28.5	+0.9
	comp=Z,6.4nm,0.6s,baz=327,slow=3.3,SNR=18						
SONM				PP	PP	16 51 00.6	-0.3
	comp=Z,0.8nm,0.9s,baz=316,slow=4.0,SNR=3.6						
ULN	Ulaanbaatar	153.66	4	ePKPab	PKPab	16 47 28.6	+0.9
ULN	Ulaanbaatar	153.66	4	ePKP2	PKPab	16 47 28.6	+0.9
KSRS	Korea Array	157.77	319	PKP	PKPdf	16 47 12.1	-0.7
	comp=Z,5.5nm,1.1s,baz=140,slow=0.3,SNR=7.4						
KSRS				PKPab	PKPab	16 47 46.3	+0.9
	comp=Z,2.6nm,0.7s,baz=55,slow=4.6,SNR=7.0						
KS01	Wonju Array Si	157.78	319	ePKPdf	PKPdf	16 47 12.8	0.0
KS01				ePKPab	PKPab	16 47 46.1	+0.6
KSAR	Wonju Array Be	157.80	319	PKP	PKPdf	16 47 12.1	-0.7
KSAR				PKPab	PKPab	16 47 46.3	+0.7
KSAR	Wonju Array Be	157.80	319	PKIKP	PKPdf	16 47 12.1	-0.7
KSAR						16 47 46.3	
KSM	Kuching	160.02	181	ePKPab	PKPab	16 47 56.3	+0.6
GTA	Gaotai	160.24	24	PKP	PKPdf	16 47 17.0	+1.2
GTA				pPKP	pPKPdf	16 47 30.3	+1.0
GTA				sPKP		16 47 35.6	
GTA				PKPab	PKPab	16 48 00.2	+4.0
HHC	Hu-ho-hao-te	160.73	356	ePKP	PKPdf	16 47 17.2	+0.9
HHC				PP	PP	16 51 39.8	-0.1
HHC				SKS	SKSdf	16 54 17.1	-1.1
HHC				SS	SS	17 11 50.0	+1.0
LSA	Lhasa	161.28	61	ePKPdf	PKPdf	16 47 17.2	-0.5
LSA				ePKPab	PKPab	16 48 01.8	+0.2
LSA	Lhasa	161.28	61	ePKIKP	PKPdf	16 47 17.2	-0.5
LSA				e		16 48 01.8	
LZH	Lanzhou	164.60	19	ePKP	PKPdf	16 47 18.9	-1.4
LZH				pPKP	pPKPdf	16 47 29.3	-4.5
LZH				sPKP		16 47 32.6	
LZH				LR	LR		
	comp=Z,170nm,17.4s						
LZH				LR	LR		
	comp=Z,180nm,17.0s						
LZH				LR	LR		
	comp=Z,200nm,19.2s						
NJ2	Nanjing	166.85	324	ePKP	PKPdf	16 47 22.0	0.0
CD2	Chengdu	169.19	29	PKP	PKPdf	16 47 21.8	-2.0
CMAR	Chiang Mai Arr	169.25	105	PKP	PKPdf	16 47 24.6	+0.5
	comp=Z,1.1nm,0.7s,baz=284,slow=2.0,SNR=10						
CMAR				PKPab	PKPab	16 48 36.4	-0.1
	comp=Z,2.7nm,0.7s,baz=252,slow=6.0,SNR=16						
CM01	Chiang Mai Arr	169.25	105	ePKPdf	PKPdf	16 47 23.5	-0.6
CM01				ePKPab	PKPab	16 48 35.9	-0.6
CHTO	Chiang Mai	169.36	103	ePKPab	PKPab	16 48 36.4	-0.6
CHTO	Chiang Mai	169.36	103	ePKP2	PKPab	16 48 36.4	-0.6
KMI	Kunming	172.54	60	PKP	PKPdf	16 47 24.5	-1.4
GYA	Guiyang	174.31	31	ePKP	PKPdf	16 47 25.0	-1.4
GYA				PKPab	PKPab	16 48 58.6	0.0
GYA				PKS	PKSdf	16 50 56.5	-2.4
GYA				PP	PP	16 52 51.8	+1.8
GYA				AMB	AMB		
	comp=Z,130nm,7.9s						

NIED ***04*** *16:31:00, 38°.30N×142°.10E, h41km, Mw3.6 Best double couple: M₀2.71000×10[14] NP1:φs159.00000°, δ15.00000°, λ52.00000°. NP2:φs17.00000°, δ78.00000°, λ99.00000°.*
JMA ***04*** *16:31:08.5±0.1, 38°.33N×142°.11E, h35km±1km, M3.8*
JMA Felt I J1.
IDC ***04*** *16:31:10.5±3.4, 38°.34N×142°.21E, h50km±29km, mb3.1/4, mb1 3.3/6, mb1mx3.0/70, mbtmp3.3/6, ML3.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/19, Error ellipse: s-maj=47.6km s-min=26.5km az=89.0*
ISC 04 16:31:06.0±2.1, **38°.30N**±0°.04×**142°.09E**±0°.07, **h7**km±13km, **n24**, σ**1**s**43**/32, **mb3.4**/4, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.60	285	P	Pn	16 31 20.6	-0.3
JIO				eS	Sb	16 31 28.8	+1.4
OFUJ	Ofunato	0.84	337	P	Pn	16 31 23.6	-0.7
OFUJ				eS	Sb	16 31 34.1	-0.4
JMK	Ichinoseki	0.94	314	P	Pn	16 31 25.5	-0.1
JMK				eS	Sb	16 31 37.3	+0.1

JMM	**Marumori**	**1.11**	**247**	P	**Pb**	**16 31 27.7**	**+0.2**
JMM				*e*S	**Sb**	**16 31 41.5**	**-0.6**
JOU	**Okura**	**1.12**	**274**	P	**Pn**	**16 31 28.7**	**+0.6**
JOU				*e*S	**Sb**	**16 31 43.4**	**+0.9**
JOM	**Ohasama**	**1.32**	**332**	P	**Pg**	**16 31 31.1**	**-0.3**
JOM				*e*S	**Sb**	**16 31 47.4**	**-0.9**
JFK	**Kawauchi**	**1.34**	**226**	P	**Pn**	**16 31 30.6**	**-0.5**
JFK				*e*S	**Sb**	**16 31 46.7**	**-2.1**
JYK	**Kaneyama**	**1.49**	**295**	P	**Pb**	**16 31 33.9**	**0.0**
JYK				*e*S	**Sn**	**16 31 52.6**	**-0.2**
JRG	**Rokugo**	**1.57**	**314**	P	**Pb**	**16 31 35.4**	**-0.1**
JRG				*e*S	**Sn**	**16 31 54.3**	**-0.6**
JFT	**Otama**	**1.59**	**241**	P	**Pn**	**16 31 35.2**	**+0.6**
JFT				*e*S	**Sn**	**16 31 54.6**	**-0.7**
JYS	**Shirataka**	**1.59**	**268**	P	**Pn**	**16 31 35.2**	**+0.6**
JYS				*e*S	**Sn**	**16 31 54.9**	**-0.5**
MJAR	**Matsushiro Arr**	**3.55**	**242**	P	**Pn**	**16 32 04.2**	**+2.6**
	1.3nm,0.3s,baz=55,slow=9.2,SNR=13						
MJAR				S	**Sb**	**16 32 56.1**	**+3.6**
	1.1nm,0.3s,baz=238,slow=7.0,SNR=4.4						
MJAR				LR	LR	16 33 40.9	
	comp=Z,92nm,18.1s,baz=60,slow=41						
MAT	**Matsushiro**	**3.55**	**242**	P	**Pn**	**16 32 03.6**	**+2.0**
MAT				*e*S	**Sn**	**16 32 43.1**	**-0.7**
ASAJ	**Asahikawa**	**5.82**	**4**	P	**Pn**	**16 32 33.8**	**+1.1**
	0.4nm,0.3s,baz=230,slow=16,SNR=5.2						
ASAJ				S	**Sn**	**16 33 43.5**	**+3.9**
	0.2nm,0.3s,baz=20,slow=21,SNR=2.5						
SONM	**Songino Array**	**27.55**	**302**	P	**P**	**16 36 54.2**	**+0.8**
	0.2nm,0.6s,baz=120,slow=9.5,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.37**	**124**	T	T	17 07 17.1	
	baz=318						
H11N1	**WAKE ISLAND Hy**	**28.38**	**124**	T	T	17 07 21.0	
	baz=318						
H11N3	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	17 07 20.3	
	baz=318						
H11S1	**WAKE ISLAND Hy**	**29.13**	**126**	T	T	17 08 15.0	
	baz=320						
H11S3	**WAKE ISLAND Hy**	**29.13**	**126**	T	T	17 08 14.0	
	baz=320						
H11S2	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	17 08 14.8	
	baz=320						
ZALV	**Zalesovo Beam**	**41.47**	**311**	P	**P**	**16 38 51.6**	**-1.6**
	0.5nm,0.4s,baz=93,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**43.91**	**301**	P	**P**	**16 39 12.6**	**-0.6**
	0.3nm,0.7s,baz=83,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**58.39**	**189**	P	**P**	**16 41 01.2**	**-0.9**
	0.5nm,0.9s,baz=6.0,slow=7.2,SNR=3.6						

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*NIED **04** 16:32:00, 38.°90N×141.°90E, h53km, Mw3.8 Best double couple: M₀5.74000×10^14 NP1:φs190.00000°, δ15.00000°, λ62.00000°. NP2:φs39.00000°, δ77.00000°, λ97.00000°.*
*ISCJB **04** 16:32:39.0±0.8, 38.°84N±0.°04×142.°01E±0.°09, h55km±5km, mb3.7/13, Error ellipse: s-maj=12.1km s-min=5.4km az=15.5*
*JMA **04** 16:32:40.2±0.1, 38.°89N×141.°97E, h50km±1km, M3.8*
JMA Felt I J1.
*IDC **04** 16:32:42.8±2.5, 38.°83N×142.°02E, h77km±20km, mb3.5/13, mb1 3.4/17, mb1mx3.3/71, mbtmp3.7/17, MS3.2/1, Ms1 3.2/1, ms1mx2.4/45, Error ellipse: s-maj=24.9km s-min=15.6km az=89.0*

ISC 04 16:32:40.5±1.2**, 38.°86N**±0.°05×**141.°98E**±0.°08**, h49**km±8km**, n34,** σ**1.s51**/37**, mb3.8**/13**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.32**	**312**	P	**Pn**	**16 32 49.4**	**-0.4**
OFUJ				*e*S	**Sn**	**16 32 55.7**	**-0.8**
JMK	**Ichinoseki**	**0.60**	**279**	P	**Pn**	**16 32 52.5**	**-0.4**
JMK				*e*S	**Sn**	**16 33 01.2**	**-0.7**
JIO	**Ouri**	**0.64**	**231**	P	**Pn**	**16 32 53.1**	**-0.3**
JIO				*e*S	**Sn**	**16 33 01.9**	**-0.8**
JOM	**Ohasama**	**0.81**	**319**	P	**Pn**	**16 32 55.1**	**-0.6**
JOM				*e*S	**Sn**	**16 33 05.8**	**-1.0**
JOU	**Okura**	**1.14**	**245**	P	**Pn**	**16 32 59.8**	**-0.4**
JOU				*e*S	**Sn**	**16 33 14.4**	**-0.3**
JRG	**Rokugo**	**1.17**	**297**	P	**Pn**	**16 33 00.1**	**-0.5**
JYK	**Kaneyama**	**1.26**	**273**	P	**Pn**	**16 33 01.5**	**-0.3**
JYK				*e*S	**Sn**	**16 33 16.6**	**-1.1**
JMM	**Marumori**	**1.36**	**223**	P	**Pn**	**16 33 02.5**	**-0.6**
JMM				*e*S	**Sn**	**16 33 19.2**	**-0.8**
JANG	**Nango**	**1.55**	**347**	P	**Pn**	**16 33 04.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.78**	**233**	P	**Pn**	**16 33 38.3**	**+2.0**
	2.9nm,0.3s,baz=40,slow=12,SNR=12						
MAT	**Matsushiro**	**3.78**	**233**	P	**Pn**	**16 33 38.0**	**+1.7**
MAT				*e*S	**Sn**	**16 34 23.4**	**+3.9**
ASAJ	**Asahikawa**	**5.27**	**5**	P	**Pn**	**16 33 57.7**	**+1.0**
	0.6nm,0.3s,baz=207,slow=20,SNR=6.2						
ASAJ				S	**Sn**	**16 34 58.6**	**+2.6**
	0.6nm,0.3s,baz=275,slow=15,SNR=3.9						
JHJ	**Hachijo jima 2**	**6.00**	**198**	S	**Sn**	**16 35 14.1**	**-0.1**
	7.8nm,0.3s,baz=35,slow=17,SNR=2.4						
JHJ				LR	LR	16 36 49.8	
	comp=Z,188nm,18.2s,baz=320,slow=41						
USRK	**Ussuriysk Ar.**	**9.19**	**309**	P	**Pn**	**16 34 54.0**	**+3.6**
	0.4nm,0.3s,baz=115,slow=15,SNR=7.3						
KSRS	**Korea Array**	**11.16**	**267**	P	**Pn**	**16 35 21.6**	**+4.4**
	0.2nm,0.3s,baz=88,slow=15,SNR=3.3						
YAK	**Yakutsk**	**24.40**	**346**	P	**P**	**16 37 54.1**	**+0.2**
	2.4nm,0.3s,baz=60,slow=1.0,SNR=3.2						
SONM	**Songino Array**	**27.18**	**301**	P	**P**	**16 38 19.8**	**+0.4**
	0.3nm,0.5s,baz=95,slow=9.3,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	17 08 57.5	
	baz=317,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	17 08 57.7	
	baz=317,slow=75,SNR=47						
H11N3	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	17 09 00.3	
	baz=317,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**29.53**	**126**	T	T	17 09 57.5	
	baz=318,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.53**	**126**	T	T	17 09 52.5	
	baz=318,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**29.55**	**126**	T	T	17 09 53.7	
	baz=318,slow=76,SNR=30						
ZALV	**Zalesovo Beam**	**41.03**	**311**	P	**P**	**16 40 17.9**	**-0.9**
	1.3nm,0.6s,baz=95,slow=8.6,SNR=5.2						
MKAR	**Makanchi Array**	**43.55**	**301**	P	**P**	**16 40 38.8**	**-0.5**
	1.4nm,0.6s,baz=85,slow=9.8,SNR=15						
ILAR	**Eielson Array**	**47.72**	**33**	P	**P**	**16 41 12.3**	**+0.3**
	0.2nm,0.6s,baz=264,slow=5.8,SNR=5.5						
BVAR	**Borovoye Array**	**49.69**	**311**	P	**P**	**16 41 26.7**	**-0.5**
	1.4nm,0.5s,baz=83,slow=6.1,SNR=8.2						
AKTO	**Aktyubinsk**	**57.80**	**311**	P	**P**	**16 42 26.6**	**+0.1**
	1.1nm,0.7s,baz=68,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**58.93**	**188**	P	**P**	**16 42 33.8**	**-0.9**
	0.3nm,0.4s,baz=5.7,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**62.66**	**188**	P	**P**	**16 42 58.8**	**-1.2**
	0.4nm,0.9s,baz=16,slow=7.3,SNR=4.6						
FINES	**FINESS Array B**	**67.41**	**332**	P	**P**	**16 43 28.9**	**-1.5**
	0.8nm,0.6s,baz=31,slow=11,SNR=3.5						
HFS	**Hagfors**	**72.61**	**336**	P	**P**	**16 44 02.2**	**-0.1**
	0.6nm,0.5s,baz=56,slow=14,SNR=3.5						
AKASG	**Malin Array Be**	**73.13**	**322**	P	**P**	**16 44 04.6**	**-0.9**
	0.3nm,0.3s,baz=46,slow=5.3,SNR=3.7						
BRTR	**Keskin Array B**	**77.97**	**312**	P	**P**	**16 44 33.2**	**-0.5**
	0.3nm,0.5s,baz=64,slow=3.4,SNR=4.0						

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*NEIC **04** 16:35:40.1±0.0, 43.°46S×172.°87E, h14km, ML3.8(WEL), After WEL.*
NEIC Felt at Christchurch.

WEL 04 16:35:39.1, 43°S±4°×**17°3E**±°**, h12**km**, ML3.6**/14**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.20**	**224**	P*	Pb	16 35 45.2	+0.4
CRLZ	**Canterbury Las**	**0.20**	**224**	P	Pb	16 35 45.3	+0.5
CRLZ	**Canterbury Las**	**0.20**	**224**	S	Sg	16 35 48.6	+2.0
MQZ	**McQueen's Vall**	**0.30**	**203**	P*	Pb	16 35 46.3	-0.2
MQZ	**McQueen's Vall**	**0.30**	**203**	P	Pb	16 35 46.3	-0.1
MQZ	**McQueen's Vall**	**0.30**	**203**	S	Sb	16 35 50.8	-0.5
EYCZ	**Eyrewell**	**0.34**	**271**	P	Pb	16 35 47.6	+0.6
EYCZ	**Eyrewell**	**0.34**	**271**	S	Sb	16 35 52.5	+0.2
OXZ	**Oxford**	**0.58**	**280**	P*	Pb	16 35 51.7	+0.6
OXZ	**Oxford**	**0.58**	**280**	P	Pb	16 35 51.8	+0.7
OXZ	**Oxford**	**0.58**	**280**	S	Sb	16 36 00.2	+0.9
LTZ	**Lake Taylor**	**0.76**	**328**	P*	Pn	16 35 55.4	-0.3
LTZ	**Lake Taylor**	**0.76**	**328**	P	Pn	16 35 55.5	-0.2
KHZ	**Kahutara**	**1.14**	**28**	P*	Pb	16 36 00.6	-0.2
KHZ	**Kahutara**	**1.14**	**28**	P	Pb	16 36 00.7	-0.1
INZ	**Inchbonnie**	**1.23**	**305**	P	Pg	16 36 02.5	-0.2
RPZ	**Rata Peaks**	**1.31**	**257**	Pn	Pn	16 36 03.3	0.0
RPZ	**Rata Peaks**	**1.31**	**257**	P	Pn	16 36 03.3	+0.1
WVZ	**Waitaha Valley**	**1.56**	**282**	Pn	Pb	16 36 07.5	-0.4
WVZ	**Waitaha Valley**	**1.56**	**282**	P	Pb	16 36 07.5	-0.4
THZ	**Tophouse**	**1.67**	**2**	Pn	Pn	16 36 08.6	+0.4
THZ	**Tophouse**	**1.67**	**2**	P	Pn	16 36 08.6	+0.4
DSZ	**Denniston Nort**	**1.84**	**336**	Pn	Pn	16 36 11.4	+0.8
DSZ	**Denniston Nort**	**1.84**	**336**	P	Pn	16 36 11.4	+0.9
BSWZ	**Blackbirch Sta**	**1.88**	**25**	Pn	Pn	16 36 11.6	+0.5
BSWZ	**Blackbirch Sta**	**1.88**	**25**	P	Pn	16 36 11.6	+0.5
CMWZ	**Cape Campbell**	**1.97**	**32**	P	Pn	16 36 13.6	+1.3
LBZ	**Lake Benmore**	**2.13**	**242**	Pn	Pn	16 36 15.2	+0.7
LBZ	**Lake Benmore**	**2.13**	**242**	P	Pn	16 36 15.3	+0.8
TUWZ	**Tuamarina**	**2.17**	**23**	Pn	Pn	16 36 15.1	+0.2
TUWZ	**Tuamarina**	**2.17**	**23**	P	Pn	16 36 15.1	+0.2
FOZ	**Fox Glacier**	**2.19**	**266**	Pn	Pb	16 36 17.0	-1.6
FOZ	**Fox Glacier**	**2.19**	**266**	P	Pb	16 36 17.0	-1.5
ODZ	**Otahua Downs**	**2.25**	**223**	Pn	Pn	16 36 16.1	+0.1
ODZ	**Otahua Downs**	**2.25**	**223**	P	Pn	16 36 16.2	+0.1
NNZ	**Nelson**	**2.25**	**11**	Pn	Pn	16 36 17.0	+0.9
NNZ	**Nelson**	**2.25**	**11**	P	Pn	16 36 17.0	+0.9
TCW	**Tory Channel**	**2.47**	**27**	Pn	Pn	16 36 19.0	-0.1
TCW	**Tory Channel**	**2.47**	**27**	P	Pn	16 36 18.8	-0.3
BHW	**Baring Head**	**2.53**	**38**	P	Pn	16 36 19.7	-0.3
WEL	**Wellington**	**2.59**	**35**	Pn	Pn	16 36 20.8	0.0
PLWZ	**Palliser**	**2.59**	**45**	Pn	Pn	16 36 20.1	-0.8
PLWZ	**Palliser**	**2.59**	**45**	P	Pn	16 36 20.1	-0.7
QRZ	**Quartz Range**	**2.61**	**355**	Pn	Pn	16 36 21.8	+0.7
QRZ	**Quartz Range**	**2.61**	**355**	P	Pn	16 36 21.9	+0.8
MSWZ	**Moikau Station**	**2.70**	**43**	P	Pn	16 36 21.5	-0.9
DUWZ	**D'Urville Isla**	**2.75**	**18**	Pn	Pn	16 36 23.4	+0.4
DUWZ	**D'Urville Isla**	**2.75**	**18**	P	Pn	16 36 23.8	+0.7
PAWZ	**Paruwai Farm**	**2.81**	**44**	P	Pn	16 36 23.0	-0.9
CAW	**Cannon Point**	**2.86**	**37**	Pn	Pn	16 36 24.2	-0.4
CAW	**Cannon Point**	**2.86**	**37**	P	Pn	16 36 24.2	-0.3
HHSZ	**Highcliff Hill**	**2.92**	**212**	Pn	Pn	16 36 25.5	+0.1
HHSZ	**Highcliff Hill**	**2.92**	**212**	P	Pn	16 36 25.5	+0.2
TRWZ	**Traveller**	**2.94**	**47**	P	Pn	16 36 24.4	-1.2
JCZ	**Jackson Bay**	**2.99**	**256**	Pn	Pn	16 36 26.9	+0.5
JCZ	**Jackson Bay**	**2.99**	**256**	P	Pn	16 36 26.9	+0.5
KIW	**Kapiti Island**	**3.00**	**32**	Pn	Pn	16 36 26.2	-0.3
KIW	**Kapiti Island**	**3.00**	**32**	P	Pn	16 36 26.3	-0.2
MTW	**Mount Morrison**	**3.02**	**42**	Pn	Pn	16 36 25.6	-1.1
MTW	**Mount Morrison**	**3.02**	**42**	P	Pn	16 36 25.7	-1.1
WKZ	**Wanaka**	**3.07**	**242**	Pn	Pn	16 36 27.7	+0.2
WKZ	**Wanaka**	**3.07**	**242**	P	Pn	16 36 27.6	+0.1
EAZ	**Earnscleugh**	**3.10**	**233**	Pn	Pn	16 36 27.9	+0.1
EAZ	**Earnscleugh**	**3.10**	**233**	P	Pn	16 36 27.9	+0.2
OGWZ	**Otaki Gorge**	**3.14**	**35**	Pn	Pn	16 36 27.7	-0.7
OGWZ	**Otaki Gorge**	**3.14**	**35**	P	Pn	16 36 27.8	-0.6
HOWZ	**Holdsworth Sta**	**3.23**	**39**	Pn	Pn	16 36 28.9	-0.8
HOWZ	**Holdsworth Sta**	**3.23**	**39**	P	Pn	16 36 29.0	-0.6
TMWZ	**Te Maipa**	**3.25**	**46**	P	Pn	16 36 28.9	-1.1
TUZ	**Tuapeka**	**3.40**	**221**	Pn	Pn	16 36 32.1	+0.2
TUZ	**Tuapeka**	**3.40**	**221**	P	Pn	16 36 32.1	+0.2
MRZ	**Mangatainoka R**	**3.45**	**38**	Pn	Pn	16 36 31.6	-1.0
MRZ	**Mangatainoka R**	**3.45**	**38**	P	Pn	16 36 31.6	-1.0
TIWZ	**Tintock**	**3.50**	**42**	P	Pn	16 36 33.4	+0.1
MSZ	**Milford Sound**	**3.74**	**249**	Pn	Pn	16 36 36.5	-0.1
MSZ	**Milford Sound**	**3.74**	**249**	P	Pn	16 36 37.2	+0.7
BFZ	**Birch Farm**	**3.75**	**44**	Pn	Pn	16 36 35.4	-1.3
BFZ	**Birch Farm**	**3.75**	**44**	P	Pn	16 36 35.3	-1.4
POWZ	**Post Office Ro**	**3.75**	**37**	Pn	Pn	16 36 36.5	-0.3
MLZ	**Mavora Lakes**	**3.88**	**238**	Pn	Pn	16 36 38.3	-0.3
MLZ	**Mavora Lakes**	**3.88**	**238**	P	Pn	16 36 38.4	-0.2
DVHZ	**Dannevirke**	**4.01**	**40**	P	Pn	16 36 38.8	-1.5
WAZ	**Wanganui**	**4.02**	**25**	P	Pn	16 36 42.3	+1.8
ANWZ	**Angora Road**	**4.03**	**44**	P	Pn	16 36 39.1	-1.5
SYZ	**Scrubby Hill**	**4.06**	**219**	Pn	Pn	16 36 41.9	+0.9
SYZ	**Scrubby Hill**	**4.06**	**219**	P	Pn	16 36 41.6	+0.7
TSZ	**Takapari Road**	**4.11**	**36**	Pn	Pn	16 36 40.4	-1.4
TSZ	**Takapari Road**	**4.11**	**36**	P	Pn	16 36 40.4	-1.3
PREZ	**Palmer Road**	**4.21**	**14**	Pn	Pn	16 36 45.3	+2.2
PREZ	**Palmer Road**	**4.21**	**14**	P	Pn	16 36 45.3	+2.2
KHEZ	**Kahui Hut**	**4.23**	**13**	Pn	Pn	16 36 45.7	+2.3
WHZ	**Wether Hill Ro**	**4.26**	**233**	Pn	Pn	16 36 42.7	-1.0
WHZ	**Wether Hill Ro**	**4.26**	**233**	P	Pn	16 36 42.8	-0.9
WPHZ	**Waipukurau**	**4.32**	**40**	P	Pn	16 36 43.8	-0.8
PKE	**Pukeiti**	**4.32**	**12**	Pn	Pn	16 36 46.4	+1.7
PKE	**Pukeiti**	**4.32**	**12**	P	Pn	16 36 46.3	+1.7
PNHZ	**Pukenui**	**4.33**	**37**	P	Pn	16 36 43.9	-0.8
DREZ	**Durham Road**	**4.36**	**14**	P	Pn	16 36 47.2	+2.0
MTVZ	**Mangateitei**	**4.51**	**27**	P	Pn	16 36 48.3	+1.1
VRZ	**Vera Road**	**4.54**	**19**	Pn	Pn	16 36 49.3	+1.7
VRZ	**Vera Road**	**4.54**	**19**	P	Pn	16 36 49.2	+1.5
PKVZ	**Pokaka**	**4.55**	**26**	P	Pn	16 36 49.5	+1.6
MOVZ	**Moawhango**	**4.59**	**30**	Pn	Pn	16 36 49.2	+0.9
MOVZ	**Moawhango**	**4.59**	**30**	P	Pn	16 36 49.3	+0.9
WNVZ	**Wahianoa**	**4.60**	**28**	Pn	Pn	16 36 49.9	+1.2
KRHZ	**Kereru**	**4.63**	**36**	P	Pn	16 36 48.0	-0.9
WHVZ	**Whangaehu Hut**	**4.64**	**28**	P	Pn	16 36 50.2	+1.0
FWVZ	**Far West T-bar**	**4.65**	**27**	Pn	Pn	16 36 50.5	+1.1
FWVZ	**Far West T-bar**	**4.65**	**27**	P	Pn	16 36 50.5	+1.1
TUVZ	**Tukino**	**4.67**	**28**	Pn	Pn	16 36 50.1	+0.5
TUVZ	**Tukino**	**4.67**	**28**	P	Pn	16 36 50.8	+1.2
NGZ	**Ngauruhoe**	**4.74**	**27**	P	Pn	16 36 51.4	+0.9
OTVZ	**Oturere**	**4.77**	**28**	Pn	Pn	16 36 51.0	+0.1
TWVZ	**Taurewa**	**4.78**	**25**	Pn	Pn	16 36 51.8	+0.8
TWVZ	**Taurewa**	**4.78**	**25**	P	Pn	16 36 51.9	+0.8
WTVZ	**West Tongariro**	**4.79**	**27**	P	Pn	16 36 52.1	+0.9
APZ	**The Paps**	**4.82**	**223**	Pn	Pn	16 36 51.3	-0.2
APZ	**The Paps**	**4.82**	**223**	P	Pn	16 36 51.2	-0.3
BKZ	**Black Stump Fm**	**5.08**	**34**	Pn	Pn	16 36 54.1	-1.0
BKZ	**Black Stump Fm**	**5.08**	**34**	P	Pn	16 36 54.0	-1.1
HIZ	**Hauiti**	**5.15**	**18**	Pn	Pn	16 36 56.7	+0.7
HIZ	**Hauiti**	**5.15**	**18**	P	Pn	16 36 56.8	+0.9
MWZ	**Matawai**	**6.22**	**37**	Pn	Pn	16 37 08.3	-2.4
MKAZ	**Moumakai**	**6.57**	**17**	Pn	Pn	16 37 15.7	+0.3

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*ISCJB **04** 16:45:47.6±0.3, 40.°49S±0.°03×173.°32E±0.°04, h192km±3km, mb3.8/4, Error ellipse: s-maj=6.7km s-min=3.1km az=39.9*
*IDC **04** 16:45:48.0±1.6, 40.°57S×173.°56E, h186km±17km, mb3.7/4, mb1 3.9/6, mb1mx3.5/35, mbtmp4.2/6, Error ellipse: s-maj=39.7km s-min=20.3km az=150.0*
*WEL **04** 16:45:49.6, 40°S±3°×17°3E±°, h181km±5km*
*NEIC **04** 16:45:49.1±0.0, 40.°47S×173.°34E, h188km, ML4.7(WEL), After WEL.*

ISC 04 16:45:48.6±0.7**, 40.°50S**±0.°04×**173.°36E**±0.°04**, h191**km±5km**, n220,** σ**0.s96**/229**, mb3.9**/4**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.52**	**125**	Pn	**Pn**	**16 46 15.3**	**+0.5**
DUWZ				Sn	**Sn**	**16 46 34.0**	**-1.0**
DUWZ	**D'Urville Isla**	**0.52**	**125**	P	**Pn**	**16 46 15.3**	**+0.5**
DUWZ	**D'Urville Isla**	**0.52**	**125**	S	**Sn**	**16 46 33.8**	**-1.2**
QRZ	**Quartz Range**	**0.71**	**243**	Pn	**Pn**	**16 46 15.4**	**-0.2**
QRZ				Sn	**Sn**	**16 46 35.1**	**-1.4**
QRZ	**Quartz Range**	**0.71**	**243**	P	**Pn**	**16 46 15.9**	**+0.3**
QRZ	**Quartz Range**	**0.71**	**243**	S	**Sn**	**16 46 35.0**	**-1.6**
NNZ	**Nelson**	**0.71**	**179**	Pn	**Pn**	**16 46 15.8**	**+0.2**
NNZ	**Nelson**	**0.71**	**179**	P	**Pn**	**16 46 16.1**	**+0.5**
NNZ	**Nelson**	**0.71**	**179**	S	**Sn**	**16 46 36.4**	**-0.3**
TCW	**Tory Channel**	**0.99**	**136**	Pn	**Pn**	**16 46 18.1**	**+0.8**
TCW	**Tory Channel**	**0.99**	**136**	P	**Pn**	**16 46 18.1**	**+0.8**
TCW	**Tory Channel**	**0.99**	**136**	S	**Sn**	**16 46 38.3**	**-1.4**
TUWZ	**Tuamarina**	**1.02**	**155**	Pn	**Pn**	**16 46 18.3**	**+0.7**
TUWZ				Sn	**Sn**	**16 46 39.6**	**-0.5**
TUWZ	**Tuamarina**	**1.02**	**155**	P	**Pn**	**16 46 18.3**	**+0.7**
TUWZ	**Tuamarina**	**1.02**	**155**	S	**Sn**	**16 46 39.1**	**-1.1**
NMEZ	**Namu Road**	**1.16**	**20**	Pn	**Pn**	**16 46 18.6**	**0.0**
NMEZ				Sn	**Sn**	**16 46 40.9**	**-0.9**
NMEZ	**Namu Road**	**1.16**	**20**	P	**Pn**	**16 46 18.7**	**0.0**
NMEZ	**Namu Road**	**1.16**	**20**	S	**Sn**	**16 46 41.1**	**-0.7**
KIW	**Kapiti Island**	**1.23**	**107**	Pn	**Pn**	**16 46 19.6**	**+0.4**
KIW	**Kapiti Island**	**1.23**	**107**	P	**Pn**	**16 46 19.6**	**+0.4**
KIW	**Kapiti Island**	**1.23**	**107**	S	**Sn**	**16 46 40.7**	**-2.2**
BSWZ	**Blackbirch Sta**	**1.27**	**162**	Pn	**Pn**	**16 46 20.3**	**+0.9**
BSWZ	**Blackbirch Sta**	**1.27**	**162**	P	**Pn**	**16 46 20.4**	**+0.9**
NWEZ	**Newall Road**	**1.29**	**18**	Pn	**Pn**	**16 46 19.7**	**0.0**
THZ	**Tophouse**	**1.30**	**195**	Pn	**Pn**	**16 46 20.1**	**+0.3**
THZ	**Tophouse**	**1.30**	**195**	P	**Pn**	**16 46 20.5**	**+0.6**
KHEZ	**Kahui Hut**	**1.31**	**23**	Pn	**Pn**	**16 46 19.8**	**-0.2**
PREZ	**Palmer Road**	**1.31**	**28**	Pn	**Pn**	**16 46 19.7**	**-0.2**
PREZ	**Palmer Road**	**1.31**	**28**	P	**Pn**	**16 46 19.7**	**-0.2**
LREZ	**Lake Rotokare**	**1.31**	**38**	P	**Pn**	**16 46 19.6**	**-0.3**
WEL	**Wellington**	**1.32**	**127**	Pn	**Pn**	**16 46 20.5**	**+0.6**
NEZ	**North Egmont**	**1.36**	**25**	Pn	**Pn**	**16 46 19.9**	**-0.5**
PKE	**Pukeiti**	**1.39**	**20**	Pn	**Pn**	**16 46 20.4**	**-0.2**
PKE	**Pukeiti**	**1.39**	**20**	P	**Pn**	**16 46 20.4**	**-0.2**
CMWZ	**Cape Campbell**	**1.40**	**153**	Pn	**Pn**	**16 46 21.8**	**+1.2**
CMWZ	**Cape Campbell**	**1.40**	**153**	P	**Pn**	**16 46 21.8**	**+1.2**
OGWZ	**Otaki Gorge**	**1.41**	**103**	Pn	**Pn**	**16 46 21.3**	**+0.6**
OGWZ	**Otaki Gorge**	**1.41**	**103**	P	**Pn**	**16 46 21.3**	**+0.6**
CAW	**Cannon Point**	**1.43**	**116**	Pn	**Pn**	**16 46 21.4**	**+0.6**
CAW	**Cannon Point**	**1.43**	**116**	P	**Pn**	**16 46 21.4**	**+0.6**
WAZ	**Wanganui**	**1.45**	**60**	Pn	**Pn**	**16 46 21.6**	**+0.5**
WAZ	**Wanganui**	**1.45**	**60**	P	**Pn**	**16 46 21.7**	**+0.5**
BHW	**Baring Head**	**1.46**	**129**	Pn	**Pn**	**16 46 21.5**	**+0.4**
BHW	**Baring Head**	**1.46**	**129**	P	**Pn**	**16 46 21.5**	**+0.4**
DREZ	**Durham Road**	**1.46**	**27**	Pn	**Pn**	**16 46 21.1**	**-0.1**
DREZ	**Durham Road**	**1.46**	**27**	P	**Pn**	**16 46 21.1**	**-0.1**
OHWZ	**Ohakea**	**1.52**	**79**	P	**Pn**	**16 46 22.4**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.69**	**104**	Pn	**Pn**	**16 46 23.7**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.69**	**104**	P	**Pn**	**16 46 23.7**	**+0.5**
MSWZ	**Moikau Station**	**1.70**	**123**	Pn	**Pn**	**16 46 23.8**	**+0.4**
MSWZ	**Moikau Station**	**1.70**	**123**	P	**Pn**	**16 46 23.8**	**+0.4**
MRZ	**Mangatainoka R**	**1.70**	**96**	Pn	**Pn**	**16 46 23.3**	**0.0**
MRZ	**Mangatainoka R**	**1.70**	**96**	P	**Pn**	**16 46 23.8**	**+0.4**
DSZ	**Denniston Nort**	**1.71**	**223**	Pn	**Pn**	**16 46 23.8**	**+0.3**
DSZ				Sn	**Sn**	**16 46 48.7**	**-2.0**
DSZ	**Denniston Nort**	**1.71**	**223**	P	**Pn**	**16 46 24.0**	**+0.5**
VRZ	**Vera Road**	**1.75**	**38**	Pn	**Pn**	**16 46 23.2**	**-0.7**
VRZ	**Vera Road**	**1.75**	**38**	P	**Pn**	**16 46 23.3**	**-0.7**
MTW	**Mount Morrison**	**1.75**	**113**	Pn	**Pn**	**16 46 24.3**	**+0.4**
MTW	**Mount Morrison**	**1.75**	**113**	P	**Pn**	**16 46 24.3**	**+0.4**
PLWZ	**Palliser**	**1.79**	**127**	Pn	**Pn**	**16 46 24.6**	**+0.3**
PLWZ	**Palliser**	**1.79**	**127**	P	**Pn**	**16 46 24.6**	**+0.3**
PAWZ	**Paruwai Farm**	**1.79**	**120**	Pn	**Pn**	**16 46 24.7**	**+0.3**
PAWZ	**Paruwai Farm**	**1.79**	**120**	P	**Pn**	**16 46 24.7**	**+0.3**
POWZ	**Post Office Ro**	**1.84**	**87**	Pn	**Pn**	**16 46 25.1**	**+0.3**
POWZ	**Post Office Ro**	**1.84**	**87**	P	**Pn**	**16 46 25.1**	**+0.3**
KHZ	**Kahutara**	**1.92**	**176**	Pn	**Pn**	**16 46 26.0**	**+0.5**
KHZ	**Kahutara**	**1.92**	**176**	P	**Pn**	**16 46 26.0**	**+0.5**
TIWZ	**Tintock**	**1.94**	**99**	Pn	**Pn**	**16 46 26.4**	**+0.5**
TIWZ	**Tintock**	**1.94**	**99**	P	**Pn**	**16 46 26.4**	**+0.5**
PKVZ	**Pokaka**	**1.95**	**52**	Pn	**Pn**	**16 46 25.6**	**-0.4**
PKVZ	**Pokaka**	**1.95**	**52**	P	**Pn**	**16 46 25.7**	**-0.4**
MTVZ	**Mangateitei**	**1.97**	**56**	Pn	**Pn**	**16 46 25.9**	**-0.4**
MTVZ	**Mangateitei**	**1.97**	**56**	P	**Pn**	**16 46 25.9**	**-0.4**
TRWZ	**Traveller**	**1.98**	**118**	Pn	**Pn**	**16 46 26.7**	**+0.5**
TRWZ	**Traveller**	**1.98**	**118**	P	**Pn**	**16 46 26.7**	**+0.5**
PRWZ	**Pori Road**	**1.99**	**92**	Pn	**Pn**	**16 46 27.0**	**+0.6**
PRWZ	**Pori Road**	**1.99**	**92**	P	**Pn**	**16 46 27.0**	**+0.6**
TMWZ	**Te Maipa**	**2.01**	**108**	Pn	**Pn**	**16 46 27.1**	**+0.5**
TMWZ	**Te Maipa**	**2.01**	**108**	P	**Pn**	**16 46 27.1**	**+0.5**
TSZ	**Takapari Road**	**2.04**	**78**	Pn	**Pn**	**16 46 26.6**	**-0.3**
TSZ	**Takapari Road**	**2.04**	**78**	P	**Pn**	**16 46 26.9**	**0.0**
WNVZ	**Wahianoa**	**2.08**	**56**	Pn	**Pn**	**16 46 27.0**	**-0.6**
DRZ	**Dome Shelter**	**2.09**	**55**	Pn	**Pn**	**16 46 28.3**	**+0.5**
DRZ	**Dome Shelter**	**2.09**	**55**	P	**Pn**	**16 46 28.4**	**+0.5**
FWVZ	**Far West T-bar**	**2.10**	**54**	Pn	**Pn**	**16 46 27.1**	**-0.7**
FWVZ	**Far West T-bar**	**2.10**	**54**	P	**Pn**	**16 46 27.1**	**-0.7**
WHVZ	**Whangaehu Hut**	**2.10**	**55**	Pn	**Pn**	**16 46 27.3**	**-0.5**
WHVZ	**Whangaehu Hut**	**2.10**	**55**	P	**Pn**	**16 46 27.4**	**-0.5**
COVZ	**Chateau Observ**	**2.13**	**53**	P	**Pn**	**16 46 27.3**	**-0.6**
MOVZ	**Moawhango**	**2.14**	**60**	Pn	**Pn**	**16 46 27.2**	**-0.8**
MOVZ	**Moawhango**	**2.14**	**60**	P	**Pn**	**16 46 27.3**	**-0.8**
TWVZ	**Taurewa**	**2.15**	**49**	Pn	**Pn**	**16 46 27.3**	**-0.9**
TWVZ	**Taurewa**	**2.15**	**49**	P	**Pn**	**16 46 27.4**	**-0.8**
DVHZ	**Dannevirke**	**2.15**	**85**	Pn	**Pn**	**16 46 28.2**	**+0.1**
DVHZ	**Dannevirke**	**2.15**	**85**	P	**Pn**	**16 46 28.2**	**+0.1**
TUVZ	**Tukino**	**2.15**	**56**	Pn	**Pn**	**16 46 27.9**	**-0.4**
TUVZ	**Tukino**	**2.15**	**56**	P	**Pn**	**16 46 27.9**	**-0.4**
NGZ	**Ngauruhoe**	**2.18**	**53**	Pn	**Pn**	**16 46 27.8**	**-0.7**
NGZ	**Ngauruhoe**	**2.18**	**53**	P	**Pn**	**16 46 27.8**	**-0.7**
CPWZ	**Castlepoint**	**2.20**	**102**	Pn	**Pn**	**16 46 29.6**	**+1.0**
CPWZ	**Castlepoint**	**2.20**	**102**	P	**Pn**	**16 46 29.7**	**+1.1**
BFZ	**Birch Farm**	**2.21**	**96**	*e*Pn	**Pn**	**16 46 29.0**	**+0.4**
BFZ	**Birch Farm**	**2.21**	**96**	P	**Pn**	**16 46 29.1**	**+0.4**
WTVZ	**West Tongariro**	**2.21**	**52**	Pn	**Pn**	**16 46 28.2**	**-0.7**
WTVZ	**West Tongariro**	**2.21**	**52**	P	**Pn**	**16 46 28.2**	**-0.7**
OTVZ	**Oturere**	**2.22**	**54**	Pn	**Pn**	**16 46 28.5**	**-0.6**
KRVZ	**Karewarewa**	**2.25**	**52**	Pn	**Pn**	**16 46 28.5**	**-0.8**
KRVZ	**Karewarewa**	**2.25**	**52**	P	**Pn**	**16 46 28.6**	**-0.8**
PNHZ	**Pukenui**	**2.25**	**76**	Pn	**Pn**	**16 46 29.1**	**-0.1**
PNHZ	**Pukenui**	**2.25**	**76**	P	**Pn**	**16 46 29.1**	**-0.1**
HIZ	**Hauiti**	**2.30**	**31**	Pn	**Pn**	**16 46 28.9**	**-0.8**
HIZ	**Hauiti**	**2.30**	**31**	P	**Pn**	**16 46 29.0**	**-0.8**
BHHZ	**Black Hill Sta**	**2.31**	**65**	Pn	**Pn**	**16 46 29.2**	**-0.7**
BHHZ	**Black Hill Sta**	**2.31**	**65**	P	**Pn**	**16 46 29.3**	**-0.6**
KATZ	**Kakaramea**	**2.36**	**50**	Pn	**Pn**	**16 46 30.0**	**-0.6**
KATZ	**Kakaramea**	**2.36**	**50**	P	**Pn**	**16 46 30.0**	**-0.6**
ANWZ	**Angora Road**	**2.38**	**90**	P	**Pn**	**16 46 31.0**	**+0.5**
WPHZ	**Waipukurau**	**2.40**	**80**	Pn	**Pn**	**16 46 31.0**	**+0.3**
WPHZ	**Waipukurau**	**2.40**	**80**	P	**Pn**	**16 46 31.1**	**+0.3**
LTZ	**Lake Taylor**	**2.42**	**199**	Pn	**Pn**	**16 46 31.4**	**+0.4**
LTZ	**Lake Taylor**	**2.42**	**199**	P	**Pn**	**16 46 31.5**	**+0.4**
RITZ	**Rihia Road**	**2.46**	**52**	Pn	**Pn**	**16 46 31.2**	**-0.3**
RITZ	**Rihia Road**	**2.46**	**52**	P	**Pn**	**16 46 31.3**	**-0.2**
KRHZ	**Kereru**	**2.46**	**71**	P	**Pn**	**16 46 31.2**	**-0.4**
RATZ	**Rangitukua**	**2.48**	**49**	Pn	**Pn**	**16 46 31.4**	**-0.4**
RATZ	**Rangitukua**	**2.48**	**49**	P	**Pn**	**16 46 31.6**	**-0.2**
PRHZ	**Porangahau**	**2.51**	**86**	Pn	**Pn**	**16 46 32.4**	**+0.3**
PRHZ	**Porangahau**	**2.51**	**86**	P	**Pn**	**16 46 32.6**	**+0.5**
WATZ	**Wairara**	**2.56**	**46**	Pn	**Pn**	**16 46 32.4**	**-0.3**
WATZ	**Wairara**	**2.56**	**46**	P	**Pn**	**16 46 32.6**	**-0.2**
KWHZ	**Kaweka Forest**	**2.59**	**66**	P	**Pn**	**16 46 32.8**	**-0.3**
INZ	**Inchbonnie**	**2.64**	**212**	P	**Pn**	**16 46 33.5**	**0.0**
PXZ	**Pawanui**	**2.72**	**81**	Pn	**Pn**	**16 46 34.6**	**+0.1**
PXZ	**Pawanui**	**2.72**	**81**	P	**Pn**	**16 46 34.7**	**+0.2**
TLZ	**Tolley Road**	**2.75**	**39**	Pn	**Pn**	**16 46 33.7**	**-1.1**
TLZ	**Tolley Road**	**2.75**	**39**	P	**Pn**	**16 46 33.8**	**-1.1**
BKZ	**Black Stump Fm**	**2.76**	**62**	Pn	**Pn**	**16 46 34.0**	**-1.0**
BKZ	**Black Stump Fm**	**2.76**	**62**	P	**Pn**	**16 46 34.0**	**-1.0**
KUTZ	**Kaahu Road**	**2.77**	**44**	P	**Pn**	**16 46 34.9**	**-0.3**
MCHZ	**McNeill Hill**	**2.77**	**69**	Pn	**Pn**	**16 46 35.1**	**0.0**
MCHZ	**McNeill Hill**	**2.77**	**69**	P	**Pn**	**16 46 35.2**	**0.0**
KAHZ	**Kahuranaki**	**2.79**	**76**	Pn	**Pn**	**16 46 35.5**	**+0.2**
KAHZ	**Kahuranaki**	**2.79**	**76**	P	**Pn**	**16 46 35.5**	**+0.2**
MRHZ	**Matea Rd**	**2.89**	**56**	P	**Pn**	**16 46 35.2**	**-1.4**
CKHZ	**Cape Kidnapper**	**2.98**	**75**	P	**Pn**	**16 46 37.6**	**+0.1**
OXZ	**Oxford**	**2.99**	**199**	Pn	**Pn**	**16 46 37.2**	**-0.4**
OXZ	**Oxford**	**2.99**	**199**	P	**Pn**	**16 46 37.2**	**-0.4**
EYCZ	**Eyrewell**	**3.01**	**194**	P	**Pn**	**16 46 37.8**	**0.0**
ARHZ	**Aropaoanui**	**3.06**	**67**	Pn	**Pn**	**16 46 38.3**	**-0.3**
ARHZ	**Aropaoanui**	**3.06**	**67**	P	**Pn**	**16 46 38.2**	**-0.3**
CRLZ	**Canterbury Las**	**3.12**	**190**	Pn	**Pn**	**16 46 38.8**	**-0.3**
CRLZ	**Canterbury Las**	**3.12**	**190**	P	**Pn**	**16 46 38.8**	**-0.3**
MTHZ	**Maungataniwha**	**3.15**	**60**	P	**Pn**	**16 46 38.5**	**-1.2**
WVZ	**Waitaha Valley**	**3.23**	**216**	Pn	**Pn**	**16 46 40.0**	**-0.4**
WVZ	**Waitaha Valley**	**3.23**	**216**	P	**Pn**	**16 46 40.1**	**-0.4**
MQZ	**McQueen's Vall**	**3.24**	**189**	Pn	**Pn**	**16 46 39.4**	**-1.2**
MQZ	**McQueen's Vall**	**3.24**	**189**	P	**Pn**	**16 46 39.5**	**-1.2**
RAHZ	**Arahi**	**3.28**	**62**	P	**Pn**	**16 46 40.7**	**-0.5**
WHHZ	**Waihua**	**3.31**	**66**	P	**Pn**	**16 46 41.7**	**+0.2**
MUGZ	**Murupara**	**3.33**	**54**	P	**Pn**	**16 46 41.5**	**-0.3**
RTZ	**Ruatahuna**	**3.38**	**57**	P	**Pn**	**16 46 41.0**	**-1.4**
SNGZ	**Shannon Statio**	**3.52**	**62**	Pn	**Pn**	**16 46 44.8**	**+0.7**
SNGZ	**Shannon Statio**	**3.52**	**62**	P	**Pn**	**16 46 44.9**	**+0.7**
RPZ	**Rata Peaks**	**3.64**	**207**	P	**Pn**	**16 46 44.9**	**-0.7**
	24nm,0.3s,baz=287,slow=1.9,SNR=213						
RPZ				S	**Sn**	**16 47 26.1**	**-4.1**
	32nm,0.3s,baz=322,slow=22,SNR=23						
RPZ	**Rata Peaks**	**3.64**	**207**	P	**Pn**	**16 46 44.8**	**-0.7**
KNZ	**Kokohu**	**3.64**	**67**	Pn	**Pn**	**16 46 44.6**	**-0.9**
KNZ	**Kokohu**	**3.64**	**67**	P	**Pn**	**16 46 44.7**	**-0.9**
URZ	**Urewera**	**3.67**	**54**	P	**Pn**	**16 46 44.1**	**-1.9**
	9.8nm,0.3s,baz=242,slow=7.5,SNR=62						
URZ				S	**Sn**	**16 47 26.2**	**-4.6**
	18nm,0.3s,baz=57,slow=16,SNR=24						
URZ	**Urewera**	**3.67**	**54**	Pn	**Pn**	**16 46 44.2**	**-1.7**
URZ	**Urewera**	**3.67**	**54**	P	**Pn**	**16 46 44.4**	**-1.6**
MKAZ	**Moumakai**	**3.67**	**23**	P	**Pn**	**16 46 45.8**	**-0.2**
MKAZ	**Moumakai**	**3.67**	**23**	P	**Pn**	**16 46 45.8**	**-0.2**
RAGZ	**Rawiri**	**3.72**	**59**	Pn	**Pn**	**16 46 47.1**	**+0.3**
RAGZ	**Rawiri**	**3.72**	**59**	P	**Pn**	**16 46 47.5**	**+0.8**
MHGZ	**Mahia Peninsul**	**3.75**	**70**	Pn	**Pn**	**16 46 46.7**	**-0.3**
MHGZ	**Mahia Peninsul**	**3.75**	**70**	P	**Pn**	**16 46 47.1**	**+0.1**
PRGZ	**Paritu Road**	**3.83**	**67**	Pn	**Pn**	**16 46 47.1**	**-0.9**
PRGZ	**Paritu Road**	**3.83**	**67**	P	**Pn**	**16 46 47.1**	**-0.9**
RIGZ	**Rimuhau**	**3.85**	**64**	P	**Pn**	**16 46 47.3**	**-0.9**
MWZ	**Matawai**	**3.89**	**57**	Pn	**Pn**	**16 46 47.1**	**-1.6**
MWZ	**Matawai**	**3.89**	**57**	P	**Pn**	**16 46 47.1**	**-1.6**
WIAZ	**Waiheke Island**	**3.96**	**21**	P	**Pn**	**16 46 49.7**	**+0.1**
FOZ	**Fox Glacier**	**4.02**	**220**	Pn	**Pn**	**16 46 49.2**	**-0.9**
FOZ	**Fox Glacier**	**4.02**	**220**	P	**Pn**	**16 46 49.3**	**-0.9**

TKGZ	**Te Karaka**	**4.04**	**61**	Pn	**Pn**	**16 46 49.7**	**-0.9**
TKGZ	**Te Karaka**	**4.04**	**61**	P	**Pn**	**16 46 49.9**	**-0.7**
RUGZ	**Raukumara Rang**	**4.20**	**54**	P	**Pn**	**16 46 50.5**	**-2.3**
CNGZ	**Carnagh Statio**	**4.26**	**63**	Pn	**Pn**	**16 46 52.8**	**-0.5**
CNGZ	**Carnagh Statio**	**4.26**	**63**	P	**Pn**	**16 46 52.8**	**-0.5**
TWGZ	**Tauwhareparae**	**4.27**	**59**	P	**Pn**	**16 46 52.6**	**-1.0**
HAZ	**Te Kaha**	**4.40**	**53**	P	**Pn**	**16 46 52.7**	**-2.5**
PKGZ	**Pakihiroa**	**4.50**	**56**	P	**Pn**	**16 46 55.2**	**-1.3**
PUZ	**Puketiti**	**4.51**	**59**	Pn	**Pn**	**16 46 54.6**	**-2.0**
PUZ	**Puketiti**	**4.51**	**59**	P	**Pn**	**16 46 54.9**	**-1.7**
LBZ	**Lake Benmore**	**4.54**	**210**	Pn	**Pn**	**16 46 55.9**	**-0.9**
LBZ	**Lake Benmore**	**4.54**	**210**	P	**Pn**	**16 46 55.9**	**-0.9**
WCZ	**Waipu Caves**	**4.62**	**10**	P	**Pn**	**16 46 58.1**	**+0.1**
WMGZ	**Waiomatatini S**	**4.76**	**57**	Pn	**Pn**	**16 46 57.7**	**-2.0**
WMGZ	**Waiomatatini S**	**4.76**	**57**	P	**Pn**	**16 46 57.8**	**-2.0**
MXZ	**Matakaoa Point**	**4.84**	**54**	*e*Pn	**Pn**	**16 47 01.5**	**+0.7**
JCZ	**Jackson Bay**	**4.92**	**222**	Pn	**Pn**	**16 47 00.8**	**-1.0**
JCZ	**Jackson Bay**	**4.92**	**222**	P	**Pn**	**16 47 01.2**	**-0.6**
ODZ	**Otahua Downs**	**4.96**	**203**	Pn	**Pn**	**16 47 01.8**	**-0.4**
ODZ	**Otahua Downs**	**4.96**	**203**	P	**Pn**	**16 47 01.9**	**-0.3**
OUZ	**Omahuta**	**5.28**	**2**	*e*Pn	**Pn**	**16 47 07.9**	**+1.5**
WKZ	**Wanaka**	**5.38**	**215**	Pn	**Pn**	**16 47 05.8**	**-1.8**
EAZ	**Earnscleugh**	**5.58**	**211**	Pn	**Pn**	**16 47 08.5**	**-1.8**
MSZ	**Milford Sound**	**5.78**	**222**	Pn	**Pn**	**16 47 11.9**	**-0.9**
TUZ	**Tuapeka**	**6.09**	**205**	Pn	**Pn**	**16 47 16.3**	**-0.5**
MLZ	**Mavora Lakes**	**6.20**	**217**	*e*Pn	**Pn**	**16 47 16.4**	**-1.9**
WHZ	**Wether Hill Ro**	**6.68**	**214**	*e*Pn	**Pn**	**16 47 22.8**	**-1.7**
DCZ	**Deep Cove**	**6.73**	**220**	*e*Pn	**Pn**	**16 47 21.3**	**-3.8**
APZ	**The Paps**	**7.43**	**210**	Pn	**Pn**	**16 47 33.0**	**-1.3**
ASAR	**Alice Springs**	**37.05**	**285**	P	**P**	**16 52 41.4**	**+0.9**
	1.1nm,0.4s,baz=128,slow=7.0,SNR=75						
ASAR				PcP	**PcP**	**16 54 56.9**	**0.0**
	0.4nm,0.6s,baz=130,slow=3.8,SNR=6.2						
WRA	**Warramunga Arr**	**39.04**	**290**	P	**P**	**16 52 57.9**	**+0.9**
	2.3nm,0.5s,baz=126,slow=8.3,SNR=57						
KSRS	**Korea Array**	**88.05**	**325**	P	**P**	**16 58 19.1**	**+2.2**
	1.2nm,0.7s,baz=140,slow=5.0,SNR=5.1						
CMAR	**Chiang Mai Arr**	**90.53**	**294**	P	**P**	**16 58 30.6**	**+1.6**
	0.6nm,0.5s,baz=142,slow=3.9,SNR=8.5						
ARCES	**ARCESS Array B**	**146.38**	**340**	PKPbc	**PKPbc**	**17 05 06.1**	**+0.3**
	1.4nm,0.8s,baz=29,slow=2.4,SNR=6.7						
FINES	**FINESS Array B**	**151.12**	**327**	PKPbc	**PKPbc**	**17 05 17.1**	**-0.9**
	1.9nm,0.9s,baz=99,slow=4.4,SNR=2.9						
FINES				PKPab	**PKPab**	**17 05 25.8**	**-0.8**
	0.4nm,0.4s,baz=84,slow=7.9,SNR=5.5						
HFS	**Hagfors**	**156.63**	**334**	PKPab	**PKPab**	**17 05 49.3**	**-0.7**
	1.9nm,0.9s,baz=132,slow=6.4,SNR=4.0						

MEX 04 16:49:11.4±0.5**, 14°.47N×92°.44W, h66^{km}**±10^{km}**, MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**0.47**	**21**	*e*P	Pn	16 49 22.2	-1.3
THIG				*e*S	Sn	16 49 30.9	-1.5
PCIG		**1.44**	**329**	*e*P	Pn	16 49 34.3	-1.2
PCIG				*e*S	Sn	16 49 51.6	-1.9
CCIG	**Comitan**	**1.82**	**9**	*e*P	Pn	16 49 39.8	-1.0
CCIG				*i* S	Sn	16 50 01.2	-1.9
TGIG		**2.39**	**344**	*i* P	Pn	16 49 48.0	-0.3
TGIG				*i* S	Sn	16 50 15.5	-1.0

MAN 04 16:52:06, 10°.40N×125°.16E, h4^{km}, mb4.2, ML3.0, MS2.7, 3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.39**	**229**	*e*P	Pg	16 52 14.3	+0.8
MSLP				*e*S	Sb	16 52 23.6	+1.7
SCPH	**Surigao**	**0.69**	**152**	⇓*e*P	Pg	16 52 19.8	+0.5
PLP	**Palo**	**0.79**	**347**	⇓*e*P	Pb	16 52 21.9	-0.4
PLP				*e*S	Sb	16 52 34.3	+1.1
OCLP	**Ormoc**	**0.85**	**320**	*e*P	Pb	16 52 23.4	+0.1
OCLP				*e*S	Sn	16 52 38.4	+0.8
LLP	**Lapu-Lapu**	**1.17**	**266**	⇓*e*P	Pg	16 52 28.2	-0.3
LLP				*e*S	Sn	16 52 45.9	+0.2
BESP	**Borongan**	**1.23**	**13**	*e*P	Pg	16 52 28.8	-0.8
BESP				*e*S	Sn	16 52 47.5	+0.5
TBP	**Tagbilaran**	**1.46**	**241**	*e*P	Pg	16 52 35.9	+2.0
BUKP	**Musuan**	**2.50**	**182**	*e*P	Pn	16 52 49.2	+1.7
BUKP				*e*S	Sg	16 53 26.1	-0.4
GUIM	**Jordan**	**2.54**	**275**	*e*P	Pn	16 52 49.8	+1.9
GUIM				*e*S	Sn	16 53 20.9	+1.6

JMA 04 16:58:23.0, 36°.82N×138°.58E, h8^{km}±2^{km}**, M0.8, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JGK	**Kuni**	**0.26**	**169**	P	Pg	16 58 28.5	+0.3
MAT	**Matsushiro**	**0.41**	**227**	P	Pg	16 58 30.6	-0.4
MAT				S	Sg	16 58 35.9	-0.4
MAT	**Matsushiro**	**0.41**	**227**	P	Pg	16 58 30.7	-0.3
MAT				S	Sg	16 58 35.9	-0.4
JNG	**Nsakai**	**0.56**	**223**	P	Pg	16 58 33.6	-0.3
JNG				S	Sg	16 58 40.9	-0.4

IDC ***04*** *17:01:49.5±1.7, 36°.27N×142°.63E, h0^{km}, mb3.2/2, mb1 3.4/4, mb1mx3.2/62, mbtmp3.2/4, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/25, Error ellipse: s-maj=50.4km s-min=25.6km az=85.0*

ISCJB ***04*** *17:01:51.8±1.1, 36°.30N±0°.07×142°.6E±0°.2, h35^{km}, mb3.3/5, MS3.3/1, Error ellipse: s-maj=19.1km s-min=10.0km az=13.5*

ISC 04 17:01:52.9±1.6**, 36°.2N**±0°.1×**142°.6E**±0°.2**, h35^{km}, n15, σ1^{s}25**/8**, mb3.3**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.54**	**277**	Pn	**Pn**	**17 02 45.7**	**+0.3**
	1.0nm,0.3s,baz=91,slow=15,SNR=13						
MAT	**Matsushiro**	**3.55**	**277**	P	**Pn**	**17 02 45.7**	**+0.3**
ASAJ	**Asahikawa**	**7.90**	**0**	Pn	**Pn**	**17 03 45.0**	**-0.1**
	0.4nm,0.3s,baz=284,slow=7.1,SNR=8.3						
ASAJ				Sn	**Sn**	**17 05 14.3**	**+1.1**
	baz=165,slow=20,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**26.92**	**121**	T	T	17 35 41.0	
	baz=312,slow=76,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**26.93**	**121**	T	T	17 35 37.9	
	baz=312,slow=76,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**26.94**	**121**	T	T	17 35 33.2	
	baz=312,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**27.62**	**123**	T	T	17 36 32.5	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**27.62**	**123**	T	T	17 36 32.3	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**27.64**	**123**	T	T	17 36 32.9	
	baz=314						
SONM	**Songino Array**	**29.03**	**305**	P	**P**	**17 07 50.8**	**+1.2**
	0.4nm,0.5s,baz=106,slow=9.4,SNR=5.0						
SONM				pP	**sP**	**17 08 02.3**	**-1.5**
	0.6nm,0.6s,baz=109,slow=8.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**43.16**	**313**	P	**P**	**17 09 48.4**	**-1.5**
	0.2nm,0.4s,baz=74,slow=7.7,SNR=2.2						
MKAR	**Makanchi Array**	**45.35**	**303**	P	P	17 10 09.3	+1.8
	0.4nm,0.7s,baz=91,slow=11,SNR=6.5						
MKAR				pP	sP	17 10 23.1	+0.9
	0.8nm,0.7s,baz=88,slow=10.0,SNR=7.0						
HNR	**Honiara**	**48.25**	**157**	LR	LR	17 31 31.6	
	comp=Z,29nm,18.1s,baz=151,slow=37						
WRA	**Warramunga Arr**	**56.39**	**189**	P	**P**	**17 11 31.3**	**+0.5**
	0.3nm,0.9s,baz=13,slow=8.1,SNR=2.7						
ASAR	**Alice Springs**	**60.11**	**189**	P	P	17 12 00.8	+4.0
	0.3nm,1.1s,baz=9.0,slow=10,SNR=3.0						

JMA 04 17:02:18.3±0.3**, 41°.77N×143°.05E, h50^{km}**±4^{km}**, M0.2, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.26**	**18**	P	Pn	17 02 27.1	0.0
JEM				*e*S	Sn	17 02 33.0	-0.3
JNBK	**Urakawa-nobuka**	**0.56**	**337**	P	Pn	17 02 30.2	0.0
JNBK				*e*S	Sn	17 02 39.3	+0.5

NIED ***04*** *17:02:00, 38°.00N×141°.90E, h32^{km}, Mw3.5 Best double couple: $M_0$2.16000×10^{14} NP1:ϕ_s175.00000°, δ25.00000°, λ136.00000°. NP2:ϕ_s307.00000°, δ73.00000°, λ72.00000°.*

IDC ***04*** *17:02:22.7±2.6, 40°.59N×141°.24E, h47^{km}±9^{km}, mb3.2/5, mb1 3.4/6, mb1mx3.1/60, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=76.2km s-min=17.8km az=64.0*

JMA ***04*** *17:02:40.0±0.1, 38°.02N×141°.89E, h44^{km}±1^{km}, M3.7*

ISC 04 17:02:38.1±1.3**, 38°.00N**±0°.05×**142°.01E**±0°.08**, h30^{km}**±7^{km}**, n20, σ1^{s}15**/23**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.69**	**312**	P	**Pn**	**17 02 52.4**	**+0.5**
JIO				*e*S	**Sb**	**17 03 00.9**	**0.0**
JMM	**Marumori**	**0.97**	**263**	P	**Pb**	**17 02 56.0**	**-0.3**
JMM				*e*S	**Sn**	**17 03 06.9**	**-1.5**
JFK	**Kawauchi**	**1.09**	**235**	P	**Pn**	**17 02 57.8**	**+0.3**
JFK				*e*S	**Sn**	**17 03 10.8**	**-0.8**
JOU	**Okura**	**1.12**	**290**	P	**Pb**	**17 02 58.4**	**-0.5**
JOU				*e*S	**Sn**	**17 03 11.9**	**-0.3**
JMK	**Ichinoseki**	**1.14**	**327**	P	**Pb**	**17 02 58.8**	**-0.4**
JMK				*e*S	**Sn**	**17 03 12.5**	**-0.1**
JFT	**Otama**	**1.41**	**251**	*e*S	**Sn**	**17 03 19.8**	**+0.6**
JYS	**Shirataka**	**1.55**	**279**	P	**Pb**	**17 03 05.0**	**-1.1**
JYS				*e*S	**Sn**	**17 03 23.4**	**+0.7**
JOM	**Ohasama**	**1.58**	**340**	P	**Pn**	**17 03 05.3**	**+1.2**
JYK	**Kaneyama**	**1.59**	**306**	P	**Pn**	**17 03 05.2**	**+1.0**
JRG	**Rokugo**	**1.76**	**323**	P	**Pn**	**17 03 07.6**	**+1.0**
MJAR	**Matsushiro Arr**	**3.36**	**246**	P	**Pn**	**17 03 30.7**	**+2.1**
	2.3nm,0.3s,baz=55,slow=11,SNR=9.9						
MJAR				S	**Sb**	**17 04 17.6**	**+0.2**
	1.6nm,0.3s,baz=88,slow=15,SNR=3.3						
MAT	**Matsushiro**	**3.36**	**246**	P	**Pn**	**17 03 31.5**	**+2.9**
MAT				*e*S	**Sn**	**17 04 06.1**	**-1.4**
H11N2	**WAKE ISLAND Hy**	**28.26**	**123**	T	T	17 38 46.2	
	baz=315,slow=75,SNR=76						
H11N1	**WAKE ISLAND Hy**	**28.26**	**123**	T	T	17 38 46.8	
	baz=315,slow=75,SNR=89						
H11N3	**WAKE ISLAND Hy**	**28.27**	**123**	T	T	17 38 47.5	
	baz=315,slow=75,SNR=100						
H11S1	**WAKE ISLAND Hy**	**29.01**	**125**	T	T	17 39 47.2	
	baz=317,slow=76,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**29.01**	**125**	T	T	17 39 46.4	
	baz=317,slow=76,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**29.02**	**125**	T	T	17 39 47.8	
	baz=317,slow=76,SNR=42						
WRA	**Warramunga Arr**	**58.08**	**189**	P	**P**	**17 12 28.3**	**-0.3**
	0.9nm,0.7s,baz=6.9,slow=7.3,SNR=8.5						
WRA				pP	**sP**	**17 12 41.4**	**+0.1**
	0.4nm,0.6s,baz=5.2,slow=7.1,SNR=2.8						
ASAR	**Alice Springs**	**61.80**	**188**	P	**P**	**17 12 53.2**	**-1.0**
	0.2nm,0.8s,baz=352,slow=3.3,SNR=2.7						

DDA ***04*** *17:11:20.4, 38°.81N×44°.78E, h6^{km}, Ml3.1*

NSSP ***04*** *17:11:21.2, 38°.87N×44°.67E, h10^{km}, Ms3.2*

CSEM ***04*** *17:11:22.8±0.2, 38°.83N×44°.64E, h10^{km}, ML3.2, Error ellipse: s-maj=4.7km s-min=3.0km az=162.0*

ISCJB ***04*** *17:11:22.9±0.5, 38°.84N±0°.02×44°.66E±0°.02, h11^{km}±4^{km}, Error ellipse: s-maj=4.2km s-min=2.5km az=179.9*

TEH ***04*** *17:11:23.2, 38°.78N×44°.53E, h21^{km}, ML3.2*

ISK ***04*** *17:11:23.3, 38°.91N×44°.53E, h2^{km}, ML3.2/8*

ISC 04 17:11:22.7±1.1**, 38°.83N**±0°.02×**44°.63E**±0°.02**, h8^{km}**±9^{km}**, n51, σ0^{s}86**/88**, 17C-9D, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.64**	**300**	PG	**Pg**	**17 11 34.6**	**-0.4**
CLDR	**Caldiran**	**0.64**	**300**	*i* P	**Pg**	**17 11 33.6**	**-1.4**
CLDR				*i* S	**Sg**	**17 11 43.0**	**-0.4**
CLDR	**Caldiran**	**0.64**	**300**	P	**Pg**	**17 11 33.6**	**-1.4**
CLDR	**Caldiran**	**0.64**	**300**	*e*Pg	**Pg**	**17 11 34.6**	**-0.4**
CLDR				S	**Sg**	**17 11 43.0**	**-0.4**
NAX	**Nakhchivan**	**0.76**	**63**	P	**Pb**	**17 11 38.8**	**+0.6**
	SNR=22						
NAX				⇓S	**Sn**	**17 11 51.1**	**-0.4**
VMUR	**Van-Muradiye**	**0.84**	**281**	*i* P	**Pg**	**17 11 38.1**	**-0.8**
VMUR				*i* S	**Sg**	**17 11 50.4**	**+0.5**
VMUR	**Van-Muradiye**	**0.84**	**281**	P	**Pg**	**17 11 38.1**	**-0.8**
VMUR				S	**Sg**	**17 11 50.3**	**+0.5**
IMRD	**Marand**	**0.85**	**98**	*e*Pg	**Pb**	**17 11 40.1**	**+0.3**
IMRD				*e*Sg	**Sb**	**17 11 52.0**	**+0.6**
IMRD				*e*AMB	AMB	17 11 55.0	
	comp=Z,24μm,0.2s						
HYR	**Heyderabad**	**0.90**	**11**	⇑P	**Pb**	**17 11 40.9**	**+0.2**
	SNR=56						
HYR				⇑S	**Sn**	**17 11 54.5**	**-0.6**
SBZ	**Shahbuz**	**0.91**	**51**	P	**Pn**	**17 11 41.3**	**-0.7**
	SNR=14						
SBZ				⇑S	**Sn**	**17 11 55.6**	**+0.2**
BASK	**Baskale_VAN**	**0.92**	**213**	*e*P	**Pg**	**17 11 38.7**	**-1.6**
BASK				*e*S	**Sg**	**17 11 52.7**	**+0.4**
BASK	**Baskale_VAN**	**0.92**	**213**	P	**Pg**	**17 11 38.7**	**-1.6**
BASK				S	**Sg**	**17 11 52.7**	**+0.4**
ISHB	**Shabestar**	**0.95**	**125**	*e*Pg	**Pb**	**17 11 41.5**	**0.0**
ISHB				*e*Sg	**Sn**	**17 11 55.8**	**-0.6**
ISHB				*e*AMB	AMB	17 12 00.2	
	comp=Z,8μm,0.2s						
VANB	**Van**	**1.00**	**257**	PG	**Pb**	**17 11 42.5**	**+0.2**
VANB				SG	**Sn**	**17 11 56.7**	**-0.8**
VANB	**Van**	**1.00**	**257**	*e*Pg	**Pb**	**17 11 42.5**	**+0.2**
VANB				*e*Sg	**Sn**	**17 11 56.7**	**-0.8**
TVAN	**Van**	**1.00**	**253**	*i* P	**Pn**	**17 11 43.0**	**-0.3**
TVAN				*i* S	**Sn**	**17 11 57.9**	**+0.1**
TVAN	**Van**	**1.00**	**253**	P	**Pn**	**17 11 43.0**	**-0.3**
TVAN				S	**Sn**	**17 11 57.9**	**+0.1**
DYDN	**Diyadin**	**1.02**	**315**	*e*P	**Pg**	**17 11 42.2**	**-0.1**
DYDN				*e*S	**Sn**	**17 11 58.2**	**0.0**
DYDN	**Diyadin**	**1.02**	**315**	P	**Pg**	**17 11 42.2**	**-0.1**
DYDN				S	**Sn**	**17 11 58.2**	**0.0**
ORD	**Ordubad**	**1.07**	**84**	P	**Pn**	**17 11 44.0**	**-0.1**
	SNR=13						
ORD				⇓S	**Sn**	**17 11 59.2**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.19**	**345**	PN	**Pb**	**17 11 45.0**	**-0.6**
TASB				SN	**Sb**	**17 12 01.2**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.19**	**345**	*e*Pn	**Pb**	**17 11 45.0**	**-0.6**
TASB				*e*Sn	**Sb**	**17 12 01.2**	**0.0**
GNI	**Garni**	**1.32**	**4**	⇑*i*P	**Pb**	**17 11 47.8**	**0.0**
GNI				⇑*i*S	**Sg**	**17 12 07.0**	**+1.8**
GNI	**Garni**	**1.32**	**4**	⇑P	**Pb**	**17 11 47.8**	**0.0**
GNI				S	**Sg**	**17 12 07.0**	**+1.8**
ITBZ	**Tabriz**	**1.33**	**116**	*e*Pg	**Pb**	**17 11 48.0**	**0.0**
ITBZ				*e*AMB	AMB	17 11 52.2	
	comp=Z,2μm,0.2s						
ITBZ				*e*Sg	**Sg**	**17 12 06.6**	**+1.1**
GEVA	**Gevas**	**1.34**	**248**	*i* P	**Pb**	**17 11 48.2**	**+0.1**
GEVA				*i* S	**Sg**	**17 12 08.0**	**+2.3**
GEVA	**Gevas**	**1.34**	**248**	P	**Pb**	**17 11 48.2**	**+0.1**
GEVA				S	**Sg**	**17 12 07.9**	**+2.3**
HAKT	**HAKKARI**	**1.46**	**210**	*e*P	**Pn**	**17 11 49.6**	**-0.1**
HAKT				*e*S	**Sg**	**17 12 11.6**	**+1.9**
HAKT	**HAKKARI**	**1.46**	**210**	P	**Pn**	**17 11 49.6**	**-0.1**
HAKT				S	**Sg**	**17 12 11.6**	**+1.9**
AGRB	**Hanur-Agry**	**1.48**	**301**	PN	**Pb**	**17 11 50.2**	**-0.3**
AGRB	**Hanur-Agry**	**1.48**	**301**	*e*Pn	**Pb**	**17 11 50.2**	**-0.3**
GRS	**Goris**	**1.48**	**63**	⇓*i*P	**Pn**	**17 11 49.0**	**-0.8**
GRS				⇑*i*S	**Sn**	**17 12 09.0**	**-0.5**
GRS	**Goris**	**1.48**	**63**	⇓P	**Pn**	**17 11 49.0**	**-0.8**
GRS				S	**Sn**	**17 12 09.0**	**-0.5**
IHRS	**Heris**	**1.96**	**104**	*e*Pn	**Pn**	**17 11 56.4**	**0.0**
IHRS				*e*AMB	AMB	17 12 02.3	
	comp=Z,2μm,0.1s						
IHRS				*e*Sg	**Sg**	**17 12 27.7**	**+2.1**
GURO	**Guroymak-BITLI**	**2.05**	**263**	PN	**Pn**	**17 11 58.9**	**+1.2**
GURO	**Guroymak-BITLI**	**2.05**	**263**	*e*Pn	**Pn**	**17 11 58.9**	**+1.2**
GDB	**GEDABAY**	**2.08**	**24**	⇑P	**Pn**	**17 11 57.2**	**-0.8**
	SNR=32						
GDB				⇓S	**Sn**	**17 12 23.9**	**-0.3**
IBST	**Bostanabad**	**2.11**	**122**	*e*Sg	**Sb**	**17 12 28.8**	**+1.1**
KARS	**Kars**	**2.16**	**327**	PN	**Pn**	**17 11 59.6**	**+0.5**
KARS	**Kars**	**2.16**	**327**	*e*Pn	**Pn**	**17 11 59.6**	**+0.5**
SIRT	**Sirnak**	**2.18**	**233**	PN	**Pb**	**17 12 01.6**	**-0.8**
SIRT	**Sirnak**	**2.18**	**233**	*e*Pn	**Pb**	**17 12 01.6**	**-0.8**
GANJ	**Ganja**	**2.23**	**35**	⇓P	**Pn**	**17 11 59.4**	**-0.7**
	SNR=22						
GANJ				⇑S	**Sn**	**17 12 28.1**	**+0.2**
QZX	**Qazax, Azerbai**	**2.30**	**14**	⇓P	**Pn**	**17 11 59.8**	**-1.1**
	SNR=18						
QZX				⇑S	**Sn**	**17 12 28.7**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.47**	**315**	PN	**Pn**	**17 12 04.3**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.47**	**315**	*e*Pn	**Pn**	**17 12 04.3**	**+0.9**
LRK	**Lerik**	**2.91**	**93**	⇑P	**Pn**	**17 12 08.7**	**-0.7**
LRK				⇑S	**Sn**	**17 12 44.1**	**-0.6**
GLBA	**Clilabad**	**2.96**	**81**	⇑P	**Pn**	**17 12 09.2**	**-0.8**
	SNR=6.7						
GLBA				⇑S	**Sn**	**17 12 45.6**	**-0.1**
LKRN	**Lenkeran, Azer**	**3.25**	**91**	⇑P	**Pn**	**17 12 13.0**	**-0.9**
	SNR=3.3						
LKRN				⇑S	**Sn**	**17 12 52.5**	**-0.2**
QBL	**Gabala**	**3.25**	**48**	⇓S	**Sn**	**17 12 53.0**	**+0.1**
ASTR	**Astara**	**3.27**	**93**	⇓P	**Pn**	**17 12 13.3**	**-0.9**
ASTR				⇑S	**Sn**	**17 12 53.1**	**-0.2**

ISCJB ***04*** *17:11:43.6±0.2, 30°.18N±0°.03×101°.73E±0°.03, h10^{km}, mb4.0/37, MS3.5/13, Error ellipse: s-maj=4.5km s-min=3.5km az=157.8*

IDC ***04*** *17:11:43.2±0.5, 30°.04N×101°.72E, h0^{km}, mb4.0/30, mb1 4.1/32, mb1mx4.0/73, mbtmp4.0/32, ML3.3/2, MS3.6/14, Ms1 3.7/14, ms1mx3.4/61, Error ellipse: s-maj=14.6km s-min=11.1km az=40.0*

BJI ***04*** *17:11:45.6, 30°.10N×101°.80E, h5^{km}, mb4.2/18, mB4.3/2, ML4.3/18, Ms4.1/17, Ms7 4.1/16*

NEIC ***04*** *17:11:45.4±0.3, 30°.17N×101°.77E, h10^{km}, mb4.3/6, ML4.3(BJI), Error ellipse: s-maj=6.2km s-min=5.9km az=81.0*

ISC 04 17:11:45.6±0.4**, 30°.19N**±0°.03×**101°.78E**±0°.04**, h10^{km}, n109, σ2^{s}03**/117**, mb4.2**/41**, MS3.6**/13**, 1C-2D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.85**	**67**	⇓*i*Pg	**Pb**	**17 12 19.5**	**-0.1**
CD2				Sg	**Sb**	**17 12 43.0**	**+0.1**
CD2				smax	smax		
	comp=N,9μm,0.6s						
CD2				smax	smax		
	comp=E,12μm,0.6s						
CD2	**Chengdu**	**1.85**	**67**	⇓*i*Pg	**Pb**	**17 12 19.5**	**-0.1**
CD2				Sg	**Sb**	**17 12 43.0**	**+0.1**
GYA	**Guiyang**	**5.69**	**130**	Pn	**Pn**	**17 13 11.4**	**+1.0**
GYA				Sn	**Sn**	**17 14 17.5**	**+1.7**
GYA				Sg	**Sb**	**17 14 37.5**	**+4.1**
GYA				smax	smax		
	comp=N,330nm,0.9s						
GYA				smax	smax		
	comp=E,270nm,0.8s						
GYA	**Guiyang**	**5.69**	**130**	Pn	**Pn**	**17 13 11.4**	**+1.0**
GYA				Sn	**Sn**	**17 14 17.5**	**+1.7**
GYA				Sg	**Sb**	**17 14 37.5**	**+4.1**
LZH	**Lanzhou**	**6.13**	**16**	*e*Pn	**Pn**	**17 13 19.4**	**+3.0**
LZH				Pg	**Pb**	**17 13 36.9**	**+4.3**
LZH				Sn	**Sn**	**17 14 34.4**	**+7.7**
LZH				Sg	**Sg**	**17 15 00.1**	**-2.3**
LZH				smax	smax		
	comp=N,120nm,1.1s						
LZH				smax	smax		
	comp=E,460nm,1.8s						
LZH				LR	LR		
	comp=N,1μm,6.0s						
LZH				LR	LR		
	comp=E,1μm,4.4s						
LZH				LR	LR		
	comp=Z,750nm,7.4s						
LZH	**Lanzhou**	**6.13**	**16**	*e*Pn	**Pn**	**17 13 19.4**	**+3.0**
LZH				Pg	**Pb**	**17 13 36.9**	**+4.3**
LZH				Sn	**Sn**	**17 14 34.4**	**+7.7**
LZH				Sg	**Sg**	**17 15 00.1**	**-2.3**
ENH	**Enshi**	**6.67**	**87**	*e*Pn	**Pn**	**17 13 25.6**	**+1.8**
XAN	**Xi'an**	**7.17**	**56**	Pn	**Pn**	**17 13 31.2**	**+0.6**
XAN				Pg	Pb	17 13 56.7	+6.4
XAN				Sn	**Sn**	**17 14 52.4**	**+0.2**
XAN				Sg	**Sg**	**17 15 32.9**	**-2.9**
XAN				smax	smax		
	comp=N,360nm,0.9s						
XAN				smax	smax		
	comp=E,280nm,0.8s						
XAN				LR	LR		
	comp=N,3μm,9.9s						
XAN				LR	LR		
	comp=E,1μm,11.3s						
XAN				LR	LR		
	comp=Z,600nm,18.0s						
XAN	**Xi'an**	**7.17**	**56**	Pn	**Pn**	**17 13 31.2**	**+0.6**
XAN				Pg	Pb	17 13 56.7	+6.4
XAN				Sn	**Sn**	**17 14 52.4**	**+0.2**
XAN				Sg	**Sg**	**17 15 32.9**	**-2.9**
LSA	**Lhasa**	**9.23**	**270**	*e*Pn	**Pn**	**17 14 01.3**	**+2.0**
GTA	**Gaotai**	**9.34**	**351**	P	Pn	17 14 07.7	+7.3
GTA				pP		17 14 11.0	
GTA				sP		17 14 13.7	
GTA				S	Sn	17 15 58.7	+13
GTA				sS		17 16 04.4	
GTA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
GTA				LR	LR		
	comp=E,550nm,10.0s						
GTA				LR	LR		
	comp=Z,950nm,10.0s						
SHL	**Shillong**	**9.89**	**245**	*e*P	**Pn**	**17 14 07.0**	**-1.1**
SHL				IAmb	IAmb	17 14 18.5	
	comp=Z,14nm,1.3s						
SHL				*e*x	x	17 17 02.0	
CMAI	**Chiengmai2**	**10.51**	**194**	P	**Pn**	**17 14 19.9**	**+3.3**
	comp=Z,3μm,1.1s						
WHN	**Wuhan**	**10.87**	**85**	⇑P	Pn	17 14 33.0	+12
WHN				S	**Sn**	**17 16 18.1**	**-4.8**
CHTO	**Chiang Mai**	**11.62**	**193**	P	**Pn**	**17 14 34.5**	**+2.9**
	comp=Z,67nm,1.7s						
CHTO	**Chiang Mai**	**11.62**	**193**	*e*Pn	**Pn**	**17 14 33.9**	**+2.3**
CMMT	**Chiang Mai**	**11.62**	**193**	P	**Pn**	**17 14 33.5**	**+1.9**
	comp=Z,7.5nm,0.9s						
CM31	**Chiang Mai Arr**	**11.96**	**193**	*e*Pn	**Pn**	**17 14 36.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**11.96**	**193**	Pn	**Pn**	**17 14 33.7**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=7.7,slow=12,SNR=3.2						
CMAR				Lg	Lg	17 18 01.6	
	comp=Z,0.1nm,0.3s,baz=14,slow=30,SNR=2.8						
CMAR				LR	LR	17 19 54.7	
	comp=Z,121nm,18.8s,baz=20,slow=42						
CM01	**Chiang Mai Arr**	**12.00**	**193**	*e*Pn	**Pn**	**17 14 38.2**	**+1.4**
TAPN	**Taplejung**	**12.66**	**261**	*e*P	**Pn**	**17 14 45.8**	**-0.3**
	comp=Z,37nm,1.0s						
PHIT	**Phitsanulok**	**13.00**	**186**	P	**Pn**	**17 14 54.8**	**+4.3**
	comp=Z,10nm,0.9s						
ODAN	**Odare**	**13.08**	**259**	*e*P	**Pn**	**17 14 50.8**	**-1.0**
	comp=Z,27nm,0.8s						
SKNT	**Sakolnakorn**	**13.31**	**171**	P	**P**	**17 15 06.0**	**+1.5**
RAMN	**Ramite**	**13.72**	**260**	*e*P	**Pn**	**17 14 59.0**	**-1.6**
	comp=Z,22nm,0.8s						
KHON	**Khomkaen**	**13.82**	**176**	P	**Pn**	**17 15 03.8**	**+2.1**
	comp=Z,13nm,0.9s						
JIRN	**Jiri**	**13.88**	**263**	*e*P	**Pn**	**17 15 01.7**	**-1.2**
	comp=Z,43nm,0.8s						
GUN	**Gumba**	**14.09**	**265**	*e*P	**Pn**	**17 15 04.4**	**-1.3**
	comp=Z,47nm,0.9s						
CHAI	**Chaiyaphum**	**14.22**	**179**	P	**P**	**17 15 14.7**	**0.0**
	comp=Z,4.5nm,0.9s,comp=Z,91nm						
PKI	**Pulchoki**	**14.58**	**264**	*e*P	**Pn**	**17 15 10.2**	**-2.1**
	comp=Z,21nm,0.6s						
PKIN	**Phulchoki**	**14.59**	**264**	*e*P	**Pn**	**17 15 10.8**	**-1.6**
	comp=Z,28nm,0.7s						
KKN	**Kakani**	**14.64**	**265**	*e*P	**Pn**	**17 15 10.7**	**-2.4**
	comp=Z,32nm,0.8s						
UTHA	**Uthaitani**	**14.72**	**189**	P	**P**	**17 15 23.0**	**+2.8**
DMN	**Daman**	**14.83**	**264**	*e*P	**Pn**	**17 15 13.5**	**-2.2**
	comp=Z,20nm,0.7s						
UBPT	**Khong Chiam**	**15.22**	**166**	P	**P**	**17 15 24.7**	**-1.1**
	comp=Z,30nm,1.0s						
BOK	**Bokaro**	**15.53**	**250**	*e*P	**Pn**	**17 15 24.1**	**-0.6**
DANN	**Dangsing**	**15.83**	**268**	*e*P	**Pn**	**17 15 26.5**	**-2.5**
	comp=Z,2.5nm,0.9s						
SRDT	**SRDT**	**15.96**	**189**	P	**P**	**17 15 35.0**	**+1.1**
	comp=Z,18nm,1.2s,comp=Z,4μm						
KOLN	**Koldanda**	**16.09**	**266**	*e*P	**Pn**	**17 15 28.6**	**-3.6**
	comp=Z,33nm,1.0s						
PYUN	**Piuthan**	**16.55**	**267**	*e*P	**Pn**	**17 15 34.6**	**-3.5**
	comp=Z,65nm,1.0s						
WMQ	**Urumqi**	**17.62**	**324**	*e*P	**P**	**17 15 52.0**	**-0.2**
SONA0	**Songino Array**	**17.97**	**10**	*e*Pn	**P**	**17 15 57.0**	**+0.8**
SONM	**Songino Array**	**17.97**	**10**	P	**P**	**17 15 57.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=193,slow=12,SNR=24						
SONM				Lg	Lg	17 21 23.2	
	comp=Z,0.1nm,0.3s,baz=186,slow=26,SNR=3.1						
SONM				LR	LR	17 24 01.2	
	comp=Z,127nm,18.6s,baz=242,slow=41						
SONA1	**Songino Array**	**17.99**	**10**	*e*Pn	**Pn**	**17 15 55.0**	**-0.9**
ULN	**Ulaanbaatar**	**18.11**	**11**	*e*Pn	**P**	**17 15 58.7**	**+0.9**
	comp=Z,12nm,1.3s						

DGPR	**DIGLIPUR**	**18.81**	**208**	*e*P	**P**	**17 16 05.9**	**+0.5**
SMLA	**Simla**	**21.19**	**279**	*e*P	**P**	**17 16 31.4**	**+0.1**
SMLA				IAmb	IAmb	17 16 31.7	
	comp=Z,32nm,1.3s						
SURT	**Suratani**	**21.31**	**188**	P	P	17 16 41.8	+9.1
	comp=Z,12nm,0.8s						
DHRM	**DHARAMSHALA**	**21.87**	**282**	*e*P	**P**	**17 16 38.4**	**-0.6**
NGP	**Nagpur**	**22.34**	**252**	*e*P	**P**	**17 16 43.1**	**-0.7**
NGP				IAmb	IAmb	17 16 43.5	
	comp=Z,9.0nm,0.7s						
MK01	**Makanchi Array**	**22.41**	**323**	*e*P	**P**	**17 16 44.9**	**+0.6**
MK31	**Makanchi Array**	**22.43**	**323**	*e*P	**P**	**17 16 45.3**	**+0.8**
MK32	**Makanchi Array**	**22.43**	**323**	*e*P	**P**	**17 16 45.2**	**+0.6**
MKAR	**Makanchi Array**	**22.43**	**323**	P	**P**	**17 16 45.2**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=131,slow=14,SNR=27						
MKAR				LR	LR	17 26 34.9	
	comp=Z,158nm,19.4s,baz=128,slow=40						
TARG	**Taragay, Kyrgy**	**22.49**	**307**	*e*P	**P**	**17 16 42.7**	**-2.9**
	comp=Z,12nm,1.1s						
MAKZ	**Makanchi**	**22.60**	**323**	*e*P	**P**	**17 16 46.0**	**-0.3**
	comp=Z,9.9nm,0.9s						
BHPL	**Bhopal**	**22.80**	**258**	*e*P	**P**	**17 16 47.7**	**-1.1**
BHPL				IAmb	IAmb	17 16 50.6	
	comp=Z,7.2nm,0.5s						
KS15	**Wonju Array Si**	**22.82**	**65**	*e*P	**P**	**17 16 44.6**	**-4.1**
KSAR	**Wonju Array Be**	**22.82**	**65**	P	**P**	**17 16 49.3**	**+0.6**
KS01	**Wonju Array Si**	**22.83**	**64**	*e*P	**P**	**17 16 47.6**	**-1.3**
KSRS	**Korea Array**	**22.85**	**65**	P	**P**	**17 16 49.3**	**+0.2**
	comp=Z,8.8nm,0.9s,baz=250,slow=9.4,SNR=14						
KSRS				LR	LR	17 26 02.6	
	comp=Z,158nm,18.2s,baz=258,slow=38						
HYB	**Hyderabad**	**24.70**	**244**	*e*P	**P**	**17 17 06.6**	**-0.6**
JNU	**Nakatsue**	**24.91**	**76**	P	**P**	**17 17 09.7**	**+0.8**
	comp=Z,7.7nm,1.0s,baz=241,slow=19,SNR=2.1						
JNU				LR	LR	17 27 15.6	
	comp=Z,200nm,18.4s,baz=301,slow=37						
AAK	**Ala-Archa**	**25.11**	**307**	LR	LR	17 28 24.2	
	comp=Z,162nm,18.3s,baz=95,slow=40						
ZAA0	**Zalesovo Array**	**26.73**	**337**	*e*P	**P**	**17 17 25.0**	**-0.1**
	comp=Z,5.4nm,1.0s						
ZALV	**Zalesovo Beam**	**26.73**	**337**	P	**P**	**17 17 26.1**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=149,slow=9.5,SNR=15						
ZALV				LR	LR	17 28 33.1	
	comp=Z,181nm,19.6s,baz=220,slow=38						
ZALV	**Zalesovo Beam**	**26.73**	**337**	*e*P	**P**	**17 17 24.0**	**-1.1**
ZAA1	**Zalesovo Array**	**26.73**	**337**	*e*P	**P**	**17 17 26.1**	**+1.0**
KURK	**Kurchatov**	**26.84**	**326**	*e*P	**P**	**17 17 25.8**	**-0.3**
	comp=Z,8.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**27.65**	**51**	LR	LR	17 28 50.5	
	comp=Z,95nm,21.0s,baz=250,slow=37						
POO	**Poona**	**27.89**	**252**	*e*P	**P**	**17 17 35.8**	**-0.1**
POO				IAmb	IAmb	17 17 37.9	
	comp=Z,3.6nm,0.5s						
KBL	**Kabul**	**27.92**	**288**	*e*P	**P**	**17 17 36.8**	**+0.6**
	comp=Z,5.5nm,1.1s						
KLR	**Kul'dur**	**29.59**	**42**	P	**P**	**17 17 50.3**	**-0.5**
	comp=Z,0.1nm,0.7s,baz=284,slow=12,SNR=2.3						
KLR				LR	LR	17 29 23.6	
	comp=Z,6.1nm,18.6s,baz=235,slow=36						
PALK	**Pallekele**	**30.19**	**225**	LR	LR	17 31 00.4	
	comp=Z,62nm,21.2s,baz=116,slow=38						
DAV	**Davao City (W)**	**32.07**	**131**	LR	LR	17 31 60.0	
	comp=Z,109nm,18.1s,baz=1.5,slow=38						
BVAR	**Borovoye Array**	**32.30**	**324**	P	**P**	**17 18 14.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=123,slow=7.7,SNR=4.1						
ASAJ	**Asahikawa**	**35.01**	**55**	P	**P**	**17 18 38.5**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=30,slow=20,SNR=2.8						
GEYT	**Alibeck**	**36.72**	**294**	P	**P**	**17 18 52.4**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=65,slow=6.7,SNR=6.0						
AKTO	**Aktyubinsk**	**38.32**	**314**	P	**P**	**17 19 05.2**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=209,slow=18,SNR=2.3						
ARU	**Arti**	**39.95**	**324**	P	**P**	**17 19 19.7**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=129,slow=8.9,SNR=3.3						
MA2	**Magadan**	**43.96**	**34**	P	**P**	**17 19 52.1**	**-0.6**
	comp=Z,1.1nm,0.2s,baz=73,slow=18,SNR=2.8						
TIXI	**Tiksi**	**44.05**	**12**	P	**P**	**17 19 53.6**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=156,slow=2.6,SNR=7.2						
BATI	**Baumata**	**45.35**	**149**	P	**P**	**17 20 01.8**	**-2.4**
	comp=Z,7.6nm,0.6s,baz=278,slow=19,SNR=3.7						
PETK	**Petropavlovsk-**	**46.23**	**44**	LR	LR	17 39 20.6	
	comp=Z,61nm,18.1s,baz=59,slow=36						
BR101	**Keskin Array S**	**55.45**	**300**	*e*P	**P**	**17 21 20.6**	**0.0**
BRTR	**Keskin Array B**	**55.45**	**300**	P	**P**	**17 21 20.6**	**0.0**
	comp=Z,0.8nm,0.8s,baz=134,slow=4.2,SNR=3.6						
AKASG	**Malin Array Be**	**56.55**	**313**	P	**P**	**17 21 27.2**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=71,slow=6.4,SNR=6.6						
FIA0	**FINESS Array S**	**57.21**	**326**	*e*P	**P**	**17 21 32.1**	**-0.5**
FINES	**FINESS Array B**	**57.21**	**326**	P	**P**	**17 21 32.1**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=77,slow=8.4,SNR=4.7						
ARA0	**ARCESS Array S**	**57.27**	**336**	*e*P	**P**	**17 21 32.4**	**-0.6**
ARCES	**ARCESS Array B**	**57.27**	**336**	P	**P**	**17 21 32.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=38,slow=6.1,SNR=5.2						
WRA	**Warramunga Arr**	**58.88**	**144**	P	**P**	**17 21 44.0**	**-0.9**
	comp=Z,4.5nm,0.7s,baz=335,slow=7.5,SNR=58						
MLR	**Muntele Rosu**	**59.69**	**308**	P	**P**	**17 21 50.8**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=94,slow=19,SNR=3.1						
SPITS	**Spitsbergen Ar**	**59.74**	**346**	LR	LR	17 52 55.4	
	comp=Z,54nm,19.6s,baz=170,slow=41						
ASAR	**Alice Springs**	**61.80**	**146**	P	**P**	**17 22 03.8**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=326,slow=7.0,SNR=22						
HFS	**Hagfors**	**63.41**	**326**	P	**P**	**17 22 13.9**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=174,slow=40,SNR=5.4						
HFS				LR	LR	17 50 14.4	
	comp=Z,128nm,18.8s,baz=58,slow=36						
NB2	**NORSAR Subarra**	**64.34**	**327**	P	**P**	**17 22 20.7**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=74,slow=6.9						
NB200	**NORSAR Array S**	**64.34**	**327**	*e*P	**P**	**17 22 20.9**	**-0.4**
NOA	**NORSAR Array B**	**64.34**	**327**	P	**P**	**17 22 20.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=75,slow=6.6,SNR=5.7						
NOA				LR	LR	17 49 57.5	
	comp=Z,71nm,19.3s,baz=120,slow=36						
GERES	**GERESS Array B**	**66.74**	**314**	P	**P**	**17 22 36.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=70,slow=5.8,SNR=8.6						
KMBO	**Kilima Mbogo**	**68.74**	**256**	P	**P**	**17 22 49.0**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=221,slow=11,SNR=3.5						
ILAR	**Eielson Array**	**71.51**	**25**	P	**P**	**17 23 06.6**	**+0.3**
	comp=Z,1.0nm,1.1s,baz=309,slow=5.7,SNR=4.0						
STKA	**Stephens Creek**	**72.37**	**145**	P	**P**	**17 23 08.8**	**-3.0**
	comp=Z,2.4nm,0.9s,baz=306,slow=14,SNR=3.0						
EKA	**Eskdalemuir Ar**	**73.55**	**325**	P	**P**	**17 23 18.0**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=59,slow=6.0,SNR=3.1						
INK	**Inuvik**	**73.67**	**19**	P	**P**	**17 23 19.3**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=323,slow=17,SNR=6.7						
RES	**Resolute Bay**	**74.81**	**5**	P	**P**	**17 23 26.0**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=0.4,slow=7.5,SNR=4.7						
YKA	**Yellowknife Ar**	**83.13**	**16**	P	**P**	**17 24 11.6**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=328,slow=5.0,SNR=9.5						
TORD	**Torodi Ar. Bea**	**91.98**	**286**	P	**P**	**17 24 54.2**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=78,slow=3.2,SNR=2.7						
PDAR	**Pinedale Array**	**101.89**	**23**	P	**Pdif**	**17 25 39.5**	**-0.4**
	comp=Z,0.1nm,0.2s,baz=345,slow=5.6,SNR=2.7						

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*IDC **04** 17:42:18.1±1.2, 6°.18S×131°.63E, h0km, mb3.7/5, mb1 4.1/8, mb1mx3.8/49, mbtmp4.0/8, ML4.4/3, Error ellipse: s-maj=50.4km s-min=20.8km az=71.0*

*ISCJB **04** 17:42:24.7±0.5, 6°.30S±0°.04×131°.45E±0°.04, h61km, mb3.6/5, Error ellipse: s-maj=6.6km s-min=5.6km az=33.9*

*DJA **04** 17:42:26.7±0.3, 6°S±2°×13°1E±°, h101km±9km, M4.5/13, mb4.4/7, mB5.1/4, MLv4.5/13, Mw(mB)4.4/4*

ISC 04 17:42:26.9±0.8, **6°.18S**±0°.04×**131°.42E**±0°.06, **h61**km, **n30**, σ**1s.51**/36, **mb3.6**/5, **Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.79**	**184**	P	**Pn**	**17 42 56.5**	**+0.9**
SAUI				S	**Sn**	**17 43 20.9**	**+3.6**
BNDI	**Bandanaira**	**2.23**	**318**	P	**Pn**	**17 43 02.5**	**+0.9**
BNDI				S	**Sn**	**17 43 30.3**	**+2.3**
FAKI	**Fak Fak**	**3.35**	**14**	P	**Pn**	**17 43 18.0**	**+1.2**
FAKI				S	**Sn**	**17 43 56.0**	**+0.6**
KMPI	**Kaimana, Papua**	**3.39**	**42**	P	**Pn**	**17 43 19.0**	**+1.6**
KMPI				S	**Sn**	**17 43 57.8**	**+1.4**
MSAI	**Masohi**	**3.75**	**319**	P	**Pn**	**17 43 23.7**	**+1.3**
MSAI				S	**Sn**	**17 44 06.4**	**+1.1**
AAI	**Ambon**	**4.06**	**308**	P	**Pn**	**17 43 27.4**	**+0.9**
AAI				S	**Sn**	**17 44 12.1**	**-0.7**
NLAI	**Namlea**	**5.20**	**304**	P	**Pn**	**17 43 44.7**	**+2.5**
SWI	**Sorong**	**5.29**	**358**	P	**Pn**	**17 43 43.9**	**+0.5**
SWI				S	**Sn**	**17 44 41.0**	**-2.0**
RKPI	**Ransiki, Papua**	**5.40**	**31**	S	**Sn**	**17 44 47.2**	**+1.4**
LBMI	**Labuha**	**6.75**	**325**	P	**Pn**	**17 44 04.5**	**+1.0**
	26nm,0.8s,0.1nm						
SANI	**Sanana**	**6.79**	**307**	P	**Pn**	**17 44 05.0**	**+1.0**
SOEI	**Soe**	**7.92**	**243**	P	**Pn**	**17 44 20.3**	**+0.8**
	32nm,0.8s,0.2nm						
BATI	**Baumata**	**8.65**	**242**	Pn	**Pn**	**17 44 28.1**	**-1.4**
	4.1nm,0.3s,baz=156,slow=19,SNR=10						
BATI				Sn	Sn	17 45 59.8	-5.8
	1.0nm,0.3s,baz=286,slow=18,SNR=2.1						
BATI	**Baumata**	**8.65**	**242**	P	**Pn**	**17 44 31.0**	**+1.5**
WRA	**Warramunga Arr**	**13.97**	**169**	Pn	Pn	17 45 35.9	-6.1
	1.5nm,0.3s,baz=348,slow=13,SNR=33						
WRA				Sn	Sn	17 48 02.2	-13
	1.7nm,0.3s,baz=351,slow=23,SNR=7.9						
ASAR	**Alice Springs**	**17.55**	**172**	P	**Pn**	**17 46 23.8**	**-3.7**
	1.5nm,0.3s,baz=355,slow=14,SNR=149						
ASAR				S	Sn	17 49 27.7	-15
	0.5nm,0.3s,baz=355,slow=26,SNR=9.3						
STKA	**Stephens Creek**	**27.28**	**161**	P	**P**	**17 48 04.0**	**-1.6**
	0.7nm,0.4s,baz=309,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**40.31**	**308**	P	**P**	**17 49 57.6**	**-1.1**
	0.3nm,0.5s,baz=133,slow=6.3,SNR=4.2						
TAPN	**Taplejung**	**53.81**	**310**	*e*P	**P**	**17 51 44.4**	**+0.3**
	5.9nm,0.4s						
RAMN	**Ramite**	**54.45**	**309**	*e*P	**P**	**17 51 49.1**	**+0.4**
	13nm,0.5s						
JIRN	**Jiri**	**55.13**	**310**	*e*P	**P**	**17 51 53.9**	**+0.1**
	4.9nm,0.4s						
GUN	**Gumba**	**55.49**	**310**	*e*P	**P**	**17 51 56.8**	**+0.5**
	12nm,0.5s						
PKI	**Pulchoki**	**55.68**	**309**	*e*P	**P**	**17 51 57.7**	**0.0**
	3.8nm,0.6s						
PKIN	**Phulchoki**	**55.70**	**309**	*e*P	**P**	**17 51 58.1**	**+0.4**
	3.7nm,0.6s						
KKN	**Kakani**	**55.89**	**310**	*e*P	**P**	**17 51 59.8**	**+0.8**
	1.5nm,0.3s						
DMN	**Daman**	**55.93**	**309**	*e*P	**P**	**17 52 00.3**	**+0.9**
	4.1nm,0.4s						
GKN	**Gorkha**	**56.49**	**309**	*e*P	**P**	**17 52 04.1**	**+0.9**
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**68.33**	**326**	P	**P**	**17 53 23.7**	**+1.9**
	0.6nm,0.5s,baz=112,slow=6.1,SNR=12						
ZALV	**Zalesovo Beam**	**71.49**	**333**	P	**P**	**17 53 40.8**	**-0.2**
	0.5nm,0.4s,baz=120,slow=7.1,SNR=2.5						
BVAR	**Borovoye Array**	**78.13**	**327**	P	**P**	**17 54 18.6**	**-0.8**
	0.1nm,0.3s,baz=138,slow=8.5,SNR=3.1						

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*IDC **04** 17:46:04.4±1.0, 22°.07S×170°.03E, h0km, mb4.2/10, mb1 4.4/13, mb1mx4.2/40, mbtmp4.3/13, ML4.3/3, MS4.0/29, Ms1 4.0/29, ms1mx4.0/38, Error ellipse: s-maj=30.2km s-min=21.5km az=148.0*

*ISCJB **04** 17:46:06.3±0.4, 22°.06S±0°.07×170°.02E±0°.06, h25km, mb4.3/17, MS4.1/25, Error ellipse: s-maj=10.7km s-min=7.9km az=4.7*

*GCMT **04** 17:46:06.0±0.3, 22°.32S×170°.07E, h12km, MW4.9/75, Moment Tensor Solution. s30,c37; s75,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.45±.10; $M_{\theta\theta}$-0.66±.09; $M_{\phi\phi}$0.20±.10; $M_{r\theta}$-0.15±.24; $M_{\theta\phi}$2.74±.07; $M_{\phi r}$-0.20±.26; Best double couple: $M_0$2.78900×10^{16} NP1:ϕ_s175.00000°, δ85.00000°, λ175.00000°. NP2: ϕ_s266.00000°, δ85.00000°, λ5.00000°. Principal axes: T 2.5760, Plg7.0000°, Azm130.0000°; N 0.4250, Plg83.0000°, Azm312.0000°; P -3.0010, Plg0.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 17:46:06.0±0.5, 21°.96S×170°.02E, h10km, mb4.4/9 Error ellipse: s-maj=12.2km s-min=11.5km az=218.0*

ISC 04 17:46:07.4±0.5, **22°.1S**±0°.1×**170°.11E**±0°.07, **h25**km, **n78**, σ**1s.93**/60, **mb4.3**/17, **MS4.1**/26, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.40**	**270**	Pn	**Pn**	**17 46 58.6**	**-0.4**
	34nm,0.3s,baz=102,slow=7.7,SNR=464						
DZM				Sn	**Sn**	**17 47 36.4**	**-2.2**
	16nm,0.3s,baz=335,slow=22,SNR=5.2						
DZM				LR	LR	17 47 41.4	
	comp=Z,340nm,21.2s,baz=89,slow=29						
DZM	**Mont Dzumac**	**3.40**	**270**	*e*Pn	**Pn**	**17 46 58.5**	**-0.4**
	172nm,0.2s						
DZM				*e*Sn	**Sn**	**17 47 37.2**	**-1.4**
	197nm,0.2s						
DZM				*e*LR	LR	17 47 43.7	
	3μm,25.9s						
RAO	**Raoul Island**	**12.93**	**126**	LR	LR	17 52 56.6	
	comp=Z,2μm,19.4s,baz=269,slow=32						
HNR	**Honiara**	**15.92**	**321**	Pn	**Pn**	**17 49 47.8**	**-2.1**
	3.7nm,0.3s,baz=120,slow=5.2,SNR=2.7						
HNR				LR	LR	17 54 34.7	
	comp=Z,792nm,21.4s,baz=162,slow=32						
URZ	**Urewera**	**17.21**	**161**	P	**P**	**17 50 08.4**	**+1.0**
	0.4nm,0.3s,baz=61,slow=2.8,SNR=3.1						
URZ				LR	LR	17 54 52.3	
	comp=Z,785nm,20.9s,baz=344,slow=31						
OXZ	**Oxford**	**21.25**	**176**	*e*P	**P**	**17 50 55.4**	**+3.9**
	29nm,1.0s						
CTAO	**Charters Tower**	**22.35**	**271**	*e*P	**P**	**17 51 02.9**	**-0.7**
PMG	**Port Moresby**	**25.39**	**296**	LR	LR	18 00 16.0	
	comp=Z,861nm,19.8s,baz=130,slow=34						
STKA	**Stephens Creek**	**27.15**	**243**	P	**P**	**17 51 48.4**	**-0.4**
	1.9nm,0.6s,baz=94,slow=15,SNR=2.7						
STKA				LR	LR	18 02 02.6	
	comp=Z,368nm,18.5s,baz=70,slow=35						
STKA	**Stephens Creek**	**27.15**	**243**	*e*P	**P**	**17 51 48.4**	**-0.4**
	2.5nm,1.5s						
RAR	**Rarotonga**	**27.98**	**94**	LR	LR	18 01 18.1	
	comp=Z,132nm,20.6s,baz=268,slow=33						
AS31	**Alice Springs**	**33.34**	**260**	*e*P	**P**	**17 52 43.6**	**-0.1**
	3.3nm,0.9s						
ASAR	**Alice Springs**	**33.34**	**260**	P	**P**	**17 52 43.6**	**-0.1**
	8.2nm,0.8s,baz=88,slow=9.3,SNR=12						
ASAR				LR	LR	18 05 20.0	
	comp=Z,359nm,18.6s,baz=92,slow=35						
WRAB	**Tennant Creek**	**33.41**	**267**	*e*P	**P**	**17 52 44.8**	**+0.5**
	1.7nm,0.5s						
WR1	**Warramunga Arr**	**33.42**	**267**	*e*P	**P**	**17 52 43.4**	**-0.9**
	6.1nm,0.9s						
WRA	**Warramunga Arr**	**33.42**	**267**	P	**P**	**17 52 43.4**	**-1.0**
	2.4nm,0.5s,baz=100,slow=8.6,SNR=6.5						
TBI	**Tubuai**	**37.23**	**100**	*e*LQ	LQ	18 01 36.9	
	502nm,30.8s						
TBI				*e*LR	LR	18 03 17.7	
	486nm,30.8s						
PPT2	**Papeete2**	**38.10**	**91**	*e*S	**S**	**17 59 14.3**	**-2.1**
	76nm,26.0s						
PPT2				*e*LQ	LQ	18 01 57.9	
	958nm,28.5s						
PPT2				*e*LR	LR	18 03 42.7	
	474nm,28.0s						
PPT	**Papeete**	**38.11**	**91**	LR	LR	18 06 22.8	
	comp=Z,145nm,21.1s,baz=252,slow=32						
MTN	**Manton Dam**	**38.21**	**277**	*e*P	**P**	**17 53 26.9**	**+1.5**
	8.7nm,0.8s						
GUMO	**Guam**	**43.24**	**323**	LR	LR	18 11 40.0	
	comp=Z,149nm,18.5s,baz=119,slow=36						
TAOE	**Nuku Hiva Isla**	**49.49**	**83**	*e*S	**S**	**18 01 59.1**	**-3.7**
	56nm,23.7s						
TAOE				*e*LR	LR	18 08 54.2	
	155nm,30.0s						
DAV	**Davao City (W)**	**52.37**	**298**	LR	LR	18 18 00.1	
	comp=Z,172nm,19.3s,baz=120,slow=37						
VNDA	**Vanda**	**55.63**	**182**	LR	LR	18 16 32.0	
	comp=Z,155nm,18.5s,baz=19,slow=33						
MJAR	**Matsushiro Arr**	**65.64**	**332**	P	**P**	**17 56 49.8**	**+0.4**
	1.9nm,0.7s,baz=170,slow=8.2,SNR=5.8						
MJAR				LR	LR	18 22 04.9	
	comp=Z,84nm,21.9s,baz=140,slow=33						
MAJO	**Matsushiro**	**65.64**	**332**	*e*P	**P**	**17 56 49.8**	**+0.4**
JNU	**Nakatsue**	**66.45**	**325**	LR	LR	18 22 23.4	
	comp=Z,72nm,21.7s,baz=119,slow=33						
QSPA	**South Pole Qui**	**67.98**	**180**	*e*P	**P**	**17 57 03.8**	**-0.4**
	3.2nm,0.6s						
ASAJ	**Asahikawa**	**70.54**	**339**	P	**P**	**17 57 21.4**	**+1.4**
	3.1nm,0.7s,baz=176,slow=13,SNR=5.3						
ASAJ	**Asahikawa**	**70.54**	**339**	*e*P	**P**	**17 57 17.6**	**-2.5**
	0.8nm,0.6s						
KSRS	**Korea Array**	**71.30**	**326**	P	**P**	**17 57 26.1**	**+1.4**
	2.7nm,1.0s,baz=131,slow=5.7,SNR=4.4						
KSRS				LR	LR	18 26 24.4	
	comp=Z,78nm,20.3s,baz=141,slow=34						
KS15	**Wonju Array Si**	**71.32**	**326**	*e*P	**P**	**17 57 23.8**	**-1.1**
KSAR	**Wonju Array Be**	**71.32**	**326**	P	**P**	**17 57 26.1**	**+1.3**
RPN	**Rapa Nui**	**72.23**	**113**	LR	LR	18 22 03.1	
	comp=Z,183nm,18.5s,baz=231,slow=30						
PSI	**Prapat**	**73.70**	**280**	LR	LR	18 31 20.5	
	comp=Z,191nm,20.0s,baz=111,slow=37						
USRK	**Ussuriysk Ar.**	**74.63**	**333**	LR	LR	18 30 43.5	
	comp=Z,59nm,19.1s,baz=174,slow=36						
PETK	**Petropavlovsk-**	**75.65**	**352**	LR	LR	18 26 24.0	
	comp=Z,249nm,20.0s,baz=156,slow=32						
MAW	**Mawson**	**76.12**	**202**	LR	LR	18 27 23.7	
	comp=Z,84nm,18.2s,baz=62,slow=33						
ENH	**Enshi**	**78.11**	**310**	*e*P	**P**	**17 58 05.3**	**+0.9**
	4.1nm,0.8s						
CM01	**Chiang Mai Arr**	**80.38**	**294**	*e*P	**P**	**17 58 18.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**80.41**	**294**	P	**P**	**17 58 19.2**	**+1.9**
	2.3nm,0.8s,baz=131,slow=3.8,SNR=11						
CMAR				LR	LR	18 36 20.5	
	comp=Z,67nm,19.3s,baz=158,slow=38						
SNAA	**Sanae**	**86.37**	**182**	P	**P**	**17 58 43.0**	**-4.2**
VNA3	**Neumayer Olymp**	**86.92**	**180**	P	**P**	**17 58 49.2**	**-0.7**
VNA2	**Neumayer--Watz**	**87.23**	**181**	P	**P**	**17 58 49.7**	**-1.5**
	baz=184,slow=5.6						
YBH	**Yreka Blue Hor**	**88.77**	**44**	LR	LR	18 35 47.3	
	comp=Z,50nm,18.1s,baz=256,slow=34						
LPIG	**La Paz**	**89.91**	**64**	LR	LR	18 30 32.2	
	comp=Z,82nm,21.2s,baz=29,slow=30						
SONA0	**Songino Array**	**89.97**	**323**	*e*P	**P**	**17 59 05.9**	**+1.2**
SONM	**Songino Array**	**89.97**	**323**	P	**P**	**17 59 05.9**	**+1.2**
	1.9nm,0.9s,baz=152,slow=5.7,SNR=4.2						
SONM				LR	LR	18 41 04.7	
	comp=Z,74nm,18.0s,baz=150,slow=37						
SONA1	**Songino Array**	**89.97**	**323**	*e*P	**P**	**17 59 04.9**	**+0.3**
NV01	**Mina Array Sit**	**90.07**	**48**	*e*P	**P**	**17 59 04.3**	**-1.1**
NVAR	**Mina Array Bea**	**90.07**	**48**	P	**P**	**17 59 07.0**	**+1.5**
	0.4nm,0.7s,baz=223,slow=7.8,SNR=5.0						
NVAR				LR	LR	18 36 26.9	
	comp=Z,90nm,18.0s,baz=96,slow=34						
ILAR	**Eielson Array**	**92.69**	**17**	P	**P**	**17 59 16.2**	**-0.5**
	0.5nm,0.8s,baz=224,slow=5.3,SNR=3.0						
BVW	**Beverly**	**93.09**	**40**	*e*P	**P**	**17 59 21.5**	**+2.5**
PLCA	**Paso Flores**	**95.88**	**138**	LR	LR	18 32 45.5	
	comp=Z,60nm,20.0s,baz=252,slow=29						
TXAR	**Lajitas Array**	**97.40**	**61**	LR	LR	18 34 48.6	
	comp=Z,95nm,21.9s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**97.94**	**47**	LR	LR	18 38 25.7	
	comp=Z,52nm,19.2s,baz=262,slow=32						
INK	**Inuvik**	**98.97**	**18**	LR	LR	18 41 08.6	
	comp=Z,60nm,18.4s,baz=220,slow=33						
ARCES	**ARCESS Array B**	**128.01**	**345**	PKP	**PKPdf**	**18 05 11.1**	**+0.7**
	0.9nm,0.7s,baz=71,slow=3.1,SNR=4.6						
DPC	**Dobruska-Polom**	**145.10**	**330**	*e*PKP	**PKPdf**	**18 05 42.8**	**+0.3**
DPC				*e*x	x	18 05 45.2	
UPC	**Upice**	**145.13**	**331**	*e*PKP	**PKPdf**	**18 05 42.7**	**+0.2**
PVCC	**Panska Ves**	**145.75**	**332**	*e*PKP	**PKPab**	**18 05 46.6**	**+2.2**
BRG	**Berggiesshubel**	**145.77**	**333**	*i* PKP	**PKPab**	**18 05 46.1**	**+1.7**
	30nm,1.5s						
CLL	**Collm**	**145.83**	**334**	*e*PKPbc	**PKPab**	**18 05 45.0**	**+0.4**
	comp=Z,27nm,1.6s						
CLL				*i*		18 05 57.7	
CLL				Lm	MLR	19 12 00.0	
	comp=Z,100nm,19.7s						
CLL	**Collm**	**145.83**	**334**	*e*PKPdf	**PKPab**	**18 05 46.4**	**+1.7**
PRU	**Pruhonice**	**146.16**	**331**	*e*PKP	**PKPab**	**18 05 49.8**	**+3.9**
EKA	**Eskdalemuir Ar**	**146.42**	**353**	PKPbc	**PKPbc**	**18 05 45.4**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=354,slow=2.7,SNR=6.4						
CONA	**Conrad Observa**	**146.98**	**328**	*e*sPKiKP	**PKPab**	**18 05 55.2**	**+5.9**
	comp=Z,3.5nm,1.0s						
KHC	**Kasperske Hory**	**147.21**	**331**	*e*PKP	**PKPab**	**18 05 50.8**	**+0.7**
KHC				*e*x	x	18 06 05.0	
KHC	**Kasperske Hory**	**147.21**	**331**	*e*PKPdf	**PKPdf**	**18 05 44.4**	**-1.8**
GEC2	**GERESS Array S**	**147.37**	**331**	*e*PKPbc	**PKPab**	**18 05 51.7**	**+0.8**
GERES	**GERESS Array B**	**147.37**	**331**	PKPbc	**PKPbc**	**18 05 49.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=83,slow=4.2,SNR=7.7						
ARSA	**Arzberg**	**147.60**	**327**	pPKiKP	**PKPab**	**18 05 55.7**	**+4.0**
	comp=Z,3.9nm,1.2s						
MOA	**Molln**	**147.81**	**329**	*e*pPKiKP	**PKPab**	**18 05 56.2**	**+3.6**
	comp=Z,0.9nm,0.5s						
SOKA	**Soboth**	**148.24**	**327**	pPKPab	**PKPab**	**18 05 57.6**	**+3.3**
	comp=Z,4.6nm,2.2s						
ABTA	**Abfaltersbach**	**149.44**	**329**	*e*PKPab	**PKPab**	**18 05 58.6**	**-0.6**
	comp=Z,4.7nm,1.0s						
MOTA	**Moosalm**	**149.65**	**331**	sPKPbc	**PKPab**	**18 05 59.4**	**-0.7**
	comp=Z,1.8nm,0.6s						
FETA	**Feichten**	**150.06**	**331**	*e*sPKPbc	**PKPab**	**18 06 00.4**	**-1.4**
	comp=Z,4.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**165.84**	**233**	PKP	**PKPdf**	**18 06 11.6**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=36,slow=2.6,SNR=3.2						

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*IDC **04** 17:51:25.8±2.4, 22°.34S×170°.09E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/38, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=96.7km s-min=30.0km az=163.0*

ISC 04 17:51:28.8±1.9, **22°.3S**±0°.6×**170°.1E**±0°.1, **h21**km, **n7**, σ**0s.82**/8, **mb3.9**/4, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.40**	**274**	Pn	**Pn**	**17 52 20.8**	**+0.1**
	6.0nm,0.3s,baz=128,slow=13,SNR=13						
DZM				Sn	**Sn**	**17 53 00.3**	**-0.1**
	5.5nm,0.3s,baz=138,slow=18,SNR=3.1						
ASAR	**Alice Springs**	**33.29**	**261**	P	**P**	**17 58 05.0**	**-0.1**
	2.5nm,0.8s,baz=88,slow=8.8,SNR=14						
WRA	**Warramunga Arr**	**33.39**	**267**	P	**P**	**17 58 05.4**	**-0.7**
	1.2nm,0.9s,baz=100,slow=8.4,SNR=10.0						
CMAR	**Chiang Mai Arr**	**80.50**	**294**	P	**P**	**18 03 41.2**	**+1.4**
	0.6nm,0.7s,baz=128,slow=4.9,SNR=5.4						
SONM	**Songino Array**	**90.16**	**323**	P	**P**	**18 04 27.2**	**-0.3**
	0.9nm,1.0s,baz=134,slow=4.3,SNR=3.6						
EKA	**Eskdalemuir Ar**	**146.66**	**353**	PKPbc	**PKPdf**	**18 11 06.9**	**-0.1**
	0.3nm,0.4s,baz=30,slow=1.9,SNR=5.0						
GERES	**GERESS Array B**	**147.57**	**330**	PKPbc	**PKPab**	**18 11 12.8**	**-0.8**
	0.4nm,0.7s,baz=37,slow=1.9,SNR=3.8						

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*NIED **04** 17:52:00, 24°.20N×122°.70E, h32km, Mw4.2 Best double couple: $M_0$2.25000×10^{15} NP1:ϕ_s103.00000°, δ32.00000°, λ39.00000°. NP2:ϕ_s339.00000°, δ71.00000°, λ116.00000°.*

*BJI **04** 17:52:12.9, 24°.15N×122°.67E, h22km, mb4.2/12, mB4.4/7, ML4.1/2, Ms4.0/2, Ms7 3.8/2*

*IDC **04** 17:52:14.7±3.7, 24°.35N×122°.71E, h41km±34km, mb3.9/24, mb1 3.9/25, mb1mx3.8/62, mbtmp4.1/25, ML2.9/1, MS3.4/9, Ms1 3.5/9, ms1mx3.1/59, Error ellipse: s-maj=19.1km s-min=14.6km az=77.0*

*TAP **04** 17:52:14.5, 24°.15N×122°.70E, h50km, ML4.8, B*

*ISCJB **04** 17:52:14.6±0.2, 24°.17N±0°.02×122°.69E±0°.01, h60km±2km, mb4.1/35, MS3.6/6, Error ellipse: s-maj=3.0km s-min=1.9km az=160.6*

*NEIC **04** 17:52:14.9±0.5, 24°.26N×122°.67E, h47km±4km, mb4.3/11, ML4.9(TAP), Error ellipse: s-maj=5.7km s-min=5.1km az=120.0*

NEIC Recorded [1 TAP] at Hualien, Taitung and Yilan. Recorded [1 JMA] on Yonaguni-jima, Ryukyu Islands.

*JMA **04** 17:52:14.6±0.1, 24°.09N×122°.64E, h39km±3km, M4.5*

JMA Felt I J1.

ISC 04 17:52:14.5±0.8, **24°.15N**±0°.03×**122°.67E**±0°.02, **h44**km±7km, **n195**, σ**1s.57**/261, **mb4.1**/35, **MS3.6**/6, **19C-23D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.39**	**40**	P	**Pn**	**17 52 24.5**	**+0.4**
JYNG				S	**Sn**	**17 52 31.5**	**+0.7**
YOJ	**Yonaguni jima**	**0.44**	**45**	⇓*i*P	**Pn**	**17 52 25.2**	**+0.6**
	baz=45						
YOJ				*i* S	**Sn**	**17 52 33.0**	**+1.2**
	baz=45						
YOJ	**Yonaguni jima**	**0.44**	**45**	P	**Pn**	**17 52 25.2**	**+0.6**
YOJ				S	**Sn**	**17 52 32.9**	**+1.0**
YOJ	**Yonaguni jima**	**0.44**	**45**	*e*Pn	**Pn**	**17 52 25.1**	**+0.4**
YOJ				*e*Sn	**Sn**	**17 52 32.8**	**+1.0**
EOS1	**EOS1**	**0.63**	**309**	P	**Pn**	**17 52 28.1**	**+1.1**
	baz=313						
EOS1				*e*S	**Sn**	**17 52 38.6**	**+2.5**
	baz=313						
ENAH	**Nanao**	**0.84**	**291**	*e*P	**Pn**	**17 52 30.5**	**+0.7**
	baz=290						
TWC	**Suao**	**0.87**	**301**	⇑*i*P	**Pn**	**17 52 31.2**	**+0.8**
	baz=291						
TWC				S	**Sn**	**17 52 43.0**	**+1.0**
	baz=291						
NANB	**Nanao**	**0.88**	**288**	⇓*i*P	**Pn**	**17 52 31.1**	**+0.7**
	baz=288						
NANB				*e*S	**Sn**	**17 52 43.5**	**+1.3**
	baz=288						
ENA	**Nanau**	**0.89**	**288**	P	**Pn**	**17 52 31.2**	**+0.6**
	baz=288						
ENA				*e*S	**Sn**	**17 52 44.8**	**+2.4**
	baz=288						

Code	Station	Δ	AZ	Op	ISC	Time	Res
EGS		**0.96**	**316**	⇑P	**Pn**	**17 52 32.2**	**+0.7**
	baz=321						
NACB	**Ninganchiao**	**0.98**	**271**	*e*Pn	**Pn**	**17 52 32.0**	**+0.2**
NACB				*e*Sn	**Sn**	**17 52 42.4**	**-2.1**
TWD	**Chiawan**	**0.98**	**266**	⇓P	**Pn**	**17 52 31.9**	**0.0**
	baz=266						
TWD				*e*S	**Sn**	**17 52 44.1**	**-0.5**
	baz=266						
IRIF	**Iriomote-Funau**	**0.99**	**79**	P	**Pn**	**17 52 32.7**	**+0.8**
IRIF				S	**Sn**	**17 52 46.4**	**+1.7**
HWA	**Hwalien**	**0.99**	**260**	*e*P	**Pn**	**17 52 32.3**	**+0.4**
	baz=259						
ENLB	**Shoufeng**	**1.01**	**256**	⇓*e*P	**Pn**	**17 52 32.5**	**+0.3**
	baz=247						
ENLB				*e*S	**Sn**	**17 52 45.9**	**+0.7**
	baz=247						
NTC	**Toucheng**	**1.03**	**313**	*e*P	**Pn**	**17 52 33.6**	**+1.1**
	baz=319						
ILA	**Ilan**	**1.04**	**306**	*e*P	**Pn**	**17 52 34.1**	**+1.5**
	baz=313						
ILA				*e*S	**Sn**	**17 52 48.8**	**+2.9**
	baz=313						
HATJ	**Hateruma jima**	**1.04**	**95**	P	**Pn**	**17 52 34.1**	**+1.4**
HATJ				S	**Sn**	**17 52 48.1**	**+2.0**
TWB1	**Santiao Chiao**	**1.05**	**324**	⇑*i*P	**Pn**	**17 52 33.4**	**+0.6**
	baz=322						
TWB1				S	**Sn**	**17 52 46.9**	**+0.6**
	baz=322						
TWE	**Neicheng**	**1.07**	**302**	⇑P	**Pn**	**17 52 34.5**	**+1.4**
	baz=300						
TWE				*e*S	**Sn**	**17 52 48.8**	**+2.0**
	baz=300						
ENTT	**Nioudou**	**1.11**	**296**	⇑P	**Pn**	**17 52 35.1**	**+1.4**
	baz=285						
ENTT				*e*S	**Sn**	**17 52 49.1**	**+1.2**
	baz=285						
TIPB	**Shuangxi**	**1.12**	**317**	⇑*i*P	**Pn**	**17 52 33.6**	**-0.1**
	baz=325						
TIPB				*e*S	**Sn**	**17 52 48.1**	**+0.1**
	baz=325						
ESL	**Shilin**	**1.18**	**254**	⇓P	**Pn**	**17 52 34.2**	**-0.4**
	baz=253						
NNSB	**Datong**	**1.20**	**283**	P	**Pn**	**17 52 35.8**	**+0.8**
	baz=283						
NNSH	**Datong**	**1.20**	**283**	*e*P	**Pn**	**17 52 35.6**	**+0.6**
	baz=283						
NNS	**Nan Shan**	**1.22**	**284**	*e*P	**Pn**	**17 52 35.9**	**+0.8**
	baz=283						
NWF	**Wu-fen Shan**	**1.22**	**319**	⇑*i*P	**Pn**	**17 52 36.2**	**+1.0**
	baz=317						
NWF				S	**Sn**	**17 52 51.3**	**+0.7**
	baz=317						
WFSB	**Wu-fen Shan**	**1.22**	**319**	⇑*i*P	**Pn**	**17 52 36.1**	**+1.0**
	baz=317						
WFSB				*i* S	**Sn**	**17 52 51.4**	**+1.0**
	baz=317						
JKRS	**Kuro-shima**	**1.23**	**86**	P	**Pn**	**17 52 36.5**	**+1.3**
JKRS				S	**Sn**	**17 52 53.8**	**+3.2**
NWLT	**Wulai**	**1.23**	**301**	*e*P	**Pn**	**17 52 36.9**	**+1.6**
	baz=309						
EGFH	**Guangfu**	**1.23**	**247**	*e*P	**Pn**	**17 52 35.4**	**+0.1**
	baz=247						
WHF	**Hehuan Shan**	**1.28**	**270**	⇓P	**Pn**	**17 52 36.6**	**+0.2**
	baz=259						
WHF				*e*S	**Sn**	**17 52 52.7**	**+0.2**
	baz=259						
YHNB	**Yeheng**	**1.28**	**294**	⇓P	**Pn**	**17 52 37.5**	**+1.4**
	baz=282						
YHNB				*e*S	**Sn**	**17 52 54.4**	**+2.2**
	baz=282						
YHNB	**Yeheng**	**1.28**	**294**	*e*Pn	**Pn**	**17 52 37.5**	**+1.4**
TWA	**Mucha**	**1.29**	**310**	⇑*i*P	**Pn**	**17 52 37.3**	**+1.3**
	baz=308						
TWA				*e*S	**Sn**	**17 52 53.6**	**+1.5**
	baz=308						
TATO	**Taipei**	**1.35**	**308**	P	**Pn**	**17 52 38.1**	**+1.3**
	baz=317						
TATO				S	**Sn**	**17 52 56.0**	**+2.3**
	baz=317						
TATO	**Taipei**	**1.35**	**308**	*e*Pn	**Pn**	**17 52 37.3**	**+0.4**
TATO				*e*Sn	**Sn**	**17 52 48.7**	**-4.9**
JIJ	**Ishigaki jima**	**1.36**	**81**	P	**Pn**	**17 52 37.7**	**+0.7**
JIJ				*e*S	**Sn**	**17 52 55.5**	**+1.6**
TWT	**Tachien**	**1.37**	**274**	*e*P	**Pn**	**17 52 38.4**	**+1.2**
	baz=265						
CHGB	**Renai**	**1.37**	**266**	⇓*i*P	**Pn**	**17 52 38.0**	**+0.7**
	baz=266						
CHGB				S	**Sn**	**17 52 54.0**	**-0.3**
	baz=266						
TAP	**Taipei**	**1.38**	**310**	*e*P	**Pn**	**17 52 38.3**	**+1.1**
	baz=308						
OWD	**Renai**	**1.38**	**262**	*e*P	**Pn**	**17 52 37.9**	**+0.5**
	baz=261						
TDCB	**Techi**	**1.38**	**274**	*e*P	**Pn**	**17 52 38.4**	**+0.9**
	baz=265						
EHY	**Hungye**	**1.39**	**243**	⇓*i*P	**Pn**	**17 52 37.4**	**0.0**
	baz=255						
EHY				*e*S	**Sn**	**17 52 54.0**	**-0.6**
	baz=255						
YM10	**YM10**	**1.42**	**315**	⇑*i*P	**Pn**	**17 52 38.7**	**+0.8**
	baz=313						
YM08	**YM08**	**1.42**	**317**	⇑*e*P	**Pn**	**17 52 38.5**	**+0.6**
	baz=303						
YM04	**YM04**	**1.43**	**314**	⇑P	**Pn**	**17 52 38.9**	**+0.8**
	baz=313						
YM03	**YM03**	**1.45**	**315**	⇑P	**Pn**	**17 52 38.9**	**+0.6**
	baz=313						
WLTB	**Daxi**	**1.47**	**299**	⇑P	**Pn**	**17 52 40.5**	**+2.0**
	baz=297						
YULB	**Yu-li**	**1.47**	**239**	*e*Pn	**Pn**	**17 52 38.5**	**0.0**
YULB				*e*Sn	**Sn**	**17 52 56.2**	**-0.3**
TWS1	**Kuangyinshan**	**1.48**	**310**	*e*P	**Pn**	**17 52 39.6**	**+0.9**
	baz=308						
TWY	**Chenhua**	**1.48**	**319**	*e*P	**Pn**	**17 52 39.8**	**+1.1**
	baz=307						
TWY				*e*S	**Sn**	**17 52 58.4**	**+1.5**
	baz=307						
TWF1	**Yuli**	**1.49**	**238**	⇓P	**Pn**	**17 52 38.9**	**+0.1**
	baz=237						
TWF1				*e*S	**Sn**	**17 52 56.8**	**-0.2**
	baz=237						
NTST	**Danshui**	**1.50**	**312**	*e*P	**Pn**	**17 52 40.1**	**+1.2**
	baz=311						
JISG	**Ishigakijimahi**	**1.56**	**74**	P	**Pn**	**17 52 40.4**	**+0.7**
JISG				S	**Sn**	**17 52 59.7**	**+1.0**
NCU	**National Centr**	**1.57**	**301**	*e*P	**Pn**	**17 52 42.0**	**+2.0**
	baz=300						
NCUH	**Zhongli**	**1.57**	**301**	*e*P	**Pn**	**17 52 41.4**	**+1.5**
	baz=299						
FULB	**Fuli**	**1.58**	**233**	⇓*e*P	**Pn**	**17 52 39.6**	**-0.5**
	baz=233						
LIOB	**Emei**	**1.58**	**288**	⇑*i*P	**Pn**	**17 52 42.2**	**+2.1**
	baz=287						
CHKT	**Chengkung**	**1.59**	**229**	*e*P	**Pn**	**17 52 39.4**	**-0.8**
	baz=220						
NSTT	**Nanjuang**	**1.59**	**288**	⇑P	**Pn**	**17 52 42.1**	**+1.9**
	baz=288						
NSTT				*e*S	**Sn**	**17 53 00.6**	**+1.0**
	baz=288						
SSLB	**Suanglung**	**1.61**	**257**	⇓*i*P	**Pn**	**17 52 41.2**	**+0.7**
	baz=257						
SSLB				*e*S	**Sn**	**17 52 59.7**	**-0.4**
	baz=257						
SSLB	**Suanglung**	**1.61**	**257**	*e*Pn	**Pn**	**17 52 41.2**	**+0.7**
SSLB				*e*Sn	**Sn**	**17 53 00.2**	**+0.2**
SMLT	**Sun Moon Lake**	**1.64**	**261**	⇓*i*P	**Pn**	**17 52 42.1**	**+1.2**
	baz=261						
SMLT				S	**Sn**	**17 53 01.4**	**+0.5**
	baz=261						
SBCB	**Hsinchu**	**1.66**	**293**	*e*P	**Pn**	**17 52 43.0**	**+1.9**
	baz=291						
HSN	**Hsinchu**	**1.68**	**293**	*e*P	**Pn**	**17 52 42.3**	**+0.9**
	baz=293						
YUS	**Yu-Shan**	**1.71**	**248**	*e*P	**Pn**	**17 52 42.9**	**+0.7**
	baz=247						
YUS				*e*S	**Sn**	**17 53 02.6**	**-0.5**
	baz=247						
TWQ1	**Liyutan**	**1.74**	**277**	P	**Pn**	**17 52 44.4**	**+2.1**
	baz=277						
TWQ1				*e*S	**Sn**	**17 53 05.8**	**+2.5**
	baz=277						
NMLH	**Miaoli**	**1.75**	**283**	*e*P	**Pn**	**17 52 44.3**	**+1.8**
	baz=282						
NSY	**Sanyi**	**1.76**	**279**	*e*P	**Pn**	**17 52 44.6**	**+2.1**
	baz=279						
NSY				*e*S	**Sn**	**17 53 06.1**	**+2.4**
	baz=279						
ELDTW	**Lidau**	**1.79**	**238**	*e*P	**Pn**	**17 52 42.8**	**-0.2**
	baz=237						
WJS	**Zhushan**	**1.81**	**260**	*e*P	**Pn**	**17 52 45.4**	**+2.3**
	baz=260						
WJS				*e*S	**Sn**	**17 53 07.9**	**+3.1**
	baz=260						
PTSB	**Yuanli**	**1.81**	**280**	⇑*e*P	**Pn**	**17 52 45.3**	**+2.0**
	baz=279						
TCU	**Taichung**	**1.82**	**270**	*e*P	**Pn**	**17 52 45.6**	**+2.2**
	baz=270						
TCU				*e*S	**Sn**	**17 53 08.1**	**+2.9**
	baz=270						
WNT	**Mingjian**	**1.83**	**262**	⇓P	**Pn**	**17 52 45.9**	**+2.3**
	baz=261						
CHN5	**Tsauling**	**1.90**	**253**	⇓*i*P	**Pn**	**17 52 46.5**	**+1.9**
	baz=253						
CHN5				*e*S	**Sn**	**17 53 09.4**	**+2.0**
	baz=253						
JTJ	**Tarama**	**1.92**	**75**	P	**Pn**	**17 52 45.7**	**+1.1**
JTJ				S	**Sn**	**17 53 09.1**	**+1.6**
WCHH	**Zhanghua**	**1.93**	**268**	*e*P	**Pn**	**17 52 46.9**	**+2.1**
	baz=267						
TWG	**Pinlang**	**1.98**	**228**	⇓P	**Pn**	**17 52 45.0**	**-0.5**
	baz=238						
TWG				*e*S	**Sn**	**17 53 07.2**	**-1.8**
	baz=238						
TWG	**Pinlang**	**1.98**	**228**	*e*Pn	**Pn**	**17 52 45.0**	**-0.5**
TWG				*e*Sn	**Sn**	**17 53 05.8**	**-3.3**
WGK	**Gukeng**	**1.98**	**257**	⇓P	**Pn**	**17 52 47.8**	**+2.2**
	baz=256						
WDLH	**Douliu**	**2.00**	**257**	*e*P	**Pn**	**17 52 48.3**	**+2.4**
	baz=256						
STYT	**Tauyuan**	**2.01**	**241**	⇓P	**Pn**	**17 52 47.1**	**+1.1**
	baz=234						
STYT				*e*S	**Sn**	**17 53 10.4**	**+0.5**
	baz=234						
TPUB	**Ta-pu**	**2.05**	**246**	*e*Pn	**Pn**	**17 52 48.5**	**+2.0**
TPUB				*e*Sn	**Sn**	**17 53 12.9**	**+2.0**
CHN4	**Tsaushan**	**2.06**	**248**	⇓*e*P	**Pn**	**17 52 48.7**	**+2.1**
	baz=247						
CHN4				S	**Sn**	**17 53 13.9**	**+2.7**
	baz=247						
WTP	**Ta-pu**	**2.09**	**245**	⇓*i*P	**Pn**	**17 52 49.1**	**+2.0**
	baz=251						
WTP				*e*S	**Sn**	**17 53 13.8**	**+2.0**
	baz=251						
CHN2	**Minshiung**	**2.10**	**253**	P	**Pn**	**17 52 49.9**	**+2.7**
	baz=253						
CHN2				*e*S	**Sn**	**17 53 15.5**	**+3.4**
	baz=253						
CHY	**Chiayi**	**2.16**	**253**	*e*P	**Pn**	**17 52 50.4**	**+2.5**
	baz=253						
CHY				*e*S	**Sn**	**17 53 16.2**	**+2.7**
	baz=253						
SLGT	**Liugui**	**2.19**	**239**	*e*P	**Pn**	**17 52 50.1**	**+1.8**
	baz=231						
CHN1	**Nanshi**	**2.19**	**244**	*e*P	**Pn**	**17 52 50.5**	**+2.1**
	baz=244						
CHN1				*e*S	**Sn**	**17 53 17.0**	**+2.7**
	baz=244						
SGST	**Jiashian**	**2.19**	**241**	⇓*e*P	**Pn**	**17 52 50.4**	**+2.0**
	baz=241						
SGST				S	**Sn**	**17 53 17.2**	**+2.9**
	baz=241						
WTCT	**Ta-ch'eng**	**2.20**	**263**	P	**Pn**	**17 52 50.5**	**+1.9**
	baz=262						
WTCT				*e*S	**Sn**	**17 53 17.7**	**+3.1**
	baz=262						
ECL	**Taimali**	**2.21**	**226**	*e*P	**Pn**	**17 52 48.0**	**-0.7**
	baz=233						
WLGB	**Puzi**	**2.27**	**253**	*e*P	**Pn**	**17 52 51.8**	**+2.3**
	baz=253						
WLGB				*e*S	**Sn**	**17 53 18.9**	**+2.7**
	baz=253						
WSF	**Szhu**	**2.30**	**258**	⇓*i*P	**Pn**	**17 52 52.0**	**+2.2**
	baz=257						
WSF				S	**Sn**	**17 53 19.5**	**+2.6**
	baz=257						
SSD	**Sandimen**	**2.34**	**234**	*e*P	**Pn**	**17 52 51.2**	**+0.8**
	baz=227						
LAY	**Lan-yu**	**2.34**	**206**	*e*P	**Pn**	**17 52 48.9**	**-1.6**
	baz=205						
CHN3	**Shinhua**	**2.37**	**244**	*e*P	**Pn**	**17 52 54.1**	**+3.2**
	baz=253						
CHN3				*e*S	**Sn**	**17 53 23.0**	**+4.3**
	baz=253						
JIRB	**Irabujima**	**2.38**	**73**	P	**Pn**	**17 52 52.0**	**+1.0**
JIRB				*e*S	**Sn**	**17 53 19.2**	**+0.3**
CHN8	**Yiju**	**2.39**	**251**	*e*P	**Pn**	**17 52 52.6**	**+1.4**
	baz=250						
CHN8				S	**Sn**	**17 53 21.4**	**+2.1**
	baz=250						
MASBT	**Mashibuluo**	**2.42**	**231**	*e*P	**Pn**	**17 52 52.4**	**+0.8**
	baz=223						
TAW	**Tawu**	**2.42**	**223**	*e*P	**Pn**	**17 52 51.0**	**-0.6**
	baz=229						
EAST	**Anshuo**	**2.43**	**224**	⇓P	**Pn**	**17 52 51.5**	**-0.2**
	baz=230						
TWM1	**Shoushan**	**2.45**	**238**	*e*P	Pn	17 52 55.9	+3.9
	baz=237						
SGLT	**Jiouru**	**2.45**	**235**	*e*P	Pn	17 52 55.7	+3.7
	baz=234						
SGLT				*e*S	**Sn**	**17 53 25.8**	**+5.0**
	baz=234						
SCLT	**Jiali**	**2.47**	**247**	*e*P	**Pn**	**17 52 54.7**	**+2.5**
	baz=247						
SCLT				*e*S	**Sn**	**17 53 23.5**	**+2.4**
	baz=247						
JIKM	**Ikemajima**	**2.47**	**71**	P	**Pn**	**17 52 53.8**	**+1.5**
JIKM				*e*S	**Sn**	**17 53 23.2**	**+2.0**
JMJ	**Miyako jima 2**	**2.48**	**74**	*e*P	**Pn**	**17 52 53.2**	**+0.8**
	baz=76						
JMJ	**Miyako jima 2**	**2.48**	**74**	P	**Pn**	**17 52 53.7**	**+1.3**
JMJ				S	**Sn**	**17 53 23.4**	**+1.9**
TAI1	**Yung-k'ang**	**2.50**	**244**	*e*P	**Pn**	**17 52 55.1**	**+2.5**
	baz=255						
SSPT	**Xinbi**	**2.55**	**230**	*e*P	**Pn**	**17 52 55.4**	**+2.1**
	baz=225						
SSPT				*e*S	**Sn**	**17 53 26.5**	**+3.4**
	baz=225						
SCZT	**Fangliau**	**2.59**	**227**	*e*P	**Pn**	**17 52 54.8**	**+0.9**
	baz=220						
SCZT				*e*S	**Sn**	**17 53 26.0**	**+2.0**
	baz=220						
WSSB	**Gushan**	**2.67**	**236**	*e*P	**Pn**	**17 52 58.1**	**+3.1**
	baz=234						
WLCH	**Liuqiu**	**2.77**	**230**	*e*P	Pn	17 53 01.0	+4.7
	baz=243						
TSEB	**Hengchuen, Pin**	**2.77**	**216**	*e*P	**Pn**	**17 52 57.4**	**+1.0**
	baz=216						
HEN	**Hengchun**	**2.78**	**220**	*e*P	**Pn**	**17 52 57.5**	**+1.0**
	baz=219						
TWP	**Hsiaoliuchiu**	**2.78**	**230**	*e*P	**Pn**	**17 52 59.7**	**+3.2**
	baz=243						
TWKBT	**Hengchun**	**2.79**	**218**	*e*P	**Pn**	**17 52 57.1**	**+0.4**
	baz=216						
TWKBT				*e*S	**Sn**	**17 53 28.5**	**-0.6**
	baz=216						
TWK1	**Hengchun**	**2.79**	**218**	*e*P	**Pn**	**17 52 57.3**	**+0.7**
	baz=216						
TWK1				*e*S	**Sn**	**17 53 28.8**	**-0.3**
	baz=216						
WDGT	**Dungji**	**2.90**	**253**	P	**Pn**	**17 52 59.6**	**+1.5**
	baz=252						
WDGT				*e*S	**Sn**	**17 53 31.6**	**-0.1**
	baz=252						
PHUB	**P'eng-hu**	**2.91**	**258**	*e*P	**Pn**	**17 52 59.0**	**+0.8**
	baz=270						
PHUB				S	**Sn**	**17 53 32.2**	**+0.3**
	baz=270						
PNG	**Penghu**	**2.91**	**259**	*e*P	**Pn**	**17 52 59.1**	**+0.8**
	baz=258						
MATB	**Ma-tsu**	**3.17**	**309**	⇑*e*P	**Pn**	**17 53 02.4**	**+0.5**
	baz=306						
QZH	**Quanzhou**	**3.79**	**283**	⇑*i*Pn	**Pn**	**17 53 10.6**	**+0.2**
QZH				Sn	**Sn**	**17 53 50.5**	**-3.3**
QZH				LR	LR		
	comp=N,1µm,10.9s						
QZH				LR	LR		
	comp=E,760nm,13.5s						
QZH				LR	LR		
	comp=Z,620nm,9.8s						
KNM	**Kinmen**	**3.87**	**275**	*e*P	**Pn**	**17 53 13.7**	**+2.2**
	baz=264						
JOW	**Kunigami**	**5.72**	**61**	*e*P	**Pn**	**17 53 36.6**	**-0.3**
	baz=65						
JOW	**Kunigami**	**5.72**	**61**	*e*Pn	**Pn**	**17 53 36.7**	**-0.3**
JNU	**Nakatsue**	**11.48**	**37**	LR	LR	18 00 13.8	
	comp=Z,102nm,21.3s,baz=300,slow=42						
KSAR	**Wonju Array Be**	**13.98**	**17**	P	**Pn**	**17 55 27.9**	**-2.0**
KSRS	**Korea Array**	**14.00**	**18**	P	**Pn**	**17 55 27.9**	**-2.3**
	0.1nm,0.3s,baz=199,slow=11,SNR=3.0						
KSRS				LR	LR	18 01 06.4	
	comp=Z,46nm,19.2s,baz=10.0,slow=39						
XAN	**Xi'an**	**15.52**	**312**	P	**P**	**17 55 53.9**	**-0.2**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MJAR	**Matsushiro Arr**	**18.20**	**44**	LR	LR	18 03 44.8	
	comp=Z,94nm,19.2s,baz=230,slow=38						
LZH	**Lanzhou**	**20.12**	**311**	*e*P	Pn	17 56 47.5	+0.5
LZH				pP	sP	17 57 00.8	-0.3
LZH				pmax	pmax		
	comp=Z,22nm,1.4s						
USRK	**Ussuriysk Ar.**	**21.40**	**19**	P	**P**	**17 56 57.1**	**-1.3**
	2.4nm,0.7s,baz=200,slow=10,SNR=4.8						
CHTO	**Chiang Mai**	**22.69**	**261**	*e*P	**P**	**17 57 11.0**	**-1.5**
	13nm,1.4s						
CMAR	**Chiang Mai Arr**	**22.80**	**260**	P	**P**	**17 57 14.9**	**+1.2**
	1.7nm,0.8s,baz=59,slow=7.6,SNR=13						
CMAR				PcP	**PcP**	**18 01 05.7**	**+1.6**
	0.8nm,0.7s,baz=36,slow=0.9,SNR=5.9						
CMAR				LR	LR	18 06 31.2	
	comp=Z,128nm,18.5s,baz=63,slow=37						
GTA	**Gaotai**	**24.58**	**314**	P	**P**	**17 57 31.2**	**+0.7**
KLR	**Kul'dur**	**26.03**	**14**	P	**P**	**17 57 43.1**	**-0.3**
	0.1nm,0.6s,baz=200,slow=8.5,SNR=8.9						
ULN	**Ulaanbaatar**	**26.72**	**336**	*e*P	**P**	**17 57 48.9**	**-0.9**
	2.1nm,0.8s						
SONA0	**Songino Array**	**26.94**	**335**	*e*P	**P**	**17 57 50.9**	**-0.9**
SONM	**Songino Array**	**26.94**	**335**	P	**P**	**17 57 50.9**	**-0.9**
	3.5nm,0.7s,baz=153,slow=9.6,SNR=32						
SONM				LR	LR	18 09 47.5	
	comp=Z,83nm,19.1s,baz=178,slow=39						
SONA1	**Songino Array**	**26.95**	**335**	*e*P	**P**	**17 57 51.0**	**-0.9**
SHL	**Shillong**	**27.94**	**279**	*e*P	**P**	**17 58 00.0**	**-1.0**
LSA	**Lhasa**	**28.59**	**288**	*e*P	**P**	**17 58 09.3**	**+2.3**
	13nm,0.8s						
TLY	**Talaya**	**31.12**	**337**	*e*P	**P**	**17 58 27.8**	**-0.9**
	3.8nm,0.6s						
TAPN	**Taplejung**	**31.59**	**283**	*e*P	**P**	**17 58 35.0**	**+1.6**
	35nm,0.8s						
ODAN	**Odare**	**31.89**	**282**	*e*P	**P**	**17 58 37.2**	**+1.1**
	38nm,0.9s						
RAMN	**Ramite**	**32.59**	**283**	*e*P	**P**	**17 58 44.0**	**+1.8**
	24nm,0.7s						
JIRN	**Jiri**	**32.92**	**284**	*e*P	**P**	**17 58 46.8**	**+1.5**
	53nm,0.8s						
GUN	**Gumba**	**33.19**	**284**	*e*P	**P**	**17 58 48.9**	**+1.4**
	42nm,0.8s						
PKI	**Pulchoki**	**33.62**	**284**	*e*P	**P**	**17 58 52.1**	**+0.8**
	16nm,0.8s						
PKIN	**Phulchoki**	**33.63**	**284**	*e*P	**P**	**17 58 52.1**	**+0.8**
	19nm,0.7s						
KKN	**Kakani**	**33.72**	**284**	*e*P	**P**	**17 58 53.2**	**+1.1**
	30nm,0.8s						
WMQ	**Urumqi**	**34.66**	**313**	*e*P	P	17 59 04.2	+4.4
KOLN	**Koldanda**	**35.21**	**284**	*e*P	**P**	**17 59 06.1**	**+1.2**
	32nm,0.9s						
MK01	**Makanchi Array**	**39.29**	**315**	*e*P	**P**	**17 59 38.7**	**-0.3**
MK31	**Makanchi Array**	**39.31**	**315**	*e*P	**P**	**17 59 39.2**	**0.0**
MK32	**Makanchi Array**	**39.31**	**315**	*e*P	**P**	**17 59 39.3**	**+0.1**
MKAR	**Makanchi Array**	**39.31**	**315**	P	**P**	**17 59 39.3**	**+0.1**
	4.5nm,0.7s,baz=100,slow=11,SNR=51						
MKAR				PcP	**PcP**	**18 01 47.3**	**+0.1**
	1.6nm,0.7s,baz=93,slow=5.2,SNR=7.8						
MAKZ	**Makanchi**	**39.51**	**315**	*e*P	**P**	**17 59 40.5**	**-0.4**
	5.5nm,0.8s						
ZAA0	**Zalesovo Array**	**41.01**	**326**	*e*P	**P**	**17 59 51.9**	**-1.2**
	2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**41.01**	**326**	P	**P**	**17 59 51.5**	**-1.7**
	2.3nm,0.5s,baz=107,slow=8.6,SNR=12						
ZALV				LR	LR	18 18 03.7	
	comp=Z,101nm,18.4s,baz=77,slow=38						
ZAA1	**Zalesovo Array**	**41.02**	**326**	*e*P	**P**	**17 59 51.5**	**-1.7**
AAK	**Ala-Archa**	**43.60**	**307**	P	**P**	**18 00 14.3**	**-0.4**
	1.3nm,0.8s,baz=31,slow=8.2,SNR=4.0						
WRAB	**Tennant Creek**	**45.27**	**164**	P	**P**	**18 00 28.0**	**+0.1**
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**45.28**	**164**	P	**P**	**18 00 28.9**	**+0.9**
	2.8nm,0.8s,baz=346,slow=8.5,SNR=13						
WR1	**Warramunga Arr**	**45.28**	**164**	*e*P	**P**	**18 00 28.9**	**+0.9**
	13nm,1.5s						
WB2	**Warramunga Arr**	**45.28**	**164**	*e*P	**P**	**18 00 29.3**	**+1.3**
KBL	**Kabul**	**47.40**	**295**	*e*P	**P**	**18 00 44.9**	**0.0**
	12nm,0.8s						
BVAR	**Borovoye Array**	**48.56**	**320**	P	**P**	**18 00 52.6**	**-0.6**
	1.7nm,0.5s,baz=104,slow=7.3,SNR=20						
BVAR				PcP	**PcP**	**18 02 18.3**	**-0.2**
	1.5nm,0.5s,baz=123,slow=5.3,SNR=7.7						
BVAR				LR	LR	18 22 42.1	
	comp=Z,46nm,20.0s,baz=20,slow=38						
AS31	**Alice Springs**	**48.77**	**166**	*e*P	**P**	**18 00 56.4**	**+1.2**
	0.7nm,0.6s						
ASAR	**Alice Springs**	**48.77**	**166**	P	**P**	**18 00 57.0**	**+1.9**
	0.7nm,0.6s,baz=344,slow=6.2,SNR=15						
AKTO	**Aktyubinsk**	**55.74**	**316**	P	**P**	**18 01 46.1**	**-0.5**
	1.4nm,0.9s,baz=168,slow=6.3,SNR=4.6						
ARU	**Arti**	**55.95**	**323**	P	**P**	**18 01 46.5**	**-1.5**
	1.1nm,0.3s,baz=188,slow=2.3,SNR=4.2						
ARU	**Arti**	**55.95**	**323**	*e*P	**P**	**18 01 46.5**	**-1.5**
	15nm,1.7s						
GEYT	**Alibeck**	**55.98**	**301**	P	**P**	**18 01 48.9**	**+0.2**
	3.4nm,0.8s,baz=82,slow=3.1,SNR=12						
GEYT				LR	LR	18 29 60.0	
	comp=Z,69nm,18.8s,baz=35,slow=40						
ILAR	**Eielson Array**	**68.62**	**27**	P	**P**	**18 03 12.1**	**-0.6**
	0.5nm,0.9s,baz=277,slow=5.5,SNR=3.8						
ARA0	**ARCESS Array S**	**70.07**	**338**	*e*P	**P**	**18 03 20.9**	**-0.7**
ARCES	**ARCESS Array B**	**70.07**	**338**	P	**P**	**18 03 20.9**	**-0.7**
	1.9nm,0.7s,baz=77,slow=6.6,SNR=6.1						
FIA0	**FINESS Array S**	**72.15**	**330**	*e*P	**P**	**18 03 33.8**	**-0.5**
FINES	**FINESS Array B**	**72.15**	**330**	P	**P**	**18 03 33.8**	**-0.5**
	0.9nm,0.5s,baz=65,slow=6.0,SNR=10						
AKASG	**Malin Array Be**	**73.79**	**319**	P	**P**	**18 03 42.9**	**-1.3**
	0.8nm,0.6s,baz=57,slow=7.0,SNR=4.2						
BR101	**Keskin Array S**	**74.28**	**307**	*e*P	**P**	**18 03 47.5**	**+0.1**
BRTR	**Keskin Array B**	**74.28**	**307**	P	**P**	**18 03 47.5**	**+0.1**
	1.6nm,0.8s,baz=109,slow=6.7,SNR=7.8						
MMAI	**Mount Meron Ar**	**75.09**	**300**	P	**P**	**18 03 52.7**	**+0.5**
	5.4nm,1.0s,baz=70,slow=9.3,SNR=2.3						
HFS	**Hagfors**	**78.25**	**331**	P	**P**	**18 04 08.8**	**-0.6**
	3.0nm,0.8s,baz=72,slow=4.8,SNR=4.3						
NB2	**NORSAR Subarra**	**78.88**	**333**	P	**P**	**18 04 11.6**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=62,slow=5.6						
NB200	**NORSAR Array S**	**78.88**	**333**	*e*P	**P**	**18 04 11.8**	**-1.1**
NOA	**NORSAR Array B**	**78.88**	**333**	P	**P**	**18 04 11.8**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=56,slow=5.4,SNR=4.6						
YKA	**Yellowknife Ar**	**82.47**	**23**	P	**P**	**18 04 31.6**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=311,slow=5.1,SNR=12						
CLL	**Collm**	**82.89**	**323**	*e*P	**P**	**18 04 35.0**	**+0.6**
GERES	**GERESS Array B**	**83.72**	**321**	P	**P**	**18 04 39.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=58,slow=5.3,SNR=11						
KMBO	**Kilima Mbogo**	**86.27**	**267**	P	**P**	**18 04 54.4**	**+1.9**
	comp=Z,3.9nm,0.7s,baz=51,slow=6.0,SNR=14						
RAR	**Rarotonga**	**87.86**	**114**	LR	LR	18 42 28.9	
	comp=Z,32nm,19.3s,baz=302,slow=34						
EKA	**Eskdalemuir Ar**	**88.37**	**332**	P	**P**	**18 05 01.8**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=20,slow=2.7,SNR=3.8						

ISCJB ***04*** *17:54:20.0±0.2, 36°.57N±0°.02×28°.13E±0°.02, h91km±2km, mb3.6/12, Error ellipse: s-maj=3.0km s-min=2.4km az=20.4*
ATH ***04*** *17:54:20.6, 36°.62N×28°.06E, h90km±2km, ML3.6/8, Error ellipse: s-maj=3.1km s-min=1.2km az=139.0*
ISK ***04*** *17:54:20.0, 36°.62N×28°.06E, h90km, ML3.6/24*
CSEM ***04*** *17:54:21.3±0.1, 36°.60N×28°.12E, h80km, ML3.6, Error ellipse: s-maj=2.4km s-min=1.8km az=28.0*
IDC ***04*** *17:54:21.7±1.6, 36°.71N×28°.00E, h82km±16km, mb3.5/12, mb1 3.5/17, mb1mx3.3/56, mbtmp3.7/17, Error ellipse: s-maj=17.2km s-min=13.1km az=145.0*
THE ***04*** *17:54:22.8, 36°.66N×28°.05E, h82km±2km, ML3.8/3, Error ellipse: s-maj=2.7km s-min=0.7km az=100.0*
HLW ***04*** *17:54:24.9, 36°.19N×28°.13E, h31km±26km, Ml3.7*
DDA ***04*** *17:54:24.2, 36°.78N×28°.18E, h7km, Ml3.4*
NIC ***04*** *17:54:24.2±0.1, 36°.67N×28°.45E, h50km, mb4.2, ML3.7*
GII ***04*** *17:54:26.2±0.0, 36°.12N×28°.49E, h15km, MD3.2/1*
ISC 04 17:54:21.2±0.6, **36°.60N**±0°.03×**28°.11E**±0°.03, **h80**km±5km, **n266**, σ1°.**39**/324, **mb3.6**/12, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.13**	**31**	PG	**Pn**	**17 54 33.7**	**+0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MRSB	**Marmaris-Mugla**	**0.13**	**31**	*e*Pg	**Pn**	**17 54 33.7**	**+0.9**
ARG	**Arkhangelos**	**0.39**	**178**	P	**Pn**	**17 54 36.0**	**+1.9**
ARG				S	**Sn**	**17 54 45.4**	**+1.8**
ARG				AML	AML	17 54 45.8	
	comp=E,25126µm,0.4s						
ARG				AML	AML	17 54 46.6	
	comp=N,11542µm,0.2s						
ARG	**Arkhangelos**	**0.39**	**178**	P	**Pn**	**17 54 35.5**	**+1.4**
ARG				S	**Sn**	**17 54 45.6**	**+2.1**
ARG	**Arkhangelos**	**0.39**	**178**	P	**Pn**	**17 54 35.5**	**+1.4**
ARG				S	**Sn**	**17 54 45.2**	**+1.7**
TURN	**Turunc**	**0.48**	**55**	PG	**Pn**	**17 54 34.2**	**-0.5**
TURN				SG	**Sn**	**17 54 43.0**	**-1.8**
TURN	**Turunc**	**0.48**	**55**	*i* P	**Pn**	**17 54 34.1**	**-0.7**
TURN				*i* S	**Sn**	**17 54 42.8**	**-2.0**
TURN	**Turunc**	**0.48**	**55**	*e*Pg	**Pn**	**17 54 34.2**	**-0.5**
TURN				S	**Sn**	**17 54 42.8**	**-2.0**
YER	**Yerkesik**	**0.55**	**14**	PG	**Pn**	**17 54 36.6**	**+1.1**
YER				SG	**Sn**	**17 54 47.1**	**+1.1**
YER	**Yerkesik**	**0.55**	**14**	P	**Pn**	**17 54 36.6**	**+1.1**
YER				*e*Sg	**Sn**	**17 54 47.1**	**+1.1**
YER	**Yerkesik**	**0.55**	**14**	P	**Pn**	**17 54 36.6**	**+1.1**
BDRM	**Kayabasi**	**0.71**	**311**	*i* P	**Pn**	**17 54 37.0**	**+0.1**
BDRM				*i* S	**Sn**	**17 54 47.2**	**-1.5**
BDRM	**Kayabasi**	**0.71**	**311**	P	**Pn**	**17 54 37.0**	**+0.1**
BDRM				S	**Sn**	**17 54 47.2**	**-1.5**
FETY	**Fethiye**	**0.78**	**87**	PG	**Pn**	**17 54 38.3**	**+0.5**
FETY	**Fethiye**	**0.78**	**87**	P	**Pn**	**17 54 38.3**	**+0.5**
FETY				S	**Sn**	**17 54 51.3**	**+1.2**
FETY	**Fethiye**	**0.78**	**87**	P	**Pn**	**17 54 38.3**	**+0.5**
FETY				S	**Sn**	**17 54 51.3**	**+1.2**
BODT	**Bodrum**	**0.79**	**306**	PG	**Pn**	**17 54 36.9**	**-0.9**
BODT	**Bodrum**	**0.79**	**306**	P	**Pn**	**17 54 36.9**	**-0.9**
BODT				S	**Sn**	**17 54 48.2**	**-2.0**
BODT	**Bodrum**	**0.79**	**306**	P	**Pn**	**17 54 36.9**	**-0.9**
BODT				S	**Sn**	**17 54 48.2**	**-2.0**
NISR	**Nisiros**	**0.79**	**271**	P	**Pn**	**17 54 38.1**	**+0.3**
NISR				AML	AML	17 54 51.3	
	comp=E,9087µm,0.6s						
NISR				AML	AML	17 54 53.4	
	comp=N,5346µm,0.5s						
NISR	**Nisiros**	**0.79**	**271**	P	**Pn**	**17 54 38.1**	**+0.3**
NISR	**Nisiros**	**0.79**	**271**	P	**Pn**	**17 54 38.0**	**+0.3**
YKAV	**Yalikavak-Bodr**	**0.85**	**308**	PG	**Pn**	**17 54 38.0**	**-0.4**
YKAV	**Yalikavak-Bodr**	**0.85**	**308**	*e*Pg	**Pn**	**17 54 38.0**	**-0.4**
DIDI	**Didim-Aydin**	**1.04**	**318**	PG	**Pn**	**17 54 40.5**	**-0.2**
DIDI	**Didim-Aydin**	**1.04**	**318**	*e*Pg	**Pn**	**17 54 40.5**	**-0.2**
AYDN	**Tasoluk**	**1.07**	**350**	*i* P	**Pn**	**17 54 41.8**	**+0.6**
AYDN				*i* S	**Sn**	**17 54 55.2**	**-0.9**
AYDN	**Tasoluk**	**1.07**	**350**	P	**Pn**	**17 54 41.8**	**+0.6**
AYDN				S	**Sn**	**17 54 55.2**	**-0.9**
TAVA	**DENIZLI_Tavas**	**1.07**	**36**	*i* P	**Pn**	**17 54 42.1**	**+0.8**
TAVA				*i* S	**Sn**	**17 54 55.9**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.07**	**36**	P	**Pn**	**17 54 42.1**	**+0.8**
TAVA				S	**Sn**	**17 54 55.9**	**-0.3**
AKAS	**Kas**	**1.26**	**107**	PN	**Pn**	**17 54 43.9**	**+0.3**
AKAS	**Kas**	**1.26**	**107**	*e*Pn	**Pn**	**17 54 43.9**	**+0.3**
KSL	**Kastellorizon**	**1.27**	**110**	P	**Pn**	**17 54 44.6**	**+1.1**
KSL				S	**Sn**	**17 55 02.9**	**+2.5**
KSL				AML	AML	17 55 03.3	
	comp=E,4499µm,0.5s						
KSL				AML	AML	17 55 04.3	
	comp=N,1736µm,0.7s						
KSL	**Kastellorizon**	**1.27**	**110**	P	**Pn**	**17 54 44.8**	**+1.2**
KSL				S	**Sn**	**17 55 02.4**	**+2.0**
KSL	**Kastellorizon**	**1.27**	**110**	P	**Pn**	**17 54 44.8**	**+1.2**
KSL				S	**Sn**	**17 55 02.4**	**+2.0**
GCAM	**G?zelcaml?**	**1.30**	**328**	PN	**Pn**	**17 54 44.0**	**+0.1**
GCAM	**G?zelcaml?**	**1.30**	**328**	*i* P	**Pn**	**17 54 44.0**	**+0.1**
GCAM				*i* S	**Sn**	**17 54 59.3**	**-1.7**
GCAM	**G?zelcaml?**	**1.30**	**328**	P	**Pn**	**17 54 44.0**	**+0.1**
GCAM				S	**Sn**	**17 54 59.3**	**-1.7**
KARP	**Karpathos**	**1.30**	**216**	PN	**Pn**	**17 54 44.5**	**+0.5**
KARP	**Karpathos**	**1.30**	**216**	P	**Pn**	**17 54 44.9**	**+0.8**
KARP				S	**Sn**	**17 55 01.5**	**+0.2**
KARP				AML	AML	17 55 02.1	
	comp=N,12353µm,0.2s						
KARP				AML	AML	17 55 02.2	
	comp=E,11656µm,0.2s						
KARP	**Karpathos**	**1.30**	**216**	*e*Pn	**Pn**	**17 54 44.5**	**+0.5**
KARP				S	**Sn**	**17 55 01.9**	**+0.7**
KARP	**Karpathos**	**1.30**	**216**	P	**Pn**	**17 54 44.7**	**+0.7**
KARP				S	**Sn**	**17 55 01.6**	**+0.4**
GOLH	**Golhisar**	**1.32**	**61**	*i* P	**Pn**	**17 54 45.5**	**+1.1**
GOLH				*i* S	**Sn**	**17 55 02.0**	**+0.3**
GOLH	**Golhisar**	**1.32**	**61**	P	**Pn**	**17 54 45.5**	**+1.1**
GOLH				S	**Sn**	**17 55 02.0**	**+0.3**
DENT	**Denizli**	**1.36**	**32**	PN	**Pn**	**17 54 45.2**	**+0.4**
DENT	**Denizli**	**1.36**	**32**	*e*Pn	**Pn**	**17 54 45.2**	**+0.4**
ELL	**Elmali**	**1.45**	**84**	PN	**Pn**	**17 54 47.0**	**+1.0**
ELL	**Elmali**	**1.45**	**84**	*e*Pn	**Pn**	**17 54 47.0**	**+1.0**
SMG	**Samos**	**1.50**	**318**	P	**Pn**	**17 54 46.0**	**-0.6**
SMG	**Samos**	**1.50**	**318**	P	**Pn**	**17 54 46.4**	**-0.1**
SMG	**Samos**	**1.50**	**318**	P	**Pn**	**17 54 46.2**	**-0.3**
DGB	**˜zmir**	**1.75**	**326**	*i* P	Pn	17 54 54.9	+5.2
GMLD	**Gumuldur**	**1.75**	**327**	PN	**Pn**	**17 54 48.4**	**-1.4**
GMLD	**Gumuldur**	**1.75**	**327**	*e*Pn	**Pn**	**17 54 48.4**	**-1.4**
KORT	**Korkueli**	**1.84**	**77**	PN	**Pn**	**17 54 51.9**	**+0.8**
KORT	**Korkueli**	**1.84**	**77**	*e*Pn	**Pn**	**17 54 51.9**	**+0.8**
KULA	**Kula-Manisa**	**1.96**	**13**	PN	**Pn**	**17 54 52.7**	**+0.1**
KULA	**Kula-Manisa**	**1.96**	**13**	*e*Pn	**Pn**	**17 54 52.7**	**+0.1**
KHL	**Karahalli**	**2.05**	**33**	PN	**Pn**	**17 54 54.6**	**+0.7**
KHL	**Karahalli**	**2.05**	**33**	*e*Pn	**Pn**	**17 54 54.6**	**+0.7**
ANTB	**Antalya**	**2.06**	**81**	PN	**Pn**	**17 54 55.8**	**+1.9**
ANTB	**Antalya**	**2.06**	**81**	*e*Pn	**Pn**	**17 54 55.8**	**+1.9**
ZEY	**˜zmir**	**2.08**	**322**	*i* P	**Pn**	**17 54 53.7**	**-0.3**
APE	**Apeiranthos**	**2.12**	**283**	PN	**Pn**	**17 54 54.7**	**0.0**
APE	**Apeiranthos**	**2.12**	**283**	P	**Pn**	**17 54 55.5**	**+0.8**
APE	**Apeiranthos**	**2.12**	**283**	*e*Pn	**Pn**	**17 54 54.7**	**0.0**
APE	**Apeiranthos**	**2.12**	**283**	P	**Pn**	**17 54 55.3**	**+0.6**
APE	**Apeiranthos**	**2.12**	**283**	P	**Pn**	**17 54 55.3**	**+0.6**
URLA	**Izmir**	**2.13**	**326**	PN	**Pn**	**17 54 53.1**	**-1.7**
URLA	**Izmir**	**2.13**	**326**	*i* P	**Pn**	**17 54 53.5**	**-1.3**
URLA				*i* S	**Sn**	**17 55 14.5**	**-6.0**
URLA	**Izmir**	**2.13**	**326**	*e*Pn	**Pn**	**17 54 53.1**	**-1.7**
URLA	**Izmir**	**2.13**	**326**	P	**Pn**	**17 54 53.5**	**-1.3**
ZKR	**Zakros**	**2.14**	**227**	PN	**Pn**	**17 54 55.4**	**+0.5**
ZKR	**Zakros**	**2.14**	**227**	P	**Pn**	**17 54 56.6**	**+1.6**
ZKR				S	**Sn**	**17 55 21.0**	**+0.4**
ZKR				AML	AML	17 55 24.3	
	comp=E,1119µm,0.3s						
ZKR				AML	AML	17 55 25.1	
	comp=N,463µm,0.4s						
ZKR	**Zakros**	**2.14**	**227**	*e*Pn	**Pn**	**17 54 55.4**	**+0.5**
ZKR	**Zakros**	**2.14**	**227**	P	**Pn**	**17 54 56.1**	**+1.2**
ZKR				S	**Sn**	**17 55 21.1**	**+0.4**
ZKR	**Zakros**	**2.14**	**227**	P	**Pn**	**17 54 56.1**	**+1.2**
SANT	**Santorini**	**2.15**	**265**	P	**Pn**	**17 54 55.8**	**+0.7**
SANT	**Santorini**	**2.15**	**265**	P	**Pn**	**17 54 55.6**	**+0.5**
SANT	**Santorini**	**2.15**	**265**	P	**Pn**	**17 54 55.6**	**+0.5**
BCK	**Bucak**	**2.16**	**66**	PN	**Pn**	**17 54 56.3**	**+1.0**
BCK	**Bucak**	**2.16**	**66**	*e*Pn	**Pn**	**17 54 56.3**	**+1.0**
THR2	**Thira island,**	**2.16**	**267**	P	**Pn**	**17 54 56.0**	**+0.8**
THR2	**Thira island,**	**2.16**	**267**	P	**Pn**	**17 54 56.0**	**+0.8**
THT1	**Athinios (Pele**	**2.17**	**265**	P	**Pn**	**17 54 55.5**	**+0.2**
THT1	**Athinios (Pele**	**2.17**	**265**	P	**Pn**	**17 54 55.5**	**+0.2**
CMBO	**Columbo, Santo**	**2.18**	**267**	P	**Pn**	**17 54 55.2**	**-0.3**
CMBO	**Columbo, Santo**	**2.18**	**267**	P	**Pn**	**17 54 55.2**	**-0.3**
THR3	**Thira Island,**	**2.19**	**266**	P	**Pn**	**17 54 56.3**	**+0.7**
THR3	**Thira Island,**	**2.19**	**266**	P	**Pn**	**17 54 56.3**	**+0.7**
THR6	**Thira Island,**	**2.20**	**264**	P	**Pn**	**17 54 56.6**	**+0.9**
THR6	**Thira Island,**	**2.20**	**264**	P	**Pn**	**17 54 56.6**	**+0.9**
THR9	**Santorini-Faro**	**2.23**	**265**	P	**Pn**	**17 54 56.4**	**+0.2**
THR9	**Santorini-Faro**	**2.23**	**265**	P	**Pn**	**17 54 56.4**	**+0.2**
THR5	**Thira Island,**	**2.23**	**266**	P	**Pn**	**17 54 57.2**	**+1.0**
THR5	**Thira Island,**	**2.23**	**266**	P	**Pn**	**17 54 57.2**	**+1.0**
ISP	**Isparta**	**2.28**	**57**	P	**Pn**	**17 54 58.1**	**+1.2**
ISP	**Isparta**	**2.28**	**57**	P	**Pn**	**17 54 58.1**	**+1.2**
AKHS	**Akhisar**	**2.29**	**354**	*i* P	**Pn**	**17 54 56.8**	**-0.1**
AKHS	**Akhisar**	**2.29**	**354**	P	**Pn**	**17 54 56.8**	**-0.1**
AKS	**Akhisar**	**2.29**	**354**	PN	**Pn**	**17 54 56.6**	**-0.3**
AKS	**Akhisar**	**2.29**	**354**	*e*Pn	**Pn**	**17 54 56.6**	**-0.3**
KRBN	**Karaburun**	**2.34**	**329**	PN	**Pn**	**17 54 57.3**	**-0.3**
KRBN	**Karaburun**	**2.34**	**329**	*e*Pn	**Pn**	**17 54 57.3**	**-0.3**
FOCM	**Foˆ§a**	**2.38**	**333**	PN	**Pn**	**17 54 57.4**	**-0.7**
FOCM	**Foˆ§a**	**2.38**	**333**	*e*Pn	**Pn**	**17 54 57.4**	**-0.7**
CHOS	**Chios island**	**2.42**	**318**	PN	**Pn**	**17 54 58.5**	**-0.2**
CHOS	**Chios island**	**2.42**	**318**	P	**Pn**	**17 54 58.1**	**-0.6**
CHOS	**Chios island**	**2.42**	**318**	*e*Pn	**Pn**	**17 54 58.5**	**-0.2**
CHOS	**Chios island**	**2.42**	**318**	P	**Pn**	**17 54 58.1**	**-0.6**
NPS	**Neapolis**	**2.43**	**237**	P	**Pn**	**17 54 58.5**	**-0.4**
NPS				S	**Sn**	**17 55 27.7**	**+0.1**
NPS				AML	AML	17 55 29.4	
	comp=N,1140µm,0.2s						
NPS				AML	AML	17 55 30.0	
	comp=E,1118µm,0.3s						
NPS	**Neapolis**	**2.43**	**237**	P	**Pn**	**17 54 59.0**	**+0.2**
NPS				S	**Sn**	**17 55 27.9**	**+0.2**
NPS	**Neapolis**	**2.43**	**237**	P	**Pn**	**17 54 59.7**	**+0.9**
NPS				S	**Sn**	**17 55 27.5**	**-0.2**
SUTC	**Sutluce-Ispart**	**2.47**	**68**	PN	**Pn**	**17 55 00.7**	**+1.2**
SUTC	**Sutluce-Ispart**	**2.47**	**68**	*e*Pn	**Pn**	**17 55 00.7**	**+1.2**
CAND	**Candarli**	**2.57**	**337**	PN	**Pn**	**17 55 00.6**	**-0.1**
SIMA	**Simav-Kutahya**	**2.57**	**15**	PN	**Pn**	**17 55 00.9**	**+0.1**
SIMA	**Simav-Kutahya**	**2.57**	**15**	*e*Pn	**Pn**	**17 55 00.9**	**+0.1**
LAST	**Lasithi**	**2.58**	**237**	P	**Pn**	**17 55 00.7**	**-0.2**
LAST				AML	AML	17 55 31.0	
	comp=E,323µm,0.5s						
LAST				AML	AML	17 55 31.6	
	comp=N,385µm,0.3s						
LAST	**Lasithi**	**2.58**	**237**	P	**Pn**	**17 55 01.2**	**+0.4**
LAST	**Lasithi**	**2.58**	**237**	P	**Pn**	**17 55 01.3**	**+0.4**
SHUT	**Suhut-Afyon**	**2.75**	**44**	PN	**Pn**	**17 55 04.4**	**+1.2**
SHUT	**Suhut-Afyon**	**2.75**	**44**	*e*Pn	**Pn**	**17 55 04.4**	**+1.2**
IDI	**Anoyia**	**2.92**	**244**	P	**Pn**	**17 55 05.8**	**+0.2**
	comp=N,2.6nm,0.3s,baz=8.9,slow=9.1,SNR=27						
IDI				S	**Sn**	**17 55 36.4**	**-3.3**
	comp=N,21nm,0.3s,baz=309,slow=21,SNR=16						
IDI	**Anoyia**	**2.92**	**244**	P	**Pn**	**17 55 05.2**	**-0.3**
IDI				AML	AML	17 55 40.0	
	comp=E,368µm,0.3s						
IDI				AML	AML	17 55 40.3	
	comp=N,265µm,0.2s						
IDI	**Anoyia**	**2.92**	**244**	P	**Pn**	**17 55 05.8**	**+0.2**
IDI				S	**Sn**	**17 55 38.6**	**-1.1**
IDI	**Anoyia**	**2.92**	**244**	P	**Pn**	**17 55 05.8**	**+0.2**
IDI				S	**Sn**	**17 55 38.6**	**-1.1**
MHLA	**Plaka, Milos I**	**2.97**	**274**	P	**Pn**	**17 55 07.8**	**+1.7**
MHLA	**Plaka, Milos I**	**2.97**	**274**	P	**Pn**	**17 55 07.3**	**+1.2**
MHLO	**Agia Marina, M**	**2.98**	**273**	P	**Pn**	**17 55 06.3**	**0.0**
MHLO	**Agia Marina, M**	**2.98**	**273**	P	**Pn**	**17 55 06.6**	**+0.3**
PRK	**Paraskevi**	**3.01**	**332**	P	**Pn**	**17 55 06.7**	**0.0**
PRK	**Paraskevi**	**3.01**	**332**	P	**Pn**	**17 55 07.0**	**+0.3**
PRK	**Paraskevi**	**3.01**	**332**	P	**Pn**	**17 55 07.0**	**+0.3**
TVSB	**Tavsanli**	**3.04**	**20**	PN	**Pn**	**17 55 06.9**	**-0.2**
TVSB	**Tavsanli**	**3.04**	**20**	*e*Pn	**Pn**	**17 55 06.9**	**-0.2**
BALB	**Balikesir**	**3.04**	**357**	PN	**Pn**	**17 55 07.2**	**+0.2**
BALB	**Balikesir**	**3.04**	**357**	*e*Pn	**Pn**	**17 55 07.2**	**+0.2**
SIVA	**Sivas**	**3.11**	**240**	P	**Pn**	**17 55 09.8**	**+1.7**
SIVA	**Sivas**	**3.11**	**240**	P	**Pn**	**17 55 09.3**	**+1.2**
SIVA	**Sivas**	**3.11**	**240**	P	**Pn**	**17 55 09.4**	**+1.3**
SIGR	**SIGRI**	**3.16**	**326**	PN	**Pn**	**17 55 08.4**	**-0.2**
SIGR	**SIGRI**	**3.16**	**326**	*e*Pn	**Pn**	**17 55 08.4**	**-0.2**
SIGR	**SIGRI**	**3.16**	**326**	P	**Pn**	**17 55 08.8**	**+0.2**
SIGR	**SIGRI**	**3.16**	**326**	P	**Pn**	**17 55 08.8**	**+0.2**
KARY	**Karystos**	**3.26**	**297**	P	**Pn**	**17 55 11.0**	**+1.0**
KARY	**Karystos**	**3.26**	**297**	P	**Pn**	**17 55 11.0**	**+1.0**
IMMV	**Iera Moni Meta**	**3.54**	**252**	PN	**Pn**	**17 55 13.7**	**-0.1**
IMMV	**Iera Moni Meta**	**3.54**	**252**	P	**Pn**	**17 55 15.2**	**+1.4**
IMMV	**Iera Moni Meta**	**3.54**	**252**	*e*Pn	**Pn**	**17 55 13.7**	**-0.1**
IMMV	**Iera Moni Meta**	**3.54**	**252**	P	**Pn**	**17 55 14.7**	**+0.9**
IMMV	**Iera Moni Meta**	**3.54**	**252**	P	**Pn**	**17 55 14.7**	**+0.9**
VLY	**Voula,Athens**	**3.66**	**291**	P	**Pn**	**17 55 17.7**	**+2.2**
VLY	**Voula,Athens**	**3.66**	**291**	P	**Pn**	**17 55 17.0**	**+1.5**
PTL	**Penteli**	**3.68**	**294**	P	**Pn**	**17 55 18.1**	**+2.4**
PTL	**Penteli**	**3.68**	**294**	P	**Pn**	**17 55 17.3**	**+1.5**
GVD	**Gavdhos**	**3.72**	**243**	PN	**Pn**	**17 55 16.7**	**+0.5**
GVD	**Gavdhos**	**3.72**	**243**	P	**Pn**	**17 55 18.5**	**+2.3**
GVD	**Gavdhos**	**3.72**	**243**	*e*Pn	**Pn**	**17 55 16.7**	**+0.5**
GVD	**Gavdhos**	**3.72**	**243**	P	**Pn**	**17 55 17.0**	**+0.8**
GVD	**Gavdhos**	**3.72**	**243**	P	**Pn**	**17 55 17.0**	**+0.8**
PPCY	**Paphos**	**3.85**	**115**	P	**Pn**	**17 55 18.9**	**+0.9**
	baz=300						
PPCY	**Paphos**	**3.85**	**115**	P	**Pn**	**17 55 18.9**	**+0.9**
ALFC	**Alefka**	**3.92**	**110**	P	**Pn**	**17 55 19.4**	**+0.4**
	baz=295						
ALFC				S	**Sn**	**17 56 02.9**	**-1.0**
ALFC	**Alefka**	**3.92**	**110**	P	**Pn**	**17 55 19.4**	**+0.4**
ALFC				S	**Sn**	**17 56 02.9**	**-1.0**
GADA	**Gvkgeada**	**3.98**	**335**	P	**Pn**	**17 55 20.3**	**+0.5**
GADA	**Gvkgeada**	**3.98**	**335**	P	**Pn**	**17 55 20.3**	**+0.5**
LIA	**Limnos Island**	**4.02**	**326**	P	**Pn**	**17 55 21.0**	**+0.6**
LIA	**Limnos Island**	**4.02**	**326**	P	**Pn**	**17 55 20.9**	**+0.6**
LIA	**Limnos Island**	**4.02**	**326**	P	**Pn**	**17 55 20.9**	**+0.6**
TEKE	**Tekeli-Mersin**	**4.06**	**95**	PN	**Pn**	**17 55 21.8**	**+0.8**
TEKE	**Tekeli-Mersin**	**4.06**	**95**	*e*Pn	**Pn**	**17 55 21.8**	**+0.8**
KYTH	**Kithira**	**4.10**	**267**	P	**Pn**	**17 55 22.4**	**+1.0**
KYTH	**Kithira**	**4.10**	**267**	P	**Pn**	**17 55 22.4**	**+1.0**
LEF	**Lefka**	**4.15**	**109**	PN	**Pn**	**17 55 21.6**	**-0.6**
LEF	**Lefka**	**4.15**	**109**	*i* Pn	**Pn**	**17 55 21.6**	**-0.6**
VLI	**Veliai**	**4.16**	**273**	P	**Pn**	**17 55 24.2**	**+1.9**
VLI	**Veliai**	**4.16**	**273**	P	**Pn**	**17 55 23.6**	**+1.3**
SZAC	**Souni**	**4.30**	**114**	P	**Pn**	**17 55 25.0**	**+0.8**
	baz=299						
SZAC				S	**Sn**	**17 56 12.3**	**-0.8**
SZAC	**Souni**	**4.30**	**114**	P	**Pn**	**17 55 25.0**	**+0.8**
SZAC				S	**Sn**	**17 56 12.3**	**-0.8**
MAMC	**Mammari**	**4.38**	**107**	P	**Pn**	**17 55 25.7**	**+0.3**
	baz=292						
MAMC	**Mammari**	**4.38**	**107**	P	**Pn**	**17 55 25.7**	**+0.3**
ENEZ	**Enez**	**4.40**	**340**	P	**Pn**	**17 55 25.4**	**-0.2**
ENEZ	**Enez**	**4.40**	**340**	P	**Pn**	**17 55 25.4**	**-0.2**
CSS	**Mathiatis**	**4.55**	**110**	P	**Pn**	**17 55 28.2**	**+0.6**
	baz=294						
CSS				S	**Sn**	**17 56 18.2**	**-1.0**
CSS	**Mathiatis**	**4.55**	**110**	Pn	**Pn**	**17 55 27.1**	**-0.5**
CSS	**Mathiatis**	**4.55**	**110**	P	**Pn**	**17 55 28.2**	**+0.6**
CSS				S	**Sn**	**17 56 18.2**	**-1.0**
CSS	**Mathiatis**	**4.55**	**110**	Pn	**Pn**	**17 55 27.1**	**-0.5**
BRTR	**Keskin Array B**	**5.36**	**53**	P	**Pn**	**17 55 40.2**	**+1.5**
	comp=N,0.3nm,0.3s,baz=243,slow=16,SNR=12						
BRTR				S	**Sn**	**17 56 39.7**	**+0.6**
	comp=N,0.7nm,0.3s,baz=223,slow=25,SNR=11						
SLUM	**Salum**	**5.64**	**206**	P	**Pn**	**17 55 41.8**	**-0.6**
	baz=209						
SLUM				S	**Sn**	**17 56 39.8**	**-6.0**
	baz=209						
SLUM	**Salum**	**5.64**	**206**	P	**Pn**	**17 55 41.8**	**-0.6**
OFRI	**‘Ofer**	**6.92**	**123**	Pn	**Pn**	**17 55 59.8**	**-0.2**
OFRI	**‘Ofer**	**6.92**	**123**	Pn	**Pn**	**17 55 59.8**	**-0.2**
MMA0B	**Mount Meron ar**	**6.98**	**119**	Pn	**Pn**	**17 55 59.9**	**-1.0**
MMA0B	**Mount Meron ar**	**6.98**	**119**	Pn	**Pn**	**17 55 59.9**	**-1.0**
MMAI	**Mount Meron Ar**	**6.98**	**119**	P	**Pn**	**17 56 00.1**	**-0.8**
	comp=N,14nm,0.3s,baz=307,slow=12,SNR=47						
MMAI				S	**Sn**	**17 57 13.7**	**-5.1**
	comp=N,15nm,0.3s,baz=330,slow=29,SNR=16						
BLGI	**Bet Lehem HaGe**	**6.99**	**121**	Pn	**Pn**	**17 56 01.1**	**+0.2**
BLGI	**Bet Lehem HaGe**	**6.99**	**121**	Pn	**Pn**	**17 56 01.1**	**+0.2**
KSDI	**Kefar Szold**	**7.07**	**117**	Pn	**Pn**	**17 56 01.2**	**-0.8**
KSDI	**Kefar Szold**	**7.07**	**117**	Pn	**Pn**	**17 56 01.2**	**-0.8**
KSDI				Sn	**Sn**	**17 57 17.4**	**-3.5**
HMYD	**Mayadein**	**7.15**	**161**	P	**Pn**	**17 56 02.4**	**-0.8**
	baz=159						
HMYD	**Mayadein**	**7.15**	**161**	P	**Pn**	**17 56 02.4**	**-0.8**
SQR	**Saqqara**	**7.18**	**158**	P	**Pn**	**17 56 02.7**	**-0.8**
	baz=156						
SQR	**Saqqara**	**7.18**	**158**	P	**Pn**	**17 56 02.7**	**-0.8**
SLTI	**Sal’it**	**7.19**	**125**	Pn	**Pn**	**17 56 03.4**	**-0.2**
SLTI	**Sal’it**	**7.19**	**125**	Pn	**Pn**	**17 56 03.4**	**-0.2**
RSH		**7.31**	**139**	P	**Pn**	**17 56 05.1**	**-0.2**
	baz=136						
RSH		**7.31**	**139**	P	**Pn**	**17 56 05.1**	**-0.2**
MMLI	**Mount Malkishu**	**7.32**	**122**	Pn	**Pn**	**17 56 04.9**	**-0.6**
MMLI	**Mount Malkishu**	**7.32**	**122**	Pn	**Pn**	**17 56 04.9**	**-0.6**
MMLI				Sn	**Sn**	**17 57 22.9**	**-4.2**
KOT	**Kottamia**	**7.35**	**154**	P	**Pn**	**17 56 05.6**	**-0.3**
	baz=152						
KOT				S	**Sn**	**17 57 21.1**	**-6.6**
	baz=152						
KOT	**Kottamia**	**7.35**	**154**	P	**Pn**	**17 56 05.6**	**-0.3**
HHAG	**Hagoal**	**7.42**	**152**	P	**Pn**	**17 56 06.5**	**-0.4**
	baz=150						
HHAG				S	**Sn**	**17 57 24.1**	**-5.5**
	baz=150						
HHAG	**Hagoal**	**7.42**	**152**	P	**Pn**	**17 56 06.5**	**-0.4**
HMDT	**Nahal Hemdat**	**7.50**	**123**	Pn	**Pn**	**17 56 08.2**	**+0.3**
HMDT				Sn	**Sn**	**17 57 29.1**	**-2.4**
HMDT	**Nahal Hemdat**	**7.50**	**123**	Pn	**Pn**	**17 56 08.2**	**+0.3**
HMDT				Sn	**Sn**	**17 57 29.1**	**-2.4**
HSAF	**As Saff**	**7.54**	**157**	P	**Pn**	**17 56 07.8**	**-0.6**
	baz=155						
HSAF	**As Saff**	**7.54**	**157**	P	**Pn**	**17 56 07.8**	**-0.6**
AMAZ	**Amatzia**	**7.58**	**130**	Pn	**Pn**	**17 56 08.1**	**-0.8**
AMAZ	**Amatzia**	**7.58**	**130**	Pn	**Pn**	**17 56 08.1**	**-0.8**
AMAZ				Sn	**Sn**	**17 57 28.5**	**-4.8**
GLL	**Jalalah**	**7.63**	**156**	P	**Pn**	**17 56 09.3**	**-0.4**
	baz=154						
GLL	**Jalalah**	**7.63**	**156**	P	**Pn**	**17 56 09.3**	**-0.4**
SWA2		**7.67**	**198**	P	**Pn**	**17 56 09.6**	**-0.6**
	baz=199						
SWA2		**7.67**	**198**	P	**Pn**	**17 56 09.6**	**-0.6**
KZIT	**Kziot**	**7.72**	**136**	Pn	**Pn**	**17 56 10.5**	**-0.4**
KZIT	**Kziot**	**7.72**	**136**	Pn	**Pn**	**17 56 10.5**	**-0.4**
SUZ	**Suez**	**7.82**	**148**	P	**Pn**	**17 56 12.3**	**+0.1**
	baz=146						
SUZ	**Suez**	**7.82**	**148**	P	**Pn**	**17 56 12.3**	**+0.1**
YTIR	**Yattir**	**7.82**	**130**	Pn	**Pn**	**17 56 11.7**	**-0.6**
YTIR	**Yattir**	**7.82**	**130**	Pn	**Pn**	**17 56 11.7**	**-0.6**
DSI	**Dead Sea**	**7.84**	**128**	Pn	**Pn**	**17 56 11.9**	**-0.7**
DSI	**Dead Sea**	**7.84**	**128**	Pn	**Pn**	**17 56 11.9**	**-0.7**
DSI				Sn	**Sn**	**17 57 35.9**	**-3.9**
MZDA	**Masada**	**8.01**	**129**	Pn	**Pn**	**17 56 14.3**	**-0.4**
MZDA	**Masada**	**8.01**	**129**	Pn	**Pn**	**17 56 14.3**	**-0.4**
NBNS	**Bani Suef**	**8.40**	**160**	P	**Pn**	**17 56 19.9**	**-0.2**
	baz=159						
NBNS	**Bani Suef**	**8.40**	**160**	P	**Pn**	**17 56 19.9**	**-0.2**
PRNI	**Paran**	**8.48**	**135**	Pn	**Pn**	**17 56 20.4**	**-0.9**
PRNI	**Paran**	**8.48**	**135**	Pn	**Pn**	**17 56 20.4**	**-0.9**
PRNI				Sn	**Sn**	**17 57 49.8**	**-5.6**
ASF	**Jabal al Asfar**	**8.50**	**119**	P	**Pn**	**17 56 22.3**	**+0.7**
	comp=N,0.9nm,0.3s,baz=258,slow=7.0,SNR=6.9						
ASF				S	**Sn**	**17 57 57.7**	**+1.8**
	comp=N,0.7nm,0.3s,baz=311,slow=6.9,SNR=5.6						
HRFI	**Mount Harif**	**8.74**	**137**	Pn	**Pn**	**17 56 24.2**	**-0.6**
HRFI	**Mount Harif**	**8.74**	**137**	Pn	**Pn**	**17 56 24.2**	**-0.6**
HRFI				Sn	**Sn**	**17 57 57.2**	**-4.6**
MBRI	**Mt Berech**	**8.86**	**138**	Pn	**Pn**	**17 56 25.7**	**-0.8**
MBRI	**Mt Berech**	**8.86**	**138**	Pn	**Pn**	**17 56 25.7**	**-0.8**
EIL	**Elat**	**8.98**	**138**	P	**Pn**	**17 56 31.3**	**+3.2**
	comp=N,3.1nm,0.3s,baz=351,slow=4.6,SNR=40						
EIL				S	**Sn**	**17 58 05.5**	**-2.0**
	comp=N,5.5nm,0.3s,baz=84,slow=17,SNR=9.8						
EIL	**Elat**	**8.98**	**138**	Pn	**Pn**	**17 56 27.1**	**-1.0**
EIL	**Elat**	**8.98**	**138**	Pn	**Pn**	**17 56 27.1**	**-1.0**
EIL				Sn	**Sn**	**17 58 00.9**	**-6.6**
GRB	**Gharib**	**9.20**	**153**	P	**Pn**	**17 56 30.6**	**-0.5**
	baz=152						
GRB	**Gharib**	**9.20**	**153**	P	**Pn**	**17 56 30.6**	**-0.5**
TAMRE	**El Minia**	**9.21**	**164**	P	**Pn**	**17 56 30.4**	**-0.7**
	baz=163						
HFRF	**Wahat Farafira**	**9.43**	**179**	P	**Pn**	**17 56 33.5**	**-0.7**
	baz=178						
HFRF	**Wahat Farafira**	**9.43**	**179**	P	**Pn**	**17 56 33.5**	**-0.7**
AKASG	**Malin Array Be**	**14.12**	**3**	P	**Pn**	**17 57 38.0**	**+0.8**
	comp=N,0.2nm,0.3s,baz=189,slow=11,SNR=2.8						
GERES	**GERESS Array B**	**16.14**	**324**	P	**P**	**17 58 06.3**	**+1.3**
	comp=N,0.1nm,0.3s,baz=125,slow=8.6,SNR=5.5						
GEYT	**Alibeck**	**23.87**	**78**	P	**P**	**17 59 28.3**	**+1.0**
	comp=N,0.6nm,0.5s,baz=262,slow=10.0,SNR=2.8						
FINES	**FINESS Array B**	**24.90**	**358**	P	**P**	**17 59 35.6**	**-0.7**
	comp=N,1.3nm,0.6s,baz=161,slow=11,SNR=8.9						
HFS	**Hagfors**	**25.31**	**343**	P	**P**	**17 59 38.7**	**-1.3**
	comp=N,1.0nm,0.7s,baz=139,slow=13,SNR=3.0						
AKTO	**Aktyubinsk**	**25.51**	**48**	P	**P**	**17 59 42.0**	**+0.1**
	comp=N,0.7nm,0.5s,baz=225,slow=6.2,SNR=3.9						
ARU	**Arti**	**28.48**	**36**	P	**P**	**18 00 09.2**	**+0.8**
	comp=N,1.2nm,0.3s,baz=211,slow=4.5,SNR=4.0						
ARCES	**ARCESS Array B**	**33.02**	**358**	P	**P**	**18 00 47.3**	**-1.1**
	comp=N,1.1nm,0.8s,baz=170,slow=7.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**33.26**	**232**	P	**P**	**18 00 51.3**	**+0.3**
	comp=N,0.3nm,0.5s,baz=34,slow=9.0,SNR=5.7						
MKAR	**Makanchi Array**	**40.98**	**58**	P	**P**	**18 01 56.9**	**+0.8**
	comp=N,0.3nm,0.3s,baz=274,slow=7.5,SNR=7.2						
SPITS	**Spitsbergen Ar**	**41.98**	**356**	P	**P**	**18 02 02.8**	**-1.0**
	comp=N,4.7nm,0.8s,baz=131,slow=7.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**42.27**	**47**	P	**P**	**18 02 06.7**	**+0.3**
	comp=N,0.7nm,0.3s,baz=273,slow=9.3,SNR=5.5						
SONM	**Songino Array**	**56.72**	**52**	P	**P**	**18 03 57.2**	**+0.7**
	comp=N,0.4nm,0.5s,baz=281,slow=7.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**64.05**	**86**	P	**P**	**18 04 47.5**	**+0.7**
	comp=N,0.6nm,0.7s,baz=292,slow=6.8,SNR=4.7						
ASAR	**Alice Springs**	**115.96**	**101**	PKP	**PKPdf**	**18 12 54.7**	**-0.3**
	comp=N,0.2nm,0.8s,baz=289,slow=1.6,SNR=2.7						

IDC 04 18:04:31.7±2.6**, 22°.18S**×**170°.18E, h0**km**, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.7**/36**, mbtmp3.7**/5**, ML3.7**/1**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.7**/36**, Error ellipse: s-maj=110.5km s-min=26.5km az=161.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.46**	**271**	Pn	Pn	18 05 26.9	-0.1
	6.7nm,0.3s,baz=135,slow=15,SNR=19						
DZM				Sn	Sn	18 06 07.8	-0.9
	6.3nm,0.3s,baz=37,slow=16,SNR=4.8						
PMG	**Port Moresby**	**25.48**	**296**	LR	LR	18 19 21.4	
	comp=Z,108nm,18.5s,baz=214,slow=35						
ASAR	**Alice Springs**	**33.38**	**260**	P	P	18 11 12.4	+0.3
	1.1nm,0.9s,baz=100,slow=9.2,SNR=8.4						
WRA	**Warramunga Arr**	**33.47**	**267**	P	P	18 11 11.9	-0.9
	0.7nm,0.7s,baz=100,slow=8.6,SNR=8.9						
CMAR	**Chiang Mai Arr**	**80.51**	**294**	P	P	18 16 46.9	+0.7
	0.3nm,0.7s,baz=134,slow=5.2,SNR=3.7						
ILAR	**Eielson Array**	**92.77**	**17**	P	P	18 17 43.9	-1.5
	0.5nm,1.0s,baz=232,slow=4.4,SNR=3.1						
BRG	**Berggiesshubel**	**145.88**	**333**	*e*PKP	PKPbc	18 24 13.0	+0.1
	8.1nm,1.4s						
EKA	**Eskdalemuir Ar**	**146.52**	**353**	PKPbc	PKPdf	18 24 13.6	+0.3
	0.7nm,0.5s,baz=359,slow=3.2,SNR=5.0						
GERES	**GERESS Array B**	**147.48**	**331**	PKPbc	PKPbc	18 24 18.4	+0.7
	0.7nm,0.6s,baz=33,slow=3.2,SNR=6.2						

MEX 04 18:17:16.2±0.4**, 18°.07N**×**100°.24W, h71**km±6km**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.23**	**333**	*e*P	Pn	18 17 25.7	-1.4
ARIG				*i* S	Sn	18 17 33.0	-2.1
MEIG	**Mezcala**	**0.61**	**104**	*e*P	Pn	18 17 28.7	-1.6
MEIG				*e*S	Sn	18 17 39.1	-1.5
PLIG	**Platanillo**	**0.77**	**66**	*e*P	Pn	18 17 30.9	-1.1
PLIG				*i* S	Sn	18 17 42.4	-1.4
CAIG	**El Cayaco**	**1.02**	**182**	*e*P	Pn	18 17 33.8	-1.3
CAIG				*e*S	Sn	18 17 46.9	-2.1

MAN 04 18:37:15, 9°.95N×**123°.11E, h13**km**, mb4.3, ML3.1, MS2.8, 1C, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.61**	**168**⇑	*e*P	Pb	18 37 28.0	+0.4
SNPH				*e*S	Sn	18 37 38.8	-0.4
GUIM	**Jordan**	**0.85**	**323**	*e*P	Pg	18 37 31.4	0.0
GUIM				*e*S	Sn	18 37 45.0	0.0
LLP	**Lapu-Lapu**	**0.92**	**66**	*e*P	Pg	18 37 30.9	-1.9
LLP				*e*S	Sg	18 37 43.3	-1.5
MSLP	**Maasin**	**1.73**	**84**	*e*P	Pn	18 37 44.8	0.0
MSLP				*e*S	Sb	18 38 08.1	-0.2

MAN 04 19:05:35, 10°.15N×**123°.29E, h1**km**, mb4.1, ML2.9, MS2.6, 2C-1D, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.68**	**76**⇑	*e*P	Pb	19 05 49.0	-0.7
LLP				*e*S	Sb	19 06 00.3	+0.6
SNPH	**Sibulan**	**0.81**	**184**⇓	*i*P	Pb	19 05 51.7	-0.2
SNPH				*i* S	Sg	19 06 02.1	+1.1
GUIM	**Jordan**	**0.84**	**304**	*e*P	Pb	19 05 52.1	-0.3
GUIM				*e*S	Sb	19 06 05.0	+0.8
RCP	**Roxas**	**1.50**	**339**⇑	*e*P	Pg	19 06 05.3	+1.5
RCP				*e*S	Sn	19 06 28.3	+5.0
MSLP	**Maasin**	**1.54**	**91**	*e*P	Pb	19 06 04.0	-0.3
MSLP				*e*S	Sg	19 06 26.1	+1.5
OCLP	**Ormoc**	**1.57**	**55**	*e*P	Pg	19 06 05.2	0.0
OCLP				*e*S	Sg	19 06 29.1	+3.5
PAGZ	**Pagadian**	**2.29**	**178**	*e*P	Pn	19 06 15.6	+1.6

IDC 04 19:12:11.6±3.5**, 21°.51S**×**66°.66W, h209**km±49km**, mb3.5**/1**, mb1 3.4**/3**, mb1mx3.1**/34**, mbtmp3.9**/3**, Error ellipse: s-maj=81.9km s-min=20.5km az=100.0, Southern**

Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.37	345	P	Pn	19 13 33.3	+1.6
	3.7nm,0.3s,baz=142,slow=7.4,SNR=58						
LPAZ				S	S	19 14 34.1	-0.4
	baz=356,slow=14,SNR=2.8						
PLCA	Paso Flores	19.45	189	P	P	19 16 22.3	-0.3
	0.2nm,0.3s,baz=38,slow=11,SNR=3.6						
TORD	Torodi Ar. Bea	75.39	69	P	P	19 23 32.8	0.0
	1.1nm,0.7s,baz=258,slow=4.8,SNR=8.1						
MKAR	Makanchi Array	144.38	37	PKP	PKPdf	19 31 22.5	-0.4
	0.6nm,0.6s,baz=307,slow=3.7,SNR=9.7						

*IDC **04** 19:14:12.4±1.3, 57°98S×23°58W, h0km, mb4.3/2, mb1 4.1/3, mb1mx3.8/28, mbtmp4.1/3, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/25, Error ellipse: s-maj=76.4km s-min=37.4km az=85.0*

ISC 04 19:14:14.5±1.2**, 58°1S**±0°2×**22°6W**±0°5**, h10km, n12, σ2s52**/12**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.01	160	P	Pn	19 17 36.2	+3.5
VNA3	Neumayer Olymp	14.28	163	P	Pn	19 17 39.1	+2.5
VNA2	Neumayer--Watz	14.40	160	P	Pn	19 17 40.6	+2.5
	baz=322,slow=11						
SNAA	Sanae	15.89	157	P	P	19 18 01.2	-0.4
SNAA	Sanae	15.89	157	Pn	P	19 18 01.5	-0.2
	0.2nm,0.3s,baz=21,slow=9.2,SNR=24						
SNAA				Sn	Sn	19 20 48.6	-5.3
	0.1nm,0.3s,baz=10,slow=16,SNR=2.7						
PLCA	Paso Flores	34.80	279	LR	LR	19 33 30.3	
	comp=Z,20nm,19.3s,baz=230,slow=34						
TORD	Torodi Ar. Bea	73.71	25	P	P	19 25 48.6	+0.3
	1.8nm,0.5s,baz=200,slow=6.3,SNR=15						
ASAR	Alice Springs	96.25	158	P	P	19 27 42.8	-0.2
	0.4nm,0.9s,baz=190,slow=3.4,SNR=4.0						
ARCES	ARCESS Array B	131.92	21	PKP	PKPdf	19 33 25.8	-0.5
	1.7nm,0.9s,baz=195,slow=2.4,SNR=5.8						
YKA	Yellowknife Ar	139.36	315	PKP	PKPdf	19 33 39.0	-1.3
	0.2nm,0.4s,baz=136,slow=2.5,SNR=6.5						
SONM	Songino Array	148.35	86	PKPbc	PKPbc	19 34 00.9	+0.7
	1.1nm,0.6s,baz=223,slow=4.0,SNR=12						
ILAR	Eielson Array	153.34	308	PKPbc	PKPbc	19 34 09.8	-1.4
	1.0nm,0.8s,baz=135,slow=3.0,SNR=10						

MAN 04 19:32:13, 10°10N×123°13E, h1km, mb4.7, ML3.6, MS3.5, 4C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.74	315	eP	Pg	19 32 26.8	-0.5
GUIM				eS	Sg	19 32 38.2	+1.2
SNPH	Sibulan	0.76	172	⇑iP	Pb	19 32 28.7	-0.4
SNPH				i S	Sg	19 32 37.7	+0.3
TBP	Tagbilaran	0.83	119	eP	Pb	19 32 30.6	+0.3
TBP				i S	Sn	19 32 44.1	-0.6
LLP	Lapu-Lapu	0.85	75	⇓eP	Pg	19 32 29.5	+0.1
LLP				i S	Sb	19 32 42.5	-0.1
JAP	San Jose, Anti	1.33	299	⇑eP	Pg	19 32 38.4	-0.1
RCP	Roxas	1.50	345	⇓eP	Pn	19 32 40.2	-0.9
RCP				eS	Sn	19 33 02.2	+0.9
DCPH	Dipolog City	1.52	172	⇑eP	Pn	19 32 38.7	-2.7
DCPH				eS	Sn	19 32 58.4	-3.5
MSLP	Maasin	1.71	89	eP	Pn	19 32 44.3	+0.4
MSLP				eS	Sg	19 33 08.8	+1.0
OCLP	Ormoc	1.74	57	eP	Pn	19 32 44.0	-0.4
OCLP				eS	Sg	19 33 10.6	+1.8
PAGZ	Pagadian	2.25	174	eP	Pn	19 32 51.0	-0.4
PAGZ				eS	Sn	19 33 21.0	+1.2
OTRP	Odiongan	2.50	334	eP	Pn	19 32 55.9	+1.1
OTRP				eS	Sb	19 33 29.8	-0.2
CNP	Catarman	2.83	32	eP	Pn	19 32 55.4	-4.0
BUKP	Musuan	2.92	139	eP	Pn	19 33 00.5	-0.1
BUKP				eS	Sb	19 33 39.3	-2.9
CTBH	Cotabato--PC H	3.07	159	⇑iP	Pn	19 33 02.9	+0.3
ENPP	El Nido	3.80	287	eP	Pn	19 33 11.6	-1.1
ENPP				eS	Sn	19 33 54.3	-3.9

IDC 04 19:33:00.2±8.6**, 4°62S×153°62E, h119km**±62km**, mb3.5**/5**, mb1 3.7**/6**, mb1mx3.3**/49**, mbtmp3.9**/6**, MS2.7**/2**, Ms1 2.7**/2**, ms1mx2.4**/25**, Error ellipse: s-maj=69.5km s-min=31.0km az=85.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.89	128	LR	LR	19 37 36.5	
	comp=Z,55nm,19.5s,baz=227,slow=35						
PMG	Port Moresby	7.98	233	P	Pn	19 34 54.0	+0.5
	2.5nm,0.3s,baz=54,slow=3.6,SNR=10						
PMG				S	Sn	19 36 21.4	-0.8
	1.1nm,0.3s,baz=133,slow=20,SNR=12						
PMG				LR	LR	19 38 24.6	
	comp=Z,44nm,18.5s,baz=52,slow=41						
WRA	Warramunga Arr	24.18	229	P	P	19 38 06.2	+0.5
	5.6nm,0.8s,baz=54,slow=10.0,SNR=50						
ASAR	Alice Springs	26.84	223	P	P	19 38 29.5	-0.3
	0.5nm,0.6s,baz=56,slow=8.7,SNR=11						
STKA	Stephens Creek	29.37	201	P	P	19 38 52.5	+0.3
	1.8nm,0.7s,baz=33,slow=13,SNR=5.5						
CMAR	Chiang Mai Arr	58.54	295	P	P	19 42 45.6	+0.8
	0.4nm,0.7s,baz=116,slow=5.3,SNR=4.1						
MKAR	Makanchi Array	80.73	319	P	P	19 44 59.9	-0.5
	0.6nm,0.9s,baz=108,slow=6.5,SNR=3.9						
TORD	Torodi Ar. Bea	151.02	289	PKPbc	PKPbc	19 52 39.5	-0.8
	1.4nm,0.7s,baz=54,slow=1.6,SNR=8.0						

MAN 04 19:38:21, 10°13N×123°10E, h18km, mb0.0, ML0.0, MS0.0, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.71	315	eP	Pn	19 38 36.0	-0.1
GUIM				eS	Sn	19 38 48.1	+1.5
SNPH	Sibulan	0.79	170	⇑iP	Pn	19 38 37.9	+0.6
SNPH				i S	Sg	19 38 46.9	0.0
MSLP	Maasin	1.73	90	eP	Pn	19 38 50.5	+0.3
MSLP				eS	Sg	19 39 16.3	-0.6

BJI 04 19:38:44.5, 41°18N×114°42E, h6km, ML3.6/13**, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	Beijing	1.75	130	Pn	Pn	19 39 14.5	-0.9
BJI				Sn	Sn	19 39 37.9	-0.2
BJI				Sg	Sg	19 39 40.2	-0.7
BJI				smax	smax		
	comp=N,1μm,0.7s						
BJI				smax	smax		
	comp=E,960nm,0.6s						
HHC	Hu-ho-hao-te	2.19	262	ePg	Pn	19 39 22.9	+1.4
HHC				Sg	Sb	19 39 52.2	+0.3
HHC	Hu-ho-hao-te	2.19	262	ePg	Pn	19 39 22.9	+1.4
HHC				Sg	Sb	19 39 52.2	+0.3
HHC				smax	smax		
	comp=N,350nm,0.3s						
HHC				smax	smax		
	comp=E,320nm,0.3s						
BTO	Baotou	3.38	262	ePg	Pb	19 39 43.3	-1.6
BTO				Sg	Sb	19 40 28.4	+2.0
BTO				smax	smax		
	comp=N,32nm,0.4s						
BTO				smax	smax		
	comp=E,15nm,0.3s						
TIY	Taiyuan	3.79	205	ePg	Pb	19 39 54.3	+2.5
TIY				Sg	Sb	19 40 40.7	+2.7
TIY				smax	smax		
	comp=N,140nm,0.4s						
TIY				smax	smax		
	comp=E,180nm,0.6s						
GTA	Gaotai	11.30	266	eP	Pn	19 41 27.5	+1.0
GTA				pP		19 41 30.9	
GTA				sP		19 41 33.6	
WMQ	Urumqi	19.85	287	eP	P	19 43 16.0	-0.2

MAN 04 19:40:02, 10°00N×122°96E, h25km, mb3.7, ML2.4, MS1.9,

Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.70	157	eP	Pn	19 40 16.9	+0.5
SNPH				eS	Sn	19 40 27.5	+1.0
GUIM	Jordan	0.72	330	eP	Pb	19 40 16.2	+0.1
GUIM				eS	Sn	19 40 28.8	+1.8
LLP	Lapu-Lapu	1.04	72	eP	Pn	19 40 20.4	-0.6
LLP				eS	Sb	19 40 31.8	-2.8
MSLP	Maasin	1.87	86	eP	Pn	19 40 34.0	+1.5
OCLP	Ormoc	1.93	57	eP	Pb	19 40 39.6	+3.1

*NEIC **04** 19:48:36.1±0.0, 14°74N×93°27W, h29km, MD4.3(MEX), After MEX.*

MEX 04 19:48:36.1±0.5**, 14°74N×93°27W, h29km**±10km**, MD4.3, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.96	3	eP	Pn	19 48 51.2	-2.4
PCIG				eS	Sn	19 49 02.9	-3.4
PCIG		0.96	3	ePn	Pn	19 48 51.2	-2.4
PCIG				eSn	Sn	19 49 02.9	-3.4
THIG		0.99	80	eP	Pn	19 48 51.3	-2.7
THIG				eS	Sn	19 49 03.6	-3.4
THIG		0.99	80	ePn	Pn	19 48 51.3	-2.7
THIG				eSn	Sn	19 49 03.6	-3.4
CCIG	Comitan	1.88	35	eP	Pn	19 49 05.0	-1.5
CCIG				eS	Sn	19 49 26.6	-2.8
CCIG	Comitan	1.88	35	ePn	Pn	19 49 05.0	-1.5
CCIG				eSn	Sn	19 49 26.6	-2.8
TGIG		2.03	4	eP	Pn	19 49 07.0	-1.5
TGIG				eS	Sn	19 49 29.5	-3.4
TGIG		2.03	4	ePn	Pn	19 49 07.0	-1.5
TGIG				eSn	Sn	19 49 29.5	-3.4
HUIG	Huatulco	2.92	291	i P	Pn	19 49 18.8	-1.9
HUIG				i S	Sn	19 49 51.9	-3.0
HUIG	Huatulco	2.92	291	ePn	Pn	19 49 18.8	-1.9
HUIG				eSn	Sn	19 49 51.9	-3.0
VHO	Vista Hermosa	4.06	305	eP	Pn	19 49 35.7	-0.8
VHO				i S	Sn	19 50 21.1	-2.0
VHO	Vista Hermosa	4.06	305	ePn	Pn	19 49 35.7	-0.8
VHO				eSn	Sn	19 50 21.1	-2.0
LVIG	Laguna Verde	5.79	329	ePn	Pn	19 49 58.2	-2.0
TX31	Lajitas Ar. Si	17.41	328	ePn	P	19 52 37.9	-0.3

*IDC **04** 19:48:57.2±1.5, 0°23S×128°37E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/51, mbtmp3.4/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/19, Error ellipse: s-maj=135.4km s-min=21.9km az=71.0*

*ISCJB **04** 19:49:03.8±0.6, 0°86S±0°05×126°83E±0°03, h41km, mb3.4/3, Error ellipse: s-maj=6.9km s-min=4.8km az=11.0*

*DJA **04** 19:49:03.3±0.3, 1°S±2°×12°7E±°, h11km, M3.8/8, mB4.9/1, mb4.1/1, MLv3.7/8, Mw(mB)4.2/1*

ISC 04 19:49:04.2±0.9**, 0°80S**±0°05×**126°84E**±0°04**, h41km, n14, σ2s40**/21**, mb3.4**/3**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.68	76	P	Pn	19 49 16.5	-0.9
LBMI				S	Sn	19 49 26.4	-0.5
SANI	Sanana	1.51	215	P	Pn	19 49 27.8	-1.0
SANI				S	Sn	19 49 45.3	-1.9
NLAI	Namlea	2.44	174	P	Pn	19 49 41.0	-0.6
NLAI				S	Sn	19 50 08.2	-1.9
AAI	Ambon	3.17	155	P	Pn	19 49 52.1	+0.5
AAI				S	Sn	19 50 28.7	+0.5
KMSI	Cibinong	3.17	296	P	Pn	19 49 47.9	-3.8
KMSI				S	Sn	19 50 33.7	+5.4
MSAI	Masohi	3.28	141	P	Pn	19 49 55.3	+2.2
MSAI				S	Sn	19 50 33.1	+2.2
LUWI	Luwuk	4.08	267	P	Pn	19 50 05.7	+1.6
LUWI				S	Sn	19 50 50.9	+0.2
APSI	Ampana	5.20	269	P	Pn	19 50 21.4	+1.9
APSI				S	Sn	19 51 21.2	+3.0
FAKI	Fak Fak	5.80	111	P	Pn	19 50 28.8	+1.0
DAV	Davao City (W)	7.92	351	LR	LR	19 54 12.3	
	comp=Z,32nm,18.4s,baz=174,slow=41						
WRA	Warramunga Arr	20.39	159	P	P	19 53 36.5	-1.3
	0.8nm,0.8s,baz=340,slow=11,SNR=8.1						
ASAR	Alice Springs	23.74	164	P	P	19 54 12.9	0.0
	0.7nm,0.8s,baz=342,slow=11,SNR=8.1						
SONM	Songino Array	51.61	343	P	P	19 58 03.2	-3.6
	0.3nm,0.6s,baz=152,slow=6.9,SNR=2.3						
MKAR	Makanchi Array	61.35	327	P	P	19 59 19.1	+3.1
	0.4nm,0.5s,baz=127,slow=7.1,SNR=8.6						

*IDC **04** 19:56:46.4±2.0, 3°11N×128°95E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/50, mbtmp3.5/5, Error ellipse: s-maj=97.2km s-min=20.2km az=60.0*

*ISCJB **04** 19:56:50.0±2.1, 3°2N±0°4×129°2E±0°6, h44km, mb3.4/5, Error ellipse: s-maj=96.4km s-min=12.5km az=148.2*

ISC 04 19:56:52.1±2.3**, 3°1N**±0°4×**129°1E**±0°7**, h44km, n11, σ0s36**/11**, mb3.4**/5**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.50	168	P	P	20 01 59.0	+0.7
	0.4nm,0.3s,baz=346,slow=10,SNR=12						
ASAR	Alice Springs	27.05	170	P	P	20 02 30.1	-0.4
	0.3nm,0.4s,baz=351,slow=7.7,SNR=11						
CMAR	Chiang Mai Arr	33.20	300	P	P	20 03 25.0	-0.1
	0.2nm,0.3s,baz=112,slow=6.7,SNR=6.4						
STKA	Stephens Creek	36.79	162	P	P	20 03 55.6	-0.2
	0.6nm,0.4s,baz=342,slow=8.2,SNR=7.4						
ODAN	Odare	46.33	305	eP	P	20 05 14.5	+0.2
	4.8nm,0.6s						
RAMN	Ramite	47.01	305	eP	P	20 05 20.1	+0.4
	10.0nm,0.6s						
JIRN	Jiri	47.63	305	eP	P	20 05 24.7	+0.1
	6.4nm,0.4s						
GUN	Gumba	47.98	305	eP	P	20 05 27.1	-0.2
	4.2nm,0.4s						
PKI	Pulchoki	48.23	305	eP	P	20 05 28.9	-0.3
	11nm,1.3s						
KOLN	Koldanda	49.79	304	eP	P	20 05 41.0	-0.1
	6.2nm,0.6s						
MKAR	Makanchi Array	59.39	324	P	P	20 06 50.2	+0.1
	0.1nm,0.4s,baz=112,slow=7.0,SNR=4.4						

*ISCJB **04** 20:17:57.9±0.5, 36°43N±0°04×71°22E±0°06, h188km, mb3.1/3, Error ellipse: s-maj=7.3km s-min=4.7km az=158.9*

*IDC **04** 20:17:58.6±3.7, 36°42N×71°23E, h215km±37km, mb2.9/3, mb1 3.0/8, mb1mx2.7/69, mbtmp3.6/8, MS3.5/1, Ms1 3.5/1, ms1mx2.4/20, Error ellipse: s-maj=36.2km s-min=19.1km az=163.0*

*NNC **04** 20:18:05.2±2.8, 36°98N×71°19E, h219km±37km, mb2.8, mpv4.0, Error ellipse: s-maj=29.0km s-min=24.1km az=65.0*

ISC 04 20:17:57.5±0.8**, 36°46N**±0°07×**71°17E**±0°07**, h188km, n35, σ1s77**/41**, mb3.0**/3**, 5C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.00	27	⇑P	Pn	20 19 01.9	+2.9
	14nm,0.3s						
SFK				⇑S	Sn	20 19 47.8	+0.5
	72nm,0.6s						
AML	Almayashu	5.99	18	P	Pn	20 19 26.9	+2.1
	SNR=146						
MNAS	Manas	6.11	9	⇓P	Pn	20 19 28.2	+2.1
	4.2nm,0.3s						
MNAS				⇓S	Sn	20 20 34.4	-1.6
	34nm,0.9s						
UCH	Uchtor	6.32	23	P	Pn	20 19 31.1	+2.0
	SNR=23						
KZA	Kyzart	6.44	28	P	Pn	20 19 32.0	+1.3
	SNR=9.5						
EKS2	Erkin-Say	6.51	17	P	Pn	20 19 33.5	+2.2
	SNR=14						
KK31	Karatay Array	6.66	356	⇑P	Pn	20 19 35.0	+1.9
	1.3nm,0.3s,baz=171,slow=12,SNR=27						
KK31				⇓S	Sn	20 20 44.4	-4.4
	15nm,0.5s,baz=175,slow=20,SNR=20						
AAK	Ala-Archa	6.68	22	P	Pn	20 19 35.8	+2.2
	3.7nm,0.3s,baz=181,slow=6.5,SNR=108						
AAK				S	Sn	20 20 49.5	-0.1
	0.8nm,0.3s,baz=314,slow=23,SNR=16						
AAK	Ala-Archa	6.68	22	⇓P	Pn	20 19 35.5	+1.9
	9.4nm,0.5s						
AAK				⇓S	Sn	20 20 49.2	-0.4
	15nm,0.7s						
AAK	Ala-Archa	6.68	22	P	Pn	20 19 35.8	+2.2
	SNR=16						
KBK	Karagaybulak	6.84	24	P	Pn	20 19 38.0	+2.3
	SNR=21						
ULHL	Ulahol	6.99	33	P	Pn	20 19 39.4	+1.8
	SNR=6.6						
CHMS	Chumysh	7.09	22	P	Pn	20 19 40.1	+1.3
	SNR=7.2						
USP	Ospenovka	7.27	20	P	Pn	20 19 42.3	+1.2
	SNR=6.2						
TKM2	Tokmak 2	7.30	26	⇑P	Pn	20 19 43.0	+1.3
	13nm,0.5s						
TKM2				⇑S	Sn	20 21 01.0	-3.3
	4.4nm,0.8s						
TKM2	Tokmak 2	7.30	26	P	Pn	20 19 43.4	+1.7
	SNR=41						
GEYT	Alibeck	10.52	282	P	Pn	20 20 26.2	+2.5
	0.2nm,0.3s,baz=99,slow=8.9,SNR=2.4						
GEYT				S	Sn	20 22 20.8	-0.1
	0.2nm,0.3s,baz=153,slow=40,SNR=3.1						
MKAR	Makanchi Array	13.24	35	P	Pn	20 20 58.2	-0.1
	0.1nm,0.3s,baz=222,slow=14,SNR=9.1						
KOLN	Koldanda	13.62	126	eP	Pn	20 21 04.5	+1.0
	9.8nm,0.3s						
GKN	Gorkha	14.16	123	eP	Pn	20 21 10.3	+0.2
	0.8nm,0.2s						
DMN	Daman	14.73	123	eP	Pn	20 21 17.8	+0.6
	13nm,0.4s						
KKN	Kakani	14.74	122	eP	Pn	20 21 17.5	+0.3
	22nm,0.5s						
PKIN	Phulchoki	14.95	122	eP	Pn	20 21 20.4	+0.5
	11nm,0.3s						
PKI	Pulchoki	14.96	122	eP	Pn	20 21 20.3	+0.2
	18nm,0.3s						
GUN	Gumba	15.07	120	eP	Pn	20 21 21.7	+0.2
	17nm,0.5s						
JIRN	Jiri	15.45	120	eP	P	20 21 26.8	+0.3
	25nm,0.4s						
RAMN	Ramite	16.17	122	eP	Pn	20 21 35.1	+0.3
TAPN	Taplejung	16.70	118	eP	Pn	20 21 42.0	+0.8
	8.2nm,0.4s						
ODAN	Odare	16.78	120	eP	Pn	20 21 43.2	+1.2
	9.2nm,0.6s						
AKTO	Aktyubinsk	16.89	330	P	P	20 21 42.1	+0.4
	0.3nm,0.3s,baz=147,slow=10,SNR=5.2						
ZALV	Zalesovo Beam	19.90	24	P	P	20 22 14.8	+0.5
	0.2nm,0.3s,baz=219,slow=11,SNR=3.5						
OBN	Obninsk	30.06	319	LR	LR	20 38 09.7	
	comp=Z,76nm,18.9s,baz=280,slow=40						
TORD	Torodi Ar. Bea	65.86	269	P	P	20 28 20.9	-2.2
	0.5nm,0.7s,baz=50,slow=5.7,SNR=6.2						
WRA	Warramunga Arr	81.85	122	P	P	20 29 53.6	-2.3
	0.1nm,0.3s,baz=326,slow=5.1,SNR=4.8						
ASAR	Alice Springs	84.11	125	P	P	20 30 05.3	-2.1
	0.2nm,0.7s,baz=312,slow=5.4,SNR=4.1						

*JMA **04** 20:20:25.8, 24°06N×121°66E, h46km±1km, M2.9*

*ISCJB **04** 20:20:26.9±0.3, 24°10N±0°02×121°76E±0°02, h41km±5km, Error ellipse: s-maj=3.3km s-min=2.3km az=32.8*

*TAP **04** 20:20:26.4, 24°10N×121°66E, h46km, ML3.1, C*

ISC 04 20:20:27.4±1.0**, 24°10N**±0°02×**121°72E**±0°02**, h33km**±2km**, n59, σ0s95**/108**, 4C-12D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.12	259	⇑P	Pb	20 20 33.5	+0.2
	baz=265						
TWD				S	Sb	20 20 38.4	+1.1
	baz=265						
HWA	Hwalien	0.17	221	P	Pb	20 20 34.5	+0.8
	baz=209						
HWA				S	Sb	20 20 40.5	+2.6
	baz=209						
ENLB	Shoufeng	0.23	209	P	Pn	20 20 34.5	+0.7
	baz=187						
ENLB				S	Sb	20 20 41.9	+2.9
	baz=187						
ENA	Nanau	0.32	3	⇑P	Pb	20 20 35.2	-0.3
	baz=5.0						
ENA				eS	Sb	20 20 42.3	+1.2
	baz=5.0						
ENAH	Nanao	0.35	13	P	Pb	20 20 36.1	+0.3
	baz=14						
ENAH				S	Sb	20 20 43.2	+1.6
	baz=14						
ESL	Shilin	0.39	223	⇓P	Pb	20 20 35.2	-1.2
	baz=222						
ESL				S	Sb	20 20 41.6	-1.0
	baz=222						
WHF	Hehuan Shan	0.42	276	⇓P	Pb	20 20 36.3	-0.8
	baz=273						
WHF				S	Sb	20 20 43.5	-0.4
	baz=273						
NNSH	Datong	0.45	316	⇓eP	Pb	20 20 36.7	-0.6
	baz=325						
NNSH				eS	Sb	20 20 43.8	-0.4
	baz=325						
NNS	Nan Shan	0.46	317	⇓P	Pb	20 20 36.9	-0.6
	baz=326						
NNS				S	Sb	20 20 44.3	-0.2
	baz=326						
EGFH	Guangfu	0.51	212	eP	Pb	20 20 36.6	-1.5
	baz=215						
EGFH				eS	Sb	20 20 43.9	-1.7
	baz=215						
TWC	Suao	0.52	13	eP	Pb	20 20 38.5	+0.2
	baz=12						
TWC				eS	Sn	20 20 47.0	+1.0
	baz=12						
OWD	Renai	0.52	254	⇓eP	Pb	20 20 37.6	-0.8
	baz=252						
OWD				eS	Sb	20 20 45.0	-1.1
	baz=252						
TWT	Tachien	0.52	287	⇑P	Pb	20 20 38.2	-0.3
	baz=288						
TWT				S	Sb	20 20 46.0	-0.1
	baz=288						
ENTT	Nioudou	0.55	345	⇓P	Pn	20 20 38.2	-0.7
	baz=356						
ENTT				S	Sb	20 20 46.6	-0.1
	baz=356						
TWE	Neicheng	0.62	355	⇓P	Pn	20 20 39.2	-0.6
	baz=357						
TWE				S	Sb	20 20 48.3	-0.1
	baz=357						
NWLT	Wulai	0.70	343	P	Pn	20 20 40.3	-0.7
	baz=347						
NWLT				eS	Sn	20 20 49.9	-0.8
	baz=347						
NTC	Toucheng	0.76	7	eP	Pn	20 20 41.6	-0.1
SMLT	Sun Moon Lake	0.78	254	eP	Pn	20 20 41.4	-0.8
	baz=249						
SMLT				eS	Sn	20 20 51.8	-1.0
	baz=249						
TYC	Yuchr	0.82	256	eP	Pn	20 20 41.7	-0.7
	baz=251						
TYC				eS	Sn	20 20 52.5	-0.9
	baz=251						
LIOB	Emei	0.84	310	⇓eP	Pn	20 20 43.1	+0.3
	baz=312						
LIOB				eS	Sn	20 20 54.7	+0.6
	baz=312						
NSTT	Nanjuang	0.84	309	⇓eP	Pn	20 20 42.9	0.0
	baz=313						
NSTT				eS	Sn	20 20 54.1	+0.1
	baz=313						
TWF1	Yuli	0.84	208	⇓eP	Pn	20 20 40.6	-2.3
	baz=211						
WLTB	Daxi	0.86	330	eP	Pn	20 20 43.5	+0.4
	baz=338						
WLTB				eS	Sn	20 20 55.1	+0.6
	baz=338						
TIPB	Shuangxi	0.87	6	eP	Pn	20 20 42.4	-0.9
	baz=2.0						
TIPB				eS	Sn	20 20 55.4	+0.6
	baz=2.0						
TWQ1	Liyutan	0.90	286	⇓eP	Pn	20 20 43.7	0.0
	baz=287						
TWQ1				eS	Sn	20 20 55.4	-0.2
	baz=287						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WJS	**Zhushan**	**0.95**	**253**	*e*P	**Pn**	**20 20 44.9**	**+0.6**
	baz=244						
WJS				*e*S	**Sb**	**20 20 58.7**	**+1.0**
	baz=244						
NMLH	**Miaoli**	**0.95**	**297**	*e*P	**Pn**	**20 20 44.7**	**+0.3**
	baz=298						
NMLH				*e*S	**Sn**	**20 20 57.3**	**+0.4**
	baz=298						
TCU	**Taichung**	**0.96**	**273**	*e*P	**Pn**	**20 20 44.7**	**+0.3**
	baz=273						
TCU				*e*S	**Sb**	**20 20 58.1**	**+0.2**
	baz=273						
NWF	**Wu-fen Shan**	**0.96**	**3**	*e*S	**Sn**	**20 20 57.6**	**+0.4**
	baz=355						
WNT	**Mingjian**	**0.98**	**257**	*e*P	**Pn**	**20 20 45.2**	**+0.5**
	baz=256						
WNT				*e*S	**Sb**	**20 20 58.7**	**+0.3**
	baz=256						
FULB	**Fuli**	**0.98**	**204**	*e*P	**Pn**	**20 20 43.6**	**-1.2**
	baz=210						
FULB				*e*S	**Sb**	**20 20 58.8**	**+0.2**
	baz=210						
PTSB	**Yuanli**	**0.99**	**290**	*e*P	**Pn**	**20 20 44.9**	**0.0**
	baz=291						
NCUH	**Zhongli**	**0.99**	**330**	*e*P	**Pn**	**20 20 44.6**	**-0.3**
	baz=332						
NCUH				*e*S	**Sn**	**20 20 58.7**	**+0.9**
	baz=332						
ALS	**Alishan**	**1.03**	**235**	*e*P	**Pn**	**20 20 45.3**	**-0.4**
	baz=226						
ALS				*e*S	**Sb**	**20 21 03.2**	**+3.0**
	baz=226						
TWS1	**Kuangyinshan**	**1.03**	**344**	*e*P	**Pn**	**20 20 45.1**	**-0.4**
	baz=346						
TWS1				*e*S	**Sn**	**20 20 59.7**	**+0.9**
	baz=346						
CHKT	**Chengkung**	**1.05**	**198**	⇓*e*P	**Pn**	**20 20 44.8**	**-0.9**
	baz=203						
CHKT				*e*S	**Sn**	**20 20 57.5**	**-1.7**
	baz=203						
YM10	**YM10**	**1.06**	**352**	*e*P	**Pn**	**20 20 45.4**	**-0.6**
	baz=354						
YM10				*e*S	**Sn**	**20 20 59.3**	**-0.2**
	baz=354						
YM04	**YM04**	**1.06**	**351**	*e*P	**Pn**	**20 20 45.4**	**-0.6**
	baz=352						
YM04				*e*S	**Sn**	**20 20 59.1**	**-0.4**
	baz=352						
CHN5	**Tsauling**	**1.08**	**242**	*e*P	**Pn**	**20 20 46.3**	**+0.1**
	baz=232						
CHN5				*e*S	**Sn**	**20 21 01.1**	**+1.0**
	baz=232						
ELDTW	**Lidau**	**1.12**	**216**	*e*P	**Pn**	**20 20 45.1**	**-1.7**
	baz=207						
WGK	**Gukeng**	**1.14**	**249**	*e*P	**Pn**	**20 20 47.4**	**+0.4**
	baz=248						
WDLH	**Douliu**	**1.16**	**249**	*e*P	**Pn**	**20 20 47.7**	**+0.5**
	baz=249						
WDLH				*e*S	**Sb**	**20 21 03.5**	**-0.1**
	baz=249						
JYNG	**Yonagunijimaku**	**1.17**	**72**	P	**Pn**	**20 20 47.0**	**-0.3**
CHN4	**Tsaushan**	**1.28**	**234**	*e*P	**Pn**	**20 20 49.6**	**+0.7**
	baz=224						
CHN4				*e*S	**Sb**	**20 21 07.8**	**+0.7**
	baz=224						
STYT	**Tauyuan**	**1.29**	**224**	*e*P	**Pn**	**20 20 48.9**	**-0.2**
	baz=222						
STYT				*e*S	**Sn**	**20 21 06.4**	**+1.2**
	baz=222						
WTP	**Ta-pu**	**1.33**	**230**	*e*P	**Pn**	**20 20 49.9**	**+0.3**
	baz=229						
WTP				*e*S	**Sb**	**20 21 09.2**	**+0.7**
	baz=229						
CHY	**Chiayi**	**1.33**	**243**	*e*P	**Pn**	**20 20 50.7**	**+1.0**
	baz=233						
CHY				*e*S	**Sb**	**20 21 08.4**	**-0.1**
	baz=233						
CHN1	**Nanshi**	**1.43**	**230**	*e*P	**Pn**	**20 20 51.2**	**+0.3**
	baz=230						
CHN1				*e*S	**Sn**	**20 21 10.0**	**+1.4**
	baz=230						
WSF	**Szhu**	**1.45**	**252**	*e*P	**Pn**	**20 20 51.4**	**+0.2**
	baz=263						
WSF				*e*S	**Sn**	**20 21 10.9**	**+1.9**
	baz=263						
SGST	**Jiashian**	**1.46**	**226**	*e*P	**Pn**	**20 20 51.9**	**+0.5**
	baz=217						
SGST				*e*S	**Sb**	**20 21 11.7**	**-0.5**
	baz=217						
SLGT	**Liugui**	**1.48**	**222**	*e*P	**Pn**	**20 20 52.2**	**+0.5**
	baz=221						
SLGT				*e*S	**Sn**	**20 21 10.6**	**+0.7**
	baz=221						
SSD	**Sandimen**	**1.68**	**217**	*e*P	**Pn**	**20 20 55.3**	**+0.9**
	baz=205						
SSD				*e*S	**Sn**	**20 21 17.1**	**+2.3**
	baz=205						
IRIF	**Iriomote-Funau**	**1.85**	**82**	P	**Pn**	**20 20 56.3**	**-0.4**
EAST	**Anshuo**	**1.89**	**205**	*e*P	**Pn**	**20 20 57.6**	**+0.2**
	baz=199						
PNG	**Penghu**	**2.06**	**255**	⇑P	**Pn**	**20 20 58.5**	**-1.1**
	baz=255						
PNG				*e*S	**Sn**	**20 21 22.4**	**-1.6**
	baz=255						
JKRS	**Kuro-shima**	**2.09**	**86**	P	**Pn**	**20 21 00.4**	**+0.3**
JKRS				*e*S	**Sn**	**20 21 25.6**	**+0.6**
JIJ	**Ishigaki jima**	**2.23**	**83**	P	**Pn**	**20 21 01.4**	**-0.5**
JISG	**Ishigakijimahi**	**2.41**	**78**	P	**Pn**	**20 21 04.1**	**-0.3**
JISG				*e*S	**Sn**	**20 21 31.8**	**-1.0**
JTJ	**Tarama**	**2.77**	**78**	P	**Pn**	**20 21 09.5**	**+0.1**
JTJ				S	**Sn**	**20 21 40.7**	**-1.0**

MAN 04 20:20:28, 10.°19N×123.°06E, h1km, mb4.1, ML2.8, MS2.5, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.64**	**313**	*e*P	Pb	20 20 43.0	+1.1
GUIM				*e*S	Sn	20 20 55.1	+0.1
SNPH	**Sibulan**	**0.85**	**168**	*e*P	Pg	20 20 44.8	+0.4
SNPH				*e*S	Sg	20 20 54.6	-0.8
LLP	**Lapu-Lapu**	**0.90**	**82**	*e*P	Pg	20 20 45.4	+0.1
LLP				*e*S	Sb	20 20 58.6	-0.3
MSLP	**Maasin**	**1.77**	**91**	*e*P	Pb	20 21 00.6	-0.7
MSLP				*e*S	Sg	20 21 25.0	0.0

TAP 04 20:49:42.6, 24.°08N×121.°67E, h8km±1km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.07**	**272**	*i* P	Pg	20 49 44.6	+0.2
	baz=273						
TWD				*i* S	Sg	20 49 46.0	+0.1
	baz=273						
HWA	**Hwalien**	**0.12**	**212**	P	Pg	20 49 45.5	+0.3
	baz=207						
HWA				S	Sg	20 49 47.6	+0.6
	baz=207						
NACB	**Ninganchiao**	**0.12**	**323**	P	Pg	20 49 45.7	+0.4
	baz=323						
NACB				S	Sg	20 49 47.8	+0.7
	baz=323						
NANB	**Nanao**	**0.36**	**11**	*e*P	Pb	20 49 50.4	-0.8
	baz=11						
WHF	**Hehuan Shan**	**0.38**	**280**	*e*P	Pg	20 49 50.0	-0.1
	baz=280						
NNS	**Nan Shan**	**0.45**	**323**	*e*P	Pb	20 49 52.5	-0.4
	baz=323						
CHGB	**Renai**	**0.46**	**268**	*e*P	Pg	20 49 51.6	+0.1
	baz=267						
ENTT	**Nioudou**	**0.57**	**350**	P	Pb	20 49 54.7	-0.1
	baz=350						

TAP 04 20:49:47.8, 24.°08N×121.°61E, h9km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.01**	**270**	*i* P	Pg	20 49 50.0	+0.6
	baz=300						
TWD				S	Sg	20 49 51.4	+0.7
	baz=300						
NACB	**Ninganchiao**	**0.09**	**354**	P	Pg	20 49 51.0	+0.7
	baz=353						
NACB				S	Sg	20 49 53.1	+1.1
	baz=353						
HWA	**Hwalien**	**0.10**	**181**	P	Pg	20 49 50.8	+0.4
	baz=176						
HWA				*e*S	Sg	20 49 52.9	+0.7
	baz=176						
ENLB	**Shoufeng**	**0.18**	**181**	*e*P	Pg	20 49 52.4	+0.9
	baz=181						
ENLB				S	Sg	20 49 56.3	+2.2
	baz=181						
ESL	**Shilin**	**0.31**	**211**	*e*P	Pg	20 49 54.7	+0.7
	baz=209						
WHF	**Hehuan Shan**	**0.32**	**282**	P	Pb	20 49 55.2	-0.7
	baz=281						
WHF				S	Sb	20 50 00.2	-1.1
	baz=281						
ENA	**Nanau**	**0.37**	**20**	*e*P	Pg	20 49 55.8	+0.7
	baz=20						
NANB	**Nanao**	**0.37**	**21**	*e*P	Pg	20 49 55.7	+0.6
	baz=20						
NANB				*e*S	Sg	20 50 00.8	+0.8
	baz=20						
NANB	**Nanao**	**0.37**	**21**	*e*S	Pg	20 49 55.7	+0.6
	baz=11						
CHGB	**Renai**	**0.40**	**267**	*e*P	Pb	20 49 56.9	-0.2
	baz=267						
CHGB				*e*S	Sb	20 50 02.7	-0.7
	baz=267						
NNSB	**Datong**	**0.40**	**330**	*e*P	Pb	20 49 57.2	0.0
	baz=329						
NNSB				*e*S	Sb	20 50 03.0	-0.5
	baz=329						
NNSH	**Datong**	**0.40**	**330**	*e*P	Pb	20 49 57.4	+0.2
	baz=329						
NNSH				*e*S	Sb	20 50 02.9	-0.6
	baz=329						
OWD	**Renai**	**0.41**	**252**	*e*P	Pb	20 49 56.8	-0.6
	baz=252						
OWD				*e*S	Sb	20 50 03.5	-0.3
	baz=252						
NNS	**Nan Shan**	**0.42**	**329**	*e*P	Pb	20 49 57.6	+0.2
	baz=329						
ENTT	**Nioudou**	**0.56**	**356**	P	Pb	20 50 00.1	+0.3
	baz=356						
ENTT				S	Sb	20 50 08.1	+0.2
	baz=356						
YHNB	**Yeheng**	**0.62**	**340**	*e*P	Pg	20 50 00.4	+0.5
	baz=340						
YHNB				S	Sb	20 50 10.2	+0.4
	baz=340						
TWE	**Neicheng**	**0.64**	**5**	*e*P	Pb	20 50 01.7	+0.6
	baz=6.0						
TWE				*e*S	Sb	20 50 10.2	0.0
	baz=6.0						
SSLB	**Suanglung**	**0.66**	**244**	*e*P	Pb	20 50 01.4	-0.1
	baz=243						
YULB	**Yu-li**	**0.74**	**203**	*e*P	Pn	20 50 04.6	+0.2
	baz=202						
YULB				*e*S	Sb	20 50 13.3	+0.2
	baz=202						

IDC 04 20:54:01.6±4.5, 18.°02S×166.°79E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/40, mbtmp3.6/5, ML2.7/1, Error ellipse: s-maj=86.2km s-min=32.5km az=78.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.05**	**185**	Pn	Pn	20 55 04.5	-0.5
	0.5nm,0.3s,baz=139,slow=20,SNR=5.0						
DZM				Sn	Sn	20 55 52.3	-0.9
	1.4nm,0.3s,baz=315,slow=23,SNR=7.4						
STKA	**Stephens Creek**	**26.61**	**234**	P	P	20 59 43.5	+1.6
	2.5nm,0.7s,baz=70,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**30.72**	**261**	P	P	21 00 18.1	-0.6
	0.3nm,0.8s,baz=93,slow=9.1,SNR=3.0						
ASAR	**Alice Springs**	**31.20**	**254**	P	P	21 00 22.4	-0.5
	0.7nm,0.8s,baz=75,slow=9.8,SNR=7.7						
CMAR	**Chiang Mai Arr**	**75.89**	**295**	P	P	21 05 50.6	0.0
	0.1nm,0.4s,baz=132,slow=4.2,SNR=4.2						

*ISCJB **04** 21:00:26.1±0.8, 24.°91N±0.°03×122.°46E±0.°03, h9km±5km, Error ellipse: s-maj=6.2km s-min=3.9km az=24.2*
*JMA **04** 21:00:26.3±0.2, 23.°83N×123.°07E, h42km, M2.3*
*TAP **04** 21:00:26.6, 24.°91N×122.°46E, h11km±1km, ML2.5, D*
ISC 04 21:00:25.4±1.4, 24.°92N±0.°05×122.°51E±0.°04, h24km±13km, n35, σ0.s59/52, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.48**	**280**	*e*P	**Pb**	**21 00 35.3**	**+0.1**
	baz=282						
EOS1	**EOS1**	**0.51**	**223**	P	**Pb**	**21 00 35.9**	**+0.3**
	baz=219						
EOS1				*e*S	**Sb**	**21 00 42.8**	**+0.1**
	baz=219						
JYNG	**Yonagunijimaku**	**0.61**	**140**	P	**Pn**	**21 00 38.6**	**0.0**
JYNG				S	**Sn**	**21 00 47.9**	**+0.1**
TIPB	**Shuangxi**	**0.62**	**275**	P	**Pb**	**21 00 37.0**	**-0.7**
	baz=275						
TIPB				S	**Sb**	**21 00 45.1**	**-0.9**
	baz=275						
YOJ	**Yonaguni jima**	**0.65**	**135**	*i* P	**Pn**	**21 00 39.1**	**0.0**
	baz=131						
YOJ				*e*S	**Sn**	**21 00 48.6**	**0.0**
	baz=131						
YOJ	**Yonaguni jima**	**0.65**	**135**	P	**Pn**	**21 00 39.0**	**0.0**
YOJ				S	**Sn**	**21 00 47.9**	**-0.7**
TWC	**Suao**	**0.68**	**243**	P	**Pb**	**21 00 38.1**	**-0.5**
	baz=240						
TWC				*e*S	**Sb**	**21 00 47.4**	**-0.2**
	baz=240						
NWF	**Wu-fen Shan**	**0.68**	**283**	*e*P	**Pn**	**21 00 39.4**	**-0.2**
	baz=284						
NWF				*e*S	**Sb**	**21 00 47.9**	**+0.3**
	baz=284						
WFSB	**Wu-fen Shan**	**0.68**	**283**	*e*P	**Pn**	**21 00 39.4**	**-0.1**
	baz=284						
WFSB				*e*S	**Sb**	**21 00 48.4**	**+0.8**
	baz=284						
TWE	**Neicheng**	**0.79**	**256**	P	**Pb**	**21 00 40.6**	**+0.1**
	baz=254						
TWE				S	**Sb**	**21 00 50.4**	**-0.4**
	baz=254						
YM07	**YM07**	**0.85**	**288**	*e*P	**Pb**	**21 00 41.5**	**+0.1**
	baz=289						
NANB	**Nanao**	**0.85**	**235**	*e*P	**Pb**	**21 00 41.2**	**-0.3**
	baz=233						
ENA	**Nanau**	**0.86**	**235**	*e*P	**Pb**	**21 00 41.4**	**-0.2**
	baz=233						
YM10	**YM10**	**0.89**	**285**	*e*P	**Pn**	**21 00 42.7**	**+0.2**
	baz=286						
TWY	**Chenhua**	**0.90**	**293**	*e*P	**Pn**	**21 00 43.9**	**+1.3**
	baz=295						
TWY				*e*S	**Sn**	**21 00 54.9**	**+0.1**
	baz=295						
ENTT	**Nioudou**	**0.90**	**252**	P	**Pn**	**21 00 42.4**	**-0.3**
	baz=251						
ENTT				*e*S	**Sb**	**21 00 53.9**	**-0.2**
	baz=251						
YM04	**YM04**	**0.91**	**285**	*e*P	**Pn**	**21 00 43.1**	**+0.3**
	baz=286						
NWLT	**Wulai**	**0.93**	**261**	*e*P	**Pn**	**21 00 43.1**	**+0.1**
	baz=261						
NWLT				*e*S	**Sb**	**21 00 53.5**	**-1.2**
	baz=261						
YHNB	**Yeheng**	**1.06**	**257**	*e*P	**Pn**	**21 00 45.0**	**+0.1**
	baz=256						
NACB	**Ninganchiao**	**1.12**	**228**	*e*P	**Pb**	**21 00 46.1**	**0.0**
	baz=226						
NACB				*e*S	**Sn**	**21 01 00.0**	**-0.2**
	baz=226						
NNSB	**Datong**	**1.14**	**245**	*e*P	**Pn**	**21 00 46.0**	**+0.1**
	baz=243						
NNSB				*e*S	**Sn**	**21 01 00.6**	**-0.3**
	baz=243						
NNSH	**Datong**	**1.14**	**245**	P	**Pb**	**21 00 46.1**	**-0.3**
	baz=243						
NNSH				*e*S	**Sb**	**21 00 60.0**	**-0.9**
	baz=243						
NNS	**Nan Shan**	**1.14**	**245**	*e*P	**Pb**	**21 00 46.4**	**-0.1**
	baz=244						
NNS				*e*S	**Sn**	**21 01 00.6**	**-0.4**
	baz=244						
TWD	**Chiawan**	**1.18**	**225**	P	**Pb**	**21 00 47.4**	**+0.2**
	baz=223						
IRIF	**Iriomote-Funau**	**1.25**	**118**	S	Sn	21 00 51.4	-12
WHF	**Hehuan Shan**	**1.37**	**236**	*e*P	**Pb**	**21 00 51.0**	**+0.3**
	baz=234						
WHF				S	**Sb**	**21 01 07.9**	**0.0**
	baz=234						
LIOB	**Emei**	**1.39**	**259**	*e*P	**Pb**	**21 00 50.3**	**-0.3**
	baz=258						
HATJ	**Hateruma jima**	**1.46**	**126**	P	Pn	21 00 39.9	-10
HATJ				S	Sn	21 00 49.6	-19
CHGB	**Renai**	**1.49**	**235**	*e*P	**Pb**	**21 00 52.8**	**+0.3**
	baz=234						
CHGB				*e*S	**Sb**	**21 01 12.7**	**+1.6**
	baz=234						
OWD	**Renai**	**1.55**	**232**	*e*P	**Pb**	**21 00 53.5**	**-0.1**
	baz=230						
OWD				*e*S	**Sb**	**21 01 14.4**	**+1.6**
	baz=230						
SMLT	**Sun Moon Lake**	**1.80**	**235**	*e*P	**Pb**	**21 00 58.5**	**+0.8**
	baz=233						
SSLB	**Suanglung**	**1.81**	**232**	*e*P	**Pb**	**21 00 58.6**	**+0.6**
	baz=230						
TYC	**Yuchr**	**1.82**	**236**	*e*P	**Pb**	**21 00 58.1**	**+0.2**
	baz=235						
YULB	**Yu-li**	**1.88**	**216**	*e*P	**Pn**	**21 00 56.6**	**+0.5**
	baz=214						
TPUB	**Ta-pu**	**2.36**	**227**	*e*P	**Pb**	**21 01 05.8**	**-1.4**
	baz=226						

*ISCJB **04** 21:02:44.2±0.9, 5.°0S±0.°1×152.°4E±0.°1, h55km, mb3.9/11, Error ellipse: s-maj=26.1km s-min=8.9km az=38.6*
*IDC **04** 21:02:47.8±4.8, 5.°08S×152.°39E, h80km±43km, mb3.7/11, mb1 3.8/12, mb1mx3.6/45, mbtmp3.9/12, ML1.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/39, Error ellipse: s-maj=34.6km s-min=25.1km az=134.0*
ISC 04 21:02:45.6±1.1, 4.°9S±0.°2×152.°4E±0.°2, h55km, n23, σ0.s88/23, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.85**	**229**	P	**Pn**	**21 04 24.3**	**+0.8**
	0.5nm,0.3s,baz=300,slow=16,SNR=1.7						
PMG				S	**Sn**	**21 05 40.8**	**+0.6**
	3.7nm,0.3s,baz=114,slow=20,SNR=5.3						
HNR	**Honiara**	**8.70**	**121**	LR	LR	21 08 06.6	
	comp=Z,60nm,19.3s,baz=293,slow=37						
WRA	**Warramunga Arr**	**23.07**	**228**	P	**P**	**21 07 44.6**	**-2.1**
	1.1nm,0.4s,baz=53,slow=10,SNR=21						
ASAR	**Alice Springs**	**25.80**	**222**	P	**P**	**21 08 10.9**	**-0.8**
	0.4nm,0.7s,baz=54,slow=8.4,SNR=8.4						
CMAR	**Chiang Mai Arr**	**57.59**	**295**	P	**P**	**21 12 31.4**	**+1.1**
	1.5nm,0.8s,baz=111,slow=4.9,SNR=13						
SONM	**Songino Array**	**66.24**	**328**	P	**P**	**21 13 28.6**	**+0.6**
	0.6nm,0.5s,baz=143,slow=4.4,SNR=7.8						
TAPN	**Taplejung**	**70.15**	**301**	*e*P	**P**	**21 13 53.6**	**+0.4**
	3.7nm,0.6s						
ODAN	**Odare**	**70.29**	**301**	*e*P	**P**	**21 13 54.3**	**+0.4**
	7.0nm,0.7s						
GUN	**Gumba**	**71.87**	**301**	*e*P	**P**	**21 14 03.7**	**+0.1**
	8.8nm,0.6s						
PKI	**Pulchoki**	**72.18**	**301**	*e*P	**P**	**21 14 05.2**	**-0.3**
	3.7nm,0.6s						
PKIN	**Phulchoki**	**72.19**	**301**	*e*P	**P**	**21 14 06.0**	**+0.5**
	4.1nm,0.5s						
KKN	**Kakani**	**72.34**	**301**	*e*P	**P**	**21 14 06.5**	**+0.2**
	2.4nm,0.5s						
DMN	**Daman**	**72.45**	**301**	*e*P	**P**	**21 14 07.3**	**+0.3**
	3.5nm,0.3s						
KOLN	**Koldanda**	**73.78**	**301**	*e*P	**P**	**21 14 14.8**	**0.0**
	8.2nm,0.8s						
PYUN	**Piuthan**	**74.38**	**301**	*e*P	**P**	**21 14 17.9**	**-0.4**
	6.6nm,0.6s						
MKAR	**Makanchi Array**	**80.18**	**319**	P	**P**	**21 14 49.8**	**-0.4**
	0.4nm,0.4s,baz=96,slow=8.0,SNR=12						
ZALV	**Zalesovo Beam**	**81.05**	**326**	P	**P**	**21 14 53.6**	**-1.0**
	0.7nm,0.4s,baz=112,slow=5.6,SNR=4.9						
ILAR	**Eielson Array**	**82.42**	**22**	P	**P**	**21 15 00.9**	**-0.7**
	3.2nm,0.7s,baz=247,slow=5.7,SNR=43						
INK	**Inuvik**	**88.72**	**21**	P	**P**	**21 15 32.3**	**-0.4**
	0.8nm,0.5s,baz=225,slow=2.9,SNR=4.5						
BVAR	**Borovoye Array**	**89.12**	**323**	P	**P**	**21 15 33.7**	**-1.3**
	0.9nm,0.6s,baz=114,slow=7.0,SNR=5.3						
NVAR	**Mina Array Bea**	**92.46**	**52**	P	**P**	**21 15 52.2**	**+1.0**
	0.4nm,0.7s,baz=289,slow=5.5,SNR=3.5						
YKA	**Yellowknife Ar**	**95.72**	**28**	P	**P**	**21 16 06.4**	**+1.2**
	0.3nm,0.6s,baz=271,slow=4.9,SNR=12						
TORD	**Torodi Ar. Bea**	**149.99**	**288**	PKPbc	**PKPbc**	**21 22 29.9**	**-1.1**
	1.0nm,0.4s,baz=87,slow=2.2,SNR=33						

*IDC **04** 21:08:50.0±1.3, 19.°59S×172.°63W, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.0/43, mbtmp4.0/10, ML4.3/1, MS2.9/6, Ms1 2.9/6, ms1mx2.7/43, Error ellipse: s-maj=69.5km s-min=19.3km az=151.0*
*ISCJB **04** 21:08:52.2±0.5, 19.°9S±0.°1×172.°53W±0.°08, h33km, mb4.5/21, MS3.3/3, Error ellipse: s-maj=18.2km s-min=8.5km az=157.7*
*NEIC **04** 21:08:54.5±0.4, 19.°79S×172.°56W, h35km, mb4.9/14, Error ellipse: s-maj=20.7km s-min=7.3km az=147.0*
ISC 04 21:08:54.5±0.5, 19.°8S±0.°1×172.°57W±0.°09, h35km, n50, σ1.s02/45, mb4.5/21, MS3.3/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.85**	**8**	LR	LR	21 12 25.2	
	comp=Z,26nm,18.4s,baz=338,slow=38						
RAR	**Rarotonga**	**12.08**	**99**	LR	LR	21 16 15.4	
	comp=Z,33nm,18.1s,baz=268,slow=37						
RAR	**Rarotonga**	**12.08**	**99**	*e*Pn	**Pn**	**21 11 43.3**	**-1.0**
DZM	**Mont Dzumac**	**19.74**	**260**	P	**P**	**21 13 21.5**	**0.0**
	0.8nm,0.3s,baz=84,slow=20,SNR=7.4						
DZM				LR	LR	21 18 22.1	
	comp=Z,19nm,20.2s,baz=186,slow=29						
DZM	**Mont Dzumac**	**19.74**	**260**	*e*LR	LR	21 17 51.6	
	93nm,23.8s						
DZM	**Mont Dzumac**	**19.74**	**260**	*e*P	**P**	**21 13 21.5**	**0.0**
	76nm,1.8s						
PPT2	**Papeete2**	**21.89**	**88**	*e*LR	LR	21 18 53.5	
	133nm,25.5s						
PPT	**Papeete**	**21.89**	**88**	LR	LR	21 19 46.2	
	comp=Z,46nm,20.5s,baz=306,slow=30						
HNR	**Honiara**	**28.46**	**287**	*e*P	**P**	**21 14 44.2**	**-2.2**
	67nm,1.1s						
WKZ	**Wanaka**	**29.32**	**207**	*e*P	**P**	**21 14 52.8**	**-1.0**
	82nm,1.8s						
EIDS	**Eidsvold**	**33.96**	**254**	*e*P	**P**	**21 15 34.3**	**-0.5**
	54nm,1.6s						
KHLU	**Kahalu'u**	**42.38**	**24**	*e*P	**P**	**21 16 44.5**	**-1.3**
	279nm,1.8s						
COEN	**Coen**	**42.65**	**271**	*e*P	**P**	**21 16 47.4**	**-0.7**
	6.0nm,0.9s						
STKA	**Stephens Creek**	**42.71**	**244**	P	**P**	**21 16 48.4**	**+0.1**
	1.8nm,0.9s,baz=60,slow=8.1,SNR=3.0						
STKA	**Stephens Creek**	**42.71**	**244**	*e*P	**P**	**21 16 48.4**	**+0.1**
	4.6nm,1.8s						
BBOO	**Buckleboo**	**47.45**	**243**	*e*P	**P**	**21 17 26.3**	**+0.3**
	15nm,1.3s						
AS01	**Alice Springs**	**49.61**	**255**	*e*P	**P**	**21 17 42.4**	**-0.4**
AS31	**Alice Springs**	**49.65**	**255**	*e*P	**P**	**21 17 43.4**	**+0.3**
	2.1nm,0.9s						
AS31				*e*PcP	**PcP**	**21 19 06.8**	**+2.6**
ASAR	**Alice Springs**	**49.65**	**255**	P	**P**	**21 17 43.2**	**+0.1**
	4.3nm,0.6s,baz=89,slow=8.6,SNR=47						
ASAR				PcP	**PcP**	**21 19 06.8**	**+2.6**
	1.2nm,0.8s,baz=119,slow=4.1,SNR=4.8						
WRAB	**Tennant Creek**	**49.75**	**260**	*e*P	**P**	**21 17 43.5**	**-0.4**
	46nm,1.3s						
WR1	**Warramunga Arr**	**49.76**	**260**	*e*P	**P**	**21 17 43.2**	**-0.7**
	22nm,1.7s						
WRA	**Warramunga Arr**	**49.76**	**260**	P	**P**	**21 17 43.2**	**-0.7**
	2.8nm,0.6s,baz=96,slow=8.0,SNR=15						
MTN	**Manton Dam**	**54.27**	**268**	*e*P	**P**	**21 18 16.9**	**-0.7**
	7.4nm,0.8s						
MBWA	**Marble Bar**	**62.99**	**256**	*e*P	**P**	**21 19 18.4**	**+0.1**
	33nm,1.5s						
JNU	**Nakatsue**	**75.34**	**314**	LR	LR	21 47 04.0	
	comp=Z,16nm,21.1s,baz=294,slow=30						
NV01	**Mina Array Sit**	**77.05**	**41**	*e*P	**P**	**21 20 44.1**	**-0.2**
NVAR	**Mina Array Bea**	**77.05**	**41**	P	**P**	**21 20 44.1**	**-0.2**
	1.0nm,0.9s,baz=229,slow=8.7,SNR=5.4						
CCUT	**Cedar City**	**79.66**	**44**	*e*P	**P**	**21 20 57.8**	**-1.1**
	4.1nm,1.6s						
KSRS	**Korea Array**	**79.81**	**316**	P	**P**	**21 21 00.5**	**+1.1**
	1.5nm,0.7s,baz=134,slow=5.2,SNR=5.4						
KS15	**Wonju Array Si**	**79.82**	**316**	*e*P	**P**	**21 21 00.5**	**+1.0**
KSAR	**Wonju Array Be**	**79.82**	**316**	P	**P**	**21 21 00.5**	**+1.0**
KS01	**Wonju Array Si**	**79.84**	**316**	*e*P	**P**	**21 21 00.7**	**+1.2**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LTX	Lajitas	82.39	55	eP	P	21 21 14.3	+0.8
TXAR	Lajitas Array	82.39	55	P	P	21 21 14.3	+0.8
	0.4nm,0.9s,baz=231,slow=5.7,SNR=3.5						
PDAR	Pinedale Array	84.98	41	LR	LR	21 52 40.3	
	comp=Z,25nm,18.9s,baz=62,slow=31						
ILAR	Eielson Array	86.54	11	P	P	21 21 32.5	-0.9
	0.5nm,0.8s,baz=230,slow=5.8,SNR=7.1						
ILB	Eielson Array	86.54	11	eP	P	21 21 32.5	-0.9
YKA	Yellowknife Ar	93.75	23	P	P	21 22 07.8	+0.5
	0.2nm,0.8s,baz=239,slow=4.0,SNR=5.3						
YKB5	Yellowknife Ar	93.75	23	eP	P	21 22 07.8	+0.5
CM31	Chiang Mai Arr	94.71	288	eP	P	21 22 13.3	+0.5
CMAR	Chiang Mai Arr	94.71	288	P	P	21 22 13.3	+0.5
	0.6nm,0.8s,baz=132,slow=2.1,SNR=4.7						
KMBO	Kilima Mbogo	144.14	238	PKP	PKPdf	21 28 29.5	+1.5
	1.4nm,0.8s,baz=43,slow=5.2,SNR=5.5						
AKASG	Malin Array Be	144.62	336	PKP	PKPab	21 28 25.8	-0.2
	0.3nm,0.5s,baz=35,slow=3.9,SNR=4.1						
AKBB	Malin Array Si	144.62	336	ePKPdf	PKPab	21 28 25.8	-0.2
MARD	Mardin	146.10	308	ePKPdf	PKPdf	21 28 30.7	+0.2
BR101	Keskin Array S	149.94	317	ePKPbc	PKPbc	21 28 42.9	+1.3
BRTR	Keskin Array B	149.94	317	PKPbc	PKPbc	21 28 42.9	+1.3
	1.8nm,0.8s,baz=132,slow=3.5,SNR=7.5						
BR231	Keskin MP Arra	150.43	318	ePKPbc	PKPbc	21 28 43.9	+1.2
GEC2	GERESS Array S	150.53	352	ePKPbc	PKPbc	21 28 43.6	+0.9
GERES	GERESS Array B	150.53	352	PKPbc	PKPbc	21 28 43.6	+0.9
	0.1nm,0.3s,baz=335,slow=5.9,SNR=4.0						

*IDC **04** 21:21:33.1±2.4, 25.°60N×91.°17E, h0km, mb3.1/4, mb1 3.3/5, mb1mx3.1/59, mbtmp3.1/5, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/23, Error ellipse: s-maj=88.2km s-min=23.3km az=69.0*

*NDI **04** 21:21:35.9±2.9, 25.°68N×91.°07E, h15km±9km, ML3.4*

ISC 04 21:21:32.4±2.0**, 25.°53N**±0.°04×**91.°07E**±0.°03**, h1**km±14km**, n18, σ1s31**/24**, mb3.1**/4**, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SHL	Shillong	0.74	87	eP	Pn	21 21 50.4	+0.2
SHL				eS	Sn	21 22 00.3	-2.0
SHL				IAML		21 22 01.3	
	comp=E,3µm,0.2s						
SHL				IAML		21 22 01.4	
	comp=N,2µm,0.1s						
GUWA	GUWAHATI	0.87	40	eP	Pb	21 21 50.6	+0.3
GUWA				eS	Sg	21 22 00.1	-0.3
GUWA				IAML		21 22 01.9	
	comp=N,2µm,0.2s						
GUWA				IAML		21 22 02.2	
	comp=E,2µm,0.1s						
DHUB	DHUBRI	1.08	297	eP	Pn	21 21 54.9	+0.1
DHUB				eS	Sg	21 22 08.0	+0.8
DHUB				IAML		21 22 08.7	
	comp=N,2µm,0.2s						
DHUB				IAML		21 22 08.9	
	comp=E,3µm,0.2s						
TAWA	Tawang	2.18	19	eP	Pb	21 22 11.4	-1.5
AZL	Aizawl	2.32	140	eP	Pb	21 22 14.9	-0.2
IMP	Imphal	2.70	104	eP	Pb	21 22 20.2	-1.5
KOHI	KOHIMA	2.75	85	eP	Pn	21 22 18.8	+0.9
KOHI				eS	Sn	21 22 51.8	-0.2
KOHI				IAML		21 23 10.8	
	comp=N,264nm,0.3s						
KOHI				IAML		21 23 10.8	
	comp=E,226nm,0.5s						
GTK	Tadong	2.84	309	eP	Pn	21 22 20.1	+1.0
GTK				eS	Sn	21 22 53.6	-0.4
GTK				IAML		21 23 05.1	
	comp=N,83nm,0.3s						
GTK				IAML		21 23 05.1	
	comp=E,116nm,0.3s						
ITAN	ITANAGAR	2.88	55	eP	Pn	21 22 20.3	+0.8
ITAN				eS	Sn	21 22 52.9	-1.8
ITAN				IAML		21 23 08.5	
	comp=E,693nm,0.3s						
ITAN				IAML		21 23 08.6	
	comp=N,476nm,0.3s						
MOKO	MOKOCHONG	3.21	75	eP	Pn	21 22 25.1	+1.0
MOKO				IAML		21 23 20.5	
	comp=N,170nm,0.3s						
MOKO				IAML		21 23 21.0	
	comp=E,220nm,0.8s						
SAIH	SAIHA	3.50	149	eP	Pb	21 22 33.0	-2.3
SAIH				eS	Sn	21 23 12.2	+1.8
BOK	Bokaro	5.02	251	eS	Sn	21 23 45.2	-2.5
BOK				IAML		21 24 13.9	
	comp=N,15nm,0.1s						
BOK				IAML		21 24 13.9	
	comp=E,16nm,0.1s						
CMAR	Chiang Mai Arr	10.14	132	Pn	Pn	21 24 00.9	+1.6
	comp=E,0.1nm,0.3s,baz=313,slow=15,SNR=3.8						
MKAR	Makanchi Array	22.34	344	P	P	21 26 32.1	+0.4
	comp=E,0.1nm,0.3s,baz=156,slow=7.9,SNR=5.9						
SONM	Songino Array	25.34	25	P	P	21 27 00.9	0.0
	comp=E,0.1nm,0.4s,baz=212,slow=11,SNR=4.1						
ARU	Arti	38.77	332	LR	LR	21 47 43.5	
	comp=E,38nm,18.6s,baz=348,slow=40						
WRA	Warramunga Arr	61.74	133	P	P	21 31 53.2	+0.4
	comp=E,0.1nm,0.5s,baz=324,slow=7.1,SNR=5.2						
ASAR	Alice Springs	64.13	136	P	P	21 32 09.3	+0.5
	comp=E,0.2nm,0.5s,baz=329,slow=6.9,SNR=3.9						

MEX 04 21:26:34.4±0.6**, 17.°11N×100.°06W, h46**km±7km**, MD3.9, Guerrero**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.21	252	eP	Pn	21 26 41.0	-1.4
CAIG				eS	Sn	21 26 46.2	-1.9
ACP2	Acapulco	0.29	146	eP	Pn	21 26 41.8	-1.3
ACP2				eS	Sn	21 26 47.7	-1.5
ACX	Acapulco	0.31	142	i P	Pn	21 26 39.7	-3.6
ACX				i S	Sn	21 26 45.5	-4.0
MEIG	Mezcala	0.91	27	eP	Pn	21 26 49.0	-1.9
MEIG				i S	Sn	21 27 00.5	-2.5
ARIG	Puente Sto Nin	1.19	347	eP	Pn	21 26 53.5	-1.3
ARIG				eS	Sn	21 27 08.2	-1.6
PLIG	Platanillo	1.38	22	eP	Pn	21 26 55.0	-2.2
PLIG				i S	Sn	21 27 13.2	-1.2

TAP 04 21:30:45.3, 24.°05N×121.°61E, h8km**, ML1.6, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TWD	Chiawan	0.03	342	P	Pg	21 30 47.5	+0.5
	baz=356						
TWD				S	Sg	21 30 48.8	+0.7
	baz=356						
HWA	Hwalien	0.07	181	P	Pg	21 30 48.0	+0.7
	baz=175						
NACB	Ninganchiao	0.13	355	eP	Pg	21 30 48.6	+0.5
	baz=354						
NACB				eS	Sg	21 30 50.9	+0.8
	baz=354						
ESL	Shilin	0.28	214	P	Pb	21 30 51.9	-0.7
	baz=212						
WHF	Hehuan Shan	0.33	287	P	Pg	21 30 52.7	+0.8
	baz=287						
WHF				eS	Sg	21 30 57.6	+1.3
	baz=287						
CHGB	Renai	0.40	272	eP	Pb	21 30 54.2	-0.4
	baz=271						
NANB	Nanao	0.40	19	eP	Pg	21 30 53.5	+0.3
	baz=19						
OWD	Renai	0.41	257	eP	Pb	21 30 54.1	-0.7
	baz=256						
OWD				eS	Sg	21 30 59.6	+1.0
	baz=256						
EGFH	Guangfu	0.41	204	P	Pb	21 30 54.4	-0.4
	baz=203						
NNSB	Datong	0.43	332	P	Pb	21 30 54.7	-0.5
	baz=331						
NNSH	Datong	0.43	332	eP	Pb	21 30 54.6	-0.6
	baz=331						
NNS	Nan Shan	0.45	331	eP	Pb	21 30 55.0	-0.4
	baz=332						
ENTT	Nioudou	0.59	356	P	Pb	21 30 57.7	-0.2
	baz=357						
SSLB	Suanglung	0.65	247	P	Pb	21 30 58.7	-0.2
	baz=246						
YHNB	Yeheng	0.65	341	eP	Pb	21 30 59.1	+0.1
	baz=341						
NWLT	Wulai	0.73	353	eP	Pb	21 31 00.3	0.0
	baz=352						

TAP 04 21:30:46.5, 24.°07N×121.°61E, h9km±1km**, ML1.7, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TWD	Chiawan	0.01	315	eS	Sg	21 30 50.1	+0.8
	baz=345						
HWA	Hwalien	0.09	182	eP	Pg	21 30 49.3	+0.4
	baz=177						
HWA	Hwalien	0.09	182	eS	Pg	21 30 49.3	+0.4
	baz=175						
NACB	Ninganchiao	0.10	353	eP	Pg	21 30 49.9	+0.8
	baz=353						
NACB				eS	Sg	21 30 52.0	+1.0
	baz=353						
WHF	Hehuan Shan	0.32	284	i P	Pb	21 30 54.0	-0.6
	baz=283						
WHF				S	Sb	21 30 58.9	-1.2
	baz=283						
NANB	Nanao	0.38	20	eP	Pg	21 30 54.7	+0.7
	baz=19						
NANB				eS	Sb	21 31 00.4	-1.0
	baz=19						
CHGB	Renai	0.40	269	eP	Pb	21 30 55.4	-0.4
	baz=268						
CHGB				eS	Sb	21 31 01.4	-0.7
	baz=268						

NNC 04 21:35:31.9±3.5**, 37.°64N×71.°21E, h73**km±118km**, mb3.4, mpv3.5, 7C-3D, Error ellipse: s-maj=29.4km s-min=24.6km az=125.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.97	36	⇑P	Pn	21 36 17.0	0.0
	5.8nm,0.3s						
SFK				⇑S	Sn	21 36 52.4	+0.8
	5.8nm,0.4s						
AML	Almayashu	4.87	22	P	Pn	21 36 43.1	+0.1
	SNR=166						
MNAS	Manas	4.94	11	⇑P	Pn	21 36 44.4	+0.7
	1.7nm,0.3s						
MNAS				⇑S	Sn	21 37 39.4	-0.1
	1.6nm,0.4s						
UCH	Uchtor	5.24	28	P	Pn	21 36 47.8	-0.3
	SNR=8.6						
EKS2	Erkin-Say	5.38	21	P	Pn	21 36 50.4	+0.7
	SNR=6.0						
KZA	Kyzart	5.41	34	P	Pn	21 36 49.3	-1.1
	SNR=5.4						
KK31	Karatay Array	5.48	355	⇑P	Pn	21 36 52.4	+1.4
	2.3nm,0.4s,baz=172,slow=12						
KK31				⇓S	Sn	21 37 53.6	+0.9
	2.2nm,0.5s,baz=176,slow=23						
AAK	Ala-Archa	5.59	26	⇑P	Pn	21 36 51.8	-0.8
	3.6nm,0.3s						
AAK				⇓S	Sn	21 37 54.5	-0.9
	0.7nm,0.4s						
AAK	Ala-Archa	5.59	26	P	Pn	21 36 52.5	0.0
	SNR=14						
CHMS	Chumysh	5.99	26	P	Pn	21 36 57.7	-0.3
	SNR=10						
USP	Ospenovka	6.15	23	P	Pn	21 36 59.7	-0.5
	SNR=12						
TKM2	Tokmak 2	6.25	31	⇑P	Pn	21 36 59.8	-1.8
	2.8nm,0.6s						
TKM2				⇓S	Sn	21 38 14.9	+3.2
	0.7nm,0.6s						

*ISK **04** 21:38:36.9, 39.°66N×25.°63E, h14km, ML2.8/8*

*ISCJB **04** 21:38:37.1±0.8, 39.°65N±0.°03×25.°62E±0.°06, h11km±5km, Error ellipse: s-maj=8.4km s-min=4.6km az=173.6*

*CSEM **04** 21:38:37.2±0.4, 39.°67N×25.°61E, h10km, ML2.8, Error ellipse: s-maj=8.4km s-min=4.1km az=82.0*

*DDA **04** 21:38:38.3, 39.°65N×25.°82E, h7km, Ml3.0*

ISC 04 21:38:37.3±1.3**, 39.°66N**±0.°02×**25.°63E**±0.°05**, h16**km±9km**, n47, σ0s62**/62**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.44	118	PG	Pg	21 38 46.3	+0.2
GPNR				SG	Sb	21 38 52.8	-0.1
GPNR	Gulpinar-Canak	0.44	118	ePg	Pg	21 38 46.3	+0.2
GPNR				eSg	Sb	21 38 52.8	-0.1
SIGR	SIGRI	0.48	159	PG	Pb	21 38 47.1	-0.2
SIGR				SG	Sb	21 38 54.2	0.0
SIGR	SIGRI	0.48	159	ePg	Pb	21 38 47.1	-0.2
SIGR				eSg	Sb	21 38 54.2	0.0
GADA	Gvkgeada	0.57	21	PG	Pg	21 38 48.4	-0.1
GADA	Gvkgeada	0.57	21	ePg	Pg	21 38 48.4	-0.1
GOKC	Gokceada-Canak	0.58	22	PG	Pb	21 38 48.8	-0.3
GOKC	Gokceada-Canak	0.58	22	ePg	Pb	21 38 48.8	-0.3
BAYC	CANAKKALE_Bayr	0.71	83	i P	Pg	21 38 50.8	-0.4
BAYC				i S	Sg	21 39 00.3	-0.3
BAYC	CANAKKALE_Bayr	0.71	83	P	Pg	21 38 50.8	-0.4
BAYC				S	Sg	21 39 00.3	-0.3
GELI	Tayfur-Gelibol	0.98	41	PG	Pn	21 38 56.1	-0.3
GELI	Tayfur-Gelibol	0.98	41	ePg	Pn	21 38 56.1	-0.3
LPK	Lapseki	1.12	50	PN	Pn	21 38 57.5	-0.8
LPK	Lapseki	1.12	50	ePn	Pn	21 38 57.5	-0.8
ENEZ	Enez	1.15	20	PN	Pg	21 38 58.9	-0.5
ENEZ	Enez	1.15	20	ePn	Pg	21 38 58.9	-0.5
ERIK	Erikli-Kesan	1.22	33	PN	Pg	21 39 00.2	-0.5
ERIK	Erikli-Kesan	1.22	33	ePn	Pg	21 39 00.2	-0.5
ALN	Alexandroupoli	1.28	14	PN	Pb	21 39 01.1	+0.2
ALN	Alexandroupoli	1.28	14	ePn	Pb	21 39 01.1	+0.2
CHOS	Chios island	1.31	165	PN	Pb	21 39 01.7	+0.1
CHOS	Chios island	1.31	165	ePn	Pb	21 39 01.7	+0.1
KESN	Edirne-Kesan	1.41	34	i P	Pg	21 39 04.7	+0.1
KESN				i S	Sg	21 39 23.2	+0.2
KESN	Edirne-Kesan	1.41	34	P	Pg	21 39 04.7	+0.1
KESN				S	Sg	21 39 23.2	+0.2
KRBG	Karabiga-Canak	1.47	60	PN	Pb	21 39 04.1	-0.2
KRBG	Karabiga-Canak	1.47	60	ePn	Pb	21 39 04.1	-0.2
URLA	Izmir	1.50	150	PN	Pn	21 39 03.3	-0.3
URLA	Izmir	1.50	150	ePn	Pn	21 39 03.3	-0.3
BALY	Balya	1.54	86	i P	Pn	21 39 03.9	-0.2
BALY				i S	Sn	21 39 22.9	-0.8
BALY	Balya	1.54	86	P	Pn	21 39 03.9	-0.2
BALY				S	Sn	21 39 22.9	-0.8
RKY	Sarkoy-Tekirda	1.57	49	PN	Pb	21 39 05.4	-0.5
RKY	Sarkoy-Tekirda	1.57	49	ePn	Pb	21 39 05.4	-0.5
SART	Tekirdag	1.57	49	i P	Pb	21 39 05.3	-0.7
SART				i S	Sb	21 39 26.6	+1.0
SART	Tekirdag	1.57	49	P	Pb	21 39 05.3	-0.7
SART				S	Sb	21 39 26.6	+1.0
ZEY	˜zmir	1.57	154	eP	Pb	21 39 05.5	-0.5
ZEY				eS	Sn	21 39 24.2	-0.4
STEP	BALIKESIR_Sava	1.64	99	i P	Pg	21 39 08.6	-0.2
STEP				i S	Sb	21 39 28.6	+1.0
STEP	BALIKESIR_Sava	1.64	99	P	Pg	21 39 08.6	-0.2
STEP				S	Sb	21 39 28.5	+1.0
BALB	Balikesir	1.74	90	PN	Pn	21 39 07.4	+0.6
BALB	Balikesir	1.74	90	ePn	Pn	21 39 07.4	+0.6
EDC	Edincik	1.85	67	PN	Pn	21 39 09.2	+0.9
EDC	Edincik	1.85	67	ePn	Pn	21 39 09.2	+0.9
KCTX	Karacabey (Bur	2.18	73	PN	Pn	21 39 13.5	+0.6
KCTX	Karacabey (Bur	2.18	73	ePn	Pn	21 39 13.5	+0.6
EDRB	Edirne	2.34	21	PN	Pn	21 39 16.2	+1.1
EDRB	Edirne	2.34	21	ePn	Pn	21 39 16.2	+1.1
DEMI	Demirci	2.47	103	i P	Pn	21 39 18.7	+1.8
DEMI	Demirci	2.47	103	P	Pn	21 39 18.7	+1.8

IDC 04 21:43:37.0±16.0**, 7.°01S×156.°93E, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/37**, mbtmp3.7**/3**, Error ellipse: s-maj=569.3km s-min=79.1km az=172.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	27.11	21	T	T	22 16 21.7	
	baz=222,slow=75,SNR=10.0						
H11S2	WAKE ISLAND Hy	27.11	21	T	T	22 16 26.6	
	baz=222,slow=75,SNR=7.5						
H11S1	WAKE ISLAND Hy	27.12	21	T	T	22 16 25.5	
	baz=222,slow=75,SNR=6.2						
ILAR	Eielson Array	82.69	21	P	P	21 56 02.2	0.0
	0.3nm,0.5s,baz=250,slow=4.8,SNR=5.4						
MKAR	Makanchi Array	84.69	318	P	P	21 56 12.9	0.0
	0.4nm,0.6s,baz=114,slow=5.1,SNR=5.6						
YKA	Yellowknife Ar	95.45	28	P	P	21 57 03.3	0.0
	0.2nm,0.7s,baz=262,slow=5.2,SNR=4.2						

IDC 04 21:45:36.1±2.3**, 7.°60S×130.°95E, h0**km**, mb3.3**/1**, mb1 3.4**/3**, mb1mx3.2**/42**, mbtmp3.2**/3**, ML3.0**/2**, Error ellipse: s-maj=126.3km s-min=32.3km az=71.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.70	165	Pn	Pn	21 48 36.9	-1.2
	0.1nm,0.3s,baz=348,slow=13,SNR=6.2						
WRA				Sn	Sn	21 50 57.3	-3.1
	0.3nm,0.3s,baz=344,slow=23,SNR=6.0						
ASAR	Alice Springs	16.22	170	Pn	Pn	21 49 27.0	+1.4
	0.1nm,0.3s,baz=354,slow=13,SNR=4.7						
ASAR				Sn	Sn	21 52 23.1	-3.3
	0.1nm,0.3s,baz=353,slow=26,SNR=3.4						
MKAR	Makanchi Array	69.24	327	P	P	21 56 45.0	0.0
	0.2nm,0.5s,baz=113,slow=8.1,SNR=3.2						

SJA 04 21:45:42.3±0.4**, 31.°68S×68.°24W, h106**km±3km**, ML3.1, MW3.9, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RTCV	Cerro Valdivia	0.31	235	i P	Pn	21 45 58.4	+0.6
RTCV				i S	Sn	21 46 10.3	+1.0
SJA	San Juan	0.32	299	i P	Pn	21 45 58.3	+0.5
SJA				IAML		21 46 11.0	
	comp=Z,708nm,0.2s						
AMOG	MOGNA	0.77	344	i P	Pn	21 46 01.8	+0.7
RTLS	Leoncito	0.91	262	i P	Pn	21 46 03.8	+1.2
RTLS				IAML		21 46 21.6	
	comp=Z,284nm,0.3s						
ASAL	Salagasta	1.04	209	i P	Pn	21 46 04.8	+1.1
ASAL				i S	Sn	21 46 21.0	+1.2
ACAN	Cantantal	1.07	124	i P	Pn	21 46 05.0	+1.0
ACAN				i S	Sn	21 46 21.4	+1.0
AUSP	Uspallata	1.11	241	i P	Pn	21 46 05.8	+1.1
AUSP				i S	Sn	21 46 23.6	+1.9

*IDC **04** 22:11:28.2±2.4, 50.°91N×174.°99E, h0km, mb3.5/6, mb1 3.9/7, mb1mx3.4/69, mbtmp3.6/7, ML3.0/1, Error ellipse: s-maj=64.4km s-min=23.4km az=3.0*

*ISCJB **04** 22:11:29.7±2.0, 50.°8N±0.°4×174.°8E±0.°2, h29km, mb3.5/6, Error ellipse: s-maj=55.0km s-min=16.0km az=0.7*

ISC 04 22:11:32.1±2.2**, 50.°9N**±0.°4×**174.°9E**±0.°1**, h29**km**, n7, σ1s24**/7**, mb3.4**/6**, South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	10.83	289	Pn	Pn	22 14 04.4	-0.7
	0.5nm,0.3s,baz=102,slow=19,SNR=9.8						
ILAR	Eielson Array	24.17	40	P	P	22 16 43.8	-1.7
	0.2nm,0.5s,baz=257,slow=6.1,SNR=14						
YKA	Yellowknife Ar	38.43	45	P	P	22 18 50.3	-0.4
	0.6nm,0.7s,baz=289,slow=8.4,SNR=7.7						
PDAR	Pinedale Array	50.22	68	P	P	22 20 25.9	+0.4
	0.8nm,0.6s,baz=295,slow=2.8,SNR=9.1						
SPITS	Spitsbergen Ar	50.55	354	P	P	22 20 28.6	+1.4
	5.0nm,0.9s,baz=327,slow=6.9,SNR=4.5						
MKAR	Makanchi Array	57.15	305	P	P	22 21 16.3	+0.4
	0.1nm,0.5s,baz=59,slow=6.9,SNR=2.8						
TXAR	Lajitas Array	62.65	76	P	P	22 21 54.0	+0.1
	0.2nm,0.7s,baz=289,slow=3.8,SNR=3.7						

*ISN **04** 22:46:47.0±1.1, 30.°88N×48.°84E, h0km, ML3.1*

TEH 04 22:46:51.4, 30.°88N×48.°88E, h22km**, ML3.1, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
IPIR	Pirpir	2.49	43	ePn	Pn	22 47 30.6	-0.3
IPIR				eSg	Sb	22 48 09.2	+3.3
IPIR				eAMB	AMB	22 48 28.7	
	comp=Z,859nm,0.4s						
IGAR	Gharneh	3.10	60	ePn	Pn	22 47 38.7	-0.5
IRAM	Ramesheh	3.14	72	ePn	Pn	22 47 39.6	-0.1
IRAM				eAMB	AMB	22 48 31.2	
	comp=Z,256nm,0.3s						
IKLH	Kolahrood	3.34	43	ePn	Pn	22 47 42.5	-0.1
IKLH				eAMB	AMB	22 47 44.5	
	comp=Z,458nm,0.2s						
IZEF	Zefreh	3.56	55	ePn	Pn	22 47 45.2	-0.4
IZEF				eAMB	AMB	22 48 01.9	
	comp=Z,229nm,0.2s						
QAM	Ghamsar	3.60	36	ePn	Pn	22 47 45.7	-0.4
QAM				eAMB	AMB	22 48 36.2	
	comp=Z,829nm,0.2s						
ISRV	Sarvestan	3.96	111	ePn	Pn	22 47 50.3	-0.8
ICHK	Chekchek	4.91	72	ePn	Pn	22 48 06.0	+1.9
ICHK				eAMB	AMB	22 49 14.9	
	comp=Z,148nm,0.3s						

GUC 04 23:15:45.0±0.5**, 23.°79S×67.°53W, h261**km±11km**, ML4.1, 8C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PB06	IPOC Station P	2.17	299	⇑i P	Pn	23 16 31.7	+1.6
PB06				i S	S	23 17 07.6	+1.9
PB06				IAML		23 17 10.7	
	comp=E,247nm,0.5s						
PB09	IPOC Station P	2.54	321	⇑i P	Pn	23 16 35.7	+2.1
PB09				i S	S	23 17 14.6	+2.4
PB09				IAML		23 17 19.5	
	comp=E,259nm,0.2s						
PB14	IPOC Station P	2.76	252	⇑i P	Pn	23 16 36.5	+0.5
PB14				i S	S	23 17 16.8	+0.4
PB14				IAML		23 17 20.8	
	comp=N,105nm,0.2s						
PB10	IPOC Station P	2.79	275	⇑i P	Pn	23 16 38.4	+2.4
PB10				eS	S	23 17 18.5	+2.1
PB10				IAML		23 17 21.7	
	comp=E,435nm,0.3s						
PB04	IPOC Station P	2.81	300	eP	Pn	23 16 39.0	+2.5
PB04				i S	S	23 17 19.8	+2.6
PB04				IAML		23 17 22.9	
	comp=N,253nm,0.4s						
PB07	IPOC Station P	2.99	313	⇑i P	Pn	23 16 40.5	+2.2
PB07				i S	S	23 17 22.9	+2.3
PB07				IAML		23 17 25.2	
	comp=E,237nm,0.2s						
PB01	IPOC Station P	3.28	326	⇑i P	Pn	23 16 43.2	+1.9
PB01				i S	S	23 17 28.1	+2.1
PB01				IAML		23 17 31.2	
	comp=E,103nm,0.3s						
PB02	IPOC Station P	3.29	318	⇑i P	Pn	23 16 43.7	+2.3
PB02				i S	S	23 17 28.5	+2.2
PB02				IAML		23 17 35.6	
	comp=E,168nm,0.2s						
PB08	IPOC Station P	3.93	337	⇑i P	Pn	23 16 51.5	+2.6
PB08				i S	S	23 17 43.4	+3.6
PB08				IAML		23 17 46.2	
	comp=N,72nm,0.2s						
MNMC	Minye Minye	5.02	337	eP	Pn	23 17 04.8	+3.1
MNMC				i S	S	23 18 05.7	+2.7

*BJI **04** 23:17:03.8, 4.°40S×102.°60E, h60km, mb5.5/72, mB5.2/46, Ms4.7/52, Ms7 4.5/53*

*MOS **04** 23:17:05.8±1.0, 4.°16S×102.°81E, h69km, mb5.8/67, MS4.2/9, Error ellipse: s-maj=8.1km s-min=3.9km az=119.3*

*ISCJB **04** 23:17:06.1±0.3, 4.°33S±0.°02×102.°68E±0.°02, h74km±2km, mb5.5/197, Error ellipse: s-maj=4.9km s-min=2.5km az=43.8*

*GCMT **04** 23:17:07.2±0.2, 4.°61S×102.°52E, h63km±1km, MW5.1/80, Moment Tensor Solution. s69,c104; s80,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.50±.14; $M_{\theta\theta}$-3.23±.12; $M_{\phi\phi}$-1.27±.14; $M_{r\theta}$2.20±.10; $M_{\theta\phi}$2.69±.09; $M_{\phi r}$-1.23±.11; Best double couple: $M_0$5.42800×10^{16} NP1:ϕ_s122.00000°, δ59.00000°, λ87.00000°. NP2: ϕ_s309.00000°, δ31.00000°, λ96.00000°. Principal axes: T*

5.1280, Plg76.0000°, Azm22.0000°; N 0.6000, Plg3.0000°, Azm124.0000°; P -5.7280, Plg14.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **04** 23:17:07.2±0.5, 4.32S×102.71E, h73km±3km, mb5.5/71 Error ellipse: s-maj=5.8km s-min=3.1km az=223.0*

NEIC Felt [III] at Kapahiang.

*IDC **04** 23:17:07.7±1.1, 4.25S×102.83E, h75km±9km, mb5.0/53, mb1 5.0/53, mb1mx5.0/64, mbtmp5.3/53, MS3.9/35, Ms1 4.0/35, ms1mx3.8/51, Error ellipse: s-maj=10.7km s-min=6.4km az=44.0*

*DJA **04** 23:17:07.0±0.2, 4°S±2°×10°3E±°, h61km±2km, M5.2/24, mb5.4/24, mB5.6/17, MLv5.6/19, Mw(mB)5.1/17*

*KLM **04** 23:17:08.5, 4.39S×102.53E, h60km, mb5.2*

ISC 04 23:17:06.2±0.3, **4.42S**±0.03×**102.66E**±0.04, **h66**km±2km, **h67**km**:pP-P, n995,** σ1s35/1017, **mb5.5**/218, **88C-24D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAI	Manna	0.30	79	P	Pn	23 17 16.7	-0.3
MNAI	Manna	0.30	79	ePn	Pn	23 17 16.8	-0.2
MNAI				eSn	Sn	23 17 24.7	-0.2
MASI	Maura Aman, Be	1.33	342	P	Pn	23 17 29.2	+0.3
LWLI	Liwa	1.52	113	P	Pn	23 17 32.4	+1.0
MDSI	Maura Dua	1.52	93	P	Pn	23 17 32.0	+0.7
KASI	Kota Agung	2.14	121	P	Pn	23 17 39.8	+0.2
KLI	Kotabumi	2.24	101	P	Pn	23 17 42.5	+1.5
PMBI	Palembang	2.58	55	P	Pn	23 17 46.3	+0.6
BLSI	Bandar Lampung	2.75	110	P	Pn	23 17 50.7	+2.8
JMBI	JAMBI	2.94	20	P	Pn	23 17 52.2	+1.7
PPSI	Pulau Pagai	3.11	302	P	Pn	23 17 54.9	+2.0
CGJI	Cibinong	3.73	126	P	Pn	23 18 01.4	+0.1
SBJI	Serang	3.85	116	P	Pn	23 18 05.9	+2.9
RGRI	Rengat	4.05	355	P	Pn	23 18 07.7	+1.9
PDSI	Padang	4.12	328	P	Pn	23 18 07.2	+0.5
PPBI	Pangkal Pinang	4.13	57	P	Pn	23 18 08.3	+1.4
TNG	Tangerang	4.34	114	P	Pn	23 18 15.2	+5.5
DSRI	Dabo	4.36	26	P	Pn	23 18 21.3	+11
SKJI	Sukabumi	4.65	124	P	Pn	23 18 23.0	+9.0
SISI	Saibi	4.70	311	P	Pn	23 18 15.0	+0.3
BKNI	Bangkinang	4.98	341	P	Pn	23 18 20.5	+2.0
BKNI	Bangkinang	4.98	341	ePn	Pn	23 18 18.2	-0.3
BKNI				eSn	Sn	23 19 04.5	-10
LEM	Lembang	5.49	116	P	Pn	23 18 28.7	+3.1
	9.0nm,0.3s,baz=342,slow=13,SNR=12						
LEM				LR	LR	23 20 56.9	
	comp=Z,3μm,19.4s,baz=304,slow=42						
TPRI	Tanjung Pinang	5.62	19	P	Pn	23 18 29.0	+1.7
	495nm,0.6s,29μm3.1nm						
JCJI	Jatiwangi	5.96	110	P	Pn	23 18 42.6	+11
CISI	Cisompet, Garu	6.00	122	P	Pn	23 18 32.8	+0.3
	416nm,0.5s,9μm						
CISI	Cisompet, Garu	6.00	122	ePn	Pn	23 18 32.5	0.0
CISI				eSn	Sn	23 19 34.4	-5.6
MNSI	Mandailing Nat	6.02	329	P	Pn	23 18 32.5	-0.3
	633nm,0.7s,6μm						
MYKOM	Kota Tinggi	6.28	11	⇓P	Pn	23 18 38.8	+2.5
MYKOM	Kota Tinggi	6.28	11	ePn	Pn	23 18 37.1	+0.8
KGM	Kluang	6.43	6	⇓P	Pn	23 18 41.0	+2.7
CMJI	Cimerak	6.66	120	P	Pn	23 18 56.1	+15
GSI	Gunungsitoli	7.62	318	P	Pn	23 18 53.3	-1.4
	455nm,0.9s,6μm						
GSI	Gunungsitoli	7.62	318	ePn	Pn	23 18 53.3	-1.4
GSI				eSn	Sn	23 20 15.8	-3.8
FRIM	Kepong	7.67	352	⇓P	Pn	23 18 57.5	+2.2
PSI	Prapat	8.08	332	P	Pn	23 19 13.7	+13
	7.5nm,0.3s,baz=156,slow=9.5,SNR=22						
PSI				LR	LR	23 22 45.4	
	comp=Z,2μm,21.9s,baz=146,slow=43						
PSI	Prapat	8.08	332	ePn	Pn	23 18 59.1	-2.0
PSI	Prapat	8.08	332	eP	Pn	23 18 59.1	-2.0
SMRI	Semarang	8.17	109	P	Pn	23 19 20.2	+18
SMRI	Semarang	8.17	109	ePn	Pn	23 19 03.5	+1.2
UGM	Wanagama	8.56	114	P	Pn	23 19 10.2	+2.7
UGM	Wanagama	8.56	114	ePn	Pn	23 19 08.3	+0.8
TSI	Tuntungan	8.87	332	P	Pn	23 19 26.7	+15
IPM	Ipoh	8.99	350	⇓P	Pn	23 19 16.0	+2.7
IPM	Ipoh	8.99	350	ePn	Pn	23 19 15.2	+1.8
PBKI	Pangkalan Bun	9.15	80	P	Pn	23 19 21.7	+6.1
PCJI	Pacitan	9.26	114	P	Pn	23 19 18.3	+1.2
TPTI		9.39	324	P	Pn	23 19 17.7	-1.1
KSM	Kuching	9.63	53	⇑P	Pn	23 19 24.7	+2.5
KSM	Kuching	9.63	53	ePn	Pn	23 19 22.4	+0.3
COCO	West Island	9.63	216	ePn	Pn	23 19 19.4	-2.7
COCO	West Island	9.63	216	ceP	Pn	23 19 19.9	-2.2
COCO	West Island	9.63	216	P	Pn	23 19 19.9	-2.2
	SNR=8.8						
PWJI	Pagerwojo	9.77	112	P	Pn	23 19 25.9	+1.9
KULM	Kulim	9.85	348	ePn	Pn	23 19 25.8	+0.7
STKI	Sintang	9.87	63	P	Pn	23 19 29.9	+4.4
MLSI	Meulaboh, Aceh	10.65	324	P	Pn	23 19 34.0	-2.1
LHMI	Lhok Sumawe	11.15	329	ePn	Pn	23 19 40.6	-2.3
BLJI	Banyuglugur	11.37	107	P	Pn	23 19 53.8	+8.0
GMJI	Gumukmas	11.38	110	P	Pn	23 19 49.2	+3.1
SKLT	Songkhla	11.69	350	P	Pn	23 19 51.6	+1.4
	125nm,0.9s,1μm						
SBUM	Sibu	11.74	55	⇑P	Pn	23 19 55.4	+4.5
SBUM	Sibu	11.74	55	ePn	Pn	23 19 55.0	+4.0
ABJI	Asem Bagus	11.99	107	P	Pn	23 19 58.3	+3.9
JAGI	Jajag, Banyuwa	12.11	110	P	Pn	23 19 57.2	+1.2
JAGI	Jajag, Banyuwa	12.11	110	ePn	Pn	23 19 55.2	-0.8
TRTT	Trang	12.53	346	P	Pn	23 19 59.7	-2.0
	34nm,0.8s,273nm						
MTKI	Muara Teweh, K	12.70	75	P	P	23 20 08.8	-4.2
PKDT	Phuket	12.97	341	P	Pn	23 20 11.3	+3.6
SRBI	Singaraja	13.00	107	P	Pn	23 20 10.2	+2.1
KBKI	Kotabaru	13.53	86	P	P	23 20 19.1	-3.0
SURT	Suratani	13.84	344	P	P	23 20 30.4	+4.9
BKB	Balikpapan	14.56	78	P	P	23 20 38.2	+4.6
SMKI	Samarinda	15.06	75	P	P	23 20 39.2	0.0
PLAI	Plampang	15.64	107	P	Pn	23 20 41.3	-1.5
KAPI	Kappang	17.05	93	ePn	P	23 21 00.9	-0.3
	101nm,1.1s						
KAPI	Kappang	17.05	93	P	P	23 21 01.6	+0.3
	SNR=5.7						
CHBT	CHBT	17.06	359	P	P	23 21 02.5	+1.2
	260nm,0.7s						
KKM	Kota Kinabalu	17.07	53	ePn	P	23 21 03.2	+1.6
	178nm,1.5s						
TTSI	Tana Toraja	17.18	86	P	P	23 21 05.3	+2.6
WBSI	Waikabubak, Su	17.39	108	P	P	23 21 05.1	0.0
BNSI	Bone	17.40	91	P	P	23 21 07.0	+1.9
MPSI	Mapaga	17.86	75	P	Pn	23 21 13.0	+2.6
MYLDM	Lahad Datu	18.48	59	eP	Pn	23 21 20.2	+2.4
	146nm,0.8s						
BASI	Baing, Sumba	18.68	109	P	Pn	23 21 20.2	0.0
SRDT	SRDT	18.97	349	P	P	23 21 23.0	+0.6
	48nm,1.1s,4μm						
APSI	Ampana	19.29	80	P	Pn	23 21 28.4	+0.9
BBSI	Bau Bau	19.87	94	P	P	23 21 32.6	+0.4
MRSI	Marisa	19.87	76	P	Pn	23 21 34.3	-0.1
MMRI	Maumere	19.90	103	P	Pn	23 21 33.9	-0.8
	133nm,1.0s,3μm						
MMRI	Maumere	19.90	103	eP	P	23 21 32.2	-0.3
	121nm,1.1s						
CHAI	Chaiyaphum	20.20	358	P	P	23 21 36.1	+0.4
	45nm,1.2s,325nm						
LUWI	Luwuk	20.37	81	P	Pn	23 21 40.7	+0.5
LUWI	Luwuk	20.37	81	eP	Pn	23 21 39.5	-0.7
	170nm,0.8s						
KHON	Khomkaen	20.62	0	P	P	23 21 41.6	+1.3
	42nm,0.8s						
SKNT	Sakolnakorn	21.30	3	P	P	23 21 47.6	+0.1
	29nm,1.2s						
GIRL	Giralia	21.30	149	P	P	23 21 50.4	+2.9
	baz=22,SNR=4.5						
PHIT	Phitsanulok	21.58	354	P	P	23 21 50.5	-0.1
	472nm,1.0s,3μm						
BATI	Baumata	21.61	107	P	P	23 21 50.8	-0.1
	101nm,0.4s,baz=32,slow=15,SNR=24						
BATI				S	S	23 25 37.8	-9.1
	27nm,0.3s,baz=294,slow=20,SNR=3.3						
BATI	Baumata	21.61	107	P	P	23 21 52.2	+1.3
SOEI	Soe	22.08	105	P	P	23 21 58.4	+2.2
SOEI	Soe	22.08	105	eP	P	23 21 54.9	-1.3
	90nm,0.7s						
SOEI				eS	S	23 25 52.4	-3.8
CM01	Chiang Mai Arr	22.99	351	eP	P	23 22 04.8	-0.7
LAMP	Lampang	22.99	353	P	P	23 22 05.3	-0.2
	59nm,0.9s,462nm						
CM31	Chiang Mai Arr	23.02	351	eP	P	23 22 05.5	-0.4
CM31	Chiang Mai Arr	23.02	351	P	P	23 22 05.4	-0.5
CMAR	Chiang Mai Arr	23.02	351	P	P	23 22 05.3	-0.5
	109nm,0.9s,baz=184,slow=8.7,SNR=342						
CMAR				PcP	PcP	23 25 54.5	+1.0
	12nm,0.8s,baz=211,slow=3.1,SNR=12						
CMAR				ScP	ScP	23 29 25.1	-0.7
	1.0nm,0.4s,baz=173,slow=3.5,SNR=5.7						
CMAR				LR	LR	23 31 29.6	
	comp=Z,413nm,19.3s,baz=172,slow=38						
CMMT	Chiang Mai	23.37	351	P	P	23 22 07.1	-2.1
	142nm,1.1s,1μm						
CHTO	Chiang Mai	23.37	351	P	P	23 22 08.2	-1.0
	635nm,1.2s,6μm						
CHTO	Chiang Mai	23.37	351	eP	P	23 22 07.9	-1.3
	101nm,0.8s						
CHTO				ePcP	PcP	23 25 55.2	+1.0
CHTO	Chiang Mai	23.37	351	eP	P	23 22 07.9	-1.3
CHTO				e		23 25 55.2	
CHTO				pmax	pmax		
	comp=Z,101nm,0.8s						
CHTO	Chiang Mai	23.37	351	P	P	23 22 07.7	-1.6
	SNR=54						
SANI	Sanana	23.41	85	P	P	23 22 09.4	-0.3
MBWA	Marble Bar	23.49	137	eP	P	23 22 10.7	+0.3
	comp=Z,63nm,1.4s						
QIZ	Qiongzhong	24.35	17	P	P	23 22 18.7	+0.6
QIZ				S	S	23 26 35.8	+2.8
QIZ				LR	LR		
	comp=Z,280nm,17.6s						
QIZ				LR	LR		
	comp=Z,460nm,17.7s						
QIZ				LR	LR		
	comp=Z,460nm,22.9s						
QIZ	Qiongzhong	24.35	17	eP	P	23 22 18.4	+0.3
	comp=Z,37nm,0.9s						
CMAI	Chiengmai2	24.46	352	P	P	23 22 18.7	-0.5
	comp=Z,1μm,1.0s,comp=Z,182μm						
PALK	Pallekele	24.80	298	P	P	23 22 25.3	+3.0
	comp=Z,44nm,1.0s,baz=116,slow=8.8,SNR=26						
PALK				LR	LR	23 31 19.9	
	comp=Z,227nm,20.8s,baz=116,slow=34						
PALK	Pallekele	24.80	298	eP	P	23 22 24.4	+2.1
	comp=Z,53nm,1.0s						
PALK	Pallekele	24.80	298	i P	P	23 22 25.4	+3.0
	SNR=21						
PALK	Pallekele	24.80	298	i P	P	23 22 25.4	+3.0
	SNR=21						
LBMI	Labuha	25.10	82	P	P	23 22 27.0	+2.0
TGY	Tagaytay City	25.84	44	P	P	23 22 32.9	+1.2
	comp=Z,151nm,0.3s,baz=302,slow=7.5,SNR=8.0						
TGY				LR	LR	23 33 13.1	
	comp=Z,684nm,21.4s,baz=194,slow=38						
MEEK	Meekatharra	26.85	147	P	P	23 22 42.2	+1.5
	baz=27,SNR=4.7						
KNRA	Kununurra	27.99	115	P	P	23 22 50.3	-0.7
	baz=28,SNR=42						
SWI	Sorong	28.79	84	P	P	23 23 05.3	+7.2
SKHT	Srikalahasti	29.05	309	eP	P	23 23 01.5	+1.0
SKHT				IAmb	IAmb	23 23 03.2	
	comp=Z,116nm,0.8s						
VIS	Vishakhapatnam	29.12	320	i P	P	23 23 02.4	+1.4
KMI	Kunming	29.36	0	P	P	23 23 04.6	+1.2
KMI				pP	pP	23 23 19.9	+0.5
KMI				sP	sP	23 23 27.4	+0.2
KMI				PP	PnPn	23 24 01.6	+1.6
KMI				S	S	23 27 52.6	0.0
KMI				sS	sS	23 28 19.8	-0.2
KMI				pmax	pmax		
	comp=Z,36nm,0.8s						
KMI				pmax	pmax		
	comp=Z,240nm,6.5s						
KMI				LR	LR		
	comp=Z,330nm,21.0s						
KMI				LR	LR		
	comp=Z,560nm,20.2s						
KMI				LR	LR		
	comp=Z,700nm,17.1s						
PVM	Polavaram	29.92	317	eP	P	23 23 08.6	+0.5
PVM				IAmb	IAmb	23 23 10.8	
	comp=Z,44nm,1.2s						
ADKI	Addanki	30.16	312	eP	P	23 23 11.0	+0.8
ADKI				IAmb	IAmb	23 23 12.5	
	comp=Z,24nm,1.0s						
H08S2	Diego Garcia H	30.16	262	T	T	23 53 20.7	
	baz=84,slow=75,SNR=372						
H08S3	Diego Garcia H	30.17	262	T	T	23 53 21.2	
	baz=84,slow=75,SNR=356						
H08S1	Diego Carcia H	30.18	262	T	T	23 53 24.1	
	baz=84,slow=75,SNR=270						
MUN	Mundaring	30.22	157	P	P	23 23 11.6	+1.0
	baz=30,SNR=3.1						
GYA	Guiyang	30.94	7	⇑iP	P	23 23 17.4	+0.3
GYA				pP	pP	23 23 35.0	+1.8
GYA				PP	PP	23 24 24.8	-3.4
GYA				PcP	PcP	23 26 12.3	-0.1
GYA				S	S	23 28 20.4	+3.4
GYA				sS	sS	23 28 46.7	+2.2
GYA				ScP	ScP	23 29 51.0	+1.4
GYA				ScS	ScS	23 33 47.5	+0.8
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,180nm,5.4s						
GYA				LR	LR		
	comp=Z,2μm,17.0s						
GYA				LR	LR		
	comp=Z,1μm,17.8s						
GYA				LR	LR		
	comp=Z,1μm,17.4s						
NJS	Nagarjunasagar	31.10	313	eP	P	23 23 19.0	+0.4
NJS				IAmb	IAmb	23 23 19.7	
	comp=Z,22nm,1.1s						
SRLM	Srisailam	31.12	311	eP	P	23 23 19.3	+0.5
SRLM				IAmb	IAmb	23 23 20.5	
	comp=Z,44nm,1.1s						
URV	Uravakonda	31.68	308	eP	P	23 23 24.4	+0.7
URV				IAmb	IAmb	23 23 25.6	
	comp=Z,54nm,0.8s						
WRKA	Warakurna	32.05	132	P	P	23 23 27.6	+0.7
	baz=32,SNR=54						
H01W3	Cape Leeuwin H	32.13	162	T	T	23 57 17.6	
	baz=337						
H01W2	Cape Leeuwin H	32.14	162	T	T	23 57 18.6	
	baz=337						
H01W1	Cape Leeuwin H	32.14	162	T	T	23 57 18.7	
	baz=337						
HYB	Hyderabad	32.20	313	i P	P	23 23 28.0	-0.3
HYB				epP	pP	23 23 47.0	+2.6
HYBB	Hyderabad (bro	32.21	313	eP	P	23 23 28.6	+0.2
HYBB				IAmb	IAmb	23 23 29.7	
	comp=Z,17nm,0.8s						
KMBL	Kambalda	32.33	148	P	P	23 23 30.3	+1.1
	baz=32,SNR=5.5						
RPR	Rampur	32.63	316	eP	P	23 23 31.8	-0.1
RPR				IAmb	IAmb	23 23 33.5	
	comp=Z,38nm,0.9s						
TPUB	Ta-pu	32.66	32	P	P	23 23 32.2	0.0
	comp=Z,2.7nm,0.6s						
QZH	Quanzhou	33.04	27	⇑P	P	23 23 33.4	-2.1
QZH				S	S	23 28 49.4	-0.2
QZH				LR	LR		
	comp=Z,480nm,16.6s						
QZH				LR	LR		
	comp=Z,290nm,14.2s						
QZH				LR	LR		
	comp=Z,360nm,14.2s						
SRSP	Sriramsagar	33.34	315	eP	P	23 23 38.2	0.0
SRSP				IAmb	IAmb	23 23 39.7	
	comp=Z,45nm,0.9s						
KLRI	Killari	34.06	312	eP	P	23 23 44.5	0.0
KLRI				IAmb	IAmb	23 23 45.6	
	comp=Z,35nm,0.8s						
ODAN	Odare	34.42	335	eP	P	23 23 47.5	-0.2
	comp=Z,353nm,0.8s						
WRA	Warramunga Arr	34.50	119	P	P	23 23 48.0	-0.3
	comp=Z,29nm,0.4s,baz=303,slow=9.0,SNR=388						
WRA				PcP	PcP	23 26 22.5	+0.3
	comp=Z,8.6nm,0.7s,baz=305,slow=2.1,SNR=7.2						
WRA				S	S	23 29 10.4	-2.0
	comp=Z,3.4nm,1.1s,baz=284,slow=14,SNR=5.5						
WRA				ScP	ScP	23 30 01.3	-0.7
	comp=Z,3.4nm,0.9s,baz=303,slow=2.2,SNR=6.1						
WRA				LR	LR	23 39 41.7	
	comp=Z,140nm,20.9s,baz=260,slow=39						
WRA				P3KPbc		23 54 48.2	
	comp=Z,2.1nm,0.6s,baz=106,slow=4.3,SNR=25						
WRAB	Tennant Creek	34.50	119	eP	P	23 23 48.1	-0.1
	comp=Z,33nm,0.5s						
WRAB	Tennant Creek	34.50	119	eP	P	23 23 48.2	-0.1
WRAB				pmax	pmax		
	comp=Z,33nm,0.5s						
TAPN	Taplejung	34.73	336	eP	P	23 23 50.8	+0.4
	comp=Z,544nm,0.9s						
RAMN	Ramite	34.84	334	eP	P	23 23 51.5	+0.2
	comp=Z,84nm,0.4s						
ENH	Enshi	35.11	10	eP	P	23 23 53.1	-0.3
	comp=Z,95nm,0.6s						
CD2	Chengdu	35.15	2	P	P	23 23 53.1	-0.6
CD2				pP	pP	23 24 08.1	-1.8
CD2				sP	sP	23 24 15.4	-2.3
CD2				S	S	23 29 23.6	+1.5
CD2				sS	sS	23 29 49.7	-0.1
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				pmax	pmax		
	comp=Z,160nm,5.0s						
CD2				LR	LR		
	comp=Z,2μm,15.9s						
CD2				LR	LR		
	comp=Z,870nm,18.3s						
CD2				LR	LR		
	comp=Z,1μm,16.7s						
JIRN	Jiri	35.63	334	eP	P	23 23 58.6	+0.3
	comp=Z,778nm,0.8s						
LSA	Lhasa	35.67	343	eP	P	23 23 58.6	-0.2
	comp=Z,46nm,0.8s						
LSA	Lhasa	35.67	343	eP	P	23 23 58.6	-0.2
LSA				pmax	pmax		
	comp=Z,47nm,0.8s						
LSA	Lhasa	35.67	343	P	P	23 23 58.5	-0.2
LSA	Lhasa	35.67	343	P	P	23 23 58.5	-0.2
AS31	Alice Springs	35.70	125	eP	P	23 23 58.8	+0.2
	comp=Z,32nm,0.3s						
ASAR	Alice Springs	35.70	125	P	P	23 23 58.9	+0.3
	comp=Z,12nm,0.3s,baz=298,slow=8.2,SNR=212						
ASAR				PcP	PcP	23 26 26.4	+0.6
	comp=Z,9.2nm,0.5s,baz=308,slow=2.8,SNR=13						
ASAR				S	S	23 29 30.3	-0.5
	comp=Z,2.0nm,0.8s,baz=293,slow=17,SNR=7.8						
ASAR				ScP	ScP	23 30 05.8	-0.4
	comp=Z,8.5nm,0.8s,baz=302,slow=4.0,SNR=14						
ASAR				PKiKP	PKiKP	23 33 45.8	-0.7
	comp=Z,1.2nm,0.8s,baz=339,slow=1.0,SNR=6.3						
ASAR				LR	LR	23 40 12.8	
	comp=Z,129nm,19.4s,baz=299,slow=39						
ASAR				P3KPbc		23 54 40.6	
	comp=Z,0.7nm,0.7s,baz=118,slow=4.4,SNR=6.8						
AS01	Alice Springs	35.73	125	eP	P	23 23 58.5	-0.3
PKI	Pulchoki	35.90	333	eP	P	23 24 00.3	-0.2
	comp=Z,198nm,0.7s						
GUN	Gumba	35.98	334	eP	P	23 24 01.7	+0.4
	comp=Z,642nm,0.7s						
DMN	Daman	36.07	333	eP	P	23 24 01.9	0.0
	comp=Z,102nm,0.3s						
KKN	Kakani	36.14	333	eP	P	23 24 02.6	+0.1
	comp=Z,211nm,0.4s						
WHN	Wuhan	36.52	17	⇑iP	P	23 24 07.0	+1.6
WHN				S	S	23 29 47.1	+4.1
WHN				LR	LR		
	comp=Z,2μm,23.0s						
GKN	Gorkha	36.62	333	eP	P	23 24 06.6	+0.1
	comp=Z,8.9nm,0.2s						
KOLN	Koldanda	36.91	331	eP	P	23 24 09.4	+0.4
	comp=Z,728nm,0.8s						
DANN	Dangsing	37.32	332	eP	P	23 24 12.8	+0.2
	comp=Z,68nm,0.9s						
PYUN	Piuthan	37.48	331	eP	P	23 24 14.2	+0.4
	comp=Z,792nm,1.0s						
XAN	Xi'an	38.71	8	P	P	23 24 23.7	-0.2
XAN				pP	pP	23 24 39.8	-0.5
XAN				PP	PcP	23 26 18.7	-16
XAN				S	S	23 30 13.8	-2.4
XAN				SS	SnSn	23 33 21.8	+11
XAN	Xi'an	38.71	8	⇑P	P	23 24 23.6	-0.3
XAN				pP	pP	23 24 35.6	-4.7
XAN				sP	sP	23 24 41.5	-6.5
XAN				S	S	23 30 13.8	-2.4
XAN				pmax	pmax		
	comp=Z,170nm,0.9s						
XAN				pmax	pmax		
	comp=Z,220nm,3.9s						
XAN				LR	LR		
	comp=Z,550nm,17.3s						
XAN				LR	LR		
	comp=Z,200nm,11.0s						
XAN				LR	LR		
	comp=Z,670nm,16.3s						
QIS	Mount Isa	39.34	117	P	P	23 24 29.4	+0.1
	baz=40,SNR=54						
NJ2	Nanjing	39.41	22	eP	P	23 24 31.2	+1.5
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
LZH	Lanzhou	40.31	1	eP	P	23 24 37.7	+0.4
LZH				pP	pP	23 24 52.1	-1.7
LZH				sP	sP	23 24 59.2	-2.3
LZH				PcP	PcP	23 26 41.1	+1.3
LZH				sS	sS	23 31 10.5	+2.1
LZH				ScS	ScS	23 34 34.9	-2.7
LZH				pmax	pmax		
	comp=Z,91nm,1.0s						
LZH				pmax	pmax		
	comp=Z,390nm,5.1s						
LZH				LR	LR		
	comp=Z,2μm,11.6s						
LZH				LR	LR		
	comp=Z,2μm,11.7s						
LZH				LR	LR		
	comp=Z,2μm,12.1s						
COEN	Coen	41.04	106	P	P	23 24 42.6	-0.9
	baz=41,SNR=14						
COEN	Coen	41.04	106	eP	P	23 24 42.3	-1.2
	comp=Z,32nm,1.1s						
BBOO	Buckleboo	42.08	136	P	P	23 24 52.2	+0.4
	baz=42,SNR=60						
BBOO	Buckleboo	42.08	136	eP	P	23 24 52.4	+0.6
	comp=Z,62nm,1.3s						
TIA	Tai'an	42.63	17	P	P	23 24 55.9	-0.2
TIA				pmax	pmax		
	comp=Z,20nm,1.0s						
TIY	Taiyuan	42.89	11	eP	P	23 24 59.2	+0.9
MTSU	Mount Surprise	42.94	112	P	P	23 24 59.1	+0.1
	baz=43,SNR=130						
GTA	Gaotai	43.69	357	⇑P	P	23 25 04.9	+0.1
GTA				pP	pP	23 25 20.8	-0.7
GTA				sP	sP	23 25 27.3	-1.8
GTA				PcP	PcP	23 26 51.5	+0.6
GTA				ScP	ScP	23 30 35.9	-1.0
GTA				PcS	PcS	23 30 41.7	-2.2
GTA				S	S	23 31 30.7	+0.6
GTA				sS	sS	23 31 57.3	-1.1
GTA				SS	SS	23 34 40.8	-7.0
GTA				pmax	pmax		
	comp=Z,49nm,1.1s						
GTA				pmax	pmax		
	comp=Z,140nm,6.5s						
GTA				LR	LR		
	comp=Z,520nm,19.5s						
GTA				LR	LR		
	comp=Z,280nm,19.5s						
GTA				LR	LR		
	comp=Z,700nm,20.0s						
HTT	Hallett	44.42	135	P	P	23 25 11.7	+1.0
	baz=45,SNR=35						
PMG	Port Moresby	44.43	99	P	P	23 25 10.1	-0.9
	comp=Z,12nm,0.3s,baz=254,slow=7.4,SNR=5.7						
PMG				LR	LR	23 46 25.0	
	comp=Z,124nm,21.8s,baz=276,slow=40						
PMG	Port Moresby	44.43	99	eP	P	23 25 10.4	-0.6
	comp=Z,23nm,0.8s						
PMG	Port Moresby	44.43	99	i P	P	23 25 09.3	-1.7
PMG				pmax	pmax		
	comp=Z,72nm,0.9s						
MANU	Manus Island	44.70	88	eP	P	23 25 12.9	-0.2
	comp=Z,47nm,1.0s						
CTAO	Charters Tower	45.19	114	eP	P	23 25 17.4	+0.4
	comp=Z,116nm,1.0s						
CTAO	Charters Tower	45.19	114	eP	P	23 25 17.4	+0.4
CTAO				pmax	pmax		
	comp=Z,116nm,1.0s						
BTO	Baotou	45.31	8	eP	P	23 25 16.6	-1.1
QLP	Quilpie	45.41	123	P	P	23 25 19.7	+1.1

baz=46,SNR=22
GUMO Guam 45.56 66 LR LR 23 47 23.1
comp=Z,41nm,19.0s,baz=128,slow=40
STKA Stephens Creek 45.57 132 P **P** **23 25 20.9 +1.0**
comp=Z,41nm,0.5s,baz=308,slow=8.7
STKA PcP **PcP** **23 26 57.8 +0.4**
comp=Z,8.7nm,0.4s,baz=357,slow=4.1,SNR=3.6
STKA LR LR 23 46 56.9
comp=Z,119nm,20.3s,baz=292,slow=39
STKA Stephens Creek 45.57 132 P **P** **23 25 20.7 +0.9**
baz=46,SNR=115
HHC Hu-ho-hao-te 45.78 9 *e*P **P** **23 25 21.9 +0.5**
HHC pP pP 23 25 38.4 +0.2
HHC sP sP 23 25 43.9 -1.9
HHC S **S** **23 32 02.6 +2.3**
HHC sS sS 23 32 31.5 +2.7
HHC SS **ScS** **23 35 14.9 +3.5**
HHC pmax pmax
comp=Z,91nm,1.1s
HHC pmax pmax
comp=Z,80nm,4.4s
HHC LR LR
comp=Z,530nm,17.2s
HHC LR LR
comp=Z,320nm,15.2s
HHC LR LR
comp=Z,460nm,16.5s
JNU Nakatsue 45.92 34 P **P** **23 25 21.7 -0.8**
comp=Z,32nm,0.8s,baz=159,slow=2.7,SNR=8.4
JNU Nakatsue 45.92 34 *e*P **P** **23 25 22.4 -0.1**
comp=Z,54nm,1.1s
BJT Baijiatuau 45.93 14 *e*P **P** **23 25 23.1 +0.7**
comp=Z,31nm,0.6s
BJT Baijiatuau 45.93 14 *e*P **P** **23 25 23.1 +0.7**
BJT pmax pmax
comp=Z,31nm,0.6s
BJI Beijing 45.96 14⇓ *i*P **P** **23 25 23.2 +0.6**
BJI PcP **PcP** **23 26 58.5 0.0**
BJI pmax pmax
comp=Z,68nm,1.1s
BJI LR LR
comp=Z,1μm,8.4s
BJI LR LR
comp=Z,690nm,8.1s
BJI LR LR
comp=Z,800nm,24.5s
TJN Taejon 46.70 28*ce*P **P** **23 25 28.1 -0.4**
KS15 Wonju Array Si 47.81 27 *e*P **P** **23 25 37.7 +0.5**
KSAR Wonju Array Be 47.81 27 P **P** **23 25 37.0 -0.1**
KSAR PcP **PcP** **23 27 04.7 -0.4**
KSAR Wonju Array Be 47.81 27 P **P** **23 25 37.0 -0.1**
KSAR 23 27 04.7
KSRS Korea Array 47.84 27 P **P** **23 25 37.0 -0.3**
comp=Z,23nm,0.9s,baz=220,slow=7.6,SNR=37
KSRS PcP **PcP** **23 27 04.7 -0.5**
comp=Z,9.1nm,0.9s,baz=228,slow=2.7,SNR=8.8
KS01 Wonju Array Si 47.84 27 *e*P **P** **23 25 37.2 -0.2**
ARPS Mount Arapiles 48.23 137 P **P** **23 25 42.6 +2.2**
baz=48,SNR=9.7
CMSA Cobar Meteorol 48.54 129 P **P** **23 25 44.1 +1.2**
baz=49,SNR=76
RMQ Roma 49.19 121 P **P** **23 25 49.8 +1.7**
baz=49,SNR=3.8
CBIJ Chichi jima 49.39 48 P **P** **23 25 46.9 -2.5**
JCJ Chichijima 49.39 48 P **P** **23 25 46.9 -2.5**
comp=Z,60nm,0.3s,baz=226,slow=17,SNR=12
WMQ Urumqi 49.88 346 P **P** **23 25 53.4 +0.4**
WMQ pP pP 23 26 09.0 -0.9
WMQ sP sP 23 26 12.7 -4.8
WMQ PcP **PcP** **23 27 12.3 -0.3**
WMQ S **S** **23 32 56.2 -2.0**
WMQ pmax pmax
comp=Z,540nm,0.9s
WMQ pmax pmax
comp=Z,870nm,3.7s
WMQ LR LR
comp=Z,240nm,38.7s
WMQ LR LR
comp=Z,280nm,34.5s
WMQ LR LR
comp=Z,320nm,29.3s
KBL Kabul 50.04 323 *e*P **P** **23 25 54.1 -0.5**
comp=Z,68nm,1.3s
KBL Kabul 50.04 323 *e*P **P** **23 25 54.1 -0.5**
KBL pmax pmax
comp=Z,68nm,1.3s
KSH Kashi 50.16 333⇑ *i*P **P** **23 25 53.8 -1.5**
KSH sP pP 23 26 16.0 +3.7
KSH PP **PP** **23 27 52.2 +1.0**
KSH ScP **ScP** **23 31 05.5 +1.4**
KSH PcS **PcS** **23 31 12.1 +1.1**
KSH S **S** **23 32 56.4 -6.0**
KSH sS sS 23 33 23.6 -7.6
KSH ScS **ScS** **23 35 32.4 -8.2**
KSH pmax pmax
comp=Z,100nm,0.7s
KSH pmax pmax
comp=Z,190nm,6.8s
KSH LR LR
comp=Z,130nm,7.6s
KSH LR LR
comp=Z,150nm,9.5s
KSH LR LR
comp=Z,150nm,8.1s
EIDS Eidsvold 50.86 119 P **P** **23 26 01.3 +0.6**
baz=51,SNR=3.1
WSAR Wadi Sarin 50.99 305 P **P** **23 26 02.5 +0.8**
comp=Z,18nm,1.0s,baz=155,slow=5.5,SNR=8.5
WSAR PcP **PcP** **23 27 18.0 +0.9**
comp=Z,11nm,0.8s,baz=162,slow=3.2,SNR=6.4
WSAR LR LR 23 44 56.6
comp=Z,80nm,22.0s,baz=138,slow=33
PRZ Przheval'sk 51.62 337 P **P** **23 26 07.1 +0.9**
PRZ pmax pmax
comp=Z,435nm,2.0s
NRN Naryn 51.72 335 P **P** **23 26 07.0 -0.2**
NRN pmax pmax
comp=Z,89nm,0.9s
YNG Young 51.76 131 P **P** **23 26 09.3 +2.0**
baz=52,SNR=6.7
SHLS Shalkode 51.79 338⇑ *i*P **P** **23 26 06.1 -1.4**
comp=Z,3μm,0.7s
KDJ Kajisay 51.80 336 P **P** **23 26 08.1 +0.5**
UZB Uzynbulak 51.95 338⇑ *i*P **P** **23 26 09.0 +0.4**
comp=Z,2μm,0.8s
SATY Saty 52.10 338⇑ *i*P **P** **23 26 10.3 +0.5**
comp=Z,2μm,0.7s
SONM Songino Array 52.14 3 P **P** **23 26 10.5 +0.6**
comp=Z,122nm,0.7s,baz=184,slow=9.4,SNR=861
SONM PcP **PcP** **23 27 20.9 -0.1**
comp=Z,13nm,0.4s,baz=191,slow=4.2,SNR=21
SONM LR LR 23 51 49.1
comp=Z,217nm,18.3s,baz=185,slow=40
SONA1 Songino Array 52.15 3 *e*P **P** **23 26 09.9 -0.1**
ZHN Zhinishke 52.19 338⇑ *i*P **P** **23 26 10.5 +0.1**
comp=Z,595nm,0.7s
ULN Ulaanbaatar 52.21 4 *e*P **P** **23 26 10.9 +0.4**
comp=Z,76nm,0.9s
ULN Ulaanbaatar 52.21 4 *e*P **P** **23 26 10.9 +0.4**
ULN pmax pmax
comp=Z,76nm,0.9s
ULN Ulaanbaatar 52.21 4 P **P** **23 26 11.0 +0.5**
SNR=42
CN2 Changchun 52.21 21⇑P **P** **23 26 09.5 -0.9**
CN2 pmax pmax
comp=Z,90nm,0.9s
ULHL Ulahol 52.28 335 P **P** **23 26 11.1 -0.2**
SNR=12
KPKS Kokpek 52.35 338 *i*P **P** **23 26 11.6 +0.1**
comp=Z,666nm,0.7s
MAJO Matsushiro 52.56 36 *e*P **P** **23 26 11.9 -1.2**
comp=Z,27nm,0.9s
MAJO Matsushiro 52.56 36*c i*P **P** **23 26 11.7 -1.4**
MAJO pmax pmax
comp=Z,23nm,0.9s
MAT Matsushiro 52.56 36 P **P** **23 26 11.1 -2.0**
MAT *e*S **S** **23 33 39.2 +3.9**
MJAR Matsushiro Arr 52.56 36 P **P** **23 26 12.0 -1.2**
comp=Z,24nm,0.8s,baz=219,slow=8.2,SNR=47
MJAR PcP **PcP** **23 27 22.7 0.0**
comp=Z,8.5nm,0.9s,baz=206,slow=4.7,SNR=6.2
MJAR LR LR 23 49 21.2
comp=Z,96nm,20.0s,baz=340,slow=37
KZA Kyzart 52.56 334 P **P** **23 26 13.6 0.0**
SNR=74
MDOK Medeo 52.72 337 *i*P **P** **23 26 14.4 +0.1**
comp=Z,592nm,1.0s
AAA Alma-Ata 52.81 337⇑ *i*P **P** **23 26 15.1 +0.1**
comp=Z,878nm,0.7s
AAA *e*S **S** **23 33 41.6 +3.0**
ARMA Armidale 52.85 125 *e*P **P** **23 26 16.3 +0.8**
comp=Z,39nm,1.1s
UCH Uchtor 53.01 334 P **P** **23 26 16.8 0.0**
TKM2 Tokmak 2 53.11 335 P **P** **23 26 17.2 -0.1**
SNR=238
SOHO SOHO 53.11 305 P **P** **23 26 18.2 +0.8**
SOHO SOHO 53.11 305 P **P** **23 26 18.2 +0.8**
KBK Karagaybulak 53.16 335 P **P** **23 26 18.2 +0.5**
SNR=62
BMNS Besmoynak 53.23 335⇑ *i*P **P** **23 26 17.6 -0.5**
comp=Z,882nm,1.0s
AML Almayashu 53.29 333 P **P** **23 26 19.2 +0.3**
SNR=18
AAK Ala-Archa 53.34 334 P **P** **23 26 19.1 +0.1**
comp=Z,28nm,0.8s,baz=139,slow=5.7,SNR=102
AAK LR LR 23 53 14.8
comp=Z,59nm,18.6s,baz=136,slow=41
AAK Ala-Archa 53.34 334 P **P** **23 26 19.1 +0.1**
SNR=43
AAK Ala-Archa 53.34 334 *e*P **P** **23 26 18.9 -0.1**
comp=Z,36nm,0.9s
AAK Ala-Archa 53.34 334*c i*P **P** **23 26 18.8 -0.2**
AAK pmax pmax
comp=Z,35nm,0.9s
AAK Ala-Archa 53.34 334 P **P** **23 26 18.8 -0.2**
AAK Ala-Archa 53.34 334 P **P** **23 26 18.8 -0.2**
FRU1 Bishkek 53.43 334 P **P** **23 26 19.6 +0.1**
FRU1 pmax pmax
comp=Z,106nm,0.8s
FRU Bishkek 53.45 335⇑ *i*P **P** **23 26 19.0 -0.6**
FRU pmax pmax
comp=Z,120nm,1.4s
CHMS Chumysh 53.53 335 P **P** **23 26 19.9 -0.3**
SNR=6.7
KUU Kurty 53.61 337⇑ *i*P **P** **23 26 20.1 -0.6**
comp=Z,1μm,0.8s
KUU *e*S **S** **23 33 51.7 +2.3**
EKS2 Erkin-Say 53.68 334 P **P** **23 26 21.7 +0.3**
SNR=292
ALNE Al Ain 53.72 304 *i*P **P** **23 26 22.9 +1.0**
SNR=20
ALNE Al Ain 53.72 304 *i*P **P** **23 26 22.9 +1.0**
SNR=20
UOSS Minazif 53.74 305 P **P** **23 26 21.0 -1.0**
UOSS Minazif 53.74 305 P **P** **23 26 21.0 -1.0**
ASHO Ashiyiah 53.74 305 *i*P **P** **23 26 24.3 +2.3**
SNR=5.8
ASHO Ashiyiah 53.74 305 *i*P **P** **23 26 24.3 +2.3**
SNR=5.8
HATD Hatta, Dubai 53.74 305 P **P** **23 26 23.2 +1.2**
HATD Hatta, Dubai 53.74 305 P **P** **23 26 23.2 +1.2**
TDK Taldyqorghan 53.77 339 *i*P **P** **23 26 21.4 -0.5**
comp=Z,1μm,0.8s
USP Ospenovka 53.85 335 P **P** **23 26 22.3 -0.3**
SNR=93
MSFE Esma-Masafi 53.96 306 P **P** **23 26 25.1 +1.5**
MSFE Esma-Masafi 53.96 306 P **P** **23 26 25.1 +1.5**
ZSN Zaisan 53.98 345⇑ *i*P **P** **23 26 23.7 +0.4**
comp=Z,687nm,1.0s
MK01 Makanchi Array 54.06 343 *e*P **P** **23 26 23.4 -0.6**
MK31 Makanchi Array 54.08 343 *e*P **P** **23 26 23.7 -0.5**
MK31 Makanchi Array 54.08 343 *e*P **P** **23 26 23.7 -0.5**
MKAR Makanchi Array 54.08 343 P **P** **23 26 23.7 -0.4**
comp=Z,80nm,0.6s,baz=149,slow=8.1,SNR=1010
MKAR S **S** **23 33 54.0 -1.7**
comp=Z,1.5nm,0.9s,baz=153,slow=14,SNR=4.6
MKAR LR LR 23 54 08.6
comp=Z,83nm,20.5s,baz=139,slow=41
MKAR Makanchi Array 54.08 343 *e*P **P** **23 26 23.7 -0.4**
comp=Z,531nm,0.7s
MKAR S **S** **23 33 54.0 -1.7**
MKAR Makanchi Array 54.08 343 *e*P **P** **23 26 23.7 -0.4**
MKAR S **S** **23 33 54.0 -1.7**
MKAR pmax pmax
comp=Z,531nm,0.7s
MAKZ Makanchi 54.19 343 *e*P **P** **23 26 24.1 -0.8**
comp=Z,57nm,0.9s
MAKZ Makanchi 54.19 343 *e*P **P** **23 26 24.1 -0.8**
MAKZ pmax pmax
comp=Z,57nm,0.9s
MDJ Mudanjiang 54.46 23 P **P** **23 26 25.1 -1.8**
MDJ pP pP 23 26 41.3 -2.8
MDJ sP sP 23 26 46.7 -4.9
MDJ PP **PP** **23 28 28.2 -1.6**
MDJ S **S** **23 34 01.5 +0.8**
MDJ SS **SS** **23 37 46.6 +2.4**
MDJ pmax pmax
comp=Z,37nm,1.1s
MDJ pmax pmax
comp=Z,200nm,5.6s
MDJ Mudanjiang 54.46 23 *e*P **P** **23 26 26.4 -0.4**
comp=Z,27nm,0.9s
ZAK Zakamensk 54.59 0 *e*P **P** **23 26 27.4 -0.4**
ZAK *e* 23 27 30.0
ZAK pmax pmax
comp=Z,39nm,0.9s
ZAK pmax pmax
comp=Z,11nm,1.3s
DZA Taraz 54.97 332 *e*P **P** **23 26 29.9 -0.8**
comp=Z,534nm,1.0s
USRK Ussuriysk Ar. 55.11 25 P **P** **23 26 31.3 -0.3**
comp=Z,101nm,0.8s,baz=217,slow=5.8,SNR=123
USRK LR LR 23 51 55.9
comp=Z,123nm,18.1s,baz=208,slow=38
CHM Chimkent 55.36 331 *e*P **P** **23 26 33.1 -0.3**
comp=Z,636nm,1.0s
HIA Hailar 55.49 14 *e*P **P** **23 26 33.3 -1.0**
comp=Z,25nm,0.7s
HIA Hailar 55.49 14*c i*P **P** **23 26 33.2 -1.1**
HIA pmax pmax
comp=Z,40nm,0.8s
KKAR Karatay Array 55.51 332 *e*P **P** **23 26 33.5 -1.1**
KKAR Karatay Array 55.51 332 *e*P **P** **23 26 33.5 -1.1**
MOY Mondy 55.89 359 *e*P **P** **23 26 37.2 0.0**
MOY pmax pmax
comp=Z,56nm,1.8s
TLY Talaya 55.89 1 *e*P **P** **23 26 37.7 +0.6**
comp=Z,76nm,0.8s
TLY Talaya 55.89 1 *e*P **P** **23 26 38.1 +1.0**
TLY pmax pmax
comp=Z,111nm,1.0s
TLY MLR MLR
comp=Z,200nm,19.0s
OPO Ambohidratompo 55.92 251 LR LR 23 45 23.1
comp=Z,222nm,21.7s,baz=70,slow=30
IRK Irkutsk 56.46 1 *e*P **P** **23 26 41.1 0.0**
IRK pmax pmax
comp=Z,89nm,1.9s
CIT Chita 56.99 8 *e*P **P** **23 26 45.8 +0.9**
CIT *e* 23 27 10.8
CIT pmax pmax
comp=Z,111nm,1.3s
KURK Kurchatov 58.68 342 *e*P **P** **23 26 56.1 -0.5**
comp=Z,146nm,0.8s
KURK Kurchatov 58.68 342*ce*P **P** **23 26 56.2 -0.5**
KURK pmax pmax
comp=Z,145nm,0.9s
KURK Kurchatov 58.68 342 P **P** **23 26 56.3 -0.4**
SNR=46
GEYT Alibeck 58.99 320 P **P** **23 26 59.1 -0.1**
comp=Z,54nm,0.8s,baz=142,slow=7.5,SNR=195
GEYT LR LR 23 54 19.8
comp=Z,110nm,20.7s,baz=155,slow=38
ERM Erimo 59.07 34 *e*P **P** **23 26 59.0 -0.6**
comp=Z,36nm,0.8s
ERM Erimo 59.07 34*ce*P **P** **23 27 00.1 +0.5**
ERM pmax pmax
comp=Z,33nm,1.0s
KLR Kul'dur 59.11 22*c i*P **P** **23 26 59.0 -0.7**
ZAA0 Zalesovo Array 60.05 348 *e*P **P** **23 27 05.5 -0.6**
comp=Z,322nm,1.0s
ZALV Zalesovo Beam 60.05 348 P **P** **23 27 05.4 -0.7**
comp=Z,138nm,0.4s,baz=166,slow=5.0,SNR=689
ZALV S **S** **23 35 11.2 -2.5**
comp=Z,2.6nm,0.6s,baz=156,slow=19,SNR=9.0
ZALV LR LR 23 56 12.9
comp=Z,418nm,20.1s,baz=76,slow=39
ZALV PKP2bc 23 56 39.9
comp=Z,0.8nm,0.8s,baz=298,slow=3.1,SNR=4.0
ZALV Zalesovo Beam 60.05 348 *e*P **P** **23 27 04.5 -1.6**
ZALV S **S** **23 35 11.2 -2.5**
ZALV ⇑*e* 23 56 39.9
BRZS Berezniki 60.06 338⇑ *i*P **P** **23 27 05.6 -0.7**
comp=Z,34nm,0.8s
ASAJ Asahikawa 60.16 32 P **P** **23 27 07.0 -0.1**
comp=Z,26nm,0.4s,baz=233,slow=9.1,SNR=40
ASAJ Asahikawa 60.16 32 *e*P **P** **23 27 06.6 -0.5**
comp=Z,40nm,0.9s
ASAJ Asahikawa 60.16 32 P **P** **23 27 07.0 -0.1**
ASAJ pmax pmax
comp=Z,27nm,0.4s
DAMY Dhamar 60.75 289 *e*P **P** **23 27 14.3 +2.3**
comp=Z,37nm,0.8s
NVS Novosibirsk 61.22 347 *e*P **P** **23 27 13.1 -0.9**
NVS *e*S **S** **23 35 25.1 -3.6**
NVS *e*PS **PnS** **23 35 52.4 +0.6**
NVS pmax pmax
comp=Z,86nm,1.2s
NVS pmax pmax
comp=N,52nm,1.4s
NVS pmax pmax
comp=E,45nm,1.4s
NVS smax smax
comp=E,19nm,1.2s
ZEA Zeya 61.51 16 *e*P **P** **23 27 16.0 0.0**
ZEA pmax pmax
comp=E,35nm,0.9s
ZEA pmax pmax
comp=N,94nm,1.0s
ZEA pmax pmax
comp=Z,180nm,1.0s
ATD Arta Tunnel 61.56 286 LR LR 23 49 58.3
comp=Z,65nm,20.2s,baz=11,slow=32
GRNR Gornyy 62.15 24 *e*P **P** **23 27 20.2 -0.2**
GRNR pmax pmax
comp=Z,84nm,1.0s
YSS Yuzh-Sakhalins 62.18 30 *e*P **P** **23 27 20.6 -0.1**
comp=Z,132nm,1.0s
YSS Yuzh-Sakhalins 62.18 30⇑ *e*P **P** **23 27 20.4 -0.2**
YSS *e* 23 28 04.7
YSS *e* 23 29 39.1
YSS *e*S **S** **23 35 42.4 +1.3**
YSS *e*SS **SS** **23 39 46.1 +0.7**
YSS pmax pmax
comp=Z,110nm,0.7s
YSS MLR MLR
comp=Z,110nm,15.0s
RAYN Ar Rayn 62.22 299 *e*P **P** **23 27 20.0 -1.5**
comp=Z,30nm,1.0s
BOD Bodaibo 62.71 7 *e*P **P** **23 27 23.3 -0.7**
BOD pmax pmax
comp=Z,89nm,0.9s
BVAR Borovoye Array 63.37 339 P **P** **23 27 27.5 -1.0**
comp=Z,40nm,0.3s,baz=140,slow=8.6,SNR=415
BVAR S **S** **23 35 56.2 +0.3**
comp=Z,1.4nm,0.9s,baz=131,slow=18,SNR=4.1
BVAR LR LR 00 00 32.2
comp=Z,70nm,19.0s,baz=129,slow=41
BRVK Borovoye 63.43 339 *e*P **P** **23 27 27.8 -1.0**
comp=Z,77nm,0.8s
BRVK Borovoye 63.43 339*ce*P **P** **23 27 27.9 -1.0**
BRVK pmax pmax
comp=Z,63nm,0.9s
CLNS Chul'man 63.69 13 *e*P **P** **23 27 29.9 -0.6**
CLNS pmax pmax
comp=E,29nm,1.1s
CLNS pmax pmax
comp=N,39nm,1.0s
CLNS pmax pmax
comp=Z,57nm,0.8s
DZM Mont Dzumac 64.08 112 P **P** **23 27 33.7 -0.2**
comp=Z,4.9nm,0.4s,baz=234,slow=9.3,SNR=7.6
DZM LR LR 23 57 16.2
comp=Z,71nm,19.1s,baz=231,slow=38
DZM Mont Dzumac 64.08 112 *e*LR LR 23 46 56.7
comp=Z,215nm,28.1s
KMBO Kilima Mbogo 65.39 271 P **P** **23 27 44.4 +1.6**
comp=Z,3.8nm,0.8s,baz=54,slow=9.3,SNR=15
KMBO LR LR 23 51 13.6
comp=Z,66nm,22.0s,baz=87,slow=31
KMBO Kilima Mbogo 65.39 271 *e*P **P** **23 27 44.6 +1.8**
comp=Z,15nm,1.1s
KMBO *e*pP **pP** **23 28 00.6 +0.2**
KMBO Kilima Mbogo 65.39 271 *i*P **P** **23 27 44.9 +2.1**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
LKRN Lenkeran, Azer 65.66 316 P **P** **23 27 43.1 -0.6**
NKL Nikolayevsk 65.67 24 *i*P **P** **23 27 42.7 -0.7**
NKL pmax pmax
comp=N,17nm,1.0s
NKL pmax pmax
comp=E,10.0nm,1.0s
NKL pmax pmax
comp=Z,80nm,1.0s
AKTO Aktyubinsk 66.74 331 P **P** **23 27 49.5 -0.9**
comp=Z,12nm,0.3s,baz=129,slow=6.4,SNR=64
AKTO LR LR 23 59 35.3
comp=Z,68nm,18.3s,baz=133,slow=38
MNGR Mingechevir, A 67.77 317 P **P** **23 27 56.6 -0.5**
SEKA Sheki 67.89 318 P **P** **23 27 57.0 -1.0**
NAX Nakhchivan 68.15 315 P **P** **23 27 59.0 -0.7**
GANJ Ganja 68.23 317 P **P** **23 27 59.5 -0.5**
ZKTA Zakatala 68.48 318 P **P** **23 28 01.0 -0.6**
MAK Makhachkala 68.51 320*c i*P **P** **23 28 02.0 +0.3**
MAK *e**PP **pP** **23 28 18.2 -1.3**
MAK *e**SP **PcP** **23 28 24.0 -2.5**
MAK *e* 23 30 33.8
MAK *i* PPP PPP 23 32 12.9
MAK *e*S **S** **23 36 58.2 -0.6**
MAK *e**SS **sS** **23 37 27.0 -1.9**
MAK *e*SS **SS** **23 41 28.8 +4.7**
MAK *e*SSS SSS 23 44 29.7
MAK pmax pmax
comp=Z,98nm,0.7s
MAW Mawson 68.64 195 LR LR 23 52 10.0
comp=Z,390nm,20.9s,baz=54,slow=30
GNI Garni 69.10 316 P **P** **23 28 06.1 +0.5**
comp=Z,29nm,0.9s,baz=332,slow=4.0,SNR=12
GNI Garni 69.10 316 *e*P **P** **23 28 06.0 +0.5**
comp=Z,755nm,1.4s
GNI Garni 69.10 316 *e*P **P** **23 28 06.1 +0.5**
GNI pmax pmax
comp=Z,755nm,1.4s
YAK Yakutsk 69.44 13 P **P** **23 28 06.0 -1.0**
comp=Z,116nm,0.7s,baz=325,slow=1.5,SNR=37
YAK Yakutsk 69.44 13 *e*P **P** **23 28 05.0 -2.0**
comp=Z,206nm,0.8s
YAK Yakutsk 69.44 13 *e*P **P** **23 28 04.8 -2.2**
YAK *e* 23 28 26.4
YAK *e**PP **PcP** **23 28 29.6 -0.3**
YAK *e*PPP PPP 23 32 20.3
YAK *e*S S 23 36 59.5 -9.5
YAK *e**SS **sS** **23 37 39.4 +0.3**
YAK *e* 23 37 50.2
YAK *e*SS **SS** **23 41 31.8 -5.8**
YAK pmax pmax
comp=Z,201nm,0.9s
YAK pmax pmax
comp=N,46nm,1.1s
YAK pmax pmax
comp=E,41nm,1.1s
YAK pmax pmax
comp=Z,190nm,4.3s
YAK pmax pmax
comp=N,87nm,4.3s
YAK pmax pmax
comp=E,57nm,4.3s
YAK smax smax
comp=N,228nm,5.0s
YAK smax smax
comp=E,101nm,4.3s
BTNK Botanikuri 69.72 317 P **P** **23 28 09.8 +0.5**
GROC Groznyy 69.73 319 *e*P **P** **23 28 09.4 +0.1**
GROC *e* 23 28 31.6
GROC *e* 23 30 43.6
GROC *e*S **S** **23 37 11.9 -1.3**
GROC *e**SS **sS** **23 37 43.8 +0.4**
GROC pmax pmax
comp=Z,145nm,1.0s
TBLG Delisi 69.78 317 P **P** **23 28 10.2 +0.5**
TBLG Delisi 69.78 317 *e*P **P** **23 28 09.9 +0.3**
comp=Z,103nm,0.9s
TBLG Delisi 69.78 317 *e*P **P** **23 28 10.1 +0.5**
SVE Sverdlovsk 69.92 337*d i*P **P** **23 28 09.9 -0.2**
SVE pmax pmax
comp=Z,154nm,1.0s

BGD Bogdanovka 70.36 317 P **P** **23 28 13.8 +0.4**
ARU Arti 70.48 336 P **P** **23 28 12.9 -0.6**
comp=Z,26nm,0.5s,baz=134,slow=2.9,SNR=78
ARU Arti 70.48 336 *eP* **P** **23 28 12.8 -0.6**
comp=Z,126nm,1.2s
ARU Arti 70.48 336*c i*P **P** **23 28 12.8 -0.7**
ARU 23 28 33.0
ARU S **S** **23 37 24.2 +2.8**
ARU 23 38 10.5
ARU SS **SS** **23 41 58.2 +4.4**
ARU pmax pmax
comp=Z,100nm,1.0s
AKH Akhalkalaki 70.49 317⇓*i*P **P** **23 28 15.1 +0.9**
AKH Akhalkalaki 70.49 317 *e*P **P** **23 28 14.1 -0.1**
comp=Z,16nm,0.9s
AKH Akhalkalaki 70.49 317 *e*P **P** **23 28 14.1 -0.1**
AKH pmax pmax
comp=Z,16nm,0.9s
ZEI Tsey 70.80 318 *e*P **P** **23 28 15.8 -0.2**
ZEI pmax pmax
comp=Z,55nm,0.8s
MARD Mardin 70.82 312 *e*P **P** **23 28 16.1 -0.2**
comp=Z,100nm,0.8s
ONI Oni 71.01 318 P **P** **23 28 17.6 +0.4**
ONI Oni 71.01 318 *e*P **P** **23 28 17.5 +0.4**
NCK Nalchik 71.30 319*c i*P **P** **23 28 19.1 +0.2**
NCK pmax pmax
comp=Z,55nm,0.8s
RPZ Rata Peaks 71.41 135 P **P** **23 28 20.7 +1.2**
comp=Z,28nm,0.5s,baz=294,slow=3.9,SNR=26
RPZ Rata Peaks 71.41 135 *e*P **P** **23 28 21.0 +1.5**
comp=Z,139nm,1.5s
NEY Neytrino 71.78 318*c i*P **P** **23 28 22.5 +0.6**
NEY pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 71.86 319 P **P** **23 28 22.4 +0.3**
comp=Z,59nm,0.8s,baz=118,slow=5.0,SNR=90
QRZ Quartz Range 71.93 131 P **P** **23 28 23.6 +0.9**
KOPT Kop Dagi 72.03 314 *e*P **P** **23 28 23.9 +0.2**
comp=Z,29nm,0.9s
OXZ Oxford 72.03 134 *e*P **P** **23 28 24.4 +1.1**
comp=Z,41nm,1.0s
KVAR Kislovodsk Arr 72.09 319 P **P** **23 28 23.9 +0.2**
comp=Z,36nm,0.9s,baz=320,slow=3.0,SNR=17
LTZ Lake Taylor 72.09 134 *e*P **P** **23 28 24.3 +0.6**
comp=Z,58nm,1.3s
KIV Kislovodsk 72.10 319 *e*P **P** **23 28 23.7 0.0**
comp=Z,45nm,0.8s
KIV Kislovodsk 72.10 319 *e*P **P** **23 28 23.5 -0.2**
KIV pmax pmax
comp=Z,55nm,1.0s
KIV MLR MLR
comp=Z,31nm,18.0s
KIV Kislovodsk 72.10 319 *i* P **P** **23 28 23.9 +0.2**
SNR=15
KIV Kislovodsk 72.10 319 *i* P **P** **23 28 23.9 +0.2**
SNR=15
ASF Jabal al Asfar 72.14 306 P **P** **23 28 25.9 +1.7**
comp=Z,43nm,0.8s,baz=53,slow=4.1,SNR=70
GOF Gofitskoye 72.33 320⇑*i*P **P** **23 28 25.0 0.0**
GOF pmax pmax
comp=Z,104nm,1.3s
THZ Tophouse 72.37 132 *e*P **P** **23 28 26.6 +1.2**
comp=Z,56nm,0.8s
NNZ Nelson 72.63 132 P **P** **23 28 26.9 0.0**
DUWZ D'Urville Isla 72.97 131 P **P** **23 28 29.2 +0.3**
EIL Elat 73.05 303 P P 23 28 38.8 +9.2
comp=Z,74nm,0.8s,baz=110,slow=2.3,SNR=69
TUWZ Tuamarina 73.08 132 P **P** **23 28 29.5 0.0**
SOKR Solikamsk 73.31 338*c i*P **P** **23 28 28.1 -2.2**
SOKR pmax pmax
comp=Z,78nm,1.0s
SOKR MLR MLR
comp=Z,187nm,19.0s
HIZ Hauiti 73.35 129 *e*P **P** **23 28 31.9 +0.8**
comp=Z,107nm,1.1s
HIZ Hauiti 73.35 129 P **P** **23 28 32.9 +1.8**
VRZ Vera Road 73.35 129 P **P** **23 28 33.3 +2.1**
PETK Petropavlovsk- 73.54 31 P **P** **23 28 31.6 -0.3**
comp=Z,15nm,0.8s,baz=201,slow=3.9,SNR=15
PETK LR LR 00 00 54.2
comp=Z,70nm,21.1s,baz=230,slow=36
PETK Petropavlovsk- 73.54 31 *e*P **P** **23 28 31.4 -0.6**
MMAI Mount Meron Ar 73.60 306 P **P** **23 28 34.5 +1.7**
comp=Z,25nm,0.7s,baz=96,slow=8.5,SNR=46
MMAI LR LR 00 01 04.7
comp=Z,80nm,20.9s,baz=150,slow=36
KIW Kapiti Island 73.72 131 P **P** **23 28 33.5 +0.2**
PKVZ Pokaka 73.83 130 P **P** **23 28 35.0 +0.9**
LSZ Lusaka 73.88 255 *e*P **P** **23 28 36.0 +1.2**
comp=Z,33nm,1.3s
LSZ *e*pP **pP** **23 28 52.4 -0.4**
LSZ Lusaka 73.88 255 *e*P **P** **23 28 36.0 +1.2**
LSZ *e**PP **pP** **23 28 52.4 -0.4**
LSZ pmax pmax
comp=Z,33nm,1.3s
SOC Sochi 73.92 318 *e*P **P** **23 28 33.1 -1.2**
SOC *e* 23 31 21.0
SOC *e*S **S** **23 38 04.0 +2.7**
SOC *e* 23 38 37.3
SOC pmax pmax
comp=Z,89nm,0.8s
MTVZ Mangateitei 73.94 130 P **P** **23 28 35.6 +0.9**
FWVZ Far West T-bar 73.98 129 P **P** **23 28 36.1 +0.9**
TRVZ Turoa 73.99 130 P **P** **23 28 36.1 +0.9**
PET Petropavlovsk 73.99 31 *e*P **P** **23 28 33.8 -0.7**
comp=Z,49nm,0.9s
PET Petropavlovsk 73.99 31 *e*P **P** **23 28 34.5 0.0**
PET *e*S **S** **23 38 04.2 +2.5**
PET pmax pmax
comp=Z,67nm,0.8s
PET MLR MLR
comp=Z,100nm,18.0s
WTVZ West Tongariro 73.99 129 P **P** **23 28 36.3 +1.2**
DRZ Dome Shelter 74.00 129 P **P** **23 28 36.6 +1.3**
NGZ Ngauruhoe 74.01 129 P **P** **23 28 36.1 +0.8**
WHVZ Whangaehu Hut 74.02 129 P **P** **23 28 36.3 +0.9**
TUVZ Tukino 74.06 129 P **P** **23 28 36.6 +1.0**
MOVZ Moawhango 74.16 130 P **P** **23 28 36.3 +0.4**
MA2 Magadan 74.16 23 P **P** **23 28 35.1 -0.3**
comp=Z,10nm,0.3s,baz=219,slow=6.4,SNR=17
MRZ Mangatainoka R 74.19 131 P **P** **23 28 36.6 +0.5**
BFZ Birch Farm 74.70 131 *e*P **P** **23 28 39.7 +0.7**
comp=Z,71nm,0.6s
BKZ Black Stump Fm 74.70 129 *e*P **P** **23 28 39.5 +0.4**
comp=Z,104nm,0.5s
TOKA Tokat 75.02 314 *e*P **P** **23 28 41.3 +0.4**
comp=Z,32nm,0.7s
URZ Urewera 75.08 128 P **P** **23 28 41.3 +0.1**
comp=Z,11nm,0.4s,baz=243,slow=4.0,SNR=17
URZ Urewera 75.08 128 *e*P **P** **23 28 43.0 +1.8**
comp=Z,18nm,1.0s
CSS Mathiatis 75.79 308 *e*P **P** **23 28 45.7 +0.3**
comp=Z,16nm,0.8s
VRH Novokhopyorsk 75.80 325 *e*P **P** **23 28 44.5 -0.5**
VRH *e*S **S** **23 38 16.0 -5.9**
VRH pmax pmax
comp=Z,170nm,0.7s
VRH smax smax
comp=N,210nm,1.9s
ANN Anapa 75.89 318 *e*P **P** **23 28 45.3 -0.4**
ANN pmax pmax
comp=Z,30nm,0.8s
SYO Syowa Base 76.46 199⇑*e*PcP **PcP** **23 29 03.0 +3.1**
BOSA Boshof 76.84 242 P **P** **23 28 52.9 +1.3**
comp=Z,9.1nm,0.9s,baz=105,slow=5.9,SNR=8.5
BOSA LR LR 23 56 33.2
comp=Z,380nm,18.0s,baz=74,slow=31
SEY Seymchan 76.89 21 P **P** **23 28 50.3 -0.7**
comp=Z,12nm,0.6s,baz=232,slow=5.8,SNR=45
SEY Seymchan 76.89 21*ceP* **P** **23 28 50.6 -0.4**
BR131 Keskin Array S 76.90 312 *e*P **P** **23 28 51.2 -0.6**
BRTR Keskin Array B 76.90 312 P **P** **23 28 51.1 -0.6**
comp=Z,38nm,0.9s,baz=132,slow=7.0,SNR=118
ILGA Ilgaz 77.24 314 *e*P **P** **23 28 54.6 +0.9**
comp=Z,41nm,1.0s
VSR Storozhevoye 77.27 325 *e*P **P** **23 28 52.9 -0.4**
VSR *e*S **S** **23 38 31.4 -6.6**
VSR pmax pmax
comp=Z,100nm,0.6s
VSR smax smax
comp=E,50nm,1.1s
VORR Voronezh 77.43 325 *e*P **P** **23 28 54.0 -0.2**
VORR pmax pmax
comp=Z,250nm,1.4s

ANTO Ankara 77.57 312 *e*P **P** **23 28 54.8 -0.6**
comp=Z,220nm,1.2s
ANTO Ankara 77.57 312 *e*P **P** **23 28 54.8 -0.6**
ANTO pmax pmax
comp=Z,219nm,1.2s
BR231 Keskin MP Arra 77.57 312 *e*P **P** **23 28 55.6 +0.2**
TIXI Tiksi 77.83 8 P **P** **23 28 54.0 -2.0**
comp=Z,39nm,0.9s,baz=204,slow=1.8,SNR=40
TIXI Tiksi 77.83 8 *e*P **P** **23 28 54.4 -1.7**
comp=Z,56nm,1.0s
TIXI Tiksi 77.83 8 *e*P **P** **23 28 54.4 -1.7**
TIXI pmax pmax
comp=Z,56nm,1.0s
LPSR Galich'ya Gora 77.96 326 *e*P **P** **23 28 57.0 -0.2**
LPSR pmax pmax
comp=Z,80nm,0.8s
SIM Simferopol' 78.16 318 *e*P **P** **23 28 58.6 +0.1**
SIM pmax pmax
comp=Z,77nm,0.8s
VNDA Vanda 79.29 169 P **P** **23 29 05.2 +1.1**
comp=Z,5.8nm,1.1s,baz=322,slow=7.6,SNR=5.2
VNDA LR LR 23 59 13.2
comp=Z,132nm,20.7s,baz=308,slow=32
MOS Moscow 79.93 329 *e*P **P** **23 29 06.2 -1.6**
MOS *e* 23 29 14.3
MOS *e* 23 29 27.1
MOS *e* 23 32 06.8
MOS *e*S **S** **23 39 05.0 -1.2**
MOS *e* 23 39 27.4
MOS pmax pmax
comp=Z,146nm,0.8s
MOS pmax pmax
comp=Z,200nm,1.0s
ARG Arkhangelos 80.21 308 P **P** **23 29 11.0 +1.2**
OBN Obninsk 80.24 328 P **P** **23 29 09.6 +0.1**
comp=Z,69nm,0.6s,baz=293,slow=2.4,SNR=18
OBN Obninsk 80.24 328 *e*P **P** **23 29 09.6 +0.1**
comp=Z,82nm,0.7s
OBN Obninsk 80.24 328*c i*P **P** **23 29 09.5 +0.1**
OBN *i* 23 32 11.6
OBN pmax pmax
comp=Z,61nm,0.8s
OBN MLR MLR
comp=Z,75nm,16.0s
KARP Karpathos 80.83 307 *e*P **P** **23 29 12.9 -0.3**
comp=Z,78nm,0.9s
KLMR Klimovskoe 81.15 334 *e*P **P** **23 29 13.1 -1.2**
KLMR *e* 23 32 19.4
KLMR pmax pmax
comp=Z,87nm,1.3s
KLMR Klimovskoe 81.15 334 *e*P **P** **23 29 13.1 -1.2**
KLMR AMP 23 29 15.9
comp=Z,87nm,1.3s
KLMR *e*PP **PP** **23 32 19.4 -0.9**
TLCR 81.83 317⇓*i*P **P** **23 29 18.1 -0.1**
TLCR 81.83 317 P **P** **23 29 19.6 +1.4**
TIRR Tirgusor 81.92 316⇓*i*P **P** **23 29 19.2 +0.5**
TIRR Tirgusor 81.92 316 *e*P **P** **23 29 18.9 +0.2**
comp=Z,34nm,0.8s
TIRR Tirgusor 81.92 316 P **P** **23 29 19.2 +0.5**
ICOR Ion Corvin 82.27 315⇑*i*P **P** **23 29 21.1 +0.5**
HARR Harsova 82.32 316⇓*i*P **P** **23 29 21.5 +0.7**
HARR Harsova 82.32 316 P **P** **23 29 22.4 +1.6**
SANT Santorini 82.35 307⇓*i*P **P** **23 29 21.3 +0.1**
SANT Santorini 82.35 307 *e*P **P** **23 29 21.1 -0.1**
comp=Z,190nm,1.4s
APE Apeiranthos 82.43 308⇑*i*P **P** **23 29 20.8 -0.8**
APE Apeiranthos 82.43 308 P **P** **23 29 22.4 +0.8**
IDI Anoyia 82.60 306 P **P** **23 29 23.9 +1.3**
comp=Z,52nm,0.8s,baz=90,slow=7.1,SNR=34
IDI LR LR 00 06 46.1
comp=Z,30nm,22.0s,baz=77,slow=36
SORM Soroca 82.89 319⇑*i*P **P** **23 29 23.5 -0.2**
SORM Soroca 82.89 319 P **P** **23 29 23.5 -0.2**
AKASG Malin Array Be 83.01 322 P **P** **23 29 23.6 -0.7**
comp=Z,3.5nm,0.4s,baz=83,slow=5.2,SNR=87
AKASG PP **PP** **23 32 33.7 -2.2**
comp=Z,6.7nm,0.9s,baz=90,slow=6.2,SNR=7.3
AKBB Malin Array Si 83.01 322 *e*P **P** **23 29 23.8 -0.5**
AKBB Malin Array Si 83.01 322 *e*P **P** **23 29 23.8 -0.5**
KIEV Kiev 83.02 322 *e*P **P** **23 29 23.2 -1.1**
comp=Z,26nm,0.8s
KIEV Kiev 83.02 322*c i*P **P** **23 29 23.5 -0.8**
KIEV pmax pmax
comp=Z,26nm,0.8s
KIEV Kiev 83.02 322 *i* P **P** **23 29 23.8 -0.5**
SNR=18
KIEV Kiev 83.02 322 *i* P **P** **23 29 23.8 -0.5**
SNR=18
PGOR Pogoanele 83.02 316⇑*i*P **P** **23 29 25.2 +0.8**
AK11 Malin Array Si 83.04 322 *e*P **P** **23 29 23.6 -0.8**
PETR Petresti 83.04 317⇓*i*P **P** **23 29 24.6 +0.1**
GRER 83.14 317⇑*i*P **P** **23 29 26.5 +1.4**
ODBI Odobesti 83.17 317⇑*i*P **P** **23 29 26.2 +1.0**
TMCR Tamitsa 83.20 337 *e*P **P** **23 29 24.7 -0.2**
TMCR pmax pmax
comp=Z,58nm,0.8s
ISR Istrita 83.38 316⇓*i*P **P** **23 29 27.7 +1.3**
ISR Istrita 83.38 316 P **P** **23 29 27.7 +1.3**
VRI Vrincioaia 83.42 317⇑*i*P **P** **23 29 27.7 +1.2**
VRI Vrincioaia 83.42 317 P **P** **23 29 27.7 +1.2**
PLOR Plostina 83.47 317⇑*i*P **P** **23 29 27.8 +1.0**
PLOR Plostina 83.47 317 P **P** **23 29 27.8 +1.0**
SULR 83.48 316⇑*i*P **P** **23 29 28.0 +1.2**
TESR Tescani 83.62 318⇑*i*P **P** **23 29 27.8 +0.3**
MLR Muntele Rosu 83.87 316 P **P** **23 29 29.5 +0.5**
comp=Z,15nm,1.0s,baz=102,slow=1.4,SNR=76
MLR Muntele Rosu 83.87 316⇑*i*P **P** **23 29 29.8 +0.8**
MLR Muntele Rosu 83.87 316 *e*P **P** **23 29 29.6 +0.6**
comp=Z,69nm,0.9s
MLR Muntele Rosu 83.87 316 P **P** **23 29 29.8 +0.8**
PRAR RASCA 84.09 318⇑*i*P **P** **23 29 30.5 +0.6**
HUMR Humele 84.33 315⇓*i*P **P** **23 29 31.6 +0.4**
DOPR Dopca 84.35 317⇓*i*P **P** **23 29 31.9 +0.6**
PAIG Paliouri 84.39 311 P **P** **23 29 32.3 +0.7**
GOLR 84.41 316⇓*i*P **P** **23 29 32.4 +0.8**
MTUR Matau 84.42 316⇓*i*P **P** **23 29 32.0 +0.3**
MTUR Matau 84.42 316 P **P** **23 29 33.0 +1.3**
VOIR 84.47 316⇓*i*P **P** **23 29 31.7 -0.3**
VOIR 84.47 316 P **P** **23 29 31.7 -0.3**
BILL Bilibino 84.50 20*c i*P **P** **23 29 30.6 -0.9**
BILL *i* 23 32 50.1
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,130nm,23.0s
SRS Serrai 84.68 312 P **P** **23 29 32.9 -0.1**
ARR Arges 84.75 316⇑*i*P **P** **23 29 33.3 -0.1**
SOH Sokhos 84.80 312 P **P** **23 29 33.0 -0.1**
MICGM Minsk 84.80 326⇓*e*P **P** **23 29 32.0 -1.3**
MICGM PM 23 29 33.0
comp=Z,0.1nm,1.0s
MNK Minsk 84.80 326⇓*e*P **P** **23 29 32.0 -1.3**
MNK pmax pmax
comp=Z,130nm,1.0s
BURAR Bucovina Array 84.82 318⇓*i*P **P** **23 29 35.0 +1.3**
BURAR Bucovina Array 84.82 318 P **P** **23 29 35.0 +1.3**
VTS Vitosha 85.23 313⇑*i*P **P** **23 29 36.2 +0.3**
VTS Vitosha 85.23 313 *e*P **P** **23 29 35.9 0.0**
comp=Z,33nm,0.9s
VTS Vitosha 85.23 313 P **P** **23 29 37.1 +1.2**
AGG Agios Georgios 85.27 310 *e*P **P** **23 29 35.6 -0.5**
AGG Agios Georgios 85.27 310 *e*P **P** **23 29 35.6 -0.5**
ARCR ARCALIA 85.28 318⇑*i*P **P** **23 29 37.3 +1.4**
LOT Lotru 85.36 316⇑*i*P **P** **23 29 36.7 +0.2**
NACGM Naroch 85.52 326 *e* **P** **23 29 36.0 -0.9**
JOF Joensuu 85.53 334 P **P** **23 29 37.5 +0.7**
QSPA South Pole Qui 85.56 180 *e*P **P** **23 29 38.5 +1.4**
QSPA *e*pP **pP** **23 29 54.8 -0.6**
IDID Didziasalis 85.65 326 *e*P **P** **23 29 38.2 +0.7**
IDID IAmb IAmb 23 29 39.5
comp=Z,32nm,0.9s
CJR Cluj-Napoca 85.72 317⇑*i*P **P** **23 29 39.6 +1.4**
CJR Cluj-Napoca 85.72 317 P **P** **23 29 39.6 +1.4**
IIGN Ignalina 85.94 326 *e*P **P** **23 29 39.6 +0.7**
IIGN IAmb IAmb 23 29 40.9
comp=Z,37nm,0.8s
LVZ Lovozero 85.96 339 *e*P **P** **23 29 38.3 -0.5**
comp=Z,128nm,1.6s
LVZ Lovozero 85.96 339*ceP* **P** **23 29 38.0 -0.9**
LVZ pmax pmax
comp=Z,45nm,1.3s
BMR Baia Mare 85.97 318⇑*i*P **P** **23 29 40.5 +1.2**
BMR Baia Mare 85.97 318 P **P** **23 29 40.5 +1.2**

IZAR Zarasai 86.03 327 *e*P **P** **23 29 40.0 +0.6**
IZAR IAmb IAmb 23 29 41.1
comp=Z,15nm,0.7s
DEV Deva 86.04 316⇑*i*P **P** **23 29 40.0 +0.3**
DEV Deva 86.04 316 P **P** **23 29 40.0 +0.3**
LVV L'vov 86.04 320 *e*P **P** **23 29 40.2 +0.6**
ISAL Salakas 86.05 326 *e*P **P** **23 29 40.1 +0.6**
ISAL IAmb IAmb 23 29 41.3
comp=Z,24nm,0.8s
NVL N'lazarevskaya 86.13 199 *e*P **pP** **23 29 57.9 -0.1**
NVL pmax pmax
comp=Z,28nm,1.4s
HERR Herculane 86.20 315⇑*i*P **P** **23 29 41.0 +0.5**
FNA Florina 86.27 311 P **P** **23 29 40.6 -0.5**
FNA pmax pmax
comp=Z,9.0nm,0.9s
APA Apatity 86.28 339⇑*i*P **P** **23 29 40.2 -0.2**
APA pmax pmax
comp=Z,14nm,1.0s
DRGR 86.33 317⇑*i*P **P** **23 29 42.0 +0.8**
DRGR 86.33 317 P **P** **23 29 42.0 +0.8**
VSU Vasula 86.42 329*ceP* **P** **23 29 41.4 +0.2**
VSU pmax pmax
comp=Z,154nm,0.8s
TRPA Tarpa 86.69 319⇑*e*P **P** **23 29 43.4 +0.6**
KWP Kalwaria Pacla 86.85 320 *e*P **P** **23 29 44.1 +0.5**
KWP Kalwaria Pacla 86.85 320 *e*P **P** **23 29 44.0 +0.5**
comp=Z,733nm,1.5s
KWP Kalwaria Pacla 86.85 320 *e*P **P** **23 29 44.1 +0.5**
BZS Buzias 86.88 316⇑*i*P **P** **23 29 44.3 +0.5**
BZS Buzias 86.88 316 P **P** **23 29 44.3 +0.5**
UZH Uzhgorod 86.94 319*c i*P **P** **23 29 44.8 +0.8**
SIRR Siria 86.95 317⇓*i*P **P** **23 29 45.2 +1.0**
TIM Timisoara 87.17 316⇑*i*P **P** **23 29 46.6 +1.4**
TIM Timisoara 87.17 316 P **P** **23 29 46.6 +1.4**
SUW Suwalki 87.38 324 *e*P **P** **23 29 45.9 -0.1**
SUW Suwalki 87.38 324 *e*P **P** **23 29 45.3 -0.7**
comp=Z,224nm,1.1s
SUW Suwalki 87.38 324 *e*P **P** **23 29 45.9 -0.1**
FINES FINESS Array B 87.47 332 P **P** **23 29 46.3 0.0**
comp=Z,15nm,0.4s,baz=110,slow=5.2,SNR=215
FINES PKiKP **PKiKP** **23 34 50.4 +0.6**
comp=Z,1.1nm,0.8s,baz=106,slow=2.6,SNR=4.2
FINES LR LR 00 13 21.8
comp=Z,96nm,19.1s,baz=80,slow=39
FINES FINESS Array B 87.47 332*ceP* **P** **23 29 46.2 -0.1**
FINES pmax pmax
comp=Z,15nm,0.4s
CRVS Cervenica-Dubn 87.52 319 *e*P **P** **23 29 47.5 +0.6**
CRVS *e* 23 33 14.1
CRVS Cervenica-Dubn 87.52 319 *e*P **P** **23 29 47.5 +0.6**
CRVS *e*PP **PP** **23 33 14.1 +1.5**
PVY Plav 87.59 313 *e*P **P** **23 29 47.2 -0.3**
IVA Berane 87.68 313⇑*i*P **P** **23 29 47.9 0.0**
STHS Stebnicka Huta 87.75 320 *e*P **P** **23 29 49.0 +1.0**
STHS pmax pmax
comp=Z,39nm,0.8s
STHS Stebnicka Huta 87.75 320 *e*P **P** **23 29 49.0 +1.0**
DIVS Divibare 87.79 314 *e*P **P** **23 29 48.9 +0.6**
KOME Kolasin 87.95 313 *e*P **P** **23 29 49.3 +0.1**
ULCJ Ulcinj 88.03 312 *e*P **P** **23 29 49.3 -0.2**
PDG Podgorica 88.09 313⇑*i*P **P** **23 29 49.9 +0.2**
TTG Podgorica 88.09 313⇑*i*P **P** **23 29 49.8 +0.2**
TTG Podgorica 88.09 313 *e*P **P** **23 29 49.9 +0.2**
TTG Podgorica 88.09 313 *e*P **P** **23 29 49.9 +0.2**
KECS Kecovo 88.10 319 *e*P **P** **23 29 50.3 +0.7**
KECS pmax pmax
comp=Z,15nm,0.9s
KECS Kecovo 88.10 319 *e*P **P** **23 29 50.3 +0.7**
DRME Dracevica, Mon 88.11 312 *e*P **P** **23 29 50.0 +0.2**
PLE Pljevlja 88.11 314⇑*i*P **P** **23 29 50.2 +0.3**
NKY Niksic 88.33 313⇑*i*P **P** **23 29 51.2 +0.2**
BUM Brajici-Budva 88.34 312 *e*P **P** **23 29 51.0 0.0**
CEME Cevo 88.35 313 *e*P **P** **23 29 51.1 +0.1**
NKME Niksic 88.35 313⇑*i*P **P** **23 29 51.1 +0.1**
NIE Niedzica 88.36 320 *e*P **P** **23 29 51.9 +1.0**
NIE *e* 23 33 21.2
NIE Niedzica 88.36 320 *e*P **P** **23 29 51.9 +1.0**
NIE *e* 23 33 21.2
PSZ Piszkesteto 88.40 318⇑*i*P **P** **23 29 51.9 +0.7**
PSZ Piszkesteto 88.40 318⇑*e*P **P** **23 29 51.6 +0.4**
PSZ Piszkesteto 88.40 318 *e*P **P** **23 29 51.7 +0.6**
PSZ Piszkesteto 88.40 318 P **P** **23 29 51.9 +0.7**
BEL Belsk 88.42 322 *e*P **P** **23 29 51.8 +0.8**
BEL Belsk 88.42 322 *e*P **P** **23 29 51.8 +0.8**
OUL Oulu 88.43 336 P **P** **23 29 49.4 -1.3**
HCY Herceg Novi 88.65 313 *e*P **P** **23 29 52.7 +0.4**
BRY Bratogost 88.67 313⇑*i*P **P** **23 29 52.7 +0.1**
OJC Ojcow 88.80 320 *e*P **P** **23 29 53.4 +0.5**
OJC *e* 23 33 23.3
OJC Ojcow 88.80 320 *e*P **P** **23 29 53.4 +0.5**
OJC Ojcow 88.80 320 *e*P **P** **23 29 53.4 +0.5**
OJC *e* 23 33 23.3
LANS Liptovska Anna 88.86 319 *e*P **P** **23 29 54.3 +1.1**
LANS Liptovska Anna 88.86 319 *e*P **P** **23 29 54.3 +1.1**
BUD Budapest 88.92 318⇑*e*P **P** **23 29 54.3 +0.8**
BUD Budapest 88.92 318 P **P** **23 29 55.0 +1.5**
BUD pmax pmax
comp=Z,27nm,0.8s
MORH M¯ˇ‡r¯igy, Hung 89.02 316⇑*e*P **P** **23 29 54.5 +0.5**
VYHS Vyhne 89.18 319 *e*P **P** **23 29 55.1 +0.3**
VYHS pmax pmax
comp=Z,17nm,1.3s
VYHS Vyhne 89.18 319 *e*P **P** **23 29 55.0 +0.3**
KLNR Kaliningrad 89.20 325 *i* P **P** **23 29 54.1 -0.5**
KLNR pmax pmax
comp=Z,120nm,0.9s
STON Ston 89.28 313 P **P** **23 29 54.1 -1.1**
VAF Ylistaro 89.38 333 *e*P **P** **23 29 55.6 +0.4**
VAF pmax pmax
comp=Z,77nm,1.5s
VAF Ylistaro 89.38 333 *e*SG **P** **23 29 55.3 +0.1**
SRO2 Moca 89.38 318 *e*P **P** **23 29 55.5 -0.1**
SRO2 Moca 89.38 318 *e*P **P** **23 29 55.5 -0.1**
CSKK Cs¯ˇtkako 89.42 317⇑*e*P **P** **23 29 56.6 +0.7**
TIP Timpagrande 89.58 309⇑*i*P **P** **23 29 58.2 +1.4**
TIP Timpagrande 89.58 309 *e*P **P** **23 29 58.3 +1.4**
ARCES ARCESS Array B 89.64 340 P **P** **23 29 56.2 -0.1**
comp=Z,4.6nm,0.3s,baz=104,slow=5.7,SNR=92
ARCES PP **PP** **23 33 30.9 +2.0**
comp=Z,2.5nm,0.7s,baz=119,slow=9.9,SNR=4.4
ARCES PKKPbc **PKKPdf** **23 47 30.2 +1.8**
comp=Z,3.4nm,0.9s,baz=305,slow=4.3,SNR=5.8
OKC Ostrava-Krasne 89.80 320 *e*P **P** **23 29 58.5 +0.9**
OKC Ostrava-Krasne 89.80 320 *e*P **P** **23 29 58.5 +0.9**
BLY Banja Luka 89.86 315⇑*i*P **P** **23 29 59.1 +1.1**
BLY Banja Luka 89.86 315 *e*P **P** **23 29 58.9 +0.9**
SMOL Smolenice 90.11 318 *e*P **P** **23 30 00.1 +1.0**
SMOL Smolenice 90.11 318 *e*P **P** **23 30 00.1 +1.0**
CEL Celeste 90.16 308 *e*P **P** **23 30 01.6 +2.0**
MORC Moravsky Berou 90.18 320⇑*i*P **P** **23 30 00.4 +1.0**
MORC Moravsky Berou 90.18 320 *e*P **P** **23 30 00.1 +0.7**
MORC Moravsky Berou 90.18 320 P **P** **23 30 00.4 +1.0**
ZST Bratislava 90.30 318 *e*P **P** **23 29 59.7 -0.2**
ZST pmax pmax
comp=Z,46nm,1.2s
ZST Bratislava 90.30 318 *e*P **P** **23 29 59.7 -0.2**
BEHE Becsehely 90.33 316⇑*e*P **P** **23 30 01.4 +1.3**
CUC Castrocucco 90.39 310 *e*P **P** **23 30 00.6 0.0**
SOP Sopron 90.61 318⇑*e*P pP 23 30 20.1 +0.2
SOP Sopron 90.61 318 P **P** **23 30 01.9 +0.5**
SOP pmax pmax
comp=Z,18nm,1.0s
SNAA Sanae 90.67 198 P **P** **23 30 03.1 +1.8**
comp=Z,3.8nm,1.0s,baz=72,slow=3.0,SNR=8.4
SNAA LR LR 00 03 59.7
comp=Z,146nm,21.4s,baz=106,slow=31
SNAA Sanae 90.67 198 *e*P **P** **23 30 04.1 +2.8**
SNAA *e*pP **pP** **23 30 17.7 -2.1**
VRAC Vranov 90.75 319 P **P** **23 30 02.6 +0.6**
comp=Z,4.1nm,0.8s,baz=126,slow=5.5,SNR=7.8
VRAC Vranov 90.75 319⇓*i*P **P** **23 30 03.0 +1.0**
VRAC Vranov 90.75 319 P **P** **23 30 03.0 +1.0**
GKP Gorka Klasztor 90.77 323 *e*P **P** **23 30 02.6 +0.6**
GKP Gorka Klasztor 90.77 323 *e*P **P** **23 30 02.6 +0.6**
ZAG Zagreb 90.81 316 P **P** **23 30 04.0 +1.6**
UDBI Udbina 90.85 314 P **P** **23 30 02.7 +0.1**
DPC Dobruska-Polom 91.03 320 *e*P **P** **23 30 04.4 +1.1**
DPC Dobruska-Polom 91.03 320 *e*P **P** **23 30 04.4 +1.1**
KSP Ksiaz 91.09 321 *e*P **P** **23 30 04.6 +1.0**
KSP *e* 23 33 40.6
KSP Ksiaz 91.09 321 *e*P **P** **23 30 04.6 +1.0**

KSP *e* 23 33 40.6
CONA Conrad Observa 91.10 318 *e*P **P** **23 30 03.9 +0.1**
comp=Z,8.8nm,1.0s,SNR=5.3
CONA PP **PP** **23 33 40.3 -0.9**
comp=Z,12nm,1.2s
OZLJ Ozalj 91.16 315 P **P** **23 30 04.5 +0.6**
UPC Upice 91.24 320 *e*P **P** **23 30 05.5 +1.2**
UPC Upice 91.24 320 *e*P **P** **23 30 05.5 +1.2**
ARSA Arzberg 91.26 317 *e*PcP **P** **23 30 05.1 +0.6**
comp=Z,15nm,0.9s,SNR=7.8
ARSA *e*PP **PP** **23 33 42.4 0.0**
comp=Z,9.7nm,1.3s
VAE Valguarnera 91.27 307 P **P** **23 30 07.5 +2.7**
comp=Z,15nm,0.4s,baz=200,slow=4.3,SNR=3.2
BOJS Bojanci 91.30 315 *e*P **P** **23 30 05.3 +0.6**
PERS Pernice 91.49 316 *i* P **P** **23 30 06.2 +0.6**
SOKA Soboth 91.55 317 *e*PcP **P** **23 30 06.6 +0.7**
comp=Z,25nm,1.0s,SNR=19
VISS Visnje 91.61 316 *i* P **P** **23 30 06.7 +0.5**
OBKA Obir 91.87 316 *e*PcP **P** **23 30 08.0 +0.6**
comp=Z,20nm,1.2s,SNR=5.8
GOPC GO Pecny, Ondr 91.97 320 *e*P **P** **23 30 08.6 +0.9**
GOPC GO Pecny, Ondr 91.97 320 *e*P **P** **23 30 08.6 +0.9**
PRU Pruhonice 92.14 320 *e*P **P** **23 30 08.9 +0.5**
PRU Pruhonice 92.14 320 *e*P **P** **23 30 08.9 +0.5**
JAVS Javornik 92.16 316 *e*P **P** **23 30 08.7 0.0**
PVCC Panska Ves 92.16 320 *e*P **P** **23 30 09.3 +0.8**
PVCC Panska Ves 92.16 320 *e*P **P** **23 30 09.3 +0.8**
MOA Molln 92.16 318 *e*PcP **P** **23 30 09.0 +0.4**
comp=Z,6.5nm,0.9s
MOA *e*PP **PP** **23 33 49.8 +0.3**
comp=Z,3.6nm,0.9s
MYKA Terra Mystica 92.50 316 *e*PcP **P** **23 30 10.6 +0.3**
comp=Z,3.9nm,0.6s
BRG Berggiesshubel 92.58 321 *i* P **P** **23 30 10.9 +0.5**
comp=Z,15nm,0.8s
BRG Berggiesshubel 92.58 321 *i* P **P** **23 30 10.9 +0.5**
BRG pmax pmax
comp=Z,15nm,0.9s
GEA0 GERESS Array S 92.60 319 *e*P **P** **23 30 10.9 +0.2**
GEC2 GERESS Array S 92.61 319 *e*P **P** **23 30 11.3 +0.6**
GEC2 GERESS Array S 92.61 319 *e*P **P** **23 30 11.3 +0.6**
GERES GERESS Array B 92.61 319 P **P** **23 30 11.4 +0.7**
comp=Z,5.1nm,0.7s,baz=100,slow=3.2,SNR=46
GERES PP **PP** **23 33 46.3 -6.8**
comp=Z,1.2nm,0.8s,baz=90,slow=6.7,SNR=4.7
KHC Kasperske Hory 92.70 319 *e*P **P** **23 30 11.3 +0.2**
KHC Kasperske Hory 92.70 319 *e*P **P** **23 30 11.3 +0.2**
KHC Kasperske Hory 92.70 319 *e*P **P** **23 30 11.3 +0.2**
WET Wettzell 93.16 319 P **P** **23 30 13.8 +0.6**
WET pmax pmax
comp=Z,17nm,1.2s
CLL Collm 93.20 321 ||| *i* P **P** **23 30 13.4 +0.1**
comp=Z,12nm,1.2s
CLL Collm 93.20 321 *e*P **P** **23 30 13.7 +0.4**
CLL Collm 93.20 321 *e*P **P** **23 30 13.7 +0.4**
HFS Hagfors 93.28 330 P **P** **23 30 13.2 -0.3**
comp=Z,16nm,0.7s,baz=121,slow=5.5,SNR=36
HFS PP **PP** **23 33 55.9 -2.0**
comp=Z,12nm,0.9s,baz=98,slow=11,SNR=6.0
HFS LR LR 00 15 48.3
comp=Z,55nm,19.9s,baz=68,slow=38
ABTA Abfaltersbach 93.28 316 *i* P **P** **23 30 13.7 -0.2**
comp=Z,7.6nm,0.9s,SNR=5.7
NKC Novy Kostel 93.50 320 *e*P **P** **23 30 15.7 +1.0**
NKC Novy Kostel 93.50 320 *e*P **P** **23 30 15.7 +1.0**
SPITS Spitsbergen Ar 93.53 348 P **P** **23 30 13.6 -0.7**
comp=Z,3.6nm,0.4s,baz=101,slow=3.6,SNR=39
WTTA Wattenberg 93.91 317 *i* P **P** **23 30 16.6 -0.3**
comp=Z,14nm,1.1s
WTTA *e*PP **PP** **23 34 03.1 -0.3**
comp=Z,3.9nm,1.0s
WATA Walderalm 93.95 317 *e*P **P** **23 30 16.7 -0.3**
comp=Z,6.7nm,0.8s
WATA *e*PP **PP** **23 34 01.5 -2.1**
comp=Z,3.6nm,1.0s
MOX Moxa 94.05 320 P **P** **23 30 18.3 +1.1**
MOX pmax pmax
comp=Z,27nm,2.2s
GRFO Grafenberg 94.27 319 *e*P **P** **23 30 19.3 +1.0**
GRFO Grafenberg 94.27 319 *e*P **P** **23 30 19.3 +1.0**
MOTA Moosalm 94.27 317 *e*P **P** **23 30 18.2 -0.3**
comp=Z,9.1nm,0.8s,SNR=11
MOTA *e*PP **PP** **23 34 03.2 -3.0**
comp=Z,5.9nm,1.0s
RETA Reutte 94.51 317 *e*P **P** **23 30 19.3 -0.2**
comp=Z,9.4nm,0.8s
FETA Feichten 94.52 317 *e*PcP **P** **23 30 19.8 +0.1**
comp=Z,8.8nm,1.0s
NB2 NORSAR Subarra 94.53 331 P **P** **23 30 18.6 -0.7**
comp=Z,3.4nm,0.7s,baz=94,slow=4.6
NB2 NORSAR Subarra 94.53 331 P **P** **23 30 18.5 -0.7**
NB2 pmax pmax
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 94.53 331 P **P** **23 30 18.6 -0.7**
baz=94,slow=4.6
NOA NORSAR Array B 94.53 331 P **P** **23 30 18.9 -0.4**
comp=Z,5.5nm,0.7s,baz=93,slow=4.7,SNR=17
NOA PP **PP** **23 34 07.8 +0.1**
comp=Z,3.8nm,0.9s,baz=88,slow=7.6,SNR=4.3
NOA LR LR 00 16 55.0
comp=Z,51nm,20.9s,baz=95,slow=38
FUORN Ofenpass-Fuorn 94.83 316 *e*P **P** **23 30 22.1 +0.8**
DAVA Damuels 95.10 317 *e*PcP **P** **23 30 22.1 -0.3**
comp=Z,12nm,1.0s
DAVA *e*PP **PP** **23 34 09.9 -2.8**
comp=Z,4.3nm,0.9s
KEST Kesra 95.24 305 P **P** **23 30 24.7 +1.6**
comp=Z,12nm,0.9s,baz=264,slow=0.8,SNR=9.5
KEST Kesra 95.24 305 *e*P **P** **23 30 25.1 +2.0**
RAR Rarotonga 95.45 112 LR LR 00 09 36.4
comp=Z,30nm,21.1s,baz=260,slow=33
BFO Black Forest 96.15 318 *ce*P **P** **23 30 28.0 +1.1**
SENIN Lac Senin/Sane 96.87 316 *e*P **P** **23 30 31.3 +0.8**
TORD Torodi Ar. Bea 101.65 282 P **Pdif** **23 30 52.8 +0.5**
comp=Z,1.4nm,0.9s,baz=122,slow=2.7,SNR=6.3
TORD PP **PP** **23 35 09.1 +5.6**
comp=Z,1.0nm,1.0s,baz=64,slow=6.8,SNR=3.8
TORD PKKPbc **PKKPbc** **23 46 58.5 -0.4**
comp=Z,0.8nm,0.7s,baz=295,slow=3.9,SNR=7.6
ILAR Eielson Array 102.62 24 P **Pdif** **23 30 53.8 -1.6**
comp=Z,0.4nm,0.8s,baz=287,slow=4.6,SNR=3.3
ILAR PP PP 23 35 00.7 -8.5
comp=Z,2.2nm,1.1s,baz=282,slow=7.3,SNR=6.7
PPT2 Papeete2 105.50 110 *e*LR LR 00 06 09.9
comp=Z,131nm,23.8s
ESDC Sonseca Array 105.59 310 PP PP 23 35 28.2 -4.0
comp=Z,1.5nm,0.9s,baz=63,slow=7.5,SNR=5.4
RES Resolute Bay 109.05 5 PKiKP **PKiKP** **23 35 26.2 -1.5**
comp=Z,1.2nm,0.7s,baz=227,slow=4.2,SNR=4.0
YKA Yellowknife Ar 115.86 18 PKP **PKPdf** **23 35 39.9 -1.1**
comp=Z,2.4nm,0.9s,baz=316,slow=2.3,SNR=15
YKA PP **PP** **23 36 44.9 0.0**
comp=Z,1.3nm,0.9s,baz=319,slow=7.2,SNR=8.4
YKA PKKPab **PKKPab** **23 46 18.8 +0.7**
comp=Z,0.3nm,0.7s,baz=132,slow=4.0,SNR=5.9
EDM Edmonton 123.10 25 *e*PKPdf **PKPdf** **23 35 55.2 -0.1**
EDM Edmonton 123.10 25 *e*PKIKP **PKPdf** **23 35 55.2 -0.1**
I04A Tendick Farm, 124.24 38 P **PKPdf** **23 35 58.0 +0.3**
baz=302
FCC Fort Churchill 124.26 10 *e*PKPdf **PKPdf** **23 35 56.5 -0.7**
FCC Fort Churchill 124.26 10 *e*PKIKP **PKPdf** **23 35 56.5 -0.7**
HUMO Hull Mountain 124.51 40 *e*PKPdf **PKPdf** **23 35 58.5 +0.2**
NEW Newport 124.68 31 P **PKPdf** **23 35 59.8 +1.3**
baz=309
J04D Umpqua Nationa 124.72 39 P **PKPdf** **23 35 59.6 +0.7**
baz=301
M02C Callahan 125.18 41 P **PKPdf** **23 36 00.5 +0.8**
baz=300
J05D Fort Rock, OR 125.24 38 P **PKPdf** **23 36 00.9 +1.1**
baz=302
N02D Trinity Center 125.48 41 P **PKPdf** **23 36 00.8 +0.5**
baz=300
M04C Macdoel 125.64 40 P **PKPdf** **23 36 01.2 +0.5**
baz=301
FFC Flin Flon 126.02 17 *e*PKPdf **PKPdf** **23 36 00.6 -0.2**
FFC Flin Flon 126.02 17 *e*PKIKP **PKPdf** **23 36 00.6 -0.2**
O03D Paynes Creek 126.42 42 P **PKPdf** **23 36 02.3 +0.2**
baz=300
MSO Missoula 127.25 31 P **PKPdf** **23 36 03.5 0.0**
baz=312
SCHQ Schefferville 129.02 352 PKP **PKPdf** **23 36 06.4 -0.2**
comp=Z,4.7nm,0.3s,baz=28,slow=1.9,SNR=11
HLID Hailey 129.11 34 P **PKPdf** **23 36 07.9 +0.6**
baz=309
NVAR Mina Array Bea 129.70 42 PKhKP PKPpre 23 36 00.8
comp=Z,0.5nm,0.7s,baz=274,slow=2.2,SNR=3.8
NVAR PKP **PKPdf** **23 36 08.8 +0.2**
comp=Z,1.9nm,0.5s,baz=283,slow=2.5,SNR=17
NVAR SKPbc SKPab 23 39 23.2 -1.5
comp=Z,2.2nm,0.8s,baz=268,slow=4.2,SNR=7.6
CWC Cottonwood Cre 130.88 44 P **PKPdf** **23 36 11.2 +0.4**
baz=301
MPMC Manual Prospec 131.49 44 P **PKPdf** **23 36 13.0 +0.9**
baz=301
R11A Troy Canyon, C 131.53 41 P **PKPdf** **23 36 12.9 +0.8**
baz=305
LRMC Laurel Mtn Rad 131.64 45 P **PKPdf** **23 36 13.1 +0.8**
baz=300
EDW2 Edwards Air Fo 131.72 46 P **PKPdf** **23 36 13.2 +0.8**
baz=300
ULM Lac du Bonnet 131.73 16 PKP **PKPdf** **23 36 10.9 -0.8**
comp=Z,3.9nm,0.6s,baz=18,slow=2.7,SNR=10
ULM SKPbc **SKPbc** **23 39 29.5 -2.4**
comp=Z,9.9nm,0.9s,baz=358,slow=5.9,SNR=4.8
ULM Lac du Bonnet 131.73 16 PKIKP **PKPdf** **23 36 11.0 -0.8**
HWUT Hardware Ranch 131.98 35 *e*PKPdf **PKPdf** **23 36 13.6 +0.8**
DUG Dugway, Tooele 132.16 37 P **PKPdf** **23 36 14.4 +1.3**
baz=309
PDAR Pinedale Array 132.30 32 PKP **PKPdf** **23 36 12.1 -1.4**
comp=Z,1.3nm,0.6s,baz=75,slow=1.7,SNR=5.9
PDAR SKPbc **SKPbc** **23 39 33.9 -0.6**
comp=Z,3.1nm,0.9s,baz=294,slow=1.5,SNR=7.9
GSC Goldstone, Bar 132.35 45 P **PKPdf** **23 36 14.4 +0.8**
baz=301
SHOC Shoshone, Teco 132.41 44 P **PKPdf** **23 36 14.6 +1.1**
baz=302
A33A Warroad 133.05 16 P **PKPdf** **23 36 14.3 0.0**
baz=335
B32A Ashes, Strandq 133.21 17 P **PKPdf** **23 36 14.8 +0.1**
baz=333
C31A Landman Farms, 133.37 19 P **PKPdf** **23 36 14.8 -0.1**
baz=332
GMRC Granite Mounta 133.42 45 P **PKPdf** **23 36 17.4 +1.8**
baz=302
BELC Belle Mtn. Jos 133.59 46 P **PKPdf** **23 36 17.4 +1.4**
baz=301
B34A Aery, Baudette 133.67 16 P **PKPdf** **23 36 15.3 -0.2**
baz=336
RSSD Black Hills 134.00 27 P **PKPdf** **23 36 16.7 +0.1**
baz=322
B35A Bob, Littlefor 134.03 15 P **PKPdf** **23 36 15.5 -0.7**
baz=337
IRM Iron Mountain 134.11 45 P **PKPdf** **23 36 17.6 +0.8**
baz=302
BC3 Big Chuckawall 134.15 46 P **PKPdf** **23 36 18.0 +0.9**
baz=301
IKP In-Ko-Pah, Jac 134.18 47 P **PKPdf** **23 36 18.3 +1.2**
baz=300
SWSC Sam W. Stewart 134.26 47 P **PKPdf** **23 36 18.3 +1.2**
baz=300
C35A Jirik Farms, M 134.57 16 P **PKPdf** **23 36 16.5 -0.8**
baz=336
Y12C Blythe 134.76 45 P **PKPdf** **23 36 19.2 +1.2**
baz=302
O20A White River Ci 134.84 34 P **PKPdf** **23 36 18.5 +0.3**
baz=314
E33A Westby DABS, E 135.06 18 P **PKPdf** **23 36 19.2 +1.0**
baz=333
D35A Reer 135.11 16 P **PKPdf** **23 36 18.0 -0.3**
baz=336
C40A Isle Royale Na 135.49 11 P **PKPdf** **23 36 19.2 +0.3**
baz=343
F33A 5 Mile Ranch, 135.56 19 P **PKPdf** **23 36 18.0 -1.1**
baz=332
E36A McGregor 135.85 16 P **PKPdf** **23 36 19.0 -0.6**
baz=337
WUAZ Wupatki 135.92 41 *e*PKPdf **PKPdf** **23 36 20.4 +0.1**
G33A Ortonville 136.08 19 P **PKPdf** **23 36 20.7 +0.6**
baz=332
F36A Milaca 136.38 16 P **PKPdf** **23 36 20.9 +0.2**
baz=336
E39A Mellen 136.66 13 P **PKPdf** **23 36 21.1 0.0**
baz=341
F37A Hinrichs Farm, 136.75 16 P **PKPdf** **23 36 21.4 +0.1**
baz=338
G36A St. Michael 136.88 17 P **PKPdf** **23 36 22.0 +0.4**
baz=336
W18A Petrified Fore 137.22 40 P **PKPdf** **23 36 24.2 +1.4**
baz=308
S22A 4UR Ranch, Cre 137.28 35 P **PKPdf** **23 36 23.0 0.0**
baz=314
ECSD EROS Data Cent 137.31 21 P **PKPdf** **23 36 22.7 +0.2**
baz=331
G38A Ridgeland 137.47 15 P **PKPdf** **23 36 22.3 -0.4**
baz=338
G39A Holcombe 137.53 14 P **PKPdf** **23 36 22.3 -0.5**
baz=339
G40A Rib Lake 137.78 14 P **PKPdf** **23 36 23.7 +0.4**
baz=341
TUC Tucson 138.18 44 P **PKPdf** **23 36 24.9 +0.4**
baz=305
F45A CMU Biological 138.28 9 P **PKPdf** **23 36 24.7 +0.5**
baz=348
F46A Macinaw City C 138.30 8 P **PKPdf** **23 36 24.7 +0.5**
baz=349
G43A Wallace 138.33 11 P **PKPdf** **23 36 24.4 +0.1**
baz=344
H40A Chili 138.35 14 P **PKPdf** **23 36 24.2 -0.2**
baz=340
I42A Draeger Farm, 139.38 13 P PKPpre 23 36 16.4
baz=342
J42A Columbus 139.88 13 P PKPpre 23 36 19.2
baz=342
O33A Hebron 140.08 24 P PKPpre 23 36 21.8
baz=328
M37A Trindle Farm, 140.25 20 P PKPpre 23 36 20.0
baz=333
K41A Shullsburg 140.26 15 P PKPpre 23 36 21.4
baz=340
M38A Pleasantville 140.52 19 P PKPpre 23 36 20.5
baz=335
P34A Walnut Farm, R 140.83 24 P PKPpre 23 36 22.1
baz=328
L42A Oliver, Polo 140.99 15 P PKPpre 23 36 22.1
baz=340
M40A Post Highland 141.04 17 P PKPpre 23 36 21.9
baz=337
P35A Duane Minner, 141.17 23 P PKPpre 23 36 24.3
baz=330
N39A Derby Farms, D 141.23 18 P PKPpre 23 36 22.4
baz=335
Q34A Chapman 141.32 25 P PKPpre 23 36 23.4
baz=328
M41A Milan 141.35 16 P PKPpre 23 36 22.7
baz=339
M43A Waltham Townsh 141.70 14 P PKPpre 23 36 24.1
baz=341
R34A Isabella, Hill 141.71 26 P PKPpre 23 36 25.1
baz=327
Q35A Mercer Eighty, 141.74 24 P PKPpre 23 36 25.4
baz=329
P37A Latrop 141.75 21 P PKPpre 23 36 25.1
baz=332
O39A Kirksville 141.78 19 P PKPpre 23 36 25.8
baz=335
M44A Midewin, Midew 141.96 13 P PKPpre 23 36 25.0
baz=342
N42A Yates City 142.00 16 P PKPpre 23 36 25.3
baz=339
P38A Dawn 142.01 20 P PKPpre 23 36 25.1
baz=333
O40A La Belle 142.11 18 P PKPpre 23 36 25.7
baz=336
N43A Stutzman Famil 142.12 15 P PKPpre 23 36 25.8
baz=341
MNTX Cornudas Mount 142.20 41 P PKPpre 23 36 27.4
baz=310
MSTX Muleshoe 142.27 36 P PKPpre 23 36 27.6
baz=316
M46A Old House Fiel 142.30 11 P PKPpre 23 36 25.9
baz=345
P39B Salisbury 142.40 20 P PKPpre 23 36 26.9
baz=334
O41A Passleys Farm, 142.42 17 P PKPpre 23 36 26.7
baz=338
HDIL Hopedale 142.45 15 P PKPpre 23 36 27.3
baz=340
N44A Piper City 142.51 14 P PKPpre 23 36 28.0
baz=342
Q38A Cooks Store, C 142.57 21 P PKPpre 23 36 27.4
baz=333
N45A Kentland 142.60 13 P PKPpre 23 36 28.0
baz=343
P40A Paris 142.60 19 P PKPpre 23 36 27.6
baz=335
O43A Sugar Creek Fa 142.70 15 P PKPpre 23 36 28.5
baz=340
N46A Monticello 142.72 12 P PKPpre 23 36 27.7
baz=344
Q39A Willow Grove F 142.72 20 P PKPpre 23 36 27.6
baz=334
P41A Barry, Barry 142.77 18 P PKPpre 23 36 27.2
baz=337
T34A McClaskey Farm 142.80 27 P PKPpre 23 36 28.2
baz=326
O44A Mansfield 143.04 14 P PKPpre 23 36 28.9
baz=341
P42A Winchester 143.07 17 P PKPpre 23 36 29.0
baz=338
Q40A Laux Farm, Aux 143.07 19 P PKPpre 23 36 28.8
baz=335
O45A Potomac 143.12 13 P PKPab 23 36 28.9 +0.4
baz=343
SFIN Lafayette 143.13 12 P PKPab 23 36 29.3 +0.7
baz=344
SFIN Lafayette 143.13 12 *e*PKPdf PKPab 23 36 29.3 +0.7
R38A Fenwick Farm, 143.15 22 P PKPab 23 36 28.6 -0.1
baz=332
T35A Sooner Cattle 143.18 26 P PKPab 23 36 29.5 +0.6
baz=327
P43A Skaggs, Pawnee 143.25 16 P PKPab 23 36 29.4 +0.3
baz=340
R39A Chumby, Stover 143.35 21 P PKPab 23 36 29.8 +0.2
baz=333
Q41A Truxton 143.38 18 P PKPab 23 36 29.6 -0.1
baz=336
O47A Sheridan 143.46 11 P PKPab 23 36 30.1 +0.1
baz=345
N54A Moraine State 143.54 3 P PKPab 23 36 30.7 +0.5
baz=356
Q42A Golden Eagle 143.63 17 P PKPab 23 36 31.0 +0.3
baz=338
N59A State Game Lan 143.63 358 P PKPab 23 36 31.0 +0.4
baz=2.5
S38A Stockton 143.64 22 P PKPab 23 36 30.2 -0.6
baz=331
R40A Maddies Statio 143.64 20 P PKPab 23 36 30.5 -0.2
baz=334
P44A Sand Creek, Wi 143.64 15 P PKPbc 23 36 31.1 -0.4
baz=341
CPUP Villa Florida 143.80 211 PKP **PKPdf** **23 36 33.7 -1.0**
comp=Z,5.3nm,0.8s,baz=149,slow=4.3,SNR=13
P45A Graceland, Par 143.80 14 P PKPbc 23 36 31.7 -0.3
baz=342
S39A Bolivar 143.81 22 P PKPab 23 36 30.9 -0.5
baz=332
P46A Rosedale 143.84 13 P PKPab 23 36 31.7 +0.2
baz=343
Q43A New Douglas 143.85 16 P PKPbc 23 36 31.8 -0.3
baz=339
WMOK Wichita Mounta 143.88 31 P PKPab 23 36 31.5 -0.3
baz=322
WMOK Wichita Mounta 143.88 31 *e*PKPdf PKPab 23 36 31.6 -0.2
WMOK Wichita Mounta 143.88 31 *e*PKIKP PKPab 23 36 31.6 -0.2
R41A Rosebud 143.93 19 P PKPab 23 36 31.6 -0.3
baz=336
SSPA Standing Stone 143.94 1 P PKPbc 23 36 32.2 -0.2
baz=359
SSPA Standing Stone 143.94 1 *e*PKPdf PKPbc 23 36 32.2 -0.2
ACSO Alum Creek Sta 143.99 7 P PKPab 23 36 31.9 -0.1
baz=350
ACSO Alum Creek Sta 143.99 7 *e*PKPdf PKPab 23 36 32.0 0.0
T38A Diamond 144.01 23 P **PKPab** **23 36 31.7 -0.5**
baz=330
R42A Luebbering 144.13 18 P **PKPab** **23 36 32.2 -0.3**
baz=337
P47A Martinsville 144.17 12 P **PKPab** **23 36 32.5 -0.2**
baz=345
S40A Lebanon 144.18 21 P **PKPab** **23 36 32.3 -0.5**
baz=334
CCM Cathedral Cave 144.20 19 P **PKPab** **23 36 32.5 -0.3**
baz=336
CCM Cathedral Cave 144.20 19 *e*PKPdf **PKPab** **23 36 32.5 -0.3**
CCM Cathedral Cave 144.20 19 *e*PKIKP **PKPab** **23 36 32.5 -0.3**
O56A Blue Knob Stat 144.29 2 P **PKPab** **23 36 32.8 -0.4**
baz=358
Q45A Warren Harvey, 144.30 15 P **PKPab** **23 36 33.1 -0.1**
baz=341
TUL1 Leonard 144.34 26 P **PKPab** **23 36 33.0 -0.4**
baz=327
TUL1 Leonard 144.34 26 *e*PKPdf **PKPab** **23 36 33.4 -0.1**
T39A Clever 144.37 22 P **PKPab** **23 36 33.0 -0.5**
baz=332
Q46A CEJHS Indians, 144.37 13 P **PKPab** **23 36 32.8 -0.6**
baz=343
R43A Red Bud 144.40 17 P **PKPab** **23 36 32.9 -0.7**
baz=338
S41A Jillco Farms, 144.46 20 P **PKPab** **23 36 33.3 -0.5**
baz=335
T40A Mansfield 144.58 21 P **PKPab** **23 36 33.7 -0.6**
baz=333
S42A Caledonia 144.60 19 P **PKPab** **23 36 33.6 -0.7**
baz=336
Q47A Bedord North L 144.66 12 P **PKPab** **23 36 34.1 -0.4**
baz=344
R44A Waltonville 144.67 16 P **PKPab** **23 36 34.0 -0.5**
baz=340
R45A Skylar, Fairfi 144.84 15 P **PKPab** **23 36 34.7 -0.5**
baz=341
MCWV Mont Chateau 144.85 3 P **PKPab** **23 36 34.8 -0.3**
baz=356
TXAR Lajitas Array 144.85 42 PKP PKPbc 23 36 36.0 +0.2
comp=Z,36nm,0.6s,baz=285,slow=0.8,SNR=442
TXAR SKPbc **SKPbc** **23 40 08.4 -1.9**
comp=Z,1.9nm,0.8s,baz=343,slow=1.3,SNR=3.5
TXAR Lajitas Array 144.85 42 PKIKP PKPbc 23 36 36.0 +0.3
U39A Green Forest 144.90 23 P **PKPab** **23 36 34.5 -1.0**
baz=331
T41A Mountain View 144.94 20 P **PKPab** **23 36 35.0 -0.6**
baz=334
S43A Fulton Ridge, 145.01 18 P **PKPbc** **23 36 34.8 -1.0**
baz=338
ABTX Abilene, Hawle 145.04 34 P **PKPbc** **23 36 35.9 -0.2**
baz=319
ABTX Abilene, Hawle 145.04 34 *e*PKPbc **PKPbc** **23 36 36.1 -0.1**
R46A Gibon Southern 145.11 14 P **PKPbc** **23 36 35.5 -0.6**
baz=342
S44A Carbondale 145.14 17 P **PKPbc** **23 36 35.7 -0.5**
baz=339
U40A Yellville 145.16 22 P **PKPbc** **23 36 35.6 -0.8**
baz=332
T42A Van Buren 145.18 19 P **PKPbc** **23 36 35.8 -0.6**
baz=336
R47A Wooly Knot Far 145.26 13 P **PKPbc** **23 36 35.9 -0.7**
baz=344
R48A Northridge Ran 145.29 12 P **PKPbc** **23 36 36.4 -0.3**
baz=345
V39A Pettigrew 145.30 24 P **PKPbc** **23 36 35.9 -1.1**
baz=331
S45A Carrier Mills 145.34 16 P **PKPbc** **23 36 36.3 -0.5**
baz=340
WCI Wyandotte Cave 145.37 12 P **PKPbc** **23 36 36.5 -0.5**
baz=344
WCI Wyandotte Cave 145.37 12 *e*PKPbc **PKPbc** **23 36 36.5 -0.5**
WCI Wyandotte Cave 145.37 12 *e*PKIKP **PKPbc** **23 36 36.5 -0.5**
T43A Greenville 145.39 18 P **PKPbc** **23 36 36.1 -1.0**
baz=337
U41A Viola 145.51 21 P **PKPdf** **23 36 36.8 -0.5**
baz=334
S46A Don Dixon Farm 145.56 15 P **PKPdf** **23 36 36.8 -0.6**
baz=342
T44A Benton 145.60 17 P **PKPdf** **23 36 37.0 -0.5**
baz=338
V40A Witts Springs 145.66 23 P **PKPdf** **23 36 37.1 -0.6**
baz=332
U42A Revenden 145.74 20 P **PKPdf** **23 36 37.5 -0.2**
baz=335
W39A Magazine 145.81 24 P **PKPbc** **23 36 38.3 -0.2**
baz=330
V41A Mountainview 145.93 22 P **PKPdf** **23 36 37.9 -0.2**
baz=333
T45A Paducah 145.94 16 P **PKPbc** **23 36 38.5 -0.3**
baz=340
S48A Wiedeman Farm, 145.97 12 P **PKPdf** **23 36 38.2 +0.1**
baz=344
U43A Rector 146.01 19 P **PKPdf** **23 36 38.1 0.0**
baz=336
W40A Ferguson Farm, 146.10 23 P **PKPdf** **23 36 38.6 +0.3**
baz=331
U44A Portageville 146.11 18 P **PKPbc** **23 36 38.9 -0.4**
baz=338

T46A	**Princeton**	**146.12**	**15**	P	**PKPbc**	**23 36 38.9**	**-0.5**
	baz=341						
LCO	**Las Campanas**	**146.16**	**190**	*e*PKPdf	**PKPdf**	**23 36 39.4**	**+0.3**
LCO				*e*pPKPdf	**pPKPdf**	**23 36 55.9**	**-2.4**
V42A	**Cord**	**146.18**	**21**	P	**PKPdf**	**23 36 38.8**	**+0.3**
	baz=334						
X39A	**Fountain Ranch**	**146.25**	**25**	P	**PKPdf**	**23 36 39.3**	**+0.6**
	baz=329						
U44B	**Burton Farm, H**	**146.37**	**18**	P	**PKPbc**	**23 36 39.8**	**-0.3**
	baz=338						
T47A	**Sharon Grove**	**146.37**	**14**	P	**PKPbc**	**23 36 39.5**	**-0.6**
	baz=342						
CBN	**Corbin Frederi**	**146.37**	**0**	*e*PKPbc	**PKPbc**	**23 36 40.1**	**+0.1**
T48A	**Bowling Green**	**146.42**	**13**	P	**PKPbc**	**23 36 39.6**	**-0.7**
	baz=344						
W41B	**Gary Mavity, V**	**146.43**	**22**	P	**PKPdf**	**23 36 39.6**	**+0.7**
	baz=332						
MIAR	**Mount Ida**	**146.45**	**25**	P	**PKPbc**	**23 36 39.9**	**-0.5**
	baz=330						
MIAR	**Mount Ida**	**146.45**	**25**	*e*PKPbc	**PKPbc**	**23 36 39.8**	**-0.5**
MIAR	**Mount Ida**	**146.45**	**25**	*e*PKP2	**PKPbc**	**23 36 39.8**	**-0.6**
V43A	**Jonesboro**	**146.49**	**20**	P	**PKPbc**	**23 36 39.9**	**-0.5**
	baz=336						
JCT	**Junction City**	**146.52**	**37**	P	**PKPbc**	**23 36 40.5**	**-0.3**
	baz=316						
JCT	**Junction City**	**146.52**	**37**	*e*PKPdf	**PKPdf**	**23 36 39.6**	**+0.4**
JCT	**Junction City**	**146.52**	**37**	*e*PKP2	**PKPdf**	**23 36 39.7**	**+0.4**
U45A	**Rockin P Farm,**	**146.53**	**17**	P	**PKPbc**	**23 36 40.1**	**-0.5**
	baz=339						
V44A	**Blytheville**	**146.67**	**19**	P	**PKPbc**	**23 36 40.6**	**-0.3**
	baz=337						
U46A	**Springville**	**146.69**	**16**	P	**PKPbc**	**23 36 40.6**	**-0.4**
	baz=340						
WHTX	**Lake Whitney,**	**146.71**	**32**	P	**PKPbc**	**23 36 41.0**	**-0.2**
	baz=322						
WHTX	**Lake Whitney,**	**146.71**	**32**	*e*PKPdf	**PKPdf**	**23 36 40.3**	**+0.8**
X40A	**Basin Creek Fa**	**146.81**	**24**	P	**PKPbc**	**23 36 41.4**	**0.0**
	baz=331						
U47A	**Clarksville**	**146.84**	**15**	P	**PKPbc**	**23 36 40.8**	**-0.6**
	baz=342						
X41A	**Kaden, Bauxite**	**146.93**	**23**	P	**PKPbc**	**23 36 41.1**	**-0.6**
	baz=332						
U48A	**Cassie Pea, Po**	**146.96**	**14**	P	**PKPbc**	**23 36 41.3**	**-0.5**
	baz=343						
WVT	**Waverly**	**147.00**	**16**	P	**PKPbc**	**23 36 41.5**	**-0.4**
	baz=341						
Y40A	**Okolona**	**147.03**	**25**	P	**PKPbc**	**23 36 41.6**	**-0.5**
	baz=330						
V45A	**Humboldt**	**147.04**	**18**	P	**PKPbc**	**23 36 41.3**	**-0.7**
	baz=338						
V46A	**Holladay**	**147.23**	**16**	P	**PKPbc**	**23 36 41.7**	**-0.9**
	baz=340						
BLA	**Blacksburg**	**147.24**	**5**	*e*PKPdf	**PKPdf**	**23 36 40.6**	**+0.3**
BLA	**Blacksburg**	**147.24**	**5**	*e*PKIKP	**PKPdf**	**23 36 40.6**	**+0.3**
V47A	**Nunnelly**	**147.36**	**15**	P	**PKPbc**	**23 36 42.1**	**-0.9**
	baz=341						
Y41A	**Eaglette Beard**	**147.42**	**24**	P	**PKPbc**	**23 36 42.8**	**-0.4**
	baz=331						
W45A	**Hickory Valley**	**147.51**	**18**	P	**PKPbc**	**23 36 42.9**	**-0.4**
	baz=338						
TZTN	**Tazewell**	**147.52**	**9**	P	**PKPbc**	**23 36 42.6**	**-0.8**
	baz=348						
TZTN	**Tazewell**	**147.52**	**9**	*e*PKPbc	**PKPbc**	**23 36 42.8**	**-0.6**
435B	**Jarrell**	**147.57**	**34**	P	**PKPbc**	**23 36 42.4**	**-1.3**
	baz=320						
V48A	**Smith Brothers**	**147.63**	**14**	P	**PKPbc**	**23 36 42.7**	**-1.0**
	baz=342						
Z40A	**Long Farm, Mag**	**147.63**	**26**	P	**PKPbc**	**23 36 43.5**	**-0.3**
	baz=329						
W46A	**Michie**	**147.78**	**17**	P	**PKPbc**	**23 36 43.2**	**-0.8**
	baz=339						
Y42A	**Garnett, Star**	**147.79**	**23**	P	**PKPbc**	**23 36 43.9**	**-0.3**
	baz=332						
X44A	**Crenshaw**	**147.80**	**20**	P	**PKPbc**	**23 36 43.5**	**-0.6**
	baz=336						
Z41A	**Richland Creek**	**147.88**	**25**	P	**PKPbc**	**23 36 44.1**	**-0.3**
	baz=330						
W47A	**Westpoint**	**147.89**	**16**	P	**PKPbc**	**23 36 43.6**	**-0.8**
	baz=340						
OXF	**Oxford**	**148.03**	**19**	P	**PKPbc**	**23 36 43.9**	**-0.9**
	baz=337						
OXF	**Oxford**	**148.03**	**19**	*e*PKPdf	**PKPdf**	**23 36 41.9**	**+0.3**
OXF				*e*PKPbc	**PKPbc**	**23 36 44.5**	**-0.3**
OXF	**Oxford**	**148.03**	**19**	*e*PKIKP	**PKPdf**	**23 36 41.9**	**+0.3**
OXF				*e*		23 36 44.5	
Y43A	**Makayla and Ka**	**148.05**	**22**	P	**PKPbc**	**23 36 44.9**	**+0.1**
	baz=334						
140A	**Cam and Jess,**	**148.08**	**26**	P	**PKPbc**	**23 36 45.0**	**0.0**
	baz=328						
X45A	**UM Field Stati**	**148.12**	**19**	P	**PKPbc**	**23 36 44.3**	**-0.7**
	baz=337						
W48A	**Pulaski**	**148.17**	**15**	P	**PKPbc**	**23 36 44.2**	**-0.9**
	baz=342						
Z42A	**Norrel Spur, H**	**148.22**	**24**	P	**PKPbc**	**23 36 45.1**	**-0.2**
	baz=332						
X46A	**Booneville**	**148.25**	**18**	P	**PKPbc**	**23 36 44.4**	**-0.9**
	baz=338						
Y44A	**Strider, Charl**	**148.26**	**21**	P	**PKPbc**	**23 36 45.6**	**+0.2**
	baz=335						
833A	**Chaparral WMA,**	**148.30**	**39**	P	**PKPbc**	**23 36 44.0**	**-1.7**
	baz=315						
NATX	**Nacogdoches**	**148.31**	**29**	P	**PKPbc**	**23 36 45.6**	**0.0**
	baz=326						
NATX	**Nacogdoches**	**148.31**	**29**	*e*PKPdf	**PKPdf**	**23 36 42.9**	**+0.7**
NATX				*e*PKPbc	**PKPbc**	**23 36 46.2**	**+0.6**
141A	**Papa Simpson,**	**148.40**	**26**	P	**PKPbc**	**23 36 46.1**	**+0.3**
	baz=329						
X47A	**Russelville**	**148.50**	**17**	P	**PKPbc**	**23 36 45.2**	**-0.8**
	baz=340						
240A	**Hunter Patters**	**148.50**	**27**	P	**PKPbc**	**23 36 46.3**	**+0.2**
	baz=328						
Y45A	**Yeager Farm, C**	**148.58**	**20**	P	**PKPbc**	**23 36 45.8**	**-0.4**
	baz=336						
Y46A	**Houston**	**148.79**	**19**	P	**PKPbc**	**23 36 46.2**	**-0.5**
	baz=338						
X48A	**Hartselle**	**148.79**	**16**	P	**PKPbc**	**23 36 45.7**	**-1.0**
	baz=341						
Z44A	**Pea Ridge, Bel**	**148.80**	**21**	P	**PKPbc**	**23 36 46.8**	**0.0**
	baz=334						
142A	**Monroe**	**148.86**	**24**	P	**PKPbc**	**23 36 47.0**	**+0.1**
	baz=331						
241A	**Mo Tay, Goldon**	**148.90**	**26**	P	**PKPbc**	**23 36 47.8**	**+0.8**
	baz=329						
X49A	**Woodville**	**148.92**	**14**	P	**PKPbc**	**23 36 46.4**	**-0.7**
	baz=342						
143A	**Socs Landing,**	**148.94**	**23**	P	**PKPbc**	**23 36 47.7**	**+0.6**
	baz=332						
X50A	**Fort Payne**	**149.13**	**13**	P	**PKPbc**	**23 36 46.9**	**-0.8**
	baz=344						
KMSC	**Kings Mountain**	**149.21**	**6**	P	**PKPbc**	**23 36 47.1**	**-0.6**
	baz=352						
KMSC	**Kings Mountain**	**149.21**	**6**	*e*PKPbc	**PKPbc**	**23 36 47.0**	**-0.8**
Y48A	**Jasper**	**149.26**	**16**	P	**PKPbc**	**23 36 46.7**	**-1.2**
	baz=341						
CNNC	**Cliffs of the**	**149.33**	**1**	P	**PKPbc**	**23 36 48.3**	**+0.3**
	baz=359						
CNNC	**Cliffs of the**	**149.33**	**1**	*e*PKPbc	**PKPbc**	**23 36 48.7**	**+0.6**
341A	**Kurthwood**	**149.37**	**27**	P	**PKPbc**	**23 36 48.6**	**+0.3**
	baz=328						
Z46A	**Louisville**	**149.39**	**19**	P	**PKPbc**	**23 36 48.4**	**+0.1**
	baz=337						
Y49A	**Blount Mountai**	**149.52**	**15**	P	**PKPbc**	**23 36 47.8**	**-0.8**
	baz=342						
Y50A	**Piedmont**	**149.65**	**14**	P	**PKPbc**	**23 36 48.5**	**-0.5**
	baz=343						
Z48A	**Northport**	**149.66**	**17**	P	**PKPbc**	**23 36 47.8**	**-1.2**
	baz=340						
Z47A	**Carrollton**	**149.67**	**18**	P	**PKPbc**	**23 36 48.4**	**-0.6**
	baz=338						
244A	**Avery, Jackson**	**149.81**	**23**	P	**PKPbc**	**23 36 49.3**	**0.0**
	baz=333						
146A	**Union**	**149.86**	**20**	P	**PKPbc**	**23 36 49.6**	**+0.1**
	baz=336						
147A	**Livingston**	**150.09**	**19**	P	**PKPbc**	**23 36 49.6**	**-0.4**
	baz=338						
245A	**Little AP, Sta**	**150.11**	**22**	P	**PKPbc**	**23 36 50.3**	**+0.2**
	baz=334						
Z49A	**Columbiana**	**150.11**	**16**	P	**PKPbc**	**23 36 49.4**	**-0.7**
	baz=341						
LRAL	**Lakeview Retre**	**150.14**	**16**	P	**PKPbc**	**23 36 49.9**	**-0.2**
	baz=340						
LRAL	**Lakeview Retre**	**150.14**	**16**	*e*PKPbc	**PKPbc**	**23 36 49.6**	**-0.5**
Z50A	**Ashland**	**150.22**	**15**	P	**PKPbc**	**23 36 49.6**	**-0.7**
	baz=343						
344A	**Westbrook Farm**	**150.31**	**24**	P	**PKPbc**	**23 36 51.2**	**+0.6**
	baz=332						
148A	**Greensboro**	**150.33**	**18**	P	**PKPbc**	**23 36 50.9**	**+0.3**
	baz=339						
247A	**Quitman**	**150.55**	**20**	P	**PKPbc**	**23 36 51.5**	**+0.4**
	baz=337						
GOGA	**Godfrey**	**150.59**	**10**	P	**PKPbc**	**23 36 51.1**	**-0.1**
	baz=348						
GOGA	**Godfrey**	**150.59**	**10**	*e*PKPbc	**PKPbc**	**23 36 50.9**	**-0.3**
GOGA				*e*PKPab	**PKPab**	**23 36 57.6**	**-0.4**
GOGA	**Godfrey**	**150.59**	**10**	*e*PKIKP	**PKPbc**	**23 36 50.9**	**-0.3**
GOGA				*e*		23 36 57.6	
345A	**Thompson Farm,**	**150.71**	**23**	P	**PKPbc**	**23 36 51.8**	**+0.3**
	baz=334						
248A	**Dixon Mills**	**150.79**	**18**	P	**PKPbc**	**23 36 52.1**	**+0.4**
	baz=338						
150A	**Eclectic**	**150.80**	**15**	P	**PKPbc**	**23 36 51.6**	**-0.1**
	baz=342						
346A	**Big Creek Wild**	**150.85**	**22**	P	**PKPbc**	**23 36 51.7**	**-0.2**
	baz=335						
151A	**Opelika**	**151.06**	**14**	P	**PKPbc**	**23 36 52.3**	**-0.1**
	baz=343						
249A	**Camden**	**151.09**	**17**	P	**PKPbc**	**23 36 52.7**	**+0.2**
	baz=340						
348A	**Jackson**	**151.37**	**19**	P	**PKPbc**	**23 36 53.3**	**+0.2**
	baz=338						
251A	**Midway**	**151.45**	**14**	P	**PKPbc**	**23 36 53.3**	**0.0**
	baz=343						
349A	**Repton**	**151.65**	**18**	P	**PKPbc**	**23 36 54.5**	**+0.8**
	baz=339						
350A	**Dozier**	**151.84**	**16**	P	**PKPbc**	**23 36 54.6**	**+0.4**
	baz=341						
BRAL	**Brewton**	**151.87**	**18**	P	**PKPbc**	**23 36 55.0**	**+0.8**
	baz=339						
BRAL	**Brewton**	**151.87**	**18**	*e*PKPdf	**PKPdf**	**23 36 49.0**	**+1.2**
BRAL				*e*PKPbc	**PKPbc**	**23 36 55.0**	**+0.8**
351A	**Pinckard**	**152.18**	**15**	P	**PKPbc**	**23 36 55.2**	**+0.3**
	baz=342						
TIGA	**Tifton**	**152.49**	**12**	P	**PKPbc**	**23 36 56.0**	**+0.3**
	baz=346						
LPAZ	**La Paz**	**157.50**	**204**	PKP	**PKPdf**	**23 36 57.5**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=84,slow=2.2,SNR=7.5						
LPAZ				PKPab	**PKPab**	**23 37 28.8**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=144,slow=6.4,SNR=3.9						
SAML	**Samuel**	**160.62**	**227**	*e*PKPdf	**PKPdf**	**23 37 00.5**	**+0.8**
SAML				*e*pPKPdf	**pPKPdf**	**23 37 17.6**	**-1.4**
SDV	**Santo Domingo**	**171.99**	**304**	PKP	**PKPdf**	**23 37 07.2**	**-1.6**
	comp=Z,5.2nm,0.9s,baz=278,slow=2.4,SNR=5.4						
SDV				PKPab	**PKPab**	**23 38 31.5**	**-0.3**
	comp=Z,9.6nm,0.8s,baz=45,slow=6.1,SNR=8.7						
OTAV	**Otavalo**	**175.70**	**165**	*e*PKPdf	**PKPdf**	**23 37 10.4**	**-0.1**

MAN 04 23:20:09, 8.70N×126.48E, h16km, mb4.8, ML3.7, MS3.7, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.53**	**193**⇑	*i*P	Pn	23 20 23.6	+1.7
BIPH				*e*S	Sn	23 20 31.3	+0.8
BUTP	**Butuan**	**0.89**	**287**	*e*P	Pb	23 20 25.6	-0.5
BUTP				*e*S	Sn	23 20 39.1	-0.4
SCPH	**Surigao**	**1.45**	**318**⇑	*e*P	Pn	23 20 33.2	-1.5
SCPH				*e*S	Sn	23 20 51.1	-2.2
BUKP	**Musuan**	**1.63**	**240**	*e*P	Pn	23 20 37.0	-0.1
BUKP				*e*S	Sb	23 20 59.7	+0.6
MATI	**Mati**	**1.76**	**187**	*e*P	Pn	23 20 39.1	+0.2
MATI				*e*S	Sn	23 21 01.6	+0.6
MSLP	**Maasin**	**2.14**	**312**	*e*P	Pn	23 20 44.9	+0.7
MSLP				*e*S	Sn	23 21 09.4	-1.0
CTBH	**Cotabato--PC H**	**2.66**	**237**⇓	*i*P	Pn	23 20 50.8	-0.5
TBP	**Tagbilaran**	**2.77**	**291**	*e*P	Pn	23 20 54.5	+1.8
TBP				*i* S	Sn	23 21 27.0	+1.2
PLP	**Palo**	**2.86**	**329**⇓	*e*P	Pn	23 20 52.7	-1.3
PLP				*e*S	Sn	23 21 25.4	-2.7
LLP	**Lapu-Lapu**	**2.96**	**303**	*e*P	Pn	23 20 56.1	+0.8
LLP				*e*S	Sn	23 21 32.6	+2.1
OCLP	**Ormoc**	**2.98**	**322**	*e*P	Pn	23 20 47.1	-8.5
BESP	**Borongan**	**3.06**	**340**	*e*P	Pn	23 20 58.9	+2.2
BESP				*e*S	Sn	23 21 31.5	-1.5
PAGZ	**Pagadian**	**3.18**	**255**	*e*P	Pn	23 20 58.6	+0.1
RCP	**Roxas**	**4.65**	**308**⇓	*e*P	Pn	23 21 20.1	+1.4
RCP				*e*S	Sb	23 22 30.7	+4.7

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*CSEM **04** 23:27:42.0±0.2, 67.20N×20.71E, h2km, ML1.5, Error ellipse: s-maj=5.2km s-min=3.7km az=71.0, Mining explosion.*
*HEL **04** 23:27:42.6±0.1, 67.19N×20.66E, h0km, ML1.5, ML2.0(UPP), Explosion*
UPP 04 23:27:42.0, 67.20N×20.68E, h0km, ML2.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**210**	P	Pg	23 27 43.9	+0.3
DUNU				S	Sg	23 27 45.1	+0.3
DUNU	**Dundret**	**0.09**	**210**	P	Pg	23 27 44.0	+0.3
DUNU				S	Sg	23 27 45.1	+0.4
DUNU	**Dundret**	**0.09**	**210**	*i* P	Pg	23 27 44.0	+0.3
DUNU				*i* S	Sg	23 27 45.1	+0.4
MASU	**Masugnsbyn**	**0.57**	**62**	P	Pg	23 27 53.1	+0.1
MASU				S	Sg	23 28 00.8	+0.4
MASU	**Masugnsbyn**	**0.57**	**62**	P	Pg	23 27 53.1	+0.1
MASU				S	Sg	23 28 00.8	+0.4
MASU	**Masugnsbyn**	**0.57**	**62**	*i* P	Pg	23 27 53.1	+0.1
MASU				*i* S	Sg	23 28 00.8	+0.4
KUA	**Kurravaara**	**0.77**	**350**	P	Pg	23 27 56.2	-0.6
KUA	**Kurravaara**	**0.77**	**350**	P	Pg	23 27 56.2	-0.5
KUA	**Kurravaara**	**0.77**	**350**	*i* P	Pg	23 27 56.2	-0.5
ERTU	**Ertsjaerv**	**0.88**	**137**	P	Pg	23 27 58.0	-0.8
ERTU	**Ertsjaerv**	**0.88**	**137**	P	Pg	23 27 58.0	-0.8
ERTU	**Ertsjaerv**	**0.88**	**137**	*e*P	Pg	23 27 57.9	-0.9
	baz=325						
NIKU	**Nikkaluokta**	**0.92**	**318**	P	Pg	23 27 59.5	-0.2
NIKU	**Nikkaluokta**	**0.92**	**318**	P	Pg	23 27 59.5	-0.2
NIKU	**Nikkaluokta**	**0.92**	**318**	*e*P	Pg	23 27 59.5	-0.2
PAJU	**Pajala**	**0.97**	**99**	P	Pg	23 27 59.8	-0.7
PAJU	**Pajala**	**0.97**	**99**	P	Pg	23 27 59.8	-0.7
PAJU	**Pajala**	**0.97**	**99**	*e*P	Pg	23 27 59.8	-0.7
LANU	**Lannavaara**	**0.99**	**30**	P	Pg	23 28 00.5	-0.5
LANU	**Lannavaara**	**0.99**	**30**	P	Pg	23 28 00.5	-0.5
LANU	**Lannavaara**	**0.99**	**30**	*e*P	Pg	23 28 00.5	-0.5
LANU				*e*S	Sg	23 28 10.0	-3.9
KALU	**Kalix**	**1.72**	**140**	P	Pn	23 28 13.0	-0.1
KALU				Sn	Sb	23 28 36.1	-0.4
KALU	**Kalix**	**1.72**	**140**	P	Pn	23 28 13.0	-0.1
KALU	**Kalix**	**1.72**	**140**	*e*P	Pn	23 28 13.0	-0.1
KALU				*e*SN	Sb	23 28 36.1	-0.3
SJUU	**Sjulsmark**	**1.74**	**167**	P	Pn	23 28 13.2	-0.1
SJUU	**Sjulsmark**	**1.74**	**167**	P	Pn	23 28 13.2	-0.2
SJUU	**Sjulsmark**	**1.74**	**167**	*e*P	Pn	23 28 13.2	-0.2
KIF	**Kilpisjarvi**	**1.82**	**1**	Pn	Pb	23 28 15.5	-0.5
KIF				Sg	Sg	23 28 40.5	+0.2
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*PN	Pb	23 28 15.5	-0.5
	baz=183						
KIF				MSG		23 28 37.9	
	comp=Z,3.3nm,0.2s						
KIF				*e*SG	Sg	23 28 40.5	+0.2
TOF	**Tornio**	**1.84**	**126**	P	Pn	23 28 15.0	+0.3
TOF				Sn	Sb	23 28 40.1	+0.3
TOF	**Tornio**	**1.84**	**126**	*e*P	Pn	23 28 15.1	+0.4
TOF				MSG		23 28 36.9	
	comp=Z,2.6nm,0.2s						
TOF				*e*SN	Sb	23 28 40.1	+0.3
LILU	**Lilltraesk**	**1.95**	**190**	P	Pn	23 28 16.6	+0.3
LILU	**Lilltraesk**	**1.95**	**190**	P	Pn	23 28 16.6	+0.4
LILU	**Lilltraesk**	**1.95**	**190**	*e*P	Pn	23 28 16.6	+0.4
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pb	23 28 22.4	-1.5
SGF				*e*SG	Sb	23 28 53.3	+0.7
ARE0	**ARCESS Array S**	**2.95**	**35**	P	Pn	23 28 30.5	+0.4
ARE0	**ARCESS Array S**	**2.95**	**35**	*e*P	Pn	23 28 30.5	+0.4
ARE0				*e*SB	Sb	23 29 10.8	-1.2
KU6	**Riekki**	**3.86**	**103**	*e*PG	Pb	23 28 52.7	+1.9
KU6				*e*SG	Sg	23 29 43.5	-2.2

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*BJI **04** 23:33:36.7, 51.79N×95.83E, h10km, mb4.2/26, mB4.5/17, ML4.7/1, Ms4.1/20, Ms7 4.0/21*
*IDC **04** 23:33:37.9±0.6, 51.62N×96.12E, h0km, mb4.1/20, mb1 4.1/24, mb1mx3.9/71, mbtmp4.0/24, ML3.3/5, MS3.5/6, Ms1 3.5/6, ms1mx3.0/61, Error ellipse: s-maj=13.5km s-min=9.7km az=2.0*
*MOS **04** 23:33:38.2±1.2, 51.62N×96.08E, h8km, mb4.6/20, Error ellipse: s-maj=7.4km s-min=5.8km az=27.7*
*ISCJB **04** 23:33:39.1±0.2, 51.62N±0.03×95.94E±0.04, h10km, mb4.2/43, MS3.7/5, Error ellipse: s-maj=4.9km s-min=3.2km az=15.0*
*ASRS **04** 23:33:39.5±0.5, 51.70N×96.04E, h15km, Ms4.1/3*
*NEIC **04** 23:33:40.4±0.3, 51.62N×95.94E, h10km, mb4.5/8, Error ellipse: s-maj=9.1km s-min=5.3km az=5.0*
ISC 04 23:33:40.8±0.3**, 51.78N**±0.04×**95.93E**±0.03**, h10km, n151,** σ**2.02**/174**, mb4.3**/56**, MS3.8**/6**, 6C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.63**	**9**	PG	**Pg**	**23 33 53.0**	**-0.1**
KZLR	**Kyzyl**	**0.92**	**266**	*i* Pg	**Pg**	**23 33 57.0**	**-1.6**
KZLR				*e*Sg	**Sg**	**23 34 10.2**	**-0.4**
HVS	**Khovu-Aksy**	**1.54**	**246**⇓	*i*P	Pn	23 34 02.3	-6.1
HVS	**Khovu-Aksy**	**1.54**	**246***d*	*i*PN	Pn	23 34 02.2	-6.2
ORL	**Orlik**	**2.51**	**71**	*e*PN	**Pn**	**23 34 22.6**	**+0.8**
ORL				*e*		23 34 54.8	
ORL				pmax	pmax		
	comp=Z,403nm,0.3s						
ORL				smax	smax		
	comp=N,2μm,1.0s						
CERR	**Cheremushki**	**2.98**	**293**	PN	**Pn**	**23 34 29.6**	**+1.5**
CERR	**Cheremushki**	**2.98**	**293**	*i* Pn	**Pn**	**23 34 29.8**	**+1.7**
CERR				*e*Pg	**Pb**	**23 34 34.6**	**+0.7**
CERR				*e*Sg	**Sg**	**23 35 13.9**	**-2.4**
MOY	**Mondy**	**3.15**	**90**	*e*P	**Pn**	**23 34 32.8**	**+2.2**
MOY	**Mondy**	**3.15**	**90**	*e*PN	**Pn**	**23 34 32.8**	**+2.2**
MINR	**Mina**	**3.30**	**342**	PN	**Pn**	**23 34 35.8**	**+3.3**
TEL	**Teeli**	**3.67**	**260**	PN	**Pn**	**23 34 39.1**	**+1.4**
VEH	**Verkhnyaya Baz**	**3.73**	**296**	PN	**Pn**	**23 34 40.4**	**+1.8**
ARS	**Arshan**	**4.03**	**85**	*e*PN	**Pn**	**23 34 41.2**	**-1.4**
ARS				*e*		23 34 50.1	
ARS				*e*		23 35 41.5	
ARS				pmax	pmax		
	comp=Z,306nm,0.5s						
ARS				smax	smax		
	comp=E,5μm,0.8s						
LUZB	**Luzhba, Kemero**	**4.67**	**297**	*e*PN	**Pn**	**23 34 53.0**	**+1.6**
TLY	**Talaya**	**4.79**	**88**	Pn	**Pn**	**23 34 54.8**	**+1.7**
TLY	**Talaya**	**4.79**	**88**	*e*PN	**Pb**	**23 35 02.6**	**-2.3**
TLY				*e*		23 36 03.7	
TLY				pmax	pmax		
	comp=Z,57nm,0.6s						
ZAK	**Zakamensk**	**4.84**	**104**	*e*PN	**Pb**	**23 35 02.0**	**-3.7**
ZAK				*e*		23 36 04.6	
ZAK				pmax	pmax		
	comp=Z,155nm,0.4s						
ZAK				smax	smax		
	comp=N,833nm,0.7s						
TASR	**Tashtagol**	**5.04**	**284**	PN	**Pn**	**23 34 58.0**	**+1.5**
TASR	**Tashtagol**	**5.04**	**284**	*e*Pn	**Pn**	**23 34 57.7**	**+1.2**
TASR				*e*Pg	**Pb**	**23 35 11.1**	**+2.0**
TASR				*e*Sg	**Sg**	**23 36 18.9**	**-3.7**
CUR	**Chagan-Uzun**	**5.08**	**254**	PN	**Pn**	**23 34 58.5**	**+1.4**
IRK	**Irkutsk**	**5.17**	**82**	*e*PN	**Pb**	**23 35 09.5**	**-1.8**
IRK				*e*		23 36 14.8	
IRK				pmax	pmax		
	comp=Z,120nm,0.1s						
IRK				smax	smax		
	comp=E,2μm,0.8s						
ARTR	**Artybash**	**5.37**	**274**	PN	**Pn**	**23 35 03.0**	**+2.0**
ARTR	**Artybash**	**5.37**	**274**	*e*Pn	**Pn**	**23 35 02.2**	**+1.2**
ARTR				*e*Pg	**Pb**	**23 35 18.3**	**+3.6**
ARTR				*e*Sg	**Sg**	**23 36 28.8**	**-4.4**
AKAR	**Aktash**	**5.44**	**258**	PN	**Pn**	**23 35 04.8**	**+2.7**
AKAR	**Aktash**	**5.44**	**258**	*e*Pn	**Pn**	**23 35 03.5**	**+1.4**
AKAR				*e*Pg	**Pb**	**23 35 20.8**	**+4.8**
AKAR				*e*Sg	**Sb**	**23 36 28.6**	**+7.2**
CHBI	**Chibit, Altay**	**5.52**	**258**	PN	**Pn**	**23 35 05.6**	**+2.5**
ELT	**Eltsovka**	**6.10**	**288**	*e*PN	**Pn**	**23 35 12.8**	**+1.8**
ELT	**Eltsovka**	**6.10**	**288**	*e*Pn	**Pn**	**23 35 14.0**	**+3.0**
ELT				*e*Pg	**Pb**	**23 35 29.1**	**+2.0**
ELT				*e*Sg	**Sg**	**23 36 50.3**	**-6.3**
TRG	**Tyrgan**	**6.47**	**77**	*e*PN	**Pn**	**23 35 13.4**	**-2.7**
TRG				*e*		23 35 31.3	
SALR	**Pechorkino, Sa**	**6.71**	**297**	PN	Pb	23 35 31.8	-5.6
ZAA0	**Zalesovo Array**	**7.07**	**292**	*e*Pn	**Pn**	**23 35 26.9**	**+2.6**
ZALV	**Zalesovo Beam**	**7.07**	**292**	Pn	**Pn**	**23 35 24.2**	**-0.1**
	comp=E,2.6nm,0.3s,baz=96,slow=14,SNR=28						
ZALV				Sn	**Sn**	**23 36 42.6**	**-2.1**
	comp=E,2.8nm,0.3s,baz=118,slow=25,SNR=3.6						
ZALV				Lg	Lg	23 37 20.9	
	comp=E,8.9nm,0.3s,baz=120,slow=26,SNR=8.2						
ZALV				LR	LR	23 38 14.7	
	comp=E,235nm,18.1s,baz=75,slow=38						
ZALV	**Zalesovo Beam**	**7.07**	**292**	*e*Pn	**Pn**	**23 35 25.7**	**+1.4**
ZALV				Sn	**Sn**	**23 36 42.6**	**-2.1**
ZALV	**Zalesovo Beam**	**7.07**	**292**	*e*P	**Pn**	**23 35 25.7**	**+1.4**
ZALV						23 36 42.6	
OGRR	**Ongureny**	**7.33**	**71**	*e*P	**Pn**	**23 35 28.5**	**+0.7**
OGRR				pmax	pmax		
	comp=Z,30nm,1.0s						
SONM	**Songino Array**	**7.83**	**116**	Pn	**Pn**	**23 35 32.5**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=300,slow=14,SNR=4.8						
SONM				Pg	**Pb**	**23 35 56.0**	**-0.7**
	comp=Z,3.1nm,0.3s,baz=304,slow=18,SNR=40						
SONM				Lg	Lg	23 37 41.0	
	comp=Z,20nm,0.3s,baz=289,slow=31,SNR=17						
ULN	**Ulaanbaatar**	**8.19**	**114**	*e*Pn	**Pn**	**23 35 37.7**	**-2.0**
ULN	**Ulaanbaatar**	**8.19**	**114***c*	*e*P	**Pn**	**23 35 41.9**	**+2.1**
ULN				pmax	pmax		
	comp=Z,12nm,0.7s						
NVS	**Novosibirsk**	**8.20**	**297**	*e*P	**Pn**	**23 35 41.9**	**+2.1**
NVS	**Novosibirsk**	**8.20**	**297**	*e*Pn	**Pn**	**23 35 42.1**	**+2.4**
NVS				*e*Pg	Pg	23 36 11.9	-5.8
NVS				*e*Sg	**Sg**	**23 38 00.2**	**-3.6**
WMQ	**Urumqi**	**9.69**	**218**	P	**Pn**	**23 36 00.5**	**+0.2**
WMQ				S	**Sn**	**23 37 46.1**	**-3.1**
MK31	**Makanchi Array**	**10.21**	**246**	*e*Pn	**Pn**	**23 36 07.2**	**-0.1**
MK31	**Makanchi Array**	**10.21**	**246**	*e*P	**Pn**	**23 36 07.2**	**-0.1**
MKAR	**Makanchi Array**	**10.21**	**246**	Pn	**Pn**	**23 36 06.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=51,slow=16,SNR=15						
MKAR				Sn	**Sn**	**23 37 58.8**	**-3.0**
	comp=Z,2.7nm,0.3s,baz=65,slow=26,SNR=8.4						
MKAR				Lg	Lg	23 39 03.2	
	comp=Z,2.3nm,0.3s,baz=50,slow=28,SNR=7.1						
MKAR	**Makanchi Array**	**10.21**	**246**	*e*Pn	**Pn**	**23 36 07.2**	**-0.1**
MKAR				Sn	**Sn**	**23 37 58.8**	**-3.0**
MKAR	**Makanchi Array**	**10.21**	**246**	*e*P	**Pn**	**23 36 11.9**	**+4.6**
MK01	**Makanchi Array**	**10.22**	**246**	*e*Pn	**Pn**	**23 36 07.3**	**-0.2**
MAKZ	**Makanchi**	**10.38**	**247**	*e*Pn	**Pn**	**23 36 09.8**	**+0.1**
MAKZ	**Makanchi**	**10.38**	**247**	*e*P	**Pn**	**23 36 09.8**	**+0.1**
KURK	**Kurchatov**	**10.91**	**271**	*i* P	**Pn**	**23 36 17.7**	**+0.9**
BOD	**Bodaibo**	**12.04**	**53**	*e*P	**Pn**	**23 36 31.3**	**-0.9**
GTA	**Gaotai**	**12.66**	**166**	P	**Pn**	**23 36 41.0**	**0.0**
GTA				pP		23 36 44.6	
GTA				sP		23 36 48.1	
GTA				S	**Sn**	**23 39 04.2**	**+2.2**
GTA				sS		23 39 11.1	
GTA				SS	**SnSn**	**23 39 21.5**	**+7.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,99nm,5.7s						
GTA				LR	LR		
	comp=Z,750nm,9.0s						
GTA				LR	LR		
	comp=Z,1μm,8.9s						
GTA				LR	LR		
	comp=Z,800nm,10.0s						
PRZ	**Przheval'sk**	**15.09**	**239**	P	**Pn**	**23 37 13.6**	**-0.6**
HHC	**Hu-ho-hao-te**	**15.33**	**129**	*e*P	**Pn**	**23 37 15.6**	**-1.6**
HHC				sP	P	23 37 22.3	+0.3
HHC				PP	**sP**	**23 37 33.0**	**+6.9**
HHC				S	**Sn**	**23 40 05.7**	**-1.3**
HHC				sS	S	23 40 11.2	-12
HHC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,92nm,4.4s						
HHC				LR	LR		
	comp=Z,390nm,8.2s						
HHC				LR	LR		
	comp=Z,290nm,7.1s						
HHC				LR	LR		
	comp=Z,510nm,8.6s						
HIA	**Hailar**	**15.33**	**90**	*i* P	**P**	**23 37 21.6**	**-0.3**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BVAR	**Borovoye Array**	**15.62**	**285**	Pn	**Pn**	**23 37 19.5**	**-1.3**

comp=Z,0.3nm,0.3s,baz=94,slow=14,SNR=9.4
BVAR LR LR 23 43 38.4
comp=Z,79nm,18.1s,baz=30,slow=38
BRVK Borovoye 15.68 285 *e*Pn **Pn 23 37 21.5 -0.1**
comp=Z,9.7nm,0.6s
BRVK Borovoye 15.68 285 *ce*P **Pn 23 37 23.5 +1.9**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
LZH Lanzhou 16.67 157 *e*P **Pn 23 37 33.2 -1.4**
LZH pP P 23 37 35.1 -1.9
LZH sP pP 23 37 36.3 -3.5
LZH PP **PnPn 23 37 45.1 +1.3**
LZH SS **S 23 40 52.4 +1.3**
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,200nm,4.3s
LZH LR LR
comp=Z,870nm,10.6s
LZH LR LR
comp=Z,730nm,11.7s
LZH LR LR
comp=Z,970nm,12.1s
AAK Ala-Archa 17.14 246 Pn **Pn 23 37 38.7 -1.8**
comp=Z,0.1nm,0.3s,baz=46,slow=13,SNR=2.8
AAK Lg Lg 23 42 43.4
comp=Z,0.1nm,0.3s,baz=277,slow=17,SNR=4.5
AAK Ala-Archa 17.14 246 *i*P **Pn 23 37 37.9 -2.6**
AAK pmax pmax
comp=Z,7.0nm,2.1s
KSH Kashi 18.50 236 *e*P **Pn 23 38 02.1 +4.8**
KSH S **S 23 41 28.1 -0.1**
KSH pmax pmax
comp=Z,2.0nm,0.7s
KSH pmax pmax
comp=Z,76nm,5.9s
KSH LR LR
comp=Z,130nm,7.6s
KSH LR LR
comp=Z,150nm,9.5s
KSH LR LR
comp=Z,150nm,8.1s
KKAR Karatay Array 19.18 253 *e*P **P 23 38 03.7 -0.8**
KKAR Karatay Array 19.18 253 *e*P **P 23 38 03.7 -0.8**
SVE Sverdlovsk 21.04 298↑ *e*P **P 23 38 25.0 +0.4**
SVE pmax pmax
comp=Z,20nm,0.9s
CD2 Chengdu 21.64 161 P **P 23 38 29.5 -1.7**
CD2 pP pP 23 38 33.7 -0.3
CD2 sP sP 23 38 35.8 +0.5
CD2 S **S 23 42 27.5 -3.2**
CD2 sS sS 23 42 34.6 -0.6
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.6s
CD2 LR LR
comp=Z,550nm,9.7s
CD2 LR LR
comp=Z,680nm,10.3s
CD2 LR LR
comp=Z,550nm,9.1s
ARU Arti 22.20 297 P **P 23 38 37.5 +0.4**
comp=Z,9.3nm,0.7s,baz=95,slow=7.0,SNR=17
ARU LR LR 23 48 26.9
comp=Z,120nm,21.0s,baz=72,slow=40
ARU Arti 22.20 297 *e*P **P 23 38 36.9 -0.2**
comp=Z,17nm,0.8s
ARU Arti 22.20 297 *c i*P **P 23 38 36.2 -0.9**
ARU 23 38 58.0
ARU S **S 23 42 40.6 -0.7**
ARU pmax pmax
comp=Z,29nm,1.7s
ARU MLR MLR
comp=Z,210nm,15.0s
KLR Kul'dur 22.78 82 P **P 23 38 44.5 +1.2**
comp=Z,0.1nm,0.7s,baz=277,slow=8.9,SNR=4.1
KLR Kul'dur 22.78 82 *i*P **P 23 38 45.9 +2.6**
AKTO Aktyubinsk 23.67 282 P **P 23 38 51.8 -0.5**
comp=Z,7.2nm,0.5s,baz=83,slow=8.8,SNR=28
TIXI Tiksi 24.71 24 P **P 23 39 00.6 -1.1**
comp=Z,21nm,0.8s,baz=239,slow=6.8,SNR=25
TIXI Tiksi 24.71 24 *e*P **P 23 39 01.0 -0.8**
comp=Z,18nm,0.8s
TIXI Tiksi 24.71 24 *e*P **P 23 39 04.3 +2.6**
TIXI pmax pmax
comp=Z,16nm,0.7s
NJ2 Nanjing 25.87 131 *e*P **P 23 39 11.1 -1.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KSAR Wonju Array Be 26.62 110 P **P 23 39 17.9 -1.4**
KSAR Wonju Array Be 26.62 110 P **P 23 39 17.9 -1.4**
KSRS Korea Array 26.64 110 P **P 23 39 17.9 -1.6**
comp=Z,1.1nm,0.7s,baz=322,slow=10,SNR=3.1
KMI Kunming 27.12 166 P **P 23 39 23.7 -0.4**
KMI pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 32.98 175 *e*P **P 23 40 13.3 -2.5**
comp=Z,4.1nm,1.1s
CHTO Chiang Mai 32.98 175 *e*P **P 23 40 13.3 -2.5**
CHTO pmax pmax
comp=Z,4.0nm,1.1s
VRH Novokhopyorsk 33.11 291 *e*P **P 23 40 15.6 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.7s
CMAR Chiang Mai Arr 33.33 175 P **P 23 40 16.6 -2.3**
comp=Z,0.5nm,0.4s,baz=350,slow=10,SNR=5.0
LPSR Galich'ya Gora 34.18 294 *e*P **P 23 40 29.2 +3.3**
LPSR pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 34.58 292 *e*P **P 23 40 29.2 -0.2**
VSR pmax pmax
comp=Z,5.0nm,0.5s
OBN Obninsk 34.59 299 *i*P **P 23 40 30.3 +0.9**
OBN *i* 23 41 47.0
OBN *i* 23 43 05.7
OBN pmax pmax
comp=Z,10.0nm,1.2s
OBN MLR MLR
comp=Z,117nm,16.0s
NCK Nalchik 35.54 278 *i*P **P 23 40 38.1 +0.2**
NCK pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 35.86 279 *e*P **P 23 40 41.1 +0.5**
KIV pmax pmax
comp=Z,9.0nm,1.1s
NEY Neytrino 36.21 278 *i*P **P 23 40 45.8 +2.0**
NEY pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 36.22 326 P **P 23 40 43.5 +0.1**
comp=Z,4.8nm,1.0s,baz=71,slow=9.1,SNR=6.0
FINES FINESS Array B 37.81 313 P **P 23 40 57.3 +0.4**
comp=Z,2.3nm,0.6s,baz=79,slow=8.2,SNR=20
FINES FINESS Array B 37.81 313 *ce*P **P 23 40 57.2 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.6s
VSU Vasula 38.50 308 *i*P **P 23 41 03.2 +0.4**
VSU pmax pmax
comp=Z,23nm,0.6s
IDID Didziasalis 39.73 303 *e*P **P 23 41 13.5 +0.5**
IDID IAmb IAmb 23 41 14.2
comp=Z,3.6nm,0.6s
IZAR Zarasai 39.80 304 *e*P **P 23 41 14.2 +0.5**
IZAR IAmb IAmb 23 41 15.4
comp=Z,7.2nm,0.6s
ISAL Salakas 39.94 304 *e*P **P 23 41 15.2 +0.4**
ISAL IAmb IAmb 23 41 16.6
comp=Z,3.8nm,0.7s
IIGN Ignalina 39.98 304 *e*P **P 23 41 15.7 +0.5**
IIGN IAmb IAmb 23 41 17.0
comp=Z,4.1nm,0.6s
AKASG Malin Array Be 40.45 296 P **P 23 41 18.7 -0.4**
comp=Z,1.9nm,0.6s,baz=55,slow=9.0,SNR=9.8
KIEV Kiev 40.46 296 *i*P **P 23 41 21.1 +1.9**
KIEV pmax pmax
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 43.81 280 *e*P **P 23 41 47.6 +0.7**
BRTR Keskin Array B 43.82 280 P **P 23 41 47.5 +0.7**
comp=Z,4.0nm,1.0s,baz=77,slow=3.3,SNR=14
HFS Hagfors 43.91 314 P **P 23 41 47.2 0.0**
comp=Z,3.0nm,0.7s,baz=69,slow=8.1,SNR=16
BR231 Keskin MP Arra 44.27 280 *e*P **P 23 41 48.2 -2.3**
NB2 NORSAR Subarra 44.57 316 P **P 23 41 51.7 -0.9**
comp=Z,2.7nm,0.6s,baz=62,slow=7.9
NOA NORSAR Array B 44.57 316 P **P 23 41 52.3 -0.3**
comp=Z,0.9nm,0.6s,baz=90,slow=7.1,SNR=11

MLR Muntele Rosu 45.05 291 P **P 23 41 56.3 -0.4**
comp=Z,0.3nm,0.6s,baz=139,slow=9.8,SNR=4.9
KECS Kecovo 46.46 297 *e*P **P 23 42 09.0 +1.4**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 46.46 297 *e*P **P 23 42 09.0 +1.4**
MMAI Mount Meron Ar 47.02 271 P **P 23 42 12.4 +0.2**
comp=Z,2.6nm,0.9s,baz=15,slow=12,SNR=2.7
VYHS Vyhne 47.36 298 *e*P **P 23 42 15.8 +1.1**
VYHS pmax pmax
comp=Z,19nm,2.5s
VYHS Vyhne 47.36 298 *e*P **P 23 42 15.8 +1.1**
RAYN Ar Rayn 47.60 253 *e*P **P 23 42 16.7 -0.2**
comp=Z,2.4nm,0.7s
RAYN Ar Rayn 47.60 253 P **P 23 42 16.7 -0.2**
RAYN pmax pmax
comp=Z,9.0nm,1.3s
DPC Dobruska-Polom 47.67 302 *e*P **P 23 42 17.9 +0.8**
DPC *e*pP **sP 23 42 22.8 +1.4**
DPC Dobruska-Polom 47.67 302 *e*P **P 23 42 17.9 +0.8**
DPC *e* 23 42 22.8
VRAC Vranov 48.11 300 P **P 23 42 20.7 +0.2**
comp=Z,2.7nm,0.8s,baz=81,slow=14,SNR=3.4
PRU Pruhonice 48.81 302 *e*P **P 23 42 26.8 +0.9**
PRU Pruhonice 48.81 302 *e*P **P 23 42 26.8 +0.9**
CLL Collm 48.85 304↑ *i*P **P 23 42 26.5 +0.4**
comp=Z,6.0nm,0.6s
CLL *i* sP **sP 23 42 31.0 +0.5**
comp=Z,6.0nm,0.8s
CLL Collm 48.85 304 *e*P **P 23 42 26.8 +0.6**
comp=Z,5.5nm,0.7s
CLL Collm 48.85 304 *e*P **P 23 42 26.8 +0.6**
CLL pmax pmax
comp=Z,6.0nm,0.7s
CONA Conrad Observa 49.31 299 *e*pP **P 23 42 31.4 +1.5**
comp=Z,2.7nm,0.8s
KHC Kasperske Hory 49.83 302 *e*P **P 23 42 34.1 +0.4**
KHC *e*pP **sP 23 42 38.7 +0.7**
KHC Kasperske Hory 49.83 302 *e*P **P 23 42 34.1 +0.4**
KHC *e* 23 42 38.7
ARSA Arzberg 49.90 299 *e*pP **P 23 42 34.9 +0.7**
comp=Z,5.1nm,1.8s
GERES GERESS Array B 49.93 301 P **P 23 42 35.2 +0.7**
comp=Z,1.0nm,0.8s,baz=46,slow=7.6,SNR=7.7
MOA Molln 50.22 300 *e*pP **P 23 42 37.2 +0.5**
comp=Z,7.3nm,1.6s
DAV Davao City (W) 50.82 141 LR LR 00 04 20.5
comp=Z,33nm,18.4s,baz=96,slow=36
OBKA Obir 50.88 298 *e*pP **P 23 42 42.1 +0.4**
comp=Z,2.1nm,0.7s
MYKA Terra Mystica 51.30 299 *e*pP **P 23 42 45.5 +0.6**
comp=Z,3.2nm,0.5s
ABTA Abfaltersbach 51.84 300 *e*pP **P 23 42 49.9 +0.9**
comp=Z,1.5nm,0.7s
MOTA Moosalm 52.22 301 *e*pP **P 23 42 52.6 +0.7**
comp=Z,2.7nm,1.0s
FETA Feichten 52.63 301 *e*pP **P 23 42 55.2 +0.3**
comp=Z,5.3nm,1.0s
DAVA Damuels 52.91 302 *e*pP **P 23 42 57.9 +1.0**
comp=Z,4.9nm,0.7s
FUORN Ofenpass-Fuorn 53.13 301 *e*P **P 23 42 59.6 +1.0**
comp=Z,3.9nm,0.8s
ILAR Eielson Array 54.10 28 P **P 23 43 06.8 +1.5**
comp=Z,0.9nm,1.0s,baz=303,slow=4.6,SNR=4.7
BNI Bardonecchia 56.05 301 *e*P **P 23 43 20.3 +0.5**
comp=Z,8.8nm,1.0s
BNI Bardonecchia 56.05 301 *e*P **P 23 43 20.3 +0.5**
BNI pmax pmax
comp=Z,9.0nm,1.0s
YKA Yellowknife Ar 63.54 15 P **P 23 44 09.4 -1.5**
comp=Z,0.1nm,0.4s,baz=338,slow=6.8,SNR=2.5
YKA Yellowknife Ar 63.54 15 *i*P P 23 44 16.2 +5.4
ESDC Sonseca Array 65.43 303 P **P 23 44 23.1 -0.5**
comp=Z,1.1nm,0.7s,baz=39,slow=7.1,SNR=8.3
WRA Warramunga Arr 78.91 143 P **P 23 45 41.5 -2.7**
comp=Z,1.5nm,0.9s,baz=343,slow=6.2,SNR=8.6
WRA Warramunga Arr 78.91 143 *i*P **P 23 45 45.2 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.9s
YBH Yreka Blue Hor 81.00 28 LR LR 00 26 14.5
comp=Z,85nm,18.4s,baz=314,slow=39
KHMM Horse Mountain 81.48 29 *e*P **P 23 46 00.4 +2.2**
comp=Z,114nm,0.7s
ASAR Alice Springs 82.17 145 P **P 23 45 58.5 -3.2**
comp=Z,0.9nm,0.7s,baz=332,slow=5.9,SNR=8.2
TORD Torodi Ar. Bea 82.39 281 P **P 23 46 02.0 -1.2**
comp=Z,0.9nm,0.9s,baz=26,slow=5.8,SNR=5.0
PD31 Pinedale Array 83.27 19 *e*P **P 23 46 07.8 +0.1**
K22A Casper 83.95 16 *e*P **P 23 46 12.1 +1.0**
NVAR Mina Array Bea 85.32 26 LR LR 00 31 43.3
comp=Z,46nm,20.9s,baz=92,slow=41

*CSEM **04** 23:39:52.5, 41.81N×23.28E, h10km, ML1.5/6, After ATH SKO **04** 23:39:53.0, 41.84N×23.25E, h0km, M1.1, ML1.3*
ATH 04 23:39:52.5, 41.81N×23.28E, h10km±2km, ML1.5/6, Error ellipse: s-maj=3.4km s-min=1.1km az=185.0, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVR	**Nevrokopi**	**0.63**	**136**	P	Pg	23 40 05.0	+0.3
NVR				S	Sg	23 40 13.6	+0.6
NVR				AML	AML	23 40 13.9	
	comp=N,107μm,0.2s						
NVR				AML	AML	23 40 18.8	
	comp=E,93μm,0.2s						
NVR	**Nevrokopi**	**0.63**	**136**	P	Pg	23 40 04.8	+0.1
NVR				S	Sg	23 40 13.5	+0.5
KNT	**Kendrikon**	**0.71**	**204**	P	Pg	23 40 06.1	0.0
KNT				S	Sg	23 40 15.1	-0.2
KNT				AML	AML	23 40 16.0	
	comp=E,66μm,0.1s						
KNT				AML	AML	23 40 16.7	
	comp=N,75μm,0.1s						
KNT	**Kendrikon**	**0.71**	**204**	P	Pg	23 40 06.0	-0.1
KNT				S	Sg	23 40 15.5	+0.1
VAY	**Valandovo**	**0.72**	**228**	*i* Pg	Pg	23 40 06.6	+0.2
VAY				*i* Sg	Sb	23 40 16.6	-0.5
VAY				*e*Lg	Lg	23 40 17.6	
	comp=N,11nm,0.2s						
VAY				*e*Lg	Lg	23 40 21.8	
	comp=E,8.4nm,0.5s						
SRS	**Serrai**	**0.73**	**161**	P	Pb	23 40 07.0	-0.2
SRS				S	Sb	23 40 17.3	+0.1
SRS				AML	AML	23 40 20.9	
	comp=E,60μm,0.1s						
SRS				AML	AML	23 40 23.0	
	comp=N,85μm,0.1s						
SRS	**Serrai**	**0.73**	**161**	P	Pg	23 40 06.7	+0.2
SRS				S	Sb	23 40 17.0	-0.2
SOH	**Sokhos**	**0.99**	**177**	P	Pb	23 40 11.7	0.0
SOH				S	Sb	23 40 25.3	+0.6
SOH				AML	AML	23 40 27.8	
	comp=E,70μm,0.3s						
SOH				AML	AML	23 40 28.0	
	comp=N,70μm,0.2s						
SOH	**Sokhos**	**0.99**	**177**	P	Pg	23 40 11.4	0.0
SOH				S	Sb	23 40 25.0	+0.3
GRG	**Griva**	**1.08**	**218**	P	Pg	23 40 12.9	-0.2
GRG				S	Sb	23 40 27.4	+0.1
GRG	**Griva**	**1.08**	**218**	P	Pg	23 40 12.9	-0.3
GRG				S	Sb	23 40 27.6	+0.3
THE	**Thessaloniki**	**1.20**	**192**	P	Pn	23 40 15.3	+0.1
THE	**Thessaloniki**	**1.20**	**192**	P	Pn	23 40 15.2	0.0
HORT	**Hortiatis**	**1.22**	**187**	P	Pg	23 40 16.2	+0.4
HORT				S	Sn	23 40 32.3	+0.2
HORT	**Hortiatis**	**1.22**	**187**	P	Pg	23 40 15.8	0.0
HORT				S	Sn	23 40 32.2	+0.1
KAVA	**Kavala**	**1.23**	**131**	P	Pn	23 40 13.2	-2.4
KAVA				S	Sn	23 40 32.6	+0.3
KAVA				AML	AML	23 40 34.1	
	comp=N,73μm,0.4s						
KAVA				AML	AML	23 40 34.3	
	comp=E,89μm,0.5s						
KAVA	**Kavala**	**1.23**	**131**	P	Pn	23 40 14.4	-1.3
KAVA				S	Sn	23 40 32.6	+0.3
PLG	**Polygyros**	**1.44**	**175**	P	Pg	23 40 19.7	-0.4
PLG				S	Sb	23 40 38.1	+0.4
PLG				AML	AML	23 40 40.3	
	comp=E,14μm,0.4s						
PLG				AML	AML	23 40 41.8	
	comp=N,16μm,0.5s						
PLG	**Polygyros**	**1.44**	**175**	P	Pb	23 40 19.6	+0.3
PLG				S	Sg	23 40 38.7	0.0
OUR	**Ouranopolis**	**1.56**	**160**	P	Pn	23 40 19.9	-0.3
OUR	**Ouranopolis**	**1.56**	**160**	P	Pb	23 40 20.9	-0.5
RDO	**Rodhopi**	**1.82**	**111**	P	Pb	23 40 25.4	-0.4
RDO				S	Sg	23 40 51.6	+0.7
RDO	**Rodhopi**	**1.82**	**111**	P	Pb	23 40 25.6	-0.2
RDO				S	Sg	23 40 50.9	0.0
SMTH	**Samothraki Isl**	**2.16**	**127**	P	Pb	23 40 31.6	0.0
SMTH	**Samothraki Isl**	**2.16**	**127**	P	Pb	23 40 31.2	-0.4
ALN	**Alexandroupoli**	**2.27**	**113**	P	Pb	23 40 32.7	-0.8
ALN				S	Sb	23 40 59.9	-1.7
ALN	**Alexandroupoli**	**2.27**	**113**	P	Pb	23 40 32.5	-1.0
ALN				S	Sb	23 41 00.7	-0.9

*ISCJB **04** 23:40:44.1±0.5, 12.71N±0.05×93.39E±0.05, h58km, mb4.0/24, Error ellipse: s-maj=7.8km s-min=6.6km az=6.8*
*IDC **04** 23:40:46.8±4.7, 12.75N±0.09×93.44E, h67km±40km, mb3.6/20, mb1 3.7/21, mb1mx3.6/64, mbtmp3.9/21, ML4.4/1, MS2.7/1, Ms1 2.9/1, ms1mx2.4/49, Error ellipse: s-maj=29.0km s-min=13.9km az=44.0*
*NEIC **04** 23:40:47.2±1.6, 12.78N×93.45E, h71km±14km, mb4.2/3, Error ellipse: s-maj=14.6km s-min=7.1km az=60.0*
ISC 04 23:40:46.1±0.7, 12.77N±0.09×93.38E±0.09, h58km, n57, σ0s99/58, mb4.0/24, 5C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UTHA	**Uthaitani**	**6.50**	**64**	P	**Pn**	**23 42 21.4**	**+2.2**
	16nm,0.6s,278nm						
CMAR	**Chiang Mai Arr**	**7.79**	**43**	P	**Pn**	**23 42 37.4**	**+0.6**
	1.4nm,0.3s,baz=235,slow=15,SNR=55						
CMAR				S	**Sn**	**23 44 03.8**	**+0.1**
	1.2nm,0.3s,baz=234,slow=28,SNR=7.5						
CMAR				LR	LR	23 45 32.3	
	comp=Z,53nm,21.1s,baz=120,slow=37						
CHTO	**Chiang Mai**	**8.04**	**41**	P	**Pn**	**23 42 42.2**	**+1.8**
	57nm,0.8s						
CHTO	**Chiang Mai**	**8.04**	**41**	*e*Pn	**Pn**	**23 42 41.0**	**+0.6**
	7.7nm,0.6s						
CMMT	**Chiang Mai**	**8.05**	**41**	P	**Pn**	**23 42 41.1**	**+0.7**
	13nm,0.8s						
PHIT	**Phitsanulok**	**8.09**	**56**	P	**Pn**	**23 42 43.9**	**+2.9**
	11nm,0.4s,273nm						
LAMP	**Lampang**	**8.30**	**46**	P	**Pn**	**23 42 46.1**	**+2.2**
	6.7nm,0.5s,122nm						
CHAI	**Chaiyaphum**	**8.90**	**69**	P	Pn	23 42 56.5	+4.4
	4.5nm,0.5s,66nm						
CMAI	**Chiengmai2**	**8.96**	**37**	P	Pn	23 42 57.5	+4.5
	432nm,0.8s,80μm						
SHL	**Shillong**	**12.81**	**354**	*e*P	**Pn**	**23 43 43.0**	**-2.6**
SHL				*e*S	Sn	23 45 51.0	-16
ODAN	**Odare**	**15.10**	**339**	*e*P	**Pn**	**23 44 15.6**	**-0.7**
	14nm,0.4s						
TAPN	**Taplejung**	**15.45**	**341**	*e*P	**Pn**	**23 44 20.6**	**-0.2**
	30nm,0.9s						
RAMN	**Ramite**	**15.48**	**337**	*e*P	**Pn**	**23 44 20.4**	**-0.7**
	15nm,0.4s						
JIRN	**Jiri**	**16.27**	**337**	*e*P	**Pn**	**23 44 31.4**	**+0.1**
	10nm,0.3s						
PKI	**Pulchoki**	**16.51**	**334**	*e*P	**Pn**	**23 44 34.2**	**0.0**
	9.0nm,0.4s						
PKIN	**Phulchoki**	**16.52**	**334**	*e*P	**Pn**	**23 44 34.1**	**-0.2**
	7.1nm,0.3s						
GUN	**Gumba**	**16.62**	**336**	*e*P	**Pn**	**23 44 36.2**	**+0.6**
	24nm,1.0s						
DMN	**Daman**	**16.67**	**334**	*e*P	**Pn**	**23 44 36.7**	**+0.5**
	10nm,0.6s						
KKN	**Kakani**	**16.75**	**334**	*e*P	**Pn**	**23 44 37.6**	**+0.4**
	6.6nm,0.3s						
GKN	**Gorkha**	**17.22**	**333**	*e*P	**P**	**23 44 43.8**	**+0.1**
	9.6nm,0.2s						
KOLN	**Koldanda**	**17.50**	**330**	*e*P	**P**	**23 44 48.0**	**+1.1**
	12nm,0.6s						
PYUN	**Piuthan**	**18.08**	**329**	*e*P	**Pn**	**23 44 55.5**	**+2.0**
	31nm,1.0s						
ENH	**Enshi**	**22.92**	**38**	P	**P**	**23 45 43.7**	**-1.7**
	4.4nm,0.7s						
COCO	**West Island**	**25.03**	**172**	P	**P**	**23 46 04.9**	**0.0**
	99nm,0.6s						
AAK	**Ala-Archa**	**33.97**	**335**	P	**P**	**23 47 25.2**	**+1.0**
	1.6nm,0.7s,baz=148,slow=15,SNR=3.2						
MKAR	**Makanchi Array**	**35.18**	**347**	P	**P**	**23 47 34.0**	**-0.5**
	0.2nm,0.4s,baz=166,slow=8.1,SNR=5.9						
SONM	**Songino Array**	**36.61**	**15**	P	**P**	**23 47 47.2**	**+0.4**
	0.3nm,0.5s,baz=195,slow=10,SNR=3.6						
SONM				PcP	**PcP**	**23 50 08.3**	**-0.6**
	0.6nm,0.7s,baz=196,slow=3.9,SNR=4.5						
KURK	**Kurchatov**	**39.71**	**345**	*e*P	**P**	**23 48 12.5**	**-0.2**
	5.1nm,0.7s						
GEYT	**Alibeck**	**40.15**	**315**	P	**P**	**23 48 18.0**	**+1.3**
	2.4nm,0.6s,baz=147,slow=7.4,SNR=14						
ZALV	**Zalesovo Beam**	**41.63**	**352**	P	**P**	**23 48 28.5**	**0.0**
	2.2nm,0.6s,baz=182,slow=8.3,SNR=9.6						
BVAR	**Borovoye Array**	**44.15**	**340**	P	**P**	**23 48 48.7**	**-0.2**
	0.8nm,0.8s,baz=148,slow=8.7,SNR=4.2						
AKTO	**Aktyubinsk**	**47.34**	**330**	P	**P**	**23 49 14.2**	**+0.1**
	1.6nm,0.7s,baz=124,slow=6.8,SNR=4.2						
WRA	**Warramunga Arr**	**51.78**	**128**	P	**P**	**23 49 48.0**	**-0.3**
	0.5nm,0.5s,baz=305,slow=9.6,SNR=11						
WRA				PcP	**PcP**	**23 51 00.6**	**-0.4**
	0.3nm,0.5s,baz=318,slow=3.1,SNR=18						
WRAB	**Tennant Creek**	**51.78**	**128**	P	**P**	**23 49 48.2**	**-0.2**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**53.68**	**132**	P	**P**	**23 50 00.9**	**-1.5**
	0.6nm,0.5s,baz=307,slow=6.5,SNR=6.7						
BRTR	**Keskin Array B**	**58.74**	**309**	P	**P**	**23 50 37.5**	**-1.0**
	0.9nm,0.7s,baz=138,slow=6.7,SNR=6.4						
AKASG	**Malin Array Be**	**63.90**	**320**	P	**P**	**23 51 11.5**	**-1.4**
	0.2nm,0.4s,baz=91,slow=4.2,SNR=5.0						
VRI	**Vrincioaia**	**64.71**	**315**‖	*i*P	**P**	**23 51 19.7**	**+1.4**
PLOR	**Plostina**	**64.76**	**315**‖	*i*P	**P**	**23 51 19.4**	**+0.7**
MLR	**Muntele Rosu**	**65.20**	**314**	P	**P**	**23 51 22.4**	**+0.8**
	0.9nm,0.8s,baz=96,slow=9.2						
MLR	**Muntele Rosu**	**65.20**	**314**↑	*i*P	**P**	**23 51 21.6**	**-0.1**
VOIR		**65.82**	**314**‖	*i*P	**P**	**23 51 25.3**	**-0.3**
BURAR	**Bucovina Array**	**65.97**	**317**↑	*i*P	**P**	**23 51 26.9**	**+0.4**
ARR	**Arges**	**66.11**	**314**‖	*i*P	**P**	**23 51 27.1**	**-0.3**
VTS	**Vitosha**	**66.89**	**311**↑	*i*P	**P**	**23 51 32.7**	**+0.1**
DRGR		**67.58**	**315**↑	*i*P	**P**	**23 51 37.4**	**+0.7**
HERR	**Herculane**	**67.63**	**313**↑	*i*P	**P**	**23 51 37.4**	**+0.4**
FINES	**FINESS Array B**	**68.07**	**331**	P	**P**	**23 51 38.9**	**-0.6**
	1.3nm,0.7s,baz=116,slow=4.4,SNR=4.6						
ARCES	**ARCESS Array B**	**70.44**	**340**	P	**P**	**23 51 53.8**	**-0.1**
	1.5nm,0.9s,baz=94,slow=7.8,SNR=5.6						
GERES	**GERESS Array B**	**73.72**	**317**	P	**P**	**23 52 14.3**	**+0.2**
	1.5nm,0.6s,baz=88,slow=6.3,SNR=19						
HFS	**Hagfors**	**73.89**	**329**	P	**P**	**23 52 14.4**	**-0.3**
	0.6nm,0.4s,baz=108,slow=3.6,SNR=8.0						
SPITS	**Spitsbergen Ar**	**74.92**	**348**	P	**P**	**23 52 20.4**	**-0.1**
	3.9nm,0.8s,baz=116,slow=9.8,SNR=3.0						
NOA	**NORSAR Array B**	**75.13**	**330**	P	**P**	**23 52 21.5**	**-0.5**
	0.7nm,0.8s,baz=91,slow=5.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**88.76**	**283**	P	**P**	**23 53 34.0**	**-0.2**
	0.7nm,0.8s,baz=84,slow=5.4,SNR=5.7						
ILAR	**Eielson Array**	**90.51**	**22**	P	**P**	**23 53 40.6**	**-0.9**
	0.5nm,0.7s,baz=297,slow=4.3,SNR=7.4						
NVAR	**Mina Array Bea**	**121.07**	**29**	PKP	**PKPdf**	**23 59 33.3**	**+0.3**
	0.2nm,0.5s,baz=302,slow=3.3,SNR=3.5						
TXAR	**Lajitas Array**	**135.02**	**21**	PKP	**PKPdf**	**23 59 59.5**	**-0.1**
	0.3nm,0.5s,baz=156,slow=1.2,SNR=5.4						

IDC 05 00:02:03.4±9.4, 5.86S×128.93E, h250km±99km, mb2.6/1, mb1 3.1/3, mb1mx2.7/43, mbtmp3.6/3, Error ellipse: s-maj=114.8km s-min=25.3km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.77**	**230**	P	Pn	00 03 41.2	-0.1
	14nm,0.3s,baz=61,slow=2.4,SNR=9.2						
BATI				S	S	00 04 55.3	-4.5
	0.5nm,0.3s,baz=29,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**14.96**	**160**	P	P	00 05 22.9	-0.1
	0.3nm,0.3s,baz=339,slow=12,SNR=14						
WRA				S	S	00 07 59.0	-9.4
	0.1nm,0.3s,baz=334,slow=21,SNR=3.3						
ASAR	**Alice Springs**	**18.34**	**165**	P	P	00 05 59.9	0.0
	0.3nm,0.3s,baz=345,slow=12,SNR=15						
ASAR				S	S	00 09 08.6	-7.8
	baz=345,slow=21,SNR=4.8						
MKAR	**Makanchi Array**	**66.69**	**327**	P	P	00 12 27.7	0.0
	0.1nm,0.5s,baz=118,slow=5.5,SNR=2.6						

IDC 05 00:13:06.5±3.4, 51.54N×96.18E, h0km, mb1 2.9/2,

mb1mx2.8/61,mbtmp2.9/2,ML2.3/2,Error ellipse: s-maj=63.3km s-min=21.9km az=13.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	7.31	294	Pn	Pn	00 14 54.1	-0.2
	0.2nm,0.3s,baz=105,slow=15,SNR=3.0						
ZALV				Lg	Lg	00 16 46.4	
	0.5nm,0.3s,baz=112,slow=27,SNR=5.1						
SONM	Songino Array	7.59	115	Pg	Pb	00 15 24.2	+5.1
	0.2nm,0.3s,baz=300,slow=16,SNR=17						
SONM				Lg	Lg	00 17 08.5	
	0.5nm,0.3s,baz=301,slow=31,SNR=11						
MKAR	Makanchi Array	10.26	248	Pn	Pn	00 15 35.2	+0.3
	0.0nm,0.3s,baz=62,slow=15,SNR=2.7						
MKAR				Lg	Lg	00 18 23.5	
	0.1nm,0.3s,baz=66,slow=28,SNR=2.9						

MEX 05 00:16:44.2±0.6,17°.77N×97°.59W,h59km±6km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPIG	Tehuac#an	0.68	18	*i* P	Pn	00 16 56.8	-1.5
TPIG				*i* S	Sn	00 17 07.2	-1.5
TLIG	Tlapa	0.96	258	*e*P	Pn	00 17 00.3	-1.5
TLIG				*i* S	Sn	00 17 13.0	-1.7
VHO	Vista Hermosa	1.07	130	*e*P	Pn	00 17 02.1	-1.2
VHO				*e*S	Sn	00 17 15.4	-2.0
PNIG	Pinotepa	1.46	201	*e*P	Pn	00 17 06.4	-2.0
PNIG				*e*S	Sn	00 17 25.1	-1.5
HUIG	Huatulco	2.44	144	*i* P	Pn	00 17 20.7	-1.0
HUIG				*i* S	Sn	00 17 48.0	-2.4

IDC 05 00:34:40.1±2.5,5°.82N×125°.44E,h135km±30km,mb3.1/5, mb1 3.2/5,mb1mx3.0/53,mbtmp3.5/5,MS3.1/1,Ms1 3.1/1, ms1mx2.4/14,Error ellipse: s-maj=122.1km s-min=15.5km az=69.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.25	6	P	Pn	00 35 05.8	-0.1
	49nm,0.3s,baz=239,slow=5.9,SNR=3.8						
DAV				S	Sn	00 35 25.5	0.0
	111nm,0.3s,baz=308,slow=23,SNR=6.8						
GUMO	Guam	20.63	67	LR	LR	00 46 12.3	
	comp=Z,55nm,21.6s,baz=101,slow=34						
WRA	Warramunga Arr	27.06	161	P	P	00 40 09.6	-0.6
	0.2nm,0.4s,baz=344,slow=11,SNR=4.7						
ASAR	Alice Springs	30.45	165	P	P	00 40 40.0	-0.2
	0.3nm,0.4s,baz=338,slow=6.9,SNR=6.9						
STKA	Stephens Creek	40.53	159	P	P	00 42 07.2	+1.0
	1.2nm,0.5s,baz=315,slow=13,SNR=3.2						
SONM	Songino Array	44.92	342	P	P	00 42 42.2	+0.6
	0.2nm,0.4s,baz=140,slow=6.3,SNR=2.9						
MKAR	Makanchi Array	55.11	325	P	P	00 43 57.6	-0.8
	0.3nm,1.0s,baz=119,slow=8.4,SNR=3.0						

IDC 05 00:37:33.9±10.0,24°.04S×179°.36W,h411km±97km, mb2.8/2,mb1 3.1/3,mb1mx2.8/38,mbtmp3.9/3,Error ellipse: s-maj=75.3km s-min=35.2km az=46.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	14.49	191	P	P	00 40 41.4	+1.1
	1.6nm,0.3s,baz=22,slow=2.9,SNR=8.0						
URZ				S	S	00 43 13.6	-1.1
	1.7nm,0.3s,baz=52,slow=22,SNR=8.9						
STKA	Stephens Creek	35.22	248	P	P	00 43 51.4	-0.2
	0.7nm,0.5s,baz=75,slow=12,SNR=3.7						
WRA	Warramunga Arr	42.98	266	P	P	00 44 54.5	-0.6
	0.2nm,0.3s,baz=104,slow=8.0,SNR=5.8						
HFS	Hagfors	142.79	349	PKP	PKPdf	00 56 15.7	-2.9
	1.1nm,0.6s,baz=72,slow=4.7,SNR=4.4						
MMAI	Mount Meron Ar	148.29	294	PKPbc	PKPbc	00 56 33.7	+0.8
	1.0nm,0.5s,baz=68,slow=3.7,SNR=5.0						
TORD	Torodi Ar. Bea	169.12	185	PKPab	PKPab	00 58 07.0	-0.5
	0.3nm,0.6s,baz=165,slow=4.0,SNR=2.6						

*IDC **05** 01:13:46.9±1.1,0°.21N×126°.46E,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.7/52,mbtmp4.0/5,MS3.0/1,Ms1 2.9/1, ms1mx2.4/45,Error ellipse: s-maj=80.3km s-min=20.1km az=73.0*
*ISCJB **05** 01:13:54.7±0.6,0°.19N±0°.06×126°.66E±0°.04,h73km, mb3.9/5,Error ellipse: s-maj=8.5km s-min=5.6km az=17.5*
*DJA **05** 01:13:56.6±0.5,0°N±3°×12°7E±°,h65km±17km,M4.3/8, mb4.6/4,mB5.2/3,MLv4.2/8,Mw(mB)4.6/3*
ISC 05 01:13:56.0±0.9,0°.16N±0°.08×126°.68E±0°.05,h73km,n13, σ1s.00/17,mb4.1/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBMI	Labuha	1.14	134	P	Pn	01 14 16.8	+0.4
LBMI				S	Sn	01 14 32.9	+1.2
SANI	Sanana	2.30	197	P	Pn	01 14 31.8	0.0
SANI				S	Sn	01 14 58.1	-1.1
KMSI	Cibinong	2.73	279	P	Pn	01 14 37.6	0.0
KMSI				S	Sn	01 15 10.6	+1.1
APSI	Ampana	5.14	258	P	Pn	01 15 11.0	+0.5
	122nm,0.5s,4μm						
APSI				S	Sn	01 16 08.6	0.0
	122nm,0.5s,4μm						
FAKI	Fak Fak	6.35	119	P	Pn	01 15 28.2	+1.1
	22nm,1.2s						
MPSI	Mapaga	6.78	271	P	Pn	01 15 35.2	+2.3
	7.2nm,0.7s,1μm						
TTSI	Tana Toraja	7.56	245	P	Pn	01 15 45.0	+1.4
TTSI				S	Sn	01 17 07.7	-0.1
WRA	Warramunga Arr	21.34	160	P	P	01 18 37.3	0.0
	0.6nm,0.3s,baz=336,slow=10,SNR=11						
ASAR	Alice Springs	24.70	164	P	P	01 19 10.7	+0.2
	4.9nm,0.3s,baz=340,slow=9.8,SNR=7.2						
STKA	Stephens Creek	34.85	157	LR	LR	01 36 06.0	
	comp=Z,21nm,19.7s,baz=26,slow=38						
USRK	Ussuriysk Ar.	44.10	5	P	P	01 21 55.9	-1.0
	1.8nm,0.6s,baz=177,slow=7.9,SNR=5.3						
SONM	Songino Array	50.65	342	P	P	01 22 47.5	-0.5
	0.7nm,0.7s,baz=163,slow=8.9,SNR=6.0						
MKAR	Makanchi Array	60.46	326	P	P	01 23 57.8	-0.4
	0.6nm,0.4s,baz=116,slow=8.1,SNR=8.8						

*CSEM **05** 01:14:06.4,34°.93N×6°.67E,h0km,ML3.9,After ALG*
*CRAAG **05** 01:14:06.4,34°.93N×6°.67E,Ml3.9*
*ISCJB **05** 01:14:07.8±0.7,34°.78N±0°.07×6°.90E±0°.09,h10km, mb3.4/6,Error ellipse: s-maj=10.9km s-min=9.5km az=170.2*
*IDC **05** 01:14:07.6±1.0,34°.69N×7°.03E,h0km,mb3.3/6,mb1 3.4/8, mb1mx3.2/59,mbtmp3.3/8,ML3.5/2,MS2.9/2,Ms1 2.9/2, ms1mx2.4/33,Error ellipse: s-maj=31.8km s-min=18.4km az=128.0*
ISC 05 01:14:08.8±1.0,34°.82N±0°.10×7°.08E±0°.09,h10km,n26, σ1s.56/25,mb3.4/6,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTEI	Djebel Teioual	1.36	336	P	Pn	01 14 31.0	-3.0
CTEI	Djebel Teioual	1.36	336	P	Pn	01 14 31.0	-3.0
ABSA	Djebel Ababsia	1.49	12	P	Pg	01 14 37.6	+0.2
ABSA	Djebel Ababsia	1.49	12	P	Pg	01 14 37.6	+0.2
CASM	Ain Smara	1.52	342	P	Pn	01 14 34.6	-1.5
CASM	Ain Smara	1.52	342	P	Pn	01 14 34.6	-1.5
CKFL	Kef-Lekhel	1.60	349	P	Pn	01 14 37.0	-0.4
CKFL	Kef-Lekhel	1.60	349	P	Pn	01 14 37.0	-0.4
CKHR	Kef el Ahmar	1.75	313	P	Pn	01 14 38.3	-1.1
CKHR	Kef el Ahmar	1.75	313	P	Pn	01 14 38.3	-1.1
CMAH	Djebel Manchou	1.82	9	P	Pn	01 14 38.9	-1.4
CMAH	Djebel Manchou	1.82	9	P	Pn	01 14 38.9	-1.4
SET	Setif	1.94	316	P	Pn	01 14 41.0	-1.0
SET	Setif	1.94	316	P	Pn	01 14 41.0	-1.0
DFRA	Djebel Bou Aff	1.98	331	P	Pn	01 14 40.8	-1.7
DFRA	Djebel Bou Aff	1.98	331	P	Pn	01 14 40.8	-1.7
KEST	Kesra	2.06	63	Pn	Pb	01 14 46.2	-0.2
	4.9nm,0.3s,baz=203,slow=14,SNR=59						
KEST				Lg	Lg	01 15 18.7	
	3.5nm,0.3s,baz=184,slow=19,SNR=4.3						
ESDC	Sonseca Array	10.05	302	Pn	Pn	01 16 34.3	+1.1
	0.2nm,0.3s,baz=106,slow=14,SNR=4.9						
ESDC				LR	LR	01 20 05.0	
	comp=Z,47nm,19.9s,baz=145,slow=35						
GERES	GERESS Array B	14.85	17	LR	LR	01 23 11.2	
	comp=Z,52nm,19.5s,baz=306,slow=36						
TORD	Torodi Ar. Bea	22.12	194	P	P	01 19 03.0	-1.5
	0.6nm,0.5s,baz=8.6,slow=9.2,SNR=15						
KOWA	Kowa	22.57	209	P	P	01 19 09.5	+0.1
	1.1nm,0.7s,baz=28,slow=13,SNR=6.4						
AKASG	Malin Array Be	22.59	39	P	P	01 19 11.9	+2.6
	0.6nm,0.7s,baz=236,slow=9.8,SNR=2.8						
ZALV	Zalesovo Beam	55.82	44	P	P	01 23 48.1	+2.0
	0.4nm,0.4s,baz=298,slow=8.9,SNR=2.8						
MKAR	Makanchi Array	56.13	53	P	P	01 23 48.1	-0.3
	0.6nm,0.6s,baz=284,slow=6.7,SNR=8.2						
YKA	Yellowknife Ar	72.38	336	P	P	01 25 35.4	+0.8
	0.1nm,0.4s,baz=35,slow=6.6,SNR=3.1						
WRA	Warramunga Arr	131.40	87	PKP	PKPdf	01 33 20.7	-1.2
	0.1nm,0.4s,baz=320,slow=1.9,SNR=3.3						

IDC 05 01:18:37.8±2.9,22°.61S×170°.20E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.6/35,mbtmp3.6/4,ML3.5/1,Error ellipse: s-maj=116.2km s-min=34.9km az=160.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.51	278	Pn	Pn	01 19 33.5	-0.3
	4.5nm,0.3s,baz=82,slow=19,SNR=55						
DZM				Sn	Sn	01 20 14.0	-2.2
	6.3nm,0.3s,baz=127,slow=20,SNR=11						
ASAR	Alice Springs	33.34	261	P	P	01 25 18.2	+0.4
	0.6nm,0.8s,baz=93,slow=9.3,SNR=5.2						
WRA	Warramunga Arr	33.47	268	P	P	01 25 18.2	-0.7
	0.3nm,0.5s,baz=100,slow=7.9,SNR=3.1						
SONM	Songino Array	90.43	323	P	P	01 31 41.8	+0.5
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.8						
EKA	Eskdalemuir Ar	146.94	353	PKPbc	PKPdf	01 38 19.8	-0.3
	0.8nm,0.6s,baz=38,slow=2.7,SNR=3.6						
GERES	GERESS Array B	147.86	330	PKPbc	PKPbc	01 38 25.2	+0.3
	0.1nm,0.3s,baz=45,slow=1.5,SNR=2.9						

*IDC **05** 01:56:47.4±1.3,5°.60S×152°.50E,h0km,mb3.6/6, mb1 3.9/7,mb1mx3.7/47,mbtmp3.6/7,ML2.2/1,MS2.4/1, Ms1 2.4/1,ms1mx2.2/27,Error ellipse: s-maj=52.8km s-min=22.2km az=127.0*
*ISCJB **05** 01:56:52.4±1.1,5°.6S±0°.2×152°.3E±0°.2,h40km,mb3.5/6, MS4.5/1,Error ellipse: s-maj=44.4km s-min=10.5km az=44.1*
ISC 05 01:56:53.4±1.3,5°.7S±0°.3×152°.4E±0°.3,h40km,n9,σ0s.73/9, mb3.4/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.41	234	Pn	Pn	01 58 25.3	-0.1
	2.8nm,0.3s,baz=15,slow=7.7,SNR=6.1						
PMG				Sn	Sn	01 59 37.4	0.0
	2.1nm,0.3s,baz=122,slow=15,SNR=2.7						
PMG				LR	LR	02 00 45.0	
	comp=Z,32nm,19.1s,baz=76,slow=36						
WRA	Warramunga Arr	22.61	229	P	P	02 01 50.8	-0.1
	0.7nm,0.7s,baz=55,slow=11,SNR=5.2						
ASAR	Alice Springs	25.27	223	P	P	02 02 16.7	+0.6
	0.7nm,0.7s,baz=53,slow=9.4,SNR=5.9						
RAO	Raoul Island	36.55	133	LR	LR	02 14 27.3	
	comp=Z,764nm,21.3s,baz=128,slow=29						
SONM	Songino Array	66.85	328	P	P	02 07 41.8	+0.4
	0.2nm,0.5s,baz=135,slow=4.6,SNR=2.6						
MKAR	Makanchi Array	80.72	319	P	P	02 09 02.8	+0.2
	0.4nm,0.8s,baz=107,slow=4.8,SNR=3.0						
ILAR	Eielson Array	83.09	22	P	P	02 09 13.9	-0.7
	1.2nm,0.9s,baz=246,slow=5.0,SNR=9.5						
NVAR	Mina Array Bea	92.90	52	P	P	02 10 03.4	+0.7
	0.4nm,0.8s,baz=252,slow=5.6,SNR=3.3						
TORD	Torodi Ar. Bea	150.20	287	PKPbc	PKPbc	02 16 39.8	-1.3
	0.5nm,1.0s,baz=82,slow=1.7,SNR=2.6						

*ISCJB **05** 02:01:25.3±0.9,5°.55N±0°.06×124°.32E±0°.08,h10km, mb3.3/3,MS3.5/1,Error ellipse: s-maj=12.4km s-min=7.7km az=19.5*
*IDC **05** 02:01:25.5±1.3,5°.56N×124°.39E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/54,mbtmp3.4/3,MS3.4/1,Ms1 3.4/1, ms1mx2.5/27,Error ellipse: s-maj=37.1km s-min=21.0km az=92.0*
ISC 05 02:01:27.0±1.3,5°.58N±0°.09×124°.40E±0°.09,h10km,n9, σ1s.25/12,mb3.4/3,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	0.74	48	⇓*i*P	Pg	02 01 41.7	+0.3
GSPH				*i* S	Sg	02 01 52.1	+1.0
CTBH	Cotabato--PC H	1.63	355	⇑*i*P	Pn	02 01 56.0	+0.2
CTBH				*i* S	Sn	02 02 16.1	-0.8
DAV	Davao City (W)	1.89	38	Pn	Pn	02 02 00.3	+1.0
	122nm,0.3s,baz=241,slow=3.8,SNR=6.5						
DAV				Sn	Sn	02 02 23.3	+0.1
	181nm,0.3s,baz=160,slow=4.8,SNR=5.7						
MATI	Mati	2.29	54	*e*P	Sn	02 02 30.0	-3.2
BUKP	Musuan	2.37	16	*e*P	Pn	02 02 05.8	-0.3
BUKP				*e*S	Sn	02 02 34.7	-0.6
WRA	Warramunga Arr	27.19	159	P	P	02 07 10.3	-0.7
	0.3nm,0.4s,baz=339,slow=10,SNR=3.9						
ASAR	Alice Springs	30.52	163	P	P	02 07 41.1	+0.4
	0.2nm,0.3s,baz=332,slow=6.9,SNR=3.1						
DZM	Mont Dzumac	49.50	125	LR	LR	02 32 14.2	
	comp=Z,40nm,18.2s,baz=232,slow=37						
MKAR	Makanchi Array	54.72	326	P	P	02 10 56.6	0.0
	0.2nm,0.7s,baz=115,slow=7.6,SNR=3.4						

*IDC **05** 02:16:02.9±1.6,29°.78S×175°.94W,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.5/35,mbtmp3.5/3,ML3.3/1,Error ellipse: s-maj=50.1km s-min=32.9km az=158.0*
*ISCJB **05** 02:16:04.5±2.3,29°.80S±0°.10×175°.8W±0°.2,h33km, mb3.2/2,Error ellipse: s-maj=23.2km s-min=12.2km az=160.7*
ISC 05 02:16:07.8±1.4,29°.7S±0°.1×175°.9W±0°.1,h35km,n7, σ1s.13/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.78	285	Pn	Pn	02 16 36.2	+0.1
	82nm,0.3s,baz=90,slow=20,SNR=3.7						
RAO				Sn	Sn	02 16 57.5	0.0
	324nm,0.3s,baz=198,slow=23,SNR=7.2						
URZ	Urewera	10.28	212	Pn	Pn	02 18 31.1	-1.6
	0.2nm,0.3s,baz=333,slow=17,SNR=2.0						
URZ				Sn	Sn	02 20 28.4	+1.8
	1.0nm,0.3s,baz=94,slow=23,SNR=6.8						
ASAR	Alice Springs	44.93	265	P	P	02 24 19.7	+0.2
	0.1nm,0.3s,baz=108,slow=8.4,SNR=3.3						
WRA	Warramunga Arr	45.86	270	P	P	02 24 25.9	-0.9
	0.3nm,0.7s,baz=109,slow=7.9,SNR=4.9						
FINES	FINESS Array B	145.10	342	PKPbc	PKPab	02 35 40.4	+0.1
	0.8nm,0.5s,baz=35,slow=5.1,SNR=4.5						
HFS	Hagfors	148.91	351	PKPbc	PKPbc	02 35 51.6	+0.5
	1.2nm,0.7s,baz=5.7,slow=1.4,SNR=2.9						
AKASG	Malin Array Be	151.81	325	PKPbc	PKPbc	02 35 59.3	+0.9
	0.3nm,0.4s,baz=44,slow=2.7,SNR=3.8						

*IDC **05** 02:22:11.5±0.7,2°.53N×125°.34E,h0km,mb3.9/8, mb1 4.0/8,mb1mx3.7/51,mbtmp3.9/8,Error ellipse: s-maj=80.0km s-min=16.5km az=71.0*
*ISCJB **05** 02:22:19.5±0.6,2°.80N±0°.05×126°.22E±0°.08,h72km, mb3.7/8,Error ellipse: s-maj=11.3km s-min=6.0km az=158.4*
*DJA **05** 02:22:22.1±1.0,3°N±10°×12°6E±°,h47km±82km,M4.2/9, mB5.2/1,mb4.5/3,MLv4.1/9,Mw(mB)4.6/1*
ISC 05 02:22:20.9±0.7,2°.77N±0°.05×126°.12E±0°.07,h72km,n17, σ1s.15/23,mb3.8/8,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	Sangihe	1.08	327	P	Pn	02 22 41.1	+0.5
SGSI				S	Sn	02 22 56.1	+0.9
KMSI	Cibinong	3.06	224	P	Pn	02 23 08.1	+1.1
LBMI	Labuha	3.66	158	P	Pn	02 23 15.9	+0.7
LBMI				S	Sn	02 23 57.7	+0.5
MRSI	Marisa	4.76	241	P	Pn	02 23 31.8	+1.6
MRSI				S	Sn	02 24 22.1	-2.1
SANI	Sanana	4.79	182	P	Pn	02 23 31.2	+0.5
LUWI	Luwuk	5.06	222	P	Pn	02 23 35.4	+1.1
APSI	Ampana	5.78	231	P	Pn	02 23 45.9	+1.8
	48nm,0.6s,0.2nm						
MPSI	Mapaga	6.67	249	P	Pn	02 23 57.6	+1.2
WRA	Warramunga Arr	23.97	161	P	P	02 27 27.8	-1.1
	1.0nm,0.4s,baz=339,slow=10,SNR=24						
WRA				S	S	02 31 41.8	+1.0
	0.4nm,0.5s,baz=344,slow=18,SNR=4.7						
ASAR	Alice Springs	27.35	164	P	P	02 27 59.7	+0.2
	0.2nm,0.3s,baz=340,slow=12,SNR=5.0						
ASAR				PcP	PcP	02 31 17.9	+0.7
	0.3nm,0.4s,baz=354,slow=2.7,SNR=4.9						
KSRS	Korea Array	34.55	3	P	P	02 29 04.6	+2.0
	0.8nm,0.5s,baz=190,slow=9.6,SNR=2.8						
STKA	Stephens Creek	37.47	158	P	P	02 29 27.0	-0.6
	1.6nm,0.7s,baz=306,slow=10,SNR=4.3						
SONM	Songino Array	48.01	342	P	P	02 30 52.3	-0.6
	0.2nm,0.5s,baz=151,slow=5.9,SNR=2.9						
SONM				PcP	PcP	02 32 20.1	+0.2
	0.3nm,0.6s,baz=163,slow=2.9,SNR=3.4						
MKAR	Makanchi Array	57.99	326	P	P	02 32 05.1	-1.1
	0.2nm,0.3s,baz=122,slow=7.4,SNR=12						
ARCES	ARCESS Array B	91.13	340	P	P	02 35 16.6	-0.8
	2.9nm,0.9s,baz=81,slow=5.8,SNR=3.1						
FINES	FINESS Array B	92.38	332	P	P	02 35 22.3	-1.0
	1.0nm,0.8s,baz=96,slow=2.8,SNR=2.7						
TORD	Torodi Ar. Bea	122.63	287	PKP	PKPdf	02 41 08.6	-0.8
	0.4nm,0.9s,baz=56,slow=1.2,SNR=3.0						

IDC 05 02:25:26.7±2.2,22°.17S×170°.10E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.7/36,mbtmp3.7/4,ML3.9/1,MS3.2/2, Ms1 3.1/2,ms1mx2.6/34,Error ellipse: s-maj=140.1km s-min=27.3km az=169.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.40	271	Pn	Pn	02 26 22.7	+1.7
	11nm,0.3s,baz=135,slow=14,SNR=84						
DZM				Sn	Sn	02 27 04.3	+2.2
	2.4nm,0.3s,baz=287,slow=19,SNR=3.6						
URZ	Urewera	17.13	161	LR	LR	02 33 56.5	
	comp=Z,55nm,18.5s,baz=344,slow=30						
STKA	Stephens Creek	27.11	243	LR	LR	02 40 45.3	
	comp=Z,52nm,18.3s,baz=10,slow=34						
ASAR	Alice Springs	33.32	260	P	P	02 32 06.5	-0.1
	0.2nm,0.3s,baz=84,slow=8.5,SNR=3.3						
WRA	Warramunga Arr	33.40	267	P	P	02 32 06.5	-0.7
	0.4nm,0.7s,baz=102,slow=8.2,SNR=4.0						
TXAR	Lajitas Array	97.45	61	P	Pdif	02 39 04.3	+1.4
	0.6nm,1.0s,baz=206,slow=6.0,SNR=3.8						
EKA	Eskdalemuir Ar	146.50	353	PKPbc	PKPdf	02 45 07.2	-1.0
	0.3nm,0.4s,baz=12,slow=3.6,SNR=3.8						

MAN 05 02:38:20,9°.62N×123°.00E,h55km,mb3.8,ML2.6,MS2.1, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.36	140	⇓*i*P	Pn	02 38 33.0	+2.7
SNPH				*i* S	Sn	02 38 41.7	+4.1
TBP	Tagbilaran	0.85	85	*e*P	Pn	02 38 37.0	+1.1
GUIM	Jordan	1.08	338	*e*P	Pn	02 38 40.6	+1.7
GUIM				*e*S	Sn	02 38 55.1	+2.2
MSLP	Maasin	1.90	74	*e*P	Pn	02 38 51.4	+1.3
MSLP				*e*S	Sn	02 39 15.0	+2.1

*IDC **05** 02:45:22.1±0.6,36°.42N×0°.78E,h0km,mb3.9/21, mb1 4.1/25,mb1mx4.0/57,mbtmp4.0/25,ML4.1/4,MS3.1/6, Ms1 3.2/6,ms1mx2.7/59,Error ellipse: s-maj=15.1km s-min=13.8km az=138.0*
*CRAAG **05** 02:45:22.0,36°.47N×0°.91E,Ml4.5*
*CSEM **05** 02:45:23.6±0.1,36°.41N×0°.82E,h10km,mb4.3/5,Error ellipse: s-maj=3.1km s-min=2.1km az=179.0*
*SFS **05** 02:45:23.0,36°.40N×0°.90E,h0km,ML4.2*
*MDD **05** 02:45:23.8±0.8,36°.42N×0°.85E,h4km±8km,mb4.8/46, Error ellipse: s-maj=5.2km s-min=3.7km az=161.0, PRXIMO*
*NEIC **05** 02:45:23.1±1.0,36°.41N×0°.81E,h8km±7km,mb4.3/11, ML4.1(ALG),Error ellipse: s-maj=5.6km s-min=4.6km az=186.0*
*LDG **05** 02:45:25.5±0.2,36°.62N×0°.71E,h30km,Ml3.4/6,Error ellipse: s-maj=4.2km s-min=2.7km az=169.0*
*INMG **05** 02:45:25.1±0.8,36°.44N×0°.62E,h0km,ML3.4,Error ellipse: s-maj=4.4km s-min=3.6km az=95.0*
*CNRM **05** 02:45:25.5,36°.53N×1°.00E,h22km,MD4.2*
ISC 05 02:45:23.1±1.1,36°.48N±0°.03×0°.81E±0°.03,h7km±7km, n443,σ1s.88/562,mb4.0/26,MS3.1/4,30C-7D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECHF	Ech Chlef	0.54	127	P	Pg	02 45 32.5	-1.0
ECHF	Ech Chlef	0.54	127	*e*P	Pg	02 45 33.2	-0.3
ECHF	Ech Chlef	0.54	127	*e*P	Pg	02 45 33.2	-0.3
ECHA	Ech Chlef	0.56	126	P	Pg	02 45 32.5	-1.4
ECHA	Ech Chlef	0.56	126	P	Pg	02 45 32.5	-1.4
EANR	'Ain N'Sour	0.58	156	P	Pn	02 45 41.4	+3.6
EANR	'Ain N'Sour	0.58	156	P	Pn	02 45 41.4	+3.6
EANR	'Ain N'Sour	0.58	156	P	Pn	02 45 41.4	+3.6
EBNR	Beni Rached	0.61	108	P	Pg	02 45 34.9	0.0
EBNR	Beni Rached	0.61	108	P	Pg	02 45 34.6	-0.3
EBNR	Beni Rached	0.61	108	P	Pg	02 45 34.6	-0.3
ETRT	Tiaret	1.16	160	P	Pg	02 45 43.9	-1.4
ETRT	Tiaret	1.16	160	P	Pg	02 45 43.9	-1.4
ETRT	Tiaret	1.16	160	P	Pg	02 45 43.9	-1.4
ODJA	Bouhanifia	1.39	214	P	Pn	02 45 48.0	-0.9
ODJA	Bouhanifia	1.39	214	P	Pn	02 45 48.0	-0.9
ODJA	Bouhanifia	1.39	214	P	Pn	02 45 48.0	-0.9
ODJA	Bouhanifia	1.39	214	P	Pn	02 45 48.0	-0.9
EMHD	Djebel Mahouad	1.75	99	P	Pn	02 45 46.0	-8.0
EMHD	Djebel Mahouad	1.75	99	P	Pn	02 45 46.0	-8.0
EMHD	Djebel Mahouad	1.75	99	P	Pb	02 45 56.0	+0.3
EMHD	Djebel Mahouad	1.75	99	P	Pb	02 45 56.0	+0.3
OTSS	Djebel Tessala	1.77	228	P	Pn	02 45 53.6	-0.6
OTSS	Djebel Tessala	1.77	228	P	Pn	02 45 53.6	-0.6
OTSS	Djebel Tessala	1.77	228	P	Pn	02 45 53.6	-0.6
OTSS	Djebel Tessala	1.77	228	P	Pn	02 45 53.6	-0.6
ABA	Alger-Bouzarea	1.82	79	P	Pn	02 45 55.0	+0.2
ABA	Alger-Bouzarea	1.82	79	P	Pn	02 45 55.0	+0.2
ABA	Alger-Bouzarea	1.82	79	P	Pn	02 45 55.0	+0.2
CART	Cartagena	1.82	308	⇓P	Pn	02 45 54.2	-0.7
CART				S	Sn	02 46 15.5	-2.7
CART	Cartagena	1.82	308	*e*Pn	Pn	02 45 54.1	-0.8
CART	Cartagena	1.82	308	P	Pn	02 45 54.2	-0.7
CART				*e*S	Sn	02 46 15.5	-2.7
EMUR	La Murta	2.13	310	⇓P	Pn	02 45 58.8	-0.4
	63nm,0.4s,SNR=18						
EMUR				S	Sn	02 46 24.3	-1.5
	383nm,0.5s,SNR=7.4						
EMUR	La Murta	2.13	310	P	Pn	02 45 58.8	-0.4
EMUR				S	Sn	02 46 24.3	-1.5
EMUR	La Murta	2.13	310	P	Pn	02 45 58.8	-0.4
	63nm,0.4s,SNR=18						
EMUR				S	Sn	02 46 24.3	-1.5
	383nm,0.5s,SNR=7.4						
ADJB	Djebel Djouab	2.15	98	P	Pn	02 45 57.3	-2.1
ADJB	Djebel Djouab	2.15	98	P	Pn	02 45 57.3	-2.1
ADJB	Djebel Djouab	2.15	98	P	Pn	02 45 57.3	-2.1
ENIJ	Nijar	2.47	282	⇑P	Pn	02 46 03.0	-0.8
	144nm,0.3s,SNR=18						
ENIJ				S	Sn	02 46 31.9	-2.4
	339nm,0.4s,SNR=7.9						
ENIJ	Nijar	2.47	282	P	Pn	02 46 03.0	-0.8
ENIJ				S	Sn	02 46 31.9	-2.4
ENIJ	Nijar	2.47	282	P	Pn	02 46 03.0	-0.8
	144nm,0.3s,SNR=18						
ENIJ				S	Sn	02 46 31.9	-2.4
	339nm,0.4s,SNR=7.9						
AKET	Djebel Ketaf	2.52	99	P	Pn	02 46 03.5	-1.1
AKET	Djebel Ketaf	2.52	99	P	Pn	02 46 03.5	-1.1
AKET	Djebel Ketaf	2.52	99	P	Pn	02 46 03.5	-1.1
EIBI	Ibiza	2.58	9	P	Pn	02 46 05.0	-0.3
	76nm,0.2s,SNR=56						
EIBI				S	Sn	02 46 33.5	-3.4
	94nm,0.2s						
EIBI	Ibiza	2.58	9	P	Pn	02 46 05.0	-0.3
EIBI				S	Sn	02 46 33.8	-3.1
EIBI	Ibiza	2.58	9	P	Pn	02 46 05.0	-0.3

76nm,0.2s,SNR=56
EIBI S Sn 02 46 33.8 -3.1
ETOB Tobarra 2.86 320 ⇓P Pn 02 46 10.4 +1.2
51nm,0.2s,SNR=18
ETOB S Sn 02 46 43.6 -0.3
200nm,0.4s
ETOB Tobarra 2.86 320 P Pn 02 46 10.4 +1.2
51nm,0.2s,SNR=18
ETOB S Sn 02 46 43.6 -0.3
200nm,0.4s
EBER Berja 3.00 279 P Pn 02 46 10.8 -0.5
84nm,0.5s,SNR=125
EBER S Sn 02 46 48.2 +0.6
301nm,0.5s,SNR=47
EBER Berja 3.00 279 P Pn 02 46 10.8 -0.5
84nm,0.5s,SNR=125
EBER S Sn 02 46 48.2 +0.6
301nm,0.5s,SNR=47
SESP Santiago Espad 3.14 302 P Pn 02 46 14.9 +1.8
96nm,0.3s,SNR=7.9
SESP S Sn 02 46 51.6 +0.7
524nm,0.4s,SNR=7.9
SESP Santiago Espad 3.14 302 P Pn 02 46 14.9 +1.8
96nm,0.3s,SNR=7.9
SESP S Sn 02 46 51.6 +0.7
524nm,0.4s,SNR=7.9
EALB Alboran 3.16 261 P Pn 02 46 13.3 +0.1
36nm,0.3s,SNR=9.3
EALB S Sn 02 46 50.7 -0.4
167nm,0.4s,SNR=4.5
EALB Alboran 3.16 261 P Pn 02 46 13.3 +0.1
36nm,0.3s,SNR=9.3
EALB S Sn 02 46 50.7 -0.4
167nm,0.4s,SNR=4.5
GORA Gorafe 3.24 289 P Pn 02 46 15.8 +1.3
140nm,0.2s,SNR=7.9
GORA S Sn 02 46 54.2 +0.8
563nm,0.5s,SNR=7.9
GORA Gorafe 3.24 289 P Pn 02 46 15.8 +1.3
140nm,0.2s,SNR=7.9
GORA S Sn 02 46 54.2 +0.8
563nm,0.5s,SNR=7.9
MELI Melilla 3.26 250 *e*P Pn 02 46 15.6 +0.9
MELI *e*S Sn 02 46 52.0 -1.7
EMLI Melilla 3.27 250 P Pn 02 46 14.2 -0.6
33nm,0.2s,SNR=7.9
EMLI S Sn 02 46 52.8 -1.2
186nm,0.2s,SNR=7.9
EMEL Melilla 3.28 250 P Pn 02 46 14.2 -0.7
33nm,0.2s,SNR=7.9
EMEL S Sn 02 46 52.8 -1.3
186nm,0.2s,SNR=7.9
EQES Quesada 3.37 294 ⇓P Pn 02 46 18.2 +1.9
238nm,0.3s,SNR=18
EQES S Sn 02 46 57.4 +0.8
898nm,0.6s,SNR=6.7
EQES Quesada 3.37 294 P Pn 02 46 18.2 +1.9
238nm,0.3s,SNR=18
EQES S Sn 02 46 57.4 +0.8
898nm,0.6s,SNR=6.7
EQUE Quentar 3.49 283 ⇓P Pn 02 46 18.8 +1.0
50nm,0.3s,SNR=18
EQUE S Sn 02 46 58.7 -0.7
196nm,0.7s,SNR=4.6
EQUE Quentar 3.49 283 P Pn 02 46 18.8 +1.0
50nm,0.3s,SNR=18
EQUE S Sn 02 46 58.7 -0.7
196nm,0.7s,SNR=4.6
ELGU Los Guajares, 3.59 278 P Pn 02 46 19.6 +0.4
27nm,0.2s,SNR=7.9
ELGU S Sn 02 46 60.0 -1.9
304nm,0.4s,SNR=7.9
ELGU Los Guajares, 3.59 278 P Pn 02 46 19.6 +0.4
27nm,0.2s,SNR=7.9
ELGU S Sn 02 47 00.0 -1.9
304nm,0.4s,SNR=7.9
ETOS Mallorca 3.64 25 P Pn 02 46 18.5 -1.5
11nm,0.3s,SNR=26
ETOS S Sn 02 46 59.0 -4.2
17nm,0.3s
SET Setif 3.71 93 P Pn 02 46 22.0 +1.0
SET Setif 3.71 93 P Pn 02 46 22.0 +1.0
SET Setif 3.71 93 P Pn 02 46 22.0 +1.0
CKHR Kef el Ahmar 3.83 96 P Pn 02 46 21.3 -1.3
CKHR Kef el Ahmar 3.83 96 P Pn 02 46 21.3 -1.3
CKHR Kef el Ahmar 3.83 96 P Pn 02 46 21.3 -1.3
EGOR Sierra Gorda, 4.00 281 P Pn 02 46 27.5 +2.5
17nm,0.3s,SNR=7.9
EGOR S Sn 02 47 15.2 +3.1
191nm,0.6s,SNR=7.9
EGOR Sierra Gorda, 4.00 281 P Pn 02 46 27.5 +2.5
17nm,0.3s,SNR=7.9
EMOS Mosqueruela 4.01 346 ⇓P Pn 02 46 26.4 +1.3
6.8nm,0.1s,SNR=18
EMOS S Sn 02 47 10.5 -1.9
214nm,0.8s,SNR=6.5
EMOS Mosqueruela 4.01 346 P Pn 02 46 26.4 +1.3
6.8nm,0.1s,SNR=18
EMOS S Sn 02 47 10.5 -1.9
214nm,0.8s,SNR=6.5
DFRA Djebel Bou Aff 4.08 88 P Pn 02 46 25.2 -0.9
DFRA Djebel Bou Aff 4.08 88 P Pn 02 46 25.2 -0.9
DFRA Djebel Bou Aff 4.08 88 P Pn 02 46 25.2 -0.9
EMAL Malaga-Limoner 4.22 275 *e*P Pn 02 46 28.5 +0.6
EMAL *e*S Sn 02 47 13.9 -3.6
EBR Ebro Roquetas 4.34 357 P Pn 02 46 34.5 +5.1
92nm,0.4s,SNR=7.9
EBR S Sn 02 47 18.1 -2.2
136nm,0.7s,SNR=7.9
ERTA Horta de San J 4.49 355 P Pn 02 46 32.1 +0.6
4.3nm,0.1s,SNR=18
ERTA S Sn 02 47 21.7 -2.2
60nm,0.5s
ERTA Horta de San J 4.49 355 P Pn 02 46 32.1 +0.6
4.3nm,0.1s,SNR=18
CTEI Djebel Teioual 4.54 94 P Pn 02 46 32.8 +0.4
CTEI Djebel Teioual 4.54 94 P Pn 02 46 32.8 +0.4
CTEI Djebel Teioual 4.54 94 P Pn 02 46 32.8 +0.4
CASM Ain Smara 4.59 91 P Pn 02 46 33.8 +0.8
CASM Ain Smara 4.59 91 P Pn 02 46 33.8 +0.8
CASM Ain Smara 4.59 91 P Pn 02 46 33.8 +0.8
EADA Adamuz 4.61 293 ⇓P Pn 02 46 33.7 +0.4
23nm,0.4s,SNR=18
EADA S Sn 02 47 25.6 -1.5
68nm,0.6s,SNR=4.9
EADA Adamuz 4.61 293 P Pn 02 46 33.7 +0.4
23nm,0.4s,SNR=18
EADA S Sn 02 47 25.6 -1.5
68nm,0.6s,SNR=4.9
CKFL Kef-Lekhel 4.76 89 P Pn 02 46 36.4 +0.9
CKFL Kef-Lekhel 4.76 89 P Pn 02 46 36.4 +0.9
CKFL Kef-Lekhel 4.76 89 P Pn 02 46 36.4 +0.9
CAEH 'Ain El Ouahch 4.87 85 P Pn 02 46 35.2 -1.5
CAEH 'Ain El Ouahch 4.87 85 P Pn 02 46 35.2 -1.5
CAEH 'Ain El Ouahch 4.87 85 P Pn 02 46 35.2 -1.5
EPOB Poblet 4.87 2 P Pn 02 46 36.9 +0.1
29nm,0.4s,SNR=27
EPOB S Sn 02 47 29.7 -3.8
16nm,0.4s
EPOB Poblet 4.87 2 P Pn 02 46 36.9 +0.1
29nm,0.4s,SNR=27
ETOR Torete 4.88 334 P Pn 02 46 39.3 +2.3
9.5nm,0.2s,SNR=11
ETOR S Sn 02 47 32.0 -1.8
34nm,0.8s
ETOR Torete 4.88 334 P Pn 02 46 39.3 +2.3
9.5nm,0.2s,SNR=11
ETOR S Sn 02 47 32.0 -1.8
34nm,0.8s
ES19 SONSECA Array 4.91 312 *e*Pn Pn 02 46 37.8 +0.4
ES19 SONSECA Array 4.91 312 *e*Pn Pn 02 46 37.8 +0.4
ESDC Sonseca Array 4.94 312 Pn Pn 02 46 37.9 +0.2
5.8nm,0.3s,baz=121,slow=14,SNR=75
ESDC Sn Sn 02 47 32.7 -2.4
12nm,0.3s,baz=126,slow=24,SNR=8.5
ESDC Lg Lg 02 47 44.6
12nm,0.3s,baz=132,slow=30,SNR=7.6
ESDC LR LR 02 48 40.0
comp=Z,262nm,18.8s,baz=145,slow=40
ESDC Sonseca Array 4.94 312 ⇑P Pn 02 46 38.1 +0.4
3.9nm,0.3s,baz=122,slow=14,SNR=18
ESDC S Sn 02 47 33.7 -1.4
12nm,0.4s,baz=124,slow=24,SNR=8.2
ESDC Sonseca Array 4.94 312 P Pn 02 46 38.1 +0.4
3.9nm,0.3s,SNR=18
ESDC Sn Sn 02 47 32.7 -2.4
ESDC S Sn 02 47 33.7 -1.4

12nm,0.4s,SNR=8.2
ESLA Sonseca Array 4.94 312 *e*Pn Pn 02 46 38.5 +0.8
ESLA Sonseca Array 4.94 312 *e*Pn Pn 02 46 38.5 +0.8
UCM Universidad Co 4.97 321 *e*P Pn 02 46 39.0 +0.7
CEU Ceuta 5.04 265 P Pn 02 46 38.2 -0.8
CEU S Sn 02 47 32.8 -4.6
CEU Ceuta 5.04 265 P Pn 02 46 38.2 -0.8
CEU *e*S Sn 02 47 32.8 -4.6
ECEU Ceuta 5.04 265 S Sn 02 47 35.1 -2.5
35nm,0.5s,SNR=4.5
ECEU Ceuta 5.04 265 S Sn 02 47 35.1 -2.5
35nm,0.5s,SNR=4.5
EJIF Jimena Fronter 5.06 272 P Pn 02 46 39.6 +0.2
9.8nm,0.3s,SNR=7.9
EJIF S Sn 02 47 37.0 -1.1
30nm,0.6s,SNR=7.9
EJIF Jimena Fronter 5.06 272 P Pn 02 46 39.6 +0.2
9.8nm,0.3s,SNR=7.9
EJIF S Sn 02 47 37.0 -1.1
30nm,0.6s,SNR=7.9
PAB San Pablo 5.09 308 *e*Pn Pn 02 46 40.4 +0.5
PAB *e*S Sn 02 47 36.1 -3.0
PAB San Pablo 5.09 308 *e*Pn Pn 02 46 40.4 +0.5
PAB *e*S Sn 02 47 36.1 -3.0
ECAB El Cabril 5.22 290 ⇑P Pn 02 46 41.6 0.0
21nm,0.3s,SNR=18
ECAB S Sn 02 47 40.4 -1.7
75nm,0.5s
ECAB El Cabril 5.22 290 P Pn 02 46 41.6 0.0
21nm,0.3s,SNR=18
ECAB S Sn 02 47 40.3 -1.7
75nm,0.5s
CMAH Djebel Manchou 5.32 86 P Pn 02 46 41.7 -1.4
CMAH Djebel Manchou 5.32 86 P Pn 02 46 41.7 -1.4
CMAH Djebel Manchou 5.32 86 P Pn 02 46 41.7 -1.4
ESAC San Caprasio 5.33 350 P Pn 02 46 46.5 +3.4
54nm,0.2s,SNR=7.9
ESAC S Sn 02 47 41.7 -3.1
187nm,0.4s,SNR=5.1
ESAC San Caprasio 5.33 350 P Pn 02 46 46.5 +3.4
54nm,0.2s,SNR=7.9
ESPR Espera 5.37 276 P Pn 02 46 46.0 +2.3
9.5nm,0.5s,SNR=5.4
ESPR S Sn 02 47 44.5 -1.3
27nm,0.4s,SNR=5.4
ESPR Espera 5.37 276 P Pn 02 46 46.0 +2.3
9.5nm,0.5s,SNR=5.4
ESPR S Sn 02 47 44.5 -1.3
27nm,0.4s,SNR=5.4
ABSA Djebel Ababsia 5.38 90 P Pn 02 46 43.9 0.0
ABSA Djebel Ababsia 5.38 90 P Pn 02 46 43.9 0.0
CABS Djebel Ababsia 5.38 90 P Pn 02 46 43.9 0.0
CABS Djebel Ababsia 5.38 90 P Pn 02 46 43.9 0.0
CFON Fontmartina 5.42 13 P Pn 02 46 44.2 -0.3
16nm,0.2s,SNR=48
CFON S Sn 02 47 42.3 -4.9
16nm,0.2s
CFON Fontmartina 5.42 13 P Pn 02 46 44.2 -0.3
16nm,0.2s,SNR=48
EMIR Miracle 5.46 6 ⇑P Pn 02 46 46.2 +1.3
47nm,0.3s,SNR=18
EMIR S Sn 02 47 44.8 -3.1
98nm,0.6s
EMIR Miracle 5.46 6 P Pn 02 46 46.2 +1.3
47nm,0.3s,SNR=18
RSA Sarsar 5.63 255 *i* P Pn 02 46 49.0 +1.7
RSA *i* S Sn 02 47 52.0 -0.3
GUD Guadarrama 5.69 318 P Pn 02 46 49.0 +0.8
23nm,0.5s,SNR=18
GUD S Sn 02 47 51.8 -2.1
14nm,0.4s
GUD Guadarrama 5.69 318 P Pn 02 46 49.0 +0.8
23nm,0.5s,SNR=18
GUD S Sn 02 47 51.8 -2.1
14nm,0.4s
CSOR Sort 5.89 2 P Pn 02 46 51.5 +0.6
10nm,0.2s,SNR=21
CSOR S Sn 02 47 54.9 -3.8
58nm,1.1s
CSOR Sort 5.89 2 P Pn 02 46 51.5 +0.6
10nm,0.2s,SNR=21
CLLI Llivia 6.06 8 P Pn 02 46 54.2 +1.0
21nm,0.7s,SNR=36
CLLI S Sn 02 47 58.8 -4.1
15nm,0.9s
CLLI Llivia 6.06 8 P Pn 02 46 54.2 +1.0
21nm,0.7s,SNR=36
EMIN Mina Concepcio 6.12 284 P Pn 02 46 54.6 +0.7
11nm,0.4s,SNR=44
EMIN S Sn 02 48 00.8 -3.3
35nm,0.8s,SNR=6.6
EMIN Mina Concepcio 6.12 284 P Pn 02 46 54.6 +0.7
11nm,0.4s,SNR=44
EMIN S Sn 02 48 00.8 -3.3
35nm,0.8s,SNR=6.6
ZFT Errachidia 6.16 225 *i* S Sn 02 48 03.0 -2.5
EJON La Jonquera 6.17 14 P Pn 02 46 54.7 0.0
9.6nm,0.6s,SNR=7.9
EJON S Sn 02 48 01.1 -4.5
20nm,0.6s,SNR=7.9
EJON La Jonquera 6.17 14 P Pn 02 46 54.7 0.0
9.6nm,0.6s,SNR=7.9
ECHI Chisagues Biel 6.20 356 P Pn 02 46 56.7 +1.6
0.6nm,0.3s,SNR=7.9
ECHI Chisagues Biel 6.20 356 P Pn 02 46 56.7 +1.6
0.6nm,0.3s,SNR=7.9
SJAF Saint Jean de 6.21 14 P Pn 02 46 55.4 +0.3
1.1nm,0.2s,SNR=7.9
SJAF S Sn 02 48 01.4 -4.9
1.8nm,0.3s,SNR=7.9
SJAF Saint Jean de 6.21 14 P Pn 02 46 55.4 +0.3
1.1nm,0.2s,SNR=7.9
PBAR Barrancos 6.48 287 *e*Pn Pn 02 46 59.5 +0.6
PBAR *e*Sn Sn 02 48 10.0 -3.1
PBAR A A 02 48 14.9
27nm,0.6s
PBAR Barrancos 6.48 287 P Pn 02 46 59.5 +0.6
PBAR S Sn 02 48 10.0 -3.1
27nm,0.6s
PBAR Barrancos 6.48 287 P Pn 02 46 59.5 +0.6
PBAR S Sn 02 48 10.0 -3.1
27nm,0.6s
EPLA Plasencia 6.50 306 P Pn 02 46 58.9 -0.2
4.1nm,0.2s,SNR=5.9
EPLA S Sn 02 48 10.9 -2.6
24nm,0.5s
EPLA Plasencia 6.50 306 P Pn 02 46 58.9 -0.2
4.1nm,0.2s,SNR=5.9
EPLA S Sn 02 48 10.9 -2.6
24nm,0.5s
IELO Elcoad 6.55 347 P Pn 02 47 00.9 +1.0
4.2nm,0.4s,SNR=7.9
IELO S Sn 02 48 10.3 -4.6
14nm,0.6s,SNR=7.9
IELO Elcoad 6.55 347 P Pn 02 47 00.9 +1.0
4.2nm,0.4s,SNR=7.9
EPF Esparros 6.55 357 *e*P Pn 02 47 01.5 +1.6
SNR=1.0
EPF *e*S Sn 02 48 13.4 -1.5
8.1nm,0.4s,SNR=1.0
EPF Esparros 6.55 357 P Pn 02 47 01.5 +1.6
EPF S Sn 02 48 13.4 -1.5
4.1nm,0.4s
EPF Esparros 6.55 357 P Pn 02 47 01.5 +1.6
EPF *e*S Sn 02 48 13.4 -1.5
4.1nm,0.4s,SNR=1.0
EORO Oroz-Betelu 6.61 346 P Pn 02 47 00.9 +0.2
11nm,0.5s,SNR=4.0
EORO S Sn 02 48 12.9 -3.4
34nm,0.9s
EORO Oroz-Betelu 6.61 346 P Pn 02 47 00.9 +0.2
11nm,0.5s,SNR=4.0
EBAD Badajoz 6.61 292 P Pn 02 47 00.9 +0.2
3.6nm,0.3s,SNR=18
EBAD S Sn 02 48 14.1 -2.2
13nm,0.2s,SNR=101
EBAD Badajoz 6.61 292 P Pn 02 47 00.9 +0.2
3.6nm,0.3s,SNR=18
EBAD S Sn 02 48 14.1 -2.2
13nm,0.2s,SNR=101
ATE Arette 6.70 350 P Pn 02 47 02.0 +0.1
7.5nm,0.4s,SNR=7.9
ATE S Sn 02 48 15.2 -3.3
22nm,0.5s,SNR=7.9
ATE Arette 6.70 350 P Pn 02 47 02.0 +0.1
7.5nm,0.4s,SNR=7.9
EGRO El Granado 6.72 281 P Pn 02 47 02.5 +0.3
6.1nm,0.3s,SNR=7.1
EGRO S Sn 02 48 15.4 -3.6
19nm,0.6s,SNR=5.9
EGRO El Granado 6.72 281 P Pn 02 47 02.5 +0.3
6.1nm,0.3s,SNR=7.1
SJPF Ste Jean 6.81 347 *e*P Pn 02 47 05.7 +2.3
SNR=1.0
SJPF *e*S Sn 02 48 19.4 -1.7
12nm,0.6s,SNR=1.0
SJPF Ste Jean 6.81 347 P Pn 02 47 05.7 +2.3
SJPF S Sn 02 48 19.4 -1.7
6.1nm,0.6s
SJPF Ste Jean 6.81 347 P Pn 02 47 05.7 +2.3
SJPF *e*S Sn 02 48 19.4 -1.7
6.1nm,0.6s,SNR=1.0
KIB El Ksiba 6.86 237 *i* P Pn 02 47 06.0 +1.7
KIB *i* S Sn 02 48 22.0 -0.7
PVAQ Vaqueiros 6.89 280 *e*Pn Pn 02 47 04.5 -0.1
PVAQ *e*Sn Sn 02 48 19.3 -3.9
PVAQ A A 02 48 20.8
13nm,0.7s
PVAQ Vaqueiros 6.89 280 P Pn 02 47 04.5 -0.1
PVAQ S Sn 02 48 19.3 -3.9
13nm,0.7s
PVAQ Vaqueiros 6.89 280 P Pn 02 47 04.5 -0.1
MTLF Montolieu 6.94 9 *e*P Pn 02 47 06.5 +1.3
SNR=1.0
MTLF *e*Sn Sn 02 48 21.1 -3.2
5.4nm,0.5s,SNR=1.0
MTLF Montolieu 6.94 9 P Pn 02 47 06.5 +1.3
MTLF S Sn 02 48 21.1 -3.2
2.7nm,0.5s
MTLF Montolieu 6.94 9 P Pn 02 47 06.5 +1.3
KEST Kesra 6.95 94 Pn Pn 02 47 04.4 -1.1
4.0nm,0.3s,baz=225,slow=4.4,SNR=51
KEST Sn Sn 02 48 22.0 -2.7
baz=270,slow=20,SNR=1.6
EALK Alkurruntz 6.96 346 P Pn 02 47 07.4 +1.8
17nm,0.6s,SNR=13
EALK S Sn 02 48 21.3 -3.7
38nm,0.5s
EALK Alkurruntz 6.96 346 P Pn 02 47 07.4 +1.8
17nm,0.6s,SNR=13
PBDV Barranco-do-Ve 7.05 279 *e*Pn Pn 02 47 07.5 +0.7
PBDV *e*Sn Sn 02 48 22.7 -4.5
PBDV A A 02 48 29.8
12nm,0.7s
PBDV Barranco-do-Ve 7.05 279 P Pn 02 47 07.5 +0.7
PBDV S Sn 02 48 22.7 -4.5
12nm,0.7s
PBDV Barranco-do-Ve 7.05 279 P Pn 02 47 07.5 +0.7
PESTR Estremoz 7.08 292 *e*Pn Pn 02 47 07.5 +0.4
PESTR *e*Sn Sn 02 48 24.5 -3.3
PESTR A A 02 48 59.1
16nm,0.6s
PESTR Estremoz 7.08 292 *e*Pn Pn 02 47 07.7 +0.6
PESTR *e*Sn Sn 02 48 25.3 -2.5
PESTR Estremoz 7.08 292 *e*Pn Pn 02 47 07.5 +0.4
PESTR *e*Sn Sn 02 48 25.3 -2.5
PMRV Marv??o 7.12 297 *e*Pn Pn 02 47 08.8 +1.1
PMRV *e*Sn Sn 02 48 25.8 -3.0
PMRV A A 02 48 58.5
28nm,0.7s
PMRV Marv??o 7.12 297 P Pn 02 47 08.8 +1.1
PMRV S Sn 02 48 25.8 -3.0
28nm,0.7s
PMRV Marv??o 7.12 297 P Pn 02 47 08.8 +1.1
PMRV S Sn 02 48 25.8 -3.0
28nm,0.7s
PCVE Castro Verde 7.17 282 *e*Pn Pn 02 47 08.6 +0.2
PCVE *e*Sn Sn 02 48 27.0 -3.1
PCVE A A 02 48 34.6
8.8nm,0.5s
PCVE Castro Verde 7.17 282 P Pn 02 47 08.6 +0.2
PCVE S Sn 02 48 27.0 -3.1
8.8nm,0.5s
PCVE Castro Verde 7.17 282 P Pn 02 47 08.6 +0.2
PCVE S Sn 02 48 27.0 -3.1
8.8nm,0.5s
EVO Evora 7.31 289 *e*Pn Pn 02 47 10.5 +0.3
EVO *e*Sn Sn 02 48 29.1 -4.3
EVO Evora 7.31 289 P Pn 02 47 10.5 +0.3
EVO S Sn 02 48 29.1 -4.3
EVO Evora 7.31 289 P Pn 02 47 10.5 +0.3
PCBR Castelo Branco 7.34 300 *e*Pn Pn 02 47 11.7 +1.0
PCBR *e*Sn Sn 02 48 31.5 -2.7
PCBR A A 02 48 36.0
16nm,0.5s
PCBR Castelo Branco 7.34 300 P Pn 02 47 11.7 +1.0
PCBR S Sn 02 48 31.5 -2.7
8.2nm,0.5s
PCBR Castelo Branco 7.34 300 P Pn 02 47 11.7 +1.0
PCBR S Sn 02 48 31.5 -2.7
8.2nm,0.5s
VSL Villasalto 7.41 63 *e*Pn Pn 02 47 09.8 -1.8
VSL *e*S Sn 02 48 29.0 -6.8
TZC Tazercounte 7.42 237 *i* P Pn 02 47 14.0 +1.9
TZC *i* S Sn 02 48 35.0 -1.6
ELAN Lanestosa 7.49 335 P Pn 02 47 14.6 +1.8
12nm,0.2s,SNR=107
ELAN S Sn 02 48 31.5 -6.5
60nm,1.0s,SNR=4.5
ELAN Lanestosa 7.49 335 P Pn 02 47 14.6 +1.8
12nm,0.2s,SNR=107
PMTG Montargil 7.61 293 *e*Pn Pn 02 47 15.0 +0.6
PMTG *e*Sn Sn 02 48 36.3 -4.5
PMTG A A 02 48 39.3
21nm,0.8s
PMTG Montargil 7.61 293 *e*Pn Pn 02 47 15.0 +0.6
PNCL Nicolau / Gran 7.62 285 *e*Pn Pn 02 47 14.7 +0.2
PNCL *e*Sn Sn 02 48 36.8 -4.3
PNCL A A 02 48 39.0
11nm,0.6s
PNCL Nicolau / Gran 7.62 285 *e*Pn Pn 02 47 14.7 +0.2
MORF Marmelete 7.63 279 *e*Pn Pn 02 47 16.1 +1.4
MORF Marmelete 7.63 279 P Pn 02 47 16.1 +1.4
MORF Marmelete 7.63 279 P Pn 02 47 16.1 +1.4
MTE Manteigas 7.63 303 *e*Pn Pn 02 47 16.3 +1.5
MTE *e*Sn Sn 02 48 38.3 -3.3
MTE A A 02 49 27.8
23nm,0.6s
MTE Manteigas 7.63 303 P Pn 02 47 16.3 +1.5
MTE S Sn 02 48 38.3 -3.3
11nm,0.6s
MTE Manteigas 7.63 303 *e*Pn Pn 02 47 16.8 +2.0
8.9nm,0.6s
MTE *e*S Sn 02 48 41.4 -0.2
MTE Manteigas 7.63 303 P Pn 02 47 16.3 +1.5
MTE *e*S Sn 02 48 41.4 -0.2
MVO Moncorvo 7.70 310 *e*Pn Pn 02 47 16.7 +1.0
MVO *e*Sn Sn 02 48 40.0 -3.2
MVO A A 02 48 45.9
12nm,0.4s
MVO Moncorvo 7.70 310 P Pn 02 47 16.2 +0.5
7.6nm,0.4s,SNR=21
MVO S Sn 02 48 39.8 -3.5
12nm,0.4s,SNR=12
MVO Moncorvo 7.70 310 P Pn 02 47 16.2 +0.5
7.6nm,0.4s,SNR=21
MVO Moncorvo 7.70 310 *e*Pn Pn 02 47 16.7 +1.0
PTEO Sao Teotonio 7.70 281 *e*Pn Pn 02 47 16.3 +0.6
PTEO *e*Sn Sn 02 48 38.9 -4.2
PTEO A A 02 49 39.1
11nm,0.6s
PTEO Sao Teotonio 7.70 281 P Pn 02 47 16.3 +0.6
PTEO S Sn 02 48 38.9 -4.2
5.5nm,0.6s
PTEO Sao Teotonio 7.70 281 P Pn 02 47 16.3 +0.6
PFVI Vila Bisbo 7.76 278 *e*Sn Sn 02 48 40.7 -3.9
PFVI A A 02 48 47.3
17nm,0.5s
PBRG Braganca 7.92 314 *e*Pn Pn 02 47 19.8 +1.1
PBRG *e*Sn Sn 02 48 45.3 -3.2
PBRG Braganca 7.92 314 P Pn 02 47 19.8 +1.1
PBRG S Sn 02 48 45.3 -3.2
PBRG Braganca 7.92 314 P Pn 02 47 19.8 +1.1
LASF Ste Croix 7.94 16 *e*P Pn 02 47 17.4 -1.5
SNR=1.0
LASF Ste Croix 7.94 16 P Pn 02 47 17.4 -1.5
ECAL Calabor 8.00 315 P Pn 02 47 20.9 +1.0
22nm,0.4s,SNR=35
ECAL S Sn 02 48 46.3 -4.4
17nm,0.6s,SNR=9.6
ECAL Calabor 8.00 315 P Pn 02 47 20.9 +1.0

	22nm,0.4s,SNR=35						
PVIS	**Viseu**	**8.02**	**304**	*e*Pn	**Pn**	**02 47 21.7**	**+1.6**
PVIS				*e*Sn	**Sn**	**02 48 48.5**	**-2.5**
PVIS	**Viseu**	**8.02**	**304**	P	**Pn**	**02 47 21.7**	**+1.6**
PVIS				S	**Sn**	**02 48 48.5**	**-2.5**
PVIS	**Viseu**	**8.02**	**304**	P	**Pn**	**02 47 21.7**	**+1.6**
PVIS				S	**Sn**	**02 48 48.5**	**-2.5**
LMR	**La Mourre**	**8.12**	**31**	*e*P	**Pn**	**02 47 21.0**	**-0.4**
	SNR=1.0						
LMR				*e*Sn	Sn	02 48 43.2	-10
	2.6nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**8.12**	**31**	P	**Pn**	**02 47 21.0**	**-0.4**
LMR				S	Sn	02 48 43.2	-10
	1.3nm,0.3s						
LMR	**La Mourre**	**8.12**	**31**	P	**Pn**	**02 47 21.0**	**-0.4**
PCAS	**Casmilo, Conde**	**8.14**	**299**	*e*Pn	**Pn**	**02 47 23.1**	**+1.4**
PCAS				*e*Sn	**Sn**	**02 48 50.4**	**-3.6**
PCAS	**Casmilo, Conde**	**8.14**	**299**	*e*Pn	**Pn**	**02 47 23.1**	**+1.4**
PVRL	**Vila Real**	**8.19**	**308**	*e*Pn	**Pn**	**02 47 23.2**	**+0.8**
PVRL				*e*Sn	**Sn**	**02 48 52.4**	**-2.9**
PVRL	**Vila Real**	**8.19**	**308**	P	**Pn**	**02 47 23.2**	**+0.8**
PVRL				S	**Sn**	**02 48 52.4**	**-2.9**
PVRL	**Vila Real**	**8.19**	**308**	P	**Pn**	**02 47 23.2**	**+0.8**
EARI	**Arriondas**	**8.23**	**328**	P	**Pn**	**02 47 25.0**	**+2.0**
	2.0nm,0.2s,SNR=9.4						
EARI				S	**Sn**	**02 48 52.0**	**-4.3**
	10nm,0.7s,SNR=7.9						
EARI	**Arriondas**	**8.23**	**328**	P	**Pn**	**02 47 25.0**	**+2.0**
	2.0nm,0.2s,SNR=9.4						
POLO	**Lamas de Olo**	**8.30**	**309**	*e*Pn	**Pn**	**02 47 24.8**	**+0.9**
POLO				*e*Sn	**Sn**	**02 48 54.8**	**-3.1**
POLO	**Lamas de Olo**	**8.30**	**309**	*e*Pn	**Pn**	**02 47 24.8**	**+0.9**
SMRF	**Simiane la Rot**	**8.32**	**24**	*e*P	**Pn**	**02 47 26.9**	**+2.7**
	SNR=1.0						
SMRF	**Simiane la Rot**	**8.32**	**24**	P	**Pn**	**02 47 26.9**	**+2.7**
SMRF	**Simiane la Rot**	**8.32**	**24**	P	**Pn**	**02 47 26.9**	**+2.7**
FRF	**La Foret Royal**	**8.37**	**31**	*e*P	**Pn**	**02 47 24.9**	**+0.1**
	SNR=1.0						
FRF				*e*Sn	Sn	02 48 47.8	-12
	6.4nm,0.5s,SNR=1.0						
FRF	**La Foret Royal**	**8.37**	**31**	P	**Pn**	**02 47 24.9**	**+0.1**
FRF				S	Sn	02 48 47.8	-12
	3.2nm,0.5s						
FRF	**La Foret Royal**	**8.37**	**31**	P	**Pn**	**02 47 24.9**	**+0.1**
PMAFR	**Mafra**	**8.37**	**290**	*e*Sn	**Sn**	**02 48 55.4**	**-4.3**
PMAFR	**Mafra**	**8.37**	**290**	P	**Pn**	**02 47 26.0**	**+1.1**
	14nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**02 48 55.3**	**-4.3**
	176nm,1.2s,SNR=7.9						
PMAFR	**Mafra**	**8.37**	**290**	P	**Pn**	**02 47 26.0**	**+1.1**
	14nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**8.45**	**360**	*e*P	**Pn**	**02 47 27.3**	**+1.4**
	SNR=1.0						
LFF	**La Frestale**	**8.45**	**360**	P	**Pn**	**02 47 27.3**	**+1.4**
LFF	**La Frestale**	**8.45**	**360**	P	**Pn**	**02 47 27.3**	**+1.4**
CAF	**Calviac**	**8.49**	**6**	*e*P	**Pn**	**02 47 28.0**	**+1.5**
	SNR=1.0						
CAF	**Calviac**	**8.49**	**6**	P	**Pn**	**02 47 28.0**	**+1.5**
CAF	**Calviac**	**8.49**	**6**	P	**Pn**	**02 47 28.0**	**+1.5**
PCAB	**Cabril**	**8.63**	**310**	*e*Pn	**Pn**	**02 47 29.8**	**+1.4**
PCAB	**Cabril**	**8.63**	**310**	P	**Pn**	**02 47 29.8**	**+1.4**
PCAB	**Cabril**	**8.63**	**310**	P	**Pn**	**02 47 29.8**	**+1.4**
ELOB	**Lobios**	**8.74**	**311**	P	**Pn**	**02 47 30.8**	**+0.8**
	5.5nm,0.4s,SNR=13						
ELOB				S	**Sn**	**02 49 04.3**	**-4.5**
	7.7nm,0.4s,SNR=7.6						
ELOB	**Lobios**	**8.74**	**311**	P	**Pn**	**02 47 30.8**	**+0.8**
	5.5nm,0.4s,SNR=13						
PGF	**Pioggiola**	**8.76**	**44**	*e*Sn	Sn	02 48 59.5	-10
	1.2nm,0.2s						
PGF	**Pioggiola**	**8.76**	**44**	S	Sn	02 48 59.5	-10
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**8.83**	**3**	*e*P	**Pn**	**02 47 32.2**	**+1.0**
	SNR=1.0						
RJF	**Les Rejaudoux**	**8.83**	**3**	P	**Pn**	**02 47 32.2**	**+1.0**
RJF	**Les Rejaudoux**	**8.83**	**3**	P	**Pn**	**02 47 32.2**	**+1.0**
VIVF	**Saint-Julien-l**	**8.87**	**18**	*e*P	**Pn**	**02 47 32.1**	**+0.5**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**8.87**	**18**	P	**Pn**	**02 47 32.1**	**+0.5**
VIVF	**Saint-Julien-l**	**8.87**	**18**	P	**Pn**	**02 47 32.1**	**+0.5**
PGAV	**Gavieira, Arco**	**8.92**	**311**	*e*Pn	**Pn**	**02 47 34.0**	**+1.5**
PGAV				*e*Sn	**Sn**	**02 49 09.5**	**-3.8**
PGAV	**Gavieira, Arco**	**8.92**	**311**	*e*Pn	**Pn**	**02 47 34.0**	**+1.5**
SBF	**Sospel**	**8.95**	**32**	*e*P	**Pn**	**02 47 34.9**	**+2.1**
	SNR=1.0						
SBF	**Sospel**	**8.95**	**32**	P	**Pn**	**02 47 34.9**	**+2.1**
SBF	**Sospel**	**8.95**	**32**	P	**Pn**	**02 47 34.9**	**+2.1**
EPON	**Pontenova**	**9.17**	**321**	P	**Pn**	**02 47 36.5**	**+0.7**
	5.9nm,0.3s,SNR=11						
EPON				S	**Sn**	**02 49 14.3**	**-5.0**
	1.9nm,0.4s,SNR=4.0						
EPON	**Pontenova**	**9.17**	**321**	P	**Pn**	**02 47 36.5**	**+0.7**
	5.9nm,0.3s,SNR=11						
SSB	**Saint Sauveur**	**9.23**	**17**	*e*Pn	**Pn**	**02 47 38.0**	**+1.3**
SSB	**Saint Sauveur**	**9.23**	**17**	*e*Pn	**Pn**	**02 47 38.0**	**+1.3**
ORIF	**Oris-en-Rattie**	**9.26**	**23**	*e*P	**Pn**	**02 47 39.6**	**+2.4**
ORIF	**Oris-en-Rattie**	**9.26**	**23**	P	**Pn**	**02 47 39.6**	**+2.4**
ORIF	**Oris-en-Rattie**	**9.26**	**23**	P	**Pn**	**02 47 39.6**	**+2.4**
EAGO	**Agolada(Pontev**	**9.32**	**315**	P	**Pn**	**02 47 38.9**	**+1.0**
	2.7nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**9.32**	**315**	P	**Pn**	**02 47 38.9**	**+1.0**
	2.7nm,0.3s,SNR=7.9						
MBDF	**Montbardon**	**9.40**	**27**	*e*P	**Pn**	**02 47 40.0**	**+0.9**
	SNR=1.0						
MBDF	**Montbardon**	**9.40**	**27**	P	**Pn**	**02 47 40.0**	**+0.9**
MBDF	**Montbardon**	**9.40**	**27**	P	**Pn**	**02 47 40.0**	**+0.9**
TCF	**Toulx Ste Croi**	**9.86**	**6**	*e*P	**Pn**	**02 47 45.5**	**+0.3**
TCF	**Toulx Ste Croi**	**9.86**	**6**	P	**Pn**	**02 47 45.5**	**+0.3**
TCF	**Toulx Ste Croi**	**9.86**	**6**	P	**Pn**	**02 47 45.5**	**+0.3**
LPG	**La Plagne**	**10.06**	**25**	*e*P	**Pn**	**02 47 50.8**	**+2.5**
	SNR=1.0						
LPG	**La Plagne**	**10.06**	**25**	P	**Pn**	**02 47 50.8**	**+2.5**
LPG	**La Plagne**	**10.06**	**25**	P	**Pn**	**02 47 50.8**	**+2.5**
LPL	**La Plagne**	**10.07**	**25**	*e*P	**Pn**	**02 47 50.9**	**+2.5**
LPL				*e*Sn	Sn	02 49 29.3	-12
	1.1nm,0.3s						
LPL	**La Plagne**	**10.07**	**25**	P	**Pn**	**02 47 50.9**	**+2.5**
LPL				S	Sn	02 49 29.3	-12
	0.6nm,0.3s						
LPL	**La Plagne**	**10.07**	**25**	P	**Pn**	**02 47 50.9**	**+2.5**
MFF	**Saint Martin d**	**10.14**	**356**	*e*P	**Pn**	**02 47 49.4**	**+0.4**
	SNR=1.0						
MFF	**Saint Martin d**	**10.14**	**356**	P	**Pn**	**02 47 49.4**	**+0.4**
MFF	**Saint Martin d**	**10.14**	**356**	P	**Pn**	**02 47 49.4**	**+0.4**
BGF	**Bois d'Agland**	**10.18**	**8**	*e*P	**Pn**	**02 47 51.4**	**+1.7**
BGF	**Bois d'Agland**	**10.18**	**8**	P	**Pn**	**02 47 51.4**	**+1.7**
BGF	**Bois d'Agland**	**10.18**	**8**	P	**Pn**	**02 47 51.4**	**+1.7**
SMF	**Signal de Mont**	**10.41**	**12**	*e*P	**Pn**	**02 47 54.0**	**+1.3**
	SNR=1.0						
SMF	**Signal de Mont**	**10.41**	**12**	P	**Pn**	**02 47 54.0**	**+1.3**
SMF	**Signal de Mont**	**10.41**	**12**	P	**Pn**	**02 47 54.0**	**+1.3**
AVF	**Avril sur Loir**	**10.48**	**10**	*e*P	**Pn**	**02 47 55.3**	**+1.7**
	SNR=1.0						
AVF	**Avril sur Loir**	**10.48**	**10**	P	**Pn**	**02 47 55.3**	**+1.7**
AVF	**Avril sur Loir**	**10.48**	**10**	P	**Pn**	**02 47 55.3**	**+1.7**
VLC	**Villacollemand**	**10.59**	**41**	*e*Pn	**Pn**	**02 47 55.7**	**+0.4**
VLC	**Villacollemand**	**10.59**	**41**	*e*Pn	**Pn**	**02 47 55.7**	**+0.4**
SSF	**Saint Saulge**	**10.76**	**10**	*e*P	**Pn**	**02 47 59.5**	**+1.9**
	SNR=1.0						
SSF	**Saint Saulge**	**10.76**	**10**	P	**Pn**	**02 47 59.5**	**+1.9**
SSF	**Saint Saulge**	**10.76**	**10**	P	**Pn**	**02 47 59.5**	**+1.9**
CABF	**La Chapelle**	**10.86**	**20**	*e*P	**Pn**	**02 48 00.2**	**+1.1**
	SNR=1.0						
CABF	**La Chapelle**	**10.86**	**20**	P	**Pn**	**02 48 00.2**	**+1.1**
CABF	**La Chapelle**	**10.86**	**20**	P	**Pn**	**02 48 00.2**	**+1.1**
QUIF	**Quistinic**	**11.80**	**347**	*e*P	**Pn**	**02 48 12.7**	**+0.9**
	SNR=1.0						
QUIF	**Quistinic**	**11.80**	**347**	P	**Pn**	**02 48 12.7**	**+0.9**
QUIF	**Quistinic**	**11.80**	**347**	P	**Pn**	**02 48 12.7**	**+0.9**
GRR	**Gorron**	**11.96**	**355**	*e*P	**Pn**	**02 48 15.0**	**+1.0**
GRR	**Gorron**	**11.96**	**355**	P	**Pn**	**02 48 15.0**	**+1.0**
GRR	**Gorron**	**11.96**	**355**	P	**Pn**	**02 48 15.0**	**+1.0**
SGMF	**Saint Gilles**	**12.03**	**349**	*e*P	**Pn**	**02 48 16.0**	**+1.2**
SGMF	**Saint Gilles**	**12.03**	**349**	P	**Pn**	**02 48 16.0**	**+1.2**
SGMF	**Saint Gilles**	**12.03**	**349**	P	**Pn**	**02 48 16.0**	**+1.2**
LDF	**La Druitiere**	**12.13**	**357**	*e*P	**Pn**	**02 48 16.4**	**+0.2**
LDF	**La Druitiere**	**12.13**	**357**	*e*P	**Pn**	**02 48 16.4**	**+0.2**
ROSF	**Rostrenen**	**12.22**	**347**	*e*P	**Pn**	**02 48 19.3**	**+1.7**
ROSF	**Rostrenen**	**12.22**	**347**	P	**Pn**	**02 48 19.3**	**+1.7**
ROSF	**Rostrenen**	**12.22**	**347**	P	**Pn**	**02 48 19.3**	**+1.7**
CUC	**Castrocucco**	**12.31**	**69**	*e*Pn	**Pn**	**02 48 17.4**	**-1.4**
CUC	**Castrocucco**	**12.31**	**69**	*e*Pn	**Pn**	**02 48 17.4**	**-1.4**
FLN	**La Foliniere**	**12.31**	**356**	*e*P	**Pn**	**02 48 20.2**	**+1.4**
	baz=171,SNR=1.0						
FLN	**La Foliniere**	**12.31**	**356**	P	**Pn**	**02 48 20.2**	**+1.4**
FLN	**La Foliniere**	**12.31**	**356**	P	**Pn**	**02 48 20.2**	**+1.4**
DAVA	**Damuels**	**12.73**	**29**	Pn	**Pn**	**02 48 27.6**	**+3.0**
	8.0nm,1.3s						
DAVA	**Damuels**	**12.73**	**29**	*e*Pn	**Pn**	**02 48 27.6**	**+3.0**
	8.0nm,1.3s						
FETA	**Feichten**	**12.86**	**32**	Pn	**Pn**	**02 48 29.4**	**+2.9**
	4.4nm,1.1s						
FETA	**Feichten**	**12.86**	**32**	*e*Pn	**Pn**	**02 48 29.4**	**+2.9**
	4.4nm,1.1s						
RETA	**Reutte**	**13.24**	**31**	Pn	**Pn**	**02 48 35.1**	**+3.5**
	3.6nm,0.8s						
RETA	**Reutte**	**13.24**	**31**	*e*Pn	**Pn**	**02 48 35.1**	**+3.5**
	3.6nm,0.8s						
MOTA	**Moosalm**	**13.28**	**32**	*e*Pn	**Pn**	**02 48 30.7**	**-1.4**
	3.5nm,1.0s						
ABTA	**Abfaltersbach**	**13.47**	**37**	Pn	**Pn**	**02 48 34.4**	**-0.3**
	5.0nm,1.4s						
ABTA	**Abfaltersbach**	**13.47**	**37**	Pn	**Pn**	**02 48 34.4**	**-0.3**
	5.0nm,1.4s						
WATA	**Walderalm**	**13.47**	**33**	Pn	**Pn**	**02 48 35.9**	**+1.2**
	2.5nm,0.8s						
WATA	**Walderalm**	**13.47**	**33**	*e*Pn	**Pn**	**02 48 35.9**	**+1.2**
	2.5nm,0.8s						
TAM	**Tamanrasset**	**14.24**	**162**	*e*Pn	**Pn**	**02 48 43.6**	**-1.7**
TAM				*e*S	**Sn**	**02 51 26.5**	**+2.8**
TAM	**Tamanrasset**	**14.24**	**162**	*e*Pn	**Pn**	**02 48 43.7**	**-1.7**
OBKA	**Obir**	**14.35**	**41**	Pn	**Pn**	**02 48 46.1**	**-0.5**
	6.5nm,1.6s						
OBKA	**Obir**	**14.35**	**41**	Pn	**Pn**	**02 48 46.1**	**-0.5**
	6.5nm,1.6s						
SOKA	**Soboth**	**14.71**	**42**	Pn	**Pn**	**02 48 52.1**	**+0.4**
	5.9nm,1.9s						
SOKA	**Soboth**	**14.71**	**42**	*e*Pn	**Pn**	**02 48 52.1**	**+0.4**
	5.9nm,1.9s						
MOA	**Molln**	**15.09**	**37**	Pn	**Pn**	**02 48 56.1**	**-0.6**
	6.2nm,1.6s						
MOA	**Molln**	**15.09**	**37**	Pn	**Pn**	**02 48 56.1**	**-0.6**
	6.2nm,1.6s						
ARSA	**Arzberg**	**15.33**	**41**	Pn	**Pn**	**02 48 59.7**	**-0.2**
	4.4nm,1.1s						
ARSA	**Arzberg**	**15.33**	**41**	*e*Pn	**Pn**	**02 48 59.7**	**-0.2**
	4.4nm,1.1s						
PDG	**Podgorica**	**15.43**	**62**	⇑*i*P	**P**	**02 49 07.4**	**+1.7**
PDG	**Podgorica**	**15.43**	**62**	⇑*i*P	**P**	**02 49 07.4**	**+1.7**
TTG	**Podgorica**	**15.43**	**62**	*e*Pn	**P**	**02 49 05.3**	**-0.4**
	17nm,1.0s						
GEA0	**GERESS Array S**	**15.54**	**33**	*e*Pn	**Pn**	**02 49 04.3**	**+1.6**
GEA0	**GERESS Array S**	**15.54**	**33**	*e*Pn	**Pn**	**02 49 04.3**	**+1.6**
GEC2	**GERESS Array S**	**15.55**	**33**	*e*Pn	**Pn**	**02 49 05.1**	**+2.3**
	27nm,2.0s						
GEC2	**GERESS Array S**	**15.55**	**33**	*e*Pn	**Pn**	**02 49 05.1**	**+2.3**
	27nm,2.0s						
GERES	**GERESS Array B**	**15.55**	**33**	Pn	**Pn**	**02 49 04.2**	**+1.4**
	0.2nm,0.3s,baz=216,slow=12,SNR=7.8						
GERES				LR	LR	02 55 23.6	
	comp=Z,52nm,19.6s,baz=290,slow=38						
KHC	**Kasperske Hory**	**15.71**	**32**	*e*P	**P**	**02 49 07.5**	**-1.4**
KHC				*e*pP	**pP**	**02 49 11.1**	**+0.2**
CONA	**Conrad Observa**	**15.94**	**39**	Pn	**Pn**	**02 49 07.8**	**-0.1**
	7.3nm,1.6s						
CONA	**Conrad Observa**	**15.94**	**39**	Pn	**Pn**	**02 49 07.8**	**-0.1**
	7.3nm,1.6s						
PSZ	**Piszkesteto**	**18.13**	**45**	⇑*i*P	**P**	**02 49 38.3**	**+2.6**
PSZ	**Piszkesteto**	**18.13**	**45**	*e*Pn	**Pn**	**02 49 34.3**	**-1.0**
	13nm,0.9s						
PSZ	**Piszkesteto**	**18.13**	**45**	*e*Pn	**Pn**	**02 49 34.3**	**-1.0**
	13nm,0.9s						
PSZ	**Piszkesteto**	**18.13**	**45**	⇑*i*P	**P**	**02 49 38.3**	**+2.6**
VTS	**Vitosha**	**18.30**	**64**	*e*Pn	**Pn**	**02 49 36.7**	**-0.9**
	19nm,1.9s						
VTS	**Vitosha**	**18.30**	**64**	*e*Pn	**Pn**	**02 49 36.7**	**-0.9**
	19nm,1.9s						
KECS	**Kecovo**	**18.76**	**44**	*e*P	**Pn**	**02 49 45.7**	**+2.7**
EKA	**Eskdalemuir Ar**	**19.05**	**353**	P	**Pn**	**02 49 48.6**	**+2.1**
	baz=162,slow=14,SNR=3.1						
DRGR		**19.28**	**51**	⇑*i*P	**Pn**	**02 49 51.2**	**+1.8**
DRGR		**19.28**	**51**	⇑*i*P	**Pn**	**02 49 51.2**	**+1.8**
CRVS	**Cervenica-Dubn**	**19.53**	**44**	*e*P	**Pn**	**02 49 54.7**	**+2.4**
IDI	**Anoyia**	**19.54**	**86**	P	**Pn**	**02 49 52.7**	**+0.1**
	0.3nm,0.3s,baz=288,slow=11,SNR=6.5						
STHS	**Stebnicka Huta**	**19.69**	**43**	*e*P	**Pn**	**02 49 56.0**	**+1.8**
APE	**Apeiranthos**	**19.80**	**81**	⇑*i*P	**Pn**	**02 49 56.0**	**+0.4**
APE	**Apeiranthos**	**19.80**	**81**	⇑*i*P	**Pn**	**02 49 56.0**	**+0.4**
ARR	**Arges**	**20.01**	**56**	⇑*i*P	Pn	02 49 58.8	+0.7
ARR	**Arges**	**20.01**	**56**	⇑*i*P	Pn	02 49 58.8	+0.7
VOIR		**20.31**	**56**	⇑*i*P	Pn	02 50 02.4	+0.7
VOIR		**20.31**	**56**	⇑*i*P	Pn	02 50 02.4	+0.7
ARCR	**ARCALIA**	**20.43**	**51**	⇑*i*P	Pn	02 50 03.4	+0.5
ARCR	**ARCALIA**	**20.43**	**51**	⇑*i*P	Pn	02 50 03.4	+0.5
KWP	**Kalwaria Pacla**	**20.61**	**44**	*e*P	Pn	02 50 05.9	+0.9
	89nm,1.0s						
DOPR	**Dopca**	**20.70**	**55**	⇑*i*P	Pn	02 50 06.3	+0.1
DOPR	**Dopca**	**20.70**	**55**	⇑*i*P	Pn	02 50 06.3	+0.1
MLR	**Muntele Rosu**	**20.93**	**57**	P	Pn	02 50 08.6	-0.3
	2.2nm,0.9s,baz=171,slow=11,SNR=11						
MLR				LR	LR	02 58 29.3	
	comp=Z,24nm,18.4s,baz=237,slow=38						
MLR	**Muntele Rosu**	**20.93**	**57**	⇑*i*P	Pn	02 50 09.0	0.0
MLR	**Muntele Rosu**	**20.93**	**57**	*e*P	Pn	02 50 08.7	-0.2
	10nm,0.9s						
BURAR	**Bucovina Array**	**21.18**	**51**	⇑*i*P	**P**	**02 50 10.7**	**+1.7**
PLOR	**Plostina**	**21.51**	**56**	⇑*i*P	**P**	**02 50 14.7**	**+2.2**
PLOR	**Plostina**	**21.51**	**56**	⇑*i*P	**P**	**02 50 14.7**	**+2.2**
VRI	**Vrincioaia**	**21.57**	**56**	⇑*i*P	**P**	**02 50 15.5**	**+2.4**
VRI	**Vrincioaia**	**21.57**	**56**	⇑*i*P	**P**	**02 50 15.5**	**+2.4**
HARR	**Harsova**	**22.09**	**60**	⇑*i*P	**P**	**02 50 20.6**	**+1.8**
HARR	**Harsova**	**22.09**	**60**	⇑*i*P	**P**	**02 50 20.6**	**+1.8**
KOWA	**Kowa**	**22.31**	**192**	P	**P**	**02 50 20.0**	**-1.3**
	3.8nm,0.6s,baz=13,slow=11,SNR=18						
AKAS	**Kas**	**23.16**	**82**	*e*P	**P**	**02 50 30.7**	**+0.4**
	17nm,1.2s						
AKAS	**Kas**	**23.16**	**82**	*e*P	**P**	**02 50 30.7**	**+0.4**
	17nm,1.2s						
TOA0	**Torodi Ar. Sit**	**23.25**	**178**	*e*P	**P**	**02 50 30.5**	**-0.6**
	7.5nm,1.2s						
TOA0	**Torodi Ar. Sit**	**23.25**	**178**	*e*P	**P**	**02 50 30.5**	**-0.6**
	7.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**23.25**	**178**	P	**P**	**02 50 30.0**	**-1.1**
	3.1nm,0.6s,baz=359,slow=12,SNR=28						
TORD	**Torodi Ar. Bea**	**23.25**	**178**	P	**P**	**02 50 30.0**	**-1.1**
SORM	**Soroca**	**23.33**	**51**	⇑*i*P	**P**	**02 50 30.9**	**-0.8**
SORM	**Soroca**	**23.33**	**51**	⇑*i*P	**P**	**02 50 30.9**	**-0.8**
AKASG	**Malin Array Be**	**24.82**	**46**	P	**P**	**02 50 43.3**	**-2.5**
	1.1nm,0.6s,baz=246,slow=11,SNR=5.9						
HFS	**Hagfors**	**25.08**	**15**	P	**P**	**02 50 48.6**	**+0.6**
	2.9nm,0.8s,baz=202,slow=6.4,SNR=6.6						
NOA	**NORSAR Array B**	**25.45**	**12**	LR	LR	03 00 15.5	
	comp=Z,16nm,18.3s,baz=290,slow=35						
BRTR	**Keskin Array B**	**25.95**	**73**	P	**P**	**02 50 57.1**	**+0.7**
	0.5nm,0.7s,baz=262,slow=5.5,SNR=2.5						
MMAI	**Mount Meron Ar**	**28.54**	**87**	P	**P**	**02 51 20.6**	**+1.0**
	3.6nm,0.8s,baz=316,slow=4.0,SNR=4.5						
FINES	**FINESS Array B**	**29.61**	**25**	P	**P**	**02 51 29.0**	**+0.3**
	1.0nm,0.6s,baz=205,slow=8.4,SNR=4.9						
ARCES	**ARCESS Array B**	**35.74**	**15**	P	**P**	**02 52 22.4**	**+0.3**
	1.0nm,0.8s,baz=212,slow=8.3,SNR=3.3						
AKTO	**Aktyubinsk**	**42.76**	**52**	P	**P**	**02 53 21.1**	**+0.2**
	2.3nm,0.8s,baz=282,slow=9.3,SNR=8.2						
ABKAR	**Akbulak array**	**44.10**	**54**	*e*P	**P**	**02 53 31.2**	**-0.6**
	2.0nm,0.7s						
GEYT	**Alibeck**	**45.04**	**70**	P	**P**	**02 53 39.7**	**+0.1**
	2.2nm,0.8s,baz=297,slow=9.8,SNR=5.8						
BVAR	**Borovoye Array**	**50.09**	**48**	P	**P**	**02 54 20.0**	**+1.5**
	0.8nm,0.7s,baz=268,slow=4.3,SNR=4.6						
KMBO	**Kilima Mbogo**	**50.45**	**130**	LR	LR	03 18 27.3	
	comp=Z,53nm,18.2s,baz=218,slow=39						
KURK	**Kurchatov**	**55.59**	**49**	*e*P	**P**	**02 54 58.5**	**-0.6**
	5.5nm,0.9s						
ZALV	**Zalesovo Beam**	**58.18**	**44**	P	**P**	**02 55 17.4**	**-0.1**
	1.3nm,0.5s,baz=292,slow=9.4,SNR=7.1						
MAKZ	**Makanchi**	**58.99**	**52**	*e*P	**P**	**02 55 22.7**	**-0.6**
	9.2nm,1.8s						
MK31	**Makanchi Array**	**59.19**	**52**	*e*P	**P**	**02 55 24.6**	**-0.1**
MKAR	**Makanchi Array**	**59.19**	**52**	P	**P**	**02 55 24.4**	**-0.4**
	2.3nm,0.7s,baz=284,slow=6.4,SNR=20						
MKAR	**Makanchi Array**	**59.19**	**52**	*e*P	**P**	**02 55 24.6**	**-0.1**
MK01	**Makanchi Array**	**59.21**	**52**	*e*P	**P**	**02 55 24.3**	**-0.5**
WMQ	**Urumqi**	**63.89**	**54**	P	**P**	**02 55 57.9**	**+1.4**
WMQ				pP	sP	02 56 01.3	+1.6
WMQ				sP	pP	02 56 05.3	+6.5
ULM	**Lac du Bonnet**	**66.82**	**316**	P	**P**	**02 56 14.5**	**-0.8**
	2.1nm,0.8s,baz=54,slow=11,SNR=4.7						
YKA	**Yellowknife Ar**	**68.67**	**333**	P	**P**	**02 56 27.4**	**+0.6**
	0.7nm,0.6s,baz=54,slow=6.2,SNR=16						
BOSA	**Boshof**	**68.71**	**157**	P	**P**	**02 56 27.1**	**-0.4**
	4.0nm,0.8s,baz=315,slow=2.9,SNR=4.9						
BOSA				LR	LR	03 25 33.2	
	comp=Z,44nm,21.8s,baz=16,slow=35						
SONM	**Songino Array**	**73.05**	**43**	P	**P**	**02 56 53.9**	**+0.1**
	0.7nm,0.6s,baz=302,slow=8.5,SNR=6.7						
ILAR	**Eielson Array**	**75.94**	**346**	P	**P**	**02 57 11.3**	**+1.1**
	0.4nm,0.7s,baz=5.8,slow=3.1,SNR=5.8						
PDAR	**Pinedale Array**	**78.82**	**315**	P	**P**	**02 57 26.2**	**-0.8**
	0.7nm,0.6s,baz=54,slow=5.6,SNR=7.5						
HHC	**Hu-ho-hao-te**	**80.27**	**46**	*e*P	**P**	**02 57 36.3**	**+1.5**
CPUP	**Villa Florida**	**83.07**	**230**	P	**P**	**02 57 50.6**	**+1.2**
	1.8nm,0.7s,baz=70,slow=3.7,SNR=6.8						
TXAR	**Lajitas Array**	**83.54**	**302**	P	**P**	**02 57 54.1**	**+1.9**
	0.2nm,0.7s,baz=67,slow=6.9,SNR=2.8						
STKA	**Stephens Creek**	**147.39**	**94**	PKPbc	**PKPbc**	**03 05 07.2**	**-0.5**
	2.3nm,0.5s,baz=270,slow=2.0,SNR=5.6						

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*NEIC **05** 02:49:51.4±0.0, 17°.86N×103°.26W, h5km, MD4.0(MEX), After MEX.*

MEX 05 02:49:51.4±0.5**, 17°.86N×103°.26W, h5**km**, MD4.0, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.44**	**349**	*e*P	Pg	02 49 59.1	-0.7
MMIG				*e*S	Sg	02 50 05.5	-0.1
MMIG	**Aquila**	**0.44**	**349**	*e*P	Pg	02 49 59.1	-0.7
MMIG				*e*S	Sg	02 50 05.5	-0.1
EZ5V		**1.65**	**349**	*e*P	Pn	02 50 17.7	-3.5
EZ5V				*e*S	Sn	02 50 38.7	-4.2
ZIIG	**Zihuatanejo**	**1.73**	**98**	*e*P	Pn	02 50 17.9	-4.1
ZIIG				*e*S	Sn	02 50 40.0	-4.5
ZIIG	**Zihuatanejo**	**1.73**	**98**	*e*P	Pn	02 50 17.9	-4.1
ZIIG				*e*S	Sn	02 50 40.0	-4.5
CJM	**Chamela**	**2.35**	**314**	*e*P	Pn	02 50 27.6	-3.1
CJM				*i* S	Sn	02 50 56.1	-3.9
CJM	**Chamela**	**2.35**	**314**	*e*P	Pn	02 50 27.6	-3.1
CJM				*i* S	Sn	02 50 56.1	-3.9
SFJM	**Santa Fe**	**2.62**	**4**	*i* P	Pn	02 50 31.0	-3.6
SFJM				*e*S	Sn	02 51 02.2	-4.7
SFJM	**Santa Fe**	**2.62**	**4**	*i* P	Pn	02 50 31.0	-3.6
SFJM				*e*S	Sn	02 51 02.2	-4.7
MOIG	**Morelia**	**2.67**	**47**	*e*P	Pn	02 50 31.6	-3.7
MOIG				*i* S	Sn	02 51 04.3	-3.8
MOIG	**Morelia**	**2.67**	**47**	Pn	Pn	02 50 28.9	-6.3
MOIG				*i* S	Sn	02 51 04.3	-3.8
ARIG	**Puente Sto Nin**	**2.80**	**81**	*e*P	Pn	02 50 33.7	-3.2
ARIG				*e*S	Sn	02 51 06.8	-4.2

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*IDC **05** 02:52:39.0±1.7, 36°.45N×0°.83E, h0km, mb3.1/2, mb1 3.3/4, mb1mx3.1/57, mbtmp3.3/4, ML3.7/2, Error ellipse: s-maj=34.6km s-min=30.7km az=81.0*

*CRAAG **05** 02:52:39.1, 36°.46N×0°.98E, Ml3.5*

*CSEM **05** 02:52:41.7±0.1, 36°.43N×0°.89E, h20km, mb4.4, Error ellipse: s-maj=3.7km s-min=3.0km az=174.0*

*MDD **05** 02:52:42.4±0.5, 36°.44N×0°.99E, h24km±9km, mb4.4/35, Error ellipse: s-maj=7.7km s-min=4.6km az=142.0, PRXIMO*

*INMG **05** 02:52:42.5±0.9, 36°.48N×0°.67E, h0km, ML2.6, Error ellipse: s-maj=9.3km s-min=7.6km az=38.0*

*SFS **05** 02:52:43.0, 36°.47N×0°.82E, h0km, ML2.9*

*LDG **05** 02:52:46.9±0.2, 36°.63N×0°.84E, h30km, Ml3.1/2, Error ellipse: s-maj=5.0km s-min=2.3km az=153.0*

ISC 05 02:52:40.9±1.5**, 36°.51N**±0°.04×**0°.90E**±0°.04**, h20**km±6km**, n193, σ2ˢ09**/250**, 2C-2D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHF	**Ech Chlef**	**0.50**	**135**	P	**Pg**	**02 52 49.5**	**-1.5**
ECHF	**Ech Chlef**	**0.50**	**135**	P	**Pg**	**02 52 49.5**	**-1.5**
OKGL	**Djebel Kef Gue**	**0.52**	**204**	P	**Pn**	**02 52 53.0**	**-0.2**
OKGL	**Djebel Kef Gue**	**0.52**	**204**	P	**Pn**	**02 52 53.0**	**-0.2**
OKGL	**Djebel Kef Gue**	**0.52**	**204**	P	**Pn**	**02 52 53.0**	**-0.2**
ECHA	**Ech Chlef**	**0.52**	**134**	P	**Pg**	**02 52 49.5**	**-1.9**
ECHA	**Ech Chlef**	**0.52**	**134**	P	**Pg**	**02 52 49.5**	**-1.9**
EBNR	**Beni Rached**	**0.55**	**113**	P	**Pg**	**02 52 51.5**	**-0.5**
EBNR	**Beni Rached**	**0.55**	**113**	P	**Pg**	**02 52 51.5**	**-0.5**
EANR	**'Ain N'Sour**	**0.58**	**164**	P	**Pb**	**02 52 51.9**	**-0.5**
EANR	**'Ain N'Sour**	**0.58**	**164**	P	**Pb**	**02 52 51.9**	**-0.5**
EANR	**'Ain N'Sour**	**0.58**	**164**	P	**Pb**	**02 52 51.9**	**-0.5**
OJGS	**Djebel Guires**	**1.01**	**187**	P	Pg	02 52 51.0	-10
OJGS	**Djebel Guires**	**1.01**	**187**	P	Pg	02 52 51.0	-10
ETRT	**Tiaret**	**1.16**	**164**	P	**Pg**	**02 53 01.0**	**-2.5**
ETRT	**Tiaret**	**1.16**	**164**	P	**Pg**	**02 53 01.0**	**-2.5**
ETRT	**Tiaret**	**1.16**	**164**	P	**Pg**	**02 53 01.0**	**-2.5**
USTO	**Oran**	**1.41**	**237**	P	Pg	02 53 15.0	+6.9
USTO	**Oran**	**1.41**	**237**	P	Pg	02 53 15.0	+6.9
ODJA	**Bouhanifia**	**1.45**	**216**	P	**Pn**	**02 53 06.5**	**+0.4**
ODJA	**Bouhanifia**	**1.45**	**216**	P	**Pn**	**02 53 06.5**	**+0.4**
ODJA	**Bouhanifia**	**1.45**	**216**	P	**Pn**	**02 53 06.5**	**+0.4**
EMHD	**Djebel Mahouad**	**1.68**	**100**	P	**Pb**	**02 53 12.0**	**+0.7**
EMHD	**Djebel Mahouad**	**1.68**	**100**	P	**Pb**	**02 53 12.0**	**+0.7**
EMHD	**Djebel Mahouad**	**1.68**	**100**	P	**Pb**	**02 53 12.0**	**+0.7**
ABA	**Alger-Bouzarea**	**1.74**	**80**	P	**Pg**	**02 53 15.0**	**+0.6**
ABA	**Alger-Bouzarea**	**1.74**	**80**	P	**Pg**	**02 53 15.0**	**+0.6**
ABA	**Alger-Bouzarea**	**1.74**	**80**	P	**Pg**	**02 53 15.0**	**+0.6**
CART	**Cartagena**	**1.86**	**306**	P	**Pn**	**02 53 11.3**	**-0.4**
CART				S	**Sn**	**02 53 32.1**	**-2.6**
CART	**Cartagena**	**1.86**	**306**	P	**Pn**	**02 53 11.3**	**-0.4**
CART				*e*S	**Sn**	**02 53 32.1**	**-2.6**
EMUR	**La Murta**	**2.17**	**309**	⇓P	**Pn**	**02 53 16.3**	**+0.3**
	17nm,0.3s,SNR=18						
EMUR				S	**Sn**	**02 53 41.9**	**-0.4**
	65nm,0.5s,SNR=4.8						
EMUR	**La Murta**	**2.17**	**309**	P	**Pn**	**02 53 16.3**	**+0.3**
	17nm,0.3s,SNR=18						
EMUR				S	**Sn**	**02 53 41.9**	**-0.4**
	65nm,0.5s,SNR=4.8						
EIBI	**Ibiza**	**2.54**	**8**	⇑P	**Pn**	**02 53 22.2**	**+1.2**
	30nm,0.1s,SNR=18						
EIBI				S	**Sn**	**02 53 49.8**	**-1.5**
	73nm,0.2s						
EIBI	**Ibiza**	**2.54**	**8**	P	**Pn**	**02 53 22.2**	**+1.2**
	30nm,0.1s,SNR=18						
ENIJ	**Nijar**	**2.54**	**281**	P	**Pn**	**02 53 21.2**	**+0.1**
	8.1nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**02 53 48.9**	**-2.6**
	50nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.54**	**281**	P	**Pn**	**02 53 21.2**	**+0.1**
	8.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**2.89**	**318**	⇓P	**Pn**	**02 53 27.6**	**+1.7**
	16nm,0.1s,SNR=18						
ETOB				S	**Sn**	**02 53 58.3**	**-1.8**
	26nm,0.2s,SNR=4.6						
ETOB	**Tobarra**	**2.89**	**318**	P	**Pn**	**02 53 27.6**	**+1.7**
	16nm,0.1s,SNR=18						
EBER	**Berja**	**3.07**	**278**	P	**Pn**	**02 53 29.3**	**+0.8**
	10nm,0.2s,SNR=21						
EBER				S	**Sn**	**02 54 05.2**	**+0.4**
	50nm,0.5s,SNR=79						
EBER	**Berja**	**3.07**	**278**	P	**Pn**	**02 53 29.3**	**+0.8**
	10nm,0.2s,SNR=21						
EBER				S	**Sn**	**02 54 05.2**	**+0.4**
	50nm,0.5s,SNR=79						
SESP	**Santiago Espad**	**3.18**	**301**	P	**Pn**	**02 53 32.2**	**+2.2**
	26nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**02 54 08.0**	**+0.5**
	102nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**3.18**	**301**	P	**Pn**	**02 53 32.2**	**+2.2**
	26nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**02 54 08.0**	**+0.5**
	102nm,0.3s,SNR=7.9						
EALB	**Alboran**	**3.23**	**261**	P	**Pn**	**02 53 33.7**	**+3.2**
	5.4nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**02 54 07.7**	**-0.7**
	26nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**3.30**	**288**	P	**Pn**	**02 53 33.5**	**+1.9**
	12nm,0.2s,SNR=7.9						
GORA				S	**Sn**	**02 54 11.0**	**+0.7**
	30nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**3.30**	**288**	P	**Pn**	**02 53 33.5**	**+1.9**
	12nm,0.2s,SNR=7.9						
GORA				S	**Sn**	**02 54 11.0**	**+0.7**
	30nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.43**	**293**	P	**Pn**	**02 53 35.2**	**+1.9**
	28nm,0.1s,SNR=236						
EQES				S	**Sn**	**02 54 14.2**	**+0.8**
	77nm,0.4s,SNR=5.7						
EQES	**Quesada**	**3.43**	**293**	P	**Pn**	**02 53 35.2**	**+1.9**
	28nm,0.1s,SNR=236						
EQES				S	**Sn**	**02 54 14.2**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	77nm,0.4s,SNR=5.7						
EQUE	**Quentar**	**3.55**	**283**	P	**Pn**	**02 53 36.6**	**+1.6**
	8.9nm,0.2s,SNR=19						
EQUE				S	**Sn**	**02 54 17.2**	**+0.7**
	23nm,0.5s						
EQUE	**Quentar**	**3.55**	**283**	P	**Pn**	**02 53 36.6**	**+1.6**
	8.9nm,0.2s,SNR=19						
EQUE				S	**Sn**	**02 54 17.2**	**+0.7**
	23nm,0.5s						
ETOS	**Mallorca**	**3.59**	**24**	P	**Pn**	**02 53 35.8**	**+0.4**
	2.8nm,0.2s,SNR=8.3						
ETOS				S	**Sn**	**02 54 15.6**	**-1.7**
	6.0nm,0.2s						
ETOS	**Mallorca**	**3.59**	**24**	P	**Pn**	**02 53 35.8**	**+0.4**
	2.8nm,0.2s,SNR=8.3						
ELGU	**Los Guajares,**	**3.66**	**277**	P	**Pn**	**02 53 37.5**	**+1.1**
	4.8nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**02 54 19.5**	**+0.4**
	50nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**3.66**	**277**	P	**Pn**	**02 53 37.5**	**+1.1**
	4.8nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**02 54 19.5**	**+0.4**
	50nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.00**	**345**	P	**Pn**	**02 53 43.3**	**+2.1**
	4.6nm,0.1s,SNR=42						
EMOS				S	**Sn**	**02 54 25.4**	**-2.2**
	13nm,0.3s,SNR=5.8						
EMOS	**Mosqueruela**	**4.00**	**345**	P	**Pn**	**02 53 43.3**	**+2.1**
	4.6nm,0.1s,SNR=42						
EGOR	**Sierra Gorda,**	**4.07**	**280**	P	**Pn**	**02 53 45.9**	**+3.7**
	4.6nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**02 54 31.0**	**+1.7**
	26nm,0.6s,SNR=7.9						
EGOR	**Sierra Gorda,**	**4.07**	**280**	S	**Sn**	**02 54 31.0**	**+1.7**
	26nm,0.6s,SNR=7.9						
EMAL	**Malaga-Limoner**	**4.29**	**275**	*e*S	**Sn**	**02 54 33.6**	**-1.1**
ERTA	**Horta de San J**	**4.46**	**354**	P	**Pn**	**02 53 48.8**	**+1.3**
	3.8nm,0.1s,SNR=16						
ERTA				S	**Sn**	**02 54 37.5**	**-1.3**
	6.7nm,0.3s						
ERTA	**Horta de San J**	**4.46**	**354**	P	**Pn**	**02 53 48.8**	**+1.3**
	3.8nm,0.1s,SNR=16						
EADA	**Adamuz**	**4.67**	**292**	P	**Pn**	**02 53 50.8**	**+0.5**
	2.2nm,0.1s,SNR=27						
EADA				S	**Sn**	**02 54 43.0**	**-1.0**
	11nm,0.2s						
EADA	**Adamuz**	**4.67**	**292**	P	**Pn**	**02 53 50.8**	**+0.5**
	2.2nm,0.1s,SNR=27						
EADA				S	**Sn**	**02 54 43.0**	**-1.0**
	11nm,0.2s						
EPOB	**Poblet**	**4.84**	**2**	P	**Pn**	**02 53 54.0**	**+1.3**
	4.0nm,0.2s,SNR=19						
EPOB				S	**Sn**	**02 54 44.2**	**-4.0**
	2.2nm,0.2s						
EPOB	**Poblet**	**4.84**	**2**	P	**Pn**	**02 53 54.0**	**+1.3**
	4.0nm,0.2s,SNR=19						
ETOR	**Torete**	**4.89**	**333**	P	**Pn**	**02 53 54.8**	**+1.5**
	2.7nm,0.4s,SNR=6.1						
ETOR				S	**Sn**	**02 54 45.9**	**-3.5**
	11nm,0.7s,SNR=7.1						
ETOR	**Torete**	**4.89**	**333**	P	**Pn**	**02 53 54.8**	**+1.5**
	2.7nm,0.4s,SNR=6.1						
ESDC	**Sonseca Array**	**4.97**	**311**	Pn	**Pn**	**02 53 55.1**	**+0.7**
	1.6nm,0.3s,baz=125,slow=14,SNR=12						
ESDC				Sn	**Sn**	**02 54 50.8**	**-0.6**
	3.7nm,0.3s,baz=123,slow=24,SNR=11						
ESDC				Lg	Lg	02 55 01.8	
	2.8nm,0.3s,baz=130,slow=30,SNR=7.1						
ESDC	**Sonseca Array**	**4.97**	**311**	P	**Pn**	**02 53 55.2**	**+0.7**
	0.8nm,0.2s,baz=120,slow=13,SNR=27						
ESDC				S	**Sn**	**02 54 48.5**	**-2.9**
	1.6nm,0.2s,baz=123,slow=24,SNR=11						
ESDC	**Sonseca Array**	**4.97**	**311**	P	**Pn**	**02 53 55.2**	**+0.7**
	0.8nm,0.2s,SNR=27						
UCM	**Universidad Co**	**5.00**	**321**	*e*P	**Pn**	**02 53 56.4**	**+1.5**
EJIF	**Jimena Fronter**	**5.13**	**271**	P	**Pn**	**02 53 59.3**	**+2.6**
	1.5nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**02 54 55.5**	**+0.1**
	3.3nm,0.5s,SNR=7.9						
EJIF	**Jimena Fronter**	**5.13**	**271**	P	**Pn**	**02 53 59.3**	**+2.6**
	1.5nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**02 54 55.5**	**+0.1**
	3.3nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**5.28**	**289**	P	**Pn**	**02 53 58.9**	**+0.2**
	2.7nm,0.2s,SNR=33						
ECAB				S	**Sn**	**02 54 57.8**	**-1.1**
	9.0nm,0.4s						
ECAB	**El Cabril**	**5.28**	**289**	P	**Pn**	**02 53 58.9**	**+0.2**
	2.7nm,0.2s,SNR=33						
ECAB				S	**Sn**	**02 54 57.8**	**-1.1**
	9.0nm,0.4s						
CFON	**Fontmartina**	**5.38**	**12**	P	**Pn**	**02 54 01.2**	**+1.1**
	11nm,0.2s,SNR=18						
CFON				S	**Sn**	**02 54 57.8**	**-3.8**
	9.5nm,0.4s,SNR=6.1						
CFON	**Fontmartina**	**5.38**	**12**	P	**Pn**	**02 54 01.2**	**+1.1**
	11nm,0.2s,SNR=18						
EMIR	**Miracle**	**5.42**	**5**	⇑P	**Pn**	**02 54 03.3**	**+2.7**
	11nm,0.2s,SNR=18						
EMIR				S	**Sn**	**02 55 02.3**	**-0.2**
	17nm,0.3s						
EMIR	**Miracle**	**5.42**	**5**	P	**Pn**	**02 54 03.3**	**+2.7**
	11nm,0.2s,SNR=18						
ESPR	**Espera**	**5.44**	**276**	S	**Sn**	**02 55 04.2**	**+1.2**
	4.6nm,0.7s,SNR=7.9						
ESPR	**Espera**	**5.44**	**276**	S	**Sn**	**02 55 04.2**	**+1.2**
	4.6nm,0.7s,SNR=7.9						
GUD	**Guadarrama**	**5.72**	**318**	P	**Pn**	**02 54 06.2**	**+1.3**
	1.8nm,0.2s,SNR=15						
GUD				S	**Sn**	**02 55 08.6**	**-1.4**
	1.5nm,0.3s						
GUD	**Guadarrama**	**5.72**	**318**	P	**Pn**	**02 54 06.2**	**+1.3**
	1.8nm,0.2s,SNR=15						
CSOR	**Sort**	**5.86**	**2**	P	**Pn**	**02 54 08.6**	**+1.8**
	4.0nm,0.1s,SNR=16						
CSOR				S	**Sn**	**02 55 08.6**	**-4.9**
	4.6nm,0.5s,SNR=5.7						
CSOR	**Sort**	**5.86**	**2**	P	**Pn**	**02 54 08.6**	**+1.8**
	4.0nm,0.1s,SNR=16						
CLLI	**Llivia**	**6.02**	**8**	P	**Pn**	**02 54 11.0**	**+2.0**
	1.5nm,0.1s,SNR=8.1						
CLLI				S	**Sn**	**02 55 12.5**	**-4.9**
	1.2nm,0.3s,SNR=6.8						
CLLI	**Llivia**	**6.02**	**8**	P	**Pn**	**02 54 11.0**	**+2.0**
	1.5nm,0.1s,SNR=8.1						
EJON	**La Jonquera**	**6.13**	**14**	P	**Pn**	**02 54 12.1**	**+1.8**
	1.1nm,0.1s,SNR=7.9						
EJON				S	**Sn**	**02 55 15.6**	**-4.3**
	4.7nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**6.13**	**14**	P	**Pn**	**02 54 12.1**	**+1.8**
	1.1nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**6.16**	**14**	P	**Pn**	**02 54 12.7**	**+1.9**
	1.6nm,0.3s,SNR=7.9						
SJAF				S	**Sn**	**02 55 18.2**	**-2.5**
	1.8nm,0.4s,SNR=7.9						
SJAF	**Saint Jean de**	**6.16**	**14**	P	**Pn**	**02 54 12.7**	**+1.9**
	1.6nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.18**	**284**	P	**Pn**	**02 54 12.0**	**+1.0**
	1.0nm,0.1s,SNR=9.0						
EMIN				S	**Sn**	**02 55 17.1**	**-4.0**
	1.8nm,0.5s,SNR=11						
EMIN	**Mina Concepcio**	**6.18**	**284**	P	**Pn**	**02 54 12.0**	**+1.0**
	1.0nm,0.1s,SNR=9.0						
EPF	**Esparros**	**6.53**	**356**	*e*Pn	**Pn**	**02 54 18.0**	**+2.1**
EPF				*e*Sn	**Sn**	**02 55 25.0**	**-4.8**
	1.3nm,0.2s						
EPF	**Esparros**	**6.53**	**356**	P	**Pn**	**02 54 18.0**	**+2.1**
EPF				S	**Sn**	**02 55 25.0**	**-4.8**
	0.6nm,0.2s						
EPF	**Esparros**	**6.53**	**356**	P	**Pn**	**02 54 18.0**	**+2.1**
IELO	**Elcoad**	**6.54**	**346**	P	**Pn**	**02 54 17.1**	**+1.1**
	1.2nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**6.54**	**346**	P	**Pn**	**02 54 17.1**	**+1.1**
	1.2nm,0.3s,SNR=7.9						
EPLA	**Plasencia**	**6.54**	**305**	P	**Pn**	**02 54 15.4**	**-0.6**
	0.9nm,0.3s,SNR=7.9						
EPLA	**Plasencia**	**6.54**	**305**	P	**Pn**	**02 54 15.4**	**-0.6**
	0.9nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**6.54**	**287**	*e*Pn	**Pn**	**02 54 16.7**	**+0.7**
PBAR				*e*Sn	**Sn**	**02 55 26.8**	**-3.2**
PBAR				A	A	02 55 32.0	
	4.8nm,0.6s						
PBAR	**Barrancos**	**6.54**	**287**	P	**Pn**	**02 54 16.7**	**+0.7**
PBAR				S	**Sn**	**02 55 26.8**	**-3.2**
	4.8nm,0.6s						
PBAR	**Barrancos**	**6.54**	**287**	P	**Pn**	**02 54 16.7**	**+0.7**
EBAD	**Badajoz**	**6.67**	**292**	P	**Pn**	**02 54 18.2**	**+0.4**
	0.5nm,0.1s,SNR=6.5						
EBAD				S	**Sn**	**02 55 29.4**	**-3.8**
	3.3nm,0.2s,SNR=5.1						
EBAD	**Badajoz**	**6.67**	**292**	P	**Pn**	**02 54 18.2**	**+0.4**
	0.5nm,0.1s,SNR=6.5						
ATE	**Arette**	**6.68**	**350**	P	**Pn**	**02 54 21.1**	**+3.1**
	2.0nm,0.4s,SNR=7.9						
ATE				S	**Sn**	**02 55 30.1**	**-3.4**
	5.3nm,0.7s,SNR=7.9						
ATE	**Arette**	**6.68**	**350**	P	**Pn**	**02 54 21.1**	**+3.1**
	2.0nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**6.80**	**347**	*e*Pn	**Pn**	**02 54 21.7**	**+2.2**
SJPF	**Ste Jean**	**6.80**	**347**	P	**Pn**	**02 54 21.7**	**+2.2**
SJPF	**Ste Jean**	**6.80**	**347**	P	**Pn**	**02 54 21.7**	**+2.2**
KEST	**Kesra**	**6.88**	**94**	Pn	**Pn**	**02 54 22.5**	**+1.8**
	0.8nm,0.3s,baz=300,slow=9.2,SNR=12						
KEST				Sn	**Sn**	**02 55 39.2**	**+0.8**
	0.1nm,0.3s,baz=288,slow=19,SNR=1.5						
MTLF	**Montolieu**	**6.90**	**8**	*e*Pn	**Pn**	**02 54 23.2**	**+2.3**
MTLF	**Montolieu**	**6.90**	**8**	P	**Pn**	**02 54 23.2**	**+2.3**
MTLF	**Montolieu**	**6.90**	**8**	P	**Pn**	**02 54 23.2**	**+2.3**
EALK	**Alkurruntz**	**6.95**	**345**	P	**Pn**	**02 54 25.7**	**+4.0**
	3.2nm,0.4s,SNR=6.3						
EALK				S	**Sn**	**02 55 36.1**	**-4.2**
	7.8nm,0.6s,SNR=7.9						
EALK	**Alkurruntz**	**6.95**	**345**	P	**Pn**	**02 54 25.7**	**+4.0**
	3.2nm,0.4s,SNR=6.3						
PVAQ	**Vaqueiros**	**6.96**	**280**	*e*Pn	**Pn**	**02 54 22.5**	**+0.8**
PVAQ				*e*Sn	**Sn**	**02 55 36.4**	**-3.9**
PVAQ				A	A	02 55 49.7	
	2.5nm,0.6s						
PVAQ	**Vaqueiros**	**6.96**	**280**	P	**Pn**	**02 54 22.5**	**+0.8**
PVAQ				S	**Sn**	**02 55 36.4**	**-3.9**
	2.5nm,0.6s						
PVAQ	**Vaqueiros**	**6.96**	**280**	P	**Pn**	**02 54 22.5**	**+0.8**
PESTR	**Estremoz**	**7.13**	**292**	*e*Pn	**Pn**	**02 54 25.2**	**+1.0**
PESTR				*e*Sn	**Sn**	**02 55 41.1**	**-3.5**
PESTR				A	A	02 56 12.6	
	2.1nm,0.6s						
PESTR	**Estremoz**	**7.13**	**292**	*e*Pn	**Pn**	**02 54 25.2**	**+1.0**
PMRV	**Marv??o**	**7.17**	**296**	*e*Pn	**Pn**	**02 54 26.9**	**+2.2**
PMRV				*e*Sn	**Sn**	**02 55 43.2**	**-2.3**
PMRV				A	A	02 56 08.1	
	2.5nm,0.7s						
PMRV	**Marv??o**	**7.17**	**296**	P	**Pn**	**02 54 26.9**	**+2.2**
PMRV				S	**Sn**	**02 55 43.2**	**-2.3**
	2.5nm,0.7s						
PMRV	**Marv??o**	**7.17**	**296**	P	**Pn**	**02 54 26.9**	**+2.2**
EVO	**Evora**	**7.37**	**289**	*e*Sn	**Sn**	**02 55 46.9**	**-3.5**
EVO	**Evora**	**7.37**	**289**	S	**Sn**	**02 55 46.9**	**-3.5**
ELAN	**Lanestosa**	**7.50**	**335**	P	**Pn**	**02 54 32.4**	**+3.3**
	8.1nm,0.2s,SNR=67						
ELAN				S	**Sn**	**02 55 49.9**	**-3.7**
	7.4nm,0.7s,SNR=5.6						
ELAN	**Lanestosa**	**7.50**	**335**	P	**Pn**	**02 54 32.4**	**+3.3**
	8.1nm,0.2s,SNR=67						
PMTG	**Montargil**	**7.67**	**292**	*e*Pn	**Pn**	**02 54 32.6**	**+1.2**
PMTG				*e*Sn	**Sn**	**02 55 54.7**	**-3.0**
PMTG				A	A	02 56 37.4	
	3.0nm,0.6s						
PMTG	**Montargil**	**7.67**	**292**	*e*Pn	**Pn**	**02 54 32.6**	**+1.2**
PNCL	**Nicolau / Gran**	**7.68**	**285**	*e*Pn	**Pn**	**02 54 32.7**	**+1.0**
PNCL	**Nicolau / Gran**	**7.68**	**285**	*e*Pn	**Pn**	**02 54 32.7**	**+1.0**
MVO	**Moncorvo**	**7.74**	**309**	P	**Pn**	**02 54 33.8**	**+1.3**
	2.4nm,0.3s,SNR=6.6						
MVO				S	**Sn**	**02 55 53.5**	**-6.1**
	4.1nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**7.74**	**309**	P	**Pn**	**02 54 33.8**	**+1.3**
	2.4nm,0.3s,SNR=6.6						
PTOM	**Tomar**	**7.97**	**296**	*e*Pn	**Pn**	**02 54 37.4**	**+1.7**
PTOM	**Tomar**	**7.97**	**296**	P	**Pn**	**02 54 37.4**	**+1.7**
PTOM	**Tomar**	**7.97**	**296**	P	**Pn**	**02 54 37.4**	**+1.7**
ECAL	**Calabor**	**8.03**	**315**	P	**Pn**	**02 54 38.2**	**+1.6**
	5.1nm,0.3s,SNR=12						
ECAL	**Calabor**	**8.03**	**315**	P	**Pn**	**02 54 38.2**	**+1.6**
	5.1nm,0.3s,SNR=12						
LMR	**La Mourre**	**8.06**	**31**	*e*Pn	**Pn**	**02 54 37.9**	**+1.1**
LMR				*e*Sn	**Sn**	**02 56 04.3**	**-3.1**
	1.4nm,0.3s						
LMR	**La Mourre**	**8.06**	**31**	P	**Pn**	**02 54 37.9**	**+1.1**
LMR				S	**Sn**	**02 56 04.3**	**-3.1**
	0.7nm,0.3s						
LMR	**La Mourre**	**8.06**	**31**	P	**Pn**	**02 54 37.9**	**+1.1**
EARI	**Arriondas**	**8.25**	**327**	P	**Pn**	**02 54 40.8**	**+1.3**
	0.6nm,0.2s,SNR=6.2						
EARI	**Arriondas**	**8.25**	**327**	P	**Pn**	**02 54 40.8**	**+1.3**
	0.6nm,0.2s,SNR=6.2						
FRF	**La Foret Royal**	**8.30**	**30**	*e*Pn	**Pn**	**02 54 41.8**	**+1.6**
FRF	**La Foret Royal**	**8.30**	**30**	P	**Pn**	**02 54 41.8**	**+1.6**
FRF	**La Foret Royal**	**8.30**	**30**	P	**Pn**	**02 54 41.8**	**+1.6**
LFF	**La Frestale**	**8.42**	**359**	*e*Pn	**Pn**	**02 54 43.4**	**+1.6**
LFF	**La Frestale**	**8.42**	**359**	P	**Pn**	**02 54 43.4**	**+1.6**
LFF	**La Frestale**	**8.42**	**359**	P	**Pn**	**02 54 43.4**	**+1.6**
CAF	**Calviac**	**8.45**	**6**	*e*Pn	**Pn**	**02 54 44.5**	**+2.2**
CAF	**Calviac**	**8.45**	**6**	P	**Pn**	**02 54 44.5**	**+2.2**
CAF	**Calviac**	**8.45**	**6**	P	**Pn**	**02 54 44.5**	**+2.2**
PGF	**Pioggiola**	**8.69**	**44**	*e*Pn	**Pn**	**02 54 48.5**	**+3.0**
PGF	**Pioggiola**	**8.69**	**44**	P	**Pn**	**02 54 48.5**	**+3.0**
PGF	**Pioggiola**	**8.69**	**44**	*e*Pn	**Pn**	**02 54 48.5**	**+3.0**
ELOB	**Lobios**	**8.78**	**310**	P	**Pn**	**02 54 48.6**	**+1.9**
	0.6nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**02 56 19.0**	**-6.2**
	1.1nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**8.78**	**310**	P	**Pn**	**02 54 48.6**	**+1.9**
	0.6nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**8.80**	**3**	*e*Pn	**Pn**	**02 54 48.8**	**+1.8**
RJF	**Les Rejaudoux**	**8.80**	**3**	P	**Pn**	**02 54 48.8**	**+1.8**
RJF	**Les Rejaudoux**	**8.80**	**3**	P	**Pn**	**02 54 48.8**	**+1.8**
VIVF	**Saint-Julien-l**	**8.81**	**18**	*e*Pn	**Pn**	**02 54 49.2**	**+2.0**
VIVF	**Saint-Julien-l**	**8.81**	**18**	P	**Pn**	**02 54 49.2**	**+2.0**
VIVF	**Saint-Julien-l**	**8.81**	**18**	P	**Pn**	**02 54 49.2**	**+2.0**
SBF	**Sospel**	**8.88**	**32**	*e*Pn	**Pn**	**02 54 51.1**	**+2.9**
SBF	**Sospel**	**8.88**	**32**	P	**Pn**	**02 54 51.1**	**+2.9**
SBF	**Sospel**	**8.88**	**32**	P	**Pn**	**02 54 51.1**	**+2.9**
EPON	**Pontenova**	**9.20**	**320**	P	**Pn**	**02 54 53.8**	**+1.4**
	2.5nm,0.4s,SNR=24						
EPON	**Pontenova**	**9.20**	**320**	P	**Pn**	**02 54 53.8**	**+1.4**
	2.5nm,0.4s,SNR=24						
EAGO	**Agolada(Pontev**	**9.36**	**315**	P	**Pn**	**02 54 56.2**	**+1.6**
	0.6nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**9.36**	**315**	P	**Pn**	**02 54 56.2**	**+1.6**
	0.6nm,0.1s,SNR=7.9						
TCF	**Toulx Ste Croi**	**9.82**	**5**	*e*Pn	**Pn**	**02 55 02.5**	**+1.5**
TCF	**Toulx Ste Croi**	**9.82**	**5**	P	**Pn**	**02 55 02.5**	**+1.5**
TCF	**Toulx Ste Croi**	**9.82**	**5**	P	**Pn**	**02 55 02.5**	**+1.5**
LPG	**La Plagne**	**10.01**	**24**	*e*Pn	**Pn**	**02 55 06.4**	**+2.6**
LPG	**La Plagne**	**10.01**	**24**	P	**Pn**	**02 55 06.4**	**+2.6**
LPG	**La Plagne**	**10.01**	**24**	P	**Pn**	**02 55 06.4**	**+2.6**
MFF	**Saint Martin d**	**10.12**	**356**	*e*Pn	**Pn**	**02 55 06.3**	**+1.3**
MFF	**Saint Martin d**	**10.12**	**356**	P	**Pn**	**02 55 06.3**	**+1.3**
MFF	**Saint Martin d**	**10.12**	**356**	P	**Pn**	**02 55 06.3**	**+1.3**
SMF	**Signal de Mont**	**10.36**	**11**	*e*Pn	**Pn**	**02 55 10.1**	**+1.7**
SMF	**Signal de Mont**	**10.36**	**11**	P	**Pn**	**02 55 10.1**	**+1.7**
SMF	**Signal de Mont**	**10.36**	**11**	P	**Pn**	**02 55 10.1**	**+1.7**
AVF	**Avril sur Loir**	**10.44**	**9**	*e*Pn	**Pn**	**02 55 11.9**	**+2.5**
AVF	**Avril sur Loir**	**10.44**	**9**	P	**Pn**	**02 55 11.9**	**+2.5**
AVF	**Avril sur Loir**	**10.44**	**9**	P	**Pn**	**02 55 11.9**	**+2.5**
CABF	**La Chapelle**	**10.81**	**19**	*e*Pn	**Pn**	**02 55 16.8**	**+2.2**
CABF	**La Chapelle**	**10.81**	**19**	P	**Pn**	**02 55 16.8**	**+2.2**
CABF	**La Chapelle**	**10.81**	**19**	P	**Pn**	**02 55 16.8**	**+2.2**
QUIF	**Quistinic**	**11.79**	**346**	*e*Pn	**Pn**	**02 55 29.6**	**+1.7**
QUIF	**Quistinic**	**11.79**	**346**	P	**Pn**	**02 55 29.6**	**+1.7**
QUIF	**Quistinic**	**11.79**	**346**	P	**Pn**	**02 55 29.6**	**+1.7**
TORD	**Torodi Ar. Bea**	**23.27**	**178**	P	**P**	**02 57 47.5**	**+0.1**
	0.3nm,0.6s,baz=359,slow=8.8,SNR=3.9						
MKAR	**Makanchi Array**	**59.12**	**52**	P	**P**	**03 02 41.7**	**+1.7**
	0.2nm,0.5s,baz=276,slow=6.7,SNR=2.1						

*ISK **05** 02:55:27.2, 36°.99N×27°.42E, h5km, ML2.5/4*
*CSEM **05** 02:55:28.0±0.2, 37°.01N×27°.44E, h6km±1km, ML2.6, Error ellipse: s-maj=5.0km s-min=2.4km az=1.0*
*DDA **05** 02:55:28.5, 37°.05N×27°.49E, h7km, Ml2.6*
ISC 05 02:55:24.7±1.2**, 36°.85N**±0°.05×**27°.49E**±0°.03**, h11**km±8km**, n27, σ1s.28**/42**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.22**	**351**	⇑*i*Pg	**Pb**	**02 55 30.1**	**-0.7**
BDRM				*i* Sg	**Sg**	**02 55 31.5**	**-1.0**
BDRM	**Kayabasi**	**0.22**	**351**	Pg	**Pb**	**02 55 30.1**	**-0.7**
BDRM				Sg	**Sg**	**02 55 31.5**	**-1.0**
BODT	**Bodrum**	**0.26**	**327**	PG	**Pg**	**02 55 30.1**	**+0.1**
BODT				SG	**Sg**	**02 55 32.5**	**-1.0**
BODT	**Bodrum**	**0.26**	**327**	*i* Pg	**Pg**	**02 55 30.1**	**+0.1**
BODT				*i* Sg	**Sg**	**02 55 32.5**	**-1.0**
YKAV	**Yalikavak-Bodr**	**0.32**	**329**	PG	**Pg**	**02 55 31.5**	**+0.3**
YKAV				SG	**Sg**	**02 55 34.4**	**-1.1**
YKAV	**Yalikavak-Bodr**	**0.32**	**329**	*e*Pg	**Pg**	**02 55 31.5**	**+0.3**
YKAV				*e*Sg	**Sg**	**02 55 34.4**	**-1.1**
YER	**Yerkesik**	**0.70**	**66**	PG	**Pn**	**02 55 41.5**	**+0.8**
YER	**Yerkesik**	**0.70**	**66**	*e*Pg	**Pn**	**02 55 41.5**	**+0.8**
AYDN	**Tasoluk**	**0.87**	**21**	*i* P	**Pn**	**02 55 41.9**	**-1.1**
AYDN				*i* S	**Sg**	**02 55 51.3**	**-1.6**
AYDN	**Tasoluk**	**0.87**	**21**	P	**Pn**	**02 55 41.9**	**-1.1**
AYDN				S	**Sg**	**02 55 51.3**	**-1.6**
GCAM	**G?zelcaml?**	**0.88**	**347**	PG	**Pb**	**02 55 41.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.88**	**347**	*i* P	**Pb**	**02 55 41.6**	**-0.3**
GCAM				*i* S	**Sg**	**02 55 51.8**	**-1.2**
GCAM	**G?zelcaml?**	**0.88**	**347**	*e*Pg	**Pb**	**02 55 41.8**	**-0.1**
GCAM				S	**Sg**	**02 55 51.8**	**-1.2**
TURN	**Turunc**	**0.90**	**88**	PG	**Pg**	**02 55 40.9**	**-1.1**
TURN				SG	**Sg**	**02 55 51.4**	**-2.3**
TURN	**Turunc**	**0.90**	**88**	*i* P	**Pg**	**02 55 41.5**	**-0.5**
TURN				*i* S	**Sg**	**02 55 51.4**	**-2.3**
TURN	**Turunc**	**0.90**	**88**	*e*Pg	**Pg**	**02 55 40.9**	**-1.1**
TURN	**Turunc**	**0.90**	**88**	P	**Pg**	**02 55 41.5**	**-0.5**
TURN				*e*Sg	**Sg**	**02 55 51.4**	**-2.3**
TAVA	**DENIZLI_Tavas**	**1.30**	**61**	*i* P	**Pg**	**02 55 52.4**	**+2.8**
TAVA				*i* S	**Sn**	**02 56 07.8**	**+1.5**
TAVA	**DENIZLI_Tavas**	**1.30**	**61**	P	**Pg**	**02 55 52.4**	**+2.8**
TAVA				S	**Sn**	**02 56 07.8**	**+1.5**
APE	**Apeiranthos**	**1.58**	**279**	PN	**Pg**	**02 55 55.9**	**+0.8**
APE	**Apeiranthos**	**1.58**	**279**	*e*Pn	**Pg**	**02 55 55.9**	**+0.8**
URLA	**Izmir**	**1.67**	**335**	PN	**Pg**	**02 55 55.9**	**-0.8**
URLA	**Izmir**	**1.67**	**335**	*e*Pn	**Pg**	**02 55 55.9**	**-0.8**
AKAS	**Kas**	**1.81**	**109**	*i* P	**Sg**	**02 56 22.1**	**-1.0**
AKAS	**Kas**	**1.81**	**109**	P	**Sg**	**02 56 22.1**	**-1.0**
KORT	**Korkueli**	**2.30**	**85**	*i* P	**Pn**	**02 56 03.0**	**+0.2**
KORT	**Korkueli**	**2.30**	**85**	P	**Pn**	**02 56 03.0**	**+0.2**

*ISCJB **05** 02:56:19.2±1.3, 31°.7N±0°.1×109°.8E±0°.2, h10km, mb3.5/2, Error ellipse: s-maj=25.4km s-min=14.7km az=145.0*
*IDC **05** 02:56:19.8±1.6, 31°.56N×109°.78E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.3/57, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=53.8km s-min=28.9km az=55.0*
ISC 05 02:56:21.0±1.5**, 31°.6N**±0°.1×**109°.8E**±0°.2**, h10**km**, n5, σ1s.36**/7**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XAN	**Xi'an**	**2.51**	**343**	Pn	**Pn**	**02 56 59.9**	**-2.0**
XAN				Pg	**Pb**	**02 57 06.2**	**+0.1**
XAN				Sg	**Sn**	**02 57 33.1**	**+0.6**
KSRS	**Korea Array**	**16.01**	**64**	Pn	**Pn**	**03 00 06.2**	**0.0**
	baz=253,slow=13,SNR=3.3						
SONM	**Songino Array**	**16.39**	**352**	Pn	**Pn**	**03 00 12.8**	**+1.7**
	0.1nm,0.3s,baz=176,slow=12,SNR=3.7						
SONM				Lg	Lg	03 04 53.6	
	0.1nm,0.3s,baz=169,slow=31,SNR=2.9						
MKAR	**Makanchi Array**	**25.97**	**314**	P	**P**	**03 01 54.3**	**+0.6**
	0.4nm,0.5s,baz=108,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**59.63**	**154**	P	**P**	**03 06 25.4**	**0.0**
	0.4nm,0.3s,baz=332,slow=6.7,SNR=4.6						

*IDC **05** 02:57:40.7±3.9, 1°.93S×139°.49E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/39, mbtmp3.9/4, ML4.2/1, MS4.1/1, Ms1 4.1/1, ms1mx2.6/42, Error ellipse: s-maj=163.8km s-min=25.1km az=87.0*
*DJA **05** 02:57:45.0±1.2, 4°S±12°×14°0E±°, h10km, M3.9/2, mB5.3/1, MLv3.9/2, Mw(mB)4.7/1*
ISC 05 02:57:48.7±1.7**, 2°.4S**±0°.2×**139°.27E**±0°.08**, h10**km**, n14, σ2s.23**/7**, mb3.8**/3**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.93**	**105**	P	**Pn**	**02 58 07.7**	**-0.2**
GENI				S	**Sn**	**02 58 24.2**	**+2.9**
JAY	**Jayapura**	**1.45**	**96**	P	**Pn**	**02 58 12.6**	**-2.4**
JAY				S	Sn	02 58 33.8	-0.2
MSAI	**Masohi**	**10.37**	**264**	P	**Pn**	**03 00 19.0**	**+1.3**
WRA	**Warramunga Arr**	**18.13**	**195**	P	**P**	**03 01 59.5**	**-1.7**
	0.9nm,0.3s,baz=17,slow=12,SNR=6.8						
WRA				S	Sn	03 05 18.9	-4.5
	0.0nm,0.3s,baz=9.0,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**21.81**	**193**	P	**P**	**03 02 40.3**	**-0.9**
	3.2nm,0.9s,baz=25,slow=11,SNR=23						
ASAR				S	**S**	**03 06 42.8**	**+0.2**
	0.2nm,0.4s,baz=14,slow=24,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**34.02**	**51**	T	T	03 40 01.3	
	baz=236,slow=75,SNR=87						
H11S2	**WAKE ISLAND Hy**	**34.04**	**51**	T	T	03 40 02.3	
	baz=236,slow=75,SNR=108						
H11S1	**WAKE ISLAND Hy**	**34.04**	**51**	T	T	03 40 02.7	
	baz=236,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**34.88**	**50**	T	T	03 41 05.6	
	baz=233,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**34.90**	**50**	T	T	03 41 06.7	
	baz=233,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**34.90**	**50**	T	T	03 41 07.2	
	baz=233,slow=76,SNR=5.3						
JHJ	**Hachijo jima 2**	**35.29**	**1**	LR	LR	03 17 58.8	
	comp=Z,288nm,18.5s,baz=99,slow=35						
MKAR	**Makanchi Array**	**69.85**	**322**	P	P	03 08 51.9	-7.9
	0.4nm,0.5s,baz=106,slow=6.7,SNR=7.8						
BVAR	**Borovoye Array**	**79.34**	**325**	P	P	03 09 47.2	-7.6
	0.5nm,0.5s,baz=100,slow=6.6,SNR=3.2						

*CRAAG **05** 03:04:50.7, 36°.45N×0°.95E, Ml2.9*
*ISCJB **05** 03:04:52.4±0.6, 36°.55N±0°.05×0°.93E±0°.06, h16km, Error ellipse: s-maj=9.3km s-min=4.5km az=40.5*
*CSEM **05** 03:04:53.7±0.2, 36°.45N×1°.01E, h30km, mb3.6, Error ellipse: s-maj=12.2km s-min=4.8km az=39.0*
*MDD **05** 03:04:54.3±1.2, 36°.42N×1°.08E, h35km±54km, mb3.6/4, Error ellipse: s-maj=24.2km s-min=14.4km az=109.0, PRXIMO SOLUCIN POBRE*
ISC 05 03:04:52.0±1.0**, 36°.46N**±0°.06×**1°.03E**±0°.05**, h16**km**, n21, σ1s.39**/29**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECHF	**Ech Chlef**	**0.40**	**141**	P	**Pn**	**03 05 02.2**	**-0.9**
ECHF	**Ech Chlef**	**0.40**	**141**	P	**Pn**	**03 05 02.2**	**-0.9**
ECHA	**Ech Chlef**	**0.41**	**139**	P	**Pb**	**03 05 02.2**	**+1.3**
ECHA	**Ech Chlef**	**0.41**	**139**	P	**Pb**	**03 05 02.2**	**+1.3**
EBNR	**Beni Rached**	**0.44**	**113**	P	**Pn**	**03 05 04.2**	**+0.5**
EBNR	**Beni Rached**	**0.44**	**113**	P	**Pn**	**03 05 04.2**	**+0.5**
EANR	**'Ain N'Sour**	**0.51**	**174**	P	**Pb**	**03 05 03.9**	**+1.2**
EANR	**'Ain N'Sour**	**0.51**	**174**	P	**Pb**	**03 05 03.9**	**+1.2**
EANR	**'Ain N'Sour**	**0.51**	**174**	P	**Pb**	**03 05 03.9**	**+1.2**
EMUR	**La Murta**	**2.28**	**308**	S	**Sn**	**03 05 55.0**	**-1.7**
	21nm,1.3s,SNR=7.9						
EMUR	**La Murta**	**2.28**	**308**	S	**Sn**	**03 05 55.0**	**-1.7**
	21nm,1.3s,SNR=7.9						
EIBI	**Ibiza**	**2.57**	**5**	S	**Sn**	**03 06 02.3**	**-1.7**
	8.9nm,4.8s,SNR=7.9						
EIBI	**Ibiza**	**2.57**	**5**	S	**Sn**	**03 06 02.3**	**-1.7**
	8.9nm,4.8s,SNR=7.9						
ETOB	**Tobarra**	**2.99**	**318**	P	**Pn**	**03 05 39.7**	**+0.9**
	10nm,0.8s,SNR=7.9						
ETOB				S	**Sn**	**03 06 12.9**	**-1.5**
	7.3nm,1.0s,SNR=7.3						
ETOB	**Tobarra**	**2.99**	**318**	P	**Pn**	**03 05 39.7**	**+0.9**
	10nm,0.8s,SNR=7.9						
ETOB				S	**Sn**	**03 06 12.9**	**-1.5**
	7.3nm,1.0s,SNR=7.3						
EBER	**Berja**	**3.18**	**279**	P	**Pn**	**03 05 41.8**	**+0.2**
	1.6nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**03 06 17.8**	**-1.5**
	12nm,1.4s,SNR=7.9						
EBER	**Berja**	**3.18**	**279**	P	**Pn**	**03 05 41.8**	**+0.2**
	1.6nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**03 06 17.8**	**-1.5**
	12nm,1.4s,SNR=7.9						
SESP	**Santiago Espad**	**3.30**	**301**	P	**Pn**	**03 05 43.7**	**+0.6**
	2.1nm,0.8s,SNR=7.9						
SESP				S	**Sn**	**03 06 20.2**	**-1.9**
	4.0nm,1.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.30**	**301**	P	**Pn**	**03 05 43.7**	**+0.6**
	2.1nm,0.8s,SNR=7.9						
SESP				S	**Sn**	**03 06 20.2**	**-1.9**
	4.0nm,1.2s,SNR=7.9						
EQES	**Quesada**	**3.54**	**293**	P	**Pn**	**03 05 48.0**	**+1.6**
	9.3nm,1.2s,SNR=18						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EQES				S	Sn	03 06 26.2	-1.8
	21nm,1.6s,SNR=7.9						
EQES	Quesada	3.54	293	P	Pn	03 05 48.0	+1.6
	9.3nm,1.2s,SNR=18						
EQES				S	Sn	03 06 26.2	-1.8
	21nm,1.6s,SNR=7.9						

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*CSEM **05** 03:07:49.0±0.4, 36.°49N×30.°66E, h2km, ML2.8, Error ellipse: s-maj=8.4km s-min=6.4km az=138.0*
*ISK **05** 03:07:49.9, 36.°58N×30.°58E, h21km, ML2.8/6*
*DDA **05** 03:07:51.2, 36.°60N×30.°61E, h5km, Ml2.8*
ISC 05 03:07:50.2±1.3, **36.°56N**±0.°03×**30.°60E**±0.°03, **h9**km±9km, **n35**, σ**0.s98**/53, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.34	7	PG	Pb	03 07 57.7	-0.7
ANTB				SG	Sb	03 08 02.3	-1.6
ANTB	Antalya	0.34	7	ePg	Pb	03 07 57.7	-0.7
ANTB				eSg	Sb	03 08 02.3	-1.6
KORT	Korkueli	0.48	335	PG	Pg	03 07 59.8	+0.2
KORT				SG	Sb	03 08 06.8	-1.3
KORT	Korkueli	0.48	335	i P	Pg	03 07 59.8	+0.2
KORT				i S	Sg	03 08 05.6	-0.4
KORT	Korkueli	0.48	335	P	Pg	03 07 59.8	+0.2
KORT				S	Sg	03 08 05.6	-0.4
KORT				eSg	Sb	03 08 06.8	-1.3
ELL	Elmali	0.59	289	PG	Pg	03 08 01.5	-0.1
ELL	Elmali	0.59	289	ePg	Pg	03 08 01.5	-0.1
AKAS	Kas	0.87	248	PG	Pg	03 08 07.2	+0.3
AKAS	Kas	0.87	248	i Pn	Pb	03 08 07.7	+0.3
AKAS				i Sn	Sn	03 08 21.9	+0.5
AKAS	Kas	0.87	248	ePg	Pg	03 08 07.2	+0.3
AKAS	Kas	0.87	248	Pn	Pb	03 08 07.7	+0.3
AKAS				Sn	Sn	03 08 21.9	+0.5
KEPZ	Antalya-Kepez	0.88	67	i Pn	Pn	03 08 08.4	-0.2
KEPZ				i Sn	Sb	03 08 19.6	+0.3
BCK	Bucak	0.90	359	PG	Pb	03 08 07.8	-0.1
BCK	Bucak	0.90	359	ePg	Pb	03 08 07.8	-0.1
SUTC	Sutluce-Ispart	0.97	19	PG	Pb	03 08 08.9	-0.3
SUTC	Sutluce-Ispart	0.97	19	ePg	Pb	03 08 08.9	-0.3
GOLH	Golhisar	1.07	309	eP	Pb	03 08 10.8	-0.1
GOLH				eS	Sn	03 08 28.0	+1.5
GOLH	Golhisar	1.07	309	P	Pb	03 08 10.8	-0.1
GOLH				S	Sn	03 08 28.0	+1.5
BRDR	BURDUR-Merkez	1.21	339	eP	Pn	03 08 14.3	+1.0
BRDR				eS	Sn	03 08 29.9	+0.1
BRDR	BURDUR-Merkez	1.21	339	P	Pn	03 08 14.3	+1.0
BRDR				S	Sn	03 08 30.0	+0.1
FETY	Fethiye	1.22	274	PN	Pg	03 08 11.9	-1.8
FETY	Fethiye	1.22	274	ePn	Pg	03 08 11.9	-1.8
FETY				Sn	Sn	03 08 32.5	+2.4
BAGO	Egridir - ISPA	1.43	6	i Pn	Pg	03 08 18.5	+0.8
BAGO				i Sn	Sn	03 08 36.9	+1.5
TAVA	DENIZLI_Tavas	1.62	304	i Pn	Pg	03 08 21.1	-0.2
TAVA				i Sn	Sg	03 08 43.8	+1.4
TAVA	DENIZLI_Tavas	1.62	304	Pn	Pg	03 08 21.1	-0.2
TAVA				Sn	Sg	03 08 43.8	+1.4
TURN	Turunc	1.64	282	PN	Pg	03 08 21.6	+0.1
TURN	Turunc	1.64	282	ePn	Pg	03 08 21.6	+0.1
KZIL	AFYON_Kizioren	1.73	348	i Pn	Pb	03 08 22.1	-0.1
KZIL				i Sn	Sg	03 08 48.1	+2.2
KZIL	AFYON_Kizioren	1.73	348	Pn	Pb	03 08 22.1	-0.1
YER	Yerkesik	1.94	288	PN	Pn	03 08 22.4	-1.0
YER	Yerkesik	1.94	288	ePn	Pn	03 08 22.4	-1.0
SHUT	Suhut-Afyon	1.99	359	PN	Pn	03 08 22.9	-1.2
SHUT	Suhut-Afyon	1.99	359	ePn	Pn	03 08 22.9	-1.2
TEKE	Tekeli-Mersin	2.07	101	PN	Pn	03 08 24.5	-0.6
TEKE	Tekeli-Mersin	2.07	101	ePn	Pn	03 08 24.5	-0.6

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*NIED **05** 03:33:00, 47.°10N×153.°40E, h26km, Mw4.0 Best double couple: M₀1.23000×10^15 NP1:φs147.00000°, δ64.00000°, λ14.00000°. NP2:φs51.00000°, δ78.00000°, λ153.00000°.*
*IDC **05** 03:33:11.4±0.6, 46.°71N×153.°63E, h0km, mb4.4/36, mb1 4.5/39, mb1mx4.4/66, mbtmp4.4/39, ML3.4/2, MS3.6/29, Ms1 3.6/29, ms1mx3.4/61, Error ellipse: s-maj=15.3km s-min=12.0km az=156.0*
*ISCJB **05** 03:33:14.7±0.3, 46.°69N±0.°04×153.°64E±0.°04, h31km, mb4.7/133, MS3.7/34, Error ellipse: s-maj=6.4km s-min=2.5km az=145.0*
*MOS **05** 03:33:16.5±1.0, 46.°77N×153.°63E, h46km, mb5.0/67, Error ellipse: s-maj=6.7km s-min=4.5km az=99.3*
*SKHL **05** 03:33:16.8±0.4, 46.°36N×154.°00E, h71km±5km, mb4.9/7*
*BJI **05** 03:33:16.8, 46.°96N×153.°70E, h54km, mb4.7/49, mB4.9/31, Ms4.4/15, Ms7 4.1/10*
*JMA **05** 03:33:17.4±0.7, 47.°07N×153.°38E, h30km, M4.8*
*NEIC **05** 03:33:19.1±0.8, 46.°72N×153.°59E, h56km±6km, mb4.7/43, Error ellipse: s-maj=8.3km s-min=4.3km az=150.0*
ISC 05 03:33:15.6±0.4, **46.°60N**±0.°05×**153.°73E**±0.°05, **h31**km, **n361**, σ**1.s98**/373, **mb4.7**/133, **MS3.8**/34, **22C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.31	254	eP	Pn	03 34 23.0	+4.0
KUR				AMB	AMB	03 34 24.2	
	151nm,0.5s						
KUR				i S	Sn	03 35 11.2	+3.0
KUR				A	A	03 35 14.1	
	530nm,0.4s						
KUR				A	A	03 35 14.1	
	160nm,0.4s						
KUR	Kuril'sk	4.31	254d	i PN	Pn	03 34 23.3	+4.3
KUR				i S	Sn	03 35 12.1	+3.9
KUR				pmax	pmax		
	comp=Z,359nm,1.0s						
KUR				pmax	pmax		
	comp=Z,151nm,0.5s						
KUR				smax	smax		
	comp=N,530nm,0.3s						
KUR				smax	smax		
	comp=E,158nm,0.4s						
SKR	Severo-Kuril's	4.39	20	eP	Pn	03 34 23.6	+3.6
SKR				eS	Sn	03 35 14.0	+4.0
SKR				A	A	03 35 15.1	
	comp=E,380nm,0.5s						
SKR				A	A	03 35 15.1	
	comp=E,600nm,0.5s						
SKR	Severo-Kuril's	4.39	20	ePN	Pn	03 34 19.0	-1.0
SKR				eS	Sn	03 35 08.1	-1.9
SKR				smax	smax		
	comp=E,604nm,0.7s						
SKR				smax	smax		
	comp=N,384nm,0.3s						
SHO	Shikotan	5.58	243	eP	Pn	03 34 37.5	+1.1
SHO				AMB	AMB	03 34 40.1	
	comp=N,74nm,0.3s						
SHO				eS	Sn	03 35 37.7	-1.8
SHO				A	A	03 35 46.3	
	comp=N,270nm,0.3s						
SHO				A	A	03 35 46.3	
	comp=N,360nm,0.3s						
SHO	Shikotan	5.58	243	ePN	Pn	03 34 37.0	+0.6
SHO				pmax	pmax		
	comp=Z,74nm,0.3s						
SHO				pmax	pmax		
	comp=N,14nm,0.4s						
SHO				pmax	pmax		
	comp=E,28nm,0.4s						
YUK	Yuzh-Kuril'sk	6.11	248	eP	Pn	03 34 47.1	+3.4
YUK				AMB	AMB	03 34 49.8	
	comp=E,40nm,0.4s						
YUK				AMB	AMB	03 34 49.8	
	comp=E,28nm,0.4s						
YUK				AMB	AMB	03 34 49.8	
	comp=E,112nm,0.4s						
YUK				eS	Sn	03 35 53.6	+1.1
YUK				A	A	03 36 01.6	
	comp=E,248nm,0.4s						
YUK				A	A	03 36 01.6	
	comp=E,184nm,0.4s						
YUK	Yuzh-Kuril'sk	6.11	248	ePN	Pn	03 34 47.1	+3.4
YUK				pmax	pmax		
	comp=Z,112nm,0.2s						
YUK				pmax	pmax		
	comp=N,40nm,0.1s						
YUK				pmax	pmax		
	comp=E,28nm,0.2s						
LAGR	Lagunnoye	6.15	248	eP	Pn	03 34 47.9	+3.7
LAGR				eS	Sn	03 35 54.9	+1.5
LAGR	Lagunnoye	6.15	248	ePN	Pn	03 34 47.9	+3.7
GRPR	Tuman	6.18	248	eP	Pn	03 34 47.8	+3.1
GRPR				eS	Sn	03 35 54.8	+0.4
GRPR	Tuman	6.18	248	PN	Pn	03 34 47.8	+3.1
GLVR	Golovnino	6.47	247	eP	Pn	03 34 51.9	+3.3
GLVR				eS	Sn	03 36 02.3	+1.0
GLVR	Golovnino	6.47	247	ePN	Pn	03 34 51.9	+3.3
NEM2	Nemuro 2	6.52	243	P	Pn	03 34 50.7	+1.4
NEM2				eS	Sn	03 35 59.1	-3.4
JRA	Rausu	6.63	249	P	Pn	03 34 54.3	+3.5
PEA0B	Petropavlovsk-	7.01	20	ePn	Pn	03 34 57.4	+1.4
PETK	Petropavlovsk-	7.01	20	Pn	Pn	03 34 57.4	+1.4
	comp=E,2.4nm,0.3s,baz=178,slow=12,SNR=28						
PETK				Sn	Sn	03 36 11.0	-3.5
	baz=255,slow=21,SNR=2.2						
PETK				LR	LR	03 37 51.6	
	comp=E,205nm,20.8s,baz=210,slow=40						
PETK	Petropavlovsk-	7.01	20	ePN	Pn	03 34 57.6	+1.6
JNK	Nakash	7.05	248	P	Pn	03 34 59.7	+3.1
JNK				eS	Sn	03 36 15.3	-0.4
PET	Petropavlovsk	7.18	25	eP	Pn	03 35 03.9	+5.6
PET	Petropavlovsk	7.18	25	Pn	Pn	03 35 00.8	+2.4
PET				eS	Sn	03 36 13.9	-4.8
PET	Petropavlovsk	7.18	25	ePN	Pn	03 34 59.8	+1.5
JAK	Akkeshi	7.36	244	P	Pn	03 35 02.4	+1.5
JAK				eS	Sn	03 36 19.5	-3.8
JTKR	Abashiri--Toko	7.41	253	P	Pn	03 35 05.0	+3.5
YSS	Yuzh-Sakhalins	7.54	277	eP	Pn	03 35 09.6	+6.2
YSS				AMB	AMB	03 35 10.4	
	comp=E,60nm,1.0s						
YSS				AMB	AMB	03 35 10.4	
	comp=E,57nm,1.0s						
YSS	Yuzh-Sakhalins	7.54	277	ePn	Pn	03 35 08.4	+5.0
YSS	Yuzh-Sakhalins	7.54	277⇑	ePN	Pn	03 35 09.6	+6.2
YSS				eS	Sn	03 36 34.9	+7.1
YSS				pmax	pmax		
	comp=Z,60nm,1.2s						
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				smax	smax		
	comp=N,40nm,0.8s						
YSS				smax	smax		
	comp=E,60nm,0.4s						
JMP	Maruseppu	7.75	254	P	Pn	03 35 10.1	+3.8
JAR	Ashorobuto	7.79	249	P	Pn	03 35 09.9	+3.0
JAR				eS	Sn	03 36 34.1	+0.1
JOB	Onbets	7.95	246	eS	Sn	03 36 34.6	-3.1
JKK2	Kamakawa 2	8.21	255	P	Pn	03 35 16.7	+4.1
JKA	Kamikawa-asahi	8.22	256	eP	Pn	03 35 17.1	+4.4
ASAJ	Asahikawa	8.22	256	Pn	Pn	03 35 17.1	+4.4
	comp=E,1.5nm,0.3s,baz=94,slow=17,SNR=14						
ASAJ	Asahikawa	8.22	256	ePn	Pn	03 35 16.8	+4.1
UGL	Uglegorsk	8.23	292	eP	Pn	03 35 18.6	+5.8
UGL				AMB	AMB	03 35 19.5	
	comp=E,70nm,1.0s						
UGL				eS	Sn	03 36 49.7	+5.1
UGL				A	A	03 36 50.3	
	comp=E,70nm,0.4s						
JCH	Churui	8.40	245	P	Pn	03 35 16.5	+1.4
JCH				eS	Sn	03 36 44.6	-4.2
TYV	Tymovskoe	8.47	304	eP	Pn	03 35 20.2	+4.1
TYV				AMB	AMB	03 35 22.3	
	comp=E,36nm,1.0s						
TYV				eS	Sn	03 36 53.5	+3.0
TYV				A	A	03 36 55.9	
	comp=E,56nm,0.7s						
TYV	Tymovskoe	8.47	304	ePN	Pn	03 35 21.5	+5.4
TYV				eS	Sn	03 36 52.6	+2.1
TYV				pmax	pmax		
	comp=Z,36nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,3.3s						
TYV				smax	smax		
	comp=N,56nm,0.7s						
ERM	Erimo	8.85	243	eP	Pn	03 35 24.1	+2.8
ERM	Erimo	8.85	243	ePn	Pn	03 35 23.2	+1.9
ERM				eS	Sn	03 36 55.3	-4.7
ERM	Erimo	8.85	243	i PN	Pn	03 35 23.6	+2.3
JNBK	Urakawa-nobuka	8.96	245	P	Pn	03 35 23.3	+0.5
JNBK				eS	Sn	03 36 57.2	-5.3
JKB	Kayabe	10.25	247	P	Pn	03 35 41.3	+0.8
JKB				eS	Sn	03 37 27.9	-6.3
JYM2	Yakumo 2	10.56	250	P	Pn	03 35 46.3	+1.6
JANG	Nango	10.83	239	P	Pn	03 35 47.4	-1.0
JANG				eS	Sn	03 37 38.7	-10
JTM	Tenmabayashi	10.84	242	eS	Sn	03 37 40.6	-8.2
MA2	Magadan	13.12	353	Pn	Pn	03 36 20.9	+1.2
	comp=N,3.0nm,0.3s,baz=153,slow=8.7,SNR=13						
MA2				Sn	Sn	03 38 37.8	-6.5
	comp=N,0.7nm,0.3s,baz=217,slow=20,SNR=6.0						
MA2				LR	LR	03 41 03.0	
	comp=N,218nm,20.1s,baz=149,slow=36						
MA2	Magadan	13.12	353	eP	Pn	03 36 21.0	+1.3
MA2	Magadan	13.12	353c	ePN	Pn	03 36 21.0	+1.3
EKMR	Ekimchan	14.86	303	eP	P	03 36 45.2	-3.6
EKMR				AMB	AMB	03 36 57.0	
	comp=N,15nm,0.7s						
KLR	Kul'dur	14.96	288	Pn	P	03 36 47.9	-2.0
	comp=N,0.0nm,0.3s,baz=94,slow=14,SNR=20						
KLR	Kul'dur	14.96	288	i P	P	03 36 47.1	-2.8
MJAR	Matsushiro Arr	15.33	235	LR	LR	03 43 56.2	
	comp=N,60nm,18.9s,baz=45,slow=42						
MJB9	Matsu-Tunnel	15.33	235	ePn	Pn	03 36 48.9	-0.7
	comp=N,18nm,0.6s						
MAJO	Matsushiro	15.33	235	ePn	Pn	03 36 48.0	-1.7
	comp=N,18nm,0.6s						
MAJO	Matsushiro	15.33	235	i P	Pn	03 36 49.6	-0.1
USRK	Ussuriysk Ar.	15.45	269	Pn	Pn	03 36 51.1	-0.1
	comp=N,0.6nm,0.3s,baz=72,slow=13,SNR=12						
USRK				LR	LR	03 42 54.4	
	comp=N,73nm,19.1s,baz=26,slow=38						
SEY	Seymchan	16.39	358	Pn	Pn	03 37 02.2	-0.8
	comp=N,0.5nm,0.3s,baz=161,slow=9.4,SNR=7.6						
SEY	Seymchan	16.39	358	eP	Pn	03 37 03.1	0.0
SEY	Seymchan	16.39	358c	eP	Pn	03 37 03.1	0.0
MDJ	Mudanjiang	16.99	272	P	Pn	03 37 11.4	+0.6
MDJ				sP	sP	03 37 29.4	+4.8
MDJ				pmax	pmax		
	comp=N,19nm,1.0s						
BMKR	Bomnak	17.67	306	eP	P	03 37 19.2	-0.7
BMKR				AMB	AMB	03 37 24.0	
	comp=N,48nm,0.8s						
ZEA	Zeya	18.33	303	eP	P	03 37 28.0	+0.8
ZEA				AMB	AMB	03 37 29.1	
	comp=N,18nm,1.0s						
ZEA	Zeya	18.33	303	eP	P	03 37 26.8	-0.4
ZEA				pmax	pmax		
	comp=Z,18nm,1.2s						
KROS	Kirovskiy	18.65	305	eP	P	03 37 30.0	-0.7
KROS				AMB	AMB	03 37 33.9	
	comp=Z,7.0nm,0.4s						
KROS				AMB	AMB	03 37 33.9	
	comp=Z,17nm,0.4s						
KROS				AMB	AMB	03 37 33.9	
	comp=Z,11nm,0.4s						
CN2	Changchun	20.08	272	eP	Pn	03 37 51.6	+3.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CLNS	Chul'man	20.44	311	eP	Pn	03 37 51.8	-0.7
CLNS	Chul'man	20.44	311	eP	Pn	03 37 51.8	-0.7
CLNS				pmax	pmax		
	comp=E,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,18nm,0.7s						
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
YAK	Yakutsk	20.68	327	P	P	03 37 52.1	-0.6
	comp=N,24nm,0.4s,baz=182,slow=1.9,SNR=4.1						
YAK	Yakutsk	20.68	327	eP	Pn	03 37 54.6	-0.5
YAK	Yakutsk	20.68	327	eP	Pn	03 37 54.6	-0.5
YAK				e		03 38 09.9	
YAK				eS	S	03 41 33.2	-8.6
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,231nm,4.3s						
YAK				pmax	pmax		
	comp=N,159nm,4.7s						
YAK				pmax	pmax		
	comp=E,155nm,4.1s						
YAK				smax	smax		
	comp=E,271nm,5.1s						
YAK				smax	smax		
	comp=N,108nm,4.1s						
YAK				MLR	MLR		
	comp=Z,175nm,23.0s						
YAK				MLR	MLR		
	comp=N,240nm,18.0s						
KSRS	Korea Array	21.16	254	P	P	03 38 00.8	+2.7
	comp=N,10nm,0.8s,baz=58,slow=9.7,SNR=22						
KSRS				LR	LR	03 46 03.1	
	comp=N,40nm,20.7s,baz=66,slow=36						
KS01	Wonju Array Si	21.16	254	eP	P	03 38 01.4	+3.3
KSAR	Wonju Array Be	21.19	254	P	P	03 38 00.8	+2.4
KSAR	Wonju Array Be	21.19	254	P	P	03 38 00.8	+2.4
BILL	Bilibino	22.45	12	i P	P	03 38 08.7	-3.0
BILL				pmax	pmax		
	comp=Z,20nm,1.0s						
BILL				MLR	MLR		
	comp=Z,114nm,17.0s						
HIA	Hailar	22.82	289	eP	P	03 38 15.3	-0.5
HIA	Hailar	22.82	289	i P	P	03 38 15.3	-0.5
HIA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BOD	Bodaibo	26.41	310	eP	P	03 38 47.1	-2.0
BOD				pmax	pmax		
	comp=Z,20nm,1.0s						
TIXI	Tiksi	27.74	343	P	P	03 38 59.1	-1.8
	comp=Z,4.0nm,0.6s,baz=134,slow=9.5,SNR=7.4						
TIXI				LR	LR	03 50 58.7	
	comp=Z,84nm,18.7s,baz=154,slow=39						
BJI	Beijing	27.90	270	P	P	03 39 07.2	+4.6
BJI				pmax	pmax		
	comp=Z,23nm,0.8s						
H11N2	WAKE ISLAND Hy	28.89	154	T	T	04 10 52.0	
	baz=342,slow=76,SNR=172						
H11N1	WAKE ISLAND Hy	28.90	154	T	T	04 10 36.1	
	baz=342,slow=76,SNR=37						
H11N3	WAKE ISLAND Hy	28.91	154	T	T	04 10 31.3	
	baz=342,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	29.98	155	T	T	04 12 01.5	
	baz=343,slow=75,SNR=30						
H11S3	WAKE ISLAND Hy	29.99	155	T	T	04 11 42.8	
	baz=343,slow=75,SNR=53						
H11S2	WAKE ISLAND Hy	30.00	155	T	T	04 11 56.7	
	baz=343,slow=75,SNR=290						
NJ2	Nanjing	30.36	254	eP	P	03 39 25.0	+0.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	Hu-ho-hao-te	30.73	275	eP	P	03 39 28.5	+0.6
HHC				S	S	03 44 22.5	-6.3
HHC				SS	SnSn	03 46 11.0	+3.0
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,4.9s						
HHC				LR	LR		
	comp=Z,93nm,14.8s						
HHC				LR	LR		
	comp=Z,220nm,11.1s						
ULN	Ulaanbaatar	31.35	290	eP	P	03 39 33.0	-0.3
ULN	Ulaanbaatar	31.35	290c	eP	P	03 39 33.0	-0.3
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONA1	Songino Array	31.77	290	eP	P	03 39 36.2	-0.8
SONM	Songino Array	31.78	290	P	P	03 39 36.1	-1.0
	comp=Z,2.1nm,0.9s,baz=66,slow=8.0,SNR=15						
SONM				LR	LR	03 54 13.7	
	comp=Z,88nm,18.0s,baz=16,slow=40						
TLY	Talaya	32.63	298	eP	P	03 39 43.7	-0.6
TLY	Talaya	32.63	298	eP	P	03 39 43.9	-0.5
	comp=Z,11nm,0.7s						
TLY	Talaya	32.63	298	eP	P	03 39 43.7	-0.6
TLY				pmax	pmax		
	comp=Z,15nm,0.9s						
TLY				MLR	MLR		
	comp=Z,77nm,14.0s						
ZAK	Zakamensk	33.13	295	eP	P	03 39 47.5	-1.3
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
IM3	Indian Mountai	33.64	36	eP	P	03 39 53.7	+0.7
KDAK	Kodiak Island	33.87	51	P	P	03 39 55.0	0.0
	comp=Z,6.0nm,0.8s,baz=270,slow=5.1,SNR=4.4						
KDAK	Kodiak Island	33.87	51	eP	P	03 39 55.3	+0.2
KDAK	Kodiak Island	33.87	51	eP	P	03 39 55.3	+0.2
KDAK	Kodiak Island	33.87	51	eP	P	03 39 55.3	+0.2
CAST	Castle Rocks	34.08	41	eP	P	03 39 58.8	+1.9
	comp=Z,10.0nm,1.4s						
MOY	Mondy	34.24	298	eP	P	03 39 58.5	0.0
KTH	Kantishna Hill	34.60	40	eP	P	03 40 03.4	+1.9
	comp=Z,14nm,1.1s						
BPAW	Bear Paw Mtn.	34.60	39	eP	P	03 40 03.1	+1.7
	comp=Z,28nm,2.0s						
BRLK	Bradley Lake	34.63	47	eP	P	03 40 02.2	+0.5
	comp=Z,103nm,1.9s						
MLY	Manley	34.78	38	eP	P	03 40 03.8	+0.9
	comp=Z,18nm,1.9s						
TRF	Thorofare Moun	34.88	41	eP	P	03 40 04.3	+0.3
	comp=Z,15nm,1.4s						
COLD	Coldfoot	35.22	34	eP	P	03 40 07.7	+1.1
	comp=Z,5.7nm,1.3s						
SML	Sawmill	35.79	43	eP	P	03 40 12.5	+0.8
SML	Sawmill	35.79	43	eP	P	03 40 12.1	+0.5
	comp=Z,14nm,0.8s						
SML	Sawmill	35.79	43	eP	P	03 40 12.1	+0.5
SML				pmax	pmax		
	comp=Z,14nm,0.8s						
MDM	Murphy Dome	35.84	38	eP	P	03 40 13.2	+1.2
	comp=Z,5.1nm,1.0s						
XAN	Xi'an	35.92	266	P	P	03 40 13.4	+0.3
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
COLA	College	36.00	38	eP	P	03 40 14.1	+0.8
COLA	College	36.00	38	eP	P	03 40 14.1	+0.8
	comp=Z,3.4nm,0.7s						
COLA	College	36.00	38	eP	P	03 40 14.1	+0.8
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILAR	Eielson Array	36.41	38	P	P	03 40 17.0	+0.2
	comp=Z,1.0nm,0.8s,baz=253,slow=6.8,SNR=11						
LZH	Lanzhou	38.32	272	eP	P	03 40 35.6	+2.1
LZH				pP	sP	03 40 52.4	+6.0
LZH				PP	PnPn	03 42 06.5	+3.4
LZH				eS	S	03 46 23.4	-2.5
LZH				sS	sS	03 46 42.6	+1.7
LZH				SS	SnSn	03 49 02.0	-10
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.6s						
EGAK	Eagle	38.86	38	eP	P	03 40 38.4	+0.8
	comp=Z,5.2nm,0.8s						
GTA	Gaotai	39.41	280	P	P	03 40 43.5	+0.9
GTA				pP	sP	03 40 55.8	+0.3
GTA				sP	pP	03 41 01.9	+10
GTA				S	S	03 46 38.8	-3.5
GTA				sS	sS	03 47 00.9	+3.5
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,110nm,5.6s						
GTA				LR	LR		
	comp=Z,130nm,15.2s						
GTA				LR	LR		
	comp=Z,100nm,18.5s						
CD2	Chengdu	41.29	266	eP	P	03 40 57.0	-1.2
INK	Inuvik	41.56	32	P	P	03 41 00.8	+1.0
	comp=Z,1.8nm,0.7s,baz=295,slow=7.2,SNR=9.6						
INK	Inuvik	41.56	32	eP	P	03 41 01.2	+1.5
INK	Inuvik	41.56	32	eP	P	03 41 01.2	+1.5
	comp=Z,14nm,1.5s						
INK	Inuvik	41.56	32	eP	P	03 41 01.3	+1.5
INK				pmax	pmax		
	comp=Z,14nm,1.5s						
ZAA0	Zalesovo Array	43.04	306	eP	P	03 41 10.8	-1.3
	comp=Z,5.1nm,0.8s						
ZALV	Zalesovo Beam	43.04	306	P	P	03 41 09.6	-2.5
	comp=Z,4.4nm,0.7s,baz=67,slow=6.7,SNR=18						
ZALV				PP	PP	03 42 55.7	+3.7
	comp=Z,0.4nm,0.3s,baz=62,slow=10.0,SNR=2.4						
ZALV				LR	LR	04 00 23.9	
	comp=Z,114nm,18.2s,baz=70,slow=38						
ZALV	Zalesovo Beam	43.04	306	eP	P	03 41 10.1	-2.0
ZALV				PP	PP	03 42 55.8	+3.7
ZALV	Zalesovo Beam	43.04	306	eP	P	03 41 10.1	-2.0
ZALV						03 42 55.8	

WMQ Urumqi 45.38 292 P **P** 03 41 31.3 +0.3
WMQ pP sP 03 41 44.9 +0.9
WMQ sP pP 03 41 52.2 +12
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,280nm,4.7s
WMQ LR LR
comp=Z,140nm,20.1s
WMQ LR LR
comp=Z,110nm,19.3s
WMQ LR LR
comp=Z,150nm,19.3s
KMI Kunming 45.63 260 P **P** 03 41 34.5 +1.1
KMI pmax pmax
comp=Z,12nm,0.6s
MK31 Makanchi Array 47.39 298 *e*P **P** 03 41 46.0 -0.7
MK31 Makanchi Array 47.39 298 *e*P **P** 03 41 46.0 -0.7
MKAR Makanchi Array 47.39 298 P **P** 03 41 45.8 -1.0
comp=Z,4.4nm,0.6s,baz=71,slow=7.8,SNR=33
MKAR PcP **PcP** 03 43 17.3 +0.3
comp=Z,0.3nm,0.7s,baz=77,slow=3.1,SNR=2.4
MKAR LR LR 04 02 50.7
comp=Z,126nm,19.0s,baz=49,slow=38
MKAR Makanchi Array 47.39 298 *e*P **P** 03 41 46.0 -0.7
MK01 Makanchi Array 47.39 298 *e*P **P** 03 41 45.6 -1.1
MAKZ Makanchi 47.57 298 *e*P **P** 03 41 47.3 -0.8
comp=Z,9.6nm,1.4s
MAKZ Makanchi 47.57 298 *e*P **P** 03 41 47.3 -0.8
MAKZ pmax pmax
comp=Z,10.0nm,1.4s
KURK Kurchatov 47.80 304 *e*P **P** 03 41 48.0 -1.8
KURK Kurchatov 47.80 304 *e*P **P** 03 41 48.4 -1.4
comp=Z,11nm,0.9s
KURK Kurchatov 47.80 304*ce*P **P** 03 41 48.0 -1.8
KURK pmax pmax
comp=Z,13nm,1.0s
YKW3 Yellowknife Ar 50.76 37 *e*P **P** 03 42 12.4 +0.2
comp=Z,6.6nm,0.9s
YKA Yellowknife Ar 50.80 37 P **P** 03 42 13.2 +0.7
comp=Z,3.8nm,0.7s,baz=296,slow=7.2,SNR=48
RES Resolute Bay 50.85 19 P **P** 03 42 13.2 +0.5
comp=Z,4.7nm,0.8s,baz=315,slow=6.5,SNR=12
RES Resolute Bay 50.85 19 *e*P **P** 03 42 12.5 -0.2
comp=Z,10nm,1.1s
BVAR Borovoye Array 51.28 310 P **P** 03 42 15.9 -0.5
comp=Z,3.4nm,0.6s,baz=54,slow=7.2,SNR=20
BVAR PP **PP** 03 44 06.2 -6.9
comp=Z,2.9nm,0.7s,baz=56,slow=11,SNR=6.9
BVAR LR LR 04 05 40.6
comp=Z,95nm,18.5s,baz=70,slow=38
BRVK Borovoye 51.32 310 *e*P **P** 03 42 15.7 -0.9
comp=Z,6.0nm,0.6s
BRVK Borovoye 51.32 310*ce*P **P** 03 42 16.0 -0.6
BRVK pmax pmax
comp=Z,15nm,0.6s
OTUK Ortayu 52.58 304 P **P** 03 42 26.5 +0.4
OTUK pmax pmax
comp=Z,3.0nm,0.5s
CMAR Chiang Mai Arr 52.75 257 P **P** 03 42 29.2 +1.5
comp=Z,1.2nm,0.3s,baz=30,slow=7.3,SNR=2.8
CMAR LR LR 04 05 27.6
comp=Z,20nm,18.7s,baz=80,slow=37
SPITS Spitsbergen Ar 52.84 350 P **P** 03 42 26.5 -1.1
comp=Z,3.3nm,0.6s,baz=25,slow=8.3,SNR=8.7
SPITS LR LR 04 06 06.9
comp=Z,34nm,18.3s,baz=180,slow=38
TULEG Thule 54.20 11 *e*P **P** 03 42 37.4 0.0
comp=Z,6.7nm,0.8s
AAK Ala-Archa 54.28 297 *e*P **P** 03 42 38.3 -0.5
AAK Ala-Archa 54.28 297 *e*P **P** 03 42 38.5 -0.3
comp=Z,2.5nm,0.7s
AAK Ala-Archa 54.28 297 *i* P **P** 03 42 38.3 -0.5
AAK pmax pmax
comp=Z,3.0nm,1.2s
TAPN Taplejung 54.53 274 *e*P **P** 03 42 42.3 +1.3
comp=Z,17nm,0.8s
KSH Kashi 55.10 293 P **P** 03 42 48.1 +3.3
KSH pP sP 03 43 04.6 +6.7
KSH PcP **PcP** 03 43 48.1 +2.2
KSH ScP **ScP** 03 47 42.3 +0.2
KSH S **S** 03 50 24.1 -1.3
KSH sS sS 03 50 51.1 +10
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,170nm,5.0s
KSH LR LR
comp=Z,100nm,8.9s
KSH LR LR
comp=Z,130nm,6.1s
KSH LR LR
comp=Z,86nm,11.0s
JIRN Jiri 55.38 275 *e*P **P** 03 42 48.4 +1.2
comp=Z,42nm,0.8s
ARU Arti 55.41 318 *e*P **P** 03 42 45.7 -0.9
ARU Arti 55.41 318 *e*P **P** 03 42 45.7 -0.9
comp=Z,13nm,0.6s
ARU Arti 55.41 318 *e*P **P** 03 42 45.7 -0.9
ARU pmax pmax
comp=Z,13nm,0.6s
GUN Gumba 55.44 276 *e*P **P** 03 42 48.6 +1.0
comp=Z,8.1nm,0.4s
RAMN Ramite 55.55 274 *e*P **P** 03 42 49.0 +0.7
comp=Z,30nm,0.7s
MNAS Manas 55.59 298 P **P** 03 42 49.8 +1.6
MNAS pmax pmax
comp=Z,7.0nm,0.9s
KKN Kakani 55.92 276 *e*P **P** 03 42 52.7 +1.8
comp=Z,27nm,0.8s
PKI Pulchoki 55.97 276 *e*P **P** 03 42 52.5 +1.1
PKIN Phulchoki 55.98 276 *e*P **P** 03 42 53.0 +1.6
EDM Edmonton 56.12 46 *e*P **P** 03 42 52.7 +1.0
EDM Edmonton 56.12 46 *e*P **P** 03 42 52.8 +1.0
comp=Z,8.6nm,0.6s
EDM Edmonton 56.12 46 *e*P **P** 03 42 52.8 +1.0
EDM pmax pmax
comp=Z,9.0nm,0.6s
DMN Daman 56.16 276 *e*P **P** 03 42 54.0 +1.3
comp=Z,36nm,0.9s
SFK Sufi-Kurgan 56.38 295 P **P** 03 42 54.6 +0.6
SFK pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 56.44 299 *e*P **P** 03 42 53.8 -0.4
comp=Z,0.7nm,0.5s
KKAR Karatay Array 56.44 299 *e*P **P** 03 42 53.8 -0.4
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KOLN Koldanda 57.09 277 *e*P **P** 03 43 00.3 +1.1
comp=Z,19nm,0.8s
PYUN Piuthan 57.30 278 *e*P **P** 03 43 01.9 +1.2
comp=Z,28nm,0.9s
ARCES ARCESS Array B 58.14 341 P **P** 03 43 05.2 -0.6
comp=Z,7.2nm,0.8s,baz=25,slow=7.6,SNR=30
TMCR Tamitsa 58.67 332 *e*P **P** 03 43 08.4 -1.0
TMCR pmax pmax
comp=Z,12nm,0.5s
ABKAR Akbulak array 58.85 310 *e*P **P** 03 43 10.0 -0.9
comp=Z,58nm,0.7s
AKTO Aktyubinsk 59.14 312 P **P** 03 43 12.4 -0.6
comp=Z,1.9nm,0.6s,baz=69,slow=11,SNR=5.6
AKTO LR LR 04 10 37.3
comp=Z,82nm,19.6s,baz=48,slow=38
TRO Tromso 59.45 343 P **P** 03 43 16.0 +1.2
TRO pmax pmax
comp=Z,2.0nm,1.2s
KLMR Klimovskoe 60.46 329 *e*P **P** 03 43 19.7 -2.1
KLMR pmax pmax
comp=Z,20nm,1.0s
KLMR Klimovskoe 60.46 329 *e*P **P** 03 43 19.7 -2.1
KLMR AMP 03 43 22.0
comp=Z,20nm,1.0s
SUMG Summit 60.83 4 *i* P **P** 03 43 24.9 +0.2
comp=Z,18nm,0.8s
SUMG Summit 60.83 4 *e*P **P** 03 43 24.8 +0.1
comp=Z,21nm,0.9s
SUMG Summit 60.83 4 *i* P **P** 03 43 24.9 +0.2
SUMG pmax pmax
comp=Z,18nm,0.8s
OUL Oulu 61.52 338 P **P** 03 43 27.3 -1.7
OUL pmax pmax
comp=Z,44nm,1.3s
JOF Joensuu 61.66 334 P **P** 03 43 30.0 0.0
JOF pmax pmax
comp=Z,27nm,0.9s
NVAR Mina Array Bea 62.13 63 P **P** 03 43 34.3 +0.5
comp=Z,0.1nm,0.3s,baz=294,slow=6.8,SNR=3.3
KBL Kabul 62.52 292 *e*P **P** 03 43 36.3 -0.2
comp=Z,18nm,0.9s
KBL Kabul 62.52 292 *e*P **P** 03 43 36.3 -0.2
KBL pmax pmax
comp=Z,18nm,0.9s
BATI Baumata 62.61 214 LR LR 04 15 27.1
comp=Z,46nm,18.2s,baz=357,slow=40
SUF Sumiainen 63.32 336 P **P** 03 43 40.9 -0.2
FINES FINESS Array B 64.36 335 P **P** 03 43 47.1 -0.8
comp=Z,4.5nm,0.4s,baz=36,slow=7.3,SNR=62
FINES LR LR 04 13 36.5
comp=Z,79nm,21.3s,baz=21,slow=38
PDAR Pinedale Array 64.50 54 P **P** 03 43 50.1 +0.7
comp=Z,0.3nm,0.7s,baz=318,slow=4.0,SNR=4.0
MOS Moscow 64.81 326 *e*P P 03 43 45.3 -5.6
MOS pmax pmax
comp=Z,30nm,0.8s
FRB Frobisher Bay 65.06 19 P **P** 03 43 51.4 -1.0
comp=Z,4.4nm,0.8s,baz=39,slow=9.6,SNR=12
OBN Obninsk 65.67 326 *e*P **P** 03 43 55.9 -0.6
OBN Obninsk 65.67 326‖ *e*P **P** 03 43 55.9 -0.6
OBN *e* 03 44 10.3
OBN 03 46 19.0
OBN pmax pmax
comp=Z,34nm,2.5s
OBN MLR MLR
comp=Z,76nm,17.0s
ULM Lac du Bonnet 66.36 41 P **P** 03 44 01.0 -0.1
comp=Z,1.9nm,0.8s,baz=305,slow=8.5,SNR=5.7
ULM Lac du Bonnet 66.36 41 *e*P **P** 03 44 01.0 -0.1
ULM Lac du Bonnet 66.36 41 P **P** 03 44 01.0 -0.1
ULM pmax pmax
comp=Z,2.0nm,0.8s
VRH Novokhopyorsk 66.40 320 *e*P **P** 03 44 00.6 -0.7
VRH pmax pmax
comp=Z,20nm,0.8s
LPSR Galich'ya Gora 66.58 323 *e*P **P** 03 44 02.0 -0.4
LPSR pmax pmax
comp=Z,10.0nm,0.7s
GEYT Alibeck 67.05 301 P **P** 03 44 06.5 +0.8
comp=Z,8.7nm,0.7s,baz=8.1,slow=3.1,SNR=14
GEYT LR LR 04 15 30.1
comp=Z,78nm,18.0s,baz=305,slow=38
VSR Storozhevoye 67.50 322 *e*P **P** 03 44 07.9 -0.3
VSR pmax pmax
comp=Z,10.0nm,0.7s
PV10 Paradox Valley 67.70 57 *e*P **P** 03 44 12.4 +2.3
AFI Afiamalu 67.73 144 LR LR 04 07 47.2
comp=Z,34nm,21.9s,baz=52,slow=31
WRAB Tennant Creek 68.50 200 P **P** 03 44 13.8 -1.0
WRAB Tennant Creek 68.50 200 P **P** 03 44 13.8 -1.0
WRA Warramunga Arr 68.51 200 P **P** 03 44 15.0 +0.1
comp=Z,0.8nm,0.7s,baz=21,slow=6.3,SNR=6.9
WRA Warramunga Arr 68.51 200 *e*P **P** 03 44 17.5 +2.7
WRA Warramunga Arr 68.51 200*ce*P **P** 03 44 17.6 +2.7
WRA pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 68.51 341 P **P** 03 44 13.9 -0.6
comp=Z,8.8nm,0.6s,baz=27,slow=6.5
NB2 NORSAR Subarra 68.51 341 P **P** 03 44 13.8 -0.7
NB2 pmax pmax
comp=Z,8.0nm,0.7s
NOA NORSAR Array B 68.51 341 P **P** 03 44 14.2 -0.3
comp=Z,7.0nm,0.6s,baz=30,slow=6.6,SNR=32
NOA LR LR 04 18 02.5
comp=Z,21nm,19.5s,baz=25,slow=39
HFS Hagfors 68.75 340 P **P** 03 44 15.4 -0.6
comp=Z,14nm,0.5s,baz=57,slow=5.5,SNR=84
DZM Mont Dzumac 69.30 167 *e*LR LR 04 05 12.3
comp=Z,117nm,26.1s
GOF Gofitskoye 70.23 315⇑ *i*P **P** 03 44 26.0 +0.6
GOF pmax pmax
comp=Z,78nm,1.0s
NCK Nalchik 71.10 314 *i* P **P** 03 44 31.2 +0.5
NCK pmax pmax
comp=Z,24nm,0.9s
KIV Kislovodsk 71.21 315 *e*P **P** 03 44 32.4 +0.9
KIV Kislovodsk 71.21 315 *e*P **P** 03 44 32.8 +1.3
comp=Z,17nm,0.7s
KIV Kislovodsk 71.21 315 *e*P **P** 03 44 32.4 +0.9
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,66nm,18.0s
KBZ Khabaz 71.27 314 P **P** 03 44 32.4 +0.7
comp=Z,16nm,0.8s,baz=54,slow=4.1,SNR=21
KBZ LR LR 04 19 36.9
comp=Z,65nm,18.4s,baz=10.0,slow=39
ZEI Tsey 71.46 313 *e*P **P** 03 44 30.8 -2.4
ZEI Tsey 71.46 313 *e*P **P** 03 44 30.8 -2.4
ZEI pmax pmax
comp=Z,9.0nm,0.9s
TBLG Delisi 71.80 312 *e*P **P** 03 44 36.3 +1.3
comp=Z,25nm,0.7s
TBLG Delisi 71.80 312 *e*P **P** 03 44 36.3 +1.3
TBLG pmax pmax
comp=Z,25nm,0.7s
AKASG Malin Array Be 71.91 327 P **P** 03 44 34.5 -1.0
comp=Z,7.4nm,0.6s,baz=34,slow=6.3,SNR=46
AKASG LR LR 04 17 25.6
comp=Z,56nm,20.9s,baz=270,slow=37
AKBB Malin Array Si 71.91 327 *e*P **P** 03 44 34.5 -0.9
comp=Z,10nm,0.7s
AKBB Malin Array Si 71.91 327 *e*P **P** 03 44 34.6 -0.9
AKBB pmax pmax
comp=Z,10.0nm,0.7s
KIEV Kiev 71.92 327 *e*P **P** 03 44 34.5 -1.0
KIEV Kiev 71.92 327 *e*P **P** 03 44 34.5 -1.0
comp=Z,10nm,0.7s
KIEV Kiev 71.92 327 *e*P **P** 03 44 34.5 -1.0
KIEV pmax pmax
comp=Z,10.0nm,0.7s
AK11 Malin Array Si 71.95 327 *e*P **P** 03 44 34.8 -0.9
AS01 Alice Springs 72.19 199 *e*P **P** 03 44 38.5 +1.2
ASAR Alice Springs 72.20 199 P **P** 03 44 38.8 +1.4
comp=Z,1.5nm,0.8s,baz=6.0,slow=4.4,SNR=10
AKH Akhalkalaki 72.67 312⇑ *i*P **P** 03 44 42.1 +1.7
AKH Akhalkalaki 72.67 312 *e*P **P** 03 44 41.2 +0.8
comp=Z,18nm,1.2s
AKH Akhalkalaki 72.67 312 *e*P **P** 03 44 41.2 +0.8
AKH pmax pmax
comp=Z,18nm,1.2s
GNI Garni 72.95 311 P **P** 03 44 43.3 +1.2
comp=Z,6.9nm,0.8s,baz=33,slow=4.0,SNR=5.0
GNI LR LR 04 19 27.8
comp=Z,57nm,19.7s,baz=42,slow=38
SCHQ Schefferville 73.29 23 P **P** 03 44 46.4 +2.8
comp=Z,4.0nm,1.0s,baz=326,slow=11,SNR=3.1
HORU Horodok 74.17 327 P **P** 03 44 48.2 -0.7
SORM Soroca 74.32 325⇑ *i*P **P** 03 44 49.0 -0.7
SORM Soroca 74.32 325 P **P** 03 44 49.0 -0.7
KWP Kalwaria Pacla 75.17 330 *e*P **P** 03 44 54.7 +0.1
KWP Kalwaria Pacla 75.17 330 *e*P **P** 03 44 54.7 +0.1
comp=Z,186nm,0.9s
KWP Kalwaria Pacla 75.17 330 *e*P **P** 03 44 54.7 +0.1
OJC Ojcow 75.66 331 *e*P **P** 03 44 57.5 +0.1
OJC Ojcow 75.66 331 *e*P **P** 03 44 57.6 +0.1
OJC Ojcow 75.66 331 *e*P **P** 03 44 56.5 -0.9
comp=Z,6.2nm,0.8s
OJC Ojcow 75.66 331 *e*P **P** 03 44 57.6 +0.1
STHS Stebnicka Huta 75.86 330 *e*P **P** 03 44 59.2 +0.6
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 75.86 330 *e*P **P** 03 44 59.2 +0.6
BURAR Bucovina Array 75.95 327⇑ *i*P **P** 03 44 59.3 0.0
BURAR Bucovina Array 75.95 327 P **P** 03 44 59.2 0.0
NIE Niedzica 76.18 331 *e*P **P** 03 45 01.1 +0.6
NIE Niedzica 76.18 331 *e*P **P** 03 45 01.1 +0.6
CRVS Cervenica-Dubn 76.22 330 *e*P **P** 03 45 00.9 +0.2
CRVS Cervenica-Dubn 76.22 330 *e*P **P** 03 45 00.9 +0.2
KSP Ksiaz 76.23 334 *e*P **P** 03 45 00.8 +0.1
KSP Ksiaz 76.23 334 *e*P **P** 03 45 00.8 +0.1
TESR Tescani 76.31 325⇑ *i*P **P** 03 45 00.8 -0.4
TRSU Trosnyk 76.38 329 P **P** 03 45 02.4 +0.9
EKA Eskdalemuir Ar 76.59 347 P **P** 03 45 02.5 -0.1
comp=Z,2.3nm,0.5s,baz=19,slow=5.5,SNR=17
UPC Upice 76.61 334 *e*P **P** 03 45 02.2 -0.6
UPC Upice 76.61 334 *e*P **P** 03 45 02.2 -0.6
DPC Dobruska-Polom 76.65 334 *e*P **P** 03 45 03.5 +0.4
DPC Dobruska-Polom 76.65 334 *e*P **P** 03 45 03.5 +0.4
LANS Liptovska Anna 76.69 331 *e*P **P** 03 45 04.4 +1.0
LANS Liptovska Anna 76.69 331 *e*P **P** 03 45 04.4 +1.0
MORC Moravsky Berou 76.77 333⇑ *i*P **P** 03 45 03.6 -0.3
MORC Moravsky Berou 76.77 333 *e*P **P** 03 45 03.5 -0.3
comp=Z,22nm,0.9s
MORC Moravsky Berou 76.77 333 *e*P **P** 03 45 03.5 -0.3
MORC pmax pmax
comp=Z,22nm,0.9s
CLL Collm 76.78 336 *e*P **P** 03 45 03.6 -0.2
CLL Collm 76.78 336 *i* P **P** 03 45 03.1 -0.7
comp=Z,13nm,1.1s
CLL *i* pP **PcP** 03 45 16.0 +1.0
CLL LmV 04 16 00.0
comp=Z,100nm,18.1s
CLL Collm 76.78 336 *e*P **P** 03 45 03.5 -0.2
comp=Z,9.5nm,0.9s
CLL Collm 76.78 336 *e*P **P** 03 45 03.6 -0.2
CLL pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 76.90 335 *e*P **P** 03 45 03.8 -0.7
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 76.90 335 *e*P **P** 03 45 03.8 -0.7
BRG pmax pmax
comp=Z,6.0nm,1.1s
KECS Kecovo 76.92 330 *e*P **P** 03 45 04.6 0.0
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 76.92 330 *e*P **P** 03 45 04.6 0.0
TX31 Lajitas Ar. Si 77.20 61 *e*P **P** 03 45 06.6 0.0
TXAR Lajitas Array 77.20 61 P **P** 03 45 07.3 +0.6
comp=Z,0.5nm,0.5s,baz=298,slow=4.8,SNR=9.6
MLR Muntele Rosu 77.43 325 P **P** 03 45 08.0 +0.3
comp=Z,1.8nm,0.6s,baz=90,slow=3.0,SNR=28
MLR LR LR 04 22 39.1
comp=Z,9.8nm,18.2s,baz=34,slow=38
MLR Muntele Rosu 77.43 325⇑ *i*P **P** 03 45 08.3 +0.6
MLR Muntele Rosu 77.43 325 *e*P **P** 03 45 07.7 0.0
comp=Z,9.2nm,0.7s
VYHS Vyhne 77.47 331 *e*P **P** 03 45 07.7 0.0
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 77.47 331 *e*P **P** 03 45 07.7 0.0
GOPC GO Pecny, Ondr 77.50 334 *e*P **P** 03 45 08.2 +0.3
GOPC GO Pecny, Ondr 77.50 334 *e*P **P** 03 45 08.2 +0.3
ISR Istrita 77.50 325⇑ *i*P **P** 03 45 08.4 +0.4
ISR Istrita 77.50 325 P **P** 03 45 10.1 +2.1
ISR pmax pmax
comp=Z,31nm,1.1s
PRU Pruhonice 77.51 334 *e*P **P** 03 45 07.5 -0.4
PRU Pruhonice 77.51 334 *e*P **P** 03 45 07.5 -0.4
PRU Pruhonice 77.51 334 *e*P **P** 03 45 07.5 -0.4
DRGR 77.57 328⇑ *i*P **P** 03 45 08.4 0.0
PSZ Piszkesteto 77.61 330 *e*P **P** 03 45 09.0 +0.4
comp=Z,8.4nm,1.0s
PSZ Piszkesteto 77.61 330 *e*P **P** 03 45 09.0 +0.4
PSZ pmax pmax
comp=Z,8.0nm,1.0s
VOIR 77.83 326⇑ *i*P **P** 03 45 10.1 +0.2
VOIR 77.83 326 P **P** 03 45 10.0 +0.2
NKC Novy Kostel 77.90 336 *e*P **P** 03 45 10.2 +0.1
NKC Novy Kostel 77.90 336 *e*P **P** 03 45 10.2 +0.1
ARR Arges 78.05 326⇑ *i*P **P** 03 45 11.6 +0.5
KHC Kasperske Hory 78.56 335 *e*P **P** 03 45 13.8 0.0
KHC Kasperske Hory 78.56 335 *e*P **P** 03 45 14.0 +0.2
KHC Kasperske Hory 78.56 335 *e*P **P** 03 45 14.0 +0.2
comp=Z,3.2nm,1.1s
KHC Kasperske Hory 78.56 335 *e*P **P** 03 45 14.0 +0.2
KHC pmax pmax
comp=Z,3.0nm,1.1s
WET Wettzell 78.75 335 P **P** 03 45 15.4 +0.5
WET pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 78.78 334 P **P** 03 45 14.1 -1.0
comp=Z,1.0nm,0.5s,baz=35,slow=6.0,SNR=11
GERES LR LR 04 22 02.1
comp=Z,31nm,21.9s,baz=0.5,slow=37
GEA0 GERESS Array S 78.79 334 *e*P **P** 03 45 14.7 -0.4
BR131 Keskin Array S 78.79 317 *e*P **P** 03 45 15.9 +0.5
BRTR Keskin Array B 78.79 317 P **P** 03 45 15.8 +0.5
comp=Z,4.8nm,0.9s,baz=57,slow=4.6,SNR=16
STKA Stephens Creek 78.87 190 LR LR 04 18 57.5
comp=Z,26nm,20.7s,baz=23,slow=35
SOP Sopron 78.92 332 P **P** 03 45 17.1 +1.4
CONA Conrad Observa 78.93 333 *e*P **P** 03 45 15.8 -0.1
comp=Z,8.8nm,1.3s
BZS Buzias 78.97 328⇑ *i*P **P** 03 45 15.3 -0.8
ANTO Ankara 79.07 318 *e*P **P** 03 45 17.8 +1.0
comp=Z,12nm,0.6s
ANTO Ankara 79.07 318 *e*P **P** 03 45 17.8 +1.0
ANTO pmax pmax
comp=Z,12nm,0.6s
BR231 Keskin MP Arra 79.10 318 *e*P **P** 03 45 16.3 -0.8
MOA Molln 79.50 334 *e*P **P** 03 45 18.6 -0.3
comp=Z,1.6nm,0.7s
ARSA Arzberg 79.64 333 *e*P **P** 03 45 18.9 -0.8
comp=Z,2.7nm,0.8s
SOKA Soboth 80.30 333 *e*P **P** 03 45 23.4 0.0
comp=Z,9.4nm,1.2s
TAOE Nuku Hiva Isla 80.50 114 *e*LR LR 04 10 27.4
comp=Z,78nm,31.3s
OBKA Obir 80.60 333 *e*P **P** 03 45 25.0 0.0
comp=Z,3.2nm,0.6s
BFO Black Forest 80.76 337*ce*P **P** 03 45 26.7 +1.0
WATA Walderalm 80.76 335 *e*P **P** 03 45 26.1 +0.2
comp=Z,5.4nm,0.8s
WTTA Wattenberg 80.81 335 *e*P **P** 03 45 26.6 +0.4
comp=Z,6.6nm,0.7s
RETA Reutte 80.86 336 *e*P **P** 03 45 25.8 -0.6
comp=Z,6.3nm,0.8s
DIVS Divibare 80.87 328 *e*P **P** 03 45 26.0 -0.5
comp=Z,4.8nm,0.9s
MOTA Moosalm 80.89 335 *e*P **P** 03 45 26.8 +0.2
comp=Z,6.0nm,0.9s,SNR=5.6
VTS Vitosha 80.94 325⇑ *i*P **P** 03 45 27.1 +0.1
VTS Vitosha 80.94 325 *e*P **P** 03 45 27.0 +0.1
comp=Z,6.0nm,0.8s
VTS Vitosha 80.94 325 *e*P **P** 03 45 27.0 +0.1
VTS pmax pmax
comp=Z,6.0nm,0.8s
ABTA Abfaltersbach 81.02 334 P **P** 03 45 26.7 -0.5
comp=Z,6.4nm,1.2s
DAVA Damuels 81.29 336 *e*P **P** 03 45 28.7 -0.1
comp=Z,4.5nm,0.9s
FETA Feichten 81.29 335 *e*P **P** 03 45 29.1 +0.3
comp=Z,4.0nm,1.0s,SNR=4.5
HAU Haudompre 81.57 339 *e*P **P** 03 45 30.0 -0.1
HAU pmax pmax
comp=Z,22nm,1.4s
HINF Hinteralfeld 81.62 338 *e*P **P** 03 45 28.7 -1.6
HINF pmax pmax
comp=Z,16nm,1.4s
PPT Papeete 81.72 126 LR LR 04 14 47.1
comp=Z,40nm,19.7s,baz=336,slow=30
PPT2 Papeete2 81.74 126 *e*LR LR 04 11 02.5
comp=Z,86nm,24.2s
PLE Pljevlja 81.75 328 P **P** 03 45 31.5 +0.3
PDG Podgorica 82.58 328⇑ *i*P **P** 03 45 34.5 -0.9
TTG Podgorica 82.58 328 *e*P **P** 03 45 34.7 -0.7
comp=Z,13nm,1.2s
TTG Podgorica 82.58 328 *e*P **P** 03 45 34.7 -0.7
TTG pmax pmax
comp=Z,13nm,1.2s
GRR Gorron 82.84 343 *e*P **P** 03 45 39.1 +2.5
GRR pmax pmax
comp=Z,31nm,1.1s
SSF Saint Saulge 83.15 340 *e*P **P** 03 45 40.5 +2.2
SSF pmax pmax
comp=Z,12nm,0.8s
MMAI Mount Meron Ar 83.23 312 P **P** 03 45 40.2 +1.1
comp=Z,4.1nm,0.6s,baz=41,slow=6.6,SNR=9.7
MMAI LR LR 04 26 48.2
comp=Z,44nm,19.0s,baz=330,slow=39
ROSF Rostrenen 83.35 345 *e*P **P** 03 45 42.0 +2.7
ROSF pmax pmax
comp=Z,31nm,0.8s
LPL La Plagne 83.78 337 *e*P **P** 03 45 41.3 -0.5
LPL pmax pmax
comp=Z,10.0nm,1.0s
LPG La Plagne 83.79 337 *e*P **P** 03 45 41.5 -0.5
LPG pmax pmax
comp=Z,13nm,1.2s
RJF Les Rejaudoux 85.26 341 *e*P **P** 03 45 52.0 +2.9
RJF pmax pmax
comp=Z,14nm,1.0s
CAF Calviac 85.50 340 *e*P **P** 03 45 53.6 +3.3
IDI Anoyia 86.40 320 P **P** 03 45 54.8 -0.1
comp=Z,3.5nm,0.8s,baz=343,slow=11,SNR=4.9
ESDC Sonseca Array 91.83 343 P **P** 03 46 22.2 +1.7
comp=Z,0.3nm,0.5s,baz=5.5,slow=4.3,SNR=2.6
ESDC LR LR 04 33 27.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,29nm,18.4s,baz=340,slow=39						
KEST	**Kesra**	**92.01**	**332**	P	**P**	**03 46 23.4**	**+2.0**
	comp=Z,2.8nm,0.8s,baz=2.2,slow=8.3,SNR=3.5						
KEST				LR	LR	04 30 49.2	
	comp=Z,32nm,20.6s,baz=218,slow=38						
ATD	**Arta Tunnel**	**95.57**	**293**	LR	LR	04 34 40.2	
	comp=Z,44nm,18.3s,baz=74,slow=39						
TORD	**Torodi Ar. Bea**	**115.44**	**330**	PKP	**PKPdf**	**03 51 53.3**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=10,slow=2.8,SNR=2.9						
TORD				PP	**PP**	**03 52 47.7**	**-7.4**
	comp=Z,0.7nm,1.0s,baz=34,slow=5.4,SNR=3.2						

IDC 05 03:48:57.3±9.7**, 30°.13S**×**179°.03W, h400**km±101km**, mb2.7**/2**, mb1 2.9**/3**, mb1mx2.8**/35**, mbtmp3.6**/3**, Error ellipse: s-maj=94.2km s-min=51.0km az=18.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.72**	**200**	P	P	03 51 00.9	+0.3
	0.8nm,0.3s,baz=39,slow=13,SNR=8.7						
URZ				S	S	03 52 40.7	-0.7
	0.7nm,0.3s,baz=307,slow=18,SNR=4.2						
ASAR	**Alice Springs**	**42.24**	**267**	P	P	03 56 13.8	+0.3
	0.2nm,0.5s,baz=113,slow=8.3,SNR=3.1						
WRA	**Warramunga Arr**	**43.20**	**272**	P	P	03 56 20.4	-0.7
	0.4nm,0.4s,baz=110,slow=7.3,SNR=5.9						
FINES	**FINESS Array B**	**144.58**	**339**	PKP	PKPbc	04 07 45.6	-0.3
	0.4nm,0.3s,baz=48,slow=2.3,SNR=7.1						

*IDC **05** 04:00:01.4±1.5, 2°.59S×128°.32E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/50, mbtmp3.6/4, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=120.6km s-min=23.0km az=70.0*
*ISCJB **05** 04:00:06.1±0.6, 3°.01S±0°.08×127°.18E±0°.06, h32km, mb3.4/3, MS3.5/1, Error ellipse: s-maj=12.7km s-min=6.4km az=32.1*
*DJA **05** 04:00:06.4±1.0, 3°S±3°×12°7E±°, h11km±8km, M4.3/9, mB5.0/1, mb4.8/2, MLv4.0/9, Mw(mB)4.3/1*
ISC 05 04:00:06.8±0.8**, 3°.03S**±0°.08×**127°.22E**±0°.06**, h32**km**, n16, σ2s.60**/18**, mb3.5**/3**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.18**	**124**	P	**Pb**	**04 00 28.4**	**-0.2**
AAI				S	**Sb**	**04 00 46.4**	**+2.9**
SANI	**Sanana**	**1.57**	**308**	P	**Pn**	**04 00 32.9**	**+0.5**
MSAI	**Masohi**	**1.74**	**101**	P	**Pn**	**04 00 36.4**	**+1.6**
MSAI				S	**Sn**	**04 00 57.8**	**+1.9**
LBMI	**Labuha**	**2.39**	**7**	P	**Pn**	**04 00 42.3**	**-1.5**
BNDI	**Bandanaira**	**3.06**	**119**	P	**Pn**	**04 00 55.3**	**+2.2**
SWI	**Sorong**	**4.57**	**62**	P	**Pn**	**04 01 11.1**	**-2.7**
LUWI	**Luwuk**	**4.86**	**294**	P	**Pn**	**04 01 21.1**	**+3.3**
FAKI	**Fak Fak**	**5.02**	**89**	P	**Pn**	**04 01 19.0**	**-1.0**
APSI	**Ampana**	**5.95**	**291**	P	**Pn**	**04 01 34.2**	**+1.4**
	83nm,0.6s,1μm0.3nm						
BATI	**Baumata**	**7.96**	**206**	LR	LR	04 05 40.9	
	comp=Z,67nm,18.6s,baz=69,slow=38						
WRA	**Warramunga Arr**	**18.20**	**158**	P	**Pn**	**04 04 16.4**	**-0.7**
	0.4nm,0.3s,baz=342,slow=12,SNR=24						
WRA				S	**Sn**	**04 07 33.0**	**-6.5**
	0.0nm,0.3s,baz=335,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**21.52**	**163**	P	**P**	**04 04 53.0**	**-0.3**
	1.0nm,0.4s,baz=343,slow=11,SNR=13						
ASAR				S	**S**	**04 08 46.6**	**-3.7**
	0.7nm,0.9s,baz=343,slow=18,SNR=4.7						
SONM	**Songino Array**	**53.83**	**343**	P	**P**	**04 09 27.2**	**+0.4**
	0.2nm,0.5s,baz=151,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**63.41**	**327**	P	**P**	**04 10 33.9**	**+0.5**
	0.3nm,0.8s,baz=126,slow=7.4,SNR=3.1						
YAK	**Yakutsk**	**64.90**	**1**	LR	LR	04 38 39.5	
	comp=Z,31nm,18.3s,baz=89,slow=36						
TORD	**Torodi Ar. Bea**	**125.25**	**284**	PKP	**PKPdf**	**04 19 06.2**	**+0.8**
	0.4nm,0.7s,baz=56,slow=2.0,SNR=3.1						

*IDC **05** 04:13:22.7±1.3, 53°.37N×161°.31W, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.5/79, mbtmp3.7/11, ML3.7/3, Error ellipse: s-maj=29.1km s-min=20.9km az=12.0*
*ISCJB **05** 04:13:24.0±0.6, 53°.31N±0°.05×161°.21W±0°.05, h24km, mb3.6/8, Error ellipse: s-maj=8.1km s-min=3.8km az=163.9*
*NEIC **05** 04:13:24.8±0.0, 53°.23N×161°.25W, h26km, mb3.4/1, ML3.4(AEIC), After AEIC.*
ISC 05 04:13:25.7±0.8**, 53°.35N**±0°.08×**161°.26W**±0°.05**, h24**km**, n48, σ1s.26**/51**, mb3.7**/8**, South of Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.98**	**321**	P	**Pn**	**04 13 57.8**	**+0.1**
FALS				S	**Sn**	**04 14 22.2**	**+0.5**
BALA	**Baldy Mountain**	**2.06**	**335**	P	**Pb**	**04 14 00.7**	**-1.6**
SDPT	**Sand Point**	**2.06**	**12**	*e*Pn	**Pn**	**04 13 59.2**	**+0.4**
SDPT				*e*S	**Sn**	**04 14 23.8**	**+0.1**
SSLW	**Shishaldin Wes**	**2.21**	**311**	P	**Pn**	**04 14 01.6**	**+0.6**
WESE	**West Dahl East**	**2.27**	**301**	P	**Pn**	**04 14 02.1**	**+0.3**
WESN	**West Dahl Nort**	**2.32**	**303**	P	**Pn**	**04 14 03.1**	**+0.7**
WEBT	**Westdahl Beart**	**2.41**	**303**	P	**Pn**	**04 14 04.5**	**+0.8**
AKSA	**Akutan Strait**	**2.75**	**288**	P	**Pn**	**04 14 08.2**	**-0.1**
AKSA				S	**Sn**	**04 14 40.4**	**-0.4**
AKUT	**Akutan**	**2.80**	**288**	*e*Pn	**Pn**	**04 14 08.9**	**0.0**
AKUT				*e*S	**Sn**	**04 14 41.0**	**-0.8**
AHB	**Akutan Harbor**	**2.82**	**288**	P	**Pn**	**04 14 09.3**	**+0.1**
AKRB	**Akutan Reef Bi**	**2.96**	**287**	P	**Pn**	**04 14 11.3**	**0.0**
VNHG	**Veniaminof 1**	**3.13**	**22**	P	**Pn**	**04 14 15.3**	**+1.7**
UNV	**Unalaska Valle**	**3.17**	**281**	*e*Pn	**Pn**	**04 14 13.2**	**-0.8**
UNV				*e*S	**Sn**	**04 14 47.8**	**-3.1**
MTBL	**Makushin Table**	**3.29**	**283**	P	**Pn**	**04 14 15.9**	**+0.2**
MREP	**Makushin Rep't**	**3.31**	**280**	P	**Pn**	**04 14 15.9**	**-0.1**
CHGN	**Chignik**	**3.39**	**28**	P	**Pn**	**04 14 17.9**	**+0.9**
MCIR	**Makushin Cirqu**	**3.41**	**283**	P	**Pn**	**04 14 17.6**	**+0.2**
MSOM	**Makushin Julie**	**3.43**	**280**	P	**Pn**	**04 14 17.5**	**0.0**
ANPK	**Aniakchak Peak**	**3.94**	**26**	P	**Pn**	**04 14 26.5**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**4.07**	**273**	P	**Pn**	**04 14 26.0**	**-0.4**
OKER	**Okmok East Rim**	**4.07**	**274**	P	**Pn**	**04 14 26.4**	**0.0**
OKWE	**Okmok W'ng Wal**	**4.18**	**275**	P	**Pn**	**04 14 28.0**	**0.0**
OKSP	**Okmok Steeple**	**4.22**	**272**	P	**Pn**	**04 14 27.7**	**-0.8**
OKAK	**Okmok**	**4.25**	**276**	P	**Pn**	**04 14 28.5**	**-0.4**
OHAK	**Old Harbor**	**5.98**	**46**	*e*Pn	**Pn**	**04 14 52.1**	**-0.6**
OHAK				*e*S	**Sn**	**04 15 57.5**	**-2.9**
KDAK	**Kodiak Island**	**6.63**	**44**	Pn	**Pn**	**04 15 00.7**	**-0.8**
	1.3nm,0.3s,baz=201,slow=5.0,SNR=83						
KDAK				Sn	**Sn**	**04 16 11.9**	**-4.3**
	0.8nm,0.3s,baz=233,slow=23,SNR=7.1						
KOWE	**Korovin West**	**7.93**	**268**	P	**Pn**	**04 15 20.9**	**+1.5**
SLKM	**Skilak Lake**	**9.37**	**36**	P	**Pn**	**04 15 40.2**	**+1.1**
SEW	**Seward**	**9.37**	**39**	*e*Pn	**Pn**	**04 15 38.9**	**-0.2**
RC01	**Rabbit Creek A**	**9.95**	**34**	*e*Pn	**Pn**	**04 15 46.2**	**-0.8**
RC01				*e*S	**Sn**	**04 17 39.0**	**+1.3**
PPLA	**Purkeypile**	**10.70**	**23**	*e*Pn	**Pn**	**04 15 59.1**	**+1.7**
ILAR	**Eielson Array**	**13.59**	**27**	Pn	**Pn**	**04 16 33.6**	**-3.0**
	0.2nm,0.3s,baz=214,slow=12,SNR=7.6						
INK	**Inuvik**	**19.91**	**31**	P	**Pn**	**04 17 56.1**	**-0.8**
	0.3nm,0.3s,baz=216,slow=11,SNR=11						
INK	**Inuvik**	**19.91**	**31**	*e*P	**P**	**04 17 55.0**	**-0.1**
	0.7nm,0.4s						
PETK	**Petropavlovsk-**	**24.34**	**286**	P	**P**	**04 18 41.8**	**+0.5**
	1.3nm,0.6s,baz=84,slow=13,SNR=5.8						
YKA	**Yellowknife Ar**	**25.85**	**51**	P	**P**	**04 18 54.6**	**-0.3**
	0.4nm,0.6s,baz=268,slow=9.2,SNR=8.8						
YKA				PcP	**PcP**	**04 22 23.2**	**-0.2**
	0.2nm,0.6s,baz=284,slow=2.5,SNR=3.8						
NVAR	**Mina Array Bea**	**32.85**	**99**	P	**P**	**04 19 59.5**	**+1.8**
	0.3nm,0.7s,baz=293,slow=11,SNR=3.3						
ULM	**Lac du Bonnet**	**39.29**	**67**	P	**P**	**04 20 52.1**	**-0.1**
	0.9nm,0.5s,baz=329,slow=12,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**41.55**	**229**	T	T	05 06 54.4	
	baz=28						
H11N3	**WAKE ISLAND Hy**	**41.56**	**229**	T	T	05 06 56.2	
	baz=28						
H11N1	**WAKE ISLAND Hy**	**41.57**	**229**	T	T	05 06 56.2	
	baz=28						
H11S1	**WAKE ISLAND Hy**	**42.71**	**228**	T	T	05 08 22.8	
	baz=26,slow=76,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**42.72**	**228**	T	T	05 08 25.2	
	baz=26,slow=76,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**42.73**	**228**	T	T	05 08 24.4	
	baz=26,slow=76,SNR=3.4						
TXAR	**Lajitas Array**	**47.88**	**96**	P	**P**	**04 22 02.9**	**+1.1**
	0.4nm,0.6s,baz=295,slow=4.7,SNR=7.1						
FINES	**FINESS Array B**	**65.41**	**356**	P	**P**	**04 24 06.5**	**+0.7**
	1.8nm,1.0s,baz=27,slow=9.4,SNR=3.3						
HFS	**Hagfors**	**66.80**	**3**	P	**P**	**04 24 15.5**	**+0.8**
	2.2nm,0.9s,baz=22,slow=8.0,SNR=6.8						
AKASG	**Malin Array Be**	**75.95**	**353**	P	**P**	**04 25 10.6**	**+0.5**
	0.3nm,0.4s,baz=13,slow=5.9,SNR=3.6						

IDC 05 04:25:21.1±71.0**, 21°.34S**×**177°.32W, h0**km**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.7**/42**, mbtmp4.0**/3**, Error ellipse: s-maj=1312.0km s-min=174.8km az=85.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.01**	**245**	P	P	04 32 41.1	+0.1
	1.5nm,0.5s,baz=82,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**44.95**	**257**	P	P	04 33 38.0	-0.3
	1.3nm,0.7s,baz=95,slow=7.9,SNR=13						
WRA	**Warramunga Arr**	**45.12**	**263**	P	P	04 33 39.5	-0.1
	0.9nm,0.5s,baz=101,slow=8.2,SNR=20						

*NIED **05** 04:39:00, 37°.00N×141°.20E, h8km, Mw3.4 Best double couple: M₀1.63000×10^14 NP1:φs68.00000°, δ68.00000°, λ-23.00000°. NP2:φs167.00000°, δ69.00000°, λ-156.00000°.*
*ISCJB **05** 04:39:41.0±1.3, 37°.00N±0°.05×141°.43E±0°.05, h11km±6km, mb3.3/5, Error ellipse: s-maj=8.3km s-min=6.7km az=149.0*
*IDC **05** 04:39:41.1±1.2, 36°.98N×141°.30E, h0km, mb3.3/5, mb1 3.5/7, mb1mx3.4/60, mbtmp3.3/7, ML3.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/26, Error ellipse: s-maj=28.6km s-min=20.7km az=141.0*
*JMA **05** 04:39:43.7±0.1, 36°.99N×141°.26E, h28km±1km, M3.9*
JMA Felt I J1.
ISC 05 04:39:41.9±2.3**, 37°.00N**±0°.05×**141°.27E**±0°.07**, h7**km±14km**, n22, σ0s.78**/24**, mb3.4**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**285**	P	**Pb**	**04 39 51.9**	**+0.7**
ONAJ				S	**Sb**	**04 39 57.8**	**+0.3**
JFK	**Kawauchi**	**0.48**	**319**	P	**Pb**	**04 39 53.5**	**+0.7**
JFK				S	**Sb**	**04 40 00.1**	**0.0**
JHO	**Hitachi**	**0.68**	**236**	P	**Pb**	**04 39 56.3**	**+0.1**
JHO				*e*S	**Sb**	**04 40 05.6**	**-0.2**
JFT	**Otama**	**0.91**	**305**	P	**Pn**	**04 40 00.8**	**-0.3**
JFT				S	**Sb**	**04 40 12.7**	**+0.4**
JMM	**Marumori**	**0.94**	**336**	P	**Pn**	**04 40 00.6**	**-1.0**
JMM				S	**Sb**	**04 40 13.0**	**-0.4**
JSB	**Shiboa**	**1.08**	**269**	P	**Pn**	**04 40 03.9**	**+0.4**
JSB				S	**Sn**	**04 40 18.2**	**-0.6**
JFY	**Yanaizu**	**1.31**	**288**	P	**Pg**	**04 40 07.2**	**+0.1**
JFY				S	**Sb**	**04 40 24.2**	**+0.2**
MJAR	**Matsushiro Arr**	**2.50**	**260**	Pn	**Pn**	**04 40 24.7**	**+1.6**
	4.4nm,0.3s,baz=83,slow=16,SNR=12						
MJAR				Sn	**Sb**	**04 40 57.1**	**-1.1**
	6.3nm,0.3s,baz=74,slow=31,SNR=6.2						
MAT	**Matsushiro**	**2.50**	**260**	P	**Pb**	**04 40 25.3**	**-1.9**
MAT				S	**Sb**	**04 40 58.6**	**+0.4**
ASAJ	**Asahikawa**	**7.18**	**8**	Pn	**Pn**	**04 41 27.1**	**-0.2**
	1.0nm,0.3s,baz=175,slow=12,SNR=4.1						
KSRS	**Korea Array**	**10.65**	**276**	LR	LR	04 45 50.5	
	comp=Z,36nm,18.6s,baz=75,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	05 15 06.0	
	baz=313,slow=75,SNR=161						
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	05 15 06.6	
	baz=313,slow=75,SNR=128						
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	05 15 07.4	
	baz=313,slow=75,SNR=93						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	05 15 59.6	
	baz=312,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	05 16 00.0	
	baz=312,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	05 16 00.8	
	baz=312						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**04 47 31.9**	**-0.4**
	0.5nm,0.4s,baz=79,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**04 47 49.9**	**-0.4**
	0.3nm,0.6s,baz=84,slow=9.2,SNR=5.5						
ILAR	**Eielson Array**	**49.59**	**32**	P	**P**	**04 48 34.1**	**+0.8**
	0.4nm,0.9s,baz=286,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**57.01**	**188**	P	**P**	**04 49 28.0**	**-0.4**
	0.2nm,0.5s,baz=5.0,slow=7.4,SNR=2.9						
YKA	**Yellowknife Ar**	**63.90**	**30**	P	**P**	**04 50 15.7**	**+0.7**
	0.1nm,0.7s,baz=304,slow=6.7,SNR=3.7						

*IDC **05** 04:43:18.1±2.1, 2°.54S×128°.80E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/46, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=140.9km s-min=25.7km az=68.0*
*ISCJB **05** 04:43:21.4±0.7, 2°.96S±0°.08×127°.36E±0°.07, h42km, mb3.4/2, Error ellipse: s-maj=14.1km s-min=7.3km az=36.4*
*DJA **05** 04:43:22.3±0.8, 3°S±4°×12°7E±°, h68km±23km, M3.6/6, MLv3.6/6*
ISC 05 04:43:23.7±1.1**, 2°.95S**±0°.09×**127°.33E**±0°.08**, h42**km**, n10, σ2s.06**/11**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.13**	**130**	P	**Pn**	**04 43 43.2**	**+0.1**
SANI	**Sanana**	**1.61**	**304**	P	**Pn**	**04 43 48.3**	**-1.5**
SANI				S	**Sn**	**04 44 08.4**	**-1.0**
MSAI	**Masohi**	**1.64**	**104**	P	**Pn**	**04 43 50.8**	**+0.7**
LBMI	**Labuha**	**2.31**	**4**	P	**Pn**	**04 43 58.2**	**-1.1**
BNDI	**Bandanaira**	**3.00**	**121**	P	**Pn**	**04 44 06.5**	**-2.4**
SWI	**Sorong**	**4.44**	**62**	P	**Pn**	**04 44 27.0**	**-1.6**
FAKI	**Fak Fak**	**4.91**	**90**	P	**Pn**	**04 44 33.4**	**-1.7**
WRA	**Warramunga Arr**	**18.22**	**158**	P	**P**	**04 47 32.1**	**-1.4**
	0.3nm,0.3s,baz=342,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.55**	**163**	P	**P**	**04 48 08.5**	**-1.2**
	1.1nm,0.7s,baz=342,slow=11,SNR=10.0						
MKAR	**Makanchi Array**	**63.41**	**327**	P	**P**	**04 53 53.0**	**+3.9**
	0.3nm,0.8s,baz=116,slow=6.6,SNR=2.3						

*IDC **05** 04:51:47.8±0.8, 2°.74N×125°.85E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/52, mbtmp3.9/7, Error ellipse: s-maj=83.3km s-min=16.5km az=72.0*
*ISCJB **05** 04:51:55.8±0.6, 2°.78N±0°.06×126°.2E±0°.1, h72km, mb3.8/7, Error ellipse: s-maj=15.4km s-min=6.5km az=157.0*
*DJA **05** 04:51:56.9±1.7, 3°N±3°×12°6E±°, h16km±15km, M4.3/6, mb4.8/1, MLv4.0/6*
ISC 05 04:51:57.4±0.7**, 2°.79N**±0°.06×**126°.1E**±0°.1**, h72**km**, n13, σ1s.79**/18**, mb4.0**/7**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.08**	**325**	P	**Pn**	**04 52 18.0**	**+1.0**
SGSI				S	**Sn**	**04 52 33.5**	**+1.8**
LBMI	**Labuha**	**3.66**	**158**	P	**Pn**	**04 52 52.3**	**+0.6**
LBMI				S	**Sn**	**04 53 34.2**	**+0.4**
MRSI	**Marisa**	**4.79**	**241**	P	**Pn**	**04 53 07.3**	**+0.2**
SANI	**Sanana**	**4.81**	**182**	P	**Pn**	**04 53 06.6**	**-0.7**
APSI	**Ampana**	**5.81**	**231**	P	**Pn**	**04 53 20.8**	**-0.2**
WRA	**Warramunga Arr**	**23.98**	**161**	P	**P**	**04 57 04.2**	**-1.2**
	2.4nm,0.4s,baz=338,slow=10,SNR=30						
WRA				PcP	**PcP**	**05 00 46.2**	**+0.2**
	0.2nm,0.6s,baz=343,slow=2.3,SNR=4.1						
ASAR	**Alice Springs**	**27.36**	**164**	P	**P**	**04 57 36.2**	**+0.2**
	0.5nm,0.5s,baz=342,slow=12,SNR=8.7						
ASAR				PcP	**PcP**	**05 00 54.0**	**+0.3**
	0.3nm,0.4s,baz=354,slow=1.9,SNR=5.6						
ASAR				S	**S**	**05 02 17.0**	**+6.1**
	0.6nm,0.6s,baz=348,slow=20,SNR=5.2						
KSRS	**Korea Array**	**34.54**	**2**	P	**P**	**04 58 38.0**	**-0.9**
	1.6nm,0.6s,baz=186,slow=9.1,SNR=3.5						
STKA	**Stephens Creek**	**37.47**	**158**	P	**P**	**04 59 03.6**	**-0.4**
	2.7nm,0.8s,baz=321,slow=14,SNR=4.9						
SONM	**Songino Array**	**48.00**	**342**	P	**P**	**05 00 28.8**	**-0.5**
	0.4nm,0.7s,baz=143,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**57.99**	**326**	P	**P**	**05 01 41.4**	**-1.3**
	0.3nm,0.5s,baz=122,slow=8.0,SNR=9.8						
ARCES	**ARCESS Array B**	**91.12**	**340**	P	**P**	**05 04 54.2**	**+0.4**
	1.2nm,0.8s,baz=88,slow=6.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**122.65**	**287**	PKP	**PKPdf**	**05 10 44.9**	**-1.0**
	0.4nm,0.7s,baz=61,slow=2.1,SNR=2.7						

*CRAAG **05** 04:56:30.1, 36°.48N×0°.97E, Ml2.6*
*ISCJB **05** 04:56:32.8±0.6, 36°.48N±0°.09×0°.85E±0°.08, h16km, Error ellipse: s-maj=15.1km s-min=4.5km az=35.4*
*CSEM **05** 04:56:32.7±0.3, 36°.50N×0°.86E, h5km, mb3.3, Error ellipse: s-maj=15.8km s-min=4.4km az=36.0*
*MDD **05** 04:56:33.1±0.9, 36°.54N×0°.93E, h0km, mb3.3/4, Error ellipse: s-maj=21.6km s-min=5.3km az=47.0, PRXIMO*
ISC 05 04:56:33.1±0.9**, 36°.52N**±0°.08×**0°.94E**±0°.06**, h16**km**, n19, σ0s.93**/29**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ECHF	**Ech Chlef**	**0.49**	**138**	P	**Pg**	**04 56 42.1**	**-0.7**
ECHF	**Ech Chlef**	**0.49**	**138**	P	**Pg**	**04 56 42.1**	**-0.7**
ECHA	**Ech Chlef**	**0.51**	**136**	P	**Pg**	**04 56 42.1**	**-1.1**
ECHA	**Ech Chlef**	**0.51**	**136**	P	**Pg**	**04 56 42.1**	**-1.1**
EBNR	**Beni Rached**	**0.53**	**115**	P	**Pb**	**04 56 44.8**	**+0.7**
EBNR	**Beni Rached**	**0.53**	**115**	P	**Pb**	**04 56 44.8**	**+0.7**
EANR	**'Ain N'Sour**	**0.58**	**167**	P	**Pg**	**04 56 44.5**	**-0.1**
EANR	**'Ain N'Sour**	**0.58**	**167**	P	**Pg**	**04 56 44.5**	**-0.1**
EANR	**'Ain N'Sour**	**0.58**	**167**	P	**Pg**	**04 56 44.5**	**-0.1**
EMUR	**La Murta**	**2.18**	**308**	P	**Pn**	**04 57 08.9**	**0.0**
	0.3nm,1.3s,SNR=7.9						
EMUR				S	**Sn**	**04 57 36.2**	**+0.6**
	7.3nm,1.0s,SNR=7.9						
EMUR	**La Murta**	**2.18**	**308**	P	**Pn**	**04 57 08.9**	**0.0**
	0.3nm,1.3s,SNR=7.9						
EMUR				S	**Sn**	**04 57 36.2**	**+0.6**
	7.3nm,1.0s,SNR=7.9						
ETOB	**Tobarra**	**2.90**	**318**	P	**Pn**	**04 57 19.5**	**+0.8**
	1.8nm,0.5s,SNR=10.0						
ETOB				S	**Sn**	**04 57 52.5**	**-0.8**
	7.8nm,1.4s,SNR=7.9						
ETOB	**Tobarra**	**2.90**	**318**	P	**Pn**	**04 57 19.5**	**+0.8**
	1.8nm,0.5s,SNR=10.0						
ETOB				S	**Sn**	**04 57 52.5**	**-0.8**
	7.8nm,1.4s,SNR=7.9						
EBER	**Berja**	**3.10**	**278**	P	**Pn**	**04 57 22.1**	**+0.5**
	1.1nm,0.8s,SNR=7.9						
EBER				S	**Sn**	**04 57 57.0**	**-1.3**
	9.8nm,0.6s,SNR=7.9						
EBER	**Berja**	**3.10**	**278**	P	**Pn**	**04 57 22.1**	**+0.5**
	1.1nm,0.8s,SNR=7.9						
EBER				S	**Sn**	**04 57 57.0**	**-1.3**
	9.8nm,0.6s,SNR=7.9						
SESP	**Santiago Espad**	**3.20**	**301**	P	**Pn**	**04 57 23.9**	**+0.9**
	8.3nm,0.6s,SNR=7.9						
SESP				S	**Sn**	**04 57 59.6**	**-1.3**
	23nm,1.1s,SNR=7.9						
SESP	**Santiago Espad**	**3.20**	**301**	P	**Pn**	**04 57 23.9**	**+0.9**
	8.3nm,0.6s,SNR=7.9						
SESP				S	**Sn**	**04 57 59.6**	**-1.3**
	23nm,1.1s,SNR=7.9						
EQES	**Quesada**	**3.45**	**293**	P	**Pn**	**04 57 27.6**	**+1.3**
	8.6nm,0.6s,SNR=68						
EQES				S	**Sn**	**04 58 05.8**	**-1.1**
	2.6nm,0.9s,SNR=7.9						
EQES	**Quesada**	**3.45**	**293**	P	**Pn**	**04 57 27.6**	**+1.3**
	8.6nm,0.6s,SNR=68						
EQES				S	**Sn**	**04 58 05.8**	**-1.1**
	2.6nm,0.9s,SNR=7.9						

*IDC **05** 05:01:21.8±2.4, 24°.55S×179°.78W, h461km±25km, mb3.7/14, mb1 3.9/16, mb1mx3.7/43, mbtmp4.6/16, Error ellipse: s-maj=16.7km s-min=14.1km az=92.0*
*ISCJB **05** 05:01:25.0±0.5, 24°.60S±0°.07×179°.8W±0°.1, h505km, mb4.1/17, Error ellipse: s-maj=14.9km s-min=9.8km az=176.9*
ISC 05 05:01:25.6±0.6**, 24°.71S**±0°.09×**179°.8W**±0°.1**, h505**km**, n57, σ1s.05**/54**, mb4.1**/17**, 8C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.87**	**279**	P	**P**	**05 04 14.2**	**+0.6**
	1.4nm,0.3s,baz=90,slow=14,SNR=8.9						
AFI	**Afiamalu**	**13.16**	**37**	P	P	05 04 11.3	-5.3
	6.5nm,0.3s,baz=96,slow=3.0,SNR=9.6						
AFI				S	S	05 06 21.3	-16
	1.1nm,0.3s,baz=52,slow=19,SNR=1.9						
URZ	**Urewera**	**13.76**	**190**	P	**P**	**05 04 19.8**	**-2.6**
	1.6nm,0.3s,baz=29,slow=6.9,SNR=6.7						
URZ				S	**S**	**05 06 49.6**	**+1.3**
	2.8nm,0.3s,baz=86,slow=20,SNR=19						
RPZ	**Rata Peaks**	**20.38**	**199**	P	**P**	**05 05 27.6**	**+0.5**
	6.6nm,0.5s,baz=3.6,slow=9.6,SNR=6.1						
STKA	**Stephens Creek**	**34.57**	**249**	P	**P**	**05 07 31.7**	**+0.1**
	5.6nm,0.4s,baz=97,slow=11,SNR=24						
PMG	**Port Moresby**	**34.91**	**290**	P	**P**	**05 07 32.9**	**-1.7**
	20nm,0.7s,baz=85,slow=5.8,SNR=6.4						
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**05 08 32.5**	**-0.3**
	6.7nm,0.6s,baz=99,slow=7.8,SNR=69						
ASAR				PcP	**PcP**	**05 10 16.2**	**+0.1**
	1.8nm,0.9s,baz=108,slow=4.1,SNR=4.5						
WRA	**Warramunga Arr**	**42.51**	**267**	P	**P**	**05 08 35.4**	**-0.9**
	18nm,0.5s,baz=104,slow=8.1,SNR=222						
WRA				PcP	**PcP**	**05 10 18.1**	**+0.4**
	1.8nm,0.8s,baz=96,slow=3.2,SNR=4.8						
VNDA	**Vanda**	**53.59**	**185**	P	**P**	**05 09 59.5**	**+1.2**
	0.9nm,0.6s,baz=17,slow=9.1,SNR=4.6						
MJAR	**Matsushiro Arr**	**72.65**	**326**	P	**P**	**05 12 00.3**	**-1.2**
	3.1nm,0.7s,baz=153,slow=6.1,SNR=5.7						
ASAJ	**Asahikawa**	**76.65**	**333**	P	**P**	**05 12 23.4**	**-0.5**
	3.4nm,0.5s,baz=217,slow=5.1,SNR=7.4						
KSRS	**Korea Array**	**78.96**	**320**	P	**P**	**05 12 36.7**	**+0.2**
	2.7nm,0.7s,baz=139,slow=6.3,SNR=7.0						
PETK	**Petropavlovsk-**	**79.92**	**346**	P	**P**	**05 12 40.8**	**-0.5**
	1.2nm,0.4s,baz=134,slow=6.2,SNR=5.9						
USRK	**Ussuriysk Ar.**	**81.52**	**327**	P	**P**	**05 12 50.1**	**+0.4**
	3.4nm,0.6s,baz=96,slow=4.6,SNR=6.4						
SNAA	**Sanae**	**83.86**	**179**	P	**P**	**05 13 00.7**	**-0.6**
VNA3	**Neumayer Olymp**	**84.06**	**177**	P	**P**	**05 13 01.5**	**-0.8**
VNA2	**Neumayer--Watz**	**84.48**	**178**	P	**P**	**05 13 04.8**	**+0.4**
	baz=188,slow=3.7						
SKNT	**Sakolnakorn**	**85.00**	**291**	P	**P**	**05 13 07.7**	**-0.1**
NVAR	**Mina Array Bea**	**85.23**	**44**	P	**P**	**05 13 08.2**	**-0.5**
	0.6nm,0.8s,baz=218,slow=8.6,SNR=5.0						
PHIT	**Phitsanulok**	**88.13**	**290**	P	**P**	**05 13 25.0**	**+2.4**
	8.3nm,0.8s						
LAMP	**Lampang**	**89.39**	**291**	P	**P**	**05 13 31.2**	**+2.7**
	3.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.95**	**290**	P	**P**	**05 13 32.8**	**+1.7**
	0.9nm,0.4s,baz=139,slow=3.4,SNR=4.3						
CMMT	**Chiang Mai**	**90.10**	**291**	P	**P**	**05 13 32.9**	**+1.1**
	8.6nm,1.4s						
CHTO	**Chiang Mai**	**90.10**	**291**	P	**P**	**05 13 33.9**	**+2.1**
	39nm,2.0s						
TXAR	**Lajitas Array**	**90.73**	**58**	P	**P**	**05 13 34.9**	**+0.3**
	1.4nm,0.8s,baz=211,slow=6.6,SNR=15						
MKAR	**Makanchi Array**	**112.81**	**312**	PKiKP	**PKiKP**	**05 19 03.0**	**-1.6**
	0.2nm,0.4s,baz=101,slow=1.1,SNR=4.8						
BVAR	**Borovoye Array**	**121.14**	**318**	PKP	**PKPdf**	**05 19 19.6**	**-0.7**
	0.9nm,0.4s,baz=70,slow=1.7,SNR=5.0						
FINES	**FINESS Array B**	**139.26**	**341**	PKhKP	PKPpre	05 19 45.3	
	1.1nm,0.9s,baz=101,slow=3.5,SNR=1.9						
FINES				SKPbc	**SKiKP**	**05 22 44.7**	**+0.1**
	2.4nm,0.7s,baz=60,slow=2.8,SNR=8.5						
NB2	**NORSAR Subarra**	**142.90**	**351**	PKP	PKPpre	05 19 57.1	
	comp=Z,0.6nm,0.6s,baz=19,slow=3.7						
NOA	**NORSAR Array B**	**142.90**	**351**	PKhKP	PKPpre	05 19 56.9	
	comp=Z,0.9nm,0.8s,baz=15,slow=4.8,SNR=4.4						
HFS	**Hagfors**	**143.37**	**349**	PKhKP	PKPpre	05 19 58.9	
	comp=Z,4.7nm,0.4s,baz=67,slow=3.7,SNR=50						
IZAR	**Zarasai**	**143.59**	**335**	*e*P	PKPab	05 20 00.5	-0.1
IZAR				IAmb	IAmb	05 20 02.2	
	comp=Z,7.9nm,0.7s						
IDID	**Didziasalis**	**143.72**	**334**	*e*P	PKPbc	05 20 01.1	0.0
IDID				IAmb	IAmb	05 20 01.7	
	comp=Z,4.2nm,1.0s						
ISAL	**Salakas**	**143.76**	**335**	*e*P	PKPbc	05 20 01.6	+0.2
ISAL				IAmb	IAmb	05 20 02.0	
	comp=Z,6.8nm,0.5s						
IIGN	**Ignalina**	**143.89**	**335**	*e*P	PKPab	05 20 01.8	0.0
IIGN				IAmb	IAmb	05 20 02.4	
	comp=Z,7.7nm,0.7s						
AKASG	**Malin Array Be**	**145.73**	**327**	PKPbc	**PKPdf**	**05 20 06.6**	**+0.7**
	comp=Z,5.4nm,0.5s,baz=44,slow=4.7,SNR=35						
ASF	**Jabal al Asfar**	**146.98**	**291**	PKPbc	**PKPbc**	**05 20 12.4**	**+0.7**
	comp=Z,4.1nm,0.7s,baz=54,slow=1.9,SNR=7.6						
SORM	**Soroca**	**147.74**	**324**	⇑*i*P	**PKPbc**	**05 20 12.6**	**-0.4**
MMAI	**Mount Meron Ar**	**148.16**	**293**	PKPbc	**PKPbc**	**05 20 15.7**	**+1.0**
	comp=Z,6.0nm,0.4s,baz=66,slow=3.5,SNR=7.8						
BRTR	**Keskin Array B**	**148.18**	**306**	PKPbc	**PKPbc**	**05 20 14.3**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=138,slow=4.2,SNR=13						
BRTR				PKPab	**PKPab**	**05 20 19.4**	**0.0**
	comp=Z,6.5nm,0.7s,baz=101,slow=4.0,SNR=22						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	149.31	4	PKPbc	PKPbc	05 20 16.1	-0.5
	comp=Z,0.8nm,0.5s,baz=352,slow=3.0,SNR=5.8						
TESR	Tescani	149.64	322⇑	iP	PKPab	05 20 24.9	-0.2
BURAR	Bucovina Array	149.72	325⇑	iP	PKPbc	05 20 18.9	+0.8
MLR	Muntele Rosu	150.64	321	PKPbc	PKPbc	05 20 20.4	+0.1
	comp=Z,0.4nm,0.6s,baz=42,slow=2.0,SNR=6.1						
MLR	Muntele Rosu	150.64	321⇑	iP	PKPbc	05 20 20.6	+0.3
DOPR	Dopca	150.66	323⇑	iP	PKPbc	05 20 21.0	+0.8
VOIR		151.18	322⇑	iP	PKPbc	05 20 21.9	+0.4
ARR	Arges	151.45	322⇑	iP	PKPbc	05 20 23.1	+1.0
DPC	Dobruska-Polom	151.50	338	eP	PKPab	05 20 33.3	+0.5
KHC	Kasperske Hory	153.45	340	eP	PKPab	05 20 41.4	+0.3
GERES	GERESS Array B	153.66	340	PKPab	PKPab	05 20 41.5	-0.6
	comp=Z,0.5nm,0.7s,baz=16,slow=5.1,SNR=4.6						
CONA	Conrad Observa	153.70	336	ePKPab	PKPab	05 20 42.8	+0.5
	comp=Z,3.5nm,0.7s						
VTS	Vitosha	153.94	319⇑	iP	PKPab	05 20 44.7	+1.1
ARSA	Arzberg	154.40	335	ePKPab	PKPab	05 20 44.9	-0.3
	comp=Z,2.2nm,0.6s						
MOTA	Moosalm	155.79	342	ePKPdf	PKPdf	05 20 22.6	+1.0
	comp=Z,1.1nm,0.5s						
FETA	Feichten	156.19	342	PKPdf	PKPdf	05 20 24.1	+1.9
	comp=Z,4.0nm,1.2s						
TORD	Torodi Ar. Bea	168.41	187	PKP	PKPdf	05 20 33.7	-1.2
	comp=Z,0.5nm,0.9s,baz=177,slow=1.6,SNR=3.0						
TORD				PKPab	PKPab	05 21 46.9	-0.2
	comp=Z,0.7nm,0.6s,baz=174,slow=3.8,SNR=8.6						

*ISCJB **05** 05:13:09.9±0.6, 39°.68N±0°.02×38°.68E±0°.04, h6km±5km, Error ellipse: s-maj=5.7km s-min=4.2km az=0.3*
*CSEM **05** 05:13:09.9±0.2, 39°.68N×38°.67E, h5km, ML2.6, Error ellipse: s-maj=3.8km s-min=3.1km az=103.0*
*DDA **05** 05:13:09.9, 39°.66N×38°.66E, h7km, Ml2.4*
*ISK **05** 05:13:09.9, 39°.65N×38°.65E, h12km, ML2.6/4*
ISC 05 05:13:10.1±1.0**, 39°.67N**±0°.02×**38°.64E**±0°.03**, h11**km±8km**, n32, σ0s.41**/48**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILIC	ilic-Erzincan	0.23	194	PG	Pg	05 13 14.7	-0.2
ILIC				SG	Sg	05 13 18.5	+0.4
ILIC	ilic-Erzincan	0.23	194	ePg	Pg	05 13 14.7	-0.2
ILIC				eSg	Sg	05 13 18.5	+0.4
REFA	Refahiye_ERZ˜	0.29	160	iP	Pg	05 13 15.6	-0.5
REFA				iS	Sg	05 13 19.9	-0.2
REFA	Refahiye_ERZ˜	0.29	160	P	Pg	05 13 15.6	-0.5
REFA				S	Sg	05 13 19.9	-0.2
KEMA	Kemaliye	0.42	196	iP	Pg	05 13 17.9	-0.5
KEMA				iS	Sg	05 13 24.7	+0.8
KEMA	Kemaliye	0.42	196	P	Pg	05 13 17.9	-0.5
KEMA				S	Sg	05 13 24.7	+0.8
SUSE	Susehri	0.63	328	iP	Pg	05 13 22.1	-0.4
SUSE				iS	Sb	05 13 32.1	-0.1
SUSE	Susehri	0.63	328	P	Pg	05 13 22.1	-0.4
SUSE				S	Sb	05 13 32.2	-0.1
KELT	Kelkit	0.67	45	iP	Pg	05 13 22.7	-0.5
KELT	Kelkit	0.67	45	P	Pg	05 13 22.7	-0.5
TNCL	Tunceli-Merkez	0.89	128	iP	Pg	05 13 27.2	-0.2
TNCL	Tunceli-Merkez	0.89	128	P	Pg	05 13 27.2	-0.2
HEKM	Malatya_Hekimh	0.95	214	iP	Pn	05 13 29.8	+0.1
HEKM	Malatya_Hekimh	0.95	214	P	Pn	05 13 29.8	+0.1
CUKAN	kangal_SIVAS	0.97	249	iP	Pg	05 13 27.9	-1.0
CUKAN				iS	Sn	05 13 43.7	-0.1
CUKAN	kangal_SIVAS	0.97	249	P	Pg	05 13 27.9	-1.0
CUKAN				S	Sn	05 13 43.7	-0.1
PTK	Pertek	0.97	143	PG	Pb	05 13 29.3	+0.1
PTK				SG	Sb	05 13 42.1	0.0
PTK	Pertek	0.97	143	ePg	Pb	05 13 29.3	+0.1
PTK				eSg	Sb	05 13 42.1	0.0
ESPY	Espiye-Giresun	1.25	3	PN	Pn	05 13 33.8	+0.2
ESPY	Espiye-Giresun	1.25	3	ePn	Pn	05 13 33.8	+0.2
SVSK	Karacayir	1.29	282	PN	Pb	05 13 34.8	+0.4
SVSK	Karacayir	1.29	282	ePn	Pb	05 13 34.8	+0.4
BAYT	Ayd˜–ntepe-Bay	1.36	58	PN	Pn	05 13 35.4	+0.1
BAYT	Ayd˜–ntepe-Bay	1.36	58	ePn	Pn	05 13 35.4	+0.1
MALT	Malatya	1.37	187	PN	Pn	05 13 34.8	-0.5
MALT				SN	Sb	05 13 53.5	+0.2
MALT	Malatya	1.37	187	ePn	Pn	05 13 34.8	-0.5
MALT				eSn	Sb	05 13 53.5	+0.2
BAYB	BAYBURT	1.38	64	iP	Pn	05 13 35.5	0.0
BAYB	BAYBURT	1.38	64	P	Pn	05 13 35.5	0.0
DARE	Darende-Malaty	1.42	220	PN	Pn	05 13 36.1	+0.1
DARE	Darende-Malaty	1.42	220	ePn	Pn	05 13 36.1	+0.1
AKCD	Akcadag	1.48	202	iP	Pb	05 13 38.0	+0.2
AKCD				iS	Sg	05 13 58.4	+0.5
AKCD	Akcadag	1.48	202	P	Pb	05 13 38.0	+0.2
AKCD				S	Sg	05 13 58.4	+0.5

*IDC **05** 05:14:11.9±0.6, 21°.70S×170°.37E, h0km, mb4.5/13, mb1 4.7/16, mb1mx4.5/39, mbtmp4.6/16, ML4.1/3, MS4.1/8, Ms1 4.1/8, ms1mx3.9/15, Error ellipse: s-maj=19.4km s-min=17.1km az=127.0*
*ISCJB **05** 05:14:11.7±3.0, 21°.68S±0°.05×170°.35E±0°.05, h4km±18km, mb4.9/65, MS4.3/11, Error ellipse: s-maj=10.2km s-min=6.7km az=41.2*
*BJI **05** 05:14:13.4, 21°.70S×170°.40E, h10km, mb4.9/30, mB5.2/21, Ms5.0/10, Ms7 4.8/6*
*GCMT **05** 05:14:13.8±0.3, 21°.69S×170°.30E, h14km±1km, MW4.9/77, Moment Tensor Solution. s25,c29; s77,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.57±.21; $M_{\theta\theta}$1.35±.15; $M_{\phi\phi}$1.22±.13; $M_{r\theta}$-0.15±.31; $M_{\theta\phi}$2.54±.09; $M_{\phi r}$-0.08±.27; Best double couple: $M_0$3.20300×10^{16} NP1:ϕ_s48.00000°, δ47.00000°, λ-87.00000°. NP2: ϕ_s223.00000°, δ44.00000°, λ-93.00000°. Principal axes: T 3.8300, Plg1.0000°, Azm136.0000°; N -1.2540, Plg2.0000°, Azm226.0000°; P -2.5760, Plg87.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 05:14:13.8±0.2, 21°.59S×170°.34E, h10km, mb5.1/36 Error ellipse: s-maj=6.7km s-min=5.3km az=59.0*
*MOS **05** 05:14:18.9±1.5, 21°.57S×170°.26E, h50km, mb5.2/16, Error ellipse: s-maj=15.0km s-min=12.9km az=177.2*
ISC 05 05:14:14.8±0.7**, 21°.79S**±0°.07×**170°.36E**±0°.06**, h14**km±4km**, h14km:pP-P, n251, σ1s.57**/246**, mb5.0**/64**, MS4.3**/11**, 8C-16D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.65	265	Pn	Pn	05 15 09.4	-1.5
	14nm,0.3s,baz=111,slow=8.6,SNR=23						
DZM				Sn	Sn	05 15 49.3	-4.4
	29nm,0.3s,baz=150,slow=17,SNR=12						
DZM	Mont Dzumac	3.65	265	ePn	Pn	05 15 09.6	-1.3
	96nm,0.2s						
DZM	Mont Dzumac	3.65	265	ePn	Pn	05 15 09.5	-1.3
DZM				eSn	Sn	05 15 50.5	-3.2
HNR	Honiara	15.85	319	LR	LR	05 23 11.7	
	comp=Z,1µm,21.0s,baz=105,slow=34						
HIZ	Hauiti	17.11	168	ePn	Pn	05 18 14.4	+0.9
	65nm,1.1s						
MXZ	Matakaoa Point	17.16	158	eP	P	05 18 17.3	+1.7
	114nm,1.3s						
URZ	Urewera	17.42	162	P	P	05 18 18.8	+0.3
	0.3nm,0.3s,baz=3.4,slow=6.8,SNR=14						
URZ	Urewera	17.42	162	eP	P	05 18 19.9	+1.3
EIDS	Eidsvold	18.02	255	ePn	Pn	05 18 24.1	-0.9
	25nm,1.0s						
BKZ	Black Stump Fm	18.10	164	ePn	P	05 18 28.0	+1.8
	126nm,1.3s						
AFI	Afiamalu	18.71	68	P	P	05 18 32.9	-0.2
	1.1nm,0.3s,baz=214,slow=18,SNR=5.5						
AFI	Afiamalu	18.71	68	eP	P	05 18 32.9	-0.2
	90nm,1.2s						
AFI	Afiamalu	18.71	68	eP	P	05 18 32.9	-0.2
AFI				pmax	pmax		
	comp=Z,90nm,1.2s						
ARMA	Armidale	18.87	239	eP	P	05 18 35.0	+0.2
	comp=Z,57nm,1.4s						
BFZ	Birch Farm	19.49	166	eP	Pn	05 18 43.5	+0.9
	comp=Z,154nm,1.7s						
SNZO	South Karori	19.81	170	eP	Pn	05 18 46.5	+0.2
	comp=Z,103nm,1.1s						
THZ	Tophouse	20.03	174	eP	Pn	05 18 49.3	+0.2
	comp=Z,52nm,0.9s						
KHZ	Kahutara	20.74	173	eP	Pn	05 18 58.5	+1.2
	comp=Z,328nm,2.0s						
LTZ	Lake Taylor	21.00	176	eP	P	05 19 00.1	+2.4
	comp=Z,41nm,1.0s						
OXZ	Oxford	21.52	177	eP	P	05 19 04.6	+1.2
	comp=Z,60nm,1.1s						
RPZ	Rata Peaks	21.88	179	P	P	05 19 07.8	+0.7
	comp=Z,14nm,0.8s,baz=53,slow=6.9,SNR=3.8						
RPZ	Rata Peaks	21.88	179	eP	P	05 19 08.7	+1.5
CTAO	Charters Tower	22.57	270	eP	P	05 19 14.1	-0.8
	comp=Z,28nm,0.9s						
CTAO	Charters Tower	22.57	270	eP	P	05 19 14.1	-0.8
CTAO				pmax	pmax		
	comp=Z,27nm,0.9s						
CAN	Canberra	23.04	230	eP	P	05 19 21.3	+1.6
	comp=Z,179nm,1.7s						
CAN	Canberra	23.04	230	eP	P	05 19 21.3	+1.6
CAN				pmax	pmax		
	comp=Z,179nm,1.7s						
PMG	Port Moresby	25.47	295	P	P	05 19 42.0	-0.5
	comp=Z,21nm,0.8s,baz=111,slow=6.2,SNR=2.8						
PMG	Port Moresby	25.47	295	eP	P	05 19 42.5	-0.1
	comp=Z,49nm,0.7s						
PMG	Port Moresby	25.47	295	eP	P	05 19 42.5	-0.1
PMG				pmax	pmax		
	comp=Z,49nm,0.7s						
COEN	Coen	26.99	282	eP	P	05 19 57.0	+0.6
	comp=Z,16nm,0.7s						
STKA	Stephens Creek	27.49	242	P	P	05 20 00.9	+0.2
	comp=Z,12nm,0.8s,baz=82,slow=9.9,SNR=20						
STKA	Stephens Creek	27.49	242	eP	P	05 20 01.0	+0.2
	comp=Z,3.7nm,0.9s						
STKA	Stephens Creek	27.49	242	eP	P	05 20 01.0	+0.2
STKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BBOO	Buckleboo	32.27	243	eP	P	05 20 44.7	+1.7
	comp=Z,26nm,1.1s						
AS01	Alice Springs	33.58	260	eP	P	05 20 53.1	-1.6
AS31	Alice Springs	33.62	260	eP	P	05 20 56.4	+1.3
	comp=Z,4.1nm,0.8s						
ASAR	Alice Springs	33.62	260	P	P	05 20 54.9	-0.2
	comp=Z,8.2nm,0.8s,baz=86,slow=8.7,SNR=51						
ASAR				PcP	PcP	05 23 34.5	-0.8
	comp=Z,1.1nm,0.8s,baz=86,slow=3.1,SNR=4.9						
WB2	Warramunga Arr	33.65	266	eP	P	05 20 53.9	-1.4
WRAB	Tennant Creek	33.65	266	eP	P	05 20 54.9	-0.5
	comp=Z,24nm,0.8s						
WRAB	Tennant Creek	33.65	266	iP	P	05 20 56.6	+1.2
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s						
WR1	Warramunga Arr	33.66	266	eP	P	05 20 54.2	-1.3
	comp=Z,32nm,1.4s						
WR1				ePcP	PcP	05 23 34.6	-0.8
WRA	Warramunga Arr	33.66	266	P	P	05 20 54.2	-1.3
	comp=Z,6.5nm,0.8s,baz=97,slow=8.3,SNR=30						
WRA				PcP	PcP	05 23 34.6	-0.8
	comp=Z,1.7nm,1.0s,baz=92,slow=2.8,SNR=3.2						
TBI	Tubuai	37.05	100	eLQ	LQ	05 29 45.0	
	comp=Z,571nm,37.0s						
TBI				eLR	LR	05 31 20.0	
	comp=Z,606nm,28.2s						
PPT2	Papeete2	37.88	91	eS	S	05 27 24.3	+1.4
	comp=Z,69nm,25.0s						
PPT2				eLQ	LQ	05 30 21.0	
	comp=Z,718nm,26.2s						
PPT2				eLR	LR	05 31 44.4	
	comp=Z,784nm,29.8s,baz=248						
MTN	Manton Dam	38.40	277	eP	P	05 21 37.2	+1.2
	comp=Z,37nm,0.7s						
FAKI	Fak Fak	41.49	292	P	P	05 22 03.4	+1.6
	comp=Z,62nm,0.8s						
FAKI	Fak Fak	41.49	292	eP	P	05 22 03.0	+1.3
	comp=Z,112nm,1.3s						
SWI	Sorong	43.39	293	P	P	05 22 19.9	+2.7
	comp=Z,53nm,1.3s						
SWI	Sorong	43.39	293	P	P	05 22 22.5	+5.3
SWI				pmax	pmax		
	comp=Z,52nm,1.3s						
SOEI	Soe	45.77	278	P	P	05 22 39.2	+2.8
	comp=Z,52nm,0.9s						
SOEI	Soe	45.77	278	eP	P	05 22 37.0	+0.5
	comp=Z,43nm,0.9s						
BATI	Baumata	46.17	277	LR	LR	05 41 34.3	
	comp=Z,894nm,21.7s,baz=144,slow=36						
SANI	Sanana	47.38	288	P	P	05 22 51.9	+3.0
	comp=Z,127nm,0.9s,comp=Z,1µm						
NWAO	Narrogin (SRO)	48.03	245	eP	P	05 22 54.2	+0.5
	comp=Z,34nm,0.9s						
NWAO	Narrogin (SRO)	48.03	245	eP	P	05 22 54.2	+0.5
NWAO				pmax	pmax		
	comp=Z,34nm,0.9s						
TAOE	Nuku Hiva Isla	49.23	83	eLR	LR	05 37 00.4	
	comp=Z,475nm,28.0s						
WBSI	Waikabubak, Su	50.32	276	P	P	05 23 13.7	+2.2
	comp=Z,93nm,0.8s						
LUWI	Luwuk	50.70	287	P	P	05 23 19.0	+4.7
LUWI	Luwuk	50.70	287	eP	P	05 23 14.8	+0.5
	comp=Z,72nm,1.0s						
BNSI	Bone	51.63	282	P	P	05 23 24.6	+3.3
MPSI	Mapaga	53.88	287	P	P	05 23 41.7	+3.8
JAGI	Jajag, Banyuwa	55.57	275	P	P	05 23 53.8	+3.5
JAGI	Jajag, Banyuwa	55.57	275	eP	P	05 23 49.1	-1.2
	comp=Z,24nm,0.9s						
KSM	Kuching	62.97	283	eP	P	05 24 40.8	-0.7
	comp=Z,27nm,0.8s						
MDSI	Maura Dua	66.24	275	P	P	05 25 03.6	+0.7
	comp=Z,18nm,1.0s,comp=Z,1µm						
QSPA	South Pole Qui	68.28	180	eP	P	05 25 15.2	+0.1
	comp=Z,29nm,1.0s						
KSRS	Korea Array	71.19	325	P	P	05 25 32.8	-0.4
	comp=Z,1.7nm,0.7s,baz=144,slow=5.5,SNR=4.1						
MNSI	Mandailing Nat	72.49	278	P	P	05 25 47.0	+5.4
IPM	Ipoh	72.64	282	eP	P	05 25 41.6	-0.9
	comp=Z,23nm,0.7s						
NJ2	Nanjing	72.76	316	eP	P	05 25 42.2	-0.5
NJ2				pmax	pmax		
	comp=Z,19nm,0.7s						
YSS	Yuzh-Sakhalins	72.82	341	eP	P	05 25 41.6	-1.1
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS				pmax	pmax		
	comp=N,30nm,0.5s						
YSS				pmax	pmax		
	comp=E,10.0nm,0.4s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
PSI	Prapat	73.88	280	eP	P	05 25 46.2	-3.7
	comp=Z,17nm,0.9s						
PSI	Prapat	73.88	280	eP	P	05 25 46.2	-3.7
PSI				pmax	pmax		
	comp=Z,17nm,0.9s						
USRK	Ussuriysk Ar.	74.47	332	P	P	05 25 51.9	-0.7
	comp=Z,3.2nm,0.9s,baz=133,slow=8.4,SNR=4.5						
GSI	Gunungsitoli	74.53	278	P	P	05 25 56.7	+3.1
GSI	Gunungsitoli	74.53	278	eP	P	05 25 51.8	-1.8
	comp=Z,43nm,0.9s						
TRTT	Trang	75.23	285	P	P	05 26 04.1	+6.5
	comp=Z,8.3nm,1.4s						
PETK	Petropavlovsk-	75.39	352	P	P	05 25 57.0	-0.6
	comp=Z,4.5nm,0.8s,baz=161,slow=9.4,SNR=4.1						
PEA1	Petropavlovsk-	75.39	352	eP	P	05 25 57.0	-0.7
SKNT	Sakolnakorn	75.56	295	P	P	05 25 58.9	-0.5
	comp=Z,15nm,0.8s						
SURT	Suratani	76.51	285	P	P	05 26 08.3	+3.4
	comp=Z,7.8nm,1.1s						
CHAI	Chaiyaphum	76.75	293	P	P	05 26 12.8	+6.6
	comp=Z,4.1nm,0.8s						
CN2	Changchun	77.17	328	eP	P	05 26 07.3	-0.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SRDT	SRDT	78.53	291	P	P	05 26 22.5	+6.3
	comp=Z,32nm,1.4s						
KLR	Kul'dur	78.61	335c	iP	P	05 26 15.9	0.0
PHIT	Phitsanulok	78.68	294	P	P	05 26 18.6	+1.7
	comp=Z,12nm,0.9s,comp=Z,2µm						
UTHA	Uthaitani	78.78	292	P	P	05 26 21.9	+4.4
	comp=Z,4.1nm,0.9s,comp=Z,76nm						
NKL	Nikolayevsk	78.94	342	eP	P	05 26 17.0	-0.5
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
LAMP	Lampang	79.95	295	P	P	05 26 25.3	+1.4
	comp=Z,9.8nm,0.8s						
CM01	Chiang Mai Arr	80.47	294	eP	P	05 26 27.2	+0.5
CMAR	Chiang Mai Arr	80.50	294	P	P	05 26 27.0	+0.1
	comp=Z,4.9nm,0.9s,baz=132,slow=3.8,SNR=24						
CMAR				LR	LR	06 05 46.6	
	comp=Z,41nm,18.3s,baz=170,slow=38						
KMI	Kunming	80.50	302	P	P	05 26 28.3	+1.3
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
XAN	Xi'an	80.60	312	P	P	05 26 26.9	-0.2
XAN				pP	pP	05 26 33.0	+1.1
XAN				sP	sP	05 26 37.4	+3.8
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN				pmax	pmax		
	comp=Z,120nm,4.5s						
CMMT	Chiang Mai	80.66	295	P	P	05 26 27.9	+0.2
	comp=Z,21nm,0.9s						
CHTO	Chiang Mai	80.66	295	P	P	05 26 29.0	+1.3
	comp=Z,96nm,1.0s						
CHTO	Chiang Mai	80.66	295	eP	P	05 26 28.4	+0.7
	comp=Z,17nm,0.8s						
CHTO	Chiang Mai	80.66	295	eP	P	05 26 28.4	+0.7
CHTO				pmax	pmax		
	comp=Z,17nm,0.8s						
CMAI	Chiengmai2	81.08	296	P	P	05 26 38.0	+7.9
CD2	Chengdu	82.61	307	eP	P	05 26 38.4	+0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
SYO	Syowa Base	82.79	196⇓	eX	P	05 26 35.4	-2.6
SYO	Syowa Base	82.79	196⇓	ePcP	PcP	05 26 44.5	+1.6
HHC	Hu-ho-hao-te	82.83	319	eP	P	05 26 40.5	+1.7
HHC				S	S	05 36 57.1	+0.3
HHC				SS	SS	05 42 23.7	+3.4
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.9s						
HHC				LR	LR		
	comp=Z,160nm,13.6s						
HHC				LR	LR		
	comp=Z,260nm,14.8s						
ZEA	Zeya	83.90	336	iP	P	05 26 45.6	+1.8
LZH	Lanzhou	85.20	312	eP	P	05 26 57.4	+6.3
LZH				pP	sP	05 27 02.8	+5.2
LZH				sP	pP	05 27 06.0	+10
LZH				eS	S	05 37 24.2	+3.2
LZH				sS	ScS	05 37 31.6	+0.2
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,200nm,5.0s						
SEY	Seymchan	85.62	352	iP	P	05 26 56.3	+4.0
NVL	N'lazarevskaya	86.47	187	eP	P	05 27 00.6	+4.0
NVL				pmax	pmax		
	comp=Z,23nm,1.4s						
SNAA	Sanae	86.67	182	P	P	05 26 56.8	-1.0
SNAA	Sanae	86.67	182	P	P	05 26 56.6	-1.1
	comp=Z,4.2nm,0.8s,baz=171,slow=2.4,SNR=9.0						
SNAA	Sanae	86.67	182	eP	P	05 26 56.8	-1.0
	comp=Z,23nm,1.1s						
SNAA	Sanae	86.67	182	iP	P	05 26 56.1	-1.6
VNA3	Neumayer Olymp	87.22	180	P	P	05 26 59.2	-1.1
VNA2	Neumayer--Watz	87.53	181	P	P	05 27 01.1	-0.7
	baz=173,slow=3.6						
VNA1	Neumayer--Stat	87.81	180	P	P	05 27 03.4	+0.3
ULN	Ulaanbaatar	89.52	323	eP	P	05 27 11.5	-0.2
	comp=Z,11nm,1.4s						
ULN	Ulaanbaatar	89.52	323	iP	P	05 27 09.4	-2.3
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LPIG	La Paz	89.58	64	LR	LR	06 00 03.5	
	comp=Z,39nm,18.9s,baz=250,slow=31						
YAK	Yakutsk	89.61	342	iP	P	05 27 14.6	+3.1
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BILL	Bilibino	89.61	358	iP	P	05 27 09.6	-1.8
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA	Gaotai	89.63	313	P	P	05 27 12.5	+0.1
GTA				pP	pP	05 27 17.1	-0.1
GTA				sP	sP	05 27 19.5	+0.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NV01	Mina Array Sit	89.70	48	eP	P	05 27 12.7	-0.2
NVAR	Mina Array Bea	89.70	48	P	P	05 27 12.2	-0.6
	comp=Z,1.8nm,1.0s,baz=229,slow=7.4,SNR=6.0						
NVAR				LR	LR	06 00 40.0	
	comp=Z,58nm,19.4s,baz=96,slow=31						
SONA0	Songino Array	89.88	323	eP	P	05 27 12.0	-1.3
SONM	Songino Array	89.88	323	P	P	05 27 12.0	-1.3
	comp=Z,3.5nm,0.9s,baz=150,slow=5.9,SNR=15						
SONA1	Songino Array	89.88	323	eP	P	05 27 12.4	-0.9
ILAR	Eielson Array	92.34	17	P	P	05 27 22.1	-2.2
	comp=Z,0.7nm,0.7s,baz=231,slow=5.0,SNR=8.8						
ILAR				LR	LR	06 05 27.1	
	comp=Z,80nm,18.4s,baz=274,slow=33						
ILB	Eielson Array	92.34	17	eP	P	05 27 22.0	-2.2
ZAK	Zakamensk	92.97	324	eP	P	05 27 25.4	-2.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
TLY	Talaya	93.44	325	eP	P	05 27 27.4	-2.2
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
Q16A	Castle Valley	94.93	50	eP	P	05 27 35.6	-1.4
	comp=Z,7.7nm,0.7s						
PLCA	Paso Flores	95.94	138	LR	LR	06 00 41.5	
	comp=Z,119nm,20.9s,baz=254,slow=29						
TIXI	Tiksi	97.44	348	iP	P	05 27 47.0	-0.3
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PDAR	Pinedale Array	97.57	47	LR	LR	06 02 26.9	
	comp=Z,32nm,21.7s,baz=286,slow=30						
WMQ	Urumqi	99.71	313	P	Pdif	05 27 59.0	+0.7
WMQ				LR	LR		
	comp=Z,170nm,17.9s						
WMQ				LR	LR		
	comp=Z,260nm,21.3s						
MK32	Makanchi Array	104.28	315	ePdif	Pdif	05 28 19.0	+0.5
MKAR	Makanchi Array	104.28	315	Pdiff	Pdif	05 28 19.0	+0.5
	comp=Z,0.4nm,0.7s,baz=104,slow=3.7,SNR=3.7						
KSH	Kashi	106.79	306	ePdif	Pdif	05 28 34.2	+4.2
KSH				PP	PP	05 33 03.8	+7.7
KSH				S	Sdif	05 40 32.7	+1.8
KSH				SS	SS	05 48 08.0	+6.5
KSH				AMB	AMB		
	comp=Z,100nm,7.3s						
KSH				LR	LR		
	comp=Z,160nm,14.7s						
KSH				LR	LR		
	comp=Z,79nm,10.5s						
KSH				LR	LR		
	comp=Z,130nm,8.0s						
ARA0	ARCESS Array S	127.79	345	ePKPdf	PKPdf	05 33 17.9	-1.3
ARCES	ARCESS Array B	127.79	345	PKP	PKPdf	05 33 17.9	-1.3
	comp=Z,2.6nm,0.9s,baz=79,slow=3.0,SNR=8.8						
KIV	Kislovodsk	131.72	310	iPKIKP	PKPdf	05 33 26.6	-0.9
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OBN	Obninsk	132.19	326⇓	ePKIKP	PKPdf	05 33 26.8	-1.1
OBN				e		05 58 15.0	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.4s						
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FIA0	FINESS Array S	133.33	337	ePKPdf	PKPdf	05 33 28.0	-1.8
FIA0	FINESS Array S	133.33	337	ePKIKP	PKPdf	05 33 28.0	-1.8
FINES	FINESS Array B	133.33	337	PKP	PKPdf	05 33 28.0	-1.8
	comp=Z,1.7nm,0.8s,baz=228,slow=3.5,SNR=4.2						
AKASG	Malin Array Be	138.16	323	PKP	PKPdf	05 33 38.1	-1.1
	comp=Z,0.2nm,0.3s,baz=60,slow=1.2,SNR=4.4						
AKBB	Malin Array Si	138.16	323	ePKPdf	PKPdf	05 33 37.0	-2.2
AKBB	Malin Array Si	138.16	323	ePKIKP	PKPdf	05 33 37.0	-2.2
ARCR	ARCALIA	142.75	321⇓	iP	PKPdf	05 33 50.3	+2.7
VOIR		143.14	318⇓	iP	PKPdf	05 33 52.3	+3.8
VOIR		143.14	318	PKIKP	PKPdf	05 33 52.3	+3.8
ARR	Arges	143.43	318⇓	iP	PKPab	05 33 43.4	-1.7
NIE	Niedzica	143.65	327	ePKP	PKPdf	05 33 48.3	-0.9
NIE	Niedzica	143.65	327	ePKIKP	PKPdf	05 33 48.3	-0.9
DRGR		143.86	321⇓	iP	PKPab	05 33 46.2	-0.6
DRGR		143.86	321	PKIKP	PKPab	05 33 46.2	-0.6
KECS	Kecovo	144.13	325	ePKIKP	PKPdf	05 33 54.2	+4.2
KECS	Kecovo	144.13	325	ePKP	PKPdf	05 33 54.2	+4.2
DEV	Deva	144.23	320⇓	iP	PKPdf	05 33 49.8	-0.4
DEV	Deva	144.23	320	PKIKP	PKPdf	05 33 49.8	-0.4
KSP	Ksiaz	144.62	331	ePKP	PKPbc	05 33 49.3	-0.3
KSP	Ksiaz	144.62	331	ePKIKP	PKPbc	05 33 49.3	-0.2
SIRR	Siria	144.76	321⇓	iP	PKPbc	05 33 50.1	0.0
PSZ	Piszkesteto	144.79	325⇑	ePKPbc	PKPab	05 33 50.0	-0.2
PSZ	Piszkesteto	144.79	325	ePKPdf	PKPab	05 33 49.7	-0.5
PSZ	Piszkesteto	144.79	325	ePKIKP	PKPab	05 33 49.7	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DPC	Dobruska-Polom	144.95	331	ePKP	PKPab	05 33 50.0	-0.7
DPC				epPKP	PKiKP	05 33 56.0	+0.8
DPC	Dobruska-Polom	144.95	331	ePKIKP	PKPab	05 33 50.0	-0.7
UPC	Upice	144.98	331	ePKP	PKPab	05 33 50.1	-0.6
UPC	Upice	144.98	331	ePKIKP	PKPab	05 33 50.1	-0.6
VYHS	Vyhne	144.98	326	ePKIKP	PKPbc	05 33 50.7	-0.1
VYHS	Vyhne	144.98	326	ePKP	PKPbc	05 33 50.7	-0.1
KARP	Karpathos	145.13	301	ePKPbc	PKPbc	05 33 51.1	-0.6
BZS	Buzias	145.13	320	⇓iP	PKPbc	05 33 50.8	-0.5
BZS	Buzias	145.13	320	PKIKP	PKPbc	05 33 50.8	-0.5
BUD	Budapest	145.52	325	⇑ePKPbc	PKPab	05 33 52.5	-0.2
VRAC	Vranov	145.55	329	PKP2	PKPdf	05 33 49.2	-3.3
PVCC	Panska Ves	145.60	332	ePKP	PKPdf	05 33 52.4	-0.1
PVCC				epPKP	pPKPab	05 33 58.6	+0.8
PVCC	Panska Ves	145.60	332	ePKIKP	PKPdf	05 33 52.4	-0.1
BRG	Berggiesshubel	145.61	333	i PKP	PKPdf	05 33 52.1	-0.4
	comp=Z,49nm,1.1s						
BRG				i		05 33 58.2	
	comp=Z,45nm,0.8s						
BRG	Berggiesshubel	145.61	333	i PKIKP	PKPdf	05 33 52.1	-0.4
BRG				pmax	pmax		
	comp=Z,49nm,1.2s						
VTS	Vitosha	145.63	315	⇓iP	PKPdf	05 33 52.7	-0.3
VTS	Vitosha	145.63	315	ePKPdf	PKPdf	05 33 52.2	-0.8
VTS	Vitosha	145.63	315	ePKIKP	PKPdf	05 33 52.2	-0.8
CLL	Collm	145.66	335	⇓iPKPbc	PKPdf	05 33 52.0	-0.5
	comp=Z,37nm,1.0s						
CLL				i (PKiKP)		05 33 58.2	
	comp=Z,37nm,0.8s						
CLL				ePP	PP	05 37 12.0	-1.0
CLL	Collm	145.66	335	ePKPdf	PKPdf	05 33 52.0	-0.5
CLL	Collm	145.66	335	ePKIKP	PKPdf	05 33 52.1	-0.5
SMOL	Smolenice	145.68	328	ePKIKP	PKPab	05 33 53.4	0.0
SMOL	Smolenice	145.68	328	ePKP	PKPab	05 33 53.4	0.0
GOPC	GO Pecny, Ondr	145.96	331	ePKP	PKPdf	05 33 53.2	+0.1
GOPC				epPKP	pPKPbc	05 33 59.5	+0.7
GOPC	GO Pecny, Ondr	145.96	331	ePKP2	PKPdf	05 33 53.2	+0.1
CSKK	Csˆ‡kako	146.00	325	⇑ePKPdf	PKPbc	05 33 54.1	+0.1
PRU	Pruhonice	146.01	332	ePKP	PKPdf	05 33 53.4	+0.2
PRU				epPKP	pPKPbc	05 33 59.2	+0.3
PRU	Pruhonice	146.01	332	ePKP2	PKPdf	05 33 53.4	+0.2
APE	Apeiranthos	146.01	304	⇓iP	PKPdf	05 33 51.7	-2.0
APE	Apeiranthos	146.01	304	PKIKP	PKPdf	05 33 51.7	-2.0
EKA	Eskdalemuir Ar	146.15	353	PKPbc	PKPdf	05 33 52.7	-0.5
	comp=Z,4.1nm,0.6s,baz=0.0,slow=2.9,SNR=13						
SANT	Santorini	146.26	303	⇓iP	PKPdf	05 33 53.0	-1.1
MORH	Mˆ‡rˆ¡gy, Hung	146.50	323	⇓ePKPdf	PKPbc	05 33 54.8	-0.7
VAY	Valandovo	146.62	313	ePKP	PKPdf	05 33 53.9	-0.6
NKC	Novy Kostel	146.71	334	ePKP	PKPbc	05 33 55.9	-0.2
NKC				epPKP	sPKPdf	05 34 01.9	+0.8
NKC	Novy Kostel	146.71	334	ePKP2	PKPbc	05 33 55.9	-0.2
CONA	Conrad Observa	146.85	328	i PKPab	PKPbc	05 33 56.2	-0.4
	comp=Z,27nm,1.7s,SNR=10						
DIVS	Divibare	146.93	319	ePKPbc	PKPbc	05 33 56.2	-0.8
IDI	Anoyia	146.99	302	PKPbc	PKPdf	05 33 56.1	+0.7
	comp=Z,6.9nm,0.7s,baz=117,slow=4.5,SNR=7.3						
KHC	Kasperske Hory	147.06	332	ePKP	PKPbc	05 33 56.5	-0.7
KHC				epPKP	pPKPbc	05 34 02.8	+0.7
KHC	Kasperske Hory	147.06	332	ePKPbc	PKPbc	05 33 56.5	-0.7
KHC	Kasperske Hory	147.06	332	ePKP2	PKPbc	05 33 56.5	-0.7
GEC2	GERESS Array S	147.22	331	ePKPbc	PKPbc	05 33 57.0	-0.7
GEC2	GERESS Array S	147.22	331	ePKP2	PKPbc	05 33 57.0	-0.7
GERES	GERESS Array B	147.22	331	PKPbc	PKPdf	05 33 56.3	+0.9
	comp=Z,9.8nm,0.8s,baz=31,slow=3.1,SNR=50						
GEA0	GERESS Array S	147.23	331	ePKPbc	PKPbc	05 33 56.8	-0.9
BEHE	Becsehely	147.35	325	⇑ePKPdf	PKPbc	05 33 57.7	-0.3
ARSA	Arzberg	147.48	327	ePKPdf	PKPdf	05 33 54.1	-1.7
	comp=Z,3.8nm,0.9s						
FNA	Florina	147.67	313	PKHKP	PKPpre	05 33 38.3	
MOA	Molln	147.68	329	epPKPdf	PKPbc	05 33 58.0	-0.9
	comp=Z,7.4nm,1.1s						
AGG	Agios Georgios	147.73	309	ePKPbc	PKPbc	05 33 59.1	-0.2
AGG	Agios Georgios	147.73	309	ePKP2	PKPbc	05 33 59.1	-0.2
OHR	Ohrid	147.91	314	ePKP	PKPbc	05 33 58.5	-1.3
PERS	Pernice	148.10	327	i PKPdf	PKPbc	05 33 58.8	-1.2
SOKA	Soboth	148.12	327	i pPKPdf	PKPbc	05 33 59.0	-1.1
	comp=Z,16nm,1.2s,SNR=8.1						
BLY	Banja Luka	148.20	322	ePKPbc	PKPbc	05 33 60.0	-0.3
PDG	Podgorica	148.26	317	⇓iP	PKPbc	05 33 59.7	-0.8
TTG	Podgorica	148.26	317	ePKPbc	PKPbc	05 33 59.6	-0.9
TTG				ePKPab	pPKPdf	05 34 02.5	+0.4
TTG	Podgorica	148.26	317	ePKP2	PKPbc	05 33 59.6	-0.9
TIR	Tirane	148.42	315	ePKPbc	PKPbc	05 34 00.5	-0.5
TIR				ePKPab	pPKPdf	05 34 03.5	+1.0
TIR	Tirane	148.42	315	ePKP2	PKPbc	05 34 00.5	-0.5
OBKA	Obir	148.48	327	i pPKPdf	PKPbc	05 33 59.9	-1.2
	comp=Z,10nm,1.4s						
MEM	Membach	148.72	341	⇑PKP	PKPbc	05 34 00.8	-0.6
BOJS	Bojanci	148.79	325	i PKPdf	PKPbc	05 34 01.2	-0.6
LJU	Ljubljana	148.80	327	i PKPdf	PKPbc	05 34 01.1	-0.8
MYKA	Terra Mystica	148.84	328	ePKPbc	PKPbc	05 34 00.4	-1.6
	comp=Z,8.5nm,0.8s						
WATA	Walderalm	149.30	331	esPKPdf	PKPbc	05 34 02.1	-1.1
	comp=Z,23nm,1.4s						
ABTA	Abfaltersbach	149.30	329	i PKPbc	PKPbc	05 34 01.6	-1.6
	comp=Z,14nm,1.1s,SNR=7.0						
WTTA	Wattenberg	149.32	331	ePKiKP	PKPbc	05 34 03.0	-0.3
	comp=Z,22nm,1.3s,SNR=6.0						
MOTA	Moosalm	149.50	332	i sPKPdf	PKPbc	05 34 02.8	-1.0
	comp=Z,23nm,1.1s,SNR=9.0						
WLF	Walferdange	149.50	340	⇑PKP	PKPbc	05 34 03.1	-0.3
WLF	Walferdange	149.50	340	ePKPbc	PKPbc	05 34 03.5	0.0
WLF	Walferdange	149.50	340	ePKP2	PKPbc	05 34 03.5	0.0
RETA	Reutte	149.54	332	ePKPbc	PKPbc	05 34 02.3	-1.4
	comp=Z,11nm,0.8s						
DOU	Dourbes	149.60	342	⇑PKP	PKPbc	05 34 03.1	-0.6
BFO	Black Forest	149.86	336	ePKPbc	PKPbc	05 34 03.5	-0.9
BFO				ePKPab	PKPab	05 34 09.5	-0.4
BFO	Black Forest	149.86	336	i PKP2	PKPbc	05 34 04.0	-0.4
FETA	Feichten	149.91	332	i PKiKP	PKPbc	05 34 04.1	-0.7
	comp=Z,23nm,1.1s,SNR=11						
DAVA	Damuels	150.07	333	ePKPbc	PKPbc	05 34 04.1	-1.1
	comp=Z,21nm,1.1s						
FUORN	Ofenpass-Fuorn	150.42	332	ePKPbc	PKPbc	05 34 05.5	-0.6
FUORN				ePKPab	pPKPbc	05 34 11.9	+0.8
TUE	Stuetta	150.94	332	ePKPbc	PKPbc	05 34 06.1	-1.2
TUE				ePKPab	PKPab	05 34 13.5	-1.1
TIP	Timpagrande	151.55	313	ePKPbc	PKPbc	05 34 08.2	-0.6
ESDC	Sonseca Array	161.52	346	PKPab	PKPab	05 34 58.5	-1.4
	comp=Z,0.5nm,0.7s,baz=28,slow=4.0,SNR=3.9						
DBIC	Dimbokro	164.28	198	PKPab	PKPab	05 35 12.1	-0.3
	comp=Z,9.6nm,1.0s,baz=154,slow=4.4,SNR=6.0						
TORD	Torodi Ar. Bea	166.20	233	PKP	PKPdf	05 34 19.5	-0.9
	comp=Z,0.5nm,0.9s,baz=137,slow=1.6,SNR=2.7						
TORD				PKPab	PKPab	05 35 20.3	-0.8
	comp=Z,1.6nm,0.7s,baz=124,slow=4.2,SNR=7.9						
TOA1	Torodi Ar. Sit	166.20	233	ePKPdf	PKPdf	05 34 19.5	-0.9
TOA1				ePKPab	PKPab	05 35 20.3	-0.9
KOWA	Kowa	170.99	217	PKPab	PKPab	05 35 41.9	-0.3
	comp=Z,3.1nm,0.7s,baz=137,slow=5.4,SNR=6.5						

MEX 05 05:27:36.8±0.3, 19.°56N×105.°18W, h14km±2km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.14	114	eP	Pg	05 27 39.9	-0.6
CJM				eS	Sg	05 27 42.4	-0.6
PUVA	Puert Vallarta	1.06	358	i P	Pb	05 27 52.9	-4.1
PUVA				eS	Sb	05 28 07.1	-3.7
EZ5V		1.49	93	eP	Pn	05 27 59.9	-3.5
EZ5V				eS	Sn	05 28 17.6	-5.0
MMIG	Aquila	2.14	126	eP	Pn	05 28 08.9	-3.2
MMIG				eS	Sn	05 28 34.5	-4.0
SFJM	Santa Fe	2.21	65	i P	Pn	05 28 07.4	-5.8
SFJM				i S	Sn	05 28 33.0	-7.5

*ISK **05** 05:30:53.1, 38.°63N×43.°33E, h29km, ML2.4/2*
*ISCJB **05** 05:30:55.4±0.9, 38.°71N±0.°04×43.°35E±0.°07, h18km±10km, Error ellipse: s-maj=9.6km s-min=6.5km az=25.5*
*CSEM **05** 05:30:55.1±0.3, 38.°75N×43.°32E, h10km, ML2.5, Error ellipse: s-maj=8.0km s-min=6.4km az=107.0*
*DDA **05** 05:30:55.3, 38.°70N×43.°35E, h7km, Ml2.5*
ISC 05 05:30:55.0±1.1, 38.°73N±0.°03×43.°32E±0.°03, h16km±9km, n16, σ0.s56/24, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.14	158	PG	Pg	05 30 59.5	+0.4
VANB				SG	Sb	05 31 02.9	+0.6
VANB	Van	0.14	158	ePg	Pg	05 30 59.5	+0.4
VANB				eSg	Sb	05 31 02.9	+0.6
TVAN	Van	0.21	162	i P	Pg	05 30 59.2	-0.9
TVAN	Van	0.21	162	P	Pg	05 30 59.2	-0.9
VMUR	Van-Muradiye	0.33	37	i P	Pg	05 31 02.2	+0.3
VMUR				i S	Sb	05 31 07.8	+0.2
VMUR	Van-Muradiye	0.33	37	P	Pg	05 31 02.2	+0.3
VMUR				S	Sb	05 31 07.8	+0.2
GEVA	Gevas	0.46	206	i P	Pg	05 31 04.0	-0.4
GEVA	Gevas	0.46	206	P	Pg	05 31 04.0	-0.4
ADCV	BITLIS_Adilcev	0.47	280	i P	Pg	05 31 04.0	-0.6
ADCV				i S	Sb	05 31 12.5	+0.7
ADCV	BITLIS_Adilcev	0.47	280	P	Pg	05 31 04.0	-0.6
ADCV				S	Sb	05 31 12.5	+0.7
CLDR	Caldiran	0.62	48	PG	Pg	05 31 07.1	-0.2
CLDR	Caldiran	0.62	48	ePg	Pg	05 31 07.1	-0.2
AGRB	Hanur-Agry	0.88	343	PG	Pb	05 31 11.4	-0.6
AGRB				SG	Sg	05 31 24.2	+0.3
AGRB	Hanur-Agry	0.88	343	ePg	Pb	05 31 11.4	-0.6
AGRB				eSg	Sg	05 31 24.2	+0.3
SRTM	Siirt_Merkez	1.32	237	i P	Pg	05 31 20.9	+0.5
SRTM	Siirt_Merkez	1.32	237	P	Pg	05 31 21.0	+0.5

*IDC **05** 05:42:00.7±3.3, 15.°33S×174.°11W, h56km±30km, mb3.5/8, mb1 3.9/9, mb1mx3.7/43, mbtmp3.9/9, ML4.5/1, Error ellipse: s-maj=96.4km s-min=17.4km az=150.0*
ISC 05 05:41:58.8±1.4, 15.°1S±0.°6×174.°3W±0.°2, h35km, n11, σ1.s01/13, mb4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.67	64	P	Pn	05 42 41.6	+2.1
	88nm,0.3s,baz=349,slow=5.2,SNR=113						
AFI				S	Sn	05 43 08.8	-2.0
	172nm,0.3s,baz=231,slow=20,SNR=12						
WRA	Warramunga Arr	49.11	257	P	P	05 50 43.1	-0.2
	1.6nm,1.0s,baz=90,slow=6.9,SNR=9.5						
WRA				PcP	PcP	05 52 06.9	+0.2
	0.2nm,0.4s,baz=91,slow=3.5,SNR=4.2						
ASAR	Alice Springs	49.42	252	P	P	05 50 45.6	-0.1
	2.6nm,0.5s,baz=88,slow=7.6,SNR=49						
YBH	Yreka Blue Hor	73.86	38	P	P	05 53 30.7	+0.5
	1.6nm,0.8s,baz=222,slow=2.7,SNR=5.1						
NVAR	Mina Array Bea	74.66	42	P	P	05 53 35.0	-0.1
	1.3nm,0.7s,baz=231,slow=9.2,SNR=12						
TXAR	Lajitas Array	81.13	56	P	P	05 54 10.5	-0.7
	0.3nm,0.7s,baz=211,slow=8.4,SNR=3.5						
ILAR	Eielson Array	82.31	11	P	P	05 54 16.8	+0.3
	0.5nm,0.9s,baz=226,slow=6.4,SNR=7.9						
PDAR	Pinedale Array	82.59	42	P	P	05 54 18.1	-0.7
	0.8nm,0.8s,baz=219,slow=1.9,SNR=6.8						
YKA	Yellowknife Ar	90.15	24	P	P	05 54 55.1	+0.1
	0.0nm,0.3s,baz=243,slow=4.6,SNR=4.1						
BRTR	Keskin Array B	145.40	321	PKPbc	PKPdf	06 01 33.7	0.0
	1.4nm,0.8s,baz=118,slow=2.4,SNR=6.1						
GERES	GERESS Array B	145.71	351	PKPbc	PKPdf	06 01 33.1	-0.7
	0.2nm,0.5s,baz=268,slow=5.9,SNR=3.6						

*ISCJB **05** 05:57:57.9±0.7, 38.°03N±0.°03×42.°69E±0.°04, h3km±8km, Error ellipse: s-maj=5.7km s-min=4.8km az=42.2*
*CSEM **05** 05:57:57.9±0.2, 38.°03N×42.°69E, h2km, ML2.6, Error ellipse: s-maj=3.5km s-min=3.1km az=141.0*
*DDA **05** 05:57:57.6, 38.°03N×42.°68E, h7km, Ml2.6*
*ISK **05** 05:57:57.7, 38.°03N×42.°65E, h4km, ML2.7/3*
ISC 05 05:57:58.2±1.0, 38.°03N±0.°03×42.°69E±0.°03, h10km±11km, n19, σ0.s62/31, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.40	46	i P	Pg	05 58 05.9	-0.3
GEVA				i S	Sg	05 58 12.4	+0.8
GEVA	Gevas	0.40	46	P	Pg	05 58 05.9	-0.3
GEVA				S	Sg	05 58 12.4	+0.8
SIRT	Sirnak	0.57	200	PG	Pg	05 58 08.9	-0.3
SIRT				SG	Sb	05 58 17.4	-1.0
SIRT	Sirnak	0.57	200	ePg	Pg	05 58 08.9	-0.3
SIRT				eSg	Sb	05 58 17.4	-1.0
SRTM	Siirt_Merkez	0.60	266	i P	Pg	05 58 09.5	-0.5
SRTM				i S	Sg	05 58 18.2	+0.2
SRTM	Siirt_Merkez	0.60	266	P	Pg	05 58 09.5	-0.5
SRTM				S	Sg	05 58 18.2	+0.2
GURO	Guroymak-BITLI	0.73	315	PG	Pg	05 58 12.3	0.0
GURO				SG	Sb	05 58 22.7	-0.4
GURO	Guroymak-BITLI	0.73	315	ePg	Pg	05 58 12.3	0.0
GURO				eSg	Sb	05 58 22.7	-0.4
ADCV	BITLIS_Adilcev	0.77	2	i P	Pg	05 58 11.9	-1.3
ADCV				i S	Sg	05 58 23.7	+0.4
ADCV	BITLIS_Adilcev	0.77	2	P	Pg	05 58 11.9	-1.3
ADCV				S	Sg	05 58 23.7	+0.4
HAKT	HAKKARI	0.94	120	i P	Pg	05 58 15.7	-0.6
HAKT				i S	Sb	05 58 29.1	-0.1
HAKT	HAKKARI	0.94	120	P	Pg	05 58 15.7	-0.6
HAKT				S	Sb	05 58 29.1	-0.1
BTMN	Batman	1.13	263	i P	Pb	05 58 19.7	-0.1
BTMN	Batman	1.13	263	P	Pb	05 58 19.7	-0.1
BNGL	BINGOL	1.52	308	i P	Pn	05 58 26.0	+0.5
AGRB	Hanur-Agry	1.56	9	PN	Pb	05 58 27.2	0.0
AGRB	Hanur-Agry	1.56	9	ePn	Pb	05 58 27.2	0.0
MAZI	Mazidag	1.86	253	PN	Pn	05 58 31.1	+0.9
MAZI	Mazidag	1.86	253	ePn	Pn	05 58 31.1	+0.9

*IDC **05** 06:03:50.7±1.1, 55.°74S×28.°96W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/30, mbtmp4.1/3, ML4.5/1, Error ellipse: s-maj=65.3km s-min=28.7km az=91.0*
*ISCJB **05** 06:03:52.3±1.9, 55.°7S±0.°1×29.°5W±0.°8, h24km, mb4.1/2, Error ellipse: s-maj=65.4km s-min=20.1km az=173.2*
ISC 05 06:03:54.3±1.2, 55.°7S±0.°2×29.°2W±0.°4, h24km, n10, σ0.s81/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.54	157	P	P	06 07 59.2	+1.4
VNA3	Neumayer Olymp	17.70	159	P	P	06 07 59.6	+0.1
VNA2	Neumayer--Watz	17.94	157	P	P	06 08 02.4	+0.2
	baz=316,slow=14						
SNAA	Sanae	19.52	155	P	P	06 08 19.2	-0.4
SNAA	Sanae	19.52	155	P	P	06 08 19.1	-0.4
	1.4nm,0.3s,baz=311,slow=14,SNR=60						
VNDA	Vanda	46.84	183	P	P	06 12 21.5	0.0
	2.9nm,0.9s,baz=176,slow=7.6,SNR=5.3						
TORD	Torodi Ar. Bea	73.35	31	P	P	06 15 24.3	+0.5
	0.9nm,0.6s,baz=200,slow=6.4,SNR=9.8						
YKA	Yellowknife Ar	135.16	319	PKP	PKPdf	06 23 09.8	-0.3
	0.1nm,0.5s,baz=128,slow=2.3,SNR=6.1						
ILAR	Eielson Array	149.04	312	PKPbc	PKPbc	06 23 39.3	+0.5
	0.3nm,0.7s,baz=120,slow=1.7,SNR=3.7						
SONM	Songino Array	151.86	87	PKPbc	PKPbc	06 23 44.8	-1.3
	0.2nm,0.4s,baz=177,slow=2.6,SNR=2.8						

*NIED **05** 06:24:00, 40.°20N×142.°50E, h44km, Mw5.1 Best double couple: Mo5.14000×10^16 NP1:φs166.00000°, δ28.00000°, λ54.00000°. NP2:φs26.00000°, δ67.00000°, λ108.00000°.*
*BJI **05** 06:24:18.8, 40.°12N×143.°02E, h37km, mb5.0/75, mB5.1/54, Ms4.7/77, Ms7 4.6/73*
*MOS **05** 06:24:23.7±0.9, 40.°20N×142.°45E, h38km, mb5.2/86, MS4.6/14, Error ellipse: s-maj=6.1km s-min=3.6km az=100.6*
*ISCJB **05** 06:24:24.6±0.3, 40.°19N±0.°02×142.°45E±0.°02, h46km±2km, mb5.0/216, MS4.6/47, Error ellipse: s-maj=3.7km s-min=2.6km az=136.3*
*JMA **05** 06:24:24.4±0.1, 40.°15N×142.°51E, h33km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φs53.00000°, δ55.00000°, λ108.00000°. NP2: φs203.00000°, δ39.00000°, λ66.00000°. Principal axes: T Plg73.0000°, Azm13.0000°; N Plg15.0000°, Azm222.0000°; P Plg8.0000°, Azm130.0000°;*
JMA Felt III J1.
*IDC **05** 06:24:26.8±1.6, 40.°14N×142.°50E, h55km±13km, mb4.5/37, mb1 4.5/43, mb1mx4.4/69, mbtmp4.7/43, MS4.4/22, Ms1 4.4/22, ms1mx4.1/66 Error ellipse: s-maj=12.1km s-min=8.9km az=113.0*
*NEIC **05** 06:24:26.8±0.3, 40.°17N×142.°39E, h52km±3km, mb5.0/111, Error ellipse: s-maj=4.2km s-min=2.9km az=147.0*
NEIC Felt [IV] at Misawa. Recorded [3 JMA] in Aomori and Iwate.
*GCMT **05** 06:24:26.8±0.2, 40.°28N×142.°52E, h41km±1km, MW5.1/94, Moment Tensor Solution. s61,c85; s94,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.07±.20; Mθθ0.23±.14; Mφφ-4.29±.13; Mrθ2.41±.15; Mθφ-0.74±.11; Mφr3.78±.16; Best double couple: Mo6.17700×10^16 NP1:φs26.00000°, δ69.00000°, λ103.00000°. NP2: φs173.00000°, δ25.00000°, λ59.00000°. Principal axes: T 6.2060, Plg64.0000°, Azm317.0000°; N -0.0530, Plg12.0000°, Azm201.0000°; P -6.1480, Plg23.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 06:24:24.8±0.4, 40.°16N±0.°03×142.°63E±0.°03, h41km±3km, h41km:pP-P, n622, σ1.s62/683, mb5.0/221, MS4.7/47, 20C-42D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.63	250	⇓P	Pn	06 24 35.5	-1.8
JTH				S	Sn	06 24 43.5	-2.7
MIYJ	Miyakonagasawa	0.85	227	⇓P	Pn	06 24 38.8	-1.5
MIYJ				S	Sn	06 24 48.9	-2.7
JANG	Nango	0.88	284	⇓P	Pn	06 24 39.0	-1.7
JANG				eS	Sn	06 24 49.3	-3.0
JKZ	Kuzumaki	1.01	261	⇓P	Pn	06 24 41.4	-1.2
JKZ				S	Sn	06 24 53.2	-2.5
JOM	Ohasama	1.24	237	⇓P	Pn	06 24 45.0	-0.6
JOM				S	Sn	06 25 00.3	-0.8
OFUJ	Ofunato	1.31	215	⇓P	Pn	06 24 46.2	-0.4
OFUJ				eS	Sn	06 25 02.2	-0.6
JTM	Tenmabayashi	1.35	298	⇓P	Pn	06 24 46.5	-0.6
JTM				eS	Sn	06 25 02.4	-1.4
JAH	Hinai	1.53	272	⇓P	Pn	06 24 49.2	-0.4
JAH				S	Sn	06 25 07.5	-0.8
JMK	Ichinoseki	1.63	223	⇓P	Pn	06 24 51.1	+0.2
JMK				S	Sn	06 25 11.2	+0.6
JOT	Ohata	1.71	316	⇓P	Pn	06 24 51.8	-0.3
ERM	Erimo	1.90	12	ePn	Pn	06 24 55.7	+1.1
ERM	Erimo	1.90	12	c eP	Pn	06 24 55.5	+0.9
ERM				pmax	pmax		
	comp=Z,404nm,0.8s						
ASAJ	Asahikawa	3.95	360	P	Pn	06 25 24.7	+1.8
	comp=Z,21nm,0.3s,baz=217,slow=8.5,SNR=58						
ASAJ				S	Sn	06 26 10.7	+2.7
	comp=Z,20nm,0.3s,baz=98,slow=19,SNR=4.5						
ASAJ				LR	LR	06 26 40.4	
	comp=Z,24nm,18.1s,baz=214,slow=34						
ASAJ	Asahikawa	3.95	360	ePn	Pn	06 25 24.5	+1.6
ASAJ				eSn	Sn	06 26 07.1	-0.9
JSD	Sado	4.01	239	P	Pn	06 25 24.3	+0.7
JHK	Hiroka	4.05	225	P	Pn	06 25 26.3	+2.0
GLVR	Golovnino	4.17	30	i P	Pn	06 25 27.1	+1.2
GLVR				i S	Sn	06 26 12.2	-1.2
GRPR	Tuman	4.49	30	i P	Pn	06 25 31.5	+1.3
GRPR				i S	Sn	06 26 20.2	-0.9
LAGR	Lagunnoye	4.54	30	i P	Pn	06 25 32.6	+1.6
LAGR				i S	Sn	06 26 21.7	-0.8
YUK	Yuzh-Kuril'sk	4.56	31	i P	Pn	06 25 31.7	+0.6
YUK				i S	Sn	06 26 20.3	-2.5
YUK				pmax	pmax		
	comp=E,129nm,0.2s						
YUK				pmax	pmax		
	comp=Z,691nm,0.2s						
YUK				pmax	pmax		
	comp=N,460nm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,3μm,0.3s						
SHO	Shikotan	4.85	39	eP	Pn	06 25 33.7	-1.4
SHO				eS	Sn	06 26 25.1	-4.9
SHO				pmax	pmax		
	comp=N,60nm,0.4s						
SHO				pmax	pmax		
	comp=E,86nm,0.4s						
SHO				pmax	pmax		
	comp=Z,104nm,0.4s						
SHO				smax	smax		
	comp=E,2μm,0.7s						
SHO				smax	smax		
	comp=N,1μm,0.3s						
MAJO	Matsushiro	5.01	225	ePn	Pn	06 25 39.6	+2.2
MAJO				eSn	Sn	06 26 35.0	+0.9
MAJO	Matsushiro	5.01	225	d iP	Pn	06 25 38.7	+1.2
MAT	Matsushiro	5.01	225	P	Pn	06 25 39.1	+1.6
MAT				eS	Sn	06 26 40.4	+6.2
MJAR	Matsushiro Arr	5.01	225	P	Pn	06 25 39.6	+2.1
	comp=N,29nm,0.3s,baz=31,slow=12,SNR=136						
MJAR				LR	LR	06 27 48.3	
	comp=N,4μm,20.9s,baz=35,slow=41						
MJB9	Matsu-Tunnel	5.01	225	ePn	Pn	06 25 39.6	+2.1
MJB9				eSn	Sn	06 26 35.0	+0.9
KUR	Kuril'sk	6.37	36	c iP	Pn	06 25 57.9	+1.9
KUR				i S	Sn	06 27 06.0	-1.4
KUR				pmax	pmax		
	comp=Z,734nm,1.0s						
KUR				pmax	pmax		
	comp=Z,258nm,0.4s						
KUR				smax	smax		
	comp=N,446nm,0.3s						
KUR				smax	smax		
	comp=E,333nm,0.4s						
KUR				smax	smax		
	comp=N,2μm,3.1s						
KUR				smax	smax		
	comp=E,1μm,1.5s						
KUR				MLR	MLR		
	comp=Z,978nm,18.0s						
INU	Inuyama	6.54	225	ePn	Pn	06 26 01.5	+3.1
TEY	Ternei	6.60	320	eP	Pn	06 26 01.2	+2.1
TEY				pmax	pmax		
	comp=N,37nm,0.6s						
TEY				pmax	pmax		
	comp=Z,37nm,0.6s						
TEY				MLR	MLR		
	comp=Z,3μm,16.0s						
YSS	Yuzh-Sakhalins	6.79	1	ePn	Pn	06 26 03.0	+1.2
YSS	Yuzh-Sakhalins	6.79	1	⇑eP	Pn	06 26 02.9	+1.1
YSS				eS	Sn	06 27 22.0	+4.2
YSS				pmax	pmax		
	comp=Z,60nm,1.2s						
YSS				pmax	pmax		
	comp=N,60nm,0.9s						
YSS				pmax	pmax		
	comp=E,40nm,0.9s						
YSS				smax	smax		
	comp=N,160nm,1.7s						
YSS				smax	smax		
	comp=E,70nm,1.2s						
YSS				MLR	MLR		
	comp=Z,3μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,13.0s						
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
JHJ2	Mitsune	7.39	199	ePn	Pn	06 26 10.7	+0.6
JHJ	Hachijo jima 2	7.39	199	P	Pn	06 26 11.3	+1.2
	comp=E,25nm,0.3s,baz=270,slow=20,SNR=3.9						
JHJ				S	Sn	06 27 26.9	-5.8
	comp=E,32nm,0.3s,baz=73,slow=19,SNR=3.3						
VLA	Vladivostok	8.57	294	⇑eP	Pn	06 26 25.8	-0.4
USRK	Ussuriysk Ar.	8.87	301	P	Pn	06 26 32.6	+2.2
	comp=E,4.0nm,0.3s,baz=104,slow=16,SNR=43						
USRK				LR	LR	06 29 49.3	
	comp=E,4μm,18.8s,baz=118,slow=37						
MDJ	Mudanjiang	10.62	299	P	Pn	06 26 55.0	+0.7
MDJ				pP		06 27 02.2	
MDJ				sP		06 27 07.4	
MDJ				S	Sn	06 28 50.8	-1.1
MDJ				pmax	pmax		
	comp=E,39nm,1.0s						
MDJ				pmax	pmax		
	comp=E,520nm,3.8s						
MDJ				LR	LR		
	comp=E,2μm,12.8s						
MDJ				LR	LR		
	comp=E,3μm,15.9s						
MDJ				LR	LR		
	comp=E,5μm,16.7s						
MDJ	Mudanjiang	10.62	299	ePn	Pn	06 26 55.0	+0.7
TYV	Tymovskoe	10.71	0	eP	Pn	06 26 53.9	-1.5
TYV				eS	Sn	06 28 47.2	-6.6
TYV				pmax	pmax		

comp=Z,8.0nm,0.5s
TYV smax smax
comp=N,12nm,1.2s
GRNR Gornyy 11.46 340 *e*P **Pn 06 27 07.1 +1.3**
GRNR *i* 06 29 13.0
GRNR pmax pmax
comp=Z,42nm,1.0s
JNU Nakatsue 11.76 237 P **Pn 06 27 10.6 +0.6**
comp=Z,1.3nm,0.3s,baz=117,slow=3.0,SNR=8.0
JNU LR LR 06 32 13.3
comp=Z,2µm,18.3s,baz=89,slow=40
JNU Nakatsue 11.76 237 *e*Pn **Pn 06 27 10.8 +0.8**
KSRS Korea Array 11.79 261 P **Pn 06 27 14.2 +3.9**
comp=Z,1.9nm,0.3s,baz=83,slow=14,SNR=24
KSRS S **Sn 06 29 26.3 +5.9**
comp=Z,0.8nm,0.3s,baz=69,slow=24,SNR=3.8
KSRS LR LR 06 31 25.5
comp=Z,3µm,18.5s,baz=78,slow=36
KS01 Wonju Array Si 11.81 262 *e*Pn **Pn 06 27 11.0 +0.5**
KS15 Wonju Array Si 11.82 261 *e*Pn **Pn 06 27 10.9 +0.1**
KLR Kul'dur 11.91 323 P **Pn 06 27 13.1 +1.2**
comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=28
KLR LR LR 06 31 59.2
comp=Z,300nm,18.1s,baz=140,slow=38
TJN Taejon 12.58 257⇑ *i*P **Pn 06 27 19.8 -1.3**
CBIJ Chichi jima 13.04 182 *e*Pn **Pn 06 27 24.7 -2.7**
JCJ Chichijima 13.04 182 P **Pn 06 27 25.3 -2.0**
comp=Z,4.0nm,0.3s,baz=24,slow=20,SNR=2.7
JCJ S Sn 06 29 39.4 -12
comp=Z,3.8nm,0.3s,baz=292,slow=19,SNR=2.3
JCJ LR LR 06 33 28.1
comp=Z,564nm,20.7s,baz=24,slow=42
NKL Nikolayevsk 13.06 355 *e*P **Pn 06 27 27.3 -0.3**
NKL pmax pmax
comp=Z,15nm,0.8s
CN2 Changchun 13.29 291 *e*P **Pn 06 27 33.6 +2.8**
CN2 *e*S **Sn 06 29 59.0 +1.9**
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,900nm,22.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,1µm,19.0s
OKH Okha 13.40 1 *e*P **Pn 06 27 31.8 -0.3**
OKH pmax pmax
comp=Z,300nm,6.0s
SNY Shenyang 14.49 283⇓ P **Pn 06 27 48.7 +1.7**
SNY S **Sn 06 30 32.9 +6.6**
SNY pmax pmax
comp=Z,15nm,1.4s
SNY pmax pmax
comp=Z,280nm,6.2s
SNY LR LR
comp=Z,790nm,14.5s
SNY LR LR
comp=Z,2µm,18.2s
SNY LR LR
comp=Z,3µm,19.9s
DL2 Dalian 16.25 272 P **P 06 28 12.6 0.0**
DL2 S **Sn 06 31 13.0 +3.8**
DL2 pmax pmax
comp=Z,78nm,1.0s
DL2 pmax pmax
comp=Z,210nm,6.1s
DL2 LR LR
comp=Z,940nm,23.3s
DL2 LR LR
comp=Z,1µm,25.1s
PETK Petropavlovsk- 16.53 33 P **Pn 06 28 10.7 -2.8**
comp=Z,0.3nm,0.3s,baz=216,slow=6.2,SNR=3.9
PETK LR LR 06 35 07.7
comp=Z,453nm,18.4s,baz=219,slow=39
PEA1 Petropavlovsk- 16.53 33 *e*Pn **Pn 06 28 10.7 -2.8**
ZEA Zeya 17.11 328 *i* P **Pn 06 28 15.9 -4.8**
ZEA pmax pmax
comp=E,59nm,1.0s
ZEA pmax pmax
comp=N,86nm,1.2s
ZEA pmax pmax
comp=Z,140nm,1.2s
ZEA pmax pmax
comp=Z,200nm,4.0s
ZEA pmax pmax
comp=N,200nm,5.0s
ZEA MLR MLR
comp=Z,2µm,14.0s
ZEA MLR MLR
comp=N,2µm,16.0s
HIA Hailar 18.58 307 *e*P **P 06 28 36.0 -2.3**
comp=N,42nm,1.1s
HIA Hailar 18.58 307 *e*P **P 06 28 36.0 -2.3**
HIA pmax pmax
comp=Z,42nm,1.1s
SSE Sheshan 19.60 249 P **Pn 06 28 51.1 0.0**
SSE S **S 06 32 27.3 -1.2**
SSE pmax pmax
comp=Z,44nm,0.9s
SSE pmax pmax
comp=Z,260nm,3.9s
SSE LR LR
comp=Z,360nm,16.7s
SSE LR LR
comp=Z,370nm,17.2s
MA2 Magadan 20.10 12 P **P 06 28 55.5 +0.8**
comp=Z,8.8nm,0.5s,baz=195,slow=9.2,SNR=14
MA2 LR LR 06 38 02.4
comp=Z,817nm,18.4s,baz=200,slow=40
MA2 Magadan 20.10 12⇑ *i*P **P 06 28 54.1 -0.6**
MA2 *i* *SP **pP 06 29 08.0 +3.2**
BJI Beijing 20.22 278 P **P 06 28 53.2 -3.0**
BJI pmax pmax
comp=Z,36nm,1.1s
BJI LR LR
comp=Z,1µm,14.1s
BJI LR LR
comp=Z,2µm,15.7s
BJI LR LR
comp=Z,2µm,30.4s
BJT Baijiatuau 20.23 278 *e*P **P 06 28 53.9 -2.4**
comp=Z,51nm,0.8s
BJT Baijiatuau 20.23 278 *e*P **P 06 28 53.9 -2.4**
BJT pmax pmax
comp=Z,51nm,0.8s
CLNS Chul'man 20.31 331 *e*P **P 06 28 56.7 -0.3**
CLNS *e**PP **pP 06 29 10.0 +2.9**
CLNS *e* 06 29 14.1
CLNS *e*S **S 06 32 40.8 -1.5**
CLNS *e* 06 33 05.5
CLNS pmax pmax
comp=N,36nm,1.0s
CLNS pmax pmax
comp=Z,53nm,0.9s
CLNS pmax pmax
comp=E,40nm,1.1s
CLNS pmax pmax
comp=Z,43nm,1.0s
CLNS pmax pmax
comp=N,36nm,0.8s
CLNS pmax pmax
comp=E,36nm,1.0s
CLNS smax smax
comp=N,18nm,1.0s
CLNS smax smax
comp=E,7.0nm,1.2s
CLNS MLR MLR
comp=N,823nm,14.0s
CLNS MLR MLR
comp=Z,1µm,13.0s
CLNS MLR MLR
comp=E,695nm,14.0s
TIA Tai'an 20.41 267 P **P 06 28 56.6 -1.7**
TIA pmax pmax
comp=E,17nm,1.1s
TIA pmax pmax
comp=E,290nm,3.4s
TIA LR LR
comp=E,610nm,14.8s
TIA LR LR
comp=E,1µm,19.1s
TIA LR LR
comp=E,2µm,17.8s
NJ2 Nanjing 20.80 255 *e*P **P 06 29 02.5 -0.1**
NJ2 sP **pP 06 29 13.5 +0.8**
NJ2 S Sn 06 32 57.1 -2.0
NJ2 pmax pmax
comp=E,84nm,1.3s
NJ2 pmax pmax
comp=E,380nm,3.8s
NJ2 LR LR
comp=E,650nm,10.3s
NJ2 LR LR
comp=E,1µm,13.6s
NJ2 LR LR
comp=E,1µm,15.2s
YOJ Yonaguni jima 22.73 232 *e*P **P 06 29 21.6 -1.6**
comp=E,234nm,1.4s
YOJ Yonaguni jima 22.73 232 *e*P **P 06 29 21.6 -1.6**
YOJ pmax pmax
comp=Z,234nm,1.4s
CIT Chita 23.23 310 *e*P **P 06 29 28.5 +0.3**
CIT *e* 06 29 34.1
CIT *e* 06 29 41.7
CIT *e* 06 29 57.6
CIT pmax pmax
comp=Z,314nm,1.4s
YAK Yakutsk 23.27 344 P **P 06 29 26.7 -1.7**
comp=Z,59nm,0.6s,baz=111,slow=0.9,SNR=17
YAK LR LR 06 39 09.8
comp=Z,546nm,18.1s,baz=98,slow=38
YAK Yakutsk 23.27 344 *e*P **P 06 29 26.2 -2.2**
comp=Z,142nm,1.0s
YAK Yakutsk 23.27 344 *e*P **P 06 29 25.6 -2.8**
YAK *e**PP **pP 06 29 34.1 -4.8**
YAK *e*PPP PPP 06 29 56.7
YAK *e* 06 33 22.1
YAK *e*S **S 06 33 29.8 -7.7**
YAK *e**SS sS 06 33 43.1 -13
YAK *e*SSS SSS 06 34 12.8
YAK pmax pmax
comp=Z,111nm,0.9s
YAK pmax pmax
comp=N,38nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,53nm,1.0s
YAK pmax pmax
comp=E,18nm,0.8s
YAK pmax pmax
comp=N,28nm,0.9s
YAK smax smax
comp=E,475nm,2.8s
YAK smax smax
comp=N,557nm,2.2s
YAK MLR MLR
comp=Z,773nm,16.0s
YAK MLR MLR
comp=E,494nm,14.0s
YAK MLR MLR
comp=N,717nm,14.0s
SARN Sarigan 23.54 172 *e*P **P 06 29 30.1 -1.3**
SEY Seymchan 23.54 11 P **P 06 29 31.4 +0.3**
comp=N,16nm,0.7s,baz=188,slow=7.9,SNR=29
HHC Hu-ho-hao-te 23.58 282 *e*P **P 06 29 28.6 -3.1**
HHC pP pP 06 29 37.9 -4.5
HHC sP sP 06 29 43.3 -4.1
HHC S **S 06 33 36.2 -6.9**
HHC SS **SnSn 06 34 25.6 +3.6**
HHC pmax pmax
comp=N,22nm,1.0s
HHC pmax pmax
comp=N,150nm,4.1s
HHC LR LR
comp=N,250nm,9.4s
HHC LR LR
comp=N,1µm,12.2s
HHC LR LR
comp=N,1µm,12.4s
NACB Ninganchiao 23.81 234 *e*P **P 06 29 32.2 -1.7**
comp=N,113nm,1.7s
ANA2 Anatahan 23.88 173 *e*P **P 06 29 35.8 +1.2**
SSLB Suanglung 24.49 235 *e*P **P 06 29 38.3 -1.9**
comp=N,32nm,1.2s
YULB Yu-li 24.57 234 *e*P **P 06 29 39.7 -1.1**
comp=N,33nm,1.1s
BTO Baotou 24.77 282 *e*P **P 06 29 38.4 -4.3**
WHN Wuhan 24.89 256⇑ P **P 06 29 43.2 -0.6**
WHN S **S 06 33 57.8 -6.4**
WHN LR LR
comp=N,1µm,13.6s
WHN LR LR
comp=N,3µm,14.8s
WHN LR LR
comp=N,4µm,16.9s
TPUB Ta-pu 25.05 234 *e*P **P 06 29 44.0 -1.3**
comp=N,155nm,1.6s
QZH Quanzhou 25.20 240 *e*P **P 06 29 44.0 -2.6**
QZH S **S 06 34 06.8 -2.4**
QZH LR LR
comp=N,560nm,17.1s
QZH LR LR
comp=N,410nm,16.3s
QZH LR LR
comp=N,750nm,13.5s
BOD Bodaibo 25.49 323 *e*P **P 06 29 46.7 -2.2**
BOD pmax pmax
comp=Z,104nm,1.1s
ULN Ulaanbaatar 26.54 299 *e*P **P 06 29 58.0 -0.7**
comp=Z,13nm,0.7s
ULN Ulaanbaatar 26.54 299 *e*P **P 06 29 58.0 -0.7**
ULN pmax pmax
comp=Z,13nm,0.7s
ULN Ulaanbaatar 26.54 299 P **P 06 29 58.7 0.0**
SNR=10
GUMO Guam 26.54 175 LR LR 06 39 22.8
comp=Z,454nm,21.9s,baz=355,slow=34
SONA1 Songino Array 26.98 299 *e*P **P 06 30 02.1 -0.6**
SONA0 Songino Array 26.98 299 *e*P **P 06 30 02.1 -0.6**
SONM Songino Array 26.98 299 P **P 06 30 02.1 -0.6**
comp=Z,8.8nm,0.4s,baz=105,slow=8.5,SNR=79
SONM LR LR 06 41 14.9
comp=Z,2µm,18.9s,baz=110,slow=38
XAN Xi'an 27.46 268 P **P 06 30 04.4 -2.6**
XAN pP pP 06 30 12.9 -5.2
XAN sP sP 06 30 17.1 -5.9
XAN pmax pmax
comp=Z,15nm,1.3s
XAN LR LR
comp=Z,1µm,16.3s
XAN LR LR
comp=Z,940nm,18.1s
ENH Enshi 28.68 260 *e*P **P 06 30 17.2 -0.6**
comp=Z,23nm,0.8s
IRK Irkutsk 28.82 308 *e*P **P 06 30 17.5 -1.4**
IRK pmax pmax
comp=Z,62nm,2.6s
H11N2 WAKE ISLAND Hy 29.10 127 T T 07 01 24.9
baz=318,slow=75,SNR=2326
H11N1 WAKE ISLAND Hy 29.11 127 T T 07 01 22.7
baz=318,slow=75,SNR=1252
H11N3 WAKE ISLAND Hy 29.12 127 T T 07 01 08.5
baz=318,slow=75,SNR=1540
TLY Talaya 29.12 306 *e*P **P 06 30 18.5 -3.1**
comp=Z,18nm,0.9s
TLY Talaya 29.12 306 *e*P **P 06 30 21.6 0.0**
TLY *e* 06 31 28.1
TLY *e*S **S 06 35 15.9 +5.2**
TLY *e*SS **SnSn 06 36 36.9 -0.2**
TLY pmax pmax
comp=Z,35nm,1.4s
TLY MLR MLR
comp=Z,952nm,15.0s
TLY Talaya 29.12 306 P **P 06 30 21.7 +0.1**
SNR=14
ZAK Zakamensk 29.20 304 *e*P **P 06 30 22.1 -0.3**
ZAK pmax pmax
comp=Z,34nm,1.4s
H11S1 WAKE ISLAND Hy 29.92 129 T T 07 02 26.9
baz=321,slow=76,SNR=281
H11S3 WAKE ISLAND Hy 29.93 129 T T 07 02 22.6
baz=321,slow=76,SNR=190
H11S2 WAKE ISLAND Hy 29.94 129 T T 07 02 23.4
baz=321,slow=76,SNR=213
LZH Lanzhou 30.62 275 *e*P **P 06 30 34.5 -0.7**
LZH pP pP 06 30 44.3 -2.0
LZH sP sP 06 30 48.8 -2.3
LZH PcP **PcP 06 33 32.6 -0.2**
LZH *e*S **S 06 35 35.6 +0.9**
LZH sS sS 06 35 51.5 -1.7
LZH SS **SnSn 06 37 18.5 +4.4**
LZH pmax pmax
comp=Z,56nm,1.3s
LZH pmax pmax
comp=Z,160nm,4.3s
LZH LR LR
comp=Z,2µm,16.2s
LZH LR LR
comp=Z,2µm,16.3s
LZH LR LR
comp=Z,2µm,18.8s
MOY Mondy 30.76 306 *e*P **P 06 30 36.2 0.0**
MOY pmax pmax
comp=Z,60nm,2.0s
BILL Bilibino 30.76 17 *i*P **P 06 30 36.4 +0.5**
BILL *i* 06 30 52.3
BILL *i* 06 31 39.5
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,757nm,19.0s
TIXI Tiksi 32.32 352 P **P 06 30 49.5 0.0**
comp=Z,1.3nm,0.3s,baz=141,slow=11,SNR=8.9
TIXI Tiksi 32.32 352 *e*P **P 06 30 49.5 0.0**
TIXI *e*P **P 06 30 50.0 +0.5**
TIXI Tiksi 32.32 352⇑ *i*P **P 06 30 48.9 -0.6**
TIXI pmax pmax
comp=Z,17nm,1.7s
GTA Gaotai 32.68 283 P **P 06 30 52.7 -0.5**
GTA pP pP 06 31 01.0 -3.4
GTA sP sP 06 31 05.1 -4.1
GTA PcP **PcP 06 33 39.6 +1.3**
GTA S **S 06 36 06.0 -0.8**
GTA sS sS 06 36 22.4 -2.9
GTA PcS **PcS 06 37 24.8 +1.2**
GTA SS **SnSn 06 38 04.0 0.0**
GTA pmax pmax
comp=Z,23nm,1.5s
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=Z,600nm,18.5s
GTA LR LR
comp=Z,2µm,18.5s
GTA LR LR
comp=Z,2µm,19.5s
CD2 Chengdu 32.74 266 *e*P **P 06 30 53.0 -0.7**
CD2 pP pP 06 31 02.5 -2.3
CD2 sP sP 06 31 06.8 -2.9
CD2 S **S 06 36 06.9 -0.7**
CD2 sS sS 06 36 23.2 -3.0
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.4s
CD2 LR LR
comp=Z,1µm,16.9s
CD2 LR LR
comp=Z,720nm,22.3s
CD2 LR LR
comp=Z,900nm,14.4s
GYA Guiyang 32.78 256⇑ *i*P **P 06 30 52.2 -2.0**
GYA pP pP 06 31 04.8 -0.6
GYA PP **PnPn 06 32 05.3 +1.9**
GYA PcP **PcP 06 33 41.0 +2.3**
GYA S **S 06 36 07.9 -0.7**
GYA sS sS 06 36 24.2 -3.0
GYA SS **SnSn 06 38 06.7 -0.2**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,620nm,17.2s
GYA LR LR
comp=Z,490nm,17.8s
GYA LR LR
comp=Z,510nm,17.4s
QIZ Qiongzhong 35.15 243 P **P 06 31 16.2 +1.6**
QIZ S **S 06 36 48.2 +3.3**
QIZ LR LR
comp=Z,470nm,16.3s
QIZ LR LR
comp=Z,450nm,16.9s
KMI Kunming 36.46 258 P **P 06 31 25.4 -0.7**
KMI pP pP 06 31 36.2 -1.2
KMI sP sP 06 31 40.2 -2.0
KMI PP **PnPn 06 32 47.4 -2.0**
KMI S **S 06 37 00.9 -4.5**
KMI pmax pmax
comp=Z,58nm,0.9s
KMI pmax pmax
comp=Z,230nm,4.0s
KMI LR LR
comp=Z,930nm,17.6s
KMI LR LR
comp=Z,960nm,19.0s
KMI LR LR
comp=Z,1µm,18.4s
WMQ Urumqi 40.37 294 P **P 06 31 58.6 0.0**
WMQ pP pP 06 32 06.6 -3.3
WMQ sP sP 06 32 13.6 -1.1
WMQ SS SS 06 40 57.4 -5.9
WMQ pmax pmax
comp=Z,120nm,0.9s
WMQ pmax pmax
comp=Z,490nm,3.6s
WMQ LR LR
comp=Z,870nm,14.3s
WMQ LR LR
comp=Z,850nm,15.5s
WMQ LR LR
comp=Z,840nm,27.7s
ZAA0 Zalesovo Array 40.58 310 *e*P **P 06 31 60.0 -0.2**
comp=Z,26nm,0.9s
ZAA1 Zalesovo Array 40.58 310 *e*P **P 06 31 59.6 -0.5**
ZAA1 *e*PcP **PcP 06 34 01.6 0.0**
ZALV Zalesovo Beam 40.58 310 P **P 06 31 59.6 -0.5**
comp=Z,17nm,0.5s,baz=92,slow=7.4,SNR=66
ZALV PcP **PcP 06 34 01.6 0.0**
comp=Z,3.4nm,0.4s,baz=102,slow=2.4,SNR=4.2
ZALV LR LR 06 49 36.8
comp=Z,1µm,18.9s,baz=72,slow=37
ZALV Zalesovo Beam 40.58 310 *e*P **P 06 32 00.2 +0.1**
ZALV Zalesovo Beam 40.58 310 *e*P **P 06 32 00.2 +0.1**
NVS Novosibirsk 41.44 311 *e*P **P 06 32 06.2 -0.9**
NVS pmax pmax
comp=Z,23nm,0.9s
NVS pmax pmax
comp=E,20nm,1.0s
KHON Khomkaen 41.86 247 P **P 06 32 11.7 +0.7**
comp=E,19nm,1.1s,comp=E,5µm
CMAI Chiengmai2 42.27 255 P **P 06 32 14.7 +0.1**
comp=E,227nm,1.1s,comp=E,4µm
LAMP Lampang 42.72 253 P **P 06 32 18.9 +0.9**
comp=E,8.1nm,1.1s,comp=E,132nm
CHAI Chaiyaphum 42.74 247 P **P 06 32 18.0 -0.2**
comp=E,12nm,1.2s,comp=E,112nm
LSA Lhasa 42.95 272 P **P 06 32 20.5 +0.2**
LSA Lhasa 42.95 272 P **P 06 32 20.5 +0.2**
PHIT Phitsanulok 43.01 250 P **P 06 32 20.9 +0.6**
comp=E,20nm,0.9s,comp=E,293nm
CMMT Chiang Mai 43.04 253 P **P 06 32 19.5 -1.1**
comp=E,24nm,1.2s,comp=E,477nm
CHTO Chiang Mai 43.04 253 P **P 06 32 20.6 0.0**
comp=E,110nm,1.1s,comp=E,2µm
CHTO Chiang Mai 43.04 253 P **P 06 32 20.8 +0.2**
SNR=9.1
CMAR Chiang Mai Arr 43.27 253 P **P 06 32 22.1 -0.3**
comp=E,4.3nm,0.6s,baz=44,slow=7.1,SNR=23
MK01 Makanchi Array 43.34 300 *e*P **P 06 32 22.5 -0.3**
MK31 Makanchi Array 43.34 300 *e*P **P 06 32 22.5 -0.3**
MK31 Makanchi Array 43.34 300 *i* P **P 06 32 22.3 -0.5**
MK31 pmax pmax
comp=Z,12nm,0.5s
MK32 Makanchi Array 43.34 300 *e*P **P 06 32 22.3 -0.4**
MKAR Makanchi Array 43.34 300 P **P 06 32 22.3 -0.4**
comp=Z,19nm,0.6s,baz=84,slow=9.6,SNR=98
MKAR LR LR 06 51 12.9
comp=Z,1µm,20.0s,baz=72,slow=37
MKAR Makanchi Array 43.34 300 *e*P **P 06 32 22.5 -0.3**
comp=Z,160nm,0.6s
MKAR Makanchi Array 43.34 300 *i* P **P 06 32 22.2 -0.6**
MKAR pmax pmax
comp=Z,19nm,0.6s

MAKZ Makanchi 43.55 300 *e*P P 06 32 24.3 -0.1
comp=Z,32nm,0.8s
MAKZ Makanchi 43.55 300 *i* P P 06 32 23.7 -0.7
MAKZ pmax pmax
comp=Z,28nm,0.7s
KDAK Kodiak Island 44.16 44 P P 06 32 29.9 +0.7
comp=Z,5.1nm,0.7s,baz=341,slow=4.1,SNR=9.6
KDAK Kodiak Island 44.16 44 *e*P P 06 32 30.7 +1.6
comp=Z,141nm,1.8s
KDAK Kodiak Island 44.16 44 *i* P P 06 32 30.8 +1.6
MLY Manley 44.71 34 *e*P P 06 32 34.4 +0.8
comp=Z,12nm,1.1s
UTHA Uthaitani 44.78 249 P P 06 32 35.3 +0.7
comp=Z,6.8nm,0.9s,comp=Z,157nm
KURK Kurchatov 44.82 306 *e*P P 06 32 34.1 -0.3
comp=Z,100nm,0.8s
KURK Kurchatov 44.82 306 *c i*P P 06 32 33.9 -0.6
KURK pmax pmax
comp=Z,104nm,0.9s
KURK Kurchatov 44.82 306 P P 06 32 34.4 -0.1
SNR=41
COLD Coldfoot 44.97 31 *e*P P 06 32 37.8 +2.3
comp=Z,12nm,1.0s
MCK McKinley 45.52 35 *e*P P 06 32 41.7 +1.8
comp=Z,45nm,1.6s
MCK McKinley 45.52 35 *e*P P 06 32 41.7 +1.8
MCK pmax pmax
comp=Z,45nm,1.6s
RND Reindeer 45.58 36 *e*P P 06 32 40.7 +0.3
comp=Z,20nm,1.2s
RND Reindeer 45.58 36 *e*P P 06 32 40.7 +0.3
RND pmax pmax
comp=Z,20nm,1.2s
MDM Murphy Dome 45.78 34 *e*P P 06 32 43.8 +1.8
comp=Z,17nm,1.0s
SML Sawmill 45.93 38 *e*P P 06 32 44.3 +1.1
comp=Z,34nm,1.2s
SML Sawmill 45.93 38 *e*P P 06 32 44.3 +1.1
SML pmax pmax
comp=Z,34nm,1.2s
CCB Clear Creek Bu 45.97 34 *e*P P 06 32 45.2 +1.8
comp=Z,7.4nm,0.8s
PDGK Podgornoye 46.22 296 *i* P P 06 32 45.2 -0.7
PDGK pmax pmax
comp=Z,25nm,0.8s
DHY Denali Highway 46.27 36 *e*P P 06 32 46.9 +0.9
comp=Z,53nm,1.8s
IL1 Eielson Array 46.36 34 *e*P P 06 32 47.6 +1.1
ILAR Eielson Array 46.36 34 P P 06 32 47.8 +1.3
comp=Z,5.0nm,0.6s,baz=264,slow=5.1,SNR=15
ILAR LR LR 06 55 46.2
comp=Z,131nm,18.5s,baz=278,slow=40
ILB Eielson Array 46.36 34 *e*P P 06 32 48.0 +1.5
SCM Sheep Creek Mo 46.40 38 *e*P P 06 32 46.8 -0.1
comp=Z,17nm,0.9s
SCM Sheep Creek Mo 46.40 38 *e*P P 06 32 46.8 -0.1
SCM pmax pmax
comp=Z,17nm,0.9s
TAPN Taplejung 46.74 272 *e*P P 06 32 50.2 -0.1
comp=Z,82nm,0.8s
FYU Fort Yukon 46.94 31 *e*P P 06 32 54.1 +3.2
comp=Z,51nm,1.2s
KLU Klutina 47.11 38 *e*P P 06 32 54.5 +2.0
comp=Z,15nm,0.5s
ODAN Odare 47.23 271 *e*P P 06 32 53.6 -0.5
comp=Z,45nm,0.6s
RIDG Independ'e Rid 47.34 35 *e*P P 06 32 55.5 +1.3
comp=Z,15nm,1.0s
HARP HAARP 47.35 37 *e*P P 06 32 56.2 +1.9
comp=Z,31nm,1.0s
DOT Dot Lake 47.69 35 *e*P P 06 32 58.0 +1.1
comp=Z,18nm,0.7s
JIRN Jiri 47.75 273 *e*P P 06 32 58.1 -0.2
comp=Z,108nm,0.7s
RAMN Ramite 47.79 272 *e*P P 06 32 58.1 -0.4
comp=Z,227nm,0.9s
GUN Gumba 47.86 273 *e*P P 06 32 58.8 -0.3
comp=Z,108nm,0.4s
MENT Mentasta 47.94 36 *e*P P 06 33 01.5 +2.6
comp=Z,18nm,1.1s
KKN Kakani 48.38 274 *e*P P 06 33 02.7 -0.3
comp=Z,144nm,0.9s
PKI Pulchoki 48.39 273 *e*P P 06 33 02.6 -0.6
comp=Z,30nm,0.6s
DMN Daman 48.60 274 *e*P P 06 33 04.6 -0.1
comp=Z,166nm,1.3s
EGAK Eagle 48.80 34 *e*P P 06 33 06.8 +1.4
comp=Z,14nm,0.9s
TKM2 Tokmak 2 49.04 296 P P 06 33 08.2 +0.3
SNR=23
TKM2 Tokmak 2 49.04 296 *i* P P 06 33 06.9 -1.0
TKM2 pmax pmax
comp=Z,52nm,1.0s
BVA0 Borovoye Array 49.22 311 *i* P P 06 33 08.9 +0.1
BVA0 pmax pmax
comp=Z,23nm,0.5s
BVAR Borovoye Array 49.22 311 P P 06 33 09.1 +0.3
comp=Z,36nm,0.4s,baz=79,slow=9.0,SNR=266
DANN Dangsing 49.26 275 *e*P P 06 33 09.9 +0.1
comp=Z,11nm,0.7s
BRVK Borovoye 49.27 311 *e*P P 06 33 09.3 0.0
comp=Z,31nm,0.6s
BRVK Borovoye 49.27 311 *c i*P P 06 33 09.2 0.0
BRVK pmax pmax
comp=Z,32nm,1.0s
BRVK Borovoye 49.27 311 P P 06 33 09.4 +0.2
SNR=12
OTUK Ortayu 49.42 304 P P 06 33 09.9 -0.5
OTUK pmax pmax
comp=Z,15nm,1.6s
KBK Karagaybulak 49.58 296 P P 06 33 11.7 -0.2
SNR=38
KZA Kyzart 49.59 295 P P 06 33 13.1 +0.8
SNR=7.0
USP Ospenovka 49.67 297 P P 06 33 12.1 -0.4
SNR=10
KOLN Koldanda 49.67 275 *e*P P 06 33 12.7 -0.2
comp=Z,110nm,1.0s
SURT Suratani 49.80 244 P P 06 33 13.8 +0.2
comp=Z,13nm,1.1s
AAK Ala-Archa 49.90 296 P P 06 33 14.2 -0.1
SNR=5.8
AAK Ala-Archa 49.90 296 *e*P P 06 33 14.0 -0.3
comp=Z,16nm,0.9s
AAK Ala-Archa 49.90 296 *d i*P P 06 33 14.9 +0.5
AAK pmax pmax
comp=Z,14nm,0.9s
AAK Ala-Archa 49.90 296 *i* P P 06 33 14.3 -0.1
SNR=6.3
AAK Ala-Archa 49.90 296 *i* P P 06 33 14.3 -0.1
SNR=6.3
PYUN Piuthan 49.97 275 *e*P P 06 33 14.9 -0.2
comp=Z,304nm,1.0s
TRTT Trang 49.99 242 P P 06 33 15.2 +0.1
comp=Z,11nm,0.9s
KSH Kashi 50.06 292 *i* P P 06 33 19.1 +3.5
KSH pP pP 06 33 27.1 -0.1
KSH PP **PP** **06 35 13.0 +2.4**
KSH S **S** **06 40 26.6 +2.7**
KSH sS sS 06 40 43.8 +0.6
KSH ScS **ScS** **06 43 03.1 -0.5**
KSH pmax pmax
comp=Z,14nm,1.0s
KSH pmax pmax
comp=Z,130nm,4.3s
KSH LR LR
comp=Z,730nm,16.7s
KSH LR LR
comp=Z,520nm,14.2s
KSH LR LR
comp=Z,1μm,16.6s
EKS2 Erkin-Say 50.38 297 P P 06 33 17.9 -0.1
SNR=9.4
AML Almayashu 50.64 296 P P 06 33 20.3 +0.1
SNR=18
PKDT Phuket 50.88 243 P P 06 33 22.0 +0.2
comp=Z,34nm,0.8s,comp=Z,8μm
INK Inuvik 51.18 28 P P 06 33 25.2 +1.9
comp=Z,6.0nm,0.4s,baz=298,slow=6.9,SNR=57
INK Inuvik 51.18 28 *e*P P 06 33 25.3 +1.9
comp=Z,10nm,0.8s
INK Inuvik 51.18 28 *e*P P 06 33 25.3 +1.9
INK pmax pmax
comp=Z,10.0nm,0.8s
KULM Kulim 51.23 239 *e*P P 06 33 25.1 +0.6
comp=Z,23nm,1.0s
HYT Haines Junctio 51.24 38 *e*P P 06 33 26.2 +2.0
comp=Z,23nm,0.9s
MNAS Manas 51.32 297 *i* P P 06 33 24.3 -0.7
MNAS pmax pmax
comp=Z,53nm,0.9s
IPM Ipoh 51.60 238 *e*P P 06 33 27.2 0.0
comp=Z,16nm,0.9s
SFK Sufi-Kurgan 51.60 294 *i* P P 06 33 26.7 -0.6
SFK pmax pmax
comp=Z,52nm,1.1s
KK31 Karatay Array 52.43 298 *i* P P 06 33 32.2 -1.0
KK31 pmax pmax
comp=Z,15nm,0.7s
KKAR Karatay Array 52.43 298 *e*P P 06 33 32.4 -0.8
KKAR Karatay Array 52.43 298 *e*P P 06 33 32.4 -0.8
SOEI Soe 52.49 203 *e*P P 06 33 33.9 0.0
comp=Z,67nm,1.0s
SVE Sverdlovsk 53.47 317 ⇓ *i*P P 06 33 40.9 +0.4
SVE pmax pmax
comp=Z,108nm,1.1s
SVE MLR MLR
comp=Z,2μm,17.0s
MTN Manton Dam 53.80 194 *e*P P 06 33 43.7 +0.3
comp=Z,15nm,0.8s
PSI Prapat 54.23 238 *e*P P 06 33 46.6 -0.2
comp=Z,20nm,1.1s
PSI Prapat 54.23 238 *e*P P 06 33 46.6 -0.2
PSI pmax pmax
comp=Z,20nm,1.1s
SOKR Solikamsk 54.45 321 *c i*P P 06 33 46.2 -1.4
SOKR pmax pmax
comp=Z,68nm,1.1s
SOKR MLR MLR
comp=Z,490nm,17.0s
ARU Arti 54.68 317 LR LR 06 59 38.9
comp=Z,1μm,18.6s,baz=46,slow=39
ARU Arti 54.68 317 *e*P P 06 33 49.5 +0.2
comp=Z,87nm,1.0s
ARU Arti 54.68 317 *c i*P P 06 33 49.4 0.0
ARU 06 34 51.1
ARU 06 35 48.2
ARU S **S** 06 41 28.5 +2.1
ARU SS **SS** 06 45 03.2 -5.8
ARU pmax pmax
comp=Z,124nm,1.2s
ARU MLR MLR
comp=Z,1μm,16.0s
GSI Gunungsitoli 56.24 238 *e*P P 06 34 00.9 -0.2
comp=Z,55nm,1.1s
ABKAR Akbulak array 56.69 309 *e*P P 06 34 03.7 -0.2
comp=Z,324nm,0.5s
KBL Kabul 57.23 290 *e*P P 06 34 07.3 -0.8
comp=Z,96nm,1.0s
KBL Kabul 57.23 290 *e*P P 06 34 07.4 -0.8
KBL pmax pmax
comp=Z,97nm,1.0s
AKTO Aktyubinsk 57.33 311 P P 06 34 08.1 -0.3
comp=Z,32nm,0.8s,baz=76,slow=7.4,SNR=44
HYB Hyderabad 59.27 267 *i* P P 06 34 22.0 -0.5
RES Resolute Bay 59.34 15 *e*P P 06 34 22.6 +0.6
comp=Z,13nm,0.8s
RES Resolute Bay 59.34 15 *e*P P 06 34 22.7 +0.6
RES pmax pmax
comp=Z,13nm,0.8s
APA Apatity 60.24 335 ⇓ *e*P P 06 34 24.3 -4.0
APA pmax pmax
comp=Z,13nm,1.0s
WRAB Tennant Creek 60.28 189 ⇑ *i*P P 06 34 28.3 -0.8
WRAB pmax pmax
comp=Z,14nm,1.1s
WR1 Warramunga Arr 60.29 189 *e*P P 06 34 28.8 -0.4
comp=Z,38nm,1.5s
WRA Warramunga Arr 60.29 189 P P 06 34 28.8 -0.4
comp=Z,6.6nm,0.7s,baz=7.2,slow=6.8,SNR=85
YKW3 Yellowknife Ar 60.60 31 *e*P P 06 34 31.6 +0.8
comp=Z,6.0nm,1.0s
YKA Yellowknife Ar 60.64 31 P P 06 34 32.2 +1.1
comp=Z,1.4nm,0.6s,baz=301,slow=6.4,SNR=36
YKA LR LR 07 05 34.7
comp=Z,5.7nm,18.4s,baz=0.0,slow=41
YKB5 Yellowknife Ar 60.64 31 *e*P P 06 34 31.9 +0.8
ARA0 ARCESS Array S 61.42 339 *e*P P 06 34 36.3 -0.1
ARCES ARCESS Array B 61.42 339 P P 06 34 36.3 -0.1
comp=Z,8.4nm,0.8s,baz=50,slow=8.0,SNR=30
KLMR Klimovskoe 61.64 327 *e*P P 06 34 35.4 -2.5
KLMR *e* 06 36 50.6
KLMR pmax pmax
comp=Z,69nm,1.4s
KLMR Klimovskoe 61.64 327 *e*P P 06 34 35.4 -2.5
KLMR AMP 06 34 39.8
comp=Z,69nm,1.4s
KLMR *e*PP **PP** 06 36 50.7 -2.7
TULEG Thule 61.88 8 *e*P P 06 34 39.4 +0.1
comp=Z,18nm,0.8s
GEYT Alibeck 63.18 298 P P 06 34 48.5 -0.2
comp=Z,24nm,0.8s,baz=54,slow=3.8,SNR=32
JOF Joensuu 63.66 332 P P 06 34 51.7 +0.3
JOF pmax pmax
comp=Z,27nm,1.5s
AS01 Alice Springs 64.01 189 *e*P P 06 34 53.9 -0.2
ASAR Alice Springs 64.02 189 P P 06 34 54.2 +0.1
comp=Z,4.6nm,1.0s,baz=12,slow=6.3,SNR=29
OUL Oulu 64.16 335 P P 06 34 53.8 -0.8
OUL pmax pmax
comp=Z,41nm,1.2s
SHUK Shuksan-Mt. Ba 64.40 47 *e*P P 06 34 58.6 +1.9
MOS Moscow 65.32 323 *e*P P **06 35 01.3 -1.0**
MOS *e* 06 35 12.1
MOS *e* 06 37 22.3
MOS *e* 06 44 04.0
MOS pmax pmax
comp=Z,72nm,0.9s
MOS MLR MLR
comp=Z,1μm,19.0s
SUF Sumiainen 65.63 333 *e*P P **06 35 04.8 +0.6**
SUF pmax pmax
comp=Z,22nm,1.0s
DZM Mont Dzumac 65.77 156 *e*LR LR 06 54 55.4
comp=Z,574nm,22.6s
VRH Novokhopyorsk 65.92 317 *e*P P 06 35 05.9 -0.3
VRH pmax pmax
comp=Z,50nm,0.8s
B08A Colville Reser 65.97 46 *e*P P **06 35 09.6 +2.9**
comp=Z,16nm,1.6s
OBN Obninsk 66.17 323 P P 06 35 08.3 +0.5
comp=Z,23nm,0.4s,baz=162,slow=2.7,SNR=12
OBN Obninsk 66.17 323 ⇓ *i*P P 06 35 08.3 +0.5
OBN *e**PP **pP** 06 35 20.4 +0.6
OBN *SP **sP** 06 35 24.0 -0.5
OBN *e* 06 35 37.3
OBN pmax pmax
comp=Z,78nm,1.2s
OBN MLR MLR
comp=Z,1μm,20.0s
EDM Edmonton 66.32 40 *e*P P 06 35 10.3 +1.5
comp=Z,27nm,1.4s
EDM Edmonton 66.32 40 *e*P P 06 35 10.3 +1.5
EDM pmax pmax
comp=Z,27nm,1.4s
H04A Detroit Lake 66.37 51 *e*P P 06 35 09.4 0.0
comp=Z,9.8nm,0.8s
FIA1 FINESS Array S 66.50 332 *e*P P 06 35 09.6 -0.2
FIA1 *e*P P 06 35 09.6 -0.2
FIA0 FINESS Array S 66.50 332 *e*P P 06 35 09.9 +0.2
FIA0 FINESS Array S 66.50 332 *e*P P 06 35 10.0 +0.2
FINES FINESS Array B 66.50 332 P P 06 35 09.9 +0.2
comp=Z,14nm,0.7s,baz=50,slow=7.2,SNR=52
FINES LR LR 07 06 37.7
comp=Z,827nm,18.3s,baz=92,slow=38
FINES FINESS Array B 66.50 332 P P 06 35 10.0 +0.2
FINES pmax pmax
comp=Z,14nm,0.7s
FINES MLR MLR
comp=Z,827nm,18.3s
LPSR Galich'ya Gora 66.53 320 *e*P P 06 35 10.4 +0.3
LPSR pmax pmax
comp=Z,50nm,0.9s
VSR Storozhevoye 67.22 318 *e*P P 06 35 14.9 +0.3
VSR pmax pmax
comp=Z,70nm,1.1s
NEW Newport 67.24 45 *e*P P 06 35 16.9 +2.0
comp=Z,21nm,1.4s
NEW Newport 67.24 45 *e*P P 06 35 16.9 +2.0
NEW pmax pmax
comp=Z,21nm,1.4s
SUMG Summit 67.56 0 *i* P P 06 35 18.3 +1.4
SUMG *i* 06 35 32.9
SUMG Summit 67.56 0 *e*P P 06 35 18.1 +1.3
comp=Z,33nm,0.9s
SUMG Summit 67.56 0 *i* P P 06 35 18.3 +1.4
SUMG *i* 06 35 32.9
PINE Pine Mountain 67.61 51 *e*P P 06 35 20.1 +2.6
comp=Z,24nm,1.1s
E09A Wood Farm, Sta 67.68 47 *e*P P 06 35 18.6 +1.0
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 67.70 54 LR LR 06 58 28.7
comp=Z,84nm,21.8s,baz=306,slow=30
VSU Vasula 68.25 329 ⇓ *i*P P 06 35 21.6 +0.7
VSU pmax pmax
comp=Z,179nm,2.5s
AFI Afiamalu 68.45 132 LR LR 06 59 19.2
comp=Z,221nm,21.8s,baz=328,slow=30
GOF Gofitskoye 68.73 311 ⇑ *i*P P 06 35 24.7 +0.5
GOF pmax pmax
comp=Z,106nm,1.3s
JTMT Jette 69.09 45 *e*P P 06 35 28.6 +2.0
comp=Z,12nm,1.0s
BMO Blue Mountains 69.13 49 *e*P P 06 35 28.6 +1.8
comp=Z,5.8nm,1.0s
BMO Blue Mountains 69.13 49 *e*P P 06 35 28.6 +1.8
BMO pmax pmax
comp=Z,6.0nm,1.0s
GUDG Gudauri 69.41 309 P P 06 35 27.2 -1.5
ZEI Tsey 69.56 309 *e*P P 06 35 27.7 -2.0
ZEI pmax pmax
comp=Z,27nm,0.9s
KIV Kislovodsk 69.59 311 *e*P P 06 35 30.4 +0.7
comp=Z,104nm,1.1s
KIV Kislovodsk 69.59 311 *e*P P 06 35 30.7 +1.0
KIV pmax pmax
comp=Z,89nm,1.0s
KIV MLR MLR
comp=Z,725nm,17.0s
KIV Kislovodsk 69.59 311 P P 06 35 31.3 +1.6
SNR=11
KIV Kislovodsk 69.59 311 *i* P P 06 35 30.5 +0.9
SNR=8.0
KIV Kislovodsk 69.59 311 *i* P P 06 35 30.5 +0.9
SNR=8.0
KBZ Khabaz 69.60 310 P P 06 35 29.9 +0.4
comp=Z,16nm,0.8s,baz=37,slow=4.4,SNR=22
TBLG Delisi 69.68 308 P P 06 35 30.6 +0.4
TBLG Delisi 69.68 308 *e*P P 06 35 30.8 +0.6
comp=Z,29nm,0.9s
TBLG Delisi 69.68 308 *e*P P 06 35 30.8 +0.6
TBLG pmax pmax
comp=Z,29nm,0.9s
WVOR Wild Horse Val 69.77 51 *e*P P 06 35 33.0 +2.1
comp=Z,6.3nm,0.9s
WVOR Wild Horse Val 69.77 51 *e*P P 06 35 33.0 +2.1
WVOR pmax pmax
comp=Z,6.0nm,0.9s
MSO Missoula 69.83 45 P P 06 35 32.9 +1.7
baz=308
MSO Missoula 69.83 45 *e*P P 06 35 32.8 +1.7
MSO *e*pP **pP** 06 35 40.9 -2.3
ONI Oni 69.95 309 P P 06 35 30.5 -1.3
ONI Oni 69.95 309 *e*P P 06 35 30.5 -1.3
IZAR Zarasai 70.29 327 *e*P P 06 35 34.2 +0.6
IZAR IAmb IAmb 06 35 35.6
comp=Z,9.4nm,0.9s
IDID Didziasalis 70.38 327 *e*P P 06 35 34.7 +0.6
IDID IAmb IAmb 06 35 36.3
comp=Z,19nm,1.1s
MICGM Minsk 70.45 326 *e* P 06 35 34.0 -0.6
MICGM *e*LR LR 07 03 46.0
MNK Minsk 70.45 326 *e*P P 06 35 34.0 -0.6
ISAL Salakas 70.46 327 *e*P P 06 35 35.3 +0.7
ISAL IAmb IAmb 06 35 36.9
comp=Z,18nm,0.8s
FFC Flin Flon 70.57 34 *e*P P 06 35 36.5 +1.1
comp=Z,12nm,0.8s
FFC Flin Flon 70.57 34 *e*P P 06 35 36.5 +1.1
FFC pmax pmax
comp=Z,12nm,0.8s
IIGN Ignalina 70.57 327 *e*P P 06 35 35.9 +0.6
IIGN IAmb IAmb 06 35 37.6
comp=Z,15nm,0.8s
GNI Garni 70.61 306 *e*P P 06 35 36.9 +0.9
comp=Z,59nm,1.4s
GNI Garni 70.61 306 *c i*P P 06 35 36.8 +0.7
GNI pmax pmax
comp=Z,142nm,1.2s
GNI Garni 70.61 306 *i* P P 06 35 37.1 +1.0
SNR=6.9
GNI Garni 70.61 306 *i* P P 06 35 37.1 +1.0
SNR=6.9
AKH Akhalkalaki 70.63 308 ⇓ *i*P P 06 35 37.3 +1.1
AKH Akhalkalaki 70.63 308 *e*P P 06 35 37.9 +1.7
comp=Z,17nm,0.9s
AKH Akhalkalaki 70.63 308 *e*P P 06 35 37.9 +1.7
AKH pmax pmax
comp=Z,17nm,0.9s
NACGM Naroch 70.64 327 *e* P 06 35 35.0 -0.8
NACGM *e*LR LR 07 03 00.0
BGD Bogdanovka 70.65 308 P P 06 35 36.6 +0.3
FCC Fort Churchill 70.79 27 *e*P P 06 35 37.3 +0.8
comp=Z,20nm,1.1s
FCC Fort Churchill 70.79 27 *e*P P 06 35 37.3 +0.8
FCC pmax pmax
comp=Z,20nm,1.1s
HRY Holter Researc 71.04 45 *e*P P 06 35 40.6 +2.1
SHME Shamm 71.17 288 P P 06 35 39.2 -0.3
SHME Shamm 71.17 288 P P 06 35 39.2 -0.3
CMB Columbia Colle 71.30 56 *e*P P 06 35 41.2 +1.1
comp=Z,6.3nm,1.1s
CMB Columbia Colle 71.30 56 *e*P P 06 35 41.2 +1.1
CMB pmax pmax
comp=Z,6.0nm,1.1s
EGMT Eagleton 71.31 42 P P 06 35 42.0 +2.0
baz=310
EGMT Eagleton 71.31 42 *e*P P 06 35 41.8 +1.7
comp=Z,16nm,0.9s
DLMT Dillon 71.47 46 *e*P P 06 35 42.9 +1.7
comp=Z,18nm,1.2s
NC405 NORSAR Array S 71.47 337 *e*P P 06 35 40.0 -0.7
NC303 NORSAR Array S 71.48 337 *e*P P 06 35 41.0 +0.2
NC204 NORSAR Array S 71.62 338 *e*P P 06 35 41.9 +0.3
HFS Hagfors 71.64 336 P P 06 35 41.9 +0.2
comp=Z,8.6nm,0.4s,baz=38,slow=7.3,SNR=49
NB201 NORSAR Array S 71.64 337 *e*P P 06 35 40.9 -0.9
NB2 NORSAR Subarra 71.67 337 P P 06 35 41.8 -0.2
comp=Z,22nm,0.9s,baz=38,slow=6.2
NB2 NORSAR Subarra 71.67 337 P P 06 35 41.7 -0.2
NB2 pmax pmax
comp=Z,19nm,1.0s
NB2 NORSAR Subarra 71.67 337 P P 06 35 41.8 -0.2
baz=38,slow=6.2
NB200 NORSAR Array S 71.67 337 *e*P P 06 35 42.1 +0.2
NOA NORSAR Array B 71.67 337 P P 06 35 42.1 +0.2
comp=Z,10.0nm,0.8s,baz=39,slow=6.0,SNR=26
STKA Stephens Creek 71.68 181 P P 06 35 42.5 +0.3
comp=Z,1.2nm,0.9s,baz=322,slow=9.0,SNR=2.3
NBO02 NORSAR Array S 71.77 338 *e*P P 06 35 42.8 +0.2
UOSS Minazif 71.77 287 *e*P P 06 35 43.1 -0.1
comp=Z,238nm,0.8s
UOSS Minazif 71.77 287 P P 06 35 43.3 +0.1
NBO00 NORSAR Array S 71.81 338 *e*P P 06 35 43.2 +0.4
BOZ Bozeman (W) 71.85 45 P P 06 35 45.1 +1.6
baz=309
BOZ Bozeman (W) 71.85 45 *e*P P 06 35 45.1 +1.6
comp=Z,9.0nm,0.7s
BOZ Bozeman (W) 71.85 45 *e*P P 06 35 45.1 +1.6
BOZ pmax pmax
comp=Z,9.0nm,0.7s
HATD Hatta, Dubai 71.90 287 *i* P P 06 35 44.0 +0.1
SNR=6.7
HATD Hatta, Dubai 71.90 287 *i* P P 06 35 44.0 +0.1
SNR=6.7
SOHO SOHO 72.01 287 *i* P P 06 35 44.1 -0.4
SNR=6.3
SOHO SOHO 72.01 287 *i* P P 06 35 44.1 -0.4
SNR=6.3
ASHO Ashiyiah 72.03 287 *i* P P 06 35 45.3 +0.6
SNR=6.9
ASHO Ashiyiah 72.03 287 *i* P P 06 35 45.3 +0.6
SNR=6.9
ANN Anapa 72.06 314 *e*P P 06 35 44.8 +0.3
ANN *e*S **S** 06 45 08.5 +5.3
ANN pmax pmax
comp=Z,51nm,1.2s
NV01 Mina Array Sit 72.37 54 *e*P P 06 35 48.8 +2.0
NVAR Mina Array Bea 72.37 54 P P 06 35 47.9 +1.1

comp=Z,0.4nm,0.6s,baz=287,slow=6.4,SNR=4.5
NVAR LR LR 07 04 11.2
comp=Z,70nm,19.6s,baz=90,slow=33
AKASG **Malin Array Be** 72.41 322 P **P** 06 35 46.4 -0.1
comp=Z,5.7nm,0.5s,baz=44,slow=6.5,SNR=71
AKBB **Malin Array Si** 72.41 322 *e*P **P** 06 35 46.4 -0.1
comp=Z,34nm,1.0s
AKBB **Malin Array Si** 72.41 322 *e*P **P** 06 35 46.4 -0.1
AKBB pmax pmax
comp=Z,34nm,1.0s
KIEV **Kiev** 72.42 322 *e*P **P** 06 35 46.5 -0.1
comp=Z,39nm,1.1s
KIEV **Kiev** 72.42 322 *e*P **P** 06 35 46.5 -0.1
KIEV pmax pmax
comp=Z,39nm,1.1s
KIEV **Kiev** 72.42 322 *i* P **P** 06 35 46.5 -0.1
SNR=21
KIEV **Kiev** 72.42 322 *i* P **P** 06 35 46.5 -0.1
SNR=21
AK11 **Malin Array Si** 72.45 322 *e*P **P** 06 35 46.3 -0.4
YHB **Horse Butte** 72.62 46 *e*pP pP 06 35 59.4 -0.9
ALNE **Al Ain** 72.63 287 *i* P **P** 06 35 48.7 +0.4
SNR=6.4
ALNE **Al Ain** 72.63 287 *i* P **P** 06 35 48.7 +0.4
SNR=6.4
SUW **Suwalki** 72.77 327 *e*P **P** 06 35 49.0 +0.4
SUW **Suwalki** 72.77 327 *e*P **P** 06 35 49.0 +0.4
MOOW **Moose Ponds** 73.52 46 *e*P **P** 06 35 57.0 +3.6
comp=Z,15nm,1.4s
HVU **Hansel Valley** 73.62 49 *e*P **P** 06 35 56.2 +2.1
HVU **Hansel Valley** 73.62 49 *e*P **P** 06 35 56.2 +2.1
REDW **Red Top Meadow** 73.70 47 *e*P **P** 06 35 57.8 +3.2
comp=Z,11nm,1.2s
SIM **Simferopol'** 73.77 315 *e*P **P** 06 35 53.7 -0.9
SIM S **SKiKP** 06 45 17.0 -3.4
SIM pmax pmax
comp=Z,50nm,1.2s
GRAC **Grapevine Rang** 73.84 55 P **P** 06 35 56.9 +1.6
baz=308
LAO **LASA Array** 74.00 42 P **P** 06 35 57.7 +1.7
baz=312
LAO **LASA Array** 74.00 42 *e*P **P** 06 35 59.3 +3.3
comp=Z,15nm,1.0s
BGU **Big Grassy Mou** 74.02 50 *e*P **P** 06 35 58.5 +2.1
comp=Z,11nm,1.5s
R11A **Troy Canyon, C** 74.11 53 P **P** 06 35 59.0 +2.0
baz=309
R11A **Troy Canyon, C** 74.11 53 *e*P **P** 06 35 58.9 +2.0
comp=Z,7.2nm,1.3s
MPMC **Manual Prospec** 74.34 56 P **P** 06 36 00.4 +2.0
baz=309
TPNV **Topopah Spring** 74.57 55 P **P** 06 36 01.7 +2.1
baz=309
TPNV **Topopah Spring** 74.57 55 *e*P **P** 06 36 01.4 +1.7
comp=Z,12nm,1.2s
TPNV **Topopah Spring** 74.57 55 *e*P **P** 06 36 01.4 +1.7
TPNV pmax pmax
comp=Z,12nm,1.2s
SORM **Soroca** 74.58 321 ||*i*P **P** 06 35 59.2 -0.1
SORM **Soroca** 74.58 321 P **P** 06 35 59.2 -0.1
DUG **Dugway, Tooele** 74.61 50 P **P** 06 36 01.9 +2.1
baz=310
BORG **Borgarnes** 74.67 353 P **P** 06 36 00.8 +1.3
comp=Z,21nm,0.9s,baz=355,slow=4.0,SNR=4.0
BORG **Borgarnes** 74.67 353 *e*P **P** 06 36 00.7 +1.2
comp=Z,127nm,1.4s
EDW2 **Edwards Air Fo** 74.75 57 P **P** 06 36 02.5 +1.9
baz=309
BW06 **Boulder Array** 74.81 47 P **P** 06 36 02.9 +1.8
baz=311
PD31 **Pinedale Array** 74.81 47 *e*P **P** 06 36 02.3 +1.3
PDAR **Pinedale Array** 74.81 47 P **P** 06 36 02.3 +1.3
comp=Z,0.9nm,0.5s,baz=270,slow=1.6,SNR=14
KIS **Kishinev** 75.14 320 *e*P **P** 06 36 02.0 -0.5
KIS *e*L L 06 58 48.0
KIS LRM MLR 07 12 06.0
comp=Z,800nm,18.0s
KIS **Kishinev** 75.14 320 *e*P **P** 06 36 02.0 -0.5
KIS *e* 06 36 13.0
KIS *e* 06 36 22.0
KIS MLR MLR
comp=Z,800nm,18.0s
BEL **Belsk** 75.35 327 *e*P **P** 06 36 05.2 +1.5
BEL **Belsk** 75.35 327 *e*P **P** 06 36 05.2 +1.5
MPU **Maple Canyon** 75.42 50 *e*P **P** 06 36 06.6 +2.0
comp=Z,5.9nm,0.9s
LVV **L'vov** 75.42 324 *e*P **P** 06 36 04.5 +0.4
TUQ **Turquoise Moun** 75.72 56 P **P** 06 36 08.3 +2.0
baz=309
CCUT **Cedar City** 75.97 53 *e*P **P** 06 36 09.4 +1.6
comp=Z,7.8nm,1.2s
SZCU **Shurtz Canyon** 76.11 52 *e*P **P** 06 36 09.9 +1.4
comp=Z,6.3nm,1.2s
KWP **Kalwaria Pacla** 76.15 325 *e*P **P** 06 36 09.2 +0.9
KWP **Kalwaria Pacla** 76.15 325 *e*P **P** 06 36 08.8 +0.6
comp=Z,686nm,1.3s
KWP **Kalwaria Pacla** 76.15 325 *e*P **P** 06 36 09.2 +0.9
P17A **Butcher Ranch,** 76.29 50 *e*P **P** 06 36 11.1 +1.6
comp=Z,8.1nm,0.9s
MTPU **Mount Pierson** 76.36 52 *e*P **P** 06 36 12.7 +2.5
comp=Z,27nm,1.8s
ULM **Lac du Bonnet** 76.38 34 P **P** 06 36 09.9 +0.4
comp=Z,2.1nm,0.5s,baz=313,slow=5.0,SNR=9.4
ULM **Lac du Bonnet** 76.38 34 *e*P **P** 06 36 10.3 +0.7
comp=Z,8.4nm,1.0s
ULM **Lac du Bonnet** 76.38 34 *e*P **P** 06 36 10.3 +0.7
ULM pmax pmax
comp=Z,8.0nm,1.0s
TLCR 76.39 318 ||*i*P **P** 06 36 07.6 -2.1
BUR08 **Bucovina Ar. S** 76.44 322 *e*P **P** 06 36 10.7 +0.6
BUR04 **Bucovina Ar. S** 76.45 322 *e*P **P** 06 36 10.2 0.0
BURAR **Bucovina Array** 76.45 322 ||*i*P **P** 06 36 10.7 +0.5
BURAR **Bucovina Array** 76.45 322 P **P** 06 36 10.7 +0.5
P18A **Preston Nutter** 76.48 49 *e*P **P** 06 36 13.6 +2.9
comp=Z,5.6nm,0.8s
TESR **Tescani** 76.55 320 ||*i*P **P** 06 36 10.8 +0.2
K22A **Casper** 76.56 45 P **P** 06 36 13.1 +2.1
baz=313
SRU **San Rafael Swe** 76.65 50 *e*P **P** 06 36 13.5 +1.9
comp=Z,9.0nm,0.9s
SRU **San Rafael Swe** 76.65 50 *e*P **P** 06 36 13.5 +1.9
SRU pmax pmax
comp=Z,9.0nm,0.9s
RSSD **Black Hills** 76.88 43 *e*P **P** 06 36 14.8 +2.0
comp=Z,8.1nm,1.0s
RSSD **Black Hills** 76.88 43 *e*P **P** 06 36 14.8 +2.0
RSSD pmax pmax
comp=Z,8.0nm,1.0s
STHS **Stebnicka Huta** 76.95 325 *e*P **P** 06 36 14.0 +1.1
STHS pmax pmax
comp=Z,9.0nm,0.8s
STHS **Stebnicka Huta** 76.95 325 *e*P **P** 06 36 14.0 +1.1
VRI **Vrincioaia** 76.96 320 ||*i*P **P** 06 36 13.1 +0.1
VRI **Vrincioaia** 76.96 320 P **P** 06 36 13.0 +0.1
OJC **Ojcow** 76.97 326 *e*P **P** 06 36 13.8 +0.9
OJC **Ojcow** 76.97 326 *e*P **P** 06 36 13.7 +0.7
comp=Z,32nm,1.0s
OJC **Ojcow** 76.97 326 *e*P **P** 06 36 13.8 +0.9
PLOR **Plostina** 77.01 320 ||*i*P **P** 06 36 14.2 +0.9
PLOR **Plostina** 77.01 320 P **P** 06 36 14.2 +0.9
UZH **Uzhgorod** 77.06 324 *e*P **P** 06 36 13.9 +0.5
UZH *e* 06 36 20.7
TIRR **Tirgusor** 77.10 318 ||*i*P **P** 06 36 14.7 +1.0
HARR **Harsova** 77.19 318 ||*i*P **P** 06 36 14.7 +0.5
TLB **Topalu** 77.20 318 ||*i*P **P** 06 36 15.0 +0.7
CRVS **Cervenica-Dubn** 77.24 325 *e*P **P** 06 36 15.1 +0.6
CRVS **Cervenica-Dubn** 77.24 325 *e*P **P** 06 36 15.1 +0.6
ARCR **ARCALIA** 77.24 322 ||*i*P **P** 06 36 14.5 0.0
TRPA **Tarpa** 77.32 324 ||*e*P **P** 06 36 15.8 +0.9
U15A **North Rim** 77.35 53 *e*P **P** 06 36 17.9 +2.3
U15A *e*pP **sP** 06 36 31.9 -0.6
C31A **Landman Farms,** 77.36 37 P **P** 06 36 16.8 +1.6
baz=317
NIE **Niedzica** 77.36 326 *e*P **P** 06 36 16.2 +1.0
NIE **Niedzica** 77.36 326 *e*P **P** 06 36 16.2 +1.0
B32A **Ashes, Strandq** 77.46 36 P **P** 06 36 16.4 +0.8
baz=318
BR101 **Keskin Array S** 77.49 312 *e*P **P** 06 36 16.4 +0.2
BR131 **Keskin Array S** 77.49 312 *e*P **P** 06 36 16.5 +0.2
BRTR **Keskin Array B** 77.49 312 P **P** 06 36 16.4 +0.2
comp=Z,12nm,1.1s,baz=57,slow=4.6,SNR=20
DOPR **Dopca** 77.55 321 ||*i*P **P** 06 36 17.5 +1.2
A33A **Warroad** 77.56 35 P **P** 06 36 17.0 +0.7
baz=318
ISR **Istrita** 77.58 319 ||*i*P **P** 06 36 16.7 +0.2
MLR **Muntele Rosu** 77.61 320 ||*i*P **P** 06 36 18.4 +1.6
MLR **Muntele Rosu** 77.61 320 *e*P **P** 06 36 17.7 +0.9
comp=Z,20nm,1.1s
MLR **Muntele Rosu** 77.61 320 *e*P **P** 06 36 17.7 +0.9
MLR pmax pmax
comp=Z,20nm,1.1s
CJR **Cluj-Napoca** 77.87 322 ||*i*P **P** 06 36 19.4 +1.3
CJR **Cluj-Napoca** 77.87 322 P **P** 06 36 19.3 +1.2
ANTO **Ankara** 77.88 312 *e*P **P** 06 36 19.0 +0.7
comp=Z,43nm,1.0s
ANTO **Ankara** 77.88 312 *e*P **P** 06 36 19.0 +0.7
ANTO pmax pmax
comp=Z,43nm,1.0s
BR231 **Keskin MP Arra** 77.91 312 *e*P **P** 06 36 17.1 -1.4
LANS **Liptovska Anna** 77.92 326 *e*P **P** 06 36 19.7 +1.4
LANS **Liptovska Anna** 77.92 326 *e*P **P** 06 36 19.7 +1.4
KSP **Ksiaz** 77.94 329 *e*P **P** 06 36 19.2 +0.8
KSP **Ksiaz** 77.94 329 *e*P **P** 06 36 19.2 +0.8
OKC **Ostrava-Krasne** 77.96 327 *e*P **P** 06 36 19.6 +1.2
OKC *e*pP **pP** 06 36 33.6 +2.9
OKC AMS AMS 07 13 30.0
comp=Z,700nm,19.0s
OKC **Ostrava-Krasne** 77.96 327 *e*P **P** 06 36 19.6 +1.2
OKC *e* 06 36 33.6
OKC MLR MLR
comp=Z,700nm,19.0s
KECS **Kecovo** 77.98 325 *e*P **P** 06 36 19.4 +0.8
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS **Kecovo** 77.98 325 *e*P **P** 06 36 19.4 +0.8
PV10 **Paradox Valley** 78.01 50 *e*P **P** 06 36 21.8 +2.5
N23A **Red Feather La** 78.07 46 *e*pP pP 06 36 36.9 +5.1
VOIR 78.09 320 ||*i*P **P** 06 36 20.0 +0.6
DRGR 78.22 323 ||*i*P **P** 06 36 19.9 -0.2
B34A **Aery, Baudette** 78.23 35 P **P** 06 36 20.2 +0.3
baz=319
MORC **Moravsky Berou** 78.26 327 ||*i*P **P** 06 36 21.0 +0.8
MORC **Moravsky Berou** 78.26 327 *e*P **P** 06 36 20.9 +0.8
comp=Z,63nm,1.0s
MORC **Moravsky Berou** 78.26 327 *e*P **P** 06 36 20.9 +0.8
MORC pmax pmax
comp=Z,63nm,1.0s
DPC **Dobruska-Polom** 78.32 328 *e*P **P** 06 36 21.6 +1.1
DPC *e*PCP **PcP** 06 36 29.0 -0.7
DPC *e*pP **pP** 06 36 34.0 +1.3
DPC AMS AMS 07 07 00.0
comp=Z,800nm,16.6s
DPC **Dobruska-Polom** 78.32 328 *e*P **P** 06 36 21.6 +1.1
DPC *e* 06 36 29.0
DPC *e* 06 36 34.0
DPC MLR MLR
comp=Z,800nm,16.6s
UPC **Upice** 78.32 328 *e*P **P** 06 36 21.9 +1.5
UPC AMS AMS 07 11 40.0
comp=Z,800nm,17.6s
UPC **Upice** 78.32 328 *e*P **P** 06 36 21.9 +1.5
UPC MLR MLR
comp=Z,800nm,17.6s
ARR **Arges** 78.35 321 ||*i*P **P** 06 36 22.4 +1.6
WUAZ **Wupatki** 78.51 53 *e*PcP **PcP** 06 36 31.6 +0.7
WUAZ *e*pP **sP** 06 36 38.5 -0.3
PSZ **Piszkesteto** 78.67 325 ||*i*P **P** 06 36 23.6 +1.1
PSZ **Piszkesteto** 78.67 325 ||*e*P **P** 06 36 23.3 +0.8
PSZ **Piszkesteto** 78.67 325 *e*P **P** 06 36 23.4 +0.9
comp=Z,35nm,1.3s
PSZ **Piszkesteto** 78.67 325 *e*P **P** 06 36 23.4 +0.9
PSZ pmax pmax
comp=Z,35nm,1.3s
VYHS **Vyhne** 78.69 326 *e*P **P** 06 36 23.3 +0.8
VYHS pmax pmax
comp=Z,13nm,1.5s
VYHS **Vyhne** 78.69 326 *e*P **P** 06 36 23.3 +0.8
D33A **AnnSam, Waubun** 78.70 36 P **P** 06 36 23.3 +0.7
baz=318
B35A **Bob, Littlefor** 78.73 34 P **P** 06 36 23.5 +0.8
baz=320
BRG **Berggiesshubel** 78.84 330 *e*P **P** 06 36 23.3 0.0
comp=Z,27nm,1.6s
BRG *i* 06 36 37.0
comp=Z,21nm,1.4s
BRG **Berggiesshubel** 78.84 330 *e*P **P** 06 36 23.3 0.0
BRG *i* 06 36 37.0
BRG pmax pmax
comp=Z,27nm,1.6s
BRG MLR MLR
comp=N,2μm,21.9s
BRG MLR MLR
comp=E,1μm,19.2s
BRG MLR MLR
comp=Z,1μm,18.9s
CLL **Collm** 78.86 330 *e*P **P** 06 36 23.0 -0.4
comp=Z,29nm,1.6s
CLL *e*(pP) **pP** 06 36 35.0 -0.6
CLL **Collm** 78.86 330 *e*P **P** 06 36 23.0 -0.4
CLL *e* 06 36 35.0
CLL pmax pmax
comp=Z,29nm,1.6s
E33A **Westby DABS, E** 79.11 37 P **P** 06 36 26.1 +1.2
baz=318
MVCO **Mesa Verde** 79.11 50 *e*pP pP 06 36 40.9 +3.3
X16A **Lo Mia Camp, P** 79.19 54 *e*PcP **PcP** 06 36 37.0 +3.0
GOPC **GO Pecny, Ondr** 79.27 329 *e*P **P** 06 36 26.6 +0.9
GOPC *e*pP **pP** 06 36 40.4 +2.4
GOPC AMS AMS 07 09 10.0
comp=Z,800nm,22.3s
GOPC **GO Pecny, Ondr** 79.27 329 *e*P **P** 06 36 26.6 +0.9
GOPC *e* 06 36 40.4
GOPC MLR MLR
comp=Z,800nm,22.3s
PRU **Pruhonice** 79.31 329 *e*P **P** 06 36 26.4 +0.5
PRU *e*PCP **PcP** 06 36 33.0 -1.0
PRU *e*pP **pP** 06 36 39.3 +1.2
PRU AMS AMS 07 13 40.0
comp=Z,800nm,19.0s
PRU **Pruhonice** 79.31 329 *e*P **P** 06 36 26.4 +0.5
PRU *e* 06 36 33.0
PRU *e* 06 36 39.3
PRU MLR MLR
comp=Z,800nm,19.0s
F33A **5 Mile Ranch,** 79.47 38 P **P** 06 36 28.0 +1.2
baz=318
BZS **Buzias** 79.61 322 ||*i*P **P** 06 36 27.8 +0.2
G33A **Ortonville** 79.88 38 P **P** 06 36 30.0 +1.0
baz=318
H33A **Prehn Over Nor** 80.12 39 P **P** 06 36 31.9 +1.5
baz=318
G34A **Benson** 80.22 38 P **P** 06 36 32.7 +1.8
baz=319
SOP **Sopron** 80.29 326 P **P** 06 36 33.5 +2.3
RAYN **Ar Rayn** 80.35 293 *e*P **P** 06 36 31.8 -0.3
comp=Z,16nm,1.0s
KHC **Kasperske Hory** 80.38 329 *e*P **P** 06 36 32.5 +0.8
KHC *e*pP **pP** 06 36 46.6 +2.6
KHC *ex* x 06 36 58.0
KHC AMS AMS 07 07 30.0
comp=Z,900nm,21.1s
KHC **Kasperske Hory** 80.38 329 *e*P **P** 06 36 32.3 +0.6
comp=Z,6.5nm,0.9s
KHC **Kasperske Hory** 80.38 329 *e*P **P** 06 36 32.5 +0.8
KHC *e* 06 36 46.6
KHC MLR MLR
comp=Z,900nm,21.1s
CONA **Conrad Observa** 80.39 327 *i* P **P** 06 36 33.1 +1.2
comp=Z,10nm,1.2s,SNR=8.5
EKA **Eskdalemuir Ar** 80.50 341 P **P** 06 36 32.7 +0.5
comp=Z,2.5nm,0.4s,baz=27,slow=4.8,SNR=20
ASF **Jabal al Asfar** 80.55 304 P **P** 06 36 33.6 +0.5
comp=Z,2.9nm,0.8s,baz=90,slow=2.0,SNR=3.4
GEC2 **GERESS Array S** 80.55 329 *e*P **P** 06 36 32.9 +0.1
comp=Z,24nm,1.5s
GEC2 **GERESS Array S** 80.55 329 *e*P **P** 06 36 32.9 +0.1
GEC2 pmax pmax
comp=Z,24nm,1.5s
GERES **GERESS Array B** 80.55 329 P **P** 06 36 33.0 +0.3
comp=Z,1.4nm,0.4s,baz=34,slow=5.3,SNR=17
GEA0 **GERESS Array S** 80.56 329 *e*P **P** 06 36 32.9 +0.1
WET **Wettzell** 80.64 329 P **P** 06 36 34.4 +1.3
GRFO **Grafenberg** 80.84 330 *e*P **P** 06 36 35.5 +1.4
GRFO *e*pP **pP** 06 36 48.5 +2.2
GRFO **Grafenberg** 80.84 330 *e*P **P** 06 36 35.5 +1.4
GRFO *e**PP **pP** 06 36 48.6 +2.2
ECSD **EROS Data Cent** 80.88 39 *e*P **P** 06 36 35.3 +0.8
comp=Z,11nm,1.0s
MMAI **Mount Meron Ar** 80.93 306 P **P** 06 36 35.8 +0.8
comp=Z,1.2nm,0.3s,baz=47,slow=6.3,SNR=7.2
H35A **Sunnyside Ranc** 81.00 37 P **P** 06 36 36.4 +1.3
baz=319
ARSA **Arzberg** 81.07 327 *i* P **P** 06 36 36.7 +1.2
comp=Z,4.6nm,0.6s
VTS **Vitosha** 81.08 319 ||*i*P **P** 06 36 36.6 +0.9
VTS **Vitosha** 81.08 319 *e*P **P** 06 36 36.4 +0.7
comp=Z,20nm,1.0s
VTS **Vitosha** 81.08 319 *e*P **P** 06 36 36.4 +0.7
VTS pmax pmax
comp=Z,20nm,1.0s
MOA **Molln** 81.12 328 *e*P **P** 06 36 37.4 +1.7
comp=Z,9.4nm,1.2s
RAR **Rarotonga** 81.25 127 LR LR 07 04 44.9
comp=Z,253nm,20.6s,baz=285,slow=30
DIVS **Divibare** 81.51 322 *e*P **P** 06 36 38.5 +0.5
comp=Z,22nm,1.4s
GROS **Grobnik** 81.70 326 *i* P **P** 06 36 38.9 +0.1
SOKA **Soboth** 81.73 327 *e*P **P** 06 36 39.6 +0.6
comp=Z,40nm,1.3s,SNR=15
OBKA **Obir** 82.06 327 *e*P **P** 06 36 41.3 +0.5
comp=Z,7.4nm,0.7s
SCHQ **Schefferville** 82.07 17 P **P** 06 36 41.2 +0.6
comp=Z,3.8nm,0.7s,baz=7.5,slow=6.5,SNR=8.5
SCHQ **Schefferville** 82.07 17 *e*P **P** 06 36 40.9 +0.3
comp=Z,13nm,0.9s
KBA **Koelnbreinsper** 82.11 328 *e*P **P** 06 36 42.2 +1.1
comp=Z,17nm,1.1s
LEGS **Legarje** 82.18 326 *i* P **P** 06 36 41.2 -0.1
MYKA **Terra Mystica** 82.35 327 *e*P **P** 06 36 42.2 -0.1
comp=Z,4.1nm,0.6s,SNR=5.7
WATA **Walderalm** 82.61 329 *e*PcP **P** 06 36 45.0 +1.2
comp=Z,3.7nm,0.4s
CADS **Cadrg** 82.63 327 *e*P **P** 06 36 42.7 -1.0
WTTA **Wattenberg** 82.65 329 *e*P **P** 06 36 44.6 +0.6
comp=Z,5.0nm,0.6s
JAVS **Javornik** 82.76 327 *i* P **P** 06 36 43.7 -0.8
GIVF **Givet** 82.77 334 *e*P **P** 06 36 44.2 -0.1
GIVF pmax pmax
comp=Z,98nm,1.9s
MOTA **Moosalm** 82.79 329 *e*P **P** 06 36 45.5 +0.8
comp=Z,7.0nm,0.6s
RETA **Reutte** 82.81 329 *e*P **P** 06 36 45.4 +0.7
comp=Z,20nm,1.2s,SNR=5.7
BFO **Black Forest** 83.04 331 *e*P **P** 06 36 46.2 +0.5
comp=Z,35nm,1.4s
BFO **Black Forest** 83.04 331 *i* P **P** 06 36 47.6 +1.8
PDG **Podgorica** 83.13 321 ||*i*P **P** 06 36 46.5 +0.2
TTG **Podgorica** 83.13 321 *e*P **P** 06 36 46.8 +0.5
comp=Z,40nm,1.1s
TTG **Podgorica** 83.13 321 *e*P **P** 06 36 46.8 +0.5
TTG pmax pmax
comp=Z,41nm,1.1s
FETA **Feichten** 83.21 329 *e*P **P** 06 36 47.5 +0.7
comp=Z,14nm,1.2s
DAVA **Damuels** 83.32 330 *e*P **P** 06 36 47.8 +0.4
comp=Z,17nm,1.0s
FNA **Florina** 83.34 319 P **P** 06 36 47.5 0.0
CDF **Champ du Feu** 83.35 332 *e*P **P** 06 36 48.3 +0.8
CDF pmax pmax
comp=Z,7.0nm,0.9s
FUORN **Ofenpass-Fuorn** 83.72 329 *e*P **P** 06 36 49.9 +0.3
comp=Z,88nm,1.4s
APE **Apeiranthos** 83.90 314 ||*i*P **P** 06 36 50.0 -0.4
KARP **Karpathos** 84.09 312 *e*P **P** 06 36 51.3 0.0
comp=Z,18nm,1.3s
AGG **Agios Georgios** 84.17 317 *e*P **P** 06 36 51.4 -0.3
comp=Z,40nm,1.1s
AGG **Agios Georgios** 84.17 317 *e*P **P** 06 36 51.4 -0.3
AGG pmax pmax
comp=Z,40nm,1.1s
TUE **Stuetta** 84.20 330 *e*P **P** 06 36 52.4 +0.4
comp=Z,40nm,1.4s
PMOR **Pomariorio Ree** 84.58 115 *e*T T 08 10 31.6
comp=Z,24nm,0.2s
MNTX **Cornudas Mount** 84.76 53 *e*P **P** 06 36 56.6 +1.8
comp=Z,23nm,1.8s
SENIN **Lac Senin/Sane** 85.07 331 *e*P **P** 06 36 56.4 +0.1
comp=Z,13nm,1.0s
PPT **Papeete** 85.20 118 LR LR 07 07 25.8
comp=Z,375nm,21.9s,baz=300,slow=30
PPT2 **Papeete2** 85.22 118 *e*S **S** 06 47 23.0 -1.5
comp=Z,81nm,25.5s
PPT2 **Papeete2** 85.22 118 *e*LR LR 07 03 44.0
comp=Z,695nm,22.2s,baz=315
PPT2 **Papeete2** 85.22 118 *e*T T 08 11 16.2
comp=Z,8.0nm,0.3s
PAE **Paea** 85.27 118 *e*T T 08 11 19.1
comp=Z,1.4nm,0.3s
R36A **Gordon, Harris** 85.50 42 P **P** 06 36 59.6 +1.2
baz=320
IDI **Anoyia** 85.55 313 P **P** 06 36 58.3 -0.5
comp=Z,15nm,0.8s,baz=17,slow=6.0,SNR=8.6
MATE **Matera** 85.72 322 ||*i*P **P** 06 37 00.0 +0.6
LPL **La Plagne** 86.00 331 *e*P **P** 06 37 01.4 +0.4
LPL pmax pmax
comp=Z,10.0nm,0.8s
LPG **La Plagne** 86.00 331 *e*P **P** 06 37 01.5 +0.4
LPG pmax pmax
comp=Z,19nm,1.0s
TAOE **Nuku Hiva Isla** 86.03 105 *e*LR LR 07 04 12.1
comp=Z,816nm,23.8s,baz=312
GRR **Gorron** 86.09 337 *e*P **P** 06 37 01.8 +0.7
GRR pmax pmax
comp=Z,39nm,1.4s
Q39A **Willow Grove F** 86.22 40 P **P** 06 37 03.3 +1.3
baz=321
R39A **Chumby, Stover** 86.75 41 P **P** 06 37 05.4 +0.8
baz=321
S39A **Bolivar** 87.09 41 P **P** 06 37 06.8 +0.6
baz=321
T38A **Diamond** 87.10 42 P **P** 06 37 07.4 +1.1
baz=320
R40A **Maddies Statio** 87.15 40 P **P** 06 37 07.1 +0.6
baz=321
LTX **Lajitas** 87.47 53 *e*P **P** 06 37 09.5 +1.2
LTX **Lajitas** 87.47 53 *e*P **P** 06 37 09.5 +1.2
TX31 **Lajitas Ar. Si** 87.47 53 *e*P **P** 06 37 09.3 +0.9
TX31 *e*P **P** 06 37 10.7 +2.3
TXAR **Lajitas Array** 87.47 53 P **P** 06 37 09.5 +1.2
comp=Z,0.6nm,0.5s,baz=297,slow=3.8,SNR=8.4
R41A **Rosebud** 87.58 40 P **P** 06 37 09.4 +0.8
baz=322
CCM **Cathedral Cave** 87.84 40 P **P** 06 37 10.7 +0.8
baz=322
CCM **Cathedral Cave** 87.84 40 *e*P **P** 06 37 10.6 +0.8
comp=Z,12nm,0.9s
CCM **Cathedral Cave** 87.84 40 *e*P **P** 06 37 10.6 +0.8
CCM pmax pmax
comp=Z,12nm,0.9s
S41A **Jillco Farms,** 87.96 40 P **P** 06 37 11.4 +1.0
baz=322
U39A **Green Forest** 88.02 42 P **P** 06 37 11.7 +0.9
baz=321
CAF **Calviac** 88.19 333 *e*P **P** 06 37 12.4 +1.0
CAF pmax pmax
comp=Z,105nm,2.1s
S42A **Caledonia** 88.28 40 P **P** 06 37 12.7 +0.7
baz=322
U40A **Yellville** 88.36 42 P **P** 06 37 13.2 +0.8
baz=321
PBMO **Poplar Bluff** 89.24 40 *e*P **P** 06 37 18.2 +1.7
comp=Z,35nm,1.5s
TBI **Tubuai** 89.33 122 *e*LR LR 07 05 34.4
comp=Z,376nm,26.2s,baz=316
TBI **Tubuai** 89.33 122 *e*T T 08 16 18.4
comp=Z,26nm,0.3s
MIAR **Mount Ida** 89.38 43 *e*P **P** 06 37 18.5 +1.3
comp=Z,14nm,1.0s
MIAR **Mount Ida** 89.38 43 *e*P **P** 06 37 18.5 +1.3
MIAR pmax pmax
comp=Z,14nm,1.0s
Q47A **Bedord North L** 89.40 36 P **P** 06 37 18.4 +1.3
baz=325
WHAR **Wooly Hollow** 89.48 42 *e*P **P** 06 37 19.6 +2.0
comp=Z,16nm,0.9s
TKL **Tuckaleechee C** 93.30 36 P **P** 06 37 35.8 +0.4
comp=Z,3.1nm,0.8s,baz=43,slow=1.6,SNR=3.8
TKL **Tuckaleechee C** 93.30 36 *e*P **P** 06 37 36.7 +1.4
comp=Z,61nm,1.9s
TKL **Tuckaleechee C** 93.30 36 *e*P **P** 06 37 36.7 +1.4
TKL pmax pmax
comp=Z,61nm,1.9s
ES19 **SONSECA Array** 94.85 335 *e*P **P** 06 37 42.6 +0.1
ESDC **Sonseca Array** 94.89 335 P **P** 06 37 42.4 -0.2
comp=Z,0.6nm,0.5s,baz=16,slow=4.4,SNR=5.0
ESDC LR LR 07 25 49.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,262nm,18.1s,baz=55,slow=39						
CMLA	Cha da Macela	101.69	350	*i* P	Pdif	06 38 13.6	+0.4
TOA1	Torodi Ar. Sit	115.75	317	*e*PKPdf	PKPdf	06 43 02.7	-0.5
TOA1				*e*PP	PP	06 43 58.4	-7.3
TORD	Torodi Ar. Bea	115.75	317	PKP	PKPdf	06 43 02.7	-0.5
	comp=Z,0.5nm,0.5s,baz=20,slow=1.6,SNR=10						
TORD				PP	PP	06 43 58.4	-7.3
	comp=Z,5.2nm,1.0s,baz=24,slow=7.1,SNR=11						
KOWA	Kowa	117.40	323	PKP	PKPdf	06 43 05.9	-0.5
	comp=Z,1.8nm,0.7s,baz=161,slow=0.6,SNR=4.3						
KOWA				PP	PP	06 44 16.7	-0.3
	comp=Z,2.8nm,0.7s,baz=28,slow=11,SNR=5.8						
SDV	Santo Domingo	122.32	40	PKP	PKPdf	06 43 16.4	+0.3
	comp=Z,4.1nm,0.9s,baz=306,slow=4.7,SNR=3.5						
SDV	Santo Domingo	122.32	40	*e*PKPdf	PKPdf	06 43 16.7	+0.6
PCRV	Puerto La Cruz	123.91	33	PKP	PKPdf	06 43 18.4	-0.6
	comp=Z,21nm,1.1s,baz=327,slow=2.2,SNR=3.6						
DBIC	Dimbokro	124.60	320	PKP	PKPdf	06 43 20.2	0.0
	comp=Z,5.9nm,1.1s,baz=346,slow=0.5,SNR=4.2						
SYO	Syowa Base	131.42	208⇑	*e*PKiKP	PKiKP	06 43 35.0	+2.6
SYO	Syowa Base	131.42	208⇑	*e*pPKPdf	pPKPdf	06 43 45.4	+1.1
SNAA	Sanae	144.01	198	PKP	PKPbc	06 43 52.6	-0.1
SNAA	Sanae	144.01	198	PKP	PKPab	06 43 52.5	+0.3
	comp=Z,5.4nm,0.7s,baz=190,slow=4.4,SNR=40						
LPAZ	La Paz	144.24	57	PKP	PKPbc	06 43 56.4	+0.7
	comp=Z,1.1nm,0.6s,baz=279,slow=3.7,SNR=3.7						
LPAZ	La Paz	144.24	57	*e*PKPdf	PKPdf	06 43 58.0	+0.6
MNMC	Minye Minye	145.31	62	*e*PKPdf	PKPdf	06 44 00.1	+1.3
VNA2	Neumayer--Watz	145.58	197	PKP	PKPbc	06 43 57.7	+0.1
	baz=124,slow=2.1						
PB11	IPOC Station P	145.70	63	*e*PKPdf	PKPab	06 44 00.8	+0.8
RCBR	Riachuelo	145.79	357	*e*PKPdf	PKPab	06 44 00.3	0.0
VNA3	Neumayer Olymp	145.83	196	PKP	PKPdf	06 43 58.2	+0.5

*NIED **05** 06:26:00, 40°.20N×142°.50E, h53km, Mw4.2 Best double couple: $M_0$2.48000×10^{15} NP1:ϕ_s162.00000°,δ26.00000°, λ52.00000°. NP2:ϕ_s24.00000°,δ70.00000°,λ107.00000°.*

JMA 05 06:26:38.0±0.1**, 40°.15N×142°.46E, h32**km±1km**, M4.0, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.50	245	P	Pb	06 26 48.5	-0.1
JTH				S	Sn	06 26 56.3	-0.2
MIYJ	Miyakonagasawa	0.76	221	P	Pn	06 26 51.9	-0.5
MIYJ				S	Sb	06 27 01.5	-1.2
JANG	Nango	0.76	287	P	Pn	06 26 51.9	-0.6
JANG				S	Sb	06 27 01.8	-1.0
JKZ	Kuzumaki	0.88	260	P	Pn	06 26 54.2	0.0
JKZ				S	Sn	06 27 05.7	-0.3
JOM	Ohasama	1.12	233	P	Pn	06 26 58.1	+0.6
JOM				S	Sb	06 27 12.7	-0.5
OFUJ	Ofunato	1.23	210	P	Pn	06 26 59.5	+0.5
OFUJ				S	Sn	06 27 15.0	+0.5
JTM	Tenmabayashi	1.24	301	P	Pn	06 26 59.6	+0.5
JAH	Hinai	1.40	272	P	Pn	06 27 02.2	+0.9
JAH				S	Sb	06 27 20.1	-0.9
JMK	Ichinoseki	1.53	219	P	Pn	06 27 04.0	+0.9
JMK				S	Sb	06 27 23.8	-1.0

IDC 05 06:29:43.3±2.8**, 19°.21S×71°.92W, h0**km**, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.5**/38**, mbtmp3.5**/3**, ML3.8**/1**, MS2.3**/1**, Ms1 2.4**/1**, ms1mx2.3**/20**, Error ellipse: s-maj=92.2km s-min=41.8km az=160.0, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.63	52	Pn	Pn	06 30 54.3	-0.8
	2.9nm,0.3s,baz=252,slow=12,SNR=43						
LPAZ				Sn	Sn	06 31 52.7	+2.8
	baz=48,slow=12,SNR=1.0						
LPAZ				LR	LR	06 32 52.5	
	comp=Z,34nm,20.1s,baz=154,slow=41						
TORD	Torodi Ar. Bea	79.29	72	P	P	06 41 51.4	+0.1
	0.2nm,0.7s,baz=263,slow=5.6,SNR=2.1						
YKA	Yellowknife Ar	88.11	342	P	P	06 42 35.4	0.0
	0.2nm,0.6s,baz=135,slow=4.9,SNR=5.2						

IDC 05 06:40:38.5±2.7**, 54°.31N×86°.02E, h0**km**, mb1 3.2**/1**, mb1mx2.8**/70**, mbtmp3.2**/1**, ML3.3**/1**, Error ellipse: s-maj=19.8km s-min=10.8km az=52.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.80	243	*i*		06 45 17.0	
	baz=63,slow=333,SNR=8.6						
ZALV	Zalesovo Beam	0.80	243	Pg	Pg	06 40 52.0	-1.7
	1.3nm,0.3s,baz=58,slow=18,SNR=12						
ZALV				Lg	Lg	06 41 06.2	
	3.6nm,0.3s,baz=64,slow=30,SNR=25						
MKAR	Makanchi Array	7.89	199	Pn	Pn	06 42 36.0	+1.6
	0.4nm,0.3s,baz=23,slow=13,SNR=22						
MKAR				Lg	Lg	06 44 46.0	
	0.0nm,0.3s,baz=29,slow=30,SNR=5.0						

*IDC **05** 06:43:36.2±1.1, 22°.36S×170°.37E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/40, mbtmp4.0/8, ML3.9/1, MS4.1/7, Ms1 4.1/7, ms1mx3.6/39, Error ellipse: s-maj=30.7km s-min=26.4km az=9.0*

*ISCJB **05** 06:43:40.6±1.0, 22°.5S±0°.2×170°.3E±0°.1, h33km, mb4.0/7, MS4.2/4, Error ellipse: s-maj=27.1km s-min=10.6km az=21.3*

ISC 05 06:43:41.2±0.9**, 22°.4S**±0°.2×**170°.35E**±0°.10**, h33**km**, n27, σ1**§**28**/22**, mb4.1**/7**, MS4.2**/4**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.63	274	Pn	Pn	06 44 34.5	-0.7
	11nm,0.3s,baz=107,slow=22,SNR=11						
DZM				Sn	Sn	06 45 17.9	+0.9
	14nm,0.3s,baz=29,slow=23,SNR=7.8						
DZM				LR	LR	06 45 45.0	
	comp=Z,856nm,20.8s,baz=56,slow=35						
DZM	Mont Dzumac	3.63	274	*e*Pn	Pn	06 44 35.0	-0.2
	50nm,0.2s						
DZM				*e*Sn	Sn	06 45 17.2	+0.2
	53nm,0.2s						
DZM				*e*LR	LR	06 45 27.8	
	4μm,24.7s						
RAO	Raoul Island	12.59	125	LR	LR	06 50 25.7	
	comp=Z,964nm,21.2s,baz=158,slow=32						
URZ	Urewera	16.88	161	LR	LR	06 52 30.3	
	comp=Z,274nm,18.4s,baz=348,slow=32						
RPZ	Rata Peaks	21.31	179	P	P	06 48 25.8	+0.7
	10nm,0.9s,baz=350,slow=17,SNR=2.3						
RPZ				LR	LR	06 55 37.8	
	comp=Z,254nm,18.1s,baz=345,slow=34						
PMG	Port Moresby	25.71	296	LR	LR	06 57 34.9	
	comp=Z,498nm,20.7s,baz=106,slow=33						
STKA	Stephens Creek	27.23	243	P	P	06 49 20.7	-1.5
	0.9nm,0.8s,baz=102,slow=9.3,SNR=1.5						
ASAR	Alice Springs	33.52	261	P	P	06 50 17.8	-0.2
	1.2nm,0.7s,baz=87,slow=9.1,SNR=10						
WRA	Warramunga Arr	33.63	267	P	P	06 50 18.6	-0.3
	4.6nm,1.2s,baz=100,slow=8.2,SNR=6.8						
WRA				LR	LR	07 04 31.6	
	comp=Z,650nm,19.1s,baz=100,slow=37						
TBI	Tubuai	36.96	100	*e*LR	LR	07 00 42.3	
	385nm,28.0s						
PPT2	Papeete2	37.88	90	*e*LQ	LQ	06 59 31.0	
	292nm,27.0s						
PPT2				*e*LR	LR	07 01 10.5	
	372nm,25.5s						
TAOE	Nuku Hiva Isla	49.31	82	*e*LR	LR	07 06 20.8	
	816nm,23.8s						
RPN	Rapa Nui	71.92	112	LR	LR	07 20 39.8	
	comp=Z,360nm,20.0s,baz=212,slow=31						
CMAR	Chiang Mai Arr	80.73	294	P	P	06 55 53.6	+2.0
	1.0nm,0.4s,baz=123,slow=3.3,SNR=4.0						
SNAA	Sanae	86.10	182	P	P	06 56 18.7	+0.2
SNAA	Sanae	86.10	182	P	P	06 56 18.3	-0.1
	1.9nm,0.7s,baz=180,slow=5.1,SNR=6.3						
VNA3	Neumayer Olymp	86.65	180	P	P	06 56 21.4	+0.3
VNA2	Neumayer--Watz	86.96	181	P	P	06 56 23.2	+0.6
	slow=3.3						
SONM	Songino Array	90.32	323	P	P	06 56 39.2	+0.3
	0.3nm,0.4s,baz=104,slow=3.0,SNR=4.4						
DPC	Dobruska-Polom	145.44	330	*e*P	PKPdf	07 03 15.7	0.0
UPC	Upice	145.47	331	*e*P	PKPdf	07 03 15.5	-0.2
VRAC	Vranov	146.04	329	PKPbc	PKPdf	07 03 17.4	+0.7
	2.5nm,0.4s,baz=64,slow=3.3,SNR=4.3						
BRG	Berggiesshubel	146.11	333	*e*P	PKPdf	07 03 12.2	-4.5
	14nm,1.6s						
BRG				*e*		07 03 17.4	
	18nm,1.2s						
EKA	Eskdalemuir Ar	146.71	353	PKPbc	PKPdf	07 03 18.0	+0.4
	2.6nm,0.8s,baz=18,slow=3.1,SNR=4.4						
KHC	Kasperske Hory	147.56	331	*e*P	PKPbc	07 03 21.8	-0.2
GERES	GERESS Array B	147.71	331	PKPbc	PKPbc	07 03 21.5	-0.9
	1.2nm,0.7s,baz=52,slow=2.2,SNR=6.5						
TORD	Torodi Ar. Bea	165.84	232	PKP	PKPdf	07 03 43.3	-0.1
	0.5nm,0.9s,baz=296,slow=0.4,SNR=2.4						

MAN 05 06:49:44, 9°.82N×123°.00E, h1km**, mb4.1, ML2.9, MS2.5, 2C, Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.90	333	*e*P	Pg	06 50 01.4	+0.1
GUIM				*e*S	Sg	06 50 12.6	-0.3
DCPH	Dipolog City	1.28	164⇑	*e*P	Pb	06 50 08.9	0.0
RCP	Roxas	1.75	352⇑	*e*P	Pb	06 50 16.3	-0.6
MSLP	Maasin	1.85	80	*e*P	Pb	06 50 17.9	-0.8
MSLP				*e*S	Sb	06 50 42.3	-0.1

*IDC **05** 06:50:24.2±5.1, 5°.36S×132°.64E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.4/50, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=326.1km s-min=30.9km az=75.0*

*DJA **05** 06:50:27.2±0.5, 4°S±6°×13°4E±°, h113km±7km, M4.0/6, mB5.5/2, mb3.9/1, MLv4.0/6, Mw(mB)5.0/2*

ISC 05 06:50:21.7±0.9**, 4°.95S**±0°.06×**133°.41E**±0°.07**, h10**km**, n8, σ2**§**11**/11**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.31	13	P	Pn	06 50 46.9	+0.8
KMPI				S	Sb	06 51 01.2	-2.1
FAKI	Fak Fak	2.32	330	P	Pb	06 51 02.9	-0.8
FAKI				S	Sb	06 51 30.2	-2.3
BNDI	Bandanaira	3.52	277	P	Pg	06 51 29.2	0.0
BNDI				S	Sg	06 52 16.8	+2.0
MSAI	Masohi	4.74	289	P	Pb	06 51 42.8	-2.2
	12nm,0.6s,1μm						
MMPI	Merauke	7.76	117	P	Pn	06 52 15.4	+0.6
WRA	Warramunga Arr	14.93	177	Pn	Pn	06 53 51.3	-1.7
	0.3nm,0.3s,baz=354,slow=13,SNR=12						
WRA				Sn	Sn	06 56 29.6	-9.1
	0.2nm,0.3s,baz=355,slow=24,SNR=5.3						
ASAR	Alice Springs	18.62	179	P	P	06 54 39.3	-0.2
	0.2nm,0.3s,baz=353,slow=12,SNR=14						
MKAR	Makanchi Array	68.44	325	P	P	07 01 27.5	+3.5
	0.2nm,0.5s,baz=132,slow=4.7,SNR=2.8						

*MOS **05** 06:50:33.9±1.7, 35°.00N×44°.15E, h17km, mb4.4/25, MS4.3/20, Error ellipse: s-maj=7.6km s-min=4.5km az=98.1*

*IDC **05** 06:50:33.9±0.8, 35°.09N×44°.16E, h0km, mb3.9/21, mb1 4.0/32, mb1mx3.9/66, mbtmp3.9/32, ML3.9/7, MS4.5/38, Ms1 4.5/38, ms1mx4.3/62, Error ellipse: s-maj=17.3km s-min=10.5km az=147.0*

*ISN **05** 06:50:33.2±0.5, 35°.04N×44°.08E, h0km±4km, ML4.6*

*ISCJB **05** 06:50:35.2±0.7, 35°.06N±0°.02×44°.08E±0°.02, h21km±6km, mb4.2/52, MS4.5/32, Error ellipse: s-maj=2.9km s-min=2.6km az=19.0*

*THR **05** 06:50:36.1±0.7, 34°.87N×44°.15E, h15km, ML5.1*

*GCMT **05** 06:50:37.9±0.2, 34°.96N×44°.14E, h15km, MW5.2/117, Moment Tensor Solution. s61,c79; s117,c208; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.30±.15; $M_{\theta\theta}$3.21±.14; $M_{\phi\phi}$-2.91±.14; $M_{r\theta}$0.48±.43; $M_{\theta\phi}$6.31±.13; $M_{\phi r}$0.73±.43; Best double couple: $M_0$7.06500×10^{16} NP1:ϕ_s13.00000°,δ88.00000°,λ173.00000°. NP2: ϕ_s103.00000°,δ83.00000°,λ2.00000°. Principal axes: T 7.2460, Plg6.0000°, Azm328.0000°; N -0.3660, Plg83.0000°, Azm176.0000°; P -6.8830, Plg3.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*CSEM **05** 06:50:37.0±0.2, 35°.12N×44°.12E, h20km, mb4.4/5 Error ellipse: s-maj=5.8km s-min=4.9km az=37.0*

*TEH **05** 06:50:37.2, 35°.09N×44°.04E, h12km, ML5.3*

*NEIC **05** 06:50:37.9±1.5, 35°.04N×44°.10E, h32km±12km, mb4.6/18, ML4.6(DDA), ML4.6(ISN), Error ellipse: s-maj=6.0km s-min=4.2km az=180.0*

*GII **05** 06:50:38.6±0.0, 34°.99N×44°.07E, h15km*

*DDA **05** 06:50:51.7, 35°.01N×44°.02E, h23km, Ml5.2*

ISC 05 06:50:37.6±0.6**, 35°.00N**±0°.03×**44°.18E**±0°.03**, h30**km±4km**, n384, σ2**§**11**/409**, mb4.2**/60**, MS4.5**/33**, 23C-5D, Iraq**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHD	Baghdad	1.73	175	P	Pn	06 51 04.0	-1.7
BHD				S	Sn	06 51 26.0	-0.8
BHD	Baghdad	1.73	175	P	Pn	06 51 04.0	-1.7
BHD	Baghdad	1.73	175	*e*Pn	Pn	06 51 06.0	+0.3
	SNR=3.0						
BHD				S	Sn	06 51 26.0	-0.8
BHD				*i* Sn	Sb	06 51 29.0	-1.2
	SNR=3.0						
IDHR	Dehrash	1.84	99	*e*Sg	Sb	06 51 38.6	+5.2
IDHR				*e*Pn	Pb	06 51 09.9	-0.8
IDHR				*e*AMB	AMB	06 51 49.1	
	comp=Z,96μm,0.2s						
IGHG	Ghaleghazi	2.08	108	*e*Pn	Pb	06 51 15.2	+0.4
IGHG				*e*AMB	AMB	06 52 00.4	
	comp=Z,42μm,0.4s						
IGHG	Ghaleghazi	2.08	108	Pn	Pb	06 51 15.2	+0.4
IVIS	Veis	2.25	101	*e*Pn	Pn	06 51 15.1	+2.2
IVIS				*e*AMB	AMB	06 51 58.7	
	comp=Z,26μm,0.6s						
IVIS	Veis	2.25	101	Pn	Pn	06 51 15.1	+2.2
IVIS	Veis	2.25	101	*e*Pn	Pn	06 51 15.1	+2.2
ILIN	Lien	2.29	91	*e*Pn	Pb	06 51 16.4	-1.9
ILIN				*e*AMB	AMB	06 52 00.3	
	comp=Z,2μm,0.4s						
ILIN	Lien	2.29	91	Pn	Pb	06 51 16.4	-1.9
ILIN	Lien	2.29	91	*e*Pn	Pb	06 51 16.4	-1.9
HAKT	HAKKARI	2.58	352⇓	*i*P	Pn	06 51 15.6	-2.0
HAKT				*i* S	Sn	06 51 43.1	-5.0
HAKT	HAKKARI	2.58	352	P	Pn	06 51 15.6	-2.0
HAKT				S	Sn	06 51 43.1	-5.0
YOVA	Hakkari_Yˆ…kse	2.58	2⇑	*i*P	Pn	06 51 16.3	-1.3
YOVA				*i* S	Sn	06 51 49.2	+1.1
YOVA	Hakkari_Yˆ…kse	2.58	2	P	Pn	06 51 16.3	-1.3
YOVA				S	Sn	06 51 49.2	+1.1
SNGE	Sanandaj	2.60	87	*e*Pn	Pn	06 51 20.4	+2.6
SNGE	Sanandaj	2.60	87	*e*Pn	Pn	06 51 20.4	+2.6
SNGE	Sanandaj	2.60	87	*e*Pn	Pn	06 51 20.4	+2.6
SNGE				AML	AML	06 52 16.0	
	comp=N,9μm,0.6s						
SNGE				AML	AML	06 52 17.9	
	comp=E,8μm,0.6s						
SIRT	Sirnak	2.87	331	P	Pn	06 51 18.9	-2.5
IKOM	Komasi	2.87	106	*e*Pn	Pn	06 51 24.4	+2.9
IKOM				*e*AMB	AMB	06 52 28.9	
	comp=Z,23μm,0.3s						
IKOM	Komasi	2.87	106	*e*Pn	Pn	06 51 24.4	+2.9
BASK	Baskale_VAN	3.05	357	*i* P	Pn	06 51 20.8	-3.2
BASK				*i* S	Sn	06 51 55.5	-4.1
BASK	Baskale_VAN	3.05	357	P	Pn	06 51 20.8	-3.2
BASK				S	Sn	06 51 55.5	-4.1
GEVA	Gevas	3.42	345⇓	*i*P	Pn	06 51 27.9	-1.3
GEVA				*i* S	Sn	06 52 08.1	-0.7
GEVA	Gevas	3.42	345	*i* P	Pn	06 51 28.3	-0.8
GEVA	Gevas	3.42	345	P	Pn	06 51 27.9	-1.3
GEVA				S	Sn	06 52 08.1	-0.7
IBST	Bostanabad	3.47	38	*e*Pn	Pn	06 51 30.5	+0.7
IBST				*e*AMB	AMB	06 52 34.3	
	comp=Z,12μm,0.3s						
IBST	Bostanabad	3.47	38	Pn	Pn	06 51 30.5	+0.7
IBST	Bostanabad	3.47	38	*e*Pn	Pn	06 51 30.5	+0.7
ISHB	Shabestar	3.47	19	*e*Pn	Pn	06 51 29.5	-0.4
ISHB				*e*AMB	AMB	06 52 34.4	
	comp=Z,22μm,0.3s						
SRTM	Siirt_Merkez	3.50	329	*i* P	Pn	06 51 27.9	-2.1
SRTM	Siirt_Merkez	3.50	329	P	Pn	06 51 27.9	-2.1
TVAN	Van	3.58	350	*i* P	Pn	06 51 31.6	+0.3
TVAN				*i* S	Sn	06 52 13.7	+1.1
TVAN	Van	3.58	350	*i* P	Pn	06 51 31.5	+0.3
TVAN	Van	3.58	350	P	Pn	06 51 31.5	+0.3
TVAN				S	Sn	06 52 13.7	+1.1
ITBZ	Tabriz	3.59	26	*e*Pn	Pb	06 51 36.5	-4.0
ITBZ				*e*AMB	AMB	06 52 39.2	
	comp=Z,20μm,0.4s						
MARD	Mardin	3.59	311	*i* P	Pn	06 51 27.5	-3.9
MARD	Mardin	3.59	311	*e*Pn	Pn	06 51 27.6	-3.9
MARD				*e*Sn	Sn	06 52 11.4	-1.5
MARD	Mardin	3.59	311	*e*Pn	Pn	06 51 27.6	-3.8
MARD				*e*Sn	Sn	06 52 11.4	-1.5
VANB	Van	3.64	350	P	Pn	06 51 30.7	-1.4
VANB	Van	3.64	350	Pn	Pn	06 51 30.7	-1.4
VANB	Van	3.64	350	Pn	Pn	06 51 30.7	-1.4
BTMN	Batman	3.72	322	*i* P	Pn	06 51 31.4	-1.7
BTMN	Batman	3.72	322	P	Pn	06 51 31.4	-1.7
RTB	Rutbah	3.77	240	P	Pn	06 51 34.0	+0.2
RTB				S	Sn	06 52 17.0	-0.2
RTB	Rutbah	3.77	240	*e*Pn	Pn	06 51 33.5	-0.3
	SNR=3.0						
RTB	Rutbah	3.77	240	P	Pn	06 51 34.0	+0.2
RTB				S	Sn	06 52 17.0	-0.2
MAZI	Mazidag	3.89	310	P	Pn	06 51 32.7	-2.8
MAZI	Mazidag	3.89	310	Pn	Pn	06 51 32.7	-2.8
MAZI	Mazidag	3.89	310	Pn	Pn	06 51 32.7	-2.8
IMRD	Marand	3.90	18	*e*Pn	Pn	06 51 36.3	+0.6
IMRD				*e*AMB	AMB	06 53 15.8	
	comp=Z,23μm,0.4s						
IMRD	Marand	3.90	18	*e*Pn	Pn	06 51 36.3	+0.6
GURO	Guroymak-BITLI	3.94	335	P	Pn	06 51 34.1	-2.1
ADCV	BITLIS_Adilcev	3.98	343	*i* P	Pn	06 51 34.7	-2.0
ADCV	BITLIS_Adilcev	3.98	343	P	Pn	06 51 34.7	-2.0
ISRB	Sarab	3.98	44	*e*Pn	Pn	06 51 37.9	+1.1
ISRB				*e*AMB	AMB	06 52 51.6	
	comp=Z,17μm,0.5s						
ISRB	Sarab	3.98	44	*e*Pn	Pn	06 51 37.9	+1.1
VMUR	Van-Muradiye	4.01	353	*i* P	Pn	06 51 37.7	+0.5
VMUR				*i* S	Sn	06 52 21.7	-1.6
VMUR	Van-Muradiye	4.01	353	*i* P	Pn	06 51 37.7	+0.5
VMUR	Van-Muradiye	4.01	353	P	Pn	06 51 37.7	+0.5
VMUR				S	Sn	06 52 21.7	-1.6
IHRS	Heris	4.03	34	*e*Pn	Pn	06 51 39.3	+1.8
IHRS	Heris	4.03	34	*e*Pn	Pn	06 51 39.3	+1.8
NSR	Nassriya	4.31	157	*e*Pn	Pn	06 51 43.0	+1.9
	SNR=3.0						
NSR				*i* Sn	Sn	06 52 32.0	+1.7
	SNR=3.0						
MAKU	Maku	4.36	5	*e*Pn	Pn	06 51 45.8	+3.7
DIYA	Diyarbakir	4.38	313	*i* P	Pn	06 51 40.3	-1.9
DIYA				*i* S	Sb	06 52 46.8	+0.4
DIYA	Diyarbakir	4.38	313	P	Pn	06 51 40.3	-1.9
DYBB	Diyarbakir	4.39	313	P	Pn	06 51 40.1	-2.2
EKAR	Karacoban	4.57	339	*i* P	Pn	06 51 44.1	-0.9
EKAR	Karacoban	4.57	339	P	Pn	06 51 44.1	-0.9
BNGL	BINGOL	4.63	329	*i* P	Pn	06 51 44.0	-1.7
AGRB	Hanur-Agry	4.66	349	P	Pn	06 51 45.1	-1.1
GRMI	Germi	4.83	37	*e*Pn	Pn	06 51 52.8	+4.4
IGDI	IGDIR	4.86	359	*i* P	Pn	06 51 49.1	+0.3
SURC	SANLIURFA_SURC	4.89	294	*i* P	Pn	06 51 47.0	-2.2
SURC	SANLIURFA_SURC	4.89	294	P	Pn	06 51 47.0	-2.2
KHMZ	Khomeyn	4.94	103	*e*Pn	Pn	06 51 52.5	+2.5
KHMZ	Khomeyn	4.94	103	*e*Pn	Pn	06 51 52.5	+2.5
KHMZ	Khomeyn	4.94	103	*e*Pn	Pn	06 51 52.5	+2.5
URFA	Urfa	4.97	301	*e*P	Pn	06 51 46.8	-3.5
TASB	TASBURUN-IGDIR	4.97	0	*e*P	Pn	06 51 51.4	+1.1
EATA	Eleskirt	5.04	345	*i* P	Pn	06 51 50.4	-1.0
EATA	Eleskirt	5.04	345	P	Pn	06 51 50.4	-1.0
IGZV	Ghazvin	5.10	73	*e*Pn	Pb	06 52 08.0	+1.7
IGZV				*e*AMB	AMB	06 53 32.9	
	comp=Z,19μm,0.5s						
GNI	Garni	5.16	5	Pn	Pn	06 51 54.8	+1.9
	comp=Z,1.2nm,0.3s,baz=192,slow=9.3,SNR=3.3						
GNI				Pg	Pb	06 52 06.6	-0.5
	comp=Z,3.1nm,0.3s,baz=205,slow=19,SNR=10						
GNI				Lg	Lg	06 53 15.5	
	comp=Z,9.9nm,0.3s,baz=330,slow=24,SNR=3.0						
GNI				LR	LR	06 53 48.0	
	comp=Z,2μm,21.5s,baz=181,slow=38						
GNI	Garni	5.16	5	*e*Pn	Pn	06 51 52.5	-0.5
GNI				*e*Sn	Sb	06 53 15.5	+6.8
GNI	Garni	5.16	5⇑	*i*P	Pn	06 51 50.9	-2.0
GNI	Garni	5.16	5	*i* P	Pn	06 51 50.9	-2.0
GNI	Garni	5.16	5	*e*Pn	Pn	06 51 52.5	-0.5
ECAT	Cat-ERZURUM	5.26	332	*i* P	Pn	06 51 53.5	-0.9
ECAT	Cat-ERZURUM	5.26	332	P	Pn	06 51 53.5	-0.9
PTK	Pertek	5.46	317	*e*P	Pn	06 51 54.6	-2.5
TNCL	Tunceli-Merkez	5.53	319	*i* P	Pn	06 51 55.7	-2.3
THKV	Tehran--Karaj	5.54	79	*e*Pn	Pn	06 52 01.1	+2.9
MALT	Malatya	5.69	307	*e*P	Pn	06 51 57.6	-2.5
SENK	Senkaya-Erzuru	5.74	346	*e*P	Pn	06 52 00.6	-0.3
CHTH	Charan	5.74	79	*e*Pn	Pn	06 52 03.2	+2.2
GHVR	GHOM	5.88	93	*e*Pn	Pn	06 52 04.8	+2.0
AKCD	Akcadag	6.01	305	*i* P	Pn	06 52 03.0	-1.6
KUZU	Kuzuini	6.03	289	*i* P	Pn	06 52 03.8	-1.1
QAM	Ghamsar	6.13	100	*e*Pn	Pn	06 52 09.0	+2.7
QAM				*e*AMB	AMB	06 53 42.3	
	comp=Z,11μm,0.2s						
BAYT	Ayd˜–ntepe-Bay	6.26	330	*e*P	Pn	06 52 06.8	-1.3
BGD	Bogdanovka	6.27	356	P	Pb	06 52 36.3	+10
AKH	Akhalkalaki	6.42	355	P	Pb	06 52 30.5	+1.8
ASF	Jabal al Asfar	6.70	247	Pn	Pn	06 52 12.8	-1.3
	comp=Z,2.8nm,0.3s,baz=13,slow=9.3,SNR=19						
ASF				Lg	Lg	06 53 57.3	
	comp=Z,4.8nm,0.3s,baz=213,slow=20,SNR=3.8						
ASF				LR	LR	06 55 15.5	
	comp=Z,2μm,19.8s,baz=36,slow=42						
IGAR	Gharneh	7.04	109	*e*Pn	Pn	06 52 20.6	+1.7
IGAR				*e*AMB	AMB	06 54 03.5	
	comp=Z,6μm,0.3s						
BHL	Bhannes	7.13	264	*e*P	Pn	06 52 20.3	+0.3
DQRL	Deir Qamar	7.24	262	*e*P	Pn	06 52 22.4	+0.9
KSDI	Kefar Szold	7.30	258	Pn	Pn	06 52 21.9	-0.3
ASYS		7.47	179	P	Pn	06 52 25.3	+0.6
ASYS				S	Sn	06 53 46.7	-1.8
NASN	Na'in	7.50	105	*e*Pn	Pn	06 52 27.4	+2.1
KFJS		7.51	154	P	Pn	06 52 27.0	+1.9
KFJS				S	Sn	06 53 49.1	-0.3
MMA0B	Mount Meron ar	7.55	257	Pn	Pn	06 52 25.7	-0.1
MMAI	Mount Meron Ar	7.55	257	Pn	Pn	06 52 25.5	-0.3
	comp=Z,7.6nm,0.3s,baz=73,slow=18,SNR=7.6						
MMAI				Lg	Lg	06 54 33.5	
	comp=Z,17nm,0.3s,baz=71,slow=32,SNR=5.1						
MMAI				LR	LR	06 55 31.8	
	comp=Z,2μm,21.9s,baz=75,slow=39						
ONI	Oni	7.60	356	P	Pb	06 52 42.8	-5.8
ONI	Oni	7.60	356	*e*P	Pb	06 52 42.8	-5.8
HMDT	Nahal Hemdat	7.72	252	Pn	Pn	06 52 29.2	+1.2
ZEI	Tsey	7.78	358	*e*P	Pb	06 52 43.0	-8.8
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BLGI	Bet Lehem HaGe	7.81	256	Pn	Pn	06 52 30.7	+1.4
OFRI	'Ofer	8.01	255	Pn	Pn	06 52 31.9	-0.2
SLTI	Sal'it	8.11	253	Pn	Pn	06 52 34.6	+1.3
DSI	Dead Sea	8.12	248	Pn	Pn	06 52 33.8	+0.3
GROC	Groznyy	8.29	8	P	Pn	06 52 34.2	-1.5
GROC				*e*S	Sn	06 54 07.8	-0.4
GROC				pmax	pmax		
	comp=Z,35nm,0.4s						
GROC				smax	smax		
	comp=N,98nm,1.3s						
NEY	Neytrino	8.31	353⇑	*e*P	Pn	06 52 35.0	-1.3
MAK	Makhachkala	8.36	17	*e*P	Pn	06 52 32.6	-4.1
MAK				*e*S	Sn	06 54 05.7	-4.3
MAK				pmax	pmax		
	comp=Z,48nm,0.6s						
MAK				MLR	MLR		
	comp=Z,2μm,8.0s						
KBZ	Khabaz	8.77	354	Pn	Pn	06 52 43.9	+1.6
	comp=Z,0.1nm,0.3s,baz=162,slow=13,SNR=2.0						
KBZ				LR	LR	06 56 40.6	
	comp=Z,6μm,20.7s,baz=158,slow=42						
ZFRI	Zfri	8.78	242	Pn	Pn	06 52 44.0	+1.5
KIV	Kislovodsk	9.02	353	*e*P	Pn	06 52 41.8	-4.0
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,1μm,9.0s						
KVAR	Kislovodsk Arr	9.02	353	Pn	Pn	06 52 48.9	+3.0
	baz=209,slow=19,SNR=2.9						
KVAR				LR	LR	06 56 58.8	
	comp=Z,5μm,21.2s,baz=140,slow=43						
PRNI	Paran	9.02	242	Pn	Pn	06 52 46.9	+1.1

ARSS Ar Rass 9.13 185 P **Pn** **06 52 48.2 +0.8**
HRFI Mount Harif 9.17 240 Pn **Pn** **06 52 49.7 +1.8**
SOC Sochi 9.24 339 *eP* **Pn** **06 52 47.1 -1.7**
SOC *e* 06 54 32.4
SOC pmax pmax
comp=Z,29nm,0.7s
SOC MLR MLR
comp=Z,961nm,11.0s
SOC Sochi 9.24 339 *eS* **Sn** **06 54 32.4 +0.7**
comp=Z,961nm,11.0s
MBRI Mt Berech 9.40 239 Pn **Pn** **06 52 51.5 +0.4**
EIL Elat 9.44 238 Pn **Pn** **06 52 51.7 0.0**
comp=Z,0.4nm,0.3s,baz=95,slow=18,SNR=3.4
EIL Lg Lg 06 55 35.8
comp=Z,2.2nm,0.3s,baz=3.4,slow=17,SNR=2.7
EIL LR LR 06 56 54.0
comp=Z,2µm,21.2s,baz=58,slow=40
EIL Elat 9.44 238 Pn **Pn** **06 52 52.8 +1.1**
BR101 Keskin Array S 9.62 302 *ePn* **Pn** **06 52 57.2 +3.0**
BRTR Keskin Array B 9.62 302 Pn **Pn** **06 52 57.2 +3.0**
comp=Z,0.1nm,0.3s,baz=129,slow=12,SNR=3.2
BRTR LR LR 06 56 41.3
comp=Z,2µm,19.4s,baz=110,slow=38
GOF Gofitskoye 10.08 355⇑ *eP* **Pn** **06 53 03.3 +3.0**
GOF pmax pmax
comp=Z,32nm,1.3s
ANN Anapa 11.07 334 *eP* Pn 06 53 08.8 -5.0
ANN MLR MLR
comp=E,1µm,13.0s
ANN MLR MLR
comp=Z,2µm,13.0s
ANN MLR MLR
comp=N,989nm,13.0s
RAYN Ar Rayn 11.50 174 *ePn* **Pn** **06 53 18.9 -1.0**
RAYN Ar Rayn 11.50 174 P **Pn** **06 53 18.2 -1.6**
GYA1 ALIBECK ARRAY 11.59 71 *ePn* **Pn** **06 53 23.4 +2.3**
GYA1 *eSn* **Sn** **06 55 28.3 -1.2**
GEYT Alibeck 11.60 71 Pn **Pn** **06 53 22.2 +1.1**
comp=N,0.6nm,0.3s,baz=257,slow=12,SNR=7.0
GEYT LR LR 06 58 44.7
comp=N,2µm,21.3s,baz=245,slow=42
GYA0B ALIBECK ARRAY 11.60 71 *ePn* **Pn** **06 53 22.6 +1.5**
GYA0B *eSn* **Sn** **06 55 24.8 -4.7**
GYA2 ALIBECK ARRAY 11.60 71 *ePn* **Pn** **06 53 23.1 +1.9**
GYA2 *eSn* **Sn** **06 55 23.9 -5.7**
GYB1 ALIBECK ARRAY 11.60 71 *ePn* **Pn** **06 53 24.4 +3.2**
GYB1 *eSn* **Sn** **06 55 25.2 -4.5**
UOSS Minazif 14.44 131 *ePn* **Pn** **06 53 58.3 -1.8**
UOSS Minazif 14.44 131 *ePn* **Pn** **06 53 58.3 -1.8**
SANT Santorini 15.28 281 *ePn* **Pn** **06 54 08.4 -2.8**
comp=N,41nm,1.2s
SANT *eSn* **Sn** **06 56 58.2 -1.2**
TIRR Tirgusor 15.35 313⇑ *iP* **P** **06 54 16.9 +0.5**
TIRR Tirgusor 15.35 313 *ePn* **Pn** **06 54 13.0 +1.0**
comp=N,14nm,0.8s
TIRR Tirgusor 15.35 313 *eP* **Pn** **06 54 13.0 +1.0**
TIRR pmax pmax
comp=Z,15nm,0.8s
TIRR Tirgusor 15.35 313 *ePn* **Pn** **06 54 13.0 +1.0**
comp=Z,14nm,0.8s
TIRR Tirgusor 15.35 313⇑ *iP* **P** **06 54 16.9 +0.5**
TLB Topalu 15.64 313⇑ *iP* **P** **06 54 21.5 +1.8**
IDI Anoyia 15.79 277 Pn **Pn** **06 54 19.2 +1.4**
comp=Z,0.8nm,0.3s,baz=81,slow=14,SNR=7.0
IDI LR LR 07 02 18.2
comp=Z,335nm,20.7s,baz=90,slow=45
VRH Novokhopyorsk 16.29 354 *eP* **Pn** **06 54 24.5 +0.4**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VRH MLR MLR
comp=Z,3µm,18.0s
VRH Novokhopyorsk 16.29 354 *eP* **Pn** **06 54 24.5 +0.4**
comp=Z,3µm,18.0s
VSR Storozhevoye 16.61 349 *eP* **Pn** **06 54 28.7 +0.6**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR MLR MLR
comp=Z,2µm,24.0s
VSR Storozhevoye 16.61 349 *eP* **Pn** **06 54 28.7 +0.6**
comp=Z,2µm,24.0s
VRI Vrincioaia 17.12 315⇑ *iP* **P** **06 54 38.9 +2.8**
PLOR Plostina 17.16 314⇑ *iP* **P** **06 54 39.0 +2.5**
WSAR Wadi Sarin 17.20 129 P **Pn** **06 54 33.7 -2.1**
comp=Z,2.4nm,0.3s,baz=330,slow=10,SNR=11
WSAR S **Sn** **06 57 43.6 -2.7**
comp=Z,2.1nm,0.3s,baz=294,slow=20,SNR=5.2
WSAR LR LR 07 02 49.4
comp=Z,4µm,19.0s,baz=313,slow=43
MLR Muntele Rosu 17.39 313 P **P** **06 54 40.0 +0.9**
comp=Z,0.1nm,0.3s,baz=135,slow=20,SNR=5.8
MLR LR LR 07 01 53.3
comp=Z,254nm,21.3s,baz=126,slow=39
MLR Muntele Rosu 17.39 313⇑ *iP* **P** **06 54 42.0 +2.9**
MLR Muntele Rosu 17.39 313 *ePn* **P** **06 54 40.0 +0.9**
comp=Z,12nm,1.2s
MLR Muntele Rosu 17.39 313 *ePn* **P** **06 54 40.0 +0.9**
comp=Z,12nm,1.2s
SORM Soroca 17.63 323⇑ *iP* **P** **06 54 41.5 -0.1**
VOIR 17.91 311⇑ *iP* **P** **06 54 46.6 +1.8**
DOPR Dopca 17.96 313⇑ *iP* **P** **06 54 47.8 +2.4**
LPSR Galich'ya Gora 17.99 350 *eP* **Pn** **06 54 43.4 -1.9**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 17.99 350 *eP* **Pn** **06 54 43.4 -1.9**
comp=Z,20nm,1.0s
VTS Vitosha 17.99 301⇑ *iP* **P** **06 54 49.7 +3.8**
VTS Vitosha 17.99 301 *ePn* **P** **06 54 46.4 +0.5**
comp=Z,8.7nm,1.3s
VTS Vitosha 17.99 301 *eP* **P** **06 54 46.4 +0.5**
VTS pmax pmax
comp=Z,9.0nm,1.3s
VTS Vitosha 17.99 301 *eP* **P** **06 54 46.4 +0.5**
comp=Z,9.0nm,1.3s
ARR Arges 18.13 311⇑ *iP* **P** **06 54 50.4 +3.1**
AB08 Akbulak array 18.35 34 *eP* **P** **06 54 48.2 -1.5**
AB09 Akbulak array 18.36 34 *eP* **P** **06 54 48.7 -1.0**
AB09 Akbulak array 18.36 34 *eP* **P** **06 54 48.7 -1.0**
AB03 Akbulak array 18.37 34 *eP* **P** **06 54 48.3 -1.5**
AB07 Akbulak array 18.37 34 *eP* **P** **06 54 48.3 -1.5**
AB04 Akbulak array 18.37 34 *eP* **P** **06 54 48.5 -1.3**
AB04 Akbulak array 18.37 34 *eP* **P** **06 54 48.5 -1.3**
AB01 Akbulak array 18.37 34 *eP* **P** **06 54 48.5 -1.3**
AB01 Akbulak array 18.37 34 *eP* **P** **06 54 48.5 -1.3**
AB31 Akbulak array 18.37 34 *eP* **P** **06 54 48.3 -1.5**
AB31 Akbulak array 18.37 34 *eP* **P** **06 54 48.3 -1.5**
AB31 Akbulak array 18.37 34 *eP* **P** **06 54 48.3 -1.5**
ABKAR Akbulak array 18.37 34 *eP* **P** **06 54 48.4 -1.4**
comp=Z,41nm,0.6s
ABKAR Akbulak array 18.37 34 *eP* **P** **06 54 48.4 -1.4**
comp=Z,41nm,0.6s
AB02 Akbulak array 18.38 34 *eP* **P** **06 54 48.5 -1.4**
AB02 Akbulak array 18.38 34 *eP* **P** **06 54 48.5 -1.4**
AB05 Akbulak array 18.38 34 *eP* **P** **06 54 48.6 -1.4**
AB05 Akbulak array 18.38 34 *eP* **P** **06 54 48.6 -1.4**
AB06 Akbulak array 18.39 34 *eP* **P** **06 54 48.7 -1.3**
AKTK Aktyubinsk 18.42 29 P **P** **06 54 49.6 -0.8**
comp=Z,26nm,1.2s
AKTO Aktyubinsk 18.42 29 P **P** **06 54 49.4 -1.0**
comp=Z,0.6nm,0.3s,baz=223,slow=12,SNR=9.4
AKTO Aktyubinsk 18.42 29 P **P** **06 54 49.6 -0.8**
AKTO pmax pmax
comp=Z,26nm,1.2s
FNA Florina 18.88 295 P **Pn** **06 54 56.2 -0.1**
FNA pmax pmax
comp=Z,37nm,1.5s
FNA Florina 18.88 295 P **Pn** **06 54 56.2 -0.1**
comp=Z,37nm,1.5s
BURAR Bucovina Array 18.96 317⇑ *iP* **Pn** **06 54 57.6 +0.4**
BUR04 Bucovina Ar. S 18.96 317 *eP* **P** **06 54 55.6 -0.9**
BUR08 Bucovina Ar. S 18.98 317 *eP* **P** **06 54 56.9 +0.2**
BUR08 Bucovina Ar. S 18.98 317 *eP* **P** **06 54 56.9 +0.2**
AKASG Malin Array Be 19.08 330 P **P** **06 54 55.9 -1.7**
comp=Z,0.9nm,0.3s,baz=137,slow=12,SNR=15
AKASG LR LR 07 03 46.2
comp=Z,748nm,20.0s,baz=150,slow=42
AKBB Malin Array Si 19.08 330 *eP* **P** **06 54 55.9 -1.7**
AKBB Malin Array Si 19.08 330 *eP* **P** **06 54 55.9 -1.7**
AKBB Malin Array Si 19.08 330 *eP* **P** **06 54 55.9 -1.7**
KIEV Kiev 19.09 330 *eP* **P** **06 54 54.8 -2.8**
comp=Z,11nm,1.0s
KIEV Kiev 19.09 330⇑ *iP* **P** **06 54 56.9 -0.7**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 19.09 330 *i* P **P** **06 54 56.9 -0.7**
comp=Z,6.0nm,0.9s

DRGR 19.98 313⇑ *iP* **Pn** **06 55 09.6 +0.2**
TRSU Trosnyk 20.49 316 P **P** **06 55 12.8 -0.2**
TRSU Trosnyk 20.49 316 P **P** **06 55 12.8 -0.2**
DIVS Divibare 20.69 303 *eP* **P** **06 55 14.8 -0.5**
comp=Z,26nm,1.2s
DIVS Divibare 20.69 303 *eP* **P** **06 55 14.8 -0.5**
comp=Z,26nm,1.2s
OBN Obninsk 20.79 348 P **P** **06 55 14.9 -1.3**
comp=Z,34nm,0.4s,baz=166,slow=21,SNR=4.8
OBN LR LR 07 04 10.7
comp=Z,1µm,21.3s,baz=158,slow=39
OBN Obninsk 20.79 348 *eP* **P** **06 55 14.9 -1.3**
comp=Z,32nm,0.5s
OBN Obninsk 20.79 348⇓ *eP* **P** **06 55 14.9 -1.3**
OBN *e* 06 55 24.0
OBN *e* 06 55 36.6
OBN *iS* **S** **06 59 08.1 +1.6**
OBN *iSS* **SnSn** **06 59 28.7 +1.3**
OBN pmax pmax
comp=Z,26nm,1.1s
OBN MLR MLR
comp=Z,542nm,17.0s
OBN Obninsk 20.79 348 *eP* **P** **06 55 14.9 -1.3**
comp=Z,32nm,0.5s
UZH Uzhgorod 21.15 317 *eP* **P** **06 55 22.7 +2.6**
UZH *e* 06 55 26.9
UZH *e* 06 55 50.5
UZH *eS* **S** **06 59 13.7 0.0**
UZH *eSS* **SnSn** **06 59 39.1 +2.9**
MOS Moscow 21.22 350 *eP* **P** **06 55 18.4 -2.4**
MOS pmax pmax
comp=Z,53nm,0.9s
MOS Moscow 21.22 350 *eP* **P** **06 55 18.4 -2.4**
comp=Z,53nm,0.9s
KWP Kalwaria Pacla 21.48 319 *eP* **P** **06 55 23.4 -0.2**
comp=Z,466nm,0.7s
KWP Kalwaria Pacla 21.48 319 *eP* **P** **06 55 23.4 -0.2**
KWP pmax pmax
comp=Z,466nm,0.7s
KWP Kalwaria Pacla 21.48 319 *eP* **P** **06 55 23.4 -0.2**
comp=Z,466nm,0.7s
CRVS Cervenica-Dubn 21.76 317 *eP* **P** **06 55 32.5 +5.8**
CRVS Cervenica-Dubn 21.76 317 *eP* **P** **06 55 32.5 +5.8**
KK08 Karatay Array 21.91 60 *eP* **P** **06 55 29.8 +1.5**
KK07 Karatay Array 21.91 60 *eP* **P** **06 55 29.2 +0.8**
KK03 Karatay Array 21.92 60 *eP* **P** **06 55 28.7 +0.3**
KK01 Karatay Array 21.92 60 *eP* **P** **06 55 30.6 +2.1**
KK04 Karatay Array 21.92 60 *eP* **P** **06 55 29.5 +1.0**
KK02 Karatay Array 21.93 60 *eP* **P** **06 55 30.7 +2.2**
KK31 Karatay Array 21.93 60 *eP* **P** **06 55 31.5 +3.1**
KK31 Karatay Array 21.93 60 *i* P **P** **06 55 31.6 +3.1**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 21.93 60 *eP* **P** **06 55 30.8 +2.3**
KKAR Karatay Array 21.93 60 *eP* **P** **06 55 30.8 +2.3**
KK06 Karatay Array 21.93 60 *eP* **P** **06 55 31.8 +3.1**
KK05 Karatay Array 21.94 60 *eP* **P** **06 55 30.8 +2.2**
KECS Kecovo 22.11 315 *eP* **P** **06 55 34.6 +4.1**
KECS pmax pmax
comp=Z,42nm,3.1s
KECS Kecovo 22.11 315 *eP* **P** **06 55 34.6 +4.1**
STHS Stebnicka Huta 22.16 318 *eP* **P** **06 55 35.2 +4.3**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 22.16 318 *eP* **P** **06 55 35.2 +4.3**
PSZ Piszkesteto 22.20 313 *eP* **P** **06 55 30.8 -0.7**
comp=Z,8.6nm,1.0s
PSZ Piszkesteto 22.20 313 *eP* **P** **06 55 30.8 -0.7**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
TIP Timpagrande 22.23 289 *eP* **P** **06 55 31.9 0.0**
comp=Z,10nm,0.9s
MNAS Manas 23.25 63 *i* P **P** **06 55 44.1 +1.5**
MNAS pmax pmax
comp=Z,11nm,1.1s
ATD Arta Tunnel 23.40 183 LR LR 07 04 55.0
comp=Z,1µm,18.7s,baz=5.5,slow=37
ARU Arti 23.57 20 P **P** **06 55 45.6 +0.2**
comp=Z,7.9nm,0.2s,baz=230,slow=6.4,SNR=3.1
ARU Arti 23.57 20 *eP* **P** **06 55 45.6 +0.2**
comp=Z,39nm,1.0s
ARU Arti 23.57 20 *c iP* **P** **06 55 50.4 +5.0**
ARU 06 56 18.6
ARU SS Sn 07 00 49.5 +31
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU MLR MLR
comp=Z,2µm,17.0s
IDID Didziasalis 23.62 335 *eP* **P** **06 55 45.8 -0.1**
IDID IAmb IAmb 06 55 50.7
comp=Z,6.0nm,0.8s
SFK Sufi-Kurgan 23.73 69 *i* P **P** **06 55 49.2 +1.8**
SFK pmax pmax
comp=Z,12nm,1.0s
IIGN Ignalina 23.83 334 *eP* **P** **06 55 47.7 -0.2**
IIGN IAmb IAmb 06 55 52.8
comp=Z,4.2nm,0.8s
ISAL Salakas 24.04 334 *eP* **P** **06 55 49.7 -0.1**
SNR=28
ISAL Salakas 24.04 334 *eP* **P** **06 55 49.7 -0.1**
ISAL IAmb IAmb 06 55 52.9
comp=Z,5.4nm,0.9s
IZAR Zarasai 24.14 335 *eP* **P** **06 55 50.6 -0.2**
IZAR IAmb IAmb 06 55 53.0
comp=Z,8.4nm,0.6s
MORC Moravsky Berou 24.43 315 *eP* **P** **06 55 54.3 +0.7**
comp=Z,74nm,1.6s
MORC Moravsky Berou 24.43 315 *eP* **P** **06 55 54.3 +0.7**
MORC pmax pmax
comp=Z,74nm,1.6s
SVE Sverdlovsk 24.52 22 *eP* P 06 56 09.4 +15
SVE pmax pmax
comp=Z,20nm,0.8s
SVE MLR MLR
comp=Z,1µm,17.0s
ARSA Arzberg 24.66 308 *epP* **P** **06 56 02.5 +6.8**
comp=Z,7.6nm,0.9s
CONA Conrad Observa 24.68 310 P **P** **06 55 58.0 +2.0**
comp=Z,9.5nm,0.9s
CONA Conrad Observa 24.68 310 *eP* **P** **06 55 58.0 +2.0**
comp=Z,9.5nm,0.9s
AAK Ala-Archa 24.72 63 P **P** **06 55 57.5 +1.1**
comp=Z,1.6nm,0.7s,baz=219,slow=7.8,SNR=2.5
AAK LR LR 07 08 41.2
comp=Z,1µm,19.4s,baz=246,slow=44
AAK Ala-Archa 24.72 63 *d iP* **P** **06 55 58.3 +1.9**
AAK *i* *PP **pP** **06 56 03.6 -1.5**
AAK *i* 06 56 30.5
AAK pmax pmax
comp=Z,4.0nm,1.0s
VRAC Vranov 24.78 314 P **P** **06 55 58.5 +1.8**
comp=Z,2.4nm,0.5s,baz=114,slow=10,SNR=3.3
VRAC LR LR 07 07 18.3
comp=Z,910nm,19.5s,baz=128,slow=41
SOKA Soboth 24.80 307 P **P** **06 56 00.4 +3.4**
comp=Z,4.7nm,0.9s
CLTB Caltabellotta 25.04 285 *eP* **P** **06 55 57.5 -1.7**
comp=Z,150nm,2.0s
OBKA Obir 25.07 306 P **P** **06 56 02.5 +3.1**
comp=Z,6.1nm,0.9s
DPC Dobruska-Polom 25.39 316 *eP* **P** **06 56 05.3 +3.1**
DPC *epP* **pP** **06 56 10.5 -0.4**
DPC *ex* 06 56 53.8
DPC Dobruska-Polom 25.39 316 *eP* **P** **06 56 05.3 +3.1**
DPC *e* 06 56 10.5
DPC *e* 06 56 53.8
TKM2 Tokmak 2 25.57 63 *i* P **P** **06 56 04.6 +0.5**
TKM2 pmax pmax
comp=Z,16nm,1.1s
KSH Kashi 25.63 70 P **P** **06 56 03.1 -1.5**
KSH sP pP 06 56 10.0 -3.2
KSH PcP **PcP** **06 59 34.5 -0.3**
KSH S **S** **07 00 25.6 -5.4**
KSH sS pS 07 00 32.6 -7.7
KSH SS **SnSn** **07 01 27.0 +0.9**
MOA Molln 25.67 309 P **P** **06 56 04.9 +0.1**
comp=Z,5.0nm,0.8s
BRVK Borovoye 25.81 38⇑ *eP* **P** **06 56 05.9 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 25.84 38 P **P** **06 56 05.9 -0.4**
comp=Z,2.0nm,0.6s,baz=231,slow=9.4,SNR=9.1
BVAR LR LR 07 08 47.5
comp=Z,692nm,18.2s,baz=238,slow=42
SOKR Solikamsk 25.96 15⇑ *iP* **P** **06 56 10.9 +3.7**
SOKR pmax pmax
comp=Z,21nm,1.1s
SOKR MLR MLR
comp=Z,1µm,24.0s
KBA Koelnbreinsper 26.03 307 pP **P** **06 56 14.4 +6.2**
comp=Z,9.9nm,0.9s
KLMR Klimovskoe 26.04 355 *eP* **P** **06 56 05.6 -2.4**
KLMR *eS* **S** **07 00 36.0 -0.8**
KLMR pmax pmax
comp=Z,11nm,0.9s
KLMR Klimovskoe 26.04 355 *eP* **P** **06 56 05.6 -2.4**
KLMR AMP 06 56 11.8
comp=Z,11nm,0.9s
KLMR *ePP* **PnPn** **06 56 41.3 -5.2**
KLMR *eS* **S** **07 00 36.1 -0.8**
KLMR *eS* **S** **07 00 36.1 -0.8**
KLMR LQ LQ 07 04 48.6
KLMR LQ LQ 07 04 48.6
KLMR LR LR 07 06 05.5
VSU Vasula 26.18 339⇑ *iP* **P** **06 56 08.5 -0.7**
VSU pmax pmax
comp=Z,31nm,0.9s
GEA0 GERESS Array S 26.35 311 *eP* **P** **06 56 09.1 -1.9**
GEC2 GERESS Array S 26.36 311 *eP* **P** **06 56 09.7 -1.4**
comp=Z,11nm,1.4s
GEC2 GERESS Array S 26.36 311 *eP* **P** **06 56 09.7 -1.4**
GEC2 pmax pmax
comp=Z,11nm,1.4s
GERES GERESS Array B 26.36 311 P **P** **06 56 09.7 -1.4**
comp=Z,0.7nm,0.7s,baz=110,slow=8.8,SNR=5.3
ABTA Abfaltersbach 26.49 306 P **P** **06 56 09.1 -3.1**
comp=Z,2.7nm,0.9s
BRG Berggiesshubel 26.98 315 *eP* **P** **06 56 22.7 +6.1**
comp=Z,4.4nm,1.0s
BRG *e* 06 57 17.5
comp=Z,2.6nm,0.7s
BRG Berggiesshubel 26.98 315 *eP* **P** **06 56 22.7 +6.1**
BRG *e* 06 57 17.5
BRG pmax pmax
comp=Z,4.0nm,1.0s
WTTA Wattenberg 27.20 307 P **P** **06 56 22.7 +3.9**
comp=Z,5.2nm,1.0s
WATA Walderalm 27.26 307 pP **P** **06 56 24.8 +5.5**
comp=Z,8.4nm,0.9s
MOTA Moosalm 27.57 307 *eP* **P** **06 56 27.2 +5.1**
comp=Z,4.7nm,0.8s
CLL Collm 27.70 316 *eS* **S** **07 01 09.0 +5.8**
CLL Lm MLR 07 08 00.0
comp=N,1µm,20.9s
CLL Lm MLR 07 08 00.0
comp=E,500nm,20.5s
CLL Lm MLR 07 08 00.0
comp=Z,800nm,19.3s
FETA Feichten 27.74 306 P **P** **06 56 24.3 +0.7**
comp=Z,5.7nm,1.3s
FETA Feichten 27.74 306 P **P** **06 56 24.3 +0.7**
comp=Z,5.7nm,1.3s
KEST Kesra 28.33 282 LR LR 07 10 37.3
comp=Z,253nm,20.2s,baz=28,slow=42
DAVA Damuels 28.36 306 pP P 06 56 35.6 +6.4
comp=Z,4.6nm,0.6s
FIA0 FINESS Array S 28.87 342 *eP* **P** **06 56 32.4 -0.9**
FIA0 FINESS Array S 28.87 342 *eP* **P** **06 56 32.4 -0.9**
FIA1 FINESS Array S 28.87 342 *eP* **P** **06 56 33.2 -0.1**
FINES FINESS Array B 28.87 342 P **P** **06 56 32.4 -0.9**
comp=Z,0.9nm,0.3s,baz=146,slow=9.8,SNR=15
FINES FINESS Array B 28.87 342 *i* P **P** **06 56 32.7 -0.6**
FINES pmax pmax
comp=Z,1.0nm,0.3s
MAKZ Makanchi 30.62 56 *eP* **P** **06 56 49.8 +0.8**
comp=Z,4.8nm,0.6s
MAKZ Makanchi 30.62 56 *eP* **P** **06 56 50.0 +1.0**
MK31 Makanchi Array 30.83 56 *eP* **P** **06 56 51.4 +0.5**
MK31 Makanchi Array 30.83 56 *i* P **P** **06 56 51.0 +0.1**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK32 Makanchi Array 30.83 56 *eP* **P** **06 56 51.3 +0.4**
MKAR Makanchi Array 30.83 56 P **P** **06 56 51.3 +0.4**
comp=Z,6.4nm,0.8s,baz=252,slow=8.7,SNR=52
MKAR LR LR 07 11 57.1
comp=Z,730nm,18.8s,baz=272,slow=42
MKAR Makanchi Array 30.83 56 *eP* **P** **06 56 51.3 +0.4**
comp=Z,44nm,0.9s
MK01 Makanchi Array 30.83 56 *eP* **P** **06 56 50.9 0.0**
HFS Hagfors 31.96 331 P **P** **06 56 59.9 -0.7**
comp=Z,1.6nm,0.3s,baz=127,slow=9.4,SNR=17
HFS LR LR 07 11 59.7
comp=Z,1µm,18.1s,baz=104,slow=40
NVS Novosibirsk 33.43 41 *eP* P 06 57 23.2 +10
NB2 NORSAR Subarra 33.48 331 P **P** **06 57 14.6 +0.6**
comp=Z,1.6nm,0.7s,baz=127,slow=9.3
NB200 NORSAR Array S 33.48 331 *eP* **P** **06 57 13.8 -0.2**
NOA NORSAR Array B 33.48 331 P **P** **06 57 13.8 -0.2**
comp=Z,0.8nm,0.7s,baz=119,slow=9.6,SNR=2.9
PYUN Piuthan 33.62 91 *eP* **P** **06 57 18.5 +2.7**
comp=Z,10nm,0.5s
ZALV Zalesovo Beam 34.02 43 P **P** **06 57 19.1 +0.4**
comp=Z,0.6nm,0.3s,baz=247,slow=9.4,SNR=3.4
ZALV LR LR 07 14 16.5
comp=Z,836nm,20.6s,baz=251,slow=42
ZALV Zalesovo Beam 34.02 43 P **P** **06 57 19.1 +0.4**
ZALV *epP* **sP** **06 57 31.7 +0.6**
ZAA1 Zalesovo Array 34.02 43 *eP* **P** **06 57 19.1 +0.4**
DANN Dangsing 34.16 90 *eP* **P** **06 57 23.0 +2.4**
comp=Z,2.2nm,1.0s
KOLN Koldanda 34.25 91 *eP* **P** **06 57 23.5 +2.3**
comp=Z,12nm,0.8s
WMQ Urumqi 34.42 62 P **P** **06 57 24.7 +2.3**
WMQ pP pP 06 57 27.4 -3.7
WMQ sP sP 06 57 31.7 -3.0
DMN Daman 35.54 90 *eP* **P** **06 57 34.6 +2.2**
PKIN Phulchoki 35.79 90 *eP* **P** **06 57 36.4 +1.8**
PKI Pulchoki 35.81 90 *eP* **P** **06 57 36.3 +1.5**
comp=Z,14nm,0.7s
GUN Gumba 36.06 90 *eP* **P** **06 57 38.6 +1.6**
comp=Z,57nm,0.9s
ARA0 ARCESS Array S 36.09 349 *eP* **P** **06 57 36.0 -0.4**
ARCES ARCESS Array B 36.09 349 P **P** **06 57 36.0 -0.4**
comp=Z,2.6nm,0.9s,baz=177,slow=9.5,SNR=8.4
ARCES LR LR 07 13 23.4
comp=Z,1µm,20.2s,baz=148,slow=38
JIRN Jiri 36.41 90 *eP* **P** **06 57 41.8 +1.8**
comp=Z,37nm,0.7s
KMBO Kilima Mbogo 36.52 192 LR LR 07 11 58.0
comp=Z,1µm,18.1s,baz=360,slow=35
RAMN Ramite 37.02 91 *eP* **P** **06 57 45.9 +0.8**
comp=Z,23nm,0.6s
ODAN Odare 37.71 90 *eP* **P** **06 57 51.5 +0.6**
comp=Z,14nm,0.6s
TAPN Taplejung 37.78 89 *eP* **P** **06 57 53.2 +1.6**
comp=Z,11nm,0.6s
EKA Eskdalemuir Ar 38.14 317 P **P** **06 57 53.0 -0.9**
comp=Z,0.3nm,0.3s,baz=97,slow=10,SNR=2.5
EKA Eskdalemuir Ar 38.14 317 P **P** **06 57 53.0 -0.9**
EKA pmax pmax
comp=Z,1.0nm,0.5s
ESDC Sonseca Array 38.20 292 P **P** **06 57 54.6 -0.1**
comp=Z,0.2nm,0.3s,baz=60,slow=7.6,SNR=3.3
GTA Gaotai 43.94 67 *eP* **P** **06 58 43.8 +1.8**
GTA pP pP 06 58 51.1 +0.2
GTA sP sP 06 58 54.4 -0.1
TOA1 Torodi Ar. Sit 44.05 251 *eP* **P** **06 58 44.7 +1.8**
TORD Torodi Ar. Bea 44.05 251 P **P** **06 58 44.7 +1.8**
comp=Z,0.3nm,0.6s,baz=44,slow=6.8,SNR=3.3
SPA0 Spitsbergen Ar 44.89 352 *eP* **P** **06 58 48.9 -0.1**
SPITS Spitsbergen Ar 44.89 352 P **P** **06 58 48.8 -0.1**
comp=Z,2.1nm,0.6s,baz=144,slow=8.2,SNR=9.3
SONM Songino Array 47.17 54 LR LR 07 22 23.5
comp=Z,1µm,21.4s,baz=186,slow=40
ULN Ulaanbaatar 47.61 54⇑ *iP* **P** **06 59 11.8 +0.9**
ULN *i* 07 00 59.8
KOWA Kowa 47.77 257 P **P** **06 59 12.6 +0.2**
comp=Z,1.4nm,0.8s,baz=56,slow=7.3,SNR=3.0
LZH Lanzhou 47.88 70 *eP* **P** **06 59 15.8 +2.7**
LZH pP pP 06 59 18.8 -3.3
LZH sP sP 06 59 20.9 -4.8
BORG Borgarnes 48.56 329 LR LR 07 21 51.7
comp=Z,228nm,19.7s,baz=86,slow=39
CD2 Chengdu 49.52 77 P **P** **06 59 25.0 -0.7**
CD2 pP pP 06 59 29.8 -4.9
CD2 PcS **PcS** **07 04 43.5 -0.6**
CD2 S **S** **07 06 32.9 +1.3**
CD2 sS pS 07 06 41.0 -1.2
CD2 Chengdu 49.52 77 SS **SS** **07 10 06.4 +2.8**
BOD Bodaibo 50.66 41 *eP* **P** **06 59 31.6 -2.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BOD				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CMAR	Chiang Mai Arr	51.00	94	LR	LR	07 25 03.6	
	comp=Z,353nm,18.6s,baz=292,slow=41						
HHC	Hu-ho-hao-te	52.30	62	*e*P	P	06 59 48.0	+1.5
DBIC	Dimbokro	53.10	250	P	P	06 59 53.8	+1.3
	comp=Z,3.4nm,0.7s,baz=90,slow=5.1,SNR=2.7						
DBIC	Dimbokro	53.10	250	*e*P	P	06 59 53.1	+0.5
	comp=Z,42nm,1.6s						
DBIC	Dimbokro	53.10	250	*e*P	P	06 59 53.1	+0.5
DBIC				pmax	pmax		
	comp=Z,42nm,1.6s						
TIXI	Tiksi	55.55	22	LR	LR	07 28 48.6	
	comp=Z,645nm,18.3s,baz=358,slow=41						
YAK	Yakutsk	57.73	34	LR	LR	07 27 57.7	
	comp=Z,485nm,20.6s,baz=274,slow=39						
NJ2	Nanjing	60.93	70	*e*P	P	07 00 46.8	-1.1
KLR	Kul'dur	63.00	47	P	P	07 01 01.1	-0.4
	comp=Z,0.1nm,0.5s,baz=262,slow=6.0,SNR=5.6						
KLR				LR	LR	07 31 57.1	
	comp=Z,32nm,21.9s,baz=278,slow=40						
USRK	Ussuriysk Ar.	65.21	52	LR	LR	07 33 50.2	
	comp=Z,616nm,18.6s,baz=276,slow=40						
KS15	Wonju Array Si	65.33	61	*e*P	P	07 01 14.6	-2.4
KSAR	Wonju Array Be	65.33	61	P	P	07 01 14.6	-2.4
KSAR	Wonju Array Be	65.33	61	P	P	07 01 14.6	-2.4
KSRS	Korea Array	65.35	60	P	P	07 01 14.6	-2.5
	comp=Z,0.9nm,0.5s,baz=295,slow=6.4,SNR=3.5						
BOSA	Boshof	65.75	198	LR	LR	07 29 38.1	
	comp=Z,700nm,18.5s,baz=24,slow=36						
NKL	Nikolayevsk	66.43	41	*e*P	P	07 01 22.8	-1.0
SEY	Seymchan	67.02	28	P	P	07 01 27.6	+0.2
	comp=Z,1.9nm,0.7s,baz=288,slow=3.2,SNR=7.2						
SEY	Seymchan	67.02	28	⇓*i*P	P	07 01 28.3	+0.9
MA2	Magadan	68.14	32	LR	LR	07 35 51.2	
	comp=Z,508nm,18.9s,baz=289,slow=40						
BILL	Bilibino	68.59	20	*i* P	P	07 01 35.5	-1.7
BILL				*i*		07 01 57.5	
BILL				*i*		07 04 12.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,425nm,23.0s						
JNU	Nakatsue	69.50	63	LR	LR	07 35 33.5	
	comp=Z,261nm,18.5s,baz=301,slow=39						
TGY	Tagaytay City	71.29	86	LR	LR	07 38 19.4	
	comp=Z,267nm,20.7s,baz=180,slow=40						
LEM	Lembang	72.71	112	LR	LR	07 36 37.3	
	comp=Z,291nm,21.3s,baz=296,slow=38						
SCHQ	Schefferville	72.82	326	P	P	07 02 04.2	+1.1
	comp=Z,1.3nm,0.7s,baz=67,slow=6.7,SNR=2.3						
SCHQ	Schefferville	72.82	326	*e*P	P	07 02 04.2	+1.1
	comp=Z,45nm,1.8s						
PETK	Petropavlovsk-	75.04	35	LR	LR	07 39 44.6	
	comp=Z,562nm,18.1s,baz=309,slow=39						
DAV	Davao City (W)	78.95	89	LR	LR	07 42 52.1	
	comp=Z,294nm,20.2s,baz=336,slow=40						
ILAR	Eielson Array	80.18	5	P	P	07 02 46.8	+2.2
	comp=Z,0.2nm,0.8s,baz=328,slow=4.3,SNR=2.4						
ILAR				LR	LR	07 40 23.4	
	comp=Z,261nm,21.6s,baz=334,slow=37						
ILB	Eielson Array	80.18	5	*e*P	P	07 02 46.8	+2.2
YKA	Yellowknife Ar	81.35	350	P	P	07 02 50.1	-0.8
	comp=Z,0.2nm,0.6s,baz=8.9,slow=5.1,SNR=3.3						
YKA				LR	LR	07 41 10.7	
	comp=Z,18nm,19.4s,baz=0.0,slow=37						
YKB5	Yellowknife Ar	81.35	350	*e*P	P	07 02 50.1	-0.8
NEW	Newport	95.44	348	LR	LR	07 49 44.3	
	comp=Z,180nm,18.9s,baz=25,slow=37						

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*BJI **05** 06:55:21.0, 3.72N×96.53E, h5^{km}, mb4.9/62, mB5.1/47, Ms4.9/60, Ms7 4.5/57*

*ISCJB **05** 06:55:28.9±0.4, 4.20N±0.02×97.03E±0.02, h43^{km}±3^{km}, mb4.9/155, MS4.5/38, Error ellipse: s-maj=4.0km s-min=2.6km az=140.9*

*KLM **05** 06:55:28.7, 4.19N×97.09E, h21^{km}, mb5.2*

*DJA **05** 06:55:29.3±0.4, 4°N±1°×9°7E±°, h15^{km}±4^{km}, M5.1/54, mb5.3/54, mB5.5/31, MLv5.6/18, Mw(mB)5.0/31, Mwp6.7/1*

*MOS **05** 06:55:29.1±1.1, 4.20N×96.96E, h45^{km}, mb5.0/70, MS4.4/12, Error ellipse: s-maj=8.3km s-min=4.6km az=115.6*

*IDC **05** 06:55:29.2±2.2, 4.28N×96.99E, h28^{km}±14^{km}, mb4.5/40, mb1 4.5/40, mb1mx4.5/58, mbtmp4.7/40, MS4.3/21, Ms1 4.3/21, ms1mx4.0/68, Error ellipse: s-maj=13.9km s-min=10.5km az=44.0*

*NEIC **05** 06:55:30.8±0.6, 4.20N×97.06E, h46^{km}±5^{km}, mb5.1/61, Error ellipse: s-maj=5.8km s-min=3.8km az=51.0*

NEIC Felt [III] at Banda Aceh, Lhokseumawe and Meulaboh and [II] at Medan. Also felt at Ayer Itam, Gelugor and Petaling Jaya, Malaysia and at Kathu and Phuket, Thailand.

*GCMT **05** 06:55:30.8±0.3, 4.17N×97.09E, h13^{km}±1^{km}, MW5.1/86, Moment Tensor Solution. s27,c32; s86,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.28±.15; $M_{\theta\theta}$-2.12±.12; $M_{\phi\phi}$2.40±.14; $M_{r\theta}$-1.75±.43; $M_{\theta\phi}$-3.17±.14; $M_{\phi r}$-2.31±.53; Best double couple: $M_0$4.81500×10^{16} NP1:ϕ_s17.00000°,δ83.00000°,λ-34.00000°. NP2: ϕ_s111.00000°,δ56.00000°,λ-171.00000°. Principal axes: T 4.4370, Plg18.0000°, Azm69.0000°; N 0.7570, Plg55.0000°, Azm186.0000°; P -5.1930, Plg29.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 06:55:28.9±0.7**, 4.11N**±0.03×**96.99E**±0.03**, h27**^{km}±4^{km}**, n517, σ1.76**/553**, mb5.0**/165**, MS4.6**/38**, 29C-38D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	0.61	285	P	Pn	06 55 41.5	-0.3
MLSI				S	Sn	06 55 53.2	+2.5
TPTI		0.87	168	P	Pn	06 55 45.3	-0.1
TPTI				S	Sn	06 55 58.4	+1.2
KCSI	Kotacane, Aceh	0.97	127	P	Pn	06 55 45.3	-1.6
KCSI				S	Sn	06 56 00.2	+0.4
LHMI	Lhok Sumawe	1.11	358	P	Pn	06 55 48.3	-0.4
LHMI				S	Sb	06 56 05.1	+1.6
LHMI	Lhok Sumawe	1.11	358	*e*Pn	Pn	06 55 48.2	-0.4
LHMI				*e*Sn	Sb	06 56 03.6	+0.1
TSI	Tuntungan	1.68	111	P	Pn	06 55 57.6	+1.0
TSI				S	Sb	06 56 20.6	+0.6
PSI	Prapat	2.33	124	Pg	Pb	06 56 22.3	+12
	219nm,0.3s,baz=321,slow=15,SNR=1180						
PSI				Lg	Lg	06 56 54.1	
	248nm,0.3s,baz=260,slow=17,SNR=6.2						
PSI	Prapat	2.33	124	*e*Pn	Pn	06 56 07.8	+2.2
PSI				*e*Sn	Sn	06 56 22.3	-11
PSI	Prapat	2.33	124	*e*P	Pn	06 56 07.8	+2.2
GSI	Gunungsitoli	2.85	168	P	Pn	06 56 15.8	+3.1
GSI	Gunungsitoli	2.85	168	*e*Pn	Pn	06 56 15.4	+2.7
KULM	Kulim	3.83	72	⇑P	Pn	06 56 24.8	-1.3
KULM	Kulim	3.83	72	*e*Pn	Pn	06 56 24.8	-1.3
KULM				*e*Sn	Sn	06 57 09.0	-1.2
PKDT	Phuket	3.98	20	P	Pn	06 56 25.4	-2.9
IPM	Ipoh	4.04	85	⇑P	Pn	06 56 27.7	-1.3
IPM	Ipoh	4.04	85	*e*Pn	Pn	06 56 27.6	-1.5
IPM				*e*Sn	Sn	06 57 14.3	-1.2
MNSI	Mandailing Nat	4.19	142	P	Pn	06 56 32.8	+1.7
PBSI	Pulau Batu	4.34	163	P	Pn	06 56 37.7	+4.6
PBSI				S	Sn	06 57 25.4	+2.6
TRTT	Trang	4.57	36	P	Pn	06 56 33.2	-3.1
FRIM	Kepong	4.71	101	⇓P	Pn	06 56 37.4	-0.7
SKLT	Songkhla	4.72	50	P	Pn	06 56 36.0	-2.3
SURT	Suratani	5.13	20	P	Pn	06 56 41.4	-2.7
BKNI	Bangkinang	5.52	133	P	Pn	06 56 52.2	+2.8
	2μm,0.9s,18μm15nm						
BKNI	Bangkinang	5.52	133	*e*Pn	Pn	06 56 51.6	+2.2
SISI	Saibi	5.80	159	P	Pn	06 56 57.5	+4.3
PDSI	Padang	6.08	145	P	Pn	06 56 59.1	+2.0
KTGM	Kuala Trenggan	6.24	79	⇓P	Pn	06 56 58.3	-1.0
KGM	Kluang	6.65	108	⇓P	Pn	06 57 04.8	-0.2
RGRI	Rengat	6.94	130	P	Pn	06 57 10.7	+1.8
MYKOM	Kota Tinggi	7.23	108	⇓P	Pn	06 57 12.2	-0.6
MYKOM	Kota Tinggi	7.23	108	*e*Pn	Pn	06 57 12.0	-0.8
MYKOM				*e*Sn	Sn	06 58 31.2	-2.9
TPRI	Tanjung Pinang	8.17	113	P	Pn	06 57 26.6	+0.8
	126nm,0.5s,13μm						
PBA	Port Blair	8.59	331	*e*P	Pn	06 57 32.2	+0.6
PBA				IAmb	IAmb	06 57 42.6	
	comp=Z,101nm,0.4s						
DSRI	Dabo	8.85	121	P	Pn	06 57 35.1	0.0
	comp=Z,11nm,0.6s						
MASI	Maura Aman, Be	8.91	144	P	Pn	06 57 38.9	+2.8
	comp=Z,356nm,0.8s,comp=Z,5μm						
DGPR	DIGLIPUR	9.86	336	*e*P	Pn	06 57 50.8	+1.8
DGPR				IAmb	IAmb	06 57 52.3	
	comp=Z,109nm,1.0s						
CHBT	CHBT	10.07	31	P	Pn	06 57 53.7	+1.8
	comp=Z,447nm,0.8s						
MNAI	Manna	10.31	145	P	Pn	06 57 54.9	-0.3
	comp=Z,268nm,0.8s						
MNAI	Manna	10.31	145	*e*Sn	Sn	06 59 49.3	-0.8
SRDT	SRDT	10.38	12	P	Pn	06 58 03.5	+7.3
MDSI	Maura Dua	11.16	140	P	Pn	06 58 06.9	+0.1
	comp=Z,97nm,0.7s,comp=Z,1μm						
LWLI	Liwa	11.49	142	P	Pn	06 58 12.3	+0.8
	comp=Z,231nm,0.6s,comp=Z,11μm						
UTHA	Uthaitani	11.63	12	P	Pn	06 58 13.9	+0.7
	comp=Z,20nm,0.8s,comp=Z,172nm						
KLI	Kotabumi	11.88	139	P	Pn	06 58 19.6	+2.9
	comp=Z,114nm,1.1s						
KASI	Kota Agung	12.16	142	P	Pn	06 58 23.8	+3.3
	comp=Z,102nm,0.5s						
TPI	Tanjungpandan	12.65	122	P	Pn	06 58 29.1	+1.9
CHAI	Chaiyaphum	12.70	22	P	Pn	06 58 29.5	+1.6
	comp=Z,12nm,0.9s						
PHIT	Phitsanulok	13.42	14	P	Pn	06 58 40.6	+2.9
	comp=Z,53nm,0.9s						
KHON	Khomkaen	13.43	25	P	P	06 58 48.1	+1.2
KSM	Kuching	13.55	101	*e*Pn	Pn	06 58 40.3	+0.7
CGJI	Cibinong	13.75	141	P	Pn	06 58 44.2	+2.0
	comp=Z,189nm,0.6s,comp=Z,40μm						
CM01	Chiang Mai Arr	14.35	8	*e*Pn	P	06 58 54.0	-3.2
CM31	Chiang Mai Arr	14.38	7	*e*Pn	Pn	06 58 51.9	+1.0
CMAR	Chiang Mai Arr	14.38	7	Pn	Pn	06 58 51.9	+1.0
	comp=Z,1.1nm,0.3s,baz=207,slow=13,SNR=14						
CMAR				Lg	Lg	07 03 01.6	
	comp=Z,2.0nm,0.3s,baz=188,slow=30,SNR=9.1						
CMAR				LR	LR	07 04 36.2	
	comp=Z,579nm,18.5s,baz=187,slow=38						
SKNT	Sakolnakorn	14.50	28	P	Pn	06 58 51.9	-0.6
	comp=Z,20nm,1.1s						
LAMP	Lampang	14.55	10	P	P	06 59 00.6	+1.2
CMMT	Chiang Mai	14.73	7	P	P	06 58 59.5	-2.0
CHTO	Chiang Mai	14.73	7	P	P	06 59 00.6	-0.9
CHTO	Chiang Mai	14.73	7	*e*Pn	Pn	06 58 56.3	+0.6
CHTO				*e*Sn	Sn	07 01 36.2	-2.0
CHTO	Chiang Mai	14.73	7	*e*P	Pn	06 58 56.3	+0.6
CHTO				*e*		07 01 36.2	
STKI	Sintang	15.02	105	P	P	06 59 02.1	-2.6
	comp=Z,102nm,0.9s,comp=Z,23μm						
LEM	Lembang	15.19	136	LR	LR	07 04 38.2	
	comp=Z,2μm,19.4s,baz=266,slow=36						
SBUM	Sibu	15.29	96	*e*Pn	Pn	06 59 04.5	+1.4
	comp=Z,38nm,0.9s						
CMAI	Chiengmai2	15.85	7	P	P	06 59 12.4	-1.6
	comp=Z,317nm,1.2s						
PALK	Pallekele	16.51	282	Pn	P	06 59 21.5	+0.2
	comp=Z,1.3nm,0.3s,baz=116,slow=14,SNR=7.7						
PALK				Sn	Sn	07 02 12.7	-8.8
	comp=Z,1.1nm,0.3s,baz=116,slow=9.3,SNR=5.8						
PALK				LR	LR	07 06 08.0	
	comp=Z,299nm,18.3s,baz=292,slow=39						
PALK	Pallekele	16.51	282	*e*Pn	P	06 59 21.5	+0.2
	comp=Z,91nm,0.9s						
PALK				*e*Sn	Sn	07 02 20.7	-0.8
MDRS	Chennai	18.78	299	*e*P	Pn	06 59 47.2	+0.3
MDRS				IAmb	IAmb	06 59 54.4	
	comp=Z,204nm,1.2s						
VIS	Vishakhapatnam	19.03	316	*i* P	P	06 59 48.5	-0.4
VIS				IAML		06 59 53.6	
	comp=Z,1μm,1.1s						
VIS				⇓*i*x	x	07 03 18.9	
PWJI	Pagerwojo	19.07	129	P	Pn	06 59 50.7	+0.3
	comp=Z,46nm,0.9s						
KKM	Kota Kinabalu	19.24	83	*e*P	Pn	06 59 53.0	+0.4
	comp=Z,90nm,0.8s						
QIZ	Qiongzhong	19.43	39	P	Pn	06 59 56.0	+1.4
QIZ				S	Sn	07 03 35.0	+3.1
QIZ				pmax	pmax		
	comp=Z,40nm,1.5s						
QIZ				LR	LR		
	comp=Z,3μm,15.7s						
QIZ				LR	LR		
	comp=Z,3μm,16.2s						
QIZ				LR	LR		
	comp=Z,640nm,11.6s						
QIZ	Qiongzhong	19.43	39	*e*P	P	06 59 52.1	-1.2
	comp=Z,58nm,1.0s						
QIZ				*e*sP	pP	07 00 02.1	+1.4
KMMI	Kalianget	20.25	123	P	Pn	07 00 04.1	-0.3
	comp=Z,205nm,0.8s,comp=Z,2μm						
BLJI	Banyuglugur	20.33	125	P	Pn	07 00 04.6	-0.7
TRD	Trivandrum	20.38	283	*e*P	P	07 00 04.7	+0.9
GMJI	Gumukmas	20.51	127	P	Pn	07 00 07.2	-0.3
KBKI	Kotabaru	20.53	111	P	Pn	07 00 07.2	-0.5
BKB	Balikpapan	20.59	105	P	P	07 00 06.9	+0.8
ABJI	Asem Bagus	20.88	124	P	Pn	07 00 10.8	-1.0
JAGI	Jajag, Banyuwa	21.19	126	P	P	07 00 12.5	-0.1
	comp=Z,70nm,0.9s						
JAGI	Jajag, Banyuwa	21.19	126	*e*P	P	07 00 11.6	-1.0
	comp=Z,50nm,0.8s						
MYLDM	Lahad Datu	21.46	86	*e*P	P	07 00 12.5	-3.0
	comp=Z,468nm,1.1s						
KMI	Kunming	21.61	14	P	P	07 00 21.9	+4.7
KMI				pP	pP	07 00 26.0	+1.4
KMI				sP	sP	07 00 28.4	+0.3
KMI				PP	PnPn	07 00 47.5	+9.2
KMI				S	S	07 04 17.3	+1.8
KMI				pmax	pmax		
	comp=Z,92nm,1.3s						
KMI				pmax	pmax		
	comp=Z,230nm,3.6s						
KMI				LR	LR		
	comp=Z,1μm,15.9s						
KMI				LR	LR		
	comp=Z,2μm,16.8s						
KMI				LR	LR		
	comp=Z,1μm,17.1s						
SRBI	Singaraja	21.84	124	P	P	07 00 20.0	+0.4
SHL	Shillong	21.89	348	⇓*i*P	P	07 00 19.0	-1.1
SHL				IAmb	IAmb	07 00 21.4	
	comp=Z,95nm,0.9s						
SHL				*e*S	S	07 04 20.0	-0.8
BOK	Bokaro	22.31	332	*e*P	P	07 00 22.8	-1.7
BOK				IAmb	IAmb	07 00 26.5	
	comp=Z,15nm,0.4s						
HYB	Hyderabad	22.39	308	*i* P	P	07 00 26.5	+1.0
	comp=Z,150nm,1.0s						
HYB				*e*S	S	07 04 33.0	+2.8
HYB	Hyderabad	22.39	308	*e*P	P	07 00 25.5	0.0
HYB				IAmb	IAmb	07 00 26.5	
	comp=Z,38nm,0.8s						
MPSI	Mapaga	23.19	99	P	P	07 00 33.4	-0.4
TTSI	Tana Toraja	23.89	107	P	P	07 00 41.2	+0.5
	comp=Z,68nm,1.1s,comp=Z,1μm						
GYA	Guiyang	24.07	22	⇑*i*P	P	07 00 45.3	+3.0
GYA				pP	pP	07 00 48.4	-1.9
GYA				PP	PnPn	07 01 17.0	+5.1
GYA				PcP	PcP	07 04 25.4	+1.8
GYA				pmax	pmax		
	comp=Z,80nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=Z,720nm,15.2s						
GYA				LR	LR		
	comp=Z,690nm,15.8s						
GYA				LR	LR		
	comp=Z,710nm,15.4s						
PLAI	Plampang	24.39	122	P	P	07 00 44.3	-0.9
	comp=Z,114nm,0.8s,comp=Z,866nm						
ODAN	Odare	24.41	339	*e*P	P	07 00 44.6	-1.0
	comp=Z,77nm,0.7s						
KAPI	Kappang	24.48	112	*e*P	P	07 00 45.6	-0.4
	comp=Z,41nm,0.7s						
BNSI	Bone	24.59	110	P	P	07 00 49.1	+2.0
TAPN	Taplejung	24.75	340	*e*P	P	07 00 48.2	-0.5
	comp=Z,129nm,0.8s						
RAMN	Ramite	24.79	337	*e*P	P	07 00 48.6	-0.4
	comp=Z,47nm,0.7s						
JBP	Jabalpur	25.08	321	*e*P	P	07 00 51.5	+0.1
APSI	Ampana	25.14	101	P	P	07 00 54.2	+2.2
MRSI	Marisa	25.18	98	P	P	07 00 52.9	+0.4
GOA	Goa	25.44	298	*e*P	P	07 00 54.9	+0.2
JIRN	Jiri	25.58	337	*e*P	P	07 00 55.5	-0.8
	comp=Z,117nm,0.8s						
PKI	Pulchoki	25.81	336	*e*P	P	07 00 57.2	-1.2
	comp=Z,44nm,1.0s						
PKIN	Phulchoki	25.82	336	*e*P	P	07 00 57.5	-0.9
	comp=Z,38nm,0.7s						
GUN	Gumba	25.93	337	*e*P	P	07 00 58.3	-1.1
	comp=Z,55nm,0.6s						
DMN	Daman	25.97	335	*e*P	P	07 00 58.5	-1.2
	comp=Z,48nm,0.9s						
LSA	Lhasa	26.04	348	*e*P	P	07 01 01.1	+0.5
	comp=Z,34nm,0.6s						
LSA	Lhasa	26.04	348	*e*P	P	07 01 01.1	+0.5
LSA				pmax	pmax		
	comp=Z,34nm,0.6s						
KKN	Kakani	26.06	336	*e*P	P	07 00 59.3	-1.2
	comp=Z,65nm,0.7s						
WBSI	Waikabubak, Su	26.17	122	P	P	07 01 03.0	+1.6
LUWI	Luwuk	26.27	101	P	P	07 01 03.7	+1.4
LUWI	Luwuk	26.27	101	*e*P	P	07 01 02.8	+0.5
	comp=Z,189nm,0.9s						
KOLN	Koldanda	26.77	333	*e*P	P	07 01 05.5	-1.4
	comp=Z,44nm,0.7s						
POO	Poona	26.78	304	*e*P	P	07 01 07.8	+0.9
POO				IAmb	IAmb	07 01 08.5	
	comp=Z,53nm,1.4s						
BHPL	Bhopal	26.82	317	*e*P	P	07 01 06.9	-0.3
DGAR	Diego Garcia	27.03	245	*e*P	P	07 01 09.0	-0.2
	comp=Z,152nm,1.4s						
DGAR	Diego Garcia	27.03	245	*e*P	P	07 01 09.0	-0.2
DGAR				pmax	pmax		
	comp=Z,152nm,1.4s						
H08S2	Diego Garcia H	27.09	244	T	T	07 28 54.5	
	baz=62,slow=75,SNR=157						
H08S3	Diego Garcia H	27.09	245	T	T	07 28 33.5	
	baz=62,slow=75,SNR=182						
H08S1	Diego Carcia H	27.11	245	T	T	07 28 51.3	
	baz=62,slow=75,SNR=145						
PYUN	Piuthan	27.33	332	*e*P	P	07 01 10.7	-1.2
	comp=Z,32nm,0.7s						
CD2	Chengdu	27.41	13	P	P	07 01 13.2	+0.8
CD2				pP	pP	07 01 18.5	-1.9
CD2				sP	sP	07 01 20.8	-2.9
CD2				PcP	PcP	07 04 30.9	-0.1
CD2				S	S	07 05 54.2	+3.0
CD2				sS	sS	07 06 03.3	-1.1
CD2				pmax	pmax		
	comp=Z,70nm,0.8s						
CD2				pmax	pmax		
	comp=Z,270nm,4.8s						
CD2				LR	LR		
	comp=Z,2μm,11.5s						
CD2				LR	LR		
	comp=Z,2μm,12.3s						
CD2				LR	LR		
	comp=Z,1μm,10.7s						
BASI	Baing, Sumba	27.47	121	P	P	07 01 11.9	-1.2
ENH	Enshi	28.57	23	*e*P	P	07 01 25.7	+2.9
	comp=Z,29nm,0.6s						
SANI	Sanana	29.62	101	P	P	07 01 33.0	+0.7
TPUB	Ta-pu	29.75	48	*e*P	P	07 01 33.0	-0.4
	comp=Z,113nm,1.5s						
BATI	Baumata	30.13	118	P	P	07 01 34.4	-2.5
	comp=Z,52nm,0.8s,baz=247,slow=6.8,SNR=4.8						
BATI				LR	LR	07 15 05.3	
	comp=Z,2μm,20.2s,baz=280,slow=39						
BATI	Baumata	30.13	118	P	P	07 01 38.1	+1.3
YULB	Yu-li	30.31	49	*e*P	P	07 01 36.0	-2.2
	comp=Z,102nm,1.8s						
SOEI	Soe	30.47	117	P	P	07 01 42.0	+2.1
WHN	Wuhan	30.98	30	P	P	07 01 46.3	+2.3
WHN				S	S	07 06 53.6	+6.5
WHN				LR	LR		
	comp=Z,700nm,7.6s						
WHN				LR	LR		
	comp=Z,2μm,14.8s						
WHN				LR	LR		
	comp=Z,2μm,11.0s						
GIRL	Giralia	31.48	148	P	P	07 01 50.7	+2.1
	baz=32,SNR=4.8						
XAN	Xi'an	31.78	19	P	P	07 01 51.7	+0.6
XAN				sP	pP	07 01 59.9	+0.7
XAN				PP	PnPn	07 02 56.7	+0.8
XAN				S	S	07 06 56.9	-2.8
XAN				pmax	pmax		
	comp=Z,88nm,1.0s						
XAN				LR	LR		
	comp=Z,1μm,19.1s						
XAN				LR	LR		
	comp=Z,2μm,19.1s						
XAN				LR	LR		
	comp=Z,800nm,19.5s						
YOJ	Yonaguni jima	32.20	49	*e*P	P	07 01 54.4	-0.5
	comp=Z,176nm,1.2s						
YOJ	Yonaguni jima	32.20	49	*e*P	P	07 01 54.4	-0.5
YOJ				pmax	pmax		
	comp=Z,176nm,1.2s						
LZH	Lanzhou	32.44	10	*e*P	P	07 01 57.7	+0.6
LZH				pP	pP	07 02 00.9	-4.2
LZH				sP	sP	07 02 02.2	-6.2
LZH				*e*S	S	07 07 17.1	+6.9
LZH				sS	sS	07 07 24.1	+0.6
LZH				pmax	pmax		
	comp=Z,40nm,1.0s						
LZH				pmax	pmax		
	comp=Z,210nm,4.8s						
LZH				LR	LR		
	comp=Z,970nm,16.0s						
LZH				LR	LR		
	comp=Z,470nm,12.5s						
LZH				LR	LR		
	comp=Z,900nm,16.6s						
BHJ	Bhuj	32.55	308	*e*P	P	07 01 57.4	-0.6
SMLA	Simla	32.72	327	*e*P	P	07 01 57.8	-1.5
SMLA				IAmb	IAmb	07 01 58.9	
	comp=Z,8.9nm,0.5s						
DHRM	DHARAMSHALA	34.05	328	*e*P	P	07 02 08.3	-3.0
DHRM				IAmb	IAmb	07 02 09.9	
	comp=Z,25nm,1.0s						
NJ2	Nanjing	34.54	34	*e*P	P	07 02 15.4	+0.2
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
NJ2				LR	LR		
	comp=Z,880nm,12.5s						
NJ2				LR	LR		
	comp=Z,2μm,12.5s						
NJ2				LR	LR		
	comp=Z,870nm,11.9s						
SWI	Sorong	34.60	97	P	P	07 02 18.0	+2.0
GTA	Gaotai	35.23	4	P	P	07 02 21.7	+0.5
GTA				pP	pP	07 02 27.9	-1.4
GTA				sP	sP	07 02 30.7	-1.9
GTA				S	S	07 07 55.5	+2.2
GTA				sS	pS	07 08 03.1	+0.6
GTA				ScP	ScP	07 08 38.0	+2.0
GTA				SS	SnSn	07 10 12.9	+0.9
GTA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,210nm,5.0s						
GTA				LR	LR		
	comp=Z,1μm,19.5s						
GTA				LR	LR		
	comp=Z,780nm,17.6s						
GTA				LR	LR		
	comp=Z,890nm,19.5s						
FITZ	Fitzroy Crossi	35.85	129	*e*P	P	07 02 24.5	-2.1
TIY	Taiyuan	36.30	21	*e*P	P	07 02 39.2	+8.8
TIA	Tai'an	36.94	28	P	P	07 02 39.7	+4.0
TIA				pmax	pmax		
	comp=Z,12nm,1.1s						
TIA				pmax	pmax		
	comp=Z,140nm,3.7s						
TIA				LR	LR		
	comp=Z,510nm,12.9s						
TIA				LR	LR		
	comp=Z,880nm,17.5s						
TIA				LR	LR		
	comp=Z,530nm,23.5s						
MEEK	Meekatharra	37.04	147	P	P	07 02 37.3	+0.5
	baz=37,SNR=5.6						
KNRA	Kununurra	37.09	123	P	P	07 02 35.6	-1.7
	baz=37,SNR=6.1						
MORW	Morawa	37.73	152	P	P	07 02 44.1	+1.6
	baz=38,SNR=8.8						
BTO	Baotou	38.18	16	*e*P	P	07 02 43.9	-2.4
HHC	Hu-ho-hao-te	38.85	18	*e*P	P	07 02 53.4	+1.4
HHC				pP	pP	07 02 57.7	-2.4

Code	Station	Dist	Az	Phase	ISC	Time	Res
HHC				sP	sP	07 03 04.4	+1.0
HHC				PP	PnPn	07 04 25.4	+1.7
HHC				eS	S	07 08 49.4	+1.0
HHC				pmax	pmax		
	comp=Z,34nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,3.8s						
HHC				LR	LR		
	comp=Z,990nm,16.9s						
HHC				LR	LR		
	comp=Z,970nm,13.0s						
HHC				LR	LR		
	comp=Z,450nm,12.4s						
BLDU	Ballidu	39.34	153	P	P	07 02 56.9	+0.8
	baz=40,SNR=6.1						
BJT	Baijiatuau	39.72	23	eP	P	07 03 01.0	+1.9
	comp=Z,113nm,1.1s						
BJT	Baijiatuau	39.72	23	eP	P	07 03 01.0	+1.9
BJT				pmax	pmax		
	comp=Z,113nm,1.1s						
BJI	Beijing	39.74	23	P	P	07 03 02.4	+3.1
BJI				S	S	07 09 06.0	+4.5
BJI				pmax	pmax		
	comp=Z,120nm,0.9s						
BJI				LR	LR		
	comp=Z,1μm,20.6s						
BJI				LR	LR		
	comp=Z,1μm,16.7s						
BJI				LR	LR		
	comp=Z,850nm,20.6s						
KSH	Kashi	40.06	334	P	P	07 02 58.9	-3.2
KSH				sP	pP	07 03 06.1	-4.2
KSH				PcP	PcP	07 05 05.8	-0.9
KSH				S	S	07 09 00.1	-6.5
KSH				sS	pS	07 09 07.7	-8.3
KSH				SS	SS	07 11 50.9	-14
MUN	Mundaring	40.28	154	P	P	07 03 05.7	+1.9
	baz=40,SNR=9.9						
WMQ	Urumqi	40.39	350	P	P	07 03 04.7	0.0
WMQ				pP	pP	07 03 08.7	-4.2
WMQ				sP	sP	07 03 12.6	-3.6
WMQ				pmax	pmax		
	comp=Z,33nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,400nm,4.1s						
WMQ				LR	LR		
	comp=Z,2μm,20.5s						
WMQ				LR	LR		
	comp=Z,2μm,17.3s						
WMQ				LR	LR		
	comp=Z,950nm,19.1s						
KLBR	Kellerberrin	40.64	152	P	P	07 03 07.8	+1.0
	baz=41,SNR=17						
TARG	Taragay, Kyrgy	41.20	338	eP	P	07 03 10.9	-0.9
	comp=Z,19nm,0.8s						
DL2	Dalian	41.24	30	P	P	07 03 16.4	+4.7
DL2				eS	S	07 09 35.3	+11
DL2				pmax	pmax		
	comp=Z,53nm,0.6s						
DL2				LR	LR		
	comp=Z,510nm,21.8s						
DL2				LR	LR		
	comp=Z,940nm,19.6s						
DL2				LR	LR		
	comp=Z,580nm,16.9s						
NWAO	Narrogin (SRO)	41.54	154	P	P	07 03 15.7	+1.5
	baz=42,SNR=15						
NWAO				P	P	07 03 15.7	+1.5
	baz=42,SNR=15						
NWAO	Narrogin (SRO)	41.54	154	eP	P	07 03 15.9	+1.7
	comp=Z,53nm,0.9s						
NWAO	Narrogin (SRO)	41.54	154	eP	P	07 03 15.9	+1.7
NWAO				pmax	pmax		
	comp=Z,53nm,0.9s						
WSAR	Wadi Sarin	41.64	301	P	P	07 03 17.0	+1.8
	comp=Z,71nm,0.6s,baz=140,slow=6.6,SNR=31						
WRKA	Warakurna	42.00	135	P	P	07 03 17.4	-0.8
	baz=42,SNR=12						
H01W3	Cape Leeuwin H	42.01	159	T	T	07 47 22.4	
	baz=334						
PDGK	Podgornoye	42.02	341	iP	P	07 03 16.6	-1.6
PDGK				pmax	pmax		
	comp=Z,12nm,0.9s						
H01W2	Cape Leeuwin H	42.02	159	T	T	07 47 22.4	
	baz=334						
H01W1	Cape Leeuwin H	42.03	159	T	T	07 47 21.2	
	baz=334						
KMBL	Kambalda	42.52	148	P	P	07 03 23.0	+0.8
	baz=43,SNR=5.3						
TJN	Taejon	42.56	37	⇑eP	P	07 03 21.8	-0.7
JNU	Nakatsue	42.81	44	P	P	07 03 24.9	+0.2
	comp=Z,12nm,0.9s,baz=207,slow=3.8,SNR=4.5						
JNU	Nakatsue	42.81	44	eP	P	07 03 24.5	-0.2
	comp=Z,87nm,1.5s						
UCH	Uchtor	42.92	335	P	P	07 03 25.3	-0.7
	SNR=9.4						
TKM2	Tokmak 2	43.07	337	iP	P	07 03 24.0	-2.8
TKM2				pmax	pmax		
	comp=Z,16nm,1.3s						
KBK	Karagaybulak	43.10	336	P	P	07 03 26.7	-0.4
	SNR=11						
AML	Almayashu	43.19	335	P	P	07 03 27.5	-0.5
	SNR=8.0						
AAK	Ala-Archa	43.27	336	P	P	07 03 28.0	-0.4
	comp=Z,5.0nm,0.8s,baz=206,slow=7.2,SNR=11						
AAK				LR	LR	07 23 05.5	
	comp=Z,552nm,21.1s,baz=162,slow=38						
AAK	Ala-Archa	43.27	336	eP	P	07 03 28.7	+0.3
AAK	Ala-Archa	43.27	336	P	P	07 03 28.3	-0.1
AAK				pmax	pmax		
	comp=Z,12nm,0.9s						
KSAR	Wonju Array Be	43.58	36	P	P	07 03 30.5	-0.2
KSAR	Wonju Array Be	43.58	36	P	P	07 03 30.5	-0.2
EKS2	Erkin-Say	43.59	335	P	P	07 03 30.6	-0.4
	SNR=6.5						
KSRS	Korea Array	43.61	36	P	P	07 03 30.5	-0.4
	comp=Z,4.5nm,0.6s,baz=226,slow=8.9,SNR=4.4						
USP	Ospenovka	43.79	336	P	P	07 03 31.4	-1.1
	SNR=18						
WR1	Warramunga Arr	43.80	124	eP	P	07 03 32.1	-0.7
	comp=Z,72nm,0.8s						
WR1				ePcP	PcP	07 05 21.7	+2.4
WRA	Warramunga Arr	43.80	124	P	P	07 03 32.1	-0.7
	comp=Z,35nm,0.5s,baz=302,slow=9.2,SNR=413						
WRA				PcP	PcP	07 05 21.7	+2.4
	comp=Z,2.3nm,0.6s,baz=309,slow=2.8,SNR=3.3						
WRA				ScP	ScP	07 09 09.9	+0.6
	comp=Z,0.9nm,0.7s,baz=320,slow=3.2,SNR=5.1						
WRA				LR	LR	07 24 33.8	
	comp=Z,376nm,18.1s,baz=290,slow=40						
WRA	Warramunga Arr	43.80	124	iP	P	07 03 32.0	-0.8
WRA				pmax	pmax		
	comp=Z,35nm,0.5s						
WRAB	Tennant Creek	43.80	124	eP	P	07 03 32.5	-0.3
	comp=Z,61nm,0.8s						
WRAB	Tennant Creek	43.80	124	d iP	P	07 03 32.1	-0.7
WRAB				pmax	pmax		
	comp=Z,115nm,0.6s						
SONA0	Songino Array	44.30	9	eP	P	07 03 36.6	0.0
SONM	Songino Array	44.30	9	P	P	07 03 36.6	0.0
	comp=Z,12nm,0.7s,baz=193,slow=9.0,SNR=23						
SONM				PcP	PP	07 05 20.1	-0.1
	comp=Z,1.7nm,0.5s,baz=181,slow=3.3,SNR=1.8						
SONM				ScP	ScP	07 09 08.0	-3.0
	comp=Z,0.5nm,0.7s,baz=186,slow=3.6,SNR=2.0						
SONA1	Songino Array	44.31	9	eP	P	07 03 36.7	0.0
MK01	Makanchi Array	44.36	346	eP	P	07 03 34.6	-2.4
MK31	Makanchi Array	44.38	346	eP	P	07 03 35.4	-1.8
MK31	Makanchi Array	44.38	346	ceP	P	07 03 35.1	-2.0
MK31				pmax	pmax		
	comp=Z,15nm,0.7s						
MK32	Makanchi Array	44.38	346	eP	P	07 03 35.9	-1.2
MKAR	Makanchi Array	44.38	346	P	P	07 03 35.9	-1.2
	comp=Z,15nm,0.7s,baz=160,slow=8.1,SNR=88						
MKAR	Makanchi Array	44.38	346	eP	P	07 03 35.3	-1.8
	comp=Z,115nm,0.9s						
SNY	Shenyang	44.44	29	⇑P	P	07 03 35.8	-1.8
SNY				S	S	07 10 14.6	+3.8
ULN	Ulaanbaatar	44.44	10	eP	P	07 03 37.0	-0.7
	comp=Z,11nm,0.8s						
ULN	Ulaanbaatar	44.44	10	⇓iP	P	07 03 38.1	+0.4
ULN				pmax	pmax		
	comp=Z,12nm,0.9s						
MAKZ	Makanchi	44.48	345	eP	P	07 03 36.5	-1.4
	comp=Z,14nm,0.8s						
MAKZ	Makanchi	44.48	345	iP	P	07 03 36.1	-1.8
MAKZ				pmax	pmax		
	comp=Z,12nm,0.6s						
ASAR	Alice Springs	45.35	129	P	P	07 03 44.6	-0.5
	comp=Z,14nm,0.6s,baz=299,slow=8.0,SNR=104						
ASAR				ScP	ScP	07 09 16.1	+0.5
	comp=Z,2.3nm,1.0s,baz=316,slow=3.7,SNR=4.4						
ASAR				S	S	07 10 19.2	-5.5
	comp=Z,1.2nm,0.9s,baz=295,slow=13,SNR=5.3						
ASAR				LR	LR	07 26 12.7	
	comp=Z,273nm,18.5s,baz=304,slow=41						
AS31	Alice Springs	45.35	129	eP	P	07 03 44.6	-0.5
	comp=Z,17nm,1.3s						
KK31	Karatay Array	45.38	333	iP	P	07 03 48.3	+3.2
KK31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KKAR	Karatay Array	45.38	333	eP	P	07 03 44.0	-1.1
KKAR	Karatay Array	45.38	333	eP	P	07 03 44.0	-1.1
AS01	Alice Springs	45.38	129	eP	P	07 03 44.5	-0.9
ZAK	Zakamensk	46.41	6	eP	P	07 03 55.8	+2.6
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
CN2	Changchun	46.83	28	eP	P	07 03 58.0	+1.5
CN2				eS	S	07 10 52.5	+7.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,900nm,20.0s						
CN2				LR	LR		
	comp=Z,900nm,20.0s						
CN2				LR	LR		
	comp=Z,600nm,18.0s						
MOY	Mondy	47.51	3	eP	P	07 04 04.3	+2.5
MOY				pmax	pmax		
	comp=Z,18nm,2.7s						
TLY	Talaya	47.73	6	eP	P	07 04 03.8	+0.4
	comp=Z,8.8nm,0.8s						
TLY	Talaya	47.73	6	eP	P	07 04 06.2	+2.8
TLY				pmax	pmax		
	comp=Z,11nm,0.9s						
TLY				MLR	MLR		
	comp=Z,552nm,19.0s						
GUMO	Guam	48.15	76	LR	LR	07 24 08.5	
	comp=Z,107nm,21.6s,baz=234,slow=36						
QIS	Mount Isa	48.47	122	P	P	07 04 09.2	-0.4
	baz=48,SNR=13						
OTUK	Ortayu	48.78	338	P	P	07 04 09.1	-2.5
OTUK				pmax	pmax		
	comp=Z,20nm,1.0s						
GEYT	Alibeck	48.88	319	P	P	07 04 11.7	-0.8
	comp=Z,15nm,0.8s,baz=131,slow=8.1,SNR=12						
GEYT				LR	LR	07 26 01.9	
	comp=Z,474nm,21.1s,baz=135,slow=38						
KURK	Kurchatov	48.94	345	eP	P	07 04 11.2	-1.5
	comp=Z,31nm,1.2s						
KURK	Kurchatov	48.94	345	ceP	P	07 04 11.3	-1.4
KURK				pmax	pmax		
	comp=Z,66nm,1.7s						
COEN	Coen	49.20	112	P	P	07 04 14.1	-1.2
	baz=49,SNR=8.1						
COEN	Coen	49.20	112	eP	P	07 04 13.9	-1.4
	comp=Z,24nm,0.9s						
MAJO	Matsushiro	49.72	44	eP	P	07 04 21.2	+2.2
MAJO	Matsushiro	49.72	44	eP	P	07 04 21.2	+2.2
MJAR	Matsushiro Arr	49.72	44	P	P	07 04 21.2	+2.2
	comp=Z,2.1nm,0.7s,baz=245,slow=7.9,SNR=3.5						
USRK	Ussuriysk Ar.	50.42	32	P	P	07 04 24.1	+0.1
	comp=Z,1.8nm,0.6s,baz=224,slow=4.0,SNR=3.1						
ZAA0	Zalesovo Array	50.67	351	eP	P	07 04 24.5	-1.3
	comp=Z,26nm,0.8s						
ZALV	Zalesovo Beam	50.67	351	P	P	07 04 24.6	-1.2
	comp=Z,13nm,0.7s,baz=169,slow=6.7,SNR=28						
ZALV	Zalesovo Beam	50.67	351	eP	P	07 04 24.2	-1.5
ZAA1	Zalesovo Array	50.67	351	eP	P	07 04 24.6	-1.3
MTSU	Mount Surprise	51.62	117	P	P	07 04 33.3	-0.2
	baz=52,SNR=9.9						
PMG	Port Moresby	51.77	105	P	P	07 04 34.2	-0.5
	comp=Z,16nm,0.8s,baz=202,slow=3.8,SNR=4.9						
PMG	Port Moresby	51.77	105	eP	P	07 04 34.2	-0.5
	comp=Z,31nm,0.8s						
PMG	Port Moresby	51.77	105	⇑iP	P	07 04 34.4	-0.3
PMG				pmax	pmax		
	comp=Z,51nm,0.7s						
NVS	Novosibirsk	51.79	350	eP	P	07 04 29.8	-4.4
NVS				pmax	pmax		
	comp=N,13nm,1.0s						
NVS				pmax	pmax		
	comp=Z,15nm,1.0s						
BBOO	Buckleboo	52.14	138	P	P	07 04 36.9	-0.2
	baz=52,SNR=15						
BBOO	Buckleboo	52.14	138	eP	P	07 04 36.7	-0.5
	comp=Z,22nm,1.1s						
RAYN	Ar Rayn	53.25	296	eP	P	07 04 45.0	-0.7
	comp=Z,50nm,1.0s						
RAYN	Ar Rayn	53.25	296	P	P	07 04 46.9	+1.3
RAYN				pmax	pmax		
	comp=Z,50nm,1.0s						
BVAR	Borovoye Array	53.45	340	P	P	07 04 44.6	-1.9
	comp=Z,6.5nm,0.7s,baz=133,slow=8.3,SNR=21						
BRVK	Borovoye	53.51	340	eP	P	07 04 45.0	-2.0
	comp=Z,14nm,0.8s						
BRVK	Borovoye	53.51	340	eP	P	07 04 45.0	-2.0
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s						
KLR	Kul'dur	53.77	28	P	P	07 04 49.3	+0.3
	comp=Z,0.5nm,0.9s,baz=236,slow=10,SNR=4.4						
KLR	Kul'dur	53.77	28	⇑eP	P	07 04 48.3	-0.6
OPO	Ambohidratompo	53.98	244	P	P	07 04 52.3	+1.1
	comp=Z,1.9nm,0.4s,baz=83,slow=14,SNR=4.1						
CTAO	Charters Tower	54.02	118	eP	P	07 04 50.0	-1.3
	comp=Z,16nm,1.0s						
CTAO	Charters Tower	54.02	118	eP	P	07 04 50.0	-1.3
CTAO				pmax	pmax		
	comp=Z,16nm,1.0s						
HTT	Hallett	54.45	137	P	P	07 04 54.5	+0.3
	baz=54,SNR=5.8						
AB31	Akbulak array	54.87	331	P	P	07 04 54.8	-2.1
AB31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ABKAR	Akbulak array	54.87	331	eP	P	07 04 54.8	-2.1
	comp=Z,89nm,0.8s						
QLP	Quilpie	54.92	127	P	P	07 04 58.2	+0.5
	baz=55,SNR=38						
BOD	Bodaibo	55.20	11	eP	P	07 04 59.2	0.0
BOD				pmax	pmax		
	comp=Z,13nm,1.6s						
ZEA	Zeya	55.31	21	iP	P	07 05 03.1	+3.1
STKA	Stephens Creek	55.48	134	P	P	07 05 01.6	-0.1
	comp=Z,18nm,0.7s,baz=309,slow=7.3,SNR=40						
STKA				LR	LR	07 33 36.0	
	comp=Z,238nm,18.0s,baz=303,slow=41						
STKA	Stephens Creek	55.48	134	P	P	07 05 01.6	-0.1
	baz=56,SNR=23						
STKA	Stephens Creek	55.48	134	eP	P	07 05 01.5	-0.1
	comp=Z,3.9nm,0.7s						
ASAJ	Asahikawa	56.49	38	P	P	07 05 08.2	-0.5
	comp=Z,1.6nm,0.3s,baz=155,slow=14,SNR=2.4						
ASAJ	Asahikawa	56.49	38	eP	P	07 05 08.2	-0.5
	comp=Z,6.8nm,0.6s						
AKTO	Aktyubinsk	56.59	331	P	P	07 05 07.3	-2.0
	comp=Z,2.5nm,0.5s,baz=144,slow=5.5,SNR=11						
YSS	Yuzh-Sakhalins	58.09	35	⇓eP	P	07 05 30.5	+11
YSS				e		07 05 38.5	
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				pmax	pmax		
	comp=N,20nm,0.3s						
YSS				pmax	pmax		
	comp=E,20nm,0.3s						
CMSA	Cobar Meteorol	58.33	131	P	P	07 05 22.2	+0.4
	baz=58,SNR=96						
RMQ	Roma	58.56	124	P	P	07 05 24.5	+0.9
	baz=58,SNR=9.4						
GNI	Garni	59.08	315	P	P	07 05 26.5	-0.7
	comp=E,4.6nm,0.7s,baz=103,slow=14,SNR=2.3						
GNI				LR	LR	07 35 03.5	
	comp=E,160nm,19.8s,baz=110,slow=40						
KMBO	Kilima Mbogo	59.92	266	P	P	07 05 37.0	+3.4
	comp=E,8.6nm,0.8s,baz=61,slow=11,SNR=29						
KMBO				LR	LR	07 27 49.8	
	comp=E,245nm,21.4s,baz=68,slow=32						
KMBO	Kilima Mbogo	59.92	266	eP	P	07 05 37.2	+3.7
	comp=E,20nm,0.9s						
KMBO	Kilima Mbogo	59.92	266	eP	P	07 05 37.2	+3.7
KMBO				pmax	pmax		
	comp=Z,20nm,0.9s						
SVE	Sverdlovsk	59.92	338	eP	P	07 05 31.3	-1.2
SVE				pmax	pmax		
	comp=Z,24nm,1.1s						
SVE				MLR	MLR		
	comp=Z,711nm,22.0s						
EIDS	Eidsvold	60.07	122	P	P	07 05 33.8	-0.3
	baz=60,SNR=3.3						
KUR	Kuril'sk	60.32	39	eP	P	07 05 34.7	-0.7
ARU	Arti	60.44	337	P	P	07 05 34.0	-2.0
	comp=Z,5.3nm,0.2s,baz=262,slow=1.9,SNR=7.8						
ARU				LR	LR	07 34 04.1	
	comp=Z,669nm,20.1s,baz=136,slow=38						
ARU	Arti	60.44	337	d iP	P	07 05 33.6	-2.4
ARU						07 06 16.4	
ARU				S	S	07 13 48.9	-0.5
ARU				SS	SS	07 17 46.1	-1.5
ARU				pmax	pmax		
	comp=Z,16nm,1.7s						
ARU				MLR	MLR		
	comp=Z,741nm,20.0s						
NKL	Nikolayevsk	60.57	29	eP	P	07 05 39.7	+2.8
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
ZEI	Tsey	60.71	318	eP	P	07 05 37.3	-1.1
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YNG	Young	61.63	133	P	P	07 05 45.0	+0.4
	baz=62,SNR=4.7						
KBZ	Khabaz	61.76	318	P	P	07 05 44.4	-0.8
	comp=Z,6.5nm,0.8s,baz=241,slow=19,SNR=8.5						
KBZ				LR	LR	07 36 07.1	
	comp=Z,146nm,20.1s,baz=148,slow=40						
KIV	Kislovodsk	61.99	318	eP	P	07 05 45.6	-1.3
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
KIV				MLR	MLR		
	comp=Z,163nm,17.0s						
ASF	Jabal al Asfar	62.65	304	P	P	07 05 51.3	-0.2
	comp=Z,6.7nm,0.9s,baz=78,slow=4.5,SNR=5.7						
ASF	Jabal al Asfar	62.65	304	P	P	07 05 51.3	-0.2
ASF				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK	Yakutsk	62.70	17	eP	P	07 05 51.4	+0.3
YAK				e*PP	sP	07 06 02.1	-0.8
YAK				e		07 06 29.6	
YAK				eS	S	07 14 22.8	+5.0
YAK				e*SS	sS	07 14 43.2	+11
YAK				eSS	SS	07 18 24.1	+1.4
YAK				pmax	pmax		
	comp=Z,41nm,1.2s						
YAK				pmax	pmax		
	comp=N,12nm,1.4s						
YAK				pmax	pmax		
	comp=E,14nm,1.2s						
YAK				pmax	pmax		
	comp=Z,348nm,6.3s						
YAK				pmax	pmax		
	comp=E,181nm,5.9s						
YAK				pmax	pmax		
	comp=N,117nm,5.0s						
YAK				smax	smax		
	comp=E,153nm,4.6s						
YAK				smax	smax		
	comp=N,62nm,4.7s						
YAK				MLR	MLR		
	comp=Z,523nm,18.0s						
YAK				MLR	MLR		
	comp=N,394nm,19.0s						
YAK				MLR	MLR		
	comp=E,198nm,19.0s						
SOKR	Solikamsk	63.33	338	⇑iP	P	07 05 51.0	-4.3
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SOKR				MLR	MLR		
	comp=Z,631nm,22.0s						
MMAI	Mount Meron Ar	64.06	305	P	P	07 06 00.6	-0.3
	comp=Z,17nm,0.8s,baz=110,slow=7.4,SNR=12						
MMAI				LR	LR	07 36 05.4	
	comp=Z,190nm,19.5s,baz=105,slow=38						
NRIK	Noril'sk	65.43	356	LR	LR	07 38 55.0	
	comp=Z,718nm,20.3s,baz=60,slow=40						
VRH	Novokhopyorsk	65.61	325	eP	P	07 06 08.1	-2.4
VRH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CSS	Mathiatis	66.16	306	eP	P	07 06 14.1	-0.3
	comp=Z,14nm,1.3s						
BR101	Keskin Array S	67.02	312	eP	P	07 06 18.8	-1.1
BR131	Keskin Array S	67.02	312	eP	P	07 06 18.8	-1.1
BRTR	Keskin Array B	67.02	312	P	P	07 06 18.8	-1.1
	comp=Z,9.4nm,0.7s,baz=127,slow=7.3,SNR=42						
BRTR	Keskin Array B	67.02	312	ceP	P	07 06 18.7	-1.3
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VSR	Storozhevoye	67.08	325	eP	P	07 06 16.5	-3.4
VSR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ANTO	Ankara	67.69	311	eP	P	07 06 23.7	-0.4
	comp=Z,17nm,0.6s						
ANTO	Ankara	67.69	311	eP	P	07 06 23.7	-0.4
ANTO				pmax	pmax		
	comp=Z,17nm,0.6s						
LPSR	Galich'ya Gora	67.77	326	eP	P	07 06 21.7	-2.5
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MA2	Magadan	68.82	26	P	P	07 06 30.9	+0.3
	comp=Z,3.8nm,0.4s,baz=334,slow=4.0,SNR=4.4						
MA2	Magadan	68.82	26	eP	P	07 06 30.3	-0.3
PETK	Petropavlovsk-	69.45	34	P	P	07 06 34.3	-0.4
	comp=Z,2.5nm,0.8s,baz=116,slow=3.4,SNR=2.1						
PEA1	Petropavlovsk-	69.45	34	eP	P	07 06 34.3	-0.4
OBN	Obninsk	70.05	328	⇓eP	P	07 06 37.3	-1.0
OBN				e		07 07 02.6	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,271nm,18.0s						
TIXI	Tiksi	70.37	10	P	P	07 06 39.4	-0.6
	comp=Z,5.8nm,0.6s,baz=201,slow=5.0,SNR=11						
TIXI	Tiksi	70.37	10	⇑iP	P	07 06 39.6	-0.4
TIXI				pmax	pmax		
	comp=Z,11nm,1.2s						
KLMR	Klimovskoe	71.05	334	eP	P	07 06 39.1	-5.2
KLMR				pmax	pmax		
	comp=Z,15nm,1.2s						
KLMR	Klimovskoe	71.05	334	eP	P	07 06 39.1	-5.2
KLMR				AMP		07 06 47.5	
	comp=Z,15nm,1.2s						
SEY	Seymchan	71.18	23	P	P	07 06 44.5	-0.6
	comp=Z,0.8nm,0.4s,baz=260,slow=6.1,SNR=4.2						
KARP	Karpathos	71.23	306	eP	P	07 06 45.6	-0.4
	comp=Z,68nm,0.9s						
KARP	Karpathos	71.23	306	P	P	07 06 45.3	-0.7
TIRR	Tirgusor	71.90	315	⇓iP	P	07 06 48.7	-1.1
TIRR	Tirgusor	71.90	315	eP	P	07 06 49.0	-0.7
	comp=Z,20nm,1.0s						
TIRR	Tirgusor	71.90	315	eP	P	07 06 49.1	-0.7
TIRR				pmax	pmax		
	comp=Z,21nm,1.0s						
TLB	Topalu	72.19	316	⇓iP	P	07 06 51.2	-0.3
HARR	Harsova	72.29	316	⇓iP	P	07 06 51.2	-0.9
CHOS	Chios island	72.54	309	P	P	07 06 54.0	+0.1
CHOS	Chios island	72.54	309	P	P	07 06 54.0	+0.1
LAST	Lasithi	72.54	305	P	P	07 06 54.1	+0.1
LAST	Lasithi	72.54	305	P	P	07 06 54.1	+0.1
DZM	Mont Dzumac	72.66	115	LR	LR	07 39 54.8	
	comp=Z,191nm,21.3s,baz=233,slow=37						
SANT	Santorini	72.72	307	⇓iP	P	07 06 54.1	-0.8
APE	Apeiranthos	72.76	307	⇓iP	P	07 06 55.2	0.0
APE	Apeiranthos	72.76	307	⇑iP	P	07 06 54.2	-1.0
APE				pmax	pmax		
	comp=Z,12nm,1.1s						
SORM	Soroca	72.77	319	⇓iP	P	07 06 53.1	-1.8
SORM	Soroca	72.77	319	P	P	07 06 53.1	-1.8
AKASG	Malin Array Be	72.84	322	P	P	07 06 52.9	-2.4
	comp=Z,0.9nm,0.5s,baz=88,slow=4.8,SNR=9.6						
AKASG				LR	LR	07 43 52.2	
	comp=Z,131nm,18.2s,baz=100,slow=40						
AKASG	Malin Array Be	72.84	322	ceP	P	07 06 54.2	-1.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKBB	Malin Array Si	72.84	322	eP	P	07 06 53.9	-1.4
	comp=Z,8.2nm,0.9s						
AKBB	Malin Array Si	72.84	322	eP	P	07 06 53.9	-1.4
AKBB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIEV	Kiev	72.85	322	eP	P	07 06 53.9	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,8.0nm,0.9s						
KIEV	**Kiev**	**72.85**	**322**	⇑*i*P	**P**	**07 06 54.0**	**-1.4**
KIEV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AK11	**Malin Array Si**	**72.87**	**322**	*e*P	**P**	**07 06 53.1**	**-2.3**
IDI	**Anoyia**	**73.04**	**306**	P	**P**	**07 06 56.2**	**-0.6**
	comp=Z,29nm,0.7s,baz=107,slow=11,SNR=26						
IDI	**Anoyia**	**73.04**	**306**	P	**P**	**07 06 56.5**	**-0.4**
TMCR	**Tamitsa**	**73.18**	**337**	*e*P	**P**	**07 06 55.3**	**-1.7**
TMCR				pmax	pmax		
	comp=Z,20nm,0.9s						
VRI	**Vrincioaia**	**73.36**	**317**	⇓*i*P	**P**	**07 06 58.3**	**-0.2**
VRI	**Vrincioaia**	**73.36**	**317**	P	**P**	**07 06 58.3**	**-0.2**
PLOR	**Plostina**	**73.41**	**317**	⇓*i*P	**P**	**07 06 58.4**	**-0.4**
PLOR	**Plostina**	**73.41**	**317**	P	**P**	**07 06 58.4**	**-0.4**
TESR	**Tescani**	**73.55**	**317**	⇓*i*P	**P**	**07 06 58.3**	**-1.3**
IMMV	**Iera Moni Meta**	**73.80**	**306**	P	**P**	**07 07 01.6**	**+0.3**
MLR	**Muntele Rosu**	**73.83**	**316**	P	**P**	**07 07 00.2**	**-1.2**
	comp=Z,3.2nm,0.9s,baz=46,slow=5.7,SNR=12						
MLR				LR	LR	07 45 22.4	
	comp=Z,34nm,18.7s,baz=75,slow=41						
MLR	**Muntele Rosu**	**73.83**	**316**	⇓*i*P	**P**	**07 07 00.9**	**-0.5**
MLR	**Muntele Rosu**	**73.83**	**316**	*e*P	**P**	**07 07 00.6**	**-0.8**
	comp=Z,28nm,1.1s						
MLR	**Muntele Rosu**	**73.83**	**316**	*e*P	**P**	**07 07 00.6**	**-0.8**
MLR				pmax	pmax		
	comp=Z,28nm,1.1s						
DOPR	**Dopca**	**74.30**	**317**	⇓*i*P	**P**	**07 07 03.7**	**-0.3**
VOIR		**74.44**	**316**	⇓*i*P	**P**	**07 07 04.0**	**-0.9**
VOIR		**74.44**	**316**	P	**P**	**07 07 04.0**	**-0.9**
PAIG	**Paliouri**	**74.58**	**310**	P	**P**	**07 07 05.4**	**-0.3**
ARR	**Arges**	**74.71**	**316**	⇓*i*P	**P**	**07 07 05.6**	**-0.9**
BURAR	**Bucovina Array**	**74.72**	**318**	⇓*i*P	**P**	**07 07 06.0**	**-0.5**
BURAR	**Bucovina Array**	**74.72**	**318**	P	**P**	**07 07 06.0**	**-0.5**
BUR04	**Bucovina Ar. S**	**74.72**	**318**	*e*P	**P**	**07 07 05.3**	**-1.3**
BUR08	**Bucovina Ar. S**	**74.74**	**318**	*e*P	**P**	**07 07 06.2**	**-0.5**
SRS	**Serrai**	**74.81**	**311**	P	**P**	**07 07 06.0**	**-1.1**
VTS	**Vitosha**	**75.30**	**313**	⇓*i*P	**P**	**07 07 09.4**	**-0.6**
VTS	**Vitosha**	**75.30**	**313**	*e*P	**P**	**07 07 09.1**	**-1.0**
	comp=Z,16nm,1.0s						
VTS	**Vitosha**	**75.30**	**313**	*e*P	**P**	**07 07 09.1**	**-1.0**
VTS				pmax	pmax		
	comp=Z,16nm,1.0s						
GUR	**Goura**	**75.38**	**308**	*e*P	**P**	**07 07 09.2**	**-1.3**
GUR	**Goura**	**75.38**	**308**	P	**P**	**07 07 09.2**	**-1.3**
IDID	**Didziasalis**	**75.46**	**326**	*e*P	**P**	**07 07 10.3**	**-0.2**
IDID				IAmb	IAmb	07 07 18.1	
	comp=Z,5.9nm,1.0s						
AGG	**Agios Georgios**	**75.51**	**309**	*e*P	**P**	**07 07 08.7**	**-2.5**
	comp=Z,38nm,0.8s						
AGG	**Agios Georgios**	**75.51**	**309**	*e*P	**P**	**07 07 08.7**	**-2.5**
AGG				pmax	pmax		
	comp=Z,38nm,0.8s						
KLV	**Kalavryta, Ach**	**75.54**	**308**	P	**P**	**07 07 06.9**	**-4.5**
KLV	**Kalavryta, Ach**	**75.54**	**308**	P	**P**	**07 07 06.9**	**-4.5**
KALE	**Kalithea**	**75.59**	**308**	*e*P	**P**	**07 07 09.5**	**-2.2**
KALE	**Kalithea**	**75.59**	**308**	P	**P**	**07 07 09.5**	**-2.2**
VAY	**Valandovo**	**75.60**	**311**	*e*P	**P**	**07 07 10.3**	**-1.3**
ITM	**Ithomi**	**75.63**	**307**	P	**P**	**07 07 10.6**	**-1.3**
ITM	**Ithomi**	**75.63**	**307**	P	**P**	**07 07 10.6**	**-1.3**
SERG	**Sergoula**	**75.66**	**308**	P	**P**	**07 07 10.4**	**-1.6**
IIGN	**Ignalina**	**75.75**	**326**	*e*P	**P**	**07 07 12.0**	**-0.1**
IIGN				IAmb	IAmb	07 07 16.1	
	comp=Z,6.3nm,0.6s						
ANX	**Ano Chora**	**75.78**	**309**	P	**P**	**07 07 11.5**	**-1.3**
IZAR	**Zarasai**	**75.83**	**327**	*e*P	**P**	**07 07 12.2**	**-0.4**
IZAR				IAmb	IAmb	07 07 13.2	
	comp=Z,10nm,0.5s						
ISAL	**Salakas**	**75.86**	**326**	*e*P	**P**	**07 07 12.5**	**-0.2**
ISAL				IAmb	IAmb	07 07 13.0	
	comp=Z,5.8nm,0.6s						
DRO	**Drossia**	**75.88**	**308**	P	**P**	**07 07 13.1**	**-0.2**
LVV	**L'vov**	**75.90**	**320**	*e*P	**P**	**07 07 12.5**	**-0.6**
DEV	**Deva**	**76.00**	**316**	⇓*i*P	**P**	**07 07 14.2**	**+0.5**
DEV	**Deva**	**76.00**	**316**	P	**P**	**07 07 14.2**	**+0.5**
BOSA	**Boshof**	**76.06**	**239**	P	**P**	**07 07 16.8**	**+2.2**
	comp=Z,7.0nm,0.8s,baz=94,slow=3.3,SNR=10						
VSU	**Vasula**	**76.25**	**329**	⇓*e*P	**P**	**07 07 13.9**	**-1.0**
VSU				pmax	pmax		
	comp=Z,27nm,0.9s						
DRGR		**76.26**	**317**	⇓*i*P	**P**	**07 07 15.8**	**+0.4**
DRGR		**76.26**	**317**	P	**P**	**07 07 15.7**	**+0.4**
VTN	**Vitineika**	**76.29**	**308**	P	P	07 07 09.1	-6.5
APA	**Apatity**	**76.34**	**339**	⇓*i*P	**P**	**07 07 14.4**	**-0.9**
APA				pmax	pmax		
	comp=Z,12nm,0.9s						
FNA	**Florina**	**76.44**	**311**	P	**P**	**07 07 14.5**	**-2.0**
TRPA	**Tarpa**	**76.58**	**318**	*e*PKiKP	**P**	**07 07 17.0**	**0.0**
KRUS	**Krusevo**	**76.60**	**311**	*e*P	**P**	**07 07 15.7**	**-1.7**
LKD2	**Lefkada island**	**76.78**	**309**	P	**P**	**07 07 17.5**	**-0.9**
LKD2	**Lefkada island**	**76.78**	**309**	P	**P**	**07 07 17.5**	**-0.9**
BZS	**Buzias**	**76.85**	**316**	⇓*i*P	**P**	**07 07 18.2**	**-0.4**
OHR	**Ohrid**	**76.91**	**311**	*e*P	**P**	**07 07 17.1**	**-1.9**
SIRR	**Siria**	**76.91**	**316**	⇓*i*P	**P**	**07 07 19.1**	**+0.2**
FIA0	**FINESS Array S**	**77.34**	**332**	*e*P	**P**	**07 07 19.6**	**-1.4**
FIA0	**FINESS Array S**	**77.34**	**332**	*e*P	**P**	**07 07 19.6**	**-1.4**
FIA1	**FINESS Array S**	**77.34**	**332**	*e*P	**P**	**07 07 19.3**	**-1.7**
FINES	**FINESS Array B**	**77.34**	**332**	P	**P**	**07 07 19.6**	**-1.4**
	comp=Z,3.2nm,0.7s,baz=107,slow=6.4,SNR=10						
FINES	**FINESS Array B**	**77.34**	**332**	*ce*P	**P**	**07 07 19.7**	**-1.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CRVS	**Cervenica-Dubn**	**77.41**	**319**	*e*P	**P**	**07 07 23.0**	**+1.3**
CRVS	**Cervenica-Dubn**	**77.41**	**319**	*e*P	**P**	**07 07 23.0**	**+1.3**
STHS	**Stebnicka Huta**	**77.62**	**320**	*e*P	**P**	**07 07 23.8**	**+0.9**
STHS				pmax	pmax		
	comp=Z,11nm,0.9s						
STHS	**Stebnicka Huta**	**77.62**	**320**	*e*P	**P**	**07 07 23.8**	**+0.9**
IVA	**Berane**	**77.76**	**313**	⇑*i*P	**P**	**07 07 22.3**	**-1.6**
DIVS	**Divibare**	**77.81**	**314**	*e*P	**P**	**07 07 23.5**	**-0.6**
	comp=Z,10nm,1.1s						
KECS	**Kecovo**	**77.99**	**319**	*e*P	**P**	**07 07 24.9**	**0.0**
KECS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KECS	**Kecovo**	**77.99**	**319**	*e*P	**P**	**07 07 24.9**	**0.0**
KOME	**Kolasin**	**78.03**	**313**	⇑*i*P	**P**	**07 07 23.8**	**-1.6**
ULC	**Ulcinj**	**78.15**	**312**	⇑*i*P	**P**	**07 07 23.1**	**-2.9**
PLE	**Pljevlja**	**78.17**	**313**	⇑*i*P	**P**	**07 07 25.0**	**-1.2**
PDG	**Podgorica**	**78.19**	**312**	⇓*i*P	**P**	**07 07 25.0**	**-1.1**
TTG	**Podgorica**	**78.19**	**312**	*e*P	**P**	**07 07 24.3**	**-1.8**
TTG	**Podgorica**	**78.19**	**312**	*e*P	**P**	**07 07 25.1**	**-1.0**
	comp=Z,23nm,0.8s						
TTG	**Podgorica**	**78.19**	**312**	*e*P	**P**	**07 07 25.1**	**-1.0**
TTG				pmax	pmax		
	comp=Z,23nm,0.8s						
DRME	**Dracevica, Mon**	**78.22**	**312**	⇑*i*P	**P**	**07 07 24.2**	**-2.1**
PSZ	**Piszkesteto**	**78.31**	**318**	⇓*i*P	**P**	**07 07 27.0**	**+0.2**
PSZ	**Piszkesteto**	**78.31**	**318**	*e*PKiKP	**P**	**07 07 26.3**	**-0.5**
PSZ	**Piszkesteto**	**78.31**	**318**	*e*P	**P**	**07 07 26.4**	**-0.4**
	comp=Z,20nm,1.1s						
PSZ	**Piszkesteto**	**78.31**	**318**	*e*P	**P**	**07 07 26.4**	**-0.4**
PSZ				pmax	pmax		
	comp=Z,21nm,1.1s						
NKY	**Niksic**	**78.41**	**313**	⇑*i*P	**P**	**07 07 26.0**	**-1.5**
NKME	**Niksic**	**78.44**	**313**	⇑*i*P	**P**	**07 07 25.8**	**-1.8**
BUM	**Brajici-Budva**	**78.44**	**312**	⇑*i*P	**P**	**07 07 25.5**	**-2.1**
CEME	**Cevo**	**78.44**	**312**	⇑*i*P	**P**	**07 07 25.4**	**-2.3**
BILL	**Bilibino**	**78.53**	**21**	*i* P	**P**	**07 07 23.4**	**-4.1**
BILL				*i*		07 07 36.8	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.5s						
OJC	**Ojcow**	**78.66**	**320**	*e*P	**P**	**07 07 28.0**	**-0.6**
	comp=Z,12nm,0.9s						
OJC	**Ojcow**	**78.66**	**320**	*e*P	**P**	**07 07 28.0**	**-0.6**
OJC				pmax	pmax		
	comp=Z,12nm,0.9s						
LANS	**Liptovska Anna**	**78.74**	**319**	*e*P	**P**	**07 07 29.1**	**0.0**
LANS	**Liptovska Anna**	**78.74**	**319**	*e*P	**P**	**07 07 29.1**	**0.0**
HCY	**Herceg Novi**	**78.75**	**312**	⇑*i*P	**P**	**07 07 27.3**	**-2.0**
BRY	**Bratogost**	**78.75**	**313**	⇑*i*P	**P**	**07 07 27.6**	**-1.9**
BRY	**Bratogost**	**78.75**	**313**	P	**P**	**07 07 29.0**	**-0.5**
VYHS	**Vyhne**	**79.08**	**318**	*e*P	**P**	**07 07 30.4**	**-0.6**
VYHS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VYHS	**Vyhne**	**79.08**	**318**	*e*P	**P**	**07 07 30.4**	**-0.6**
VYHS				*e*		07 32 59.2	
VYHS				*e*		07 33 06.4	
ARA0	**ARCESS Array S**	**79.74**	**340**	*e*P	**P**	**07 07 33.0**	**-1.2**
ARCES	**ARCESS Array B**	**79.74**	**340**	P	**P**	**07 07 33.0**	**-1.1**
	comp=Z,5.4nm,0.6s,baz=94,slow=5.5,SNR=18						
ARCES				LR	LR	07 46 01.9	
	comp=Z,404nm,19.5s,baz=112,slow=38						
ARCES	**ARCESS Array B**	**79.74**	**340**	P	**P**	**07 07 33.0**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,404nm,19.5s						
TIP	**Timpagrande**	**79.84**	**309**	⇓*i*P	**P**	**07 07 35.2**	**-0.2**
TIP	**Timpagrande**	**79.84**	**309**	*e*P	**P**	**07 07 34.9**	**-0.5**
	comp=Z,23nm,0.9s						
BLY	**Banja Luka**	**79.88**	**315**	⇓*i*P	**P**	**07 07 35.1**	**-0.3**
BLY	**Banja Luka**	**79.88**	**315**	*e*P	**P**	**07 07 35.0**	**-0.4**
	comp=Z,48nm,0.9s						
MATE	**Matera**	**79.96**	**310**	⇓*i*P	**P**	**07 07 35.5**	**-0.4**
MORC	**Moravsky Berou**	**80.06**	**320**	⇓*i*P	**P**	**07 07 36.5**	**+0.2**
MORC	**Moravsky Berou**	**80.06**	**320**	*e*P	**P**	**07 07 35.9**	**-0.4**
	comp=Z,43nm,1.0s						
MORC	**Moravsky Berou**	**80.06**	**320**	*e*P	**P**	**07 07 35.9**	**-0.4**
MORC				pmax	pmax		
	comp=Z,43nm,1.0s						
CUC	**Castrocucco**	**80.61**	**310**	*e*P	**P**	**07 07 39.1**	**-0.4**
	comp=Z,15nm,0.8s						
KOGS	**Kog**	**80.65**	**316**	*i* P	**P**	**07 07 39.2**	**-0.2**
DPC	**Dobruska-Polom**	**80.89**	**320**	*e*P	**P**	**07 07 41.3**	**+0.5**
DPC				*e*PCP	**PcP**	**07 07 44.2**	**-3.1**
DPC	**Dobruska-Polom**	**80.89**	**320**	*e*P	**P**	**07 07 41.3**	**+0.5**
CONA	**Conrad Observa**	**81.02**	**318**	*e*P	**P**	**07 07 41.3**	**-0.2**
	comp=Z,6.2nm,1.0s						
ARSA	**Arzberg**	**81.20**	**317**	*e*P	**P**	**07 07 42.6**	**+0.1**
	comp=Z,8.4nm,0.7s						
BOJS	**Bojanci**	**81.29**	**315**	*i* P	**P**	**07 07 42.6**	**-0.3**
SOKA	**Soboth**	**81.50**	**316**	*e*P	**P**	**07 07 44.4**	**+0.2**
	comp=Z,20nm,1.1s						
OBKA	**Obir**	**81.83**	**316**	*e*P	**P**	**07 07 45.8**	**-0.1**
	comp=Z,18nm,1.0s						
PRU	**Pruhonice**	**82.01**	**320**	*e*P	**P**	**07 07 46.8**	**+0.2**
PRU				*e*PCP	**PcP**	**07 07 50.2**	**-1.9**
PRU	**Pruhonice**	**82.01**	**320**	*e*P	**P**	**07 07 46.8**	**+0.2**
PVCC	**Panska Ves**	**82.02**	**320**	*e*P	**P**	**07 07 49.6**	**+2.9**
PVCC	**Panska Ves**	**82.02**	**320**	*e*P	**P**	**07 07 49.6**	**+2.9**
MOA	**Molln**	**82.08**	**318**	*e*P	**P**	**07 07 46.3**	**-0.8**
	comp=Z,5.7nm,0.8s						
BRG	**Berggiesshubel**	**82.44**	**321**	*e*P	**P**	**07 07 48.5**	**-0.3**
	comp=Z,8.8nm,1.1s						
BRG	**Berggiesshubel**	**82.44**	**321**	*e*P	**P**	**07 07 48.5**	**-0.3**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MYKA	**Terra Mystica**	**82.46**	**316**	*e*P	**P**	**07 07 48.9**	**-0.3**
	comp=Z,7.1nm,1.0s						
GEA0	**GERESS Array S**	**82.50**	**319**	*e*P	**P**	**07 07 48.4**	**-1.0**
GEC2	**GERESS Array S**	**82.50**	**319**	*e*P	**P**	**07 07 48.9**	**-0.5**
	comp=Z,18nm,1.2s						
GEC2	**GERESS Array S**	**82.50**	**319**	*e*P	**P**	**07 07 48.9**	**-0.5**
GEC2				pmax	pmax		
	comp=Z,18nm,1.2s						
GERES	**GERESS Array B**	**82.50**	**319**	P	**P**	**07 07 48.6**	**-0.8**
	comp=Z,10nm,1.0s,baz=92,slow=8.0,SNR=19						
KHC	**Kasperske Hory**	**82.59**	**319**	*e*P	**P**	**07 07 49.8**	**0.0**
KHC				*e*PCP	**PcP**	**07 07 52.0**	**-2.8**
KHC	**Kasperske Hory**	**82.59**	**319**	*e*P	**P**	**07 07 49.8**	**0.0**
	comp=Z,1.7nm,0.8s						
KHC	**Kasperske Hory**	**82.59**	**319**	*e*P	**P**	**07 07 49.8**	**0.0**
KBA	**Koelnbreinsper**	**82.68**	**317**	*e*P	**P**	**07 07 49.2**	**-1.2**
	comp=Z,10nm,0.9s						
SYO	**Syowa Base**	**82.69**	**198**	⇑*e*P	**P**	**07 07 50.0**	**+0.3**
CLL	**Collm**	**83.05**	**321**	*e*P	**P**	**07 07 52.0**	**0.0**
CLL				*e*Pmax		07 07 54.0	
	comp=Z,11nm,1.2s						
CLL	**Collm**	**83.05**	**321**	*e*P	**P**	**07 07 52.0**	**0.0**
HFS	**Hagfors**	**83.11**	**330**	P	**P**	**07 07 50.8**	**-1.3**
	comp=Z,2.8nm,0.5s,baz=108,slow=4.8,SNR=18						
ABTA	**Abfaltersbach**	**83.24**	**316**	*e*P	**P**	**07 07 52.3**	**-0.9**
	comp=Z,9.6nm,0.9s						
WTTA	**Wattenberg**	**83.85**	**317**	*i* PcP	**P**	**07 07 58.5**	**+2.1**
	comp=Z,8.8nm,0.8s						
WATA	**Walderalm**	**83.89**	**317**	P	**P**	**07 07 56.6**	**0.0**
	comp=Z,4.4nm,0.7s						
SPA0	**Spitsbergen Ar**	**84.07**	**348**	*e*P	**P**	**07 07 55.7**	**-1.1**
SPITS	**Spitsbergen Ar**	**84.07**	**348**	P	**P**	**07 07 55.8**	**-1.1**
	comp=Z,7.8nm,0.9s,baz=81,slow=8.9,SNR=3.9						
SPITS				LR	LR	07 50 32.2	
	comp=Z,282nm,21.1s,baz=170,slow=39						
MOTA	**Moosalm**	**84.21**	**317**	*i* P	**P**	**07 07 57.3**	**-0.9**
	comp=Z,13nm,0.8s						
NB2	**NORSAR Subarra**	**84.38**	**331**	P	**P**	**07 07 56.1**	**-2.6**
	comp=Z,6.9nm,1.1s,baz=91,slow=5.1						
NB200	**NORSAR Array S**	**84.38**	**331**	*e*P	**P**	**07 07 56.7**	**-2.0**
NOA	**NORSAR Array B**	**84.38**	**331**	P	**P**	**07 07 56.7**	**-2.0**
	comp=Z,1.8nm,0.9s,baz=97,slow=5.3,SNR=3.7						
RETA	**Reutte**	**84.44**	**317**	*i* P	**P**	**07 07 58.6**	**-0.7**
	comp=Z,18nm,0.8s						
FETA	**Feichten**	**84.47**	**317**	*i* P	**P**	**07 07 58.7**	**-0.9**
	comp=Z,12nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**84.79**	**316**	*e*P	**P**	**07 08 01.0**	**-0.3**
	comp=Z,22nm,1.0s						
DAVA	**Damuels**	**85.04**	**317**	*i* P	**P**	**07 08 02.0**	**-0.5**
	comp=Z,21nm,1.0s						
VSL	**Villasalto**	**85.57**	**309**	*e*P	**P**	**07 08 04.2**	**-0.9**
	comp=Z,36nm,1.0s						
KEST	**Kesra**	**85.71**	**305**	P	**P**	**07 08 06.6**	**+0.6**
	comp=Z,21nm,0.9s,baz=263,slow=3.8,SNR=11						
KEST	**Kesra**	**85.71**	**305**	*e*P	**P**	**07 08 04.3**	**-1.7**
	comp=Z,39nm,1.1s						
BFO	**Black Forest**	**86.07**	**318**	*ce*P	**P**	**07 08 07.5**	**+0.1**
SENIN	**Lac Senin/Sane**	**86.84**	**316**	*e*P	**P**	**07 08 11.1**	**-0.4**
	comp=Z,12nm,0.8s						
GAMB	**Gambell**	**86.92**	**26**	*e*P	**P**	**07 08 10.3**	**-0.9**
	comp=Z,5.8nm,0.9s						
VNDA	**Vanda**	**88.70**	**169**	P	**P**	**07 08 20.3**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=311,slow=9.3,SNR=3.6						
VNDA	**Vanda**	**88.70**	**169**	*e*P	**P**	**07 08 20.0**	**+0.5**
EKA	**Eskdalemuir Ar**	**92.41**	**326**	P	**P**	**07 08 36.8**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=95,slow=5.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**94.22**	**283**	P	**P**	**07 08 47.0**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=90,slow=5.1,SNR=9.9						
TORD				PP	**PP**	**07 12 34.2**	**+0.8**
	comp=Z,0.8nm,1.0s,baz=81,slow=6.9,SNR=3.0						
TOA1	**Torodi Ar. Sit**	**94.22**	**283**	*e*P	**P**	**07 08 47.0**	**+0.6**
TOA1				*e*PP	**PP**	**07 12 34.2**	**+0.7**
NIUE	**Niue**	**94.23**	**109**	P	P	07 09 01.6	+15
	baz=94,SNR=6.5						
ESDC	**Sonseca Array**	**95.80**	**310**	P	**P**	**07 08 53.0**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=53,slow=4.3,SNR=3.5						
ILAR	**Eielson Array**	**97.11**	**23**	P	**P**	**07 08 54.4**	**-4.1**
	comp=Z,0.2nm,0.6s,baz=323,slow=2.3,SNR=3.9						
ILAR				PP	**PP**	**07 12 53.5**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=291,slow=5.9,SNR=3.5						
ILAR				PKKPbc	**PKKPbc**	**07 25 39.7**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=163,slow=2.0,SNR=3.6						
ILB	**Eielson Array**	**97.11**	**23**	*e*P	**P**	**07 08 54.4**	**-4.1**
YKA	**Yellowknife Ar**	**109.35**	**15**	PKiKP	**PKiKP**	**07 13 55.6**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=323,slow=2.2,SNR=2.9						
YKA				PKKPbc	**PKKPbc**	**07 25 02.2**	**-2.3**
	comp=Z,0.3nm,0.9s,baz=144,slow=3.0,SNR=2.7						
YKB5	**Yellowknife Ar**	**109.35**	**15**	*e*PKiKP	**PKiKP**	**07 13 55.6**	**-0.8**
ASR	**Mount Adams--S**	**119.39**	**30**	*e*PKPdf	**PKPdf**	**07 14 16.6**	**+0.3**
SCHQ	**Schefferville**	**119.74**	**349**	PKP	**PKPdf**	**07 14 16.9**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=347,slow=1.6,SNR=5.5						
SCHQ	**Schefferville**	**119.74**	**349**	*e*PKPdf	**PKPdf**	**07 14 17.3**	**+0.7**
BOZ	**Bozeman (W)**	**124.33**	**24**	*e*PKPpre	PKPpre	07 14 16.1	
ULM	**Lac du Bonnet**	**124.72**	**10**	PKP	**PKPdf**	**07 14 25.7**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=287,slow=1.1,SNR=7.9						
ULM	**Lac du Bonnet**	**124.72**	**10**	*e*PKPdf	**PKPdf**	**07 14 24.1**	**-2.2**
JCHM	**Cahill Ridge**	**124.75**	**38**	*e*PKPpre	PKPpre	07 14 15.7	
NV01	**Mina Array Sit**	**126.53**	**34**	*e*PKPdf	**PKPdf**	**07 14 30.9**	**+0.5**
NVAR	**Mina Array Bea**	**126.53**	**34**	PKP	**PKPdf**	**07 14 29.9**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=297,slow=1.8,SNR=5.6						
PD31	**Pinedale Array**	**127.51**	**25**	*e*PKPdf	**PKPdf**	**07 14 31.7**	**-0.5**
PDAR	**Pinedale Array**	**127.51**	**25**	PKP	**PKPdf**	**07 14 31.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=130,slow=1.4,SNR=3.8						
TKL	**Tuckaleechee C**	**140.43**	**1**	PKP	**PKPdf**	**07 14 57.5**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=146,slow=3.6,SNR=2.8						
TKL	**Tuckaleechee C**	**140.43**	**1**	*e*PKPdf	**PKPdf**	**07 14 55.9**	**-0.3**
TX31	**Lajitas Ar. Si**	**141.28**	**30**	*e*PKPdf	**PKPdf**	**07 14 57.8**	**-0.3**
TXAR	**Lajitas Array**	**141.28**	**30**	PKP	**PKPdf**	**07 14 55.6**	**-2.5**
	comp=Z,0.4nm,0.7s,baz=328,slow=0.2,SNR=6.1						
TXAR				SKPbc	**SKPbc**	**07 18 32.1**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=16,slow=1.3,SNR=3.6						
PLCA	**Paso Flores**	**141.86**	**195**	PKP	**PKPdf**	**07 14 58.3**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=58,slow=2.4,SNR=3.6						
CPUP	**Villa Florida**	**146.95**	**225**	PKPbc	**PKPbc**	**07 15 10.1**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=165,slow=1.8,SNR=8.9						
LPAZ	**La Paz**	**161.03**	**229**	PKP	**PKPdf**	**07 15 29.9**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=349,slow=5.2,SNR=2.5						
LPAZ				PKPab	**PKPab**	**07 16 13.6**	**+2.1**
	comp=Z,3.1nm,0.8s,baz=206,slow=2.7,SNR=4.3						
SDV	**Santo Domingo**	**162.14**	**316**	PKP	**PKPdf**	**07 15 29.6**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=315,slow=5.7,SNR=2.2						
SDV				PKPab	**PKPab**	**07 16 15.8**	**0.0**
	comp=Z,12nm,1.0s,baz=100,slow=1.9,SNR=4.7						
SDV	**Santo Domingo**	**162.14**	**316**	*e*PKPdf	**PKPdf**	**07 15 29.6**	**+0.3**
SDV				*e*PKPab	**PKPab**	**07 16 16.5**	**+0.6**

*ISK **05** 06:57:39.9, 38.°45N×27.°29E, h4km, ML2.6/5*
*ISCJB **05** 06:57:40.2±0.5, 38.°44N±0.°03×27.°31E±0.°03, h4km±6km, Error ellipse: s-maj=4.5km s-min=4.0km az=140.3*
*CSEM **05** 06:57:40.5±0.2, 38.°45N×27.°31E, h2km, ML2.6, Error ellipse: s-maj=3.5km s-min=2.9km az=149.0*
*DDA **05** 06:57:40.1, 38.°46N×27.°28E, h7km, Ml2.9*
ISC 05 06:57:40.3±1.1**, 38.°45N**±0.°02×**27.°30E**±0.°02**, h7**km±9km**, n29, σ0.°61**/52**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.48**	**219**	PG	**Pg**	**06 57 49.5**	**-0.1**
GMLD	**Gumuldur**	**0.48**	**219**	*e*Pg	**Pg**	**06 57 49.5**	**-0.1**
DGB	**˜zmir**	**0.52**	**220**	*i* P	**Pg**	**06 57 50.7**	**+0.4**
DGB				*i* S	**Sg**	**06 57 57.7**	**+0.7**
FOCM	**Foˆ§a**	**0.52**	**300**	PG	**Pg**	**06 57 50.3**	**0.0**
FOCM				SG	**Sb**	**06 57 58.1**	**-1.4**
FOCM	**Foˆ§a**	**0.52**	**300**	*e*Pg	**Pg**	**06 57 50.3**	**0.0**
FOCM				*e*Sg	**Sb**	**06 57 58.1**	**-1.4**
URLA	**Izmir**	**0.56**	**261**	PG	**Pg**	**06 57 50.8**	**-0.4**
URLA				SG	**Sg**	**06 57 58.9**	**+0.4**
URLA	**Izmir**	**0.56**	**261**	*i* P	**Pg**	**06 57 50.8**	**-0.4**
URLA				*i* S	**Sg**	**06 57 58.7**	**+0.2**
URLA	**Izmir**	**0.56**	**261**	P	**Pg**	**06 57 50.8**	**-0.4**
URLA				S	**Sg**	**06 57 58.7**	**+0.2**
AKHS	**Akhisar**	**0.58**	**43**	*i* P	**Pg**	**06 57 51.4**	**-0.2**
AKHS				*i* S	**Sg**	**06 58 00.4**	**+1.2**
AKHS	**Akhisar**	**0.58**	**43**	P	**Pg**	**06 57 51.4**	**-0.2**
AKHS				S	**Sg**	**06 58 00.4**	**+1.2**
AKS	**Akhisar**	**0.58**	**43**	PG	**Pg**	**06 57 52.1**	**+0.5**
AKS	**Akhisar**	**0.58**	**43**	*e*Pg	**Pg**	**06 57 52.1**	**+0.5**
GCAM	**G?zelcaml?**	**0.75**	**184**	PG	**Pg**	**06 57 54.8**	**+0.1**
GCAM				SG	**Sb**	**06 58 05.8**	**-0.4**
GCAM	**G?zelcaml?**	**0.75**	**184**	*i* P	**Pg**	**06 57 54.8**	**+0.1**
GCAM				*i* S	**Sb**	**06 58 05.5**	**-0.7**
GCAM	**G?zelcaml?**	**0.75**	**184**	P	**Pg**	**06 57 54.8**	**+0.1**
GCAM				S	**Sb**	**06 58 05.5**	**-0.7**
AYDN	**Tasoluk**	**0.91**	**150**	*i* P	**Pg**	**06 57 58.0**	**+0.2**
AYDN				*i* S	**Sg**	**06 58 09.4**	**-0.2**
AYDN	**Tasoluk**	**0.91**	**150**	P	**Pg**	**06 57 58.0**	**+0.2**
AYDN				S	**Sg**	**06 58 09.4**	**-0.2**
STEP	**BALIKESIR_Sava**	**0.98**	**19**	*i* P	**Pg**	**06 57 58.8**	**-0.3**
STEP				*i* S	**Sb**	**06 58 12.6**	**-0.2**
STEP	**BALIKESIR_Sava**	**0.98**	**19**	P	**Pg**	**06 57 58.8**	**-0.3**
STEP				S	**Sb**	**06 58 12.6**	**-0.2**
CHOS	**Chios island**	**0.98**	**267**	PG	**Pn**	**06 58 00.1**	**-0.5**
CHOS				SG	**Sb**	**06 58 13.2**	**+0.3**
CHOS	**Chios island**	**0.98**	**267**	*e*Pg	**Pn**	**06 58 00.1**	**-0.5**
CHOS				*e*Sg	**Sb**	**06 58 13.2**	**+0.3**
KULA	**Kula-Manisa**	**1.07**	**86**	PN	**Pg**	**06 58 00.9**	**+0.1**
KULA	**Kula-Manisa**	**1.07**	**86**	*e*Pn	**Pg**	**06 58 00.9**	**+0.1**
DEMI	**Demirci**	**1.25**	**61**	*i* P	**Pg**	**06 58 04.0**	**-0.3**
DEMI				*i* S	**Sg**	**06 58 19.6**	**-1.0**
DEMI	**Demirci**	**1.25**	**61**	P	**Pg**	**06 58 04.0**	**-0.3**
DEMI				S	**Sg**	**06 58 19.6**	**-1.0**
SIGR	**SIGRI**	**1.36**	**304**	PN	**Pg**	**06 58 06.6**	**+0.2**
SIGR				SN	**Sn**	**06 58 25.3**	**+1.2**
SIGR	**SIGRI**	**1.36**	**304**	*e*Pn	**Pg**	**06 58 06.6**	**+0.2**
SIGR				*e*Sn	**Sn**	**06 58 25.3**	**+1.2**
KHAL	**Karahalli**	**1.72**	**92**	*i* P	**Pg**	**06 58 13.2**	**-0.1**
KHAL				*i* S	**Sn**	**06 58 34.0**	**+0.9**
KHAL	**Karahalli**	**1.72**	**92**	P	**Pg**	**06 58 13.2**	**-0.1**
KHAL				S	**Sn**	**06 58 34.0**	**+0.9**

*ISCJB **05** 07:13:20.0±0.5, 22.°00S±0.°07×170.°45E±0.°06, h25km, mb4.7/12, MS3.5/3, Error ellipse: s-maj=10.3km s-min=7.6km az=28.8*
*NEIC **05** 07:13:19.5±0.5, 21.°98S×170.°52E, h10km, mb4.7/7, Error ellipse: s-maj=13.8km s-min=11.6km az=183.0*
*IDC **05** 07:13:20.2±1.2, 21.°82S×170.°22E, h0km, mb4.1/6, mb1 4.3/8, mb1mx3.9/42, mbtmp4.2/8, ML3.8/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/43, Error ellipse: s-maj=39.4km s-min=23.7km az=156.0*
ISC 05 07:13:22.0±0.6**, 22.°02S**±0.°08×**170.°43E**±0.°07**, h25**km**, n38, σ1.°57**/37**, mb4.7**/12**, MS3.5**/3**, 1C, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.70**	**268**	Pn	**Pn**	**07 14 17.2**	**-0.4**
	10nm,0.3s,baz=308,slow=23,SNR=71						
DZM				Sn	**Sn**	**07 14 58.3**	**-2.1**
	5.9nm,0.3s,baz=83,slow=23,SNR=3.9						
DZM				LR	LR	07 15 25.0	
	comp=Z,373nm,20.9s,baz=28,slow=36						
DZM	**Mont Dzumac**	**3.70**	**268**	*e*Pn	**Pn**	**07 14 16.7**	**-0.9**
	48nm,0.2s						
DZM				*e*Sn	**Sn**	**07 14 58.4**	**-2.0**
	30nm,0.3s						
DZM				*e*LR	LR	07 15 07.8	
	1μm,24.6s						
DZM	**Mont Dzumac**	**3.70**	**268**	*e*Pn	**Pn**	**07 14 16.9**	**-0.7**
DZM				*e*Sn	**Sn**	**07 14 59.4**	**-1.0**
URZ	**Urewera**	**17.18**	**162**	P	**P**	**07 17 24.8**	**+3.1**
	0.3nm,0.3s,baz=112,slow=15,SNR=5.8						
URZ				S	**Sn**	**07 20 28.8**	**-1.8**
	0.3nm,0.3s,baz=0.2,slow=9.1,SNR=3.4						
URZ	**Urewera**	**17.18**	**162**	*e*Pn	**Pn**	**07 17 19.9**	**-0.3**
	76nm,1.8s						
URZ				*e*Sn	**Sn**	**07 20 28.8**	**-1.8**
BKZ	**Black Stump Fm**	**17.86**	**164**	*e*Pn	**Pn**	**07 17 28.6**	**-0.2**
	76nm,1.7s						
EIDS	**Eidsvold**	**18.03**	**256**	*e*P	**P**	**07 17 31.7**	**+0.5**
	73nm,1.8s						
AFI	**Afiamalu**	**18.74**	**67**	LR	LR	07 22 36.2	
	comp=Z,71nm,21.7s,baz=268,slow=30						
STKA	**Stephens Creek**	**27.44**	**243**	P	**P**	**07 19 08.0**	**+2.0**
	4.5nm,0.9s,baz=79,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**27.44**	**243**	*e*P	**P**	**07 19 07.6**	**+1.7**
	4.9nm,1.4s						
RAR	**Rarotonga**	**27.70**	**94**	LR	LR	07 30 19.5	
	comp=Z,50nm,18.4s,baz=270,slow=36						
RAR	**Rarotonga**	**27.70**	**94**	*e*P	**P**	**07 19 06.4**	**-1.9**
	212nm,1.6s						
PATS	**Pohnpei**	**31.04**	**336**	*e*P	**P**	**07 19 36.2**	**-1.7**
	436nm,1.5s						
BBOO	**Buckleboo**	**32.22**	**243**	*e*P	**P**	**07 19 48.1**	**-0.2**
	25nm,1.5s						
AS01	**Alice Springs**	**33.60**	**260**	*e*P	**P**	**07 20 01.9**	**+1.4**
ASAR	**Alice Springs**	**33.64**	**260**	P	**P**	**07 20 01.2**	**+0.3**
	1.7nm,0.9s,baz=84,slow=8.1,SNR=12						
WR1	**Warramunga Arr**	**33.71**	**267**	*e*P	**P**	**07 20 00.9**	**-0.6**
WRA	**Warramunga Arr**	**33.71**	**267**	P	**P**	**07 20 00.9**	**-0.6**
	2.8nm,1.1s,baz=99,slow=7.9,SNR=8.7						
WRA				LR	LR	07 34 24.8	
	comp=Z,306nm,18.1s,baz=305,slow=38						
TBI	**Tubuai**	**36.95**	**100**	*e*LR	LR	07 30 30.7	
	215nm,31.2s						
PPT2	**Papeete2**	**37.81**	**91**	*e*LR	LR	07 30 47.9	
	202nm,28.8s						
PPT	**Papeete**	**37.82**	**91**	LR	LR	07 35 10.1	
	comp=Z,62nm,18.4s,baz=273,slow=34						
TAOE	**Nuku Hiva Isla**	**49.20**	**83**	*e*LR	LR	07 36 00.3	
	117nm,25.5s						
CMAR	**Chiang Mai Arr**	**80.65**	**294**	P	**P**	**07 25 35.2**	**+2.0**
	1.4nm,0.3s,baz=123,slow=3.3,SNR=7.5						
SNAA	**Sanae**	**86.44**	**182**	*e*P	**P**	**07 26 01.4**	**-0.7**
	17nm,1.6s						
SONA0	**Songino Array**	**90.10**	**323**	*e*P	**P**	**07 26 20.6**	**+0.8**
SONM	**Songino Array**	**90.10**	**323**	P	**P**	**07 26 20.6**	**+0.8**
	1.0nm,0.9s,baz=145,slow=5.2,SNR=6.0						
SONA1	**Songino Array**	**90.10**	**323**	*e*P	**P**	**07 26 19.8**	**0.0**
ILAR	**Eielson Array**	**92.55**	**17**	P	**P**	**07 26 32.6**	**+2.0**
	0.3nm,0.8s,baz=224,slow=5.0,SNR=2.9						
TMUT	**Trail Mountain**	**95.16**	**50**	*e*P	**P**	**07 26 41.4**	**-2.3**
	14nm,1.0s						
WALA	**Waterton Lakes**	**97.44**	**40**	*e*P	**P**	**07 26 50.5**	**-3.1**
	15nm,1.0s						
ARA0	**ARCESS Array S**	**128.03**	**345**	*e*PKPdf	**PKPdf**	**07 32 25.7**	**+0.6**
ARCES	**ARCESS Array B**	**128.03**	**345**	PKP	**PKPdf**	**07 32 25.7**	**+0.6**
	2.9nm,1.0s,baz=40,slow=4.0,SNR=4.8						
DPC	**Dobruska-Polom**	**145.18**	**331**	*e*PKP	**PKPdf**	**07 32 59.5**	**+2.2**
DPC				*e*x	x	07 33 07.4	
UPC	**Upice**	**145.21**	**331**	*e*PKP	**PKPdf**	**07 32 59.5**	**+2.2**
UPC				*e*x	x	07 33 07.8	
CLL	**Collm**	**145.89**	**335**	⇑*i*PKPbc	**PKPab**	**07 33 01.3**	**+1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,36nm,1.8s						
CLL				e		07 33 09.0	
EKA	Eskdalemuir Ar	146.39	353	PKPbc	PKPab	07 33 01.8	+0.6
	comp=Z,1.1nm,0.4s,baz=1.3,slow=3.1,SNR=8.6						
KHC	Kasperske Hory	147.30	331	ePKP	PKPab	07 33 05.8	+0.7
KHC				ex	x	07 33 13.8	
GERES	GERESS Array B	147.45	331	PKPbc	PKPbc	07 33 04.3	+0.6
	comp=Z,1.1nm,0.8s,baz=38,slow=3.7,SNR=7.8						

*ISCJB **05** 07:30:45.4±0.5, 63.°55N±0.°02×151.°35W±0.°05, h12km±3km, mb3.3/1, Error ellipse: s-maj=4.6km s-min=3.2km az=38.6*
*NEIC **05** 07:30:45.7±0.0, 63.°50N×151.°31W, h9km, ML3.3(AEIC), After AEIC.*
*IDC **05** 07:30:47.4±1.8, 63.°61N×151.°21W, h0km, mb3.2/1, mb1 3.5/5, mb1mx3.1/80, mbtmp3.2/5, ML2.8/4, Error ellipse: s-maj=27.4km s-min=11.2km az=119.0*
ISC 05 07:30:45.8±1.0, **63.°55N**±0.°03×**151.°34W**±0.°03, **h10**km±7km, **n51**, σ**1s23**/69, **Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.19	89	P	Pg	07 30 50.1	+0.3
KTH				S	Sg	07 30 52.9	+0.4
CAST	Castle Rocks	0.36	249	P	Pg	07 30 52.7	-0.1
CAST				S	Sg	07 30 57.0	-0.5
TRF	Thorofare Moun	0.48	101	P	Pg	07 30 55.0	-0.2
TRF				S	Sg	07 31 01.1	-0.5
BPAW	Bear Paw Mtn.	0.57	16	P	Pb	07 30 58.1	+0.2
BPAW				S	Sb	07 31 06.2	0.0
PPLA	Purkeypile	0.76	211	P	Pg	07 30 59.4	-1.0
PPLA				S	Sg	07 31 08.2	-2.1
HUR	Hurricane	0.96	126	P	Pg	07 31 03.0	-1.2
MCK	McKinley	1.09	79	P	Pg	07 31 06.2	-0.5
MCK				S	Sb	07 31 21.1	+0.1
RND	Reindeer	1.13	96	P	Pb	07 31 06.4	-1.0
MLY	Manley	1.51	10	P	Pn	07 31 13.3	+0.4
SKT	Skwentna	1.58	183	P	Pn	07 31 13.9	+0.1
SKT				S	Sn	07 31 33.6	-0.7
DHY	Denali Highway	1.85	103	P	Pn	07 31 18.4	+0.7
DHY				S	Sn	07 31 42.2	+0.9
CCB	Clear Creek Bu	1.91	53	P	Pn	07 31 17.4	-0.9
MDM	Murphy Dome	1.96	42	P	Pn	07 31 18.5	-0.6
COLA	College	2.02	47	P	Pn	07 31 19.0	-0.9
STLK	Strandline Lak	2.07	186	P	Pn	07 31 21.0	+0.3
GHO	Glory Hole Cre	2.10	147	P	Pn	07 31 20.7	-0.5
SUA	Susitna One	2.11	172	P	Pn	07 31 21.4	+0.2
SUA				S	Sn	07 31 49.0	+1.3
TT01	Tatalina	2.21	255	P	Pn	07 31 21.4	-1.1
PMR	Palmer	2.22	151	P	Pn	07 31 22.4	-0.1
PS08	TAPS Pump Stn8	2.23	61	P	Pn	07 31 21.9	-0.8
SML	Sawmill	2.23	140	P	Pn	07 31 22.5	-0.4
ILAR	Eielson Array	2.31	56	Pn	Pn	07 31 23.0	-0.8
	1.1nm,0.3s,baz=237,slow=14,SNR=74						
ILAR				Pg	Pb	07 31 28.4	+1.0
	6.6nm,0.3s,baz=238,slow=17,SNR=73						
ILAR				Lg	Lg	07 31 58.2	
	39nm,0.3s,baz=240,slow=30,SNR=27						
SPCP	Crater Peak Br	2.32	190	P	Pn	07 31 25.0	+0.8
SPWE	Spurr West	2.35	194	P	Pn	07 31 25.9	+1.3
CKL	Chakachamna La	2.41	192	P	Pn	07 31 26.5	+1.2
PS06	TAPS Pump Stn6	2.42	16	P	Pn	07 31 26.0	+0.7
FIB	Fire Island	2.45	167	P	Pn	07 31 27.3	+1.5
SCM	Sheep Creek Mo	2.53	131	P	Pn	07 31 27.3	+0.3
KNK	Knik Glacier	2.53	147	P	Pn	07 31 27.2	+0.3
RC01	Rabbit Creek A	2.58	162	ePn	Pn	07 31 27.7	+0.1
RC01				eSn	Sn	07 31 56.3	-2.7
IM3	Indian Mountai	2.65	338	P	Pn	07 31 29.4	+0.8
PAX	Paxson	2.72	100	P	Pn	07 31 30.5	+1.0
SLKM	Skilak Lake	3.10	170	P	Pn	07 31 36.3	+1.6
RDWB	Redoubt West	3.15	194	P	Pn	07 31 37.2	+1.7
KLU	Klutina	3.25	127	P	Pn	07 31 38.4	+1.5
DOT	Dot Lake	3.25	85	ePn	Pn	07 31 38.7	+1.9
DOT				eSn	Sn	07 32 13.5	-2.2
GLI	Glacier Island	3.34	141	P	Pn	07 31 39.1	+1.1
JPK	Jack Peak	3.34	136	P	Pn	07 31 39.3	+1.2
DIV	Divide	3.56	131	ePn	Pn	07 31 41.7	+0.7
DIV				eSn	Sn	07 32 19.6	-3.6
SEW	Seward	3.57	165	ePn	Pn	07 31 43.7	+2.5
SEW				eSn	Sn	07 32 23.8	+0.4
COLD	Coldfoot	3.72	7	P	Pn	07 31 44.6	+1.3
EYAK	Cordova Ski Ar	4.00	136	P	Pn	07 31 48.6	+1.6
BMRM	Bremner River	4.08	126	P	Pn	07 31 49.0	+0.8
BCA3	Beaver Creek A	4.34	92	P	Pn	07 31 53.4	+1.6
EGAK	Eagle	4.62	70	ePn	Pn	07 31 55.6	0.0
EGAK				eSn	Sn	07 32 50.3	+0.9
BM3	Burnt Mountain	4.79	33	P	Pn	07 31 57.6	-0.3
DAWY	Dawson	5.32	79	ePn	Pn	07 32 04.9	-0.4
	6.2nm,0.5s						
DAWY				eSn	Sn	07 33 03.5	-3.1
KDAK	Kodiak Island	5.82	187	Pn	Pn	07 32 12.3	+0.3
	0.2nm,0.3s,baz=9.5,slow=12,SNR=4.6						
KDAK				Sn	Sn	07 33 19.8	+1.1
	0.5nm,0.3s,baz=324,slow=19,SNR=2.2						
INK	Inuvik	8.69	49	Pn	Pn	07 32 51.4	+0.1
	0.3nm,0.3s,baz=238,slow=14,SNR=13						
INK				Sn	Sn	07 34 27.2	-1.9
	0.1nm,0.3s,baz=234,slow=8.7,SNR=2.1						
YKA	Yellowknife Ar	16.56	77	Pn	Pn	07 34 38.5	+0.7
	0.0nm,0.3s,baz=290,slow=10.0,SNR=4.0						
TXAR	Lajitas Array	45.65	115	P	P	07 39 07.7	+1.4
	0.2nm,0.5s,baz=336,slow=7.9,SNR=4.5						

*ISCJB **05** 07:41:03.0±0.5, 28.°73N±0.°02×76.°69E±0.°02, h11km±3km, mb5.0/199, MS4.3/16, Error ellipse: s-maj=2.9km s-min=2.1km az=25.5*
*MOS **05** 07:41:03.3±1.2, 28.°73N×76.°73E, h13km, mb5.2/93, MS4.0/5, Error ellipse: s-maj=5.8km s-min=3.5km az=121.8*
*NDI **05** 07:41:04.0±1.7, 28.°71N×76.°59E, h14km±2km, ML5.1, mb5.1(NEIC)*
*NEIC **05** 07:41:04.5±0.2, 28.°81N×76.°65E, h10km, mb5.1/89, Error ellipse: s-maj=4.8km s-min=3.6km az=211.0*
NEIC Felt [IV] at Delhi, Gurgaon and Noida; [III] at Jaipur and New Delhi. Also felt at Asandh, Babarpur, Basi, Delhi Cantonment, Gharonda, Kaithal, Pilani and Rohtak.
*BJI **05** 07:41:05.6, 29.°00N×76.°92E, h10km, mb5.2/63, mB5.0/45, ML5.2/1, Ms4.4/43, Ms7 4.2/42*
*IDC **05** 07:41:06.2±4.4, 28.°71N×76.°66E, h22km±28km, mb4.7/46, mb1 4.8/50, mb1mx4.7/64, mbtmp4.8/50, ML4.2/4, MS4.0/5, Ms1 4.1/5, ms1mx3.5/66, Error ellipse: s-maj=10.7km s-min=8.6km az=6.0*
*NNC **05** 07:41:10.9±1.3, 29.°64N×76.°50E, h0km, mb5.1, Error ellipse: s-maj=19.3km s-min=7.5km az=116.0*
ISC 05 07:41:04.4±0.3, **28.°78N**±0.°02×**76.°69E**±0.°02, **h11**km±2km, **h12km:pP-P**, **n614**, σ**1s99**/662, **mb5.0**/213, **MS4.3**/17, **76C-23D**, **Northern India**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHGR	Bahadurgarh	0.23	112	eP	Pg	07 41 11.4	+2.2
BHGR				eS	Sg	07 41 15.2	+2.6
RTK	Rohtak	0.35	317	eP	Pg	07 41 10.9	-0.6
RTK				eS	Sg	07 41 15.6	-0.6
NDI	New Delhi	0.47	101	⇑iP	Pn	07 41 15.8	-1.2
NDI				eS	Sb	07 41 22.7	+1.1
LDR	Lodi Road	0.50	112	⇑iP	Pb	07 41 16.1	+1.0
LDR				eS	Sb	07 41 23.0	+0.7
SONA	Sohna	0.63	147	eP	Pg	07 41 16.9	+0.4
SONA				eS	Sg	07 41 24.4	-0.4
KHET	Khetri	1.05	228	eP	Pg	07 41 22.8	-1.7
KHET				eS	Sg	07 41 35.6	-2.6
KKR	Kurukshetra	1.19	5	eP	Pn	07 41 27.8	+0.9
DDI	Dehra Dun	1.95	37	eP	Pg	07 41 40.5	-1.3
DDI				eS	Sg	07 42 05.9	-1.1
DDI				IAML		07 42 11.8	
	comp=N,31µm,0.3s						
DDI				IAML		07 42 11.9	
	comp=E,26µm,0.4s						
SMLA	Simla	2.38	10	eP	Pb	07 41 45.8	-1.5
SMLA				eS	Sb	07 42 15.0	-1.6
SMLA				IAML		07 42 26.9	
	comp=N,11µm,0.3s						
SMLA				IAML		07 42 27.8	
	comp=E,10µm,0.3s						
AJM	Ajmer	2.92	219	eP	Pn	07 41 51.2	+0.5
AJM				eS	Sn	07 42 23.8	-2.0
JOSI	Joshimath	3.06	54	eP	Pb	07 41 56.3	-2.7
JOSI				eS	Sb	07 42 32.9	-3.5
JOSI				IAML		07 42 59.8	
	comp=N,20µm,0.2s						
JOSI				IAML		07 42 59.9	
	comp=E,20µm,0.4s						
PTH	Pithoragarh	3.18	75	eP	Pb	07 41 56.8	-4.1
DHRM	DHARAMSHALA	3.48	355	eP	Pn	07 42 00.6	+1.9
DHRM				eS	Sn	07 42 41.8	+1.8
DHRM				IAML		07 43 03.1	
	comp=E,10µm,0.3s						
DHRM				IAML		07 43 04.2	
	comp=N,12µm,0.9s						
SARP	Sargodha	4.68	313	P	Pn	07 42 14.6	-0.3
JASL	Jaisalmer	5.45	252	eP	Pn	07 42 24.7	-0.8
BHPL	Bhopal	5.55	173	eP	Pn	07 42 26.0	-0.9
BHPL				eS	Sn	07 43 26.5	-4.3
PYUN	Piuthan	5.59	95	ePn	Pn	07 42 29.9	+2.3
PYUN				eSn	Sn	07 43 31.7	-0.2
	comp=N,1µm,0.6s						
CHCP	Chirah Chowk	5.69	330	P	Pn	07 42 29.8	+1.0
THW	Thamme Wali	5.85	314	P	Pn	07 42 30.8	-0.2
KOLN	Koldanda	6.17	98	ePn	Pn	07 42 37.8	+2.2
KOLN				eSn	Sn	07 43 45.3	-1.0
	comp=N,2µm,0.6s						
JBP	Jabalpur	6.32	151	eP	Pn	07 42 35.5	-2.0
JBP				eS	Sn	07 43 43.4	-6.2
CEP	Cherat	6.49	322	P	Pn	07 42 40.3	+0.4
CEP				S	Sn	07 43 51.0	-2.9
GKN	Gorkha	7.04	94	ePn	Pn	07 42 49.4	+1.9
GKN				eSn	Sn	07 44 06.4	-1.2
DMN	Daman	7.51	97	ePn	Pn	07 42 55.7	+1.6
DMN				eSn	Sn	07 44 17.5	-1.9
	comp=N,723nm,0.5s						
KKN	Kakani	7.63	95	ePn	Pn	07 42 57.1	+1.4
PKIN	Phulchoki	7.77	97	ePn	Pn	07 42 59.3	+1.6
PKIN				eSn	Sn	07 44 23.6	-2.2
	comp=N,2µm,0.5s						
PKI	Pulchoki	7.79	97	ePn	Pn	07 42 59.0	+1.1
PKI				eSn	Sn	07 44 23.7	-2.5
	comp=N,1µm,0.6s						
AKL	Akola	8.04	178	eP	Pg	07 43 37.7	-0.7
AKL				eS	Sb	07 45 02.1	+2.5
GUN	Gumba	8.14	94	ePn	Pn	07 43 03.7	+0.9
GUN				eSn	Sn	07 44 33.5	-1.5
	comp=N,2µm,0.7s						
BHJ	Bhuj	8.38	231	eP	Pn	07 43 04.8	-1.0
BHJ				ex	Sn	07 44 29.9	-11
JIRN	Jiri	8.45	95	ePn	Pn	07 43 07.7	+0.6
JIRN				eSn	Sn	07 44 40.8	-1.9
	comp=N,331nm,0.2s						
KBL	Kabul	8.69	313	ePn	Pn	07 43 10.0	-0.2
KBL				eSn	Sn	07 44 44.5	-3.7
KBL	Kabul	8.69	313	eP	Pn	07 43 10.0	-0.2
KBL				e		07 44 44.6	
RAMN	Ramite	8.96	99	ePn	Pn	07 43 13.7	-0.2
RAMN				eSn	Sn	07 44 50.2	-4.7
	comp=N,431nm,0.2s						
BOK	Bokaro	9.62	119	eP	Pn	07 43 22.6	-0.2
BOK				ex	Sn	07 45 02.5	-8.5
ODAN	Odare	9.66	99	ePn	Pn	07 43 23.9	+0.4
ODAN				eSn	Sn	07 45 07.2	-5.0
	comp=N,1µm,0.7s						
TAPN	Taplejung	9.84	96	ePn	Pn	07 43 25.9	-0.1
TAPN				eSn	Sn	07 45 13.2	-3.4
	comp=N,2µm,1.0s						
SRSP	Sriramsagar	9.92	171	ePn	Pn	07 43 24.0	-2.8
SRSP				Sn	Sn	07 45 09.6	-8.6
RPR	Rampur	10.15	166	ePn	Pn	07 43 25.8	-4.4
RPR				Sn	Sn	07 45 16.0	-8.0
BOM	Bombay	10.45	201	eP	Pn	07 43 38.5	+4.3
BOM				eS	Sn	07 45 27.4	-3.9
POO	Poona	10.53	195	eP	Pn	07 43 33.1	-2.1
GTK	Tadong	10.62	95	eP	Pn	07 43 35.8	-0.8
KLRI	Killari	10.66	180	ePn	Pn	07 43 34.4	-2.7
KLRI				Sn	Sn	07 45 28.5	-8.0
KSH	Kashi	10.73	357	P	Pn	07 43 36.1	-2.0
KSH				sP		07 43 44.0	
KSH				PP	PnPn	07 43 46.1	+0.2
KSH				S	Sn	07 45 31.2	-7.0
KSH				sS		07 45 37.2	
KSH				SS	SnSn	07 45 44.4	-6.0
KSH				pmax	pmax		
	comp=N,53nm,0.7s						
KSH				pmax	pmax		
	comp=N,240nm,4.2s						
KSH				LR	LR		
	comp=N,1µm,11.5s						
KSH				LR	LR		
	comp=N,1µm,8.2s						
KSH				LR	LR		
	comp=N,1µm,12.9s						
HYBB	Hyderabad (bro	11.43	171	ePn	Pn	07 43 44.2	-3.5
HYBB				Sn	Sn	07 45 43.8	-12
HYB	Hyderabad	11.43	171	i P	Pn	07 43 43.5	-4.2
HYB				eS	Sn	07 45 50.5	-5.0
HYB	Hyderabad	11.43	171	eP	Pn	07 43 43.1	-4.6
HYB				eS	Sn	07 45 40.6	-15
SFK	Sufi-Kurgan	11.52	348	⇑P	Pn	07 43 45.3	-3.6
	comp=N,67nm,0.7s						
SFK				⇓S	Sn	07 45 46.3	-11
	comp=N,169nm,0.6s						
SFK	Sufi-Kurgan	11.52	348	P	Pn	07 43 45.3	-3.6
SFK				pmax	pmax		
	comp=Z,67nm,0.7s						
DHUB	DHUBRI	12.13	100	eP	Pn	07 43 56.5	-0.6
PVM	Polavaram	12.33	157	ePn	Pn	07 43 57.5	-2.5
PVM				Sn	Sn	07 46 07.0	-10
NJS	Nagarjunasagar	12.40	168	ePn	Pn	07 43 56.4	-4.5
NJS				Sn	Sn	07 46 06.6	-12
VIS	Vishakhapatnam	12.57	150	eP	Pn	07 44 00.0	-3.2
VIS				eS	Sn	07 46 11.2	-12
VIS				IAML		07 47 39.8	
	comp=N,100nm,0.3s						
VIS				IAML		07 47 41.0	
	comp=E,201nm,0.8s						
LSA	Lhasa	12.66	82	ePn	Pn	07 44 06.0	+1.2
LSA				eSn	Sn	07 46 20.9	-5.1
LSA	Lhasa	12.66	82	eP	Pn	07 44 06.0	+1.2
LSA				e		07 46 21.0	
SRLM	Srisailam	12.78	170	ePn	Pn	07 44 01.5	-4.6
SRLM				Sn	Sn	07 46 15.8	-12
ADKI	Addanki	13.22	166	eP	Pn	07 44 07.4	-4.7
ADKI				Sn	Sn	07 46 26.4	-13
KZA	Kyzart	13.33	355	P	Pn	07 44 13.6	-0.2
	SNR=7.2						
TAWA	Tawang	13.44	91	eP	Pn	07 44 13.4	-2.0
GOA	Goa	13.48	192	eP	Pn	07 44 13.2	-2.5
GOA				eS	Sn	07 46 31.2	-14
GOA				IAML		07 48 16.1	
	comp=N,286nm,0.6s						
GOA				IAML		07 48 18.3	
	comp=E,469nm,0.5s						
UCH	Uchtor	13.54	353	P	Pn	07 44 16.1	-0.6
	SNR=24						
AML	Almayashu	13.55	350	P	Pn	07 44 16.1	-0.7
	SNR=8.7						
GUWA	GUWAHATI	13.56	97	eP	Pn	07 44 16.2	-0.5
URV	Uravakonda	13.77	178	ePn	Pn	07 44 16.1	-3.6
URV				Sn	Sn	07 46 42.6	-10
SHL	Shillong	13.89	100	ex	Pn	07 44 17.9	-3.5
SHL				eS	Sn	07 46 43.9	-12
KBK	Karagaybulak	13.92	355	P	Pn	07 44 25.7	+3.9
	SNR=16						
AAK	Ala-Archa	13.95	353	Pn	Pn	07 44 22.0	0.0
	comp=E,1.3nm,0.3s,baz=168,slow=6.4,SNR=23						
AAK				Sn	Sn	07 46 51.5	-5.4
	comp=E,1.3nm,0.3s,baz=198,slow=9.7,SNR=2.5						
AAK				LR	LR	07 50 22.4	
	comp=E,599nm,20.6s,baz=162,slow=40						
AAK	Ala-Archa	13.95	353	⇓P	Pn	07 44 18.3	-3.7
	comp=E,50nm,0.8s						
AAK				⇓S	Sn	07 46 46.6	-10
	comp=E,53nm,1.0s						
AAK	Ala-Archa	13.95	353	P	Pn	07 44 22.1	+0.1
	SNR=12						
AAK	Ala-Archa	13.95	353	ePn	Pn	07 44 22.3	+0.3
AAK				eSn	Sn	07 46 51.5	-5.4
AAK	Ala-Archa	13.95	353	⇑iP	Pn	07 44 21.8	-0.2
EKS2	Erkin-Say	14.06	351	P	Pn	07 44 23.9	+0.4
	SNR=7.1						
MNAS	Manas	14.10	347	⇓P	Pn	07 44 20.6	-3.5
	comp=E,63nm,0.9s						
MNAS				⇓S	Sn	07 46 48.1	-12
	comp=E,100nm,1.0s						
MNAS	Manas	14.10	347	P	Pn	07 44 20.6	-3.5
MNAS				pmax	pmax		
	comp=Z,63nm,0.9s						
TKM2	Tokmak 2	14.14	357	⇑P	Pn	07 44 21.0	-3.8
	comp=Z,42nm,1.4s						
TKM2				⇑S	Sn	07 46 48.1	-14
	comp=Z,29nm,1.1s						
TKM2	Tokmak 2	14.14	357	P	Pn	07 44 24.9	+0.1
	SNR=8.0						
TKM2	Tokmak 2	14.14	357	P	Pn	07 44 21.0	-3.8
TKM2				pmax	pmax		
	comp=Z,42nm,1.4s						
CHMS	Chumysh	14.28	354	P	P	07 44 34.0	+0.2
	SNR=8.5						
SATY	Saty	14.32	5	⇑iP	Pn	07 44 27.1	0.0
	comp=Z,384nm,1.2s						
SATY				eS	Sn	07 47 05.3	-0.6
SATY				LR	LR	07 50 09.2	
	comp=Z,656nm,11.3s						
BMNS	Besmoynak	14.33	357	eP	Pn	07 44 26.7	-0.6
	comp=Z,224nm,0.8s						
BMNS				LR	LR	07 50 02.0	
	comp=Z,230nm,9.8s						
MDOK	Medeo	14.36	1	⇓P	Pn	07 44 24.4	-3.3
	comp=Z,62nm,1.4s						
MDOK				⇓S	Sn	07 46 56.9	-10
	comp=Z,54nm,0.9s						
MDOK	Medeo	14.36	1	eP	Pn	07 44 27.8	+0.1
	comp=Z,144nm,0.8s						
MDOK				LR	LR	07 50 00.8	
	comp=Z,426nm,13.0s						
IUG	Iuzhnay	14.40	340	i P	Pn	07 44 26.8	-1.4
	comp=Z,352nm,0.7s						
IUG				eS	Sn	07 47 06.3	-1.5
IUG				LR	LR	07 49 40.3	
	comp=Z,327nm,10.7s						
AAA	Alma-Ata	14.41	1	LR	LR	07 50 03.7	
	comp=Z,480nm,12.1s						
UZB	Uzynbulak	14.46	7	⇑iP	Pn	07 44 28.8	-0.4
	comp=Z,158nm,0.9s						
UZB				LR	LR	07 50 16.4	
	comp=Z,228nm,11.6s						
SHLS	Shalkode	14.53	8	⇑iP	Pn	07 44 30.2	+0.3
	comp=Z,455nm,1.0s						
SHLS				eS	Sn	07 47 11.2	+0.2
SHLS				LR	LR	07 50 10.4	
	comp=Z,175nm,9.2s						
CHM	Chimkent	14.69	339	LR	LR	07 50 01.1	
	comp=Z,402nm,12.7s						
PDGK	Podgornoye	14.70	8	⇑P	Pn	07 44 28.2	-4.1
	comp=Z,35nm,0.7s						
PDGK				⇑S	Sn	07 47 04.8	-10
	comp=Z,81nm,1.0s						
PDGK	Podgornoye	14.70	8	P	Pn	07 44 28.2	-4.1
PDGK				pmax	pmax		
	comp=Z,35nm,0.7s						
DZA	Taraz	14.74	344	i P	Pn	07 44 31.9	-0.8
	comp=Z,921nm,0.7s						
DZA				LR	LR	07 50 11.5	
	comp=Z,499nm,10.7s						
KPKS	Kokpek	14.75	6	eP	Pn	07 44 32.1	-0.9
	comp=Z,172nm,0.7s						
KPKS				i S	Sn	07 47 14.7	-1.6
KPKS				LR	LR	07 50 27.4	
	comp=Z,335nm,11.3s						
KUU	Kurty	15.09	359	⇑iP	Pn	07 44 36.9	-0.6
	comp=Z,330nm,0.8s						
KUU				LR	LR	07 50 34.6	
	comp=Z,199nm,10.1s						
KK06	Karatay Array	15.13	342	ePn	Pn	07 44 35.8	-2.2
KK07	Karatay Array	15.13	342	ePn	Pn	07 44 35.0	-3.0
KK02	Karatay Array	15.14	342	ePn	Pn	07 44 35.0	-3.1
KK31	Karatay Array	15.14	342	⇓P	Pn	07 44 35.7	-2.4
	comp=Z,24nm,0.6s,baz=164,slow=15,SNR=282						
KK31				S	Sn	07 47 14.7	-11
	comp=Z,136nm,1.1s,baz=167,slow=23,SNR=13						
KK31	Karatay Array	15.14	342	ePn	Pn	07 44 35.1	-3.1
KK31	Karatay Array	15.14	342	eP	Pn	07 44 35.1	-3.1
KKAR	Karatay Array	15.14	342	ePn	Pn	07 44 35.1	-3.1
KKAR	Karatay Array	15.14	342	eP	Pn	07 44 35.1	-3.1
KK03	Karatay Array	15.14	342	ePn	Pn	07 44 35.8	-2.3
KK01	Karatay Array	15.14	342	ePn	Pn	07 44 35.5	-2.7
KK04	Karatay Array	15.15	342	ePn	Pn	07 44 35.5	-2.7
KK08	Karatay Array	15.15	342	ePn	Pn	07 44 35.9	-2.4
KK05	Karatay Array	15.15	342	ePn	Pn	07 44 36.0	-2.3
AZL	Aizawl	15.20	106	eP	Pn	07 44 37.8	-1.3
SKHT	Srikalahasti	15.22	169	ePn	Pn	07 44 34.2	-5.1
SKHT				Sn	Sn	07 47 14.2	-14
KOHI	KOHIMA	15.79	97	eP	Pn	07 44 46.5	-0.3
IMP	Imphal	15.90	100	eP	Pn	07 44 47.4	-0.8
SAIH	SAIHA	15.97	109	eP	Pn	07 44 49.1	0.0
MDRS	Chennai	15.97	167	eP	Pn	07 44 45.8	-3.4
MOKO	MOKOCHONG	16.00	95	ex	Pn	07 44 46.8	-2.7
TDK	Taldyqorghan	16.25	4	LR	LR	07 50 59.5	
	comp=Z,459nm,12.4s						
WSAR	Wadi Sarin	17.14	255	P	Pn	07 45 02.5	-1.4
	comp=Z,0.6nm,0.3s,baz=56,slow=3.6,SNR=4.5						
WSAR				S	Sn	07 47 57.8	-17
	comp=Z,1.1nm,0.3s,baz=260,slow=3.1,SNR=4.8						
WSAR				LR	LR	07 53 23.4	
	comp=Z,416nm,18.2s,baz=83,slow=43						
WMQ	Urumqi	17.41	27	P	P	07 45 09.4	+0.9
WMQ				pP	sP	07 45 13.9	+0.6
WMQ				sP	pP	07 45 20.1	+8.4
WMQ				PP	PnPn	07 45 25.0	+7.5
WMQ				S	Sn	07 48 21.1	+0.1
WMQ				pmax	pmax		
	comp=Z,160nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,480nm,4.1s						
WMQ				LR	LR		
	comp=Z,2µm,13.9s						
WMQ				LR	LR		
	comp=Z,1µm,12.9s						
WMQ				LR	LR		
	comp=Z,720nm,15.1s						
GEYT	Alibeck	17.98	305	P	Pn	07 45 13.3	-1.0
	comp=Z,0.6nm,0.3s,baz=133,slow=14,SNR=30						
GEYT				LR	LR	07 53 22.8	
	comp=Z,418nm,19.0s,baz=140,slow=41						
MAKZ	Makanchi	18.47	12	⇑P	Pn	07 45 19.0	-1.3
	comp=Z,26nm,1.0s						
MAKZ				⇑S	Sn	07 48 37.9	-8.7
	comp=Z,18nm,1.1s						
MAKZ	Makanchi	18.47	12	eP	Pn	07 45 19.3	-0.9
	comp=Z,25nm,0.9s						
MAKZ	Makanchi	18.47	12	eP	Pn	07 45 19.3	-0.9
MAKZ				pmax	pmax		
	comp=Z,25nm,0.9s						
MK01	Makanchi Array	18.49	12	eP	Pn	07 45 18.6	-1.9
MK31	Makanchi Array	18.52	12	⇑P	Pn	07 45 19.2	-1.5
	comp=Z,7.9nm,0.7s,baz=184,slow=12,SNR=74						
MK31				⇓S	Sn	07 48 36.8	-11
	comp=Z,50nm,1.4s,baz=191,slow=12,SNR=3.7						
MK31	Makanchi Array	18.52	12	eP	Pn	07 45 19.3	-1.5
MK31	Makanchi Array	18.52	12	eP	Pn	07 45 19.3	-1.5
MK32	Makanchi Array	18.52	12	eP	Pn	07 45 20.0	-0.8
MK32				eSn	Sn	07 48 35.8	-12
MKAR	Makanchi Array	18.52	12	P	Pn	07 45 20.0	-0.8
	comp=Z,0.8nm,0.3s,baz=183,slow=13,SNR=45						
MKAR				S	Sn	07 48 35.8	-12
	comp=Z,0.8nm,0.3s,baz=204,slow=21,SNR=3.6						
MKAR	Makanchi Array	18.52	12	eP	Pn	07 45 19.4	-1.4
	comp=Z,87nm,0.8s						
MKAR	Makanchi Array	18.52	12	eP	Pn	07 45 19.4	-1.4
MKAR				pmax	pmax		
	comp=Z,87nm,0.8s						
UOSS	Minazif	18.67	263	eP	P	07 45 23.3	+0.8
	comp=Z,48nm,1.4s						
ZSN	Zaisan	19.70	17	eP	P	07 45 30.6	-3.0
	comp=Z,82nm,1.1s						
ZSN				eS	Sn	07 49 10.2	-6.0
MNCY	Minicoy	20.69	190	eP	Pn	07 45 50.2	+3.4
BRZS	Berezniki	21.40	353	eP	P	07 45 51.6	-0.3
	comp=Z,11nm,1.3s						
BRZS				eS	S	07 49 48.6	-0.7
DGPR	DIGLIPUR	21.65	132	eP	P	07 45 57.7	+2.8
PALK	Pallekele	21.72	169	P	P	07 45 55.9	+0.2
	comp=Z,36nm,0.9s,baz=295,slow=9.6,SNR=15						
PALK				S	S	07 49 48.1	-8.0
	comp=Z,8.9nm,0.9s,baz=117,slow=18,SNR=3.1						
PALK	Pallekele	21.72	169	eP	P	07 45 54.0	-1.7
	comp=Z,67nm,1.3s						
PALK				eS	S	07 49 48.0	-8.0
SEM	Semipalatinsk	21.77	6	⇓iP	P	07 45 56.7	+0.5

comp=Z,507nm,1.3s
SEM *e*S **S** **07 49 56.9 -0.1**
SEM LR LR 07 54 29.2
comp=Z,391nm,14.4s
GTA Gaotai 21.83 55 ⇓P **P** **07 45 58.4 +1.5**
GTA pP sP 07 46 01.7 +0.1
GTA sP pP 07 46 05.4 +5.3
GTA S **S** **07 49 56.5 -1.7**
GTA sS pS 07 50 02.2 -1.9
GTA pmax pmax
comp=Z,150nm,1.0s
GTA pmax pmax
comp=Z,280nm,4.9s
GTA LR LR
comp=Z,370nm,11.4s
GTA LR LR
comp=Z,810nm,13.3s
GTA LR LR
comp=Z,930nm,13.3s
KURK Kurchatov 21.96 3 *e*P **P** **07 45 58.3 +0.3**
comp=Z,61nm,1.0s
KURK Kurchatov 21.96 3 *d i*P **P** **07 45 58.4 +0.4**
KURK pmax pmax
comp=Z,77nm,1.4s
CMAI Chiengmai2 22.16 108 P **P** **07 46 00.2 -0.3**
comp=Z,586nm,1.0s
CHTO Chiang Mai 22.61 111 P **P** **07 46 05.2 0.0**
comp=Z,497nm,1.3s,comp=Z,6μm
CHTO Chiang Mai 22.61 111 *e*P **P** **07 46 05.0 -0.2**
comp=Z,105nm,1.0s
CHTO Chiang Mai 22.61 111 *e*P **P** **07 46 05.0 -0.2**
CHTO pmax pmax
comp=Z,105nm,1.0s
CMMT Chiang Mai 22.61 111 P **P** **07 46 04.2 -1.1**
comp=Z,110nm,1.3s,comp=Z,1μm
PBA Port Blair 22.69 135 *ex* P 07 46 08.1 +2.1
CM31 Chiang Mai Arr 22.79 112 *e*P **P** **07 46 07.9 +0.8**
CMAR Chiang Mai Arr 22.79 112 P **P** **07 46 07.5 +0.4**
comp=Z,46nm,0.9s,baz=301,slow=8.9,SNR=77
CMAR S **S** **07 50 16.8 +0.7**
comp=Z,1.5nm,0.4s,baz=302,slow=14,SNR=2.8
CMAR LR LR 07 57 48.6
comp=Z,186nm,19.1s,baz=278,slow=44
CM01 Chiang Mai Arr 22.82 112 *e*P **P** **07 46 07.0 -0.4**
LAMP Lampang 23.32 111 P **P** **07 46 12.7 +0.1**
comp=Z,46nm,1.2s,comp=Z,401nm
KMI Kunming 23.49 93 P **P** **07 46 15.1 +0.7**
KMI pP sP 07 46 20.0 +0.7
KMI sP pP 07 46 22.1 +4.3
KMI PP **PnPn** **07 46 42.7 +1.8**
KMI S **S** **07 50 24.9 -3.3**
KMI SS **SnSn** **07 51 12.1 +8.2**
KMI pmax pmax
comp=Z,96nm,1.0s
KMI pmax pmax
comp=Z,300nm,4.0s
KMI LR LR
comp=Z,260nm,8.9s
KMI LR LR
comp=Z,440nm,12.2s
KMI LR LR
comp=Z,450nm,13.9s
CD2 Chengdu 23.55 78 P **P** **07 46 15.0 +0.1**
CD2 pP sP 07 46 20.7 +1.0
CD2 sP pP 07 46 23.3 +5.1
CD2 PcP **PcP** **07 50 00.9 +0.8**
CD2 S **S** **07 50 28.1 -0.8**
CD2 sS sS 07 50 37.8 +3.1
CD2 pmax pmax
comp=Z,130nm,0.7s
CD2 pmax pmax
comp=Z,210nm,4.0s
CD2 LR LR
comp=Z,1μm,13.9s
CD2 LR LR
comp=Z,840nm,9.4s
CD2 LR LR
comp=Z,890nm,8.9s
LZH Lanzhou 24.00 65 *e*P **P** **07 46 21.4 +2.2**
LZH pP sP 07 46 25.9 +1.7
LZH sP pP 07 46 28.7 +6.0
LZH PP **PnPn** **07 46 51.0 +3.2**
LZH *e*S **S** **07 50 30.4 -5.8**
LZH sS sS 07 50 43.5 +1.6
LZH SS **SnSn** **07 51 22.3 +6.1**
LZH pmax pmax
comp=Z,64nm,1.0s
LZH pmax pmax
comp=Z,340nm,5.2s
LZH LR LR
comp=Z,740nm,10.4s
LZH LR LR
comp=Z,1μm,12.0s
LZH LR LR
comp=Z,2μm,14.7s
AB07 Akbulak array 24.12 332 *e*P **P** **07 46 20.4 +0.4**
AB06 Akbulak array 24.13 333 *e*P **P** **07 46 20.5 +0.4**
AB08 Akbulak array 24.13 332 *e*P **P** **07 46 20.6 +0.5**
AB03 Akbulak array 24.14 332 *e*P **P** **07 46 20.7 +0.5**
AB01 Akbulak array 24.14 333 *e*P **P** **07 46 20.7 +0.5**
AB31 Akbulak array 24.14 333 ⇑P **P** **07 46 20.4 +0.3**
comp=Z,12nm,0.7s
AB31 Akbulak array 24.14 333 *e*P **P** **07 46 20.8 +0.6**
AB31 Akbulak array 24.14 333 *e*P **P** **07 46 20.8 +0.6**
ABKAR Akbulak array 24.14 333 *e*P **P** **07 46 20.5 +0.3**
comp=Z,120nm,0.6s
AB02 Akbulak array 24.14 333 *e*P **P** **07 46 20.7 +0.5**
AB04 Akbulak array 24.14 332 *e*P **P** **07 46 20.8 +0.6**
AB05 Akbulak array 24.15 333 *e*P **P** **07 46 20.8 +0.4**
AB09 Akbulak array 24.15 332 *e*P **P** **07 46 20.9 +0.6**
PHIT Phitsanulok 24.65 113 P **P** **07 46 26.4 +1.3**
comp=Z,88nm,1.1s,comp=Z,969nm
BVAR Borovoye Array 24.67 351 P **P** **07 46 26.3 +1.3**
comp=Z,8.2nm,0.8s,baz=163,slow=9.9,SNR=29
BRVK Borovoye 24.72 351 *e*P **P** **07 46 26.4 +1.0**
comp=Z,26nm,0.8s
BRVK Borovoye 24.72 351 *e*P **P** **07 46 26.4 +1.0**
BRVK pmax pmax
comp=Z,26nm,0.8s
UTHA Uthaitani 24.78 117 P **P** **07 46 27.5 +1.2**
comp=Z,51nm,1.1s,comp=Z,445nm
LKRN Lenkeran, Azer 25.15 300 P **P** **07 46 30.0 +0.5**
SRDT SRDT 25.25 120 P **P** **07 46 31.0 +0.4**
comp=Z,204nm,1.1s,comp=Z,3μm
AKTO Aktyubinsk 25.84 332 P **P** **07 46 35.9 +0.2**
comp=Z,10nm,0.6s,baz=133,slow=8.7,SNR=25
AKTO Aktyubinsk 25.84 332 ⇓P **P** **07 46 35.8 +0.1**
comp=Z,51nm,0.8s
ZAA0 Zalesovo Array 25.85 11 *e*P **P** **07 46 36.6 +1.0**
comp=Z,32nm,0.8s
ZALV Zalesovo Beam 25.85 11 P **P** **07 46 36.6 +1.0**
comp=Z,24nm,0.6s,baz=205,slow=8.9,SNR=79
ZALV Zalesovo Beam 25.85 11 *e*P **P** **07 46 36.5 +0.9**
ZALV Zalesovo Beam 25.85 11 *e*P **P** **07 46 36.5 +0.9**
ZAA1 Zalesovo Array 25.85 11 *e*P **P** **07 46 36.6 +1.0**
NVS Novosibirsk 26.48 9 ⇑*i*P **P** **07 46 42.3 +1.0**
NVS *e*S **S** **07 51 12.3 -2.6**
NVS pmax pmax
comp=Z,27nm,1.1s
NVS pmax pmax
comp=N,23nm,1.0s
NVS smax smax
comp=N,16nm,1.6s
NVS smax smax
comp=E,22nm,1.9s
CHAI Chaiyaphum 26.60 113 P **P** **07 46 44.2 +1.3**
comp=E,57nm,0.9s,comp=E,436nm
GYA Guiyang 26.63 88 ⇑*i*P **P** **07 46 43.5 +0.4**
GYA pP sP 07 46 49.0 +0.9
GYA PP **PnPn** **07 47 28.4 +4.7**
GYA PcP **PcP** **07 50 09.8 +2.6**
GYA SS 07 52 25.2
GYA pmax pmax
comp=E,30nm,0.8s
GYA pmax pmax
comp=E,140nm,5.2s
GYA LR LR
comp=E,760nm,15.6s
GYA LR LR
comp=E,650nm,16.0s
GYA LR LR
comp=E,720nm,15.8s
SEKA Sheki 27.02 305 P **P** **07 46 46.2 -0.3**
KHON Khomkaen 27.05 112 P **P** **07 46 51.5 +4.6**
comp=E,42nm,0.8s,comp=E,2μm

MAK Makhachkala 27.40 309 *e*P **P** **07 46 47.6 -2.2**
MAK *i* 07 47 32.6
MAK *e*S **S** **07 51 25.2 -4.6**
MAK pmax pmax
comp=Z,15nm,0.3s
MAK MLR MLR
comp=Z,392nm,12.0s
GANJ Ganja 27.50 304 P **P** **07 46 50.9 +0.2**
ZKTA Zakatala 27.57 306 P **P** **07 46 51.6 +0.2**
SKNT Sakolnakorn 27.68 109 P **P** **07 46 51.6 -0.9**
comp=Z,39nm,1.3s,comp=Z,4μm
NAX Nakhchivan 27.75 300 P **P** **07 46 53.3 +0.2**
XAN Xi'an 27.93 71 P **P** **07 46 55.6 +0.9**
XAN pP sP 07 47 01.3 +1.6
XAN S **S** **07 51 37.4 -1.1**
XAN pmax pmax
comp=Z,45nm,0.8s
XAN LR LR
comp=Z,290nm,9.3s
XAN LR LR
comp=Z,340nm,10.3s
XAN LR LR
comp=Z,320nm,13.7s
ENH Enshi 28.52 79 *e*P **P** **07 47 01.6 +1.6**
comp=Z,35nm,1.0s
GNI Garni 28.54 302 P **P** **07 47 01.0 +0.8**
comp=Z,6.3nm,0.6s,baz=55,slow=11,SNR=3.1
GNI Garni 28.54 302 *e*P **P** **07 47 00.1 -0.1**
comp=Z,47nm,0.9s
GNI Garni 28.54 302 *ce*P **P** **07 47 03.0 +2.8**
GNI pmax pmax
comp=Z,88nm,0.9s
SURT Suratani 28.64 129 P P 07 47 06.3 +5.2
comp=Z,14nm,1.5s,comp=Z,220nm
GROC Groznyy 28.66 308 *e*P **P** **07 47 03.1 +2.1**
GROC *e*S **S** **07 51 51.4 +1.8**
GROC pmax pmax
comp=Z,38nm,0.7s
TBLG Delisi 28.95 305 *e*P P 07 47 08.6 +5.0
comp=Z,34nm,0.8s
TBLG Delisi 28.95 305 *e*P P 07 47 08.6 +5.0
TBLG pmax pmax
comp=Z,34nm,0.8s
ZAK Zakamensk 29.49 36 *e*P **P** **07 47 09.4 +1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
BTO Baotou 29.66 58 *e*P **P** **07 47 10.0 -0.1**
AKH Akhalkalaki 29.76 304 P P 07 47 17.1 +6.0
SONA0 Songino Array 29.82 42 *e*P **P** **07 47 13.6 +2.2**
SONA0 *e*PcP **PcP** **07 50 15.8 +1.2**
SONM Songino Array 29.82 42 P **P** **07 47 13.6 +2.2**
comp=Z,15nm,0.8s,baz=234,slow=10,SNR=99
SONM PcP **PcP** **07 50 15.8 +1.2**
comp=Z,1.7nm,0.7s,baz=210,slow=3.4,SNR=4.5
SONA1 Songino Array 29.83 42 *e*P **P** **07 47 13.6 +2.0**
ZEI Tsey 29.84 307 *e*P **P** **07 47 14.3 +2.5**
ZEI pmax pmax
comp=Z,18nm,0.6s
TRTT Trang 30.06 129 P **P** **07 47 13.7 0.0**
comp=Z,16nm,0.9s
ULN Ulaanbaatar 30.22 43 *e*P **P** **07 47 16.7 +1.7**
comp=Z,16nm,0.8s
ULN Ulaanbaatar 30.22 43 *d i*P **P** **07 47 16.8 +1.8**
ULN pmax pmax
comp=Z,21nm,1.0s
SVE Sverdlovsk 30.25 342 *e*P **P** **07 47 16.5 +1.5**
NCK Nalchik 30.27 308 ⇑*i*P **P** **07 47 18.2 +2.8**
NCK pmax pmax
comp=Z,25nm,0.8s
TLY Talaya 30.46 34 *e*P **P** **07 47 19.0 +2.1**
comp=Z,5.7nm,1.3s
TLY Talaya 30.46 34 *e*P **P** **07 47 18.5 +1.5**
TLY pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 30.50 340 *d i*P **P** **07 47 18.7 +1.6**
ARU 07 48 13.4
ARU S **S** **07 52 20.2 +2.1**
ARU SS **ScP** **07 53 57.0 -1.5**
ARU pmax pmax
comp=Z,32nm,1.2s
NEY Neytrino 30.80 307 ⇑*i*P **P** **07 47 23.2 +2.9**
NEY pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 30.82 308 P **P** **07 47 21.3 +1.1**
comp=Z,13nm,0.8s,baz=114,slow=7.6,SNR=13
HHC Hu-ho-hao-te 30.86 58 *e*P **P** **07 47 22.2 +1.5**
HHC pP sP 07 47 26.8 +1.1
HHC sP pP 07 47 33.4 +9.2
HHC PP **PP** **07 48 25.3 -5.0**
HHC S **S** **07 52 19.6 -4.9**
HHC SS **ScP** **07 54 03.2 +3.0**
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,120nm,3.7s
HHC LR LR
comp=Z,260nm,13.5s
HHC LR LR
comp=Z,400nm,14.4s
HHC LR LR
comp=Z,400nm,12.6s
KIV Kislovodsk 31.04 308 *e*P **P** **07 47 22.3 +0.1**
comp=Z,38nm,1.1s
KIV Kislovodsk 31.04 308 *e*P **P** **07 47 25.3 +3.1**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,142nm,15.0s
GOF Gofitskoye 31.15 311 ⇑*e*P P 07 47 33.1 +10
SKLT Songkhla 31.17 129 P P 07 47 28.5 +5.0
comp=Z,27nm,1.2s
KULM Kulim 32.57 131 *e*P **P** **07 47 36.8 +0.9**
comp=Z,18nm,0.9s
WHN Wuhan 32.67 78 ⇑*i*P **P** **07 47 38.4 +1.8**
WHN pmax pmax
comp=Z,100nm,1.0s
WHN LR LR
comp=Z,1μm,12.1s
MALT Malatya 33.08 297 P P 07 47 45.7 +5.4
MALT pmax pmax
comp=Z,53nm,1.2s
PSI Prapat 33.39 137 P P 07 47 57.3 +14
comp=Z,7.9nm,0.7s,baz=324,slow=8.2,SNR=10.0
PSI Prapat 33.39 137 *e*P **P** **07 47 42.8 -0.3**
comp=Z,74nm,1.7s
PSI Prapat 33.39 137 *e*P **P** **07 47 42.8 -0.3**
PSI pmax pmax
comp=Z,74nm,1.7s
IPM Ipoh 33.42 132 *e*P **P** **07 47 43.5 +0.2**
comp=Z,32nm,0.8s
SOKR Solikamsk 33.68 342 ⇑*i*P **P** **07 47 44.2 -0.8**
SOKR 07 58 16.3
SOKR pmax pmax
comp=Z,24nm,1.4s
SOKR MLR MLR
comp=Z,199nm,12.0s
GSI Gunungsitoli 33.82 140 *e*P **P** **07 47 48.1 +1.4**
comp=Z,30nm,0.9s
BJT Baijiatuan 34.20 60 *e*P **P** **07 47 52.3 +2.5**
comp=Z,60nm,0.7s
BJT Baijiatuan 34.20 60 *e*P **P** **07 47 52.3 +2.5**
BJT pmax pmax
comp=Z,60nm,0.7s
BJI Beijing 34.20 60 ⇓*i*P **P** **07 47 52.3 +2.5**
BJI LR LR
comp=Z,630nm,10.0s
BJI LR LR
comp=Z,400nm,11.4s
BJI LR LR
comp=Z,590nm,17.7s
VRH Novokhopyorsk 34.43 320 *e*P **P** **07 47 54.6 +2.9**
VRH pmax pmax
comp=Z,40nm,0.6s
TIA Tai'an 34.71 67 P **P** **07 47 55.8 +1.5**
TIA pmax pmax
comp=Z,69nm,1.0s
TOKA Tokat 34.79 300 *e*P **P** **07 47 56.6 +1.6**
comp=Z,27nm,0.7s
ANN Anapa 34.89 308 *e*P P 07 48 00.4 +4.7
ANN pmax pmax
comp=Z,81nm,0.9s
MNSI Mandailing Nat 35.38 138 P **P** **07 47 59.4 -0.8**
MMAI Mount Meron Ar 35.52 287 P **P** **07 48 03.1 +1.7**
comp=Z,1.2nm,0.3s,baz=77,slow=7.6,SNR=1.8
VSR Storozhevoye 35.88 319 *e*P **P** **07 48 07.0 +2.8**
VSR pmax pmax
comp=Z,50nm,1.3s
ATD Arta Tunnel 35.93 248 P **P** **07 48 06.2 +1.1**
comp=Z,14nm,0.9s,baz=206,slow=11,SNR=3.4
ATD Arta Tunnel 35.93 248 *e*P **P** **07 48 06.0 +1.0**
comp=Z,30nm,1.1s
NJ2 Nanjing 36.34 74 *e*P **P** **07 48 10.4 +2.1**
NJ2 pmax pmax
comp=Z,18nm,0.9s
LPSR Galich'ya Gora 36.60 321 *e*P **P** **07 48 13.4 +3.1**
LPSR pmax pmax
comp=Z,60nm,0.7s
BKNI Bangkinang 36.63 136 P P 07 48 17.9 +7.0
BR101 Keskin Array S 36.91 299 *e*P **P** **07 48 13.9 +0.6**
BR131 Keskin Array S 36.91 299 *e*P **P** **07 48 14.0 +0.6**
BRTR Keskin Array B 36.91 299 P **P** **07 48 13.9 +0.6**
comp=Z,20nm,0.8s,baz=117,slow=8.6,SNR=27
BRTR Keskin Array B 36.91 299 *ce*P **P** **07 48 14.6 +1.3**
BRTR pmax pmax
comp=Z,20nm,0.8s
PDSI Padang 37.27 138 P **P** **07 48 17.1 +0.7**
BR231 Keskin MP Arra 37.58 299 *e*P P 07 48 14.6 -4.4
HIA Hailar 38.55 46 *i* P **P** **07 48 28.0 +1.1**
HIA pmax pmax
comp=Z,9.0nm,1.0s
MOS Moscow 38.70 325 *e*P **P** **07 48 30.1 +2.1**
MOS pmax pmax
comp=Z,61nm,1.0s
BOD Bodaibo 38.90 31 *e*P **P** **07 48 30.3 +0.6**
BOD pmax pmax
comp=Z,7.0nm,1.3s
OBN Obninsk 38.96 324 ⇑*i*P **P** **07 48 30.4 +0.3**
OBN *i* *PP **sP** **07 48 34.1 -1.0**
OBN *e**SP **pP** **07 48 37.3 +3.6**
OBN *e* 07 50 05.6
OBN PPP PPP 07 50 24.0
OBN *i* S **S** **07 54 25.9 -2.5**
OBN SS **SnSn** **07 57 14.0 -5.0**
OBN pmax pmax
comp=Z,56nm,0.8s
OBN MLR MLR
comp=Z,398nm,17.0s
SNY Shenyang 39.95 58 ⇑P **P** **07 48 39.9 +1.3**
SNY pmax pmax
comp=Z,38nm,0.9s
MASI Maura Aman, Be 40.11 138 P **P** **07 48 39.8 -0.5**
comp=Z,242nm,1.1s
KLMR Klimovskoe 40.53 333 *e*P **P** **07 48 44.6 +1.4**
KLMR *e* 07 50 19.4
KLMR pmax pmax
comp=Z,15nm,1.0s
KLMR Klimovskoe 40.53 333 *e*P **P** **07 48 44.7 +1.5**
KLMR AMP 07 48 47.3
comp=Z,15nm,1.0s
KLMR *e*PP **PnPn** **07 50 19.5 -0.9**
TIRR Tirgusor 41.18 306 ⇑*i*P **P** **07 48 49.0 +0.2**
TIRR Tirgusor 41.18 306 P **P** **07 48 49.0 +0.2**
KIS Kishinev 41.22 310 ⇓*i*P **P** **07 48 51.5 +2.4**
KIS Kishinev 41.22 310 ⇓*i*P **P** **07 48 51.5 +2.4**
KIS *e* 07 48 54.0
TLB Topalu 41.46 306 ⇑*i*P **P** **07 48 52.0 +0.9**
TLB Topalu 41.46 306 P **P** **07 48 52.0 +0.9**
CN2 Changchun 41.47 55 *e*P **P** **07 48 52.5 +1.4**
CN2 pmax pmax
comp=Z,40nm,0.7s
HARR Harsova 41.55 306 ⇑*i*P **P** **07 48 52.6 +0.8**
HARR Harsova 41.55 306 P **P** **07 48 52.6 +0.8**
AKASG Malin Array Be 41.67 315 P **P** **07 48 52.4 -0.4**
comp=Z,4.6nm,0.7s,baz=86,slow=6.4,SNR=47
AKASG PP **PP** **07 50 30.5 +1.5**
comp=Z,4.4nm,0.9s,baz=107,slow=10,SNR=3.6
AKBB Malin Array Si 41.67 315 *e*P **P** **07 48 52.5 -0.2**
comp=Z,17nm,0.8s
AKBB *e*PP **PP** **07 50 30.5 +1.5**
AKBB Malin Array Si 41.67 315 *e*P **P** **07 48 52.5 -0.2**
AKBB *e* 07 50 30.5
AKBB pmax pmax
comp=Z,17nm,0.8s
KIEV Kiev 41.68 315 *e*P **P** **07 48 52.4 -0.4**
comp=Z,17nm,0.8s
KIEV Kiev 41.68 315 ⇑*i*P **P** **07 48 54.9 +2.1**
KIEV pmax pmax
comp=Z,18nm,0.9s
AK11 Malin Array Si 41.70 315 *e*P **P** **07 48 51.9 -1.1**
SORM Soroca 41.72 311 ⇑*i*P **P** **07 48 53.2 +0.1**
SORM Soroca 41.72 311 P **P** **07 48 53.2 +0.1**
KARP Karpathos 42.12 292 *e*P **P** **07 48 56.4 -0.3**
comp=Z,53nm,0.9s
VRI Vrincioaia 42.51 308 ⇑*i*P **P** **07 49 01.2 +1.5**
VRI Vrincioaia 42.51 308 P **P** **07 49 01.2 +1.5**
PLOR Plostina 42.56 308 ⇑*i*P **P** **07 49 01.8 +1.6**
PLOR Plostina 42.56 308 P **P** **07 49 01.8 +1.6**
ISR Istrita 42.57 307 ⇑*i*P **P** **07 49 01.8 +1.6**
ISR Istrita 42.57 307 P **P** **07 49 01.8 +1.6**
TESR Tescani 42.63 309 ⇑*i*P **P** **07 49 01.6 +0.9**
SBUM Sibu 42.77 121 *e*P **P** **07 49 03.1 +1.1**
comp=Z,15nm,1.2s
TJN Taejon 42.96 66 *ce*P **P** **07 49 04.5 +1.1**
MLR Muntele Rosu 43.02 307 P **P** **07 49 05.7 +1.7**
comp=Z,20nm,0.8s,baz=89,slow=2.5,SNR=28
MLR Muntele Rosu 43.02 307 ⇑*i*P **P** **07 49 05.8 +1.8**
MLR Muntele Rosu 43.02 307 *e*P **P** **07 49 05.3 +1.3**
comp=Z,105nm,0.9s
MLR Muntele Rosu 43.02 307 P **P** **07 49 05.8 +1.8**
TMCR Tamitsa 43.04 336 *e*P **P** **07 49 04.4 +0.7**
TMCR pmax pmax
comp=Z,24nm,0.7s
HORU Horodok 43.15 312 P **P** **07 49 05.1 +0.3**
KS15 Wonju Array Si 43.30 65 *e*P **P** **07 49 06.4 +0.3**
KSAR Wonju Array Be 43.30 65 P **P** **07 49 07.0 +0.8**
KSAR Wonju Array Be 43.30 65 P **P** **07 49 07.0 +0.8**
APE Apeiranthos 43.30 295 ⇑*i*P **P** **07 49 06.4 +0.1**
APE Apeiranthos 43.30 295 P **P** **07 49 06.4 +0.1**
KS01 Wonju Array Si 43.30 65 *e*P **P** **07 49 06.4 +0.2**
KSRS Korea Array 43.33 65 P **P** **07 49 07.0 +0.6**
comp=Z,8.3nm,0.9s,baz=270,slow=8.3,SNR=16
KSRS Korea Array 43.33 65 P **P** **07 49 07.0 +0.6**
KSRS pmax pmax
comp=Z,9.0nm,0.9s
DOPR Dopca 43.45 308 ⇑*i*P **P** **07 49 08.4 +1.1**
LAST Lasithi 43.52 292 P **P** **07 49 08.7 +0.6**
LAST Lasithi 43.52 292 P **P** **07 49 08.7 +0.6**
VOIR 43.65 307 ⇑*i*P **P** **07 49 09.7 +0.7**
VOIR 43.65 307 P **P** **07 49 09.7 +0.7**
BURAR Bucovina Array 43.73 310 ⇑*i*P **P** **07 49 10.5 +0.8**
BURAR Bucovina Array 43.73 310 P **P** **07 49 10.5 +0.8**
BUR04 Bucovina Ar. S 43.74 310 *e*P **P** **07 49 09.9 +0.3**
BUR08 Bucovina Ar. S 43.75 310 *e*P **P** **07 49 10.3 +0.5**
ARR Arges 43.93 307 ⇑*i*P **P** **07 49 12.1 +0.8**
IDI Anoyia 43.99 292 P **P** **07 49 12.0 +0.1**
comp=Z,21nm,0.9s,baz=33,slow=9.6,SNR=9.5
IDI Anoyia 43.99 292 P **P** **07 49 11.3 -0.5**
ZEA Zeya 44.23 41 *i* P **P** **07 49 14.8 +1.4**
IDID Didziasalis 44.29 321 *e*P **P** **07 49 14.8 +0.9**
IDID IAmb IAmb 07 49 18.9
comp=Z,13nm,0.6s
NVR Nevrokopi 44.40 301 P **P** **07 49 15.4 +0.4**
NVR Nevrokopi 44.40 301 P **P** **07 49 15.4 +0.4**
MDJ Mudanjiang 44.49 54 *e*P **P** **07 49 17.1 +1.5**
comp=Z,46nm,1.0s
VAM Vamos 44.53 292 P **P** **07 49 17.1 +1.0**
VAM Vamos 44.53 292 P **P** **07 49 17.1 +1.0**
VAM Vamos 44.53 292 P **P** **07 49 17.1 +1.0**
IIGN Ignalina 44.58 321 *e*P **P** **07 49 17.0 +0.8**
IIGN IAmb IAmb 07 49 21.4
comp=Z,27nm,0.6s
SRS Serrai 44.61 301 P **P** **07 49 20.7 +4.0**
SRS pmax pmax
comp=Z,28nm,1.2s
VLY Voula,Athens 44.62 296 P **P** **07 49 20.3 +3.5**
VLY Voula,Athens 44.62 296 P **P** **07 49 20.3 +3.5**
IZAR Zarasai 44.68 322 *e*P **P** **07 49 17.8 +0.8**
IZAR IAmb IAmb 07 49 22.1
comp=Z,29nm,0.6s
ISAL Salakas 44.70 321 *e*P **P** **07 49 17.9 +0.8**
ISAL IAmb IAmb 07 49 22.2
comp=Z,21nm,0.5s
IMMV Iera Moni Meta 44.70 293 P **P** **07 49 18.8 +1.3**
CJR Cluj-Napoca 44.75 309 ⇑*i*P **P** **07 49 19.8 +2.1**
CJR Cluj-Napoca 44.75 309 P **P** **07 49 19.8 +2.1**
SKIA Skiathos 44.78 298 P **P** **07 49 21.1 +3.0**
LVV L'vov 44.79 313 *e*P **P** **07 49 22.3 +4.4**
VTS Vitosha 44.87 303 ⇑*i*P **P** **07 49 20.4 +1.5**
VTS Vitosha 44.87 303 *e*P **P** **07 49 18.6 -0.3**

VTS **Vitosha** 44.87 303 *e*P P 07 49 18.6 -0.3
VTS pmax pmax
comp=Z,28nm,1.0s

JOF **Joensuu** 44.93 333 P P 07 49 22.6 +3.8
JOF pmax pmax
comp=Z,35nm,0.9s

VSU **Vasula** 45.23 325⇑ *i*P P 07 49 21.3 0.0
VSU pmax pmax
comp=Z,117nm,1.0s

TRSU **Trosnyk** 45.30 310 P P 07 49 27.2 +5.2
DRGR 45.36 309⇑ *i*P P 07 49 23.7 +1.0
DRGR 45.36 309 P P 07 49 23.7 +1.0
VLI **Veliai** 45.40 294 P P 07 49 22.6 -0.4
VLI **Veliai** 45.40 294 P P 07 49 22.6 -0.4
GRG **Griva** 45.51 300 P P 07 49 28.0 +4.1
GRG pmax pmax
comp=Z,29nm,1.3s

TRPA **Tarpa** 45.58 311⇓ *e*P P 07 49 29.0 +4.8
KWP **Kalwaria Pacla** 45.62 313 *e*P P 07 49 25.2 +0.6
KWP **Kalwaria Pacla** 45.62 313 *e*P P 07 49 25.3 +0.8
comp=Z,597nm,0.9s

KWP **Kalwaria Pacla** 45.62 313 *e*P P 07 49 25.2 +0.6
AGG **Agios Georgios** 45.67 298 *e*P P 07 49 25.6 +0.4
comp=Z,76nm,1.0s

AGG **Agios Georgios** 45.67 298 *e*P P 07 49 25.6 +0.4
AGG pmax pmax
comp=Z,76nm,1.0s

AGG **Agios Georgios** 45.67 298 P P 07 49 25.2 0.0
UZH **Uzhgorod** 45.78 311 *c i*P P 07 49 29.9 +4.0
UZH *e* 07 49 37.1
THL **Klokotos Trika** 45.88 299 P P 07 49 26.0 -0.8
SUW **Suwalki** 46.00 319 *e*P P 07 49 30.5 +3.0
SUW **Suwalki** 46.00 319 *e*P P 07 49 27.1 -0.4
comp=Z,99nm,1.1s

SUW **Suwalki** 46.00 319 *e*P P 07 49 27.1 -0.4
SUW pmax pmax
comp=Z,99nm,1.1s

SIRR **Siria** 46.06 308⇑ *i*P P 07 49 29.1 +1.0
BZS **Buzias** 46.06 307⇑ *i*P P 07 49 29.5 +1.4
BZS **Buzias** 46.06 307 P P 07 49 29.5 +1.4
EVR **Evrytania** 46.09 298 P P 07 49 20.3 -8.2
USRK **Ussuriysk Ar.** 46.20 55 P P 07 49 30.5 +1.3
comp=Z,24nm,0.8s,baz=273,slow=6.9,SNR=38

JNU **Nakatsue** 46.25 70 P P 07 49 31.4 +1.6
comp=Z,18nm,0.8s,baz=227,slow=4.4,SNR=8.8

JNU **Nakatsue** 46.25 70 *e*P P 07 49 31.2 +1.4
comp=Z,25nm,0.9s

KLR **Kul'dur** 46.27 48⇑ *i*P P 07 49 31.0 +1.3
PYL **PYLOS** 46.34 295 P P 07 49 29.2 -1.2
PYL **PYLOS** 46.34 295 P P 07 49 29.2 -1.2
CRVS **Cervenica-Dubn** 46.36 311 *e*P P 07 49 34.7 +4.3
CRVS **Cervenica-Dubn** 46.36 311 *e*P P 07 49 34.7 +4.3
CRVS *e* 08 03 33.4
PENT **Pentalofos** 46.51 299 P P 07 49 31.6 -0.3
STHS **Stebnicka Huta** 46.54 312 *e*P P 07 49 36.3 +4.4
STHS pmax pmax
comp=Z,6.0nm,0.8s

STHS **Stebnicka Huta** 46.54 312 *e*P P 07 49 36.3 +4.4
STHS *e* 08 03 34.4
FIA1 **FINESS Array S** 46.56 329 *e*P P 07 49 31.8 +0.1
FIA0 **FINESS Array S** 46.56 329 *e*P P 07 49 31.8 0.0
FIA0 **FINESS Array S** 46.56 329 *e*P P 07 49 31.8 0.0
FINES **FINESS Array B** 46.56 329 P P 07 49 31.8 0.0
comp=Z,111nm,0.7s,baz=103,slow=8.2,SNR=14

APA **Apatity** 46.57 339⇓ *i*P P 07 49 34.3 +2.5
APA pmax pmax
comp=Z,9.0nm,0.7s

APA MLR MLR
comp=Z,500nm,11.0s

VTN **Vitineika** 46.67 296 P P 07 49 26.6 -6.4
KECS **Kecovo** 46.97 311 *e*P P 07 49 40.4 +5.2
KECS pmax pmax
comp=Z,15nm,1.9s

KECS **Kecovo** 46.97 311 *e*P P 07 49 40.4 +5.2
SUF **Sumiainen** 46.99 331 P P 07 49 38.9 +3.8
NIE **Niedzica** 47.16 312 *e*P P 07 49 38.2 +1.5
NIE **Niedzica** 47.16 312 *e*P P 07 49 38.2 +1.5
DIVS **Divibare** 47.21 305 *e*P P 07 49 37.4 +0.2
comp=Z,30nm,1.6s

PVY **Plav** 47.27 303⇑ *i*P P 07 49 40.3 +2.5
IVA **Berane** 47.31 303⇑ *i*P P 07 49 41.1 +3.0
PSZ **Piszkesteto** 47.34 310⇑ *i*P P 07 49 39.2 +1.0
PSZ **Piszkesteto** 47.34 310⇓ *e*P P 07 49 42.8 +4.6
PSZ **Piszkesteto** 47.34 310 *e*P P 07 49 38.8 +0.6
comp=Z,27nm,0.8s

PSZ **Piszkesteto** 47.34 310 *e*P P 07 49 38.8 +0.6
PSZ pmax pmax
comp=Z,27nm,0.8s

KOME **Kolasin** 47.59 303⇑ *i*P P 07 49 42.8 +2.6
PLE **Pljevlja** 47.66 304⇑ *i*P P 07 49 43.3 +2.5
LANS **Liptovska Anna** 47.68 312 *e*P P 07 49 45.0 +4.2
LANS **Liptovska Anna** 47.68 312 *e*P P 07 49 45.0 +4.2
LANS *e* 08 03 32.8
PDG **Podgorica** 47.80 303⇑ *i*P P 07 49 41.9 +0.2
TTG **Podgorica** 47.80 303⇑ *i*P P 07 49 44.2 +2.5
YAK **Yakutsk** 47.82 31 *e*P P 07 49 41.7 +0.1
YAK pmax pmax
comp=Z,12nm,0.9s

YAK pmax pmax
comp=E,3.0nm,1.0s

ULC **Ulcinj** 47.83 302⇑ *i*P P 07 49 44.4 +2.3
DRME **Dracevica, Mon** 47.87 302⇑ *i*P P 07 49 44.1 +1.8
NKY **Niksic** 47.97 303⇑ *i*P P 07 49 45.7 +2.5
NKME **Niksic** 48.01 303 *e*P P 07 49 46.2 +2.8
OUL **Oulu** 48.02 334 P P 07 49 44.9 +1.8
CEME **Cevo** 48.04 303⇑ *i*P P 07 49 46.3 +2.6
KMBO **Kilima Mbogo** 48.05 239 P P 07 49 44.4 +0.1
comp=E,4.9nm,0.7s,baz=46,slow=14,SNR=6.2

KMBO **Kilima Mbogo** 48.05 239 P P 07 49 44.4 +0.1
KMBO **Kilima Mbogo** 48.05 239 *e*P P 07 49 48.6 +4.3
comp=E,6.0nm,0.8s

VYHS **Vyhne** 48.07 311 *e*P P 07 49 47.2 +3.4
VYHS pmax pmax
comp=Z,13nm,1.5s

VYHS **Vyhne** 48.07 311 *e*P P 07 49 47.1 +3.3
BUM **Brajici-Budva** 48.07 302⇑ *i*P P 07 49 47.0 +3.0
BRY **Bratogost** 48.30 303⇑ *i*P P 07 49 48.5 +2.7
BRY **Bratogost** 48.30 303 P P 07 49 49.4 +3.6
HCY **Herceg Novi** 48.36 303⇑ *i*P P 07 49 48.5 +2.4
OKC **Ostrava-Krasne** 48.58 313 *e*P P 07 49 48.5 +0.8
OKC *e*pP **sP** 07 49 52.4 -0.3
OKC **Ostrava-Krasne** 48.58 313 *e*P P 07 49 48.5 +0.8
OKC *e* 07 49 52.4
VAF **Ylistaro** 48.60 331 *e*P P 07 49 51.6 +4.0
VAF pmax pmax
comp=Z,20nm,1.1s

SGF **Sodankyl** 48.79 337 *e*P P 07 49 53.8 +4.8
MORC **Moravsky Berou** 48.97 312⇑ *i*P P 07 49 51.5 +0.7
MORC **Moravsky Berou** 48.97 312 *e*P P 07 49 51.4 +0.7
comp=Z,95nm,0.9s

MORC **Moravsky Berou** 48.97 312 *e*P P 07 49 51.4 +0.7
MORC pmax pmax
comp=Z,95nm,0.9s

BLY **Banja Luka** 49.20 306⇑ *i*P P 07 49 52.8 +0.3
GKP **Gorka Klasztor** 49.40 317 *e*P P 07 49 57.4 +3.6
GKP **Gorka Klasztor** 49.40 317 *e*P P 07 49 57.4 +3.6
DPC **Dobruska-Polom** 49.78 313 *e*P P 07 49 57.8 +0.9
DPC *e*pP **sP** 07 50 01.3 -0.6
DPC **Dobruska-Polom** 49.78 313 *e*P P 07 49 57.8 +0.9
DPC *e* 07 50 01.3
KSP **Ksiaz** 49.81 314 *e*P P 07 49 57.8 +0.7
KSP **Ksiaz** 49.81 314 *e*P P 07 49 57.8 +0.7
MATE **Matera** 49.85 300⇑ *i*P P 07 49 57.4 -0.1
TIP **Timpagrande** 49.97 299⇑ *i*P P 07 49 58.7 +0.1
TIP **Timpagrande** 49.97 299 *e*P P 07 49 58.5 0.0
comp=Z,59nm,1.4s

UPC **Upice** 49.98 313 *e*P P 07 49 59.8 +1.4
UPC *e*pP **sP** 07 50 03.0 -0.4
UPC **Upice** 49.98 313 *e*P P 07 49 59.8 +1.4
UPC *e* 07 50 03.0
MPSI **Mapaga** 50.01 117 P P 07 49 58.5 -0.5
CONA **Conrad Observa** 50.05 310 pP P 07 50 00.0 +1.0
comp=Z,23nm,1.3s

ARA0 **ARCESS Array S** 50.07 339 *e*P P 07 49 59.4 +0.6
ARCES **ARCESS Array B** 50.07 339 P P 07 49 59.4 +0.6
comp=Z,16nm,0.7s,baz=115,slow=7.6,SNR=61

ARSA **Arzberg** 50.29 309 *e*pP pP 07 50 04.9 +0.5
comp=Z,22nm,1.2s,SNR=6.1

CRES **Cresnjev** 50.38 307 *e*P P 07 50 01.6 +0.1
CRES *e*pP **sP** 07 50 04.9 -1.6
SOKA **Soboth** 50.64 308 *e*pP P 07 50 07.8 +4.2
comp=Z,26nm,1.5s,SNR=9.1

GOPC **GO Pecny, Ondr** 50.76 313 *e*P P 07 50 05.0 +0.7
GOPC *e*pP **sP** 07 50 09.0 -0.3
GOPC **GO Pecny, Ondr** 50.76 313 *e*P P 07 50 05.0 +0.7
GOPC *e* 07 50 09.0
PRU **Pruhonice** 50.91 313 *e*P P 07 50 06.1 +0.7
PRU *e*pP **sP** 07 50 09.6 -0.9
PRU **Pruhonice** 50.91 313 *e*P P 07 50 06.1 +0.7
PRU *e* 07 50 09.6
OBKA **Obir** 50.98 308 *e*pP P 07 50 08.9 +2.8
comp=Z,21nm,1.2s

LJU **Ljubljana** 51.02 308 *e*P P 07 50 06.9 +0.6
LJU *e*pP **sP** 07 50 10.0 -1.4
CEY **Cerknica** 51.10 307 *e*P P 07 50 06.5 -0.5
CEY *i*pP **sP** 07 50 10.3 -1.7
MOA **Molln** 51.12 310 P P 07 50 07.2 +0.1
comp=Z,27nm,1.0s,SNR=7.3

BRG **Berggiesshubel** 51.30 314 *e*P P 07 50 09.1 +0.7
comp=Z,5.0nm,0.8s

BRG *i* 07 50 12.8
comp=Z,16nm,0.8s

BRG *i* 07 51 28.1
comp=Z,5.7nm,0.9s

BRG **Berggiesshubel** 51.30 314 *e*P P 07 50 09.1 +0.7
BRG *i* 07 50 12.8
BRG *i* 07 51 28.1
BRG pmax pmax
comp=Z,5.0nm,0.8s

TIXI **Tiksi** 51.34 19⇑ *i*P P 07 50 09.2 +1.0
TIXI pmax pmax
comp=Z,5.0nm,1.0s

GEA0 **GERESS Array S** 51.47 311 *e*P P 07 50 09.6 -0.2
GEC2 **GERESS Array S** 51.47 311 *e*P P 07 50 10.3 +0.5
comp=Z,9.6nm,0.8s

GEC2 **GERESS Array S** 51.47 311 *e*P P 07 50 10.3 +0.5
GEC2 pmax pmax
comp=Z,10.0nm,0.8s

GERES **GERESS Array B** 51.47 311 P P 07 50 09.9 +0.1
comp=Z,5.3nm,0.6s,baz=90,slow=6.1,SNR=19

KHC **Kasperske Hory** 51.55 312 *e*P P 07 50 10.2 -0.1
KHC *e*pP **sP** 07 50 14.2 -1.1
KHC **Kasperske Hory** 51.55 312 *e*P P 07 50 10.2 -0.1
KHC *e* 07 50 14.2
MYKA **Terra Mystica** 51.60 308 *e*pP pP 07 50 13.7 -0.7
comp=Z,7.2nm,0.7s

MAJO **Matsushiro** 51.60 65 *e*P P 07 50 11.7 +0.8
MAJO **Matsushiro** 51.60 65⇓ *i*P P 07 50 12.1 +1.2
MAJO pmax pmax
comp=Z,10.0nm,0.8s

MJAR **Matsushiro Arr** 51.61 65 P P 07 50 11.7 +0.8
comp=Z,4.0nm,0.7s,baz=273,slow=11,SNR=7.3

KBA **Koelnbreinsper** 51.78 309 P P 07 50 15.8 +3.6
KBA pmax pmax
comp=Z,11nm,1.1s

KBA **Koelnbreinsper** 51.78 309 P P 07 50 12.1 -0.1
comp=Z,6.3nm,0.6s

CLL **Collm** 51.90 314 *e*pP pP 07 50 16.0 -0.4
CLL **Collm** 51.90 314 *e*P pP 07 50 16.0 -0.4
VAE **Valgvarnera** 52.05 297 P P 07 50 15.0 +0.8
comp=Z,15nm,0.4s,baz=275,slow=7.7,SNR=2.6

NKL **Nikolayevsk** 52.11 43 *e*P P 07 50 14.0 -0.3
NKL *e* 07 50 19.0
NKL pmax pmax
comp=N,10.0nm,0.9s

NKL pmax pmax
comp=Z,46nm,0.9s

HFS **Hagfors** 52.12 326 P P 07 50 13.7 -0.6
comp=Z,15nm,0.6s,baz=90,slow=10,SNR=9.9

ABTA **Abfaltersbach** 52.37 309 *e*pP P 07 50 19.9 +3.4
comp=Z,5.9nm,0.6s

MOX **Moxa** 52.78 314 P P 07 50 23.7 +4.3
MOX pmax pmax
comp=Z,17nm,0.9s

WTTA **Wattenberg** 52.93 309 *e*pP P 07 50 22.7 +1.9
comp=Z,7.6nm,0.5s

WATA **Walderalm** 52.97 309 *e*pP P 07 50 23.2 +2.3
comp=Z,5.4nm,0.5s

NC405 **NORSAR Array S** 53.21 327 *e*P P 07 50 21.0 -1.3
NC602 **NORSAR Array S** 53.25 326 *e*P P 07 50 25.6 +3.0
MOTA **Moosalm** 53.28 309 *e*P P 07 50 21.9 -1.4
comp=Z,27nm,1.2s

NC303 **NORSAR Array S** 53.38 327 *e*P P 07 50 27.2 +3.5
NB201 **NORSAR Array S** 53.40 327 *e*P P 07 50 23.3 -0.5
NB2 **NORSAR Subarra** 53.44 327 P P 07 50 23.4 -0.7
comp=Z,24nm,1.0s,baz=98,slow=7.4

NB2 **NORSAR Subarra** 53.44 327 P P 07 50 23.4 -0.7
baz=98,slow=7.4

NB200 **NORSAR Array S** 53.44 327 *e*P P 07 50 23.3 -0.8
NOA **NORSAR Array B** 53.44 327 P P 07 50 23.3 -0.8
comp=Z,15nm,1.0s,baz=100,slow=7.0,SNR=20

RETA **Reute** 53.51 310 *e*pP P 07 50 27.6 +2.8
comp=Z,8.0nm,0.6s

FETA **Feichten** 53.57 309 *e*pP P 07 50 28.8 +3.4
comp=Z,27nm,1.4s,SNR=6.1

NAO01 **NORSAR Array S** 53.58 326 *e*P P 07 50 28.2 +3.1
NBO02 **NORSAR Array S** 53.61 327 *e*P P 07 50 26.4 +1.1
YSS **Yuzh-Sakhalins** 53.64 51⇑ *e*P P 07 50 26.4 +0.7
YSS *e* 07 50 30.3
YSS pmax pmax
comp=Z,20nm,1.0s

YSS MLR MLR
comp=Z,100nm,16.0s

NBO00 **NORSAR Array S** 53.65 327 *e*P P 07 50 27.1 +1.4
NC204 **NORSAR Array S** 53.68 327 *e*P P 07 50 25.6 -0.3
ASAJ **Asahikawa** 53.82 55 P P 07 50 27.0 -0.1
comp=Z,4.9nm,0.6s,baz=242,slow=13,SNR=4.4

ASAJ **Asahikawa** 53.82 55 *e*P P 07 50 27.8 +0.7
comp=Z,6.3nm,0.7s

ASAJ **Asahikawa** 53.82 55 P P 07 50 27.0 -0.1
ASAJ pmax pmax
comp=Z,5.0nm,0.6s

FUORN **Ofenpass-Fuorn** 53.92 309 *e*P P 07 50 29.7 +1.6
comp=Z,8.8nm,0.8s

DAVA **Damuels** 54.12 309 *e*P P 07 50 29.1 -0.4
comp=Z,30nm,0.7s,SNR=7.6

ERM **Erimo** 54.51 57⇑ *e*P P 07 50 34.2 +2.1
OPO **Ambohidratompo** 55.03 215 P P 07 50 36.3 0.0
comp=Z,9.2nm,1.0s,baz=31,slow=12,SNR=5.7

BFO **Black Forest** 55.06 311 *e*P P 07 50 35.4 -0.7
comp=Z,19nm,1.3s

BFO **Black Forest** 55.06 311 *e*P P 07 50 35.4 -0.7
BFO pmax pmax
comp=Z,19nm,1.3s

SENIN **Lac Senin/Sane** 55.98 309 *e*P P 07 50 42.8 -0.2
comp=Z,20nm,0.7s

SPA0 **Spitsbergen Ar** 56.07 348 *e*P P 07 50 44.1 +1.3
SPITS **Spitsbergen Ar** 56.07 348 P P 07 50 44.2 +1.3
comp=Z,4.8nm,0.6s,baz=140,slow=3.3,SNR=7.7

HINF **Hinteralfeld** 56.10 310 *e*P P 07 50 45.7 +2.1
HINF pmax pmax
comp=Z,4.0nm,0.5s

YUK **Yuzh-Kuril'sk** 56.16 54 *e*P P 07 50 45.1 +1.1
KEST **Kesra** 56.39 296 P P 07 50 46.2 +0.3
comp=Z,67nm,0.7s,baz=351,slow=1.5,SNR=21

KEST **Kesra** 56.39 296 *e*P P 07 50 46.2 +0.3
comp=Z,69nm,0.8s

LPG **La Plagne** 56.48 308 *e*P P 07 50 45.8 -0.9
LPG pmax pmax
comp=Z,29nm,0.8s

LPL **La Plagne** 56.49 308 *e*P P 07 50 45.8 -0.9
LPL pmax pmax
comp=Z,52nm,0.6s

BNI **Bardonecchia** 56.60 307 *e*P P 07 50 50.3 +3.0
comp=Z,13nm,0.9s

BNI **Bardonecchia** 56.60 307 *e*P P 07 50 50.3 +3.0
BNI pmax pmax
comp=Z,13nm,0.9s

MA2 **Magadan** 57.67 35 *ce*P P 07 50 55.4 +0.9
SSB **Saint Sauveur** 58.05 308 *e*P P 07 50 57.3 -0.2
comp=Z,36nm,1.4s

SSB **Saint Sauveur** 58.05 308 *e*P P 07 50 57.3 -0.2
SSB pmax pmax
comp=Z,36nm,1.4s

SEY **Seymchan** 58.33 31 P P 07 50 59.8 +0.8
comp=Z,3.1nm,0.7s,baz=258,slow=6.6,SNR=17

SEY **Seymchan** 58.33 31 *ce*P P 07 51 00.1 +1.1
AVF **Avril sur Loir** 58.61 310 *e*P P 07 51 00.8 -0.5
AVF pmax pmax
comp=Z,24nm,1.2s

SOEI **Soe** 59.79 123 P P 07 51 09.7 -0.3
CAF **Calviac** 59.84 308 *e*P P 07 51 09.6 -0.3
CAF pmax pmax
comp=Z,22nm,1.0s

LDF **La Druitiere** 60.59 312 *e*P P 07 51 18.5 +3.6
LDF pmax pmax
comp=Z,53nm,1.6s

MFF **Saint Martin d** 61.01 310 *e*P P 07 51 20.8 +3.0
MFF pmax pmax
comp=Z,30nm,1.1s

EKA **Eskdalemuir Ar** 61.22 320 P P 07 51 18.2 -0.8
comp=Z,3.9nm,0.7s,baz=80,slow=6.5,SNR=5.3

JMIC **Jan Mayen** 61.54 338 LR LR 08 16 15.9
comp=Z,408nm,18.5s,baz=63,slow=34

PEA1 **Petropavlovsk-** 62.30 42 *e*P P 07 51 26.1 -0.3
PETK **Petropavlovsk-** 62.30 42 P P 07 51 26.1 -0.3
comp=Z,14nm,1.0s,baz=324,slow=4.2,SNR=4.2

ROSF **Rostrenen** 62.69 312 *e*P P 07 51 32.3 +3.2
ROSF pmax pmax
comp=Z,67nm,1.2s

BILL **Bilibino** 63.50 25 *d i*P P 07 51 35.7 +1.6
BILL *i* 07 51 38.9
BILL *i* 07 53 55.5
BILL pmax pmax
comp=Z,7.0nm,0.9s

TAM **Tamanrasset** 63.52 283 *e*P P 07 51 34.0 -1.2
comp=Z,9.1nm,0.9s

TAM **Tamanrasset** 63.52 283 *e*P P 07 51 34.0 -1.2
TAM pmax pmax
comp=Z,9.0nm,0.9s

LSZ **Lusaka** 64.15 233 *e*P P 07 51 39.0 -0.3
comp=Z,7.6nm,0.8s

LSZ **Lusaka** 64.15 233 *e*P P 07 51 39.0 -0.3
LSZ pmax pmax
comp=Z,8.0nm,0.8s

ES19 **SONSECA Array** 65.46 303 *e*P P 07 51 50.2 +2.7
ESDC **Sonseca Array** 65.51 303 P P 07 51 47.4 -0.4
comp=Z,1.7nm,0.6s,baz=64,slow=8.1,SNR=13

MVO **Moncorvo** 67.26 306 *e*pP pP 07 52 02.9 +0.1
PGAV **Gavieira, Arco** 67.88 307 *e*P P 07 52 05.2 +2.2
MTE **Manteigas** 67.88 305 *e*pP pP 07 52 07.5 +0.8
PMRV **Marv??o** 68.10 304 *e*P P 07 52 04.1 -0.2
PBAR **Barrancos** 68.27 303 *e*P P 07 52 05.0 -0.3
PBAR *e*pP **sP** 07 52 09.1 -1.4
PMTG **Montargil** 68.83 304 *e*P P 07 52 09.8 +1.0
EVO **Evora** 68.86 303 *e*P P 07 52 09.0 -0.1
EVO *e*pP **sP** 07 52 13.0 -1.2
PVAQ **Vaqueiros** 69.04 302 *e*P P 07 52 11.6 +1.4
PNCL **Nicolau / Gran** 69.39 303 *e*P P 07 52 11.1 -1.2
SUMG **Summit** 69.86 343 *i* P P 07 52 16.0 +0.9
comp=Z,36nm,1.1s

SUMG **Summit** 69.86 343 *e*P P 07 52 16.1 +0.9
comp=Z,41nm,1.2s

SUMG **Summit** 69.86 343 *e*P P 07 52 16.1 +0.9
SUMG pmax pmax
comp=Z,41nm,1.2s

TOA0 **Torodi Ar. Sit** 70.76 275 *e*P P 07 52 16.1 -4.9
comp=Z,18nm,0.7s

TOA1 **Torodi Ar. Sit** 70.76 275 *e*P P 07 52 20.1 -1.0
TORD **Torodi Ar. Bea** 70.76 275 P P 07 52 20.1 -1.0
comp=Z,14nm,0.6s,baz=61,slow=5.0,SNR=35

LBTB **Lobatse** 72.61 228 *e*P P 07 52 32.3 +0.2
comp=Z,42nm,0.8s

LBTB **Lobatse** 72.61 228 *e*P P 07 52 32.3 +0.2
LBTB pmax pmax
comp=Z,42nm,0.8s

TULEG **Thule** 72.78 352 *e*P P 07 52 32.3 0.0
comp=Z,17nm,1.1s

GAMB **Gambell** 73.42 26 *e*P P 07 52 37.2 +1.1
comp=Z,11nm,1.2s

WR1 **Warramunga Arr** 73.76 124 *e*P P 07 52 38.4 -0.5
comp=Z,17nm,0.7s

WRA **Warramunga Arr** 73.76 124 P P 07 52 38.4 -0.5
comp=Z,11nm,0.7s,baz=318,slow=5.5,SNR=162

WRAB **Tennant Creek** 73.77 124 *e*P P 07 52 38.7 -0.2
comp=Z,18nm,0.7s

WRAB **Tennant Creek** 73.77 124⇑ *i*P P 07 52 38.2 -0.7
WRAB pmax pmax
comp=Z,19nm,1.0s

TSUM **Tsumeb** 74.37 237 P P 07 52 42.5 -0.1
comp=Z,6.9nm,0.7s,baz=27,slow=6.8,SNR=3.6

KOWA **Kowa** 75.14 279 P P 07 52 46.7 -0.4
comp=Z,14nm,0.6s,baz=63,slow=4.2,SNR=33

ILULI **Ilulissat** 75.21 343 *e*P P 07 52 47.3 +0.8
comp=Z,22nm,1.0s

ILULI **Ilulissat** 75.21 343 *e*P P 07 52 47.3 +0.8
ILULI pmax pmax
comp=Z,22nm,1.0s

BOSA **Boshof** 75.34 225 P P 07 52 47.6 -0.4
comp=Z,31nm,0.7s,baz=42,slow=4.3,SNR=34

BOSA **Boshof** 75.34 225 *e*P P 07 52 47.6 -0.4
comp=Z,32nm,0.7s

AS31 **Alice Springs** 75.83 127 *e*P P 07 52 50.5 -0.3
comp=Z,2.5nm,0.6s

ASAR **Alice Springs** 75.83 127 P P 07 52 50.2 -0.6
comp=Z,7.3nm,0.7s,baz=307,slow=5.8,SNR=114

ASAR PKKPbc **PKKPbc** 08 12 03.9 -4.6
comp=Z,9.2nm,0.8s,baz=174,slow=7.2,SNR=7.0

AS01 **Alice Springs** 75.86 127 *e*P P 07 52 50.3 -0.7
SFJD **Kangerlussuaq** 76.63 341 *i* P P 07 52 54.7 0.0
SFJD **Kangerlussuaq** 76.63 341 *e*P P 07 52 54.9 +0.2
comp=Z,9nm,0.9s

SFJD **Kangerlussuaq** 76.63 341 *i* P P 07 52 54.7 0.0
PMG **Port Moresby** 77.77 108 P P 07 53 02.5 +0.6
comp=Z,29nm,1.1s,baz=290,slow=5.1,SNR=3.6

COLD **Coldfoot** 78.02 17 *e*P P 07 53 03.3 +0.8
comp=Z,12nm,1.0s

DBIC **Dimbokro** 79.43 272 P P 07 53 12.1 +0.9
comp=Z,9.0nm,0.7s,baz=35,slow=7.5,SNR=11

DBIC **Dimbokro** 79.43 272 *e*P P 07 53 11.5 +0.4
comp=Z,1µm,0.8s

DBIC **Dimbokro** 79.43 272 *e*P P 07 53 11.5 +0.4
KIC **Kosan Boka** 79.47 271 *e*P P 07 53 14.7 +3.3
comp=Z,52nm,1.1s

MLY **Manley** 79.54 19 *e*P P 07 53 11.8 +0.8
comp=Z,17nm,1.0s

TIC **Toumodi** 79.59 272 *e*P P 07 53 15.2 +3.2
FYU **Fort Yukon** 79.77 16 *e*P P 07 53 13.9 +1.8
comp=Z,25nm,1.1s

LIC **Lamto** 79.79 272 *e*P P 07 53 16.3 +3.2
comp=Z,40nm,0.9s

BPAW **Bear Paw Mtn.** 80.17 19 *e*P P 07 53 15.1 +0.7
comp=Z,8.9nm,0.9s

MDM **Murphy Dome** 80.28 18 *e*P P 07 53 15.6 +0.6
comp=Z,15nm,0.8s

CAST **Castle Rocks** 80.36 20 *e*P P 07 53 16.3 +0.9
comp=Z,25nm,0.9s

COLA **College** 80.45 18 *e*P P 07 53 16.8 +1.0
comp=Z,15nm,0.7s

COLA **College** 80.45 18 *e*P P 07 53 16.8 +1.0
COLA pmax pmax
comp=Z,15nm,0.7s

KTH **Kantishna Hill** 80.61 20 *e*P P 07 53 16.7 -0.1
comp=Z,9.7nm,1.0s

CCB **Clear Creek Bu** 80.64 18 *e*P P 07 53 17.0 +0.2
comp=Z,5.2nm,0.8s

INK **Inuvik** 80.65 11 P P 07 53 17.2 +0.4
comp=Z,8.2nm,0.8s,baz=346,slow=6.9,SNR=59

INK **Inuvik** 80.65 11 *e*P P 07 53 17.1 +0.4
comp=Z,38nm,1.5s

INK **Inuvik** 80.65 11 *e*P P 07 53 17.1 +0.4
INK pmax pmax
comp=Z,38nm,1.5s

IL1 **Eielson Array** 80.79 17 *e*P P 07 53 17.2 -0.4
ILAR **Eielson Array** 80.79 17 P P 07 53 17.5 -0.1
comp=Z,5.0nm,0.8s,baz=307,slow=4.9,SNR=42

ILAR PP **PP** 07 56 24.7 +3.7
comp=Z,3.0nm,1.2s,baz=309,slow=6.3,SNR=5.3

ILB **Eielson Array** 80.79 17 *e*P P 07 53 17.9 +0.3
SVW2 **Sparrevohn** 80.93 23 *e*P P 07 53 19.0 +0.6
comp=Z,11nm,0.9s

MCK **McKinley** 81.04 19 *e*P P 07 53 19.6 +0.5
comp=Z,12nm,1.2s

MCK **McKinley** 81.04 19 *e*P P 07 53 19.6 +0.5
MCK pmax pmax
comp=Z,12nm,1.2s

RND **Reindeer** 81.32 19 *e*P P 07 53 20.4 -0.2
comp=Z,20nm,1.3s

RND **Reindeer** 81.32 19 *e*P P 07 53 20.4 -0.2
RND pmax pmax
comp=Z,20nm,1.3s

DHY **Denali Highway** 82.00 19 *e*P P 07 53 24.9 +0.7
comp=Z,29nm,1.6s

RIDG **Independ'e Rid** 82.15 17 *e*P P 07 53 23.2 -1.7
comp=Z,16nm,1.0s

EGAK **Eagle** 82.20 15 *e*P P 07 53 25.4 +0.3
comp=Z,9.5nm,1.1s

SUA **Susitna One** 82.25 21 *e*P P 07 53 25.9 +0.4
comp=Z,24nm,0.8s

DOT **Dot Lake** 82.43 17 *e*P P 07 53 26.7 +0.4
comp=Z,19nm,0.8s

PAX **Paxson** 82.61 18 *e*P P 07 53 27.6 +0.2
comp=Z,7.1nm,0.9s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAX	**Paxson**	**82.61**	**18**	*e*P	**P**	**07 53 27.6**	**+0.2**
PAX				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PMR	**Palmer**	**82.64**	**20**	*e*P	**P**	**07 53 27.7**	**+0.3**
	comp=Z,15nm,1.0s						
PMR	**Palmer**	**82.64**	**20**	*e*P	**P**	**07 53 27.7**	**+0.3**
PMR				pmax	pmax		
	comp=Z,15nm,1.0s						
SML	**Sawmill**	**82.72**	**20**	*e*P	**P**	**07 53 28.7**	**+0.8**
	comp=Z,31nm,1.0s						
SML	**Sawmill**	**82.72**	**20**	*e*P	**P**	**07 53 28.7**	**+0.8**
SML				pmax	pmax		
	comp=Z,31nm,1.0s						
CTAO	**Charters Tower**	**82.84**	**117**	*e*P	**P**	**07 53 28.9**	**-0.2**
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**82.84**	**117**	*e*P	**P**	**07 53 28.9**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s						
RC01	**Rabbit Creek A**	**82.85**	**21**	*e*P	**P**	**07 53 29.0**	**+0.5**
	comp=Z,13nm,0.7s						
RC01				*e*S	**S**	**08 03 43.5**	**-3.1**
SCM	**Sheep Creek Mo**	**82.99**	**19**	*e*P	**P**	**07 53 29.9**	**+0.5**
	comp=Z,75nm,1.9s						
SCM	**Sheep Creek Mo**	**82.99**	**19**	*e*P	**P**	**07 53 29.9**	**+0.5**
SCM				pmax	pmax		
	comp=Z,75nm,1.9s						
MENT	**Mentasta**	**83.10**	**17**	*e*P	**P**	**07 53 30.8**	**+1.0**
	comp=Z,7.7nm,1.1s						
HARP	**HAARP**	**83.15**	**18**	*e*P	**P**	**07 53 31.5**	**+1.4**
	comp=Z,49nm,0.9s						
BBOO	**Buckleboo**	**83.20**	**133**	*e*P	**P**	**07 53 29.9**	**-0.8**
	comp=Z,14nm,0.8s						
DAWY	**Dawson**	**83.22**	**15**	*e*P	**P**	**07 53 30.8**	**+0.4**
	comp=Z,8.4nm,0.8s						
KLU	**Klutina**	**83.67**	**19**	*e*P	**P**	**07 53 33.9**	**+1.0**
	comp=Z,9.6nm,0.7s						
FRB	**Frobisher Bay**	**83.79**	**345**	P	**P**	**07 53 33.2**	**-0.1**
	comp=Z,6.9nm,0.9s						
KDAK	**Kodiak Island**	**84.40**	**24***c*	*e*P	**P**	**07 53 37.2**	**+0.7**
STKA	**Stephens Creek**	**86.27**	**129**	P	**P**	**07 53 45.3**	**-0.9**
	comp=Z,6.3nm,0.8s,baz=316,slow=8.2,SNR=12						
STKA	**Stephens Creek**	**86.27**	**129**	*e*P	**P**	**07 53 45.5**	**-0.7**
	comp=Z,5.5nm,1.6s						
YKW3	**Yellowknife Ar**	**88.53**	**5**	*e*P	**P**	**07 53 56.0**	**-0.7**
	comp=Z,7.2nm,0.9s						
YKA	**Yellowknife Ar**	**88.60**	**5**	P	**P**	**07 53 57.0**	**0.0**
	comp=Z,3.6nm,0.6s,baz=343,slow=5.0,SNR=70						
YKA	**Yellowknife Ar**	**88.60**	**5**	P	**P**	**07 53 57.0**	**0.0**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						

SJA ***05*** *07:46:00.1±0.7, 28.°34S×63.°33W, h610km±9km, ML6.2, MW5.4*

BJI ***05*** *07:46:07.4, 28.°30S×63.°30W, h550km, mB6.0/56*

MOS ***05*** *07:46:08.1±0.9, 28.°25S×63.°31W, h545km, mb6.1/75, Error ellipse: s-maj=13.5km s-min=6.3km az=110.4*

ISCJB ***05*** *07:46:08.0±0.2, 28.°16S±0.°02×63.°28W±0.°03, h541km±2km, mb5.9/439, Error ellipse: s-maj=3.4km s-min=3.3km az=4.4*

IDC ***05*** *07:46:09.4±0.4, 28.°23S×63.°32W, h546km±3km, mb5.3/42, mb1 5.4/44, mb1mx5.3/48, mbtmp6.2/44, Error ellipse: s-maj=7.8km s-min=5.9km az=51.0*

NEIC ***05*** *07:46:09.0±0.0, 28.°33S×63.°24W, h560km, Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.41; $M_{\theta\theta}$0.82; $M_{\phi\phi}$0.59; $M_{r\theta}$-1.16; $M_{\theta\phi}$-0.54; $M_{\phi r}$0.55; Best double couple: $M_0$1.90000×10^{18} NP1:ϕ_s120.00000°, δ67.00000°, λ-96.00000°. NP2:ϕ_s315.00000°, δ24.00000°, λ-75.00000°. Principal axes: T 1.7500, Plg21.0000°, Azm214.0000°; N 0.1800, Plg5.0000°, Azm122.0000°; P -1.9400, Plg67.0000°, Azm18.0000°;*

NEIC ***05*** *07:46:09.7±0.0, 28.°14N×63.°15W, h541km, Moment Tensor Solution. s14 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.16; $M_{\theta\theta}$0.90; $M_{\phi\phi}$0.26; $M_{r\theta}$-1.48; $M_{\theta\phi}$-0.88; $M_{\phi r}$0.49; Best double couple: $M_0$2.10000×10^{18} NP1:ϕ_s324.00000°, δ23.00000°, λ-59.00000°. NP2:ϕ_s111.00000°, δ70.00000°, λ-102.00000°. Principal axes: T 2.2000, Plg24.0000°, Azm211.0000°; N -0.2600, Plg12.0000°, Azm115.0000°; P -1.9300, Plg63.0000°, Azm2.0000°;*

GCMT ***05*** *07:46:10.0±0.1, 28.°19S×63.°27W, h565km, MW6.1/142, Moment Tensor Solution. s142,c303; s113,c142; Duration: 2s8 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.48±.01; $M_{\theta\theta}$1.05±.02; $M_{\phi\phi}$0.42±.02; $M_{r\theta}$-1.12±.01; $M_{\theta\phi}$-0.53±.02; $M_{\phi r}$0.55±.02; Best double couple: $M_0$1.88900×10^{18} NP1:ϕ_s118.00000°, δ66.00000°, λ-92.00000°. NP2:ϕ_s302.00000°, δ24.00000°, λ-86.00000°. Principal axes: T 1.8260, Plg21.0000°, Azm209.0000°; N 0.1200, Plg2.0000°, Azm118.0000°; P -1.9520, Plg69.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

NEIC ***05*** *07:46:10.0±0.1, 28.°25S×63.°29W, mb6.0/293, ME5.7, MW6.1, MW6.1 Error ellipse: s-maj=3.2km s-min=2.3km az=54.0 Broadband fault plane solution: P waves. NP1: ϕ_s295.00000°, δ25.00000°, λ-90.00000°. NP2: ϕ_s115.00000°, δ65.00000°, λ-90.00000°. Principal axes: T Plg20.0000°, Azm205.0000°; N Plg0.0000°, Azm0.0000°; P Plg70.0000°, Azm25.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Buenos Aires, Mendoza and San Rafael. Also felt at Santiago, Chile.

ISC 05 07:46:09.3±0.2**, 28.°26S**±0.°03×**63.°29W**±0.°03**, h552**km±2km**, h552**km**:pP-P, n2097, σ1s24**/2461**, mb6.0**/448**, 24C-119D, Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**2.22**	**265**	*i* P	**P**	**07 47 18.4**	**-1.9**
CYA				IAML		07 47 20.1	
	comp=Z,5μm,0.3s						
CYA				*i* S	**S**	**07 48 12.1**	**-5.9**
AHML	**Horco Molle**	**2.33**	**308**	*i* P	**P**	**07 47 20.0**	**-1.0**
AHML				IAML		07 47 21.9	
	comp=Z,4μm,0.4s						
AHML				*i* S	**S**	**07 48 16.3**	**-2.8**
FSA	**Cafayete**	**3.21**	**311**	*i* P	**P**	**07 47 23.8**	**-2.3**
FSA				IAML		07 47 25.9	
	comp=Z,1μm,0.4s						
APLL	**PUNTA DE LOS L**	**3.54**	**232**	*i* P	**P**	**07 47 25.5**	**-2.5**
APLL				IAML		07 47 28.0	
	comp=Z,8μm,0.2s						
APLL				*i* S	**S**	**07 48 27.0**	**-5.3**
SLA	**San Lorenzo**	**4.04**	**330**	*i* P	**P**	**07 47 31.4**	**-0.6**
SLA				*i* S	**S**	**07 48 38.1**	**-1.1**
SLA				IAML		07 48 48.9	
	comp=Z,1μm,0.8s						
AZAP	**Zapla**	**4.32**	**338**	*i* P	**P**	**07 47 33.6**	**-0.6**
AZAP				IAML		07 47 37.0	
	comp=Z,1μm,0.4s						
VCA	**Vinchina**	**4.35**	**263**	*i* P	**P**	**07 47 33.4**	**-0.8**
VCA				*i* S	**S**	**07 48 42.0**	**-1.4**
VCA				IAML		07 48 47.5	
	comp=Z,15μm,0.6s						
ASTB	**Santa Barbara**	**4.42**	**346**	*i* P	**P**	**07 47 35.3**	**+0.4**
ASTB				*i* S	S	07 48 53.7	+9.3
MRA	**San Martin**	**4.65**	**206**	*i* P	**P**	**07 47 33.9**	**-2.4**
MRA				IAML		07 47 37.0	
	comp=Z,3μm,0.4s						
MRA				*i* S	**S**	**07 48 43.2**	**-4.4**
AGUA	**GUANDACOL**	**4.72**	**254**	*i* P	**P**	**07 47 36.1**	**-1.0**
AGUA				*i* S	**S**	**07 48 46.3**	**-2.4**
ACAN	**Cantantal**	**5.23**	**219**	*i* P	**P**	**07 47 39.5**	**-1.7**
ACAN				*i* S	**S**	**07 48 50.1**	**-6.3**
AMOG	**MOGNA**	**5.26**	**238**	*i* P	**P**	**07 47 40.7**	**-0.8**
AMOG				*i* S	**S**	**07 48 55.7**	**-1.1**
HJA	**Humahuaca**	**5.38**	**339**	*i* P	**P**	**07 47 43.0**	**-0.1**
HJA				IAML		07 47 47.5	
	comp=Z,637nm,0.5s						
RTLL	**Cerro Villicun**	**5.45**	**235**	*i* P	**P**	**07 47 41.8**	**-1.3**
RTLL				IAML		07 47 43.6	
	comp=Z,7μm,0.3s						
RTLL				*i* S	**S**	**07 48 57.2**	**-2.6**
SJA	**San Juan**	**5.62**	**233**	*i* P	**P**	**07 47 43.9**	**-0.7**
SJA				*i* S	**S**	**07 49 02.1**	**-0.4**
CPUP	**Villa Florida**	**5.64**	**71**	P	**P**	**07 47 45.4**	**+0.5**
CPUP				S	**S**	**07 49 03.4**	**+0.5**
	baz=18,slow=16,SNR=1.4						
CPUP				ScP	**ScP**	**07 56 17.9**	**+0.8**
	comp=Z,2.7nm,0.3s,baz=103,slow=3.4,SNR=5.2						
CPUP				PKiKP	**PKiKP**	**08 01 38.9**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=58,slow=0.9,SNR=6.5						
CPUP	**Villa Florida**	**5.64**	**71**	*i* P	**P**	**07 47 44.8**	**-0.1**
CPUP				*i* S	**S**	**07 49 03.4**	**+0.5**
I41PY	**VILLA FLORIDA**	**5.65**	**72**	P	**P**	**07 47 45.0**	**+0.1**
	baz=255,slow=9.8,SNR=1.5						
ZON	**Zonda**	**5.71**	**234**	*i* P	**P**	**07 47 44.4**	**-1.1**
ZON				IAML		07 47 46.8	
	comp=Z,3μm,0.3s						
ZON				*i* S	**S**	**07 49 01.9**	**-2.1**
RTLS	**Leoncito**	**6.29**	**234**	*i* P	**P**	**07 47 50.7**	**-0.2**
RTLS				IAML		07 47 51.8	
	comp=Z,2μm,0.3s						
RTLS				*i* S	**S**	**07 49 13.9**	**-0.2**
ASAL	**Salagasta**	**6.45**	**227**	*i* P	**P**	**07 47 51.3**	**-0.8**
ASAL				*i* S	**S**	**07 49 12.8**	**-3.6**
LCO	**Las Campanas**	**6.55**	**262**	*e*P	**P**	**07 47 52.3**	**-1.1**
LCO	**Las Campanas**	**6.55**	**262**	*i* P	**P**	**07 47 52.5**	**-1.0**
LCO				*i* S	**S**	**07 49 16.5**	**-2.1**
AUSP	**Uspallata**	**6.59**	**232**	*i* P	**P**	**07 47 52.9**	**-0.9**
ARCO	**CERRO ARCO**	**6.67**	**225**	*i* P	**P**	**07 47 53.2**	**-1.1**
ARCO				IAML		07 47 57.3	
	comp=Z,4μm,0.5s						
ARCO				*i* S	**S**	**07 49 21.4**	**+1.0**
AAGR	**Agrelo**	**6.77**	**223**	*i* P	**P**	**07 47 54.2**	**-1.1**
PB14	**IPOC Station P**	**7.33**	**298**	*i* P	**P**	**07 47 59.9**	**-1.1**
PB14				*i* S	**S**	**07 49 30.5**	**-1.8**
PB14				IAML		07 49 48.8	
	comp=Z,3μm,0.8s						
PB10	**IPOC Station P**	**8.07**	**304**	*e*P	**P**	**07 48 07.2**	**-0.7**
PB10	**IPOC Station P**	**8.07**	**304**	*i* P	**P**	**07 48 07.2**	**-0.7**
PB10				*i* S	**S**	**07 49 42.9**	**-2.2**
PB10				IAML		07 49 56.9	
	comp=Z,3μm,0.4s						
ROC1	**El Roble**	**8.15**	**233**	*e*P	**P**	**07 48 06.8**	**-2.0**
ROC1	**El Roble**	**8.15**	**233**	*i* P	**P**	**07 48 06.9**	**-1.9**
ROC1				*i* S	**S**	**07 49 44.0**	**-2.7**
PB04	**IPOC Station P**	**8.56**	**312**	*e*P	**P**	**07 48 12.1**	**-0.9**
PB01	**IPOC Station P**	**9.13**	**321**	*e*P	**P**	**07 48 17.9**	**-0.8**
TRQA	**Tornquist**	**9.83**	**174**	*e*P	**P**	**07 48 22.7**	**-2.7**
TRQA	**Tornquist**	**9.83**	**174**	*i* P	**P**	**07 48 22.9**	**-2.5**
TRQA				*i* S	**S**	**07 50 12.1**	**-5.3**
GO05	**HualaæØ**	**9.97**	**225**	*e*P	**P**	**07 48 24.3**	**-2.6**
GO05	**HualaæØ**	**9.97**	**225**	*i* P	**P**	**07 48 24.5**	**-2.4**
GO05				*i* S	**S**	**07 50 16.3**	**-3.7**
PB11	**IPOC Station P**	**10.26**	**324**	*e*P	**P**	**07 48 29.6**	**-0.7**
MNMC	**Minye Minye**	**10.76**	**326**	*e*P	**P**	**07 48 35.3**	**-0.3**
CCHI	**Chillan**	**11.14**	**219**	*i* P	**P**	**07 48 36.9**	**-2.0**
CCHI				*i* S	**S**	**07 50 38.3**	**-3.6**
COCH	**Cobquecura**	**11.23**	**223**	*i* P	**P**	**07 48 38.2**	**-1.6**
COCH				*i* S	**S**	**07 50 36.8**	**-6.8**
LPAZ	**La Paz**	**12.72**	**338**	P	**P**	**07 48 55.8**	**-0.3**
	comp=Z,373nm,0.3s,baz=135,slow=4.0,SNR=1234						
LPAZ				S	**S**	**07 51 10.9**	**-2.4**
	comp=Z,53nm,0.3s,baz=324,slow=20,SNR=11						
LPAZ				ScP	**ScP**	**07 56 27.5**	**+1.2**
	comp=Z,1.9nm,0.3s,baz=88,slow=2.3,SNR=14						
LPAZ				PKiKP	**PKiKP**	**08 01 41.7**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=22,slow=3.2,SNR=15						
LPAZ	**La Paz**	**12.72**	**338**	*e*P	**P**	**07 48 55.3**	**-0.9**
LPAZ				*e*S	**S**	**07 51 10.9**	**-2.4**
LPAZ	**La Paz**	**12.72**	**338**	*i* P	**P**	**07 48 55.5**	**-0.7**
LPAZ				*i* S	**S**	**07 51 09.4**	**-3.9**
I08BO	**LAS PENAS INFR**	**12.90**	**337**	P	**P**	**07 48 59.1**	**+1.2**
	baz=173,slow=8.2,SNR=0.5						
PLCA	**Paso Flores**	**13.80**	**204**	P	**P**	**07 49 04.1**	**-2.2**
	comp=Z,263nm,0.3s,baz=47,slow=11,SNR=2795						
PLCA				S	**S**	**07 51 29.7**	**-2.4**
	comp=Z,3.3nm,0.3s,baz=281,slow=23,SNR=1.4						
PLCA				PcP	**PcP**	**07 53 46.4**	**+1.1**
	comp=Z,14nm,0.3s,baz=18,slow=1.8,SNR=4.9						
PLCA				ScP	**ScP**	**07 56 27.8**	**+0.8**
	comp=Z,12nm,0.3s,baz=66,slow=1.6,SNR=19						
PLCA				PKiKP	**PKiKP**	**08 01 41.1**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=75,slow=1.3,SNR=20						
PLCA	**Paso Flores**	**13.80**	**204**	*e*P	**P**	**07 49 03.3**	**-3.0**
PLCA				*e*S	**S**	**07 51 29.7**	**-2.4**
PLCA				*e*PcP	**PcP**	**07 53 46.4**	**+1.1**
PLCA	**Paso Flores**	**13.80**	**204**	*e*P	**P**	**07 49 03.5**	**-2.9**
PLCA	**Paso Flores**	**13.80**	**204**	*i* P	**P**	**07 49 03.7**	**-2.6**
SPB	**Sao Paulo**	**15.00**	**76**	*e*P	**P**	**07 49 18.1**	**-0.8**
	comp=Z,2μm,0.8s						
SAML	**Samuel**	**19.21**	**0**	*e*P	**P**	**07 49 58.1**	**-0.2**
	comp=Z,165nm,0.8s						
CHRN	**Cochrane**	**20.31**	**198**	*e*P	**P**	**07 50 06.4**	**-1.4**
	comp=Z,1μm,0.7s						
NNA	**Nana**	**20.56**	**319**	P	**P**	**07 50 10.2**	**-0.3**
	comp=Z,377nm,1.0s,baz=168,slow=8.3,SNR=100						
NNA				S	**S**	**07 53 24.8**	**-1.0**
	comp=Z,21nm,0.6s,baz=30,slow=15,SNR=3.3						
NNA				PcP	**PcP**	**07 53 57.7**	**+0.9**
	comp=Z,129nm,0.8s,baz=219,slow=1.9,SNR=8.7						
NNA	**Nana**	**20.56**	**319**	*i* P	**P**	**07 50 11.0**	**+0.4**
EFI	**East Falkland**	**23.72**	**172**	*e*P	**P**	**07 50 36.6**	**-1.7**
	comp=Z,364nm,0.6s						
EFI	**East Falkland**	**23.72**	**172***c*	*i*P	**P**	**07 50 37.3**	**-1.0**
EFI				pmax	pmax		
	comp=Z,263nm,0.8s						
GO09	**Cerro Castillo**	**23.98**	**194**	*e*P	**P**	**07 50 39.5**	**-1.2**
	comp=Z,700nm,1.3s						
ATAH	**Atahualpa**	**25.41**	**323**	P	**P**	**07 50 56.0**	**+1.8**
	comp=Z,86nm,0.9s,baz=161,slow=6.5,SNR=65						
ATAH				PcP	**PcP**	**07 54 09.7**	**+2.1**
	comp=Z,128nm,0.7s,baz=146,slow=4.1,SNR=8.6						
ATAH				S	**S**	**07 54 45.9**	**+3.0**
	comp=Z,53nm,1.0s,baz=124,slow=19,SNR=4.7						
PTGA	**Pitinga**	**27.56**	**7**	P	**P**	**07 51 12.1**	**-0.5**
	comp=Z,110nm,0.4s,baz=201,slow=12,SNR=233						
PTGA				PcP	**PcP**	**07 54 13.4**	**+1.1**
	comp=Z,104nm,0.6s,baz=256,slow=3.1,SNR=4.6						
PTGA				S	**S**	**07 55 14.1**	**-1.5**
	comp=Z,451nm,1.0s,baz=42,slow=17,SNR=21						
PTGA				ScP	**ScP**	**07 57 02.7**	**+1.8**
	comp=Z,54nm,0.5s,baz=267,slow=11,SNR=5.1						
PTGA				PKiKP	**PKiKP**	**08 01 47.8**	**-0.4**
	comp=Z,4.8nm,0.5s,baz=4.4,slow=21,SNR=4.9						
PTGA	**Pitinga**	**27.56**	**7**	*e*P	**P**	**07 51 12.0**	**-0.6**
	comp=Z,1μm,1.9s						
OTAV	**Otavalo**	**31.84**	**330**	*e*P	**P**	**07 51 51.4**	**+1.3**
	comp=Z,233nm,0.9s						
FLOC	**Florencia**	**31.96**	**336**	*e*P	**P**	**07 51 49.7**	**-1.0**
HOPE	**Hope Point**	**32.52**	**151**	*e*P	**P**	**07 51 54.8**	**0.0**
	comp=Z,755nm,1.0s						
SOTA	**Rioblanco**	**32.82**	**335**	*e*P	**P**	**07 52 00.9**	**+2.5**
PCON	**Cinco Dias**	**32.92**	**335**	*e*P	**P**	**07 52 01.6**	**+2.2**
POPC	**Popayan, Colom**	**33.22**	**335**	*e*P	**P**	**07 52 02.9**	**+1.4**
MARP	**Paez Belalcaza**	**33.23**	**336**	*e*P	**P**	**07 52 00.9**	**-0.8**
TUMC	**Tumaco**	**33.38**	**331**	*e*P	**P**	**07 52 02.6**	**0.0**
	comp=Z,1μm,1.0s						
PRAC	**Prado**	**33.69**	**339**	*e*P	**P**	**07 52 04.1**	**-1.2**
	comp=Z,106nm,0.6s						
PRAC	**Prado**	**33.69**	**339**	*e*P	**P**	**07 52 04.9**	**-0.4**
VILC	**Villavicencio,**	**33.71**	**341**	*e*P	**P**	**07 52 05.6**	**+0.1**
CHIC	**Chingaza**	**34.21**	**341**	*e*P	**P**	**07 52 08.9**	**-1.1**
GRGC	**Isla de Gorgon**	**34.22**	**333**	*e*P	**P**	**07 52 11.6**	**+1.9**
RCBR	**Riachuelo**	**34.23**	**54**	P	**P**	**07 52 11.2**	**+1.3**
	comp=Z,426nm,0.8s,baz=226,slow=8.7,SNR=128						
RCBR				PcP	**PcP**	**07 54 31.4**	**+0.9**
	comp=Z,197nm,0.6s,baz=226,slow=4.4,SNR=12						
RCBR				S	**S**	**07 56 58.1**	**-0.1**
	comp=Z,10nm,0.6s,baz=241,slow=19,SNR=4.2						
RCBR				ScP	**ScP**	**07 57 24.8**	**+1.3**
	comp=Z,20nm,0.9s,baz=143,slow=5.1,SNR=4.1						
RCBR	**Riachuelo**	**34.23**	**54**	*e*P	**P**	**07 52 11.1**	**+1.2**
	comp=Z,516nm,0.9s						
RCBR				*e*P	P	07 52 11.2	+1.3
RCBR				*e*PcP	**PcP**	**07 54 31.4**	**+0.9**
RCBR				*e*S	**S**	**07 56 58.1**	**-0.1**
YOTC	**Yotoco, Valle**	**34.43**	**337**	*e*P	**P**	**07 52 09.6**	**-2.0**
YOPC	**Yopal, Colombi**	**34.56**	**344**	*e*P	**P**	**07 52 11.6**	**-1.0**
ROSC	**El Rosal**	**34.58**	**340**	P	**P**	**07 52 13.3**	**+0.2**
	comp=Z,94nm,0.5s,baz=156,slow=5.7,SNR=47						
ROSC				PcP	**PcP**	**07 54 32.5**	**+0.6**
	comp=Z,188nm,0.6s,baz=131,slow=8.9,SNR=13						
ROSC				S	**S**	**07 57 01.7**	**-2.2**
	comp=Z,40nm,0.9s,baz=35,slow=23,SNR=4.6						
ROSC				ScP	**ScP**	**07 57 25.9**	**+0.9**
	comp=Z,114nm,0.8s,baz=161,slow=20,SNR=8.6						
ROSC	**El Rosal**	**34.58**	**340**	*e*P	**P**	**07 52 13.1**	**0.0**
	comp=Z,238nm,1.3s						
ROSC				*e*PcP	**PcP**	**07 54 32.5**	**+0.6**
RUSC	**La Rusia**	**35.24**	**343**	*e*P	**P**	**07 52 17.6**	**-1.2**
	comp=Z,361nm,1.2s						
PLMC	**San Jos˜' del**	**35.27**	**337**	*e*P	**P**	**07 52 17.6**	**-0.9**
NORC	**Norcasia**	**35.43**	**340**	*e*P	**P**	**07 52 19.6**	**-0.3**
HELC	**Santa Helena**	**36.23**	**339**	*e*P	**P**	**07 52 24.2**	**-2.6**
	comp=Z,372nm,0.9s						
PTBC	**PUERTO BERRIO,**	**36.23**	**341**	*e*P	**P**	**07 52 22.1**	**-4.4**
PMSA	**Palmer Station**	**36.53**	**181**	*e*P	**P**	**07 52 28.4**	**+0.3**
	comp=Z,1μm,1.4s						
PAMC	**Pamplona, Colo**	**36.54**	**344**	*e*P	**P**	**07 52 27.5**	**-1.9**
ZARC	**Zaragoza, Cauc**	**37.26**	**341**	*e*P	**P**	**07 52 34.2**	**-0.6**
SDV	**Santo Domingo**	**37.60**	**348**	P	**P**	**07 52 36.2**	**-1.6**
	comp=Z,235nm,0.4s,baz=129,slow=3.1,SNR=291						
SDV				PP	**PP**	**07 54 24.8**	**+3.2**
	comp=Z,54nm,0.9s,baz=182,slow=4.4,SNR=3.7						
SDV				PcP	**PcP**	**07 54 41.1**	**+0.2**
	comp=Z,92nm,0.8s,baz=61,slow=3.5,SNR=5.5						
SDV				ScP	**ScP**	**07 57 37.1**	**+1.1**
	comp=Z,72nm,0.9s,baz=252,slow=1.7,SNR=8.7						
SDV				S	**S**	**07 57 44.1**	**-4.4**
	comp=Z,49nm,0.9s,baz=240,slow=23,SNR=6.4						
SDV	**Santo Domingo**	**37.60**	**348**	*e*P	**P**	**07 52 36.1**	**-1.7**
	comp=Z,620nm,1.1s						
SDV				*e*PcP	**PcP**	**07 54 41.1**	**+0.2**
SDV				*e*S	**S**	**07 57 44.1**	**-4.4**
PAYG	**Puerto Ayora**	**37.67**	**312**	*e*P	**P**	**07 52 39.2**	**+1.0**
	comp=Z,195nm,0.9s						
PCRV	**Puerto La Cruz**	**38.23**	**358**	P	**P**	**07 52 42.5**	**-0.2**
	comp=Z,212nm,0.5s,baz=159,slow=0.8,SNR=127						
PCRV				PcP	**PcP**	**07 54 43.7**	**+1.0**
	comp=Z,75nm,0.6s,baz=243,slow=2.3,SNR=6.3						
PCRV				ScP	**ScP**	**07 57 39.2**	**+1.0**
	comp=Z,65nm,0.8s,baz=295,slow=1.1,SNR=5.4						
PCRV				S	**S**	**07 57 55.0**	**-2.5**
	comp=Z,48nm,1.0s,baz=118,slow=7.1,SNR=9.5						
TPP	**Pointe-a-Pierr**	**38.39**	**3**	*e*P	**P**	**07 52 44.3**	**+0.4**
TBH	**Brigand Hill**	**38.57**	**4**	*e*P	**P**	**07 52 46.2**	**+0.7**
TRN	**Trinidad (W)**	**38.72**	**3**	*e*P	**P**	**07 52 47.2**	**+0.6**
BOT	**Bacolet**	**39.27**	**4**	*e*P	**P**	**07 52 50.9**	**-0.2**
TOSP	**Speyside**	**39.41**	**4**	*e*P	**P**	**07 52 52.7**	**+0.5**
GRGR	**Grenville**	**40.18**	**2**	*e*P	**P**	**07 52 58.2**	**-0.2**
	comp=Z,911nm,0.9s						
GRGR	**Grenville**	**40.18**	**2**	*e*P	**P**	**07 52 57.8**	**-0.6**
BCIP	**Isla Barro Col**	**40.50**	**334**	*e*P	**P**	**07 53 02.0**	**+1.0**
	comp=Z,1μm,1.5s						
RPN	**Rapa Nui**	**40.59**	**260**	P	**P**	**07 53 01.1**	**-0.5**
	comp=Z,105nm,0.7s,baz=338,slow=1.0,SNR=5.0						
RPN				PcP	**PP**	**07 54 51.8**	**+1.1**
	comp=Z,101nm,0.7s,baz=167,slow=2.7,SNR=4.0						
RPN				ScP	**ScP**	**07 57 48.1**	**+0.7**
	comp=Z,216nm,0.9s,baz=136,slow=1.9,SNR=6.9						
RPN	**Rapa Nui**	**40.59**	**260**	*e*P	**P**	**07 53 02.3**	**+0.7**
	comp=Z,781nm,1.5s						
RPN	**Rapa Nui**	**40.59**	**260**	*e*P	**P**	**07 53 02.3**	**+0.7**
RPN				pmax	pmax		
	comp=Z,781nm,1.5s						
URIC	**Uribia, Colomb**	**40.61**	**347**	*e*P	**P**	**07 52 58.1**	**-3.7**
SVB	**Belmont**	**41.33**	**3**	*e*P	**P**	**07 53 06.8**	**-0.8**
	comp=Z,567nm,0.7s						
SVB	**Belmont**	**41.33**	**3**	*e*P	**P**	**07 53 07.0**	**-0.6**
SVB	**Belmont**	**41.33**	**3**	*e*P	**P**	**07 53 07.9**	**+0.4**
SVCV	**St. Vincent, C**	**41.34**	**3**	*e*P	**P**	**07 53 07.1**	**-0.5**
SVCV	**St. Vincent, C**	**41.34**	**3**	*e*P	P	07 53 13.3	+5.7
MCLT	**Moule a Chique**	**41.78**	**3**	*e*P	**P**	**07 53 10.0**	**-1.0**
SLW	**Petit Monier**	**42.09**	**3**	*e*P	**P**	**07 53 14.2**	**+0.7**
BIM	**Bigot**	**42.58**	**3**	*e*P	**P**	**07 53 17.4**	**+0.1**
TRMF	**Trois Ilets**	**42.60**	**3**	*e*P	**P**	**07 53 17.1**	**-0.4**
MVM	**Montagne Vaucl**	**42.62**	**3**	*e*P	**P**	**07 53 16.8**	**-0.9**
ZAM	**Aeronautique**	**42.63**	**3**	*e*P	**P**	**07 53 17.4**	**-0.3**
LPMF	**Morne Lapointe**	**42.64**	**3**	*e*P	**P**	**07 53 17.1**	**-0.7**
FDF	**Fort de France**	**42.79**	**3**	*e*P	**P**	**07 53 18.5**	**-0.5**
	comp=Z,1μm,1.0s						
FDF	**Fort de France**	**42.79**	**3**	*e*P	**P**	**07 53 18.5**	**-0.5**
FDF				pmax	pmax		
	comp=Z,1μm,1.0s						
FDF	**Fort de France**	**42.79**	**3**	*e*P	**P**	**07 53 18.3**	**-0.7**
PML	**Morne Lenard**	**42.83**	**3**	*e*P	**P**	**07 53 18.9**	**-0.5**
CXM	**Morne La Croix**	**42.86**	**3**	*e*P	**P**	**07 53 19.6**	**-0.1**
PCM	**Pelee Case Pet**	**42.87**	**3**	*e*P	**P**	**07 53 18.4**	**-1.1**
PCM	**Pelee Case Pet**	**42.87**	**3**	*e*P	**P**	**07 53 18.5**	**-1.1**
HDC	**Heredia**	**43.04**	**329**	*e*P	**P**	**07 53 22.4**	**+1.3**
	comp=Z,907nm,0.9s						
HDC				*e*pP	**pP**	**07 54 59.5**	**-0.2**
DLPL	**La Plaine**	**43.38**	**3**	*e*P	**P**	**07 53 23.1**	**-0.4**
BBL	**Barber's Block**	**43.56**	**3**	*e*P	**P**	**07 53 24.1**	**-0.9**
MDPO	**Dominica; Chan**	**43.61**	**3**	*e*P	**P**	**07 53 24.9**	**-0.4**
MDPO	**Dominica; Chan**	**43.61**	**3**	*e*	**PcP**	**07 55 03.9**	**+3.5**
MDMP	**Dominica, Moor**	**43.63**	**3**	*e*P	**P**	**07 53 25.5**	**0.0**
MDMP	**Dominica, Moor**	**43.63**	**3**	*e*	**PcP**	**07 55 02.1**	**+1.6**
MDVC	**Dominica, Viel**	**43.65**	**3**	*e*P	**P**	**07 53 25.5**	**-0.2**
MDVC	**Dominica, Viel**	**43.65**	**3**	*e*	**PcP**	**07 55 04.4**	**+3.8**
JTS	**JuntasAbangare**	**43.68**	**328**	P	**P**	**07 53 27.2**	**+1.3**
	comp=Z,561nm,1.1s,baz=211,slow=2.0,SNR=104						
JTS				PcP	**PcP**	**07 55 01.5**	**+0.7**
	comp=Z,84nm,0.8s,baz=118,slow=7.4,SNR=6.1						
JTS				ScP	**ScP**	**07 58 01.1**	**+1.2**
	comp=Z,121nm,0.9s,baz=179,slow=0.8,SNR=17						
JTS				S	**S**	**07 59 19.2**	**+2.9**
	comp=Z,4.6nm,0.8s,baz=16,slow=21,SNR=2.7						
TBG	**Guadaloupe-3**	**43.88**	**2**	*e*P	**P**	**07 53 25.6**	**-1.8**
TBG	**Guadaloupe-3**	**43.88**	**2**	*e*	**PcP**	**07 55 02.1**	**+0.8**
MGG	**Marie-Galante**	**43.96**	**3**	*e*P	**P**	**07 53 27.4**	**-0.6**
MGG	**Marie-Galante**	**43.96**	**3**	*e*P	**P**	**07 53 27.5**	**-0.6**
GDHS	**Morne Mazeau,**	**44.29**	**2**	*e*P	**P**	**07 53 29.3**	**-1.4**
GDHS				*e*PcP	**PcP**	**07 55 03.5**	**+0.7**
DEG	**La Desirade**	**44.36**	**3**	*e*P	**P**	**07 53 29.9**	**-1.3**
SKI	**Saint Kitts**	**45.33**	**1**	*e*P	**P**	**07 53 37.8**	**-0.7**
SKI				*e*PcP	**PcP**	**07 55 07.3**	**+0.9**
SKI	**Saint Kitts**	**45.33**	**1**	*e*P	**P**	**07 53 37.8**	**-0.7**
SKI				*e*		07 55 07.3	
SKI	**Saint Kitts**	**45.33**	**1**	*e*P	**P**	**07 53 37.4**	**-1.2**
SEUS	**St. Eustatius**	**45.48**	**0**	*e*P	**P**	**07 53 38.8**	**-0.9**
SEUS				*e*PcP	**PcP**	**07 55 07.5**	**+0.5**
SEUS	**St. Eustatius**	**45.48**	**0**	*e*P	**P**	**07 53 38.4**	**-1.2**
SABA	**Saba**	**45.61**	**0**	*e*P	**P**	**07 53 39.8**	**-0.9**
	comp=Z,581nm,0.9s						
SABA				*e*PcP	**PcP**	**07 55 08.0**	**+0.6**
SABA	**Saba**	**45.61**	**0**	*e*P	**P**	**07 53 39.7**	**-1.0**
SABA	**Saba**	**45.61**	**0**	*e*	**PcP**	**07 55 08.1**	**+0.7**
ANWB	**Willy Bob**	**45.68**	**2**	*e*P	**P**	**07 53 39.7**	**-1.5**
	comp=Z,642nm,0.6s						
ANWB				*e*PcP	**PcP**	**07 55 07.9**	**+0.3**
ANWB	**Willy Bob**	**45.68**	**2**	*e*P	**P**	**07 53 37.7**	**-3.5**
SMRT	**St. Maarten**	**46.04**	**0**	*e*P	**P**	**07 53 41.9**	**-2.0**
SMRT				*e*PcP	**PcP**	**07 55 09.2**	**+0.3**
SMRT	**St. Maarten**	**46.04**	**0**	*e*P	**P**	**07 53 41.8**	**-2.1**
MTP	**Monte Pirata**	**46.13**	**357**	*e*P	**P**	**07 53 43.0**	**-1.7**
	comp=Z,563nm,1.6s						
SJG	**San Juan**	**46.18**	**356**	P	**P**	**07 53 43.5**	**-1.5**
	comp=Z,219nm,0.8s,baz=190,slow=7.1,SNR=52						
SJG				S	**S**	**07 59 46.4**	**-4.8**
	comp=Z,104nm,0.9s,baz=54,slow=20,SNR=27						
SJG	**San Juan**	**46.18**	**356**	*e*P	**P**	**07 53 43.5**	**-1.5**
SJG				*e*P	P	07 53 44.1	-0.8
SJG				*e*S	**S**	**07 59 46.4**	**-4.8**
HUMP	**Col San Antoni**	**46.19**	**357**	*e*P	**P**	**07 53 43.9**	**-1.1**
	comp=Z,206nm,0.7s						
MOMN	**Momotombo**	**46.27**	**328**	*e*P	**P**	**07 53 45.2**	**-0.6**
CBYP	**Canovanas**	**46.32**	**357**	*e*P	**P**	**07 53 44.6**	**-1.6**
	comp=Z,301nm,0.7s						
MPR	**Mayaguez**	**46.34**	**355**	*e*P	**P**	**07 53 45.5**	**-0.7**
	comp=Z,428nm,0.9s						
AGP	**Aguadilla**	**46.54**	**355**	*e*P	**P**	**07 53 46.9**	**-0.8**
	comp=Z,277nm,0.9s						
ABVI	**Anegada Island**	**46.72**	**359**	*e*P	**P**	**07 53 47.2**	**-1.9**
	comp=Z,433nm,0.8s						
BANI	**BANI**	**46.88**	**351**	*e*P	**P**	**07 53 50.8**	**+0.4**
SDD	**Santo Domingo**	**46.88**	**351**	*e*P	**P**	**07 53 49.9**	**-0.4**
	comp=Z,681nm,1.3s						
LGNH	**LØogne**	**47.36**	**348**	*e*P	**P**	**07 53 54.5**	**+0.6**
	comp=Z,740nm,1.1s						
SDDR	**Presa de Saban**	**47.59**	**350**	*e*P	**P**	**07 53 55.5**	**-0.2**
	comp=Z,202nm,0.6s						
LCND	**La Caˆ–ada**	**47.69**	**327**	*e*P	**P**	**07 53 55.9**	**-0.6**
HOJ	**Hope**	**47.80**	**343**	⇑*i*P	**P**	**07 53 57.7**	**+0.5**
STH	**Stony Hill**	**47.88**	**343**	⇑*i*P	**P**	**07 53 58.6**	**+0.7**
MCJ	**Malvern**	**47.98**	**341**	⇑*i*P	**P**	**07 53 59.5**	**+0.9**
VSM	**San Miguel**	**47.98**	**326**	*e*P	**P**	**07 53 58.9**	**-0.1**
LCY	**Lacayo**	**47.99**	**326**	*e*P	**P**	**07 53 58.6**	**-0.2**
PACA	**Pacayal**	**48.04**	**326**	*e*P	**P**	**07 53 59.6**	**+0.4**
TECA	**Tecapa**	**48.15**	**326**	*e*P	**P**	**07 54 00.7**	**+0.6**
MTDJ	**Mount Denham**	**48.22**	**342**	*e*P	**P**	**07 54 00.9**	**+0.4**
	comp=Z,650nm,0.8s						
CAHU	**Cacacuatique**	**48.25**	**327**	*e*P	**P**	**07 54 00.8**	**-0.1**
BBJ	**Bamboo Saint A**	**48.30**	**342**	⇑*i*P	**P**	**07 54 01.6**	**+0.6**
MBJ	**Montego Bay**	**48.48**	**341**	⇑*i*P	**P**	**07 54 03.2**	**+0.8**

LFRS **El Faro** 48.54 326 *eP* **P** 07 54 03.3 +0.4
LBRS **Las Brisas** 48.63 326 *eP* **P** 07 54 03.8 +0.3
SNET **Serv Nac Est T** 48.68 326 *eP* **P** 07 54 04.1 +0.2
SNET **Serv Nac Est T** 48.68 326 *eP* **P** 07 54 03.4 -0.5
COLS **Colinas** 48.69 325 *eP* **P** 07 54 04.5 +0.5
RTR **El Retiro** 49.06 325 *eP* **P** 07 54 07.3 +0.4
GTBY **Guantanamo Bay** 49.25 345 *eP* **P** 07 54 08.0 +0.1
comp=Z,1µm,1.2s
H10S3 **ASCENSION HYDR** 49.55 77 P **P** 07 54 10.8 +0.8
baz=254,slow=9.8,SNR=64
H10S2 **ASCENSION HYDR** 49.56 77 P **P** 07 54 10.8 +0.7
baz=254,slow=9.8,SNR=163
H10S1 **ASCENSION HYDR** 49.56 77 P **P** 07 54 10.8 +0.7
baz=254,slow=9.8,SNR=151
GRTK **Grand Turk** 50.05 350 *eP* **P** 07 54 14.4 +0.6
comp=Z,894nm,1.0s
H10N3 **ASCENSION HYDR** 50.23 76 P **P** 07 54 16.2 +1.2
baz=238,slow=6.2,SNR=47
H10N1 **ASCENSION HYDR** 50.25 76 P **P** 07 54 16.3 +1.1
baz=238,slow=6.2,SNR=65
H10N2 **ASCENSION HYDR** 50.25 76 P **P** 07 54 16.5 +1.4
baz=238,slow=6.2,SNR=42
CBCY **The Bluff, Cay** 50.30 340 *eP* **P** 07 54 15.6 0.0
comp=Z,352nm,0.7s
ASCN **Ascension** 50.31 76 *eP* **P** 07 54 16.9 +0.9
comp=Z,2µm,0.6s
FSCY **Frank Sound, G** 50.36 338 *eP* **P** 07 54 16.1 0.0
comp=Z,888nm,1.0s
WBCY **West Bay, Gran** 50.49 338 *eP* **P** 07 54 17.3 +0.3
comp=Z,669nm,0.8s
SNAA **Sanae** 54.24 160 PcP **PcP** 07 55 39.2 +0.4
SNAA **Sanae** 54.24 160 P **P** 07 54 42.8 -0.5
comp=Z,45nm,0.6s,baz=284,slow=7.6,SNR=248
SNAA PcP **PcP** 07 55 39.2 +0.4
comp=Z,63nm,0.5s,baz=276,slow=4.1,SNR=9.0
SNAA pP **pP** 07 56 29.8 +1.1
comp=Z,176nm,1.2s,baz=298,slow=7.6,SNR=7.3
SNAA ScP **ScP** 07 58 44.4 +0.2
comp=Z,134nm,1.1s,baz=286,slow=4.2,SNR=12
SNAA S **S** 08 01 38.1 -0.9
comp=Z,7.1nm,0.7s,baz=56,slow=22,SNR=14
SNAA PKPPKP **P'P'df** 08 24 42.2 -6.7
comp=Z,8.3nm,0.8s,baz=135,slow=2.8,SNR=6.9
SNAA **Sanae** 54.24 160 *c iP* **P** 07 54 43.0 -0.2
SNAA *i* 07 55 39.2
SNAA *i* *PP **pP** 07 56 29.0 +0.3
SNAA pmax pmax
comp=Z,6µm,1.3s
SHEL **Horse Pasture** 54.26 90 *eP* **P** 07 54 45.3 +1.0
comp=Z,805nm,0.6s
SHEL **Horse Pasture** 54.26 90 *eP* **P** 07 54 45.3 +1.0
SHEL pmax pmax
comp=Z,805nm,0.6s
CMIG **Matias Romero** 54.47 322 P **P** 07 54 45.3 -0.2
comp=Z,192nm,0.8s,baz=122,slow=4.6,SNR=114
CMIG PcP **PcP** 07 55 41.1 +0.7
comp=Z,99nm,0.8s,baz=94,slow=1.1,SNR=6.0
CMIG ScP **ScP** 07 58 46.2 +0.2
comp=Z,25nm,1.0s,baz=190,slow=9.5,SNR=4.0
CMIG S **S** 08 01 42.1 -1.1
comp=Z,6.7nm,0.9s,baz=332,slow=21,SNR=6.2
MYIG **MØrida** 55.20 330 *eP* **P** 07 54 50.0 -0.6
comp=Z,542nm,0.8s
LVIG **Laguna Verde** 57.45 322 *eP* **P** 07 55 06.4 +0.3
comp=Z,236nm,1.1s
SACV **Santiago Islan** 57.64 47 *eP* **P** 07 55 06.6 -0.8
comp=Z,497nm,0.8s
859A **Kempfer Cattle** 58.49 342 P **P** 07 55 13.3 +0.4
baz=162,SNR=28
UNM **Universidad Na** 58.67 320 *eP* **P** 07 55 16.3 +1.6
comp=Z,511nm,1.0s
UNM **Universidad Na** 58.67 320 *eP* **P** 07 55 16.3 +1.6
UNM pmax pmax
comp=Z,511nm,1.0s
DWPF **Disney Wildern** 58.68 341 P **P** 07 55 14.8 +0.5
baz=161
DWPF **Disney Wildern** 58.68 341 *eP* **P** 07 55 14.9 +0.7
comp=Z,519nm,0.9s
NVL **N'lazarevskaya** 58.71 158 *eP* **P** 07 55 15.4 +1.6
NVL *e* 07 55 58.9
NVL *e**PP **pP** 07 57 02.7 +1.0
NVL *e* 07 57 33.2
NVL *e**SP **sP** 07 58 01.9 +0.9
NVL *eS* **S** 08 02 36.6 +0.4
NVL pmax pmax
comp=Z,123nm,0.9s
858A **St. Cloud** 58.76 341 P **P** 07 55 15.0 +0.3
baz=161,SNR=8.6
857A **Zephyrhills** 59.06 341 P **P** 07 55 17.2 +0.4
baz=161,SNR=13
758A **Lake Helen** 59.42 342 P **P** 07 55 19.7 +0.5
baz=162,SNR=15
757A **Oxford** 59.65 341 P **P** 07 55 21.3 +0.6
baz=161,SNR=23
658A **Bunnell** 59.87 342 P **P** 07 55 22.7 +0.5
baz=162,SNR=9.4
MOIG **Morelia** 60.11 318 *eP* **P** 07 55 25.2 +0.9
comp=Z,895nm,1.1s
656A **Willston** 60.19 341 P **P** 07 55 24.2 0.0
baz=160,SNR=17
657A **Interlachen** 60.20 341 P **P** 07 55 24.6 +0.3
baz=161,SNR=51
BBSR **BB Station** 60.31 359 *eP* **P** 07 55 25.9 +1.0
comp=Z,410nm,0.8s
JRQG **Juriquilla Cam** 60.48 319 *eP* **P** 07 55 27.5 +0.8
comp=Z,1µm,1.3s
655A **Horseshoe Beac** 60.53 340 P **P** 07 55 26.5 0.0
baz=160,SNR=13
557A **Orange Park** 60.57 342 P **P** 07 55 26.9 +0.2
baz=161,SNR=36
556A **Lake Butler** 60.74 341 P **P** 07 55 28.0 +0.1
baz=161,SNR=25
555A **McAlpin** 61.02 341 P **P** 07 55 29.8 +0.1
baz=160,SNR=38
457A **Yulee** 61.09 342 P **P** 07 55 30.4 +0.3
baz=162,SNR=9.3
554A **Perry** 61.20 340 P **P** 07 55 30.9 0.0
baz=160,SNR=13
456A **Hilliard** 61.32 342 P **P** 07 55 32.6 +1.0
baz=161,SNR=51
553A **Crawfordville** 61.53 339 P **P** 07 55 33.6 +0.6
baz=159,SNR=61
455A **Stateville** 61.62 341 P **P** 07 55 33.6 0.0
baz=160,SNR=25
552A **Lynn Haven** 61.75 338 P **P** 07 55 34.9 +0.4
baz=158,SNR=12
454A **Quitman** 61.77 340 P **P** 07 55 34.9 +0.3
baz=160,SNR=24
QSPA **South Pole Qui** 61.97 180 *eP* **P** 07 55 35.8 +0.2
comp=Z,625nm,0.6s
453A **Whigham** 62.11 340 P **P** 07 55 37.1 +0.3
baz=159,SNR=46
BBTS **Babate** 62.20 53 P **P** 07 55 38.3 +0.6
comp=Z,658nm,0.8s,baz=229,slow=1.1,SNR=111
BBTS PcP **PcP** 07 56 12.5 +1.1
comp=Z,89nm,0.6s,baz=180,slow=5.2,SNR=2.0
BBTS PP **PP** 07 58 05.5 +1.5
comp=Z,82nm,0.8s,baz=255,slow=1.6,SNR=4.1
BBTS S **S** 08 03 24.0 +3.0
comp=Z,7.5nm,0.3s,baz=235,slow=24,SNR=6.2
451A **Vernon** 62.34 338 P **P** 07 55 38.2 -0.1
baz=158,SNR=17
451A S **S** 08 03 21.8 -0.5
baz=158
452A **Marianna** 62.38 339 P **P** 07 55 38.5 0.0
baz=158,SNR=33
TIGA **Tifton** 62.44 340 P **P** 07 55 38.7 -0.2
baz=160,SNR=49
TIGA **Tifton** 62.44 340 *eP* **P** 07 55 38.5 -0.4
comp=Z,495nm,0.8s
450A **Crestview** 62.80 338 P **P** 07 55 41.2 -0.1
baz=157,SNR=25
646A **Port Sulphur** 62.86 334 P **P** 07 55 43.2 +1.5
baz=154
351A **Pinckard** 62.91 339 P **P** 07 55 41.7 -0.3
baz=158,SNR=137
RGRS **Roger Stewart** 62.91 344 *eP* **P** 07 55 42.8 +0.9
comp=Z,7µm,0.8s
CSU **Charleston Sou** 62.96 344 *eP* **P** 07 55 43.3 +1.1
449A **Pace** 62.97 337 P **P** 07 55 42.1 -0.3
baz=156,SNR=48
645A **Chauvin** 63.05 333 P **P** 07 55 44.4 +1.5
baz=153,SNR=10
NHSC **New Hope** 63.10 344 P **P** 07 55 44.0 +0.9
baz=163,SNR=53
NHSC **New Hope** 63.10 344 *eP* **P** 07 55 43.7 +0.6
comp=Z,1µm,0.9s

350A **Dozier** 63.28 338 P **P** 07 55 44.1 -0.3
baz=157,SNR=72
BRAL **Brewton** 63.29 337 P **P** 07 55 44.3 -0.1
baz=157,SNR=97
BRAL **Brewton** 63.29 337 *eP* **P** 07 55 44.3 -0.1
comp=Z,1µm,0.8s
LNIG **Linares** 63.29 323 *eP* **P** 07 55 44.5 -0.1
comp=Z,621nm,0.8s
ZAIG **Zacatecas** 63.32 319 *eP* **P** 07 55 46.4 +1.3
comp=Z,301nm,1.0s
448A **Bay Minette** 63.35 336 P **P** 07 55 44.6 -0.2
baz=156,SNR=38
546A **Slidell** 63.40 334 P **P** 07 55 45.8 +0.7
baz=154
349A **Repton** 63.50 337 P **P** 07 55 45.8 0.0
baz=157,SNR=207
447A **Lucedale** 63.51 336 P **P** 07 55 45.9 0.0
baz=155,SNR=33
545A **Edgard** 63.53 334 P **P** 07 55 47.3 +1.3
baz=153
251A **Midway** 63.60 339 P **P** 07 55 45.7 -0.7
baz=158,SNR=200
250A **Grady** 63.77 338 P **P** 07 55 46.9 -0.5
baz=158,SNR=122
446A **Poplarville** 63.77 335 P **P** 07 55 47.6 +0.2
baz=154,SNR=52
348A **Jackson** 63.80 337 P **P** 07 55 47.6 -0.1
baz=156,SNR=122
544A **White Castle** 63.85 333 P **P** 07 55 49.3 +1.3
baz=153,SNR=11
151A **Opelika** 63.98 339 P **P** 07 55 48.2 -0.6
baz=158,SNR=115
347A **Saraland** 64.02 336 P **P** 07 55 48.9 -0.2
baz=155,SNR=113
249A **Camden** 64.05 338 P **P** 07 55 48.9 -0.3
baz=157,SNR=214
445A **Amite** 64.08 334 P **P** 07 55 49.8 +0.4
baz=154,SNR=15
543A **St. Martinvill** 64.11 333 P **P** 07 55 51.3 +1.7
baz=152,SNR=5.7
444A **Pine Grove** 64.23 334 P **P** 07 55 50.9 +0.5
baz=153,SNR=53
GOGA **Godfrey** 64.25 341 P **P** 07 55 50.3 -0.2
baz=160,SNR=55
GOGA **Godfrey** 64.25 341 *eP* **P** 07 55 49.7 -0.8
comp=Z,345nm,1.0s
GOGA **Godfrey** 64.25 341 *eP* **P** 07 55 49.7 -0.8
GOGA pmax pmax
comp=Z,345nm,1.0s
150A **Eclectic** 64.27 339 P **P** 07 55 50.2 -0.4
baz=158,SNR=193
346A **Big Creek Wild** 64.34 335 P **P** 07 55 51.0 -0.2
baz=154,SNR=75
248A **Dixon Mills** 64.37 337 P **P** 07 55 51.0 -0.2
baz=156,SNR=138
542A **Morse** 64.43 332 P **P** 07 55 53.3 +1.6
baz=152,SNR=36
345A **Thompson Farm,** 64.48 335 P **P** 07 55 51.9 -0.1
baz=154,SNR=56
JSC **Jenkinsville** 64.48 344 *eP* **P** 07 55 52.4 +0.5
comp=Z,837nm,0.9s
JSC **Jenkinsville** 64.48 344 *eP* **P** 07 55 52.4 +0.5
JSC pmax pmax
comp=Z,837nm,0.9s
149A **Jones** 64.51 338 P **P** 07 55 51.6 -0.5
baz=157,SNR=188
247A **Quitman** 64.64 336 P **P** 07 55 53.3 +0.4
baz=155,SNR=92
541A **Lake Charles** 64.64 331 P **P** 07 55 54.8 +1.8
baz=151,SNR=18
CNNC **Cliffs of the** 64.64 347 P **P** 07 55 53.1 +0.1
baz=166,SNR=30
CNNC **Cliffs of the** 64.64 347 *eP* **P** 07 55 53.0 +0.1
comp=Z,440nm,0.8s
KVTX **Kingsville** 64.66 326 *eP* **P** 07 55 54.6 +1.5
comp=Z,2µm,1.0s
443A **Delano Plantat** 64.68 333 P **P** 07 55 54.0 +0.8
baz=152,SNR=43
HODGE **Hodges** 64.69 343 *eP* **P** 07 55 53.2 -0.1
comp=Z,288nm,0.8s
246A **Jackson Lee, B** 64.79 336 P **P** 07 55 53.7 -0.2
baz=155,SNR=26
148A **Greensboro** 64.82 337 P **P** 07 55 53.6 -0.5
baz=156,SNR=118
Z50A **Ashland** 64.84 339 P **P** 07 55 54.0 -0.2
baz=158,SNR=669
344A **Westbrook Farm** 64.88 334 P **P** 07 55 54.8 +0.3
baz=153,SNR=113
442A **Mamou** 64.90 332 P **P** 07 55 55.8 +1.2
baz=152,SNR=22
Z49A **Columbiana** 64.97 339 P **P** 07 55 54.7 -0.3
baz=158,SNR=178
LRAL **Lakeview Retre** 64.98 338 P **P** 07 55 54.8 -0.4
baz=157,SNR=206
LRAL **Lakeview Retre** 64.98 338 *eP* **P** 07 55 54.7 -0.4
comp=Z,624nm,0.9s
343A **Vidalia** 65.07 333 P **P** 07 55 56.2 +0.5
baz=153,SNR=8.7
147A **Livingston** 65.08 337 P **P** 07 55 55.3 -0.4
baz=156,SNR=73
245A **Lite AP, Sta** 65.08 335 P **P** 07 55 55.8 +0.1
baz=154,SNR=178
PAULI **Pauline** 65.14 343 *eP* **P** 07 55 56.5 +0.5
comp=Z,341nm,1.1s
441A **DeRidder** 65.24 332 P **P** 07 55 58.3 +1.5
baz=151,SNR=105
KMSC **Kings Mountain** 65.32 344 P **P** 07 55 57.6 +0.4
baz=163,SNR=194
KMSC **Kings Mountain** 65.32 344 *eP* **P** 07 55 57.6 +0.4
comp=Z,980nm,0.8s
146A **Union** 65.32 336 P **P** 07 55 57.3 +0.1
baz=155,SNR=84
Y50A **Piedmont** 65.37 340 P **P** 07 55 57.1 -0.4
baz=158,SNR=236
244A **Avery, Jackson** 65.39 335 P **P** 07 55 58.0 +0.4
baz=154,SNR=219
342A **Flagon Creek P** 65.44 333 P **P** 07 55 59.1 +1.1
baz=152,SNR=179
Z48A **Northport** 65.48 338 P **P** 07 55 57.7 -0.5
baz=157,SNR=162
VBMS **Vicksburg** 65.48 335 P **P** 07 55 58.4 +0.1
baz=154,SNR=66
VBMS **Vicksburg** 65.48 335 *eP* **P** 07 55 58.3 +0.1
comp=Z,623nm,0.9s
Z47A **Carrollton** 65.49 337 P **P** 07 55 57.9 -0.4
baz=156,SNR=199
Y49A **Blount Mountai** 65.55 339 P **P** 07 55 58.3 -0.4
baz=158,SNR=249
243A **Waterproof** 65.55 334 P **P** 07 55 59.1 +0.5
baz=153,SNR=38
BG3 **Lake Jocassee** 65.59 342 *eP* **P** 07 55 59.2 +0.2
comp=Z,570nm,0.8s
145A **Houston Renfro** 65.61 335 P **P** 07 55 59.3 +0.3
baz=154,SNR=91
341A **Kurthwood** 65.74 332 P **P** 07 56 00.8 +0.9
baz=151,SNR=203
LIC **Lamo** 65.76 68 *eP* **P** 07 55 58.3 -2.1
LIC **Lamo** 65.76 68 *eP* **S** 08 04 03.4 -0.7
comp=Z,290nm,2.0s
Z46A **Louisville** 65.78 337 P **P** 07 56 00.4 +0.3
baz=155,SNR=135
144A **Alexander Plac** 65.81 335 P **P** 07 56 00.9 +0.5
baz=154,SNR=34
Y48A **Jasper** 65.84 338 P **P** 07 55 59.8 -0.6
baz=157,SNR=168
NCAT **North Carolina** 65.85 345 *eP* **P** 07 56 00.4 -0.1
comp=Z,507nm,0.9s
X50A **Fort Payne** 65.87 340 P **P** 07 56 00.2 -0.5
baz=158,SNR=156
242A **Grayson** 65.97 333 P **P** 07 56 02.1 +0.8
baz=152,SNR=438
833A **Chaparral WMA,** 66.04 325 P **P** 07 56 02.5 +0.7
baz=146,SNR=467
Y47A **UCPARC, Winfie** 66.06 338 P **P** 07 56 01.7 -0.1
baz=156,SNR=443
KIC **Kosan Boka** 66.07 68 *eP* **P** 07 56 00.9 -1.5
KIC **Kosan Boka** 66.07 68 *eP* **S** 08 04 07.1 -0.7
comp=Z,350nm,1.7s
X49A **Woodville** 66.12 339 P **P** 07 56 01.9 -0.3
baz=158,SNR=135
DBIC **Dimbokro** 66.15 68 P **P** 07 56 02.9 +0.1
comp=Z,1µm,0.6s,baz=209,slow=4.5,SNR=1462
DBIC S **S** 08 04 08.4 -0.3
comp=Z,12nm,0.9s,baz=82,slow=18,SNR=7.9
DBIC PKKP **PKKPdf** 08 16 10.6 -0.9
comp=Z,7.7nm,1.0s,baz=187,slow=6.2,SNR=3.1
DBIC PKPPKP **P'P'df** 08 24 30.4 +0.3
comp=Z,5.5nm,0.8s,baz=58,slow=8.8,SNR=3.5

DBIC **Dimbokro** 66.15 68 *eP* **P** 07 56 02.9 +0.1
DBIC *e* 07 56 03.0
Z45A **Winona** 66.21 336 P **P** 07 56 02.9 +0.1
baz=155,SNR=44
241A **Mo Tay, Goldon** 66.25 333 P **P** 07 56 04.1 +1.1
baz=152,SNR=238
143A **Socs Landing,** 66.25 334 P **P** 07 56 03.5 +0.5
baz=153,SNR=277
X48A **Hartselle** 66.30 339 P **P** 07 56 03.2 -0.1
baz=157,SNR=373
142A **Monroe** 66.32 334 P **P** 07 56 04.2 +0.7
baz=153,SNR=35
Y46A **Houston** 66.38 337 P **P** 07 56 03.3 -0.5
baz=156,SNR=132
Z44A **Pea Ridge, Bel** 66.40 335 P **P** 07 56 04.2 +0.3
baz=154,SNR=73
TKL **Tuckaleechee C** 66.44 342 P **P** 07 56 03.8 -0.4
comp=Z,511nm,0.8s,baz=161,slow=7.9,SNR=353
TKL PKP2bc 08 24 32.0
comp=Z,6.1nm,0.9s,baz=162,slow=4.7,SNR=3.3
TKL **Tuckaleechee C** 66.44 342 *eP* **P** 07 56 03.6 -0.6
comp=Z,681nm,1.0s
TKL **Tuckaleechee C** 66.44 342 *eP* **P** 07 56 03.6 -0.6
TKL pmax pmax
comp=Z,681nm,1.0s
CPCT **Cooper Cave** 66.46 341 *eP* **P** 07 56 04.0 -0.3
comp=Z,668nm,0.8s
240A **Hunter Patters** 66.60 332 P **P** 07 56 06.1 +0.8
baz=151,SNR=121
Y45A **Yeager Farm, C** 66.61 336 P **P** 07 56 05.3 +0.1
baz=155,SNR=130
X47A **Russelville** 66.62 338 P **P** 07 56 04.8 -0.5
baz=156,SNR=310
Z43A **Armstrong Fami** 66.64 335 P **P** 07 56 05.5 +0.1
baz=153,SNR=18
NATX **Nacogdoches** 66.74 331 P **P** 07 56 07.0 +0.9
baz=150,SNR=216
NATX **Nacogdoches** 66.74 331 *eP* **P** 07 56 07.0 +0.9
comp=Z,1µm,0.8s
141A **Papa Simpson,** 66.75 333 P **P** 07 56 07.1 +0.9
baz=152,SNR=98
W48A **Pulaski** 66.89 339 P **P** 07 56 06.8 -0.1
baz=158,SNR=525
X46A **Booneville** 66.90 337 P **P** 07 56 06.4 -0.6
baz=156,SNR=171
Y44A **Strider, Charl** 66.93 336 P **P** 07 56 07.0 -0.2
baz=154,SNR=47
Z42A **Norrel Spur, H** 66.96 334 P **P** 07 56 07.4 0.0
baz=153,SNR=81
VWCC **Virginia Weste** 67.02 346 *eP* **P** 07 56 08.3 +0.7
140A **Cam and Jess,** 67.05 332 P **P** 07 56 08.9 +1.0
baz=151,SNR=127
X45A **UM Field Stati** 67.06 337 P **P** 07 56 07.4 -0.5
baz=155,SNR=95
BLA **Blacksburg** 67.08 345 P **P** 07 56 08.4 +0.3
baz=164,SNR=73
BLA **Blacksburg** 67.08 345 *eP* **P** 07 56 08.8 +0.7
comp=Z,1µm,1.4s
BLA **Blacksburg** 67.08 345 *eP* **P** 07 56 08.8 +0.7
BLA pmax pmax
comp=Z,1µm,1.4s
PLAL **Pickwick Lake** 67.12 338 *eP* **P** 07 56 07.7 -0.6
comp=Z,1µm,1.0s
IP05 **Hopewell Churc** 67.13 348 *eP* **P** 07 56 09.1 +0.8
comp=Z,793nm,1.0s
OXF **Oxford** 67.14 337 P **P** 07 56 07.8 -0.7
baz=155,SNR=134
OXF **Oxford** 67.14 337 *eP* **P** 07 56 07.8 -0.7
comp=Z,1µm,1.0s
OXF **Oxford** 67.14 337 *eP* **P** 07 56 07.8 -0.7
OXF pmax pmax
comp=Z,1µm,1.0s
Y43A **Makayla and Ka** 67.15 335 P **P** 07 56 08.9 +0.4
baz=154,SNR=114
W47A **Westpoint** 67.21 339 P **P** 07 56 08.5 -0.4
baz=157,SNR=716
435B **Jarrell** 67.21 328 P **P** 07 56 09.4 +0.4
baz=148,SNR=151
TZTN **Tazewell** 67.22 342 P **P** 07 56 08.5 -0.5
baz=161,SNR=50
TZTN **Tazewell** 67.22 342 *eP* **P** 07 56 08.4 -0.5
comp=Z,424nm,1.1s
IP07 **Quail** 67.26 347 *eP* **P** 07 56 10.1 +0.9
comp=Z,880nm,0.8s
IP06 **Yanceyville** 67.27 347 *eP* **P** 07 56 10.1 +0.9
comp=Z,385nm,0.9s
IP01 **Cuckoo** 67.28 348 *eP* **P** 07 56 10.0 +0.8
comp=Z,557nm,0.9s
Z41A **Richland Creek** 67.28 333 P **P** 07 56 09.8 +0.4
baz=152,SNR=92
SPRD **Spring Road, M** 67.34 348 *eP* **P** 07 56 10.7 +1.1
comp=Z,570nm,1.1s
W46A **Michie** 67.36 338 P **P** 07 56 09.0 -0.8
baz=156,SNR=199
IP03 **Louisa** 67.36 347 *eP* **P** 07 56 10.7 +1.0
comp=Z,704nm,1.1s
CVRD **Centerville Ro** 67.37 348 *eP* **P** 07 56 10.6 +0.8
comp=Z,454nm,1.0s
SPFD **Spotsylvania F** 67.38 348 *eP* **P** 07 56 10.7 +0.8
comp=Z,728nm,1.4s
X44A **Crenshaw** 67.39 336 P **P** 07 56 09.6 -0.4
baz=154,SNR=120
Y42A **Garnett, Star** 67.40 335 P **P** 07 56 10.6 +0.5
baz=153,SNR=122
V48A **Smith Brothers** 67.41 339 P **P** 07 56 09.7 -0.4
baz=158,SNR=303
CBN **Corbin Frederi** 67.42 348 P **P** 07 56 10.7 +0.6
baz=167,SNR=60
CBN **Corbin Frederi** 67.42 348 *eP* **P** 07 56 10.8 +0.8
comp=Z,675nm,1.0s
IP04 **Greensprings** 67.44 347 *eP* **P** 07 56 11.3 +1.1
comp=Z,494nm,1.1s
CCAR **Cane Creek** 67.47 335 *eP* **P** 07 56 11.0 +0.5
comp=Z,1µm,0.9s
Z40A **Long Farm, Mag** 67.52 333 P **P** 07 56 11.9 +1.1
baz=152,SNR=411
W45A **Hickory Valley** 67.65 337 P **P** 07 56 11.3 -0.3
baz=156,SNR=408
X43A **Marvell** 67.67 336 P **P** 07 56 12.2 +0.5
baz=154,SNR=209
EBZ **Ebenezer Churc** 67.69 337 *eP* **P** 07 56 12.4 +0.6
V47A **Nunnelly** 67.71 339 P **P** 07 56 11.2 -0.8
baz=157,SNR=349
Y41A **Eaglette Beard** 67.76 334 P **P** 07 56 12.8 +0.6
baz=152,SNR=390
WLAR **White Oak Lake** 67.78 333 *eP* **P** 07 56 13.5 +1.1
comp=Z,3µm,1.0s
W44A **Shelby Farms P** 67.85 337 P **P** 07 56 12.7 -0.1
baz=155,SNR=38
MET **Memphis--Engin** 67.88 337 *eP* **P** 07 56 13.5 +0.6
comp=Z,2µm,0.9s
V46A **Holladay** 67.88 338 P **P** 07 56 12.0 -1.0
baz=156,SNR=317
X42A **Stuttgart** 67.98 335 P **P** 07 56 13.8 +0.2
baz=153,SNR=111
JCT **Junction City** 68.01 326 P **P** 07 56 14.2 +0.2
baz=146,SNR=303
JCT **Junction City** 68.01 326 *eP* **P** 07 56 14.2 +0.2
comp=Z,620nm,0.8s
JCT **Junction City** 68.01 326 *eP* **P** 07 56 14.2 +0.2
JCT pmax pmax
comp=Z,620nm,0.8s
U48A **Cassie Pea, Po** 68.04 340 P **P** 07 56 13.3 -0.6
baz=158,SNR=205
WVT **Waverly** 68.09 339 P **P** 07 56 13.5 -0.8
baz=157
WVT **Waverly** 68.09 339 *eP* **P** 07 56 13.4 -0.8
comp=Z,782nm,0.8s
WVT **Waverly** 68.09 339 *eP* **P** 07 56 13.4 -0.8
WVT pmax pmax
comp=Z,782nm,0.8s
V45A **Humboldt** 68.10 338 P **P** 07 56 13.9 -0.4
baz=156,SNR=376
SFTN **Shelby Forest** 68.12 337 *eP* **P** 07 56 15.2 +0.8
SFTN **Shelby Forest** 68.12 337 *eP* **P** 07 56 15.2 +0.8
W43A **Forest City** 68.12 336 P **P** 07 56 14.4 0.0
baz=154,SNR=29
Y40A **Okolona** 68.14 333 P **P** 07 56 14.9 +0.3
baz=152,SNR=376
WHTX **Lake Whitney,** 68.17 329 P **P** 07 56 14.9 +0.1
baz=148,SNR=148
WHTX **Lake Whitney,** 68.17 329 *eP* **P** 07 56 14.8 0.0
comp=Z,619nm,1.1s
U47A **Clarksville** 68.20 339 P **P** 07 56 14.1 -0.8
baz=157,SNR=461
X41A **Kaden, Bauxite** 68.26 334 P **P** 07 56 15.1 -0.2
baz=152,SNR=92
HPIG 68.31 320 *eP* **P** 07 56 16.4 +0.3

comp=Z,400nm,0.8s
X40A Basin Creek Fa 68.38 334 P P 07 56 15.8 -0.3
baz=152,SNR=112
SYO Syowa Base 68.38 158 *iP* P 07 56 14.0 -1.6
HALT Halls 68.39 337 *eP* P 07 56 15.7 -0.4
comp=Z,3μm,1.2s
U46A Springville 68.41 339 P P 07 56 15.3 -0.8
baz=157,SNR=93
UALR University of 68.44 335 *eP* P 07 56 16.3 -0.1
comp=Z,724nm,0.8s
SLBS Sierra La Lagu 68.47 314 *eP* P 07 56 17.4 +0.4
comp=Z,134nm,0.6s
SDMD Soldier's Deli 68.50 349 *eP* P 07 56 17.5 +0.9
comp=Z,341nm,0.9s
V44A Blytheville 68.50 337 P P 07 56 16.7 0.0
baz=155,SNR=32
HBAR Harrisburg 68.52 336 *eP* P 07 56 16.8 0.0
comp=Z,835nm,0.8s
T48A Bowling Green 68.55 340 P P 07 56 16.1 -0.9
baz=158,SNR=79
W42A Bald Knob 68.58 335 P P 07 56 17.1 -0.1
baz=154,SNR=160
U45A Rockin P Farm, 68.59 338 P P 07 56 16.7 -0.6
baz=156,SNR=38
UTMT University of 68.62 338 *eP* P 07 56 16.8 -0.6
comp=Z,2μm,1.0s
T47A Sharon Grove 68.65 340 P P 07 56 16.7 -0.9
baz=158,SNR=316
GNAR Gosnell 68.67 337 *eP* P 07 56 18.1 +0.4
comp=Z,5μm,0.9s
V43A Jonesboro 68.69 336 P P 07 56 18.1 +0.2
baz=154,SNR=20
GLAT Glass 68.69 338 *eP* P 07 56 17.7 -0.2
comp=Z,3μm,1.4s
MIAR Mount Ida 68.72 333 P P 07 56 18.1 0.0
baz=152,SNR=183
MIAR Mount Ida 68.72 333 *eP* P 07 56 18.1 0.0
comp=Z,531nm,1.1s
MIAR Mount Ida 68.72 333 *eP* P 07 56 18.1 0.0
MIAR pmax pmax
comp=Z,531nm,1.1s
W41B Gary Mavity, V 68.76 335 P P 07 56 18.3 -0.1
baz=153,SNR=201
PSUB Penn St. - Bra 68.77 350 *eP* P 07 56 18.6 +0.3
comp=Z,329nm,0.9s
U44B Burton Farm, H 68.78 338 P P 07 56 18.2 -0.2
baz=156,SNR=10
X301 Greenbrier Sit 68.88 335 *eP* P 07 56 19.1 +0.1
comp=Z,2μm,1.5s
WHAR Wooly Hollow 68.88 335 *eP* P 07 56 18.6 -0.4
comp=Z,641nm,1.0s
X39A Fountain Ranch 68.90 333 P P 07 56 19.7 +0.5
baz=151,SNR=442
T46A Princeton 68.94 339 P P 07 56 19.0 -0.4
baz=157,SNR=151
S48A Wiedeman Farm, 68.96 341 P P 07 56 18.7 -0.7
baz=159,SNR=126
PVMO Portageville 68.96 337 *eP* P 07 56 19.9 +0.4
comp=Z,6μm,0.9s
MVL Millersville 68.99 349 *eP* P 07 56 20.5 +1.0
comp=Z,438nm,0.9s
LPIG La Paz 69.00 314 P P 07 56 20.4 +0.4
comp=Z,362nm,0.9s,baz=220,slow=0.1,SNR=61
LPIG S S 08 04 43.6 +2.1
comp=Z,5.5nm,0.4s,baz=29,slow=21,SNR=3.5
V42A Cord 69.01 336 P P 07 56 19.3 -0.5
baz=154,SNR=194
U44A Portageville 69.04 337 P P 07 56 19.9 -0.1
baz=155,SNR=172
TXAR Lajitas Array 69.07 323 P P 07 56 20.5 +0.1
comp=Z,170nm,0.7s,baz=150,slow=7.6,SNR=1313
TXAR PcP PcP 07 56 40.9 +0.9
comp=Z,32nm,0.7s,baz=134,slow=5.2,SNR=7.5
TXAR S S 08 04 43.4 +1.0
comp=Z,1.5nm,0.9s,baz=141,slow=10,SNR=5.3
TXAR PKPPKP P'P'df 08 24 23.3 0.0
comp=Z,1.9nm,0.5s,baz=12,slow=0.4,SNR=12
TXAR Lajitas Array 69.07 323 P P 07 56 20.5 +0.1
TXAR 07 56 40.9
TXAR S S 08 04 43.4 +1.0
TXAR pmax pmax
comp=Z,166nm,0.7s
TXAR pmax pmax
comp=Z,32nm,0.7s
TXAR smax smax
comp=N,2.0nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,0.5s
LTX Lajitas 69.07 323 *eP* P 07 56 20.5 +0.1
LTX Lajitas 69.07 323 *eP* P 07 56 20.5 +0.1
TX31 Lajitas Ar. Si 69.07 323 *eP* P 07 56 20.6 +0.1
W40A Ferguson Farm, 69.09 334 P P 07 56 20.9 +0.6
baz=152,SNR=246
W40A Ferguson Farm, 69.09 334 *eP* P 07 56 20.9 +0.6
comp=Z,3μm,1.5s
T45A Paducah 69.17 338 P P 07 56 19.9 -0.8
baz=156,SNR=24
U43A Rector 69.17 337 P P 07 56 20.7 -0.1
baz=155,SNR=254
PARMO Parma 69.21 337 *eP* P 07 56 20.9 -0.1
comp=Z,5μm,0.8s
V41A Mountainview 69.27 335 P P 07 56 21.2 -0.2
baz=153,SNR=1000
PAGS Pennsylvania G 69.27 349 *eP* P 07 56 22.1 +0.9
comp=Z,710nm,0.8s
MCWV Mont Chateau 69.31 346 P P 07 56 22.3 +0.8
baz=164,SNR=161
MCWV Mont Chateau 69.31 346 *eP* P 07 56 22.3 +0.8
comp=Z,835nm,0.9s
W39A Magazine 69.37 334 P P 07 56 22.6 +0.7
baz=152,SNR=333
CPNY Central Park 69.41 351 *eP* P 07 56 23.1 +1.1
comp=Z,210nm,0.9s
LUPA Lehigh Univers 69.42 350 *eP* P 07 56 22.9 +0.8
comp=Z,24nm,0.9s
U42A Revenden 69.44 336 P P 07 56 22.0 -0.4
baz=154,SNR=637
S46A Don Dixon Farm 69.48 339 P P 07 56 21.7 -0.9
baz=157,SNR=106
T44A Benton 69.53 338 P P 07 56 22.3 -0.6
baz=155,SNR=44
V40A Witts Springs 69.54 335 P P 07 56 22.8 -0.2
baz=152,SNR=416
PBMO Poplar Bluff 69.54 337 *eP* P 07 56 22.5 -0.5
comp=Z,944nm,0.8s
WCI Wyandotte Cave 69.56 341 P P 07 56 22.4 -0.6
baz=158
WCI Wyandotte Cave 69.56 341 *eP* P 07 56 22.2 -0.8
comp=Z,858nm,1.0s
WCI Wyandotte Cave 69.56 341 *eP* P 07 56 22.2 -0.8
WCI pmax pmax
comp=Z,858nm,1.0s
R48A Northridge Ran 69.59 341 P P 07 56 22.7 -0.5
baz=159,SNR=114
PAL Palisades 69.61 351 P P 07 56 23.6 +0.3
baz=170,SNR=40
PAL Palisades 69.61 351 *eP* P 07 56 24.2 +0.9
comp=Z,236nm,0.9s
PAL Palisades 69.61 351 *eP* P 07 56 24.2 +0.9
PAL pmax pmax
comp=Z,236nm,0.9s
O56A Blue Knob Stat 69.64 348 P P 07 56 24.4 +0.9
baz=166,SNR=104
O56A Blue Knob Stat 69.64 348 *eP* P 07 56 24.4 +0.9
comp=Z,454nm,0.8s
U41A Viola 69.68 336 P P 07 56 23.7 -0.2
baz=153,SNR=800
R47A Wooly Knot Far 69.69 341 P P 07 56 23.1 -0.7
baz=158,SNR=98
ABTX Abilene, Hawle 69.71 328 P P 07 56 24.0 -0.1
baz=146,SNR=230
ABTX Abilene, Hawle 69.71 328 *eP* P 07 56 24.0 -0.1
comp=Z,650nm,1.0s
USIN University of 69.72 340 *eP* P 07 56 23.4 -0.6
comp=Z,572nm,0.8s
S45A Carrier Mills 69.75 339 P P 07 56 23.2 -0.9
baz=156,SNR=197
T43A Greenville 69.77 337 P P 07 56 23.7 -0.7
baz=155,SNR=417
ODNJ Ogdensburg 69.78 351 *eP* P 07 56 25.1 +0.8
comp=Z,333nm,0.9s
N59A State Game Lan 69.79 350 P P 07 56 25.5 +1.1
baz=168,SNR=107
N59A State Game Lan 69.79 350 *eP* P 07 56 25.5 +1.1
comp=Z,478nm,0.8s
YLE Yale 69.80 352 *eP* P 07 56 25.6 +1.2
comp=Z,503nm,0.8s
SSPA Standing Stone 69.87 348 P P 07 56 25.6 +0.7
baz=166
SSPA Standing Stone 69.87 348 *eP* P 07 56 25.6 +0.7
comp=Z,471nm,1.0s
V39A Pettigrew 69.88 334 P P 07 56 25.3 +0.2
baz=152,SNR=593
R46A Gibon Southern 69.90 340 P P 07 56 23.7 -1.4
baz=157,SNR=100
S44A Carbondale 69.98 338 P P 07 56 24.6 -0.9
baz=156,SNR=137
SIUC Southern Illin 69.98 338 *eP* P 07 56 24.5 -1.1
comp=Z,644nm,0.8s
T42A Van Buren 70.00 337 P P 07 56 24.9 -0.8
baz=154,SNR=147
U40A Yellville 70.04 335 P P 07 56 25.8 -0.2
baz=152,SNR=370
SBA Scott Base 70.11 190 *eP* P 07 56 27.1 +1.3
comp=Z,532nm,2.0s
SBA Scott Base 70.11 190 *eP* P 07 56 27.1 +1.3
SBA pmax pmax
comp=Z,532nm,2.0s
S43A Fulton Ridge, 70.14 338 P P 07 56 25.5 -1.1
baz=155,SNR=141
R45A Skylar, Fairfi 70.21 339 P P 07 56 25.8 -1.1
baz=157,SNR=291
BRYW Bryant College 70.24 353 *eP* P 07 56 28.6 +1.6
comp=Z,418nm,0.8s
T41A Mountain View 70.25 336 P P 07 56 26.8 -0.4
baz=154,SNR=481
Q47A Bedord North L 70.25 341 P P 07 56 26.3 -0.8
baz=158,SNR=65
U39A Green Forest 70.30 334 P P 07 56 27.3 -0.2
baz=152,SNR=569
HHAR Hobbs 70.38 334 *eP* P 07 56 28.0 -0.1
comp=Z,562nm,1.0s
KSPA Keystone Colle 70.42 350 *eP* P 07 56 29.9 +1.9
comp=Z,0.9nm,0.8s
R44A Waltonville 70.42 339 P P 07 56 26.9 -1.3
baz=156,SNR=120
BLO Bloomington 70.50 341 *eP* P 07 56 28.0 -0.6
comp=Z,719nm,0.6s
BLO Bloomington 70.50 341 *eP* P 07 56 28.0 -0.6
BLO pmax pmax
comp=Z,719nm,0.6s
ACSO Alum Creek Sta 70.56 344 P P 07 56 28.7 -0.3
baz=162,SNR=140
ACSO Alum Creek Sta 70.56 344 *eP* P 07 56 28.6 -0.3
comp=Z,603nm,0.8s
S42A Caledonia 70.56 337 P P 07 56 28.0 -1.0
baz=154,SNR=227
OLIL Olney 70.56 340 *eP* P 07 56 27.0 -2.0
comp=Z,710nm,0.9s
N54A Moraine State 70.59 347 P P 07 56 29.9 +0.8
baz=164,SNR=297
N54A Moraine State 70.59 347 *eP* P 07 56 29.9 +0.8
comp=Z,1μm,0.7s
Q46A CEJHS Indians, 70.61 340 P P 07 56 28.3 -0.9
baz=158,SNR=24
BCX Boston College 70.62 354 *eP* P 07 56 30.5 +1.3
comp=Z,95nm,0.8s
T40A Mansfield 70.62 336 P P 07 56 29.1 -0.3
baz=153,SNR=179
FVM French Village 70.63 338 *eP* P 07 56 28.8 -0.6
comp=Z,740nm,0.8s
FVM French Village 70.63 338 *eP* P 07 56 28.8 -0.6
FVM pmax pmax
comp=Z,740nm,0.8s
WES Weston 70.68 354 *eP* P 07 56 30.5 +0.9
comp=Z,159nm,0.9s
WES Weston 70.68 354 *eP* P 07 56 30.5 +0.9
WES pmax pmax
comp=Z,159nm,0.9s
QUA2 Belchertown 70.68 353 *eP* P 07 56 30.8 +1.2
comp=Z,188nm,0.8s
P47A Marisville 70.72 341 P P 07 56 29.2 -0.7
baz=159,SNR=135
Q45A Warren Harvey, 70.73 340 P P 07 56 28.9 -1.0
baz=157,SNR=404
R43A Red Bud 70.73 338 P P 07 56 28.9 -1.0
baz=155,SNR=98
S41A Jillco Farms, 70.73 336 P P 07 56 29.8 -0.3
baz=154,SNR=513
TUL1 Leonard 70.80 332 P P 07 56 30.4 -0.1
baz=150,SNR=272
TUL1 Leonard 70.80 332 *eP* P 07 56 30.4 -0.1
comp=Z,571nm,0.7s
T39A Clever 70.82 335 P P 07 56 30.5 -0.1
baz=152,SNR=456
HRV Adam Dziewonsk 70.82 354 P P 07 56 31.7 +1.3
baz=172
HRV Adam Dziewonsk 70.82 354 *eP* P 07 56 31.7 +1.3
comp=Z,400nm,1.0s
HRV Adam Dziewonsk 70.82 354 *eP* P 07 56 31.7 +1.3
HRV pmax pmax
comp=Z,400nm,1.0s
OK022 N3560 Road, Pr 70.83 332 *eP* P 07 56 30.3 -0.4
comp=Z,727nm,0.8s
SUR Sutherland 70.87 117 P P 07 56 32.9 +1.5
comp=Z,30nm,0.5s,baz=234,slow=6.0,SNR=16
SUR S S 08 05 05.1 +1.8
comp=Z,0.9nm,1.1s,baz=336,slow=20,SNR=1.5
SUR Sutherland 70.87 117 *eP* P 07 56 32.7 +1.3
comp=Z,510nm,0.6s
SUR Sutherland 70.87 117 P P 07 56 32.9 +1.5
SNR=13
OK021 N3530 Road, Sp 70.91 332 *eP* P 07 56 30.9 -0.2
comp=Z,832nm,0.8s
OK020 N3440 Road, Me 70.92 331 *eP* P 07 56 31.0 -0.2
comp=Z,1μm,0.6s
CCM Cathedral Cave 70.97 337 P P 07 56 31.0 -0.4
baz=154
CCM Cathedral Cave 70.97 337 *eP* P 07 56 30.8 -0.6
comp=Z,579nm,0.7s
CCM Cathedral Cave 70.97 337 *eP* P 07 56 30.8 -0.6
CCM pmax pmax
comp=Z,579nm,0.7s
Q44A Meyer Farm, Va 71.00 339 P P 07 56 30.3 -1.3
baz=156,SNR=74
S40A Lebanon 71.01 336 P P 07 56 31.6 -0.1
baz=153,SNR=453
R42A Luebbering 71.02 337 P P 07 56 31.2 -0.5
baz=155,SNR=375
M54A Oil Creek Stat 71.05 347 P P 07 56 32.2 +0.4
baz=165,SNR=175
M54A Oil Creek Stat 71.05 347 *eP* P 07 56 32.2 +0.4
comp=Z,1μm,1.0s
WMOK Wichita Mounta 71.07 330 P P 07 56 31.7 -0.5
baz=147,SNR=366
WMOK Wichita Mounta 71.07 330 *eP* P 07 56 31.6 -0.5
comp=Z,245nm,0.8s
WMOK Wichita Mounta 71.07 330 *eP* P 07 56 31.6 -0.5
WMOK pmax pmax
comp=Z,245nm,0.8s
VNDA Vanda 71.07 189 P P 07 56 32.8 +1.2
comp=Z,82nm,0.7s,baz=134,slow=5.5,SNR=253
VNDA S S 08 05 06.7 +3.1
comp=Z,2.1nm,0.8s,baz=286,slow=21,SNR=7.8
VNDA Vanda 71.07 189 *eP* P 07 56 32.3 +0.8
BINY Binghamton 71.08 350 P P 07 56 32.8 +0.8
baz=168,SNR=84
BINY Binghamton 71.08 350 *eP* P 07 56 32.7 +0.8
comp=Z,494nm,0.9s
P46A Rosedale 71.11 341 P P 07 56 31.2 -0.9
baz=158,SNR=167
SLM Saint Louis 71.16 338 *eP* P 07 56 32.2 -0.3
comp=Z,391nm,0.8s
SLM Saint Louis 71.16 338 *eP* P 07 56 32.2 -0.3
SLM pmax pmax
comp=Z,391nm,0.8s
T38A Diamond 71.18 334 P P 07 56 32.7 0.0
baz=151,SNR=699
P45A Graceland, Par 71.19 340 P P 07 56 31.5 -1.1
baz=157,SNR=154
R41A Rosebud 71.24 337 P P 07 56 32.4 -0.5
baz=154,SNR=381
Q43A New Douglas 71.26 339 P P 07 56 32.3 -0.8
baz=156,SNR=295
TRY Troy 71.28 352 *eP* P 07 56 34.4 +1.3
comp=Z,639nm,0.9s
ALLY Allegheny Colle 71.28 347 *eP* P 07 56 33.0 -0.1
comp=Z,1μm,0.8s
KOWA Kowa 71.37 61 P P 07 56 34.8 +0.5
comp=Z,733nm,0.8s,baz=233,slow=5.1,SNR=672
KOWA S S 08 05 07.6 -1.2
comp=Z,7.9nm,0.6s,baz=81,slow=21,SNR=24
KOWA Kowa 71.37 61 *eP* P 07 56 34.4 +0.1
comp=Z,859nm,0.8s
KOWA *eP* P 07 56 34.8 +0.5
KOWA *eS* S 08 05 07.6 -1.2
O47A Sheridan 71.39 342 P P 07 56 32.9 -0.9
baz=159,SNR=215
S39A Bolivar 71.39 335 P P 07 56 33.9 0.0
baz=152,SNR=613
P44A Sand Creek, Wi 71.40 340 P P 07 56 32.8 -1.0
baz=157,SNR=70
Q42A Golden Eagle 71.50 338 P P 07 56 33.8 -0.7
baz=156,SNR=196
R40A Maddies Statio 71.54 336 P P 07 56 34.2 -0.5
baz=153,SNR=290
S38A Stockton 71.56 335 P P 07 56 34.7 -0.1
baz=152,SNR=739
GDL2 Guadalupe Moun 71.70 324 *eP* P 07 56 36.2 +0.3
ERPA Erie 71.70 347 P P 07 56 36.1 +0.5
baz=165,SNR=144
ERPA Erie 71.70 347 *eP* P 07 56 36.1 +0.5
comp=Z,2μm,0.7s
Q41A Truxton 71.78 337 P P 07 56 35.4 -0.6
baz=154,SNR=235
SFIN Lafayette 71.78 341 P P 07 56 35.0 -1.0
baz=158,SNR=161
SFIN Lafayette 71.78 341 *eP* P 07 56 35.0 -1.0
comp=Z,590nm,0.6s
FFD Franklin Falls 71.79 354 *eP* P 07 56 38.1 +2.1
comp=Z,505nm,0.9s
MNTX Cornudas Mount 71.84 323 P P 07 56 35.9 -0.8
baz=142,SNR=510
MNTX Cornudas Mount 71.84 323 *eP* P 07 56 35.9 -0.8
comp=Z,300nm,0.8s
P43A Skaggs, Pawnee 71.84 339 P P 07 56 35.6 -0.8
baz=156,SNR=270
R39A Chumby, Stover 71.84 336 P P 07 56 36.3 -0.2
baz=153,SNR=191
O45A Potomac 71.84 341 P P 07 56 35.4 -1.1
baz=158,SNR=140
MMNY Mt. Morris Dam 71.91 349 *eP* P 07 56 37.3 +0.5
comp=Z,1nm,0.7s
ACCN Adirondack Com 71.92 352 *eP* P 07 56 37.8 +0.9
comp=Z,125nm,0.8s
T35A Sooner Cattle 71.95 332 P P 07 56 37.4 +0.2
baz=150,SNR=417
O44A Mansfield 71.98 340 P P 07 56 36.2 -1.1
baz=157,SNR=133
R38A Fenwick Farm, 72.04 335 P P 07 56 37.2 -0.5
baz=152,SNR=402
P42A Winchester 72.05 338 P P 07 56 36.8 -0.9
baz=155,SNR=214
HNH Hanover 72.08 353 *eP* P 07 56 39.4 +1.7
comp=Z,779nm,0.9s
Q40A Laux Farm, Aux 72.10 337 P P 07 56 37.5 -0.5
baz=154,SNR=334
N46A Monticello 72.16 342 P P 07 56 37.4 -0.9
baz=158,SNR=138
MSTX Muleshoe 72.31 326 P P 07 56 39.5 0.0
baz=144,SNR=585
MSTX Muleshoe 72.31 326 *eP* P 07 56 39.5 0.0
comp=Z,1μm,0.9s
T34A McClaskey Farm 72.32 332 P P 07 56 39.6 +0.3
baz=149,SNR=371
N45A Kentland 72.33 341 P P 07 56 38.2 -1.0
baz=158,SNR=64
O43A Sugar Creek Fa 72.36 339 P P 07 56 38.7 -0.7
baz=156,SNR=155
P41A Barry, Bay 72.37 338 P P 07 56 38.7 -0.8
baz=154,SNR=114
MEDO Medina 72.43 348 P P 07 56 40.0 +0.2
baz=166,SNR=23
Q39A Willow Grove F 72.46 336 P P 07 56 39.6 -0.4
baz=153,SNR=269
N44A Piper City 72.47 340 P P 07 56 39.1 -0.9
baz=157,SNR=67
EPT El Paso 72.49 322 *eP* P 07 56 40.4 -0.2
comp=Z,177nm,0.8s
SRIG Santa Rosalia 72.52 315 *eP* P 07 56 40.8 +0.1
comp=Z,514nm,1.0s
O42A Bath 72.52 339 P P 07 56 39.7 -0.6
baz=155,SNR=71
AMTX Amarillo 72.53 328 P P 07 56 40.9 +0.2
baz=145
AMTX Amarillo 72.53 328 *eP* P 07 56 40.6 0.0
comp=Z,448nm,0.8s
M46A Old House Fiel 72.53 342 P P 07 56 39.5 -0.9
baz=159,SNR=65
P40A Paris 72.57 337 P P 07 56 40.2 -0.5
baz=154,SNR=348
NCB Newcomb 72.57 352 *eP* P 07 56 41.4 +0.8
comp=Z,340nm,0.8s
LBNH Lisbon 72.58 354 P P 07 56 42.0 +1.4
baz=172,SNR=134
LBNH Lisbon 72.58 354 *eP* P 07 56 41.9 +1.3
comp=Z,644nm,0.7s
LBNH Lisbon 72.58 354 *eP* P 07 56 41.9 +1.3
LBNH pmax pmax
comp=Z,644nm,0.7s
HDIL Hopedale 72.60 340 P P 07 56 40.3 -0.6
baz=156,SNR=269
HDIL Hopedale 72.60 340 *eP* P 07 56 40.2 -0.6
comp=Z,1μm,0.6s
Q38A Cooks Store, C 72.62 336 P P 07 56 40.8 -0.2
baz=152,SNR=251
AAM Ann Arbor 72.68 344 P P 07 56 40.8 -0.4
baz=161,SNR=40
AAM Ann Arbor 72.68 344 *eP* P 07 56 41.1 -0.1
comp=Z,242nm,0.7s
AAM Ann Arbor 72.68 344 *eP* P 07 56 41.1 -0.1
AAM pmax pmax
comp=Z,242nm,0.7s
WVL Waterville 72.70 355 *eP* P 07 56 42.5 +1.3
comp=Z,584nm,0.8s
O41A Passleys Farm, 72.70 338 P P 07 56 40.6 -0.9
baz=155,SNR=83
EMMW East Machias 72.72 357 *eP* P 07 56 42.8 +1.5
comp=Z,829nm,0.8s
VT1 Waterbury 72.75 353 *eP* P 07 56 42.7 +1.0
comp=Z,175nm,0.7s
M45A Boilermakers S 72.76 341 P P 07 56 40.6 -1.1
baz=158,SNR=9.6
R36A Gordon, Harris 72.77 334 P P 07 56 41.5 -0.3
baz=151,SNR=173
P39B Salisbury 72.78 337 P P 07 56 41.3 -0.6
baz=153,SNR=430
Q37A Longview Farm, 72.85 335 P P 07 56 41.8 -0.6
baz=152,SNR=148
N43A Stutzman Famil 72.91 340 P P 07 56 42.3 -0.3
baz=156,SNR=265
HSIG 72.96 317 *eP* P 07 56 43.5 +0.4
comp=Z,631nm,1.0s
M44A Midewin, Midew 72.99 341 P P 07 56 42.4 -0.6
baz=157,SNR=21
ELFO Elginfield 73.01 346 P P 07 56 42.0 -1.1
baz=164,SNR=52
O40A La Belle 73.04 337 P P 07 56 42.6 -0.7
baz=154,SNR=333
R35A Emporia Munici 73.04 333 P P 07 56 43.6 +0.2
baz=150,SNR=410
N42A Yates City 73.08 339 P P 07 56 42.9 -0.7
baz=156,SNR=146
WLVO Wesleyville 73.15 349 P P 07 56 44.3 +0.4
baz=166,SNR=29
ACTO Acton 73.15 347 P P 07 56 44.2 +0.2
baz=165,SNR=68
P38A Dawn 73.18 336 P P 07 56 43.6 -0.5
baz=152,SNR=298
N41A Harden Midland 73.23 338 P P 07 56 43.6 -0.8
baz=155,SNR=93
LONY Lake Ozonia 73.26 352 P P 07 56 45.4 +0.9
baz=170,SNR=151
LONY Lake Ozonia 73.26 352 *eP* P 07 56 45.3 +0.8
comp=Z,555nm,0.9s
M43A Waltham Townsh 73.30 340 P P 07 56 44.3 -0.5
baz=157,SNR=161
Q36A Arnold C. Orve 73.31 334 P P 07 56 44.3 -0.6
baz=151,SNR=58
PKRO Pickering 73.31 348 P P 07 56 45.1 +0.3
baz=166,SNR=95
FRNY Flat Rock 73.35 352 *eP* P 07 56 45.8 +0.8
comp=Z,640nm,0.7s
TSUM Tsumeb 73.37 103 P P 07 56 46.8 +0.8
comp=Z,330nm,0.7s,baz=234,slow=6.4,SNR=299
TSUM pP pP 07 58 43.4 +2.6
comp=Z,40nm,0.8s,baz=270,slow=7.0,SNR=3.3
TSUM S S 08 05 31.4 0.0
comp=Z,11nm,1.2s,baz=254,slow=7.2,SNR=3.3
TSUM Tsumeb 73.37 103 *eP* P 07 56 46.7 +0.8
comp=Z,394nm,0.8s
TSUM *ep*P pP 07 58 43.4 +2.6
TSUM *eS* S 08 05 31.4 0.0
PKME Peaks-Kenny Pk 73.37 356 P P 07 56 46.1 +1.0

baz=174,SNR=112
PKME **Peaks-Kenny Pk** 73.37 356 *e*P P 07 56 46.4 +1.3
comp=Z,745nm,0.8s
O39A **Kirksville** 73.39 337 P P 07 56 44.7 -0.6
baz=153,SNR=118
P37A **Lathrop** 73.44 335 P P 07 56 44.9 -0.7
baz=152,SNR=238
Q35A **Mercer Eighty,** 73.44 334 P P 07 56 45.3 -0.4
baz=150,SNR=165
R34A **Isabella, Hill** 73.44 333 P P 07 56 45.9 +0.2
baz=149,SNR=184
M42A **Sheffield** 73.56 340 P P 07 56 45.5 -0.8
baz=156,SNR=58
O38A **Galt** 73.59 336 P P 07 56 46.0 -0.5
baz=153,SNR=142
DELO **Deloro Mine** 73.60 349 P P 07 56 46.8 +0.4
baz=167,SNR=63
N40A **Mertquake, Sal** 73.63 338 P P 07 56 46.1 -0.6
baz=154,SNR=345
L44A **Lake County Fo** 73.68 341 P P 07 56 46.4 -0.6
baz=158,SNR=24
319A **Douglas** 73.73 320 *e*P P 07 56 48.7 +1.0
comp=Z,969nm,0.8s
M41A **Milan** 73.73 339 P P 07 56 46.4 -0.8
baz=155,SNR=130
121A **Cookes Peak, D** 73.77 322 P P 07 56 49.1 +1.2
baz=140,SNR=457
P36A **Good Intent, A** 73.79 335 P P 07 56 46.8 -0.8
baz=151,SNR=306
Q34A **Chapman** 73.85 333 P P 07 56 47.9 -0.1
baz=150,SNR=127
BASO **Ashfield** 73.86 346 P P 07 56 48.2 +0.2
baz=163,SNR=56
KSU1 **Kansas State U** 73.87 334 P P 07 56 47.9 -0.2
baz=150,SNR=338
KSU1 **Kansas State U** 73.87 334 *e*P P 07 56 48.0 -0.2
comp=Z,1µm,0.9s
O37A **Wolven Farm, M** 73.88 336 P P 07 56 47.7 -0.4
baz=152,SNR=167
L43A **Garden Prairie** 73.92 341 P P 07 56 48.0 -0.3
baz=157,SNR=95
N39A **Derby Farms, D** 73.93 337 P P 07 56 47.9 -0.5
baz=154,SNR=431
P35A **Duane Minner,** 74.02 334 P P 07 56 48.3 -0.7
baz=150,SNR=133
L42A **Oliver, Polo** 74.03 340 P P 07 56 48.5 -0.5
baz=156,SNR=111
M40A **Post Highland** 74.07 338 P P 07 56 48.6 -0.6
baz=154,SNR=338
SADO **Sadowa** 74.10 348 *e*P P 07 56 49.4 +0.1
comp=Z,654nm,1.0s
N38A **Joes South For** 74.11 337 P P 07 56 48.8 -0.6
baz=153,SNR=150
BANO **Bancroft** 74.14 349 P P 07 56 49.9 +0.5
baz=167,SNR=86
O36A **Bolckow** 74.14 335 P P 07 56 48.8 -0.8
baz=151,SNR=270
PSMA **Santa Maria** 74.15 31 *e*P P 07 56 49.9 +0.2
comp=Z,395nm,0.9s
PSMN **Pico do Norte,** 74.19 31 *e*P P 07 56 51.5 +1.6
comp=Z,546nm,1.8s
PMAN **Manadas** 74.23 28 *e*P P 07 56 51.8 +1.6
comp=Z,1µm,0.9s
K43A **Burlington** 74.28 341 P P 07 56 50.1 -0.2
baz=157,SNR=103
ALFO **Alfred** 74.29 352 P P 07 56 50.9 +0.7
baz=169,SNR=214
TAOE **Nuku Hiva Isla** 74.32 268 *e*P P 07 56 52.5 +1.1
comp=Z,491nm,1.0s
TAOE **Nuku Hiva Isla** 74.32 268 *e*P P 07 56 52.5 +1.1
comp=Z,169nm,0.8s
BMRO **Meriville Lake** 74.33 347 P P 07 56 50.8 +0.3
baz=164,SNR=110
P34A **Walnut Farm, R** 74.34 334 P P 07 56 50.9 +0.1
baz=150,SNR=635
L41A **Preston** 74.36 339 P P 07 56 50.2 -0.6
baz=155,SNR=208
M39A **Webster** 74.36 338 P P 07 56 50.1 -0.7
baz=154,SNR=174
BNM **Barren Site** 74.40 324 *e*P P 07 56 52.4 +0.9
N37A **Lee Faris, Mou** 74.42 336 P P 07 56 50.8 -0.4
baz=152,SNR=180
Y22D **IRIS PASSCAL I** 74.49 324 P P 07 56 53.3 +1.4
baz=141,SNR=24
Y22D **IRIS PASSCAL I** 74.49 324 *e*P P 07 56 52.7 +0.7
comp=Z,180nm,0.8s
Y22E **IRIS PASSCAL I** 74.49 324 P P 07 56 53.2 +1.2
baz=141,SNR=24
LPM **Los Pinos Moun** 74.53 324 *e*P P 07 56 53.1 +0.9
PDA **Ponta Delgada** 74.53 30 *e*P P 07 56 52.4 +0.6
comp=Z,491nm,1.0s
PSET **Sete Cidades** 74.57 30 *e*P P 07 56 53.5 +1.4
comp=Z,322nm,1.0s
L40A **Anamosa** 74.57 339 P P 07 56 51.6 -0.4
baz=155,SNR=437
LENM **Lemitar** 74.59 324 *e*P P 07 56 54.1 +1.6
GRON **Grota Negra** 74.61 30 *e*P P 07 56 53.8 +1.5
comp=Z,163nm,0.8s
CMLA **Cha da Macela** 74.61 30 *e*P P 07 56 53.2 +0.9
comp=Z,539nm,0.8s
CMLA **Cha da Macela** 74.61 30 *e*P P 07 56 53.8 +1.4
comp=Z,326nm,0.6s
CMLA **Cha da Macela** 74.61 30 *i*P P 07 56 54.2 +1.9
ADH **Angra Heroismo** 74.61 29 *e*P P 07 56 54.3 +2.0
comp=Z,1µm,1.2s
O35A **Humboldt** 74.61 335 P P 07 56 51.2 -1.1
baz=150,SNR=184
K42A **Prairie Point,** 74.65 340 P P 07 56 52.1 -0.3
baz=156,SNR=194
M38A **Pleasantville** 74.65 337 P P 07 56 51.9 -0.6
baz=153,SNR=235
PEMO **Pembroke** 74.67 350 P P 07 56 52.8 +0.3
baz=167,SNR=137
PQI **Presque Isle** 74.70 357 *e*P P 07 56 53.8 +1.2
comp=Z,454nm,0.8s
N36A **Muff Farm, Cla** 74.74 336 P P 07 56 52.6 -0.3
baz=151,SNR=179
BART **Pico Bartolome** 74.78 30 *e*P P 07 56 54.6 +1.2
comp=Z,704nm,0.9s
K41A **Shullsburg** 74.78 340 P P 07 56 52.9 -0.3
baz=156,SNR=216
TRQ **Mont Tremblant** 74.83 352 *e*P P 07 56 53.9 +0.5
O34A **Beatrice** 74.84 334 P P 07 56 53.1 -0.4
baz=150,SNR=140
LAZ **Ladron** 74.86 324 *e*P P 07 56 55.2 +1.1
KLBO **Killbear Provi** 74.87 348 P P 07 56 53.9 +0.3
baz=165,SNR=162
PMOZ **Porto Moniz, M** 74.87 39⇓ *e*P P 07 56 54.8 +0.8
comp=Z,422nm,0.8s
L39A **Vinton** 74.88 338 P P 07 56 53.3 -0.4
baz=154,SNR=162
CBKS **Cedar Bluff** 74.91 331 P P 07 56 54.8 +0.9
baz=147,SNR=578
CBKS **Cedar Bluff** 74.91 331 *e*P P 07 56 54.9 +0.9
comp=Z,2µm,0.8s
CBKS **Cedar Bluff** 74.91 331 *e*P P 07 56 54.9 +0.9
CBKS pmax pmax
comp=Z,2µm,0.8s
FUL **Funchal** 74.91 39 *e*P P 07 56 55.2 +1.1
comp=Z,430nm,0.9s
ANMO **Albuquerque** 74.93 324 P P 07 56 55.4 +1.0
baz=141
ANMO **Albuquerque** 74.93 324 *e*P P 07 56 55.2 +0.8
comp=Z,362nm,0.8s
ANMO **Albuquerque** 74.93 324 *d i*P P 07 56 55.5 +1.0
ANMO pmax pmax
comp=Z,341nm,0.9s
J43A **Natural Harves** 74.93 341 P P 07 56 53.8 -0.2
baz=157,SNR=157
M37A **Trindle Farm,** 74.94 337 P P 07 56 54.0 -0.1
baz=152,SNR=523
PMAR **Madeira** 74.95 39⇓ *e*P P 07 56 55.3 +0.7
comp=Z,478nm,1.1s
N35A **Tabor** 75.03 335 P P 07 56 54.2 -0.4
baz=151,SNR=306
JFWS **Jewell Farm** 75.04 340 P P 07 56 54.4 -0.2
baz=156,SNR=342
JFWS **Jewell Farm** 75.04 340 *e*P P 07 56 54.4 -0.2
comp=Z,1µm,0.7s
JFWS **Jewell Farm** 75.04 340 *e*P P 07 56 54.4 -0.2
JFWS pmax pmax
comp=Z,1µm,0.7s
J42A **Columbus** 75.08 341 P P 07 56 54.7 -0.1
baz=157,SNR=172
SCIA **State Center** 75.09 337 P P 07 56 54.9 -0.1
baz=153,SNR=34
SCIA **State Center** 75.09 337 *e*P P 07 56 54.5 -0.4
comp=Z,417nm,0.6s

O33A **Hebron** 75.10 333 P P 07 56 55.1 +0.1
baz=149,SNR=202
TOA0 **Torodi Ar. Sit** 75.11 66 *e*P P 07 56 55.6 0.0
comp=Z,2µm,0.6s
TOA0 *e*P P 07 56 55.7 +0.1
TOA0 **Torodi Ar. Sit** 75.11 66 P P 07 56 55.7 +0.1
TOA1 **Torodi Ar. Sit** 75.11 66 *e*P P 07 56 56.0 +0.4
TOA1 *e*pP pP 07 58 53.5 +2.3
TOA1 *e*S S 08 05 48.7 -1.3
TORD **Torodi Ar. Bea** 75.11 66 P P 07 56 56.0 +0.4
comp=Z,1µm,0.7s,baz=262,slow=5.3,SNR=3739
TORD pP pP 07 58 53.5 +2.3
comp=Z,46nm,0.8s,baz=249,slow=5.1,SNR=3.5
TORD PKiKP PKiKP 08 02 39.0 -0.4
comp=Z,4.1nm,0.5s,baz=276,slow=1.3,SNR=17
TORD S S 08 05 48.7 -1.3
comp=Z,27nm,1.1s,baz=229,slow=8.7,SNR=14
TORD PKKPbc PKKPbc 08 16 11.1 -0.7
comp=Z,1.3nm,0.6s,baz=43,slow=2.5,SNR=4.5
K40A **Colesburg** 75.12 339 P P 07 56 54.5 -0.5
baz=155,SNR=131
L38A **Oak Wood Farm,** 75.21 338 P P 07 56 54.9 -0.6
baz=153,SNR=93
M36A **Felix, Anita** 75.24 336 P P 07 56 55.4 -0.4
baz=152,SNR=277
TUC **Tucson** 75.27 320 P P 07 56 56.9 +0.6
baz=138
TUC **Tucson** 75.27 320 *e*P P 07 56 56.7 +0.4
comp=Z,306nm,1.0s
TUC **Tucson** 75.27 320 *e*P P 07 56 56.7 +0.4
TUC pmax pmax
comp=Z,306nm,1.0s
GLMI **Grayling** 75.29 344 P P 07 56 56.1 +0.1
baz=161,SNR=156
GLMI **Grayling** 75.29 344 *e*P P 07 56 56.0 +0.1
comp=Z,2µm,0.8s
I43A **Langenfeld Bro** 75.32 342 P P 07 56 55.8 -0.4
baz=158,SNR=57
N34A **Lincoln** 75.33 335 P P 07 56 55.8 -0.5
baz=150,SNR=617
K39A **Oelwein** 75.36 339 P P 07 56 55.7 -0.7
baz=154,SNR=243
J41A **Loganville** 75.38 340 P P 07 56 56.1 -0.4
baz=156,SNR=173
L37A **Phoenix Point,** 75.47 337 P P 07 56 56.3 -0.7
baz=153,SNR=119
PMPS **Porto Santo** 75.53 39 *e*P P 07 56 59.0 +1.5
comp=Z,622nm,1.5s
I42A **Draeger Farm,** 75.54 341 P P 07 56 57.3 -0.1
baz=157,SNR=190
M35A **Neola** 75.58 335 P P 07 56 57.6 0.0
baz=151,SNR=109
K38A **Parkersburg** 75.60 338 P P 07 56 57.1 -0.6
baz=153,SNR=110
N33A **J Bar K, Exete** 75.61 334 P P 07 56 57.7 -0.2
baz=149,SNR=55
J40A **Soldiers Grove** 75.63 340 P P 07 56 57.5 -0.4
baz=155,SNR=195
T25A **Trinidad** 75.64 327 P P 07 56 59.5 +1.1
baz=143,SNR=578
T25A **Trinidad** 75.64 327 *e*P P 07 56 59.5 +1.1
comp=Z,707nm,0.8s
H43A **Windswept, Lux** 75.76 342 P P 07 56 58.4 -0.1
baz=158,SNR=56
L36A **Harm Buss Farm** 75.77 336 P P 07 56 58.1 -0.5
baz=152,SNR=248
MHTCO **State Highway** 75.77 327 *e*P P 07 57 00.3 +1.2
comp=Z,813nm,0.8s
BOSA **Boshof** 75.88 115 P P 07 57 00.3 +0.4
comp=Z,356nm,0.5s,baz=252,slow=3.9,SNR=795
BOSA S S 08 05 56.5 -1.7
comp=Z,65nm,1.3s,baz=10,slow=19,SNR=7.6
BOSA PKKPbc PKKPbc 08 16 11.1 +0.9
comp=Z,1.4nm,0.5s,baz=74,slow=2.4,SNR=4.3
BOSA **Boshof** 75.88 115 *e*P P 07 57 00.0 +0.1
comp=Z,536nm,0.6s
BOSA *e*P P 07 57 00.3 +0.4
BOSA *e*S S 08 05 56.5 -1.7
J39A **Decorah** 75.88 339 P P 07 56 58.8 -0.5
baz=154,SNR=412
M34A **Aspy Farms, Fr** 75.94 335 P P 07 56 59.4 -0.3
baz=150,SNR=155
I41A **Arkdale** 75.97 341 P P 07 56 59.5 -0.3
baz=156,SNR=99
K37A **Belmond** 76.00 337 P P 07 56 59.1 -0.9
baz=153,SNR=88
H42A **Shiocton** 76.00 342 P P 07 56 59.9 0.0
baz=157,SNR=146
I40A **Norwalk** 76.04 340 P P 07 56 59.8 -0.4
baz=155,SNR=100
L35A **Bielow Farm, R** 76.09 336 P P 07 57 00.1 -0.3
baz=151,SNR=362
J38A **Wedel Dairy, R** 76.11 338 P P 07 56 59.9 -0.6
baz=154,SNR=151
TBI **Tubuai** 76.13 251 *e*P P 07 57 02.6 +1.4
comp=Z,345nm,1.1s
K36A **Gilmore City** 76.16 337 P P 07 57 00.6 -0.3
baz=152,SNR=194
214A **Organ Pipe Nat** 76.19 318 P P 07 57 02.3 +1.0
baz=136,SNR=355
F46A **Macinaw City C** 76.22 345 P P 07 57 01.2 +0.1
baz=161,SNR=247
M33A **Taylor Creek F** 76.23 334 P P 07 57 00.9 -0.4
baz=150,SNR=89
L34A **Svendsen Farm,** 76.27 335 P P 07 57 01.0 -0.4
baz=150,SNR=324
I39A **Houston** 76.28 339 P P 07 57 01.0 -0.5
baz=155,SNR=110
F45A **CMU Biological** 76.31 344 P P 07 57 01.8 +0.3
baz=160,SNR=299
KSCO **Kaye Shedlock'** 76.33 329 P P 07 57 03.0 +1.0
baz=145,SNR=120
KSCO **Kaye Shedlock'** 76.33 329 *e*P P 07 57 03.1 +1.0
comp=Z,2µm,1.5s
MAW **Mawson** 76.38 161 P P 07 57 02.0 +0.3
comp=Z,72nm,0.8s,baz=224,slow=7.7,SNR=23
MAW pP pP 07 58 58.0 +0.3
comp=Z,46nm,0.8s,baz=240,slow=6.9,SNR=3.1
MAW S S 08 06 00.3 -1.5
comp=Z,13nm,0.8s,baz=146,slow=23,SNR=1.9
MAW **Mawson** 76.38 161 *e*P P 07 57 02.5 +0.8
comp=Z,53nm,1.4s
MAW **Mawson** 76.38 161 *e*P P 07 57 02.5 +0.8
MAW pmax pmax
comp=Z,53nm,1.4s
H41A **Junction City** 76.42 341 P P 07 57 02.1 -0.1
baz=156,SNR=108
J37A **Redenius Farm,** 76.45 338 P P 07 57 02.0 -0.5
baz=153,SNR=160
BGNE **Belgrade** 76.46 334 P P 07 57 02.6 +0.1
baz=149,SNR=297
BGNE **Belgrade** 76.46 334 *e*P P 07 57 02.6 +0.1
comp=Z,2µm,0.8s
X18A **Snowflake** 76.46 322 *e*P P 07 57 03.9 +1.0
comp=Z,439nm,0.8s
G43A **Wallace** 76.47 343 P P 07 57 02.3 -0.1
baz=158,SNR=66
K35A **Storm Lake** 76.51 336 P P 07 57 02.5 -0.2
baz=151,SNR=196
H40A **Chili** 76.64 340 P P 07 57 03.2 -0.2
baz=156,SNR=108
G42A **Mountain** 76.65 342 P P 07 57 03.6 +0.2
baz=157,SNR=58
SDCO **Great Sand Dun** 76.65 327 P P 07 57 05.0 +1.0
baz=143,SNR=463
SDCO **Great Sand Dun** 76.65 327 *e*P P 07 57 05.0 +1.0
comp=Z,593nm,1.4s
I38A **Scanlan Farm,** 76.71 339 P P 07 57 03.5 -0.3
baz=154,SNR=275
J36A **Seneca 1, Swea** 76.73 337 P P 07 57 03.6 -0.3
baz=152,SNR=268
L33A **Hoskins** 76.77 335 P P 07 57 03.7 -0.5
baz=150,SNR=53
W18A **Petrified Fore** 76.79 322 P P 07 57 05.7 +1.1
baz=139,SNR=230
W18A **Petrified Fore** 76.79 322 *e*P P 07 57 05.6 +0.9
comp=Z,601nm,0.9s
K34A **Le Mars** 76.79 336 P P 07 57 03.9 -0.4
baz=151,SNR=124
F44A **Big Bay de Noc** 76.81 344 P P 07 57 04.4 +0.2
baz=159,SNR=291
G41A **Antigo** 76.83 342 P P 07 57 04.6 +0.1
baz=157,SNR=197
F43A **Flat Rock, Esc** 76.86 343 P P 07 57 04.7 +0.1
baz=159,SNR=266
E45A **Wooded Hills,** 76.87 345 P P 07 57 05.0 +0.4
baz=160,SNR=273
L32A **Elgin** 76.91 334 P P 07 57 04.6 -0.4

baz=149,SNR=50
H39A **Augusta** 76.96 340 P P 07 57 04.9 -0.2
baz=155,SNR=68
I37A **Lemond, Waseca** 77.03 338 P P 07 57 05.5 -0.1
baz=153,SNR=416
F42A **Maple Grove Fa** 77.05 342 P P 07 57 05.9 +0.3
baz=158,SNR=19
K33A **Hardington** 77.05 335 P P 07 57 05.8 +0.1
baz=150,SNR=75
J35A **Milford** 77.07 337 P P 07 57 05.4 -0.4
baz=152,SNR=45
G40A **Rib Lake** 77.17 341 P P 07 57 06.4 +0.1
baz=156,SNR=100
X16A **Lo Mia Camp, P** 77.20 321 *e*P P 07 57 08.0 +1.1
comp=Z,648nm,0.9s
I36A **Fitzsimmons Fa** 77.23 338 P P 07 57 06.3 -0.4
baz=153,SNR=192
J34A **George** 77.26 336 P P 07 57 06.6 -0.3
baz=151,SNR=136
H38A **Maiden Rock** 77.26 339 P P 07 57 06.5 -0.3
baz=154,SNR=191
E44A **Grand Marais A** 77.29 344 P P 07 57 07.6 +0.7
baz=160,SNR=57
F41A **Three Lakes** 77.29 342 P P 07 57 07.2 +0.2
baz=157,SNR=320
S22A **4UR Ranch, Cre** 77.30 326 P P 07 57 08.4 +0.8
baz=142,SNR=308
S22A **4UR Ranch, Cre** 77.30 326 *e*P P 07 57 08.4 +0.8
comp=Z,200nm,0.8s
E43A **Lone Tree Farm** 77.33 343 P P 07 57 07.5 +0.4
baz=159,SNR=375
113A **Mohawk Valley,** 77.33 318 *e*P P 07 57 08.0 +0.6
comp=Z,252nm,0.8s
H37A **Dierke Farm, C** 77.38 339 P P 07 57 07.3 -0.1
baz=154,SNR=102
I35A **Creekview Farm** 77.42 337 P P 07 57 07.4 -0.3
baz=152,SNR=246
Q24A **Divide** 77.45 328 P P 07 57 09.4 +1.1
baz=143,SNR=256
Q24A **Divide** 77.45 328 *e*P P 07 57 09.3 +0.9
comp=Z,681nm,0.9s
K32A **Verdigre** 77.46 335 P P 07 57 07.7 -0.3
baz=149,SNR=108
G39A **Holcombe** 77.47 340 P P 07 57 07.7 -0.2
baz=155,SNR=122
G38A **Ridgeland** 77.57 340 P P 07 57 07.8 -0.6
baz=154,SNR=157
E42A **Champion** 77.61 343 P P 07 57 09.2 +0.5
baz=158,SNR=586
COWI **Conover** 77.64 342 *e*P P 07 57 09.0 +0.2
comp=Z,596nm,0.9s
J33A **Davis** 77.65 336 P P 07 57 08.6 -0.3
baz=150,SNR=279
OGNE **Ogallala** 77.66 331 P P 07 57 09.9 +0.8
baz=146,SNR=75
OGNE **Ogallala** 77.66 331 *e*P P 07 57 09.9 +0.8
comp=Z,691nm,0.9s
LBTB **Lobatse** 77.67 112 P P 07 57 10.2 +0.5
comp=Z,602nm,0.5s,baz=247,slow=6.7,SNR=50
LBTB pP pP 07 59 07.4 +1.1
comp=Z,72nm,0.9s,baz=246,slow=4.9,SNR=4.3
LBTB S S 08 06 12.9 -4.4
comp=Z,9.5nm,1.1s,baz=335,slow=24,SNR=8.0
LBTB **Lobatse** 77.67 112 *e*P P 07 57 10.1 +0.3
comp=Z,754nm,0.6s
H36A **Jessenland, He** 77.70 338 P P 07 57 09.4 +0.2
baz=153,SNR=401
MVCO **Mesa Verde** 77.73 325 P P 07 57 10.7 +0.8
baz=140,SNR=306
MVCO **Mesa Verde** 77.73 325 *e*P P 07 57 10.6 +0.8
comp=Z,388nm,0.9s
K31A **O'Neill** 77.73 334 P P 07 57 09.5 +0.1
baz=148,SNR=409
Y14A **Wickenburg** 77.73 320 *e*P P 07 57 10.5 +0.8
comp=Z,2µm,0.8s
F40A **Park Falls** 77.74 341 P P 07 57 09.8 +0.4
baz=156,SNR=184
I34A **Hadley** 77.88 337 P P 07 57 09.9 -0.3
baz=151,SNR=36
ECSD **EROS Data Cent** 77.89 336 P P 07 57 10.0 -0.2
baz=150,SNR=674
ECSD **EROS Data Cent** 77.89 336 *e*P P 07 57 10.0 -0.2
comp=Z,667nm,0.9s
SPMN **Marine on St.** 77.92 339 P P 07 57 09.9 -0.4
baz=154,SNR=208
SPMN **Marine on St.** 77.92 339 *e*P P 07 57 09.9 -0.4
comp=Z,367nm,0.8s
E41A **Kenton** 77.92 342 P P 07 57 10.4 +0.1
baz=157,SNR=168
F39A **Loretta** 77.97 341 P P 07 57 10.7 +0.1
baz=155,SNR=237
WUAZ **Wupatki** 77.97 322 P P 07 57 12.4 +1.3
baz=138,SNR=380
WUAZ **Wupatki** 77.97 322 *e*P P 07 57 12.3 +1.2
comp=Z,551nm,0.9s
J32A **Parkston** 78.02 335 P P 07 57 10.7 -0.3
baz=149,SNR=303
VAH **Vaihoa** 78.05 259 *e*P P 07 57 12.9 +1.1
comp=Z,155nm,0.9s
H35A **Sunnyside Ranc** 78.11 338 P P 07 57 11.2 -0.2
baz=152,SNR=403
GLA **Glamis** 78.16 318 P P 07 57 12.7 +0.7
baz=135,SNR=77
GLA **Glamis** 78.16 318 *e*P P 07 57 12.6 +0.7
comp=Z,313nm,1.0s
GLA **Glamis** 78.16 318 *e*P P 07 57 12.6 +0.7
GLA pmax pmax
comp=Z,313nm,1.0s
E40A **Wakefield** 78.16 342 P P 07 57 12.2 +0.6
baz=156,SNR=225
I33A **Coleman** 78.22 336 P P 07 57 11.8 -0.2
baz=150,SNR=78
G36A **St. Michael** 78.23 339 P P 07 57 12.0 0.0
baz=153,SNR=51
E39A **Mellen** 78.29 341 P P 07 57 12.5 +0.2
baz=156,SNR=165
J31A **Geddes** 78.29 334 P P 07 57 12.3 -0.1
baz=149,SNR=333
F38A **Pierce - Schro** 78.29 340 P P 07 57 12.6 +0.3
baz=154,SNR=201
F37A **Hinrichs Farm,** 78.31 339 P P 07 57 12.5 +0.1
baz=154,SNR=247
ISCO **Idaho Springs** 78.33 328 P P 07 57 14.1 +0.9
baz=143,SNR=518
ISCO **Idaho Springs** 78.33 328 *e*P P 07 57 14.0 +0.9
comp=Z,379nm,0.9s
ISCO **Idaho Springs** 78.33 328 *e*P P 07 57 14.0 +0.9
ISCO pmax pmax
comp=Z,379nm,0.9s
TVO **Taravao** 78.34 256 *e*P P 07 57 14.5 +1.1
comp=Z,42nm,1.2s
TVO *e*pP pP 07 59 08.6 -1.6
comp=Z,52nm,1.4s
D41A **Chassel** 78.37 343 P P 07 57 13.3 +0.7
baz=157,SNR=360
PMOR **Pomariorio Ree** 78.39 259 *e*P P 07 57 14.6 +1.1
comp=Z,114nm,0.8s
H34A **Spellman Lake,** 78.40 337 P P 07 57 12.6 -0.3
baz=151,SNR=196
I32A **Karley and Nic** 78.45 336 P P 07 57 12.9 -0.3
baz=150,SNR=78
G35A **Watkins** 78.45 338 P P 07 57 13.0 -0.2
baz=152,SNR=96
PV01 **Paradox Valley** 78.47 325 *e*P P 07 57 14.9 +1.1
Y12C **Blythe** 78.48 318 P P 07 57 14.5 +0.9
baz=136,SNR=183
Y12C **Blythe** 78.48 318 *e*P P 07 57 14.4 +0.8
comp=Z,385nm,0.8s
SMCO **Snowmass** 78.49 327 *e*P P 07 57 15.3 +1.2
comp=Z,578nm,0.8s
IKP **In-Ko-Pah, Jac** 78.65 317 P P 07 57 15.3 +0.7
baz=134,SNR=196
PDMCI **Parker Dam,Lak** 78.65 319 P P 07 57 15.2 +0.7
baz=136,SNR=94
SWSC **Sam W. Stewart** 78.67 317 P P 07 57 15.3 +0.7
baz=135,SNR=116
PAE **Paea** 78.67 256 *e*P P 07 57 16.2 +1.2
comp=Z,22nm,1.0s
PAE *e*pP pP 07 59 10.5 -1.5
comp=Z,14nm,1.0s
PPTF **Pamatai, Papee** 78.69 256 *e*P P 07 57 16.4 +1.2
comp=Z,116nm,1.0s
PV05 **Paradox Valley** 78.70 325 *e*P P 07 57 15.7 +0.7
PPT2 **Papeete2** 78.70 256 *e*P P 07 57 16.4 +1.1
comp=Z,108nm,1.1s
PPT2 *e*pP pP 07 59 10.6 -1.6
comp=Z,84nm,1.1s
PPT **Papeete** 78.71 256 P P 07 57 15.4 +0.2

comp=Z,112nm,1.0s,baz=250,slow=16,SNR=10
PPT pP pP 07 59 13.2 +1.0

comp=Z,65nm,1.0s,baz=119,slow=8.6,SNR=4.7
PPT S S 08 06 36.5 +8.4

comp=Z,13nm,0.8s,baz=108,slow=20,SNR=3.9
F36A Milaca 78.71 339 P P 07 57 14.3 -0.3
baz=153,SNR=271
H33A Prehn Over Nor 78.75 336 P P 07 57 14.9 +0.1
baz=150,SNR=487
E38A The Farm, Brul 78.78 341 P P 07 57 14.9 0.0
baz=155,SNR=99
I31A Royce, Wessing 78.84 335 P P 07 57 15.4 0.0
baz=149,SNR=16
H32A Carlson Farm, 78.85 336 P P 07 57 15.0 -0.3
baz=150,SNR=206
G34A Benson 78.86 337 P P 07 57 14.9 -0.4
baz=151,SNR=136
PV10 Paradox Valley 78.89 325 eP P 07 57 16.2 +0.2
R19A Curley Farm, L 78.94 325 eP P 07 57 16.8 +0.5
BC3 Big Chuckawall 78.96 318 P P 07 57 17.1 +0.8
baz=135,SNR=417
E37A Wrenshall 79.00 340 P P 07 57 16.3 +0.3
baz=154,SNR=51
MONP2 Monument Peak 79.00 317 P P 07 57 17.4 +0.7
baz=134,SNR=187
BAR Barrett 79.01 316 eP P 07 57 17.1 +0.6
comp=Z,274nm,0.8s
PV09 Paradox Valley 79.03 325 eP P 07 57 17.7 +0.9
F35A Swanville 79.05 338 P P 07 57 16.2 -0.2
baz=152,SNR=206
W13A Hualapai Mount 79.07 320 eP P 07 57 18.1 +1.1
comp=Z,272nm,0.9s
G33A Ortonville 79.09 337 P P 07 57 16.2 -0.4
baz=151,SNR=208
IRM Iron Mountain 79.13 318 P P 07 57 17.9 +0.8
baz=135,SNR=464
U15A North Rim 79.15 322 eP P 07 57 18.8 +1.3
comp=Z,455nm,0.8s
H31A Wolsey 79.21 335 P P 07 57 16.9 -0.3
baz=149,SNR=207
E36A McGregor 79.22 339 P P 07 57 17.2 0.0
baz=153,SNR=457
F34A Alexandria 79.22 338 P P 07 57 17.2 -0.1
baz=152,SNR=114
NEE2 Needles Airpor 79.25 319 P P 07 57 18.3 +0.6
baz=136,SNR=33
C40A Isle Royale Na 79.31 343 P P 07 57 17.5 -0.1
baz=157,SNR=65
SUSD Miller 79.36 335 P P 07 57 17.8 -0.3
baz=148,SNR=102
N23A Red Feather La 79.36 328 P P 07 57 19.4 +0.9
baz=143,SNR=236
N23A Red Feather La 79.36 328 eP P 07 57 19.4 +0.9
comp=Z,366nm,0.8s
109C Camp Elliot, M 79.42 316 P P 07 57 19.2 +0.6
baz=134,SNR=30
CPE Camp Elliot 79.42 316 eP P 07 57 19.2 +0.7
comp=Z,274nm,1.5s
PHWY Pilot Hill 79.46 329 eP P 07 57 19.7 +0.7
comp=Z,570nm,0.9s
C39A Grand Marais 79.48 342 P P 07 57 18.3 -0.2
baz=156,SNR=361
G32A Webster 79.52 336 P P 07 57 18.5 -0.4
baz=150,SNR=47
BELC Belle Mtn. Jos 79.52 318 P P 07 57 20.2 +0.9
baz=135,SNR=326
XPFO Piæon Flat 79.52 317 eP P 07 57 20.2 +0.9
comp=Z,321nm,0.9s
PFO Pinyon Flats O 79.53 317 P P 07 57 20.3 +1.0
baz=134,SNR=209
PFO Pinyon Flats O 79.53 317 eP P 07 57 20.2 +0.9
comp=Z,300nm,0.9s
PFO Pinyon Flats O 79.53 317 eP P 07 57 20.2 +0.9
PFO pmax pmax
comp=Z,300nm,0.9s
D37A Cotton 79.54 340 P P 07 57 19.0 +0.1
baz=154,SNR=222
F33A 5 Mile Ranch, 79.61 337 P P 07 57 18.8 -0.5
baz=151,SNR=90
E35A Pequot Lakes 79.61 339 P P 07 57 19.1 -0.2
baz=152,SNR=198
C38A Sawbill Land. 79.71 341 P P 07 57 19.4 -0.4
baz=155,SNR=411
EKU East Kanab 79.73 322 eP P 07 57 21.8 +1.4
G31A Conde 79.75 336 P P 07 57 19.7 -0.3
baz=149,SNR=120
LDFC Landfair 79.76 319 eP P 07 57 21.8 +1.3
comp=Z,494nm,0.8s
D36A Goodland 79.78 340 P P 07 57 20.2 0.0
baz=154,SNR=174
E34A Wadena 79.82 338 P P 07 57 20.4 -0.1
baz=152,SNR=134
O20A White River Ci 79.85 327 P P 07 57 21.8 +0.9
baz=141,SNR=328
O20A White River Ci 79.85 327 eP P 07 57 21.9 +0.9
comp=Z,451nm,0.8s
KNB Kanab 79.87 322 eP P 07 57 22.5 +1.4
comp=Z,1µm,0.8s
KNB Kanab 79.87 322 eP P 07 57 22.5 +1.4
KNB pmax pmax
comp=Z,1µm,0.8s
GMRC Granite Mounta 79.87 319 P P 07 57 22.1 +1.0
baz=135,SNR=643
PKCU Pink Cliffs 79.90 322 eP P 07 57 22.3 +0.9
comp=Z,222nm,0.8s
F32A Veblen 79.92 337 P P 07 57 20.5 -0.4
baz=150,SNR=66
MMU Miners Mountai 79.92 324 eP P 07 57 22.3 +0.8
MURC Murrieta 79.96 317 P P 07 57 22.2 +0.7
baz=134,SNR=140
D35A Remer 79.97 339 P P 07 57 21.4 +0.3
baz=153,SNR=981
EYMN Ely 79.98 341 P P 07 57 21.0 -0.2
baz=155,SNR=175
EYMN Ely 79.98 341 eP P 07 57 21.0 -0.2
comp=Z,411nm,0.7s
C37A Embarrass 79.98 341 P P 07 57 21.2 0.0
baz=154,SNR=228
E33A Westby DABS, E 80.09 338 P P 07 57 21.5 -0.3
baz=151,SNR=195
LCMT Little Creek M 80.09 322 eP P 07 57 23.0 +0.8
comp=Z,208nm,0.8s
C36A Pine Crest Far 80.20 340 P P 07 57 22.5 +0.2
baz=154,SNR=267
SRU San Rafael Swe 80.20 325 eP P 07 57 23.6 +0.8
comp=Z,675nm,0.8s
SRU San Rafael Swe 80.20 325 eP P 07 57 23.6 +0.8
SRU pmax pmax
comp=Z,675nm,0.8s
BBRC Big Bear Solar 80.25 317 P P 07 57 24.3 +1.0
baz=134,SNR=172
MTPU Mount Pierson 80.28 323 eP P 07 57 24.3 +0.9
comp=Z,452nm,0.8s
HEC Hector,Ludlow 80.30 318 P P 07 57 24.3 +1.0
baz=134,SNR=255
BHU Blowhard Mount 80.31 322 eP P 07 57 24.8 +1.2
F31A Hecla 80.31 336 P P 07 57 22.9 -0.1
baz=149,SNR=232
D34A Park Rapids 80.33 339 P P 07 57 23.0 -0.1
baz=152
SCI2 San Clemente I 80.36 316 P P 07 57 24.1 +0.6
baz=133,SNR=26
Q16A Castle Valley 80.39 324 eP P 07 57 24.6 +0.8
comp=Z,306nm,1.0s
OWUT Old Woman Plat 80.42 324 eP P 07 57 25.6 +1.5
SZCU Shurtz Canyon 80.43 322 eP P 07 57 25.1 +1.0
comp=Z,172nm,0.8s
P18A Preston Nutter 80.45 325 eP P 07 57 25.4 +1.1
comp=Z,568nm,0.7s
TUQ Turquoise Moun 80.48 319 P P 07 57 25.0 +0.7
baz=135,SNR=284
C35A Jirik Farms, M 80.49 340 P P 07 57 24.0 +0.1
baz=153,SNR=699
BCE Book Cliffs Ea 80.53 325 eP P 07 57 26.3 +1.6
E32A Braaten, Kindr 80.53 337 P P 07 57 24.2 +0.2
baz=150,SNR=64
ROA Roan Cliffs 80.54 325 eP P 07 57 25.9 +1.2
CCUT Cedar City 80.55 322 eP P 07 57 26.2 +1.5
comp=Z,644nm,0.8s
CIS Catalina Islan 80.57 316 P P 07 57 25.3 +0.7
baz=133,SNR=70
ICU Indian Springs 80.57 321 eP P 07 57 25.9 +1.2
RWWY Rawlins 80.57 328 eP P 07 57 25.6 +0.9
comp=Z,1µm,0.9s
P17A Butcher Ranch, 80.59 325 eP P 07 57 25.4 +0.7
comp=Z,482nm,0.9s
D33A AnnSam, Waubun 80.59 338 P P 07 57 24.3 -0.1
baz=151,SNR=518

MSU Marysvale 80.62 323 eP P 07 57 26.2 +1.2
MSU Marysvale 80.62 323 eP P 07 57 26.3 +1.2
DBD Des Bee Dove 80.65 324 eP P 07 57 26.6 +1.4
DCM Dugout Coal Mi 80.67 325 eP P 07 57 26.4 +1.0
BFSC Mount Baldy Ra 80.68 317 P P 07 57 25.7 +0.4
baz=134,SNR=143
SSK Sunset Peak 80.68 317 eP P 07 57 26.1 +0.7
TMUT Trail Mountain 80.70 324 eP P 07 57 26.3 +0.8
comp=Z,322nm,0.7s
FMP Fort Macarthu 80.70 316 P P 07 57 25.9 +0.6
baz=133,SNR=18
RRX Edison Barstow 80.72 318 P P 07 57 26.3 +0.9
baz=134,SNR=13
C34A RKJ Ranch, Bem 80.74 339 P P 07 57 25.2 0.0
baz=152,SNR=397
ARGU Argyle Ridge 80.75 325 eP P 07 57 27.1 +1.3
DWU Dry Willow Pea 80.76 322 eP P 07 57 27.0 +1.2
ARUT Antelope Range 80.77 322 eP P 07 57 27.7 +2.0
ARUT Antelope Range 80.77 322 eP P 07 57 27.7 +2.0
E31A Nome 80.78 337 P P 07 57 25.6 +0.2
baz=150,SNR=313
SHPR Sheep Range 80.80 320 eP P 07 57 26.9 +1.0
comp=Z,272nm,1.1s
SGU Sterling 80.84 324 eP P 07 57 25.4 -0.8
SNO Snow College 80.88 324 eP P 07 57 27.7 +1.3
GSC Goldstone, Bar 80.90 318 P P 07 57 27.2 +0.8
baz=134,SNR=235
GSC Goldstone, Bar 80.90 318 eP P 07 57 27.2 +0.8
comp=Z,236nm,0.9s
GSC Goldstone, Bar 80.90 318 eP P 07 57 27.2 +0.8
GSC pmax pmax
comp=Z,236nm,0.9s
MWC Mount Wilson 80.91 317 eP P 07 57 27.1 +0.5
comp=Z,320nm,0.9s
MWC Mount Wilson 80.91 317 eP P 07 57 27.1 +0.5
MWC pmax pmax
comp=Z,320nm,0.9s
ELU Electric Lake 80.95 325 eP P 07 57 28.1 +1.2
PASC Pasadena Art C 80.95 317 eP P 07 57 27.2 +0.6
comp=Z,373nm,0.9s
D32A Dogwood Acres, 80.98 337 P P 07 57 26.6 +0.3
baz=150,SNR=28
B35A Bob, Littlefor 81.01 340 P P 07 57 26.6 +0.1
baz=153,SNR=618
SHOC Shoshone, Teco 81.01 319 P P 07 57 27.4 +0.5
baz=135,SNR=88
K22A Casper 81.01 329 P P 07 57 27.6 +0.7
baz=142,SNR=205
K22A Casper 81.01 329 eP P 07 57 27.6 +0.7
comp=Z,338nm,0.8s
DECC Green Verdugo 81.09 317 P P 07 57 28.0 +0.7
baz=133,SNR=82
RSSD Black Hills 81.11 332 P P 07 57 27.8 +0.3
baz=144
RSSD Black Hills 81.11 332 eP P 07 57 27.4 0.0
comp=Z,242nm,0.8s
RSSD Black Hills 81.11 332 eP P 07 57 27.4 0.0
RSSD pmax pmax
comp=Z,242nm,0.8s
C33A Trail 81.11 338 P P 07 57 27.2 +0.1
baz=151,SNR=526
D31A Mcclaflin, Tow 81.15 337 P P 07 57 27.5 +0.2
baz=150,SNR=92
SNCC San Nicolas Is 81.15 315 P P 07 57 28.1 +0.5
baz=132,SNR=30
SNCC San Nicolas Is 81.15 315 eP P 07 57 28.6 +1.0
comp=Z,377nm,0.8s
LEVU Levan 81.17 324 eP P 07 57 28.8 +1.0
FLU Fool Peak 81.25 324 eP P 07 57 29.3 +1.0
EDW2 Edwards Air Fo 81.32 317 P P 07 57 28.8 +0.2
baz=133,SNR=282
B34A Aery, Baudette 81.40 340 P P 07 57 28.4 -0.1
baz=152,SNR=112
C32A Crookston 81.42 338 P P 07 57 28.9 +0.3
baz=151,SNR=28
BLG Laguna Peak, P 81.44 316 P P 07 57 29.6 +0.5
baz=133,SNR=48
MPU Maple Canyon 81.45 325 eP P 07 57 29.9 +0.7
comp=Z,311nm,0.8s
B33A Robert and Kas 81.50 339 P P 07 57 29.1 0.0
baz=152,SNR=177
PSUT Pine Spring 81.53 322 eP P 07 57 30.8 +1.1
comp=Z,395nm,0.9s
LRMC Laurel Mtn Rad 81.54 318 P P 07 57 30.4 +0.6
baz=134,SNR=205
DAU Daniels Canyon 81.55 325 eP P 07 57 30.9 +1.0
DAU Daniels Canyon 81.55 325 eP P 07 57 30.9 +1.0
OSI Osito Audit: C 81.58 317 P P 07 57 30.3 +0.4
baz=133,SNR=43
OSI Osito Audit: C 81.58 317 eP P 07 57 30.3 +0.4
comp=Z,298nm,0.8s
WMUT West Mountain 81.60 324 eP P 07 57 30.8 +0.8
AGMN Agassiz Nation 81.61 339 P P 07 57 29.7 +0.1
baz=151,SNR=356
AGMN Agassiz Nation 81.61 339 eP P 07 57 29.8 +0.1
comp=Z,528nm,0.8s
NLU North Lily Min 81.63 324 eP P 07 57 31.1 +0.9
comp=Z,155nm,0.8s
DCU Deer Creek Res 81.69 325 eP P 07 57 31.4 +0.9
SCZ2 Santa Cruz Isl 81.72 316 P P 07 57 31.1 +0.5
baz=152,SNR=72
TPNV Topopah Spring 81.73 320 P P 07 57 31.8 +1.1
baz=135,SNR=348
TPNV Topopah Spring 81.73 320 eP P 07 57 31.8 +1.1
comp=Z,349nm,1.1s
TPNV Topopah Spring 81.73 320 eP P 07 57 31.8 +1.1
TPNV pmax pmax
comp=Z,349nm,1.1s
HTU Hoyt Peak 81.73 325 eP P 07 57 31.8 +1.0
FURC Furnace Creek, 81.75 319 P P 07 57 31.6 +1.0
baz=134,SNR=237
LDJ Lady 81.76 325 eP P 07 57 32.0 +1.1
RTC Rabat Centre 81.77 44 eP P 07 57 31.7 +1.0
comp=Z,1µm,0.8s
HLJ Hailstone 81.78 325 eP P 07 57 31.9 +0.9
C31A Landman Farms, 81.79 337 P P 07 57 30.5 0.0
baz=150,SNR=445
KLJ Keetly 81.79 325 eP P 07 57 31.9 +0.9
JLU Jordanelle 81.79 325 eP P 07 57 31.9 +0.8
comp=Z,314nm,0.7s
MPMC Manual Prospec 81.83 318 P P 07 57 31.7 +0.4
baz=134,SNR=200
B32A Ashes, Strandq 81.92 338 P P 07 57 31.3 +0.1
baz=151,SNR=374
GMU Granite Mounta 81.93 325 eP P 07 57 32.3 +0.6
WTU Western Traver 81.94 325 eP P 07 57 32.9 +1.2
ARVC Arvin 81.99 317 P P 07 57 32.6 +0.7
baz=133,SNR=49
N16A Rees Ranch, Co 82.00 325 eP P 07 57 33.0 +0.9
CWU Camp Williams 82.01 325 eP P 07 57 33.4 +1.3
CTU Camp Tracy 82.01 325 eP P 07 57 32.5 +0.4
comp=Z,113nm,0.7s
MHD Mile High Driv 82.02 325 eP P 07 57 32.6 +0.6
A33A Warroad 82.03 339 P P 07 57 31.9 +0.2
baz=152,SNR=447
DAC Darwin (Calif) 82.04 319 eP P 07 57 33.0 +0.6
comp=Z,444nm,1.1s
DAC Darwin (Calif) 82.04 319 eP P 07 57 33.0 +0.6
DAC pmax pmax
comp=Z,444nm,1.1s
SBC Santa Barbara 82.06 316 P P 07 57 32.8 +0.6
baz=132,SNR=17
RBU Red Butte Cany 82.11 325 eP P 07 57 33.1 +0.5
ISA Isabella, Lake 82.14 318 P P 07 57 34.0 +1.3
baz=133
ISA Isabella, Lake 82.14 318 eP P 07 57 33.5 +0.8
comp=Z,293nm,0.9s
ISA Isabella, Lake 82.14 318 eP P 07 57 33.5 +0.8
ISA pmax pmax
comp=Z,293nm,0.9s
FSU Fish Springs 82.15 323 eP P 07 57 33.9 +1.2
HRU Hogsback Ridge 82.15 325 eP P 07 57 33.3 +0.5
TCUT Toone Canyon 82.16 325 eP P 07 57 33.7 +0.8
comp=Z,763nm,0.9s
DUG Dugway, Tooele 82.19 324 P P 07 57 33.7 +0.7
baz=138,SNR=404
DUG Dugway, Tooele 82.19 324 eP P 07 57 33.7 +0.7
comp=Z,233nm,0.8s
DUG Dugway, Tooele 82.19 324 eP P 07 57 33.7 +0.7
DUG pmax pmax
comp=Z,233nm,0.8s
FPU Francis Peak 82.31 325 eP P 07 57 34.5 +0.7
B31A Greenbush Farm 82.31 338 P P 07 57 33.1 0.0
baz=150,SNR=222
R11A Troy Canyon, C 82.34 321 P P 07 57 34.8 +1.0
baz=135,SNR=552

R11A Troy Canyon, C 82.34 321 eP P 07 57 34.8 +1.0
comp=Z,270nm,0.9s
SAIU Southern Antel 82.35 325 eP P 07 57 34.2 +0.4
A32A Rocking H Ranc 82.36 339 P P 07 57 33.5 +0.1
baz=151,SNR=94
GRAC Grapevine Rang 82.40 319 P P 07 57 35.1 +1.1
baz=134,SNR=48
PKM Mcpherson Peak 82.42 316 P P 07 57 35.3 +0.9
baz=132,SNR=384
CWC Cottonwood Cre 82.44 318 P P 07 57 35.2 +0.9
baz=134
MCU Monte Cristo P 82.47 326 eP P 07 57 35.2 +0.7
MDND Maddock 82.49 336 P P 07 57 34.7 +0.7
baz=148,SNR=278
MDND Maddock 82.49 336 eP P 07 57 34.8 +0.7
comp=Z,2µm,1.0s
NAIU Northern Antel 82.50 325 eP P 07 57 35.0 +0.5
BW06 Boulder Array 82.50 328 P P 07 57 34.8 +0.2
baz=140,SNR=330
BW06 Boulder Array 82.50 328 eP P 07 57 34.8 +0.2
comp=Z,282nm,1.0s
PD31 Pinedale Array 82.50 328 eP P 07 57 34.8 +0.2
PDAR Pinedale Array 82.50 328 P P 07 57 34.6 +0.1
comp=Z,268nm,0.8s,baz=129,slow=7.3,SNR=1179
PDAR PKiKP PKiKP 08 02 49.8 -0.5
comp=Z,2.4nm,0.6s,baz=92,slow=2.4,SNR=5.8
PDAR S S 08 07 01.2 -4.8
comp=Z,1.0nm,0.8s,baz=152,slow=5.8,SNR=3.9
PDAR ScS SKKSac 08 07 11.8 +3.4
comp=Z,4.1nm,1.0s,baz=168,slow=15,SNR=4.3
PDAR PKKPbc PKKPbc 08 15 55.6 -1.6
comp=Z,2.1nm,0.3s,baz=50,slow=2.8,SNR=29
PDAR PKPPKP P'P'df 08 23 59.9 +0.6
comp=Z,4.1nm,1.1s,baz=343,slow=1.5,SNR=7.5
PDAR Pinedale Array 82.50 328 eP P 07 57 34.8 +0.2
SNUT Stansbury Nort 82.54 325 eP P 07 57 35.3 +0.6
RSUT Red Spur Mount 82.55 326 eP P 07 57 35.0 0.0
A31A Linda, St. Vin 82.60 338 P P 07 57 34.6 0.0
baz=150,SNR=33
VES Vestal, Richgr 82.62 317 P P 07 57 35.6 +0.5
baz=133,SNR=471
GZU Grizzly Peak 82.67 325 eP P 07 57 36.0 +0.4
BMUT Black Mountain 82.70 326 eP P 07 57 36.0 +0.3
PFVI Vila Bisbo 82.72 41⇓eP P 07 57 36.4 +0.9
comp=Z,343nm,1.7s
PFVI Vila Bisbo 82.72 41 eP P 07 57 36.2 +0.7
comp=Z,158nm,0.8s
HONU Honeyville 82.78 325 eP P 07 57 36.6 +0.7
WVUT Wellsville 82.80 325 eP P 07 57 36.2 +0.2
SCHQ Schefferville 82.80 358 P P 07 57 36.1 +0.6
comp=Z,556nm,0.8s,baz=179,slow=3.8,SNR=572
SCHQ S S 08 07 02.5 -5.4
comp=Z,4.3nm,0.9s,baz=286,slow=18,SNR=3.5
SCHQ PKKPbc PKKPbc 08 15 55.5 -1.5
comp=Z,3.9nm,0.3s,baz=33,slow=3.1,SNR=13
SCHQ PKPPKP P'P'df 08 23 59.2 +1.8
comp=Z,5.3nm,0.8s,baz=57,slow=2.0,SNR=5.8
SCHQ Schefferville 82.80 358 eP P 07 57 35.6 +0.1
comp=Z,649nm,0.8s
SMMC Simmler 82.82 316 P P 07 57 37.2 +1.1
baz=132,SNR=146
SPUT South Promonto 82.83 325 eP P 07 57 36.7 +0.6
comp=Z,582nm,1.1s
BGU Big Grassy Mou 82.84 324 eP P 07 57 36.7 +0.4
comp=Z,275nm,1.0s
HDU Hyde Park 82.85 326 eP P 07 57 36.6 +0.3
EPU East Promontor 82.87 325 eP P 07 57 36.8 +0.5
LTU Little Mountai 82.93 325 eP P 07 57 37.1 +0.4
MORF Marmelete 82.94 41 eP P 07 57 37.2 +0.5
MORF AMb AMB 07 57 40.9
comp=Z,328nm,1.8s
MORF Marmelete 82.94 41⇓eP P 07 57 37.7 +1.0
comp=Z,331nm,1.9s
MORF Marmelete 82.94 41 eP P 07 57 37.2 +0.5
TIN Tinemaha, Big 82.94 319 P P 07 57 37.6 +0.8
baz=133,SNR=81
RCTC Rector, Farmer 83.03 318 P P 07 57 37.0 -0.1
baz=133,SNR=80
PTEO Sao Teotonio 83.07 41⇓eP P 07 57 38.5 +1.3
comp=Z,750nm,1.0s
BEI Bear River Ran 83.09 326 eP P 07 57 37.9 +0.4
MTUT Morton Thiokol 83.12 325 eP P 07 57 37.7 +0.1
MLI Malad Range 83.19 326 eP P 07 57 38.4 +0.3
AHID Auburn Hatcher 83.24 327 eP P 07 57 38.5 +0.3
comp=Z,362nm,0.6s
PAGB Antelope Grade 83.25 317 eP P 07 57 39.1 +0.9
comp=Z,647nm,1.0s
PBDV Barranco-do-Ve 83.32 41⇓eP P 07 57 39.8 +1.3
comp=Z,713nm,1.5s
PMCM McMillan Canyo 83.32 317 eP P 07 57 39.7 +1.1
ULM Lac du Bonnet 83.33 340 P P 07 57 38.7 +0.5
comp=Z,442nm,0.8s,baz=153,slow=5.5,SNR=742
ULM PKiKP PKiKP 08 02 50.5 -0.5
comp=Z,5.0nm,0.5s,baz=97,slow=4.4,SNR=3.2
ULM S S 08 07 12.1 -1.2
comp=Z,11nm,0.8s,baz=65,slow=23,SNR=12
ULM PKKPbc PKKPbc 08 15 53.3 -2.2
comp=Z,19nm,0.6s,baz=338,slow=2.9,SNR=29
ULM SKKPbc SKKPbc 08 18 38.7 -5.7
comp=Z,2.7nm,0.8s,baz=273,slow=3.9,SNR=3.6
ULM PKPPKP P'P'df 08 23 58.8 +2.0
comp=Z,5.3nm,0.9s,baz=358,slow=3.0,SNR=4.3
ULM Lac du Bonnet 83.33 340 eP P 07 57 38.1 -0.2
comp=Z,548nm,0.9s
HVU Hansel Valley 83.34 325 eP P 07 57 38.8 +0.1
comp=Z,386nm,1.0s
HVU Hansel Valley 83.34 325 eP P 07 57 38.8 +0.1
HVU pmax pmax
comp=Z,386nm,1.0s
WKR Work Ranch 83.47 317 eP P 07 57 40.2 +0.9
PCVE Castro Verde 83.52 41⇓eP P 07 57 40.4 +0.9
comp=Z,511nm,1.9s
TAM Tamanrasset 83.52 60 eP P 07 57 40.3 +0.3
comp=Z,283nm,0.9s
TAM Tamanrasset 83.52 60 eP P 07 57 40.3 +0.3
TAM pmax pmax
comp=Z,283nm,0.9s
GRRI Grays Lake 83.53 327 eP P 07 57 40.4 +0.7
PVCM Vineyard Canyo 83.55 317 eP P 07 57 40.9 +1.2
PVAQ Vaqueiros 83.55 41⇓eP P 07 57 40.9 +1.3
comp=Z,578nm,2.2s
PNCL Nicolau / Gran 83.57 40⇓eP P 07 57 41.0 +1.3
comp=Z,481nm,0.9s
REDW Red Top Meadow 83.57 327 eP P 07 57 40.3 +0.4
comp=Z,216nm,0.8s
ECR Eagle Creek 83.59 327 eP P 07 57 41.1 +1.1
SNOW Snow King Moun 83.60 327 eP P 07 57 40.6 +0.5
comp=Z,238nm,0.8s
PMST Lisbon--Monsan 83.63 40⇓eP P 07 57 41.0 +1.0
comp=Z,627nm,1.6s
LIS Lisbon 83.64 40 eP P 07 57 40.6 +0.6
LIS AMb AMB 07 57 43.5
comp=Z,621nm,1.8s
LIS Lisbon 83.64 40⇓eP P 07 57 41.2 +1.2
comp=Z,619nm,1.8s
LIS Lisbon 83.64 40 eP P 07 57 40.6 +0.6
LOHW Long Hollow 83.64 328 eP P 07 57 40.6 +0.4
comp=Z,218nm,0.7s
MLAC Mammoth, Mammo 83.69 319 P P 07 57 41.6 +0.9
baz=133,SNR=188
MCMM Convict Lake 83.70 319 eP P 07 57 41.5 +0.8
PMAFR Mafra 83.73 39⇓eP P 07 57 41.2 +0.7
comp=Z,535nm,1.9s
MOOW Moose Ponds 83.81 328 eP P 07 57 41.2 +0.1
comp=Z,369nm,1.4s
SFS San Fernando 83.82 43 eP P 07 57 41.7 +0.8
comp=Z,464nm,1.1s
SFS San Fernando 83.82 43 eP P 07 57 41.7 +0.8
SFS pmax pmax
comp=Z,464nm,1.1s
LMCR Lookout Mounta 83.82 319 eP P 07 57 43.2 +1.8
MDPB Devils Postpil 83.83 319 eP P 07 57 41.9 +0.5
comp=Z,216nm,0.9s
NV11 Mina Array Sit 83.85 320 eP P 07 57 41.6 +0.3
comp=Z,10nm,0.9s
FXWY Fox Creek 83.86 327 eP P 07 57 41.6 +0.2
comp=Z,154nm,0.8s
PMPB Monarch Peak 83.91 317 eP P 07 57 42.3 +0.7
comp=Z,343nm,1.0s
NV01 Mina Array Sit 83.93 320 eP P 07 57 41.6 -0.2
NVAR Mina Array Bea 83.93 320 P P 07 57 42.2 +0.4
comp=Z,119nm,0.8s,baz=143,slow=4.4,SNR=729
NVAR PKiKP PKiKP 08 02 54.0 +1.3
comp=Z,3.0nm,0.6s,baz=112,slow=2.1,SNR=4.7
NVAR S S 08 07 14.0 -6.2
comp=Z,0.7nm,0.7s,baz=145,slow=3.3,SNR=2.5
NVAR PKKPbc PKKPbc 08 15 53.9 +0.2

comp=Z,4.4nm,0.5s,baz=333,slow=2.1,SNR=24
NVAR PKPPKP **P'P'df** 08 23 57.9 +0.7
comp=Z,2.9nm,1.0s,baz=308,slow=2.2,SNR=4.1
IMW Indian Meadow 84.02 328 *eP* **P** 07 57 42.7 +0.5
comp=Z,552nm,0.8s
PCCM Crazy Canyon 84.04 316 *eP* **P** 07 57 43.3 +1.2
LRC Lone Oak Road 84.07 317 *eP* **P** 07 57 43.1 +0.8
MMIM Miami Mountain 84.08 318 *eP* **P** 07 57 42.7 +0.2
LAO LASA Array 84.09 332 P **P** 07 57 42.3 +0.2
baz=143,SNR=33
LAO LASA Array 84.09 332 *eP* **P** 07 57 42.2 0.0
comp=Z,429nm,0.9s
YTP The Promontory 84.09 328 *eP* **P** 07 57 43.2 +0.8
EVO Evora 84.15 40⇓ *eP* **P** 07 57 43.6 +1.0
comp=Z,344nm,2.0s
RLMT Red Lodge 84.18 329 P **P** 07 57 43.3 +0.4
baz=140,SNR=73
RLMT Red Lodge 84.18 329 *eP* **P** 07 57 43.2 +0.3
comp=Z,234nm,0.8s
LSZ Lusaka 84.18 104 P **P** 07 57 45.3 +1.8
comp=Z,572nm,0.8s,baz=255,slow=4.4,SNR=792
LSZ Lusaka 84.18 104 *eP* **P** 07 57 45.3 +1.8
comp=Z,3μm,1.6s
LSZ Lusaka 84.18 104 PcP **P** 07 57 45.4 +1.8
SNR=124
RYN Ryan 84.19 320 *eP* **P** 07 57 43.6 +0.6
comp=Z,185nm,0.8s
H17A Grant Village 84.22 328 P **P** 07 57 44.5 +1.3
baz=139,SNR=88
H17A Grant Village 84.22 328 *eP* **P** 07 57 44.0 +0.9
comp=Z,86nm,0.8s
YPP Pitchstone Pla 84.24 328 *eP* **P** 07 57 44.4 +1.2
comp=Z,105nm,1.0s
YLT Little Thumb C 84.26 328 *eP* **P** 07 57 45.5 +2.2
BRMM Rolling Bench 84.33 317 *eP* **P** 07 57 44.7 +1.2
MCID Moose Creek 84.36 328 *eP* **P** 07 57 44.6 +0.9
BVL Bear Valley 84.38 317 *eP* **P** 07 57 44.0 +0.3
YFT Old Faithful 84.39 328 *eP* **P** 07 57 45.5 +1.6
comp=Z,280nm,0.9s
PMTG Montargil 84.40 40⇓ *eP* **P** 07 57 44.5 +0.7
comp=Z,971nm,0.9s
EKH Elkhorn Ranch 84.43 317 *eP* **P** 07 57 45.0 +1.0
PBAR Barrancos 84.47 41⇓ *eP* **P** 07 57 44.6 +0.4
comp=Z,791nm,1.6s
JHC Johnson Canyon 84.48 317 *eP* **P** 07 57 44.8 +0.5
JHC Johnson Canyon 84.48 317 *eP* **P** 07 57 44.8 +0.5
YNR Norris Junctio 84.52 328 *eP* **P** 07 57 45.9 +1.3
comp=Z,144nm,1.0s
BCGM Cienega Road 84.56 317 *eP* **P** 07 57 46.1 +1.4
YPM Purple Mountai 84.56 328 *eP* **P** 07 57 46.6 +1.8
BPRM Ponciano Ridge 84.60 316 *eP* **P** 07 57 44.9 0.0
YMR Madison River 84.61 328 *eP* **P** 07 57 46.0 +1.0
comp=Z,726nm,0.9s
PESTR Estremoz 84.62 40⇓ *eP* **P** 07 57 45.8 +0.9
comp=Z,579nm,2.2s
PESTR Estremoz 84.62 40 *eP* **P** 07 57 45.5 +0.6
comp=Z,178nm,0.8s
BVYM Vineyard 84.63 317 *eP* **P** 07 57 45.6 +0.6
WAKR Walker 84.63 319 *eP* **P** 07 57 46.4 +1.2
comp=Z,436nm,0.9s
YHH Holmes Hill 84.65 328 *eP* **P** 07 57 46.1 +0.9
comp=Z,650nm,0.9s
SAO San Andreas Ge 84.66 317 *eP* **P** 07 57 44.9 -0.2
comp=Z,168nm,0.9s
SAO San Andreas Ge 84.66 317 *eP* **P** 07 57 44.9 -0.2
SAO pmax pmax
comp=Z,168nm,0.9s
FRP Fremont Peak 84.68 317 *eP* **P** 07 57 45.7 +0.4
FRP Fremont Peak 84.68 317 *eP* **P** 07 57 45.7 +0.4
SFJWR San Luis Fatjo 84.68 317 *eP* **P** 07 57 46.6 +1.4
BMN Battle Mountai 84.71 322 *eP* **P** 07 57 45.0 -0.5
comp=Z,83nm,0.7s
BMN Battle Mountai 84.71 322 *eP* **P** 07 57 45.0 -0.5
BMN pmax pmax
comp=Z,83nm,0.7s
DGMT Dagmar 84.71 334 P **P** 07 57 46.0 +0.8
baz=145,SNR=209
DGMT Dagmar 84.71 334 *eP* **P** 07 57 45.5 +0.4
comp=Z,358nm,0.7s
DGMT *eS* **S** 08 07 29.3 +2.4
YMV Mammoth Vault 84.72 328 *eP* **P** 07 57 46.7 +1.3
HPCM Pacheco Lake 84.75 317 *eP* **P** 07 57 46.2 +0.6
YHB Horse Butte 84.78 328 *eP* **P** 07 57 46.7 +0.8
comp=Z,278nm,0.9s
CRMT Chrome Mountai 84.83 329 *eP* **P** 07 57 46.3 +0.2
YERR Yerington 84.84 320 *eP* **P** 07 57 47.1 +0.9
comp=Z,371nm,1.0s
CMB Columbia Colle 84.87 318 *eP* **P** 07 57 46.4 +0.2
comp=Z,105nm,0.8s
CMB Columbia Colle 84.87 318 *eP* **P** 07 57 46.4 +0.2
CMB pmax pmax
comp=Z,105nm,0.8s
GCMT Greycliff 84.87 329 *eP* **P** 07 57 46.7 +0.6
PCAS Casmilo, Conde 84.92 39⇓ *eP* **P** 07 57 47.0 +0.7
comp=Z,700nm,1.6s
QLMT Earthquake Lak 84.95 328 *eP* **P** 07 57 47.6 +1.0
MCUB Copperopolis B 84.97 318 *eP* **P** 07 57 47.2 +0.6
COMI Craters of Moo 84.98 326 *eP* **P** 07 57 47.8 +1.0
TPMT Tepee Creek 84.99 328 *eP* **P** 07 57 49.0 +2.1
PMRV Marv??o 85.12 40⇓ *eP* **P** 07 57 47.6 +0.3
comp=Z,369nm,1.6s
PNTR Pine Nut 85.12 319 *eP* **P** 07 57 48.7 +1.1
comp=Z,1μm,0.8s
MOMT Monida 85.23 327 *eP* **P** 07 57 50.0 +2.0
RDG13 Poverty Ridge 85.27 317 *eP* **P** 07 57 48.6 +0.4
comp=Z,157nm,0.8s
VCNR Virginia City 85.29 320 *eP* **P** 07 57 49.3 +0.9
comp=Z,281nm,0.9s
PCBR Castelo Branco 85.35 40⇓ *eP* **P** 07 57 48.9 +0.5
comp=Z,466nm,1.4s
RUBR Rubicon Trail 85.41 319 *eP* **P** 07 57 50.0 +1.0
comp=Z,673nm,0.9s
PAHR Pah Rah Range 85.42 320 *eP* **P** 07 57 49.8 +0.9
comp=Z,586nm,1.0s
HLID Hailey 85.47 325 P **P** 07 57 50.2 +1.1
baz=137,SNR=1000
HLID Hailey 85.47 325 *eP* **P** 07 57 50.2 +1.1
comp=Z,888nm,0.9s
BGMT Barton Gulch 85.54 328 *eP* **P** 07 57 50.1 +0.6
PTO Porto 85.61 38 *eP* **P** 07 57 50.5 +0.9
comp=Z,657nm,1.8s
BOZ Bozeman (W) 85.62 328 P **P** 07 57 50.3 +0.6
baz=139,SNR=158
BOZ Bozeman (W) 85.62 328 *eP* **P** 07 57 49.9 +0.1
comp=Z,152nm,0.9s
BOZ Bozeman (W) 85.62 328 *eP* **P** 07 57 49.9 +0.1
BOZ pmax pmax
comp=Z,152nm,0.9s
MCMT McKenzie Canyo 85.62 327 *eP* **P** 07 57 51.1 +1.2
MTE Manteigas 85.69 39⇓ *eP* **P** 07 57 50.2 +0.1
comp=Z,618nm,1.3s
MTE Manteigas 85.69 39 *eP* **P** 07 57 50.5 +0.4
comp=Z,424nm,0.9s
DONR Donner Summit 85.71 319 *eP* **P** 07 57 51.3 +0.8
PVIS Viseu 85.71 39⇓ *eP* **P** 07 57 50.7 +0.5
comp=Z,260nm,2.0s
AFDM Forest Hills D 85.82 319 *eP* **P** 07 57 51.0 +0.3
comp=Z,291nm,0.8s
DLMT Dillon 85.90 328 *eP* **P** 07 57 52.0 +0.9
comp=Z,650nm,0.9s
LCCM Lewis and Clar 85.92 328 *eP* **P** 07 57 52.2 +1.1
CPIM Pinole Ridge 85.92 317 *eP* **P** 07 57 52.2 +1.0
MFID Camas Ranch 86.08 325 *eP* **P** 07 57 52.4 +0.5
comp=Z,362nm,1.0s
LRM Limekiln Ridge 86.17 328 *eP* **P** 07 57 53.2 +0.7
PVRL Vila Real 86.19 39⇓ *eP* **P** 07 57 53.2 +0.8
comp=Z,559nm,0.9s
POLO Lamas de Olo 86.22 38⇓ *eP* **P** 07 57 53.2 +0.6
comp=Z,226nm,1.1s
PCAB Cabril 86.32 38⇓ *eP* **P** 07 57 53.5 +0.5
comp=Z,324nm,2.5s
PGAV Gavieira, Arco 86.37 38⇓ *eP* **P** 07 57 53.8 +0.5
comp=Z,387nm,2.1s
MCCM Marconi Confer 86.42 317 *eP* **P** 07 57 54.2 +0.7
comp=Z,448nm,0.8s
MVO Moncorvo 86.50 39⇓ *eP* **P** 07 57 54.7 +0.8
comp=Z,475nm,2.0s
ORV Oroville 86.53 319 *eP* **P** 07 57 54.5 +0.5
comp=Z,470nm,1.2s
ORV Oroville 86.53 319 *eP* **P** 07 57 54.5 +0.5
ORV pmax pmax
comp=Z,470nm,1.2s
HRY Holter Researc 86.55 329 *eP* **P** 07 57 54.8 +0.7
GARM Arbuckle 86.58 318 *eP* **P** 07 57 55.6 +1.3
EGMT Eagleton 86.63 331 P **P** 07 57 54.5 +0.2
baz=140,SNR=138
EGMT Eagleton 86.63 331 *eP* **P** 07 57 54.3 -0.1
comp=Z,629nm,1.1s
OGOM Van Goodin Ran 86.66 319 *eP* **P** 07 57 55.4 +0.8
NMCNC Mill Creek, So 86.73 317 *eP* **P** 07 57 55.7 +0.8
GSGM Seigler Mounta 86.79 318 *eP* **P** 07 57 56.8 +1.6
GDXM Geysers 86.80 318 *eP* **P** 07 57 56.4 +1.0
comp=Z,197nm,0.9s
USTO Oran 86.85 46 P P 07 58 03.0 +7.4
ODJA Bouhanifia 86.86 47 P P 07 58 04.0 +8.3
WVOR Wild Horse Val 86.86 322 *eP* **P** 07 57 56.0 +0.3
comp=Z,318nm,1.4s
WVOR Wild Horse Val 86.86 322 *eP* **P** 07 57 56.0 +0.3
WVOR pmax pmax
comp=Z,318nm,1.4s
PAB San Pablo 86.95 42 *eP* **P** 07 57 56.5 +0.4
comp=Z,96nm,0.9s
PAB San Pablo 86.95 42 *eP* **P** 07 57 56.5 +0.4
PAB pmax pmax
comp=Z,96nm,0.9s
HOPS Hopland Field 87.09 318 *eP* **P** 07 57 57.7 +1.1
comp=Z,168nm,0.9s
PBRG Braganca 87.09 39⇓ *eP* **P** 07 57 56.9 +0.2
comp=Z,306nm,1.8s
LRDM Redding Peak 87.11 320 *eP* **P** 07 57 57.9 +1.1
O03D Paynes Creek 87.19 319 P **P** 07 57 56.9 -0.3
baz=131,SNR=205
O03D Paynes Creek 87.19 319 *eP* **P** 07 57 57.1 -0.1
ESDC Sonseca Array 87.26 42 P **P** 07 57 58.4 +0.9
comp=Z,92nm,0.7s,baz=241,slow=3.9,SNR=327
ESDC PKiKP **PKiKP** 08 02 58.9 +1.0
comp=Z,1.9nm,0.5s,baz=259,slow=1.5,SNR=7.8
ESLA Sonseca Array 87.26 42 *eP* **P** 07 57 58.4 +0.9
comp=Z,96nm,0.8s
LBCM Butte Creek Ri 87.29 320 *eP* **P** 07 57 58.0 +0.2
GASB Alder Springs 87.30 318 *eP* **P** 07 57 59.0 +1.2
ES19 SONSECA Array 87.31 42 *eP* **P** 07 57 57.9 +0.2
GHMM Hull Mountain 87.33 318 *eP* **P** 07 57 59.4 +1.5
J08A Circle Bar Ran 87.41 323 *eP* **P** 07 57 59.4 +1.2
comp=Z,538nm,0.8s
MOD Modoc Plateau 87.41 321 *eP* **P** 07 57 58.9 +0.6
comp=Z,386nm,0.9s
KRKM Raoul Spring 87.52 318 *eP* **P** 07 58 00.4 +1.6
LTIM Timbered Crate 87.59 320 *eP* **P** 07 57 59.6 +0.5
MSO Missoula 87.61 328 P **P** 07 58 00.1 +1.0
baz=137,SNR=131
MSO Missoula 87.61 328 *eP* **P** 07 57 59.6 +0.6
comp=Z,570nm,1.6s
CART Cartagena 87.72 45 *eP* **P** 07 57 59.9 +0.3
comp=Z,199nm,0.9s
WDC Whiskeytown Da 87.80 319 *eP* **P** 07 57 59.2 -0.7
comp=Z,236nm,0.6s
WDC Whiskeytown Da 87.80 319 *eP* **P** 07 57 59.2 -0.7
WDC pmax pmax
comp=Z,237nm,0.6s
KCPM Cahto Peak 87.83 318 *eP* **P** 07 58 01.0 +0.8
comp=Z,482nm,1.0s
ETRT Tiaret 87.84 48 P **P** 07 58 02.4 +2.0
BMO Blue Mountains 87.84 325 *eP* **P** 07 58 00.3 +0.1
comp=Z,89nm,0.8s
BMO Blue Mountains 87.84 325 *eP* **P** 07 58 00.3 +0.1
BMO pmax pmax
comp=Z,89nm,0.8s
KIPM Iron Peak 87.85 318 *eP* **P** 07 58 01.7 +1.3
LBFM Black Fox Moun 87.93 320 *eP* **P** 07 58 01.3 +0.5
LBFM Black Fox Moun 87.93 320 *eP* **P** 07 58 01.3 +0.5
EANR 'Ain N'Sour 88.05 47 P **P** 07 58 03.4 +2.1
LGMM Garner Mountai 88.07 320 *eP* **P** 07 58 02.0 +0.6
LGBM Gray Butte 88.10 320 *eP* **P** 07 58 02.0 +0.3
N02D Trinity Center 88.15 319 P **P** 07 58 02.0 +0.3
baz=131,SNR=140
LMPM Military Pass 88.18 320 *eP* **P** 07 58 02.6 +0.7
M04C Macdoel 88.19 320 P **P** 07 58 02.4 +0.5
baz=131,SNR=440
KMRM Mail Ridge 88.25 318 *eP* **P** 07 58 03.4 +1.2
comp=Z,646nm,1.0s
LHEM Herd Peak 88.30 320 *eP* **P** 07 58 03.6 +1.0
ECHA Ech Chlef 88.34 47 P **P** 07 58 04.3 +1.8
JTMT Jette 88.44 328 *eP* **P** 07 58 03.4 +0.5
comp=Z,367nm,0.6s
I07A Izee 88.45 323 *eP* **P** 07 58 03.0 -0.1
comp=Z,69nm,0.8s
M02C Callahan 88.51 320 P **P** 07 58 03.6 +0.2
baz=131,SNR=165
EBNR Beni Rached 88.53 47 P **P** 07 58 05.7 +2.2
B040 Montague 88.55 320 *eP* **P** 07 58 03.5 0.0
F10A Beach Ranch, E 88.59 326 *eP* **P** 07 58 03.5 -0.1
comp=Z,123nm,0.6s
YBH Yreka Blue Hor 88.65 320 P **P** 07 58 03.9 -0.1
comp=Z,198nm,0.6s,baz=44,slow=1.7,SNR=751
YBH S **SKSac** 08 07 39.9 -0.7
comp=Z,2.5nm,1.0s,baz=248,slow=18,SNR=6.8
YBH PKKPbc **PKKPbc** 08 15 42.4 +0.1
comp=Z,8.1nm,0.5s,baz=220,slow=3.4,SNR=37
YBH PKPPKP **P'P'df** 08 23 45.1 -3.2
comp=Z,4.7nm,0.9s,baz=274,slow=7.8,SNR=12
YBH Yreka Blue Hor 88.65 320 *eP* **P** 07 58 03.5 -0.5
comp=Z,212nm,0.8s
KHMM Horse Mountain 88.68 319 *eP* **P** 07 58 05.1 +0.8
comp=Z,420nm,0.8s
K04D Chiloquin, OR 88.69 321 P **P** 07 58 04.7 +0.5
baz=131,SNR=53
BSMT Bassoo Peak 88.75 328 *eP* **P** 07 58 04.8 +0.4
JCC Jacoby Creek, 88.82 319 *eP* **P** 07 58 05.7 +1.1
comp=Z,522nm,0.9s
J05D Fort Rock, OR 88.85 322 P **P** 07 58 05.6 +0.6
baz=132,SNR=132
G08A Pilot Rock 88.99 324 *eP* **P** 07 58 05.5 0.0
comp=Z,48nm,0.8s
PINE Pine Mountain 89.02 322 *eP* **P** 07 58 06.8 +0.9
comp=Z,343nm,0.8s
FFC Flin Flon 89.09 339 *eP* **P** 07 58 05.7 +0.1
comp=Z,183nm,1.0s
FFC Flin Flon 89.09 339 *eP* **P** 07 58 05.7 +0.1
FFC pmax pmax
comp=Z,183nm,1.0s
KTRM Thompson Ridge 89.14 320 *eP* **P** 07 58 07.4 +1.1
WALA Waterton Lakes 89.23 329 *eP* **P** 07 58 06.7 +0.2
comp=Z,339nm,0.8s
J04D Umpqua Nationa 89.30 321 P **P** 07 58 07.6 +0.4
baz=131,SNR=127
HUMO Hull Mountain 89.36 320 *eP* **P** 07 58 07.0 -0.2
comp=Z,105nm,0.9s
EMHD Djebel Mahouad 89.40 48 P **P** 07 58 09.7 +2.0
E09A Wood Farm, Sta 89.42 326 *eP* **P** 07 58 07.3 0.0
comp=Z,54nm,0.8s
L02D Cave Junction, 89.43 320 P **P** 07 58 08.3 +0.8
baz=130,SNR=147
I05D Terrebonne, OR 89.60 322 P **P** 07 58 09.1 +0.8
baz=132,SNR=154
ABA Alger-Bouzarea 89.81 47 P **P** 07 58 12.0 +2.6
KBO Bosley Butte 89.82 320 *eP* **P** 07 58 10.6 +1.2
comp=Z,526nm,1.0s
G06A Carlson Farm, 89.83 323 *eP* **P** 07 58 10.3 +1.0
comp=Z,164nm,0.9s
I04A Tedick Farm, 89.83 322 P **P** 07 58 09.3 -0.1
baz=131,SNR=73
E08A Dider Farm, El 89.86 325 *eP* **P** 07 58 09.4 0.0
comp=Z,112nm,1.1s
IRO Indian Ridge 89.88 322 *eP* **P** 07 58 10.4 +0.7
F07A Phinny Hill Vi 89.90 324 *eP* **P** 07 58 10.6 +1.0
comp=Z,101nm,0.8s
NEW Newport 90.14 327 P **P** 07 58 10.2 -0.5
baz=135,SNR=69
NEW Newport 90.14 327 *eP* **P** 07 58 10.3 -0.4
comp=Z,61nm,0.8s
NEW Newport 90.14 327 *eP* **P** 07 58 10.3 -0.4
NEW pmax pmax
comp=Z,61nm,0.8s
D08A Wollman Farm, 90.18 326 *eP* **P** 07 58 10.8 0.0
comp=Z,150nm,0.9s
G05D Wamic, OR 90.19 323 P **P** 07 58 11.9 +0.9
baz=132,SNR=114
NRS Narsarsuaq 90.28 9 *i* P **P** 07 58 11.6 +0.7
comp=Z,185nm,0.7s
NRS Narsarsuaq 90.28 9 *i* P **P** 07 58 11.6 +0.7
NRS pmax pmax
comp=Z,190nm,0.7s
H04A Detroit Lake 90.28 322 *eP* **P** 07 58 11.2 -0.2
comp=Z,284nm,0.8s
KEBM Edson Butte 90.30 320 *eP* **P** 07 58 13.0 +1.4
comp=Z,568nm,0.9s
E07A Sunnyside 90.31 325 *eP* **P** 07 58 12.3 +0.8
comp=Z,78nm,0.8s
C09A Chrisman Ranch 90.38 326 *eP* **P** 07 58 11.8 0.0
comp=Z,346nm,0.6s
FCC Fort Churchill 90.40 345 *eP* **P** 07 58 11.6 +0.1
comp=Z,449nm,0.8s
FCC Fort Churchill 90.40 345 *eP* **P** 07 58 11.6 +0.1
FCC pmax pmax
comp=Z,449nm,0.8s
TDH Tom, Dick, Har 90.47 323 *eP* **P** 07 58 12.8 +0.4
G04A Mulino 90.78 323 *eP* **P** 07 58 14.1 +0.5
COR Corvallis 90.83 322 *eP* **P** 07 58 14.9 +1.1
comp=Z,498nm,0.8s
COR Corvallis 90.83 322 *eP* **P** 07 58 14.9 +1.1
COR pmax pmax
comp=Z,498nm,0.8s
EBG Ellensburg 90.91 325 *eP* **P** 07 58 14.8 +0.5
CKHR Kef el Ahmar 90.98 49 P **P** 07 58 16.8 +1.8
WTV Waterville 91.13 326 *eP* **P** 07 58 15.2 -0.1
MTMW Mount Mitchell 91.18 323 *eP* **P** 07 58 16.1 +0.5
LTY Liberty 91.20 325 *eP* **P** 07 58 15.7 0.0
comp=Z,92nm,0.8s
G03D McMinnville, O 91.21 322 P **P** 07 58 16.2 +0.6
baz=130,SNR=25
WPW White Pass 91.27 324 *eP* **P** 07 58 16.4 +0.3
B08A Colville Reser 91.28 326 *eP* **P** 07 58 15.4 -0.5
comp=Z,39nm,0.8s
VALT Mount Saint He 91.29 324 *eP* **P** 07 58 16.7 +0.5
B203 Quarry, Mount 91.33 323 *eP* **P** 07 58 16.8 +0.5
FL2 Flat Top 2 91.36 323 *eP* **P** 07 58 17.1 +0.6
B201 Coldwater, Mou 91.39 324 *eP* **P** 07 58 16.9 +0.4
TDL Tradedollar La 91.39 324 *eP* **P** 07 58 16.8 +0.2
LON Longmire 91.44 324 *eP* **P** 07 58 16.4 -0.3
comp=Z,116nm,1.0s
LON Longmire 91.44 324 *eP* **P** 07 58 16.5 -0.3
LON pmax pmax
comp=Z,116nm,1.0s
DFRA Djebel Bou Aff 91.52 49 P **P** 07 58 19.2 +1.7
KMOR Kings Mountain 91.60 322 *eP* **P** 07 58 15.6 -1.9
CTEI Djebel Teioual 91.61 49 P **P** 07 58 19.0 +1.1
F04D Rainier, OR 91.64 323 P **P** 07 58 18.4 +0.8
baz=130,SNR=18
C06D Leavenworth 91.75 325 P **P** 07 58 17.4 -0.7
baz=132,SNR=5.2
CASM Ain Smara 91.77 49 P **P** 07 58 19.7 +1.2
FRB Frobisher Bay 91.79 358 P **P** 07 58 17.6 -0.1
comp=Z,55nm,0.8s,baz=359,slow=5.2,SNR=122
FRB PKiKP **PKiKP** 08 03 05.5 +0.9
comp=Z,10nm,0.6s,baz=44,slow=3.3,SNR=5.0
FRB S **SKSac** 08 07 57.8 +0.7
comp=Z,2.8nm,0.8s,baz=142,slow=22,SNR=1.8
B941 Kapowsin 91.81 324 *eP* **P** 07 58 18.2 -0.1
D05A Enumclaw 91.82 324 *eP* **P** 07 58 18.6 +0.2
comp=Z,252nm,0.8s
F03A Seaside 91.83 323 *eP* **P** 07 58 19.2 +0.8
comp=Z,236nm,0.8s
BMW Boistfort Moun 92.00 323 *eP* **P** 07 58 20.1 +0.8
BMW Boistfort Moun 92.00 323 *eP* **P** 07 58 20.2 +0.8
CKFL Kef-Lekhel 92.00 49 P **P** 07 58 20.7 +1.0
EDM Edmonton 92.05 333 *eP* **P** 07 58 18.4 -1.0
comp=Z,275nm,0.8s
EDM Edmonton 92.05 333 *eP* **P** 07 58 18.4 -1.0
EDM pmax pmax
comp=Z,275nm,0.8s
E03A Lebam 92.23 323 *eP* **P** 07 58 20.7 +0.4
comp=Z,294nm,0.8s
VAL Valentia 92.38 30 *i* S **SP** 08 09 56.9 +3.6
ABSA Djebel Ababsia 92.44 50 P **P** 07 58 22.8 +1.1
B06A Marblemount 92.44 326 *eP* **P** 07 58 20.6 -0.5
comp=Z,181nm,0.8s
JCW Jim Creek 92.45 325 *eP* **P** 07 58 21.0 -0.4
B05A Bryant 92.58 325 P **P** 07 58 21.1 -0.8
baz=131,SNR=51
CMAH Djebel Manchou 92.60 49 P **P** 07 58 22.4 +0.1
RPZ Rata Peaks 92.78 216 P **P** 07 58 23.4 +0.3
comp=Z,13nm,0.8s,baz=260,slow=3.1,SNR=3.5
RPZ pP **pP** 08 00 23.3 -1.0
comp=Z,13nm,0.9s,baz=138,slow=14,SNR=3.3
RPZ S **SKSac** 08 08 03.2 -0.9
comp=Z,17nm,1.1s,baz=115,slow=22,SNR=6.0
RPZ PKKPbc **PKKPbc** 08 15 30.9 -0.9
comp=Z,11nm,0.5s,baz=289,slow=2.7,SNR=12
NLWA Neilton Lookou 92.93 324 *eP* **P** 07 58 23.8 +0.3
comp=Z,155nm,1.3s
URZ Urewera 93.01 223 P **P** 07 58 25.0 +0.8
comp=Z,9.7nm,1.1s,baz=342,slow=7.4,SNR=2.5
URZ pP **pP** 08 00 24.5 -0.9
comp=Z,14nm,1.0s,baz=117,slow=7.2,SNR=4.3
URZ S **SKSac** 08 08 05.1 -0.5
comp=Z,14nm,0.8s,baz=256,slow=21,SNR=14
URZ PKKPbc **PKKPbc** 08 15 29.2 -1.7
comp=Z,31nm,0.6s,baz=276,slow=1.6,SNR=44
URZ PKPPKP **P'P'df** 08 23 36.5 -6.2
comp=Z,14nm,0.7s,baz=214,slow=5.7,SNR=7.0
A04D Lummi Island 93.19 325 P **P** 07 58 24.9 +0.3
baz=131,SNR=11
MBAR Mbarara 93.27 92 *eP* **P** 07 58 27.8 +1.7
comp=Z,58nm,1.5s
MBAR Mbarara 93.27 92 *eP* **P** 07 58 27.8 +1.7
MBAR pmax pmax
comp=Z,58nm,1.5s
KEST Kesra 93.42 51 P **P** 07 58 27.2 +1.1
comp=Z,36nm,0.7s,baz=156,slow=1.3,SNR=46
KEST PKKPbc **PKKPbc** 08 15 29.5 -0.4
comp=Z,4.7nm,0.6s,baz=163,slow=1.6,SNR=7.5
KEST Kesra 93.42 51 *eP* **P** 07 58 27.3 +1.1
comp=Z,45nm,0.8s
PGC Sidney 93.52 325 *eP* **P** 07 58 26.9 +0.8
comp=Z,147nm,1.0s
LLLB Lillooet 94.02 327 *eP* **P** 07 58 28.1 -0.3
comp=Z,98nm,0.8s
HTL Hartland 94.38 33 *eP* **P** 07 58 30.0 0.0
HTL IAmb IAmb 07 58 30.9
comp=Z,56nm,0.8s
DSB Dublin 94.99 30 *eP* **P** 07 58 32.7 -0.1
comp=Z,81nm,0.7s
LPW Lampeter 95.30 32⇓ *eP* **P** 07 58 33.9 -0.2
LPW IAmb IAmb 07 58 34.8
comp=Z,116nm,0.7s
SFJD Kangerlussuaq 95.44 5 *i* P **P** 07 58 34.9 +0.5
comp=Z,57nm,1.1s
SFJD Kangerlussuaq 95.44 5 *eP* **P** 07 58 34.9 +0.5
comp=Z,49nm,0.9s
SFJD Kangerlussuaq 95.44 5 *i* P **P** 07 58 34.9 +0.5
SFJD pmax pmax
comp=Z,57nm,1.1s
VSL Villasalto 95.45 48 *eP* **P** 07 58 36.0 +0.8
comp=Z,24nm,0.7s
HGH Gray Hill 95.60 33⇓ *eP* **P** 07 58 34.9 -0.6
ANGG Ammassalik, Gr 95.64 10 *eP* **P** 07 58 35.7 +0.4
comp=Z,158nm,0.7s
SSB Saint Sauveur 95.66 41 *eP* **P** 07 58 37.0 +1.0
comp=Z,180nm,0.8s
SSB Saint Sauveur 95.66 41 *eP* **P** 07 58 37.0 +1.0
SSB pmax pmax
comp=Z,180nm,0.8s
BATH Bath 95.70 33 *eP* **P** 07 58 35.8 -0.2
BATH IAmb IAmb 07 58 36.0
comp=Z,141nm,0.6s
MONM Monmouth 95.72 33⇓ *eP* **P** 07 58 35.7 -0.3
MONM IAmb IAmb 07 58 36.3
comp=Z,112nm,0.9s
MCH1 Michaelchurch 95.73 33⇓ *eP* **P** 07 58 35.6 -0.5
MCH1 IAmb IAmb 07 58 36.2
comp=Z,86nm,0.8s
OLDB Oldbury-Upon-S 95.73 33⇓ *eP* **P** 07 58 35.5 -0.5
OLDB IAmb IAmb 07 58 36.1
comp=Z,68nm,0.6s
GMM Mts of Mourne 95.85 30⇓ *eP* **P** 07 58 36.4 -0.1
STRD Stroud 95.99 33⇓ *eP* **P** 07 58 36.8 -0.5
STRD IAmb IAmb 07 58 37.7
comp=Z,187nm,0.7s
SWN1 Swindon 96.00 34 *eP* **P** 07 58 36.7 -0.7
SWN1 IAmb IAmb 07 58 37.6
comp=Z,100nm,0.7s
HLM1 Long Mynd 96.12 32⇓ *eP* **P** 07 58 37.5 -0.4
HLM1 IAmb IAmb 07 58 38.5
comp=Z,56nm,0.9s
WOL Wolverton 96.16 34⇓ *eP* **P** 07 58 37.6 -0.4
WOL IAmb IAmb 07 58 38.3
comp=Z,102nm,0.8s
FOEL Foel Wyfa 96.21 32⇓ *eP* **P** 07 58 36.9 -1.4
SSW Stow on the Wo 96.26 33⇓ *eP* **P** 07 58 38.7 +0.2
CLGH Cloghs, Cushen 96.34 29⇓ *eP* **P** 07 58 38.8 0.0
CLGH IAmb IAmb 07 58 39.2
comp=Z,126nm,0.7s
IOMK Kirk Michael 96.47 30⇓ *eP* **P** 07 58 39.4 +0.1
IOMK IAmb IAmb 07 58 39.8
comp=Z,63nm,0.8s
GMK Mull of Kintyr 96.74 29⇓ *eP* **P** 07 58 40.4 -0.1
BNI Bardonecchia 96.78 42 *eP* **P** 07 58 42.3 +1.1

comp=Z,253nm,2.0s
BNI Bardonecchia 96.78 42 eP P 07 58 42.3 +1.1
BNI pmax pmax
comp=Z,253nm,2.0s
GAL1 Galloway 96.80 30⇓eP P 07 58 40.4 -0.4
GAL1 IAmb IAmb 07 58 41.4
comp=Z,30nm,0.7s
CWF Charnwood Fore 97.01 33⇓eP P 07 58 40.5 -1.2
LBWR Ladybower, Pea 97.22 32 eP P 07 58 43.0 +0.3
LBWR IAmb IAmb 07 58 43.9
comp=Z,135nm,0.8s
KESW Keswick, Cumbr 97.34 31⇓eP P 07 58 43.4 +0.2
KESW IAmb IAmb 07 58 43.8
comp=Z,105nm,0.7s
BBO1 Bothel 97.37 30⇓eP P 07 58 43.5 +0.2
PGBU Glenifferbraes 97.52 29⇓eP Pdif 07 58 44.0 0.0
PGBU IAmb IAmb 07 58 44.5
comp=Z,110nm,0.8s
ILULI Ilulissat 97.59 4 i P P 07 58 44.6 +0.6
comp=Z,31nm,0.9s
ILULI Ilulissat 97.59 4 eP P 07 58 44.5 +0.4
comp=Z,37nm,1.0s
ILULI Ilulissat 97.59 4 i P P 07 58 44.6 +0.6
ILULI pmax pmax
comp=Z,31nm,0.9s
BHH Howats Hill 97.61 30⇓eP Pdif 07 58 44.1 -0.3
HPK Haverah Park 97.62 32⇓eP P 07 58 44.6 +0.1
ESK Eskdalemuir 97.76 30 ePdif Pdif 07 58 45.0 -0.1
comp=Z,61nm,0.7s
ESK Eskdalemuir 97.76 30 eP Pdif 07 58 45.0 -0.1
ESK pmax pmax
comp=Z,61nm,0.7s
ESK Eskdalemuir 97.76 30 eP Pdif 07 58 43.3 -1.8
ESK IAmb IAmb 07 58 44.3
comp=Z,64nm,0.7s
EKA Eskdalemuir Ar 97.79 30 P Pdif 07 58 45.0 -0.2
comp=Z,55nm,0.8s,baz=236,slow=6.2,SNR=94
EKA PKiKP PKiKP 08 03 15.9 +0.5
comp=Z,2.6nm,0.5s,baz=235,slow=1.5,SNR=7.2
EKA PKKPbc PKKPbc 08 15 17.7 -1.2
comp=Z,4.9nm,0.7s,baz=57,slow=4.5,SNR=5.7
EKA Eskdalemuir Ar 97.79 30 P Pdif 07 58 45.1 -0.1
EKA pmax pmax
comp=Z,53nm,0.8s
EAB Aberfoyle 97.83 29 eP Pdif 07 58 45.0 -0.3
SENIN Lac Senin/Sane 97.86 41 ePdif P 07 58 47.2 +1.1
comp=Z,50nm,0.8s
WACR West Acre 97.93 33 eP Pdif 07 58 45.4 -0.5
WACR IAmb IAmb 07 58 46.7
comp=Z,326nm,0.8s
KPL Plockton 98.03 28⇓eP Pdif 07 58 45.8 -0.4
OPO Ambohidratompo 98.26 116 P P 07 58 50.3 +1.8
comp=Z,5.8nm,0.9s,baz=256,slow=22,SNR=2.6
KAC Achnashellach 98.28 28⇓eP Pdif 07 58 46.9 -0.5
BORG Borgarnes 98.28 17 P P 07 58 49.1 +1.9
comp=Z,30nm,0.7s,baz=11,slow=2.1,SNR=12
BORG Borgarnes 98.28 17 ePdif P 07 58 48.1 +0.9
comp=Z,143nm,1.3s
ESY Stoneypath 98.40 30⇓eP Pdif 07 58 47.9 0.0
DOU Dourbes 98.42 37 ⇓P P 07 58 48.7 +0.5
SNF Seneffe 98.49 37 ⇑P P 07 58 48.8 +0.3
MDO Dochfour 98.63 28⇓eP Pdif 07 58 48.7 -0.2
UCC Uccle 98.69 36 ⇓P P 07 58 49.6 +0.2
UCC Uccle 98.69 36 eS P 07 58 50.3 +0.9
KMBO Kilima Mbogo 98.75 96 P P 07 58 52.8 +1.8
comp=Z,1.6nm,0.5s,baz=243,slow=3.6,SNR=9.0
KMBO PKKPbc PKKPdf 08 15 17.4 -0.3
comp=Z,1.1nm,0.4s,baz=76,slow=4.1,SNR=4.0
KMBO Kilima Mbogo 98.75 96 ePdif P 07 58 53.1 +2.2
comp=Z,11nm,1.1s
BCLA Clavier 98.98 37 ⇓P P 07 58 51.1 +0.4
WLF Walferdange 99.02 38 ⇑P Pdif 07 58 52.0 +1.1
comp=Z,157nm,1.1s
WLF Walferdange 99.02 38 ePdif Pdif 07 58 51.8 +1.0
comp=Z,178nm,0.9s
WLF Walferdange 99.02 38 eP Pdif 07 58 51.8 +1.0
WLF pmax pmax
comp=Z,178nm,0.9s
TUE Stuetta 99.12 42 ePdif Pdif 07 58 52.4 +0.8
comp=Z,36nm,0.7s
AFI Afiamalu 99.16 249 PKKPbc PKKPbc 08 15 16.1 +2.0
comp=Z,32nm,0.6s,baz=61,slow=2.7,SNR=12
YKA Yellowknife Ar 99.27 338 P Pdif 07 58 51.6 0.0
comp=Z,41nm,0.6s,baz=128,slow=4.5,SNR=613
YKA PP PP 08 03 00.3 -3.8
comp=Z,3.9nm,0.8s,baz=141,slow=7.7,SNR=3.5
YKA PKiKP PKiKP 08 03 17.9 +0.2
comp=Z,4.0nm,0.5s,baz=149,slow=1.7,SNR=17
YKA S SKSac 08 08 34.9 -1.2
comp=Z,0.8nm,0.8s,baz=126,slow=4.7,SNR=3.2
YKA PKKPbc PKKPbc 08 15 13.5 -1.6
comp=Z,2.4nm,0.5s,baz=304,slow=3.5,SNR=27
YKA SKKP 08 18 01.0
comp=Z,1.1nm,0.6s,baz=327,slow=3.5,SNR=5.7
YKA PKPPKP P'P'df 08 23 26.8 -0.2
comp=Z,1.1nm,1.0s,baz=312,slow=1.5,SNR=4.5
BEBN Eben Emael 99.39 37 ⇓P Pdif 07 58 52.9 +0.5
MEM Membach 99.46 37 ⇓P Pdif 07 58 53.4 +0.6
comp=Z,50nm,0.9s
HGN Heimansgroeve 99.50 37 eP Pdif 07 58 53.2 +0.3
comp=Z,129nm,1.6s
BFO Black Forest 99.51 40 ePdif Pdif 07 58 53.2 +0.1
comp=Z,38nm,0.8s
BFO Black Forest 99.51 40 i P Pdif 07 58 54.0 +0.9
FUORN Ofenpass-Fuorn 99.73 42 ePdif Pdif 07 58 55.4 +1.0
comp=Z,32nm,0.8s
DAVA Damuels 99.85 41 i Pdiff Pdif 07 58 56.0 +1.1
comp=Z,37nm,0.8s,SNR=16
DAVA ePKiKP PKiKP 08 03 20.0 +0.5
comp=Z,9.7nm,0.5s
DAVA i PKKPbc PKKPbc 08 15 12.0 -1.2
comp=Z,6.5nm,0.6s
FETA Feichten 100.22 42 i Pdiff Pdif 07 58 57.3 +0.9
comp=Z,42nm,1.1s,SNR=14
FETA ePKiKP PKiKP 08 03 17.4 -2.8
comp=Z,12nm,0.9s
FETA i PKKPbc PKKPbc 08 15 11.8 -0.3
comp=Z,15nm,1.3s,SNR=6.1
STU Stuttgart 100.23 40 ePdif Pdif 07 58 57.5 +1.3
STU Stuttgart 100.23 40 eP Pdif 07 58 57.6 +1.3
TIP Timpagrande 100.25 51 ePdif Pdif 07 58 57.4 +0.8
RETA Reutte 100.47 42 i Pdiff Pdif 07 58 58.3 +0.9
comp=Z,28nm,0.9s,SNR=13
RETA ePKiKP PKiKP 08 03 21.2 +0.7
comp=Z,9.2nm,0.7s
RETA i PKKPbc PKKPbc 08 15 09.4 -1.9
comp=Z,2.9nm,0.5s
MOTA Moosalm 100.60 42 i Pdiff Pdif 07 58 59.0 +0.9
comp=Z,36nm,1.0s,SNR=16
MOTA PKiKP PKiKP 08 03 21.3 +0.4
comp=Z,14nm,0.6s
MOTA i PKKPbc PKKPbc 08 15 09.9 -1.1
comp=Z,9.2nm,0.5s
WTSB Winterswijk 100.61 36 eP Pdif 07 58 58.4 +0.6
comp=Z,79nm,0.7s
WTTA Wattenberg 100.87 42 i Pdiff Pdif 07 59 00.5 +1.1
comp=Z,23nm,0.7s,SNR=8.6
WTTA i PKKPbc PKKPbc 08 15 09.6 -0.7
comp=Z,6.5nm,0.5s,SNR=4.5
WATA Walderalm 100.87 42 ePdiff Pdif 07 59 00.6 +1.2
comp=Z,11nm,0.5s
WATA ePKiKP PKiKP 08 03 24.8 +3.4
comp=Z,5.9nm,0.5s
WATA i PKKPdf PKKPbc 08 15 10.5 +0.3
comp=Z,4.6nm,0.4s
ABTA Abfaltersbach 101.14 43 i Pdiff Pdif 07 59 01.5 +1.0
comp=Z,29nm,1.0s,SNR=13
ABTA ePP PP 08 03 16.0 -2.6
comp=Z,25nm,1.4s
ABTA i PKKPbc PKKPbc 08 15 08.4 -1.0
comp=Z,6.2nm,0.5s
ROBS Robic 101.50 44 ePdiff Pdif 07 59 02.9 +0.9
CADS Cadrg 101.63 44 ePdiff Pdif 07 59 03.4 +0.8
CADS i SKSac SKSac 08 08 50.1 +1.7
CADS eSdiff Sdif 08 09 59.6 +4.1
CADS e 08 12 39.5
MYKA Terra Mystica 101.76 43 i Pdiff Pdif 07 59 04.7 +1.5
comp=Z,30nm,0.8s,SNR=13
MYKA ePKiKP PP 08 03 23.3 +0.2
comp=Z,13nm,0.7s
MYKA i PKKPbc PKKPbc 08 15 06.5 -1.0
comp=Z,2.7nm,0.5s
KBA Koelnbreinsper 101.80 43 i Pdiff Pdif 07 59 04.0 +0.5
comp=Z,13nm,0.6s,SNR=10
KBA ePKiKP PKiKP 08 03 19.5 -3.5
comp=Z,12nm,0.7s
KBA i PKKPbc PKKPbc 08 15 06.6 -0.9
comp=Z,2.7nm,0.4s
GRFO Grafenberg 101.84 40 ePdif Pdif 07 59 04.6 +1.2
GRFO Grafenberg 101.84 40 eP Pdif 07 59 04.6 +1.2
SUMG Summit 102.00 7 i P Pdif 07 59 04.7 +0.6
comp=Z,39nm,0.8s
SUMG Summit 102.00 7 ePdif Pdif 07 59 05.2 +1.1
SUMG Summit 102.00 7 eP Pdif 07 59 05.2 +1.1
BOJS Bojanci 102.22 45 i Pdiff Pdif 07 59 06.3 +1.1
OBKA Obir 102.25 44 ePdiff Pdif 07 59 06.1 +0.7
comp=Z,15nm,0.9s,SNR=7.5
OBKA ePKiKP PKiKP 08 03 24.7 +0.9
comp=Z,16nm,0.8s
OBKA i PKKPdf PKKPbc 08 15 08.2 +2.0
comp=Z,1.9nm,0.5s
DLBC Dease Lake 102.55 330 ePdif Pdif 07 59 07.3 +0.9
SOKA Soboth 102.63 44 i Pdiff Pdif 07 59 08.0 +0.9
comp=Z,11nm,1.4s,SNR=7.0
SOKA PKiKP PKiKP 08 03 24.5 0.0
comp=Z,17nm,1.0s
SOKA i PKKPbc PKKPbc 08 15 04.6 -0.4
comp=Z,3.7nm,0.8s
MOA Molln 102.72 42 i Pdiff Pdif 07 59 08.5 +1.1
comp=Z,16nm,1.0s,SNR=8.8
MOA ePKiKP PKiKP 08 03 26.3 +1.8
comp=Z,9.1nm,0.6s
MOA i PKKPbc PKKPbc 08 15 04.3 -0.4
comp=Z,0.4nm,0.3s
SCO Scoresbysund 102.77 13 i P Pdif 07 59 08.3 +1.3
SCO Scoresbysund 102.77 13 ePdif Pdif 07 59 08.2 +1.2
SCO Scoresbysund 102.77 13 i P Pdif 07 59 08.3 +1.3
NKC Novy Kostel 102.80 40 ePDIFF Pdif 07 59 09.5 +1.8
NKC ePP PKiKP 08 03 27.3 +2.7
NKC eSP SP 08 11 41.7 -3.2
NKC ex x 08 15 22.6
NKC Novy Kostel 102.80 40 eP Pdif 07 59 09.5 +1.8
NKC e 08 03 27.3
NKC eSP SP 08 11 41.7 -3.2
GEA0 GERESS Array S 102.85 41 ePdif Pdif 07 59 08.5 +0.5
GEC2 GERESS Array S 102.85 41 ePdif Pdif 07 59 08.9 +0.9
GEC2 GERESS Array S 102.85 41 eP Pdif 07 59 09.0 +1.0
GERES GERESS Array B 102.85 41 Pdiff Pdif 07 59 08.9 +0.9
comp=Z,2.4nm,0.7s,baz=242,slow=2.9,SNR=16
GERES PKiKP PKiKP 08 03 25.6 +0.7
comp=Z,13nm,0.7s,baz=228,slow=1.2,SNR=24
GERES Sdiff 08 08 55.5
comp=Z,0.4nm,0.4s,baz=256,slow=2.9,SNR=2.0
GERES PKKPbc PKKPbc 08 15 04.2 -0.2
comp=Z,3.5nm,0.6s,baz=76,slow=1.4,SNR=12
GERES PKPPKP P'P'df 08 23 18.9 -2.7
comp=Z,0.8nm,0.7s,baz=48,slow=2.0,SNR=4.5
KHC Kasperske Hory 102.92 41 ePDIFF Pdif 07 59 09.2 +1.0
KHC ePKP PKiKP 08 03 20.4 -4.5
KHC ePP PP 08 03 24.9 -6.6
KHC ex x 08 03 40.5
KHC eSP SP 08 11 40.4 -5.9
KHC ePKKP PKKPdf 08 15 18.8 +7.0
KHC Kasperske Hory 102.92 41 ePdif Pdif 07 59 09.3 +1.1
KHC Kasperske Hory 102.92 41 eP Pdif 07 59 09.4 +1.1
BLY Banja Luka 103.09 46⇑iP PKiKP 08 03 26.5 +1.2
ARSA Arzberg 103.19 43 ePdiff Pdif 07 59 10.5 +1.0
comp=Z,6.0nm,0.6s
ARSA ePKiKP PKiKP 08 03 26.0 +0.5
comp=Z,12nm,0.5s
ARSA i PKKPbc PKKPbc 08 15 01.2 -2.1
comp=Z,1.8nm,0.6s
PDG Podgorica 103.41 49⇑iP Pdif 07 59 12.0 +1.5
CLL Collm 103.62 39⇓iPdif Pdif 07 59 12.6 +1.4
comp=Z,32nm,1.2s
CLL esPdif sPdif 08 02 06.0 -2.1
CLL i PKiKP PKiKP 08 03 26.8 +0.8
comp=Z,13nm,0.8s
CLL ePP PP 08 03 33.0 -3.6
CLL epPP 08 05 22.0
CLL esPP 08 06 20.0
CLL eSKSac SKSac 08 08 54.0 -3.1
CLL eSKKSac SKKSac 08 09 42.0 -0.5
CLL eSdif Sdif 08 10 12.0 +0.2
CLL eSP SP 08 11 52.0 -1.4
CLL esSKSac pS 08 12 50.0 0.0
CLL esPS 08 15 24.0
CLL eSS SS 08 17 36.0 -5.3
CLL esSS 08 20 54.0
CLL eSSS SSS 08 22 00.0
CLL eSSSS 08 25 00.0
CLL Collm 103.62 39⇓iP Pdif 07 59 12.6 +1.4
CLL pmax pmax
comp=Z,32nm,1.2s
CONA Conrad Observa 103.70 43 ePdiff Pdif 07 59 12.6 +0.8
comp=Z,14nm,1.7s
CONA i PKiKP PKiKP 08 03 26.3 -0.1
comp=Z,10nm,0.5s
CONA i PKKPbc PKKPbc 08 15 01.5 -0.4
comp=Z,2.2nm,0.6s
PRU Pruhonice 103.87 41 ePDIFF Pdif 07 59 13.9 +1.5
PRU ePKP PKiKP 08 03 27.1 +0.6
PRU ePP PP 08 03 33.7 -4.8
PRU eSP SP 08 11 49.2 -6.9
PRU eXSKS 08 12 48.2
PRU ex x 08 15 33.0
PRU Pruhonice 103.87 41 eP Pdif 07 59 13.9 +1.5
OHR Ohrid 103.88 51 eP PKiKP 08 03 27.8 +0.9
BRG Berggiesshubel 103.94 40 eP Pdif 07 59 11.1 -1.6
BRG i 08 03 35.4
BRG S Sdif 08 10 13.0 -1.5
BRG SP SP 08 11 55.0 -1.7
BRG pmax pmax
comp=Z,5.0nm,1.3s
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG pmax pmax
comp=N,4.0nm,0.4s
BRG pmax pmax
comp=Z,14nm,0.9s
BRG pmax pmax
comp=Z,77nm,1.7s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 103.94 40 ePDIFF Pdif 07 59 11.1 -1.6
comp=Z,5.2nm,1.3s
BRG epP pPdif 08 01 03.7 -11
comp=Z,5.4nm,1.1s
BRG esP sPdif 08 02 06.4 -3.2
comp=Z,4.3nm,0.4s
GOPC GO Pecny, Ondr 103.98 41 ePKP 08 03 27.6
GOPC ePP PP 08 03 35.7 -3.6
GOPC eSP SP 08 11 52.2 -5.0
GOPC eXSKS 08 12 51.6
PVCC Panska Ves 104.13 40 ePDIFF Pdif 07 59 15.3 +1.7
PVCC ePKP PKiKP 08 03 28.1 +1.1
PVCC ePP PP 08 03 35.1 -5.3
PVCC Panska Ves 104.13 40 eP Pdif 07 59 15.3 +1.7
IDI Anoyia 104.36 58 Pdiff Pdif 07 59 15.9 +0.9
comp=Z,5.1nm,0.6s,baz=264,slow=20,SNR=3.3
IDI PKiKP PKiKP 08 03 29.2 +1.2
comp=Z,20nm,0.6s,baz=9.4,slow=12,SNR=7.7
IDI Sdiff 08 09 04.3
comp=Z,7.6nm,0.9s,baz=85,slow=22,SNR=3.0
IDI PKKPbc PKKPbc 08 14 59.2 -0.3
comp=Z,3.3nm,0.3s,baz=182,slow=2.6,SNR=8.0
TULEG Thule 104.61 359 ePdif Pdif 07 59 16.1 +1.0
DIVS Divibare 104.61 48 ePdif Pdif 07 59 17.4 +1.4
SKO Skopje 104.68 50 eP PKiKP 08 03 29.6 +1.3
ODD1 Odda 104.73 29 e PKiKP 08 03 28.7 +0.9
RES Resolute Bay 104.74 352 Pdiff Pdif 07 59 16.4 +0.7
comp=Z,9.8nm,0.8s,baz=172,slow=8.3,SNR=26
RES PKiKP PKiKP 08 03 27.0 -0.4
comp=Z,3.6nm,0.7s,baz=180,slow=4.7,SNR=7.8
RES Sdiff 08 09 02.3
comp=Z,4.6nm,1.0s,baz=277,slow=23,SNR=4.4
VRAC Vranov 104.75 42 Pdiff Pdif 07 59 16.7 +0.3
comp=Z,2.3nm,0.4s,baz=175,slow=5.3,SNR=3.8
VRAC PKiKP PKiKP 08 03 28.7 +0.5
comp=Z,7.4nm,0.7s,baz=115,slow=2.0,SNR=4.8
CSKK Csˆ‡kako 104.91 44⇓ex PKiKP 08 03 28.7 +0.2
UPC Upice 104.95 40 ePDIFF Pdif 07 59 18.9 +1.7
UPC ePKP PKiKP 08 03 29.1 +0.6
UPC eSP SP 08 12 04.3 -2.8
UPC ex x 08 15 44.4
UPC Upice 104.95 40 eP Pdif 07 59 18.9 +1.7
UPC eSP SP 08 12 04.3 -2.8
DPC Dobruska-Polom 105.06 41 ePDIFF Pdif 07 59 19.2 +1.5
DPC ePKP PKiKP 08 03 29.4 +0.6
DPC ePP PP 08 03 43.4 -3.8
DPC eSP SP 08 12 03.0 -5.3
DPC ex x 08 14 32.0
DPC Dobruska-Polom 105.06 41 eP Pdif 07 59 19.2 +1.5
DPC e 08 03 43.4
DPC eSP SP 08 12 03.0 -5.3
VAY Valandovo 105.18 51 eP PKiKP 08 03 29.8 +0.6
KSP Ksiaz 105.25 40 ePKP PKiKP 08 03 29.8 +0.8
KSP ePP PP 08 03 44.7 -3.8
MORC Moravsky Berou 105.52 42⇑iP Pdif 07 59 22.6 +2.8
MORC Moravsky Berou 105.52 42⇑iP PKiKP 08 03 29.4 -0.2
MORC Moravsky Berou 105.52 42 P Pdif 07 59 22.7 +2.9
APE Apeiranthos 105.56 56 eP PKiKP 08 03 30.9 +0.8
APE Apeiranthos 105.56 56⇓iP PKiKP 08 03 30.3 +0.2
VYHS Vyhne 105.74 43 eP Pdif 07 59 22.1 +1.3
VYHS Vyhne 105.74 43 ePDIFF Pdif 07 59 22.1 +1.3
VYHS e 07 59 25.7
VYHS e PKiKP 08 03 30.6 +0.5
OKC Ostrava-Krasne 105.90 42 ePKP PKiKP 08 03 30.6 +0.3
AKN Aaknes 106.04 27 e PKiKP 08 03 30.3 +0.1
VTS Vitosha 106.13 50⇓iP PKiKP 08 03 31.5 +0.3
KARP Karpathos 106.16 58 eP PKiKP 08 03 35.6 +4.3
BZS Buzias 106.29 47⇓iP PKiKP 08 03 32.1 +1.0
SIRR Siria 106.58 46⇓iP PKiKP 08 03 31.9 +0.2
KECS Kecovo 106.74 44 eP Pdif 07 59 26.8 +1.6
KECS Kecovo 106.74 44 ePDIFF Pdif 07 59 26.8 +1.6
KECS e PKiKP 08 03 32.2 +0.3
GKP Gorka Klasztor 106.82 38 ePKP PKiKP 08 03 32.8 +0.9
DOMB Dombas 106.82 28 e PKiKP 08 03 32.1 +0.4
DOMB eSP SP 08 12 27.8 +2.2
NIE Niedzica 107.00 43 ePKP PKiKP 08 03 33.9 +1.5
NIE ePP PP 08 03 59.2 -2.0
OJC Ojcow 107.02 42 ePKP PKiKP 08 03 33.0 +0.6
OJC ePP PP 08 03 58.9 -2.4
NB2 NORSAR Subarra 107.26 29 P Pdif 07 59 28.1 +0.8
comp=Z,30nm,1.7s,baz=248,slow=4.6
NB2 NORSAR Subarra 107.26 29 P Pdif 07 59 28.1 +0.8
comp=Z,30nm,1.7s,baz=248,slow=4.6
NB200 NORSAR Array S 107.26 29 ePdif Pdif 07 59 28.6 +1.3
NB200 ePKiKP PKiKP 08 03 32.8 +0.3
NOA NORSAR Array B 107.26 29 Pdiff Pdif 07 59 28.6 +1.3
comp=Z,2.1nm,0.7s,baz=244,slow=6.0,SNR=5.8
NOA PKiKP PKiKP 08 03 32.8 +0.3
comp=Z,1.3nm,0.6s,baz=244,slow=2.1,SNR=23
NOA PP PP 08 04 02.6 -0.2
comp=Z,3.3nm,0.8s,baz=238,slow=6.9,SNR=4.2
NOA PKKPbc PKKPbc 08 14 49.0 -2.5
comp=Z,0.9nm,0.5s,baz=63,slow=4.1,SNR=2.9
NOA PKKP PKKPab 08 15 05.1 -0.2
comp=Z,0.9nm,0.6s,baz=78,slow=2.2,SNR=3.1
NOA PKPPKP P'P'df 08 23 13.1 +0.8
comp=Z,0.9nm,0.8s,baz=58,slow=2.6,SNR=3.4
NC602 NORSAR Array S 107.27 30 e PKiKP 08 03 33.0 +0.6
DRGR 107.45 46⇓iP PKiKP 08 03 33.7 +0.3
TRPA Tarpa 107.86 45⇓ex PKiKP 08 03 34.5 +0.5
HFS Hagfors 107.96 31 Pdiff Pdif 07 59 30.9 +0.6
comp=Z,3.4nm,0.6s,baz=204,slow=3.3,SNR=6.8
HFS PKiKP PKiKP 08 03 33.3 -0.5
comp=Z,19nm,0.6s,baz=204,slow=3.3,SNR=45
HFS PKKPbc PKKPbc 08 14 47.9 -1.4
comp=Z,3.1nm,0.4s,baz=123,slow=5.5,SNR=10
HFS PKKP PKKPab 08 15 02.1 -0.1
comp=Z,2.9nm,0.5s,baz=90,slow=4.3,SNR=4.1
FETY Fethiye 108.01 58 eP PKiKP 08 03 34.5 -0.2
ARR Arges 108.15 48⇑iP Pdif 07 59 35.6 +3.9
ARR Arges 108.15 48⇓iP PKiKP 08 03 35.1 +0.4
BEL Belsk 108.23 41 ePKP PKiKP 08 03 35.5 +0.9
EDRB Edirne 108.27 52 eP PKiKP 08 03 34.2 -0.8
MDB Medias 108.28 47⇓iP PKiKP 08 03 36.0 +1.1
BMR Baia Mare 108.28 45⇓iP PKiKP 08 03 35.5 +0.7
VOIR 108.45 48⇑iP Pdif 07 59 38.3 +5.3
VOIR 108.45 48⇓iP PKiKP 08 03 35.2 -0.1
VOIR 108.45 48 P Pdif 07 59 38.3 +5.3
KWP Kalwaria Pacla 108.53 43 ePKP PKiKP 08 03 36.0 +0.8
SGRR Singureni 108.62 49⇓iP PKiKP 08 03 35.2 -0.3
ELL Elmali 108.67 58 eP PKiKP 08 03 37.1 +1.0
DOPR Dopca 108.86 47⇓iP PKiKP 08 03 36.3 +0.3
INK Inuvik 109.04 338 Pdiff Pdif 07 59 35.5 +0.6
comp=Z,11nm,0.7s,baz=94,slow=3.3,SNR=32
INK PKiKP PKiKP 08 03 35.6 0.0
comp=Z,14nm,0.6s,baz=75,slow=4.1,SNR=31
INK PP PP 08 04 15.2 -0.2
comp=Z,19nm,1.0s,baz=136,slow=9.1,SNR=5.3
INK Sdiff 08 09 19.9
comp=Z,3.1nm,0.8s,baz=222,slow=32,SNR=8.9
INK PKKPbc PKKPbc 08 14 44.9 -1.1
comp=Z,17nm,0.5s,baz=328,slow=3.4,SNR=28
INK SKKPbc SKKPbc 08 17 35.7 -3.7
comp=Z,7.9nm,0.8s,baz=310,slow=2.6,SNR=7.2
MLR Muntele Rosu 109.06 48 Pdiff Pdif 07 59 38.3 +2.6
comp=Z,0.8nm,0.7s,baz=179,slow=9.3,SNR=5.8
MLR PKiKP PKiKP 08 03 36.4 -0.1
comp=Z,3.8nm,0.5s,baz=352,slow=2.8,SNR=18
MLR PKKPbc PKKPbc 08 14 45.6 0.0
comp=Z,0.9nm,0.6s,baz=179,slow=2.6,SNR=4.8
MLR SKKPbc SKKPbc 08 17 35.1 -2.9
comp=Z,0.5nm,0.6s,baz=6.9,slow=5.5,SNR=3.5
KORT Korkueli 109.09 58 eP PKiKP 08 03 36.8 -0.1
CTYL Yalikoy Yolu 109.21 53 eP PKiKP 08 03 36.1 -0.6
DAWY Dawson 109.26 333 ePdif Pdif 07 59 36.5 +0.4
ARMT Armutlu 109.29 54 eP PKiKP 08 03 36.1 -0.9
ISR Istrita 109.32 49⇓iP PKiKP 08 03 36.9 0.0
TVSB Tavsanli 109.32 55 eP PKiKP 08 03 38.4 +1.2
BURAR Bucovina Array 109.35 46⇑iP Pdif 07 59 41.0 +4.1
BURAR Bucovina Array 109.35 46⇓iP PKiKP 08 03 38.0 +1.1
BURAR Bucovina Array 109.35 46 P Pdif 07 59 41.1 +4.1
ATD Arta Tunnel 109.50 87 PKiKP PKiKP 08 03 40.5 +2.3
comp=Z,8.4nm,0.5s,baz=302,slow=6.6,SNR=6.7
ATD Sdiff 08 09 26.0
comp=Z,2.4nm,0.3s,baz=240,slow=13,SNR=2.3
PLOR Plostina 109.65 48⇓iP PKiKP 08 03 37.3 -0.2
VRI Vrincioaia 109.70 48⇑iP Pdif 07 59 41.5 +3.0
VRI Vrincioaia 109.70 48⇓iP PKiKP 08 03 37.3 -0.3
VRI Vrincioaia 109.70 48 P Pdif 07 59 41.5 +3.0
SUTC Sutluce-Ispart 109.75 57 eP PKiKP 08 03 37.3 -0.8
SHUT Suhut-Afyon 109.80 56 eP PKiKP 08 03 39.6 +1.5
CAVI Cavuskoy 109.86 54 eP PKiKP 08 03 38.2 +0.1
TESR Tescani 109.88 47⇓iP PKiKP 08 03 37.3 -0.5
ODBI Odobesti 109.88 48⇓iP PKiKP 08 03 38.6 +0.7
HARR Harsova 110.09 49⇓iP PKiKP 08 03 38.7 +0.4
HARR Harsova 110.09 49 PKIKP PKiKP 08 03 38.7 +0.4
TLB Topalu 110.13 50⇓iP PKiKP 08 03 38.4 +0.1
TLB Topalu 110.13 50 PKIKP PKiKP 08 03 38.4 +0.1
EGAK Eagle 110.25 333 ePdif Pdif 07 59 41.1 +0.6
EGAK eS PKiKP 08 03 38.2 +0.2
TIRR Tirgusor 110.34 50⇓iP PKiKP 08 03 38.8 +0.1
TIRR Tirgusor 110.34 50 PKIKP PKiKP 08 03 38.8 +0.1
SUW Suwalki 110.38 39 ePKP PKiKP 08 03 38.8 +0.3
SUW Suwalki 110.38 39 ePKIKP PKiKP 08 03 38.8 +0.3
GULT Gulveren 110.42 54 eP PKiKP 08 03 39.4 +0.2
CSS Mathiatis 110.62 61 eP PKiKP 08 03 40.2 +0.5
DZM Mont Dzumac 110.67 229 PKiKP PKiKP 08 03 41.7 +1.4
comp=Z,7.0nm,0.6s,baz=238,slow=7.0,SNR=12
DZM PKKPbc PKKPbc 08 14 40.9 +0.6
comp=Z,32nm,0.7s,baz=249,slow=9.0,SNR=30
DZM PKKP PKKPab 08 14 53.9 -0.8
comp=Z,21nm,0.7s,baz=74,slow=20,SNR=5.2
IAS Iasi 110.70 47⇓iP PKiKP 08 03 39.0 -0.3
IAS Iasi 110.70 47 PKIKP PKiKP 08 03 39.0 -0.3
SVRH Sivrihisar-ESK 110.82 56 eP PKiKP 08 03 40.1 +0.1
TLCR 110.85 49⇓iP PKiKP 08 03 40.1 +0.4
TLCR 110.85 49 PKIKP PKiKP 08 03 40.1 +0.4
TEKE Tekeli-Mersin 110.87 59 eP PKiKP 08 03 40.1 +0.1
LFK Lefkose 110.89 60 eP PKiKP 08 03 40.9 +0.7
LEOM Leova 110.90 48⇓iP PKiKP 08 03 40.0 +0.3
LEOM Leova 110.90 48 PKIKP PKiKP 08 03 40.0 +0.3
DOT Dot Lake 111.00 332 eS PKiKP 08 03 40.5 +1.0
KLU Klutina 111.03 329 ePdif Pdif 07 59 44.8 +0.7
AKKU Akkuyu-Mersin 111.21 60 eP PKiKP 08 03 40.8 +0.1
TEVE Tevekalti-Mers 111.22 59 eP PKiKP 08 03 41.0 +0.2
PAX Paxson 111.35 331 eS PKiKP 08 03 40.8 +0.5
RIDG Independ'e Rid 111.36 332 eS PKiKP 08 03 41.2 +1.0
KIS Kishinev 111.44 47⇓iPKP PKiKP 08 03 39.0 -1.8
comp=Z,200nm,1.3s
KIS Kishinev 111.44 47 ePP PP 08 04 26.0 -6.9
KIS Kishinev 111.44 47κ iPKIKP PKiKP 08 03 39.0 -1.8
KIS ePPP PPP 08 07 00.0
KIS e 08 09 31.0
KIS ePS PS 08 14 16.0 +1.7
KIS pmax pmax
comp=Z,180nm,1.3s
SORM Soroca 111.51 46⇓iP PKiKP 08 03 40.1 -0.7
SORM Soroca 111.51 46 PKIKP PKiKP 08 03 40.1 -0.7

CHBY Cihanbeyli 111.53 57 *e*P PKiKP 08 03 41.6 +0.2
MMAI Mount Meron Ar 111.56 63 PKiKP PKiKP 08 03 42.3 +0.8
comp=Z,26nm,0.5s,baz=46,slow=2.4,SNR=18
KIZK Mersin 111.77 59 *e*P PKiKP 08 03 41.6 -0.1
SULT Sultanhani-AKS 111.86 57 *e*P PKiKP 08 03 41.6 -0.4
LOD Lodumlu 111.87 56 *e*P PKiKP 08 03 41.1 -0.8
ANTO Ankara 111.88 56 *e*P PKiKP 08 03 43.4 +1.4
ANTO Ankara 111.88 56 PKiKP PKiKP 08 03 42.7 +0.7
SNR=5.5
ANTO Ankara 111.88 56 P PKiKP 08 03 42.7 +0.7
SNR=5.5
AFSR Af¯ar-Bala (A 111.95 56 *e*P PKiKP 08 03 41.5 -0.6
SERE Sereflikochisa 112.14 57 *e*P PKiKP 08 03 42.1 -0.5
DHY Denali Highway 112.21 331 *e*S PKiKP 08 03 42.7 +0.7
SML Sawmill 112.23 329 *e*S PKiKP 08 03 42.4 +0.5
BRTR Keskin Array B 112.45 56 Pdiff Pdif 07 59 54.6 +3.6
comp=Z,0.7nm,0.7s,baz=213,slow=8.8,SNR=3.3
BRTR PKiKP PKiKP 08 03 43.3 +0.1
comp=Z,26nm,0.7s,baz=194,slow=3.1,SNR=61
BRTR PP PP 08 04 35.8 -4.6
comp=Z,13nm,0.7s,baz=250,slow=7.1,SNR=5.9
BRTR PKKPbc PKKPbc 08 14 34.1 -0.4
comp=Z,1.2nm,0.7s,baz=116,slow=2.9,SNR=3.7
ASF Jabal al Asfar 112.45 65 PKiKP PKiKP 08 03 44.4 +1.0
comp=Z,15nm,0.7s,baz=159,slow=1.2,SNR=20
BR101 Keskin Array S 112.45 56 *e*Pdif Pdif 07 59 54.6 +3.6
BR101 *e*PKiKP PKiKP 08 03 43.3 +0.1
BR101 *e*PP PP 08 04 35.8 -4.6
IIGN Ignalina 112.48 38 *e*P PKiKP 08 03 42.8 +0.3
IIGN IAmb IAmb 08 03 43.8
comp=Z,64nm,0.6s
ISAL Salakas 112.49 38 *e*P PKiKP 08 03 42.8 +0.3
ISAL IAmb IAmb 08 03 43.8
comp=Z,29nm,0.6s
PMR Palmer 112.52 329 *e*S PKiKP 08 03 42.8 +0.4
ILAR Eielson Array 112.54 333 Pdiff Pdif 07 59 51.1 +0.5
comp=Z,2.3nm,0.8s,baz=144,slow=3.5,SNR=21
ILAR PKiKP PKiKP 08 03 42.6 +0.2
comp=Z,16nm,0.6s,baz=148,slow=0.6,SNR=103
ILAR PP PP 08 04 40.4 +0.3
comp=Z,37nm,1.0s,baz=109,slow=5.4,SNR=12
ILAR Sdiff 08 09 34.7
comp=Z,1.8nm,0.9s,baz=133,slow=6.6,SNR=7.6
ILAR PKKPbc PKKPbc 08 14 32.4 -2.3
comp=Z,5.8nm,0.5s,baz=301,slow=3.6,SNR=25
ILAR SKKPbc SKKPbc 08 17 25.1 -3.8
comp=Z,2.7nm,0.9s,baz=300,slow=4.8,SNR=4.3
ILAR PKPPKP P’P’df 08 23 00.6 -1.4
comp=Z,0.9nm,1.1s,baz=232,slow=1.8,SNR=4.1
ILB Eielson Array 112.54 333 *e*Pdif Pdif 07 59 51.7 +1.1
ILB *e*PKiKP PKiKP 08 03 42.6 +0.2
IZAR Zarasai 112.61 38 *e*P PKiKP 08 03 43.0 +0.2
IZAR IAmb IAmb 08 03 44.0
comp=Z,29nm,0.6s
RC01 Rabbit Creek A 112.65 328 *e*Pdif Pdif 07 59 50.9 -0.3
NACGM Naroch 112.65 39 *e*P PKiKP 08 03 41.0 -1.8
NACGM PM 08 03 42.0
comp=Z,0.5nm,1.0s
NACGM Naroch 112.65 39 *e*LR LR 08 15 46.0
IDID Didziasalis 112.75 38 *e*P PKiKP 08 03 43.1 +0.1
IDID IAmb IAmb 08 03 44.7
comp=Z,35nm,0.5s
KIEV Kiev 112.83 44*d* *i*PKIKP PKiKP 08 03 42.7 -0.6
AKASG Malin Array Be 112.84 44 Pdiff Pdif 07 59 54.2 +1.9
comp=Z,0.3nm,0.3s,baz=257,slow=3.5,SNR=4.1
AKASG PKiKP PKiKP 08 03 42.8 -0.5
comp=Z,34nm,0.5s,baz=262,slow=2.5,SNR=182
AKASG PKKPbc PKKPbc 08 14 31.2 -2.0
comp=Z,1.7nm,0.4s,baz=61,slow=4.0,SNR=9.1
AKASG Malin Array Be 112.84 44*c* *i*PKIKP PKiKP 08 03 42.7 -0.6
AKASG pmax pmax
comp=Z,34nm,0.5s
RND Reindeer 112.94 331 *e*Pdif Pdif 07 59 53.6 +1.0
RND Reindeer 112.94 331 *e*P Pdif 07 59 53.6 +1.0
YURE YUREGIR 113.01 59 *e*P PKiKP 08 03 44.8 +0.6
KDAK Kodiak Island 113.07 324 PKKPbc PKKPbc 08 14 32.8 +0.2
comp=Z,22nm,0.5s,baz=76,slow=2.2,SNR=43
KDAK Kodiak Island 113.07 324 *i* PKIKP PKiKP 08 03 43.7 +0.2
YAYL Yayladag 113.12 60 *e*P PKiKP 08 03 44.8 +0.3
MICGM Minsk 113.15 39⇓*e*P PKiKP 08 03 43.0 -0.8
MICGM PM 08 03 44.0
comp=Z,0.3nm,1.0s
MNK Minsk 113.15 39⇓*e*PKIKP PKiKP 08 03 43.0 -0.8
MNK pmax pmax
comp=Z,320nm,1.0s
CEYT Ceyhan 113.16 59 *e*P PKiKP 08 03 44.7 +0.3
SUA Susitna One 113.22 329 *e*S PKiKP 08 03 44.7 +0.8
CORM Corum 113.32 56 *e*P PKiKP 08 03 44.1 -0.7
KOZT Kozan 113.36 59 *e*P PKiKP 08 03 45.2 +0.4
TRO Tromso 113.54 22 *e*PKPdf PKiKP 08 03 44.7 +0.6
VSU Vasula 113.63 35*d* *i*PKIKP PKiKP 08 03 44.7 +0.1
VSU pmax pmax
comp=Z,481nm,0.6s
YOZ Yozgat 113.66 56 *e*P PKiKP 08 03 45.2 -0.3
BNN Bunyan 113.81 57 *e*P PKiKP 08 03 44.6 -1.2
KIF Kilpisjarvi 113.99 23 *e*PKPdf 08 03 45.2
FIA0 FINESS Array S 114.10 32 *e*PKiKP PKPdf 08 03 45.4 0.0
FIA0 FINESS Array S 114.10 32 *e*PKIKP PKPdf 08 03 45.4 0.0
FINES FINESS Array B 114.10 32 PKP PKPdf 08 03 45.4 0.0
comp=Z,25nm,0.5s,baz=195,slow=0.5,SNR=60
FINES PKKPbc PKKPbc 08 14 27.5 -1.8
comp=Z,7.9nm,0.6s,baz=82,slow=4.5,SNR=14
FINES PKKP PKKPdf 08 14 50.9 0.0
comp=Z,3.0nm,0.5s,baz=93,slow=3.1,SNR=6.2
KMRS Kahramanmaras 114.18 59 *e*P PKPdf 08 03 46.9 +0.5
DIKM Dikmen 114.21 54 *e*P PKPdf 08 03 46.3 0.0
GAZ Gaziantep 114.32 60 *e*P PKPdf 08 03 47.2 +0.5
SIM Simferopol’ 114.35 51 *e*PKIKP PKPdf 08 03 47.1 +0.7
SIM pmax pmax
comp=Z,66nm,0.9s
COLD Coldfoot 114.54 335 *e*PKPdf PKPdf 08 03 47.0 +0.8
TOKA Tokat 114.71 56 *e*PKPdf PKPdf 08 03 47.5 +0.2
KBS Kingsbay 114.75 12 *e*PKPdf PKPdf 08 03 47.5 +1.3
TOKT Tokat 114.76 56 *e*P PKPdf 08 03 47.1 -0.3
HEF Hetta 114.84 24 *e*PKPdf PKPdf 08 03 46.4 -0.3
DARE Darende-Malaty 114.94 58 *e*P PKPdf 08 03 48.5 +0.6
SVSK Karacayir 114.97 57 *e*P PKPdf 08 03 48.1 +0.4
RSDY Resadiye-TOKAT 115.35 56 *e*P PKPdf 08 03 48.1 -0.5
SPA0 Spitsbergen Ar 115.35 13 *e*PKPdf PKPdf 08 03 48.0 +0.5
SPA0 Spitsbergen Ar 115.35 13 *e*PKPdf PKPdf 08 03 47.7 +0.3
SPITS Spitsbergen Ar 115.35 13 PKP PKPdf 08 03 47.8 +0.3
comp=Z,22nm,0.6s,baz=328,slow=3.0,SNR=30
SPITS PKKPbc PKKPbc 08 14 24.0 -1.4
comp=Z,7.5nm,0.5s,baz=66,slow=2.8,SNR=24
SPITS SKKPbc SKKPbc 08 17 16.1 -4.8
comp=Z,9.0nm,0.7s,baz=349,slow=0.9,SNR=5.3
HAMF Hammerfest 115.37 22 *e*PKPdf PKPdf 08 03 47.9 +0.3
SVW2 Sparrevohn 115.39 327 *e*PKPdf PKPdf 08 03 47.5 -0.5
MALT Malatya 115.58 59 *e*P PKPdf 08 03 49.8 +0.6
URFA Urfa 115.62 60 *e*P PKPdf 08 03 48.4 -0.8
STKA Stephens Creek 115.68 203 PKP PKPdf 08 03 49.2 -0.3
comp=Z,14nm,0.7s,baz=104,slow=3.1,SNR=21
STKA SKP 08 06 33.3
comp=Z,25nm,0.9s,baz=101,slow=2.9,SNR=9.5
STKA PKKPbc PKKPbc 08 14 22.4 -1.8
comp=Z,17nm,0.7s,baz=339,slow=4.9,SNR=18
STKA SKKPbc SKKPbc 08 17 14.3 +0.3
comp=Z,6.5nm,0.9s,baz=35,slow=4.7,SNR=3.1
PUL Pulkovo 115.74 34*c* *i*PKIKP PKPdf 08 03 49.4 +0.8
PUL pmax pmax
comp=Z,206nm,0.6s
ARCES ARCESS Array B 115.75 23 PKP PKPdf 08 03 48.4 0.0
comp=Z,28nm,0.7s,baz=243,slow=4.0,SNR=60
ARCES PKKPbc PKKPbc 08 14 22.7 -1.2
comp=Z,20nm,0.5s,baz=84,slow=3.3,SNR=100
ARCES SKKPbc SKKPbc 08 17 15.2 -4.2
comp=Z,16nm,0.8s,baz=70,slow=4.0,SNR=13
ARE0 ARCESS Array S 115.75 23 *e*PKPdf PKPdf 08 03 48.4 0.0
ARE0 ARCESS Array S 115.75 23 *e*PKPdf PKPdf 08 03 48.6 +0.2
ARA0 ARCESS Array S 115.75 23 *e*PKPdf PKPdf 08 03 48.4 0.0
CHGN Chignik 115.78 322 *e*PKPdf PKPdf 08 03 48.8 0.0
ILIC ilic-Erzincan 116.00 57 *e*P PKPdf 08 03 50.4 +0.4
KEV Kevo 116.30 23 *e*PKPdf PKPdf 08 03 49.7 +0.3
KEV Kevo 116.30 23 *e*PKIKP PKPdf 08 03 49.7 +0.3
PTK Pertek 116.47 58 *e*P PKPdf 08 03 51.6 +0.6
ANN Anapa 116.59 51*d* *i*PKIKP PKPdf 08 03 50.9 +0.2
ANN *e* 08 05 09.3
ANN *e* 08 09 52.1
ANN pmax pmax
comp=E,23nm,0.8s
ANN pmax pmax
comp=N,37nm,0.8s
ANN pmax pmax
comp=Z,128nm,0.8s

RAYN Ar Rayn 116.60 76 *e*PKPdf PKPdf 08 03 52.2 +0.7
KELT Kelkit 116.70 57 *i* P PKPdf 08 03 52.5 +1.1
DYBB Diyarbakir 116.77 59 *e*P PKPdf 08 03 52.1 +0.7
MAZI Mazidag 116.87 60 *e*P PKPdf 08 03 51.6 -0.1
MARD Mardin 117.08 60 *e*PKPdf PKPdf 08 03 51.9 -0.2
EIDS Eidsvold 117.26 215 *e*PKPdf PKPdf 08 03 52.3 -0.5
BAYT Ayd˜–ntepe-Bay 117.42 57 *e*P PKPdf 08 03 53.3 +0.6
KOPT Kop Dagi 117.59 57 *e*PKPdf PKPdf 08 03 54.9 +1.7
BNGL BINGOL 117.80 59 *i* P PKPdf 08 03 54.8 +1.2
SOC Sochi 117.89 53 *i* PKIKP PKPdf 08 03 53.4 +0.1
SOC *e* 08 05 16.6
SOC *e*PPP PPP 08 07 57.5
SOC *e* 08 09 57.8
SOC *e*PS PS 08 15 15.8 +3.6
SOC *e*SS SS 08 21 07.8 +18
SOC pmax pmax
comp=Z,205nm,0.6s
OBN Obninsk 118.18 40 PKP PKPdf 08 03 53.7 +0.2
comp=Z,334nm,0.4s,baz=273,slow=0.5,SNR=47
OBN Obninsk 118.18 40*d* *i*PKIKP PKPdf 08 03 53.6 +0.2
OBN *e* 08 05 18.3
OBN *e*SS SS 08 20 49.7 -3.0
OBN SSS SSS 08 25 26.0
OBN pmax pmax
comp=Z,660nm,1.7s
ERZM Erzurum 118.21 58 *i* P PKPdf 08 03 54.7 +0.4
FALS False Pass 118.29 320 *e*PKPdf PKPdf 08 03 53.6 0.0
APA Apatity 118.32 26⇑*i*PKIKP PKPdf 08 03 53.4 0.0
APA pmax pmax
comp=Z,67nm,0.6s
APA MLR MLR
comp=Z,900nm,11.0s
GURO Guroymak-BITLI 118.37 59 *e*P PKPdf 08 03 55.5 +0.9
SIRT Sirnak 118.41 60 *e*P PKPdf 08 03 55.0 +0.4
EKAR Karacoban 118.57 58 *i* P PKPdf 08 03 56.1 +1.1
DBAD Bademkaya 118.72 56 *i* P PKPdf 08 03 56.0 +0.9
DDEM Demirkent 118.73 57 *i* P PKPdf 08 03 56.2 +1.0
MOS Moscow 118.88 39 *i* PKIKP PKPdf 08 03 53.4 -1.4
MOS *e* 08 05 32.4
MOS pmax pmax
comp=Z,357nm,0.8s
MOS pmax pmax
comp=Z,400nm,0.8s
DAGI Agillar 118.89 56 *i* P PKPdf 08 03 56.0 +0.6
ARTV Artvin 118.93 56 *i* P PKPdf 08 03 55.4 -0.3
EATA Eleskirt 119.04 58 *i* P PKPdf 08 03 57.2 +1.2
VSR Storozhevoye 119.07 45 *e*PKIKP PKPdf 08 03 54.7 -0.6
VSR *e* 08 09 58.7
VSR pmax pmax
comp=Z,140nm,0.5s
SENK Senkaya-Erzuru 119.10 57 *e*P PKPdf 08 03 56.6 +0.6
NWAO Narrogin (SRO) 119.15 181 *e*PKPdf PKPdf 08 03 55.8 -0.4
NWAO Narrogin (SRO) 119.15 181 *e*PKIKP PKPdf 08 03 55.8 -0.4
LPSR Galich’ya Gora 119.15 43 *e*PKIKP PKPdf 08 03 55.5 +0.1
LPSR pmax pmax
comp=Z,430nm,0.6s
CUKT Cukurca 119.24 61 *e*P PKPdf 08 03 55.5 -0.8
AGRB Hanur-Agry 119.34 58 *e*P PKPdf 08 03 57.3 +0.8
EPOS Posof 119.59 56 *i* P PKPdf 08 03 56.4 -0.5
KARS Kars 119.65 57 *e*P PKPdf 08 03 58.1 +1.1
UNV Unalaska Valle 119.92 318 *e*PKPdf PKPdf 08 03 56.9 +0.1
CLDR Caldiran 119.94 59 *e*P PKPdf 08 03 57.3 -0.4
TMCR Tamitsa 119.95 30 *e*PKIKP PKPdf 08 03 56.7 +0.1
TMCR pmax pmax
comp=Z,213nm,0.8s
KIV Kislovodsk 120.08 53 *e*PKPdf PKPdf 08 03 57.8 +0.3
KIV Kislovodsk 120.08 53 *i* PKIKP PKPdf 08 03 57.9 +0.3
KIV *e* 08 05 31.5
KIV *e*PPP PPP 08 08 12.0
KIV *e* 08 10 02.5
KIV *e*PS PS 08 15 31.0 -0.7
KIV pmax pmax
comp=Z,267nm,1.0s
KIV Kislovodsk 120.08 53 PKiKP PKPdf 08 03 57.9 +0.3
SNR=16
KIV Kislovodsk 120.08 53 P PKPdf 08 03 57.9 +0.3
SNR=16
KIV Kislovodsk 120.08 53 *i* PKPdf PKPdf 08 03 58.0 +0.4
SNR=10
KIV Kislovodsk 120.08 53 *i* P PKPdf 08 03 58.0 +0.4
SNR=10
KVAR Kislovodsk Arr 120.08 53 PKP PKPdf 08 03 58.1 +0.5
comp=Z,166nm,0.7s,baz=358,slow=0.3,SNR=64
AKH Akhalkalaki 120.13 56 *e*P PKPdf 08 03 58.4 +0.5
AKH Akhalkalaki 120.13 56 P PKPdf 08 03 58.7 +0.8
AKH Akhalkalaki 120.13 56⇓*i*P PKPdf 08 03 58.8 +0.9
AKH Akhalkalaki 120.13 56 *e*PKPdf PKPdf 08 03 58.7 +0.8
AKH Akhalkalaki 120.13 56 *e*PKIKP PKPdf 08 03 58.6 +0.8
BGD Bogdanovka 120.18 57 P PKPdf 08 03 58.1 0.0
KBZ Khabaz 120.18 54 PKP PKPdf 08 03 58.3 +0.6
comp=Z,76nm,0.7s,baz=206,slow=3.2,SNR=93
ONI Oni 120.35 55 P PKPdf 08 03 58.6 +0.5
ONI Oni 120.35 55 *e*PKIKP PKPdf 08 03 58.6 +0.5
TASB TASBURUN-IGDIR 120.37 58 *e*P PKPdf 08 03 58.8 +0.5
KLMR Klimovskoe 120.43 34 *e*PKIKP PKPdf 08 03 54.4 -3.2
KLMR pmax pmax
comp=Z,268nm,0.5s
KLMR Klimovskoe 120.43 34 *e*PKPdf PKPdf 08 03 54.4 -3.2
KLMR AMP 08 03 58.8
comp=Z,268nm,0.5s
GOF Gofitskoye 120.54 52⇓*i*PKIKP PKPdf 08 03 59.1 +0.8
GOF pmax pmax
comp=Z,639nm,0.8s
NCK Nalchik 120.63 54⇓*i*PKIKP PKPdf 08 03 59.4 +0.8
VRH Novokhopyorsk 120.65 45 *e*PKIKP PKPdf 08 03 58.1 -0.2
VRH *e* 08 10 04.1
VRH pmax pmax
comp=Z,260nm,0.8s
ZEI Tsey 120.71 55 *i* PKIKP PKPdf 08 03 57.7 -1.3
ZEI pmax pmax
comp=Z,72nm,0.8s
GNI Garni 120.78 58 PKP PKPdf 08 04 00.0 +0.9
comp=Z,105nm,0.6s,baz=300,slow=1.0,SNR=57
GNI Garni 120.78 58 *e*PKPdf PKPdf 08 03 59.8 +0.6
GNI *e*PKPdf PKPdf 08 04 00.1 +0.9
GNI Garni 120.78 58 *e*PKIKP PKPdf 08 03 59.8 +0.6
GNI Garni 120.78 58 PKiKP PKPdf 08 04 00.0 +0.9
SNR=6.6
GNI Garni 120.78 58 P PKPdf 08 04 00.0 +0.9
SNR=6.6
GNI Garni 120.78 58 *i* PKPdf PKPdf 08 04 00.2 +1.0
SNR=23
GNI Garni 120.78 58 *i* P PKPdf 08 04 00.2 +1.0
SNR=23
GUDG Gudauri 121.06 55 P PKPdf 08 03 59.1 -0.6
TBLG Delisi 121.11 56 *e*P PKPdf 08 03 59.8 +0.2
TBLG Delisi 121.11 56 P PKPdf 08 04 00.2 +0.7
TBLG Delisi 121.11 56 *e*PKPdf PKPdf 08 04 00.3 +0.7
TBLG Delisi 121.11 56 *e*PKIKP PKPdf 08 04 00.3 +0.7
BTNK Botanikuri 121.14 56 P PKPdf 08 04 00.1 +0.4
GROC Groznyy 122.16 55 *i* PKIKP PKPdf 08 04 01.2 -0.3
GROC *e* 08 05 46.3
GROC *e* 08 10 11.1
GROC pmax pmax
comp=Z,113nm,0.6s
SPIA Saint Paul Isl 122.35 322 *e*PKPdf PKPdf 08 04 02.5 +1.1
AKT Akhty 123.27 57 *i* PKIKP PKPdf 08 04 04.8 +0.9
AKT *e* 08 05 53.3
AKT pmax pmax
comp=Z,150nm,0.6s
MAK Makhachkala 123.35 55*c* *i*PKIKP PKPdf 08 04 05.2 +1.4
MAK *e* 08 05 56.8
MAK *e*PPP PPP 08 08 41.5
MAK *e* 08 10 15.6
MAK pmax pmax
comp=Z,203nm,0.8s
SHAO Shalim 123.42 86 PKiKP PKiKP 08 04 05.2 +0.3
SNR=14
SHAO Shalim 123.42 86 P PKiKP 08 04 05.2 +0.3
SNR=14
SHAO Shalim 123.42 86 *i* PKPdf PKiKP 08 04 05.2 +0.3
SNR=14
SHAO Shalim 123.42 86 *i* P PKiKP 08 04 05.2 +0.3
SNR=14
CTAO Charters Tower 124.09 214 *e*PKPdf PKPdf 08 04 05.7 -0.3
CTAO Charters Tower 124.09 214 *e*PKIKP PKPdf 08 04 05.7 -0.3
ASAR Alice Springs 125.78 200 PKP PKPdf 08 04 08.9 -0.3
comp=Z,202nm,0.5s,baz=145,slow=1.7,SNR=386
ASAR pPKP pPKPdf 08 06 16.4 -1.8
comp=Z,8.7nm,0.9s,baz=158,slow=3.7,SNR=2.7
ASAR SKPbc SKPbc 08 06 35.6
comp=Z,31nm,0.8s,baz=162,slow=3.4,SNR=8.0
ASAR SKP 08 06 53.1

comp=Z,85nm,0.8s,baz=161,slow=2.1,SNR=14
ASAR SKS SKSac 08 10 21.6 -1.2
comp=Z,8.3nm,0.9s,baz=130,slow=2.6,SNR=5.5
ASAR PKKPbc PKKPbc 08 13 46.5 -0.7
comp=Z,23nm,0.6s,baz=340,slow=3.2,SNR=48
ASAR PKKP PKKPdf 08 14 26.3 -0.4
comp=Z,7.5nm,0.6s,baz=341,slow=1.5,SNR=12
ASAR SKKP 08 17 11.0
comp=Z,6.4nm,1.0s,baz=351,slow=3.7,SNR=3.4
AS31 Alice Springs 125.78 200 *e*PKPdf PKPdf 08 04 08.5 -0.7
NAZ Nazwa, Dubai 125.83 78 PKiKP PKPdf 08 04 09.2 +0.1
SNR=8.1
NAZ Nazwa, Dubai 125.83 78 P PKPdf 08 04 09.2 +0.1
SNR=8.1
NAZ Nazwa, Dubai 125.83 78 *i* PKPdf PKPdf 08 04 09.1 +0.1
SNR=21
NAZ Nazwa, Dubai 125.83 78 *i* P PKPdf 08 04 09.1 +0.1
SNR=21
ARQ Araqi 126.06 81 PKiKP PKPdf 08 04 09.7 +0.1
SNR=7.4
ARQ Araqi 126.06 81 P PKPdf 08 04 09.7 +0.1
SNR=7.4
ASHO Ashiyiah 126.08 79 PKiKP PKPdf 08 04 09.4 -0.2
SNR=7.2
ASHO Ashiyiah 126.08 79 P PKPdf 08 04 09.4 -0.2
SNR=7.2
ASHO Ashiyiah 126.08 79 *i* PKPdf PKPdf 08 04 09.4 -0.2
SNR=14
ASHO Ashiyiah 126.08 79 *i* P PKPdf 08 04 09.4 -0.2
SNR=14
HATD Hatta, Dubai 126.19 79 PKiKP PKPdf 08 04 09.6 -0.2
SNR=8.0
HATD Hatta, Dubai 126.19 79 P PKPdf 08 04 09.6 -0.2
SNR=8.0
HATD Hatta, Dubai 126.19 79 *i* PKPdf PKPdf 08 04 09.7 -0.2
SNR=8.0
HATD Hatta, Dubai 126.19 79 *i* P PKPdf 08 04 09.7 -0.2
SNR=8.0
UOSS Minazif 126.29 79 *e*PKPdf PKPdf 08 04 09.1 -0.9
UOSS Minazif 126.29 79 PKPdf PKPdf 08 04 09.3 -0.7
UOSS Minazif 126.29 79 P PKPdf 08 04 09.3 -0.7
UOSS Minazif 126.29 79 *i* PKPdf PKPdf 08 04 09.3 -0.7
SNR=17
UOSS Minazif 126.29 79 *i* P PKPdf 08 04 09.3 -0.7
SNR=17
SOHO SOHO 126.32 80 *i* PKPdf PKPdf 08 04 09.9 -0.2
SNR=13
SOHO SOHO 126.32 80 *i* P PKPdf 08 04 09.9 -0.2
SNR=13
BSY Bisya 126.46 82 PKiKP PKPdf 08 04 10.5 +0.1
SNR=7.4
BSY sPdiff PKiKP 08 04 11.0 0.0
SNR=7.6
BSY Bisya 126.46 82 P PKPdf 08 04 10.5 +0.1
SNR=7.4
MDH Madha 126.47 78 PKPdf PKPdf 08 04 09.5 -0.9
MDH Madha 126.47 78 P PKPdf 08 04 09.5 -0.9
BANOM Banah 126.66 77 *i* PKPdf PKPdf 08 04 10.8 +0.1
SNR=12
BANOM Banah 126.66 77 *i* P PKPdf 08 04 10.8 +0.1
SNR=12
HOQ Hoqain 126.83 81 PKiKP PKPdf 08 04 10.9 -0.1
SNR=7.6
HOQ Hoqain 126.83 81 P PKPdf 08 04 10.9 -0.1
SNR=7.6
JMDO Jabal Madar 127.13 82 PKiKP PKPdf 08 04 11.4 -0.2
SNR=8.8
JMDO Jabal Madar 127.13 82 P PKPdf 08 04 11.4 -0.2
SNR=8.8
SMDO Samad 127.30 81 PKiKP PKiKP 08 04 12.5 -0.2
SNR=9.5
SMDO Samad 127.30 81 P PKiKP 08 04 12.5 -0.2
SNR=9.5
WSAR Wadi Sarin 127.87 81 PKP PKPdf 08 04 13.3 +0.2
comp=Z,196nm,0.8s,baz=229,slow=4.3,SNR=64
WBK Wadi Bani Khal 127.96 82 PKiKP PKiKP 08 04 14.3 +0.4
SNR=7.3
WBK Wadi Bani Khal 127.96 82 P PKiKP 08 04 14.3 +0.4
SNR=7.3
SOKR Solikamsk 129.08 35*d* *i*PKIKP PKPdf 08 04 13.3 -0.8
SOKR pmax pmax
comp=Z,244nm,1.0s
WB2 Warramunga Arr 129.14 202 *e*PKPdf PKPdf 08 04 15.7 0.0
WR1 Warramunga Arr 129.14 202 *e*PKPdf PKPdf 08 04 15.6 -0.1
WR1 *e*SKPdf SKPdf 08 06 59.4 +0.5
WRA Warramunga Arr 129.14 202 PKP PKPdf 08 04 15.6 -0.1
comp=Z,97nm,0.3s,baz=169,slow=1.7,SNR=268
WRA pPKP pPKPdf 08 06 23.5 -1.1
comp=Z,17nm,0.8s,baz=165,slow=1.7,SNR=6.5
WRA SKPbc SKPab 08 06 44.0 -1.4
comp=Z,225nm,0.9s,baz=160,slow=3.6,SNR=55
WRA SKP 08 06 59.4
comp=Z,77nm,0.7s,baz=153,slow=1.5,SNR=9.3
WRA SKS SKSac 08 10 31.5 -1.3
comp=Z,3.4nm,1.0s,baz=162,slow=4.7,SNR=4.8
WRA PKKPbc PKKPbc 08 13 34.8
comp=Z,8.9nm,0.6s,baz=343,slow=3.9,SNR=22
WRA PKKP PKKPdf 08 14 19.9 -0.3
comp=Z,2.1nm,0.6s,baz=330,slow=2.1,SNR=6.3
WRA SKKPbc SKKPbc 08 16 27.3 -3.1
comp=Z,4.3nm,0.9s,baz=35,slow=3.3,SNR=4.7
WRA SKKP 08 17 04.9
comp=Z,6.5nm,0.8s,baz=344,slow=5.6,SNR=5.5
WRAB Tennant Creek 129.15 202*d* *i*PKIKP PKPdf 08 04 15.5 -0.2
ARU Arti 130.56 38 PKP PKPdf 08 04 17.3 +0.2
comp=Z,180nm,0.5s,baz=281,slow=2.2,SNR=66
ARU PP PP 08 06 36.9 -3.9
comp=Z,12nm,0.3s,baz=271,slow=1.7,SNR=3.8
ARU SKPbc SKPbc 08 06 49.8 +0.2
comp=Z,140nm,0.8s,baz=270,slow=2.6,SNR=27
ARU Arti 130.56 38 *e*PKPdf PKPdf 08 04 18.3 +1.2
ARU Arti 130.56 38 *i* PKIKP PKPdf 08 04 17.8 +0.7
ARU 08 06 38.1
ARU PPP PPP 08 09 31.8
ARU 08 10 35.9
BILL Bilibino 130.66 338*c* *i*PKHKP PKPpre 08 04 04.9
BILL *i* 08 04 17.6
BILL *i* 08 06 49.8
BILL pmax pmax
comp=Z,22nm,1.0s
GEYT Alibeck 130.68 63 PKP PKPdf 08 04 18.6 +0.6
comp=Z,66nm,0.6s,baz=256,slow=4.1,SNR=37
GEYT PP PP 08 06 39.9 -2.4
comp=Z,20nm,0.7s,baz=282,slow=7.4,SNR=6.8
GEYT SKPbc SKPab 08 06 52.1 +0.7
comp=Z,55nm,0.9s,baz=265,slow=7.4,SNR=12
GEYT SKKPbc SKKPbc 08 16 28.4 +0.7
comp=Z,3.5nm,0.8s,baz=270,slow=3.0,SNR=4.7
MBWA Marble Bar 130.79 184 PKiKP PKPdf 08 04 18.9 +0.1
SNR=7.3
MBWA Marble Bar 130.79 184 P PKPdf 08 04 18.9 +0.1
SNR=7.3
COEN Coen 130.83 215 *e*PKPdf PKPdf 08 04 19.4 +0.5
AKTO Aktyubinsk 130.94 46 PKP PKPdf 08 04 18.8 +0.7
comp=Z,248nm,1.2s,baz=282,slow=1.4,SNR=86
AKTO SKPbc SKPbc 08 06 51.5 +0.3
comp=Z,136nm,0.9s,baz=220,slow=5.5,SNR=5.2
AKTO PKKP PKKPdf 08 14 17.3 -0.9
comp=Z,3.2nm,0.5s,baz=110,slow=6.7,SNR=8.0
AB31 Akbulak array 132.27 48 *i* PKIKP PKPdf 08 04 21.5 +0.9
AB31 pmax pmax
comp=Z,112nm,0.5s
PMG Port Moresby 132.37 223 PKP PKPdf 08 04 22.6 +0.8
comp=Z,28nm,0.5s,baz=32,slow=7.1,SNR=9.5
PMG SKPbc SKPbc 08 06 57.5 +0.2
comp=Z,515nm,0.8s,baz=66,slow=3.3,SNR=63
RABL Rabaul 133.04 232 *e*PKPdf PKPdf 08 04 24.3 +1.1
WAKE Wake Island 133.70 270 *e*PKPdf PKPdf 08 04 25.2 +1.1
COCO West Island 135.43 152 *i* PKIKP PKPdf 08 04 30.1 +2.6
TIXI Tiksi 136.04 354 PKhKP PKPpre 08 04 12.4
comp=Z,21nm,0.6s,baz=31,slow=3.4,SNR=28
TIXI PKP PKiKP 08 04 28.1 -0.6
comp=Z,86nm,0.5s,baz=7.3,slow=2.4,SNR=28
TIXI SKPbc SKPbc 08 07 07.1 -0.1
comp=Z,108nm,0.9s,baz=32,slow=3.0,SNR=20
TIXI PKKP PKKPdf 08 14 05.5 -3.0
comp=Z,8.5nm,0.6s,baz=93,slow=1.5,SNR=7.7
TIXI SKKPbc SKKPbc 08 16 05.8 -4.2
comp=Z,18nm,0.9s,baz=112,slow=1.9,SNR=10
TIXI Tiksi 136.04 354*c* *i*PKIKP PKPdf 08 04 27.7 +0.7
MTN Manton Dam 136.82 201 *e*PKPdf PKPdf 08 04 30.2 +0.1
BHJ Bhuj 137.53 86 *e*P PKPdf 08 04 31.9 +0.7
TRD Trivandrum 137.74 110 *e*P PKPdf 08 04 31.3 -0.6
BRVK Borovoye 137.95 41 *e*PKPpre PKPpre 08 04 22.1
BRVK *e*PKPdf PKPdf 08 04 32.2 +1.3
BRVK Borovoye 137.95 41*d* *i*PKIKP PKPdf 08 04 32.3 +1.3
BRVK Borovoye 137.95 41 PKPdf PKPpre 08 04 22.2

SNR=62
BVA0 Borovoye Array 138.02 41 PKIKP **PKPdf** 08 04 32.1 +0.9
BVA0 pmax pmax
comp=Z,234nm,0.7s
BVAR Borovoye Array 138.02 41 PKhKP PKPpre 08 04 22.2
comp=Z,24nm,0.5s,baz=305,slow=3.1,SNR=124
BVAR PKP **PKiKP 08 04 32.7 -0.6**
comp=Z,207nm,0.6s,baz=284,slow=3.1,SNR=78
BVAR SKPbc **SKiKP 08 07 15.5 -1.7**
comp=Z,28nm,0.6s,baz=299,slow=1.5,SNR=8.1
BVAR SKKPbc **SKKPbc 08 15 58.7 -3.0**
comp=Z,17nm,0.8s,baz=104,slow=6.3,SNR=14
BVAR PKPPKP 08 22 15.5
comp=Z,5.5nm,0.8s,baz=106,slow=3.7,SNR=8.2
SEY Seymchan 138.30 336 PKhKP PKPpre 08 04 21.9
comp=Z,44nm,0.6s,baz=150,slow=1.0,SNR=77
SEY PKP **PKiKP 08 04 32.5 -1.1**
comp=Z,174nm,0.6s,baz=106,slow=1.9,SNR=47
SEY SKPbc **SKPbc 08 07 15.2 +1.3**
comp=Z,89nm,0.9s,baz=78,slow=3.6,SNR=16
SEY PKKP **PKKPdf 08 14 03.5 -0.6**
comp=Z,1.1nm,0.6s,baz=226,slow=4.7,SNR=4.4
SEY SKKPbc **SKKPbc 08 15 59.2 -1.8**
comp=Z,41nm,1.0s,baz=249,slow=3.4,SNR=11
SEY Seymchan 138.30 336*d* iPKIKP **PKPdf 08 04 32.8 +1.4**
GOA Goa 138.44 99 *ex* PKPpre 08 04 28.6
KBL Kabul 139.13 69 *e*PKPpre PKPpre 08 04 24.8
KBL *e*PKPdf **PKPdf 08 04 35.1 +1.0**
KBL Kabul 139.13 69 *e*PKHKP PKPpre 08 04 24.8
KBL *e* 08 04 35.1
POO Poona 139.67 94 *e*P **PKPdf 08 04 34.0 -1.3**
IUG Iuzhnay 139.90 57 *i* PKP **PKPdf 08 04 36.3 +1.2**
comp=Z,1μm,0.7s
IUG *i* sPKP 08 07 38.5
PALK Pallekele 140.10 115 PKhKP PKPpre 08 04 29.8
comp=Z,23nm,0.4s,baz=117,slow=3.8,SNR=14
PALK PKP **PKPdf 08 04 37.2 +1.0**
comp=Z,74nm,0.6s,baz=120,slow=0.2,SNR=35
PALK pPKP pPKPdf 08 06 46.6 +1.3
comp=Z,25nm,1.1s,baz=116,slow=3.4,SNR=4.0
PALK SKPbc **SKPbc 08 07 20.4 -0.1**
comp=Z,57nm,0.9s,baz=296,slow=0.9,SNR=11
PALK PKKP **PKKPdf 08 14 01.0 +1.2**
comp=Z,4.7nm,0.5s,baz=104,slow=1.6,SNR=3.7
PALK SKKPbc **SKKPab 08 15 52.8 -1.6**
comp=Z,13nm,0.7s,baz=115,slow=1.7,SNR=8.5
PALK Pallekele 140.10 115 PKPdf PKPpre 08 04 31.0
SNR=17
PALK Pallekele 140.10 115 *i* PKPdf **PKPdf 08 04 37.1 +1.0**
SNR=12
PALK Pallekele 140.10 115 *i* P **PKPdf 08 04 37.1 +1.0**
SNR=12
KK31 Karatay Array 140.16 56 *i* PKHKP PKPpre 08 04 27.4
KK31 pmax pmax
comp=Z,28nm,0.6s
KKAR Karatay Array 140.16 56 *e*PKPpre PKPpre 08 04 27.4
KKAR Karatay Array 140.16 56 *e*PKHKP PKPpre 08 04 27.4
BRZS Berezniki 140.28 45 *i* PKP **PKPdf 08 04 37.4 +2.0**
comp=Z,81nm,0.7s
PET Petropavlovsk 140.50 321 *e*PKPpre PKPpre 08 04 29.1
PET *e*PKPdf **PKPdf 08 04 36.3 +0.7**
PET Petropavlovsk 140.50 321 *e*PKHKP PKPpre 08 04 28.9
PET *i* 08 04 35.8
PET *e* 08 07 42.8
PET *e*SS SS 08 25 22.6 -1.0
PET pmax pmax
comp=Z,193nm,0.6s
PET pmax pmax
comp=Z,700nm,18.6s
OTUK Ortayu 140.52 47 PKHKP PKPpre 08 04 30.6
OTUK pmax pmax
comp=Z,65nm,0.7s
DZA Taraz 140.79 56 *e*PKP **PKPdf 08 04 38.3 +1.7**
comp=Z,3μm,0.8s
PEA1 Petropavlovsk- 141.00 321 *e*PKPpre PKPpre 08 04 31.8
PEA1 *e*PKPdf **PKPdf 08 04 37.6 +1.0**
PEA1 *e*SKKSac SKKSac 08 13 56.8 +14
PEA0B Petropavlovsk- 141.00 321 *e*PKPpre PKPpre 08 04 31.9
PEA0B *e*PKPdf **PKiKP 08 04 38.0 -1.4**
PETK Petropavlovsk- 141.00 321 PKhKP PKPpre 08 04 31.8
comp=Z,97nm,0.7s,baz=80,slow=7.3,SNR=75
PETK PKP **PKPdf 08 04 37.6 +1.0**
comp=Z,166nm,0.6s,baz=99,slow=4.1,SNR=35
PETK SKPbc **SKPbc 08 07 20.7 -0.9**
comp=Z,110nm,1.0s,baz=90,slow=7.4,SNR=12
PETK PKKP **PKKPdf 08 13 56.8 -2.0**
comp=Z,4.8nm,0.8s,baz=321,slow=1.8,SNR=4.5
PETK SKKPbc **SKKPab 08 15 49.2 -0.8**
comp=Z,19nm,1.0s,baz=189,slow=2.9,SNR=7.2
PETK Petropavlovsk- 141.00 321 *e*PKPpre PKPpre 08 04 31.8
PETK *e*PKPdf **PKiKP 08 04 38.1 -1.4**
PETK Petropavlovsk- 141.00 321 PKHKP PKPpre 08 04 31.8
PETK 08 04 37.6
PETK pmax pmax
comp=Z,97nm,0.7s
PETK pmax pmax
comp=Z,158nm,0.6s
PETK pmax pmax
comp=N,110nm,1.0s
PETK pmax pmax
comp=Z,5.0nm,0.8s
MA2 Magadan 141.02 333 PKhKP PKPpre 08 04 31.9
comp=Z,102nm,0.6s,baz=109,slow=4.4,SNR=172
MA2 SKPbc **SKPbc 08 07 21.7 +0.4**
comp=Z,106nm,1.0s,baz=77,slow=3.8,SNR=14
MA2 SKKPbc **SKKPab 08 15 48.5 -1.4**
comp=Z,23nm,0.7s,baz=232,slow=3.6,SNR=15
MA2 Magadan 141.02 333*d* iPKIKP **PKPdf 08 04 36.9 +0.5**
BATI Baumata 141.18 191 PKhKP PKPpre 08 04 34.2
comp=Z,45nm,0.4s,baz=269,slow=3.8,SNR=7.7
BATI PKP **PKiKP 08 04 39.9 -1.1**
comp=Z,103nm,0.5s,baz=218,slow=4.0,SNR=12
BATI SKPbc **SKPbc 08 07 24.0 +0.7**
comp=Z,130nm,0.7s,baz=317,slow=1.7,SNR=13
URV Uravakonda 141.18 102 *e*PKiKP **PKPdf 08 04 39.0 +1.0**
SOEI Soe 141.51 192 *e*PKPpre PKPpre 08 04 35.4
MNAS Manas 141.69 56 PKHKP PKPpre 08 04 33.8
MNAS pmax pmax
comp=Z,64nm,0.6s
KLRI Killari 141.91 97 *e*PKPdf PKPpre 08 04 34.5
EKS2 Erkin-Say 142.60 56 P **PKPdf 08 04 37.6 -2.3**
SNR=349
AML Almayashu 142.61 57 P **PKPdf 08 04 38.5 -1.8**
SNR=74
SFK Sufi-Kurgan 142.70 60 PKIKP PKPpre 08 04 38.0
SFK pmax pmax
comp=Z,1μm,0.5s
SKHT Srikalahasti 142.73 105 *e*PKPdf **PKPdf 08 04 38.5 -2.2**
SKR Severo-Kuril's 142.84 318 *e*PKIKP **PKPdf 08 04 37.4 -2.5**
SKR pmax pmax
comp=Z,4μm,4.3s
SKR pmax pmax
comp=Z,2μm,0.7s
SKR pmax pmax
comp=Z,1μm,4.0s
MDRS Chennai 142.86 106 *e*P **PKPdf 08 04 38.6 -2.4**
MMRI Maumere 142.94 189 *e*PKPdf **PKPdf 08 04 39.3 -1.9**
USP Ospenovka 143.03 55 P PKPbc 08 04 38.6 -0.1
SNR=315
SRLM Srisailam 143.10 101 *e*PKPab PKPab 08 04 39.1 0.0
AAK Ala-Archa 143.13 56 PKP **PKPdf 08 04 40.3 -0.6**
comp=Z,1μm,0.6s,baz=111,slow=1.8,SNR=25
AAK SKPbc **SKiKP 08 07 28.6 +0.3**
comp=Z,102nm,1.0s,baz=187,slow=1.4,SNR=4.9
AAK Ala-Archa 143.13 56 P PKPbc 08 04 39.5 +0.3
SNR=766
AAK Ala-Archa 143.13 56 *e*PKPdf PKPbc 08 04 39.8 +0.7
AAK *e*PKPdf **PKPdf 08 04 40.3 -0.6**
AAK Ala-Archa 143.13 56 PKIKP PKPbc 08 04 40.0 +0.8
AAK pmax pmax
comp=Z,946nm,0.6s
AAK Ala-Archa 143.13 56 PKPbc PKPbc 08 04 40.0 +0.8
AAK Ala-Archa 143.13 56 P PKPbc 08 04 40.0 +0.8
FRU Bishkek 143.19 55⇓ *i*PKHKP PKPpre 08 04 38.0
FRU pmax pmax
comp=Z,2μm,2.0s
UCH Uchtor 143.20 56 P **PKPdf 08 04 41.1 -0.4**
SNR=281
CHMS Chumysh 143.26 55 P PKPab 08 04 39.2 +0.2
SNR=458
HYB Hyderabad 143.36 99 *i* PKP PKPab 08 04 40.0 -0.1
HYB *ep*PKP **PP 08 07 56.0 -4.5**
HYB *e* 08 17 24.0
HYB *e* 08 21 10.0
HYB Hyderabad 143.36 99 *e*P PKPab 08 04 39.7 -0.4
HYBB Hyderabad (bro 143.36 99 *e*PKPab PKPab 08 04 40.0 -0.1

CISI Cisompet, Garu 143.38 165 *e*PKPdf PKPbc 08 04 40.5 -0.1
KBK Karagaybulak 143.46 56 P **PKPdf 08 04 40.9 -0.6**
SNR=2481
UGM Wanagama 143.55 170 *e*PKPbc PKPbc 08 04 41.5 +0.5
KURK Kurchatov 143.60 41 *e*PKPbc **PKPdf 08 04 40.9 -0.3**
KURK Kurchatov 143.60 41 *e*PKIKP **PKPdf 08 04 40.9 -0.3**
KURK Kurchatov 143.60 41 PKPdf PKPbc 08 04 40.4 +0.3
SNR=533
KURK Kurchatov 143.60 41 P PKPbc 08 04 40.4 +0.3
SNR=533
NJS Nagarjunasagar 143.65 101 *e*PKPab PKPab 08 04 40.9 -0.4
SRSP Sriramsagar 143.76 96 *e*PKPdf PKPbc 08 04 41.5 -0.1
KZA Kyzart 143.77 57 P **PKPdf 08 04 43.1 +0.7**
SNR=174
TKM2 Tokmak 2 143.88 55 P PKPab 08 04 42.0 +0.3
SNR=1105
TKM2 Tokmak 2 143.88 55 PKIKP **PKPdf 08 04 42.2 -0.1**
TKM2 pmax pmax
comp=Z,2μm,0.7s
BMNS Besmoynak 143.90 55⇓ *i*PKP **PKPdf 08 04 42.2 0.0**
BMNS *i* SKiKP **SKiKP 08 07 30.3 +0.4**
BMNS *i* PP **PP 08 08 03.6 +0.3**
ADKI Addanki 143.92 102 *e*PKPdf **PKPdf 08 04 42.8 0.0**
LEM Lembang 144.03 165 PKP **PKPdf 08 04 44.0 +0.6**
comp=Z,1μm,0.6s,baz=18,slow=1.7,SNR=102
LEM SKPbc **SKiKP 08 07 32.0 +0.9**
comp=Z,678nm,0.9s,baz=137,slow=2.8,SNR=19
LEM Lembang 144.03 165 PKIKP **PKPdf 08 04 44.0 +0.6**
LEM pmax pmax
comp=N,678nm,0.9s
NVS Novosibirsk 144.08 33 *e*PKIKP **PKPdf 08 04 42.7 +0.8**
NVS pmax pmax
comp=Z,2μm,0.7s
NVS pmax pmax
comp=N,300nm,0.8s
NVS pmax pmax
comp=E,260nm,0.7s
KUU Kurty 144.22 53⇓ *i*PKP **PKPab 08 04 42.7 0.0**
comp=E,6μm,1.4s
KUU *i* SKiKP **SKiKP 08 07 30.6 +0.2**
KUU *i* PP **PP 08 08 05.7 +0.6**
BHPL Bhopal 144.37 89 *e*P PKPbc 08 04 42.7 -0.7
SMRI Semarang 144.38 169 *e*PKPbc **PKPab 08 04 44.8 +0.8**
ULHL Ulahol 144.47 56 P **PKPab 08 04 44.5 +0.6**
SNR=142
RPR Rampur 144.57 97 *e*PKPab PKPbc 08 04 44.1 +0.1
KSH Kashi 144.64 61 PKP **PKPdf 08 04 43.5 -0.1**
KSH pPKP pPKPdf 08 06 51.9 -0.9
KSH PP **PP 08 08 06.4 -1.4**
KSH PKS **PKSdf 08 08 18.1 -1.0**
KSH SKS **SKSdf 08 10 59.2 -1.6**
KSH SS **SS 08 26 07.9 -4.4**
KSH AMB AMB
comp=E,2μm,4.8s
SEM Semipalatinsk 144.68 41⇓ *i*PKP **PKPab 08 04 44.4 -0.1**
comp=E,18μm,0.8s
SEM *i* SKiKP **SKiKP 08 07 32.9 +1.6**
AAA Alma-Ata 144.77 54⇓ *i*PKP **PKPab 08 04 45.5 +0.7**
comp=E,17μm,1.6s
AAA *i* SKiKP **SKiKP 08 07 33.9 +2.3**
AAA *i* PP **PP 08 08 10.7 +2.4**
MDOK Medeo 144.88 54 *i* PKP PKPbc 08 04 45.0 +0.5
comp=E,10μm,0.7s
MDOK *i* PKiKP **PKiKP 08 04 49.8 +1.8**
MDOK *i* SKP 08 07 27.1
MDOK *i* PP **PP 08 08 10.9 +1.9**
MNAI Manna 144.97 156 *e*PKPdf PKPbc 08 04 45.8 +0.4
DHRM DHARAMSHALA 145.01 73 *e*P **PKPdf 08 04 44.5 0.0**
YAK Yakutsk 145.15 349 PKPbc **PKPbc 08 04 44.2 -0.3**
comp=E,2μm,0.7s,baz=308,slow=0.2,SNR=307
YAK SKPbc **SKiKP 08 07 32.3 +0.7**
comp=E,134nm,0.7s,baz=248,slow=1.5,SNR=4.4
YAK Yakutsk 145.15 349*d* iPKIKP **PKPbc 08 04 44.1 -0.4**
YAK *e* 08 08 07.4
YAK *e* 08 11 02.9
YAK pmax pmax
comp=Z,3μm,0.9s
YAK pmax pmax
comp=N,157nm,1.1s
YAK pmax pmax
comp=E,127nm,0.9s
YAK pmax pmax
comp=Z,741nm,2.7s
YAK pmax pmax
comp=E,198nm,2.4s
YAK pmax pmax
comp=N,397nm,2.5s
KDJ Kajisay 145.18 56 *e*PKPdf **PKPbc 08 04 46.0 +0.5**
ZAA1 Zalesovo Array 145.35 33 *e*PKPdf **PKPbc 08 04 44.9 -0.5**
ZAA0 Zalesovo Array 145.35 33 *e*PKPdf **PKPbc 08 04 45.3 0.0**
ZALV Zalesovo Beam 145.35 33 PKPbc **PKPbc 08 04 44.9 -0.5**
comp=N,1μm,0.6s,baz=280,slow=3.5,SNR=2190
ZALV SKPbc **SKiKP 08 07 33.2 +1.0**
comp=N,110nm,0.6s,baz=300,slow=2.7,SNR=6.3
ZALV SKKPbc **SKKPab 08 15 24.8 -5.8**
comp=N,40nm,0.8s,baz=125,slow=3.4,SNR=19
ZALV Zalesovo Beam 145.35 33 *e*PKPdf **PKPbc 08 04 45.4 0.0**
TDK Taldyqorghan 145.39 51 *i* PKP **PKPbc 08 04 45.8 -0.1**
comp=N,9μm,0.5s
FAKI Fak Fak 145.59 208 *e*PKPdf **PKPdf 08 04 46.2 +0.4**
SMLA Simla 145.65 75 *e*P **PKPbc 08 04 47.3 +0.4**
TARG Taragay, Kyrgy 145.71 57 *e*PKPdf **PKPbc 08 04 47.4 +0.1**
SATY Saty 145.87 54⇓ *i*PKP **PKPbc 08 04 46.8 -0.6**
comp=N,20μm,0.7s
PVM Polavaram 145.96 101 *e*PKPbc **PKPbc 08 04 47.3 -0.8**
KPKS Kokpek 145.98 53 *e*PKP **PKPbc 08 04 47.0 -0.6**
comp=N,4μm,0.6s
UZB Uzynbulak 146.29 54⇓ *i*PKP **PKPdf 08 04 47.4 +1.1**
comp=N,5μm,1.2s
DDI Dehra Dun 146.33 77 *e*P **PKPdf 08 04 46.5 -0.1**
DDI IAMs_20 IAMs_20 08 47 21.9
comp=Z,886nm,12.3s
PDGK Podgornoye 146.58 53 PKIKP **PKPbc 08 04 48.3 -1.0**
PDGK pmax pmax
comp=Z,1μm,0.7s
SHLS Shalkode 146.60 54⇓ *i*PKP **PKPbc 08 04 48.6 -0.8**
comp=Z,10μm,0.6s
KAPI Kappang 146.79 186 PKPbc **PKPdf 08 04 48.5 +0.7**
SNR=23
KAPI Kappang 146.79 186 P **PKPdf 08 04 48.5 +0.7**
SNR=23
MAKZ Makanchi 147.17 46 *e*PKPdf **PKPdf 08 04 48.3 +0.8**
MAKZ *e*PKPbc **PKPbc 08 04 51.3 +0.7**
MAKZ *e*PKPab **PKPab 08 04 55.2 +1.0**
MAKZ Makanchi 147.17 46 *e*PKIKP **PKPdf 08 04 48.3 +0.8**
MAKZ *e* 08 04 55.2
MK31 Makanchi Array 147.37 46 *e*PKPdf **PKPdf 08 04 48.8 +1.0**
MK31 *e*PKPbc **PKPbc 08 04 51.9 +0.7**
MK31 *e*PKPab **PKPab 08 04 56.1 +1.1**
MK31 Makanchi Array 147.37 46 *e*PKIKP **PKPdf 08 04 48.8 +1.0**
MK31 *e* 08 04 56.1
MK32 Makanchi Array 147.37 46 *e*PKPdf **PKPdf 08 04 48.9 +1.0**
MK32 *ep*PKPdf **pPKPbc 08 06 58.1 -0.3**
MKAR Makanchi Array 147.37 46 PKPbc **PKPdf 08 04 48.8 +1.0**
comp=Z,800nm,0.6s,baz=318,slow=1.6,SNR=559
MKAR pPKPbc **pPKPbc 08 06 58.1 -0.3**
comp=Z,64nm,0.8s,baz=297,slow=5.3,SNR=4.4
MKAR SKKPab 08 15 16.6
comp=Z,4.4nm,0.9s,baz=102,slow=5.6,SNR=3.6
MKAR Makanchi Array 147.37 46 *e*PKPdf **PKPdf 08 04 48.7 +0.9**
MKAR *e*PKPbc **PKPbc 08 04 51.9 +0.7**
MKAR *e*PKPab **PKPab 08 04 56.1 +1.0**
MK01 Makanchi Array 147.39 46 *e*PKPdf **PKPdf 08 04 48.7 +0.9**
MK01 *e*PKPbc **PKPbc 08 04 52.0 +0.7**
MK01 *e*PKPab **PKPab 08 04 56.4 +1.3**
GSI Gunungsitoli 147.55 142 *e*PKPdf **PKPdf 08 04 50.4 +1.3**
GSI *e*PKPbc **PKiKP 08 04 54.0 -0.1**
VIS Vishakhapatnam 147.63 102 *e*P **PKPdf 08 04 49.2 +0.2**
BKNI Bangkinang 148.43 149 *e*PKPdf **PKPdf 08 04 50.4 -0.1**
BKNI *e*PKPbc **PKPbc 08 04 54.4 -0.4**
BKNI *e*PKPab **PKPab 08 04 59.2 -0.9**
ZSN Zaisan 148.70 44⇓ *i*PKP **PKPdf 08 04 50.8 +0.9**
NKL Nikolayevsk 149.48 331 *i* PKHKP PKPpre 08 04 51.0
NKL *e* 08 05 01.0
NKL pmax pmax
comp=N,22nm,1.0s
NKL pmax pmax
comp=Z,240nm,1.0s
NKL MLR MLR
comp=Z,500nm,12.0s
PSI Prapat 149.53 143 PKPbc **PKPab 08 05 06.9 +2.1**
comp=Z,138nm,0.5s,baz=224,slow=3.3,SNR=52
PSI Prapat 149.53 143 *e*PKPdf **PKPdf 08 04 52.4 0.0**
PSI *e*PKPbc **PKPbc 08 04 57.5 -0.1**

PSI *e*PKPab **PKPab 08 05 04.7 -0.2**
PSI Prapat 149.53 143 *e*PKHKP PKPpre 08 04 52.4
PSI *e* 08 05 04.7
GUMO Guam 150.02 247 PKPbc **PKPbc 08 04 58.3 -0.2**
comp=Z,1μm,0.6s,baz=168,slow=7.0,SNR=38
GUMO Guam 150.02 247 *e*PKPdf **PKPdf 08 04 52.9 0.0**
GUMO *e*PKPbc **PKPbc 08 04 58.3 -0.2**
GUMO Guam 150.02 247 *e*PKIKP **PKPdf 08 04 52.9 0.0**
KUR Kuril'sk 150.07 313 *i* PKIKP **PKPbc 08 04 58.0 +0.2**
KUR *i* 08 07 07.1
KUR *e* 08 08 45.8
KUR *i* SSS SSS 08 33 07.7
TYV Tymovskoe 150.11 326 *e*PKIKP **PKPdf 08 04 53.1 +1.1**
TYV pmax pmax
comp=Z,72nm,0.9s
LUWI Luwuk 150.29 192 *e*PKPdf **PKPdf 08 04 54.4 +1.0**
LUWI *e*PKPbc **PKiKP 08 05 00.1 +0.4**
PYUN Piuthan 150.33 82 *e*P **PKPdf 08 04 53.7 +0.3**
comp=Z,2μm,0.9s
BOD Bodaibo 150.39 3 *e*PKIKP **PKPdf 08 04 52.4 +0.2**
BOD pmax pmax
comp=Z,626nm,0.8s
LHMI Lhok Sumawe 150.39 137 *e*PKPdf **PKPdf 08 04 54.1 +0.5**
LHMI *e*PKPbc **PKiKP 08 05 00.1 +0.1**
LHMI *e*PKPab **PKPab 08 05 07.1 -1.2**
KOLN Koldanda 150.81 83 *e*P **PKPdf 08 04 54.4 +0.3**
comp=Z,889nm,0.6s
TNTI Ternate 150.83 202 *e*PKPdf **PKPdf 08 04 54.1 -0.2**
TNTI *e*PKPbc **PKPbc 08 04 59.6 -0.9**
TNTI *e*PKPab **PKPab 08 05 06.6 -3.5**
CLNS Chul'man 150.85 351 *e*PKIKP **PKPdf 08 04 53.2 +0.2**
CLNS pmax pmax
comp=Z,212nm,1.1s
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS pmax pmax
comp=N,31nm,0.9s
MYKOM Kota Tinggi 150.95 153 *e*PKPdf **PKPdf 08 04 54.3 -0.2**
MYKOM *e*PKPbc **PKPbc 08 05 00.2 -0.6**
MYKOM *e*PKPab **PKPab 08 05 11.3 +0.8**
DANN Dangsing 151.04 82 *e*P **PKPdf 08 04 55.4 +0.9**
comp=N,110nm,0.7s
YUK Yuzh-Kuril'sk 151.87 312 *i* PKIKP **PKPbc 08 05 01.9 0.0**
YUK *i* 08 07 03.7
YUK *i* 08 08 46.1
YUK pmax pmax
comp=Z,1μm,1.3s
BOK Bokaro 151.99 92 *e*P **PKPdf 08 04 56.6 +0.9**
IPM Ipoh 152.04 145 *e*PKPdf **PKPdf 08 04 56.4 +0.3**
IPM *e*PKPbc **PKiKP 08 05 03.4 0.0**
WMQ Urumqi 152.05 49 PKPbc **PKPdf 08 04 55.8 +0.5**
WMQ PKPab **PKPab 08 05 15.9 +1.2**
WMQ pPKP pPKPdf 08 07 03.6 -1.2
WMQ PP **PP 08 08 49.6 -0.3**
WMQ SS SS 08 27 33.2 -0.2
WMQ AMB AMB
comp=Z,4μm,3.9s
DMN Daman 152.11 84 *e*P **PKPdf 08 04 56.6 +0.5**
comp=Z,1μm,0.6s
PBA Port Blair 152.16 122 *e*P PKPdf 08 04 56.0 -0.2
PBA IAmb IAmb 08 05 03.8
comp=Z,784nm,1.2s
KKN Kakani 152.29 83 *e*P **PKPdf 08 04 56.8 +0.5**
comp=Z,1μm,0.6s
PKIN Phulchoki 152.36 84 *e*P **PKPdf 08 04 57.3 +0.8**
comp=Z,598nm,0.5s
PKI Pulchoki 152.37 84 *e*P **PKPdf 08 04 56.7 +0.1**
comp=Z,905nm,0.5s
YSS Yuzh-Sakhalins 152.38 320 *e*PKPdf **PKPdf 08 04 56.7 +1.2**
YSS *e*PKPbc **PKiKP 08 05 03.5 +0.4**
YSS *e*PKPab **PKPab 08 05 16.5 +0.7**
YSS Yuzh-Sakhalins 152.38 320K *i*PKIKP **PKPdf 08 04 56.1 +0.6**
YSS *e* 08 07 03.9
YSS *e* 08 08 50.0
YSS *e*PPP PPP 08 12 31.0
YSS pmax pmax
comp=Z,100nm,0.9s
YSS pmax pmax
comp=E,50nm,1.1s
YSS pmax pmax
comp=Z,500nm,4.8s
YSS pmax pmax
comp=Z,920nm,0.7s
YSS pmax pmax
comp=Z,330nm,0.9s
YSS pmax pmax
comp=Z,1μm,5.4s
KULM Kulim 152.53 143 *e*PKPdf **PKPdf 08 04 57.1 +0.3**
KULM *e*PKPbc **PKiKP 08 05 04.4 0.0**
KULM *e*PKPab **PKPab 08 05 17.1 -0.2**
KSM Kuching 152.67 166 *e*PKPdf **PKPdf 08 04 57.2 +0.2**
KSM *e*PKPbc **PKiKP 08 05 04.7 0.0**
KSM *e*PKPab **PKPab 08 05 18.6 +0.8**
GUN Gumba 152.83 83 *e*P **PKPdf 08 04 57.5 +0.2**
comp=Z,839nm,0.5s
GRNR Gornyy 153.02 332 *e*PKIKP **PKPdf 08 04 55.0 -1.4**
GRNR pmax pmax
comp=Z,42nm,1.0s
JIRN Jiri 153.07 84 *e*P **PKPdf 08 04 57.9 +0.3**
comp=Z,996nm,0.6s
DGPR DIGLIPUR 153.25 119 *e*P **PKPdf 08 04 58.5 +0.8**
DGPR IAmb IAmb 08 05 21.7
comp=Z,693nm,0.5s
RAMN Ramite 153.32 86 *e*P **PKPdf 08 04 58.5 +0.7**
comp=Z,994nm,0.5s
PKDT Phuket 153.33 136 PKP **PKPdf 08 04 57.6 -0.3**
PKDT Phuket 153.33 136 P **PKPdf 08 04 57.6 -0.3**
comp=Z,113nm,1.2s
PKDT Phuket 153.33 136 P pPKPbc 08 07 15.1 +0.7
comp=Z,43nm,1.1s
PKDT Phuket 153.33 136 P **PKPdf 08 04 57.6 -0.3**
comp=Z,113nm,1.2s,comp=Z,2μm
ZEA Zeya 153.39 346 *e*PKIKP **PKPdf 08 04 56.8 0.0**
ZEA *i* 08 05 20.0
ZEA *i* 08 08 55.0
ZEA pmax pmax
comp=N,74nm,1.4s
ZEA pmax pmax
comp=Z,160nm,1.4s
ZEA pmax pmax
comp=Z,800nm,5.0s
ZEA pmax pmax
comp=Z,600nm,6.0s
MOY Mondy 153.81 22 *e*PKIKP **PKPdf 08 04 59.1 +1.5**
MOY *e* 08 05 22.9
MOY pmax pmax
comp=Z,34nm,2.1s
ASAJ Asahikawa 153.94 314 PKP **PKPdf 08 04 58.7 +0.9**
comp=Z,48nm,0.9s,baz=248,slow=4.8,SNR=40
ASAJ PKPbc **PKiKP 08 05 07.1 +0.7**
comp=Z,127nm,0.8s,baz=216,slow=11,SNR=25
ASAJ PKPab **PKPab 08 05 23.1 +0.5**
comp=Z,158nm,0.7s,baz=302,slow=2.6,SNR=15
ASAJ Asahikawa 153.94 314 *e*PKPdf **PKPdf 08 04 58.2 +0.4**
ASAJ *e*PKPbc **PKiKP 08 05 07.0 +0.6**
ASAJ *e*PKPab **PKPab 08 05 23.0 +0.4**
SBUM Sibu 153.98 170 *e*PKPdf **PKPdf 08 04 59.3 +0.5**
SBUM *e*PKPbc **PKiKP 08 05 07.6 +0.2**
SBUM *e*PKPab **PKPab 08 05 24.5 +1.1**
ODAN Odare 154.00 86 *e*P **PKPdf 08 04 59.3 +0.5**
comp=Z,732nm,0.6s
SKLT Songkhla 154.09 141 PKP **PKPdf 08 04 58.3 -0.7**
SKLT Songkhla 154.09 141 P pPKPbc 08 07 17.3 +1.2
TAPN Taplejung 154.36 85 *e*P **PKPdf 08 04 59.6 +0.2**
comp=Z,178nm,0.5s
SURT Suratani 154.44 135 PKP **PKPdf 08 04 58.9 -0.5**
SURT Suratani 154.44 135 P **PKPdf 08 04 58.9 -0.5**
SURT Suratani 154.44 135 P **PKPdf 08 04 58.9 -0.5**
comp=Z,73nm,1.2s,comp=Z,1μm
ERM Erimo 154.51 310 *e*PKPab **PKPab 08 05 26.5 +1.4**
ERM Erimo 154.51 310 *e*PKP2 **PKPab 08 05 26.5 +1.4**
TLY Talaya 154.63 19 *e*PKPdf **PKPdf 08 04 59.7 +1.1**
TLY *e*PKPab **PKPab 08 05 27.1 +1.8**
TLY Talaya 154.63 19*c* iPKIKP **PKPdf 08 04 58.8 +0.2**
TLY *i* 08 05 07.6
TLY *i* 08 05 26.1
TLY pmax pmax
comp=Z,186nm,1.9s
TLY Talaya 154.63 19 PKPdf **PKPdf 08 04 59.7 +1.1**
SNR=41
TLY Talaya 154.63 19 P **PKPdf 08 04 59.7 +1.1**
SNR=41
ZAK Zakamensk 155.66 21 *e*PKIKP **PKPdf 08 05 01.2 +1.1**
ZAK pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,40nm,0.9s						
KLR	**Kul'dur**	**156.08**	**335**	PKP	**PKPdf**	**08 05 01.0**	**+0.4**
	comp=Z,7.5nm,0.9s,baz=24,slow=1.7,SNR=117						
KLR				PKPbc	PKPbc	08 05 11.4	
	comp=Z,2.7nm,0.5s,baz=9.6,slow=4.7,SNR=7.0						
KLR				PKPab	**PKPab**	**08 05 32.2**	**+0.6**
	comp=Z,11nm,0.9s,baz=56,slow=3.8,SNR=12						
KLR				PP	**PP**	**08 09 11.1**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=5.4,slow=4.7,SNR=7.4						
CIT	**Chita**	**156.15**	**5**	*e*PKIKP	**PKPdf**	**08 05 00.6**	**0.0**
CIT				pmax	pmax		
	comp=Z,575nm,1.8s						
TEY	**Ternei**	**156.97**	**322**	*e*PKIKP	**PKPdf**	**08 05 01.2**	**-0.6**
TEY				*e*		08 09 16.0	
TEY				pmax	pmax		
	comp=Z,2µm,3.0s						
TEY				pmax	pmax		
	comp=Z,15nm,0.6s						
TEY				pmax	pmax		
	comp=Z,2µm,6.0s						
MYLDM	**Lahad Datu**	**156.99**	**185**	*e*PKPdf	**PKPdf**	**08 05 04.3**	**+1.5**
CBIJ	**Chichi jima**	**157.42**	**273**	*e*PKPab	**PKPab**	**08 05 38.2**	**0.0**
JCJ	**Chichijima**	**157.42**	**273**	PKPab	**PKPab**	**08 05 38.4**	**+0.2**
	comp=Z,240nm,0.9s,baz=162,slow=6.9,SNR=4.8						
LSA	**Lhasa**	**157.60**	**80**	*e*PKPdf	**PKPdf**	**08 05 05.0**	**+1.3**
LSA				*e*PKPab	**PKPab**	**08 05 41.0**	**+1.4**
LSA	**Lhasa**	**157.60**	**80**	*e*PKIKP	**PKPdf**	**08 05 05.0**	**+1.3**
LSA	**Lhasa**	**157.60**	**80**	PKPdf	**PKPdf**	**08 05 05.0**	**+1.3**
LSA	**Lhasa**	**157.60**	**80**	P	**PKPdf**	**08 05 05.0**	**+1.3**
SHL	**Shillong**	**157.71**	**91**	*e*P	**PKPdf**	**08 05 03.1**	**-0.5**
KKM	**Kota Kinabalu**	**157.90**	**179**	*e*PKPdf	**PKPdf**	**08 05 04.4**	**+0.3**
KKM				*e*PKPab	**PKPab**	**08 05 40.6**	**+0.2**
SRDT	**SRDT**	**158.59**	**127**	PKP	**PKPdf**	**08 05 04.5**	**-0.1**
SRDT	**SRDT**	**158.59**	**127**	P	**PKPdf**	**08 05 04.5**	**-0.1**
	comp=Z,156nm,1.6s,comp=Z,4µm						
SONA1	**Songino Array**	**158.86**	**20**	*e*PKPdf	**PKPdf**	**08 05 04.2**	**-0.1**
SONA1				*e*PKPab	**PKPab**	**08 05 45.2**	**+1.3**
SONA0	**Songino Array**	**158.87**	**20**	*e*PKPdf	**PKPdf**	**08 05 05.2**	**+1.0**
SONA0				*e*PKPdif	PKPdf	08 05 17.8	+14
SONA0				*e*PKPab	**PKPab**	**08 05 45.3**	**+1.3**
SONA0				*e*pPKPdf	**pPKPdf**	**08 07 16.0**	**+1.9**
SONM	**Songino Array**	**158.87**	**20**	PKP	**PKPdf**	**08 05 05.2**	**+1.0**
	comp=Z,135nm,0.8s,baz=245,slow=1.2,SNR=536						
SONM				PKPbc	PKPbc	08 05 17.8	
	comp=Z,25nm,0.7s,baz=320,slow=1.4,SNR=7.4						
SONM				PKPab	**PKPab**	**08 05 45.3**	**+1.3**
	comp=Z,65nm,0.8s,baz=325,slow=3.9,SNR=13						
SONM				pPKP	**pPKPdf**	**08 07 16.0**	**+1.9**
	comp=Z,20nm,1.0s,baz=301,slow=1.8,SNR=3.5						
SONM	**Songino Array**	**158.87**	**20**	PKIKP	**PKPdf**	**08 05 05.2**	**+1.0**
SONM						08 05 45.3	
SONM						08 07 16.0	
SONM				pmax	pmax		
	comp=Z,134nm,0.8s						
SONM				pmax	pmax		
	comp=Z,25nm,0.7s						
SONM				pmax	pmax		
	comp=Z,65nm,0.8s						
SONM				pmax	pmax		
	comp=Z,20nm,1.0s						
HIA	**Hailar**	**158.89**	**354**	*e*PKPdf	**PKPdf**	**08 05 04.0**	**-0.1**
HIA				*e*PKPab	**PKPab**	**08 05 45.0**	**+1.2**
HIA	**Hailar**	**158.89**	**354**	*e*PKIKP	**PKPdf**	**08 05 04.0**	**-0.1**
HIA				*e*		08 05 45.0	
ULN	**Ulaanbaatar**	**159.03**	**18**	*e*PKPdf	**PKPdf**	**08 05 05.1**	**+0.7**
ULN				*e*PKPab	**PKPab**	**08 05 46.3**	**+1.6**
ULN	**Ulaanbaatar**	**159.03**	**18**	*e*PKIKP	**PKPdf**	**08 05 05.1**	**+0.7**
ULN				*e*		08 05 46.3	
ULN	**Ulaanbaatar**	**159.03**	**18**	PKPdf	**PKPdf**	**08 05 05.4**	**+0.9**
	SNR=97						
ULN	**Ulaanbaatar**	**159.03**	**18**	P	**PKPdf**	**08 05 05.4**	**+0.9**
	SNR=97						
CHBT	**CHBT**	**159.56**	**136**	PKP	PKPdf	08 05 23.6	+18
CHBT	**CHBT**	**159.56**	**136**	P	PKPdf	08 05 23.6	+18
UTHA	**Uthaitani**	**159.63**	**125**	PKP	**PKPdf**	**08 05 06.5**	**+0.7**
UTHA	**Uthaitani**	**159.63**	**125**	P	**PKPdf**	**08 05 06.5**	**+0.7**
	comp=Z,52nm,0.9s,comp=Z,602nm						
USRK	**Ussuriysk Ar.**	**159.93**	**326**	PKP	**PKPdf**	**08 05 05.0**	**-0.3**
	comp=Z,19nm,0.8s,baz=221,slow=2.0,SNR=28						
USRK				PKPbc	PKPbc	08 05 19.6	
	comp=Z,14nm,0.7s,baz=284,slow=2.6,SNR=7.0						
USRK				PKPab	**PKPab**	**08 05 48.6**	**+0.1**
	comp=Z,51nm,0.7s,baz=28,slow=3.2,SNR=13						
USRK				PP	**PP**	**08 09 34.9**	**+2.6**
	comp=Z,15nm,1.0s,baz=53,slow=7.4,SNR=4.1						
MJAR	**Matsushiro Arr**	**160.08**	**300**	PKP	**PKPdf**	**08 05 05.5**	**-0.3**
	comp=Z,16nm,1.0s,baz=244,slow=2.0,SNR=21						
MJAR				PKPab	**PKPab**	**08 05 50.0**	**+0.4**
	comp=Z,65nm,0.7s,baz=125,slow=2.4,SNR=23						
MJAR				pPKPab	**pPKPab**	**08 07 53.7**	**+1.8**
	comp=Z,11nm,0.9s,baz=99,slow=1.1,SNR=5.1						
MAJO	**Matsushiro**	**160.09**	**300**	*e*PKPdf	**PKPdf**	**08 05 05.7**	**-0.1**
MAJO				*e*		08 05 49.4	
MAJO				*e*PKPab	**PKPab**	**08 05 50.0**	**+0.4**
MAJO	**Matsushiro**	**160.09**	**300**	*e*PKIKP	**PKPdf**	**08 05 05.7**	**-0.1**
MAJO				*e*		08 05 49.4	
MAT	**Matsushiro**	**160.09**	**300**	PKP	**PKPdf**	**08 05 04.2**	**-1.6**
MJB9	**Matsu-Tunnel**	**160.09**	**300**	*e*PKPdf	**PKPdf**	**08 05 05.7**	**-0.1**
MJB9				*e*PKPab	**PKPab**	**08 05 49.2**	**-0.4**
MDJ	**Mudanjiang**	**160.70**	**331**	*e*PKPdf	**PKPdf**	**08 05 06.0**	**-0.2**
MDJ				*e*PKPab	**PKPab**	**08 05 52.2**	**+0.3**
CM01	**Chiang Mai Arr**	**161.01**	**117**	*e*PKPdf	**PKPdf**	**08 05 07.5**	**+0.2**
CM01				*e*PKPab	**PKPab**	**08 05 54.1**	**+0.1**
CM31	**Chiang Mai Arr**	**161.02**	**117**	*e*PKPdf	**PKPdf**	**08 05 08.4**	**+1.1**
CM31				*e*PKPab	**PKPab**	**08 05 54.1**	**0.0**
CMAR	**Chiang Mai Arr**	**161.02**	**117**	PKP	**PKPdf**	**08 05 08.2**	**+0.9**
	comp=Z,33nm,0.7s,baz=256,slow=3.2,SNR=126						
CMAR				PKPbc	PKPbc	08 05 22.1	
	comp=Z,5.3nm,0.7s,baz=277,slow=2.9,SNR=4.4						
CMAR				PKPab	**PKPab**	**08 05 54.1**	**0.0**
	comp=Z,34nm,0.9s,baz=250,slow=4.2,SNR=15						
CMAR				PP	**PP**	**08 09 40.5**	**+1.6**
	comp=Z,10nm,0.9s,baz=259,slow=5.5,SNR=8.7						
CHTO	**Chiang Mai**	**161.21**	**116**	PKP	**PKPdf**	**08 05 07.7**	**+0.2**
CHTO	**Chiang Mai**	**161.21**	**116**	P	**PKPdf**	**08 05 07.7**	**+0.2**
	comp=Z,564nm,1.8s,comp=Z,11µm						
CHTO	**Chiang Mai**	**161.21**	**116**	*e*PKPdf	**PKPdf**	**08 05 08.1**	**+0.6**
CHTO				*e*PKPab	**PKPab**	**08 05 54.9**	**0.0**
CHTO	**Chiang Mai**	**161.21**	**116**	*e*PKIKP	**PKPdf**	**08 05 08.1**	**+0.6**
CHTO				*e*		08 05 54.9	
CHTO	**Chiang Mai**	**161.21**	**116**	PKPdf	**PKPdf**	**08 05 07.9**	**+0.4**
	SNR=47						
CHTO	**Chiang Mai**	**161.21**	**116**	P	**PKPdf**	**08 05 07.9**	**+0.4**
	SNR=47						
CMMT	**Chiang Mai**	**161.22**	**116**	PKP	**PKPdf**	**08 05 06.6**	**-0.9**
CMMT	**Chiang Mai**	**161.22**	**116**	P	**PKPdf**	**08 05 06.6**	**-0.9**
	comp=Z,125nm,1.6s,comp=Z,3µm						
INU	**Inuyama**	**161.36**	**297**	*e*PKPdf	**PKPdf**	**08 05 07.7**	**+0.5**
INU				*e*PKPab	**PKPab**	**08 05 55.4**	**+0.1**
PHIT	**Phitsanulok**	**161.39**	**123**	PKP	**PKPdf**	**08 05 08.3**	**+0.6**
PHIT	**Phitsanulok**	**161.39**	**123**	P	**PKPdf**	**08 05 08.3**	**+0.6**
LAMP	**Lampang**	**161.59**	**118**	PKP	**PKPdf**	**08 05 08.7**	**+0.8**
LAMP	**Lampang**	**161.59**	**118**	P	**PKPdf**	**08 05 08.7**	**+0.8**
	comp=Z,61nm,0.9s,comp=Z,564nm						
CMAI	**Chiengmai2**	**161.88**	**113**	PKP	**PKPdf**	**08 05 08.7**	**+0.3**
CMAI	**Chiengmai2**	**161.88**	**113**	P	**PKPdf**	**08 05 08.7**	**+0.3**
	comp=Z,465nm,1.7s,comp=Z,16µm						
GTA	**Gaotai**	**162.12**	**47**	⇓PKP	**PKPdf**	**08 05 08.5**	**+0.5**
GTA				PKPab	**PKPab**	**08 06 00.0**	**+1.4**
GTA				pPKP	pPKPdf	08 07 18.5	+0.4
GTA				sPKP		08 08 09.1	
GTA				PP	**PP**	**08 09 45.4**	**+0.9**
GTA				SKKS		08 15 41.1	
GTA				SS	**SS**	**08 29 18.8**	**-0.9**
GTA				AMB	AMB		
	comp=Z,1µm,4.5s						
KHON	**Khomkaen**	**162.53**	**130**	PKP	**PKPdf**	**08 05 09.5**	**+0.7**
CN2	**Changchun**	**162.97**	**338**	*e*PKP	**PKPdf**	**08 05 07.2**	**-1.3**
CN2				*e*PP	**PP**	**08 09 46.7**	**-1.3**
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
SKNT	**Sakolnakorn**	**163.76**	**131**	PKP	**PKPdf**	**08 05 09.3**	**-0.7**
SKNT	**Sakolnakorn**	**163.76**	**131**	P	**PKPab**	**08 06 05.4**	**-0.7**
SNY	**Shenyang**	**165.35**	**339**	⇓PKP	**PKPdf**	**08 05 10.6**	**0.0**
SNY				pPKP	**pPKPdf**	**08 07 19.2**	**-1.6**
SNY				AMB	AMB		
	comp=Z,2µm,5.1s						
BTO	**Baotou**	**166.51**	**22**	*e*PKP	**PKPdf**	**08 05 12.2**	**+0.5**
LZH	**Lanzhou**	**166.61**	**51**	*e*PKP	**PKPdf**	**08 05 13.3**	**+1.3**
LZH				PKPab	**PKPab**	**08 06 18.1**	**-0.4**
LZH				sPKP		08 08 12.5	
LZH				PP	**PP**	**08 10 10.0**	**+2.2**
LZH				SKS	**SKSdf**	**08 11 16.1**	**-8.2**
LZH				SKKS	**SKKSac**	**08 16 00.3**	**-0.5**
LZH				AMB	AMB		
	comp=Z,2µm,5.3s						
HHC	**Hu-ho-hao-te**	**166.75**	**17**	*e*PKP	**PKPdf**	**08 05 13.2**	**+1.3**
HHC				pPKP	pPKPdf	08 07 17.9	-4.3
HHC				sPKP		08 08 13.5	
HHC				PP	**PP**	**08 10 04.1**	**-3.3**
HHC				SKKS		08 16 00.8	
HHC				AMB	AMB		
	comp=Z,1µm,5.7s						
KSRS	**Korea Array**	**166.86**	**317**	PKP	**PKPdf**	**08 05 12.3**	**+0.4**
	comp=Z,42nm,0.8s,baz=103,slow=0.4,SNR=74						
KSRS				PKPab	**PKPab**	**08 06 20.0**	**+0.7**
	comp=Z,67nm,0.8s,baz=52,slow=4.5,SNR=40						
KSRS				PP	**PP**	**08 10 11.1**	**+2.6**
	comp=Z,13nm,1.0s,baz=30,slow=4.7,SNR=7.5						
KS01	**Wonju Array Si**	**166.86**	**317**	*e*PKPdf	**PKPdf**	**08 05 11.3**	**-0.7**
KS01				*e*PKPab	**PKPab**	**08 06 20.2**	**+0.9**
JNU	**Nakatsue**	**166.88**	**295**	PKP	**PKPdf**	**08 05 12.2**	**0.0**
	comp=Z,10nm,0.7s,baz=328,slow=4.6,SNR=9.0						
JNU				PKPab	**PKPab**	**08 06 19.4**	**-0.3**
	comp=Z,54nm,0.8s,baz=69,slow=6.3,SNR=11						
KS15	**Wonju Array Si**	**166.89**	**317**	*e*PKPdf	**PKPdf**	**08 05 12.8**	**+0.8**
KS15				*e*PKPab	**PKPab**	**08 06 20.4**	**+1.0**
KSAR	**Wonju Array Be**	**166.89**	**317**	PKP	**PKPdf**	**08 05 12.3**	**+0.4**
KSAR	**Wonju Array Be**	**166.89**	**317**	PKIKP	**PKPdf**	**08 05 12.4**	**+0.4**
KMI	**Kunming**	**167.13**	**101**	PKP	**PKPdf**	**08 05 12.9**	**+0.1**
INCN	**Inchon**	**167.59**	**320**	*e*PKPdf	**PKPdf**	**08 05 12.9**	**+0.4**
INCN				*e*PKPab	**PKPab**	**08 06 23.2**	**+0.7**
BJI	**Beijing**	**168.24**	**2**	*i* PKP	**PKPdf**	**08 05 13.2**	**+0.4**
BJI				pPKP	**pPKPdf**	**08 07 20.1**	**-3.0**
BJI				PP	**PP**	**08 10 12.0**	**-2.5**
BJI				AMB	AMB		
	comp=Z,2µm,6.3s						
BJT	**Baijiatuau**	**168.26**	**2**	*e*PKPdf	**PKPdf**	**08 05 13.6**	**+0.8**
BJT				*e*PKPab	**PKPab**	**08 06 24.9**	**-0.3**
BJT	**Baijiatuau**	**168.26**	**2**	*e*PKIKP	**PKPdf**	**08 05 13.6**	**+0.8**
BJT				*e*		08 06 25.0	
CD2	**Chengdu**	**168.42**	**74**	PKP	**PKPdf**	**08 05 13.6**	**+0.3**
CD2				pPKP	pPKPdf	08 07 23.4	-0.2
CD2				sPKP		08 08 16.8	
CD2				PP	**PP**	**08 10 17.3**	**-0.1**
CD2				SKS	**SKSdf**	**08 11 25.4**	**+0.1**
CD2				SKKS	**SKKSac**	**08 16 09.5**	**-0.4**
CD2				SS	**SS**	**08 30 24.0**	**-0.3**
CD2				AMB	AMB		
	comp=Z,2µm,5.0s						
DL2	**Dalian**	**168.62**	**340**	⇓*i*PKP	**PKPdf**	**08 05 13.2**	**+0.1**
DL2				PKPab	**PKPab**	**08 06 26.8**	**-0.1**
DL2				pPKP	**pPKPdf**	**08 07 24.9**	**+1.5**
DL2				PP	**PP**	**08 10 12.8**	**-3.9**
DL2				AMB	AMB		
	comp=Z,1µm,7.1s						
QIZ	**Qiongzhong**	**168.87**	**144**	*e*PKPdf	**PKPdf**	**08 05 15.0**	**+1.2**
QIZ				*e*PKPab	**PKPab**	**08 06 28.4**	**-0.1**
TIY	**Taiyuan**	**169.91**	**20**	*e*PKP	**PKPdf**	**08 05 14.6**	**+0.6**
TIY				PKPab	**PKPab**	**08 06 34.9**	**+2.1**
TIY				pPKP	**pPKPdf**	**08 07 24.8**	**+0.4**
TIY				PP	**PP**	**08 10 25.7**	**+2.5**
TIY				SKKS		08 16 18.9	
TIY				AMB	AMB		
	comp=Z,1µm,6.2s						
GYA	**Guiyang**	**170.89**	**99**	*i* PKP	**PKPdf**	**08 05 14.7**	**-0.3**
GYA				PKPab	**PKPab**	**08 06 39.0**	**+1.2**
GYA				pPKP	pPKPdf	08 07 25.4	0.0
GYA				sPKP		08 08 17.2	
GYA				PKS	**PKSdf**	**08 08 45.7**	**-1.9**
GYA				PP	**PP**	**08 10 31.2**	**+1.4**
GYA				SKKS		08 16 22.6	
GYA				SS	**SS**	**08 30 46.3**	**-2.5**
GYA				AMB	AMB		
	comp=Z,310nm,8.9s						
XAN	**Xi'an**	**171.19**	**47**	PKP	**PKPdf**	**08 05 15.1**	**+0.3**
XAN				PKPab	**PKPab**	**08 06 38.0**	**-0.7**
XAN				PKS	**pPKPab**	**08 08 42.3**	**+1.6**
XAN				PP	**PP**	**08 10 32.4**	**+2.1**
XAN				SS	SS	08 30 49.8	-0.1
XAN				AMB	AMB		
	comp=Z,870nm,8.8s						
TIA	**Tai'an**	**172.06**	**358**	PKP	**PKPdf**	**08 05 15.7**	**+0.6**
TIA				PP	**PP**	**08 10 32.4**	**-1.0**
TIA				AMB	AMB		
	comp=Z,2µm,5.1s						
ENH	**Enshi**	**173.38**	**71**	*e*PKPdf	**PKPdf**	**08 05 16.1**	**+0.2**
ENH				*e*PKPab	**PKPab**	**08 06 48.4**	**-0.3**
YULB	**Yu-li**	**173.63**	**222**	*e*PKPdf	**PKPdf**	**08 05 16.2**	**+0.1**
YULB				*e*PKPab	**PKPab**	**08 06 49.9**	**+0.3**
TPUB	**Ta-pu**	**173.93**	**216**	*e*PKPdf	**PKPdf**	**08 05 17.5**	**+1.2**
GZH	**Guangzhou**	**174.02**	**149**	PKP	**PKPdf**	**08 05 17.2**	**+1.0**
GZH				PKPab	**PKPab**	**08 06 54.6**	**+3.3**
GZH				pPKP	**pPKPdf**	**08 07 26.8**	**+0.2**
GZH				PP	**PP**	**08 10 47.8**	**+4.6**
SSLB	**Suanglung**	**174.13**	**222**	*e*PKPdf	**PKPdf**	**08 05 17.0**	**+0.7**
SSLB				*e*PKPab	**PKPab**	**08 06 51.7**	**-0.2**
SSE	**Sheshan**	**175.19**	**307**	PKP	**PKPdf**	**08 05 15.8**	**-0.5**
SSE				PP	**PP**	**08 10 52.5**	**+2.9**
SSE				SS	SS	08 31 31.8	+3.5
SSE				AMB	AMB		
	comp=Z,740nm,5.4s						
NJ2	**Nanjing**	**175.79**	**334**	*e*PKP	**PKPdf**	**08 05 16.9**	**+0.4**
NJ2				PKPab	**PKPab**	**08 06 58.8**	**-0.1**
NJ2				PP	**PP**	**08 10 50.4**	**-1.1**
NJ2				SKKS		08 16 47.0	
NJ2				AMB	AMB		
	comp=Z,2µm,4.3s						
QZH	**Quanzhou**	**176.29**	**207**	*i* PKP	**PKPdf**	**08 05 17.4**	**+0.6**
QZH				pPKP	**pPKPdf**	**08 07 27.4**	**+0.2**
QZH				*e*PP	**PP**	**08 10 59.0**	**+5.2**
QZH				SKKS		08 16 45.8	
WHN	**Wuhan**	**176.93**	**42**	PKP	**PKPdf**	**08 05 17.0**	**+0.3**
WHN				PKPab	**PKPab**	**08 07 04.2**	**+0.1**
WHN				pPKP	**pPKPdf**	**08 07 23.7**	**-3.5**
WHN				PP	**PP**	**08 11 02.2**	**+4.8**
WHN				AMB	AMB		
	comp=Z,2µm,3.9s						

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*IDC **05** 07:55:40.4±0.9, 0°.17S×124°.28E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/61, mbtmp4.0/8, Error ellipse: s-maj=40.6km s-min=17.5km az=78.0*
*ISCJB **05** 07:55:44.8±0.5, 0°.07S±0°.06×124°.19E±0°.05, h35km, mb4.0/8, Error ellipse: s-maj=9.4km s-min=6.5km az=159.0*
*DJA **05** 07:55:48.6±0.4, 0°S±4°×12°4E±°, h51km±12km, M4.7/12, mb5.0/5, mB5.1/3, MLv4.6/12, Mw(mB)4.5/3*
ISC 05 07:55:46.6±0.8**, 0°.20S**±0°.05×**124°.11E**±0°.05**, h35km, n20, σ2s.20**/22**, mb3.9**/8**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.78**	**351**	P	**Pn**	**07 56 03.1**	**+2.0**
KMSI				S	**Sn**	**07 56 16.1**	**+4.5**
LUWI	**Luwuk**	**1.57**	**238**	P	**Pn**	**07 56 13.7**	**+1.7**
LUWI				S	**Sn**	**07 56 33.2**	**+2.1**
MRSI	**Marisa**	**2.27**	**287**	P	**Pn**	**07 56 22.3**	**+0.8**
APSI	**Ampana**	**2.56**	**254**	P	**Pn**	**07 56 27.9**	**+2.4**
APSI				S	**Sn**	**07 56 57.6**	**+2.2**
SANI	**Sanana**	**2.63**	**134**	P	**Pn**	**07 56 28.4**	**+1.9**
LBMI	**Labuha**	**3.42**	**97**	P	**Pn**	**07 56 40.8**	**+3.3**
MPSI	**Mapaga**	**4.24**	**277**	P	**Pn**	**07 56 50.7**	**+2.0**
TTSI	**Tana Toraja**	**5.13**	**237**	P	**Pn**	**07 57 02.8**	**+1.9**
MSAI	**Masohi**	**5.74**	**123**	P	**Pn**	**07 57 11.5**	**+2.1**
BNSI	**Bone**	**5.77**	**224**	P	**Pn**	**07 57 11.4**	**+1.6**
KBKI	**Kotabaru**	**8.51**	**249**	P	Pn	07 57 58.3	+11
WRA	**Warramunga Arr**	**22.03**	**154**	P	**P**	**08 00 36.8**	**-1.5**
	1.9nm,0.8s,baz=329,slow=12,SNR=15						
ASAR	**Alice Springs**	**25.19**	**158**	P	**P**	**08 01 07.3**	**-1.7**
	2.0nm,0.7s,baz=351,slow=11,SNR=26						
CMAR	**Chiang Mai Arr**	**30.91**	**308**	P	**P**	**08 02 01.4**	**+1.2**
	0.7nm,0.5s,baz=127,slow=7.2,SNR=5.1						
MJAR	**Matsushiro Arr**	**38.83**	**18**	P	**P**	**08 03 06.7**	**-1.6**
	2.9nm,0.5s,baz=196,slow=9.2,SNR=7.5						
USRK	**Ussuriysk Ar.**	**44.77**	**8**	P	**P**	**08 03 55.5**	**-1.2**
	6.0nm,0.8s,baz=188,slow=7.1,SNR=10						
ASAJ	**Asahikawa**	**47.11**	**18**	P	**P**	**08 04 14.3**	**-0.9**
	2.3nm,0.3s,baz=235,slow=31,SNR=6.6						
KLR	**Kul'dur**	**49.68**	**7**	P	**P**	**08 04 33.1**	**-1.8**
	0.3nm,0.7s,baz=182,slow=3.8,SNR=12						
SONM	**Songino Array**	**50.27**	**345**	P	**P**	**08 04 37.3**	**-2.3**
	1.0nm,0.6s,baz=161,slow=8.7,SNR=7.1						
TORD	**Torodi Ar. Bea**	**121.53**	**285**	PKP	**PKPdf**	**08 14 36.7**	**-0.8**
	0.7nm,0.6s,baz=93,slow=3.1,SNR=3.5						

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*ISCJB **05** 08:06:53.0±1.0, 36°.21S±0°.05×73°.35W±0°.10, h10km, mb4.0/3, Error ellipse: s-maj=11.8km s-min=6.3km az=23.4*
*GUC **05** 08:06:55.4±0.6, 36°.21S×73°.26W, h22km±8km, ML3.9*
*IDC **05** 08:07:06.0±7.2, 36°.37S×70°.62W, h27km±53km, mb3.7/4, mb1 3.9/5, mb1mx3.7/34, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=62.2km s-min=27.7km az=84.0*
ISC 05 08:06:54.4±1.5**, 36°.22S**±0°.06×**73°.3W**±0°.1**, h10km, n11, σ0s.89**/12**, mb4.0**/3**, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.41**	**78**	*e*P	**Pg**	**08 07 03.3**	**+0.9**
COCH				*e*S	**Sg**	**08 07 08.4**	**+0.7**
COCH				IAML		08 07 09.2	
	comp=N,16µm,0.3s						
CCHI	**Chillan**	**1.04**	**112**	⇓*i*P	**Pg**	**08 07 12.7**	**-1.7**
CCHI				IAML		08 07 37.0	
	comp=N,6µm,0.6s						
GO05	**HualaæØ**	**1.63**	**43**	*e*P	**Pn**	**08 07 22.2**	**-1.0**
GO05				*e*S	**Sn**	**08 07 44.0**	**-0.2**
GO05				IAML		08 07 50.5	
	comp=E,3µm,0.5s						
TMU	**Temuco**	**2.57**	**168**	*e*P	**Pn**	**08 07 36.0**	**0.0**
TMU				*e*S	**Sn**	**08 08 07.5**	**0.0**
TMU				IAML		08 08 18.5	
	comp=E,442nm,0.4s						
LMEL	**Las Melosas**	**3.46**	**48**	*e*P	**Pn**	**08 07 49.0**	**+0.5**
ROCH	**El Roble**	**3.74**	**31**	*e*P	**Pn**	**08 07 52.5**	**+0.2**
PLCA	**Paso Flores**	**4.99**	**155**	Pn	**Pn**	**08 08 10.6**	**+1.2**
	comp=E,0.8nm,0.3s,baz=356,slow=14,SNR=14						
PLCA				Lg	Lg	08 09 26.0	
	comp=E,3.5nm,0.3s,baz=281,slow=18,SNR=4.7						
LPAZ	**La Paz**	**20.37**	**14**	P	Pn	08 11 37.3	+3.4
	comp=E,1.1nm,0.6s,baz=191,slow=8.8,SNR=4.7						
SNAA	**Sanae**	**49.93**	**157**	P	**P**	**08 15 48.0**	**+0.1**
	comp=E,0.7nm,0.4s,baz=261,slow=10,SNR=2.0						
KOWA	**Kowa**	**82.47**	**66**	P	**P**	**08 19 17.2**	**-0.2**
	comp=E,2.3nm,0.7s,baz=248,slow=11,SNR=4.6						
NVAR	**Mina Array Bea**	**85.13**	**326**	P	P	08 19 46.9	+16
	comp=E,0.3nm,0.6s,baz=148,slow=5.3,SNR=2.5						

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*ISCJB **05** 08:11:13.2±0.4, 32°.35N±0°.02×115°.37W±0°.02, h14km±2km, Error ellipse: s-maj=3.0km s-min=2.6km az=173.0*
*NEIC **05** 08:11:14.7±0.0, 32°.34N×115°.38W, h5km, ML2.9(PAS), ML3.0(ECX), After ECX.*
*ECX **05** 08:11:14.7±0.7, 32°.33N×115°.38W, h5km, MD2.8, ML3.0*
*MEX **05** 08:11:14.6±1.4, 32°.48N×115°.22W, h20km±13km, MD3.9*
ISC 05 08:11:13.1±0.9**, 32°.36N**±0°.02×**115°.37W**±0°.02**, h18km**±4km**, n59, σ1s.37**/93**, 3C-5D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.08**	**45**	*e*Pg	**Pg**	**08 11 16.2**	**-0.4**
CPBX				*e*Sg	**Sg**	**08 11 18.9**	**-0.1**
CPBX	**Cerro Prieto**	**0.08**	**45**	*e*P	**Pg**	**08 11 16.2**	**-0.4**
CPBX				*e*S	**Sg**	**08 11 18.8**	**-0.1**
CPBX				IAML		08 11 20.0	
	comp=N,22µm,0.3s						
CPBX				⇓*e*		08 11 20.0	
MBIG	**Mexicali**	**0.15**	**73**	*e*P	**Pg**	**08 11 18.3**	**+1.0**
MBIG				*e*S	**Sg**	**08 11 20.2**	**0.0**
MBIG	**Mexicali**	**0.15**	**73**	*e*P	**Pg**	**08 11 18.4**	**+1.0**
WESC	**Westside Schoo**	**0.50**	**323**	*e*P	**Pn**	**08 11 24.3**	**-1.1**
COA	**Coachella**	**0.54**	**23**	⇓*i*P	**Pn**	**08 11 25.1**	**-0.9**
YUH	**Yuha Desert**	**0.55**	**302**	⇑*i*P	**Pb**	**08 11 24.5**	**+0.3**
RMX	**La Rumorosa**	**0.65**	**292**	⇑*e*P	**Pg**	**08 11 25.7**	**-0.2**
RMX				*e*S	**Sg**	**08 11 34.2**	**-0.3**
RMX				⇓*e*		08 11 35.0	
RMX				IAML		08 11 35.0	
	comp=N,656nm,0.4s						
SWSC	**Sam W. Stewart**	**0.69**	**328**	P	**Pg**	**08 11 26.7**	**+0.1**
	baz=153,SNR=14						
SWSC				S	**Sg**	**08 11 36.3**	**+0.5**
	baz=153						
SWSC	**Sam W. Stewart**	**0.69**	**328**	⇓*i*P	**Pg**	**08 11 26.8**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.69**	**295**	P	**Pg**	**08 11 27.1**	**+0.3**
	baz=122,SNR=59						
IKP				S	**Sg**	**08 11 36.1**	**+0.2**
	baz=122						
IKP	**In-Ko-Pah, Jac**	**0.69**	**295**	*e*P	**Pg**	**08 11 27.0**	**+0.3**
YMD	**Yuma Desert**	**0.72**	**74**	⇑*i*P	**Pn**	**08 11 27.5**	**-1.0**
GLA	**Glamis**	**0.83**	**34**	P	**Pn**	**08 11 29.0**	**-0.9**
	baz=211,SNR=13						
GLA				S	**Sn**	**08 11 40.4**	**-1.4**
	baz=211						
GLA	**Glamis**	**0.83**	**34**	*e*Pg	**Pn**	**08 11 29.1**	**-0.9**
GLA				*e*Sg	**Sn**	**08 11 40.9**	**-0.9**
ECBX	**El Chinero**	**0.93**	**163**	*e*P	**Pb**	**08 11 30.9**	**+0.2**
ECBX				*e*S	**Sb**	**08 11 43.1**	**+0.4**
ECBX				⇓*e*		08 11 43.4	
ECBX				IAML		08 11 43.4	
	comp=E,273nm,0.2s						
MONP2	**Monument Peak**	**1.03**	**301**	P	**Pb**	**08 11 32.4**	**-0.2**
	baz=125,SNR=37						
MONP2				S	**Sg**	**08 11 46.5**	**-0.4**
	baz=125						
CBX	**Cerro Bola**	**1.10**	**268**	*e*P	**Pn**	**08 11 33.9**	**+0.2**
CBX				*e*S	**Sb**	**08 11 48.2**	**+0.5**
CBX	**Cerro Bola**	**1.10**	**268**	*e*Pg	**Pn**	**08 11 33.9**	**+0.2**
CBX				*e*Sn	**Sb**	**08 11 48.2**	**+0.5**
CBX	**Cerro Bola**	**1.10**	**268**	*e*P	**Pn**	**08 11 33.9**	**+0.2**
CBX				*e*S	**Sb**	**08 11 48.1**	**+0.5**
TJIG	**Tijuana**	**1.11**	**274**	*e*P	**Pn**	**08 11 33.6**	**-0.1**
TJIG				*e*S	**Sb**	**08 11 47.8**	**0.0**
TJIG	**Tijuana**	**1.11**	**274**	*e*P	**Pn**	**08 11 33.8**	**0.0**
ZAX	**El Zacaton**	**1.14**	**222**	*e*P	**Pn**	**08 11 33.9**	**-0.4**
ZAX				*e*S	**Sb**	**08 11 49.0**	**0.0**
BAR	**Barrett**	**1.15**	**286**	*e*Pg	**Pg**	**08 11 34.9**	**-0.4**
BAR				*e*Sg	**Sn**	**08 11 49.6**	**0.0**
BAR	**Barrett**	**1.15**	**286**	*e*P	**Pb**	**08 11 34.8**	**+0.4**
ECNX	**Esteban Cantu**	**1.26**	**236**	*e*P	**Pn**	**08 11 36.0**	**+0.1**
BC3	**Big Chuckawall**	**1.29**	**357**	P	**Pn**	**08 11 35.9**	**-0.5**
	baz=178,SNR=30						
BC3				S	**Sb**	**08 11 51.8**	**-1.5**
	baz=178						
PBX	**Punta Banda**	**1.31**	**242**	*e*P	**Pn**	**08 11 36.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.31**	**184**	*e*P	**Pn**	**08 11 36.7**	**-0.2**
SPIG				*i* S	**Sn**	**08 11 54.6**	**+0.4**
SPIG	**San Pedro Mart**	**1.31**	**184**	*e*Pn	**Pn**	**08 11 36.7**	**-0.2**
SPIG				*e*Sn	**Sn**	**08 11 54.6**	**+0.4**
SPIG	**San Pedro Mart**	**1.31**	**184**	*e*P	**Pn**	**08 11 36.6**	**-0.3**
SPX	**San Pedro Mart**	**1.31**	**183**	*e*P	**Pn**	**08 11 35.7**	**-1.2**
SPX				*e*S	**Sn**	**08 11 53.6**	**-0.6**
SDRC	**San Diego Road**	**1.38**	**286**	*e*P	**Pb**	**08 11 38.4**	**0.0**
113A	**Mohawk Valley,**	**1.41**	**73**	*e*Pn	**Pb**	**08 11 38.0**	**-1.0**
113A				*e*Sn	**Sn**	**08 11 55.3**	**-0.9**
XPFO	**Piæon Flat**	**1.54**	**324**	*e*Pn	**Pn**	**08 11 39.5**	**-0.4**
XPFO				*e*Sn	**Sn**	**08 11 57.9**	**-1.7**
PFO	**Pinyon Flats O**	**1.55**	**324**	P	**Pn**	**08 11 39.4**	**-0.5**
	baz=146,SNR=7.7						
PFO				S	**Sn**	**08 11 58.2**	**-1.5**
	baz=146						
PFO	**Pinyon Flats O**	**1.55**	**324**	*e*Pn	**Pn**	**08 11 39.4**	**-0.5**
PFO				*e*Sn	**Sn**	**08 11 58.0**	**-1.6**
109C	**Camp Elliot, M**	**1.56**	**290**	P	**Pn**	**08 11 39.7**	**-0.2**
	baz=113,SNR=14						
109C				Sb	**Sb**	**08 12 01.5**	**+0.7**
	baz=113						
CPE	**Camp Elliot**	**1.56**	**290**	*e*Pn	**Pn**	**08 11 39.9**	**-0.1**
CPE				*e*Sn	**Sb**	**08 12 01.6**	**+0.9**
Y12C	**Blythe**	**1.56**	**27**	*e*Pn	**Pg**	**08 11 42.3**	**-0.8**
MURC	**Murrieta**	**1.97**	**309**	Sb	**Sg**	**08 12 15.2**	**-1.3**
	baz=131						
214A	**Organ Pipe Nat**	**2.21**	**100**	P	**Pn**	**08 11 48.1**	**-0.9**
	baz=279						
214A				Sb	**Sg**	**08 12 22.4**	**-1.8**
	baz=279						
BBRC	**Big Bear Solar**	**2.30**	**326**	Sb	**Sg**	**08 12 26.1**	**-1.0**
	baz=147						
Y14A	**Wickenburg**	**2.53**	**51**	*e*Pn	**Pb**	**08 11 57.1**	**-0.9**
Y14A				*e*Sn	**Sb**	**08 12 30.0**	**+1.0**
BFSC	**Mount Baldy Ra**	**2.68**	**315**	Sb	**Sb**	**08 12 35.7**	**+2.5**
	baz=135						
LDFC	**Landfair**	**2.72**	**5**	*e*Pn	**Pn**	**08 11 57.3**	**+1.2**
CIS	**Catalina Islan**	**2.76**	**293**	Sb	**Sb**	**08 12 38.3**	**+2.7**
	baz=113						
MWC	**Mount Wilson**	**2.92**	**310**	*e*Pn	**Pn**	**08 11 56.1**	**-2.7**
MWC				*e*Sn	**Sg**	**08 12 43.9**	**-3.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PASC	Pasadena Art C	2.97	308	ePn	Pn	08 12 01.3	+1.9
PASC				eSn	Sn	08 12 34.7	+0.2
W13A	Hualapai Mount	3.00	24	ePn	Pn	08 12 01.6	+1.6
EDW2	Edwards Air Fo	3.33	320	Sb	Sg	08 12 56.4	-3.8
	baz=140						
SNCC	San Nicolas Is	3.61	285	ePn	Pn	08 12 10.2	+2.1
X16A	Lo Mia Camp, P	3.87	57	ePn	Pn	08 12 14.0	+2.1
TUC	Tucson	3.88	90	ePn	Pn	08 12 13.7	+1.7
SHPR	Sheep Range	4.14	2	ePn	Pn	08 12 16.7	+1.1
SHPR				eSn	Sn	08 13 04.8	+1.2
WUAZ	Wupatki	4.58	45	ePn	Pn	08 12 23.2	+1.6
WUAZ				eSn	Sn	08 13 17.2	+2.7
LCMT	Little Creek M	4.96	20	ePn	Pn	08 12 29.6	+2.8
LCMT				eSn	Sn	08 13 29.4	+5.6
319A	Douglas	5.27	99	ePn	Pn	08 12 28.4	-2.7
319A				eSn	Sn	08 13 33.7	+2.2
PKCU	Pink Cliffs	5.66	26	ePn	Pn	08 12 35.3	-1.4

*BJI **05** 08:12:28.0, 1.°61N×129.°00E, h42km, mb5.2/68, mB5.4/48, Ms4.9/52, Ms7 4.6/51*

*ISCJB **05** 08:12:31.1±0.4, 1.°96N±0.°02×128.°71E±0.°02, h40km±3km, mb5.4/228, MS4.7/93, Error ellipse: s-maj=3.5km s-min=2.9km az=155.4*

*MOS **05** 08:12:31.0±1.1, 2.°04N×128.°65E, h39km, mb5.5/77, MS4.4/19, Error ellipse: s-maj=8.1km s-min=4.5km az=109.2*

*DJA **05** 08:12:33.5±0.4, 2°N±2°×12°9E±°, h33km±3km, M5.5/84, mb5.7/84, mB5.9/65, MLv5.5/15, Mw(mB)5.5/65, Mwp6.8/1*

*NEIC **05** 08:12:33.6±0.7, 1.°94N×128.°63E, h49km±6km, mb5.4/115, MS4.7/73, Error ellipse: s-maj=4.9km s-min=4.0km az=64.0*

*IDC **05** 08:12:34.2±1.6, 2.°03N×128.°65E, h52km±13km, mb4.9/43, mb1 4.9/46, mb1mx4.8/56, mbtmp5.1/46, ML5.0/3, MS4.5/6, Ms1 4.5/6, ms1mx3.8/57, Error ellipse: s-maj=11.8km s-min=8.5km az=70.0*

ISC 05 08:12:32.3±0.3, **1.°94N**±0.°03×**128.°72E**±0.°04, **h38**km±1km, **n646**, σ1.°52/653, **mb5.4**/228, **MS4.7**/95, **24C-20D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.78	229	ePn	Pn	08 12 59.7	-0.8
TNTI				eSn	Sn	08 13 19.2	-2.8
LBMI	Labuha	2.84	205	P	Pn	08 13 16.0	+0.9
LBMI				S	Sn	08 13 54.2	+6.2
SGSI	Sangihe	3.62	299	P	Pn	08 13 26.0	+0.1
SWI	Sorong	3.77	138	P	Pn	08 13 26.8	-1.1
SWI				S	Sn	08 14 13.7	+2.6
SWI	Sorong	3.77	138	P	Pn	08 13 27.6	-0.3
SANI	Sanana	4.81	215	P	Pn	08 13 44.5	+2.3
KMSI	Cibinong	4.93	254	P	Pn	08 13 45.8	+2.0
MSAI	Masohi	5.26	178	P	Pn	08 13 51.4	+3.1
GSPH	General Santos	5.57	318	⇑iP	Pn	08 13 53.7	+0.9
AAI	Ambon	5.62	185	P	Pn	08 13 56.3	+3.0
AAI	Ambon	5.62	185	P	Pn	08 13 57.9	+4.6
AAI				pmax	pmax		
	comp=Z,397nm,0.9s						
DAV	Davao City (W)	5.98	329	P	Pn	08 13 59.6	+1.4
	comp=Z,63nm,0.3s,baz=55,slow=5.5,SNR=4.8						
DAV				S	Sn	08 15 21.1	+16
	comp=Z,79nm,0.3s,baz=266,slow=19,SNR=2.3						
DAV	Davao City (W)	5.98	329	ePn	Pn	08 14 00.4	+2.1
FAKI	Fak Fak	5.98	144	P	Pn	08 13 57.8	-0.5
	comp=Z,397nm,1.0s,comp=Z,4µmcomp=Z,1.5nm						
FAKI	Fak Fak	5.98	144	ePn	Pn	08 13 57.8	-0.5
FAKI				eSn	Sn	08 15 06.9	+1.3
KCP	Kidapawan	6.20	324	⇑eP	Pn	08 14 02.6	+1.3
RKPI	Ransiki, Papua	6.45	122	P	Pn	08 14 10.8	+6.1
	comp=Z,477nm,0.6s,comp=Z,2.2nm						
BNDI	Bandanaira	6.53	170	P	Pn	08 14 07.0	+1.2
	comp=Z,753nm,1.4s,comp=Z,10µmcomp=Z,2.8nm						
LUWI	Luwuk	6.64	244	P	Pn	08 14 09.3	+1.9
	comp=Z,1µm,0.8s,comp=Z,14µmcomp=Z,4.0nm						
LUWI	Luwuk	6.64	244	ePn	Pn	08 14 08.3	+0.9
LUWI				eSn	Sn	08 15 24.0	+2.1
CTBH	Cotabato--PC H	6.88	320	eP	Pn	08 14 11.2	+0.6
BUKP	Musuan	6.93	328	eP	Pn	08 14 12.9	+1.5
MRSI	Marisa	6.93	258	P	Pn	08 14 12.7	+1.4
	comp=Z,508nm,1.2s,comp=Z,5µmcomp=Z,1.9nm						
KMPI	Kaimana, Papua	7.47	138	P	Pn	08 14 24.6	+5.8
	comp=Z,202nm,0.9s,comp=Z,3µmcomp=Z,1.0nm						
APSI	Ampana	7.62	248	P	Pn	08 14 22.7	+2.0
	comp=Z,2µm,1.0s,comp=Z,15µmcomp=Z,5.8nm						
BUTP	Butuan	7.63	336	eP	Pn	08 14 23.1	+2.1
PALU	Palau	7.85	47	P	Pn	08 14 22.4	-1.6
	baz=7.8,SNR=5.2						
PAGZ	Pagadian	7.92	318	eP	Pn	08 14 27.4	+2.6
SCPH	Surigao	8.42	338	⇓eP	Pn	08 14 32.9	+1.0
MPSI	Mapaga	8.96	260	P	Pn	08 14 39.9	+0.7
	comp=Z,189nm,0.9s,comp=Z,2µm						
MSLP	Maasin	8.99	335	eP	Pn	08 14 46.5	+6.8
TTSI	Tana Toraja	10.18	241	P	Pn	08 14 55.1	-0.8
	comp=Z,1µm,0.9s,comp=Z,10µm						
BNSI	Bone	10.66	234	P	Pn	08 15 02.1	-0.5
	comp=Z,696nm,0.8s,comp=Z,7µm						
MYLDM	Lahad Datu	10.69	288	ePn	Pn	08 15 05.7	+2.8
RCP	Roxas	11.24	328	⇑eP	Pn	08 15 06.7	-3.7
SGKI	Sangatta, Kali	11.38	258	P	Pn	08 15 11.9	-0.5
	comp=Z,558nm,1.0s,comp=Z,5µm						
BSSI	Bau Bau, Buton	11.49	226	P	Pn	08 15 17.6	+3.7
	comp=Z,211nm,1.1s,comp=Z,7µm						
SMKI	Samarinda	11.75	258	P	Pn	08 15 20.6	+3.2
	comp=Z,231nm,1.0s						
BKB	Balikpapan	12.24	255	P	Pn	08 15 24.9	+0.8
	comp=Z,337nm,0.9s,comp=Z,3µm						
GENI	Genyem	12.30	111	P	P	08 15 31.4	-5.2
	comp=Z,222nm,1.5s,comp=Z,6µm						
MMRI	Maumere	12.34	211	ePn	Pn	08 15 26.0	+0.6
MMRI				eSn	Sn	08 17 39.9	-1.8
SOEI	Soe	12.44	201	P	Pn	08 15 28.9	+2.0
SOEI	Soe	12.44	201	ePn	Pn	08 15 27.2	+0.3
EDFI	Ende, Flores	12.72	213	P	P	08 15 36.9	-4.5
	comp=Z,94nm,0.7s,comp=Z,4µm						
BATI	Baumata	13.08	203	P	Pn	08 15 39.6	+4.0
	comp=Z,4.1nm,0.3s,baz=350,slow=1.0,SNR=11						
BATI	Baumata	13.08	203	P	P	08 15 42.5	-2.7
	comp=Z,101nm,1.1s,comp=Z,1µm						
KKM	Kota Kinabalu	13.12	288	ePn	Pn	08 15 36.3	+0.1
KBKI	Kotabaru	13.58	247	P	Pn	08 15 43.2	+0.7
	comp=Z,166nm,1.1s,comp=Z,3µm						
MTKI	Muara Teweh, K	14.11	258	P	Pn	08 15 50.2	+0.5
	comp=Z,351nm,1.0s,comp=Z,9µm						
TGY	Tagaytay City	14.32	328	P	Pn	08 15 54.7	+2.1
	baz=275,slow=4.3,SNR=5.0						
TGY				LR	LR	08 21 55.8	
	comp=Z,2µm,20.3s,baz=152,slow=40						
BASI	Baing, Sumba	14.55	214	P	P	08 16 00.6	-1.0
	comp=Z,243nm,1.0s,comp=Z,3µm						
WBSI	Waikabubak, Su	14.79	219	P	P	08 16 03.3	-1.0
	comp=Z,241nm,1.3s,comp=Z,2µm						
MTN	Manton Dam	14.88	171	ePn	Pn	08 15 57.9	-2.2
PLAI	Plampang	15.28	225	P	Pn	08 16 06.0	+0.7
	comp=Z,448nm,1.6s,comp=Z,5µm						
BALP	Baler	15.41	333	eP	P	08 16 10.2	-1.0
SBUM	Sibu	16.49	272	ePn	Pn	08 16 18.6	-2.3
	comp=Z,576nm,1.1s						
SRBI	Singaraja	16.75	233	P	Pn	08 16 24.0	-0.2
	comp=Z,208nm,1.0s,comp=Z,2µm						
DNP	Denpasar	17.11	232	P	P	08 16 34.0	+4.0
	comp=Z,717nm,0.8s						
KMMI	Kalianget	17.22	239	P	P	08 16 31.2	0.0
	comp=Z,364nm,1.7s,comp=Z,7µm						
IGBI	Denpasar	17.24	231	P	P	08 16 31.6	+0.1
	comp=Z,519nm,1.1s,comp=Z,9µm						
STKI	Sintang	17.34	264	P	P	08 16 32.5	-0.1
	comp=Z,137nm,1.2s,comp=Z,15µm						
ABJI	Asem Bagus	17.39	236	P	P	08 16 35.0	+1.9
	comp=Z,136nm,1.0s,comp=Z,3µm						
ABRA	Dolores	17.48	334	eP	Pn	08 16 29.4	-3.7
PBKI	Pangkalan Bun	17.66	255	P	P	08 16 36.5	+0.4
	comp=Z,281nm,1.1s						
BWJI	Bawean	17.81	244	pP	pP	08 16 45.9	-1.5
	comp=Z,181nm,1.1s						
JAGI	Jajag, Banyuwa	17.83	234	P	P	08 16 38.3	+0.2
	comp=Z,481nm,1.1s,comp=Z,9µm						
JAGI				pP	pP	08 16 47.1	-0.6
	comp=Z,481nm,1.1s,comp=Z,9µm						
JAGI	Jajag, Banyuwa	17.83	234	ePn	P	08 16 38.2	+0.2
	comp=Z,665nm,1.2s						
BLJI	Banyuglugur	17.89	237	P	P	08 16 42.9	+4.2
	comp=Z,323nm,0.8s						
GMJI	Gumukmas	18.30	236	P	Pn	08 16 44.6	+1.2
	comp=Z,344nm,1.3s,comp=Z,6µm						
KSM	Kuching	18.41	269	eP	P	08 16 43.6	-0.7
	comp=Z,180nm,1.0s						
GRJI	Gresik	18.44	241	P	Pn	08 16 47.2	+2.1
	comp=Z,267nm,1.2s,comp=Z,3µm						
TBJI	Tambak Boyo	18.95	243	P	Pn	08 16 51.0	-0.3
	comp=Z,565nm,1.6s,comp=Z,7µm						
PWJI	Pagerwojo	19.56	239	P	Pn	08 16 58.2	-0.3
	comp=Z,717nm,1.3s,comp=Z,9µm						
GUMO	Guam	19.73	53	P	P	08 16 59.5	+0.7
	comp=Z,4.3nm,0.3s,baz=204,slow=16,SNR=2.6						
PCJI	Pacitan	20.18	240	P	Pn	08 17 06.7	+0.8
	comp=Z,1µm,1.0s,comp=Z,10µm						
SMRI	Semarang	20.31	244	P	Pn	08 17 08.2	+0.8
	comp=Z,938nm,1.1s,comp=Z,12µm						
SMRI	Semarang	20.31	244	eP	P	08 17 05.9	+0.7
	comp=Z,2µm,1.3s						
UGM	Wanagama	20.62	241	P	Pn	08 17 12.1	+1.1
	comp=Z,538nm,1.2s						
UGM	Wanagama	20.62	241	eP	P	08 17 09.8	+1.2
	comp=Z,751nm,1.2s						
COEN	Coen	21.33	138	P	P	08 17 15.9	-0.3
	baz=21,SNR=15						
COEN	Coen	21.33	138	eP	P	08 17 18.0	+1.8
	comp=Z,130nm,1.1s						
PMG	Port Moresby	21.56	122	P	P	08 17 20.8	+2.2
	comp=Z,73nm,0.9s,baz=312,slow=4.2,SNR=5.9						
PMG	Port Moresby	21.56	122	eP	P	08 17 22.0	+3.4
	comp=Z,96nm,1.0s						
PMG				LR	LR		
	comp=Z,791nm,20.0s						
PMG	Port Moresby	21.56	122	⇑eP	P	08 17 18.8	+0.2
PMG				i		08 17 38.9	
PMG				pmax	pmax		
	comp=Z,377nm,1.0s						
JCJI	Jatiwangi	22.07	248	P	P	08 17 27.8	+3.7
	comp=Z,419nm,1.0s						
CMJI	Cimerak	22.41	244	P	P	08 17 28.1	+0.3
	comp=Z,336nm,1.2s,comp=Z,3µm						
WRAB	Tennant Creek	22.43	166	PFAKE		08 17 40.0	+12
WRAB				LR	LR		
	comp=Z,1µm,19.0s						
WRAB	Tennant Creek	22.43	166	c iP	P	08 17 28.7	+0.7
WR1	Warramunga Arr	22.44	166	eP	P	08 17 29.3	+1.2
	comp=Z,201nm,1.0s						
WRA	Warramunga Arr	22.44	166	P	P	08 17 29.3	+1.2
	comp=Z,87nm,1.0s,baz=345,slow=11,SNR=18						
WRA				ScP	ScP	08 24 55.8	-1.0
	comp=Z,0.7nm,0.7s,baz=338,slow=3.0,SNR=3.1						
WB2	Warramunga Arr	22.44	166	eP	P	08 17 26.1	-2.0
YULB	Yu-li	22.50	342	eP	P	08 17 26.9	-1.8
	comp=Z,84nm,0.9s						
TPUB	Ta-pu	22.63	340	eP	P	08 17 28.5	-1.6
	comp=Z,115nm,0.9s						
LEM	Lembang	22.79	247	P	P	08 17 33.2	+1.1
	comp=Z,161nm,0.8s,baz=35,slow=7.6,SNR=11						
CISI	Cisompet, Garu	22.89	245	P	P	08 17 32.2	-0.7
	comp=Z,309nm,0.9s						
CISI	Cisompet, Garu	22.89	245	eP	P	08 17 32.3	-0.6
	comp=Z,229nm,0.9s						
PPBI	Pangkal Pinang	22.94	260	P	P	08 17 33.8	+0.4
SSLB	Suanglung	22.98	342	eP	P	08 17 34.4	+0.7
	comp=Z,91nm,1.0s						
YHNB	Yeheng	23.68	343	eP	P	08 17 41.1	+0.4
	comp=Z,123nm,0.8s						
YHNB				LR	LR		
	comp=Z,1µm,21.0s						
SBJI	Serang	23.93	250	P	P	08 17 46.3	+3.2
	comp=Z,669nm,1.6s,comp=Z,12µm						
TATO	Taipei	23.94	344	PFAKE		08 17 50.0	+7.1
TATO				LR	LR		
	comp=Z,1µm,20.0s						
TPRI	Tanjung Pinang	24.20	268	P	P	08 17 46.4	+0.8
	comp=Z,328nm,1.4s,comp=Z,24µm						
PMBI	Palembang	24.42	259	P	P	08 17 51.9	+4.3
	comp=Z,404nm,1.4s,comp=Z,30µm						
CGJI	Cibinong	24.51	250	P	P	08 17 47.4	-0.9
	comp=Z,390nm,1.1s,comp=Z,46µm						
BLSI	Bandar Lampung	24.55	253	P	P	08 17 49.8	+1.1
	comp=Z,653nm,1.3s,comp=Z,7µm						
MBWA	Marble Bar	24.59	201	eP	P	08 17 48.9	-0.1
	comp=Z,110nm,1.4s						
MBWA				LR	LR		
	comp=Z,538nm,19.0s						
JOW	Kunigami	24.75	359	eP	P	08 17 51.7	+1.3
	comp=Z,106nm,0.9s						
QIS	Mount Isa	24.78	155	P	P	08 17 52.2	+1.5
	baz=25,SNR=41						
KLI	Kotabumi	24.78	254	P	P	08 17 51.6	+0.8
	comp=Z,244nm,0.8s,comp=Z,9µm						
MYKOM	Kota Tinggi	24.86	270	eP	P	08 17 51.7	+0.2
	comp=Z,742nm,1.5s						
QZH	Quanzhou	24.87	338	⇓iP	P	08 17 51.0	-0.4
QZH				S	S	08 22 12.3	+0.3
QZH				pmax	pmax		
	comp=Z,95nm,1.5s						
QZH				pmax	pmax		
	comp=Z,840nm,3.0s						
QZH				LR	LR		
	comp=Z,1µm,15.8s						
QZH				LR	LR		
	comp=Z,610nm,11.2s						
QZH				LR	LR		
	comp=Z,1µm,22.2s						
QIZ	Qiongzhong	25.10	314	P	P	08 17 53.3	-0.4
QIZ				S	S	08 22 20.1	+4.1
QIZ				pmax	pmax		
	comp=Z,23nm,1.0s						
QIZ				LR	LR		
	comp=Z,560nm,17.5s						
QIZ				LR	LR		
	comp=Z,900nm,18.8s						
QIZ				LR	LR		
	comp=Z,860nm,15.3s						
QIZ	Qiongzhong	25.10	314	eP	P	08 17 53.7	0.0
	comp=Z,85nm,1.0s						
QIZ				LR	LR		
	comp=Z,899nm,20.0s						
MTSU	Mount Surprise	25.18	143	P	P	08 17 54.5	+0.1
	baz=25,SNR=4.9						
KASI	Kota Agung	25.30	253	P	P	08 17 56.7	+1.1
	comp=Z,423nm,1.1s,comp=Z,4µm						
JMBI	JAMBI	25.32	262	P	P	08 17 59.6	+3.9
	comp=Z,1µm,1.4s,comp=Z,19µm						
MDSI	Maura Dua	25.34	255	P	P	08 17 56.6	+0.7
	comp=Z,270nm,1.2s,comp=Z,3µm						
LWLI	Liwa	25.59	254	P	P	08 17 59.8	+1.5
	comp=Z,322nm,1.0s,comp=Z,18µm						
AS31	Alice Springs	25.95	169	eP	P	08 18 01.8	+0.4
	comp=Z,24nm,1.0s						
ASAR	Alice Springs	25.95	169	P	P	08 18 01.9	+0.6
	comp=Z,14nm,0.7s,baz=356,slow=7.2,SNR=20						
ASAR				PcP	PcP	08 21 29.7	+0.2
	comp=Z,3.4nm,0.7s,baz=344,slow=1.9,SNR=4.3						
ASAR				ScP	ScP	08 25 06.6	+0.2
	comp=Z,1.5nm,0.9s,baz=357,slow=1.9,SNR=3.7						
AS01	Alice Springs	25.96	169	eP	P	08 18 01.8	+0.4
XMIS	Christmas Isla	26.06	241	eP	P	08 18 01.0	-1.4
	comp=Z,761nm,1.2s						
WRKA	Warakurna	26.82	181	P	P	08 18 10.6	+1.4
	baz=27,SNR=7.4						
MASI	Maura Aman, Be	26.95	259	P	P	08 18 12.9	+2.4
	comp=Z,674nm,1.3s,comp=Z,8µm						
BKNI	Bangkinang	27.72	267	P	P	08 18 20.5	+3.1
	comp=Z,279nm,1.1s,comp=Z,8µm						
BKNI	Bangkinang	27.72	267	eP	P	08 18 17.3	-0.1
	comp=Z,264nm,1.0s						
IPM	Ipoh	27.76	276	eP	P	08 18 17.1	-0.7
	comp=Z,62nm,1.0s						
CTAO	Charters Tower	27.84	143	eP	P	08 18 20.5	+2.1
	comp=Z,66nm,1.3s						
CTAO				LR	LR		
	comp=Z,2µm,19.0s						
CTAO	Charters Tower	27.84	143	eP	P	08 18 20.5	+2.1
CTAO				pmax	pmax		
	comp=Z,66nm,1.3s						
CTAO				MLR	MLR		
	comp=Z,2µm,19.0s						
CBIJ	Chichi jima	28.15	26	eP	P	08 18 20.9	-0.1
	comp=Z,1µm,2.0s						
JCJ	Chichijima	28.15	26	P	P	08 18 20.9	-0.1
	comp=Z,49nm,0.5s,baz=156,slow=9.6,SNR=2.8						
KULM	Kulim	28.20	278	eP	P	08 18 21.8	0.0
	comp=Z,112nm,1.2s						
KULM				LR	LR		
	comp=Z,521nm,20.0s						
GIRL	Giralia	28.23	209	P	P	08 18 21.8	0.0
	baz=28,SNR=8.8						
PDSI	Padang	28.39	265	P	P	08 18 24.0	+0.6
	comp=Z,91nm,1.0s						
SKLT	Songkhla	28.48	281	P	P	08 18 24.7	+0.6
	comp=Z,122nm,1.6s,comp=Z,1µm						
SKNT	Sakolnakorn	28.54	303	P	P	08 18 24.3	-0.4
	comp=Z,45nm,1.6s						
PPSI	Pulau Pagai	29.08	261	P	P	08 18 31.3	+1.8
	comp=Z,543nm,1.4s						
MNSI	Mandailing Nat	29.15	268	P	P	08 18 30.0	-0.1
	comp=Z,142nm,0.8s,comp=Z,8µm						
KHON	Khomkaen	29.23	301	P	P	08 18 34.5	+3.7
	comp=Z,30nm,1.0s,comp=Z,3µm						
TRTT	Trang	29.49	282	P	P	08 18 33.7	+0.5
	comp=Z,39nm,1.7s,comp=Z,657nm						
CHAI	Chaiyaphum	29.77	299	P	P	08 18 36.1	+0.6
	comp=Z,18nm,1.1s,comp=Z,162nm						
PSI	Prapat	29.78	272	P	P	08 18 50.6	+15
	comp=Z,141nm,1.0s,baz=88,slow=8.6,SNR=63						
PSI	Prapat	29.78	272	eP	P	08 18 35.1	-0.8
	comp=Z,319nm,1.2s						
PSI	Prapat	29.78	272	eP	P	08 18 35.1	-0.8
PSI				pmax	pmax		
	comp=Z,319nm,1.2s						
SISI	Saibi	29.80	264	P	P	08 18 36.3	+0.4
	comp=Z,233nm,0.9s,comp=Z,3µm						
PATS	Pohnpei	29.90	80	P	P	08 18 34.7	-2.0
	baz=30,SNR=3.8						
PATS	Pohnpei	29.90	80	eP	P	08 18 38.9	+2.1
	comp=Z,455nm,1.6s						
MEEK	Meekatharra	30.04	198	P	P	08 18 38.3	+0.4
	baz=30,SNR=6.7						
JNU	Nakatsue	31.08	4	P	P	08 18 46.6	-0.4
	comp=Z,48nm,1.0s,baz=193,slow=5.7,SNR=12						
JNU				LR	LR	08 31 56.4	
	comp=Z,509nm,19.4s,baz=135,slow=38						
JNU	Nakatsue	31.08	4	eP	P	08 18 46.8	-0.2
	comp=Z,89nm,1.0s						
GSI	Gunungsitoli	31.14	269	P	P	08 18 47.0	-0.7
	comp=Z,619nm,1.1s,comp=Z,6µm						
GSI	Gunungsitoli	31.14	269	eP	P	08 18 46.8	-1.0
	comp=Z,513nm,0.9s						
NJ2	Nanjing	31.36	344	eP	P	08 18 51.0	+1.6
NJ2				pmax	pmax		
	comp=Z,38nm,1.2s						
TPTI		31.53	273	P	P	08 18 51.8	+0.6
	comp=Z,137nm,0.9s,comp=Z,2µm						
WHN	Wuhan	31.54	336	P	P	08 18 53.9	+2.9
WHN				LR	LR		
	comp=Z,3µm,15.6s						
WHN				LR	LR		
	comp=Z,1µm,12.6s						
WHN				LR	LR		
	comp=Z,5µm,19.3s						
PHIT	Phitsanulok	31.67	300	P	P	08 18 53.9	+1.5
	comp=Z,49nm,0.9s,comp=Z,429nm						
SRDT	SRDT	31.73	294	P	P	08 18 54.3	+1.4
	comp=Z,48nm,1.0s,comp=Z,4µm						
UTHA	Uthaitani	31.87	297	P	P	08 18 55.1	+1.0
	comp=Z,12nm,0.8s,comp=Z,91nm						
NANT	Nan	32.16	303	P	P	08 18 58.6	+2.0
	comp=Z,16nm,0.8s,comp=Z,2µm						
GYA	Guiyang	32.29	321	⇑iP	P	08 18 59.8	+1.9
GYA				pP	sP	08 19 12.0	-1.1
GYA				PP	PP	08 20 09.4	-1.9
GYA				PcP	PcP	08 21 47.6	+2.0
GYA				S	S	08 24 10.2	+1.0
GYA				sS	sS	08 24 31.9	+5.0
GYA				ScP	ScP	08 25 26.4	-0.2
GYA				SS	SnSn	08 26 07.0	+3.9
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,190nm,5.8s						
GYA				LR	LR		
	comp=Z,4µm,15.8s						
GYA				LR	LR		
	comp=Z,3µm,16.2s						
GYA				LR	LR		
	comp=Z,3µm,15.9s						
MLSI	Meulaboh, Aceh	32.35	275	P	P	08 19 00.3	+1.9
	comp=Z,266nm,1.1s						
LAMP	Lampang	32.93	302	P	P	08 19 05.2	+1.8
	comp=Z,18nm,0.8s,comp=Z,173nm						
HNR	Honiara	33.10	110	eP	P	08 19 05.2	+0.3
	comp=Z,253nm,0.9s						
HNR				LR	LR		
	comp=Z,526nm,22.0s						
HNR	Honiara	33.10	110	eP	P	08 19 05.2	+0.3
HNR				pmax	pmax		
	comp=Z,253nm,0.9s						
HNR				MLR	MLR		
	comp=Z,526nm,22.0s						
MORW	Morawa	33.14	201	P	P	08 19 04.6	-0.5
	baz=33,SNR=5.1						
CM01	Chiang Mai Arr	33.46	301	eP	P	08 19 09.7	+1.7
CM31	Chiang Mai Arr	33.49	301	eP	P	08 19 10.0	+1.8
CMAR	Chiang Mai Arr	33.49	301	P	P	08 19 09.6	+1.3
	comp=Z,21nm,0.8s,baz=117,slow=7.1,SNR=47						
ENH	Enshi	33.56	329	eP	P	08 19 11.5	+2.7
	comp=Z,78nm,1.1s						
ENH				LR	LR		
	comp=Z,1µm,20.0s						
CMMT	Chiang Mai	33.64	302	P	P	08 19 09.8	+0.2
	comp=Z,54nm,1.3s,comp=Z,642nm						
CHTO	Chiang Mai	33.64	302	P	P	08 19 10.9	+1.3
	comp=Z,254nm,1.2s,comp=Z,3µm						
CHTO	Chiang Mai	33.64	302	eP	P	08 19 11.0	+1.3
	comp=Z,36nm,0.8s						
CHTO				LR	LR		
	comp=Z,653nm,21.0s						
CHTO	Chiang Mai	33.64	302	eP	P	08 19 11.0	+1.3
CHTO				pmax	pmax		
	comp=Z,36nm,0.8s						
CHTO				MLR	MLR		
	comp=Z,653nm,21.0s						
KMBL	Kambalda	33.76	191	P	P	08 19 10.7	+0.2
	baz=34,SNR=17						
KMI	Kunming	34.04	315	P	P	08 19 15.3	+2.1
KMI				pP	sP	08 19 26.7	-1.8
KMI				sP	pP	08 19 31.5	+7.5
KMI				PP	PP	08 20 30.9	+0.1
KMI				S	S	08 24 37.2	+0.6
KMI				sS	sS	08 25 01.8	+7.5
KMI				SS	SnSn	08 26 48.9	+3.3
KMI				pmax	pmax		
	comp=Z,40nm,1.3s						
KMI				pmax	pmax		
	comp=Z,260nm,5.0s						
KMI				LR	LR		
	comp=Z,1µm,18.8s						
KMI				LR	LR		
	comp=Z,710nm,16.9s						
KMI				LR	LR		
	comp=Z,790nm,16.9s						
CMAI	Chiengmai2	34.06	304	P	P	08 19 15.2	+1.7
	comp=Z,284nm,1.6s						
INU	Inuyama	34.12	12	eP	P	08 19 13.0	-0.5
	comp=Z,44nm,0.8s						
TJN	Taejon	34.29	358	⇑iP	P	08 19 15.2	+0.3
BLDU	Ballidu	34.34	199	P	P	08 19 15.1	-0.4
	baz=35,SNR=14						
EIDS	Eidsvold	34.73	143	P	P	08 19 18.8	-0.2
	baz=35,SNR=13						
EIDS	Eidsvold	34.73	143	eP	P	08 19 20.1	+1.1
	comp=Z,69nm,1.0s						
KLBR	Kellerberrin	34.94	196	P	P	08 19 19.8	-0.9
	baz=35,SNR=35						
BBOO	Buckleboo	35.26	169	P	P	08 19 24.6	+1.2
	baz=36,SNR=16						
BBOO	Buckleboo	35.26	169	eP	P	08 19 23.4	0.0
	comp=Z,42nm,1.0s						
KS15	Wonju Array Si	35.33	359	eP	P	08 19 24.1	+0.2
KS15				ePcP	PcP	08 21 55.5	+1.7
KSRS	Korea Array	35.34	359	P	P	08 19 24.1	+0.1
	comp=Z,28nm,0.8s,baz=176,slow=10.0,SNR=48						
KSRS				PcP	PcP	08 21 55.5	+1.6
	comp=Z,2.0nm,0.7s,baz=189,slow=2.1,SNR=2.9						
KSRS	Korea Array	35.34	359	P	P	08 19 24.2	+0.1
KSRS						08 21 55.5	
KSRS				pmax	pmax		
	comp=Z,27nm,0.9s						
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	Matsushiro Arr	35.53	13	P	P	08 19 24.3	-1.4
	comp=Z,55nm,0.8s,baz=189,slow=9.8,SNR=71						
MJAR				PcP	PcP	08 21 55.7	+1.2

comp=Z,3.5nm,0.9s,baz=203,slow=4.7,SNR=3.6
MAJO Matsushiro 35.53 13 *e*P **P 08 19 24.5 -1.2**
comp=Z,90nm,0.8s
MAJO *e*PcP **PcP 08 21 55.7 +1.2**
MAJO LR LR
comp=Z,816nm,19.0s
MAJO Matsushiro 35.53 13 *e*P **P 08 19 24.5 -1.2**
MAJO *e* 08 21 55.7
MAJO pmax pmax
comp=Z,90nm,0.8s
MAJO MLR MLR
comp=Z,816nm,19.0s
MAT Matsushiro 35.53 13 P **P 08 19 23.9 -1.8**
MJB9 Matsu-Tunnel 35.53 13 *e*P **P 08 19 24.7 -1.1**
comp=Z,92nm,0.8s
MUN Mundaring 35.76 198 P **P 08 19 27.3 -0.4**
baz=36,SNR=7.3
STKA Stephens Creek 35.79 161 P **P 08 19 28.7 +0.8**
comp=Z,34nm,0.7s,baz=338,slow=8.6,SNR=32
STKA Stephens Creek 35.79 161 P **P 08 19 28.8 +0.8**
baz=36,SNR=35
STKA Stephens Creek 35.79 161 *e*P **P 08 19 28.7 +0.8**
comp=Z,8.2nm,0.8s
NWAO Narrogin (SRO) 36.34 196 P **P 08 19 32.0 -0.7**
baz=37,SNR=10
NWAO P **P 08 19 32.0 -0.7**
baz=37,SNR=10
NWAO Narrogin (SRO) 36.34 196 *e*P **P 08 19 32.2 -0.4**
comp=Z,86nm,1.6s
NWAO LR LR
comp=Z,478nm,21.0s
NWAO Narrogin (SRO) 36.34 196 *e*P **P 08 19 32.3 -0.4**
NWAO pmax pmax
comp=Z,86nm,1.6s
NWAO MLR MLR
comp=Z,478nm,21.0s
HTT Hallett 36.48 166 P **P 08 19 35.6 +1.7**
baz=37,SNR=7.3
XAN Xi'an 36.90 332 P **P 08 19 38.3 +0.8**
XAN pP pP 08 19 50.7 +2.4
XAN PP **PP 08 21 01.9 -0.2**
XAN S **S 08 25 18.8 -1.2**
XAN PcS **PcS 08 25 48.6 +1.8**
XAN ScS **ScS 08 29 47.0 -3.0**
XAN pmax pmax
comp=Z,57nm,1.2s
XAN LR LR
comp=Z,1μm,16.3s
XAN LR LR
comp=Z,960nm,22.8s
XAN LR LR
comp=Z,1μm,33.3s
CMSA Cobar Meteorol 37.00 156 P **P 08 19 40.0 +1.7**
baz=37,SNR=5.5
CD2 Chengdu 37.25 323 P **P 08 19 41.5 +1.0**
CD2 pP pP 08 19 52.5 +1.2
CD2 sP sP 08 19 57.9 +2.0
CD2 S **S 08 25 26.1 +0.7**
CD2 sS ScP 08 25 46.5 +2.3
CD2 pmax pmax
comp=Z,120nm,0.8s
CD2 pmax pmax
comp=Z,700nm,8.0s
CD2 LR LR
comp=Z,2μm,18.9s
CD2 LR LR
comp=Z,1μm,18.3s
CD2 LR LR
comp=Z,1μm,16.4s
DL2 Dalian 37.35 351 P **P 08 19 42.2 +1.0**
DL2 S **S 08 25 30.2 +3.6**
DL2 pmax pmax
comp=Z,60nm,0.9s
DL2 LR LR
comp=Z,720nm,17.1s
DL2 LR LR
comp=Z,820nm,22.0s
RKGY Rocky Gully 37.99 196 P **P 08 19 47.3 +0.6**
baz=38,SNR=19
TIY Taiyuan 38.62 339 *e*P P 08 19 56.7 +4.7
ARMA Armidale 38.90 148 P **P 08 19 56.0 +1.5**
baz=39,SNR=10
BJT Baijiatuau 39.58 345 *e*P **P 08 19 59.4 -0.5**
comp=Z,50nm,0.9s
BJT LR LR
comp=Z,780nm,22.0s
BJT Baijiatuau 39.58 345 *e*P **P 08 19 59.4 -0.5**
BJT pmax pmax
comp=Z,50nm,0.9s
BJT MLR MLR
comp=Z,780nm,22.0s
BJI Beijing 39.60 345 P **P 08 19 58.4 -1.6**
BJI pmax pmax
comp=Z,57nm,0.8s
BJI LR LR
comp=Z,1μm,13.7s
BJI LR LR
comp=Z,1μm,20.6s
SNY Shenyang 39.98 354 ⇑P **P 08 20 02.9 -0.2**
SNY S **S 08 26 02.3 -3.7**
SNY pmax pmax
comp=Z,29nm,1.1s
SNY pmax pmax
comp=Z,370nm,3.7s
SNY LR LR
comp=Z,1μm,21.4s
SNY LR LR
comp=Z,390nm,14.5s
SNY LR LR
comp=Z,980nm,21.6s
ARPS Mount Arapiles 40.41 164 P **P 08 20 09.1 +2.3**
baz=41,SNR=10
YNG Young 40.52 155 P **P 08 20 10.0 +2.2**
baz=41,SNR=7.6
H11S3 WAKE ISLAND Hy 40.68 64 T T 09 03 34.9
baz=250,slow=75,SNR=71
H11S2 WAKE ISLAND Hy 40.70 64 T T 09 03 33.1
baz=250,slow=75,SNR=48
H11S1 WAKE ISLAND Hy 40.70 64 T T 09 03 36.1
baz=250,slow=75,SNR=32
LZH Lanzhou 41.04 329 *e*P **P 08 20 13.4 +1.1**
LZH pP sP 08 20 27.1 -0.6
LZH sP pP 08 20 31.3 +8.1
LZH PP **PnPn 08 21 54.0 +2.0**
LZH PcP **PcP 08 22 13.4 +1.6**
LZH *e*S **S 08 26 23.4 +0.9**
LZH sS sS 08 26 42.4 +1.9
LZH SS **SS 08 29 29.0 +3.2**
LZH pmax pmax
comp=Z,76nm,1.2s
LZH pmax pmax
comp=Z,390nm,6.6s
LZH LR LR
comp=Z,2μm,15.8s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,2μm,17.8s
VLA Vladivostok 41.09 4*c i*P **P 08 20 13.5 +1.1**
H11N1 WAKE ISLAND Hy 41.28 62 T T 09 04 14.5
baz=250,slow=75,SNR=65
H11N2 WAKE ISLAND Hy 41.29 62 T T 09 04 16.6
baz=250,slow=75,SNR=43
H11N3 WAKE ISLAND Hy 41.30 62 T T 09 04 16.9
baz=250,slow=75,SNR=93
CAN Canberra 41.65 155 PFAKE 08 20 30.0 +13
CAN LR LR
comp=Z,622nm,19.0s
HHC Hu-ho-hao-te 41.72 340 *e*P **P 08 20 20.7 +3.0**
HHC pP sP 08 20 33.3 +0.2
HHC S **S 08 26 31.7 -0.6**
HHC sS sS 08 26 53.9 +3.6
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,210nm,6.5s
HHC LR LR
comp=Z,730nm,14.3s
HHC LR LR
comp=Z,340nm,9.4s
HHC LR LR
comp=Z,470nm,11.6s
CN2 Changchun 41.78 356 *e*P **P 08 20 18.7 +0.7**
CN2 *e*S **S 08 26 35.6 +2.8**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,400nm,18.0s
ERM Erimo 41.95 16 PFAKE 08 20 30.0 +11
ERM LR LR
comp=Z,563nm,20.0s
USRK Ussuriysk Ar. 42.18 4 P **P 08 20 21.4 +0.1**
comp=Z,58nm,0.8s,baz=183,slow=7.5,SNR=80
TOO Toolangi 42.28 160 P **P 08 20 23.3 +1.0**
baz=42,SNR=5.7
MDJ Mudanjiang 42.50 1 P **P 08 20 23.0 -0.9**
MDJ pP pP 08 20 34.6 -0.2
MDJ sP sP 08 20 40.3 +1.0
MDJ S **S 08 26 48.1 +4.6**
MDJ sS sS 08 27 09.0 +7.5
MDJ pmax pmax
comp=Z,91nm,0.9s
MDJ pmax pmax
comp=Z,220nm,2.6s
MDJ Mudanjiang 42.50 1 *e*P **P 08 20 24.1 +0.2**
comp=Z,102nm,1.1s
MDJ LR LR
comp=Z,649nm,20.0s
SHL Shillong 42.53 307 *e*P **P 08 20 24.0 -0.6**
SHL *e*S **S 08 26 45.0 +0.2**
TEY Ternei 43.47 8 *e*P **P 08 20 31.7 0.0**
TEY pmax pmax
comp=N,26nm,0.8s
TEY pmax pmax
comp=Z,31nm,0.8s
ASAJ Asahikawa 43.76 14 P **P 08 20 34.8 +0.7**
comp=Z,22nm,0.8s,baz=232,slow=13,SNR=25
ASAJ Asahikawa 43.76 14 *e*P **P 08 20 35.0 +0.9**
comp=Z,19nm,0.7s
DZM Mont Dzumac 43.89 125 P **P 08 20 36.9 +1.3**
comp=Z,19nm,0.9s,baz=284,slow=8.9,SNR=4.3
DZM Mont Dzumac 43.89 125 *e*P **P 08 20 36.9 +1.3**
comp=Z,39nm,1.1s
LSA Lhasa 45.10 312 *e*P **P 08 20 47.7 +2.1**
comp=Z,70nm,0.9s
LSA LR LR
comp=Z,501nm,21.0s
LSA Lhasa 45.10 312 *e*P **P 08 20 47.7 +2.1**
LSA pmax pmax
comp=Z,70nm,0.9s
LSA MLR MLR
comp=Z,501nm,21.0s
GTA Gaotai 45.64 328 P **P 08 20 52.2 +2.9**
GTA pP sP 08 21 05.3 +0.5
GTA sP pP 08 21 10.6 +10
GTA PcP **PcP 08 22 28.4 +1.2**
GTA S **S 08 27 34.7 +5.0**
GTA sS sS 08 27 54.6 +6.7
GTA pmax pmax
comp=Z,27nm,1.3s
GTA pmax pmax
comp=Z,400nm,6.3s
GTA LR LR
comp=Z,700nm,21.9s
GTA LR LR
comp=Z,1μm,19.0s
GTA LR LR
comp=Z,670nm,20.9s
YSS Yuzh-Sakhalins 46.47 13 *e*P **P 08 20 55.8 +0.3**
comp=Z,39nm,0.7s
YSS LR LR
comp=Z,370nm,20.0s
YSS Yuzh-Sakhalins 46.47 13⇑*e*P **P 08 20 55.6 +0.1**
YSS *e*S **S 08 27 39.6 -1.4**
YSS pmax pmax
comp=N,20nm,0.6s
YSS pmax pmax
comp=Z,30nm,0.6s
YSS smax smax
comp=N,800nm,14.0s
YSS smax smax
comp=E,500nm,6.0s
YSS MLR MLR
comp=N,300nm,16.0s
TAPN Taplejung 46.67 307 *e*P **P 08 20 57.2 -0.6**
comp=N,361nm,1.1s
ODAN Odare 46.72 306 *e*P **P 08 20 58.6 +0.5**
comp=N,223nm,0.6s
KLR Kul'dur 47.18 3 P **P 08 21 00.7 -0.4**
comp=N,4.0nm,0.8s,baz=206,slow=4.7,SNR=70
KLR Kul'dur 47.18 3⇑*e*P **P 08 21 01.1 0.0**
RAMN Ramite 47.40 306 *e*P **P 08 21 03.7 +0.3**
comp=N,257nm,0.7s
HIA Hailar 47.77 352 *e*P **P 08 21 06.3 +0.6**
comp=N,27nm,1.2s
HIA LR LR
comp=Z,393nm,20.0s
HIA Hailar 47.77 352 *e*P **P 08 21 06.3 +0.6**
HIA pmax pmax
comp=Z,27nm,1.2s
HIA MLR MLR
comp=Z,393nm,20.0s
JIRN Jiri 48.02 306 *e*P **P 08 21 08.3 -0.1**
comp=Z,497nm,1.0s
PALK Pallekele 48.13 278 P **P 08 21 09.3 +0.3**
comp=Z,88nm,1.0s,baz=117,slow=8.4,SNR=33
PALK Pallekele 48.13 278 *e*P **P 08 21 08.9 -0.1**
comp=Z,272nm,1.5s
PKI Pulchoki 48.62 306 *e*P **P 08 21 12.9 -0.1**
comp=Z,63nm,0.7s
PKIN Phulchoki 48.63 306 *e*P **P 08 21 13.1 +0.1**
comp=Z,99nm,0.7s
KKN Kakani 48.81 306 *e*P **P 08 21 14.5 +0.2**
comp=Z,188nm,1.0s
DMN Daman 48.88 306 *e*P **P 08 21 15.2 +0.3**
comp=Z,189nm,0.9s
GRNR Gornyy 49.09 6 *e*P **P 08 21 16.8 +1.0**
GRNR pmax pmax
comp=N,96nm,1.0s
GRNR pmax pmax
comp=Z,130nm,1.0s
ULN Ulaanbaatar 49.43 341 *e*P **P 08 21 18.2 -0.4**
comp=Z,37nm,1.0s
ULN LR LR
comp=Z,598nm,20.0s
ULN Ulaanbaatar 49.43 341⇓*i*P **P 08 21 19.0 +0.3**
ULN pmax pmax
comp=Z,25nm,0.9s
SONA0 Songino Array 49.62 340 *e*P **P 08 21 20.3 +0.2**
SONA0 *e*PcP **PcP 08 22 41.3 +0.1**
SONM Songino Array 49.62 340 P **P 08 21 20.3 +0.2**
comp=Z,13nm,0.8s,baz=152,slow=8.3,SNR=12
SONM PcP **PcP 08 22 41.3 +0.1**
comp=Z,5.5nm,0.8s,baz=158,slow=5.5,SNR=3.6
SONM ScP **ScP 08 26 31.6 -2.4**
comp=Z,0.5nm,0.4s,baz=166,slow=3.0,SNR=3.0
SONA1 Songino Array 49.63 340 *e*P **P 08 21 19.3 -0.9**
TYV Tymovskoe 50.15 11 *e*P **P 08 21 24.4 +0.6**
TYV *e*S **S 08 28 35.7 +2.8**
TYV pmax pmax
comp=Z,19nm,0.9s
TYV pmax pmax
comp=Z,400nm,4.6s
TYV smax smax
comp=E,8.0nm,2.2s
KOLN Koldanda 50.17 305 *e*P **P 08 21 24.9 +0.2**
comp=E,443nm,0.9s
DANN Dangsing 50.26 306 *e*P **P 08 21 25.9 +0.4**
comp=E,24nm,0.9s
PYUN Piuthan 50.79 305 *e*P **P 08 21 29.8 +0.4**
comp=E,499nm,1.0s
FUNA Funafuti 51.38 102 PFAKE 08 21 50.0 +16
FUNA LR LR
comp=Z,2μm,19.0s
HYB Hyderabad 51.59 291 *i* P **P 08 21 35.0 -0.3**
HYB *e*S **S 08 28 52.0 -2.0**
ZEA Zeya 51.64 359 *e*P **P 08 21 34.1 -0.9**
ZEA pmax pmax
comp=N,26nm,0.8s
ZEA pmax pmax
comp=Z,36nm,0.8s
NKL Nikolayevsk 51.99 9 *e*P **P 08 21 37.0 -0.6**
NKL pmax pmax
comp=N,60nm,1.0s
NKL pmax pmax
comp=E,26nm,1.0s
NKL pmax pmax
comp=Z,300nm,1.0s
ZAK Zakamensk 52.87 340 *e*P **P 08 21 46.8 +2.5**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
TLY Talaya 53.84 341 PFAKE 08 22 00.0 +8.6
TLY LR LR
comp=Z,428nm,21.0s
TLY Talaya 53.84 341 *e*P **P 08 21 50.5 -0.9**
TLY pmax pmax
comp=Z,15nm,1.6s
MOY Mondy 54.74 339 *e*P **P 08 21 58.4 +0.4**
MOY pmax pmax
comp=Z,44nm,2.2s
CLNS Chul'man 54.82 357 *e*P **P 08 21 58.5 +0.1**
CLNS pmax pmax
comp=Z,31nm,0.9s
CLNS pmax pmax
comp=N,20nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
WMQ Urumqi 55.32 325 P **P 08 22 02.8 +0.5**
WMQ pP sP 08 22 16.9 -1.0
WMQ sP pP 08 22 21.6 +8.1
WMQ pmax pmax
comp=E,110nm,1.3s
WMQ pmax pmax
comp=E,570nm,4.1s
WMQ LR LR
comp=E,1μm,14.5s
WMQ LR LR
comp=E,1μm,17.7s
WMQ LR LR
comp=E,2μm,24.9s
PEA0B Petropavlovsk- 56.36 21 *e*P **P 08 22 10.3 +0.9**
comp=E,46nm,0.8s
PETK Petropavlovsk- 56.36 21 P **P 08 22 10.0 +0.5**
comp=E,36nm,0.7s,baz=189,slow=4.8,SNR=28
PETK Petropavlovsk- 56.36 21 *e*P **P 08 22 10.0 +0.5**
PETK Petropavlovsk- 56.36 21 P **P 08 22 10.0 +0.5**
PETK pmax pmax
comp=Z,36nm,0.7s
PEA1 Petropavlovsk- 56.36 21 *e*P **P 08 22 10.0 +0.5**
PET Petropavlovsk 56.63 21⇓*e*P **P 08 22 11.7 +0.3**
H08S2 Diego Garcia H 56.89 260 P **P 08 22 14.5 +0.9**
baz=37,slow=9.6,SNR=5.6
H08S3 Diego Garcia H 56.89 260 P **P 08 22 13.2 -0.5**
baz=37,slow=9.6,SNR=4.2
DGAR Diego Garcia 56.90 260 *e*P **P 08 22 13.1 -0.9**
comp=Z,246nm,1.3s
DGAR Diego Garcia 56.90 260⇓*i*P **P 08 22 14.0 0.0**
H08S1 Diego Garcia H 56.91 260 P **P 08 22 14.1 +0.4**
baz=37,slow=9.6,SNR=6.4
BOD Bodaibo 56.92 351 *e*P **P 08 22 12.9 -0.5**
BOD pmax pmax
comp=Z,50nm,1.6s
HVS Khovu-Aksy 57.19 335 *e*P **P 08 22 16.5 +1.0**
ZSN Zaisan 59.08 327 *e*P **P 08 22 31.1 +2.4**
comp=Z,52nm,1.2s
LBZ Lake Benmore 59.10 146 *e*P **P 08 22 27.6 -1.3**
comp=Z,153nm,1.9s
RPZ Rata Peaks 59.17 145 P **P 08 22 30.9 +1.4**
comp=Z,26nm,1.1s,baz=308,slow=22,SNR=4.3
RPZ LR LR 08 49 16.0
comp=Z,455nm,18.1s,baz=308,slow=37
URZ Urewera 59.89 137 P **P 08 22 34.6 +0.2**
comp=Z,22nm,1.0s,baz=12,slow=1.8,SNR=7.2
URZ LR LR 08 49 48.0
comp=Z,767nm,18.3s,baz=344,slow=37
URZ Urewera 59.89 137 *e*P **P 08 22 35.2 +0.8**
SNZO South Karori 59.94 141 PFAKE 08 22 50.0 +15
SNZO LR LR
comp=Z,492nm,19.0s
BKZ Black Stump Fm 59.94 138 *e*P **P 08 22 34.9 +0.1**
comp=Z,39nm,1.0s
YAK Yakutsk 59.95 1 *e*P **P 08 22 34.1 -0.3**
comp=Z,214nm,0.7s
YAK LR LR
comp=Z,666nm,22.0s
YAK Yakutsk 59.95 1 *e*P **P 08 22 31.5 -2.9**
YAK *e**PP **pP 08 22 39.3 -6.4**
YAK *e* 08 23 19.7
YAK *e* 08 24 43.3
YAK *e*S **S 08 30 43.4 -0.3**
YAK *e**SS **sS 08 31 01.9 -0.5**
YAK *e* 08 32 22.6
YAK pmax pmax
comp=Z,175nm,0.8s
YAK pmax pmax
comp=N,19nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,53nm,1.5s
YAK pmax pmax
comp=E,30nm,1.7s
YAK pmax pmax
comp=N,52nm,2.0s
YAK smax smax
comp=E,174nm,2.2s
YAK smax smax
comp=N,63nm,2.0s
YAK MLR MLR
comp=Z,498nm,21.0s
YAK MLR MLR
comp=E,105nm,18.0s
YAK MLR MLR
comp=N,286nm,20.0s
MA2 Magadan 59.97 13*c i*P **P 08 22 35.5 +0.9**
SHLS Shalkode 59.98 320 *e*P **P 08 22 34.5 -0.7**
comp=N,505nm,1.2s
MK01 Makanchi Array 60.13 325 *e*P **P 08 22 35.0 -1.0**
MK31 Makanchi Array 60.15 325 *e*P **P 08 22 35.0 -1.1**
MK31 Makanchi Array 60.15 325 *e*P **P 08 22 35.0 -1.1**
MK32 Makanchi Array 60.15 325 *e*P **P 08 22 35.1 -1.1**
MK32 *e*PcP **PcP 08 23 21.9 +0.3**
MKAR Makanchi Array 60.15 325 P **P 08 22 35.1 -1.0**
comp=N,14nm,0.5s,baz=117,slow=8.1,SNR=60
MKAR PcP **PcP 08 23 21.9 +0.3**
comp=N,16nm,0.8s,baz=112,slow=5.4,SNR=4.9
MKAR Makanchi Array 60.15 325 *e*P **P 08 22 35.1 -1.0**
comp=N,149nm,0.8s
UZB Uzynbulak 60.26 320 *i* P **P 08 22 37.1 0.0**
comp=N,284nm,1.3s
UZB *e*S **S 08 30 49.2 +0.4**
MAKZ Makanchi 60.33 325 *e*P **P 08 22 37.1 -0.3**
comp=N,70nm,1.3s
MAKZ Makanchi 60.33 325 *e*P **P 08 22 37.1 -0.3**
MAKZ pmax pmax
comp=Z,70nm,1.3s
TARG Taragay, Kyrgy 60.40 318 *e*P **P 08 22 40.5 +2.1**
comp=Z,33nm,1.2s
SATY Saty 60.61 320 *e*P **P 08 22 39.7 +0.2**
comp=Z,766nm,1.2s
KPKS Kokpek 60.63 320 *i* P **P 08 22 40.8 +1.2**
comp=Z,138nm,1.0s
KPKS *e*S **S 08 30 54.8 +1.3**
KSH Kashi 60.70 315 P **P 08 22 41.3 +1.1**
KSH sP sP 08 23 00.1 +4.2
KSH PP **PP 08 24 58.1 +3.8**
KSH S **S 08 30 51.6 -3.0**
KSH sS sS 08 31 13.8 +0.5
KSH ScS SKKSac 08 32 22.7 -5.7
KSH pmax pmax
comp=Z,67nm,1.7s
KSH pmax pmax
comp=Z,220nm,6.7s
KSH LR LR
comp=Z,180nm,12.4s
KSH LR LR
comp=Z,690nm,18.4s
KSH LR LR
comp=Z,360nm,13.3s
TDK Taldyqorghan 61.54 322 *e*P **P 08 22 47.1 +1.4**
comp=Z,270nm,1.2s
MDOK Medeo 61.54 319 *e*P **P 08 22 46.5 +0.6**
comp=Z,158nm,1.2s
MDOK *i* LR LR 08 48 23.6
comp=Z,208nm,18.0s
AAA Alma-Ata 61.65 319 *e*P **P 08 22 47.6 +1.1**
KZA Kyzart 62.26 317 P **P 08 22 52.6 +1.5**
SNR=10
KUU Kurty 62.33 320 *e*P **P 08 22 51.5 +0.5**
comp=Z,224nm,1.2s
KUU *i* S **S 08 31 15.9 +1.0**
TKM2 Tokmak 2 62.39 318 P **P 08 22 52.5 +0.9**
SNR=7.5

BMNS **Besmoynak** 62.42 319 *e*P P 08 22 52.4 +0.6
comp=Z,171nm,1.2s
UCH **Uchtor** 62.82 317 P P 08 22 55.9 +1.1
SNR=19
AAK **Ala-Archa** 63.01 318 *e*P P 08 22 55.8 +0.1
AAK LR LR
comp=Z,369nm,20.0s
AAK **Ala-Archa** 63.01 318⇓*i*P P 08 22 56.6 +0.9
AAK pmax pmax
comp=Z,14nm,1.1s
ZAA0 **Zalesovo Array** 63.07 333 *e*P P 08 22 54.8 -0.9
comp=Z,22nm,1.3s
ZALV **Zalesovo Beam** 63.07 333 P P 08 22 54.1 -1.5
comp=Z,4.0nm,0.5s,baz=131,slow=6.8,SNR=9.2
ZALV PcP PcP 08 23 30.9 -2.2
comp=Z,5.6nm,0.8s,baz=106,slow=5.0,SNR=3.8
ZALV **Zalesovo Beam** 63.07 333 *e*P P 08 22 53.9 -1.8
ZAA1 **Zalesovo Array** 63.08 333 *e*P P 08 22 54.1 -1.5
ZAA1 *e*PcP PcP 08 23 30.9 -2.2
SEM **Semipalatinsk** 63.26 328 *e*P P 08 22 57.5 +0.2
comp=Z,94nm,1.2s
USP **Ospenovka** 63.27 318 P P 08 22 58.0 +0.8
SNR=13
SEY **Seymchan** 63.34 12 P P 08 22 58.1 +0.9
comp=Z,45nm,0.9s,baz=213,slow=5.4,SNR=103
SEY **Seymchan** 63.34 12⇑*i*P P 08 22 58.7 +1.5
AML **Almayashu** 63.34 317 P P 08 22 58.7 +0.5
SNR=18
EKS2 **Erkin-Say** 63.50 318 P P 08 23 00.1 +1.2
SNR=12
KBL **Kabul** 64.18 308 *e*P P 08 23 02.9 -0.7
comp=Z,19nm,0.9s
KBL **Kabul** 64.18 308 *e*P P 08 23 02.9 -0.7
KBL pmax pmax
comp=Z,19nm,0.9s
KURK **Kurchatov** 64.31 327 *e*P P 08 23 02.5 -1.3
comp=Z,66nm,1.2s
KURK LR LR
comp=Z,646nm,22.0s
KURK **Kurchatov** 64.31 327*c i*P P 08 23 03.2 -0.6
KURK pmax pmax
comp=Z,437nm,1.2s
BTLS **Baital** 64.31 320 *e*P P 08 23 03.8 -0.3
comp=Z,161nm,1.0s
BTLS *i*S S 08 31 39.5 0.0
NVS **Novosibirsk** 64.35 333 *e*P P 08 23 01.9 -2.2
NVS *e*S S 08 31 39.3 -0.3
NVS *e* 08 32 47.4
NVS pmax pmax
comp=Z,29nm,1.2s
NVS pmax pmax
comp=N,17nm,1.3s
NVS pmax pmax
comp=E,16nm,1.3s
NVS smax smax
comp=E,29nm,2.2s
IUG **luzhnay** 65.87 316⇓*i*P P 08 23 15.1 +0.8
comp=E,638nm,1.0s
KKAR **Karatay Array** 65.88 317 *e*P P 08 23 13.8 -0.5
KKAR **Karatay Array** 65.88 317 *e*P P 08 23 13.8 -0.5
CHM **Chimkent** 66.23 316 *e*P P 08 23 16.9 +0.4
comp=E,417nm,0.8s
CHM *e*S S 08 32 04.0 +0.9
BRZS **Berezniki** 67.28 325 *e*P P 08 23 23.7 +0.6
comp=E,40nm,1.1s
CASY **Casey** 69.31 188 PFAKE 08 23 50.0 +15
CASY LR LR
comp=Z,76nm,20.0s
TIXI **Tiksi** 69.60 0 LR LR 08 56 20.8
comp=Z,185nm,18.1s,baz=64,slow=38
TIXI **Tiksi** 69.60 0 *e*P P 08 23 36.7 -0.4
comp=Z,33nm,0.8s
TIXI **Tiksi** 69.60 0*c i*P P 08 23 36.5 -0.6
BVAR **Borovoye Array** 69.89 327 P P 08 23 39.1 -0.2
comp=Z,27nm,0.9s,baz=115,slow=6.8,SNR=24
BRVK **Borovoye** 69.96 327 *e*P P 08 23 39.1 -0.6
comp=Z,44nm,0.9s
BRVK *e*S S 08 32 45.7 -1.5
BRVK LR LR
comp=Z,438nm,22.0s
BRVK **Borovoye** 69.96 327 *e*P P 08 23 39.1 -0.6
BRVK *e*S S 08 32 45.7 -1.5
BRVK pmax pmax
comp=Z,44nm,0.9s
BRVK MLR MLR
comp=Z,438nm,22.0s
BILL **Bilibino** 70.78 14*c i*P P 08 23 44.2 -0.2
BILL *i* 08 24 00.8
BILL *i*S S 08 32 50.4 -5.8
BILL pmax pmax
comp=Z,12nm,1.0s
BILL MLR MLR
comp=Z,562nm,21.0s
WSAR **Wadi Sarin** 70.95 294 P P 08 23 45.3 -1.1
comp=Z,27nm,1.1s,baz=71,slow=6.1,SNR=3.4
UOSS **Minazif** 73.34 295 *e*P P 08 23 58.8 -1.8
comp=Z,132nm,1.9s
GEYT **Alibeck** 73.55 309 P P 08 24 01.5 -0.2
comp=Z,22nm,0.8s,baz=134,slow=4.3,SNR=21
XMAS **Kiritimati** 73.79 88 PFAKE 08 24 20.0 +17
XMAS LR LR
comp=Z,3.0nm,21.0s
ABKAR **Akbulak array** 74.78 321 *e*P P 08 24 07.5 -1.0
comp=Z,108nm,0.9s
GAMB **Gambell** 75.23 23 *e*P P 08 24 11.5 +0.7
comp=Z,20nm,0.8s
AKTO **Aktyubinsk** 76.28 322 P P 08 24 16.5 -0.6
comp=Z,27nm,0.9s,baz=128,slow=6.3,SNR=15
SVE **Sverdlovsk** 76.51 328⇓*i*P P 08 24 17.6 -0.7
SVE pmax pmax
comp=Z,49nm,1.1s
ARU **Arti** 77.50 328 *e*P P 08 24 22.6 -1.2
comp=Z,20nm,0.8s
ARU LR LR
comp=Z,487nm,21.0s
ARU **Arti** 77.50 328*d i*P P 08 24 22.1 -1.7
ARU S S 08 34 10.5 -1.6
ARU pmax pmax
comp=Z,29nm,1.0s
CHGN **Chignik** 78.93 33 *e*P P 08 24 32.5 +0.8
comp=Z,44nm,1.1s
SOKR **Solikamsk** 79.24 331⇑*i*P P 08 24 33.0 -0.3
SOKR pmax pmax
comp=Z,34nm,1.2s
SVW2 **Sparrevohn** 81.41 28 *e*P P 08 24 45.3 +0.2
comp=Z,25nm,1.3s
VNDA **Vanda** 81.42 173 P P 08 24 44.5 -0.3
comp=Z,12nm,0.9s,baz=313,slow=8.5,SNR=4.5
VNDA LR LR 08 59 34.7
comp=Z,218nm,21.2s,baz=6.0,slow=35
VNDA **Vanda** 81.42 173 *e*P P 08 24 45.3 +0.5
VNDA *e*PcP PcP 08 24 45.4 -5.3
VNDA **Vanda** 81.42 173 *e*P P 08 24 45.3 +0.5
OHAK **Old Harbor** 81.87 33 *e*P P 08 24 48.8 +1.2
comp=Z,42nm,0.8s
KDAK **Kodiak Island** 82.34 32 P P 08 24 50.8 +0.9
comp=Z,46nm,0.7s,baz=246,slow=4.3,SNR=30
KDAK **Kodiak Island** 82.34 32 *e*P P 08 24 50.8 +0.9
comp=Z,53nm,0.8s
SEKA **Sheki** 82.34 311 P P 08 24 48.6 -1.9
OPO **Ambohidratompo** 82.59 251 P P 08 24 51.9 -0.5
comp=Z,4.4nm,0.9s,baz=94,slow=14,SNR=2.5
ZKTA **Zakatala** 82.80 312 P P 08 24 51.4 -1.4
GANJ **Ganja** 82.96 311 P P 08 24 52.2 -1.5
RAYN **Ar Rayn** 83.01 293 *e*P P 08 24 53.6 -0.7
comp=Z,35nm,1.1s
RAYN LR LR
comp=Z,520nm,19.0s
RAYN **Ar Rayn** 83.01 293⇑*e*P P 08 24 53.8 -0.5
RAYN pmax pmax
comp=Z,32nm,1.0s
SPU **Mount Spurr** 83.11 29 *e*P P 08 24 55.0 +1.0
PPLA **Purkeypile** 83.31 27 *e*P P 08 24 56.1 +1.0
comp=Z,136nm,1.8s
CAST **Castle Rocks** 83.44 26 *e*P P 08 24 56.3 +0.7
comp=Z,28nm,0.7s
BRLK **Bradley Lake** 83.49 30 *e*P P 08 24 55.6 -0.4
comp=Z,36nm,1.1s
GROC **Groznyy** 83.51 313 *e*P P 08 24 56.3 -0.1
GROC pmax pmax
comp=Z,15nm,0.4s
SUA **Susitna One** 83.78 28 *e*P P 08 24 57.9 +0.3
comp=Z,46nm,0.9s
KTH **Kantishna Hill** 83.97 26 *e*P P 08 24 59.5 +1.1
comp=Z,68nm,1.5s

BPAW **Bear Paw Mtn.** 84.02 26 *e*P P 08 24 59.2 +0.7
comp=Z,95nm,1.8s
DAMY **Dhamar** 84.03 284 *e*P P 08 25 00.1 +0.2
comp=Z,40nm,1.1s
GNI **Garni** 84.14 310 P P 08 25 01.1 +1.2
comp=Z,2.9nm,0.4s,baz=44,slow=20,SNR=2.7
GNI **Garni** 84.14 310 *e*P P 08 25 01.1 +1.2
GNI LR LR
comp=Z,387nm,20.0s
RC01 **Rabbit Creek A** 84.21 29 *e*P P 08 25 00.0 +0.4
comp=Z,34nm,0.9s
TBLG **Delisi** 84.21 312 *e*P P 08 25 00.3 +0.2
comp=Z,29nm,0.8s
TBLG **Delisi** 84.21 312 *e*P P 08 25 00.3 +0.2
TBLG pmax pmax
comp=Z,29nm,0.8s
TRF **Thorofare Moun** 84.24 26 *e*P P 08 24 60.0 0.0
comp=Z,49nm,1.3s
SEW **Seward** 84.25 30 *e*P P 08 25 00.5 +0.8
comp=Z,36nm,0.8s
MLY **Manley** 84.25 25 *e*P P 08 25 00.9 +1.2
comp=Z,52nm,1.6s
PMR **Palmer** 84.56 28 *e*P P 08 25 01.4 +0.1
comp=Z,36nm,0.9s
PMR **Palmer** 84.56 28 *e*P P 08 25 01.4 +0.1
PMR pmax pmax
comp=Z,36nm,0.9s
COLD **Coldfoot** 84.76 23 *e*P P 08 25 03.8 +1.5
comp=Z,31nm,1.1s
MCK **McKinley** 84.87 26 *e*P P 08 25 03.4 +0.5
comp=Z,30nm,0.8s
MCK **McKinley** 84.87 26 *e*P P 08 25 03.4 +0.5
MCK pmax pmax
comp=Z,30nm,0.8s
RND **Reindeer** 84.87 27 *e*P P 08 25 03.3 +0.3
comp=Z,33nm,0.8s
RND **Reindeer** 84.87 27 *e*P P 08 25 03.3 +0.3
RND pmax pmax
comp=Z,33nm,0.8s
ZEI **Tsey** 84.88 313 *e*P P 08 25 02.8 -0.8
ZEI pmax pmax
comp=Z,20nm,1.1s
SML **Sawmill** 84.96 28 *e*P P 08 25 03.9 +0.5
comp=Z,76nm,1.0s
SML **Sawmill** 84.96 28 *e*P P 08 25 03.9 +0.5
SML pmax pmax
comp=Z,76nm,1.0s
AKH **Akhalkalaki** 85.14 311⇓*i*P P 08 25 05.7 +0.8
AKH **Akhalkalaki** 85.14 311 *e*P P 08 25 04.9 0.0
comp=Z,32nm,0.9s
AKH **Akhalkalaki** 85.14 311 *e*P P 08 25 04.9 0.0
AKH pmax pmax
comp=Z,32nm,0.9s
MDM **Murphy Dome** 85.30 25 *e*P P 08 25 06.1 +1.0
comp=Z,8.9nm,0.9s
SCM **Sheep Creek Mo** 85.43 28 *e*P P 08 25 07.1 +1.2
comp=Z,86nm,1.0s
SCM **Sheep Creek Mo** 85.43 28 *e*P P 08 25 07.1 +1.2
SCM pmax pmax
comp=Z,86nm,1.0s
CCB **Clear Creek Bu** 85.45 25 *e*P P 08 25 05.8 0.0
comp=Z,12nm,1.0s
COLA **College** 85.45 25 *e*P P 08 25 07.5 +1.8
comp=Z,9.3nm,0.8s
COLA LR LR
comp=Z,448nm,20.0s
COLA **College** 85.45 25 *e*P P 08 25 07.5 +1.8
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA MLR MLR
comp=Z,448nm,20.0s
GLI **Glacier Island** 85.48 29 *e*P P 08 25 06.9 +0.9
comp=Z,45nm,0.7s
DHY **Denali Highway** 85.51 27 *e*P P 08 25 08.4 +2.1
comp=Z,134nm,1.9s
ATD **Arta Tunnel** 85.57 281 P P 08 25 08.1 +0.6
comp=Z,20nm,0.8s,baz=67,slow=4.6,SNR=8.9
ATD **Arta Tunnel** 85.57 281 *e*P P 08 25 08.1 +0.6
comp=Z,43nm,1.1s
GOF **Gofitskoye** 85.57 315⇑*e*P P 08 25 06.0 -0.8
GOF pmax pmax
comp=Z,31nm,1.0s
KBZ **Khabaz** 85.64 314 P P 08 25 06.6 -0.6
comp=Z,11nm,0.9s,baz=72,slow=1.5,SNR=8.5
NEY **Neytrino** 85.76 313*c i*P P 08 25 09.4 +1.4
NEY pmax pmax
comp=Z,9.0nm,0.9s
KIV **Kislovodsk** 85.80 314 PFAKE 08 25 20.0 +12
KIV LR LR
comp=Z,239nm,20.0s
KIV **Kislovodsk** 85.80 314 *e*P P 08 25 08.1 0.0
KIV pmax pmax
comp=Z,16nm,1.1s
HDA **Harding Lake** 85.80 26 *e*P P 08 25 07.3 -0.3
comp=Z,7.8nm,0.9s
IL1 **Eielson Array** 85.86 25 *e*P P 08 25 07.0 -0.7
ILAR **Eielson Array** 85.86 25 P P 08 25 06.1 -1.6
comp=Z,1.4nm,0.5s,baz=247,slow=4.5,SNR=30
ILB **Eielson Array** 85.86 25 *e*P P 08 25 07.4 -0.4
KLU **Klutina** 86.08 29 *e*P P 08 25 09.7 +0.7
comp=Z,22nm,0.8s
DIV **Divide** 86.13 29 *e*P P 08 25 10.2 +0.9
comp=Z,65nm,1.1s
PAX **Paxson** 86.37 27 *e*P P 08 25 11.7 +1.2
comp=Z,14nm,0.8s
PAX **Paxson** 86.37 27 *e*P P 08 25 11.7 +1.2
PAX pmax pmax
comp=Z,14nm,0.8s
HARP **HAARP** 86.49 28 *e*P P 08 25 13.2 +2.2
comp=Z,24nm,0.8s
VRH **Novokhopyorsk** 86.61 321 *e*P P 08 25 10.6 -1.1
VRH pmax pmax
comp=Z,30nm,0.7s
FYU **Fort Yukon** 86.65 24 *e*P P 08 25 13.5 +1.9
comp=Z,9.0nm,0.8s
RIDG **Independ'e Rid** 86.69 26 *e*P P 08 25 12.0 0.0
comp=Z,13nm,0.8s
BMRM **Bremner River** 86.69 29 *e*P P 08 25 13.5 +1.4
comp=Z,30nm,1.0s
DOT **Dot Lake** 87.03 27 *e*P P 08 25 13.9 +0.3
comp=Z,19nm,1.0s
MENT **Mentasta** 87.17 27 *e*P P 08 25 14.9 +0.6
comp=Z,8.8nm,0.7s
KLMR **Klimovskoe** 87.92 331 *e*P P 08 25 15.3 -2.6
KLMR *e* 08 28 42.7
KLMR pmax pmax
comp=Z,36nm,1.1s
KLMR **Klimovskoe** 87.92 331 *e*P P 08 25 15.4 -2.5
KLMR AMP 08 25 22.3
comp=Z,36nm,1.1s
KLMR *e*PP PP 08 28 42.7 -1.5
VSR **Storozhevoye** 88.22 321 *e*P P 08 25 17.4 -2.1
VSR pmax pmax
comp=Z,10.0nm,1.0s
EGAK **Eagle** 88.31 25 *e*P P 08 25 19.9 +0.3
comp=Z,27nm,1.8s
EGAK LR LR
comp=Z,543nm,19.0s
LPSR **Galich'ya Gora** 88.34 322 *e*P P 08 25 18.8 -1.2
LPSR pmax pmax
comp=Z,60nm,1.0s
TMCR **Tamitsa** 88.56 334 *e*P P 08 25 19.6 -1.2
TMCR pmax pmax
comp=Z,34nm,1.1s
DAWY **Dawson** 89.10 26 *e*P P 08 25 24.2 +0.7
comp=Z,7.6nm,0.8s
ANN **Anapa** 89.56 315 *e*P P 08 25 25.4 -0.5
ANN *e* 08 28 58.8
ANN pmax pmax
comp=Z,54nm,0.8s
OBN **Obninsk** 89.65 325 PFAKE 08 25 40.0 +14
OBN LR LR
comp=Z,541nm,19.0s
OBN **Obninsk** 89.65 325⇑*e*P P 08 25 24.9 -1.2
OBN *e* 08 25 33.1
OBN pmax pmax
comp=Z,23nm,0.8s
OBN MLR MLR
comp=Z,315nm,19.0s
LVZ **Lovozero** 89.75 338 PFAKE 08 25 40.0 +14
LVZ LR LR
comp=Z,304nm,20.0s
LVZ **Lovozero** 89.75 338⇓*i*P P 08 25 27.3 +0.9
LVZ pmax pmax
comp=Z,27nm,1.0s
APA **Apatity** 90.25 338⇑*i*P P 08 25 26.4 -2.3
APA pmax pmax
comp=Z,9.0nm,0.7s
ASF **Jabal al Asfar** 90.52 302 P P 08 25 31.3 +0.4
comp=Z,10nm,1.1s,baz=83,slow=9.5,SNR=5.6
INK **Inuvik** 91.08 22 P P 08 25 32.1 -0.4
comp=Z,7.0nm,0.9s,baz=280,slow=3.7,SNR=3.2
INK **Inuvik** 91.08 22 *e*P P 08 25 32.1 -0.4
comp=Z,7.6nm,0.9s
INK **Inuvik** 91.08 22 *e*P P 08 25 32.2 -0.3
INK pmax pmax
comp=Z,8.0nm,0.9s
KMBO **Kilima Mbogo** 91.50 269 P P 08 25 37.1 +1.1
comp=Z,2.9nm,0.7s,baz=62,slow=4.9,SNR=12
KMBO **Kilima Mbogo** 91.50 269 *e*P P 08 25 38.4 +2.4
comp=Z,26nm,1.4s
KMBO LR LR
comp=Z,331nm,19.0s
KMBO **Kilima Mbogo** 91.50 269 *e*P P 08 25 38.4 +2.4
KMBO pmax pmax
comp=Z,26nm,1.4s
KMBO MLR MLR
comp=Z,331nm,19.0s
MMAI **Mount Meron Ar** 91.73 303 P P 08 25 36.2 -0.3
comp=Z,1.4nm,0.3s,baz=72,slow=4.7,SNR=4.1
QSPA **South Pole Qui** 91.86 180 PFAKE 08 25 50.0 +14
QSPA LR LR
comp=Z,265nm,20.0s
BR101 **Keskin Array S** 92.68 310 *e*P P 08 25 39.0 -1.8
BR101 *e*PP PP 08 29 27.0 +4.2
BR131 **Keskin Array S** 92.68 310 *e*P P 08 25 39.5 -1.3
BRTR **Keskin Array B** 92.68 310 P P 08 25 39.0 -1.8
comp=Z,3.3nm,0.8s,baz=84,slow=5.1,SNR=10.0
BRTR PP PP 08 29 27.0 +4.2
comp=Z,5.7nm,1.1s,baz=94,slow=1.9,SNR=7.2
ARA0 **ARCESS Array S** 92.80 340 *e*P P 08 25 39.3 -1.2
ARCES **ARCESS Array B** 92.80 340 P P 08 25 39.3 -1.2
comp=Z,15nm,0.7s,baz=80,slow=5.1,SNR=37
ARE0 **ARCESS Array S** 92.80 340 *e*P P 08 25 39.1 -1.4
comp=Z,23nm,0.9s
KBS **Kingsbay** 93.09 350 PFAKE 08 25 50.0 +8.3
KBS LR LR
comp=Z,354nm,20.0s
CSS **Mathiatis** 93.32 305 PFAKE 08 25 50.0 +6.3
CSS LR LR
comp=Z,57nm,20.0s
ANTO **Ankara** 93.32 310 PFAKE 08 25 50.0 +6.4
ANTO LR LR
comp=Z,211nm,20.0s
BR231 **Keskin MP Arra** 93.33 310 *e*P P 08 25 40.2 -3.5
FIA1 **FINESS Array S** 94.33 332 *e*P P 08 25 45.9 -1.8
FIA0 **FINESS Array S** 94.33 332 *e*P P 08 25 45.7 -2.0
FIA0 **FINESS Array S** 94.33 332 *e*P P 08 25 45.7 -2.0
FINES **FINESS Array B** 94.33 332 P P 08 25 45.7 -2.0
comp=Z,6.1nm,0.9s,baz=54,slow=5.5,SNR=10.0
AKASG **Malin Array Be** 94.52 321 P P 08 25 46.7 -2.1
comp=Z,8.5nm,1.0s,baz=73,slow=4.4,SNR=13
AKBB **Malin Array Si** 94.52 321 *e*P P 08 25 46.9 -1.9
comp=Z,13nm,1.1s
AKBB **Malin Array Si** 94.52 321 *e*P P 08 25 46.9 -1.9
AKBB pmax pmax
comp=Z,13nm,1.1s
KIEV **Kiev** 94.53 321 *e*P P 08 25 47.0 -1.8
comp=Z,14nm,1.2s
KIEV LR LR
comp=Z,337nm,19.0s
KIEV **Kiev** 94.53 321⇑*i*P P 08 25 47.7 -1.1
KIEV pmax pmax
comp=Z,8.0nm,1.0s
AK11 **Malin Array Si** 94.56 321 *e*P P 08 25 47.3 -1.7
VSU **Vasula** 94.61 329⇓*i*P P 08 25 47.8 -1.2
VSU pmax pmax
comp=Z,31nm,0.8s
ISP **Isparta** 95.29 308 PFAKE 08 26 00.0 +7.2
ISP LR LR
comp=Z,240nm,19.0s
TIRR **Tirgusor** 96.00 315⇓*i*P P 08 25 53.2 -2.5
TIRR **Tirgusor** 96.00 315 P P 08 25 53.2 -2.5
TLB **Topalu** 96.24 315⇓*i*P P 08 25 53.4 -3.4
TLB **Topalu** 96.24 315 P P 08 25 53.4 -3.4
VRI **Vrincioaia** 96.95 316⇓*i*P P 08 25 59.9 -0.1
VRI **Vrincioaia** 96.95 316 P P 08 25 59.9 -0.1
PLOR **Plostina** 97.00 316⇓*i*P P 08 25 58.0 -2.3
PLOR **Plostina** 97.00 316 P P 08 25 58.0 -2.3
MLR **Muntele Rosu** 97.56 316 P P 08 26 02.2 -0.8
comp=Z,2.5nm,1.0s,baz=77,slow=7.9,SNR=12
MLR **Muntele Rosu** 97.56 316⇓*i*P P 08 26 01.8 -1.1
MLR **Muntele Rosu** 97.56 316 *e*P P 08 26 02.1 -0.8
comp=Z,11nm,1.0s
BURAR **Bucovina Array** 97.65 318⇓*i*P P 08 26 02.3 -0.9
BURAR **Bucovina Array** 97.65 318 P P 08 26 02.3 -0.9
BUR04 **Bucovina Ar. S** 97.65 318 *e*P P 08 26 01.6 -1.7
BUR08 **Bucovina Ar. S** 97.65 318 *e*P P 08 26 02.6 -0.7
MBAR **Mbarara** 98.00 270 PFAKE 08 26 20.0 +14
MBAR LR LR
comp=Z,859nm,19.0s
RES **Resolute Bay** 99.20 11 P Pdif 08 26 09.0 -0.4
comp=Z,9.7nm,0.8s,baz=311,slow=5.7,SNR=17
RES **Resolute Bay** 99.20 11 *e*P Pdif 08 26 09.8 +0.4
comp=Z,9.3nm,0.8s
RES **Resolute Bay** 99.20 11 P Pdif 08 26 09.0 -0.4
RES pmax pmax
comp=Z,10.0nm,0.8s
UZH **Uzhgorod** 99.34 320 *e*P Pdif 08 26 09.7 -0.9
UZH *e* 08 26 25.3
DRGR 99.49 318⇓*i*P Pdif 08 26 10.5 -1.0
DRGR 99.49 318 P Pdif 08 26 10.5 -1.0
SANT **Santorini** 99.50 307 PFAKE 08 26 20.0 +8.3
SANT LR LR
comp=Z,209nm,20.0s
CRVS **Cervenica-Dubn** 99.81 320 *e*P Pdif 08 26 12.5 -0.3
CRVS **Cervenica-Dubn** 99.81 320 *e*PDIFF Pdif 08 26 12.5 -0.3
STHS **Stebnicka Huta** 99.81 321 *e*P Pdif 08 26 13.7 +0.9
STHS **Stebnicka Huta** 99.81 321 *e*PDIFF Pdif 08 26 13.7 +0.9
IDI **Anoyia** 100.14 306 P Pdif 08 26 15.2 +0.6
comp=Z,4.4nm,0.5s,baz=41,slow=23,SNR=4.7
YKA **Yellowknife Ar** 100.28 25 P Pdif 08 26 13.5 -1.0
comp=Z,1.8nm,0.8s,baz=297,slow=4.9,SNR=13
YKA PKiKP PKiKP 08 30 40.8 -0.7
comp=Z,0.4nm,0.6s,baz=296,slow=1.5,SNR=9.4
HFS **Hagfors** 100.51 333 P Pdif 08 26 13.2 -2.3
comp=Z,8.1nm,0.9s,baz=48,slow=2.1,SNR=8.8
KECS **Kecovo** 100.54 320 *e*P Pdif 08 26 15.3 -0.7
KECS **Kecovo** 100.54 320 *e*PDIFF Pdif 08 26 15.3 -0.7
PSZ **Piszkesteto** 101.07 320 PFAKE 08 26 30.0 +12
PSZ LR LR
comp=Z,213nm,19.0s
NB2 **NORSAR Subarra** 101.26 334 P Pdif 08 26 16.5 -2.5
comp=Z,2.0nm,0.7s,baz=66,slow=4.8
NB200 **NORSAR Array S** 101.26 334 *e*Pdif Pdif 08 26 17.0 -1.9
NOA **NORSAR Array B** 101.26 334 P Pdif 08 26 17.0 -1.9
comp=Z,3.9nm,0.8s,baz=66,slow=4.5,SNR=8.0
MORC **Moravsky Berou** 102.03 322⇓*i*P Pdif 08 26 20.6 -2.1
MORC **Moravsky Berou** 102.03 322 *e*Pdif Pdif 08 26 21.9 -0.8
MORC **Moravsky Berou** 102.03 322 *e*P Pdif 08 26 21.9 -0.8
TIR **Tirane** 102.77 313 PFAKE 08 26 40.0 +14
TIR LR LR
comp=Z,437nm,22.0s
BRG **Berggiesshubel** 103.84 324 *e*P Pdif 08 26 30.2 -0.5
comp=Z,3.9nm,0.8s
BRG **Berggiesshubel** 103.84 324 *e*P Pdif 08 26 30.2 -0.5
BRG pmax pmax
comp=Z,4.0nm,0.8s
CLL **Collm** 104.24 324 *e*Pdif Pdif 08 26 32.0 -0.4
CLL **Collm** 104.24 324 *e*P Pdif 08 26 32.0 -0.4
NEW **Newport** 104.37 39 PFAKE 08 26 40.0 +6.9
NEW LR LR
comp=Z,313nm,21.0s
GEC2 **GERESS Array S** 104.71 322 *e*Pdif Pdif 08 26 34.3 -0.4
GEC2 **GERESS Array S** 104.71 322 *e*P Pdif 08 26 34.3 -0.4
GERES **GERESS Array B** 104.71 322 Pdiff Pdif 08 26 34.5 -0.1
comp=Z,1.5nm,0.8s,baz=66,slow=4.7,SNR=6.4
GEA0 **GERESS Array S** 104.71 322 *e*Pdif Pdif 08 26 34.3 -0.4
BMO **Blue Mountains** 105.38 42 PFAKE 08 31 00.0
BMO LR LR
comp=Z,214nm,20.0s
TIP **Timpagrande** 105.62 312 PFAKE 08 31 00.0
TIP LR LR
comp=Z,207nm,20.0s
CUC **Castrocucco** 106.09 313 PFAKE 08 31 00.0
CUC LR LR
comp=Z,211nm,19.0s
CEL **Celeste** 106.52 311 PFAKE 08 31 10.0
CEL LR LR
comp=Z,274nm,20.0s
AQU **L'Aquila** 107.11 315 PFAKE 08 31 10.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU				LR	LR		
	comp=Z,272nm,21.0s						
HLID	Hailey	107.77	43	PFAKE		08 31 10.0	
HLID				LR	LR		
	comp=Z,264nm,19.0s						
BFO	Black Forest	108.20	323	PFAKE		08 31 10.0	
BFO				LR	LR		
	comp=Z,252nm,19.0s						
TUE	Stuetta	108.33	321	PFAKE		08 31 10.0	
TUE				LR	LR		
	comp=Z,256nm,19.0s						
VLC	Villacollemand	108.54	318	PFAKE		08 31 10.0	
VLC				LR	LR		
	comp=Z,225nm,21.0s						
CLTB	Caltabellotta	108.75	311	PFAKE		08 31 10.0	
CLTB				LR	LR		
	comp=Z,149nm,20.0s						
EGMT	Eagleton	109.02	37	PFAKE		08 31 10.0	
EGMT				LR	LR		
	comp=Z,274nm,19.0s						
LKWY	Lake	110.07	41	PFAKE		08 31 10.0	
LKWY				LR	LR		
	comp=Z,611nm,20.0s						
DUG	Dugway, Tooele	110.08	46	PFAKE		08 31 10.0	
DUG				LR	LR		
	comp=Z,334nm,22.0s						
AHID	Auburn Hatcher	110.32	43	PFAKE		08 31 10.0	
AHID				LR	LR		
	comp=Z,423nm,20.0s						
WUAZ	Wupatki	112.77	50	PFAKE		08 31 20.0	
WUAZ				LR	LR		
	comp=Z,288nm,20.0s						
TUC	Tucson	114.30	53	PFAKE		08 31 20.0	+11
TUC				LR	LR		
	comp=Z,386nm,21.0s						
MVCO	Mesa Verde	114.32	47	PFAKE		08 31 20.0	+11
MVCO				LR	LR		
	comp=Z,187nm,20.0s						
ULM	Lac du Bonnet	115.54	30	PKP	PKPdf	08 31 09.8	-0.6
	comp=Z,1.7nm,0.6s,baz=321,slow=1.1,SNR=6.6						
C31A	Landman Farms,	116.07	33	P	PKPdf	08 31 11.3	-0.2
	baz=306						
A33A	Warroad	116.61	31	P	PKPdf	08 31 12.2	-0.3
	baz=309						
ANMO	Albuquerque	116.72	49	PKP	PKPdf	08 31 14.2	+0.8
	comp=Z,0.7nm,0.7s,baz=33,slow=5.3,SNR=4.5						
B34A	Aery, Baudette	117.27	31	P	PKPdf	08 31 13.6	-0.2
	baz=310						
C34A	RKJ Ranch, Bem	117.67	32	P	PKPdf	08 31 13.8	-0.7
	baz=309						
D34A	Park Rapids	117.87	32	P	PKPdf	08 31 14.9	0.0
	baz=308						
D35A	Remer	118.48	32	P	PKPdf	08 31 15.5	-0.6
	baz=310						
E35A	Pequot Lakes	118.62	33	P	PKPdf	08 31 16.3	-0.2
	baz=309						
MNTX	Cornudas Mount	118.81	52	*e*PKPdf	PKPdf	08 31 19.5	+2.2
K32A	Verdigre	118.88	38	P	PKPdf	08 31 16.8	-0.2
	baz=304						
F35A	Swanville	118.97	33	P	PKPdf	08 31 17.4	+0.3
	baz=309						
H34A	Spellman Lake,	119.02	35	P	PKPdf	08 31 17.0	-0.2
	baz=307						
ECSD	EROS Data Cent	119.08	36	P	PKPdf	08 31 17.2	-0.3
	baz=306						
J33A	Davis	119.11	37	P	PKPdf	08 31 17.1	-0.4
	baz=305						
G35A	Watkins	119.41	34	P	PKPdf	08 31 18.1	+0.1
	baz=308						
TAM	Tamanrasset	119.47	297	PFAKE		08 31 30.0	+11
TAM				LR	LR		
	comp=Z,192nm,19.0s						
F36A	Milaca	119.53	33	P	PKPdf	08 31 18.2	0.0
	baz=310						
H35A	Sunnyside Ranc	119.54	34	P	PKPdf	08 31 18.3	0.0
	baz=308						
F37A	Hinrichs Farm,	120.10	32	P	PKPdf	08 31 19.1	-0.2
	baz=310						
H36A	Jessenland, He	120.12	34	P	PKPdf	08 31 19.2	-0.1
	baz=309						
O33A	Hebron	120.54	40	P	PKPdf	08 31 20.0	-0.4
	baz=303						
E39A	Mellen	120.75	31	P	PKPdf	08 31 20.4	-0.1
	baz=313						
F39A	Loretta	120.88	31	P	PKPdf	08 31 20.4	-0.4
	baz=312						
E40A	Wakefield	121.04	30	P	PKPdf	08 31 21.4	+0.3
	baz=314						
LTX	Lajitas	121.08	54	*e*PKPdf	PKPdf	08 31 21.7	-0.1
LTX	Lajitas	121.08	54	*e*PKIKP	PKPdf	08 31 21.7	-0.1
TXAR	Lajitas Array	121.08	54	PKP	PKPdf	08 31 21.7	-0.1
	comp=Z,0.7nm,0.8s,baz=329,slow=1.3,SNR=6.3						
J37A	Redenius Farm,	121.12	35	P	PKPdf	08 31 21.0	-0.3
	baz=308						
G39A	Holcombe	121.17	32	P	PKPdf	08 31 21.4	0.0
	baz=312						
F40A	Park Falls	121.29	31	P	PKPdf	08 31 21.6	0.0
	baz=313						
P34A	Walnut Farm, R	121.32	40	P	PKPdf	08 31 22.1	+0.3
	baz=304						
H39A	Augusta	121.50	33	P	PKPdf	08 31 21.4	-0.6
	baz=311						
Q34A	Chapman	121.59	41	P	PKPdf	08 31 22.6	+0.2
	baz=303						
I39A	Houston	121.91	33	P	PKPdf	08 31 22.3	-0.5
	baz=311						
F41A	Three Lakes	121.93	30	P	PKPdf	08 31 23.0	+0.1
	baz=314						
SCHQ	Schefferville	121.98	11	PKP	PKPdf	08 31 21.9	-0.8
	comp=Z,2.6nm,0.7s,baz=334,slow=3.5,SNR=4.4						
SCHQ	Schefferville	121.98	11	*e*PKPdf	PKPdf	08 31 20.3	-2.4
J39A	Decorah	122.15	34	P	PKPdf	08 31 22.5	-0.8
	baz=310						
G42A	Mountain	122.61	30	P	PKPdf	08 31 24.4	+0.3
	baz=314						
K40A	Colesburg	122.88	34	P	PKPdf	08 31 23.7	-1.0
	baz=310						
M39A	Webster	123.06	36	P	PKPdf	08 31 25.1	0.0
	baz=309						
P38A	Dawn	123.36	38	P	PKPdf	08 31 25.9	+0.2
	baz=307						
JCT	Junction City	123.67	51	P	PKPdf	08 31 26.7	0.0
	baz=296						
JCT	Junction City	123.67	51	*e*PKPdf	PKPdf	08 31 27.3	+0.6
JCT	Junction City	123.67	51	*e*PKIKP	PKPdf	08 31 27.3	+0.6
P39B	Salisbury	123.93	38	P	PKPdf	08 31 25.7	-1.1
	baz=307						
Q39A	Willow Grove F	124.06	39	P	PKPdf	08 31 27.1	0.0
	baz=307						
M41A	Milan	124.07	35	P	PKPdf	08 31 26.8	-0.3
	baz=310						
T38A	Diamond	124.37	41	P	PKPdf	08 31 27.4	-0.4
	baz=304						
R39A	Chumby, Stover	124.45	39	P	PKPdf	08 31 27.8	-0.1
	baz=306						
S39A	Bolivar	124.63	40	P	PKPdf	08 31 28.3	0.0
	baz=306						
R40A	Maddies Statio	124.95	39	P	PKPdf	08 31 28.8	0.0
	baz=307						
T39A	Clever	124.98	41	P	PKPdf	08 31 29.1	+0.1
	baz=305						
U39A	Green Forest	125.28	42	P	PKPdf	08 31 29.4	-0.2
	baz=305						
TOA0	Torodi Ar. Sit	125.35	288	*e*PKPdf	PKPdf	08 31 30.6	+0.4
TORD	Torodi Ar. Bea	125.35	288	PKP	PKPdf	08 31 29.1	-1.1
	comp=Z,4.3nm,0.8s,baz=49,slow=1.7,SNR=12						
TORD				PP	PP	08 33 21.8	+1.0
	comp=Z,3.3nm,1.1s,baz=56,slow=7.1,SNR=4.2						
TOA1	Torodi Ar. Sit	125.35	288	*e*PKPdf	PKPdf	08 31 29.1	-1.1
TOA1				*e*PP	PP	08 33 21.8	+1.0
R41A	Rosebud	125.50	38	P	PKPdf	08 31 30.2	+0.3
	baz=308						
S41A	Jillco Farms,	125.70	39	P	PKPdf	08 31 30.2	-0.2
	baz=307						
U40A	Yellville	125.71	41	P	PKPdf	08 31 30.4	+0.1
	baz=305						
CCM	Cathedral Cave	125.73	39	P	PKPdf	08 31 30.3	-0.1
	baz=308						
N44A	Piper City	125.82	34	P	PKPdf	08 31 30.3	-0.1
	baz=312						
V40A	Witts Springs	126.05	42	P	PKPdf	08 31 31.7	+0.6
	baz=305						
S42A	Caledonia	126.19	39	P	PKPdf	08 31 31.3	+0.1
	baz=308						
W40A	Ferguson Farm,	126.23	43	P	PKPdf	08 31 32.2	+0.8
	baz=305						
MIAR	Mount Ida	126.24	44	P	PKPdf	08 31 32.9	+1.5
	baz=304						
MIAR	Mount Ida	126.24	44	*e*PKPdf	PKPdf	08 31 32.5	+1.1
MIAR	Mount Ida	126.24	44	*e*PKIKP	PKPdf	08 31 32.5	+1.1
U41A	Viola	126.33	41	P	PKPdf	08 31 31.3	-0.2
	baz=306						
KVTX	Kingsville	126.45	53	PFAKE		08 31 40.0	+8.0
KVTX				LR	LR		
	comp=Z,308nm,21.0s						
KOWA	Kowa	130.43	291	PKP	PKPdf	08 31 40.3	+0.5
	comp=Z,1.3nm,0.6s,baz=58,slow=6.0,SNR=3.1						
TKL	Tuckaleechee C	131.83	36	PKP	PKPdf	08 31 42.5	+0.4
	comp=Z,4.0nm,0.7s,baz=108,slow=7.6,SNR=4.2						
DBIC	Dimbokro	132.88	281	PKP	PKPdf	08 31 44.9	+0.4
	comp=Z,11nm,1.2s,baz=27,slow=2.9,SNR=2.8						
PLCA	Paso Flores	137.63	158	PKP	PKPdf	08 31 54.8	+2.0
	comp=Z,1.8nm,0.9s,baz=9.4,slow=7.4,SNR=3.8						
TRQA	Tornquist	142.74	166	PFAKE		08 32 10.0	+7.9
TRQA				LR	LR		
	comp=Z,230nm,20.0s						
JTS	JuntasAbangare	144.35	69	PKP	PKPdf	08 32 05.5	-0.1
	comp=Z,17nm,0.7s,baz=2.4,slow=6.4,SNR=8.1						
JTS	JuntasAbangare	144.35	69	*e*PKPdf	PKPdf	08 32 05.5	-0.1
JTS				LR	LR		
	comp=Z,195nm,19.0s						
LCO	Las Campanas	147.34	147	PFAKE		08 32 20.0	+5.2
LCO				LR	LR		
	comp=Z,282nm,19.0s						
LCO	Las Campanas	147.34	147	⇑*e*PKP2	PKPab	08 32 14.9	+0.1
ATAH	Atahualpa	152.50	102	PKPbc	PKPbc	08 32 26.1	-0.1
	comp=Z,4.4nm,0.6s,baz=277,slow=9.5,SNR=3.9						
OTAV	Otavalo	152.75	86	PFAKE		08 32 30.0	+3.1
OTAV				LR	LR		
	comp=Z,168nm,22.0s						
NNA	Nana	152.77	113	PKPbc	PKPbc	08 32 26.9	+0.6
	comp=Z,6.3nm,0.7s,baz=264,slow=7.1,SNR=4.7						
POPC	Popayan, Colom	154.23	80	*e*P	PKPdf	08 32 25.5	+4.0
SOTA	Rioblanco	154.36	81	*e*P	PKPbc	08 32 30.9	+0.4
CPUP	Villa Florida	155.07	167	*e*PKPbc	PKPdf	08 32 31.1	+9.0
CPUP	Villa Florida	155.07	167	*e*PKIKP	PKPdf	08 32 31.1	+9.0
PRAC	Prado	155.75	77	*e*P	PKPdf	08 32 30.2	+6.8
OCAC	Ocana	155.81	65	*e*P	PKPdf	08 32 28.9	+5.2
ROSC	El Rosal	156.02	74	PKPab	PKPab	08 32 53.7	+2.2
	comp=Z,16nm,1.1s,baz=34,slow=24,SNR=5.0						
ROSC	El Rosal	156.02	74	*e*PKPab	PKPab	08 32 54.5	+3.0
RUSC	La Rusia	156.88	70	*e*PKPab	PKPab	08 32 57.4	+2.1
SDV	Santo Domingo	157.92	61	PKP	PKPdf	08 32 25.4	-1.0
	comp=Z,5.3nm,0.8s,baz=286,slow=17,SNR=6.5						
SDV	Santo Domingo	157.92	61	*e*PKPdf	PKPdf	08 32 27.5	+1.2
SDV				LR	LR		
	comp=Z,237nm,22.0s						
LPAZ	La Paz	158.13	132	PKPab	PKPab	08 33 03.2	+2.5
	comp=Z,4.2nm,0.7s,baz=158,slow=2.5,SNR=9.6						
LPAZ	La Paz	158.13	132	*e*PKPab	PKPab	08 33 01.4	+0.8
GRGR	Grenville	162.63	36	PFAKE		08 32 40.0	+8.7
GRGR				LR	LR		
	comp=Z,508nm,20.0s						
RCBR	Riachuelo	164.18	255	PFAKE		08 32 40.0	+7.1
RCBR				LR	LR		
	comp=Z,4µm,22.0s						
SAML	Samuel	166.27	121	PFAKE		08 32 50.0	+15
SAML				LR	LR		
	comp=Z,235nm,19.0s						
PTGA	Pitinga	171.24	82	PKPab	PKPab	08 33 58.6	+0.7
	comp=Z,6.2nm,1.0s,baz=295,slow=3.5,SNR=5.8						
PTGA	Pitinga	171.24	82	*e*PKPab	PKPab	08 33 55.4	-2.5
PTGA				LR	LR		
	comp=Z,36µm,19.0s						

KRNET ***05*** *08:13:53.2±0.1, 39°.05N×72°.59E, mb3.2*
NNC ***05*** *08:13:54.8±5.2, 39°.02N×73°.25E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=38.0km s-min=30.8km az=152.0*
ISC 05 08:13:57.5±2.8**, 39°.2N**±0°.1×**72°.71E**±0°.08**, h10**km**, n11, σ2s.17**/22**, 15C-8D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.99	38	⇑*i*P	Pb	08 14 16.1	-0.8
	baz=36						
SFK				⇑*i*S	Sn	08 14 33.0	+1.1
	baz=36						
ARSB	Arslanbob	2.10	6	⇑*i*P	Pb	08 14 35.2	-0.6
	baz=7.0						
ARSB				⇑*i*S	Sg	08 15 05.1	+0.1
	baz=7.0						
ARK	Arkit	2.63	348	⇑*e*P	Pn	08 14 39.4	-0.7
	baz=51						
ARK				⇑*e*S	Sb	08 15 16.2	-0.9
	baz=51						
TOKL	Toktogul	2.71	2	⇑*i*P	Pb	08 14 42.9	-3.2
	baz=4.0						
TOKL				⇑*i*S	Sb	08 15 18.1	-1.3
	baz=4.0						
AML	Almayashu	2.99	14	⇑*i*P	Pb	08 14 47.3	-3.8
	baz=15						
AML				⇑*i*S	Sb	08 15 26.6	-1.2
	baz=15						
MNAS	Manas	3.26	357	⇓Pn	Pn	08 14 50.1	+1.3
	6.9nm,0.4s						
MNAS				⇑Sn	Sb	08 15 33.7	-1.6
	36nm,1.3s						
MNAS	Manas	3.26	357	⇓*i*P	Pn	08 14 50.3	+1.5
	baz=59						
MNAS				⇓*i*S	Sn	08 15 31.6	+4.0
	baz=59						
NRN	Naryn	3.34	48	⇓*i*P	Pn	08 14 50.5	+0.5
	baz=46						
NRN				⇓*i*S	Sn	08 15 30.8	+0.9
	baz=46						
AAK	Ala-Archa	3.66	21	⇓Pn	Pn	08 14 54.9	+0.6
	6.3nm,0.6s						
AAK				⇑Sn	Sn	08 15 40.1	+2.5
	33nm,1.1s						
AAK				⇑Lg	Lg	08 15 54.4	
	34nm,1.1s						
AAK	Ala-Archa	3.66	21	⇑*e*P	Pn	08 14 55.9	+1.6
	baz=21						
AAK				⇑*i*S	Sn	08 15 41.9	+4.3
	baz=21						
KK31	Karatay Array	4.21	337	⇓Pn	Pn	08 15 04.0	+2.3
	3.5nm,0.4s,baz=156,slow=13,SNR=54						
KK31				⇓Sn	Sb	08 16 00.8	-1.7
	47nm,0.9s,baz=147,slow=25						

IDC 05 08:19:47.2±60.0**, 17°.96S**×**168°.23E, h0**km**, mb4.4**/3**, mb1 4.6**/3**, mb1mx3.8**/47**, mbtmp4.4**/3**, Error ellipse: s-maj=1004.0km s-min=109.1km az=72.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	27.75	235	P	P	08 25 37.7	0.0
	7.9nm,0.8s,baz=45,slow=9.2,SNR=6.1						
WRA	Warramunga Arr	32.08	261	P	P	08 26 16.2	-0.1
	3.0nm,0.7s,baz=91,slow=8.9,SNR=12						
ASAR	Alice Springs	32.53	254	P	P	08 26 20.2	0.0
	3.8nm,0.8s,baz=80,slow=8.9,SNR=15						

MEX 05 08:21:03.1±0.4**, 14°.48N**×**92°.90W, h15**km±36km**, MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.25	346	*e*P	Pn	08 21 22.6	-3.5
PCIG				*i* S	Sb	08 21 37.2	-5.2
CCIG	Comitan	1.94	22	*e*P	Pn	08 21 32.7	-2.9
CCIG				*e*S	Sn	08 21 55.2	-4.6
TGIG		2.29	355	*e*P	Pn	08 21 37.9	-2.6
TGIG				*i* S	Sn	08 22 03.8	-4.7

IDC ***05*** *08:23:39.6±0.6, 1°.98N×128°.55E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.1/55, mbtmp4.2/18, Error ellipse: s-maj=30.1km s-min=13.5km az=81.0*
ISCJB ***05*** *08:23:42.6±0.3, 1°.98N±0°.04×128°.79E±0°.05, h35km, mb4.3/26, Error ellipse: s-maj=7.3km s-min=5.7km az=149.2*
NEIC ***05*** *08:23:45.1±1.1, 1°.97N×128°.77E, h39km±11km, mb4.5/6, Error ellipse: s-maj=11.2km s-min=7.5km az=62.0*
ISC 05 08:23:44.3±0.5**, 1°.96N**±0°.06×**128°.79E**±0°.06**, h35**km**, n60, σ1s.67**/57**, mb4.4**/26**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.85	230	*e*Pn	Pn	08 24 13.2	-0.4
FAKI	Fak Fak	5.95	144	*e*Pn	Pn	08 25 10.1	+0.1
FAKI				*e*Sn	Sn	08 26 17.1	+0.1
LUWI	Luwuk	6.71	244	*e*Pn	Pn	08 25 21.1	+0.5
LUWI				*e*Sn	Sn	08 26 32.8	-3.1
MYLDM	Lahad Datu	10.76	288	*e*Pn	Pn	08 26 15.9	-0.1
KKM	Kota Kinabalu	13.19	288	*e*Pn	Pn	08 26 51.5	+2.1
KKM				*e*Sn	Sn	08 29 15.0	+0.1
SBUM	Sibu	16.57	272	*e*Pn	P	08 27 36.0	-0.3
	30nm,1.1s						
ANA2	Anatahan	21.95	48	*e*P	P	08 28 30.0	-5.2
WR1	Warramunga Arr	22.43	166	*e*P	P	08 28 40.8	+0.5
WRA	Warramunga Arr	22.43	166	P	P	08 28 40.8	+0.5
	1.8nm,0.6s,baz=346,slow=11,SNR=14						
MBWA	Marble Bar	24.62	201	*e*P	P	08 29 01.7	0.0
	57nm,1.8s						
JOW	Kunigami	24.74	359	*e*P	P	08 29 01.0	-1.7
	178nm,1.9s						
MYKOM	Kota Tinggi	24.93	270	*e*P	P	08 28 58.6	-5.9
	58nm,1.8s						
ASAR	Alice Springs	25.95	169	P	P	08 29 14.4	+0.7
	0.8nm,0.5s,baz=353,slow=7.9,SNR=12						
ASAR				PcP	PcP	08 32 42.8	+0.9
	0.2nm,0.5s,baz=341,slow=3.1,SNR=2.7						
AS01	Alice Springs	25.96	169	*e*P	P	08 29 10.8	-3.0
PSI	Prapat	29.85	272	P	P	08 30 03.4	+15
	6.3nm,0.7s,baz=95,slow=12,SNR=5.9						
PSI	Prapat	29.85	272	*e*P	P	08 29 48.8	-0.1
	8.8nm,1.0s						
CMAR	Chiang Mai Arr	33.54	301	P	P	08 30 22.6	+1.5
	1.1nm,0.5s,baz=116,slow=6.9,SNR=7.5						
ENH	Enshi	33.59	329	*e*P	P	08 30 15.9	-5.6
	9.9nm,0.4s						
KS15	Wonju Array Si	35.32	359	*e*P	P	08 30 29.7	-6.6
KSAR	Wonju Array Be	35.32	359	P	P	08 30 36.5	+0.2
KSRS	Korea Array	35.34	359	P	P	08 30 36.5	+0.2
	1.5nm,0.6s,baz=176,slow=9.0,SNR=5.5						
MAJO	Matsushiro	35.50	13	*e*P	P	08 30 37.5	-0.4
MJAR	Matsushiro Arr	35.50	13	P	P	08 30 37.5	-0.4
	3.5nm,0.7s,baz=185,slow=9.9,SNR=8.1						
STKA	Stephens Creek	35.77	161	P	P	08 30 41.3	+1.0
	3.5nm,0.6s,baz=336,slow=10,SNR=12						
STKA	Stephens Creek	35.77	161	*e*P	P	08 30 41.8	+1.6
	1.0nm,0.9s						
H11S3	WAKE ISLAND Hy	40.61	64	T	T	09 14 45.1	
	baz=250,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy	40.63	64	T	T	09 14 45.6	
	baz=250,slow=76,SNR=15						
H11S1	WAKE ISLAND Hy	40.63	64	T	T	09 14 51.5	
	baz=250,slow=76,SNR=9.4						
H11N1	WAKE ISLAND Hy	41.21	62	T	T	09 15 26.5	
	baz=249,slow=75,SNR=24						
H11N2	WAKE ISLAND Hy	41.22	62	T	T	09 15 29.1	
	baz=249,slow=75,SNR=14						
H11N3	WAKE ISLAND Hy	41.23	62	T	T	09 15 29.9	
	baz=249,slow=75,SNR=32						
USRK	Ussuriysk Ar.	42.16	3	P	P	08 31 33.2	-0.3
	3.3nm,0.6s,baz=179,slow=7.5,SNR=7.3						
ASAJ	Asahikawa	43.73	14	P	P	08 31 47.7	+1.5
	1.8nm,0.4s,baz=110,slow=10,SNR=3.9						
ASAJ	Asahikawa	43.73	14	*e*P	P	08 31 48.0	+1.8
	4.6nm,0.8s						
KLR	Kul'dur	47.17	3	P	P	08 32 13.2	-0.2
	0.2nm,0.7s,baz=185,slow=4.4,SNR=5.5						
SONA0	Songino Array	49.64	340	*e*P	P	08 32 31.9	-0.7
SONA0				*e*PcP	PcP	08 33 54.7	+1.0
SONM	Songino Array	49.64	340	P	P	08 32 31.9	-0.7
	0.5nm,0.5s,baz=159,slow=7.8,SNR=2.5						
SONM				PcP	PcP	08 33 54.7	+1.0
	0.2nm,0.3s,baz=129,slow=2.0,SNR=2.6						
HYB	Hyderabad	51.66	291	*i* P	P	08 32 49.0	+0.8
PETK	Petropavlovsk-	56.32	20	P	P	08 33 22.9	+1.3
	5.0nm,1.0s,baz=226,slow=3.8,SNR=4.1						
PEA1	Petropavlovsk-	56.33	20	*e*P	P	08 33 22.9	+1.2
MK01	Makanchi Array	60.16	325	*e*P	P	08 33 46.7	-1.9
MK31	Makanchi Array	60.18	325	*e*P	P	08 33 48.4	-0.3
MK32	Makanchi Array	60.18	325	*e*P	P	08 33 47.9	-0.8
MKAR	Makanchi Array	60.18	325	P	P	08 33 47.9	-0.9
	1.6nm,0.5s,baz=114,slow=8.3,SNR=16						
MKAR	Makanchi Array	60.18	325	*e*P	P	08 33 48.5	-0.3
	16nm,0.5s						
SEY	Seymchan	63.31	12	P	P	08 34 11.0	+1.5
	3.1nm,0.8s,baz=216,slow=4.8,SNR=9.2						
TIXI	Tiksi	69.59	0	P	P	08 34 48.8	-0.6
	2.7nm,0.6s,baz=198,slow=2.8,SNR=7.2						
BVAR	Borovoye Array	69.92	327	P	P	08 34 52.0	+0.1
	1.4nm,0.8s,baz=120,slow=8.8,SNR=4.4						
GEYT	Alibeck	73.60	309	P	P	08 35 14.3	-0.2
	1.2nm,0.3s,baz=176,slow=7.0,SNR=3.3						
AKTO	Aktyubinsk	76.32	322	P	P	08 35 30.5	+0.7
	0.8nm,0.6s,baz=80,slow=6.1,SNR=3.5						
KDAK	Kodiak Island	82.29	32	P	P	08 36 03.8	+1.7
	5.5nm,0.7s,baz=259,slow=7.1,SNR=5.5						
KDAK	Kodiak Island	82.29	32	*e*P	P	08 36 04.9	+2.8
	206nm,1.9s						
CAST	Castle Rocks	83.39	26	*e*P	P	08 36 09.4	+1.6
	27nm,2.0s						
ILAR	Eielson Array	85.81	25	P	P	08 36 21.4	+1.4
	0.3nm,0.6s,baz=248,slow=6.5,SNR=4.3						
ILB	Eielson Array	85.81	25	*e*P	P	08 36 16.6	-3.4
ARA0	ARCESS Array S	92.81	340	*e*P	P	08 36 51.8	-1.2
ARCES	ARCESS Array B	92.81	340	P	P	08 36 51.8	-1.2
	3.2nm,1.0s,baz=78,slow=7.6,SNR=4.7						
YKA	Yellowknife Ar	100.24	25	P	Pdif	08 37 29.0	+2.2
	0.1nm,0.6s,baz=302,slow=5.7,SNR=2.7						
TORD	Torodi Ar. Bea	125.42	288	PKP	PKPdf	08 42 42.8	+0.1
	0.5nm,0.9s,baz=60,slow=2.0,SNR=2.6						
TOA1	Torodi Ar. Sit	125.42	288	*e*PKPdf	PKPdf	08 42 42.8	+0.1

IDC 05 08:32:19.0±2.8**, 1°.72N**×**128°.70E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/56**, mbtmp3.3**/3**, Error ellipse: s-maj=200.6km s-min=28.6km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.23	166	P	P	08 37 18.4	+1.0
	1.4nm,1.0s,baz=346,slow=11,SNR=5.7						
ASAR	Alice Springs	25.73	169	P	P	08 37 50.5	-0.9
	0.3nm,0.8s,baz=351,slow=8.7,SNR=3.8						
MKAR	Makanchi Array	60.32	325	P	P	08 42 29.7	0.0
	0.3nm,0.5s,baz=120,slow=8.7,SNR=3.5						

CRAAG ***05*** *08:51:45.3, 36°.50N×0°.94E, Ml3.1*
ISCJB ***05*** *08:51:47.5±0.8, 36°.50N±0°.07×0°.90E±0°.09, h10km, Error ellipse: s-maj=13.3km s-min=5.5km az=140.2*
CSEM ***05*** *08:51:47.9±0.3, 36°.49N×0°.91E, h5km, ML3.1, Error ellipse: s-maj=9.2km s-min=4.8km az=52.0*
MDD ***05*** *08:51:48.8±4.2, 36°.56N×0°.98E, h0km, mbLg2.2/2, Error ellipse: s-maj=50.9km s-min=36.2km az=35.0, PRXIMO SIN SOLUCIN*
ISC 05 08:51:43.8±1.0**, 36°.41N**±0°.06×**1°.00E**±0°.05**, h10**km**, n16, σ2s.57**/21**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHA	Ech Chlef	0.39	131	P	Pg	08 51 50.1	-1.5
EBNR	Beni Rached	0.44	106	P	Pn	08 51 58.2	+1.9
EBNR	Beni Rached	0.44	106	P	Pn	08 51 58.2	+1.9
EANR	'Ain N'Sour	0.47	170	P	Pn	08 51 59.1	+2.4
EANR	'Ain N'Sour	0.47	170	P	Pn	08 51 59.1	+2.4
OKGL	Djebel Kef Gue	0.47	218	P	Pn	08 51 57.9	+1.2
OKGL	Djebel Kef Gue	0.47	218	P	Pn	08 51 57.9	+1.2
OJGS	Djebel Guires	0.93	193	P	Pn	08 52 06.4	+3.4
OJGS	Djebel Guires	0.93	193	P	Pn	08 52 06.4	+3.4
ABA	Alger-Bouzarea	1.68	76	P	Pn	08 52 10.0	-3.3
ETOB	Tobarra	3.01	318	P	Pn	08 52 34.4	+2.7
	0.1nm,0.1s,SNR=7.5						
ETOB				S	Sn	08 53 09.6	+1.7
	0.2nm,0.1s,SNR=7.9						
ETOB	Tobarra	3.01	318	P	Pn	08 52 34.4	+2.7
	0.1nm,0.1s,SNR=7.5						
ETOB				S	Sn	08 53 09.6	+1.7
	0.2nm,0.1s,SNR=7.9						
SESP	Santiago Espad	3.30	302	P	Pb	08 52 39.9	-2.7
	2.6nm,0.1s,SNR=7.9						
SESP				S	Sn	08 53 17.3	+2.1
	3.2nm,0.2s,SNR=7.9						
SESP	Santiago Espad	3.30	302	P	Pb	08 52 39.9	-2.7
	2.6nm,0.1s,SNR=7.9						
SESP				S	Sn	08 53 17.3	+2.1
	3.2nm,0.2s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EQES	**Quesada**	**3.54**	**294**	P	**Pb**	**08 52 43.0**	**-3.6**
	1.5nm,0.1s,SNR=18						
EQES				S	**Sn**	**08 53 21.9**	**+0.9**
	2.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.54**	**294**	P	**Pb**	**08 52 43.0**	**-3.6**
	1.5nm,0.1s,SNR=18						
EQES				S	**Sn**	**08 53 21.9**	**+0.9**
	2.2nm,0.2s,SNR=7.9						

IDC 05 09:01:05.7±7.7**, 4°.75S**×**151°.68E, h93**km±53km**, mb3.4**/2**, mb1 3.6**/3**, mb1mx3.2**/44**, mbtmp3.8**/3**, ML1.7**/1**, Error ellipse: s-maj=121.1km s-min=49.7km az=125.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.44**	**224**	P	Pn	09 02 38.7	+0.7
	0.9nm,0.3s,baz=49,slow=11,SNR=2.6						
PMG				S	Sn	09 03 51.2	+1.1
	4.5nm,0.3s,baz=160,slow=2.9,SNR=6.7						
WRA	**Warramunga Arr**	**22.65**	**227**	P	P	09 05 58.9	-0.4
	1.6nm,0.4s,baz=52,slow=9.8,SNR=34						
ASAR	**Alice Springs**	**25.44**	**221**	P	P	09 06 25.0	0.0
	0.6nm,0.6s,baz=48,slow=9.6,SNR=9.9						
TORD	**Torodi Ar. Bea**	**149.23**	**288**	PKPbc	PKPbc	09 20 44.1	-0.5
	0.3nm,0.5s,baz=64,slow=3.4,SNR=4.1						

IDC 05 09:02:17.1±3.6**, 16°.01S**×**175°.39W, h0**km**, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.7**/40**, mbtmp4.2**/3**, MS3.6**/3**, Ms1 3.6**/3**, ms1mx3.1**/43**, Error ellipse: s-maj=166.1km s-min=76.4km az=155.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.68**	**112**	LR	LR	09 09 55.3	
	comp=Z,72nm,20.0s,baz=150,slow=29						
STKA	**Stephens Creek**	**42.08**	**240**	P	P	09 10 10.9	0.0
	1.8nm,0.7s,baz=85,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**47.84**	**257**	P	P	09 10 57.1	+0.1
	1.1nm,0.4s,baz=93,slow=7.4,SNR=40						
WRA				PcP	PcP	09 12 25.8	-0.2
	0.1nm,0.4s,baz=91,slow=3.5,SNR=4.6						
ASAR	**Alice Springs**	**48.10**	**252**	P	P	09 10 58.6	-0.4
	4.0nm,0.6s,baz=88,slow=8.4,SNR=66						
ASAR				PcP	PcP	09 12 26.4	-0.5
	0.5nm,0.6s,baz=104,slow=3.9,SNR=7.0						
PETK	**Petropavlovsk-**	**72.64**	**343**	LR	LR	09 38 20.6	
	comp=Z,117nm,21.8s,baz=272,slow=30						
MAW	**Mawson**	**86.60**	**199**	LR	LR	09 51 57.6	
	comp=Z,41nm,18.4s,baz=52,slow=34						

IDC 05 09:24:45.9±2.0**, 3°.54N**×**127°.71E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.4**/49**, mbtmp3.5**/4**, Error ellipse: s-maj=160.1km s-min=23.8km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.23**	**165**	P	P	09 30 03.9	-0.7
	0.5nm,0.5s,baz=344,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**27.71**	**168**	P	P	09 30 36.6	+0.6
	0.2nm,0.4s,baz=351,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**37.62**	**160**	P	P	09 32 01.9	-0.7
	1.4nm,0.7s,baz=340,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**58.27**	**325**	P	P	09 34 42.8	+0.4
	0.2nm,0.4s,baz=120,slow=7.5,SNR=5.3						

*IDC **05** 09:27:29.8±1.1, 2°.00N×128°.58E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/54, mbtmp3.7/6, Error ellipse: s-maj=82.3km s-min=20.7km az=73.0*
*ISCJB **05** 09:27:30.0±0.7, 2°.13N±0°.07×128°.78E±0°.09, h10km, mb3.6/6, Error ellipse: s-maj=13.4km s-min=9.6km az=169.9*
*DJA **05** 09:27:32.7±0.6, 2°N±5°×12°9E±°, h10km, M4.0/7, mb4.1/2, MLv4.0/7*
ISC 05 09:27:31.6±0.9**, 2°.11N**±0°.08×**128°.7E**±0°.1**, h10**km**, n10, σ0^s.97**/11**, mb3.6**/6**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.99**	**204**	P	**Pn**	**09 28 19.3**	**+0.2**
LBMI				S	**Sn**	**09 28 56.2**	**+1.1**
SGSI	**Sangihe**	**3.55**	**296**	P	**Pn**	**09 28 27.5**	**+0.7**
SWI	**Sorong**	**3.90**	**139**	P	**Pn**	**09 28 32.6**	**+1.0**
FAKI	**Fak Fak**	**6.12**	**145**	P	**Pn**	**09 29 02.4**	**+0.2**
	17nm,1.2s,0.1nm						
WRA	**Warramunga Arr**	**22.60**	**166**	P	**P**	**09 32 31.3**	**-1.3**
	0.4nm,0.5s,baz=348,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**26.11**	**169**	P	**P**	**09 33 04.8**	**-1.2**
	0.3nm,0.5s,baz=354,slow=7.6,SNR=5.7						
STKA	**Stephens Creek**	**35.94**	**161**	P	**P**	**09 34 32.3**	**-0.2**
	1.2nm,0.5s,baz=334,slow=16,SNR=2.5						
MKAR	**Makanchi Array**	**60.01**	**325**	P	**P**	**09 37 38.8**	**+0.2**
	0.6nm,0.5s,baz=112,slow=8.1,SNR=9.1						
ILAR	**Eielson Array**	**85.71**	**25**	P	**P**	**09 40 11.4**	**+0.8**
	0.1nm,0.5s,baz=250,slow=4.7,SNR=4.9						
ARCES	**ARCESS Array B**	**92.64**	**340**	P	**P**	**09 40 42.5**	**-0.9**
	0.9nm,0.7s,baz=82,slow=7.4,SNR=4.0						

*IDC **05** 09:37:47.7±0.9, 2°.97S×142°.44E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.0/52, mbtmp4.2/11, ML4.4/2, Error ellipse: s-maj=33.8km s-min=17.8km az=93.0*
*ISCJB **05** 09:37:49.5±0.6, 3°.03S±0°.05×142°.4E±0°.1, h27km, mb4.2/13, Error ellipse: s-maj=16.4km s-min=6.6km az=13.1*
*NEIC **05** 09:37:53.0±0.7, 3°.06S×142°.40E, h41km±6km, mb4.3/6, Error ellipse: s-maj=11.8km s-min=6.1km az=108.0*
ISC 05 09:37:51.6±0.7**, 3°.09S**±0°.08×**142°.3E**±0°.1**, h27**km**, n42, σ1^s.25**/35**, mb4.1**/13**, 1C, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**14.69**	**228**	*e*Pn	**Pn**	**09 41 19.2**	**+1.4**
WRAB	**Tennant Creek**	**18.45**	**204**	*e*P	**Pn**	**09 42 06.0**	**+0.5**
	7.4nm,0.8s						
WB2	**Warramunga Arr**	**18.45**	**204**	*e*P	**Pn**	**09 42 06.1**	**+0.5**
WR1	**Warramunga Arr**	**18.46**	**204**	*e*P	**P**	**09 42 05.4**	**-0.1**
WRA	**Warramunga Arr**	**18.46**	**204**	P	**P**	**09 42 05.4**	**-0.1**
	0.7nm,0.3s,baz=10,slow=12,SNR=35						
SOEI	**Soe**	**19.09**	**249**	*e*P	**Pn**	**09 42 13.5**	**0.0**
	42nm,0.8s						
BATI	**Baumata**	**19.80**	**248**	P	**Pn**	**09 42 23.8**	**+2.0**
	3.7nm,0.3s,baz=79,slow=5.2,SNR=4.4						
SARN	**Sarigan**	**19.96**	**10**	*e*P	**P**	**09 42 21.4**	**-0.6**
AS01	**Alice Springs**	**21.98**	**201**	*e*P	**P**	**09 42 44.2**	**+0.4**
AS01				*e*S	**S**	**09 46 41.5**	**-3.8**
AS31	**Alice Springs**	**22.00**	**201**	*e*P	**P**	**09 42 44.8**	**+0.8**
	2.2nm,0.8s						
AS31				*e*S	**S**	**09 46 42.3**	**-3.3**
ASAR	**Alice Springs**	**22.00**	**201**	P	**P**	**09 42 44.4**	**+0.4**
	2.2nm,0.7s,baz=30,slow=9.4,SNR=33						
MYLDM	**Lahad Datu**	**25.15**	**289**	*e*P	**P**	**09 43 14.6**	**-0.2**
	34nm,1.1s						
STKA	**Stephens Creek**	**28.64**	**181**	P	**P**	**09 43 47.5**	**+1.5**
	1.7nm,0.7s,baz=31,slow=9.8,SNR=4.7						
STKA	**Stephens Creek**	**28.64**	**181**	*e*P	**P**	**09 43 47.5**	**+1.5**
	3.6nm,1.8s						
H11S3	**WAKE ISLAND Hy**	**32.21**	**47**	T	T	10 18 10.6	
	baz=231,slow=74,SNR=41						
H11S2	**WAKE ISLAND Hy**	**32.22**	**47**	T	T	10 18 16.6	
	baz=231,slow=74,SNR=30						
H11S1	**WAKE ISLAND Hy**	**32.23**	**47**	T	T	10 18 10.0	
	baz=231,slow=74,SNR=41						
H11N1	**WAKE ISLAND Hy**	**33.13**	**46**	T	T	10 19 12.2	
	baz=229,slow=76,SNR=253						
H11N2	**WAKE ISLAND Hy**	**33.15**	**46**	T	T	10 19 14.9	
	baz=229,slow=76,SNR=314						
H11N3	**WAKE ISLAND Hy**	**33.15**	**46**	T	T	10 19 18.2	
	baz=229,slow=76,SNR=164						
PSI	**Prapat**	**43.74**	**277**	*e*P	**P**	**09 45 53.6**	**-1.7**
	11nm,0.7s						
CMAR	**Chiang Mai Arr**	**47.75**	**298**	P	**P**	**09 46 27.7**	**+0.9**
	3.0nm,0.3s,baz=96,slow=6.4,SNR=5.1						
USRK	**Ussuriysk Ar.**	**47.98**	**350**	P	**P**	**09 46 28.0**	**-0.1**
	2.8nm,0.8s,baz=174,slow=8.9,SNR=5.4						
SONA0	**Songino Array**	**59.64**	**333**	*e*P	**P**	**09 47 53.6**	**0.0**
SONM	**Songino Array**	**59.64**	**333**	P	**P**	**09 47 53.6**	**0.0**
	0.5nm,0.5s,baz=124,slow=5.3,SNR=3.5						
MK32	**Makanchi Array**	**72.30**	**321**	*e*P	**P**	**09 49 15.4**	**+0.5**
MKAR	**Makanchi Array**	**72.30**	**321**	P	**P**	**09 49 15.4**	**+0.5**
	1.7nm,1.0s,baz=116,slow=6.6,SNR=6.0						
ZALV	**Zalesovo Beam**	**74.09**	**329**	P	**P**	**09 49 24.5**	**-0.8**
	1.4nm,0.8s,baz=96,slow=8.9,SNR=2.3						
ZAA1	**Zalesovo Array**	**74.09**	**329**	*e*P	**P**	**09 49 24.4**	**-0.8**
BVAR	**Borovoye Array**	**81.68**	**325**	P	**P**	**09 50 07.8**	**+0.2**
	1.7nm,0.7s,baz=100,slow=7.8,SNR=5.9						
SCM	**Sheep Creek Mo**	**83.57**	**27**	*e*P	**P**	**09 50 15.8**	**-1.4**
	26nm,0.8s						
IL1	**Eielson Array**	**84.71**	**24**	*e*P	**P**	**09 50 21.4**	**-1.5**
ILAR	**Eielson Array**	**84.71**	**24**	P	**P**	**09 50 22.2**	**-0.7**
	0.8nm,0.6s,baz=259,slow=4.5,SNR=14						
ILB	**Eielson Array**	**84.71**	**24**	*e*P	**P**	**09 50 22.2**	**-0.7**
SYO	**Syowa Base**	**91.67**	**201**	⇑*e*pP	pP	09 51 13.0	+8.1
LON	**Longmire**	**96.28**	**43**	*e*pP	pP	09 51 29.5	+2.8
LPAZ	**La Paz**	**144.29**	**124**	PKP	**PKPdf**	**09 57 28.0**	**+0.9**
	1.5nm,0.7s,baz=248,slow=2.9,SNR=7.4						
LPAZ	**La Paz**	**144.29**	**124**	*e*PKPdf	PKPbc	09 57 25.6	+0.3
CPUP	**Villa Florida**	**145.13**	**148**	PKPbc	**PKPdf**	**09 57 28.0**	**+0.5**
	1.2nm,0.7s,baz=157,slow=3.5,SNR=4.1						
CPUP	**Villa Florida**	**145.13**	**148**	*e*PKPbc	**PKPab**	**09 57 27.3**	**+0.3**
DBIC	**Dimbokro**	**147.08**	**277**	PKPbc	**PKPbc**	**09 57 33.6**	**+0.4**
	2.5nm,0.6s,baz=181,slow=3.3,SNR=5.4						
DBIC	**Dimbokro**	**147.08**	**277**	*e*PKPbc	**PKPbc**	**09 57 32.5**	**-0.8**

*IDC **05** 09:37:54.0±0.7, 20°.42S×173°.14W, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.3/48, mbtmp4.5/15, ML4.6/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/43, Error ellipse: s-maj=35.3km s-min=15.5km az=150.0*
*ISCJB **05** 09:37:57.5±0.3, 20°.67S±0°.08×173°.19W±0°.10, h33km, mb4.5/60, Error ellipse: s-maj=15.8km s-min=6.0km az=38.6*
*NEIC **05** 09:38:02.7±1.8, 20°.66S×173°.19W, h66km±17km, mb4.6/47, Error ellipse: s-maj=12.5km s-min=5.7km az=156.0*
ISC 05 09:37:58.7±0.5**, 20°.59S**±0°.08×**173°.03W**±0°.10**, h35**km**, n98, σ1^s.53**/98**, mb4.6**/60**, 13C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.75**	**10**	Pn	**Pn**	**09 39 31.0**	**-4.3**
	7.6nm,0.3s,baz=151,slow=3.4,SNR=14						
AFI				Sn	Sn	09 40 38.3	-13
	23nm,0.3s,baz=135,slow=22,SNR=8.1						
RAO	**Raoul Island**	**9.70**	**206**	Sn	**Sn**	**09 42 03.3**	**-0.3**
	61nm,0.3s,baz=90,slow=20,SNR=3.8						
RAR	**Rarotonga**	**12.40**	**95**	Pn	**Pn**	**09 40 50.5**	**-2.3**
	18nm,0.3s,baz=262,slow=9.5,SNR=60						
RAR				Sn	Sn	09 42 56.7	-13
	2.0nm,0.3s,baz=72,slow=20,SNR=3.2						
RAR				LR	LR	09 44 49.1	
	comp=Z,139nm,18.3s,baz=274,slow=33						
DZM	**Mont Dzumac**	**19.18**	**262**	P	**Pn**	**09 42 20.5**	**-0.2**
	2.9nm,0.3s,baz=96,slow=19,SNR=19						
DZM				LR	LR	09 48 25.0	
	comp=Z,163nm,18.8s,baz=50,slow=33						
URZ	**Urewera**	**19.57**	**204**	P	**Pn**	**09 42 28.5**	**+3.4**
	1.0nm,0.3s,baz=345,slow=3.1,SNR=7.7						
URZ				S	**S**	**09 45 55.5**	**-7.2**
	0.7nm,0.3s,baz=44,slow=22,SNR=10						
PMG	**Port Moresby**	**39.93**	**280**	P	**P**	**09 45 29.1**	**-0.7**
	16nm,0.9s,baz=62,slow=5.7,SNR=4.3						
STKA	**Stephens Creek**	**41.96**	**245**	P	**P**	**09 45 47.4**	**+1.0**
	5.0nm,0.7s,baz=100,slow=12,SNR=10						
ASAR	**Alice Springs**	**49.03**	**256**	P	**P**	**09 46 42.0**	**-0.5**
	6.1nm,0.7s,baz=90,slow=8.0,SNR=41						
WRA	**Warramunga Arr**	**49.20**	**261**	P	**P**	**09 46 42.6**	**-1.2**
	2.3nm,0.3s,baz=96,slow=7.6,SNR=24						
CMB	**Columbia Colle**	**76.44**	**40**	*e*P	**P**	**09 49 45.9**	**+1.1**
	3.1nm,0.9s						
AFDM	**Forest Hills D**	**76.68**	**39**	*e*P	**P**	**09 49 47.0**	**+0.8**
	12nm,1.7s						
MDPB	**Devils Postpil**	**76.98**	**41**	*e*P	**P**	**09 49 49.0**	**+0.9**
	3.5nm,0.8s						
WAKR	**Walker**	**77.31**	**40**	*e*P	**P**	**09 49 51.5**	**+1.6**
	6.6nm,1.0s						
YBH	**Yreka Blue Hor**	**77.53**	**36**	P	**P**	**09 49 51.9**	**+0.9**
	1.9nm,0.8s,baz=98,slow=5.5,SNR=5.9						
PNTR	**Pine Nut**	**77.59**	**40**	*e*P	**P**	**09 49 52.1**	**+0.6**
	7.9nm,0.9s						
PETK	**Petropavlovsk-**	**77.65**	**342**	P	**P**	**09 49 51.1**	**-0.1**
	3.2nm,0.7s,baz=148,slow=8.5,SNR=3.4						
VCNR	**Virginia City**	**77.69**	**40**	*e*P	**P**	**09 49 53.1**	**+1.1**
	4.3nm,1.0s						
YERR	**Yerington**	**77.74**	**40**	*e*P	**P**	**09 49 53.2**	**+0.9**
	5.5nm,0.9s						
RYN	**Ryan**	**77.95**	**41**	*e*P	**P**	**09 49 54.5**	**+1.1**
	4.0nm,0.9s						
NVAR	**Mina Array Bea**	**77.96**	**41**	P	**P**	**09 49 54.9**	**+1.3**
	4.7nm,0.7s,baz=224,slow=9.2,SNR=40						
NV01	**Mina Array Sit**	**77.96**	**41**	*e*P	**P**	**09 49 54.9**	**+1.3**
LDFC	**Landfair**	**77.98**	**45**	*e*P	**P**	**09 49 55.3**	**+1.6**
	5.8nm,1.0s						
NV11	**Mina Array Sit**	**78.05**	**41**	*e*P	**P**	**09 49 55.5**	**+1.4**
	0.8nm,1.0s						
PAHR	**Pah Rah Range**	**78.11**	**39**	*e*P	**P**	**09 49 56.0**	**+1.7**
	8.4nm,1.1s						
Y14A	**Wickenburg**	**78.76**	**47**	*e*P	**P**	**09 49 59.4**	**+1.5**
	14nm,0.9s						
SHPR	**Sheep Range**	**78.78**	**44**	*e*P	**P**	**09 49 59.6**	**+1.4**
	15nm,1.9s						
MOD	**Modoc Plateau**	**78.99**	**37**	*e*P	**P**	**09 50 00.3**	**+1.2**
	5.7nm,1.0s						
TUC	**Tucson**	**79.42**	**50**	*e*P	**P**	**09 50 03.1**	**+1.5**
	2.9nm,0.9s						
BMN	**Battle Mountai**	**79.85**	**40**	*e*P	**P**	**09 50 04.7**	**+0.9**
	7.6nm,1.0s						
PINE	**Pine Mountain**	**79.87**	**35**	*e*P	**P**	**09 50 05.4**	**+1.5**
	7.8nm,0.9s						
WVOR	**Wild Horse Val**	**80.28**	**38**	*e*P	**P**	**09 50 07.6**	**+1.5**
	5.1nm,1.0s						
U15A	**North Rim**	**80.63**	**45**	*e*P	**P**	**09 50 09.7**	**+1.4**
	22nm,2.0s						
SZCU	**Shurtz Canyon**	**80.77**	**44**	*e*P	**P**	**09 50 10.6**	**+1.7**
	3.4nm,1.0s						
PSUT	**Pine Spring**	**80.81**	**43**	*e*P	**P**	**09 50 10.5**	**+1.3**
	3.7nm,1.1s						
J08A	**Circle Bar Ran**	**80.95**	**37**	*e*P	**P**	**09 50 10.8**	**+1.2**
	6.4nm,1.1s						
MTPU	**Mount Pierson**	**81.61**	**44**	*e*P	**P**	**09 50 15.3**	**+1.7**
	27nm,1.9s						
G08A	**Pilot Rock**	**81.92**	**35**	*e*P	**P**	**09 50 16.2**	**+1.4**
	4.7nm,0.9s						
E07A	**Sunnyside**	**82.27**	**34**	*e*P	**P**	**09 50 17.6**	**+1.2**
	5.5nm,0.9s						
MFID	**Camas Ranch**	**82.50**	**38**	*e*P	**P**	**09 50 19.4**	**+1.5**
	11nm,1.5s						
TMUT	**Trail Mountain**	**82.94**	**44**	*e*P	**P**	**09 50 22.7**	**+2.2**
	12nm,1.1s						
MPU	**Maple Canyon**	**83.07**	**43**	*e*P	**P**	**09 50 22.5**	**+1.6**
	5.2nm,1.2s						
D08A	**Wollman Farm,**	**83.08**	**34**	*e*P	**P**	**09 50 21.8**	**+1.3**
	8.4nm,1.0s						
TXAR	**Lajitas Array**	**83.22**	**55**	P	**P**	**09 50 23.3**	**+1.4**
	0.8nm,0.8s,baz=219,slow=7.7,SNR=9.0						
SRU	**San Rafael Swe**	**83.28**	**44**	*e*P	**P**	**09 50 23.8**	**+1.7**
	9.9nm,1.0s						
SPUT	**South Promonto**	**83.29**	**41**	*e*P	**P**	**09 50 23.7**	**+1.7**
	8.3nm,1.2s						
F10A	**Beach Ranch, E**	**83.29**	**36**	*e*P	**P**	**09 50 22.8**	**+0.9**
	12nm,1.0s						
P17A	**Butcher Ranch,**	**83.34**	**44**	*e*P	**P**	**09 50 24.1**	**+1.8**
	11nm,1.1s						
HVU	**Hansel Valley**	**83.36**	**41**	*e*P	**P**	**09 50 23.6**	**+1.3**
	9.8nm,1.5s						
HLID	**Hailey**	**83.41**	**39**	*e*P	**P**	**09 50 24.0**	**+1.4**
	9.3nm,1.2s						
JLU	**Jordanelle**	**83.51**	**42**	*e*P	**P**	**09 50 25.0**	**+1.7**
	4.9nm,1.0s						
B08A	**Colville Reser**	**83.71**	**33**	*e*P	**P**	**09 50 24.5**	**+0.7**
	4.1nm,0.8s						
P18A	**Preston Nutter**	**83.75**	**44**	*e*P	**P**	**09 50 26.0**	**+1.4**
	8.8nm,1.4s						
TCUT	**Toone Canyon**	**83.83**	**42**	*e*P	**P**	**09 50 26.6**	**+1.7**
	18nm,0.9s						
PV09	**Paradox Valley**	**83.87**	**45**	*e*P	**P**	**09 50 26.7**	**+1.4**
ANMO	**Albuquerque**	**83.87**	**49**	*e*P	**P**	**09 50 26.8**	**+1.6**
	4.9nm,1.4s						
AHID	**Auburn Hatcher**	**84.94**	**41**	*e*P	**P**	**09 50 31.6**	**+1.1**
	4.9nm,1.0s						
S22A	**4UR Ranch, Cre**	**85.03**	**47**	*e*P	**P**	**09 50 33.2**	**+2.1**
	5.0nm,1.0s						
MCMT	**McKenzie Canyo**	**85.07**	**38**	*e*P	**P**	**09 50 32.8**	**+1.7**
DLMT	**Dillon**	**85.52**	**38**	*e*P	**P**	**09 50 34.8**	**+1.6**
	6.4nm,1.3s						
SNOW	**Snow King Moun**	**85.53**	**40**	*e*P	**P**	**09 50 35.0**	**+1.5**
	7.6nm,1.2s						
PD31	**Pinedale Array**	**85.89**	**41**	*e*P	**P**	**09 50 35.8**	**+0.6**
PDAR	**Pinedale Array**	**85.89**	**41**	P	**P**	**09 50 35.8**	**+0.6**
	1.1nm,0.7s,baz=209,slow=2.7,SNR=11						
PDAR	**Pinedale Array**	**85.89**	**41**	*e*P	**P**	**09 50 35.2**	**0.0**
MSTX	**Muleshoe**	**86.06**	**52**	*e*P	**P**	**09 50 36.6**	**+0.5**
	9.4nm,1.0s						
ILAR	**Eielson Array**	**87.44**	**11**	P	**P**	**09 50 42.0**	**0.0**
	1.1nm,0.6s,baz=224,slow=5.4,SNR=9.9						
SEY	**Seymchan**	**87.59**	**345**	P	**P**	**09 50 42.9**	**+0.2**
	6.0nm,0.9s,baz=142,slow=5.6,SNR=23						
EDM	**Edmonton**	**89.70**	**31**	*e*P	**P**	**09 50 53.9**	**+0.9**
	12nm,1.4s						
ECSD	**EROS Data Cent**	**94.66**	**45**	*e*P	**P**	**09 51 16.8**	**+0.7**
	3.3nm,0.9s						
YKA	**Yellowknife Ar**	**94.69**	**23**	P	**P**	**09 51 16.3**	**+0.6**
	0.8nm,0.8s,baz=236,slow=4.3,SNR=16						
ULM	**Lac du Bonnet**	**97.71**	**39**	P	**P**	**09 51 28.4**	**-1.4**
	1.1nm,0.6s,baz=321,slow=4.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**113.49**	**321**	PKiKP	**PKiKP**	**09 56 32.1**	**-0.7**
	0.3nm,0.4s,baz=159,slow=4.6,SNR=3.7						
MKAR	**Makanchi Array**	**114.66**	**313**	PKP	PKPdf	09 56 34.9	-0.4
	0.8nm,0.7s,baz=146,slow=0.7,SNR=8.2						
BVAR	**Borovoye Array**	**122.13**	**320**	PKP	**PKPdf**	**09 56 49.6**	**+0.1**
	1.2nm,0.4s,baz=49,slow=4.5,SNR=7.4						
ARU	**Arti**	**127.88**	**327**	PKP	**PKPdf**	**09 57 00.9**	**+0.6**
	1.4nm,0.4s,baz=261,slow=19,SNR=3.0						
ARCES	**ARCESS Array B**	**129.76**	**352**	PKP	**PKPdf**	**09 57 03.5**	**0.0**
	2.2nm,0.6s,baz=357,slow=1.3,SNR=16						
FINES	**FINESS Array B**	**137.05**	**347**	PKP	**PKPdf**	**09 57 18.4**	**+1.0**
	0.8nm,0.5s,baz=35,slow=3.4,SNR=7.3						
AKASG	**Malin Array Be**	**145.21**	**335**	PKPbc	**PKPbc**	**09 57 31.9**	**-0.1**
	12nm,0.8s,baz=38,slow=4.4,SNR=37						
SORM	**Soroca**	**147.56**	**333**	⇑*i*P	**PKPbc**	**09 57 39.6**	**+0.5**
CLL	**Collm**	**148.98**	**353**	⇑*i*PKPbc	**PKPbc**	**09 57 43.5**	**+0.8**
	comp=Z,9.0nm,0.5s						
CLL				*e*		09 57 54.0	
CLL				*e*pPKPbc	**sPKPab**	**09 58 02.0**	**0.0**
STHS	**Stebnicka Huta**	**149.06**	**342**	*e*PKP	**PKPab**	**09 57 47.7**	**+0.4**
BURAR	**Bucovina Array**	**149.25**	**336**	⇑*i*P	**PKPab**	**09 57 46.2**	**-2.0**
BRG	**Berggiesshubel**	**149.28**	**351**	*i* PKP	**PKPbc**	**09 57 44.3**	**+0.8**
	comp=Z,10nm,0.8s						
MORC	**Moravsky Berou**	**149.68**	**346**	⇑*i*P	**PKPab**	**09 57 51.5**	**+1.7**
PLOR	**Plostina**	**150.07**	**332**	⇑*i*P	PKPab	09 58 02.1	+11
KECS	**Kecovo**	**150.12**	**342**	*e*PKP	**PKPbc**	**09 57 45.5**	**-0.2**
BRTR	**Keskin Array B**	**150.25**	**316**	PKPbc	**PKPbc**	**09 57 47.0**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=146,slow=2.0,SNR=12						
HARR	**Harsova**	**150.35**	**329**	⇑*i*P	**PKPbc**	**09 57 47.6**	**+1.3**
TLB	**Topalu**	**150.37**	**329**	⇑*i*P	**PKPbc**	**09 57 47.6**	**+1.2**
VYHS	**Vyhne**	**150.57**	**344**	*e*PKP	**PKPbc**	**09 57 48.2**	**+1.4**
MLR	**Muntele Rosu**	**150.66**	**332**	⇑*i*P	**PKPbc**	**09 57 48.3**	**+1.1**
ISR	**Istrita**	**150.68**	**331**	⇑*i*P	**PKPab**	**09 57 55.2**	**+1.1**
ASF	**Jabal al Asfar**	**150.91**	**300**	PKPbc	**PKPbc**	**09 57 49.2**	**+1.0**
	comp=Z,4.4nm,1.0s,baz=346,slow=6.0,SNR=4.3						
VOIR		**151.08**	**333**	⇑*i*P	**PKPbc**	**09 57 49.2**	**+1.0**
GERES	**GERESS Array B**	**151.29**	**351**	PKPbc	**PKPbc**	**09 57 49.2**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=31,slow=3.1,SNR=15						
ARR	**Arges**	**151.31**	**334**	⇑*i*P	**PKPbc**	**09 57 50.5**	**+1.8**
BZS	**Buzias**	**152.28**	**338**	⇑*i*P	**PKPbc**	**09 57 51.6**	**+0.8**
PDG	**Podgorica**	**155.89**	**337**	⇑*i*P	PKPab	09 58 27.0	+11
TORD	**Torodi Ar. Bea**	**171.04**	**145**	PKP	**PKPdf**	**09 58 03.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=302,slow=2.2,SNR=3.2						
TORD				PKPab	**PKPab**	**09 59 24.4**	**+1.3**
	comp=Z,1.1nm,0.9s,baz=217,slow=4.8,SNR=4.0						

NNC 05 09:46:25.8±1.5**, 54°.34N**×**86°.19E, h0**km**, mb3.9, mpv3.3, 6C-3D, Error ellipse: s-maj=17.6km s-min=7.3km az=166.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.90**	**245**	⇑P	Pg	09 46 42.8	-0.1
	5.7nm,0.7s						
ZAA0				⇑S	Sb	09 46 55.6	-1.0
	68nm,1.2s						
KURK	**Kurchatov**	**5.87**	**235**	⇑Pn	Pn	09 47 54.5	+0.5
	4.4nm,0.8s						
KURK				⇑Lg	Lg	09 49 34.3	
	8.3nm,0.8s						
MK31	**Makanchi Array**	**7.95**	**200**	Pn	Pn	09 48 24.7	+2.2
	2.7nm,0.6s,baz=25,slow=13,SNR=40						
MK31				⇓Sn	Sn	09 49 53.0	-0.2
	0.6nm,0.5s,baz=23,slow=28,SNR=3.6						
MK31				⇑Lg	Lg	09 50 36.0	
	1.5nm,0.6s,baz=27,slow=32,SNR=4.9						
MAKZ	**Makanchi**	**8.00**	**201**	⇑Pn	Pn	09 48 24.7	+1.5
	2.7nm,1.1s						
MAKZ				⇓Sn	Sn	09 49 55.1	+0.7
	2.7nm,0.9s						
MAKZ				⇓Lg	Lg	09 50 38.9	
	3.0nm,0.9s						

IDC 05 09:48:02.9±2.0**, 7°.17S**×**128°.48E, h0**km**, mb3.3**/1**, mb1 3.3**/3**, mb1mx3.1**/54**, mbtmp3.1**/3**, ML2.9**/2**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.7**/19**, Error ellipse: s-maj=144.3km s-min=32.0km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.91**	**156**	Pn	Pn	09 51 23.0	+1.5
	0.1nm,0.3s,baz=335,slow=13,SNR=3.9						
WRA				Sn	Sn	09 53 47.4	-9.4
	0.1nm,0.3s,baz=334,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**17.21**	**163**	P	Pn	09 52 03.7	-1.2
	0.1nm,0.3s,baz=345,slow=9.0,SNR=4.9						
HNR	**Honiara**	**31.21**	**96**	LR	LR	10 06 13.5	
	comp=Z,69nm,21.1s,baz=65,slow=35						
MKAR	**Makanchi Array**	**67.55**	**328**	P	P	09 59 01.1	0.0
	0.2nm,0.5s,baz=136,slow=7.4,SNR=3.0						

*NNC **05** 09:58:14.3±1.1, 51°.11N×74°.94E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=19.3km s-min=6.4km az=26.0, Suspected Mining explosion.*
*IDC **05** 09:58:19.3±1.3, 51°.62N×75°.45E, h0km, mb1 2.5/3, mb1mx2.4/70, mbtmp2.5/3, ML2.1/3, Error ellipse: s-maj=41.4km s-min=10.0km az=35.0*
ISC 05 09:58:18.0±1.2**, 51°.6N**±0°.1×**75°.49E**±0°.07**, h0**km**, n9, σ2^s.57**/8**, 8C-1D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.17**	**114**	⇑Pg	**Pn**	**09 58 57.0**	**+1.7**
	3.9nm,0.8s						
KURK				⇑Lg	Lg	09 59 28.3	
	9.4nm,0.7s						
BVA0	**Borovoye Array**	**3.43**	**296**	⇑Pg	**Pb**	**09 59 17.0**	**-2.5**
	3.7nm,1.1s,baz=126,slow=16,SNR=5.5						
BVA0				⇑Lg	Lg	10 00 03.6	
	6.1nm,0.8s,baz=123,slow=27,SNR=6.0						
BVAR	**Borovoye Array**	**3.43**	**296**	Pn	**Pn**	**09 59 13.6**	**+1.0**
	0.3nm,0.3s,baz=101,slow=15,SNR=3.8						
BVAR				Lg	Lg	10 00 06.8	
	0.9nm,0.3s,baz=121,slow=25,SNR=10						
BRVK	**Borovoye**	**3.50**	**296**	⇑Pg	**Pn**	**09 59 16.6**	**+3.0**
	6.0nm,1.5s						
BRVK				⇑Lg	Lg	10 00 04.7	
	6.5nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.12**	**64**	*i*		10 35 30.0	
	baz=249,slow=317,SNR=1.8						
ZALV	**Zalesovo Beam**	**6.12**	**64**	Pn	**Pn**	**09 59 51.0**	**+1.4**
	0.1nm,0.3s,baz=247,slow=19,SNR=2.9						
MAKZ	**Makanchi**	**6.43**	**136**	⇓Lg	Lg	10 01 36.2	
	1.9nm,0.7s						
MK31	**Makanchi Array**	**6.57**	**135**	⇑Sn	**Sn**	**10 01 08.3**	**-3.2**
	1.4nm,0.9s,baz=324,slow=21,SNR=4.8						
MK31				⇑Lg	Lg	10 01 43.1	
	1.2nm,0.6s,baz=324,slow=26,SNR=6.8						
MKAR	**Makanchi Array**	**6.57**	**135**	Pn	**Pn**	**09 59 57.0**	**+1.1**
	0.0nm,0.3s,baz=316,slow=10,SNR=3.0						
MKAR				Sn	**Sn**	**10 01 12.3**	**+0.7**
	0.1nm,0.3s,baz=325,slow=21,SNR=6.2						
MKAR				Lg	Lg	10 01 45.9	
	0.2nm,0.3s,baz=319,slow=27,SNR=9.4						

*ISCJB **05** 10:04:06.8±0.7, 51°.6N±0°.1×96°.08E±0°.07, h10km, mb3.4/2, Error ellipse: s-maj=17.0km s-min=6.7km az=178.6*
*IDC **05** 10:04:06.3±1.8, 51°.52N×96°.25E, h0km, mb3.5/2, mb1 3.4/4, mb1mx3.1/68, mbtmp3.4/4, ML2.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/61, Error ellipse: s-maj=39.5km s-min=20.4km az=6.0*
*MOS **05** 10:04:09.1±2.8, 51°.66N×96°.31E, h10km, mb4.4/1, Error ellipse: s-maj=30.6km s-min=14.8km az=166.4*

ISC 05 10:04:08.7±0.9, 51°.70N±0°.10×96°.15E±0°.06, h10km, n15, σ1s.62/16, 1C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.63**	**251c**	*i*PN	**Pn**	**10 04 35.4**	**-2.2**
ORL	**Orlik**	**2.41**	**68**	*e*PN	**Pb**	**10 04 49.6**	**-2.6**
ORL				*e*		10 05 21.8	
ORL				pmax	pmax		
	comp=Z,152nm,0.6s						
ORL				smax	smax		
	comp=N,643nm,1.1s						
MOY	**Mondy**	**3.01**	**89**	*e*PN	**Pb**	**10 05 01.3**	**-1.2**
MOY				*e*		10 05 41.0	
MOY				pmax	pmax		
	comp=Z,123nm,0.8s						
MOY				smax	smax		
	comp=N,901nm,1.0s						
ARS	**Arshan**	**3.90**	**84**	*e*PN	**Pb**	**10 05 16.4**	**-1.2**
ARS				*e*		10 06 08.0	
ARS				pmax	pmax		
	comp=Z,115nm,0.9s						
ARS				smax	smax		
	comp=E,1μm,0.9s						
TLY	**Talaya**	**4.66**	**87**	*e*PN	**Pb**	**10 05 30.9**	**+0.4**
TLY				*e*		10 06 30.6	
TLY				pmax	pmax		
	comp=Z,15nm,0.7s						
ZAK	**Zakamensk**	**4.69**	**104**	*e*PN	**Pb**	**10 05 30.2**	**-0.8**
ZAK				*e*		10 06 32.7	
ZAK				pmax	pmax		
	comp=Z,46nm,0.7s						
ZAK				smax	smax		
	comp=N,444nm,1.0s						
IRK	**Irkutsk**	**5.05**	**81**	*e*PN	**Pb**	**10 05 35.6**	**-1.5**
IRK				*e*		10 06 41.6	
IRK				pmax	pmax		
	comp=Z,133nm,0.1s						
IRK				smax	smax		
	comp=N,773nm,1.0s						
OGRR	**Ongureny**	**7.23**	**70**	*e*PN	**Pn**	**10 05 55.8**	**+1.5**
OGRR				*e*		10 06 18.4	
OGRR				*e*		10 07 48.8	
OGRR				pmax	pmax		
	comp=Z,12nm,1.4s						
OGRR				smax	smax		
	comp=N,169nm,1.2s						
ZALV	**Zalesovo Beam**	**7.23**	**293**	Pn	**Pn**	**10 05 55.6**	**+1.3**
	comp=N,0.4nm,0.3s,baz=105,slow=11,SNR=6.8						
ZALV				Sn	**Sn**	**10 07 17.6**	**+1.1**
	comp=N,0.8nm,0.3s,baz=104,slow=18,SNR=6.2						
ZALV				Lg	Lg	10 07 49.2	
	comp=N,2.2nm,0.3s,baz=107,slow=24,SNR=6.0						
SONM	**Songino Array**	**7.67**	**116**	Pg	**Pb**	**10 06 24.1**	**+2.2**
	comp=N,0.8nm,0.3s,baz=300,slow=16,SNR=24						
SONM				Lg	Lg	10 08 05.6	
	comp=N,2.7nm,0.3s,baz=305,slow=27,SNR=12						
ULN	**Ulaanbaatar**	**8.03**	**114**	*i* P	**Pn**	**10 06 04.9**	**-0.6**
NIZ	**Nizh Angarsk**	**8.92**	**58**	*e*P	**Pn**	**10 06 19.8**	**+2.2**
NIZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MKAR	**Makanchi Array**	**10.30**	**247**	Pn	**Pn**	**10 06 35.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=61,slow=12,SNR=5.5						
MKAR				Pg		10 07 18.4	
	comp=Z,0.4nm,0.3s,baz=60,slow=15,SNR=6.4						
MKAR				Lg	Lg	10 09 30.3	
	comp=Z,0.4nm,0.3s,baz=68,slow=31,SNR=4.3						
MKAR				LR	LR	10 10 48.3	
	comp=Z,116nm,21.8s,baz=66,slow=39						
AKTO	**Aktyubinsk**	**23.82**	**282**	P	**P**	**10 09 20.7**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=76,slow=10,SNR=5.0						
TORD	**Torodi Ar. Bea**	**82.54**	**282**	P	**P**	**10 16 31.7**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=38,slow=5.4,SNR=2.4						

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*ISCJB **05** 10:04:17.1±2.6, 35°.6N±0°.6×34°.9W±0°.2, h10km, mb3.8/6, MS3.5/4, Error ellipse: s-maj=86.7km s-min=20.6km az=178.6*
*IDC **05** 10:04:17.0±3.2, 35°.51N×34°.82W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.5/62, mbtmp3.8/6, MS3.6/4, Ms1 3.6/4, ms1mx2.9/58, Error ellipse: s-maj=107.0km s-min=26.3km az=179.0*
ISC 05 10:04:18.8±2.9, 35°.6N±0°.7×34°.8W±0°.2, h10km, n10, σ0s.63/6, mb3.9/6, MS3.5/4, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**24.73**	**71**	P	**P**	**10 09 40.2**	**-0.1**
	0.2nm,0.2s,baz=268,slow=13,SNR=4.3						
KOWA	**Kowa**	**34.68**	**119**	LR	LR	10 24 06.5	
	comp=Z,86nm,18.5s,baz=32,slow=34						
TORD	**Torodi Ar. Bea**	**39.72**	**115**	LR	LR	10 27 35.2	
	comp=Z,72nm,19.3s,baz=175,slow=35						
ULM	**Lac du Bonnet**	**45.80**	**308**	LR	LR	10 31 00.5	
	comp=Z,87nm,19.6s,baz=78,slow=35						
AKASG	**Malin Array Be**	**47.65**	**51**	P	**P**	**10 12 54.2**	**-0.8**
	1.3nm,0.6s,baz=274,slow=7.3,SNR=5.7						
YKA	**Yellowknife Ar**	**54.56**	**326**	P	**P**	**10 13 46.8**	**+0.1**
	0.5nm,1.0s,baz=87,slow=6.8,SNR=5.6						
TXAR	**Lajitas Array**	**57.38**	**285**	P	**P**	**10 14 07.4**	**-0.2**
	0.2nm,0.6s,baz=68,slow=7.1,SNR=3.4						
KBZ	**Khabaz**	**58.37**	**56**	P	**P**	**10 14 14.8**	**+0.7**
	3.9nm,1.0s,baz=270,slow=6.1,SNR=3.7						
NVAR	**Mina Array Bea**	**64.47**	**300**	LR	LR	10 43 40.4	
	comp=Z,27nm,18.7s,baz=268,slow=37						
AKTO	**Aktyubinsk**	**65.22**	**45**	P	**P**	**10 15 00.5**	**+0.2**
	1.5nm,0.7s,baz=294,slow=5.1,SNR=4.4						

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*ISCJB **05** 10:04:19.0±0.5, 40°.30N±0°.03×27°.49E±0°.04, h18km±9km, Error ellipse: s-maj=5.4km s-min=5.0km az=21.4*
*CSEM **05** 10:04:18.7±0.1, 40°.28N×27°.51E, h15km, ML2.5, Error ellipse: s-maj=3.5km s-min=3.1km az=95.0*
*DDA **05** 10:04:18.5, 40°.28N×27°.46E, h7km, Md1.9*
*ISK **05** 10:04:18.3, 40°.27N×27°.51E, h20km, ML2.5/10*
ISC 05 10:04:18.4±1.0, 40°.29N±0°.02×27°.51E±0°.02, h11km±10km, n34, σ0s.44/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.19**	**302**	PG	**Pb**	**10 04 23.6**	**-0.3**
KRBG	**Karabiga-Canak**	**0.19**	**302**	*e*Pg	**Pb**	**10 04 23.6**	**-0.3**
EDC	**Edincik**	**0.28**	**78**	PG	**Pb**	**10 04 25.2**	**-0.2**
EDC				SG	**Sb**	**10 04 29.3**	**-0.7**
EDC	**Edincik**	**0.28**	**78**	*e*Pg	**Pb**	**10 04 25.2**	**-0.2**
EDC				*e*Sg	**Sb**	**10 04 29.3**	**-0.7**
GONE	**Gonen-Balikesi**	**0.28**	**151**	PG	**Pb**	**10 04 24.9**	**-0.5**
GONE	**Gonen-Balikesi**	**0.28**	**151**	*e*Pg	**Pb**	**10 04 24.9**	**-0.5**
RKY	**Sarkoy-Tekirda**	**0.47**	**327**	PG	**Pb**	**10 04 28.8**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.47**	**327**	*e*Pg	**Pb**	**10 04 28.8**	**+0.1**
SART	**Tekirdag**	**0.47**	**328**	*i* P	**Pg**	**10 04 27.6**	**0.0**
SART				*i* S	**Sg**	**10 04 34.0**	**+0.1**
SART	**Tekirdag**	**0.47**	**328**	P	**Pg**	**10 04 27.6**	**0.0**
SART				S	**Sg**	**10 04 34.0**	**+0.1**
BALY	**Balya**	**0.56**	**171**	*i* P	**Pg**	**10 04 28.8**	**-0.4**
BALY				*i* S	**Sg**	**10 04 37.0**	**+0.4**
BALY	**Balya**	**0.56**	**171**	P	**Pg**	**10 04 28.8**	**-0.4**
BALY				S	**Sg**	**10 04 37.0**	**+0.4**
KCTX	**Karacabey (Bur**	**0.65**	**92**	PG	**Pg**	**10 04 31.4**	**+0.4**
KCTX	**Karacabey (Bur**	**0.65**	**92**	*e*Pg	**Pg**	**10 04 31.4**	**+0.4**
SBT3	**Marmara-Eregli**	**0.69**	**31**	PG	**Pn**	**10 04 33.2**	**-0.7**
SBT3	**Marmara-Eregli**	**0.69**	**31**	*e*Pg	**Pn**	**10 04 33.2**	**-0.7**
BALB	**Balikesir**	**0.71**	**156**	PG	**Pg**	**10 04 31.7**	**-0.4**
BALB	**Balikesir**	**0.71**	**156**	*e*Pg	**Pg**	**10 04 31.7**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.92**	**234**	*i* P	**Pg**	**10 04 36.4**	**+0.3**
BAYC				*i* S	**Sg**	**10 04 48.2**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.92**	**234**	P	**Pg**	**10 04 36.4**	**+0.3**
BAYC				S	**Sg**	**10 04 48.2**	**+0.1**
STEP	**BALIKESIR_Sava**	**0.93**	**170**	*i* P	**Pn**	**10 04 37.8**	**+0.4**
STEP				*i* S	**Sn**	**10 04 51.6**	**+0.9**
STEP	**BALIKESIR_Sava**	**0.93**	**170**	P	**Pn**	**10 04 37.8**	**+0.4**
STEP				S	**Sn**	**10 04 51.6**	**+0.9**
SBT2	**Guzelce-Avcila**	**0.96**	**52**	PG	**Pg**	**10 04 37.3**	**+0.4**
SBT2	**Guzelce-Avcila**	**0.96**	**52**	*e*Pg	**Pg**	**10 04 37.3**	**+0.4**
ARMT	**Armutlu**	**1.07**	**75**	PG	**Pn**	**10 04 39.1**	**-0.2**
ARMT				SG	**Sg**	**10 04 53.3**	**+0.5**
ARMT	**Armutlu**	**1.07**	**75**	*e*Pg	**Pn**	**10 04 39.1**	**-0.2**
ARMT				*e*Sg	**Sg**	**10 04 53.3**	**+0.5**
SLVT	**Silivri**	**1.08**	**29**	PN	**Pn**	**10 04 39.2**	**-0.2**
SLVT	**Silivri**	**1.08**	**29**	*e*Pn	**Pn**	**10 04 39.2**	**-0.2**
CTKS	**Kestanelik-??a**	**1.21**	**38**	PN	**Pn**	**10 04 40.7**	**-0.5**
CTKS	**Kestanelik-??a**	**1.21**	**38**	*e*Pn	**Pn**	**10 04 40.7**	**-0.5**
BGKT	**Bogazkoy**	**1.31**	**47**	PN	**Pb**	**10 04 42.8**	**-0.1**
BGKT	**Bogazkoy**	**1.31**	**47**	*e*Pn	**Pb**	**10 04 42.8**	**-0.1**
CTYL	**Yalikoy Yolu**	**1.32**	**26**	PN	**Pn**	**10 04 42.4**	**-0.3**
CTYL	**Yalikoy Yolu**	**1.32**	**26**	*e*Pn	**Pn**	**10 04 42.4**	**-0.3**

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*IDC **05** 10:04:35.3±1.6, 41°.16S×174°.54E, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.9/33, mbtmp4.1/3, ML3.4/2, Error ellipse: s-maj=42.0km s-min=15.7km az=136.0*
*ISCJB **05** 10:04:41.7±0.2, 41°.28S±0°.03×174°.50E±0°.04, h59km±4km, mb4.1/3, Error ellipse: s-maj=5.5km s-min=2.9km az=44.5*
*WEL **05** 10:04:42.5, 41°S±1°×17°4E±°, h42km±1km, ML4.1/18*
*NEIC **05** 10:04:43.3±0.0, 41°.17S×174°.48E, h40km, ML4.0(WEL), After WEL.*
NEIC Felt at Christchurch.
ISC 05 10:04:42.2±0.9, 41°.25S±0°.03×174°.48E±0°.03, h49km±6km, n157, σ1s.32/157, mb4.1/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.16**	**283**	P*	**Pn**	**10 04 49.8**	**-0.3**
TCW				S*	**Sn**	**10 04 55.0**	**-0.8**
TCW	**Tory Channel**	**0.16**	**283**	P	**Pn**	**10 04 49.8**	**-0.3**
WEL	**Wellington**	**0.22**	**100**	P*	**Pn**	**10 04 51.0**	**+0.5**
WEL				S*	**Sn**	**10 04 57.0**	**+0.6**
BHW	**Baring Head**	**0.33**	**119**	P*	**Pn**	**10 04 52.5**	**+1.0**
BHW	**Baring Head**	**0.33**	**119**	P	**Pn**	**10 04 52.5**	**+1.0**
TUWZ	**Tuamarina**	**0.45**	**246**	P*	**Pn**	**10 04 53.2**	**+0.5**
TUWZ	**Tuamarina**	**0.45**	**246**	P	**Pn**	**10 04 53.2**	**+0.5**
TUWZ	**Tuamarina**	**0.45**	**246**	S	**Sn**	**10 05 00.6**	**+0.4**
CAW	**Cannon Point**	**0.46**	**72**	P*	**Pn**	**10 04 53.4**	**+0.6**
CAW	**Cannon Point**	**0.46**	**72**	P	**Pn**	**10 04 53.5**	**+0.6**
CAW	**Cannon Point**	**0.46**	**72**	S	**Sn**	**10 05 01.6**	**+1.1**
KIW	**Kapiti Island**	**0.50**	**40**	P*	**Pn**	**10 04 53.2**	**-0.2**
KIW	**Kapiti Island**	**0.50**	**40**	P	**Pn**	**10 04 53.2**	**-0.2**
KIW	**Kapiti Island**	**0.50**	**40**	S	**Sn**	**10 05 00.7**	**-0.7**
CMWZ	**Cape Campbell**	**0.54**	**202**	P*	**Pn**	**10 04 56.2**	**+2.4**
CMWZ	**Cape Campbell**	**0.54**	**202**	P	**Pn**	**10 04 56.2**	**+2.4**
MSWZ	**Moikau Station**	**0.60**	**107**	P*	**Pn**	**10 04 55.7**	**+1.1**
MSWZ	**Moikau Station**	**0.60**	**107**	P	**Pn**	**10 04 55.7**	**+1.1**
DUWZ	**D'Urville Isla**	**0.62**	**316**	P*	**Pn**	**10 04 54.4**	**-0.4**
DUWZ	**D'Urville Isla**	**0.62**	**316**	P	**Pn**	**10 04 54.4**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.65**	**224**	P*	**Pn**	**10 04 56.6**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.65**	**224**	P	**Pn**	**10 04 56.7**	**+1.4**
PLWZ	**Palliser**	**0.66**	**119**	P*	**Pn**	**10 04 56.6**	**+1.1**
PLWZ	**Palliser**	**0.66**	**119**	P	**Pn**	**10 04 56.6**	**+1.1**
OGWZ	**Otaki Gorge**	**0.67**	**51**	P*	**Pn**	**10 04 56.0**	**+0.5**
OGWZ	**Otaki Gorge**	**0.67**	**51**	P	**Pn**	**10 04 56.1**	**+0.5**
PAWZ	**Paruwai Farm**	**0.72**	**101**	P*	**Pn**	**10 04 57.1**	**+0.9**
PAWZ	**Paruwai Farm**	**0.72**	**101**	P	**Pn**	**10 04 57.1**	**+0.9**
MTW	**Mount Morrison**	**0.77**	**84**	P	**Pn**	**10 04 57.5**	**+0.7**
NNZ	**Nelson**	**0.83**	**272**	Pn	**Pn**	**10 04 57.9**	**+0.3**
NNZ	**Nelson**	**0.83**	**272**	P	**Pn**	**10 04 57.9**	**+0.3**
HOWZ	**Holdsworth Sta**	**0.85**	**66**	P*	**Pn**	**10 04 58.5**	**+0.5**
HOWZ	**Holdsworth Sta**	**0.85**	**66**	P	**Pn**	**10 04 58.5**	**+0.5**
TRWZ	**Traveller**	**0.92**	**100**	P*	**Pn**	**10 04 59.5**	**+0.8**
TRWZ	**Traveller**	**0.92**	**100**	P	**Pn**	**10 04 59.6**	**+0.8**
MRZ	**Mangatainoka R**	**1.01**	**55**	Pn	**Pn**	**10 05 00.5**	**+0.5**
MRZ	**Mangatainoka R**	**1.01**	**55**	P	**Pn**	**10 05 00.5**	**+0.5**
TMWZ	**Te Maipa**	**1.07**	**83**	Pn	**Pn**	**10 05 01.3**	**+0.4**
TMWZ	**Te Maipa**	**1.07**	**83**	P	**Pn**	**10 05 01.4**	**+0.5**
TIWZ	**Tintock**	**1.16**	**67**	Pn	**Pn**	**10 05 02.3**	**+0.2**
TIWZ	**Tintock**	**1.16**	**67**	P	**Pn**	**10 05 02.3**	**+0.2**
OHWZ	**Ohakea**	**1.22**	**32**	P	**Pn**	**10 05 04.2**	**+1.4**
THZ	**Tophouse**	**1.29**	**246**	Pn	**Pn**	**10 05 05.0**	**+1.1**
THZ	**Tophouse**	**1.29**	**246**	P	**Pn**	**10 05 05.1**	**+1.2**
POWZ	**Post Office Ro**	**1.30**	**49**	Pn	**Pn**	**10 05 04.1**	**+0.2**
POWZ	**Post Office Ro**	**1.30**	**49**	P	**Pn**	**10 05 04.1**	**+0.2**
PRWZ	**Pori Road**	**1.32**	**59**	Pn	**Pn**	**10 05 04.5**	**+0.3**
PRWZ	**Pori Road**	**1.32**	**59**	P	**Pn**	**10 05 04.5**	**+0.3**
CPWZ	**Castlepoint**	**1.34**	**76**	Pn	**Pn**	**10 05 05.4**	**+0.9**
CPWZ	**Castlepoint**	**1.34**	**76**	P	**Pn**	**10 05 05.6**	**+1.1**
KHZ	**Kahutara**	**1.36**	**211**	Pn	**Pn**	**10 05 06.4**	**+1.6**
KHZ	**Kahutara**	**1.36**	**211**	P	**Pn**	**10 05 06.4**	**+1.6**
BFZ	**Birch Farm**	**1.45**	**68**	Pn	**Pn**	**10 05 05.6**	**-0.3**
BFZ	**Birch Farm**	**1.45**	**68**	P	**Pn**	**10 05 05.7**	**-0.3**
QRZ	**Quartz Range**	**1.54**	**285**	Pn	**Pn**	**10 05 08.3**	**+1.2**
QRZ	**Quartz Range**	**1.54**	**285**	P	**Pn**	**10 05 08.3**	**+1.2**
WAZ	**Wanganui**	**1.54**	**15**	Pn	**Pn**	**10 05 08.6**	**+1.4**
WAZ	**Wanganui**	**1.54**	**15**	P	**Pn**	**10 05 08.8**	**+1.6**
DVHZ	**Dannevirke**	**1.59**	**54**	Pn	**Pn**	**10 05 07.5**	**-0.4**
DVHZ	**Dannevirke**	**1.59**	**54**	P	**Pn**	**10 05 07.5**	**-0.4**
TSZ	**Takapari Road**	**1.64**	**44**	Pn	**Pn**	**10 05 08.5**	**0.0**
TSZ	**Takapari Road**	**1.64**	**44**	P	**Pn**	**10 05 08.6**	**0.0**
ANWZ	**Angora Road**	**1.70**	**63**	P	**Pn**	**10 05 08.9**	**-0.5**
LREZ	**Lake Rotokare**	**1.79**	**358**	P	**Pn**	**10 05 12.7**	**+2.1**
PNHZ	**Pukenui**	**1.87**	**45**	P	**Pn**	**10 05 11.4**	**-0.3**
NMEZ	**Namu Road**	**1.89**	**346**	Pn	**Pn**	**10 05 13.3**	**+1.3**
NMEZ	**Namu Road**	**1.89**	**346**	P	**Pn**	**10 05 13.3**	**+1.3**
WPHZ	**Waipukurau**	**1.90**	**52**	P	**Pn**	**10 05 12.4**	**+0.3**
PRHZ	**Porangahau**	**1.91**	**60**	P	**Pn**	**10 05 11.5**	**-0.8**
PREZ	**Palmer Road**	**1.92**	**352**	P	**Pn**	**10 05 14.2**	**+1.8**
KHEZ	**Kahui Hut**	**1.98**	**349**	Pn	**Pn**	**10 05 14.8**	**+1.4**
MTVZ	**Mangateitei**	**2.01**	**22**	P	**Pn**	**10 05 15.5**	**+1.8**
NWEZ	**Newall Road**	**2.03**	**346**	Pn	**Pn**	**10 05 12.2**	**-1.7**
PKVZ	**Pokaka**	**2.06**	**19**	P	**Pn**	**10 05 15.9**	**+1.4**
DREZ	**Durham Road**	**2.07**	**354**	P	**Pn**	**10 05 16.1**	**+1.7**
DSZ	**Denniston Nort**	**2.07**	**255**	P	**Pn**	**10 05 15.8**	**+1.3**
MOVZ	**Moawhango**	**2.08**	**28**	P	**Pn**	**10 05 15.1**	**+0.4**
PKE	**Pukeiti**	**2.09**	**349**	P	**Pn**	**10 05 16.2**	**+1.4**
BHHZ	**Black Hill Sta**	**2.13**	**35**	P	**Pn**	**10 05 16.0**	**+0.7**
VRZ	**Vera Road**	**2.13**	**6**	P	**Pn**	**10 05 16.7**	**+1.4**
DRZ	**Dome Shelter**	**2.14**	**23**	P	**Pn**	**10 05 18.8**	**+3.1**
WHVZ	**Whangaehu Hut**	**2.14**	**24**	P	**Pn**	**10 05 17.2**	**+1.6**
FWVZ	**Far West T-bar**	**2.15**	**23**	P	**Pn**	**10 05 16.7**	**+0.9**
KRHZ	**Kereru**	**2.15**	**43**	P	**Pn**	**10 05 15.4**	**-0.2**
TUVZ	**Tukino**	**2.17**	**25**	P	**Pn**	**10 05 17.0**	**+1.0**
MHEZ	**Mangahewa**	**2.17**	**357**	P	**Pn**	**10 05 17.9**	**+2.1**
PXZ	**Pawanui**	**2.18**	**57**	P	**Pn**	**10 05 14.9**	**-1.0**
COVZ	**Chateau Observ**	**2.20**	**22**	P	**Pn**	**10 05 18.1**	**+1.8**
NGZ	**Ngauruhoe**	**2.24**	**23**	P	**Pn**	**10 05 17.9**	**+1.0**
LTZ	**Lake Taylor**	**2.25**	**226**	P	**Pn**	**10 05 18.1**	**+1.2**
WTVZ	**West Tongariro**	**2.29**	**22**	P	**Pn**	**10 05 18.5**	**+0.9**
TWVZ	**Taurewa**	**2.29**	**19**	P	**Pn**	**10 05 18.6**	**+0.9**
KRVZ	**Karewarewa**	**2.33**	**23**	P	**Pn**	**10 05 20.0**	**+1.9**
KAHZ	**Kahuranaki**	**2.33**	**52**	P	**Pn**	**10 05 17.6**	**-0.5**
KWHZ	**Kaweka Forest**	**2.35**	**40**	P	**Pn**	**10 05 18.3**	**0.0**
KATZ	**Kakaramea**	**2.45**	**23**	P	**Pn**	**10 05 22.8**	**+2.9**
MCHZ	**McNeill Hill**	**2.47**	**44**	P	**Pn**	**10 05 20.4**	**+0.5**
RITZ	**Rihia Road**	**2.50**	**25**	P	**Pn**	**10 05 24.5**	**+4.1**
RATZ	**Rangitukua**	**2.58**	**23**	P	**Pn**	**10 05 24.9**	**+3.4**
BKZ	**Black Stump Fm**	**2.59**	**37**	P	**Pn**	**10 05 21.0**	**-0.6**
EYCZ	**Eyrewell**	**2.69**	**215**	P	**Pn**	**10 05 23.5**	**+0.6**
CRLZ	**Canterbury Las**	**2.70**	**210**	P	**Pn**	**10 05 24.6**	**+1.5**
INZ	**Inchbonnie**	**2.70**	**236**	P	**Pn**	**10 05 24.1**	**+1.0**
WATZ	**Wairara**	**2.71**	**21**	P	Pn	10 05 28.0	+4.7
WATZ	**Wairara**	**2.71**	**21**	P	Pn	10 05 28.0	+4.7
HIZ	**Hauiti**	**2.75**	**6**	P	**Pn**	**10 05 25.1**	**+1.3**
OXZ	**Oxford**	**2.76**	**220**	P	**Pn**	**10 05 23.9**	**0.0**
MQZ	**McQueen's Vall**	**2.81**	**208**	P	**Pn**	**10 05 23.9**	**-0.6**
MRHZ	**Matea Rd**	**2.83**	**32**	P	**Pn**	**10 05 24.0**	**-0.9**
KUTZ	**Kaahu Road**	**2.94**	**21**	P	Pn	10 05 32.1	+5.7
MTHZ	**Maungataniwha**	**3.00**	**38**	P	Pn	10 05 34.5	+7.2
TLZ	**Tolley Road**	**3.03**	**16**	P	**Pn**	**10 05 29.0**	**+1.4**
ALRZ	**Allen Road**	**3.04**	**29**	P	**Pn**	**10 05 29.4**	**+1.7**
RAHZ	**Arahi**	**3.07**	**41**	P	**Pn**	**10 05 31.6**	**+3.5**
PRRZ	**Plateau Road**	**3.11**	**29**	P	**Pn**	**10 05 32.0**	**+3.2**
RTZ	**Ruatahuna**	**3.25**	**37**	P	**Pn**	**10 05 31.7**	**+0.9**
MUGZ	**Murupara**	**3.28**	**33**	P	**Pn**	**10 05 32.2**	**+1.1**
SNGZ	**Shannon Statio**	**3.30**	**43**	P	**Pn**	**10 05 31.6**	**+0.3**
SNGZ	**Shannon Statio**	**3.30**	**43**	P	**Pn**	**10 05 31.6**	**+0.3**
WVZ	**Waitaha Valley**	**3.33**	**236**	P	**Pn**	**10 05 32.2**	**+0.5**
MHGZ	**Mahia Peninsul**	**3.35**	**53**	P	**Pn**	**10 05 31.0**	**-1.0**
PRGZ	**Paritu Road**	**3.49**	**49**	P	**Pn**	**10 05 33.5**	**-0.5**
RPZ	**Rata Peaks**	**3.54**	**225**	Pn	**Pn**	**10 05 34.6**	**0.0**
	3.7nm,0.3s,baz=334,slow=5.0,SNR=13						
RPZ				Sn	**Sn**	**10 06 13.1**	**-2.1**
	16nm,0.3s,baz=154,slow=22,SNR=20						
RPZ	**Rata Peaks**	**3.54**	**225**	P	**Pn**	**10 05 35.1**	**+0.5**
RPZ	**Rata Peaks**	**3.54**	**225**	P	**Pn**	**10 05 36.2**	**+1.6**
RAGZ	**Rawiri**	**3.56**	**40**	P	**Pn**	**10 05 33.5**	**-1.4**
RIGZ	**Rimuhau**	**3.58**	**46**	P	**Pn**	**10 05 33.5**	**-1.7**
TOZ	**Tahuroa Road**	**3.60**	**13**	P	**Pn**	**10 05 36.2**	**+0.8**
TOZ	**Tahuroa Road**	**3.60**	**13**	P	**Pn**	**10 05 37.6**	**+2.2**
URZ	**Urewera**	**3.61**	**35**	Pn	**Pn**	**10 05 33.1**	**-2.4**
	2.6nm,0.3s,baz=262,slow=4.9,SNR=15						
URZ				Pg		10 05 39.1	
	3.4nm,0.3s,baz=233,slow=9.5,SNR=15						
URZ				Sn	**Sn**	**10 06 13.9**	**-2.9**
	5.0nm,0.3s,baz=266,slow=14,SNR=5.6						
URZ				Lg	Lg	10 06 26.8	
	7.3nm,0.3s,baz=87,slow=12,SNR=7.2						
MWZ	**Matawai**	**3.74**	**40**	P	**Pn**	**10 05 35.6**	**-1.8**
OPRZ	**Ohinepanea**	**3.76**	**26**	P	**Pn**	**10 05 41.0**	**+3.4**
TKGZ	**Te Karaka**	**3.82**	**44**	P	**Pn**	**10 05 38.9**	**+0.5**
TWGZ	**Tauwhareparae**	**4.08**	**42**	P	**Pn**	**10 05 42.8**	**+0.6**
RUGZ	**Raukumara Rang**	**4.10**	**38**	P	**Pn**	**10 05 42.1**	**-0.4**
FOZ	**Fox Glacier**	**4.14**	**235**	P	**Pn**	**10 05 42.6**	**-0.3**
MKAZ	**Moumakai**	**4.17**	**7**	P	**Pn**	**10 05 43.9**	**+0.6**
AWAZ	**Awhitu Peninsu**	**4.18**	**2**	P	**Pn**	**10 05 44.5**	**+1.1**
ETAZ	**East Tamaki Re**	**4.30**	**5**	P	**Pn**	**10 05 46.5**	**+1.4**
PUZ	**Puketiti**	**4.31**	**44**	P	**Pn**	**10 05 46.4**	**+1.2**
WTAZ	**Waiatarua**	**4.31**	**1**	P	**Pn**	**10 05 46.8**	**+1.6**
HAZ	**Te Kaha**	**4.32**	**37**	P	**Pn**	**10 05 44.9**	**-0.4**
PKGZ	**Pakihiroa**	**4.36**	**41**	P	**Pn**	**10 05 48.1**	**+2.2**
LBZ	**Lake Benmore**	**4.45**	**224**	P	**Pn**	**10 05 47.4**	**+0.2**
RVAZ	**Riverhead Bore**	**4.47**	**1**	P	**Pn**	**10 05 48.4**	**+1.0**
WIAZ	**Waiheke Island**	**4.48**	**7**	P	**Pn**	**10 05 49.0**	**+1.5**
WMGZ	**Waiomatatini S**	**4.58**	**43**	P	**Pn**	**10 05 48.5**	**-0.3**
ODZ	**Otahua Downs**	**4.72**	**215**	P	**Pn**	**10 05 51.3**	**+0.5**
MXZ	**Matakaoa Point**	**4.72**	**40**	P	**Pn**	**10 05 53.7**	**+2.9**
JCZ	**Jackson Bay**	**5.06**	**234**	P	**Pn**	**10 05 54.8**	**-0.8**
WCZ	**Waipu Caves**	**5.30**	**359**	P	**Pn**	**10 05 59.8**	**+1.0**
TUZ	**Tuapeka**	**5.88**	**215**	P	**Pn**	**10 06 08.0**	**+1.4**
OUZ	**Omahuta**	**6.06**	**353**	P	**Pn**	**10 06 09.9**	**+0.7**
ASAR	**Alice Springs**	**38.07**	**285**	P	**P**	**10 11 55.6**	**-0.6**
	1.2nm,0.4s,baz=123,slow=7.0,SNR=56						
WRA	**Warramunga Arr**	**40.10**	**290**	P	**P**	**10 12 12.6**	**-0.5**
	0.9nm,0.4s,baz=126,slow=8.4,SNR=42						
CMAR	**Chiang Mai Arr**	**91.60**	**293**	P	**P**	**10 17 44.4**	**+0.4**
	0.7nm,0.4s,baz=138,slow=5.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**151.31**	**195**	PKPbc	**PKPbc**	**10 24 30.4**	**-0.3**
	0.8nm,1.0s,baz=186,slow=1.8,SNR=2.9						

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*CSEM **05** 10:06:05.8, 40°.29N×27°.48E, h7km, MD1.9, After DDA*
*DDA **05** 10:06:05.8, 40°.29N×27°.48E, h7km, Md1.9*
*ISCJB **05** 10:06:06.8±0.5, 40°.29N±0°.03×27°.49E±0°.04, h6km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=42.1*
*ISK **05** 10:06:07.3, 40°.34N×27°.50E, h6km, ML2.7/6*
ISC 05 10:06:06.1±1.0, 40°.25N±0°.02×27°.46E±0°.03, h10km±8km, n22, σ1s.30/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.19**	**320**	PG	**Pg**	**10 06 10.6**	**+0.5**
KRBG				SG	**Sg**	**10 06 14.3**	**+1.5**
EDC	**Edincik**	**0.33**	**72**	PG	**Pg**	**10 06 12.5**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.49**	**334**	PG	**Pb**	**10 06 15.9**	**-0.9**
RKY				SG	**Sb**	**10 06 22.4**	**-1.7**
SART	**Tekirdag**	**0.49**	**334**	*i* P	**Pg**	**10 06 14.8**	**-0.8**
SART				*i* S	**Sg**	**10 06 20.9**	**-1.2**
SART	**Tekirdag**	**0.49**	**334**	P	**Pg**	**10 06 14.8**	**-0.8**
SART				S	**Sg**	**10 06 20.9**	**-1.2**
BALY	**Balya**	**0.52**	**166**	*i* P	**Pg**	**10 06 12.8**	**-3.5**
BALY				*i* S	**Sg**	**10 06 24.4**	**+1.3**
BALY	**Balya**	**0.52**	**166**	P	**Pg**	**10 06 12.8**	**-3.5**
BALY				S	**Sg**	**10 06 24.4**	**+1.3**
LPK	**Lapseki**	**0.55**	**283**	PG	**Pn**	**10 06 19.2**	**-0.8**
KCTX	**Karacabey (Bur**	**0.69**	**88**	PG	**Pb**	**10 06 20.0**	**-0.2**
BALB	**Balikesir**	**0.69**	**152**	PG	**Pn**	**10 06 22.1**	**+0.2**
SBT3	**Marmara-Eregli**	**0.75**	**32**	PG	**Pb**	**10 06 20.9**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.86**	**234**	*i* P	**Pb**	**10 06 23.7**	**+0.5**
BAYC				*i* S	**Sb**	**10 06 36.1**	**+1.3**
BAYC	**CANAKKALE_Bayr**	**0.86**	**234**	P	**Pb**	**10 06 23.7**	**+0.5**
BAYC				S	**Sb**	**10 06 36.1**	**+1.3**
STEP	**BALIKESIR_Sava**	**0.89**	**167**	*i* P	**Pb**	**10 06 24.1**	**+0.4**
STEP				*i* S	**Sn**	**10 06 38.6**	**+0.9**
STEP	**BALIKESIR_Sava**	**0.89**	**167**	P	**Pb**	**10 06 24.1**	**+0.4**
STEP				S	**Sn**	**10 06 38.7**	**+0.9**
SBT2	**Guzelce-Avcila**	**1.02**	**52**	PG	**Pn**	**10 06 25.6**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.10**	**83**	PG	**Pn**	**10 06 28.1**	**+0.6**
ENEZ	**Enez**	**1.11**	**297**	PN	**Pn**	**10 06 28.7**	**+1.0**
ARMT	**Armutlu**	**1.12**	**73**	PG	**Pn**	**10 06 28.6**	**+0.7**
CTKS	**Kestanelik-??a**	**1.27**	**39**	PN	**Pn**	**10 06 30.2**	**+0.3**
BGKT	**Bogazkoy**	**1.37**	**47**	PN	**Pg**	**10 06 32.3**	**0.0**
TVSB	**Tavsanli**	**1.74**	**117**	PN	**Pb**	**10 06 38.7**	**+0.6**

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*ATH **05** 10:06:06.8, 40°.12N×24°.05E, h24km±1km, ML2.9/19, Error ellipse: s-maj=1.1km s-min=0.7km az=334.0*
*ISCJB **05** 10:06:07.1±0.5, 40°.12N±0°.01×24°.05E±0°.02, h10km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=12.4*
*CSEM **05** 10:06:07.3±0.1, 40°.12N×24°.06E, h10km, ML2.8, Error ellipse: s-maj=1.3km s-min=1.0km az=88.0*
*THE **05** 10:06:07.6, 40°.14N×24°.03E, h10km, ML2.8/28, Error ellipse: s-maj=0.8km s-min=0.4km az=326.0*
*BEO **05** 10:06:07.8±1.3, 40°.13N×24°.17E, h17km±7km, M2.9/7*
ISC 05 10:06:07.4±0.8, 40°.13N±0°.01×24°.05E±0°.01, h13km±6km, n179, σ0s.79/255, 1C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.21**	**346**	P	**Pg**	**10 06 11.8**	**-0.2**
OUR				S	**Sg**	**10 06 14.8**	**-0.3**
OUR				AML	AML	10 06 15.9	
OUR				AML	AML	10 06 15.9	
	comp=E,68708μm,0.3s						
OUR	**Ouranopolis**	**0.21**	**346**	P	**Pg**	**10 06 12.2**	**+0.2**
OUR				S	**Sg**	**10 06 15.8**	**+0.6**
OUR	**Ouranopolis**	**0.21**	**346**	P	**Pg**	**10 06 12.2**	**+0.2**
OUR				S	**Sg**	**10 06 15.4**	**+0.2**
PAIG	**Paliouri**	**0.35**	**235**	P	**Pg**	**10 06 14.5**	**0.0**
PAIG				S	**Sg**	**10 06 19.1**	**-0.2**
PAIG				AML	AML	10 06 19.6	
	comp=N,7102μm,0.3s						
PAIG				AML	AML	10 06 20.1	
	comp=E,8113μm,0.2s						
PAIG	**Paliouri**	**0.35**	**235**	P	**Pg**	**10 06 14.4**	**-0.1**
PAIG				S	**Sg**	**10 06 19.5**	**+0.3**
PAIG	**Paliouri**	**0.35**	**235**	P	**Pg**	**10 06 14.4**	**-0.1**
PAIG				S	**Sg**	**10 06 19.5**	**+0.3**
PLG	**Polygyros**	**0.52**	**298**	P	**Pg**	**10 06 17.7**	**0.0**
PLG				S	**Sg**	**10 06 24.5**	**-0.2**
PLG				AML	AML	10 06 25.2	
	comp=N,5199μm,0.2s						
PLG				AML	AML	10 06 25.7	
	comp=E,4189μm,0.2s						
PLG	**Polygyros**	**0.52**	**298**	P	**Pg**	**10 06 17.6**	**-0.1**
PLG				S	**Sg**	**10 06 24.9**	**+0.2**
PLG	**Polygyros**	**0.52**	**298**	P	**Pg**	**10 06 17.6**	**-0.1**
PLG				S	**Sg**	**10 06 24.4**	**-0.2**
HORT	**Hortiatis**	**0.86**	**303**	P	**Pb**	**10 06 23.6**	**-0.8**
HORT				S	**Sb**	**10 06 35.2**	**-0.7**
HORT				AML	AML	10 06 35.9	
	comp=N,2084μm,0.3s						
HORT				AML	AML	10 06 36.9	
	comp=E,1694μm,0.1s						
HORT	**Hortiatis**	**0.86**	**303**	P	**Pb**	**10 06 23.6**	**-0.8**
HORT				S	**Sb**	**10 06 35.6**	**-0.3**
HORT	**Hortiatis**	**0.86**	**303**	P	**Pb**	**10 06 23.4**	**-1.0**
HORT				S	**Sb**	**10 06 35.2**	**-0.7**
SOH	**Sokhos**	**0.87**	**323**	P	**Pb**	**10 06 24.3**	**-0.2**
SOH				AML	AML	10 06 36.3	
	comp=E,1810μm,0.3s						
SOH				AML	AML	10 06 37.2	
	comp=N,2911μm,0.4s						
SOH	**Sokhos**	**0.87**	**323**	P	**Pb**	**10 06 24.0**	**-0.5**
SOH				S	**Sb**	**10 06 35.8**	**-0.3**
SOH	**Sokhos**	**0.87**	**323**	P	**Pb**	**10 06 24.0**	**-0.5**
SOH				S	**Sb**	**10 06 35.8**	**-0.3**
LIA	**Limnos Island**	**0.90**	**105**	P	**Pg**	**10 06 24.9**	**+0.1**
LIA				S	**Sg**	**10 06 37.4**	**+0.8**
LIA				AML	AML	10 06 38.7	
	comp=E,1140μm,0.4s						
LIA				AML	AML	10 06 38.8	
	comp=N,1373μm,0.4s						
LIA	**Limnos Island**	**0.90**	**105**	P	**Pb**	**10 06 24.5**	**-0.4**
LIA				S	**Sg**	**10 06 37.0**	**+0.4**
LIA	**Limnos Island**	**0.90**	**105**	P	**Pg**	**10 06 25.1**	**+0.3**
LIA				S	**Sn**	**10 06 37.8**	**-0.9**
KAVA	**Kavala**	**0.93**	**22**	P	**Pb**	**10 06 25.4**	**-0.1**
KAVA				S	**Sg**	**10 06 38.3**	**+0.6**
KAVA				AML	AML	10 06 39.4	
	comp=N,2550μm,0.3s						
KAVA				AML	AML	10 06 40.2	
	comp=E,2202μm,0.3s						
KAVA	**Kavala**	**0.93**	**22**	P	**Pb**	**10 06 25.2**	**-0.3**
KAVA				S	**Sg**	**10 06 38.2**	**+0.6**
KAVA	**Kavala**	**0.93**	**22**	P	**Pb**	**10 06 25.1**	**-0.4**
KAVA				S	**Sg**	**10 06 38.3**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
THE	**Thessaloniki**	**0.97**	**301**	P	**Pb**	**10 06 25.1**	**-1.0**
THE				S	**Sb**	**10 06 37.9**	**-0.9**
THE	**Thessaloniki**	**0.97**	**301**	P	**Pb**	**10 06 25.3**	**-0.8**
THE				S	**Sb**	**10 06 38.7**	**-0.1**
THE	**Thessaloniki**	**0.97**	**301**	P	**Pb**	**10 06 25.3**	**-0.8**
THE				S	**Sb**	**10 06 38.7**	**-0.1**
XOR	**Xorichti**	**1.01**	**221**	P	**Pg**	**10 06 27.5**	**+0.6**
XOR				S	**Sn**	**10 06 40.9**	**-0.6**
XOR				AML	AML	10 06 42.7	
	comp=E,1532μm,0.5s						
XOR				AML	AML	10 06 42.8	
	comp=N,2574μm,0.5s						
XOR	**Xorichti**	**1.01**	**221**	P	**Pb**	**10 06 26.8**	**0.0**
XOR				S	**Sg**	**10 06 40.5**	**+0.4**
XOR	**Xorichti**	**1.01**	**221**	P	**Pn**	**10 06 26.9**	**-0.5**
XOR				S	**Sg**	**10 06 40.6**	**+0.4**
NEO	**Neokhori**	**1.04**	**218**	P	**Pg**	**10 06 27.7**	**+0.2**
NEO				S	**Sb**	**10 06 41.0**	**0.0**
NEO				AML	AML	10 06 42.3	
	comp=E,1399μm,0.5s						
NEO				AML	AML	10 06 43.8	
	comp=N,1691μm,0.6s						
NEO	**Neokhori**	**1.04**	**218**	P	**Pb**	**10 06 27.3**	**-0.1**
NEO				S	**Sb**	**10 06 41.0**	**0.0**
NEO	**Neokhori**	**1.04**	**218**	P	**Pb**	**10 06 27.3**	**-0.1**
NEO				S	**Sn**	**10 06 41.8**	**-0.5**
SRS	**Serrai**	**1.04**	**341**	*e*Pg	**Pb**	**10 06 27.3**	**-0.1**
SRS	**Serrai**	**1.04**	**341**	P	**Pn**	**10 06 27.7**	**-0.2**
SRS	**Serrai**	**1.04**	**341**	P	**Pb**	**10 06 27.3**	**-0.1**
SRS				S	**Sn**	**10 06 41.8**	**-0.6**
SRS	**Serrai**	**1.04**	**341**	P	**Pb**	**10 06 27.3**	**-0.1**
SRS				S	**Sn**	**10 06 41.8**	**-0.6**
SKIA	**Skiathos**	**1.06**	**205**	P	**Pn**	**10 06 27.8**	**-0.3**
SKIA				S	**Sn**	**10 06 41.7**	**-1.1**
SKIA				AML	AML	10 06 42.7	
	comp=N,1214μm,0.6s						
SKIA				AML	AML	10 06 44.3	
	comp=E,702μm,0.4s						
SKIA	**Skiathos**	**1.06**	**205**	P	**Pb**	**10 06 27.3**	**-0.4**
SKIA				S	**Sn**	**10 06 41.7**	**-1.1**
SKIA	**Skiathos**	**1.06**	**205**	P	**Pb**	**10 06 27.3**	**-0.4**
SKIA				S	**Sn**	**10 06 42.0**	**-0.8**
FYTO	**Fytoko, Volos**	**1.12**	**230**	P	**Pb**	**10 06 28.5**	**-0.2**
FYTO				S	**Sg**	**10 06 43.8**	**+0.2**
FYTO	**Fytoko, Volos**	**1.12**	**230**	P	**Pb**	**10 06 28.5**	**-0.2**
FYTO				S	**Sg**	**10 06 43.8**	**+0.2**
SMTH	**Samothraki Isl**	**1.18**	**73**	P	**Pn**	**10 06 29.3**	**-0.4**
SMTH				S	**Sg**	**10 06 45.6**	**+0.1**
SMTH				AML	AML	10 06 48.6	
	comp=E,280μm,0.3s						
SMTH				AML	AML	10 06 51.0	
	comp=N,356μm,0.4s						
SMTH	**Samothraki Isl**	**1.18**	**73**	P	**Pn**	**10 06 29.3**	**-0.4**
SMTH				S	**Sg**	**10 06 45.7**	**+0.1**
SMTH	**Samothraki Isl**	**1.18**	**73**	P	**Pn**	**10 06 28.6**	**-1.1**
SMTH				S	**Sg**	**10 06 46.4**	**+0.8**
LIT	**Litokhoron**	**1.20**	**269**	P	**Pn**	**10 06 29.2**	**-0.8**
LIT				S	**Sn**	**10 06 45.9**	**-0.2**
LIT				AML	AML	10 06 47.4	
	comp=E,868μm,0.3s						
LIT				AML	AML	10 06 47.8	
	comp=N,836μm,0.3s						
LIT	**Litokhoron**	**1.20**	**269**	P	**Pn**	**10 06 29.5**	**-0.5**
LIT				S	**Sg**	**10 06 46.1**	**0.0**
LIT	**Litokhoron**	**1.20**	**269**	P	**Pn**	**10 06 29.5**	**-0.5**
LIT				S	**Sn**	**10 06 45.6**	**-0.5**
NVR	**Nevrokopi**	**1.23**	**353**	P	**Pb**	**10 06 30.4**	**-0.1**
NVR				S	**Sg**	**10 06 47.2**	**+0.2**
NVR				AML	AML	10 06 48.1	
	comp=N,1018μm,0.5s						
NVR				AML	AML	10 06 49.1	
	comp=E,534μm,0.2s						
NVR	**Nevrokopi**	**1.23**	**353**	P	**Pb**	**10 06 30.3**	**-0.2**
NVR				S	**Sn**	**10 06 46.5**	**-0.4**
NVR	**Nevrokopi**	**1.23**	**353**	P	**Pb**	**10 06 30.3**	**-0.2**
NVR				S	**Sn**	**10 06 46.5**	**-0.4**
SKY	**Skiros Island**	**1.31**	**163**	P	**Pn**	**10 06 31.1**	**-0.4**
SKY				AML	AML	10 06 52.1	
	comp=N,736μm,0.2s						
SKY				AML	AML	10 06 53.6	
	comp=E,708μm,0.3s						
SKY	**Skiros Island**	**1.31**	**163**	P	**Pn**	**10 06 31.2**	**-0.3**
SKY				S	**Sb**	**10 06 49.0**	**+0.3**
SKY	**Skiros Island**	**1.31**	**163**	P	**Pn**	**10 06 31.2**	**-0.3**
SKY				S	**Sb**	**10 06 49.0**	**+0.3**
KNT	**Kendrikon**	**1.35**	**320**	P	**Pb**	**10 06 33.0**	**+0.3**
KNT				AML	AML	10 06 53.4	
	comp=E,542μm,0.3s						
KNT				AML	AML	10 06 53.7	
	comp=N,712μm,0.2s						
KNT	**Kendrikon**	**1.35**	**320**	P	**Pb**	**10 06 32.4**	**-0.3**
KNT				S	**Sg**	**10 06 50.9**	**-0.1**
KNT	**Kendrikon**	**1.35**	**320**	P	**Pb**	**10 06 32.4**	**-0.3**
KNT				S	**Sg**	**10 06 50.9**	**-0.1**
SMIA	**Simia**	**1.41**	**208**	P	**Pn**	**10 06 32.7**	**-0.2**
SMIA	**Simia**	**1.41**	**208**	P	**Pn**	**10 06 32.7**	**-0.2**
GADA	**Gvkgeada**	**1.42**	**87**	PN	**Pn**	**10 06 31.5**	**-1.5**
GADA	**Gvkgeada**	**1.42**	**87**	*e*Pn	**Pn**	**10 06 31.5**	**-1.5**
KTI	**Kastanea**	**1.50**	**281**	P	**Pb**	**10 06 34.7**	**-0.6**
KTI	**Kastanea**	**1.50**	**281**	P	**Pb**	**10 06 34.7**	**-0.6**
GRG	**Griva**	**1.50**	**304**	P	**Pb**	**10 06 35.2**	**-0.1**
GRG				AML	AML	10 07 02.1	
	comp=E,730μm,0.5s						
GRG				AML	AML	10 07 02.3	
	comp=N,519μm,0.3s						
GRG	**Griva**	**1.50**	**304**	P	**Pb**	**10 06 34.5**	**-0.8**
GRG				S	**Sn**	**10 06 53.4**	**-0.3**
GRG	**Griva**	**1.50**	**304**	P	**Pb**	**10 06 34.5**	**-0.8**
GRG				S	**Sn**	**10 06 53.4**	**-0.3**
RDO	**Rodhopi**	**1.52**	**48**	P	**Pn**	**10 06 34.1**	**-0.3**
RDO				AML	AML	10 06 57.6	
	comp=E,421μm,0.5s						
RDO				AML	AML	10 07 03.5	
	comp=N,422μm,0.4s						
RDO	**Rodhopi**	**1.52**	**48**	P	**Pn**	**10 06 34.4**	**0.0**
RDO				S	**Sb**	**10 06 55.1**	**+0.4**
RDO	**Rodhopi**	**1.52**	**48**	P	**Pn**	**10 06 33.6**	**-0.8**
RDO				S	**Sb**	**10 06 55.1**	**+0.4**
VAY	**Valandovo**	**1.64**	**317**	*e*Pn	**Pn**	**10 06 36.4**	**+0.4**
VAY				*e*Sg	**Sg**	**10 07 02.4**	**+2.3**
VAY	**Valandovo**	**1.64**	**317**	*e*Pn	**Pn**	**10 06 36.4**	**+0.4**
VAY				*e*Sg	**Sg**	**10 07 02.4**	**+2.3**
VAY	**Valandovo**	**1.64**	**317**	*e*Pn	**Pb**	**10 06 36.8**	**-0.7**
VAY				*i* Sg	**Sg**	**10 07 01.6**	**+1.5**
THL	**Klokotos Trika**	**1.67**	**251**	P	**Pn**	**10 06 36.4**	**+0.1**
THL	**Klokotos Trika**	**1.67**	**251**	P	**Pn**	**10 06 36.6**	**+0.2**
THL				S	**Sn**	**10 06 57.0**	**-0.6**
THL	**Klokotos Trika**	**1.67**	**251**	P	**Pn**	**10 06 36.6**	**+0.2**
THL				S	**Sn**	**10 06 57.0**	**-0.6**
SIGR	**SIGRI**	**1.67**	**123**	PN	**Pb**	**10 06 38.5**	**+0.5**
SIGR	**SIGRI**	**1.67**	**123**	P	**Pn**	**10 06 34.9**	**-1.5**
SIGR	**SIGRI**	**1.67**	**123**	P	**Pn**	**10 06 35.8**	**-0.6**
SIGR	**SIGRI**	**1.67**	**123**	*e*Pn	**Pb**	**10 06 38.5**	**+0.5**
SIGR				S	**Sb**	**10 06 59.0**	**0.0**
SIGR	**SIGRI**	**1.67**	**123**	P	**Pn**	**10 06 35.8**	**-0.6**
SIGR				S	**Sb**	**10 06 59.0**	**0.0**
LKR	**Lokris**	**1.69**	**209**	P	**Pn**	**10 06 35.8**	**-0.9**
LKR	**Lokris**	**1.69**	**209**	P	**Pn**	**10 06 36.3**	**-0.4**
LKR	**Lokris**	**1.69**	**209**	P	**Pn**	**10 06 36.3**	**-0.4**
ALN	**Alexandroupoli**	**1.70**	**63**	PN	Pn	10 06 31.6	-5.3
ALN	**Alexandroupoli**	**1.70**	**63**	P	**Pn**	**10 06 37.4**	**+0.5**
ALN				S	**Sb**	**10 06 59.2**	**-0.8**
ALN	**Alexandroupoli**	**1.70**	**63**	P	**Pn**	**10 06 37.4**	**+0.5**
ALN				S	**Sb**	**10 06 59.2**	**-0.8**
AGG	**Agios Georgios**	**1.73**	**231**	P	**Pn**	**10 06 37.3**	**0.0**
AGG				AML	AML	10 07 04.8	
	comp=E,974μm,0.8s						
AGG				AML	AML	10 07 06.6	
	comp=N,619μm,0.7s						
AGG	**Agios Georgios**	**1.73**	**231**	P	**Pn**	**10 06 37.4**	**+0.1**
AGG				S	**Sn**	**10 06 59.2**	**-0.1**
AGG	**Agios Georgios**	**1.73**	**231**	P	**Pn**	**10 06 37.4**	**+0.1**
AGG				S	**Sn**	**10 06 59.2**	**-0.1**
KZN	**Kozani**	**1.75**	**276**	P	**Pb**	**10 06 38.7**	**-0.9**
KZN	**Kozani**	**1.75**	**276**	P	**Pn**	**10 06 38.1**	**+0.4**
KZN				S	**Sb**	**10 07 00.3**	**-1.2**
KZN	**Kozani**	**1.75**	**276**	P	**Pn**	**10 06 38.1**	**+0.4**
KZN				S	**Sb**	**10 07 00.3**	**-1.2**
PRK	**Paraskevi**	**1.93**	**117**	P	**Pb**	**10 06 41.4**	**-1.1**
PRK				AML	AML	10 07 12.8	
	comp=E,475μm,0.7s						
PRK				AML	AML	10 07 18.4	
	comp=N,297μm,0.9s						
PRK	**Paraskevi**	**1.93**	**117**	P	**Pn**	**10 06 40.8**	**+0.8**
VIL2	**Platees**	**2.01**	**198**	P	**Pn**	**10 06 40.6**	**-0.5**
VILL	**Villia**	**2.05**	**197**	P	**Pn**	**10 06 41.5**	**-0.2**
VILL	**Villia**	**2.05**	**197**	P	**Pn**	**10 06 41.5**	**-0.2**
KPRO	**Kipourio**	**2.07**	**266**	P	**Pb**	**10 06 43.4**	**-1.5**
KPRO	**Kipourio**	**2.07**	**266**	P	**Pn**	**10 06 42.9**	**+0.9**
PROD	**Prodromos**	**2.07**	**206**	P	**Pn**	**10 06 41.4**	**-0.6**
PROD	**Prodromos**	**2.07**	**206**	P	**Pn**	**10 06 41.8**	**-0.2**
PTL	**Penteli**	**2.08**	**184**	P	**Pn**	**10 06 42.4**	**+0.3**
PTL	**Penteli**	**2.08**	**184**	P	**Pn**	**10 06 42.4**	**+0.3**
DSF	**Desfina**	**2.08**	**215**	P	**Pn**	**10 06 41.3**	**-0.9**
DSF	**Desfina**	**2.08**	**215**	P	**Pn**	**10 06 41.9**	**-0.3**
DSF	**Desfina**	**2.08**	**215**	P	**Pn**	**10 06 41.9**	**-0.3**
EVR	**Evrytania**	**2.12**	**236**	P	**Pn**	**10 06 43.8**	**+1.2**
EVR	**Evrytania**	**2.12**	**236**	P	**Pn**	**10 06 43.2**	**+0.5**
EVR				S	**Sn**	**10 07 09.7**	**+0.8**
EVR	**Evrytania**	**2.12**	**236**	P	**Pn**	**10 06 43.2**	**+0.5**
EVR				S	**Sn**	**10 07 09.7**	**+0.8**
KARY	**Karystos**	**2.12**	**172**	P	**Pn**	**10 06 42.1**	**-0.5**
KARY	**Karystos**	**2.12**	**172**	P	**Pn**	**10 06 42.4**	**-0.2**
FNA	**Florina**	**2.14**	**289**	*e*Pn	**Pn**	**10 06 43.7**	**+0.8**
FNA	**Florina**	**2.14**	**289**	P	**Pn**	**10 06 43.8**	**+0.8**
FNA	**Florina**	**2.14**	**289**	P	**Pn**	**10 06 43.5**	**+0.5**
FNA	**Florina**	**2.14**	**289**	P	**Pn**	**10 06 43.9**	**+0.9**
PENT	**Pentalofos**	**2.23**	**273**	P	**Pn**	**10 06 45.5**	**+1.2**
PENT	**Pentalofos**	**2.23**	**273**	P	**Pn**	**10 06 45.0**	**+0.7**
ANX	**Ano Chora**	**2.25**	**228**	P	**Pn**	**10 06 45.2**	**+0.6**
ANX				S	**Sn**	**10 07 13.5**	**+1.2**
ANX	**Ano Chora**	**2.25**	**228**	P	**Pn**	**10 06 45.2**	**+0.6**
ANX				S	**Sn**	**10 07 13.5**	**+1.2**
BIA	**Bitola**	**2.26**	**294**	*e*Pn	**Pn**	**10 06 45.9**	**+1.3**
LTK	**Loutraki**	**2.27**	**202**	P	**Pn**	**10 06 44.1**	**-0.5**
LTK	**Loutraki**	**2.27**	**202**	P	**Pn**	**10 06 45.1**	**+0.4**
LTK	**Loutraki**	**2.27**	**202**	P	**Pn**	**10 06 45.1**	**+0.4**
KALE	**Kalithea**	**2.28**	**221**	P	**Pn**	**10 06 45.4**	**+0.5**
KALE	**Kalithea**	**2.28**	**221**	P	**Pn**	**10 06 45.3**	**+0.4**
KALE				S	**Sn**	**10 07 13.6**	**+0.6**
KALE	**Kalithea**	**2.28**	**221**	P	**Pn**	**10 06 45.4**	**+0.5**
KALE				S	**Sn**	**10 07 13.6**	**+0.6**
VLY	**Voula,Athens**	**2.28**	**185**	P	**Pn**	**10 06 44.1**	**-0.7**
VLY	**Voula,Athens**	**2.28**	**185**	P	**Pn**	**10 06 44.6**	**-0.3**
SERG	**Sergoula**	**2.31**	**223**	P	**Pn**	**10 06 45.7**	**+0.4**
SERG	**Sergoula**	**2.31**	**223**	P	**Pn**	**10 06 45.6**	**+0.3**
SERG	**Sergoula**	**2.31**	**223**	P	**Pn**	**10 06 45.6**	**+0.3**
NEST	**Nestorio**	**2.31**	**278**	P	**Pn**	**10 06 46.3**	**+0.9**
NEST	**Nestorio**	**2.31**	**278**	P	**Pn**	**10 06 46.1**	**+0.7**
CHOS	**Chios island**	**2.34**	**138**	PN	**Pn**	**10 06 46.2**	**+0.5**
CHOS	**Chios island**	**2.34**	**138**	P	**Pn**	**10 06 45.9**	**+0.2**
CHOS	**Chios island**	**2.34**	**138**	P	**Pn**	**10 06 45.9**	**+0.2**
CHOS	**Chios island**	**2.34**	**138**	*e*Pn	**Pn**	**10 06 46.2**	**+0.5**
CHOS	**Chios island**	**2.34**	**138**	P	**Pn**	**10 06 45.9**	**+0.2**
THAL	**Thalero**	**2.35**	**208**	P	**Pn**	**10 06 45.7**	**-0.1**
THAL	**Thalero**	**2.35**	**208**	P	**Pn**	**10 06 45.9**	**+0.1**
EFP	**Efpalio**	**2.38**	**225**	P	**Pn**	**10 06 47.1**	**+1.0**
EFP	**Efpalio**	**2.38**	**225**	P	**Pn**	**10 06 46.8**	**+0.6**
KRUS	**Krusevo**	**2.46**	**301**	*i* Pn	**Pn**	**10 06 48.4**	**+1.0**
DSL	**Palaion Diasel**	**2.49**	**247**	P	**Pn**	**10 06 48.0**	**+0.3**
DSL	**Palaion Diasel**	**2.49**	**247**	P	**Pn**	**10 06 48.1**	**+0.4**
VTS	**Vitosha**	**2.54**	**346**	*e*Pn	**Pn**	**10 06 49.5**	**+1.0**
VTS				*e*Sn	**Sn**	**10 07 19.7**	**+0.3**
VTS	**Vitosha**	**2.54**	**346**	⇓*i*P	**Pn**	**10 06 49.6**	**+1.0**
VTS				S	**Sn**	**10 07 14.8**	**-4.6**
VTS	**Vitosha**	**2.54**	**346**	*e*Pn	**Pn**	**10 06 49.5**	**+1.0**
VTS				S	**Sn**	**10 07 14.8**	**-4.6**
VTS				*e*Sn	**Sn**	**10 07 19.7**	**+0.3**
KLV	**Kalavryta, Ach**	**2.56**	**216**	P	**Pn**	**10 06 48.9**	**+0.2**
KLV	**Kalavryta, Ach**	**2.56**	**216**	P	**Pn**	**10 06 48.9**	**+0.2**
GUR	**Goura**	**2.56**	**212**	P	**Pn**	**10 06 48.5**	**-0.3**
GUR	**Goura**	**2.56**	**212**	P	**Pn**	**10 06 48.9**	**+0.1**
GUR				S	**Sn**	**10 07 20.0**	**+0.1**
GUR	**Goura**	**2.56**	**212**	P	**Pn**	**10 06 48.9**	**+0.1**
GUR				S	**Sn**	**10 07 20.0**	**+0.1**
DID	**Didima**	**2.70**	**194**	P	**Pn**	**10 06 49.7**	**-0.9**
DID	**Didima**	**2.70**	**194**	P	**Pn**	**10 06 50.3**	**-0.3**
SKO	**Skopje**	**2.70**	**314**	*e*Pn	**Pn**	**10 06 50.4**	**-0.2**
DRO	**Drossia**	**2.84**	**221**	P	**Pn**	**10 06 53.2**	**+0.6**
DRO	**Drossia**	**2.84**	**221**	P	**Pn**	**10 06 53.1**	**+0.6**
SERI	**Serifos**	**2.98**	**173**	P	**Pn**	**10 06 53.2**	**-1.3**
SERI	**Serifos**	**2.98**	**173**	P	**Pn**	**10 06 54.1**	**-0.4**
BARS	**Barje**	**3.17**	**329**	*e*Pn	**Pn**	**10 06 57.5**	**+0.5**
BARS	**Barje**	**3.17**	**329**	*e*Pn	**Pn**	**10 06 57.5**	**+0.5**
ZAPS	**Zavoj**	**3.31**	**342**	*e*Pn	**Pn**	**10 06 59.9**	**+0.8**
PYL	**PYLOS**	**3.70**	**210**	P	**Pn**	**10 07 05.5**	**+1.1**
PYL	**PYLOS**	**3.70**	**210**	P	**Pn**	**10 07 05.3**	**+0.9**
SELS	**Selova**	**3.79**	**326**	*e*Pn	**Pn**	**10 07 05.5**	**-0.1**
ZAGS	**Zajecar**	**3.92**	**340**	*e*Pn	**Pn**	**10 07 07.1**	**-0.3**
ZAGS	**Zajecar**	**3.92**	**340**	*e*Pn	**Pn**	**10 07 07.1**	**-0.3**
SJES	**Sjenica**	**4.37**	**317**	*e*Pn	**Pn**	**10 07 15.0**	**+1.3**
GRUS	**Gruza**	**4.50**	**328**	*e*Pn	**Pn**	**10 07 15.8**	**+0.4**
GRUS	**Gruza**	**4.50**	**328**	*e*Pn	**Pn**	**10 07 15.8**	**+0.4**
IVAS	**Ivanjica**	**4.51**	**321**	*e*Pn	**Pn**	**10 07 15.4**	**-0.1**
IVAS	**Ivanjica**	**4.51**	**321**	*e*Pn	**Pn**	**10 07 15.4**	**-0.1**
MDVR	**Moldovita**	**4.96**	**340**	⇓*i*P	Pb	10 07 28.0	-6.1
DIVS	**Divibare**	**4.98**	**324**	*e*Pn	**Pn**	**10 07 22.4**	**+0.4**
DIVS	**Divibare**	**4.98**	**324**	*e*Pn	**Pn**	**10 07 22.4**	**+0.4**
VOIR		**5.35**	**8**	⇓*i*P	**Pn**	**10 07 28.5**	**+1.4**
VOIR		**5.35**	**8**	⇓*i*P	**Pn**	**10 07 28.5**	**+1.4**
TIRR	**Tirgusor**	**5.40**	**35**	⇑*i*P	**Pg**	**10 07 51.3**	**+0.5**
BZS	**Buzias**	**5.77**	**343**	⇓*i*P	**Pg**	**10 07 58.9**	**+1.1**
PLOR	**Plostina**	**6.03**	**18**	⇓*i*P	**Pn**	**10 07 39.0**	**+2.7**
PLOR	**Plostina**	**6.03**	**18**	⇓*i*P	**Pn**	**10 07 39.0**	**+2.7**

IDC 05 10:10:35.5±3.5**, 53°.50N**×**88°.03E, h0**km**, mb1 3.3**/2**, mb1mx3.0**/64**, mbtmp3.3**/2**, ML3.1**/2**, Error ellipse: s-maj=33.5km s-min=17.0km az=73.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**285**	*i*		10 23 50.0	
	baz=98,slow=339,SNR=13						
ZALV	**Zalesovo Beam**	**1.96**	**285**	Pn	Pn	10 11 08.6	-1.4
	4.9nm,0.3s,baz=101,slow=15,SNR=31						
ZALV				Sn	Sn	10 11 34.5	-0.8
	3.6nm,0.3s,baz=101,slow=24,SNR=10						
MKAR	**Makanchi Array**	**7.66**	**211**	Pn	Pn	10 12 29.3	+1.0
	0.2nm,0.3s,baz=26,slow=12,SNR=4.1						
MKAR				Sn	Sn	10 13 54.3	-1.3
	0.1nm,0.3s,baz=25,slow=21,SNR=4.2						
MKAR				Lg	Lg	10 14 33.0	
	0.1nm,0.3s,baz=36,slow=27,SNR=2.8						
BVAR	**Borovoye Array**	**10.58**	**275**	Pn	Pn	10 13 08.9	+0.7
	0.2nm,0.3s,baz=75,slow=14,SNR=2.7						
BVAR				Sn	Sn	10 15 01.8	-5.6
	0.3nm,0.3s,baz=74,slow=25,SNR=4.5						

IDC 05 10:27:39.4±1.7**, 14°.32N**×**88°.04W, h0**km**, mb3.2**/4**, mb1 3.6**/6**, mb1mx3.4**/48**, mbtmp3.4**/6**, ML3.4**/2**, MS3.3**/1**, Ms1 3.2**/1**, ms1mx2.4**/21**, Error ellipse: s-maj=64.7km s-min=23.7km az=52.0, Honduras**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**5.02**	**143**	Pn	Pn	10 28 55.7	-0.3
	2.1nm,0.3s,baz=15,slow=20,SNR=7.9						
JTS				Sn	Sn	10 29 57.4	+2.6
	0.5nm,0.3s,baz=168,slow=21,SNR=4.8						
CMIG	**Matias Romero**	**7.14**	**294**	Pn	Pn	10 29 24.5	-0.7
	0.4nm,0.3s,baz=113,slow=5.9,SNR=4.6						
CMIG				Sn	Sn	10 30 42.7	-4.5
	0.2nm,0.3s,baz=9.5,slow=18,SNR=3.7						
TXAR	**Lajitas Array**	**20.79**	**318**	P	P	10 32 23.5	+1.1
	0.3nm,0.7s,baz=147,slow=12,SNR=4.6						
PDAR	**Pinedale Array**	**33.86**	**331**	P	P	10 34 24.0	0.0
	0.2nm,0.5s,baz=129,slow=13,SNR=2.2						
ULM	**Lac du Bonnet**	**36.39**	**352**	P	P	10 34 45.4	0.0
	1.0nm,0.6s,baz=188,slow=7.1,SNR=3.2						
SCHQ	**Schefferville**	**43.67**	**18**	LR	LR	10 54 47.0	
	comp=Z,34nm,20.2s,baz=281,slow=37						
YKA	**Yellowknife Ar**	**51.66**	**345**	P	P	10 36 47.3	-0.5
	0.2nm,0.4s,baz=139,slow=8.1,SNR=8.8						

MEX 05 10:34:19.5±0.4**, 14°.58N**×**92°.59W, h56**km±10km**, MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		**0.45**	**43**	*e*P	Pn	10 34 29.1	-1.5
PCIG		**1.28**	**331**	*e*P	Pn	10 34 39.9	-1.2
PCIG				*e*S	Sn	10 34 55.0	-2.2
CCIG	**Comitan**	**1.75**	**14**	*e*P	Pn	10 34 46.4	-1.3
CCIG				*i* S	Sn	10 35 06.2	-2.8
TGIG		**2.25**	**347**	*i* P	Pn	10 34 52.5	-1.9
TGIG				*i* S	Sn	10 35 19.3	-1.7

IDC ***05*** *10:56:21.0±5.3, 22°.38S×67°.76W, h0km, mb3.8/1, mb1 3.7/2, mb1mx3.4/32, mbtmp3.7/2, ML3.3/1, Error ellipse: s-maj=157.4km s-min=52.8km az=63.0*
GUC ***05*** *10:56:35.4±0.6, 21°.44S×68°.56W, h125km±6km, ML3.3*
ISC 05 10:56:36.1±1.3**, 21°.46S**±0°.07×**68°.6W**±0°.2**, h125**km±14km**, n9, σ0ˢ.77**/15**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.72**	**243**	*e*P	**Pn**	**10 56 56.4**	**+0.1**
PB09				*i* S	**Sn**	**10 57 12.1**	**+0.4**
PB01	**IPOC Station P**	**0.97**	**295**	*e*P	**Pn**	**10 56 57.9**	**-0.5**
PB01				*i* S	**Sn**	**10 57 14.8**	**-0.4**
PB01				IAML		10 57 16.8	
	comp=E,758nm,0.2s						
PB02	**IPOC Station P**	**1.26**	**276**	*e*P	**Pn**	**10 57 01.2**	**-0.1**
PB02				*i* S	**Sn**	**10 57 20.8**	**+0.2**
PB02				IAML		10 57 22.1	
	comp=N,849nm,0.3s						
PB07	**IPOC Station P**	**1.27**	**258**	*e*P	**Pn**	**10 57 01.4**	**-0.1**
PB07				*i* S	**Sn**	**10 57 21.2**	**+0.4**
PB07				IAML		10 57 22.4	
	comp=E,475nm,0.4s						
PB08	**IPOC Station P**	**1.43**	**337**	*e*P	**Pn**	**10 57 03.6**	**+0.1**
PB08				*i* S	**Sn**	**10 57 24.4**	**+0.1**
PB06	**IPOC Station P**	**1.56**	**217**	*e*P	**Pn**	**10 57 04.7**	**0.0**
PB06				*i* S	**Sn**	**10 57 27.1**	**+0.6**
PB06				IAML		10 57 27.4	
	comp=E,425nm,0.6s						
LPAZ	**La Paz**	**5.16**	**4**	Pn	**Pn**	**10 57 52.5**	**+0.6**
	comp=E,0.4nm,0.3s,baz=175,slow=6.6,SNR=10						
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P	**P**	**11 08 14.3**	**-1.5**
	comp=E,0.5nm,0.6s,baz=253,slow=5.4,SNR=10						
MKAR	**Makanchi Array**	**145.41**	**36**	PKPbc	**PKPdf**	**11 16 00.9**	**+1.7**
	comp=E,0.2nm,0.6s,baz=330,slow=5.0,SNR=2.9						

NSSP ***05*** *11:12:49.3, 41°.07N×43°.90E, h8km, Ms3.4*
DDA ***05*** *11:12:49.2, 41°.09N×43°.90E, h7km, Ml3.4*
TIF ***05*** *11:12:50.0, 41°.12N×43°.94E, h18km±1km*
ISK ***05*** *11:12:50.0, 41°.08N×43°.92E, h8km, ML3.3/5*
ISCJB ***05*** *11:12:51.3±0.2, 41°.06N±0°.01×43°.92E±0°.02, h10km, mb3.6/3, Error ellipse: s-maj=1.9km s-min=1.6km az=8.8*
MOS ***05*** *11:12:51.1±1.4, 40°.99N×43°.88E, h11km, mb4.3/3, Error ellipse: s-maj=8.3km s-min=4.7km az=83.0*
CSEM ***05*** *11:12:51.1±0.1, 41°.07N×43°.90E, h2km, ML3.6, Error ellipse: s-maj=3.1km s-min=2.9km az=1.0*
ISC 05 11:12:51.6±0.6**, 41°.09N**±0°.01×**43°.88E**±0°.01**, h10**km**, n141, σ1ˢ.39**/229**, mb3.7**/3**, 33C-24D, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.28**	**309**	P	**Pg**	**11 12 55.9**	**-1.3**
BGD				S	**Sg**	**11 13 00.6**	**-0.5**
BGD	**Bogdanovka**	**0.28**	**309**	P	**Pg**	**11 12 55.9**	**-1.3**
BGD				S	**Sg**	**11 13 00.6**	**-0.5**
STE	**Stepanavan**	**0.38**	**104**	⇑P	**Pg**	**11 12 57.0**	**-2.1**
STE				S	**Sg**	**11 13 03.4**	**-0.8**
STEZ	**Stepenevan**	**0.40**	**103**	⇑*i*P	**Pg**	**11 12 57.0**	**-2.5**
STEZ				⇑S	**Sg**	**11 13 03.4**	**-1.4**
AKH	**Akhalkalaki**	**0.43**	**317**	PG	**Pg**	**11 13 00.0**	**-0.1**
AKH				SG	**Sg**	**11 13 06.0**	**+0.1**
AKH	**Akhalkalaki**	**0.43**	**317**	P	**Pg**	**11 12 59.4**	**-0.8**
AKH				S	**Sg**	**11 13 05.4**	**-0.5**
AKH	**Akhalkalaki**	**0.43**	**317**	⇑*i*PG	**Pg**	**11 12 59.3**	**-0.8**
AKH	**Akhalkalaki**	**0.43**	**317**	P	**Pg**	**11 12 59.3**	**-0.8**
AKH	**Akhalkalaki**	**0.43**	**317**	*e*Pg	**Pg**	**11 13 00.0**	**-0.1**
AKH				S	**Sg**	**11 13 05.4**	**-0.5**
AKH				*e*Sg	**Sg**	**11 13 06.0**	**+0.1**
EAK	**Akyaka**	**0.46**	**207**	*i* P	**Pg**	**11 12 58.4**	**-2.1**
EAK				*i* S	**Sg**	**11 13 05.1**	**-1.4**
EAK	**Akyaka**	**0.46**	**207**	P	**Pg**	**11 12 58.4**	**-2.1**
EAK				S	**Sg**	**11 13 05.1**	**-1.4**
KZR	**Kazreti**	**0.50**	**54**	P	**Pg**	**11 12 59.6**	**-1.7**
KZR				S	**Sg**	**11 13 06.0**	**-1.8**
KZR	**Kazreti**	**0.50**	**54**	P	**Pg**	**11 12 59.6**	**-1.7**
KZR				S	**Sg**	**11 13 06.0**	**-1.8**
KARS	**Kars**	**0.77**	**233**	PG	**Pg**	**11 13 05.8**	**-0.6**
KARS	**Kars**	**0.77**	**233**	PG	**Pg**	**11 13 05.7**	**-0.6**
KARS	**Kars**	**0.77**	**233**	*e*Pg	**Pg**	**11 13 05.8**	**-0.6**
DIGO	**Kars**	**0.78**	**210**	*i* P	**Pg**	**11 13 04.5**	**-2.1**
DIGO				*i* S	**Sg**	**11 13 15.0**	**-1.8**
DIGO	**Kars**	**0.78**	**210**	P	**Pg**	**11 13 04.5**	**-2.1**
DIGO				S	**Sg**	**11 13 15.0**	**-1.8**
TBLG	**Delisi**	**0.91**	**45**	PG	**Pg**	**11 13 07.9**	**-1.1**
TBLG				SG	**Sg**	**11 13 20.2**	**-0.7**
TBLG	**Delisi**	**0.91**	**45**	P	**Pg**	**11 13 06.8**	**-2.2**
TBLG				S	**Sg**	**11 13 18.9**	**-1.9**
TBLG	**Delisi**	**0.91**	**45**	*e*PG	**Pg**	**11 13 06.8**	**-2.2**
TBLG	**Delisi**	**0.91**	**45**	P	**Pg**	**11 13 06.9**	**-2.2**
TBLG	**Delisi**	**0.91**	**45**	*e*Pg	**Pg**	**11 13 07.9**	**-1.1**
TBLG				S	**Sg**	**11 13 19.1**	**-1.8**
TBLG				*e*Sg	**Sg**	**11 13 20.2**	**-0.7**
BTNK	**Botanikuri**	**0.91**	**49**	P	**Pg**	**11 13 06.9**	**-2.2**
BTNK				S	**Sg**	**11 13 18.9**	**-1.9**
BTNK	**Botanikuri**	**0.91**	**49**	P	**Pg**	**11 13 06.9**	**-2.2**
BTNK				S	**Sg**	**11 13 19.0**	**-1.9**
EPOS	**Posof**	**0.96**	**296**	*i* P	**Pg**	**11 13 07.9**	**-2.2**
EPOS				*i* S	**Sg**	**11 13 21.2**	**-1.4**
EPOS	**Posof**	**0.96**	**296**	P	**Pg**	**11 13 07.9**	**-2.2**
EPOS				S	**Sg**	**11 13 21.2**	**-1.4**
SEAG	**Tbilisi Sea**	**0.97**	**46**	P	**Pg**	**11 13 08.5**	**-1.7**
SEAG				S	**Sg**	**11 13 21.6**	**-1.1**
SEAG	**Tbilisi Sea**	**0.97**	**46**	P	**Pg**	**11 13 08.5**	**-1.7**
SEAG				S	**Sg**	**11 13 21.6**	**-1.1**
QZX	**Qazax, Azerbai**	**1.13**	**91**	⇑P	**Pb**	**11 13 10.8**	**-2.4**
	SNR=134						
QZX				⇓S	**Sg**	**11 13 25.5**	**-2.4**
TASB	**TASBURUN-IGDIR**	**1.14**	**166**	PN	**Pb**	**11 13 11.7**	**-1.7**
TASB				SN	**Sb**	**11 13 27.8**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.14**	**166**	*e*Pn	**Pb**	**11 13 11.7**	**-1.7**
TASB				*e*Sn	**Sb**	**11 13 27.8**	**-0.4**
GNI	**Garni**	**1.15**	**145**	⇑*i*P	**Pb**	**11 13 11.9**	**-1.6**
GNI				⇑*i*S	**Sb**	**11 13 28.1**	**-0.5**
GNI	**Garni**	**1.15**	**145**	*c i*PG	**Pb**	**11 13 12.0**	**-1.6**
GNI				*i* S	**Sb**	**11 13 27.9**	**-0.6**
GNI				pmax	pmax		
	comp=Z,3μm,0.6s						
GNI	**Garni**	**1.15**	**145**	*i* Pg	**Pb**	**11 13 12.0**	**-1.6**
	comp=Z,3μm,0.6s						
GNI				*i* Sg	**Sb**	**11 13 27.9**	**-0.6**
IGDI	**IGDIR**	**1.23**	**173**	*i* P	**Pn**	**11 13 12.6**	**-2.3**
SENK	**Senkaya-Erzuru**	**1.28**	**246**	PN	**Pn**	**11 13 14.6**	**-1.1**
SENK				SN	**Sn**	**11 13 33.1**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.28**	**246**	*e*Pn	**Pn**	**11 13 14.6**	**-1.1**
SENK				*e*Sn	**Sn**	**11 13 33.1**	**+0.1**
GUDG	**Gudauri**	**1.44**	**18**	P	**Pn**	**11 13 15.9**	**-2.1**
GUDG				S	**Sn**	**11 13 35.2**	**-1.9**
GUDG	**Gudauri**	**1.44**	**18**	P	**Pn**	**11 13 15.9**	**-2.1**
GUDG				S	**Sn**	**11 13 35.2**	**-1.9**
GDB	**GEDABAY**	**1.47**	**104**	⇑P	**Pn**	**11 13 16.2**	**-2.0**
	SNR=8.7						
GDB				⇑S	**Sn**	**11 13 35.1**	**-2.5**
ARTV	**Artvin**	**1.48**	**274**	*i* P	**Pn**	**11 13 17.1**	**-1.3**
ARTV				*i* S	**Sn**	**11 13 37.0**	**-1.0**
ARTV	**Artvin**	**1.48**	**274**	P	**Pn**	**11 13 17.1**	**-1.3**
ARTV				S	**Sn**	**11 13 37.0**	**-1.0**
DAGI	**Agillar**	**1.49**	**270**	*i* P	**Pb**	**11 13 18.4**	**-0.9**
DAGI				*i* S	**Sg**	**11 13 39.1**	**-0.3**
ONI	**Oni**	**1.53**	**348**	P	**Pn**	**11 13 18.6**	**-0.5**
ONI				S	**Sb**	**11 13 39.2**	**-0.4**
ONI	**Oni**	**1.53**	**348**	*e*PN	**Pn**	**11 13 18.6**	**-0.5**
ONI	**Oni**	**1.53**	**348**	P	**Pn**	**11 13 18.6**	**-0.5**
ONI				S	**Sb**	**11 13 39.2**	**-0.4**
DYDN	**Diyadin**	**1.55**	**186**	*i* P	**Pg**	**11 13 20.7**	**-0.6**
DYDN	**Diyadin**	**1.55**	**186**	P	**Pg**	**11 13 20.7**	**-0.6**
HYR	**Heyderabad**	**1.56**	**151**	⇑P	**Pn**	**11 13 19.0**	**-0.4**
	SNR=26						
HYR				⇓S	**Sg**	**11 13 40.9**	**-0.7**
EATA	**Eleskirt**	**1.62**	**221**	*i* P	**Pg**	**11 13 21.7**	**-1.0**
EATA	**Eleskirt**	**1.62**	**221**	P	**Pg**	**11 13 21.7**	**-1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDEM	Demirkent	1.63	264	iP	Pb	11 13 20.6	-1.1
DDEM				iS	Sg	11 13 43.5	-0.4
DDEM	Demirkent	1.63	264	P	Pb	11 13 20.6	-1.1
DDEM				S	Sg	11 13 43.5	-0.4
DBAD	Bademkaya	1.66	268	iP	Pb	11 13 21.2	-1.0
DBAD				iS	Sg	11 13 43.9	-0.9
DBAD	Bademkaya	1.66	268	P	Pb	11 13 21.2	-1.0
DBAD				S	Sg	11 13 43.9	-0.9
AGRB	Hanur-Agry	1.66	205	PN	Pn	11 13 20.1	-0.8
AGRB	Hanur-Agry	1.66	205	ePn	Pn	11 13 20.1	-0.8
VADZ	Vardenis	1.69	122	eP	Pg	11 13 27.0	+3.0
VADZ				eS	Sg	11 13 52.0	+6.1
ZEI	Tsey	1.70	0	⇓iPN	Pb	11 13 21.9	-1.1
LACR	Lac	1.76	10	⇓iPN	Pb	11 13 22.8	-1.3
LACR	Lac	1.76	10	iPn	Pb	11 13 22.8	-1.3
DIGR	Digorskoe uzhe	1.82	353	⇓iPN	Pb	11 13 24.1	-1.0
DIGR	Digorskoe uzhe	1.82	353	iPn	Pb	11 13 24.1	-1.0
TUTA	Tutak	1.88	206	iP	Pg	11 13 26.7	-0.8
TUTA	Tutak	1.88	206	P	Pg	11 13 26.7	-0.8
GANJ	Ganja	1.90	103	PN	Pn	11 13 23.4	-0.7
GANJ	Ganja	1.90	103	P	Pn	11 13 23.5	-0.7
	SNR=44						
GANJ				⇓S	Sn	11 13 47.5	-0.6
CLDR	Caldiran	1.94	179	PN	Pn	11 13 24.5	-0.4
CLDR	Caldiran	1.94	179	iP	Pg	11 13 27.8	-1.1
CLDR	Caldiran	1.94	179	ePn	Pn	11 13 24.5	-0.4
CLDR	Caldiran	1.94	179	P	Pg	11 13 27.8	-1.1
KORR	Kora	2.00	4	ePN	Pb	11 13 27.8	-0.2
KORR				eS	Sg	11 13 56.0	+0.2
KORR	Kora	2.00	4	ePn	Pb	11 13 27.8	-0.2
KORR				eSb	Sg	11 13 56.0	+0.2
VLKR	Vladikavkaz	2.04	17	ePN	Pg	11 13 29.0	-1.7
VLKR				eS	Sg	11 13 55.8	-1.4
VLKR	Vladikavkaz	2.04	17	ePn	Pg	11 13 29.0	-1.7
VLKR				eSb	Sg	11 13 55.8	-1.4
KMGR	Komgaron	2.10	20	ePN	Pb	11 13 29.5	-0.2
KMGR				eS	Sg	11 13 57.8	-1.2
KMGR	Komgaron	2.10	20	ePn	Pb	11 13 29.5	-0.2
KMGR				eSn	Sg	11 13 57.8	-1.2
ARNR	Ardon	2.11	8	ePn	Pb	11 13 30.0	+0.1
ARNR				eSn	Sg	11 13 58.2	-1.2
SBZ	Shahbuz	2.12	142	⇓P	Pb	11 13 29.1	-1.0
	SNR=41						
SBZ				⇑S	Sb	11 13 56.9	+0.3
ZKTA	Zakatala	2.13	74	PN	Pn	11 13 27.4	+0.1
ZKTA	Zakatala	2.13	74	Pn	Pn	11 13 27.4	+0.1
LSNR	Lesken	2.19	359	ePN	Pb	11 13 30.7	-0.5
LSNR				eS	Sb	11 13 58.3	-0.1
LSNR	Lesken	2.19	359	ePn	Pb	11 13 30.7	-0.5
LSNR				eSn	Sb	11 13 58.3	-0.1
ERZM	Erzurum	2.25	239	iP	Pb	11 13 30.2	-2.3
ERZM	Erzurum	2.25	239	P	Pb	11 13 30.2	-2.3
NAX	Nakhchivan	2.28	147	PN	Pb	11 13 31.0	-1.8
NAX	Nakhchivan	2.28	147	Pn	Pb	11 13 31.0	-1.8
NAX				⇓S	Sb	11 14 00.6	-0.5
STDR	Stavd-Durt	2.28	3	ePN	Pg	11 13 33.6	-1.7
STDR				eS	Sg	11 14 04.2	-0.6
STDR	Stavd-Durt	2.28	3	ePn	Pg	11 13 33.6	-1.7
EKAR	Karacoban	2.30	218	iP	Pg	11 13 35.0	-0.7
EKAR	Karacoban	2.30	218	P	Pg	11 13 35.0	-0.7
NEY	Neytrino	2.32	339	iPN	Pb	11 13 33.3	-0.3
NEY				pmax	pmax		
	comp=Z,74nm,0.3s						
NEY	Neytrino	2.32	339	iPn	Pb	11 13 33.3	-0.3
	comp=Z,74nm,0.3s						
BTKR	Batakoyurt	2.33	12	ePN	Pb	11 13 32.9	-0.8
BTKR				eS	Sb	11 14 01.8	-0.8
BTKR	Batakoyurt	2.33	12	ePn	Pb	11 13 32.9	-0.8
BTKR				eSn	Sb	11 14 01.8	-0.8
BTLR	Botlikh	2.35	47	ePN	Pb	11 13 32.8	-1.2
BTLR				eS	Sb	11 14 01.8	-1.3
BTLR	Botlikh	2.35	47	ePn	Pb	11 13 32.8	-1.2
BTLR				eSn	Sb	11 14 01.8	-1.3
NCK	Nalchik	2.41	355	ePN	Pg	11 13 36.2	-1.6
NCK				eS	Sg	11 14 08.0	-1.1
NCK	Nalchik	2.41	355	ePn	Pg	11 13 36.2	-1.6
MNGR	Mingechevir, A	2.45	96	PN	Pn	11 13 31.9	+0.4
MNGR	Mingechevir, A	2.45	96	⇓P	Pn	11 13 31.9	+0.4
	SNR=3.1						
MNGR				⇓S	Sn	11 14 01.9	+0.4
GRS	Goris	2.46	129	⇓P	Pn	11 13 31.0	-0.8
GRS				S	Sn	11 14 03.0	+1.0
SEKA	Sheki	2.51	86	PN	Pn	11 13 32.8	+0.4
SEKA	Sheki	2.51	86	Pn	Pn	11 13 32.8	+0.4
SEKA				⇑S	Sb	11 14 06.0	-1.6
GROC	Groznyy	2.54	33	ePN	Pn	11 13 34.2	+1.3
GROC				eS	Sb	11 14 08.7	0.0
GROC				e		11 14 14.9	
GROC				e		11 14 18.7	
GROC				pmax	pmax		
	comp=Z,54nm,0.6s						
GROC				smax	smax		
	comp=E,616nm,1.0s						
GROC				smax	smax		
	comp=E,313nm,1.1s						
GROC	Groznyy	2.54	33	ePn	Pn	11 13 34.2	+1.3
	comp=E,54nm,0.6s						
GROC				eSn	Sb	11 14 08.7	0.0
BRDA	Brd	2.64	107	⇓P	Pn	11 13 34.1	-0.1
	SNR=9.5						
BRDA				⇑S	Sb	11 14 07.8	-3.6
GNBR	Gunib	2.65	60	ePN	Pb	11 13 37.7	-1.4
GNBR				eS	Sb	11 14 10.8	-0.8
GNBR	Gunib	2.65	60	ePn	Pb	11 13 37.7	-1.4
GNBR				eSn	Sb	11 14 10.8	-0.8
ORD	Ordubad	2.70	142	⇑P	Pb	11 13 36.9	-3.1
	SNR=6.3						
ORD				⇓S	Sb	11 14 10.7	-2.5
BAYB	BAYBURT	2.88	254	iP	Pb	11 13 43.9	+0.7
AKT	Akhty	2.92	81	ePN	Pn	11 13 38.8	+0.6
AKT				e		11 13 43.1	
AKT				eS	Sn	11 14 13.5	0.0
AKT				e		11 14 26.5	
AKT				pmax	pmax		
	comp=Z,58nm,0.3s						
AKT				smax	smax		
	comp=E,124nm,0.4s						
AKT				smax	smax		
	comp=N,144nm,0.5s						
AKT				smax	smax		
	comp=N,122nm,0.4s						
AKT	Akhty	2.92	81	ePn	Pn	11 13 38.8	+0.6
	comp=N,58nm,0.3s						
AKT				eSn	Sn	11 14 13.5	0.0
	comp=N,122nm,0.4s						
AKT				eSb	Sg	11 14 26.5	+1.0
BAYT	Ayd˜–ntepe-Bay	2.93	257	PN	Pn	11 13 39.1	+0.8
BAYT	Ayd˜–ntepe-Bay	2.93	257	ePn	Pn	11 13 39.1	+0.8
QBL	Gabala	3.00	91	⇑P	Pn	11 13 39.5	+0.4
	SNR=5.2						
QBL				⇑S	Sn	11 14 14.7	-0.4
KIV	Kislovodsk	3.00	343	ePN	Pb	11 13 42.0	-3.1
KIV				eS	Sb	11 14 20.7	-1.1
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KIV	Kislovodsk	3.00	343	ePn	Pb	11 13 42.0	-3.1
	comp=Z,18nm,1.0s						
KIV				eSn	Sb	11 14 20.7	-1.1
ZRD	Zardab	3.00	104	⇑P	Pn	11 13 39.4	+0.2
	SNR=2.8						
ZRD				⇑S	Sn	11 14 16.1	+0.9
XNQ	Khinaliq	3.22	87	⇓P	Pn	11 13 43.0	+0.7
	SNR=12						
XNQ				⇑S	Sn	11 14 20.4	-0.4
IML	Ismayilli	3.27	94	⇑P	Pn	11 13 43.2	+0.3
	SNR=14						
IML				⇓S	Sn	11 14 21.8	-0.1
QSAR	Qusar	3.33	81	⇓P	Pn	11 13 43.7	0.0
	SNR=42						
QSAR				⇓S	Sn	11 14 24.1	+0.8
DRN	Derbent	3.47	73	⇑ePN	Pn	11 13 48.3	+2.8
DRN	Derbent	3.47	73	ePn	Pn	11 13 48.3	+2.8
QUBA	Quba, Azerbaij	3.49	84	⇑P	Pn	11 13 45.6	-0.3
	SNR=3.2						
QUBA				⇓S	Sn	11 14 28.3	+1.0
PQL	Pirkuli	3.58	93	⇓P	Pn	11 13 47.1	-0.2
	SNR=3.4						
PQL				⇓S	Sn	11 14 30.5	+0.8
SIZA	Siyzn	3.79	89	⇑P	Pn	11 13 50.2	+0.1
	SNR=3.5						
SIZA				⇑S	Sn	11 14 35.8	+1.0
ATGJ	Altiaghaj	3.83	92	⇑S	Sn	11 14 35.3	-0.6
GBS	Qobustan	3.88	97	⇑S	Sn	11 14 36.7	-0.3
GLBA	Clilabad	3.92	117	⇑P	Pn	11 13 52.4	+0.6
	SNR=3.4						
GLBA				⇑S	Sn	11 14 38.0	+0.2
LRK	Lerik	4.21	124	⇑P	Pn	11 13 56.8	+0.8
	SNR=4.2						
LRK				⇑S	Sn	11 14 44.9	-0.4
KIEV	Kiev	14.00	318	⇓iP	Pn	11 16 10.9	+1.1
KIEV	Kiev	14.00	318	iP	Pn	11 16 10.9	+1.1
ARU	Arti	18.08	27	⇑eP	P	11 17 06.0	+3.0
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARU	Arti	18.08	27	eP	P	11 17 06.0	+3.0
	comp=Z,2.0nm,0.9s						
KKAR	Karatay Array	19.84	75	⇑eP	Pn	11 17 24.4	+0.4
KKAR	Karatay Array	19.84	75	eP	Pn	11 17 24.4	+0.4
BRVK	Borovoye	21.46	47	⇓iP	P	11 17 42.0	+2.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	Ulaanbaatar	44.46	59	⇓iP	P	11 21 04.1	+1.3
ULN				pmax	pmax		
	comp=Z,2.0nm,1.6s						
YAK	Yakutsk	52.88	36	⇓eP	P	11 22 08.8	+1.7
YAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						

JMA 05 11:33:13.5±0.1, 37°.69N×141°.94E, h32km±3km, M3.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.89	329	P	Pn	11 33 29.8	0.0
JIO				eS	Sn	11 33 40.9	-0.8
JFK	Kawauchi	0.91	249	P	Pn	11 33 30.0	-0.1
JMM	Marumori	0.93	281	P	Pn	11 33 30.5	+0.2
JMM				S	Sn	11 33 42.0	-0.5
ONAJ	Iwakimizuishiy	1.08	237	P	Pn	11 33 32.3	-0.2
JOU	Okura	1.21	304	P	Pb	11 33 35.3	-0.6
JOU				S	Sn	11 33 50.4	+0.8
JFT	Otama	1.28	263	P	Pb	11 33 36.4	-0.7
JFT				S	Sb	11 33 52.5	-0.8
JMK	Ichinoseki	1.38	336	P	Pn	11 33 37.2	+0.7
JMK				eS	Sn	11 33 54.0	+0.3
JYS	Shirataka	1.57	290	P	Pb	11 33 41.0	-1.0
JYS				S	Sb	11 34 00.8	-0.7
JYK	Kaneyama	1.75	315	P	Pn	11 33 42.7	+1.1
JOM	Ohasama	1.85	344	P	Pn	11 33 43.9	+0.9
JRG	Rokugo	1.99	329	P	Pn	11 33 46.4	+1.5

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*NIED **05** 11:33:00, 38°.50N×144°.80E, h5km, Mw3.6 Best double couple: M0 3.29000×10^14 NP1:φs 201.00000°, δ41.00000°, λ-87.00000°. NP2:φs 18.00000°, δ49.00000°, λ-92.00000°.*
*IDC **05** 11:33:29.5±0.9, 38°.42N×144°.82E, h0km, mb3.6/9, mb1 3.7/12, mb1mx3.5/72, mbtmp3.6/12, ML3.3/3, Error ellipse: s-maj=23.3km s-min=18.7km az=103.0*
*ISCJB **05** 11:33:31.8±0.8, 38°.45N±0°.09×144°.69E±0°.09, h29km, mb3.6/9, Error ellipse: s-maj=14.5km s-min=7.6km az=146.4*
ISC 05 11:33:34.3±0.9, 38°.60N±0°.09×144°.71E±0°.10, h29km, n16, σ1s.76/16, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	5.55	250	Pn	Pn	11 34 53.8	-1.2
	1.8nm,0.3s,baz=50,slow=9.9,SNR=9.4						
MJAR				Sn	Sn	11 35 58.3	+0.4
	0.9nm,0.3s,baz=306,slow=31,SNR=3.3						
MAT	Matsushiro	5.55	250	P	Pn	11 34 53.9	-1.1
MAT				eS	Sn	11 35 55.3	-2.6
ASAJ	Asahikawa	5.74	345	Pn	Pn	11 34 57.8	+0.3
	1.5nm,0.3s,baz=182,slow=5.2,SNR=6.5						
ASAJ				Sn	Sn	11 35 58.4	-4.0
	0.6nm,0.3s,baz=24,slow=20,SNR=4.1						
USRK	Ussuriysk Ar.	11.07	304	Pn	Pn	11 36 11.9	+1.3
	0.2nm,0.3s,baz=98,slow=19,SNR=4.1						
SEY	Seymchan	24.81	8	P	P	11 38 54.7	+1.1
	0.6nm,0.4s,baz=149,slow=12,SNR=7.9						
H11N2	WAKE ISLAND Hy	26.88	128	T	T	12 07 08.1	
	baz=320,slow=75,SNR=9.4						
H11N1	WAKE ISLAND Hy	26.89	128	T	T	12 07 08.3	
	baz=320,slow=75,SNR=5.1						
H11N3	WAKE ISLAND Hy	26.89	128	T	T	12 07 11.1	
	baz=320,slow=75,SNR=7.0						
SONM	Songino Array	29.15	301	P	P	11 39 34.1	+1.2
	0.2nm,0.4s,baz=101,slow=7.5,SNR=2.9						
MKAR	Makanchi Array	45.52	301	P	P	11 41 51.4	+0.4
	0.4nm,0.7s,baz=80,slow=8.8,SNR=4.5						
ILAR	Eielson Array	46.77	33	P	P	11 42 00.3	-0.4
	0.2nm,0.7s,baz=262,slow=6.3,SNR=3.4						
WRA	Warramunga Arr	59.03	191	P	P	11 43 29.8	-1.7
	0.9nm,0.7s,baz=13,slow=7.2,SNR=8.0						
AKTO	Aktyubinsk	59.56	312	P	P	11 43 37.3	+2.3
	0.7nm,0.6s,baz=300,slow=20,SNR=3.0						
ASAR	Alice Springs	62.76	191	P	P	11 43 55.6	-1.2
	0.4nm,0.7s,baz=12,slow=7.7,SNR=6.3						
FINES	FINESS Array B	68.63	333	P	P	11 44 34.0	-0.3
	0.8nm,0.6s,baz=84,slow=5.9,SNR=3.4						
NVAR	Mina Array Bea	71.96	55	P	P	11 44 55.8	+0.4
	0.5nm,0.9s,baz=270,slow=7.0,SNR=3.5						

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*IDC **05** 11:36:06.5±1.3, 38°.45N×144°.79E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/70, mbtmp3.5/6, ML3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/58, Error ellipse: s-maj=35.8km s-min=22.0km az=96.0*
*ISCJB **05** 11:36:08.0±0.8, 38°.63N±0°.04×144°.75E±0°.06, h29km, mb3.6/4, Error ellipse: s-maj=6.9km s-min=5.7km az=39.1*
*JMA **05** 11:36:10.5±0.2, 38°.54N×144°.58E, h41km, M3.6*
ISC 05 11:36:10.0±1.2, 38°.62N±0°.06×144°.75E±0°.08, h29km, n23, σ1s.82/33, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.45	282	P	Pn	11 36 47.6	-0.4
OFUJ				eS	Sn	11 37 15.7	-1.3
MIYJ	Miyakonagasawa	2.47	294	P	Pn	11 36 48.0	-0.3
MIYJ				eS	Sn	11 37 16.3	-1.3
JMK	Ichinoseki	2.78	278	P	Pn	11 36 52.5	-0.1
JMK				eS	Sn	11 37 24.1	-1.0
JOM	Ohasama	2.83	289	P	Pn	11 36 53.4	+0.2
JOM				eS	Sn	11 37 25.3	-0.9
JANG	Nango	3.05	306	P	Pn	11 36 57.0	+0.7
JANG				eS	Sn	11 37 31.6	-0.3
JYK	Kaneyama	3.45	276	P	Pn	11 37 02.4	+0.7
JYK				eS	Sn	11 37 41.4	-0.2
JFT	Otama	3.66	254	P	Pn	11 37 04.6	0.0
JFT				S	Sn	11 37 45.0	-1.8
JOT	Ohata	3.96	315	P	Pn	11 37 10.2	+1.4
JOT				eS	Sn	11 37 54.7	+0.5
JCH	Churui	4.12	346	P	Pn	11 37 10.6	-0.4
JCH				eS	Sn	11 37 56.6	-1.7
NEM2	Nemuro 2	4.79	9	P	Pn	11 37 18.4	-1.8
NEM2				eS	Sn	11 38 09.5	-5.3
JRY	Ryogami san	5.34	243	P	Pn	11 37 26.5	-1.3
JRY				eS	Sn	11 38 23.6	-4.7
JTKR	Abashiri--Toko	5.38	353	P	Pn	11 37 27.7	-0.5
MJAR	Matsushiro Arr	5.60	250	Pn	Pn	11 37 31.9	+0.5
	1.3nm,0.3s,baz=51,slow=9.7,SNR=6.4						
MJAR				Sn	Sn	11 38 34.8	+0.2
	0.8nm,0.3s,baz=232,slow=30,SNR=3.3						
MAT	Matsushiro	5.60	250	P	Pn	11 37 31.9	+0.6
MAT				eS	Sn	11 38 31.3	-3.4
ASAJ	Asahikawa	5.72	344	Pn	Pn	11 37 33.6	+0.6
	0.6nm,0.3s,baz=148,slow=13,SNR=2.4						
ASAJ				Sn	Sn	11 38 35.1	-2.5
	0.6nm,0.3s,baz=45,slow=19,SNR=3.7						
JHJ	Hachijo jima 2	6.81	218	LR	LR	11 41 31.9	
	comp=Z,468nm,18.8s,baz=322,slow=49						
SEY	Seymchan	24.78	8	P	P	11 41 31.8	+2.8
	0.8nm,0.5s,baz=218,slow=18,SNR=7.4						
H11N2	WAKE ISLAND Hy	26.86	128	T	T	12 08 28.7	
	baz=328						
H11N1	WAKE ISLAND Hy	26.88	128	T	T	12 08 38.0	
	baz=328						
H11N3	WAKE ISLAND Hy	26.88	128	T	T	12 08 37.8	
	baz=328						
MKAR	Makanchi Array	45.53	301	P	P	11 44 28.4	+1.5
	0.5nm,0.8s,baz=76,slow=7.6,SNR=4.4						
WRA	Warramunga Arr	59.07	191	P	P	11 46 07.0	-0.5
	0.7nm,0.7s,baz=12,slow=7.3,SNR=7.1						
ASAR	Alice Springs	62.79	191	P	P	11 46 32.4	-0.3
	0.3nm,0.7s,baz=14,slow=7.0,SNR=5.3						

IDC 05 11:43:41.9±2.3, 1°.65N×127°.84E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/56, mbtmp3.3/4, Error ellipse: s-maj=190.6km s-min=26.4km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.39	164	P	P	11 48 41.6	-0.5
	0.6nm,0.8s,baz=342,slow=11,SNR=5.3						
ASAR	Alice Springs	25.84	167	P	P	11 49 16.0	+0.7
	0.5nm,0.8s,baz=349,slow=10,SNR=6.8						
STKA	Stephens Creek	35.80	160	P	P	11 50 42.5	-0.6
	1.1nm,0.8s,baz=321,slow=13,SNR=2.9						
MKAR	Makanchi Array	59.88	325	P	P	11 53 49.6	0.0
	0.2nm,0.6s,baz=110,slow=7.4,SNR=3.8						

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*SJA **05** 11:44:48.7±1.2, 29°.10S×70°.77W, h99km±6km, ML3.3, MW3.4*
*ISCJB **05** 11:44:49.9±1.0, 29°.16S±0°.03×70°.75W±0°.06, h101km±7km, Error ellipse: s-maj=9.1km s-min=5.7km az=9.8*
*GUC **05** 11:44:50.6±0.4, 29°.25S×70°.36W, h70km, ML3.6*
ISC 05 11:44:51.4±1.8, 29°.16S±0°.04×70°.72W±0°.08, h86km±11km, n17, σ0s.81/29, 1C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.15	5	eP	Pn	11 45 03.7	-0.5
LCO				eS	Sn	11 45 14.4	+0.9
LCO	Las Campanas	0.15	5	eP	Pn	11 45 03.8	-0.3
LCO				iS	Sn	11 45 13.7	+0.1
LCO				IAML		11 45 15.1	
	comp=E,2μm,0.1s						
TLL	Tololo Astrono	1.01	184	⇑iP	Pn	11 45 10.8	-0.4
TLL				iS	Sn	11 45 25.8	-0.2
TLL				IAML		11 45 27.4	
	comp=E,2μm,0.3s						
GO04	Tololo Observa	1.01	184	⇓eP	Pn	11 45 10.6	-0.7
GO04				iS	Sn	11 45 25.6	-0.4
GO04				IAML		11 45 28.4	
	comp=N,5μm,0.4s						
GO03	Copiap	1.62	15	eP	Pn	11 45 18.9	+0.3
GO03				iS	Sn	11 45 40.3	+1.1
GO03				IAML		11 45 42.3	
	comp=N,1μm,0.2s						
AGUA	GUANDACOL	1.97	100	eP	Pn	11 45 23.0	-0.2
AGUA				eS	Sn	11 45 48.1	+0.7
VCA	Vinchina	2.24	80	eP	Pn	11 45 27.8	+1.0
VCA				eS	Sn	11 45 54.2	+0.3
VCA				IAML		11 45 59.6	
	comp=Z,376nm,0.3s						
AMOG	MOGNA	2.62	133	eP	Pn	11 45 31.8	0.0
AMOG				eS	Sn	11 46 03.0	+0.3
RTLS	Leoncito	2.90	155	eP	Pn	11 45 36.3	+0.5
RTLS				eS	Sn	11 46 11.7	+1.8
RTLS				IAML		11 46 19.6	
	comp=Z,115nm,0.2s						
AUSP	Uspallata	3.26	160	eP	Pn	11 45 41.1	+0.5
AUSP				eS	Sn	11 46 19.9	+1.3
RTCV	Cerro Valdivia	3.28	146	eS	Sn	11 46 19.5	+0.7
ROC1	El Roble	3.81	184	eP	Pn	11 45 47.8	-0.3
APLL	PUNTA DE LOS L	3.84	110	eS	Sn	11 46 32.4	0.0
AAGR	Agrelo	4.23	158	eP	Pn	11 45 53.6	-0.1
AAGR				eS	Sn	11 46 41.7	-0.3
ACAN	Cantantal	4.34	137	eP	Pn	11 45 54.5	-0.6
ACAN				eS	Sn	11 46 44.0	-0.5
CYA	Choya	4.37	82	eP	Pn	11 45 53.9	-1.6
CYA				IAML		11 45 56.0	
	comp=Z,29nm,0.5s						
FSA	Cafayete	5.18	55	eP	Pn	11 46 05.3	-1.4
FSA				IAML		11 46 08.8	
	comp=Z,3.4nm,0.6s						

IDC 05 11:51:33.8±3.1, 17°.70S×176°.38W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/52, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=186.3km s-min=31.6km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.82	50	Pn	Pn	11 53 01.5	0.0
	1.3nm,0.3s,baz=222,slow=14,SNR=4.1						
AFI				Sn	Sn	11 53 54.1	-15
	6.1nm,0.3s,baz=233,slow=14,SNR=9.9						
STKA	Stephens Creek	40.42	241	P	P	11 59 14.9	+0.9
	0.9nm,0.7s,baz=80,slow=11,SNR=3.7						
WRA	Warramunga Arr	46.57	259	P	P	12 00 03.2	-0.6
	0.3nm,0.6s,baz=97,slow=8.2,SNR=8.2						
ASAR	Alice Springs	46.70	254	P	P	12 00 04.5	-0.4
	1.2nm,0.5s,baz=91,slow=8.3,SNR=42						

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*CSEM **05** 12:07:08.0±0.2, 67°.16N×20°.66E, h2km, ML1.4, Error ellipse: s-maj=5.7km s-min=3.5km az=57.0, Mining explosion.*
*HEL **05** 12:07:10.3, 67°.22N×20°.85E, h0km, ML1.3, Explosion*
UPP 05 12:07:08.5, 67°.18N×20°.65E, h0km, ML1.8, Suspected Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.06	210	P	Pg	12 07 10.0	+0.3
DUNU				S	Sg	12 07 11.2	+0.7
DUNU	Dundret	0.06	210	P	Pg	12 07 10.1	+0.4
DUNU				S	Sg	12 07 11.3	+0.8
DUNU	Dundret	0.06	210	iP	Pg	12 07 10.1	+0.4
DUNU				iS	Sg	12 07 11.3	+0.8
MASU	Masugnsbyn	0.59	61	P	Pg	12 07 20.0	+0.1
MASU	Masugnsbyn	0.59	61	P	Pg	12 07 20.0	+0.2
MASU	Masugnsbyn	0.59	61	iP	Pg	12 07 20.0	+0.2
KUA	Kurravaara	0.79	351	P	Pg	12 07 23.3	-0.3
KUA	Kurravaara	0.79	351	P	Pg	12 07 23.3	-0.3
KUA	Kurravaara	0.79	351	iP	Pg	12 07 23.3	-0.3
ERTU	Ertsjaerv	0.87	135	P	Pg	12 07 24.5	-0.7
ERTU	Ertsjaerv	0.87	135	P	Pg	12 07 24.2	-1.0
ERTU	Ertsjaerv	0.87	135	eP	Pg	12 07 24.5	-0.6
NIKU	Nikkaluokta	0.93	319	P	Pg	12 07 25.9	-0.4
NIKU	Nikkaluokta	0.93	319	P	Pg	12 07 25.9	-0.5
NIKU	Nikkaluokta	0.93	319	eP	Pg	12 07 25.9	-0.5
PAJU	Pajala	0.97	98	P	Pg	12 07 26.6	-0.6
PAJU	Pajala	0.97	98	P	Pg	12 07 26.6	-0.5
PAJU	Pajala	0.97	98	eP	Pg	12 07 26.6	-0.5
LANU	Lannavaara	1.02	30	e	Pn	12 07 35.7	+5.7
HEF	Hetta	1.69	41	P	Pn	12 07 39.0	-0.2
HEF				Sn	Sg	12 08 03.1	+0.5
HEF	Hetta	1.69	41	eP	Pn	12 07 39.0	-0.2
	baz=219						
HEF				MSG		12 07 58.2	
	comp=Z,2.0nm,0.2s						
HEF				eSN	Sg	12 08 03.1	+0.5
KALU	Kalix	1.71	139	eSN	Sg	12 08 04.8	+1.5
TOF	Tornio	1.83	125	Pg	Pb	12 07 42.4	-0.4
TOF	Tornio	1.83	125	ePG	Pb	12 07 42.4	-0.4
TOF				MSG		12 08 04.0	
	comp=Z,1.7nm,0.2s						
TOF				eSN	Sg	12 08 07.5	+0.2
KIF	Kilpisjarvi	1.84	2	Pg	Pb	12 07 43.1	+0.2
KIF				Sg	Sg	12 08 07.9	+0.4
KIF	Kilpisjarvi	1.84	2	ePG	Pb	12 07 43.1	+0.2
KIF				MSG		12 08 05.0	
	comp=Z,2.2nm,0.2s						
KIF				eSG	Sg	12 08 07.9	+0.4
SGF	Sodankyl	2.29	81	Sg	Sg	12 08 20.9	-1.2
SGF	Sodankyl	2.29	81	eSG	Sg	12 08 20.9	-1.2
ARE0	ARCESS Array S	2.98	35	S	Sn	12 08 31.5	-1.7
ARE0	ARCESS Array S	2.98	35	eS	Sn	12 08 31.5	-1.7
UMAU	Umeaa	3.31	180	eSG	Sb	12 08 49.6	+1.0
VRF	Varrio	3.50	76	eSB	Sb	12 08 52.0	-2.1
VAF	Ylistaro	4.24	167	eS	Sn	12 09 03.1	-1.2

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*ISCJB **05** 12:07:54.2±0.4, 67°.13N±0°.03×20°.58E±0°.07, h0km, Error ellipse: s-maj=4.2km s-min=4.0km az=177.8*
*UPP **05** 12:07:55.7, 67°.16N×20°.60E, h0km, ML1.7, Suspected Mining explosion.*
*CSEM **05** 12:07:55.9±0.2, 67°.16N×20°.67E, h1km, ML1.7, Error ellipse: s-maj=4.8km s-min=4.2km az=75.0, Suspected Mining explosion.*

*IDC **05** 12:07:56.0±0.9, 67.°18N×20.°71E, h0km, mb1 3.1/4, mb1mx2.9/66, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=15.2km s-min=7.4km az=117.0*
*NAO **05** 12:07:56.0±0.9, 67.°15N×20.°79E, ML2.5*
*BER **05** 12:07:58.2±3.5, 67.°15N×20.°60E, h0km, ML2.1, ML2.5(NAO), Suspected explosion*
ISC 05 12:07:55.1±0.7**, 67.°15N**±0.°02×**20.°59E**±0.°02**, h0km, n43,** σ**1.s42**/57**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.63	60	P	Pg	12 08 07.5	+0.3
MASU				S	Sg	12 08 15.6	+0.3
MASU	Masugnsbyn	0.63	60	P	Pg	12 08 07.5	+0.3
MASU				S	Sg	12 08 15.6	+0.3
KUA	Kurravaara	0.81	353	P	Pg	12 08 10.8	+0.1
KUA	Kurravaara	0.81	353	P	Pg	12 08 10.8	+0.1
ERTU	Ertsjaerv	0.87	133	P	Pg	12 08 12.2	+0.4
ERTU	Ertsjaerv	0.87	133	P	Pg	12 08 12.2	+0.4
NIKU	Nikkaluokta	0.94	321	P	Pg	12 08 13.5	+0.5
NIKU	Nikkaluokta	0.94	321	P	Pg	12 08 13.5	+0.5
PAJU	Pajala	1.00	96	P	Pg	12 08 14.4	+0.2
PAJU	Pajala	1.00	96	P	Pg	12 08 14.3	+0.2
HARU	Harads	1.00	171	P	Pg	12 08 14.0	-0.3
HARU	Harads	1.00	171	P	Pg	12 08 14.0	-0.3
LANU	Lannavaara	1.05	30	P	Pg	12 08 14.9	-0.4
LANU	Lannavaara	1.05	30	P	Pg	12 08 14.8	-0.4
KALU	Kalix	1.71	138	P	Pb	12 08 27.2	-0.1
KALU	Kalix	1.71	138	P	Pb	12 08 27.2	-0.1
KIF	Kilpisjarvi	1.86	2	Pn	Pb	12 08 29.9	-0.1
KIF				Lg	Lg	12 08 56.0	
KIF	Kilpisjarvi	1.86	2	Pn	Pb	12 08 29.9	-0.1
KIF				Lg	Lg	12 08 56.0	
	SNR=122						
KIF	Kilpisjarvi	1.86	2	Pn	Pb	12 08 29.9	-0.1
KIF				Lg	Lg	12 08 56.0	
STEI	Steigen	2.20	293	eSg	Sg	12 09 06.9	+1.3
	SNR=90						
STEI	Steigen	2.20	293	eSg	Sg	12 09 06.9	+1.3
STEI				IAML		12 09 11.8	
	comp=Z,10nm,0.7s						
MOR8	Moi Rana	2.64	251	eSg	Sb	12 09 14.3	-1.8
MOR8				IAML		12 09 16.6	
	comp=Z,47nm,0.5s						
LOF	Lofoten	2.87	293	eSg	Sg	12 09 30.5	+3.4
	SNR=90						
LOF	Lofoten	2.87	293	eSg	Sg	12 09 30.5	+3.4
LOF				IAML		12 09 40.1	
	comp=Z,14nm,0.7s						
ARA0	ARCESS Array S	3.01	35	Pn	Pn	12 08 45.0	+0.9
	baz=216,slow=14						
ARA0				Sn	Sn	12 09 20.1	-0.7
	baz=219,slow=28						
ARA0				Lg	Lg	12 09 28.6	
	baz=218,slow=37						
ARA0	ARCESS Array S	3.01	35	Pn	Pn	12 08 45.0	+0.9
	SNR=50						
ARA0				Sn	Sn	12 09 20.1	-0.7
	SNR=50						
ARA0				Lg	Lg	12 09 28.5	
	SNR=5.6						
ARA0	ARCESS Array S	3.01	35	Pn	Pn	12 08 45.0	+0.9
	baz=216,slow=14						
ARA0				Sn	Sn	12 09 20.1	-0.7
	baz=219,slow=28						
ARA0				Lg	Lg	12 09 28.6	
	baz=218,slow=37						
ARCES	ARCESS Array B	3.01	35	Pn	Pn	12 08 44.4	+0.4
	comp=Z,1.0nm,0.3s,baz=215,slow=13,SNR=28						
ARCES				Sn	Sn	12 09 20.9	+0.2
	comp=Z,2.1nm,0.3s,baz=215,slow=18,SNR=7.8						
KONS	Konsvik	3.02	261	eP	Pn	12 08 46.6	+2.5
	SNR=50						
KONS	Konsvik	3.02	261	eP	Pn	12 08 46.6	+2.5
STOK	Stokkvaagen	3.11	258	eP	Pg	12 08 54.5	-0.2
FIA0	FINESS Array S	6.21	155	Pn	Pn	12 09 29.7	+1.9
	baz=347,slow=14						
FIA0				Sn	Sn	12 10 40.4	+1.0
	baz=344,slow=22						
FIA0				Lg	Lg	12 11 09.8	
	baz=349,slow=37						
FIA0	FINESS Array S	6.21	155	Pn	Pn	12 09 29.7	+1.9
	SNR=50						
FIA0				Sn	Sn	12 10 40.3	+1.0
	SNR=50						
FIA0				Lg	Lg	12 11 09.8	
FIA0	FINESS Array S	6.21	155	Pn	Pn	12 09 29.7	+1.9
	baz=347,slow=14						
FIA0				Sn	Sn	12 10 40.4	+1.0
	baz=344,slow=22						
FIA0				Lg	Lg	12 11 09.8	
	baz=349,slow=37						
FINES	FINESS Array B	6.21	155	Pn	Pn	12 09 29.6	+1.7
	comp=Z,0.2nm,0.3s,baz=349,slow=14,SNR=6.1						
FINES				Sn	Sn	12 10 40.1	+0.8
	comp=Z,0.6nm,0.3s,baz=344,slow=22,SNR=7.8						
FINES				Lg	Lg	12 11 10.6	
	comp=Z,1.3nm,0.3s,baz=344,slow=28,SNR=9.3						
NOA	NORSAR Array B	7.37	218	Pn	Pn	12 09 44.1	+0.2
	comp=Z,0.2nm,0.3s,baz=29,slow=2.8,SNR=3.1						
NOA				Sn	Sn	12 11 05.1	-3.0
	comp=Z,0.7nm,0.3s,baz=40,slow=16,SNR=8.9						
NRA0	NORESS Array S	7.56	216	Pn	Pn	12 09 47.0	+0.5
	baz=34,slow=22						
NRA0				Lg	Lg	12 11 50.8	
	baz=33,slow=28						
NRA0	NORESS Array S	7.56	216	Pn	Pn	12 09 47.0	+0.5
	SNR=50						
NRA0				Lg	Lg	12 11 50.8	
NRA0	NORESS Array S	7.56	216	Pn	Pn	12 09 47.0	+0.5
	baz=34,slow=22						
NRA0				Lg	Lg	12 11 50.8	
	baz=33,slow=28						
HFS	Hagfors	7.68	207	Pn	Pn	12 09 48.5	+0.5
	baz=16,slow=12						
HFS				Sn	Sn	12 11 11.6	-4.0
	baz=32,slow=18						
HFS				Lg	Lg	12 11 52.6	
	baz=29,slow=28						
HFS	Hagfors	7.68	207	Pn	Pn	12 09 48.0	0.0
	comp=Z,0.2nm,0.3s,baz=24,slow=12,SNR=8.0						
HFS				Sn	Sn	12 11 14.1	-1.5
	comp=Z,0.9nm,0.3s,baz=29,slow=18,SNR=12						
HFS				Lg	Lg	12 11 58.6	
	comp=Z,0.6nm,0.3s,baz=25,slow=26,SNR=3.9						
HFS	Hagfors	7.68	207	Pn	Pn	12 09 48.5	+0.5
	SNR=50						
HFS				Lg	Lg	12 11 52.7	
	SNR=50						
HFS	Hagfors	7.68	207	Pn	Pn	12 09 48.5	+0.5
	baz=16,slow=12						
HFS				Sn	Sn	12 11 11.6	-4.0
	baz=32,slow=18						
HFS				Lg	Lg	12 11 52.6	
	baz=29,slow=28						

MAN 05 12:08:09, 10.°92N×125.°23E, h107km, mb4.2, ML3.0, MS2.6, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	Palo	0.35	315⇓	eP	Pn	12 08 26.4	+1.7
PLP				eS	Sn	12 08 39.7	+3.3
OCLP	Ormoc	0.62	282	eP	Pn	12 08 29.1	+2.7
OCLP				eS	Sn	12 08 49.8	+10
BESP	Borongan	0.71	17	eP	Pn	12 08 29.4	+2.3
BESP				eS	Sn	12 08 44.1	+3.3
MSLP	Maasin	0.86	205	eP	Pn	12 08 30.0	+1.5
MSLP				eS	Sn	12 08 46.6	+3.4
CNP	Catarman	1.68	341	eP	Pn	12 08 40.0	+2.2
CNP				eS	Sn	12 09 04.3	+4.5
SNPH	Sibulan	2.51	232⇓	iP	Pn	12 08 58.0	+9.5
SNPH				iS	Sn	12 09 08.1	-11
GUIM	Jordan	2.61	264	eP	Pn	12 08 58.0	+8.3
GUIM				eS	Sn	12 09 09.3	-12

*ISCJB **05** 12:10:38.4±0.7, 59.°27N±0.°03×27.°48E±0.°08, h0km, Error ellipse: s-maj=5.9km s-min=3.8km az=13.7*
*BER **05** 12:10:39.7±2.9, 59.°25N×27.°65E, h0km, ML2.4(NAO), Suspected explosion*
*CSEM **05** 12:10:39.6±0.6, 59.°30N×27.°49E, h2km, ML1.9, Error ellipse: s-maj=12.6km s-min=7.3km az=110.0, Mining explosion.*
*NAO **05** 12:10:39.5±1.3, 59.°29N×27.°34E, ML2.4*
*IDC **05** 12:10:42.3±1.2, 59.°46N×27.°66E, h0km, mb1 3.3/5, mb1mx3.1/60, mbtmp3.3/5, ML2.4/3, Error ellipse: s-maj=15.1km s-min=9.0km az=82.0*
ISC 05 12:10:39.2±0.9**, 59.°32N**±0.°03×**27.°44E**±0.°05**, h0km, n45,** σ**1.s23**/63**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARBE	Arbavere	0.76	280	P	Pb	12 10 54.3	-0.9
ARBE				S	Sb	12 11 05.8	-0.2
ARBE	Arbavere	0.76	280	eP	Pb	12 10 54.4	-0.9
ARBE				eS	Sb	12 11 05.8	-0.2
VSU	Vasula	0.93	203	Pg	Pg	12 10 57.3	+0.3
VSU				Lg	Lg	12 11 08.8	
VSU	Vasula	0.93	203	Pg	Pg	12 10 57.3	+0.3
	SNR=90						
VSU				S	Sg	12 11 07.9	-1.1
VSU				Lg	Lg	12 11 08.8	
VSU	Vasula	0.93	203	Pg	Pg	12 10 57.3	+0.3
VSU				Lg	Lg	12 11 08.8	
VSU	Vasula	0.93	203	eP	Pg	12 10 57.2	+0.2
VSU				eS	Sg	12 11 08.0	-1.1
VJF	Virojoki	1.23	3	S	Sg	12 11 18.7	+0.1
VJF	Virojoki	1.23	3	eS	Sg	12 11 18.7	+0.1
PVF	Pernaja	1.47	328	Sb	Sn	12 11 27.7	+1.0
PVF	Pernaja	1.47	328	eSB	Sn	12 11 27.7	+1.0
PVF				MSG		12 11 31.4	
	comp=Z,8.8nm,0.1s						
MEF	Metsahovi	1.79	302	eP	Pb	12 11 12.7	0.0
	SNR=68						
MEF				Sg	Sg	12 11 37.3	+0.8
MEF	Metsahovi	1.79	302	eSG	Sg	12 11 37.4	+0.8
MEF				MSG		12 11 39.8	
	comp=Z,8.8nm,0.1s						
MTSE	Matsula	1.97	254	Pb	Pb	12 11 15.5	-0.3
MTSE	Matsula	1.97	254	eP	Pg	12 11 16.9	0.0
	SNR=68						
MTSE				Sg	Sg	12 11 42.7	+0.3
MTSE	Matsula	1.97	254	ePB	Pb	12 11 15.6	-0.3
MTSE				eSG	Sg	12 11 42.8	+0.3
FIA0	FINESS Array S	2.24	343	Pn	Pn	12 11 17.6	+0.1
	baz=160,slow=18						
FIA0				Sn	Sb	12 11 48.0	-0.7
	baz=162,slow=28						
FIA0				Lg	Lg	12 11 51.5	
	baz=165,slow=28						
FIA0	FINESS Array S	2.24	343	Pn	Pn	12 11 17.6	+0.1
	SNR=50						
FIA0	FINESS Array S	2.24	343	P	Pn	12 11 18.6	+1.1
FIA0				S	Sb	12 11 47.8	-0.9
FIA0				Sn	Sb	12 11 48.0	-0.7
	SNR=50						
FIA0				Sg	Sg	12 11 50.9	-0.2
FIA0				Lg	Lg	12 11 51.5	
FIA0	FINESS Array S	2.24	343	Pn	Pn	12 11 17.6	+0.1
	baz=160,slow=18						
FIA0				Sn	Sb	12 11 48.0	-0.7
	baz=162,slow=28						
FIA0				Lg	Lg	12 11 51.5	
	baz=165,slow=28						
FIA0	FINESS Array S	2.24	343	eP	Pn	12 11 18.7	+1.1
FIA0				ePB	Pb	12 11 20.4	-0.1
FIA0				eS	Sb	12 11 47.9	-0.9
FIA0				eSG	Sg	12 11 50.9	-0.2
FIA0				MSG		12 11 52.6	
	comp=Z,5.1nm,0.1s						
FIA1	FINESS Array S	2.24	343	ePB	Pb	12 11 20.4	-0.1
FIA1				eS	Sb	12 11 47.8	-1.0
FIA1				eSG	Sg	12 11 50.3	-0.8
FIA1				MSG		12 11 51.6	
	comp=Z,4.0nm,0.1s						
FINES	FINESS Array B	2.24	343	Pn	Pn	12 11 18.6	+1.1
	comp=Z,1.9nm,0.3s,baz=162,slow=15,SNR=24						
FINES				Sn	Sb	12 11 47.9	-0.7
	comp=Z,3.7nm,0.3s,baz=160,slow=23,SNR=14						
FINES				Lg	Lg	12 11 51.0	
	comp=Z,3.7nm,0.3s,baz=158,slow=27,SNR=12						
KAF	Kangasniemi	2.86	349	ePB	Pb	12 11 30.5	-0.6
KAF				eSG	Sg	12 12 08.8	-2.3
KEF	Keuruu	3.13	337	eSG	Sg	12 12 17.2	-2.3
SLIT	Slitere, Latvi	3.19	240	eSG	Sg	12 12 18.6	-3.0
RAF	Rauma	3.31	304	eP	Pn	12 11 35.4	+3.2
	SNR=46						
RAF				eS	Sn	12 12 15.1	+2.9
	comp=Z,6.1nm,0.4s,SNR=46						
SUF	Sumiainen	3.47	350	P	Pn	12 11 35.8	+1.4
SUF	Sumiainen	3.47	350	eP	Pn	12 11 35.8	+1.4
JOF	Joensuu	4.07	26	P	Pn	12 11 43.9	+1.2
JOF	Joensuu	4.07	26	eP	Pn	12 11 43.9	+1.2
HFS	Hagfors	7.00	283	Lg	Lg	12 14 19.0	
	baz=94,slow=37						
HFS	Hagfors	7.00	283	Pn	Pn	12 12 24.4	+1.6
	comp=Z,0.2nm,0.3s,baz=97,slow=11,SNR=2.9						
HFS				Sn	Sn	12 13 41.5	-1.5
	comp=Z,0.2nm,0.3s,baz=92,slow=28,SNR=2.5						
HFS				Lg	Lg	12 14 18.3	
	comp=Z,0.6nm,0.3s,baz=93,slow=30,SNR=4.7						
HFS	Hagfors	7.00	283	Lg	Lg	12 14 19.0	
	SNR=5.7						
HFS	Hagfors	7.00	283	Lg	Lg	12 14 19.0	
	baz=94,slow=37						
NRA0	NORESS Array S	8.09	287	Pn	Pn	12 12 36.1	-1.7
	baz=102,slow=14						
NRA0				Lg	Lg	12 14 54.2	
	baz=90,slow=37						
NRA0	NORESS Array S	8.09	287	Pn	Pn	12 12 36.1	-1.7
	SNR=50						
NRA0				Lg	Lg	12 14 54.2	
	SNR=7.4						
NRA0	NORESS Array S	8.09	287	Pn	Pn	12 12 36.1	-1.7
	baz=102,slow=14						
NRA0				Lg	Lg	12 14 54.2	
	baz=90,slow=37						
NB2	NORSAR Subarra	8.27	289	Pn	Pn	12 12 40.3	0.0
	baz=92,slow=14						
NB2				Lg	Lg	12 14 57.6	
	baz=98,slow=28						
NB2	NORSAR Subarra	8.27	289	Pn	Pn	12 12 40.3	0.0
	SNR=3.8						
NB2				Lg	Lg	12 14 57.6	
	SNR=2.8						
NB2	NORSAR Subarra	8.27	289	Pn	Pn	12 12 40.3	0.0
	baz=92,slow=14						
NB2				Lg	Lg	12 14 57.6	
	baz=98,slow=28						
NOA	NORSAR Array B	8.27	289	Pn	Pn	12 12 41.5	+1.2
	baz=103,slow=14,SNR=1.4						
AKASG	Malin Array Be	8.69	172	Pn	Pn	12 12 46.7	+0.6
	comp=Z,1.0nm,0.3s,baz=350,slow=13,SNR=5.1						
ARA0	ARCESS Array S	10.29	356	Pn	Pn	12 13 05.8	-2.1
	baz=168,slow=16						
ARA0	ARCESS Array S	10.29	356	Pn	Pn	12 13 05.8	-2.1
	baz=168,slow=16						
ARCES	ARCESS Array B	10.29	356	Pn	Pn	12 13 05.7	-2.2
	comp=Z,0.1nm,0.3s,baz=173,slow=15,SNR=4.4						

IDC 05 12:13:27.1±9.6**, 5.°84S×151.°52E, h93km**±67km**, mb2.7**/2**, mb1 2.9**/3**, mb1mx2.8**/44**, mbtmp3.1**/3**, ML1.3**/1**, Error ellipse: s-maj=124.9km s-min=61.4km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.58	230	P	Pn	12 14 47.4	-0.3
	0.6nm,0.3s,baz=49,slow=19,SNR=2.6						
PMG				S	Sn	12 15 50.6	0.0
	0.9nm,0.3s,baz=184,slow=14,SNR=3.0						
WRA	Warramunga Arr	21.80	228	P	P	12 18 13.1	+1.3
	0.3nm,0.4s,baz=53,slow=10.0,SNR=7.3						
ASAR	Alice Springs	24.52	222	P	P	12 18 38.0	-0.1
	0.2nm,0.7s,baz=58,slow=8.6,SNR=6.2						
TORD	Torodi Ar. Bea	149.39	286	PKPbc	PKPbc	12 33 05.4	-1.0
	0.4nm,0.8s,baz=84,slow=1.7,SNR=3.6						

WEL 05 12:23:36.9±1.1**, 32.°S**±12.°×**17.°8W**±3.°3**, h33km, ML5.3**/12**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.22	7	S	Sn	12 25 03.9	+1.6
RIZ	Raoul Island	3.23	6	P	Pn	12 24 24.0	-1.4
WMGZ	Waiomatatini S	5.96	206	P	Pn	12 25 03.2	+0.3
WMGZ	Waiomatatini S	5.96	206	S	Sn	12 26 12.0	+2.0
PKGZ	Pakihiroa	6.15	207	P	Pn	12 25 05.4	-0.1
PKGZ	Pakihiroa	6.15	207	S	Sn	12 26 14.8	0.0
HAZ	Te Kaha	6.16	210	P	Pn	12 25 06.8	+1.3
HAZ	Te Kaha	6.16	210	S	Sn	12 26 16.2	+1.4
PUZ	Puketiti	6.25	206	P	Pn	12 25 04.8	-2.0
PUZ	Puketiti	6.25	206	S	Sn	12 26 16.5	-0.5
RUGZ	Raukumara Rang	6.38	210	P	Pn	12 25 08.7	0.0
RUGZ	Raukumara Rang	6.38	210	S	Sn	12 26 22.2	+1.8
TWGZ	Tauwhareparae	6.44	207	P	Pn	12 25 09.5	0.0
TWGZ	Tauwhareparae	6.44	207	S	Sn	12 26 23.1	+1.2
TKGZ	Te Karaka	6.72	207	P	Pn	12 25 13.6	+0.4
MWZ	Matawai	6.76	209	P	Pn	12 25 12.9	-0.9
MWZ	Matawai	6.76	209	S	Sn	12 26 29.9	+0.3
URZ	Urewera	6.87	211	P	Pn	12 25 14.7	-0.6
URZ	Urewera	6.87	211	S	Sn	12 26 31.6	-0.7
RIGZ	Rimuhau	6.99	206	P	Pn	12 25 15.7	-1.3
MUGZ	Murupara	7.20	212	P	Pn	12 25 19.5	-0.3
RTZ	Ruatahuna	7.22	211	P	Pn	12 25 20.8	+0.6
RAHZ	Arahi	7.43	209	P	Pn	12 25 24.3	+1.3
MTHZ	Maungataniwha	7.48	210	P	Pn	12 25 26.0	+2.3
BKZ	Black Stump Fm	7.89	211	P	Pn	12 25 30.0	+0.7

*IDC **05** 12:28:38.8±1.0, 9.°75S×159.°03E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/42, mbtmp3.7/5, Error ellipse: s-maj=39.4km s-min=14.6km az=156.0*
*ISCJB **05** 12:28:40.2±0.8, 9.°8S±0.°2×159.°0E±0.°1, h19km, mb3.5/5, Error ellipse: s-maj=35.8km s-min=6.8km az=157.7*
ISC 05 12:28:41.6±1.0**, 9.°8S**±0.°3×**159.°1E**±0.°1**, h19km, n7,** σ**0.s62**/9**, mb3.5**/5**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	0.93	66	Pn	Pg	12 29 00.1	+0.4
	53nm,0.3s,baz=234,slow=5.5,SNR=70						
HNR				Sn	Sn	12 29 13.0	+0.6
	234nm,0.3s,baz=183,slow=19,SNR=29						
HNR				LR	LR	12 29 15.3	
	comp=Z,102nm,18.8s,baz=152,slow=38						
HNR	Honiara	0.93	66	iP	Pn	12 28 59.0	-0.6
HNR				iS	Sg	12 29 11.5	-0.5
WRA	Warramunga Arr	25.92	244	P	P	12 34 12.1	-0.8
	0.4nm,0.4s,baz=71,slow=9.8,SNR=7.2						
STKA	Stephens Creek	27.29	214	P	P	12 34 25.7	+0.6
	2.2nm,0.9s,baz=56,slow=15,SNR=3.0						
ASAR	Alice Springs	27.71	237	P	P	12 34 28.6	-0.4
	0.3nm,0.6s,baz=64,slow=8.4,SNR=3.9						
CMAR	Chiang Mai Arr	65.64	295	P	P	12 39 25.4	+0.3
	2.1nm,0.8s,baz=126,slow=5.1,SNR=11						
ILAR	Eielson Array	84.54	20	P	P	12 41 13.2	+0.1
	0.2nm,0.6s,baz=241,slow=5.0,SNR=4.7						

*WEL **05** 12:29:01.3, 36.°S±10.°×17.°9E±.°, h134km±12km*
*NEIC **05** 12:29:03.5±0.0, 36.°26S×178.°68E, h106km, ML4.5(WEL), After WEL.*
*IDC **05** 12:29:05.2±4.5, 37.°43S×179.°50E, h159km±26km, mb3.7/2, mb1 4.0/4, mb1mx3.6/36, mbtmp4.3/4, Error ellipse: s-maj=49.5km s-min=36.5km az=62.0*
ISC 05 12:29:00.2±2.1**, 36.°4S**±0.°1×**178.°9E**±0.°1**, h165km**±9km**, n202,** σ**1.s49**/202**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.23	202	Pn	Pn	12 29 27.6	-0.8
MXZ				Sn	Sn	12 29 46.5	-3.7
MXZ	Matakaoa Point	1.23	202	P	Pn	12 29 27.6	-0.8
MXZ	Matakaoa Point	1.23	202	S	Sn	12 29 46.5	-3.7
WMGZ	Waiomatatini S	1.45	195	Pn	Pn	12 29 31.8	+1.4
WMGZ	Waiomatatini S	1.45	195	P	Pn	12 29 31.8	+1.4
WMGZ	Waiomatatini S	1.45	195	S	Sn	12 29 53.2	-0.6
HAZ	Te Kaha	1.60	213	P	Pn	12 29 31.5	-0.4
HAZ	Te Kaha	1.60	213	S	Sn	12 29 56.4	-0.1
PUZ	Puketiti	1.73	197	Pn	Pn	12 29 34.5	+1.2
PUZ				Sn	Sn	12 29 58.3	-0.6
PUZ	Puketiti	1.73	197	P	Pn	12 29 34.5	+1.2
PUZ	Puketiti	1.73	197	S	Sn	12 29 57.8	-1.1
WIZ	White Island	1.75	230	P	Pn	12 29 33.0	-0.5
RUGZ	Raukumara Rang	1.82	212	P	Pn	12 29 34.9	+0.5
TWGZ	Tauwhareparae	1.90	202	Pn	Pn	12 29 36.7	+1.5
TWGZ	Tauwhareparae	1.90	202	P	Pn	12 29 36.8	+1.6
TWGZ	Tauwhareparae	1.90	202	S	Sn	12 30 03.5	+1.2
WHRZ	Whale Island	2.10	226	P	Pn	12 29 38.3	+0.9
CNGZ	Carnagh Statio	2.13	194	Pn	Pn	12 29 40.0	+2.3
CNGZ	Carnagh Statio	2.13	194	P	Pn	12 29 40.0	+2.3
TKGZ	Te Karaka	2.18	202	Pn	Pn	12 29 40.1	+1.8
TKGZ	Te Karaka	2.18	202	P	Pn	12 29 40.0	+1.8
MWZ	Matawai	2.20	209	Pn	Pn	12 29 40.1	+1.5
MWZ				Sn	Sn	12 30 09.5	+1.2
MWZ	Matawai	2.20	209	P	Pn	12 29 40.1	+1.5
URZ	Urewera	2.32	217	P	Pn	12 29 40.7	+0.9
	136nm,0.3s,baz=343,slow=2.4,SNR=314						
URZ				S	Sn	12 30 10.3	-0.4
	161nm,0.3s,baz=156,slow=18,SNR=16						
URZ	Urewera	2.32	217	Pn	Pn	12 29 40.8	+0.9
URZ				Sn	Sn	12 30 09.6	-1.1
URZ	Urewera	2.32	217	P	Pn	12 29 40.8	+0.9
URZ	Urewera	2.32	217	S	Sn	12 30 10.2	-0.5
OPRZ	Ohinepanea	2.34	232	Pn	Pn	12 29 40.6	+0.4
OPRZ	Ohinepanea	2.34	232	P	Pn	12 29 40.7	+0.4
MARZ	Manawahe	2.36	228	Pn	Pn	12 29 41.2	+0.8
MARZ	Manawahe	2.36	228	P	Pn	12 29 41.3	+0.9
RAGZ	Rawiri	2.38	209	Pn	Pn	12 29 42.5	+1.8
RAGZ	Rawiri	2.38	209	P	Pn	12 29 42.7	+2.0
EDRZ	Edgecumbe	2.40	225	Pn	Pn	12 29 42.1	+1.1
EDRZ	Edgecumbe	2.40	225	P	Pn	12 29 42.2	+1.2
RIGZ	Rimuhau	2.45	201	P	Pn	12 29 43.1	+1.6
TGRZ	Tauranga	2.47	237	Pn	Pn	12 29 42.4	+0.7
TGRZ	Tauranga	2.47	237	P	Pn	12 29 42.4	+0.7
LIRZ	Lichensteins R	2.55	231	P	Pn	12 29 44.8	+2.2
KUZ	Kuaotunu	2.57	262	Pn	Pn	12 29 41.5	-1.3
KUZ	Kuaotunu	2.57	262	P	Pn	12 29 41.9	-1.0
MKRZ	Makatiti	2.58	228	Pn	Pn	12 29 45.3	+2.2
MKRZ	Makatiti	2.58	228	P	Pn	12 29 45.8	+2.7
OMRZ	Omania	2.62	229	P	Pn	12 29 45.1	+1.6
PRGZ	Paritu Road	2.62	197	Pn	Pn	12 29 45.2	+1.6
PRGZ	Paritu Road	2.62	197	P	Pn	12 29 45.2	+1.6
TARZ	Mount Tarawera	2.62	226	Pn	Pn	12 29 45.5	+1.9
TARZ	Mount Tarawera	2.62	226	P	Pn	12 29 45.6	+1.9
KARZ	Kaharoa	2.65	232	Pn	Pn	12 29 44.9	+1.0
KARZ	Kaharoa	2.65	232	P	Pn	12 29 45.0	+1.2
MUGZ	Murupara	2.66	219	P	Pn	12 29 45.1	+1.2
RTZ	Ruatahuna	2.67	214	P	Pn	12 29 45.2	+1.1
RRRZ	Republican Roa	2.69	224	Pn	Pn	12 29 45.8	+1.4
RRRZ	Republican Roa	2.69	224	P	Pn	12 29 45.8	+1.4
RRRZ	Republican Roa	2.69	224	P	Pn	12 29 45.9	+1.5
HLRZ	Highlands Stat	2.72	227	P	Pn	12 29 46.4	+1.6
NGRZ	Ngongotaha	2.73	231	P	Pn	12 29 46.7	+1.8
KMRZ	Kaimai	2.75	238	P	Pn	12 29 46.2	+1.1
GRZ	Great Barrier	2.77	272	P	Pn	12 29 44.1	-1.3
KNZ	Kokohu	2.77	200	Pn	Pn	12 29 46.6	+1.3
KNZ	Kokohu	2.77	200	P	Pn	12 29 46.6	+1.3
HSRZ	Hossack Road	2.83	227	P	Pn	12 29 48.8	+2.8
MHGZ	Mahia Peninsul	2.84	196	Pn	Pn	12 29 48.1	+1.9
MHGZ	Mahia Peninsul	2.84	196	P	Pn	12 29 48.0	+1.9
HRRZ	Handcock Road	2.86	226	P	Pn	12 29 48.5	+2.0
PRRZ	Plateau Road	2.87	223	Pn	Pn	12 29 48.0	+1.4
PRRZ	Plateau Road	2.87	223	P	Pn	12 29 47.8	+1.3
RAHZ	Arahi	2.87	209	P	Pn	12 29 48.6	+1.9
MTHZ	Maungataniwha	2.92	213	P	Pn	12 29 48.9	+1.7
GRRZ	Galatos Road	2.93	228	P	Pn	12 29 49.4	+2.1
ALRZ	Allen Road	2.94	223	Pn	Pn	12 29 48.9	+1.4
ALRZ	Allen Road	2.94	223	P	Pn	12 29 49.2	+1.7
WHHZ	Waihua	2.96	206	P	Pn	12 29 49.6	+1.9
TOZ	Tahuroa Road	3.01	243	Pn	Pn	12 29 48.9	+0.7
TOZ	Tahuroa Road	3.01	243	P	Pn	12 29 49.1	+0.9
WPRZ	Whakapapatarin	3.02	225	P	Pn	12 29 50.2	+1.9
WIAZ	Waiheke Island	3.04	262	P	Pn	12 29 48.6	-0.1
MKAZ	Moumakai	3.07	256	Pn	Pn	12 29 49.0	0.0
MKAZ	Moumakai	3.07	256	P	Pn	12 29 49.3	+0.4
MRHZ	Matea Rd	3.11	218	P	Pn	12 29 50.8	+1.2
KUTZ	Kaahu Road	3.19	229	Pn	Pn	12 29 52.4	+1.8
KUTZ	Kaahu Road	3.19	229	P	Pn	12 29 52.8	+2.1
ARHZ	Aropaoanui	3.21	207	Pn	Pn	12 29 52.4	+1.6
ARHZ	Aropaoanui	3.21	207	P	Pn	12 29 52.4	+1.6
ETAZ	East Tamaki Re	3.23	259	Pn	Pn	12 29 51.5	+0.6
ETAZ	East Tamaki Re	3.23	259	P	Pn	12 29 51.5	+0.6
ABAZ	Army Bay	3.27	266	P	Pn	12 29 51.7	+0.2
TLZ	Tolley Road	3.28	233	Pn	Pn	12 29 53.3	+1.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLZ	Tolley Road	3.28	233	P	Pn	12 29 53.3	+1.6
KBAZ	Karaka Road Bo	3.28	257	P	Pn	12 29 52.8	+1.2
BKZ	Black Stump Fm	3.33	214	Pn	Pn	12 29 53.3	+0.9
BKZ	Black Stump Fm	3.33	214	P	Pn	12 29 53.5	+1.1
EPAZ	Eden Park BICE	3.36	261	P	Pn	12 29 53.7	+1.1
HBAZ	Herne Bay Bore	3.37	261	P	Pn	12 29 53.7	+0.9
WATZ	Wairara	3.39	227	P	Pn	12 29 55.0	+1.9
AWAZ	Awhitu Peninsu	3.47	258	P	Pn	12 29 55.1	+1.0
RATZ	Rangitukua	3.48	224	Pn	Pn	12 29 55.9	+1.7
RATZ	Rangitukua	3.48	224	P	Pn	12 29 56.2	+2.0
MCHZ	McNeill Hill	3.48	209	Pn	Pn	12 29 55.6	+1.5
MCHZ	McNeill Hill	3.48	209	P	Pn	12 29 55.8	+1.6
RVAZ	Riverhead Bore	3.48	263	Pn	Pn	12 29 55.0	+0.8
RVAZ	Riverhead Bore	3.48	263	P	Pn	12 29 55.0	+0.8
WTAZ	Waiatarua	3.50	260	P	Pn	12 29 55.5	+1.1
WTAZ	Waiatarua	3.50	260	P	Pn	12 29 55.6	+1.1
RITZ	Rihia Road	3.50	222	P	Pn	12 29 56.4	+1.9
CKHZ	Cape Kidnapper	3.54	203	Pn	Pn	12 29 56.2	+1.4
CKHZ	Cape Kidnapper	3.54	203	P	Pn	12 29 56.3	+1.4
KWHZ	Kaweka Forest	3.58	212	P	Pn	12 29 56.4	+0.9
KATZ	Kakaramea	3.59	224	Pn	Pn	12 29 57.6	+1.9
KATZ	Kakaramea	3.59	224	P	Pn	12 29 58.0	+2.2
WCZ	Waipu Caves	3.70	276	P	Pn	12 29 56.9	-0.2
KRVZ	Karewarewa	3.71	223	Pn	Pn	12 29 58.7	+1.5
KRVZ	Karewarewa	3.71	223	P	Pn	12 29 58.9	+1.7
KAHZ	Kahuranaki	3.72	205	Pn	Pn	12 29 58.5	+1.1
KAHZ	Kahuranaki	3.72	205	P	Pn	12 29 58.6	+1.3
OTVZ	Oturere	3.74	222	Pn	Pn	12 29 58.8	+1.1
WTVZ	West Tongariro	3.75	223	Pn	Pn	12 29 59.1	+1.4
WTVZ	West Tongariro	3.75	223	P	Pn	12 29 59.3	+1.5
KRHZ	Kereru	3.78	211	P	Pn	12 29 58.6	+0.5
NGZ	Ngauruhoe	3.79	222	Pn	Pn	12 29 59.7	+1.5
NGZ	Ngauruhoe	3.79	222	P	Pn	12 29 59.8	+1.5
BHHZ	Black Hill Sta	3.79	215	Pn	Pn	12 29 58.8	+0.6
BHHZ	Black Hill Sta	3.79	215	P	Pn	12 29 59.3	+1.1
TWVZ	Taurewa	3.80	225	P	Pn	12 30 00.1	+1.7
TUVZ	Tukino	3.83	221	Pn	Pn	12 29 59.7	+1.0
TUVZ	Tukino	3.83	221	P	Pn	12 30 00.1	+1.4
HIZ	Hauiti	3.83	236	Pn	Pn	12 30 01.0	+2.4
HIZ	Hauiti	3.83	236	P	Pn	12 30 01.2	+2.6
COVZ	Chateau Observ	3.84	223	P	Pn	12 30 00.6	+1.7
FWVZ	Far West T-bar	3.87	222	Pn	Pn	12 30 00.5	+1.1
FWVZ	Far West T-bar	3.87	222	P	Pn	12 30 00.6	+1.3
WHVZ	Whangaehu Hut	3.87	221	Pn	Pn	12 30 00.5	+1.1
WHVZ	Whangaehu Hut	3.87	221	P	Pn	12 30 00.5	+1.1
MOVZ	Moawhango	3.88	219	Pn	Pn	12 29 59.7	+0.4
MOVZ	Moawhango	3.88	219	P	Pn	12 29 59.7	+0.4
DRZ	Dome Shelter	3.88	222	P	Pn	12 30 01.5	+2.0
WNVZ	Wahianoa	3.90	221	Pn	Pn	12 30 00.4	+0.8
PXZ	Pawanui	3.94	203	Pn	Pn	12 30 00.5	+0.4
PXZ	Pawanui	3.94	203	P	Pn	12 30 00.5	+0.4
PKVZ	Pokaka	4.01	223	P	Pn	12 30 04.6	+3.6
PNHZ	Pukenui	4.08	210	Pn	Pn	12 30 01.9	0.0
PNHZ	Pukenui	4.08	210	P	Pn	12 30 02.0	+0.1
WPHZ	Waipukurau	4.12	207	Pn	Pn	12 30 02.7	+0.4
WPHZ	Waipukurau	4.12	207	P	Pn	12 30 02.7	+0.4
PRHZ	Porangahau	4.23	204	Pn	Pn	12 30 04.1	+0.3
PRHZ	Porangahau	4.23	204	P	Pn	12 30 04.4	+0.6
VRZ	Vera Road	4.24	229	Pn	Pn	12 30 05.8	+1.9
VRZ	Vera Road	4.24	229	P	Pn	12 30 05.9	+2.0
TSZ	Takapari Road	4.30	211	Pn	Pn	12 30 04.4	-0.3
TSZ	Takapari Road	4.30	211	P	Pn	12 30 04.5	-0.2
DVHZ	Dannevirke	4.42	208	Pn	Pn	12 30 05.8	-0.5
ANWZ	Angora Road	4.46	204	P	Pn	12 30 07.1	+0.4
OUZ	Omahuta	4.46	284	P	Pn	12 30 06.4	-0.4
WAZ	Wanganui	4.53	222	Pn	Pn	12 30 09.1	+1.4
WAZ	Wanganui	4.53	222	P	Pn	12 30 09.4	+1.7
DREZ	Durham Road	4.63	232	P	Pn	12 30 11.7	+2.7
POWZ	Post Office Ro	4.66	211	Pn	Pn	12 30 09.4	0.0
POWZ	Post Office Ro	4.66	211	P	Pn	12 30 09.8	+0.4
PRWZ	Pori Road	4.72	208	Pn	Pn	12 30 10.6	+0.4
PRWZ	Pori Road	4.72	208	P	Pn	12 30 10.3	+0.1
BFZ	Birch Farm	4.73	205	Pn	Pn	12 30 10.1	-0.2
BFZ	Birch Farm	4.73	205	P	Pn	12 30 09.9	-0.4
NEZ	North Egmont	4.74	232	Pn	Pn	12 30 14.5	+4.0
PREZ	Palmer Road	4.74	231	Pn	Pn	12 30 13.8	+3.3
PREZ	Palmer Road	4.74	231	P	Pn	12 30 14.2	+3.7
PKE	Pukeiti	4.77	233	P	Pn	12 30 14.4	+3.6
TIWZ	Tintock	4.94	207	Pn	Pn	12 30 12.8	-0.3
TIWZ	Tintock	4.94	207	P	Pn	12 30 12.9	-0.2
CPWZ	Castlepoint	4.95	204	Pn	Pn	12 30 13.7	+0.5
CPWZ	Castlepoint	4.95	204	P	Pn	12 30 13.8	+0.6
NMEZ	Namu Road	4.96	231	P	Pn	12 30 19.2	+6.0
HOWZ	Holdsworth Sta	5.19	209	Pn	Pn	12 30 15.2	-1.1
TMWZ	Te Maipa	5.23	206	Pn	Pn	12 30 16.3	-0.7
TMWZ	Te Maipa	5.23	206	P	Pn	12 30 16.2	-0.7
OGWZ	Otaki Gorge	5.27	212	Pn	Pn	12 30 16.4	-0.9
KIW	Kapiti Island	5.42	214	Pn	Pn	12 30 18.5	-0.8
CAW	Cannon Point	5.55	211	Pn	Pn	12 30 19.8	-1.3
TRWZ	Traveller	5.56	206	Pn	Pn	12 30 20.6	-0.6
PAWZ	Paruwai Farm	5.64	207	Pn	Pn	12 30 21.1	-1.2
MSWZ	Moikau Station	5.74	208	Pn	Pn	12 30 22.3	-1.2
WEL	Wellington	5.82	212	Pn	Pn	12 30 23.5	-1.1
DUWZ	D'Urville Isla	5.85	220	Pn	Pn	12 30 24.1	-1.0
PLWZ	Palliser	5.87	208	Pn	Pn	12 30 24.0	-1.3
BHW	Baring Head	5.88	211	Pn	Pn	12 30 24.2	-1.2
TCW	Tory Channel	5.99	216	Pn	Pn	12 30 25.4	-1.4
TUWZ	Tuamarina	6.31	216	Pn	Pn	12 30 29.3	-1.8
BSWZ	Blackbirch Sta	6.57	215	Pn	Pn	12 30 33.6	-0.9
QRZ	Quartz Range	6.64	227	Pn	Pn	12 30 34.5	-1.0
THZ	Tophouse	7.08	219	Pn	Pn	12 30 39.5	-1.8
KHZ	Kahutara	7.28	213	Pn	Pn	12 30 42.4	-1.5
DSZ	Denniston Nort	7.65	224	Pn	Pn	12 30 47.3	-1.6
CTZ	Chatham Island	8.08	156	Pn	Pn	12 31 00.1	+5.6
CTZ	Chatham Island	8.08	156	P	Pn	12 30 59.9	+5.4
LTZ	Lake Taylor	8.15	217	Pn	Pn	12 30 53.7	-1.8
OXZ	Oxford	8.67	215	Pn	Pn	12 31 00.8	-1.6
MQZ	McQueen's Vall	8.70	211	Pn	Pn	12 31 00.8	-1.9
RPZ	Rata Peaks	9.44	217	P	Pn	12 31 11.2	-1.2
	2.8nm,0.3s,baz=34,slow=7.5,SNR=8.6						
RPZ				S	Sn	12 32 50.4	-6.9
	2.1nm,0.3s,baz=36,slow=17,SNR=6.1						
FOZ	Fox Glacier	9.94	222	Pn	Pn	12 31 19.0	-0.1
ODZ	Otahua Downs	10.64	213	Pn	Pn	12 31 27.6	-0.6
ASAR	Alice Springs	40.62	275	P	P	12 36 34.6	+11
	3.6nm,0.7s,baz=118,slow=8.2,SNR=5.8						
WRA	Warramunga Arr	42.16	281	P	P	12 36 47.0	+10
	1.6nm,0.6s,baz=124,slow=7.4,SNR=2.5						
TORD	Torodi Ar. Bea	156.69	187	PKPab	PKPab	12 49 07.8	+1.9
	0.4nm,0.6s,baz=177,slow=3.3,SNR=4.8						

*IDC **05** 12:31:06.0±0.9, 4°.60S×139°.56E, h0km, mb4.2/4, mb1 4.3/6, mb1mx3.9/42, mbtmp4.2/6, ML1.6/1, Error ellipse: s-maj=43.9km s-min=25.0km az=64.0*

*ISCJB **05** 12:31:08.6±0.4, 4°.95S±0°.04×139°.58E±0°.06, h38km, mb4.3/8, Error ellipse: s-maj=8.5km s-min=5.1km az=15.4*

*DJA **05** 12:31:09.3±1.0, 4°S±4°×14°0E±°, h237km±10km, M5.0/5, mB5.2/1, mb4.9/2, MLv5.0/5, Mw(mB)4.6/1*

*NEIC **05** 12:31:09.9±3.4, 4°.82S×139°.39E, h28km±25km, mb4.5/5, Error ellipse: s-maj=13.6km s-min=11.0km az=63.0*

ISC 05 12:31:10.4±0.6**, 4°.94S**±0°.06×**139°.58E**±0°.07**, h38**km**, n34, σ2s.11**/37**, mb4.3**/8**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	2.40	14	P	Pn	12 31 46.2	-1.1
GENI				S	Sn	12 32 16.9	+1.4
JAY	Jayapura	2.66	25	P	Pn	12 31 48.2	-2.6
JAY				S	Sn	12 32 20.5	-1.3
KMPI	Kaimana, Papua	5.99	282	P	Pn	12 32 41.5	+4.9
KMPI				S	Sn	12 33 55.8	+12
RKPI	Ransiki, Papua	6.38	302	P	Pn	12 32 42.7	+0.8
RKPI				S	Sn	12 33 57.0	+3.5
FAKI	Fak Fak	7.58	285	ePn	Pn	12 32 55.6	-2.9
PMG	Port Moresby	8.73	121	Pn	Pn	12 33 16.1	+1.9
	0.4nm,0.3s,baz=288,slow=19,SNR=2.3						
COEN	Coen	9.64	159	ePn	Pn	12 33 31.8	+5.2
MTN	Manton Dam	11.46	226	ePn	Pn	12 33 51.4	-0.2
WRAB	Tennant Creek	15.75	198	ePn	Pn	12 34 49.9	+0.3
	37nm,0.6s						
WB2	Warramunga Arr	15.76	198	ePn	Pn	12 34 46.8	-2.9
WR1	Warramunga Arr	15.76	198	ePn	Pn	12 34 48.3	-1.5
WR1				eSn	Sn	12 37 38.1	-5.3
WRA	Warramunga Arr	15.76	198	Pn	Pn	12 34 48.3	-1.5
	1.4nm,0.3s,baz=20,slow=13,SNR=32						
WRA				Sn	Sn	12 37 38.2	-5.3
	0.7nm,0.3s,baz=19,slow=22,SNR=4.4						
SOEI	Soe	15.92	252	ePn	Pn	12 34 51.1	-0.8
	34nm,0.8s						
AS01	Alice Springs	19.39	196	eP	Pn	12 35 35.2	+0.6
AS31	Alice Springs	19.40	196	eP	Pn	12 35 36.6	+1.8
	7.4nm,0.5s						
AS31				eS	Sn	12 39 14.7	+3.1
ASAR	Alice Springs	19.41	196	P	Pn	12 35 36.8	+2.0
	2.8nm,0.3s,baz=25,slow=8.8,SNR=133						
ASAR				S	Sn	12 39 14.7	+3.0
	0.5nm,0.3s,baz=17,slow=22,SNR=16						
HNR	Honiara	20.69	104	eP	Pn	12 35 56.2	+6.2
	103nm,0.5s						
ANA2	Anatahan	22.00	16	eP	P	12 36 03.1	+1.6
SBUM	Sibu	28.30	284	eP	P	12 36 55.0	-5.7
	12nm,1.1s						
YULB	Yu-li	33.34	328	eP	P	12 37 43.4	-1.6
	36nm,1.0s						
MK32	Makanchi Array	72.07	323	eP	P	12 42 30.8	-0.1
MKAR	Makanchi Array	72.07	323	P	P	12 42 30.8	-0.1
	1.1nm,0.6s,baz=114,slow=7.8,SNR=6.9						
MAKZ	Makanchi	72.27	322	eP	P	12 42 32.3	+0.3
	2.9nm,0.8s						
ZALV	Zalesovo Beam	74.29	330	P	P	12 42 42.8	-0.9
	0.5nm,0.3s,baz=134,slow=6.2,SNR=3.3						
ZAA1	Zalesovo Array	74.29	330	eP	P	12 42 42.8	-0.9
BVAR	Borovoye Array	81.63	325	P	P	12 43 25.0	+0.5
	2.3nm,0.6s,baz=111,slow=6.9,SNR=10						
BRVK	Borovoye	81.70	325	eP	P	12 43 25.2	+0.4
	3.7nm,0.6s						
ILAR	Eielson Array	87.49	24	P	P	12 43 53.2	-0.7
	1.0nm,0.7s,baz=261,slow=4.6,SNR=12						
ILB	Eielson Array	87.49	24	eP	P	12 43 53.2	-0.7
TORD	Torodi Ar. Bea	137.67	284	PKP	PKPdf	12 50 31.5	-0.1
	1μm,0.3s,baz=93,slow=2.4,SNR=1.9						
TOA1	Torodi Ar. Sit	137.67	284	ePKPdf	PKPdf	12 50 31.5	-0.1
CPUP	Villa Florida	144.86	153	PKPbc	PKPdf	12 50 45.0	+0.7
	0.9nm,0.4s,baz=284,slow=4.2,SNR=3.1						
LPAZ	La Paz	145.41	128	PKPbc	PKPab	12 50 48.7	+2.4
	5.2nm,0.7s,baz=228,slow=1.4,SNR=18						
LPAZ	La Paz	145.41	128	ePKPdf	PKPab	12 50 48.5	+2.2

*ISCJB **05** 12:32:48.2±0.7, 6°.2N±0°.2×124°.1E±0°.4, h500km, mb3.7/11, Error ellipse: s-maj=52.3km s-min=12.1km az=153.4*

*IDC **05** 12:32:52.5±2.4, 6°.08N×123°.95E, h537km±28km, mb3.2/11, mb1 3.4/11, mb1mx3.0/56, mbtmp4.2/11, Error ellipse: s-maj=47.6km s-min=12.7km az=62.0*

ISC 05 12:32:49.5±0.8**, 6°.1N**±0°.2×**124°.0E**±0°.4**, h500**km**, n12, σ1s.53**/16**, mb3.8**/11**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	27.30	299	P	P	12 37 54.5	+1.0
	1.8nm,0.7s,baz=114,slow=7.1,SNR=12						
WRA	Warramunga Arr	27.85	159	P	P	12 37 57.4	-0.9
	3.5nm,0.5s,baz=343,slow=8.8,SNR=4.4						
ASAR	Alice Springs	31.17	162	P	P	12 38 27.7	+0.6
	1.9nm,0.5s,baz=341,slow=7.3,SNR=5.3						
STKA	Stephens Creek	41.37	157	P	P	12 39 52.4	+1.0
	1.2nm,0.4s,baz=345,slow=11,SNR=2.9						
SONM	Songino Array	44.18	343	P	P	12 40 14.2	+0.8
	1.7nm,0.8s,baz=156,slow=7.1,SNR=11						
SONM				PcP	pP	12 41 47.6	+1.6
	0.3nm,0.4s,baz=147,slow=5.7,SNR=4.0						
MKAR	Makanchi Array	54.03	326	P	P	12 41 27.1	+0.8
	2.7nm,0.5s,baz=120,slow=8.6,SNR=28						
MKAR				PcP	PcP	12 42 23.2	-0.4
	0.7nm,0.4s,baz=125,slow=3.8,SNR=9.6						
MKAR				pP	pP	12 43 05.4	+1.1
	0.6nm,0.5s,baz=116,slow=8.7,SNR=3.8						
MKAR				ScP	ScP	12 45 29.6	-4.1
	0.5nm,0.7s,baz=129,slow=3.3,SNR=3.6						
ZALV	Zalesovo Beam	57.22	334	P	P	12 41 47.3	-1.0
	0.6nm,0.3s,baz=116,slow=6.8,SNR=3.6						
BVAR	Borovoye Array	63.82	327	P	P	12 42 31.6	-0.5
	1.1nm,0.7s,baz=111,slow=8.0,SNR=6.3						
AKTO	Aktyubinsk	70.08	322	P	P	12 43 10.2	-0.6
	0.9nm,0.4s,baz=113,slow=12,SNR=4.2						
ARCES	ARCESS Array B	87.25	340	P	P	12 44 42.2	+0.1
	5.7nm,1.1s,baz=87,slow=7.3,SNR=2.8						
FINES	FINESS Array B	88.42	332	P	P	12 44 46.4	-1.3
	0.9nm,0.5s,baz=51,slow=11,SNR=3.7						
TORD	Torodi Ar. Bea	119.56	289	PKP	PKPdf	12 50 41.6	-1.5
	0.4nm,0.6s,baz=62,slow=2.0,SNR=5.4						

*NIED **05** 12:33:00, 23°.90N×125°.80E, h17km, Mw3.7 Best double couple: $M_0$3.74000×10^14 NP1:ϕ_s271.00000°, δ34.00000°, λ129.00000°. NP2:ϕ_s47.00000°, δ64.00000°, λ67.00000°.*

JMA 05 12:33:37.6±0.2**, 23°.88N**×**125°.77E, h26**km**, M3.8, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	0.94	339	P	Pn	12 33 54.7	-0.4
JOGS				eS	Sb	12 34 07.2	-0.1
JMJ	Miyako jima 2	1.03	335	P	Pn	12 33 56.3	0.0
JMJ				eS	Sb	12 34 09.6	-0.2
JIRB	Irabujima	1.09	330	P	Pn	12 33 56.9	-0.3
JIRB				eS	Sn	12 34 11.3	-0.1
JIKM	Ikemajima	1.14	335	P	Pn	12 33 58.0	+0.1
JTJ	Tarama	1.23	308	P	Pn	12 33 59.0	-0.2
JTJ				eS	Sn	12 34 15.0	0.0
JISG	Ishigakijimahi	1.51	298	P	Pn	12 34 03.5	+0.6
JISG				S	Sb	12 34 23.2	-0.4
JIJ	Ishigaki jima	1.56	288	P	Pn	12 34 04.4	+0.7
JIJ				eS	Sn	12 34 22.6	-0.5
JKRS	Kuro-shima	1.65	283	P	Pb	12 34 06.3	-1.0
JKRS				S	Sb	12 34 26.5	-1.2
HATJ	Hateruma jima	1.81	276	P	Pn	12 34 08.0	+1.0
HATJ				eS	Sn	12 34 29.5	+0.4
IRIF	Iriomote-Funau	1.92	284	P	Pn	12 34 10.0	+1.4
JKE	Kume jima 2	2.60	21	P	Pn	12 34 18.3	+0.3
JYNG	Yonagunijimaku	2.64	283	P	Pn	12 34 19.8	+1.3
JYNG				eS	Sn	12 34 50.8	+1.1

MEX 05 12:39:49.6±0.6**, 16°.04N**×**95°.64W, h11**km±9km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.52	239	eP	Pg	12 39 58.4	-1.4
HUIG				i S	Sg	12 40 05.6	-1.1
PANG	Puerto Angel	0.88	245	eP	Pg	12 40 04.3	-2.3
PANG				i S	Sg	12 40 15.7	-2.5
VHO	Vista Hermosa	1.47	315	i P	Pn	12 40 12.6	-3.6
VHO				eS	Sn	12 40 30.3	-5.2
PCIG		2.35	98	i P	Pn	12 40 25.3	-2.9
PCIG				i S	Sn	12 40 52.9	-4.2
PNIG	Pinotepa	2.41	279	eP	Pn	12 40 26.0	-3.1
PNIG				i S	Sn	12 40 54.2	-4.5
TPIG	Tehuac#an	2.88	326	i P	Pn	12 40 33.0	-2.7
TPIG				i S	Sn	12 41 05.8	-4.6

*NAO **05** 12:39:49.7±0.9, 67°.18N×20°.80E, ML2.6*

*IDC **05** 12:39:49.8±0.9, 67°.19N×20°.77E, h0km, mb1 3.0/4, mb1mx2.8/62, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=15.2km s-min=7.3km az=117.0*

*HEL **05** 12:39:49.7±0.2, 67°.22N×20°.65E, h0km, ML2.0, ML2.2(UPP), Explosion*

*UPP **05** 12:39:49.9, 67°.10N×20°.75E, h0km, ML2.2, Suspected Mining explosion.*

*ISCJB **05** 12:39:49.1±0.3, 67°.12N±0°.02×20°.78E±0°.06, h0km, Error ellipse: s-maj=3.5km s-min=2.9km az=15.4*

*CSEM **05** 12:39:50.2±0.2, 67°.13N×20°.83E, h2km, ML2.2, Error ellipse: s-maj=5.0km s-min=4.2km az=113.0, Mining explosion.*

*BER **05** 12:39:53.1±4.0, 67°.17N×20°.68E, h1km±15km, ML1.9, ML2.6(NAO)*

ISC 05 12:39:49.8±0.7**, 67°.11N**±0°.03×**20°.76E**±0°.02**, h0**km**, n74, σ1s.26**/121**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	276	P	Pg	12 39 51.6	+0.4
DUNU				S	Sg	12 39 52.9	+0.8
DUNU	Dundret	0.07	276	P	Pg	12 39 51.6	+0.4
DUNU				S	Sg	12 39 52.9	+0.8
DUNU	Dundret	0.07	276	i P	Pg	12 39 51.6	+0.4
DUNU				i S	Sg	12 39 52.9	+0.8
ERTU	Ertsjaerv	0.80	134	P	Pg	12 40 04.8	-0.3
ERTU				S	Sg	12 40 16.9	+1.5
ERTU	Ertsjaerv	0.80	134	P	Pg	12 40 04.8	-0.3
ERTU				S	Sg	12 40 16.9	+1.5
ERTU	Ertsjaerv	0.80	134	eP	Pg	12 40 04.5	-0.6
ERTU				eS	Sg	12 40 17.0	+1.6
PAJU	Pajala	0.93	94	P	Pg	12 40 07.0	-0.5
PAJU				S	Sb	12 40 21.2	-0.4
PAJU	Pajala	0.93	94	P	Pg	12 40 07.0	-0.5
PAJU				S	Sb	12 40 21.2	-0.4
PAJU	Pajala	0.93	94	eP	Pg	12 40 07.0	-0.5
PAJU				eS	Sb	12 40 21.2	-0.4
HARU	Harads	0.96	175	P	Pg	12 40 07.3	-0.8
HARU				S	Sg	12 40 19.9	-0.6
HARU	Harads	0.96	175	P	Pg	12 40 07.3	-0.8
HARU				S	Sg	12 40 19.9	-0.6
HARU	Harads	0.96	175	eP	Pg	12 40 07.3	-0.8
HARU				eS	Sg	12 40 19.9	-0.6
LANU	Lannavaara	1.05	26	eP	Pg	12 40 04.7	-5.2
KALU	Kalix	1.64	139	P	Pn	12 40 20.2	+0.4
KALU				Sn	Sg	12 40 43.8	+1.6
KALU	Kalix	1.64	139	P	Pn	12 40 20.2	+0.4
KALU				S	Sg	12 40 43.8	+1.6
KALU	Kalix	1.64	139	eP	Pn	12 40 20.2	+0.4
KALU				eSN	Sg	12 40 43.8	+1.6
SJUU	Sjulsmark	1.65	168	P	Pn	12 40 19.6	-0.4
SJUU	Sjulsmark	1.65	168	P	Pn	12 40 19.6	-0.4
SJUU	Sjulsmark	1.65	168	eP	Pn	12 40 19.6	-0.4
HEF	Hetta	1.71	39	eP	Pn	12 40 20.3	-0.5
	SNR=50						
HEF				Sn	Sn	12 40 42.2	-1.1
HEF				eS	Sb	12 40 44.0	0.0
	SNR=50						
HEF	Hetta	1.71	39	eP	Pn	12 40 20.3	-0.5
HEF				eS	Sb	12 40 44.0	0.0
HEF	Hetta	1.71	39	eP	Pn	12 40 18.9	-1.9
	baz=228						
HEF				MSG		12 40 38.2	
	comp=Z,9.0nm,0.2s						
HEF				eSN	Sn	12 40 42.2	-1.1
TOF	Tornio	1.76	124	P	Pn	12 40 21.5	0.0
TOF				Sg	Sg	12 40 47.4	+1.0
TOF	Tornio	1.76	124	eP	Pn	12 40 21.5	0.0
TOF				MSG		12 40 43.4	
	comp=Z,13nm,0.2s						
TOF				eSG	Sg	12 40 47.4	+1.0
LILU	Lilltraesk	1.87	192	P	Pn	12 40 24.0	+1.0
LILU	Lilltraesk	1.87	192	P	Pn	12 40 24.0	+1.0
LILU	Lilltraesk	1.87	192	eP	Pn	12 40 24.0	+1.0
KIF	Kilpisjarvi	1.90	0	Pn	Pn	12 40 23.3	-0.1
KIF				Lg	Lg	12 40 49.9	
KIF	Kilpisjarvi	1.90	0	Pg	Pn	12 40 22.7	-0.7
KIF	Kilpisjarvi	1.90	0	Pn	Pn	12 40 23.3	-0.1
	SNR=50						
KIF	Kilpisjarvi	1.90	0	eP	Pn	12 40 23.5	+0.1
	SNR=50						
KIF				eS	Sb	12 40 48.7	-0.8
	SNR=50						
KIF				Sn	Sb	12 40 49.7	+0.2
KIF	Kilpisjarvi	1.90	0	Pn	Pn	12 40 23.3	-0.1
KIF				eP	Pn	12 40 23.5	+0.1
KIF				eS	Sb	12 40 48.7	-0.8
KIF				Lg	Lg	12 40 49.9	
KIF	Kilpisjarvi	1.90	0	ePG	Pn	12 40 22.7	-0.7
KIF				MSG		12 40 44.9	
	comp=Z,16nm,0.2s						
KIF				eSN	Sb	12 40 49.7	+0.2
SGF	Sodankyl	2.27	79	Pb	Pn	12 40 29.7	+1.3
SGF				Sg	Sb	12 41 00.1	+0.1
SGF	Sodankyl	2.27	79	ePB	Pn	12 40 29.7	+1.3
SGF				eSG	Sb	12 41 00.1	+0.1
BURU	Burvik	2.55	174	P	Pn	12 40 33.6	+1.2
BURU				Sg	Sg	12 41 11.2	-0.5
BURU	Burvik	2.55	174	eP	Pn	12 40 33.6	+1.2
BURU				eSG	Sg	12 41 11.2	-0.5
MOR8	Moi Rana	2.69	252	eP	Pn	12 40 34.5	+0.2
	SNR=50						
MOR8	Moi Rana	2.69	252	eP	Pn	12 40 34.5	+0.2
ARA0	ARCESS Array S	3.00	34	Pn	Pn	12 40 37.4	-1.2
	baz=209,slow=14						
ARA0				Sn	Sn	12 41 14.0	-1.2
	baz=216,slow=22						
ARA0	ARCESS Array S	3.00	34	Pn	Pn	12 40 37.4	-1.2
	SNR=50						
ARA0				Sn	Sn	12 41 14.0	-1.2
	SNR=50						
ARA0	ARCESS Array S	3.00	34	Pn	Pn	12 40 37.4	-1.2
	baz=209,slow=14						
ARA0				Sn	Sn	12 41 14.0	-1.2
	baz=216,slow=22						
ARCES	ARCESS Array B	3.00	34	Pn	Pn	12 40 37.7	-0.9
	comp=Z,0.8nm,0.3s,baz=219,slow=13,SNR=48						
ARCES				Sn	Sn	12 41 14.8	-0.5
	comp=Z,1.2nm,0.3s,baz=214,slow=18,SNR=9.5						
ARE0	ARCESS Array S	3.00	34	eP	Pn	12 40 39.3	+0.7
	SNR=50						
ARE0				eS	Sn	12 41 15.0	-0.2
	SNR=50						
ARE0	ARCESS Array S	3.00	34	eP	Pn	12 40 39.3	+0.7
ARE0				eS	Sn	12 41 15.0	-0.2
ARE0				IAML		12 41 25.6	
	comp=Z,11nm,0.8s						
ARE0	ARCESS Array S	3.00	34	eP	Pn	12 40 37.4	-1.2
	baz=216						
ARE0				eSB	Sn	12 41 16.0	+0.7
KONS	Konsvik	3.08	262	eP	Pn	12 40 40.8	+1.1
	SNR=50						
KONS	Konsvik	3.08	262	eP	Pn	12 40 40.8	+1.1
STOK	Stokkvaagen	3.17	259	eSg	Sg	12 41 31.2	-0.4
	SNR=90						
STOK	Stokkvaagen	3.17	259	eSg	Sg	12 41 31.2	-0.4
UMAU	Umeaa	3.25	181	P	Pn	12 40 43.6	+1.7
UMAU	Umeaa	3.25	181	eP	Pn	12 40 43.6	+1.7
VRF	Varrio	3.47	75	P	Pn	12 40 45.8	+0.8
VRF	Varrio	3.47	75	eP	Pn	12 40 45.9	+0.8
	baz=267						
MSF	Maaselka	3.53	106	Pg	Pb	12 40 54.9	+1.9
MSF				Sg	Sg	12 41 40.8	-2.3
MSF	Maaselka	3.53	106	ePG	Pb	12 40 55.0	+1.9
MSF				eSG	Sg	12 41 40.8	-2.3
KU6	Riekki	3.81	102	P	Pn	12 40 50.9	+1.3
KU6	Riekki	3.81	102	eP	Pn	12 40 50.9	+1.3
	baz=297						
VAF	Ylistaro	4.17	168	P	Pn	12 40 56.9	+2.4
VAF				Sg	Sg	12 42 01.8	-1.7
VAF	Ylistaro	4.17	168	eP	Pn	12 40 57.0	+2.4
VAF				eSG	Sg	12 42 01.8	-1.7
HEMU	Hemsoen	4.60	196	P	Pn	12 41 03.0	+2.5
HEMU	Hemsoen	4.60	196	eP	Pn	12 41 03.1	+2.5
FIA0	FINESS Array S	6.14	155	Pn	Pn	12 41 23.6	+1.9
	baz=351,slow=16						
FIA0				Sn	Sn	12 42 33.5	+1.0
	baz=343,slow=28						
FIA0				Lg	Lg	12 43 05.0	
	baz=343,slow=37						
FIA0	FINESS Array S	6.14	155	Pn	Pn	12 41 23.6	+1.9
	baz=351,slow=16						
FIA0				Sn	Sn	12 42 33.5	+1.0
	baz=343,slow=28						
FIA0				Lg	Lg	12 43 05.0	
	baz=343,slow=37						
FINES	FINESS Array B	6.14	155	Pn	Pn	12 41 23.8	+2.1
	comp=Z,0.2nm,0.3s,baz=336,slow=15,SNR=6.9						
FINES				Sn	Sn	12 42 33.3	+0.8
	comp=Z,0.4nm,0.3s,baz=346,slow=24,SNR=6.3						
FINES				Lg	Lg	12 43 04.8	
	comp=Z,0.8nm,0.3s,baz=345,slow=28,SNR=7.6						
NB2	NORSAR Subarra	7.38	219	Pn	Pn	12 41 37.8	-0.9
NB2	NORSAR Subarra	7.38	219	Pn	Pn	12 41 37.8	-0.9
NOA	NORSAR Array B	7.38	219	Pn	Pn	12 41 39.1	+0.4
	comp=Z,0.2nm,0.3s,baz=29,slow=11,SNR=3.1						
NOA				Sn	Sn	12 43 00.9	-2.2
	comp=Z,0.4nm,0.3s,baz=28,slow=21,SNR=3.7						
NOA				Lg	Lg	12 43 43.5	
	comp=Z,0.5nm,0.3s,baz=26,slow=21,SNR=4.1						
NRA0	NORESS Array S	7.57	217	Pn	Pn	12 41 41.4	+0.1
	baz=28,slow=14						
NRA0				Lg	Lg	12 43 51.1	
	baz=27,slow=28						
NRA0	NORESS Array S	7.57	217	Pn	Pn	12 41 41.4	+0.1
	baz=28,slow=14						
NRA0				Lg	Lg	12 43 51.1	
	baz=27,slow=28						
HFS	Hagfors	7.67	207	Pn	Pn	12 41 42.4	-0.3
	baz=26,slow=14						
HFS				Sn	Sn	12 43 06.0	-4.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=25,slow=22						
HFS				Lg	Lg	12 43 50.9	
	baz=31,slow=28						
HFS	Hagfors	7.67	207	Pn	Pn	12 41 40.7	-2.0
	comp=Z,0.2nm,0.3s,baz=22,slow=13,SNR=5.8						
HFS				Sn	Sn	12 43 07.2	-3.0
	comp=Z,0.5nm,0.3s,baz=28,slow=19,SNR=6.5						
HFS				Lg	Lg	12 43 51.7	
	comp=Z,0.4nm,0.3s,baz=27,slow=27,SNR=3.6						
HFS	Hagfors	7.67	207	Pn	Pn	12 41 42.4	-0.3
	SNR=50						
HFS				Lg	Lg	12 43 50.9	
	SNR=50						
HFS	Hagfors	7.67	207	Pn	Pn	12 41 42.4	-0.3
	baz=26,slow=14						
HFS				Sn	Sn	12 43 06.0	-4.2
	baz=25,slow=22						
HFS				Lg	Lg	12 43 50.9	
	baz=31,slow=28						

BJI ***05*** *12:45:38.6, 7.°47S×129.°62E, h166km, mb4.8/55, mB4.9/35*
ISCJB ***05*** *12:45:43.7±0.3, 7.°13S±0.°02×129.°26E±0.°02, h178km±2km, mb4.8/93, Error ellipse: s-maj=3.6km s-min=3.0km az=156.2*
DJA ***05*** *12:45:43.7±0.1, 7°S±2°×12°9E±°, h193km±3km, M4.8/63, mb5.0/63, mB5.3/39, MLv5.7/15, Mw(mB)4.7/39*
MOS ***05*** *12:45:44.9±0.9, 6.°98S×129.°35E, h182km, mb4.9/27, Error ellipse: s-maj=12.5km s-min=6.0km az=106.3*
GCMT ***05*** *12:45:44.5±0.4, 7.°10S×129.°28E, h185km±4km, MW5.0/61, Moment Tensor Solution. s11,c13; s61,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.86±.17; $M_{\theta\theta}$-2.81±.18; $M_{\phi\phi}$1.95±.18; $M_{r\theta}$1.85±.13; $M_{\theta\phi}$-0.34±.16; $M_{\phi r}$1.92±.15; Best double couple: $M_0$3.65900×10^{16} NP1:ϕ_s47.00000°, δ81.00000°, λ50.00000°. NP2: ϕ_s307.00000°, δ41.00000°, λ167.00000°. Principal axes: T 3.5280, Plg40.0000°, Azm281.0000°; N 0.2620, Plg39.0000°, Azm55.0000°; P -3.7900, Plg26.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***05*** *12:45:44.5±0.4, 7.°08S×129.°21E, h166km±4km, mb5.1/48 Error ellipse: s-maj=4.3km s-min=3.4km az=220.0*
NEIC Felt [II] at Darwin, Australia.
IDC ***05*** *12:45:46.5±0.6, 7.°01S×129.°27E, h180km±5km, mb4.4/31, mb1 4.4/32, mb1mx4.3/49, mbtmp4.9/32, MS3.4/7, Ms1 3.4/7, ms1mx3.0/50, Error ellipse: s-maj=12.0km s-min=7.7km az=68.0*
KLM ***05*** *12:45:48.8, 7.°39S×129.°02E, h187km, mb5.2*
ISC 05 12:45:42.9±0.4**, 7.°14S**±0.°03×**129.°34E**±0.°04**, h158**km±3km**, h158**km**:pP-P, n326,** σ1.s85/383**, mb4.8**/93**, 12C-19D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.11	113	P	Pn	12 46 23.4	+3.6
SAUI				S	Sn	12 46 54.3	+6.1
SAUI	Saumlaki	2.11	113	ePn	Pn	12 46 23.9	+4.2
SAUI				eSn	Sn	12 46 50.0	+1.8
BNDI	Bandanaira	2.66	12	P	Pn	12 46 28.7	+2.3
BNDI				S	Sn	12 47 03.4	+3.3
AAI	Ambon	3.62	342	P	Pn	12 46 40.9	+2.5
AAI				S	Sn	12 47 24.3	+2.6
AAI	Ambon	3.62	342	P	Pn	12 46 41.0	+2.5
MSAI	Masohi	3.79	354	P	Pn	12 46 43.8	+3.1
MSAI				S	Sn	12 47 29.0	+3.3
FAKI	Fak Fak	5.10	35	P	Pn	12 46 57.7	0.0
	517nm,0.5s,24μm7.8nm						
FAKI				S	Sn	12 47 53.0	-3.3
	517nm,0.5s,24μm7.8nm						
FAKI	Fak Fak	5.10	35	ePn	Pn	12 46 57.8	0.0
KMPI	Kaimana, Papua	5.55	52	P	Pn	12 47 06.7	+3.0
	550nm,0.7s,48μm						
KMPI				S	Sn	12 48 06.8	-0.2
	550nm,0.7s,48μm						
SOEI	Soe	5.65	242	P	Pn	12 47 05.7	+0.5
	714nm,0.6s,8μm						
SOEI	Soe	5.65	242	ePn	Pn	12 47 05.1	-0.1
MTN	Manton Dam	5.93	163	P	Pn	12 47 10.6	+1.8
	baz=6.0,SNR=1000						
MTN	Manton Dam	5.93	163	ePn	Pn	12 47 10.7	+1.8
SANI	Sanana	6.06	326	P	Pn	12 47 13.1	+2.5
	356nm,1.3s,3μm						
SANI				S	Sn	12 48 22.5	+3.2
	356nm,1.3s,3μm						
BATI	Baumata	6.39	241	P	Pn	12 47 15.8	+0.9
	185nm,0.3s,baz=72,slow=3.2,SNR=125						
BATI				S	Sn	12 48 22.3	-4.7
	261nm,0.3s,baz=45,slow=20,SNR=18						
BATI	Baumata	6.39	241	P	Pn	12 47 15.9	+1.0
SWI	Sorong	6.52	17	P	Pn	12 47 16.5	-0.1
SWI	Sorong	6.52	17	P	Pn	12 47 16.6	-0.1
LBMI	Labuha	6.72	344	P	Pn	12 47 22.3	+3.0
LBMI				S	Sn	12 48 35.8	+0.9
BBSI	Bau Bau	6.93	283	P	Pn	12 47 24.6	+2.5
MMRI	Maumere	7.19	258	P	Pn	12 47 27.7	+2.1
MMRI				S	Sn	12 48 49.5	+3.2
MMRI	Maumere	7.19	258	ePn	Pn	12 47 26.3	+0.7
RKPI	Ransiki, Papua	7.38	41	P	Pn	12 47 29.3	+1.2
RKPI				S	Sn	12 48 49.1	-1.8
EDFI	Ende, Flores	7.75	258	P	Pn	12 47 34.0	+1.0
TNTI	Ternate	8.11	346	ePn	Pn	12 47 39.3	+1.6
KNRA	Kununurra	8.50	184	P	Pn	12 47 42.9	-0.1
	baz=8.6,SNR=655						
BSSI	Bau Bau, Buton	8.85	276	P	Pn	12 47 49.2	+1.6
LUWI	Luwuk	8.93	312	P	Pn	12 47 46.6	-2.0
LUWI	Luwuk	8.93	312	ePn	Pn	12 47 48.8	+0.1
BASI	Baing, Sumba	9.19	250	P	Pn	12 47 53.9	+1.8
WSI	Waingapu	9.29	254	P	Pn	12 47 55.1	+1.6
BKSI	Bulukumba	9.34	281	P	Pn	12 47 55.3	+1.1
KMSI	Cibinong	9.35	325	P	Pn	12 47 54.6	+0.4
BNSI	Bone	9.59	286	P	Pn	12 47 58.9	+1.5
APSI	Ampana	9.86	309	P	Pn	12 48 01.3	+0.3
WBSI	Waikabubak, Su	10.15	255	P	Pn	12 48 05.3	+0.4
TTSI	Tana Toraja	10.32	293	P	Pn	12 48 07.9	+0.8
MRSI	Marisa	10.57	315	P	Pn	12 48 10.7	+0.3
MMPI	Merauke	11.02	98	P	Pn	12 48 15.8	-0.4
PLAI	Plampang	11.58	261	P	Pn	12 48 22.1	-1.4
GENI	Genyem	11.69	68	P	Pn	12 48 23.0	-2.0
MPSI	Mapaga	12.00	308	P	Pn	12 48 29.4	+0.4
JAY	Jayapura	12.22	68	P	Pn	12 48 29.4	-2.5
WRAB	Tennant Creek	13.61	160	ePn	Pn	12 48 48.5	-1.1
WRAB	Tennant Creek	13.61	160	ceP	Pn	12 48 48.0	-1.7
WRAB				pmax	pmax		
	comp=Z,900nm,1.7s						
WR1	Warramunga Arr	13.62	160	ePn	Pn	12 48 48.3	-1.4
WR1				eSn	Sn	12 51 14.4	-6.3
WRA	Warramunga Arr	13.62	160	P	Pn	12 48 48.3	-1.4
	comp=Z,14nm,0.3s,baz=337,slow=12,SNR=182						
WRA				S	Sn	12 51 14.4	-6.3
	comp=Z,34nm,0.3s,baz=332,slow=22,SNR=7.9						
WB2	Warramunga Arr	13.62	160	ePn	Pn	12 48 46.3	-3.5
WB2				ePn	P	12 48 51.3	-2.0
WB2				eSn	Sn	12 51 14.8	-6.0
KBKI	Kotabaru	13.66	286	P	Pn	12 48 50.2	-0.1
BKB	Balikpapan	13.71	295	P	Pn	12 48 50.2	-0.8
SRBI	Singaraja	14.04	265	P	Pn	12 48 54.7	-0.4
DNP	Denpasar	14.08	263	P	Pn	12 48 55.5	-0.1
IGBI	Denpasar	14.16	262	P	Pn	12 48 55.4	-1.2
ABJI	Asem Bagus	15.00	267	P	Pn	12 49 07.0	0.0
JAGI	Jajag, Banyuwa	15.11	264	P	Pn	12 49 07.4	-1.1
JAGI	Jajag, Banyuwa	15.11	264	ePn	Pn	12 49 07.4	-1.1
COEN	Coen	15.19	118	P	P	12 49 10.2	-0.5
	baz=15,SNR=96						
COEN	Coen	15.19	118	ePn	P	12 49 11.8	+1.0
	comp=Z,194nm,1.1s						
KMMI	Kalianget	15.26	269	P	Pn	12 49 10.5	+0.2
BLJI	Banyuglugur	15.63	267	P	Pn	12 49 14.3	-0.5
GMJI	Gumukmas	15.80	265	P	Pn	12 49 16.4	-0.5
TSM	Tawau	16.13	314	⇓P	P	12 49 24.8	+3.6
MYLDM	Lahad Datu	16.34	318	eP	Pn	12 49 25.5	+2.0
	comp=Z,126nm,0.9s						
QIS	Mount Isa	16.63	144	P	Pn	12 49 28.5	+1.4
	baz=17,SNR=177						
GRJI	Gresik	16.74	270	P	P	12 49 27.7	-0.2
MBWA	Marble Bar	16.75	213	eP	Pn	12 49 28.3	-0.1
	comp=Z,40nm,0.8s						
AS31	Alice Springs	17.00	166	eP	Pn	12 49 32.8	+1.3
	comp=Z,148nm,0.4s						
AS31				eS	S	12 52 34.1	-5.9
ASAR	Alice Springs	17.00	166	P	Pn	12 49 34.0	+2.5
	comp=Z,53nm,0.3s,baz=343,slow=9.8,SNR=3273						
ASAR				S	S	12 52 34.1	-5.9
	comp=Z,12nm,0.3s,baz=342,slow=24,SNR=9.2						
ASAR				LR	LR	12 56 53.0	
	comp=Z,165nm,21.4s,baz=320,slow=39						
AS01	Alice Springs	17.01	165	eP	Pn	12 49 33.3	+1.7
TBJI	Tambak Boyo	17.37	270	P	P	12 49 34.4	-0.4
PWJI	Pagerwojo	17.41	266	P	P	12 49 34.7	-0.6
SDKM	Sandakan	17.56	316	⇓P	Pn	12 49 41.0	+2.8
PMG	Port Moresby	17.77	98	P	Pn	12 49 42.0	+1.3
	comp=Z,3.7nm,0.3s,baz=280,slow=4.8,SNR=27						
PMG				S	S	12 52 53.6	-2.2
	comp=Z,1.2nm,0.3s,baz=0.0,slow=20,SNR=4.3						
PMG				LR	LR	12 56 26.1	
	comp=Z,157nm,21.8s,baz=256,slow=36						
PMG	Port Moresby	17.77	98	eP	Pn	12 49 43.2	+2.5
	comp=Z,115nm,0.8s						
PMG				S	S	12 52 53.6	-2.2
PMG	Port Moresby	17.77	98	ceP	P	12 49 38.6	-0.7
PMG				*i* S	S	12 52 54.2	-1.6
PMG				pmax	pmax		
	comp=Z,44nm,0.8s						
WRKA	Warakurna	17.82	183	P	Pn	12 49 41.5	+0.2
	baz=18,SNR=639						
PCJI	Pacitan	18.03	265	P	P	12 49 39.5	-2.6
PBKI	Pangkalan Bun	18.15	283	P	P	12 49 42.4	-1.0
KKM	Kota Kinabalu	18.52	315	⇓P	Pn	12 49 49.1	-0.5
KKM	Kota Kinabalu	18.52	315	eP	P	12 49 48.4	+0.8
	comp=Z,275nm,1.2s						
MANU	Manus Island	18.66	75	eP	Pn	12 49 53.4	+2.2
	comp=Z,65nm,1.0s						
UGM	Wanagama	18.67	266	P	P	12 49 47.6	-1.5
UGM	Wanagama	18.67	266	eP	P	12 49 49.0	-0.1
	comp=Z,632nm,2.0s						
KDM	Kudat	18.73	318	⇓P	Pn	12 49 52.1	+0.2
SMRI	Semarang	18.76	269	P	P	12 49 49.0	-1.0
SMRI	Semarang	18.76	269	eP	P	12 49 50.2	+0.2
	comp=Z,102nm,0.9s						
STKI	Sintang	19.20	291	P	P	12 49 53.1	-1.8
SBUM	Sibu	19.57	299	⇓P	Pn	12 50 00.3	-1.4
SBUM	Sibu	19.57	299	eP	P	12 49 59.6	+0.8
	comp=Z,452nm,1.5s						
KSM	Kuching	20.83	294	eP	P	12 50 11.5	-0.8
	comp=Z,95nm,0.8s						
CTAO	Charters Tower	20.84	130	eP	Pn	12 50 15.5	-1.6
	comp=Z,67nm,0.9s						
CTAO	Charters Tower	20.84	130	eP	Pn	12 50 15.5	-1.6
CTAO				pmax	pmax		
	comp=Z,67nm,0.9s						
CISI	Cisompet, Garu	21.36	268	P	P	12 50 16.7	-1.3
CISI	Cisompet, Garu	21.36	268	eP	P	12 50 16.4	-1.6
LEM	Lembang	21.57	269	P	P	12 50 20.7	+0.3
	comp=Z,115nm,0.9s,baz=51,slow=10,SNR=7.8						
LEM	Lembang	21.57	269	P	P	12 50 19.3	-1.1
LEM	Lembang	21.57	269	⇓P	P	12 50 20.9	+0.5
MEEK	Meekatharra	21.91	207	P	P	12 50 24.2	+0.5
	baz=22,SNR=24						
TGY	Tagaytay City	22.70	338	P	P	12 50 31.7	+0.4
	comp=Z,138nm,0.3s,baz=150,slow=8.1,SNR=5.7						
CGJI	Cibinong	23.49	270	P	P	12 50 36.6	-2.0
PPBI	Pangkal Pinang	23.65	281	P	P	12 50 38.3	-1.8
QLP	Quilpie	23.97	145	P	P	12 50 45.3	+2.4
	baz=24,SNR=107						
KASI	Kota Agung	24.75	272	P	P	12 50 46.9	-3.1
KMBL	Kambalda	25.09	195	P	P	12 50 54.5	+1.5
	baz=25,SNR=7.3						
MORW	Morawa	25.16	208	P	P	12 50 54.4	+0.8
	baz=25,SNR=7.3						
MDSI	Maura Dua	25.17	275	P	P	12 50 53.9	0.0
DSRI	Dabo	25.57	284	P	P	12 50 55.4	-2.1
TPRI	Tanjung Pinang	26.02	287	P	P	12 50 59.1	-2.5
BLDU	Ballidu	26.18	205	P	P	12 51 03.6	+0.8
	baz=26,SNR=12						
JMBI	JAMBI	26.19	281	P	P	12 51 01.8	-1.3
BBOO	Buckleboo	26.29	167	P	P	12 51 05.2	+1.4
	baz=26,SNR=82						
BBOO	Buckleboo	26.29	167	eP	P	12 51 05.4	+1.6
	comp=Z,42nm,0.7s						
KLBR	Kellerberrin	26.62	202	P	P	12 51 08.4	+1.6
	baz=27,SNR=7.3						
MYKOM	Kota Tinggi	26.94	288	eP	P	12 51 09.7	-0.1
	comp=Z,38nm,0.8s						
STKA	Stephens Creek	27.13	157	P	P	12 51 13.0	+1.7
	comp=Z,22nm,0.8s,baz=335,slow=8.7,SNR=37						
STKA	Stephens Creek	27.13	157	P	P	12 51 13.1	+1.7
	baz=27,SNR=39						
STKA	Stephens Creek	27.13	157	eP	P	12 51 13.0	+1.7
	comp=Z,6.3nm,0.6s						
STKA	Stephens Creek	27.13	157	eP	P	12 51 13.0	+1.7
STKA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MASI	Maura Aman, Be	27.28	277	P	P	12 51 10.8	-2.1
KGM	Kluang	27.52	288	⇑P	P	12 51 16.9	+2.0
MUN	Mundaring	27.58	205	P	P	12 51 16.6	+1.3
	baz=28,SNR=5.4						
HTT	Hallett	27.62	163	P	P	12 51 17.9	+2.1
	baz=28,SNR=36						
NWAO	Narrogin (SRO)	28.01	202	P	P	12 51 20.7	+1.5
	baz=28,SNR=5.7						
NWAO				P	P	12 51 20.7	+1.5
	baz=28,SNR=5.7						
CMSA	Cobar Meteorol	28.68	150	P	P	12 51 27.3	+2.3
	baz=29,SNR=14						
KTGM	Kuala Trenggan	28.94	295	⇑P	P	12 51 30.5	+2.9
RKGY	Rocky Gully	29.62	201	P	P	12 51 36.2	+2.9
	baz=30,SNR=4.8						
HNR	Honiara	30.36	96	P	P	12 51 41.2	+1.1
	comp=Z,34nm,0.7s,baz=231,slow=6.5,SNR=3.4						
HNR				LR	LR	13 04 08.1	
	comp=Z,90nm,19.2s,baz=234,slow=36						
IPM	Ipoh	30.53	291	⇓P	P	12 51 43.6	+1.9
IPM	Ipoh	30.53	291	eP	P	12 51 41.1	-0.6
	comp=Z,35nm,0.8s						
KULM	Kulim	31.18	293	⇓P	P	12 51 49.6	+2.2
KULM	Kulim	31.18	293	eP	P	12 51 46.3	-1.1
	comp=Z,60nm,1.3s						
ARPS	Mount Arapiles	31.62	161	P	P	12 51 53.5	+2.6
	baz=32,SNR=134						
PSI	Prapat	31.93	287	P	P	12 52 06.4	+12
	comp=Z,82nm,0.8s,baz=110,slow=4.9,SNR=55						
PSI	Prapat	31.93	287	eP	P	12 51 52.4	-1.6
	comp=Z,94nm,0.8s						
PSI				*e*		12 52 06.4	
PSI	Prapat	31.93	287	eP	P	12 51 52.4	-1.6
PSI				pmax	pmax		
	comp=Z,94nm,0.8s						
YHNB	Yeheng	32.56	346	eP	P	12 51 58.0	-1.3
	comp=Z,69nm,0.6s						
GSI	Gunungsitoli	32.79	284	eP	P	12 52 00.1	-1.4
	comp=Z,57nm,0.9s						
TRTT	Trang	33.10	296	P	P	12 52 04.2	+0.1
	comp=Z,27nm,0.9s,comp=Z,2μm						
TOO	Toolangi	33.66	157	P	P	12 52 11.8	+3.1
	baz=34,SNR=21						
SURT	Suratani	34.39	297	P	P	12 52 16.3	+1.0
	comp=Z,12nm,0.9s						
LHMI	Lhok Sumawe	34.59	290	eP	P	12 52 16.5	-0.5
	comp=Z,173nm,0.7s						
SKNT	Sakolnakorn	34.69	314	P	P	12 52 16.5	-1.3
	comp=Z,18nm,0.9s						
KHON	Khomkaen	35.12	312	P	P	12 52 22.5	+1.1
	comp=Z,12nm,1.0s						
CHAI	Chaiyaphum	35.47	310	P	P	12 52 24.2	-0.3
	comp=Z,12nm,0.8s,comp=Z,91nm						
PHIT	Phitsanulok	37.44	310	P	P	12 52 41.6	+0.4
	comp=Z,52nm,1.0s,comp=Z,419nm						
DZM	Mont Dzumac	38.71	117	P	P	12 52 54.3	+2.4
	comp=Z,6.2nm,0.6s,baz=304,slow=3.6,SNR=4.8						
DZM				LR	LR	13 07 30.0	
	comp=Z,35nm,20.4s,baz=211,slow=34						
DZM	Mont Dzumac	38.71	117	eP	P	12 52 54.3	+2.4
	comp=Z,92nm,1.7s						
LAMP	Lampang	38.85	311	P	P	12 52 53.5	+0.5
	comp=Z,19nm,0.9s,comp=Z,178nm						
CM01	Chiang Mai Arr	39.29	311	eP	P	12 52 56.6	0.0
CM31	Chiang Mai Arr	39.33	311	eP	P	12 52 57.5	+0.6
CM31				ePcP	PcP	12 55 04.3	+1.8
CM31				*e*		13 09 03.7	
CMAR	Chiang Mai Arr	39.33	311	P	P	12 52 57.3	+0.3
	comp=Z,28nm,0.9s,baz=143,slow=7.5,SNR=165						
CMAR				PcP	PcP	12 55 04.3	+1.8
	comp=Z,5.2nm,0.7s,baz=162,slow=2.8,SNR=12						
CMAR				ScP	ScP	12 58 36.3	-0.1
	comp=Z,2.7nm,1.0s,baz=156,slow=3.4,SNR=8.4						
CMAR				LR	LR	13 09 03.7	
	comp=Z,26nm,20.9s,baz=5.0,slow=36						
CMAR	Chiang Mai Arr	39.33	311	ceP	P	12 52 57.0	0.0
CMAR				pmax	pmax		
	comp=Z,31nm,0.9s						
CMMT	Chiang Mai	39.54	311	P	P	12 52 57.7	-1.0
	comp=Z,78nm,0.9s,comp=Z,894nm						
CHTO	Chiang Mai	39.54	311	P	P	12 52 58.7	0.0
	comp=Z,347nm,1.0s,comp=Z,3μm						
CHTO	Chiang Mai	39.54	311	eP	P	12 52 58.9	+0.1
	comp=Z,59nm,0.9s						
CHTO	Chiang Mai	39.54	311	eP	P	12 52 58.9	+0.1
CHTO				pmax	pmax		
	comp=Z,59nm,0.9s						
GYA	Guiyang	40.00	327	P	P	12 53 01.8	-0.7
GYA				pP	pP	12 53 39.4	+2.5
GYA				sP	sP	12 53 58.2	+3.4
GYA				PP	PnPn	12 54 43.0	+0.1
GYA				PcP	PcP	12 55 05.6	+1.0
GYA				S	S	12 58 59.6	+3.1
GYA				sS	sS	12 59 58.9	+2.3
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.3s						
JNU	Nakatsue	40.07	2	P	P	12 53 02.1	-0.7
	comp=Z,7.0nm,0.7s,baz=243,slow=4.7,SNR=6.6						
JNU	Nakatsue	40.07	2	eP	P	12 53 02.8	-0.1
	comp=Z,219nm,2.0s						
WHN	Wuhan	40.14	340	P	P	12 53 03.7	+0.3
CMAI	Chiengmai2	40.16	313	P	P	12 53 03.8	-0.2
	comp=Z,450nm,1.0s						
NJ2	Nanjing	40.24	346	eP	P	12 53 04.6	+0.4
NJ2				pmax	pmax		
	comp=Z,26nm,0.6s						
KMI	Kunming	41.22	322	P	P	12 53 14.6	+1.9
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
ENH	Enshi	41.80	334	eP	P	12 53 16.2	-0.9
	comp=Z,13nm,1.0s						
TJN	Taejon	43.33	358	eP	P	12 53 30.1	+0.8
MAJO	Matsushiro	44.24	10	⇓*i*P	P	12 53 36.9	+0.3
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s						
MJAR	Matsushiro Arr	44.24	10	P	P	12 53 35.3	-1.3
	comp=Z,12nm,0.7s,baz=193,slow=10,SNR=12						
MJAR				LR	LR	13 09 12.0	
	comp=Z,36nm,21.4s,baz=190,slow=32						
KS15	Wonju Array Si	44.37	358	eP	P	12 53 37.4	-0.2
KS15				ePcP	PcP	12 55 19.9	+1.1
KSAR	Wonju Array Be	44.37	358	P	P	12 53 37.4	-0.2
KSAR				PcP	PcP	12 55 19.9	+1.1
KSAR	Wonju Array Be	44.37	358	P	P	12 53 37.4	-0.2
KSAR						12 55 19.9	
KSRS	Korea Array	44.38	358	P	P	12 53 37.4	-0.3
	comp=Z,6.1nm,0.7s,baz=174,slow=8.7,SNR=28						
KSRS				PcP	PcP	12 55 19.9	+1.1
	comp=Z,0.9nm,0.5s,baz=181,slow=2.2,SNR=4.1						
KS01	Wonju Array Si	44.41	358	eP	P	12 53 38.0	+0.1
CD2	Chengdu	45.08	328	P	P	12 53 44.5	+1.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.2s						
XAN	Xi'an	45.30	336	P	P	12 53 43.6	-1.4
XAN				pP	pP	12 54 19.6	-0.6
XAN				PcP	PcP	12 55 22.8	+0.7
XAN				S	S	13 00 07.9	-5.8
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN				pmax	pmax		
	comp=Z,95nm,5.1s						
BJT	Baijiatuau	48.48	346	eP	P	12 54 09.7	+0.1
	comp=Z,49nm,0.5s						
BJT	Baijiatuau	48.48	346	eP	P	12 54 09.7	+0.1
BJT				pmax	pmax		
	comp=Z,49nm,0.5s						
BJI	Beijing	48.50	346	⇓*i*P	P	12 54 09.8	+0.1
BJI				pmax	pmax		
	comp=Z,80nm,0.6s						
LZH	Lanzhou	49.23	333	eP	P	12 54 15.5	-0.1
LZH				pP	pP	12 54 49.1	-2.1
LZH				sP	sP	12 55 06.5	-2.2
LZH				pmax	pmax		
	comp=Z,36nm,1.3s						
LZH				pmax	pmax		
	comp=Z,150nm,4.0s						
VLA	Vladivostok	50.08	2	⇓eP	P	12 54 22.6	+1.0
VLA				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC	Hu-ho-hao-te	50.48	343	eP	P	12 54 28.1	+3.3
HHC				S	S	13 01 28.7	+2.1
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,57nm,4.9s						
PALK	Pallekele	50.58	285	eP	P	12 54 24.8	-1.3
	comp=Z,43nm,1.6s						
PALK	Pallekele	50.58	285	*i* P	P	12 54 28.2	+2.2
CN2	Changchun	50.83	356	eP	P	12 54 27.3	+0.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	Ussuriysk Ar.	51.16	2	P	P	12 54 30.2	+0.5
	comp=Z,9.3nm,0.5s,baz=185,slow=7.3,SNR=20						
MDJ	Mudanjiang	51.52	0	P	P	12 54 31.7	-0.7
MDJ				pP	pP	12 55 07.6	-0.8
MDJ				pmax	pmax		
	comp=Z,16nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,120nm,5.2s						
RPZ	Rata Peaks	51.52	142	P	P	12 54 35.8	+3.3
	comp=Z,27nm,0.5s,baz=321,slow=2.5,SNR=21						
RPZ	Rata Peaks	51.52	142	eP	P	12 54 35.2	+2.6
	comp=Z,35nm,0.6s						
RPZ				eP	P	12 54 35.8	+3.3
LSA	Lhasa	51.85	317	eP	P	12 54 35.9	+0.2
	comp=Z,101nm,1.8s						
LSA	Lhasa	51.85	317	eP	P	12 54 35.9	+0.2
LSA				pmax	pmax		
	comp=Z,101nm,1.8s						
ASAJ	Asahikawa	52.41	12	P	P	12 54 39.6	+0.7
	comp=Z,8.3nm,0.5s,baz=200,slow=9.2,SNR=6.5						
ASAJ	Asahikawa	52.41	12	eP	P	12 54 39.5	+0.6
	comp=Z,9.5nm,0.6s						
ODAN	Odare	52.86	311	eP	P	12 54 42.4	-0.5
	comp=Z,135nm,0.5s						
TAPN	Taplejung	52.90	312	eP	P	12 54 42.7	-0.6
	comp=Z,62nm,0.4s						
URZ	Urewera	53.04	133	P	P	12 54 45.2	+1.4
	comp=Z,4.4nm,0.4s,baz=239,slow=11,SNR=5.6						
RAMN	Ramite	53.50	311	eP	P	12 54 47.5	-0.1
	comp=Z,261nm,0.6s						
GTA	Gaotai	53.79	332	P	P	12 54 49.0	-0.3
GTA				pP	pP	12 55 26.6	+1.0
GTA				sP	sP	12 55 43.6	+0.6
GTA				PcP	PcP	12 55 54.6	+1.4
GTA				ScP	ScP	12 59 35.9	-0.5
GTA				S	S	13 02 09.1	-2.7
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
GTA				pmax	pmax		
	comp=Z,170nm,4.8s						
JIRN	Jiri	54.19	312	eP	P	12 54 52.1	-0.7
	comp=Z,136nm,0.6s						
GUN	Gumba	54.56	312	eP	P	12 54 55.0	-0.4
	comp=Z,200nm,0.6s						
PKI	Pulchoki	54.73	311	eP	P	12 54 55.9	-0.7
	comp=Z,86nm,0.5s						
KUR	Kuril'sk	54.73	16	eP	P	12 54 56.7	+0.9
PKIN	Phulchoki	54.74	311	eP	P	12 54 56.3	-0.3
	comp=Z,67nm,0.6s						
KKN	Kakani	54.94	311	eP	P	12 54 57.7	-0.3
	comp=Z,101nm,0.6s						
DMN	Daman	54.97	311	eP	P	12 54 57.9	-0.4
	comp=Z,91nm,0.7s						
YSS	Yuzh-Sakhalins	55.16	11	eP	P	12 54 58.9	+0.1
	comp=Z,13nm,0.6s						
YSS	Yuzh-Sakhalins	55.16	11	eP	P	12 54 59.0	+0.1
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
GKN	Gorkha	55.53	311	eP	P	12 55 01.7	-0.5
	comp=Z,6.1nm,0.3s						
HYB	Hyderabad	55.79	297	*i* P	P	12 55 02.0	-2.0
HYB				epP	pP	12 55 43.0	+2.5
KLR	Kul'dur	56.17	2	P	P	12 55 06.2	+0.1
	comp=Z,0.6nm,0.9s,baz=214,slow=4.3,SNR=22						
KLR	Kul'dur	56.17	2	⇓*i*P	P	12 55 07.0	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KOLN	**Koldanda**	**56.19**	**310**	*e*P	**P**	**12 55 06.6**	**-0.3**
	comp=Z,79nm,0.5s						
DANN	**Dangsing**	**56.37**	**311**	*e*P	**P**	**12 55 07.9**	**-0.4**
	comp=Z,2.9nm,0.7s						
PYUN	**Piuthan**	**56.82**	**310**	*e*P	**P**	**12 55 11.1**	**-0.3**
	comp=Z,204nm,0.9s						
GRNR	**Gornyy**	**58.00**	**5**	*e*P	**P**	**12 55 20.2**	**+1.3**
ULN	**Ulaanbaatar**	**58.20**	**343**	*e*P	**P**	**12 55 21.3**	**+0.8**
	comp=Z,10nm,0.7s						
ULN				*e*PcP	**PcP**	**12 56 11.6**	**+1.4**
ULN	**Ulaanbaatar**	**58.20**	**343**	*c i*P	**P**	**12 55 21.4**	**+0.8**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONA0	**Songino Array**	**58.37**	**342**	*e*P	**P**	**12 55 22.5**	**+0.8**
SONA0				*e*pP	**PcP**	**12 56 04.8**	**-6.1**
SONA0				*e*PcP	**sP**	**12 56 11.3**	**-4.5**
SONM	**Songino Array**	**58.37**	**342**	P	**P**	**12 55 22.5**	**+0.8**
	comp=Z,6.6nm,0.6s,baz=156,slow=6.7,SNR=29						
SONM				pP	**PcP**	**12 56 04.8**	**-6.1**
	comp=Z,3.4nm,0.9s,baz=165,slow=9.8,SNR=2.6						
SONM				PcP	**sP**	**12 56 11.3**	**-4.5**
	comp=Z,3.6nm,0.8s,baz=167,slow=3.9,SNR=4.3						
SONM				ScP	**ScP**	**12 59 56.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=153,slow=5.3,SNR=3.9						
SONA1	**Songino Array**	**58.38**	**342**	*e*P	**P**	**12 55 21.8**	**0.0**
TYV	**Tymovskoe**	**58.91**	**10**	*e*P	**P**	**12 55 25.8**	**+0.6**
TYV				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ZEA	**Zeya**	**60.67**	**359**	*e*P	**P**	**12 55 38.1**	**+0.9**
ZEA				pmax	pmax		
	comp=N,21nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,26nm,0.8s						
ZAK	**Zakamensk**	**61.59**	**341**	*e*P	**P**	**12 55 42.5**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
TLY	**Talaya**	**62.61**	**342**	⇑*i*P	**P**	**12 55 51.3**	**+1.1**
TLY				pmax	pmax		
	comp=Z,20nm,1.7s						
WMQ	**Urumqi**	**63.16**	**327**	P	**P**	**12 55 56.0**	**+1.9**
WMQ				pP	pP	12 56 32.0	+0.5
WMQ				sP	sP	12 56 48.2	-0.4
WMQ				pmax	pmax		
	comp=Z,35nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,380nm,4.5s						
WMQ				LR	LR		
	comp=Z,220nm,26.1s						
WMQ				LR	LR		
	comp=Z,140nm,17.5s						
WMQ				LR	LR		
	comp=Z,90nm,22.7s						
MOY	**Mondy**	**63.43**	**341**	*e*P	**P**	**12 55 57.1**	**+1.3**
MOY				pmax	pmax		
	comp=Z,22nm,1.4s						
PETK	**Petropavlovsk-**	**64.66**	**18**	P	**P**	**12 56 04.8**	**+1.2**
	comp=Z,11nm,0.7s,baz=166,slow=4.5,SNR=16						
PETK				PcP	**PcP**	**12 56 36.6**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=204,slow=3.2,SNR=5.6						
PETK				LR	LR	13 27 15.1	
	comp=Z,30nm,18.1s,baz=65,slow=38						
PEA1	**Petropavlovsk-**	**64.67**	**18**	*e*P	**P**	**12 56 04.8**	**+1.1**
PEA1				*e*PcP	**PcP**	**12 56 36.6**	**+0.5**
PEA1				*e*		13 27 15.1	
HVS	**Khovu-Aksy**	**65.66**	**336**	⇓*i*P	**P**	**12 56 11.3**	**+1.1**
HVS				pmax	pmax		
	comp=Z,19nm,0.8s						
BOD	**Bodaibo**	**65.93**	**351**	*e*P	**P**	**12 56 12.1**	**+0.4**
BOD				pmax	pmax		
	comp=Z,19nm,1.7s						
KSH	**Kashi**	**67.68**	**318**	P	**P**	**12 56 23.8**	**+0.4**
KSH				PcP	**PcP**	**12 56 48.9**	**-0.2**
KSH				pP	pP	12 57 00.8	-0.4
KSH				S	**S**	**13 05 02.1**	**-6.2**
KSH				ScS	**SKiKP**	**13 05 58.1**	**-6.6**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,130nm,5.6s						
KSH				LR	LR		
	comp=Z,150nm,5.7s						
KSH				LR	LR		
	comp=Z,120nm,7.5s						
KSH				LR	LR		
	comp=Z,160nm,6.5s						
MK31	**Makanchi Array**	**67.99**	**327**	*e*P	**P**	**12 56 25.1**	**+0.2**
MK31	**Makanchi Array**	**67.99**	**327**	*e*P	**P**	**12 56 25.2**	**+0.2**
MK32	**Makanchi Array**	**67.99**	**327**	*e*P	**P**	**12 56 25.2**	**+0.3**
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**12 56 25.2**	**+0.2**
	comp=Z,13nm,0.5s,baz=124,slow=7.9,SNR=192						
MKAR	**Makanchi Array**	**67.99**	**327**	*e*P	**P**	**12 56 25.1**	**+0.2**
	comp=Z,80nm,0.8s						
MKAR	**Makanchi Array**	**67.99**	**327**	*e*P	**P**	**12 56 25.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,80nm,0.8s						
MAKZ	**Makanchi**	**68.17**	**327**	*e*P	**P**	**12 56 26.2**	**+0.1**
	comp=Z,8.3nm,0.8s						
MAKZ	**Makanchi**	**68.17**	**327**	*e*P	**P**	**12 56 26.2**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MA2	**Magadan**	**68.67**	**12**	P	**P**	**12 56 30.1**	**+1.3**
	comp=Z,16nm,0.8s,baz=176,slow=4.8,SNR=39						
MA2	**Magadan**	**68.67**	**12**	*d i*P	**P**	**12 56 30.4**	**+1.5**
YAK	**Yakutsk**	**68.97**	**0**	P	**P**	**12 56 31.0**	**+0.4**
	comp=Z,25nm,0.4s,baz=271,slow=0.5,SNR=27						
YAK	**Yakutsk**	**68.97**	**0**	*e*P	**P**	**12 56 31.1**	**+0.4**
	comp=Z,61nm,0.7s						
YAK	**Yakutsk**	**68.97**	**0**	*e*P	**P**	**12 56 30.7**	**+0.1**
YAK				*e*		12 56 53.9	
YAK				*e**PP	**sP**	**12 57 19.1**	**-6.5**
YAK				*e*		12 59 06.1	
YAK				*e*S	**S**	**13 05 18.1**	**-4.1**
YAK				*e*		13 06 12.4	
YAK				*e*SS	**SS**	**13 09 46.9**	**-4.4**
YAK				pmax	pmax		
	comp=Z,47nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,287nm,4.5s						
YAK				pmax	pmax		
	comp=E,86nm,4.4s						
YAK				pmax	pmax		
	comp=N,63nm,3.8s						
YAK				smax	smax		
	comp=E,97nm,2.0s						
YAK				smax	smax		
	comp=N,55nm,2.2s						
TKM2	**Tokmak 2**	**69.68**	**321**	P	**P**	**12 56 35.2**	**-0.5**
	SNR=6.6						
UCH	**Uchtor**	**70.01**	**320**	P	**P**	**12 56 39.0**	**+0.9**
	SNR=6.2						
AAK	**Ala-Archa**	**70.23**	**320**	P	**P**	**12 56 39.8**	**+0.7**
	SNR=5.8						
AAK	**Ala-Archa**	**70.23**	**320**	*e*P	**P**	**12 56 39.7**	**+0.7**
	comp=N,6.8nm,0.8s						
AAK	**Ala-Archa**	**70.23**	**320**	⇑*i*P	**P**	**12 56 39.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KBL	**Kabul**	**70.36**	**310**	*e*P	**P**	**12 56 40.4**	**+0.3**
	comp=Z,6.8nm,0.8s						
KBL	**Kabul**	**70.36**	**310**	*e*P	**P**	**12 56 40.4**	**+0.3**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AML	**Almayashu**	**70.49**	**319**	P	**P**	**12 56 42.1**	**+1.1**
	SNR=12						
USP	**Ospenovka**	**70.55**	**321**	P	**P**	**12 56 41.6**	**+0.8**
	SNR=11						
EKS2	**Erkin-Say**	**70.70**	**320**	P	**P**	**12 56 42.8**	**+0.9**
	SNR=6.5						
ZAA0	**Zalesovo Array**	**71.42**	**334**	*e*P	**P**	**12 56 45.2**	**-0.5**
	comp=Z,12nm,0.7s						
ZALV	**Zalesovo Beam**	**71.42**	**334**	P	**P**	**12 56 45.2**	**-0.6**
	comp=Z,12nm,0.6s,baz=131,slow=5.7,SNR=48						
ZALV	**Zalesovo Beam**	**71.42**	**334**	*e*P	**P**	**12 56 44.9**	**-0.9**
ZALV	**Zalesovo Beam**	**71.42**	**334**	*e*P	**P**	**12 56 44.9**	**-0.9**
ZAA1	**Zalesovo Array**	**71.43**	**334**	*e*P	**P**	**12 56 45.2**	**-0.6**
SEY	**Seymchan**	**72.07**	**11**	P	**P**	**12 56 50.8**	**+1.3**
	comp=Z,36nm,0.7s,baz=202,slow=4.7,SNR=185						
KURK	**Kurchatov**	**72.30**	**329**	*e*P	**P**	**12 56 50.9**	**-0.2**
	comp=Z,14nm,0.6s						
KURK	**Kurchatov**	**72.30**	**329**	*c i*P	**P**	**12 56 51.2**	**+0.1**
KURK				pmax	pmax		
	comp=Z,33nm,1.6s						
VNDA	**Vanda**	**72.39**	**173**	P	**P**	**12 56 52.2**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=311,slow=7.4,SNR=6.2						
NVS	**Novosibirsk**	**72.71**	**334**	⇓*i*P	**P**	**12 56 53.3**	**-0.1**
NVS				pmax	pmax		
	comp=N,9.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,16nm,1.0s						
KKAR	**Karatay Array**	**73.02**	**319**	*e*P	**P**	**12 56 55.6**	**+0.1**
KKAR	**Karatay Array**	**73.02**	**319**	*e*P	**P**	**12 56 55.6**	**+0.1**
WSAR	**Wadi Sarin**	**75.34**	**296**	P	**P**	**12 57 09.3**	**-0.1**
	comp=Z,39nm,1.0s,baz=139,slow=6.5,SNR=10.0						
BVAR	**Borovoye Array**	**77.84**	**328**	P	**P**	**12 57 22.5**	**-0.3**
	comp=Z,12nm,1.1s,baz=126,slow=7.5,SNR=21						
BRVK	**Borovoye**	**77.91**	**328**	*e*P	**P**	**12 57 23.2**	**+0.1**
	comp=Z,11nm,0.9s						
BRVK	**Borovoye**	**77.91**	**328**	*d i*P	**P**	**12 57 23.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,13nm,0.9s						
TIXI	**Tiksi**	**78.63**	**360**	P	**P**	**12 57 26.8**	**0.0**
	comp=Z,16nm,0.5s,baz=172,slow=5.3,SNR=64						
TIXI	**Tiksi**	**78.63**	**360**	*e*P	**P**	**12 57 26.3**	**-0.4**
	comp=Z,19nm,0.5s						
TIXI				*e*P	**P**	**12 57 26.8**	**0.0**
TIXI	**Tiksi**	**78.63**	**360**	*d i*P	**P**	**12 57 26.9**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BILL	**Bilibino**	**79.40**	**13**	*i* P	**P**	**12 57 30.1**	**-0.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GEYT	**Alibeck**	**79.81**	**310**	P	**P**	**12 57 34.4**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=181,slow=5.9,SNR=4.8						
OPO	**Ambohidratompo**	**80.35**	**252**	P	**P**	**12 57 38.0**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=86,slow=19,SNR=4.6						
ABKAR	**Akbulak array**	**82.22**	**322**	*e*P	**P**	**12 57 46.2**	**-0.1**
	comp=Z,71nm,0.6s						
AKTO	**Aktyubinsk**	**83.79**	**322**	P	**P**	**12 57 54.4**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=113,slow=6.4,SNR=12						
SVE	**Sverdlovsk**	**84.55**	**329**	⇑*e*P	**P**	**12 57 58.2**	**+0.1**
SVE				pmax	pmax		
	comp=Z,47nm,1.2s						
ARU	**Arti**	**85.48**	**328**	*e*P	**P**	**12 58 02.1**	**-0.7**
	comp=Z,15nm,0.7s						
ARU	**Arti**	**85.48**	**328**	*d i*P	**P**	**12 58 01.9**	**-0.9**
ARU						13 01 20.4	
ARU				S	S	13 08 11.1	-10
ARU				pmax	pmax		
	comp=Z,27nm,1.2s						
RAYN	**Ar Rayn**	**87.21**	**294**	*e*P	**P**	**12 58 12.0**	**0.0**
	comp=Z,8.6nm,0.8s						
KDAK	**Kodiak Island**	**89.68**	**32**	P	**P**	**12 58 23.5**	**+0.7**
	comp=Z,4.4nm,0.8s,baz=165,slow=4.6,SNR=4.4						
KDAK	**Kodiak Island**	**89.68**	**32**	*e*P	**P**	**12 58 23.5**	**+0.7**
	comp=Z,177nm,2.0s						
KDAK	**Kodiak Island**	**89.68**	**32**	*c e*P	**P**	**12 58 25.9**	**+3.1**
KMBO	**Kilima Mbogo**	**91.94**	**269**	P	**P**	**12 58 34.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=62,slow=10,SNR=3.9						
KMBO	**Kilima Mbogo**	**91.94**	**269**	*e*P	**P**	**12 58 34.6**	**0.0**
	comp=Z,5.3nm,1.2s						
KMBO	**Kilima Mbogo**	**91.94**	**269**	*c e*P	**P**	**12 58 36.5**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KIV	**Kislovodsk**	**92.50**	**314**	*e*P	**P**	**12 58 36.5**	**+0.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DHY	**Denali Highway**	**93.28**	**27**	*e*P	**P**	**12 58 40.1**	**+0.5**
	comp=Z,6.9nm,0.8s						
ILAR	**Eielson Array**	**93.75**	**25**	P	**P**	**12 58 40.6**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=246,slow=4.8,SNR=7.1						
SNAA	**Sanae**	**95.37**	**194**	P	**P**	**12 58 50.2**	**+1.2**
	comp=Z,1.8nm,1.0s,baz=174,slow=9.2,SNR=3.8						
SNAA	**Sanae**	**95.37**	**194**	*e*P	**P**	**12 58 50.2**	**+1.2**
	comp=Z,11nm,1.5s						
SNAA	**Sanae**	**95.37**	**194**	*e*P	**P**	**12 58 50.2**	**+1.2**
SNAA				pmax	pmax		
	comp=Z,11nm,1.5s						
BR101	**Keskin Array S**	**98.90**	**309**	*e*P	**P**	**12 59 04.7**	**-0.9**
BRTR	**Keskin Array B**	**98.90**	**309**	P	**P**	**12 59 04.7**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=75,slow=7.2,SNR=3.3						
ARA0	**ARCESS Array S**	**101.48**	**340**	*e*Pdif	**Pdif**	**12 59 15.2**	**-1.1**
ARCES	**ARCESS Array B**	**101.48**	**340**	P	**Pdif**	**12 59 15.2**	**-1.1**
	comp=Z,5.5nm,0.7s,baz=81,slow=6.2,SNR=5.4						
FIA0	**FINESS Array S**	**102.58**	**331**	*e*Pdif	**Pdif**	**12 59 19.8**	**-1.4**
FIA0	**FINESS Array S**	**102.58**	**331**	*e*P	**Pdif**	**12 59 19.8**	**-1.4**
FINES	**FINESS Array B**	**102.58**	**331**	P	**Pdif**	**12 59 19.8**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=72,slow=4.5,SNR=2.1						
YKA	**Yellowknife Ar**	**108.17**	**26**	Pdiff	**Pdif**	**12 59 46.2**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=289,slow=5.0,SNR=3.6						
YKA				PKiKP	**PKiKP**	**13 03 51.9**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=302,slow=1.5,SNR=4.5						
YKA				PKKPbc	**PKKPbc**	**13 15 04.0**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=104,slow=2.7,SNR=5.9						
CLL	**Collm**	**111.87**	**323**	*e*Pdif	**Pdif**	**13 00 06.0**	**+3.2**
CLL				*e*PP	**PP**	**13 04 42.0**	**-2.3**
CLL	**Collm**	**111.87**	**323**	*e*P	**Pdif**	**13 00 06.0**	**+3.2**
NVAR	**Mina Array Bea**	**111.89**	**52**	PKKPbc	PKKPbc	13 15 01.0	+7.2
	comp=Z,0.3nm,0.7s,baz=118,slow=7.2,SNR=3.7						
GERES	**GERESS Array B**	**112.11**	**320**	PKiKP	**PKiKP**	**13 03 59.9**	**0.0**
	comp=Z,1.1nm,0.5s,baz=48,slow=2.0,SNR=8.6						
PD31	**Pinedale Array**	**117.45**	**45**	*e*PKPdf	**PKPdf**	**13 04 11.3**	**+0.9**
PDAR	**Pinedale Array**	**117.45**	**45**	PKP	**PKPdf**	**13 04 11.3**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=129,slow=2.1,SNR=3.9						
PDAR				pPKP	**pPKPdf**	**13 04 57.8**	**+5.7**
	comp=Z,0.5nm,0.7s,baz=118,slow=2.2,SNR=3.4						
EKA	**Eskdalemuir Ar**	**118.98**	**331**	PKP	**PKPdf**	**13 04 12.4**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=26,slow=2.1,SNR=5.0						
ANMO	**Albuquerque**	**121.91**	**53**	⇓*e*PKIKP	**PKPdf**	**13 04 18.1**	**-1.1**
ULM	**Lac du Bonnet**	**122.92**	**33**	PKP	**PKPdf**	**13 04 20.0**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=291,slow=2.9,SNR=4.5						
TXAR	**Lajitas Array**	**125.56**	**59**	PKP	**PKPdf**	**13 04 27.5**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=172,slow=2.6,SNR=7.0						
ESDC	**Sonseca Array**	**127.15**	**315**	PP	PP	13 06 29.1	-0.4
	comp=Z,0.9nm,0.7s,baz=62,slow=8.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**128.20**	**281**	PKP	**PKPdf**	**13 04 32.0**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=25,slow=2.1,SNR=19						
TORD				SKPbc	SKPbc	13 07 35.0	
	comp=Z,4.1nm,1.2s,baz=92,slow=3.9,SNR=7.3						
TOA1	**Torodi Ar. Sit**	**128.20**	**281**	*e*PKPdf	**PKPdf**	**13 04 32.0**	**+0.5**
TOA1				*e*		13 07 35.0	
JCT	**Junction City**	**128.52**	**57**	*e*PKPdf	**PKPdf**	**13 04 32.1**	**+0.3**
JCT	**Junction City**	**128.52**	**57**	*e*PKIKP	**PKPdf**	**13 04 32.1**	**+0.3**
SCHQ	**Schefferville**	**130.70**	**12**	SKPbc	**SKPbc**	**13 07 43.5**	**-1.0**
	comp=Z,5.7nm,0.8s,baz=352,slow=3.8,SNR=4.6						
KOWA	**Kowa**	**133.68**	**283**	PKP	**PKPdf**	**13 04 43.1**	**+1.2**
	comp=Z,1.8nm,0.4s,baz=70,slow=2.6,SNR=7.2						
TKL	**Tuckaleechee C**	**138.46**	**42**	PKP	**PKPdf**	**13 04 51.3**	**+1.1**
	comp=Z,2.7nm,0.6s,baz=124,slow=3.6,SNR=3.6						
BBTS	**Babate**	**145.71**	**286**	PKPbc	**PKPab**	**13 05 05.7**	**+0.8**
	comp=Z,73nm,0.6s,baz=63,slow=0.7,SNR=18						
CPUP	**Villa Florida**	**146.10**	**169**	PKPbc	**PKPab**	**13 05 06.5**	**+0.5**
	comp=Z,7.8nm,0.9s,baz=180,slow=2.4,SNR=16						
CPUP				pPKPbc	pPKPab	13 05 52.0	+5.5
	comp=Z,5.7nm,0.9s,baz=190,slow=4.6,SNR=4.0						
CPUP				SKPbc	**SKPbc**	**13 08 28.6**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=191,slow=5.2,SNR=4.1						
PB11	**IPOC Station P**	**147.37**	**145**	*e*PKPdf	**PKPbc**	**13 05 08.3**	**-0.9**
NNA	**Nana**	**147.76**	**126**	*i* PKP2	**PKPab**	**13 05 12.8**	**-0.1**
MNMC	**Minye Minye**	**147.91**	**145**	*e*PKPdf	**PKPbc**	**13 05 09.7**	**-1.0**
LPAZ	**La Paz**	**151.00**	**144**	PKP	**PKPdf**	**13 05 15.2**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=191,slow=1.2,SNR=4.7						
LPAZ				PKPbc	**PKiKP**	**13 05 20.7**	**+1.3**
	comp=Z,2.8nm,0.4s,baz=21,slow=3.1,SNR=25						
LPAZ				pPKPbc	**pPKPab**	**13 06 08.0**	**+1.0**
	comp=Z,5.9nm,0.9s,baz=227,slow=2.7,SNR=3.0						
LPAZ	**La Paz**	**151.00**	**144**	*e*PKPdf	**PKPdf**	**13 05 12.2**	**-0.8**
LPAZ				*e*		13 05 12.5	
LPAZ				PKPbc	**PKiKP**	**13 05 20.7**	**+1.3**
LPAZ	**La Paz**	**151.00**	**144**	*e*PKIKP	**PKPdf**	**13 05 12.2**	**-0.8**
LPAZ				*e*		13 05 12.5	

*ISCJB **05** 12:48:17.9±0.8, 15°.7S±0°.2×175°.2W±0°.1, h262km, mb3.9/5, Error ellipse: s-maj=32.8km s-min=10.7km az=150.9*

*IDC **05** 12:48:18.9±1.7, 15°.71S×175°.14W, h260km±23km, mb3.7/5, mb1 4.0/6, mb1mx3.3/47, mbtmp4.3/6, Error ellipse: s-maj=40.9km s-min=18.3km az=126.0*

ISC 05 12:48:19.0±0.9**, 15°.7S**±0°.2×**175°.2W**±0°.2**, h262**km**, n8,** σ**0.95**/9**, mb4.0**/5**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.72**	**62**	P	**Pn**	**12 49 21.1**	**+0.8**
	12nm,0.3s,baz=259,slow=2.7,SNR=16						
AFI				S	**S**	**12 50 08.6**	**-0.4**
	30nm,0.3s,baz=225,slow=17,SNR=12						
URZ	**Urewera**	**23.49**	**195**	P	**P**	**12 53 05.3**	**-0.2**
	6.3nm,0.8s,baz=336,slow=10.0,SNR=2.7						
WRA	**Warramunga Arr**	**48.12**	**257**	P	**P**	**12 56 33.1**	**-0.2**
	4.1nm,0.6s,baz=96,slow=6.6,SNR=2.8						
ASAR	**Alice Springs**	**48.41**	**252**	P	**P**	**12 56 34.8**	**-0.6**
	15nm,0.7s,baz=91,slow=8.3,SNR=4.1						
ILAR	**Eielson Array**	**83.07**	**12**	P	**P**	**13 00 13.6**	**-1.4**
	0.8nm,0.9s,baz=215,slow=5.0,SNR=4.0						
CMAR	**Chiang Mai Arr**	**91.10**	**289**	P	**P**	**13 00 56.1**	**+1.5**
	0.5nm,0.5s,baz=98,slow=4.6,SNR=4.1						
BRTR	**Keskin Array B**	**145.29**	**319**	PKPbc	**PKPdf**	**13 07 26.1**	**+0.1**
	1.4nm,0.8s,baz=98,slow=1.9,SNR=5.5						
GERES	**GERESS Array B**	**146.15**	**349**	PKPbc	**PKPbc**	**13 07 28.6**	**0.0**
	0.3nm,0.2s,baz=24,slow=3.4,SNR=3.9						

TAP 05 12:51:56.1, 24°.06N×121°.64E, h9km, ML2.4, 9D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.04**	**295**	⇓*e*P	Pg	12 51 58.0	+0.2
	baz=300						
TWD				*i* S	Sg	12 51 59.4	+0.2
	baz=300						
HWA	**Hwalien**	**0.09**	**200**	P	Pg	12 51 58.9	+0.5
	baz=194						
HWA				*e*S	Sg	12 52 01.2	+1.1
	baz=194						
NACB	**Ninganchiao**	**0.12**	**340**	⇓*e*P	Pg	12 51 59.1	+0.3
	baz=340						
NACB				*e*S	Sg	12 52 01.2	+0.4
	baz=340						
NACB	**Ninganchiao**	**0.12**	**340**	*e*P	Pg	12 51 58.8	-0.1
	417nm,0.3s						
ENLB	**Shoufeng**	**0.16**	**192**	*e*P	Pg	12 52 00.3	+0.8
	baz=193						
ESL	**Shilin**	**0.31**	**217**	*e*P	Pg	12 52 02.4	+0.1
	baz=225						
WHF	**Hehuan Shan**	**0.35**	**284**	⇓P	Pg	12 52 03.5	+0.3
	baz=283						
WHF				S	Sg	12 52 08.7	+0.8
	baz=283						
ENA	**Nanau**	**0.38**	**14**	⇓P	Pg	12 52 03.8	+0.3
	baz=16						
ENA				*i* S	Sg	12 52 08.8	+0.3
	baz=16						
ENAH	**Nanao**	**0.42**	**22**	*e*P	Pg	12 52 04.5	+0.3
	baz=20						
CHGB	**Renai**	**0.42**	**270**	⇓*e*P	Pg	12 52 05.1	+0.6
	baz=259						
CHGB				*e*S	Sb	12 52 11.6	-0.9
	baz=259						
NNSB	**Datong**	**0.43**	**327**	⇓*e*P	Pg	12 52 05.2	+0.6
	baz=327						
NNSH	**Datong**	**0.43**	**327**	*e*P	Pg	12 52 05.0	+0.5
	baz=332						
EGFH	**Guangfu**	**0.44**	**206**	*e*P	Pg	12 52 04.9	+0.3
	baz=214						
OWD	**Renai**	**0.44**	**256**	*e*P	Pg	12 52 05.1	+0.4
	baz=256						
NNS	**Nan Shan**	**0.45**	**327**	⇓*e*P	Pg	12 52 05.3	+0.4
	baz=328						
NNS				*e*S	Sg	12 52 11.6	+0.8
	baz=328						
TWT	**Tachien**	**0.46**	**294**	*e*P	Pb	12 52 06.0	-0.5
	baz=292						
TWT				*e*S	Sb	12 52 12.8	-0.8
	baz=292						
TDCB	**Techi**	**0.48**	**294**	*e*P	Pb	12 52 06.1	-0.6
	baz=293						
TWC	**Suao**	**0.58**	**19**	*e*P	Pg	12 52 07.7	+0.4
	baz=12						
TWC				*e*S	Sg	12 52 15.4	+0.6
	baz=12						
ENTT	**Nioudou**	**0.58**	**353**	⇓*i*P	Pb	12 52 08.0	-0.4
	baz=354						
ENTT				*e*S	Sg	12 52 15.8	+0.8
	baz=354						
HGSD	**Ruisui**	**0.60**	**199**	*e*P	Pb	12 52 08.6	-0.1
	baz=207						
EHY	**Hungye**	**0.62**	**208**	*e*P	Pg	12 52 07.8	-0.4
	baz=215						
YHNB	**Yeheng**	**0.65**	**338**	⇓*i*P	Pb	12 52 09.5	-0.2
	baz=331						
YHNB				*e*S	Sg	12 52 18.0	+0.8
	baz=331						
DPDB	**Guoxing**	**0.65**	**268**	*e*P	Pg	12 52 09.2	+0.5
	baz=268						
TWE	**Neicheng**	**0.66**	**2**	P	Pb	12 52 09.5	-0.3
	baz=4.0						
TWE				*e*S	Sb	12 52 18.2	-0.7
	baz=4.0						
EOS1	**EOS1**	**0.66**	**43**	*e*P	Pb	12 52 10.3	+0.6
	baz=33						
SSLB	**Suanglung**	**0.68**	**247**	*e*P	Pg	12 52 09.7	+0.4
	baz=247						
NWLT	**Wulai**	**0.72**	**350**	*e*P	Pb	12 52 10.9	0.0
	baz=350						
NWLT				*e*S	Sg	12 52 20.0	+0.5
	baz=350						
TYC	**Yuchr**	**0.73**	**258**	*e*P	Pb	12 52 10.6	-0.4
	baz=257						
TYC				*e*S	Sg	12 52 20.3	+0.6
	baz=257						
YULB	**Yu-li**	**0.74**	**205**	*e*P	Pg	12 52 10.2	-0.1
	baz=212						
TWF1	**Yuli**	**0.77**	**204**	*e*P	Pg	12 52 11.3	+0.3
	baz=215						
TWF1				*e*S	Sb	12 52 22.4	+0.1
	baz=215						
NSTT	**Nanjuang**	**0.81**	**314**	*e*P	Pb	12 52 12.4	+0.1
	baz=314						
LIOB	**Emei**	**0.81**	**316**	*e*P	Pb	12 52 12.6	+0.2
	baz=315						
TWQ1	**Liyutan**	**0.84**	**290**	*e*P	Pn	12 52 13.7	-0.4
	baz=302						
TWQ1				*e*S	Sn	12 52 25.6	-1.0
	baz=302						
YUS	**Yu-Shan**	**0.85**	**228**	*e*P	Pb	12 52 13.3	+0.1
	baz=241						
FULB	**Fuli**	**0.92**	**200**	*e*P	Pg	12 52 13.9	+0.2
	baz=215						
TATO	**Taipei**	**0.92**	**351**	*e*P	Pb	12 52 14.7	+0.4
	baz=350						
TIPB	**Shuangxi**	**0.92**	**11**	*e*P	Pg	12 52 13.4	-0.4
	baz=355						
ALS	**Alishan**	**0.94**	**234**	*e*P	Pb	12 52 14.9	+0.1
	baz=243						
CHN5	**Tsauling**	**0.99**	**242**	*e*P	Pn	12 52 16.3	0.0
	baz=243						
TWB1	**Santiao Chiao**	**0.99**	**19**	*e*P	Pb	12 52 15.7	+0.3
	baz=10.0						
NWF	**Wu-fen Shan**	**1.01**	**7**	*e*P	Pb	12 52 16.2	+0.3
	baz=6.0						
WFSB	**Wu-fen Shan**	**1.01**	**7**	*e*P	Pn	12 52 16.4	-0.1
	baz=6.0						
ELDTW	**Lidau**	**1.04**	**213**	*e*P	Pg	12 52 15.7	-0.4
	baz=203						
YM04	**YM04**	**1.09**	**355**	*e*P	Pn	12 52 18.5	+1.0
	baz=354						
YM07	**YM07**	**1.11**	**359**	*e*P	Pn	12 52 17.9	0.0
	baz=358						
YM03	**YM03**	**1.12**	**355**	*e*P	Pn	12 52 18.7	+0.7
	baz=354						
TPUB	**Ta-pu**	**1.20**	**231**	*e*P	Pb	12 52 18.8	-0.1
	baz=218						
WTP	**Ta-pu**	**1.24**	**229**	*e*P	Pg	12 52 20.9	+1.0
	baz=230						
CHN1	**Nanshi**	**1.34**	**230**	*e*P	Pg	12 52 21.8	-0.1
	baz=231						
SGST	**Jiashian**	**1.38**	**225**	*e*P	Pb	12 52 21.9	-0.1
	baz=226						
SLGT	**Liugui**	**1.40**	**221**	*e*P	Pg	12 52 22.8	-0.2
	baz=222						
MASBT	**Mashibuluo**	**1.71**	**213**	*e*P	Pn	12 52 26.8	+0.7
	baz=205						

*NIED **05** 12:52:00, 38°.20N×142°.20E, h41km, Mw3.6 Best double couple: $M_0$3.29000×10^{14} NP1:ϕ_s138.00000°, δ10.00000°, λ95.00000°. NP2:ϕ_s312.00000°, δ80.00000°, λ89.00000°.*

JMA 05 12:52:00.0±0.1**, 38°.22N**×**142°.10E, h41**km±1km**, M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.64**	**292**	P	Pn	12 52 12.8	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JIO				S	Sn	12 52 21.6	0.0
OFUJ	Ofunato	0.92	339	P	Pn	12 52 16.5	0.0
OFUJ				eS	Sn	12 52 28.2	-0.4
JMK	Ichinoseki	1.00	317	P	Pn	12 52 18.2	+0.6
JMK				S	Sn	12 52 31.2	+0.6
JMM	Marumori	1.09	251	P	Pn	12 52 18.6	-0.2
JMM				eS	Sn	12 52 32.1	-0.6
JOU	Okura	1.14	278	P	Pn	12 52 20.3	+0.8
JOU				eS	Sn	12 52 35.1	+1.2
JFK	Kawauchi	1.29	229	P	Pn	12 52 21.0	-0.6
JFK				eS	Sn	12 52 36.5	-1.2
JOM	Ohasama	1.40	334	P	Pn	12 52 24.0	+0.9
JOM				eS	Sn	12 52 41.2	+0.9
JYK	Kaneyama	1.53	298	P	Pn	12 52 26.0	+1.1
JYK				eS	Sn	12 52 44.8	+1.2
JFT	Otama	1.56	244	P	Pn	12 52 26.4	+1.1
JFT				S	Sn	12 52 45.9	+1.6
JYS	Shirataka	1.60	271	P	Pn	12 52 26.8	+1.0
JYS				eS	Sn	12 52 47.2	+1.9
JRG	Rokugo	1.64	316	P	Pn	12 52 28.4	+2.0
JYA	Atsumi	1.91	282	P	Pn	12 52 31.3	+1.2
MAT	Matsushiro	3.52	243	P	Pn	12 52 56.1	+3.9
MAT				eS	Sn	12 53 34.8	+2.1

PGC 05 12:54:48.0±1.1, 64°.44N×139°.72W, h10km, ML3.2/6, 44km northwest of Dawson, Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	Dawson	0.40	159	P	Pg	12 54 56.2	+0.4
DAWY				S	Sg	12 55 01.1	0.0
DOT	Dot Lake	2.07	250	Pn	Pn	12 55 22.1	-0.7
DOT				Sn	Sn	12 55 48.5	0.0
DOT				Sg	Sb	12 55 51.9	+0.6
PAX	Paxson	2.95	243	Pn	Pn	12 55 34.9	0.0
PAX				Sn	Sn	12 56 08.9	-1.4
PAX				Sg	Sb	12 56 18.9	+2.1
HARP	HAARP	3.18	233	Pn	Pn	12 55 38.0	0.0
YUK5	Granite Creek	3.42	165	Pn	Pn	12 55 40.6	-0.8
YUK5				Pg	Pb	12 55 48.5	-0.3
YUK5				Sn	Sn	12 56 20.9	-1.2
YUK5				Sg	Sb	12 56 33.9	+3.5
HYT	Haines Junctio	3.77	163	Pn	Pn	12 55 45.4	-0.8
HYT				Pg	Pb	12 55 55.0	+0.4
HYT				Sn	Sn	12 56 27.9	-2.6
HYT				Sg	Sb	12 56 42.5	+2.3
YUK7	Dusty Glacier	3.99	169	Pn	Pn	12 55 48.9	-0.3
YUK7				Sn	Sn	12 56 32.8	-3.3
YUK7				Sg	Sb	12 56 50.9	+4.2
WHY	Whitehorse	4.40	147	Pn	Pn	12 55 54.5	-0.3
WHY				Sg	Sg	12 57 04.5	-4.6
INK	Inuvik	4.62	30	Pn	Pn	12 55 56.7	-1.0
INK				Sn	Sn	12 56 47.1	-4.1
COLD	Coldfoot	5.14	308	Pn	Pn	12 56 05.0	+0.2
COLD				Sn	Sn	12 56 59.6	-4.4
PLBC	Pleasant Camp	5.24	161	Sn	Sn	12 57 03.6	-3.0
PLBC				Sg	Sg	12 57 30.6	-5.5
DLBC	Dease Lake	7.59	138	Sg	Sg	12 58 44.5	-7.0
DHRN	Dharma Camp	8.71	64	Pn	Pn	12 56 52.5	-1.3
DHRN				Sn	Sn	12 58 24.3	-7.4
HPLN	Hepburn Lake,	10.32	68	Pn	Pn	12 57 14.6	-1.3
HPLN				Sn	Sn	12 59 02.2	-9.3

MEX 05 12:57:09.2±0.9, 32°.47N×115°.17W, h13km±4km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.06	204	eP	Pg	12 57 11.8	0.0
MBIG				eS	Sg	12 57 13.4	-0.2
TJIG	Tijuana	1.27	269	eP	Pn	12 57 29.6	-3.1
TJIG				iS	Sb	12 57 44.2	-5.2
SPIG	San Pedro Mart	1.44	190	eP	Pn	12 57 31.8	-3.5
SPIG				eS	Sn	12 57 49.1	-5.1

IDC 05 12:57:55.9±2.3, 65°.55N×174°.34W, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.3/77, mbtmp3.6/5, ML3.2/2, Error ellipse: s-maj=73.4km s-min=21.1km az=19.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	11.53	81	Pn	Pn	13 00 37.1	-4.4
	0.1nm,0.3s,baz=282,slow=13,SNR=6.1						
KDAK	Kodiak Island	12.87	117	Pn	Pn	13 00 58.3	-1.5
	0.2nm,0.3s,baz=328,slow=13,SNR=3.8						
TIXI	Tiksi	20.83	312	P	P	13 02 39.6	+1.1
	1.5nm,0.5s,baz=84,slow=8.6,SNR=2.6						
YKA	Yellowknife Ar	25.48	69	P	P	13 03 23.3	-1.9
	0.2nm,0.7s,baz=304,slow=8.8,SNR=4.2						
ZALV	Zalesovo Beam	46.59	307	P	P	13 06 24.5	-0.5
	0.7nm,0.6s,baz=34,slow=11,SNR=3.6						

*IDC **05** 12:59:08.0±4.3, 21°.66N×143°.14E, h288km±42km, mb3.3/12, mb1 3.4/13, mb1mx3.1/68, mbtmp3.9/13, Error ellipse: s-maj=22.3km s-min=12.2km az=88.0*
*ISCJB **05** 12:59:08.6±0.7, 21°.68N±0°.08×143°.2E±0°.2, h311km, mb3.5/13, Error ellipse: s-maj=22.5km s-min=10.6km az=177.2*
ISC 05 12:59:10.2±0.7, 21°.72N±0°.10×143°.1E±0°.2, h311km, n18, σ0s.97/19, mb3.5/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.42	351	S	S	13 01 37.7	-2.0
	9.7nm,0.3s,baz=311,slow=19,SNR=5.9						
MJAR	Matsushiro Arr	15.38	345	P	P	13 02 31.1	+0.3
	0.6nm,0.3s,baz=172,slow=11,SNR=5.1						
KSRS	Korea Array	20.47	323	P	P	13 03 25.6	+0.5
	1.3nm,0.5s,baz=146,slow=9.5,SNR=7.8						
KLR	Kul'dur	28.91	344	P	P	13 04 41.0	0.0
	0.1nm,0.4s,baz=130,slow=16,SNR=3.7						
CMAR	Chiang Mai Arr	41.53	274	P	P	13 06 28.7	+0.5
	0.6nm,0.5s,baz=88,slow=6.1,SNR=4.5						
WRA	Warramunga Arr	42.29	192	P	P	13 06 33.1	-1.1
	0.7nm,0.5s,baz=9.4,slow=7.9,SNR=27						
WRA				PcP	PcP	13 08 21.5	-0.1
	0.2nm,0.6s,baz=5.5,slow=3.5,SNR=3.2						
ASAR	Alice Springs	45.99	192	P	P	13 07 02.0	-1.4
	0.3nm,0.6s,baz=13,slow=13,SNR=5.7						
ZALV	Zalesovo Beam	54.17	322	P	P	13 08 04.3	+0.4
	0.6nm,0.5s,baz=116,slow=6.7,SNR=3.1						
ILAR	Eielson Array	62.04	27	P	P	13 08 57.6	-0.4
	0.6nm,0.9s,baz=253,slow=5.8,SNR=7.7						
BVAR	Borovoye Array	62.63	319	P	P	13 09 02.3	+0.3
	2.8nm,0.3s,baz=97,slow=9.3,SNR=18						
YKA	Yellowknife Ar	76.46	28	P	P	13 10 26.2	+0.4
	0.4nm,0.4s,baz=292,slow=5.5,SNR=11						
ARCES	ARCESS Array B	78.89	341	P	P	13 10 39.7	+0.6
	2.2nm,0.6s,baz=73,slow=8.6,SNR=15						
FINES	FINESS Array B	83.14	334	P	P	13 11 00.6	-0.8
	1.4nm,0.5s,baz=68,slow=4.8,SNR=15						
NVAR	Mina Array Bea	83.17	51	P	P	13 11 03.4	+1.0
	0.7nm,0.7s,baz=272,slow=5.1,SNR=6.4						
HFS	Hagfors	88.69	337	P	P	13 11 27.2	-1.3
	0.6nm,0.5s,baz=72,slow=4.7,SNR=6.0						
MMAI	Mount Meron Ar	92.20	307	P	P	13 11 46.7	+1.3
	2.4nm,0.2s,baz=59,slow=0.8,SNR=5.4						
PLCA	Paso Flores	145.80	131	PKPbc	PKPab	13 18 13.7	-0.7
	baz=229,slow=9.3						
LPAZ	La Paz	149.99	85	PKPbc	PKPbc	13 18 26.7	+1.1
	1.2nm,0.6s,baz=290,slow=3.2,SNR=6.0						

*NEIC **05** 13:02:12.5±0.0, 17°.46N×101°.61W, h29km, MD4.1(MEX), After MEX.*
MEX 05 13:02:12.5±0.4, 17°.46N×101°.61W, h29km±3km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.20	44	iP	Pb	13 02 17.5	-1.2
ZIIG				iS	Sb	13 02 21.5	-1.4
ZIIG	Zihuatanejo	0.20	44	iP	Pb	13 02 17.5	-1.2
ZIIG				iS	Sb	13 02 21.5	-1.4
CAIG	El Cayaco	1.35	107	iP	Pn	13 02 33.6	-1.8
CAIG				iS	Sn	13 02 49.2	-3.2
CAIG	El Cayaco	1.35	107	iP	Pn	13 02 33.6	-1.8
CAIG				iS	Sn	13 02 49.2	-3.2
ARIG	Puente Sto Nin	1.46	56	eP	Pn	13 02 34.6	-2.3
ARIG				iS	Sn	13 02 52.1	-3.0
ACX	Acapulco	1.78	109	iP	Pn	13 02 39.5	-1.8
ACX				iS	Sn	13 02 58.5	-4.5
ACX	Acapulco	1.78	109	iP	Pn	13 02 39.5	-1.8
ACX				iS	Sn	13 02 58.5	-4.5
MMIG	Aquila	1.84	297	eP	Pn	13 02 40.1	-2.1
MMIG				iS	Sn	13 03 01.7	-2.8
MMIG	Aquila	1.84	297	eP	Pn	13 02 40.1	-2.1
MMIG				iS	Sn	13 03 01.7	-2.8
MEIG	Mezcala	1.96	76	iP	Pn	13 02 42.7	-1.1
MEIG				iS	Sn	13 03 04.9	-2.5
MEIG	Mezcala	1.96	76	iP	Pn	13 02 42.7	-1.1
MEIG				iS	Sn	13 03 04.9	-2.5
PLIG	Platanillo	2.21	65	eP	Pn	13 02 45.4	-2.0
PLIG				iS	Sn	13 03 10.7	-3.1
PLIG	Platanillo	2.21	65	eP	Pn	13 02 45.4	-2.0
PLIG				iS	Sn	13 03 10.7	-3.1
EZ5V		2.76	317	iP	Pn	13 02 53.8	-1.2
EZ5V				iS	Sn	13 03 25.6	-1.9
SFJM	Santa Fe	3.30	336	iP	Pn	13 02 56.3	-6.1
SFJM				iS	Sn	13 03 33.6	-7.2
SFJM	Santa Fe	3.30	336	iP	Pn	13 02 56.3	-6.1
SFJM				iS	Sn	13 03 33.6	-7.2

*SOME **05** 13:04:14.0, 44°.02N×83°.68E, h10km*
*NNC **05** 13:04:18.4±4.6, 44°.20N×83°.80E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=45.2km s-min=18.7km az=128.0*
ISC 05 13:04:22.5±2.3, 44°.0N±0°.1×83°.6E±0°.1, h20km, n15, σ2s.98/27, 6C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	2.79	278	eP	Pn	13 05 06.4	+0.3
	22nm,0.2s						
DJR				eS	Sb	13 05 42.9	-2.4
	121nm,0.3s						
MK31	Makanchi Array	2.93	342	⇑Pn	Pn	13 05 05.4	-2.5
	13nm,0.5s,baz=161,slow=16						
MK31				⇑Lg	Lg	13 05 44.5	
	37nm,0.3s,baz=154,slow=29						
MAKZ	Makanchi	3.02	338	⇑Pn	Pn	13 05 07.7	-1.5
	6.5nm,0.5s						
MAKZ				⇑Lg	Lg	13 05 48.0	
	17nm,0.3s						
PDGK	Podgornoye	3.09	258	⇓Pn	Pn	13 05 08.0	-2.3
	3.0nm,0.3s						
PDGK				⇓Sn	Sb	13 05 51.6	-2.5
	149nm,0.6s						
ZSN	Zaisan	3.53	14	eP	Pn	13 05 17.0	+0.8
	10nm,0.2s						
ZSN				eS	Sn	13 06 00.5	+3.1
	26nm,0.4s						
MNBS	Baschi	3.78	273	eP	Pn	13 05 22.3	+2.6
	5.7nm,0.2s						
MNBS				eS	Sb	13 06 10.4	-3.5
	56nm,0.3s						
SATY	Saty	3.92	258	eP	Pb	13 05 26.9	-4.1
	7.4nm,0.1s						
SATY				eS	Sb	13 06 17.3	-0.8
	62nm,0.3s						
CHKK	Chushkaly	4.81	270	eP	Pb	13 05 43.9	-2.1
	8.8nm,0.4s						
CHKK				eS	Sb	13 06 46.5	+3.1
	41nm,0.3s						
MDOK	Medeo	4.86	262	⇑Pg	Pb	13 05 50.7	+3.6
	4.4nm,0.5s						
MDOK				Lg	Lg	13 06 55.6	
	20nm,0.6s						
MDOK	Medeo	4.86	262	eP	Pb	13 05 46.6	-0.5
	3.9nm,0.3s						
MDOK				eS	Sb	13 06 51.1	+5.9
	25nm,0.5s						
TNSS	Tian-Shan	4.96	261	eP	Pb	13 05 47.0	-1.9
	5.1nm,0.3s						
TNSS				eS	Sb	13 06 52.1	+3.8
	16nm,0.4s						
IZV	Izvestkoviy	5.20	261	eP	Pb	13 05 50.2	-2.7
	5.8nm,0.3s						
IZV				eS	Sb	13 06 57.7	+2.8
	34nm,0.4s						
KUU	Kurty	5.27	271	eP	Pb	13 05 51.8	-2.2
	2.0nm,0.5s						
KUU				eS	Sb	13 06 59.6	+2.9
	23nm,0.4s						
MTBS	Maitube	5.31	263	eP	Pb	13 05 53.0	-1.6
	3.9nm,0.3s						
MTBS				⇑iS	Sb	13 07 02.2	+4.2
	17nm,0.6s						
KST	Kastek	5.67	263	eP	Pb	13 05 58.3	-2.4
	1.6nm,0.4s						
KST				eS	Sb	13 07 10.8	+2.6
	13nm,0.8s						

IDC 05 13:11:27.2±2.3, 2°.28N×129°.14E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/57, mbtmp3.4/3, Error ellipse: s-maj=151.3km s-min=24.8km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.66	167	P	P	13 16 30.9	+0.6
	0.6nm,0.5s,baz=347,slow=12,SNR=7.2						
ASAR	Alice Springs	26.20	170	P	P	13 17 03.3	-0.6
	0.3nm,0.7s,baz=357,slow=8.0,SNR=4.1						
MKAR	Makanchi Array	60.12	325	P	P	13 21 36.5	0.0
	0.4nm,0.5s,baz=115,slow=8.5,SNR=13						

*DDA **05** 13:15:54.4, 36°.12N×38°.98E, h33km, Ml3.8*
*ISN **05** 13:15:59.9±0.6, 36°.59N×38°.95E, h2km±21km, ML3.4*
*ISK **05** 13:16:02.6, 36°.65N×38°.85E, h16km, ML3.4/10*
*CSEM **05** 13:16:03.4±0.2, 36°.60N×38°.86E, h20km, ML3.4, Error ellipse: s-maj=5.8km s-min=4.2km az=4.0*
ISC 05 13:15:54.3±1.2, 36°.18N±0°.03×38°.89E±0°.02, h1km±11km, n67, σ1s.51/90, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURC	SANLIURFA_SURC	0.74	343	iP	Pb	13 16 11.3	+1.3
SURC				iS	Sb	13 16 21.8	+1.2
SURC	SANLIURFA_SURC	0.74	343	P	Pb	13 16 11.3	+1.3
SURC				S	Sb	13 16 21.8	+1.2
URFA	Urfa	1.26	358	PG	Pg	13 16 18.4	-0.2
URFA	Urfa	1.26	358	ePg	Pg	13 16 18.4	-0.2
KUZU	Kuzuini	1.58	293	iP	Pg	13 16 25.2	+0.6
KUZU				iS	Sn	13 16 46.6	+2.0
KUZU	Kuzuini	1.58	293	P	Pg	13 16 25.2	+0.6
KUZU				S	Sn	13 16 46.6	+2.0
GAZ	Gaziantep	1.68	307	PN	Pg	13 16 27.8	+1.3
GAZ	Gaziantep	1.68	307	ePn	Pg	13 16 27.8	+1.3
MAZI	Mazidag	1.79	44	PN	Pb	13 16 29.5	+1.5
MAZI				SN	Sn	13 16 49.7	-0.2
MAZI	Mazidag	1.79	44	ePn	Pb	13 16 29.5	+1.5
MAZI				eSn	Sn	13 16 49.7	-0.2
MARD	Mardin	1.90	53	iP	Pn	13 16 27.2	-0.7
MARD				iS	Sn	13 16 51.5	-1.1
HCB	Kahramanmara¯	1.97	307	iP	Pn	13 16 28.5	-0.5
HCB				iS	Sn	13 16 53.1	-1.2
DIYA	Diyarbakir	2.00	29	iP	Pn	13 16 31.3	+1.9
DIYA				iS	Sn	13 16 55.6	+0.5
DIYA	Diyarbakir	2.00	29	P	Pn	13 16 31.3	+1.9
DIYA				S	Sn	13 16 55.6	+0.5
DIY	Diyarbakir	2.02	32	ePn	Pn	13 16 32.0	+2.3
DIY				eSn	Sn	13 16 53.2	-2.4
DYBB	Diyarbakir	2.04	29	PN	Pn	13 16 32.0	+2.2
DYBB				SN	Sn	13 16 53.2	-2.8
KMRS	Kahramanmaras	2.08	310	PN	Pg	13 16 34.3	+0.2
KMRS	Kahramanmaras	2.08	310	ePn	Pg	13 16 34.3	+0.2
MALT	Malatya	2.17	350	PN	Pn	13 16 32.2	+0.6
MALT	Malatya	2.17	350	ePn	Pn	13 16 32.2	+0.6
AKCD	Akcadag	2.25	340	iP	Pn	13 16 33.4	+0.5
AKCD				iS	Sg	13 17 07.3	+0.6
AKCD	Akcadag	2.25	340	P	Pn	13 16 33.4	+0.5
YAYL	Yayladag	2.26	267	PN	Pg	13 16 40.5	+2.9
YAYL	Yayladag	2.26	267	iP	Pn	13 16 32.6	-0.3
YAYL				iS	Sg	13 17 07.4	+0.6
YAYL	Yayladag	2.26	267	ePn	Pg	13 16 40.5	+2.9
YAYL				S	Sg	13 17 07.4	+0.6
ELZG	Elazig	2.32	2	iP	Pn	13 16 34.8	+1.0
ELZG				iS	Sb	13 17 06.7	+0.4
ELZG	Elazig	2.32	2	P	Pn	13 16 34.8	+1.0
ANDN	Andirin	2.47	305	iS	Sg	13 17 14.8	+0.9
HANI	Diyarbakir_Han	2.54	28	iP	Pb	13 16 41.0	+0.3
HANI				iS	Sb	13 17 13.0	+0.5
HANI	Diyarbakir_Han	2.54	28	P	Pb	13 16 41.0	+0.3
BTMN	Batman	2.56	47	iP	Pn	13 16 40.6	+3.5
BTMN	Batman	2.56	47	P	Pn	13 16 40.6	+3.5
DARE	Darende-Malaty	2.64	335	PN	Pn	13 16 39.9	+1.7
DARE	Darende-Malaty	2.64	335	ePn	Pn	13 16 39.9	+1.7
CEYT	Ceyhan	2.66	289	PN	Pg	13 16 44.2	-1.1
CEYT	Ceyhan	2.66	289	ePn	Pg	13 16 44.2	-1.1
YURE	YUREGIR	2.70	285	PN	Pg	13 16 45.5	-0.6
YURE	YUREGIR	2.70	285	iP	Pg	13 16 44.3	-1.9
YURE	YUREGIR	2.70	285	P	Pg	13 16 44.3	-1.9
YURE	YUREGIR	2.70	285	ePn	Pg	13 16 45.5	-0.6
PTK	Pertek	2.74	8	PN	Pn	13 16 40.3	+0.7
PTK	Pertek	2.74	8	ePn	Pn	13 16 40.3	+0.7
HEKM	Malatya_Hekimh	2.80	345	iP	Pn	13 16 41.0	+0.6
HEKM				iS	Sg	13 17 22.8	-1.4
HEKM	Malatya_Hekimh	2.80	345	P	Pn	13 16 41.0	+0.6
SAIM	ADANA	2.88	310	iP	Pn	13 16 40.5	-0.9
SAIM				iS	Sb	13 17 18.9	-3.3
SAIM	ADANA	2.88	310	P	Pn	13 16 40.5	-0.9
SAIM				S	Sb	13 17 18.9	-3.3
SRTM	Siirt_Merkez	3.03	52	iP	Pn	13 16 43.2	-0.3
SRTM	Siirt_Merkez	3.03	52	P	Pn	13 16 43.2	-0.3
KEMA	Kemaliye	3.10	354	iP	Pn	13 16 44.9	+0.4
KEMA				iS	Sg	13 17 32.3	-1.8
KEMA	Kemaliye	3.10	354	P	Pn	13 16 44.9	+0.4
SIRN	S˜–rnak	3.12	64	iP	Pn	13 16 44.5	-0.3
SIRN	S˜–rnak	3.12	64	P	Pn	13 16 44.5	-0.3
SIRT	Sirnak	3.14	64	PN	Pb	13 16 51.0	0.0
SIRT	Sirnak	3.14	64	ePn	Pb	13 16 51.0	0.0
CUKAN	kangal_SIVAS	3.33	341	iP	Pn	13 16 48.7	+1.0
CUKAN	kangal_SIVAS	3.33	341	P	Pn	13 16 48.7	+1.0
RTB	Rutbah	3.35	159	ePn	Pg	13 17 00.0	+1.4
	SNR=3.0						
RTB				iSn	Sg	13 17 42.0	0.0
	SNR=3.0						
YAHY	KAYSERI_Yahyal	3.41	305	iP	Pn	13 16 49.1	+0.4
YAHY				iS	Sg	13 17 39.4	-4.4
YAHY	KAYSERI_Yahyal	3.41	305	P	Pn	13 16 49.1	+0.4
DQRL	Deir Qamar	3.67	229	eP	Pg	13 17 02.5	-2.3
SHBL	Chebaa	3.83	223	eP	Pn	13 16 55.7	+1.2
CUKT	Cukurca	3.94	73	PN	Pb	13 17 03.5	-1.2
CUKT	Cukurca	3.94	73	ePn	Pb	13 17 03.5	-1.2
SVSK	Karacayir	4.02	339	PN	Pn	13 16 59.3	+2.3
SVSK	Karacayir	4.02	339	ePn	Pn	13 16 59.3	+2.3
HAKT	HAKKARI	4.10	69	iP	Pn	13 16 58.2	-0.2
HAKT	HAKKARI	4.10	69	P	Pn	13 16 58.2	-0.2

*JMA **05** 13:17:53.5±0.1, 22°.68N×120°.69E, h26km±4km, M3.5*
*TAP **05** 13:17:55.2, 22°.75N×120°.78E, h28km, ML3.5, B*
*ISCJB **05** 13:17:56.1±0.2, 22°.73N±0°.01×120°.81E±0°.02, h32km±1km, Error ellipse: s-maj=2.8km s-min=2.4km az=10.7*
ISC 05 13:17:56.0±0.9, 22°.74N±0°.02×120°.80E±0°.02, h28km±5km, n91, σ0s.92/129, 10C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	Sandimen	0.15	273	⇑iP	Pb	13 18 01.2	-0.3
	baz=270						
SSD				S	Sb	13 18 05.0	-0.2
	baz=270						
MASBT	Mashibuluo	0.20	231	⇑iP	Pn	13 18 01.7	-1.5
	baz=219						
MASBT				iS	Sb	13 18 05.7	-0.3
	baz=219						
ECL	Taimali	0.20	135	⇑iP	Pb	13 18 01.8	-0.2
	baz=132						
ECL				S	Sb	13 18 06.2	+0.1
	baz=132						
TWG	Pinlang	0.27	72	⇓iP	Pb	13 18 02.9	0.0
	baz=70						
TWG				iS	Sb	13 18 07.8	+0.4
	baz=70						
TWGBT	Beinan	0.27	73	⇓iP	Pb	13 18 02.9	0.0
	baz=70						
TWGBT				iS	Sb	13 18 07.8	+0.3
	baz=70						
SGLT	Jiouru	0.28	267	P	Pn	13 18 03.7	-0.7
	baz=265						
SLGT	Liugui	0.29	331	⇑iP	Pb	13 18 02.9	-0.3
	baz=338						
SLGT				iS	Sb	13 18 08.2	+0.2
	baz=338						
TTN	Taitung	0.32	87	eP	Pn	13 18 04.1	-0.8
	baz=85						
TTN				eS	Sn	13 18 10.6	0.0
	baz=85						
SSPT	Xinbi	0.33	220	⇑iP	Pn	13 18 04.0	-1.0
	baz=212						
SSPT				eS	Sn	13 18 10.0	-0.8
	baz=212						
EAST	Anshuo	0.36	173	⇑iP	Pn	13 18 03.9	-1.5
	baz=169						
EAST				S	Sn	13 18 09.8	-1.8
	baz=169						
TWM1	Shoushan	0.36	284	⇑eP	Pn	13 18 04.9	-0.5
	baz=287						
TAW	Tawu	0.39	167	eP	Pn	13 18 04.3	-1.5
	baz=164						
SGST	Jiashian	0.40	330	⇑iP	Pn	13 18 05.0	-0.9
	baz=333						
SGST				S	Sn	13 18 11.6	-0.9
	baz=333						
SCZT	Fangliau	0.40	204	⇓iP	Pn	13 18 04.5	-1.4
	baz=203						
SCZT				iS	Sn	13 18 10.7	-1.9
	baz=203						
STYT	Tauyuan	0.42	355	⇓P	Pb	13 18 04.8	-0.4
	baz=5.0						
STYT				eS	Sb	13 18 11.6	+0.2
	baz=5.0						
KAU	Kaohsiung	0.48	250	eP	Pn	13 18 07.5	+0.4
	baz=248						
ELDTW	Lidau	0.49	24	⇓iP	Pb	13 18 06.0	-0.3
	baz=28						
ELDTW				eS	Sb	13 18 12.9	-0.3
	baz=28						
WSSB	Gushan	0.51	259	⇓eP	Pn	13 18 07.8	+0.4
	baz=269						
WSSB				eS	Sn	13 18 17.2	+1.9
	baz=269						
CHN1	Nanshi	0.51	331	⇑P	Pn	13 18 06.7	-0.8
	baz=333						
CHN1				eS	Sn	13 18 14.9	-0.4
	baz=333						
CHN3	Shinhua	0.52	310	eP	Pn	13 18 07.9	+0.3
	baz=310						
WTP	Ta-pu	0.53	341	⇓iP	Pn	13 18 06.9	-1.0
	baz=344						
WTP				eS	Sn	13 18 15.4	-0.5
	baz=344						
WLCH	Liuqiu	0.55	225	eP	Pn	13 18 09.0	+1.0
	baz=224						
TWP	Hsiaoliuchiu	0.56	226	⇑eP	Pn	13 18 09.0	+0.9
	baz=224						
TPUB	Ta-pu	0.58	344	eP	Pb	13 18 07.4	-0.3
	baz=346						
TPUB				eS	Sb	13 18 16.1	+0.4
	baz=346						
TAI1	Yung-k'ang	0.61	300	eP	Pn	13 18 09.0	+0.2
	baz=300						
CHKT	Chengkung	0.63	55	⇓P	Pn	13 18 08.2	-0.9
	baz=66						
CHKT				eS	Sb	13 18 18.0	+0.9
	baz=66						
CHN4	Tsaushan	0.64	343	eP	Pb	13 18 08.5	-0.2
	baz=344						
CHN4				eS	Sn	13 18 18.6	+0.1
	baz=344						
FULB	Fuli	0.65	45	⇓eP	Pn	13 18 08.7	-0.6
	baz=42						
FULB				eS	Sn	13 18 18.8	+0.1
	baz=42						
SCLT	Jiali	0.71	308	eP	Pb	13 18 09.9	+0.1
	baz=309						
SCLT				eS	Sn	13 18 21.1	+1.0
	baz=309						
HEN	Hengchun	0.73	184	eP	Pb	13 18 10.5	+0.3
	baz=181						
HEN				eS	Sn	13 18 21.8	+1.0
	baz=181						

YUS	**Yu-Shan**	**0.76**	**11**	*e*P	**Pn**	**13 18 10.4**	**-1.0**
	baz=21							
YUS				*e*S	**Sb**	**13 18 21.4**	**+0.2**
	baz=21							
TWF1	**Yuli**	**0.76**	**37**	*e*P	**Pn**	**13 18 09.9**	**-1.0**
	baz=35							
TWF1				*e*S	**Sn**	**13 18 20.6**	**-1.0**
	baz=35							
TWK1	**Hengchun**	**0.79**	**180**⇓	*e*P	**Pb**	**13 18 11.3**	**+0.1**
	baz=188							
TWK1				*e*S	**Sn**	**13 18 23.0**	**+0.8**
	baz=188							
TWKBT	**Hengchun**	**0.80**	**179**⇓	*e*P	**Pb**	**13 18 11.2**	**-0.1**
	baz=189							
YULB	**Yu-li**	**0.80**	**35**	*e*P	**Pn**	**13 18 10.5**	**-1.0**
	baz=43							
CHY	**Chiayi**	**0.83**	**336**	*e*P	**Pb**	**13 18 11.9**	**0.0**
	baz=338							
CHY				*e*S	**Sb**	**13 18 24.4**	**+1.7**
	baz=338							
TSEB	**Hengchuen, Pin**	**0.84**	**174**	*e*P	**Pb**	**13 18 12.3**	**+0.3**
	baz=185							
TSEB				*e*S	**Sb**	**13 18 24.5**	**+1.6**
	baz=185							
CHN2	**Minshiung**	**0.84**	**339**	*e*P	**Pb**	**13 18 12.4**	**+0.3**
	baz=340							
CHN5	**Tsauling**	**0.86**	**353**	⇓P	**Pb**	**13 18 12.2**	**-0.3**
	baz=355							
CHN5				*e*S	**Sb**	**13 18 25.3**	**+1.7**
	baz=355							
WLGB	**Puzi**	**0.87**	**328**	*e*P	**Pb**	**13 18 12.1**	**-0.4**
	baz=329							
EHY	**Hungye**	**0.90**	**32**	*e*P	**Pn**	**13 18 12.4**	**-0.5**
	baz=30							
EHY				*e*S	**Sn**	**13 18 24.9**	**-0.2**
	baz=30							
HGSD	**Ruisui**	**0.94**	**37**	*e*P	**Pn**	**13 18 13.0**	**-0.4**
	baz=31							
WGK	**Gukeng**	**0.97**	**347**	*e*P	**Pb**	**13 18 13.7**	**-0.5**
	baz=349							
WDLH	**Douliu**	**0.97**	**346**	*e*P	**Pb**	**13 18 13.8**	**-0.5**
	baz=347							
LAY	**Lan-yu**	**0.98**	**135**	*e*P	**Pn**	**13 18 12.8**	**-1.2**
	baz=134							
WSF	**Szhu**	**1.04**	**329**	*e*P	**Pn**	**13 18 14.2**	**-0.5**
	baz=331							
SSLB	**Suanglung**	**1.05**	**8**	*e*P	**Pn**	**13 18 15.0**	**0.0**
	baz=354							
WJS	**Zhushan**	**1.08**	**357**	*e*P	**Pb**	**13 18 15.5**	**-0.6**
	baz=342							
EGFH	**Guangfu**	**1.09**	**32**	*e*P	**Pb**	**13 18 16.0**	**-0.2**
	baz=33							
WNT	**Mingjian**	**1.14**	**355**	*e*P	**Pn**	**13 18 16.1**	**0.0**
	baz=344							
WNT				*e*S	**Sb**	**13 18 31.9**	**+0.4**
	baz=344							
SMLT	**Sun Moon Lake**	**1.14**	**5**	*e*P	**Pb**	**13 18 16.6**	**-0.6**
	baz=8.0							
SMLT				*e*S	**Sb**	**13 18 33.2**	**+1.5**
	baz=8.0							
TYC	**Yuchr**	**1.16**	**3**	*e*P	**Pb**	**13 18 16.8**	**-0.7**
	baz=348							
WDGT	**Dungji**	**1.17**	**297**	*e*P	**Pn**	**13 18 15.1**	**-1.4**
	baz=296							
RLNB	**Erlin**	**1.22**	**341**	*e*P	**Pb**	**13 18 17.2**	**-1.2**
	baz=329							
WTCT	**Ta-ch'eng**	**1.22**	**337**	*e*P	**Pn**	**13 18 16.8**	**-0.4**
	baz=338							
ESL	**Shilin**	**1.22**	**28**	*e*P	**Pn**	**13 18 17.5**	**+0.3**
	baz=43							
OWD	**Renai**	**1.26**	**16**	*e*P	**Pn**	**13 18 18.3**	**+0.4**
	baz=17							
DPDB	**Guoxing**	**1.29**	**5**	*e*P	**Pn**	**13 18 18.3**	**0.0**
	baz=8.0							
DPDB				*e*S	**Sn**	**13 18 35.1**	**+0.4**
	baz=8.0							
WCHH	**Zhanghua**	**1.35**	**351**	*e*P	**Pn**	**13 18 19.1**	**0.0**
	baz=352							
PHUB	**P'eng-hu**	**1.37**	**305**	*e*P	**Pn**	**13 18 17.7**	**-1.5**
	baz=304							
ENLB	**Shoufeng**	**1.37**	**32**	*e*P	**Pb**	**13 18 20.4**	**-0.7**
	baz=34							
PNG	**Penghu**	**1.41**	**306**	*e*P	**Pn**	**13 18 18.7**	**-1.1**
	baz=306							
WHF	**Hehuan Shan**	**1.46**	**17**	*e*P	**Pb**	**13 18 21.9**	**-0.9**
	baz=5.0							
TWD	**Chiawan**	**1.52**	**29**	*e*P	**Pn**	**13 18 21.8**	**+0.4**
	baz=42							
TDCB	**Techi**	**1.54**	**12**	*e*P	**Pn**	**13 18 21.7**	**-0.2**
	baz=359							
TWT	**Tachien**	**1.55**	**13**	*e*P	**Pb**	**13 18 22.9**	**-1.2**
	baz=359							
TWQ1	**Liyutan**	**1.60**	**359**	*e*P	**Pn**	**13 18 23.1**	**+0.6**
	baz=1.0							
NACB	**Ninganchiao**	**1.60**	**27**	*e*P	**Pn**	**13 18 22.2**	**-0.3**
	baz=41							
NSY	**Sanyi**	**1.67**	**359**	*e*P	**Pb**	**13 18 24.5**	**-1.6**
	baz=344							
NNSH	**Datong**	**1.77**	**18**	*e*P	**Pn**	**13 18 25.9**	**+1.1**
	baz=3.0							
NNS	**Nan Shan**	**1.77**	**17**	*e*P	**Pb**	**13 18 26.4**	**-1.5**
	baz=4.0							
ENA	**Nanau**	**1.89**	**27**	*e*P	**Pn**	**13 18 26.8**	**+0.3**
	baz=29							
NSTT	**Nanjuang**	**1.89**	**6**	*e*P	**Pn**	**13 18 27.3**	**+0.8**
	baz=352							
NANB	**Nanao**	**1.89**	**27**	*e*P	**Pn**	**13 18 26.8**	**+0.3**
	baz=29							
LIOB	**Emei**	**1.91**	**6**	*e*P	**Pn**	**13 18 26.6**	**-0.1**
	baz=352							
ENTT	**Nioudou**	**2.02**	**20**	*e*P	**Pb**	**13 18 30.0**	**-2.0**
	baz=8.0							
TWE	**Neicheng**	**2.13**	**22**	*e*P	**Pb**	**13 18 31.8**	**-2.1**
	baz=37							
NWLT	**Wulai**	**2.13**	**17**	*e*P	**Pn**	**13 18 31.1**	**+1.3**
	baz=1.0							
EOS1	**EOS1**	**2.18**	**34**	*e*P	**Pb**	**13 18 32.5**	**-2.1**
	baz=47							
TIPB	**Shuangxi**	**2.41**	**23**	*e*P	**Pn**	**13 18 34.5**	**+0.8**
	baz=36							
VWUC	**VWUC**	**2.56**	**331**	*e*P	**Pn**	**13 18 34.7**	**-0.9**
	baz=332							
YOJ	**Yonaguni jima**	**2.66**	**49**	*e*P	**Pn**	**13 18 37.8**	**+0.9**
	baz=49							
YOJ	**Yonaguni jima**	**2.66**	**49**	P	**Pn**	**13 18 38.3**	**+1.3**
KNMB	**Chin-men Tao**	**2.80**	**308**	*e*P	**Pn**	**13 18 38.6**	**-0.3**
	baz=309							
HATJ	**Hateruma jima**	**3.06**	**64**	P	**Pn**	**13 18 43.5**	**+1.0**
HATJ				S	**Sn**	**13 19 18.5**	**+0.3**
IRIF	**Iriomote-Funau**	**3.12**	**59**	P	**Pn**	**13 18 45.1**	**+1.7**
IRIF				*e*S	**Sn**	**13 19 22.3**	**+2.5**
JKRS	**Kuro-shima**	**3.30**	**63**	P	**Pn**	**13 18 47.1**	**+1.2**
JKRS				*e*S	**Sn**	**13 19 24.1**	**-0.1**
JIJ	**Ishigaki jima**	**3.47**	**62**	P	**Pn**	**13 18 48.9**	**+0.7**
JIJ				S	**Sn**	**13 19 28.3**	**0.0**
JISG	**Ishigakijimahi**	**3.71**	**60**	P	**Pn**	**13 18 51.5**	**+0.1**
JISG				*e*S	**Sn**	**13 19 33.7**	**-0.5**
JTJ	**Tarama**	**4.05**	**61**	P	**Pn**	**13 18 57.1**	**+1.0**
JTJ				*e*S	**Sn**	**13 19 43.7**	**+1.1**
VDOS	**Pratas Island**	**4.29**	**243**	*e*P	**Pn**	**13 18 59.8**	**+0.3**
	baz=243							

*ISCJB **05** 13:33:12.1±0.3, 37°.90N±0°.02×122°.34W±0°.04, h15km±2km, Error ellipse: s-maj=5.6km s-min=3.0km az=161.8*
*NEIC **05** 13:33:12.6±0.0, 37°.93N×122°.30W, h8km, ML3.4(NCEDC), After NCEDC.*

ISC 05 13:33:12.3±1.0, 37°.90N±0°.02×122°.33W±0°.03, h14km±6km, n83, σ1§01/85, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSPM	**San Pablo Ridg**	**0.06**	**16**	*e*Pg	**Pg**	**13 33 14.5**	**-0.6**
CPMM	**Point Molate**	**0.08**	**307**	*e*Pg	**Pg**	**13 33 15.0**	**-0.3**
CVPM	**Vollmer Peak**	**0.09**	**102**	*e*Pg	**Pg**	**13 33 15.1**	**-0.4**
CYBM	**Yerba Buena Is**	**0.10**	**195**	*e*Pg	**Pg**	**13 33 15.7**	**+0.3**
JPRM	**Presidio of Sa**	**0.16**	**226**	*e*Pg	**Pb**	**13 33 17.1**	**+0.1**
JSBM	**San Bruno Moun**	**0.23**	**193**	*e*Pg	**Pg**	**13 33 18.2**	**+0.8**
CLCB	**Lake Chabot**	**0.27**	**128**	*e*Pg	**Pg**	**13 33 18.5**	**+0.5**
JCPM	**Coyote Point**	**0.31**	**179**	*e*Pg	**Pb**	**13 33 19.7**	**0.0**
SAC	**San Andreas**	**0.33**	**192**	*e*Pg	**Pb**	**13 33 20.1**	**+0.2**
CRPB	**Russellman Par**	**0.34**	**88**	*e*Pg	**Pg**	**13 33 19.1**	**-0.1**
JCHM	**Cahill Ridge**	**0.39**	**185**	*e*Pg	**Pb**	**13 33 21.1**	**+0.1**
NBRB	**Beebe Ranch Br**	**0.40**	**334**	*e*Pg	**Pg**	**13 33 20.5**	**+0.1**
JHPM	**Huddart Park**	**0.46**	**177**	*e*Pg	**Pb**	**13 33 22.6**	**+0.4**
CVLM	**Vallecito**	**0.48**	**125**	*e*Pg	**Pb**	**13 33 22.8**	**+0.3**
MCCM	**Marconi Confer**	**0.50**	**299**	*e*Pg	**Pg**	**13 33 22.3**	**+0.1**
JSFB	**Stanford Teles**	**0.51**	**166**	*e*Pg	**Pb**	**13 33 23.5**	**+0.4**
NAPC	**Atlas Peak**	**0.54**	**7**	*e*Pg	**Pg**	**13 33 22.9**	**-0.1**
CBSNC	**Byron Hot Spri**	**0.55**	**99**	*e*Pg	**Pb**	**13 33 24.0**	**+0.2**
JFP	**Foothills Park**	**0.55**	**168**	*e*Pg	**Pb**	**13 33 24.1**	**+0.3**
BGH	**Bear Gulch**	**0.56**	**181**	*e*Pg	**Pb**	**13 33 24.7**	**+0.8**
CVR	**Calaveras Rese**	**0.62**	**137**	*e*Pg	**Pb**	**13 33 25.0**	**+0.1**
NADM	**Allendale**	**0.62**	**27**	*e*Pg	**Pb**	**13 33 25.6**	**+0.6**
JPC	**Peters Creek,**	**0.64**	**172**	*e*Pg	**Pb**	**13 33 25.9**	**+0.7**
NIMB	**Iron Mountain**	**0.66**	**4**	*e*Pg	**Pg**	**13 33 25.1**	**-0.1**
RDG13	**Poverty Ridge**	**0.66**	**135**	*e*Pg	**Pg**	**13 33 25.6**	**+0.2**
CMLM	**Mount Lewis**	**0.69**	**128**	*e*Pg	**Pb**	**13 33 26.2**	**0.0**
JJOM	**Saint Joseph's**	**0.75**	**158**	*e*Pg	**Pb**	**13 33 27.4**	**+0.2**
NBPM	**Berryessa Peak**	**0.77**	**8**	*e*Pn	**Pb**	**13 33 27.9**	**+0.4**
CMMM	**Mount Mocho**	**0.80**	**124**	*e*Pg	**Pg**	**13 33 28.0**	**+0.1**
JSTM	**Santa Teresa H**	**0.81**	**148**	*e*Pg	**Pb**	**13 33 28.6**	**+0.3**
NMCNC	**Mill Creek, So**	**0.83**	**326**	*e*Pg	**Pg**	**13 33 28.1**	**-0.2**
ARN	**Arnold Ranch**	**0.84**	**131**	*e*Pg	**Pg**	**13 33 28.6**	**-0.1**
COSM	**Mount Oso**	**0.85**	**117**	*e*Pg	**Pg**	**13 33 28.9**	**-0.1**
JLAB	**Laurel Hill**	**0.89**	**147**	*e*Pg	**Pg**	**13 33 29.6**	**+0.2**
GCRM	**Castle Rock Sp**	**0.92**	**341**	*e*Pg	**Pg**	**13 33 29.8**	**-0.3**
JUCM	**University of**	**0.93**	**166**	*e*Pg	**Pg**	**13 33 29.7**	**-0.6**
GDXM	**Geysers**	**0.97**	**338**	*e*Pg	**Pg**	**13 33 30.2**	**-1.0**
PEV	**Pleasant Valle**	**1.01**	**157**	*e*Pg	**Pb**	**13 33 31.6**	**+0.1**
GSGM	**Seigler Mounta**	**1.01**	**343**	*e*Pn	**Pg**	**13 33 32.1**	**+0.3**
HSPM	**Sheep**	**1.02**	**140**	*e*Pg	**Pb**	**13 33 31.8**	**0.0**
HLPM	**Lions Peak**	**1.02**	**147**	*e*Pg	**Pb**	**13 33 31.6**	**-0.2**
JELB	**Ellicott, Sant**	**1.05**	**157**	*e*Pg	**Pb**	**13 33 32.1**	**-0.2**
GRTM	**Round Top Moun**	**1.07**	**346**	*e*Pn	**Pb**	**13 33 32.8**	**+0.1**
CSR	**Chase Ranch**	**1.11**	**148**	*e*Pn	**Pb**	**13 33 32.8**	**-0.6**
HTUM	**Tustin Road**	**1.21**	**153**	*e*Pn	**Pn**	**13 33 33.9**	**-0.8**
SLD	**San Luis Dam**	**1.21**	**133**	*e*Pn	**Pn**	**13 33 34.5**	**-0.3**
MNHB	**New Hogan Dam**	**1.22**	**78**	*e*Pn	**Pn**	**13 33 34.0**	**-0.9**
HOPS	**Hopland Field**	**1.23**	**332**	*e*Pn	**Pg**	**13 33 36.5**	**+0.4**
SFJWR	**San Luis Fatjo**	**1.25**	**132**	*e*Pn	**Pn**	**13 33 34.9**	**-0.5**
HJGM	**San Juan Grade**	**1.26**	**151**	*e*Pn	**Pn**	**13 33 34.3**	**-1.1**
HSLM	**San Luis Dam**	**1.28**	**129**	*e*Pn	**Pb**	**13 33 36.6**	**+0.4**
FRP	**Fremont Peak**	**1.33**	**149**	*e*Pn	**Pn**	**13 33 35.3**	**-1.2**
SAO	**San Andreas Ge**	**1.34**	**148**	*e*Pn	**Pn**	**13 33 36.1**	**-0.4**
BSRM	**Salinas Radio**	**1.39**	**152**	*e*Pn	**Pn**	**13 33 36.1**	**-1.2**
BPCNC	**Pine Canyon**	**1.44**	**157**	*e*Pn	**Pn**	**13 33 37.7**	**-0.3**
AFDM	**Forest Hills D**	**1.49**	**45**	*e*Pn	**Pn**	**13 33 37.5**	**-1.2**
CMB	**Columbia Colle**	**1.54**	**85**	*e*Pn	**Pn**	**13 33 39.4**	**0.0**
JHC	**Johnson Canyon**	**1.55**	**151**	*e*Pn	**Pn**	**13 33 38.5**	**-1.0**
BPRM	**Ponciano Ridge**	**1.57**	**162**	*e*Pn	**Pn**	**13 33 38.9**	**-0.9**
MYLM	**Yosemite Lake**	**1.60**	**108**	*e*Pn	**Pn**	**13 33 39.4**	**-0.8**
SHG	**Shirttail Gulc**	**1.72**	**150**	*e*Pn	**Pn**	**13 33 41.5**	**-0.3**
ORV	**Oroville**	**1.77**	**21**	*e*Pn	**Pn**	**13 33 41.0**	**-1.5**
KCPM	**Cahto Peak**	**2.03**	**332**	*e*Pn	**Pn**	**13 33 47.0**	**+0.8**
EMB	**Emerald Bay**	**2.05**	**58**	*e*Pn	**Pn**	**13 33 47.5**	**+0.9**
RUBR	**Rubicon Trail**	**2.06**	**55**	*e*Pn	**Pn**	**13 33 47.5**	**+0.8**
PMPB	**Monarch Peak**	**2.08**	**144**	*e*Pn	**Pn**	**13 33 47.2**	**+0.4**
MMIM	**Miami Mountain**	**2.11**	**102**	*e*Pn	**Pn**	**13 33 48.9**	**+1.6**
WAKR	**Walker**	**2.36**	**74**	*e*Pn	**Pn**	**13 33 52.6**	**+1.9**
O03D	**Paynes Creek**	**2.42**	**10**	P	**Pn**	**13 33 50.7**	**-0.9**
	baz=190,SNR=36						
O03D				S	**Sn**	**13 34 17.2**	**-3.8**
	baz=190						
PNTR	**Pine Nut**	**2.45**	**60**	*e*Pn	**Pb**	**13 33 54.5**	**-1.7**
BEKR	**Beckworth**	**2.49**	**38**	*e*Pn	**Pn**	**13 33 53.4**	**+0.8**
VCNR	**Virginia City**	**2.52**	**56**	*e*Pn	**Pn**	**13 33 55.3**	**+2.2**
MDPB	**Devils Postpil**	**2.59**	**95**	*e*Pn	**Pn**	**13 33 55.4**	**+1.3**
YERR	**Yerington**	**2.66**	**65**	*e*Pn	**Pn**	**13 33 55.8**	**+0.9**
WDC	**Whiskeytown Da**	**2.68**	**357**	*e*Pn	**Pn**	**13 33 54.5**	**+0.6**
PAGB	**Antelope Grade**	**2.74**	**142**	*e*Pn	**Pn**	**13 33 57.1**	**+1.3**
MLAC	**Mammoth, Mammo**	**2.78**	**95**	P	**Pn**	**13 33 58.7**	**+2.0**
	baz=277,SNR=46						
MLAC				S	**Sn**	**13 34 31.4**	**+1.3**
	baz=277						
RYN	**Ryan**	**3.08**	**75**	*e*Pn	**Pn**	**13 34 02.9**	**+2.2**
NV01	**Mina Array Sit**	**3.22**	**79**	*e*Pn	**Pn**	**13 34 01.2**	**-1.4**
NV11	**Mina Array Sit**	**3.33**	**80**	*e*Pn	**Pn**	**13 34 05.1**	**+0.9**
ISA	**Isabella, Lake**	**3.82**	**125**	*e*Pn	**Pn**	**13 34 12.4**	**+1.6**
KTRM	**Thompson Ridge**	**4.08**	**349**	*e*Pg	**Pb**	**13 34 27.1**	**+3.0**
VGB	**Gordon Butte**	**7.70**	**8**	*e*Pn	**Pn**	**13 35 02.8**	**-1.2**

*ISCJB **05** 13:33:19.2±0.3, 37°.85N±0°.02×122°.32W±0°.04, h13km, mb3.5/4, MS3.2/4, Error ellipse: s-maj=5.1km s-min=2.2km az=152.7*
*IDC **05** 13:33:20.7±2.3, 38°.09N×122°.19W, h0km, mb3.5/4, mb1 3.8/8, mb1mx3.5/56, mbtmp3.5/8, ML3.2/4, MS3.2/9, Ms1 3.2/9, ms1mx3.0/44, Error ellipse: s-maj=37.3km s-min=12.3km az=26.0*
*NEIC **05** 13:33:20.4±0.0, 37°.93N×122°.31W, h8km, MW4.0(BRK), After NCEDC.*
NEIC Felt [V] at Albany, El Sobrante, Pinole and Richmond. Felt throughout the San Francisco Bay area.

ISC 05 13:33:20.9±0.7, 37°.92N±0°.03×122°.30W±0°.04, h13km, n134, σ1§35/138, mb3.6/4, MS3.4/4, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCCM	**Marconi Confer**	**0.51**	**297**	*e*Pg	**Pg**	**13 33 30.1**	**-1.0**
RDG13	**Poverty Ridge**	**0.66**	**138**	*e*Pg	**Pg**	**13 33 33.5**	**-0.2**
NMTM	**Middletown**	**0.90**	**353**	*e*Pg	**Pg**	**13 33 37.0**	**-1.3**
GDXM	**Geysers**	**0.97**	**336**	*e*Pg	**Pb**	**13 33 38.0**	**-1.7**
HPCM	**Pacheco Lake**	**1.18**	**136**	*e*Pn	**Pn**	**13 33 42.0**	**-1.2**
OCR	**O'Connell Ranc**	**1.18**	**148**	*e*Pn	**Pn**	**13 33 41.6**	**-1.5**
SCKWR	**San Luis Creek**	**1.22**	**127**	*e*Pn	**Pn**	**13 33 42.9**	**-0.8**
HOPS	**Hopland Field**	**1.24**	**331**	*e*Pn	**Pn**	**13 33 42.0**	**-2.0**
MCUB	**Copperopolis B**	**1.33**	**87**	*e*Pn	**Pn**	**13 33 44.2**	**-1.0**
SAO	**San Andreas Ge**	**1.33**	**149**	*e*Pn	**Pn**	**13 33 43.4**	**-1.9**
BCGM	**Cienega Road**	**1.43**	**147**	*e*Pn	**Pn**	**13 33 44.9**	**-1.6**
AFDM	**Forest Hills D**	**1.46**	**45**	*e*Pn	**Pn**	**13 33 45.0**	**-2.1**
CMB	**Columbia Colle**	**1.51**	**85**	*e*Pn	**Pn**	**13 33 45.2**	**-1.5**
OSTM	**Stimpson Lane**	**1.55**	**20**	*e*Pn	**Pn**	**13 33 45.9**	**-2.4**
EMT	**Emmet**	**1.58**	**142**	*e*Pn	**Pn**	**13 33 47.5**	**-1.1**
MYLM	**Yosemite Lake**	**1.58**	**109**	*e*Pn	**Pn**	**13 33 47.2**	**-1.4**
BRMM	**Rolling Bench**	**1.59**	**132**	*e*Pn	**Pn**	**13 33 48.0**	**-0.8**
BSMM	**Soledad Missio**	**1.68**	**155**	*e*Pn	**Pn**	**13 33 48.7**	**-1.4**
BCWM	**Chews Ridge**	**1.71**	**160**	*e*Pn	**Pn**	**13 33 48.8**	**-1.8**
ORV	**Oroville**	**1.75**	**21**	*e*Pn	**Pn**	**13 33 48.3**	**-2.7**
MBUM	**Mount Bullion**	**1.80**	**101**	*e*Pn	**Pn**	**13 33 50.6**	**-1.1**
LRV	**Little Rabbit**	**1.81**	**145**	*e*Pn	**Pn**	**13 33 50.7**	**-1.1**
KFPM	**Farley Peak**	**1.93**	**333**	*e*Pn	**Pn**	**13 33 53.1**	**-0.5**
MGL	**Magalia**	**1.98**	**17**	*e*Pn	**Pn**	**13 33 53.2**	**-1.0**
RUBR	**Rubicon Trail**	**2.03**	**55**	*e*Pn	**Pn**	**13 33 55.5**	**+0.5**
KCPM	**Cahto Peak**	**2.03**	**331**	*e*Pn	**Pn**	**13 33 53.8**	**-1.2**
PCCM	**Crazy Canyon**	**2.04**	**153**	*e*Pn	**Pn**	**13 33 53.8**	**-1.2**
MHDM	**Hidden Dam**	**2.07**	**112**	*e*Pn	**Pn**	**13 33 54.3**	**-1.1**
PMPB	**Monarch Peak**	**2.08**	**144**	*e*Pn	**Pn**	**13 33 54.5**	**-1.0**
MMIM	**Miami Mountain**	**2.09**	**103**	*e*Pn	**Pn**	**13 33 55.0**	**-0.7**
DONR	**Donner Summit**	**2.11**	**47**	*e*Pn	**Pn**	**13 33 56.0**	**+0.4**
PAPM	**Alder Peak**	**2.13**	**159**	*e*Pn	**Pn**	**13 33 54.5**	**-1.9**
PTV	**Peach Tree Val**	**2.20**	**145**	*e*Pn	**Pn**	**13 33 56.6**	**-0.6**
WAKR	**Walker**	**2.33**	**75**	*e*Pn	**Pn**	**13 34 00.1**	**+1.0**
PHPM	**Hope Ranch**	**2.36**	**144**	*e*Pn	**Pn**	**13 33 58.8**	**-0.6**
PANM	**San Antonio Re**	**2.41**	**152**	*e*Pn	**Pn**	**13 33 58.5**	**-1.5**
PNTR	**Pine Nut**	**2.42**	**60**	*e*Pn	**Pb**	**13 34 02.1**	**-2.3**
PVCM	**Vineyard Canyo**	**2.44**	**144**	*e*Pn	**Pn**	**13 33 59.7**	**-0.8**
PPO	**Portuguese Can**	**2.45**	**146**	*e*Pn	**Pn**	**13 34 00.0**	**-0.6**
BEKR	**Beckworth**	**2.46**	**37**	*e*Pn	**Pn**	**13 34 01.0**	**0.0**
VCNR	**Virginia City**	**2.49**	**56**	*e*Pn	**Pn**	**13 34 02.9**	**+1.6**
KMRM	**Mail Ridge**	**2.55**	**335**	*e*Pn	**Pn**	**13 34 01.5**	**-0.6**
MDPB	**Devils Postpil**	**2.56**	**95**	*e*Pn	**Pn**	**13 34 02.8**	**+0.3**
PHAM	**Harlan Ranch**	**2.58**	**143**	*e*Pn	**Pn**	**13 34 02.1**	**-0.2**
MLIM	**Lincoln Peak**	**2.61**	**95**	*e*Pn	**Pb**	**13 34 05.4**	**-2.4**
LRDM	**Redding Peak**	**2.63**	**14**	*e*Pn	**Pn**	**13 34 03.9**	**+0.7**
PKLM	**Kerr Lake**	**2.65**	**143**	*e*Pn	**Pn**	**13 34 02.9**	**-0.6**
LMCR	**Lookout Mounta**	**2.66**	**93**	*e*Pn	**Pn**	**13 34 05.5**	**+1.7**
WDC	**Whiskeytown Da**	**2.67**	**356**	*e*Pn	**Pn**	**13 34 01.0**	**-2.6**
PAGB	**Antelope Grade**	**2.73**	**142**	*e*Pn	**Pn**	**13 34 06.6**	**-0.9**
PAHR	**Pah Rah Range**	**2.89**	**51**	*e*Pn	**Pn**	**13 34 07.5**	**+0.6**
RCTC	**Rector, Farmer**	**2.92**	**122**	P	**Pn**	**13 34 05.7**	**-1.4**
	baz=304,SNR=8.8						
RCTC				S	**Sn**	**13 34 40.2**	**-1.9**
	baz=304						
LBCM	**Butte Creek Ri**	**3.01**	**14**	*e*Pn	**Pn**	**13 34 08.6**	**+0.2**
MTUM	**Tungsten Hills**	**3.02**	**100**	*e*Pn	**Pn**	**13 34 09.8**	**+1.3**
RYN	**Ryan**	**3.05**	**75**	*e*Pn	**Pn**	**13 34 09.6**	**+0.5**
KHMM	**Horse Mountain**	**3.16**	**340**	*e*Pn	**Pn**	**13 34 11.3**	**+0.9**
NV01	**Mina Array Sit**	**3.19**	**80**	*e*Pn	**Pn**	**13 34 10.9**	**-0.1**
NVAR	**Mina Array Bea**	**3.19**	**80**	Pn	**Pn**	**13 34 10.7**	**-0.3**
	baz=259,slow=17,SNR=9.7						
NVAR				Pg	**Pb**	**13 34 15.7**	**-1.9**
	baz=258,slow=16,SNR=47						
NVAR				Lg	Lg	13 34 57.2	
	baz=284,slow=25,SNR=5.0						
NVAR					LR	LR	13 35 28.5	
	comp=Z,362nm,18.8s,baz=98,slow=40							
SMMC	**Simmler**	**3.19**	**144**	P	**Pn**	**13 34 09.6**	**-1.2**
	baz=325,SNR=17							
SMMC				S	**Sn**	**13 34 51.0**	**+2.3**
	baz=325							
JCC	**Jacoby Creek,**	**3.19**	**336**	*e*Pn	**Pn**	**13 34 10.9**	**+0.1**
NV11	**Mina Array Sit**	**3.30**	**80**	*e*Pn	**Pn**	**13 34 12.6**	**+0.1**
VES	**Vestal, Richgr**	**3.31**	**128**	P	**Pn**	**13 34 11.1**	**-1.2**
	baz=310,SNR=28							
VES				S	**Sn**	**13 34 50.8**	**-0.7**
	baz=310							
PKM	**Mcpherson Peak**	**3.62**	**146**	P	**Pn**	**13 34 16.5**	**-0.4**
	baz=327,SNR=33							
PKM				S	**Sn**	**13 34 59.5**	**-0.2**
	baz=327							
ISA	**Isabella, Lake**	**3.80**	**125**	P	**Pn**	**13 34 18.7**	**-0.6**
	baz=308							
ISA				S	**Sn**	**13 35 03.5**	**-0.4**
	baz=308							
ISA	**Isabella, Lake**	**3.80**	**125**	*e*Pn	**Pn**	**13 34 19.2**	**-0.1**
YBH	**Yreka Blue Hor**	**3.82**	**355**	Pn	**Pn**	**13 34 20.1**	**+0.5**
	1.7nm,0.3s,baz=172,slow=9.6,SNR=21							
YBH				Lg	Lg	13 35 12.7	
	1.0nm,0.3s,baz=57,slow=19,SNR=4.3							
YBH				LR	LR	13 35 55.9	
	comp=Z,270nm,20.5s,baz=185,slow=42							
YBH	**Yreka Blue Hor**	**3.82**	**355**	*e*Pn	**Pn**	**13 34 22.1**	**+2.5**
YBH				Lg	Lg	13 35 12.7	
ARVC	**Arvin**	**3.94**	**134**	P	**Pn**	**13 34 20.8**	**-0.4**
	baz=316,SNR=20							
ARVC				S	**Sn**	**13 35 07.0**	**-0.3**
	baz=316							
SBC	**Santa Barbara**	**4.05**	**148**	P	**Pn**	**13 34 21.5**	**-1.1**
	baz=330							
DAC	**Darwin (Calif)**	**4.10**	**112**	*e*Pn	**Pn**	**13 34 23.3**	**-0.2**
MOD	**Modoc Plateau**	**4.27**	**20**	*e*Pn	**Pn**	**13 34 25.8**	**+0.1**
MPMC	**Manual Prospec**	**4.27**	**114**	P	**Pn**	**13 34 24.0**	**-1.9**
	baz=297,SNR=46							
L02D	**Cave Junction,**	**4.35**	**347**	P	Pn	**13 34 21.6**	**-5.2**
	baz=166,SNR=25							
OSI	**Osito Audit: C**	**4.38**	**138**	P	**Pn**	**13

JMA 05 13:45:07.9, 36°.68N×138°.43E, h7km±1km, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	0.23	233	P	Pg	13 45 12.7	+0.3
MAT				S	Sg	13 45 15.7	+0.3
MAT	Matsushiro	0.23	233	P	Pg	13 45 12.6	+0.2
JNG	Nsakai	0.38	224	P	Pg	13 45 15.6	+0.3
JNG				S	Sg	13 45 20.7	+0.3

DJA 05 13:57:56.8±0.3, 4°N±2°×9°7E±°, h31km±9km, M3.8/9, MLv3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	0.41	298	P	Pb	13 58 06.3	+0.3
MLSI				S	Sn	13 58 15.5	+2.2
TPTI		0.90	153	P	Pn	13 58 13.4	0.0
TPTI				S	Sb	13 58 26.4	+0.7
KCSI	Kotacane, Aceh	1.14	119	P	Pn	13 58 16.5	-0.1
KCSI				S	Sn	13 58 31.8	+0.6
LHMI	Lhok Sumawe	1.17	9	P	Pn	13 58 16.3	-0.7
LHMI				S	Sb	13 58 32.6	-0.5
TSI	Tuntungan	1.88	107	P	Pn	13 58 26.7	-0.1
TSI				S	Sn	13 58 49.8	+0.4
GSI	Gunungsitoli	2.86	164	P	Pn	13 58 40.4	0.0
GSI				S	Sn	13 59 14.8	+1.0
MNSI	Mandailing Nat	4.30	139	P	Pn	13 58 59.9	-0.2
MNSI				S	Sn	13 59 49.7	+0.5

MAN 05 13:59:26, 4°.77N×125°.58E, h33km, mb5.4, ML4.4, MS4.6
ISCJB 05 13:59:30.7±0.2, 5°.22N±0°.02×125°.27E±0°.03, h33km, mb4.5/31, MS3.2/10, Error ellipse: s-maj=4.1km s-min=2.5km az=169.0
NEIC 05 13:59:34.7±0.8, 5°.31N×125°.52E, h72km±7km, mb4.6/17, Error ellipse: s-maj=8.2km s-min=5.3km az=67.0
NEIC Felt [I PIVS] at General Santos.
DJA 05 13:59:36.9±0.6, 5°N±3°×12°5E±°, h28km±8km, M4.6/18, mb4.7/18, mB5.1/7, MLv4.8/10, Mw(mB)4.4/7
IDC 05 13:59:37.1±2.1, 5°.26N×125°.32E, h93km±19km, mb4.0/17, mb1 4.1/18, mb1mx3.9/55, mbtmp4.3/18, MS3.2/11, Ms1 3.3/11, ms1mx3.0/53, Error ellipse: s-maj=23.0km s-min=10.9km az=72.0
ISC 05 13:59:32.0±0.4, 5°.26N±0°.04×125°.31E±0°.05, h35km, n103, σ2s.41/123, mb4.5/31, MS3.1/10, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.89	336	⇑iP	Pn	13 59 49.0	+0.8
GSPH				iS	Sn	14 00 00.7	+0.7
SGSI	Sangihe	1.58	172	P	Pn	13 59 59.6	+2.0
SGSI				S	Sn	14 00 19.5	+2.7
KCP	Kidapawan	1.75	353	⇓eP	Pn	14 00 03.2	+3.3
KCP				iS	Sn	14 00 26.3	+5.4
DAV	Davao City (W)	1.81	8	P	Pn	14 00 06.9	+6.2
	84nm,0.3s,baz=63,slow=10.0,SNR=5.1						
DAV				S	Sn	14 00 32.4	+10
	206nm,0.3s,baz=76,slow=22,SNR=4.5						
DAV				LR	LR	14 00 53.4	
	comp=Z,514nm,21.1s,baz=175,slow=42						
DAV	Davao City (W)	1.81	8	ePn	Pn	14 00 04.0	+3.3
DAV				S	Sn	14 00 32.4	+10
MATI	Mati	1.92	29	eP	Pn	14 00 02.3	+0.1
CTBH	Cotabato--PC H	2.21	331	⇑eP	Pn	14 00 09.1	+2.9
CTBH				iS	Sn	14 00 37.2	+4.7
BUKP	Musuan	2.61	355	eP	Pn	14 00 16.9	+5.2
BUKP				eS	Sn	14 00 51.9	+10
BIPH	Bislig	3.08	20	⇓iP	Pn	14 00 20.2	+2.1
BIPH				iS	Sn	14 01 00.1	+6.2
PAGZ	Pagadian	3.21	323	eP	Pn	14 00 23.5	+3.6
PAGZ				eS	Sn	14 01 01.1	+4.2
ZCP	Zamboanga City	3.62	297	⇓iP	Pn	14 00 27.5	+1.9
ZCP				iS	Sn	14 01 07.7	+0.5
KMSI	Cibinong	4.84	196	P	Pn	14 00 45.5	+3.1
KMSI				S	Sn	14 01 38.3	+0.9
TNTI	Ternate	4.91	155	ePn	Pn	14 00 44.3	+1.0
MRSI	Marisa	5.83	215	P	Pn	14 00 58.7	+2.8
	132nm,0.5s,2µm						
MRSI				S	Sn	14 02 00.0	-1.6
	132nm,0.5s,2µm						
LBMI	Labuha	6.26	160	P	Pn	14 01 04.9	+3.0
	49nm,0.5s,1µm						
LBMI				S	Sn	14 02 14.2	+2.0
	49nm,0.5s,1µm						
LUWI	Luwuk	6.76	202	P	Pn	14 01 10.5	+1.7
LUWI				S	Sn	14 02 25.1	+0.5
LUWI	Luwuk	6.76	202	ePn	Pn	14 01 12.9	+4.1
MYLDM	Lahad Datu	6.79	270	ePn	Pn	14 01 13.6	+4.5
APSI	Ampana	7.14	211	P	Pn	14 01 16.4	+2.4
APSI				S	Sn	14 02 34.4	+0.4
MPSI	Mapaga	7.29	228	P	Pn	14 01 17.9	+1.8
MPSI				S	Sn	14 02 36.1	-1.6
SANI	Sanana	7.30	175	P	Pn	14 01 18.3	+2.2
SANI				S	Sn	14 02 37.9	+0.1
SWI	Sorong	8.50	136	P	Pn	14 01 37.8	+5.1
KKM	Kota Kinabalu	9.09	275	ePn	Pn	14 01 45.0	+4.2
MSAI	Masohi	9.28	157	P	Pn	14 01 47.2	+3.8
MSAI				S	Sn	14 03 30.4	+3.7
AAI	Ambon	9.35	162	P	Pn	14 01 47.6	+3.3
AAI				S	Sn	14 03 31.4	+3.2
KDI	Kendari	9.55	196	P	Pn	14 01 48.6	+1.6
KDI				S	Sn	14 03 33.3	+0.1
SGKI	Sangatta, Kali	9.61	233	P	Pn	14 01 48.7	+0.7
SGKI				S	Sn	14 03 35.1	+0.3
SMKI	Samarinda	9.88	235	P	Pn	14 01 52.9	+1.2
SMKI				S	Sn	14 03 41.6	+0.1
TTSI	Tana Toraja	9.91	214	P	Pn	14 01 53.8	+1.8
TTSI				S	Sn	14 03 40.8	-1.4
BKB	Balikpapan	10.62	233	P	Pn	14 02 02.8	+1.1
FAKI	Fak Fak	10.68	139	P	Pn	14 02 07.8	+5.2
FAKI				S	Sn	14 04 05.3	+4.3
BNDI	Bandanaira	10.75	155	P	Pn	14 02 05.4	+1.9
BNDI				S	Sn	14 04 05.6	+2.9
BNSI	Bone	10.92	209	P	Pn	14 02 07.7	+1.9
RKPI	Ransiki, Papua	11.12	127	P	Pn	14 02 14.4	+5.8
RKPI				S	Sn	14 04 19.5	+7.7
SBUM	Sibu	13.36	258	ePn	Pn	14 02 43.9	+4.6
SAUI	Saumlaki	14.45	156	ePn	Pn	14 02 54.0	-0.1
KSM	Kuching	15.44	256	eP	P	14 03 14.1	+2.6
	12nm,0.8s						
BATI	Baumata	15.46	186	P	P	14 03 10.8	-0.9
	6.1nm,0.3s,baz=20,slow=3.0,SNR=10						
BATI				LR	LR	14 09 39.7	
	comp=Z,52nm,19.4s,baz=9.0,slow=39						
JAGI	Jajag, Banyuwa	17.61	219	eP	P	14 03 39.0	+3.5
	23nm,1.1s						
MTN	Manton Dam	18.90	162	eP	P	14 03 48.2	-1.5
	15nm,0.7s						
GUMO	Guam	20.97	65	LR	LR	14 11 07.9	
	comp=Z,47nm,20.5s,baz=102,slow=33						
CHBT	CHBT	23.87	290	P	P	14 04 46.9	+4.4
	2µm,1.6s						
SKNT	Sakolnakorn	23.91	301	P	P	14 04 44.7	+1.8
	8.0nm,0.6s						
IPM	Ipoh	24.21	269	eP	P	14 04 47.1	+1.4
	7.6nm,0.7s						
PMG	Port Moresby	26.20	124	LR	LR	14 15 55.7	
	comp=Z,28nm,18.9s,baz=308,slow=37						
PSI	Prapat	26.44	266	eP	P	14 05 08.1	+2.1
	15nm,0.8s						
WRAB	Tennant Creek	26.57	161	eP	P	14 05 05.7	-1.3
	14nm,0.8s						
WRA	Warramunga Arr	26.57	161	P	P	14 05 05.8	-1.2
	11nm,0.7s,baz=340,slow=9.8,SNR=80						
WRA				S	S	14 09 34.5	-5.0
	0.7nm,0.9s,baz=332,slow=17,SNR=3.0						
MBWA	Marble Bar	26.82	192	eP	P	14 05 08.5	-0.7
	27nm,0.8s						
PHIT	Phitsanulok	27.10	298	P	P	14 05 16.2	+4.4
NJ2	Nanjing	27.33	348	eP	P	14 05 13.7	+0.1
CMAR	Chiang Mai Arr	28.89	299	P	P	14 05 28.4	+0.6
	0.8nm,0.6s,baz=126,slow=8.5,SNR=7.1						
CMAR				LR	LR	14 19 17.7	
	comp=Z,35nm,18.4s,baz=128,slow=41						
KMI	Kunming	29.30	315	P	P	14 05 34.0	+2.4
AS31	Alice Springs	29.95	164	eP	P	14 05 36.0	-1.1
	4.5nm,0.4s						
ASAR	Alice Springs	29.95	164	P	P	14 05 36.5	-0.7
	7.8nm,0.6s,baz=349,slow=8.4,SNR=197						
ASAR				PcP	PcP	14 08 37.7	-1.6
	0.9nm,0.5s,baz=337,slow=2.2,SNR=4.7						
AS01	Alice Springs	29.96	164	eP	P	14 05 35.7	-1.5
KSAR	Wonju Array Be	32.11	4	P	P	14 05 55.2	-0.8
KSRS	Korea Array	32.13	4	P	P	14 05 55.2	-0.9
	2.0nm,0.8s,baz=184,slow=11,SNR=5.7						
KSRS				LR	LR	14 20 37.2	
	comp=Z,26nm,20.5s,baz=205,slow=39						
CD2	Chengdu	32.58	324	eP	P	14 06 01.4	+1.2
MJAR	Matsushiro Arr	33.30	19	P	P	14 06 05.2	-1.3
	2.4nm,0.9s,baz=203,slow=12,SNR=4.5						
MJAR				LR	LR	14 21 02.9	
	comp=Z,21nm,18.1s,baz=90,slow=39						
LZH	Lanzhou	36.48	330	eP	P	14 06 33.4	-0.6
LZH				pP	sP	14 06 53.5	+5.1
LZH				sP	pP	14 06 59.8	+16
HHC	Hu-ho-hao-te	37.52	343	eP	P	14 06 45.6	+2.9
BBOO	Buckleboo	39.22	166	eP	P	14 06 56.6	-0.4
	39nm,0.6s						
USRK	Ussuriysk Ar.	39.22	8	P	P	14 06 57.5	+0.6
	4.1nm,0.8s,baz=142,slow=42,SNR=7.2						
STKA	Stephens Creek	40.06	158	P	P	14 07 03.5	-0.5
	15nm,0.8s,baz=334,slow=8.4,SNR=28						
STKA				LR	LR	14 26 58.5	
	comp=Z,35nm,18.6s,baz=25,slow=41						
STKA	Stephens Creek	40.06	158	eP	P	14 07 03.5	-0.5
	3.0nm,0.8s						
TAPN	Taplejung	41.98	306	eP	P	14 07 20.8	+0.5
	9.1nm,0.9s						
ODAN	Odare	42.04	305	eP	P	14 07 21.2	+0.5
	14nm,0.8s						
RAMN	Ramite	42.72	305	eP	P	14 07 27.0	+0.7
	12nm,0.9s						
JIRN	Jiri	43.34	305	eP	P	14 07 31.5	+0.1
	25nm,0.7s						
GUN	Gumba	43.69	306	eP	P	14 07 34.7	+0.5
	18nm,0.7s						
PKI	Pulchoki	43.94	305	eP	P	14 07 36.5	+0.3
	4.4nm,0.7s						
PKIN	Phulchoki	43.95	305	eP	P	14 07 36.3	+0.1
	6.2nm,0.6s						
DMN	Daman	44.20	305	eP	P	14 07 39.1	+0.9
	5.5nm,0.6s						
SONM	Songino Array	45.41	342	LR	LR	14 27 56.2	
	comp=Z,52nm,18.8s,baz=156,slow=37						
KOLN	Koldanda	45.50	304	eP	P	14 07 49.0	+0.5
	17nm,0.6s						
DZM	Mont Dzumac	48.57	126	P	P	14 08 12.3	-0.1
	5.5nm,0.6s,baz=88,slow=22,SNR=6.7						
WMQ	Urumqi	50.67	325	P	P	14 08 29.3	+1.3
WMQ				pP	sP	14 08 45.8	+3.1
PETK	Petropavlovsk-	54.57	23	P	P	14 08 56.1	-0.5
	4.0nm,0.7s,baz=181,slow=5.8,SNR=3.7						
MK01	Makanchi Array	55.48	325	eP	P	14 09 02.9	-0.5
MK31	Makanchi Array	55.50	325	eP	P	14 09 02.8	-0.8
MKAR	Makanchi Array	55.50	325	P	P	14 09 03.0	-0.6
	0.8nm,0.4s,baz=117,slow=7.2,SNR=35						
MKAR				PcP	PcP	14 10 01.0	-2.3
	1.1nm,0.8s,baz=112,slow=4.9,SNR=5.1						
MKAR				LR	LR	14 33 10.6	
	comp=Z,44nm,19.9s,baz=92,slow=36						
MKAR	Makanchi Array	55.50	325	eP	P	14 09 02.8	-0.7
	11nm,0.9s						
MKAR				PcP	PcP	14 10 01.0	-2.3
MAKZ	Makanchi	55.68	325	eP	P	14 09 03.1	-1.8
	3.8nm,1.1s						
KSH	Kashi	55.97	315	eP	P	14 09 10.1	+2.9
KSH				PcS	PcS	14 14 05.1	-0.8
KSH				S	S	14 16 52.1	-1.0
KSH				sS	sS	14 17 26.1	+16
KSH				ScS	ScS	14 18 48.1	-6.0
KSH	Kashi	55.97	315	SS	SS	14 20 41.1	+1.6
YAK	Yakutsk	56.73	2	eP	P	14 09 10.8	-1.2
	17nm,0.8s						
ZALV	Zalesovo Beam	58.59	333	P	P	14 09 22.8	-2.4
	0.5nm,0.5s,baz=99,slow=9.2,SNR=2.9						
KBL	Kabul	59.48	307	eP	P	14 09 31.5	-0.5
	4.6nm,0.6s						
KKAR	Karatay Array	61.15	317	eP	P	14 09 42.6	-0.5
BVAR	Borovoye Array	65.27	327	P	P	14 10 08.6	-1.6
	1.3nm,0.8s,baz=140,slow=9.2,SNR=6.7						
TIXI	Tiksi	66.34	1	eP	P	14 10 14.6	-2.0
	4.8nm,0.8s						
GEYT	Alibeck	68.84	309	P	P	14 10 32.7	-0.5
	2.5nm,0.9s,baz=145,slow=5.3,SNR=3.5						
ABKAR	Akbulak array	70.08	321	eP	P	14 10 38.9	-1.6
	14nm,0.7s						
AKTO	Aktyubinsk	71.59	322	LR	LR	14 43 12.9	
	comp=Z,22nm,20.6s,baz=243,slow=36						
HDA	Harding Lake	84.31	26	eP	P	14 11 57.9	-2.2
	4.6nm,0.7s						
IL1	Eielson Array	84.33	25	eP	P	14 11 57.6	-2.6
ILAR	Eielson Array	84.33	25	P	P	14 11 58.0	-2.2
	1.4nm,0.8s,baz=246,slow=5.0,SNR=17						
BRTR	Keskin Array B	87.96	310	P	P	14 12 16.1	-2.8
	1.1nm,0.9s,baz=101,slow=6.7,SNR=3.9						
FINES	FINESS Array B	89.82	332	P	P	14 12 24.8	-2.1
	1.4nm,0.8s,baz=71,slow=4.7,SNR=3.6						
NOA	NORSAR Array B	96.79	333	LR	LR	14 59 04.6	
	comp=Z,37nm,18.0s,baz=340,slow=37						
YKA	Yellowknife Ar	98.69	24	P	P	14 13 05.9	-1.6
	0.3nm,0.8s,baz=300,slow=4.5,SNR=6.2						
TXAR	Lajitas Array	121.75	51	PKP	PKPdf	14 18 22.1	-1.1
	0.3nm,0.6s,baz=180,slow=1.0,SNR=4.6						

ISCJB 05 14:01:49.8±0.7, 60°.5S±0°.1×26°.8W±0°.3, h35km, mb4.3/6, Error ellipse: s-maj=26.8km s-min=6.2km az=147.5
NEIC 05 14:01:55.7±1.7, 60°.19S×26°.97W, h60km±15km, mb4.7/2, Error ellipse: s-maj=28.8km s-min=12.0km az=48.0
IDC 05 14:01:55.5±6.7, 60°.13S×26°.88W, h54km±60km, mb3.8/5, mb1 4.0/6, mb1mx3.6/29, mbtmp4.1/6, ML4.1/1, Error ellipse: s-maj=41.4km s-min=25.4km az=36.0
ISC 05 14:01:52.2±0.7, 60°.5S±0°.1×26°.9W±0°.2, h35km, n21, σ1s.77/24, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.09	316	ePn	Pn	14 03 47.0	0.0
VNA1	Neumayer--Stat	12.70	151	P	P	14 04 57.2	-3.5
VNA3	Neumayer Olymp	12.81	154	P	P	14 04 58.0	-3.9
VNA3				S	Sn	14 07 13.6	+1.1
VNA2	Neumayer--Watz	13.10	151	P	P	14 05 02.0	-3.2
	baz=309,slow=15						
VNA2				S	Sn	14 07 21.0	+1.5
SNAA	Sanae	14.70	149	P	P	14 05 23.6	+0.6
SNAA				S	Sn	14 07 59.7	+1.0
SNAA	Sanae	14.70	149	P	P	14 05 23.1	+0.2
	0.7nm,0.3s,baz=21,slow=9.1,SNR=43						
SNAA				S	Sn	14 07 56.9	-1.8
	0.1nm,0.3s,baz=251,slow=15,SNR=3.7						
PLCA	Paso Flores	33.18	287	P	P	14 08 25.8	+0.6
	1.9nm,0.7s,baz=147,slow=5.2,SNR=4.9						
PLCA	Paso Flores	33.18	287	eP	P	14 08 24.5	-0.7
	30nm,1.7s						
CPUP	Villa Florida	39.97	315	P	P	14 09 23.3	+0.2
	0.4nm,0.4s,baz=143,slow=7.3,SNR=2.9						
CPUP	Villa Florida	39.97	315	eP	P	14 09 22.8	-0.2
	12nm,1.7s						
MNMC	Minye Minye	51.17	305	eP	P	14 10 52.6	+0.7
	50nm,2.0s						
LPAZ	La Paz	53.15	308	P	P	14 11 06.8	-0.3
	0.8nm,0.4s,baz=93,slow=5.5,SNR=4.9						
LPAZ	La Paz	53.15	308	eP	P	14 11 05.7	-1.4
TORD	Torodi Ar. Bea	76.88	29	P	P	14 13 39.8	-0.6
	1.3nm,0.3s,baz=199,slow=6.0,SNR=37						
TOA1	Torodi Ar. Sit	76.88	29	eP	P	14 13 39.8	-0.6
ASAR	Alice Springs	94.69	162	P	P	14 15 13.2	+3.5
	0.4nm,0.8s,baz=189,slow=4.5,SNR=4.6						
YKA	Yellowknife Ar	139.50	314	PKP	PKPdf	14 21 13.4	-0.7
	0.1nm,0.4s,baz=118,slow=2.8,SNR=3.8						
ZALV	Zalesovo Beam	144.01	69	PKP	PKPbc	14 21 20.6	+0.1
	0.6nm,0.4s,baz=222,slow=5.4,SNR=4.5						
INK	Inuvik	149.23	316	PKPbc	PKPbc	14 21 34.7	-0.4
	0.3nm,0.5s,baz=126,slow=6.0,SNR=3.3						
SONM	Songino Array	150.55	94	PKPbc	PKPbc	14 21 40.8	+1.7
	0.6nm,0.3s,baz=226,slow=2.6,SNR=5.7						
ILAR	Eielson Array	153.01	305	PKPbc	PKPbc	14 21 43.7	-0.4
	0.2nm,0.5s,baz=159,slow=1.5,SNR=5.2						

MEX 05 14:02:06.3±0.5, 14°.71N×93°.33W, h16km±30km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.99	6	eP	Pb	14 02 21.3	-3.8
PCIG				eS	Sb	14 02 34.0	-4.0
CCIG	Comitan	1.94	36	eP	Pn	14 02 35.9	-2.9
CCIG				iS	Sn	14 02 58.1	-4.8
TGIG		2.06	6	iP	Pn	14 02 36.9	-3.5
TGIG				iS	Sn	14 03 01.8	-4.1

IDC 05 14:09:02.1±3.8, 22°.12S×170°.21E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/38, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=127.0km s-min=44.0km az=162.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.49	270	Pn	Pn	14 09 58.6	+0.9
	1.8nm,0.3s,baz=106,slow=12,SNR=43						
DZM				Sn	Sn	14 10 39.1	-0.7
	1.8nm,0.3s,baz=308,slow=22,SNR=7.3						
ASAR	Alice Springs	33.42	260	P	P	14 15 43.6	+0.8
	0.2nm,0.6s,baz=83,slow=7.6,SNR=2.6						
WRA	Warramunga Arr	33.50	267	P	P	14 15 42.4	-1.1
	0.1nm,0.4s,baz=101,slow=8.0,SNR=3.1						
SONM	Songino Array	90.06	323	P	P	14 22 03.8	-0.1
	0.4nm,0.7s,baz=114,slow=3.5,SNR=3.5						

IDC 05 14:09:39.2±2.2, 38°.51N×144°.88E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/66, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=58.7km s-min=28.1km az=73.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	5.66	252	Pn	Pn	14 11 05.0	+0.5
	0.7nm,0.3s,baz=55,slow=10.0,SNR=6.3						
MJAR				Sn	Sn	14 12 07.6	-2.6
	0.5nm,0.3s,baz=77,slow=22,SNR=3.5						
ASAJ	Asahikawa	5.86	344	Pn	Pn	14 11 07.8	+0.4
	0.5nm,0.3s,baz=167,slow=9.4,SNR=6.7						
ASAJ				Sn	Sn	14 12 09.8	-5.3
	0.2nm,0.3s,baz=345,slow=13,SNR=3.5						
MKAR	Makanchi Array	45.68	302	P	P	14 18 01.2	-0.5
	0.3nm,0.8s,baz=81,slow=8.9,SNR=2.6						
WRA	Warramunga Arr	58.98	192	P	P	14 19 40.0	-0.6
	0.5nm,0.7s,baz=12,slow=7.1,SNR=4.5						
ASAR	Alice Springs	62.70	191	P	P	14 20 06.3	+0.4
	0.3nm,0.7s,baz=0.1,slow=7.6,SNR=5.8						

ISCJB 05 14:20:03.7±1.1, 43°.88N±0°.08×147°.16E±0°.09, h56km±9km, Error ellipse: s-maj=15.7km s-min=6.7km az=143.6
JMA 05 14:20:03.7±0.2, 43°.75N×147°.21E, h48km, M2.8
SKHL 05 14:20:04.3±0.5, 43°.80N×147°.25E, h45km±3km, mb4.3/2
ISC 05 14:20:04.1±2.0, 43°.85N±0°.10×147°.19E±0°.09, h52km±12km, n14, σ0s.63/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.26	274	eP	Pn	14 20 13.1	+0.1
SHO				AMB	AMB	14 20 13.7	
	65nm,0.2s						
SHO				iS	Sn	14 20 20.1	+0.7
SHO				A	A	14 20 20.4	
	2µm,0.2s						
SHO				A	A	14 20 20.4	
	2µm,0.2s						
YUK	Yuzh-Kuril'sk	0.98	281	eP	Pn	14 20 21.0	-0.5
YUK				AMB	AMB	14 20 22.6	
	39nm,0.2s						
YUK				AMB	AMB	14 20 22.6	
	56nm,0.2s						
YUK				AMB	AMB	14 20 22.6	
	121nm,0.2s						
YUK				iS	Sn	14 20 33.6	-0.8
YUK				A	A	14 20 34.1	
	320nm,0.1s						
YUK				A	A	14 20 34.1	
	370nm,0.1s						
GRPR	Tuman	1.03	278	eP	Pn	14 20 21.6	-0.7
GRPR				eS	Sn	14 20 34.7	-1.1
LAGR	Lagunnoye	1.03	282	iP	Pn	14 20 22.1	-0.2
LAGR				iS	Sn	14 20 35.0	-0.8
NEM2	Nemuro 2	1.16	246	P	Pn	14 20 23.5	-0.5
NEM2				eS	Sn	14 20 38.3	-0.4
GLVR	Golovnino	1.22	265	iP	Pn	14 20 24.8	+0.1
GLVR				iS	Sn	14 20 40.6	+0.5
KUR	Kuril'sk	1.46	19	eP	Pn	14 20 28.2	+0.1
KUR				iS	Sn	14 20 45.7	-0.4
KUR				A	A	14 20 46.8	
	48nm,0.1s						
KUR				A	A	14 20 46.8	
	33nm,0.1s						
JRA	Rausu	1.50	274	P	Pn	14 20 29.0	+0.4
JRA				eS	Sn	14 20 47.4	+0.4
JNK	Nakash	1.81	262	P	Pn	14 20 32.8	-0.1
JNK				eS	Sn	14 20 54.5	-0.2
JAK	Akkeshi	2.01	246	P	Pn	14 20 35.2	-0.3
JAK				eS	Sn	14 20 58.6	-0.9
JTKR	Abashiri--Toko	2.38	274	P	Pn	14 20 41.3	+0.7
JAR	Ashorobuto	2.55	259	P	Pn	14 20 43.7	+0.8
JAR				eS	Sn	14 21 13.2	+0.5
JOB	Onbets	2.62	250	eS	Sn	14 21 15.1	+0.5
JMP	Maruseppu	2.77	275	P	Pn	14 20 47.0	+1.0

ISCJB 05 14:30:27.1±1.0, 38°.17N±0°.06×38°.09E±0°.05, h14km±5km, Error ellipse: s-maj=10.7km s-min=5.7km az=23.2
CSEM 05 14:30:27.4±0.3, 38°.21N×38°.10E, h12km, ML2.6, Error ellipse: s-maj=5.9km s-min=4.0km az=26.0
ISK 05 14:30:27.4, 38°.23N×38°.09E, h14km, ML2.6/2
DDA 05 14:30:28.1, 38°.28N×38°.14E, h7km, Ml2.6
ISC 05 14:30:27.7±1.0, 38°.24N±0°.05×38°.12E±0°.03, h12km±7km, n18, σ0s.53/30, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKCD	Akcadag	0.17	289	iP	Pg	14 30 31.6	0.0
AKCD				iS	Sg	14 30 34.5	+0.1
AKCD	Akcadag	0.17	289	P	Pg	14 30 31.6	0.0
AKCD				S	Sg	14 30 34.5	+0.1
MALT	Malatya	0.25	73	PG	Pb	14 30 33.7	-0.5
MALT				SG	Sb	14 30 38.1	-0.5
MALT	Malatya	0.25	73	ePg	Pb	14 30 33.7	-0.5
MALT				eSg	Sb	14 30 38.1	-0.5
DARE	Darende-Malaty	0.60	303	PG	Pg	14 30 39.3	-0.1
DARE				SG	Sb	14 30 48.1	-0.6
DARE	Darende-Malaty	0.60	303	ePg	Pg	14 30 39.3	-0.1
DARE				eSg	Sb	14 30 48.1	-0.6
HEKM	Malatya_Hekimh	0.65	349	iP	Pg	14 30 40.4	0.0
HEKM				iS	Sb	14 30 51.4	+1.2
HEKM	Malatya_Hekimh	0.65	349	P	Pg	14 30 40.4	0.0
HEKM				S	Sb	14 30 51.4	+1.2
ELZG	Elazig	0.72	69	iP	Pg	14 30 41.8	0.0
ELZG				iS	Sg	14 30 51.9	+0.6
ELZG	Elazig	0.72	69	P	Pg	14 30 41.8	0.0
ELZG				S	Sg	14 30 51.9	+0.6
URFA	Urfa	0.97	145	PG	Pb	14 30 46.5	0.0
URFA	Urfa	0.97	145	ePg	Pb	14 30 46.5	0.0
KEMA	Kemaliye	1.07	16	iP	Pb	14 30 47.4	-0.7
KEMA				iS	Sn	14 31 03.2	-0.1
KEMA	Kemaliye	1.07	16	P	Pb	14 30 47.4	-0.7
KEMA				S	Sn	14 31 03.2	-0.1
PTK	Pertek	1.19	56	PN	Pn	14 30 50.1	-0.2
PTK	Pertek	1.19	56	ePn	Pn	14 30 50.1	-0.2
RSDY	Resadiye-TOKAT	2.24	344	PN	Pn	14 31 05.3	+0.7
RSDY	Resadiye-TOKAT	2.24	344	ePn	Pn	14 31 05.3	+0.7

MEX 05 14:55:59.6±0.4, 16°.32N×98°.35W, h5km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.23	71	iP	Pg	14 56 03.8	-0.3
PNIG				iS	Sg	14 56 07.2	-0.1
TLIG	Tlapa	1.26	351	iP	Pg	14 56 19.7	-4.0
TLIG				eS	Sg	14 56 36.0	-4.1
ACX	Acapulco	1.54	291	iP	Pn	14 56 21.9	-6.0
ACX				iS	Sn	14 56 41.8	-6.5
VHO	Vista Hermosa	1.73	64	eP	Pn	14 56 27.5	-3.0
VHO				iS	Sn	14 56 48.2	-4.8
HUIG	Huatulco	2.23	104	iP	Pn	14 56 34.0	-3.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG				*i* S	Sn	14 57 00.1	-5.0
TPIG	**Tehuac#an**	**2.30**	**24**	*i* P	Pn	14 56 34.8	-3.5
TPIG				*i* S	Sn	14 57 03.5	-3.6
YAIG	**Yautepec**	**2.62**	**345**	*i* P	Pn	14 56 39.8	-3.0
YAIG				*i* S	Sn	14 57 10.8	-4.3

*ISCJB **05** 14:56:48.7±0.2, 44°.51N±0°.01×6°.68E±0°.02, h4km±2km, Error ellipse: s-maj=2.3km s-min=2.0km az=5.8*
*GEN **05** 14:56:49.3, 44°.50N×6°.68E, h3km, ML2.7*
*CSEM **05** 14:56:49.5±0.1, 44°.52N×6°.72E, h2km, ML3.4/18, Error ellipse: s-maj=1.9km s-min=1.9km az=125.0*
*LDG **05** 14:56:49.5±0.1, 44°.50N×6°.67E, h2km, Md3.1/3, Ml3.4/24, Error ellipse: s-maj=1.8km s-min=1.4km az=61.0*
*ROM **05** 14:56:49.1±0.5, 44°.50N×6°.74E, h7km±3km, Md2.6/19, Ml2.6/16, Error ellipse: s-maj=5.2km s-min=2.7km az=66.0*
*STR **05** 14:56:50.3±0.1, 44°.50N±0°.01×6°.72E±0°.01, h5km, MLv3.2/22*
*MDD **05** 14:56:50.4±4.0, 44°.33N×6°.95E, h0km, mb4.0/3, Error ellipse: s-maj=68.4km s-min=34.2km az=159.0*
ISC 05 14:56:49.9±0.8**, 44°.52N**±0°.01×**6°.71E**±0°.01**, h16**km±6km**, n152, σ1§47**/215**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.21**	**11**	*e*Pg	**Pg**	**14 56 54.5**	**-0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**14 56 58.2**	**-0.2**
	1µm,0.5s						
MBDF	**Montbardon**	**0.21**	**11**	*e*Pg	**Pg**	**14 56 54.5**	**-0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**14 56 58.2**	**-0.2**
	621nm,0.5s						
PZZ	**Stroppo**	**0.29**	**92**	Pg	**Pg**	**14 56 54.8**	**-1.3**
PZZ				Sg	**Sg**	**14 56 59.7**	**-0.7**
	868nm,0.2s						
OG22	**Abries**	**0.35**	**28**	Sg	**Sg**	**14 57 02.2**	**0.0**
OG22	**Abries**	**0.35**	**28**	Pg	**Pg**	**14 56 56.9**	**-0.3**
OG22	**Abries**	**0.35**	**28**	Sg	**Sg**	**14 57 02.2**	**0.0**
DOI	**San Damiano**	**0.38**	**92**	Pg	**Pg**	**14 56 57.6**	**-0.1**
DOI				Sg	**Sg**	**14 57 03.4**	**+0.3**
	461nm,0.3s						
RRL	**Rocca Remolon**	**0.41**	**8**	Pg	**Pg**	**14 56 56.8**	**-1.4**
RRL				Sg	**Sg**	**14 57 03.4**	**-0.5**
	409nm,0.5s						
OG25	**Le Caire**	**0.48**	**252**	Pg	**Pg**	**14 56 58.6**	**-0.9**
OG25				Sg	**Sg**	**14 57 06.0**	**0.0**
OG25	**Le Caire**	**0.48**	**252**	Pg	**Pg**	**14 56 58.6**	**-0.9**
BHB	**Bricherasio**	**0.51**	**50**	Pg	**Pg**	**14 57 00.0**	**0.0**
BHB				S	**Sg**	**14 57 07.0**	**+0.1**
BHB	**Bricherasio**	**0.51**	**50**	Pg	**Pg**	**14 57 00.0**	**0.0**
BHB				Sg	**Sg**	**14 57 07.0**	**+0.1**
	487nm,0.5s						
STV	**Sant Anna di V**	**0.52**	**121**	Pg	**Pg**	**14 56 58.7**	**-1.4**
STV				Sg	**Sg**	**14 57 05.8**	**-1.3**
	452nm,0.2s						
BNI	**Bardonecchia**	**0.54**	**357**	Pg	**Pg**	**14 56 59.9**	**-0.7**
BNI				Sg	**Sg**	**14 57 07.9**	**+0.1**
BNI	**Bardonecchia**	**0.54**	**357**	Pg	**Pg**	**14 56 59.9**	**-0.7**
BNI				Sg	**Sg**	**14 57 07.9**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.72**	**304**	*e*Pg	**Pg**	**14 57 02.9**	**-1.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**14 57 12.5**	**-0.9**
	530nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.72**	**304**	*e*Pg	**Pg**	**14 57 02.9**	**-1.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**14 57 12.5**	**-0.9**
	265nm,0.3s,SNR=1.0						
RSP	**Reno Superiore**	**0.74**	**32**	Pg	**Pg**	**14 57 04.4**	**0.0**
RSP				S	**Sb**	**14 57 15.1**	**+0.5**
RSP	**Reno Superiore**	**0.74**	**32**	Pg	**Pg**	**14 57 04.4**	**0.0**
RSP				Sg	**Sb**	**14 57 15.3**	**+0.7**
	176nm,0.4s						
LUCF	**Luceram**	**0.77**	**144**	Sg	**Sg**	**14 57 14.7**	**-0.4**
LUCF	**Luceram**	**0.77**	**144**	Pg	**Pg**	**14 57 04.7**	**-0.3**
LUCF	**Luceram**	**0.77**	**144**	Sg	**Sg**	**14 57 14.7**	**-0.4**
GDM	**Grand'Maison**	**0.81**	**329**	Pg	**Pg**	**14 57 05.1**	**-0.5**
GDM	**Grand'Maison**	**0.81**	**329**	Pg	**Pg**	**14 57 05.1**	**-0.5**
SBF	**Sospel**	**0.83**	**141**	*e*Pg	**Pg**	**14 57 05.7**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**14 57 16.2**	**-0.9**
	252nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.83**	**141**	*e*Pg	**Pg**	**14 57 05.7**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**14 57 16.2**	**-0.9**
	126nm,0.2s,SNR=1.0						
REVF	**Revere**	**0.91**	**148**	Sg	**Sn**	**14 57 20.3**	**-0.5**
REVF	**Revere**	**0.91**	**148**	Pg	**Pb**	**14 57 07.2**	**-0.1**
REVF	**Revere**	**0.91**	**148**	Sg	**Sn**	**14 57 20.4**	**-0.5**
FRF	**La Foret Royal**	**0.96**	**183**	*e*Pg	**Pb**	**14 57 07.7**	**-0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**14 57 21.0**	**+0.1**
	471nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.96**	**183**	*e*Pg	**Pb**	**14 57 07.7**	**-0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**14 57 21.0**	**+0.1**
	236nm,0.2s,SNR=1.0						
NEGI	**Seborga**	**0.98**	**133**	Pg	**Pb**	**14 57 07.5**	**-1.0**
	406nm,0.4s						
NEGI				S	**Sb**	**14 57 20.6**	**-0.6**
NEGI	**Seborga**	**0.98**	**133**	Pg	**Pb**	**14 57 07.5**	**-1.0**
	406nm,0.4s						
SMRF	**Simiane la Rot**	**0.98**	**237**	*e*P	**Pg**	**14 57 08.8**	**0.0**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**14 57 20.0**	**-1.2**
	96nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.98**	**237**	*e*P	**Pg**	**14 57 08.8**	**0.0**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**14 57 20.0**	**-1.2**
	48nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**0.98**	**2**	*e*Pg	**Pb**	**14 57 08.5**	**-0.2**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**14 57 22.0**	**+0.4**
	131nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**0.98**	**2**	*e*Pg	**Pb**	**14 57 08.5**	**-0.2**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**14 57 22.0**	**+0.4**
	65nm,0.4s,SNR=1.0						
LSD	**Lago del Serru**	**0.99**	**17**	P	**Pb**	**14 57 08.5**	**-0.3**
LSD				S	**Sb**	**14 57 21.4**	**-0.3**
LSD	**Lago del Serru**	**0.99**	**17**	Pg	**Pb**	**14 57 08.5**	**-0.3**
	117nm,0.3s						
LPL	**La Plagne**	**1.00**	**1**	*e*Pg	**Pb**	**14 57 08.8**	**-0.2**
	SNR=1.0						
LPL	**La Plagne**	**1.00**	**1**	*e*Pg	**Pb**	**14 57 08.8**	**-0.2**
	SNR=1.0						
MONC	**Moncucco Torin**	**1.03**	**57**	Pg	**Pn**	**14 57 10.4**	**+0.7**
MONC	**Moncucco Torin**	**1.03**	**57**	Pg	**Pn**	**14 57 10.4**	**+0.7**
IMI	**Imperia**	**1.04**	**125**	Pg	**Pb**	**14 57 09.5**	**-0.1**
IMI				S	**Sb**	**14 57 22.9**	**-0.2**
IMI	**Imperia**	**1.04**	**125**	Pg	**Pb**	**14 57 09.5**	**-0.1**
RORO	**Rocca Rossa**	**1.05**	**112**	Pg	**Pb**	**14 57 08.5**	**-1.2**
	163nm,0.2s						
RORO	**Rocca Rossa**	**1.05**	**112**	Pg	**Pb**	**14 57 08.5**	**-1.2**
	163nm,0.2s						
QLNO	**Quiliano**	**1.19**	**99**	Pg	**Pn**	**14 57 11.1**	**-0.8**
QLNO	**Quiliano**	**1.19**	**99**	Pg	**Pn**	**14 57 11.1**	**-0.8**
LMR	**La Mourre**	**1.19**	**187**	*e*P	**Pb**	**14 57 12.3**	**+0.2**
LMR				*e*Sg	**Sb**	**14 57 26.8**	**-0.4**
	541nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**1.19**	**187**	*e*P	**Pb**	**14 57 12.3**	**+0.2**
LMR				*e*Sg	**Sb**	**14 57 26.8**	**-0.4**
	271nm,0.4s,SNR=1.0						
LEPF	**PUYLOUBIER**	**1.23**	**217**	Sg	**Sg**	**14 57 30.8**	**+1.2**
LEPF	**PUYLOUBIER**	**1.23**	**217**	Pg	**Pg**	**14 57 13.3**	**-0.3**
LEPF	**PUYLOUBIER**	**1.23**	**217**	Sg	**Sg**	**14 57 30.8**	**+1.2**
TRAV	**Traversella**	**1.24**	**36**	Pg	**Pn**	**14 57 12.1**	**-0.5**
	96nm,0.3s						
TRAV	**Traversella**	**1.24**	**36**	P	**Pn**	**14 57 12.4**	**-0.2**
TRAV				S	**Sb**	**14 57 27.7**	**-1.0**
TRAV	**Traversella**	**1.24**	**36**	Pg	**Pn**	**14 57 12.1**	**-0.5**
	96nm,0.3s						
CIRO	**Champorcher**	**1.24**	**29**	P	**Pn**	**14 57 13.4**	**+0.5**
CIRO				S	**Sb**	**14 57 29.0**	**-0.1**
CIRO	**Champorcher**	**1.24**	**29**	Pg	**Pn**	**14 57 13.2**	**+0.3**
MRGE	**Morge**	**1.28**	**11**	Pg	**Pn**	**14 57 13.6**	**+0.3**
	131nm,0.6s						
MRGE	**Morge**	**1.28**	**11**	Pg	**Pn**	**14 57 13.6**	**+0.3**
	131nm,0.6s						
PCP	**Piancastagn**	**1.31**	**88**	Pg	**Pn**	**14 57 13.1**	**-0.5**
	114nm,0.8s						
PCP	**Piancastagn**	**1.31**	**88**	Pg	**Pn**	**14 57 13.1**	**-0.5**
	114nm,0.8s						
VIVF	**Saint-Julien-l**	**1.49**	**284**	*e*Pg	**Pn**	**14 57 16.9**	**+0.8**
	SNR=1.0						
VIVF				*e*Sg	**Sb**	**14 57 36.3**	**+0.3**
	116nm,0.3s						
VIVF	**Saint-Julien-l**	**1.49**	**284**	*e*Pg	**Pn**	**14 57 16.9**	**+0.8**
	SNR=1.0						
VIVF				*e*Sg	**Sb**	**14 57 36.3**	**+0.3**
	58nm,0.3s						
EMV	**Vieux Emosson**	**1.55**	**5**	Pg	**Pb**	**14 57 18.7**	**+0.3**
	63nm,0.8s						
EMV	**Vieux Emosson**	**1.55**	**5**	Pg	**Pb**	**14 57 18.7**	**+0.3**
	63nm,0.8s						
SATI	**Passo dei Sala**	**1.59**	**31**	Pg	**Pb**	**14 57 19.8**	**+0.8**
	68nm,0.6s						
SATI	**Passo dei Sala**	**1.59**	**31**	Pg	**Pb**	**14 57 19.8**	**+0.8**
	68nm,0.6s						
DIX	**Grande Dixence**	**1.64**	**17**	Pg	**Pb**	**14 57 19.9**	**0.0**
	44nm,0.7s						
DIX	**Grande Dixence**	**1.64**	**17**	Pg	**Pb**	**14 57 19.9**	**0.0**
	44nm,0.7s						
SSB	**Saint Sauveur**	**1.72**	**297**	Pn	**Pn**	**14 57 20.2**	**+1.0**
SSB	**Saint Sauveur**	**1.72**	**297**	Pg	**Pg**	**14 57 22.9**	**0.0**
MMK	**Mattmark**	**1.77**	**30**	Pg	**Pb**	**14 57 22.9**	**+0.8**
	48nm,0.5s						
MMK	**Mattmark**	**1.77**	**30**	Pg	**Pb**	**14 57 22.9**	**+0.8**
	48nm,0.5s						
LASF	**Ste Croix**	**2.10**	**259**	*e*P	**Pn**	**14 57 25.0**	**+0.6**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**14 57 48.3**	**-1.9**
	24nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.10**	**259**	*e*P	**Pn**	**14 57 25.0**	**+0.6**
	SNR=1.0						
CABF	**La Chapelle**	**2.14**	**348**	*e*P	**Pb**	**14 57 27.5**	**-0.8**
	SNR=1.0						
CABF				*e*Sg	**Sb**	**14 57 57.0**	**+2.3**
	93nm,0.7s,SNR=1.0						
CABF	**La Chapelle**	**2.14**	**348**	*e*P	**Pb**	**14 57 27.5**	**-0.8**
	SNR=1.0						
CABF				*e*Sg	**Sb**	**14 57 57.0**	**+2.3**
	46nm,0.7s,SNR=1.0						
LBL	**Lubilhac**	**2.56**	**287**	Pn	**Pn**	**14 57 32.1**	**+1.2**
LBL	**Lubilhac**	**2.56**	**287**	Pg	**Pg**	**14 57 38.0**	**-1.0**
LBL	**Lubilhac**	**2.56**	**287**	Pn	**Pn**	**14 57 32.1**	**+1.2**
LBL	**Lubilhac**	**2.56**	**287**	Pg	**Pg**	**14 57 38.0**	**-1.0**
PGF	**Pioggiola**	**2.58**	**139**	*e*P	**Pn**	**14 57 31.5**	**+0.5**
PGF				*e*Sn	**Sn**	**14 58 01.1**	**-1.0**
	29nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.58**	**139**	*e*P	**Pn**	**14 57 31.5**	**+0.5**
LOMF	**Lomont**	**2.84**	**2**	Pn	**Pn**	**14 57 35.5**	**+0.9**
LOMF	**Lomont**	**2.84**	**2**	Pg	**Pg**	**14 57 43.5**	**-0.7**
LOMF				Sg	**Sg**	**14 58 24.0**	**+3.0**
LOMF	**Lomont**	**2.84**	**2**	Pn	**Pn**	**14 57 35.5**	**+0.9**
LOMF	**Lomont**	**2.84**	**2**	Pg	**Pg**	**14 57 43.6**	**-0.7**
PYM	**Petit Puy Mans**	**2.90**	**297**	Pg	**Pg**	**14 57 45.2**	**-0.1**
PYM	**Petit Puy Mans**	**2.90**	**297**	Pg	**Pg**	**14 57 45.3**	**-0.1**
SMF	**Signal de Mont**	**2.93**	**318**	*e*P	**Pn**	**14 57 37.5**	**+1.7**
	SNR=1.0						
SMF	**Signal de Mont**	**2.93**	**318**	*e*Pg	**Pg**	**14 57 44.9**	**-1.1**
SMF				*e*Sg	**Sg**	**14 58 21.9**	**-2.1**
	28nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.93**	**318**	*e*P	**Pn**	**14 57 37.5**	**+1.7**
	SNR=1.0						
SMF	**Signal de Mont**	**2.93**	**318**	*e*Pg	**Pg**	**14 57 44.9**	**-1.1**
SMF				*e*Sg	**Sg**	**14 58 21.9**	**-2.1**
	14nm,0.3s,SNR=1.0						
AGO	**Saint Agoulin**	**2.96**	**303**	Pn	**Pn**	**14 57 36.7**	**+0.5**
AGO	**Saint Agoulin**	**2.96**	**303**	Pn	**Pn**	**14 57 36.8**	**+0.5**
AVF	**Avril sur Loir**	**3.27**	**315**	*e*P	**Pn**	**14 57 42.3**	**+1.8**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**14 58 31.9**	**-3.1**
	47nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**3.27**	**315**	*e*P	**Pn**	**14 57 42.3**	**+1.8**
	SNR=1.0						
HINF	**Hinteralfeld**	**3.30**	**2**	*e*P	**Pn**	**14 57 42.8**	**+1.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**14 58 34.8**	**-1.1**
	12nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.30**	**2**	*e*P	**Pn**	**14 57 42.8**	**+1.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**14 58 34.8**	**-1.1**
	5.9nm,0.3s,SNR=1.0						
CAF	**Calviac**	**3.34**	**279**	*e*P	**Pn**	**14 57 42.5**	**+1.1**
	SNR=1.0						
CAF	**Calviac**	**3.34**	**279**	*e*P	**Pn**	**14 57 42.5**	**+1.1**
	SNR=1.0						
SSF	**Saint Saulge**	**3.39**	**320**	*e*P	**Pn**	**14 57 44.2**	**+2.0**
SSF				*e*Sg	**Sg**	**14 58 36.4**	**-2.4**
	33nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.39**	**320**	*e*P	**Pn**	**14 57 44.2**	**+2.0**
SSF				*e*Sg	**Sg**	**14 58 36.4**	**-2.4**
	16nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.40**	**308**	*e*P	**Pn**	**14 57 44.2**	**+2.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**14 58 37.1**	**-1.9**
	56nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.40**	**308**	*e*P	**Pn**	**14 57 44.2**	**+2.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**14 58 37.1**	**-1.9**
	28nm,0.4s,SNR=1.0						
LOR	**Lormes**	**3.40**	**325**	*e*P	**Pn**	**14 57 44.2**	**+1.9**
	baz=141,SNR=1.0						
LOR				*e*Sn	**Sn**	**14 58 21.4**	**-0.8**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**14 58 36.4**	**-2.5**
	22nm,0.3s,baz=152,SNR=1.0						
LOR	**Lormes**	**3.40**	**325**	*e*P	**Pn**	**14 57 44.2**	**+1.9**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**14 58 36.4**	**-2.5**
	11nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.45**	**252**	*e*P	**Pn**	**14 57 44.4**	**+1.4**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**14 58 22.1**	**-1.5**
	5.1nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.45**	**252**	*e*P	**Pn**	**14 57 44.4**	**+1.4**
	SNR=1.0						
EJON	**La Jonquera**	**3.47**	**235**	P	**Pg**	**14 57 54.5**	**-1.8**
	4.5nm,0.2s,SNR=7.9						
EJON				S	**Sn**	**14 58 25.0**	**+1.1**
	2.0nm,0.2s,SNR=4.0						
FELD	**Feldberg im Sc**	**3.48**	**14**	Pn	**Pn**	**14 57 43.8**	**+0.3**
FELD	**Feldberg im Sc**	**3.48**	**14**	Pg	**Pg**	**14 57 56.2**	**-0.3**
FELD	**Feldberg im Sc**	**3.48**	**14**	Pn	**Pn**	**14 57 43.9**	**+0.3**
FELD	**Feldberg im Sc**	**3.48**	**14**	Pg	**Pg**	**14 57 56.2**	**-0.3**
HAU	**Haudompre**	**3.50**	**356**	*e*P	**Pn**	**14 57 45.4**	**+1.7**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**14 58 22.4**	**-2.4**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**14 58 39.5**	**-2.7**
	12nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.50**	**356**	*e*P	**Pn**	**14 57 45.4**	**+1.7**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**3.63**	**301**	*e*P	**Pn**	**14 57 47.1**	**+1.6**
TCF				*e*Sg	**Sg**	**14 58 43.3**	**-3.2**
	14nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.63**	**301**	*e*P	**Pn**	**14 57 47.1**	**+1.6**
FETA	**Feichten**	**3.77**	**47**	Pg	**Pb**	**14 57 57.7**	**+1.6**
	1.9nm,0.5s						
FETA	**Feichten**	**3.77**	**47**	Pg	**Pb**	**14 57 57.7**	**+1.6**
	1.9nm,0.5s						
RJF	**Les Rejaudoux**	**3.77**	**284**	*e*Sg	**Sg**	**14 58 47.6**	**-3.4**
	19nm,0.5s						
SFTF	**Sexfontaines**	**3.87**	**343**	*e*P	**Pn**	**14 57 51.1**	**+2.4**
	baz=149						
SFTF	**Sexfontaines**	**3.87**	**343**	*e*P	**Pn**	**14 57 51.1**	**+2.4**
CDF	**Champ du Feu**	**3.92**	**6**	*e*P	**Pn**	**14 57 50.5**	**+1.1**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**14 58 33.2**	**-1.9**
	9.4nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**3.92**	**6**	*e*P	**Pn**	**14 57 50.5**	**+1.1**
	SNR=1.0						
HYF	**Humbligny**	**3.96**	**316**	*e*Sg	**Sg**	**14 58 53.8**	**-3.1**
CLLI	**Llivia**	**4.00**	**241**	P	**Pn**	**14 57 52.5**	**+1.8**
	0.4nm,0.1s,SNR=5.9						
CLLI				S	**Sn**	**14 58 37.7**	**+0.4**
	1.1nm,0.2s						
CLLI	**Llivia**	**4.00**	**241**	P	**Pn**	**14 57 52.5**	**+1.8**
	0.4nm,0.1s,SNR=5.9						
CLLI				S	**Sn**	**14 58 37.7**	**+0.4**
	1.1nm,0.2s						
PAGF	**Fort de Pagny**	**4.10**	**351**	*e*P	**Pn**	**14 57 54.2**	**+2.4**
	baz=165						
PAGF	**Fort de Pagny**	**4.10**	**351**	*e*P	**Pn**	**14 57 54.2**	**+2.4**
CFON	**Fontmartina**	**4.17**	**230**	P	**Pn**	**14 57 54.3**	**+1.4**
	1.6nm,0.1s,SNR=6.2						
CFON	**Fontmartina**	**4.17**	**230**	P	**Pn**	**14 57 54.3**	**+1.4**
	1.6nm,0.1s,SNR=6.2						
MOTA	**Moosalm**	**4.17**	**46**	Pn	**Pn**	**14 57 56.1**	**+3.1**
	0.9nm,0.2s						
MOTA	**Moosalm**	**4.17**	**46**	*e*Pn	**Pn**	**14 57 56.1**	**+3.1**
	0.9nm,0.2s						
CSOR	**Sort**	**4.59**	**244**	P	**Pn**	**14 58 01.3**	**+2.6**
	2.2nm,0.3s,SNR=8.0						
CSOR				S	**Sn**	**14 58 54.5**	**+2.7**
	1.0nm,0.1s,SNR=5.6						
CSOR	**Sort**	**4.59**	**244**	P	**Pn**	**14 58 01.3**	**+2.6**
	2.2nm,0.3s,SNR=8.0						
CSOR				S	**Sn**	**14 58 54.5**	**+2.7**
	1.0nm,0.1s,SNR=5.6						
EPF	**Esparros**	**4.85**	**254**	*e*P	**Pn**	**14 58 04.8**	**+2.6**
EPF	**Esparros**	**4.85**	**254**	*e*P	**Pn**	**14 58 04.8**	**+2.6**
ECHI	**Chisagues Biel**	**5.08**	**251**	P	**Pn**	**14 58 08.4**	**+2.9**
	0.1nm,0.1s,SNR=7.9						
ECHI				S	**Sn**	**14 59 07.0**	**+3.0**
	2.2nm,0.2s,SNR=7.9						
ECHI	**Chisagues Biel**	**5.08**	**251**	P	**Pn**	**14 58 08.4**	**+2.9**
	0.1nm,0.1s,SNR=7.9						
ECHI				S	**Sn**	**14 59 07.0**	**+3.0**
	2.2nm,0.2s,SNR=7.9						
MFF	**Saint Martin d**	**5.25**	**296**	*e*P	**Pn**	**14 58 09.8**	**+2.2**
MFF				*e*Sg	**Sg**	**14 59 33.8**	**-4.4**
	7.0nm,0.4s						
MFF	**Saint Martin d**	**5.25**	**296**	*e*P	**Pn**	**14 58 09.8**	**+2.2**
BAIF	**Baives**	**5.80**	**344**	*e*P	**Pn**	**14 58 17.5**	**+2.3**
	SNR=1.0						
BAIF	**Baives**	**5.80**	**344**	*e*P	**Pn**	**14 58 17.5**	**+2.3**
	SNR=1.0						
IELO	**Elcoad**	**6.00**	**257**	P	**Pn**	**14 58 20.9**	**+2.9**
	0.6nm,0.3s,SNR=7.9						
IELO				S	**Sn**	**14 59 25.6**	**-0.9**
	0.4nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**6.00**	**257**	P	**Pn**	**14 58 20.9**	**+2.9**
	0.6nm,0.3s,SNR=7.9						
LDF	**La Druitiere**	**6.23**	**313**	*e*P	**Pn**	**14 58 23.1**	**+2.0**
LDF	**La Druitiere**	**6.23**	**313**	*e*P	**Pn**	**14 58 23.1**	**+2.0**
GRR	**Gorron**	**6.51**	**309**	*e*P	**Pn**	**14 58 26.9**	**+2.0**
	SNR=1.0						
GRR	**Gorron**	**6.51**	**309**	*e*P	**Pn**	**14 58 26.9**	**+2.0**
	SNR=1.0						

*ISCJB **05** 15:15:06.0±0.2, 44°.57N±0°.01×9°.41E±0°.01, h10km±1km, mb4.3/53, MS3.4/12, Error ellipse: s-maj=1.9km s-min=1.4km az=177.5*
*STR **05** 15:15:05.6±0.6, 44°.30N±0°.04×9°.74E±0°.06, h5km, MLv4.5/17*
*MOS **05** 15:15:06.9±1.1, 44°.61N×9°.43E, h15km, mb4.4/26, Error ellipse: s-maj=3.7km s-min=3.0km az=78.1*
*ROM **05** 15:15:06.9±0.2, 44°.49N×9°.35E, h11km±1km, Ml4.2/60, Error ellipse: s-maj=1.7km s-min=1.6km az=46.0*
*CSEM **05** 15:15:06.6±0.1, 44°.54N×9°.40E, h2km, mb4.7/22, ML4.6/15*
*LDG **05** 15:15:07.1±0.1, 44°.54N×9°.42E, h9km, Md4.2/4, Ml4.4/37, Error ellipse: s-maj=1.9km s-min=1.7km az=2.0*
*GEN **05** 15:15:07.0, 44°.57N×9°.41E, h9km, ML4.1*
*NEIC **05** 15:15:07.5±0.6, 44°.57N×9°.43E, h9km±4km, mb4.7/21, ML4.4(LDG), Error ellipse: s-maj=3.8km s-min=2.7km az=187.0*
NEIC Felt [IV] at Bogliasco, Chiavari and Lavagna; [III] at Carrara, Genoa, Massa and Rapallo. Felt in much of Liguria, Lombardy and western Emilia-Romagna and in parts of Piemonte and Tuscany.
*BJI **05** 15:15:07.5, 44°.88N×9°.54E, h15km, mb4.5/18, mB4.9/9, Ms4.4/4, Ms7 4.3/3*
*PDG **05** 15:15:07.4±1.4, 44°.57N×9°.39E, h11km±1km, ML4.1/9, Error ellipse: s-maj=1.0km s-min=1.2km az=0.0*
*PRU **05** 15:15:09.9, 44°.57N×9°.44E, h24km, M4.7*
*IDC **05** 15:15:10.7±2.6, 44°.57N×9°.43E, h32km±19km, mb3.9/23, mb1 4.0/32, mb1mx3.9/71, mbtmp4.0/32, ML3.8/8, MS3.3/16, Ms1 3.3/16, ms1mx3.0/64, Error ellipse: s-maj=12.5km s-min=10.0km az=126.0*
ISC 05 15:15:07.5±0.6**, 44°.55N**±0°.01×**9°.36E**±0°.01**, h12**km±3km**, n718, σ1§92**/922**, mb4.4**/53**, MS3.3**/12**, 61C-18D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.19**	**139**	P	**Pg**	**15 15 10.9**	**-0.8**
SC2M				S	**Sg**	**15 15 14.1**	**-0.5**
SC2M	**Scurtabo**	**0.19**	**139**⇑	*e*Pg	**Pg**	**15 15 11.0**	**-0.8**
SC2M				Sg	**Sg**	**15 15 14.1**	**-0.5**
	186µm,0.3s						
BOB	**Bobbio (Coli)**	**0.23**	**16**	P	**Pg**	**15 15 11.6**	**-0.8**
BOB				S	**Sg**	**15 15 15.1**	**-0.7**
BOB	**Bobbio (Coli)**	**0.23**	**16**	P	**Pg**	**15 15 11.6**	**-0.8**
BOB				S	**Sg**	**15 15 15.1**	**-0.7**
BOB	**Bobbio (Coli)**	**0.23**	**16**⇑	*e*Pg	**Pg**	**15 15 11.6**	**-0.8**
BOB				S	**Sg**	**15 15 15.1**	**-0.7**
BOB	**Bobbio (Coli)**	**0.23**	**16**⇑	*e*Pg	**Pg**	**15 15 11.6**	**-0.8**
BOB				Sg	**Sg**	**15 15 15.2**	**-0.6**
	70µm,0.6s						
MSSA	**Maissana**	**0.26**	**154**⇑	*e*Pg	**Pg**	**15 15 12.2**	**-0.7**
MSSA	**Maissana**	**0.26**	**154**⇑	*e*Pg	**Pg**	**15 15 12.2**	**-0.7**
MSSA				Sg	**Sg**	**15 15 16.4**	**-0.1**
	72µm,0.3s						
GENL	**Genova Univers**	**0.31**	**243**	P	**Pg**	**15 15 14.4**	**+0.5**
GENL				S	**Sb**	**15 15 19.9**	**-0.2**
GRAM	**Graiana**	**0.51**	**96**	P	**Pg**	**15 15 16.0**	**-1.5**
GRAM				S	**Sg**	**15 15 22.8**	**-1.4**
PCP	**Piancastagn**	**0.58**	**270**	P	**Pg**	**15 15 18.1**	**-0.8**
PCP				S	**Sg**	**15 15 26.8**	**+0.2**
PCP	**Piancastagn**	**0.58**	**270**	P	**Pg**	**15 15 18.1**	**-0.8**
PCP				S	**Sg**	**15 15 26.8**	**+0.2**
PCP	**Piancastagn**	**0.58**	**270**	P	**Pg**	**15 15 18.1**	**-0.8**
PCP				S	**Sg**	**15 15 26.8**	**+0.2**
PCP	**Piancastagn**	**0.58**	**270**⇑	*e*Pg	**Pg**	**15 15 18.0**	**-0.8**
PCP				Sg	**Sg**	**15 15 26.9**	**+0.2**
	11µm,0.7s						
PLMA	**Palmaria, Port**	**0.61**	**144**⇑	*e*Pg	**Pg**	**15 15 18.1**	**-1.3**
PLMA				Sg	**Sg**	**15 15 26.5**	**-0.9**
	11µm,0.3s						
PLMA	**Palmaria, Port**	**0.61**	**144**⇑	*e*Pg	**Pg**	**15 15 18.1**	**-1.3**
PLMA				Sg	**Sg**	**15 15 26.5**	**-0.9**
	11µm,0.3s						
PRMA	**PARMA**	**0.71**	**72**⇑	*e*Pg	**Pg**	**15 15 20.8**	**-0.5**
PRMA	**PARMA**	**0.71**	**72**⇑	*e*Pg	**Pg**	**15 15 20.8**	**-0.5**
PRMA				Sg	**Sn**	**15 15 33.1**	**-1.2**
	35µm,0.5s						
QLNO	**Quiliano**	**0.76**	**253**⇑	*e*Pg	**Pg**	**15 15 21.2**	**-1.0**
QLNO				Sg	**Sg**	**15 15 32.8**	**+0.6**
	4µm,0.4s						
QLNO	**Quiliano**	**0.76**	**253**⇑	*e*Pg	**Pg**	**15 15 21.2**	**-1.0**
QLNO				Sg	**Sg**	**15 15 32.8**	**+0.6**
	4µm,0.4s						
ERBM	**Eremo**	**0.77**	**99**	*e*P	**Pg**	**15 15 21.4**	**-1.0**
ERBM	**Eremo**	**0.77**	**99**	Pg	**Pg**	**15 15 21.3**	**-1.0**
	8µm,1.1s						
ERBM	**Eremo**	**0.77**	**99**	Pg	**Pg**	**15 15 21.3**	**-1.0**
	8µm,1.1s						
CTL8	**Castelleone**	**0.78**	**21**	Pg	**Pb**	**15 15 23.4**	**+0.3**
	8µm,0.7s						
CTL8	**Castelleone**	**0.78**	**21**	Pg	**Pb**	**15 15 23.4**	**+0.3**
	8µm,0.7s						
SARO	**Sassorosso**	**0.83**	**116**	P	**Pg**	**15 15 20.8**	**-2.8**
SARO				S	**Sg**	**15 15 32.3**	**-2.1**
VLC	**Villacollemand**	**0.83**	**117**	*e*Pg	**Pg**	**15 15 23.1**	**-0.6**
VLC	**Villacollemand**	**0.83**	**117**	*e*Pg	**Pg**	**15 15 23.0**	**-0.6**
VLC	**Villacollemand**	**0.83**	**117**	Pg	**Pg**	**15 15 21.9**	**-1.7**
	5µm,0.8s						
NOVE	**Novellara**	**1.00**	**75**	Pg	**Pn**	**15 15 27.2**	**-0.1**
	13µm,0.7s						
NOVE	**Novellara**	**1.00**	**75**	Pg	**Pn**	**15 15 27.2**	**-0.1**
	13µm,0.7s						
BDI	**Bagni Di Lucca**	**1.01**	**118**	P	**Pb**	**15 15 25.1**	**-1.9**
BDI				S	**Sg**	**15 15 39.0**	**-1.2**
BDI	**Bagni Di Lucca**	**1.01**	**118**	P	**Pb**	**15 15 25.1**	**-1.9**
BDI				S	**Sg**	**15 15 39.0**	**-1.2**
BDI	**Bagni Di Lucca**	**1.01**	**118**	P	**Pb**	**15 15 25.1**	**-1.9**
BDI				S	**Sg**	**15 15 39.0**	**-1.2**
BDI	**Bagni Di Lucca**	**1.01**	**118**	Pg	**Pb**	**15 15 25.0**	**-2.0**
	8µm,0.9s						
RORO	**Rocca Rossa**	**1.02**	**245**	P	**Pb**	**15 15 25.5**	**-1.7**
RORO				S	**Sb**	**15 15 39.5**	**-1.1**
RORO	**Rocca Rossa**	**1.02**	**245**	Pg	**Pb**	**15 15 25.4**	**-1.7**
	5µm,0.7s						
MAIM	**Mastiano**	**1.03**	**127**⇑	*e*Pg	**Pb**	**15 15 25.0**	**-2.3**
	5µm,0.6s						
MAIM	**Mastiano**	**1.03**	**127**	P	**Pb**	**15 15 25.5**	**-1.8**
MAIM				S	**Sb**	**15 15 39.7**	**-1.0**

MAIM	Mastiano	1.03	127⇑	ePg	Pb	15 15 25.0	-2.3
	5µm,0.6s						
POPM	Popiglio	1.12	116	P	Pb	15 15 26.8	-2.0
POPM				S	Sb	15 15 40.8	-2.6
ZCCA	Zocca	1.18	99	Pg	Pg	15 15 30.8	+0.7
	5µm,0.6s						
ZCCA	Zocca	1.18	99	Pg	Pg	15 15 30.8	+0.7
	5µm,0.6s						
SBPO	S.Benedetto Po	1.22	65	Pg	Pg	15 15 31.7	+0.8
	9µm,0.7s						
SBPO	S.Benedetto Po	1.22	65	Pg	Pg	15 15 31.7	+0.8
	9µm,0.7s						
IMI	Imperia	1.23	239	P	Pn	15 15 29.6	-1.0
IMI				S	Sb	15 15 46.2	-0.4
IMI	Imperia	1.23	239	Pg	Pn	15 15 29.6	-1.0
IMI	Imperia	1.23	239	P	Pn	15 15 30.5	-0.1
IMI				S	Sb	15 15 46.2	-0.4
IMI	Imperia	1.23	239	Pg	Pn	15 15 29.6	-1.0
FNVD	Fontana Vidola	1.32	106	Pg	Pb	15 15 32.0	-0.3
	5µm,0.7s						
FNVD	Fontana Vidola	1.32	106	Pg	Pb	15 15 32.0	-0.3
	5µm,0.7s						
SALO	Salr	1.35	37	Pg	Pb	15 15 32.7	-0.1
	11µm,0.8s						
SALO	Salr	1.35	37	Pg	Pb	15 15 32.7	-0.1
	11µm,0.8s						
PTF	Prato	1.36	115	Pg	Pn	15 15 31.8	-0.6
PTF	Prato	1.36	115	Pg	Pn	15 15 31.8	-0.6
NEGI	Seborga	1.38	240	P	Pn	15 15 30.8	-1.8
NEGI				S	Sn	15 15 47.0	-3.8
NEGI	Seborga	1.38	240	Pg	Pn	15 15 30.8	-1.8
	3µm,0.6s						
CRMI	Carmignano	1.38	123	Pg	Pn	15 15 31.7	-1.0
	2µm,0.9s						
CRMI	Carmignano	1.38	123	Pg	Pn	15 15 31.7	-1.0
	2µm,0.9s						
VARE	Varese	1.39	343	Pg	Pb	15 15 33.6	+0.2
	6µm,0.9s						
VARE	Varese	1.39	343	Pg	Pb	15 15 33.6	+0.2
	6µm,0.9s						
MUGIO	Muggio	1.39	351	Pg	Pn	15 15 32.9	+0.1
	5µm,0.8s						
MUGIO	Muggio	1.39	351	Pg	Pn	15 15 32.9	+0.1
	5µm,0.8s						
SAOF	Saorge	1.41	247	P	Pn	15 15 32.5	-0.6
SAOF	Saorge	1.41	247	P	Pn	15 15 32.5	-0.6
STV	Sant Anna di V	1.49	259	Pg	Pn	15 15 32.7	-1.5
	2µm,0.6s						
TRAV	Traversella	1.50	311	Pg	Pn	15 15 34.2	-0.1
	2µm,0.3s						
TRAV	Traversella	1.50	311	Pg	Pn	15 15 34.2	-0.1
	2µm,0.3s						
DOI	San Damiano	1.51	269	P	Pn	15 15 34.5	0.0
DOI	San Damiano	1.51	269	P	Pn	15 15 34.5	0.0
DOI	San Damiano	1.51	269	Pg	Pn	15 15 34.6	0.0
	6µm,0.7s						
MAGA	Magasa	1.52	36	Pg	Pn	15 15 34.5	-0.1
MAGA				Sg	Sg	15 15 56.4	-0.1
	20µm,0.5s						
MAGA	Magasa	1.52	36	Pg	Pn	15 15 34.5	-0.1
MAGA				Sg	Sg	15 15 56.4	-0.1
	20µm,0.5s						
BHB	Bricherasio	1.52	282	Pg	Pn	15 15 35.1	+0.5
	4µm,0.8s						
BHB	Bricherasio	1.52	282	Pg	Pn	15 15 35.1	+0.5
	4µm,0.8s						
BALD	Monte Baldo	1.54	42	ePg	Pn	15 15 34.8	-0.1
BALD				eSg	Sg	15 15 56.8	-0.1
BALD	Monte Baldo	1.54	42	ePg	Pn	15 15 34.8	-0.1
BALD				eSg	Sg	15 15 56.8	-0.1
SBF	Sospel	1.54	244	ePn	Pn	15 15 34.3	-0.6
	SNR=1.0						
SBF				eSn	Sn	15 15 53.3	-1.6
	4µm,0.5s,SNR=1.0						
SBF	Sospel	1.54	244	ePn	Pn	15 15 34.3	-0.6
SBF				eSn	Sn	15 15 53.3	-1.6
SBF	Sospel	1.54	244	P	Pn	15 15 34.9	0.0
SBF				S	Sn	15 15 55.5	+0.6
SBF	Sospel	1.54	244	ePn	Pn	15 15 34.3	-0.6
	SNR=1.0						
SBF	Sospel	1.54	244	P	Pn	15 15 34.9	0.0
SBF				eSn	Sn	15 15 53.3	-1.6
	2µm,0.5s,SNR=1.0						
SBF				S	Sn	15 15 55.5	+0.6
FIR	Firenze	1.57	119	P	Pb	15 15 36.7	+0.3
FIR	Firenze	1.57	119	P	Pb	15 15 36.7	+0.3
LUCF	Luceram	1.59	246	Pn	Pn	15 15 35.1	-0.4
LUCF	Luceram	1.59	246	Pn	Pn	15 15 35.1	-0.4
PZZ	Stroppo	1.60	269	Pg	Pn	15 15 34.8	-1.0
	6µm,0.6s						
ROVR	Rover˜¤ Verone	1.64	47	Pg	Pn	15 15 36.0	-0.2
	5µm,0.5s						
ROVR	Rover˜¤ Verone	1.64	47	Pg	Pn	15 15 36.0	-0.2
	5µm,0.5s						
REVF	Revere	1.65	241	Pn	Pn	15 15 36.0	-0.2
REVF				Sg	Sg	15 16 04.0	+3.6
REVF	Revere	1.65	241	Pn	Pn	15 15 36.1	-0.2
CIRO	Champorcher	1.65	310	Pg	Pn	15 15 36.8	+0.2
	1µm,0.6s						
CIRO	Champorcher	1.65	310	Pg	Pn	15 15 36.8	+0.2
	1µm,0.6s						
RNI	Roncone	1.69	31	ePg	Pn	15 15 36.2	-0.8
SATI	Passo dei Sala	1.69	322	Pg	Pn	15 15 37.6	+0.3
	2µm,1.0s						
MARN	Marana (Italy)	1.71	50	ePg	Pn	15 15 36.8	-0.3
MARN				eSg	Sg	15 16 01.5	-0.8
MARN	Marana (Italy)	1.71	50⇑	ePg	Pn	15 15 36.8	-0.3
MARN				eSg	Sg	15 16 01.6	-0.8
OG22	Abries	1.74	280	Pn	Pb	15 15 39.4	-0.1
OG22	Abries	1.74	280	Pn	Pb	15 15 39.4	-0.1
MMK	Mattmark	1.80	327	Pg	Pn	15 15 38.7	+0.1
	2µm,0.9s						
TRIF	Trifonti	1.82	142	Pg	Pn	15 15 37.8	-0.8
	1µm,0.7s						
TEOL	Teolo	1.83	63	ePn	Pn	15 15 38.7	-0.1
TEOL	Teolo	1.83	63	Pg	Pn	15 15 38.6	-0.2
	15µm,1.2s						
TEOL	Teolo	1.83	63	ePn	Pn	15 15 38.7	-0.1
MBDF	Montbardon	1.86	276	eP	Pn	15 15 40.1	+0.8
	SNR=1.0						
MBDF	Montbardon	1.86	276	ePg	Pg	15 15 42.5	-0.6
MBDF				eSn	Sn	15 16 00.1	-2.6
	3µm,0.6s,SNR=1.0						
MBDF	Montbardon	1.86	276	eP	Pn	15 15 40.1	+0.8
MBDF				ePg	Pg	15 15 42.5	-0.6
MBDF				eSn	Sn	15 16 00.1	-2.6
MBDF	Montbardon	1.86	276	eP	Pn	15 15 40.1	+0.8
MBDF				e		15 16 00.1	
MBDF	Montbardon	1.86	276	eP	Pn	15 15 40.1	+0.8
	SNR=1.0						
MBDF	Montbardon	1.86	276	ePg	Pg	15 15 42.5	-0.6
MBDF				eSn	Sn	15 16 00.1	-2.6
	1µm,0.6s,SNR=1.0						
FROS	Frosini	1.86	135	Pg	Pn	15 15 38.2	-1.1
	1µm,0.8s						
RRL	Rocca Remolon	1.87	282	Pg	Pn	15 15 39.6	+0.1
	2µm,0.8s						
SFI	Santa Sofia	1.90	109	P	Pb	15 15 41.5	-0.6
SFI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SFI	Santa Sofia	1.90	109	Pg	Pn	15 15 40.0	+0.2
	comp=Z,2µm,1.1s						
SFI	Santa Sofia	1.90	109	P	Pb	15 15 41.5	-0.6
	comp=Z,5.0nm,1.1s						
SFI	Santa Sofia	1.90	109	Pg	Pn	15 15 40.0	+0.2
	comp=Z,2µm,1.1s						
BERNI	Berninapass	1.92	14	Pg	Pn	15 15 41.0	+0.7
	comp=Z,2µm,1.0s						
TUE	Stuetta	1.93	360	ePn	Pn	15 15 41.3	+1.0
TUE	Stuetta	1.93	360	ePn	Pn	15 15 41.3	+1.0
TUE	Stuetta	1.93	360	Pg	Pb	15 15 41.4	-1.3
	comp=Z,1µm,0.4s						
FUSIO	Fusio	1.97	346	Pg	Pn	15 15 41.1	+0.3
	comp=Z,1µm,0.8s						
BNI	Bardonecchia	1.97	286	ePn	Pb	15 15 42.8	-0.7
BNI	Bardonecchia	1.97	286	eP	Pb	15 15 42.8	-0.7
BNI	Bardonecchia	1.97	286	eP	Pb	15 15 42.8	-0.7
BNI	Bardonecchia	1.97	286	Pg	Pb	15 15 42.7	-0.7
PGF	Pioggiola	2.02	188	ePn	Pn	15 15 40.0	-1.4
	SNR=1.0						
PGF				eSn	Sn	15 16 03.8	-2.8
	comp=Z,395nm,0.4s,SNR=1.0						
PGF	Pioggiola	2.02	188	ePn	Pn	15 15 40.0	-1.4
PGF				eSn	Sn	15 16 03.8	-2.8
PGF	Pioggiola	2.02	188	eP	Pn	15 15 40.4	-1.0
PGF	Pioggiola	2.02	188	ePn	Pn	15 15 40.0	-1.4
	SNR=1.0						
PGF	Pioggiola	2.02	188	eP	Pn	15 15 40.4	-1.0
PGF				eSn	Sn	15 16 03.8	-2.8
	comp=Z,197nm,0.4s,SNR=1.0						
MRGE	Morge	2.03	308	Pg	Pn	15 15 43.1	+1.4
	comp=Z,1µm,0.7s						
PANI	Panarotta	2.05	42	ePn	Pn	15 15 40.9	-1.1
BRMO	Bormio	2.06	20	Pg	Pn	15 15 42.7	+0.7
	comp=Z,1µm,0.8s						
DIX	Grande Dixence	2.06	319	Pg	Pn	15 15 43.4	+1.2
	comp=Z,1µm,0.8s						
CASP	Castiglione de	2.07	148	Pg	Pn	15 15 40.9	-1.2
	comp=Z,694nm,0.9s						
LPG	La Plagne	2.08	298	eP	Pb	15 15 44.1	-1.2
	SNR=1.0						
LPG	La Plagne	2.08	298	ePg	Pg	15 15 47.5	+0.1
LPG				eSn	Sn	15 16 05.9	-2.5
	comp=Z,1µm,0.6s,SNR=1.0						
LPG	La Plagne	2.08	298	eP	Pb	15 15 44.1	-1.2
LPG				ePg	Pg	15 15 47.5	+0.1
LPG				eSn	Sn	15 16 05.9	-2.5
LPG	La Plagne	2.08	298	eP	Pb	15 15 44.1	-1.2
LPG				e		15 16 05.9	
LPG	La Plagne	2.08	298	eP	Pb	15 15 44.1	-1.2
	SNR=1.0						
LPG	La Plagne	2.08	298	ePg	Pg	15 15 47.5	+0.1
LPG				eSn	Sn	15 16 05.9	-2.5
	comp=Z,622nm,0.6s,SNR=1.0						
CRE	Caprese Michel	2.08	116	P	Pn	15 15 41.6	-0.8
CRE	Caprese Michel	2.08	116	P	Pn	15 15 41.6	-0.8
CRE	Caprese Michel	2.08	116	Pg	Pn	15 15 41.9	-0.5
	comp=Z,1µm,0.8s						
CARE	Lago del Cares	2.10	26	ePn	Pn	15 15 42.3	-0.4
CARE	Lago del Cares	2.10	26⇑	ePn	Pn	15 15 42.3	-0.4
LPL	La Plagne	2.10	298	eP	Pb	15 15 44.7	-0.9
	SNR=1.0						
LPL	La Plagne	2.10	298	ePg	Pg	15 15 48.2	+0.4
LPL				eSn	Sn	15 16 06.4	-2.5
	comp=Z,765nm,0.5s,SNR=1.0						
LPL	La Plagne	2.10	298	eP	Pb	15 15 44.7	-0.9
LPL				ePg	Pg	15 15 48.2	+0.4
LPL				eSn	Sn	15 16 06.4	-2.5
LPL	La Plagne	2.10	298	eP	Pb	15 15 44.7	-0.9
LPL				e		15 16 06.4	
LPL	La Plagne	2.10	298	eP	Pb	15 15 44.7	-0.9
	SNR=1.0						
LPL	La Plagne	2.10	298	ePg	Pg	15 15 48.2	+0.4
LPL				eSn	Sn	15 16 06.4	-2.5
	comp=Z,382nm,0.5s,SNR=1.0						
FUORN	Ofenpass-Fuorn	2.17	17	ePn	Pb	15 15 45.2	-1.7
FUORN	Ofenpass-Fuorn	2.17	17	ePn	Pb	15 15 45.2	-1.7
FUORN	Ofenpass-Fuorn	2.17	17	Pg	Pb	15 15 45.1	-1.7
	comp=Z,1µm,0.6s						
CGRP	Cima Grappa	2.18	51	ePn	Pn	15 15 43.5	-0.3
CGRP				eSg	Sb	15 16 15.1	+1.1
CGRP	Cima Grappa	2.18	51	Pg	Pn	15 15 43.5	-0.3
	comp=Z,3µm,0.7s						
CGRP	Cima Grappa	2.18	51⇑	ePn	Pn	15 15 43.5	-0.3
CGRP				eSg	Sb	15 16 15.1	+1.1
FRF	La Foret Royal	2.19	244	ePn	Pn	15 15 43.1	-0.6
	SNR=1.0						
FRF				eSn	Sn	15 16 08.2	-2.6
	comp=Z,1µm,0.5s,SNR=1.0						
FRF	La Foret Royal	2.19	244	ePn	Pn	15 15 43.1	-0.6
FRF				eSn	Sn	15 16 08.2	-2.6
FRF	La Foret Royal	2.19	244	eP	Pn	15 15 43.1	-0.6
FRF				e		15 16 08.2	
FRF	La Foret Royal	2.19	244	ePn	Pn	15 15 43.1	-0.6
	SNR=1.0						
FRF				eSn	Sn	15 16 08.2	-2.6
	comp=Z,559nm,0.5s,SNR=1.0						
CTI	Castel Tesino	2.21	46	Pg	Pn	15 15 43.9	-0.1
	comp=Z,2µm,0.7s						
OZOL	Ozolo	2.21	32	ePn	Pn	15 15 43.8	-0.3
OZOL	Ozolo	2.21	32⇓	ePn	Pn	15 15 43.8	-0.3
MOSI	Grossmontoni	2.23	22	Pg	Pb	15 15 46.3	-1.6
	comp=Z,7µm,1.0s						
CAFI	Castiglion Fio	2.24	122	Pg	Pn	15 15 44.0	-0.5
	comp=Z,474nm,0.6s						
PARC	Parchiule	2.26	112	Pg	Pn	15 15 44.9	+0.2
	comp=Z,671nm,0.8s						
DAVOX	Davos/Dischmat	2.26	9	Pg	Pb	15 15 46.7	-1.7
	comp=Z,2µm,1.1s						
ARCI	Arcidosso	2.29	137	Pg	Pn	15 15 44.1	-1.0
	comp=Z,330nm,0.8s						
SENIN	Lac Senin/Sane	2.32	322	ePn	Pb	15 15 48.2	-1.2
SENIN	Lac Senin/Sane	2.32	322	ePn	Pb	15 15 48.2	-1.2
APPI	Appiano	2.34	34	Pg	Pn	15 15 46.2	+0.4
	comp=Z,2µm,0.5s						
OG25	Le Caire	2.36	267	Pn	Pn	15 15 47.7	+1.6
OG25	Le Caire	2.36	267	Pn	Pn	15 15 47.7	+1.6
KOSI	Kohlern	2.38	36	Pg	Pn	15 15 46.8	+0.3
	comp=Z,2µm,0.8s						
LMR	La Mourre	2.39	240	ePn	Pn	15 15 45.5	-1.0
LMR	La Mourre	2.39	240	eP	Pn	15 15 47.5	+1.0
	SNR=1.0						
LMR				eSn	Sn	15 16 13.5	-2.2
	SNR=1.0						
LMR				eSg	Sg	15 16 24.1	-0.2
	comp=Z,792nm,0.6s,SNR=1.0						
LMR	La Mourre	2.39	240	ePn	Pn	15 15 45.5	-1.0
LMR				eSn	Sn	15 16 13.5	-2.2
LMR				eSg	Sg	15 16 24.1	-0.2
LMR	La Mourre	2.39	240	eP	Pn	15 15 45.5	-1.0
LMR				e		15 16 13.5	
LMR	La Mourre	2.39	240	ePn	Pn	15 15 45.5	-1.0
LMR	La Mourre	2.39	240	eP	Pn	15 15 47.5	+1.0
	SNR=1.0						
LMR				eSn	Sn	15 16 13.5	-2.2
	SNR=1.0						
LMR				eSg	Sg	15 16 24.1	-0.2
	comp=Z,396nm,0.6s,SNR=1.0						
GDM	Grand'Maison	2.40	287	Pn	Pb	15 15 49.2	-1.4
GDM	Grand'Maison	2.40	287	Pn	Pb	15 15 49.3	-1.4
VARN	Col Varnada, M	2.42	52	ePn	Pn	15 15 46.7	-0.2
VARN	Col Varnada, M	2.42	52	ePn	Pn	15 15 46.7	-0.2
PLONS	Plons/SG	2.50	0	Pg	Pn	15 15 50.0	+1.9
	comp=Z,786nm,0.5s						
ORIF	Oris-en-Rattie	2.51	280	eP	Pb	15 15 50.8	-1.7
	SNR=1.0						
ORIF				eSn	Sn	15 16 15.8	-2.9
ORIF				eSg	Sg	15 16 26.8	-1.3
	comp=Z,2µm,0.7s						
ORIF	Oris-en-Rattie	2.51	280	eP	Pb	15 15 50.8	-1.7
ORIF				eSn	Sn	15 16 15.8	-2.9
ORIF				eSg	Sg	15 16 26.8	-1.3
ORIF	Oris-en-Rattie	2.51	280	eP	Pb	15 15 50.8	-1.7
ORIF				e		15 16 15.8	
ORIF	Oris-en-Rattie	2.51	280	eP	Pb	15 15 50.8	-1.7
	SNR=1.0						
ORIF				eSn	Sn	15 16 15.8	-2.9
ORIF				eSg	Sg	15 16 26.8	-1.3
	comp=Z,792nm,0.7s						
ATTE	AVT- Monte Tez	2.55	121	Pg	Pn	15 15 48.6	-0.2
	comp=Z,523nm,0.8s						
AGOR	Agordo	2.57	47	Pg	Pn	15 15 49.5	+0.5
AGOR	Agordo	2.57	47	ePn	Pn	15 15 49.5	+0.5
ABSI	Aberstueckl	2.58	32	Pg	Pn	15 15 50.0	+0.8
	comp=Z,3µm,0.7s						
OG01	Vacheresse	2.59	314	Pn	Pb	15 15 52.5	-1.4
OG01	Vacheresse	2.59	314	Pn	Pb	15 15 52.6	-1.4
FETA	Feichten	2.65	21	Pn	Pn	15 15 52.0	+1.8
	comp=Z,120nm,0.6s,SNR=79						
FETA				Sn	Sb	15 16 26.0	-1.6
	comp=Z,202nm,0.4s						
FETA	Feichten	2.65	21	ePn	Pn	15 15 52.0	+1.8
	comp=Z,120nm,0.6s,SNR=79						
FETA				Sn	Sb	15 16 26.0	-1.6
	comp=Z,202nm,0.4s						
POLC	Polcenigo	2.67	55	ePn	Pn	15 15 50.5	+0.3
POLC	Polcenigo	2.67	55	Pg	Pn	15 15 50.2	0.0
	comp=Z,3µm,0.5s						
POLC	Polcenigo	2.67	55	ePn	Pn	15 15 50.5	+0.3
DAVA	Damuels	2.76	7	Pn	Pn	15 15 53.8	+2.0
	comp=Z,163nm,0.5s,SNR=60						
DAVA				Sn	Sb	15 16 29.2	-1.6
	comp=Z,378nm,0.4s						
DAVA	Damuels	2.76	7	ePn	Pn	15 15 53.8	+2.0
	comp=Z,163nm,0.5s,SNR=60						
DAVA				Sn	Sb	15 16 29.2	-1.6
	comp=Z,378nm,0.4s						
SMRF	Simiane la Rot	2.78	259	eP	Pn	15 15 53.0	+1.2
	SNR=1.0						
SMRF				eSn	Sn	15 16 22.6	-2.7
	comp=Z,1µm,0.8s						
SMRF	Simiane la Rot	2.78	259	eP	Pn	15 15 53.0	+1.2
SMRF				eSn	Sn	15 16 22.6	-2.7
SMRF	Simiane la Rot	2.78	259	eP	Pn	15 15 53.0	+1.2
	SNR=1.0						
SMRF				eSn	Sn	15 16 22.6	-2.7
	comp=Z,699nm,0.8s						
ROSI	Rosskopf	2.78	30	Pg	Pn	15 15 53.2	+1.2
	comp=Z,3µm,1.1s						
CIMO	Cimolais	2.79	50	ePn	Pn	15 15 52.1	0.0
CIMO	Cimolais	2.79	50	ePn	Pn	15 15 52.1	0.0
LEPF	PUYLOUBIER	2.83	250	Pn	Pn	15 15 52.5	0.0
LEPF	PUYLOUBIER	2.83	250	Pn	Pn	15 15 52.6	0.0
ZUR	Degenried	2.87	349	P	Pn	15 15 54.8	+1.6
ZUR				pmax	pmax		
	comp=Z,3µm,2.0s						
ZUR	Degenried	2.87	349	P	Pn	15 15 54.8	+1.6
	comp=Z,3µm,2.0s						
MOTA	Moosalm	3.05	23	Pn	Pn	15 15 57.9	+2.2
	comp=Z,158nm,0.4s,SNR=129						
MOTA				Sn	Sn	15 16 30.7	-1.5
	comp=Z,274nm,0.3s						
MOTA	Moosalm	3.05	23	i Pn	Pn	15 15 57.9	+2.2
	comp=Z,158nm,0.4s,SNR=129						
MOTA				eSn	Sn	15 16 30.7	-1.5
	comp=Z,274nm,0.3s						
CABF	La Chapelle	3.09	313	eP	Pn	15 15 58.0	+1.8
	SNR=1.0						
CABF				eSn	Sn	15 16 29.4	-3.6
	comp=Z,343nm,0.5s						
CABF				eSg	Sg	15 16 44.3	-2.4
	comp=Z,595nm,0.6s						
CABF	La Chapelle	3.09	313	eP	Pn	15 15 58.0	+1.8
CABF				eSn	Sn	15 16 29.4	-3.6
CABF				eSg	Sg	15 16 44.3	-2.4
CABF	La Chapelle	3.09	313	eP	Pn	15 15 58.0	+1.8
CABF				e		15 16 29.4	
CABF	La Chapelle	3.09	313	eP	Pn	15 15 58.0	+1.8
	SNR=1.0						
CABF				eSg	Sg	15 16 44.3	-2.4
	comp=Z,297nm,0.6s						
RETA	Reutte	3.10	18	Pn	Pn	15 15 58.2	+1.9
	comp=Z,18nm,0.2s,SNR=29						
RETA				Sn	Sn	15 16 35.5	+2.2
	comp=Z,481nm,0.6s						
RETA	Reutte	3.10	18	i Pn	Pn	15 15 58.2	+1.9
	comp=Z,18nm,0.2s,SNR=29						
RETA				eSn	Sn	15 16 35.5	+2.2
	comp=Z,481nm,0.6s						
ABTA	Abfaltersbach	3.12	44	Pn	Pn	15 15 57.9	+1.3
	comp=Z,50nm,0.3s,SNR=52						
ABTA				Sn	Sn	15 16 34.5	+0.7
	comp=Z,267nm,0.6s						
ABTA	Abfaltersbach	3.12	44	i Pn	Pn	15 15 57.9	+1.3
	comp=Z,50nm,0.3s,SNR=52						
ABTA				i Sn	Sn	15 16 34.5	+0.7
	comp=Z,267nm,0.6s						
CLUD	Cludinico	3.13	51	ePn	Pn	15 15 56.9	+0.3
CLUD	Cludinico	3.13	51⇑	ePn	Pn	15 15 56.9	+0.3
WTTA	Wattenberg	3.15	30	Pn	Pn	15 15 58.6	+1.5
WTTA				Sn	Sn	15 16 35.7	+1.0
	comp=Z,682nm,0.7s						
WTTA	Wattenberg	3.15	30	i Pn	Pn	15 15 59.1	+2.0
	comp=Z,25nm,0.2s,SNR=29						
WTTA				i Sn	Sn	15 16 35.7	+1.0
	comp=Z,682nm,0.7s						
FUSE	Fusea	3.17	53	ePn	Pn	15 15 57.8	+0.6
FUSE	Fusea	3.17	53	ePn	Pn	15 15 57.8	+0.6
WATA	Walderalm	3.19	28	Pn	Pn	15 15 59.7	+2.1
	comp=Z,18nm,0.2s,SNR=36						
WATA	Walderalm	3.19	28	i Pn	Pn	15 15 59.7	+2.1
	comp=Z,18nm,0.2s,SNR=36						
ZOU	Zoufplan	3.24	50	ePn	Pn	15 15 58.8	+0.5
VINO	Villanova	3.25	57	ePn	Pn	15 15 58.0	-0.3
VINO	Villanova	3.25	57	ePn	Pn	15 15 58.0	-0.3
SLE	Schleitheim	3.27	350	P	Pn	15 15 59.2	+0.5
SLE	Schleitheim	3.27	350	P	Pn	15 15 59.2	+0.5
LOMF	Lomont	3.31	329	P	Pn	15 16 01.3	+2.0
LOMF	Lomont	3.31	329	Pn	Pn	15 16 01.2	+2.0
LOMF	Lomont	3.31	329	Pn	Pn	15 16 01.2	+2.0
SABO	M.te Sabotino	3.32	63	ePn	Pn	15 15 59.8	+0.5
SABO	M.te Sabotino	3.32	63	ePn	Pn	15 15 59.8	+0.5
TRI	Trieste	3.33	68	ePn	Pn	15 15 58.3	-1.0
TRI	Trieste	3.33	68	eP	Pn	15 15 58.3	-1.0
TRI	Trieste	3.33	68	eP	Pn	15 15 58.3	-1.0
TRI	Trieste	3.33	68⇓	ePn	Pn	15 15 58.8	-0.6
VIVF	Saint-Julien-l	3.36	277	eP	Pn	15 16 01.1	+1.3
	SNR=1.0						
VIVF				eSn	Sn	15 16 36.1	-3.5
	comp=Z,227nm,0.5s,SNR=1.0						
VIVF	Saint-Julien-l	3.36	277	eP	Pn	15 16 01.1	+1.3
VIVF				eSn	Sn	15 16 36.1	-3.5
VIVF	Saint-Julien-l	3.36	277	eP	Pn	15 16 01.1	+1.3
VIVF				e		15 16 36.1	
VIVF	Saint-Julien-l	3.36	277	eP	Pn	15 16 01.1	+1.3
	SNR=1.0						
VIVF				eSn	Sn	15 16 36.1	-3.5
	comp=Z,114nm,0.5s,SNR=1.0						
DRE	Drenchia	3.43	60	ePn	Pn	15 16 00.7	-0.1
DRE	Drenchia	3.43	60	ePn	Pn	15 16 00.7	-0.1
SKDS	Skadanscina	3.45	72	i Pn	Pn	15 15 59.8	-1.2
SKDS				eSn	Sn	15 16 39.0	-2.8
SKDS	Skadanscina	3.45	72	Pn	Pn	15 15 59.8	-1.2
SKDS				eSn	Sn	15 16 39.0	-2.8
	comp=Z,540nm,0.8s						
FELD	Feldberg im Sc	3.46	345	Pn	Pn	15 16 02.3	+1.0
FELD	Feldberg im Sc	3.46	345	Pn	Pn	15 16 02.3	+1.0
SSB	Saint Sauveur	3.50	284	ePn	Pn	15 16 03.6	+1.8
SSB	Saint Sauveur	3.50	284	eP	Pn	15 16 03.6	+1.8
SSB	Saint Sauveur	3.50	284	Pn	Pn	15 16 03.0	+1.2
SSB	Saint Sauveur	3.50	284	eP	Pn	15 16 03.6	+1.8
PRED	Cave del Predi	3.51	56	ePn	Pn	15 16 02.3	+0.3
PRED	Cave del Predi	3.51	56	ePn	Pn	15 16 02.3	+0.3
ACOM	Acomizza, Ital	3.54	54	ePn	Pn	15 16 03.4	+1.0
ACOM	Acomizza, Ital	3.54	54	ePn	Pn	15 16 03.4	+1.0
MOF	Molkenrain	3.65	336	Pn	Pn	15 16 05.4	+1.6
MOF	Molkenrain	3.65	336	Pn	Pn	15 16 05.4	+1.6
MYKA	Terra Mystica	3.66	54	Pn	Pn	15 16 04.7	+0.7
	comp=Z,5.0nm,0.2s,SNR=13						
MYKA	Terra Mystica	3.66	54	i Pn	Pn	15 16 04.7	+0.7
	comp=Z,5.0nm,0.2s,SNR=13						
HINF	Hinteralfeld	3.71	333	eP	Pn	15 16 06.0	+1.4
	SNR=1.0						
HINF				eSn	Sn	15 16 43.3	-4.9
	comp=Z,335nm,0.4s						
HINF	Hinteralfeld	3.71	333	eP	Pn	15 16 06.0	+1.4
HINF				eSn	Sn	15 16 43.3	-4.9
HINF	Hinteralfeld	3.71	333	eP	Pn	15 16 06.0	+1.4
HINF				e		15 16 43.3	
HINF	Hinteralfeld	3.71	333	eP	Pn	15 16 06.0	+1.4
	SNR=1.0						
KBA	Koelnbreinsper	3.76	46	Pn	Pn	15 16 06.7	+1.2
	comp=Z,40nm,0.4s,SNR=39						
KBA				Sn	Sn	15 16 50.5	+0.7
	comp=Z,121nm,0.5s						
KBA	Koelnbreinsper	3.76	46	i Pn	Pn	15 16 06.7	+1.2
	comp=Z,40nm,0.4s,SNR=39						
KBA				eSn	Sn	15 16 50.5	+0.7
	comp=Z,121nm,0.5s						
CEY	Cerknica	3.78	70	ePn	Pn	15 16 04.6	-1.0
BFO	Black Forest	3.85	350	ePn	Pn	15 16 06.7	+0.1
BFO	Black Forest	3.85	350	ceP	Pn	15 16 07.6	+1.0
BFO	Black Forest	3.85	350	ePn	Pn	15 16 06.7	+0.1
BFO	Black Forest	3.85	350	eP	Pn	15 16 07.6	+1.0
NVLJ	Novalja	3.94	88	ePn	Pn	15 16 08.0	+0.2
NVLJ				Sn	Sn	15 16 52.3	-1.5
NVLJ	Novalja	3.94	88	ePn	Pn	15 16 07.9	+0.2
NVLJ				Sn	Sn	15 16 52.3	-1.5
LJU	Ljubljana	3.94	66	ePn	Pn	15 16 08.3	+0.5
ECH	Echery	3.97	338	ePn	Pn	15 16 08.9	+0.6
ECH	Echery	3.97	338	eP	Pn	15 16 08.9	+0.6
ECH	Echery	3.97	338	eP	Pn	15 16 08.9	+0.6
LASF	Ste Croix	3.98	265	ePn	Pn	15 16 08.3	0.0
LASF	Ste Croix	3.98	265	eP	Pn	15 16 11.5	+3.2
	SNR=1.0						
LASF				eSn	Sn	15 16 52.1	-2.8
	comp=Z,93nm,0.5s,SNR=1.0						
LASF	Ste Croix	3.98	265	ePn	Pn	15 16 08.3	0.0
LASF				eSn	Sn	15 16 52.1	-2.8
LASF	Ste Croix	3.98	265	ePn	Pn	15 16 08.3	0.0
LASF	Ste Croix	3.98	265	eP	Pn	15 16 11.5	+3.2
	SNR=1.0						
LASF				eSn	Sn	15 16 52.1	-2.8
	comp=Z,47nm,0.5s,SNR=1.0						

HAU Haudompre 4.04 330 *e*P **Pn 15 16 10.5 +1.3**
SNR=1.0
HAU *e*Sn **Sn 15 16 51.4 -5.0**
comp=Z,967nm,0.4s
HAU Haudompre 4.04 330 *e*P **Pn 15 16 10.5 +1.3**
HAU *e*Sn **Sn 15 16 51.4 -5.0**
HAU Haudompre 4.04 330 *e*P **Pn 15 16 10.5 +1.3**
HAU *e* 15 16 51.4
HAU Haudompre 4.04 330 *e*P **Pn 15 16 10.5 +1.3**
SNR=1.0
CDF Champ du Feu 4.12 340 *e*P **Pn 15 16 10.0 -0.4**
SNR=1.0
CDF *e*Sn **Sn 15 16 53.4 -5.2**
comp=Z,186nm,0.4s,SNR=1.0
CDF Champ du Feu 4.12 340 *e*P **Pn 15 16 10.0 -0.4**
CDF *e*Sn **Sn 15 16 53.4 -5.2**
CDF Champ du Feu 4.12 340 *e*P **Pn 15 16 10.0 -0.4**
CDF *e* 15 16 53.4
CDF Champ du Feu 4.12 340 *e*P **Pn 15 16 10.0 -0.4**
SNR=1.0
OBKA Obir 4.14 60 Pn **Pn 15 16 11.1 +0.5**
comp=Z,6.4nm,0.2s
OBKA Sn **Sn 15 17 01.7 +2.7**
comp=Z,154nm,0.5s
OBKA Sg **Sg 15 17 21.0 +0.6**
comp=Z,445nm,0.6s
OBKA Obir 4.14 60 *i* Pn **Pn 15 16 11.1 +0.5**
comp=Z,6.4nm,0.2s
OBKA *e*Sn **Sn 15 17 01.7 +2.7**
comp=Z,154nm,0.5s
OBKA Sg **Sg 15 17 21.0 +0.6**
comp=Z,445nm,0.6s
STU Stuttgart 4.23 359 *e*Pn **Pn 15 16 12.2 +0.6**
STU Stuttgart 4.23 359 *e*P **Pn 15 16 12.3 +0.6**
STU Stuttgart 4.23 359 *e*P **Pn 15 16 12.3 +0.6**
THEF They Montfort 4.36 329 Pn **Pn 15 16 15.2 +1.7**
THEF They Montfort 4.36 329 Pn **Pn 15 16 15.2 +1.7**
LBL Lubilhac 4.40 281 Pn **Pn 15 16 16.1 +2.0**
LBL Lubilhac 4.40 281 Pn **Pn 15 16 16.2 +2.0**
SMF Signal de Mont 4.41 300 *e*P **Pn 15 16 15.4 +1.2**
SNR=1.0
SMF *e*Sn **Sn 15 17 00.1 -5.3**
comp=Z,449nm,0.6s
SMF Signal de Mont 4.41 300 *e*P **Pn 15 16 15.4 +1.2**
SMF *e*Sn **Sn 15 17 00.1 -5.3**
SMF Signal de Mont 4.41 300 *e*P **Pn 15 16 15.4 +1.2**
SMF *e* 15 17 00.1
SMF Signal de Mont 4.41 300 *e*P **Pn 15 16 15.4 +1.2**
SNR=1.0
OZLJ Ozalj 4.46 74 *e*Pn **Pn 15 16 15.4 +0.6**
OZLJ Ozalj 4.46 74 *e*Pn **Pn 15 16 15.4 +0.6**
CRES Cresnjev 4.50 71 *e*Pn **Pn 15 16 15.2 -0.2**
SOKA Soboth 4.51 60 Pn **Pn 15 16 16.2 +0.4**
comp=Z,6.9nm,0.3s
SOKA Sn **Sn 15 17 07.4 -0.8**
comp=Z,54nm,0.6s
SOKA Soboth 4.51 60 *i* Pn **Pn 15 16 16.2 +0.4**
comp=Z,6.9nm,0.3s
SOKA *e*Sn **Sn 15 17 07.4 -0.8**
comp=Z,54nm,0.6s
LANF Langenberg 4.56 347 Pn **Pn 15 16 16.8 +0.5**
LANF Langenberg 4.56 347 Pn **Pn 15 16 16.8 +0.5**
UDBI Udbina 4.58 88 *i* Pn **Pn 15 16 18.0 +1.3**
UDBI Sn **Sn 15 17 07.7 -2.1**
UDBI Udbina 4.58 88 *i* Pn **Pn 15 16 17.9 +1.3**
UDBI Sn **Sn 15 17 07.6 -2.1**
AGO Saint Agoulin 4.64 291 Pn **Pn 15 16 19.5 +2.0**
AGO Saint Agoulin 4.64 291 Pn **Pn 15 16 19.5 +2.0**
PYM Petit Puy Mans 4.65 287 Pn **Pn 15 16 19.5 +1.9**
PYM Petit Puy Mans 4.65 287 Pn **Pn 15 16 19.6 +1.9**
LOR Lormes 4.71 307 *e*P **Pn 15 16 20.0 +1.7**
SNR=1.0
LOR *e*Sn **Sn 15 17 08.2 -4.6**
comp=Z,318nm,0.4s,SNR=1.0
LOR Lormes 4.71 307 *e*P **Pn 15 16 20.0 +1.7**
LOR *e*Sn **Sn 15 17 08.2 -4.6**
LOR Lormes 4.71 307 *e*P **Pn 15 16 20.0 +1.7**
LOR *e* 15 17 08.2
LOR Lormes 4.71 307 *e*P **Pn 15 16 20.0 +1.7**
SNR=1.0
SFTF Sexfontaines 4.72 322 *e*Pn **Pn 15 16 20.3 +1.7**
baz=132
SFTF *e*Sn **Sn 15 17 07.3 -6.0**
comp=Z,171nm,0.5s
SFTF Sexfontaines 4.72 322 *e*Pn **Pn 15 16 20.3 +1.7**
SFTF *e*Sn **Sn 15 17 07.3 -6.0**
SFTF Sexfontaines 4.72 322 *e*Pn **Pn 15 16 20.3 +1.7**
PAGF Fort de Pagny 4.73 329 *e*Pn **Pn 15 16 20.1 +1.5**
baz=150
PAGF *e*Sn **Sn 15 17 08.2 -5.1**
comp=Z,51nm,0.4s
PAGF Fort de Pagny 4.73 329 *e*Pn **Pn 15 16 20.1 +1.5**
PAGF *e*Sn **Sn 15 17 08.2 -5.1**
PAGF Fort de Pagny 4.73 329 *e*Pn **Pn 15 16 20.1 +1.5**
MOA Molln 4.74 44 Pn **Pn 15 16 19.7 +0.9**
comp=Z,9.9nm,0.2s,SNR=12
MOA Molln 4.74 44 *i* Pn **Pn 15 16 19.7 +0.9**
comp=Z,9.9nm,0.2s,SNR=12
AVF Avril sur Loir 4.77 300 *e*P **Pn 15 16 20.7 +1.5**
SNR=1.0
AVF *e*Sn **Sn 15 17 08.9 -5.5**
comp=Z,204nm,0.7s
AVF Avril sur Loir 4.77 300 *e*P **Pn 15 16 20.7 +1.5**
AVF *e*Sn **Sn 15 17 08.9 -5.5**
AVF Avril sur Loir 4.77 300 *e*P **Pn 15 16 20.7 +1.5**
AVF *e* 15 17 08.9
AVF Avril sur Loir 4.77 300 *e*P **Pn 15 16 20.7 +1.5**
SNR=1.0
SSF Saint Saulge 4.80 304 *e*Pn **Pn 15 16 17.5 -2.1**
SSF Saint Saulge 4.80 304 *e*P **Pn 15 16 21.2 +1.6**
SNR=1.0
SSF *e*Sn **Sn 15 17 10.2 -5.0**
comp=Z,136nm,0.4s
SSF Saint Saulge 4.80 304 *e*Pn **Pn 15 16 17.5 -2.1**
SSF *e*Sn **Sn 15 17 10.2 -5.0**
SSF Saint Saulge 4.80 304 *e*P **Pn 15 16 17.5 -2.1**
SSF *e* 15 17 10.2
SSF Saint Saulge 4.80 304 *e*Pn **Pn 15 16 17.5 -2.1**
SSF Saint Saulge 4.80 304 *e*P **Pn 15 16 21.2 +1.6**
SNR=1.0
MEZF Maizieres J'vi 4.95 325 *e*P **Pn 15 16 23.4 +1.8**
baz=142,SNR=1.0
MEZF *e*Sn **Sn 15 17 14.4 -4.3**
comp=Z,183nm,0.5s,SNR=1.0
MEZF Maizieres J'vi 4.95 325 *e*P **Pn 15 16 23.4 +1.8**
MEZF *e*Sn **Sn 15 17 14.4 -4.3**
MEZF Maizieres J'vi 4.95 325 *e*P **Pn 15 16 23.4 +1.8**
SNR=1.0
BGF Bois d'Agland 5.00 296 *e*P **Pn 15 16 24.1 +1.8**
SNR=1.0
BGF *e*Sn **Sn 15 17 14.5 -5.5**
comp=Z,356nm,0.4s,SNR=1.0
BGF Bois d'Agland 5.00 296 *e*P **Pn 15 16 24.1 +1.8**
BGF *e*Sn **Sn 15 17 14.5 -5.5**
BGF Bois d'Agland 5.00 296 *e*P **Pn 15 16 24.1 +1.8**
BGF *e* 15 17 14.5
BGF Bois d'Agland 5.00 296 *e*P **Pn 15 16 24.1 +1.8**
SNR=1.0
VSL Villasalto 5.05 180 *e*Pn **Pn 15 16 24.2 +1.2**
VSL Villasalto 5.05 180 *e*Pn **Pn 15 16 24.2 +1.2**
ARSA Arzberg 5.08 56 Pn **Pn 15 16 23.7 +0.2**
comp=Z,9.6nm,0.3s,SNR=19
ARSA Arzberg 5.08 56 *i* Pn **Pn 15 16 23.7 +0.2**
comp=Z,9.6nm,0.3s,SNR=19
WET Wettzell 5.19 26 P **Pn 15 16 24.6 -0.4**
WET pmax pmax
comp=Z,60nm,1.2s
WET Wettzell 5.19 26 P **Pn 15 16 24.6 -0.4**
comp=Z,60nm,1.2s
CAF Calviac 5.21 277 *e*P **Pn 15 16 27.6 +2.3**
SNR=1.0
CAF *e*Sn **Sn 15 17 23.2 -2.1**
comp=Z,60nm,0.6s,SNR=1.0
CAF Calviac 5.21 277 *e*P **Pn 15 16 27.6 +2.3**
CAF *e*Sn **Sn 15 17 23.2 -2.1**
CAF Calviac 5.21 277 *e*P **Pn 15 16 27.6 +2.3**
CAF *e* 15 17 23.2
CAF Calviac 5.21 277 *e*P **Pn 15 16 27.6 +2.3**
SNR=1.0
CAF *e*Sn **Sn 15 17 23.2 -2.1**
comp=Z,30nm,0.6s,SNR=1.0
GEA0 GERESS Array S 5.23 33 *e*Pn **Pn 15 16 24.6 -0.9**
GEA0 GERESS Array S 5.23 33 *e*Pn **Pn 15 16 24.6 -0.9**
GEC2 GERESS Array S 5.23 33 *e*Pn **Pn 15 16 24.9 -0.7**
GEC2 GERESS Array S 5.23 33 *e*P **Pn 15 16 24.9 -0.7**
GEC2 GERESS Array S 5.23 33 *e*P **Pn 15 16 24.9 -0.7**
GERES GERESS Array B 5.23 33 Pn **Pn 15 16 25.1 -0.5**
comp=Z,6.1nm,0.3s,baz=208,slow=12,SNR=83
GERES Sn **Sn 15 17 23.1 -2.9**
comp=Z,29nm,0.3s,baz=213,slow=24,SNR=18
MTLF Montolieu 5.30 259 *e*P **Pn 15 16 26.9 +0.5**
SNR=1.0
MTLF *e*Sn **Sn 15 17 23.2 -4.2**
comp=Z,38nm,0.4s,SNR=1.0
MTLF Montolieu 5.30 259 *e*P **Pn 15 16 26.9 +0.5**
MTLF *e*Sn **Sn 15 17 23.2 -4.2**
MTLF Montolieu 5.30 259 *e*P **Pn 15 16 26.9 +0.5**
MTLF *e* 15 17 23.2
MTLF Montolieu 5.30 259 *e*P **Pn 15 16 26.9 +0.5**
SNR=1.0
GRFO Grafenberg 5.30 13 *e*Pn **Pn 15 16 26.0 -0.4**
GRFO Grafenberg 5.30 13 *e*P **Pn 15 16 26.0 -0.4**
GRFO Grafenberg 5.30 13 *e*P **Pn 15 16 26.0 -0.4**
GRA1 Grafenberg Arr 5.30 13 P **Pn 15 16 25.4 -1.1**
GRF Grafenberg Arr 5.30 13 P **Pn 15 16 25.4 -1.1**
TCF Toulx Ste Croi 5.33 292 *e*P **Pn 15 16 29.0 +2.2**
SNR=1.0
TCF *e*Sn **Sn 15 17 23.3 -4.8**
comp=Z,58nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 5.33 292 *e*P **Pn 15 16 29.0 +2.2**
TCF *e*Sn **Sn 15 17 23.3 -4.8**
TCF Toulx Ste Croi 5.33 292 *e*P **Pn 15 16 29.0 +2.2**
TCF *e* 15 17 23.3
TCF Toulx Ste Croi 5.33 292 *e*P **Pn 15 16 29.0 +2.2**
SNR=1.0
KHC Kasperske Hory 5.42 31 *e*PN **Pn 15 16 27.8 -0.4**
KHC *e*PG **Pg 15 16 50.0 -1.3**
KHC *e*SN **Sn 15 17 28.1 -2.4**
KHC AMS AMS 15 19 00.0
comp=Z,1µm,10.1s
KHC Kasperske Hory 5.42 31 *e*Pn **Pn 15 16 27.7 -0.4**
KHC Kasperske Hory 5.42 31 *e*P **Pn 15 16 27.7 -0.4**
KHC Kasperske Hory 5.42 31 Pn **Pn 15 16 27.8 -0.4**
HYF Humbligny 5.42 302 *e*P **Pn 15 16 30.0 +1.9**
HYF Humbligny 5.42 302 *e*P **Pn 15 16 30.0 +1.9**
HYF Humbligny 5.42 302 *e*P **Pn 15 16 30.0 +1.9**
BEHE Becsehely 5.55 67 *e*Sb **Sb 15 17 51.7 +0.8**
WLF Walferdange 5.57 338 ⇑P **Pn 15 16 33.8 +3.7**
WLF Walferdange 5.57 338 *e*Pn **Pn 15 16 31.3 +1.2**
comp=Z,47nm,0.8s
WLF Walferdange 5.57 338 *e*P **Pn 15 16 31.3 +1.2**
WLF pmax pmax
comp=Z,47nm,0.8s
WLF Walferdange 5.57 338 *e*P **Pn 15 16 31.3 +1.2**
comp=Z,47nm,0.8s
BLY Banja Luka 5.59 85 ⇑*i*P **Pn 15 16 30.6 +0.2**
BLY Banja Luka 5.59 85 *e*Pn **Pn 15 16 30.4 0.0**
BLY Banja Luka 5.59 85 *e*Pn **Pn 15 16 30.4 0.0**
RJF Les Rejaudoux 5.62 280 *e*Pn **Pn 15 16 33.2 +2.3**
RJF *e*Sn **Sn 15 17 30.1 -5.2**
comp=Z,86nm,0.7s
RJF Les Rejaudoux 5.62 280 *e*Pn **Pn 15 16 33.2 +2.3**
RJF *e*Sn **Sn 15 17 30.1 -5.2**
RJF Les Rejaudoux 5.62 280 *e*P **Pn 15 16 33.2 +2.3**
RJF *e* 15 30.1
RJF Les Rejaudoux 5.62 280 *e*Pn **Pn 15 16 33.2 +2.3**
CONA Conrad Observa 5.64 51 *i* Pn **Pn 15 16 31.4 +0.2**
comp=Z,14nm,0.4s,SNR=21
CONA *e*Sn **Sn 15 17 32.7 -3.1**
comp=Z,109nm,0.9s
SOP Sopron 5.91 55 ⇑*e*Pn **Pn 15 16 34.9 +0.2**
SOP *e*Sn **Sn 15 17 39.5 -2.8**
SOP Sopron 5.91 55 P **Pn 15 16 35.0 +0.2**
SOP pmax pmax
comp=Z,44nm,0.9s
SOP Sopron 5.91 55 P **Pn 15 16 35.0 +0.2**
comp=Z,44nm,0.9s
NKC Novy Kostel 6.06 19 *e*PN **Pn 15 16 37.2 +0.3**
NKC *e*SN **Sn 15 17 41.7 -4.5**
NKC AMS AMS 15 19 20.0
comp=Z,2µm,7.4s
NKC Novy Kostel 6.06 19 *e*P **Pn 15 16 37.2 +0.3**
NKC *e* 15 17 41.7
NKC MLR MLR
comp=Z,2µm,7.4s
NKC Novy Kostel 6.06 19 Pn **Pn 15 16 37.2 +0.3**
LFF La Frestale 6.15 277 *e*Pn **Pn 15 16 40.5 +2.4**
LFF La Frestale 6.15 277 *e*Pn **Pn 15 16 40.5 +2.4**
LFF La Frestale 6.15 277 *e*P **Pn 15 16 40.5 +2.4**
LFF La Frestale 6.15 277 *e*Pn **Pn 15 16 40.5 +2.4**
STON Ston 6.27 103 *e*Pn **Pn 15 16 38.5 -1.3**
STON Sn **Sn** 15 17 41.7 -10
STON Ston 6.27 103 *e*Pn **Pn 15 16 38.4 -1.3**
MOX Moxa 6.29 13 P **Pn 15 16 42.1 +2.1**
MOX Moxa 6.29 13 P **Pn 15 16 42.1 +2.1**
GIVF Givet 6.35 333 *e*Pn **Pn 15 16 38.3 -2.6**
GIVF Givet 6.35 333 *e*P **Pn 15 16 42.9 +2.0**
SNR=1.0
GIVF *e*Sn **Sn 15 17 47.1 -6.3**
comp=Z,234nm,0.8s
GIVF Givet 6.35 333 *e*Pn **Pn 15 16 38.3 -2.6**
GIVF *e*Sn **Sn 15 17 47.1 -6.3**
GIVF Givet 6.35 333 *e*P **Pn 15 16 38.3 -2.6**
GIVF *e* 15 17 47.1
GIVF Givet 6.35 333 *e*P **Pn 15 16 42.9 +2.0**
SNR=1.0
DOU Dourbes 6.43 331 ⇑P **Pn 15 16 43.1 +1.2**
MEM Membach 6.47 341 ⇑P **Pn 15 16 45.3 +2.7**
MEM Membach 6.47 341 P **Pn 15 16 45.3 +2.7**
MEM Membach 6.47 341 P **Pn 15 16 45.3 +2.7**
PRU Pruhonice 6.48 31 *e*PN **Pn 15 16 42.0 -0.7**
PRU *e*SN **Sn 15 17 51.8 -4.8**
PRU AMS AMS 15 19 40.0
comp=Z,700nm,9.7s
PRU Pruhonice 6.48 31 *e*P **Pn 15 16 42.0 -0.7**
PRU *e* 15 17 51.8
PRU MLR MLR
comp=Z,700nm,9.7s
PRU Pruhonice 6.48 31 Pn **Pn 15 16 42.0 -0.7**
BCLA Clavier 6.49 336 ⇑P **Pn 15 16 45.6 +2.9**
GOPC GO Pecny, Ondr 6.52 33 *e*PN **Pn 15 16 42.6 -0.6**
GOPC AMS AMS 15 19 40.0
comp=Z,700nm,10.6s
GOPC GO Pecny, Ondr 6.52 33 *e*P **Pn 15 16 42.6 -0.6**
GOPC MLR MLR
comp=Z,700nm,10.6s
GOPC GO Pecny, Ondr 6.52 33 Pn **Pn 15 16 42.6 -0.6**
BAIF Baives 6.53 329 *e*P **Pn 15 16 45.8 +2.5**
SNR=1.0
BAIF *e*Sn **Sn 15 17 52.0 -5.7**
comp=Z,89nm,0.7s
BAIF Baives 6.53 329 *e*P **Pn 15 16 45.8 +2.5**
BAIF *e*Sn **Sn 15 17 52.0 -5.7**
BAIF Baives 6.53 329 *e*P **Pn 15 16 45.8 +2.5**
BAIF *e* 15 17 52.0
BAIF Baives 6.53 329 *e*P **Pn 15 16 45.8 +2.5**
SNR=1.0
CUC Castrocucco 6.61 131 *e*P **Pn 15 16 48.0 +3.6**
comp=Z,12nm,0.9s
CUC Castrocucco 6.61 131 *e*P **Pn 15 16 48.0 +3.6**
comp=Z,12nm,0.9s
MATE Matera 6.67 123 ⇑*i*P **Pn 15 16 47.3 +2.0**
MODS Modra-Piesok 6.67 52 *e*P **Pn 15 16 45.1 -0.2**
MODS *e* 15 17 54.2
MODS Modra-Piesok 6.67 52 *e*P **Pn 15 16 45.1 -0.2**
MODS Modra-Piesok 6.67 52 *e*PN **Pn 15 16 45.1 -0.2**
MODS *e*SN **Sn 15 17 54.2 -7.1**
MODS *e*SG **Sg 15 18 37.8 -3.8**
EPF Esparros 6.70 260 *e*Pn **Pn 15 16 43.6 -2.2**
EPF *e*Sn **Sn 15 17 56.4 -5.6**
comp=Z,37nm,0.5s
EPF Esparros 6.70 260 *e*Pn **Pn 15 16 43.6 -2.2**
EPF *e*Sn **Sn 15 17 56.4 -5.6**
EPF Esparros 6.70 260 *e*P **Pn 15 16 43.6 -2.2**
EPF *e* 15 17 56.4
CSKK Cs^‡kako 6.81 62 ⇑*e*Pn **Pn 15 16 45.7 -1.5**
CSKK Cs^‡kako 6.81 62 ⇑*e*Pn **Pn 15 16 45.7 -1.5**
SMOL Smolenice 6.83 52 *e*P **Pn 15 16 47.4 -0.1**
SMOL Smolenice 6.83 52 *e*P **Pn 15 16 47.4 -0.1**
SMOL Smolenice 6.83 52 *e*PN **Pn 15 16 47.4 -0.1**
BRY Bratogost 6.85 101 ⇓*i*Pn **Pn 15 16 48.9 +1.0**
BRY *e*Sn **Sn 15 18 06.4 +0.6**
BRY Bratogost 6.85 101 P **Pn 15 16 49.2 +1.3**
BRY Bratogost 6.85 101 ⇓*i*Pn **Pn 15 16 48.9 +1.0**
BRY Bratogost 6.85 101 P **Pn 15 16 49.2 +1.3**
BRY *e*Sn **Sn 15 18 06.4 +0.6**
VRAC Vranov 6.87 44 Pn **Pn 15 16 47.3 -0.7**
comp=Z,1.3nm,0.3s,baz=230,slow=12,SNR=4.5
VRAC Sn **Sn 15 18 00.8 -5.3**
comp=Z,2.0nm,0.3s,baz=250,slow=8.7,SNR=6.1
VRAC Lg Lg 15 18 44.5
comp=Z,3.9nm,0.3s,baz=156,slow=23,SNR=5.5
VRAC Vranov 6.87 44 ⇑*i*P **Pn 15 16 47.6 -0.4**
PVCC Panska Ves 6.94 29 *e*PN **Pn 15 16 49.0 0.0**
PVCC *e*SN **Sn 15 18 02.8 -5.1**
PVCC AMS AMS 15 20 10.0
comp=Z,1µm,7.4s
PVCC Panska Ves 6.94 29 *e*P **Pn 15 16 49.0 0.0**
PVCC *e* 15 18 02.8
PVCC MLR MLR
comp=Z,1µm,7.4s
PVCC Panska Ves 6.94 29 Pn **Pn 15 16 49.0 0.0**
HCY Herceg Novi 6.97 104 ⇓*i*Pn **Pn 15 16 51.1 +1.8**
HCY *e*Sn **Sn 15 18 09.3 +0.8**
HCY Herceg Novi 6.97 104 ⇓*i*Pn **Pn 15 16 51.1 +1.8**
HCY *e*Sn **Sn 15 18 09.3 +0.8**
MFF Saint Martin d 6.98 290 *e*P **Pn 15 16 52.1 +2.6**
SNR=1.0
MFF *e*Sn **Sn 15 18 02.7 -6.1**
comp=Z,21nm,0.3s,SNR=1.0
MFF Saint Martin d 6.98 290 *e*P **Pn 15 16 52.1 +2.6**
MFF *e*Sn **Sn 15 18 02.7 -6.1**
MFF Saint Martin d 6.98 290 *e*P **Pn 15 16 52.1 +2.6**
MFF *e* 15 18 02.7
MFF Saint Martin d 6.98 290 *e*P **Pn 15 16 52.1 +2.6**
SNR=1.0
BRG Berggiesshubel 7.04 24 PN **Pn 15 16 49.9 -0.5**
BRG PG **Pg 15 17 24.4 +2.2**
BRG SN **Sn 15 18 05.5 -4.8**
BRG SG **Sg 15 18 54.6 +1.3**
comp=Z,76nm,1.1s
BRG Berggiesshubel 7.04 24 P **Pn 15 16 49.9 -0.5**
BRG 15 18 05.4
BRG smax smax
comp=N,76nm,1.1s
BRG MLR MLR
comp=N,746nm,7.7s
BRG MLR MLR
comp=E,705nm,8.3s
BRG MLR MLR
comp=Z,1µm,7.8s
BRG Berggiesshubel 7.04 24 P **Pn 15 16 49.9 -0.5**
NKME Niksic 7.18 101 *e*Pn **Pn 15 16 53.6 +1.3**
NKME *e*Sn **Sn 15 18 14.9 +1.1**
NKME Niksic 7.18 101 *e*Pn **Pn 15 16 53.6 +1.3**
NKME *e*Sn **Sn 15 18 14.9 +1.1**
CLL Collm 7.19 19 *e*Pn **Pn 15 16 50.0 -2.4**
CLL *e*Pg **Pg 15 17 25.0 -0.1**
CLL *i* Sn **Sn 15 18 11.0 -3.0**
CLL *e*Sg **Sg 15 18 59.0 +0.8**
comp=Z,157nm,1.1s
CLL Lm MLR 15 19 00.0
comp=Z,400nm,18.1s
CLL eLmax 15 19 09.0
CLL Collm 7.19 19 *e*Pn **Pn 15 16 50.0 -2.4**
CLL Collm 7.19 19 *e*P **Pn 15 16 50.0 -2.4**
CLL *i* 15 18 11.0
CLL MLR MLR
comp=Z,400nm,18.1s
CLL Collm 7.19 19 *e*Pn **Pn 15 16 50.0 -2.4**
NKY Niksic 7.20 101 ⇓*i*Pn **Pn 15 16 54.8 +2.2**
NKY *e*Sn **Sn 15 18 14.1 -0.2**
NKY Niksic 7.20 101 ⇓*i*Pn **Pn 15 16 54.8 +2.2**
NKY *e*Sn **Sn 15 18 14.1 -0.2**
CEME Cevo 7.23 103 ⇓*i*Pn **Pn 15 16 55.0 +2.0**
CEME *e*Sn **Sn 15 18 15.1 +0.1**
CEME Cevo 7.23 103 ⇓*i*Pn **Pn 15 16 55.0 +2.0**
CEME *e*Sn **Sn 15 18 15.1 +0.1**
BBLS Lazići 7.25 92 *e*Pn **Pn 15 16 53.4 +0.1**
TEKS Tekeris 7.27 86 *e*Pn **Pn 15 16 53.6 +0.1**
BUM Brajici-Budva 7.29 105 ⇑*i*Pn **Pn 15 16 55.2 +1.3**
BUM *e*Sn **Sn 15 18 16.8 +0.1**
BUM Brajici-Budva 7.29 105 ⇑*i*Pn **Pn 15 16 55.2 +1.3**
BUM *e*Sn **Sn 15 18 16.8 +0.1**
ETSF Etsaut 7.37 261 *e*P **Pn 15 16 58.2 +3.2**
SNR=1.0
ETSF *e*Sn **Sn 15 18 12.4 -6.2**
comp=Z,35nm,0.6s
ETSF Etsaut 7.37 261 *e*P **Pn 15 16 58.2 +3.2**
ETSF *e*Sn **Sn 15 18 12.4 -6.2**
ETSF Etsaut 7.37 261 *e*P **Pn 15 16 58.2 +3.2**
UPC Upice 7.47 35 *e*PN **Pn 15 16 54.6 -1.6**
UPC *e*SN **Sn 15 18 16.2 -4.6**
UPC AMS AMS 15 20 00.0
comp=Z,700nm,14.0s
UPC Upice 7.47 35 *e*P **Pn 15 16 54.6 -1.6**
UPC *e* 15 18 16.2
UPC MLR MLR
comp=Z,700nm,14.0s
UPC Upice 7.47 35 Pn **Pn 15 16 54.6 -1.6**
DPC Dobruska-Polom 7.48 37 *e*PN **Pn 15 16 54.5 -1.9**
DPC *e*SN **Sn 15 18 16.4 -4.7**
DPC AMS AMS 15 20 40.0
comp=Z,700nm,6.7s
DPC Dobruska-Polom 7.48 37 *e*P **Pn 15 16 54.5 -1.9**
DPC *e* 15 18 16.4
DPC MLR MLR
comp=Z,700nm,6.7s
DPC Dobruska-Polom 7.48 37 Pn **Pn 15 16 54.5 -1.9**
PDG Podgorica 7.50 103 ⇑*i*P **Pn 15 16 58.2 +1.5**
PDG Podgorica 7.50 103 ⇓*i*Pn **Pn 15 16 58.5 +1.8**
PDG *e*Sn **Sn 15 18 21.6 0.0**
TTG Podgorica 7.50 103 ⇓*i*Pn **Pn 15 16 58.5 +1.8**
TTG *e*Sn **Sn 15 18 21.6 0.0**
TTG Podgorica 7.50 103 *e*Pn **Pn 15 16 57.6 +0.9**
TTG Podgorica 7.50 103 *e*P **Pn 15 16 57.6 +0.9**
TTG Podgorica 7.50 103 *e*Pn **Pn 15 16 57.6 +0.9**
DRME Dracevica, Mon 7.54 105 ⇓*i*Pn **Pn 15 16 58.4 +1.2**
DRME *e*Sn **Sn 15 18 23.4 +0.9**
CLTB Caltabellotta 7.55 156 *e*Pn **Pn 15 16 59.5 +2.1**
CLTB Caltabellotta 7.55 156 *e*Pn **Pn 15 16 59.5 +2.1**
KOME Kolasin 7.55 99 ⇓*i*Pn **Pn 15 16 58.9 +1.4**
KOME *e*Sn **Sn 15 18 23.0 0.0**
VYHS Vyhne 7.63 56 *e*P **Pn 15 16 57.3 -1.2**
VYHS *e* 15 18 17.4
VYHS Vyhne 7.63 56 *e*P **Pn 15 16 57.3 -1.2**
VYHS Vyhne 7.63 56 *e*PN **Pn 15 16 57.3 -1.2**
VYHS *e*SN **Sn 15 18 17.4 -7.5**
DIVS Divibare 7.64 90 *e*Pn **Pn 15 16 57.9 -0.8**
DIVS Divibare 7.64 90 *e*Pn **Pn 15 16 57.9 -0.8**
MORC Moravsky Berou 7.64 44 ⇑*i*P **Pn 15 16 59.1 +0.4**
MORC Moravsky Berou 7.64 44 *e*Pn **Pn 15 16 57.6 -1.1**
MORC Moravsky Berou 7.64 44 *e*P **Pn 15 16 57.6 -1.1**
MORC Moravsky Berou 7.64 44 *e*P **Pn 15 16 57.6 -1.1**
ULC Ulcinj 7.66 106 ⇑*i*Pn **Pn 15 17 00.5 +1.6**
ULC *e*Sn **Sn 15 18 25.0 -0.7**
ULC Ulcinj 7.66 106 ⇑*i*Pn **Pn 15 17 00.5 +1.6**
ULC *e*Sn **Sn 15 18 25.0 -0.7**
LDF La Druitiere 7.68 305 *e*P **Pn 15 16 59.3 +0.1**
SNR=1.0
LDF La Druitiere 7.68 305 *e*P **Pn 15 16 59.3 +0.1**
LDF La Druitiere 7.68 305 *e*P **Pn 15 16 59.3 +0.1**
LDF La Druitiere 7.68 305 *e*P **Pn 15 16 59.3 +0.1**
SNR=1.0
SJPF Ste Jean 7.79 263 *e*Pn **Pn 15 16 59.0 -1.6**
SJPF Ste Jean 7.79 263 *e*Pn **Pn 15 16 59.0 -1.6**
SJPF *e*P **Pn 15 17 03.8 +3.2**
SJPF Ste Jean 7.79 263 *e*P **Pn 15 16 59.0 -1.6**
SJPF Ste Jean 7.79 263 *e*Pn **Pn 15 16 59.0 -1.6**
BEY Berane 7.81 99 ⇑*i*Pn **Pn 15 17 03.0 +1.9**
BEY *e*Sn **Sn 15 18 29.4 -0.1**
IVA Berane 7.81 99 ⇑*i*Pn **Pn 15 17 03.0 +1.9**
IVA *e*Sn **Sn 15 18 29.4 -0.1**
KSP Ksiaz 7.84 34 *e*Pn **Pn 15 17 00.1 -1.2**
KSP *e*Sn **Sn 15 18 24.2 -5.8**
KSP Ksiaz 7.84 34 *e*P **Pn 15 17 00.1 -1.2**
KSP *e* 15 18 24.2
KSP Ksiaz 7.84 34 *e*P **Pn 15 17 00.1 -1.2**
PVY Plav 7.94 101 ⇑*i*Pn **Pn 15 17 04.4 +1.6**
PVY *e*Sn **Sn 15 18 32.6 0.0**
FLN La Foliniere 7.97 305 *e*P **Pn 15 17 03.4 +0.3**
baz=128,SNR=1.0
FLN La Foliniere 7.97 305 *e*P **Pn 15 17 03.4 +0.3**
FLN La Foliniere 7.97 305 P **Pn 15 17 04.2 +1.1**
FLN La Foliniere 7.97 305 P **Pn 15 17 04.2 +1.1**
OKC Ostrava-Krasne 7.99 45 *e*PN **Pn 15 17 02.9 -0.4**
OKC AMS AMS 15 21 10.0
comp=Z,400nm,6.5s
OKC Ostrava-Krasne 7.99 45 *e*P **Pn 15 17 02.9 -0.4**

OKC MLR MLR
comp=Z,400nm,6.5s
OKC Ostrava-Krasne 7.99 45 Pn **Pn 15 17 02.9 -0.4**
GRR Gorron 8.03 302 *e*P **Pn 15 17 04.5 +0.6**
SNR=1.0
GRR *e*Sn **Sn 15 18 27.5 -7.1**
comp=Z,19nm,0.3s
GRR Gorron 8.03 302 *e*P **Pn 15 17 04.5 +0.6**
GRR *e*Sn **Sn 15 18 27.5 -7.1**
GRR Gorron 8.03 302 *e*P **Pn 15 17 04.5 +0.6**
GRR Gorron 8.03 302 *e*P **Pn 15 17 04.5 +0.6**
SNR=1.0
PSZ Piszkesteto 8.04 62⇑*i*P **Pn 15 17 05.4 +1.2**
PSZ Piszkesteto 8.04 62 *e*Pn **Pn 15 17 03.8 -0.4**
PSZ Piszkesteto 8.04 62 *e*P **Pn 15 17 03.8 -0.4**
PSZ Piszkesteto 8.04 62 *e*P **Pn 15 17 03.8 -0.4**
LANS Liptovska Anna 8.32 53 *e*P **Pn 15 17 08.5 +0.6**
LANS Liptovska Anna 8.32 53 *e*P **Pn 15 17 08.5 +0.6**
LANS Liptovska Anna 8.32 53 *e*PN **Pn 15 17 08.5 +0.6**
TIR Tirane 8.34 109⇑*i*P **Pn 15 17 09.1 +0.9**
TIR Tirane 8.34 109 *e*Pn **Pn 15 17 08.4 +0.2**
TIR Tirane 8.34 109 *e*P **Pn 15 17 08.4 +0.2**
TIR Tirane 8.34 109 *e*P **Pn 15 17 08.4 +0.2**
KECS Kecovo 8.62 59 *e*P **Pn 15 17 12.8 +0.8**
KECS *e* 15 18 46.0
KECS Kecovo 8.62 59 *e*PN **Pn 15 17 12.8 +0.8**
KECS Kecovo 8.62 59 *e*PN **Pn 15 17 12.8 +0.8**
KECS *e*SN **Sn 15 18 46.0 -3.1**
BZS Buzias 8.74 79⇑*i*P **Pn 15 17 14.8 +1.1**
KEST Kesra 8.80 180 Pn **Pn 15 17 15.5 +0.8**
comp=Z,1.8nm,0.3s,baz=263,slow=4.8,SNR=14
KEST LR LR 15 20 34.1
comp=Z,379nm,18.4s,baz=6.0,slow=37
KEST Kesra 8.80 180 *e*Pn **Pn 15 17 18.2 +3.6**
KEST Kesra 8.80 180 *e*Pn **Pn 15 17 18.2 +3.6**
MDVR Moldovita 8.81 84⇑*i*P **Pn 15 17 14.7 0.0**
NIE Niedzica 8.92 53 *e*Pn **Pn 15 17 17.2 +1.0**
NIE Niedzica 8.92 53 *e*P **Pn 15 17 17.2 +1.0**
NIE Niedzica 8.92 53 *e*P **Pn 15 17 17.2 +1.0**
SGMF Saint Gilles 9.03 298 *e*P **Pn 15 17 19.0 +1.4**
SNR=1.0
SGMF Saint Gilles 9.03 298 *e*P **Pn 15 17 19.0 +1.4**
SGMF Saint Gilles 9.03 298 *e*P **Pn 15 17 19.0 +1.4**
SGMF Saint Gilles 9.03 298 *e*P **Pn 15 17 19.0 +1.4**
SNR=1.0
OHR Ohrid 9.08 108 *e*Pn **Pn 15 17 19.1 +0.8**
OHR *e*Sg **Sn 15 18 56.3 -4.2**
SKO Skopje 9.18 102 *e*Pn **Pn 15 17 22.9 +3.1**
QUIF Quistinic 9.31 296 *e*P **Pn 15 17 24.2 +2.7**
SNR=1.0
QUIF Quistinic 9.31 296 *e*P **Pn 15 17 24.2 +2.7**
QUIF Quistinic 9.31 296 *e*P **Pn 15 17 24.2 +2.7**
QUIF Quistinic 9.31 296 *e*P **Pn 15 17 24.2 +2.7**
SNR=1.0
CRVS Cervenica-Dubn 9.38 58 *e*P **Pn 15 17 22.7 +0.3**
CRVS Cervenica-Dubn 9.38 58 *e*P **Pn 15 17 22.7 +0.3**
CRVS Cervenica-Dubn 9.38 58 *e*PN **Pn 15 17 22.7 +0.3**
STHS Stebnicka Huta 9.47 55 *e*P **Pn 15 17 24.3 +0.7**
STHS Stebnicka Huta 9.47 55 *e*P **Pn 15 17 24.3 +0.7**
STHS Stebnicka Huta 9.47 55 *e*PN **Pn 15 17 24.3 +0.7**
DRGR 9.61 72⇑*i*P **Pn 15 17 27.0 +1.3**
VAY Valandovo 10.21 104 *e*Pn **Pn 15 17 30.3 -3.5**
GRG Griva 10.24 106 P **Pn 15 17 37.6 +3.3**
GRG pmax pmax
comp=Z,16nm,0.7s
VTS Vitosha 10.24 96⇑*i*P **Pn 15 17 33.9 -0.5**
VTS Vitosha 10.24 96 *e*Pn **Pn 15 17 33.2 -1.2**
VTS Vitosha 10.24 96 *e*P **Pn 15 17 33.2 -1.2**
VTS Vitosha 10.24 96 *e*P **Pn 15 17 33.2 -1.2**
LOT Lotru 10.25 80⇑*i*P **Pn 15 17 35.7 +1.3**
SRS Serrai 11.00 103 P **Pn 15 17 48.2 +3.6**
SRS pmax pmax
comp=Z,15nm,0.8s
ESDC Sonseca Array 11.03 248 Pn **Pn 15 17 45.0 0.0**
comp=Z,0.8nm,0.3s,baz=70,slow=14,SNR=10
ESDC LR LR 15 21 41.8
comp=Z,105nm,20.7s,baz=355,slow=35
AGG Agios Georgios 11.14 115 *e*Pn **Pn 15 17 47.5 +0.9**
AGG Agios Georgios 11.14 115 *e*P **Pn 15 17 47.5 +0.9**
AGG Agios Georgios 11.14 115 *e*P **Pn 15 17 47.5 +0.9**
VOIR 11.15 80⇑*i*P **Pn 15 17 50.0 +3.3**
PAB San Pablo 11.35 249 *e*Pn **Pn 15 17 49.6 +0.1**
PAB San Pablo 11.35 249 *e*P **Pn 15 17 49.6 +0.1**
PAB San Pablo 11.35 249 *e*P **Pn 15 17 49.6 +0.1**
BUR04 Bucovina Ar. S 11.43 69 *e*Pn **Pn 15 17 49.7 -0.9**
BUR04 Bucovina Ar. S 11.43 69 *e*Pn **Pn 15 17 49.7 -0.9**
BURAR Bucovina Array 11.43 69⇑*i*P **Pn 15 17 53.6 +3.0**
MLR Muntele Rosu 11.78 80⇑*i*P **Pn 15 17 57.0 +1.6**
VRI Vrincioaia 12.32 78⇑*i*P **Pn 15 18 03.8 +1.1**
VRI Vrincioaia 12.32 78 P **Pn 15 18 03.8 +1.1**
VRI Vrincioaia 12.32 78 P **Pn 15 18 03.8 +1.1**
EKA Eskdalemuir Ar 13.45 328 Pn **Pn 15 18 16.2 -1.7**
baz=139,slow=14,SNR=7.2
EKA Sn **Sn 15 20 43.2 -4.0**
baz=141,slow=26,SNR=4.1
TIRR Tirgusor 13.60 84⇑*i*P **P 15 18 26.4 -2.7**
KIEV Kiev 14.71 58‖*i*P **Pn 15 18 37.9 +2.7**
AKASG Malin Array Be 14.72 58 Pn **Pn 15 18 33.9 -1.5**
comp=Z,0.3nm,0.3s,baz=248,slow=12,SNR=3.1
IDI Anoyia 15.06 123 LR LR 15 25 18.9
comp=Z,40nm,20.5s,baz=246,slow=40
KONO Kongsberg 15.13 0‖*e*P **Pn 15 18 42.7 +1.9**
HFS Hagfors 15.83 8 Pn **Pn 15 18 49.7 -0.2**
comp=Z,0.1nm,0.3s,baz=225,slow=18,SNR=2.5
HFS LR LR 15 26 18.3
comp=Z,63nm,18.6s,baz=204,slow=42
NOA NORSAR Array B 16.56 3 Pn **Pn 15 18 58.6 -0.7**
comp=Z,0.0nm,0.3s,baz=184,slow=12,SNR=2.7
NOA LR LR 15 25 00.9
comp=Z,54nm,18.8s,baz=140,slow=36
VSU Vasula 17.56 31*ce*P **P 15 19 14.0 +1.1**
VSU pmax pmax
comp=Z,53nm,0.9s
BRTR Keskin Array B 18.61 97 P **Pn 15 19 26.1 +0.9**
comp=Z,0.1nm,0.3s,baz=302,slow=8.0,SNR=9.5
BRTR LR LR 15 28 26.4
comp=Z,42nm,19.2s,baz=316,slow=43
BRTR Keskin Array B 18.61 97*ce*P **Pn 15 19 28.0 +2.9**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 19.58 24 P **P 15 19 34.7 -0.4**
comp=Z,0.2nm,0.3s,baz=221,slow=11,SNR=8.1
FINES LR LR 15 27 54.4
comp=Z,141nm,18.1s,baz=214,slow=39
FIA1 FINESS Array S 19.58 24 *e*P **P 15 19 34.1 -1.0**
VAF Ylistaro 20.05 18 P Pn 15 19 44.3 +2.4
OBN Obninsk 20.36 49 LR LR 15 29 21.4
comp=Z,57nm,18.2s,baz=265,slow=42
OBN Obninsk 20.36 49⇑*e*P Pn 15 19 48.4 +2.8
OBN *e* 15 19 53.8
OBN PPP PPP 15 20 08.0
OBN *e*S **S 15 23 29.3 -1.9**
OBN pmax pmax
comp=Z,22nm,1.2s
OBN MLR MLR
comp=Z,65nm,14.0s
SUF Sumiainen 20.63 22 P Pn 15 19 51.9 +3.1
SUF pmax pmax
comp=Z,15nm,1.3s
VSR Storozhevoye 20.98 61 *e*P Pn 15 19 51.9 -1.0
VSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 21.04 57 *e*P **P 15 19 52.2 +1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 21.14 48 *e*P P 15 19 38.6 -13
TAM Tamanrasset 21.93 190 *e*P **P 15 20 03.8 +2.9**
comp=Z,12nm,1.2s
TAM Tamanrasset 21.93 190 *e*P **P 15 20 03.8 +2.9**
TAM pmax pmax
comp=Z,12nm,1.2s
TAM Tamanrasset 21.93 190 *e*P **P 15 20 03.8 +2.9**
comp=Z,12nm,1.2s
VRH Novokhopyorsk 22.57 61 *e*P **P 15 20 07.9 +0.4**
VRH pmax pmax
comp=Z,7.0nm,0.8s
MMAI Mount Meron Ar 23.24 111 P **P 15 20 15.4 +0.8**
comp=Z,1.6nm,0.5s,baz=288,slow=8.7,SNR=4.8
KIV Kislovodsk 23.79 80 *e*P **P 15 20 21.1 +1.1**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,19nm,15.0s
KBZ Khabaz 23.99 80 P **P 15 20 21.8 0.0**
comp=Z,2.2nm,0.9s,baz=331,slow=13,SNR=2.2
KLMR Klimovskoe 24.18 37 *e*P **P 15 20 21.4 -2.0**
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 24.18 37 *e*P **P 15 20 21.4 -2.0**
KLMR AMP 15 20 37.1
comp=Z,15nm,1.4s
MARD Mardin 24.70 96 *e*P **P 15 20 28.4 -0.2**
comp=Z,100nm,1.8s
MARD Mardin 24.70 96 *e*P **P 15 20 28.4 -0.2**
comp=Z,100nm,1.8s
ASF Jabal al Asfar 24.75 111 P **P 15 20 29.0 0.0**
comp=Z,5.7nm,0.7s,baz=242,slow=8.2,SNR=9.1
ARCES ARCESS Array B 26.36 13 P **P 15 20 43.4 +0.3**
comp=Z,2.5nm,0.9s,baz=194,slow=9.5,SNR=4.3
ARCES PcP **PcP 15 24 06.5 -1.9**
comp=Z,0.9nm,0.6s,baz=197,slow=2.8,SNR=5.4
GNI Garni 26.38 87 P **P 15 20 45.5 +1.7**
comp=Z,6.0nm,0.7s,baz=277,slow=12,SNR=4.3
GNI Garni 26.38 87‖*e*P **P 15 20 46.1 +2.3**
GNI pmax pmax
comp=Z,44nm,1.2s
LVZ Lovozero 26.91 21‖*e*P **P 15 20 50.3 +2.2**
LVZ pmax pmax
comp=Z,13nm,1.2s
TORD Torodi Ar. Bea 31.97 194 P **P 15 21 34.4 +0.9**
comp=Z,2.4nm,1.0s,baz=8.2,slow=9.2,SNR=9.0
KOWA Kowa 32.04 205 P **P 15 21 34.9 +0.9**
comp=Z,2.0nm,0.7s,baz=23,slow=12,SNR=6.4
ARU Arti 32.77 51 P **P 15 21 38.8 -1.3**
comp=Z,2.7nm,0.5s,baz=255,slow=9.6,SNR=6.6
ARU Arti 32.77 51 *e*P **P 15 21 39.1 -1.0**
comp=Z,3.0nm,0.6s
ARU Arti 32.77 51*c i*P **P 15 21 42.9 +2.8**
ARU 15 22 52.4
ARU S **S 15 27 01.6 +5.2**
ARU SS **SnSn 15 28 54.2 +2.2**
ARU pmax pmax
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 32.91 62 P **P 15 21 40.6 -0.8**
comp=Z,1.7nm,0.8s,baz=278,slow=10.0,SNR=4.9
AKTO LR LR 15 38 25.0
comp=Z,39nm,18.0s,baz=237,slow=42
SPITS Spitsbergen Ar 33.86 3 LR LR 15 36 15.6
comp=Z,45nm,18.5s,baz=130,slow=37
ABKAR Akbulak array 34.35 64 *e*P **P 15 21 53.3 -0.6**
comp=Z,10nm,0.8s
GEYT Alibeck 36.80 83 P **P 15 22 15.9 +0.8**
comp=Z,2.7nm,0.6s,baz=288,slow=12,SNR=5.7
BRVK Bovoyve 39.90 55 *e*P **P 15 22 41.0 0.0**
comp=Z,7.3nm,1.3s
BRVK Borovoye 39.90 55⇑*i*P **P 15 22 43.1 +2.1**
BRVK *i* *PP **sP 15 22 46.4 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BVAR Borovoye Array 39.97 55 P **P 15 22 40.9 -0.7**
comp=Z,0.5nm,0.5s,baz=273,slow=7.3,SNR=3.5
BVAR PP **PnPn 15 24 15.9 -0.8**
comp=Z,0.6nm,0.9s,baz=289,slow=9.0,SNR=2.8
BVAR PcP **PcP 15 24 46.5 -0.1**
comp=Z,0.6nm,0.6s,baz=318,slow=4.1,SNR=3.0
BVAR LR LR 15 40 10.7
comp=Z,80nm,18.3s,baz=286,slow=38
BVAR Borovoye Array 39.97 55 P **P 15 22 40.9 -0.7**
BVAR 15 24 15.9
BVAR 15 24 46.5
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.9s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR MLR MLR
comp=Z,80nm,18.3s
KKAR Karatay Array 43.23 70 *e*P **P 15 23 08.7 +0.3**
KKAR Karatay Array 43.23 70 *e*P **P 15 23 08.7 +0.3**
KURK Kurchatov 45.52 56 *e*P **P 15 23 26.0 -0.6**
comp=Z,2.8nm,0.7s
KURK Kurchatov 45.52 56*ce*P **P 15 23 30.9 +4.3**
KURK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 46.08 68 P **P 15 23 32.1 +0.8**
comp=Z,1.4nm,0.7s,baz=279,slow=3.9,SNR=6.8
AAK Ala-Archa 46.08 68 *e*P **P 15 23 32.3 +0.9**
comp=Z,6.3nm,1.2s
AAK Ala-Archa 46.08 68 *e*P **P 15 23 32.3 +0.9**
AAK pmax pmax
comp=Z,6.0nm,1.2s
ZALV Zalesovo Beam 47.93 50 P **P 15 23 44.6 -0.9**
comp=Z,0.5nm,0.6s,baz=306,slow=9.9,SNR=2.9
ZALV PP **PP 15 25 38.2 +1.0**
comp=Z,0.5nm,0.5s,baz=279,slow=9.9,SNR=2.8
ZALV LR LR 15 45 24.7
comp=Z,30nm,18.7s,baz=62,slow=38
ZALV Zalesovo Beam 47.93 50 P **P 15 23 44.6 -0.9**
ZALV 15 25 38.2
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,30nm,18.7s
KSH Kashi 48.50 71 P **P 15 23 50.7 +0.5**
KSH sP sP 15 23 57.4 +1.9
KSH PP **PP 15 25 42.7 -0.1**
KSH S **S 15 30 48.4 -2.8**
KSH sS pS 15 30 55.3 -0.4
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH pmax pmax
comp=Z,48nm,7.1s
KSH LR LR
comp=Z,90nm,6.1s
KSH LR LR
comp=Z,98nm,6.6s
KSH LR LR
comp=Z,170nm,7.5s
MAKZ Makanchi 49.09 60 *e*P **P 15 23 54.4 -0.2**
comp=Z,8.9nm,1.8s
MAKZ Makanchi 49.09 60 *e*P **P 15 23 54.4 -0.2**
MAKZ pmax pmax
comp=Z,9.0nm,1.8s
MK31 Makanchi Array 49.30 60 *e*P **P 15 23 55.9 -0.2**
MK31 Makanchi Array 49.30 60 *e*P **P 15 23 55.9 -0.2**
MKAR Makanchi Array 49.30 60 *e*P **P 15 23 56.1 0.0**
comp=Z,2.7nm,0.7s,baz=284,slow=6.0,SNR=23
MKAR PcP **PcP 15 25 17.4 -1.4**
comp=Z,0.8nm,0.7s,baz=324,slow=3.2,SNR=3.6
MKAR LR LR 15 47 44.1
comp=Z,32nm,18.5s,baz=314,slow=40
MKAR Makanchi Array 49.30 60 *e*P **P 15 23 55.8 -0.3**
comp=Z,9.7nm,0.7s
MKAR PcP **PcP 15 25 17.4 -1.4**
MKAR Makanchi Array 49.30 60 *e*P **P 15 23 55.8 -0.3**
MKAR 15 25 17.4
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MK01 Makanchi Array 49.31 60 *e*P **P 15 23 55.9 -0.3**
WMQ Urumqi 54.05 61 P **P 15 24 33.1 +1.3**
WMQ LR LR
comp=Z,110nm,19.9s
WMQ LR LR
comp=Z,110nm,21.1s
WMQ LR LR
comp=Z,78nm,16.1s
TLY Talaya 59.08 46⇑*e*P **P 15 25 10.0 +2.7**
TLY pmax pmax
comp=Z,2.0nm,0.9s
PYUN Piuthan 59.63 79 *e*P **P 15 25 11.4 -0.3**
comp=Z,34nm,0.9s
KOLN Koldanda 60.26 79 *e*P **P 15 25 14.8 -1.2**
comp=Z,23nm,1.1s
DMN Daman 61.41 78 *e*P **P 15 25 23.3 -0.6**
comp=Z,46nm,1.1s
PKI Pulchoki 61.65 78 *e*P **P 15 25 24.5 -1.1**
comp=Z,26nm,1.0s
GUN Gumba 61.77 78 *e*P **P 15 25 26.0 -0.5**
comp=Z,29nm,0.8s
JIRN Jiri 62.14 78 *e*P **P 15 25 28.7 -0.3**
comp=Z,39nm,0.8s
SONM Songino Array 62.77 49 P **P 15 25 32.1 -0.5**
comp=Z,0.8nm,0.9s,baz=284,slow=5.8,SNR=3.3
SONM LR LR 15 53 42.8
comp=Z,36nm,18.1s,baz=355,slow=37
RAMN Ramite 62.86 78 *e*P **P 15 25 32.8 -0.9**
comp=Z,27nm,0.9s
ULN Ulaanbaatar 63.10 48‖*e*P **P 15 25 38.0 +3.1**
ULN pmax pmax
comp=Z,1.0nm,1.2s
TAPN Taplejung 63.39 77 *e*P **P 15 25 36.8 -0.4**
comp=Z,44nm,1.1s
ODAN Odare 63.47 78 *e*P **P 15 25 36.1 -1.6**
comp=Z,30nm,1.2s
YKA Yellowknife Ar 64.30 335 P **P 15 25 42.4 +0.1**
comp=Z,1.4nm,0.7s,baz=43,slow=6.3,SNR=34
LSA Lhasa 64.31 73 *e*P **P 15 25 43.9 +0.4**
comp=Z,4.4nm,0.8s
LSA Lhasa 64.31 73 *e*P **P 15 25 43.9 +0.4**
LSA pmax pmax
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 65.46 317 P **P 15 25 50.0 0.0**
comp=Z,10nm,0.9s,baz=54,slow=6.0,SNR=19
ULM Lac du Bonnet 65.46 317 *e*P **P 15 25 49.8 -0.2**
comp=Z,7.4nm,0.7s
ULM Lac du Bonnet 65.46 317 *e*P **P 15 25 49.8 -0.2**
ULM pmax pmax
comp=Z,7.0nm,0.7s
BILL Bilibino 66.40 9 *i*P **P 15 25 55.9 +0.1**
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,80nm,20.0s
SEY Seymchan 68.88 17 P **P 15 26 11.8 +0.2**
comp=Z,1.7nm,0.8s,baz=338,slow=8.8,SNR=7.8
SEY Seymchan 68.88 17*ce*P **P 15 26 12.6 +1.1**
ILAR Eielson Array 69.44 349 P **P 15 26 15.8 +0.7**
comp=Z,0.9nm,0.9s,baz=9.2,slow=5.8,SNR=7.8
HHC Hu-ho-hao-te 70.07 52 *e*P **P 15 26 20.1 +0.7**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.2s
RIDG Independ'e Rid 70.14 348 *e*P **P 15 26 20.7 +1.3**
comp=Z,6.0nm,0.8s
ECSD EROS Data Cent 70.19 312 *e*P **P 15 26 19.8 -0.2**
comp=Z,4.9nm,0.7s
DHY Denali Highway 71.13 349 *e*P **P 15 26 26.1 +0.5**
comp=Z,8.8nm,0.7s
MA2 Magadan 71.50 20*ce*P **P 15 26 29.2 +1.6**
CD2 Chengdu 71.93 64 *e*P **P 15 26 29.4 -1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
XAN Xi'an 73.09 59 P **P 15 26 37.6 0.0**
XAN pP sP 15 26 47.5 +4.5
XAN pmax pmax
comp=Z,7.0nm,0.9s
HHAR Hobbs 73.80 305 *e*P **P 15 26 41.2 -0.6**
comp=Z,9.7nm,0.7s
MIAR Mount Ida 74.78 304 *e*P **P 15 26 47.5 0.0**
comp=Z,16nm,1.4s
MIAR Mount Ida 74.78 304 *e*P **P 15 26 47.5 0.0**
MIAR pmax pmax
comp=Z,16nm,1.4s
CMAR Chiang Mai Arr 77.00 77 P **P 15 26 59.5 -0.8**
comp=Z,0.8nm,0.4s,baz=303,slow=7.1,SNR=9.9
CMAR LR LR 16 11 43.1
comp=Z,9.8nm,18.0s,baz=185,slow=44
PDAR Pinedale Array 77.39 319 P **P 15 27 01.3 -1.2**
comp=Z,0.5nm,0.8s,baz=60,slow=4.1,SNR=4.3
WMOK Wichita Mounta 77.69 307 *e*P **P 15 27 04.5 +0.4**
comp=Z,4.6nm,0.6s
WMOK Wichita Mounta 77.69 307 *e*P **P 15 27 04.5 +0.4**
WMOK pmax pmax
comp=Z,5.0nm,0.6s
WHN Wuhan 78.82 58 P **P 15 27 12.8 +2.5**
BMO Blue Mountains 79.18 324 *e*P **P 15 27 12.3 +0.1**
comp=Z,7.3nm,0.9s
BMO Blue Mountains 79.18 324 *e*P **P 15 27 12.3 +0.1**
BMO pmax pmax
comp=Z,7.0nm,0.9s
YSS Yuzh-Sakhalins 80.05 30 *e*P **P 15 27 16.6 -0.2**
comp=Z,11nm,0.6s
YSS Yuzh-Sakhalins 80.05 30⇑*i*P **P 15 27 17.0 +0.3**
YSS *e* 15 27 20.8
YSS pmax pmax
comp=Z,20nm,0.7s
NJ2 Nanjing 80.41 54 *e*P **P 15 27 20.4 +1.5**
NJ2 pmax pmax
comp=Z,13nm,0.5s
PV10 Paradox Valley 80.51 315 *e*P **P 15 27 20.2 +0.5**
KSRS Korea Array 81.30 45 LR LR 16 09 55.4
comp=Z,13nm,18.8s,baz=330,slow=40
R11A Troy Canyon, C 83.69 320 *e*P **P 15 27 37.3 +0.9**
comp=Z,3.6nm,1.3s
TX31 Lajitas Ar. Si 84.46 306 *e*P **P 15 27 41.1 +0.8**
TXAR Lajitas Array 84.46 306 P **P 15 27 41.1 +0.8**
comp=Z,2.1nm,0.7s,baz=68,slow=2.2,SNR=21
X16A Lo Mia Camp, P 84.80 315 *e*P **P 15 27 43.1 +1.1**
comp=Z,1.7nm,0.8s
NVAR Mina Array Bea 84.86 321 P **P 15 27 43.5 +1.1**
comp=Z,0.7nm,0.9s,baz=57,slow=3.3,SNR=3.7
WRA Warramunga Arr 128.51 80 PKP **PKPdf 15 34 13.2 -1.3**
comp=Z,0.4nm,0.8s,baz=326,slow=1.9,SNR=3.3
ASAR Alice Springs 130.60 84 PKP **PKPdf 15 34 16.8 -1.6**
comp=Z,0.4nm,0.8s,baz=313,slow=1.6,SNR=5.3

IDC 05 15:26:18.1±70.0, 52°.32S×123°.26E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/36, mbtmp3.7/3, Error ellipse: s-maj=1159.0km s-min=136.5km az=24.0, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**18.60**	**336**	T	T		15 47 54.7	
	baz=158,slow=78,SNR=5.7							
H01W2	**Cape Leeuwin H**	**18.60**	**336**	T	T		15 47 55.9	
	baz=158,slow=78,SNR=6.6							
H01W3	**Cape Leeuwin H**	**18.62**	**336**	T	T		15 47 58.7	
	baz=158,slow=78,SNR=5.8							
STKA	**Stephens Creek**	**24.42**	**40**	P	P		15 31 38.4	+0.2
	3.1nm,0.8s,baz=214,slow=7.9,SNR=7.7							
ASAR	**Alice Springs**	**29.75**	**20**	P	P		15 32 25.5	-0.6
	0.9nm,0.8s,baz=188,slow=9.1,SNR=12							
WRA	**Warramunga Arr**	**33.45**	**19**	P	P		15 32 59.3	+0.6
	0.4nm,0.9s,baz=185,slow=8.3,SNR=3.2							

*IDC **05** 15:36:27.9±1.2, 38°.74S×175°.39E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/36, mbtmp3.4/3, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/11, Error ellipse: s-maj=49.8km s-min=13.1km az=165.0*

*ISCJB **05** 15:36:30.4±0.2, 39°.44S±0°.02×175°.94E±0°.03, h65km±3km, mb3.3/2, Error ellipse: s-maj=3.6km s-min=2.7km az=23.4*

*WEL **05** 15:36:30.9, 39°.4S±0°.9×176°.0E±0°.9, h60km±1km, ML3.8/78*

ISC 05 15:36:30.6±0.9, 39°.44S±0°.03×175°.94E±0°.03, h61km±5km, n150, σ1§11/148, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BHHZ	**Black Hill Sta**	**0.11**	**120**	P		**Pn**	**15 36 39.7**	**-0.2**
BHHZ	**Black Hill Sta**	**0.11**	**120**	S		**Sn**	**15 36 45.7**	**-1.0**
MOVZ	**Moawhango**	**0.15**	**281**	P		**Pn**	**15 36 39.8**	**-0.2**
MOVZ	**Moawhango**	**0.15**	**281**	S		**Sn**	**15 36 45.8**	**-1.1**
TUVZ	**Tukino**	**0.28**	**307**	P		**Pn**	**15 36 41.0**	**+0.2**
TUVZ	**Tukino**	**0.28**	**307**	S		**Sn**	**15 36 48.1**	**-0.2**
WHVZ	**Whangaehu Hut**	**0.31**	**299**	P		**Pn**	**15 36 41.3**	**+0.1**
WHVZ	**Whangaehu Hut**	**0.31**	**299**	S		**Sn**	**15 36 48.4**	**-0.5**
DRZ	**Dome Shelter**	**0.33**	**299**	P		**Pn**	**15 36 41.6**	**+0.1**
FWVZ	**Far West T-bar**	**0.35**	**301**	P		**Pn**	**15 36 41.6**	**+0.1**
FWVZ	**Far West T-bar**	**0.35**	**301**	S		**Sn**	**15 36 49.0**	**-0.5**
MTVZ	**Mangateitei**	**0.37**	**278**	P		**Pn**	**15 36 41.7**	**+0.3**
NGZ	**Ngauruhoe**	**0.37**	**314**	P		**Pn**	**15 36 41.8**	**+0.2**
NGZ	**Ngauruhoe**	**0.37**	**314**	S		**Sn**	**15 36 49.8**	**+0.2**
KWHZ	**Kaweka Forest**	**0.37**	**88**	P		**Pn**	**15 36 42.0**	**+0.5**
KWHZ	**Kaweka Forest**	**0.37**	**88**	S		**Sn**	**15 36 50.6**	**+1.1**
COVZ	**Chateau Observ**	**0.39**	**307**	P		**Pn**	**15 36 42.0**	**+0.2**
KRHZ	**Kereru**	**0.39**	**122**	P		**Pn**	**15 36 42.2**	**+0.5**
KRHZ	**Kereru**	**0.39**	**122**	S		**Sn**	**15 36 50.7**	**+1.0**
KRVZ	**Karewarewa**	**0.41**	**326**	P		**Pn**	**15 36 42.2**	**+0.2**
WTVZ	**West Tongariro**	**0.42**	**319**	P		**Pn**	**15 36 42.2**	**+0.2**
RITZ	**Rihia Road**	**0.46**	**352**	P		**Pn**	**15 36 42.7**	**+0.4**
PKVZ	**Pokaka**	**0.48**	**287**	P		**Pn**	**15 36 43.0**	**+0.4**
KATZ	**Kakaramea**	**0.50**	**337**	P		**Pn**	**15 36 43.1**	**+0.3**
BKZ	**Black Stump Fm**	**0.51**	**58**	P		**Pn**	**15 36 42.9**	**+0.1**
BKZ	**Black Stump Fm**	**0.51**	**58**	S		**Sn**	**15 36 51.7**	**+0.1**
PNHZ	**Pukenui**	**0.52**	**157**	P		**Pn**	**15 36 43.6**	**+0.7**
TWVZ	**Taurewa**	**0.53**	**313**	P		**Pn**	**15 36 43.1**	**0.0**
HATZ	**Hinemaiaia**	**0.56**	**12**	P		**Pn**	**15 36 43.2**	**-0.1**
RATZ	**Rangitukua**	**0.58**	**347**	P		**Pn**	**15 36 43.7**	**+0.1**
MCHZ	**McNeill Hill**	**0.58**	**91**	P		**Pn**	**15 36 45.1**	**+1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TSZ	Takapari Road	0.62	179	P	Pn	15 36 45.1	+1.1
MRHZ	Matea Rd	0.71	32	P	Pn	15 36 45.0	-0.1
WPHZ	Waipukurau	0.74	149	P	Pn	15 36 46.2	+0.9
WPHZ	Waipukurau	0.74	149	P	Pn	15 36 46.2	+0.9
WATZ	Wairara	0.74	347	P	Pn	15 36 45.6	+0.1
WHTZ	Whakaora	0.77	1	P	Pn	15 36 46.3	+0.5
WAZ	Wanganui	0.80	246	P	Pn	15 36 47.5	+1.3
KAHZ	Kahuranaki	0.81	117	P	Pn	15 36 47.2	+1.0
ARHZ	Aropaoanui	0.84	78	P	Pn	15 36 47.7	+1.1
DVHZ	Dannevirke	0.88	169	P	Pn	15 36 47.8	+0.7
CKHZ	Cape Kidnapper	0.91	105	P	Pn	15 36 48.3	+0.8
CKHZ	Cape Kidnapper	0.91	105	P	Pn	15 36 49.8	+2.4
OHWZ	Ohakea	0.91	212	P	Pn	15 36 49.4	+2.0
MTHZ	Maungataniwha	0.91	51	P	Pn	15 36 48.2	+0.6
PXZ	Pawanui	0.93	130	P	Pn	15 36 48.3	+0.6
ALRZ	Allen Road	0.93	20	P	Pn	15 36 47.8	0.0
WPRZ	Whakapapatarin	0.93	11	P	Pn	15 36 47.9	+0.1
KUTZ	Kaahu Road	0.95	354	P	Pn	15 36 48.2	+0.2
POWZ	Post Office Ro	0.96	188	P	Pn	15 36 49.3	+1.1
VRZ	Vera Road	0.97	288	P	Pn	15 36 48.7	+0.5
PRHZ	Porangahau	0.99	147	P	Pn	15 36 49.3	+0.8
PRRZ	Plateau Road	1.00	21	P	Pn	15 36 48.8	+0.2
RAHZ	Arahi	1.03	60	P	Pn	15 36 50.2	+1.1
WHHZ	Waihua	1.07	71	P	Pn	15 36 50.6	+1.1
HRRZ	Handcock Road	1.08	14	P	Pn	15 36 50.2	+0.4
GRRZ	Galatos Road	1.09	7	P	Pn	15 36 50.8	+0.9
ANWZ	Angora Road	1.10	158	P	Pn	15 36 50.8	+0.8
PRWZ	Pori Road	1.12	179	P	Pn	15 36 51.3	+1.0
HSRZ	Hossack Road	1.15	12	P	Pn	15 36 51.1	+0.5
TLZ	Tolley Road	1.15	344	P	Pn	15 36 50.5	-0.1
RTZ	Ruatahuna	1.15	45	P	Pn	15 36 50.9	+0.1
MUGZ	Murupara	1.16	34	P	Pn	15 36 50.5	-0.2
RRRZ	Republican Roa	1.18	22	P	Pn	15 36 51.2	+0.1
LREZ	Lake Rotokare	1.19	268	P	Pn	15 36 52.4	+1.2
HLRZ	Highlands Stat	1.23	15	P	Pn	15 36 52.5	+0.8
HIZ	Hauiti	1.25	317	P	Pn	15 36 52.4	+0.5
MRZ	Mangatainoka R	1.25	193	P	Pn	15 36 52.7	+0.7
MRZ	Mangatainoka R	1.25	193	P	Pn	15 36 52.7	+0.7
BFZ	Birch Farm	1.27	169	P	Pn	15 36 52.6	+0.4
SNGZ	Shannon Statio	1.27	59	P	Pn	15 36 53.1	+0.9
UTU	Utuhina	1.27	9	P	Pn	15 36 53.4	+1.1
TARZ	Mount Tarawera	1.28	20	P	Pn	15 36 53.1	+0.7
MHEZ	Mangahewa	1.31	285	P	Pn	15 36 54.1	+1.4
TIWZ	Tintock	1.34	182	P	Pn	15 36 53.7	+0.5
TIWZ	Tintock	1.34	182	P	Pn	15 36 54.1	+0.9
NGRZ	Ngongotaha	1.34	8	P	Pn	15 36 53.7	+0.4
MKRZ	Makatiti	1.36	18	P	Pn	15 36 54.3	+0.8
OMRZ	Omania	1.37	14	P	Pn	15 36 54.3	+0.7
OMRZ	Omania	1.37	14	P	Pn	15 36 54.5	+0.9
DREZ	Durham Road	1.37	280	P	Pn	15 36 55.1	+1.5
PREZ	Palmer Road	1.38	273	P	Pn	15 36 55.6	+1.8
KNZ	Kokohu	1.41	73	P	Pn	15 36 54.2	+0.2
EDRZ	Edgecumbe	1.47	25	P	Pn	15 36 56.0	+1.1
RAGZ	Rawiri	1.48	51	P	Pn	15 36 55.7	+0.5
CPWZ	Castlepoint	1.49	172	P	Pn	15 36 56.0	+0.9
URZ	Urewera	1.49	38	Pg	Pn	15 36 55.1	0.0
	49nm,0.3s,baz=232,slow=7.2,SNR=253						
URZ				Lg	Lg	15 37 13.3	
	156nm,0.3s,baz=33,slow=18,SNR=36						
URZ	Urewera	1.49	38	P	Pn	15 36 55.1	0.0
HOWZ	Holdsworth Sta	1.50	192	P	Pn	15 36 55.5	+0.2
OGWZ	Otaki Gorge	1.50	203	P	Pn	15 36 56.1	+0.8
PKE	Pukeiti	1.54	278	P	Pn	15 36 57.4	+1.7
MHGZ	Mahia Peninsul	1.55	80	P	Pn	15 36 56.3	+0.4
MARZ	Manawahe	1.56	22	P	Pn	15 36 56.6	+0.5
KMRZ	Kaimai	1.59	0	P	Pn	15 36 57.1	+0.5
PRGZ	Paritu Road	1.59	72	P	Pn	15 36 56.8	+0.2
RIGZ	Rimuhau	1.59	63	P	Pn	15 36 56.8	+0.3
NMEZ	Namu Road	1.60	270	P	Pn	15 36 58.4	+1.8
KIW	Kapiti Island	1.63	209	P	Pn	15 36 57.6	+0.6
MWZ	Matawai	1.66	49	P	Pn	15 36 57.6	+0.2
OPRZ	Ohinepanea	1.66	17	P	Pn	15 36 57.7	+0.3
TMWZ	Te Maipa	1.67	181	P	Pn	15 36 58.0	+0.3
TGRZ	Tauranga	1.72	8	P	Pn	15 36 58.8	+0.5
TOZ	Tahuroa Road	1.74	348	P	Pn	15 36 58.6	+0.2
MTW	Mount Morrison	1.75	191	P	Pn	15 36 58.4	-0.3
WHRZ	Whale Island	1.77	27	P	Pn	15 37 00.4	+1.4
TKGZ	Te Karaka	1.79	57	P	Pn	15 36 59.6	+0.4
CAW	Cannon Point	1.80	202	P	Pn	15 36 59.3	0.0
TRWZ	Traveller	1.97	186	P	Pn	15 37 01.5	-0.2
PAWZ	Paruwai Farm	1.98	191	P	Pn	15 37 01.3	-0.6
RUGZ	Raukumara Rang	2.00	43	P	Pn	15 37 02.2	+0.1
CNGZ	Carnagh Statio	2.01	62	P	Pn	15 37 02.5	+0.4
TWGZ	Tauwhareparae	2.03	52	P	Pn	15 37 03.2	+0.7
MSWZ	Moikau Station	2.05	195	P	Pn	15 37 02.0	-0.7
DUWZ	D'Urville Isla	2.06	228	P	Pn	15 37 03.5	+0.5
BHW	Baring Head	2.13	202	P	Pn	15 37 03.7	-0.1
TCW	Tory Channel	2.18	215	P	Pn	15 37 04.3	-0.2
PLWZ	Palliser	2.19	194	P	Pn	15 37 03.7	-1.0
HAZ	Te Kaha	2.21	41	P	Pn	15 37 03.8	-1.2
PUZ	Puketiti	2.27	54	P	Pn	15 37 04.7	-1.0
PKGZ	Pakihiroa	2.28	48	P	Pn	15 37 06.3	+0.4
MKAZ	Moumakai	2.41	345	P	Pn	15 37 08.4	+0.9
KBAZ	Karaka Road Bo	2.48	340	P	Pn	15 37 09.3	+0.7
TUWZ	Tuamarina	2.51	217	P	Pn	15 37 08.6	-0.4
WMGZ	Waiomatatini S	2.52	51	P	Pn	15 37 09.1	-0.1
AWAZ	Awhitu Peninsu	2.58	336	P	Pn	15 37 10.9	+1.0
ETAZ	East Tamaki Re	2.60	342	P	Pn	15 37 10.7	+0.4
MXZ	Matakaoa Point	2.63	46	P	Pn	15 37 11.2	+0.5
NNZ	Nelson	2.65	227	P	Pn	15 37 10.9	0.0
KUZ	Kuaotunu	2.69	356	P	Pn	15 37 12.4	+1.0
WIAZ	Waiheke Island	2.71	346	P	Pn	15 37 12.8	+1.0
WTAZ	Waiatarua	2.72	336	P	Pn	15 37 13.4	+1.5
BSWZ	Blackbirch Sta	2.77	214	P	Pn	15 37 11.9	-0.6
RVAZ	Riverhead Bore	2.87	338	P	Pn	15 37 15.5	+1.7
QRZ	Quartz Range	2.96	241	P	Pn	15 37 15.0	-0.2
GRZ	Great Barrier	3.20	353	P	Pn	15 37 19.9	+1.4
THZ	Tophouse	3.28	224	P	Pn	15 37 19.1	-0.4
KHZ	Kahutara	3.49	211	P	Pn	15 37 21.0	-1.4
WCZ	Waipu Caves	3.71	340	P	Pn	15 37 26.6	+1.2
DSZ	Denniston Nort	3.90	232	P	Pn	15 37 28.1	0.0
OUZ	Omahuta	4.60	335	P	Pn	15 37 38.8	+1.1
INZ	Inchbonnie	4.73	225	P	Pn	15 37 41.8	+2.5
WVZ	Waitaha Valley	5.35	225	P	Pn	15 37 52.1	+4.4
RPZ	Rata Peaks	5.63	219	Pn	Pn	15 37 57.5	+5.9
	1.9nm,0.3s,baz=313,slow=2.5,SNR=9.0						
RPZ				Sn	Sn	15 38 49.8	-5.1
	1.9nm,0.3s,baz=7.4,slow=22,SNR=7.9						
RPZ	Rata Peaks	5.63	219	P	Pn	15 37 58.4	+6.7
FOZ	Fox Glacier	6.16	226	P	Pn	15 38 02.2	+3.4
PPT	Papeete	36.99	64	LR	LR	15 55 28.8	
	comp=Z,59nm,20.3s,baz=194,slow=31						
ASAR	Alice Springs	38.75	281	P	P	15 43 49.5	+0.4
	0.2nm,0.5s,baz=129,slow=8.3,SNR=7.0						
WRA	Warramunga Arr	40.60	286	P	P	15 44 04.5	0.0
	0.2nm,0.3s,baz=124,slow=8.3,SNR=6.7						
ARCES	ARCESS Array B	146.01	342	PKPbc	PKPab	15 56 05.8	+2.9
	4.1nm,1.1s,baz=37,slow=4.8,SNR=4.5						
BRTR	Keskin Array B	151.08	283	PKPbc	PKPab	15 56 20.2	-4.2
	0.3nm,0.4s,baz=73,slow=4.8,SNR=2.4						

*ISK **05** 15:37:33.4, 38°.57N×43°.39E, h29km, ML2.6/2*
*ISCJB **05** 15:37:34.6±0.6, 38°.62N±0°.04×43°.34E±0°.06, h28km±5km, Error ellipse: s-maj=8.5km s-min=5.6km az=139.5*
*CSEM **05** 15:37:34.0±0.3, 38°.61N×43°.37E, h27km±2km, ML2.6, Error ellipse: s-maj=6.9km s-min=4.3km az=110.0*
*DDA **05** 15:37:35.5, 38°.67N×43°.30E, h7km, Ml3.1*
ISC 05 15:37:34.1±1.2**, 38°.60N**±0°.04×**43°.35E**±0°.07**, h28**km±7km**, n14, σ0.s27**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.03	101	PG	Pb	15 37 38.9	-0.1
VANB				SG	Sb	15 37 42.6	+0.3
VANB	Van	0.03	101	ePg	Pb	15 37 38.9	-0.1
VANB				eSg	Sb	15 37 42.6	+0.3
TVAN	Van	0.08	149	iP	Pb	15 37 39.1	-0.2
TVAN				iS	Sb	15 37 42.7	-0.1
TVAN	Van	0.08	149	P	Pb	15 37 39.2	-0.2
TVAN				S	Sb	15 37 42.7	-0.1
GEVA	Gevas	0.37	219	iP	Pb	15 37 43.0	+0.5
GEVA				iS	Sn	15 37 49.8	-0.4
GEVA	Gevas	0.37	219	P	Pb	15 37 43.0	+0.5
GEVA				S	Sn	15 37 49.8	-0.4
ADCV	BITLIS_Adilcev	0.53	293	iP	Pb	15 37 44.8	-0.3
ADCV				iS	Sb	15 37 52.8	+0.2
ADCV	BITLIS_Adilcev	0.53	293	P	Pb	15 37 44.8	-0.3
ADCV				S	Sb	15 37 52.8	+0.2
TUTA	Tutak	0.90	333	iP	Pn	15 37 51.2	0.0
TUTA				iS	Sb	15 38 03.1	0.0
TUTA	Tutak	0.90	333	P	Pn	15 37 51.2	0.0
TUTA				S	Sb	15 38 03.1	0.0
AGRB	Hanur-Agry	1.01	344	PG	Pn	15 37 52.7	0.0
AGRB				SG	Sn	15 38 06.5	+0.4
AGRB	Hanur-Agry	1.01	344	ePg	Pn	15 37 52.7	0.0
AGRB				eSg	Sn	15 38 06.5	+0.4
GURO	Guroymak-BITLI	1.04	268	PG	Pn	15 37 52.8	-0.1
GURO				SG	Sn	15 38 06.7	+0.1
GURO	Guroymak-BITLI	1.04	268	ePg	Pn	15 37 52.8	-0.1
GURO				eSg	Sn	15 38 06.7	+0.1

*ISCJB **05** 15:39:51.9±0.6, 49°.99N±0°.04×18°.57E±0°.03, h0km, Error ellipse: s-maj=6.2km s-min=3.0km az=0.6*
*CSEM **05** 15:39:52.7±0.3, 49°.98N×18°.57E, h2km, ML2.5/5, Error ellipse: s-maj=6.8km s-min=3.1km az=179.0*
*IPEC **05** 15:39:53.0±0.2, 49°.96N×18°.63E, h2km±2km, ML1.5/3, Error ellipse: s-maj=2.3km s-min=1.1km az=161.0*
*PRU **05** 15:39:53.5, 49°.98N×18°.54E, h0km*
ISC 05 15:39:52.0±0.8**, 49°.96N**±0°.05×**18°.54E**±0°.02**, h0**km**, n20, σ0.s81**/36**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.29	244	ePG	Pb	15 39 59.7	-0.3
OKC				eSG	Sb	15 40 04.4	-0.9
	comp=Z,17nm,0.5s						
OKC	Ostrava-Krasne	0.29	244	Pg	Pb	15 39 59.7	-0.3
OKC				Sg	Sb	15 40 04.4	-0.9
	17nm,0.5s						
MORC	Moravsky Berou	0.67	254	ePg	Pb	15 40 06.8	+0.2
	baz=75						
MORC				eSg	Sb	15 40 15.9	-0.6
	11nm,0.2s,baz=75						
OJC	Ojcow	0.85	72	ePg	Pg	15 40 07.9	-0.3
OJC				eSg	Sg	15 40 18.5	-0.7
OJC	Ojcow	0.85	72	ePg	Pg	15 40 07.9	-0.3
OJC				eSg	Sg	15 40 18.5	-0.7
LANS	Liptovska Anna	1.01	143	ePG	Pb	15 40 11.9	-0.5
LANS				eSG	Sb	15 40 26.1	-0.2
NIE	Niedzica	1.27	115	ePg	Pn	15 40 16.7	-0.2
NIE				eSg	Sn	15 40 34.6	0.0
NIE	Niedzica	1.27	115	ePg	Pn	15 40 16.7	-0.2
NIE				eSg	Sn	15 40 34.6	0.0
VRAC	Vranov	1.43	243	ePg	Pb	15 40 20.2	+0.8
	baz=63						
VRAC				eSg	Sn	15 40 39.3	+0.7
	4.8nm,0.2s,baz=63						
DPC	Dobruska-Polom	1.48	286	ePG	Pb	15 40 21.0	+0.6
DPC				eSG	Sn	15 40 41.1	+1.1
	comp=Z,6.5nm,0.4s						
DPC	Dobruska-Polom	1.48	286	Pg	Pb	15 40 21.0	+0.6
DPC				Sg	Sn	15 40 41.1	+1.1
	6.5nm,0.4s						
VYHS	Vyhne	1.48	172	ePg	Pn	15 40 20.0	+0.1
VYHS				eSn	Sn	15 40 40.0	0.0
VYHS	Vyhne	1.48	172	ePG	Pn	15 40 20.0	+0.1
VYHS				eSN	Sn	15 40 40.0	0.0
VYHS				eLG	Lg	15 40 43.8	
KRUC	Moravsky	1.67	238	ePn	Pg	15 40 23.8	-0.1
	baz=58						
KRUC				eSg	Sg	15 40 46.3	+0.9
	3.5nm,0.2s,baz=58						
STHS	Stebnicka Huta	1.84	106	ePn	Pg	15 40 26.7	-0.5
STHS				eSn	Sg	15 40 53.4	+2.4
STHS	Stebnicka Huta	1.84	106	ePN	Pg	15 40 26.7	-0.5
STHS				eSN	Sg	15 40 53.4	+2.4
STHS				eLG	Lg	15 40 56.8	
PRU	Pruhonice	2.58	272	eSG	Sg	15 41 14.4	-0.5
	comp=Z,3.8nm,0.5s						
PRU	Pruhonice	2.58	272	Sg	Sg	15 41 14.4	-0.5
	3.8nm,0.5s						
KHC	Kasperske Hory	3.34	257	eSG	Sg	15 41 38.9	-0.3
KHC	Kasperske Hory	3.34	257	Sg	Sg	15 41 38.9	-0.3

*IDC **05** 15:41:41.2±4.7, 36°.45N×71°.14E, h233km±42km, mb3.2/4, mb1 3.2/9, mb1mx2.8/62, mbtmp3.9/9, Error ellipse: s-maj=45.3km s-min=33.2km az=142.0*
*ISCJB **05** 15:41:43.7±0.6, 36°.71N±0°.05×71°.0E±0°.1, h250km, mb3.5/4, Error ellipse: s-maj=11.6km s-min=6.3km az=9.6*
*NNC **05** 15:41:45.0±5.5, 37°.11N×70°.24E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=45.3km s-min=34.8km az=160.0*
ISC 05 15:41:44.1±0.9**, 36°.72N**±0°.07×**70°.9E**±0°.1**, h250**km**, n25, σ1.s38**/30**, mb3.5**/4**, 6C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	3.60	147	P	Pn	15 42 43.3	-0.1
SFK	Sufi-Kurgan	3.86	31	⇓P	Pn	15 42 46.7	+0.3
	12nm,0.4s						
SFK				⇓S	S	15 43 33.9	-2.0
	33nm,0.3s						
THW	Thamme Wali	3.98	170	P	Pn	15 42 47.6	-0.1
SARP	Sargodha	5.00	163	P	Pn	15 42 59.0	-0.9
AML	Almayashu	5.81	21	P	Pn	15 43 10.3	+0.1
	SNR=45						
MNAS	Manas	5.88	11	⇑P	Pn	15 43 11.5	+0.7
	5.3nm,0.5s						
MNAS				⇓S	S	15 44 16.6	-3.6
	10nm,0.6s						
UCH	Uchtor	6.16	26	P	Pn	15 43 14.7	+0.2
	SNR=15						
KZA	Kyzart	6.31	31	P	Pn	15 43 16.4	+0.1
	SNR=36						
EKS2	Erkin-Say	6.33	19	P	Pn	15 43 17.4	+1.1
	SNR=8.1						
KK31	Karatay Array	6.38	357	⇑P	Pn	15 43 17.3	+0.5
	0.8nm,0.5s,baz=181,slow=13,SNR=9.5						
KK31				⇓S	S	15 44 27.4	-3.8
	8.0nm,0.7s,baz=189,slow=25,SNR=16						
AAK	Ala-Archa	6.52	24	P	Pn	15 43 19.3	+0.5
	2.1nm,0.3s,baz=201,slow=9.2,SNR=37						
AAK				S	S	15 44 33.4	-1.1
	0.9nm,0.3s,baz=314,slow=23,SNR=12						
AAK	Ala-Archa	6.52	24	⇑P	Pn	15 43 18.6	-0.2
	2.4nm,0.3s						
AAK				S	S	15 44 33.1	-1.4
	15nm,0.8s						
AAK	Ala-Archa	6.52	24	P	Pn	15 43 19.2	+0.5
	SNR=11						
ULHL	Ulahol	6.88	35	P	Pn	15 43 23.7	+0.3
	SNR=22						
TKM2	Tokmak 2	7.16	29	⇑P	Pn	15 43 28.2	+1.3
	5.2nm,0.9s						
TKM2				⇑S	S	15 44 51.5	+2.2
	9.1nm,1.1s						
TKM2	Tokmak 2	7.16	29	P	Pn	15 43 27.0	+0.2
	SNR=6.2						
MKAR	Makanchi Array	13.14	37	P	Pn	15 44 41.1	-0.6
	0.4nm,0.3s,baz=224,slow=13,SNR=24						
AB31	Akbulak array	14.86	331	⇑P	Pn	15 45 06.5	+4.1
	0.3nm,0.2s,baz=106,slow=23,SNR=22						
BVAR	Borovoye Array	16.31	359	P	Pn	15 45 20.1	+0.6
	0.5nm,0.3s,baz=161,slow=13,SNR=12						
AKTO	Aktyubinsk	16.56	330	P	Pn	15 45 23.2	+0.7
	2.7nm,0.3s,baz=141,slow=9.1,SNR=26						
ZALV	Zalesovo Beam	19.74	25	P	P	15 45 55.4	+0.4
	0.6nm,0.3s,baz=226,slow=9.7,SNR=9.6						
ARU	Arti	21.40	341	P	P	15 46 13.0	+0.8
	1.4nm,0.4s,baz=129,slow=7.5,SNR=3.8						
FINES	FINESS Array B	37.27	326	P	P	15 48 33.3	+1.6
	0.8nm,0.6s,baz=106,slow=10,SNR=3.5						
HFS	Hagfors	42.86	322	P	P	15 49 18.9	+1.4
	1.1nm,0.7s,baz=96,slow=13,SNR=3.0						
TORD	Torodi Ar. Bea	65.67	268	P	P	15 52 01.5	-0.6
	0.6nm,0.7s,baz=49,slow=6.1,SNR=6.5						

*IDC **05** 16:12:49.2±2.8, 22°.43S×170°.58E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/44, mbtmp3.7/5, ML3.8/1, MS3.4/6, Ms1 3.3/6, ms1mx2.9/37, Error ellipse: s-maj=119.4km s-min=32.0km az=160.0*
*NEIC **05** 16:12:52.3±0.5, 22°.22S×170°.33E, h10km, mb4.7/7, Error ellipse: s-maj=12.7km s-min=10.8km az=65.0*
*ISCJB **05** 16:12:54.2±0.5, 22°.29S±0°.07×170°.29E±0°.07, h33km, mb3.9/7, MS3.4/5, Error ellipse: s-maj=11.1km s-min=9.0km az=23.9*
ISC 05 16:12:55.6±0.7**, 22°.3S**±0°.1×**170°.28E**±0°.08**, h33**km**, n28, σ1.s19**/26**, mb3.7**/7**, MS3.4**/5**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.56	272	Pn	Pn	16 13 49.3	+0.6
	6.9nm,0.3s,baz=140,slow=11,SNR=157						
DZM				Sn	Sn	16 14 31.0	+1.2
	13nm,0.3s,baz=136,slow=23,SNR=14						
DZM				LR	LR	16 14 57.8	
	comp=Z,163nm,19.4s,baz=53,slow=33						
DZM	Mont Dzumac	3.56	272	ePn	Pn	16 13 49.0	+0.3
	25nm,0.2s						
DZM				eSn	Sn	16 14 26.2	-3.6
	24nm,0.2s						
DZM	Mont Dzumac	3.56	272	ePn	Pn	16 13 49.1	+0.4
DZM				eSn	Sn	16 14 30.5	+0.7
FUNA	Funafuti	16.12	33	ePn	Pn	16 16 41.0	+1.1
	84nm,1.1s						
HNR	Honiara	16.16	320	ePn	Pn	16 16 39.9	-0.5
	136nm,1.5s						
BKZ	Black Stump Fm	17.67	164	ePn	P	16 17 00.4	+0.5
	70nm,1.9s						
BFZ	Birch Farm	19.05	166	eP	Pn	16 17 15.8	-0.1
	50nm,1.2s						
THZ	Tophouse	19.57	174	eP	P	16 17 20.0	-0.8
	49nm,1.7s						
PMG	Port Moresby	25.61	296	LR	LR	16 27 50.3	
	comp=Z,95nm,18.4s,baz=112,slow=35						
STKA	Stephens Creek	27.21	243	LR	LR	16 28 04.4	
	comp=Z,47nm,21.3s,baz=32,slow=33						
RAR	Rarotonga	27.81	94	LR	LR	16 29 30.6	
	comp=Z,38nm,18.1s,baz=266,slow=36						
AS31	Alice Springs	33.47	260	eP	P	16 19 32.5	+0.5
	0.8nm,1.0s						
ASAR	Alice Springs	33.47	260	P	P	16 19 32.9	+0.8
	0.8nm,0.8s,baz=84,slow=9.4,SNR=11						
ASAR				LR	LR	16 33 24.8	
	comp=Z,79nm,19.6s,baz=101,slow=37						
WR1	Warramunga Arr	33.57	267	eP	P	16 19 32.6	-0.2
	18nm,1.9s						
WRA	Warramunga Arr	33.57	267	P	P	16 19 32.6	-0.2
	0.3nm,0.4s,baz=101,slow=8.1,SNR=9.7						
PPT2	Papeete2	37.94	90	eLR	LR	16 30 41.4	
	62nm,24.8s						
BATI	Baumata	46.16	277	LR	LR	16 40 42.1	
	comp=Z,155nm,18.8s,baz=122,slow=36						
QSPA	South Pole Qui	67.81	180	eP	P	16 23 50.5	+0.3
	9.1nm,1.1s						
CM01	Chiang Mai Arr	80.60	294	eP	P	16 25 07.0	+1.6
CMAR	Chiang Mai Arr	80.63	294	P	P	16 25 07.8	+2.2
	0.8nm,0.8s,baz=132,slow=4.3,SNR=5.7						
SONA0	Songino Array	90.21	323	eP	P	16 25 52.1	-0.7
SONM	Songino Array	90.21	323	P	P	16 25 52.1	-0.7
	0.2nm,0.6s,baz=120,slow=5.7,SNR=2.4						
MSU	Marysvale	94.40	50	eP	P	16 26 11.9	-0.7
MCID	Moose Creek	97.42	45	eP	P	16 26 25.2	-0.9
ARCES	ARCESS Array B	128.22	345	PKP	PKPdf	16 31 56.4	-1.5
	2.4nm,0.9s,baz=46,slow=3.5,SNR=3.8						
CLL	Collm	146.05	334	ePKPbc	PKPdf	16 32 31.0	-0.1
EKA	Eskdalemuir Ar	146.61	353	PKPbc	PKPdf	16 32 32.4	+0.6
	0.5nm,0.4s,baz=359,slow=3.1,SNR=3.9						
GERES	GERESS Array B	147.60	331	PKPbc	PKPbc	16 32 35.6	-1.0
	0.5nm,0.5s,baz=46,slow=3.9,SNR=6.5						

*IDC **05** 16:25:08.1±1.3, 62°.97N×151°.06W, h121km±16km, mb3.2/5, mb1 3.2/9, mb1mx3.0/71, mbtmp3.5/9, Error ellipse: s-maj=26.2km s-min=10.2km az=110.0*
*ISCJB **05** 16:25:09.0±0.3, 63°.06N±0°.02×151°.02W±0°.07, h138km±3km, mb3.4/5, Error ellipse: s-maj=5.1km s-min=3.7km az=23.0*
*NEIC **05** 16:25:10.7±0.0, 63°.02N×151°.02W, h129km, ML3.2(AEIC), After AEIC.*
ISC 05 16:25:09.8±0.8**, 63°.03N**±0°.04×**151°.02W**±0°.04**, h136**km±5km**, n80, σ0.s81**/89**, mb3.6**/5**, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.53	5	P	Pn	16 25 29.9	+0.1
KTH				S	Sn	16 25 44.1	-0.8
TRF	Thorofare Moun	0.54	38	P	Pn	16 25 30.1	+0.2
TRF				S	Sn	16 25 45.0	-0.3
PPLA	Purkeypile	0.55	257	P	Pn	16 25 30.3	+0.4
PPLA				S	Sn	16 25 45.5	+0.3
CAST	Castle Rocks	0.62	310	P	Pn	16 25 30.1	-0.1
CAST				S	Sn	16 25 44.7	-1.1
HUR	Hurricane	0.63	94	P	Pn	16 25 30.5	+0.2
RND	Reindeer	1.05	68	P	Pn	16 25 34.0	+0.2
RND				S	Sn	16 25 51.7	-0.3
SKT	Skwentna	1.08	193	P	Pn	16 25 34.4	+0.5
SKT				S	Sn	16 25 52.0	-0.2
BPAW	Bear Paw Mtn.	1.08	1	P	Pn	16 25 33.9	-0.1
BPAW				S	Sn	16 25 51.0	-1.4
MCK	McKinley	1.18	52	P	Pn	16 25 35.3	+0.4
SUA	Susitna One	1.57	175	P	Pn	16 25 39.8	+0.6
STLK	Strandline Lak	1.58	194	P	Pn	16 25 39.7	+0.5
GHO	Glory Hole Cre	1.59	141	P	Pn	16 25 39.8	+0.5
DHY	Denali Highway	1.66	87	P	Pn	16 25 40.5	+0.4
PMR	Palmer	1.69	148	P	Pn	16 25 40.5	+0.2
SML	Sawmill	1.75	133	P	Pn	16 25 41.2	+0.2
SPCP	Crater Peak Br	1.84	197	P	Pn	16 25 42.9	+0.5
SPWE	Spurr West	1.90	203	P	Pn	16 25 43.7	+0.8
FIB	Fire Island	1.91	168	P	Pn	16 25 44.3	+1.4
CKL	Chakachamna La	1.94	199	P	Pn	16 25 44.0	+0.6
KNK	Knik Glacier	2.02	142	P	Pn	16 25 44.5	+0.3
MLY	Manley	2.02	3	P	Pn	16 25 44.2	-0.1
RC01	Rabbit Creek A	2.04	162	P	Pn	16 25 44.7	+0.3
SCM	Sheep Creek Mo	2.09	123	P	Pn	16 25 45.1	-0.1
CCB	Clear Creek Bu	2.16	40	P	Pn	16 25 46.0	+0.1
HDA	Harding Lake	2.28	51	P	Pn	16 25 47.5	+0.1
TT01	Tatalina	2.29	269	P	Pn	16 25 47.7	+0.2
MDM	Murphy Dome	2.30	31	P	Pn	16 25 47.7	+0.1
COLA	College	2.32	36	P	Pn	16 25 48.0	+0.1
PS08	TAPS Pump Stn8	2.41	49	P	Pn	16 25 49.5	+0.5
PS10	TAPS Pump St10	2.41	78	P	Pn	16 25 50.5	+1.5
ILAR	Eielson Array	2.53	44	P	Pn	16 25 50.5	-0.1
	6.8nm,0.3s,baz=228,slow=13,SNR=273						
ILAR				S	Sn	16 26 20.4	-1.5
	5.3nm,0.3s,baz=226,slow=12,SNR=17						
ILB	Eielson Array	2.53	44	P	Pn	16 25 50.5	-0.1
PAX	Paxson	2.53	89	P	Pn	16 25 51.1	+0.5
GLM	Gilmore Dome	2.54	37	P	Pn	16 25 50.9	+0.3
SLKM	Skilak Lake	2.56	171	P	Pn	16 25 51.4	+0.5
DFR	Drift River	2.57	199	P	Pn	16 25 51.7	+0.6
RDJH	Redoubt Jeurge	2.59	200	P	Pn	16 25 52.5	+1.1
RDWB	Redoubt West	2.69	200	P	Pn	16 25 53.3	+0.6
PS11	TAPS Pump St11	2.74	108	P	Pn	16 25 54.1	+1.0
RED	Redoubt Volcan	2.75	198	P	Pn	16 25 54.1	+0.7
HARP	HAARP	2.77	100	P	Pn	16 25 54.3	+0.7
KLU	Klutina	2.84	121	P	Pn	16 25 54.0	-0.5
GLI	Glacier Island	2.84	138	P	Pn	16 25 54.5	-0.1
JPK	Jack Peak	2.87	132	P	Pn	16 25 54.5	-0.4
RIDG	Independ'e Rid	2.87	73	P	Pn	16 25 55.5	+0.6
SVW2	Sparrevohn	2.89	230	P	Pn	16 25 55.3	+0.2
PS06	TAPS Pump Stn6	2.90	11	P	Pn	16 25 55.5	+0.4
SEW	Seward	3.03	165	P	Pn	16 25 57.0	+0.2
ILW	Iliamna West	3.14	200	P	Pn	16 25 59.2	+0.7
IM3	Indian Mountai	3.19	340	P	Pn	16 25 59.0	0.0
DOT	Dot Lake	3.20	76	P	Pn	16 25 59.1	0.0
BRLK	Bradley Lake	3.27	179	P	Pn	16 26 00.8	+0.6
MENT	Mentasta	3.33	88	P	Pn	16 26 01.4	+0.5
BMRM	Bremner River	3.66	121	P	Pn	16 26 04.7	-0.4
PS05	TAPS Pump Stn5	3.81	2	P	Pn	16 26 07.5	+0.6
BCA3	Beaver Creek A	4.21	85	P	Pn	16 26 12.1	-0.2
COLD	Coldfoot	4.23	4	P	Pn	16 26 12.9	+0.4
CDD	Cape Douglas	4.30	198	P	Pn	16 26 14.1	+0.5
KHIT	Khitrov Hills	4.51	122	P	Pn	16 26 16.1	-0.3
EGAK	Eagle	4.70	64	P	Pn	16 26 18.7	-0.1
ISLE	Juniper Island	4.78	117	P	Pn	16 26 19.4	-0.6
KULT	Kultieth River	4.84	121	P	Pn	16 26 21.4	+0.6
KARR	Katmai Rainbow	4.89	203	P	Pn	16 26 22.9	+1.5
BAGL	Bagley Icefiel	4.95	117	P	Pn	16 26 22.0	-0.1
BM3	Burnt Mountain	5.17	29	P	Pn	16 26 25.2	+0.2
MESA	MESA	5.19	119	P	Pn	16 26 26.1	+0.6
DAWY	Dawson	5.30	74	P	Pn	16 26 27.0	+0.1
KDAK	Kodiak Island	5.32	189	P	Pn	16 26 25.2	-1.8
	1.0nm,0.3s,baz=58,slow=5.9,SNR=106						
KDAK				S	Sn	16 27 23.4	-3.9
	4.6nm,0.3s,baz=119,slow=24,SNR=17						
KDAK	Kodiak Island	5.32	189	P	Pn	16 26 25.4	-1.6
RKAV	Rock Avalanche	5.36	116	P	Pn	16 26 28.0	+0.2
SAMH	Samovar Hills	5.69	116	P	Pn	16 26 33.6	+1.5
BCPM	Bancas Point	6.26	114	P	Pn	16 26 40.5	+0.8
ANNW	Aniakchak Nort	7.06	214	P	Pn	16 26 52.1	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**8.93**	**46**	P	**Pn**	**16 27 15.6**	**+0.2**
	0.1nm,0.3s,baz=214,slow=15,SNR=3.6						
YKA	**Yellowknife Ar**	**16.54**	**75**	P	**P**	**16 28 54.4**	**+0.9**
	0.1nm,0.3s,baz=293,slow=12,SNR=2.9						
NVAR	**Mina Array Bea**	**31.55**	**126**	P	**P**	**16 31 18.9**	**-0.2**
	0.2nm,0.6s,baz=336,slow=10,SNR=2.6						
SONM	**Songino Array**	**53.79**	**305**	P	**P**	**16 34 19.7**	**+1.8**
	0.4nm,0.6s,baz=14,slow=7.9,SNR=3.3						
BVAR	**Borovoye Array**	**59.82**	**332**	P	**P**	**16 34 59.9**	**-0.3**
	0.6nm,0.5s,baz=40,slow=4.7,SNR=5.7						
MKAR	**Makanchi Array**	**62.65**	**322**	P	**P**	**16 35 19.1**	**-0.2**
	0.3nm,0.3s,baz=42,slow=7.2,SNR=13						
AKASG	**Malin Array Be**	**66.62**	**360**	P	**P**	**16 35 44.1**	**-0.8**
	0.3nm,0.3s,baz=5.7,slow=5.8,SNR=3.5						

GUC 05 16:49:53.3±0.3**,21°.68S**×**67°.79W,h224**km±7km**,ML4.0,7C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.35**	**265**	⇑*i*P	Pn	16 50 29.3	+1.0
PB09				IAML		16 50 59.7	
	comp=N,558nm,0.3s						
PB01	**IPOC Station P**	**1.70**	**292**	⇑*e*P	Pn	16 50 32.2	+1.2
PB01				*e*S	S	16 51 01.9	+1.6
PB01				IAML		16 51 03.1	
	comp=N,636nm,0.3s						
PB06	**IPOC Station P**	**1.94**	**238**	*e*P	Pn	16 50 33.8	+0.5
PB06				*e*S	S	16 51 05.3	+0.9
PB06				IAML		16 51 06.5	
	comp=E,227nm,0.3s						
PB07	**IPOC Station P**	**1.95**	**268**	⇑*e*P	Pn	16 50 35.0	+1.6
PB07				*e*S	S	16 51 06.3	+1.8
PB07				IAML		16 51 07.2	
	comp=N,478nm,0.1s						
PB08	**IPOC Station P**	**1.99**	**320**	⇑*e*P	Pn	16 50 35.9	+1.8
PB02	**IPOC Station P**	**1.99**	**280**	⇑*e*P	Pn	16 50 35.3	+1.5
PB02				*i* S	S	16 51 07.0	+1.8
PB02				IAML		16 51 08.3	
	comp=N,525nm,0.2s						
PB04	**IPOC Station P**	**2.28**	**253**	*e*P	Pn	16 50 38.3	+1.6
PB04				*e*S	S	16 51 11.8	+1.3
PB11	**IPOC Station P**	**2.59**	**317**	⇑*i*P	Pn	16 50 41.4	+1.5
PB11				*e*S	S	16 51 17.9	+1.7
PB11				IAML		16 51 20.7	
	comp=E,1µm,0.1s						
PSGC	**Pisagua**	**3.01**	**313**	*e*P	Pn	16 50 45.6	+1.1
PSGC				*e*S	S	16 51 25.9	+1.3
MNMC	**Minye Minye**	**3.05**	**326**	⇑*i*P	Pn	16 50 47.1	+2.0
MNMC				*e*S	S	16 51 27.9	+2.3
MNMC				IAML		16 51 33.2	
	comp=E,258nm,0.2s						
PB12	**IPOC Station P**	**3.87**	**322**	*e*P	Pn	16 50 55.3	+0.7

*IDC **05** 16:58:15.7±2.9, 34°.67S×179°.86W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.7/38, mbtmp4.1/3, ML3.8/1, Error ellipse: s-maj=65.7km s-min=44.1km az=122.0*
*ISCJB **05** 16:58:20.5±1.3, 34°.90S±0°.05×180°.0W±0°.2, h39km, mb4.0/4, Error ellipse: s-maj=21.4km s-min=7.1km az=4.5*
*NEIC **05** 16:58:21.3±3.2, 34°.91S×179°.80W, h46km±24km, mb4.4/3, Error ellipse: s-maj=33.8km s-min=17.5km az=49.0*
*WEL **05** 16:58:23.2±1.3, 35°S±21'×18°0W±3°0, h33km, ML4.4/18*
ISC 05 16:58:21.1±1.7**,34°.91S**±0°.09×**179°.8W**±0°.2**,h39**km**,n50,** σ**1s.19**/44**,mb4.1**/4**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.05**	**209**	*e*Pn	**Pn**	**16 59 07.8**	**+1.0**
WMGZ	**Waiomatatini S**	**3.23**	**205**	P	**Pn**	**16 59 10.2**	**+1.0**
WMGZ	**Waiomatatini S**	**3.23**	**205**	S	**Sn**	**16 59 48.9**	**+2.4**
PKGZ	**Pakihiroa**	**3.42**	**209**	P	**Pn**	**16 59 13.6**	**+1.7**
PKGZ	**Pakihiroa**	**3.42**	**209**	S	**Sn**	**16 59 50.9**	**-0.3**
PUZ	**Puketiti**	**3.51**	**205**	P	**Pn**	**16 59 13.4**	**+0.3**
RUGZ	**Raukumara Rang**	**3.65**	**213**	P	**Pn**	**16 59 16.2**	**+1.0**
TWGZ	**Tauwhareparae**	**3.71**	**208**	P	**Pn**	**16 59 16.6**	**+0.8**
TWGZ	**Tauwhareparae**	**3.71**	**208**	S	**Sn**	**16 59 58.6**	**+0.3**
CNGZ	**Carnagh Statio**	**3.90**	**203**	P	**Pn**	**16 59 19.0**	**+0.5**
CNGZ	**Carnagh Statio**	**3.90**	**203**	S	**Sn**	**17 00 04.6**	**+1.6**
TKGZ	**Te Karaka**	**3.99**	**207**	P	**Pn**	**16 59 20.0**	**+0.4**
MWZ	**Matawai**	**4.03**	**211**	P	**Pn**	**16 59 20.9**	**+0.7**
MWZ	**Matawai**	**4.03**	**211**	S	**Sn**	**17 00 05.6**	**-0.5**
URZ	**Urewera**	**4.15**	**215**	Pn	**Pn**	**16 59 22.2**	**+0.3**
	5.2nm,0.3s,baz=270,slow=4.2,SNR=26						
URZ				Sn	**Sn**	**17 00 06.0**	**-3.1**
	12nm,0.3s,baz=246,slow=23,SNR=11						
URZ	**Urewera**	**4.15**	**215**	P	**Pn**	**16 59 22.2**	**+0.3**
URZ	**Urewera**	**4.15**	**215**	S	**Sn**	**17 00 06.0**	**-3.1**
RAGZ	**Rawiri**	**4.21**	**211**	P	**Pn**	**16 59 23.2**	**+0.4**
RAGZ	**Rawiri**	**4.21**	**211**	S	**Sn**	**17 00 09.1**	**-1.6**
RIGZ	**Rimuhau**	**4.25**	**206**	P	**Pn**	**16 59 23.5**	**+0.1**
PRGZ	**Paritu Road**	**4.41**	**204**	P	**Pn**	**16 59 25.3**	**-0.1**
SNGZ	**Shannon Statio**	**4.48**	**210**	P	**Pn**	**16 59 27.0**	**+0.6**
MUGZ	**Murupara**	**4.49**	**216**	P	**Pn**	**16 59 26.8**	**+0.3**
RTZ	**Ruatahuna**	**4.50**	**214**	P	**Pn**	**16 59 26.4**	**-0.3**
MHGZ	**Mahia Peninsul**	**4.61**	**202**	P	**Pn**	**16 59 27.0**	**-1.2**
RAHZ	**Arahi**	**4.70**	**211**	P	**Pn**	**16 59 30.1**	**+0.6**
MRHZ	**Matea Rd**	**4.94**	**216**	P	**Pn**	**16 59 32.9**	**+0.1**
BKZ	**Black Stump Fm**	**5.17**	**214**	*e*Pn	**Pn**	**16 59 35.3**	**-0.6**
BKZ	**Black Stump Fm**	**5.17**	**214**	P	**Pn**	**16 59 35.3**	**-0.6**
MCHZ	**McNeill Hill**	**5.31**	**210**	P	**Pn**	**16 59 38.7**	**+0.9**
OUZ	**Omahuta**	**5.40**	**265**	*e*Pn	**Pn**	**16 59 39.9**	**+0.9**
KWHZ	**Kaweka Forest**	**5.41**	**212**	P	**Pn**	**16 59 39.1**	**-0.1**
KRVZ	**Karewarewa**	**5.53**	**220**	P	Pn	16 59 49.0	+8.1
KAHZ	**Kahuranaki**	**5.54**	**207**	P	**Pn**	**16 59 39.6**	**-1.4**
WTVZ	**West Tongariro**	**5.57**	**220**	P	Pn	16 59 48.0	+6.5
HIZ	**Hauiti**	**5.58**	**228**	*e*Pn	**Pn**	**16 59 42.3**	**+0.8**
NGZ	**Ngauruhoe**	**5.61**	**219**	P	Pn	16 59 50.3	+8.2
TWVZ	**Taurewa**	**5.62**	**221**	P	Pn	16 59 49.4	+7.2
BHHZ	**Black Hill Sta**	**5.62**	**214**	P	**Pn**	**16 59 45.0**	**+2.8**
TUVZ	**Tukino**	**5.65**	**218**	P	Pn	16 59 50.4	+7.7
COVZ	**Chateau Observ**	**5.66**	**219**	P	Pn	16 59 51.1	+8.4
FWVZ	**Far West T-bar**	**5.70**	**219**	P	**Pn**	**16 59 44.6**	**+1.3**
MOVZ	**Moawhango**	**5.71**	**217**	P	Pn	16 59 48.3	+4.9
PYZ	**Puysegur Point**	**15.19**	**218**	*e*Pn	**Pn**	**17 01 53.6**	**+0.9**
	134nm,1.3s						
AS31	**Alice Springs**	**41.55**	**273**	*e*P	**P**	**17 06 05.0**	**-0.1**
	1.7nm,0.6s						
ASAR	**Alice Springs**	**41.55**	**273**	P	**P**	**17 06 05.2**	**+0.1**
	2.8nm,0.5s,baz=114,slow=8.0,SNR=72						
WR1	**Warramunga Arr**	**42.95**	**278**	*e*P	**P**	**17 06 15.8**	**-0.7**
	12nm,1.6s						
WRA	**Warramunga Arr**	**42.95**	**278**	P	**P**	**17 06 15.8**	**-0.7**
	1.0nm,0.6s,baz=118,slow=7.7,SNR=14						
FIA0	**FINESS Array S**	**148.74**	**336**	*e*PKPbc	**PKPbc**	**17 18 02.9**	**-0.4**
FINES	**FINESS Array B**	**148.74**	**336**	PKPbc	**PKPbc**	**17 18 02.9**	**-0.4**
	0.8nm,0.8s,baz=23,slow=4.5,SNR=3.6						

IDC 05 17:03:26.6±4.7**,6°.81S**×**109°.00E,h58**km±51km**,mb3.2**/4**, mb1 3.3**/4**,mb1mx3.0**/62**,mbtmp3.5**/4**,Error ellipse: s-maj=59.4km s-min=20.8km az=39.0,Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.37**	**269**	P	Pn	17 03 47.4	-2.2
	97nm,0.3s,baz=80,slow=12,SNR=48						
LEM				S	Sn	17 04 07.3	+0.3
	41nm,0.3s,baz=330,slow=20,SNR=8.0						
WRA	**Warramunga Arr**	**27.84**	**120**	P	P	17 09 12.3	+1.5
	0.3nm,0.7s,baz=291,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**29.21**	**128**	P	P	17 09 23.8	+0.8
	0.2nm,0.8s,baz=304,slow=8.8,SNR=2.9						
ASAR				PcP	PcP	17 12 27.1	-2.2
	0.3nm,1.0s,baz=318,slow=2.3,SNR=2.6						
STKA	**Stephens Creek**	**39.31**	**134**	P	P	17 10 49.6	-0.6
	1.7nm,0.9s,baz=323,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**58.41**	**339**	P	P	17 13 16.4	+0.2
	0.4nm,0.5s,baz=148,slow=8.4,SNR=8.7						

*CSEM **05** 17:10:26.7±0.3, 67°.15N×20°.47E, h1km, ML2.5, Error ellipse: s-maj=6.8km s-min=4.7km az=90.0, Suspected Mining explosion.*
*IDC **05** 17:10:26.7±1.1, 67°.19N×20°.54E, h0km, mb3.5/1, mb1 3.1/5, mb1mx2.9/65, mbtmp3.1/5, ML2.3/3, Error ellipse: s-maj=18.8km s-min=8.2km az=108.0*
*UPP **05** 17:10:27.6, 67°.18N×20°.63E, h0km, ML2.5, Suspected Mining explosion.*
*ISCJB **05** 17:10:27.1±0.4, 67°.18N±0°.03×20°.73E±0°.09, h0km, mb3.6/1, Error ellipse: s-maj=5.8km s-min=3.4km az=32.5*
*NAO **05** 17:10:27.1±0.9, 67°.13N×20°.84E, ML3.0*
*BER **05** 17:10:30.6±3.9, 67°.11N×20°.94E, h0km, ML2.1, ML3.0(NAO), Suspected explosion*
ISC 05 17:10:26.5±0.7**,67°.15N**±0°.02×**20°.44E**±0°.03**,h0**km**,n45,** σ**1s.22**/66**,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**117**	P	**Pg**	**17 10 29.1**	**+1.5**
DUNU				S	**Sg**	**17 10 30.2**	**+1.9**
DUNU	**Dundret**	**0.06**	**117**	P	**Pg**	**17 10 29.1**	**+1.5**
DUNU				S	**Sg**	**17 10 30.2**	**+1.9**
MASU	**Masugnsbyn**	**0.68**	**62**	P	**Pg**	**17 10 39.0**	**-0.5**
MASU	**Masugnsbyn**	**0.68**	**62**	P	**Pg**	**17 10 39.0**	**-0.5**
KUA	**Kurravaara**	**0.81**	**357**	P	**Pg**	**17 10 42.2**	**+0.2**
KUA	**Kurravaara**	**0.81**	**357**	P	**Pg**	**17 10 42.2**	**+0.2**
NIKU	**Nikkaluokta**	**0.90**	**324**	P	**Pb**	**17 10 45.0**	**0.0**
NIKU	**Nikkaluokta**	**0.90**	**324**	P	**Pb**	**17 10 45.0**	**0.0**
ERTU	**Ertsjaerv**	**0.92**	**130**	P	**Pg**	**17 10 43.7**	**-0.3**
ERTU	**Ertsjaerv**	**0.92**	**130**	P	**Pg**	**17 10 43.7**	**-0.3**
PAJU	**Pajala**	**1.06**	**96**	P	**Pg**	**17 10 45.9**	**-0.8**
PAJU	**Pajala**	**1.06**	**96**	P	**Pg**	**17 10 45.9**	**-0.8**
LANU	**Lannavaara**	**1.08**	**33**	P	**Pg**	**17 10 46.3**	**-0.9**
LANU	**Lannavaara**	**1.08**	**33**	P	**Pg**	**17 10 46.3**	**-0.9**
KALU	**Kalix**	**1.75**	**137**	P	**Pb**	**17 10 59.1**	**-0.2**
KALU	**Kalix**	**1.75**	**137**	P	**Pb**	**17 10 59.1**	**-0.2**
HEF	**Hetta**	**1.76**	**43**	*e*P	**Pn**	**17 10 58.0**	**-0.2**
	SNR=50						
HEF				*e*S	**Sb**	**17 11 22.6**	**+0.3**
	SNR=50						
HEF	**Hetta**	**1.76**	**43**	*e*P	**Pn**	**17 10 58.0**	**-0.2**
HEF				*e*S	**Sb**	**17 11 22.6**	**+0.3**
KIF	**Kilpisjarvi**	**1.87**	**4**	Pn	**Pn**	**17 10 59.9**	**+0.2**
KIF				Lg	Lg	17 11 27.4	
KIF	**Kilpisjarvi**	**1.87**	**4**	*e*P	**Pn**	**17 10 59.7**	**+0.1**
	SNR=50						
KIF				Lg	Lg	17 11 27.4	
KIF				*e*S	**Sg**	**17 11 28.0**	**+1.5**
	SNR=50						
KIF	**Kilpisjarvi**	**1.87**	**4**	*e*P	**Pn**	**17 10 59.7**	**+0.1**
KIF				Pn	**Pn**	**17 10 59.9**	**+0.2**
KIF				Lg	Lg	17 11 27.4	
KIF				*e*S	**Sg**	**17 11 28.0**	**+1.5**
LILU	**Lilltraesk**	**1.89**	**188**	P	**Pg**	**17 11 02.8**	**+0.3**
LILU				S	**Sg**	**17 11 28.2**	**+1.2**
STEI	**Steigen**	**2.14**	**294**	*e*S	**Sg**	**17 11 37.7**	**+2.5**
TRO	**Tromso**	**2.56**	**348**	*e*P	**Pb**	**17 11 13.1**	**0.0**
	SNR=50						
TRO	**Tromso**	**2.56**	**348**	*e*P	**Pb**	**17 11 13.1**	**0.0**
TRO				IAML		17 11 49.5	
	comp=Z,31nm,0.7s						
MOR8	**Moi Rana**	**2.58**	**250**	*e*S	**Sb**	**17 11 45.8**	**0.0**
	SNR=50						
MOR8	**Moi Rana**	**2.58**	**250**	*e*S	**Sb**	**17 11 45.8**	**0.0**
MOR8				IAML		17 11 48.0	
	comp=Z,34nm,0.4s						
ARCES	**ARCESS Array B**	**3.05**	**36**	Pn	**Pn**	**17 11 15.7**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=221,slow=13,SNR=35						
ARCES				Sn	**Sn**	**17 11 52.3**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=218,slow=17,SNR=11						
ARE0	**ARCESS Array S**	**3.05**	**36**	*e*P	**Pn**	**17 11 17.0**	**+1.1**
	SNR=50						
ARE0				*e*S	**Sn**	**17 11 52.9**	**-0.1**
	SNR=50						
ARE0	**ARCESS Array S**	**3.05**	**36**	*e*P	**Pn**	**17 11 17.0**	**+1.1**
ARE0				*e*S	**Sn**	**17 11 52.9**	**-0.1**
ARE0				IAML		17 11 59.4	
	comp=Z,6.5nm,0.6s						
ARA0	**ARCESS Array S**	**3.05**	**36**	Pn	**Pn**	**17 11 16.0**	**+0.2**
	baz=212,slow=16						
ARA0				Sn	**Sn**	**17 11 52.1**	**-0.8**
	baz=210,slow=22						
ARA0	**ARCESS Array S**	**3.05**	**36**	Pn	**Pn**	**17 11 16.0**	**+0.2**
	SNR=50						
ARA0				Sn	**Sn**	**17 11 52.2**	**-0.8**
	SNR=50						
ARA0	**ARCESS Array S**	**3.05**	**36**	Pn	**Pn**	**17 11 16.0**	**+0.2**
	baz=212,slow=16						
ARA0				Sn	**Sn**	**17 11 52.1**	**-0.8**
	baz=210,slow=22						
FIA0	**FINESS Array S**	**6.23**	**154**	Pn	**Pn**	**17 12 00.6**	**+1.1**
	baz=344,slow=18						
FIA0				Sn	**Sn**	**17 13 08.1**	**-3.2**
	baz=344,slow=22						
FIA0				Lg	Lg	17 13 39.7	
	baz=345,slow=28						
FIA0	**FINESS Array S**	**6.23**	**154**	Pn	**Pn**	**17 12 00.6**	**+1.1**
	SNR=50						
FIA0				Sn	**Sn**	**17 13 08.1**	**-3.2**
	SNR=50						
FIA0				Lg	Lg	17 13 39.7	
	SNR=7.5						
FIA0	**FINESS Array S**	**6.23**	**154**	Pn	**Pn**	**17 12 00.6**	**+1.1**
	baz=344,slow=18						
FIA0				Sn	**Sn**	**17 13 08.1**	**-3.2**
	baz=344,slow=22						
FIA0				Lg	Lg	17 13 39.7	
	baz=345,slow=28						
FINES	**FINESS Array B**	**6.23**	**154**	Pn	**Pn**	**17 12 00.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=342,slow=17,SNR=6.8						
FINES				Sn	**Sn**	**17 13 10.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=335,slow=22,SNR=6.7						
FINES				Lg	Lg	17 13 43.6	
	comp=Z,0.9nm,0.3s,baz=353,slow=27,SNR=12						
NB2	**NORSAR Subarra**	**7.33**	**218**	Sn	**Sn**	**17 13 37.1**	**-1.4**
	baz=42,slow=22						
NB2				Lg	Lg	17 14 18.8	
	baz=27,slow=37						
NB2	**NORSAR Subarra**	**7.33**	**218**	Sn	**Sn**	**17 13 37.1**	**-1.4**
	baz=42,slow=22						
NB2				Lg	Lg	17 14 18.8	
	baz=27,slow=37						
NOA	**NORSAR Array B**	**7.33**	**218**	Sn	**Sn**	**17 13 35.6**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=31,slow=21,SNR=5.8						
NOA				Lg	Lg	17 14 18.5	
	comp=Z,0.8nm,0.3s,baz=58,slow=20,SNR=6.3						
HFS	**Hagfors**	**7.65**	**206**	Pn	**Pn**	**17 12 18.6**	**-0.4**
	baz=18,slow=12						
HFS				Sn	**Sn**	**17 13 45.0**	**-1.2**
	baz=22,slow=22						
HFS				Lg	Lg	17 14 27.9	
	baz=33,slow=37						
HFS	**Hagfors**	**7.65**	**206**	Pn	**Pn**	**17 12 18.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=18,slow=17,SNR=3.1						
HFS				Sn	**Sn**	**17 13 43.6**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=28,slow=20,SNR=7.7						
HFS				Lg	Lg	17 14 32.3	
	comp=Z,0.7nm,0.3s,baz=34,slow=27,SNR=6.2						
HFS	**Hagfors**	**7.65**	**206**	Pn	**Pn**	**17 12 18.6**	**-0.4**
	baz=18,slow=12						
HFS				Sn	**Sn**	**17 13 45.0**	**-1.2**
	baz=22,slow=22						
HFS				Lg	Lg	17 14 27.9	
	baz=33,slow=37						
AKASG	**Malin Array Be**	**17.08**	**161**	P	**Pn**	**17 14 27.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=347,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**32.61**	**81**	P	**P**	**17 16 59.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=317,slow=10,SNR=2.3						

*JMA **05** 17:22:05.5±0.2, 23°.73N×121°.65E, h54km±3km*
*ISCJB **05** 17:22:06.8±0.3, 23°.76N±0°.02×121°.71E±0°.02, h45km±4km, Error ellipse: s-maj=3.3km s-min=2.1km az=37.7*
*TAP **05** 17:22:06.7, 23°.78N×121°.66E, h47km, ML2.9, C*
ISC 05 17:22:07.4±1.2**,23°.77N**±0°.02×**121°.69E**±0°.03**,h42**km±6km**, n79,** σ**0s.69**/134**,4C-5D,Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.16**	**330**	⇑P	**Pn**	**17 22 14.7**	**+0.1**
	baz=340						
ENLB				*e*S	**Sn**	**17 22 21.1**	**+1.5**
	baz=340						
HWA	**Hwalien**	**0.22**	**340**	*e*P	**Pn**	**17 22 15.1**	**0.0**
	baz=355						
HWA				*e*S	**Sn**	**17 22 21.9**	**+1.5**
	baz=355						
ESL	**Shilin**	**0.24**	**282**	*e*P	**Pn**	**17 22 14.7**	**-0.5**
	baz=280						
ESL				*e*S	**Sn**	**17 22 20.0**	**-0.6**
	baz=280						
EGFH	**Guangfu**	**0.26**	**248**	*e*P	**Pn**	**17 22 15.4**	**0.0**
	baz=252						
EGFH				S	**Sn**	**17 22 21.1**	**+0.2**
	baz=252						
TWD	**Chiawan**	**0.32**	**345**	P	**Pn**	**17 22 15.7**	**-0.4**
	baz=344						
TWD				S	**Sn**	**17 22 22.5**	**+0.4**
	baz=344						
HGSD	**Ruisui**	**0.36**	**222**	*e*P	**Pn**	**17 22 16.6**	**+0.1**
	baz=227						
HGSD				*e*S	**Sn**	**17 22 24.6**	**+1.7**
	baz=227						
NACB	**Ninganchiao**	**0.41**	**348**	⇑P	**Pn**	**17 22 16.3**	**-0.8**
	baz=340						
NACB				S	**Sn**	**17 22 24.0**	**0.0**
	baz=340						
EHY	**Hungye**	**0.42**	**232**	⇓P	**Pn**	**17 22 16.3**	**-0.9**
	baz=237						
EHY				*e*S	**Sn**	**17 22 23.5**	**-0.7**
	baz=237						
OWD	**Renai**	**0.50**	**292**	*e*P	**Pn**	**17 22 17.9**	**-0.6**
	baz=297						
OWD				*e*S	**Sn**	**17 22 25.4**	**-0.8**
	baz=297						
YULB	**Yu-li**	**0.52**	**224**	⇓P	**Pn**	**17 22 17.4**	**-1.1**
	baz=228						
YULB				*e*S	**Sn**	**17 22 25.1**	**-1.2**
	baz=228						
WHF	**Hehuan Shan**	**0.54**	**314**	*e*P	**Pn**	**17 22 18.1**	**-1.0**
	baz=310						
WHF				*e*S	**Sn**	**17 22 25.9**	**-1.6**
	baz=310						
TWF1	**Yuli**	**0.55**	**221**	*e*P	**Pn**	**17 22 17.7**	**-1.1**
	baz=224						
TWF1				*e*S	**Sn**	**17 22 25.8**	**-1.1**
	baz=224						
CHGB	**Renai**	**0.55**	**302**	⇓P	**Pn**	**17 22 18.6**	**-0.5**
	baz=305						
CHGB				*e*S	**Sn**	**17 22 26.7**	**-0.8**
	baz=305						
ENA	**Nanau**	**0.66**	**4**	*e*P	**Pn**	**17 22 19.4**	**-0.9**
	baz=16						
ENA				*e*S	**Sn**	**17 22 29.7**	**+0.1**
	baz=16						
NANB	**Nanao**	**0.66**	**5**	*e*P	**Pn**	**17 22 19.3**	**-1.1**
	baz=16						
NANB				*e*S	**Sn**	**17 22 29.0**	**-0.7**
	baz=16						
FULB	**Fuli**	**0.67**	**213**	*e*P	**Pn**	**17 22 20.0**	**-0.5**
	baz=219						
FULB				*e*S	**Sn**	**17 22 29.8**	**-0.1**
	baz=219						
SSLB	**Suanglung**	**0.67**	**272**	*e*P	**Pn**	**17 22 20.0**	**-0.6**
	baz=273						
TWT	**Tachien**	**0.67**	**316**	P	**Pn**	**17 22 20.4**	**-0.3**
	baz=316						
TWT				*e*S	**Sn**	**17 22 29.8**	**-0.4**
	baz=316						
TDCB	**Techi**	**0.69**	**315**	P	**Pn**	**17 22 20.4**	**-0.4**
	baz=316						
TDCB				S	**Sn**	**17 22 29.7**	**-0.7**
	baz=316						
ENAH	**Nanao**	**0.69**	**9**	*e*P	**Pn**	**17 22 20.2**	**-0.6**
	baz=18						
ENAH				*e*S	**Sn**	**17 22 30.5**	**+0.2**
	baz=18						
NNSB	**Datong**	**0.72**	**337**	*e*P	**Pn**	**17 22 20.3**	**-1.0**
	baz=339						
NNSB				*e*S	**Sn**	**17 22 30.1**	**-1.1**
	baz=339						
NNSH	**Datong**	**0.72**	**337**	*e*P	**Pn**	**17 22 19.9**	**-1.4**
	baz=343						
CHKT	**Chengkung**	**0.73**	**204**	*e*P	**Pn**	**17 22 20.6**	**-0.6**
	baz=193						
CHKT				*e*S	**Sn**	**17 22 31.0**	**-0.2**
	baz=193						
YUS	**Yu-Shan**	**0.73**	**248**	*e*P	**Pn**	**17 22 21.3**	**-0.5**
	baz=241						
YUS				*e*S	**Sn**	**17 22 31.2**	**-0.8**
	baz=241						
NNS	**Nan Shan**	**0.73**	**337**	⇑*e*P	**Pn**	**17 22 20.6**	**-0.8**
	baz=339						
NNS				*e*S	**Sn**	**17 22 30.8**	**-0.7**
	baz=339						
SMLT	**Sun Moon Lake**	**0.73**	**279**	⇓P	**Pn**	**17 22 21.0**	**-0.4**
	baz=279						
SMLT				*e*S	**Sn**	**17 22 31.0**	**-0.5**
	baz=279						
DPDB	**Guoxing**	**0.75**	**291**	*e*P	**Pn**	**17 22 21.1**	**-0.5**
	baz=291						
TYC	**Yuchr**	**0.77**	**280**	*e*P	**Pn**	**17 22 21.4**	**-0.5**
	baz=284						
ELDTW	**Lidau**	**0.84**	**227**	⇓P	**Pn**	**17 22 21.7**	**-1.2**
	baz=221						
ALS	**Alishan**	**0.85**	**253**	*e*P	**Pn**	**17 22 23.1**	**-0.1**
	baz=251						
ALS				*e*S	**Sn**	**17 22 34.1**	**-0.5**
	baz=251						
TWC	**Suao**	**0.85**	**10**	*e*P	**Pn**	**17 22 22.5**	**-0.5**
	baz=19						
TWC				*e*S	**Sn**	**17 22 34.4**	**+0.1**
	baz=19						
ENTT	**Nioudou**	**0.88**	**353**	*e*P	**Pn**	**17 22 22.5**	**-0.8**
	baz=355						
EOS1	**EOS1**	**0.88**	**27**	*e*P	**Pn**	**17 22 23.0**	**-0.3**
	baz=41						
WJS	**Zhushan**	**0.88**	**274**	*e*P	**Pn**	**17 22 23.4**	**+0.1**
	baz=273						
WJS				*e*S	**Sn**	**17 22 36.2**	**+1.3**
	baz=273						
WNT	**Mingjian**	**0.93**	**277**	*e*P	**Pn**	**17 22 24.2**	**+0.2**
	baz=277						
CHN5	**Tsauling**	**0.94**	**260**	⇑P	**Pn**	**17 22 24.2**	**0.0**
	baz=259						
CHN5				*e*S	**Sn**	**17 22 36.9**	**+0.3**
	baz=259						
YHNB	**Yeheng**	**0.94**	**343**	P	**Pn**	**17 22 23.7**	**-0.6**
	baz=345						
YHNB				*e*S	**Sn**	**17 22 35.5**	**-1.2**
	baz=345						
TWE	**Neicheng**	**0.95**	**359**	*e*P	**Pn**	**17 22 23.9**	**-0.4**
	baz=353						
TWE				*e*S	**Sn**	**17 22 36.4**	**-0.3**
	baz=353						
SLBB	**Yuanshan**	**0.98**	**357**	*e*P	**Pn**	**17 22 24.1**	**-0.7**
SLBB				*e*S	**Sn**	**17 22 38.5**	**+0.8**
TCU	**Taichung**	**1.00**	**293**	*e*P	**Pn**	**17 22 25.5**	**+0.5**
	baz=292						
TCU				*e*S	**Sn**	**17 22 39.1**	**+1.2**
	baz=292						
TWQ1	**Liyutan**	**1.02**	**305**	*e*P	**Pn**	**17 22 25.3**	**+0.1**
	baz=305						
TWQ1				S	**Sn**	**17 22 39.1**	**+0.7**
	baz=305						
NWLT	**Wulai**	**1.02**	**351**	*e*P	**Pn**	**17 22 24.9**	**-0.4**
	baz=347						
NWLT				*e*S	**Sn**	**17 22 38.1**	**-0.4**
	baz=347						
WGK	**Gukeng**	**1.03**	**266**	*e*P	**Pn**	**17 22 25.6**	**+0.1**
	baz=265						
STYT	**Tauyuan**	**1.04**	**235**	*e*P	**Pn**	**17 22 24.9**	**-0.7**
	baz=226						
WDLH	**Douliu**	**1.06**	**266**	*e*P	**Pn**	**17 22 25.7**	**-0.1**
	baz=265						
WDLH				*e*S	**Sn**	**17 22 40.3**	**+1.1**
	baz=265						
NSTT	**Nanjuang**	**1.06**	**324**	*e*P	**Pn**	**17 22 26.2**	**+0.3**
	baz=312						
NSTT				*e*S	**Sn**	**17 22 39.9**	**+0.4**
	baz=312						
NSY	**Sanyi**	**1.07**	**308**	*e*P	**Pn**	**17 22 25.6**	**-0.3**
	baz=308						
LIOB	**Emei**	**1.07**	**325**	*e*P	**Pn**	**17 22 26.2**	**+0.2**
	baz=313						
LIOB				*e*S	**Sn**	**17 22 40.0**	**+0.4**
	baz=313						
TPUB	**Ta-pu**	**1.08**	**245**	*e*P	**Pn**	**17 22 26.3**	**+0.3**
	baz=243						
TPUB				*e*S	**Sn**	**17 22 40.6**	**+0.9**
	baz=243						
WCHH	**Zhanghua**	**1.08**	**287**	*e*P	**Pn**	**17 22 26.1**	**+0.1**
	baz=298						
WCHH				*e*S	**Sn**	**17 22 41.3**	**+1.5**
	baz=298						
CHN4	**Tsaushan**	**1.09**	**248**	*e*P	**Pn**	**17 22 26.2**	**+0.1**
	baz=246						
CHN4				*e*S	**Sn**	**17 22 40.4**	**+0.4**
	baz=246						
WTP	**Ta-pu**	**1.11**	**243**	*e*P	**Pn**	**17 22 26.6**	**0.0**
	baz=240						
WTP				*e*S	**Sn**	**17 22 41.1**	**+0.4**
	baz=240						
NMLH	**Miaoli**	**1.12**	**313**	*e*P	**Pn**	**17 22 26.5**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=313						
NMLH				eS	Sn	17 22 41.0	+0.1
	baz=313						
PTSB	**Yuanli**	**1.12**	**307**	eP	**Pn**	**17 22 26.5**	**-0.2**
	baz=307						
PTSB				eS	**Sn**	**17 22 41.2**	**+0.2**
	baz=307						
WLTB	**Daxi**	**1.15**	**340**	eP	**Pn**	**17 22 27.5**	**+0.4**
	baz=347						
WLTB				eS	**Sn**	**17 22 42.7**	**+1.1**
	baz=347						
CHY	**Chiayi**	**1.19**	**257**	eP	**Pn**	**17 22 25.9**	**-1.6**
	baz=256						
TIPB	**Shuangxi**	**1.21**	**6**	eP	**Pn**	**17 22 27.4**	**-0.5**
	baz=360						
TIPB				eS	**Sn**	**17 22 43.5**	**+0.5**
	baz=360						
CHN1	**Nanshi**	**1.21**	**242**	eP	**Pn**	**17 22 27.7**	**-0.2**
	baz=240						
CHN1				eS	**Sn**	**17 22 43.5**	**+0.4**
	baz=240						
TWA	**Mucha**	**1.21**	**356**	eP	**Pn**	**17 22 27.7**	**-0.2**
	baz=358						
TATO	**Taipei**	**1.22**	**351**	eP	**Pn**	**17 22 27.5**	**-0.4**
	baz=353						
RLNB	**Erlin**	**1.22**	**276**	eP	**Pn**	**17 22 28.4**	**+0.5**
	baz=276						
RLNB				eS	**Sn**	**17 22 44.1**	**+0.8**
	baz=276						
SGST	**Jiashian**	**1.22**	**236**	eP	**Pn**	**17 22 28.7**	**+0.7**
	baz=234						
SGST				eS	**Sn**	**17 22 44.0**	**+0.7**
	baz=234						
SLGT	**Liugui**	**1.23**	**231**	eP	**Pn**	**17 22 28.3**	**+0.2**
	baz=230						
TWB1	**Santiao Chiao**	**1.27**	**12**	eP	**Pn**	**17 22 28.4**	**-0.2**
	baz=15						
NWF	**Wu-fen Shan**	**1.30**	**4**	eP	**Pn**	**17 22 30.6**	**+1.3**
	baz=355						
WFSB	**Wu-fen Shan**	**1.30**	**4**	eP	**Pn**	**17 22 29.6**	**+0.5**
	baz=355						
WLGB	**Puzi**	**1.30**	**258**	eP	**Pn**	**17 22 29.1**	**0.0**
	baz=257						
WLGB				eS	**Sn**	**17 22 46.3**	**+1.0**
	baz=257						
WSF	**Szhu**	**1.35**	**265**	eP	**Pn**	**17 22 29.6**	**-0.1**
	baz=254						
WSF				eS	**Sn**	**17 22 46.8**	**+0.4**
	baz=254						
TWS1	**Kuangyinshan**	**1.35**	**350**	eP	**Pn**	**17 22 29.4**	**-0.4**
	baz=352						
TWS1				eS	**Sn**	**17 22 47.2**	**+0.6**
	baz=352						
YM10	**YM10**	**1.39**	**355**	eP	**Pn**	**17 22 30.5**	**+0.1**
	baz=357						
YM04	**YM04**	**1.39**	**354**	eP	**Pn**	**17 22 31.1**	**+0.7**
	baz=356						
YM07	**YM07**	**1.41**	**358**	eP	**Pn**	**17 22 30.1**	**-0.5**
	baz=359						
YM03	**YM03**	**1.41**	**355**	eP	**Pn**	**17 22 30.7**	**0.0**
	baz=356						
CHN8	**Yiju**	**1.42**	**253**	eS	**Sn**	**17 22 48.1**	**0.0**
	baz=252						
MASBT	**Mashibuluo**	**1.50**	**220**	eP	**Pn**	**17 22 31.9**	**0.0**
	baz=219						
IRIF	**Iriomote-Funau**	**1.95**	**73**	P	**Pn**	**17 22 38.6**	**+0.6**
IRIF				S	**Sn**	**17 23 01.8**	**+0.5**
JKRS	**Kuro-shima**	**2.17**	**77**	P	**Pn**	**17 22 41.7**	**+0.6**
JKRS				S	**Sn**	**17 23 07.4**	**+0.6**
JIJ	**Ishigaki jima**	**2.32**	**75**	P	**Pn**	**17 22 42.9**	**-0.2**
JIJ				eS	**Sn**	**17 23 09.7**	**-0.8**
JISG	**Ishigakijimahi**	**2.53**	**71**	P	**Pn**	**17 22 45.7**	**-0.3**
JISG				eS	**Sn**	**17 23 14.8**	**-0.8**

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*IDC **05** 17:38:16.9±1.7, 9.°11N×127.°08E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/49, mbtmp3.5/6, Error ellipse: s-maj=156.3km s-min=18.9km az=70.0*

*ISCJB **05** 17:38:19.3±0.9, 9.°27N±0.°09×127.°6E±0.°1, h35km, mb3.5/6, Error ellipse: s-maj=20.1km s-min=11.4km az=25.5*

ISC 05 17:38:21.5±1.2**, 9.°3N**±0.°1×**127.°5E**±0.°2**, h35**km**, n7, σ1.§37**/8, **mb3.5**/6**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.58**	**227**⇑	iP	**Pn**	**17 38 48.6**	**+1.5**
BIPH				eS	**Sn**	**17 39 04.9**	**-1.3**
WRA	**Warramunga Arr**	**29.80**	**167**	P	**P**	**17 44 24.8**	**-0.6**
	0.2nm,0.4s,baz=348,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**33.33**	**169**	P	**P**	**17 44 56.2**	**-0.1**
	0.1nm,0.3s,baz=354,slow=7.1,SNR=11						
SONM	**Songino Array**	**42.38**	**339**	P	**P**	**17 46 13.1**	**+0.5**
	0.3nm,0.9s,baz=140,slow=7.5,SNR=2.8						
MKAR	**Makanchi Array**	**53.56**	**323**	P	**P**	**17 47 37.1**	**-1.9**
	0.6nm,0.7s,baz=122,slow=8.0,SNR=7.7						
ZALV	**Zalesovo Beam**	**56.09**	**331**	P	**P**	**17 47 57.3**	**+0.2**
	0.4nm,0.3s,baz=126,slow=7.0,SNR=3.3						
BVAR	**Borovoye Array**	**63.18**	**325**	P	**P**	**17 48 47.0**	**+1.0**
	1.0nm,0.6s,baz=125,slow=7.2,SNR=6.7						

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*ISCJB **05** 17:40:10.3±1.0, 43.°83N±0.°07×146.°14E±0.°07, h106km±6km, Error ellipse: s-maj=12.1km s-min=6.1km az=151.8*

*SKHL **05** 17:40:10.5±0.2, 43.°76N×146.°24E, h104km±4km, mb4.4/3, msh5.1/3*

*JMA **05** 17:40:11.1±0.2, 43.°87N×146.°11E, h101km±2km, M2.6*

ISC 05 17:40:10.7±1.7**, 43.°84N**±0.°08×**146.°15E**±0.°06**, h105**km±10km**, n15, σ0.§39**/28**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.28**	**313**	eP	**Pn**	**17 40 25.8**	**0.0**
YUK				AMB	AMB	17 40 27.2	
	86nm,0.2s						
YUK				AMB	AMB	17 40 27.2	
	95nm,0.2s						
YUK				AMB	AMB	17 40 27.2	
	230nm,0.2s						
YUK				eS	**Sn**	**17 40 37.1**	**0.0**
YUK				A	A	17 40 37.9	
	120nm,0.1s						
YUK				A	A	17 40 37.9	
	130nm,0.1s						
GRPR	**Tuman**	**0.31**	**299**	eP	**Pn**	**17 40 25.7**	**-0.2**
GRPR				iS	**Sn**	**17 40 37.2**	**-0.1**
LAGR	**Lagunnoye**	**0.34**	**309**	iP	**Pn**	**17 40 26.1**	**+0.1**
LAGR				iS	**Sn**	**17 40 37.8**	**+0.3**
GLVR	**Golovnino**	**0.47**	**257**	eP	**Pn**	**17 40 27.2**	**+0.5**
GLVR				iS	**Sn**	**17 40 39.7**	**+0.9**
SHO	**Shikotan**	**0.49**	**87**	eP	**Pn**	**17 40 26.6**	**-0.3**
SHO				AMB	AMB	17 40 26.8	
	480nm,0.4s						
SHO				iS	**Sn**	**17 40 38.8**	**-0.3**
SHO				A	A	17 40 39.3	
	890nm,0.2s						
SHO				A	A	17 40 39.3	
	460nm,0.2s						
NEM2	**Nemuro 2**	**0.56**	**212**	P	**Pn**	**17 40 27.5**	**+0.1**
NEM2				eS	**Sn**	**17 40 39.6**	**-0.4**
JRA	**Rausu**	**0.75**	**278**	P	**Pn**	**17 40 28.8**	**-0.1**
JRA				eS	**Sn**	**17 40 42.3**	**-0.4**
JNK	**Nakash**	**1.07**	**257**	P	**Pn**	**17 40 32.2**	**0.0**
JAK	**Akkeshi**	**1.35**	**232**	P	**Pn**	**17 40 35.5**	**+0.1**
JAK				eS	**Sn**	**17 40 54.2**	**0.0**
JTKR	**Abashiri--Toko**	**1.62**	**275**	P	**Pn**	**17 40 38.3**	**-0.4**
JTKR				eS	**Sn**	**17 41 00.0**	**0.0**
JAR	**Ashorobuto**	**1.81**	**253**	P	**Pn**	**17 40 41.5**	**+0.5**
KUR	**Kuril'sk**	**1.86**	**41**	eP	**Pn**	**17 40 41.9**	**+0.3**
KUR				AMB	AMB	17 40 43.0	
	60nm,0.3s						
KUR				AMB	AMB	17 40 43.0	
	15nm,0.3s						
KUR				eS	**Sn**	**17 41 05.1**	**0.0**
KUR				A	A	17 41 07.7	
	65nm,0.2s						
KUR				A	A	17 41 07.7	
	46nm,0.2s						
JOB	**Onbets**	**1.93**	**242**	P	**Pn**	**17 40 43.0**	**+0.5**
JOB				eS	**Sn**	**17 41 06.8**	**0.0**
JMP	**Maruseppu**	**2.02**	**276**	P	**Pn**	**17 40 43.6**	**-0.1**
JMP				eS	**Sn**	**17 41 08.8**	**-0.2**
JCH	**Churui**	**2.38**	**240**	P	**Pn**	**17 40 48.6**	**+0.3**
JCH				eS	**Sn**	**17 41 16.1**	**-1.0**

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*IDC **05** 18:09:38.9±6.0, 18.°68S×69.°77W, h100km±44km, mb3.6/2, mb1 3.9/3, mb1mx3.3/36, mbtmp3.9/3, Error ellipse: s-maj=54.9km s-min=48.1km az=164.0*

*ISCJB **05** 18:09:39.4±0.7, 18.°51S±0.°04×69.°97W±0.°09, h118km±5km, mb3.6/2, Error ellipse: s-maj=14.8km s-min=6.6km az=8.3*

*GUC **05** 18:09:39.2±0.6, 18.°43S×69.°85W, h108km±4km, ML4.0*

ISC 05 18:09:40.1±0.9**, 18.°48S**±0.°05×**69.°94W**±0.°09**, h111**km±7km**, n20, σ1.§21**/27**, 6C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.40**	**250**⇑	iP	**Pn**	**18 09 56.2**	**-0.3**
PB12				iS	**Sn**	**18 10 08.9**	**+0.1**
PB12				IAML		18 10 10.5	
	comp=N,10μm,0.2s						
MNMC	**Minye Minye**	**0.72**	**154**⇓	iP	**Pn**	**18 09 58.7**	**-0.4**
MNMC				iS	**Sn**	**18 10 12.6**	**-0.7**
MNMC				IAML		18 10 13.1	
	comp=E,9μm,0.2s						
PSGC	**Pisagua**	**1.12**	**189**⇑	iP	**Pn**	**18 10 03.0**	**+0.2**
PSGC				iS	**Sn**	**18 10 20.8**	**+0.9**
PSGC				IAML		18 10 21.3	
	comp=E,556nm,0.8s						
PB11	**IPOC Station P**	**1.30**	**168**⇑	iP	**Pn**	**18 10 05.0**	**+0.2**
PB11				iS	**Sn**	**18 10 24.3**	**+0.7**
PB11				IAML		18 10 24.9	
	comp=E,8μm,0.2s						
PB08	**IPOC Station P**	**1.81**	**156**⇓	iP	**Pn**	**18 10 11.7**	**+0.5**
PB08				iS	**Sn**	**18 10 35.4**	**+0.7**
PB08				IAML		18 10 38.2	
	comp=E,838nm,0.4s						
PB01	**IPOC Station P**	**2.58**	**171**⇓	iP	**Pn**	**18 10 21.0**	**+0.3**
PB01				iS	**Sn**	**18 10 51.1**	**-0.9**
PB01				IAML		18 10 57.6	
	comp=E,205nm,0.2s						
LPAZ	**La Paz**	**2.78**	**39**	P	**Pn**	**18 10 22.4**	**-1.5**
	comp=E,13nm,0.3s,baz=224,slow=7.8,SNR=260						
LPAZ				S	**Sn**	**18 10 58.2**	**+0.9**
	comp=E,0.9nm,0.3s,baz=35,slow=12,SNR=2.2						
LPAZ	**La Paz**	**2.78**	**39**⇑	iP	**Pn**	**18 10 23.0**	**-0.8**
PB02	**IPOC Station P**	**2.83**	**179**⇑	iP	**Pn**	**18 10 24.6**	**+0.7**
PB02				iS	**Sn**	**18 10 56.1**	**-1.5**
PB02				IAML		18 11 10.8	
	comp=E,385nm,0.6s						
PB07	**IPOC Station P**	**3.23**	**179**⇓	iP	**Pn**	**18 10 30.2**	**+0.8**
PB07				iS	**Sn**	**18 11 05.6**	**-1.8**
PB07				IAML		18 11 20.9	
	comp=E,269nm,1.1s						
PB09	**IPOC Station P**	**3.36**	**169**⇑	iP	**Pn**	**18 10 32.3**	**+1.2**
PB09				iS	Sn	18 10 59.6	-11
PB09				IAML		18 11 32.9	
	comp=E,463nm,0.5s						
PB04	**IPOC Station P**	**3.84**	**183**	eP	**Pn**	**18 10 36.5**	**-1.0**
PB04				iS	**Sn**	**18 11 18.1**	**-3.8**
PB04				IAML		18 11 44.6	
	comp=E,108nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.28**	**71**	P	**P**	**18 21 22.2**	**-0.7**
	comp=E,0.6nm,0.8s,baz=260,slow=5.9,SNR=4.3						
YKA	**Yellowknife Ar**	**88.03**	**341**	P	**P**	**18 22 18.2**	**+0.8**
	comp=E,0.6nm,0.5s,baz=134,slow=4.8,SNR=14						
H11S2	**WAKE ISLAND Hy**	**126.48**	**280**	T	T	20 47 48.5	
	baz=101						
H11S1	**WAKE ISLAND Hy**	**126.49**	**280**	T	T	20 47 45.9	
	baz=101						
H11S3	**WAKE ISLAND Hy**	**126.50**	**280**	T	T	20 47 40.9	
	baz=101						
ASAR	**Alice Springs**	**132.08**	**210**	PKP	**PKPdf**	**18 28 41.5**	**-0.1**
	comp=E,0.3nm,1.0s,baz=146,slow=1.9,SNR=3.0						
WRA	**Warramunga Arr**	**135.00**	**213**	PKP	**PKPdf**	**18 28 48.1**	**+1.0**
	comp=E,0.3nm,1.0s,baz=150,slow=1.8,SNR=4.6						
SONM	**Songino Array**	**150.57**	**5**	PKPbc	**PKPbc**	**18 29 19.9**	**+0.7**
	comp=E,0.4nm,0.7s,baz=318,slow=1.9,SNR=3.0						

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*GII **05** 18:11:42.4±0.0, 32.°84N×35.°58E, h1km, MD1.7/3*

*GRAL **05** 18:11:46.2±0.3, 32.°90N×35.°59E, h1km±3km, MD2.8*

ISC 05 18:11:42.9±1.3**, 32.°88N**±0.°03×**35.°61E**±0.°05**, h18**km±9km**, n14, σ0.§80**/23**, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMA0B	**Mount Meron ar**	**0.22**	**307**	Pg	**Pb**	**18 11 48.3**	**-0.2**
MMA0B				Sg	**Sb**	**18 11 52.6**	**+0.3**
MMC7	**Mount Meron ar**	**0.23**	**307**	Pg	**Pb**	**18 11 48.6**	**-0.1**
KSDI	**Kefar Szold**	**0.31**	**7**	Pg	**Pb**	**18 11 50.7**	**+0.7**
KSDI				Sg	**Sn**	**18 11 57.3**	**-1.5**
BLGI	**Bet Lehem HaGe**	**0.39**	**248**	Pg	**Pg**	**18 11 50.4**	**-0.5**
MMLI	**Mount Malkishu**	**0.47**	**200**	Pg	**Pg**	**18 11 52.2**	**-0.3**
MMLI				Sg	**Sb**	**18 11 59.4**	**0.0**
SHBL	**Chebaa**	**0.48**	**13**	eP	**Pn**	**18 11 54.5**	**-0.6**
SHBL				eS	**Sb**	**18 12 00.8**	**+1.0**
OFRI	**'Ofer**	**0.59**	**244**	Pg	**Pg**	**18 11 54.5**	**-0.2**
OFRI				Sg	**Sb**	**18 12 03.9**	**+1.1**
HMDT	**Nahal Hemdat**	**0.63**	**187**	Pg	**Pb**	**18 11 55.3**	**-0.1**
HMDT				Sg	**Sb**	**18 12 05.1**	**+1.1**
RCY	**Rachaya**	**0.64**	**17**	eP	**Pn**	**18 11 57.5**	**+0.2**
RCY				eS	**Sn**	**18 12 05.9**	**-1.3**
SLTI	**Sal'it**	**0.80**	**217**	Pg	**Pg**	**18 11 58.1**	**-0.5**
SLTI				Sg	**Sn**	**18 12 10.2**	**-0.7**
DQRL	**Deir Qamar**	**0.82**	**357**	eP	**Pn**	**18 12 00.7**	**+0.9**
BHL	**Bhannes**	**1.02**	**2**	eP	**Pn**	**18 12 03.7**	**+1.2**
DSI	**Dead Sea**	**1.32**	**189**	Pg	**Pb**	**18 12 07.0**	**-0.2**
AMAZ	**Amatzia**	**1.47**	**204**	Pn	**Pb**	**18 12 10.2**	**+0.4**
AMAZ				Sn	**Sg**	**18 12 30.9**	**+0.5**

MEX 05 18:12:48.4±0.8**, 18.°12N**×**103.°45W, h5**km**, MD3.7, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.20**	**30**	iP	Pg	18 12 51.9	-0.4
MMIG				iS	Sg	18 12 54.6	-0.3
EZ5V		**1.36**	**354**	eP	Pn	18 13 11.0	-3.4
EZ5V				eS	Sg	18 13 28.6	-3.7
ZIIG	**Zihuatanejo**	**1.96**	**105**	eP	Pn	18 13 19.5	-2.8
ZIIG				iS	Sn	18 13 42.5	-4.7
CJM	**Chamela**	**2.04**	**313**	iP	Pn	18 13 20.9	-2.5
CJM				iS	Sn	18 13 44.2	-5.2
SFJM	**Santa Fe**	**2.39**	**9**	eP	Pn	18 13 19.9	-8.5
SFJM				iS	Sn	18 13 53.3	-4.9

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*ISCJB **05** 18:29:14.4±0.5, 38.°37N±0.°03×27.°79E±0.°04, h6km±6km, Error ellipse: s-maj=5.8km s-min=3.7km az=27.2*

*CSEM **05** 18:29:14.9±0.2, 38.°37N×27.°80E, h15km, ML2.7, Error ellipse: s-maj=4.5km s-min=3.2km az=113.0*

*DDA **05** 18:29:14.8, 38.°36N×27.°76E, h7km, Ml2.7*

*ISK **05** 18:29:14.5, 38.°44N×27.°80E, h10km, ML2.7/2*

ISC 05 18:29:14.7±1.0**, 38.°39N**±0.°02×**27.°79E**±0.°02**, h11**km±10km**, n29, σ0.§41**/45**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.49**	**2**	iP	**Pg**	**18 29 25.2**	**+0.9**
AKHS				iS	**Sb**	**18 29 32.4**	**-0.3**
AKHS	**Akhisar**	**0.49**	**2**	P	**Pg**	**18 29 25.2**	**+0.9**
AKHS				S	**Sb**	**18 29 32.3**	**-0.3**
AKS	**Akhisar**	**0.49**	**2**	PG	**Pg**	**18 29 23.6**	**-0.7**
AKS	**Akhisar**	**0.49**	**2**	ePg	**Pg**	**18 29 23.6**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**79**	PG	**Pg**	**18 29 28.5**	**+0.3**
KULA				SG	**Sg**	**18 29 37.5**	**+0.1**
KULA	**Kula-Manisa**	**0.70**	**79**	ePg	**Pg**	**18 29 28.5**	**+0.3**
KULA				eSg	**Sg**	**18 29 37.5**	**+0.1**
AYDN	**Tasoluk**	**0.73**	**174**	eP	**Pg**	**18 29 28.5**	**-0.3**
AYDN				iS	**Sb**	**18 29 38.9**	**-0.6**
AYDN	**Tasoluk**	**0.73**	**174**	P	**Pg**	**18 29 28.5**	**-0.3**
AYDN				S	**Sb**	**18 29 38.9**	**-0.6**
DGB	**˜zmir**	**0.79**	**245**	iP	**Pg**	**18 29 29.3**	**-0.6**
DGB				iS	**Sg**	**18 29 40.1**	**-0.1**
GCAM	**G?zelcaml?**	**0.81**	**213**	PG	**Pb**	**18 29 31.4**	**+0.5**
GCAM	**G?zelcaml?**	**0.81**	**213**	iP	**Pb**	**18 29 31.4**	**+0.5**
GCAM				iS	**Sg**	**18 29 41.0**	**0.0**
GCAM	**G?zelcaml?**	**0.81**	**213**	P	**Pb**	**18 29 31.4**	**+0.5**
GCAM				S	**Sg**	**18 29 41.0**	**0.0**
URLA	**Izmir**	**0.94**	**269**	PG	**Pg**	**18 29 32.6**	**-0.2**
URLA	**Izmir**	**0.94**	**269**	iP	**Pg**	**18 29 32.4**	**-0.4**
URLA				iS	**Sg**	**18 29 45.1**	**+0.1**
URLA	**Izmir**	**0.94**	**269**	P	**Pg**	**18 29 32.4**	**-0.4**
URLA				S	**Sg**	**18 29 45.1**	**+0.1**
CAND	**Candarli**	**0.96**	**307**	PG	**Pg**	**18 29 32.8**	**-0.3**
STEP	**BALIKESIR_Sava**	**0.99**	**357**	iP	**Pn**	**18 29 34.8**	**+0.2**
STEP				iS	**Sn**	**18 29 48.8**	**+0.2**
STEP	**BALIKESIR_Sava**	**0.99**	**357**	P	**Pn**	**18 29 34.8**	**+0.2**
STEP				S	**Sn**	**18 29 48.8**	**+0.2**
ZEY	**˜zmir**	**1.02**	**262**	iP	**Pg**	**18 29 34.4**	**+0.1**
ZEY				iS	**Sb**	**18 29 48.2**	**+0.3**
SIMA	**Simav-Kutahya**	**1.16**	**53**	PN	**Pb**	**18 29 36.7**	**-0.2**
SIMA	**Simav-Kutahya**	**1.16**	**53**	ePn	**Pb**	**18 29 36.7**	**-0.2**
BALB	**Balikesir**	**1.25**	**3**	PN	**Pn**	**18 29 37.9**	**-0.3**
BALB	**Balikesir**	**1.25**	**3**	ePn	**Pn**	**18 29 37.9**	**-0.3**
BALY	**Balya**	**1.36**	**355**	iP	**Pn**	**18 29 39.1**	**-0.6**
BALY				iS	**Sb**	**18 29 57.4**	**-0.2**
BALY	**Balya**	**1.36**	**355**	P	**Pn**	**18 29 39.1**	**-0.6**
BALY				S	**Sb**	**18 29 57.4**	**-0.2**
CHOS	**Chios island**	**1.36**	**270**	PN	**Pn**	**18 29 40.2**	**+0.4**
CHOS	**Chios island**	**1.36**	**270**	ePn	**Pn**	**18 29 40.2**	**+0.4**
TVSB	**Tavsanli**	**1.68**	**50**	PN	**Pn**	**18 29 44.3**	**+0.1**
TVSB	**Tavsanli**	**1.68**	**50**	ePn	**Pn**	**18 29 44.3**	**+0.1**

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*ISCJB **05** 18:43:47.8±0.2, 8.°11N±0.°03×83.°90W±0.°02, h33km, mb4.7/103, MS4.1/26, Error ellipse: s-maj=4.4km s-min=2.4km az=41.8*

*CASC **05** 18:43:49.9±1.5, 8.°44N×83.°94W, h4km±9km, ML4.6, mb4.8(NEIC)*

*NEIC **05** 18:43:50.2±0.5, 8.°07N×83.°95W, h37km±4km, mb4.8/90, Error ellipse: s-maj=6.2km s-min=3.4km az=222.0*

NEIC Felt in southeastern Costa Rica.

*GCMT **05** 18:43:50.2±0.2, 8.°08N×84.°10W, h22km±1km, MW5.0/99, Moment Tensor Solution. s42,c50; s99,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.14±.13; $M_{\theta\theta}$-2.86±.11; $M_{\phi\phi}$3.00±.12; $M_{r\theta}$0.78±.18; $M_{\theta\phi}$3.07±.10; $M_{\phi r}$-0.07±.18; Best double couple: $M_0$4.31800×10^{16} NP1:ϕ_s248.00000°, δ85.00000°, λ-10.00000°. NP2: ϕ_s339.00000°, δ81.00000°, λ-175.00000°. Principal axes: T 4.3280, Plg3.0000°, Azm293.0000°; N -0.0240, Plg79.0000°, Azm41.0000°; P -4.3080, Plg10.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **05** 18:43:50.0±1.9, 8.°02N×84.°04W, h43km±18km, mb3.9/18, mb1 4.1/23, mb1mx4.0/46, mbtmp4.2/23, ML3.2/4, MS4.0/30, Ms1 4.1/30, ms1mx3.9/50 Error ellipse: s-maj=21.4km s-min=11.7km az=47.0*

ISC 05 18:43:49.8±0.4**, 8.°08N**±0.°05×**83.°98W**±0.°05**, h35**km**, n401, σ1.§48**/385**, mb4.8**/103**, MS4.0**/27**, 12C-5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimˆ'ne**	**0.81**	**56**	eP	**Pn**	**18 44 01.9**	**-2.8**
PTJ1				eS	**Sn**	**18 44 13.8**	**-1.8**
ACR	**Cerro Adams**	**0.98**	**55**	eP	**Pn**	**18 44 04.4**	**-2.8**
ACR				eS	**Sn**	**18 44 17.2**	**-2.8**
BUS	**Buena Vista**	**1.48**	**9**	eP	**Pn**	**18 44 11.4**	**-3.0**
LCR2	**La Lucha 2**	**1.65**	**359**⇓	eP	**Pn**	**18 44 13.6**	**-2.8**
URSC	**Urasca**	**1.75**	**7**⇓	eP	**Pn**	**18 44 15.6**	**-2.3**
HDC	**Heredia**	**1.91**	**356**	ePn	**Pn**	**18 44 17.8**	**-2.2**
VTR0	**Volcan Turrial**	**1.94**	**6**⇓	eP	**Pn**	**18 44 18.9**	**-1.7**
CVTR	**Volcan Turrial**	**1.94**	**6**⇓	eP	**Pn**	**18 44 18.8**	**-1.8**
CGA2	**Cerro Gallo 2**	**1.98**	**346**	eP	**Pn**	**18 44 18.8**	**-2.2**
JCR	**Jicaral**	**2.08**	**328**	eP	**Pn**	**18 44 20.6**	**-1.7**
JTS	**JuntasAbangare**	**2.39**	**336**	P	**Pn**	**18 44 25.7**	**-0.8**
	982nm,0.3s,baz=159,slow=8.6,SNR=917						
JTS				S	**Sn**	**18 44 53.0**	**-1.7**
	994nm,0.3s,baz=358,slow=21,SNR=24						
JTS				LR	LR	18 45 21.2	
	comp=Z,3μm,19.7s,baz=336,slow=38						
PLVR	**Palo Verde**	**2.63**	**329**⇑	eP	**Pn**	**18 44 27.3**	**-2.6**
PLVR				eS	**Sn**	**18 44 55.4**	**-5.2**
AMAS	**Alto Masis**	**2.70**	**338**⇑	eP	**Pn**	**18 44 30.2**	**-0.7**
ACAL	**Aguas Claras**	**2.74**	**338**⇑	eP	**Pn**	**18 44 30.9**	**-0.4**
PTEN	**Parque Tenorio**	**2.80**	**339**⇑	iP	**Pn**	**18 44 31.7**	**-0.4**
CUI	**Cuipilapa**	**2.81**	**336**⇑	eP	**Pn**	**18 44 31.7**	**-0.7**
COLC	**Colonia**	**2.83**	**335**⇑	eP	**Pn**	**18 44 31.8**	**-0.8**
HORNC	**Hornillas**	**2.87**	**336**⇑	eP	**Pn**	**18 44 32.4**	**-0.8**
GUAB	**Guayabo de Bag**	**2.88**	**335**⇑	eP	**Pn**	**18 44 32.6**	**-0.7**
LIM1	**Limonal**	**2.88**	**334**	eP	**Pn**	**18 44 32.6**	**-0.8**
MESS	**Mesas**	**2.90**	**336**⇑	eP	**Pn**	**18 44 32.9**	**-0.7**
NY14	**Universidad de**	**2.97**	**329**⇑	eP	**Pn**	**18 44 33.8**	**-0.7**
GPS2	**Hotel Rincˆ‡n**	**2.98**	**333**	eP	**Pn**	**18 44 34.2**	**-0.5**
GPS3	**Bodega del ICE**	**2.98**	**333**⇓	eP	**Pn**	**18 44 34.1**	**-0.7**
GPS1	**Guardaparques**	**3.00**	**333**	eP	**Pn**	**18 44 34.3**	**-0.6**
LAPC	**Finca la Perla**	**3.03**	**332**⇑	eP	**Pn**	**18 44 34.1**	**-1.1**
BUEV	**Buena Vista**	**3.04**	**333**	eP	**Pn**	**18 44 34.9**	**-0.6**
GB1A	**Borinquen Arri**	**3.06**	**333**	eP	**Pn**	**18 44 35.5**	**-0.2**
BUAI	**Buenos Aires**	**3.08**	**334**⇑	eP	**Pn**	**18 44 37.0**	**+1.0**
CRZ1	**La Cruz**	**3.39**	**331**	eP	**Pn**	**18 44 39.4**	**-0.8**
ESPN	**Las Esperanzas**	**4.10**	**356**	eP	**Pn**	**18 44 49.5**	**-0.5**
BCIP	**Isla Barro Col**	**4.24**	**75**	ePn	**Pn**	**18 44 51.6**	**-0.3**
MGAN	**Managua**	**4.61**	**331**	eP	**Pn**	**18 44 57.2**	**+0.2**
MGAN				eS	**Sn**	**18 45 47.0**	**-2.4**
XAVN	**Gruta Xavier**	**4.65**	**330**	eP	**Pn**	**18 44 57.7**	**0.0**
COPN	**Copaltepe**	**4.81**	**328**	eP	**Pn**	**18 44 59.4**	**-0.4**
MOMN	**Momotombo**	**4.98**	**330**	eP	**Pn**	**18 45 01.8**	**-0.4**
MATN	**Matagalpa**	**5.18**	**339**	eP	**Pn**	**18 45 04.3**	**-0.7**
CRIN	**San Cristobal**	**5.49**	**327**	eP	**Pn**	**18 45 08.4**	**-0.8**
CRIN				eS	**Sn**	**18 46 07.3**	**-4.0**
CRIN				AML	AML	18 46 12.8	
	comp=N,1μm,0.6s						
ESTN	**Estel**	**5.51**	**335**	eP	**Pn**	**18 45 09.1**	**-0.4**
RCON	**San Juan de Ri**	**5.78**	**338**	eP	**Pn**	**18 45 12.7**	**-0.5**
TGUH	**Tegucigalpa,Un**	**6.76**	**332**	ePn	**Pn**	**18 45 26.9**	**+0.4**
SOLC	**Bahia Solano**	**6.78**	**105**	eP	**Pn**	**18 45 23.0**	**-3.9**
SNET	**Serv Nac Est T**	**7.59**	**318**	ePn	**Pn**	**18 45 38.4**	**+0.3**
HELC	**Santa Helena**	**8.60**	**102**	ePn	**Pn**	**18 45 51.7**	**-0.5**
HELC	**Santa Helena**	**8.60**	**102**	eP	**Pn**	**18 45 52.5**	**+0.3**
YOTC	**Yotoco, Valle**	**8.62**	**118**	eP	**Pn**	**18 45 48.9**	**-3.3**
HORQ	**Saladito**	**8.63**	**122**	eP	**Pn**	**18 45 48.2**	**-4.3**
ZARC	**Zaragoza, Cauc**	**9.06**	**93**	eP	**Pn**	**18 45 57.5**	**-0.7**
POPC	**Popayan, Colom**	**9.12**	**127**	eP	**Pn**	**18 45 58.2**	**-1.1**
RREF	**El Recreo**	**9.14**	**110**	eP	**Pn**	**18 46 00.2**	**+0.3**
ANIL	**Santa Ana**	**9.24**	**112**	eP	**Pn**	**18 45 56.2**	**-4.8**
NORC	**Norcasia**	**9.39**	**105**	eP	**Pn**	**18 46 02.2**	**-0.6**
SOTA	**Rioblanco**	**9.42**	**128**	eP	**Pn**	**18 46 02.9**	**-0.8**
PCON	**Cinco Dias**	**9.47**	**127**	eP	**Pn**	**18 46 04.8**	**+0.5**
GCUF	**Volcan Galeras**	**9.49**	**136**	eP	**Pn**	**18 46 02.9**	**-1.7**
MARP	**Paez Belalcaza**	**9.53**	**123**	eP	**Pn**	**18 46 04.2**	**-0.8**
CRUC	**La Cruz**	**9.54**	**132**	eP	**Pn**	**18 46 04.8**	**-0.2**
OTAV	**Otavalo**	**9.55**	**144**	ePn	**Pn**	**18 46 06.3**	**+1.1**
PTBC	**PUERTO BERRIO,**	**9.57**	**99**	eP	**Pn**	**18 46 00.8**	**-4.4**
PRAC	**Prado**	**10.03**	**115**	ePn	**Pn**	**18 46 12.6**	**+1.0**
PRAC	**Prado**	**10.03**	**115**	eP	**Pn**	**18 46 12.2**	**+0.6**
BETC	**Betania**	**10.05**	**122**	eP	**Pn**	**18 46 10.2**	**-1.7**
ROSC	**El Rosal**	**10.13**	**108**	P	**Pn**	**18 46 14.6**	**+1.4**
	comp=N,2.1nm,0.3s,baz=317,slow=3.9,SNR=32						
ROSC	**El Rosal**	**10.13**	**108**	ePn	**Pn**	**18 46 16.7**	**+3.5**
ROSC	**El Rosal**	**10.13**	**108**	eP	**Pn**	**18 46 12.8**	**-0.3**
FLOC	**Florencia**	**10.51**	**127**	eP	**Pn**	**18 46 16.8**	**-1.3**
PAYG	**Puerto Ayora**	**10.73**	**216**	ePn	**Pn**	**18 46 22.1**	**+1.0**
CHIC	**Chingaza**	**10.75**	**108**	eP	**Pn**	**18 46 22.8**	**+1.1**
BARC	**Barichara**	**10.81**	**97**	eP	**Pn**	**18 46 22.8**	**+0.3**
VILC	**Villavicencio,**	**10.96**	**110**	eP	**Pn**	**18 46 25.4**	**+1.0**
RUSC	**La Rusia**	**11.03**	**101**	ePn	**Pn**	**18 46 26.7**	**+1.0**
RUSC	**La Rusia**	**11.03**	**101**	eP	**Pn**	**18 46 23.4**	**-2.2**
SJAC	**San Juan de Ar**	**11.06**	**115**	eP	**Pn**	**18 46 26.8**	**+1.0**
SDV	**Santo Domingo**	**13.23**	**86**	P	**Pn**	**18 46 56.0**	**+0.6**
	comp=N,0.7nm,0.3s,baz=280,slow=8.8,SNR=9.4						
SDV				LR	LR	18 53 47.3	
	comp=N,741nm,18.8s,baz=268,slow=45						
SDV	**Santo Domingo**	**13.23**	**86**	ePn	**Pn**	**18 46 56.0**	**+0.6**
CMIG	**Matias Romero**	**13.90**	**311**	P	**Pn**	**18 47 03.7**	**-0.7**
	comp=N,0.3nm,0.3s,baz=140,slow=7.8,SNR=4.7						
CMIG				S	**Sn**	**18 49 36.1**	**-1.5**
	comp=N,0.7nm,0.3s,baz=331,slow=19,SNR=2.5						
ATAH	**Atahualpa**	**16.11**	**160**	P	**Pn**	**18 47 34.1**	**0.0**
	comp=N,0.2nm,0.3s,baz=348,slow=9.2,SNR=2.4						
ATAH				S	Sn	18 50 16.9	-15
	comp=N,0.6nm,0.3s,baz=30,slow=7.9,SNR=7.5						
PCRV	**Puerto La Cruz**	**19.21**	**82**	P	**P**	**18 48 10.8**	**-0.2**
	comp=N,1.5nm,0.3s,baz=239,slow=12,SNR=4.1						
PCRV				LR	LR	18 57 51.3	
	comp=N,672nm,18.2s,baz=270,slow=44						
SJG	**San Juan**	**20.00**	**58**	P	**Pn**	**18 48 20.8**	**-0.7**
	comp=N,14nm,0.3s,baz=327,slow=1.9,SNR=3.3						
SJG				LR	LR	18 56 25.1	
	comp=N,690nm,21.2s,baz=234,slow=38						
DWPF	**Disney Wildern**	**20.07**	**7**	P	Pn	18 48 26.3	+4.2
	baz=187						
857A	**Zephyrhills**	**20.14**	**4**	P	Pn	18 48 26.4	+3.4
	baz=185						

757A **Oxford** 20.83 5 P Pn 18 48 33.3 +2.3
baz=185
758A **Lake Helen** 20.93 7 P Pn 18 48 34.0 +1.8
baz=188
NNA **Nana** 21.16 160 P P **18 48 31.6 -0.6**
comp=N,3.7nm,0.3s,baz=336,slow=12,SNR=2.6
NNA **Nana** 21.16 160 *eP* P **18 48 31.4 -0.9**
comp=N,33nm,1.0s
656A **Willston** 21.22 3 P P **18 48 37.9 +5.3**
baz=184
655A **Horseshoe Beac** 21.33 2 P P **18 48 36.9 +3.1**
baz=182
658A **Bunnell** 21.38 7 P P **18 48 38.0 +3.6**
baz=187
554A **Perry** 21.89 1 P P **18 48 42.9 +3.1**
baz=181
555A **McAlpin** 21.95 2 P P **18 48 43.1 +2.7**
baz=183
LNIG **Linares** 22.32 320 *eP* P **18 48 43.8 -0.8**
comp=N,115nm,1.8s
454A **Quitman** 22.52 1 P P **18 48 47.8 +1.2**
baz=181
455A **Stateville** 22.56 2 P P **18 48 51.2 +4.2**
baz=182
453A **Whigham** 22.66 359 P P **18 48 51.5 +3.4**
baz=179
452A **Marianna** 22.68 357 P P **18 48 49.7 +1.4**
baz=177
351A **Pinckard** 23.12 356 P P **18 48 55.0 +2.2**
baz=176
349A **Repton** 23.34 353 P P **18 48 55.6 +0.6**
baz=172
250A **Grady** 23.87 355 P P **18 49 01.1 +1.0**
baz=174
251A **Midway** 23.93 357 P P **18 49 00.7 +0.1**
baz=176
249A **Camden** 23.95 353 P P **18 49 00.5 -0.3**
baz=172
247A **Quitman** 24.24 350 P P **18 49 02.9 -0.6**
baz=169
151A **Opelika** 24.36 357 P P **18 49 05.2 +0.6**
baz=177
245A **Little AP, Sta** 24.46 348 P P **18 49 03.9 -1.5**
baz=166
150A **Eclectic** 24.48 356 P P **18 49 06.6 +0.9**
baz=175,SNR=8.4
149A **Jones** 24.53 354 P P **18 49 06.8 +0.7**
baz=173
148A **Greensboro** 24.67 353 P P **18 49 06.9 -0.5**
baz=171
147A **Livingston** 24.79 351 P P **18 49 08.0 -0.5**
baz=170
833A **Chaparral WMA,** 24.84 326 P P **18 49 09.3 +0.3**
baz=141,SNR=5.5
LRAL **Lakeview Retre** 24.99 354 P P **18 49 11.2 +0.9**
baz=173
LRAL **Lakeview Retre** 24.99 354 *eP* P **18 49 11.5 +1.2**
comp=N,58nm,1.4s
145A **Houston Renfro** 25.02 348 P P **18 49 10.3 -0.2**
baz=166
Z49A **Columbiana** 25.10 355 P P **18 49 12.4 +1.1**
baz=174
Z50A **Ashland** 25.11 356 P P **18 49 12.2 +0.7**
baz=175
GOGA **Godfrey** 25.21 1 P P **18 49 12.6 +0.3**
baz=181,SNR=6.3
GOGA **Godfrey** 25.21 1 *eP* P **18 49 13.5 +1.3**
comp=N,59nm,1.3s
Z47A **Carrollton** 25.28 352 P P **18 49 12.9 0.0**
baz=170
Z48A **Northport** 25.39 353 P P **18 49 14.0 +0.1**
baz=172
PTGA **Pitinga** 25.49 109 P P **18 49 14.9 -0.2**
comp=N,7.5nm,0.7s,baz=310,slow=9.9,SNR=12
PTGA LR LR 19 00 43.9
comp=N,625nm,19.2s,baz=320,slow=40
PTGA **Pitinga** 25.49 109 *eP* P **18 49 14.9 -0.2**
comp=N,40nm,1.6s
Y50A **Piedmont** 25.73 357 P P **18 49 18.0 +0.9**
baz=176
Y49A **Blount Mountai** 25.75 355 P P **18 49 17.1 -0.1**
baz=174
Y48A **Jasper** 25.87 354 P P **18 49 19.9 +1.6**
baz=173
Y47A **UCPARC, Winfie** 25.94 353 P P **18 49 18.7 -0.3**
baz=171
Y46A **Houston** 26.07 351 P P **18 49 20.7 +0.6**
baz=169
HODGE **Hodges** 26.07 3 *eP* P **18 49 20.3 +0.2**
comp=N,54nm,1.1s
Z42A **Norrel Spur, H** 26.13 345 P P **18 49 19.9 -0.7**
baz=162
X50A **Fort Payne** 26.30 357 P P **18 49 23.7 +1.5**
baz=176
X49A **Woodville** 26.39 356 P P **18 49 23.0 0.0**
baz=175
X48A **Hartselle** 26.39 354 P P **18 49 23.4 +0.3**
baz=173
SAML **Samuel** 26.75 129 *eP* P **18 49 24.9 -1.5**
comp=N,12nm,0.8s
JCT **Junction City** 26.75 328 P P **18 49 25.8 -0.6**
baz=143
JCT **Junction City** 26.75 328 *eP* P **18 49 26.1 -0.2**
comp=N,14nm,0.9s
BG3 **Lake Jocassee** 26.80 2 *eP* P **18 49 26.9 +0.2**
comp=N,42nm,1.3s
KMSC **Kings Mountain** 27.04 5 P P **18 49 31.5 +2.6**
baz=186
W48A **Pulaski** 27.06 355 P P **18 49 29.3 +0.2**
baz=174
W47A **Westpoint** 27.24 354 P P **18 49 29.6 -1.1**
baz=172
TKL **Tuckaleechee C** 27.45 0 P P **18 49 32.0 -0.5**
comp=N,6.3nm,0.9s,baz=191,slow=16,SNR=2.7
TKL LR LR 19 00 48.8
comp=N,317nm,18.1s,baz=182,slow=37
V48A **Smith Brothers** 27.65 355 P P **18 49 33.8 -0.5**
baz=174
MIAR **Mount Ida** 27.78 343 P P **18 49 33.9 -1.5**
baz=159
V47A **Nunnelly** 27.80 354 P P **18 49 34.9 -0.8**
baz=172
V46A **Holladay** 27.85 353 P P **18 49 35.3 -0.8**
baz=171
X39A **Fountain Ranch** 27.91 342 P P **18 49 34.2 -2.5**
baz=158
W41B **Gary Mavity, V** 28.01 345 P P **18 49 36.8 -0.7**
baz=162
LTX **Lajitas** 28.09 321 *eP* P **18 49 38.7 +0.2**
TXAR **Lajitas Array** 28.09 321 P P **18 49 38.7 +0.2**
comp=N,2.0nm,0.8s,baz=139,slow=8.3,SNR=17
TX31 **Lajitas Ar. Si** 28.10 321 *eP* P **18 49 39.5 +1.0**
WVT **Waverly** 28.14 353 P P **18 49 37.8 -0.9**
baz=172
H06E1 **SOCORRO T-PHAS** 28.24 295 T T 19 19 21.6
SNR=579
H06S1 **SOCORRO T** 28.25 295 T T 19 19 18.1
SNR=14
TZTN **Tazewell** 28.33 1 P P **18 49 42.1 +1.7**
baz=181
TZTN **Tazewell** 28.33 1 *eP* P **18 49 42.4 +2.0**
comp=N,68nm,1.4s
U48A **Cassie Pea, Po** 28.39 356 P P **18 49 41.8 +0.9**
baz=175
W39A **Magazine** 28.44 343 P P **18 49 39.5 -1.9**
baz=159
LPAZ **La Paz** 28.85 147 P P **18 49 47.8 +1.9**
comp=N,1.2nm,0.7s,baz=346,slow=8.3,SNR=4.6
LPAZ LR LR 19 01 48.2
comp=N,540nm,19.4s,baz=314,slow=37
LPAZ **La Paz** 28.85 147 *eP* P **18 49 46.2 +0.3**
comp=N,3.7nm,1.0s
U42A **Revenden** 28.91 348 P P **18 49 44.0 -1.5**
baz=165
T47A **Sharon Grove** 28.91 355 P P **18 49 45.6 +0.1**
baz=174
T48A **Bowling Green** 28.98 356 P P **18 49 46.9 +0.8**
baz=175
T46A **Princeton** 29.05 354 P P **18 49 45.9 -0.9**
baz=172
T43A **Greenville** 29.43 350 P P **18 49 49.8 -0.4**
baz=167
S48A **Wiedeman Farm,** 29.50 357 P P **18 49 51.4 +0.7**
baz=176
T42A **Van Buren** 29.53 348 P P **18 49 50.0 -1.0**
baz=166
T41A **Mountain View** 29.68 347 P P **18 49 50.6 -1.8**
baz=164

WMOK **Wichita Mounta** 29.81 335 P P **18 49 52.3 -1.3**
baz=150
WCI **Wyandotte Cave** 30.09 356 P P **18 49 56.2 +0.3**
baz=175
WCI **Wyandotte Cave** 30.09 356 *eP* P **18 49 56.1 +0.2**
comp=N,48nm,1.1s
R46A **Gibson Southern** 30.16 354 P P **18 49 56.9 +0.2**
baz=173
R47A **Wooly Knot Far** 30.17 356 P P **18 49 56.0 -0.7**
baz=175
R45A **Skylar, Fairfi** 30.33 353 P P **18 49 57.3 -0.7**
baz=172
S40A **Lebanon** 30.38 347 P P **18 49 56.5 -2.1**
baz=163
CCM **Cathedral Cave** 30.55 349 P P **18 49 58.9 -1.2**
baz=166
S39A **Bolivar** 30.67 345 P P **18 50 00.0 -1.1**
baz=162
OLIL **Olney** 30.74 354 *eP* P **18 50 02.2 +0.5**
comp=N,32nm,1.1s
Q47A **Bedord North L** 30.80 356 P P **18 50 02.1 -0.1**
baz=175
MNTX **Cornudas Mount** 30.81 323 P P **18 50 02.8 +0.3**
baz=135,SNR=6.2
MNTX **Cornudas Mount** 30.81 323 *eP* P **18 50 03.1 +0.7**
comp=N,25nm,1.4s
Q45A **Warren Harvey,** 30.91 354 P P **18 50 03.1 -0.1**
baz=172
MSTX **Muleshoe** 31.05 329 P P **18 50 05.7 +1.0**
baz=142
R39A **Chumby, Stover** 31.19 346 P P **18 50 04.1 -1.6**
baz=162
Q41A **Truxton** 31.42 349 P P **18 50 06.9 -0.8**
baz=166
P45A **Graceland, Par** 31.49 354 P P **18 50 08.3 0.0**
baz=173
P44A **Sand Creek, Wi** 31.53 353 P P **18 50 08.4 -0.2**
baz=171
P46A **Rosedale** 31.53 355 P P **18 50 08.1 -0.6**
baz=174
MCWV **Mont Chateau** 31.66 6 P P **18 50 11.8 +2.0**
baz=188
ACSO **Alum Creek Sta** 32.02 1 P P **18 50 14.1 +1.1**
baz=182,SNR=5.7
ACSO **Alum Creek Sta** 32.02 1 *eP* P **18 50 13.1 +0.1**
comp=N,80nm,1.1s
O47A **Sheridan** 32.08 357 P P **18 50 12.7 -0.7**
baz=176
O45A **Potomac** 32.20 355 P P **18 50 14.1 -0.5**
baz=173
SFIN **Lafayette** 32.28 356 P P **18 50 14.9 -0.4**
baz=174
SFIN **Lafayette** 32.28 356 *eP* P **18 50 15.0 -0.2**
comp=N,33nm,1.1s
R34A **Isabella, Hill** 32.38 340 P P **18 50 14.9 -1.3**
baz=155
O43A **Sugar Creek Fa** 32.42 352 P P **18 50 15.4 -1.0**
baz=170
HDIL **Hopedale** 32.68 352 P P **18 50 18.5 -0.3**
baz=170
N46A **Monticello** 32.77 356 P P **18 50 19.2 -0.3**
baz=175
N45A **Kentland** 32.78 355 P P **18 50 18.6 -1.0**
baz=174
N44A **Piper City** 32.78 354 P P **18 50 19.4 -0.2**
baz=172
121A **Cookes Peak, D** 32.85 321 P P **18 50 21.6 +1.0**
baz=133,SNR=6.6
N42A **Yates City** 33.05 352 P P **18 50 20.9 -1.1**
baz=169
319A **Douglas** 33.06 318 *eP* P **18 50 23.6 +1.2**
comp=N,18nm,1.0s
M46A **Old Hose Fiel** 33.25 357 P P **18 50 23.5 -0.2**
baz=176
M43A **Waltham Townsh** 33.51 353 P P **18 50 26.4 +0.4**
baz=171
LAZ **Ladron** 33.76 324 *eP* P **18 50 27.4 -1.2**
ANMO **Albuquerque** 33.77 326 P P **18 50 28.6 0.0**
baz=137
ANMO **Albuquerque** 33.77 326 *eP* P **18 50 28.8 +0.2**
comp=N,9.3nm,1.3s
O34A **Beatrice** 33.92 342 P P **18 50 27.7 -1.9**
baz=157
L42A **Oliver, Polo** 34.16 352 P P **18 50 30.9 -0.6**
baz=170
L43A **Garden Prairie** 34.22 354 P P **18 50 33.1 +1.0**
baz=172
L41A **Preston** 34.34 351 P P **18 50 31.7 -1.5**
baz=168
TUC **Tucson** 34.64 318 P P **18 50 37.7 +1.6**
baz=128
TUC **Tucson** 34.64 318 *eP* P **18 50 37.9 +1.9**
comp=N,30nm,1.8s
BINY **Binghamton** 34.70 10 P P **18 50 39.3 +2.9**
baz=194
K41A **Shullsburg** 34.84 352 P P **18 50 37.1 -0.4**
baz=169
L38A **Oak Wood Farm,** 34.84 348 P P **18 50 36.1 -1.4**
baz=164
MMNY **Mt. Morris Dam** 34.92 8 *eP* P **18 50 39.8 +1.5**
comp=N,84nm,1.7s
J43A **Natural Harves** 35.37 354 P P **18 50 41.5 -0.6**
baz=172
SDCO **Great Sand Dun** 35.38 330 P P **18 50 42.0 -0.6**
baz=141
SDCO **Great Sand Dun** 35.38 330 *eP* P **18 50 43.6 +1.1**
comp=N,9.9nm,1.5s
J42A **Columbus** 35.38 354 P P **18 50 42.7 +0.5**
baz=171
X18A **Snowflake** 35.53 322 *eP* P **18 50 46.6 +2.7**
comp=N,25nm,1.1s
J41A **Loganville** 35.54 352 P P **18 50 42.3 -1.2**
baz=170
214A **Organ Pipe Nat** 35.81 316 P P **18 50 47.2 +1.1**
baz=125
I43A **Langenfeld Bro** 35.85 355 P P **18 50 45.5 -0.7**
baz=173,SNR=5.4
I42A **Draeger Farm,** 35.93 354 P P **18 50 45.8 -1.0**
baz=172
S22A **4UR Ranch, Cre** 36.05 328 P P **18 50 46.3 -2.1**
baz=139
S22A **4UR Ranch, Cre** 36.05 328 *eP* P **18 50 50.1 +1.8**
comp=N,31nm,2.0s
X16A **Lo Mia Camp, P** 36.39 320 *eP* P **18 50 52.2 +1.0**
comp=N,11nm,0.9s
H43A **Windswept, Lux** 36.40 355 P P **18 50 50.1 -0.7**
baz=174
MVCO **Mesa Verde** 36.55 326 P P **18 50 53.0 +0.5**
baz=136
MVCO **Mesa Verde** 36.55 326 *eP* P **18 50 52.5 0.0**
comp=N,15nm,1.1s
H40A **Chili** 36.83 352 P P **18 50 52.9 -1.6**
baz=169
113A **Mohawk Valley,** 36.94 316 *eP* P **18 50 55.6 0.0**
comp=N,30nm,1.5s
H39A **Augusta** 37.01 351 P P **18 50 54.0 -2.0**
baz=168
WUAZ **Wupatki** 37.06 321 P P **18 50 58.8 +2.0**
baz=131,SNR=5.3
WUAZ **Wupatki** 37.06 321 *eP* P **18 50 58.1 +1.3**
comp=N,35nm,1.1s
Y14A **Wickenburg** 37.11 318 *eP* P **18 50 57.8 +0.6**
comp=N,41nm,1.0s
G43A **Wallace** 37.17 356 P P **18 50 57.8 +0.4**
baz=174
ECSD **EROS Data Cent** 37.19 345 P P **18 50 55.9 -1.8**
baz=159
ECSD **EROS Data Cent** 37.19 345 *eP* P **18 50 59.6 +1.9**
comp=N,7.6nm,1.1s
SMCO **Snowmass** 37.21 330 *eP* P **18 50 59.9 +1.5**
comp=N,12nm,1.4s
G42A **Mountain** 37.22 355 P P **18 50 58.0 +0.2**
baz=173
PLVO **Plevna** 37.30 8 *eP* P **18 50 59.3 +0.7**
comp=N,53nm,1.8s
LONY **Lake Ozonia** 37.30 11 P P **18 51 00.9 +2.3**
baz=195
G40A **Rib Lake** 37.44 353 P P **18 50 58.6 -1.1**
baz=170
LBNH **Lisbon** 37.52 14 P P **18 51 04.6 +4.2**
baz=200
G38A **Ridgeland** 37.57 351 P P **18 51 00.2 -0.6**
baz=167
G39A **Holcombe** 37.58 352 P P **18 51 00.6 -0.4**
baz=168
PV10 **Paradox Valley** 37.69 327 *eP* P **18 51 02.7 +0.5**
F41A **Three Lakes** 37.78 354 P P **18 51 00.0 -2.5**
baz=172

F44A **Big Bay de Noc** 37.81 357 P P **18 51 02.0 -0.9**
baz=176
GLA **Glamis** 37.83 315 P P **18 51 05.1 +1.8**
baz=124
Y12C **Blythe** 38.02 317 P P **18 51 06.2 +1.3**
baz=125
Y12C **Blythe** 38.02 317 *eP* P **18 51 06.1 +1.3**
comp=N,14nm,1.0s
PDMCI **Parker Dam,Lak** 38.09 318 P P **18 51 06.8 +1.5**
baz=126
H32A **Carlson Farm,** 38.12 344 P P **18 51 02.5 -3.1**
baz=158
U15A **North Rim** 38.22 322 *eP* P **18 51 06.3 -0.5**
comp=N,27nm,1.4s
ALFO **Alfred** 38.22 10 P P **18 51 06.7 +0.4**
baz=195,SNR=6.7
F38A **Pierce - Schro** 38.35 351 P P **18 51 06.2 -1.1**
baz=167
W13A **Hualapai Mount** 38.39 319 *eP* P **18 51 07.6 -0.6**
comp=N,14nm,1.1s
SWSC **Sam W. Stewart** 38.45 315 P P **18 51 10.6 +2.1**
baz=123
IKP **In-Ko-Pah, Jac** 38.52 314 P P **18 51 12.0 +2.9**
baz=122
F36A **Milaca** 38.53 349 P P **18 51 06.7 -2.2**
baz=165
E40A **Wakefield** 38.56 353 P P **18 51 08.2 -1.0**
baz=171
E39A **Mellen** 38.57 353 P P **18 51 07.8 -1.4**
baz=170
BC3 **Big Chuckawall** 38.60 316 P P **18 51 11.3 +1.4**
baz=124
IRM **Iron Mountain** 38.68 317 P P **18 51 12.0 +1.7**
baz=125
TRQ **Mont Tremblant** 38.86 10 *eP* P **18 51 11.0 -0.7**
MONP2 **Monument Peak** 38.87 314 P P **18 51 14.6 +2.4**
baz=122
PKCU **Pink Cliffs** 38.90 323 *eP* P **18 51 11.8 -0.7**
comp=N,46nm,1.5s
KNB **Kanab** 38.92 322 *eP* P **18 51 12.6 0.0**
comp=N,34nm,1.4s
SRU **San Rafael Swe** 39.02 326 *eP* P **18 51 13.8 +0.4**
comp=N,63nm,1.9s
PKME **Peaks-Kenny Pk** 39.16 16 P P **18 51 18.7 +4.5**
baz=203
BELC **Belle Mtn. Jos** 39.17 316 P P **18 51 16.0 +1.4**
baz=124
MTPU **Mount Pierson** 39.22 324 *eP* P **18 51 15.7 +0.5**
comp=N,40nm,1.7s
P18A **Preston Nutter** 39.24 327 *eP* P **18 51 15.0 -0.3**
comp=N,9.6nm,1.3s
XPFO **Piæon Flat** 39.28 315 *eP* P **18 51 15.9 +0.4**
comp=N,9.3nm,0.9s
PFO **Pinyon Flats O** 39.28 315 P P **18 51 19.7 +4.1**
baz=123
PFO **Pinyon Flats O** 39.28 315 *eP* P **18 51 15.5 -0.1**
comp=N,8.7nm,0.9s
GMRC **Granite Mounta** 39.38 317 P P **18 51 16.9 +0.5**
baz=125
MSU **Marysvale** 39.53 324 *eP* P **18 51 18.2 +0.5**
D37A **Cotton** 39.60 351 P P **18 51 16.5 -1.3**
baz=167
MURC **Murrieta** 39.79 314 P P **18 51 22.3 +2.6**
baz=122
HEC **Hector,Ludlow** 39.87 317 P P **18 51 22.3 +1.9**
baz=124
TUQ **Turquoise Moun** 39.93 318 P P **18 51 22.9 +2.0**
baz=125
C39A **Grand Marais** 39.94 354 P P **18 51 19.8 -0.8**
baz=170
SHPR **Sheep Range** 40.07 320 *eP* P **18 51 23.4 +1.4**
comp=N,22nm,1.6s
EYMN **Ely** 40.23 352 P P **18 51 22.8 -0.3**
baz=168
C36A **Pine Crest Far** 40.25 351 P P **18 51 22.9 -0.3**
baz=166
GSC **Goldstone, Bar** 40.45 317 P P **18 51 27.0 +1.9**
baz=124
GSC **Goldstone, Bar** 40.45 317 *eP* P **18 51 25.4 +0.2**
comp=N,10.0nm,1.0s
NLU **North Lily Min** 40.47 326 *eP* P **18 51 27.3 +1.9**
comp=N,10nm,1.5s
PSUT **Pine Spring** 40.53 323 *eP* P **18 51 26.9 +0.9**
comp=N,7.7nm,1.0s
TPNV **Topopah Spring** 41.03 319 P P **18 51 31.6 +1.5**
baz=126,SNR=6.8
TPNV **Topopah Spring** 41.03 319 *eP* P **18 51 31.8 +1.7**
comp=N,14nm,1.1s
EDW2 **Edwards Air Fo** 41.03 316 P P **18 51 31.8 +1.9**
baz=123
DUG **Dugway, Tooele** 41.04 326 P P **18 51 29.3 -0.7**
baz=133
LRMC **Laurel Mtn Rad** 41.14 317 P P **18 51 32.7 +1.7**
baz=124
PD31 **Pinedale Array** 41.22 331 *eP* P **18 51 31.4 -0.2**
PDAR **Pinedale Array** 41.22 331 P P **18 51 31.4 -0.2**
comp=N,0.6nm,0.7s,baz=132,slow=8.9,SNR=4.6
B34A **Aery, Baudette** 41.27 349 P P **18 51 30.9 -0.7**
baz=164
MPMC **Manual Prospec** 41.33 317 P P **18 51 34.6 +2.0**
baz=124,SNR=5.4
HWUT **Hardware Ranch** 41.36 328 *eP* P **18 51 32.9 +0.2**
comp=N,52nm,1.8s
R11A **Troy Canyon, C** 41.46 322 P P **18 51 34.8 +1.1**
baz=128
R11A **Troy Canyon, C** 41.46 322 *eP* P **18 51 34.7 +1.1**
comp=N,30nm,1.8s
B32A **Ashes, Strandq** 41.56 347 P P **18 51 32.6 -1.4**
baz=161
SPUT **South Promonto** 41.61 327 *eP* P **18 51 35.0 +0.3**
comp=N,23nm,1.6s
BGU **Big Grassy Mou** 41.66 326 *eP* P **18 51 37.4 +2.2**
comp=N,23nm,1.7s
GRAC **Grapevine Rang** 41.78 319 P P **18 51 37.4 +1.3**
baz=125
ISA **Isabella, Lake** 41.78 316 P P **18 51 38.5 +2.4**
baz=123
ISA **Isabella, Lake** 41.78 316 *eP* P **18 51 37.5 +1.3**
comp=N,32nm,1.8s
A33A **Warroad** 41.84 349 P P **18 51 35.0 -1.3**
baz=163
HVU **Hansel Valley** 42.12 328 *eP* P **18 51 39.0 +0.1**
comp=N,5.8nm,0.9s
REDW **Red Top Meadow** 42.29 331 *eP* P **18 51 40.4 +0.1**
comp=N,22nm,1.4s
PKM **Mcpherson Peak** 42.31 314 P P **18 51 43.7 +3.1**
baz=121
MOOW **Moose Ponds** 42.53 331 *eP* P **18 51 41.8 -0.4**
comp=N,2.9nm,0.9s
RPN **Rapa Nui** 42.76 214 LR LR 19 05 56.0
comp=N,355nm,18.4s,baz=76,slow=31
CPUP **Villa Florida** 42.90 144 LR LR 19 09 00.1
comp=N,192nm,18.4s,baz=314,slow=35
PAGB **Antelope Grade** 43.05 315 *eP* P **18 51 46.6 +0.2**
comp=N,20nm,0.9s
NV11 **Mina Array Sit** 43.12 320 *eP* P **18 51 47.8 +0.7**
comp=N,2.2nm,1.2s
ULM **Lac du Bonnet** 43.19 349 P P **18 51 47.7 +0.5**
comp=N,1.6nm,0.6s,baz=181,slow=13,SNR=3.0
ULM LR LR 19 11 25.7
comp=N,200nm,19.2s,baz=186,slow=38
ULM **Lac du Bonnet** 43.19 349 *eP* P **18 51 47.7 +0.5**
comp=N,7.1nm,0.8s
NV01 **Mina Array Sit** 43.22 320 *eP* P **18 51 48.1 +0.2**
NVAR **Mina Array Bea** 43.22 320 P P **18 51 48.4 +0.4**
comp=N,2.1nm,0.7s,baz=130,slow=7.1,SNR=22
NVAR LR LR 19 13 30.1
comp=N,168nm,18.7s,baz=268,slow=41
MDPB **Devils Postpil** 43.27 318 *eP* P **18 51 49.0 +0.5**
comp=N,16nm,1.1s
BMN **Battle Mountai** 43.75 323 *eP* P **18 51 52.6 +0.5**
comp=N,39nm,1.4s
WAKR **Walker** 43.99 319 *eP* P **18 51 55.6 +1.5**
comp=N,15nm,1.1s
HLID **Hailey** 44.23 328 P P **18 51 55.7 -0.2**
baz=134,SNR=6.6
HLID **Hailey** 44.23 328 *eP* P **18 51 56.6 +0.7**
comp=N,28nm,1.9s
MCMT **McKenzie Canyo** 44.34 331 *eP* P **18 51 58.0 +1.1**
VCNR **Virginia City** 44.58 320 *eP* P **18 51 58.4 -0.5**
comp=N,14nm,1.0s
PAHR **Pah Rah Range** 44.64 321 *eP* P **18 52 00.1 +0.8**
comp=N,22nm,1.5s
MFID **Camas Ranch** 44.88 327 *eP* P **18 52 02.5 +1.4**
comp=N,11nm,1.1s
EGMT **Eagleton** 45.40 336 P P **18 52 02.4 -2.7**
baz=143
WVOR **Wild Horse Val** 45.82 324 *eP* P **18 52 09.0 +0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=N,33nm,1.1s						
ORV	**Oroville**	**45.91**	**319**	*e*P	**P**	**18 52 10.9**	**+1.7**
	comp=N,15nm,1.2s						
MSO	**Missoula**	**46.32**	**332**	P	**P**	**18 52 10.8**	**-1.7**
	baz=137						
BMO	**Blue Mountains**	**46.63**	**327**	*e*P	**P**	**18 52 14.9**	**0.0**
	comp=N,7.0nm,1.1s						
M04C	**Macdoel**	**47.36**	**321**	P	**P**	**18 52 21.3**	**+0.7**
	baz=124						
YBH	**Yreka Blue Hor**	**47.87**	**321**	*e*P	**P**	**18 52 25.8**	**+1.3**
	comp=N,41nm,1.9s						
SCHQ	**Schefferville**	**48.60**	**13**	P	**P**	**18 52 31.2**	**+1.3**
	comp=N,11nm,1.1s,baz=163,slow=8.8,SNR=4.7						
SCHQ				LR	LR	19 12 36.2	
	comp=N,298nm,22.0s,baz=232,slow=36						
SCHQ	**Schefferville**	**48.60**	**13**	*e*P	**P**	**18 52 31.3**	**+1.5**
	comp=N,25nm,1.3s						
FFC	**Flin Flon**	**48.69**	**346**	*e*P	**P**	**18 52 30.9**	**+0.3**
	comp=N,21nm,1.8s						
PLCA	**Paso Flores**	**50.13**	**167**	P	**P**	**18 52 40.4**	**-1.3**
	comp=N,2.0nm,0.6s,baz=5.6,slow=8.8,SNR=8.3						
PLCA	**Paso Flores**	**50.13**	**167**	*e*P	**P**	**18 52 40.7**	**-1.0**
	comp=N,31nm,1.6s						
EDM	**Edmonton**	**50.91**	**338**	*e*P	**P**	**18 52 46.6**	**-0.9**
	comp=N,14nm,1.2s						
FCC	**Fort Churchill**	**51.15**	**353**	*e*P	**P**	**18 52 48.5**	**-0.6**
	comp=N,10nm,1.1s						
YKA	**Yellowknife Ar**	**58.71**	**344**	P	**P**	**18 53 42.2**	**-1.5**
	comp=N,0.5nm,0.6s,baz=141,slow=6.8,SNR=13						
RKT	**Rikitea**	**58.72**	**237**	*e*LR	LR	19 10 55.2	
	comp=N,262nm,26.0s						
DLBC	**Dease Lake**	**61.30**	**334**	*e*P	**P**	**18 54 01.6**	**-0.1**
	comp=N,26nm,1.4s						
RES	**Resolute Bay**	**66.86**	**357**	*e*P	**P**	**18 54 37.1**	**-0.7**
	comp=N,15nm,1.7s						
INK	**Inuvik**	**68.37**	**342**	*e*P	**P**	**18 54 47.9**	**+0.5**
	comp=N,20nm,1.3s						
EGAK	**Eagle**	**69.13**	**337**	*e*P	**P**	**18 54 52.5**	**+0.2**
	comp=N,6.1nm,0.9s						
MENT	**Mentasta**	**69.36**	**335**	*e*P	**P**	**18 54 53.8**	**0.0**
	comp=N,36nm,2.0s						
PPT	**Papeete**	**69.61**	**248**	LR	LR	19 17 45.0	
	comp=N,103nm,21.7s,baz=26,slow=29						
PPT2	**Papeete2**	**69.62**	**248**	*e*LR	LR	19 15 36.3	
	comp=N,203nm,27.2s						
DOT	**Dot Lake**	**69.79**	**336**	*e*P	**P**	**18 54 57.5**	**+1.1**
	comp=N,25nm,0.8s						
SUMG	**Summit**	**69.99**	**13**	*i* P	**P**	**18 55 02.6**	**+4.7**
	comp=N,25nm,1.1s						
SUMG	**Summit**	**69.99**	**13**	*e*P	**P**	**18 54 57.8**	**-0.1**
	comp=N,27nm,1.1s						
PAX	**Paxson**	**70.11**	**335**	*e*P	**P**	**18 54 59.2**	**+0.7**
	comp=N,21nm,1.7s						
RIDG	**Independ'e Rid**	**70.15**	**336**	*e*P	**P**	**18 54 59.1**	**+0.5**
	comp=N,15nm,1.0s						
BORG	**Borgarnes**	**71.26**	**24**	LR	LR	19 24 35.0	
	comp=N,157nm,19.2s,baz=188,slow=34						
IL1	**Eielson Array**	**71.37**	**336**	*e*P	**P**	**18 55 05.7**	**-0.2**
ILAR	**Eielson Array**	**71.37**	**336**	P	**P**	**18 55 05.4**	**-0.5**
	comp=N,1.4nm,0.7s,baz=122,slow=5.0,SNR=24						
ILAR				LR	LR	19 31 50.7	
	comp=N,75nm,20.1s,baz=115,slow=40						
ILB	**Eielson Array**	**71.37**	**336**	*e*P	**P**	**18 55 06.2**	**+0.2**
RND	**Reindeer**	**71.70**	**335**	*e*P	**P**	**18 55 08.8**	**+0.7**
	comp=N,19nm,0.9s						
MCK	**McKinley**	**71.84**	**335**	*e*P	**P**	**18 55 09.8**	**+0.9**
	comp=N,9.9nm,1.0s						
SUA	**Susitna One**	**71.93**	**332**	*e*P	**P**	**18 55 10.2**	**+0.6**
	comp=N,11nm,0.9s						
TRF	**Thorofare Moun**	**72.33**	**334**	*e*P	**P**	**18 55 12.0**	**+0.1**
	comp=N,50nm,2.0s						
KTH	**Kantishna Hill**	**72.63**	**334**	*e*P	**P**	**18 55 13.8**	**+0.1**
	comp=N,6.8nm,0.8s						
PPLA	**Purkeypile**	**72.99**	**334**	*e*P	**P**	**18 55 15.4**	**-0.4**
	comp=N,70nm,1.8s						
MLY	**Manley**	**73.00**	**336**	*e*P	**P**	**18 55 15.9**	**+0.1**
	comp=N,8.8nm,1.0s						
CAST	**Castle Rocks**	**73.09**	**334**	*e*P	**P**	**18 55 15.8**	**-0.5**
	comp=N,19nm,1.4s						
COLD	**Coldfoot**	**73.50**	**338**	*e*P	**P**	**18 55 19.5**	**+1.0**
	comp=N,11nm,1.2s						
ESDC	**Sonseca Array**	**77.22**	**51**	P	**P**	**18 55 39.9**	**-0.7**
	comp=N,0.5nm,0.5s,baz=274,slow=5.4,SNR=6.9						
ESDC				LR	LR	19 27 02.9	
	comp=N,49nm,19.2s,baz=270,slow=34						
ES19	**SONSECA Array**	**77.27**	**51**	*e*P	**P**	**18 55 40.9**	**0.0**
EKA	**Eskdalemuir Ar**	**78.18**	**35**	P	**P**	**18 55 45.8**	**+0.3**
	comp=N,1.9nm,0.9s,baz=255,slow=5.6,SNR=3.6						
EKA				LR	LR	19 25 21.8	
	comp=N,77nm,21.1s,baz=0.0,slow=32						
KOWA	**Kowa**	**78.35**	**77**	P	**P**	**18 55 47.3**	**0.0**
	comp=N,1.9nm,0.6s,baz=257,slow=6.1,SNR=6.1						
KOWA				LR	LR	19 30 45.2	
	comp=N,38nm,19.6s,baz=280,slow=36						
RAR	**Rarotonga**	**79.83**	**247**	LR	LR	19 23 06.5	
	comp=N,94nm,21.2s,baz=96,slow=30						
TOA1	**Torodi Ar. Sit**	**84.01**	**78**	*e*P	**P**	**18 56 16.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**84.01**	**78**	P	**P**	**18 56 16.4**	**-1.0**
	comp=N,0.5nm,0.7s,baz=278,slow=6.0,SNR=3.6						
TORD				LR	LR	19 32 33.0	
	comp=N,57nm,21.9s,baz=305,slow=35						
SPITS	**Spitsbergen Ar**	**84.26**	**12**	LR	LR	19 35 35.3	
	comp=N,252nm,18.7s,baz=150,slow=37						
NB2	**NORSAR Subarra**	**85.50**	**29**	P	**P**	**18 56 28.3**	**+4.2**
	comp=Z,6.4nm,1.2s,baz=278,slow=4.8						
NB200	**NORSAR Array S**	**85.50**	**29**	*e*P	**P**	**18 56 24.4**	**+0.4**
NOA	**NORSAR Array B**	**85.50**	**29**	P	**P**	**18 56 24.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=276,slow=4.8,SNR=2.6						
NOA				LR	LR	19 30 15.1	
	comp=Z,62nm,21.9s,baz=285,slow=32						
HFS	**Hagfors**	**86.86**	**30**	LR	LR	19 31 07.8	
	comp=Z,115nm,20.6s,baz=262,slow=33						
KEST	**Kesra**	**88.03**	**54**	LR	LR	19 37 23.4	
	comp=Z,28nm,18.0s,baz=207,slow=36						
CLL	**Collm**	**88.10**	**39**	*e*P	**P**	**18 56 37.0**	**+0.2**
GERES	**GERESS Array B**	**89.00**	**41**	P	**P**	**18 56 40.1**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=290,slow=4.1,SNR=2.5						
GERES				LR	LR	19 32 48.0	
	comp=Z,122nm,18.9s,baz=272,slow=33						
VAE	**Valguarnera**	**91.74**	**52**	LR	LR	19 34 56.8	
	comp=Z,93nm,18.5s,baz=309,slow=33						
FINES	**FINESS Array B**	**92.33**	**27**	LR	LR	19 36 10.9	
	comp=Z,86nm,19.4s,baz=280,slow=34						
TIXI	**Tiksi**	**97.53**	**350**	LR	LR	19 42 35.2	
	comp=Z,60nm,20.3s,baz=11,slow=36						
MLR	**Muntele Rosu**	**97.94**	**42**	LR	LR	19 39 13.9	
	comp=Z,26nm,19.9s,baz=302,slow=34						
AKASG	**Malin Array Be**	**98.07**	**36**	LR	LR	19 38 28.6	
	comp=Z,100nm,21.1s,baz=10.0,slow=33						
H11S2	**WAKE ISLAND Hy**	**105.47**	**292**	T	T	20 55 55.8	
	baz=77						
H11S1	**WAKE ISLAND Hy**	**105.47**	**292**	T	T	20 55 55.8	
	baz=77						
H11S3	**WAKE ISLAND Hy**	**105.49**	**292**	T	T	20 55 57.0	
	baz=77						
MK32	**Makanchi Array**	**124.02**	**11**	*e*PKPdf	**PKPdf**	**19 02 43.3**	**-1.4**
MKAR	**Makanchi Array**	**124.02**	**11**	PKP	**PKPdf**	**19 02 43.3**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=11,slow=1.5,SNR=3.1						
ASAR	**Alice Springs**	**140.56**	**242**	PKP	**PKPdf**	**19 03 15.4**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=114,slow=2.3,SNR=11						
WR1	**Warramunga Arr**	**141.10**	**248**	*e*PKPpre	PKPpre	19 03 11.1	
WR1				*e*PKPdf	**PKPdf**	**19 03 17.2**	**-0.2**
WRA	**Warramunga Arr**	**141.10**	**248**	PKhKP	PKPpre	19 03 11.1	
	comp=Z,0.5nm,0.8s,baz=95,slow=2.9,SNR=4.3						
WRA				PKP	**PKPdf**	**19 03 17.2**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=95,slow=2.2,SNR=10						
CMAR	**Chiang Mai Arr**	**153.47**	**354**	PKPbc	**PKPbc**	**19 03 43.1**	**-2.5**
	comp=Z,0.3nm,0.5s,baz=320,slow=2.7,SNR=4.2						
CMAR				PKPab	**pPKPbc**	**19 03 56.2**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=325,slow=1.7,SNR=7.1						

MAN 05 18:50:11, 16°.90N×119°.70E, h20km, mb4.7, ML3.6, MS3.6, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.55**	**158**	*e*P	Pb	18 50 22.7	+0.6
BOLP				*e*S	Sn	18 50 31.0	-1.3
SCZP	**Santa Cruz**	**1.13**	**170**	*e*P	Pn	18 50 29.4	-2.4
SCZP				*e*S	Sn	18 50 48.2	+1.5
ABRA	**Dolores**	**1.22**	**52**	*e*P	Pn	18 50 32.4	-0.6
ABRA				*e*S	Sn	18 50 51.8	+2.8
APYP	**Conner**	**1.76**	**57**	*e*P	Pb	18 50 41.6	-1.0
APYP				*e*S	Sn	18 51 03.2	+1.0
PCPH	**Palayan**	**1.89**	**134**⇓	*e*P	Pn	18 50 43.3	+1.2
CAUP	**Cauayan**	**2.04**	**88**	*e*P	Pb	18 50 47.0	-0.3
CAUP				*e*S	Sb	18 51 14.2	+2.0
BALP	**Baler**	**2.14**	**122**	*e*P	Pn	18 50 46.8	+1.3
BALP				*e*S	Sn	18 51 13.0	+1.5
LQP	**Lukban**	**3.29**	**147**⇑	*e*P	Pb	18 51 07.5	-1.3

*IDC **05** 19:00:52.3±1.1, 44°.15N×129°.22W, h0km, mb3.9/15, mb1 3.9/18, mb1mx3.8/64, mbtmp3.8/18, ML3.3/3, MS3.7/5, Ms1 3.7/5, ms1mx3.0/62, Error ellipse: s-maj=33.2km s-min=12.6km az=39.0*

*ISCJB **05** 19:00:54.1±0.5, 44°.26N±0°.06×129°.27W±0°.07, h10km, mb4.0/24, MS3.9/3, Error ellipse: s-maj=11.2km s-min=4.4km az=36.7*

*NEIC **05** 19:00:55.2±0.6, 44°.16N×129°.37W, h10km, mb4.1/18, Error ellipse: s-maj=13.3km s-min=5.1km az=38.0*

ISC 05 19:00:55.3±0.7**, 44°.27N**±0°.09**×129°.31W**±0°.08**, h10km, n75, σ1s67**/67**, mb4.1**/24**, MS3.9**/3**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04A	**Detroit Lake**	**5.12**	**83**	*e*Pn	**Pn**	**19 02 10.6**	**-1.4**
SEPW	**September Lobe**	**5.39**	**67**	*e*Pn	**Pn**	**19 02 18.6**	**+2.8**
SEPW				*e*Pg	**Pb**	**19 02 30.1**	**+0.5**
YBH	**Yreka Blue Hor**	**5.46**	**115**	Pn	**Pn**	**19 02 14.9**	**-1.9**
	0.3nm,0.3s,baz=309,slow=6.5,SNR=3.9						
YBH				Sn	**Sn**	**19 03 15.4**	**-4.4**
	0.4nm,0.3s,baz=266,slow=6.1,SNR=3.7						
YBH				LR	LR	19 04 11.5	
	comp=Z,578nm,19.8s,baz=305,slow=37						
LON	**Longmire**	**5.83**	**62**	*e*Pn	**Pn**	**19 02 20.9**	**-0.9**
LTY	**Liberty**	**6.74**	**61**	*e*Pn	**Pn**	**19 02 34.9**	**+0.6**
O03D	**Paynes Creek**	**6.84**	**123**	*e*Pn	**Pn**	**19 02 36.5**	**+0.8**
O03D				*e*Pg	**Pb**	**19 02 58.9**	**+4.6**
G08A	**Pilot Rock**	**7.44**	**79**	*e*Pn	**Pn**	**19 02 43.7**	**-0.2**
F10A	**Beach Ranch, E**	**8.71**	**75**	*e*Pn	**Pn**	**19 03 03.3**	**+1.9**
NEW	**Newport**	**9.34**	**60**	LR	LR	19 06 36.7	
	comp=Z,201nm,20.9s,baz=132,slow=37						
NV01	**Mina Array Sit**	**10.12**	**121**	*e*Pn	**Pn**	**19 03 21.5**	**+0.7**
NVAR	**Mina Array Bea**	**10.12**	**121**	Pn	**Pn**	**19 03 17.6**	**-3.2**
	baz=296,slow=13,SNR=3.0						
HLID	**Hailey**	**10.78**	**89**	*e*Pn	**Pn**	**19 03 30.6**	**+0.9**
YPP	**Pitchstone Pla**	**13.27**	**84**	*e*Pn	**Pn**	**19 04 05.3**	**+1.4**
EGMT	**Eagleton**	**14.06**	**68**	*e*Pn	**Pn**	**19 04 16.1**	**+1.6**
MSU	**Marysvale**	**14.08**	**108**	*e*Pn	**Pn**	**19 04 16.8**	**+1.8**
MTPU	**Mount Pierson**	**14.31**	**110**	*e*Pn	**Pn**	**19 04 19.0**	**+0.8**
PDAR	**Pinedale Array**	**14.41**	**89**	Pn	**Pn**	**19 04 21.2**	**+1.7**
	0.0nm,0.3s,baz=272,slow=12,SNR=2.2						
KNB	**Kanab**	**14.45**	**114**	*e*Pn	**Pn**	**19 04 20.9**	**+0.9**
Q16A	**Castle Valley**	**14.58**	**105**	*e*Pn	**Pn**	**19 04 23.7**	**+2.0**
SRU	**San Rafael Swe**	**14.95**	**104**	*e*Pn	**Pn**	**19 04 28.8**	**+2.1**
U15A	**North Rim**	**15.14**	**115**	*e*Pn	**Pn**	**19 04 30.4**	**+1.0**
	13nm,1.6s						
WUAZ	**Wupatki**	**16.28**	**116**	*e*Pn	**Pn**	**19 04 44.7**	**+0.6**
	12nm,1.1s						
PV01	**Paradox Valley**	**16.75**	**104**	*e*Pn	**Pn**	**19 04 50.5**	**+0.4**
MVCO	**Mesa Verde**	**17.25**	**107**	*e*Pn	**Pn**	**19 04 56.2**	**-0.3**
	9.2nm,1.3s						
T25A	**Trinidad**	**20.13**	**102**	*e*P	**P**	**19 05 30.4**	**+0.9**
	24nm,1.8s						
YKA	**Yellowknife Ar**	**20.16**	**20**	P	**P**	**19 05 29.0**	**-0.5**
	2.4nm,0.9s,baz=210,slow=10,SNR=16						
YKW3	**Yellowknife Ar**	**20.21**	**20**	*e*P	**P**	**19 05 31.0**	**+1.0**
	6.5nm,0.9s						
MENT	**Mentasta**	**20.47**	**341**	*e*P	Pn	19 05 35.0	0.0
	7.7nm,1.0s						
FFC	**Flin Flon**	**20.47**	**50**	*e*P	**P**	**19 05 32.1**	**-0.8**
	7.9nm,0.8s						
DAWY	**Dawson**	**20.64**	**347**	*e*P	Pn	19 05 36.9	-0.1
	8.4nm,1.4s						
SUA	**Susitna One**	**21.36**	**331**	*e*P	**P**	**19 05 44.6**	**+2.0**
	12nm,0.7s						
RIDG	**Independ'e Rid**	**21.42**	**341**	*e*P	**P**	**19 05 45.6**	**+2.5**
	6.6nm,1.0s						
DHY	**Denali Highway**	**21.52**	**337**	*e*P	**P**	**19 05 46.7**	**+2.4**
	9.4nm,1.0s						
SPU	**Mount Spurr**	**21.64**	**329**	*e*P	**P**	**19 05 47.1**	**+1.7**
IL1	**Eielson Array**	**22.77**	**340**	*e*P	**P**	**19 05 59.1**	**+1.6**
ILAR	**Eielson Array**	**22.77**	**340**	P	**P**	**19 05 58.0**	**+0.5**
	2.6nm,0.9s,baz=161,slow=8.8,SNR=20						
ILAR				PcP	**PcP**	**19 09 47.9**	**-0.9**
	0.2nm,0.6s,baz=174,slow=1.8,SNR=5.3						
ILB	**Eielson Array**	**22.77**	**340**	*e*P	**P**	**19 05 59.6**	**+2.0**
PPLA	**Purkeypile**	**22.85**	**333**	*e*P	**P**	**19 06 00.7**	**+2.2**
	28nm,1.4s						
CCB	**Clear Creek Bu**	**22.90**	**339**	*e*P	**P**	**19 06 00.7**	**+1.9**
	14nm,1.7s						
ULM	**Lac du Bonnet**	**23.33**	**63**	P	**P**	**19 06 01.4**	**-2.0**
	2.3nm,0.5s,baz=281,slow=7.2,SNR=8.7						
MLY	**Manley**	**23.98**	**338**	*e*P	**P**	**19 06 12.8**	**+3.2**
	5.0nm,0.8s						
INK	**Inuvik**	**24.20**	**356**	P	**P**	**19 06 10.2**	**-1.3**
	1.2nm,0.4s,baz=168,slow=14,SNR=4.4						
INK	**Inuvik**	**24.20**	**356**	*e*P	**P**	**19 06 11.0**	**-0.5**
	4.9nm,1.2s						
TX31	**Lajitas Ar. Si**	**25.24**	**118**	*e*P	**P**	**19 06 21.1**	**-0.3**
LTX	**Lajitas**	**25.24**	**118**	*e*P	**P**	**19 06 20.7**	**-0.7**
TXAR	**Lajitas Array**	**25.24**	**118**	P	**P**	**19 06 20.7**	**-0.7**
	0.3nm,0.7s,baz=298,slow=8.4,SNR=3.9						
WMOK	**Wichita Mounta**	**25.28**	**102**	*e*P	**P**	**19 06 22.4**	**+0.7**
	9.4nm,1.3s						
IM3	**Indian Mountai**	**25.52**	**337**	*e*P	**P**	**19 06 26.4**	**+2.7**
FCC	**Fort Churchill**	**25.90**	**43**	*e*P	**P**	**19 06 27.8**	**+0.8**
	3.3nm,0.8s						
OXF	**Oxford**	**32.07**	**94**	*e*P	**P**	**19 07 22.9**	**+0.7**
	29nm,1.0s						
RES	**Resolute Bay**	**34.09**	**16**	*e*P	**P**	**19 07 40.5**	**+1.1**
	4.8nm,0.8s						
TKL	**Tuckaleechee C**	**35.56**	**88**	LR	LR	19 22 54.1	
	comp=Z,176nm,20.0s,baz=262,slow=37						
TIXI	**Tiksi**	**52.18**	**337**	P	**P**	**19 10 06.4**	**+0.9**
	1.1nm,0.7s,baz=76,slow=7.9,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**57.84**	**267**	T	T	20 13 18.5	
	baz=49,slow=75,SNR=739						
H11N2	**WAKE ISLAND Hy**	**57.84**	**267**	T	T	20 13 21.4	
	baz=49,slow=75,SNR=565						
H11N1	**WAKE ISLAND Hy**	**57.85**	**267**	T	T	20 13 16.8	
	baz=49,slow=75,SNR=414						
H11S1	**WAKE ISLAND Hy**	**58.77**	**266**	T	T	20 14 32.9	
	baz=50,slow=75,SNR=144						
H11S2	**WAKE ISLAND Hy**	**58.78**	**266**	T	T	20 14 32.9	
	baz=50,slow=75,SNR=80						
H11S3	**WAKE ISLAND Hy**	**58.79**	**266**	T	T	20 14 33.6	
	baz=50,slow=75,SNR=82						
HFS	**Hagfors**	**71.64**	**19**	P	**P**	**19 12 17.1**	**+0.6**
	2.4nm,0.9s,baz=322,slow=11,SNR=2.8						
FIA0	**FINESS Array S**	**72.77**	**12**	*e*P	**P**	**19 12 23.7**	**+0.4**
FINES	**FINESS Array B**	**72.77**	**12**	P	**P**	**19 12 23.7**	**+0.4**
	2.9nm,0.9s,baz=32,slow=5.0,SNR=6.0						
SONA0	**Songino Array**	**76.03**	**325**	*e*P	**P**	**19 12 42.1**	**-0.6**
SONM	**Songino Array**	**76.03**	**325**	P	**P**	**19 12 42.1**	**-0.6**
	0.9nm,0.8s,baz=50,slow=3.2,SNR=7.8						
ZAA1	**Zalesovo Array**	**77.90**	**340**	*e*P	**P**	**19 12 52.1**	**-0.7**
ZALV	**Zalesovo Beam**	**77.90**	**340**	P	**P**	**19 12 52.1**	**-0.8**
	1.3nm,0.8s,baz=18,slow=5.2,SNR=5.1						
CLL	**Collm**	**79.36**	**23**	*e*P	**P**	**19 13 01.0**	**0.0**
ARU	**Arti**	**79.45**	**356**	LR	LR	19 50 19.1	
	comp=Z,81nm,18.5s,baz=345,slow=37						
BVAR	**Borovoye Array**	**81.61**	**348**	P	**P**	**19 13 11.7**	**-1.4**
	1.8nm,0.8s,baz=357,slow=5.9,SNR=7.9						
LPAZ	**La Paz**	**82.03**	**122**	P	**P**	**19 13 14.8**	**-1.6**
	0.8nm,0.7s,baz=301,slow=4.9,SNR=4.2						
AKASG	**Malin Array Be**	**83.58**	**14**	P	**P**	**19 13 21.4**	**-2.0**
	0.6nm,0.6s,baz=345,slow=3.8,SNR=3.7						
MK32	**Makanchi Array**	**85.12**	**339**	*e*P	**P**	**19 13 29.5**	**-1.8**
MKAR	**Makanchi Array**	**85.12**	**339**	P	**P**	**19 13 29.5**	**-1.8**
	0.3nm,0.7s,baz=24,slow=4.5,SNR=3.6						
AKTO	**Aktyubinsk**	**85.46**	**355**	P	**P**	**19 13 31.7**	**-1.2**
	0.6nm,0.3s,baz=350,slow=6.1,SNR=5.4						
PMG	**Port Moresby**	**91.89**	**259**	LR	LR	19 46 20.7	
	comp=Z,46nm,21.6s,baz=68,slow=30						

*BJI **05** 19:05:46.0, 13°.10N×143°.80E, h20km, mb4.9/28, mB5.0/16*

*ISCJB **05** 19:06:00.7±0.3, 13°.14N±0°.04×143°.67E±0°.04, h150km, mb4.5/58, Error ellipse: s-maj=6.1km s-min=6.0km az=176.5*

*IDC **05** 19:06:01.2±0.7, 13°.18N×143°.68E, h140km±6km, mb4.0/25, mb1 4.1/25, mb1mx3.9/54, mbtmp4.4/25, MS3.4/6, Ms1 3.4/6, ms1mx3.0/53, Error ellipse: s-maj=13.2km s-min=9.3km az=78.0*

*NEIC **05** 19:06:02.5±0.6, 13°.13N×143°.68E, h154km±6km, mb4.8/30, Error ellipse: s-maj=6.3km s-min=5.2km az=85.0*

ISC 05 19:06:02.3±0.4**, 13°.22N**±0°.06**×143°.70E**±0°.07**, h150km, n95, σ1s16**/103**, mb4.5**/58**, 1D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.20**	**72**	P	**Pn**	**19 06 27.9**	**-0.9**
	414nm,0.3s,baz=300,slow=8.1,SNR=188						
GUMO				S	**Sn**	**19 06 46.9**	**-2.2**
	1µm,0.3s,baz=18,slow=19,SNR=47						
GUMO				LR	LR	19 07 03.1	
	comp=Z,1µm,18.9s,baz=244,slow=50						
SARN	**Sarigan**	**4.00**	**30**	*e*Pn	**Pn**	**19 07 04.8**	**+2.1**
MANU	**Manus Island**	**15.59**	**166**	*e*Sn	**S**	**19 12 33.5**	**+3.5**
PATS	**Pohnpei**	**15.72**	**112**	*e*Pn	**P**	**19 09 37.4**	**+0.8**
	1µm,2.0s						
RABL	**Rabaul**	**19.23**	**154**	*e*P	**Pn**	**19 10 16.0**	**-1.7**
	115nm,0.6s						
FAKI	**Fak Fak**	**19.65**	**216**	*e*P	**P**	**19 10 19.4**	**-0.3**
	79nm,1.2s						
JOW	**Kunigami**	**19.80**	**315**	*e*P	**Pn**	**19 10 23.3**	**-1.0**
	32nm,0.8s						
TGY	**Tagaytay City**	**22.13**	**275**	P	**P**	**19 10 44.2**	**-1.8**
	106nm,0.3s,baz=134,slow=7.9,SNR=3.2						
JNU	**Nakatsue**	**23.01**	**332**	P	**P**	**19 10 54.9**	**+0.7**
	13nm,0.6s,baz=153,slow=4.9,SNR=15						
JNU	**Nakatsue**	**23.01**	**332**	*e*P	**P**	**19 10 55.6**	**+1.4**
	167nm,1.9s						
YULB	**Yu-li**	**23.52**	**299**	*e*P	**P**	**19 10 58.8**	**-0.2**
	46nm,0.7s						
MJAR	**Matsushiro Arr**	**23.74**	**349**	P	**P**	**19 11 00.2**	**-0.6**
	6.6nm,0.7s,baz=165,slow=9.7,SNR=11						
MJAR				LR	LR	19 18 36.5	
	comp=Z,156nm,20.6s,baz=185,slow=32						
MAJO	**Matsushiro**	**23.74**	**349**	*e*P	**P**	**19 11 02.0**	**+1.2**
	17nm,0.8s						
MAT	**Matsushiro**	**23.74**	**349**	P	**P**	**19 11 00.0**	**-0.8**
MJB9	**Matsu-Tunnel**	**23.75**	**349**	*e*P	**P**	**19 11 02.1**	**+1.2**
	17nm,0.8s						
YHNB	**Yeheng**	**23.95**	**302**	*e*P	**P**	**19 11 02.7**	**-0.2**
	25nm,0.6s						
SSLB	**Suanglung**	**23.96**	**299**	*e*P	**P**	**19 11 02.8**	**-0.2**
	71nm,0.7s						
TPUB	**Ta-pu**	**24.06**	**298**	*e*P	**P**	**19 11 03.0**	**-0.8**
	159nm,1.6s						
LUWI	**Luwuk**	**25.13**	**237**	*e*P	**P**	**19 11 11.5**	**-2.1**
	91nm,0.8s						
KSRS	**Korea Array**	**27.95**	**333**	P	**P**	**19 11 38.6**	**0.0**
	2.7nm,0.6s,baz=141,slow=9.1,SNR=13						
KSRS				LR	LR	19 21 05.1	
	comp=Z,30nm,21.5s,baz=160,slow=32						
KSAR	**Wonju Array Be**	**27.95**	**332**	P	**P**	**19 11 38.6**	**-0.1**
ASAJ	**Asahikawa**	**30.80**	**358**	P	**P**	**19 12 04.8**	**+1.1**
	3.5nm,0.7s,baz=168,slow=9.3,SNR=5.9						
ASAJ	**Asahikawa**	**30.80**	**358**	*e*P	**P**	**19 12 04.8**	**+1.1**
	14nm,1.3s						
USRK	**Ussuriysk Ar.**	**32.46**	**344**	P	**P**	**19 12 19.1**	**+0.8**
	1.8nm,0.6s,baz=168,slow=11,SNR=4.9						
WR1	**Warramunga Arr**	**34.22**	**196**	*e*P	**P**	**19 12 32.3**	**-1.5**
	10nm,0.6s						
WR1				*e*ScP	**ScP**	**19 18 38.1**	**-0.2**
WRA	**Warramunga Arr**	**34.22**	**196**	P	**P**	**19 12 32.3**	**-1.5**
	7.3nm,0.7s,baz=18,slow=9.5,SNR=49						
WRA				ScP	**ScP**	**19 18 38.1**	**-0.2**
	1.2nm,0.9s,baz=12,slow=3.8,SNR=6.0						
ENH	**Enshi**	**35.84**	**304**	*e*P	**P**	**19 12 48.6**	**+0.9**
	44nm,1.0s						
KLR	**Kul'dur**	**37.24**	**347**	P	**P**	**19 12 59.8**	**+0.6**
	0.4nm,0.8s,baz=147,slow=13,SNR=13						
XAN	**Xi'an**	**37.74**	**309**	P	**P**	**19 13 04.1**	**+0.4**
XAN				pP	pP	19 13 13.7	-23
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
AS01	**Alice Springs**	**37.88**	**195**	*e*P	**P**	**19 13 03.2**	**-1.7**
AS31	**Alice Springs**	**37.89**	**195**	*e*P	**P**	**19 13 04.0**	**-1.0**
	2.1nm,0.5s						
AS31				*e*S	**S**	**19 18 51.6**	**+6.2**
ASAR	**Alice Springs**	**37.89**	**195**	P	**P**	**19 13 04.2**	**-0.9**
	2.2nm,0.6s,baz=17,slow=13,SNR=70						
ASAR				ScP	**ScP**	**19 18 51.6**	**-0.2**
	0.9nm,0.9s,baz=15,slow=3.8,SNR=5.1						
SKNT	**Sakolnakorn**	**38.48**	**281**	P	**P**	**19 13 10.2**	**+0.1**
	6.1nm,0.9s						
CHAI	**Chaiyaphum**	**40.41**	**279**	P	**P**	**19 13 26.6**	**+0.5**
	6.9nm,0.6s,91nm						
MYKOM	**Kota Tinggi**	**41.03**	**257**	*e*P	**P**	**19 13 30.7**	**-0.5**
	31nm,0.8s						
PETK	**Petropavlovsk-**	**41.33**	**13**	LR	LR	19 28 53.0	
	comp=Z,66nm,19.5s,baz=80,slow=33						
DZM	**Mont Dzumac**	**41.57**	**147**	P	**P**	**19 13 36.5**	**+1.0**
	14nm,0.6s,baz=328,slow=9.5,SNR=17						
NANT	**Nan**	**41.62**	**283**	P	**P**	**19 13 35.1**	**-0.9**
	4.3nm,0.6s,56nm						
PHIT	**Phitsanulok**	**41.89**	**281**	P	**P**	**19 13 39.5**	**+1.3**
	7.8nm,1.0s						
LZH	**Lanzhou**	**42.37**	**310**	*e*P	**P**	**19 13 43.8**	**+1.8**
LZH				pP	pP	19 13 55.1	-20
LZH				pmax	pmax		
	comp=Z,42nm,1.3s						
UTHA	**Uthaitani**	**42.87**	**279**	P	**P**	**19 13 47.2**	**+1.1**
	6.5nm,0.7s,76nm						
KULM	**Kulim**	**43.16**	**264**	*e*P	**P**	**19 13 48.6**	**+0.1**
	17nm,1.0s						
CMAI	**Chiengmai2**	**43.22**	**285**	P	**P**	**19 13 50.3**	**+1.2**
	75nm,0.8s,93µm						
CM01	**Chiang Mai Arr**	**43.27**	**283**	*e*P	**P**	**19 13 49.8**	**+0.4**
CM31	**Chiang Mai Arr**	**43.29**	**283**	*e*P	**P**	**19 13 50.1**	**+0.7**
CM31				*e*ScP	**ScP**	**19 19 13.4**	**+0.1**
CM31				*e*		19 29 51.9	
CMAR	**Chiang Mai Arr**	**43.29**	**283**	P	**P**	**19 13 50.2**	**+0.8**
	5.0nm,0.5s,baz=79,slow=6.5,SNR=42						
CMAR				ScP	**ScP**	**19 19 13.4**	**+0.1**
	0.8nm,0.8s,baz=112,slow=3.0,SNR=4.7						
CMAR				LR	LR	19 29 51.9	
	comp=Z,21nm,20.4s,baz=70,slow=33						
STKA	**Stephens Creek**	**44.88**	**183**	P	**P**	**19 14 01.2**	**-0.7**
	1.7nm,0.7s,baz=34,slow=8.1,SNR=3.8						
PSI	**Prapat**	**45.45**	**261**	*e*P	**P**	**19 14 05.8**	**-1.1**
	10nm,0.6s						
ULN	**Ulaanbaatar**	**46.04**	**326**	*e*P	**P**	**19 14 12.2**	**+1.1**
	17nm,1.8s						
SONA0	**Songino Array**	**46.38**	**326**	*e*P	**P**	**19 14 14.4**	**+0.7**
SONA0				*e*ScP	**ScP**	**19 19 25.2**	**-0.5**
SONM	**Songino Array**	**46.38**	**326**	P	**P**	**19 14 14.4**	**+0.7**
	3.8nm,0.5s,baz=145,slow=7.1,SNR=50						
SONM				ScP	**ScP**	**19 19 25.2**	**-0.5**
	0.6nm,0.6s,baz=142,slow=3.4,SNR=5.3						
SONA1	**Songino Array**	**46.39**	**326**	*e*P	**P**	**19 14 14.7**	**+1.0**
GTA	**Gaotai**	**46.57**	**312**	⇓P	**P**	**19 14 16.4**	**+1.1**
GTA				pP	pP	19 14 20.5	-29
GTA				sP	sP	19 14 23.4	-42
GTA				pmax	pmax		
	comp=Z,15nm,0.8s						
MA2	**Magadan**	**46.57**	**5**	P	**P**	**19 14 15.1**	**+0.3**
	5.8nm,0.8s,baz=155,slow=10.0,SNR=13						
MA2				LR	LR	19 32 44.9	
	comp=Z,624nm,19.6s,baz=232,slow=34						
YAK	**Yakutsk**	**49.77**	**351**	P	**P**	**19 14 39.2**	**0.0**
	15nm,0.6s,baz=14,slow=1.8,SNR=9.3						
YAK	**Yakutsk**	**49.77**	**351**	*e*P	**P**	**19 14 39.8**	**+0.6**
	20nm,0.5s						
SEY	**Seymchan**	**50.03**	**5**	P	**P**	**19 14 41.5**	**+0.4**
	2.7nm,0.9s,baz=190,slow=8.5,SNR=10						
LSA	**Lhasa**	**51.15**	**298**	*e*P	**P**	**19 14 50.1**	**-0.7**
	5.8nm,0.6s						
MK01	**Makanchi Array**	**60.95**	**316**	*e*P	**P**	**19 16 00.2**	**+0.6**
MK31	**Makanchi Array**	**60.97**	**316**	*e*P	**P**	**19 16 00.3**	**+0.6**
MK32	**Makanchi Array**	**60.97**	**316**	*e*P	**P**	**19 15 59.9**	**+0.2**
MKAR	**Makanchi Array**	**60.97**	**316**	P	**P**	**19 15 59.9**	**+0.2**
	4.6nm,0.6s,baz=91,slow=8.6,SNR=74						
MKAR	**Makanchi Array**	**60.97**	**316**	*e*P	**P**	**19 16 00.3**	**+0.6**
	34nm,0.4s						
MAKZ	**Makanchi**	**61.18**	**316**	*e*P	**P**	**19 16 01.9**	**+0.8**
	4.9nm,0.6s						
ZAA0	**Zalesovo Array**	**61.26**	**325**	*e*P	**P**	**19 16 01.4**	**0.0**
	2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**61.26**	**325**	P	**P**	**19 16 01.5**	**0.0**
	2.7nm,0.6s,baz=110,slow=7.4,SNR=11						
ZALV	**Zalesovo Beam**	**61.26**	**325**	*e*P	**P**	**19 16 01.2**	**-0.3**
ZAA1	**Zalesovo Array**	**61.26**	**325**	*e*P	**P**	**19 16 01.5**	**0.0**
KURK	**Kurchatov**	**64.13**	**320**	*e*P	**P**	**19 16 20.7**	**+0.1**
	6.9nm,0.7s						
KKAR	**Karatay Array**	**68.84**	**311**	*e*P	**P**	**19 16 50.5**	**-0.2**
ILAR	**Eielson Array**	**69.39**	**25**	P	**P**	**19 16 52.6**	**-0.9**
	0.6nm,0.5s,baz=248,slow=5.0,SNR=8.3						
BVAR	**Borovoye Array**	**69.51**	**322**	P	**P**	**19 16 54.6**	**+0.1**
	4.0nm,0.3s,baz=104,slow=8.1,SNR=52						
BRVK	**Borovoye**	**69.58**	**322**	*e*P	**P**	**19 16 55.2**	**+0.3**
	5.4nm,0.7s						
INK	**Inuvik**	**75.14**	**22**	P	**P**	**19 17 27.7**	**+0.1**
	2.7nm,0.8s,baz=256,slow=6.3,SNR=8.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INK	Inuvik	75.14	22	eP	P	19 17 28.0	+0.4
	14nm,1.6s						
ABKAR	Akbulak array	76.05	318	eP	P	19 17 32.8	-0.4
	24nm,0.6s						
DLBC	Dease Lake	76.91	33	eP	P	19 17 35.1	-2.8
AKTO	Aktyubinsk	77.20	319	P	P	19 17 38.9	-0.8
	1.1nm,0.6s,baz=86,slow=9.6,SNR=4.7						
GEYT	Alibeck	78.56	306	P	P	19 17 46.8	-0.7
	0.8nm,0.5s,baz=60,slow=5.8,SNR=2.8						
BBB	Bella Bella	78.58	39	LR	LR	19 48 36.6	
	comp=Z,33nm,19.2s,baz=116,slow=32						
YKA	Yellowknife Ar	83.71	27	P	P	19 18 14.6	+0.5
	0.9nm,0.4s,baz=286,slow=5.1,SNR=17						
JPC	Peters Creek,	85.32	53	eP	P	19 18 22.5	-0.3
JHUM	Huhtala Lane,	85.36	53	eP	P	19 18 23.7	+0.7
ARA0	ARCESS Array S	87.08	342	eP	P	19 18 30.9	+0.1
ARCES	ARCESS Array B	87.08	342	P	P	19 18 30.9	+0.1
	2.2nm,0.9s,baz=74,slow=6.7,SNR=4.9						
NV01	Mina Array Sit	88.04	51	eP	P	19 18 36.7	+0.5
NVAR	Mina Array Bea	88.04	51	P	P	19 18 36.7	+0.4
	1.7nm,0.6s,baz=268,slow=6.0,SNR=18						
TPNV	Topopah Spring	90.01	52	eP	P	19 18 45.8	+0.4
	17nm,1.8s						
FIA0	FINESS Array S	91.01	335	eP	P	19 18 47.5	-1.8
FINES	FINESS Array B	91.01	335	P	P	19 18 47.5	-1.8
	0.6nm,0.5s,baz=71,slow=6.5,SNR=7.9						
X16A	Lo Mia Camp, P	94.51	53	eP	P	19 19 06.4	+0.1
	2.1nm,0.8s						
NOA	NORSAR Array B	96.98	339	LR	LR	20 08 16.4	
	comp=Z,15nm,18.0s,baz=270,slow=38						
TOA1	Torodi Ar. Sit	134.12	303	ePKPdf	PKPdf	19 25 02.0	-1.0
TOA1				eSKPbc	SKPbc	19 28 18.5	-0.2
TORD	Torodi Ar. Bea	134.12	303	PKP	PKPdf	19 25 02.0	-1.0
	0.3nm,0.6s,baz=12,slow=1.9,SNR=3.0						
TORD				SKPbc	SKPbc	19 28 18.5	-0.2
	2.1nm,0.9s,baz=43,slow=3.7,SNR=9.4						
LPAZ	La Paz	149.09	100	PKPbc	PKPbc	19 25 35.5	+0.9
	4.0nm,0.7s,baz=245,slow=4.3,SNR=14						

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*NIED **05** 19:11:00, 37°00N×142°20E, h26km, Mw3.6 Best double couple: Mo2.75000×10¹⁴ NP1:φs23.00000°, δ27.00000°, λ-87.00000°. NP2:φs200.00000°, δ63.00000°, λ-91.00000°.*
*ISCJB **05** 19:11:34.8±1.5, 36°98N±0°04×142°31E±0°06, h15km±10km, mb3.4/4, Error ellipse: s-maj=9.0km s-min=6.5km az=32.9*
*IDC **05** 19:11:34.5±1.2, 36°94N×142°25E, h0km, mb3.4/4, mb1 3.5/8, mb1mx3.3/60, mbtmp3.5/8, ML3.1/3, Error ellipse: s-maj=26.7km s-min=20.7km az=67.0*
*JMA **05** 19:11:36.3±0.2, 36°95N×142°18E, h25km, M3.7*
ISC 05 19:11:34.7±2.3**, 37°00N**±0°06×**142°21E**±0°07**, h2**km±12km**, n27, σ0ˢ94**/30**, mb3.5**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	1.13	289	P	Pg	19 11 56.0	-0.3
JFK				eS	Sg	19 12 11.3	+0.4
ONAJ	Iwakimizuishiy	1.13	276	P	Pg	19 11 56.0	-0.4
JHO	Hitachi	1.37	254	P	Pn	19 11 59.4	-1.5
JMM	Marumori	1.42	308	P	Pn	19 12 00.8	-0.8
JMM				eS	Sb	19 12 19.1	-1.5
JFT	Otama	1.58	290	P	Pn	19 12 03.5	-0.3
JIO	Ouri	1.61	335	P	Pn	19 12 04.0	-0.1
JIO				eS	Sn	19 12 24.5	-1.0
JOU	Okura	1.84	319	P	Pn	19 12 08.1	+0.8
JFY	Yanaizu	2.04	282	P	Pn	19 12 10.5	+0.4
JFY				eS	Sn	19 12 35.8	-0.4
JMK	Ichinoseki	2.10	338	P	Pn	19 12 11.6	+0.7
JMK				eS	Sn	19 12 37.0	-0.7
JAG	Ashikaga	2.29	256	P	Pn	19 12 13.3	-0.2
JAG				eS	Sn	19 12 41.8	-0.5
JYK	Kaneyama	2.41	323	P	Pn	19 12 15.9	+0.7
MJAR	Matsushiro Arr	3.24	263	Pn	Pn	19 12 27.4	+0.7
	7.5nm,0.3s,baz=89,slow=14,SNR=33						
MJAR				Sn	Sn	19 13 07.9	+2.0
	4.1nm,0.3s,baz=102,slow=23,SNR=4.1						
MAT	Matsushiro	3.25	263	P	Pn	19 12 28.7	+2.0
MAT				eS	Sn	19 13 06.6	+0.7
ASAJ	Asahikawa	7.12	2	Pn	Pn	19 13 20.8	+1.0
	0.2nm,0.3s,baz=191,slow=16,SNR=3.2						
ASAJ				Sn	Sn	19 14 41.4	+0.1
	0.1nm,0.3s,baz=270,slow=20,SNR=2.3						
USRK	Ussuriysk Ar.	10.58	316	Pn	Pn	19 14 08.9	+1.5
	0.1nm,0.3s,baz=149,slow=15,SNR=3.6						
KSRS	Korea Array	11.40	277	Pn	Pn	19 14 18.6	0.0
	0.2nm,0.3s,baz=92,slow=14,SNR=2.7						
H11N2	WAKE ISLAND Hy	27.58	122	T	T	19 46 23.5	
	baz=314,slow=75,SNR=16						
H11N1	WAKE ISLAND Hy	27.59	122	T	T	19 46 46.2	
	baz=314,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	27.60	122	T	T	19 46 30.9	
	baz=314,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	28.31	124	T	T	19 47 23.7	
	baz=316,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy	28.31	124	T	T	19 47 28.2	
	baz=316,slow=76,SNR=8.4						
H11S2	WAKE ISLAND Hy	28.32	124	T	T	19 47 34.5	
	baz=316,slow=76,SNR=7.7						
SONM	Songino Array	28.34	304	P	P	19 17 30.6	+0.6
	0.4nm,0.7s,baz=90,slow=9.2,SNR=2.8						
MKAR	Makanchi Array	44.68	302	P	P	19 19 49.1	+0.2
	0.6nm,0.7s,baz=86,slow=8.8,SNR=3.6						
WRA	Warramunga Arr	57.12	189	P	P	19 21 22.2	-0.5
	0.5nm,0.8s,baz=7.0,slow=7.0,SNR=6.9						
ASAR	Alice Springs	60.84	189	P	P	19 21 48.0	-0.6
	0.1nm,0.4s,baz=19,slow=7.3,SNR=4.1						
LPAZ	La Paz	146.16	61	PKPbc	PKPab	19 31 17.7	-0.8
	0.6nm,0.6s,baz=0.0,slow=5.1,SNR=2.9						

IDC 05 19:28:27.8±5.4**, 16°77S**×**159°39E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/45**, mbtmp3.3**/3**, Error ellipse: s-maj=91.3km s-min=77.5km az=1.0, Northwest of New Caledonia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	22.07	224	P	P	19 33 24.1	-0.3
	1.7nm,0.7s,baz=61,slow=10,SNR=4.8						
WRA	Warramunga Arr	23.98	259	P	P	19 33 44.2	0.0
	0.2nm,0.8s,baz=85,slow=9.6,SNR=4.6						
ASAR	Alice Springs	24.86	250	P	P	19 33 52.5	+0.2
	0.4nm,0.5s,baz=76,slow=9.4,SNR=20						

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*OMAN **05** 19:30:10.3±4.4, 28°36N×57°17E, h10km, Error ellipse: s-maj=49.4km s-min=34.8km az=165.0*
*CSEM **05** 19:30:13.8±0.2, 28°04N×56°86E, h10km, mb4.0, Error ellipse: s-maj=8.6km s-min=6.7km az=106.0*
*ISCJB **05** 19:30:14.3±0.3, 27°98N±0°03×56°87E±0°05, h24km, mb3.5/17, Error ellipse: s-maj=5.8km s-min=4.3km az=4.1*
*TEH **05** 19:30:14.3, 28°02N×56°71E, h10km, ML3.4*
*NEIC **05** 19:30:15.2±0.0, 27°88N×56°89E, h14km, mb4.0/2, ML3.5(THR), After THR.*
*IDC **05** 19:30:18.1±2.1, 27°90N×56°85E, h52km±24km, mb3.4/17, mb1 3.5/20, mb1mx3.4/62, mbtmp3.6/20, ML3.9/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/43, Error ellipse: s-maj=16.7km s-min=12.8km az=66.0*
ISC 05 19:30:15.7±0.5**, 28°00N**±0°03×**56°81E**±0°04**, h24**km**, n72, σ1ˢ49**/77**, mb3.6**/17**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIAN	Nian	0.44	178	ePg	Pb	19 30 24.5	-0.4
BNDS	Bandar-Abbas	0.82	224	ePg	Pb	19 30 30.0	-1.5
BNDS	Bandar-Abbas	0.82	224	ePg	Pb	19 30 30.4	-1.1
KHSK	Kohestak	1.25	170	ePg	Pb	19 30 39.3	+0.6
NGRK	Negar Kerman	1.64	357	ePn	Pb	19 30 45.5	-0.1
CHMN	Cheshme madani	1.96	19	ePn	Pb	19 30 49.6	-1.4
KRBR	Kerman	1.98	359	ePn	Pb	19 30 52.0	+0.8
KRBR	Kerman	1.98	359	ePn	Pb	19 30 52.0	+0.8
TVBK	TV Kerman	1.98	359	ePn	Pb	19 30 51.6	+0.3
SHME	Shamm	2.03	197	P	Pn	19 30 50.5	+2.0
	SNR=13						
BANOM	Banah	2.12	193	P	Pn	19 30 51.5	+1.8
	SNR=42						
BANOM				S	Sb	19 31 24.1	+4.8
	SNR=25						
BANOM	Banah	2.12	193	P	Pn	19 30 51.5	+1.8
	SNR=42						
BANOM				S	Sb	19 31 24.1	+4.8
	SNR=25						
KHGB	Koh Gabri	2.39	353	ePn	Pb	19 30 57.6	-0.6
UOSS	Minazif	3.09	190	ePn	Pn	19 31 03.5	+0.5
UOSS	Minazif	3.09	190	ePn	Pn	19 31 03.5	+0.5
ASHO	Ashiyiah	3.37	192	P	Pn	19 31 08.4	+1.5
	SNR=8.1						
ASHO	Ashiyiah	3.37	192	P	Pn	19 31 08.4	+1.5
	SNR=8.1						
GHIR	Ghir-Karzin	3.39	276	ePn	Pn	19 31 10.0	+2.7
GHIR	Ghir-Karzin	3.39	276	ePn	Pn	19 31 10.0	+2.7
ISRV	Sarvestan	3.53	294	ePn	Pb	19 31 16.1	-1.6
ISRV				eAMB	AMB	19 32 39.8	
	comp=N,2µm,0.3s						
IBAF	Bafgh	3.74	343	ePn	Pn	19 31 14.1	+2.0
IBAF				eAMB	AMB	19 31 15.4	
	comp=Z,673nm,0.2s						
ZHSF	Zahedan	3.83	64	ePn	Pn	19 31 15.0	+1.6
ZHSF	Zahedan	3.83	64	ePn	Pn	19 31 15.0	+1.6
IMEH	Mehriz	3.89	331	ePn	Pn	19 31 16.2	+2.0
IMEH				eAMB	AMB	19 32 30.2	
	comp=Z,452nm,0.4s						
IKOO	Kooshah	4.80	23	ePn	Pn	19 31 30.0	+3.2
WSAR	Wadi Sarin	5.01	161	P	Pn	19 31 30.0	+0.5
	comp=Z,14nm,0.3s,baz=318,slow=12,SNR=236						
WSAR				S	Sn	19 32 25.3	-1.5
	comp=Z,13nm,0.3s,baz=101,slow=17,SNR=14						
IRAM	Ramesheh	5.41	316	ePn	Pn	19 31 37.5	+2.4
IRAM				eAMB	AMB	19 32 44.6	
	comp=Z,193nm,0.2s						
IGAR	Gharneh	6.03	318	ePn	Pn	19 31 45.4	+1.8
IGAR				eAMB	AMB	19 32 58.3	
	comp=N,293nm,0.2s						
IZEF	Zefreh	6.23	323	ePn	Pn	19 31 48.2	+1.8
IZEF				eAMB	AMB	19 31 48.6	
	comp=Z,67nm,0.2s						
BTHS		6.66	235	P	Pn	19 31 53.1	+1.1
BTHS				S	Sn	19 33 06.6	-0.5
IPIR	Pirpir	6.93	314	ePn	Pn	19 31 58.4	+2.3
IPIR				eAMB	AMB	19 33 28.0	
	comp=Z,131nm,0.3s						
BOQSS		6.97	254	P	Pn	19 31 58.5	+2.1
BOQSS				S	Sn	19 33 14.6	-0.3
GEYT	Alibeck	9.96	6	P	Pn	19 32 39.1	+1.7
	comp=Z,0.2nm,0.3s,baz=204,slow=14,SNR=3.6						
GEYT				LR	LR	19 36 55.6	
	comp=Z,47nm,18.2s,baz=30,slow=40						
RAYN	Ar Rayn	11.12	249	ePn	Pn	19 32 52.1	-1.3
RAYN	Ar Rayn	11.12	249	ePn	Pn	19 32 52.1	-1.3
MARD	Mardin	16.37	309	ePn	Pn	19 34 04.0	-0.1
	comp=Z,11nm,0.8s						
MARD	Mardin	16.37	309	ePn	Pn	19 34 04.0	-0.1
	comp=Z,11nm,0.8s						
MMAI	Mount Meron Ar	19.11	290	P	Pn	19 34 38.4	+0.5
	comp=Z,0.9nm,0.3s,baz=94,slow=12,SNR=7.1						
KVAR	Kislovodsk Arr	19.55	328	P	Pn	19 34 43.4	+0.2
	baz=153,slow=14,SNR=2.5						
AAK	Ala-Archa	20.47	40	P	P	19 34 52.1	+0.3
	comp=Z,2.0nm,0.6s,baz=207,slow=16,SNR=13						
ABKAR	Akbulak array	21.36	6	eP	P	19 35 01.7	+0.5
	comp=Z,2.1nm,0.5s						
ABKAR	Akbulak array	21.36	6	eP	P	19 35 01.7	+0.5
	comp=Z,2.1nm,0.5s						
AKTO	Aktyubinsk	22.43	2	P	P	19 35 13.1	+0.5
	comp=Z,1.3nm,0.5s,baz=185,slow=10,SNR=7.5						
BR101	Keskin Array S	22.45	307	eP	P	19 35 13.7	+0.5
BR101	Keskin Array S	22.45	307	eP	P	19 35 13.7	+0.5
BR131	Keskin Array S	22.45	307	eP	P	19 35 14.9	+1.7
BR131	Keskin Array S	22.45	307	eP	P	19 35 14.9	+1.7
BRTR	Keskin Array B	22.45	307	P	P	19 35 13.7	+0.5
	comp=Z,1.2nm,0.7s,baz=121,slow=13,SNR=8.0						
BVAR	Borovoye Array	26.95	18	P	P	19 35 55.2	0.0
	comp=Z,1.4nm,0.8s,baz=199,slow=7.8,SNR=9.1						
MK32	Makanchi Array	27.40	40	eP	P	19 35 59.2	-0.2
MK32	Makanchi Array	27.40	40	eP	P	19 35 59.2	-0.2
MKAR	Makanchi Array	27.40	40	P	P	19 35 59.2	-0.2
	comp=Z,0.1nm,0.3s,baz=221,slow=7.5,SNR=6.6						
ZALV	Zalesovo Beam	33.05	31	P	P	19 36 48.8	-0.4
	comp=Z,2.4nm,0.4s,baz=238,slow=10,SNR=16						
ZALV	Zalesovo Beam	33.05	31	eP	P	19 36 48.6	-0.6
ZAA1	Zalesovo Array	33.06	31	eP	P	19 36 48.8	-0.5
GERES	GERESS Array B	39.01	314	P	P	19 37 39.9	-0.5
	comp=Z,0.5nm,0.7s,baz=117,slow=7.6,SNR=4.5						
FIA0	FINESS Array S	39.22	337	eP	P	19 37 41.4	-0.4
FINES	FINESS Array B	39.22	337	P	P	19 37 41.4	-0.4
	comp=Z,1.2nm,0.7s,baz=146,slow=10,SNR=6.0						
SONA0	Songino Array	43.00	49	eP	P	19 38 13.4	+0.2
SONM	Songino Array	43.00	49	P	P	19 38 13.5	+0.2
	comp=Z,0.1nm,0.5s,baz=256,slow=5.8,SNR=2.1						
HFS	Hagfors	43.34	330	P	P	19 38 15.4	-0.2
	comp=Z,0.7nm,0.4s,baz=99,slow=8.9,SNR=4.4						
NB200	NORSAR Array S	44.84	330	eP	P	19 38 27.1	-0.7
NOA	NORSAR Array B	44.84	330	P	P	19 38 27.1	-0.7
	comp=Z,0.5nm,0.7s,baz=116,slow=7.9,SNR=3.3						
ARA0	ARCESS Array S	45.34	345	eP	P	19 38 31.6	+0.1
ARCES	ARCESS Array B	45.34	345	P	P	19 38 31.7	+0.1
	comp=Z,3.0nm,1.0s,baz=142,slow=8.9,SNR=3.1						
EKA	Eskdalemuir Ar	50.50	320	P	P	19 39 11.0	-0.6
	comp=Z,0.2nm,0.3s,baz=98,slow=7.6,SNR=3.4						
TOA1	Torodi Ar. Sit	53.26	266	eP	P	19 39 32.0	-0.8
TORD	Torodi Ar. Bea	53.26	266	P	P	19 39 32.0	-0.8
	comp=Z,0.5nm,0.6s,baz=65,slow=7.2,SNR=6.7						
WR1	Warramunga Arr	88.78	113	eP	P	19 43 06.3	-1.6
WRA	Warramunga Arr	88.78	113	P	P	19 43 06.3	-1.6
	comp=Z,0.1nm,0.6s,baz=317,slow=3.7,SNR=2.2						
YKA	Yellowknife Ar	89.56	356	P	P	19 43 09.9	-0.9
	comp=Z,0.1nm,0.4s,baz=2.4,slow=4.9,SNR=2.9						
ASAR	Alice Springs	90.30	117	P	P	19 43 13.1	-1.9
	comp=Z,0.3nm,0.9s,baz=296,slow=4.7,SNR=2.8						

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*NEIC **05** 19:36:45.6±0.0, 39°57S×174°23E, h227km, ML4.2(WEL), After WEL.*
WEL 05 19:36:44.2, 40°S±2°×**17°4E**±°**, h237**km±4km**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LREZ	Lake Rotokare	0.20	62	P	Pn	19 37 15.1	+0.3
LREZ	Lake Rotokare	0.20	62	S	S	19 37 37.2	-1.7
PREZ	Palmer Road	0.21	357	Pn	Pn	19 37 15.0	0.0
PREZ				Sn	S	19 37 37.2	-1.8
PREZ	Palmer Road	0.21	357	P	Pn	19 37 15.1	+0.1
PREZ	Palmer Road	0.21	357	S	S	19 37 37.5	-1.6
NMEZ	Namu Road	0.27	301	Pn	Pn	19 37 15.2	+0.2
NMEZ	Namu Road	0.27	301	P	Pn	19 37 15.2	+0.3
NMEZ	Namu Road	0.27	301	S	S	19 37 37.3	-1.7
KHEZ	Kahui Hut	0.29	334	Pn	Pn	19 37 15.3	+0.1
NEZ	North Egmont	0.29	348	Pn	Pn	19 37 15.4	+0.2
NEZ				Sn	S	19 37 37.4	-2.0
DREZ	Durham Road	0.37	3	P	Pn	19 37 14.4	-0.8
PKE	Pukeiti	0.39	338	P	Pn	19 37 15.4	+0.1
VRZ	Vera Road	0.62	47	Pn	Pn	19 37 15.4	-0.6
VRZ				Sn	S	19 37 37.6	-3.2
VRZ	Vera Road	0.62	47	P	Pn	19 37 15.6	-0.4
VRZ	Vera Road	0.62	47	S	S	19 37 37.8	-3.0
WAZ	Wanganui	0.66	108	Pn	Pn	19 37 16.7	+0.6
WAZ	Wanganui	0.66	108	P	Pn	19 37 16.8	+0.8
WAZ	Wanganui	0.66	108	S	S	19 37 39.0	-2.1
PKVZ	Pokaka	0.94	74	Pn	Pn	19 37 17.2	-0.3
PKVZ	Pokaka	0.94	74	P	Pn	19 37 17.2	-0.3
MTVZ	Mangateitei	1.02	81	ePn	Pn	19 37 17.9	0.0
MTVZ	Mangateitei	1.02	81	P	Pn	19 37 18.0	0.0
OHWZ	Ohakea	1.09	127	P	Pn	19 37 19.0	+0.8
OHWZ	Ohakea	1.09	127	S	S	19 37 43.0	-2.0
TWVZ	Taurewa	1.09	64	ePn	Pn	19 37 18.0	-0.4
TWVZ	Taurewa	1.09	64	P	Pn	19 37 18.1	-0.4
FWVZ	Far West T-bar	1.11	75	ePn	Pn	19 37 18.6	-0.2
FWVZ	Far West T-bar	1.11	75	P	Pn	19 37 18.7	0.0
DRZ	Dome Shelter	1.11	76	ePn	Pn	19 37 18.8	0.0
COVZ	Chateau Observ	1.12	72	P	Pn	19 37 18.6	0.0
WNVZ	Wahianoa	1.12	79	ePn	Pn	19 37 18.7	0.0
WNVZ				eS	S	19 37 42.1	-3.6
WHVZ	Whangaehu Hut	1.13	77	Pn	Pn	19 37 18.7	-0.1
WHVZ	Whangaehu Hut	1.13	77	P	Pn	19 37 18.9	+0.1
HIZ	Hauiti	1.17	27	P	Pn	19 37 18.4	-0.5
NGZ	Ngauruhoe	1.17	72	ePn	Pn	19 37 19.1	+0.1
NGZ	Ngauruhoe	1.17	72	P	Pn	19 37 19.0	0.0
TUVZ	Tukino	1.18	76	ePn	Pn	19 37 19.2	+0.2
TUVZ	Tukino	1.18	76	P	Pn	19 37 19.3	+0.2
WTVZ	West Tongariro	1.18	69	ePn	Pn	19 37 18.9	-0.1
WTVZ	West Tongariro	1.18	69	P	Pn	19 37 18.9	-0.1
OTVZ	Oturere	1.22	72	ePn	Pn	19 37 19.4	0.0
KRVZ	Karewarewa	1.23	68	Pn	Pn	19 37 19.3	-0.1
KRVZ	Karewarewa	1.23	68	P	Pn	19 37 19.3	-0.1
MOVZ	Moawhango	1.23	84	ePn	Pn	19 37 18.9	-0.3
DUWZ	D'Urville Isla	1.26	189	ePn	Pn	19 37 19.6	+0.2
DUWZ	D'Urville Isla	1.26	189	P	Pn	19 37 19.6	+0.2
KATZ	Kakaramea	1.31	64	ePn	Pn	19 37 20.0	0.0
KATZ	Kakaramea	1.31	64	P	Pn	19 37 20.1	+0.1
RATZ	Rangitukua	1.42	62	Pn	Pn	19 37 20.7	0.0
RATZ	Rangitukua	1.42	62	P	Pn	19 37 20.7	+0.1
KIW	Kapiti Island	1.42	157	ePn	Pn	19 37 20.6	+0.1
KIW				eS	S	19 37 47.4	-1.8
KIW	Kapiti Island	1.42	157	P	Pn	19 37 20.6	+0.1
RITZ	Rihia Road	1.43	67	P	Pn	19 37 20.9	+0.2
BHHZ	Black Hill Sta	1.46	88	Pn	Pn	19 37 20.7	-0.3
BHHZ	Black Hill Sta	1.46	88	P	Pn	19 37 20.5	-0.5
TSZ	Takapari Road	1.47	111	Pn	Pn	19 37 21.1	+0.2
TSZ	Takapari Road	1.47	111	P	Pn	19 37 21.2	+0.2
OGWZ	Otaki Gorge	1.47	149	Pn	Pn	19 37 21.2	+0.2
OGWZ	Otaki Gorge	1.47	149	P	Pn	19 37 21.2	+0.3
WATZ	Wairara	1.48	56	P	Pn	19 37 21.3	+0.2
POWZ	Post Office Ro	1.48	125	Pn	Pn	19 37 21.1	+0.1
POWZ	Post Office Ro	1.48	125	P	Pn	19 37 21.1	+0.1
MRZ	Mangatainoka R	1.54	136	ePn	Pn	19 37 21.5	0.0
MRZ	Mangatainoka R	1.54	136	P	Pn	19 37 21.5	0.0
PNHZ	Pukenui	1.60	104	Pn	Pn	19 37 22.3	+0.2
PNHZ	Pukenui	1.60	104	P	Pn	19 37 22.3	+0.3
TLZ	Tolley Road	1.62	41	P	Pn	19 37 21.7	-0.6
TCW	Tory Channel	1.66	177	ePn	Pn	19 37 22.8	+0.4
TCW				eS	S	19 37 50.9	-1.6
TCW	Tory Channel	1.66	177	P	Pn	19 37 22.9	+0.5
KUTZ	Kaahu Road	1.67	51	P	Pn	19 37 22.7	+0.1
HOWZ	Holdsworth Sta	1.69	143	Pn	Pn	19 37 22.6	-0.1
HOWZ	Holdsworth Sta	1.69	143	P	Pn	19 37 22.6	-0.1
CAW	Cannon Point	1.69	157	ePn	Pn	19 37 22.8	+0.1
CAW				eS	S	19 37 52.2	-0.8
CAW	Cannon Point	1.69	157	P	Pn	19 37 22.9	+0.2
KRHZ	Kereru	1.70	94	P	Pn	19 37 23.1	+0.3
DVHZ	Dannevirke	1.70	117	Pn	Pn	19 37 23.0	+0.2
DVHZ	Dannevirke	1.70	117	P	Pn	19 37 23.0	+0.2
PRWZ	Pori Road	1.70	126	Pn	Pn	19 37 23.3	+0.5
PRWZ	Pori Road	1.70	126	P	Pn	19 37 23.3	+0.5
KWHZ	Kaweka Forest	1.74	86	P	Pn	19 37 23.7	+0.5
NNZ	Nelson	1.77	200	Pn	Pn	19 37 23.6	+0.3
NNZ	Nelson	1.77	200	P	Pn	19 37 23.6	+0.3
QRZ	Quartz Range	1.79	224	P	Pn	19 37 23.3	-0.2
TIWZ	Tintock	1.79	133	Pn	Pn	19 37 23.8	+0.2
TIWZ	Tintock	1.79	133	P	Pn	19 37 24.0	+0.4
WPHZ	Waipukurau	1.82	107	Pn	Pn	19 37 24.3	+0.4
WPHZ	Waipukurau	1.82	107	P	Pn	19 37 24.3	+0.5
BKZ	Black Stump Fm	1.84	79	ePn	Pn	19 37 23.9	-0.2
BKZ				eS	S	19 37 51.2	-4.1
BKZ	Black Stump Fm	1.84	79	P	Pn	19 37 24.0	-0.1
TUWZ	Tuamarina	1.88	185	ePn	Pn	19 37 24.6	+0.2
TUWZ				eS	S	19 37 54.0	-1.9
TUWZ	Tuamarina	1.88	185	P	Pn	19 37 24.6	+0.3
MRHZ	Matea Rd	1.89	68	P	Pn	19 37 23.9	-0.7
MTW	Mount Morrison	1.90	148	ePn	Pn	19 37 24.4	-0.1
MTW				eS	S	19 37 56.4	+0.1
MTW	Mount Morrison	1.90	148	P	Pn	19 37 24.4	-0.1
BHW	Baring Head	1.93	164	ePn	Pn	19 37 24.6	-0.1
BHW				eS	S	19 37 54.7	-2.0
BHW	Baring Head	1.93	164	P	Pn	19 37 24.7	0.0
BFZ	Birch Farm	1.95	126	ePn	Pn	19 37 25.1	+0.1
BFZ				eS	S	19 37 55.1	-1.9
BFZ	Birch Farm	1.95	126	P	Pn	19 37 25.1	+0.1
MCHZ	McNeill Hill	1.95	88	Pn	Pn	19 37 26.0	+0.9
MCHZ	McNeill Hill	1.95	88	P	Pn	19 37 26.0	+1.0
ANWZ	Angora Road	1.98	118	P	Pn	19 37 26.0	+0.7
HRRZ	Handcock Road	2.01	55	P	Pn	19 37 25.7	0.0
PRHZ	Porangahau	2.02	111	Pn	Pn	19 37 26.2	+0.6
PRHZ	Porangahau	2.02	111	P	Pn	19 37 26.3	+0.6
TMWZ	Te Maipa	2.03	140	Pn	Pn	19 37 25.9	+0.1
TMWZ	Te Maipa	2.03	140	P	Pn	19 37 25.9	+0.1
MSWZ	Moikau Station	2.03	157	Pn	Pn	19 37 25.6	-0.1
MSWZ	Moikau Station	2.03	157	P	Pn	19 37 25.7	-0.1
HSRZ	Hossack Road	2.04	53	P	Pn	19 37 26.0	+0.1
CPWZ	Castlepoint	2.06	132	Pn	Pn	19 37 26.8	+0.8
CPWZ	Castlepoint	2.06	132	P	Pn	19 37 26.8	+0.8
PAWZ	Paruwai Farm	2.06	153	ePn	Pn	19 37 26.0	-0.1
PAWZ				eS	S	19 37 57.7	-1.3
PAWZ	Paruwai Farm	2.06	153	P	Pn	19 37 26.0	-0.1
TOZ	Tahuroa Road	2.10	30	P	Pn	19 37 26.3	-0.1
KAHZ	Kahuranaki	2.10	97	Pn	Pn	19 37 27.2	+0.7
KAHZ	Kahuranaki	2.10	97	P	Pn	19 37 27.2	+0.7
PXZ	Pawanui	2.12	104	ePn	Pn	19 37 18.8	-7.8
PXZ				eS	S	19 37 59.5	-0.4
BSWZ	Blackbirch Sta	2.17	186	Pn	Pn	19 37 27.4	+0.3
BSWZ	Blackbirch Sta	2.17	186	P	Pn	19 37 27.3	+0.2
TRWZ	Traveller	2.17	148	ePn	Pn	19 37 27.1	0.0
TRWZ				eS	S	19 37 58.3	-2.6
TRWZ	Traveller	2.17	148	P	Pn	19 37 27.2	+0.1
PLWZ	Palliser	2.17	158	Pn	Pn	19 37 24.4	-2.8
MTHZ	Maungataniwha	2.19	72	P	Pn	19 37 27.2	-0.2
CMWZ	Cape Campbell	2.19	179	P	Pn	19 37 30.0	+2.7
KMRZ	Kaimai	2.20	40	P	Pn	19 37 27.7	+0.2
ARHZ	Aropaoanui	2.21	83	Pn	Pn	19 37 27.5	0.0
ARHZ	Aropaoanui	2.21	83	P	Pn	19 37 28.1	+0.7
OMRZ	Omania	2.24	51	P	Pn	19 37 28.0	+0.1
CKHZ	Cape Kidnapper	2.25	94	Pn	Pn	19 37 28.7	+0.9
CKHZ	Cape Kidnapper	2.25	94	P	Pn	19 37 28.7	+0.9
TARZ	Mount Tarawera	2.25	55	P	Pn	19 37 27.9	-0.1
MUGZ	Murupara	2.29	63	P	Pn	19 37 27.6	-0.8
RAHZ	Arahi	2.35	75	P	Pn	19 37 29.3	+0.4
RTZ	Ruatahuna	2.38	68	P	Pn	19 37 28.7	-0.6
THZ	Tophouse	2.41	203	ePn	Pn	19 37 29.4	-0.1
THZ	Tophouse	2.41	203	P	Pn	19 37 29.8	+0.3
WHHZ	Waihua	2.42	80	P	Pn	19 37 30.1	+0.5
AWAZ	Awhitu Peninsu	2.51	9	P	Pn	19 37 31.4	+0.7
MKAZ	Moumakai	2.57	18	P	Pn	19 37 31.8	+0.6
SNGZ	Shannon Statio	2.58	74	P	Pn	19 37 31.4	+0.1
URZ	Urewera	2.63	61	ePn	Pn	19 37 30.7	-1.1
URZ				eS	S	19 38 04.5	-4.7
URZ	Urewera	2.63	61	P	Pn	19 37 30.9	-0.9
RAGZ	Rawiri	2.74	68	P	Pn	19 37 32.4	-0.6
KNZ	Kokohu	2.77	80	ePn	Pn	19 37 33.3	+0.1
KNZ	Kokohu	2.77	80	P	Pn	19 37 33.3	+0.1
DSZ	Denniston Nort	2.83	219	ePn	Pn	19 37 34.3	+0.3
DSZ	Denniston Nort	2.83	219	P	Pn	19 37 34.2	+0.2
WIAZ	Waiheke Island	2.86	16	P	Pn	19 37 35.1	+0.8
MWZ	Matawai	2.88	66	ePn	Pn	19 37 34.0	-0.6
MWZ				e		19 38 13.0	
MWZ				eS	S	19 38 15.2	+1.0
MWZ	Matawai	2.88	66	P	Pn	19 37 34.0	-0.6
KHZ	Kahutara	2.90	189	ePn	Pn	19 37 34.6	0.0
KHZ	Kahutara	2.90	189	P	Pn	19 37 34.6	0.0
RIGZ	Rimuhau	2.92	74	P	Pn	19 37 35.1	+0.2
MHGZ	Mahia Peninsul	2.92	83	Pn	Pn	19 37 35.5	+0.6
MHGZ	Mahia Peninsul	2.92	83	P	Pn	19 37 35.5	+0.6
PRGZ	Paritu Road	2.95	79	P	Pn	19 37 35.6	+0.4
KUZ	Kuaotunu	3.06	24	P	Pn	19 37 37.0	+0.5
TKGZ	Te Karaka	3.07	70	P	Pn	19 37 36.7	+0.1
RUGZ	Raukumara Rang	3.17	61	P	Pn	19 37 36.4	-1.4
TWGZ	Tauwhareparae	3.27	66	Pn	Pn	19 37 38.8	-0.1
TWGZ	Tauwhareparae	3.27	66	P	Pn	19 37 38.9	0.0
CNGZ	Carnagh Statio	3.32	72	Pn	Pn	19 37 39.8	+0.5
CNGZ	Carnagh Statio	3.32	72	P	Pn	19 37 39.9	+0.5
HAZ	Te Kaha	3.35	59	P	Pn	19 37 38.4	-1.3
PKGZ	Pakihiroa	3.48	63	P	Pn	19 37 40.7	-0.6
PUZ	Puketiti	3.52	66	Pn	Pn	19 37 40.9	-0.8
PUZ	Puketiti	3.52	66	P	Pn	19 37 41.2	-0.5
LTZ	Lake Taylor	3.53	203	ePn	Pn	19 37 42.0	+0.2
LTZ	Lake Taylor	3.53	203	P	Pn	19 37 41.9	+0.2
WCZ	Waipu Caves	3.61	2	P	Pn	19 37 43.7	+0.9
WMGZ	Waiomatatini S	3.74	64	Pn	Pn	19 37 43.4	-0.9
WMGZ	Waiomatatini S	3.74	64	P	Pn	19 37 43.6	-0.7
INZ	Inchbonnie	3.78	212	P	Pn	19 37 44.4	-0.3
MXZ	Matakaoa Point	3.80	60	P	Pn	19 37 44.4	-0.6
OXZ	Oxford	4.10	202	ePn	Pn	19 37 48.0	-0.4
OXZ	Oxford	4.10	202	P	Pn	19 37 47.9	-0.5
EYCZ	Eyrewell	4.10	199	P	Pn	19 37 48.0	-0.4
CRLZ	Canterbury Las	4.18	196	eP	Pn	19 37 49.5	+0.1
CRLZ				eS	S	19 38 32.2	-8.9
CRLZ	Canterbury Las	4.18	196	P	Pn	19 37 49.6	+0.1
MQZ	McQueen's Vall	4.30	195	ePn	Pn	19 37 49.7	-1.1
MQZ	McQueen's Vall	4.30	195	P	Pn	19 37 49.7	-1.2
WVZ	Waitaha Valley	4.37	215	Pn	Pn	19 37 50.8	-0.8
WVZ	Waitaha Valley	4.37	215	P	Pn	19 37 50.8	-0.8
RPZ	Rata Peaks	4.77	208	eP	Pn	19 37 55.8	-0.8
RPZ	Rata Peaks	4.77	208	P	Pn	19 37 56.1	-0.5
FOZ	Fox Glacier	5.15	218	ePn	Pn	19 38 00.4	-0.8
LBZ	Lake Benmore	5.67	210	ePn	Pn	19 38 07.2	-0.5
ODZ	Otahua Downs	6.08	204	ePn	Pn	19 38 13.1	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ODZ				eS	S	19 39 21.4	-2.3

*IDC **05** 19:38:09.2±1.2, 17°.91S×178°.05W, h555km±14km, mb3.6/13, mb1 3.9/15, mb1mx3.6/43, mbtmp4.5/15, Error ellipse: s-maj=15.8km s-min=9.1km az=148.0*
*ISCJB **05** 19:38:11.2±0.5, 18°.0S±0°.1×178°.1W±0°.1, h590km, mb4.1/12, Error ellipse: s-maj=18.5km s-min=11.1km az=153.1*
ISC 05 19:38:12.1±0.5**, 18°.0S**±0°.1×**178°.1W**±0°.1**, h590**km**, n33, σ0ˢ81**/37**, mb3.9**/12**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.29	57	P	P	19 39 58.6	-5.9
	8.7nm,0.3s,baz=332,slow=0.6,SNR=8.3						
AFI				S	S	19 41 27.4	-9.1
	7.2nm,0.3s,baz=100,slow=11,SNR=4.4						
DZM	Mont Dzumac	15.09	252	P	P	19 41 20.2	-1.4
	1.8nm,0.3s,baz=113,slow=7.5,SNR=13						
URZ	Urewera	20.65	191	P	P	19 42 09.3	-2.6
	11nm,0.4s,baz=307,slow=3.0,SNR=7.6						
PMG	Port Moresby	34.77	279	P	P	19 44 15.4	+0.6
	38nm,0.8s,baz=72,slow=6.5,SNR=12						
STKA	Stephens Creek	38.87	241	P	P	19 44 48.8	+0.7
	7.5nm,0.7s,baz=88,slow=9.9,SNR=16						
WRA	Warramunga Arr	44.92	260	P	P	19 45 35.2	-0.6
	7.2nm,0.5s,baz=96,slow=7.5,SNR=214						
WRA				PcP	PcP	19 47 04.7	+0.4
	0.6nm,0.3s,baz=99,slow=3.4,SNR=3.5						
WRA				S	S	19 51 32.5	+0.5
	0.4nm,0.7s,baz=95,slow=12,SNR=4.5						
ASAR	Alice Springs	45.06	254	P	P	19 45 37.1	+0.2
	35nm,0.6s,baz=88,slow=8.5,SNR=740						
ASAR				PcP	PcP	19 47 05.6	+0.8
	1.4nm,0.5s,baz=102,slow=3.6,SNR=5.2						
ASAR				S	S	19 51 34.8	+0.7
	2.5nm,0.8s,baz=86,slow=15,SNR=19						
VNDA	Vanda	60.41	185	P	P	19 47 26.3	+1.4
	1.3nm,0.5s,baz=354,slow=5.9,SNR=10						
NVAR	Mina Array Bea	79.26	44	P	P	19 49 17.6	+0.1
	2.0nm,0.7s,baz=224,slow=9.4,SNR=12						
SEY	Seymchan	83.90	347	P	P	19 49 40.2	0.0
	0.9nm,0.4s,baz=193,slow=7.0,SNR=7.2						
TXAR	Lajitas Array	85.77	58	P	P	19 49 51.8	+1.5
	2.5nm,0.7s,baz=220,slow=6.2,SNR=30						
ILAR	Eielson Array	85.88	13	P	P	19 49 49.0	-0.8
	0.7nm,0.4s,baz=219,slow=5.2,SNR=23						
PDAR	Pinedale Array	87.19	43	P	P	19 49 57.0	+0.2
	1.1nm,0.7s,baz=213,slow=3.7,SNR=12						
SNAA	Sanae	90.53	178	P	P	19 50 11.9	+0.2
SNAA	Sanae	90.53	178	P	P	19 50 11.8	+0.2
	1.2nm,0.5s,baz=214,slow=3.6,SNR=20						
VNA3	Neumayer Olymp	90.66	176	P	P	19 50 12.0	-0.2
VNA2	Neumayer--Watz	91.11	177	P	P	19 50 14.9	+0.7
	baz=185,slow=4.7						
YKA	Yellowknife Ar	94.26	25	P	P	19 50 28.1	-0.5
	0.5nm,0.7s,baz=244,slow=4.3,SNR=9.9						
MKAR	Makanchi Array	109.39	314	PKiKP	PKiKP	19 55 35.5	-0.6
	0.3nm,0.6s,baz=104,slow=0.6,SNR=7.4						
BVAR	Borovoye Array	117.08	321	PKP	PKPdf	19 55 50.3	-0.3
	0.5nm,0.4s,baz=124,slow=2.9,SNR=3.1						
ARCES	ARCESS Array B	126.42	350	PKP	PKPdf	19 56 08.0	-0.1
	2.7nm,0.9s,baz=45,slow=3.6,SNR=7.2						
GEYT	Alibeck	127.32	304	PKP	PKPdf	19 56 10.4	-0.4
	1.3nm,0.7s,baz=111,slow=6.3,SNR=3.8						
NOA	NORSAR Array B	136.47	353	PKP	PKPdf	19 56 26.1	-1.2
	0.6nm,0.7s,baz=16,slow=1.9,SNR=2.5						
BRTR	Keskin Array B	145.03	315	PKPbc	PKPbc	19 56 44.4	0.0
	1.1nm,0.5s,baz=137,slow=5.0,SNR=7.9						
BRG	Berggiesshubel	145.79	346	ePKP	PKPbc	19 56 46.3	+0.3
	3.0nm,0.8s						
MLR	Muntele Rosu	146.03	329	PKPbc	PKPbc	19 56 47.0	0.0
	baz=27,slow=9.0						
MMAI	Mount Meron Ar	146.43	303	PKPbc	PKPbc	19 56 48.2	-0.2
	2.0nm,0.4s,baz=58,slow=5.4,SNR=8.8						
GERES	GERESS Array B	147.74	345	PKPbc	PKPbc	19 56 51.8	+0.4
	1.7nm,0.5s,baz=28,slow=3.3,SNR=19						
CONA	Conrad Observa	148.01	342	i PKPbc	PKPbc	19 56 53.0	+1.0
	3.2nm,0.9s						
KBA	Koelnbreinsper	149.48	345	i PKPbc	PKPbc	19 56 55.5	-0.2
	2.2nm,0.5s						
MOTA	Moosalm	149.74	348	ePKPbc	PKPbc	19 56 56.8	+0.5
	1.7nm,0.6s						
ABTA	Abfaltersbach	149.99	345	i PKPbc	PKPbc	19 56 56.7	-0.1
	4.6nm,0.6s						
TORD	Torodi Ar. Bea	175.21	178	PKP	PKPdf	19 57 14.9	-0.9
	1.3nm,1.0s,baz=292,slow=1.6,SNR=4.6						
TORD				PKPab	PKPab	19 58 56.6	+0.7
	0.8nm,0.8s,baz=190,slow=6.2,SNR=3.2						

KRSC 05 19:51:25.8±2.8**, 49°.10N**×**157°.23E, h40**km±51km**, ML3.7, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.74	336	eS	Sn	19 52 14.9	+0.6
PAU	Pauzhetka	2.38	354	eP	Pn	19 52 04.4	+2.1
PAU				eS	Sn	19 52 33.4	+3.2
KDTR	Khodutka, Kamc	2.77	11	eS	Sn	19 52 45.4	+5.8
RUS	Russkaya	3.43	13	eP	Pn	19 52 20.6	+3.9
DALK	Dalny	4.05	13	eP	Pn	19 52 29.0	+3.8
UGLR	Uglovaya	4.23	13	eP	Pn	19 52 32.4	+4.6
AVH	Avacha	4.28	12	eP	Pn	19 52 33.5	+5.1
SMAR	Somma	4.28	13	eP	Pn	19 52 33.2	+4.6
SDLR	Sedlovina	4.31	13	eP	Pn	19 52 32.9	+4.0
KRX	Arik	4.36	11	eP	Pn	19 52 34.6	+5.1
KBTR	Krutoberegovo	7.89	23	eP	Pn	19 53 22.0	+4.2

IDC 05 20:02:43.8±1.4**, 46°.02S**×**76°.86W, h0**km**, mb3.8**/2**, mb1 4.0**/3**, mb1mx3.7**/29**, mbtmp3.7**/3**, ML3.0**/1**, MS3.5**/4**, Ms1 3.5**/4**, ms1mx3.1**/28**, Error ellipse: s-maj=59.3km s-min=38.7km az=129.0, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	7.01	43	Pn	Pn	20 04 28.0	+0.3
	0.1nm,0.3s,baz=219,slow=14,SNR=4.0						
PLCA				LR	LR	20 06 58.4	
	comp=Z,382nm,21.2s,baz=254,slow=36						
CPUP	Villa Florida	25.07	45	P	P	20 08 09.9	0.0
	2.8nm,0.9s,baz=227,slow=9.2,SNR=5.3						
CPUP				LR	LR	20 18 39.4	
	comp=Z,151nm,18.7s,baz=212,slow=38						
PTGA	Pitinga	47.49	23	LR	LR	20 34 08.4	
	comp=Z,34nm,20.7s,baz=40,slow=40						
TXAR	Lajitas Array	78.85	336	P	P	20 14 48.8	+0.3
	0.5nm,0.9s,baz=156,slow=6.4,SNR=3.9						
KOWA	Kowa	88.82	68	LR	LR	20 58 09.6	
	comp=Z,27nm,18.4s,baz=226,slow=37						
GEYT	Alibeck	145.95	87	PKPbc	PKPbc	20 22 24.8	-0.2
	0.7nm,0.6s,baz=248,slow=2.7,SNR=3.2						
AKTO	Aktyubinsk	149.98	65	PKPbc	PKPbc	20 22 33.8	-1.6
	0.4nm,0.3s,baz=270,slow=4.0,SNR=5.1						
CMAR	Chiang Mai Arr	152.29	171	PKPbc	PKPbc	20 22 41.8	+0.1
	0.1nm,0.4s,baz=228,slow=3.5,SNR=4.0						

*IDC **05** 20:07:14.3±0.9, 1°.02N×125°.81E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/49, mbtmp3.9/9, Error ellipse: s-maj=83.7km s-min=15.2km az=64.0*
*ISCJB **05** 20:07:22.1±0.4, 0°.82N±0°.04×125°.50E±0°.03, h73km, mb3.9/12, Error ellipse: s-maj=5.7km s-min=4.5km az=34.4*
*DJA **05** 20:07:22.9±0.3, 1°N±2°×12°5E±°, h10km, M4.5/11, mb4.8/4, mB4.9/3, MLv4.3/11, Mw(mB)4.2/3*
*NEIC **05** 20:07:26.0±0.8, 0°.71N×125°.44E, h96km±8km, mb4.5/4, Error ellipse: s-maj=12.1km s-min=7.0km az=53.0*
ISC 05 20:07:24.6±0.6**, 0°.64N**±0°.04×**125°.41E**±0°.04**, h73**km**, n35, σ1ˢ89**/45**, mb3.8**/12**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.43	268	P	Pn	20 07 47.2	-1.5
TNTI	Ternate	1.96	86	ePn	Pn	20 07 58.0	+2.3
LBMI	Labuha	2.44	121	P	Pn	20 08 03.0	+0.7
LBMI				S	Sn	20 08 33.6	+2.4
SANI	Sanana	2.73	168	P	Pn	20 08 04.3	-1.9
SANI				S	Sn	20 08 40.5	+2.4
SGSI	Sangihe	3.03	2	P	Pn	20 08 10.6	+0.3
SGSI				S	Sn	20 08 49.8	+4.3
LUWI	Luwuk	3.12	238	P	Pn	20 08 12.6	+1.1
LUWI				S	Sn	20 08 51.4	+3.7
LUWI	Luwuk	3.12	238	ePn	Pn	20 08 12.3	+0.8
MRSI	Marisa	3.47	267	P	Pn	20 08 16.0	-0.3
MRSI				S	Sn	20 08 59.8	+3.5
APSI	Ampana	4.06	248	P	Pn	20 08 25.6	+1.3
APSI				S	Sn	20 09 13.6	+2.9
AAI	Ambon	5.12	147	P	Pn	20 08 39.9	+1.2
	138nm,0.5s,3μm						
AAI				S	Sn	20 09 38.7	+2.2
	138nm,0.5s,3μm						
MSAI	Masohi	5.29	138	P	Pn	20 08 43.0	+1.9
	38nm,0.5s,441nm						
MPSI	Mapaga	5.52	267	P	Pn	20 08 45.6	+1.3
TTSI	Tana Toraja	6.68	237	P	Pn	20 09 01.1	+1.0
TTSI				S	Sn	20 10 18.4	+3.6
MYLDM	Lahad Datu	8.25	303	ePn	Pn	20 09 23.1	+1.6
KSM	Kuching	15.12	273	eP	P	20 10 56.8	-1.0
	29nm,1.0s						
WR1	Warramunga Arr	22.24	157	eP	P	20 12 14.8	-0.8
WRA	Warramunga Arr	22.24	157	P	P	20 12 14.8	-0.8
	2.4nm,0.4s,baz=337,slow=11,SNR=28						
AS31	Alice Springs	25.53	162	eP	P	20 12 47.8	+1.2
	1.0nm,0.6s						
AS31				ePcP	PcP	20 16 17.4	+0.9
ASAR	Alice Springs	25.53	162	P	P	20 12 47.3	+0.7
	2.1nm,0.6s,baz=336,slow=6.9,SNR=69						
ASAR				PcP	PcP	20 16 17.4	+0.9
	0.6nm,0.7s,baz=337,slow=2.3,SNR=5.6						
AS01	Alice Springs	25.54	162	eP	P	20 12 46.9	+0.2
CMAR	Chiang Mai Arr	31.45	306	P	P	20 13 39.4	+0.1
	0.6nm,0.8s,baz=144,slow=9.5,SNR=3.8						
STKA	Stephens Creek	35.78	156	P	P	20 14 16.8	0.0
	2.0nm,0.7s,baz=332,slow=10,SNR=4.2						
SONA0	Songino Array	49.83	343	eP	P	20 16 08.8	-1.5
SONM	Songino Array	49.83	343	P	P	20 16 08.8	-1.5
	0.4nm,0.7s,baz=166,slow=10,SNR=2.2						
MK01	Makanchi Array	59.35	327	eP	P	20 17 18.2	-1.0
MK31	Makanchi Array	59.37	327	eP	P	20 17 18.4	-0.9
MK32	Makanchi Array	59.37	327	eP	P	20 17 18.2	-1.1
MKAR	Makanchi Array	59.37	327	P	P	20 17 18.2	-1.1
	0.9nm,0.4s,baz=121,slow=7.8,SNR=26						
MKAR	Makanchi Array	59.37	327	eP	P	20 17 18.4	-0.9
	9.8nm,0.4s						
MAKZ	Makanchi	59.55	327	eP	P	20 17 19.1	-1.5
	7.7nm,1.8s						
ZALV	Zalesovo Beam	62.76	334	P	P	20 17 39.2	-2.9
	0.5nm,0.5s,baz=148,slow=6.1,SNR=3.4						
ZAA1	Zalesovo Array	62.76	334	eP	P	20 17 39.2	-2.9
KURK	Kurchatov	63.66	329	eP	P	20 17 47.1	-1.0
	3.2nm,0.5s						
BVAR	Borovoye Array	69.20	328	P	P	20 18 21.1	-2.4
	0.9nm,0.7s,baz=130,slow=7.8,SNR=4.5						
AKTO	Aktyubinsk	75.27	322	P	P	20 18 58.2	-1.5
	0.7nm,0.5s,baz=149,slow=3.0,SNR=4.9						

KRSC 05 20:08:43.9±1.5**, 54°.26N**×**162°.72E, h40**km±25km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	1.64	306	eP	Pn	20 09 09.9	-0.3
KZV	Kizimen	1.65	302	eP	Pn	20 09 10.5	+0.1
TUMR	Tumrok	1.81	306	eP	Pn	20 09 13.5	+0.9
KBTR	Krutoberegovo	1.95	2	eP	Pn	20 09 15.8	+1.4
KBTR				eS	Sn	20 09 39.3	+1.6
SPN	Mys Shipunski	1.98	235	eP	Pn	20 09 16.8	+2.0
SPN				eS	Sn	20 09 41.0	+2.6
KMNR	Kamenistaya	2.07	317	eP	Pn	20 09 17.3	+1.1
KMNR				eS	Sn	20 09 41.8	+1.0
BZMR	Bezymyannaya	2.11	324	eP	Pn	20 09 20.0	+3.2
BKI	Bering	2.11	62	eS	Sn	20 09 44.5	+2.9
BZWR	Bezymyannyi-We	2.13	324	eP	Pn	20 09 21.6	+4.5
LGNR	Loginova	2.17	328	eP	Pn	20 09 20.4	+2.8
NLC	Nalytchevo	2.28	243	eS	Sn	20 09 49.2	+3.4
KRSR	Krestovskiy	2.32	329	eP	Pn	20 09 23.2	+3.7
KOZ	Kozyrevsk	2.43	319	eP	Pn	20 09 25.2	+4.2
SMKR	Semkarok	2.43	344	eP	Pn	20 09 22.9	+1.8
SDLR	Sedlovina	2.48	248	eP	Pn	20 09 24.0	+2.2
SDLR				eS	Sn	20 09 53.4	+2.6
SMAR	Somma	2.53	248	eP	Pn	20 09 24.7	+2.1
SMAR				eS	Sn	20 09 54.7	+2.5
UGLR	Uglovaya	2.54	247	eP	Pn	20 09 25.8	+3.2
UGLR				eS	Sn	20 09 56.6	+4.2
SRKR	Sorokina	2.56	340	eP	Pn	20 09 26.9	+4.1
SRKR				eS	Sn	20 09 58.6	+5.9
AVH	Avacha	2.56	249	eP	Pn	20 09 26.4	+3.5
AVH				eS	Sn	20 09 57.6	+4.7
KRX	Arik	2.58	251	eP	Pn	20 09 25.4	+2.3
KRX				eS	Sn	20 09 55.9	+2.6
KOK	Koryaka	2.61	250	eP	Pn	20 09 26.9	+3.4
KOK				eS	Sn	20 09 58.4	+4.4
PET	Petropavlovsk	2.72	245	eS	Sn	20 10 00.3	+3.8
ESO	Esso	2.85	307	eP	Pn	20 09 29.3	+2.5
GNL	Ganaly	2.88	261	eP	Pn	20 09 30.4	+3.2
KRMR	Karymshinskiy	3.09	244	eP	Pn	20 09 33.7	+3.7
KRMR				eS	Sn	20 10 10.1	+4.4
RUS	Russkaya	3.11	236	eP	Pn	20 09 34.0	+3.6
MTVR	Mutnovka	3.25	239	eS	Sn	20 10 14.3	+4.5
ASAK	Asacha	3.45	239	eP	Pn	20 09 40.3	+5.3
APC	Apacha	3.57	250	eS	Sn	20 10 24.2	+6.6
KDTR	Khodutka, Kamc	3.72	231	eS	Sn	20 10 24.1	+2.8

*ISCJB **05** 20:20:12.7±0.8, 17°.75S±0°.07×69°.7W±0°.1, h148km±8km, mb3.1/2, Error ellipse: s-maj=20.8km s-min=11.2km az=5.2*
*GUC **05** 20:20:12.9±0.6, 17°.71S×69°.56W, h126km±7km, ML3.7*
*IDC **05** 20:20:17.6±5.2, 17°.34S×69°.20W, h163km±28km, mb3.0/2, mb1 3.3/2, mb1mx3.0/32, mbtmp3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/9, Error ellipse: s-maj=106.9km s-min=54.8km az=18.0*
ISC 05 20:20:13.1±1.1**, 17°.68S**±0°.07×**69°.7W**±0°.1**, h136**km±9km**, n13, σ1ˢ07**/19**, 4C-2D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB12	IPOC Station P	1.12	214	⇑iP	Pn	20 20 37.8	0.0
PB12				i S	Sn	20 20 56.4	-0.2
MNMC	Minye Minye	1.45	177	⇑iP	Pn	20 20 42.0	+0.7
MNMC				i S	Sn	20 21 03.0	+0.1
PSGC	Pisagua	1.96	193	eP	Pn	20 20 47.0	0.0
PSGC				i S	Sn	20 21 12.5	-0.5
LPAZ	La Paz	2.02	47	P	Pn	20 20 48.3	+0.1
	13nm,0.3s,baz=231,slow=6.4,SNR=205						
LPAZ	La Paz	2.02	47	⇓iP	Pn	20 20 48.3	+0.1
PB11	IPOC Station P	2.07	180	⇑iP	Pn	20 20 48.6	+0.2
PB11				i S	Sn	20 21 15.5	0.0
PB11				IAML		20 21 17.9	
	comp=E,943nm,0.2s						
PB08	IPOC Station P	2.50	169	⇑iP	Pn	20 20 54.9	+1.0
PB08				i S	Sn	20 21 26.4	+1.2
PB08				IAML		20 21 28.7	
	comp=N,121nm,0.3s						
PB01	IPOC Station P	3.35	177	⇓iP	Pn	20 21 04.8	+0.2
PB01				i S	Sn	20 21 42.6	-1.8
PB01				IAML		20 21 45.9	
	comp=E,177nm,0.3s						
PB02	IPOC Station P	3.63	183	eP	Pn	20 21 08.6	+0.4
PB02				eS	Sn	20 21 48.6	-2.3
PLCA	Paso Flores	22.99	182	LR	LR	20 36 25.5	
	comp=E,59nm,19.6s,baz=274,slow=42						
TORD	Torodi Ar. Bea	76.78	71	P	P	20 31 48.8	-1.4
	comp=E,0.2nm,0.4s,baz=252,slow=5.8,SNR=4.7						
YKA	Yellowknife Ar	87.36	341	P	P	20 32 44.9	+0.6
	comp=E,0.2nm,0.5s,baz=134,slow=5.3,SNR=5.3						
WRA	Warramunga Arr	135.81	213	PKP	PKPdf	20 39 20.2	+1.7
	comp=E,0.3nm,0.7s,baz=157,slow=1.5,SNR=3.0						

MAN 05 20:22:33, 13°.70N×**119°.98E, h30**km**, mb4.2, ML3.0, MS2.7, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.26	83	eP	Pn	20 22 41.9	+1.0
LUBP				eS	Sn	20 22 45.9	+0.1
PGP	Puerto Galera	0.97	102	⇑eP	Pn	20 22 50.8	+0.2
PGP				i S	Sb	20 23 03.9	+0.1
SJMP	San Jose	1.66	138	eP	Pb	20 23 01.9	-1.1
SJMP				eS	Sn	20 23 18.7	-1.7
BUSP	Coron	1.70	173	eP	Pn	20 23 01.3	+0.6
BUSP				eS	Sn	20 23 19.9	-1.6
ENPP	El Nido	2.54	192	eP	Pn	20 23 13.9	+1.7
ENPP				eS	Sn	20 23 41.3	-0.9

*ISK **05** 20:31:06.4, 38°.42N×42°.90E, h8km, ML2.7/1*
*CSEM **05** 20:31:07.0±0.2, 38°.40N×42°.96E, h5km, ML2.8, Error ellipse: s-maj=4.1km s-min=3.7km az=105.0*
*DDA **05** 20:31:07.3, 38°.41N×42°.91E, h7km, Ml2.8*
ISC 05 20:31:07.2±0.9**, 38°.42N**±0°.02×**42°.91E**±0°.02**, h8**km±8km**, n36, σ0ˢ62**/58**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.16	131	i P	Pg	20 31 10.3	-0.3
GEVA				i S	Sg	20 31 13.8	+0.8
GEVA	Gevas	0.16	131	P	Pg	20 31 10.3	-0.3
GEVA				S	Sg	20 31 13.8	+0.8
TVAN	Van	0.41	74	i P	Pg	20 31 15.6	+0.3
TVAN				i S	Sb	20 31 24.2	+0.9
TVAN	Van	0.41	74	P	Pg	20 31 15.6	+0.3
TVAN				S	Sb	20 31 24.2	+0.9
ADCV	BITLIS_Adilcev	0.42	340	i P	Pb	20 31 16.3	-0.7
ADCV				i S	Sb	20 31 23.8	+0.3
ADCV	BITLIS_Adilcev	0.42	340	P	Pb	20 31 16.3	-0.7
ADCV				S	Sb	20 31 23.8	+0.3
VANB	Van	0.42	65	PG	Pg	20 31 14.9	-0.5
VANB	Van	0.42	65	ePg	Pg	20 31 14.9	-0.5
GURO	Guroymak-BITLI	0.70	281	PG	Pg	20 31 20.3	-0.4
GURO				SG	Sg	20 31 30.3	+0.4
GURO	Guroymak-BITLI	0.70	281	ePg	Pg	20 31 20.3	-0.4
GURO				eSg	Sg	20 31 30.3	+0.4
SRTM	Siirt_Merkez	0.88	242	i P	Pb	20 31 24.6	-0.2
SRTM				i S	Sb	20 31 36.9	+0.1
SRTM	Siirt_Merkez	0.88	242	P	Pb	20 31 24.6	-0.2
SRTM				S	Sb	20 31 36.9	+0.1
SIRT	Sirnak	0.98	202	PG	Pg	20 31 25.8	-0.4
SIRT	Sirnak	0.98	202	ePg	Pg	20 31 25.8	-0.4
TUTA	Tutak	0.99	356	i P	Pg	20 31 26.3	+0.1
TUTA				i S	Sb	20 31 40.7	+0.7
TUTA	Tutak	0.99	356	P	Pg	20 31 26.3	+0.1
TUTA				S	Sb	20 31 40.7	+0.7
SIRN	S˜–rnak	1.00	203	i P	Pg	20 31 26.2	-0.2
SIRN				i S	Sg	20 31 38.4	-1.0
SIRN	S˜–rnak	1.00	203	P	Pg	20 31 26.2	-0.2
SIRN				S	Sg	20 31 38.4	-1.0
HAKT	HAKKARI	1.06	143	i P	Pb	20 31 27.5	-0.5
HAKT				i S	Sn	20 31 44.7	+0.9
HAKT	HAKKARI	1.06	143	P	Pb	20 31 27.5	-0.5
HAKT				S	Sn	20 31 44.7	+0.9
EKAR	Karacoban	1.07	322	i P	Pg	20 31 27.4	-0.3
EKAR				i S	Sn	20 31 44.2	+0.4
EKAR	Karacoban	1.07	322	P	Pg	20 31 27.4	-0.3
EKAR				S	Sn	20 31 44.2	+0.4
CLDR	Caldiran	1.07	47	PG	Pg	20 31 27.1	-0.8
CLDR	Caldiran	1.07	47	ePg	Pg	20 31 27.1	-0.8
AGRB	Hanur-Agry	1.16	3	PN	Pg	20 31 28.9	-0.6
AGRB	Hanur-Agry	1.16	3	ePn	Pg	20 31 28.9	-0.6
CUKT	Cukurca	1.29	154	PN	Pn	20 31 30.8	-0.9
CUKT	Cukurca	1.29	154	i P	Pn	20 31 31.1	-0.6
CUKT	Cukurca	1.29	154	ePn	Pn	20 31 30.8	-0.9
CUKT	Cukurca	1.29	154	P	Pn	20 31 31.1	-0.6
BTMN	Batman	1.39	248	i P	Pg	20 31 33.9	0.0
BTMN				i S	Sg	20 31 53.3	+1.3
BTMN	Batman	1.39	248	P	Pg	20 31 33.9	0.0
BTMN				S	Sg	20 31 53.3	+1.3
HANI	Diyarbakir_Han	1.97	271	eP	Pb	20 31 43.5	+0.1
HANI				i S	Sg	20 32 09.6	-0.9
HANI	Diyarbakir_Han	1.97	271	P	Pb	20 31 43.5	+0.1
HANI				S	Sg	20 32 09.6	-0.9
MAZI	Mazidag	2.17	245	PN	Pn	20 31 43.9	+0.2
MAZI	Mazidag	2.17	245	ePn	Pn	20 31 43.9	+0.2

*IDC **05** 20:44:46.3±1.6, 51°.69N×96°.08E, h0km, mb4.0/1, mb1 3.3/3, mb1mx2.9/74, mbtmp3.3/3, ML2.6/2, Error ellipse: s-maj=30.7km s-min=17.4km az=163.0*
*MOS **05** 20:44:48.0±2.0, 51°.85N×96°.03E, h10km, mb4.0/1, Error ellipse: s-maj=45.0km s-min=24.0km az=172.7*
ISC 05 20:44:49.1±1.1**, 51°.9N**±0°.1×**95°.99E**±0°.08**, h10**km**, n10, σ1ˢ69**/10**, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORL	Orlik	2.44	73	ePN	Pb	20 45 30.8	-2.3
ORL				e		20 46 02.4	
ORL				pmax	pmax		
	comp=Z,67nm,0.4s						
ORL				smax	smax		
	comp=N,179nm,1.0s						
MOY	Mondy	3.11	92	ePN	Pb	20 45 42.3	-2.2
MOY				e		20 46 24.1	
MOY				pmax	pmax		
	comp=Z,33nm,0.4s						
MOY				smax	smax		
	comp=N,346nm,1.0s						
ARS	Arshan	3.98	87	ePN	Pn	20 45 51.3	+1.1
ARS				e		20 45 59.6	
ARS				e		20 46 51.3	
ARS				pmax	pmax		
	comp=Z,35nm,0.5s						
ARS				smax	smax		
	comp=E,559nm,0.7s						
TLY	Talaya	4.75	89	ePN	Pb	20 46 13.6	+1.1
TLY				e		20 47 14.0	
TLY				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ZAK	Zakamensk	4.83	105	ePN	Pb	20 46 12.8	-0.9
ZAK				e		20 47 18.1	
ZAK				pmax	pmax		
	comp=Z,24nm,0.8s						
ZAK				smax	smax		
	comp=N,129nm,1.2s						
IRK	Irkutsk	5.12	83	ePN	Pb	20 46 19.1	+0.4
IRK				e		20 47 23.5	
IRK				pmax	pmax		
	comp=Z,48nm,0.2s						
IRK				smax	smax		
	comp=N,220nm,1.2s						
ZALV	Zalesovo Beam	7.07	291	Pn	Pn	20 46 33.9	+1.4
	comp=N,0.3nm,0.3s,baz=101,slow=13,SNR=4.2						
ZALV				Lg	Lg	20 48 24.8	
	comp=N,1.3nm,0.3s,baz=102,slow=24,SNR=5.8						
SONM	Songino Array	7.84	117	Pg	Pb	20 47 06.3	+1.2
	comp=N,0.5nm,0.3s,baz=298,slow=18,SNR=8.0						
SONM				Lg	Lg	20 48 52.8	
	comp=N,1.1nm,0.3s,baz=307,slow=33,SNR=12						
MKAR	Makanchi Array	10.28	246	Pn	Pn	20 47 15.0	-1.6
	comp=N,0.1nm,0.3s,baz=53,slow=7.6,SNR=4.1						
MKAR				Pg		20 47 54.5	
	comp=N,0.2nm,0.3s,baz=53,slow=14,SNR=5.1						
MKAR				Lg	Lg	20 50 09.8	
	comp=N,0.2nm,0.3s,baz=66,slow=31,SNR=5.5						
TIXI	Tiksi	24.61	24	P	P	20 50 08.6	-0.4
	comp=N,1.3nm,0.4s,baz=243,slow=10,SNR=6.7						

*ISK **05** 20:50:46.6, 38°.15N×42°.78E, h6km, ML2.5/2*
*ISCJB **05** 20:50:47.5±0.7, 38°.10N±0°.03×42°.75E±0°.04, h7km±6km, Error ellipse: s-maj=5.7km s-min=4.9km az=143.1*
*CSEM **05** 20:50:47.4±0.2, 38°.11N×42°.78E, h12km, ML2.3, Error ellipse: s-maj=4.6km s-min=4.0km az=114.0*
*DDA **05** 20:50:47.7, 38°.07N×42°.80E, h7km, Ml2.3*
ISC 05 20:50:47.5±1.1**, 38°.13N**±0°.03×**42°.79E**±0°.03**, h9**km±11km**, n22, σ0ˢ57**/34**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.28	49	i P	Pg	20 50 53.5	+0.3
GEVA				i S	Sb	20 50 59.2	-0.6
GEVA	Gevas	0.28	49	P	Pg	20 50 53.5	+0.3
GEVA				S	Sb	20 50 59.2	-0.6
TVAN	Van	0.63	50	i P	Pb	20 51 00.7	-0.2
TVAN	Van	0.63	50	P	Pb	20 51 00.7	-0.2
ADCV	BITLIS_Adilcev	0.68	356	i P	Pb	20 51 01.7	0.0
ADCV				i S	Sb	20 51 12.7	+1.4
ADCV	BITLIS_Adilcev	0.68	356	P	Pb	20 51 01.7	0.0
ADCV				S	Sb	20 51 12.7	+1.4
SIRT	Sirnak	0.68	204	PG	Pg	20 51 00.6	-0.1
SIRT	Sirnak	0.68	204	ePg	Pg	20 51 00.6	-0.1
SRTM	Siirt_Merkez	0.69	259	i P	Pg	20 51 01.0	+0.1
SRTM				i S	Sb	20 51 11.7	+0.1
SRTM	Siirt_Merkez	0.69	259	P	Pg	20 51 01.0	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRTM				S	Sb	20 51 11.7	+0.1
SIRN	S˜–rnak	0.70	205	i P	Pg	20 51 00.1	-0.7
SIRN				i S	Sg	20 51 10.1	+0.1
SIRN	S˜–rnak	0.70	205	P	Pg	20 51 00.2	-0.7
SIRN				S	Sg	20 51 10.1	+0.1
GURO	Guroymak-BITLI	0.73	306	PG	Pg	20 51 00.8	-0.7
GURO				SG	Sg	20 51 11.0	0.0
GURO	Guroymak-BITLI	0.73	306	ePg	Pg	20 51 00.8	-0.7
GURO				eSg	Sg	20 51 11.0	0.0
HAKT	HAKKARI	0.93	128	i P	Pg	20 51 04.8	-0.5
HAKT				i S	Sb	20 51 19.3	+0.9
HAKT	HAKKARI	0.93	128	P	Pg	20 51 04.8	-0.5
HAKT				S	Sb	20 51 19.3	+0.9
CUKT	Cukurca	1.09	143	PN	Pg	20 51 08.3	-0.2
CUKT	Cukurca	1.09	143	ePn	Pg	20 51 08.3	-0.2
AGRB	Hanur-Agry	1.46	6	PN	Pn	20 51 13.7	-0.5
AGRB	Hanur-Agry	1.46	6	ePn	Pn	20 51 13.7	-0.5
MAZI	Mazidag	1.97	251	PN	Pn	20 51 21.4	+0.2
MAZI	Mazidag	1.97	251	ePn	Pn	20 51 21.4	+0.2

IDC 05 20:58:34.1±1.2, 9°.87N×75°.03W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.2/48, mbtmp3.3/2, ML3.7/1, Error ellipse: s-maj=52.0km s-min=18.5km az=16.0
ISCJB 05 20:58:35.8±0.8, 10°.04N±0°.06×74°.96W±0°.05, h10km, mb3.3/2, Error ellipse: s-maj=8.7km s-min=5.7km az=150.8
RSNC 05 20:58:40.4±0.6, 10°.01N×74°.97W, h32km±16km, ML3.5
ISC 05 20:58:37.2±1.0, 9°.99N±0°.07×74°.96W±0°.06, h10km, n15, σ1s.13/21, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOTC	Monteria, Cord	1.39	210	eP	Pn	20 59 02.8	0.0
MOTC				eS	Sn	20 59 20.4	-0.9
CODC	Agust˘ın Codaz	1.49	92	eP	Pn	20 59 04.3	+0.1
CODC				eS	Sn	20 59 22.4	-1.3
CODC				i		20 59 25.3	
	comp=Z,935nm,0.3s						
OCAC	Ocana	2.38	137	eP	Pn	20 59 16.8	+0.4
OCAC				eS	Sn	20 59 45.2	-0.7
ZARC	Zaragoza, Cauc	2.49	178	eP	Pn	20 59 17.6	-0.3
ZARC				i		20 59 54.1	
	comp=Z,200nm,0.6s						
URIC	Uribia, Colomb	3.37	60	eP	Pn	20 59 30.4	+0.3
URIC				i		21 00 18.6	
	comp=Z,118nm,0.3s						
PAMC	Pamplona, Colo	3.46	140	eP	Pn	20 59 32.4	+0.8
PAMC				eS	Sn	21 00 12.8	-0.1
PAMC				i		21 00 18.9	
	comp=Z,63nm,0.4s						
PTBC	PUERTO BERRIO,	3.47	172	eP	Pn	20 59 31.3	0.0
BARC	Barichara	3.81	152	eP	Pn	20 59 36.7	+0.4
BARC				i		21 00 41.8	
	comp=Z,116nm,1.0s						
HELC	Santa Helena	3.82	189	eP	Pn	20 59 37.4	+0.9
HELC				i		21 00 21.0	
	comp=Z,39nm,0.5s						
NORC	Norcasia	4.40	179	eP	Pn	20 59 43.7	-0.5
SDV	Santo Domingo	4.41	104	Pn	Pn	20 59 44.9	+0.5
	comp=Z,42nm,0.3s,baz=296,slow=5.0,SNR=116						
SDV				Pg	Pb	20 59 55.4	+0.5
	comp=Z,32nm,0.3s,baz=295,slow=5.2,SNR=16						
SDV				Sn	Sn	21 00 35.4	-0.6
	comp=Z,67nm,0.3s,baz=6.2,slow=21,SNR=12						
SDV				Lg	Lg	21 00 55.9	
	comp=Z,17nm,0.3s,baz=80,slow=18,SNR=3.7						
YKA	Yellowknife Ar	59.68	340	P	P	21 08 40.9	-0.6
	comp=Z,0.1nm,0.5s,baz=130,slow=6.8,SNR=3.1						
TORD	Torodi Ar. Bea	74.90	79	P	P	21 10 17.2	-1.8
	comp=Z,0.3nm,0.5s,baz=281,slow=5.9,SNR=4.0						
ASAR	Alice Springs	149.29	240	PKPbc	PKPdf	21 18 24.9	+1.9
	comp=Z,0.5nm,0.6s,baz=112,slow=3.8,SNR=6.3						
WRA	Warramunga Arr	150.06	247	PKPbc	PKPdf	21 18 27.3	+3.1
	comp=Z,1.9nm,1.3s,baz=103,slow=3.1,SNR=6.3						

TAP 05 21:13:16.1, 24°.22N×121°.69E, h14km, ML1.8, 1C-4D, C, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.10	243	P	Pg	21 13 19.3	0.0
	baz=243						
NACB				S	Sg	21 13 21.3	-0.1
	baz=243						
TWD	Chiawan	0.17	213	⇑iP	Pg	21 13 20.1	0.0
	baz=211						
TWD				eS	Sg	21 13 22.8	0.0
	baz=211						
ENA	Nanau	0.21	12	⇓P	Pg	21 13 20.9	0.0
	baz=13						
ENA				eS	Sg	21 13 24.1	0.0
	baz=13						
NANB	Nanao	0.21	14	⇓P	Pg	21 13 21.0	+0.1
	baz=13						
NANB				eS	Sg	21 13 23.9	-0.2
	baz=13						
ENAH	Nanao	0.25	25	eP	Pg	21 13 21.4	-0.1
	baz=22						
ENAH				eS	Sg	21 13 25.1	-0.1
	baz=22						
HWA	Hwalien	0.26	199	eP	Pb	21 13 22.2	-0.2
	baz=197						
NNSB	Datong	0.35	306	⇓P	Pg	21 13 23.7	+0.3
	baz=306						
NNSB				eS	Sg	21 13 28.3	+0.1
	baz=306						
NNSH	Datong	0.35	306	eP	Pg	21 13 23.5	+0.1
	baz=305						
NNSH				S	Sg	21 13 28.5	+0.2
	baz=305						
NNS	Nan Shan	0.37	307	P	Pg	21 13 23.9	+0.3
	baz=307						
NNS				S	Sg	21 13 29.0	+0.3
	baz=307						
WHF	Hehuan Shan	0.40	259	P	Pg	21 13 24.5	+0.2
	baz=259						
WHF				S	Sg	21 13 29.8	0.0
	baz=259						
TWC	Suao	0.41	20	eP	Pg	21 13 24.5	+0.1
	baz=14						
TWC				eS	Sg	21 13 29.8	-0.2
	baz=14						
ENTT	Nioudou	0.43	344	⇓P	Pb	21 13 25.2	-0.3
	baz=344						
ENTT				eS	Sg	21 13 30.5	-0.2
	baz=344						
ESL	Shilin	0.47	211	eP	Pg	21 13 25.5	+0.1
	baz=210						
TWT	Tachien	0.47	274	eP	Pg	21 13 25.7	+0.1
	baz=274						
TWT				S	Sb	21 13 32.7	-0.5
	baz=274						
TDCB	Techi	0.49	274	eP	Pg	21 13 26.0	+0.1
	baz=274						
TDCB				S	Sg	21 13 32.9	+0.4
	baz=274						
TWE	Neicheng	0.50	357	eP	Pg	21 13 26.2	+0.2
	baz=3.0						
TWE				eS	Sg	21 13 33.1	+0.4
	baz=3.0						
CHGB	Renai	0.50	252	P	Pb	21 13 26.5	-0.3
	baz=247						
CHGB				eS	Sg	21 13 32.9	+0.1
	baz=247						
EOS1	EOS1	0.51	50	eP	Pb	21 13 27.1	+0.3
	baz=41						
EOS1				S	Sb	21 13 34.8	+0.7
	baz=41						
YHNB	Yeheng	0.53	327	P	Pb	21 13 27.1	-0.2
	baz=326						
YHNB				eS	Sg	21 13 34.3	+0.5
	baz=326						
OWD	Renai	0.54	241	eP	Pg	21 13 26.8	-0.1
	baz=237						
OWD				S	Sb	21 13 34.8	-0.4
	baz=237						
NWLT	Wulai	0.58	343	P	Pg	21 13 27.8	+0.2
	baz=332						
NWLT				eS	Sg	21 13 35.1	-0.2
	baz=332						
EGFH	Guangfu	0.60	204	eP	Pg	21 13 27.9	0.0
	baz=210						
EGFH				eS	Sb	21 13 37.0	+0.3
	baz=210						
DPDB	Guoxing	0.73	255	P	Pg	21 13 30.1	-0.1
	baz=256						
LIOB	Emei	0.75	305	eP	Pn	21 13 31.7	-0.6
	baz=304						
TIPB	Shuangxi	0.76	9	eP	Pg	21 13 29.8	-1.0
TIPB				eS	Sg	21 13 39.0	-1.8
HGSD	Ruisui	0.77	199	eP	Pn	21 13 31.8	-0.6
	baz=214						
HGSD				eS	Sn	21 13 43.0	-0.8
	baz=214						
EHY	Hungye	0.79	206	eP	Pg	21 13 31.1	-0.3
	baz=216						
EHY				eS	Sb	21 13 42.7	+0.6
	baz=216						
SMLT	Sun Moon Lake	0.80	245	eP	Pg	21 13 31.7	0.0
	baz=238						
SSLB	Suanglung	0.80	238	eP	Pg	21 13 31.7	0.0
	baz=239						
SSLB				eS	Sg	21 13 41.6	-0.7
	baz=239						
TYC	Yuchr	0.83	248	eP	Pg	21 13 31.9	-0.2
	baz=241						
YULB	Yu-li	0.90	204	eP	Pb	21 13 33.2	-0.3
	baz=214						
YULB				eS	Sg	21 13 46.0	+0.7
	baz=214						
TWF1	Yuli	0.94	203	eP	Pb	21 13 33.8	-0.3
	baz=212						
TWF1				eS	Sn	21 13 47.4	-0.6
	baz=212						
FULB	Fuli	1.08	200	eP	Pb	21 13 36.0	-0.6
	baz=216						
FULB				eS	Sb	21 13 50.5	0.0
	baz=216						
CHN5	Tsauling	1.12	237	eP	Pg	21 13 38.5	+0.8
	baz=237						
ELDTW	Lidau	1.20	211	eP	Pn	21 13 38.5	0.0
	baz=201						
TPUB	Ta-pu	1.34	227	eP	Pb	21 13 41.2	+0.3
	baz=214						

TAP 05 21:13:26.8, 24°.24N×121°.68E, h13km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.10	231	P	Pg	21 13 30.5	+0.8
	baz=230						
NACB				S	Sg	21 13 32.6	+0.8
	baz=230						
TWD	Chiawan	0.17	205	P	Pb	21 13 31.4	-0.4
	baz=203						
TWD				eS	Sg	21 13 34.3	+0.8
	baz=203						
ENA	Nanau	0.20	17	P	Pb	21 13 32.2	-0.2
	baz=19						
ENA				eS	Sb	21 13 35.4	-0.6
	baz=19						
NANB	Nanao	0.20	19	eP	Pb	21 13 32.1	-0.3
	baz=19						
NANB				eS	Sg	21 13 35.2	+0.8
	baz=19						
ENAH	Nanao	0.24	30	eP	Pb	21 13 32.7	-0.4
	baz=29						
ENAH				eS	Sb	21 13 36.6	-0.7
	baz=29						
HWA	Hwalien	0.27	194	eP	Pb	21 13 33.4	0.0
	baz=192						
NNSB	Datong	0.33	306	eP	Pb	21 13 34.7	+0.1
	baz=305						
NNSB				eS	Sb	21 13 39.5	-0.4
	baz=305						
NNSH	Datong	0.33	306	eP	Pb	21 13 34.4	-0.2
	baz=305						
NNSH				eS	Sb	21 13 39.8	-0.1
	baz=305						
NNS	Nan Shan	0.34	306	eP	Pb	21 13 35.1	+0.2
	baz=306						
NNS				eS	Sb	21 13 40.2	-0.1
	baz=306						
WHF	Hehuan Shan	0.39	257	eP	Pb	21 13 35.5	-0.3
	baz=256						
WHF				eS	Sb	21 13 41.0	-0.8
	baz=256						
TWC	Suao	0.40	23	eP	Pg	21 13 35.3	+0.4
	baz=24						
TWC				eS	Sb	21 13 41.5	-0.5
	baz=24						
ENTT	Nioudou	0.41	346	eP	Pb	21 13 36.3	+0.3
	baz=346						
ENTT				S	Sb	21 13 41.8	-0.5
	baz=346						
TWT	Tachien	0.46	272	eP	Pb	21 13 36.9	+0.1
	baz=271						
TWT				eS	Sb	21 13 44.1	+0.4
	baz=271						
TDCB	Techi	0.47	272	eP	Pb	21 13 37.3	+0.2
	baz=272						
TDCB				S	Sb	21 13 44.0	-0.1
	baz=272						
ESL	Shilin	0.48	208	eP	Pb	21 13 37.2	+0.1
	baz=207						
TWE	Neicheng	0.48	359	eP	Pb	21 13 37.4	+0.2
TWE				eS	Sb	21 13 44.3	+0.1
CHGB	Renai	0.49	249	eP	Pb	21 13 37.4	-0.1
	baz=249						
CHGB				eS	Sb	21 13 44.3	-0.3
	baz=249						
YHNB	Yeheng	0.51	328	eP	Pb	21 13 37.8	+0.1
	baz=327						
OWD	Renai	0.54	239	eP	Pb	21 13 38.9	+0.7
	baz=238						
OWD				eS	Sb	21 13 45.6	-0.3
	baz=238						
NWLT	Wulai	0.56	344	eP	Pb	21 13 39.2	+0.7
	baz=343						
NWLT				eS	Sb	21 13 46.3	-0.2
	baz=343						
DPDB	Guoxing	0.71	254	eP	Pg	21 13 40.6	-0.1
	baz=253						
DPDB				eS	Sb	21 13 51.5	+0.5
	baz=253						
DPDB	Guoxing	0.71	254	S	Pg	21 13 40.3	-0.4
	baz=256						
LIOB	Emei	0.73	304	eP	Pb	21 13 42.1	+0.7
	baz=304						
LIOB	Emei	0.73	304	eS	Pg	21 13 41.7	+0.7
	baz=304						
TIPB	Shuangxi	0.74	10	eP	Pg	21 13 40.1	-1.2
	baz=10.0						
SMLT	Sun Moon Lake	0.79	244	eP	Pb	21 13 43.0	+0.5
	baz=243						
SMLT				eS	Sb	21 13 53.8	+0.6
	baz=243						
SMLT	Sun Moon Lake	0.79	244	eS	Pg	21 13 42.8	+0.6
	baz=238						
SSLB	Suanglung	0.80	236	eP	Pb	21 13 43.1	+0.5
	baz=235						
TYC	Yuchr	0.82	246	eP	Pb	21 13 43.2	+0.3
	baz=245						
TYC	Yuchr	0.82	246	eS	Pg	21 13 43.2	+0.5
	baz=241						
YULB	Yu-li	0.91	203	eP	Pn	21 13 45.1	-0.2
	baz=202						
YULB				eS	Sn	21 13 57.6	-0.7
	baz=202						
TWF1	Yuli	0.95	202	eP	Pn	21 13 45.5	-0.3
	baz=201						
ELDTW	Lidau	1.21	210	eP	Pg	21 13 50.4	+0.4
	baz=209						

ISCJB 05 21:34:08.8±0.7, 6°.83N±0°.04×73°.13W±0°.04, h153km±5km, mb3.5/1, Error ellipse: s-maj=7.7km s-min=5.6km az=28.5
IDC 05 21:34:08.7±0.9, 6°.88N×73°.13W, h150km±19km, mb3.2/1, mb1 3.5/3, mb1mx3.0/39, mbtmp3.8/3, Error ellipse: s-maj=64.6km s-min=8.5km az=131.0
RSNC 05 21:34:10.6±1.0, 6°.79N×73°.14W, h145km±5km, ML3.2
ISC 05 21:34:09.0±1.0, 6°.82N±0°.04×73°.12W±0°.05, h153km±7km, n24, σ0s.66/36, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	196	i P	Pn	21 34 30.1	+0.1
BARC				eS	Sn	21 34 44.5	-1.5
BARC				i		21 34 46.2	
	comp=Z,590nm,0.2s						
BRRC	Barranca, Sant	0.66	296	eP	Pn	21 34 32.1	+0.6
BRRC				eS	Sn	21 34 48.8	+0.1
BRRC				i		21 34 53.7	
	comp=Z,454nm,0.1s						
PAMC	Pamplona, Colo	0.66	39	eP	Pn	21 34 33.0	+0.9
PAMC				i		21 34 33.4	
	comp=Z,250nm,0.2s						
PAMC				eS	Sn	21 34 49.8	0.0
RUSC	La Rusia	0.92	178	eP	Pn	21 34 34.0	+0.1
RUSC				eS	Sn	21 34 52.2	-0.8
RUSC				i		21 34 54.3	
	comp=Z,150nm,0.4s						
PTBC	PUERTO BERRIO,	1.36	258	eP	Pn	21 34 36.7	-0.6
PTBC				eS	Sn	21 34 58.6	-0.4
OCAC	Ocana	1.42	352	eP	Pn	21 34 38.9	+0.7
OCAC				eS	Sn	21 35 00.9	+0.3
YOPC	Yopal, Colombi	1.61	154	i P	Pn	21 34 40.9	+0.8
YOPC				i		21 34 41.7	
	comp=Z,110nm,0.2s						
YOPC				eS	Sn	21 35 04.7	+0.7
ZARC	Zaragoza, Cauc	1.85	291	eP	Pn	21 34 43.1	+0.5
ZARC				eS	Sn	21 35 08.8	+0.4
ZARC				i		21 35 15.0	
	comp=Z,245nm,0.2s						
NORC	Norcasia	2.14	234	eP	Pn	21 34 46.3	+0.3
NORC				eS	Sn	21 35 13.9	-0.5
CHIC	Chingaza	2.26	196	eP	Pn	21 34 48.4	+0.6
CHIC				i		21 35 20.9	
	comp=Z,81nm,0.3s						
ROSC	El Rosal	2.30	211	P	Pn	21 34 49.1	+0.9
	comp=Z,18nm,0.3s,baz=126,slow=22,SNR=14						
ROSC				S	Sn	21 35 19.1	+0.7
	comp=Z,22nm,0.3s,baz=16,slow=23,SNR=6.5						
ROSC	El Rosal	2.30	211	eP	Pn	21 34 48.6	+0.3
ROSC				i		21 35 26.6	
	comp=Z,152nm,0.5s						
HELC	Santa Helena	2.48	256	eP	Pn	21 34 50.5	+0.2
HELC				i		21 35 29.3	
	comp=Z,121nm,0.5s						
VILC	Villavicencio,	2.75	192	eP	Pn	21 34 54.0	+0.5
VILC				eS	Sn	21 35 27.5	-0.4
VILC				i		21 35 33.0	
	comp=Z,55nm,0.7s						
GUYC	Guyana, Colomb	2.76	235	eP	Pn	21 34 55.1	+1.2
RREF	El Recreo	2.92	229	eP	Pn	21 34 57.0	+0.9
RREF				i		21 35 38.9	
	comp=Z,86nm,0.5s						
TOLC	Tolima	3.12	225	eP	Pn	21 34 59.0	+0.8
SDV	Santo Domingo	3.21	50	P	Pn	21 34 59.3	0.0
	comp=Z,16nm,0.3s,baz=248,slow=14,SNR=66						
SDV				S	Sn	21 35 37.1	-1.1
	comp=Z,4.6nm,0.3s,baz=280,slow=19,SNR=5.1						
SDV	Santo Domingo	3.21	50	eP	Pn	21 34 59.9	+0.6
PRAC	Prado	3.55	210	eP	Pn	21 35 03.8	+0.2
PLMC	San Jos˘' del	3.68	239	eP	Pn	21 35 05.3	+0.1
YOTC	Yotoco, Valle	4.27	229	eP	Pn	21 35 12.8	-0.2
YOTC				i		21 36 11.1	
	comp=Z,17nm,0.7s						
YKA	Yellowknife Ar	63.27	340	P	P	21 44 20.7	-0.3
	comp=Z,0.4nm,0.5s,baz=130,slow=7.1,SNR=8.6						
WRA	Warramunga Arr	150.34	241	PKPbc	PKPbc	21 53 42.9	-0.3
	comp=Z,0.1nm,0.4s,baz=103,slow=2.8,SNR=4.0						

MAN 05 21:35:03, 17°.23N×121°.87E, h38km, mb4.7, ML3.6, MS3.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAUP	Cauayan	0.28	189	eP	Pn	21 35 10.4	-0.9
CVP	Callao Caves	0.48	355	eP	Pn	21 35 12.8	-0.5
CVP				eS	Sn	21 35 19.5	-1.1
APYP	Conner	0.87	317	eP	Pn	21 35 19.3	+0.5
APYP				eS	Sn	21 35 32.6	+2.3
SGCP	Mt. Cagua	1.02	9	eP	Pn	21 35 21.9	+1.1
SGCP				eS	Sn	21 35 36.2	+2.2
ABRA	Dolores	1.18	291	eP	Pn	21 35 23.8	+0.8
ABRA				eS	Sn	21 35 39.9	+2.0
BALP	Baler	1.50	191	eP	Pn	21 35 27.8	+0.4
BALP				eS	Sn	21 35 47.9	+2.1
PCPH	Palayan	1.81	204	⇓eP	Pn	21 35 33.6	+2.0
PCPH				eS	Sn	21 35 57.5	+4.1

IDC 05 21:37:18.0±2.5, 9°.83S×159°.90E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/38, mbtmp3.7/5, Error ellipse: s-maj=90.5km s-min=33.8km az=139.0
ISCJB 05 21:37:20.7±1.3, 10°.01S±0°.10×160°.0E±0°.3, h32km, mb3.6/5, Error ellipse: s-maj=37.9km s-min=12.4km az=9.4
ISC 05 21:37:22.6±1.5, 9°.8S±0°.1×159°.9E±0°.3, h32km, n7, σ1s.94/7, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.40	1	LR	LR	21 37 50.2	
	comp=Z,156nm,20.9s,baz=0.0,slow=82						
HNR	Honiara	0.40	1	i P	Pb	21 37 29.0	-2.7
HNR				i S	Sn	21 37 41.0	+2.4
WRA	Warramunga Arr	26.66	245	P	P	21 42 58.4	-0.5
	2.3nm,0.9s,baz=72,slow=9.7,SNR=8.7						
SONM	Songino Array	74.39	326	P	P	21 48 58.0	+0.5
	0.4nm,0.7s,baz=123,slow=5.3,SNR=4.0						
ILAR	Eielson Array	84.27	20	P	P	21 49 50.4	-0.5
	0.2nm,0.6s,baz=226,slow=3.4,SNR=4.7						
MKAR	Makanchi Array	88.77	318	P	P	21 50 14.1	+0.8
	0.2nm,0.8s,baz=87,slow=8.8,SNR=2.9						
YKA	Yellowknife Ar	96.55	28	P	P	21 50 49.8	+1.0
	0.3nm,0.8s,baz=262,slow=3.5,SNR=4.1						

IDC 05 21:38:02.3±2.7, 3°.34S×136°.38E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/39, mbtmp3.6/3, ML3.8/1, MS2.6/1, Ms1 2.8/1, ms1mx2.3/22, Error ellipse: s-maj=106.7km s-min=29.7km az=80.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.62	187	Pn	Pn	21 41 57.6	+0.7
	0.4nm,0.3s,baz=8.5,slow=12,SNR=8.7						
ASAR	Alice Springs	20.35	187	P	P	21 42 40.1	-0.3
	1.5nm,0.5s,baz=6.7,slow=11,SNR=25						
CMAR	Chiang Mai Arr	42.76	302	LR	LR	22 06 00.3	
	comp=Z,6.5nm,18.2s,baz=335,slow=39						
MKAR	Makanchi Array	68.88	323	P	P	21 49 09.0	0.0
	0.2nm,0.6s,baz=104,slow=7.4,SNR=3.3						

IDC 05 21:57:41.5±2.8, 5°.94S×154°.00E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/49, mbtmp3.7/3, Error ellipse: s-maj=92.5km s-min=45.6km az=115.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.64	232	P	P	22 02 55.0	+0.3
	0.8nm,0.6s,baz=55,slow=9.7,SNR=8.3						
ASAR	Alice Springs	26.17	226	P	P	22 03 17.7	-0.2
	0.3nm,0.4s,baz=62,slow=9.0,SNR=4.8						
STKA	Stephens Creek	28.30	203	P	P	22 03 36.5	-0.4
	1.7nm,0.5s,baz=33,slow=15,SNR=6.0						
TORD	Torodi Ar. Bea	151.79	287	PKPbc	PKPbc	22 17 39.4	0.0
	1.2nm,0.8s,baz=54,slow=1.8,SNR=6.1						

BJI 05 21:57:52.7, 39°.81N×74°.18E, h8km, mb3.9/3, ML3.8/5
IDC 05 21:57:52.6±0.8, 39°.54N×74°.38E, h0km, mb3.8/15, mb1 4.0/22, mb1mx3.8/71, mbtmp3.9/22, ML3.3/7, MS3.2/8, Ms1 3.2/8, ms1mx2.8/64, Error ellipse: s-maj=14.5km s-min=13.0km az=106.0
SOME 05 21:57:53.9, 39°.73N×74°.37E, h5km, MS3.4
MOS 05 21:57:54.3±1.3, 39°.56N×74°.33E, h20km, mb4.1/20, Error ellipse: s-maj=10.2km s-min=6.1km az=92.6
NNC 05 21:57:55.5±1.6, 39°.70N×74°.30E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=16.2km s-min=4.9km az=3.0
KRNET 05 21:57:55.2±0.1, 39°.68N×74°.32E, mb4.2
ISC 05 21:57:53.2±1.1, 39°.47N±0°.05×74°.37E±0°.03, h5km±6km, n118, σ1s.89/164, mb4.0/26, MS3.4/3, 33C-38D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.86	309	⇓P	Pg	21 58 08.4	-1.3
	175nm,0.5s						

SFK ⇓S Sg 21 58 19.0 -2.0
2µm,0.9s
SFK Sufi-Kurgan 0.86 309 PG Pg 21 58 08.4 -1.3
SFK S Sg 21 58 19.0 -2.0
SFK pmax pmax
comp=Z,175nm,0.5s
SFK Sufi-Kurgan 0.86 309⇑*iP* Pg 21 58 08.5 -1.3
baz=99
SFK ⇑*iS* Sg 21 58 18.4 -2.6
baz=99
KSH Kashi 1.24 87 Pg Pn 21 58 15.8 -1.6
KSH Sg Sb 21 58 31.4 -2.2
KSH smax smax
comp=Z,2µm,0.5s
KSH smax smax
comp=Z,1µm,0.8s
ARSB Arslanbob 2.13 331⇓*iP* Pn 21 58 30.3 +0.6
baz=29
ARSB ⇓*iS* Sn 21 58 56.3 -0.4
baz=29
NRN Naryn 2.32 32⇓*iP* Pn 21 58 33.5 +1.1
baz=35
NRN ⇓*iS* Sn 21 59 01.3 -0.3
baz=35
KZA Kyzart 2.69 14⇑P Pn 21 58 38.6 +1.0
SNR=129
KZA Kyzart 2.69 14⇑*iP* Pn 21 58 38.7 +1.1
baz=16
KZA ⇑*iS* Sn 21 59 09.6 -1.1
baz=16
AML Almayashu 2.71 349 P Pn 21 58 38.5 +0.7
SNR=302
AML Almayashu 2.71 349⇓*eP* Pn 21 58 38.5 +0.7
baz=49
AML ⇓*iS* Sn 21 59 09.8 -1.4
baz=49
TOKL Toktogul 2.72 336⇓*iP* Pn 21 58 38.2 +0.5
baz=34
TOKL ⇓*iS* Sn 21 59 09.8 -1.2
baz=34
UCH Uchtor 2.76 2 P Pn 21 58 40.0 +1.5
SNR=321
UCH Uchtor 2.76 2⇓*iP* Pn 21 58 39.7 +1.2
baz=3.0
UCH ⇓*iS* Sn 21 59 10.7 -1.8
baz=3.0
ARK Arkit 2.96 323⇓*eP* Pn 21 58 41.2 +0.2
baz=20
ARK ⇓*iS* Sn 21 59 15.4 -1.6
baz=20
ULHL Ulahol 3.12 27 P Pn 21 58 45.0 +1.8
SNR=34
ULHL Ulahol 3.12 27⇑*iP* Pn 21 58 44.6 +1.4
baz=29
ULHL ⇑*iS* Sn 21 59 20.1 -0.9
baz=29
AAK Ala-Archa 3.17 2 Pn Pn 21 58 45.5 +1.6
comp=Z,34nm,0.3s,baz=164,slow=7.2,SNR=172
AAK Sn Sn 21 59 25.7 +3.6
comp=Z,47nm,0.3s,baz=48,slow=20,SNR=19
AAK LR LR 22 00 09.6
comp=Z,232nm,20.0s,baz=172,slow=44
AAK Ala-Archa 3.17 2⇓Pn Pn 21 58 45.1 +1.3
comp=Z,166nm,0.7s
AAK ⇓Lg Lg 21 59 27.0
comp=Z,252nm,0.6s
AAK Ala-Archa 3.17 2 P Pn 21 58 45.6 +1.6
SNR=244
AAK Ala-Archa 3.17 2*d*⇓PN Pn 21 58 45.2 +1.3
AAK Ala-Archa 3.17 2⇑*iP* Pn 21 58 44.8 +0.9
baz=3.0
AAK ⇑*iS* Sn 21 59 20.4 -1.7
baz=3.0
KBK Karagaybulak 3.21 8 P Pn 21 58 46.5 +1.9
SNR=153
KBK Karagaybulak 3.21 8⇓*iP* Pn 21 58 45.8 +1.2
baz=9.0
KBK ⇓*iS* Sn 21 59 22.3 -1.0
baz=9.0
EKS2 Erkin-Say 3.22 352 P Pn 21 58 46.1 +1.5
SNR=68
EKS2 Erkin-Say 3.22 352⇑*eP* Pn 21 58 45.9 +1.3
baz=52
EKS2 ⇑*iS* Sn 21 59 22.0 -1.4
baz=52
BOOM Boomskoye usch 3.25 21⇑*eP* Pn 21 58 46.1 +1.1
baz=23
BOOM ⇑*iS* Sn 21 59 23.4 -0.7
baz=23
MNAS Manas 3.33 336⇑Pn Pn 21 58 46.8 +0.7
comp=Z,40nm,0.6s
MNAS ⇑Lg Lg 21 59 32.3
comp=Z,425nm,0.8s
MNAS Manas 3.33 336 PN Pn 21 58 46.8 +0.7
MNAS pmax pmax
comp=Z,40nm,0.6s
MNAS Manas 3.33 336⇓*iP* Pn 21 58 46.9 +0.8
baz=35
MNAS ⇓*iS* Sn 21 59 24.8 -1.3
baz=35
FRU1 Bishkek 3.34 3⇑*iP* Pn 21 58 46.5 +0.3
baz=4.0
FRU1 ⇑*iS* Sn 21 59 24.8 -1.6
baz=4.0
MRKS Merke 3.39 346 *eP* Pn 21 58 51.1 +4.3
comp=Z,53nm,0.4s
MRKS *eS* Sn 21 59 31.6 +4.1
comp=Z,319nm,0.4s
KDJ Kajisay 3.41 38⇑*iP* Pn 21 58 49.4 +2.2
baz=41
KDJ ⇑*iS* Sn 21 59 28.5 +0.4
baz=41
CHMS Chumysh 3.54 5 P Pn 21 58 50.9 +2.1
SNR=29
CHMS Chumysh 3.54 5⇑*iP* Pn 21 58 50.0 +1.1
baz=6.0
CHMS ⇑*iS* Sn 21 59 29.2 -1.9
baz=6.0
TKM2 Tokmak 2 3.57 15⇓Pn Pn 21 58 51.2 +1.7
comp=Z,47nm,0.5s
TKM2 ⇓Lg Lg 21 59 39.9
comp=Z,109nm,0.4s
TKM2 Tokmak 2 3.57 15 P Pn 21 58 51.4 +1.9
SNR=136
TKM2 Tokmak 2 3.57 15 PN Pn 21 58 51.2 +1.7
TKM2 pmax pmax
comp=Z,47nm,0.5s
TKM2 Tokmak 2 3.57 15⇓*iP* Pn 21 58 51.2 +1.7
baz=16
TKM2 ⇓*iS* Sn 21 59 30.8 -1.4
baz=16
KST Kastek 3.77 18 *eP* Pn 21 58 56.5 +4.4
comp=Z,19nm,0.5s
KST *eS* Sn 21 59 41.5 +4.6
comp=Z,316nm,0.7s
USP Ospenovka 3.80 1 P Pn 21 58 53.9 +1.4
SNR=33
USP Ospenovka 3.80 1⇓*iP* Pn 21 58 53.2 +0.8
baz=2.0
USP ⇓*iS* Sn 21 59 36.1 -1.4
baz=2.0
DGS Degeres 3.92 15 *eP* Pb 21 59 01.3 -1.5
comp=Z,219nm,0.7s
DGS *eS* Sb 21 59 49.3 -1.3
comp=Z,228nm,0.8s
IZV Izvestkoviy 3.94 25 *eP* Pb 21 59 02.6 -0.7
comp=Z,232nm,0.5s
IZV *eS* Sb 21 59 50.5 -0.9
comp=Z,207nm,0.6s
MTBS Maitube 3.97 22 *eP* Pb 21 59 03.9 +0.1
comp=Z,95nm,0.6s
MTBS ⇓*iS* Sb 21 59 52.9 +0.7
comp=Z,216nm,0.5s
TNSS Tian-Shan 4.06 28 *eP* Pb 21 59 05.8 +0.4
comp=Z,103nm,0.4s
TNSS *eS* Sb 21 59 57.0 +2.0
comp=Z,142nm,0.5s
DZA Taraz 4.12 327 *eP* Pb 21 59 06.3 +0.1
comp=Z,110nm,0.4s
DZA *eS* Sb 21 59 57.3 +1.0
comp=Z,244nm,0.7s
AAA Alma-Ata 4.20 26 *eP* Pb 21 59 08.0 +0.3
comp=Z,174nm,0.7s
AAA *eS* Sb 22 00 00.8 +2.1
comp=Z,279nm,0.6s
AAA Alma-Ata 4.20 26 *e*PN Pb 21 59 07.9 +0.3
AAA *eS* Sb 22 00 00.7 +2.1
AAA pmax pmax
comp=Z,174nm,0.7s
AAA smax smax
comp=Z,279nm,0.6s
MDOK Medeo 4.21 28⇑Pn Pn 21 59 00.4 +2.2
comp=E,20nm,0.7s
MDOK ⇑Pg Pb 21 59 07.7 -0.2
comp=E,56nm,0.5s
MDOK ⇑Lg Lg 22 00 01.0
comp=E,122nm,0.8s
MDOK Medeo 4.21 28 *eP* Pb 21 59 07.6 -0.2
comp=E,85nm,0.4s
MDOK *eS* Sb 21 59 59.9 +0.9
comp=E,111nm,0.9s
IUG luzhnay 4.24 310 *eP* Pb 21 59 10.4 +2.0
comp=E,102nm,0.6s
IUG *eS* Sb 22 00 04.3 +4.4
comp=E,158nm,0.9s
PRZ Przheval'sk 4.29 44⇑*eP* Pn 21 59 00.8 +1.5
baz=47
PRZ ⇑*eS* Sn 21 59 49.0 -0.8
baz=47
KOTS Kotyrbulak 4.29 28 *eP* Pb 21 59 09.0 -0.3
KOTS *eS* Sb 22 00 02.0 +0.6
KTBS Karatobe 4.58 21 *eP* Pb 21 59 14.0 -0.1
comp=E,65nm,0.5s
KTBS *eS* Sb 22 00 11.2 +1.6
comp=E,213nm,0.6s
CHM Chimkent 4.60 310 *eP* Pb 21 59 17.0 +2.6
comp=E,121nm,0.8s
CHM *eS* Sg 22 00 16.3 -4.6
comp=E,249nm,0.6s
KK31 Karatay Array 4.65 323⇓Pn Pn 21 59 04.7 +0.6
comp=E,2.5nm,0.3s,baz=124,slow=12,SNR=90
KK31 ⇑Pg Pb 21 59 15.1 -0.2
comp=E,36nm,0.7s,baz=143,slow=17,SNR=17
KK31 ⇑Lg Lg 22 00 14.1
comp=E,35nm,0.5s,baz=132,slow=28,SNR=6.6
KK31 Karatay Array 4.65 323 PN Pb 21 59 15.7 +0.4
KK31 pmax pmax
comp=Z,3.0nm,0.3s
KUU Kurty 4.66 18 *eP* Pb 21 59 15.8 +0.3
comp=Z,32nm,0.7s
KUU ⇓*iS* Sb 22 00 13.1 +1.2
comp=Z,134nm,0.7s
SATY Saty 4.70 39⇓*iP* Pb 21 59 17.1 +0.8
comp=Z,31nm,0.6s
SATY *eS* Sb 22 00 15.6 +2.3
comp=Z,103nm,1.4s
CHKK Chushkaly 4.80 23 *eP* Pb 21 59 18.6 +0.8
comp=Z,26nm,0.6s
CHKK *eS* Sb 22 00 19.6 +3.7
comp=Z,127nm,0.6s
KURS Kuram 4.93 34 *eP* Pb 21 59 21.0 +1.0
comp=Z,15nm,0.9s
KURS *eS* Sb 22 00 23.2 +3.6
comp=Z,49nm,1.0s
BRLS Boroldaу 4.93 318 *eP* Pb 21 59 21.2 +1.1
comp=Z,0.9nm,0.8s
BRLS *eS* Sb 22 00 23.3 +3.6
comp=Z,117nm,1.2s
KPKS Kokpek 5.14 38 *eP* Pb 21 59 24.7 +1.0
comp=Z,29nm,0.7s
KPKS *eS* Sb 22 00 29.7 +3.8
comp=Z,142nm,0.5s
ARXS Arharly 5.40 27 *eP* Pb 21 59 29.3 +1.2
comp=Z,47nm,0.5s
ARXS *eS* Sb 22 00 37.2 +4.1
comp=Z,62nm,0.5s
PDGK Podgornoye 5.45 43⇓Pn Pn 21 59 16.9 +1.7
comp=Z,5.5nm,0.6s
PDGK ⇓Pg Pb 21 59 30.3 +1.4
comp=Z,36nm,0.7s
PDGK ⇓Lg Lg 22 00 42.1
comp=Z,98nm,1.1s
PDGK Podgornoye 5.45 43 PN Pn 21 59 16.9 +1.7
PDGK pmax pmax
comp=Z,6.0nm,0.6s
CHCP Chirah Chowk 5.87 189 P Pb 21 59 31.0 -5.0
CEP Cherat 5.97 200 P Pb 21 59 31.8 -6.0
DJR Jarkent 6.32 38 *eP* Pb 21 59 48.1 +4.4
comp=Z,31nm,0.3s
DJR ⇑*iS* Sb 22 01 07.4 +7.7
comp=Z,22nm,0.7s
THW Thamme Wali 6.99 198 P Pn 21 59 45.4 +9.1
SARP Sargodha 7.66 191 P Pn 21 59 52.9 +7.5
MKAR Makanchi Array 9.33 36 Pn Pn 22 00 10.2 +1.8
comp=Z,0.1nm,0.3s,baz=223,slow=14,SNR=14
MKAR Lg Lg 22 02 42.1
comp=Z,0.2nm,0.3s,baz=217,slow=25,SNR=3.2
MKAR LR LR 22 04 04.8
comp=Z,82nm,21.3s,baz=212,slow=40
WMQ Urumqi 10.88 62 *eP* Pn 22 00 30.9 +1.3
KURK Kurchatov 11.64 14⇑*iP* Pn 22 00 39.9 0.0
GEYT Alibeck 12.79 268 Pn Pn 22 00 56.3 +0.5
comp=Z,0.4nm,0.3s,baz=90,slow=8.9,SNR=7.2
BVAR Borovoye Array 13.83 350 Pn Pn 22 01 06.9 -3.0
comp=Z,0.2nm,0.3s,baz=158,slow=12,SNR=12
BVAR Lg Lg 22 04 58.9
comp=Z,0.1nm,0.3s,baz=161,slow=28,SNR=4.2
BVAR LR LR 22 06 29.1
comp=Z,90nm,21.1s,baz=132,slow=38
BRVK Borovoye 13.88 350 *eP* Pn 22 01 11.0 +0.5
AKTO Aktyubinsk 15.91 319 Pn Pn 22 01 36.2 -1.5
comp=Z,0.4nm,0.3s,baz=127,slow=15,SNR=20
AKTO LR LR 22 08 00.3
comp=Z,82nm,19.8s,baz=133,slow=38
ZALV Zalesovo Beam 16.13 23 Pn Pn 22 01 39.2 -1.3
comp=Z,0.3nm,0.3s,baz=205,slow=12,SNR=11
ZALV LR LR 22 08 07.3
comp=Z,56nm,20.0s,baz=260,slow=38
NVS Novosibirsk 16.50 18 *eP* Pn 22 01 44.3 -0.9
NVS *e* 22 04 44.9
ARU Arti 19.92 334 P P 22 02 24.9 -0.7
comp=Z,0.0nm,0.3s,baz=103,slow=14,SNR=3.3
ARU Arti 19.92 334*d iP* P 22 02 26.5 +0.9
ARU S S 22 06 08.0 -1.9
ARU pmax pmax
comp=Z,11nm,2.5s
GNI Garni 22.73 281 P P 22 03 01.3 +5.2
comp=Z,8.8nm,1.0s,baz=252,slow=8.8,SNR=3.6
ZAK Zakamensk 23.05 52 *eP* P 22 02 57.3 -2.1
ZAK pmax pmax
comp=Z,2.0nm,1.5s
TLY Talaya 23.68 49⇓*eP* P 22 03 06.3 +0.7
TLY pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 23.84 291 P P 22 03 11.9 +4.7
comp=Z,2.4nm,1.0s,baz=63,slow=2.3,SNR=3.1
KIV Kislovodsk 23.99 291 *eP* P 22 03 10.1 +1.4
KIV pmax pmax
comp=Z,9.0nm,1.1s
SONM Songino Array 24.50 60 P P 22 03 13.9 +0.5
comp=Z,0.3nm,0.6s,baz=258,slow=7.2,SNR=3.5
ULN Ulaanbaatar 24.94 60⇑*eP* P 22 03 17.7 +0.2
ULN *i* *PP pP 22 03 21.0 +2.0
ULN pmax pmax
comp=Z,1.0nm,1.1s
VRH Novokhopyorsk 25.56 308 *eP* P 22 03 23.7 +0.9
VRH pmax pmax
comp=Z,3.0nm,0.7s
VSR Storozhevoye 27.12 307 *eP* P 22 03 36.4 -0.6
VSR pmax pmax
comp=Z,3.0nm,0.7s
OBN Obninsk 29.59 315⇑*eP* P 22 03 59.0 +0.1
OBN pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 31.20 284 P P 22 04 15.0 +1.5
comp=Z,1.4nm,0.7s,baz=87,slow=7.8,SNR=7.6
BRTR Keskin Array B 31.20 284 *eP* P 22 04 15.5 +2.0
BRTR pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 33.30 305 LR LR 22 20 38.1
comp=Z,40nm,19.7s,baz=315,slow=41
KIEV Kiev 33.31 305⇓*iP* P 22 04 29.9 -1.8
KIEV pmax pmax
comp=Z,3.0nm,1.3s
HIA Hailar 33.43 58⇑*eP* P 22 04 32.3 -0.5
HIA pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 36.61 323 P P 22 04 59.9 -0.1
comp=Z,0.8nm,0.3s,baz=113,slow=8.6,SNR=16
STHS Stebnicka Huta 38.48 303 *eP* P 22 05 17.6 +1.5
STHS *e* 22 06 43.5
STHS Stebnicka Huta 38.48 303 *eP* P 22 05 17.5 +1.5
STHS *e*PP PP 22 06 43.5 -0.4
ARCES ARCESS Array B 39.49 335 P P 22 05 23.0 -1.2
comp=Z,4.0nm,1.0s,baz=103,slow=8.8,SNR=7.6
ARCES ARCESS Array B 39.49 335 *e*P P 22 05 23.9 -0.3
ARCES pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 42.02 23 P P 22 05 44.0 -1.1
comp=Z,0.9nm,0.3s,baz=273,slow=5.6,SNR=6.9
HFS Hagfors 42.45 320 P P 22 05 48.4 -0.3
comp=Z,1.7nm,0.6s,baz=106,slow=11,SNR=8.8
GERES GERESS Array B 43.47 303 P P 22 05 57.7 +0.4
comp=Z,0.5nm,0.6s,baz=64,slow=9.1,SNR=3.6
NB2 NORSAR Subarra 43.68 321 P P 22 05 58.0 -0.7
comp=Z,0.8nm,0.5s,baz=91,slow=8.6
NOA NORSAR Array B 43.68 321 P P 22 05 58.3 -0.5
comp=Z,0.8nm,0.4s,baz=104,slow=7.2,SNR=5.3
NOA LR LR 22 24 51.3
comp=Z,50nm,19.7s,baz=30,slow=37
SEY Seymchan 50.47 35⇓*iP* P 22 06 51.4 -0.2
EKA Eskdalemuir Ar 52.04 315 P P 22 07 03.8 +0.3
comp=Z,0.7nm,0.6s,baz=91,slow=8.5,SNR=4.2
BILL Bilibino 54.76 27 *i* P P 22 07 23.2 -0.2
BILL *i* 22 08 28.5
BILL pmax pmax
comp=Z,2.0nm,1.4s
TORD Torodi Ar. Bea 68.43 269 P P 22 08 56.0 -0.4
comp=Z,1.1nm,0.6s,baz=43,slow=5.2,SNR=14
INK Inuvik 70.53 11 P P 22 09 07.5 -1.1
comp=Z,0.7nm,0.6s,baz=344,slow=9.4,SNR=4.4
ILAR Eielson Array 71.18 17 P P 22 09 10.6 -2.0
comp=Z,0.5nm,0.9s,baz=280,slow=4.1,SNR=6.3
FRB Frobisher Bay 73.00 344 LR LR 22 47 19.5
comp=Z,36nm,18.1s,baz=248,slow=41
YKA Yellowknife Ar 78.13 4 P P 22 09 52.0 -0.8
comp=Z,0.5nm,0.5s,baz=348,slow=5.7,SNR=11
WRA Warramunga Arr 81.39 125 P P 22 10 12.3 +1.2
comp=Z,0.4nm,0.4s,baz=331,slow=5.6,SNR=9.0
WRA Warramunga Arr 81.39 125 *eP* P 22 10 13.1 +1.9
ASAR Alice Springs 83.85 127 P P 22 10 24.4 +0.5
comp=Z,0.3nm,0.3s,baz=330,slow=5.4,SNR=6.1

CSEM ***05*** *22:01:15.5,38°.28N×23°.44E,h20km,ML1.0/2,After ATH*
ATH 05 22:01:15.5,38°.28N×23°.44E,h20km±3km,ML1.0/2,Error ellipse: s-maj=3.6km s-min=0.9km az=202.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIL2	**Platees**	**0.15**	**242**	P	Pb	22 01 20.1	-1.0
VIL2				S	Sb	22 01 22.9	-2.1
VIL2				AML	AML	22 01 23.5	
	comp=E,146µm,0.2s						
VIL2				AML	AML	22 01 23.9	
	comp=N,112µm,0.1s						
VILL	**Villia**	**0.16**	**220**	P	Pb	22 01 20.1	-1.0
VILL				S	Sb	22 01 23.2	-1.9
EREA	**Eretria**	**0.41**	**71**	P	Pb	22 01 24.4	+0.5
EREA				S	Sb	22 01 30.2	+0.5
EREA	**Eretria**	**0.41**	**71**	P	Pb	22 01 24.2	+0.2
EREA				S	Sb	22 01 30.2	+0.5
PTL	**Penteli**	**0.41**	**125**	P	Pb	22 01 23.5	-0.4
PTL				S	Sb	22 01 29.9	+0.2
PTL	**Penteli**	**0.41**	**125**	P	Pb	22 01 23.8	-0.2
PTL				S	Sb	22 01 30.0	+0.3
PROD	**Prodromos**	**0.43**	**267**	P	Pb	22 01 24.3	0.0
PROD				S	Sb	22 01 31.3	+1.1
PROD				AML	AML	22 01 31.6	
	comp=N,36µm,0.3s						
PROD				AML	AML	22 01 32.7	
	comp=E,59µm,0.3s						
PROD	**Prodromos**	**0.43**	**267**	P	Pb	22 01 24.3	+0.1
PROD				S	Sb	22 01 31.0	+0.8
LTK	**Loutraki**	**0.46**	**235**	P	Pb	22 01 25.1	+0.3
LTK				S	Sb	22 01 31.9	+0.8
LTK	**Loutraki**	**0.46**	**235**	P	Pb	22 01 24.9	+0.1
LTK				S	Sb	22 01 31.7	+0.6
LOUT	**Loutraki**	**0.47**	**231**	P	Pb	22 01 24.4	-0.6
LOUT				S	Sb	22 01 32.1	+0.5
LOUT	**Loutraki**	**0.47**	**231**	P	Pb	22 01 24.8	-0.3
LOUT				S	Sb	22 01 32.1	+0.5
LKR	**Lokris**	**0.50**	**317**	P	Pb	22 01 25.1	-0.6
LKR	**Lokris**	**0.50**	**317**	P	Pb	22 01 25.3	-0.4
VLY	**Voula,Athens**	**0.51**	**147**	P	Pb	22 01 26.3	+0.4
VLY				S	Sb	22 01 33.5	+0.6
VLY	**Voula,Athens**	**0.51**	**147**	P	Pb	22 01 26.0	+0.2
VLY				S	Sb	22 01 33.4	+0.5
DID	**Didima**	**0.79**	**192**	P	Pb	22 01 30.6	0.0
DID	**Didima**	**0.79**	**192**	P	Pb	22 01 30.7	+0.1

BEO ***05*** *22:01:44.5±0.9,39°.12N×20°.76E,h22km±5km,M2.9/4*
CSEM ***05*** *22:01:47.7±0.2,39°.49N×20°.29E,h0km±1km,ML2.9,Error ellipse: s-maj=3.4km s-min=2.2km az=59.0*
ATH ***05*** *22:01:47.3,39°.45N×20°.33E,h9km±1km,ML2.9/13,Error ellipse: s-maj=1.1km s-min=0.6km az=32.0*
IDC ***05*** *22:01:47.8±1.4,39°.30N×20°.40E,h0km,mb3.5/3, mb1 3.4/5,mb1mx3.2/56,mbtmp3.3/5,ML2.7/2,Error ellipse: s-maj=34.2km s-min=19.5km az=109.0*
THE ***05*** *22:01:48.1,39°.44N×20°.33E,h0km±1km,ML2.8/13,Error ellipse: s-maj=1.2km s-min=0.4km az=277.0*
ISC 05 22:01:48.1±1.0,39°.46N±0'.01×20°.35E±0'.02,h8km±7km, n187,σ1°42/250,mb3.5/3,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.18**	**330**	P	**Pg**	**22 01 52.3**	**+0.5**
SGD	**Sagiada**	**0.18**	**330**	P	**Pg**	**22 01 51.7**	**-0.1**
SGD	**Sagiada**	**0.18**	**330**	P	**Pg**	**22 01 51.7**	**-0.1**
JAN	**Janina**	**0.43**	**62**	P	**Pg**	**22 01 56.4**	**-0.1**
JAN				S	**Sg**	**22 02 01.6**	**-0.7**
JAN				AML	AML	22 02 04.5	
	comp=N,12769µm,0.3s						
JAN				AML	AML	22 02 04.8	
	comp=E,8387µm,0.4s						
JAN	**Janina**	**0.43**	**62**	P	**Pg**	**22 01 56.3**	**-0.3**
JAN				S	**Sg**	**22 02 02.1**	**-0.2**
JAN	**Janina**	**0.43**	**62**	P	**Pg**	**22 01 56.2**	**-0.3**
JAN				S	**Sb**	**22 02 03.9**	**-0.9**
SRN	**Sarande**	**0.50**	**327**	*i* PG	**Pg**	**22 01 57.6**	**-0.3**
SRN				*i* SG	**Sb**	**22 02 06.8**	**+0.1**
SRN	**Sarande**	**0.50**	**327**	*i* Pg	**Pg**	**22 01 57.6**	**-0.3**
SRN				*i* Sg	**Sb**	**22 02 06.8**	**+0.1**
DSL	**Palaion Diasel**	**0.66**	**119**	P	**Pg**	**22 01 59.6**	**-1.2**
DSL				S	**Sg**	**22 02 09.5**	**+0.1**
DSL				AML	AML	22 02 15.6	
	comp=E,2224µm,0.3s						
DSL				AML	AML	22 02 16.0	
	comp=N,2628µm,0.4s						
DSL	**Palaion Diasel**	**0.66**	**119**	P	**Pg**	**22 01 59.9**	**-1.0**
DSL				S	**Sg**	**22 02 09.6**	**+0.1**
LKD2	**Lefkada island**	**0.71**	**160**	*i* PG	**Pg**	**22 02 01.2**	**-0.6**
LKD2				*i* SG	**Sb**	**22 02 12.9**	**+0.2**
LKD2	**Lefkada island**	**0.71**	**160**	P	**Pg**	**22 02 01.4**	**-0.4**
LKD2				S	**Sg**	**22 02 10.9**	**-0.2**
LKD2				AML	AML	22 02 21.6	
	comp=E,2633µm,0.7s						
LKD2				AML	AML	22 02 22.2	
	comp=N,1807µm,0.7s						
LKD2	**Lefkada island**	**0.71**	**160**	P	**Pg**	**22 02 01.2**	**-0.6**
LKD2				S	**Sg**	**22 02 10.8**	**-0.2**
LKD2				*i* Sg	**Sb**	**22 02 12.9**	**+0.2**
LKD2	**Lefkada island**	**0.71**	**160**	P	**Pg**	**22 02 01.2**	**-0.6**
LKD2				S	**Sg**	**22 02 11.4**	**+0.4**
KPRO	**Kipourio**	**0.93**	**57**	P	**Pg**	**22 02 04.6**	**-1.3**
KPRO	**Kipourio**	**0.93**	**57**	P	**Pg**	**22 02 05.7**	**-0.2**
KPRO	**Kipourio**	**0.93**	**57**	P	**Pg**	**22 02 05.7**	**-0.2**
KPRO				S	**Sb**	**22 02 20.2**	**+1.2**
NEST	**Nestorio**	**1.10**	**29**	P	**Pg**	**22 02 08.5**	**-0.7**
NEST	**Nestorio**	**1.10**	**29**	P	**Pg**	**22 02 08.7**	**-0.5**
NEST	**Nestorio**	**1.10**	**29**	P	**Pg**	**22 02 08.7**	**-0.5**
NEST				S	**Sn**	**22 02 25.4**	**0.0**
KBN	**Korca**	**1.21**	**16**	*i* PG	**Pn**	**22 02 11.6**	**+0.1**
KBN				*i* SG	**Sn**	**22 02 29.1**	**+0.9**
KBN	**Korca**	**1.21**	**16**	*i* Pg	**Pn**	**22 02 11.6**	**+0.1**
KBN				*i* Sg	**Sn**	**22 02 29.1**	**+0.9**
PVO	**Paravola**	**1.24**	**132**	P	**Pn**	**22 02 11.7**	**-0.1**
PVO				S	**Sb**	**22 02 27.4**	**-0.6**
PVO				AML	AML	22 02 40.1	
	comp=E,695µm,0.5s						
PVO				AML	AML	22 02 44.1	
	comp=N,1070µm,0.7s						
PVO	**Paravola**	**1.24**	**132**	P	**Pn**	**22 02 11.3**	**-0.6**
PVO				S	**Sn**	**22 02 29.7**	**+1.0**
PVO	**Paravola**	**1.24**	**132**	P	**Pn**	**22 02 11.2**	**-0.6**
PVO				S	**Sn**	**22 02 29.7**	**+1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EVR	**Evrytania**	**1.25**	**115**	P	**Pn**	**22 02 10.6**	**-1.5**
EVR				S	**Sn**	**22 02 29.0**	**-0.2**
EVR				AML	AML	22 02 36.5	
	comp=E,579µm,0.4s						
EVR				AML	AML	22 02 37.0	
	comp=N,538µm,0.7s						
EVR	**Evrytania**	**1.25**	**115**	P	**Pn**	**22 02 11.5**	**-0.6**
EVR				S	**Sn**	**22 02 30.0**	**+0.8**
EVR	**Evrytania**	**1.25**	**115**	P	**Pn**	**22 02 11.5**	**-0.6**
EVR				S	**Sn**	**22 02 30.0**	**+0.8**
THL	**Klokotos Trika**	**1.29**	**85**	P	**Pn**	**22 02 11.8**	**-0.7**
THL				S	**Sn**	**22 02 31.5**	**+1.5**
THL				AML	AML	22 02 36.0	
	comp=E,591µm,0.5s						
THL				AML	AML	22 02 40.5	
	comp=N,556µm,0.7s						
THL	**Klokotos Trika**	**1.29**	**85**	P	**Pn**	**22 02 12.2**	**-0.3**
THL				S	**Sn**	**22 02 30.8**	**+0.8**
THL	**Klokotos Trika**	**1.29**	**85**	P	**Pn**	**22 02 12.2**	**-0.3**
THL				S	**Sn**	**22 02 31.4**	**+1.5**
VLS	**Valsamata**	**1.29**	**172**	P	**Pn**	**22 02 11.5**	**-1.1**
VLS				S	**Sb**	**22 02 29.2**	**-0.2**
VLS				AML	AML	22 02 34.5	
	comp=N,1577µm,0.6s						
VLS				AML	AML	22 02 36.9	
	comp=E,1279µm,0.3s						
VLS	**Valsamata**	**1.29**	**172**	P	**Pn**	**22 02 11.8**	**-0.7**
VLS				S	**Sn**	**22 02 30.6**	**+0.6**
VLS	**Valsamata**	**1.29**	**172**	P	**Pn**	**22 02 11.8**	**-0.7**
VLS				S	**Sn**	**22 02 30.6**	**+0.6**
KZN	**Kozani**	**1.38**	**52**	P	**Pn**	**22 02 13.8**	**-0.1**
KZN				S	**Sg**	**22 02 32.9**	**+0.3**
KZN				AML	AML	22 02 42.7	
	comp=E,588µm,0.8s						
KZN				AML	AML	22 02 43.7	
	comp=N,303µm,0.5s						
KZN	**Kozani**	**1.38**	**52**	P	**Pb**	**22 02 14.2**	**-0.1**
KZN				S	**Sg**	**22 02 33.0**	**+0.4**
KZN	**Kozani**	**1.38**	**52**	P	**Pb**	**22 02 14.2**	**-0.1**
KZN				S	**Sg**	**22 02 34.8**	**+2.2**
KFL	**Anninata**	**1.39**	**166**	P	**Pn**	**22 02 14.0**	**+0.1**
KFL				S	**Sb**	**22 02 31.5**	**-0.8**
KFL	**Anninata**	**1.39**	**166**	P	**Pn**	**22 02 13.8**	**0.0**
KFL				S	**Sg**	**22 02 33.8**	**+1.1**
KFL	**Anninata**	**1.39**	**166**	P	**Pn**	**22 02 13.8**	**0.0**
KFL				S	**Sg**	**22 02 33.8**	**+1.1**
FNA	**Florina**	**1.54**	**30**	*i* PG	**Pg**	**22 02 17.6**	**-0.1**
FNA				*i* SG	**Sg**	**22 02 38.1**	**+0.4**
FNA	**Florina**	**1.54**	**30**	*e*Pg	**Pb**	**22 02 16.6**	**-0.4**
FNA	**Florina**	**1.54**	**30**	P	**Pb**	**22 02 16.5**	**-0.4**
FNA				S	**Sg**	**22 02 38.5**	**+0.8**
FNA				AML	AML	22 02 45.8	
	comp=E,773µm,0.7s						
FNA				AML	AML	22 02 47.3	
	comp=N,567µm,0.4s						
FNA	**Florina**	**1.54**	**30**	*e*Pg	**Pb**	**22 02 16.6**	**-0.4**
FNA				*i* Sg	**Sg**	**22 02 38.1**	**+0.4**
FNA	**Florina**	**1.54**	**30**	P	**Pb**	**22 02 16.7**	**-0.3**
FNA				S	**Sg**	**22 02 38.1**	**+0.4**
SCTE	**Santa Cesarea**	**1.58**	**294**	P	**Pn**	**22 02 16.0**	**-0.4**
SCTE	**Santa Cesarea**	**1.58**	**294**	P	**Pn**	**22 02 16.3**	**-0.1**
EFP	**Efpalio**	**1.59**	**130**	P	**Pb**	**22 02 17.9**	**+0.1**
EFP				S	**Sg**	**22 02 39.2**	**0.0**
EFP				AML	AML	22 02 50.2	
	comp=N,345µm,0.7s						
EFP				AML	AML	22 02 54.0	
	comp=E,462µm,0.5s						
EFP	**Efpalio**	**1.59**	**130**	P	**Pb**	**22 02 17.6**	**-0.2**
EFP				S	**Sg**	**22 02 39.2**	**0.0**
EFP	**Efpalio**	**1.59**	**130**	P	**Pn**	**22 02 17.2**	**+0.6**
EFP				S	**Sg**	**22 02 39.3**	**0.0**
AGG	**Agios Georgios**	**1.60**	**105**	P	**Pn**	**22 02 16.3**	**-0.5**
AGG				S	**Sg**	**22 02 40.2**	**+0.8**
AGG				AML	AML	22 02 45.0	
	comp=E,1246µm,0.4s						
AGG				AML	AML	22 02 49.6	
	comp=N,1123µm,0.6s						
AGG	**Agios Georgios**	**1.60**	**105**	P	**Pn**	**22 02 17.0**	**+0.3**
AGG				S	**Sg**	**22 02 39.5**	**+0.1**
AGG	**Agios Georgios**	**1.60**	**105**	P	**Pn**	**22 02 17.0**	**+0.3**
AGG				S	**Sg**	**22 02 39.5**	**+0.1**
RLS	**Riolos of Patr**	**1.65**	**148**	P	**Pn**	**22 02 17.0**	**-0.4**
RLS				S	**Sg**	**22 02 40.5**	**-0.5**
RLS				AML	AML	22 02 52.0	
	comp=E,290µm,0.8s						
RLS				AML	AML	22 02 52.5	
	comp=N,369µm,0.6s						
RLS	**Riolos of Patr**	**1.65**	**148**	P	**Pn**	**22 02 17.6**	**+0.2**
RLS				S	**Sg**	**22 02 40.7**	**-0.3**
RLS	**Riolos of Patr**	**1.65**	**148**	P	**Pn**	**22 02 17.6**	**+0.2**
VTN	**Vitineika**	**1.67**	**157**	P	**Pb**	**22 02 19.5**	**+0.3**
VTN	**Vitineika**	**1.67**	**157**	P	**Pb**	**22 02 19.1**	**0.0**
OHR	**Ohrid**	**1.69**	**12**	*i* Pn	**Pg**	**22 02 21.3**	**+0.8**
OHR				*e*Sg	**Sg**	**22 02 44.9**	**+2.5**
SERG	**Sergoula**	**1.69**	**128**	P	**Pb**	**22 02 20.0**	**+0.5**
SERG	**Sergoula**	**1.69**	**128**	P	**Pb**	**22 02 19.6**	**+0.1**
BIA	**Bitola**	**1.73**	**25**	*i* Pn	**Pg**	**22 02 20.9**	**-0.3**
BIA				*e*Sg	**Sg**	**22 02 47.6**	**+3.9**
TRIZ	**Trizonia**	**1.73**	**129**	P	**Pb**	**22 02 20.4**	**+0.3**
TRIZ	**Trizonia**	**1.73**	**129**	P	**Pb**	**22 02 20.1**	**0.0**
KALE	**Kalithea**	**1.75**	**127**	P	**Pb**	**22 02 20.0**	**-0.6**
KALE				S	**Sg**	**22 02 44.0**	**-0.5**
KALE				AML	AML	22 02 55.8	
	comp=N,320µm,0.5s						
KALE				AML	AML	22 02 59.1	
	comp=E,333µm,0.6s						
KALE	**Kalithea**	**1.75**	**127**	P	**Pb**	**22 02 20.1**	**-0.6**
KALE				S	**Sg**	**22 02 44.1**	**-0.5**
LAKA	**Lakka**	**1.76**	**133**	P	**Pb**	**22 02 20.8**	**+0.1**
LAKA	**Lakka**	**1.76**	**133**	P	**Pb**	**22 02 20.5**	**-0.2**
LIT	**Litokhoron**	**1.77**	**68**	P	**Pb**	**22 02 20.8**	**-0.1**
LIT	**Litokhoron**	**1.77**	**68**	P	**Pb**	**22 02 20.5**	**-0.4**
LIT	**Litokhoron**	**1.77**	**68**	P	**Pb**	**22 02 20.5**	**-0.4**
LIT				S	**Sb**	**22 02 43.9**	**+0.7**
DRO	**Drossia**	**1.84**	**144**	P	**Pn**	**22 02 20.5**	**+0.4**
DRO	**Drossia**	**1.84**	**144**	P	**Pn**	**22 02 20.9**	**+0.8**
DRO	**Drossia**	**1.84**	**144**	P	**Pn**	**22 02 20.5**	**+0.4**
AXAR	**Agios Charalam**	**1.92**	**110**	P	**Pb**	**22 02 23.2**	**-0.2**
AXAR				S	**Sg**	**22 02 49.1**	**-0.8**
AXAR	**Agios Charalam**	**1.92**	**110**	P	**Pb**	**22 02 22.9**	**-0.6**
AXAR				S	**Sb**	**22 02 48.7**	**+1.1**
TIR	**Tirane**	**1.93**	**349**	*i* PN	**Pg**	**22 02 24.6**	**-0.4**
TIR				*i* SN	**Sg**	**22 02 51.4**	**+1.4**
TIR	**Tirane**	**1.93**	**349**	P	**Pn**	**22 02 19.8**	**-1.4**
TIR	**Tirane**	**1.93**	**349**	P	**Pn**	**22 02 21.1**	**-0.1**
DSF	**Desfina**	**1.99**	**121**	P	**Pb**	**22 02 25.1**	**+0.4**
DSF	**Desfina**	**1.99**	**121**	P	**Pb**	**22 02 24.3**	**-0.4**
KLV	**Kalavryta, Ach**	**1.99**	**135**	P	**Pb**	**22 02 24.0**	**-0.7**
KLV	**Kalavryta, Ach**	**1.99**	**135**	P	**Pb**	**22 02 23.7**	**-1.0**
FYTO	**Fytoko, Volos**	**2.00**	**91**	P	**Pb**	**22 02 24.7**	**-0.2**
FYTO	**Fytoko, Volos**	**2.00**	**91**	P	**Pb**	**22 02 24.2**	**-0.6**
GRG	**Griva**	**2.17**	**46**	P	**Pb**	**22 02 26.6**	**-1.1**
GRG	**Griva**	**2.17**	**46**	P	**Pn**	**22 02 25.4**	**+0.8**
GRG	**Griva**	**2.17**	**46**	P	**Pn**	**22 02 25.4**	**+0.8**
GUR	**Goura**	**2.17**	**134**	P	**Pn**	**22 02 26.2**	**+1.5**
GUR	**Goura**	**2.17**	**134**	P	**Pn**	**22 02 26.1**	**+1.3**
AMT	**Artemida-Makis**	**2.20**	**151**	P	**Pn**	**22 02 25.9**	**+0.9**
AMT	**Artemida-Makis**	**2.20**	**151**	P	**Pn**	**22 02 26.1**	**+1.1**
XOR	**Xorichti**	**2.20**	**91**	P	**Pn**	**22 02 26.3**	**+1.2**
XOR	**Xorichti**	**2.20**	**91**	P	**Pn**	**22 02 26.4**	**+1.3**
LKR	**Lokris**	**2.21**	**111**	P	**Pb**	**22 02 26.9**	**-1.5**
LKR	**Lokris**	**2.21**	**111**	P	**Pn**	**22 02 26.8**	**+1.6**
PHP	**Peshkopia**	**2.23**	**2**	*i* PN	**Pb**	**22 02 28.6**	**-0.1**
PHP				*i* SN	**Sb**	**22 02 57.2**	**+0.8**
SMIA	**Simia**	**2.29**	**104**	P	**Pb**	**22 02 29.2**	**-0.7**
SMIA	**Simia**	**2.29**	**104**	P	**Pb**	**22 02 28.5**	**-1.3**
THAL	**Thalero**	**2.30**	**127**	P	**Pn**	**22 02 27.1**	**+0.8**
THAL	**Thalero**	**2.30**	**127**	P	**Pn**	**22 02 27.5**	**+1.2**
HORT	**Hortiatis**	**2.40**	**61**	P	**Pn**	**22 02 29.4**	**+1.6**
HORT	**Hortiatis**	**2.40**	**61**	P	**Pn**	**22 02 29.4**	**+1.6**
SKIA	**Skiathos**	**2.43**	**96**	P	**Pb**	**22 02 31.0**	**-1.2**
SKIA	**Skiathos**	**2.43**	**96**	P	**Pb**	**22 02 30.4**	**-1.8**
TRIP	**Tripoli**	**2.44**	**141**	P	**Pn**	**22 02 29.9**	**+1.5**
TRIP	**Tripoli**	**2.44**	**141**	P	**Pn**	**22 02 29.9**	**+1.5**
LTK	**Loutraki**	**2.50**	**124**	P	**Pn**	**22 02 29.9**	**+0.8**
LTK	**Loutraki**	**2.50**	**124**	P	**Pn**	**22 02 30.2**	**+1.1**
VAY	**Valandovo**	**2.52**	**42**	*e*Pn	**Pn**	**22 02 24.9**	**-4.5**
VAY				*e*Sn	**Sn**	**22 02 56.3**	**-3.9**
VAY	**Valandovo**	**2.52**	**42**	*e*Pn	**Pn**	**22 02 24.9**	**-4.5**
VAY				*e*Sn	**Sn**	**22 02 56.3**	**-3.9**
VAY	**Valandovo**	**2.52**	**42**	*i* Pn	**Pb**	**22 02 31.9**	**-1.7**
PLG	**Polygyros**	**2.55**	**68**	P	**Pn**	**22 02 31.8**	**+1.9**
PLG	**Polygyros**	**2.55**	**68**	P	**Pn**	**22 02 31.6**	**+1.7**
KNT	**Kendrikon**	**2.59**	**48**	P	**Pn**	**22 02 32.1**	**+1.8**
KNT	**Kendrikon**	**2.59**	**48**	P	**Pn**	**22 02 32.0**	**+1.7**
ITM	**Ithomi**	**2.59**	**151**	P	**Pb**	**22 02 33.3**	**-1.6**
ITM	**Ithomi**	**2.59**	**151**	P	**Pn**	**22 02 32.5**	**+2.1**
VIL2	**Platees**	**2.59**	**118**	P	**Pn**	**22 02 31.9**	**+1.4**
PUK	**Puka**	**2.61**	**352**	*i* PN	**Pb**	**22 02 33.6**	**-1.6**
PAIG	**Paliouri**	**2.61**	**79**	P	**Pn**	**22 02 31.9**	**+1.3**
PAIG	**Paliouri**	**2.61**	**79**	P	**Pn**	**22 02 32.1**	**+1.5**
VLX	**Vlachokerasia**	**2.62**	**142**	P	**Pb**	**22 02 34.2**	**-1.2**
VLX	**Vlachokerasia**	**2.62**	**142**	P	**Pb**	**22 02 33.3**	**-2.1**
SKO	**Skopje**	**2.65**	**18**	*i* Pn	**Pg**	**22 02 38.0**	**-0.8**
VILL	**Villia**	**2.65**	**118**	P	**Pn**	**22 02 32.3**	**+1.1**
SOH	**Sokhos**	**2.67**	**58**	P	**Pn**	**22 02 33.7**	**+2.1**
SOH	**Sokhos**	**2.67**	**58**	P	**Pn**	**22 02 33.5**	**+1.9**
MASS	**Massafra**	**2.73**	**297**	*e*Pn	**Pn**	**22 02 33.1**	**+0.8**
PYL	**PYLOS**	**2.78**	**156**	P	**Pn**	**22 02 32.9**	**-0.1**
PYL	**PYLOS**	**2.78**	**156**	P	**Pn**	**22 02 33.7**	**+0.7**
TIP	**Timpagrande**	**2.80**	**265**	P	**Pn**	**22 02 31.8**	**-1.6**
TIP	**Timpagrande**	**2.80**	**265**	P	**Pn**	**22 02 33.1**	**-0.2**
NOCI	**Noci**	**2.85**	**299**	P	**Pn**	**22 02 32.6**	**-1.4**
NOCI	**Noci**	**2.85**	**299**	P	**Pn**	**22 02 33.9**	**-0.1**
OUR	**Ouranopolis**	**2.93**	**71**	P	**Pn**	**22 02 36.4**	**+1.4**
OUR	**Ouranopolis**	**2.93**	**71**	P	**Pn**	**22 02 36.6**	**+1.6**
EREA	**Eretria**	**2.98**	**109**	P	**Pn**	**22 02 37.0**	**+1.3**
EREA	**Eretria**	**2.98**	**109**	P	**Pn**	**22 02 37.2**	**+1.5**
SRS	**Serrai**	**2.98**	**55**	*e*Pn	**Pn**	**22 02 31.5**	**-4.3**
SRS				*e*Sn	**Sn**	**22 03 04.6**	**-7.2**
SRS	**Serrai**	**2.98**	**55**	*e*Pn	**Pn**	**22 02 31.5**	**-4.3**
DID	**Didima**	**2.99**	**130**	P	**Pn**	**22 02 35.5**	**-0.3**
DID	**Didima**	**2.99**	**130**	P	**Pn**	**22 02 36.5**	**+0.6**
VLY	**Voula,Athens**	**3.13**	**120**	P	**Pn**	**22 02 39.5**	**+1.7**
VLY	**Voula,Athens**	**3.13**	**120**	P	**Pn**	**22 02 39.6**	**+1.7**
SG1	**Sgolgore (BA)**	**3.14**	**297**	*e*Pn	**Pn**	**22 02 37.9**	**0.0**
NVR	**Nevrokopi**	**3.28**	**54**	P	**Pn**	**22 02 41.9**	**+1.9**
NVR	**Nevrokopi**	**3.28**	**54**	P	**Pn**	**22 02 41.8**	**+1.9**
VLI	**Veliai**	**3.41**	**142**	P	**Pn**	**22 02 43.2**	**+1.6**
VLI	**Veliai**	**3.41**	**142**	P	**Pn**	**22 02 43.3**	**+1.6**
BARS	**Barje**	**3.53**	**18**	*e*Pn	**Pn**	**22 02 41.6**	**-1.8**
BARS	**Barje**	**3.53**	**18**	*e*Pn	**Pn**	**22 02 41.6**	**-1.8**
KAVA	**Kavala**	**3.54**	**63**	P	**Pn**	**22 02 44.8**	**+1.4**
KAVA	**Kavala**	**3.54**	**63**	P	**Pn**	**22 02 45.1**	**+1.7**
CUC	**Castrocucco**	**3.54**	**280**	P	**Pn**	**22 02 45.7**	**+2.2**
CUC	**Castrocucco**	**3.54**	**280**	P	**Pn**	**22 02 45.3**	**+1.8**
SELS	**Selova**	**3.80**	**8**	*e*Pn	**Pn**	**22 02 45.9**	**-1.2**
SJES	**Sjenica**	**3.81**	**356**	*e*Pn	**Pn**	**22 02 46.2**	**-1.1**
SJES				*e*Sn	**Sn**	**22 03 34.8**	**+2.4**
STON	**Ston**	**3.96**	**330**	*e*Pn	**Pn**	**22 02 47.2**	**-2.0**
STON				Sn	**Sn**	**22 03 31.5**	**-4.2**
STON	**Ston**	**3.96**	**330**	*e*Pn	**Pn**	**22 02 47.1**	**-2.0**
STON				Sn	**Sn**	**22 03 31.5**	**-4.2**
MS1	**Monte Sant'Ang**	**4.04**	**305**	*e*Pn	**Pn**	**22 02 50.5**	**+0.1**
ZAPS	**Zavoj**	**4.18**	**23**	*e*Pn	**Pn**	**22 02 48.5**	**-3.8**
GRUS	**Gruza**	**4.44**	**3**	*e*Pn	**Pn**	**22 02 54.2**	**-1.5**
GRUS	**Gruza**	**4.44**	**3**	*e*Pn	**Pn**	**22 02 54.2**	**-1.5**
BBLS	**Lazići**	**4.46**	**351**	*e*Pn	**Pn**	**22 02 56.5**	**+0.3**
BBLS				*e*Sn	**Sn**	**22 03 50.1**	**+1.8**
BBLS	**Lazići**	**4.46**	**351**	*e*Pn	**Pn**	**22 02 56.5**	**+0.3**
CHOS	**Chios island**	**4.57**	**102**	P	**Pn**	**22 02 59.6**	**+1.8**
CHOS	**Chios island**	**4.57**	**102**	P	**Pn**	**22 02 59.8**	**+2.1**
ZAGS	**Zajecar**	**4.57**	**17**	*e*Pn	**Pn**	**22 02 56.4**	**-1.2**
ZAGS	**Zajecar**	**4.57**	**17**	*e*Pn	**Pn**	**22 02 56.4**	**-1.2**
ALN	**Alexandroupoli**	**4.59**	**70**	P	**Pn**	**22 02 59.8**	**+2.0**
ALN	**Alexandroupoli**	**4.59**	**70**	P	**Pn**	**22 03 00.1**	**+2.2**
DIVS	**Divibare**	**4.64**	**357**	*e*Pn	**Pn**	**22 02 57.5**	**-1.2**
DIVS	**Divibare**	**4.64**	**357**	*e*Pn	**Pn**	**22 02 57.5**	**-1.2**
KUBS	**Kucevo**	**5.05**	**11**	*e*Pn	**Pn**	**22 03 02.7**	**-1.5**
KUBS	**Kucevo**	**5.05**	**11**	*e*Pn	**Pn**	**22 03 02.7**	**-1.5**
TEKS	**Tekeris**	**5.12**	**353**	*e*Pn	**Pn**	**22 03 04.6**	**-0.6**
TEKS	**Tekeris**	**5.12**	**353**	*e*Pn	**Pn**	**22 03 04.6**	**-0.6**
IDI	**Anoyia**	**5.51**	**138**	Pn	**Pn**	**22 03 09.3**	**-1.3**
	comp=E,0.3nm,0.3s,baz=324,slow=16,SNR=2.4						
IDI				Sn	**Sn**	**22 04 12.1**	**-2.1**
	comp=E,0.5nm,0.3s,baz=151,slow=19,SNR=4.8						
UDBI	**Udbina**	**6.11**	**327**	*i* Pn	**Pn**	**22 03 19.4**	**+0.5**
UDBI	**Udbina**	**6.11**	**327**	*i* Pn	**Pn**	**22 03 19.3**	**+0.5**
NVLJ	**Novalja**	**6.53**	**323**	*e*Pn	**Pn**	**22 03 24.4**	**-0.1**
NVLJ	**Novalja**	**6.53**	**323**	*e*Pn	**Pn**	**22 03 24.4**	**-0.1**
MLR	**Muntele Rosu**	**7.31**	**33**	Pn	**Pn**	**22 03 39.8**	**+4.5**
	comp=E,0.0nm,0.3s,baz=353,slow=20,SNR=6.1						
FINES	**FINESS Array B**	**22.30**	**7**	P	**P**	**22 06 47.1**	**+1.4**
	comp=E,0.9nm,0.7s,baz=179,slow=14,SNR=2.2						
TORD	**Torodi Ar. Bea**	**30.95**	**217**	P	**P**	**22 08 05.9**	**+0.1**
	comp=E,0.7nm,0.9s,baz=34,slow=9.8,SNR=3.7						
MKAR	**Makanchi Array**	**44.76**	**59**	P	**P**	**22 10 02.6**	**+0.6**
	comp=E,0.5nm,0.6s,baz=281,slow=7.8,SNR=4.9						

IDC 05 22:02:46.8±60.0**, 21°.08S**×**178°.25W, h0**km**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.7**/36**, mbtmp3.9**/3**, Error ellipse: s-maj=1096.0km s-min=167.8km az=84.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.33**	**245**	P	P	22 10 00.4	-0.7
	1.0nm,0.8s,baz=86,slow=14,SNR=2.8						
ASAR	**Alice Springs**	**44.16**	**257**	P	P	22 10 57.4	-0.3
	0.8nm,0.4s,baz=95,slow=8.1,SNR=9.1						
WRA	**Warramunga Arr**	**44.29**	**263**	P	P	22 10 59.0	+0.3
	0.6nm,0.2s,baz=96,slow=8.3,SNR=26						

*ISCJB **05** 22:03:09.9±0.7, 51°.46N±0°.03×16°.07E±0°.03, h0km, Error ellipse: s-maj=5.0km s-min=2.8km az=8.9*
*CSEM **05** 22:03:11.2±0.4, 51°.50N×16°.04E, h2km, ML2.9/10, Error ellipse: s-maj=6.9km s-min=3.9km az=4.0*
*VIE **05** 22:03:13.6±0.8, 51°.32N×15°.97E, h0km, mb2.3/4, ML2.3/5, Error ellipse: s-maj=8.4km s-min=6.4km az=89.0, Suspected Mining induced.*
ISC 05 22:03:11.8±1.1**, 51°.47N**±0°.05×**16°.05E**±0°.03**, h0**km**, n36, σ0s.81**/62**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**166**	*e*Pg	**Pb**	**22 03 25.0**	**-0.9**
KSP				*e*Sg	**Sb**	**22 03 34.6**	**-0.9**
KSP	**Ksiaz**	**0.65**	**166**	*e*Pg	**Pb**	**22 03 25.0**	**-0.9**
KSP				*e*Sg	**Sb**	**22 03 34.6**	**-0.9**
UPC	**Upice**	**0.97**	**181**	*e*PG	**Pb**	**22 03 31.0**	**-0.4**
UPC				*e*SG	**Sb**	**22 03 44.9**	**+0.2**
	comp=Z,27nm,0.3s						
UPC	**Upice**	**0.97**	**181**	Pg	**Pb**	**22 03 31.0**	**-0.4**
UPC				Sg	**Sb**	**22 03 44.9**	**+0.2**
	27nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**171**	*e*PG	**Pg**	**22 03 33.8**	**+0.3**
DPC				*e*SG	**Sb**	**22 03 49.3**	**-0.3**
	comp=Z,9.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**171**	Pg	**Pg**	**22 03 33.8**	**+0.3**
DPC				Sg	**Sb**	**22 03 49.3**	**-0.3**
	9.9nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**225**	*e*SG	**Sn**	**22 03 56.4**	**+0.5**
	comp=Z,54nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**225**	Sg	**Sn**	**22 03 56.4**	**+0.5**
	54nm,0.3s						
BRG	**Berggiesshubel**	**1.45**	**246**	PG	**Pb**	**22 03 39.8**	**+0.2**
BRG				SG	**Sn**	**22 03 59.9**	**+0.9**
	21nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.75**	**208**	*e*SG	**Sg**	**22 04 08.6**	**+0.6**
	comp=Z,9.7nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.75**	**208**	Sg	**Sg**	**22 04 08.6**	**+0.6**
	9.7nm,0.6s						
PRU	**Pruhonice**	**1.77**	**213**	*e*PN	**Pn**	**22 03 43.1**	**-0.5**
PRU				*e*PG	**Pb**	**22 03 45.1**	**+0.1**
PRU				*e*SG	**Sg**	**22 04 09.0**	**+0.6**
	comp=Z,9.1nm,0.3s						
PRU	**Pruhonice**	**1.77**	**213**	Pn	**Pn**	**22 03 43.1**	**-0.5**
CLL	**Collm**	**1.91**	**266**	*i* Pn	**Pn**	**22 03 43.9**	**-1.7**
CLL				*e*Pg	**Pb**	**22 03 47.0**	**-0.5**
CLL				*i*		22 03 51.1	
CLL				*e*Sg	**Sb**	**22 04 12.0**	**+0.1**
	comp=Z,7.0nm,0.3s						
MORC	**Moravsky Berou**	**1.95**	**150**	*e*Pn	**Pn**	**22 03 45.4**	**-0.7**
MORC				*e*Sg	**Sb**	**22 04 13.7**	**+0.8**
OKC	**Ostrava-Krasne**	**2.11**	**140**	*e*SG	**Sg**	**22 04 19.7**	**+0.1**
OKC	**Ostrava-Krasne**	**2.11**	**140**	Sg	**Sg**	**22 04 19.7**	**+0.1**
NKC	**Novy Kostel**	**2.59**	**243**	*e*PN	**Pn**	**22 03 54.9**	**-0.1**
NKC				*e*PG	**Pg**	**22 04 01.3**	**-0.2**
NKC				*e*SG	**Sg**	**22 04 35.0**	**-0.1**
	comp=Z,12nm,0.3s						
NKC	**Novy Kostel**	**2.59**	**243**	Pn	**Pn**	**22 03 54.9**	**-0.1**
OJC	**Ojcow**	**2.69**	**116**	*e*Pg	**Pg**	**22 04 02.3**	**-0.9**
OJC				*e*Sg	**Sg**	**22 04 37.8**	**-0.3**
KHC	**Kasperske Hory**	**2.83**	**215**	*e*PN	**Pn**	**22 03 57.3**	**-0.9**
KHC				*e*PG	**Pb**	**22 04 04.3**	**+1.2**
KHC				*e*SN	**Sn**	**22 04 32.7**	**-0.3**
KHC				*e*SG	**Sg**	**22 04 43.1**	**+0.6**
	comp=Z,3.3nm,0.5s						
KHC	**Kasperske Hory**	**2.83**	**215**	Pn	**Pn**	**22 03 57.3**	**-0.9**
LANS	**Liptovska Anna**	**3.20**	**135**	*e*Pg	**Pg**	**22 04 12.0**	**-1.0**
LANS				*e*Sg	**Sg**	**22 04 54.9**	**+0.5**
LANS	**Liptovska Anna**	**3.20**	**135**	*e*PG	**Pg**	**22 04 12.0**	**-1.0**
LANS				*e*SG	**Sg**	**22 04 54.9**	**+0.5**
MODS	**Modra-Piesok**	**3.20**	**165**	*e*Sg	**Sg**	**22 04 53.6**	**-1.0**
MODS	**Modra-Piesok**	**3.20**	**165**	*e*SG	**Sg**	**22 04 53.6**	**-1.0**
VYHS	**Vyhne**	**3.48**	**148**	*e*Pg	**Pg**	**22 04 17.1**	**-1.4**
VYHS	**Vyhne**	**3.48**	**148**	*e*PG	**Pg**	**22 04 17.1**	**-1.4**
CONA	**Conrad Observa**	**3.55**	**182**	Pn	**Pn**	**22 04 08.8**	**+0.6**
	comp=Z,0.3nm,0.2s						
CONA				Sg	**Sg**	**22 05 06.0**	**+0.3**
	comp=Z,2.6nm,0.3s						
CONA	**Conrad Observa**	**3.55**	**182**	*i* Pn	**Pn**	**22 04 08.8**	**+0.6**
	comp=Z,0.3nm,0.2s						
CONA				Sg	**Sg**	**22 05 06.0**	**+0.3**
	comp=Z,2.6nm,0.3s						
MOA	**Molln**	**3.81**	**198**	Pn	**Pn**	**22 04 12.2**	**+0.6**
	comp=Z,0.2nm,0.2s						
MOA				Sg	**Sg**	**22 05 14.4**	**+0.4**
	comp=Z,0.9nm,0.1s						
MOA	**Molln**	**3.81**	**198**	*e*Pn	**Pn**	**22 04 12.2**	**+0.6**
	comp=Z,0.2nm,0.2s						
MOA				*e*Sg	**Sg**	**22 05 14.4**	**+0.4**
	comp=Z,0.9nm,0.1s						
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*Pg	**Pg**	**22 04 27.8**	**+1.2**
STHS				*e*Sg	**Sg**	**22 05 19.4**	**+2.2**
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*PG	**Pg**	**22 04 27.8**	**+1.2**
STHS				*e*SG	**Sg**	**22 05 19.4**	**+2.2**
STHS				*e*LG	Lg	22 05 26.0	
ARSA	**Arzberg**	**4.24**	**185**	Sg	**Sg**	**22 05 28.5**	**+0.6**
	comp=Z,2.8nm,0.4s						
ARSA	**Arzberg**	**4.24**	**185**	Sg	**Sg**	**22 05 28.5**	**+0.6**
	comp=Z,2.8nm,0.4s						

IDC 05 22:23:57.3±3.1**, 19°.54S**×**168°.92E, h0**km**, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.6**/41**, mbtmp3.6**/3**, ML4.0**/1**, MS3.3**/2**, Ms1 3.3**/2**, ms1mx2.8**/24**, Error ellipse: s-maj=88.1km s-min=36.9km az=130.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.42**	**222**	Pn	Pn	22 24 49.8	-2.1
	16nm,0.3s,baz=93,slow=4.4,SNR=134						
DZM				Sn	Sn	22 25 32.8	-0.5
	19nm,0.3s,baz=133,slow=23,SNR=12						
STKA	**Stephens Creek**	**27.43**	**238**	LR	LR	22 39 06.1	
	comp=Z,68nm,20.8s,baz=33,slow=33						
WRA	**Warramunga Arr**	**32.51**	**263**	P	P	22 30 31.5	+1.3
	0.4nm,0.7s,baz=86,slow=8.9,SNR=3.9						
ASAR	**Alice Springs**	**32.76**	**256**	P	P	22 30 32.0	-0.3
	0.6nm,0.8s,baz=75,slow=9.3,SNR=5.4						
VNDA	**Vanda**	**58.12**	**182**	LR	LR	22 55 06.3	
	comp=Z,30nm,19.9s,baz=319,slow=32						
EKA	**Eskdalemuir Ar**	**143.77**	**352**	PKP	PKPbc	22 43 31.6	-0.1
	0.9nm,0.5s,baz=350,slow=2.8,SNR=7.1						
GERES	**GERESS Array B**	**144.61**	**331**	PKP	PKPdf	22 43 36.2	+0.2
	0.3nm,0.6s,baz=35,slow=3.6,SNR=3.5						

*IDC **05** 22:35:49.3±2.0, 43°.75N×105°.28W, h0km, mb1 3.2/2, mb1mx3.1/57, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=55.2km s-min=8.7km az=150.0*
*NEIC **05** 22:35:52.8±0.9, 44°.04N×105°.36W, h0km, MN2.6, Error ellipse: s-maj=21.1km s-min=9.5km az=170.0, Suspected Mining explosion.*
NEIC 31 km [19 miles] SSE of Gillette.
ISC 05 22:35:48.9±1.2**, 44°.26N**±0°.08×**105°.66W**±0°.05**, h0**km**, n7, σ0s.32**/7**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.17**	**96**	*e*Pg	**Pg**	**22 36 11.3**	**-0.1**
K22A	**Casper**	**1.73**	**202**	*e*Pn	**Pg**	**22 36 22.0**	**0.0**
RLMT	**Red Lodge**	**2.72**	**290**	*e*Pn	**Pg**	**22 36 40.9**	**-0.1**
BW06	**Boulder Array**	**3.21**	**244**	*e*Pn	**Pb**	**22 36 47.0**	**+0.1**
PDAR	**Pinedale Array**	**3.21**	**244**	Pn	**Pb**	**22 36 46.4**	**-0.5**
	1.3nm,0.3s,baz=78,slow=13,SNR=16						
PDAR				Pg	**Pg**	**22 36 50.5**	**+0.1**
	1.3nm,0.3s,baz=76,slow=16,SNR=20						
PDAR				Lg	Lg	22 37 31.6	
	2.4nm,0.3s,baz=73,slow=31,SNR=16						
I10CA	**LAC DU BONNET**	**8.84**	**44**	*i*		23 32 54.2	
	baz=221,slow=312,SNR=0.6						
ULM	**Lac du Bonnet**	**8.95**	**45**	Pn	**Pn**	**22 37 59.6**	**+0.3**
	0.2nm,0.3s,baz=233,slow=11,SNR=3.2						
ULM				Pg	Pg	22 38 33.9	-6.4
	0.1nm,0.3s,baz=232,slow=16,SNR=3.3						
ULM				Lg	Lg	22 40 32.5	
	0.2nm,0.3s,baz=129,slow=6.9,SNR=4.3						

*ISCJB **05** 22:43:52.5±0.5, 50°.12N±0°.04×19°.17E±0°.03, h0km, Error ellipse: s-maj=5.4km s-min=2.5km az=19.2*
*CSEM **05** 22:43:53.8±0.3, 50°.09N×19°.21E, h2km, ML2.6/4, Error ellipse: s-maj=8.0km s-min=3.8km az=12.0*
*PRU **05** 22:43:54.4, 50°.13N×19°.21E, h0km*
ISC 05 22:43:53.5±0.8**, 50°.04N**±0°.03×**19°.22E**±0°.02**, h0**km**, n35, σ0s.89**/56**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.41**	**64**	*e*Pg	**Pg**	**22 44 00.9**	**-0.5**
OJC				*e*Sg	**Sg**	**22 44 05.8**	**-1.0**
OJC	**Ojcow**	**0.41**	**64**	*e*Pg	**Pg**	**22 44 00.9**	**-0.5**
OJC				*e*Sg	**Sg**	**22 44 05.8**	**-1.0**
OJC	**Ojcow**	**0.41**	**64**	*e*Pg	**Pg**	**22 44 00.9**	**-0.5**
OJC				*e*Sg	**Sg**	**22 44 05.8**	**-1.0**
OKC	**Ostrava-Krasne**	**0.72**	**254**	*e*PG	**Pb**	**22 44 08.7**	**-0.3**
OKC				*e*SG	**Sg**	**22 44 17.6**	**+0.9**
	comp=Z,16nm,0.3s						
OKC	**Ostrava-Krasne**	**0.72**	**254**	Pg	**Pb**	**22 44 08.7**	**-0.3**
OKC				Sg	**Sg**	**22 44 17.6**	**+0.9**
	16nm,0.3s						
LANS	**Liptovska Anna**	**0.90**	**170**	*e*Pg	**Pb**	**22 44 12.7**	**+0.6**
LANS	**Liptovska Anna**	**0.90**	**170**	*e*PG	**Pb**	**22 44 12.7**	**+0.6**
LANS				*e*SG	**Sn**	**22 44 26.1**	**-1.2**
NIE	**Niedzica**	**0.94**	**131**	*e*Pg	**Pb**	**22 44 12.1**	**-0.5**
NIE				*e*Sg	**Sb**	**22 44 25.5**	**-0.1**
NIE	**Niedzica**	**0.94**	**131**	*e*Pg	**Pb**	**22 44 12.1**	**-0.5**
NIE				*e*Sg	**Sb**	**22 44 25.5**	**-0.1**
NIE	**Niedzica**	**0.94**	**131**	*e*Pg	**Pb**	**22 44 12.1**	**-0.5**
MORC	**Moravsky Berou**	**1.12**	**257**	*e*Pg	**Pn**	**22 44 16.5**	**+0.1**
MORC				*e*Sg	**Sn**	**22 44 32.9**	**+0.3**
STHS	**Stebnicka Huta**	**1.45**	**115**	*e*Pg	**Pb**	**22 44 22.2**	**+0.8**
STHS				*e*Sn	**Sn**	**22 44 42.8**	**+2.0**
STHS	**Stebnicka Huta**	**1.45**	**115**	*e*PG	**Pb**	**22 44 22.2**	**+0.8**
STHS				*e*SN	**Sn**	**22 44 42.8**	**+2.0**
STHS				*e*LG	Lg	22 44 49.4	
VYHS	**Vyhne**	**1.57**	**189**	*e*Pg	**Pb**	**22 44 23.3**	**-0.1**
VYHS				*e*Sn	**Sg**	**22 44 44.2**	**+0.4**
VYHS	**Vyhne**	**1.57**	**189**	*e*PG	**Pb**	**22 44 23.3**	**-0.1**
VYHS				*e*SN	**Sg**	**22 44 44.2**	**+0.4**
VYHS				*e*LG	Lg	22 44 45.6	
KECS	**Kecovo**	**1.76**	**152**	*e*Pn	**Pb**	**22 44 26.5**	**-0.2**
KECS				*e*Sn	**Sg**	**22 44 49.9**	**-0.2**
KECS	**Kecovo**	**1.76**	**152**	*e*PN	**Pb**	**22 44 26.5**	**-0.2**
KECS				*e*SN	**Sg**	**22 44 49.9**	**-0.2**
KECS				*e*LG	Lg	22 44 52.0	
CRVS	**Cervenica-Dubn**	**1.85**	**127**	*e*Pn	**Pg**	**22 44 28.9**	**-0.1**
CRVS	**Cervenica-Dubn**	**1.85**	**127**	*e*PN	**Pg**	**22 44 28.9**	**-0.1**
DPC	**Dobruska-Polom**	**1.89**	**281**	*e*PG	**Pb**	**22 44 28.8**	**-0.1**
DPC				*e*SG	**Sb**	**22 44 53.4**	**+0.4**
	comp=Z,8.7nm,0.4s						
DPC	**Dobruska-Polom**	**1.89**	**281**	Pg	**Pb**	**22 44 28.8**	**-0.1**
DPC				Sg	**Sb**	**22 44 53.4**	**+0.4**
	8.7nm,0.4s						
KSP	**Ksiaz**	**2.04**	**294**	*e*Pg	**Pg**	**22 44 33.1**	**+0.6**
KSP				*e*Sg	**Sg**	**22 44 59.5**	**+0.6**
KSP	**Ksiaz**	**2.04**	**294**	*e*Pg	**Pg**	**22 44 33.1**	**+0.6**
KSP				*e*Sg	**Sg**	**22 44 59.5**	**+0.6**
KSP	**Ksiaz**	**2.04**	**294**	*e*Pg	**Pg**	**22 44 33.1**	**+0.6**
KSP				*e*Sg	**Sg**	**22 44 59.5**	**+0.6**
UPC	**Upice**	**2.11**	**284**	*e*SG	**Sg**	**22 45 01.8**	**+0.5**
	comp=Z,7.9nm,0.5s						

UPC	Upice	2.11	284	Sg	Sg	22 45 01.8	+0.5
	7.9nm,0.5s						
GOPC	GO Pecny, Ondr	2.87	269	eSG	Sg	22 45 23.9	-1.6
	comp=Z,8.4nm,0.8s						
GOPC	GO Pecny, Ondr	2.87	269	Sg	Sg	22 45 23.9	-1.6
	8.4nm,0.8s						
PRU	Pruhonice	3.02	271	eSG	Sg	22 45 28.6	-1.9
PRU	Pruhonice	3.02	271	Sg	Sg	22 45 28.6	-1.9
PVCC	Panska Ves	3.02	281	eSG	Sg	22 45 30.8	+0.2
PVCC	Panska Ves	3.02	281	Sg	Sg	22 45 30.8	+0.2
BRG	Berggiesshubel	3.48	286	SG	Sg	22 45 43.8	-1.3
	2.8nm,0.8s						
KHC	Kasperske Hory	3.78	258	ePG	Pg	22 45 05.0	-1.0
KHC				eSG	Sg	22 45 52.7	-2.3
	comp=Z,4.6nm,0.7s						
KHC	Kasperske Hory	3.78	258	Pg	Pg	22 45 05.0	-1.0

*NEIC **05** 22:52:53.8±0.0, 18°.30N×68°.56W, h180km, mb4.3/21, MD4.4(RSPR), After RSPR.*
*RSPR **05** 22:52:53.8, 18°.30N×68°.56W, h180km±2km, MD4.4/9*
*ISCJB **05** 22:52:54.1±0.3, 18°.46N±0°.03×68°.76W±0°.03, h136km±4km, mb4.1/30, Error ellipse: s-maj=5.4km s-min=4.3km az=160.0*
*IDC **05** 22:52:54.5±1.4, 18°.51N×68°.80W, h128km±14km, mb3.5/9, mb1 3.8/12, mb1mx3.5/54, mbtmp4.0/12, Error ellipse: s-maj=18.1km s-min=13.7km az=7.0*
ISC 05 22:52:54.4±0.6, **18°.50N**±0°.05×**68°.82W**±0°.04, **h131**km±6km, **n100**, σ**1°.50**/119, **mb4.3**/30, **14C-10D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDD	Santo Domingo	1.04	268	ePn	Pn	22 53 15.6	-2.2
IDE	Isla Desecheo	1.28	95	⇓eP	Pn	22 53 19.9	-0.2
IDE	Isla Desecheo	1.28	95	⇓eP	Pn	22 53 19.9	-0.2
IDE				eS	Sn	22 53 43.1	+3.3
BANI	BANI	1.47	266	ePn	Pn	22 53 22.3	-0.1
AGP	Aguadilla	1.59	93	ePn	Pn	22 53 24.9	+1.3
MPR	Mayaguez	1.62	100	ePn	Pn	22 53 24.7	+0.9
AGPR	Aguadilla, PR	1.62	91	⇑eP	Pn	22 53 24.8	+0.9
AGPR	Aguadilla, PR	1.62	91	⇑eP	Pn	22 53 24.8	+0.9
AGPR				eS	Sn	22 53 49.5	+3.1
LSP	Las Mesas	1.67	101	⇑eP	Pn	22 53 24.6	0.0
LSP	Las Mesas	1.67	101	⇑eP	Pn	22 53 24.6	0.0
GBPR	Guanica, Bosqu	1.91	105	⇓eP	Pn	22 53 27.2	-0.1
GBPR	Guanica, Bosqu	1.91	105	⇓eP	Pn	22 53 27.2	-0.1
GBPR				eS	Sn	22 53 53.2	+0.7
AOPR	Arecibo Observ	1.96	94	⇓eP	Pn	22 53 28.0	0.0
AOPR	Arecibo Observ	1.96	94	⇓eP	Pn	22 53 28.0	0.0
AOPR				eS	Sn	22 53 54.2	+0.5
OBIP	Obispado Ponce	2.15	102	⇓eP	Pn	22 53 29.0	-1.2
OBIP	Obispado Ponce	2.15	102	⇓eP	Pn	22 53 29.0	-1.2
OBIP				eS	Sn	22 53 57.6	0.0
CELP	Cerrillos	2.17	101	⇑eP	Pn	22 53 30.3	-0.1
CELP	Cerrillos	2.17	101	⇑eP	Pn	22 53 30.3	-0.1
EMPR	Esperanza - Ma	2.17	90	⇓eP	Pn	22 53 30.6	+0.1
EMPR	Esperanza - Ma	2.17	90	⇓eP	Pn	22 53 30.6	+0.1
EMPR				eS	Sn	22 53 58.8	+0.7
ICMP	Isla Caja de M	2.26	105	⇑eP	Pn	22 53 30.2	-1.4
ICMP	Isla Caja de M	2.26	105	⇑eP	Pn	22 53 30.2	-1.4
ICMP				eS	Sn	22 53 59.4	-0.8
SDDR	Presa de Saban	2.39	282	ePn	Pn	22 53 34.0	+0.7
SDDR				eS	Sn	22 54 05.1	+1.9
SJG	San Juan	2.56	98	⇑eP	Pn	22 53 35.1	-0.3
SJG	San Juan	2.56	98	eS	Sn	22 54 07.0	0.0
SJG	San Juan	2.56	98	P	Pn	22 53 35.4	0.0
	97nm,0.3s,baz=280,slow=8.9,SNR=136						
SJG				S	Sn	22 54 07.2	+0.3
	174nm,0.3s,baz=257,slow=23,SNR=26						
SJG	San Juan	2.56	98	ePn	Pn	22 53 35.4	0.0
SJG				eS	Sn	22 54 05.3	-1.6
SJG				S	Sn	22 54 07.2	+0.3
SJG	San Juan	2.56	98	eP	Pn	22 53 35.5	+0.1
CBYP	Canovanas	2.82	94	⇑eP	Pn	22 53 37.5	-1.3
CBYP	Canovanas	2.82	94	eS	Sn	22 54 12.3	-0.7
CBYP	Canovanas	2.82	94	ePn	Pn	22 53 37.9	-0.8
GRTK	Grand Turk	3.71	324	ePn	Pn	22 53 48.5	-1.7
GRTK				eS	Sn	22 54 29.3	-4.3
TBVI	Tortola	3.99	90	⇑eP	Pn	22 53 52.8	-1.2
TBVI				eS	Sn	22 54 38.2	-1.9
TBVI	Tortola	3.99	90	⇑eP	Pn	22 53 52.8	-1.2
ABVI	Anegada Island	4.26	86	⇑eP	Pn	22 53 56.7	-0.9
ABVI				eS	Sn	22 54 44.7	-1.9
ABV	Anegada	4.26	86	⇑eP	Pn	22 53 56.7	-0.9
ABV	Anegada	4.26	86	eS	Sn	22 54 44.7	-1.9
GTBY	Guantanamo Bay	6.12	284	ePn	Pn	22 54 19.0	-3.5
GTBY				eS	Sn	22 55 21.1	-10
FDF	Fort de France	8.24	116	ePn	Pn	22 54 52.8	+1.6
GRGR	Grenville	9.37	131	ePn	Pn	22 55 06.2	-0.1
CODC	Agustˆ›n Codaz	9.62	208	eP	Pn	22 55 06.6	-3.0
SDV	Santo Domingo	9.71	191	P	Pn	22 55 10.9	-0.2
	5.0nm,0.3s,baz=25,slow=7.4,SNR=39						
SDV				S	Sn	22 56 57.2	-1.5
	1.3nm,0.3s,baz=302,slow=17,SNR=3.7						
SDV	Santo Domingo	9.71	191	ePn	Pn	22 55 11.5	+0.4
SDV				eS	Sn	22 56 59.2	+0.5
SDV	Santo Domingo	9.71	191	eP	Pn	22 55 11.4	+0.3
PAMC	Pamplona, Colo	11.72	199	eP	Pn	22 55 37.6	-0.4
BRRC	Barranca, Sant	12.28	203	eP	Pn	22 55 44.9	-0.1
ZARC	Zaragoza, Cauc	12.42	209	eP	Pn	22 55 48.3	+1.5
BARC	Barichara	12.57	200	eP	Pn	22 55 48.4	-0.6
PTBC	PUERTO BERRIO,	13.10	206	eP	Pn	22 55 57.0	+1.4
RUSC	La Rusia	13.20	199	ePn	Pn	22 55 57.3	-0.1
RUSC	La Rusia	13.20	199	eP	Pn	22 55 57.4	0.0
HELC	Santa Helena	13.87	209	ePn	Pn	22 56 05.1	-0.8
HELC	Santa Helena	13.87	209	eP	P	22 56 07.7	-2.2
NORC	Norcasia	14.15	205	eP	Pn	22 56 09.5	+0.4
CHIC	Chingaza	14.60	200	eP	Pn	22 56 15.5	+0.4
ROSC	El Rosal	14.60	202	P	Pn	22 56 14.3	-0.8
	0.9nm,0.3s,baz=323,slow=20,SNR=2.4						
RREF	El Recreo	14.94	206	eP	Pn	22 56 19.7	0.0
VILC	Villavicencio,	15.07	199	eP	Pn	22 56 17.9	-2.9
PRAC	Prado	15.85	203	ePn	Pn	22 56 29.3	-1.0
	40nm,1.4s						
PRAC	Prado	15.85	203	eP	Pn	22 56 29.1	-1.2
YOTC	Yotoco, Valle	16.20	208	eP	P	22 56 34.4	-1.0
MARP	Paez Belalcaza	17.06	205	eP	Pn	22 56 46.7	+1.3
PCON	Cinco Dias	17.70	206	eP	Pn	22 56 54.2	+0.8
SOTA	Rioblanco	17.97	206	eP	Pn	22 56 55.5	-1.0
OTAV	Otavalo	20.46	209	eP	P	22 57 22.9	+0.5
	20nm,1.3s						
OTAV	Otavalo	20.46	209	eP	P	22 57 21.8	-0.5
BRYW	Bryant College	23.46	355	eP	P	22 57 47.4	-4.5
	41nm,0.6s						
PLAL	Pickwick Lake	23.71	318	eP	P	22 57 56.2	+1.9
	34nm,1.5s						
WVT	Waverly	24.29	320	eP	P	22 58 00.6	+1.0
	12nm,0.6s						
OXF	Oxford	24.30	315	eP	P	22 58 00.9	+1.2
	38nm,0.9s						
TXAR	Lajitas Array	33.52	295	P	P	22 59 22.3	+0.6
	1.1nm,0.4s,baz=118,slow=8.2,SNR=26						
TX31	Lajitas Ar. Si	33.52	295	eP	P	22 59 22.4	+0.7
MSTX	Muleshoe	33.95	304	eP	P	22 59 26.1	+0.7
	9.0nm,0.7s						
LPAZ	La Paz	34.57	179	P	P	22 59 32.4	+1.0
	0.7nm,0.3s,baz=360,slow=6.9,SNR=4.9						
MNTX	Cornudas Mount	35.45	299	eP	P	22 59 39.1	+0.9
	8.7nm,1.2s						
LPM	Los Pinos Moun	37.11	303	eP	P	22 59 49.4	-3.1
LPM				eS	S	23 05 32.4	+3.2
SDCO	Great Sand Dun	37.30	309	eP	P	22 59 55.5	+1.4
	3.8nm,0.7s						
MNMC	Minye Minye	37.40	181	eP	P	22 59 51.8	-3.3
	22nm,1.6s						
319A	Douglas	38.66	297	eP	P	23 00 07.7	+2.3
	7.8nm,1.0s						
SMCO	Snowmass	38.89	310	eP	P	23 00 09.4	+1.8
	4.8nm,1.0s						
PV09	Paradox Valley	40.25	308	eP	P	23 00 20.3	+1.6
P17A	Butcher Ranch,	41.74	309	eP	P	23 00 32.4	+1.6
	4.2nm,0.7s						
PDAR	Pinedale Array	42.03	314	P	P	23 00 32.7	-0.5
	0.4nm,0.5s,baz=99,slow=9.2,SNR=4.3						
TMUT	Trail Mountain	42.03	309	eP	P	23 00 35.3	+2.0
	9.9nm,1.1s						
MTPU	Mount Pierson	42.42	307	eP	P	23 00 38.6	+2.1
	6.2nm,1.0s						
PSUT	Pine Spring	43.82	307	eP	P	23 00 50.1	+2.5
	11nm,1.0s						
BGU	Big Grassy Mou	43.85	310	eP	P	23 00 48.8	+1.0
	4.2nm,0.9s						
R11A	Troy Canyon, C	45.10	306	eP	P	23 00 59.0	+1.3
	2.0nm,0.8s						
TPNV	Topopah Spring	45.33	304	eP	P	23 01 02.3	+2.7
	6.8nm,0.8s						
DAC	Darwin (Calif)	46.28	303	eP	P	23 01 09.4	+2.3
	3.7nm,1.0s						
NV11	Mina Array Sit	47.09	306	eP	P	23 01 15.2	+1.9
	0.5nm,0.6s						
NV01	Mina Array Sit	47.21	306	eP	P	23 01 15.4	+1.1
NVAR	Mina Array Bea	47.21	306	P	P	23 01 16.0	+1.7
	1.7nm,0.5s,baz=89,slow=7.0,SNR=13						
NVAR				pP	pP	23 01 45.0	+0.6
	1.1nm,0.8s,baz=89,slow=7.1,SNR=3.9						
RYN	Ryan	47.41	306	eP	P	23 01 17.6	+1.8
	19nm,1.9s						
NEW	Newport	48.98	319	eP	P	23 01 28.2	+0.7
	5.7nm,0.8s						
YKA	Yellowknife Ar	54.09	336	P	P	23 02 05.1	-0.1
	1.1nm,0.7s,baz=115,slow=7.4,SNR=18						
YKA				pP	pP	23 02 34.7	-1.3
	0.4nm,0.6s,baz=111,slow=7.3,SNR=4.6						
ESDC	Sonseca Array	59.22	54	P	P	23 02 43.1	+1.2
	0.5nm,0.7s,baz=277,slow=7.1,SNR=4.6						
KOWA	Kowa	61.98	83	P	P	23 03 01.3	+0.3
	0.6nm,0.4s,baz=305,slow=7.7,SNR=3.6						
TORD	Torodi Ar. Bea	67.69	83	P	P	23 03 37.8	-0.2
	0.4nm,0.5s,baz=287,slow=6.1,SNR=7.7						
ILAR	Eielson Array	68.35	333	P	P	23 03 41.2	-0.1
	0.7nm,0.7s,baz=104,slow=4.0,SNR=10						

*ISCJB **05** 22:56:56.9±0.2, 48°.57N±0°.01×17°.06E±0°.02, h0km, Error ellipse: s-maj=1.8km s-min=1.6km az=152.9*
*BGR **05** 22:56:56.7±0.6, 48°.42N×17°.06E, h1km, ML3.4/9, Error ellipse: s-maj=11.1km s-min=7.8km az=157.0*
*IPEC **05** 22:56:57.9±0.1, 48°.54N×17°.14E, h3km±1km, ML3.2/5, Error ellipse: s-maj=0.6km s-min=0.4km az=108.0*
*CSEM **05** 22:56:58.1±0.1, 48°.57N×17°.11E, h2km, ML3.7/15, Error ellipse: s-maj=2.6km s-min=2.4km az=50.0*
*LDG **05** 22:56:58.1±0.1, 48°.54N×17°.14E, h2km, Ml4.0/10, Error ellipse: s-maj=2.5km s-min=2.0km az=138.0*
*VIE **05** 22:56:58.3±0.2, 48°.56N×17°.11E, h3km, mb2.8/8, ML3.3/8, Error ellipse: s-maj=2.4km s-min=1.7km az=103.0*
*PRU **05** 22:56:59.5, 48°.58N×17°.12E, h14km, W Slovakia - Near Studienka*
ISC 05 22:56:58.5±0.7, **48°.56N**±0°.01×**17°.07E**±0°.02, **h0**km, **n159**, σ**1°.46**/224, **9C-8D, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MODS	Modra-Piesok	0.24	143	ePg	Pg	22 57 02.7	-0.3
MODS				eSg	Sg	22 57 06.4	+0.4
MODS	Modra-Piesok	0.24	143	ePG	Pg	22 57 02.7	-0.3
MODS				eSG	Sg	22 57 06.4	+0.4
SMOL	Smolenice	0.25	101	ePg	Pg	22 57 02.4	-0.8
SMOL				eSg	Sg	22 57 06.3	0.0
SMOL	Smolenice	0.25	101	ePG	Pg	22 57 02.4	-0.8
SMOL				eSG	Sg	22 57 06.3	0.0
ZST	Bratislava	0.37	176	ePg	Pg	22 57 04.4	-1.1
ZST				eSg	Sg	22 57 09.7	-0.5
ZST	Bratislava	0.37	176	ePG	Pg	22 57 04.4	-1.1
ZST				eSG	Sg	22 57 09.7	-0.5
ZST				eLG	Lg	22 57 09.9	
JAVC	Velka Javorina	0.50	53	ePg	Pg	22 57 07.2	-0.8
JAVC	Velka Javorina	0.50	53	Pg	Pg	22 57 07.2	-0.8
JAVC				eSg	Sg	22 57 13.2	-1.3
	1μm,1.4s						
KRUC	Moravsky	0.67	319	ePg	Pg	22 57 11.6	+0.3
KRUC				eSg	Sb	22 57 23.0	+0.2
KRUC	Moravsky	0.67	319	Pg	Pg	22 57 11.6	+0.3
KRUC				eSg	Sg	22 57 21.0	+1.1
	581nm,0.7s						
VRAC	Vranov	0.81	338	ePg	Pg	22 57 14.3	+0.4
VRAC				eSg	Sb	22 57 27.4	+0.5
VRAC	Vranov	0.81	338	⇓iP	Pb	22 57 14.5	-0.9
VRAC	Vranov	0.81	338	ePg	Pg	22 57 14.0	0.0
VRAC	Vranov	0.81	338	⇓iP	Pb	22 57 14.5	-0.9
VRAC				eSg	Sg	22 57 25.0	+0.5
	650nm,0.6s						
SOP	Sopron	0.94	201	ePg	Pg	22 57 16.4	-0.1
SOP				ex	x	22 57 18.3	
SOP				eSg	Sn	22 57 32.3	-0.8
SOP	Sopron	0.94	201	ePg	Pg	22 57 16.4	-0.1
SOP				eSn	Sn	22 57 32.3	-0.8
CONA	Conrad Observa	1.02	232	Pg	Pg	22 57 18.4	+0.3
	69nm,0.3s,SNR=169						
CONA				Sg	Sb	22 57 33.8	+0.6
	246nm,0.3s						
CONA	Conrad Observa	1.02	232	ePg	Pg	22 57 18.4	+0.3
	69nm,0.3s,SNR=169						
CONA				Sg	Sb	22 57 33.8	+0.6
	246nm,0.3s						
SRO	Srobarova	1.12	131	ePg	Pg	22 57 19.3	-0.7
SRO				eSg	Sg	22 57 33.1	-1.4
SRO	Srobarova	1.12	131	ePG	Pg	22 57 19.3	-0.7
SRO				eSG	Sg	22 57 33.1	-1.4
VYHS	Vyhne	1.18	93	ePg	Pg	22 57 19.5	-1.5
VYHS				eSg	Sg	22 57 35.1	-1.2
VYHS	Vyhne	1.18	93	ePG	Pg	22 57 19.5	-1.5
VYHS				eSG	Sg	22 57 35.1	-1.2
VYHS				eLG	Lg	22 57 37.2	
SRO2	Moca	1.20	132	ePg	Pg	22 57 19.6	-1.8
SRO2				eSg	Sg	22 57 35.2	-1.7
SRO2	Moca	1.20	132	ePG	Pg	22 57 19.6	-1.8
SRO2				eSG	Sg	22 57 35.2	-1.7
MORC	Moravsky Berou	1.25	14	ePn	Pg	22 57 21.9	-0.6
MORC				eSg	Sn	22 57 40.2	-0.8
MORC	Moravsky Berou	1.25	14	⇑iP	Pg	22 57 22.1	-0.4
MORC	Moravsky Berou	1.25	14	ePg	Pg	22 57 21.7	-0.8
MORC	Moravsky Berou	1.25	14	⇑iP	Pg	22 57 22.1	-0.4
MORC				eSg	Sg	22 57 37.6	-1.2
	239nm,1.0s						
CSKK	Csˆ‡kako	1.44	146	ePn	Pn	22 57 25.3	-0.6
CSKK				eSn	Sn	22 57 45.3	-0.2
CSKK	Csˆ‡kako	1.44	146	ePn	Pn	22 57 25.3	-0.6
CSKK				eSn	Sn	22 57 45.3	-0.2
OKC	Ostrava-Krasne	1.46	29	ePn	Pn	22 57 24.5	-1.6
OKC				ePg	Pb	22 57 27.5	+1.0
OKC	Ostrava-Krasne	1.46	29	ePG	Pn	22 57 24.9	-1.2
OKC				eSG	Sg	22 57 44.2	-1.2
	comp=Z,340nm,1.2s						
OKC	Ostrava-Krasne	1.46	29	Pg	Pn	22 57 24.9	-1.2
OKC				eSn	Sg	22 57 44.2	-1.2
ARSA	Arzberg	1.67	219	Pg	Pb	22 57 29.8	-0.3
	30nm,0.4s,SNR=34						
ARSA				Sg	Sg	22 57 52.7	+0.5
	63nm,0.4s						
ARSA	Arzberg	1.67	219	ePg	Pb	22 57 29.8	-0.3
	30nm,0.4s,SNR=34						
ARSA				Sg	Sg	22 57 52.7	+0.5
	63nm,0.4s						
RAC	Raciborz	1.69	25	ePg	Pg	22 57 32.7	+1.8
RAC				eSg	Sg	22 57 55.2	+2.4
LANS	Liptovska Anna	1.69	69	ePn	Pn	22 57 28.3	-1.0
LANS	Liptovska Anna	1.69	69	ePN	Pn	22 57 28.3	-1.0
BUD	Budapest	1.70	129	ePn	Pn	22 57 29.2	-0.2
BUD				eSn	Sg	22 57 58.6	+5.5
BUD	Budapest	1.70	129	ePn	Pn	22 57 29.2	-0.2
DPC	Dobruska-Polom	1.85	345	ePn	Pn	22 57 30.8	-0.8
DPC	Dobruska-Polom	1.85	345	ePN	Pn	22 57 30.3	-1.3
DPC				eSG	Sg	22 57 58.0	0.0
	comp=Z,155nm,0.6s						
DPC	Dobruska-Polom	1.85	345	Pn	Pn	22 57 30.8	-0.8
PSZ	Piszkesteto	2.00	108	⇑iP	Pn	22 57 33.7	+0.2
PSZ	Piszkesteto	2.00	108	ePn	Pn	22 57 33.5	0.0
PSZ	Piszkesteto	2.00	108	ePn	Pn	22 57 33.5	0.0
MOA	Molln	2.00	250	Pn	Pn	22 57 33.3	-0.3
	6.0nm,0.3s,SNR=30						
MOA				Sn	Sn	22 57 59.7	+0.3
MOA	Molln	2.00	250	ePn	Pn	22 57 33.3	-0.3
	6.0nm,0.3s,SNR=30						
MOA				Sn	Sn	22 57 59.7	+0.3
	53nm,0.4s						
GOPC	GO Pecny, Ondr	2.02	313	ePN	Pn	22 57 33.2	-0.5
GOPC				ePG	Pg	22 57 36.5	-0.6
GOPC				eSG	Sg	22 58 03.4	+0.2
	comp=Z,144nm,0.5s						
GOPC	GO Pecny, Ondr	2.02	313	ePn	Pn	22 57 33.2	-0.5
UPC	Upice	2.06	341	ePN	Pn	22 57 33.9	-0.5
UPC				ePG	Pb	22 57 36.7	-0.1
UPC				eSG	Sg	22 58 04.1	-0.7
	comp=Z,344nm,0.7s						
UPC	Upice	2.06	341	ePn	Pn	22 57 33.9	-0.5
BEHE	Becsehely	2.10	185	ePn	Pn	22 57 34.5	-0.4
BEHE				eSn	Sn	22 58 02.4	+0.6
BEHE	Becsehely	2.10	185	ePn	Pn	22 57 34.5	-0.4
BEHE				eSn	Sn	22 58 02.4	+0.6
PRU	Pruhonice	2.18	312	ePN	Pn	22 57 35.3	-0.7
PRU				eSG	Sg	22 58 08.5	-0.1
	comp=Z,150nm,0.6s						
PRU	Pruhonice	2.18	312	ePn	Pn	22 57 35.3	-0.7
KOGS	Kog	2.19	195	iPn	Pn	22 57 35.2	-0.8
KOGS	Kog	2.19	195	iPn	Pn	22 57 35.2	-0.8
GEC2	GERESS Array S	2.25	278	ePg	Pn	22 57 36.8	-0.2
KECS	Kecovo	2.27	91	ePn	Pn	22 57 35.1	-2.2
KECS	Kecovo	2.27	91	ePN	Pn	22 57 35.1	-2.2
KECS				eLG	Lg	22 58 13.0	
NIE	Niedzica	2.29	67	ePn	Pn	22 57 37.0	-0.6
NIE	Niedzica	2.29	67	ePn	Pn	22 57 37.0	-0.6
PERS	Pernice	2.34	215	ePn	Pn	22 57 38.6	+0.4
PERS	Pernice	2.34	215	ePn	Pn	22 57 38.6	+0.4
KSP	Ksiaz	2.34	348	ePn	Pn	22 57 37.7	-0.4
KSP				ePg	Pg	22 57 42.8	-0.5
KSP				eSg	Sg	22 58 13.8	+0.3
KSP	Ksiaz	2.34	348	ePn	Pn	22 57 37.2	-0.9
KHC	Kasperske Hory	2.37	285	ePN	Pn	22 57 38.3	-0.4
KHC				ePG	Pg	22 57 43.6	-0.3
KHC				eSG	Sg	22 58 15.1	+0.4
	comp=Z,88nm,0.5s						
KHC	Kasperske Hory	2.37	285	ePn	Pn	22 57 38.3	-0.4
OJC	Ojcow	2.44	46	ePn	Pn	22 57 40.5	+1.0
OJC				ePg	Pg	22 57 47.9	+2.7
OJC				eSg	Sg	22 58 17.6	+0.9
OJC	Ojcow	2.44	46	ePn	Pn	22 57 40.5	+1.0
PVCC	Panska Ves	2.55	321	eSG	Sg	22 58 21.6	+1.2
	comp=Z,345nm,0.7s						
PVCC	Panska Ves	2.55	321	Sg	Sg	22 58 21.6	+1.2
	345nm,0.7s						
OBKA	Obir	2.67	221	Pn	Pn	22 57 42.7	-0.1
	6.0nm,0.4s,SNR=7.1						
OBKA				Sg	Sg	22 58 26.1	+1.9
	41nm,0.7s						
OBKA	Obir	2.67	221	ePn	Pn	22 57 42.7	-0.1
	6.0nm,0.4s,SNR=7.1						
OBKA				Sg	Sg	22 58 26.1	+1.9
	41nm,0.7s						
WET	Wettzell	2.83	283	ePn	Pn	22 57 43.7	-1.2
WET	Wettzell	2.83	283	Pn	Pn	22 57 43.7	-1.2
ZAG	Zagreb	2.83	195	ePn	Pn	22 57 44.7	-0.3
STHS	Stebnicka Huta	2.88	71	ePn	Pn	22 57 45.1	-0.5
STHS	Stebnicka Huta	2.88	71	ePN	Pn	22 57 45.1	-0.5
STHS				eLG	Lg	22 58 26.5	
KBA	Koelnbreinsper	2.91	241	Pn	Pn	22 57 47.0	+0.8
	3.9nm,0.3s,SNR=12						
KBA				Sn	Sn	22 58 22.4	+0.4
	22nm,0.4s						
KBA	Koelnbreinsper	2.91	241	ePn	Pn	22 57 47.0	+0.8
	3.9nm,0.3s,SNR=12						
KBA				Sn	Sn	22 58 22.4	+0.4
	22nm,0.4s						
CRES	Cresnjev	2.95	202	ePn	Pn	22 57 45.1	-1.5
LJU	Ljubljana	3.06	215	ePn	Pn	22 57 48.6	+0.6
BRG	Berggiesshubel	3.08	320	PG	Pb	22 57 55.4	+1.4
BRG				SG	Sg	22 58 35.6	-1.7
	92nm,0.6s						
OZLJ	Ozalj	3.15	201	ePn	Pn	22 57 49.2	-0.1
OZLJ	Ozalj	3.15	201	ePn	Pn	22 57 49.1	-0.1
CEY	Cerknica	3.35	213	ePn	Pn	22 57 49.3	-2.8
ROTZ	Rotzenmuhle	3.41	293	eSg	Sg	22 58 45.7	-2.2
ROTZ	Rotzenmuhle	3.41	293	Sg	Sg	22 58 45.7	-2.2
NKC	Novy Kostel	3.45	301	ePN	Pn	22 57 53.1	-0.3
NKC				ePG	Pb	22 58 01.9	+1.5
NKC				eSG	Sg	22 58 48.5	-0.7
	comp=Z,121nm,0.5s						
NKC	Novy Kostel	3.45	301	ePn	Pn	22 57 53.1	-0.3
ABTA	Abfaltersbach	3.57	241	Sg	Sg	22 58 54.7	+1.5
	14nm,0.4s						
ABTA	Abfaltersbach	3.57	241	Sg	Sg	22 58 54.7	+1.5
	14nm,0.4s						
CLL	Collm	3.80	318	ePn	Pn	22 57 58.0	-0.2
CLL				i		22 58 04.0	
CLL				e		22 58 07.0	
CLL				ePg	Pg	22 58 10.0	-1.3
CLL				i		22 58 11.3	
CLL				eSg	Sg	22 59 00.0	-0.5
	comp=Z,149nm,1.0s						
BLY	Banja Luka	3.82	179	⇑iP	Pn	22 57 57.6	-0.9
BLY	Banja Luka	3.82	179	⇑iP	Pn	22 57 57.6	-0.9
FGSL	Fruska Gora	3.89	150	ePn	Pn	22 57 57.6	-1.9
GRA1	Grafenberg Arr	4.00	289	Pg	Pb	22 58 10.9	+1.1
GRF	Grafenberg Arr	4.00	289	ePg	Pb	22 58 10.9	+1.1
MOX	Moxa	4.11	302	ePn	Pn	22 58 02.0	-0.6
MOX				ePg	Pb	22 58 13.9	+2.2
MOX	Moxa	4.11	302	Pn	Pn	22 58 02.0	-0.6
UDBI	Udbina	4.13	193	iPn	Pn	22 58 03.4	+0.5
UDBI	Udbina	4.13	193	iPn	Pn	22 58 03.4	+0.5
DRGR		4.21	113	⇑iP	Pn	22 58 02.8	-1.1
DRGR		4.21	113	⇑iP	Pn	22 58 02.8	-1.1
NVLJ	Novalja	4.28	202	ePn	Pn	22 58 06.0	+1.2
NVLJ				Sn	Sn	22 58 56.7	+1.4
NVLJ	Novalja	4.28	202	ePn	Pn	22 58 05.9	+1.2
NVLJ				Sn	Sn	22 58 56.7	+1.4
BZS	Buzias	4.28	132	⇓iP	Pn	22 58 03.7	-1.2
BZS	Buzias	4.28	132	⇓iP	Pn	22 58 03.7	-1.2
TEKS	Tekeris	4.36	156	ePn	Pn	22 58 04.0	-1.9
RETA	Reutte	4.37	258	Sg	Sg	22 59 20.7	+2.1
	comp=Z,28nm,0.6s						
RETA	Reutte	4.37	258	Sg	Sg	22 59 20.7	+2.1
	comp=Z,28nm,0.6s						
FETA	Feichten	4.54	253	Sg	Sg	22 59 24.1	-0.2
	comp=Z,6.5nm,0.5s						
FETA	Feichten	4.54	253	Sg	Sg	22 59 24.1	-0.2
	comp=Z,6.5nm,0.5s						
HAPS	Han Pijesak,Bl	4.66	163	ePn	Pn	22 58 09.7	-0.5
DIVS	Divibare	4.90	155	ePn	Pn	22 58 10.8	-2.7
TRUS	Trudelj	4.92	151	ePn	Pn	22 58 11.5	-2.1
MDVR	Moldovita	4.95	138	⇓iP	Pn	22 58 13.4	-0.7
MDVR	Moldovita	4.95	138	⇓iP	Pn	22 58 13.4	-0.7
BBLS	Lazići	4.97	160	ePn	Pn	22 58 13.6	-0.8
DAVA	Damuels	5.00	258	Pn	Pn	22 58 14.7	-0.1
	comp=Z,0.6nm,0.2s						
DAVA				Sn	Sn	22 59 14.0	+0.7
	comp=Z,22nm,0.6s						
DAVA	Damuels	5.00	258	iPn	Pn	22 58 14.7	-0.1
	comp=Z,0.6nm,0.2s						
DAVA				iSn	Sn	22 59 14.0	+0.7
	comp=Z,22nm,0.6s						
ARCR	ARCALIA	5.13	104	⇑iP	Pn	22 58 16.5	0.0
ARCR	ARCALIA	5.13	104	⇑iP	Pn	22 58 16.5	0.0
KUBS	Kucevo	5.23	141	ePn	Pn	22 58 18.2	+0.3
GRUS	Gruza	5.32	150	ePn	Pn	22 58 19.5	+0.4
BURAR	Bucovina Array	5.54	97	⇓iP	Pn	22 58 21.4	-0.9
BURAR	Bucovina Array	5.54	97	⇓iP	Pn	22 58 21.4	-0.9
BFO	Black Forest	5.82	271	ePn	Pn	22 58 25.2	-0.8
BFO	Black Forest	5.82	271	Pn	Pn	22 58 25.2	-0.8
CDF	Champ du Feu	6.51	272	eP	Pn	22 58 37.2	+1.7
CDF				eSg	Sg	23 00 23.9	-3.6
	comp=Z,56nm,0.7s						
CDF	Champ du Feu	6.51	272	eP	Pn	22 58 37.2	+1.7
HINF	Hinteralfeld	6.87	268	ePn	Pn	22 58 38.0	-2.4
HINF	Hinteralfeld	6.87	268	eP	Pn	22 58 42.9	+2.5
HINF				eSg	Sg	23 00 34.5	-4.5
	comp=Z,35nm,0.8s						
HINF	Hinteralfeld	6.87	268	ePn	Pn	22 58 38.0	-2.4
HAU	Haudompre	7.17	270	eP	Pn	22 58 46.8	+2.2
HAU				eSg	Sg	23 00 44.0	-4.8
	comp=Z,30nm,0.6s						
HAU	Haudompre	7.17	270	eP	Pn	22 58 46.8	+2.2
PAGF	Fort de Pagny	7.53	274	eSg	Sg	23 00 55.8	-4.3
	comp=Z,12nm,0.8s						
CABF	La Chapelle	7.68	259	eSg	Sg	23 01 00.1	-4.8
	comp=Z,30nm,0.8s						
LPG	La Plagne	7.69	250	eP	Pn	22 58 54.2	+2.3
LPG	La Plagne	7.69	250	eP	Pn	22 58 54.2	+2.3
LPL	La Plagne	7.69	251	eP	Pn	22 58 53.7	+1.9
LPL	La Plagne	7.69	251	eP	Pn	22 58 53.7	+1.9
MEZF	Maizieres J'vi	7.98	274	ePn	Pn	22 58 52.7	-2.9
MBDF	Montbardon	8.05	245	eP	Pn	22 58 58.6	+1.8
MBDF	Montbardon	8.05	245	eP	Pn	22 58 58.6	+1.8
ORIF	Oris-en-Rattie	8.50	249	eP	Pn	22 59 03.7	+0.8
ORIF	Oris-en-Rattie	8.50	249	eP	Pn	22 59 03.7	+0.8
LOR	Lormes	8.97	267	eSg	Sg	23 01 40.8	-5.4
	comp=Z,35nm,1.0s						
SMF	Signal de Mont	9.14	263	eP	Pn	22 59 13.8	+2.3
SMF				eSg	Sn	23 01 45.4	+50

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,11nm,0.7s						
SMF	**Signal de Mont**	**9.14**	**263**	*e*P	**Pn**	**22 59 13.8**	**+2.3**
SMRF	**Simiane la Rot**	**9.18**	**244**	*e*P	**Pn**	**22 59 15.8**	**+3.6**
VIVF	**Saint-Julien-l**	**9.29**	**251**	*e*Pn	**Pn**	**22 59 12.5**	**-1.1**
VIVF	**Saint-Julien-l**	**9.29**	**251**	*e*Pn	**Pn**	**22 59 12.5**	**-1.1**
AVF	**Avril sur Loir**	**9.42**	**264**	*e*P	**Pn**	**22 59 18.1**	**+2.7**
HYF	**Humbligny**	**9.78**	**268**	*e*P	**Pn**	**22 59 23.7**	**+3.5**
BGF	**Bois d'Agland**	**9.82**	**264**	*e*Pn	**Pn**	**22 59 19.2**	**-1.7**
BGF				*e*Sg	Sn	23 02 07.1	+55
	comp=Z,17nm,0.7s						
BGF	**Bois d'Agland**	**9.82**	**264**	*e*Pn	**Pn**	**22 59 19.2**	**-1.7**

IPEC ***05*** *23:02:03.8±0.1, 48°.54N×17°.15E, h1km±1km, ML1.3/5, Error ellipse: s-maj=0.9km s-min=0.7km az=115.0*
CSEM ***05*** *23:02:03.9±0.2, 48°.59N×17°.13E, h2km, ML2.3/11, Error ellipse: s-maj=3.3km s-min=2.5km az=48.0*
PRU ***05*** *23:02:05.3, 48°.59N×17°.11E, h13km, W Slovakia - Near Studienka*
VIE 05 23:02:03.8±0.3**, 48°.54N×17°.13E, h5**km±12km**, mb1.3**/1**, ML2.0**/4**, Error ellipse: s-maj=3.3km s-min=1.6km az=121.0, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MODS	**Modra-Piesok**	**0.20**	**149**	*e*Pg	Pg	23 02 08.0	+0.4
MODS				*e*Sg	Sg	23 02 11.3	+1.1
MODS	**Modra-Piesok**	**0.20**	**149**	*e*PG	Pg	23 02 08.0	+0.4
MODS				*e*SG	Sg	23 02 11.3	+1.1
SMOL	**Smolenice**	**0.20**	**97**	*e*Pg	Pg	23 02 07.6	-0.2
SMOL				*e*Sg	Sg	23 02 11.7	+1.2
SMOL	**Smolenice**	**0.20**	**97**	*e*PG	Pg	23 02 07.6	-0.2
SMOL				*e*SG	Sg	23 02 11.6	+1.1
ZST	**Bratislava**	**0.34**	**183**	*e*Sg	Sg	23 02 15.2	+0.2
ZST	**Bratislava**	**0.34**	**183**	*e*SG	Sg	23 02 15.2	+0.2
JAVC	**Velka Javorina**	**0.48**	**48**	*e*Pg	Pg	23 02 12.7	-0.4
JAVC				*e*Sg	Sg	23 02 18.6	-0.8
	13nm,0.3s						
KRUC	**Moravsky**	**0.71**	**317**	*e*Pg	Pg	23 02 17.8	+0.4
KRUC				*e*Sg	Sg	23 02 26.7	0.0
	8.2nm,0.2s						
VRAC	**Vranov**	**0.84**	**336**	*e*Pg	Pg	23 02 20.1	+0.1
VRAC				*e*Sg	Sg	23 02 30.5	-0.5
	17nm,0.3s						
CONA	**Conrad Observa**	**1.04**	**235**	Pg	Pb	23 02 24.2	-0.2
	0.9nm,0.1s						
CONA				Sg	Sb	23 02 38.9	+0.5
	5.4nm,0.3s						
CONA	**Conrad Observa**	**1.04**	**235**	*e*Pg	Pb	23 02 24.2	-0.2
	0.9nm,0.1s						
CONA				Sg	Sb	23 02 38.9	+0.4
	5.4nm,0.3s						
SRO	**Srobarova**	**1.08**	**132**	*e*Pg	Pn	23 02 26.4	+0.8
SRO				*e*Sg	Sb	23 02 39.3	0.0
SRO	**Srobarova**	**1.08**	**132**	*e*PG	Pn	23 02 26.4	+0.8
SRO				*e*SG	Sb	23 02 39.3	0.0
VYHS	**Vyhne**	**1.14**	**92**	*e*Pg	Pg	23 02 25.2	-0.4
VYHS				*e*Sg	Sg	23 02 40.5	+0.1
VYHS	**Vyhne**	**1.14**	**92**	*e*PG	Pg	23 02 25.2	-0.4
VYHS				*e*SG	Sg	23 02 40.5	+0.1
VYHS				*e*LG	Lg	23 02 42.6	
MORC	**Moravsky Berou**	**1.27**	**12**	*e*Pg	Pg	23 02 27.7	-0.4
MORC				*e*Sg	Sg	23 02 43.5	-1.0
	1.6nm,0.2s						
ARSA	**Arzberg**	**1.68**	**220**	Pg	Pg	23 02 37.0	+1.0
	0.8nm,0.2s						
ARSA				Sg	Sg	23 02 59.6	+1.8
	1.8nm,0.4s						
ARSA	**Arzberg**	**1.68**	**220**	*e*Pg	Pg	23 02 37.0	+1.0
	0.8nm,0.2s						
ARSA				*e*Sg	Sg	23 02 59.6	+1.8
	1.8nm,0.4s						
DPC	**Dobruska-Polom**	**1.89**	**344**	*e*PG	Pn	23 02 37.6	+0.9
DPC				*e*SG	Sb	23 03 03.1	+0.5
	comp=Z,4.0nm,0.4s						
DPC	**Dobruska-Polom**	**1.89**	**344**	Pg	Pn	23 02 37.6	+0.9
DPC				Sg	Sb	23 03 03.1	+0.5
	4.0nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.06**	**313**	*e*PG	Pb	23 02 41.9	+0.2
GOPC				*e*SG	Sb	23 03 08.5	+0.9
	comp=Z,5.1nm,0.6s						
GOPC	**GO Pecny, Ondr**	**2.06**	**313**	Pg	Pb	23 02 41.9	+0.2
GOPC				Sg	Sb	23 03 08.5	+0.9
	5.1nm,0.6s						
UPC	**Upice**	**2.10**	**340**	*e*SG	Sb	23 03 09.6	+0.9
	comp=Z,10nm,0.8s						
UPC	**Upice**	**2.10**	**340**	Sg	Sb	23 03 09.6	+0.9
	10nm,0.8s						
PRU	**Pruhonice**	**2.23**	**312**	*e*PG	Pg	23 02 45.6	-0.9
PRU				*e*SG	Sg	23 03 14.1	-1.2
	comp=Z,3.4nm,0.6s						
PRU	**Pruhonice**	**2.23**	**312**	Pg	Pg	23 02 45.6	-0.9
PRU				Sg	Sg	23 03 14.1	-1.2
	3.4nm,0.6s						
KHC	**Kasperske Hory**	**2.42**	**285**	*e*PN	Pb	23 02 46.0	-1.8
KHC				*e*PG	Pg	23 02 54.5	+4.4
KHC				*e*SG	Sg	23 03 21.4	0.0
	comp=Z,5.1nm,0.8s						
KHC	**Kasperske Hory**	**2.42**	**285**	Pn	Pb	23 02 46.0	-1.8
CLL	**Collm**	**3.84**	**318**	*e*Sg	Sg	23 04 06.0	-1.1

IDC ***05*** *23:06:25.2±0.4, 12°.39N×123°.77E, h0km, mb4.8/38, mb1 4.8/39, mb1mx4.7/59, mbtmp4.8/39, ML5.0/1, MS4.8/47, Ms1 4.8/47, ms1mx4.7/58, Error ellipse: s-maj=14.6km s-min=10.6km az=81.0*
BJI ***05*** *23:06:26.6, 12°.03N×123°.88E, h40km, mb5.1/75, mB5.3/69, Ms5.4/88, Ms7 5.1/80*
MAN ***05*** *23:06:26, 12°.40N×123°.64E, h7km, mb5.8, ML4.8, MS5.2*
ISCJB ***05*** *23:06:27.7±0.4, 12°.45N±0°.01×123°.66E±0°.02, h20km±2km, mb5.1/175, MS5.0/209, Error ellipse: s-maj=3.1km s-min=2.1km az=172.4*
MOS ***05*** *23:06:30.3±1.1, 12°.53N×123°.66E, h36km, mb5.2/74, MS4.9/48, Error ellipse: s-maj=7.5km s-min=4.2km az=113.6*
GCMT ***05*** *23:06:30.9±0.1, 12°.45N×123°.64E, h18km, MW5.5/127, Moment Tensor Solution. s102,c167; s127,c288; Duration: 1s.4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19±.03; $M_{\theta\theta}$2.42±.03; $M_{\phi\phi}$-2.23±.03; $M_{r\theta}$-0.68±.07; $M_{\theta\phi}$-0.47±.03; $M_{\phi r}$-0.23±.07; Best double couple: $M_0$2.47000×10^{17} NP1:ϕ_s230.00000°, δ87.00000°, λ165.00000°. NP2:ϕ_s321.00000°, δ75.00000°, λ3.00000°. Principal axes: T 2.6190, Plg13.0000°, Azm185.0000°; N -0.3000, Plg74.0000°, Azm38.0000°; P -2.3210, Plg8.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***05*** *23:06:30.9±0.5, 12°.35N×123°.70E, h37km±4km, mb5.2/68, MS5.1/129 Error ellipse: s-maj=4.8km s-min=2.9km az=86.0*
NEIC Ten people injured, one building destroyed and several buildings damaged [VI PIVS] at Masbate. Felt [IV PIVS] at Irosin and Sorsogon and [II PIVS] at Legaspi City, Luzon. Also felt at Iriga and Libog. Felt [IV PIVS] at Roxas City, [III PIVS] at Sigma, [II PIVS] at Iloilo and [I PIVS] at Kalibo and Numancia, Panay. Felt [III PIVS] on Almagro Island, Capul Island and Tagapul-an Island and at Catarman, Samar. Also felt at Calbayog.
DJA ***05*** *23:06:33.8±0.4, 12°N±3°×12°4E±°, h68km±4km, M5.2/77, mb5.3/77, mB5.7/54, Mw(mB)5.2/54, Mwp5.5/1*
KLM ***05*** *23:06:34.2, 12°.59N×123°.75E, h68km, mb5.5*
ISC 05 23:06:28.4±0.4**, 12°.38N**±0°.02×**123°.71E**±0°.02**, h16**km±2km**, n649, σ1s.85**/602**, mb5.1**/186**, MS5.1**/210**, 54C-27D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.09**	**253**	⇓*i*P	**Pg**	**23 06 31.6**	**-0.1**
MMPH				*i* S	**Sg**	**23 06 33.9**	**+0.1**
CNP	**Catarman**	**0.94**	**82**	*e*P	**Pb**	**23 06 46.0**	**-0.3**
CNP				*e*S	**Sn**	**23 07 00.5**	**+0.5**
RCP	**Roxas**	**1.25**	**229**	⇓*e*P	**Pg**	**23 06 49.0**	**-3.5**
RCP				*e*S	**Sn**	**23 07 07.0**	**-0.5**
PVCP	**Virac**	**1.28**	**20**	*e*P	**Pg**	**23 06 50.5**	**-2.6**
PVCP				*e*S	**Sn**	**23 07 09.2**	**+0.8**
AUQP	**San Andres**	**1.37**	**313**	*e*P	**Pb**	**23 06 52.2**	**-1.4**
AUQP				*e*S	**Sn**	**23 07 16.1**	**+5.4**
KALP	**Kalibo**	**1.51**	**243**	⇑*e*P	**Pn**	**23 06 52.6**	**-2.1**
OCLP	**Ormoc**	**1.59**	**146**	*e*P	**Pn**	**23 06 55.3**	**-0.5**
OCLP				*e*S	**Sg**	**23 07 21.7**	**+2.0**
OTRP	**Odiongan**	**1.65**	**269**	*e*P	**Pn**	**23 06 54.4**	**-2.3**
PLP	**Palo**	**1.74**	**134**	⇑*i*P	**Pn**	**23 06 57.4**	**-0.5**
PLP				*e*S	**Sn**	**23 07 21.0**	**+1.3**
BESP	**Borongan**	**1.86**	**114**	*e*P	**Pn**	**23 06 59.6**	**0.0**
BESP				*e*S	**Sb**	**23 07 25.9**	**+0.9**
GQP	**Guinayangan**	**1.95**	**321**	⇓*e*P	**Pn**	**23 06 59.3**	**-1.5**
GQP				*i* S	**Sg**	**23 07 28.4**	**-2.8**
GUIM	**Jordan**	**2.06**	**212**	*e*P	**Pn**	**23 07 01.7**	**-0.6**
GUIM				*e*S	**Sn**	**23 07 28.6**	**+1.0**
LLP	**Lapu-Lapu**	**2.07**	**173**	⇑*i*P	**Pn**	**23 07 01.8**	**-0.6**
LLP				*i* S	**Sb**	**23 07 32.0**	**+1.0**
BOAC	**Boac**	**2.11**	**301**	*e*P	**Pn**	**23 07 00.8**	**-2.2**
BOAC				*e*S	**Sg**	**23 07 35.3**	**-1.0**
JAP	**San Jose, Anti**	**2.37**	**227**	⇓*i*P	**Pb**	**23 07 08.3**	**-2.4**
JAP				*i* S	Sg	23 08 06.6	+22
MSLP	**Maasin**	**2.50**	**153**	*e*P	**Pn**	**23 07 08.3**	**-0.1**
SJMP	**San Jose**	**2.53**	**272**	*e*P	**Pn**	**23 07 07.3**	**-1.5**
TBP	**Tagbilaran**	**2.68**	**177**	⇑*e*P	**Pn**	**23 07 12.5**	**+1.7**
TBP				*e*S	**Sn**	**23 07 44.7**	**+1.7**
LQP	**Lukban**	**2.72**	**309**	⇑*e*P	**Pn**	**23 07 11.0**	**-0.5**
PGP	**Puerto Galera**	**2.91**	**293**	⇓*e*P	**Pn**	**23 07 12.2**	**-1.8**
PGP				*i* S	**Sb**	**23 07 54.6**	**-0.5**
SNPH	**Sibulan**	**3.06**	**189**	*e*P	**Pn**	**23 07 15.8**	**-0.3**
SCPH	**Surigao**	**3.12**	**146**	⇓*e*P	**Pn**	**23 07 17.8**	**+0.9**
TGY	**Tagaytay City**	**3.19**	**303**	Pn	**Pn**	**23 07 17.6**	**-0.3**
	157nm,0.3s,baz=145,slow=1.1,SNR=45						
BUSP	**Coron**	**3.45**	**264**	*e*P	**Pn**	**23 07 20.0**	**-1.4**
LUBP	**Lubang**	**3.63**	**292**	*e*P	**Pn**	**23 07 22.4**	**-1.5**
DCPH	**Dipolog City**	**3.79**	**185**	⇑*e*P	**Pn**	**23 07 25.6**	**-0.5**
BUTP	**Butuan**	**3.88**	**151**	*e*P	**Pn**	**23 07 29.1**	**+1.8**
BUTP				*e*S	**Sg**	**23 08 28.4**	**-4.7**
BALP	**Baler**	**3.93**	**328**	*e*P	**Pn**	**23 07 25.5**	**-2.5**
BALP				*e*S	**Sg**	**23 08 30.0**	**-4.6**
PCPH	**Palayan**	**4.05**	**322**	⇓*i*P	**Pn**	**23 07 30.0**	**+0.3**
ENPP	**El Nido**	**4.35**	**255**	*e*P	**Pn**	**23 07 32.6**	**-1.3**
ENPP				*e*S	**Sn**	**23 08 29.4**	**+5.1**
PAGZ	**Pagadian**	**4.52**	**184**	*e*P	**Pn**	**23 07 36.8**	**+0.7**
BUKP	**Musuan**	**4.67**	**163**	*e*P	**Pn**	**23 07 40.4**	**+2.1**
CAUP	**Cauayan**	**4.89**	**338**	*e*P	**Pn**	**23 07 40.2**	**-1.0**
BIPH	**Bislig**	**4.92**	**148**	⇑*e*P	Pb	23 07 48.0	-6.2
BIPH				*e*S	**Sb**	**23 08 53.2**	**+0.1**
SCZP	**Santa Cruz**	**4.99**	**313**	*e*P	**Pn**	**23 07 42.5**	**-0.1**
CTBH	**Cotabato--PC H**	**5.16**	**174**	⇑*e*P	**Pn**	**23 07 45.0**	**+0.1**
CTBH				*i* S	**Sn**	**23 08 44.8**	**+0.7**
BOLP	**Bolinao**	**5.41**	**318**	*e*P	**Pn**	**23 07 49.7**	**+1.3**
PPR	**Puerto Princes**	**5.53**	**243**	⇓*e*P	**Pn**	**23 07 50.2**	**+0.2**
APYP	**Conner**	**5.94**	**337**	*e*P	**Pn**	**23 07 55.3**	**-0.4**
MATI	**Mati**	**5.96**	**155**	*e*P	Pn	23 08 01.0	+5.1
ABRA	**Dolores**	**5.98**	**331**	*e*P	**Pn**	**23 07 56.6**	**+0.4**
SGCP	**Mt. Cagua**	**6.04**	**345**	*e*P	**Pn**	**23 07 56.9**	**-0.1**
BATP	**Bataraza**	**6.81**	**239**	*e*P	**Pn**	**23 08 08.1**	**+0.4**
KDM	**Kudat**	**8.69**	**232**	⇑P	Pn	23 08 41.0	+7.6
MYLDM	**Lahad Datu**	**8.81**	**216**	⇓P	**Pn**	**23 08 38.4**	**+3.3**
MYLDM	**Lahad Datu**	**8.81**	**216**	*e*Pn	**Pn**	**23 08 38.2**	**+3.0**
KKM	**Kota Kinabalu**	**9.71**	**230**	⇓P	Pn	23 08 54.3	+6.7
KKM	**Kota Kinabalu**	**9.71**	**230**	*e*Pn	**Pn**	**23 08 46.5**	**-1.1**
KKM				*e*Sn	**Sn**	**23 10 34.8**	**-1.7**
TSM	**Tawau**	**9.89**	**216**	⇓P	**Pn**	**23 08 52.6**	**+2.6**
TWG	**Pinlang**	**10.68**	**347**	*e*Pn	**Pn**	**23 09 02.0**	**+1.3**
YULB	**Yu-li**	**11.19**	**349**	*e*Pn	**Pn**	**23 09 07.7**	**0.0**
YULB				*e*S	**Sn**	**23 11 14.4**	**+1.9**
TPUB	**Ta-pu**	**11.24**	**345**	*e*Pn	**Pn**	**23 09 10.4**	**+1.9**
TPUB				*e*S	**Sn**	**23 11 13.7**	**-0.3**
SSLB	**Suanglung**	**11.64**	**347**	*e*Pn	**Pn**	**23 09 14.8**	**+0.9**
I39PW	**PALAU INFRASON**	**11.71**	**113**	*i*		00 17 30.0	
	baz=296,slow=320,SNR=0.9						
KMSI	**Cibinong**	**11.73**	**179**	P	Pn	23 09 20.5	+5.3
NACB	**Ninganchiao**	**11.90**	**351**	*e*Pn	**Pn**	**23 09 17.0**	**-0.4**
MRSI	**Marisa**	**11.96**	**189**	P	Pn	23 09 23.5	+5.3
	54nm,1.2s,1μm						
YOJ	**Yonaguni jima**	**12.03**	**357**	*e*Pn	**Pn**	**23 09 20.5**	**+1.3**
YOJ	**Yonaguni jima**	**12.03**	**357**	*e*P	**Pn**	**23 09 20.5**	**+1.3**
TNTI	**Ternate**	**12.09**	**162**	*e*Pn	**Pn**	**23 09 19.6**	**-0.5**
YHNB	**Yeheng**	**12.42**	**350**	*e*Pn	**Pn**	**23 09 24.8**	**+0.2**
MPSI	**Mapaga**	**12.55**	**198**	P	Pn	23 09 31.3	+5.0
TATO	**Taipei**	**12.70**	**351**	*e*Pn	**Pn**	**23 09 30.7**	**+2.4**
APSI	**Ampana**	**13.37**	**189**	P	**P**	**23 09 43.1**	**-3.9**
	529nm,1.2s,9μm						
LUWI	**Luwuk**	**13.37**	**184**	P	P	23 09 42.1	-4.9
	454nm,1.1s,13μm						
LUWI	**Luwuk**	**13.37**	**184**	*e*Pn	**Pn**	**23 09 40.0**	**+2.5**
QZH	**Quanzhou**	**13.40**	**340**	⇑*i*P	**Pn**	**23 09 41.7**	**+3.8**
QZH				S	**Sn**	**23 12 13.1**	**+6.6**
QZH				pmax	pmax		
	comp=Z,780nm,9.8s						
QZH				LR	LR		
	comp=N,7μm,20.4s						
QZH				LR	LR		
	comp=E,6μm,18.9s						
QZH				LR	LR		
	comp=Z,9μm,21.3s						
LBMI	**Labuha**	**13.47**	**164**	P	**P**	**23 09 44.6**	**-3.6**
SGKI	**Sangatta, Kali**	**14.19**	**206**	P	**Pn**	**23 09 51.4**	**+2.6**
SMKI	**Samarinda**	**14.29**	**207**	P	**P**	**23 09 53.9**	**-3.3**
SANI	**Sanana**	**14.52**	**171**	P	**Pn**	**23 09 50.5**	**-2.8**
QIZ	**Qiongzhong**	**14.89**	**298**	P	**Pn**	**23 09 58.6**	**+0.3**
QIZ				S	**Sn**	**23 12 48.8**	**+5.8**
QIZ				pmax	pmax		
	comp=Z,100nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,1μm,4.8s						
QIZ				LR	LR		
	comp=N,3μm,14.7s						
QIZ				LR	LR		
	comp=E,4μm,16.2s						
QIZ				LR	LR		
	comp=Z,5μm,15.5s						
QIZ	**Qiongzhong**	**14.89**	**298**	*e*Pn	**Pn**	**23 09 58.8**	**+0.5**
	127nm,1.2s						
JOW	**Kunigami**	**15.00**	**16**	*e*Pn	**Pn**	**23 10 01.3**	**+1.5**
	108nm,1.1s						
SBUM	**Sibu**	**15.06**	**230**	*e*Pn	**Pn**	**23 10 02.6**	**+1.9**
	70nm,0.9s						
SWI	**Sorong**	**15.15**	**150**	P	**P**	**23 10 04.5**	**-2.3**
SWI	**Sorong**	**15.15**	**150**	P	**P**	**23 10 09.0**	**+2.2**
SWI				pmax	pmax		
	comp=Z,49nm,1.0s						
BKB	**Balikpapan**	**15.15**	**207**	P	**Pn**	**23 10 03.8**	**+2.0**
TTSI	**Tana Toraja**	**15.81**	**194**	P	**P**	**23 10 14.2**	**+0.1**
	comp=Z,216nm,0.8s,comp=Z,4μm						
MTKI	**Muara Teweh, K**	**15.87**	**214**	P	**P**	**23 10 14.6**	**-0.2**
MSAI	**Masohi**	**16.47**	**161**	P	**P**	**23 10 23.8**	**+2.3**
	comp=Z,166nm,1.2s,comp=Z,2μm						
AAI	**Ambon**	**16.58**	**164**	P	**P**	**23 10 23.8**	**+1.1**
	comp=Z,223nm,1.0s						
AAI	**Ambon**	**16.58**	**164**	P	**P**	**23 10 24.2**	**+1.5**
AAI				pmax	pmax		
	comp=Z,220nm,1.0s						
BNSI	**Bone**	**17.05**	**192**	P	**P**	**23 10 30.9**	**+2.9**
	comp=Z,135nm,0.9s,comp=Z,4μm						
KSM	**Kuching**	**17.14**	**232**	*e*Pn	**P**	**23 10 28.6**	**-0.4**
	comp=Z,162nm,1.6s						
STKI	**Sintang**	**17.23**	**226**	P	**P**	**23 10 30.7**	**+0.7**
	comp=Z,68nm,0.9s,comp=Z,5μm						
RKPI	**Ransiki, Papua**	**17.28**	**142**	P	**P**	**23 10 31.8**	**+1.3**
KBKI	**Kotabaru**	**17.29**	**206**	P	**P**	**23 10 31.8**	**+1.2**
FAKI	**Fak Fak**	**17.41**	**150**	P	**P**	**23 10 32.7**	**+0.8**
	comp=Z,89nm,1.1s,comp=Z,1μm						
FAKI	**Fak Fak**	**17.41**	**150**	*e*Pn	**P**	**23 10 31.9**	**-0.1**
	comp=Z,104nm,1.1s						
KAPI	**Kappang**	**17.73**	**193**	*e*Pn	**P**	**23 10 34.8**	**-0.6**
	comp=Z,240nm,1.0s						
BBSI	**Bau Bau**	**17.79**	**184**	P	**P**	**23 10 37.6**	**+1.5**
BNDI	**Bandanaira**	**17.89**	**159**	P	**P**	**23 10 39.3**	**+2.1**
BSSI	**Bau Bau, Buton**	**18.68**	**190**	P	**Pn**	**23 10 47.7**	**+1.4**
	comp=Z,118nm,1.6s,comp=Z,3μm						
SSE	**Sheshan**	**18.77**	**353**	P	**Pn**	**23 10 48.1**	**+0.8**
SSE				S	**Sn**	**23 14 17.3**	**+0.4**
SSE				pmax	pmax		
	comp=Z,15nm,1.0s						
SSE				pmax	pmax		
	comp=Z,720nm,3.7s						
SSE				LR	LR		
	comp=Z,2μm,16.1s						
SSE				LR	LR		
	comp=Z,2μm,17.8s						
KMPI	**Kaimana, Papua**	**18.78**	**147**	P	**Pn**	**23 10 49.5**	**+1.9**
	comp=Z,1μm,1.1s						
PBKI	**Pangkalan Bun**	**19.18**	**219**	P	**Pn**	**23 10 53.1**	**+0.8**
	comp=Z,106nm,1.0s,comp=Z,4μm						
SKNT	**Sakolnakorn**	**19.62**	**286**	P	**P**	**23 10 55.4**	**-0.8**
	comp=Z,64nm,1.1s,comp=Z,2μm						
WHN	**Wuhan**	**20.04**	**336**	P	Pn	23 11 02.4	-0.1
WHN				S	**S**	**23 14 45.8**	**+0.3**
WHN				LR	LR		
	comp=Z,9μm,15.6s						
WHN				LR	LR		
	comp=Z,4μm,12.7s						
WHN				LR	LR		
	comp=Z,12μm,18.4s						
NJ2	**Nanjing**	**20.08**	**348**	*e*P	Pn	23 11 01.9	-1.0
NJ2				pP	sP	23 11 11.6	+3.7
NJ2				sP	pP	23 11 17.6	+12
NJ2				S	**S**	**23 14 44.9**	**-1.3**
NJ2				sS	pS	23 15 00.7	+1.1
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,2μm,5.4s						
NJ2				LR	LR		
	comp=Z,5μm,20.1s						
NJ2				LR	LR		
	comp=Z,6μm,16.3s						
NJ2				LR	LR		
	comp=Z,6μm,17.4s						
KHON	**Khomkaen**	**20.61**	**283**	P	**P**	**23 11 07.2**	**+0.2**
	comp=Z,52nm,0.9s,comp=Z,2μm						
GUMO	**Guam**	**20.66**	**84**	LR	LR	23 17 38.7	
	comp=Z,724nm,20.3s,baz=258,slow=33						
GUMO	**Guam**	**20.66**	**84**	PFAKE		23 11 20.0	+10
GUMO				LR	LR		
	comp=Z,3μm,20.0s						
MMRI	**Maumere**	**20.93**	**184**	P	**P**	**23 11 11.4**	**+0.9**
	comp=Z,278nm,1.9s,comp=Z,5μm						
MMRI	**Maumere**	**20.93**	**184**	*e*P	**P**	**23 11 10.4**	**-0.1**
	comp=Z,489nm,1.3s						
EDFI	**Ende, Flores**	**21.09**	**186**	P	**P**	**23 11 14.5**	**+2.2**
GYA	**Guiyang**	**21.28**	**314**	⇑*i*P	**P**	**23 11 15.6**	**+1.3**
GYA				pP	sP	23 11 27.8	+6.6
GYA				PP	**PnPn**	**23 11 41.4**	**+7.3**
GYA				S	**S**	**23 15 06.0**	**-4.4**
GYA				PcP	**PcP**	**23 15 19.2**	**+0.2**
GYA				ScP	**ScP**	**23 18 52.9**	**-2.6**
GYA				pmax	pmax		
	comp=Z,40nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=Z,2μm,15.8s						
GYA				LR	LR		
	comp=Z,1μm,16.2s						
GYA				LR	LR		
	comp=Z,1μm,15.9s						
CHAI	**Chaiyaphum**	**21.35**	**282**	P	**P**	**23 11 13.8**	**-1.2**
	comp=Z,53nm,1.0s,comp=Z,451nm						
KTGM	**Kuala Trenggan**	**21.49**	**253**	⇓P	**P**	**23 11 17.6**	**+1.0**
SAUI	**Saumlaki**	**21.59**	**159**	P	**P**	**23 11 18.1**	**+0.5**
SAUI	**Saumlaki**	**21.59**	**159**	*e*P	**P**	**23 11 16.9**	**-0.7**
	comp=Z,2μm,1.5s						
KMMI	**Kalianget**	**21.60**	**207**	P	**P**	**23 11 19.4**	**+1.7**
	comp=Z,316nm,1.0s,comp=Z,3μm						
JNU	**Nakatsue**	**21.66**	**16**	P	**P**	**23 11 17.1**	**-1.1**
	comp=Z,18nm,0.8s,baz=109,slow=20,SNR=6.1						
JNU				LR	LR	23 18 41.2	
	comp=Z,3μm,21.8s,baz=160,slow=34						
JNU	**Nakatsue**	**21.66**	**16**	*e*P	**P**	**23 11 19.0**	**+0.7**
	comp=Z,311nm,1.7s						
NAYO	**Nakonayok**	**21.87**	**278**	P	**P**	**23 11 19.8**	**-0.8**
	comp=Z,58nm,0.8s						
PLAI	**Plampang**	**21.88**	**196**	P	**P**	**23 11 20.4**	**-0.3**
	comp=Z,210nm,1.0s,comp=Z,3μm						
SOEI	**Soe**	**22.00**	**179**	P	**P**	**23 11 22.6**	**+0.5**
	comp=Z,248nm,0.9s,comp=Z,4μm						
SOEI	**Soe**	**22.00**	**179**	*e*P	**P**	**23 11 21.2**	**-0.9**
	comp=Z,254nm,1.0s						
SRBI	**Singaraja**	**22.02**	**203**	P	**P**	**23 11 21.9**	**-0.3**
	comp=Z,81nm,1.0s,comp=Z,1μm						
GENI	**Genyem**	**22.11**	**131**	P	**P**	**23 11 25.2**	**+2.0**
	comp=Z,262nm,1.2s,comp=Z,4μm						
ENH	**Enshi**	**22.15**	**326**	*e*P	**P**	**23 11 24.7**	**+1.2**
	comp=Z,88nm,0.9s						
ENH				LR	LR		
	comp=Z,6μm,19.0s						
ABJI	**Asem Bagus**	**22.15**	**206**	P	**P**	**23 11 25.3**	**+1.7**
	comp=Z,68nm,1.0s,comp=Z,2μm						
WSI	**Waingapu**	**22.17**	**189**	P	**P**	**23 11 25.8**	**+2.0**
	comp=Z,173nm,0.6s						
TPRI	**Tanjung Pinang**	**22.17**	**241**	P	**P**	**23 11 24.5**	**+0.6**
GRJI	**Gresik**	**22.18**	**211**	P	**P**	**23 11 25.1**	**+1.1**
WBSI	**Waikabubak, Su**	**22.30**	**191**	P	**P**	**23 11 26.6**	**+1.4**
MYKOM	**Kota Tinggi**	**22.32**	**243**	⇓P	**P**	**23 11 29.0**	**+3.5**
MYKOM	**Kota Tinggi**	**22.32**	**243**	*e*P	**P**	**23 11 25.2**	**-0.2**
	comp=Z,44nm,0.8s						
BLJI	**Banyuglugur**	**22.38**	**207**	P	**P**	**23 11 26.5**	**+0.4**
	comp=Z,114nm,0.9s,comp=Z,2μm						
TBJI	**Tambak Boyo**	**22.43**	**212**	P	**P**	**23 11 27.7**	**+1.1**
BATI	**Baumata**	**22.44**	**180**	P	**P**	**23 11 25.6**	**-1.2**
	comp=Z,238nm,0.9s,baz=208,slow=0.9,SNR=45						
BATI				LR	LR	23 21 14.4	
	comp=Z,3μm,21.8s,baz=28,slow=40						
BATI	**Baumata**	**22.44**	**180**	P	**P**	**23 11 27.1**	**+0.3**
JAY	**Jayapura**	**22.45**	**130**	P	**P**	**23 11 28.8**	**+1.8**
DNP	**Denpasar**	**22.56**	**202**	P	**P**	**23 11 30.9**	**+2.9**
	comp=Z,697nm,1.1s						
DNP	**Denpasar**	**22.56**	**202**	P	**P**	**23 11 31.5**	**+3.5**
DNP				pmax	pmax		
	comp=Z,708nm,1.1s						
BASI	**Baing, Sumba**	**22.67**	**188**	P	**P**	**23 11 31.1**	**+2.0**
KGM	**Kluang**	**22.68**	**245**	⇓P	**P**	**23 11 32.0**	**+2.8**
IGBI	**Denpasar**	**22.72**	**202**	P	**P**	**23 11 30.6**	**+1.0**
	comp=Z,851nm,1.0s,comp=Z,9μm						
JAGI	**Jajag, Banyuwa**	**22.79**	**205**	P	**P**	**23 11 30.6**	**+0.2**
	comp=Z,298nm,1.0s,comp=Z,4μm						
JAGI	**Jajag, Banyuwa**	**22.79**	**205**	*e*P	**P**	**23 11 30.2**	**-0.2**
	comp=Z,333nm,1.1s						
DSRI	**Dabo**	**22.89**	**237**	P	**P**	**23 11 34.1**	**+2.6**
	comp=Z,139nm,1.1s,comp=Z,9μm						
GMJI	**Gumukmas**	**22.92**	**207**	P	**P**	**23 11 32.6**	**+0.8**
	comp=Z,173nm,1.1s,comp=Z,3μm						
PHIT	**Phitsanulok**	**23.01**	**285**	P	**P**	**23 11 31.5**	**-1.3**
	comp=Z,47nm,0.7s,comp=Z,515nm						
NANT	**Nan**	**23.05**	**289**	P	**P**	**23 11 31.6**	**-1.5**
	comp=Z,25nm,0.8s,comp=Z,204nm						
SKLT	**Songkhla**	**23.33**	**259**	P	**P**	**23 11 34.7**	**-1.3**
	comp=Z,53nm,1.5s,comp=Z,2μm						
SMRI	**Semarang**	**23.38**	**215**	P	**P**	**23 11 36.5**	**0.0**
PWJI	**Pagerwojo**	**23.47**	**211**	P	**P**	**23 11 40.1**	**+2.7**
KMI	**Kunming**	**23.51**	**306**	P	**P**	**23 11 38.3**	**+0.3**
KMI				pP	sP	23 11 46.6	+1.6
KMI				sP	pP	23 11 52.4	+10
KMI				PP	**PnPn**	**23 12 05.9**	**+1.1**
KMI				S	**S**	**23 15 47.8**	**-3.7**
KMI				sS	sS	23 16 02.0	+2.2
KMI				SS	**SnSn**	**23 16 37.7**	**+10**
KMI				pmax	pmax		
	comp=Z,120nm,1.4s						
KMI				pmax	pmax		
	comp=Z,900nm,4.6s						
KMI				LR	LR		
	comp=Z,2μm,16.3s						
KMI				LR	LR		
	comp=Z,3μm,19.8s						
KMI				LR	LR		
	comp=Z,4μm,21.7s						
UTHA	**Uthaitani**	**23.75**	**280**	P	**P**	**23 11 38.9**	**-1.2**
	comp=Z,28nm,0.8s,comp=Z,238nm						
IPM	**Ipoh**	**23.75**	**253**	⇑P	**P**	**23 11 41.3**	**+1.1**
IPM	**Ipoh**	**23.75**	**253**	*e*P	**P**	**23 11 38.7**	**-1.5**
	comp=Z,84nm,0.9s						
KULM	**Kulim**	**23.84**	**255**	⇓P	**P**	**23 11 40.7**	**-0.2**
KULM	**Kulim**	**23.84**	**255**	*e*P	**P**	**23 11 39.9**	**-1.1**
	comp=Z,105nm,1.2s						
KULM				LR	LR		
	comp=Z,4μm,20.0s						
PCJI	**Pacitan**	**23.94**	**212**	P	**P**	**23 11 42.6**	**+0.7**
LAMP	**Lampang**	**23.98**	**288**	P	**P**	**23 11 42.0**	**-0.3**
	comp=Z,23nm,1.2s,comp=Z,244nm						
SRDT	**SRDT**	**24.00**	**277**	P	**P**	**23 11 41.0**	**-1.5**
	comp=Z,51nm,1.8s,comp=Z,3μm						
TRTT	**Trang**	**24.06**	**261**	P	**P**	**23 11 42.0**	**-1.1**
	comp=Z,28nm,1.8s,comp=Z,580nm						
TJN	**Taejon**	**24.12**	**7**	*d i*P	**P**	**23 11 44.2**	**+0.8**
PMBI	**Palembang**	**24.19**	**232**	P	**P**	**23 11 44.6**	**+0.3**
JMBI	**JAMBI**	**24.31**	**236**	P	**P**	**23 11 46.2**	**+0.8**
TIA	**Tai'an**	**24.46**	**347**	P	**P**	**23 11 46.4**	**-0.1**
TIA				pmax	pmax		
	comp=Z,25nm,0.8s						
TIA				pmax	pmax		

comp=Z,890nm,4.0s
TIA LR LR
comp=Z,2µm,20.6s
TIA LR LR
comp=Z,4µm,18.4s
TIA LR LR
comp=Z,4µm,18.5s
CM01 Chiang Mai Arr 24.59 287 *e*P **P 23 11 46.1 -1.8**
CM31 Chiang Mai Arr 24.61 287 *e*P **P 23 11 47.2 -0.9**
CMAR Chiang Mai Arr 24.61 287 P **P 23 11 47.8 -0.4**
comp=Z,38nm,0.8s,baz=100,slow=7.9,SNR=171
CMAR PcP **PcP 23 15 26.5 +0.6**
comp=Z,2.3nm,0.5s,baz=151,slow=2.1,SNR=4.7
CMAR LR LR 23 22 03.2
comp=Z,2µm,19.8s,baz=122,slow=38
CHTO Chiang Mai 24.68 288 P **P 23 11 47.5 -1.2**
comp=Z,195nm,0.9s,comp=Z,3µm
CHTO Chiang Mai 24.68 288 *e*P **P 23 11 47.1 -1.6**
comp=Z,32nm,0.8s
CHTO LR LR
comp=Z,3µm,19.0s
CHTO Chiang Mai 24.68 288 *e*P **P 23 11 47.1 -1.6**
CHTO pmax pmax
comp=Z,32nm,0.8s
CHTO MLR MLR
comp=Z,3µm,19.0s
RGRI Rengat 24.70 241 P **P 23 11 49.9 +1.0**
SURT Suratani 24.71 265 P **P 23 11 48.4 -0.7**
comp=Z,29nm,1.1s,comp=Z,591nm
CMAI Chiengmai2 24.83 291 P **P 23 11 49.2 -1.1**
comp=Z,943nm,1.0s,comp=Z,88µm
LEM Lembang 24.90 221 P **P 23 11 51.8 +0.8**
comp=Z,60nm,0.9s,baz=297,slow=22,SNR=4.6
LEM Lembang 24.90 221 P **P 23 11 51.1 +0.2**
TNG Tangerang 25.05 224 P **P 23 11 53.3 +1.2**
CMJI Cimerak 25.13 218 P **P 23 11 53.7 +0.9**
comp=Z,103nm,1.1s
INCN Inchon 25.13 5 PFAKE 23 12 00.0 +7.4
INCN LR LR
comp=Z,3µm,21.0s
KS15 Wonju Array Si 25.23 8 *e*P **P 23 11 54.5 +1.0**
KS15 *e*pP **P 23 11 55.2 +1.8**
KSAR Wonju Array Be 25.23 8 P **P 23 11 53.2 -0.3**
KSAR Wonju Array Be 25.23 8 P **P 23 11 53.2 -0.3**
KSRS Korea Array 25.25 8 P **P 23 11 53.2 -0.4**
comp=Z,25nm,0.7s,baz=190,slow=10,SNR=54
KSRS LR LR 23 21 57.4
comp=Z,2µm,20.4s,baz=192,slow=37
KSRS Korea Array 25.25 8 P **P 23 11 53.2 -0.4**
KSRS pmax pmax
comp=Z,26nm,0.7s
KSRS MLR MLR
comp=Z,2µm,20.4s
KS01 Wonju Array Si 25.27 8 *e*P **P 23 11 54.5 +0.7**
CISI Cisompet, Garu 25.34 219 P **P 23 11 54.1 -0.6**
CISI Cisompet, Garu 25.34 219 *e*P **P 23 11 57.8 +3.1**
comp=Z,596nm,1.7s
SBJI Serang 25.36 225 P **P 23 11 55.2 +0.3**
PKDT Phuket 25.36 262 P **P 23 11 54.8 -0.2**
comp=Z,35nm,0.9s
KLI Kotabumi 25.39 229 P **P 23 11 55.8 +0.6**
XAN Xi'an 25.42 330 P **P 23 11 54.1 -1.2**
XAN pP sP 23 12 06.0 +3.6
XAN sP pP 23 12 11.8 +11
XAN S **S 23 16 22.4 +0.8**
XAN pmax pmax
comp=Z,85nm,1.0s
XAN pmax pmax
comp=Z,490nm,5.5s
XAN LR LR
comp=Z,5µm,22.8s
XAN LR LR
comp=Z,7µm,21.7s
XAN LR LR
comp=Z,6µm,15.2s
BLSI Bandar Lampung 25.45 227 P **P 23 11 55.6 -0.1**
BKNI Bangkinang 25.48 244 P **P 23 11 57.1 +1.1**
MDSI Maura Dua 25.65 230 P **P 23 11 57.2 -0.3**
comp=Z,36nm,1.3s,comp=Z,761nm
SKJI Sukabumi 25.73 222 P **P 23 11 59.6 +1.4**
SDSI Sungai Dareh 25.77 241 P **P 23 11 59.2 +0.6**
INU Inuyama 25.84 26 *e*P **P 23 11 58.2 -0.9**
comp=Z,50nm,0.8s
CGJI Cibinong 26.02 224 P **P 23 12 02.3 +1.4**
CD2 Chengdu 26.07 318 P **P 23 12 01.5 +0.2**
CD2 pP sP 23 12 12.3 +4.0
CD2 sP pP 23 12 17.3 +11
CD2 PcP **PcP 23 15 27.7 -1.3**
CD2 S **S 23 16 31.3 -0.6**
CD2 sS sS 23 16 49.9 +10
CD2 pmax pmax
comp=Z,120nm,0.7s
CD2 pmax pmax
comp=Z,560nm,8.0s
CD2 LR LR
comp=Z,10µm,19.9s
CD2 LR LR
comp=Z,10µm,20.4s
CD2 LR LR
comp=Z,6µm,14.4s
MTN Manton Dam 26.12 163 *e*P **P 23 12 00.0 -1.7**
comp=Z,98nm,1.3s
PSI Prapat 26.32 251 *e*P **P 23 12 04.5 +0.7**
comp=Z,82nm,1.4s
PSI Prapat 26.32 251 *e*P **P 23 12 04.5 +0.7**
PSI pmax pmax
comp=Z,82nm,1.4s
MASI Maura Aman, Be 26.32 235 P **P 23 12 02.7 -1.0**
TSI Tuntungan 26.39 253 P **P 23 12 03.8 -0.5**
DL2 Dalian 26.48 356 P **P 23 12 05.8 +1.0**
DL2 S **S 23 16 40.0 +1.9**
DL2 pmax pmax
comp=Z,45nm,0.9s
DL2 pmax pmax
comp=Z,570nm,5.1s
DL2 LR LR
comp=Z,3µm,18.0s
DL2 LR LR
comp=Z,4µm,15.7s
DL2 LR LR
comp=Z,4µm,17.7s
MMPI Merauke 26.53 141 P **P 23 12 07.7 +2.2**
MNSI Mandailing Nat 26.55 246 P **P 23 12 06.6 +0.9**
comp=Z,48nm,1.0s,comp=Z,910nm
PDSI Padang 26.59 242 P **P 23 12 07.7 +1.6**
TIY Taiyuan 27.16 340 *e*P **P 23 12 16.6 +5.5**
TIY S **S 23 16 42.7 -6.4**
TIY pmax pmax
comp=Z,340nm,8.2s
TIY LR LR
comp=Z,2µm,15.5s
TIY LR LR
comp=Z,800nm,10.4s
TIY LR LR
comp=Z,3µm,19.1s
MAJO Matsushiro 27.37 26 PFAKE 23 12 20.0 +7.1
MAJO LR LR
comp=Z,3µm,19.0s
MAJO Matsushiro 27.37 26⇑ *i*P **P 23 12 12.8 -0.1**
MAJO pmax pmax
comp=Z,7.0nm,1.1s
MJAR Matsushiro Arr 27.37 26 P **P 23 12 11.5 -1.3**
comp=Z,2.0nm,0.7s,baz=209,slow=9.7,SNR=2.7
MJAR LR LR 23 21 13.5
comp=Z,2µm,21.4s,baz=205,slow=32
BJT Baijiatuau 28.32 348 *e*P **P 23 12 21.4 +0.1**
comp=Z,32nm,0.8s
BJT LR LR
comp=Z,3µm,20.0s
BJT Baijiatuau 28.32 348 *e*P **P 23 12 21.4 +0.1**
BJT pmax pmax
comp=Z,32nm,0.8s
BJT MLR MLR
comp=Z,3µm,20.0s
BJI Beijing 28.34 348⇓ *e*P **P 23 12 22.0 +0.5**
BJI S **S 23 17 08.6 +1.2**
BJI pmax pmax
comp=Z,29nm,0.6s
BJI pmax pmax
comp=Z,590nm,4.7s
BJI LR LR
comp=Z,3µm,17.2s
BJI LR LR
comp=Z,6µm,16.2s
BJI LR LR
comp=Z,3µm,31.4s

SNY Shenyang 29.33 360⇑ P **P 23 12 30.7 +0.4**
SNY S **S 23 17 22.6 -0.4**
SNY pmax pmax
comp=Z,18nm,0.9s
SNY pmax pmax
comp=Z,590nm,4.7s
SNY LR LR
comp=Z,2µm,23.0s
SNY LR LR
comp=Z,4µm,21.1s
SNY LR LR
comp=Z,6µm,19.0s
LZH Lanzhou 29.63 326 *e*P **P 23 12 33.8 +0.6**
LZH pP sP 23 12 47.3 +7.0
LZH sP pP 23 12 52.6 +14
LZH PP **PnPn 23 13 31.6 +3.4**
LZH PcP **PcP 23 15 34.2 -3.5**
LZH *e*S **S 23 17 24.4 -3.7**
LZH sS sS 23 17 42.1 +5.7
LZH pmax pmax
comp=Z,110nm,1.2s
LZH pmax pmax
comp=Z,370nm,4.8s
LZH LR LR
comp=Z,9µm,16.3s
LZH LR LR
comp=Z,7µm,15.9s
LZH LR LR
comp=Z,5µm,16.0s
HHC Hu-ho-hao-te 30.30 342 *e*P **P 23 12 40.0 +1.0**
HHC pP sP 23 12 48.3 +2.2
HHC sP pP 23 12 56.7 +13
HHC PP **PnPn 23 13 38.8 +1.7**
HHC S **S 23 17 34.2 -4.2**
HHC sS sS 23 17 56.4 +10
HHC SS **ScP 23 19 19.0 -2.1**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,220nm,4.0s
HHC LR LR
comp=Z,2µm,12.9s
HHC LR LR
comp=Z,2µm,13.3s
HHC LR LR
comp=Z,3µm,14.7s
FITZ Fitzroy Crossi 30.35 176 *e*P **P 23 12 37.5 -1.9**
comp=Z,17nm,0.8s
BTO Baotou 30.58 339 *e*P **P 23 12 38.5 -3.0**
CN2 Changchun 31.34 2 *e*P **P 23 12 48.7 +0.7**
CN2 *e*S **S 23 17 51.7 -2.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,4µm,15.0s
CN2 LR LR
comp=Z,1µm,19.0s
PMG Port Moresby 31.81 132 *e*P **P 23 12 50.1 -2.3**
comp=Z,45nm,1.1s
PMG LR LR
comp=Z,1µm,22.0s
PMG Port Moresby 31.81 132⇓ *i*P **P 23 12 51.2 -1.2**
PMG *i* *PP **sP 23 12 57.5 -2.0**
PMG pmax pmax
comp=Z,148nm,1.1s
USRK Ussuriysk Ar. 32.49 11 P **P 23 12 57.2 -0.9**
comp=Z,15nm,0.8s,baz=204,slow=8.2,SNR=17
USRK LR LR 23 25 22.5
comp=Z,2µm,21.4s,baz=182,slow=35
COEN Coen 32.51 143 *e*P **P 23 12 59.0 +0.3**
comp=Z,30nm,1.1s
MDJ Mudanjiang 32.52 8 P **P 23 12 57.6 -0.7**
MDJ pP sP 23 13 09.0 +3.5
MDJ sP pP 23 13 14.5 +11
MDJ S **S 23 18 18.8 +6.0**
MDJ ScS **ScS 23 23 20.4 -7.2**
MDJ pmax pmax
comp=Z,28nm,0.7s
MDJ pmax pmax
comp=Z,430nm,5.0s
MDJ LR LR
comp=Z,2µm,14.7s
MDJ LR LR
comp=Z,4µm,14.4s
MDJ LR LR
comp=Z,4µm,15.2s
MDJ Mudanjiang 32.52 8 *e*P **P 23 12 58.8 +0.4**
comp=Z,79nm,1.2s
MDJ LR LR
comp=Z,2µm,19.0s
SHL Shillong 32.73 298⇓ *i*P **P 23 13 04.5 +3.8**
MBWA Marble Bar 33.56 187 *e*P **P 23 13 06.3 -1.3**
comp=Z,118nm,1.3s
MBWA LR LR
comp=Z,1µm,20.0s
WRAB Tennant Creek 33.78 162 *e*P **P 23 13 07.5 -2.2**
comp=Z,64nm,1.3s
WRAB LR LR
comp=Z,1µm,20.0s
WRAB Tennant Creek 33.78 162⇑ *i*P **P 23 13 07.7 -1.9**
WRAB *i* *SP **sP 23 13 15.3 -1.5**
WRAB pmax pmax
comp=Z,28nm,1.0s
WRA Warramunga Arr 33.78 162 P **P 23 13 07.6 -2.1**
comp=Z,26nm,0.9s,baz=340,slow=9.6,SNR=51
WRA LR LR 23 28 21.0
comp=Z,1µm,20.7s,baz=350,slow=39
ERM Erimo 34.04 26 PFAKE 23 13 20.0 +8.3
ERM LR LR
comp=Z,2µm,20.0s
GTA Gaotai 34.23 326 P **P 23 13 13.3 -0.3**
GTA PP **PP 23 14 32.1 +0.9**
GTA S **S 23 18 40.2 +0.4**
GTA SS **SnSn 23 20 50.3 +1.5**
GTA pmax pmax
comp=Z,28nm,0.9s
GTA pmax pmax
comp=Z,300nm,6.2s
GTA LR LR
comp=Z,8µm,21.4s
GTA LR LR
comp=Z,6µm,20.9s
GTA LR LR
comp=Z,4µm,17.6s
LSA Lhasa 34.76 305 *e*P **P 23 13 18.9 +0.2**
comp=Z,135nm,1.4s
LSA LR LR
comp=Z,2µm,22.0s
LSA Lhasa 34.76 305 *e*P **P 23 13 18.9 +0.2**
LSA pmax pmax
comp=Z,135nm,1.4s
LSA MLR MLR
comp=Z,2µm,22.0s
ASAJ Asahikawa 35.55 24 P **P 23 13 23.9 -0.8**
comp=Z,4.7nm,0.6s,baz=68,slow=16,SNR=4.0
ASAJ LR LR 23 28 05.7
comp=Z,5.0nm,20.1s,baz=212,slow=37
ASAJ Asahikawa 35.55 24 *e*P **P 23 13 24.1 -0.6**
comp=Z,13nm,1.3s
TAPN Taplejung 36.83 299 *e*P **P 23 13 35.3 -0.9**
comp=Z,178nm,1.3s
YUK Yuzh-Kuril'sk 36.84 27 *e*P **P 23 13 37.0 +1.2**
YUK *e*S **S 23 19 23.6 +4.1**
HIA Hailar 36.92 356 *e*P **P 23 13 36.6 +0.2**
comp=Z,8.9nm,0.5s
HIA LR LR
comp=Z,3µm,19.0s
HIA Hailar 36.92 356 *e*P **P 23 13 36.6 +0.2**
HIA pmax pmax
comp=Z,9.0nm,0.5s
HIA MLR MLR
comp=Z,3µm,19.0s
ODAN Odare 36.96 298 *e*P **P 23 13 36.4 -0.9**
comp=Z,172nm,0.8s
AS31 Alice Springs 37.19 164 *e*P **P 23 13 37.9 -1.1**
comp=Z,28nm,1.4s
ASAR Alice Springs 37.19 164 P **P 23 13 37.6 -1.4**
comp=Z,34nm,0.9s,baz=344,slow=6.7,SNR=96
ASAR S **S 23 19 27.4 +2.1**
comp=Z,2.7nm,1.0s,baz=348,slow=17,SNR=5.4
ASAR LR LR 23 30 32.8
comp=Z,1µm,20.0s,baz=346,slow=39

ASAR Alice Springs 37.19 164 P **P 23 13 37.6 -1.4**
ASAR S **S 23 19 27.4 +2.1**
ASAR pmax pmax
comp=Z,33nm,0.9s
ASAR smax smax
comp=N,3.0nm,1.0s
ASAR MLR MLR
comp=Z,1µm,20.0s
AS01 Alice Springs 37.20 164 *e*P **P 23 13 37.5 -1.6**
KLR Kul'dur 37.34 9 P **P 23 13 39.1 -0.8**
comp=Z,1.6nm,0.7s,baz=196,slow=6.3,SNR=49
KLR Kul'dur 37.34 9*c* *i*P **P 23 13 40.1 +0.2**
KLR *i* *PP **sP 23 13 46.3 -0.7**
RAMN Ramite 37.67 298 *e*P **P 23 13 42.4 -0.9**
comp=Z,210nm,1.1s
YSS Yuzh-Sakhalins 38.01 21 *e*P **P 23 13 46.0 +0.4**
comp=Z,21nm,0.8s
YSS LR LR
comp=Z,652nm,19.0s
YSS Yuzh-Sakhalins 38.01 21⇓ *i*P **P 23 13 46.6 +1.0**
YSS *e* 23 15 23.2
YSS *e*S **S 23 19 38.2 +1.0**
YSS *e*SS **SnSn 23 22 14.5 -5.4**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,900nm,16.0s
ULN Ulaanbaatar 38.02 342 *e*P **P 23 13 45.7 -0.2**
comp=Z,21nm,0.9s
ULN LR LR
comp=Z,2µm,20.0s
ULN Ulaanbaatar 38.02 342⇓ *i*P **P 23 13 46.1 +0.2**
ULN pmax pmax
comp=Z,19nm,1.2s
SONM Songino Array 38.20 341 P **P 23 13 47.1 -0.3**
comp=Z,5.3nm,0.8s,baz=160,slow=8.9,SNR=19
SONM LR LR 23 31 23.5
comp=Z,2µm,19.1s,baz=154,slow=39
SONA1 Songino Array 38.20 341 *e*P **P 23 13 46.8 -0.6**
JIRN Jiri 38.21 299 *e*P **P 23 13 47.5 -0.5**
comp=Z,291nm,0.9s
GUN Gumba 38.54 299 *e*P **P 23 13 50.0 -0.8**
comp=Z,297nm,0.9s
KUR Kuril'sk 38.68 28 *e*P **P 23 13 55.5 +4.3**
KUR *i* 23 15 29.2
KUR *e* 23 15 59.0
KUR *e*S **S 23 19 51.4 +4.1**
KUR *e* 23 24 00.8
KUR MLR MLR
comp=Z,661nm,15.0s
KUR MLR MLR
comp=N,532nm,12.0s
PKI Pulchoki 38.85 299 *e*P **P 23 13 52.1 -1.3**
comp=N,190nm,1.2s
PKIN Phulchoki 38.86 299 *e*P **P 23 13 52.9 -0.5**
comp=N,56nm,0.8s
KKN Kakani 39.02 299 *e*P **P 23 13 53.5 -1.2**
comp=N,194nm,1.2s
DMN Daman 39.12 299 *e*P **P 23 13 54.3 -1.3**
comp=N,122nm,1.0s
CTAO Charters Tower 39.16 145 *e*P **P 23 13 56.9 +1.3**
comp=N,107nm,1.2s
CTAO LR LR
comp=Z,3µm,22.0s
CTAO Charters Tower 39.16 145 *e*P **P 23 13 56.9 +1.3**
CTAO pmax pmax
comp=Z,107nm,1.2s
CTAO MLR MLR
comp=Z,3µm,22.0s
GRNR Gornyy 39.66 13 *e*P **P 23 13 55.4 -4.0**
KOLN Koldanda 40.45 298 *e*P **P 23 14 05.4 -1.2**
comp=Z,171nm,1.3s
DANN Dangsing 40.46 299 *e*P **P 23 14 06.1 -0.7**
comp=Z,8.2nm,0.9s
PYUN Piuthan 41.06 299 *e*P **P 23 14 10.8 -0.8**
comp=Z,289nm,1.0s
ZEA Zeya 41.35 3 *e*P **P 23 14 13.3 0.0**
ZEA *i* 23 16 14.0
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA pmax pmax
comp=Z,400nm,6.0s
ZEA MLR MLR
comp=Z,3µm,15.0s
ZEA MLR MLR
comp=E,2µm,14.0s
ZEA MLR MLR
comp=N,2µm,15.0s
TYV Tymovskoe 41.37 18 *e*P **P 23 14 15.0 +1.5**
TYV pmax pmax
comp=Z,11nm,0.8s
ZAK Zakamensk 41.42 340 *e*P **P 23 14 13.1 -1.0**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
HNR Honiara 42.03 119 LR LR 23 29 45.6
comp=Z,523nm,20.5s,baz=296,slow=33
HNR Honiara 42.03 119 PFAKE 23 14 30.0 +11
HNR LR LR
comp=Z,1µm,22.0s
H11N1 WAKE ISLAND Hy 42.04 74 T T 23 58 24.4
baz=267,slow=74,SNR=206
H11N2 WAKE ISLAND Hy 42.05 74 T T 23 58 12.3
baz=267,slow=74,SNR=165
H11N3 WAKE ISLAND Hy 42.06 74 T T 23 58 23.4
baz=267,slow=74,SNR=187
TLY Talaya 42.43 342 *e*P **P 23 14 22.1 -0.2**
comp=Z,13nm,0.9s
TLY LR LR
comp=Z,2µm,19.0s
TLY Talaya 42.43 342 *e*P **P 23 14 23.1 +0.9**
TLY *e*S **S 23 20 43.7 +0.5**
TLY *e*SSS SSS 23 24 17.2
TLY pmax pmax
comp=Z,17nm,1.8s
TLY MLR MLR
comp=Z,1µm,16.0s
PALK Pallekele 42.64 267 LR LR 23 30 54.5
comp=Z,919nm,21.5s,baz=115,slow=34
PALK Pallekele 42.64 267 *e*P **P 23 14 23.9 -0.6**
comp=Z,41nm,1.5s
PALK Pallekele 42.64 267 *i* P **P 23 14 25.0 +0.5**
MOY Mondy 43.28 339 *e*P **P 23 14 29.7 +0.5**
MOY pmax pmax
comp=Z,50nm,1.8s
WMQ Urumqi 44.02 322 P **P 23 14 36.4 +1.1**
WMQ pP sP 23 14 47.6 +5.1
WMQ sP pP 23 14 54.6 +14
WMQ S **S 23 21 05.2 -1.7**
WMQ SS **SS 23 24 14.5 -10**
WMQ pmax pmax
comp=Z,96nm,1.3s
WMQ pmax pmax
comp=Z,960nm,4.5s
WMQ LR LR
comp=Z,26µm,19.5s
WMQ LR LR
comp=Z,12µm,17.5s
WMQ LR LR
comp=Z,11µm,21.1s
CLNS Chul'man 44.37 1 *e*P **P 23 14 38.6 +0.8**
CLNS pmax pmax
comp=Z,37nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=N,23nm,1.0s
NWAO Narrogin (SRO) 45.48 188 *e*P **P 23 14 45.4 -1.5**
comp=N,195nm,1.6s
NWAO LR LR
comp=Z,1µm,21.0s
NWAO Narrogin (SRO) 45.48 188 *e*P **P 23 14 45.4 -1.5**
NWAO pmax pmax
comp=Z,195nm,1.6s
NWAO MLR MLR
comp=Z,1µm,21.0s
HVS Khovu-Aksy 45.69 334⇑ *i*P **P 23 14 50.0 +1.5**
HVS pmax pmax
comp=Z,39nm,1.2s
BOD Bodaibo 45.94 353 *e*P **P 23 14 50.7 +0.5**
BOD pmax pmax
comp=Z,19nm,1.6s
EIDS Eidsvold 46.04 145 *e*P **P 23 14 53.3 +1.9**
comp=Z,81nm,1.7s
BBOO Buckleboo 46.46 166 *e*P **P 23 14 53.1 -1.6**

comp=Z,50nm,0.8s
STKA Stephens Creek 47.23 159 P P 23 14 59.6 -1.0
comp=Z,12nn,0.9s,baz=335,slow=6.6,SNR=19
STKA LR LR 23 37 45.5
comp=Z,1μm,20.8s,baz=338,slow=40
STKA Stephens Creek 47.23 159 *e*P **P 23 14 59.7 -1.0**
comp=Z,6.8nn,0.9s
POO Poona 48.32 284 *e*P P 23 15 01.0 -8.5
MK01 Makanchi Array 48.82 323 *e*P **P 23 15 12.8 -0.1**
PETK Petropavlovsk- 48.82 27 P **P 23 15 12.1 -0.7**
comp=Z,6.5nn,0.6s,baz=160,slow=4.7,SNR=5.2
PETK LR LR 23 35 30.8
comp=Z,919nm,21.6s,baz=226,slow=36
MK31 Makanchi Array 48.84 323 *e*P **P 23 15 12.5 -0.5**
MK31 Makanchi Array 48.84 323 *i* P **P 23 15 12.7 -0.3**
MK31 pmax pmax
comp=Z,33nm,0.8s
MKAR Makanchi Array 48.84 323 P **P 23 15 12.9 -0.1**
comp=Z,14nm,0.7s,baz=123,slow=8.5,SNR=157
MKAR PcP **PcP 23 16 37.1 -0.5**
comp=Z,6.8nm,0.8s,baz=158,slow=2.7,SNR=4.9
MKAR Makanchi Array 48.84 323 *e*P **P 23 15 12.5 -0.5**
comp=Z,171nm,0.8s
MKAR PcP **PcP 23 16 37.1 -0.5**
MKAR Makanchi Array 48.84 323 *i* P **P 23 15 13.3 +0.3**
MKAR pmax pmax
comp=Z,34nm,0.9s
PDGK Podgornoye 48.95 318 *i* P **P 23 15 14.5 +0.4**
PDGK pmax pmax
comp=Z,53nm,1.1s
MAKZ Makanchi 49.03 323 *i* P **P 23 15 14.2 -0.3**
MAKZ pmax pmax
comp=Z,51nm,1.3s
PET Petropavlovsk 49.19 27 PFAKE 23 15 30.0 +14
PET LR LR
comp=Z,1μm,19.0s
PET Petropavlovsk 49.19 27 *e*P P 23 15 22.1 +6.6
PET *e*S **S 23 22 24.8 +4.4**
PET *e*SS **SS 23 25 51.0 -0.7**
PET pmax pmax
comp=Z,57nm,1.4s
PRZ Przheval'sk 49.33 316 P **P 23 15 19.4 +2.3**
YAK Yakutsk 49.76 4 P **P 23 15 19.3 -0.5**
comp=Z,17nm,0.4s,baz=15,slow=0.2,SNR=7.5
YAK Yakutsk 49.76 4 P **P 23 15 19.3 -0.5**
YAK LR LR
comp=Z,2μm,22.0s
YAK Yakutsk 49.76 4 *e*P **P 23 15 19.2 -0.5**
YAK *e**PP sP 23 15 32.2 +5.2
YAK *e* 23 17 18.1
YAK *e*S **S 23 22 23.4 -4.7**
YAK *e**SS **sS 23 22 38.7 +2.0**
YAK *e*SSS SSS 23 27 21.0
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=Z,133nm,2.3s
YAK pmax pmax
comp=N,78nm,2.3s
YAK pmax pmax
comp=Z,128nm,2.3s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax smax
comp=E,57nm,2.0s
YAK smax smax
comp=N,141nm,3.8s
YAK MLR MLR
comp=E,533nm,21.0s
KSH Kashi 49.96 312 P **P 23 15 23.7 +1.9**
KSH pP sP 23 15 37.1 +8.0
KSH PcP **PcP 23 16 42.7 +0.8**
KSH PP **PP 23 17 21.1 +4.3**
KSH S **S 23 22 30.0 -1.9**
KSH sS sS 23 22 51.0 +10
KSH pmax pmax
comp=E,83nm,1.6s
KSH pmax pmax
comp=E,280nm,4.7s
KSH LR LR
comp=E,1μm,14.1s
KSH LR LR
comp=E,1μm,16.7s
KSH LR LR
comp=E,2μm,17.9s
TARA Tarawa 49.98 99 PFAKE 23 15 30.0 +7.8
TARA LR LR
comp=Z,97nm,22.0s
NRN Naryn 50.59 314 P **P 23 15 27.3 +0.4**
MA2 Magadan 51.23 17⇓ *i*P **P 23 15 32.2 +1.3**
KZA Kyzart 51.34 314 P **P 23 15 33.4 +0.8**
SNR=15
TKM2 Tokmak 2 51.41 316 P **P 23 15 33.4 +0.6**
SNR=8.7
TKM2 Tokmak 2 51.41 316 *i* P **P 23 15 32.3 -0.5**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
ZALV Zalesovo Beam 51.58 332 P **P 23 15 33.0 -0.6**
comp=Z,9.2nm,0.8s,baz=115,slow=6.8,SNR=23
ZALV LR LR 23 39 42.8
comp=Z,2μm,18.3s,baz=131,slow=39
KBK Karagaybulak 51.76 315 P **P 23 15 36.0 +0.6**
SNR=27
UCH Uchtor 51.91 314 P **P 23 15 37.6 +0.7**
SNR=33
CHMS Chumysh 52.01 315 P **P 23 15 37.5 +0.3**
SNR=13
FRU1 Bishkek 52.03 315 P **P 23 15 38.7 +1.4**
FRU Bishkek 52.05 315 *e*P **P 23 15 37.0 -0.4**
FRU pmax pmax
comp=Z,60nm,1.6s
AAK Ala-Archa 52.06 315 P **P 23 15 37.3 -0.3**
comp=Z,2.8nm,0.6s,baz=125,slow=10,SNR=8.3
AAK Ala-Archa 52.06 315 *e*P **P 23 15 38.1 +0.4**
comp=Z,41nm,1.4s
AAK LR LR
comp=Z,4μm,21.0s
AAK Ala-Archa 52.06 315⇓ *i*P **P 23 15 39.5 +1.8**
AAK pmax pmax
comp=Z,19nm,1.2s
USP Ospenovka 52.28 316 P **P 23 15 39.2 +0.1**
SNR=21
AML Almayashu 52.45 314 P **P 23 15 41.5 +0.6**
SNR=23
EKS2 Erkin-Say 52.57 315 P **P 23 15 41.9 +0.5**
SNR=19
NVS Novosibirsk 52.86 332⇑ *i*P **P 23 15 44.0 +0.9**
NVS *e*PPP PPP 23 18 45.0
NVS *e*S **S 23 23 11.7 +0.5**
NVS pmax pmax
comp=N,29nm,1.5s
NVS pmax pmax
comp=Z,53nm,1.5s
NVS pmax pmax
comp=E,27nm,1.3s
NVS pmax pmax
comp=Z,24nm,1.9s
NVS pmax pmax
comp=E,15nm,1.7s
NVS smax smax
comp=N,13nm,2.2s
NVS smax smax
comp=E,19nm,2.2s
KURK Kurchatov 52.91 326 *e*P **P 23 15 43.2 -0.4**
comp=E,178nm,1.2s
KURK LR LR
comp=Z,3μm,21.0s
KURK Kurchatov 52.91 326⇑ *i*P **P 23 15 43.8 +0.2**
KURK pmax pmax
comp=Z,55nm,1.0s
CAN Canberra 53.15 154 *e*P **P 23 15 45.7 +0.2**
comp=Z,57nm,1.1s
CAN LR LR
comp=Z,943nm,19.0s
CAN Canberra 53.15 154 *e*P **P 23 15 45.7 +0.2**
CAN pmax pmax
comp=Z,57nm,1.1s
CAN MLR MLR
comp=Z,943nm,19.0s
MNAS Manas 53.40 314 *i* P **P 23 15 47.0 -0.6**
MNAS pmax pmax
comp=Z,32nm,0.9s
KBL Kabul 54.07 304 *e*P **P 23 15 52.6 -0.1**
KBL Kabul 54.07 304 *e*P **P 23 15 52.6 -0.1**

DZM Mont Dzumac 54.12 129 LR LR 23 39 02.3
comp=Z,538nm,19.2s,baz=252,slow=36
DZM Mont Dzumac 54.12 129 *e*S **S 23 23 27.6 -1.8**
comp=Z,467nm,28.5s
DZM *e*LR LR 23 31 31.9
comp=Z,2μm,26.4s
DZM Mont Dzumac 54.12 129 *e*P **P 23 15 52.4 -0.6**
comp=Z,8.7nm,0.6s
SEY Seymchan 54.44 16⇓ *i*P **P 23 15 55.2 +0.7**
DGAR Diego Garcia 54.61 252 PFAKE 23 16 10.0 +13
DGAR LR LR
comp=Z,1μm,20.0s
KK31 Karatay Array 54.99 314 *i* P **P 23 15 58.5 -0.5**
KK31 pmax pmax
comp=Z,32nm,1.0s
KKAR Karatay Array 54.99 314 *e*P **P 23 15 58.8 -0.2**
comp=Z,12nm,0.6s
KKAR *e*PcP **PcP 23 16 56.1 -4.5**
KKAR Karatay Array 54.99 314 *e*P **P 23 15 58.8 -0.2**
KKAR *e* 23 16 56.1
KKAR pmax pmax
comp=Z,12nm,0.6s
BVAR Borovoye Array 58.51 325 P **P 23 16 23.5 -0.3**
comp=Z,4.5nm,0.8s,baz=120,slow=10,SNR=32
BVAR LR LR 23 40 42.0
comp=Z,2μm,19.3s,baz=114,slow=35
BRVK Borovoye 58.58 325 *e*P **P 23 16 24.3 0.0**
comp=Z,20nm,0.8s
BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 58.58 325*d* *i*P **P 23 16 24.5 +0.2**
BRVK pmax pmax
comp=Z,82nm,1.2s
TAU Tasmania Unive 59.12 160 PFAKE 23 16 40.0 +12
TAU LR LR
comp=Z,1μm,21.0s
TIXI Tiksi 59.31 2 *e*P **P 23 16 28.7 -0.4**
TIXI LR LR
comp=Z,2μm,20.0s
TIXI Tiksi 59.31 2*ce*P **P 23 16 28.6 -0.4**
TIXI pmax pmax
comp=Z,26nm,1.0s
BILL Bilibino 62.09 17 *i* P **P 23 16 46.7 -1.3**
BILL *i* 23 17 04.8
BILL *i* 23 17 29.4
BILL *i* S S 23 25 27.4 +15
BILL *e*SS **SS 23 29 12.3 -2.4**
BILL pmax pmax
comp=Z,15nm,1.3s
BILL MLR MLR
comp=Z,724nm,19.0s
WSAR Wadi Sarin 62.46 290 P **P 23 16 51.0 -0.3**
comp=Z,25nm,0.9s,baz=108,slow=7.2,SNR=6.6
WSAR LR LR 23 45 23.7
comp=Z,590nm,21.8s,baz=102,slow=37
GEYT Alibeck 63.27 306 P **P 23 16 56.5 0.0**
comp=Z,16nm,0.9s,baz=116,slow=3.4,SNR=28
GEYT LR LR 23 46 30.4
comp=Z,1μm,19.1s,baz=75,slow=38
AB31 Akbulak array 63.64 319 *i* P **P 23 16 57.9 -0.8**
AB31 pmax pmax
comp=Z,32nm,1.0s
ABKAR Akbulak array 63.64 319 *e*P **P 23 16 58.2 -0.5**
comp=Z,8.1nm,0.7s
SVE Sverdlovsk 65.09 327 *e*P **P 23 17 07.5 -0.5**
SVE pmax pmax
comp=Z,47nm,1.3s
AKTO Aktyubinsk 65.10 320 P **P 23 17 08.2 0.0**
comp=Z,13nm,0.8s,baz=77,slow=11,SNR=22
AKTO LR LR 23 47 42.3
comp=Z,2μm,18.4s,baz=105,slow=38
AKTO Aktyubinsk 65.10 320 *i* P **P 23 17 07.4 -0.8**
AKTO pmax pmax
comp=Z,27nm,1.1s
ARU Arti 66.09 327 *e*P **P 23 17 13.2 -1.3**
comp=Z,16nm,0.6s
ARU LR LR
comp=Z,2μm,21.0s
ARU Arti 66.09 327*c* *i*P **P 23 17 14.0 -0.5**
ARU 23 17 42.5
ARU 23 19 43.5
ARU S **S 23 26 02.4 +0.4**
ARU pmax pmax
comp=Z,15nm,1.0s
SOKR Solikamsk 67.77 330⇑ *i*P P 23 17 30.6 +5.5
SOKR pmax pmax
comp=Z,12nm,0.9s
SOKR MLR MLR
comp=Z,2μm,19.0s
GAMB Gambell 67.84 26 *e*P **P 23 17 25.9 +0.4**
comp=Z,12nm,1.1s
AFI Afiamalu 69.06 110 LR LR 23 44 59.0
comp=Z,478nm,19.5s,baz=310,slow=34
AFI Afiamalu 69.06 110 PFAKE 23 17 50.0 +16
AFI LR LR
comp=Z,608nm,19.0s
LKRN Lenkeran, Azer 70.64 307 P **P 23 17 41.9 -1.4**
SNZO South Karori 71.15 142 PFAKE 23 18 00.0 +14
SNZO LR LR
comp=Z,909nm,20.0s
SEKA Sheki 71.83 309 P **P 23 17 48.1 -2.5**
MNGR Mingechevir, A 71.92 309 P **P 23 17 49.6 -1.4**
ZKTA Zakatala 72.26 310 P **P 23 17 51.6 -1.5**
GANJ Ganja 72.50 309 P **P 23 17 53.2 -1.4**
GROC Groznyy 72.84 312 *e*P **P 23 17 56.7 +0.2**
GROC *e* 23 18 14.9
GROC *e* 23 20 37.8
GROC pmax pmax
comp=Z,45nm,1.2s
NAX Nakhchivan 73.19 307 P **P 23 17 57.2 -1.6**
GNI Garni 73.73 308 P **P 23 18 01.7 -0.4**
comp=Z,6.6nm,0.9s,baz=254,slow=20,SNR=2.5
GNI LR LR 23 54 47.1
comp=Z,521nm,19.2s,baz=78,slow=39
GNI Garni 73.73 308 *e*P **P 23 18 02.4 +0.4**
comp=Z,572nm,1.5s
GNI LR LR
comp=Z,810nm,22.0s
GNI Garni 73.73 308 *e*P **P 23 18 02.4 +0.4**
GNI pmax pmax
comp=Z,572nm,1.5s
GNI MLR MLR
comp=Z,810nm,22.0s
ZEI Tsey 74.25 311 *e*P **P 23 18 03.2 -1.8**
ZEI pmax pmax
comp=Z,54nm,1.0s
RAYN Ar Rayn 74.46 291 *e*P **P 23 18 06.0 -0.4**
comp=Z,50nm,1.1s
RAYN LR LR
comp=Z,558nm,20.0s
GOF Gofitskoye 74.77 314⇑ *e*P **P 23 18 11.0 +3.2**
GOF pmax pmax
comp=Z,47nm,0.7s
KIP Kipapa 74.79 71 *i* P **P 23 18 07.6 -0.7**
KBZ Khabaz 74.94 312 P **P 23 18 08.0 -0.7**
comp=Z,19nm,0.9s,baz=106,slow=5.6,SNR=14
KBZ LR LR 23 56 33.7
comp=Z,1μm,18.1s,baz=84,slow=40
KIV Kislovodsk 75.08 312 *e*P **P 23 18 09.8 +0.1**
comp=Z,76nm,0.8s
KIV LR LR
comp=Z,1μm,21.0s
KIV Kislovodsk 75.08 312 *e*P **P 23 18 10.6 +0.9**
KIV *e*S **S 23 27 47.4 -0.1**
KIV pmax pmax
comp=Z,83nm,0.9s
KIV pmax pmax
comp=Z,38nm,3.5s
KIV MLR MLR
comp=Z,1μm,18.0s
NEY Neytrino 75.09 312⇑ *i*P **P 23 18 11.1 +1.2**
NEY *i* *PP **sP 23 18 17.4 +0.1**
NEY *i* *SP **PcP 23 18 19.6 -3.9**
NEY pmax pmax
comp=Z,6.0nm,1.0s
VRH Novokhopyorsk 75.44 320 *e*P **P 23 18 11.2 -0.3**
VRH pmax pmax
comp=Z,6.0nm,0.7s
VRH MLR MLR
comp=Z,450nm,14.0s
KDAK Kodiak Island 76.27 33 PFAKE 23 18 30.0 +14
KDAK LR LR
comp=Z,279nm,20.0s
KDAK Kodiak Island 76.27 33 *i* P **P 23 18 16.5 +0.4**
PPLA Purkeypile 76.39 28 *e*P **P 23 18 16.9 0.0**
comp=Z,92nm,1.9s

KLMR Klimovskoe 76.45 330 *e*P **P 23 18 18.6 +1.5**
KLMR *e* 23 21 08.1
KLMR *e*S **S 23 28 03.3 +1.5**
KLMR pmax pmax
comp=Z,31nm,1.4s
KLMR Klimovskoe 76.45 330 *e*P **P 23 18 18.6 +1.5**
KLMR AMP 23 18 27.1
comp=Z,31nm,1.4s
KLMR *e*PP **PP 23 21 08.2 -0.5**
KLMR *e*S **S 23 28 03.4 +1.6**
KLMR *e*S **S 23 28 03.4 +1.6**
KLMR LQ LQ 23 45 58.3
KLMR LQ LQ 23 45 58.3
KLMR LR LR 23 50 54.1
BPAW Bear Paw Mtn. 76.91 27 *e*P **P 23 18 19.7 +0.1**
comp=Z,5.6nm,0.8s
KTH Kantishna Hill 76.95 27 *e*P **P 23 18 21.8 +1.9**
comp=Z,56nm,1.7s
VORR Voronezh 77.00 320 P **P 23 18 24.0 +3.7**
VORR pmax pmax
comp=Z,250nm,1.2s
VSR Storozhevoye 77.05 320 *e*P **P 23 18 19.6 -1.0**
VSR pmax pmax
comp=Z,8.0nm,0.6s
VSR MLR MLR
comp=Z,1μm,21.0s
TMCR Tamitsa 77.06 333 *e*P **P 23 18 19.6 -0.8**
TMCR pmax pmax
comp=Z,7.0nm,0.6s
LPSR Galich'ya Gora 77.11 321 *e*P **P 23 18 20.6 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
COLD Coldfoot 77.16 23 *e*P **P 23 18 21.7 +0.7**
comp=Z,7.9nm,0.9s
TRF Thorofare Moun 77.24 27 *e*P **P 23 18 21.7 0.0**
comp=Z,95nm,1.7s
SOC Sochi 77.25 312 *e*P P 23 18 16.9 -5.0
SOC *e*S S 23 28 01.1 -10
SOC MLR MLR
comp=Z,907nm,19.0s
POHA Pohakuloa 77.33 72 PFAKE 23 18 30.0 +6.9
POHA LR LR
comp=Z,3μm,20.0s
MOS Moscow 77.67 325 *e*P **P 23 18 28.5 +4.5**
MOS *e* 23 21 19.6
MOS pmax pmax
comp=Z,33nm,1.1s
MOS MLR MLR
comp=E,700nm,19.0s
MOS MLR MLR
comp=Z,1μm,19.0s
MCK McKinley 77.83 27 *e*P **P 23 18 24.5 -0.3**
comp=Z,69nm,1.4s
MCK McKinley 77.83 27 *e*P **P 23 18 24.5 -0.3**
MCK pmax pmax
comp=Z,69nm,1.4s
PMR Palmer 77.86 29 *e*P **P 23 18 24.6 -0.4**
comp=Z,12nm,0.8s
PMR Palmer 77.86 29 *e*P **P 23 18 24.6 -0.4**
PMR pmax pmax
comp=Z,12nm,0.8s
SML Sawmill 78.23 29 *e*P **P 23 18 26.6 -0.5**
comp=Z,5.9nm,1.0s
SML Sawmill 78.23 29 *e*P **P 23 18 26.6 -0.5**
SML pmax pmax
comp=Z,6.0nm,1.0s
COLA College 78.23 26 *e*P **P 23 18 26.5 -0.4**
COLA LR LR
comp=Z,467nm,20.0s
COLA College 78.23 26 *e*P **P 23 18 26.5 -0.4**
COLA MLR MLR
comp=Z,467nm,20.0s
LVZ Lovozero 78.27 337 PFAKE 23 18 40.0 +13
LVZ LR LR
comp=Z,1μm,19.0s
OBN Obninsk 78.32 324 PFAKE 23 18 40.0 +12
OBN LR LR
comp=Z,896nm,20.0s
OBN Obninsk 78.32 324⇑ *e*P **P 23 18 29.4 +1.8**
OBN *PP **PcP 23 18 35.0 -1.9**
OBN *i* 23 18 36.3
OBN *e* 23 18 46.1
OBN 23 21 26.0
OBN *e*S S 23 28 13.9 -8.3
OBN *e* 23 29 25.6
OBN pmax pmax
comp=Z,30nm,1.3s
OBN MLR MLR
comp=Z,703nm,18.0s
ILAR Eielson Array 78.65 26 P **P 23 18 28.2 -1.1**
comp=Z,3.2nm,0.7s,baz=252,slow=3.9,SNR=30
ILAR PKKP **PKKPdf 23 37 18.4 +4.2**
comp=Z,0.3nm,0.9s,baz=180,slow=4.9,SNR=4.4
ILAR LR LR 23 54 56.8
comp=Z,150nm,18.4s,baz=294,slow=37
ANN Anapa 78.77 314 *e*P **P 23 18 30.0 -0.3**
ANN *e*S **S 23 28 27.7 +0.3**
ANN pmax pmax
comp=Z,66nm,1.0s
ANN MLR MLR
comp=N,658nm,18.0s
ANN MLR MLR
comp=E,1μm,18.0s
ANN MLR MLR
comp=Z,905nm,18.0s
ATD Arta Tunnel 78.79 279 P **P 23 18 31.4 +0.3**
comp=Z,1.1nm,1.0s,baz=310,slow=3.4,SNR=2.5
ATD LR LR 23 50 40.7
comp=Z,188nm,21.4s,baz=76,slow=34
CASY Casey 79.05 185 PFAKE 23 18 40.0 +8.8
CASY LR LR
comp=Z,113nm,21.0s
PAX Paxson 79.45 28 *e*P **P 23 18 34.3 +0.5**
comp=Z,9.7nm,1.0s
PAX Paxson 79.45 28 *e*P **P 23 18 34.3 +0.5**
PAX pmax pmax
comp=Z,10.0nm,1.0s
DOT Dot Lake 80.00 27 *e*P **P 23 18 36.7 0.0**
comp=Z,20nm,0.8s
KEV Kevo 80.79 339 PFAKE 23 18 50.0 +9.2
KEV LR LR
comp=Z,863nm,20.0s
ASF Jabal al Asfar 80.85 301 P **P 23 18 42.6 +0.6**
comp=Z,10nm,0.8s,baz=50,slow=4.0,SNR=19
EGAK Eagle 81.08 26 *e*P **P 23 18 42.9 +0.4**
comp=Z,8.6nm,0.9s
EGAK LR LR
comp=Z,410nm,20.0s
SIM Simferopol' 81.08 314 *e*P **P 23 18 42.7 -0.2**
SIM *e*S **S 23 28 55.5 +3.5**
ARCES ARCESS Array B 81.35 339 P **P 23 18 43.7 -0.1**
comp=Z,3.4nm,0.6s,baz=81,slow=7.5,SNR=12
ARCES LR LR 23 57 10.2
comp=Z,905nm,21.2s,baz=84,slow=37
OPO Ambohidratompo 81.45 249 LR LR 23 51 50.6
comp=Z,458nm,20.5s,baz=67,slow=33
SPITS Spitsbergen Ar 81.46 349 LR LR 23 59 19.0
comp=Z,1μm,19.2s,baz=110,slow=39
ABPO Ambohimpanom 81.54 248 PFAKE 23 19 00.0 +14
ABPO LR LR
comp=Z,329nm,21.0s
MMAI Mount Meron Ar 81.96 302 P **P 23 18 47.7 -0.2**
comp=Z,5.5nm,0.8s,baz=64,slow=3.4,SNR=6.9
MMAI LR LR 23 58 47.3
comp=Z,369nm,20.9s,baz=60,slow=38
DAWY Dawson 81.97 26 *e*P **P 23 18 47.9 +0.7**
KBS Kingsbay 82.01 350 PFAKE 23 19 00.0 +13
KBS LR LR
comp=Z,3μm,22.0s
BRTR Keskin Array B 82.26 309 P **P 23 18 49.0 -0.4**
comp=Z,3.5nm,0.8s,baz=106,slow=3.9,SNR=21
BRTR LR LR 23 57 02.0
comp=Z,415nm,21.5s,baz=54,slow=37
BRTR Keskin Array B 82.26 309 P **P 23 18 49.0 -0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR MLR MLR
comp=Z,415nm,21.5s
FINES FINESS Array B 82.85 331 P **P 23 18 50.4 -1.4**
comp=Z,2.0nm,0.7s,baz=67,slow=6.4,SNR=7.0
FINES LR LR 23 58 35.7
comp=Z,1μm,18.1s,baz=88,slow=38
ANTO Ankara 82.87 309 *e*P **P 23 18 53.1 +0.6**
comp=Z,54nm,1.0s
ANTO LR LR
comp=Z,675nm,21.0s

ANTO Ankara 82.87 309 *e*P **P** **23 18 53.1 +0.6**
ANTO pmax pmax
comp=Z,54nm,1.0s
ANTO MLR MLR
comp=Z,675nm,21.0s
INK Inuvik 83.25 21 LR LR 23 55 34.3
comp=Z,417nm,21.9s,baz=274,slow=35
INK Inuvik 83.25 21 *e*P **P** **23 18 53.6 -0.1**
comp=Z,5.6nm,0.8s
INK Inuvik 83.25 21 *e*P **P** **23 18 53.6 -0.1**
INK pmax pmax
comp=Z,6.0nm,0.8s
CSS Mathiatis 83.32 304 *e*P **P** **23 18 54.3 -0.6**
comp=Z,19nm,0.9s
CSS LR LR
comp=Z,99nm,20.0s
AKASG Malin Array Be 83.35 320 P **P** **23 18 53.4 -1.2**
comp=Z,7.9nm,0.7s,baz=65,slow=5.1,SNR=18
AKASG LR LR 23 56 17.5
comp=Z,1μm,20.9s,baz=75,slow=36
AKASG Malin Array Be 83.35 320 *i* P **P** **23 18 56.4 +1.8**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 83.36 320 *e*P **P** **23 18 53.3 -1.3**
comp=Z,22nm,1.2s
KIEV LR LR
comp=Z,1μm,21.0s
KIEV Kiev 83.36 320⇓ *i*P **P** **23 18 54.8 +0.2**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
MICGM Minsk 83.38 324 *e*P P 23 19 00.0 +5.3
MICGM *e*LQ LQ 23 49 34.0
MICGM *e*LR LR 23 53 44.0
MNK Minsk 83.38 324 *e*P P 23 19 00.0 +5.3
IDID Didziasalis 83.85 325 *e*P **P** **23 18 56.4 -0.7**
IDID IAmb IAmb 23 18 58.8
comp=Z,6.1nm,0.8s
NACGM Naroch 83.92 325 *e* **P** **23 18 57.0 -0.5**
NACGM *e*LQ LQ 23 50 32.0
NACGM *e*LR LR 23 55 30.0
IZAR Zarasai 84.03 326 *e*P **P** **23 18 57.3 -0.7**
IZAR IAmb IAmb 23 19 04.0
comp=Z,7.9nm,0.7s
IIGN Ignalina 84.13 325 *e*P **P** **23 18 57.8 -0.7**
IIGN IAmb IAmb 23 19 11.9
comp=Z,8.1nm,0.9s
ISAL Salakas 84.14 326 *e*P **P** **23 18 57.8 -0.7**
ISAL IAmb IAmb 23 19 07.1
comp=Z,8.7nm,1.0s
KIS Kishinev 84.36 317 *e*P **P** **23 19 02.0 +2.1**
KIS Kishinev 84.36 317 *e*PP PP 23 22 12.0 -2.5
KIS *e*LQ LQ 23 49 12.0
comp=Z,3μm,22.0s
KIS LRM MLR 00 00 36.0
comp=Z,1μm,20.0s
KIS Kishinev 84.36 317 *e*P **P** **23 19 02.0 +2.1**
KIS *e* 23 19 08.0
KIS *e* 23 19 15.0
KIS *e* 23 22 12.0
KIS MLR MLR
comp=Z,1μm,20.0s
SORM Soroca 84.43 318⇑ *i*P **P** **23 18 59.6 -0.6**
SORM Soroca 84.43 318 P **P** **23 18 59.6 -0.6**
TLCR 84.74 315⇑ *i*P **P** **23 19 02.3 +0.5**
LEOM Leova 84.85 316⇑ *i*P **P** **23 19 02.3 0.0**
ISP Isparta 85.00 307 PFAKE 23 19 10.0 +6.5
ISP LR LR
comp=Z,631nm,22.0s
IAS Iasi 85.15 317⇑ *i*P **P** **23 19 03.3 -0.6**
TIRR Tirgusor 85.17 314⇑ *i*P **P** **23 19 04.0 0.0**
TIRR Tirgusor 85.17 314 *e*P **P** **23 19 03.3 -0.7**
comp=Z,23nm,0.9s
TIRR Tirgusor 85.17 314 *e*P **P** **23 19 03.3 -0.7**
TIRR pmax pmax
comp=Z,23nm,0.9s
CFR Carcaliu 85.21 315⇑ *i*P **P** **23 19 03.5 -0.7**
HARR Harsova 85.46 315⇑ *i*P **P** **23 19 05.7 +0.3**
PSN Preselentsi 85.50 314 *i* P **P** **23 19 08.6 +2.9**
PETR Petresti 85.71 316⇑ *i*P **P** **23 19 08.0 +1.4**
ODBI Odobesti 85.82 316⇑ *i*P **P** **23 19 08.8 +1.6**
TESR Tescani 85.92 317⇑ *i*P **P** **23 19 06.9 -0.8**
GRER 85.96 315⇑ *i*P **P** **23 19 08.2 +0.3**
PRAR RASCA 86.00 317⇑ *i*P **P** **23 19 07.4 -0.7**
VRI Vrincioaia 86.02 316⇑ *i*P **P** **23 19 09.0 +0.7**
VRI Vrincioaia 86.02 316 P **P** **23 19 08.9 +0.7**
PGOR Pogoanele 86.06 315⇑ *i*P **P** **23 19 09.9 +1.5**
PLOR Plostina 86.07 316⇑ *i*P **P** **23 19 09.0 +0.4**
PRD Provadia 86.17 313 *i* P **P** **23 19 09.5 +0.5**
SUW Suwalki 86.18 324 *e*P **P** **23 19 08.9 +0.1**
SUW Suwalki 86.18 324 *e*P **P** **23 19 08.9 +0.1**
ISR Istrita 86.32 315⇑ *i*P **P** **23 19 09.8 0.0**
BURAR Bucovina Array 86.60 318⇑ *i*P **P** **23 19 11.1 -0.1**
BURAR Bucovina Array 86.60 318 P **P** **23 19 11.1 -0.1**
SULR 86.62 315⇑ *i*P **P** **23 19 12.0 +0.8**
MLR Muntele Rosu 86.64 316 P **P** **23 19 10.8 -0.6**
comp=Z,2.4nm,0.8s,baz=115,slow=3.5
MLR Muntele Rosu 86.64 316⇑ *i*P **P** **23 19 11.6 +0.1**
KMBO Kilima Mbogo 86.78 268 P **P** **23 19 13.8 +1.0**
comp=Z,9.5nm,1.0s,baz=39,slow=7.1,SNR=13
KMBO LR LR 23 53 59.4
comp=Z,687nm,21.9s,baz=84,slow=33
KMBO Kilima Mbogo 86.78 268 *e*P **P** **23 19 14.0 +1.1**
KMBO LR LR
comp=Z,824nm,21.0s
KMBO Kilima Mbogo 86.78 268 *e*P **P** **23 19 14.0 +1.1**
KMBO MLR MLR
comp=Z,824nm,21.0s
LVV L'vov 86.79 320 *e*P **P** **23 19 16.5 +4.6**
LVV MLR MLR
comp=N,3μm,21.0s
LVV MLR MLR
comp=Z,3μm,21.0s
LVV MLR MLR
comp=E,2μm,20.0s
DOPR Dopca 86.90 316⇑ *i*P **P** **23 19 12.4 -0.2**
VOIR 87.26 316⇑ *i*P **P** **23 19 14.0 -0.5**
VOIR 87.26 316 P **P** **23 19 13.9 -0.5**
ARCR ARCALIA 87.30 318⇑ *i*P **P** **23 19 15.6 +1.1**
HUMR Humele 87.54 315⇑ *i*P **P** **23 19 14.1 -1.6**
ARR Arges 87.56 316⇑ *i*P **P** **23 19 16.0 +0.1**
KWP Kalwaria Pacla 87.67 320 *e*P **P** **23 19 16.3 +0.1**
KWP Kalwaria Pacla 87.67 320 *e*P **P** **23 19 16.3 +0.1**
CJR Cluj-Napoca 87.90 317⇑ *i*P **P** **23 19 18.2 +0.8**
UZH Uzhgorod 88.21 319 *e*P **P** **23 19 19.3 +0.5**
UZH *e* 23 19 30.3
DRGR 88.47 318⇑ *i*P **P** **23 19 19.8 -0.4**
STHS Stebnicka Huta 88.64 320 *e*P **P** **23 19 22.5 +1.6**
STHS pmax pmax
comp=Z,14nm,1.4s
STHS Stebnicka Huta 88.64 320 *e*P **P** **23 19 22.5 +1.6**
CRVS Cervenica-Dubn 88.66 320 *e*P **P** **23 19 21.0 +0.1**
CRVS Cervenica-Dubn 88.66 320 *e*P **P** **23 19 21.0 +0.1**
MPEP Malo Peshtene 88.72 314 *i* P **P** **23 19 25.7 +4.4**
HFS Hagfors 89.02 332 P **P** **23 19 20.6 -1.7**
comp=Z,2.0nm,0.5s,baz=104,slow=4.6,SNR=8.2
HFS LR LR 00 02 33.7
comp=Z,1μm,19.0s,baz=68,slow=38
NIE Niedzica 89.23 321 *e*P **P** **23 19 23.6 0.0**
NIE Niedzica 89.23 321 *e*P **P** **23 19 23.6 0.0**
SANT Santorini 89.27 307 PFAKE 23 19 30.0 +5.9
SANT LR LR
comp=Z,515nm,20.0s
OJC Ojcow 89.29 321 *e*P **P** **23 19 23.9 +0.1**
OJC Ojcow 89.29 321 *e*P **P** **23 19 23.9 +0.1**
VTS Vitosha 89.30 313 *i* P **P** **23 19 28.3 +4.0**
KECS Kecovo 89.41 320 *e*P **P** **23 19 24.5 +0.1**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 89.41 320 *e*P **P** **23 19 24.5 +0.1**
KKB Krupnik 89.59 313 *i* P **P** **23 19 28.7 +3.2**
MDVR Moldovita 89.72 316⇑ *i*P **P** **23 19 25.5 -0.5**
NB2 NORSAR Subarra 89.76 333 P **P** **23 19 25.6 -0.3**
comp=Z,7.9nm,1.1s,baz=66,slow=5.1
NOA NORSAR Array B 89.76 333 P **P** **23 19 24.2 -1.7**
comp=Z,1.7nm,0.8s,baz=67,slow=4.8,SNR=7.6
NOA LR LR 00 01 46.8
comp=Z,813nm,21.4s,baz=65,slow=37
RES Resolute Bay 89.86 10 LR LR 00 01 19.2
comp=Z,444nm,21.0s,baz=340,slow=37
RES Resolute Bay 89.86 10 *e*P **P** **23 19 25.5 -0.5**
comp=Z,3.6nm,0.8s
RES Resolute Bay 89.86 10 *e*P **P** **23 19 25.5 -0.5**
RES pmax pmax
comp=Z,4.0nm,0.8s

PSZ Piszkesteto 89.96 319 *e*P **P** **23 19 26.2 -0.9**
comp=Z,29nm,1.5s
PSZ LR LR
comp=Z,1μm,21.0s
PSZ Piszkesteto 89.96 319 *e*P **P** **23 19 26.2 -0.9**
PSZ pmax pmax
comp=Z,29nm,1.5s
PSZ MLR MLR
comp=Z,1μm,21.0s
IDI Anoyia 90.00 306 LR LR 00 05 56.7
comp=Z,358nm,20.2s,baz=79,slow=40
OKC Ostrava-Krasne 90.42 321 *e*P **P** **23 19 29.6 +0.5**
OKC AMS AMS 23 59 40.0
comp=Z,1μm,16.4s
OKC Ostrava-Krasne 90.42 321 *e*P **P** **23 19 29.6 +0.5**
OKC MLR MLR
comp=Z,1μm,25.4s
OKC MLR MLR
comp=Z,1μm,16.4s
VYHS Vyhne 90.44 320 *e*P **P** **23 19 29.2 -0.1**
VYHS pmax pmax
comp=Z,16nm,1.9s
VYHS Vyhne 90.44 320 *e*P **P** **23 19 29.2 -0.1**
PPT Papeete 90.60 108 LR LR 23 52 34.6
comp=Z,322nm,21.5s,baz=270,slow=31
PPT2 Papeete2 90.61 108 *e*S **S** **23 30 20.6 -5.8**
comp=Z,451nm,27.8s
PPT2 Papeete2 90.61 108 *e*LR LR 23 48 24.0
comp=Z,2μm,33.5s,baz=306
MAW Mawson 90.82 200 LR LR 23 57 11.6
comp=Z,224nm,20.4s,baz=55,slow=34
BBB Bella Bella 91.13 36 LR LR 00 01 10.8
comp=Z,124nm,18.5s,baz=264,slow=36
FNA Florina 91.13 312 P **P** **23 19 35.3 +2.6**
DPC Dobruska-Polom 91.34 322 *e*P **P** **23 19 33.8 +0.3**
DPC AMS AMS 00 01 50.0
comp=Z,1μm,21.0s
DPC Dobruska-Polom 91.34 322 *e*P **P** **23 19 33.8 +0.3**
DPC MLR MLR
comp=Z,1μm,21.0s
UPC Upice 91.47 323 AMS AMS 00 05 00.0
comp=Z,800nm,16.9s
TBI Tubuai 91.97 113 *e*LR LR 23 49 04.5
comp=Z,842nm,28.2s
TIR Tirane 92.05 313 PFAKE 23 19 50.0 +13
TIR LR LR
comp=Z,811nm,20.0s
PDG Podgorica 92.14 314⇑ *i*P **P** **23 19 36.0 -1.2**
PVCC Panska Ves 92.32 323 AMS AMS 23 59 50.0
comp=Z,1μm,27.7s
VNDA Vanda 92.34 172 LR LR 00 01 33.8
comp=Z,421nm,20.0s,baz=336,slow=36
GOPC GO Pecny, Ondr 92.42 322 AMS AMS 00 03 50.0
comp=Z,1μm,18.2s
BRY Bratogost 92.48 315 P **P** **23 19 38.8 -0.2**
PRU Pruhonice 92.54 322 AMS AMS 00 04 00.0
comp=Z,1μm,17.3s
BRG Berggiesshubel 92.55 323 *e*P **P** **23 19 41.2 +2.2**
comp=Z,4.7nm,1.1s
BRG Berggiesshubel 92.55 323 *e*P **P** **23 19 41.2 +2.2**
BRG *e* 23 30 06.0
BRG pmax pmax
comp=Z,5.0nm,1.1s
HCY Herceg Novi 92.67 314 P **P** **23 19 39.2 -0.5**
BLY Banja Luka 92.78 317⇑ *i*P **P** **23 19 40.7 +0.5**
YKA Yellowknife Ar 92.84 23 P **P** **23 19 40.2 +0.2**
comp=Z,3.2nm,0.8s,baz=299,slow=4.7,SNR=43
YKA PKKPbc **PKKPbc** **23 36 53.2 +0.3**
comp=Z,0.1nm,0.4s,baz=109,slow=2.1,SNR=3.6
YKA LR LR 00 05 55.1
comp=Z,15nm,18.6s,baz=0.0,slow=38
CLL Collm 92.92 324 *e*pPP 23 23 33.0
CLL *i* 23 23 42.2
comp=Z,24nm,1.8s
CLL *e*SKSac **SKSac** **23 30 16.0 +2.0**
CLL *e*(S) **ScS** **23 30 54.0 +6.2**
CLL *e*PS PS 23 32 04.0 +4.5
CLL *e*PPS PPS 23 32 33.0
CLL *e* 23 34 53.0
CLL *e*SS SS 23 36 30.0 -29
CLL *e*SSSS 23 43 48.0
CLL LmV 00 02 00.0
comp=Z,1μm,21.0s
KHC Kasperske Hory 93.45 322 *e*P **P** **23 19 43.6 +0.4**
KHC *e*PP **PP** **23 23 33.5 +6.3**
KHC AMS AMS 00 01 30.0
comp=Z,1μm,19.1s
KHC Kasperske Hory 93.45 322 *e*P **P** **23 19 43.6 +0.4**
KHC *e* 23 23 33.5
KHC MLR MLR
comp=Z,1μm,19.1s
GERES GERESS Array B 93.49 322 P **P** **23 19 42.7 -0.8**
comp=Z,1.4nm,0.8s,baz=71,slow=5.8,SNR=13
GERES PP **PP** **23 23 32.2 +4.6**
comp=Z,0.4nm,0.6s,baz=76,slow=7.0,SNR=4.2
GERES LR LR 00 03 22.1
comp=Z,1μm,21.5s,baz=73,slow=36
SOKA Soboth 93.49 319 *e*PcP **P** **23 19 42.4 -1.1**
comp=Z,10nm,1.1s
MOA Molln 93.53 320 *e*PcP **P** **23 19 43.1 -0.6**
comp=Z,27nm,1.1s
NKC Novy Kostel 93.68 323 AMS AMS 00 04 50.0
comp=Z,800nm,18.2s
TIP Timpagrande 95.01 312 PFAKE 23 20 00.0 +9.3
TIP LR LR
comp=Z,661nm,21.0s
ABTA Abfaltersbach 95.06 320 *i* PcP **P** **23 19 49.8 -0.9**
comp=Z,14nm,1.0s
WTTA Wattenberg 95.39 321 *e*PcP **P** **23 19 52.1 -0.3**
comp=Z,12nm,0.8s
WATA Walderalm 95.40 321 *e*PcP **P** **23 19 52.5 +0.2**
comp=Z,16nm,1.1s
CUC Castrocucco 95.41 313 PFAKE 23 20 00.0 +7.6
CUC LR LR
comp=Z,570nm,20.0s
MOTA Moosalm 95.69 321 *e*PcP **P** **23 19 53.0 -0.7**
comp=Z,7.7nm,0.7s
CEL Celeste 95.96 311 PFAKE 23 20 10.0 +15
CEL LR LR
comp=Z,605nm,19.0s
FETA Feichten 96.06 321 *e*PcP **P** **23 19 55.4 0.0**
comp=Z,12nm,1.4s
AQU L'Aquila 96.22 316 PFAKE 23 20 10.0 +14
AQU LR LR
comp=Z,922nm,20.0s
BFO Black Forest 96.94 323 PFAKE 23 20 10.0 +11
BFO LR LR
comp=Z,944nm,19.0s
TUE Stuetta 97.15 321 PFAKE 23 20 10.0 +9.5
TUE LR LR
comp=Z,1μm,21.0s
VLC Villacollemand 97.50 318 PFAKE 23 20 10.0 +8.1
VLC LR LR
comp=Z,1μm,20.0s
WLF Walferdange 97.57 324 PFAKE 23 20 10.0 +8.0
WLF LR LR
comp=Z,1μm,20.0s
ECH Echery 97.68 323 PFAKE 23 20 10.0 +7.4
ECH LR LR
comp=Z,1μm,19.0s
TAOE Nuku Hiva Isla 97.81 97 *e*LR LR 23 51 46.2
comp=Z,2μm,30.3s
WDD Wied Dalam 97.86 309 PFAKE 23 20 10.0 +6.4
WDD LR LR
comp=Z,439nm,19.0s
CLTB Caltabellotta 98.18 311 PFAKE 23 20 20.0 +15
CLTB LR LR
comp=Z,276nm,19.0s
LSZ Lusaka 98.42 256 PFAKE 23 20 20.0 +13
LSZ LR LR
comp=Z,1μm,20.0s
BORG Borgarnes 98.68 346 LR LR 00 07 13.2
comp=Z,832nm,21.4s,baz=29,slow=37
YBH Yreka Blue Hor 98.70 44 LR LR 00 00 14.5
comp=Z,210nm,19.8s,baz=302,slow=33
NEW Newport 99.19 36 LR LR 00 01 32.0
comp=Z,163nm,19.6s,baz=309,slow=33
NEW Newport 99.19 36 PFAKE 23 20 20.0 +11
NEW LR LR
comp=Z,395nm,20.0s
EKA Eskdalemuir Ar 99.21 332 LR LR 00 09 16.4
comp=Z,745nm,19.2s,baz=25,slow=38
ESK Eskdalemuir 99.24 332 PFAKE 23 20 20.0 +11
ESK LR LR
comp=Z,1μm,20.0s
SYO Syowa Base 99.36 201⇓ *e*X **Pdif** **23 20 19.0 +10**

BNI Bardonecchia 99.46 320 PFAKE 23 20 20.0 +9.3
BNI LR LR
comp=Z,1μm,20.0s
SSB Saint Sauveur 100.68 321 PFAKE 23 20 30.0 +14
SSB LR LR
comp=Z,1μm,20.0s
BMO Blue Mountains 100.78 39 PFAKE 23 20 30.0 +13
BMO LR LR
comp=Z,472nm,22.0s
WVOR Wild Horse Val 101.10 42 PFAKE 23 20 30.0 +12
WVOR LR LR
comp=Z,476nm,20.0s
QSPA South Pole Qui 102.23 180 PFAKE 23 20 30.0 +7.6
QSPA LR LR
comp=Z,883nm,19.0s
FFC Flin Flon 102.85 25 PFAKE 23 20 40.0 +15
FFC LR LR
comp=Z,466nm,19.0s
HLID Hailey 103.22 39 PFAKE 23 20 40.0 +12
HLID LR LR
comp=Z,420nm,20.0s
EGMT Eagleton 103.45 34 PFAKE 23 20 40.0 +12
EGMT LR LR
comp=Z,334nm,22.0s
BOZ Bozeman (W) 103.79 36 PFAKE 23 20 40.0 +10
BOZ LR LR
comp=Z,413nm,19.0s
RKT Rikitea 105.05 111 *e*LR LR 23 55 13.5
comp=Z,897nm,35.2s,baz=281
LKWY Lake 105.09 37 PFAKE 23 25 00.0
LKWY LR LR
comp=Z,611nm,20.0s
RLMT Red Lodge 105.43 36 PFAKE 23 25 00.0
RLMT LR LR
comp=Z,519nm,21.0s
AHID Auburn Hatcher 105.69 39 PFAKE 23 25 00.0
AHID LR LR
comp=Z,655nm,21.0s
DUG Dugway, Tooele 106.01 42 PFAKE 23 25 00.0
DUG LR LR
comp=Z,370nm,19.0s
HWUT Hardware Ranch 106.05 40 PFAKE 23 25 00.0
HWUT LR LR
comp=Z,463nm,22.0s
LAO LASA Array 106.17 33 PFAKE 23 25 00.0
LAO LR LR
comp=Z,481nm,20.0s
BW06 Boulder Array 106.63 38 PFAKE 23 25 00.0
BW06 LR LR
comp=Z,574nm,22.0s
PFO Pinyon Flats O 106.75 49 PFAKE 23 25 00.0
PFO LR LR
comp=Z,709nm,21.0s
PAB San Pablo 109.30 320 PFAKE 23 25 10.0
PAB LR LR
comp=Z,515nm,20.0s
WUAZ Wupatki 109.45 45 PFAKE 23 25 10.0
WUAZ LR LR
comp=Z,369nm,20.0s
TAM Tamanrasset 110.11 300 PFAKE 23 25 10.0
TAM LR LR
comp=Z,593nm,22.0s
AGMN Agassiz Nation 110.14 27 PFAKE 23 25 10.0
AGMN LR LR
comp=Z,460nm,20.0s
MVCO Mesa Verde 110.47 42 PFAKE 23 25 10.0
MVCO LR LR
comp=Z,361nm,21.0s
MTE Manteigas 110.76 322 PFAKE 23 25 10.0
MTE LR LR
comp=Z,1μm,19.0s
TUC Tucson 111.54 48 PFAKE 23 25 10.0
TUC LR LR
comp=Z,529nm,20.0s
SDCO Great Sand Dun 112.09 40 PFAKE 23 25 10.0
SDCO LR LR
comp=Z,441nm,20.0s
OGNE Ogallala 112.17 36 PFAKE 23 25 10.0
OGNE LR LR
comp=Z,400nm,20.0s
EYMN Ely 112.27 25 PFAKE 23 25 10.0
EYMN LR LR
comp=Z,577nm,20.0s
ANMO Albuquerque 113.12 43 PFAKE 23 25 20.0
ANMO LR LR
comp=Z,449nm,19.0s
ECSD EROS Data Cent 113.15 31 PFAKE 23 25 20.0
ECSD LR LR
comp=Z,646nm,21.0s
RTC Rabat Centre 114.16 316 PFAKE 23 25 20.0 +12
RTC LR LR
comp=Z,2μm,20.0s
COWI Conover 114.72 25 PFAKE 23 25 20.0 +12
COWI LR LR
comp=Z,803nm,19.0s
CBKS Cedar Bluff 114.91 36 PFAKE 23 25 20.0 +11
CBKS LR LR
comp=Z,551nm,20.0s
KSU1 Kansas State U 116.48 34 PFAKE 23 25 20.0 +8.2
KSU1 LR LR
comp=Z,536nm,19.0s
TORD Torodi Ar. Bea 117.15 292 PKP **PKPdf** **23 25 15.0 +1.3**
comp=Z,1.5nm,0.8s,baz=32,slow=2.2,SNR=7.1
TORD PP **PP** **23 26 22.5 -1.2**
comp=Z,2.4nm,0.9s,baz=55,slow=7.0,SNR=5.9
TORD PKKPbc **PKKPab** **23 35 43.1 +0.7**
comp=Z,1.5nm,0.8s,baz=277,slow=4.9,SNR=3.8
GLMI Grayling 117.54 22 PFAKE 23 25 20.0 +6.3
GLMI LR LR
comp=Z,305nm,19.0s
WMOK Wichita Mounta 118.19 39 PFAKE 23 25 30.0 +15
WMOK LR LR
comp=Z,303nm,19.0s
TXAR Lajitas Array 118.29 47 PKP **PKPdf** **23 25 16.5 +0.7**
comp=Z,1.6nm,0.9s,baz=284,slow=0.6,SNR=11
TXAR PKKPbc **PKKPab** **23 35 40.0 +2.1**
comp=Z,0.3nm,0.8s,baz=141,slow=8.1,SNR=3.6
HDIL Hopedale 119.10 28 PFAKE 23 25 30.0 +13
HDIL LR LR
comp=Z,409nm,21.0s
AAM Ann Arbor 120.06 23 PFAKE 23 25 30.0 +11
AAM LR LR
comp=Z,937nm,19.0s
JCT Junction City 120.28 43 PFAKE 23 25 30.0 +11
JCT LR LR
comp=Z,445nm,20.0s
LONY Lake Ozonia 120.89 15 PFAKE 23 25 30.0 +10
LONY LR LR
comp=Z,688nm,20.0s
MIAR Mount Ida 121.43 36 PFAKE 23 25 30.0 +8.5
MIAR LR LR
comp=Z,383nm,21.0s
PKME Peaks-Kenny Pk 121.43 11 PFAKE 23 25 30.0 +8.8
PKME LR LR
comp=Z,1μm,19.0s
KOWA Kowa 121.74 296 PKP **PKPdf** **23 25 21.8 -0.7**
comp=Z,2.2nm,0.6s,baz=127,slow=1.9,SNR=6.1
ACSO Alum Creek Sta 122.09 24 PFAKE 23 25 30.0 +7.4
ACSO LR LR
comp=Z,1744μm,22.0s
BINY Binghamton 122.75 17 PFAKE 23 25 30.0 +6.2
BINY LR LR
comp=Z,766nm,20.0s
NATX Nacogdoches 122.75 39 PFAKE 23 25 30.0 +5.9
NATX LR LR
comp=Z,739nm,20.0s
KVTX Kingsville 123.42 45 PFAKE 23 25 40.0 +15
KVTX LR LR
comp=Z,546nm,20.0s
DBIC Dimbokro 125.48 287 PKP **PKPdf** **23 25 30.6 +0.8**
comp=Z,5.3nm,0.9s,baz=102,slow=2.5,SNR=3.8
BLA Blacksburg 125.70 24 PFAKE 23 25 40.0 +10
BLA LR LR
comp=Z,879nm,22.0s
CBN Corbin Frederi 125.94 20 PFAKE 23 25 40.0 +10
CBN LR LR
comp=Z,685nm,21.0s
GOGA Godfrey 127.61 29 PFAKE 23 25 40.0 +6.6
GOGA LR LR
comp=Z,720nm,19.0s
CNNC Cliffs of the 128.41 23 PFAKE 23 25 50.0 +15
CNNC LR LR
comp=Z,663nm,19.0s
NHSC New Hope 129.34 26 PFAKE 23 25 50.0 +13
NHSC LR LR
comp=Z,623nm,22.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BBSR	BB Station	134.78	10	PFAKE		23 26 00.0	+13
BBSR				LR	LR		
	comp=Z,772nm,21.0s						
SACV	Santiago Islan	137.74	309	PFAKE		23 26 00.0	+7.1
SACV				LR	LR		
	comp=Z,389nm,19.0s						
MTDJ	Mount Denham	143.06	35	PFAKE		23 26 10.0	+7.4
MTDJ				LR	LR		
	comp=Z,999nm,22.0s						
JTS	JuntasAbangare	143.70	53	PFAKE		23 26 10.0	+6.3
JTS				LR	LR		
	comp=Z,290nm,19.0s						
SDDR	Presa de Saban	145.50	26	*e*PKPdf	PKPab	23 26 07.4	+0.5
SDDR				LR	LR		
	comp=Z,873nm,20.0s						
SJG	San Juan	148.18	18	PFAKE		23 26 20.0	+2.9
SJG				LR	LR		
	comp=Z,436nm,19.0s						
BCIP	Isla Barro Col	148.29	49	PFAKE		23 26 20.0	+2.2
BCIP				LR	LR		
	comp=Z,376nm,20.0s						
PLCA	Paso Flores	149.10	159	PKPbc	PKPbc	23 26 15.0	-1.3
	comp=Z,4.4nm,0.8s,baz=245,slow=4.7,SNR=6.3						
ANWB	Willy Bob	149.65	10	PFAKE		23 26 20.0	+1.9
ANWB				LR	LR		
	comp=Z,498nm,20.0s						
TRQA	Tornquist	153.93	170	PFAKE		23 26 30.0	+2.5
TRQA				LR	LR		
	comp=Z,721nm,21.0s						
SDV	Santo Domingo	154.51	35	*e*PKPdf	PKPdf	23 26 19.9	-1.3
SDV				LR	LR		
	comp=Z,380nm,22.0s						
OTAV	Otavalo	154.69	62	*e*PKPdf	PKPdf	23 26 19.3	-2.5
OTAV				LR	LR		
	comp=Z,294nm,21.0s						
GRGR	Grenville	155.07	13	PFAKE		23 26 30.0	+8.3
GRGR				LR	LR		
	comp=Z,708nm,20.0s						
NNA	Nana	159.91	91	PFAKE		23 26 40.0	+12
NNA				LR	LR		
	comp=Z,338nm,22.0s						
SPB	Sao Paulo	166.03	216	PFAKE		23 26 40.0	+6.6
SPB				LR	LR		
	comp=Z,698nm,21.0s						
CPUP	Villa Florida	166.09	176	PKP	PKPdf	23 26 33.4	0.0
	comp=Z,2.2nm,1.0s,baz=154,slow=5.1,SNR=2.9						
CPUP	Villa Florida	166.09	176	PKIKP	PKPdf	23 26 33.4	0.0
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	La Paz	167.89	110	PKP	PKPdf	23 26 36.1	+0.4
	comp=Z,3.4nm,1.0s,baz=33,slow=2.3,SNR=8.4						
LPAZ				PKPab	PKPab	23 27 43.5	+0.7
	comp=Z,1.6nm,0.8s,baz=338,slow=5.4,SNR=1.9						
SAML	Samuel	172.42	64	PFAKE		23 26 50.0	+12
SAML				LR	LR		
	comp=Z,476nm,19.0s						

*IDC **05** 23:13:09.2±1.1, 12°14N×123°58E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.6/60, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=50.3km s-min=18.9km az=56.0*
*ISCJB **05** 23:13:11.8±0.5, 12°40N±0°04×123°65E±0°03, h21km±4km, mb3.8/6, Error ellipse: s-maj=6.2km s-min=5.5km az=170.4*
*MAN **05** 23:13:12, 12°39N×123°67E, h21km, mb4.7, ML3.6, MS3.5*
ISC 05 23:13:11.5±0.7, **12°41N**±0°03×**123°70E**±0°03, **h20**km±2km, **n23**, σ**1°38**/32, **mb3.7**/6, **2C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.09	235⇓	*e*P	Pb	23 13 15.2	-0.1
MMPH				*i* S	Sb	23 13 17.1	-0.6
CNP	Catarman	0.95	84	*e*P	Pn	23 13 29.7	-0.1
CNP				*e*S	Sn	23 13 44.5	+1.8
RCP	Roxas	1.26	228⇓	*e*P	Pb	23 13 34.1	-0.5
RCP				*e*S	Sb	23 13 50.7	+0.3
PVCP	Virac	1.26	21	*e*P	Pg	23 13 34.3	-1.7
PVCP				*e*S	Sg	23 13 52.4	-0.1
AUQP	San Andres	1.35	312	*e*P	Pg	23 13 36.1	-1.5
AUQP				*e*S	Sg	23 13 57.6	+2.3
OCLP	Ormoc	1.62	146	*e*P	Pb	23 13 40.4	-0.4
OCLP				*e*S	Sg	23 14 06.6	+2.8
OTRP	Odiongan	1.64	269	*e*P	Pn	23 13 38.5	-0.8
PLP	Palo	1.76	134⇓	*e*P	Pn	23 13 41.1	+0.2
PLP				*e*S	Sb	23 14 04.0	-0.9
BESP	Borongan	1.88	115	*e*P	Pb	23 13 43.9	-1.4
GQP	Guinayangan	1.92	321⇓	*e*P	Pn	23 13 43.0	-0.1
GQP				*e*S	Sg	23 14 13.1	-0.5
GUIM	Jordan	2.08	212	*e*P	Pn	23 13 46.4	+1.0
LLP	Lapu-Lapu	2.10	173⇑	*e*P	Pn	23 13 46.0	+0.5
LLP				*e*S	Sg	23 14 17.0	-2.1
JAP	San Jose, Anti	2.38	226⇑	*e*P	Pb	23 13 52.5	-1.3
SJMP	San Jose	2.52	271	*e*P	Pn	23 13 51.9	+0.5
MSLP	Maasin	2.53	153	*e*P	Pn	23 13 52.7	+1.2
TGY	Tagaytay City	3.17	302	Pn	Pn	23 14 00.7	+0.2
	29nm,0.3s,baz=135,slow=17,SNR=1.7						
ENPP	El Nido	4.35	254	*e*P	Pn	23 14 16.6	0.0
CMAR	Chiang Mai Arr	24.59	287	P	P	23 18 32.2	+1.5
	0.7nm,0.4s,baz=106,slow=8.5,SNR=3.4						
WRA	Warramunga Arr	33.81	162	P	P	23 19 50.9	-1.7
	0.8nm,0.7s,baz=342,slow=9.2,SNR=4.9						
ASAR	Alice Springs	37.22	164	P	P	23 20 20.7	-1.2
	1.0nm,0.6s,baz=348,slow=7.0,SNR=6.9						
STKA	Stephens Creek	47.26	159	P	P	23 21 42.3	-1.2
	3.5nm,1.0s,baz=322,slow=12,SNR=2.9						
MKAR	Makanchi Array	48.81	323	P	P	23 21 56.2	+0.7
	0.8nm,1.0s,baz=107,slow=5.0,SNR=2.3						
YKA	Yellowknife Ar	92.82	23	P	P	23 26 25.7	+3.1
	0.1nm,0.4s,baz=302,slow=4.7,SNR=3.3						

MAN 05 23:20:52, 12°31N×123°72E, h16km, mb4.6, ML3.5, MS3.3, 3D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.10	299⇓	*i*P	Pb	23 20 55.6	-0.1
MMPH				*i* S	Sg	23 20 57.6	-0.1
RCP	Roxas	1.21	232⇓	*e*P	Pn	23 21 13.4	-0.8
RCP				*e*S	Sg	23 21 30.9	-0.2
PLP	Palo	1.68	132⇓	*e*P	Pn	23 21 21.1	+0.4
PLP				*e*S	Sb	23 21 42.8	-0.6
LLP	Lapu-Lapu	1.99	173	*e*P	Pn	23 21 24.2	-0.9
LLP				*e*S	Sg	23 21 55.5	-0.7

DJA 05 23:21:47.3±0.3, **9°S**±2°×**11°8E**±°, **h107**km±4km, **M3.7**/16, **MLv3.7**/16, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.62	249	P	Pn	23 22 06.2	+1.5
PLAI				S	Sn	23 22 18.9	+1.2
WBSI	Waikabubak, Su	1.44	135	P	Pn	23 22 12.9	-0.4
WBSI				S	Sn	23 22 33.9	+0.8
WSI	Waingapu	2.18	119	P	Pn	23 22 22.0	-0.5
WSI				S	Sn	23 22 50.4	+0.9
BASI	Baing, Sumba	2.71	126	P	Pn	23 22 30.0	+0.6
BASI				S	Sn	23 23 02.4	+0.6
DNP	Denpasar	3.12	269	P	Pn	23 22 34.5	-0.3
DNP				S	Sn	23 23 12.2	+0.8
SRBI	Singaraja	3.16	279	P	Pn	23 22 36.0	+0.7
SRBI				S	Sn	23 23 13.2	+0.8
IGBI	Denpasar	3.18	266	P	Pn	23 22 36.0	+0.3
IGBI				S	Sn	23 23 13.7	+0.7
BSSI	Bau Bau, Buton	3.24	41	P	Pn	23 22 35.6	-0.8
BSSI				S	Sn	23 23 14.9	+0.6
EDFI	Ende, Flores	3.30	93	P	Pn	23 22 38.0	+0.7
EDFI				S	Sn	23 23 16.3	+0.4
MMRI	Maumere	3.83	91	P	Pn	23 22 44.5	+0.1
MMRI				S	Sn	23 23 29.1	+0.5
ABJI	Asem Bagus	4.16	281	P	Pn	23 22 48.5	-0.3
ABJI				S	Sn	23 23 37.0	+0.5
JAGI	Jajag, Banyuwa	4.16	272	P	Pn	23 22 47.8	-1.0
JAGI				S	Sn	23 23 36.8	+0.2
BNSI	Bone	4.53	23	P	Pn	23 22 53.4	-0.4

MAN 05 23:22:19, 12°42N×123°63E, h20km, mb4.6, ML3.5, MS3.3, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.06	190⇑	*i*P	Pb	23 22 22.6	0.0
MMPH				*i* S	Sb	23 22 24.5	-0.6
CNP	Catarman	1.01	85	*e*P	Pb	23 22 37.6	-0.2
CNP				*e*S	Sn	23 22 52.7	+1.0
RCP	Roxas	1.22	226⇑	*e*P	Pn	23 22 40.8	-0.1
RCP				*e*S	Sn	23 22 57.8	+1.0
PVCP	Virac	1.28	23	*e*P	Pn	23 22 41.6	-0.2
PVCP				*e*S	Sb	23 22 59.6	+1.2
OCLP	Ormoc	1.66	145	*e*P	Pb	23 22 48.1	-0.8
PLP	Palo	1.81	133⇓	*e*P	Pn	23 22 49.1	+0.1
PLP				*e*S	Sn	23 23 10.0	-1.5
GQP	Guinayangan	1.88	322⇓	*e*P	Pn	23 22 50.6	+0.6
GQP				*e*S	Sb	23 23 15.5	-0.2
GUIM	Jordan	2.05	210	*e*P	Pn	23 22 53.4	+1.0
GUIM				*e*S	Sb	23 23 19.1	-1.6
LLP	Lapu-Lapu	2.11	171	*e*P	Pn	23 22 53.6	+0.4
LLP				*e*S	Sb	23 23 24.8	+2.4
JAP	San Jose, Anti	2.34	225⇑	*e*P	Pb	23 22 59.9	-0.7
SJMP	San Jose	2.46	271	*e*P	Pn	23 22 59.1	+1.2
MSLP	Maasin	2.57	152	*e*P	Pb	23 23 03.2	-1.2
MSLP				*e*S	Sb	23 23 41.3	+5.8

*ISCJB **05** 23:22:45.3±0.7, 6°84N±0°04×73°15W±0°05, h157km±6km, mb3.2/1, Error ellipse: s-maj=8.5km s-min=6.2km az=38.0*
*IDC **05** 23:22:45.7±0.9, 6°69N×72°89W, h172km±13km, mb2.9/1, mb1 3.2/3, mb1mx2.9/38, mbtmp3.4/3, Error ellipse: s-maj=71.9km s-min=8.1km az=132.0*
*RSNC **05** 23:22:47.3±0.9, 6°80N×73°17W, h146km±6km, ML2.9*
ISC 05 23:22:45.4±1.0, **6°84N**±0°05×**73°13W**±0°05, **h156**km±7km, **n17**, σ**1°06**/28, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.25	192	*i* P	Pn	23 23 07.1	+0.2
BARC				*e*S	Sn	23 23 21.9	-1.3
BARC				*i*		23 23 23.9	
	comp=Z,296nm,0.2s						
BRRC	Barranca, Sant	0.64	295	*e*P	Pn	23 23 08.9	+0.8
BRRC				*i*		23 23 09.3	
	comp=Z,441nm,0.2s						
PAMC	Pamplona, Colo	0.66	41	*e*P	Pn	23 23 09.8	+1.0
PAMC				*e*S	Sn	23 23 27.2	+0.5
PAMC				*i*		23 23 29.4	
	comp=Z,76nm,0.2s						
RUSC	La Rusia	0.94	177	*e*P	Pn	23 23 10.9	0.0
RUSC				*e*S	Sn	23 23 29.8	-0.5
RUSC				*i*		23 23 31.0	
	comp=Z,147nm,0.4s						
PTBC	PUERTO BERRIO,	1.35	257	*e*P	Pn	23 23 13.5	-0.4
PTBC				*e*S	Sn	23 23 35.0	-0.8
YOPC	Yopal, Colombi	1.64	154	*e*P	Pn	23 23 17.6	+0.6
YOPC				*e*S	Sn	23 23 41.7	+0.4
YOPC				*i*		23 23 42.6	
	comp=Z,56nm,0.3s						
ZARC	Zaragoza, Cauc	1.83	291	*e*P	Pn	23 23 19.5	+0.5
ZARC				*e*S	Sn	23 23 44.8	0.0
NORC	Norcasia	2.14	234	*e*P	Pn	23 23 22.9	+0.2
NORC				*e*S	Sn	23 23 50.4	-0.9
CHIC	Chingaza	2.28	195	*e*P	Pn	23 23 25.2	+0.6
CHIC				*i*		23 24 04.3	
	comp=Z,64nm,0.4s						
ROSC	El Rosal	2.31	211	P	Pn	23 23 27.4	+2.4
	comp=Z,5.6nm,0.3s,baz=310,slow=23,SNR=11						
ROSC				S	Sn	23 23 57.9	+2.5
	comp=Z,39nm,0.3s,baz=135,slow=19,SNR=15						
HELC	Santa Helena	2.47	255	*e*P	Pn	23 23 28.3	+1.5
HELC				*i*		23 24 04.5	
	comp=Z,65nm,0.3s						
VILC	Villavicencio,	2.77	192	*e*P	Pn	23 23 30.3	0.0
VILC				*e*S	Sn	23 24 04.0	-1.0
VILC				*i*		23 24 09.9	
	comp=Z,36nm,0.8s						
SDV	Santo Domingo	3.20	50	P	Pn	23 23 36.4	+0.7
	comp=Z,5.5nm,0.3s,baz=248,slow=8.6,SNR=24						
SDV				S	Sn	23 24 14.6	-0.2
	comp=Z,2.4nm,0.3s,baz=44,slow=18,SNR=5.9						
SDV	Santo Domingo	3.20	50	*e*P	Pn	23 23 36.4	+0.7
SDV				*i*		23 23 37.7	
	comp=Z,11nm,0.3s						
PRAC	Prado	3.56	209	*e*P	Pn	23 23 40.7	+0.5
PRAC				*e*S	Sn	23 24 22.8	-0.1
YKA	Yellowknife Ar	63.24	340	P	P	23 32 57.1	+0.2
	comp=Z,0.2nm,0.5s,baz=127,slow=7.4,SNR=4.2						
WRA	Warramunga Arr	150.34	241	PKPbc	PKPbc	23 42 17.4	-1.8
	comp=Z,0.4nm,0.8s,baz=93,slow=3.5,SNR=2.9						

*ISCJB **05** 23:32:52.7±0.9, 37°60N±0°05×144°23E±0°06, h33km, mb3.7/2, Error ellipse: s-maj=8.1km s-min=5.1km az=43.2*
*IDC **05** 23:32:54.1±1.4, 37°93N×143°90E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.3/56, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=37.0km s-min=23.1km az=115.0*
*JMA **05** 23:32:54.6±0.2, 37°42N×144°02E, h49km, M4.0*
ISC 05 23:32:54.0±1.6, **37°49N**±0°08×**144°22E**±0°09, **h35**km, **n18**, σ**1°85**/32, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.46	294	P	Pn	23 33 31.9	+0.3
JIO				S	Sn	23 34 00.1	-0.3
OFUJ	Ofunato	2.56	309	P	Pn	23 33 33.4	+0.5
OFUJ				S	Sn	23 34 02.3	-0.5
JFK	Kawauchi	2.66	268	P	Pn	23 33 33.9	-0.5
JFK				S	Sn	23 34 03.2	-2.2
JMK	Ichinoseki	2.77	303	P	Pn	23 33 36.6	+0.7
JMK				*e*S	Sn	23 34 08.4	+0.3
JOM	Ohasama	3.03	312	P	Pn	23 33 40.7	+1.3
JOM				S	Sn	23 34 14.9	+0.4
JFT	Otama	3.08	272	P	Pn	23 33 41.0	+0.8
JFT				S	Sn	23 34 14.9	-0.9
JYK	Kaneyama	3.35	296	P	Pn	23 33 45.2	+1.3
JYK				*e*S	Sn	23 34 23.2	+0.7
JANG	Nango	3.57	325	*e*S	Sn	23 34 27.8	+0.1
JRY	Ryogami san	4.51	253	P	Pn	23 33 58.9	-0.9
JRY				*e*S	Sn	23 34 46.0	-5.1
MJAR	Matsushiro Arr	4.90	261	Pn	Pn	23 34 05.7	+0.6
	2.1nm,0.3s,baz=89,slow=15,SNR=13						
MJAR				Sn	Sn	23 35 00.8	+0.2
	0.9nm,0.3s,baz=96,slow=28,SNR=3.4						
MAT	Matsushiro	4.90	261	P	Pn	23 34 06.1	+1.0
MAT				*e*S	Sn	23 34 56.6	-4.0
JKB	Kayabe	5.03	332	P	Pn	23 34 07.8	+0.9
JKB				*e*S	Sn	23 35 01.2	-2.6
JCH	Churui	5.16	353	P	Pn	23 34 09.0	+0.3
JCH				*e*S	Sn	23 35 04.9	-2.0
NEM2	Nemuro 2	5.98	11	P	Pn	23 34 18.7	-1.3
NEM2				*e*S	Sn	23 35 23.3	-3.9
JTKR	Abashiri--Toko	6.48	358	P	Pn	23 34 27.0	+0.2
JTKR				*e*S	Sn	23 35 37.5	-1.9
ASAJ	Asahikawa	6.73	350	Pn	Pn	23 34 29.9	-0.4
	0.9nm,0.3s,baz=187,slow=16,SNR=5.3						
ASAJ				Sn	Sn	23 35 43.2	-2.5
	0.4nm,0.3s,baz=53,slow=20,SNR=2.1						
ILAR	Eielson Array	47.91	33	P	P	23 41 30.6	+2.2
	0.5nm,0.8s,baz=249,slow=6.7,SNR=6.0						
WRA	Warramunga Arr	57.88	191	P	P	23 42 51.2	+8.8
	0.6nm,0.6s,baz=8.6,slow=7.0,SNR=3.8						

MEX 05 23:43:38.3±0.6, **17°34N**×**94°42W**, **h146**km±9km, **MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	0.69	360	*i* P	Pn	23 43 59.1	-1.2
TUIG				*i* S	Sn	23 44 15.1	-2.1
TGIG		1.36	114	*e*P	Pn	23 44 05.3	-1.0
TGIG				*e*S	Sn	23 44 25.2	-2.3
PCIG		1.99	145	*i* P	Pn	23 44 11.8	-1.4
PCIG				*e*S	Sn	23 44 37.9	-2.0
VHO	Vista Hermosa	2.23	263	*e*P	Pn	23 44 14.6	-1.5
VHO				*e*S	Sn	23 44 43.3	-1.8
HUIG	Huatulco	2.25	226	*e*P	Pn	23 44 11.8	-4.5
HUIG				*i* S	Sn	23 44 41.0	-4.3
TPIG	Tehuac#an	3.00	291	*e*P	Pn	23 44 23.7	-2.0
TPIG				*i* S	Sn	23 45 00.1	-2.2
PNIG	Pinotepa	3.67	256	*i* P	Pn	23 44 30.1	-4.1
PNIG				*i* S	Sn	23 45 12.0	-5.6

*ISK **06** 00:01:25.6, 38°12N×27°09E, h12km, ML2.5/4*
*ISCJB **06** 00:01:26.1±0.7, 38°15N±0°06×27°12E±0°06, h5km±21km, Error ellipse: s-maj=12.3km s-min=4.7km az=39.6*
*CSEM **06** 00:01:26.3±0.2, 38°12N×27°05E, h15km, ML2.5, Error ellipse: s-maj=6.6km s-min=3.1km az=46.0*
*DDA **06** 00:01:27.2, 38°07N×27°05E, h7km, Ml2.3*
ISC 06 00:01:26.2±1.0, **38°11N**±0°04×**27°06E**±0°04, **h13**km±9km, **n18**, σ**0°40**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GMLD	Gumuldur	0.12	252	PG	Pb	00 01 30.3	0.0
GMLD	Gumuldur	0.12	252	*e*Pg	Pb	00 01 30.3	0.0
DGB	˜zmir	0.15	246	*i* P	Pb	00 01 30.6	-0.3
DGB				*i* S	Sg	00 01 33.0	+0.5
GCAM	G?zelcaml?	0.44	161	PG	Pg	00 01 34.4	-0.5
GCAM				SG	Sg	00 01 40.5	-0.2
GCAM	G?zelcaml?	0.44	161	*i* P	Pb	00 01 35.7	0.0
GCAM				*i* S	Sg	00 01 40.9	+0.2
GCAM	G?zelcaml?	0.44	161	*e*Pg	Pg	00 01 34.4	-0.5
GCAM	G?zelcaml?	0.44	161	P	Pb	00 01 35.7	0.0
GCAM				*e*Sg	Sg	00 01 40.5	-0.2
URLA	Izmir	0.44	304	PG	Pg	00 01 35.1	+0.1
URLA				SG	Sb	00 01 41.9	-0.4
URLA	Izmir	0.44	304	*e*Pg	Pg	00 01 35.1	+0.1
URLA				*e*Sg	Sb	00 01 41.9	-0.4
ZEY	˜zmir	0.45	286	*i* P	Pb	00 01 36.3	+0.2
ZEY				*i* S	Sb	00 01 43.1	+0.5
FOCM	Fo˘§a	0.65	337	PG	Pg	00 01 38.1	-0.8
FOCM	Fo˘§a	0.65	337	*e*Pg	Pg	00 01 38.1	-0.8
AYDN	Tasoluk	0.79	125	*i* P	Pb	00 01 42.3	+0.4
AYDN				*i* S	Sg	00 01 52.3	+0.3
AYDN	Tasoluk	0.79	125	P	Pb	00 01 42.3	+0.4
AYDN				S	Sg	00 01 52.3	+0.3
CHOS	Chios island	0.83	289	PG	Pg	00 01 42.3	-0.1
CHOS	Chios island	0.83	289	*e*Pg	Pg	00 01 42.3	-0.1
KULA	Kula-Manisa	1.32	72	PN	Pn	00 01 50.7	+0.2
KULA	Kula-Manisa	1.32	72	*e*Pn	Pn	00 01 50.7	+0.2

*IDC **06** 00:20:59.7±0.9, 6°61N×127°64E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/55, mbtmp3.9/7, Error ellipse: s-maj=69.4km s-min=19.6km az=70.0*
*ISCJB **06** 00:21:04.5±0.8, 6°52N±0°10×127°49E±0°09, h47km, mb3.9/7, Error ellipse: s-maj=16.8km s-min=7.8km az=38.8*
*MAN **06** 00:21:09, 6°82N×127°37E, h35km, mb4.7, ML3.5, MS3.4*
ISC 06 00:21:06.7±1.0, **6°5N**±0°1×**127°4E**±0°1, **h47**km, **n11**, σ**1°04**/14, **mb3.9**/7, **1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	1.23	291	*e*P	Pn	00 21 27.0	-0.5
MATI				*e*S	Sn	00 21 43.5	+0.5
BIPH	Bislig	1.96	328⇓	*e*P	Pn	00 21 38.9	+1.4
BIPH				*e*S	Sn	00 21 59.6	-1.4
BUKP	Musuan	2.70	300	*e*P	Pn	00 21 48.6	+0.8
BUKP				*e*S	Sn	00 22 18.6	-0.7
WRA	Warramunga Arr	27.16	166	P	P	00 26 44.1	-1.7
	0.9nm,0.4s,baz=339,slow=10,SNR=12						
ASAR	Alice Springs	30.66	168	P	P	00 27 17.8	+0.8
	0.3nm,0.3s,baz=348,slow=8.6,SNR=4.7						
MKAR	Makanchi Array	55.70	324	P	P	00 30 38.7	+0.3
	0.6nm,0.5s,baz=115,slow=7.4,SNR=18						
ZALV	Zalesovo Beam	58.45	332	P	P	00 30 56.5	-1.2
	0.6nm,0.3s,baz=126,slow=7.1,SNR=3.3						
BVAR	Borovoye Array	65.39	326	P	P	00 31 44.4	+0.1
	1.4nm,0.5s,baz=116,slow=6.6,SNR=9.7						
ILAR	Eielson Array	82.31	26	P	P	00 33 22.4	-0.8
	0.5nm,0.8s,baz=249,slow=7.3,SNR=4.7						
ARCES	ARCESS Array B	88.09	340	P	P	00 33 51.8	-0.2
	4.1nm,1.1s,baz=91,slow=5.7,SNR=3.1						
TORD	Torodi Ar. Bea	122.66	290	PKP	PKPdf	00 39 59.2	+0.9
	0.3nm,0.6s,baz=52,slow=1.7,SNR=5.3						

IDC 06 00:21:30.3±3.3, **16°43S**×**174°01W**, **h0**km, **mb3.7**/4, **mb1 4.1**/4, **mb1mx3.7**/42, **mbtmp3.7**/4, **Error ellipse: s-maj=177.0km s-min=28.7km az=146.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.04	258	P	P	00 30 19.1	-0.4
	0.6nm,0.8s,baz=91,slow=7.9,SNR=3.5						
ASAR	Alice Springs	49.24	253	P	P	00 30 21.1	0.0
	1.1nm,0.6s,baz=87,slow=8.6,SNR=12						
PDAR	Pinedale Array	83.42	42	P	P	00 33 59.2	-0.7
	0.4nm,0.6s,baz=251,slow=6.4,SNR=4.1						
ILAR	Eielson Array	83.57	11	P	P	00 34 00.5	+0.6
	0.4nm,0.5s,baz=224,slow=6.3,SNR=8.5						

*CSEM **06** 00:23:12.4±0.5, 67°83N×20°44E, h2km, ML0.6, Error ellipse: s-maj=10.7km s-min=6.8km az=89.0, Mining explosion.*
*UPP **06** 00:23:12.1, 67°85N×20°23E, h0km, ML0.6, Mining explosion.*
HEL 06 00:23:12.6±0.1, **67°85N**×**20°21E**, **h0**km, **ML1.6**, **ML0.6**(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.12	24	P	Pg	00 23 14.6	-0.3
KUA				S	Sg	00 23 16.4	0.0
KUA	Kurravaara	0.12	24	*i* P	Pg	00 23 14.6	-0.3
KUA				*i* S	Sg	00 23 16.4	0.0
LANU	Lannavaara	0.70	72	P	Pg	00 23 25.2	-0.9
LANU				S	Sg	00 23 34.7	-0.5
LANU	Lannavaara	0.70	72	*e*P	Pg	00 23 23.8	-2.2
MASU	Masugnsbyn	0.79	119	P	Pg	00 23 26.7	-1.0
MASU	Masugnsbyn	0.79	119	*i* P	Pg	00 23 26.8	-0.9
KIF	Kilpisjarvi	1.19	10	Pb	Pg	00 23 34.6	-0.7
KIF				S	Sg	00 23 50.5	-0.1
KIF	Kilpisjarvi	1.19	10	*e*PB	Pg	00 23 34.7	-0.6
KIF				MSG		00 23 49.9	
	comp=Z,8.0nm,0.2s						
KIF				*e*S	Sg	00 23 50.5	-0.1
HEF	Hetta	1.41	65	P	Pn	00 23 37.8	-1.7
HEF				Sb	Sg	00 23 56.5	-1.4
HEF	Hetta	1.41	65	*e*P	Pn	00 23 37.8	-1.7
HEF				MSG		00 23 54.1	
	comp=Z,3.4nm,0.2s						
HEF				*e*SB	Sg	00 23 56.5	-1.4
ERTU	Ertsjaerv	1.51	148	P	Pn	00 23 39.4	-1.5
ERTU				Sb	Sg	00 23 59.3	-1.7
ERTU	Ertsjaerv	1.51	148	*e*P	Pn	00 23 39.5	-1.4
ERTU				*e*SB	Sg	00 23 59.4	-1.6
KALU	Kalix	2.35	147	P	Pn	00 23 52.5	+0.1
KALU				Sb	Sn	00 24 23.4	+1.5
KALU	Kalix	2.35	147	*e*P	Pn	00 23 52.6	+0.2
	baz=329						
KALU				*e*SB	Sn	00 24 23.4	+1.5
TOF	Tornio	2.40	136	P	Pn	00 23 53.6	+0.5
TOF				Sb	Sb	00 24 25.1	-1.6
TOF	Tornio	2.40	136	*e*P	Pn	00 23 53.7	+0.6
TOF				MSG		00 24 23.1	
	comp=Z,2.9nm,0.2s						
TOF				*e*SB	Sb	00 24 25.1	-1.6
SGF	Sodankyl	2.45	97	Pg	Pb	00 23 55.8	-1.7
SGF				Sg	Sb	00 24 28.0	-0.1
SGF	Sodankyl	2.45	97	*e*PG	Pb	00 23 55.9	-1.6
SGF				*e*SG	Sb	00 24 28.1	-0.1
ARE0	ARCESS Array S	2.58	46	P	Pn	00 23 55.8	+0.3
ARE0				Sg	Sb	00 24 31.2	-0.5
ARE0	ARCESS Array S	2.58	46	*e*P	Pn	00 23 55.8	+0.3
ARE0				*e*SG	Sb	00 24 31.2	-0.5
OUL	Oulu	3.59	138	Pg	Pb	00 24 16.7	-0.1
OUL	Oulu	3.59	138	*e*PG	Pb	00 24 16.7	-0.1
UMAU	Umeaa	3.98	177	P	Pn	00 24 15.2	+0.4
UMAU				Sg	Sg	00 25 17.7	-2.7
UMAU	Umeaa	3.98	177	*e*P	Pn	00 24 15.2	+0.4
UMAU				*e*SG	Sg	00 25 17.7	-2.7
KU6	Riekki	4.22	111	Sg	Sg	00 25 24.6	-3.6
KU6	Riekki	4.22	111	*e*SG	Sg	00 25 24.6	-3.5

*ISCJB **06** 00:23:27.2±0.8, 20°12S±0°06×69°0W±0°1, h128km±7km, mb3.2/2, Error ellipse: s-maj=19.3km s-min=9.6km az=4.0*
*GUC **06** 00:23:27.9±0.3, 20°13S×68°99W, h113km±2km, ML3.2*
*IDC **06** 00:23:29.7±8.4, 20°07S×68°64W, h138km±58km, mb3.1/2, mb1 3.1/3, mb1mx3.0/33, mbtmp3.4/3, Error ellipse:*

s-maj=79.2km s-min=52.8km az=35.0

ISC 06 00:23:27.6±1.1,**20°.12S**±0°.06×**69°.0W**±0°.1,**h122**km±9km,**n8,** σ**0s.81**/14,**5C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.16**	**262**⇑	*e*P	**Pn**	**00 23 44.5**	**-0.3**
PB08				*e*S	**Sn**	**00 23 57.3**	**-0.4**
PB08				IAML		00 23 57.8	
	comp=N,1µm,0.3s						
PB11	**IPOC Station P**	**0.72**	**299**⇑	*e*P	**Pn**	**00 23 47.5**	**0.0**
PB11				*e*S	**Sn**	**00 24 02.2**	**-0.2**
PB01	**IPOC Station P**	**1.03**	**207**⇑	*e*P	**Pn**	**00 23 50.9**	**+0.7**
PB01				*e*S	**Sn**	**00 24 08.5**	**+1.2**
PB01				IAML		00 24 09.7	
	comp=E,798nm,0.3s						
MNMC	**Minye Minye**	**1.14**	**330**⇑	*e*P	**Pn**	**00 23 51.6**	**+0.1**
MNMC				*e*S	**Sn**	**00 24 09.6**	**+0.1**
MNMC				IAML		00 24 11.7	
	comp=E,868nm,0.2s						
PSGC	**Pisagua**	**1.19**	**296**⇑	*e*P	**Pn**	**00 23 52.0**	**+0.2**
PSGC				*e*S	**Sn**	**00 24 10.2**	**+0.1**
PSGC				IAML		00 24 11.2	
	comp=E,430nm,0.2s						
LPAZ	**La Paz**	**3.90**	**12**	P	**Pn**	**00 24 27.4**	**+1.0**
	comp=E,0.4nm,0.3s,baz=189,slow=11,SNR=11						
LPAZ				S	**Sn**	**00 25 12.7**	**+0.8**
	baz=90,slow=19,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.97**	**71**	P	**P**	**00 35 05.8**	**-1.5**
	comp=E,0.5nm,0.9s,baz=260,slow=4.7,SNR=5.1						
YKA	**Yellowknife Ar**	**89.87**	**341**	P	**P**	**00 36 12.7**	**+0.5**
	comp=E,0.1nm,0.5s,baz=136,slow=4.5,SNR=3.7						

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*NIED **06** 00:25:00,39°.10N×142°.30E,h32km,Mw3.6 Best double couple: $M_0 2.56000\times10^{14}$ NP1:ϕ_s123.00000°,δ47.00000°, λ-19.00000°. NP2:ϕ_s226.00000°,δ76.00000°, λ-136.00000°.*

*JMA **06** 00:25:15.1±0.1,39°.13N×142°.30E,h41km±1km,M3.6*
JMA Felt I J1.

*IDC **06** 00:25:19.9±2.8,38°.96N×142°.25E,h91km±26km,mb3.2/3, mb1 3.3/5,mb1mx3.0/57,mbtmp3.4/5,Error ellipse: s-maj=39.2km s-min=17.2km az=110.0*

ISC 06 00:25:09.4±1.9,**39°.10N**±0°.04×**142°.44E**±0°.07,**h7**km±12km, **n22,**σ**2s.06**/26,**mb3.5**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.60**	**268**	P	**Pn**	**00 25 25.8**	**+1.5**
OFUJ				S	**Sn**	**00 25 33.4**	**-0.9**
MIYJ	**Miyakonagasawa**	**0.68**	**315**	P	**Pn**	**00 25 26.9**	**+1.5**
MIYJ				S	**Sn**	**00 25 35.1**	**-1.1**
JTH	**Tanohata**	**0.95**	**332**	P	**Pn**	**00 25 31.0**	**+1.9**
JMK	**Ichinoseki**	**0.96**	**261**	P	**Pn**	**00 25 30.9**	**+1.6**
JMK				S	**Sb**	**00 25 41.8**	**+0.5**
JOM	**Ohasama**	**0.96**	**293**	P	**Pn**	**00 25 31.0**	**+1.6**
JOM				S	**Sb**	**00 25 41.4**	**0.0**
JIO	**Ouri**	**1.07**	**233**	P	**Pn**	**00 25 32.5**	**+1.7**
JIO				S	**Sb**	**00 25 44.6**	**+0.2**
JKZ	**Kuzumaki**	**1.23**	**316**	P	**Pn**	**00 25 35.4**	**+2.3**
JKZ				S	**Sn**	**00 25 50.1**	**+0.1**
JRG	**Rokugo**	**1.43**	**282**	P	**Pg**	**00 25 38.0**	**+1.1**
JANG	**Nango**	**1.46**	**331**	P	**Pg**	**00 25 38.5**	**+1.2**
JANG				*e*S	**Sn**	**00 25 56.0**	**+0.5**
JYK	**Kaneyama**	**1.63**	**264**	P	**Pg**	**00 25 40.6**	**-0.1**
JYK				*e*S	**Sn**	**00 25 59.5**	**-0.3**
MJAR	**Matsushiro Arr**	**4.21**	**234**	P	**Pn**	**00 26 18.1**	**+4.1**
	0.8nm,0.3s,baz=43,slow=11,SNR=6.0						
MAT	**Matsushiro**	**4.21**	**234**	P	**Pb**	**00 26 20.7**	**-3.2**
MAT				*e*S	**Sb**	**00 27 11.0**	**-4.0**
ASAJ	**Asahikawa**	**5.01**	**1**	P	**Pb**	**00 26 35.6**	**-1.8**
	1.5nm,0.3s,baz=220,slow=9.0,SNR=6.2						
ASAJ				S	**Sb**	**00 27 33.4**	**-4.4**
	0.5nm,0.3s,baz=288,slow=20,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.60**	**125**	T	T	01 01 32.4	
	baz=318,slow=75,SNR=1.4						
H11N1	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	01 01 32.6	
	baz=318,slow=75,SNR=152						
H11N3	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	01 01 33.3	
	baz=318,slow=75,SNR=144						
H11S1	**WAKE ISLAND Hy**	**29.39**	**127**	T	T	01 02 28.7	
	baz=319,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.39**	**127**	T	T	01 02 33.2	
	baz=319,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**29.40**	**127**	T	T	01 02 34.0	
	baz=319,slow=76,SNR=9.7						
MKAR	**Makanchi Array**	**43.74**	**300**	P	**P**	**00 33 15.5**	**+0.2**
	0.4nm,0.7s,baz=80,slow=9.3,SNR=3.7						
ILAR	**Eielson Array**	**47.32**	**33**	P	**P**	**00 33 44.7**	**+1.4**
	0.3nm,0.7s,baz=251,slow=6.4,SNR=4.1						
WRA	**Warramunga Arr**	**59.22**	**189**	P	**P**	**00 35 10.8**	**-0.5**
	0.4nm,0.5s,baz=6.3,slow=6.8,SNR=4.6						

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*IDC **06** 00:30:29.6±6.9,36°.55N×141°.26E,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.3/59,mbtmp3.5/3,ML3.2/1,Error ellipse: s-maj=146.5km s-min=31.1km az=24.0*

*ISCJB **06** 00:30:31.2±1.4,36°.48N±0°.06×141°.22E±0°.08,h18km±9km, mb3.7/2,Error ellipse: s-maj=11.3km s-min=8.2km az=39.6*

*JMA **06** 00:30:33.9±0.1,36°.53N×141°.04E,h34km±1km,M3.4*
JMA Felt I J1.

ISC 06 00:30:29.9±3.0,**36°.54N**±0°.07×**141°.21E**±0°.09,**h2**km±17km, **n16,**σ**0s.64**/17,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.52**	**278**	P	**Pb**	**00 30 42.7**	**+0.9**
JHO				S	**Sb**	**00 30 48.7**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.65**	**329**	P	**Pn**	**00 30 45.6**	**-0.7**
JFK	**Kawauchi**	**0.87**	**342**	P	**Pn**	**00 30 49.0**	**-0.2**
JFK				S	**Sb**	**00 30 59.6**	**-0.3**
JYT	**Yasato**	**0.88**	**250**	P	**Pb**	**00 30 47.8**	**-0.1**
JYT				S	**Sg**	**00 30 57.6**	**-0.6**
JSB	**Shiboa**	**1.12**	**293**	P	**Pn**	**00 30 52.8**	**+0.1**
JSB				S	**Sg**	**00 31 06.1**	**+0.1**
JFT	**Otama**	**1.20**	**325**	P	**Pn**	**00 30 54.7**	**+0.9**
JFT				S	**Sb**	**00 31 08.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.42**	**271**	Pn	**Pn**	**00 31 11.0**	**+0.5**
	5.0nm,0.3s,baz=85,slow=9.5,SNR=25						
MJAR				Sn	**Sn**	**00 31 40.9**	**+0.2**
	5.6nm,0.3s,baz=291,slow=28,SNR=5.2						
MAT	**Matsushiro**	**2.42**	**271**	P	**Pn**	**00 31 11.2**	**+0.7**
MAT				S	**Sn**	**00 31 40.7**	**0.0**
H11N2	**WAKE ISLAND Hy**	**28.04**	**120**	T	T	01 05 57.2	
	baz=312,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	01 05 59.7	
	baz=312,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	01 05 60.0	
	baz=312,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**28.73**	**122**	T	T	01 07 04.1	
	baz=314,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**28.73**	**122**	T	T	01 06 49.4	
	baz=314,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**28.75**	**122**	T	T	01 06 46.6	
	baz=314,slow=76,SNR=32						
WRA	**Warramunga Arr**	**56.55**	**188**	P	**P**	**00 40 13.3**	**-0.5**
	0.4nm,0.4s,baz=5.0,slow=7.1,SNR=5.6						
ASAR	**Alice Springs**	**60.28**	**188**	P	**P**	**00 40 40.3**	**+0.4**
	0.4nm,0.6s,baz=15,slow=8.0,SNR=4.3						

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*DDA **06** 00:44:01.9,36°.87N×26°.37E,h7km,Ml3.0*

*ISCJB **06** 00:44:03.0±0.6,36°.89N±0°.03×26°.44E±0°.03,h5km±5km, Error ellipse: s-maj=4.6km s-min=4.3km az=148.9*

*CSEM **06** 00:44:03.8±0.1,36°.92N×26°.46E,h15km,ML2.3,Error ellipse: s-maj=2.8km s-min=2.4km az=170.0*

*ATH **06** 00:44:03.2,36°.92N×26°.45E,h32km±2km,ML2.3/4,Error ellipse: s-maj=3.2km s-min=1.0km az=130.0*

*ISK **06** 00:44:03.3,36°.95N×26°.48E,h13km,ML2.8/5*

ISC 06 00:44:03.8±1.2,**36°.91N**±0°.02×**26°.47E**±0°.02,**h18**km±6km, **n50,**σ**0s.92**/73,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.61**	**119**	P	**Pb**	**00 44 16.4**	**+0.4**
NISR				S	**Sb**	**00 44 25.2**	**+1.0**
NISR				AML	AML	00 44 28.0	
	comp=N,784µm,0.3s						
NISR				AML	AML	00 44 28.0	
	comp=E,1197µm,0.2s						
NISR	**Nisiros**	**0.61**	**119**	P	**Pb**	**00 44 16.2**	**+0.3**
NISR				S	**Sb**	**00 44 25.4**	**+1.3**
YKAV	**Yalikavak-Bodr**	**0.68**	**72**	PG	**Pg**	**00 44 16.1**	**-1.2**
YKAV				SG	**Sb**	**00 44 26.5**	**+0.1**
YKAV	**Yalikavak-Bodr**	**0.68**	**72**	*e*Pg	**Pg**	**00 44 16.1**	**-1.2**
YKAV				*e*Sg	**Sb**	**00 44 26.5**	**+0.1**
BODT	**Bodrum**	**0.69**	**77**	PG	**Pg**	**00 44 16.9**	**-0.6**
BODT	**Bodrum**	**0.69**	**77**	*e*Pg	**Pg**	**00 44 16.9**	**-0.6**
APE	**Apeiranthos**	**0.77**	**282**	PG	**Pn**	**00 44 19.1**	**-0.7**
APE				SG	**Sb**	**00 44 29.5**	**+0.7**
APE	**Apeiranthos**	**0.77**	**282**	P	**Pb**	**00 44 18.9**	**+0.2**
APE				S	**Sb**	**00 44 29.1**	**+0.3**
APE				AML	AML	00 44 33.6	
	comp=E,280µm,0.2s						
APE				AML	AML	00 44 33.8	
	comp=N,491µm,0.2s						
APE	**Apeiranthos**	**0.77**	**282**	P	**Pb**	**00 44 18.6**	**-0.1**
APE	**Apeiranthos**	**0.77**	**282**	*e*Pg	**Pn**	**00 44 19.1**	**-0.7**
APE				S	**Sb**	**00 44 29.3**	**+0.5**
BDRM	**Kayabasi**	**0.80**	**78**	*i* P	**Pn**	**00 44 19.8**	**-0.4**
BDRM				*i* S	**Sb**	**00 44 30.6**	**+1.0**
BDRM	**Kayabasi**	**0.80**	**78**	P	**Pn**	**00 44 19.8**	**-0.4**
BDRM				S	**Sb**	**00 44 30.6**	**+1.0**
SMG	**Samos**	**0.85**	**20**	P	**Pn**	**00 44 20.2**	**-0.8**
SMG				S	**Sb**	**00 44 31.4**	**+0.2**
SMG				AML	AML	00 44 33.4	
	comp=N,302µm,0.4s						
SMG				AML	AML	00 44 36.1	
	comp=E,493µm,0.2s						
SMG	**Samos**	**0.85**	**20**	P	**Pg**	**00 44 20.0**	**-0.4**
SMG				S	**Sb**	**00 44 31.6**	**+0.4**
GCAM	**G?zelcaml?**	**1.00**	**38**	PG	**Pn**	**00 44 22.7**	**-0.2**
GCAM				SG	**Sn**	**00 44 36.1**	**-0.5**
GCAM	**G?zelcaml?**	**1.00**	**38**	*i* P	**Pn**	**00 44 23.1**	**+0.2**
GCAM				*i* S	**Sn**	**00 44 37.5**	**+0.9**
GCAM	**G?zelcaml?**	**1.00**	**38**	*e*Pg	**Pn**	**00 44 22.7**	**-0.2**
GCAM	**G?zelcaml?**	**1.00**	**38**	P	**Pn**	**00 44 23.1**	**+0.2**
GCAM				*e*Sg	**Sn**	**00 44 36.1**	**-0.5**
GCAM				S	**Sn**	**00 44 37.5**	**+0.9**
DGB	**˜zmir**	**1.19**	**16**	*i* P	**Pn**	**00 44 25.1**	**-0.5**
DGB				*i* S	**Sg**	**00 44 44.4**	**+2.0**
GMLD	**Gumuldur**	**1.22**	**17**	PN	**Pb**	**00 44 25.9**	**-0.4**
GMLD	**Gumuldur**	**1.22**	**17**	*e*Pn	**Pb**	**00 44 25.9**	**-0.4**
ZEY	**˜zmir**	**1.33**	**1**	*i* P	**Pb**	**00 44 27.9**	**-0.3**
ZEY				*i* S	**Sg**	**00 44 47.4**	**+0.6**
AYDN	**Tasoluk**	**1.35**	**56**	*i* P	**Pg**	**00 44 29.3**	**-0.7**
AYDN				*i* S	**Sg**	**00 44 49.8**	**+2.2**
AYDN	**Tasoluk**	**1.35**	**56**	P	**Pg**	**00 44 29.3**	**-0.7**
AYDN				S	**Sg**	**00 44 49.8**	**+2.2**
URLA	**Izmir**	**1.45**	**4**	PN	**Pb**	**00 44 29.6**	**-0.8**
URLA	**Izmir**	**1.45**	**4**	*i* P	**Pn**	**00 44 29.1**	**-0.1**
URLA				*i* S	**Sg**	**00 44 50.9**	**+0.1**
URLA	**Izmir**	**1.45**	**4**	P	**Pn**	**00 44 29.1**	**-0.1**
URLA	**Izmir**	**1.45**	**4**	*e*Pn	**Pb**	**00 44 29.6**	**-0.8**
URLA				S	**Sg**	**00 44 50.9**	**+0.1**
YER	**Yerkesik**	**1.47**	**81**	PN	**Pn**	**00 44 29.9**	**+0.4**
YER	**Yerkesik**	**1.47**	**81**	*e*Pn	**Pn**	**00 44 29.9**	**+0.4**
KARP	**Karpathos**	**1.47**	**157**	PN	**Pb**	**00 44 30.1**	**-0.6**
KARP	**Karpathos**	**1.47**	**157**	P	**Pn**	**00 44 29.1**	**-0.4**
KARP	**Karpathos**	**1.47**	**157**	P	**Pn**	**00 44 29.3**	**-0.2**
KARP	**Karpathos**	**1.47**	**157**	*e*Pn	**Pb**	**00 44 30.1**	**-0.6**
ARG	**Arkhangelos**	**1.50**	**117**	P	**Pb**	**00 44 30.6**	**-0.6**
ARG	**Arkhangelos**	**1.50**	**117**	P	**Pn**	**00 44 30.3**	**+0.4**
CHOS	**Chios island**	**1.51**	**348**	PN	**Pn**	**00 44 30.3**	**+0.2**
CHOS	**Chios island**	**1.51**	**348**	P	**Pn**	**00 44 29.7**	**-0.4**
CHOS				S	**Sn**	**00 44 48.8**	**-0.6**
CHOS				AML	AML	00 45 04.8	
	comp=E,148µm,1.0s						
CHOS				AML	AML	00 45 12.8	
	comp=N,129µm,1.0s						
CHOS	**Chios island**	**1.51**	**348**	P	**Pn**	**00 44 29.7**	**-0.4**
CHOS	**Chios island**	**1.51**	**348**	*e*Pn	**Pn**	**00 44 30.3**	**+0.2**
CHOS				S	**Sn**	**00 44 49.0**	**-0.4**
TURN	**Turunc**	**1.71**	**91**	PN	**Pn**	**00 44 29.4**	**-3.4**
TURN	**Turunc**	**1.71**	**91**	*e*Pn	**Pn**	**00 44 29.4**	**-3.4**
NPS	**Neapolis**	**1.78**	**203**	P	**Pn**	**00 44 34.3**	**+0.5**
NPS	**Neapolis**	**1.78**	**203**	P	**Pn**	**00 44 34.1**	**+0.3**
ZKR	**Zakros**	**1.80**	**187**	PN	**Pb**	**00 44 35.7**	**-0.6**
ZKR	**Zakros**	**1.80**	**187**	*e*Pn	**Pb**	**00 44 35.7**	**-0.6**
KARY	**Karystos**	**1.97**	**305**	P	**Pn**	**00 44 37.2**	**+0.9**
KARY	**Karystos**	**1.97**	**305**	P	**Pn**	**00 44 36.7**	**+0.4**
IDI	**Anoyia**	**2.06**	**219**	P	**Pn**	**00 44 36.9**	**-0.7**
IDI	**Anoyia**	**2.06**	**219**	P	**Pn**	**00 44 37.3**	**-0.4**

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*ISK **06** 00:46:37.3,39°.80N×41°.70E,h7km,ML2.2/4*

*ISCJB **06** 00:46:40.2±0.6,39°.80N±0°.03×41°.94E±0°.05,h10km±6km, Error ellipse: s-maj=5.9km s-min=5.2km az=14.2*

*CSEM **06** 00:46:40.1±0.2,39°.80N×41°.94E,h10km,ML2.5,Error ellipse: s-maj=5.7km s-min=4.8km az=172.0*

*DDA **06** 00:46:40.1,39°.83N×41°.93E,h7km,Ml2.5*

ISC 06 00:46:39.6±1.1,**39°.81N**±0°.03×**41°.91E**±0°.03,**h12**km±8km, **n19,**σ**1s.41**/32,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.23**	**0**	*i* P	**Pg**	**00 46 44.4**	**-0.3**
HOMI				*i* S	**Sg**	**00 46 48.6**	**+0.5**
ERZM	**Erzurum**	**0.43**	**283**	*i* P	**Pg**	**00 46 49.3**	**+1.2**
ERZM				*i* S	**Sb**	**00 46 57.8**	**+2.1**
ERZM	**Erzurum**	**0.43**	**283**	P	**Pg**	**00 46 49.3**	**+1.2**
ERZM				S	**Sb**	**00 46 57.8**	**+2.1**
EATA	**Eleskirt**	**0.45**	**83**	*e*P	**Pg**	**00 46 49.0**	**+0.3**
EATA				*i* S	**Sb**	**00 46 58.8**	**+2.2**
EATA	**Eleskirt**	**0.45**	**83**	P	**Pg**	**00 46 49.0**	**+0.3**
EKAR	**Karacoban**	**0.57**	**167**	*i* P	**Pb**	**00 46 51.7**	**+0.1**
EKAR				*i* S	**Sn**	**00 47 03.9**	**+0.8**
EKAR	**Karacoban**	**0.57**	**167**	P	**Pb**	**00 46 51.7**	**+0.1**
ECAT	**Cat-ERZURUM**	**0.75**	**254**	*i* P	**Pg**	**00 46 54.6**	**+0.5**
ECAT				*i* S	**Sb**	**00 47 05.8**	**+0.9**
ECAT	**Cat-ERZURUM**	**0.75**	**254**	P	**Pg**	**00 46 54.6**	**+0.5**
ECAT				S	**Sb**	**00 47 05.8**	**+0.9**
SENK	**Senkaya-Erzuru**	**0.82**	**24**	PG	**Pg**	**00 46 55.7**	**+0.1**
SENK				SG	**Sb**	**00 47 08.0**	**+0.9**
SENK	**Senkaya-Erzuru**	**0.82**	**24**	*e*Pg	**Pg**	**00 46 55.7**	**+0.1**
SENK				*e*Sg	**Sb**	**00 47 08.0**	**+0.9**
AGRB	**Hanur-Agry**	**0.87**	**105**	PG	**Pg**	**00 46 56.8**	**+0.3**
AGRB				SG	**Sn**	**00 47 11.9**	**+1.3**
AGRB	**Hanur-Agry**	**0.87**	**105**	*e*Pg	**Pg**	**00 46 56.8**	**+0.3**
DDEM	**Demirkent**	**1.09**	**354**	*i* P	**Pg**	**00 47 00.8**	**+0.3**
DDEM				*i* S	**Sn**	**00 47 17.1**	**+1.3**
DDEM	**Demirkent**	**1.09**	**354**	P	**Pg**	**00 47 00.8**	**+0.3**
DDEM				S	**Sn**	**00 47 17.1**	**+1.3**
GURO	**Guroymak-BITLI**	**1.26**	**175**	PN	**Pb**	**00 47 02.4**	**-1.0**
DAGI	**Agillar**	**1.27**	**0**	*i* P	**Pn**	**00 47 01.6**	**-1.6**
DAGI				*i* S	**Sb**	**00 47 21.3**	**+1.5**
BAYT	**Ayd˜–ntepe-Bay**	**1.47**	**294**	PN	**Pn**	**00 47 02.7**	**-3.4**
BAYT	**Ayd˜–ntepe-Bay**	**1.47**	**294**	*e*Pn	**Pn**	**00 47 02.7**	**-3.4**

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*ISCJB **06** 00:47:22.6±0.5,51°.51N±0°.06×175°.16W±0°.04,h47km, mb4.0/17,Error ellipse: s-maj=9.2km s-min=3.4km az=170.6*

*NEIC **06** 00:47:23.9±1.2,51°.50N×175°.25W,h44km±9km,mb4.0/26, ML3.8(AEIC),Error ellipse: s-maj=21.1km s-min=6.3km az=168.0*

*IDC **06** 00:47:27.9±5.3,51°.72N×175°.35W,h76km±47km,mb3.5/15, mb1 3.7/17,mb1mx3.4/76,mbtmp3.8/17,ML3.4/2,Error ellipse: s-maj=24.8km s-min=14.1km az=170.0*

ISC 06 00:47:24.8±0.6,**51°.61N**±0°.09×**175°.37W**±0°.04,**h47**km,**n74,** σ**1s.49**/74,**mb4.0**/17,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.61**	**316**	P	**Pn**	**00 47 37.3**	**0.0**
GSTD	**Great Sitkin T**	**0.66**	**313**	P	**Pn**	**00 47 38.1**	**+0.1**
GSTD				S	**Sn**	**00 47 49.4**	**+2.0**
ADAG	**Mount Adagdak**	**0.85**	**296**	P	**Pn**	**00 47 41.1**	**+0.6**
KOKL	**Mount Kliuchef**	**1.01**	**45**	P	**Pn**	**00 47 41.5**	**-1.2**
KOWE	**Korovin West**	**1.02**	**42**	P	**Pn**	**00 47 41.9**	**-0.9**
KOFP	**Korovin Flat P**	**1.03**	**49**	P	**Pn**	**00 47 41.6**	**-1.4**
KIRH	**Kanaga Island**	**1.11**	**286**	P	**Pn**	**00 47 44.0**	**0.0**
KIKV	**Kanaga Island**	**1.15**	**284**	P	**Pn**	**00 47 44.6**	**+0.1**
TAPA	**Tanaga Point A**	**1.53**	**279**	P	**Pn**	**00 47 50.2**	**+0.4**
TAPA				S	**Sn**	**00 48 10.1**	**+1.5**
TAFP	**Tanaga Falls P**	**1.65**	**281**	P	**Pn**	**00 47 52.0**	**+0.6**
TAFP				S	**Sn**	**00 48 13.1**	**+1.8**
TASE	**Tanaga Southea**	**1.68**	**279**	P	**Pn**	**00 47 52.4**	**+0.7**
GAEA	**Gareloi East**	**2.11**	**276**	P	**Pn**	**00 47 58.8**	**+1.1**
UNV	**Unalaska Valle**	**5.83**	**64**	*e*Pn	**Pn**	**00 48 50.9**	**+2.3**
UNV				S	**Sn**	**00 50 00.1**	**+5.9**
SPIA	**Saint Paul Isl**	**6.33**	**26**	*e*Pn	**Pn**	**00 48 57.4**	**+2.0**
SPIA				*e*Sn	**Sn**	**00 50 08.2**	**+1.9**
AKUT	**Akutan**	**6.34**	**63**	*e*Pn	**Pn**	**00 48 55.0**	**-0.5**
AKUT				*e*S	**Sn**	**00 50 05.8**	**-0.7**
SDPT	**Sand Point**	**9.63**	**61**	*e*Pn	**Pn**	**00 49 40.3**	**-0.4**
GAMB	**Gambell**	**12.35**	**8**	*e*Pn	**Pn**	**00 50 18.7**	**+1.0**
OHAK	**Old Harbor**	**14.00**	**58**	*e*Pn	**Pn**	**00 50 37.0**	**-3.2**
KDAK	**Kodiak Island**	**14.51**	**56**	*e*Pn	**Pn**	**00 50 45.2**	**-1.8**
BRLK	**Bradley Lake**	**15.96**	**50**	*e*Pn	**Pn**	**00 51 03.0**	**-2.9**
	68nm,2.0s						
PETK	**Petropavlovsk-**	**16.49**	**286**	P	**P**	**00 51 14.9**	**+0.3**
	0.2nm,0.3s,baz=97,slow=12,SNR=3.3						
SUA	**Susitna One**	**16.68**	**44**	*e*Pn	**P**	**00 51 16.0**	**-0.8**
	20nm,1.7s						
SEW	**Seward**	**16.75**	**49**	*e*Pn	**Pn**	**00 51 13.2**	**-2.6**
	24nm,1.5s						
PPLA	**Purkeypile**	**16.76**	**39**	*e*Pn	**P**	**00 51 19.1**	**+1.3**
	18nm,1.5s						
CAST	**Castle Rocks**	**17.09**	**37**	*e*Pn	**P**	**00 51 22.1**	**+0.9**
	4.7nm,1.2s						
KTH	**Kantishna Hill**	**17.60**	**38**	*e*Pn	**P**	**00 51 26.8**	**-0.1**
	53nm,1.9s						
TRF	**Thorofare Moun**	**17.79**	**39**	*e*Pn	**P**	**00 51 29.8**	**+0.7**
	11nm,1.4s						
BPAW	**Bear Paw Mtn.**	**17.87**	**36**	*e*Pn	**P**	**00 51 30.9**	**+1.1**
	9.5nm,1.4s						
SML	**Sawmill**	**17.87**	**45**	*e*Pn	**Pn**	**00 51 28.3**	**-1.4**
	34nm,1.9s						
SCM	**Sheep Creek Mo**	**18.32**	**45**	*e*P	**P**	**00 51 33.1**	**-1.7**
	25nm,1.5s						
RND	**Reindeer**	**18.33**	**40**	*e*P	**Pn**	**00 51 35.3**	**0.0**
	27nm,2.0s						
MLY	**Manley**	**18.48**	**34**	*e*P	**Pn**	**00 51 38.3**	**+1.3**
	12nm,1.5s						
DHY	**Denali Highway**	**18.79**	**42**	*e*P	**Pn**	**00 51 40.3**	**-0.6**
	19nm,1.7s						
KLU	**Klutina**	**18.84**	**47**	*e*P	**P**	**00 51 39.3**	**-1.3**
	23nm,1.5s						
RAGM	**Ragged Mountai**	**19.12**	**51**	*e*P	**P**	**00 51 41.5**	**-2.1**
	93nm,1.6s						
BMRM	**Bremner River**	**19.30**	**49**	*e*P	**P**	**00 51 45.2**	**-0.4**
	16nm,1.3s						
CCB	**Clear Creek Bu**	**19.33**	**37**	*e*P	**P**	**00 51 43.9**	**-2.0**
	8.7nm,1.4s						
MDM	**Murphy Dome**	**19.33**	**36**	*e*P	**P**	**00 51 45.4**	**-0.5**
	8.8nm,1.4s						
HARP	**HAARP**	**19.48**	**45**	*e*P	**Pn**	**00 51 47.9**	**-1.1**
	21nm,1.3s						
PAX	**Paxson**	**19.54**	**43**	*e*P	**Pn**	**00 51 48.7**	**-1.2**
	3.2nm,0.8s						
IL1	**Eielson Array**	**19.74**	**37**	*e*P	**P**	**00 51 50.2**	**-0.1**
ILAR	**Eielson Array**	**19.74**	**37**	P	**P**	**00 51 48.6**	**-1.7**
	0.4nm,0.3s,baz=224,slow=9.0,SNR=29						
ILB	**Eielson Array**	**19.74**	**37**	*e*P	**P**	**00 51 50.0**	**-0.3**
COLD	**Coldfoot**	**19.98**	**29**	*e*P	**Pn**	**00 51 53.6**	**-1.3**
	7.7nm,1.2s						
RIDG	**Independ'e Rid**	**20.10**	**41**	*e*P	**P**	**00 51 52.6**	**-1.7**
	6.2nm,1.0s						
DOT	**Dot Lake**	**20.39**	**42**	*e*P	**P**	**00 51 56.5**	**-0.8**
	12nm,0.6s						
SEY	**Seymchan**	**20.54**	**316**	P	**P**	**00 52 00.1**	**+1.1**
	2.0nm,0.8s,baz=108,slow=11,SNR=5.5						
EGAK	**Eagle**	**21.98**	**40**	*e*P	**P**	**00 52 13.5**	**-0.9**
	23nm,1.9s						
DAWY	**Dawson**	**22.48**	**43**	*e*P	**P**	**00 52 19.9**	**+0.1**
	7.8nm,1.4s						
INK	**Inuvik**	**26.05**	**34**	P	**P**	**00 52 53.5**	**+0.3**
	0.4nm,0.3s,baz=240,slow=5.8,SNR=6.1						
INK	**Inuvik**	**26.05**	**34**	*e*P	**P**	**00 52 53.2**	**0.0**
	85nm,1.9s						
YKA	**Yellowknife Ar**	**33.51**	**47**	P	**P**	**00 53 59.2**	**-0.2**
	0.1nm,0.4s,baz=279,slow=8.2,SNR=3.7						
YKA				PcP	**PcP**	**00 56 39.6**	**+0.6**
	0.2nm,0.5s,baz=285,slow=3.0,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**34.73**	**210**	T	T	01 31 02.2	
	baz=18,slow=76,SNR=200						
H11N3	**WAKE ISLAND Hy**	**34.74**	**210**	T	T	01 31 07.0	
	baz=18,slow=76,SNR=127						
H11N1	**WAKE ISLAND Hy**	**34.75**	**210**	T	T	01 31 03.6	
	baz=18,slow=76,SNR=111						
USRK	**Ussuriysk Ar.**	**35.38**	**279**	P	**P**	**00 54 16.2**	**+0.5**
	1.1nm,0.5s,baz=59,slow=12,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**35.94**	**210**	T	T	01 32 34.5	
	baz=19,slow=76,SNR=158						
H11S2	**WAKE ISLAND Hy**	**35.95**	**210**	T	T	01 32 54.9	
	baz=19,slow=76,SNR=146						
H11S3	**WAKE ISLAND Hy**	**35.96**	**210**	T	T	01 32 54.0	
	baz=19,slow=76,SNR=87						
GDXM	**Geysers**	**38.37**	**88**	*e*P	**P**	**00 54 45.4**	**+4.1**
	24nm,0.4s						
GCRM	**Castle Rock Sp**	**38.44**	**88**	*e*P	P	00 54 46.8	+4.9
PDAR	**Pinedale Array**	**44.19**	**75**	P	**P**	**00 55 29.4**	**+0.2**
	1.7nm,0.5s,baz=302,slow=4.3,SNR=19						
PDAR	**Pinedale Array**	**44.19**	**75**	*e*P	**P**	**00 55 29.1**	**-0.1**
ULM	**Lac du Bonnet**	**47.75**	**59**	P	**P**	**00 55 56.1**	**-0.7**
	1.1nm,0.5s,baz=294,slow=10,SNR=4.4						
SPITS	**Spitsbergen Ar**	**50.27**	**357**	P	**P**	**00 56 14.9**	**-0.8**
	5.2nm,0.8s,baz=352,slow=9.0,SNR=3.0						
FRB	**Frobisher Bay**	**51.69**	**33**	P	**P**	**00 56 25.8**	**-0.7**
	0.5nm,0.3s,baz=131,slow=9.4,SNR=6.3						
TXAR	**Lajitas Array**	**56.50**	**84**	P	**P**	**00 57 01.5**	**-0.7**
	0.1nm,0.4s,baz=296,slow=5.8,SNR=3.6						
ARCES	**ARCESS Array B**	**58.20**	**352**	P	**P**	**00 57 12.0**	**-1.5**
	5.4nm,1.1s,baz=11,slow=6.8,SNR=2.7						
MKAR	**Makanchi Array**	**61.55**	**310**	P	**P**	**00 57 35.0**	**-1.8**
	0.2nm,0.3s,baz=46,slow=6.4,SNR=9.5						
BVAR	**Borovoye Array**	**62.07**	**321**	P	**P**	**00 57 41.0**	**+0.8**
	0.4nm,0.3s,baz=55,slow=6.8,SNR=7.3						
HFS	**Hagfors**	**68.37**	**355**	P	**P**	**00 58 19.7**	**-1.1**
	2.7nm,0.9s,baz=31,slow=3.9,SNR=7.9						
WRA	**Warramunga Arr**	**83.70**	**227**	P	**P**	**00 59 48.1**	**-0.4**
	0.2nm,0.3s,baz=33,slow=5.8,SNR=3.2						
ASAR	**Alice Springs**	**87.14**	**225**	P	**P**	**01 00 06.1**	**+0.5**
	0.1nm,0.3s,baz=14,slow=4.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**115.46**	**3**	PKP	**PKPdf**	**01 06 00.1**	**-1.5**
	0.2nm,0.6s,baz=347,slow=1.9,SNR=5.8						

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*NIED **06** 00:47:00,36°.70N×141°.00E,h8km,Mw3.5 Best double couple: $M_0 1.77000\times10^{14}$ NP1:ϕ_s182.00000°,δ32.00000°, λ-120.00000°. NP2:ϕ_s36.00000°,δ62.00000°, λ-72.00000°.*

JMA 06 00:47:31.9,36°.66N×141°.00E,h18km±1km,**M3.6,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.35**	**262**	P	Pg	00 47 39.1	-0.2
JHO				S	Sb	00 47 44.6	-0.3
ONAJ	**Iwakimizuishiy**	**0.47**	**340**	P	Pg	00 47 41.1	-0.4
ONAJ				S	Sb	00 47 48.2	-0.2
JFK	**Kawauchi**	**0.71**	**352**	P	Pb	00 47 45.1	-0.7
JFK				S	Sb	00 47 54.4	-0.9
JYT	**Yasato**	**0.78**	**237**	P	Pb	00 47 46.6	-0.3
JYT				S	Sb	00 47 57.1	-0.1
JSB	**Shiboa**	**0.92**	**290**	P	Pn	00 47 49.9	-0.1
JSB				S	Sn	00 48 03.6	+0.9
JFT	**Otama**	**1.01**	**328**	P	Pb	00 47 50.8	0.0
JFT				S	Sg	00 48 04.5	-0.2
MAT	**Matsushiro**	**2.25**	**268**	P	Pb	00 48 10.4	-1.6
MAT				S	Sb	00 48 40.4	+0.9

DJA 06 00:50:07.4±1.2,**9°S**±12°×**11°0E**±°,**h10**km,**M3.6**/5, **MLv3.6**/5,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.43**	**33**	P	Pn	00 50 30.3	-3.1
PWJI	**Pagerwojo**	**1.96**	**46**	P	Pn	00 50 38.8	-1.9
PWJI				S	Sn	00 51 02.1	-3.2
CMJI	**Cimerak**	**2.50**	**310**	P	Pn	00 50 48.3	+0.1

IDC 06 00:59:59.6±3.9,**30°.51S**×**138°.26E**,**h0**km,**mb1 3.1**/3, **mb1mx3.1**/36,**mbtmp2.8**/3,**ML2.5**/3,**Error ellipse: s-maj=89.2km s-min=16.3km az=41.0,South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.16**	**116**	Pn	Pn	01 00 51.0	+0.2
	0.1nm,0.3s,baz=288,slow=9.6,SNR=2.6						
STKA				Pg	Pb	01 00 58.1	+1.4
	0.8nm,0.3s,baz=302,slow=14,SNR=8.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA				Sn	Sn	01 01 29.0	-0.2
	1.6nm,0.3s,baz=327,slow=19,SNR=7.5						
STKA				Lg	Lg	01 01 39.1	
	1.7nm,0.3s,baz=199,slow=18,SNR=6.3						
ASAR	Alice Springs	7.85	329	Pn	Pn	01 01 56.0	+0.9
	0.1nm,0.3s,baz=152,slow=12,SNR=4.9						
ASAR				Sn	Sn	01 03 23.3	-1.4
	0.1nm,0.3s,baz=156,slow=21,SNR=3.3						
WRA	Warramunga Arr	11.11	340	Pn	Pn	01 02 39.7	-0.1
	0.1nm,0.3s,baz=168,slow=12,SNR=5.3						

*NIED **06** 01:08:00, 37°.80N×141°.80E, h32km, Mw3.5 Best double couple: M0 1.98000×10^14 NP1: φs250.00000°, δ45.00000°, λ-113.00000°. NP2: φs101.00000°, δ50.00000°, λ-69.00000°.*

JMA 06 01:08:48.3±0.1**, 37°.75N×141°.82E, h39**km±2km**, M3.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.80	332	P	Pn	01 09 03.1	+0.1
JIO				S	Sn	01 09 13.0	-0.7
JMM	Marumori	0.82	278	P	Pn	01 09 03.6	+0.2
JMM				S	Sn	01 09 14.4	+0.1
JFK	Kawauchi	0.84	243	P	Pn	01 09 03.8	+0.1
JFK				S	Sn	01 09 14.7	-0.2
ONAJ	Iwakimizuishiy	1.04	232	P	Pn	01 09 06.5	+0.1
ONAJ				S	Sn	01 09 19.4	-0.3
JOU	Okura	1.10	304	P	Pn	01 09 08.1	+0.9
JOU				S	Sn	01 09 22.0	+0.8
JFT	Otama	1.20	259	P	Pn	01 09 09.9	+1.3
JFT				S	Sn	01 09 24.9	+1.3
JMK	Ichinoseki	1.29	339	P	Pn	01 09 10.3	+0.5
JMK				S	Sn	01 09 25.7	-0.1
JYS	Shirataka	1.46	289	P	Pn	01 09 13.1	+0.9
JYK	Kaneyama	1.64	316	P	Pn	01 09 15.6	+1.0
JYK				eS	Sn	01 09 35.9	+1.5
JFY	Yanaizu	1.71	259	P	Pn	01 09 16.9	+1.2
JOM	Ohasama	1.77	347	P	Pn	01 09 17.2	+0.8
JOM				S	Sn	01 09 38.9	+1.2
JYA	Atsumi	1.86	298	P	Pn	01 09 18.8	+1.2
JYA				eS	Sn	01 09 41.1	+1.2
JRG	Rokugo	1.89	331	P	Pn	01 09 19.5	+1.5
JRG				eS	Sn	01 09 42.6	+2.0
MAT	Matsushiro	3.13	248	P	Pn	01 09 38.9	+3.8
MAT				S	Sn	01 10 16.6	+5.4

MAN 06 01:09:18, 10°.24N×123°.19E, h3km, mb4.7, ML3.5, MS3.4, 3C-2D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.70	303	eP	Pb	01 09 32.6	-0.2
GUIM				eS	Sb	01 09 44.3	+1.4
LLP	Lapu-Lapu	0.77	84⇑	eP	Pg	01 09 33.3	+0.4
LLP				eS	Sb	01 09 45.1	+0.1
TBP	Tagbilaran	0.86	129	eP	Pn	01 09 38.1	+1.0
TBP				i S	Sn	01 09 51.5	+1.2
SNPH	Sibulan	0.90	177⇑	iP	Pn	01 09 37.4	-0.2
SNPH				i S	Sn	01 09 50.8	-0.3
JAP	San Jose, Anti	1.32	292⇑	eP	Pb	01 09 44.9	+1.5
RCP	Roxas	1.38	342⇓	eP	Pn	01 09 43.8	-0.4
RCP				eS	Sn	01 10 04.3	+1.3
OCLP	Ormoc	1.61	60	eP	Pb	01 09 48.1	-0.3
OCLP				eS	Sg	01 10 09.8	-0.1
MSLP	Maasin	1.65	94	eP	Pb	01 09 49.0	-0.1
MSLP				eS	Sg	01 10 11.4	+0.3
DCPH	Dipolog City	1.66	174⇓	eP	Pn	01 09 48.5	+0.5
DCPH				eS	Sg	01 10 11.7	+0.3

*ISCJB **06** 01:27:13.9±0.5, 38°.74N±0°.02×43°.56E±0°.04, h12km±4km, Error ellipse: s-maj=5.4km s-min=4.0km az=6.9*
*CSEM **06** 01:27:13.2±0.2, 38°.71N×43°.56E, h10km, ML2.7, Error ellipse: s-maj=5.8km s-min=4.2km az=85.0*
*DDA **06** 01:27:14.0, 38°.66N×43°.56E, h7km, Ml2.3*
*ISK **06** 01:27:13.2, 38°.72N×43°.49E, h16km, ML2.7/5*
ISC 06 01:27:13.8±0.8**, 38°.71N**±0°.02×**43°.55E**±0°.03**, h16**km±6km**, n34, σ1s.14/56, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.17	226	PG	Pg	01 27 18.3	+0.1
VANB				SG	Sg	01 27 22.9	+1.8
VANB	Van	0.17	226	ePg	Pg	01 27 18.3	+0.1
TVAN	Van	0.21	211	i P	Pg	01 27 18.2	-0.7
TVAN				i S	Sg	01 27 22.6	+0.2
TVAN	Van	0.21	211	P	Pg	01 27 18.2	-0.7
TVAN				S	Sg	01 27 22.6	+0.2
ERCV	ERCIS-VAN	0.35	332	PG	Pg	01 27 20.2	-0.9
ERCV				SG	Sg	01 27 26.2	+0.1
ERCV	ERCIS-VAN	0.35	332	ePg	Pg	01 27 20.2	-0.9
ERCV				eSg	Sg	01 27 26.2	+0.1
CLDR	Caldiran	0.52	34	PG	Pg	01 27 23.7	-0.5
CLDR				SG	Sb	01 27 32.7	+0.6
CLDR	Caldiran	0.52	34	i P	Pg	01 27 23.7	-0.5
CLDR				i S	Sn	01 27 34.1	-1.4
CLDR	Caldiran	0.52	34	P	Pg	01 27 23.7	-0.5
CLDR				eSg	Sb	01 27 32.7	+0.6
CLDR				S	Sn	01 27 34.1	-1.4
GEVA	Gevas	0.55	224	i P	Pg	01 27 23.7	-1.1
GEVA				i S	Sb	01 27 33.7	+0.6
GEVA	Gevas	0.55	224	P	Pg	01 27 23.7	-1.1
GEVA				S	Sb	01 27 33.7	+0.6
ADCV	BITLIS_Adilcev	0.65	279	i P	Pg	01 27 26.0	-0.6
ADCV				i S	Sb	01 27 36.4	+0.6
ADCV	BITLIS_Adilcev	0.65	279	P	Pg	01 27 26.0	-0.6
BASK	Baskale_VAN	0.75	151	i P	Pg	01 27 26.9	-1.6
BASK				i S	Sg	01 27 37.3	-1.2
BASK	Baskale_VAN	0.75	151	P	Pg	01 27 26.9	-1.6
BASK				S	Sg	01 27 37.3	-1.2
AGRB	Hanur-Agry	0.96	334	PG	Pg	01 27 31.6	-0.9
AGRB	Hanur-Agry	0.96	334	ePg	Pg	01 27 31.6	-0.9
HAKT	HAKKARI	1.16	174	i P	Pb	01 27 35.0	-0.7
HAKT				i S	Sn	01 27 53.4	+2.1
HAKT	HAKKARI	1.16	174	P	Pb	01 27 35.0	-0.7
GURO	Guroymak-BITLI	1.20	263	PN	Pb	01 27 34.8	-1.4
GURO	Guroymak-BITLI	1.20	263	ePn	Pb	01 27 34.8	-1.4
IGDI	IGDIR	1.23	20	i P	Pg	01 27 37.9	+0.4
IGDI				i S	Sn	01 27 57.4	+4.7
YOVA	Hakkari_Yˆ…kse	1.27	152	i P	Pg	01 27 37.8	-0.5
YOVA				i S	Sn	01 27 55.2	+1.3
YOVA	Hakkari_Yˆ…kse	1.27	152	P	Pg	01 27 37.8	-0.5
YOVA				S	Sn	01 27 55.2	+1.3
TASB	TASBURUN-IGDIR	1.38	23	PN	Pn	01 27 38.8	+0.3
TASB	TASBURUN-IGDIR	1.38	23	ePn	Pn	01 27 38.8	+0.3
CUKT	Cukurca	1.46	178	PN	Pn	01 27 40.1	+0.3
CUKT	Cukurca	1.46	178	i P	Pn	01 27 39.6	-0.2
CUKT				i S	Sg	01 28 02.8	+1.7
CUKT	Cukurca	1.46	178	P	Pn	01 27 39.6	-0.2
CUKT	Cukurca	1.46	178	ePn	Pn	01 27 40.1	+0.3
CUKT				S	Sg	01 28 02.8	+1.7
SRTM	Siirt_Merkez	1.47	241	i P	Pg	01 27 41.8	-0.3
SRTM				i S	Sg	01 28 00.6	-0.5
SRTM	Siirt_Merkez	1.47	241	P	Pg	01 27 41.8	-0.3
SRTM				S	Sg	01 28 00.6	-0.5
SIRT	Sirnak	1.49	216	PN	Pn	01 27 39.9	-0.2
SIRT	Sirnak	1.49	216	ePn	Pn	01 27 39.9	-0.2

MAN 06 01:52:19, 10°.39N×123°.24E, h1km, mb4.4, ML3.2, MS3.0, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.68	291	eP	Pg	01 52 32.3	+0.3
GUIM				eS	Sb	01 52 42.5	-1.1
LLP	Lapu-Lapu	0.72	95⇑	eP	Pg	01 52 33.3	+0.4
LLP				eS	Sb	01 52 44.5	-0.3
TBP	Tagbilaran	0.93	138	eP	Pb	01 52 38.2	+0.3
TBP				i S	Sb	01 52 51.4	+0.7
RCP	Roxas	1.26	338⇓	eP	Pb	01 52 43.5	-0.1
RCP				eS	Sn	01 53 03.1	+1.7
MSLP	Maasin	1.62	99	eP	Pn	01 52 49.1	+0.4
MSLP				eS	Sg	01 53 11.7	+0.6

IDC 06 02:04:00.1±14.0**, 14°.59S×166°.76E, h0**km**, mb3.9**/3**, mb1 4.1**/4**, mb1mx3.7**/42**, mbtmp4.0**/4**, ML4.0**/1**, MS3.4**/5**, Ms1 3.3**/5**, ms1mx3.0**/35**, Error ellipse: s-maj=237.5km s-min=39.1km az=62.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.45	182	Pn	Pn	02 05 49.6	-0.6
	2.2nm,0.3s,baz=360,slow=9.2,SNR=14						
DZM				Sn	Sn	02 07 14.6	-0.9
	1.0nm,0.3s,baz=321,slow=20,SNR=3.7						
DZM				LR	LR	02 08 01.5	
	comp=Z,149nm,19.0s,baz=26,slow=32						
HNR	Honiara	8.41	307	LR	LR	02 09 25.2	
	comp=Z,98nm,19.9s,baz=167,slow=39						
PMG	Port Moresby	19.85	283	LR	LR	02 15 27.6	
	comp=Z,180nm,18.6s,baz=14,slow=35						
URZ	Urewera	25.30	161	LR	LR	02 17 58.9	
	comp=Z,90nm,18.2s,baz=4.5,slow=33						
STKA	Stephens Creek	28.71	229	P	P	02 10 00.2	+1.0
	3.4nm,0.5s,baz=49,slow=7.8,SNR=11						
STKA				LR	LR	02 21 26.9	
	comp=Z,91nm,18.6s,baz=29,slow=36						
WRA	Warramunga Arr	31.38	256	P	P	02 10 22.4	-0.5
	0.5nm,0.6s,baz=85,slow=9.0,SNR=6.1						
ASAR	Alice Springs	32.26	249	P	P	02 10 30.4	-0.3
	0.4nm,0.5s,baz=77,slow=9.5,SNR=6.4						

*ISK **06** 02:23:27.2, 39°.12N×29°.16E, h6km, ML2.5/5*
*DDA **06** 02:23:28.1, 39°.12N×29°.16E, h7km, Ml2.5*
*CSEM **06** 02:23:28.0±0.1, 39°.13N×29°.15E, h5km, ML2.5, Error ellipse: s-maj=3.4km s-min=2.5km az=149.0*
ISC 06 02:23:28.1±1.0**, 39°.13N**±0°.02×**29°.15E**±0°.02**, h5**km±8km**, n32, σ0s.65/50, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.14	250	PG	Pg	02 23 31.1	+0.2
SIMA				SG	Sg	02 23 33.1	+0.3
SIMA	Simav-Kutahya	0.14	250	ePg	Pg	02 23 31.1	+0.2
SIMA				eSg	Sg	02 23 33.1	+0.3
GDZ	Gediz	0.26	99	i P	Pg	02 23 33.0	-0.2
GDZ				i S	Sg	02 23 37.3	+0.6
GDZ	Gediz	0.26	99	P	Pg	02 23 33.0	-0.2
GDZ				S	Sg	02 23 37.3	+0.6
DEMI	Demirci	0.35	255	i P	Pg	02 23 34.8	0.0
DEMI				i S	Sg	02 23 39.3	-0.1
DEMI	Demirci	0.35	255	P	Pg	02 23 34.8	0.0
DEMI				S	Sg	02 23 39.3	-0.1
TVSB	Tavsanli	0.40	37	PG	Pg	02 23 35.2	-0.6
TVSB				SG	Sg	02 23 41.0	-0.1
TVSB	Tavsanli	0.40	37	ePg	Pg	02 23 35.2	-0.6
TVSB				eSg	Sg	02 23 41.0	-0.1
KULA	Kula-Manisa	0.72	212	PG	Pg	02 23 41.9	-0.1
KULA				SG	Sg	02 23 51.4	0.0
KULA	Kula-Manisa	0.72	212	ePg	Pg	02 23 41.9	-0.1
KULA				eSg	Sg	02 23 51.4	0.0
KHAL	Karahalli	0.81	160	i P	Pb	02 23 44.1	-0.5
KHAL				i S	Sb	02 23 55.0	-0.8
KHAL	Karahalli	0.81	160	P	Pb	02 23 44.1	-0.5
KHAL				S	Sb	02 23 55.0	-0.8
BALB	Balikesir	1.11	298	PN	Pg	02 23 49.1	-0.2
BALB	Balikesir	1.11	298	ePn	Pg	02 23 49.1	-0.2
STEP	BALIKESIR_Sava	1.14	283	i P	Pb	02 23 50.5	+0.3
STEP				i S	Sn	02 24 06.2	-0.4
STEP	BALIKESIR_Sava	1.14	283	P	Pb	02 23 50.5	+0.3
STEP				S	Sn	02 24 06.2	-0.4
CAVI	Cavuskoy	1.20	26	PN	Pb	02 23 51.2	0.0
CAVI	Cavuskoy	1.20	26	ePn	Pb	02 23 51.2	0.0
SHUT	Suhut-Afyon	1.24	117	PN	Pg	02 23 51.4	-0.4
SHUT	Suhut-Afyon	1.24	117	ePn	Pg	02 23 51.4	-0.4
MDNY	Mudanya-Bursa	1.25	351	PN	Pg	02 23 51.9	-0.2
MDNY	Mudanya-Bursa	1.25	351	ePn	Pg	02 23 51.9	-0.2
BORA	Eskisehir	1.26	53	i P	Pg	02 23 51.9	-0.2
BORA				i S	Sn	02 24 09.4	-0.2
BORA	Eskisehir	1.26	53	P	Pg	02 23 51.9	-0.2
BORA				S	Sn	02 24 09.4	-0.2
KCTX	Karacabey (Bur	1.29	332	PN	Pn	02 23 52.8	+0.1
KCTX	Karacabey (Bur	1.29	332	ePn	Pn	02 23 52.8	+0.1
ESKT	Eskisehir	1.38	73	i P	Pg	02 23 54.6	+0.2
ESKT				i S	Sn	02 24 15.2	+2.6
SEYT	Eskypehyr	1.38	73	P	Pg	02 23 54.6	+0.2
SEYT				S	Sn	02 24 15.2	+2.6
ARMT	Armutlu	1.45	351	PN	Pb	02 23 55.7	+0.2
ARMT	Armutlu	1.45	351	ePn	Pb	02 23 55.7	+0.2
GULT	Gulveren	1.67	39	PN	Pb	02 23 58.7	-0.7
GULT	Gulveren	1.67	39	ePn	Pb	02 23 58.7	-0.7

*ISCJB **06** 02:31:54.4±0.3, 19°.49N±0°.03×109°.15W±0°.02, h10km, mb4.6/64, MS4.2/18, Error ellipse: s-maj=4.6km s-min=2.6km az=8.3*
*IDC **06** 02:31:55.6±0.6, 19°.76N×109°.45W, h0km, mb4.0/10, mb1 4.3/14, mb1mx4.1/46, mbtmp4.1/14, ML3.7/4, MS4.2/19, Ms1 4.2/19, ms1mx3.9/44, Error ellipse: s-maj=16.7km s-min=13.4km az=96.0*
*GCMT **06** 02:31:58.9±0.3, 19°.91N×109°.23W, h20km±1km, MW5.1/88, Moment Tensor Solution. s29,c33; s88,c139; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.15±.18; Mθθ-4.45±.16; Mφφ4.60±.17; Mrθ-1.44±.30; Mθφ-2.40±.12; Mφr0.67±.29; Best double couple: M0 5.36400×10^16 NP1: φs121.00000°, δ88.00000°, λ-163.00000°. NP2: φs31.00000°, δ73.00000°, λ-2.00000°. Principal axes: T 5.3830, Plg11.0000°, Azm255.0000°; N -0.0330, Plg73.0000°, Azm128.0000°; P -5.3460, Plg14.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 02:31:58.9±4.2, 19°.59N×109°.17W, h14km±25km, mb4.7/113 Error ellipse: s-maj=12.9km s-min=6.3km az=207.0*
*MEX **06** 02:32:02.5±0.4, 20°.12N×110°.43W, h5km, MD4.5*
*BJI **06** 02:32:03.5, 19°.59N×109°.39W, h45km, Ms5.0/1, Ms7 4.7/2*
ISC 06 02:31:57.5±0.4**, 19°.63N**±0°.04×**109°.38W**±0°.05**, h10**km**, n482, σ2s.09/472, mb4.7**/64**, MS4.2**/18**, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H06E		1.68	240	eP	Pn	02 32 25.5	-1.5
H06E				i S	Sn	02 32 42.6	-6.1
H06E1	SOCORRO T-PHAS	1.69	240	Pn	Pn	02 32 26.9	-0.3
H06E1				Sn	Sn	02 32 47.6	-1.2
H06E1				T	T	02 34 31.3	
	SNR=7697						
H06N1	SOCORRO T-PHAS	1.70	244	Pn	Pn	02 32 25.8	-1.5
H06N1				Sn	Sn	02 32 45.6	-3.4
H06N1				T	T	02 34 26.3	
	SNR=996						
H06N	Isla Socorro	1.70	244	eP	Pn	02 32 24.4	-2.9
H06S1	SOCORRO T	1.74	240	Pn	Pn	02 32 26.8	-1.0
H06S1				Sn	Sn	02 32 46.3	-3.6
H06S1				T	T	02 34 35.7	
	SNR=1720						
H06S		1.74	239	eP	Pn	02 32 25.9	-1.9
H06S				i S	Sn	02 32 44.0	-6.1
SLBS	Sierra La Lagu	4.08	353	eP	Pn	02 32 55.6	-4.5
SLBS				i S	Sn	02 33 38.6	-9.3
SLBS	Sierra La Lagu	4.08	353	ePn	Pn	02 32 56.2	-3.8
SLBS				eSn	Sn	02 33 40.9	-6.9
CJM	Chamela	4.09	91	eP	Pn	02 32 56.1	-4.1
CJM	Chamela	4.09	91	eP	Pn	02 32 56.1	-4.1
LPIG	La Paz	4.54	349	Pn	Pn	02 33 03.8	-2.5
	10nm,0.3s,baz=188,slow=2.9,SNR=11						
LPIG				Sn	Sn	02 33 55.6	-3.6
	baz=210,slow=11,SNR=2.4						
LPIG				LR	LR	02 34 29.0	
	comp=Z,7µm,19.0s,baz=136,slow=35						
LPIG	La Paz	4.54	349	eP	Pn	02 33 02.0	-4.3
LPIG				i S	Sn	02 33 48.2	-11
LPIG	La Paz	4.54	349	Pn	Pn	02 33 03.9	-2.5
LPIG				i S	Sn	02 33 48.2	-11
LPIG				Sn	Sn	02 33 55.6	-3.6
ZAIG	Zacatecas	7.08	63	ePn	Pn	02 33 39.7	-1.9
HPIG		8.04	24	ePn	Pn	02 33 54.0	-0.6
SRIG	Santa Rosalia	8.10	342	ePn	Pn	02 33 55.1	-0.1
JRQG	Juriquilla Cam	8.46	81	ePn	Pn	02 34 02.5	+2.1
HSIG		9.46	352	ePn	Pn	02 34 16.6	+2.7
LNIG	Linares	10.57	58	ePn	Pn	02 34 29.8	+0.6
TX31	Lajitas Ar. Si	10.97	27	ePn	Pn	02 34 34.6	-0.2
TXAR	Lajitas Array	10.97	27	Pn	Pn	02 34 33.8	-0.9
	0.3nm,0.3s,baz=197,slow=15,SNR=46						
TXAR				LR	LR	02 37 47.2	
	comp=Z,466nm,19.5s,baz=0.0,slow=32						
319A	Douglas	11.70	0	ePn	Pn	02 34 46.4	+1.6
MNTX	Cornudas Mount	12.55	16	P	Pn	02 34 55.6	-0.7
	baz=197,SNR=18						
MNTX	Cornudas Mount	12.55	16	ePn	Pn	02 34 57.5	+1.3
833A	Chaparral WMA,	12.57	45	P	Pn	02 34 54.7	-1.9
	baz=228						
214A	Organ Pipe Nat	12.66	347	P	Pn	02 34 58.5	+0.8
	baz=164,SNR=18						
214A	Organ Pipe Nat	12.66	347	eP	Pn	02 34 58.0	+0.2
	286nm,1.7s						
TUC	Tucson	12.70	355	P	Pn	02 34 59.4	+1.1
	baz=173						
TUC	Tucson	12.70	355	ePn	Pn	02 34 59.5	+1.2
121A	Cookes Peak, D	12.93	6	P	Pn	02 35 00.7	-1.0
	baz=186,SNR=24						
121A	Cookes Peak, D	12.93	6	eP	Pn	02 35 02.8	+1.2
	160nm,1.8s						
113A	Mohawk Valley,	13.67	344	ePn	Pn	02 35 14.7	+3.2
JCT	Junction City	13.85	37	P	Pn	02 35 12.7	-1.4
	baz=220						
JCT	Junction City	13.85	37	ePn	Pn	02 35 14.6	+0.5
CMIG	Matias Romero	13.99	98	Pn	Pn	02 35 15.6	-0.4
	0.3nm,0.3s,baz=300,slow=12,SNR=7.1						
CMIG				LR	LR	02 40 10.2	
	comp=Z,1µm,20.6s,baz=272,slow=35						
GLA	Glamis	14.23	341	P	Pn	02 35 19.9	+0.7
	baz=158,SNR=6.9						
GLA	Glamis	14.23	341	ePn	Pn	02 35 20.2	+0.9
IKP	In-Ko-Pah, Jac	14.30	336	P	Pn	02 35 20.4	+0.1
	baz=153,SNR=10						
SWSC	Sam W. Stewart	14.46	338	P	Pn	02 35 22.2	-0.1
	baz=154						
BAR	Barrett	14.55	335	ePn	Pn	02 35 24.1	+0.5
Y22D	IRIS PASSCAL I	14.56	8	P	Pn	02 35 22.7	-1.1
	baz=188						
Y22E	IRIS PASSCAL I	14.56	8	P	Pn	02 35 22.3	-1.5
	baz=188						
Y14A	Wickenburg	14.62	348	ePn	Pn	02 35 25.2	+0.7
MONP2	Monument Peak	14.64	336	P	Pn	02 35 24.9	-0.1
	baz=152,SNR=14						
BNM	Barren Site	14.67	9	ePn	Pn	02 35 27.1	+1.6
Y12C	Blythe	14.80	343	P	Pn	02 35 27.4	+0.4
	baz=160,SNR=8.5						
Y12C	Blythe	14.80	343	ePn	Pn	02 35 27.8	+0.9
X16A	Lo Mia Camp, P	14.85	353	ePn	Pn	02 35 29.0	+1.2
LAZ	Ladron	14.85	7	ePn	Pn	02 35 29.1	+1.2
X18A	Snowflake	14.86	358	ePn	Pn	02 35 29.3	+1.4
109C	Camp Elliot, M	14.91	334	P	Pn	02 35 27.8	-0.7
	baz=150						
BC3	Big Chuckawall	14.99	340	P	Pn	02 35 29.1	-0.5
	baz=156,SNR=7.9						
PDMCI	Parker Dam,Lak	15.22	345	P	Pn	02 35 32.9	+0.3
	baz=162,SNR=12						
XPFO	Piæon Flat	15.29	337	ePn	Pn	02 35 33.9	+0.2
	30nm,1.4s						
PFO	Pinyon Flats O	15.29	337	P	Pn	02 35 33.9	+0.2
	baz=153						
PFO	Pinyon Flats O	15.29	337	ePn	Pn	02 35 33.9	+0.2
	28nm,1.4s						
IRM	Iron Mountain	15.36	342	P	Pn	02 35 34.5	0.0
	baz=158,SNR=23						
435B	Jarrell	15.39	42	P	Pn	02 35 32.2	-2.7
	baz=226						
W18A	Petrified Fore	15.44	359	P	Pn	02 35 35.8	+0.2
	baz=178,SNR=7.3						
W18A	Petrified Fore	15.44	359	ePn	Pn	02 35 36.6	+1.0
	107nm,1.8s						
MSTX	Muleshoe	15.45	21	P	Pn	02 35 34.7	-1.1
	baz=203						
MSTX	Muleshoe	15.45	21	ePn	Pn	02 35 36.9	+1.1
	49nm,1.4s						
ANMO	Albuquerque	15.48	9	Pn	Pn	02 35 33.7	-2.5
	0.0nm,0.3s,baz=198,slow=16,SNR=3.0						
ANMO	Albuquerque	15.48	9	P	Pn	02 35 35.9	-0.3
	baz=190						
ANMO	Albuquerque	15.48	9	ePn	Pn	02 35 37.7	+1.5
	70nm,1.7s						
BELC	Belle Mtn. Jos	15.48	339	P	Pn	02 35 36.3	+0.1
	baz=155						
MURC	Murrieta	15.56	335	P	Pn	02 35 37.2	0.0
	baz=151						
ABTX	Abilene, Hawle	15.61	32	P	Pn	02 35 35.3	-2.4
	baz=216						
ABTX	Abilene, Hawle	15.61	32	ePn	Pn	02 35 36.7	-1.0
	30nm,1.2s						
NEE2	Needles Airpor	15.78	344	P	Pn	02 35 40.5	+0.6
	baz=161						
CIS	Catalina Islan	15.91	331	P	Pn	02 35 43.1	+1.4
	baz=147						
W13A	Hualapai Mount	15.92	346	ePn	Pn	02 35 42.7	+0.7
	89nm,1.9s						
W13A				eSn	Sn	02 38 46.2	+7.6
WUAZ	Wupatki	15.93	354	P	Pn	02 35 42.8	+0.8
	baz=172,SNR=18						
WUAZ	Wupatki	15.93	354	ePn	Pn	02 35 43.3	+1.3
	80nm,1.6s						
BBRC	Big Bear Solar	16.05	337	P	Pn	02 35 44.3	+0.8
	baz=153						
GMRC	Granite Mounta	16.09	341	P	Pn	02 35 44.4	+0.3
	baz=157,SNR=24						
LDFC	Landfair	16.21	343	ePn	P	02 35 47.5	-1.2
	204nm,1.9s						
BFSC	Mount Baldy Ra	16.31	335	P	Pn	02 35 47.1	+0.2
	baz=150,SNR=6.6						
SNCC	San Nicolas Is	16.31	328	P	Pn	02 35 47.5	+0.7
	baz=143						
WHTX	Lake Whitney,	16.32	39	P	Pn	02 35 45.6	-1.3
	baz=224						
WHTX	Lake Whitney,	16.32	39	ePn	Pn	02 35 45.5	-1.3
	101nm,1.8s						
HEC	Hector,Ludlow	16.35	339	P	Pn	02 35 47.5	+0.2
	baz=155,SNR=7.6						
MWC	Mount Wilson	16.46	334	ePn	P	02 35 53.0	+1.4
	51nm,1.7s						
DECC	Green Verdugo	16.60	333	P	Pn	02 35 50.4	0.0
	baz=148						
AMTX	Amarillo	16.66	23	P	Pn	02 35 49.0	-2.2
	baz=206						
AMTX	Amarillo	16.66	23	ePn	Pn	02 35 51.9	+0.7
	80nm,1.6s						
TUQ	Turquoise Moun	16.78	341	P	Pn	02 35 52.5	-0.4
	baz=157						
BLG	Laguna Peak, P	16.80	331	P	Pn	02 35 52.9	-0.1
	baz=146						
U15A	North Rim	16.93	352	ePn	P	02 35 56.5	-0.5
	94nm,1.9s						
GSC	Goldstone, Bar	16.94	339	P	Pn	02 35 54.9	+0.1
	baz=155,SNR=9.9						
GSC	Goldstone, Bar	16.94	339	ePn	Pn	02 35 55.8	+1.0
	47nm,1.4s						
SCZ2	Santa Cruz Isl	16.97	330	P	Pn	02 35 55.3	+0.1
	baz=144						
EDW2	Edwards Air Fo	17.00	335	P	Pn	02 35 55.6	0.0
	baz=150,SNR=10						
SHOC	Shoshone, Teco	17.31	341	P	Pn	02 35 58.5	-1.0
	baz=157						
SBC	Santa Barbara	17.38	330	P	Pn	02 35 59.8	-0.3
	baz=145						
LRMC	Laurel Mtn Rad	17.41	337	P	Pn	02 36 00.8	+0.1
	baz=152,SNR=5.2						
MVCO	Mesa Verde	17.54	2	P	Pn	02 36 00.7	-1.8
	baz=182,SNR=19						
MVCO	Mesa Verde	17.54	2	ePn	Pn	02 36 02.8	+0.4
	95nm,1.4s						
ARVC	Arvin	17.56	333	P	Pn	02 36 02.3	-0.2
	baz=148						
SHPR	Sheep Range	17.57	344	ePn	P	02 36 04.0	+0.2
	35nm,1.8s						
KNB	Kanab	17.59	351	ePn	P	02 36 04.7	+0.7
	109nm,1.6s						
LCMT	Little Creek M	17.65	350	ePn	P	02 36 05.5	+0.8
	59nm,1.8s						
WMOK	Wichita Mounta	17.74	30	P	Pn	02 36 01.9	-2.9
	baz=214						
WMOK	Wichita Mounta	17.74	30	ePn	Pn	02 36 03.1	-1.6
	58nm,1.8s						
PKM	Mcpherson Peak	17.79	331	P	Pn	02 36 04.9	-0.7
	baz=145						
MPMC	Manual Prospec	17.86	338	P	Pn	02 36 06.9	+0.5
	baz=154,SNR=9.0						
ISA	Isabella, Lake	17.88	335	P	Pn	02 36 06.6	+0.2
	baz=150						
ISA	Isabella, Lake	17.88	335	ePn	P	02 36 10.6	+3.5
	24nm,1.6s						
MHTCO	State Highway	17.91	12	ePn	P	02 36 09.9	+2.2

158nm,1.8s
NATX **Nacogdoches** 17.92 45 P Pn 02 36 03.5 -3.4
baz=231
NATX **Nacogdoches** 17.92 45 *e*Pn Pn 02 36 05.5 -1.4
PKCU **Pink Cliffs** 17.94 352 *e*Pn P 02 36 11.0 +3.0
PKCU *es*P sP 02 36 22.3 +10
541A **Lake Charles** 17.97 52 P Pn 02 36 02.2 -5.4
baz=238
T25A **Trinidad** 17.98 13 P Pn 02 36 07.2 -0.7
baz=195,SNR=10
T25A **Trinidad** 17.98 13 *e*Pn P 02 36 10.9 +2.5
127nm,1.8s
FURC **Furnace Creek,** 18.02 340 P Pn 02 36 08.7 +0.6
baz=156
DAC **Darwin (Calif)** 18.09 338 *e*Pn P 02 36 10.4 +0.8
69nm,1.8s
S22A **4UR Ranch, Cre** 18.19 6 P Pn 02 36 09.8 -0.7
baz=187,SNR=12
S22A **4UR Ranch, Cre** 18.19 6 *e*Pn P 02 36 11.5 +0.7
60nm,1.6s
CCUT **Cedar City** 18.20 350 *e*Pn P 02 36 12.6 +1.8
58nm,1.7s
SZCU **Shurtz Canyon** 18.20 351 *e*Pn P 02 36 13.9 +3.1
49nm,1.6s
SMMC **Simmler** 18.23 331 P Pn 02 36 10.5 -0.2
baz=146
VES **Vestal, Richgr** 18.28 334 P P 02 36 12.1 +0.7
baz=149
TPNV **Topopah Spring** 18.28 342 P P 02 36 12.5 +0.8
baz=158,SNR=16
TPNV **Topopah Spring** 18.28 342 *e*P P 02 36 12.7 +1.1
141nm,1.7s
441A **DeRidder** 18.34 50 P Pn 02 36 10.8 -1.3
baz=236
SDCO **Great Sand Dun** 18.37 10 P Pn 02 36 12.5 -0.3
baz=191,SNR=26
SDCO **Great Sand Dun** 18.37 10 *e*P P 02 36 14.3 +1.5
112nm,1.8s
PV05 **Paradox Valley** 18.39 1 *e*P P 02 36 15.0 +2.0
CWC **Cottonwood Cre** 18.41 337 P P 02 36 13.3 +0.2
baz=152
PV01 **Paradox Valley** 18.46 2 *e*P Pn 02 36 15.2 +1.4
542A **Morse** 18.48 52 P P 02 36 10.9 -2.8
baz=239
MTPU **Mount Pierson** 18.51 353 *e*P Pn 02 36 16.4 +1.8
44nm,1.7s
GRAC **Grapevine Rang** 18.67 340 P P 02 36 14.6 -1.2
baz=155
341A **Kurthwood** 18.68 48 P P 02 36 13.5 -2.4
baz=235
PAGB **Antelope Grade** 18.69 331 *e*P Pn 02 36 18.4 +2.1
125nm,1.8s
PV10 **Paradox Valley** 18.69 1 *e*P Pn 02 36 17.6 +1.1
240A **Hunter Patters** 18.69 46 P P 02 36 13.8 -2.2
baz=232
PV04 **Paradox Valley** 18.71 1 *e*P P 02 36 16.8 +0.4
RCTC **Rector, Farmer** 18.74 334 P Pn 02 36 17.3 +0.4
baz=149
PV09 **Paradox Valley** 18.81 1 *e*P Pn 02 36 19.9 +1.9
442A **Mamou** 18.87 51 P P 02 36 15.4 -2.6
baz=238
MSU **Marysvale** 18.98 353 *e*P Pn 02 36 24.4 +4.4
140A **Cam and Jess,** 19.19 44 P P 02 36 18.7 -2.8
baz=231
PSUT **Pine Spring** 19.24 349 *e*P Pn 02 36 23.4 +0.2
232nm,2.0s
241A **Mo Tay, Goldon** 19.25 47 P P 02 36 19.5 -2.7
baz=234
Q16A **Castle Valley** 19.29 356 *e*P Pn 02 36 25.1 +1.3
87nm,1.9s
342A **Flagon Creek P** 19.30 49 P P 02 36 19.9 -2.9
baz=236
OK020 **N3440 Road, Me** 19.31 32 *e*P Pn 02 36 23.8 -0.1
94nm,2.0s
443A **Delano Plantat** 19.38 52 P P 02 36 20.6 -3.0
baz=239
OK022 **N3560 Road, Pr** 19.42 33 *e*P P 02 36 22.5 -1.5
13nm,0.9s
R11A **Troy Canyon, C** 19.42 345 P P 02 36 23.0 -1.2
baz=162
R11A **Troy Canyon, C** 19.42 345 *e*P P 02 36 24.6 +0.4
14nm,1.4s
OK021 **N3530 Road, Sp** 19.44 32 *e*P P 02 36 22.9 -1.4
116nm,1.9s
SRU **San Rafael Swe** 19.44 357 *e*P Pn 02 36 25.6 0.0
48nm,1.6s
544A **White Castle** 19.52 54 P P 02 36 21.2 -3.9
baz=242
SMCO **Snowmass** 19.60 6 *e*P Pn 02 36 27.8 +0.1
90nm,1.6s
141A **Papa Simpson,** 19.61 45 P P 02 36 22.6 -3.5
baz=232
Q24A **Divide** 19.62 10 P P 02 36 24.8 -1.6
baz=191,SNR=8.0
Q24A **Divide** 19.62 10 *e*P Pn 02 36 29.4 +1.6
27nm,1.3s
645A **Chauvin** 19.67 57 P Pn 02 36 22.5 -4.3
baz=244
TMUT **Trail Mountain** 19.67 356 *e*P Pn 02 36 29.2 +0.8
114nm,1.8s
Z40A **Long Farm, Mag** 19.69 43 P P 02 36 24.4 -2.6
baz=230
MLAC **Mammoth, Mammo** 19.75 337 P Pn 02 36 29.1 -0.2
baz=152
242A **Grayson** 19.81 48 P P 02 36 25.3 -3.0
baz=235
P17A **Butcher Ranch,** 19.82 357 *e*P Pn 02 36 29.9 -0.1
105nm,1.7s
MDPB **Devils Postpil** 19.84 337 *e*P Pn 02 36 34.1 +3.7
61nm,1.6s
P18A **Preston Nutter** 19.95 358 *e*P Pn 02 36 31.5 -0.2
95nm,1.6s
545A **Edgard** 20.01 55 P P 02 36 27.8 -2.6
baz=243
X39A **Fountain Ranch** 20.07 39 P P 02 36 29.5 -1.7
baz=226,SNR=6.3
Z41A **Richland Creek** 20.08 44 P P 02 36 29.0 -2.1
baz=231
TUL1 **Leonard** 20.16 34 P P 02 36 30.3 -1.8
baz=220
TUL1 **Leonard** 20.16 34 *e*P P 02 36 31.4 -0.6
28nm,1.3s
243A **Waterproof** 20.18 49 P P 02 36 29.2 -3.1
baz=237
KSCO **Kaye Shedlock'** 20.18 15 P P 02 36 31.7 -0.7
baz=198
KSCO **Kaye Shedlock'** 20.18 15 *e*P Pn 02 36 37.1 +2.7
164nm,1.8s
142A **Monroe** 20.23 47 P P 02 36 30.2 -2.6
baz=234
NV11 **Mina Array Sit** 20.23 340 *e*P P 02 36 34.1 +1.1
4.4nm,1.5s
Y40A **Okolona** 20.25 42 P P 02 36 31.0 -2.0
baz=229
NV01 **Mina Array Sit** 20.28 339 *e*P P 02 36 34.0 +0.5
NVAR **Mina Array Bea** 20.28 339 P P 02 36 33.0 -0.6
5.8nm,0.9s,baz=178,slow=11,SNR=21
NVAR LR LR 02 43 30.7
comp=Z,1μm,21.4s,baz=228,slow=35
T34A **McClaskey Farm** 20.35 29 P P 02 36 31.8 -2.4
baz=214
ISCO **Idaho Springs** 20.37 8 P P 02 36 33.5 -1.1
baz=190,SNR=12
ISCO **Idaho Springs** 20.37 8 *e*P Pn 02 36 36.9 +0.2
86nm,2.0s
NLU **North Lily Min** 20.39 354 *e*P P 02 36 35.0 +0.2
102nm,1.9s
MPU **Maple Canyon** 20.41 355 *e*P P 02 36 36.1 +1.1
86nm,1.6s
MIAR **Mount Ida** 20.42 40 P P 02 36 32.2 -2.8
baz=227
MIAR **Mount Ida** 20.42 40 *e*P P 02 36 35.3 +0.3
64nm,2.0s
445A **Amite** 20.44 54 P P 02 36 32.4 -2.8
baz=242
O20A **White River Ci** 20.46 2 P P 02 36 35.0 -0.6
baz=182,SNR=8.7
O20A **White River Ci** 20.46 2 *e*P P 02 36 36.1 +0.5
35nm,1.3s
344A **Westbrook Farm** 20.50 51 P P 02 36 33.5 -2.3
baz=239
RYN **Ryan** 20.53 339 *e*P Pn 02 36 38.4 -0.1
58nm,1.7s
T35A **Sooner Cattle** 20.58 31 P P 02 36 35.8 -0.8
baz=216
Y41A **Eaglette Beard** 20.59 43 P P 02 36 34.6 -2.1
baz=230
Z42A **Norrel Spur, H** 20.65 45 P P 02 36 35.3 -2.2
baz=233
546A **Slidell** 20.69 55 P P 02 36 35.8 -2.1
baz=244
143A **Socs Landing,** 20.69 47 P P 02 36 35.9 -1.9
baz=235
CMB **Columbia Colle** 20.69 335 *e*P Pn 02 36 40.0 -0.3
25nm,1.6s
DUG **Dugway, Tooele** 20.71 353 P P 02 36 37.8 -0.4
baz=170,SNR=28
DUG **Dugway, Tooele** 20.71 353 *e*P P 02 36 38.1 -0.2
147nm,1.6s
WAKR **Walker** 20.74 337 *e*P Pn 02 36 40.3 -0.6
48nm,1.7s
W39A **Magazine** 20.75 38 P P 02 36 36.6 -1.8
baz=225
244A **Avery, Jackson** 20.84 50 P P 02 36 37.1 -2.4
baz=238
X40A **Basin Creek Fa** 20.84 41 P P 02 36 37.5 -1.9
baz=229
CBKS **Cedar Bluff** 20.86 22 P P 02 36 39.1 -0.7
baz=206
345A **Thompson Farm,** 20.95 52 P P 02 36 37.1 -3.6
baz=241
JLU **Jordanelle** 20.98 356 *e*P P 02 36 42.2 +1.0
134nm,2.0s
X41A **Kaden, Bauxite** 21.05 42 P P 02 36 39.5 -2.2
baz=229
VBMS **Vicksburg** 21.05 50 *e*P P 02 36 43.5 +1.7
175nm,1.8s
Z43A **Armstrong Fami** 21.09 46 P P 02 36 40.0 -2.2
baz=234
CTU **Camp Tracy** 21.10 355 *e*P P 02 36 44.5 +2.1
46nm,1.4s
W40A **Ferguson Farm,** 21.17 40 P P 02 36 39.7 -3.3
baz=227
W40A **Ferguson Farm,** 21.17 40 *e*P P 02 36 41.8 -1.2
43nm,1.2s
446A **Poplarville** 21.21 54 P P 02 36 40.9 -2.6
baz=243
V39A **Pettigrew** 21.28 37 P P 02 36 42.6 -1.6
baz=224,SNR=6.0
PNTR **Pine Nut** 21.32 338 *e*P P 02 36 48.9 +4.1
22nm,0.9s
UALR **University of** 21.34 42 *e*P P 02 36 47.0 +2.2
67nm,1.5s
144A **Alexander Plac** 21.34 49 P P 02 36 41.7 -3.1
baz=237
R34A **Isabella, Hill** 21.39 27 P P 02 36 43.9 -1.4
baz=212
N23A **Red Feather La** 21.40 7 P P 02 36 44.5 -1.3
baz=188,SNR=9.1
N23A **Red Feather La** 21.40 7 *e*P P 02 36 47.6 +1.8
29nm,1.3s
245A **Little AP, Sta** 21.41 51 P P 02 36 43.3 -2.3
baz=239
346A **Big Creek Wild** 21.41 53 P P 02 36 42.7 -3.0
baz=241
HHAR **Hobbs** 21.43 36 *e*P P 02 36 44.2 -1.6
49nm,1.7s
BGU **Big Grassy Mou** 21.46 352 *e*P P 02 36 46.3 0.0
20nm,1.2s
TCUT **Toone Canyon** 21.49 356 *e*P P 02 36 52.1 +5.4
46nm,1.0s
VCNR **Virginia City** 21.52 338 *e*P P 02 36 50.3 +3.3
29nm,1.1s
X301 **Greenbrier Sit** 21.60 40 *e*P P 02 36 49.0 +1.3
47nm,1.4s
X42A **Stuttgart** 21.65 43 P P 02 36 45.3 -2.8
baz=231
W41B **Gary Mavity, V** 21.65 41 P P 02 36 45.7 -2.5
baz=228,SNR=5.5
145A **Houston Renfro** 21.68 50 P P 02 36 45.5 -3.0
baz=238
Z44A **Pea Ridge, Bel** 21.69 47 P P 02 36 46.1 -2.5
baz=236
WHAR **Wooly Hollow** 21.71 41 *e*P P 02 36 47.4 -1.4
70nm,1.6s
AFDM **Forest Hills D** 21.71 335 *e*P P 02 36 51.0 +2.2
13nm,1.3s
Y43A **Makayla and Ka** 21.72 45 P P 02 36 45.7 -3.2
baz=234
U39A **Green Forest** 21.76 37 P P 02 36 46.8 -2.6
baz=224
447A **Lucedale** 21.76 55 P P 02 36 46.3 -3.2
baz=244
SPUT **South Promonto** 21.77 354 *e*P P 02 36 49.8 +0.2
96nm,1.9s
PAHR **Pah Rah Range** 21.79 339 *e*P P 02 36 52.1 +2.3
41nm,1.6s
T38A **Diamond** 21.79 34 P P 02 36 47.3 -2.4
baz=221
BMN **Battle Mountai** 21.80 344 *e*P P 02 36 52.2 +2.2
68nm,2.0s
PHWY **Pilot Hill** 21.86 8 *e*P P 02 36 52.2 +1.4
74nm,1.6s
R35A **Emporia Munici** 21.86 29 P P 02 36 48.1 -2.4
baz=215
246A **Jackson Lee, B** 21.96 52 P P 02 36 48.4 -3.2
baz=241
HWUT **Hardware Ranch** 21.99 356 *e*P P 02 36 53.4 +1.4
43nm,1.5s
Q34A **Chapman** 22.04 27 P P 02 36 49.5 -2.8
baz=212
RWWY **Rawlins** 22.07 4 *e*P P 02 36 55.1 +2.1
111nm,1.8s
X43A **Marvell** 22.11 44 P P 02 36 50.1 -3.0
baz=232
V41A **Mountainview** 22.12 40 P P 02 36 49.9 -3.4
baz=228
347A **Saraland** 22.12 54 P P 02 36 49.7 -3.5
baz=243
OGNE **Ogallala** 22.16 15 P P 02 36 52.0 -1.7
baz=198
W42A **Bald Knob** 22.17 42 P P 02 36 51.3 -2.4
baz=230
Y44A **Strider, Charl** 22.23 46 P P 02 36 51.1 -3.3
baz=235
Z45A **Winona** 22.26 48 P P 02 36 51.3 -3.5
baz=237
HVU **Hansel Valley** 22.27 353 *e*P P 02 36 56.0 +1.0
56nm,1.5s
T39A **Clever** 22.28 36 P P 02 36 51.1 -3.8
baz=223,SNR=7.1
146A **Union** 22.33 50 P P 02 36 51.6 -3.9
baz=239
KSU1 **Kansas State U** 22.33 27 P P 02 36 53.0 -2.5
baz=213
247A **Quitman** 22.37 52 P P 02 36 52.8 -3.2
baz=241
Q35A **Mercer Eighty,** 22.38 28 P P 02 36 53.9 -2.1
baz=214
448A **Bay Minette** 22.43 56 P P 02 36 53.1 -3.6
baz=245
ORV **Oroville** 22.44 335 *e*P P 02 36 57.9 +1.3
47nm,1.8s
S38A **Stockton** 22.44 34 P P 02 36 54.7 -2.0
baz=221,SNR=6.5
W43A **Forest City** 22.57 43 P P 02 36 54.3 -3.8
baz=232
X44A **Crenshaw** 22.59 45 P P 02 36 55.5 -2.8
baz=234
V42A **Cord** 22.60 41 P P 02 36 55.5 -2.8
baz=229
P34A **Walnut Farm, R** 22.61 26 P P 02 36 56.6 -1.9
baz=212
348A **Jackson** 22.61 55 P P 02 36 55.4 -3.2
baz=244
U41A **Viola** 22.63 39 P P 02 36 55.7 -3.1
baz=227
O33A **Hebron** 22.76 24 P P 02 36 57.7 -2.4
baz=209
S39A **Bolivar** 22.80 34 P P 02 36 58.6 -1.8
baz=222
T40A **Mansfield** 22.85 37 P P 02 36 58.1 -2.9
baz=224
R38A **Fenwick Farm,** 22.86 33 P P 02 36 58.0 -3.1
baz=220
U42A **Revenden** 23.05 40 P P 02 37 00.3 -2.7
baz=228,SNR=10
X45A **UM Field Stati** 23.05 46 P P 02 37 00.5 -2.6
baz=235
BW06 **Boulder Array** 23.07 360 P P 02 37 03.2 -0.3
baz=179
BW06 **Boulder Array** 23.07 360 *e*P P 02 37 05.4 +1.9
28nm,1.8s
PD31 **Pinedale Array** 23.07 360 *e*P P 02 37 05.3 +1.8
PDAR **Pinedale Array** 23.07 360 P P 02 37 01.1 -2.5
0.9nm,0.6s,baz=170,slow=9.0,SNR=9.5
PDAR LR LR 02 45 45.9
comp=Z,698nm,19.2s,baz=175,slow=36
PDAR **Pinedale Array** 23.07 360 *e*P P 02 37 02.8 -0.7
K22A **Casper** 23.08 5 P P 02 37 02.9 -0.6
baz=186,SNR=17
K22A **Casper** 23.08 5 *e*P P 02 37 04.8 +1.3
151nm,1.6s
OXF **Oxford** 23.09 46 P P 02 37 00.5 -3.0
baz=235
V43A **Jonesboro** 23.11 42 P P 02 37 00.9 -2.8
baz=231
Y46A **Houston** 23.12 48 P P 02 37 01.1 -2.8
baz=237
Q37A **Longview Farm,** 23.13 31 P P 02 37 01.3 -2.6
baz=218
BRAL **Brewton** 23.17 56 P P 02 37 00.9 -3.4
baz=245
S40A **Lebanon** 23.18 36 P P 02 37 02.2 -2.1
baz=224,SNR=5.7
O03D **Paynes Creek** 23.20 335 P P 02 37 04.5 -0.1
baz=148
T41A **Mountain View** 23.20 38 P P 02 37 02.0 -2.7
baz=226
O34A **Beatrice** 23.20 25 P P 02 37 03.2 -1.5
baz=211
Z47A **Carrollton** 23.33 50 P P 02 37 04.1 -1.9
baz=240
P36A **Good Intent, A** 23.37 28 P P 02 37 04.7 -1.6
baz=215
R39A **Chumby, Stover** 23.41 34 P P 02 37 04.7 -2.0
baz=222
148A **Greensboro** 23.42 52 P P 02 37 04.9 -2.0
baz=242
249A **Camden** 23.45 54 P P 02 37 04.5 -2.7
baz=244
U43A **Rector** 23.57 41 P P 02 37 06.3 -2.0
baz=230
T42A **Van Buren** 23.59 39 P P 02 37 06.2 -2.3
baz=227
S41A **Jillco Farms,** 23.59 37 P P 02 37 06.4 -2.2
baz=225
Q38A **Cooks Store, C** 23.60 32 P P 02 37 06.9 -1.7
baz=219
W45A **Hickory Valley** 23.61 45 P P 02 37 06.1 -2.7
baz=234
X46A **Booneville** 23.68 47 P P 02 37 06.9 -2.5
baz=236
REDW **Red Top Meadow** 23.70 357 *e*P P 02 37 11.3 +1.5
70nm,1.7s
P37A **Lathrop** 23.74 30 P P 02 37 08.0 -1.9
baz=217
Z48A **Northport** 23.79 50 P P 02 37 07.3 -3.2
baz=240
SNOW **Snow King Moun** 23.80 358 *e*P P 02 37 10.8 0.0
102nm,1.8s
R40A **Maddies Statio** 23.80 35 P P 02 37 07.6 -3.0
baz=223
PBMO **Poplar Bluff** 23.82 40 *e*P P 02 37 09.8 -1.0
29nm,1.5s
TPAW **Teton Pass** 23.83 357 *e*P P 02 37 11.6 +0.5
94nm,1.9s
N34A **Lincoln** 23.84 25 P P 02 37 09.8 -1.1
baz=211
Y47A **UCPPARC, Winfie** 23.84 49 P P 02 37 08.6 -2.4
baz=239
O36A **Bolckow** 23.89 28 P P 02 37 10.1 -1.4
baz=215
LOHW **Long Hollow** 23.94 358 *e*P P 02 37 12.5 +0.4
88nm,2.0s
451A **Vernon** 23.98 58 P P 02 37 09.9 -2.4
baz=248
FXWY **Fox Creek** 23.98 357 *e*P P 02 37 14.0 +1.5
12nm,1.3s
149A **Jones** 23.98 53 P P 02 37 10.2 -2.2
baz=243
Q39A **Willow Grove F** 23.99 33 P P 02 37 10.6 -1.7
baz=220
LRAL **Lakeview Retre** 24.03 52 P P 02 37 10.5 -2.3
baz=242
WVOR **Wild Horse Val** 24.05 343 *e*P P 02 37 14.3 +1.2
81nm,1.9s
MOD **Modoc Plateau** 24.07 340 *e*P P 02 37 15.1 +1.8
94nm,1.8s
MOOW **Moose Ponds** 24.08 358 *e*P P 02 37 14.0 +0.6
16nm,1.6s
U44A **Portageville** 24.10 42 P P 02 37 11.0 -2.4
baz=231
V45A **Humboldt** 24.10 44 P P 02 37 11.4 -2.0
baz=233
T43A **Greenville** 24.10 40 P P 02 37 10.8 -2.7
baz=229
250A **Grady** 24.11 55 P P 02 37 11.0 -2.6
baz=245
W46A **Michie** 24.14 46 P P 02 37 10.2 -3.5
baz=236,SNR=5.5
X47A **Russelville** 24.16 48 P P 02 37 11.2 -2.8
baz=237
CCM **Cathedral Cave** 24.20 37 P P 02 37 11.4 -2.9
baz=225
N35A **Tabor** 24.20 26 P P 02 37 12.1 -2.2
baz=213
U44B **Burton Farm, H** 24.21 42 P P 02 37 12.0 -2.4
baz=232
HLID **Hailey** 24.24 351 P P 02 37 15.0 +0.2
HLID **Hailey** 24.24 351 *e*P P 02 37 15.2 +0.3
43nm,1.8s
PLAL **Pickwick Lake** 24.26 47 *e*P P 02 37 13.2 -1.7
15nm,1.0s
S42A **Caledonia** 24.26 38 P P 02 37 12.1 -2.8
baz=227
R41A **Rosebud** 24.30 36 P P 02 37 12.5 -2.7
baz=225
MFID **Camas Ranch** 24.33 349 *e*P P 02 37 17.7 +2.1
64nm,1.8s
Y48A **Jasper** 24.33 50 P P 02 37 13.2 -2.4
baz=240
351A **Pinckard** 24.34 57 P P 02 37 13.6 -2.1
baz=247
M34A **Aspy Farms, Fr** 24.38 24 P P 02 37 15.1 -0.9
baz=210
Q40A **Laux Farm, Aux** 24.42 34 P P 02 37 15.1 -1.2
baz=222
P39B **Salisbury** 24.44 32 P P 02 37 15.0 -1.4
baz=220
452A **Marianna** 24.52 58 P P 02 37 14.3 -3.0
baz=248
MCID **Moose Creek** 24.54 357 *e*P P 02 37 18.5 +0.8
MCID *ep*P sP 02 37 28.8 +6.9
M02C **Callahan** 24.55 335 P P 02 37 17.7 +0.1
baz=148
S43A **Fulton Ridge,** 24.55 39 P P 02 37 15.7 -1.9
baz=228
150A **Eclectic** 24.57 54 P P 02 37 15.5 -2.2
baz=244
R42A **Luebbering** 24.61 37 P P 02 37 16.4 -1.7
baz=226
K31A **O'Neill** 24.62 19 P P 02 37 18.7 +0.6
baz=204
V46A **Holladay** 24.69 45 P P 02 37 16.9 -1.9
baz=235
X48A **Hartselle** 24.70 49 P P 02 37 16.9 -2.0
baz=239
H17A **Grant Village** 24.72 358 P P 02 37 19.1 -0.2
baz=177
H17A **Grant Village** 24.72 358 *e*P P 02 37 24.9 +5.6
36nm,1.8s
W47A **Westpoint** 24.74 47 P P 02 37 17.8 -1.5
baz=236
251A **Midway** 24.82 55 P P 02 37 17.9 -2.1
baz=246
P40A **Paris** 24.83 33 P P 02 37 18.4 -1.6
baz=222,SNR=5.2
RSSD **Black Hills** 24.83 9 P P 02 37 19.9 -0.3
baz=192
RSSD **Black Hills** 24.83 9 *e*P P 02 37 22.4 +2.1
9.7nm,1.1s
Q41A **Truxton** 24.84 35 P P 02 37 18.9 -1.2
baz=224
Y49A **Blount Mountai** 24.86 51 P P 02 37 17.9 -2.5
baz=241
J08A **Circle Bar Ran** 24.87 344 *e*P P 02 37 23.3 +2.8
20nm,1.4s
LKWY **Lake** 24.88 358 *e*P P 02 37 18.1 -2.7
78nm,1.5s
K32A **Verdigre** 24.90 20 P P 02 37 20.4 -0.3
baz=206
Z50A **Ashland** 24.93 52 P P 02 37 19.3 -1.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=243						
U46A	Springville	24.98	44	P	P	02 37 19.6	-1.8
	baz=234						
YNR	Norris Junctio	25.04	358	eP	P	02 37 28.6	+6.5
	42nm,1.8s						
151A	Opelika	25.07	54	P	P	02 37 19.5	-2.7
	baz=245						
WVT	Waverly	25.07	45	P	P	02 37 19.7	-2.5
	baz=234						
YHB	Horse Butte	25.10	357	eP	P	02 37 26.1	+3.4
	12nm,1.1s						
R43A	Red Bud	25.11	38	P	P	02 37 21.0	-1.6
	baz=227						
V47A	Nunnelly	25.11	45	P	P	02 37 20.2	-2.4
	baz=236						
YHH	Holmes Hill	25.12	358	eP	P	02 37 25.6	+2.7
	18nm,1.4s						
N38A	Joes South For	25.21	30	P	P	02 37 23.1	-0.4
	baz=218						
MCMT	McKenzie Canyo	25.30	354	eP	P	02 37 27.5	+3.0
JTS	JuntasAbangare	25.33	108	LR	LR	02 45 54.0	
	comp=Z,184nm,20.0s,baz=347,slow=33						
O40A	La Belle	25.36	33	P	P	02 37 23.9	-0.9
	baz=221						
RLMT	Red Lodge	25.43	0	P	P	02 37 25.8	+0.2
	baz=180						
P41A	Barry, Barry	25.45	34	P	P	02 37 25.0	-0.6
	baz=223						
S45A	Carrier Mills	25.53	41	P	P	02 37 24.9	-1.4
	baz=231						
T46A	Princeton	25.57	43	P	P	02 37 24.7	-2.0
	baz=233						
K34A	Le Mars	25.58	23	P	P	02 37 26.6	-0.2
	baz=210						
R44A	Waltonville	25.59	39	P	P	02 37 25.8	-1.1
	baz=229						
U47A	Clarksville	25.61	45	P	P	02 37 25.5	-1.6
	baz=235,SNR=7.8						
655A	Horseshoe Beac	25.66	62	P	P	02 37 26.0	-1.7
	baz=253						
X50A	Fort Payne	25.70	50	P	P	02 37 25.9	-2.1
	baz=241						
P42A	Winchester	25.77	35	P	P	02 37 27.7	-0.9
	baz=225						
J33A	Davis	25.82	21	P	P	02 37 28.6	-0.4
	baz=207						
O41A	Passleys Farm,	25.87	34	P	P	02 37 28.8	-0.6
	baz=223						
BOZ	Bozeman (W)	25.97	356	P	P	02 37 31.8	+1.3
	baz=175						
I31A	Royce, Wessing	25.97	18	P	P	02 37 29.3	-1.0
	baz=204						
BMO	Blue Mountains	26.01	347	eP	P	02 37 32.5	+1.8
	27nm,1.8s						
T47A	Sharon Grove	26.04	44	P	P	02 37 29.5	-1.6
	baz=234						
Q44A	Meyer Farm, Va	26.06	38	P	P	02 37 30.6	-0.6
	baz=228						
R45A	Skylar, Fairfi	26.10	40	P	P	02 37 30.7	-0.8
	baz=230						
K36A	Gilmore City	26.18	26	P	P	02 37 29.0	-3.2
	baz=213						
455A	Stateville	26.23	60	P	P	02 37 31.9	-0.9
	baz=251						
I32A	Karley and Nic	26.29	20	P	P	02 37 33.1	-0.2
	baz=206						
N41A	Harden Midland	26.31	33	P	P	02 37 32.7	-0.8
	baz=222						
H31A	Wolsey	26.40	18	P	P	02 37 33.9	-0.3
	baz=203						
R46A	Gibon Southern	26.52	41	P	P	02 37 34.4	-0.9
	baz=232						
T48A	Bowling Green	26.58	44	P	P	02 37 34.1	-1.8
	baz=235						
H32A	Carlson Farm,	26.73	19	P	P	02 37 36.2	-1.1
	baz=205						
J36A	Seneca 1, Swea	26.80	25	P	P	02 37 37.3	-0.5
	baz=212						
N42A	Yates City	26.83	34	P	P	02 37 37.9	-0.3
	baz=223						
M41A	Milan	26.97	32	P	P	02 37 38.1	-1.2
	baz=222						
S48A	Wiedeman Farm,	27.11	44	P	P	02 37 38.6	-2.2
	baz=235						
LAO	LASA Array	27.12	5	P	P	02 37 40.3	-0.4
	baz=186						
LAO	LASA Array	27.12	5	eP	P	02 37 41.6	+0.9
	50nm,1.5s						
R47A	Wooly Knot Far	27.18	42	P	P	02 37 39.0	-2.4
	baz=233						
658A	Bunnell	27.32	64	P	P	02 37 40.1	-2.6
	baz=256						
MSO	Missoula	27.39	353	P	P	02 37 44.0	+0.8
	baz=170						
M42A	Sheffield	27.43	33	P	P	02 37 42.7	-0.8
	baz=223						
L41A	Preston	27.51	31	P	P	02 37 43.5	-0.8
	baz=221						
F31A	Hecla	27.73	17	P	P	02 37 44.9	-1.2
	baz=203						
H35A	Sunnyside Ranc	27.78	23	P	P	02 37 44.6	-2.0
	baz=210						
L42A	Oliver, Polo	27.87	33	P	P	02 37 46.4	-1.1
	baz=222						
P47A	Martinsville	28.07	40	P	P	02 37 47.5	-1.8
	baz=232						
TZTN	Tazewell	28.21	48	P	P	02 37 49.3	-1.3
	baz=240						
G35A	Watkins	28.35	22	P	P	02 37 51.8	+0.1
	baz=210						
E31A	Nome	28.47	17	P	P	02 37 51.7	-1.1
	baz=203						
L43A	Garden Prairie	28.48	33	P	P	02 37 52.0	-0.8
	baz=224						
K42A	Prairie Point,	28.60	32	P	P	02 37 53.9	-0.1
	baz=222						
G36A	St. Michael	28.64	23	P	P	02 37 53.6	-0.6
	baz=212						
E33A	Westby DABS, E	28.97	19	P	P	02 37 56.7	-0.5
	baz=206						
DGMT	Dagmar	29.08	7	P	P	02 37 58.6	+0.4
	baz=190						
NEW	Newport	29.25	349	P	P	02 38 01.0	+1.3
	baz=164						
C31A	Landman Farms,	29.65	16	P	P	02 38 02.2	-1.0
	baz=202						
SP2	Seward Park 2	29.77	342	eP	P	02 38 08.1	+3.9
B08A	Colville Reser	29.77	347	eP	P	02 38 06.9	+2.6
	34nm,1.8s						
C33A	Trail	30.16	18	P	P	02 38 07.4	-0.4
	baz=206						
B31A	Greenbush Farm	30.25	16	P	P	02 38 07.2	-1.3
	baz=202						
B32A	Ashes, Strandq	30.52	17	P	P	02 38 10.7	-0.2
	baz=204						
F40A	Park Falls	30.65	27	P	P	02 38 10.6	-1.5
	baz=217						
F41A	Three Lakes	30.95	28	P	P	02 38 13.8	-1.0
	baz=219						
B34A	Aery, Baudette	31.15	19	P	P	02 38 15.8	-0.7
	baz=207						
A33A	Warroad	31.34	18	P	P	02 38 17.1	-1.0
	baz=206						
MCWV	Mont Chateau	32.29	45	P	P	02 38 24.9	-1.7
	baz=240						
ULM	Lac du Bonnet	32.39	16	P	P	02 38 24.9	-2.5
	3.6nm,0.9s,baz=196,slow=7.4,SNR=5.2						
ULM				LR	LR	02 51 06.2	
	comp=Z,388nm,20.9s,baz=208,slow=36						
ULM	Lac du Bonnet	32.39	16	eP	P	02 38 25.1	-2.3
	17nm,1.3s						
EDM	Edmonton	33.67	356	eP	P	02 38 39.5	+0.9
	32nm,1.4s						
FFC	Flin Flon	35.49	7	eP	P	02 38 54.4	+0.2
	43nm,1.9s						
N59A	State Game Lan	35.63	46	P	P	02 38 54.9	-0.8
	baz=243						
OTAV	Otavalo	35.91	119	eP	P	02 39 02.3	+3.5
	15nm,1.3s						
BINY	Binghamton	36.08	44	P	P	02 38 58.7	-0.8
	baz=242						
SDV	Santo Domingo	38.95	100	P	P	02 39 25.3	+1.0
	4.9nm,0.7s,baz=315,slow=13,SNR=6.5						
SDV				LR	LR	02 56 12.1	
	comp=Z,211nm,20.0s,baz=308,slow=37						
SDV	Santo Domingo	38.95	100	eP	P	02 39 25.3	+1.0
	11nm,1.0s						
FCC	Fort Churchill	40.64	12	eP	P	02 39 36.0	-1.6
	22nm,1.4s						
TAOE	Nuku Hiva Isla	41.47	230	eLR	LR	02 51 09.3	
	682nm,25.1s						
TAOE	Nuku Hiva Isla	41.47	230	eT	T	03 23 54.0	
	36nm,0.2s						
PKME	Peaks-Kenny Pk	41.78	43	P	P	02 39 46.1	-1.1
	baz=246						
YKA	Yellowknife Ar	42.98	356	P	P	02 39 55.4	-1.3
	0.7nm,0.7s,baz=176,slow=8.0,SNR=19						
YKA				LR	LR	02 57 59.8	
	comp=Z,47nm,18.6s,baz=180,slow=36						
YKW3	Yellowknife Ar	43.05	356	eP	P	02 39 57.3	0.0
	30nm,2.0s						
RPN	Rapa Nui	46.48	180	LR	LR	02 55 19.6	
	comp=Z,220nm,20.7s,baz=9.0,slow=30						
RKT	Rikitea	49.28	212	eT	T	03 33 40.7	
	5.1nm,0.3s						
EGAK	Eagle	49.83	343	eP	P	02 40 52.2	+1.7
	4.3nm,0.8s						
INK	Inuvik	50.97	349	LR	LR	03 02 45.6	
	comp=Z,306nm,20.1s,baz=150,slow=36						
INK	Inuvik	50.97	349	eP	P	02 40 58.8	-0.2
	13nm,0.9s						
IL1	Eielson Array	51.53	341	eP	P	02 41 04.4	+1.1
ILAR	Eielson Array	51.53	341	P	P	02 41 02.8	-0.6
	1.3nm,0.7s,baz=145,slow=6.8,SNR=24						
ILAR				LR	LR	03 01 25.3	
	comp=Z,154nm,20.8s,baz=136,slow=34						
ILB	Eielson Array	51.53	341	eP	P	02 41 04.8	+1.6
TRF	Thorofare Moun	51.80	338	eP	P	02 41 08.1	+2.6
	73nm,1.9s						
PPLA	Purkeypile	52.16	337	eP	P	02 41 10.8	+2.7
PPLA				epP	sP	02 41 22.4	+10
SAML	Samuel	53.63	118	eP	P	02 41 19.2	-0.3
	10nm,1.5s						
LPAZ	La Paz	54.01	129	P	P	02 41 23.5	+0.5
	2.4nm,0.8s,baz=11,slow=5.0,SNR=7.4						
LPAZ				LR	LR	03 01 10.8	
	comp=Z,444nm,21.5s,baz=314,slow=32						
LPAZ	La Paz	54.01	129	eP	P	02 41 23.8	+0.8
	4.3nm,0.8s						
PPT	Papeete	54.08	229	LR	LR	02 58 15.1	
	comp=Z,227nm,19.1s,baz=38,slow=29						
PPT2	Papeete2	54.09	229	eS	S	02 49 10.5	+11
	95nm,26.2s						
PPT2				eLR	LR	02 57 00.1	
	710nm,26.8s,baz=37						
TBI	Tubuai	57.91	224	eLR	LR	02 58 39.8	
	466nm,28.8s						
RAR	Rarotonga	63.86	233	LR	LR	03 02 07.8	
	comp=Z,306nm,21.8s,baz=78,slow=28						
CPUP	Villa Florida	68.10	130	P	P	02 42 58.0	+0.1
	2.2nm,0.7s,baz=336,slow=4.8,SNR=6.6						
CPUP				LR	LR	03 11 08.8	
	comp=Z,93nm,18.0s,baz=315,slow=34						
AFI	Afiamalu	69.86	246	LR	LR	03 05 46.3	
	comp=Z,358nm,19.0s,baz=72,slow=29						
PLCA	Paso Flores	70.06	150	P	P	02 43 11.6	+1.7
	2.3nm,0.9s,baz=24,slow=5.8,SNR=4.9						
PLCA				LR	LR	03 07 18.2	
	comp=Z,373nm,19.2s,baz=340,slow=30						
TIXI	Tiksi	80.82	344	eP	P	02 44 12.2	+1.1
	4.3nm,0.7s						
ARCES	ARCESS Array B	85.49	14	P	P	02 44 32.5	-2.8
	1.0nm,0.6s,baz=308,slow=5.9,SNR=5.1						
DZM	Mont Dzumac	92.06	247	eLR	LR	03 14 59.0	
	864nm,30.5s						
KLR	Kul'dur	92.65	325	LR	LR	03 23 10.0	
	comp=Z,46nm,19.2s,baz=223,slow=33						
WMQ	Urumqi	114.95	346	PKP	PKPdf	02 50 40.3	+1.2
WMQ				LR	LR		
	comp=Z,220nm,18.9s						
LZH	Lanzhou	116.29	330	ePKP	PKPdf	02 50 44.2	+2.2
LZH				sPKP		02 50 57.9	
LZH				LR	LR		
	comp=N,120nm,17.9s						
LZH				LR	LR		
	comp=E,120nm,18.2s						
LZH				LR	LR		
	comp=Z,150nm,20.0s						
WRA	Warramunga Arr	120.39	258	PKP	PKPdf	02 50 49.5	-0.5
	0.5nm,0.6s,baz=78,slow=2.9,SNR=3.5						
CD2	Chengdu	120.52	327	PKP	PKPdf	02 50 50.5	+0.4
KSH	Kashi	120.96	355	ePKP	PKPdf	02 50 53.0	+2.2
ASAR	Alice Springs	121.46	254	PKP	PKPdf	02 50 51.2	-0.8
	0.6nm,0.7s,baz=78,slow=2.2,SNR=5.5						

KRSC 06 02:37:27.7±1.1**, 50°.41N**×**157°.05E, h31**km±17km**, ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.66	295	eP	Pb	02 37 40.7	0.0
SKR				eS	Sb	02 37 49.6	0.0
PAU	Pauzhetka	1.07	352	i P	Pb	02 37 48.3	+0.6
PAU				eS	Sb	02 38 02.9	+1.5
KDTR	Khodutka, Kamc	1.55	24	eP	Pb	02 37 55.3	-0.4
KDTR				eS	Sb	02 38 15.1	+0.2
ASAK	Asacha	2.05	15	eP	Pb	02 38 02.5	-1.8
RUS	Russkaya	2.23	24	eP	Pn	02 38 04.3	+1.8
RUS				eS	Sn	02 38 31.2	+2.3
KRMR	Karymshinskiy	2.52	15	eP	Pn	02 38 08.4	+1.9
KRMR				eS	Sn	02 38 39.1	+3.0
UGLR	Uglovaya	3.02	21	eP	Pn	02 38 16.5	+3.1
AVH	Avacha	3.05	19	eP	Pb	02 38 18.1	-3.2
SDLR	Sedlovina	3.09	21	eP	Pn	02 38 17.5	+3.0
KRX	Arik	3.12	18	eP	Pn	02 38 18.2	+3.3
GNL	Ganaly	3.34	9	eP	Pn	02 38 21.8	+3.9

*MOS **06** 02:52:39.4±1.0, 8°.53N×93°.78E, h17km, mb5.7/93, MS4.8/47, Error ellipse: s-maj=7.5km s-min=3.9km az=116.9*

*BJI **06** 02:52:41.1, 8°.30N×93°.56E, h42km, mb5.0/78, mB5.3/67, Ms5.4/87, Ms7 5.1/77*

*NEIC **06** 02:52:42.0±1.7, 8°.57N×93°.69E, h17km±10km, mb5.5/125, MS5.0/100, Error ellipse: s-maj=4.9km s-min=3.5km az=220.0*

*ISCJB **06** 02:52:42.3±0.4, 8°.51N±0°.02×93°.71E±0°.02, h34km±3km, mb5.3/244, MS5.0/163, Error ellipse: s-maj=3.6km s-min=2.5km az=40.9*

*GCMT **06** 02:52:42.0±0.1, 8°.58N×93°.88E, h13km, MW5.3/101, Moment Tensor Solution. s67,c108; s101,c181; Duration: $1^{s}2$ Moment tensor: Scale 10^{17}Nm; M_{rr}-0.97±.03; $M_{\theta\theta}$-0.45±.02; $M_{\phi\phi}$1.41±.02; $M_{r\theta}$0.16±.07; $M_{\theta\phi}$0.29±.02; $M_{\phi r}$-0.46±.05; Best double couple: $M_0$1.32300×10^{17} NP1:ϕ_s351.00000°, δ57.00000°, λ-113.00000°. NP2:ϕ_s209.00000°, δ39.00000°, λ-59.00000°. Principal axes: T 1.5270, Plg10.0000°, Azm97.0000°; N -0.4100, Plg19.0000°, Azm4.0000°; P -1.1190, Plg68.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **06** 02:52:43.6±1.9, 8°.57N×93°.91E, h33km±13km, mb4.6/51, mb1 4.6/52, mb1mx4.6/70, mbtmp4.8/52, ML4.9/2, MS4.8/32, Ms1 4.8/32, ms1mx4.7/43 Error ellipse: s-maj=10.9km s-min=9.2km az=27.0*

*DJA **06** 02:52:45.3±0.4, 9°N±2°×9°4E±°, h38km±4km, M5.3/53, mb5.2/53, mB5.8/36, MLv5.5/7, Mw(mB)5.3/36, Mwp5.5/1*

*KLM **06** 02:52:46.7, 8°.53N×93°.74E, h35km, mb5.5*

ISC 06 02:52:43.3±0.3**, 8°.54N**±0°.03×**93°.67E**±0°.03**, h28**km±2km**, h28**km**:pP-P, n1082,** σ**$1^{s}84$**/1136**, mb5.4**/270**, MS5.0**/164**, 23C-47D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	3.23	344	eP	Pn	02 53 33.8	+1.7
PBA				eS	Sn	02 54 12.2	+2.5
LHMI	Lhok Sumawe	4.63	135	P	Pn	02 53 51.2	-0.2
LHMI	Lhok Sumawe	4.63	135	ePn	Pn	02 53 50.4	-1.0
PKDT	Phuket	4.66	98	P	Pn	02 53 49.1	-2.8
DGPR	DIGLIPUR	4.66	351	eP	Pn	02 53 54.8	+2.9
DGPR				ex	Sn	02 54 51.2	+6.1
MLSI	Meulaboh, Aceh	5.04	147	P	Pn	02 53 57.5	+0.4
SURT	Suratani	5.08	85	P	Pn	02 53 55.7	-2.0
TRTT	Trang	6.00	96	P	Pn	02 54 07.4	-2.9
	107nm,0.8s,4µm0.8nm						
TPTI		6.30	146	P	Pn	02 54 14.0	-0.4
	357nm,0.7s,10µm1.8nm						
KCSI	Kotacane, Aceh	6.44	140	P	Pn	02 54 19.7	+3.3
	2µm,1.1s,7.7nm						
TSI	Tuntungan	6.98	136	P	Pn	02 54 26.0	+2.2
	240nm,0.7s,7µm2.4nm						
SKLT	Songkhla	7.02	101	P	Pn	02 54 21.8	-2.5
	134nm,0.9s,3µm2.1nm						
PHET	Kaeng Krachan	7.29	53	P	Pn	02 54 27.1	-0.9
	135nm,0.9s						
KULM	Kulim	7.64	115	⇑P	Pn	02 54 30.5	-2.3
KULM	Kulim	7.64	115	ePn	Pn	02 54 30.2	-2.7
KULM				eSn	Sn	02 55 52.7	-5.9
PSI	Prapat	7.74	137	ePn	Pn	02 54 34.3	0.0
PSI				eSn	Sn	02 55 59.8	-1.3
PSI	Prapat	7.74	137	eP	Pn	02 54 34.3	0.0
PSI				e		02 55 59.8	
GSI	Gunungsitoli	8.17	151	P	Pn	02 54 39.9	-0.3
	82nm,1.0s,3µm						
GSI	Gunungsitoli	8.17	151	ePn	Pn	02 54 38.4	-1.7
IPM	Ipoh	8.35	118	ePn	Pn	02 54 41.6	-1.0
IPM				eSn	Sn	02 56 07.6	-8.4
UTHA	Uthaitani	8.97	38	P	Pn	02 54 51.6	+0.5
	88nm,0.8s,612nm0.3nm						
NAYO	Nakonayok	9.44	52	P	Pn	02 54 56.9	-0.6
	85nm,1.6s,2µm0.4nm						
CHBT	CHBT	9.48	63	P	Pn	02 55 00.4	+2.3
	244nm,0.4s,83µm1.3nm						
MNSI	Mandailing Nat	9.69	142	P	Pn	02 54 59.1	-1.8
SRAK	Srakaew	9.85	56	P	Pn	02 55 09.8	+6.7
PHIT	Phitsanulok	10.82	37	P	Pn	02 55 17.8	+1.4
	152nm,0.8s,1µm						
CHAI	Chaiyaphum	10.93	47	P	Pn	02 55 19.5	+1.5
	26nm,0.9s,360nm						
BKNI	Bangkinang	10.98	138	P	Pn	02 55 18.9	+0.3
CM01	Chiang Mai Arr	11.08	27	ePn	Pn	02 55 21.8	+1.7
CM31	Chiang Mai Arr	11.11	27	ePn	Pn	02 55 23.5	+3.0
CM31	Chiang Mai Arr	11.11	27	P	Pn	02 55 23.4	+3.0
CMAR	Chiang Mai Arr	11.11	27	Pn	Pn	02 55 19.9	-0.5
	8.0nm,0.3s,baz=213,slow=14,SNR=342						
CMAR				LR	LR	02 59 32.7	
	comp=Z,4µm,20.2s,baz=214,slow=37						
CHTO	Chiang Mai	11.42	26	P	Pn	02 55 27.7	+3.0
	626nm,1.4s,9µm						
CHTO	Chiang Mai	11.42	26	ePn	Pn	02 55 27.7	+3.0
CHTO	Chiang Mai	11.42	26	eP	Pn	02 55 27.7	+3.0
CHTO	Chiang Mai	11.42	26	Pn	Pn	02 55 27.7	+3.0
	SNR=41						
CHTO	Chiang Mai	11.42	26	P	Pn	02 55 27.7	+3.0
	SNR=41						
CMMT	Chiang Mai	11.42	26	P	Pn	02 55 26.6	+1.9
	140nm,1.4s,2µm						
LAMP	Lampang	11.49	30	P	Pn	02 55 28.7	+3.1
	63nm,0.9s,406nm						
PDSI	Padang	11.58	144	P	Pn	02 55 26.9	+0.1
	24nm,0.5s,7µm						
KGM	Kluang	11.59	123	⇓P	Pn	02 55 29.7	+2.7
KHON	Khomkaen	11.82	48	P	Pn	02 55 32.1	+1.9
	23nm,1.0s,2µm						
MYKOM	Kota Tinggi	12.15	123	ePn	Pn	02 55 36.0	+1.3
CMAI	Chiengmai2	12.46	24	P	Pn	02 55 43.4	+4.3
	563nm,1.9s,14µm						
PALK	Pallekele	12.91	265	Pn	Pn	02 55 46.9	+1.9
	1.4nm,0.3s,baz=116,slow=12,SNR=26						
PALK				Sn	Sn	02 58 03.6	-4.3
	7.1nm,0.3s,baz=116,slow=2.9,SNR=8.0						
PALK				LR	LR	03 00 17.7	
	comp=Z,12µm,21.9s,baz=114,slow=34						
PALK	Pallekele	12.91	265	i P	Pn	02 55 47.4	+2.3
PALK	Pallekele	12.91	265	Pn	Pn	02 55 47.0	+1.9
	SNR=13						
PALK	Pallekele	12.91	265	P	Pn	02 55 47.0	+1.9
	SNR=13						
SKNT	Sakolnakorn	13.09	49	P	Pn	02 55 47.5	+0.1
	35nm,1.3s						
VIS	Vishakhapatnam	13.58	313	eP	Pn	02 55 54.0	-0.2
VIS				ex	Sn	02 58 14.3	-10
MDRS	Chennai	13.93	290	eP	Pn	02 56 00.1	+1.1
MDRS				IAmb	IAmb	02 56 04.5	
	comp=Z,2µm,2.0s						
DSRI	Dabo	14.09	129	P	Pn	02 56 02.3	+1.2
MASI	Maura Aman, Be	14.41	143	P	Pn	02 56 02.3	-3.3
PVM	Polavaram	14.58	308	eP	Pn	02 56 08.2	+0.4
PVM				IAmb	IAmb	02 56 26.9	
	comp=Z,210nm,1.4s						
PVM				eS	Sn	02 58 38.6	-10
PVM				IVMs_BB	IVMs_BB	03 00 36.3	
	comp=Z,1µm,26.4s						
ADKI	Addanki	15.23	300	eP	Pn	02 56 18.2	+1.7
ADKI				IAmb	IAmb	02 56 33.1	
	comp=Z,74nm,0.8s						
ADKI				eS	Sn	02 58 52.1	-12
ADKI				IVMs_BB	IVMs_BB	03 01 31.0	
	comp=Z,2µm,22.9s						
MNAI	Manna	15.81	144	ePn	Pn	02 56 22.8	-1.4
	comp=Z,835nm,1.5s						
NJS	Nagarjunasagar	16.12	301	eP	Pn	02 56 28.5	+0.5
NJS				IAmb	IAmb	02 56 35.3	
	comp=Z,47nm,0.9s						
NJS				eS	Sn	02 59 15.9	-10
NJS				IVMs_BB	IVMs_BB	03 05 51.2	
	comp=Z,1µm,15.0s						
SRLM	Srisailam	16.27	299	eP	Pn	02 56 29.9	0.0
SRLM				IAmb	IAmb	02 56 41.0	
	comp=Z,78nm,0.8s						
SRLM				eS	Sn	02 59 16.9	-13
SRLM				IVMs_BB	IVMs_BB	03 02 00.9	
	comp=Z,1µm,22.6s						
PPBI	Pangkal Pinang	16.36	130	P	P	02 56 42.6	+8.8
TRD	Trivandrum	16.53	271	eP	Pn	02 56 31.4	-1.9
TRD				IAmb	IAmb	02 56 40.0	
	comp=Z,552nm,2.6s						
MDSI	Maura Dua	16.65	141	P	Pn	02 56 31.0	-3.8
BOK	Bokaro	16.90	335	eP	Pn	02 56 38.1	+0.2
BOK				IAmb	IAmb	02 56 59.9	
	comp=Z,70nm,0.6s						
LWLI	Liwa	16.99	142	P	P	02 56 50.1	+9.2
SHL	Shillong	17.02	354	eP	Pn	02 56 38.0	-1.6
SHL				IAmb	IAmb	02 56 40.7	
	comp=Z,502nm,1.9s						
HYB	Hyderabad	17.16	302	i P	Pn	02 56 42.0	+0.8
HYB				eS	Sn	02 59 52.0	+0.6
HYB	Hyderabad	17.16	302	eP	Pn	02 56 41.2	0.0
HYBB	Hyderabad (bro	17.16	302	eP	P	02 56 42.1	-0.6
HYBB				IAmb	IAmb	02 57 00.2	
	comp=Z,95nm,1.3s						
HYBB				eS	Sn	02 59 45.2	-6.2
HYBB				IVMs_BB	IVMs_BB	03 01 47.9	
	comp=Z,1µm,26.7s						
URV	Uravakonda	17.27	293	eP	P	02 56 43.7	-0.3
URV				IAmb	IAmb	02 56 48.7	
	comp=Z,274nm,1.7s						
URV				eS	Sn	02 59 43.7	-11
URV				IVMs_BB	IVMs_BB	03 04 36.5	
	comp=Z,2µm,15.4s						
RPR	Rampur	17.31	308	eP	Pn	02 56 43.4	+0.3
RPR				IAmb	IAmb	02 56 58.7	
	comp=Z,77nm,0.9s						
RPR				eS	Sn	02 59 46.4	-8.7
RPR				IVMs_BB	IVMs_BB	03 02 07.7	
	comp=Z,1µm,27.0s						
KSM	Kuching	17.99	112	⇑P	P	02 56 53.5	+1.6
KSM	Kuching	17.99	112	ePn	P	02 56 53.2	+1.3
	comp=Z,258nm,1.3s						
SRSP	Sriramsagar	18.10	306	eP	P	02 56 53.9	+0.9
SRSP				IAmb	IAmb	02 57 07.6	
	comp=Z,77nm,1.1s						
SRSP				eS	Sn	03 00 04.9	-9.3
SRSP				IVMs_BB	IVMs_BB	03 02 57.1	
	comp=Z,1µm,24.5s						
KMI	Kunming	18.62	27	P	Pn	02 57 01.4	+2.0
KMI				pP	sP	02 57 10.4	+0.3
KMI				sP	pP	02 57 16.6	+10
KMI				PP	PnPn	02 57 18.1	+6.4
KMI				S	Sn	03 00 23.0	-4.0
KMI				sS	sS	03 00 38.7	-3.4
KMI				SS	SnSn	03 00 49.9	+8.6
KMI				pmax	pmax		
	comp=Z,140nm,1.8s						
KMI				pmax	pmax		
	comp=Z,3µm,5.0s						
KMI				LR	LR		
	comp=Z,4µm,12.0s						
KMI				LR	LR		
	comp=Z,5µm,12.0s						
KMI				LR	LR		
	comp=Z,4µm,13.6s						
QIZ	Qiongzhong	18.83	55	P	Pn	02 57 02.0	+0.2

QIZ pP **sP** **02 57 12.9 +0.6**
QIZ S **S** **03 00 35.4 +1.6**
QIZ pmax pmax
comp=Z,66nm,2.2s
QIZ pmax pmax
comp=Z,3µm,5.6s
QIZ LR LR
comp=Z,20µm,13.1s
QIZ LR LR
comp=Z,7µm,14.0s
QIZ LR LR
comp=Z,12µm,10.8s
QIZ Qiongzhong 18.83 55 *e*P **Pn** **02 57 03.4 +1.6**
comp=Z,266nm,1.5s
KLRI Killari 19.11 301 *e*P **Pn** **02 57 06.6 +1.5**
KLRI IAmb IAmb 02 57 11.0
comp=Z,93nm,1.0s
KLRI *e*S **Sn** **03 00 33.0 -5.6**
KLRI IVMs_BB IVMs_BB 03 04 56.4
comp=Z,2µm,16.0s
ODAN Odare 19.17 343 *e*P **P** **02 57 04.5 -0.5**
comp=Z,139nm,0.8s
SBUM Sibu 19.42 107 *e*P **Pn** **02 57 08.7 -0.2**
comp=Z,145nm,1.7s
RAMN Ramite 19.50 341 *e*P **P** **02 57 08.6 0.0**
comp=Z,566nm,0.8s
TAPN Taplejung 19.54 344 *e*P **P** **02 57 09.5 +0.4**
comp=Z,626nm,0.8s
STKI Sintang 19.64 114 P **Pn** **02 57 11.0 -0.5**
JIRN Jiri 20.29 341 *e*P Pn 02 57 18.5 -0.9
comp=Z,1µm,1.2s
PKI Pulchoki 20.48 339 *e*P **P** **02 57 20.3 +1.0**
comp=Z,825nm,1.4s
PKIN Phulchoki 20.49 339 *e*P **P** **02 57 20.3 +0.9**
comp=Z,368nm,0.8s
GOA Goa 20.59 291 *e*P **P** **02 57 21.2 +0.9**
GOA IAmb IAmb 02 57 30.7
comp=Z,689nm,2.5s
DMN Daman 20.62 338 *e*P Pn 02 57 22.1 -1.1
comp=Z,977nm,1.2s
GUN Gumba 20.62 340 *e*P **P** **02 57 21.8 +0.9**
comp=Z,496nm,0.9s
LEM Lembang 20.65 137 LR LR 03 06 18.3
comp=Z,5µm,18.0s,baz=266,slow=40
LSA Lhasa 21.18 354 P **P** **02 57 27.1 +0.1**
LSA PP **PnPn** **02 57 56.6 +10**
LSA S Sn 03 01 25.7 -3.3
LSA pmax pmax
comp=Z,170nm,1.3s
LSA pmax pmax
comp=Z,120nm,3.4s
LSA LR LR
comp=Z,890nm,21.1s
LSA LR LR
comp=Z,1µm,14.8s
LSA LR LR
comp=Z,2µm,21.1s
LSA Lhasa 21.18 354 *e*P **P** **02 57 27.2 +0.1**
comp=Z,167nm,0.9s
LSA *e*S **S** **03 01 17.9 -3.7**
LSA LR LR
comp=Z,699nm,22.0s
LSA Lhasa 21.18 354 *e*P **P** **02 57 27.2 +0.1**
LSA *e*S **S** **03 01 17.9 -3.7**
LSA pmax pmax
comp=Z,167nm,0.9s
LSA MLR MLR
comp=Z,699nm,22.0s
CISI Cisompet, Garu 21.32 138 PFAKE 02 57 40.0 +12
CISI LR LR
comp=Z,4µm,18.0s
BHPL Bhopal 21.36 315 *e*P **P** **02 57 30.3 +1.7**
BHPL IAmb IAmb 02 57 40.0
comp=Z,2µm,3.1s
KOLN Koldanda 21.36 335 *e*P **P** **02 57 30.0 +1.2**
comp=Z,720nm,1.3s
POO Poona 21.65 299 *e*P **P** **02 57 33.5 +1.7**
GYA Guiyang 21.67 33⇓ *i*P **P** **02 57 32.6 +0.6**
GYA pP sP 02 57 44.0 +0.7
GYA PP **PnPn** **02 58 01.2 +7.9**
GYA S Sn 03 01 35.8 -4.5
GYA sS sS 03 01 44.8 +1.9
GYA SS **SnSn** **03 02 03.6 +7.7**
GYA ScP **ScP** **03 05 07.2 -1.1**
GYA pmax pmax
comp=Z,140nm,1.0s
GYA pmax pmax
comp=Z,800nm,5.0s
GYA LR LR
comp=Z,4µm,14.6s
GYA LR LR
comp=Z,4µm,14.6s
GYA LR LR
comp=Z,3µm,14.9s
DANN Dangsing 21.81 336 *e*P **P** **02 57 35.1 +1.5**
comp=Z,49nm,1.0s
PYUN Piuthan 21.91 334 *e*P **P** **02 57 35.6 +0.9**
comp=Z,732nm,1.3s
KKM Kota Kinabalu 22.50 95⇑ P **P** **02 57 42.8 +1.8**
KKM Kota Kinabalu 22.50 95 *e*P **P** **02 57 42.2 +1.2**
comp=Z,101nm,1.3s
KKM LR LR
comp=Z,3µm,20.0s
SMRI Semarang 22.79 132 P **P** **02 57 44.3 +0.4**
SMRI Semarang 22.79 132 *e*P **P** **02 57 46.6 +2.7**
comp=Z,310nm,1.0s
KDM Kudat 23.01 92⇓ P **P** **02 57 47.4 +1.2**
MTKI Muara Teweh, K 23.16 113 P **P** **02 57 47.9 +0.1**
MCO Taipa Grande 23.41 53 P **P** **02 57 52.0 +1.8**
SDKM Sandakan 23.52 95⇑ P **P** **02 57 51.9 +0.5**
TBJI Tambak Boyo 23.69 130 P P 02 58 02.2 +9.3
GZH Guangzhou 23.77 50⇓ *i*P **P** **02 57 58.6 +4.9**
GZH S **S** **03 02 17.4 +10**
GZH sS Sn 03 02 36.7 +6.2
GZH PcS **PcS** **03 05 15.7 -1.0**
PCJI Pacitan 24.10 133 P P 02 58 05.1 +8.3
CD2 Chengdu 24.17 22⇓ P **P** **02 57 57.0 -0.3**
CD2 pP sP 02 58 08.2 -0.8
CD2 sP pP 02 58 13.5 +7.9
CD2 PcP **PcP** **03 01 34.9 -3.0**
CD2 S **S** **03 02 12.9 -0.9**
CD2 sS sS 03 02 32.3 +5.0
CD2 pmax pmax
comp=Z,100nm,0.9s
CD2 pmax pmax
comp=Z,2µm,4.2s
CD2 LR LR
comp=Z,7µm,11.4s
CD2 LR LR
comp=Z,7µm,10.9s
CD2 LR LR
comp=Z,6µm,12.4s
PWJI Pagerwojo 24.44 132 P **P** **02 57 59.4 -0.5**
MYLDM Lahad Datu 24.87 96⇓ P **P** **02 58 05.3 +1.4**
MYLDM Lahad Datu 24.87 96 *e*P **P** **02 58 04.1 +0.2**
comp=Z,375nm,1.5s
MYLDM LR LR
comp=Z,5µm,21.0s
SMKI Samarinda 25.10 110 P P 02 58 18.3 +12
KMMI Kalianget 25.48 127 P P 02 58 21.0 +12
BLJI Banyuglugur 25.61 129 P **P** **02 58 11.0 +0.4**
GMJI Gumukmas 25.83 130 P P 02 58 24.9 +12
DDI Dehra Dun 26.13 328 *e*P **P** **02 58 16.4 +1.2**
DDI IAmb IAmb 02 58 19.4
comp=Z,388nm,1.6s
ENH Enshi 26.20 32 *e*P **P** **02 58 19.4 +3.6**
comp=Z,53nm,1.1s
ENH LR LR
comp=Z,2µm,20.0s
DGAR Diego Garcia 26.43 234 PFAKE 02 58 30.0 +12
DGAR LR LR
comp=Z,3µm,20.0s
JAGI Jajag, Banyuwa 26.50 129 P **P** **02 58 23.8 +5.2**
JAGI Jajag, Banyuwa 26.50 129 *e*P **P** **02 58 23.0 +4.4**
comp=Z,47nm,1.2s
JAGI LR LR
comp=Z,2µm,21.0s
H08S3 Diego Garcia H 26.53 233 T T 03 25 09.5
baz=53,slow=76
H08S2 Diego Garcia H 26.53 233 T T 03 25 08.8
baz=53,slow=76
H08S1 Diego Garcia H 26.55 233 T T 03 25 05.6
baz=53,slow=76
SRBI Singaraja 27.09 127 P **P** **02 58 21.6 -2.3**
SMLA Simla 27.24 328 *e*P **P** **02 58 26.1 +1.0**

SMLA IAmb IAmb 02 58 27.7
comp=Z,105nm,1.2s
TGY Tagaytay City 27.29 76 LR LR 03 08 47.6
comp=Z,3µm,18.8s,baz=256,slow=36
MPSI Mapaga 27.37 106 P **P** **02 58 27.1 +0.7**
TTSI Tana Toraja 28.50 113 P **P** **02 58 37.3 +0.7**
DHRM DHARAMSHALA 28.57 328 *e*P **P** **02 58 37.1 -0.2**
DHRM IAmb IAmb 02 58 45.0
comp=Z,75nm,1.0s
RCP Roxas 28.78 82⇓ *e*P **P** **02 58 40.1 +1.1**
QZH Quanzhou 28.82 53⇓ *i*P **P** **02 58 40.2 +0.9**
QZH S **S** **03 03 30.9 +3.3**
QZH pmax pmax
comp=Z,69nm,2.0s
QZH pmax pmax
comp=Z,490nm,5.1s
QZH LR LR
comp=Z,4µm,12.8s
QZH LR LR
comp=Z,5µm,15.5s
QZH LR LR
comp=Z,7µm,14.7s
LZH Lanzhou 28.95 17 *e*P **P** **02 58 41.2 +0.7**
LZH pP sP 02 58 52.4 +0.2
LZH sP pP 02 58 57.4 +8.7
LZH *e*S **S** **03 03 25.5 -4.2**
LZH sS sS 03 03 43.6 +0.2
LZH SS **SnSn** **03 04 59.0 +5.3**
LZH pmax pmax
comp=Z,53nm,1.2s
LZH pmax pmax
comp=Z,240nm,4.7s
LZH LR LR
comp=Z,3µm,14.2s
LZH LR LR
comp=Z,3µm,14.3s
LZH LR LR
comp=Z,4µm,16.6s
XAN Xi'an 29.00 27 P **P** **02 58 37.7 -3.2**
XAN pP pP 02 58 49.4 +0.3
XAN sP sP 02 58 55.9 +3.3
XAN PP **PnPn** **02 59 34.0 +0.6**
XAN S **S** **03 03 26.3 -4.1**
XAN pmax pmax
comp=Z,17nm,1.3s
XAN pmax pmax
comp=Z,360nm,5.5s
XAN LR LR
comp=Z,3µm,14.7s
XAN LR LR
comp=Z,3µm,16.9s
XAN LR LR
comp=Z,4µm,14.5s
WHN Wuhan 29.20 39⇑ *i*P **P** **02 58 43.8 +1.2**
WHN pP **sP** **02 58 54.3 0.0**
WHN S **S** **03 03 31.8 -1.7**
WHN LR LR
comp=Z,7µm,10.4s
WHN LR LR
comp=Z,3µm,7.3s
WHN LR LR
comp=Z,10µm,13.8s
MRSI Marisa 29.28 104 P **P** **02 58 43.8 +0.3**
BNSI Bone 29.33 115 P P 02 59 00.1 +16
APSI Ampana 29.42 107 P **P** **02 58 45.1 +0.3**
TPUB Ta-pu 29.71 57 PFAKE 02 59 00.0 +13
TPUB LR LR
comp=Z,4µm,18.0s
TWG Pinlang 29.88 58 *e*P **P** **02 58 48.5 -0.2**
comp=Z,2µm,2.0s
TWG LR LR
comp=Z,13µm,19.0s
SSLB Suanglung 30.19 57 *e*P **P** **02 58 53.6 +2.1**
comp=Z,92nm,1.4s
SSLB LR LR
comp=Z,5µm,19.0s
YULB Yu-li 30.30 58 *e*P **P** **02 58 54.8 +2.3**
comp=Z,156nm,1.4s
YULB LR LR
comp=Z,5µm,19.0s
LUWI Luwuk 30.53 107 P **P** **02 58 55.4 +0.9**
LUWI Luwuk 30.53 107 *e*P **P** **02 58 55.5 +0.9**
comp=Z,208nm,0.9s
LUWI LR LR
comp=Z,2µm,20.0s
NACB Ninganchiao 30.88 56 *e*P **P** **02 58 59.5 +1.9**
comp=Z,106nm,1.5s
NACB LR LR
comp=Z,6µm,19.0s
YHNB Yeheng 30.92 55 *e*P **P** **02 59 00.1 +2.1**
comp=Z,169nm,1.5s
YHNB LR LR
comp=Z,5µm,20.0s
TATO Taipei 31.14 55 PFAKE 02 59 10.0 +10
TATO LR LR
comp=Z,4µm,18.0s
KMSI Cibinong 31.21 103 P P 02 59 07.7 +7.1
GTA Gaotai 31.23 9⇓ *i*P **P** **02 59 00.7 +0.1**
GTA pP pP 02 59 08.7 -0.2
GTA sP sP 02 59 13.1 +0.8
GTA PcP **PcP** **03 01 55.7 +0.8**
GTA S **S** **03 04 02.9 -2.4**
GTA sS sS 03 04 19.6 +0.6
GTA ScP **ScP** **03 05 36.3 +0.2**
GTA SS **SnSn** **03 05 49.0 -0.1**
GTA ScS **ScS** **03 09 32.7 -0.8**
GTA pmax pmax
comp=Z,38nm,1.6s
GTA pmax pmax
comp=Z,290nm,6.2s
GTA LR LR
comp=Z,1µm,17.1s
GTA LR LR
comp=Z,950nm,18.1s
GTA LR LR
comp=Z,2µm,19.5s
DAV Davao City (W) 31.64 90 LR LR 03 12 33.9
comp=Z,1µm,20.7s,baz=324,slow=38
YOJ Yonaguni jima 32.17 57 PFAKE 02 59 20.0 +11
YOJ LR LR
comp=Z,4µm,18.0s
NJ2 Nanjing 33.07 41 *e*P **P** **02 59 16.7 0.0**
NJ2 pmax pmax
comp=Z,18nm,0.7s
NJ2 pmax pmax
comp=Z,620nm,5.6s
NJ2 LR LR
comp=Z,2µm,11.5s
NJ2 LR LR
comp=Z,3µm,9.6s
NJ2 LR LR
comp=Z,4µm,12.3s
MMRI Maumere 33.19 120 PFAKE 02 59 30.0 +12
MMRI LR LR
comp=Z,2µm,21.0s
TIY Taiyuan 33.64 27 *e*P **P** **02 59 22.5 +0.9**
TIY S **S** **03 04 39.7 -3.1**
TIY pmax pmax
comp=Z,290nm,6.8s
TIY LR LR
comp=Z,3µm,13.8s
TIY LR LR
comp=Z,4µm,10.9s
TIY LR LR
comp=Z,4µm,14.0s
SANI Sanana 33.89 107 P **P** **02 59 21.7 -2.4**
SSE Sheshan 34.08 45 P **P** **02 59 26.7 +1.2**
SSE S **S** **03 04 51.8 +2.2**
SSE pmax pmax
comp=Z,36nm,0.7s
SSE LR LR
comp=Z,1µm,13.3s
SSE LR LR
comp=Z,1µm,15.0s
KBL Kabul 34.36 322 *e*P **P** **02 59 29.0 +0.8**
comp=Z,25nm,0.9s
KBL LR LR
comp=Z,1µm,20.0s
KBL Kabul 34.36 322 *e*P **P** **02 59 29.0 +0.8**
KBL pmax pmax
comp=Z,25nm,0.9s
KBL MLR MLR
comp=Z,1µm,20.0s
TNTI Ternate 34.43 101 *e*P **P** **02 59 28.0 -0.8**
comp=Z,85nm,1.1s
KSH Kashi 34.68 336 P **P** **02 59 29.5 -1.2**

KSH sP sP 02 59 45.4 +2.9
KSH PcP **PcP** **03 02 04.9 +0.4**
KSH S **S** **03 04 52.1 -6.9**
KSH sS sS 03 05 12.0 -0.7
KSH SS **SnSn** **03 07 06.4 -6.4**
KSH pmax pmax
comp=Z,120nm,1.6s
KSH pmax pmax
comp=Z,300nm,6.2s
KSH LR LR
comp=Z,990nm,15.2s
KSH LR LR
comp=Z,2µm,19.2s
KSH LR LR
comp=Z,850nm,14.2s
LBMI Labuha 34.92 103 P P 02 59 46.7 +14
BATI Baumata 35.19 121 LR LR 03 15 15.8
comp=Z,2µm,20.9s,baz=294,slow=39
SOEI Soe 35.48 120 P P 02 59 48.5 +11
SOEI Soe 35.48 120 PFAKE 02 59 50.0 +12
SOEI LR LR
comp=Z,3µm,22.0s
WMQ Urumqi 35.53 353 P **P** **02 59 38.8 +0.9**
WMQ pP pP 02 59 47.3 +1.0
WMQ sP sP 02 59 54.6 +4.9
WMQ S **S** **03 05 09.8 -2.0**
WMQ PcS **PcS** **03 05 52.4 -1.5**
WMQ pmax pmax
comp=Z,130nm,2.3s
WMQ pmax pmax
comp=Z,1µm,3.7s
WMQ LR LR
comp=Z,2µm,19.3s
WMQ LR LR
comp=Z,3µm,24.9s
WMQ LR LR
comp=Z,2µm,20.9s
HHC Hu-ho-hao-te 35.89 23 *e*P **P** **02 59 41.0 -0.1**
HHC pP sP 02 59 54.2 +1.3
HHC sP pP 02 59 59.3 +10
HHC PP **PP** **03 01 08.1 +5.1**
HHC S **S** **03 05 15.3 -2.2**
HHC SS **SnSn** **03 07 37.5 -4.6**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,380nm,4.6s
HHC LR LR
comp=Z,2µm,11.0s
HHC LR LR
comp=Z,2µm,11.0s
HHC LR LR
comp=Z,2µm,10.9s
NRN Naryn 36.30 337 P **P** **02 59 47.4 +2.5**
NRN pmax pmax
comp=Z,416nm,1.8s
KDJ Kajisay 36.48 339 P **P** **02 59 47.1 +0.9**
KDJ pmax pmax
comp=Z,731nm,1.5s
WSAR Wadi Sarin 36.61 298 P **P** **02 59 47.9 +0.5**
comp=Z,12nm,1.0s,baz=170,slow=11,SNR=2.5
WSAR LR LR 03 13 33.5
comp=Z,2µm,21.9s,baz=116,slow=34
SATY Saty 36.90 341 *i*P **P** **02 59 48.6 -1.1**
comp=Z,672nm,1.2s
SATY *i* pP **pP** **02 59 58.1 +0.1**
SATY *i* PP **PP** **03 01 12.9 -1.1**
SATY *i* PcP **PcP** **03 02 10.2 -0.8**
SATY *e*S **S** **03 05 31.0 -1.9**
SATY *i* ScS **ScS** **03 10 01.2 -2.1**
ULHL Ulahol 36.92 338 P **P** **02 59 50.8 +0.8**
SNR=11
GIRL Giralia 36.96 147 P **P** **02 59 49.4 -0.9**
baz=37,SNR=6.7
MSAI Masohi 37.09 107 P **P** **02 59 51.1 -0.5**
KZA Kyzart 37.15 337 P **P** **02 59 52.8 +0.7**
SNR=41
KPKS Kokpek 37.18 342 *i*P **P** **02 59 50.8 -1.3**
comp=Z,149nm,1.2s
KPKS *i* S **S** **03 05 35.3 -1.8**
KPKS *i* ScS **ScS** **03 10 02.6 -2.2**
KPKS LR LR 03 17 12.2
comp=Z,198nm,16.2s
BJT Baijiatuau 37.23 29 *e*P **P** **02 59 54.0 +1.6**
comp=Z,50nm,1.4s
BJT LR LR
comp=Z,2µm,19.0s
BJT Baijiatuau 37.23 29 *e*P **P** **02 59 54.0 +1.6**
BJT pmax pmax
comp=Z,50nm,1.4s
BJT MLR MLR
comp=Z,2µm,19.0s
BJI Beijing 37.25 29⇓ *i*P **P** **02 59 53.2 +0.7**
BJI pP **sP** **03 00 04.9 +0.6**
BJI S **S** **03 05 44.3 +6.3**
BJI pmax pmax
comp=Z,27nm,1.3s
BJI pmax pmax
comp=Z,810nm,6.5s
BJI LR LR
comp=Z,3µm,13.7s
BJI LR LR
comp=Z,3µm,19.6s
BJI LR LR
comp=Z,5µm,62.5s
MDOK Medeo 37.44 340 *i*P **P** **02 59 52.7 -1.6**
comp=Z,885nm,1.2s
MDOK *i* S **S** **03 05 39.2 -2.0**
MDOK *i* ScS **ScS** **03 10 04.0 -2.3**
JOW Kunigami 37.47 57 PFAKE 03 00 10.0 +15
JOW LR LR
comp=Z,3µm,21.0s
AAA Alma-Ata 37.52 340 *i*P **P** **02 59 54.6 -0.3**
comp=Z,1µm,1.1s
AAA *i* S **S** **03 05 41.7 -0.6**
AAA LR LR 03 16 36.9
comp=Z,398nm,20.0s
AAA Alma-Ata 37.52 340 *i*P **P** **02 59 56.1 +1.1**
AAA *i* S **S** **03 05 44.8 +2.5**
AAA pmax pmax
comp=Z,500nm,2.1s
AAA smax smax
comp=E,800nm,6.1s
UCH Uchtor 37.56 336 P **P** **02 59 56.6 +0.8**
SNR=36
TKM2 Tokmak 2 37.74 338 P **P** **02 59 57.3 +0.3**
SNR=31
KBK Karagaybulak 37.76 337 P **P** **02 59 58.3 +1.3**
SNR=52
AML Almayashu 37.81 336 P **P** **02 59 58.8 +1.0**
SNR=133
BMNS Besmoynak 37.88 338 *i*P **P** **02 59 57.3 -0.8**
comp=E,704nm,1.2s
BMNS *i* pP **pP** **03 00 06.1 -0.3**
BMNS *i* S **S** **03 05 46.7 -1.1**
BMNS LR LR 03 17 00.7
comp=E,390nm,12.4s
AAK Ala-Archa 37.91 337 P **P** **02 59 59.4 +1.1**
comp=E,37nm,1.0s,baz=152,slow=7.4,SNR=72
AAK LR LR 03 17 44.2
comp=E,1µm,18.8s,baz=148,slow=40
AAK Ala-Archa 37.91 337 P **P** **02 59 59.5 +1.1**
SNR=63
AAK Ala-Archa 37.91 337 *e*P **P** **02 59 59.4 +1.1**
comp=E,90nm,1.3s
AAK *e*S **S** **03 05 51.3 +2.8**
AAK Ala-Archa 37.91 337 *d i*P **P** **02 59 59.2 +0.8**
AAK pmax pmax
comp=Z,71nm,1.3s
AAK Ala-Archa 37.91 337 P **P** **02 59 59.5 +1.1**
SNR=53
AAK Ala-Archa 37.91 337 P **P** **02 59 59.5 +1.1**
SNR=53
FRU Bishkek 38.03 337 *e*P **P** **03 00 00.0 +0.8**
FRU *e*PPP PPP 03 01 30.0
FRU *e* 03 02 18.0
FRU *e*S **S** **03 05 50.0 0.0**
FRU pmax pmax
comp=Z,190nm,2.1s
FRU smax smax
comp=N,80nm,1.8s
CHMS Chumysh 38.12 337 P **P** **03 00 00.6 +0.6**
SNR=24
EKS2 Erkin-Say 38.22 336 P **P** **03 00 02.2 +1.3**
SNR=30
KUU Kurty 38.32 340 *i*P **P** **02 59 58.7 -2.9**

KUU *i* S **S** **03 05 51.0 -3.4**
KUU *e*ScS **ScS** **03 10 07.6 -3.5**
USP Ospenovka 38.45 337 P **P** **03 00 03.2 +0.4**
SNR=36
SWI Sorong 38.61 102 P **P** **03 00 03.5 -0.9**
TDK Taldyqorghan 38.66 343 *i* P **P** **03 00 04.3 -0.1**
TDK *e*PcP **PcP** **03 02 16.3 +0.1**
TDK *e*S **S** **03 05 58.8 -0.5**
TDK *i* ScS **ScS** **03 10 11.9 -1.1**
MBWA Marble Bar 39.07 139 PFAKE 03 00 20.0 +12
MBWA LR LR
comp=Z,800nm,19.0s
UOSS Minazif 39.24 299 PFAKE 03 00 20.0 +10
UOSS LR LR
comp=Z,1μm,22.0s
DL2 Dalian 39.29 35 P **P** **03 00 11.4 +1.6**
DL2 S **S** **03 06 13.5 +4.5**
DL2 pmax pmax
comp=Z,46nm,1.0s
DL2 pmax pmax
comp=Z,660nm,5.6s
DL2 LR LR
comp=Z,2μm,13.0s
DL2 LR LR
comp=Z,2μm,13.5s
DL2 LR LR
comp=Z,2μm,15.4s
MK01 Makanchi Array 39.31 348 *e*P **P** **03 00 09.0 -0.9**
MK31 Makanchi Array 39.34 348 *e*P **P** **03 00 09.7 -0.5**
MK31 Makanchi Array 39.34 348 *e*P **P** **03 00 09.7 -0.5**
MK32 Makanchi Array 39.34 348 *e*P **P** **03 00 09.7 -0.4**
MK32 *e*ScP **ScP** **03 06 04.0 -1.1**
MKAR Makanchi Array 39.34 348 P **P** **03 00 09.7 -0.4**
comp=Z,11nm,0.7s,baz=163,slow=8.5,SNR=79
MKAR ScP **ScP** **03 06 04.0 -1.1**
comp=Z,1.6nm,0.9s,baz=134,slow=3.5,SNR=4.0
MKAR Makanchi Array 39.34 348 *e*P **P** **03 00 09.7 -0.4**
comp=Z,315nm,1.6s
MKAR Makanchi Array 39.34 348 *ce*P **P** **03 00 09.6 -0.5**
MKAR pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 39.42 347 *e*P **P** **03 00 10.3 -0.5**
comp=Z,29nm,1.4s
MAKZ *e*S **S** **03 06 06.0 -4.8**
MAKZ LR LR
comp=Z,700nm,21.0s
MAKZ Makanchi 39.42 347 *e*P **P** **03 00 10.3 -0.5**
MAKZ *e*S **S** **03 06 06.0 -4.8**
MAKZ pmax pmax
comp=Z,29nm,1.4s
MAKZ MLR MLR
comp=Z,700nm,21.0s
IUG Iuzhnay 39.42 332 *i* P **P** **03 00 10.5 -0.5**
comp=Z,791nm,1.2s
IUG *i* S **S** **03 06 09.9 -1.3**
IUG LR LR 03 16 56.9
comp=Z,494nm,17.1s
DZA Taraz 39.43 334 *e*P **P** **03 00 11.5 +0.5**
DZA *e*S **S** **03 06 11.0 -0.1**
ZSN Zaisan 39.49 351 *i* P **P** **03 00 10.4 -0.9**
comp=Z,159nm,1.5s
ZSN *e*S **S** **03 06 10.8 -1.1**
CHM Chimkent 39.76 332 *e*P **P** **03 00 13.7 0.0**
comp=Z,569nm,1.2s
CHM *e*PcP **PcP** **03 02 19.9 +0.2**
CHM *i* S **S** **03 06 15.5 -0.5**
CHM LR LR 03 15 46.4
comp=Z,382nm,19.6s
KKAR Karatay Array 39.96 333 *e*P **P** **03 00 16.0 +0.6**
KKAR Karatay Array 39.96 333 *e*P **P** **03 00 16.0 +0.6**
FAKI Fak Fak 40.12 105 P **P** **03 00 17.9 +0.9**
comp=Z,71nm,1.7s,comp=Z,1μm
FAKI Fak Fak 40.12 105 *e*P **P** **03 00 16.9 -0.1**
comp=Z,130nm,1.4s
BTLS Baital 40.13 338 *i* P **P** **03 00 15.6 -1.1**
comp=Z,290nm,1.2s
BTLS *e*PP **PP** **03 01 48.1 -1.3**
BTLS *e*PcP **PcP** **03 02 20.3 -0.6**
BTLS *i* S **S** **03 06 19.8 -1.7**
BTLS *i* ScS **ScS** **03 10 19.9 -1.7**
BTLS LR LR 03 17 50.3
comp=Z,210nm,15.2s
BRLS Boroldaу 40.21 333 *i* P **P** **03 00 16.0 -1.4**
comp=Z,14nm,1.3s
BRLS *e*PP **PP** **03 01 48.1 -2.1**
BRLS *i* S **S** **03 06 19.6 -3.1**
SONA0 Songino Array 40.62 13 *e*P **P** **03 00 20.0 -0.9**
SONA0 *e*PcP **PcP** **03 02 22.5 0.0**
SONA0 *e*ScP **ScP** **03 06 08.8 -1.5**
SONM Songino Array 40.62 13 P **P** **03 00 20.0 -0.9**
comp=Z,17nm,1.1s,baz=195,slow=9.2,SNR=47
SONM PcP **PcP** **03 02 22.5 0.0**
comp=Z,1.6nm,0.4s,baz=204,slow=4.1,SNR=5.7
SONM ScP **ScP** **03 06 08.8 -1.5**
comp=Z,0.8nm,0.7s,baz=183,slow=3.4,SNR=3.9
SONM LR LR 03 18 42.9
comp=Z,2μm,18.7s,baz=194,slow=38
SONM Songino Array 40.62 13 P **P** **03 00 20.0 -0.9**
SONM 03 02 22.5
SONM pmax pmax
comp=Z,15nm,1.0s
SONM pmax pmax
comp=Z,2.0nm,0.4s
SONM pmax pmax
comp=N,1.0nm,0.7s
SONM MLR MLR
comp=Z,2μm,18.7s
SONA1 Songino Array 40.63 13 *e*P **P** **03 00 20.0 -1.0**
ULN Ulaanbaatar 40.80 14 *e*P **P** **03 00 21.3 -1.1**
comp=Z,11nm,0.8s
ULN LR LR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 40.80 14 *d* *i*P **P** **03 00 22.1 -0.3**
ULN pmax pmax
comp=Z,48nm,2.5s
ULN Ulaanbaatar 40.80 14 P **P** **03 00 21.8 -0.6**
SNR=9.0
INCN Inchon 41.45 41 PFAKE 03 00 40.0 +12
INCN LR LR
comp=Z,3μm,18.0s
JNU Nakatsue 42.16 49 P **P** **03 00 32.8 -0.9**
comp=Z,14nm,0.9s,baz=111,slow=15,SNR=2.5
JNU LR LR 03 19 17.5
comp=Z,2μm,18.4s,baz=272,slow=38
JNU Nakatsue 42.16 49 *e*P **P** **03 00 32.8 -0.9**
comp=Z,113nm,1.8s
KS15 Wonju Array Si 42.24 42 *e*P **P** **03 00 33.8 -0.4**
KAR Wonju Array Be 42.24 42 P **P** **03 00 33.8 -0.4**
KSAR Wonju Array Be 42.24 42 P **P** **03 00 33.8 -0.4**
KS01 Wonju Array Si 42.27 42 *e*P **P** **03 00 33.7 -0.7**
KSRS Korea Array 42.27 42 P **P** **03 00 33.8 -0.6**
comp=Z,6.4nm,1.0s,baz=248,slow=8.7,SNR=6.8
KSRS LR LR 03 18 45.3
comp=Z,993nm,18.9s,baz=231,slow=37
HVS Khovu-Aksy 42.46 0 ‖ *i*P **P** **03 00 35.9 0.0**
HVS pmax pmax
comp=Z,193nm,1.2s
ZAK Zakamensk 42.47 9 *e*P **P** **03 00 34.5 -1.4**
ZAK *e* 03 02 24.6
ZAK pmax pmax
comp=Z,19nm,1.5s
ZAK pmax pmax
comp=Z,11nm,1.4s
MEEK Meekatharra 42.53 146 P **P** **03 00 35.2 -1.5**
baz=43,SNR=6.8
MORW Morawa 43.17 151 P **P** **03 00 41.2 -0.5**
baz=43,SNR=6.6
SEM Semipalatinsk 43.20 347 *i* P **P** **03 00 39.7 -2.3**
comp=Z,393nm,1.4s
SEM *i* pP **pP** **03 00 49.5 -1.1**
SEM *e*PcP **PcP** **03 02 29.3 -1.8**
SEM *i* S **S** **03 07 03.9 -3.2**
SEM LR LR 03 21 22.8
comp=Z,394nm,18.7s
GEYT Alibeck 43.40 318 P **P** **03 00 45.6 +2.0**
comp=Z,32nm,0.7s,baz=142,slow=7.5,SNR=41
MOY Mondy 43.41 7 *e*P **P** **03 00 44.2 +0.6**
TLY Talaya 43.78 9 *e*P **P** **03 00 47.2 +0.7**
comp=Z,44nm,1.4s
TLY LR LR
comp=Z,1μm,20.0s
TLY Talaya 43.78 9 *e*P **P** **03 00 46.9 +0.4**
TLY *e*S **S** **03 07 12.8 -2.5**
TLY *e*SS **SS** **03 10 23.4 -8.3**
TLY *e*SSS SSS 03 10 49.2
TLY pmax pmax
comp=Z,41nm,1.6s
TLY MLR MLR
comp=Z,618nm,13.0s
TLY Talaya 43.78 9 P **P** **03 00 47.0 +0.6**
SNR=16
TLY Talaya 43.78 9 P **P** **03 00 47.0 +0.6**
SNR=16
KURK Kurchatov 43.85 346 *e*P **P** **03 00 47.0 0.0**
comp=Z,140nm,1.5s
KURK LR LR
comp=Z,800nm,20.0s
KURK Kurchatov 43.85 346 *e*P **P** **03 00 47.0 0.0**
KURK pmax pmax
comp=Z,140nm,1.5s
KURK MLR MLR
comp=Z,800nm,20.0s
KURK Kurchatov 43.85 346 P **P** **03 00 47.1 0.0**
SNR=33
KURK Kurchatov 43.85 346 P **P** **03 00 47.1 0.0**
SNR=33
IRK Irkutsk 44.43 9 *e*P **P** **03 00 51.7 +0.1**
IRK pmax pmax
comp=Z,75nm,2.3s
CN2 Changchun 44.72 33 *e*P **P** **03 00 53.8 -0.3**
CN2 *e*pP sP 03 01 05.6 -0.4
CN2 *e*S **S** **03 07 26.4 -2.7**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 LR LR
comp=Z,900nm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
BLDU Ballidu 44.77 151 P **P** **03 00 53.8 -0.8**
baz=45,SNR=8.6
BRZS Berezniki 44.86 341 *i* P **P** **03 00 54.8 -0.3**
comp=Z,29nm,1.4s
BRZS *e*PP **PP** **03 02 39.8 -0.5**
BRZS *i* S **S** **03 07 29.9 -1.1**
BRZS *e*ScS **ScS** **03 10 50.0 -0.6**
MUN Mundaring 45.69 153 P **P** **03 01 01.6 -0.3**
baz=46,SNR=11
ZAA0 Zalesovo Array 45.84 353 *e*P **P** **03 01 02.9 +0.1**
comp=Z,188nm,1.1s
ZAA0 *e*S **S** **03 07 46.0 +1.1**
ZAA0 LR LR
comp=Z,500nm,20.0s
ZALV Zalesovo Beam 45.84 353 P **P** **03 01 02.9 +0.1**
comp=Z,82nm,0.9s,baz=175,slow=8.2,SNR=189
ZALV ScP **ScP** **03 06 29.6 -1.5**
comp=Z,1.6nm,0.7s,baz=190,slow=2.7,SNR=4.4
ZALV Zalesovo Beam 45.84 353 *e*P **P** **03 01 01.9 -0.9**
ZALV *e*S **S** **03 07 45.9 +0.9**
ZAA1 Zalesovo Array 45.84 353 *e*P **P** **03 01 02.9 +0.1**
ZAA1 *e*ScP **ScP** **03 06 29.6 -1.5**
KLBR Kellerberrin 46.08 151 P **P** **03 01 04.0 -1.0**
baz=46,SNR=8.9
HIA Hailar 46.10 24 *e*P **P** **03 01 05.6 +0.7**
comp=Z,88nm,1.5s
HIA LR LR
comp=Z,2μm,18.0s
HIA Hailar 46.10 24 *e*P **P** **03 01 05.6 +0.7**
HIA pmax pmax
comp=Z,88nm,1.5s
HIA MLR MLR
comp=Z,2μm,18.0s
NVS Novosibirsk 46.92 352 ‖ *i*P **P** **03 01 11.4 +0.2**
NVS *i* 03 03 04.7
NVS pmax pmax
comp=Z,114nm,1.2s
NWAO Narrogin (SRO) 46.95 153 P **P** **03 01 10.9 -0.9**
baz=47,SNR=7.4
NWAO P **P** **03 01 10.9 -0.9**
baz=47,SNR=7.4
NWAO Narrogin (SRO) 46.95 153 *e*P **P** **03 01 10.9 -0.9**
comp=Z,232nm,1.2s
NWAO LR LR
comp=Z,1μm,22.0s
NWAO Narrogin (SRO) 46.95 153 *e*P **P** **03 01 10.9 -0.9**
NWAO pmax pmax
comp=Z,232nm,1.2s
NWAO MLR MLR
comp=Z,1μm,22.0s
WRKA Warakurna 47.45 136 P **P** **03 01 13.7 -2.2**
baz=47,SNR=4.1
MDJ Mudanjiang 47.52 35 P **P** **03 01 16.0 -0.1**
MDJ pP sP 03 01 27.8 -0.3
MDJ sP pP 03 01 33.3 +8.6
MDJ PP **PP** **03 03 07.9 +0.1**
MDJ ScP **ScP** **03 06 35.9 -2.5**
MDJ PcS **PcS** **03 06 40.1 -1.1**
MDJ S **S** **03 08 13.4 +4.1**
MDJ pmax pmax
comp=Z,31nm,1.3s
MDJ pmax pmax
comp=Z,600nm,3.4s
MDJ LR LR
comp=Z,830nm,15.5s
MDJ LR LR
comp=Z,2μm,11.6s
MDJ LR LR
comp=Z,3μm,11.5s
MDJ Mudanjiang 47.52 35 *e*P **P** **03 01 16.9 +0.8**
comp=Z,85nm,1.6s
MDJ LR LR
comp=Z,1μm,20.0s
INU Inuyama 47.70 49 PFAKE 03 01 30.0 +12
INU LR LR
comp=Z,2μm,19.0s
KMBL Kambalda 48.00 147 P **P** **03 01 18.9 -1.1**
baz=48,SNR=5.9
BVAR Borovoye Array 48.21 341 P **P** **03 01 20.8 -0.6**
comp=Z,7.3nm,0.8s,baz=142,slow=7.5,SNR=35
BRVK Borovoye 48.27 341 *e*P **P** **03 01 21.2 -0.6**
comp=Z,28nm,1.0s
BRVK LR LR
comp=Z,400nm,19.0s
BRVK Borovoye 48.27 341 *e*P **P** **03 01 21.2 -0.6**
BRVK pmax pmax
comp=Z,28nm,1.0s
BRVK MLR MLR
comp=Z,400nm,19.0s
BRVK Borovoye 48.27 341 P **P** **03 01 21.2 -0.6**
SNR=12
BRVK Borovoye 48.27 341 P **P** **03 01 21.2 -0.6**
SNR=12
RAYN Ar Rayn 48.39 294 *e*P **P** **03 01 25.6 +2.4**
comp=Z,136nm,1.3s
RAYN LR LR
comp=Z,2μm,18.0s
DAMY Dhamar 48.58 282 *e*P **P** **03 01 29.6 +4.6**
comp=Z,99nm,1.7s
DAMY LR LR
comp=Z,2μm,22.0s
USRK Ussuriysk Ar. 48.65 36 P **P** **03 01 24.1 -0.8**
comp=Z,4.2nm,0.9s,baz=235,slow=6.7,SNR=4.8
WR1 Warramunga Arr 49.03 126 *e*P **P** **03 01 25.5 -2.6**
comp=Z,36nm,1.3s
WR1 *e*ScP **ScP** **03 06 41.5 -3.7**
WRA Warramunga Arr 49.03 126 P **P** **03 01 25.5 -2.6**
comp=Z,5.6nm,0.8s,baz=300,slow=10.0,SNR=37
WRA ScP **ScP** **03 06 41.5 -3.7**
comp=Z,2.4nm,1.1s,baz=325,slow=3.3,SNR=5.1
WRA LR LR 03 23 22.9
comp=Z,625nm,20.5s,baz=305,slow=38
WRAB Tennant Creek 49.03 126 *e*P **P** **03 01 23.9 -4.2**
comp=Z,40nm,1.2s
WRAB LR LR
comp=Z,700nm,22.0s
WRAB Tennant Creek 49.03 126 *c* *i*P **P** **03 01 26.5 -1.6**
WRAB pmax pmax
comp=Z,12nm,1.1s
WB2 Warramunga Arr 49.04 126 *e*P **P** **03 01 25.6 -2.5**
WC3 Warramunga Arr 49.06 126 *e*P **P** **03 01 25.4 -3.0**
comp=Z,68nm,1.4s
MJB9 Matsu-Tunnel 49.06 48 *e*P **P** **03 01 30.2 +2.0**
comp=Z,13nm,1.0s
MAJO Matsushiro 49.06 48 *e*P **P** **03 01 30.2 +2.0**
comp=Z,46nm,1.7s
MAJO Matsushiro 49.06 48 *e*P **P** **03 01 30.2 +2.0**
MAJO pmax pmax
comp=Z,46nm,1.7s
MAT Matsushiro 49.06 48 P **P** **03 01 28.1 -0.1**
MAT S **S** **03 08 36.8 +5.4**
MJAR Matsushiro Arr 49.06 48 P **P** **03 01 27.4 -0.8**
comp=Z,3.1nm,0.9s,baz=238,slow=10,SNR=4.0
MJAR PcP **PcP** **03 02 51.2 -0.5**
comp=Z,12nm,1.1s,baz=248,slow=4.3,SNR=10.0
MJAR Matsushiro Arr 49.06 48 P **P** **03 01 27.4 -0.8**
MJAR 03 02 51.2
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR pmax pmax
comp=Z,12nm,1.1s
ABKAR Akbulak array 49.43 331 *e*P **P** **03 01 30.5 -0.2**
comp=Z,1μm,1.8s
ATD Arta Tunnel 50.08 278 LR LR 03 19 47.3
comp=Z,2μm,21.6s,baz=80,slow=32
ATD Arta Tunnel 50.08 278 *e*P P 03 01 42.5 +6.2
comp=Z,54nm,1.3s
ATD LR LR
comp=Z,2μm,21.0s
ASAR Alice Springs 50.70 130 P **P** **03 01 37.9 -2.9**
comp=Z,4.6nm,0.9s,baz=302,slow=6.8,SNR=24
ASAR PcP **PcP** **03 02 57.0 -1.0**
comp=Z,4.9nm,0.9s,baz=315,slow=4.3,SNR=7.2
ASAR ScP **ScP** **03 06 49.0 -3.4**
comp=Z,2.0nm,1.0s,baz=324,slow=4.3,SNR=5.6
ASAR LR LR 03 24 55.6
comp=Z,793nm,20.9s,baz=308,slow=38
AS31 Alice Springs 50.70 130 *e*P **P** **03 01 38.6 -2.2**
comp=Z,5.7nm,1.3s
AS31 *e*PcP **PcP** **03 02 57.0 -1.0**
AS31 *e*ScP **ScP** **03 06 49.0 -3.4**
AS01 Alice Springs 50.73 130 *e*P **P** **03 01 38.0 -3.1**
AKTO Aktyubinsk 51.14 331 P **P** **03 01 43.8 +0.1**
comp=Z,8.0nm,0.6s,baz=130,slow=8.7,SNR=27
KLR Kul'dur 51.55 31 P **P** **03 01 45.2 -1.6**
comp=Z,0.4nm,0.8s,baz=274,slow=6.1,SNR=10
KLR Kul'dur 51.55 31 *c* *i*P **P** **03 01 48.0 +1.2**
BOD Bodaibo 51.61 14 *e*P **P** **03 01 45.9 -1.2**
BOD pmax pmax
comp=Z,57nm,1.5s
ZEA Zeya 52.54 24 *e*P **P** **03 01 54.1 +0.1**
ZEA *e*S **S** **03 09 26.0 +7.0**
ZEA pmax pmax
comp=N,130nm,1.8s
ZEA pmax pmax
comp=Z,130nm,1.8s
ZEA smax smax
comp=E,300nm,15.0s
ZEA MLR MLR
comp=Z,2μm,15.0s
ZEA MLR MLR
comp=N,2μm,14.0s
MAK Makhachkala 52.91 318 *e*P **P** **03 01 58.8 +1.8**
MAK *e* 03 03 58.5
MAK *e*PPP PPP 03 05 03.3
MAK *e*S **S** **03 09 25.4 +1.0**
MAK *e*SS **SS** **03 13 04.6 +1.0**
MAK pmax pmax
comp=Z,79nm,1.2s
MAK MLR MLR
comp=Z,876nm,18.0s
OPO Ambohidratompo 53.18 239 P **P** **03 02 00.7 +1.2**
comp=Z,2.9nm,0.8s,baz=65,slow=16,SNR=5.2
OPO LR LR 03 20 25.6
comp=Z,2μm,20.8s,baz=60,slow=31
ABPO Ambohimpanom 53.34 239 *e*P **P** **03 02 04.3 +3.6**
comp=Z,57nm,1.5s
ABPO LR LR
comp=Z,2μm,21.0s
ABPO Ambohimpanom 53.34 239 *e*P **P** **03 02 04.3 +3.6**
ABPO pmax pmax
comp=Z,57nm,1.5s
ABPO MLR MLR
comp=Z,2μm,21.0s
QIS Mount Isa 53.62 123 P **P** **03 02 02.2 -0.4**
baz=54,SNR=4.3
GNI Garni 53.64 314 P **P** **03 02 03.4 +0.8**
comp=Z,24nm,1.2s,baz=56,slow=6.3,SNR=6.4
GNI Garni 53.64 314 *e*P **P** **03 02 01.4 -1.2**
comp=Z,109nm,1.4s
GNI LR LR
comp=Z,700nm,20.0s
GNI Garni 53.64 314 *c* *i*P **P** **03 02 03.6 +1.0**
GNI pmax pmax
comp=Z,86nm,1.3s
GNI Garni 53.64 314 P **P** **03 02 04.3 +1.7**
SNR=6.0
GNI Garni 53.64 314 P **P** **03 02 04.3 +1.7**
SNR=6.0
CLNS Chul'man 53.98 21 *e*P **P** **03 02 03.6 -1.0**
CLNS pmax pmax
comp=Z,37nm,1.6s
CLNS pmax pmax
comp=E,22nm,1.5s
CLNS pmax pmax
comp=N,27nm,1.6s
CLNS MLR MLR
comp=N,812nm,13.0s
CLNS MLR MLR
comp=Z,914nm,11.0s
CLNS MLR MLR
comp=E,605nm,12.0s
GROC Groznyy 54.14 318 *e*P **P** **03 02 06.5 +0.5**
GROC *e* 03 03 11.3
GROC *e*S **S** **03 09 41.8 +0.7**
GROC pmax pmax
comp=Z,76nm,1.3s
TBLG Delisi 54.25 316 *e*P **P** **03 02 08.0 +1.1**
comp=Z,48nm,1.0s
TBLG Delisi 54.25 316 *e*P **P** **03 02 08.0 +1.1**
TBLG pmax pmax
comp=Z,48nm,1.0s
FURI Furi 54.31 275 *e*P **P** **03 02 09.8 +1.7**
comp=Z,46nm,1.1s
FURI LR LR
comp=Z,2μm,22.0s
SVE Sverdlovsk 54.61 338 *c* *i*P **P** **03 02 09.4 +0.2**
SVE *e*S S 03 09 37.9 -9.1
SVE pmax pmax
comp=Z,104nm,1.5s
SVE MLR MLR
comp=Z,1μm,20.0s
GRNR Gornyy 54.89 32 *e*P **P** **03 02 12.4 +1.1**
GRNR pmax pmax
comp=Z,55nm,1.0s
AKH Akhalkalaki 54.99 315 *e*P **P** **03 02 14.4 +1.9**
comp=Z,37nm,1.2s
AKH LR LR
comp=Z,700nm,19.0s
AKH Akhalkalaki 54.99 315 *e*P **P** **03 02 14.4 +1.9**
AKH pmax pmax
comp=Z,37nm,1.2s
AKH MLR MLR
comp=Z,700nm,19.0s
ARU Arti 55.10 337 P **P** **03 02 12.2 -0.4**
comp=Z,10nm,0.8s,baz=130,slow=5.3,SNR=33
ARU Arti 55.10 337 *e*P **P** **03 02 12.3 -0.4**
comp=Z,79nm,1.3s
ARU LR LR
comp=Z,1μm,21.0s
ARU Arti 55.10 337 *i* P **P** **03 02 12.3 -0.4**
ARU *i* PP **pP** **03 02 20.9 -0.5**
ARU pmax pmax
comp=Z,56nm,1.3s
ASAJ Asahikawa 55.22 41 P **P** **03 02 10.7 -3.1**
comp=Z,9.5nm,1.0s,baz=7.5,slow=13,SNR=2.8
ASAJ Asahikawa 55.22 41 *e*P **P** **03 02 10.7 -3.1**
comp=Z,22nm,1.3s
ZEI Tsey 55.24 317 *e*P **P** **03 02 13.3 -1.0**
ZEI pmax pmax
comp=Z,15nm,0.6s
MARD Mardin 55.61 310 *e*P **P** **03 02 16.2 -0.8**
comp=Z,54nm,1.2s
PMG Port Moresby 56.17 107 P **P** **03 02 17.4 -3.7**
comp=Z,6.2nm,0.4s,baz=134,slow=11,SNR=3.5
PMG LR LR 03 29 32.6
comp=Z,350nm,18.7s,baz=277,slow=40
PMG Port Moresby 56.17 107 *e*P **P** **03 02 21.1 0.0**
comp=Z,102nm,1.4s
PMG LR LR
comp=Z,500nm,20.0s
PMG Port Moresby 56.17 107 *e*P **P** **03 02 21.1 0.0**
PMG pmax pmax
comp=Z,102nm,1.4s
PMG MLR MLR
comp=Z,500nm,20.0s
KBZ Khabaz 56.28 318 P **P** **03 02 21.9 +0.5**
comp=Z,8.3nm,0.9s,baz=173,slow=3.6,SNR=8.4

KBZ LR LR 03 29 38.3
comp=Z,379nm,21.6s,baz=111,slow=39
KVAR Kislovodsk Arr 56.51 318 P **P** **03 02 23.6 +0.4**
comp=Z,19nm,0.9s,baz=255,slow=5.9,SNR=6.6
KIV Kislovodsk 56.51 318 *eP* **P** **03 02 23.9 +0.7**
comp=Z,118nm,1.4s
KIV Kislovodsk 56.51 318 *eP* **P** **03 02 24.6 +1.4**
KIV *eS* **S** **03 10 13.2 +0.1**
KIV pmax pmax
comp=Z,54nm,1.0s
KIV pmax pmax
comp=Z,112nm,6.9s
KIV MLR MLR
comp=Z,304nm,17.0s
YSS Yuzh-Sakhalins 56.55 38 *eP* **P** **03 02 23.3 +0.1**
comp=Z,59nm,1.1s
YSS Yuzh-Sakhalins 56.55 38 *deP* **P** **03 02 23.4 +0.1**
YSS *eS* **S** **03 10 08.0 -5.2**
YSS pmax pmax
comp=Z,500nm,5.0s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,1μm,16.0s
MTSU Mount Surprise 56.58 118 P **P** **03 02 24.2 +0.2**
baz=56,SNR=4.1
KMBO Kilima Mbogo 57.04 263 P **P** **03 02 29.8 +2.1**
comp=Z,5.2nm,0.9s,baz=55,slow=8.5,SNR=10
KMBO LR LR 03 23 54.4
comp=Z,2μm,20.0s,baz=82,slow=33
KMBO Kilima Mbogo 57.04 263 *eP* **P** **03 02 29.3 +1.7**
comp=Z,53nm,1.5s
KMBO Kilima Mbogo 57.04 263 P P 03 02 37.6 +10
SNR=7.5
ASF Jabal al Asfar 57.47 303 P **P** **03 02 31.5 +1.3**
comp=Z,1.5nm,0.5s,baz=51,slow=3.7,SNR=4.9
ASF LR LR 03 30 21.1
comp=Z,256nm,18.5s,baz=40,slow=39
NAI Nairobi 57.51 263 PFAKE 03 02 40.0 +9.1
NAI LR LR
comp=Z,2μm,21.0s
MMAI Mount Meron Ar 58.86 303 P **P** **03 02 41.1 +1.2**
comp=Z,1.0nm,0.5s,baz=110,slow=10.0,SNR=5.9
MMAI LR LR 03 31 43.2
comp=Z,644nm,18.6s,baz=135,slow=40
CTAO Charters Tower 59.04 119 *eP* **P** **03 02 40.9 -0.3**
comp=Z,48nm,1.5s
CTAO LR LR
comp=Z,600nm,21.0s
CTAO Charters Tower 59.04 119 *eP* **P** **03 02 40.9 -0.3**
CTAO pmax pmax
comp=Z,48nm,1.5s
CTAO MLR MLR
comp=Z,600nm,21.0s
KUR Kuril'sk 59.12 42 *i* P **P** **03 02 42.7 +1.4**
YAK Yakutsk 59.52 19 P **P** **03 02 42.6 -1.2**
comp=Z,13nm,0.4s,baz=33,slow=2.5,SNR=15
YAK LR LR 03 30 39.1
comp=Z,1μm,19.2s,baz=266,slow=38
YAK Yakutsk 59.52 19 *eP* **P** **03 02 42.9 -0.8**
comp=Z,87nm,1.2s
YAK Yakutsk 59.52 19 *di* P **P** **03 02 42.8 -1.0**
YAK *e**PP **pP** **03 02 47.1 -5.4**
YAK *e* 03 03 33.0
YAK *eS* **S** **03 10 48.6 -2.8**
YAK *e**SS **pS** **03 11 00.7 -1.3**
YAK *eSS **SS** **03 14 44.3 -2.6**
YAK *eSSS SSS 03 17 20.5
YAK pmax pmax
comp=Z,44nm,1.2s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,30nm,1.4s
YAK pmax pmax
comp=Z,7.0nm,0.7s
YAK smax smax
comp=E,16nm,1.3s
YAK smax smax
comp=N,104nm,2.7s
YAK MLR MLR
comp=Z,1μm,16.0s
YAK MLR MLR
comp=N,2μm,19.0s
YAK MLR MLR
comp=E,667nm,18.0s
TOKA Tokat 59.68 312 PFAKE 03 03 00.0 +15
TOKA LR LR
comp=Z,1μm,21.0s
RABL Rabaul 59.68 100 *eP* **P** **03 02 45.8 -0.1**
comp=Z,76nm,0.4s
VRH Novokhopyorsk 60.12 325 *eP* **P** **03 02 47.4 -0.7**
VRH *e**PP **pP** **03 02 55.5 -1.4**
VRH pmax pmax
comp=Z,40nm,1.0s
QLP Quilpie 60.20 127 P **P** **03 02 48.5 -0.6**
baz=60,SNR=4.8
ANN Anapa 60.33 317 *eP* **P** **03 02 47.8 -1.9**
ANN *e* 03 05 03.0
ANN *eS* **S** **03 11 03.0 +0.4**
ANN pmax pmax
comp=Z,46nm,0.9s
ANN MLR MLR
comp=E,1μm,18.0s
ANN MLR MLR
comp=N,1μm,18.0s
ANN MLR MLR
comp=Z,762nm,18.0s
STKA Stephens Creek 60.90 134 P **P** **03 02 51.6 -2.2**
comp=Z,4.1nm,0.8s,baz=315,slow=9.8,SNR=6.6
STKA LR LR 03 31 48.8
comp=Z,639nm,20.1s,baz=299,slow=39
STKA Stephens Creek 60.90 134 P **P** **03 02 52.5 -1.3**
baz=61,SNR=5.1
STKA Stephens Creek 60.90 134 *eP* **P** **03 02 52.5 -1.3**
comp=Z,4.8nm,1.3s
STKA Stephens Creek 60.90 134 *eP* **P** **03 02 52.5 -1.3**
STKA pmax pmax
comp=Z,5.0nm,1.3s
CSS Mathiatis 60.91 305 PFAKE 03 03 10.0 +16
CSS LR LR
comp=Z,300nm,20.0s
VSR Storozhevoye 61.58 324 *eP* **P** **03 02 56.8 -1.3**
VSR *e**PP **pP** **03 03 05.3 -1.6**
VSR pmax pmax
comp=Z,20nm,1.0s
BR101 Keskin Array S 61.64 311 *eP* **P** **03 02 58.1 -0.8**
BRTR Keskin Array B 61.64 311 P **P** **03 02 58.1 -0.8**
comp=Z,5.5nm,0.7s,baz=136,slow=7.6,SNR=10
VORR Voronezh 61.74 325 *eP* **P** **03 02 58.0 -1.1**
VORR pmax pmax
comp=Z,350nm,1.4s
ILGA Ilgaz 61.90 312 PFAKE 03 03 10.0 +9.3
ILGA LR LR
comp=Z,900nm,21.0s
LPSR Galich'ya Gora 62.28 326 *eP* **P** **03 03 02.2 -0.5**
LPSR *e**PP **pP** **03 03 10.2 -1.3**
LPSR pmax pmax
comp=Z,30nm,1.1s
ANTO Ankara 62.31 311 *eP* **P** **03 03 02.4 -0.9**
comp=Z,156nm,1.4s
ANTO LR LR
comp=Z,500nm,18.0s
ANTO Ankara 62.31 311 *eP* **P** **03 03 02.4 -0.9**
ANTO pmax pmax
comp=Z,156nm,1.4s
ANTO MLR MLR
comp=Z,500nm,18.0s
SIM Simferopol' **62.63 316** *ceP* P 03 03 12.0 +6.8
SIM *eS* **S** **03 11 30.0 -1.7**
MBAR Mbarara 63.35 265 *eP* **P** **03 03 14.2 +3.4**
comp=Z,44nm,1.4s
MBAR Mbarara 63.35 265 *eP* **P** **03 03 14.2 +3.4**
MBAR pmax pmax
comp=Z,44nm,1.4s
ISP Isparta 63.65 308 PFAKE 03 03 20.0 +7.7
ISP LR LR
comp=Z,300nm,19.0s
CMSA Cobar Meteorol 63.71 131 P **P** **03 03 11.6 -1.0**
baz=64,SNR=9.8
MOS Moscow 64.27 329 *eP* **P** **03 03 13.8 -2.1**
MOS *e* 03 03 22.5
MOS *e* 03 05 41.1
MOS *eS* **S** **03 11 48.2 -3.6**
MOS pmax pmax
comp=Z,143nm,1.4s
MOS pmax pmax
comp=Z,200nm,1.6s
MOS smax smax
comp=N,700nm,3.5s
MOS MLR MLR
comp=Z,1μm,20.0s
OBN Obninsk 64.57 328 P **P** **03 03 17.3 -0.5**
comp=Z,6.7nm,0.3s,baz=106,slow=6.8,SNR=19
OBN Obninsk 64.57 328 *eP* **P** **03 03 17.8 -0.1**
comp=Z,218nm,1.5s
OBN Obninsk 64.57 328 *di* P **P** **03 03 17.7 -0.1**
OBN *i* *PP **pP** **03 03 26.0 -0.6**
OBN *e* 03 05 38.5
OBN *e**PPP PPP 03 07 12.0
OBN pmax pmax
comp=Z,124nm,1.7s
OBN MLR MLR
comp=Z,872nm,23.0s
KLMR Klimovskoe 65.66 334 *eP* **P** **03 03 24.1 -0.7**
KLMR *e* 03 05 53.2
KLMR *eS* **S** **03 12 08.6 0.0**
KLMR pmax pmax
comp=Z,93nm,1.4s
KLMR Klimovskoe 65.66 334 *eP* **P** **03 03 24.1 -0.7**
KLMR AMP 03 03 34.3
comp=Z,93nm,1.4s
KLMR *e**PP **PP** **03 05 53.2 +3.8**
KLMR *eS* **S** **03 12 08.7 +0.1**
KLMR *eS* **S** **03 12 08.7 +0.1**
KLMR LQ LQ 03 26 29.6
KLMR LQ LQ 03 26 29.6
KARP Karpathos 65.99 305 PFAKE 03 03 40.0 +12
KARP LR LR
comp=Z,300nm,22.0s
SKR Severo-Kuril's 66.12 38 *eP* **P** **03 03 23.5 -4.4**
SKR *e* 03 03 57.7
SKR pmax pmax
comp=Z,153nm,1.3s
SKR pmax pmax
comp=Z,400nm,4.6s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR MLR MLR
comp=Z,800nm,19.0s
MA2 Magadan 66.39 28 P **P** **03 03 28.3 -1.2**
comp=Z,39nm,1.0s,baz=248,slow=6.9,SNR=41
MA2 Magadan 66.39 28 *di* P **P** **03 03 29.3 -0.3**
TIRR Tirgusor 66.46 315 ǁ *iP* **P** **03 03 30.9 +0.6**
TIRR Tirgusor 66.46 315 *eP* **P** **03 03 30.5 +0.2**
comp=Z,29nm,1.2s
TIRR LR LR
comp=Z,400nm,21.0s
TIRR Tirgusor 66.46 315 *eP* **P** **03 03 30.5 +0.2**
TIRR pmax pmax
comp=Z,29nm,1.2s
TIRR MLR MLR
comp=Z,400nm,21.0s
PSN Preselentsi 66.47 314 P P 03 03 37.1 +6.7
TOO Toolangi 66.66 137 P **P** **03 03 33.5 +1.7**
baz=67
TIXI Tiksi 66.67 11 P **P** **03 03 30.2 -1.0**
comp=Z,15nm,0.4s,baz=203,slow=3.8,SNR=57
TIXI LR LR 03 35 34.2
comp=Z,610nm,18.2s,baz=216,slow=39
TIXI Tiksi 66.67 11 *eP* **P** **03 03 30.0 -1.1**
comp=Z,73nm,1.1s
TIXI Tiksi 66.67 11 *ceP* **P** **03 03 29.8 -1.3**
TIXI pmax pmax
comp=Z,40nm,1.0s
KIS Kishinev 66.72 318 *eP* **P** **03 03 30.0 -1.9**
KIS Kishinev 66.72 318 *ePP* PP 03 06 10.0 +11
KIS *eS* **S** **03 12 17.0 -5.1**
KIS *eL* L 03 30 24.0
KIS LRM MLR 03 38 00.0
comp=Z,500nm,18.0s
KIS Kishinev 66.72 318 *eP* **P** **03 03 30.0 -1.9**
KIS *i* 03 03 37.5
KIS *e* 03 04 07.0
KIS *eS* **S** **03 12 17.0 -5.1**
KIS MLR MLR
comp=E,400nm,16.0s
KIS MLR MLR
comp=Z,500nm,18.0s
CFR Carcaliu 66.79 316 ǁ *iP* **P** **03 03 33.2 +0.8**
CFR Carcaliu 66.79 316 P **P** **03 03 33.2 +0.8**
SORM Soroca 67.28 319 ǁ *iP* **P** **03 03 34.5 -0.9**
SORM Soroca 67.28 319 P **P** **03 03 34.5 -0.9**
AKASG Malin Array Be 67.34 322 P **P** **03 03 34.4 -1.4**
comp=Z,4.4nm,0.8s,baz=88,slow=4.9,SNR=33
AKASG *e**PP **PP** **03 06 03.5 -0.8**
comp=Z,0.5nm,0.5s,baz=91,slow=7.4,SNR=4.3
AKBB Malin Array Si 67.34 322 *eP* **P** **03 03 34.8 -1.0**
comp=Z,35nm,1.4s
AKBB *e**PP **PP** **03 06 03.5 -0.8**
AKBB LR LR
comp=Z,600nm,21.0s
AKBB Malin Array Si 67.34 322 *eP* **P** **03 03 34.8 -1.0**
AKBB *e* 03 06 03.6
AKBB pmax pmax
comp=Z,35nm,1.4s
AKBB MLR MLR
comp=Z,600nm,21.0s
KIEV Kiev 67.35 322 *eP* **P** **03 03 34.7 -1.1**
comp=Z,37nm,1.4s
KIEV LR LR
comp=Z,600nm,21.0s
KIEV Kiev 67.35 322 *di* P **P** **03 03 34.5 -1.3**
KIEV pmax pmax
comp=Z,11nm,1.3s
AK11 Malin Array Si 67.37 322 *eP* **P** **03 03 35.0 -1.0**
ALN Alexandroupoli 67.56 311 P **PcP** **03 04 07.3 +2.8**
ALN Alexandroupoli 67.56 311 P **PcP** **03 04 07.3 +2.8**
PETK Petropavlovsk- 67.74 36 LR LR 03 34 33.9
comp=Z,366nm,20.8s,baz=243,slow=37
IDI Anoyia 67.81 305 P **P** **03 03 39.2 +0.1**
comp=Z,8.5nm,0.5s,baz=94,slow=9.0,SNR=8.6
IDI LR LR 03 37 26.6
comp=Z,418nm,21.5s,baz=88,slow=40
IDI Anoyia 67.81 305 ǁ *iP* **P** **03 03 39.5 +0.4**
IDI Anoyia 67.81 305 *eP* **P** **03 03 39.2 +0.1**
comp=Z,92nm,1.6s
TMCR Tamitsa 67.84 337 *eP* **P** **03 03 38.0 -0.6**
TMCR pmax pmax
comp=Z,103nm,1.4s
VRI Vrincioaia 67.90 316 ǁ *iP* **P** **03 03 40.0 +0.5**
VRI Vrincioaia 67.90 316 P **P** **03 03 39.9 +0.5**
PLOR Plostina 67.95 316 ǁ *iP* **P** **03 03 39.8 0.0**
PLOR Plostina 67.95 316 P **P** **03 03 39.8 0.0**
CAN Canberra 67.97 133 *eP* **P** **03 03 40.6 +0.6**
comp=Z,190nm,2.0s
CAN Canberra 67.97 133 *eP* **P** **03 03 40.6 +0.6**
CAN pmax pmax
comp=Z,190nm,2.0s
RDO Rodhopi 67.98 311 P **P** **03 03 43.5 +3.5**
RDO Rodhopi 67.98 311 P **P** **03 03 43.5 +3.5**
TESR Tescani 68.08 317 ǁ *iP* **P** **03 03 39.8 -0.7**
KDZ Kurdzhali 68.14 311 P P 03 03 48.8 +7.8
MLR Muntele Rosu 68.37 316 P **P** **03 03 42.8 +0.3**
comp=Z,6.4nm,1.1s
MLR Muntele Rosu 68.37 316 ǁ *iP* **P** **03 03 42.6 0.0**
MLR Muntele Rosu 68.37 316 *eP* **P** **03 03 42.5 0.0**
comp=Z,98nm,1.3s
MLR LR LR
comp=Z,500nm,20.0s
MLR Muntele Rosu 68.37 316 *eP* **P** **03 03 42.5 0.0**
MLR pmax pmax
comp=Z,99nm,1.3s
MLR MLR MLR
comp=Z,500nm,20.0s
SEY Seymchan 68.52 25 P **P** **03 03 40.5 -2.5**
comp=Z,13nm,1.1s,baz=253,slow=7.0,SNR=27
SEY Seymchan 68.52 25 ǁ *iP* **P** **03 03 42.0 -0.9**
RZN Rozhen 68.67 311 P P 03 03 52.6 +8.0
HORU Horodok 68.76 320 P **P** **03 03 43.4 -1.3**
DOPR Dopca 68.84 316 ǁ *iP* **P** **03 03 46.5 +1.2**
EREA Eretria 68.88 308 P P 03 03 56.2 +10
VLY Voula,Athens 68.93 307 P P 03 03 52.0 +6.0
VLY Voula,Athens 68.93 307 P P 03 03 52.0 +6.0
MTUR Matau 68.94 315 ǁ *iP* **P** **03 03 45.8 -0.3**
VOIR 68.98 315 ǁ *iP* **P** **03 03 46.1 -0.2**
LSZ Lusaka 69.05 250 *eP* **P** **03 03 49.3 +2.0**
comp=Z,56nm,1.4s
LSZ Lusaka 69.05 250 *eP* **P** **03 03 49.3 +2.0**
LSZ pmax pmax
comp=Z,56nm,1.4s
LSZ Lusaka 69.05 250 P P 03 03 56.3 +9.0
SNR=5.8
LSZ Lusaka 69.05 250 P P 03 03 56.3 +9.0
SNR=5.8
MICGM Minsk 69.12 325 *eP* **P** **03 03 46.0 -0.8**
MICGM *e*LR LR 03 38 20.0
MNK Minsk 69.12 325 *eP* **P** **03 03 46.0 -0.8**
PAIG Paliouri 69.23 309 P P 03 03 55.6 +7.8
PAIG Paliouri 69.23 309 P P 03 03 55.6 +7.8
PAIG Paliouri 69.23 309 P P 03 03 55.6 +7.8
BURAR Bucovina Array 69.24 318 ǁ *iP* **P** **03 03 48.1 +0.1**
BURAR Bucovina Array 69.24 318 P **P** **03 03 48.0 +0.1**
BUR04 Bucovina Ar. S 69.25 318 *eP* **P** **03 03 47.8 -0.2**
BUR08 Bucovina Ar. S 69.26 318 *eP* **P** **03 03 48.0 -0.1**
NVR Nevrokopi 69.26 311 P P 03 04 00.7 +13
NVR Nevrokopi 69.26 311 P P 03 04 00.7 +13
ARR Arges 69.26 315 ǁ *iP* **P** **03 03 47.1 -0.9**
PUL Pulkovo 69.41 331 ǁ *iP* **P** **03 03 49.4 +0.9**
PUL pmax pmax
comp=Z,63nm,1.2s
LTK Loutraki 69.60 307 P **P** **03 03 54.5 +4.3**
LTK Loutraki 69.60 307 P **P** **03 03 54.5 +4.3**
MPEP Malo Peshtene 69.60 313 P **P** **03 03 50.1 0.0**
HORT Hortiatis 69.75 310 P **P** **03 03 50.8 -0.3**
HORT Hortiatis 69.75 310 P **P** **03 03 50.8 -0.3**
NACGM Naroch 69.84 326 *e* **P** **03 03 50.0 -1.3**
NACGM *e*LR LR 03 32 38.0
LOT Lotru 69.88 315 ǁ *iP* **P** **03 03 52.5 +0.6**
VTS Vitosha 69.89 312 ǁ *iP* **P** **03 03 51.2 -0.9**
VTS Vitosha 69.89 312 P P 03 03 57.8 +5.7
comp=Z,25nm,1.2s
VTS LR LR
comp=Z,500nm,20.0s
VTS Vitosha 69.89 312 P P 03 03 57.8 +5.7
VTS pmax pmax
comp=Z,25nm,1.2s
VTS MLR MLR
comp=Z,500nm,20.0s
VTS Vitosha 69.89 312 P **P** **03 03 53.6 +1.5**
VTS Vitosha 69.89 312 P P 03 03 57.8 +5.7
KKB Krupnik 69.90 311 *i* P **P** **03 03 50.9 -1.1**
KNT Kendrikon 69.96 311 P P 03 03 59.1 +6.8
KNT Kendrikon 69.96 311 P P 03 03 59.1 +6.8
KNT Kendrikon 69.96 311 P P 03 03 59.1 +6.8
IDID Didziasalis 69.96 326 *eP* **P** **03 03 51.6 -0.5**
IDID IAmb IAmb 03 04 01.6
comp=Z,48nm,1.4s
DSF Desfina 69.97 308 P P 03 04 02.8 +10
DSF Desfina 69.97 308 P P 03 04 02.8 +10
GUR Goura 70.08 307 P P 03 03 59.0 +5.7
GUR Goura 70.08 307 P P 03 03 59.0 +5.7
AGG Agios Georgios 70.18 308 P **P** **03 03 58.1 +4.3**
AGG LR LR
comp=Z,1μm,22.0s
AGG Agios Georgios 70.18 308 P **P** **03 03 58.1 +4.3**
AGG MLR MLR
comp=Z,1μm,22.0s
AGG Agios Georgios 70.18 308 P **P** **03 03 58.1 +4.3**
CJR Cluj-Napoca 70.18 317 ǁ *iP* **P** **03 03 54.3 +0.6**
VAY Valandovo 70.22 311 *i* P P 03 03 58.8 +4.9
IIGN Ignalina 70.26 326 *eP* **P** **03 03 53.4 -0.5**
IIGN IAmb IAmb 03 04 03.5
comp=Z,36nm,1.2s
KALE Kalithea 70.28 308 P **P** **03 03 58.2 +3.8**
KALE Kalithea 70.28 308 P **P** **03 03 58.2 +3.8**
GRG Griva 70.31 310 P P 03 04 00.7 +6.2
GRG Griva 70.31 310 P P 03 04 00.7 +6.2
GRG Griva 70.31 310 P P 03 04 00.7 +6.2
IZAR Zarasai 70.34 326 *eP* **P** **03 03 53.8 -0.5**
IZAR IAmb IAmb 03 04 03.9
comp=Z,29nm,1.2s
ISAL Salakas 70.37 326 *eP* **P** **03 03 53.9 -0.6**
ISAL IAmb IAmb 03 04 04.2
comp=Z,20nm,1.1s
LVV L'vov 70.41 320 *eP* **P** **03 03 53.3 -1.6**
LVV *e* 03 04 14.8
LVV *e* 03 06 28.1
LVV *e* 03 08 08.0
LVV *eS* **S** **03 13 05.6 -0.3**
EVR Evrytania 70.58 308 P **P** **03 03 54.5 -1.8**
EVR Evrytania 70.58 308 P **P** **03 03 54.5 -1.8**
KZN Kozani 70.73 310 P P 03 04 04.2 +7.1
KZN Kozani 70.73 310 P P 03 04 04.2 +7.1
KZN Kozani 70.73 310 P P 03 04 04.2 +7.1
LVZ Lovozero 70.78 340 *eP* **P** **03 03 56.8 -0.1**
comp=Z,58nm,1.2s
LVZ Lovozero 70.78 340 ⇑ *iP* **P** **03 03 57.3 +0.5**
LVZ pmax pmax
comp=Z,65nm,1.7s
VSU Vasula 70.78 329 *ciP* **P** **03 03 56.8 -0.1**
VSU *i* *PP **pP** **03 04 04.9 -0.9**
VSU pmax pmax
comp=Z,159nm,1.2s
DRGR 70.80 317 ǁ *iP* **P** **03 03 57.8 +0.4**
TRSU Trosnyk 70.82 318 P **P** **03 03 58.5 +1.1**
APA Apatity 71.06 339 ǁ *iP* **P** **03 03 57.3 -1.2**
APA *i* 03 04 24.0
APA pmax pmax
comp=Z,2.0nm,1.1s
TRPA Tarpa 71.11 318 ǁ *ex* **P** **03 03 59.0 -0.1**
BIA Bitola 71.13 310 *i* P **P** **03 04 00.0 +0.5**
SKO Skopje 71.13 311 *i* P **P** **03 03 58.0 -1.5**
KWP Kalwaria Pacla 71.22 320 *eP* **P** **03 03 59.7 -0.2**
KWP Kalwaria Pacla 71.22 320 *eP* **P** **03 03 59.9 0.0**
comp=Z,659nm,1.3s
KWP Kalwaria Pacla 71.22 320 *eP* **P** **03 03 59.7 -0.2**
MDVR Moldovita 71.23 314 ǁ *iP* **P** **03 03 58.4 -1.7**
NEST Nestorio 71.29 310 P **P** **03 03 59.3 -1.3**
UZH Uzhgorod 71.34 318 *ceP* **P** **03 04 00.3 -0.3**
UZH *e* 03 04 02.3
UZH *i* 03 04 08.7
UZH *e**PP **sP** **03 04 14.0 +1.2**
UZH *e* 03 06 45.5
UZH *e**PPP PPP 03 08 28.3
UZH *eS* **S** **03 13 12.3 -4.4**
UZH *ePS **PnS** **03 14 01.3 +14**
BZS Buzias 71.40 315 ǁ *iP* **P** **03 04 00.3 -0.7**
SIRR Siria 71.45 316 ǁ *iP* **P** **03 04 01.8 +0.5**
OHR Ohrid 71.53 310 *i* P **P** **03 04 03.9 +1.9**
SUW Suwalki 71.69 324 *eP* **P** **03 04 01.8 -0.8**
SUW Suwalki 71.69 324 *eP* **P** **03 04 02.0 -0.5**
comp=Z,167nm,1.2s
SUW Suwalki 71.69 324 *eP* **P** **03 04 02.1 -0.5**
SUW pmax pmax
comp=Z,167nm,1.2s
FIA1 FINESS Array S 71.91 332 *eP* **P** **03 04 03.2 -0.5**
FIA0 FINESS Array S 71.91 332 *eP* **P** **03 04 03.1 -0.6**
FIA0 FINESS Array S 71.91 332 *eP* **P** **03 04 03.1 -0.6**
FINES FINESS Array B 71.91 332 P **P** **03 04 03.1 -0.6**
comp=Z,10nm,0.7s,baz=1.6,slow=14,SNR=28
FINES FINESS Array B 71.91 332 *iP* **P** **03 04 03.5 -0.2**
FINES pmax pmax
comp=Z,9.0nm,0.7s
CRVS Cervenica-Dubn 71.92 319 *eP* **P** **03 04 04.7 +0.6**
CRVS *e* 03 04 11.6
CRVS Cervenica-Dubn 71.92 319 *eP* **P** **03 04 04.7 +0.6**
CRVS *e* 03 04 11.6
STHS Stebnicka Huta 72.14 319 *eP* **P** **03 04 05.9 +0.5**
STHS pmax pmax
comp=Z,11nm,1.0s
STHS Stebnicka Huta 72.14 319 *eP* **P** **03 04 05.9 +0.5**
TIR Tirane 72.25 311 PFAKE 03 04 20.0 +14
TIR LR LR
comp=Z,500nm,20.0s
DIVS Divibare 72.39 313 *eP* **P** **03 04 07.5 +0.4**
comp=Z,21nm,1.4s
KECS Kecovo 72.51 318 *eP* **P** **03 04 07.5 -0.1**
KECS pmax pmax
comp=Z,8.0nm,1.2s
KECS Kecovo 72.51 318 *eP* **P** **03 04 07.5 -0.1**
NIE Niedzica 72.75 319 *eP* **P** **03 04 09.5 +0.5**
NIE *eS* **SKiKP** **03 13 44.0 +2.8**
NIE Niedzica 72.75 319 *eP* **P** **03 04 09.5 +0.5**
BEL Belsk 72.76 322 *eP* **P** **03 04 08.9 -0.1**
BEL Belsk 72.76 322 *eP* **P** **03 04 08.9 -0.1**
TTG Podgorica 72.79 312 *eP* **P** **03 04 09.1 -0.2**
comp=Z,16nm,0.7s
TTG LR LR
comp=Z,500nm,20.0s
TTG Podgorica 72.79 312 *eP* **P** **03 04 09.1 -0.2**
TTG pmax pmax
comp=Z,16nm,0.7s

TTG MLR MLR
comp=Z,500nm,20.0s
PSZ Piszkesteto 72.84 317 *eP* **P 03 04 09.3 -0.4**
comp=Z,79nm,1.6s
PSZ Piszkesteto 72.84 317 *eP* **P 03 04 09.3 -0.4**
PSZ pmax pmax
comp=Z,79nm,1.6s
OJC Ojcow 73.17 320 *eP* **P 03 04 11.3 -0.2**
OJC *eS* **SKiKP 03 13 48.4 +6.6**
OJC Ojcow 73.17 320 *eP* **P 03 04 11.4 -0.2**
comp=Z,26nm,0.9s
OJC Ojcow 73.17 320 *eP* **P 03 04 11.3 -0.2**
LANS Liptovska Anna 73.26 319 *eP* **P 03 04 12.7 +0.6**
LANS Liptovska Anna 73.26 319 *eP* **P 03 04 12.7 +0.6**
KLNR Kaliningrad 73.51 324*d i*P **P 03 04 15.5 +2.1**
KLNR pmax pmax
comp=Z,92nm,1.1s
VYHS Vyhne 73.60 318 *eP* **P 03 04 14.1 0.0**
VYHS Vyhne 73.60 318 *eP* **P 03 04 14.1 0.0**
KEV Kevo 74.06 341 *eP* **P 03 04 16.7 +0.4**
comp=Z,80nm,1.3s
KEV Kevo 74.06 341 *eP* **P 03 04 16.7 +0.4**
KEV pmax pmax
comp=Z,80nm,1.3s
LBTB Lobatse 74.15 241 *eP* **P 03 04 19.6 +1.8**
comp=Z,42nm,1.0s
LBTB Lobatse 74.15 241 *eP* **P 03 04 19.7 +1.8**
LBTB pmax pmax
comp=Z,42nm,1.0s
OKC Ostrava-Krasne 74.18 319 *eP* **P 03 04 18.1 +0.6**
OKC *epP* **pP 03 04 25.8 -0.6**
OKC Ostrava-Krasne 74.18 319 *eP* **P 03 04 18.1 +0.6**
OKC *e* 03 04 25.8
BLY Banja Luka 74.44 314 *eP* **P 03 04 22.9 +3.9**
comp=Z,21nm,1.1s
ARA0 ARCESS Array S 74.48 340 *eP* **P 03 04 19.0 +0.2**
ARCES ARCESS Array B 74.48 340 P **P 03 04 19.0 +0.2**
comp=Z,11nm,0.8s,baz=100,slow=6.7,SNR=48
ARE0 ARCESS Array S 74.48 340 *eP* **P 03 04 19.6 +0.8**
comp=Z,140nm,1.6s
ARE0 ARCESS Array S 74.48 340 *eP* **P 03 04 19.2 +0.4**
ARE0 IAmb IAmb 03 04 20.3
comp=Z,36nm,1.1s
TIP Timpagrande 74.52 308 ‖ *i*P **P 03 04 21.4 +1.7**
TIP Timpagrande 74.52 308 *eP* **P 03 04 20.9 +1.2**
comp=Z,60nm,1.5s
MORC Moravsky Berou 74.57 319 ‖ *i*P **P 03 04 20.3 +0.5**
MORC Moravsky Berou 74.57 319 *eP* **P 03 04 19.8 0.0**
comp=Z,337nm,1.5s
MORC Moravsky Berou 74.57 319 *eP* **P 03 04 19.8 0.0**
MORC pmax pmax
comp=Z,337nm,1.5s
HEF Hetta 74.80 339 *eP* **P 03 04 20.7 0.0**
SOP Sopron 75.06 317 *ex* **P 03 04 21.2 -1.4**
SOP Sopron 75.06 317 P **P 03 04 22.7 +1.1**
GKP Gorka Klasztor 75.09 323 *eP* **P 03 04 22.5 -0.1**
GKP Gorka Klasztor 75.09 323 *eP* **P 03 04 22.5 -0.1**
VRAC Vranov 75.15 319 P **P 03 04 23.5 +0.4**
comp=Z,1.5nm,0.5s,baz=47,slow=6.1,SNR=5.2
CUC Castrocucco 75.27 309 PFAKE 03 04 40.0 +16
CUC LR LR
comp=Z,400nm,19.0s
DPC Dobruska-Polom 75.40 320 *eP* **P 03 04 25.1 +0.6**
DPC *epP* **pP 03 04 30.3 -3.2**
DPC AMS AMS 03 44 10.0
comp=Z,400nm,17.2s
DPC Dobruska-Polom 75.40 320 *eP* **P 03 04 25.1 +0.6**
DPC *e* 03 04 30.3
DPC MLR MLR
comp=Z,400nm,17.2s
HAMF Hammerfest 75.41 341 *eP* **P 03 04 24.1 0.0**
HAMF IAmb IAmb 03 04 25.4
comp=Z,107nm,1.2s
KSP Ksiaz 75.45 320 *eP* **P 03 04 25.2 +0.4**
KSP Ksiaz 75.45 320 *eP* **P 03 04 25.2 +0.4**
CONA Conrad Observa 75.54 317 *eP* **P 03 04 25.3 -0.2**
comp=Z,20nm,1.8s
BOSA Boshof 75.55 238 P **P 03 04 27.3 +1.4**
comp=Z,7.9nm,0.7s,baz=71,slow=5.1,SNR=10
BOSA LR LR 03 32 03.2
comp=Z,813nm,21.4s,baz=60,slow=31
UPC Upice 75.61 320 AMS AMS 03 43 20.0
comp=Z,700nm,17.6s
BILL Bilibino 75.64 22*d i*P **P 03 04 24.3 -1.2**
BILL *e* 03 04 38.6
BILL pmax pmax
comp=Z,31nm,1.4s
BILL MLR MLR
comp=Z,1μm,17.0s
ARSA Arzberg 75.73 317 *eP* **P 03 04 27.1 +0.5**
comp=Z,38nm,1.9s,SNR=6.5
BOJS Bojanci 75.84 315 *eP* **P 03 04 28.0 +0.8**
KIF Kilpisjarvi 75.96 339 *eP* **P 03 04 27.1 -0.1**
PERS Pernice 75.98 316 *i*P **P 03 04 28.0 0.0**
SOKA Soboth 76.04 316 *i*P **P 03 04 28.6 +0.2**
comp=Z,46nm,1.5s,SNR=9.3
WDD Wied Dalam 76.27 305 PFAKE 03 04 40.0 +10
WDD LR LR
comp=Z,700nm,18.0s
VAE Valguarnera 76.35 306 LR LR 03 43 33.1
comp=Z,254nm,18.0s,baz=130,slow=40
GOPC GO Pecny, Ondr 76.36 319 *eP* **P 03 04 30.2 +0.2**
GOPC *epP* **pP 03 04 35.6 -3.4**
GOPC AMS AMS 03 45 00.0
comp=Z,400nm,19.3s
GOPC GO Pecny, Ondr 76.36 319 *eP* **P 03 04 30.2 +0.2**
GOPC *e* 03 04 35.6
GOPC MLR MLR
comp=Z,400nm,19.3s
OBKA Obir 76.37 316 *i*P **P 03 04 30.4 +0.2**
comp=Z,22nm,1.1s
PRU Pruhonice 76.52 319 *eP* **P 03 04 31.0 +0.1**
PRU AMS AMS 03 45 00.0
comp=Z,400nm,19.5s
PRU Pruhonice 76.52 319 *eP* **P 03 04 31.0 +0.1**
PRU MLR MLR
comp=Z,400nm,19.5s
PVCC Panska Ves 76.53 320 *eP* **P 03 04 31.7 +0.8**
PVCC Panska Ves 76.53 320 *eP* **P 03 04 31.7 +0.8**
MOA Molln 76.61 317 *eP* **P 03 04 31.4 -0.1**
comp=Z,14nm,1.3s,SNR=5.1
TRO Tromso 76.74 340 *eP* **P 03 04 31.1 -0.6**
TRO IAmb IAmb 03 04 32.5
comp=Z,53nm,1.3s
BRG Berggiesshubel 76.94 320 *eP* **P 03 04 33.1 -0.1**
BRG *i* 03 04 42.0
BRG *e* 03 07 23.6
BRG S **S 03 14 16.0 -3.6**
BRG pmax pmax
comp=Z,43nm,1.5s
BRG pmax pmax
comp=Z,68nm,1.7s
BRG pmax pmax
comp=Z,16nm,1.6s
BRG MLR MLR
comp=N,421nm,15.6s
BRG MLR MLR
comp=E,440nm,18.8s
BRG MLR MLR
comp=Z,472nm,17.4s
MYKA Terra Mystica 77.00 316 *i*P **P 03 04 33.5 -0.2**
comp=Z,27nm,1.4s
GEA0 GERESS Array S 77.02 318 *eP* **P 03 04 33.5 -0.4**
GEC2 GERESS Array S 77.02 318 *eP* **P 03 04 34.4 +0.5**
comp=Z,65nm,1.4s
GEC2 GERESS Array S 77.02 318 *eP* **P 03 04 34.4 +0.5**
GEC2 pmax pmax
comp=Z,65nm,1.4s
GERES GERESS Array B 77.02 318 P **P 03 04 33.9 +0.1**
comp=Z,7.1nm,1.0s,baz=84,slow=5.5,SNR=31
KHC Kasperske Hory 77.11 318 *eP* **P 03 04 34.4 +0.1**
KHC *ex* x 03 04 52.5
KHC AMS AMS 03 44 10.0
comp=Z,500nm,19.7s
KHC Kasperske Hory 77.11 318 *eP* **P 03 04 34.2 0.0**
comp=Z,14nm,1.6s
KHC Kasperske Hory 77.11 318 *eP* **P 03 04 34.3 0.0**
KHC pmax pmax
comp=Z,14nm,1.6s
KBA Koelnbreinsper 77.21 316 P **P 03 04 35.6 +0.5**
KBA Koelnbreinsper 77.21 316 *eP* **P 03 04 34.8 -0.3**
comp=Z,18nm,1.3s
DZM Mont Dzumac 77.49 115 P **P 03 04 34.5 -2.5**
comp=Z,8.0nm,0.7s,baz=325,slow=8.0,SNR=2.8
DZM LR LR 03 43 42.9
comp=Z,340nm,18.5s,baz=300,slow=40
DZM Mont Dzumac 77.49 115 *eP* **P 03 04 36.7 -0.3**
comp=Z,108nm,1.6s
DZM Mont Dzumac 77.49 115 *e*LQ LQ 03 25 25.9
comp=Z,2μm,38.5s
DZM *e*LR LR 03 28 43.4
comp=Z,900nm,30.2s
DZM Mont Dzumac 77.49 115 *eP* **P 03 04 37.6 +0.6**
comp=Z,80nm,1.5s
CLL Collm 77.55 321 *i* P **P 03 04 36.3 -0.3**
comp=Z,55nm,1.8s
CLL *i* pP **pP 03 04 41.2 -4.4**
CLL *i* sP **PcP 03 04 44.6 -2.3**
comp=Z,46nm,1.5s
CLL Lm MLR 03 45 00.0
comp=N,300nm,20.4s
CLL Lm MLR 03 45 00.0
comp=E,300nm,18.5s
CLL Lm MLR 03 45 00.0
comp=Z,400nm,19.5s
CLL Collm 77.55 321 *eP* **P 03 04 36.9 +0.2**
comp=Z,55nm,1.6s
CLL Collm 77.55 321 *i* P **P 03 04 36.3 -0.3**
CLL *i* 03 04 44.6
CLL pmax pmax
comp=Z,55nm,1.8s
CLL MLR MLR
comp=Z,400nm,19.5s
HFS Hagfors 77.65 330 P **P 03 04 36.8 -0.2**
comp=Z,11nm,0.5s,baz=104,slow=6.3,SNR=21
ABTA Abfaltersbach 77.78 316 *eP* **P 03 04 37.9 -0.3**
comp=Z,9.3nm,0.9s
STEI Steigen 77.78 338 *eP* **P 03 04 37.1 -0.4**
STEI IAmb IAmb 03 04 38.4
comp=Z,87nm,1.3s
NKC Novy Kostel 77.88 320 *eP* **P 03 04 39.2 +0.7**
NKC Novy Kostel 77.88 320 *eP* **P 03 04 39.2 +0.7**
MOR8 Moi Rana 77.88 336 *eP* **P 03 04 37.4 -0.8**
MOR8 IAmb IAmb 03 04 38.6
comp=Z,42nm,1.2s
WTTA Wattenberg 78.38 316 *i* P **P 03 04 41.8 +0.2**
comp=Z,12nm,1.2s
WATA Walderalm 78.42 317 *eP* **P 03 04 40.6 -1.2**
comp=Z,9.4nm,0.9s
LOF Lofoten 78.44 338 *eP* **P 03 04 41.0 -0.3**
LOF IAmb IAmb 03 04 42.1
comp=Z,69nm,1.3s
STOK Stokkvaagen 78.47 336 *eP* **P 03 04 41.7 +0.3**
STOK IAmb IAmb 03 04 42.3
comp=Z,97nm,1.5s
GRFO Grafenberg 78.66 319 *eP* **P 03 04 44.0 +1.2**
comp=Z,68nm,1.5s
GRFO Grafenberg 78.66 319 *eP* **P 03 04 44.1 +1.2**
GRFO pmax pmax
comp=Z,68nm,1.5s
NC405 NORSAR Array S 78.69 331 *eP* **P 03 04 41.7 -1.0**
MOTA Moosalm 78.74 317 *i* P **P 03 04 42.4 -1.2**
NC602 NORSAR Array S 78.75 330 *eP* **P 03 04 42.8 -0.3**
NC602 NORSAR Array S 78.75 330 *eP* **P 03 04 42.7 -0.4**
NC602 IAmb IAmb 03 04 43.5
comp=Z,168nm,0.9s
NSS Namsos 78.77 334 *eP* **P 03 04 42.5 -0.6**
NSS IAmb IAmb 03 04 43.7
comp=Z,48nm,1.2s
NC605 NORSAR Array S 78.82 330 *eP* **P 03 04 42.9 -0.5**
NC303 NORSAR Array S 78.86 331 *eP* **P 03 04 43.7 0.0**
NC303 NORSAR Array S 78.86 331 *eP* **P 03 04 43.2 -0.5**
NC303 IAmb IAmb 03 04 44.4
comp=Z,98nm,1.3s
NB201 NORSAR Array S 78.89 331 *eP* **P 03 04 43.3 -0.6**
NB201 NORSAR Array S 78.89 331 *eP* **P 03 04 41.9 -2.0**
NB201 IAmb IAmb 03 04 43.4
comp=Z,82nm,1.5s
NB2 NORSAR Subarra 78.92 331 P **P 03 04 43.4 -0.7**
comp=Z,38nm,0.9s,baz=92,slow=5.9
NB2 NORSAR Subarra 78.92 331 P **P 03 04 43.4 -0.7**
baz=92,slow=5.9
NB200 NORSAR Array S 78.92 331 *eP* **P 03 04 43.4 -0.7**
NOA NORSAR Array B 78.92 331 P **P 03 04 43.4 -0.7**
comp=Z,8.9nm,0.8s,baz=92,slow=5.6,SNR=22
RETA Reutte 78.97 317 *eP* **P 03 04 44.2 -0.5**
comp=Z,27nm,1.1s,SNR=9.3
FETA Feichten 79.00 316 *eP* **P 03 04 45.0 0.0**
comp=Z,33nm,1.4s
NAO01 NORSAR Array S 79.08 330 *eP* **P 03 04 44.5 -0.4**
NAO01 NORSAR Array S 79.08 330 *eP* **P 03 04 44.2 -0.7**
NAO01 IAmb IAmb 03 04 45.4
comp=Z,86nm,1.1s
MAW Mawson 79.09 192 LR LR 03 34 47.1
comp=Z,488nm,18.6s,baz=55,slow=32
SPA0 Spitsbergen Ar 79.09 348 *eP* **P 03 04 44.4 -0.3**
SPA0 Spitsbergen Ar 79.09 348 *eP* **P 03 04 43.8 -0.9**
SPA0 IAmb IAmb 03 04 45.8
comp=Z,79nm,1.4s
SPITS Spitsbergen Ar 79.09 348 P **P 03 04 44.4 -0.3**
comp=Z,5.0nm,0.4s,baz=66,slow=8.3,SNR=33
NBO02 NORSAR Array S 79.10 331 *eP* **P 03 04 44.6 -0.5**
OSL Oslo 79.13 329 *eP* **P 03 04 44.5 -0.6**
OSL IAmb IAmb 03 04 46.3
comp=Z,41nm,0.9s
NBO00 NORSAR Array S 79.14 331 *eP* **P 03 04 45.7 +0.5**
NBO00 NORSAR Array S 79.14 331 *eP* **P 03 04 45.4 +0.1**
NBO00 IAmb IAmb 03 04 46.0
comp=Z,52nm,1.2s
NC204 NORSAR Array S 79.15 331 *eP* **P 03 04 45.3 -0.1**
NC204 NORSAR Array S 79.15 331 *eP* **P 03 04 45.2 -0.1**
NC204 IAmb IAmb 03 04 46.8
comp=Z,99nm,1.2s
FUORN Ofenpass-Fuorn 79.33 316 *eP* **P 03 04 48.2 +1.3**
comp=Z,97nm,1.6s
DAVA Damuels 79.58 317 *i* P **P 03 04 48.0 -0.1**
comp=Z,24nm,1.2s
KONO Kongsberg 79.69 329 *eP* **P 03 04 48.6 +0.4**
comp=Z,112nm,1.5s
KONO Kongsberg 79.69 329 ⇑ *i*P **P 03 04 48.8 +0.6**
KONO *i* *PP **sP 03 04 59.3 -1.2**
KONO *e* 03 07 50.8
KONO pmax pmax
comp=Z,31nm,1.3s
KONO Kongsberg 79.69 329 *eP* **P 03 04 47.7 -0.5**
KONO IAmb IAmb 03 04 49.1
comp=Z,29nm,0.9s
MUD Monsted U'grnd 79.90 326 *i* P **P 03 04 50.1 +0.7**
comp=Z,94nm,1.3s
MUD Monsted U'grnd 79.90 326 *i* P **P 03 04 50.1 +0.7**
MUD pmax pmax
comp=Z,94nm,1.3s
TUE Stuetta 79.96 316 *eP* **P 03 04 51.3 +1.0**
comp=Z,55nm,1.4s
DOMB Dombas 79.98 332 *eP* **P 03 04 49.0 -0.9**
DOMB IAmb IAmb 03 04 50.6
comp=Z,36nm,1.3s
KEST Kesra 80.48 305 P **P 03 04 53.7 +0.5**
comp=Z,5.8nm,0.6s,baz=256,slow=1.1,SNR=11
KEST LR LR 03 45 26.9
comp=Z,275nm,19.0s,baz=26,slow=39
KEST Kesra 80.48 305 *eP* **P 03 04 53.7 +0.5**
comp=Z,52nm,1.4s
BFO Black Forest 80.59 318 *eP* **P 03 04 53.3 -0.1**
comp=Z,40nm,1.5s
BFO Black Forest 80.59 318 *eP* **P 03 04 53.3 -0.1**
BFO pmax pmax
comp=Z,40nm,1.5s
MOL Molde 80.69 332 *eP* **P 03 04 52.8 -0.7**
MOL IAmb IAmb 03 04 53.8
comp=Z,47nm,1.4s
AKN Aaknes 80.95 332 *eP* **P 03 04 52.5 -2.6**
AKN IAmb IAmb 03 04 56.5
comp=Z,89nm,1.6s
ODD1 Odda 81.19 329 *eP* **P 03 04 54.1 -2.2**
ODD1 IAmb IAmb 03 04 56.7
comp=Z,11nm,1.1s
BLS5 Blasjo 81.29 329 *eP* **P 03 04 56.0 -0.9**
BLS5 IAmb IAmb 03 04 58.4
comp=Z,41nm,1.3s
ECH Echery 81.38 318 *eP* **P 03 04 58.4 +0.8**
comp=Z,42nm,1.7s
ECH Echery 81.38 318 *eP* **P 03 04 58.4 +0.8**
ECH pmax pmax
comp=Z,42nm,1.7s
SENIN Lac Senin/Sane 81.38 316 *eP* **P 03 04 58.6 +0.6**
comp=Z,136nm,2.0s
HINF Hinteralfeld 81.60 317 *eP* **P 03 04 58.2 -0.6**
HINF pmax pmax
comp=Z,70nm,2.2s
LPG La Plagne 81.82 315 *eP* **P 03 05 00.2 -0.1**
LPG pmax pmax
comp=Z,40nm,1.2s
LPL La Plagne 81.83 315 *eP* **P 03 05 00.2 -0.1**
LPL pmax pmax
comp=Z,52nm,1.3s
BNI Bardonecchia 81.90 314 *eP* **P 03 05 04.9 +4.3**
comp=Z,89nm,1.9s
BNI Bardonecchia 81.90 314 *eP* **P 03 05 04.9 +4.3**
BNI pmax pmax
comp=Z,89nm,1.9s
HAU Haudompre 81.93 317 P **P 03 04 58.8 -1.7**
HAU pmax pmax
comp=Z,29nm,1.2s
WLF Walferdange 81.95 319 ⇑ P **P 03 05 01.1 +0.5**
comp=Z,24nm,2.2s
WLF ⇑AP **pP 03 05 09.3 -0.3**
WLF Walferdange 81.95 319 *eP* **P 03 05 01.1 +0.5**
comp=Z,120nm,1.9s
WLF Walferdange 81.95 319 *eP* **P 03 05 01.1 +0.5**
WLF pmax pmax
comp=Z,121nm,1.9s
MEM Membach 81.99 320 ⇑ P **P 03 05 01.1 +0.4**
SUE Sulen 82.06 331 *eP* **P 03 04 58.2 -2.7**
SUE IAmb IAmb 03 04 59.9
comp=Z,132nm,1.8s
CABF La Chapelle 82.20 316 *eP* **P 03 05 00.8 -1.3**
CABF pmax pmax
comp=Z,45nm,1.6s
BCLA Clavier 82.45 320 ⇑ P **P 03 05 03.3 +0.2**
comp=Z,18nm,2.0s
ORIF Oris-en-Rattie 82.48 314 *eP* **P 03 05 05.0 +1.5**
ORIF pmax pmax
comp=Z,165nm,2.3s
DOU Dourbes 82.92 320 ⇓ P **P 03 05 05.5 -0.1**
comp=Z,14nm,1.8s
VIVF Saint-Julien-l 83.34 314 *eP* **P 03 05 09.0 +1.1**
VIVF pmax pmax
comp=Z,25nm,1.3s
AVF Avril sur Loir 84.06 316 *eP* **P 03 05 11.0 -0.5**
AVF pmax pmax
comp=Z,37nm,1.6s
BGF Bois d'Agland 84.43 316 *eP* **P 03 05 14.7 +1.2**
BGF pmax pmax
comp=Z,52nm,1.5s
GAMB Gambell 84.45 26 *eP* **P 03 05 12.8 -0.3**
comp=Z,61nm,1.4s
GAMB LR LR
comp=Z,600nm,20.0s
TAM Tamanrasset 85.05 292 *eP* **P 03 05 18.6 +1.4**
comp=Z,37nm,1.4s
TAM LR LR
comp=Z,1μm,22.0s
TAM Tamanrasset 85.05 292 *eP* **P 03 05 18.6 +1.4**
TAM pmax pmax
comp=Z,37nm,1.4s
TAM MLR MLR
comp=Z,1μm,22.0s
SYO Syowa Base 85.90 197 ⇑ *eP* **P 03 05 22.4 +2.2**
LDF La Druitiere 86.16 318 *eP* **P 03 05 21.6 -0.4**
LDF pmax pmax
comp=Z,45nm,1.4s
GRR Gorron 86.68 318 *eP* **P 03 05 24.5 -0.1**
GRR pmax pmax
comp=Z,47nm,1.4s
FUNA Funafuti 86.87 99 PFAKE 03 05 40.0 +14
FUNA LR LR
comp=Z,6μm,19.0s
EKA Eskdalemuir Ar 86.91 325 P **P 03 05 25.8 +0.2**
comp=Z,8.0nm,0.8s,baz=91,slow=4.9,SNR=13
HIZ Hauiti 88.43 129 PFAKE 03 05 40.0 +6.9
HIZ LR LR
comp=Z,800nm,20.0s
BKZ Black Stump Fm 89.81 130 PFAKE 03 05 50.0 +10
BKZ LR LR
comp=Z,1μm,21.0s
TOC2 Torodi Ar. Sit 89.97 283 PFAKE 03 05 50.0 +9.1
TOC2 LR LR
comp=Z,1μm,22.0s
TOC3 Torodi Ar. Sit 89.97 283 PFAKE 03 05 50.0 +9.1
TOC3 LR LR
comp=Z,900nm,21.0s
TOB2 Torodi Ar. Sit 89.98 283 PFAKE 03 05 50.0 +9.1
TOB2 LR LR
comp=Z,800nm,20.0s
TOC1 Torodi Ar. Sit 89.98 283 PFAKE 03 05 50.0 +9.1
TOC1 LR LR
comp=Z,900nm,20.0s
TOB3 Torodi Ar. Sit 89.98 283 PFAKE 03 05 50.0 +9.0
TOB3 LR LR
comp=Z,900nm,20.0s
TOA2 Torodi Ar. Sit 89.99 283 PFAKE 03 05 50.0 +9.0
TOA2 LR LR
comp=Z,1μm,21.0s
TOC4 Torodi Ar. Sit 89.99 283 PFAKE 03 05 50.0 +9.0
TOC4 LR LR
comp=Z,900nm,20.0s
TOA0 Torodi Ar. Sit 89.99 283 *eP* **P 03 05 42.1 +1.1**
TOA0 LR LR
comp=Z,900nm,21.0s
TORD Torodi Ar. Bea 89.99 283 P **P 03 05 41.6 +0.7**
comp=Z,2.4nm,0.7s,baz=93,slow=4.4,SNR=20
TOA1 Torodi Ar. Sit 89.99 283 *eP* **P 03 05 41.6 +0.6**
TOA1 LR LR
comp=Z,900nm,19.0s
TOA3 Torodi Ar. Sit 89.99 283 PFAKE 03 05 50.0 +9.0
TOA3 LR LR
comp=Z,900nm,20.0s
TOB4 Torodi Ar. Sit 90.00 283 PFAKE 03 05 50.0 +8.9
TOB4 LR LR
comp=Z,800nm,20.0s
TOB5 Torodi Ar. Sit 90.00 283 PFAKE 03 05 50.0 +8.9
TOB5 LR LR
comp=Z,900nm,20.0s
TOC7 Torodi Ar. Sit 90.00 283 PFAKE 03 05 50.0 +8.9
TOC7 LR LR
comp=Z,900nm,20.0s
TOC5 Torodi Ar. Sit 90.01 283 PFAKE 03 05 50.0 +8.9
TOC5 LR LR
comp=Z,900nm,19.0s
TOC6 Torodi Ar. Sit 90.02 283 PFAKE 03 05 50.0 +8.9
TOC6 LR LR
comp=Z,900nm,20.0s
SCO Scoresbysund 90.27 342 *eP* **P 03 05 42.6 +1.5**
comp=Z,36nm,1.5s
SCO Scoresbysund 90.27 342 *eP* **P 03 05 42.6 +1.5**
SCO pmax pmax
comp=Z,36nm,1.5s
ES19 SONSECA Array 90.38 310 *eP* **P 03 05 42.8 +0.4**
ESDC Sonseca Array 90.43 310 P **P 03 05 43.0 +0.4**
comp=Z,3.1nm,0.7s,baz=59,slow=4.3,SNR=19
ESLA Sonseca Array 90.43 310 *eP* **P 03 05 44.0 +1.3**
comp=Z,23nm,1.3s
PAB San Pablo 90.75 310 *eP* **P 03 05 45.0 +0.8**
comp=Z,17nm,1.1s
PAB San Pablo 90.75 310 *eP* **P 03 05 45.0 +0.8**
PAB pmax pmax
comp=Z,17nm,1.1s
COLD Coldfoot 91.93 20 *eP* **P 03 05 49.9 +0.9**
comp=Z,63nm,1.9s
SVW2 Sparrevohn 92.36 27 *eP* **P 03 05 52.1 +1.1**
comp=Z,61nm,1.4s
MVO Moncorvo 92.40 312 *eP* **P 03 05 55.0 +3.2**
MLY Manley 92.74 23 *eP* **P 03 05 53.4 +0.6**
comp=Z,27nm,1.4s
CAST Castle Rocks 92.92 24 *eP* **P 03 05 54.4 +0.8**
comp=Z,87nm,1.4s
MTE Manteigas 92.96 311 *eP* **P 03 05 55.5 +1.1**
PCBR Castelo Branco 93.04 311 *eP* **P 03 05 58.1 +3.4**
BPAW Bear Paw Mtn. 93.06 23 *eP* **P 03 05 54.5 +0.3**
comp=Z,121nm,1.6s
BPAW LR LR
comp=Z,700nm,18.0s
PBAR Barrancos 93.10 309 *eP* **P 03 05 55.5 +0.5**
PPLA Purkeypile 93.10 25 *eP* **P 03 05 55.1 +0.5**
comp=Z,58nm,1.6s
SUMG Summit 93.39 347 *i* P **P 03 05 55.5 -0.6**
comp=Z,90nm,1.8s
SUMG Summit 93.39 347 *eP* **P 03 05 56.2 +0.1**
comp=Z,32nm,1.3s
SUMG Summit 93.39 347 *i* P **P 03 05 55.5 -0.6**
SUMG pmax pmax
comp=Z,90nm,1.8s
TRF Thorofare Moun 93.63 24 *eP* **P 03 05 58.0 +0.9**
comp=Z,60nm,1.9s
VNDA Vanda 93.67 168 P **P 03 05 57.1 +0.4**
comp=Z,1.2nm,0.8s,baz=312,slow=5.4,SNR=2.2

VNDA LR LR 03 46 19.8
comp=Z,274nm,18.0s,baz=304,slow=34
MDM Murphy Dome 93.71 22 *e*P **P 03 05 57.5 +0.2**
comp=Z,55nm,1.6s
PVAQ Vaqueiros 93.80 309 *e*P **P 03 06 01.4 +3.2**
SPU Mount Spurr 93.90 26 *e*P **P 03 05 58.1 -0.1**
FYU Fort Yukon 93.96 20 *e*P **P 03 05 59.6 +1.3**
comp=Z,61nm,1.5s
FYU LR LR
comp=Z,1µm,22.0s
MCK McKinley 94.03 23 *e*P **P 03 05 58.6 -0.1**
comp=Z,56nm,1.5s
MCK McKinley 94.03 23 *e*P **P 03 05 58.6 -0.1**
MCK pmax pmax
comp=Z,56nm,1.5s
RND Reindeer 94.22 24 *e*P **P 03 05 59.3 -0.4**
comp=Z,99nm,2.0s
RND Reindeer 94.22 24 *e*P **P 03 05 59.3 -0.4**
RND pmax pmax
comp=Z,99nm,2.0s
IL1 Eielson Array 94.30 22 *e*P **P 03 05 58.1 -1.8**
ILAR Eielson Array 94.30 22 P **P 03 05 59.8 -0.2**
comp=Z,1.4nm,0.6s,baz=288,slow=4.6,SNR=19
ILAR PP **PP 03 09 48.5 +1.9**
comp=Z,1.6nm,1.1s,baz=294,slow=5.7,SNR=6.5
ILAR LR LR 03 51 06.5
comp=Z,408nm,21.2s,baz=316,slow=37
ILB Eielson Array 94.30 22 *e*P **P 03 05 59.8 -0.2**
ILB *e*PP **PP 03 09 49.9 +3.3**
SUA Susitna One 94.34 26 *e*P **P 03 06 00.3 -0.1**
comp=Z,47nm,1.2s
TULEG Thule 94.45 356 *e*P **P 03 05 59.9 -0.5**
comp=Z,20nm,1.2s
RC01 Rabbit Creek A 94.94 26 *e*P **P 03 06 03.0 0.0**
comp=Z,63nm,1.4s
PMR Palmer 94.97 25 *e*P **P 03 06 02.6 -0.4**
comp=Z,19nm,1.2s
PMR Palmer 94.97 25 *e*P **P 03 06 02.6 -0.4**
PMR pmax pmax
comp=Z,19nm,1.2s
BRLK Bradley Lake 95.04 27 *e*P **P 03 06 03.2 -0.2**
comp=Z,159nm,1.9s
KDAK Kodiak Island 95.09 29 P **P 03 06 03.4 -0.3**
comp=Z,7.1nm,0.8s,baz=316,slow=4.3,SNR=10
KDAK Kodiak Island 95.09 29 *e*P **P 03 06 03.7 0.0**
comp=Z,134nm,2.0s
KDAK Kodiak Island 95.09 29 *i* P **P 03 06 04.0 +0.4**
SML Sawmill 95.20 25 *e*P **P 03 06 04.6 +0.4**
comp=Z,52nm,1.4s
SML Sawmill 95.20 25 *e*P **P 03 06 04.6 +0.4**
SML pmax pmax
comp=Z,52nm,1.4s
KOWA Kowa 95.25 285 PFAKE 03 06 20.0 +15
KOWA LR LR
comp=Z,900nm,20.0s
SEW Seward 95.53 27 *e*P **P 03 06 04.3 -1.3**
comp=Z,63nm,1.7s
SCM Sheep Creek Mo 95.60 25 *e*P **P 03 06 07.2 +1.1**
comp=Z,72nm,1.7s
SCM Sheep Creek Mo 95.60 25 *e*P **P 03 06 07.2 +1.1**
SCM pmax pmax
comp=Z,72nm,1.7s
PAX Paxson 95.77 23 *e*P **P 03 06 07.9 +1.1**
comp=Z,23nm,1.6s
PAX Paxson 95.77 23 *e*P **P 03 06 07.9 +1.1**
PAX pmax pmax
comp=Z,23nm,1.6s
EGAK Eagle 96.36 21 *e*P **P 03 06 09.4 +0.1**
comp=Z,28nm,1.8s
MENT Mentasta 96.46 23 *e*P **P 03 06 09.2 -0.6**
comp=Z,44nm,1.7s
MENT *e*pP **pP 03 06 19.4 +0.4**
INK Inuvik 96.48 16 P **P 03 06 08.9 -0.8**
comp=Z,7.5nm,1.0s,baz=329,slow=5.1,SNR=17
INK Inuvik 96.48 16 *e*P **P 03 06 09.3 -0.5**
comp=Z,30nm,1.3s
INK Inuvik 96.48 16 *e*P **P 03 06 09.3 -0.5**
INK pmax pmax
comp=Z,30nm,1.3s
RES Resolute Bay 96.76 2 *e*P **P 03 06 10.0 -0.9**
comp=Z,12nm,0.8s
RES Resolute Bay 96.76 2 *e*P **P 03 06 10.0 -0.9**
RES pmax pmax
comp=Z,12nm,0.8s
DAWY Dawson 97.40 21 *e*P Pdif 03 06 14.2 0.0
comp=Z,23nm,1.5s
SNAA Sanae 100.10 199 PFAKE 03 06 40.0 +14
SNAA LR LR
comp=Z,700nm,19.0s
YKA Yellowknife Ar 105.89 13 Pdiff **Pdif 03 06 51.8 -0.1**
comp=Z,0.5nm,0.9s,baz=324,slow=5.4,SNR=6.8
YKA PP **PP 03 11 12.7 -1.5**
comp=Z,0.4nm,0.7s,baz=332,slow=8.0,SNR=5.4
YKA PKKPbc **PKKPbc 03 22 26.8 -2.7**
comp=Z,0.3nm,0.7s,baz=148,slow=2.8,SNR=5.8
YKB5 Yellowknife Ar 105.89 13 *e*Pdif **Pdif 03 06 51.8 -0.1**
YKB5 *e*PP **PP 03 11 12.7 -1.5**
YKB5 *e*PKKPbc **PKKPbc 03 22 26.8 -2.7**
TBI Tubuai 117.97 112 *e*LR LR 03 47 27.5
comp=Z,484nm,40.0s
PPT2 Papeete2 117.97 105 *e*SP SP 03 22 29.2 +3.6
comp=Z,171nm,26.8s
PPT2 Papeete2 117.97 105 *e*LR LR 03 47 26.0
comp=Z,786nm,34.2s
MSO Missoula 119.64 21 P **PKPdf 03 11 30.3 -0.6**
baz=328
MSO Missoula 119.64 21 *e*PKPdf **PKPdf 03 11 30.7 -0.3**
ULM Lac du Bonnet 120.87 7 PKP **PKPdf 03 11 32.0 -1.0**
comp=Z,1.1nm,0.5s,baz=52,slow=3.7,SNR=4.6
DGMT Dagmar 121.09 14 P **PKPdf 03 11 33.5 -0.1**
baz=339
MFID Camas Ranch 121.75 25 *e*PKPdf **PKPdf 03 11 35.9 +0.8**
GDXM Geysers 121.96 33 PFAKE 03 11 50.0 +14
GDXM LR LR
comp=Z,300nm,18.0s
HLID Hailey 122.21 24 P **PKPdf 03 11 35.6 -0.5**
baz=327
HLID Hailey 122.21 24 *e*PKPdf **PKPdf 03 11 36.2 +0.1**
A33A Warroad 122.22 7 P **PKPdf 03 11 35.2 -0.5**
baz=349
LAO LASA Array 122.22 16 P **PKPdf 03 11 35.4 -0.5**
baz=337
LAO LASA Array 122.22 16 *e*PKPdf **PKPdf 03 11 37.5 +1.6**
YHB Horse Butte 122.40 21 *e*PKPdf **PKPdf 03 11 38.7 +2.2**
YHH Holmes Hill 122.49 21 *e*PKPdf **PKPdf 03 11 38.0 +1.3**
B32A Ashes, Strandq 122.60 8 P **PKPdf 03 11 35.4 -1.1**
baz=348
MDND Maddock 122.64 11 P **PKPdf 03 11 35.7 -0.9**
baz=344
YFT Old Faithful 122.79 21 *e*PKPdf **PKPdf 03 11 39.8 +2.5**
H17A Grant Village 122.93 21 *e*PKPdf **PKPdf 03 11 39.3 +1.7**
B35A Bob, Littlefor 122.97 6 P **PKPdf 03 11 36.3 -0.9**
baz=351
C31A Landman Farms, 123.01 9 P **PKPdf 03 11 35.9 -1.4**
baz=346
FXWY Fox Creek 123.43 21 *e*PKPdf **PKPdf 03 11 38.8 +0.3**
MOOW Moose Ponds 123.44 21 *e*PKPdf **PKPdf 03 11 38.7 +0.2**
C34A RKJ Ranch, Bem 123.54 7 P **PKPdf 03 11 37.6 -0.7**
baz=350
EYMN Ely 123.57 4 P **PKPdf 03 11 37.5 -0.9**
baz=354
TPAW Teton Pass 123.59 21 *e*PKPdf **PKPdf 03 11 39.6 +0.8**
C35A Jirik Farms, M 123.60 6 P **PKPdf 03 11 37.4 -1.0**
baz=351
LOHW Long Hollow 123.60 21 *e*PKPdf **PKPdf 03 11 39.0 +0.2**
C36A Pine Crest Far 123.65 5 P **PKPdf 03 11 37.5 -1.1**
baz=352
SNOW Snow King Moun 123.68 21 *e*PKPdf **PKPdf 03 11 40.1 +1.0**
REDW Red Top Meadow 123.73 21 *e*PKPdf **PKPdf 03 11 39.6 +0.5**
C39A Grand Marais 123.79 3 P **PKPdf 03 11 38.0 -0.7**
baz=356
CMB Columbia Colle 123.81 32 PFAKE 03 11 50.0 +11
CMB LR LR
comp=Z,200nm,18.0s
D36A Goodland 124.20 6 P **PKPdf 03 11 38.7 -0.9**
baz=352
D35A Remer 124.20 6 P **PKPdf 03 11 38.7 -0.9**
baz=351
D37A Cotton 124.28 5 P **PKPdf 03 11 38.8 -1.0**
baz=353
HVU Hansel Valley 124.36 24 *e*PKPdf **PKPdf 03 11 41.0 +0.8**
HVU Hansel Valley 124.36 24 *e*PKIKP **PKPdf 03 11 41.1 +0.8**
NV01 Mina Array Sit 124.58 30 *e*PKPdf **PKPdf 03 11 41.0 +0.1**
NVAR Mina Array Bea 124.58 30 PKP **PKPdf 03 11 40.4 -0.5**
comp=Z,4.8nm,1.1s,baz=269,slow=0.6,SNR=16
NV11 Mina Array Sit 124.66 30 *e*PKPdf **PKPdf 03 11 41.8 +0.9**

E35A Pequot Lakes 124.68 7 P **PKPdf 03 11 39.4 -1.1**
baz=350
BW06 Boulder Array 124.71 21 P **PKPdf 03 11 40.1 -0.9**
baz=332
BW06 Boulder Array 124.71 21 *e*PKPdf **PKPdf 03 11 40.7 -0.3**
PD31 Pinedale Array 124.71 21 *e*PKPdf **PKPdf 03 11 40.2 -0.8**
PDAR Pinedale Array 124.71 21 PKP **PKPdf 03 11 40.4 -0.6**
comp=Z,4.6nm,1.1s,baz=34,slow=0.5,SNR=21
PDAR Pinedale Array 124.71 21 *e*PKPdf **PKPdf 03 11 40.0 -1.0**
E36A McGregor 124.84 6 P **PKPdf 03 11 40.1 -0.7**
baz=352
E38A The Farm, Brul 124.90 4 P **PKPdf 03 11 40.5 -0.4**
baz=354
BGU Big Grassy Mou 124.98 25 *e*PKPdf **PKPdf 03 11 41.8 +0.3**
HWUT Hardware Ranch 124.98 23 *e*PKPdf **PKPdf 03 11 41.3 -0.2**
F33A 5 Mile Ranch, 125.13 9 P **PKPdf 03 11 41.0 -0.4**
baz=348
RSSD Black Hills 125.18 16 P **PKPdf 03 11 41.2 -0.6**
baz=338
RSSD Black Hills 125.18 16 *e*PKPdf **PKPdf 03 11 41.7 -0.2**
RSSD Black Hills 125.18 16 *e*PKIKP **PKPdf 03 11 41.7 -0.2**
E41A Kenton 125.19 2 P **PKPdf 03 11 41.1 -0.4**
baz=357
E39A Mellen 125.20 4 P **PKPdf 03 11 41.3 -0.3**
baz=355
E42A Champion 125.26 1 P **PKPdf 03 11 41.8 +0.1**
baz=358
E43A Lone Tree Farm 125.33 1 P **PKPdf 03 11 41.7 -0.1**
baz=359
E45A Woodshed Hills, 125.34 359 P **PKPdf 03 11 41.7 -0.1**
baz=1.4
F35A Swanville 125.35 7 P **PKPdf 03 11 41.7 -0.1**
baz=350
F36A Milaca 125.46 6 P **PKPdf 03 11 41.5 -0.5**
baz=351
F38A Pierce - Schro 125.52 5 P **PKPdf 03 11 41.7 -0.4**
baz=353
F39A Loretta 125.64 4 P **PKPdf 03 11 42.1 -0.3**
baz=354
DUG Dugway, Tooele 125.68 25 P **PKPdf 03 11 43.0 +0.1**
baz=327
DUG Dugway, Tooele 125.68 25 *e*PKPdf **PKPdf 03 11 43.5 +0.7**
DUG Dugway, Tooele 125.68 25 *e*PKIKP **PKPdf 03 11 43.5 +0.7**
F40A Park Falls 125.68 3 P **PKPdf 03 11 42.3 -0.2**
baz=355
F37A Hinrichs Farm, 125.69 5 P **PKPdf 03 11 42.3 -0.1**
baz=352
G33A Ortonville 125.74 9 P **PKPdf 03 11 42.3 -0.3**
baz=348
G34A Benson 125.81 8 P **PKPdf 03 11 42.9 +0.2**
baz=349
K22A Casper 125.82 18 *e*PKPdf **PKPdf 03 11 42.6 -0.4**
F41A Three Lakes 125.91 2 P **PKPdf 03 11 43.1 +0.1**
baz=357
R11A Troy Canyon, C 125.97 28 P **PKPdf 03 11 43.4 -0.1**
baz=323
R11A Troy Canyon, C 125.97 28 *e*PKPdf **PKPdf 03 11 43.8 +0.3**
G35A Watkins 125.98 7 P **PKPdf 03 11 42.9 -0.2**
baz=350
F45A CMU Biological 126.02 359 P **PKPdf 03 11 43.1 +0.1**
baz=1.0
LONY Lake Ozonia 126.03 350 P **PKPdf 03 11 42.9 -0.3**
baz=14
SUSD Miller 126.04 11 P **PKPdf 03 11 43.1 -0.1**
baz=344
G36A St. Michael 126.06 6 P **PKPdf 03 11 43.3 +0.2**
baz=351
NLU North Lily Min 126.19 24 *e*PKPdf **PKPdf 03 11 44.5 +0.6**
CWC Cottonwood Cre 126.22 32 P **PKPdf 03 11 43.5 -0.5**
baz=320
G39A Holcombe 126.24 4 P **PKPdf 03 11 43.0 -0.5**
baz=354
H32A Carlson Farm, 126.25 10 P **PKPdf 03 11 43.2 -0.5**
baz=346
G38A Ridgeland 126.31 5 P **PKPdf 03 11 43.3 -0.3**
baz=353
G40A Rib Lake 126.33 3 P **PKPdf 03 11 42.9 -0.8**
baz=355
H34A Spellman Lake, 126.36 8 P **PKPdf 03 11 43.6 -0.2**
baz=348
PKM Mcpherson Peak 126.45 34 P **PKPdf 03 11 44.0 -0.5**
baz=317
RWWY Rawlins 126.47 19 *e*PKPdf **PKPdf 03 11 44.1 -0.4**
DAC Darwin (Calif) 126.60 31 *e*PKPdf **PKPdf 03 11 45.9 +1.2**
DAC Darwin (Calif) 126.60 31 *e*PKIKP **PKPdf 03 11 45.9 +1.2**
ISA Isabella, Lake 126.61 33 P **PKPdf 03 11 44.1 -0.5**
baz=319
PSUT Pine Spring 126.61 27 *e*PKPdf **PKPdf 03 11 45.6 +0.8**
H36A Jessenland, He 126.69 7 P **PKPdf 03 11 44.0 -0.4**
baz=351
MPMC Manual Prospec 126.82 32 P **PKPdf 03 11 44.7 -0.5**
baz=320
H39A Augusta 126.84 4 P **PKPdf 03 11 44.7 0.0**
baz=354
TAOE Nuku Hiva Isla 126.84 95 *e*LR LR 03 51 39.4
comp=Z,537nm,32.1s
H40A Chili 126.96 4 P **PKPdf 03 11 44.7 -0.2**
baz=355
TMUT Trail Mountain 127.10 24 *e*PKPdf **PKPdf 03 11 46.6 +0.8**
P17A Butcher Ranch, 127.13 24 *e*PKPdf **PKPdf 03 11 46.6 +0.9**
ECSD EROS Data Cent 127.14 9 P **PKPdf 03 11 45.2 -0.2**
baz=347
ECSD EROS Data Cent 127.14 9 *e*PKPdf **PKPdf 03 11 45.3 0.0**
J31A Geddes 127.19 11 P **PKPdf 03 11 45.5 0.0**
baz=345
P18A Preston Nutter 127.19 23 *e*PKPdf **PKPdf 03 11 46.5 +0.5**
SCZ2 Santa Cruz Isl 127.20 35 P **PKPdf 03 11 45.1 -0.6**
baz=317
I37A Lemond, Waseca 127.30 6 P **PKPdf 03 11 45.4 -0.2**
baz=351
MSU Marysvale 127.36 25 *e*PKPdf **PKPdf 03 11 47.6 +1.4**
MSU Marysvale 127.36 25 *e*PKIKP **PKPdf 03 11 47.6 +1.4**
Q16A Castle Valley 127.44 24 *e*PKPdf **PKPdf 03 11 47.5 +1.2**
O20A White River Ci 127.50 21 P **PKPdf 03 11 45.9 -0.5**
baz=332
O20A White River Ci 127.50 21 *e*PKPdf **PKPdf 03 11 46.8 +0.4**
SRU San Rafael Swe 127.53 24 *e*PKPdf **PKPdf 03 11 47.1 +0.7**
SRU San Rafael Swe 127.53 24 *e*PKIKP **PKPdf 03 11 47.1 +0.7**
I41A Arkdale 127.55 3 P **PKPdf 03 11 45.9 -0.2**
baz=356
SHOC Shoshone, Teco 127.57 31 P **PKPdf 03 11 46.6 +0.2**
baz=322
N23A Red Feather La 127.59 19 P **PKPdf 03 11 46.1 -0.5**
baz=335
N23A Red Feather La 127.59 19 *e*PKPdf **PKPdf 03 11 47.5 +0.8**
CCUT Cedar City 127.64 27 *e*PKPdf **PKPdf 03 11 48.5 +1.7**
SHPR Sheep Range 127.64 29 *e*PKPdf **PKPdf 03 11 48.5 +1.7**
J35A Milford 127.71 8 P **PKPdf 03 11 46.5 0.0**
baz=349
MTPU Mount Pierson 127.75 26 *e*PKPdf **PKPdf 03 11 49.2 +2.1**
GSC Goldstone, Bar 127.76 32 P **PKPdf 03 11 46.4 -0.4**
baz=321
GSC Goldstone, Bar 127.76 32 *e*PKPdf **PKPdf 03 11 47.6 +0.7**
GSC Goldstone, Bar 127.76 32 *e*PKIKP **PKPdf 03 11 47.6 +0.7**
I43A Langenfeld Bro 127.80 2 P **PKPdf 03 11 46.5 -0.1**
baz=358
K31A O'Neill 127.83 12 P **PKPdf 03 11 46.7 0.0**
baz=344
LCMT Little Creek M 128.13 27 *e*PKPdf **PKPdf 03 11 48.8 +1.2**
J43A Natural Harves 128.29 2 P **PKPdf 03 11 46.3 -1.2**
baz=357
KNB Kanab 128.32 27 *e*PKPdf **PKPdf 03 11 49.8 +1.8**
KNB Kanab 128.32 27 *e*PKIKP **PKPdf 03 11 49.8 +1.8**
J42A Columbus 128.33 3 P **PKPdf 03 11 46.8 -0.8**
baz=356
HEC Hector,Ludlow 128.37 32 P **PKPdf 03 11 47.5 -0.5**
baz=321
JFWS Jewell Farm 128.67 4 P **PKPdf 03 11 47.8 -0.4**
baz=355
ISCO Idaho Springs 128.69 19 P **PKPdf 03 11 47.7 -1.1**
baz=335
K38A Parkersburg 128.72 6 P **PKPdf 03 11 48.0 -0.3**
baz=352
GMRC Granite Mounta 128.75 31 P **PKPdf 03 11 49.3 +0.5**
baz=322
SMCO Snowmass 128.80 21 *e*PKPdf **PKPdf 03 11 49.5 +0.3**
MURC Murrieta 128.85 33 P **PKPdf 03 11 49.1 +0.1**
baz=320
K42A Prairie Point, 128.85 3 P **PKPdf 03 11 48.6 0.0**
baz=356
YLE Yale 128.88 347 PFAKE 03 12 00.0 +11
YLE LR LR
comp=Z,1µm,20.0s
L35A Bielow Farm, R 128.89 9 P **PKPdf 03 11 48.9 +0.1**
baz=348
L34A Svendsen Farm, 128.90 10 P **PKPdf 03 11 48.9 +0.2**
baz=347
K41A Shullsburg 128.97 4 P **PKPdf 03 11 48.7 -0.1**
baz=355
U15A North Rim 129.05 27 *e*PKPdf **PKPdf 03 11 50.3 +0.8**
BGNE Belgrade 129.12 11 P **PKPdf 03 11 49.1 -0.1**
baz=345
L37A Phoenix Point, 129.12 7 P **PKPdf 03 11 49.0 -0.1**
baz=350
BELC Belle Mtn. Jos 129.19 32 P **PKPdf 03 11 49.6 0.0**
baz=321
L38A Oak Wood Farm, 129.20 6 P **PKPdf 03 11 49.1 -0.1**
baz=352
PFO Pinyon Flats O 129.24 33 P **PKPdf 03 11 49.7 0.0**
baz=320
L39A Vinton 129.32 5 P **PKPdf 03 11 49.2 -0.3**
baz=353
L40A Anamosa 129.44 5 P **PKPdf 03 11 50.0 +0.2**
baz=354
L43A Garden Prairie 129.47 2 P **PKPdf 03 11 49.7 -0.1**
baz=357
L41A Preston 129.49 4 P **PKPdf 03 11 49.6 -0.2**
baz=355
IRM Iron Mountain 129.50 31 P **PKPdf 03 11 50.4 +0.3**
baz=322
BC3 Big Chuckawall 129.74 32 P **PKPdf 03 11 51.0 +0.3**
baz=321
MONP2 Monument Peak 129.81 33 P **PKPdf 03 11 51.2 +0.2**
baz=320
M54A Oil Creek Stat 129.82 353 P **PKPdf 03 11 50.7 +0.2**
baz=8.5
N59A State Game Lan 129.84 350 P **PKPdf 03 11 50.7 +0.2**
baz=14
M38A Pleasantville 129.89 7 P **PKPdf 03 11 50.3 -0.3**
baz=351
PDMCI Parker Dam,Lak 129.90 30 P **PKPdf 03 11 51.3 +0.5**
baz=323
M39A Webster 129.94 6 P **PKPdf 03 11 51.0 +0.3**
baz=352
MVCO Mesa Verde 129.97 23 P **PKPdf 03 11 51.4 +0.1**
baz=331
MVCO Mesa Verde 129.97 23 *e*PKPdf **PKPdf 03 11 52.4 +1.1**
SWSC Sam W. Stewart 130.10 33 P **PKPdf 03 11 51.9 +0.6**
baz=321
S22A 4UR Ranch, Cre 130.12 21 P **PKPdf 03 11 51.5 -0.1**
baz=333
S22A 4UR Ranch, Cre 130.12 21 *e*PKPdf **PKPdf 03 11 52.5 +1.0**
Y12C Blythe 130.14 31 P **PKPdf 03 11 51.8 +0.5**
baz=322
Y12C Blythe 130.14 31 *e*PKPdf **PKPdf 03 11 53.3 +2.0**
IKP In-Ko-Pah, Jac 130.16 33 P **PKPdf 03 11 51.3 -0.2**
baz=320
M41A Milan 130.18 4 P **PKPdf 03 11 51.3 +0.2**
baz=354
M43A Waltham Townsh 130.21 3 P **PKPdf 03 11 51.2 0.0**
baz=357
WUAZ Wupatki 130.22 27 P **PKPdf 03 11 51.7 +0.1**
baz=327
M44A Midewin, Midew 130.29 2 P **PKPdf 03 11 51.4 0.0**
baz=358
KSCO Kaye Shedlock' 130.32 17 P **PKPdf 03 11 51.9 +0.2**
baz=339
N39A Derby Farms, D 130.50 6 P **PKPdf 03 11 52.2 +0.5**
baz=352
SDCO Great Sand Dun 130.59 20 P **PKPdf 03 11 51.8 -0.6**
baz=335
Y14A Wickenburg 130.75 30 *e*PKPdf **PKPdf 03 11 53.8 +1.3**
O56A Blue Knob Stat 130.91 352 P **PKPdf 03 11 52.6 -0.1**
baz=10
X16A Lo Mia Camp, P 131.10 28 *e*PKPdf **PKPdf 03 11 54.7 +1.3**
P34A Walnut Farm, R 131.18 11 P **PKPdf 03 11 53.1 0.0**
baz=346
RKT Rikitea 131.24 113 *e*LR LR 03 53 25.0
comp=Z,338nm,37.5s
W18A Petrified Fore 131.27 26 P **PKPdf 03 11 53.5 -0.1**
baz=329
W18A Petrified Fore 131.27 26 *e*PKPdf **PKPdf 03 11 54.9 +1.2**
113A Mohawk Valley, 131.31 31 *e*PKPdf **PKPdf 03 11 55.3 +1.7**
O40A La Belle 131.31 6 P **PKPdf 03 11 53.0 -0.4**
baz=353,SNR=8.4
SFIN Lafayette 131.32 1 P **PKPdf 03 11 53.5 +0.1**
baz=359
P35A Duane Minner, 131.34 10 P **PKPdf 03 11 53.3 -0.1**
baz=347
ACSO Alum Creek Sta 131.37 357 P **PKPdf 03 11 53.3 -0.2**
baz=4.4
MHTCO State Highway 131.42 20 *e*PKPdf **PKPdf 03 11 55.4 +1.5**
O47A Sheridan 131.47 360 P **PKPdf 03 11 53.4 -0.2**
baz=0.2
T25A Trinidad 131.50 19 P **PKPdf 03 11 53.8 -0.3**
baz=336
P37A Lathrop 131.54 8 P **PKPdf 03 11 53.7 -0.1**
baz=349
KSU1 Kansas State U 131.65 11 P **PKPdf 03 11 53.8 -0.3**
baz=346
MCWV Mont Chateau 131.67 353 P **PKPdf 03 11 53.5 -0.5**
baz=8.5
Q34A Chapman 131.76 11 P **PKPdf 03 11 54.3 0.0**
baz=346
P41A Barry, Barry 131.83 5 P **PKPdf 03 11 54.1 -0.2**
baz=354
P39B Salisbury 131.84 7 P **PKPdf 03 11 54.3 -0.1**
baz=352,SNR=7.4
Q35A Mercer Eighty, 131.99 10 P **PKPdf 03 11 54.7 0.0**
baz=329,SNR=7.8
Q38A Cooks Store, C 132.26 8 P **PKPdf 03 11 54.9 -0.3**
baz=350
R34A Isabella, Hill 132.30 12 P **PKPdf 03 11 54.8 -0.5**
baz=345
R35A Emporia Munici 132.48 11 P **PKPdf 03 11 55.5 -0.2**
baz=347
Q41A Truxton 132.53 5 P **PKPdf 03 11 55.9 +0.2**
baz=353
Q42A Golden Eagle 132.63 4 P **PKPdf 03 11 55.8 -0.1**
baz=354
ANMO Albuquerque 132.75 23 P **PKPdf 03 11 57.1 +0.6**
baz=332
ANMO Albuquerque 132.75 23 *e*PKPdf **PKPdf 03 11 58.0 +1.5**
ANMO Albuquerque 132.75 23 *i*PKIKP **PKPdf 03 11 57.3 +0.8**
R39A Chumby, Stover 132.97 7 P **PKPdf 03 11 56.8 +0.3**
baz=351,SNR=7.1
R38A Fenwick Farm, 132.98 8 P **PKPdf 03 11 56.6 +0.1**
baz=350
R40A Maddies Statio 133.08 6 P **PKPdf 03 11 56.7 -0.1**
baz=352
TUC Tucson 133.15 29 P **PKPdf 03 11 57.7 +0.6**
baz=326
TUC Tucson 133.15 29 *e*PKPdf **PKPdf 03 11 59.7 +2.6**
TUC Tucson 133.15 29 *e*PKIKP **PKPdf 03 11 59.7 +2.6**
R41A Rosebud 133.17 5 P **PKPdf 03 11 57.9 +1.0**
baz=353,SNR=6.2
R42A Luebbering 133.24 5 P **PKPdf 03 11 57.4 +0.3**
baz=354
R45A Skylar, Fairfi 133.37 2 P **PKPdf 03 11 57.6 +0.4**
baz=357
BNM Barren Site 133.38 23 *e*PKPdf **PKPdf 03 12 00.4 +2.7**
R44A Waltonville 133.38 3 P **PKPdf 03 11 57.5 +0.2**
baz=356
R47A Wooly Knot Far 133.41 0 P **PKPdf 03 11 57.5 +0.2**
baz=360
S38A Stockton 133.53 8 P **PKPdf 03 11 57.3 -0.3**
baz=350
T34A McClaskey Farm 133.55 12 P **PKPdf 03 11 58.1 +0.4**
baz=345
S39A Bolivar 133.55 8 P **PKPdf 03 11 57.9 +0.3**
baz=350,SNR=6.2
S40A Lebanon 133.74 7 P **PKPdf 03 11 58.7 +0.6**
baz=352,SNR=7.2
S42A Caledonia 133.74 5 P **PKPdf 03 11 57.8 -0.2**
baz=354
S41A Jillco Farms, 133.83 6 P **PKPdf 03 11 58.3 +0.1**
baz=353
S44A Carbondale 133.93 3 P **PKPdf 03 11 58.3 0.0**
baz=356
S43A Fulton Ridge, 134.00 4 P **PKPdf 03 11 58.0 -0.5**
baz=355
T38A Diamond 134.05 9 P **PKPdf 03 11 58.4 -0.2**
baz=349
T40A Mansfield 134.18 7 P **PKPdf 03 11 58.8 -0.1**
baz=352
T41A Mountain View 134.37 6 P **PKPdf 03 11 59.0 -0.2**
baz=352
AMTX Amarillo 134.44 18 *e*PKPpre PKPpre 03 11 45.0
T42A Van Buren 134.45 5 P **PKPdf 03 11 59.2 -0.2**
baz=353
T43A Greenville 134.47 4 P **PKPdf 03 11 59.5 +0.1**
baz=354
T48A Bowling Green 134.59 0 P **PKPdf 03 11 59.6 0.0**
baz=360

T47A	**Sharon Grove**	**134.71**	**1**	P	**PKPdf**	**03 11 59.6**	**-0.2**
	baz=359						
U39A	**Green Forest**	**134.81**	**8**	P	**PKPdf**	**03 11 59.7**	**-0.4**
	baz=350						
MSTX	**Muleshoe**	**134.93**	**19**	P	**PKPdf**	**03 12 00.4**	**-0.1**
	baz=337						
MSTX	**Muleshoe**	**134.93**	**19**	*e*PKPdf	**PKPdf**	**03 12 00.8**	**+0.2**
U42A	**Revenden**	**135.11**	**6**	P	**PKPdf**	**03 12 00.7**	**+0.1**
	baz=353						
NCAT	**North Carolina**	**135.19**	**352**	PFAKE		03 12 10.0	+9.2
NCAT				LR	LR		
	comp=Z,600nm,20.0s						
V40A	**Witts Springs**	**135.47**	**8**	P	**PKPdf**	**03 12 01.0**	**-0.3**
	baz=351						
WVT	**Waverly**	**135.55**	**2**	P	**PKPdf**	**03 12 01.4**	**-0.1**
	baz=358						
W39A	**Magazine**	**135.93**	**9**	P	**PKPdf**	**03 12 01.9**	**-0.3**
	baz=349						
MNTX	**Cornudas Mount**	**136.03**	**24**	*e*PKPdf	**PKPdf**	**03 12 03.6**	**+1.1**
W41B	**Gary Mavity, V**	**136.16**	**7**	P	**PKPdf**	**03 12 02.3**	**-0.3**
	baz=352						
KMSC	**Kings Mountain**	**136.30**	**354**	P	**PKPdf**	**03 12 03.0**	**+0.1**
	baz=7.1						
W47A	**Westpoint**	**136.43**	**2**	P	**PKPdf**	**03 12 03.2**	**+0.1**
	baz=358						
W45A	**Hickory Valley**	**136.46**	**3**	P	**PKPdf**	**03 12 03.2**	**+0.1**
	baz=356						
W48A	**Pulaski**	**136.55**	**1**	P	**PKPdf**	**03 12 04.2**	**+0.9**
	baz=359						
X39A	**Fountain Ranch**	**136.55**	**9**	P	**PKPdf**	**03 12 04.0**	**+0.7**
	baz=349						
OXF	**Oxford**	**137.08**	**4**	P	**PKPdf**	**03 12 05.0**	**+0.7**
	baz=356						
X46A	**Booneville**	**137.09**	**3**	P	**PKPdf**	**03 12 05.0**	**+0.7**
	baz=357						
ABTX	**Abilene, Hawle**	**137.14**	**17**	P	**PKPdf**	**03 12 05.1**	**+0.6**
	baz=340						
X47A	**Russelville**	**137.15**	**2**	P	**PKPdf**	**03 12 05.5**	**+1.0**
	baz=358						
X49A	**Woodville**	**137.18**	**360**	P	**PKPdf**	**03 12 04.2**	**-0.3**
	baz=360						
X48A	**Hartselle**	**137.24**	**1**	P	**PKPdf**	**03 12 04.5**	**-0.1**
	baz=359						
Y49A	**Blount Mountai**	**137.84**	**0**	P	**PKPdf**	**03 12 06.2**	**+0.5**
	baz=360						
Z48A	**Northport**	**138.30**	**2**	P	**PKPdf**	**03 12 07.2**	**+0.7**
	baz=358						
Z50A	**Ashland**	**138.44**	**359**	P	**PKPdf**	**03 12 07.7**	**+0.8**
	baz=0.6						
TX31	**Lajitas Ar. Si**	**138.80**	**23**	*e*PKPdf	**PKPdf**	**03 12 07.5**	**-0.2**
TX31				*e*PKPdf	**PKiKP**	**03 12 08.1**	**-1.9**
LTX	**Lajitas**	**138.81**	**23**	*e*PKPdf	**PKPdf**	**03 12 06.6**	**-1.2**
LTX	**Lajitas**	**138.81**	**23**	*e*PKIKP	**PKPdf**	**03 12 06.6**	**-1.2**
TXAR	**Lajitas Array**	**138.81**	**23**	PKP	**PKPdf**	**03 12 06.6**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=79,slow=1.4,SNR=4.6						
145A	**Houston Renfro**	**138.94**	**5**	P	**PKPdf**	**03 12 08.8**	**+1.0**
	baz=355						
JCT	**Junction City**	**139.10**	**18**	P	**PKPdf**	**03 12 09.2**	**+1.0**
	baz=340						
JCT	**Junction City**	**139.10**	**18**	*e*PKPdf	**PKPdf**	**03 12 08.6**	**+0.4**
JCT	**Junction City**	**139.10**	**18**	*e*PKIKP	**PKPdf**	**03 12 08.6**	**+0.4**
245A	**Little AP, Sta**	**139.51**	**5**	P	**PKPdf**	**03 12 10.6**	**+1.7**
	baz=355						
248A	**Dixon Mills**	**139.57**	**2**	P	**PKPdf**	**03 12 10.9**	**+1.9**
	baz=358						
251A	**Midway**	**139.59**	**359**	P	**PKPdf**	**03 12 11.1**	**+2.1**
	baz=1.4						
CHRN	**Cochrane**	**139.69**	**194**	PFAKE		03 12 20.0	+11
CHRN				LR	LR		
	comp=Z,100nm,21.0s						
249A	**Camden**	**139.71**	**1**	P	**PKPdf**	**03 12 10.6**	**+1.4**
	baz=359						
341A	**Kurthwood**	**139.81**	**9**	P	**PKPdf**	**03 12 11.0**	**+1.5**
	baz=350						
SPB	**Sao Paulo**	**139.90**	**243**	PFAKE		03 12 20.0	+10
SPB				LR	LR		
	comp=Z,500nm,19.0s						
347A	**Saraland**	**140.23**	**3**	P	**PKPdf**	**03 12 11.9**	**+1.7**
	baz=357						
SMRT	**St. Maarten**	**144.99**	**319**	PFAKE		03 12 30.0	+11
SMRT				LR	LR		
	comp=Z,700nm,20.0s						
PLCA	**Paso Flores**	**145.00**	**201**	PKPbc	**PKPdf**	**03 12 18.3**	**-0.1**
	comp=Z,13nm,0.9s,baz=196,slow=3.7,SNR=20						
PLCA	**Paso Flores**	**145.00**	**201**	*e*PKPbc	**PKPdf**	**03 12 18.2**	**-0.2**
ZAIG	**Zacatecas**	**145.06**	**27**	*e*PKPbc	**PKPab**	**03 12 18.9**	**+0.2**
ABVI	**Anegada Island**	**145.28**	**321**	PFAKE		03 12 30.0	+11
ABVI				LR	LR		
	comp=Z,2μm,19.0s						
SABA	**Saba**	**145.41**	**319**	PFAKE		03 12 30.0	+10
SABA				LR	LR		
	comp=Z,700nm,20.0s						
HUMP	**Col San Antoni**	**146.66**	**323**	*e*PKPdf	**PKPab**	**03 12 24.3**	**-0.1**
SVB	**Belmont**	**146.99**	**311**	PFAKE		03 12 30.0	+4.2
SVB				LR	LR		
	comp=Z,700nm,18.0s						
CPUP	**Villa Florida**	**147.29**	**234**	PKPbc	**PKPab**	**03 12 26.1**	**-0.6**
	comp=Z,6.9nm,0.8s,baz=117,slow=3.3,SNR=12						
JRQG	**Juriquilla Cam**	**147.79**	**25**	*e*PKPbc	**PKPbc**	**03 12 27.3**	**+0.5**
JRQG				LR	LR		
	comp=Z,700nm,21.0s						
SDD	**Santo Domingo**	**148.66**	**329**	PFAKE		03 12 40.0	+7.7
SDD				LR	LR		
	comp=Z,600nm,19.0s						
SDDR	**Presa de Saban**	**148.89**	**332**	*e*PKPbc	**PKPbc**	**03 12 30.0**	**+0.6**
GO05	**HualaæØ**	**150.53**	**205**	*e*PKPbc	**PKPbc**	**03 12 33.7**	**+0.7**
ROC1	**El Roble**	**151.86**	**208**	*e*PKPbc	**PKPbc**	**03 12 36.8**	**+0.3**
PTGA	**Pitinga**	**152.62**	**285**	PKPbc	**PKPbc**	**03 12 37.6**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=349,slow=5.7,SNR=5.8						
PTGA				PKPab	**PKPab**	**03 12 49.0**	**0.0**
	comp=Z,12nm,1.0s,baz=122,slow=10,SNR=6.0						
PTGA	**Pitinga**	**152.62**	**285**	*e*PKPbc	**PKPbc**	**03 12 38.9**	**+0.4**
PTGA				*e*PKPab	**PKPab**	**03 12 49.0**	**0.0**
PTGA				LR	LR		
	comp=Z,500nm,20.0s						
CMIG	**Matias Romero**	**153.16**	**18**	PKPbc	**PKPbc**	**03 12 38.9**	**-0.5**
	comp=Z,5.9nm,0.8s,baz=333,slow=6.9,SNR=4.7						
SDV	**Santo Domingo**	**156.67**	**318**	PKP	**PKPdf**	**03 12 37.2**	**0.0**
	comp=Z,5.4nm,0.9s,baz=312,slow=19,SNR=5.6						
SDV				PKPab	**PKPab**	**03 13 06.0**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=68,slow=7.4,SNR=4.1						
SDV	**Santo Domingo**	**156.67**	**318**	*e*PKPdf	**PKPdf**	**03 12 37.4**	**+0.2**
SDV				PKPab	**PKPab**	**03 13 06.0**	**-0.3**
SDV				*e*PKPab	**PKPab**	**03 13 09.3**	**+3.0**
SDV				LR	LR		
	comp=Z,300nm,21.0s						
SNET	**Serv Nac Est T**	**157.73**	**7**	PFAKE		03 12 50.0	+12
SNET				LR	LR		
	comp=Z,300nm,18.0s						
PB11	**IPOC Station P**	**160.38**	**234**	*e*PKPdf	**PKPdf**	**03 12 42.2**	**+0.7**
RUSC	**La Rusia**	**160.50**	**317**	*e*PKPdf	**PKPdf**	**03 12 42.6**	**+0.4**
LPAZ	**La Paz**	**160.64**	**245**	PKP	**PKPdf**	**03 12 42.6**	**+0.3**
	comp=Z,6.3nm,1.2s,baz=155,slow=1.4,SNR=6.8						
LPAZ				PKPab	**PKPab**	**03 13 24.6**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=175,slow=2.6,SNR=12						
LPAZ	**La Paz**	**160.64**	**245**	*e*PKPdf	**PKPdf**	**03 12 43.1**	**+0.7**
LPAZ				*e*PKPab	**PKPab**	**03 13 26.3**	**+2.2**
LPAZ	**La Paz**	**160.64**	**245**	*e*PKIKP	**PKPdf**	**03 12 43.1**	**+0.7**
MNMC	**Minye Minye**	**160.66**	**235**	*e*PKPdf	**PKPdf**	**03 12 43.6**	**+1.7**
ROSC	**El Rosal**	**162.11**	**318**	PKP	**PKPdf**	**03 12 44.0**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=51,slow=0.8,SNR=7.2						
ROSC	**El Rosal**	**162.11**	**318**	*e*PKPdf	**PKPdf**	**03 12 44.6**	**+0.8**
PRAC	**Prado**	**163.31**	**316**	*e*PKPdf	**PKPdf**	**03 12 44.2**	**-0.3**
OTAV	**Otavalo**	**168.26**	**318**	*e*PKPdf	**PKPdf**	**03 12 49.6**	**+0.5**
OTAV				*e*PKPab	**PKPab**	**03 13 58.9**	**+1.5**
ATAH	**Atahualpa**	**172.01**	**280**	PKP	**PKPdf**	**03 12 51.7**	**+0.6**
	comp=Z,4.7nm,0.7s,baz=283,slow=2.9,SNR=6.3						

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*NIED **06** 02:52:00, 44°.60N×148°.80E, h41^{km}, Mw4.1 Best double couple: M$_0$1.36000×10^{15} NP1:φ$_s$148.00000°, δ39.00000°, λ-5.00000°. NP2:φ$_s$242.00000°, δ87.00000°, λ-129.00000°.*

*IDC **06** 02:52:43.0±1.4, 44°.41N×148°.63E, h0^{km}, mb3.8/14, mb1 4.0/17, mb1mx3.8/67, mbtmp3.8/17, ML3.0/3, Error ellipse: s-maj=38.1km s-min=17.0km az=167.0*

*ISCJB **06** 02:52:44.8±0.4, 44°.07N±0°.05×148°.83E±0°.04, h35^{km}, mb3.9/17, Error ellipse: s-maj=7.9km s-min=3.5km az=155.6*

*JMA **06** 02:52:44.6±0.6, 44°.55N×148°.79E, h30^{km}, M4.1*

*SKHL **06** 02:52:46.6±0.2, 44°.23N×148°.83E, h50^{km}±3^{km}, mb4.3/1*

*MOS **06** 02:52:47.4±0.9, 44°.19N×148°.55E, h58^{km}, mb4.4/4, Error ellipse: s-maj=13.8km s-min=10.3km az=142.0*

*NEIC **06** 02:52:47.8±1.2, 44°.27N×148°.64E, h38^{km}±16^{km}, mb4.3/4, Error ellipse: s-maj=16.8km s-min=8.8km az=174.0*

ISC 06 02:52:46.4±0.7**, 44°.03N**±0°.06×**148°.85E**±0°.06**, h35^{km}, n84, σ1^{s}83**/94**, mb3.9**/17**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.40**	**330**	*i* P	**Pn**	**02 53 07.0**	**-2.3**
KUR				AMB	AMB	02 53 12.5	
	332nm,0.3s						
KUR				AMB	AMB	02 53 12.5	
	487nm,0.3s						
KUR				AMB	AMB	02 53 12.5	
	91nm,0.3s						
KUR				*i* S	**Sn**	**02 53 22.2**	**-4.3**
KUR				A	A	02 53 22.9	
	1μm,0.4s						
KUR				A	A	02 53 22.9	
	535nm,0.4s						
KUR	**Kuril'sk**	**1.40**	**330**	*d i*PN	**Pn**	**02 53 07.0**	**-2.3**
KUR				*i* S	**Sn**	**02 53 22.2**	**-4.3**
KUR				pmax	pmax		
	comp=Z,908nm,0.4s						
KUR				pmax	pmax		
	comp=N,332nm,0.3s						
KUR				pmax	pmax		
	comp=E,487nm,0.4s						
KUR				smax	smax		
	comp=N,1μm,0.5s						
KUR				smax	smax		
	comp=E,534nm,0.4s						
KUR				smax	smax		
	comp=N,2μm,1.4s						
KUR				smax	smax		
	comp=E,2μm,1.2s						
YUK	**Yuzh-Kuril'sk**	**2.16**	**271**	*e*P	**Pn**	**02 53 19.5**	**-0.3**
YUK				*i* S	**Sn**	**02 53 44.8**	**-0.4**
YUK				A	A	02 53 47.3	
	comp=E,420nm,0.5s						
YUK				A	A	02 53 47.3	
	comp=E,117nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.16**	**271**	*e*PN	**Pn**	**02 53 19.5**	**-0.3**
YUK				*i* S	**Sn**	**02 53 44.8**	**-0.4**
YUK				smax	smax		
	comp=N,417nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
LAGR	**Lagunnoye**	**2.21**	**272**	*e*P	**Pn**	**02 53 20.5**	**0.0**
LAGR				*e*S	**Sn**	**02 53 46.1**	**-0.5**
LAGR	**Lagunnoye**	**2.21**	**272**	*e*PN	**Pn**	**02 53 20.5**	**0.0**
LAGR				*e*S	**Sn**	**02 53 46.1**	**-0.5**
GRPR	**Tuman**	**2.22**	**270**	*e*P	**Pn**	**02 53 19.6**	**-1.1**
GRPR				*e*S	**Sn**	**02 53 46.1**	**-0.8**
GRPR	**Tuman**	**2.22**	**270**	*e*PN	**Pn**	**02 53 19.6**	**-1.1**
GRPR				*e*S	**Sn**	**02 53 46.1**	**-0.8**
NEM2	**Nemuro 2**	**2.35**	**255**	P	**Pn**	**02 53 22.1**	**-0.3**
NEM2				*e*S	**Sn**	**02 53 50.1**	**+0.1**
GLVR	**Golovnino**	**2.43**	**264**	*e*P	**Pn**	**02 53 23.7**	**+0.2**
GLVR				*e*S	**Sn**	**02 53 52.5**	**+0.6**
GLVR	**Golovnino**	**2.43**	**264**	*e*PN	**Pn**	**02 53 23.7**	**+0.2**
GLVR				*e*S	**Sn**	**02 53 52.5**	**+0.6**
JRA	**Rausu**	**2.69**	**269**	P	**Pn**	**02 53 27.5**	**+0.4**
JRA				*e*S	**Sn**	**02 53 58.6**	**+0.1**
JNK	**Nakash**	**3.02**	**263**	P	**Pn**	**02 53 31.5**	**-0.2**
JAK	**Akkeshi**	**3.19**	**253**	P	**Pn**	**02 53 34.0**	**0.0**
JAK				*e*S	**Sn**	**02 54 10.8**	**0.0**
JTKR	**Abashiri--Toko**	**3.57**	**271**	P	**Pn**	**02 53 39.5**	**+0.4**
JAR	**Ashorobuto**	**3.76**	**261**	P	**Pn**	**02 53 42.4**	**+0.6**
JOB	**Onbets**	**3.82**	**255**	P	**Pn**	**02 53 43.7**	**+1.1**
JMP	**Maruseppu**	**3.96**	**272**	P	**Pn**	**02 53 45.1**	**+0.5**
JCH	**Churui**	**4.25**	**252**	P	**Pn**	**02 53 49.5**	**+1.0**
JKK2	**Kamakawa 2**	**4.41**	**270**	P	**Pn**	**02 53 49.6**	**-1.2**
MYR	**Moyori**	**4.43**	**249**	*e*P	**Pn**	**02 53 52.9**	**+1.9**
JKA	**Kamikawa-asahi**	**4.51**	**273**	*e*P	**Pn**	**02 53 51.7**	**-0.4**
ASAJ	**Asahikawa**	**4.51**	**273**	Pn	**Pn**	**02 53 51.7**	**-0.4**
	comp=E,0.6nm,0.3s,baz=67,slow=15,SNR=3.5						
ASAJ				Sn	**Sn**	**02 54 48.5**	**+5.3**
	comp=E,1.2nm,0.3s,baz=93,slow=17,SNR=2.3						
ASAJ	**Asahikawa**	**4.51**	**273**	*e*Pn	**Pn**	**02 53 51.7**	**-0.4**
ASAJ				*e*Sn	**Sn**	**02 54 38.6**	**-4.7**
ERM	**Erimo**	**4.63**	**246**	*e*P	**Pn**	**02 53 56.8**	**+3.0**
ERM	**Erimo**	**4.63**	**246**	*e*Pn	**Pn**	**02 53 56.8**	**+3.0**
ERM				*e*Sn	Sn	02 55 06.9	+21
ERM	**Erimo**	**4.63**	**246**	*e*PN	**Pn**	**02 53 56.8**	**+3.0**
JNBK	**Urakawa-nobuka**	**4.79**	**251**	P	**Pn**	**02 53 57.0**	**+1.0**
JBT2	**Biratori 2**	**4.89**	**257**	P	**Pn**	**02 53 59.1**	**+1.8**
JNB	**Noboribetsu**	**5.92**	**257**	P	**Pn**	**02 54 12.9**	**+1.5**
JKB	**Kayabe**	**6.12**	**252**	P	**Pn**	**02 54 15.2**	**+1.0**
JKB				*e*S	**Sn**	**02 55 21.0**	**-2.0**
JANG	**Nango**	**6.56**	**239**	P	**Pn**	**02 54 19.8**	**-0.4**
JANG				*e*S	**Sn**	**02 55 28.9**	**-4.8**
JTM	**Tenmabayashi**	**6.61**	**243**	*e*S	**Sn**	**02 55 32.3**	**-2.7**
JTH	**Tanohata**	**6.62**	**234**	P	**Pn**	**02 54 20.7**	**-0.4**
JTH				*e*S	**Sn**	**02 55 31.1**	**-4.1**
OFUJ	**Ofunato**	**7.31**	**230**	P	**Pn**	**02 54 30.4**	**-0.2**
OFUJ				*e*S	**Sn**	**02 55 46.3**	**-5.9**
JRG	**Rokugo**	**7.69**	**236**	*e*S	**Sn**	**02 55 59.0**	**-2.7**
JIO	**Ouri**	**7.93**	**228**	P	**Pn**	**02 54 39.1**	**0.0**
JIO				*e*S	**Sn**	**02 56 02.4**	**-5.1**
JYA	**Atsumi**	**8.76**	**235**	P	**Pn**	**02 54 51.1**	**+0.7**
JFY	**Yanaizu**	**9.58**	**229**	P	**Pn**	**02 55 02.7**	**+0.9**
PETK	**Petropavlovsk-**	**10.81**	**30**	Pn	Pn	02 55 15.0	-3.5
	comp=E,0.1nm,0.3s,baz=204,slow=13,SNR=2.2						
PETK	**Petropavlovsk-**	**10.81**	**30**	PN	Pn	02 55 15.0	-3.4
PEA1	**Petropavlovsk-**	**10.81**	**30**	*e*Pn	Pn	02 55 14.9	-3.5
MAJO	**Matsushiro**	**11.04**	**231**	*e*Pn	**Pn**	**02 55 22.4**	**+0.7**
MAJO	**Matsushiro**	**11.04**	**231**	*e*PN	**Pn**	**02 55 22.4**	**+0.7**
MJAR	**Matsushiro Arr**	**11.04**	**231**	Pn	**Pn**	**02 55 22.4**	**+0.7**
	comp=E,0.9nm,0.3s,baz=28,slow=13,SNR=5.3						
INU	**Inuyama**	**12.56**	**230**	*e*Pn	**Pn**	**02 55 44.6**	**+2.1**
H11N2	**WAKE ISLAND Hy**	**28.54**	**142**	T	T	03 29 16.6	
	baz=333,slow=76,SNR=82						
H11N1	**WAKE ISLAND Hy**	**28.55**	**142**	T	T	03 29 32.5	
	baz=333,slow=76,SNR=51						
H11N3	**WAKE ISLAND Hy**	**28.55**	**142**	T	T	03 29 23.3	
	baz=333,slow=76,SNR=62						
SONA0	**Songino Array**	**29.50**	**293**	*e*P	**P**	**02 58 46.4**	**-0.8**
SONM	**Songino Array**	**29.50**	**293**	P	**P**	**02 58 46.4**	**-0.8**
	comp=E,0.3nm,0.3s,baz=80,slow=8.7,SNR=3.4						
H11S1	**WAKE ISLAND Hy**	**29.53**	**144**	T	T	03 30 48.6	
	baz=334,slow=76,SNR=97						
H11S3	**WAKE ISLAND Hy**	**29.54**	**144**	T	T	03 30 50.1	
	baz=334,slow=76,SNR=100						
H11S2	**WAKE ISLAND Hy**	**29.55**	**144**	T	T	03 30 46.1	
	baz=334,slow=76,SNR=69						
KDAK	**Kodiak Island**	**38.16**	**48**	*e*P	**P**	**03 00 02.7**	**+0.8**
KDAK	**Kodiak Island**	**38.16**	**48**	*e*P	**P**	**03 00 02.7**	**+0.8**
	comp=E,53nm,1.9s						
KDAK	**Kodiak Island**	**38.16**	**48**	*e*P	**P**	**03 00 02.7**	**+0.8**
KDAK				pmax	pmax		
	comp=Z,53nm,1.9s						
CAST	**Castle Rocks**	**38.25**	**39**	*e*P	**P**	**03 00 03.0**	**+0.3**
	comp=Z,6.0nm,1.5s						
KTH	**Kantishna Hill**	**38.77**	**38**	*e*P	**P**	**03 00 06.8**	**-0.4**
	comp=Z,9.6nm,1.5s						
IL1	**Eielson Array**	**40.54**	**36**	*e*P	**P**	**03 00 21.1**	**-0.6**
ILAR	**Eielson Array**	**40.54**	**36**	P	**P**	**03 00 22.6**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=270,slow=8.4,SNR=5.7						
ILB	**Eielson Array**	**40.54**	**36**	*e*P	**P**	**03 00 22.6**	**+0.8**
INK	**Inuvik**	**45.54**	**31**	P	**P**	**03 01 02.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=278,slow=7.2,SNR=4.9						
INK	**Inuvik**	**45.54**	**31**	*e*P	**P**	**03 01 02.7**	**+0.6**
	comp=Z,4.3nm,1.4s						
NAYO	**Nakonayok**	**50.04**	**249**	P	P	03 01 44.3	+6.7
YKA	**Yellowknife Ar**	**54.88**	**34**	P	**P**	**03 02 13.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=297,slow=6.8,SNR=5.9						
YKB5	**Yellowknife Ar**	**54.88**	**34**	*e*P	**P**	**03 02 13.1**	**+0.2**
ARA0	**ARCESS Array S**	**59.41**	**340**	*e*P	**P**	**03 02 44.1**	**-0.7**
ARCES	**ARCESS Array B**	**59.41**	**340**	P	**P**	**03 02 44.1**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=41,slow=8.4,SNR=3.4						
FIA0	**FINESS Array S**	**65.18**	**334**	*e*P	**P**	**03 03 22.2**	**-1.3**
FIA0	**FINESS Array S**	**65.18**	**334**	*e*P	**P**	**03 03 22.2**	**-1.3**
FINES	**FINESS Array B**	**65.18**	**334**	P	**P**	**03 03 22.2**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=40,slow=6.2,SNR=14						
GEYT	**Alibeck**	**65.38**	**300**	P	**P**	**03 03 25.4**	**+0.2**
	comp=Z,5.1nm,0.6s,baz=150,slow=8.5,SNR=4.0						
NV01	**Mina Array Sit**	**66.39**	**59**	*e*P	**P**	**03 03 33.5**	**+1.5**
NVAR	**Mina Array Bea**	**66.39**	**59**	P	**P**	**03 03 33.5**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=318,slow=6.6,SNR=2.6						
PD31	**Pinedale Array**	**68.79**	**51**	*e*P	**P**	**03 03 48.3**	**+1.3**
PDAR	**Pinedale Array**	**68.79**	**51**	P	**P**	**03 03 48.3**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=292,slow=4.8,SNR=2.9						
NB2	**NORSAR Subarra**	**69.78**	**340**	P	**P**	**03 03 51.6**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=31,slow=6.5						
NB200	**NORSAR Array S**	**69.78**	**340**	*e*P	**P**	**03 03 51.8**	**-0.8**
NOA	**NORSAR Array B**	**69.78**	**340**	P	**P**	**03 03 51.8**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=32,slow=6.6,SNR=12						
HFS	**Hagfors**	**69.90**	**338**	P	**P**	**03 03 51.7**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=55,slow=5.6,SNR=9.4						
EKA	**Eskdalemuir Ar**	**78.20**	**344**	P	**P**	**03 04 41.3**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=17,slow=5.5,SNR=4.3						
TXAR	**Lajitas Array**	**81.47**	**57**	P	**P**	**03 05 01.6**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=303,slow=4.0,SNR=5.5						
MMAI	**Mount Meron Ar**	**82.28**	**309**	P	**P**	**03 05 05.9**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=34,slow=5.4,SNR=3.7						

IDC 06 02:55:21.2±1.4**, 8°.78N**×**93°.19E, h0^{km}, mb4.2**/7**, mb1 4.4**/8**, mb1mx3.9**/71**, mbtmp4.3**/8**, ML5.1**/1**, Error ellipse: s-maj=42.4km s-min=25.7km az=53.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.12**	**30**	Pn	Pn	02 58 01.1	-0.5
	4.0nm,0.3s,baz=212,slow=15,SNR=6.9						
H08S3	**Diego Garcia H**	**26.30**	**232**	T	T	03 28 00.7	
	baz=52						
H08S2	**Diego Garcia H**	**26.30**	**232**	T	T	03 27 54.0	
	baz=52						
H08S1	**Diego Carcia H**	**26.32**	**232**	T	T	03 27 57.9	
	baz=52						
MKAR	**Makanchi Array**	**39.01**	**348**	P	P	03 02 49.7	+0.3
	1.9nm,0.7s,baz=164,slow=9.3,SNR=4.5						
SONM	**Songino Array**	**40.50**	**14**	P	P	03 03 01.5	-0.5
	1.2nm,0.6s,baz=198,slow=8.2,SNR=2.0						
ZALV	**Zalesovo Beam**	**45.54**	**353**	P	P	03 03 42.9	+0.3
	6.6nm,0.5s,baz=174,slow=7.0,SNR=5.8						
BVAR	**Borovoye Array**	**47.84**	**342**	P	P	03 04 00.8	+0.2
	0.9nm,0.4s,baz=135,slow=9.1,SNR=3.5						
WRA	**Warramunga Arr**	**49.55**	**126**	P	P	03 04 14.3	0.0
	2.6nm,1.1s,baz=301,slow=8.8,SNR=3.3						
BRTR	**Keskin Array B**	**61.13**	**311**	P	P	03 05 37.5	-0.2
	2.3nm,0.8s,baz=116,slow=6.9,SNR=6.1						
FINES	**FINESS Array B**	**71.48**	**332**	P	P	03 06 43.0	-0.5
	2.2nm,0.6s,baz=86,slow=3.7,SNR=4.8						

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*IDC **06** 02:59:22.8±0.5, 8°.59N×93°.87E, h0^{km}, mb4.3/34, mb1 4.4/36, mb1mx4.3/74, mbtmp4.3/36, ML4.0/2, Error ellipse: s-maj=16.9km s-min=12.3km az=47.0*

*ISCJB **06** 02:59:25.6±1.4, 8°.49N±0°.04×93°.80E±0°.04, h31^{km}±10^{km}, mb4.7/61, Error ellipse: s-maj=7.5km s-min=4.8km az=40.5*

*NEIC **06** 02:59:26.0±2.4, 8°.56N×93°.87E, h20^{km}±14^{km}, mb5.0/32, Error ellipse: s-maj=6.5km s-min=4.6km az=51.0*

ISC 06 02:59:26.5±1.0**, 8°.51N**±0°.06×**93°.83E**±0°.06**, h24^{km}**±6^{km}**, n167, σ1^{s}32**/166**, mb4.8**/64**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.30**	**341**	*e*P	Pn	03 00 16.4	-0.3
PBA				*e*S	Sn	03 00 53.8	-1.4
LHMI	**Lhok Sumawe**	**4.50**	**136**	*e*Pn	**Pn**	**03 00 36.2**	**+3.0**
PKDT	**Phuket**	**4.51**	**98**	P	**Pn**	**03 00 34.2**	**+0.9**
DGPR	**DIGLIPUR**	**4.72**	**349**	*e*P	**Pn**	**03 00 36.2**	**0.0**
SURT	**Suratani**	**4.93**	**84**	P	**Pn**	**03 00 40.6**	**+1.4**
TRTT	**Trang**	**5.85**	**96**	P	**Pn**	**03 00 52.3**	**+0.6**
SKLT	**Songkhla**	**6.86**	**101**	P	**Pn**	**03 01 05.7**	**0.0**
	35nm,1.3s						
PHET	**Kaeng Krachan**	**7.19**	**52**	P	**Pn**	**03 01 13.4**	**+3.3**
	31nm,0.8s,0.1nm						
KULM	**Kulim**	**7.49**	**115**	*e*Pn	**Pn**	**03 01 15.7**	**+1.3**
PSI	**Prapat**	**7.61**	**138**	*e*Pn	**Pn**	**03 01 13.8**	**-2.3**
UTHA	**Uthaitani**	**8.90**	**38**	P	**Pn**	**03 01 36.7**	**+3.0**
SRAK	**Srakaew**	**9.74**	**55**	P	Pn	03 01 55.3	+10
PHIT	**Phitsanulok**	**10.75**	**36**	P	**Pn**	**03 02 02.6**	**+3.5**
CHAI	**Chaiyaphum**	**10.84**	**47**	P	**Pn**	**03 02 04.4**	**+4.1**
CM31	**Chiang Mai Arr**	**11.07**	**26**	*e*Pn	**Pn**	**03 02 00.8**	**-2.6**
CMAR	**Chiang Mai Arr**	**11.07**	**26**	Pn	**Pn**	**03 02 00.8**	**-2.6**
	0.9nm,0.3s,baz=200,slow=16,SNR=5.1						
CHTO	**Chiang Mai**	**11.38**	**25**	*e*Pn	**Pn**	**03 02 08.1**	**+0.4**
LAMP	**Lampang**	**11.44**	**29**	P	Pn	03 02 13.6	+5.1
PALK	**Pallekele**	**13.06**	**266**	Pn	**Pn**	**03 02 31.3**	**+0.6**
	0.2nm,0.3s,baz=127,slow=5.1,SNR=2.7						
PALK				Sn	Sn	03 04 45.7	-10
	1.3nm,0.3s,baz=116,slow=17,SNR=5.3						
VIS	**Vishakhapatnam**	**13.71**	**313**	*e*P	**Pn**	**03 02 38.7**	**-0.9**
MDRS	**Chennai**	**14.08**	**290**	*e*P	**Pn**	**03 02 45.3**	**+0.7**
MDRS				IAmb	IAmb	03 02 52.1	
	comp=Z,50nm,0.8s						
MNAI	**Manna**	**15.70**	**144**	*e*Pn	**Pn**	**03 03 06.0**	**-0.3**
	comp=Z,426nm,1.2s						
TRD	**Trivandrum**	**16.68**	**271**	*e*P	**Pn**	**03 03 18.8**	**-0.1**
BOK	**Bokaro**	**16.99**	**334**	*e*P	**Pn**	**03 03 22.6**	**-0.1**
BOK				IAmb	IAmb	03 03 27.5	
	comp=Z,45nm,1.2s						
SHL	**Shillong**	**17.06**	**354**	*e*P	**Pn**	**03 03 23.4**	**-0.4**
SHL				IAmb	IAmb	03 03 26.2	
HYB	**Hyderabad**	**17.30**	**302**	*e*P	**Pn**	**03 03 26.3**	**-0.4**
ODAN	**Odare**	**19.24**	**342**	*e*P	**Pn**	**03 03 50.4**	**-0.1**
	comp=Z,46nm,0.8s						
RAMN	**Ramite**	**19.57**	**340**	*e*P	**Pn**	**03 03 54.8**	**+0.3**
	comp=Z,195nm,1.1s						
TAPN	**Taplejung**	**19.61**	**344**	*e*P	**Pn**	**03 03 54.3**	**-0.7**
	comp=Z,126nm,0.8s						
AKL	**Akola**	**20.26**	**309**	*e*P	**P**	**03 03 58.4**	**-1.9**
JIRN	**Jiri**	**20.37**	**340**	*e*P	Pn	03 04 03.1	-0.9
	comp=Z,223nm,1.3s						
PKI	**Pulchoki**	**20.56**	**338**	*e*P	**P**	**03 04 04.6**	**+0.7**
	comp=Z,140nm,1.3s						
PKIN	**Phulchoki**	**20.57**	**338**	*e*P	**P**	**03 04 05.0**	**+1.0**
	comp=Z,42nm,0.6s						
GUN	**Gumba**	**20.70**	**340**	*e*P	**P**	**03 04 06.2**	**+0.7**
	comp=Z,108nm,0.8s						
DMN	**Daman**	**20.71**	**338**	*e*P	Pn	03 04 06.9	-0.9
	comp=Z,54nm,0.7s						
GOA	**Goa**	**20.74**	**291**	*e*P	**P**	**03 04 04.1**	**-1.5**
GOA				IAmb	IAmb	03 04 06.2	
	comp=Z,87nm,1.8s						
KKN	**Kakani**	**20.80**	**338**	*e*P	**P**	**03 04 07.3**	**+0.8**
	comp=Z,76nm,0.7s						
LSA	**Lhasa**	**21.23**	**354**	*e*P	**P**	**03 04 12.0**	**+0.7**
	comp=Z,30nm,0.8s						
KOLN	**Koldanda**	**21.45**	**335**	*e*P	**P**	**03 04 14.8**	**+1.4**
	comp=Z,115nm,1.0s						
BHPL	**Bhopal**	**21.49**	**315**	*e*P	**P**	**03 04 14.6**	**+0.9**
BHPL				IAmb	IAmb	03 04 15.3	
	comp=Z,64nm,1.6s						
POO	**Poona**	**21.80**	**299**	*e*P	**P**	**03 04 16.8**	**-0.3**
DDI	**Dehra Dun**	**26.24**	**328**	*e*P	**P**	**03 04 57.8**	**-2.1**
H08S3	**Diego Garcia H**	**26.64**	**234**	T	T	03 31 56.1	
	baz=53,slow=75,SNR=34						
H08S2	**Diego Garcia H**	**26.64**	**234**	T	T	03 31 54.3	
	baz=53,slow=75,SNR=17						
H08S1	**Diego Carcia H**	**26.65**	**234**	T	T	03 31 55.0	
	baz=53,slow=75,SNR=20						
SMLA	**Simla**	**27.34**	**328**	*e*P	**P**	**03 05 10.3**	**+0.6**
SMLA				IAmb	IAmb	03 05 21.9	
	comp=Z,187nm,1.9s						
DHRM	**DHARAMSHALA**	**28.68**	**328**	*e*P	**P**	**03 05 21.5**	**-0.4**
DHRM				IAmb	IAmb	03 05 24.1	
	comp=Z,37nm,1.0s						
KAPI	**Kappang**	**29.14**	**117**	*e*P	**P**	**03 05 25.4**	**-0.5**
	comp=Z,1μm,1.1s						
TATO	**Taipei**	**31.04**	**55**	*e*P	**P**	**03 05 41.0**	**-1.6**
	comp=Z,278nm,2.0s						
KBL	**Kabul**	**34.48**	**322**	*e*P	**P**	**03 06 13.7**	**+0.7**
	comp=Z,13nm,0.8s						
AAK	**Ala-Archa**	**38.00**	**337**	P	**P**	**03 06 43.4**	**+0.6**
	comp=Z,10nm,0.9s,baz=139,slow=5.1,SNR=8.6						
AAK	**Ala-Archa**	**38.00**	**337**	*e*P	**P**	**03 06 42.9**	**0.0**
	comp=Z,16nm,0.9s						
MK01	**Makanchi Array**	**39.38**	**347**	*e*P	**P**	**03 06 54.0**	**-0.2**
MK31	**Makanchi Array**	**39.40**	**348**	*e*P	**P**	**03 06 54.6**	**+0.3**
MK32	**Makanchi Array**	**39.40**	**348**	*e*P	**P**	**03 06 53.7**	**-0.7**
MKAR	**Makanchi Array**	**39.40**	**348**	P	**P**	**03 06 53.7**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=171,slow=8.6,SNR=9.7						
MKAR	**Makanchi Array**	**39.40**	**348**	*e*P	**P**	**03 06 54.4**	**+0.1**
	comp=Z,28nm,0.9s						
KKAR	**Karatay Array**	**40.05**	**333**	*e*P	**P**	**03 07 00.9**	**+1.0**
SONA0	**Songino Array**	**40.61**	**13**	*e*P	**P**	**03 07 05.0**	**+0.5**
SONA0				*e*PcP	**PcP**	**03 09 06.8**	**+0.5**
SONM	**Songino Array**	**40.61**	**13**	P	**P**	**03 07 05.0**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=210,slow=8.6,SNR=3.6						
SONM				PcP	**PcP**	**03 09 06.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=190,slow=3.7,SNR=4.2						
SONA1	**Songino Array**	**40.63**	**13**	*e*P	**P**	**03 07 04.0**	**-0.7**
GEYT	**Alibeck**	**43.52**	**318**	P	**P**	**03 07 29.3**	**+1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,13nm,0.7s,baz=146,slow=8.2,SNR=17						
KURK	Kurchatov	43.92	346	eP	P	03 07 30.9	-0.3
	comp=Z,40nm,0.9s						
ZAA0	Zalesovo Array	45.89	353	eP	P	03 07 48.0	+1.2
	comp=Z,39nm,0.9s						
ZALV	Zalesovo Beam	45.89	353	P	P	03 07 47.3	+0.4
	comp=Z,22nm,0.9s,baz=169,slow=8.5,SNR=36						
ZALV	Zalesovo Beam	45.89	353	eP	P	03 07 47.5	+0.7
ZAA1	Zalesovo Array	45.89	353	eP	P	03 07 47.3	+0.4
NWAO	Narrogin (SRO)	46.85	153	eP	P	03 07 55.0	+0.3
	comp=Z,28nm,0.9s						
BVAR	Borovoye Array	48.29	341	P	P	03 08 05.4	-0.3
	comp=Z,2.4nm,0.8s,baz=146,slow=9.0,SNR=7.0						
BVAR				PcP	PcP	03 09 33.4	+1.1
	comp=Z,0.9nm,0.7s,baz=172,slow=3.1,SNR=2.4						
RAYN	Ar Rayn	48.54	294	eP	P	03 08 10.1	+1.9
	comp=Z,19nm,0.9s						
WR1	Warramunga Arr	48.88	126	eP	P	03 08 10.5	-0.3
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	48.88	126	P	P	03 08 10.5	-0.3
	comp=Z,0.8nm,0.5s,baz=304,slow=8.5,SNR=9.0						
WB2	Warramunga Arr	48.90	126	eP	P	03 08 10.2	-0.6
MAJO	Matsushiro	48.97	48	eP	P	03 08 10.7	-0.5
MJAR	Matsushiro Arr	48.97	48	P	P	03 08 10.7	-0.5
	comp=Z,1.4nm,0.6s,baz=246,slow=7.2,SNR=3.4						
MJAR				PcP	PcP	03 09 34.1	-1.1
	comp=Z,3.5nm,0.9s,baz=244,slow=4.7,SNR=3.8						
ABKAR	Akbulak array	49.52	331	eP	P	03 08 16.0	+0.8
	comp=Z,78nm,0.8s						
AS31	Alice Springs	50.56	130	eP	P	03 08 22.8	-0.7
	comp=Z,1.6nm,1.2s						
AS31				ePcP	PcP	03 09 41.6	+0.4
ASAR	Alice Springs	50.56	130	P	P	03 08 22.8	-0.7
	comp=Z,1.4nm,0.8s,baz=302,slow=7.0,SNR=4.5						
ASAR				PcP	PcP	03 09 41.6	+0.4
	comp=Z,0.8nm,0.6s,baz=315,slow=3.2,SNR=3.6						
AKTO	Aktyubinsk	51.24	331	P	P	03 08 27.7	-0.5
	comp=Z,4.6nm,1.0s,baz=135,slow=6.2,SNR=5.5						
ARU	Arti	55.18	337	P	P	03 08 56.5	-0.6
	comp=Z,1.4nm,0.3s,baz=102,slow=8.2,SNR=4.2						
ARU	Arti	55.18	337	eP	P	03 08 57.4	+0.3
	comp=Z,13nm,1.1s						
KBZ	Khabaz	56.41	317	P	P	03 09 05.8	-0.3
	comp=Z,2.7nm,0.9s,baz=135,slow=5.7,SNR=3.0						
KVAR	Kislovodsk Arr	56.63	318	P	P	03 09 08.0	+0.2
	comp=Z,7.6nm,0.8s,baz=236,slow=3.6,SNR=3.0						
KIV	Kislovodsk	56.64	318	eP	P	03 09 06.0	-1.9
	comp=Z,13nm,0.9s						
ASF	Jabal al Asfar	57.61	303	P	P	03 09 14.9	-0.1
	comp=Z,2.1nm,0.8s,baz=56,slow=3.1,SNR=3.9						
MMAI	Mount Meron Ar	59.01	303	P	P	03 09 25.6	+0.9
	comp=Z,0.2nm,0.3s,baz=323,slow=24,SNR=2.7						
STKA	Stephens Creek	60.77	134	P	P	03 09 37.0	+0.4
	comp=Z,1.5nm,0.7s,baz=328,slow=17,SNR=2.2						
STKA	Stephens Creek	60.77	134	eP	P	03 09 37.0	+0.4
	comp=Z,1.2nm,1.3s						
BR101	Keskin Array S	61.78	311	eP	P	03 09 42.5	-1.1
BR131	Keskin Array S	61.78	311	eP	P	03 09 42.8	-0.9
BRTR	Keskin Array B	61.78	311	P	P	03 09 42.5	-1.1
	comp=Z,3.5nm,0.8s,baz=116,slow=7.3,SNR=17						
BR231	Keskin MP Arra	62.45	311	eP	P	03 09 43.4	-4.7
MA2	Magadan	66.35	28	P	P	03 10 11.3	-1.7
	comp=Z,3.3nm,0.3s,baz=255,slow=6.8,SNR=4.3						
TIXI	Tiksi	66.67	11	eP	P	03 10 14.7	-0.2
	comp=Z,12nm,0.7s						
AKASG	Malin Array Be	67.46	322	P	P	03 10 18.9	-1.4
	comp=Z,1.4nm,0.9s,baz=89,slow=5.0,SNR=8.6						
AKBB	Malin Array Si	67.46	322	eP	P	03 10 18.9	-1.4
	comp=Z,8.9nm,1.3s						
IDI	Anoyia	67.95	305	P	P	03 10 22.9	-0.9
	comp=Z,8.2nm,1.0s,baz=298,slow=17,SNR=2.3						
IDI	Anoyia	67.95	305	eP	P	03 10 22.9	-0.9
	comp=Z,82nm,1.7s						
SEY	Seymchan	68.48	25	P	P	03 10 26.5	0.0
	comp=Z,0.5nm,0.3s,baz=238,slow=4.8,SNR=4.5						
MLR	Muntele Rosu	68.50	316	P	P	03 10 27.3	+0.2
	comp=Z,1.3nm,0.9s,baz=304,slow=18						
MLR	Muntele Rosu	68.50	316	eP	P	03 10 27.5	+0.4
	comp=Z,22nm,1.3s						
BUR04	Bucovina Ar. S	69.37	318	eP	P	03 10 32.3	-0.2
BUR08	Bucovina Ar. S	69.38	318	eP	P	03 10 33.2	+0.7
IDID	Didziasalis	70.07	326	eP	P	03 10 35.0	-1.5
AGG	Agios Georgios	70.32	308	eP	P	03 10 36.1	-2.3
	comp=Z,110nm,1.7s						
IIGN	Ignalina	70.37	326	eP	P	03 10 37.8	-0.5
IZAR	Zarasai	70.45	326	eP	P	03 10 31.4	-7.3
ISAL	Salakas	70.47	326	eP	P	03 10 36.0	-2.9
KWP	Kalwaria Pacla	71.34	320	eP	P	03 10 45.1	+0.7
	comp=Z,162nm,1.2s						
SUW	Suwalki	71.81	324	eP	P	03 10 47.2	+0.2
	comp=Z,40nm,1.2s						
FIA1	FINESS Array S	72.00	332	eP	P	03 10 48.1	+0.1
	comp=Z,12nm,1.0s						
FIA0	FINESS Array S	72.00	332	eP	P	03 10 48.1	0.0
FINES	FINESS Array B	72.00	332	P	P	03 10 48.1	0.0
	comp=Z,3.4nm,0.7s,baz=108,slow=4.4,SNR=7.7						
CRVS	Cervenica-Dubn	72.05	319	eP	P	03 10 49.1	+0.5
STHS	Stebnicka Huta	72.26	319	eP	P	03 10 51.7	+1.8
STHS				e		03 10 58.8	
KECS	Kecovo	72.63	318	eP	P	03 10 56.0	+3.9
VYHS	Vyhne	73.73	318	eP	P	03 10 58.7	+0.1
LBTB	Lobatse	74.27	241	eP	P	03 11 02.0	-0.3
	comp=Z,13nm,0.8s						
ARA0	ARCESS Array S	74.56	340	eP	P	03 11 03.4	+0.3
ARCES	ARCESS Array B	74.56	340	P	P	03 11 03.4	+0.3
	comp=Z,6.2nm,0.9s,baz=92,slow=5.9,SNR=8.0						
TIP	Timpagrande	74.66	308	eP	P	03 11 03.5	-0.7
	comp=Z,11nm,1.3s						
MORC	Moravsky Berou	74.69	319	eP	P	03 11 04.8	+0.5
	comp=Z,37nm,1.2s						
DPC	Dobruska-Polom	75.52	320	eP	P	03 11 09.5	+0.5
DPC				epP	pP	03 11 15.2	-1.7
BOSA	Boshof	75.66	238	P	P	03 11 11.5	+1.2
	comp=Z,3.0nm,0.9s,baz=218,slow=17,SNR=3.6						
GEA0	GERESS Array S	77.14	318	eP	P	03 11 18.4	0.0
GEC2	GERESS Array S	77.14	318	eP	P	03 11 18.9	+0.6
	comp=Z,15nm,1.4s						
GERES	GERESS Array B	77.14	318	P	P	03 11 17.5	-0.9
	comp=Z,1.9nm,0.9s,baz=90,slow=4.0,SNR=10						
KHC	Kasperske Hory	77.23	318	eP	P	03 11 21.1	+2.3
KHC				epP	pP	03 11 27.4	+0.8
CLL	Collm	77.67	321	eP	P	03 11 21.0	-0.1
CLL				esP	pP	03 11 30.0	+1.0
HFS	Hagfors	77.75	330	P	P	03 11 20.5	-0.9
	comp=Z,1.8nm,0.5s,baz=113,slow=6.9,SNR=6.7						
WATA	Walderalm	78.55	317	i PcP	PcP	03 11 34.0	-1.3
	comp=Z,2.8nm,0.7s						
NC405	NORSAR Array S	78.78	331	eP	P	03 11 23.4	-3.7
NC602	NORSAR Array S	78.85	330	eP	P	03 11 27.0	-0.4
MOTA	Moosalm	78.87	317	ePcP	PcP	03 11 35.5	-1.2
	comp=Z,5.8nm,0.9s						
NC605	NORSAR Array S	78.92	330	eP	P	03 11 27.5	-0.3
NB2	NORSAR Subarra	79.03	331	P	P	03 11 27.7	-0.7
	comp=Z,8.5nm,0.8s,baz=91,slow=5.9						
NB200	NORSAR Array S	79.03	331	eP	P	03 11 28.4	-0.1
NOA	NORSAR Array B	79.03	331	P	P	03 11 28.4	-0.1
	comp=Z,5.1nm,0.9s,baz=92,slow=5.7,SNR=8.2						
RETA	Reutte	79.10	317	i P	P	03 11 37.5	+8.3
	comp=Z,7.0nm,0.7s						
FETA	Feichten	79.13	316	eP	P	03 11 37.9	+8.4
	comp=Z,9.4nm,1.0s						
SPA0	Spitsbergen Ar	79.15	348	eP	P	03 11 28.8	0.0
SPITS	Spitsbergen Ar	79.15	348	P	P	03 11 28.8	0.0
	comp=Z,17nm,1.1s,baz=46,slow=6.1,SNR=5.8						
NBO02	NORSAR Array S	79.20	331	eP	P	03 11 25.1	-4.2
KEST	Kesra	80.62	305	P	P	03 11 37.1	-0.6
	comp=Z,2.2nm,0.6s,baz=280,slow=5.8,SNR=3.9						
KEST	Kesra	80.62	305	eP	P	03 11 37.1	-0.6
	comp=Z,12nm,0.9s						
GAMB	Gambell	84.41	26	eP	P	03 11 57.9	+1.2
	comp=Z,8.5nm,0.9s						
TAM	Tamanrasset	85.20	292	eP	P	03 12 03.4	+1.6
	comp=Z,10.0nm,1.5s						
EKA	Eskdalemuir Ar	87.02	325	P	P	03 12 08.6	-1.3
	comp=Z,4.1nm,0.8s,baz=84,slow=7.6,SNR=6.9						
TOA0	Torodi Ar. Sit	90.15	283	eP	P	03 12 26.8	+1.3
TORD	Torodi Ar. Bea	90.15	283	P	P	03 12 26.6	+1.1
	comp=Z,1.4nm,0.9s,baz=85,slow=4.1,SNR=5.1						
TOA1	Torodi Ar. Sit	90.15	283	eP	P	03 12 26.6	+1.1
ES19	SONSECA Array	90.52	310	eP	P	03 12 27.7	+0.9
ESDC	Sonseca Array	90.57	310	P	P	03 12 27.2	+0.1
	comp=Z,1.4nm,0.8s,baz=64,slow=4.6,SNR=7.3						
MDM	Murphy Dome	93.68	22	eP	P	03 12 37.3	-3.6
	comp=Z,5.4nm,0.9s						
IL1	Eielson Array	94.27	22	eP	P	03 12 42.2	-1.3
INK	Inuvik	96.47	16	P	P	03 12 53.8	+0.3
	comp=Z,2.0nm,1.0s,baz=326,slow=7.7,SNR=3.7						
INK	Inuvik	96.47	16	eP	P	03 12 53.8	+0.3
	comp=Z,5.9nm,1.3s						
RES	Resolute Bay	96.78	2	eP	P	03 12 56.4	+1.6
	comp=Z,4.6nm,1.0s						
ULM	Lac du Bonnet	120.88	7	PKP	PKPdf	03 18 15.5	-1.4
	comp=Z,1.1nm,0.7s,baz=172,slow=6.5,SNR=3.1						
NV01	Mina Array Sit	124.53	30	ePKPdf	PKPdf	03 18 25.8	+1.2
NVAR	Mina Array Bea	124.53	30	PKP	PKPdf	03 18 25.7	+1.1
	comp=Z,1.0nm,0.8s,baz=249,slow=2.5,SNR=5.1						
PD31	Pinedale Array	124.69	21	ePKPdf	PKPdf	03 18 24.8	0.0
PDAR	Pinedale Array	124.69	21	PKP	PKPdf	03 18 24.8	0.0
	comp=Z,0.9nm,1.0s,baz=62,slow=3.5,SNR=5.4						
TXAR	Lajitas Array	138.77	23	PKP	PKPdf	03 18 51.8	+0.3
	comp=Z,0.4nm,0.7s,baz=335,slow=4.0,SNR=3.4						
PLCA	Paso Flores	145.03	201	PKPbc	PKPdf	03 19 02.5	+0.2
	comp=Z,4.8nm,0.9s,baz=213,slow=1.4,SNR=8.1						
CPUP	Villa Florida	147.40	233	PKPbc	PKPbc	03 19 09.4	+0.4
	comp=Z,2.5nm,0.8s,baz=88,slow=4.0,SNR=5.6						
LPAZ	La Paz	160.77	245	PKP	PKPdf	03 19 27.2	+0.9
	comp=Z,1.2nm,0.9s,baz=126,slow=4.5,SNR=2.8						
LPAZ				PKPab	PKPab	03 20 07.9	-0.5
	comp=Z,0.8nm,0.5s,baz=63,slow=8.3,SNR=5.0						

ISCJB ***06*** *03:03:27.7±0.6, 38.°30N±0.°02×38.°86E±0.°03, h2km±5km, Error ellipse: s-maj=4.1km s-min=3.8km az=3.4*
CSEM ***06*** *03:03:27.8±0.2, 38.°32N×38.°87E, h8km, ML2.6, Error ellipse: s-maj=4.8km s-min=4.3km az=57.0*
DDA ***06*** *03:03:27.9, 38.°30N×38.°84E, h7km, Ml2.6*
ISK ***06*** *03:03:27.1, 38.°30N×38.°84E, h8km, ML2.4/4*
ISC 06 03:03:28.0±0.9, **38.°31N**±0.°02×**38.°85E**±0.°02, **h13**km±7km, **n30**, σ**0.s50**/52, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.22	29	i P	Pg	03 03 32.9	+0.1
ELZG				i S	Sg	03 03 36.7	+0.5
ELZG	Elazig	0.22	29	P	Pg	03 03 32.9	+0.1
ELZG				S	Sg	03 03 36.7	+0.5
MALT	Malatya	0.33	271	PG	Pg	03 03 34.5	-0.3
MALT				SG	Sg	03 03 39.1	-0.3
MALT	Malatya	0.33	271	ePg	Pg	03 03 34.5	-0.3
MALT				eSg	Sg	03 03 39.1	-0.3
PTK	Pertek	0.72	36	PG	Pg	03 03 41.1	-0.9
PTK				SG	Sb	03 03 52.7	+0.3
PTK	Pertek	0.72	36	ePg	Pg	03 03 41.1	-0.9
PTK				eSg	Sb	03 03 52.7	+0.3
AKCD	Akcadag	0.73	269	i P	Pg	03 03 41.8	-0.4
AKCD				i S	Sb	03 03 52.4	-0.2
AKCD	Akcadag	0.73	269	P	Pg	03 03 41.8	-0.4
AKCD				S	Sb	03 03 52.4	-0.2
URFA	Urfa	0.87	182	PG	Pg	03 03 43.6	-1.1
URFA				SG	Sb	03 03 56.7	+0.3
URFA	Urfa	0.87	182	ePg	Pg	03 03 43.6	-1.1
URFA				eSg	Sb	03 03 56.7	+0.3
HEKM	Malatya_Hekimh	0.90	309	i P	Pg	03 03 45.2	-0.3
HEKM				i S	Sb	03 03 58.2	+0.6
HEKM	Malatya_Hekimh	0.90	309	P	Pg	03 03 45.2	-0.3
HEKM				S	Sb	03 03 58.2	+0.6
ATAB	Bozova	0.95	208	i P	Pg	03 03 46.2	0.0
ATAB				i S	Sn	03 04 00.6	+0.3
ATAB	Bozova	0.95	208	P	Pg	03 03 46.2	0.0
ATAB				S	Sn	03 04 00.6	+0.3
KEMA	Kemaliye	1.00	344	i P	Pb	03 03 47.2	0.0
KEMA				i S	Sn	03 04 01.7	-0.1
KEMA	Kemaliye	1.00	344	P	Pb	03 03 47.2	0.0
KEMA				S	Sn	03 04 01.7	-0.1
DIYA	Diyarbakir	1.07	111	i P	Pn	03 03 48.9	+0.2
DIYA				i S	Sn	03 04 03.7	+0.2
DIYA	Diyarbakir	1.07	111	P	Pn	03 03 48.9	+0.2
DIYA				S	Sn	03 04 03.7	+0.2
DYBB	Diyarbakir	1.08	109	PN	Pb	03 03 48.5	0.0
DARE	Darende-Malaty	1.11	284	PN	Pb	03 03 48.5	-0.5
DARE	Darende-Malaty	1.11	284	ePn	Pb	03 03 48.5	-0.5
DIY	Diyarbakir	1.16	110	ePn	Pb	03 03 48.5	-1.4
ILIC	ilic-Erzincan	1.16	349	PN	Pb	03 03 49.5	-0.5
ILIC	ilic-Erzincan	1.16	349	ePn	Pb	03 03 49.5	-0.5
SURC	SANLIURFA_SURC	1.44	188	i P	Pg	03 03 55.9	+0.3
SURC				i S	Sg	03 04 15.1	+0.8
SURC	SANLIURFA_SURC	1.44	188	P	Pg	03 03 55.9	+0.3
SURC				S	Sg	03 04 15.1	+0.8
CUKAN	kangal_SIVAS	1.48	313	i P	Pg	03 03 56.2	-0.2
CUKAN				i S	Sg	03 04 15.9	+0.3
CUKAN	kangal_SIVAS	1.48	313	P	Pg	03 03 56.2	-0.2
CUKAN				S	Sg	03 04 15.9	+0.3
MAZI	Mazidag	1.52	123	PN	Pn	03 03 55.3	+0.3
MAZI	Mazidag	1.52	123	ePn	Pn	03 03 55.3	+0.3

SOME ***06*** *03:03:45.5, 40.°32N×77.°68E, h10km*
KRNET ***06*** *03:03:58.3±0.1, 40.°76N×77.°51E, h12km, mb2.6*
ISC 06 03:03:54.7±3.8, **40.°5N**±0.°2×**77.°71E**±0.°09, **h3**km±29km, **n11**, σ**1.s16**/22, **10C, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRN	Naryn	1.57	305	⇑iP	Pn	03 04 23.8	0.0
	baz=0.0						
NRN				⇑iS	Sn	03 04 42.7	-2.1
	baz=0.0						
KDJ	Kajisay	1.63	346	⇑iP	Pn	03 04 24.7	+0.2
	baz=50						
KDJ				⇑iS	Sn	03 04 44.1	-2.1
	baz=50						
ULHL	Ulahol	2.03	328	⇑iP	Pb	03 04 31.7	-0.6
	baz=28						
ULHL				⇑iS	Sn	03 04 55.2	-0.7
	baz=28						
BOOM	Boomskoye usch	2.35	326	⇑iP	Pn	03 04 36.3	+1.9
	baz=26						
BOOM				⇑iS	Sn	03 05 05.5	+1.6
	baz=26						
KZA	Kyzart	2.40	310	⇑iP	Pb	03 04 38.3	-0.6
	baz=8.0						
KZA				⇑iS	Sn	03 05 06.7	+1.2
	baz=8.0						
TNSS	Tian-Shan	2.56	347	eP	Pn	03 04 37.2	-0.2
	3.6nm,0.3s						
TNSS				eS	Sb	03 05 14.3	+0.8
	11nm,0.5s						
SATY	Saty	2.57	12	eP	Pn	03 04 37.0	-0.3
	1.0nm,0.1s						
SATY				eS	Sb	03 05 14.1	+0.6
	9.9nm,0.5s						
MDOK	Medeo	2.66	350	eP	Pn	03 04 38.2	-0.4
	1.7nm,0.3s						
MDOK				eS	Sb	03 05 16.3	0.0
	8.0nm,0.6s						
KST	Kastek	2.82	333	eP	Pn	03 04 40.8	+0.1
	0.8nm,0.1s						
KST				eS	Sb	03 05 20.8	+0.1
	2.6nm,0.3s						
KPKS	Kokpek	3.01	14	eP	Pn	03 04 44.4	+1.0
	2.2nm,0.2s						
KPKS				eS	Sb	03 05 26.5	+0.3
	7.3nm,0.5s						
KUU	Kurty	3.50	344	eP	Pn	03 04 52.1	+2.1
	0.8nm,0.2s						
KUU				eS	Sb	03 05 40.0	-0.1
	1.9nm,0.5s						

IDC 06 03:13:32.8±1.6, **8.°18N**×**93.°52E**, **h0**km, **mb3.8**/5, **mb1 3.9**/6, **mb1mx3.4**/69, **mbtmp3.8**/6, **ML4.6**/1, **Error ellipse: s-maj=59.0km s-min=28.8km az=56.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.49	27	Pn	Pn	03 16 19.1	+0.8
	1.3nm,0.3s,baz=215,slow=15,SNR=6.7						
H08S3	Diego Garcia H	26.20	234	T	T	03 46 05.7	
	baz=53,slow=75,SNR=19						
H08S2	Diego Garcia H	26.20	234	T	T	03 46 02.0	
	baz=53,slow=75,SNR=27						
H08S1	Diego Carcia H	26.22	234	T	T	03 46 03.2	
	baz=53,slow=75,SNR=6.9						
MKAR	Makanchi Array	39.66	348	P	P	03 21 06.3	-0.3
	0.2nm,0.4s,baz=163,slow=7.5,SNR=2.1						
ZALV	Zalesovo Beam	46.18	353	P	P	03 21 59.1	-0.1
	1.6nm,0.5s,baz=169,slow=6.6,SNR=5.7						
WRA	Warramunga Arr	48.94	125	P	P	03 22 21.3	+0.1
	0.7nm,0.8s,baz=306,slow=8.2,SNR=4.6						
FINES	FINESS Array B	72.16	332	P	P	03 24 59.2	0.0
	0.5nm,0.5s,baz=98,slow=7.2,SNR=5.0						
HFS	Hagfors	77.89	330	P	P	03 25 32.3	-0.1
	2.2nm,0.9s,baz=97,slow=6.3,SNR=3.8						

ISCJB ***06*** *03:16:36.6±0.3, 50.°32N±0.°05×153.°73E±0.°06, h206km, mb3.7/38, Error ellipse: s-maj=8.6km s-min=3.1km az=150.4*
MOS ***06*** *03:16:37.4±1.0, 50.°27N×153.°90E, h224km, mb3.9/25, Error ellipse: s-maj=10.3km s-min=5.0km az=68.1*
KRSC ***06*** *03:16:39.1±1.2, 49.°85N×155.°32E, h242km±10km, ML4.4*
IDC ***06*** *03:16:40.1±0.8, 50.°39N×153.°94E, h232km±7km, mb3.5/31, mb1 3.6/37, mb1mx3.6/72, mbtmp4.1/37, Error ellipse: s-maj=12.3km s-min=8.5km az=146.0*
ISC 06 03:16:37.9±0.5, **50.°32N**±0.°06×**153.°93E**±0.°06, **h206**km, **n110**, σ**2.s06**/151, **mb3.9**/38, **6C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.44	75	⇓iPN	Pn	03 17 13.5	+1.9
SKR				eS	S	03 17 40.6	+3.2
SKR				pmax	pmax		
	comp=Z,2µm,1.3s						
SKR				pmax	pmax		
	comp=Z,2µm,0.6s						
SKR				smax	smax		
	comp=N,982nm,0.8s						
SKR				smax	smax		
	comp=E,507nm,0.8s						
SKR	Severo-Kuril's	1.44	75	i P	Pn	03 17 13.4	+1.9
SKR				eS	S	03 17 39.8	+2.4
PAU	Pauzhetka	2.15	57	PN	Pn	03 17 20.1	+1.8
PAU				S	S	03 17 51.4	+2.0
PAU	Pauzhetka	2.15	57	eP	Pn	03 17 20.1	+1.8
PAU				eS	S	03 17 51.4	+2.0
KDTR	Khodutka, Kamc	3.01	59	i P	Pn	03 17 28.6	+0.8
KDTR				eS	S	03 18 05.0	-1.4
ASAK	Asacha	3.23	49	PN	Pn	03 17 32.3	+1.8
ASAK	Asacha	3.23	49	eP	Pn	03 17 32.3	+1.8
APC	Apacha	3.29	36	PN	Pn	03 17 33.8	+2.7
APC				S	S	03 18 16.0	+3.6
APC	Apacha	3.29	36	eP	Pn	03 17 33.8	+2.7
APC				eS	S	03 18 16.0	+3.6
MTVR	Mutnovka	3.43	49	PN	Pn	03 17 34.9	+1.9
MTVR				S	S	03 18 17.1	+1.4
MTVR	Mutnovka	3.43	49	eP	Pn	03 17 34.9	+1.9
MTVR				eS	S	03 18 17.1	+1.4
RUS	Russkaya	3.56	52	PN	Pn	03 17 35.4	+1.0
RUS				S	S	03 18 17.6	-0.7
RUS	Russkaya	3.56	52	eP	Pn	03 17 35.4	+1.0
RUS				eS	S	03 18 17.6	-0.7
KRMR	Karymshinskiy	3.63	45	PN	Pn	03 17 37.0	+1.8
KRMR				S	S	03 18 21.3	+1.6
KRMR	Karymshinskiy	3.63	45	eP	Pn	03 17 37.0	+1.8
KRMR				eS	S	03 18 21.3	+1.6
PETK	Petropavlovsk-	3.64	39	P	Pn	03 17 38.3	+2.9
	comp=E,1.1nm,0.3s,baz=210,slow=8.8,SNR=12						
PET	Petropavlovsk	3.99	46	PN	Pn	03 17 41.9	+2.3
PET				S	S	03 18 28.7	+0.9
PET	Petropavlovsk	3.99	46	eP	Pn	03 17 41.9	+2.3
PET				eS	S	03 18 28.7	+0.9
DALK	Dalny	4.04	46	PN	Pn	03 17 41.8	+1.5
DALK				S	S	03 18 28.5	-0.4
DALK	Dalny	4.04	46	eP	Pn	03 17 41.8	+1.5
DALK				eS	S	03 18 28.5	-0.4
GNL	Ganaly	4.19	35	PN	Pn	03 17 45.0	+2.8
GNL	Ganaly	4.19	35	eP	Pn	03 17 45.0	+2.8
AVH	Avacha	4.19	44	PN	Pn	03 17 45.3	+3.1
AVH				S	S	03 18 33.8	+1.4
AVH	Avacha	4.19	44	eP	Pn	03 17 45.3	+3.1
AVH				eS	S	03 18 33.8	+1.4
UGLR	Uglovaya	4.19	45	PN	Pn	03 17 43.7	+1.4
UGLR				S	S	03 18 33.3	+0.8
UGLR	Uglovaya	4.19	45	eP	Pn	03 17 43.7	+1.4
UGLR				eS	S	03 18 33.3	+0.8
KRX	Arik	4.22	42	PN	Pn	03 17 44.9	+2.3
KRX	Arik	4.22	42	eP	Pn	03 17 44.9	+2.3
SMAR	Somma	4.22	44	PN	Pn	03 17 44.8	+2.1
SMAR	Somma	4.22	44	eP	Pn	03 17 44.8	+2.1
SDLR	Sedlovina	4.27	44	PN	Pn	03 17 45.5	+2.3
SDLR				S	S	03 18 35.0	+0.8
SDLR	Sedlovina	4.27	44	eP	Pn	03 17 45.5	+2.3
SDLR				eS	S	03 18 35.0	+0.8
NLC	Nalytchevo	4.41	48	PN	Pn	03 17 44.7	-0.1
NLC				S	S	03 18 34.2	-3.0
NLC	Nalytchevo	4.41	48	eP	Pn	03 17 44.7	-0.1
NLC				eS	S	03 18 34.2	-3.0
SPN	Mys Shipunski	4.70	51	PN	Pn	03 17 48.2	-0.3
SPN	Mys Shipunski	4.70	51	eP	Pn	03 17 48.2	-0.3
SPN				eS	S	03 18 39.4	-4.3
KII	Karymskiy	5.03	40	PN	Pn	03 17 55.1	+2.3
KII	Karymskiy	5.03	40	P	Pn	03 17 55.1	+2.3
KMNR	Kamenistaya	6.64	33	PN	Pn	03 18 17.2	+3.8
KMNR	Kamenistaya	6.64	33	eP	Pn	03 18 17.2	+3.8
KBTR	Krutoberegovo	7.94	39	PN	Pn	03 18 29.8	-0.3
KBTR				S	S	03 19 55.9	-3.8
KBTR	Krutoberegovo	7.94	39	eP	Pn	03 18 29.8	-0.3
KBTR				eS	S	03 19 55.9	-3.8
SHO	Shikotan	8.07	220	ePN	Pn	03 18 29.1	-2.8
SHO				pmax	pmax		
	comp=Z,66nm,0.8s						
BKI	Bering	8.78	52	PN	Pn	03 18 39.9	-1.1
BKI	Bering	8.78	52	eP	Pn	03 18 39.9	-1.1
BKI				eS	S	03 20 09.3	-10
ASAJ	Asahikawa	9.89	235	P	Pn	03 18 57.3	+1.7
	comp=Z,0.6nm,0.3s,baz=52,slow=19,SNR=6.6						
SEY	Seymchan	12.67	357	P	Pn	03 19 29.9	-0.8
	baz=17,slow=20,SNR=2.6						
KLR	Kul'dur	14.37	274	P	P	03 19 56.1	+2.9
	comp=Z,0.0nm,0.3s,baz=73,slow=12,SNR=12						
KLR	Kul'dur	14.37	274	⇓iP	P	03 19 55.8	+2.6
USRK	Ussuriysk Ar.	16.08	256	P	Pn	03 20 12.8	+0.2
	comp=Z,0.2nm,0.3s,baz=72,slow=12,SNR=5.0						
YAK	Yakutsk	17.74	321	P	Pn	03 20 31.4	-0.8
	baz=54,slow=4.0,SNR=10						
YAK	Yakutsk	17.74	321	eP	P	03 20 31.0	+0.9
YAK				e		03 23 42.5	
YAK				pmax	pmax		
	comp=Z,30nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
MAJO	Matsushiro	17.84	225	⇑iP	P	03 20 31.1	-0.4
MAT	Matsushiro	17.84	225	P	P	03 20 31.2	-0.3
MJAR	Matsushiro Arr	17.84	225	P	P	03 20 31.4	-0.1
	comp=N,0.9nm,0.3s,baz=14,slow=10,SNR=10						
BILL	Bilibino	18.79	14	i P	P	03 20 40.4	-1.0
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSRS	Korea Array	22.60	245	P	P	03 21 22.9	+2.1
	comp=Z,3.1nm,0.6s,baz=44,slow=10,SNR=10						
KSRS	Korea Array	22.60	245	P	P	03 21 23.0	+2.1
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TIXI	Tiksi	24.23	341	P	P	03 21 35.1	-0.2
	comp=Z,5.3nm,0.6s,baz=131,slow=11,SNR=9.7						
TIXI	Tiksi	24.23	341	⇑iP	P	03 21 35.7	+0.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULN	Ulaanbaatar	30.40	284	⇓iP	P	03 22 31.1	+0.3
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	Songino Array	30.82	284	P	P	03 22 33.7	-0.7
	comp=Z,0.4nm,0.5s,baz=66,slow=8.4,SNR=3.0						
SONM				PcP	PcP	03 25 25.2	-0.8
	comp=Z,0.9nm,0.8s,baz=72,slow=3.2,SNR=4.3						
TLY	Talaya	31.17	292	⇓iP	P	03 22 38.4	+1.1
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KDAK	Kodiak Island	31.52	55	P	P	03 22 38.6	-1.6
	comp=Z,3.9nm,0.8s,baz=180,slow=3.0,SNR=8.6						
ZAK	Zakamensk	31.81	290	eP	P	03 22 42.9	-0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	Eielson Array	33.47	42	P	P	03 22 56.1	-0.9
	comp=Z,0.4nm,0.5s,baz=268,slow=6.3,SNR=7.7						
ILAR				pP	pP	03 23 44.1	+4.9
	comp=Z,0.4nm,0.7s,baz=273,slow=7.1,SNR=2.6						
INK	Inuvik	38.37	35	P	P	03 23 38.9	+0.3
	comp=Z,0.6nm,0.5s,baz=289,slow=7.8,SNR=5.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
INK				PcP	PcP	03 25 46.2	-1.2
	comp=Z,0.7nm,0.7s,baz=198,slow=3.2,SNR=3.0						
ZALV	Zalesovo Beam	41.05	303	P	P	03 23 59.4	-1.4
	comp=Z,2.7nm,0.6s,baz=66,slow=8.1,SNR=10						
ZALV				PcP	PcP	03 25 54.5	-1.7
	comp=Z,0.6nm,0.3s,baz=94,slow=2.8,SNR=3.6						
MKAR	Makanchi Array	45.86	295	P	P	03 24 38.7	-0.6
	comp=Z,2.0nm,0.7s,baz=63,slow=8.0,SNR=20						
MKAR				PcP	PcP	03 26 11.9	-0.9
	comp=Z,0.3nm,0.5s,baz=60,slow=5.4,SNR=4.2						
KURK	Kurchatov	45.91	301	d iP	P	03 24 39.2	-0.3
KURK				i		03 26 12.4	
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YKA	Yellowknife Ar	47.76	39	P	P	03 24 53.9	+0.2
	comp=Z,0.6nm,0.7s,baz=300,slow=7.4,SNR=8.9						
YKA				pP	pP	03 25 43.2	+4.7
	comp=Z,0.6nm,0.8s,baz=300,slow=7.7,SNR=5.2						
YKA	Yellowknife Ar	47.76	39	P	P	03 24 53.9	+0.2
YKA				*PP	pP	03 25 43.2	+4.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	Borovoye Array	49.06	307	P	P	03 25 03.9	+0.2
	comp=Z,2.1nm,0.7s,baz=55,slow=7.9,SNR=13						
BVAR				PcP	PcP	03 26 24.0	-0.2
	comp=Z,1.0nm,0.7s,baz=70,slow=4.1,SNR=4.6						
BRVK	Borovoye	49.10	307	⇑iP	P	03 25 04.3	+0.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SPITS	Spitsbergen Ar	49.19	349	P	P	03 25 02.7	-1.8
	comp=Z,24nm,1.1s,baz=44,slow=15,SNR=4.3						
SPITS	Spitsbergen Ar	49.19	349	P	P	03 25 02.7	-1.8
SPITS				pmax	pmax		
	comp=Z,24nm,1.1s						
ARU	Arti	52.78	316	c iP	P	03 25 31.0	-0.4
ARU						03 26 35.3	
ARU						03 27 30.2	
ARU				S	S	03 32 42.8	-0.3
ARU				SS	SS	03 36 15.7	-8.2
ARU				pmax	pmax		
	comp=Z,29nm,1.7s						
AAK	Ala-Archa	52.79	294	P	P	03 25 31.3	-0.6
	comp=Z,1.0nm,0.5s,baz=95,slow=2.4,SNR=5.3						
AAK	Ala-Archa	52.79	294	⇑iP	P	03 25 31.8	-0.1
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	Chiang Mai Arr	53.80	254	P	P	03 25 40.2	+0.9
	comp=Z,2.1nm,0.7s,baz=36,slow=6.9,SNR=9.9						
ARCES	ARCESS Array B	54.66	340	P	P	03 25 43.4	-1.4
	comp=Z,2.4nm,0.8s,baz=32,slow=7.3,SNR=7.0						
ARCES	ARCESS Array B	54.66	340	eP	P	03 25 43.6	-1.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTO	Aktyubinsk	56.78	311	P	P	03 25 59.6	-0.5
	comp=Z,2.0nm,0.5s,baz=80,slow=6.5,SNR=7.5						
NVAR	Mina Array Bea	60.35	65	P	P	03 26 25.4	+0.2
	comp=Z,0.6nm,0.6s,baz=292,slow=7.1,SNR=4.0						
FINES	FINESS Array B	61.04	334	P	P	03 26 28.0	-1.2
	comp=Z,1.4nm,0.6s,baz=34,slow=7.3,SNR=8.9						
FINES				PcP	PcP	03 27 08.9	-1.3
	comp=Z,1.8nm,0.6s,baz=46,slow=6.0,SNR=6.5						
OBN	Obninsk	62.68	325	⇓eP	P	03 26 39.3	-0.9
OBN				e		03 27 14.9	
OBN				e*PP	pP	03 27 34.7	+7.3
OBN				e		03 28 59.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NB2	NORSAR Subarra	65.02	341	P	P	03 26 53.9	-1.5
	comp=Z,1.3nm,0.7s,baz=25,slow=6.5						
NOA	NORSAR Array B	65.02	341	P	P	03 26 54.2	-1.2
	comp=Z,1.8nm,0.7s,baz=26,slow=6.5,SNR=8.2						
HFS	Hagfors	65.30	339	P	P	03 26 55.5	-1.7
	comp=Z,1.9nm,0.6s,baz=180,slow=0.9,SNR=6.5						
GOF	Gofitskoye	67.70	314	⇑eP	P	03 27 12.9	+0.3
KBZ	Khabaz	68.78	313	P	P	03 27 19.0	-0.3
	comp=Z,3.3nm,0.7s,baz=136,slow=4.0,SNR=9.7						
AKASG	Malin Array Be	68.88	326	P	P	03 27 17.9	-2.0
	comp=Z,1.0nm,0.5s,baz=33,slow=6.3,SNR=6.1						
AKASG	Malin Array Be	68.88	326	eP	P	03 27 18.2	-1.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	72.07	199	P	P	03 27 37.6	-1.8
	comp=Z,0.8nm,0.6s,baz=20,slow=6.5,SNR=4.9						
EKA	Eskdalemuir Ar	72.99	347	P	P	03 27 43.2	-1.2
	comp=Z,0.7nm,0.4s,baz=13,slow=5.2,SNR=8.4						
DPC	Dobruska-Polom	73.38	333	eP	P	03 27 46.8	-0.1
DPC	Dobruska-Polom	73.38	333	eP	P	03 27 46.8	-0.1
PALK	Pallekele	73.74	262	i P	P	03 27 50.4	+0.9
MLR	Muntele Rosu	74.45	325	P	P	03 27 53.0	-0.3
	comp=Z,0.2nm,0.5s,baz=320,slow=8.4,SNR=5.9						
MLR	Muntele Rosu	74.45	325	P	P	03 27 53.0	-0.3
KHC	Kasperske Hory	75.25	334	eP	P	03 27 55.9	-1.8
KHC	Kasperske Hory	75.25	334	eP	P	03 27 55.9	-1.8
TXAR	Lajitas Array	75.29	62	P	P	03 27 58.4	+0.1
	comp=Z,0.3nm,0.4s,baz=298,slow=5.3,SNR=7.9						
TXAR				pP	pP	03 28 51.3	+4.0
	comp=Z,0.6nm,0.9s,baz=260,slow=3.7,SNR=2.6						
GERES	GERESS Array B	75.48	334	P	P	03 27 58.0	-1.1
	comp=Z,0.4nm,0.5s,baz=28,slow=6.0,SNR=6.2						
ASAR	Alice Springs	75.77	199	P	P	03 28 00.1	-0.7
	comp=Z,1.1nm,0.7s,baz=10.0,slow=5.2,SNR=7.3						
BRTR	Keskin Array B	76.16	317	P	P	03 28 02.6	-0.6
	comp=Z,2.9nm,0.9s,baz=70,slow=3.4,SNR=10						
BRTR	Keskin Array B	76.16	317	eP	P	03 28 03.6	+0.5
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASF	Jabal al Asfar	80.81	310	P	P	03 28 29.1	+0.4
	comp=Z,1.4nm,0.4s,baz=324,slow=3.4,SNR=5.9						
MMAI	Mount Meron Ar	80.85	312	P	P	03 28 28.4	-0.4
	comp=Z,2.5nm,0.5s,baz=36,slow=5.8,SNR=6.7						
ESDC	Sonseca Array	88.30	343	P	P	03 29 03.5	-2.3
	comp=Z,1.0nm,0.7s,baz=10,slow=5.1,SNR=7.0						

MAN 06 03:17:04, 12.37N×123.68E, h13km, mb4.5, ML3.4, MS3.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	Masbate	0.06	254	⇓iP	Pg	03 17 07.9	+1.3
MMPH				i S	Sg	03 17 09.4	+1.1
CNP	Catarman	0.97	82	eP	Pg	03 17 22.9	+0.1
CNP				eS	Sn	03 17 37.5	+0.6
RCP	Roxas	1.22	229	⇑eP	Pg	03 17 27.3	-0.2
RCP				eS	Sg	03 17 43.9	+0.4
GUIM	Jordan	2.04	212	eP	Pg	03 17 43.3	+0.1
GUIM				eS	Sg	03 18 18.2	+8.6

*IDC **06** 03:34:32.1±1.0, 60.95N×148.57W, h0km, mb3.4/2, mb1 3.5/6, mb1mx3.3/71, mbtmp3.3/6, ML3.0/4, Error ellipse: s-maj=23.1km s-min=11.4km az=112.0*
*NEIC **06** 03:34:33.7±0.0, 61.17N×148.98W, h25km, ML3.5(AEIC), After AEIC.*
NEIC Felt [IV] at Anchorage; [III] at Chugiak and Eagle River; [II] at Elmendorf AFB and Girdwood.
ISC 06 03:34:32.6±1.2, 61.14N±0.02×148.99W±0.02, h16km±8km, n67, σ1.48/91, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.37	263	P	Pb	03 34 42.0	+1.2
RC01				S	Sn	03 34 48.7	-1.4
KNK	Knik Glacier	0.38	43	P	Pb	03 34 41.2	+0.3
KNK				S	Sb	03 34 47.6	+1.0
PMR	Palmer	0.46	352	P	Pg	03 34 42.1	+0.2
PMR				S	Sg	03 34 49.1	+0.9
FIB	Fire Island	0.57	273	P	Pb	03 34 45.0	+0.7
GHO	Glory Hole Cre	0.64	3	P	Pb	03 34 44.6	-0.9
GHO				S	Sg	03 34 53.5	-0.2
SML	Sawmill	0.74	25	P	Pb	03 34 45.9	-1.3
SML				S	Sb	03 34 56.1	-1.1
SLKM	Skilak Lake	0.87	224	P	Pb	03 34 49.0	-0.4
SUA	Susitna One	0.91	292	P	Pb	03 34 48.9	-1.2
SUA				eSg	Sb	03 34 59.2	-2.6
GLI	Glacier Island	0.96	105	P	Pb	03 34 49.3	-1.5
GLI				S	Sb	03 35 02.9	-0.4
SCM	Sheep Creek Mo	1.06	48	P	Pb	03 34 50.8	-1.9
SCM				eSg	Sb	03 35 05.3	-1.0
SEW	Seward	1.06	193	P	Pb	03 34 51.7	-0.8
SEW				S	Sb	03 35 06.2	+0.1
JPK	Jack Peak	1.17	93	P	Pn	03 34 52.5	-1.7
VMT	TAPS TI Valdez	1.27	91	P	Pn	03 34 54.3	-1.4
VMT				S	Sb	03 35 12.1	-0.2
STLK	Strandline Lak	1.42	286	P	Pn	03 34 57.0	-0.8
SKT	Skwentna	1.48	306	P	Pn	03 34 57.7	-0.9
SKT				S	Sn	03 35 16.6	-1.0
SPU	Mount Spurr	1.49	273	ePn	Pn	03 34 57.4	-1.3
SPU				eSn	Sn	03 35 16.1	-1.7
KLU	Klutina	1.52	75	P	Pn	03 34 57.7	-1.6
KLU				S	Sn	03 35 17.0	-1.7
SPCP	Crater Peak Br	1.54	276	P	Pn	03 34 58.8	-0.7
DIV	Divide	1.56	89	P	Pn	03 34 58.4	-1.3
DIV				S	Sn	03 35 18.6	-1.0
CKL	Chakachamna La	1.62	274	P	Pn	03 34 60.0	-0.7
BRLK	Bradley Lake	1.67	215	P	Pn	03 35 00.6	-0.5
EYAK	Cordova Ski Ar	1.69	109	P	Pn	03 35 00.3	-1.1
SPWE	Spurr West	1.73	276	P	Pn	03 35 01.6	-0.6
PS12	TAPS Pump St12	1.89	78	P	Pn	03 35 03.1	-1.1
DFR	Drift River	1.89	255	P	Pn	03 35 03.4	-0.9
PS11	TAPS Pump St11	1.93	59	P	Pn	03 35 04.0	-0.7
RDJH	Redoubt Jeurge	1.94	255	P	Pn	03 35 04.3	-0.7
RSO	Redoubt South	1.97	251	ePn	Pn	03 35 05.7	+0.3
RSO				eSn	Sn	03 35 28.2	-1.6
HOM	Homer	1.98	223	ePn	Pn	03 35 05.6	+0.2
HOM				eSn	Sn	03 35 28.8	-1.1
RED	Redoubt Volcan	1.99	250	P	Pn	03 35 04.9	-0.8
RED				S	Sn	03 35 29.8	-0.4
RDWB	Redoubt West	2.00	253	P	Pn	03 35 04.9	-0.8
DHY	Denali Highway	2.09	21	P	Pn	03 35 06.0	-1.1
BMRM	Bremner River	2.14	93	P	Pn	03 35 05.9	-1.7
MID	Middleton Isla	2.16	141	ePn	Pn	03 35 09.4	+1.5
MID				eSn	Sn	03 35 35.5	+1.2
HARP	HAARP	2.23	53	P	Pn	03 35 07.9	-0.9
RAGM	Ragged Mountai	2.25	108	ePn	Pn	03 35 09.7	+0.5
RAGM				eSn	Sn	03 35 37.1	+0.6
RND	Reindeer	2.28	2	P	Pn	03 35 08.6	-1.0
ILW	Iliamna West	2.31	244	P	Pn	03 35 09.4	-0.8
PPLA	Purkeypile	2.32	321	P	Pn	03 35 08.7	-1.6
TRF	Thorofare Moun	2.40	346	P	Pn	03 35 10.3	-1.1
PAX	Paxson	2.48	40	P	Pn	03 35 11.3	-1.0
KTH	Kantishna Hill	2.59	340	P	Pn	03 35 12.8	-1.0
MCK	McKinley	2.60	1	P	Pn	03 35 13.7	-0.3
NICHA	Nichawak Mount	2.63	108	P	Pn	03 35 12.4	-2.0
CAST	Castle Rocks	2.71	329	P	Pn	03 35 13.6	-1.9
AUNW	Augustine NWes	2.85	234	P	Pn	03 35 17.0	-0.3
MENT	Mentasta	3.07	52	ePn	Pn	03 35 18.8	-1.6
BPAW	Bear Paw Mtn.	3.11	344	P	Pn	03 35 19.4	-1.6
SVW2	Sparrevohn	3.20	272	P	Pn	03 35 20.6	-1.5
RIDG	Independ'e Rid	3.25	35	ePn	Pn	03 35 22.3	-0.5
HDA	Harding Lake	3.42	15	eSn	Sn	03 36 03.2	-2.0
CCB	Clear Creek Bu	3.56	8	ePn	Pn	03 35 26.8	-0.3
IL1	Eielson Array	3.77	14	ePn	Pn	03 35 28.6	-1.4
ILAR	Eielson Array	3.77	14	Pn	Pn	03 35 30.6	+0.5
	1.0nm,0.3s,baz=197,slow=14,SNR=46						
ILAR				Sn	Sn	03 36 17.4	+3.4
	9.8nm,0.3s,baz=204,slow=23,SNR=12						
ILB	Eielson Array	3.77	14	ePn	Pn	03 35 29.9	-0.2
ILB				eSn	Sn	03 36 17.4	+3.4
COLA	College	3.79	7	ePn	Pn	03 35 30.1	-0.1
COLA				eSn	Sn	03 36 11.9	-2.4
KDAK	Kodiak Island	3.83	210	Pn	Pn	03 35 29.5	-1.3
	2.1nm,0.3s,baz=68,slow=9.3,SNR=55						
KDAK				Sn	Sn	03 36 10.6	-4.8
	4.2nm,0.3s,baz=16,slow=11,SNR=8.9						
MDM	Murphy Dome	3.85	5	ePn	Pn	03 35 31.0	-0.2
MLY	Manley	3.99	349	ePn	Pn	03 35 32.0	-1.0
HYT	Haines Junctio	5.60	88	ePn	Pn	03 35 55.6	+0.3
FYU	Fort Yukon	5.70	15	ePn	Pn	03 35 59.1	+2.7
INK	Inuvik	9.74	36	Pn	Pn	03 36 52.8	+0.9
	0.1nm,0.3s,baz=283,slow=17,SNR=4.4						
INK				Sn	Sn	03 38 40.9	+0.2
	0.2nm,0.3s,baz=64,slow=16,SNR=3.5						
YKA	Yellowknife Ar	16.19	70	Pn	Pn	03 38 19.4	+0.4
	0.1nm,0.3s,baz=282,slow=10,SNR=7.8						
YKB5	Yellowknife Ar	16.19	70	ePn	Pn	03 38 19.4	+0.4
TXAR	Lajitas Array	43.61	116	P	P	03 42 34.5	-1.5
	0.3nm,0.7s,baz=340,slow=7.0,SNR=4.5						
MK32	Makanchi Array	64.73	324	eP	P	03 45 13.5	+3.9
MKAR	Makanchi Array	64.73	324	P	P	03 45 13.5	+3.9
	0.3nm,0.6s,baz=40,slow=6.9,SNR=3.4						

*ISCJB **06** 04:01:19.7±0.3, 41.76N±0.02×15.85E±0.02, h23km±2km, Error ellipse: s-maj=3.6km s-min=2.8km az=32.6*
*ROM **06** 04:01:19.5±0.1, 41.73N×15.84E, h22km±1km, Md2.5/27, Ml2.5/13, Error ellipse: s-maj=2.0km s-min=1.1km az=25.0*
*CSEM **06** 04:01:19.7±0.1, 41.73N×15.84E, h20km, ML3.4/14, Error ellipse: s-maj=2.3km s-min=1.8km az=29.0*
ISC 06 04:01:19.9±0.9, 41.73N±0.02×15.83E±0.02, h22km±5km, n67, σ0.57/120, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAG	Monte S. Angel	0.06	108	Pg	Pb	04 01 24.1	0.0
MSAG				Sg	Sb	04 01 27.0	+0.1
	2μm,0.2s						
MSAG	Monte S. Angel	0.06	108	Pg	Pb	04 01 24.1	0.0
MSAG				Sg	Sb	04 01 27.0	+0.1
	2μm,0.2s						
SGRT	San Giovanni R	0.07	290	Pg	Pb	04 01 23.7	-0.4
SGRT				Sg	Sb	04 01 26.3	-0.7
	2μm,0.2s						
SGRT	San Giovanni R	0.07	290	Pg	Pb	04 01 23.7	-0.4
SGRT				Sg	Sb	04 01 26.3	-0.7
	2μm,0.2s						
MS1	Monte Sant'Ang	0.09	107	i Pg	Pb	04 01 24.4	+0.2
MS1				Sg	Sb	04 01 27.6	+0.5
MELA	Melanico ??? S	0.53	267	Pg	Pb	04 01 29.8	-0.7
MELA				Sg	Sb	04 01 37.5	-0.2
	406nm,0.3s						
MELA	Melanico ??? S	0.53	267	Pg	Pb	04 01 29.8	-0.7
MELA				Sg	Sb	04 01 37.5	-0.2
	406nm,0.3s						
MOCO	Biccari - m.te	0.62	235	Pg	Pb	04 01 31.4	-0.8
MOCO				Sg	Sb	04 01 40.9	+0.4
CIGN	Sant'Elia a Pi	0.70	264	Pg	Pb	04 01 32.9	-0.5
CIGN				Sg	Sb	04 01 43.4	+0.8
CIGN	Sant'Elia a Pi	0.70	264	Pg	Pb	04 01 32.9	-0.5
CIGN				Sg	Sb	04 01 43.4	+0.8
GATE	Gambatesa	0.72	253	Pg	Pn	04 01 34.3	-0.5
GATE				Sg	Sb	04 01 43.6	+0.3
	64nm,0.5s						
GATE	Gambatesa	0.72	253	Pg	Pn	04 01 34.3	-0.5
GATE				Sg	Sb	04 01 43.6	+0.3
	64nm,0.5s						
MRVN	Minervino Murg	0.72	158	Pg	Pb	04 01 32.8	-1.1
	100nm,0.1s						
MRVN	Minervino Murg	0.72	158	Pg	Pb	04 01 32.8	-1.1
	100nm,0.1s						
VULT	Monte Vulture	0.79	192	Pg	Pb	04 01 34.5	-0.6
VULT				Sg	Sb	04 01 45.3	-0.1
	254nm,0.2s						
VULT	Monte Vulture	0.79	192	Pg	Pb	04 01 34.5	-0.6
VULT				Sg	Sb	04 01 45.3	-0.1
	254nm,0.2s						
PALZ	Palazzo San Ge	0.79	173	Pg	Pb	04 01 34.1	-0.9
PALZ				Sg	Sb	04 01 45.8	+0.5
	104nm,0.5s						
PALZ	Palazzo San Ge	0.79	173	Pg	Pb	04 01 34.1	-0.9
PALZ				Sg	Sb	04 01 45.8	+0.5
	104nm,0.5s						
CAFE	Carife	0.83	213	Pg	Pb	04 01 35.5	-0.3
CAFE				Sg	Sb	04 01 47.1	+0.5
CAFE	Carife	0.83	213	Pg	Pb	04 01 35.5	-0.3
CAFE				Sg	Sb	04 01 47.1	+0.5
MRB1	Monte Rocchett	0.88	227	Pg	Pb	04 01 35.9	-0.7
MRB1				Sg	Sn	04 01 49.5	+0.3
	48nm,0.5s						
MRB1	Monte Rocchett	0.88	227	Pg	Pb	04 01 35.9	-0.7
MRB1				Sg	Sn	04 01 49.5	+0.3
	48nm,0.5s						
FRES	Fresagrandinar	0.90	286	Pg	Pb	04 01 36.3	-0.6
FRES				Sg	Sn	04 01 49.9	+0.3
FRES	Fresagrandinar	0.90	286	Pg	Pb	04 01 36.3	-0.6
FRES				Sg	Sn	04 01 49.9	+0.3
SNAL	S. Angelo Dei	0.93	210	Pg	Pb	04 01 36.3	-1.1
SNAL				Sg	Sb	04 01 49.2	-0.2
SNAL	S. Angelo Dei	0.93	210	Pg	Pb	04 01 36.3	-1.1
SNAL				Sg	Sb	04 01 49.2	-0.2
BSSO	Busso	0.94	259	Pg	Pn	04 01 38.1	+0.2
BSSO				Sg	Sb	04 01 50.1	+0.3
BSSO	Busso	0.94	259	Pg	Pn	04 01 38.1	+0.2
BSSO				Sg	Sb	04 01 50.1	+0.3
ACER	Acerenza	0.95	175	Pg	Pb	04 01 36.9	-0.8
ACER				Sg	Sn	04 01 50.5	-0.3
	160nm,0.3s						
ACER	Acerenza	0.95	175	Pg	Pb	04 01 36.9	-0.8
ACER				Sg	Sn	04 01 50.5	-0.3
	160nm,0.3s						
TRIV	Trivento	0.96	273	Pg	Pb	04 01 37.8	-0.1
TRIV				Sg	Sn	04 01 51.0	0.0
TRIV	Trivento	0.96	273	Pg	Pb	04 01 37.8	-0.1
TRIV				Sg	Sn	04 01 51.0	0.0
BAI	Bari	1.01	128	ePg	Pn	04 01 38.5	-0.1
BAI				Sg	Sn	04 01 52.5	+0.4
MRLC	Muro Lucano	1.01	195	Pg	Pb	04 01 37.9	-0.8
MRLC				Sg	Sn	04 01 52.4	+0.2
	71nm,0.2s						
MRLC	Muro Lucano	1.01	195	Pg	Pb	04 01 37.9	-0.8
MRLC				Sg	Sn	04 01 52.4	+0.2
	71nm,0.2s						
AMUR	Altamura	1.01	144	Pg	Pb	04 01 38.2	-0.5
AMUR				Sg	Sn	04 01 51.7	-0.6
	65nm,0.2s						
AMUR	Altamura	1.01	144	Pg	Pb	04 01 38.2	-0.5
AMUR				Sg	Sn	04 01 51.7	-0.6
	65nm,0.2s						
PTRJ	Pietraroja	1.04	250	Pg	Pn	04 01 39.9	+0.6
PTRJ				Sg	Sn	04 01 53.1	-0.1
PTRJ	Pietraroja	1.04	250	Pg	Pn	04 01 39.9	+0.6
PTRJ				Sg	Sn	04 01 53.1	-0.1
SG1	Sgolgore (BA)	1.10	144	ePg	Pn	04 01 39.3	-0.7
SG1				Sg	Sn	04 01 54.1	-0.3
MIDA	Miranda	1.18	266	Pg	Pn	04 01 41.0	-0.2
MIDA	Miranda	1.18	266	Pg	Pn	04 01 41.0	-0.2
MIGL	Miglionico	1.22	158	Pg	Pb	04 01 42.1	-0.2
MIGL				Sg	Sn	04 01 59.1	+1.7
	131nm,0.2s						
MIGL	Miglionico	1.22	158	Pg	Pb	04 01 42.1	-0.2
MIGL				Sg	Sn	04 01 59.1	+1.7
	131nm,0.2s						
RNI2	Rionero Sannit	1.26	269	Pg	Pb	04 01 42.7	-0.3
RNI2	Rionero Sannit	1.26	269	Pg	Pb	04 01 42.7	-0.3
MATE	Matera	1.27	148	Pg	Pb	04 01 42.7	-0.4
MATE				Sg	Sb	04 02 00.3	+1.4
	58nm,0.4s						
MATE	Matera	1.27	148	Pg	Pb	04 01 42.7	-0.4
MATE				Sg	Sb	04 02 00.3	+1.4
	58nm,0.4s						
CDRU	Civita di Ruta	1.30	198	Pg	Pb	04 01 43.6	-0.2
CDRU	Civita di Ruta	1.30	198	Pg	Pb	04 01 43.6	-0.2
NOCI	Noci	1.32	135	Pg	Pn	04 01 42.6	-0.5
NOCI				Sg	Sb	04 02 00.1	-0.5
	88nm,0.3s						
NOCI	Noci	1.32	135	Pg	Pn	04 01 42.6	-0.5
NOCI				Sg	Sb	04 02 00.1	-0.5
	88nm,0.3s						
SLCN	Sala Consilina	1.35	186	Pg	Pn	04 01 43.6	+0.1
SLCN				Sg	Sb	04 02 02.3	+0.9
	35nm,0.4s						
SLCN	Sala Consilina	1.35	186	Pg	Pn	04 01 43.6	+0.1
SLCN				Sg	Sb	04 02 02.3	+0.9
	35nm,0.4s						
MTSN	Montesano sull	1.47	182	Pg	Pn	04 01 45.2	+0.1
MTSN	Montesano sull	1.47	182	Pg	Pn	04 01 45.2	+0.1
FASA	Fasano	1.47	128	ePg	Pn	04 01 44.8	-0.2
FASA				Sg	Sn	04 02 03.7	+0.2
MASS	Massafra	1.48	137	ePg	Pn	04 01 44.9	-0.3
SIRI	Monte Sirino -	1.55	179	Pg	Pn	04 01 46.8	+0.6
SIRI	Monte Sirino -	1.55	179	Pg	Pn	04 01 46.8	+0.6
TAR1	Taranto	1.63	137	ePg	Pn	04 01 47.4	+0.2
STON	Ston	1.79	50	ePn	Pn	04 01 49.2	-0.4
STON				Sn	Sn	04 02 11.7	+0.1
STON	Ston	1.79	50	ePn	Pn	04 01 49.1	-0.4
STON				Sn	Sn	04 02 11.7	+0.1
UDBI	Udbina	2.80	359	ePn	Pn	04 02 02.9	-0.4
UDBI				Sn	Sn	04 02 36.7	+0.3
UDBI	Udbina	2.80	359	ePn	Pn	04 02 02.9	-0.4
UDBI				Sn	Sn	04 02 36.7	+0.3
NVLJ	Novalja	2.92	346	ePn	Pn	04 02 05.4	+0.4
NVLJ				Sn	Sn	04 02 40.0	+0.7
NVLJ	Novalja	2.92	346	ePn	Pn	04 02 05.3	+0.4
NVLJ				Sn	Sn	04 02 39.9	+0.7

MAN 06 04:13:15, 10.20N×123.00E, h29km, mb3.6, ML2.3, MS1.8, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	0.59	316	eP	Pn	04 13 28.0	+0.5
GUIM				eS	Sn	04 13 38.2	+2.1
TBP	Tagbilaran	0.98	121	eP	Pb	04 13 33.6	+0.1
TBP				i S	Sb	04 13 46.6	+0.5
RCP	Roxas	1.38	349	⇑eP	Pn	04 13 39.1	+0.8

IDC 06 04:34:37.6±4.2, 68.41N×166.82W, h0km, mb3.0/3, mb1 3.6/4, mb1mx3.2/66, mbtmp3.1/4, ML3.0/1, Error ellipse: s-maj=89.4km s-min=59.7km az=13.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	8.71	105	Pn	Pn	04 36 41.0	-3.8
	0.2nm,0.3s,baz=301,slow=14,SNR=22						
ILAR				Sn	Sn	04 38 11.4	-12
	0.0nm,0.3s,baz=295,slow=13,SNR=2.5						
YKA	Yellowknife Ar	21.86	80	P	P	04 39 31.4	0.0
	0.2nm,0.7s,baz=303,slow=10,SNR=4.2						
PDAR	Pinedale Array	39.11	101	P	P	04 42 05.6	-0.9
	0.3nm,0.7s,baz=342,slow=8.5,SNR=2.6						
NVAR	Mina Array Bea	39.86	113	P	P	04 42 13.0	+0.1
	0.3nm,0.6s,baz=314,slow=7.1,SNR=2.9						

MAN 06 04:41:21, 12.52N×123.23E, h32km, mb4.3, ML3.1, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	Masbate	0.42	112	⇓iP	Pn	04 41 31.9	+1.1
MMPH				i S	Sb	04 41 33.6	-2.9
OTRP	Odiongan	1.19	263	eP	Pn	04 41 42.0	+0.5
OTRP				eS	Sb	04 41 57.7	-0.5
CNP	Catarman	1.40	90	eP	Pn	04 41 45.4	+1.1
CNP				eS	Sn	04 42 02.3	+0.6

*ISN **06** 04:50:19.2±0.3, 32.65N×46.91E, h0km, ML3.0*
TEH 06 04:50:35.0, 32.64N×46.92E, h30km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	1.18	41	ePn	Pn	04 50 54.4	-1.1
IKOM	Komasi	1.61	18	ePn	Pn	04 51 02.1	+0.5
IKOM				eSg	Sb	04 51 26.5	+2.2
IKOM				eAMB	AMB	04 51 31.0	
	comp=Z,2μm,0.2s						
IGHG	Ghaleghazi	1.71	350	eSg	Sb	04 51 28.8	+1.5
IGHG				ePn	Pn	04 51 03.5	+0.4
IGHG				eAMB	AMB	04 51 39.4	
	comp=Z,2μm,0.4s						
IVIS	Veis	1.89	358	ePn	Pn	04 51 04.9	-0.4
ILIN	Lien	2.28	1	ePn	Pn	04 51 10.7	-0.1
ILIN				eAMB	AMB	04 51 15.3	
	comp=Z,366nm,0.1s						
IPIR	Pirpir	3.35	88	ePn	Pn	04 51 25.6	-0.1
IPIR				eAMB	AMB	04 52 08.6	
	comp=Z,684nm,0.2s						
IRAZ	Razeghan	3.73	41	ePn	Pn	04 51 30.7	0.0
IRAZ				eAMB	AMB	04 51 42.7	
	comp=Z,194nm,0.2s						
IZEF	Zefreh	4.57	85	ePn	Pn	04 51 41.5	-0.8
IZEF				eAMB	AMB	04 51 43.6	
	comp=Z,80nm,0.1s						

*SKO **06** 04:56:25.9, 41.47N×20.84E, h15km, M1.8, ML2.2*
*ATH **06** 04:56:25.5, 41.51N×20.79E, h15km±4km, ML2.1/4, Error ellipse: s-maj=4.7km s-min=1.2km az=203.0*
*TIR **06** 04:56:25.3, 41.53N×20.87E, h7km, ML2.8*
*CSEM **06** 04:56:26.4±0.2, 41.51N×20.84E, h2km, ML2.8, Error ellipse: s-maj=4.6km s-min=3.1km az=48.0*
*THE **06** 04:56:26.9, 41.52N×20.86E, h3km±1km, ML1.9/3, Error*

ellipse: s-maj=1.8km s-min=0.7km az=281.0
BEO ***06*** *04:56:27.8±0.5, 41°.55N×20°.84E, h9km±3km, M1.8/7*
PDG ***06*** *04:56:27.2±0.2, 41°.51N×20°.74E, h4km, ML2.5/9, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
ISC 06 04:56:26.8±1.1**, 41°.50N**±0°.02×**20°.80E**±0°.02**, h1**km±10km**, n72, σ1s04**/124**, 12C-6D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.33**	**304**	*i* PG	Pn	04 56 48.0	+9.2
PHP				*i* SG	Sb	04 56 54.9	+14
PHP	**Peshkopia**	**0.33**	**304**	*i* Pg	Pn	04 56 48.0	+9.2
PHP				*i* Sg	Sb	04 56 54.9	+14
OHR	**Ohrid**	**0.39**	**181**	*i* Pg	**Pg**	**04 56 34.0**	**-0.2**
OHR				*i* Sg	**Sg**	**04 56 40.7**	**+1.4**
OHR				*e*Lg	Lg	04 56 40.8	
	comp=E,276nm,0.4s						
OHR				*e*Lg	Lg	04 56 40.9	
	comp=N,319nm,0.3s						
BIA	**Bitola**	**0.62**	**141**	P	**Pg**	**04 56 38.5**	**-0.2**
BIA				S	**Sg**	**04 56 47.7**	**+0.9**
BIA	**Bitola**	**0.62**	**141**	P	**Pg**	**04 56 38.5**	**-0.2**
BIA				S	**Sg**	**04 56 47.7**	**+0.9**
BIA	**Bitola**	**0.62**	**141**	*i* Pg	**Pg**	**04 56 38.4**	**-0.2**
BIA				*i* Sg	**Sb**	**04 56 48.7**	**-0.9**
SKO	**Skopje**	**0.67**	**45**	*e*Pg	**Pg**	**04 56 39.6**	**0.0**
SKO				*e*Sg	**Sg**	**04 56 48.5**	**+0.2**
SKO	**Skopje**	**0.67**	**45**	*e*Pg	**Pg**	**04 56 39.6**	**0.0**
SKO				*e*Sg	**Sg**	**04 56 48.5**	**+0.2**
SKO				S	**Sg**	**04 56 49.4**	**+1.1**
SKO	**Skopje**	**0.67**	**45**	P	**Pg**	**04 56 39.8**	**+0.2**
SKO				S	**Sg**	**04 56 49.4**	**+1.1**
SKO	**Skopje**	**0.67**	**45**	*i* Pg	**Pg**	**04 56 39.8**	**+0.2**
SKO				*i* Sg	**Sg**	**04 56 49.5**	**+1.2**
TIR	**Tirane**	**0.72**	**258**	*i* PG	**Pn**	**04 56 46.8**	**+2.7**
TIR				*i* SG	**Sg**	**04 56 50.6**	**+0.6**
TIR	**Tirane**	**0.72**	**258**	*e*Pg	**Pg**	**04 56 40.4**	**-0.3**
TIR				*e*Sg	**Sb**	**04 56 51.8**	**-0.8**
TIR	**Tirane**	**0.72**	**258**	P	**Pg**	**04 56 38.7**	**-1.9**
TIR				S	**Sg**	**04 56 49.7**	**-0.3**
TIR				AML	AML	04 56 53.0	
	comp=E,397μm,0.4s						
TIR				AML	AML	04 56 53.1	
	comp=N,342μm,0.2s						
TIR	**Tirane**	**0.72**	**258**	P	**Pg**	**04 56 39.0**	**-1.7**
TIR	**Tirane**	**0.72**	**258**	*i* Pg	**Pn**	**04 56 46.8**	**+2.7**
TIR				*i* Sg	**Sg**	**04 56 50.6**	**+0.6**
FNA	**Florina**	**0.84**	**149**	*i* PG	Pn	04 56 52.6	+6.8
FNA				*i* SG	**Sn**	**04 57 02.1**	**+3.4**
FNA	**Florina**	**0.84**	**149**	P	**Pg**	**04 56 41.9**	**-0.9**
FNA				S	**Sg**	**04 56 53.7**	**0.0**
FNA				AML	AML	04 56 58.5	
	comp=E,603μm,0.3s						
FNA				AML	AML	04 56 58.6	
	comp=N,460μm,0.2s						
FNA	**Florina**	**0.84**	**149**	P	**Pg**	**04 56 42.0**	**-0.9**
FNA	**Florina**	**0.84**	**149**	*i* Pg	Pn	04 56 52.6	+6.8
FNA				S	**Sg**	**04 56 53.7**	**0.0**
FNA				*i* Sg	**Sn**	**04 57 02.1**	**+3.4**
FNA	**Florina**	**0.84**	**149**	P	**Pg**	**04 56 42.0**	**-0.9**
FNA				S	**Sb**	**04 56 55.2**	**-0.7**
NEST	**Nestorio**	**1.10**	**170**	P	**Pg**	**04 56 46.8**	**-1.1**
NEST				S	**Sg**	**04 57 02.3**	**+0.1**
NEST				AML	AML	04 57 07.9	
	comp=E,156μm,0.5s						
NEST				AML	AML	04 57 08.7	
	comp=N,146μm,0.4s						
NEST	**Nestorio**	**1.10**	**170**	P	**Pg**	**04 56 47.7**	**-0.2**
NEST				S	**Sg**	**04 57 02.1**	**-0.1**
NEST	**Nestorio**	**1.10**	**170**	P	**Pg**	**04 56 47.7**	**-0.2**
NEST				S	**Sb**	**04 57 03.5**	**-0.1**
ULC	**Ulcinj**	**1.25**	**292**	⇓*i*Pg	**Pg**	**04 56 49.2**	**-1.7**
ULC				*e*Sg	**Sb**	**04 57 07.8**	**-0.1**
ULC	**Ulcinj**	**1.25**	**292**	⇓*i*Pg	**Pg**	**04 56 49.2**	**-1.7**
ULC				*e*Sg	**Sb**	**04 57 07.8**	**-0.1**
PVY	**Plav**	**1.26**	**330**	⇑*i*Pg	**Pg**	**04 56 49.9**	**-1.1**
PVY				*e*Sg	**Sn**	**04 57 08.9**	**-0.4**
PVY	**Plav**	**1.26**	**330**	⇑*i*Pg	**Pg**	**04 56 49.9**	**-1.1**
PVY				*e*Sg	**Sn**	**04 57 08.9**	**-0.4**
DRME	**Dracevica, Mon**	**1.39**	**300**	⇑*i*Pg	**Pn**	**04 56 51.9**	**-1.4**
DRME				*e*Sg	**Sn**	**04 57 13.0**	**+0.7**
DRME	**Dracevica, Mon**	**1.39**	**300**	⇑*i*Pg	**Pn**	**04 56 51.9**	**-1.4**
DRME				*e*Sg	**Sn**	**04 57 13.0**	**+0.7**
PDG	**Podgorica**	**1.48**	**309**	*e*Pg	**Pg**	**04 56 56.0**	**+0.8**
PDG				*e*Sg	**Sg**	**04 57 15.4**	**+1.0**
PDG	**Podgorica**	**1.48**	**309**	*e*Pg	**Pg**	**04 56 56.0**	**+0.8**
PDG				*e*Sg	**Sg**	**04 57 15.4**	**+1.0**
TTG	**Podgorica**	**1.48**	**309**	*e*Pg	**Pn**	**04 56 54.0**	**-0.5**
TTG				*e*Sg	**Sg**	**04 57 16.2**	**+1.8**
BEY	**Berane**	**1.53**	**334**	⇓*i*Pg	**Pn**	**04 56 55.0**	**-0.3**
BEY				*e*Sg	**Sg**	**04 57 17.9**	**+2.0**
IVA	**Berane**	**1.53**	**334**	⇓*i*Pg	**Pn**	**04 56 55.0**	**-0.3**
IVA				*e*Sg	**Sg**	**04 57 17.9**	**+2.0**
KPRO	**Kipourio**	**1.60**	**164**	P	**Pn**	**04 56 55.5**	**-0.8**
KPRO	**Kipourio**	**1.60**	**164**	P	**Pn**	**04 56 55.5**	**-0.8**
KNT	**Kendrikon**	**1.61**	**101**	P	**Pn**	**04 56 56.0**	**-0.4**
KNT	**Kendrikon**	**1.61**	**101**	P	**Pn**	**04 56 55.3**	**-1.1**
KNT	**Kendrikon**	**1.61**	**101**	P	**Pn**	**04 56 55.3**	**-1.1**
BUM	**Brajici-Budva**	**1.63**	**300**	⇑*i*Pn	**Pn**	**04 56 56.4**	**-0.3**
BUM				*e*Sn	**Sg**	**04 57 20.2**	**+0.9**
BUM	**Brajici-Budva**	**1.63**	**300**	⇑*i*Pn	**Pn**	**04 56 56.4**	**-0.3**
BUM				*e*Sn	**Sg**	**04 57 20.2**	**+0.9**
KOME	**Kolasin**	**1.65**	**325**	*e*Pn	**Pn**	**04 56 57.1**	**+0.1**
KOME				*e*Sn	**Sg**	**04 57 21.5**	**+1.6**
KOME	**Kolasin**	**1.65**	**325**	*e*Pn	**Pn**	**04 56 57.1**	**+0.1**
KOME				*e*Sn	**Sg**	**04 57 21.5**	**+1.6**
SELS	**Selova**	**1.73**	**8**	*e*Pg	**Pn**	**04 56 58.0**	**0.0**
SELS				*e*Sg	**Sb**	**04 57 21.6**	**-0.1**
CEME	**Cevo**	**1.75**	**307**	⇓*i*Pn	**Pn**	**04 56 58.5**	**+0.2**
CEME				*e*Sn	**Sg**	**04 57 23.6**	**+0.5**
CEME	**Cevo**	**1.75**	**307**	⇓*i*Pn	**Pn**	**04 56 58.5**	**+0.2**
CEME				*e*Sn	**Sg**	**04 57 23.6**	**+0.5**
SJES	**Sjenica**	**1.86**	**341**	*e*Pg	**Pn**	**04 57 00.3**	**+0.4**
SJES				*e*Sg	**Sb**	**04 57 24.9**	**-0.6**
NKME	**Niksic**	**1.87**	**313**	⇑*i*Pn	**Pn**	**04 57 00.3**	**+0.4**
NKME				*e*Sn	**Sg**	**04 57 26.6**	**-0.3**
NKME	**Niksic**	**1.87**	**313**	⇑*i*Pn	**Pn**	**04 57 00.3**	**+0.4**
NKME				*e*Sn	**Sg**	**04 57 26.6**	**-0.3**
HCY	**Herceg Novi**	**1.96**	**299**	*e*Pn	**Pn**	**04 57 01.7**	**+0.5**
HCY				*e*Sn	**Sb**	**04 57 28.3**	**0.0**
HCY	**Herceg Novi**	**1.96**	**299**	*e*Pn	**Pn**	**04 57 01.7**	**+0.5**
HCY				*e*Sn	**Sb**	**04 57 28.3**	**0.0**
PLE	**Pljevlja**	**2.11**	**331**	⇑*i*Pn	**Pn**	**04 57 04.0**	**+0.7**
PLE				*e*Sn	**Sb**	**04 57 32.7**	**+0.2**
PLE	**Pljevlja**	**2.11**	**331**	⇑*i*Pn	**Pn**	**04 57 04.0**	**+0.7**
PLE				*e*Sn	**Sb**	**04 57 32.7**	**+0.2**
IVAS	**Ivanjica**	**2.13**	**347**	*e*Pg	**Pb**	**04 57 06.3**	**+0.1**
IVAS				*e*Sg	**Sb**	**04 57 33.4**	**+0.3**
IVAS	**Ivanjica**	**2.13**	**347**	*e*Pg	**Pb**	**04 57 06.3**	**+0.1**
IVAS				*e*Sg	**Sb**	**04 57 33.4**	**+0.3**
BRY	**Bratogost**	**2.19**	**310**	⇑*i*Pn	**Pn**	**04 57 04.8**	**+0.4**
BRY				*e*Sn	**Sb**	**04 57 34.7**	**-0.2**
BRY	**Bratogost**	**2.19**	**310**	⇑*i*Pn	**Pn**	**04 57 04.8**	**+0.4**
BRY				*e*Sn	**Sb**	**04 57 34.7**	**-0.2**
ZAPS	**Zavoj**	**2.23**	**37**	*e*Pg	**Pb**	**04 57 07.5**	**-0.4**
ZAPS				*e*Sg	**Sb**	**04 57 35.9**	**-0.1**
ZAPS	**Zavoj**	**2.23**	**37**	*e*Pg	**Pb**	**04 57 07.5**	**-0.4**
ZAPS				*e*Sg	**Sb**	**04 57 35.9**	**-0.1**
DSL	**Palaion Diasel**	**2.38**	**175**	P	**Pn**	**04 57 07.2**	**+0.3**
DSL	**Palaion Diasel**	**2.38**	**175**	P	**Pn**	**04 57 07.2**	**+0.3**
ZAGS	**Zajecar**	**2.54**	**24**	*e*Pn	**Pn**	**04 57 10.2**	**+1.1**
ZAGS	**Zajecar**	**2.54**	**24**	*e*Pn	**Pn**	**04 57 10.2**	**+1.1**
DIVS	**Divibare**	**2.66**	**347**	*e*Pn	**Pn**	**04 57 10.3**	**-0.6**
DIVS				*e*Sn	**Sn**	**04 57 42.8**	**-1.0**
DIVS	**Divibare**	**2.66**	**347**	*e*Pn	**Pn**	**04 57 10.3**	**-0.6**
DIVS				*e*Sn	**Sn**	**04 57 42.8**	**-1.0**
STON	**Ston**	**2.68**	**302**	*e*Pn	**Pn**	**04 57 12.3**	**+1.3**
STON				Sn	**Sn**	**04 57 42.8**	**-1.4**
STON	**Ston**	**2.68**	**302**	*e*Pn	**Pn**	**04 57 12.3**	**+1.3**
STON				Sn	**Sn**	**04 57 42.7**	**-1.4**
AGG	**Agios Georgios**	**2.74**	**154**	P	**Pn**	**04 57 10.8**	**-1.0**
AGG	**Agios Georgios**	**2.74**	**154**	P	**Pn**	**04 57 11.2**	**-0.6**
AGG	**Agios Georgios**	**2.74**	**154**	P	**Pn**	**04 57 11.3**	**-0.6**
KUBS	**Kucevo**	**2.98**	**12**	*e*Pn	**Pn**	**04 57 12.5**	**-2.6**
KUBS	**Kucevo**	**2.98**	**12**	*e*Pn	**Pn**	**04 57 12.5**	**-2.6**

IDC 06 05:08:40.0±9.1**, 2°.87S×138°.48E, h0**km**, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.3**/38**, mbtmp3.3**/3**, ML3.2**/1**, Error ellipse: s-maj=390.5km s-min=29.9km az=85.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.44**	**193**	P	Pn	05 12 44.0	-0.9
	0.1nm,0.3s,baz=13,slow=13,SNR=6.5						
ASAR	**Alice Springs**	**21.14**	**192**	P	P	05 13 27.2	+0.4
	0.8nm,0.7s,baz=20,slow=10,SNR=8.7						
MKAR	**Makanchi Array**	**69.78**	**323**	P	P	05 19 52.2	0.0
	0.1nm,0.3s,baz=116,slow=6.6,SNR=3.1						

MEX 06 05:36:14.4±0.5**, 14°.68N×93°.23W, h17**km±999km**, MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		**1.02**	**1**	*e*P	Pb	05 36 30.1	-3.4
PCIG				*e*S	Sb	05 36 42.1	-4.5
CCIG	**Comitan**	**1.91**	**33**	*e*P	Pn	05 36 43.3	-3.1
CCIG				*e*S	Sn	05 37 06.4	-3.7
TGIG		**2.09**	**3**	*e*P	Pn	05 36 46.3	-2.4
TGIG				*e*S	Sn	05 37 10.2	-4.1

NEIC ***06*** *06:05:18.5±0.5, 12°.06S×165°.81E, h40km±4km, mb4.2/2, Error ellipse: s-maj=13.0km s-min=10.7km az=107.0*
IDC ***06*** *06:05:18.8±1.0, 11°.98S×165°.76E, h38km±6km, mb3.9/9, mb1 4.0/11, mb1mx3.8/48, mbtmp4.1/11, ML4.4/2, MS3.5/1, Ms1 3.5/1, ms1mx3.0/37, Error ellipse: s-maj=25.8km s-min=18.8km az=102.0*
ISC 06 06:05:16.7±0.7**, 12°.06S**±0°.08×**165°.89E**±0°.10**, h30**km±4km**, h30**km**:pP-P, n34, σ1s41**/40**, mb4.2**/10**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.40**	**294**	Pn	**Pn**	**06 06 48.5**	**-0.4**
	27nm,0.3s,baz=162,slow=8.9,SNR=3.4						
HNR				Sn	**Sn**	**06 07 59.7**	**-1.3**
	9.8nm,0.3s,baz=72,slow=22,SNR=6.0						
HNR	**Honiara**	**6.40**	**294**	*e*Pn	**Pn**	**06 06 48.5**	**-0.4**
HNR				*e*Pn	**Pn**	**06 06 48.7**	**-0.2**
HNR				*e*Sn	**Sn**	**06 07 59.7**	**-1.3**
DZM	**Mont Dzumac**	**9.97**	**177**	Pn	**Pn**	**06 07 38.6**	**+0.6**
	1.2nm,0.3s,baz=359,slow=19,SNR=7.7						
DZM				Sn	**Sn**	**06 09 25.4**	**-3.6**
	0.4nm,0.3s,baz=144,slow=19,SNR=1.8						
DZM				LR	LR	06 11 24.0	
	comp=Z,228nm,18.9s,baz=44,slow=36						
CTA	**Charters Tower**	**20.47**	**245**	P	Pn	06 09 53.2	-1.2
	3.5nm,0.6s,baz=79,slow=14,SNR=4.8						
STKA	**Stephens Creek**	**29.82**	**225**	P	**P**	**06 11 22.0**	**+0.8**
	2.0nm,0.9s,baz=19,slow=15,SNR=2.9						
WR1	**Warramunga Arr**	**31.28**	**251**	*e*P	**P**	**06 11 33.9**	**-0.4**
WRA	**Warramunga Arr**	**31.28**	**251**	P	**P**	**06 11 33.9**	**-0.4**
	0.7nm,0.6s,baz=83,slow=9.5,SNR=8.9						
AS31	**Alice Springs**	**32.48**	**245**	*e*P	**P**	**06 11 44.1**	**-0.7**
	6.5nm,0.6s						
ASAR	**Alice Springs**	**32.48**	**245**	P	**P**	**06 11 44.1**	**-0.7**
	3.1nm,0.7s,baz=72,slow=9.7,SNR=33						
VNDA	**Vanda**	**65.49**	**181**	P	**P**	**06 15 59.6**	**+3.0**
	1.3nm,0.9s,baz=21,slow=8.6,SNR=3.3						
KLR	**Kul'dur**	**68.04**	**337**	P	**P**	**06 16 12.8**	**-0.3**
	0.5nm,1.1s,baz=111,slow=8.6,SNR=2.4						
QSPA	**South Pole Qui**	**77.95**	**180**	*e*P	**P**	**06 17 12.4**	**+0.6**
	14nm,1.4s						
SONA0	**Songino Array**	**79.56**	**324**	*e*P	**P**	**06 17 22.5**	**+1.6**
SONA0				*e*pP	**sP**	**06 17 32.9**	**-1.0**
SONM	**Songino Array**	**79.56**	**324**	P	**P**	**06 17 22.5**	**+1.6**
	0.6nm,0.4s,baz=139,slow=4.7,SNR=4.6						
SONM				pP	**sP**	**06 17 32.9**	**-1.0**
	1.0nm,0.5s,baz=146,slow=5.0,SNR=4.9						
MINS	**Minaret Summit**	**85.75**	**50**	*e*P	**P**	**06 17 49.7**	**-4.0**
YERR	**Yerington**	**86.05**	**49**	*e*pP	pP	06 18 07.5	+2.9
BMO	**Blue Mountains**	**89.26**	**44**	*e*pP	pP	06 18 24.2	+4.5
MK01	**Makanchi Array**	**94.34**	**317**	*e*pP	pP	06 18 46.2	+3.1
MK32	**Makanchi Array**	**94.35**	**317**	*e*P	**P**	**06 18 35.3**	**+1.8**
MK32				*e*pP	**sP**	**06 18 46.5**	**-0.1**
MKAR	**Makanchi Array**	**94.35**	**317**	P	**P**	**06 18 35.3**	**+1.8**
	1.1nm,0.5s,baz=82,slow=6.3,SNR=7.5						
MKAR				pP	**sP**	**06 18 46.5**	**-0.1**
	4.2nm,0.6s,baz=93,slow=6.4,SNR=12						
ZALV	**Zalesovo Beam**	**94.45**	**324**	P	**P**	**06 18 34.7**	**+0.9**
	1.0nm,0.6s,baz=108,slow=4.7,SNR=2.2						
ZALV				pP	**pP**	**06 18 45.1**	**+1.6**
	2.5nm,0.8s,baz=120,slow=2.7,SNR=2.8						
ZAA1	**Zalesovo Array**	**94.46**	**324**	*e*P	**P**	**06 18 34.7**	**+0.9**
ZAA1				*e*pP	**pP**	**06 18 45.1**	**+1.6**
ARA0	**ARCESS Array S**	**117.34**	**345**	*e*PKPdf	**PKPdf**	**06 23 58.2**	**-0.5**
ARCES	**ARCESS Array B**	**117.34**	**345**	PKP	**PKPdf**	**06 23 58.2**	**-0.5**
	2.1nm,0.5s,baz=71,slow=2.3,SNR=16						
FIA0	**FINESS Array S**	**122.76**	**338**	*e*PKPdf	**PKPdf**	**06 24 08.8**	**-0.5**
FINES	**FINESS Array B**	**122.76**	**338**	PKP	**PKPdf**	**06 24 08.8**	**-0.5**
	0.6nm,0.5s,baz=47,slow=3.6,SNR=5.7						
EKA	**Eskdalemuir Ar**	**135.98**	**351**	PKP	**PKPdf**	**06 24 34.2**	**-0.4**
	0.4nm,0.6s,baz=328,slow=0.9,SNR=4.1						
GEC2	**GERESS Array S**	**136.67**	**333**	*e*PKPdf	**PKPdf**	**06 24 36.4**	**+0.2**
GERES	**GERESS Array B**	**136.67**	**333**	PKP	**PKPdf**	**06 24 36.4**	**+0.2**
	0.2nm,0.3s,baz=72,slow=6.3,SNR=3.6						
KEST	**Kesra**	**148.30**	**322**	PKPbc	**PKPbc**	**06 25 00.9**	**+0.4**
	6.4nm,1.0s,baz=166,slow=8.9,SNR=3.8						
KEST	**Kesra**	**148.30**	**322**	*e*PKPbc	**PKPbc**	**06 25 00.2**	**-0.3**
ESDC	**Sonseca Array**	**151.06**	**344**	PKPbc	**PKPbc**	**06 25 05.4**	**-1.8**
	0.1nm,0.3s,baz=32,slow=2.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**164.54**	**276**	PKP	**PKPdf**	**06 25 19.5**	**+1.0**
	1.4nm,0.9s,baz=92,slow=0.4,SNR=4.3						
TOA1	**Torodi Ar. Sit**	**164.54**	**276**	*e*PKPdf	**PKPdf**	**06 25 19.5**	**+1.0**

IDC ***06*** *06:05:43.4±0.4, 10°.55N×140°.32E, h0km, mb4.7/35, mb1 4.8/37, mb1mx4.6/61, mbtmp4.7/37, ML5.3/2, MS4.4/36, Ms1 4.4/36, ms1mx4.2/55, Error ellipse: s-maj=16.0km s-min=9.4km az=81.0*
ISCJB ***06*** *06:05:45.6±1.0, 10°.56N±0°.03×140°.31E±0°.02, h21km±7km, mb5.1/208, MS4.5/57, Error ellipse: s-maj=4.4km s-min=4.0km az=148.5*
MOS ***06*** *06:05:46.8±1.0, 10°.56N×140°.25E, h33km, mb5.3/65, MS4.5/16, Error ellipse: s-maj=8.7km s-min=5.2km az=104.4*
BJI ***06*** *06:05:46.6, 10°.43N×140°.67E, h51km, mb4.9/63, mB5.1/51, Ms4.8/53, Ms7 4.5/52*
DJA ***06*** *06:05:48.8±1.0, 11°N±3°×14°0E±°, h31km±9km, M5.1/37, mb5.0/37, mB5.5/17, MLv5.5/1, Mw(mB)5.0/17*
GCMT ***06*** *06:05:50.1±0.1, 10°.46N×140°.19E, h20km, MW5.2/107, Moment Tensor Solution. s75,c120; s107,c166; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.70±.17; $M_{\theta\theta}$6.61±.12; $M_{\phi\phi}$-0.91±.13; $M_{r\theta}$1.32±.22; $M_{\theta\phi}$-3.42±.10; $M_{\phi r}$2.40±.30; Best double couple: $M_0$7.56900×10^{16} NP1:ϕ_s266.00000°, δ53.00000°, λ-127.00000°. NP2:ϕ_s137.00000°, δ50.00000°, λ-51.00000°. Principal axes: T 7.9430, Plg2.0000°, Azm21.0000°; N -0.7500, Plg29.0000°, Azm290.0000°; P -7.1940, Plg61.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***06*** *06:05:50.1±0.6, 10°.53N×140°.31E, h45km±5km, mb5.3/139 Error ellipse: s-maj=3.4km s-min=2.9km az=109.0*
ISC 06 06:05:48.7±0.5**, 10°.55N**±0°.04×**140°.36E**±0°.04**, h34**km±1km**, h34**km**:pP-P, n415, σ1s42**/441**, mb5.2**/208**, MS4.5**/59**, 6C-6D, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.34**	**55**	Pn	**Pn**	**06 07 06.5**	**+0.4**
	88nm,0.3s,baz=27,slow=9.6,SNR=26						
GUMO				Sn	**Sn**	**06 08 04.2**	**-2.3**
	39nm,0.3s,baz=343,slow=19,SNR=3.5						
GUMO				LR	LR	06 08 44.3	
	comp=Z,2μm,21.5s,baz=237,slow=34						
GUMO				T	T	06 12 57.2	
	82nm,0.3s,baz=189,slow=22,SNR=5.8						
GUMO	**Guam**	**5.34**	**55**	*e*Pn	**Pn**	**06 07 06.5**	**+0.4**
GUMO				*e*Pn	**Pn**	**06 07 07.0**	**+0.9**
GUMO				*e*Sn	**Sn**	**06 08 04.2**	**-2.3**
GUMO				*e*		06 12 57.2	
ANA2	**Anatahan**	**7.76**	**42**	*e*Pn	**Pn**	**06 07 41.1**	**+1.8**
SARN	**Sarigan**	**8.06**	**40**	*e*Pn	**Pn**	**06 07 45.0**	**+1.4**
JAY	**Jayapura**	**12.99**	**178**	P	**Pn**	**06 08 52.5**	**+1.5**
JAY	**Jayapura**	**12.99**	**178**	P	**Pn**	**06 08 53.4**	**+2.4**
JAY				pmax	pmax		
	comp=Z,755nm,0.7s						
GENI	**Genyem**	**13.06**	**181**	P	**Pn**	**06 08 54.4**	**+2.4**
SWI	**Sorong**	**14.51**	**219**	P	**Pn**	**06 09 09.5**	**-2.3**
DAV	**Davao City (W)**	**15.01**	**258**	LR	LR	06 13 58.5	
	comp=Z,1μm,21.4s,baz=66,slow=33						
KMPI	**Kaimana, Papua**	**15.60**	**205**	P	**Pn**	**06 09 26.8**	**+0.6**
FAKI	**Fak Fak**	**15.63**	**212**	P	**Pn**	**06 09 26.6**	**-0.1**
FAKI				S	**S**	**06 12 30.0**	**-3.3**
FAKI	**Fak Fak**	**15.63**	**212**	*e*Pn	**Pn**	**06 09 28.0**	**+1.4**
	comp=Z,128nm,0.8s						
TNTI	**Ternate**	**16.16**	**234**	*e*Pn	**Pn**	**06 09 34.5**	**+1.0**
	comp=Z,149nm,0.3s						
JCJ	**Chichijima**	**16.54**	**6**	Pn	**Pn**	**06 09 39.1**	**+0.9**
	comp=Z,12nm,0.3s,baz=112,slow=14,SNR=7.8						
CBIJ	**Chichi jima**	**16.55**	**6**	*e*Pn	**P**	**06 09 40.6**	**+0.1**
	comp=Z,306nm,1.2s						
MSAI	**Masohi**	**17.89**	**220**	P	**P**	**06 09 55.8**	**+0.2**
RABL	**Rabaul**	**18.78**	**141**	*e*P	**Pn**	**06 10 06.2**	**+0.3**
	comp=Z,86nm,0.8s						
NLAI	**Namlea**	**19.03**	**225**	P	**Pn**	**06 10 08.9**	**0.0**
TGY	**Tagaytay City**	**19.30**	**283**	LR	LR	06 16 21.7	
	comp=Z,1μm,21.9s,baz=78,slow=33						
JOW	**Kunigami**	**19.80**	**326**	*e*P	**Pn**	**06 10 17.9**	**-0.3**
	comp=Z,86nm,1.3s						
MRSI	**Marisa**	**20.87**	**242**	P	Pn	06 10 29.6	-1.1
	comp=Z,200nm,1.4s,comp=Z,3μm						
LUWI	**Luwuk**	**20.95**	**238**	P	**P**	**06 10 28.7**	**-0.3**
	comp=Z,259nm,1.0s						
LUWI	**Luwuk**	**20.95**	**238**	*e*P	**P**	**06 10 28.6**	**-0.3**
	comp=Z,194nm,0.9s						
PMG	**Port Moresby**	**20.95**	**161**	P	**P**	**06 10 28.5**	**-0.5**
	comp=Z,19nm,0.8s,baz=2.4,slow=14,SNR=6.2						
PMG				LR	LR	06 18 13.6	
	comp=Z,2μm,18.2s,baz=337,slow=36						
PMG	**Port Moresby**	**20.95**	**161**	*e*P	**P**	**06 10 28.9**	**0.0**
	comp=Z,163nm,1.6s						
PMG	**Port Moresby**	**20.95**	**161**	⇓*i*P	**P**	**06 10 27.5**	**-1.4**
PMG				pmax	pmax		
	comp=Z,317nm,1.7s						
APSI	**Ampana**	**21.82**	**240**	P	**P**	**06 10 37.5**	**-0.8**
TWG	**Pinlang**	**22.11**	**306**	*e*P	**P**	**06 10 42.5**	**+1.2**
	comp=Z,174nm,1.1s						
YULB	**Yu-li**	**22.22**	**307**	*e*P	**P**	**06 10 44.1**	**+1.5**
	comp=Z,55nm,1.3s						
MYLDM	**Lahad Datu**	**22.30**	**258**	*e*P	**P**	**06 10 45.1**	**+1.7**
	comp=Z,319nm,1.6s						
SSLB	**Suanglung**	**22.70**	**308**	*e*P	**P**	**06 10 48.5**	**+0.8**
	comp=Z,67nm,1.3s						
TPUB	**Ta-pu**	**22.70**	**306**	*e*P	**P**	**06 10 47.7**	**0.0**
	comp=Z,158nm,1.6s						
MPSI	**Mapaga**	**22.73**	**245**	P	**P**	**06 10 46.7**	**-1.4**
YHNB	**Yeheng**	**22.86**	**310**	*e*P	**P**	**06 10 49.6**	**+0.2**
	comp=Z,120nm,1.3s						
JNU	**Nakatsue**	**24.10**	**340**	P	**P**	**06 11 00.7**	**-0.7**
	comp=Z,14nm,1.0s,baz=165,slow=4.7,SNR=2.7						
JNU				LR	LR	06 19 11.1	
	comp=Z,732nm,21.1s,baz=117,slow=34						
JNU	**Nakatsue**	**24.10**	**340**	*e*P	**P**	**06 11 00.7**	**-0.7**
	comp=Z,69nm,1.3s						
KKM	**Kota Kinabalu**	**24.30**	**261**	*e*P	**P**	**06 11 03.4**	**-0.1**
	comp=Z,51nm,1.3s						
TTSI	**Tana Toraja**	**24.51**	**238**	P	**P**	**06 11 05.1**	**-0.1**
	comp=Z,57nm,1.8s						
COEN	**Coen**	**24.51**	**173**	*e*P	**P**	**06 11 05.6**	**+0.4**
	comp=Z,88nm,1.1s						
MTN	**Manton Dam**	**24.99**	**202**	*e*P	**P**	**06 11 09.2**	**-0.3**
	comp=Z,64nm,1.4s						
BNSI	**Bone**	**25.05**	**235**	P	**P**	**06 11 10.9**	**+0.8**
	comp=Z,64nm,1.1s,comp=Z,1μm						
QZH	**Quanzhou**	**25.14**	**308**	*e*P	**P**	**06 11 15.9**	**+5.1**
QZH				LR	LR		
	comp=Z,630nm,21.7s						
QZH				LR	LR		
	comp=Z,540nm,18.5s						
QZH				LR	LR		
	comp=Z,750nm,20.6s						
SMKI	**Samarinda**	**25.49**	**246**	P	**P**	**06 11 16.1**	**+2.0**
SOEI	**Soe**	**25.76**	**219**	P	**P**	**06 11 16.4**	**-0.3**
SOEI	**Soe**	**25.76**	**219**	*e*P	**P**	**06 11 17.0**	**+0.4**
	comp=Z,130nm,1.3s						
BSSI	**Bau Bau, Buton**	**25.82**	**231**	P	**P**	**06 11 12.6**	**-4.5**
MJAR	**Matsushiro Arr**	**25.95**	**356**	P	**P**	**06 11 16.1**	**-2.0**
	comp=Z,6.7nm,1.1s,baz=192,slow=13,SNR=4.9						
MJAR				LR	LR	06 20 51.9	
	comp=Z,808nm,18.2s,baz=160,slow=35						
MMRI	**Maumere**	**26.24**	**224**	*e*P	**P**	**06 11 19.4**	**-1.5**
	comp=Z,243nm,1.5s						
BATI	**Baumata**	**26.48**	**219**	P	**P**	**06 11 20.7**	**-2.4**
	comp=Z,15nm,0.3s,baz=108,slow=2.1,SNR=3.9						
BATI	**Baumata**	**26.48**	**219**	P	**P**	**06 11 22.7**	**-0.4**
SSE	**Sheshan**	**27.10**	**322**	P	**P**	**06 11 28.9**	**+0.4**
SSE				S	**S**	**06 16 05.1**	**+0.6**
SSE				pmax	pmax		
	comp=Z,26nm,0.8s						
SSE				pmax	pmax		
	comp=Z,120nm,3.5s						
SSE				LR	LR		
	comp=Z,350nm,18.8s						
SSE				LR	LR		
	comp=Z,400nm,17.5s						
H11N1	**WAKE ISLAND Hy**	**27.15**	**67**	T	T	06 40 10.0	
	baz=254,slow=75,SNR=978						
H11N2	**WAKE ISLAND Hy**	**27.16**	**67**	T	T	06 40 10.1	
	baz=254,slow=75,SNR=779						
H11N3	**WAKE ISLAND Hy**	**27.16**	**67**	T	T	06 40 11.8	
	baz=254,slow=75,SNR=570						
HNR	**Honiara**	**27.82**	**135**	LR	LR	06 22 14.2	
	comp=Z,743nm,19.0s,baz=304,slow=36						
KSRS	**Korea Array**	**29.03**	**339**	P	**P**	**06 11 45.1**	**-0.5**
	comp=Z,3.5nm,1.0s,baz=160,slow=9.4,SNR=4.6						
KSRS				LR	LR	06 23 07.3	
	comp=Z,1μm,18.4s,baz=151,slow=36						
KS15	**Wonju Array Si**	**29.04**	**339**	*e*P	**P**	**06 11 45.8**	**0.0**
KSAR	**Wonju Array Be**	**29.04**	**339**	P	**P**	**06 11 45.1**	**-0.5**
KSAR	**Wonju Array Be**	**29.04**	**339**	P	**P**	**06 11 45.2**	**-0.5**
KS01	**Wonju Array Si**	**29.06**	**339**	*e*P	**P**	**06 11 46.7**	**+0.8**
NJ2	**Nanjing**	**29.20**	**320**	*e*P	**P**	**06 11 47.2**	**0.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,15.7s						
NJ2				LR	LR		
	comp=Z,1μm,16.2s						
NJ2				LR	LR		
	comp=Z,1μm,18.4s						
QIZ	**Qiongzhong**	**30.64**	**290**	P	**P**	**06 12 00.0**	**-0.2**
QIZ				S	**S**	**06 17 02.0**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
QIZ				LR	LR		
	comp=Z,240nm,19.1s						
QIZ				LR	LR		
	comp=Z,360nm,18.8s						
QIZ				LR	LR		
	comp=Z,480nm,22.2s						
WRAB	**Tennant Creek**	**30.87**	**191**	*e*P	**P**	**06 12 01.5**	**-0.6**
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**30.87**	**191**	⇑*i*P	**P**	**06 12 01.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,32nm,1.0s						
WB2	**Warramunga Arr**	**30.88**	**191**	*e*P	**P**	**06 12 00.7**	**-1.5**
WB2				*e*P	**P**	**06 12 02.4**	**+0.2**
WB2				*e*PcP	**PcP**	**06 14 58.9**	**+0.3**
WR1	**Warramunga Arr**	**30.88**	**191**	*e*P	**P**	**06 12 02.1**	**-0.1**
	comp=Z,26nm,0.8s						
WR1				*e*PcP	**PcP**	**06 14 59.1**	**+0.5**
WRA	**Warramunga Arr**	**30.88**	**191**	P	**P**	**06 12 02.1**	**-0.1**
	comp=Z,22nm,0.8s,baz=10,slow=10.0,SNR=61						
WRA				PcP	**PcP**	**06 14 59.1**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=360,slow=2.8,SNR=4.7						
CTA	**Charters Tower**	**31.00**	**169**	P	**P**	**06 12 03.5**	**+0.3**
	comp=Z,10nm,0.9s,baz=333,slow=9.7,SNR=10						
CTAO	**Charters Tower**	**31.00**	**169**	*e*P	**P**	**06 12 03.4**	**+0.2**
	comp=Z,24nm,1.1s						
CTAO	**Charters Tower**	**31.00**	**169**	*e*P	**P**	**06 12 03.4**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,24nm,1.1s						
WHN	**Wuhan**	**31.30**	**313**	⇓P	**P**	**06 12 08.0**	**+2.1**
WHN				S	**S**	**06 17 13.0**	**+2.3**
WHN				LR	LR		
	comp=Z,2μm,18.6s						
GMJI	**Gumukmas**	**32.67**	**236**	P	**P**	**06 12 17.8**	**-0.3**
	comp=Z,31nm,1.2s						
TIA	**Tai'an**	**33.10**	**324**	P	**P**	**06 12 21.6**	**0.0**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**34.30**	**349**	P	**P**	**06 12 31.6**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=128,slow=9.3,SNR=4.0						
USRK				LR	LR	06 24 48.6	

comp=Z,897nm,19.8s,baz=155,slow=33
AS01 Alice Springs 34.58 190 *e*P P 06 12 34.2 -0.4
AS31 Alice Springs 34.59 190 *e*P P 06 12 35.0 +0.4
comp=Z,6.5nm,0.6s
AS31 *e*PcP **PcP 06 15 09.4 +0.5**
ASAR Alice Springs 34.59 190 P **P 06 12 34.1 -0.5**
comp=Z,4.2nm,0.6s,baz=38,slow=7.5,SNR=33
ASAR PcP **PcP 06 15 09.4 +0.5**
comp=Z,2.8nm,0.8s,baz=34,slow=1.9,SNR=6.7
ASAR LR LR 06 26 32.3
comp=Z,1μm,18.9s,baz=4.0,slow=36
ASAR Alice Springs 34.59 190 P **P 06 12 34.2 -0.5**
ASAR 06 15 09.4
ASAR pmax pmax
comp=Z,8.0nm,1.0s
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR MLR MLR
comp=Z,1μm,18.9s
ENH Enshi 34.77 309 *e*P **P 06 12 37.1 +0.8**
comp=Z,54nm,1.1s
GYA Guiyang 35.51 301⇑ *i*P **P 06 12 43.9 +1.1**
GYA pP sP 06 12 57.6 +1.0
GYA PP **PP 06 14 06.0 +2.3**
GYA PcP **PcP 06 15 13.2 +1.4**
GYA S **S 06 18 16.7 +0.4**
GYA sS sS 06 18 37.8 +5.4
GYA ScP **ScP 06 18 54.2 -1.2**
GYA SS **SnSn 06 20 37.0 -0.9**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,560nm,17.6s
GYA LR LR
comp=Z,520nm,18.6s
GYA LR LR
comp=Z,500nm,18.9s
CN2 Changchun 35.56 341 *e*P **P 06 12 46.0 +3.2**
CN2 *e*S **S 06 18 18.8 +2.4**
CN2 LR LR
comp=Z,800nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,700nm,18.0s
SKNT Sakolnakorn 35.87 284 P P 06 12 52.9 +7.1
YSS Yuzh-Sakhalins 36.33 3 *e*P **P 06 12 49.3 0.0**
YSS *e* 06 14 31.6
YSS *e* 06 18 34.0
YSS MLR MLR
comp=Z,700nm,16.0s
BJT Baijiatuau 36.35 328 *e*P **P 06 12 50.1 +0.5**
comp=Z,90nm,1.5s
BJT Baijiatuau 36.35 328 *e*P **P 06 12 50.1 +0.5**
BJT pmax pmax
comp=Z,90nm,1.5s
BJI Beijing 36.37 328 P **P 06 12 49.7 0.0**
BJI S **S 06 18 28.6 -0.2**
BJI pmax pmax
comp=Z,38nm,1.3s
BJI LR LR
comp=Z,820nm,17.6s
BJI LR LR
comp=Z,860nm,17.7s
BJI LR LR
comp=Z,2μm,43.6s
XAN Xi'an 37.06 314 P **P 06 12 55.5 -0.3**
XAN pP sP 06 13 07.7 -1.9
XAN PP **PP 06 14 20.4 -0.2**
XAN PcP **PcP 06 15 17.1 +1.0**
XAN S **S 06 18 35.9 -3.7**
XAN pmax pmax
comp=Z,13nm,1.4s
XAN pmax pmax
comp=Z,140nm,4.6s
XAN LR LR
comp=Z,500nm,15.7s
XAN LR LR
comp=Z,470nm,20.1s
XAN LR LR
comp=Z,640nm,19.2s
CHAI Chaiyaphum 37.69 282 P **P 06 13 02.4 +1.1**
comp=Z,7.0nm,1.3s
PMBI Palembang 37.87 251 P **P 06 13 03.6 +0.7**
comp=Z,1μm,0.5s
NAYO Nakonayok 38.28 280 P **P 06 13 07.5 +1.2**
comp=Z,9.9nm,1.5s
KMI Kunming 38.48 297 P **P 06 13 09.5 +1.4**
KMI pP sP 06 13 22.1 +0.1
KMI sP pP 06 13 27.3 +9.3
KMI PP **PnPn 06 14 41.9 +3.3**
KMI S **S 06 18 59.9 -1.9**
KMI sS sS 06 19 23.1 +5.1
KMI SS **SnSn 06 21 41.3 -8.6**
KMI pmax pmax
comp=Z,20nm,0.9s
KMI pmax pmax
comp=Z,210nm,4.8s
KMI LR LR
comp=Z,310nm,17.7s
KMI LR LR
comp=Z,490nm,20.1s
KMI LR LR
comp=Z,570nm,19.3s
MDSI Maura Dua 39.00 249 P **P 06 13 12.8 +0.4**
comp=Z,17nm,1.3s,comp=Z,1μm
NANT Nan 39.16 287 P **P 06 13 14.8 +1.1**
comp=Z,3.0nm,1.2s
KLR Kul'dur 39.22 351 P **P 06 13 13.7 0.0**
comp=Z,2.2nm,0.9s,baz=158,slow=7.5,SNR=46
KLR Kul'dur 39.22 351⇑ *e*P **P 06 13 13.3 -0.4**
PHIT Phitsanulok 39.28 284 P **P 06 13 17.5 +2.8**
comp=Z,10.0nm,1.2s,comp=Z,217nm
SKLT Songkhla 39.39 268 P **P 06 13 15.2 -0.4**
comp=Z,18nm,1.1s
HHC Hu-ho-hao-te 39.44 325 *e*P **P 06 13 16.5 +0.6**
HHC S **S 06 19 13.1 -2.6**
HHC pmax pmax
comp=Z,71nm,4.8s
HHC LR LR
comp=Z,380nm,13.7s
HHC LR LR
comp=Z,410nm,14.1s
HHC LR LR
comp=Z,550nm,14.8s
CD2 Chengdu 39.51 306 P **P 06 13 17.1 +0.6**
CD2 pP sP 06 13 29.4 -1.0
CD2 sP pP 06 13 35.1 +8.7
CD2 PcS **PcS 06 19 13.6 -0.3**
CD2 S **S 06 19 17.2 +0.3**
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,250nm,4.4s
CD2 LR LR
comp=Z,750nm,15.5s
CD2 LR LR
comp=Z,450nm,14.0s
CD2 LR LR
comp=Z,540nm,15.9s
UTHA Uthaitani 40.12 282 P **P 06 13 25.4 +3.7**
comp=Z,3.6nm,1.1s
BTO Baotou 40.17 323 *e*P P 06 13 15.0 -6.9
CM01 Chiang Mai Arr 40.78 286 *e*P **P 06 13 27.2 +0.2**
CM31 Chiang Mai Arr 40.78 286 *e*P **P 06 13 27.9 +0.8**
CMAR Chiang Mai Arr 40.78 286 P **P 06 13 28.4 +1.2**
comp=Z,6.8nm,0.8s,baz=93,slow=6.6,SNR=38
CMAR LR LR 06 29 07.4
comp=Z,276nm,21.8s,baz=104,slow=34
CMMT Chiang Mai 40.81 287 P **P 06 13 27.7 +0.3**
comp=Z,11nm,1.8s
CHTO Chiang Mai 40.82 287 P **P 06 13 28.8 +1.4**
comp=Z,51nm,1.9s
CHTO Chiang Mai 40.82 287 *e*P **P 06 13 27.6 +0.2**
comp=Z,20nm,1.4s
CHTO Chiang Mai 40.82 287 *e*P **P 06 13 27.6 +0.2**
CHTO pmax pmax
comp=Z,21nm,1.4s
DZM Mont Dzumac 41.30 142 P **P 06 13 31.4 0.0**
comp=Z,15nm,1.0s,baz=336,slow=4.7,SNR=4.2
DZM LR LR 06 28 21.6
comp=Z,442nm,21.6s,baz=350,slow=33
DZM Mont Dzumac 41.30 142 *e*P **P 06 13 32.6 +1.2**
comp=Z,72nm,1.2s
DZM *e*S **S 06 19 46.8 +3.1**
comp=Z,263nm,26.6s
DZM *e*LR LR 06 25 02.0
comp=Z,823nm,23.2s
DZM Mont Dzumac 41.30 142 *e*P **P 06 13 31.4 0.0**
comp=Z,34nm,1.1s
LZH Lanzhou 41.68 314 *e*P **P 06 13 35.6 +1.1**
LZH pP sP 06 13 52.6 +4.2
LZH sP pP 06 13 57.9 +13
LZH pmax pmax
comp=Z,39nm,1.3s
LZH pmax pmax
comp=Z,170nm,4.8s
LZH LR LR
comp=Z,360nm,13.4s
LZH LR LR
comp=Z,540nm,15.9s
LZH LR LR
comp=Z,780nm,16.8s
PSI Prapat 41.83 262 *e*P **P 06 13 34.8 -1.2**
comp=Z,26nm,1.1s
PSI Prapat 41.83 262 *e*P **P 06 13 34.8 -1.2**
PSI pmax pmax
comp=Z,26nm,1.1s
SKR Severo-Kuril's 42.06 15 *e*P P 06 13 46.2 +9.1
SKR *e*SS SS 06 23 37.8 +36
SKR pmax pmax
comp=Z,400nm,3.6s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR pmax pmax
comp=Z,130nm,1.4s
SKR MLR MLR
comp=Z,500nm,20.0s
STKA Stephens Creek 42.21 178 P **P 06 13 37.8 -0.7**
comp=Z,17nm,1.2s,baz=344,slow=7.6,SNR=10
STKA LR LR 06 31 36.4
comp=Z,426nm,18.6s,baz=7.2,slow=37
STKA Stephens Creek 42.21 178 *e*P **P 06 13 38.0 -0.5**
comp=Z,7.8nm,1.4s
STKA Stephens Creek 42.21 178 *e*P **P 06 13 38.0 -0.5**
STKA pmax pmax
comp=Z,8.0nm,1.4s
ZEA Zeya 44.33 349 *e*P **P 06 13 55.0 -0.4**
ZEA *i* 06 20 43.0
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
comp=E,500nm,16.0s
PETK Petropavlovsk- 44.68 15 LR LR 06 30 16.6
comp=E,234nm,21.9s,baz=186,slow=33
PET Petropavlovsk 44.85 16 *e*P **P 06 14 01.3 +1.8**
PET *e*S **S 06 20 37.0 +2.2**
PET MLR MLR
comp=Z,700nm,15.0s
PET MLR MLR
comp=Z,1μm,14.0s
GTA Gaotai 46.06 316 P **P 06 14 09.9 +0.3**
GTA pP pP 06 14 19.1 -0.5
GTA sP sP 06 14 23.6 0.0
GTA PcP **PcP 06 15 46.5 +0.8**
GTA S **S 06 20 52.7 -0.3**
GTA sS sS 06 21 14.6 +5.1
GTA SS **ScS 06 24 09.9 +6.9**
GTA pmax pmax
comp=Z,20nm,1.2s
GTA pmax pmax
comp=Z,99nm,6.1s
GTA LR LR
comp=Z,170nm,17.4s
GTA LR LR
comp=Z,370nm,20.1s
GTA LR LR
comp=Z,420nm,19.0s
CAN Canberra 46.35 170 *e*P **P 06 14 11.9 +0.1**
comp=Z,16nm,0.8s
CAN Canberra 46.35 170 *e*P **P 06 14 11.9 +0.1**
CAN pmax pmax
comp=Z,16nm,0.8s
ULN Ulaanbaatar 46.54 329 *e*P **P 06 14 13.6 +0.3**
comp=Z,24nm,1.3s
ULN Ulaanbaatar 46.54 329⇑ *i*P **P 06 14 13.5 +0.3**
ULN pmax pmax
comp=Z,27nm,1.7s
SONA0 Songino Array 46.85 329 *e*P **P 06 14 16.2 +0.5**
SONA0 *e*PcP **PcP 06 15 48.0 -0.3**
SONM Songino Array 46.85 329 P **P 06 14 16.2 +0.5**
comp=Z,7.2nm,1.0s,baz=146,slow=7.8,SNR=40
SONM PcP **PcP 06 15 48.0 -0.3**
comp=Z,0.8nm,0.5s,baz=149,slow=4.0,SNR=3.6
SONM LR LR 06 34 48.5
comp=Z,732nm,19.1s,baz=130,slow=37
SONA1 Songino Array 46.85 329 *e*P **P 06 14 16.1 +0.4**
SHL Shillong 48.18 295 *e*P **P 06 14 27.0 +0.6**
MA2 Magadan 49.55 7 P **P 06 14 35.4 -0.7**
comp=Z,1.9nm,0.3s,baz=180,slow=4.1,SNR=4.1
MA2 PcP **PcP 06 15 57.4 -0.1**
comp=Z,1.6nm,0.3s,baz=172,slow=19,SNR=2.0
MA2 Magadan 49.55 7*c**e*P **P 06 14 35.0 -1.1**
ZAK Zakamensk 50.06 330 *e*P **P 06 14 39.8 -0.5**
ZAK pmax pmax
comp=Z,31nm,1.2s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
TLY Talaya 50.72 331 *e*P **P 06 14 45.2 +0.1**
comp=Z,29nm,1.4s
TLY *e*pP **pP 06 14 53.1 -2.1**
TLY Talaya 50.72 331 *e*P **P 06 14 46.1 +0.9**
TLY *e*S **S 06 22 05.8 +7.6**
TLY pmax pmax
comp=Z,24nm,1.5s
TLY MLR MLR
comp=Z,343nm,17.0s
IRK Irkutsk 50.80 332 *e*P **P 06 14 44.8 -0.9**
IRK pmax pmax
comp=Z,54nm,2.6s
BOD Bodaibo 51.30 342 *e*P **P 06 14 48.0 -1.4**
BOD pmax pmax
comp=Z,16nm,1.8s
YAK Yakutsk 51.97 354 P **P 06 14 54.0 -0.3**
comp=Z,13nm,0.4s,baz=181,slow=3.5,SNR=7.3
YAK Yakutsk 51.97 354 *e*P **P 06 14 54.2 -0.1**
comp=Z,53nm,1.0s
YAK Yakutsk 51.97 354 *e*P **P 06 14 53.5 -0.8**
YAK *e**PP **sP 06 15 09.1 +0.7**
YAK *e* 06 16 07.2
YAK *e* 06 16 48.8
YAK *e*PPP PPP 06 17 52.0
YAK *e*S **S 06 22 11.2 -3.9**
YAK *e**SS **sS 06 22 33.3 +1.6**
YAK *e*SSS SSS 06 27 25.2
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=Z,12nm,0.6s
YAK smax smax
comp=E,78nm,2.2s
YAK smax smax
comp=N,105nm,2.9s
MOY Mondy 51.99 330 *e*P **P 06 14 55.3 +0.5**
MOY pmax pmax
comp=Z,43nm,2.3s
SEY Seymchan 53.00 7 P **P 06 15 02.3 +0.4**
comp=Z,5.2nm,0.9s,baz=185,slow=5.6,SNR=20
SEY Seymchan 53.00 7⇑ *i*P **P 06 15 01.7 -0.2**
AFI Afiamalu 53.33 116 LR LR 06 35 37.1
comp=Z,453nm,18.5s,baz=316,slow=34
AFI Afiamalu 53.33 116 *e*P **P 06 15 05.0 -0.2**
comp=Z,246nm,1.9s
AFI Afiamalu 53.33 116 *e*P **P 06 15 05.0 -0.2**
AFI pmax pmax
comp=Z,246nm,1.9s
HVS Khovu-Aksy 55.49 326 *e*P **P 06 15 20.8 +0.4**
HVS pmax pmax
comp=Z,36nm,1.1s
WMQ Urumqi 56.14 316 P **P 06 15 25.9 +0.7**
WMQ sP sP 06 15 47.0 +7.7
WMQ S **S 06 23 12.0 -0.2**
WMQ ScS **ScS 06 25 09.1 -3.0**
WMQ SS **SS 06 26 59.2 +0.3**
WMQ pmax pmax
comp=Z,67nm,1.3s
WMQ pmax pmax
comp=Z,440nm,4.7s
WMQ LR LR
comp=Z,650nm,17.9s
WMQ LR LR
comp=Z,370nm,21.1s
WMQ LR LR
comp=Z,350nm,19.5s
BILL Bilibino 59.91 11 *i*P **P 06 15 49.1 -2.0**
BILL *i* 06 15 58.2
BILL *i* 06 16 37.8
BILL *i* 06 18 02.7
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,145nm,18.0s
HYB Hyderabad 60.16 284 *i*P **P 06 15 55.0 +1.3**
MK01 Makanchi Array 60.68 318 *e*P **P 06 15 56.9 +0.1**
MK31 Makanchi Array 60.69 318 *e*P **P 06 15 57.0 +0.1**
MK31 Makanchi Array 60.69 318 *i*P **P 06 15 56.6 -0.2**
MK31 pmax pmax
comp=Z,27nm,1.1s
MK32 Makanchi Array 60.69 318 *e*P **P 06 15 57.0 +0.2**
MKAR Makanchi Array 60.69 318 P **P 06 15 57.0 +0.2**
comp=Z,3.7nm,0.5s,baz=96,slow=9.4,SNR=70
MKAR Makanchi Array 60.69 318 *e*P **P 06 15 57.0 +0.2**
comp=Z,87nm,1.1s
RPZ Rata Peaks 60.80 155 P **P 06 15 56.3 -1.2**
comp=Z,18nm,0.8s,baz=201,slow=10,SNR=3.9
RPZ LR LR 06 41 00.4
comp=Z,348nm,18.4s,baz=320,slow=35
MAKZ Makanchi 60.90 318 *e*P **P 06 15 58.3 +0.1**
comp=Z,29nm,1.2s
MAKZ Makanchi 60.90 318 *i*P **P 06 15 57.9 -0.4**
MAKZ pmax pmax
comp=Z,32nm,1.3s
TIXI Tiksi 61.46 356 *e*P **P 06 16 00.6 -0.9**
comp=Z,6.2nm,0.7s
TIXI Tiksi 61.46 356⇓ *i*P **P 06 16 00.4 -1.1**
TIXI pmax pmax
comp=Z,11nm,1.2s
ZAA0 Zalesovo Array 61.60 326 *e*P **P 06 16 02.3 -0.5**
comp=Z,12nm,1.0s
ZALV Zalesovo Beam 61.60 326 P **P 06 16 02.2 -0.6**
comp=Z,4.3nm,0.8s,baz=102,slow=6.2,SNR=19
ZALV Zalesovo Beam 61.60 326 *e*P **P 06 16 02.0 -0.8**
ZALV Zalesovo Beam 61.60 326 *e*P **P 06 16 02.0 -0.8**
ZAA1 Zalesovo Array 61.60 326 *e*P **P 06 16 02.2 -0.6**
PDGK Podgornoye 61.73 314 *i*P **P 06 16 03.6 -0.4**
PDGK pmax pmax
comp=Z,28nm,1.3s
PRZ Przheval'sk 62.33 313 P **P 06 16 09.9 +1.7**
NVS Novosibirsk 62.80 327 *i*P **P 06 16 11.3 +0.5**
GAMB Gambell 62.89 22 *e*P **P 06 16 11.4 +0.2**
comp=Z,18nm,1.2s
KSH Kashi 63.63 309 P **P 06 16 19.4 +2.6**
KSH sP sP 06 16 37.3 +6.2
KSH PcP **PcP 06 16 55.5 +2.5**
KSH PcS 06 20 55.9
KSH S **S 06 24 47.8 -1.1**
KSH pmax pmax
comp=Z,27nm,1.4s
KSH pmax pmax
comp=Z,190nm,6.5s
KSH LR LR
comp=Z,98nm,10.6s
KSH LR LR
comp=Z,120nm,7.2s
KSH LR LR
comp=Z,170nm,7.2s
ULHL Ulahol 63.86 312 P **P 06 16 19.2 +0.8**
SNR=5.5
KURK Kurchatov 64.12 322 *e*P **P 06 16 19.4 -0.3**
KURK Kurchatov 64.12 322⇓ *i*P **P 06 16 19.1 -0.5**
KURK pmax pmax
comp=Z,44nm,1.0s
KURBB Kurchatov Arra 64.15 321 P **P 06 16 19.4 -0.5**
comp=Z,1.6nm,0.6s,baz=108,slow=6.5,SNR=50
TKM2 Tokmak 2 64.44 313 P **P 06 16 22.2 0.0**
SNR=7.5
TKM2 Tokmak 2 64.44 313 *i*P **P 06 16 21.8 -0.4**
TKM2 pmax pmax
comp=Z,17nm,1.5s
KZA Kyzart 64.56 312 P **P 06 16 24.4 +1.2**
SNR=24
KBK Karagaybulak 64.87 312 P **P 06 16 25.4 +0.4**
SNR=7.2
CHMS Chumysh 65.07 313 P **P 06 16 26.5 +0.4**
SNR=7.2
UCH Uchtor 65.12 312 P **P 06 16 27.9 +0.9**
SNR=18
FRU Bishkek 65.14 312 *e*P **P 06 16 26.0 -0.5**
FRU pmax pmax
comp=Z,40nm,1.8s
AAK Ala-Archa 65.20 312 *e*P **P 06 16 27.3 +0.2**
comp=Z,14nm,1.4s
AAK Ala-Archa 65.20 312 *i*P **P 06 16 26.9 -0.2**
AAK pmax pmax
comp=Z,5.0nm,1.2s
AML Almayashu 65.71 311 P **P 06 16 31.3 +0.6**
SNR=13
EKS2 Erkin-Say 65.72 312 P **P 06 16 30.8 +0.3**
SNR=10
MNAS Manas 66.63 312 *i*P **P 06 16 36.5 +0.2**
MNAS pmax pmax
comp=Z,16nm,1.4s
RAR Rarotonga 66.72 119 LR LR 06 39 02.8
comp=Z,214nm,21.2s,baz=304,slow=30
RAR Rarotonga 66.72 119 *e*P **P 06 16 37.2 +0.2**
comp=Z,303nm,1.8s
RAR Rarotonga 66.72 119 *e*P **P 06 16 37.2 +0.2**
RAR pmax pmax
comp=Z,303nm,1.8s
OTUK Ortayu 67.58 318 P **P 06 16 41.5 -0.6**
OTUK pmax pmax
comp=Z,34nm,1.5s
KK31 Karatay Array 68.16 312 *i*P **P 06 16 45.3 -0.5**
KK31 pmax pmax
comp=Z,25nm,1.3s
KKAR Karatay Array 68.16 312 *e*P **P 06 16 46.0 +0.2**
KKAR Karatay Array 68.16 312 *e*P **P 06 16 46.0 +0.2**
SVW2 Sparrevohn 68.41 28 *e*P **P 06 16 47.5 +0.6**
comp=Z,22nm,1.2s
KBL Kabul 68.73 303 *e*P **P 06 16 49.0 -0.8**
comp=Z,8.8nm,0.9s
KBL Kabul 68.73 303 *e*P **P 06 16 49.0 -0.8**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KDAK Kodiak Island 68.96 32 P **P 06 16 51.0 +0.6**
comp=Z,4.5nm,0.3s,baz=219,slow=2.5,SNR=9.8
KDAK Kodiak Island 68.96 32 *e*P **P 06 16 51.0 +0.6**
comp=Z,52nm,1.3s
KDAK Kodiak Island 68.96 32 *i*P **P 06 16 50.5 +0.1**
BVA0 Borovoye Array 69.61 323 *i*P **P 06 16 53.9 -0.7**
BVA0 pmax pmax
comp=Z,33nm,1.2s
BVAR Borovoye Array 69.61 323 P **P 06 16 54.2 -0.4**
comp=Z,5.6nm,0.5s,baz=107,slow=7.4,SNR=49
BVAR LR LR 06 49 07.8
comp=Z,216nm,19.0s,baz=88,slow=37
BRVK Borovoye 69.68 323 *e*P **P 06 16 54.8 -0.2**
comp=Z,19nm,0.6s
BRVK Borovoye 69.68 323⇓ *i*P **P 06 16 54.7 -0.2**
BRVK pmax pmax
comp=Z,117nm,1.7s
BRLK Bradley Lake 70.29 30 *e*P **P 06 16 58.3 -0.4**
comp=Z,90nm,1.7s
PPLA Purkeypile 70.46 27 *e*P **P 06 16 59.8 0.0**
comp=Z,14nm,0.8s
CAST Castle Rocks 70.65 26 *e*P **P 06 17 01.1 +0.4**
comp=Z,55nm,1.3s
SUA Susitna One 70.75 28 *e*P **P 06 17 01.2 -0.4**
comp=Z,26nm,1.2s
SEW Seward 71.07 30 *e*P **P 06 17 03.5 +0.3**
comp=Z,38nm,1.1s
RC01 Rabbit Creek A 71.14 29 *e*P **P 06 17 03.7 -0.1**
comp=Z,71nm,1.6s
KTH Kantishna Hill 71.18 26 *e*P **P 06 17 04.3 +0.3**
comp=Z,62nm,1.3s
BPAW Bear Paw Mtn. 71.30 26 *e*P **P 06 17 05.0 +0.3**
comp=Z,57nm,1.3s
TRF Thorofare Moun 71.44 26 *e*P **P 06 17 05.3 -0.4**
comp=Z,29nm,1.1s
PMR Palmer 71.53 28 *e*P **P 06 17 05.4 -0.7**
comp=Z,18nm,1.0s
PMR Palmer 71.53 28 *e*P **P 06 17 05.4 -0.7**
PMR pmax pmax
comp=Z,18nm,1.0s

MLY Manley 71.64 25 *e*P **P 06 17 07.5 +0.7**
comp=Z,64nm,1.3s
SML Sawmill 71.95 28 *e*P **P 06 17 08.8 +0.1**
comp=Z,93nm,1.5s
SML Sawmill 71.95 28 *e*P **P 06 17 08.8 +0.1**
SML pmax pmax
comp=Z,93nm,1.5s
RND Reindeer 72.05 27 *e*P **P 06 17 08.9 -0.4**
comp=Z,28nm,1.0s
RND Reindeer 72.05 27 *e*P **P 06 17 08.9 -0.4**
RND pmax pmax
comp=Z,28nm,1.0s
MCK McKinley 72.09 26 *e*P **P 06 17 09.3 -0.1**
comp=Z,56nm,1.2s
MCK McKinley 72.09 26 *e*P **P 06 17 09.3 -0.1**
MCK pmax pmax
comp=Z,56nm,1.2s
COLD Coldfoot 72.42 22 *e*P **P 06 17 12.5 +1.2**
comp=Z,64nm,1.2s
SCM Sheep Creek Mo 72.42 28 *e*P **P 06 17 11.8 +0.3**
comp=Z,81nm,1.2s
SCM Sheep Creek Mo 72.42 28 *e*P **P 06 17 11.8 +0.3**
SCM pmax pmax
comp=Z,81nm,1.2s
DHY Denali Highway 72.64 27 *e*P **P 06 17 12.9 0.0**
comp=Z,34nm,1.4s
MDM Murphy Dome 72.66 25 *e*P **P 06 17 13.0 +0.2**
comp=Z,49nm,1.6s
CCB Clear Creek Bu 72.77 25 *e*P **P 06 17 13.2 -0.2**
comp=Z,38nm,1.2s
COLA College 72.80 25 *e*P **P 06 17 13.6 +0.1**
comp=Z,57nm,1.6s
COLA College 72.80 25 *e*P **P 06 17 13.6 +0.1**
COLA pmax pmax
comp=Z,57nm,1.6s
KLU Klutina 73.03 29 *e*P **P 06 17 15.5 +0.3**
comp=Z,42nm,1.3s
DIV Divide 73.04 29 *e*P **P 06 17 15.9 +0.7**
comp=Z,32nm,1.2s
IL1 Eielson Array 73.18 25 *e*P **P 06 17 14.7 -1.2**
ILAR Eielson Array 73.18 25 P **P 06 17 14.8 -1.1**
comp=Z,8.9nm,0.7s,baz=259,slow=4.8,SNR=19
ILAR LR LR 06 47 45.7
comp=Z,209nm,20.4s,baz=254,slow=34
ILB Eielson Array 73.18 25 *e*P **P 06 17 14.8 -1.1**
PAX Paxson 73.48 27 *e*P **P 06 17 18.1 +0.3**
comp=Z,73nm,1.6s
PAX Paxson 73.48 27 *e*P **P 06 17 18.1 +0.3**
PAX pmax pmax
comp=Z,73nm,1.6s
HARP HAARP 73.53 28 *e*P **P 06 17 18.6 +0.6**
comp=Z,66nm,1.2s
BMRM Bremner River 73.58 29 *e*P **P 06 17 19.2 +0.9**
comp=Z,74nm,1.2s
RIDG Independ'e Rid 73.88 27 *e*P **P 06 17 20.2 +0.2**
comp=Z,120nm,1.5s
FYU Fort Yukon 74.19 24 *e*P **P 06 17 22.6 +0.9**
comp=Z,181nm,1.4s
DOT Dot Lake 74.21 27 *e*P **P 06 17 22.1 +0.1**
comp=Z,131nm,1.2s
MENT Mentasta 74.26 27 *e*P **P 06 17 22.8 +0.5**
comp=Z,18nm,1.0s
PPT2 Papeete2 74.62 112 *e*S **S 06 27 01.6 +2.3**
comp=Z,294nm,25.5s
PPT2 Papeete2 74.62 112 *e*LQ LQ 06 37 08.1
PPT2 *e*LR LR 06 40 25.2
comp=Z,573nm,23.2s,baz=288
EGAK Eagle 75.61 26 *e*P **P 06 17 30.1 +0.2**
comp=Z,27nm,1.3s
SVE Sverdlovsk 75.61 326|| *e*P **P 06 17 30.6 +0.4**
SVE pmax pmax
comp=Z,36nm,1.5s
PCA Pinnacle 75.62 31 *e*P **P 06 17 30.6 +0.3**
comp=Z,31nm,1.0s
AB31 Akbulak array 75.83 318 *i* P **P 06 17 30.6 -1.0**
AB31 pmax pmax
comp=Z,13nm,1.1s
ABKAR Akbulak array 75.83 318 *e*P **P 06 17 31.0 -0.6**
comp=Z,60nm,0.6s
DAWY Dawson 76.31 26 *e*P **P 06 17 35.1 +1.0**
comp=Z,67nm,1.2s
TBI Tubuai 76.42 117 *e*LR LR 06 41 21.4
comp=Z,426nm,24.8s
ARU Arti 76.75 326 *e*P **P 06 17 35.8 -0.9**
comp=Z,31nm,1.4s
ARU Arti 76.75 326 *e*P **P 06 17 35.8 -0.9**
ARU pmax pmax
comp=Z,31nm,1.4s
HYT Haines Junctio 77.02 30 *e*P **P 06 17 38.7 +0.4**
comp=Z,76nm,1.3s
AKTO Aktyubinsk 77.08 319 P **P 06 17 38.2 -0.4**
comp=Z,1.3nm,0.5s,baz=80,slow=11,SNR=9.0
AKTO LR LR 06 54 12.2
comp=Z,367nm,18.5s,baz=78,slow=38
AKTO Aktyubinsk 77.08 319 *i* P **P 06 17 37.6 -1.0**
AKTO pmax pmax
comp=Z,12nm,1.3s
GEYT Alibeck 77.51 307 P **P 06 17 41.4 +0.1**
comp=Z,7.7nm,1.1s,baz=64,slow=6.8,SNR=11
SKAG Skagway 78.10 31 *e*P **P 06 17 45.3 +1.2**
comp=Z,54nm,1.1s
WHY Whitehorse 78.31 30 *e*P **P 06 17 46.8 +1.4**
comp=Z,144nm,1.6s
BESE Bessie Mountai 78.36 32 *e*P **P 06 17 47.0 +1.3**
comp=Z,79nm,1.2s
WSAR Wadi Sarin 78.38 292 LR LR 06 57 15.4
comp=Z,40nm,18.2s,baz=86,slow=40
INK Inuvik 78.83 22 P **P 06 17 47.9 -0.2**
comp=Z,10nm,1.0s,baz=276,slow=4.7,SNR=16
INK Inuvik 78.83 22 *e*P **P 06 17 47.8 -0.2**
comp=Z,18nm,1.0s
WRAK Wrangell Islan 79.80 34 *e*P **P 06 17 54.3 +0.9**
comp=Z,40nm,1.0s
DLBC Dease Lake 80.89 32 *e*P **P 06 18 00.8 +1.3**
comp=Z,54nm,1.3s
TAOE Nuku Hiva Isla 81.41 101 *e*LR LR 06 43 11.2
comp=Z,228nm,23.1s
MAK Makhachkala 84.97 313 *e*P **P 06 18 17.0 -3.8**
MAK *e*S **S 06 28 39.5 -8.1**
MAK *e*SS **SS 06 34 23.1 +2.5**
MAK pmax pmax
comp=Z,35nm,0.3s
KLMR Klimovskoe 86.09 331 *e*P **P 06 18 21.3 -4.7**
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 86.09 331 *e*P **P 06 18 21.4 -4.6**
KLMR AMP 06 18 31.2
comp=Z,12nm,1.2s
SPA0 Spitsbergen Ar 86.29 350 *e*P **P 06 18 26.5 -0.3**
SPITS Spitsbergen Ar 86.29 350 P **P 06 18 26.5 -0.3**
comp=Z,61nm,1.3s,baz=162,slow=5.9,SNR=5.7
SPITS LR LR 06 58 01.3
comp=Z,169nm,19.0s,baz=155,slow=36
LLLB Lillooet 86.81 39 *e*P **P 06 18 30.2 +0.4**
comp=Z,39nm,1.4s
B05A Bryant 87.18 42 P **P 06 18 32.9 +1.3**
baz=283
YKW3 Yellowknife Ar 87.52 27 *e*P **P 06 18 33.3 +0.4**
comp=Z,18nm,0.8s
GNI Garni 87.53 310 LR LR 06 59 36.6
comp=Z,95nm,21.8s,baz=78,slow=37
YKA Yellowknife Ar 87.55 27 P **P 06 18 33.4 +0.4**
comp=Z,16nm,1.1s,baz=289,slow=5.0,SNR=73
YKB5 Yellowknife Ar 87.55 27 *e*P **P 06 18 33.4 +0.4**
HUMO Hull Mountain 87.81 47 *e*P **P 06 18 35.8 +1.0**
HUMO *e*pP **pP 06 18 45.9 +0.4**
H04A Detroit Lake 87.91 45 *e*P **P 06 18 36.2 +1.0**
comp=Z,128nm,1.9s
I04A Tendick Farm, 87.94 46 P **P 06 18 35.3 -0.1**
baz=283
KBZ Khabaz 88.12 314 LR LR 07 02 17.4
comp=Z,165nm,19.2s,baz=64,slow=38
YBH Yreka Blue Hor 88.17 48 P **P 06 18 38.0 +1.4**
comp=Z,4.8nm,0.9s,baz=277,slow=0.8,SNR=8.1
YBH Yreka Blue Hor 88.17 48 *e*P **P 06 18 37.0 +0.4**
comp=Z,60nm,1.8s
KVAR Kislovodsk Arr 88.22 314 LR LR 07 01 30.8
comp=Z,168nm,19.7s,baz=178,slow=38
KIV Kislovodsk 88.22 314 *e*P **P 06 18 33.8 -3.0**
KIV *e* 06 28 59.0
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,186nm,19.0s
LTY Liberty 88.35 42 *e*P **P 06 18 37.6 +0.3**
comp=Z,96nm,1.8s
MOS Moscow 88.43 327 *e*P **P 06 18 34.1 -3.3**
MOS *e* 06 22 10.5
MOS pmax pmax
comp=Z,50nm,0.9s
MOS MLR MLR
comp=Z,800nm,18.0s
WDC Whiskeytown Da 88.55 49 *e*P **P 06 18 39.2 +1.0**
comp=Z,65nm,1.8s
WDC Whiskeytown Da 88.55 49 *e*P **P 06 18 39.3 +1.0**
WDC pmax pmax
comp=Z,65nm,1.8s
ARA0 ARCESS Array S 88.57 341 *e*P **P 06 18 36.9 -0.9**
ARCES ARCESS Array B 88.57 341 P **P 06 18 36.9 -0.9**
comp=Z,2.2nm,0.5s,baz=79,slow=7.4,SNR=20
ARCES LR LR 07 01 18.7
comp=Z,292nm,20.6s,baz=62,slow=38
VNDA Vanda 88.77 175 LR LR 06 57 38.2
comp=Z,183nm,18.2s,baz=346,slow=35
J05D Fort Rock, OR 88.89 46 P **P 06 18 41.3 +1.2**
baz=283
B08A Colville Reser 88.95 41 *e*P **P 06 18 41.0 +0.9**
comp=Z,90nm,1.8s
PINE Pine Mountain 88.98 46 *e*P **P 06 18 41.6 +1.1**
comp=Z,159nm,2.0s
E07A Sunnyside 89.06 43 *e*P **P 06 18 41.8 +1.1**
comp=Z,85nm,1.9s
OBN Obninsk 89.18 326 *e*P **P 06 18 39.5 -1.4**
OBN *e* 06 22 10.2
OBN *e*PPP PPP 06 24 07.9
OBN pmax pmax
comp=Z,29nm,1.1s
OBN MLR MLR
comp=Z,321nm,20.0s
ORV Oroville 89.55 50 *e*P **P 06 18 44.0 +0.9**
comp=Z,46nm,1.6s
ORV Oroville 89.55 50 *e*P **P 06 18 44.0 +0.9**
ORV pmax pmax
comp=Z,46nm,1.6s
D08A Wollman Farm, 89.56 42 *e*P **P 06 18 43.6 +0.7**
comp=Z,81nm,2.0s
E08A Dider Farm, El 89.61 43 *e*P **P 06 18 44.3 +1.1**
comp=Z,80nm,1.9s
C09A Chrisman Ranch 89.78 41 *e*P **P 06 18 45.1 +1.2**
comp=Z,54nm,1.9s
RDG13 Poverty Ridge 89.85 52 *e*P **P 06 18 45.5 +0.8**
comp=Z,54nm,1.4s
MOD Modoc Plateau 89.89 47 *e*P **P 06 18 45.2 +0.4**
comp=Z,70nm,1.8s
G08A Pilot Rock 89.98 44 *e*P **P 06 18 46.3 +1.2**
comp=Z,55nm,1.9s
AFDM Forest Hills D 90.09 50 *e*P **P 06 18 46.3 +0.6**
comp=Z,48nm,1.8s
E09A Wood Farm, Sta 90.21 43 *e*P **P 06 18 46.3 +0.3**
comp=Z,69nm,1.8s
RAYN Ar Rayn 90.24 294 *e*P **P 06 18 45.9 -0.7**
comp=Z,16nm,1.4s
NEW Newport 90.40 41 P **P 06 18 47.7 +0.8**
baz=286
NEW Newport 90.40 41 *e*P **P 06 18 47.8 +0.8**
comp=Z,43nm,1.6s
NEW Newport 90.40 41 *e*P **P 06 18 47.8 +0.9**
NEW pmax pmax
comp=Z,43nm,1.6s
CMB Columbia Colle 90.75 51 *e*P **P 06 18 49.3 +0.5**
comp=Z,41nm,1.8s
CMB Columbia Colle 90.75 51 *e*P **P 06 18 49.3 +0.5**
CMB pmax pmax
comp=Z,41nm,1.8s
WVOR Wild Horse Val 90.95 47 *e*P **P 06 18 50.0 +0.3**
comp=Z,72nm,2.0s
WVOR Wild Horse Val 90.95 47 *e*P **P 06 18 50.0 +0.3**
WVOR pmax pmax
comp=Z,72nm,2.0s
PAHR Pah Rah Range 91.10 49 *e*P **P 06 18 50.7 +0.2**
comp=Z,59nm,1.8s
PAHR *e*pP **pP 06 18 58.5 -2.7**
EDM Edmonton 91.17 35 *e*P **P 06 18 50.9 +0.5**
comp=Z,50nm,1.6s
EDM Edmonton 91.17 35 *e*P **P 06 18 50.9 +0.5**
EDM pmax pmax
comp=Z,50nm,1.6s
MARD Mardin 91.18 308 *e*P **P 06 18 50.4 -0.5**
MARD *e*pP **sP 06 19 05.4 0.0**
WAKR Walker 91.36 51 *e*P **P 06 18 52.6 +0.8**
comp=Z,54nm,1.8s
FIA1 FINESS Array S 91.99 334 *e*P **P 06 18 51.6 -2.2**
FIA1 *e*pP **PcP 06 18 57.4 +2.7**
FIA0 FINESS Array S 91.99 334 *e*P **P 06 18 52.0 -1.9**
FIA0 FINESS Array S 91.99 334 *e*P **P 06 18 52.0 -1.9**
FINES FINESS Array B 91.99 334 P **P 06 18 52.0 -1.9**
comp=Z,1.4nm,0.4s,baz=64,slow=5.3,SNR=22
FINES LR LR 07 03 01.0
comp=Z,300nm,18.4s,baz=64,slow=37
FINES FINESS Array B 91.99 334 P **P 06 18 52.0 -1.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES MLR MLR
comp=Z,300nm,18.4s
RYN Ryan 92.03 50 *e*P **P 06 18 55.9 +1.1**
comp=Z,32nm,1.7s
WALA Waverton Lakes 92.19 39 *e*P **P 06 18 56.6 +1.3**
comp=Z,54nm,1.8s
NV01 Mina Array Sit 92.24 50 *e*P **P 06 18 57.0 +1.1**
NVAR Mina Array Bea 92.24 50 P **P 06 18 57.0 +1.1**
comp=Z,2.9nm,0.7s,baz=263,slow=4.9,SNR=16
NV11 Mina Array Sit 92.36 50 *e*P **P 06 18 57.8 +1.4**
comp=Z,2.2nm,1.6s
MFID Camas Ranch 92.66 45 *e*P **P 06 18 58.1 +0.5**
comp=Z,12nm,0.8s
BLG Laguna Peak, P 92.76 55 P **P 06 18 59.8 +1.7**
baz=285
ISA Isabella, Lake 92.83 53 *e*P **P 06 18 58.7 +0.2**
comp=Z,16nm,1.7s
ISA Isabella, Lake 92.83 53 *e*P **P 06 18 58.7 +0.2**
ISA pmax pmax
comp=Z,16nm,1.7s
CWC Cottonwood Cre 92.94 52 P **P 06 18 59.7 +0.6**
baz=285
DAC Darwin (Calif) 93.36 52 *e*P **P 06 19 01.4 +0.3**
comp=Z,20nm,1.6s
DAC Darwin (Calif) 93.36 52 *e*P **P 06 19 01.4 +0.3**
DAC pmax pmax
comp=Z,21nm,1.6s
EDW2 Edwards Air Fo 93.42 54 P **P 06 19 02.4 +1.2**
baz=285
MPMC Manual Prospec 93.50 53 P **P 06 19 02.6 +0.8**
baz=286
HLID Hailey 93.60 45 P **P 06 19 02.6 +0.6**
baz=288
HLID Hailey 93.60 45 *e*P **P 06 19 02.4 +0.5**
comp=Z,5.0nm,0.9s
FURC Furnace Creek, 93.88 52 P **P 06 19 04.5 +1.3**
baz=286
LRM Limekiln Ridge 94.19 42 *e*P **P 06 19 01.4 -3.4**
TPNV Topopah Spring 94.22 51 P **P 06 19 05.7 +0.8**
baz=286
TPNV Topopah Spring 94.22 51 *e*P **P 06 19 05.1 +0.1**
comp=Z,8.6nm,1.1s
TPNV Topopah Spring 94.22 51 *e*P **P 06 19 05.1 +0.1**
TPNV pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 94.24 53 P **P 06 19 05.5 +0.5**
baz=286
GSC Goldstone, Bar 94.24 53 *e*P **P 06 19 05.2 +0.2**
comp=Z,18nm,1.5s
GSC Goldstone, Bar 94.24 53 *e*P **P 06 19 05.2 +0.2**
GSC pmax pmax
comp=Z,19nm,1.5s
DLMT Dillon 94.25 43 *e*P **P 06 19 05.5 +0.6**
comp=Z,35nm,1.8s
MCMT McKenzie Canyo 94.26 43 *e*P **P 06 19 04.8 -0.3**
R11A Troy Canyon, C 94.32 50 P **P 06 19 06.0 +0.5**
baz=287
R11A Troy Canyon, C 94.32 50 *e*P **P 06 19 05.6 +0.2**
comp=Z,26nm,1.9s
MAW Mawson 94.96 202 LR LR 07 00 13.5
comp=Z,177nm,19.0s,baz=62,slow=34
PFO Pinyon Flats O 94.98 55 *e*P **P 06 19 08.7 +0.2**
comp=Z,16nm,1.6s
PFO Pinyon Flats O 94.98 55 *e*P **P 06 19 08.7 +0.2**
PFO pmax pmax
comp=Z,16nm,1.6s
XPFO Piæon Flat 94.98 55 *e*P **P 06 19 08.8 +0.3**
comp=Z,16nm,1.5s
EGMT Eagleton 95.14 39 P **P 06 19 09.5 +0.6**
baz=292
EGMT Eagleton 95.14 39 *e*P **P 06 19 09.6 +0.8**
comp=Z,49nm,1.8s
ATD Arta Tunnel 95.16 283 LR LR 06 58 43.1
comp=Z,42nm,20.7s,baz=80,slow=33
SHPR Sheep Range 95.18 52 *e*P **P 06 19 10.2 +0.8**
comp=Z,32nm,1.9s
GMRC Granite Mounta 95.29 53 P **P 06 19 10.5 +0.6**
baz=287
HVU Hansel Valley 95.31 46 *e*P **P 06 19 10.8 +0.9**
comp=Z,24nm,1.9s
HVU Hansel Valley 95.31 46 *e*P **P 06 19 10.8 +0.9**
HVU pmax pmax
comp=Z,24nm,1.9s
YHB Horse Butte 95.39 43 *e*P **P 06 19 11.7 +1.4**
comp=Z,57nm,1.7s
YHH Holmes Hill 95.61 43 *e*P **P 06 19 12.7 +1.4**
comp=Z,28nm,1.7s
YFT Old Faithful 95.74 43 *e*P **P 06 19 13.2 +1.4**
comp=Z,17nm,1.3s
YNR Norris Junctio 95.75 43 *e*P **P 06 19 13.5 +1.6**
comp=Z,42nm,1.5s
DUG Dugway, Tooele 95.80 47 *e*P **P 06 19 13.1 +1.0**
comp=Z,11nm,1.4s
DUG Dugway, Tooele 95.80 47 *e*P **P 06 19 13.1 +1.0**
DUG pmax pmax
comp=Z,11nm,1.4s
YPP Pitchstone Pla 95.82 43 *e*P **P 06 19 12.6 +0.3**
comp=Z,39nm,1.8s
BR101 Keskin Array S 95.88 312 *e*P **P 06 19 11.2 -1.3**
BRTR Keskin Array B 95.88 312 P **P 06 19 11.2 -1.3**
comp=Z,0.4nm,0.7s,baz=16,slow=7.9,SNR=2.7
BRTR LR LR 07 06 54.5
comp=Z,49nm,19.9s,baz=48,slow=38
BRTR Keskin Array B 95.88 312 *i* P P 06 19 17.7 +5.3
BRTR pmax pmax
comp=Z,1.0nm,0.7s
IRM Iron Mountain 95.88 54 P **P 06 19 13.6 +1.1**
baz=287
FXWY Fox Creek 95.89 44 *e*P **P 06 19 14.1 +1.6**
comp=Z,8.7nm,1.4s
H17A Grant Village 95.93 43 P **P 06 19 16.3 +3.5**
baz=291
H17A Grant Village 95.93 43 *e*P **P 06 19 14.5 +1.7**
comp=Z,34nm,1.7s
REDW Red Top Meadow 96.11 44 *e*P **P 06 19 13.9 +0.3**
comp=Z,25nm,1.8s
LOHW Long Hollow 96.19 44 *e*P **P 06 19 13.8 -0.1**
comp=Z,16nm,1.7s
HWUT Hardware Ranch 96.22 46 *e*P **P 06 19 13.8 -0.3**
comp=Z,5.6nm,1.1s
GLA Glamis 96.45 55 *e*P **P 06 19 14.6 -0.5**
comp=Z,3.6nm,0.8s
GLA Glamis 96.45 55 *e*P **P 06 19 14.6 -0.5**
GLA pmax pmax
comp=Z,4.0nm,0.8s
KIS Kishinev 96.57 320 *e* 06 20 18.0
KIS LRM MLR 07 06 00.0
comp=Z,500nm,20.0s
MMAI Mount Meron Ar 96.58 305 LR LR 07 08 38.2
comp=Z,94nm,19.1s,baz=50,slow=39
PDMCI Parker Dam,Lak 96.63 53 P **P 06 19 16.5 +0.8**
baz=288
KNB Kanab 96.81 50 *e*P **P 06 19 17.4 +0.6**
comp=Z,9.2nm,0.6s
KNB Kanab 96.81 50 *e*P **P 06 19 17.4 +0.6**
KNB pmax pmax
comp=Z,9.0nm,0.6s
PD31 Pinedale Array 97.21 44 *e*P **P 06 19 18.6 0.0**
PDAR Pinedale Array 97.21 44 P **P 06 19 17.9 -0.6**
comp=Z,0.4nm,0.7s,baz=202,slow=1.0,SNR=3.4
PDAR PP **PP 06 23 13.3 -1.4**
comp=Z,0.6nm,0.9s,baz=273,slow=5.6,SNR=4.9
U15A North Rim 97.40 51 *e*P **P 06 19 19.0 -0.6**
comp=Z,4.9nm,1.2s
HFS Hagfors 97.84 336 LR LR 07 07 43.8
comp=Z,233nm,18.2s,baz=50,slow=38
LAO LASA Array 97.88 40 P Pdif 06 19 21.7 +0.5
baz=294
NOA NORSAR Array B 98.23 338 LR LR 07 06 01.1
comp=Z,168nm,19.1s,baz=50,slow=37
MLR Muntele Rosu 99.01 320 LR LR 07 08 39.7
comp=Z,67nm,18.3s,baz=57,slow=38
CLL Collm 103.47 329 *e*Pdif **Pdif 06 19 47.0 +1.1**
CLL *e*SS SS 06 38 30.0 -13
CLL *e*SSS SSS 06 42 48.0
CLL *e* 06 44 12.0
CLL LmH 07 01 00.0
comp=N,300nm,19.4s
CLL LmH 07 01 00.0
comp=E,300nm,18.9s
CLL LmV 07 08 00.0
comp=Z,300nm,19.8s
CLL Collm 103.47 329 *e*P **Pdif 06 19 47.0 +1.1**
CLL MLR MLR
comp=Z,300nm,19.8s
TOA1 Torodi Ar. Sit 132.70 299 *e*PKPdf **PKPdf 06 25 00.6 -0.5**
TORD Torodi Ar. Bea 132.70 299 PKP **PKPdf 06 25 00.6 -0.5**
comp=Z,0.4nm,0.6s,baz=47,slow=3.5,SNR=3.6
PLCA Paso Flores 139.41 143 PKP **PKPdf 06 25 12.7 -0.4**
comp=Z,2.2nm,0.9s,baz=269,slow=5.8,SNR=3.7
DBIC Dimbokro 141.37 295 PKP **PKPdf 06 25 17.8 +0.6**
comp=Z,2.7nm,0.7s,baz=11,slow=5.2,SNR=2.7
DBIC Dimbokro 141.37 295 *e*PKPdf **PKPdf 06 25 17.1 -0.1**
SDV Santo Domingo 143.61 59 PKhKP PKPpre 06 25 18.2
comp=Z,3.1nm,0.6s,baz=357,slow=7.6,SNR=5.1
SDV Santo Domingo 143.61 59 *e*PKPdf PKPbc 06 25 19.3 +0.5
LCO Las Campanas 145.65 127 *e*PKPdf **PKPdf 06 25 24.8 +0.1**
BBTS Babate 146.06 317 PKPbc **PKPbc 06 25 26.0 -0.1**
comp=Z,52nm,1.1s,baz=326,slow=2.0,SNR=4.3
TRQA Tornquist 146.06 147 *e*PKPdf **PKPbc 06 25 25.3 -0.3**
PB11 IPOC Station P 149.66 111 *e*PKPdf **PKPdf 06 25 31.1 -0.3**
MNMC Minye Minye 149.85 110 *e*PKPdf **PKPdf 06 25 32.9 +1.0**
LPAZ La Paz 151.72 105 PKP **PKPdf 06 25 36.5 +1.2**
comp=Z,3.1nm,1.1s,baz=320,slow=2.9,SNR=3.4
LPAZ PKPbc **PKiKP 06 25 42.2 +0.2**
comp=Z,4.2nm,0.6s,baz=308,slow=1.2,SNR=19
LPAZ La Paz 151.72 105 *e*PKPdf **PKPdf 06 25 36.4 +1.2**
LPAZ *e*PKPbc **PKPbc 06 25 36.9 -4.7**
LPAZ PKPbc **PKiKP 06 25 42.2 +0.2**
CPUP Villa Florida 157.07 136 PKPab **PKPab 06 26 09.8 -2.3**
comp=Z,2.4nm,1.0s,baz=199,slow=6.9,SNR=3.3
CPUP Villa Florida 157.07 136 *e*PKPdf **PKPdf 06 25 40.6 -1.1**
CPUP PKPab **PKPab 06 26 09.8 -2.3**
CPUP Villa Florida 157.07 136 *e*PKIKP **PKPdf 06 25 40.6 -1.1**

WEL **06** *06:27:24.6±1.0,31°S±11°×17°8W±2°7,h226km±15km*
ISCJB **06** *06:27:26.7±0.3,30°30S±0°03×178°84W±0°08,h200km, mb4.0/15, Error ellipse: s-maj=9.7km s-min=3.6km az=18.1*
NEIC **06** *06:27:27.5±0.7,30°32S×178°77W,h199km,6km,mb4.3/8, Error ellipse: s-maj=9.7km s-min=6.9km az=129.0*
IDC **06** *06:27:28.9±1.4,30°12S×178°75W,h207km±10km, mb4.0/10,mb1 4.2/11,mb1mx3.9/38,mbtmp4.5/11,Error ellipse: s-maj=28.6km s-min=13.5km az=163.0*

ISC 06 06:27:27.6±0.5,30°34S±0°06×178°7W±0°1,h200km,n97, σ1°73/99,**mb4.1**/15,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.29**	**34**	P	**Pn**	**06 27 59.1**	**-0.4**
RAO	**Raoul Island**	**1.30**	**33**	P	**Pn**	**06 27 59.6**	**0.0**
	344nm,0.3s,baz=99,slow=7.3,SNR=23						
RAO				S	**Sn**	**06 28 20.1**	**-4.2**
	935nm,0.3s,baz=70,slow=20,SNR=7.0						
RIZ	**Raoul Island**	**1.30**	**33**	P	**Pn**	**06 27 59.4**	**-0.2**
MXZ	**Matakaoa Point**	**7.61**	**198**	*e*Pn	**Pn**	**06 29 16.0**	**+0.4**
MXZ	**Matakaoa Point**	**7.61**	**198**	P	**Pn**	**06 29 15.3**	**-0.4**
MXZ	**Matakaoa Point**	**7.61**	**198**	S	**Sn**	**06 30 43.1**	**+1.5**
GRZ	**Great Barrier**	**7.64**	**218**	P	Pn	06 29 22.2	+6.1
WMGZ	**Waiomatatini S**	**7.83**	**197**	P	**Pn**	**06 29 19.2**	**+0.7**
WMGZ	**Waiomatatini S**	**7.83**	**197**	S	**Sn**	**06 30 47.4**	**+0.7**
KUZ	**Kuaotunu**	**7.89**	**214**	P	**Pn**	**06 29 21.2**	**+1.9**
HAZ	**Te Kaha**	**7.94**	**200**	P	**Pn**	**06 29 20.5**	**+0.6**
HAZ	**Te Kaha**	**7.94**	**200**	S	**Sn**	**06 30 54.4**	**+5.0**
PKGZ	**Pakihiroa**	**7.98**	**198**	P	**Pn**	**06 29 20.0**	**-0.5**
WCZ	**Waipu Caves**	**8.05**	**224**	P	Pn	06 29 27.8	+6.4
PUZ	**Puketiti**	**8.10**	**197**	P	**Pn**	**06 29 21.6**	**-0.5**
PUZ	**Puketiti**	**8.10**	**197**	S	**Sn**	**06 30 54.4**	**+1.0**
RUGZ	**Raukumara Rang**	**8.17**	**200**	P	**Pn**	**06 29 23.5**	**+0.5**
TWGZ	**Tauwhareparae**	**8.28**	**198**	P	**Pn**	**06 29 24.7**	**+0.3**
TWGZ	**Tauwhareparae**	**8.28**	**198**	S	**Sn**	**06 30 59.6**	**+2.1**
WHRZ	**Whale Island**	**8.30**	**204**	P	Pn	06 29 30.0	+5.4
CNGZ	**Carnagh Statio**	**8.51**	**196**	P	**Pn**	**06 29 27.0**	**-0.3**
MWZ	**Matawai**	**8.55**	**200**	P	**Pn**	**06 29 26.9**	**-1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MWZ	Matawai	8.55	200	S	Sn	06 31 05.9	+1.8
TKGZ	Te Karaka	8.56	198	P	Pn	06 29 26.8	-1.2
URZ	Urewera	8.61	202	P	Pn	06 29 27.7	-1.0
	1.4nm,0.3s,baz=261,slow=4.7,SNR=17						
URZ				S	Sn	06 31 03.2	-2.2
	3.3nm,0.3s,baz=17,slow=16,SNR=3.5						
URZ	Urewera	8.61	202	ePn	Pn	06 29 27.7	-1.0
URZ				ePn	Pn	06 29 28.6	-0.1
URZ				eSn	Sn	06 31 03.2	-2.2
URZ	Urewera	8.61	202	P	Pn	06 29 28.4	-0.3
RIGZ	Rimuhau	8.83	198	P	Pn	06 29 30.1	-1.5
MUGZ	Murupara	8.92	203	P	Pn	06 29 31.8	-1.0
PRGZ	Paritu Road	9.00	197	P	Pn	06 29 33.0	-0.8
KNZ	Kokohu	9.15	198	P	Pn	06 29 35.7	0.0
MTHZ	Maungataniwha	9.24	202	P	Pn	06 29 34.7	-2.2
NMHZ	Naumai	9.47	202	P	Pn	06 29 38.2	-1.8
BKZ	Black Stump Fm	9.64	203	ePn	Pn	06 29 41.7	-0.4
BKZ				eSn	Sn	06 31 32.7	+2.8
BKZ	Black Stump Fm	9.64	203	P	Pn	06 29 39.9	-2.2
BKZ	Black Stump Fm	9.64	203	S	Sn	06 31 29.5	-0.3
HIZ	Hauiti	9.72	211	ePn	Pn	06 29 44.9	+1.9
KWHZ	Kaweka Forest	9.89	202	P	Pn	06 29 42.9	-2.5
BFZ	Birch Farm	11.10	200	ePn	Pn	06 29 59.6	-1.2
SNZO	South Karori	12.17	204	ePn	Pn	06 30 13.6	-0.8
SNZO				eSn	Sn	06 32 27.5	-2.5
THZ	Tophouse	13.24	208	ePn	Pn	06 30 27.9	-0.2
KHZ	Kahutara	13.55	205	ePn	Pn	06 30 31.5	-0.3
RPZ	Rata Peaks	15.62	209	S	S	06 33 41.1	-9.4
	1.4nm,0.3s,baz=150,slow=22,SNR=10						
DZM	Mont Dzumac	15.63	298	P	P	06 30 57.7	+0.1
	1.0nm,0.3s,baz=192,slow=20,SNR=9.2						
DZM	Mont Dzumac	15.63	298	eP	P	06 30 57.7	+0.1
	18nm,0.9s						
CTA	Charters Tower	33.16	280	P	P	06 33 46.6	+1.3
	13nm,0.5s,baz=105,slow=11,SNR=25						
CTAO	Charters Tower	33.16	280	eP	P	06 33 46.3	+1.0
	13nm,0.8s						
STKA	Stephens Creek	33.87	257	P	P	06 33 53.1	+1.7
	3.5nm,0.3s,baz=98,slow=9.0,SNR=23						
STKA	Stephens Creek	33.87	257	eP	P	06 33 52.4	+1.1
	1.7nm,1.1s						
AS01	Alice Springs	42.44	267	eP	P	06 35 02.6	-0.3
AS31	Alice Springs	42.48	267	eP	P	06 35 02.9	-0.4
	1.9nm,1.1s						
ASAR	Alice Springs	42.48	267	P	P	06 35 03.0	-0.2
	2.6nm,0.6s,baz=103,slow=6.9,SNR=29						
ASAR				ScP	ScP	06 40 22.9	-1.0
	1.9nm,0.9s,baz=117,slow=4.1,SNR=8.5						
WB2	Warramunga Arr	43.45	272	eP	P	06 35 10.5	-0.5
WR1	Warramunga Arr	43.46	272	eP	P	06 35 10.7	-0.5
WRA	Warramunga Arr	43.46	272	P	P	06 35 10.7	-0.5
	7.5nm,0.5s,baz=110,slow=8.1,SNR=77						
WRA				ScP	ScP	06 40 26.3	-1.7
	0.9nm,0.7s,baz=105,slow=3.9,SNR=7.3						
MJAR	Matsushiro Arr	77.83	326	P	P	06 39 02.5	-0.2
	2.4nm,0.7s,baz=161,slow=4.9,SNR=3.9						
MAJO	Matsushiro	77.83	326	eP	P	06 39 02.5	-0.3
VNA3	Neumayer Olymp	78.41	176	P	P	06 39 09.4	+3.9
VNA2	Neumayer--Watz	78.83	177	P	P	06 39 11.8	+3.9
	baz=210,slow=3.8						
PETK	Petropavlovsk-	85.60	346	P	P	06 39 42.7	-0.2
	8.6nm,0.7s,baz=118,slow=6.4,SNR=7.5						
PEA1	Petropavlovsk-	85.60	346	eP	P	06 39 42.7	-0.2
ISA	Isabella, Lake	86.70	45	eP	P	06 39 50.1	+1.2
	4.4nm,0.9s						
USRK	Ussuriysk Ar.	86.76	327	P	P	06 39 49.1	+0.3
	1.3nm,0.6s,baz=144,slow=3.4,SNR=4.5						
NV01	Mina Array Sit	88.63	43	eP	P	06 39 58.6	+0.5
NVAR	Mina Array Bea	88.63	43	P	P	06 39 59.1	+1.0
	2.3nm,0.9s,baz=221,slow=8.0,SNR=11						
TUC	Tucson	89.57	52	eP	P	06 40 04.2	+1.7
	4.7nm,1.0s						
X16A	Lo Mia Camp, P	90.40	50	eP	P	06 40 07.7	+1.3
	2.4nm,0.9s						
U15A	North Rim	91.06	48	eP	P	06 40 10.9	+1.3
	3.6nm,0.9s						
MSU	Marysvale	92.40	46	eP	P	06 40 13.5	-2.2
LTX	Lajitas	92.89	58	eP	P	06 40 18.0	0.0
TXAR	Lajitas Array	92.89	58	P	P	06 40 18.0	0.0
	0.2nm,0.8s,baz=197,slow=0.9,SNR=3.7						
DCU	Deer Creek Res	93.95	45	eP	P	06 40 23.5	+0.8
PD31	Pinedale Array	96.53	44	eP	P	06 40 33.6	-0.8
PDAR	Pinedale Array	96.53	44	P	P	06 40 34.2	-0.3
	0.3nm,0.6s,baz=201,slow=3.9,SNR=2.9						
KURK	Kurchatov	120.55	314	ePKPdf	PKPdf	06 45 54.3	-0.6
KURBB	Kurchatov Arra	120.59	314	PKP	PKPdf	06 45 54.3	-0.6
	1.2nm,0.8s,baz=99,slow=2.0,SNR=11						
BVAR	Borovoye Array	125.92	316	PKP	PKPdf	06 46 05.1	0.0
	1.3nm,0.7s,baz=90,slow=1.5,SNR=6.8						
AKTO	Aktyubinsk	133.59	312	PKP	PKPdf	06 46 20.0	+0.2
	0.7nm,0.4s,baz=333,slow=4.5,SNR=3.6						
ARA0	ARCESS Array S	138.39	347	ePKPdf	PKPdf	06 46 28.3	+0.1
ARCES	ARCESS Array B	138.39	347	PKP	PKPdf	06 46 28.3	+0.1
	1.8nm,0.8s,baz=96,slow=1.8,SNR=3.4						
BORG	Borgarnes	142.79	16	PKP	PKPdf	06 46 34.0	-2.2
	47nm,1.0s,baz=338,slow=5.4,SNR=2.8						
KBZ	Khabaz	144.55	304	PKP	PKPab	06 46 39.5	+0.5
	2.8nm,0.8s,baz=92,slow=6.1,SNR=5.4						
FIA0	FINESS Array S	144.87	339	ePKPbc	PKPbc	06 46 38.6	-0.9
FINES	FINESS Array B	144.87	339	PKP	PKPbc	06 46 38.6	-0.9
	16nm,0.7s,baz=64,slow=4.9,SNR=55						
NB2	NORSAR Subarra	148.59	351	PKP	PKPbc	06 46 49.3	-0.9
	comp=Z,4.6nm,1.0s,baz=17,slow=2.6						
NB200	NORSAR Array S	148.59	351	ePKPbc	PKPbc	06 46 50.3	+0.1
NOA	NORSAR Array B	148.59	351	PKPbc	PKPbc	06 46 50.3	+0.1
	comp=Z,4.5nm,0.9s,baz=20,slow=2.7,SNR=7.6						
HFS	Hagfors	149.06	348	PKPbc	PKPbc	06 46 50.6	-0.7
	comp=Z,5.1nm,0.8s,baz=84,slow=5.9,SNR=7.8						
AKASG	Malin Array Be	150.87	322	PKPbc	PKPbc	06 46 55.8	-0.2
	comp=Z,6.3nm,0.8s,baz=49,slow=2.9,SNR=23						
AKBB	Malin Array Si	150.87	322	ePKPbc	PKPbc	06 46 55.2	-0.7
MMAI	Mount Meron Ar	150.90	284	PKPbc	PKPbc	06 46 55.1	-1.6
	comp=Z,1.9nm,0.4s,baz=72,slow=4.7,SNR=4.1						
BR101	Keskin Array S	152.01	298	ePKPbc	PKPbc	06 46 59.0	-0.1
BRTR	Keskin Array B	152.01	298	PKPbc	PKPbc	06 46 59.0	-0.1
	comp=Z,0.8nm,0.4s,baz=134,slow=5.3,SNR=5.0						
CLL	Collm	157.30	341	ePKPab	PKPab	06 47 30.0	-1.3
	comp=Z,10.0nm,1.2s						
GERES	GERESS Array B	159.23	336	PKPab	PKPab	06 47 39.4	-0.5
	comp=Z,0.7nm,0.6s,baz=9.5,slow=3.2,SNR=7.5						
TORD	Torodi Ar. Bea	162.89	181	PKPab	PKPab	06 47 58.9	+2.5
	comp=Z,1.0nm,0.8s,baz=174,slow=4.1,SNR=9.7						
TOA1	Torodi Ar. Sit	162.89	181	ePKPab	PKPab	06 47 58.9	+2.4

*IDC **06** 06:34:22.4±4.9, 36°06N×53°56E, h0km, mb3.0/2, mb1 3.6/5, mb1mx3.2/56, mbtmp3.4/5, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/29, Error ellipse: s-maj=72.1km s-min=24.1km az=10.0*

*ISCJB **06** 06:34:25.1±0.4, 35°89N±0°05×54°31E±0°05, h10km, mb2.7/1, Error ellipse: s-maj=7.3km s-min=4.4km az=147.1*

*CSEM **06** 06:34:25.4±0.3, 35°94N×54°25E, h10km, ML3.7, Error ellipse: s-maj=8.7km s-min=6.3km az=156.0*

*TEH **06** 06:34:25.0, 35°86N×54°17E, h10km, ML3.7*

*THR **06** 06:34:25.3±0.8, 35°82N×54°26E, h16km±6km, ML3.5*

ISC 06 06:34:24.9±0.7**, 35°92N**±0°04×**54°15E**±0°03**, h10km, n42,** σ**2**^{s}**02**/44**, 3C-3D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IANJ	Anjilo	0.49	203⇑	ePg	Pb	06 34 35.5	-0.3
IANJ				eSg	Sb	06 34 42.7	-0.5
IANJ				eAMB	AMB	06 34 44.4	
	comp=Z,46μm,0.0s						
IANJ	Anjilo	0.49	203⇑	ePg	Pb	06 34 35.5	-0.3
IANJ				eSg	Sb	06 34 42.7	-0.5
IGLO	Ghaloghah	0.63	336⇓	ePg	Pb	06 34 39.3	+1.1
IGLO				eAMB	AMB	06 34 53.1	
	comp=Z,33μm,0.1s						
ISHM	Shahmirzad	0.71	261	ePg	Pn	06 34 40.8	-0.4
ISHM				eAMB	AMB	06 34 53.3	
	comp=Z,41μm,0.1s						
IALA	Alasht	1.10	279	ePn	Pn	06 34 47.9	+1.3
IALA				eAMB	AMB	06 35 06.1	
	comp=Z,24μm,0.1s						
IALA	Alasht	1.10	279	ePn	Pn	06 34 47.9	+1.3
ILAS	Lasjerd	1.11	241	ePn	Pn	06 34 48.0	+1.2
ILAS	Lasjerd	1.11	241	ePn	Pn	06 34 48.0	+1.2
IFIR	Firoozkooh	1.17	257	ePg	Pn	06 34 48.2	+0.6
IFIR				eAMB	AMB	06 35 09.1	
	comp=Z,27μm,0.1s						
IFIR	Firoozkooh	1.17	257	ePg	Pn	06 34 48.2	+0.6
IPRN	Peran	1.50	283	ePn	Pg	06 34 55.1	+1.3
IPRN				eAMB	AMB	06 35 19.9	
	comp=N,23μm,0.1s						
SHRO	Shahrood	1.51	87	ePg	Pn	06 34 51.9	-0.2
SHRO	Shahrood	1.51	87	ePg	Pn	06 34 51.9	-0.2
IMND	Minoodasht	1.67	37	ePn	Pb	06 34 57.2	+1.5
IMND				eAMB	AMB	06 35 22.7	
	comp=Z,3μm,0.3s						
IDMV	Damavand	1.76	259	ePn	Pg	06 34 58.8	+0.2
IDMV				eAMB	AMB	06 35 28.8	
	comp=Z,8μm,0.1s						
IDMV	Damavand	1.76	259	ePn	Pg	06 34 58.8	+0.2
IVRN	Varamin	2.19	246	eAMB	AMB	06 35 39.7	
	comp=Z,24μm,0.1s						
IVRN				ePn	Pb	06 35 04.1	-0.5
CHTH	Charan	2.46	271	ePn	Pb	06 35 08.7	-0.6
CHTH	Charan	2.46	271	ePn	Pb	06 35 08.7	-0.6
THKV	Tehran--Karaj	2.66	271	ePn	Pb	06 35 11.1	-1.6
THKV				eSg	Sg	06 35 51.3	+1.0
THKV				AML	AML	06 35 57.4	
	comp=N,218nm,0.5s						
IR5	Iran Long-Peri	3.00	257	eAMB	AMB	06 36 03.7	
	comp=Z,1μm,0.2s						
BJRD	Bojnurd	3.16	55	ePn	Pn	06 35 16.0	+1.3
BJRD	Bojnurd	3.16	55	ePn	Pn	06 35 16.1	+1.3
IGZV	Ghazvin	3.22	279	ePn	Pb	06 35 20.2	-2.1
IGZV				eAMB	AMB	06 36 18.6	
	comp=Z,817nm,0.2s						
NASN	Na'in	3.31	200	ePn	Pn	06 35 17.7	+0.7
NASN	Na'in	3.31	200	ePn	Pn	06 35 17.7	+0.7
NASN				AML	AML	06 36 16.6	
	comp=E,97nm,0.7s						
TABS	Tabas	3.33	132	ePn	Pn	06 35 17.4	+0.2
TABS	Tabas	3.33	132	ePn	Pn	06 35 17.4	+0.2
IKLH	Kolahrood	3.35	220	ePn	Pn	06 35 19.3	+1.7
IKLH	Kolahrood	3.35	220	ePn	Pn	06 35 19.3	+1.7
IRAZ	Razeghan	3.48	263	eAMB	AMB	06 36 27.0	
	comp=Z,1μm,0.3s						
ASAO	Ashtian	3.65	249	ePn	Pn	06 35 23.8	+2.2
GEYT	Alibeck	3.75	57	Pn	Pn	06 35 24.6	+1.7
	comp=Z,1.8nm,0.3s,baz=248,slow=16,SNR=9.8						
GEYT				Pg	Pg	06 35 35.7	-1.1
	comp=Z,2.1nm,0.3s,baz=250,slow=17,SNR=5.9						
GEYT				Sn	Sn	06 36 12.2	+5.0
	comp=Z,2.2nm,0.3s,baz=118,slow=32,SNR=4.1						
KBZ	Khabaz	11.64	315	Pn	Pn	06 37 05.4	-5.5
	comp=Z,0.4nm,0.3s,baz=135,slow=5.7,SNR=5.1						
KVAR	Kislovodsk Arr	11.89	316	LR	LR	06 44 06.9	
	comp=Z,33nm,18.2s,baz=192,slow=51						
AB31	Akbulak array	13.98	16	⇑Pn	Pn	06 37 42.5	-0.4
	comp=Z,1.0nm,0.7s,baz=206,slow=14,SNR=6.9						
AB31				Sn	Sn	06 40 11.6	-6.6
	comp=Z,0.5nm,0.5s,baz=191,slow=24,SNR=6.8						
AB31	Akbulak array	13.98	16	Pn	Pn	06 37 42.5	-0.4
	comp=Z,1.0nm,0.7s,baz=206,SNR=6.9						
AKTO	Aktyubinsk	14.77	10	Pn	Pn	06 37 49.4	-4.4
	comp=Z,0.2nm,0.3s,baz=248,slow=5.4,SNR=2.1						
AKTO	Aktyubinsk	14.77	10	⇓Pn	Pn	06 37 53.0	-0.8
	comp=Z,2.1nm,0.7s						
AKTO				⇓Sn	Sn	06 40 30.3	-7.1
	comp=Z,1.0nm,0.6s						
AKTO	Aktyubinsk	14.77	10	Pn	Pn	06 37 53.0	-0.8
	comp=Z,2.1nm,0.7s						
BVAR	Borovoye Array	20.57	29	P	P	06 39 04.6	+0.9
	comp=Z,0.9nm,0.8s,baz=216,slow=11,SNR=4.5						
MKAR	Makanchi Array	23.63	54	P	P	06 39 38.5	+2.5
	comp=Z,0.2nm,0.7s,baz=237,slow=7.9,SNR=2.9						

*ASRS **06** 06:49:42.9±0.6, 51°74N×96°02E, h15km, Ms4.1/3*

*IDC **06** 06:49:42.9±0.6, 51°58N×96°14E, h0km, mb3.9/14, mb1 4.0/19, mb1mx3.8/71, mbtmp3.9/19, ML3.1/6, MS3.4/14, Ms1 3.5/14, ms1mx3.2/69, Error ellipse: s-maj=17.6km s-min=10.5km az=177.0*

*MOS **06** 06:49:43.1±1.3, 51°56N×96°05E, h14km, mb4.3/18, Error ellipse: s-maj=8.4km s-min=7.0km az=10.2*

*ISCJB **06** 06:49:43.4±0.2, 51°65N±0°03×95°95E±0°03, h10km, mb4.1/29, MS3.6/14, Error ellipse: s-maj=4.7km s-min=2.8km az=5.9*

*BJI **06** 06:49:43.4, 51°74N×95°70E, h9km, mb4.3/22, mB4.6/18, ML4.7/2, Ms4.3/21, Ms7 4.1/21*

*NEIC **06** 06:49:44.8±0.3, 51°53N×95°98E, h10km, mb4.5/12, Error ellipse: s-maj=8.1km s-min=4.1km az=185.0*

ISC 06 06:49:46.2±0.3**, 51°76N**±0°04×**96°02E**±0°03**, h10km, n134,** σ**2**^{s}**47**/133**, mb4.1**/29**, MS3.6**/14**, 8C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZLR	Kyzyl	0.97	267	i Pg	Pg	06 50 00.6	-4.4
KZLR				eSg	Sg	06 50 13.8	-3.8
HVS	Khovu-Aksy	1.58	248⇓	iP	Pn	06 50 09.9	-4.4
HVS	Khovu-Aksy	1.58	248⇓	iP*	Pn	06 50 09.9	-4.4
ORL	Orlik	2.46	70⇑	iPN	Pn	06 50 26.1	-0.4
ORL				e		06 50 58.0	
ORL				pmax	pmax		
	comp=Z,731nm,0.6s						
ORL				smax	smax		
	comp=N,2μm,1.0s						
CERR	Cheremushki	3.03	293	ePn	Pn	06 50 33.8	-0.4
CERR				ePg	Pb	06 50 39.4	-0.8
CERR				eSg	Sb	06 51 17.7	+0.5
MOY	Mondy	3.10	90	eP	Pn	06 50 37.2	+2.0
MOY	Mondy	3.10	90	ePN	Pn	06 50 37.2	+2.0
ARS	Arshan	3.98	85	ePN	Pn	06 50 52.8	+5.6
ARS				e		06 51 44.6	
ARS				pmax	pmax		
	comp=Z,494nm,0.9s						
ARS				smax	smax		
	comp=E,5μm,0.9s						
LUZB	Luzhba, Kemero	4.73	297	ePN	Pn	06 50 57.0	-0.5
TLY	Talaya	4.74	88	Pn	Pn	06 50 58.7	+1.0
TLY	Talaya	4.74	88⇑	ePN	Pn	06 51 03.5	+5.8
TLY				pmax	pmax		
	comp=Z,34nm,0.7s						
ZAK	Zakamensk	4.78	104	ePN	Pn	06 51 05.8	+7.4
ZAK				e		06 52 09.3	
ZAK				pmax	pmax		
	comp=Z,158nm,0.9s						
ZAK				smax	smax		
	comp=E,1μm,1.1s						
TASR	Tashtagol	5.10	285	ePn	Pn	06 51 03.9	+1.3
TASR				ePg	Pb	06 51 16.3	+0.8
TASR				eSn	Sn	06 51 55.3	-6.3
TASR				eSg	Sb	06 52 21.5	+4.8
IRK	Irkutsk	5.12	81	ePN	Pb	06 51 11.8	-4.0
IRK				e		06 52 17.4	
IRK				pmax	pmax		
	comp=Z,217nm,0.5s						
IRK				smax	smax		
	comp=N,2μm,1.3s						
ARTR	Artybash	5.43	274	ePn	Pn	06 51 06.3	-0.8
ARTR				ePg	Pb	06 51 19.6	-1.4
ARTR				eSg	Sb	06 52 30.4	+4.3
AKAR	Aktash	5.49	258	ePn	Pn	06 51 07.3	-0.8
AKAR				ePg	Pb	06 51 22.3	+0.1
AKAR				eSg	Sb	06 52 32.4	+4.2
ELT	Eltsovka	6.16	288	ePN	Pn	06 51 19.2	+2.1
ELT	Eltsovka	6.16	288	ePn	Pn	06 51 17.6	+0.4
ELT				ePg	Pb	06 51 32.8	-0.7
ELT				eSg	Sb	06 52 55.8	+8.7
TRG	Tyrgan	6.42	77	ePN	Pn	06 51 19.1	-1.7
TRG				e		06 51 37.4	
ZAA0	Zalesovo Array	7.13	292	ePn	Pn	06 51 31.8	+1.3
ZALV	Zalesovo Beam	7.13	292	Pn	Pn	06 51 30.8	+0.4
	comp=N,1.0nm,0.3s,baz=97,slow=12,SNR=23						
ZALV				Sn	Sn	06 52 51.9	+0.5
	comp=N,2.3nm,0.3s,baz=111,slow=16,SNR=5.2						
ZALV				Lg	Lg	06 53 21.5	
	comp=N,3.2nm,0.3s,baz=105,slow=22,SNR=6.0						
ZALV				LR	LR	06 54 15.8	
	comp=N,148nm,19.2s,baz=205,slow=38						
ZALV	Zalesovo Beam	7.13	292	ePn	Pn	06 51 31.5	+1.1
ZALV				Sn	Sn	06 52 51.9	+0.5
ZALV				Lg	Lg	06 53 21.5	
ZALV	Zalesovo Beam	7.13	292	i P	Pn	06 51 31.6	+1.1
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZAA1	Zalesovo Array	7.13	292	ePn	Pn	06 51 30.8	+0.4
ZAA1				eSn	Sn	06 52 51.9	+0.5
ZAA1				eLg	Lg	06 53 21.5	
ZAA1				e		06 54 15.8	
OGRR	Ongureny	7.28	70	eP	Pn	06 51 27.2	-5.4
OGRR				pmax	pmax		
	comp=Z,62nm,1.2s						
SONA1	Songino Array	7.78	116	ePn	Pn	06 51 41.3	+1.8
SONA0	Songino Array	7.78	116	ePn	Pn	06 51 34.9	-4.6
SONA0				ePg	Pb	06 51 59.5	-1.7
SONA0				eLg	Lg	06 53 42.7	
SONA0				e		06 54 36.6	
SONM	Songino Array	7.78	116	Pn	Pn	06 51 34.9	-4.6
	comp=Z,0.2nm,0.3s,baz=304,slow=15,SNR=2.8						
SONM				Pg	Pb	06 51 59.5	-1.7
	comp=Z,2.3nm,0.3s,baz=304,slow=13,SNR=81						
SONM				Lg	Lg	06 53 42.7	
	comp=Z,4.9nm,0.3s,baz=299,slow=25,SNR=14						
SONM				LR	LR	06 54 36.6	
	comp=Z,292nm,18.0s,baz=82,slow=38						
ULN	Ulaanbaatar	8.13	114	ePn	Pn	06 51 45.2	+0.8
ULN	Ulaanbaatar	8.13	114	ceP	Pn	06 51 45.5	+1.1
ULN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
NVS	Novosibirsk	8.26	297	eP	Pn	06 51 47.3	+1.4
NVS				eS	Sn	06 53 15.1	-4.0
NVS	Novosibirsk	8.26	297	ePn	Pn	06 51 46.7	+0.8
NVS				ePg	Pb	06 52 14.5	+5.4
NVS				eSg	Sb	06 53 56.8	+9.5
NIZ	Nizh Angarsk	8.96	58	eP	Pn	06 51 55.4	-0.1
YLYR	Ulyunkhan	9.58	65	eP	Pn	06 52 03.7	-0.4
YLYR				pmax	pmax		
	comp=Z,41nm,1.6s						
WMQ	Urumqi	9.71	218	P	Pn	06 52 06.3	+0.3
WMQ				sP		06 52 13.3	
WMQ				S	Sn	06 53 54.0	-1.1
WMQ				pmax	pmax		
	comp=Z,17nm,1.3s						
WMQ				smax	smax		
	comp=Z,240nm,1.3s						
WMQ				smax	smax		
	comp=Z,290nm,1.1s						
WMQ				LR	LR		
	comp=Z,2μm,10.1s						
WMQ				LR	LR		
	comp=Z,1μm,11.1s						
WMQ				LR	LR		
	comp=Z,2μm,10.7s						
MK31	Makanchi Array	10.25	246	ePn	Pn	06 52 10.8	-2.4
MK31	Makanchi Array	10.25	246	eP	Pn	06 52 10.9	-2.4
MK32	Makanchi Array	10.25	246	ePn	Pn	06 52 10.9	-2.4
MK32				e		06 52 50.0	
MK32				eLg	Lg	06 55 00.0	
MK32				e		06 55 20.1	
MKAR	Makanchi Array	10.25	246	Pn	Pn	06 52 10.9	-2.4
	comp=Z,0.3nm,0.3s,baz=74,slow=12,SNR=36						
MKAR				Pg		06 52 50.0	
	comp=Z,0.8nm,0.3s,baz=70,slow=14,SNR=7.0						
MKAR				Lg	Lg	06 55 00.0	
	comp=Z,0.4nm,0.3s,baz=60,slow=20,SNR=2.7						
MKAR				LR	LR	06 55 20.1	
	comp=Z,64nm,21.1s,baz=43,slow=33						
MKAR	Makanchi Array	10.25	246	ceP	Pn	06 52 10.8	-2.5
MKAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MK01	Makanchi Array	10.26	246	ePn	Pn	06 52 10.9	-2.5
MAKZ	Makanchi	10.42	247	ePn	Pn	06 52 13.2	-2.5
MAKZ	Makanchi	10.42	247	eP	Pn	06 52 13.2	-2.4
KURK	Kurchatov	10.96	271	ePn	Pn	06 52 22.0	-0.9
KURK				eSn	Sn	06 54 27.8	+2.3
KURK	Kurchatov	10.96	271	ceP	Pn	06 52 22.5	-0.4
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURBB	Kurchatov Arra	11.04	271	Pn	Pn	06 52 23.5	-0.5
	comp=Z,0.1nm,0.3s,baz=75,slow=15,SNR=11						
KURBB				Sn	Sn	06 54 27.8	+0.5
	comp=Z,0.1nm,0.3s,baz=73,slow=15,SNR=4.2						
BOD	Bodaibo	12.00	53	eP	Pn	06 52 34.0	-3.1
BOD				pmax	pmax		
	comp=Z,26nm,1.5s						
GTA	Gaotai	12.63	166	P	Pn	06 52 46.8	+0.8
GTA				pP		06 52 50.2	
GTA				sP		06 52 53.4	
GTA				S	Sn	06 55 05.6	-1.1
GTA				sS		06 55 11.2	
GTA				SS	SnSn	06 55 21.8	+3.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,150nm,6.3s						
GTA				LR	LR		
	comp=Z,660nm,10.1s						
GTA				LR	LR		
	comp=Z,2μm,6.9s						
GTA				LR	LR		
	comp=Z,830nm,10.0s						
HHC	Hu-ho-hao-te	15.28	130	eP	Pn	06 53 23.3	+1.4
HHC				pP	P	06 53 27.3	+0.5
HHC				sP	pP	06 53 30.2	+0.6
HHC				S	Sn	06 56 16.4	+5.3
HHC				SS	S	06 56 35.3	+7.4
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,4.1s						
HHC				LR	LR		
	comp=Z,520nm,6.0s						
HHC				LR	LR		
	comp=Z,530nm,6.5s						
HHC				LR	LR		
	comp=Z,420nm,8.6s						
BVAR	Borovoye Array	15.67	285	Pn	Pn	06 53 24.8	-2.1
	comp=Z,0.2nm,0.3s,baz=64,slow=15,SNR=5.4						
BRVK	Borovoye	15.73	285	ePn	Pn	06 53 27.4	-0.4
	comp=Z,7.5nm,1.0s						
BRVK	Borovoye	15.73	285	ceP	Pn	06 53 27.9	+0.2
BRVK				pmax	pmax		
	comp=Z,23nm,1.2s						
KDJ	Kajisay	16.03	240	P	Pn	06 53 29.0	-2.8
KDJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LZH	Lanzhou	16.64	157	eP	Pn	06 53 37.6	-1.9
LZH				pP	sP	06 53 49.4	+3.3
LZH				pmax	pmax		
	comp=Z,46nm,1.2s						
LZH				pmax	pmax		
	comp=Z,180nm,4.1s						
LZH				LR	LR		
	comp=Z,970nm,8.0s						
LZH				LR	LR		
	comp=Z,520nm,5.4s						
LZH				LR	LR		
	comp=Z,1μm,9.9s						
FRU	Bishkek	16.99	247	eP	Pn	06 53 42.0	-1.9
FRU				MLR	MLR		
	comp=Z,1μm,8.0s						
AAK	Ala-Archa	17.19	246	P	Pn	06 53 42.7	-3.8
	comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=4.7						
AAK				Lg	Lg	06 58 43.8	
	comp=Z,0.1nm,0.3s,baz=36,slow=19,SNR=3.3						
AAK				LR	LR	07 00 35.7	
	comp=Z,309nm,20.9s,baz=44,slow=38						
AAK	Ala-Archa	17.19	246	ePn	Pn	06 53 43.0	-3.4
AAK				e		06 58 43.8	
AAK	Ala-Archa	17.19	246⇑	eP	Pn	06 53 42.2	-4.2
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CLNS	Chul'man	17.52	62	eP	Pn	06 53 49.8	-0.6
CLNS				eS	Sn	06 57 10.9	+5.6
CLNS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,11nm,1.1s						
CLNS				pmax	pmax		
	comp=N,5.0nm,1.3s						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CLNS				smax	smax		
	comp=E,3.0nm,0.9s						
CLNS				smax	smax		
	comp=N,6.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,190nm,12.0s						
CLNS				MLR	MLR		
	comp=Z,678nm,13.0s						
CLNS				MLR	MLR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,516nm,12.0s						
BJT	Baijiatuau	18.22	122	ePn	Pn	06 53 56.4	-2.7
	comp=E,41nm,1.8s						
BJT	Baijiatuau	18.22	122	eP	Pn	06 53 56.4	-2.7
BJT				pmax	pmax		
	comp=Z,41nm,1.8s						
KSH	Kashi	18.54	237	P	Pn	06 54 06.1	+3.0
KSH				sP	sP	06 54 12.5	+5.5
KSH				PP	PnPn	06 54 21.8	+7.2
KSH				S	Sn	06 57 30.1	-0.1
KSH				SS	SnSn	06 57 54.1	+10
KSH				pmax	pmax		
	comp=Z,13nm,1.7s						
KSH				pmax	pmax		
	comp=Z,130nm,8.0s						
KSH				LR	LR		
	comp=Z,150nm,11.3s						
KSH				LR	LR		
	comp=Z,200nm,9.3s						
KSH				LR	LR		
	comp=Z,330nm,9.2s						
KKAR	Karatay Array	19.23	253	eP	P	06 54 07.7	-2.7
KKAR	Karatay Array	19.23	253	eP	P	06 54 07.7	-2.7
YAK	Yakutsk	20.81	47	eP	P	06 54 28.0	+0.6
	comp=Z,25nm,0.5s						
YAK	Yakutsk	20.81	47	eP	P	06 54 25.8	-1.6
YAK				e*PP	Pn	06 54 28.2	-1.6
YAK				e		06 54 46.3	
YAK				ePPP	PPP	06 54 56.2	
YAK				eS	S	06 58 18.1	-1.1
YAK				eSSS	SSS	06 58 58.5	
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,16nm,1.0s						
YAK				smax	smax		
	comp=E,64nm,3.1s						
YAK				smax	smax		
	comp=N,231nm,5.9s						
YAK				MLR	MLR		
	comp=E,150nm,16.0s						
YAK				MLR	MLR		
	comp=N,236nm,21.0s						
YAK				MLR	MLR		
	comp=Z,290nm,16.0s						
SVE	Sverdlovsk	21.10	298	eP	P	06 54 29.5	-1.0
CN2	Changchun	21.21	100	eP	P	06 54 36.4	+4.6
CD2	Chengdu	21.60	162	eP	P	06 54 36.0	-0.2
CD2				pP	pP	06 54 40.8	+1.7
CD2				sP	sP	06 54 43.2	+2.9
CD2				S	S	06 58 34.5	-0.9
CD2				sS	sS	06 58 42.6	+2.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,680nm,10.0s						
CD2				LR	LR		
	comp=Z,1μm,12.9s						
CD2				LR	LR		
	comp=Z,630nm,10.9s						
ARU	Arti	22.26	297	eP	P	06 54 42.6	-0.4
	comp=Z,9.9nm,0.8s						
ARU	Arti	22.26	297⇑	eP	P	06 54 44.4	+1.4
ARU				pmax	pmax		
	comp=Z,20nm,1.3s						
KLR	Kul'dur	22.73	82	P	P	06 54 46.0	-2.1
	comp=Z,0.2nm,1.0s,baz=311,slow=9.3,SNR=3.5						
KLR				Lg	Lg	07 01 33.1	
	comp=Z,0.3nm,1.0s,baz=294,slow=20,SNR=2.8						
KLR				LR	LR	07 04 00.5	
	comp=Z,18nm,18.4s,baz=286,slow=38						
ABKAR	Akbulak array	22.93	278	eP	P	06 54 48.9	-1.4
	comp=Z,25nm,1.0s						
AKTO	Aktyubinsk	23.73	282	P	P	06 54 56.7	-1.5
	comp=Z,3.6nm,0.6s,baz=86,slow=9.4,SNR=12						
TIXI	Tiksi	24.71	24	P	P	06 55 06.1	-0.9
	comp=Z,19nm,0.8s,baz=247,slow=5.3,SNR=37						
TIXI				Lg	Lg	07 02 33.9	
	comp=Z,1.0nm,0.3s,baz=146,slow=22,SNR=6.7						
TIXI	Tiksi	24.71	24	eP	P	06 55 06.8	-0.2
TIXI	Tiksi	24.71	24	eP	P	06 55 06.8	-0.2
INCN	Inchon	25.82	112	eP	P	06 55 16.5	-0.9
	comp=Z,193nm,1.8s						
KBL	Kabul	25.92	239	eP	P	06 55 16.2	-2.5
	comp=Z,15nm,1.6s						
KBL	Kabul	25.92	239	eP	P	06 55 16.2	-2.5
KBL				pmax	pmax		
	comp=Z,15nm,1.6s						
KS15	Wonju Array Si	26.57	110	eP	P	06 55 21.5	-2.7
KSAR	Wonju Array Be	26.57	110	P	P	06 55 22.0	-2.2
KSAR	Wonju Array Be	26.57	110	P	P	06 55 22.0	-2.2
KSRS	Korea Array	26.58	110	P	P	06 55 22.0	-2.3
	comp=Z,0.9nm,0.6s,baz=303,slow=9.8,SNR=3.6						
KSRS				LR	LR	07 04 52.1	
	comp=Z,60nm,18.1s,baz=318,slow=34						
KSRS	Korea Array	26.58	110	P	P	06 55 22.0	-2.3
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,61nm,18.1s						
GEYT	Alibeck	29.85	257	LR	LR	07 08 42.1	
	comp=Z,135nm,20.4s,baz=100,slow=38						
MA2	Magadan	31.03	54	LR	LR	07 08 39.7	
	comp=Z,68nm,18.2s,baz=281,slow=37						
JNU	Nakatsue	31.35	113	LR	LR	07 09 48.9	
	comp=Z,89nm,18.3s,baz=118,slow=39						
KLMR	Klimovskoe	31.68	309	eP	P	06 56 06.7	-2.6
KLMR				pmax	pmax		
	comp=Z,11nm,1.4s						
KLMR	Klimovskoe	31.68	309	eP	P	06 56 06.7	-2.6
KLMR				AMP		06 56 10.3	
	comp=Z,11nm,1.4s						
CMAR	Chiang Mai Arr	33.31	175	LR	LR	07 10 43.8	
	comp=Z,55nm,18.9s,baz=305,slow=38						
VSR	Storozhevoye	34.63	292	eP	P	06 56 32.5	-2.8
VSR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
OBN	Obninsk	34.64	299	eP	P	06 56 35.4	+0.1
OBN				e		06 57 52.6	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,109nm,14.0s						
BILL	Bilibino	36.40	37	i P	P	06 56 52.5	+2.2
BILL				i		06 58 15.8	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,117nm,16.0s						
PETK	Petropavlovsk-	36.60	63	LR	LR	07 11 35.6	
	comp=Z,105nm,20.1s,baz=299,slow=36						
SPITS	Spitsbergen Ar	37.85	341	LR	LR	07 15 39.6	
	comp=Z,114nm,19.2s,baz=155,slow=41						
FIA0	FINESS Array S	37.87	313	eP	P	06 57 02.0	-0.7
FIA0	FINESS Array S	37.87	313	eP	P	06 57 02.0	-0.7
FINES	FINESS Array B	37.87	313	P	P	06 57 02.0	-0.7
	comp=Z,1.4nm,0.6s,baz=87,slow=9.7,SNR=7.2						
FINES	FINESS Array B	37.87	313	i P	P	06 57 04.0	+1.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	40.51	296	P	P	06 57 24.1	-0.8
	comp=Z,0.8nm,0.4s,baz=57,slow=8.8,SNR=4.6						
AKASG	Malin Array Be	40.51	296	i P	P	06 57 32.6	+7.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	Malin Array Si	40.51	296	eP	P	06 57 23.4	-1.5
	comp=Z,15nm,1.8s						
AKBB	Malin Array Si	40.51	296	eP	P	06 57 23.4	-1.5
AKBB				pmax	pmax		
	comp=Z,15nm,1.8s						
BR101	Keskin Array S	43.87	280	eP	P	06 57 52.0	-0.8
BRTR	Keskin Array B	43.87	280	P	P	06 57 52.0	-0.7
	comp=Z,1.6nm,0.9s,baz=80,slow=8.5,SNR=5.8						
BRTR	Keskin Array B	43.87	280	P	P	06 57 52.0	-0.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HFS	Hagfors	43.97	314	P	P	06 57 52.4	-0.6
	comp=Z,2.6nm,0.6s,baz=141,slow=7.3,SNR=6.3						
BR231	Keskin MP Arra	44.33	280	eP	P	06 57 53.0	-3.3
BUR08	Bucovina Ar. S	44.34	294	eP	P	06 57 55.2	-1.1
BUR04	Bucovina Ar. S	44.34	294	eP	P	06 57 55.5	-0.8
NB2	NORSAR Subarra	44.62	316	P	P	06 57 57.7	-0.6
	comp=Z,1.0nm,0.6s,baz=80,slow=7.9						
NB200	NORSAR Array S	44.62	316	eP	P	06 57 58.7	+0.4
NOA	NORSAR Array B	44.62	316	P	P	06 57 58.7	+0.4
	comp=Z,1.4nm,0.5s,baz=62,slow=7.9,SNR=6.9						
RAYN	Ar Rayn	47.65	253	eP	P	06 58 20.4	-2.2
	comp=Z,4.9nm,0.9s						
RAYN	Ar Rayn	47.65	253	P	P	06 58 20.9	-1.7
RAYN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PSI	Prapat	48.85	176	LR	LR	07 18 16.1	
	comp=Z,83nm,19.2s,baz=314,slow=35						
CLL	Collm	48.91	304	eP	P	06 58 32.0	+0.1
CLL				i sP	pP	06 58 36.8	+1.7
CLL	Collm	48.91	304	eP	P	06 58 32.0	+0.1
DAV	Davao City (W)	50.78	141	LR	LR	07 20 42.3	
	comp=Z,79nm,19.6s,baz=326,slow=37						
COLD	Coldfoot	51.39	27	eP	P	06 58 51.0	+0.4
	comp=Z,2.2nm,0.9s						
ILAR	Eielson Array	54.09	28	P	P	06 59 10.9	+0.4
	comp=Z,0.8nm,0.9s,baz=315,slow=5.5,SNR=7.4						
ILB	Eielson Array	54.09	28	eP	P	06 59 10.9	+0.4
YKA	Yellowknife Ar	63.54	15	P	P	07 00 13.9	-2.3
	comp=Z,0.2nm,0.6s,baz=342,slow=6.6,SNR=3.3						
YKB5	Yellowknife Ar	63.54	15	eP	P	07 00 19.8	+3.6
ESDC	Sonseca Array	65.48	303	P	P	07 00 28.4	-0.9
	comp=Z,0.2nm,0.3s,baz=45,slow=6.5,SNR=3.7						
WRAB	Tennant Creek	78.86	144	eP	P	07 01 47.7	-1.7
	comp=Z,12nm,0.6s						
WRAB				eS	S	07 11 42.4	-5.0
WRAB	Tennant Creek	78.86	144	eP	P	07 01 47.7	-1.7
WRAB				eS	S	07 11 42.4	-5.0
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s						
WR1	Warramunga Arr	78.87	144	eP	P	07 01 47.0	-2.4
	comp=Z,26nm,1.8s						
WRA	Warramunga Arr	78.87	144	P	P	07 01 47.0	-2.4
	comp=Z,1.0nm,0.9s,baz=349,slow=6.8,SNR=4.7						
WRA	Warramunga Arr	78.87	144	i P	P	07 01 48.5	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	Alice Springs	82.12	145	P	P	07 02 04.1	-2.7
	comp=Z,0.9nm,1.0s,baz=348,slow=6.5,SNR=5.7						
TOA1	Torodi Ar. Sit	82.45	282	eP	P	07 02 07.8	-1.0
TORD	Torodi Ar. Bea	82.45	282	P	P	07 02 07.8	-1.0
	comp=Z,0.7nm,0.6s,baz=31,slow=4.3,SNR=6.5						

MAN 06 06:59:24, 12°.31N×123°.71E, h13km, mb4.2, ML3.1, MS2.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.10	300⇑	iP	Pg	06 59 28.0	+1.1
MMPH				i S	Sg	06 59 29.9	+0.9
CNP	Catarman	0.95	78	eP	Pb	06 59 42.3	-0.1
CNP				eS	Sn	06 59 56.6	+0.1
RCP	Roxas	1.20	232⇓	eP	Pn	06 59 45.9	-0.7
RCP				eS	Sg	07 00 03.4	+0.5
AUQP	San Andres	1.43	315	eP	Pn	06 59 49.9	+0.3
AUQP				eS	Sb	07 00 09.0	+0.4

TAP 06 06:59:50.1, 24°.89N×122°.24E, h116km, ML3.6, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.26	298	P	Pn	07 00 06.5	+0.2
	baz=298						
TWB1				S	Sn	07 00 18.6	0.0
	baz=298						
NTC	Toucheng	0.37	265	eP	Pn	07 00 06.9	+0.1
	baz=264						
NTC				eS	Sn	07 00 19.4	0.0
	baz=264						
TIPB	Shuangxi	0.38	282	eP	Pn	07 00 06.2	-0.7
	baz=282						
TIPB				eS	Sn	07 00 19.4	-0.2
	baz=282						
TWC	Suao	0.45	232	P	Pn	07 00 07.1	-0.1
	baz=231						
TWC				S	Sn	07 00 19.3	-0.8
	baz=231						
NWF	Wu-fen Shan	0.45	294	eP	Pn	07 00 07.3	-0.1
	baz=293						
NWF				S	Sn	07 00 20.4	0.0
	baz=293						
ENAH	Nanao	0.59	222	P	Pn	07 00 08.6	+0.5
	baz=221						
ENAH				eS	Sn	07 00 22.3	+0.6
	baz=221						
ENA	Nanau	0.65	225	P	Pn	07 00 08.9	+0.4
	baz=224						
ENA				S	Sn	07 00 22.4	-0.1
	baz=224						
ENTT	Nioudou	0.66	248	eP	Pn	07 00 08.8	+0.1
	baz=247						
ENTT				eS	Sn	07 00 22.5	-0.2
	baz=247						
YM10	YM10	0.67	293	P	Pn	07 00 08.7	-0.1
	baz=293						
YM10				eS	Sn	07 00 22.9	-0.1
	baz=293						
NWLT	Wulai	0.68	261	P	Pn	07 00 08.7	-0.2
	baz=260						
NWLT				S	Sn	07 00 22.8	-0.3
	baz=260						
TWY	Chenhua	0.70	304	eP	Pn	07 00 09.1	+0.1
	baz=303						
TWY				eS	Sn	07 00 23.3	+0.1
	baz=303						
TWS1	Kuangyinshan	0.78	286	P	Pn	07 00 10.1	+0.5
	baz=285						
TWS1				eS	Sn	07 00 24.4	+0.1
	baz=285						
WLTB	Daxi	0.90	268	eP	Pn	07 00 10.1	-0.6
	baz=267						
WLTB				eS	Sn	07 00 27.1	+0.8
	baz=267						
NNSH	Datong	0.90	240	P	Pn	07 00 11.2	+0.2
	baz=239						
NNSH				S	Sn	07 00 25.9	-0.7
	baz=239						
NNS	Nan Shan	0.91	241	P	Pn	07 00 11.4	+0.4
	baz=240						
NNS				S	Sn	07 00 26.8	+0.1
	baz=240						
NCU	National Centr	0.96	275	eP	Pn	07 00 11.6	+0.3
	baz=274						
NCU				eS	Sn	07 00 28.0	+0.7
	baz=274						
NCUH	Zhongli	0.96	275	eP	Pn	07 00 11.3	-0.1
	baz=274						
NCUH				eS	Sn	07 00 27.2	-0.2
	baz=274						
TWD	Chiawan	1.00	216	S	Sn	07 00 27.1	-0.9
	baz=215						
HWA	Hwalien	1.08	213	eP	Pn	07 00 12.4	-0.1
	baz=212						
HWA				eS	Sn	07 00 29.1	-0.3
	baz=212						
LIOB	Emei	1.14	258	eP	Pn	07 00 13.2	0.0
	baz=257						
LIOB				eS	Sn	07 00 30.1	-0.5
	baz=257						
ENLB	Shoufeng	1.14	211	eP	Pn	07 00 13.7	+0.5
	baz=210						
ENLB				eS	Sn	07 00 30.9	+0.3
	baz=210						
NSTT	Nanjuang	1.15	257	P	Pn	07 00 13.0	-0.3
	baz=257						
NSTT				S	Sn	07 00 29.8	-1.2
	baz=257						
WHF	Hehuan Shan	1.16	230	P	Pn	07 00 13.8	0.0
	baz=229						
WHF				S	Sn	07 00 31.4	-0.4
	baz=229						
TWT	Tachien	1.16	237	S	Sn	07 00 31.8	+0.5
	baz=237						
SANB	Taian	1.24	247	S	Sn	07 00 32.4	-0.5
	baz=246						
ESL	Shilin	1.30	215	eP	Pn	07 00 15.0	0.0
	baz=214						
ESL				eS	Sn	07 00 33.9	+0.1
	baz=214						
OWD	Renai	1.34	226	eP	Pn	07 00 15.6	0.0
	baz=226						
OWD				S	Sn	07 00 34.1	-0.8
	baz=226						
NMLH	Miaoli	1.36	255	eP	Pn	07 00 15.6	0.0
	baz=255						
NMLH				eS	Sn	07 00 34.3	-0.7
	baz=255						
EGFH	Guangfu	1.42	212	eP	Pn	07 00 16.7	+0.4
	baz=211						
EGFH				eS	Sn	07 00 35.4	-0.9
	baz=211						
NSY	Sanyi	1.43	251	P	Pn	07 00 17.1	+0.8
	baz=250						
NSY				S	Sn	07 00 36.4	0.0
	baz=250						
TWQ1	Liyutan	1.44	248	eP	Pn	07 00 16.7	+0.2
	baz=247						
TWQ1				eS	Sn	07 00 36.0	-0.6
	baz=247						
PTSB	Yuanli	1.46	253	eP	Pn	07 00 17.3	+0.5
	baz=252						
PTSB				eS	Sn	07 00 37.2	0.0
	baz=252						
DPDB	Guoxing	1.47	235	eP	Pn	07 00 17.5	+0.6
	baz=234						
DPDB				eS	Sn	07 00 37.9	+0.5
	baz=234						
SMLT	Sun Moon Lake	1.58	231	eP	Pn	07 00 18.6	+0.3
	baz=230						
SMLT				S	Sn	07 00 40.1	+0.4
	baz=230						
TYC	Yuchr	1.60	232	P	Pn	07 00 18.6	+0.2
	baz=231						
TYC				S	Sn	07 00 40.0	+0.1
	baz=231						
TCU	Taichung	1.60	243	eS	Sn	07 00 39.4	-0.7
	baz=242						
WNT	Mingjian	1.74	235	S	Sn	07 00 43.1	+0.1
	baz=234						
WJS	Zhushan	1.74	233	eS	Sn	07 00 43.4	+0.4
	baz=232						
TWF1	Yuli	1.75	210	eP	Pn	07 00 19.5	-0.9
	baz=209						
TWF1				eS	Sn	07 00 41.2	-2.2
	baz=209						
YUS	Yu-Shan	1.82	220	eP	Pn	07 00 22.5	+0.8
	baz=220						
YUS				eS	Sn	07 00 45.2	-0.4
	baz=220						
FULB	Fuli	1.89	207	eP	Pn	07 00 21.7	-0.3
	baz=207						
FULB				eS	Sn	07 00 46.2	-0.1
	baz=207						
ALS	Alishan	1.90	224	eP	Pn	07 00 23.1	+0.8
	baz=223						
ALS				eS	Sn	07 00 47.1	+0.2
	baz=223						
CHN5	Tsauling	1.92	228	eP	Pn	07 00 22.6	+0.2
	baz=227						
CHN5				eS	Sn	07 00 47.1	0.0
	baz=227						
CHKT	Chengkung	1.95	204	eP	Pn	07 00 23.3	+0.5
	baz=203						
CHKT				eS	Sn	07 00 47.7	0.0
	baz=203						
ELDTW	Lidau	2.03	214	eP	Pn	07 00 24.1	+0.3
	baz=213						
ELDTW				eS	Sn	07 00 49.0	-0.5
	baz=213						
CHN4	Tsaushan	2.15	225	eP	Pn	07 00 25.8	+0.6
	baz=224						
CHN4				eS	Sn	07 00 52.0	-0.1
	baz=224						
CHN1	Nanshi	2.31	223	eP	Pn	07 00 28.7	+1.5
	baz=222						
CHN1				eS	Sn	07 00 55.4	-0.4
	baz=222						
SLGT	Liugui	2.38	218	eS	Sn	07 00 56.8	-0.7
	baz=217						

JMA 06 07:05:19.5±0.1, 36°.24N×140°.11E, h54km±1km, M3.7, 1C-4D Broadband fault plane solution: P waves. NP1: φs35.00000°, δ71.00000°, λ91.00000°. **NP2:** φs212.00000°, δ19.00000°, λ88.00000°. **Principal axes:** T Plg64.0000°, Azm306.0000°; N Plg1.0000°, Azm214.0000°; P Plg26.0000°, Azm124.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.07	100	⇑P	Pn	07 05 27.9	+0.2
JYT				S	Sn	07 05 33.6	0.0
JAG	Ashikaga	0.56	289	⇓P	Pn	07 05 31.8	+0.1
JAG				S	Sn	07 05 40.3	-0.3
JKT	Katashina	0.87	307	⇓P	Pn	07 05 35.6	-0.1
JKT				S	Sn	07 05 47.7	+0.1
JRY	Ryogami san	1.00	258	⇓P	Pn	07 05 37.5	+0.1
JRY				S	Sn	07 05 50.6	0.0
JFY	Yanaizu	1.21	345	⇓P	Pn	07 05 40.5	+0.3
JFK	Kawauchi	1.28	28	P	Pn	07 05 40.9	-0.2
JFK				S	Sn	07 05 56.8	-0.5
MAT	Matsushiro	1.56	282	P	Pn	07 05 45.7	+0.7
MAT				S	Sn	07 05 59.6	-4.6

*IDC **06** 07:13:22.7±0.9, 43°.99N×129°.28W, h0km, mb4.1/15, mb1 4.2/19, mb1mx4.0/68, mbtmp4.0/19, ML3.2/5, MS3.6/23, Ms1 3.6/23, ms1mx3.4/57 Error ellipse: s-maj=25.6km s-min=11.8km az=36.0*

*ISCJB **06** 07:13:24.8±0.2, 44°.16N±0°.03×129°.28W±0°.03, h13km, mb4.4/44, MS3.4/17, Error ellipse: s-maj=4.4km s-min=2.5km az=42.3*

*NEIC **06** 07:13:25.9±0.3, 44°.13N×129°.40W, h10km, mb4.4/60, Error ellipse: s-maj=6.1km s-min=3.0km az=220.0*

ISC 06 07:13:26.0±0.5, **44°.15N**±0°.05×**129°.22W**±0°.05, **h13km, n288, σ1s.82**/265, **mb4.5**/44, **MS3.5**/17, **Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.78	108	ePn	Pn	07 14 20.8	-3.2
KEBM				eSn	Sn	07 15 06.8	-1.5
COR	Corvallis	4.27	82	ePn	Pn	07 14 30.0	-0.7
G03D	McMinnville, O	4.38	74	P	Pn	07 14 27.2	-5.0
	baz=258						
F03A	Seaside	4.39	64	ePn	Pn	07 14 31.9	-0.5
F03A				eSn	Sn	07 15 27.6	+4.2
E03A	Lebam	4.66	57	ePn	Pn	07 14 35.4	-0.6
E03A				eSn	Sn	07 15 30.7	+0.9
HUMO	Hull Mountain	4.82	106	ePn	Pn	07 14 36.7	-1.6
HUMO				eSn	Sn	07 15 31.9	-2.1
I04A	Tendick Farm,	4.93	92	P	Pn	07 14 39.6	-0.2
	baz=276						
NLWA	Neilton Lookou	4.96	47	ePn	Pn	07 14 39.5	-0.7
H04A	Detroit Lake	5.07	81	ePn	Pn	07 14 42.4	+0.6
J04D	Umpqua Nationa	5.24	98	P	Pn	07 14 43.1	-1.1
	baz=282						
YBH	Yreka Blue Hor	5.36	115	Pn	Pn	07 14 44.0	-1.7
	0.1nm,0.3s,baz=37,slow=20,SNR=3.4						
YBH				Sn	Sn	07 15 44.7	-2.6
	0.2nm,0.3s,baz=124,slow=14,SNR=3.3						
YBH				LR	LR	07 16 41.7	
	comp=Z,977nm,18.2s,baz=318,slow=37						
I05D	Terrebonne, OR	5.67	85	P	Pn	07 14 49.8	-0.2
	baz=271						
KMRM	Mail Ridge	5.67	132	ePn	Pn	07 14 49.2	-0.8
G05D	Wamic, OR	5.74	76	P	Pn	07 14 51.2	+0.2
	baz=262						
LON	Longmire	5.83	61	ePn	Pn	07 14 52.7	+0.5
J05D	Fort Rock, OR	5.85	96	P	Pn	07 14 53.8	+1.2
	baz=281						
D05A	Enumclaw	5.91	57	ePn	Pn	07 14 53.4	+0.1
SP2	Seward Park 2	5.95	53	eSn	Sn	07 15 48.6	-13
PINE	Pine Mountain	5.99	91	ePn	Pn	07 14 54.1	-0.4
SCCW	Shoreline CC	5.99	51	eSn	Sb	07 16 15.1	-6.6
SCCW				eSg	Sg	07 16 37.8	-0.4
PGC	Sidney	6.02	40	ePn	Pn	07 14 54.5	-0.2
G06A	Carlson Farm,	6.22	77	ePn	Pn	07 14 57.7	+0.1
B05A	Bryant	6.43	48	P	Pn	07 15 00.4	0.0
	baz=233						
O03D	Paynes Creek	6.72	122	P	Pn	07 15 05.2	+0.8
	baz=307						
LTY	Liberty	6.75	60	ePn	Pn	07 15 06.2	+1.3
B06A	Marblemount	6.91	48	ePn	Pn	07 15 07.9	+1.0
C06D	Leavenworth	6.92	54	P	Pn	07 15 08.6	+1.5

baz=240
G08A Pilot Rock 7.40 78 *e*Pn **Pn 07 15 13.4 -0.4**
J08A Circle Bar Ran 7.82 92 *e*Pn **Pn 07 15 22.3 +2.7**
BEKR Beckworth 7.86 120 *e*Pg **Pg 07 15 58.4 +1.9**
WVOR Wild Horse Val 7.91 99 *e*Pn **Pn 07 15 23.9 +3.0**
BBB Bella Bella 8.08 5 Pn **Pn 07 15 24.9 +2.0**
0.3nm,0.3s,baz=204,slow=10.0,SNR=2.4
BBB LR LR 07 17 58.9
comp=Z,165nm,20.9s,baz=162,slow=34
E09A Wood Farm, Sta 8.16 69 *e*Pn **Pn 07 15 27.4 +3.4**
LLLB Lillooet 8.16 35 *e*Pn **Pn 07 15 26.5 +2.4**
C09A Chrisman Ranch 8.46 61 *e*Pn **Pn 07 15 32.5 +4.3**
PAHR Pah Rah Range 8.57 118 *e*Pn **Pn 07 15 30.7 +0.8**
F10A Beach Ranch, E 8.69 74 *e*Pn **Pn 07 15 35.1 +3.6**
CMB Columbia Colle 9.04 129 *e*Pn **Pn 07 15 37.7 +1.4**
WAKR Walker 9.27 124 *e*Pn **Pn 07 15 43.4 +3.9**
NEW Newport 9.34 60 Pn **Pn 07 15 41.5 +1.1**
0.1nm,0.3s,baz=236,slow=12,SNR=3.4
NEW LR LR 07 19 06.6
comp=Z,465nm,20.9s,baz=238,slow=36
NEW Newport 9.34 60 P **Pn 07 15 41.2 +0.8**
baz=249
NEW Newport 9.34 60 *e*Pn **Pn 07 15 43.6 +3.3**
BMN Battle Mountai 9.64 109 *e*Pn **Pn 07 15 46.7 +2.1**
MFID Camas Ranch 9.72 90 *e*Pn **Pn 07 15 49.0 +3.3**
NV01 Mina Array Sit 10.00 121 *e*Pn **Pn 07 15 53.8 +4.1**
NVAR Mina Array Bea 10.00 121 Pn **Pn 07 15 50.0 +0.3**
baz=297,slow=14,SNR=3.6
NVAR LR LR 07 19 34.5
comp=Z,384nm,19.3s,baz=84,slow=37
HLID Hailey 10.71 88 P **Pn 07 16 04.0 +4.7**
baz=278,SNR=15
HLID Hailey 10.71 88 *e*Pn **Pn 07 16 03.6 +4.3**
MSO Missoula 11.06 71 P **Pn 07 16 04.6 +0.6**
baz=262
MSO Missoula 11.06 71 *e*Pn **Pn 07 16 08.0 +4.0**
ISA Isabella, Lake 11.82 132 P **Pn 07 16 15.6 +1.2**
baz=319
ISA Isabella, Lake 11.82 132 *e*Pn **Pn 07 16 16.0 +1.7**
ARVC Arvin 12.05 135 P **Pn 07 16 18.6 +1.3**
baz=321
FURC Furnace Creek, 12.15 125 P **Pn 07 16 20.2 +1.4**
baz=313,SNR=12
TPNV Topopah Spring 12.20 122 P **Pn 07 16 22.2 +2.6**
baz=310
TPNV Topopah Spring 12.20 122 *e*Pn **Pn 07 16 21.5 +1.9**
BGMT Barton Gulch 12.28 79 *e*Pn **Pn 07 16 20.7 0.0**
HVU Hansel Valley 12.28 95 *e*Pn **Pn 07 16 23.5 +2.8**
BGU Big Grassy Mou 12.37 99 *e*Pn **Pn 07 16 24.9 +3.0**
BOZ Bozeman (W) 12.57 77 P **Pn 07 16 27.0 +2.4**
baz=270
BOZ Bozeman (W) 12.57 77 *e*Pn **Pn 07 16 28.0 +3.4**
EDW2 Edwards Air Fo 12.67 133 P **Pn 07 16 26.2 +0.3**
baz=320
PSUT Pine Spring 12.83 111 *e*Pn **Pn 07 16 31.4 +3.1**
SHOC Shoshone, Teco 12.88 125 P **Pn 07 16 31.2 +2.3**
baz=313
YHB Horse Butte 12.90 81 *e*Pn **Pn 07 16 32.3 +3.1**
GSC Goldstone, Bar 13.00 129 P **Pn 07 16 31.8 +1.3**
baz=316
GSC Goldstone, Bar 13.00 129 *e*Pn **Pn 07 16 32.5 +2.0**
FXWY Fox Creek 13.14 86 *e*Pn **Pn 07 16 35.8 +3.4**
YHH Holmes Hill 13.14 81 *e*Pn **Pn 07 16 36.0 +3.4**
SHPR Sheep Range 13.16 121 *e*Pn **Pn 07 16 35.9 +3.3**
IMW Indian Meadow 13.17 85 *e*Pn **Pn 07 16 36.1 +3.2**
YFT Old Faithful 13.18 82 *e*Pn **Pn 07 16 36.1 +3.1**
HWUT Hardware Ranch 13.20 95 *e*Pn **Pn 07 16 35.7 +2.4**
TPAW Teton Pass 13.22 86 *e*Pn **Pn 07 16 36.3 +2.7**
YPP Pitchstone Pla 13.22 85 *e*Pn **Pn 07 16 36.7 +3.0**
AHID Auburn Hatcher 13.24 90 *e*Pn **Pn 07 16 37.5 +3.6**
REDW Red Top Meadow 13.31 87 *e*Pn **Pn 07 16 37.9 +3.1**
MOOW Moose Ponds 13.32 85 *e*Pn **Pn 07 16 38.6 +3.6**
H17A Grant Village 13.37 82 P **Pn 07 16 39.1 +3.5**
baz=276
H17A Grant Village 13.37 82 *e*Pn **Pn 07 16 39.9 +4.3**
LOHW Long Hollow 13.45 86 *e*Pn **Pn 07 16 39.4 +2.8**
HEC Hector,Ludlow 13.61 129 P **Pn 07 16 40.4 +1.6**
baz=317
CCUT Cedar City 13.69 113 *e*Pn **Pn 07 16 43.0 +3.0**
TCRU Three Creeks R 13.75 108 *e*Pn **Pn 07 16 43.2 +2.4**
EDM Edmonton 13.84 43 *e*Pn **Pn 07 16 42.7 +0.9**
SZCU Shurtz Canyon 13.84 113 *e*Pn **Pn 07 16 45.0 +2.9**
GCMT Greycliff 13.94 76 *e*P **P 07 16 53.7 +2.2**
MSU Marysvale 13.98 108 *e*Pn **Pn 07 16 46.1 +2.1**
GMRC Granite Mounta 14.03 127 P **Pn 07 16 45.5 +0.9**
baz=316
EGMT Eagleton 14.05 67 P **Pn 07 16 45.6 +0.9**
baz=261
EGMT Eagleton 14.05 67 *e*Pn **Pn 07 16 46.1 +1.4**
LCMT Little Creek M 14.07 115 *e*Pn **Pn 07 16 47.1 +1.9**
LDFC Landfair 14.14 125 *e*Pn **Pn 07 16 46.3 +0.2**
KNB Kanab 14.34 114 *e*Pn **Pn 07 16 52.0 +3.1**
BW06 Boulder Array 14.35 89 P **Pn 07 16 50.2 +1.2**
baz=282
PD31 Pinedale Array 14.35 89 *e*Pn **Pn 07 16 51.6 +2.6**
PDAR Pinedale Array 14.35 89 Pn **Pn 07 16 51.0 +1.9**
0.0nm,0.3s,baz=272,slow=11,SNR=6.1
PDAR LR LR 07 22 26.5
comp=Z,349nm,20.3s,baz=270,slow=38
PDAR Pinedale Array 14.35 89 *e*Pn **Pn 07 16 50.8 +1.7**
Q16A Castle Valley 14.49 105 *e*Pn **Pn 07 16 52.3 +1.4**
P17A Butcher Ranch, 14.55 102 *e*Pn **Pn 07 16 54.4 +2.7**
IRM Iron Mountain 14.77 128 P **Pn 07 16 56.9 +2.2**
baz=316,SNR=10
P18A Preston Nutter 14.83 101 *e*Pn **Pn 07 16 58.8 +3.1**
SRU San Rafael Swe 14.85 103 *e*Pn **Pn 07 16 58.8 +2.9**
W13A Hualapai Mount 14.86 122 *e*Pn **Pn 07 16 57.3 +1.3**
BC3 Big Chuckawall 14.97 130 P **Pn 07 17 57.6 +0.3**
baz=318
U15A North Rim 15.03 115 *e*Pn **Pn 07 17 00.6 +2.3**
18nm,1.1s
MONP2 Monument Peak 15.03 134 P **Pn 07 16 57.9 -0.5**
baz=322
PDMCI Parker Dam,Lak 15.25 125 P **Pn 07 17 02.1 +1.1**
baz=314
SWSC Sam W. Stewart 15.32 132 P **Pn 07 17 02.9 +1.0**
baz=320
IKP In-Ko-Pah, Jac 15.39 134 P **Pn 07 17 03.8 +0.9**
baz=322
Y12C Blythe 15.42 127 P **Pn 07 17 04.6 +1.4**
baz=316
Y12C Blythe 15.42 127 *e*Pn **Pn 07 17 05.0 +1.7**
18nm,1.3s
GLA Glamis 15.77 130 *e*Pn **Pn 07 17 08.6 +0.9**
12nm,1.4s
O20A White River Ci 16.06 97 P **Pn 07 17 14.7 +3.0**
baz=291,SNR=6.1
O20A White River Ci 16.06 97 *e*Pn **Pn 07 17 13.2 +1.4**
26nm,1.2s
PV09 Paradox Valley 16.10 104 *e*Pn **Pn 07 17 13.9 +1.6**
WUAZ Wupatki 16.17 116 P **Pn 07 17 17.6 +4.5**
baz=308,SNR=5.6
WUAZ Wupatki 16.17 116 *e*Pn **Pn 07 17 15.1 +2.0**
38nm,1.7s
Y14A Wickenburg 16.18 124 *e*Pn **Pn 07 17 14.6 +1.5**
46nm,1.2s
PV05 Paradox Valley 16.32 105 *e*Pn **Pn 07 17 17.2 +2.2**
LAO LASA Array 16.34 73 P **Pn 07 17 17.4 +2.3**
baz=270
LAO LASA Array 16.34 73 *e*Pn **Pn 07 17 18.0 +2.9**
28nm,1.3s
113A Mohawk Valley, 16.57 128 *e*Pn **Pn 07 17 19.6 +1.6**
24nm,1.8s
PV01 Paradox Valley 16.66 104 *e*Pn **Pn 07 17 20.4 +1.0**
X16A Lo Mia Camp, P 16.82 119 *e*Pn **Pn 07 17 24.7 +3.3**
16nm,1.4s
MVCO Mesa Verde 17.16 107 P **Pn 07 17 25.7 +0.1**
baz=300,SNR=10
MVCO Mesa Verde 17.16 107 *e*Pn **Pn 07 17 26.0 +0.4**
96nm,1.8s
SMCO Snowmass 17.33 99 *e*Pn **Pn 07 17 29.8 +1.8**
33nm,1.8s
HYT Haines Junctio 17.42 346 *e*Pn **Pn 07 17 29.2 +0.5**
15nm,1.3s
W18A Petrified Fore 17.48 114 *e*Pn **Pn 07 17 30.8 +1.2**
26nm,1.1s
X18A Snowflake 17.70 116 *e*Pn **Pn 07 17 34.6 +2.2**
21nm,1.6s
214A Organ Pipe Nat 17.71 128 P **Pn 07 17 32.4 0.0**
baz=318
S22A 4UR Ranch, Cre 18.06 103 P **Pn 07 17 38.8 +1.9**
baz=298,SNR=11
S22A 4UR Ranch, Cre 18.06 103 *e*Pn **Pn 07 17 37.9 +1.0**
51nm,1.8s
ISCO Idaho Springs 18.07 96 P **Pn 07 17 38.5 +1.5**
baz=292
ISCO Idaho Springs 18.07 96 *e*Pn **Pn 07 17 38.5 +1.5**
9.9nm,1.3s
RSSD Black Hills 18.07 81 P **Pn 07 17 38.9 +2.0**
baz=279
TUC Tucson 18.65 123 P **P 07 17 44.8 +1.2**
baz=314
TUC Tucson 18.65 123 *e*P **P 07 17 44.6 +1.0**
7.7nm,1.3s
Q24A Divide 18.72 98 *e*P **P 07 17 45.8 +1.2**
8.9nm,1.2s
SDCO Great Sand Dun 18.99 102 P **P 07 17 49.2 +1.6**
baz=297,SNR=6.7
SDCO Great Sand Dun 18.99 102 *e*P **P 07 17 49.2 +1.6**
40nm,1.9s
LAZ Ladron 19.62 112 *e*P **P 07 17 56.8 +2.4**
ANMO Albuquerque 19.76 110 P **P 07 17 57.5 +1.6**
0.1nm,0.3s,baz=122,slow=11,SNR=5.6
ANMO LR LR 07 25 53.7
comp=Z,344nm,20.2s,baz=136,slow=38
ANMO Albuquerque 19.76 110 P **P 07 17 57.4 +1.5**
baz=304
ANMO Albuquerque 19.76 110 *e*P **P 07 17 57.7 +1.7**
15nm,1.8s
MHTCO State Highway 19.85 102 *e*P **P 07 17 58.7 +1.8**
23nm,1.6s
KDAK Kodiak Island 19.93 321 LR LR 07 23 48.3
comp=Z,137nm,18.6s,baz=109,slow=31
LPM Los Pinos Moun 20.01 112 *e*P **P 07 18 00.6 +2.0**
T25A Trinidad 20.04 102 P **P 07 18 00.9 +1.9**
baz=298,SNR=8.3
T25A Trinidad 20.04 102 *e*P **P 07 18 00.9 +1.9**
34nm,1.4s
BNM Barren Site 20.11 112 *e*P **P 07 18 02.0 +2.3**
319A Douglas 20.21 122 *e*P **P 07 18 02.8 +2.1**
24nm,1.3s
YKA Yellowknife Ar 20.25 20 P **P 07 18 00.3 -0.5**
3.1nm,0.9s,baz=210,slow=11,SNR=23
YKA PcP **PcP 07 22 11.9 -2.2**
0.3nm,0.9s,baz=196,slow=2.1,SNR=5.3
YKA LR LR 07 24 39.5
comp=Z,7.5nm,21.9s,baz=180,slow=33
YKW3 Yellowknife Ar 20.31 20 *e*P **P 07 18 00.9 -0.5**
41nm,1.8s
121A Cookes Peak, D 20.36 117 P **P 07 18 04.6 +2.1**
baz=311,SNR=9.4
KSCO Kaye Shedlock' 20.50 95 P **P 07 18 05.5 +1.6**
baz=293
KSCO Kaye Shedlock' 20.50 95 *e*P **P 07 18 04.5 +0.6**
21nm,1.3s
FFC Flin Flon 20.50 49 *e*P **P 07 18 04.0 +0.4**
24nm,1.0s
MENT Mentasta 20.61 341 *e*P **P 07 18 05.3 +0.6**
13nm,1.0s
DAWY Dawson 20.78 347 *e*P **P 07 18 08.0 +1.5**
9.7nm,1.3s
DOT Dot Lake 21.30 342 *e*P **P 07 18 12.9 +0.7**
24nm,1.2s
SUA Susitna One 21.50 331 *e*P **P 07 18 15.5 +1.1**
14nm,1.0s
DHY Denali Highway 21.66 337 *e*P **P 07 18 16.3 +0.2**
23nm,1.2s
EPT El Paso 21.68 117 *e*P **P 07 18 17.9 +1.3**
35nm,1.4s
EGAK Eagle 21.73 346 *e*P **P 07 18 17.7 +1.0**
21nm,1.6s
SPU Mount Spurr 21.77 330 *e*P **P 07 18 18.0 +0.7**
K31A O'Neill 22.14 83 P **P 07 18 22.4 +1.0**
baz=284
RND Reindeer 22.33 337 *e*P **P 07 18 23.9 +0.6**
17nm,1.2s
MNTX Cornudas Mount 22.45 116 P **P 07 18 26.2 +1.4**
baz=310,SNR=7.1
MNTX Cornudas Mount 22.45 116 *e*P **P 07 18 26.0 +1.2**
15nm,1.5s
MCK McKinley 22.61 337 *e*P **P 07 18 27.9 +1.7**
16nm,1.2s
H32A Carlson Farm, 22.67 78 P **P 07 18 27.1 0.0**
baz=280
TRF Thorofare Moun 22.79 335 *e*P **P 07 18 27.6 -0.6**
38nm,1.7s
A32A Rocking H Ranc 22.91 66 P **P 07 18 29.2 -0.2**
baz=270
IL1 Eielson Array 22.91 340 *e*P **P 07 18 30.3 +1.0**
ILAR Eielson Array 22.91 340 P **P 07 18 29.9 +0.5**
3.8nm,1.0s,baz=158,slow=7.6,SNR=25
ILAR LR LR 07 25 30.2
comp=Z,78nm,21.5s,baz=70,slow=32
ILB Eielson Array 22.91 340 *e*P **P 07 18 30.1 +0.8**
PPLA Purkeypile 22.99 333 *e*P **P 07 18 31.1 +0.9**
86nm,1.6s
CCB Clear Creek Bu 23.04 339 *e*P **P 07 18 31.8 +1.2**
4.4nm,1.1s
KTH Kantishna Hill 23.06 335 *e*P **P 07 18 32.5 +1.6**
26nm,1.6s
SVW2 Sparrevohn 23.07 327 *e*P **P 07 18 32.6 +1.6**
33nm,1.8s
H33A Prehn Over Nor 23.13 77 P **P 07 18 31.9 +0.1**
baz=280
G33A Ortonville 23.26 76 P **P 07 18 32.8 -0.2**
baz=279,SNR=6.8
F33A 5 Mile Ranch, 23.26 74 P **P 07 18 32.6 -0.4**
baz=278
CAST Castle Rocks 23.32 334 *e*P **P 07 18 34.6 +1.1**
44nm,1.9s
ULM Lac du Bonnet 23.33 63 P **P 07 18 33.9 +0.2**
3.8nm,0.8s,baz=256,slow=9.1,SNR=6.8
ULM LR LR 07 27 43.2
comp=Z,200nm,18.6s,baz=268,slow=37
ULM Lac du Bonnet 23.33 63 *e*P **P 07 18 34.0 +0.2**
36nm,1.5s
E33A Westby DABS, E 23.38 72 P **P 07 18 34.2 -0.1**
baz=276
ECSD EROS Data Cent 23.41 80 P **P 07 18 34.1 -0.4**
baz=282
ECSD EROS Data Cent 23.41 80 *e*P **P 07 18 34.3 -0.3**
24nm,1.5s
G34A Benson 23.81 76 P **P 07 18 38.2 -0.2**
baz=280
H34A Spellman Lake, 23.81 77 P **P 07 18 38.6 +0.1**
baz=281
F34A Alexandria 23.98 74 P **P 07 18 38.9 -1.2**
baz=278
FYU Fort Yukon 24.09 344 *e*P **P 07 18 41.2 +0.4**
32nm,1.5s
MLY Manley 24.11 338 *e*P **P 07 18 42.4 +1.2**
23nm,1.4s
B34A Aery, Baudette 24.14 67 P **P 07 18 39.4 -2.2**
baz=273
INK Inuvik 24.32 356 P **P 07 18 43.1 +0.1**
1.8nm,1.1s,baz=187,slow=14,SNR=3.5
O34A Beatrice 24.34 88 P **P 07 18 43.8 +0.2**
baz=290
F35A Swanville 24.45 74 P **P 07 18 44.7 +0.3**
baz=279
E35A Pequot Lakes 24.47 72 P **P 07 18 44.9 +0.3**
baz=277
P34A Walnut Farm, R 24.47 90 P **P 07 18 44.6 -0.1**
baz=291
D35A Remer 24.65 71 P **P 07 18 45.9 -0.3**
baz=276
TX31 Lajitas Ar. Si 25.12 117 *e*P **P 07 18 51.1 +0.4**
TXAR Lajitas Array 25.12 117 P **P 07 18 49.6 -1.1**
2.8nm,1.1s,baz=302,slow=7.2,SNR=13
TXAR LR LR 07 27 59.6
comp=Z,100nm,19.5s,baz=0.0,slow=35
WMOK Wichita Mounta 25.20 101 P **P 07 18 52.0 +0.7**
baz=301,SNR=8.9
WMOK Wichita Mounta 25.20 101 *e*P **P 07 18 52.2 +0.9**
58nm,1.9s
T34A McClaskey Farm 25.24 95 P **P 07 18 51.9 +0.3**
baz=296
LPIG La Paz 25.29 136 LR LR 07 27 54.0
comp=Z,71nm,19.8s,baz=356,slow=35
HPIG 25.60 124 *e*P **P 07 18 55.9 +0.7**
9.5nm,1.3s
FCC Fort Churchill 25.95 43 *e*P **P 07 18 59.8 +2.0**
32nm,1.5s
P37A Lathrop 26.24 88 P **P 07 19 01.0 +0.3**
baz=292
F38A Pierce - Schro 26.29 73 P **P 07 19 01.4 +0.3**
baz=280
M38A Pleasantville 26.45 83 P **P 07 19 02.2 -0.4**
baz=288
JCT Junction City 26.92 111 P **P 07 19 07.2 +0.2**
baz=309
JCT Junction City 26.92 111 *e*P **P 07 19 07.5 +0.5**
7.7nm,1.1s
R38A Fenwick Farm, 27.10 90 P **P 07 19 09.3 +0.9**
baz=294
R40A Maddies Statio 28.24 89 P **P 07 19 18.2 -0.4**
baz=294
S41A Jillco Farms, 28.90 90 P **P 07 19 24.5 -0.1**
baz=295
CCM Cathedral Cave 29.07 89 P **P 07 19 24.7 -1.4**
baz=294
T41A Mountain View 29.12 91 P **P 07 19 26.1 -0.4**
baz=296
W41B Gary Mavity, V 29.64 95 P **P 07 19 30.3 -0.7**
baz=299
Q45A Warren Harvey, 30.95 85 P **P 07 19 41.9 -0.8**
baz=293
W45A Hickory Valley 31.84 92 P **P 07 19 50.7 +0.2**
baz=299
OXF Oxford 32.00 94 P **P 07 19 51.4 -0.5**
baz=300
OXF Oxford 32.00 94 *e*P **P 07 19 52.5 +0.6**
55nm,1.3s
X45A UM Field Stati 32.05 94 P **P 07 19 51.3 -1.1**
baz=300
V46A Holladay 32.31 91 P **P 07 19 52.2 -2.4**
baz=298
244A Avery, Jackson 32.36 99 P **P 07 19 55.0 -0.1**
baz=303
T47A Sharon Grove 32.50 88 P **P 07 19 54.5 -1.8**
baz=296
Y46A Houston 32.70 94 P **P 07 19 58.0 -0.2**
baz=300
NPOC North of Pu'u 32.81 230 *e*P **P 07 19 59.6 +0.4**
183nm,0.6s
W47A Westpoint 32.94 91 P **P 07 19 58.4 -1.8**
baz=298
RES Resolute Bay 34.20 15 *e*P **P 07 20 10.9 +0.3**
6.1nm,1.0s
249A Camden 34.94 96 P **P 07 20 17.0 -0.5**
baz=303
TKL Tuckaleechee C 35.50 88 LR LR 07 35 23.1
comp=Z,359nm,18.1s,baz=334,slow=37
SCHQ Schefferville 40.61 52 LR LR 07 37 36.2
comp=Z,148nm,20.1s,baz=298,slow=36
SEY Seymchan 46.89 322 P **P 07 21 55.0 -0.6**
2.4nm,0.8s,baz=152,slow=15,SNR=9.5
TIXI Tiksi 52.32 337 P **P 07 22 36.5 -0.3**
2.2nm,0.7s,baz=87,slow=8.9,SNR=3.8
SPITS Spitsbergen Ar 56.17 8 LR LR 07 47 01.6
comp=Z,20nm,18.1s,baz=150,slow=36
YAK Yakutsk 56.85 326 LR LR 07 46 25.7
comp=Z,38nm,20.2s,baz=86,slow=35
BORG Borgarnes 57.85 29 LR LR 07 46 32.2
comp=Z,45nm,20.1s,baz=182,slow=34
H11N3 WAKE ISLAND Hy 57.89 267 T T 08 25 53.2
baz=49,slow=75,SNR=2967
H11N2 WAKE ISLAND Hy 57.89 267 T T 08 25 53.4
baz=49,slow=75,SNR=779
H11N1 WAKE ISLAND Hy 57.91 267 T T 08 25 54.5
baz=49,slow=75,SNR=1222
H11S1 WAKE ISLAND Hy 58.83 266 T T 08 26 56.6
baz=50,slow=75,SNR=156
H11S2 WAKE ISLAND Hy 58.83 266 T T 08 27 03.6
baz=50,slow=75,SNR=116
H11S3 WAKE ISLAND Hy 58.84 266 T T 08 27 06.4
baz=50,slow=75,SNR=105
PMOR Pomariorio Ree 61.28 201 *e*T T 08 29 52.5
14nm,0.2s
OTAV Otavalo 62.73 119 *e*P **P 07 23 52.1 +0.6**
4.2nm,1.0s
PPT2 Papeete2 64.20 202 *e*LR LR 07 42 53.3
82nm,30.0s
PPT2 Papeete2 64.20 202 *e*T T 08 33 30.5
1.8nm,0.3s
TVO Taravao 64.30 201 *e*T T 08 33 38.4
3.1nm,0.3s
RKT Rikitea 67.14 186 *e*T T 08 37 11.9
2.4nm,0.3s
MJAR Matsushiro Arr 67.33 299 LR LR 07 46 37.8
comp=Z,17nm,21.7s,baz=150,slow=30
TBI Tubuai 69.68 200 *e*T T 08 40 21.8
4.5nm,0.2s
CN2 Changchun 70.06 312 *e*P **P 07 24 37.8 +0.2**
KSRS Korea Array 72.97 306 LR LR 07 52 51.3
comp=Z,8.6nm,20.2s,baz=0.0,slow=32
KLMR Klimovskoe 74.95 6 *e*P **P 07 25 03.7 -2.7**
KLMR AMP 07 25 07.8
comp=Z,18nm,1.3s
SONA1 Songino Array 76.16 325 *e*P **P 07 25 13.2 -0.5**
SONM Songino Array 76.17 325 P **P 07 25 13.9 +0.1**
comp=Z,2.9nm,1.1s,baz=59,slow=4.0,SNR=13
GUMO Guam 77.76 277 LR LR 07 55 50.5
comp=Z,23nm,18.9s,baz=94,slow=33
ZAA0 Zalesovo Array 78.04 340 *e*P **P 07 25 23.9 -0.1**
comp=Z,26nm,1.3s
ZALV Zalesovo Beam 78.04 340 P **P 07 25 23.7 -0.2**
comp=Z,0.8nm,0.3s,baz=46,slow=6.4,SNR=7.2
ZALV LR LR 08 03 22.1
comp=Z,24nm,18.5s,baz=244,slow=38
ZALV Zalesovo Beam 78.04 340 *e*P **P 07 25 23.4 -0.6**
HHC Hu-ho-hao-te 79.30 318 *e*P **P 07 25 31.0 -0.3**
BRVK Borovoye 81.73 348 *e*P **P 07 25 44.0 0.0**
comp=Z,12nm,1.2s
BVAR Borovoye Array 81.75 348 P **P 07 25 44.0 -0.1**
comp=Z,3.8nm,1.0s,baz=48,slow=2.1,SNR=14
GERES GERESS Array B 81.86 24 LR LR 08 02 38.8
comp=Z,44nm,18.4s,baz=303,slow=36
LPAZ La Paz 81.91 122 P **P 07 25 45.0 -1.1**
comp=Z,1.6nm,0.7s,baz=310,slow=0.3,SNR=5.1
LPAZ La Paz 81.91 122 *e*P **P 07 25 45.0 -1.1**
comp=Z,4.0nm,1.1s
KURK Kurchatov 82.47 343 *e*P **P 07 25 47.4 -0.4**
comp=Z,13nm,1.3s
KURBB Kurchatov Arra 82.57 343 P **P 07 25 47.5 -0.9**
comp=Z,5.0nm,1.0s,baz=19,slow=4.9,SNR=26
HNR Honiara 83.09 250 LR LR 07 55 07.1
comp=Z,65nm,19.8s,baz=54,slow=30
VYHS Vyhne 83.58 21 *e*P **P 07 25 53.1 -0.6**
AKASG Malin Array Be 83.69 14 P **P 07 25 52.9 -1.3**
comp=Z,0.1nm,0.3s,baz=333,slow=4.7,SNR=9.2
MK31 Makanchi Array 85.26 339 *e*P **P 07 26 00.7 -1.6**
MKAR Makanchi Array 85.26 339 P **P 07 26 00.9 -1.3**
comp=Z,1.6nm,1.0s,baz=38,slow=4.6,SNR=9.1
MKAR Makanchi Array 85.26 339 *e*P **P 07 26 00.7 -1.6**
comp=Z,19nm,1.2s
MK01 Makanchi Array 85.28 339 *e*P **P 07 26 01.0 -1.4**
MAKZ Makanchi 85.33 339 *e*P **P 07 26 01.8 -0.8**
comp=Z,11nm,1.4s
AKTO Aktyubinsk 85.59 355 P **P 07 26 03.0 -0.8**
comp=Z,1.9nm,0.9s,baz=7.0,slow=7.8,SNR=4.2
WMQ Urumqi 86.43 334 P **P 07 26 08.2 0.0**
WMQ pP PcP 07 26 13.5 +2.8
WMQ sP sP 07 26 17.7 +3.6
ABKAR Akbulak array 86.63 354 *e*P **P 07 26 08.1 -0.9**
comp=Z,9.2nm,1.2s
KKAR Karatay Array 91.36 346 *e*P **P 07 26 31.4 -0.1**
PMG Port Moresby 91.93 259 LR LR 08 00 59.0
comp=Z,31nm,19.0s,baz=108,slow=31
PSI Prapat 116.49 304 *e*PKPdf **PKPdf 07 32 10.8 +0.6**
LSZ Lusaka 145.41 41 *e*PKPdf **PKPbc 07 33 03.6 -0.4**

MAN 06 07:21:56,12.40N×123.69E,h12km,mb4.0,ML2.7,MS2.3, 2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.07**	**239**	‖ *i*P	Pg	07 22 00.2	+1.7
MMPH				*i* S	Sg	07 22 02.1	+1.8
CNP	**Catarman**	**0.96**	**83**	*e*P	Pb	07 22 14.7	+0.1
CNP				*e*S	Sn	07 22 28.6	-0.2
RCP	**Roxas**	**1.24**	**228**	‖ *e*P	Pn	07 22 19.1	-0.1

*ISCJB **06** 07:28:03.4±0.7,39.07N±0.06×29.16E±0.07,h11km±8km, Error ellipse: s-maj=10.6km s-min=8.1km az=154.1*
*DDA **06** 07:28:03.5,39.03N×29.15E,h7km,Ml2.5*
*CSEM **06** 07:28:03.4±0.3,39.08N×29.18E,h10km,ML2.5,Error ellipse: s-maj=10.9km s-min=5.4km az=151.0*
*ISK **06** 07:28:03.0,39.09N×29.16E,h8km,ML2.5/4*
ISC 06 07:28:03.2±1.0,39.05N±0.06×29.17E±0.04,h11km±8km, n18,σ0°66/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.15**	**283**	PG	**Pg**	**07 28 07.0**	**+0.3**
SIMA				SG	**Sg**	**07 28 08.7**	**-0.4**
SIMA	**Simav-Kutahya**	**0.15**	**283**	*e*Pg	**Pg**	**07 28 07.0**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIMA				eSg	Sg	07 28 08.7	-0.4
GDZ	Gediz	0.25	81	iP	Pg	07 28 08.6	+0.3
GDZ	Gediz	0.25	81	P	Pg	07 28 08.6	+0.3
DEMI	Demirci	0.35	269	iP	Pb	07 28 11.1	-0.5
DEMI				iS	Sg	07 28 15.2	+0.2
DEMI	Demirci	0.35	269	P	Pb	07 28 11.1	-0.5
DEMI				S	Sg	07 28 15.2	+0.2
KULA	Kula-Manisa	0.67	217	PG	Pb	07 28 17.3	+0.4
KULA				SG	Sb	07 28 26.4	+0.2
KULA	Kula-Manisa	0.67	217	ePg	Pb	07 28 17.3	+0.4
KULA				eSg	Sb	07 28 26.4	+0.2
CAVI	Cavuskoy	1.26	24	PN	Pn	07 28 26.4	-0.5
CAVI	Cavuskoy	1.26	24	ePn	Pn	07 28 26.4	-0.5
BORA	Eskisehir	1.29	50	iP	Pg	07 28 28.7	+0.7
BORA	Eskisehir	1.29	50	P	Pg	07 28 28.7	+0.7
KCTX	Karacabey (Bur	1.37	333	PN	Pn	07 28 27.9	-0.4
KCTX	Karacabey (Bur	1.37	333	ePn	Pn	07 28 27.9	-0.4
ESKT	Eskisehir	1.39	70	iP	Pn	07 28 27.2	-1.5
SEYT	Eskypehyr	1.39	70	P	Pn	07 28 27.2	-1.4
GULT	Gulveren	1.73	37	PN	Pn	07 28 34.1	+0.8
GULT	Gulveren	1.73	37	ePn	Pn	07 28 34.1	+0.8

*ISCJB **06** 07:35:54.6±0.6, 19°.10S±0°.05×69°.22W±0°.09, h128km±5km, mb3.6/5, Error ellipse: s-maj=13.4km s-min=7.7km az=1.1*
*GUC **06** 07:35:54.9±0.6, 19°.15S×69°.22W, h123km±4km, ML3.9*
*IDC **06** 07:35:57.4±2.4, 19°.01S×68°.79W, h143km±22km, mb3.3/5, mb1 3.5/8, mb1mx3.3/42, mbtmp3.7/8, Error ellipse: s-maj=41.2km s-min=16.9km az=74.0*
ISC 06 07:35:54.8±0.8**, 19°.11S**±0°.05×**69°.10W**±0°.08**, h118**km±7km**, n15, σ1s.16**/22**, mb3.5**/5**, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNMC	Minye Minye	0.47	267	eP	Pn	07 36 13.1	+0.4
MNMC				iS	Sn	07 36 26.4	+0.4
MNMC				IAML		07 36 27.4	
	comp=N,5μm,0.6s						
PB11	IPOC Station P	0.84	219	eP	Pn	07 36 15.8	+0.5
PB11				iS	Sn	07 36 31.2	+0.5
PB11				IAML		07 36 31.8	
	comp=E,7μm,0.4s						
PB08	IPOC Station P	1.03	183	eP	Pn	07 36 18.1	+0.7
PB08				iS	Sn	07 36 35.8	+1.4
PB08				IAML		07 36 37.1	
	comp=E,2μm,0.5s						
PSGC	Pisagua	1.08	243	eP	Pn	07 36 17.5	0.0
PSGC				iS	Sn	07 36 34.4	-0.4
PB12	IPOC Station P	1.26	293	eP	Pn	07 36 19.3	-0.2
PB12				iS	Sn	07 36 37.8	-0.4
PB12				IAML		07 36 39.7	
	comp=N,7μm,0.1s						
PB01	IPOC Station P	1.96	191	eP	Pn	07 36 28.2	+0.4
PB01				iS	Sn	07 36 53.2	+0.3
PB01				IAML		07 36 54.1	
	comp=N,554nm,0.3s						
LPAZ	La Paz	2.95	18	P	Pn	07 36 42.9	+1.9
	comp=N,10.0nm,0.3s,baz=208,slow=6.5,SNR=191						
LPAZ				S	Sn	07 37 17.4	+1.0
	baz=225,slow=19,SNR=3.3						
SIV	San Ignacio	8.26	69	P	Pn	07 37 49.6	-2.3
	comp=N,0.4nm,0.3s,baz=280,slow=7.3,SNR=11						
CPUP	Villa Florida	13.02	126	P	Pn	07 38 53.5	-1.9
	comp=N,0.2nm,0.3s,baz=307,slow=13,SNR=3.9						
PLCA	Paso Flores	21.59	183	P	P	07 40 37.6	+2.4
	comp=N,1.9nm,0.7s,baz=38,slow=12,SNR=4.0						
TXAR	Lajitas Array	58.58	325	P	P	07 45 39.3	-0.2
	comp=N,0.1nm,0.5s,baz=142,slow=8.0,SNR=3.9						
PDAR	Pinedale Array	71.96	330	P	P	07 47 05.9	+0.1
	comp=N,0.2nm,0.5s,baz=141,slow=4.4,SNR=3.3						
ULM	Lac du Bonnet	72.99	342	P	P	07 47 10.5	-0.9
	comp=N,1.5nm,0.7s,baz=174,slow=10,SNR=3.3						
YKA	Yellowknife Ar	88.88	341	P	P	07 48 35.4	+0.1
	comp=N,0.8nm,0.6s,baz=133,slow=4.7,SNR=27						
SONM	Songino Array	151.11	6	PKPbc	PKPbc	07 55 34.7	+0.4
	comp=N,0.7nm,0.6s,baz=294,slow=2.6,SNR=4.0						

*CSEM **06** 07:41:11.9, 37°.83N×43°.66E, h7km, ML2.6, After DDA*
*DDA **06** 07:41:11.9, 37°.83N×43°.66E, h7km, Ml2.6*
ISC 06 07:41:10.4±1.2**, 37°.86N**±0°.05×**43°.73E**±0°.08**, h6**km**, n11, σ0s.56**/15**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BASK	Baskale_VAN	0.29	48	iP	Pb	07 41 18.4	+0.2
BASK	Baskale_VAN	0.29	48	P	Pb	07 41 18.4	+0.2
HAKT	HAKKARI	0.30	183	iP	Pb	07 41 18.2	-0.1
HAKT				iS	Sb	07 41 23.2	-0.4
HAKT	HAKKARI	0.30	183	P	Pb	07 41 18.2	-0.1
HAKT				S	Sb	07 41 23.2	-0.4
YOVA	Hakkari_Yˆ…kse	0.52	121	iP	Pn	07 41 23.9	-0.7
YOVA	Hakkari_Yˆ…kse	0.52	121	P	Pn	07 41 23.9	-0.7
CUKT	Cukurca	0.62	189	PG	Pg	07 41 22.8	+0.4
CUKT				SG	Sg	07 41 31.4	+1.1
CUKT	Cukurca	0.62	189	iP	Pg	07 41 22.7	+0.4
CUKT				iS	Sg	07 41 30.9	+0.5
CUKT	Cukurca	0.62	189	P	Pg	07 41 22.7	+0.4
CUKT				S	Sg	07 41 30.9	+0.5
SIRT	Sirnak	1.08	251	ePG	Pg	07 41 31.3	+0.1
GURO	Guroymak-BITLI	1.50	298	ePG	Pn	07 41 32.6	-5.5

*IDC **06** 07:45:38.3±1.4, 44°.27N×129°.48W, h0km, mb3.7/7, mb1 3.8/12, mb1mx3.6/64, mbtmp3.5/12, ML3.2/5, MS3.4/10, Ms1 3.4/10, ms1mx3.0/59, Error ellipse: s-maj=32.0km s-min=16.1km az=39.0*
*ISCJB **06** 07:45:40.5±0.5, 44°.21N±0°.05×129°.33W±0°.06, h13km, mb3.9/17, MS3.1/5, Error ellipse: s-maj=8.9km s-min=4.0km az=39.8*
*NEIC **06** 07:45:41.1±0.6, 44°.13N×129°.45W, h10km, mb4.0/27, Error ellipse: s-maj=10.5km s-min=4.6km az=219.0*
ISC 06 07:45:40.9±1.0**, 44°.2N**±0°.1×**129°.4W**±0°.1**, h13**km**, n91, σ1s.62**/78**, mb4.0**/17**, MS3.0**/5**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
F03A	Seaside	4.52	65	ePn	Pn	07 46 47.0	-1.9
HUMO	Hull Mountain	4.95	106	ePn	Pn	07 46 53.3	-1.7
NLWA	Neilton Lookou	5.05	48	ePn	Pn	07 46 54.8	-1.6
H04A	Detroit Lake	5.21	82	ePn	Pn	07 46 57.4	-1.1
YBH	Yreka Blue Hor	5.48	114	Pn	Pn	07 47 03.6	+1.3
	0.1nm,0.3s,baz=260,slow=6.2,SNR=5.5						
YBH				LR	LR	07 48 56.1	
	comp=Z,562nm,18.9s,baz=322,slow=36						
LON	Longmire	5.95	61	ePn	Pn	07 47 09.1	+0.4
PGC	Sidney	6.10	40	ePn	Pn	07 47 09.9	-0.8
G06A	Carlson Farm,	6.35	77	ePn	Pn	07 47 16.6	+2.4
LTY	Liberty	6.87	60	ePn	Pn	07 47 15.8	-5.5
B06A	Marblemount	7.01	49	ePn	Pn	07 47 26.8	+3.6
BBB	Bella Bella	8.09	6	LR	LR	07 50 13.6	
	comp=Z,86nm,18.4s,baz=178,slow=34						
LLLB	Lillooet	8.24	36	ePn	Pn	07 47 43.6	+3.5
BMO	Blue Mountains	8.69	81	ePn	Pn	07 47 50.8	+4.5
F10A	Beach Ranch, E	8.82	74	ePn	Pn	07 47 50.0	+1.9
NEW	Newport	9.46	60	Pn	Pn	07 47 56.9	+0.1
	0.1nm,0.3s,baz=278,slow=14,SNR=2.6						
NEW				LR	LR	07 51 22.1	
	comp=Z,228nm,21.8s,baz=244,slow=36						
NVAR	Mina Array Bea	10.12	121	Pn	Pn	07 48 09.2	+3.0
	baz=294,slow=14,SNR=2.2						
NVAR				LR	LR	07 51 49.7	
	comp=Z,219nm,20.1s,baz=88,slow=36						
HLID	Hailey	10.85	88	ePn	Pn	07 48 18.4	+2.4
YHH	Holmes Hill	13.28	81	ePn	Pn	07 48 52.6	+3.3
IMW	Indian Meadow	13.30	85	ePn	Pn	07 48 51.3	+1.6
HWUT	Hardware Ranch	13.34	95	ePn	Pn	07 48 51.5	+1.5
REDW	Red Top Meadow	13.45	87	ePn	Pn	07 48 53.6	+2.1
H17A	Grant Village	13.51	82	ePn	Pn	07 48 54.3	+2.0
LOHW	Long Hollow	13.58	86	ePn	Pn	07 48 54.9	+1.5
CCUT	Cedar City	13.81	113	ePn	Pn	07 48 58.0	+1.4
EDM	Edmonton	13.94	44	ePn	Pn	07 48 59.1	+1.1
MSU	Marysvale	14.11	108	ePn	Pn	07 49 01.8	+1.1
EGMT	Eagleton	14.18	67	ePn	Pn	07 49 01.9	+0.6
LCMT	Little Creek M	14.19	115	ePn	Pn	07 49 03.5	+1.8
KNB	Kanab	14.47	114	ePn	Pn	07 49 07.3	+1.8
PD31	Pinedale Array	14.49	89	ePn	Pn	07 49 07.1	+1.3
PDAR	Pinedale Array	14.49	89	Pn	P	07 49 11.8	-0.7
	0.1nm,0.3s,baz=274,slow=8.8,SNR=4.3						
PDAR				LR	LR	07 54 41.8	
	comp=Z,188nm,21.2s,baz=258,slow=37						
Q16A	Castle Valley	14.62	105	ePn	Pn	07 49 08.4	+0.8
P17A	Butcher Ranch,	14.68	102	ePn	Pn	07 49 10.3	+1.9
P18A	Preston Nutter	14.97	101	ePn	Pn	07 49 13.6	+1.2
SRU	San Rafael Swe	14.99	103	ePn	Pn	07 49 13.4	+0.8
U15A	North Rim	15.15	115	ePn	Pn	07 49 15.7	+0.8
	7.4nm,1.1s						
O20A	White River Ci	16.20	97	ePn	Pn	07 49 30.0	+1.6
	13nm,1.3s						
PV09	Paradox Valley	16.23	103	ePn	Pn	07 49 29.9	+1.0
WUAZ	Wupatki	16.30	116	ePn	P	07 49 31.8	-0.7
	5.7nm,1.0s						
Y14A	Wickenburg	16.30	123	ePn	P	07 49 31.4	-1.1
	10nm,0.8s						
PV05	Paradox Valley	16.45	105	ePn	Pn	07 49 33.1	+1.5
PV01	Paradox Valley	16.79	104	ePn	Pn	07 49 36.1	+0.1
X16A	Lo Mia Camp, P	16.94	119	ePn	Pn	07 49 38.1	+0.3
	7.4nm,1.3s						
MVCO	Mesa Verde	17.29	106	ePn	Pn	07 49 42.2	+0.1
	23nm,1.5s						
SMCO	Snowmass	17.47	99	ePn	P	07 49 45.7	-0.1
	3.5nm,1.1s						
W18A	Petrified Fore	17.60	114	ePn	Pn	07 49 46.6	+0.5
	19nm,1.5s						
S22A	4UR Ranch, Cre	18.19	103	ePn	Pn	07 49 53.2	-0.2
	14nm,1.4s						
TUC	Tucson	18.76	123	eP	P	07 49 59.9	+0.1
	2.9nm,1.1s						
Q24A	Divide	18.86	98	eP	P	07 50 00.7	-0.3
	0.9nm,0.6s						
SDCO	Great Sand Dun	19.13	101	eP	P	07 50 04.5	+0.6
KDAK	Kodiak Island	19.84	322	LR	LR	07 56 03.2	
	comp=Z,109nm,18.4s,baz=143,slow=32						
ANMO	Albuquerque	19.89	110	P	P	07 50 12.2	0.0
	0.0nm,0.3s,baz=130,slow=7.9,SNR=4.0						
T25A	Trinidad	20.18	102	eP	P	07 50 16.3	+1.0
	6.9nm,1.0s						
YKA	Yellowknife Ar	20.30	20	P	P	07 50 15.2	-1.0
	0.9nm,0.7s,baz=210,slow=11,SNR=13						
YKA				LR	LR	07 57 26.0	
	comp=Z,6.5nm,19.7s,baz=180,slow=35						
319A	Douglas	20.33	122	eP	Pn	07 50 18.6	-0.4
	9.2nm,1.0s						
BRLK	Bradley Lake	20.33	328	eP	Pn	07 50 18.5	-0.2
	23nm,1.4s						
YKW3	Yellowknife Ar	20.35	20	eP	P	07 50 16.8	+0.1
	5.4nm,1.1s						
FFC	Flin Flon	20.61	49	eP	P	07 50 18.7	-0.9
	12nm,1.0s						
SUA	Susitna One	21.43	331	eP	P	07 50 30.7	+2.2
	12nm,1.0s						
DHY	Denali Highway	21.60	338	eP	P	07 50 30.7	+0.3
	14nm,1.1s						
SPU	Mount Spurr	21.70	330	eP	P	07 50 33.6	+2.2
MCK	McKinley	22.55	337	eP	P	07 50 42.6	+2.1
	13nm,1.2s						
IL1	Eielson Array	22.87	341	eP	P	07 50 44.7	+1.0
ILAR	Eielson Array	22.87	341	P	P	07 50 44.5	+0.8
	2.8nm,1.1s,baz=154,slow=7.9,SNR=15						
ILB	Eielson Array	22.87	341	eP	P	07 50 44.3	+0.6
PPLA	Purkeypile	22.92	333	eP	P	07 50 47.2	+2.8
	29nm,1.5s						
CCB	Clear Creek Bu	22.99	340	eP	P	07 50 46.9	+1.9
	14nm,1.4s						
CAST	Castle Rocks	23.26	334	eP	P	07 50 49.5	+1.7
	2.3nm,1.1s						
ULM	Lac du Bonnet	23.45	63	P	P	07 50 47.2	-2.6
	1.5nm,0.7s,baz=262,slow=7.1,SNR=2.4						
ULM				LR	LR	07 59 58.1	
	comp=Z,132nm,18.3s,baz=254,slow=37						
ECSD	EROS Data Cent	23.54	79	eP	P	07 50 49.5	-1.2
	6.3nm,1.1s						
FYU	Fort Yukon	24.05	344	eP	P	07 50 57.0	+1.6
	1.1nm,0.8s						
MLY	Manley	24.06	338	eP	P	07 50 56.7	+1.1
	6.1nm,1.0s						
INK	Inuvik	24.31	356	P	P	07 50 55.2	-2.5
	1.9nm,1.0s,baz=162,slow=8.4,SNR=4.0						
INK	Inuvik	24.31	356	eP	P	07 50 57.7	-0.1
	7.8nm,1.4s						
TX31	Lajitas Ar. Si	25.25	117	eP	P	07 51 06.1	-0.7
TXAR	Lajitas Array	25.25	117	P	P	07 51 05.5	-1.2
	2.6nm,1.2s,baz=292,slow=3.9,SNR=9.6						
TXAR				LR	LR	08 00 26.4	
	comp=Z,47nm,19.6s,baz=0.0,slow=35						
WMOK	Wichita Mounta	25.33	101	eP	P	07 51 07.0	-0.4
	3.5nm,0.9s						
LPIG	La Paz	25.38	136	LR	LR	08 00 24.4	
	comp=Z,46nm,19.2s,baz=11,slow=35						
FCC	Fort Churchill	26.04	43	eP	P	07 51 14.0	+0.5
TKL	Tuckaleechee C	35.64	88	LR	LR	08 07 27.3	
	comp=Z,178nm,18.5s,baz=330,slow=37						
H11N3	WAKE ISLAND Hy	57.76	267	T	T	08 58 02.3	
	baz=49,slow=75,SNR=1144						
H11N2	WAKE ISLAND Hy	57.76	267	T	T	08 58 08.0	
	baz=49,slow=75,SNR=650						
H11N1	WAKE ISLAND Hy	57.77	267	T	T	08 58 05.3	
	baz=49,slow=75,SNR=696						
H11S1	WAKE ISLAND Hy	58.69	266	T	T	08 59 12.5	
	baz=50,slow=75,SNR=172						
H11S2	WAKE ISLAND Hy	58.70	266	T	T	08 59 12.6	
	baz=50,slow=75,SNR=103						
H11S3	WAKE ISLAND Hy	58.71	266	T	T	08 59 13.8	
	baz=50,slow=75,SNR=108						
SONA0	Songino Array	76.09	325	eP	P	07 57 28.2	0.0
SONM	Songino Array	76.09	325	P	P	07 57 28.2	0.0
	1.6nm,1.1s,baz=72,slow=4.7,SNR=5.4						
AKASG	Malin Array Be	83.72	13	P	P	07 58 07.6	-1.6
	0.2nm,0.4s,baz=327,slow=5.0,SNR=5.3						
MK32	Makanchi Array	85.21	339	eP	P	07 58 15.7	-1.2
MKAR	Makanchi Array	85.21	339	P	P	07 58 15.7	-1.2
	0.8nm,1.1s,baz=44,slow=4.6,SNR=4.4						

MAN 06 07:56:35, 12°.40N×**123°.69E, h16**km**, mb3.9, ML2.6, MS2.2, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.08	236	⇓iP	Pg	07 56 39.1	+0.9
MMPH				iS	Sg	07 56 41.0	+0.7
CNP	Catarman	0.96	83	eP	Pb	07 56 53.3	+0.1
CNP				eS	Sb	07 57 05.4	-0.2
RCP	Roxas	1.25	228	⇑eP	Pn	07 56 57.8	0.0

*NEIC **06** 08:03:20.6±0.0, 17°.05N×99°.66W, h44km, MD4.0(MEX), After MEX.*
MEX 06 08:03:20.6±0.5**, 17°.05N**×**99°.66W, h44**km±7km**, MD4.0, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.26	227	eP	Pn	08 03 31.7	+2.9
ACX				iS	Sn	08 03 37.6	+2.9
ACX	Acapulco	0.26	227	eP	Pn	08 03 31.7	+2.9
ACX				iS	Sn	08 03 37.6	+2.9
ACP2	Acapulco	0.28	232	eP	Pn	08 03 27.2	-1.8
ACP2				eS	Sn	08 03 33.5	-1.5
MEIG	Mezcala	0.87	2	eP	Pn	08 03 34.6	-2.0
MEIG				eS	Sn	08 03 45.2	-3.1
MEIG	Mezcala	0.87	2	eP	Pn	08 03 34.6	-2.0
MEIG				eS	Sn	08 03 45.2	-3.1
TLIG	Tlapa	1.16	64	eP	Pn	08 03 38.9	-1.6
TLIG				eS	Sn	08 03 53.1	-2.2
TLIG	Tlapa	1.16	64	eP	Pn	08 03 38.9	-1.6
TLIG				eS	Sn	08 03 53.1	-2.2
HMTT	Tlapaneco	1.29	54	iP	Pn	08 03 41.2	-1.0
HMTT				iS	Sn	08 03 56.1	-2.3
PLIG	Platanillo	1.34	6	eP	Pn	08 03 42.0	-1.0
PLIG				eS	Sn	08 03 57.3	-2.5
PLIG	Platanillo	1.34	6	eP	Pn	08 03 42.0	-1.0
PLIG				eS	Sn	08 03 57.3	-2.5
ARIG	Puente Sto Nin	1.39	332	eP	Pn	08 03 42.7	-0.9
ARIG				eS	Sn	08 03 59.3	-1.6
PNIG	Pinotepa	1.60	114	iP	Pn	08 03 45.7	-0.8
PNIG				eS	Sn	08 04 04.6	-1.5
PNIG	Pinotepa	1.60	114	iP	Pn	08 03 45.7	-0.8
PNIG				eS	Sn	08 04 04.6	-1.5
ZIIG	Zihuatanejo	1.81	288	iP	Pn	08 03 47.9	-1.5
ZIIG				iS	Sn	08 04 08.8	-2.4
ZIIG	Zihuatanejo	1.81	288	iP	Pn	08 03 47.9	-1.5
ZIIG				iS	Sn	08 04 08.8	-2.4
YAIG	Yautepec	1.89	17	eP	Pn	08 03 48.8	-1.8
YAIG				iS	Sn	08 04 11.4	-1.9
YAIG	Yautepec	1.89	17	eP	Pn	08 03 48.8	-1.8
YAIG				iS	Sn	08 04 11.4	-1.9
TPIG	Tehuac#an	2.58	58	eP	Pn	08 03 58.8	-1.3
TPIG				iS	Sn	08 04 27.6	-2.6
TPIG	Tehuac#an	2.58	58	eP	Pn	08 03 58.8	-1.3
TPIG				iS	Sn	08 04 27.6	-2.6
VHO	Vista Hermosa	2.80	89	iP	Pn	08 04 02.3	-0.7
VHO				iS	Sn	08 04 34.5	-1.2
VHO	Vista Hermosa	2.80	89	iP	Pn	08 04 02.3	-0.7
VHO				iS	Sn	08 04 34.5	-1.2

MEX 06 08:03:38.0±0.8**, 16°.10N**×**91°.08W, h17**km±58km**, MD3.8, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.03	280	eP	Pb	08 03 53.4	-4.3
CCIG				eS	Sb	08 04 07.0	-4.0
TGIG		2.08	289	eP	Pn	08 04 09.2	-3.0
TGIG				eS	Sn	08 04 33.7	-4.1
PCIG		2.10	260	eP	Pn	08 04 09.6	-2.8
PCIG				eS	Sn	08 04 34.5	-3.6

*ISK **06** 08:09:14.6, 38°.77N×43°.19E, h6km, ML2.6/5*
*ISCJB **06** 08:09:15.7±0.5, 38°.79N±0°.02×43°.21E±0°.04, h8km±4km, Error ellipse: s-maj=5.8km s-min=3.5km az=158.5*
*CSEM **06** 08:09:15.4±0.3, 38°.78N×43°.23E, h10km, ML2.6, Error ellipse: s-maj=6.3km s-min=3.8km az=70.0*
*DDA **06** 08:09:15.1, 38°.77N×43°.25E, h7km, Ml2.9*
ISC 06 08:09:15.7±0.9**, 38°.76N**±0°.02×**43°.20E**±0°.03**, h14**km±8km**, n26, σ0s.77**/48**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.22	139	PG	Pb	08 09 21.4	-0.2
VANB				SG	Sg	08 09 25.9	+1.8
VANB	Van	0.22	139	ePg	Pb	08 09 21.4	-0.2
VANB				eSg	Sg	08 09 25.9	+1.8
TVAN	Van	0.28	146	iP	Pg	08 09 21.3	-0.5
TVAN				iS	Sg	08 09 26.0	0.0
TVAN	Van	0.28	146	P	Pg	08 09 21.3	-0.5
TVAN				S	Sg	08 09 26.0	0.0
ADCV	BITLIS_Adilcev	0.38	277	iP	Pb	08 09 23.9	-0.4
ADCV				iS	Sb	08 09 30.8	+0.7
ADCV	BITLIS_Adilcev	0.38	277	P	Pb	08 09 23.9	-0.4
ADCV				S	Sb	08 09 30.8	+0.7
GEVA	Gevas	0.46	194	iP	Pg	08 09 24.2	-0.8
GEVA				iS	Sb	08 09 32.1	-0.3
GEVA	Gevas	0.46	194	P	Pg	08 09 24.2	-0.8
GEVA				S	Sb	08 09 32.2	-0.3
TUTA	Tutak	0.71	335	iP	Pg	08 09 29.0	-0.6
TUTA				iS	Sg	08 09 38.6	-0.3
TUTA	Tutak	0.71	335	P	Pg	08 09 29.0	-0.6
TUTA				S	Sg	08 09 38.6	-0.3
AGRB	Hanur-Agry	0.83	349	PG	Pg	08 09 31.1	-0.7
AGRB				SG	Sg	08 09 42.5	-0.3
AGRB	Hanur-Agry	0.83	349	ePg	Pg	08 09 31.1	-0.7
AGRB				eSg	Sg	08 09 42.5	-0.3
GURO	Guroymak-BITLI	0.94	257	PG	Pg	08 09 32.7	-1.2
GURO				SG	Sb	08 09 46.4	+0.2
GURO	Guroymak-BITLI	0.94	257	ePg	Pg	08 09 32.7	-1.2
GURO				eSg	Sb	08 09 46.4	+0.2
EATA	Eleskirt	1.23	334	iP	Pn	08 09 38.5	-0.3
EATA				iS	Sn	08 09 56.6	+1.4
EATA	Eleskirt	1.23	334	P	Pn	08 09 38.5	-0.3
EATA				S	Sn	08 09 56.7	+1.4
HAKT	HAKKARI	1.27	162	iP	Pn	08 09 37.9	-1.3
HAKT				iS	Sg	08 09 57.0	+0.4
HAKT	HAKKARI	1.27	162	P	Pn	08 09 37.9	-1.3
HAKT				S	Sg	08 09 57.0	+0.4
SRTM	Siirt_Merkez	1.27	233	iP	Pg	08 09 40.0	-0.2
SRTM				iS	Sg	08 09 57.5	+0.8
SRTM	Siirt_Merkez	1.27	233	P	Pg	08 09 40.0	-0.2
SRTM				S	Sg	08 09 57.5	+0.8
SIRT	Sirnak	1.40	206	PN	Pb	08 09 41.5	-0.1
SIRT	Sirnak	1.40	206	ePn	Pb	08 09 41.5	-0.1
BTMN	Batman	1.75	241	iP	Pb	08 09 47.4	-0.2
BTMN				iS	Sn	08 10 08.8	+1.0
BTMN	Batman	1.75	241	P	Pb	08 09 47.4	-0.2
BTMN				S	Sn	08 10 08.8	+1.0
SENK	Senkaya-Erzuru	1.91	340	PN	Pn	08 09 48.4	+0.4
SENK	Senkaya-Erzuru	1.91	340	ePn	Pn	08 09 48.4	+0.4

*IDC **06** 08:16:13.3±1.8, 5°.80S×151°.47E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/41, mbtmp3.9/6, ML2.0/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/42, Error ellipse: s-maj=70.4km s-min=20.8km az=121.0*
*ISCJB **06** 08:16:18.6±1.7, 5°.7S±0°.3×151°.1E±0°.4, h41km, mb3.7/5, Error ellipse: s-maj=61.6km s-min=11.5km az=35.6*
ISC 06 08:16:19.7±1.9**, 5°.8S**±0°.3×**151°.3E**±0°.4**, h41**km**, n7, σ0s.83**/8**, mb3.7**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.45	228	Pn	Pn	08 17 39.5	+1.1
	2.9nm,0.3s,baz=45,slow=7.1,SNR=5.5						
PMG				Sn	Sn	08 18 38.8	-1.2
	3.2nm,0.3s,baz=140,slow=18,SNR=4.5						
PMG				LR	LR	08 19 57.9	
	comp=Z,50nm,19.0s,baz=54,slow=40						
WRA	Warramunga Arr	21.67	228	P	P	08 21 06.3	-0.7
	0.9nm,0.3s,baz=54,slow=11,SNR=22						
ASAR	Alice Springs	24.42	221	P	P	08 21 34.5	-0.1
	1.6nm,0.6s,baz=56,slow=8.9,SNR=21						
FITZ	Fitzroy Crossi	27.86	242	P	P	08 22 06.1	+0.4
	1.3nm,0.5s,baz=63,slow=9.6,SNR=7.8						
MJAR	Matsushiro Arr	43.83	345	P	P	08 24 21.8	0.0
	0.5nm,0.3s,baz=176,slow=9.0,SNR=4.6						
ILAR	Eielson Array	83.62	22	P	P	08 28 43.0	-0.5
	0.4nm,0.6s,baz=255,slow=4.3,SNR=7.0						
TORD	Torodi Ar. Bea	149.13	286	PKPbc	PKPbc	08 36 04.8	+0.1
	1.1nm,0.6s,baz=74,slow=2.3,SNR=8.5						

*ISCJB **06** 08:21:12.5±0.5, 39°.52N±0°.03×38°.90E±0°.03, h6km±5km, Error ellipse: s-maj=4.8km s-min=3.8km az=155.7*
*CSEM **06** 08:21:12.6±0.1, 39°.52N×38°.89E, h12km, ML2.5, Error ellipse: s-maj=3.1km s-min=2.6km az=161.0*
*DDA **06** 08:21:12.3, 39°.52N×38°.89E, h7km, Ml2.5*
*ISK **06** 08:21:12.3, 39°.51N×38°.89E, h15km, ML2.6/5*
ISC 06 08:21:12.5±1.0**, 39°.53N**±0°.02×**38°.88E**±0°.02**, h14**km±9km**, n31, σ1s.07**/53**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
REFA	Refahiye_ERZ˜	0.16	214	iP	Pb	08 21 20.6	+3.2
REFA				iS	Sb	08 21 26.5	+5.9
ILIC	ilic-Erzincan	0.25	253	PG	Pb	08 21 18.3	-0.7
ILIC				SG	Sb	08 21 22.3	-1.0
ILIC	ilic-Erzincan	0.25	253	iPg	Pb	08 21 18.3	-0.7
ILIC				eSg	Sb	08 21 22.3	-1.0
KEMA	Kemaliye	0.40	229	iP	Pb	08 21 20.6	-0.8
KEMA				iS	Sg	08 21 25.8	0.0
KEMA	Kemaliye	0.40	229	P	Pb	08 21 20.6	-0.8
KEMA				S	Sg	08 21 25.8	0.0
TNCL	Tunceli-Merkez	0.66	129	iP	Pg	08 21 24.8	-0.5
TNCL				iS	Sb	08 21 34.8	-0.1
TNCL	Tunceli-Merkez	0.66	129	P	Pg	08 21 24.8	-0.5
TNCL				S	Sb	08 21 34.8	-0.1
KELT	Kelkit	0.69	25	iP	Pg	08 21 25.8	-0.1
KELT				iS	Sg	08 21 34.9	-0.1
KELT	Kelkit	0.69	25	P	Pg	08 21 25.8	-0.1
KELT				S	Sg	08 21 34.9	-0.1
PTK	Pertek	0.75	148	PG	Pb	08 21 27.4	0.0
PTK				SG	Sb	08 21 37.3	-0.3
PTK	Pertek	0.75	148	ePg	Pb	08 21 27.4	0.0
PTK				eSg	Sb	08 21 37.3	-0.3
CUZAR	Zara_SIVAS	0.93	293	iP	Pb	08 21 30.4	-0.1
CUZAR				iS	Sn	08 21 44.5	-0.1
CUZAR	Zara_SIVAS	0.93	293	P	Pb	08 21 30.4	-0.1
CUZAR				S	Sn	08 21 44.5	-0.1
HEKM	Malatya_Hekimh	0.96	228	iP	Pn	08 21 31.2	-0.7
HEKM				iS	Sn	08 21 44.9	-0.6
HEKM	Malatya_Hekimh	0.96	228	P	Pn	08 21 31.2	-0.7
HEKM				S	Sn	08 21 44.9	-0.6
CUKAN	kangal_SIVAS	1.11	260	iP	Pb	08 21 33.2	-0.5
CUKAN				iS	Sn	08 21 48.9	-0.3
CUKAN	kangal_SIVAS	1.11	260	P	Pb	08 21 33.2	-0.5
CUKAN				S	Sn	08 21 48.9	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MALT	**Malatya**	**1.26**	**196**	PN	**Pb**	**08 21 35.5**	**-0.7**
MALT				SN	**Sg**	**08 21 53.2**	**0.0**
MALT	**Malatya**	**1.26**	**196**	*e*Pn	**Pb**	**08 21 35.5**	**-0.7**
MALT				*e*Sn	**Sg**	**08 21 53.2**	**0.0**
BAYB	**BAYBURT**	**1.29**	**55**	*i* P	**Pg**	**08 21 37.6**	**+0.3**
BAYB				*i* S	**Sg**	**08 21 55.0**	**+0.9**
BAYB	**BAYBURT**	**1.29**	**55**	P	**Pg**	**08 21 37.6**	**+0.3**
BAYB				S	**Sg**	**08 21 55.0**	**+0.9**
BAYT	**Ayd˜–ntepe-Bay**	**1.30**	**48**	PN	**Pb**	**08 21 36.7**	**-0.1**
BAYT	**Ayd˜–ntepe-Bay**	**1.30**	**48**	*e*Pn	**Pb**	**08 21 36.7**	**-0.1**
DARE	**Darende-Malaty**	**1.45**	**229**	PN	**Pn**	**08 21 38.1**	**-0.3**
DARE	**Darende-Malaty**	**1.45**	**229**	*e*Pn	**Pn**	**08 21 38.1**	**-0.3**
RSDY	**Resadiye-TOKAT**	**1.48**	**307**	PN	**Pn**	**08 21 38.8**	**+0.1**
RSDY	**Resadiye-TOKAT**	**1.48**	**307**	*e*Pn	**Pn**	**08 21 38.8**	**+0.1**
SVSK	**Karacayir**	**1.50**	**286**	PN	**Pb**	**08 21 40.2**	**0.0**
SVSK	**Karacayir**	**1.50**	**286**	*e*Pn	**Pb**	**08 21 40.2**	**0.0**
CUALT	**Altinyayla-SIV**	**1.66**	**262**	*i* P	**Pn**	**08 21 41.9**	**+0.5**
CUALT				*i* S	**Sg**	**08 22 06.9**	**+0.9**
CUALT	**Altinyayla-SIV**	**1.66**	**262**	P	**Pn**	**08 21 41.9**	**+0.5**

*CSEM **06** 08:24:28.7±0.2, 38.°81N×43.°70E, h2km, ML3.3, Error ellipse: s-maj=5.6km s-min=3.4km az=79.0*
*ISK **06** 08:24:28.6, 38.°81N×43.°55E, h5km, ML3.3/13*
*DDA **06** 08:24:29.1, 38.°82N×43.°60E, h14km, Ml3.4*
ISC 06 08:24:29.5±1.0**, 38.°81N**±0.°02×**43.°60E**±0.°02**, h9km**±8km**, n57,** σ1.s**23**/95**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**217**	PG	**Pb**	**08 24 35.9**	**-0.7**
VANB				SG	**Sb**	**08 24 41.4**	**+0.1**
VANB	**Van**	**0.27**	**217**	*e*Pg	**Pb**	**08 24 35.9**	**-0.7**
VANB				*e*Sg	**Sb**	**08 24 41.4**	**+0.1**
ERCV	**ERCIS-VAN**	**0.29**	**316**	PG	**Pg**	**08 24 35.0**	**-0.3**
ERCV				SG	**Sg**	**08 24 40.1**	**+0.8**
ERCV	**ERCIS-VAN**	**0.29**	**316**	*e*Pg	**Pg**	**08 24 35.0**	**-0.3**
ERCV				*e*Sg	**Sg**	**08 24 40.1**	**+0.8**
TVAN	**Van**	**0.32**	**208**	*i* P	**Pg**	**08 24 35.9**	**0.0**
TVAN				*i* S	**Sb**	**08 24 42.0**	**-0.8**
TVAN	**Van**	**0.32**	**208**	P	**Pg**	**08 24 35.9**	**0.0**
TVAN				S	**Sb**	**08 24 42.0**	**-0.8**
GEVA	**Gevas**	**0.65**	**220**	*i* P	**Pg**	**08 24 41.3**	**-0.8**
GEVA				*i* S	**Sb**	**08 24 51.9**	**-0.5**
GEVA	**Gevas**	**0.65**	**220**	P	**Pg**	**08 24 41.3**	**-0.8**
GEVA				S	**Sb**	**08 24 51.9**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.68**	**270**	*i* P	**Pg**	**08 24 42.3**	**-0.4**
ADCV				*i* S	**Sb**	**08 24 52.8**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.68**	**270**	P	**Pg**	**08 24 42.3**	**-0.4**
ADCV				S	**Sb**	**08 24 52.8**	**-0.4**
DYDN	**Diyadin**	**0.73**	**6**	*i* P	**Pg**	**08 24 43.7**	**0.0**
DYDN				*i* S	**Sn**	**08 24 56.0**	**-1.7**
DYDN	**Diyadin**	**0.73**	**6**	P	**Pg**	**08 24 43.7**	**0.0**
DYDN				S	**Sn**	**08 24 56.0**	**-1.7**
BASK	**Baskale_VAN**	**0.82**	**157**	*i* P	**Pg**	**08 24 43.1**	**-2.2**
BASK				*i* S	**Sb**	**08 24 58.1**	**+0.8**
BASK	**Baskale_VAN**	**0.82**	**157**	P	**Pg**	**08 24 43.1**	**-2.2**
BASK				S	**Sb**	**08 24 58.1**	**+0.8**
TUTA	**Tutak**	**0.85**	**314**	*i* P	**Pg**	**08 24 44.9**	**-1.0**
TUTA				*i* S	**Sb**	**08 24 57.5**	**-0.6**
TUTA	**Tutak**	**0.85**	**314**	P	**Pg**	**08 24 44.8**	**-1.0**
TUTA				S	**Sb**	**08 24 57.5**	**-0.6**
AGRB	**Hanur-Agry**	**0.90**	**329**	PG	**Pg**	**08 24 46.0**	**-0.7**
AGRB				SG	**Sb**	**08 24 59.2**	**-0.2**
AGRB	**Hanur-Agry**	**0.90**	**329**	*e*Pg	**Pg**	**08 24 46.0**	**-0.7**
AGRB				*e*Sg	**Sb**	**08 24 59.2**	**-0.2**
IGDI	**IGDIR**	**1.12**	**19**	*i* P	**Pn**	**08 24 50.9**	**-0.5**
IGDI				*i* S	**Sn**	**08 25 09.7**	**+2.7**
GURO	**Guroymak-BITLI**	**1.25**	**258**	PN	**Pn**	**08 24 51.5**	**-1.8**
HAKT	**HAKKARI**	**1.25**	**176**	*i* P	**Pn**	**08 24 51.9**	**-1.5**
HAKT				*i* S	**Sn**	**08 25 12.4**	**+1.9**
HAKT	**HAKKARI**	**1.25**	**176**	P	**Pn**	**08 24 51.9**	**-1.5**
HAKT				S	**Sn**	**08 25 12.4**	**+1.9**
TASB	**TASBURUN-IGDIR**	**1.27**	**23**	PN	**Pg**	**08 24 54.1**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.27**	**23**	*e*Pn	**Pg**	**08 24 54.1**	**+0.2**
EKAR	**Karacoban**	**1.27**	**291**	*i* P	**Pb**	**08 24 53.5**	**-0.3**
EKAR				*i* S	**Sn**	**08 25 12.1**	**+1.1**
EKAR	**Karacoban**	**1.27**	**291**	P	**Pb**	**08 24 53.5**	**-0.3**
EKAR				S	**Sn**	**08 25 12.1**	**+1.1**
YOVA	**Hakkari_Yˆ…kse**	**1.34**	**156**	*i* P	**Pn**	**08 24 53.8**	**-0.7**
YOVA				*i* S	**Sg**	**08 25 15.3**	**+2.7**
YOVA	**Hakkari_Yˆ…kse**	**1.34**	**156**	P	**Pn**	**08 24 53.8**	**-0.7**
YOVA				S	**Sg**	**08 25 15.3**	**+2.7**
EATA	**Eleskirt**	**1.35**	**321**	*i* P	**Pn**	**08 24 53.8**	**-1.1**
EATA				*i* S	**Sg**	**08 25 15.2**	**+2.1**
EATA	**Eleskirt**	**1.35**	**321**	P	**Pn**	**08 24 53.8**	**-1.1**
EATA				S	**Sg**	**08 25 15.2**	**+2.1**
SRTM	**Siirt_Merkez**	**1.55**	**239**	*i* P	**Pb**	**08 24 58.3**	**-0.1**
SRTM				*i* S	**Sg**	**08 25 22.1**	**+2.8**
SRTM	**Siirt_Merkez**	**1.55**	**239**	P	**Pb**	**08 24 58.3**	**-0.1**
SRTM				S	**Sg**	**08 25 22.1**	**+2.8**
CUKT	**Cukurca**	**1.56**	**180**	PN	**Pb**	**08 24 57.9**	**-0.7**
CUKT	**Cukurca**	**1.56**	**180**	*e*Pn	**Pb**	**08 24 57.9**	**-0.7**
SIRT	**Sirnak**	**1.59**	**215**	PN	**Pb**	**08 24 58.7**	**-0.4**
SIRT	**Sirnak**	**1.59**	**215**	*e*Pn	**Pb**	**08 24 58.7**	**-0.4**
SIRN	**S˜–rnak**	**1.61**	**216**	*i* P	**Pb**	**08 24 59.5**	**+0.1**
SIRN				*i* S	**Sg**	**08 25 20.5**	**-0.8**
SIRN	**S˜–rnak**	**1.61**	**216**	P	**Pb**	**08 24 59.5**	**+0.1**
SIRN				S	**Sg**	**08 25 20.5**	**-0.8**
KARS	**Kars**	**1.86**	**348**	PN	**Pb**	**08 25 02.9**	**-0.7**
KARS	**Kars**	**1.86**	**348**	*e*Pn	**Pb**	**08 25 02.9**	**-0.7**
BNGL	**BINGOL**	**1.92**	**275**	*i* P	**Pb**	**08 25 04.0**	**-0.7**
BNGL				*i* S	**Sg**	**08 25 31.3**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.99**	**332**	PN	**Pb**	**08 25 04.6**	**-1.4**
SENK	**Senkaya-Erzuru**	**1.99**	**332**	*e*Pn	**Pb**	**08 25 04.6**	**-1.4**
ERZM	**Erzurum**	**2.04**	**303**	*i* P	**Pb**	**08 25 05.7**	**-1.2**
ERZM				*i* S	**Sb**	**08 25 32.9**	**+0.3**
ERZM	**Erzurum**	**2.04**	**303**	P	**Pb**	**08 25 05.7**	**-1.2**
ERZM				S	**Sb**	**08 25 32.8**	**+0.3**
BTMN	**Batman**	**2.05**	**244**	*i* P	**Pn**	**08 25 04.9**	**+0.8**
BTMN				*i* S	**Sg**	**08 25 34.2**	**-1.1**
BTMN	**Batman**	**2.05**	**244**	P	**Pn**	**08 25 04.9**	**+0.8**
BTMN				S	**Sg**	**08 25 34.2**	**-1.1**
ECAT	**Cat-ERZURUM**	**2.19**	**292**	*i* P	**Pb**	**08 25 08.8**	**-0.5**
ECAT				*i* S	**Sg**	**08 25 38.6**	**-1.1**
ECAT	**Cat-ERZURUM**	**2.19**	**292**	P	**Pb**	**08 25 08.8**	**-0.5**
ECAT				S	**Sg**	**08 25 38.6**	**-1.1**
DIY	**Diyarbakir**	**2.80**	**252**	*e*Pn	**Pb**	**08 25 16.9**	**-2.8**
MAZI	**Mazidag**	**2.83**	**242**	PN	**Pn**	**08 25 16.2**	**+1.3**
MAZI	**Mazidag**	**2.83**	**242**	*e*Pn	**Pn**	**08 25 16.2**	**+1.3**
DYBB	**Diyarbakir**	**2.85**	**254**	PN	**Pn**	**08 25 16.9**	**+1.8**
BAYT	**Ayd˜–ntepe-Bay**	**3.10**	**302**	PN	**Pn**	**08 25 20.5**	**+1.8**
BAYT	**Ayd˜–ntepe-Bay**	**3.10**	**302**	*e*Pn	**Pn**	**08 25 20.5**	**+1.8**
PTK	**Pertek**	**3.28**	**273**	PN	**Pn**	**08 25 22.8**	**+1.6**
PTK	**Pertek**	**3.28**	**273**	*e*Pn	**Pn**	**08 25 22.8**	**+1.6**

IDC 06 08:32:02.7±2.1**, 17.°86S**×**167.°50E, h0km, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.6**/45**, mbtmp3.8**/5**, ML3.3**/1**, MS3.4**/11**, Ms1 3.4**/11**, ms1mx3.1**/39**, Error ellipse: s-maj=49.3km s-min=29.4km az=115.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.31**	**193**	Pn	Pn	08 33 09.1	-0.4
	1.5nm,0.3s,baz=27,slow=12,SNR=9.9						
DZM				Sn	Sn	08 33 59.3	-1.3
	1.8nm,0.3s,baz=108,slow=20,SNR=3.9						
DZM				LR	LR	08 34 10.4	
	comp=Z,114nm,18.4s,baz=21,slow=30						
DZM	**Mont Dzumac**	**4.31**	**193**	*e*Pn	Pn	08 33 09.7	+0.1
	20nm,0.5s						
DZM				*e*Sn	Sn	08 33 49.3	-11
	67nm,0.7s						
DZM				*e*LR	LR	08 33 55.7	
	332nm,23.7s						
HNR	**Honiara**	**11.13**	**318**	LR	LR	08 38 11.3	
	comp=Z,136nm,20.8s,baz=162,slow=33						
AFI	**Afiamalu**	**20.32**	**82**	LR	LR	08 44 06.9	
	comp=Z,30nm,18.7s,baz=208,slow=36						
PMG	**Port Moresby**	**21.46**	**290**	LR	LR	08 44 30.1	
	comp=Z,162nm,18.2s,baz=112,slow=35						
STKA	**Stephens Creek**	**27.24**	**234**	P	P	08 37 50.5	+1.9
	1.9nm,0.6s,baz=72,slow=12,SNR=3.5						
STKA				LR	LR	08 47 46.7	
	comp=Z,111nm,18.6s,baz=30,slow=35						
RAR	**Rarotonga**	**31.00**	**102**	LR	LR	08 50 37.7	
	comp=Z,31nm,18.3s,baz=225,slow=36						
WRA	**Warramunga Arr**	**31.41**	**261**	P	P	08 38 24.4	-1.4
	0.8nm,0.8s,baz=91,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**31.89**	**254**	P	P	08 38 30.2	+0.2
	1.2nm,0.7s,baz=81,slow=8.5,SNR=16						
ASAR				LR	LR	08 51 07.8	
	comp=Z,179nm,19.3s,baz=104,slow=36						
GUMO	**Guam**	**38.41**	**323**	LR	LR	08 53 54.2	
	comp=Z,60nm,21.8s,baz=82,slow=34						
PPT2	**Papeete2**	**40.82**	**96**	*e*LR	LR	08 51 15.5	
	132nm,26.8s						
BATI	**Baumata**	**43.12**	**274**	LR	LR	08 57 26.1	
	comp=Z,46nm,21.1s,baz=156,slow=35						
TAOE	**Nuku Hiva Isla**	**51.58**	**87**	*e*LR	LR	08 56 06.7	
	215nm,26.4s						
YBH	**Yreka Blue Hor**	**87.47**	**45**	LR	LR	09 15 21.5	
	comp=Z,27nm,21.8s,baz=352,slow=30						
ILAR	**Eielson Array**	**89.42**	**18**	P	P	08 45 00.8	-0.1
	0.5nm,0.9s,baz=232,slow=4.4,SNR=4.4						
LPIG	**La Paz**	**90.32**	**65**	LR	LR	09 16 46.1	
	comp=Z,34nm,20.0s,baz=270,slow=30						

*ISCJB **06** 08:45:10.7±1.4, 2.°7S±0.°1×141.°09E±0.°09, h10km, mb3.5/2, Error ellipse: s-maj=19.6km s-min=8.7km az=33.7*
*IDC **06** 08:45:10.8±1.8, 3.°04S×142.°06E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.3/48, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=198.8km s-min=30.3km az=112.0*
*DJA **06** 08:45:11.7±1.9, 3°S±14°×14°1E±°, h10km, M4.2/2, MLv4.2/2*
ISC 06 08:45:11.9±1.5**, 2.°6S**±0.°1×**141.°0E**±0.°1**, h10km, n5,** σ0.s**46**/7**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.34**	**291**	P	**Pb**	**08 45 19.9**	**-0.2**
JAY				S	**Sb**	**08 45 25.5**	**-0.1**
GENI	**Genyem**	**0.86**	**273**	P	**Pg**	**08 45 28.4**	**0.0**
GENI				S	**Sb**	**08 45 41.0**	**+0.6**
WRA	**Warramunga Arr**	**18.40**	**200**	P	**Pn**	**08 49 26.8**	**-0.5**
	0.3nm,0.3s,baz=22,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.01**	**198**	P	**P**	**08 50 07.0**	**+0.3**
	1.5nm,0.6s,baz=29,slow=10,SNR=17						
ILAR	**Eielson Array**	**84.82**	**24**	P	**P**	**08 57 46.6**	**+0.2**
	0.2nm,0.7s,baz=265,slow=4.3,SNR=4.6						

MAN 06 08:46:13, 11.°62N×**125.°51E, h33km, mb4.5, ML3.3, MS3.1, 1C, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.07**	**252**	*e*P	Pb	08 46 19.6	+1.0
BESP				*e*S	Sb	08 46 24.3	+1.8
PLP	**Palo**	**0.69**	**229**	⥣*i*P	Pb	08 46 27.5	+0.8
PLP				*e*S	Sn	08 46 37.5	+1.5
CNP	**Catarman**	**1.21**	**317**	*e*P	Pn	08 46 34.2	+0.6
CNP				*e*S	Sb	08 46 54.9	+4.2

*ISCJB **06** 08:54:20.4±0.5, 39.°12N±0.°04×27.°57E±0.°04, h0km, Error ellipse: s-maj=5.2km s-min=4.5km az=20.9*
*CSEM **06** 08:54:20.4±0.3, 39.°14N×27.°58E, h1km, ML2.2, Error ellipse: s-maj=9.2km s-min=7.5km az=17.0, Suspected Mining explosion.*
*ISK **06** 08:54:20.1, 39.°14N×27.°66E, h9km, ML2.5/3*
*DDA **06** 08:54:21.4, 39.°14N×27.°60E, h7km, Ml2.2, Suspected Mining explosion.*
ISC 06 08:54:19.6±0.9**, 39.°12N**±0.°03×**27.°70E**±0.°03**, h0km, n20,** σ0.s**62**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.25**	**159**	*i* P	**Pb**	**08 54 27.4**	**+0.3**
AKHS				*i* S	**Sb**	**08 54 33.0**	**+1.0**
AKHS	**Akhisar**	**0.25**	**159**	P	**Pb**	**08 54 27.4**	**+0.3**
AKHS				S	**Sb**	**08 54 33.0**	**+1.0**
STEP	**BALIKESIR_Sava**	**0.26**	**3**	*i* P	**Pb**	**08 54 26.5**	**-0.8**
STEP				*i* S	**Sb**	**08 54 31.3**	**-1.1**
STEP	**BALIKESIR_Sava**	**0.26**	**3**	P	**Pb**	**08 54 26.5**	**-0.8**
STEP				S	**Sb**	**08 54 31.3**	**-1.1**
DEMI	**Demirci**	**0.80**	**95**	*i* P	**Pn**	**08 54 37.9**	**-0.3**
DEMI				*i* S	**Sn**	**08 54 50.6**	**-0.2**
DEMI	**Demirci**	**0.80**	**95**	P	**Pn**	**08 54 37.9**	**-0.3**
DEMI				S	**Sn**	**08 54 50.6**	**-0.2**
KULA	**Kula-Manisa**	**0.96**	**128**	PG	**Pb**	**08 54 39.9**	**+0.7**
KULA				SG	**Sn**	**08 54 54.1**	**-0.8**
KULA	**Kula-Manisa**	**0.96**	**128**	*e*Pg	**Pb**	**08 54 39.9**	**+0.7**
URLA	**Izmir**	**1.15**	**229**	PN	**Pb**	**08 54 42.6**	**+0.3**
URLA				SN	**Sb**	**08 54 58.2**	**+0.4**
URLA	**Izmir**	**1.15**	**229**	*e*Pn	**Pb**	**08 54 42.6**	**+0.3**
URLA				*e*Sn	**Sb**	**08 54 58.2**	**+0.4**
TVSB	**Tavsanli**	**1.41**	**76**	PN	**Pg**	**08 54 45.9**	**-0.7**
TVSB	**Tavsanli**	**1.41**	**76**	*e*Pn	**Pg**	**08 54 45.9**	**-0.7**
SIGR	**SIGRI**	**1.44**	**274**	PN	**Pn**	**08 54 46.7**	**-0.2**
SIGR	**SIGRI**	**1.44**	**274**	*e*Pn	**Pn**	**08 54 46.7**	**-0.2**
CHOS	**Chios island**	**1.48**	**241**	PN	**Pn**	**08 54 47.5**	**-0.1**
CHOS	**Chios island**	**1.48**	**241**	*e*Pn	**Pn**	**08 54 47.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.59**	**324**	PN	**Pn**	**08 54 48.5**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.59**	**324**	*e*Pn	**Pn**	**08 54 48.5**	**-0.6**
ALN	**Alexandroupoli**	**2.19**	**325**	PN	**Pn**	**08 54 57.0**	**-0.2**
ALN	**Alexandroupoli**	**2.19**	**325**	*e*Pn	**Pn**	**08 54 57.0**	**-0.2**

*ISCJB **06** 09:00:55.1±0.9, 64.°74N±0.°03×30.°9E±0.°2, h0km, Error ellipse: s-maj=14.0km s-min=4.6km az=174.3*
*IDC **06** 09:00:56.0±3.2, 64.°56N×31.°42E, h0km, mb1 3.0/3, mb1mx2.7/63, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=45.4km s-min=10.5km az=105.0*
*CSEM **06** 09:00:56.6, 64.°74N×31.°08E, h0km, ML1.8, Mining explosion. After HEL*
*HEL **06** 09:00:56.6±0.4, 64.°74N×31.°08E, h0km, ML1.8, Explosion*
ISC 06 09:00:55.9±1.0**, 64.°68N**±0.°03×**30.°56E**±0.°08**, h0km, n12,** σ0.s**71**/20**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.38**	**349**	P	**Pg**	**09 01 21.8**	**-0.5**
KU6				S	**Sg**	**09 01 39.6**	**-0.5**
KU6	**Riekki**	**1.38**	**349**	*e*P	**Pg**	**09 01 21.8**	**-0.5**
KU6				*e*S	**Sg**	**09 01 39.7**	**-0.5**
MSF	**Maaselka**	**1.39**	**333**	P	**Pg**	**09 01 22.1**	**-0.4**
MSF				S	**Sb**	**09 01 41.0**	**0.0**
MSF	**Maaselka**	**1.39**	**333**	*e*P	**Pg**	**09 01 22.2**	**-0.4**
MSF				*e*S	**Sb**	**09 01 41.0**	**0.0**
JOF	**Joensuu**	**1.80**	**169**	P	**Pn**	**09 01 27.8**	**-0.3**
JOF				S	**Sb**	**09 01 53.1**	**+0.4**
JOF	**Joensuu**	**1.80**	**169**	*e*P	**Pn**	**09 01 27.9**	**-0.3**
JOF				*e*S	**Sb**	**09 01 53.1**	**+0.4**
SUF	**Sumiainen**	**2.78**	**227**	P	**Pb**	**09 01 45.7**	**-0.6**
SUF				S	**Sb**	**09 02 20.3**	**-0.6**
	2.5nm,0.2s						
SUF	**Sumiainen**	**2.78**	**227**	*e*P	**Pb**	**09 01 45.7**	**-0.6**
SUF				*e*S	**Sb**	**09 02 20.3**	**-0.6**
SUF				MSG		09 02 27.4	
	comp=Z,2.5nm,0.2s						
FINES	**FINESS Array B**	**3.84**	**214**	Pn	**Pn**	**09 01 57.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=40,slow=13,SNR=4.1						
FINES				Lg	Lg	09 02 59.4	
	comp=Z,0.9nm,0.3s,baz=49,slow=32,SNR=6.4						
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn	**Pn**	**09 02 16.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=159,slow=13,SNR=14						
ARCES				Sn	**Sn**	**09 03 16.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=156,slow=25,SNR=2.9						
I43RU	**DUBNA INFRASON**	**8.62**	**155**	*i*		09 55 20.0	
	baz=345,slow=332,SNR=1.2						
NOA	**NORSAR Array B**	**9.55**	**256**	Pn	**Pn**	**09 03 16.2**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=72,slow=14,SNR=2.6						

*NNC **06** 09:00:53.8±2.9, 53.°57N×87.°91E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=26.7km s-min=11.4km az=49.0*
IDC 06 09:00:55.6±3.4**, 53.°51N**×**87.°78E, h0km, mb1 3.5**/3**, mb1mx3.1**/69**, mbtmp3.5**/3**, ML3.2**/3**, 8C-1D, Error ellipse: s-maj=37.5km s-min=15.4km az=82.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**285**	*i*		09 10 45.6	
	baz=100,slow=336,SNR=1.6						
ZAA0	**Zalesovo Array**	**1.81**	**285**	⥣P	Pn	09 01 26.3	-1.8
	7.3nm,0.3s						
ZAA0				⥣S	Sb	09 01 52.5	-0.4
	90nm,0.8s						
ZALV	**Zalesovo Beam**	**1.81**	**285**	Pn	Pn	09 01 26.5	-1.6
	10nm,0.3s,baz=102,slow=14,SNR=82						
ZALV				Sn	Sn	09 01 51.1	-0.6
	6.5nm,0.3s,baz=105,slow=25,SNR=8.7						
KURK	**Kurchatov**	**6.30**	**247**	⥣Pn	Pn	09 02 29.4	-0.3
	4.2nm,1.3s						
KURK				⥣Lg	Lg	09 04 16.2	
	18nm,1.0s						
KURBB	**Kurchatov Arra**	**6.39**	**247**	Pn	Pn	09 02 30.9	-0.1
	0.2nm,0.3s,baz=62,slow=14,SNR=17						
MK31	**Makanchi Array**	**7.59**	**210**	⥣Pn	Pn	09 02 48.4	+1.0
	0.6nm,0.5s,baz=34,slow=13,SNR=11						
MK31				⥣Sn	Sn	09 04 14.5	+0.3
	2.5nm,0.8s,baz=33,slow=25,SNR=3.8						
MK31				⥣Lg	Lg	09 04 54.0	
	6.1nm,0.8s,baz=43,slow=31,SNR=7.5						
MKAR	**Makanchi Array**	**7.59**	**210**	Pn	Pn	09 02 48.9	+1.4
	0.3nm,0.3s,baz=32,slow=12,SNR=11						
MKAR				Sn	Sn	09 04 13.8	-0.3
	0.2nm,0.3s,baz=32,slow=26,SNR=6.8						
MKAR				Lg	Lg	09 04 56.0	
	0.1nm,0.3s,baz=30,slow=30,SNR=11						
MAKZ	**Makanchi**	**7.67**	**211**	⥥Pn	Pn	09 02 50.1	+1.5
	1.3nm,0.5s						
MAKZ				⥣Lg	Lg	09 04 57.3	
	5.7nm,0.9s						
BVAR	**Borovoye Array**	**10.43**	**274**	Pn	Pn	09 03 26.4	+0.1
	0.4nm,0.3s,baz=83,slow=13,SNR=5.5						

MAN 06 09:04:13, 17.°39N×**119.°84E, h78km, mb4.6, ML3.4, MS3.3, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.00**	**176**	*e*P	Pn	09 04 33.5	+1.6
BOLP				*e*S	Sn	09 04 48.3	+2.1
APYP	**Conner**	**1.42**	**70**	*e*P	Pn	09 04 38.8	+1.6
APYP				*e*S	Sn	09 04 57.6	+2.2

*CSEM **06** 09:06:18.0±1.3, 36.°25N×28.°95E, h1km, MD2.3, Error ellipse: s-maj=21.6km s-min=12.1km az=21.0, Suspected Mining explosion.*
*ISK **06** 09:06:22.7, 36.°85N×29.°14E, h5km, ML2.5/4*
*DDA **06** 09:06:23.1, 36.°51N×29.°18E, h20km, Md2.3, Suspected Mining explosion.*
ISC 06 09:06:19.8±2.1**, 36.°3N**±0.°1×**28.°98E**±0.°04**, h0km, n14,** σ1.s**82**/24**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.34**	**14**	PG	**Pb**	**09 06 27.4**	**-1.4**
FETY				SG	**Sg**	**09 06 31.9**	**+1.1**
FETY	**Fethiye**	**0.34**	**14**	*e*Pg	**Pb**	**09 06 27.4**	**-1.4**
FETY				S	**Sg**	**09 06 31.5**	**+0.7**
TURN	**Turunc**	**0.64**	**332**	PG	**Pn**	**09 06 38.3**	**+2.1**
TURN				SG	**Sn**	**09 06 49.3**	**+2.1**
TURN	**Turunc**	**0.64**	**332**	*i* P	**Pn**	**09 06 39.1**	**+2.9**
TURN				*i* S	**Sn**	**09 06 49.8**	**+2.6**
ELL	**Elmali**	**0.87**	**59**	PG	**Pg**	**09 06 36.3**	**-0.2**
ELL	**Elmali**	**0.87**	**59**	*e*Pg	**Pg**	**09 06 36.3**	**-0.2**
YER	**Yerkesik**	**1.00**	**326**	PG	**Pg**	**09 06 37.8**	**-1.2**
YER				SG	**Sg**	**09 06 49.0**	**-3.0**
YER	**Yerkesik**	**1.00**	**326**	*e*Pg	**Pg**	**09 06 37.8**	**-1.2**
YER				*e*Sg	**Sg**	**09 06 49.0**	**-3.0**
GOLH	**Golhisar**	**1.04**	**26**	*i* P	**Pg**	**09 06 38.3**	**-1.5**
GOLH				*i* S	**Sg**	**09 06 52.0**	**-1.3**
GOLH	**Golhisar**	**1.04**	**26**	P	**Pg**	**09 06 38.3**	**-1.5**
GOLH				S	**Sg**	**09 06 52.0**	**-1.3**
TAVA	**DENIZLI_Tavas**	**1.16**	**357**	*i* P	**Pg**	**09 06 42.1**	**0.0**
TAVA				*i* S	**Sg**	**09 06 55.9**	**-1.2**
TAVA	**DENIZLI_Tavas**	**1.16**	**357**	P	**Pg**	**09 06 42.1**	**0.0**
TAVA				S	**Sg**	**09 06 55.9**	**-1.2**
KORT	**Korkueli**	**1.30**	**57**	PG	**Pg**	**09 06 42.9**	**-1.9**
KORT	**Korkueli**	**1.30**	**57**	*e*Pg	**Pg**	**09 06 42.9**	**-1.9**

*ISCJB **06** 09:15:07.6±0.6, 10.°04S±0.°06×120.°55E±0.°04, h63km±6km, mb3.1/1, Error ellipse: s-maj=9.3km s-min=6.0km az=8.3*
*IDC **06** 09:15:09.3±5.8, 10.°14S×120.°53E, h59km±63km, mb2.9/1, mb1 3.4/5, mb1mx3.2/49, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=42.6km s-min=31.9km az=114.0*
*DJA **06** 09:15:09.4±0.3, 10°S±3°×12°1E±°, h30km±3km, M3.4/7, MLv3.4/7*
ISC 06 09:15:08.8±0.9**, 9.°99S**±0.°06×**120.°56E**±0.°04**, h50km**±9km**, n12,** σ1.s**29**/19**, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.23**	**174**	P	**Pn**	**09 15 17.1**	**-0.3**
BASI				S	**Sn**	**09 15 25.2**	**+1.8**
WSI	**Waingapu**	**0.41**	**322**	P	**Pn**	**09 15 18.6**	**-0.5**
WSI				S	**Sn**	**09 15 26.6**	**+0.2**
WBSI	**Waikabubak, Su**	**1.20**	**287**	P	**Pn**	**09 15 29.5**	**+0.2**
WBSI				S	**Sn**	**09 15 44.9**	**+0.4**
EDFI	**Ende, Flores**	**1.67**	**42**	P	**Pn**	**09 15 35.8**	**+0.1**
EDFI				S	**Sn**	**09 15 55.7**	**-0.3**
MMRI	**Maumere**	**2.14**	**51**	P	**Pn**	**09 15 43.3**	**+1.2**
MMRI				S	**Sn**	**09 16 07.2**	**-0.3**
PLAI	**Plampang**	**2.98**	**293**	P	**Pn**	**09 15 54.7**	**+1.1**
PLAI				S	**Sn**	**09 16 29.0**	**+0.9**
BATI	**Baumata**	**3.07**	**94**	P	**Pn**	**09 15 56.5**	**+1.6**
	4.9nm,0.3s,baz=140,slow=3.5,SNR=6.7						
BATI				S	**Sn**	**09 16 32.0**	**+1.6**
	5.0nm,0.3s,baz=217,slow=20,SNR=3.8						
BATI	**Baumata**	**3.07**	**94**	P	**Pn**	**09 15 56.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**9.45**	**149**	P	**Pn**	**09 17 20.6**	**-1.7**
	0.3nm,0.3s,baz=336,slow=12,SNR=4.7						
FITZ				S	Sn	09 18 57.9	-9.3
	0.5nm,0.3s,baz=198,slow=18,SNR=6.6						
WRA	**Warramunga Arr**	**16.57**	**128**	P	**Pn**	**09 18 55.2**	**-2.7**
	0.1nm,0.3s,baz=303,slow=14,SNR=16						
WRA				S	Sn	09 21 44.6	-16
	baz=308,slow=22,SNR=2.7						
ASAR	**Alice Springs**	**18.64**	**139**	P	**P**	**09 19 22.6**	**+0.1**
	0.1nm,0.3s,baz=329,slow=14,SNR=13						
MKAR	**Makanchi Array**	**66.04**	**332**	P	**P**	**09 25 50.6**	**+0.2**
	0.1nm,0.5s,baz=150,slow=6.7,SNR=4.1						

IDC 06 09:19:22.3±3.6**, 54.°39N**×**86.°87E, h0km, mb1 2.8**/2**, mb1mx2.7**/62**, mbtmp2.8**/2**, ML2.5**/2**, Error ellipse: s-maj=32.3km s-min=20.9km az=43.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**251**	*i*		09 26 29.9	
	baz=71,slow=334,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.28**	**251**	Pg	Pg	09 19 45.2	-1.7
	0.8nm,0.3s,baz=66,slow=15,SNR=4.2						
ZALV				Lg	Lg	09 20 04.0	
	1.0nm,0.3s,baz=59,slow=25,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.33**	**237**	Pn	Pn	09 20 57.6	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=5.3						
MKAR	**Makanchi Array**	**8.14**	**203**	Pn	Pn	09 21 23.1	+1.3
	0.1nm,0.3s,baz=24,slow=12,SNR=3.7						

*ISCJB **06** 09:29:35.6±0.8, 7.°58S±0.°09×106.°72E±0.°05, h57km±11km, mb3.5/4, MS3.1/1, Error ellipse: s-maj=16.1km s-min=5.5km az=21.8*
*DJA **06** 09:29:36.7±0.6, 8°S±4°×10°7E±°, h27km±4km, M4.2/12, mB5.3/1, mb4.4/2, MLv4.2/12, Mw(mB)4.7/1*
*IDC **06** 09:29:37.0±4.8, 7.°19S×106.°63E, h82km±36km, mb3.3/4, mb1 3.5/4, mb1mx3.0/61, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/21, Error ellipse: s-maj=70.5km s-min=23.9km az=52.0*
ISC 06 09:29:36.5±1.3**, 7.°55S**±0.°09×**106.°73E**±0.°05**, h50km**±14km**, n21,** σ1.s**58**/26**, mb3.3**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.57**	**342**	P	**Pn**	**09 29 48.4**	**-0.3**
SKJI				S	**Sn**	**09 29 56.9**	**-0.5**
CISI	**Cisompet, Garu**	**1.07**	**90**	P	**Pn**	**09 29 54.9**	**-0.4**
CISI				S	**Sn**	**09 30 08.6**	**-0.6**
LEM	**Lembang**	**1.14**	**51**	P	**Pn**	**09 29 56.8**	**+0.4**
	261nm,0.3s,baz=206,slow=2.4,SNR=181						
LEM				S	**Sn**	**09 30 11.9**	**+1.0**
	303nm,0.3s,baz=133,slow=23,SNR=8.6						

LEM				LR	LR	09 30 38.9	
	comp=Z,183nm,21.9s,baz=299,slow=60						
LEM	**Lembang**	**1.14**	**51**	P	**Pn**	**09 29 56.7**	**+0.4**
LEM				S	**Sn**	**09 30 13.4**	**+2.5**
CGJI	**Cibinong**	**1.39**	**312**	P	**Pn**	**09 29 59.2**	**-0.4**
CGJI				S	**Sn**	**09 30 14.9**	**-1.9**
SBJI	**Serang**	**1.54**	**337**	P	**Pn**	**09 30 01.9**	**+0.2**
SBJI				S	**Sn**	**09 30 21.9**	**+1.3**
CMJI	**Cimerak**	**1.72**	**98**	P	**Pn**	**09 30 03.9**	**-0.1**
CMJI				S	**Sn**	**09 30 24.4**	**-0.4**
JCJI	**Jatiwangi**	**1.86**	**55**	P	**Pn**	**09 30 05.2**	**-0.7**
JCJI				S	**Sn**	**09 30 27.2**	**-1.0**
KASI	**Kota Agung**	**3.00**	**312**	P	**Pn**	**09 30 25.2**	**+3.6**
MDSI	**Maura Dua**	**3.97**	**320**	P	**Pn**	**09 30 36.0**	**+1.1**
PCJI	**Pacitan**	**4.45**	**99**	P	**Pn**	**09 30 44.1**	**+2.6**
PCJI				S	**Sn**	**09 31 30.1**	**-2.0**
PWJI	**Pagerwojo**	**5.05**	**96**	P	**Pn**	**09 30 51.9**	**+2.2**
PWJI				S	**Sn**	**09 31 48.7**	**+1.9**
WRA	**Warramunga Arr**	**29.45**	**118**	P	**P**	**09 35 34.6**	**-1.3**
	0.2nm,0.6s,baz=288,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**30.59**	**125**	P	**P**	**09 35 46.8**	**+0.8**
	0.2nm,0.5s,baz=303,slow=8.3,SNR=6.0						
H08S2	**Diego Garcia H**	**33.93**	**268**	T	T	10 11 43.8	
	baz=92,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**33.94**	**268**	T	T	10 11 47.0	
	baz=92,slow=76,SNR=33						
H08S1	**Diego Carcia H**	**33.95**	**268**	T	T	10 11 46.2	
	baz=92,slow=76,SNR=41						
PMG	**Port Moresby**	**40.01**	**96**	LR	LR	09 58 22.2	
	comp=Z,27nm,18.6s,baz=48,slow=43						
STKA	**Stephens Creek**	**40.47**	**131**	P	**P**	**09 37 10.4**	**-0.2**
	2.8nm,0.5s,baz=308,slow=10,SNR=10						
MKAR	**Makanchi Array**	**58.31**	**340**	P	P	09 39 20.6	-5.8
	0.2nm,0.4s,baz=161,slow=8.6,SNR=4.4						
TXAR	**Lajitas Array**	**144.13**	**49**	PKP	**PKPab**	**09 49 03.3**	**-2.0**
	0.1nm,0.4s,baz=306,slow=1.8,SNR=7.1						

*IDC **06** 09:33:45.3±1.1, 2°.18N×98°.02E, h0km, mb4.2/13, mb1 4.2/14, mb1mx3.9/67, mbtmp4.2/14, ML4.5/1, Error ellipse: s-maj=42.5km s-min=17.0km az=52.0*
*ISCJB **06** 09:33:51.0±0.5, 2°.02N±0°.04×97°.72E±0°.05, h66km±4km, mb4.3/20, Error ellipse: s-maj=8.1km s-min=5.8km az=159.5*
*DJA **06** 09:33:51.5±0.6, 2°N±3°×9°8E±°, h50km±13km, M3.9/9, MLv3.9/9*
*NEIC **06** 09:33:52.5±0.8, 2°.02N×97°.77E, h60km±7km, mb4.7/6, Error ellipse: s-maj=10.3km s-min=9.1km az=66.0*
ISC 06 09:33:51.4±1.0**, 2°.02N**±0°.03×**97°.74E**±0°.05**, h48**km±10km**, n49, σ1s.78**/57**, mb4.4**/20**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.73**	**193**	P	**Pn**	**09 34 05.4**	**-0.1**
GSI				S	**Sn**	**09 34 16.8**	**+1.2**
GSI	**Gunungsitoli**	**0.73**	**193**	*e*Pn	**Pn**	**09 34 05.9**	**+0.5**
GSI				*e*Sn	**Sn**	**09 34 15.3**	**-0.3**
TPTI		**1.36**	**336**	P	**Pn**	**09 34 14.1**	**+0.2**
TPTI				S	**Sn**	**09 34 30.9**	**+0.1**
PSI	**Prapat**	**1.42**	**57**	Pg	**Pn**	**09 34 16.1**	**+1.3**
	8.0nm,0.3s,baz=258,slow=5.9,SNR=21						
PSI				Lg	Lg	09 34 32.2	
	30nm,0.3s,baz=194,slow=4.2,SNR=13						
PSI	**Prapat**	**1.42**	**57**	*e*Pn	**Pn**	**09 34 16.0**	**+1.2**
PSI				*e*Sn	**Sn**	**09 34 24.8**	**-7.6**
PSI				Lg	Lg	09 34 32.2	
KCSI	**Kotacane, Aceh**	**1.50**	**1**	P	**Pn**	**09 34 16.8**	**+1.0**
KCSI				S	**Sn**	**09 34 35.7**	**+1.5**
TSI	**Tuntungan**	**1.69**	**29**	P	**Pn**	**09 34 20.9**	**+2.5**
TSI				S	**Sn**	**09 34 43.8**	**+4.9**
MNSI	**Mandailing Nat**	**2.20**	**123**	P	**Pn**	**09 34 27.4**	**+1.9**
MLSI	**Meulaboh, Aceh**	**2.60**	**329**	P	**Pn**	**09 34 30.9**	**-0.1**
MLSI				S	**Sn**	**09 35 01.5**	**+0.1**
LHMI	**Lhok Sumawe**	**3.29**	**346**	S	**Sn**	**09 35 19.3**	**+1.0**
LHMI	**Lhok Sumawe**	**3.29**	**346**	*e*Pn	**Pn**	**09 34 41.4**	**+1.0**
LHMI				*e*Sn	**Sn**	**09 35 15.2**	**-3.1**
IPM	**Ipoh**	**4.09**	**53**	*e*Pn	**Pn**	**09 34 53.8**	**+2.3**
IPM				*e*Sn	**Sn**	**09 35 38.7**	**+0.6**
KULM	**Kulim**	**4.36**	**42**	*e*Pn	**Pn**	**09 34 56.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**16.38**	**4**	Pn	**Pn**	**09 37 34.6**	**-3.5**
	0.7nm,0.3s,baz=194,slow=12,SNR=3.2						
KKM	**Kota Kinabalu**	**18.85**	**77**	*e*P	**Pn**	**09 38 09.5**	**+0.8**
	6.4nm,0.7s						
LUWI	**Luwuk**	**25.21**	**97**	*e*P	**P**	**09 39 11.5**	**-1.3**
	63nm,1.2s						
DGAR	**Diego Garcia**	**26.91**	**249**	*e*P	**P**	**09 39 30.8**	**+2.5**
	139nm,1.4s						
WR1	**Warramunga Arr**	**42.02**	**123**	*e*P	**P**	**09 41 37.6**	**-0.8**
WRA	**Warramunga Arr**	**42.02**	**123**	P	**P**	**09 41 37.6**	**-0.8**
	1.2nm,0.6s,baz=302,slow=9.1,SNR=25						
ASAR	**Alice Springs**	**43.46**	**128**	P	**P**	**09 41 49.4**	**-0.7**
	0.5nm,0.4s,baz=299,slow=7.6,SNR=14						
SONA0	**Songino Array**	**46.25**	**8**	*e*P	**P**	**09 42 11.7**	**-0.3**
SONM	**Songino Array**	**46.25**	**8**	P	**P**	**09 42 11.7**	**-0.3**
	2.9nm,0.5s,baz=184,slow=9.0,SNR=12						
SONA1	**Songino Array**	**46.26**	**8**	*e*P	**P**	**09 42 11.9**	**-0.3**
MK01	**Makanchi Array**	**46.56**	**345**	*e*P	**P**	**09 42 13.8**	**-0.6**
MKAR	**Makanchi Array**	**46.59**	**345**	P	**P**	**09 42 14.3**	**-0.3**
	3.2nm,0.7s,baz=158,slow=8.2,SNR=26						
MKAR	**Makanchi Array**	**46.59**	**345**	*e*P	**P**	**09 42 13.4**	**-1.1**
	24nm,1.0s						
MK31	**Makanchi Array**	**46.59**	**345**	*e*P	**P**	**09 42 13.4**	**-1.2**
MK32	**Makanchi Array**	**46.59**	**345**	*e*P	**P**	**09 42 14.3**	**-0.3**
MAKZ	**Makanchi**	**46.68**	**345**	*e*P	**P**	**09 42 15.0**	**-0.3**
	2.6nm,0.7s						
GEYT	**Alibeck**	**50.94**	**319**	P	P	09 42 53.1	+4.9
	2.7nm,0.5s,baz=156,slow=11,SNR=5.4						
KURBB	**Kurchatov Arra**	**51.09**	**344**	P	**P**	**09 42 48.7**	**-0.3**
	2.1nm,0.6s,baz=166,slow=6.9,SNR=20						
KURK	**Kurchatov**	**51.15**	**344**	*e*P	**P**	**09 42 49.4**	**-0.1**
ZAA0	**Zalesovo Array**	**52.84**	**350**	*e*P	**P**	**09 43 01.5**	**-0.5**
	6.1nm,0.4s						
ZALV	**Zalesovo Beam**	**52.84**	**350**	P	**P**	**09 43 01.6**	**-0.4**
	5.2nm,0.3s,baz=174,slow=7.0,SNR=27						
ZALV	**Zalesovo Beam**	**52.84**	**350**	*e*P	**P**	**09 43 01.4**	**-0.6**
ZAA1	**Zalesovo Array**	**52.85**	**350**	*e*P	**P**	**09 43 01.6**	**-0.4**
KLR	**Kul'dur**	**55.29**	**26**	P	**P**	**09 43 18.9**	**-0.9**
	0.1nm,0.4s,baz=232,slow=12,SNR=6.0						
BVAR	**Borovoye Array**	**55.66**	**340**	P	**P**	**09 43 21.8**	**-0.7**
	2.0nm,0.5s,baz=142,slow=9.4,SNR=9.7						
BRVK	**Borovoye**	**55.73**	**340**	*e*P	**P**	**09 43 22.3**	**-0.7**
	2.9nm,0.5s						
AKTO	**Aktyubinsk**	**58.77**	**331**	P	**P**	**09 43 46.9**	**+2.4**
	2.5nm,0.6s,baz=143,slow=6.0,SNR=9.7						
KBZ	**Khabaz**	**63.82**	**319**	P	**P**	**09 44 20.9**	**+2.2**
	2.0nm,0.8s,baz=72,slow=6.4,SNR=3.2						
TIXI	**Tiksi**	**72.29**	**10**	P	**P**	**09 45 10.0**	**-1.4**
	0.9nm,0.4s,baz=255,slow=3.6,SNR=3.3						
SEY	**Seymchan**	**72.80**	**23**	P	**P**	**09 45 14.1**	**-0.5**
	0.4nm,0.3s,baz=205,slow=19,SNR=4.2						
FIA0	**FINESS Array S**	**79.53**	**332**	*e*P	**P**	**09 45 52.4**	**-0.4**
FINES	**FINESS Array B**	**79.53**	**332**	P	**P**	**09 45 52.4**	**-0.4**
	0.5nm,0.4s,baz=87,slow=4.7,SNR=3.4						
ARA0	**ARCESS Array S**	**81.95**	**340**	*e*P	**P**	**09 46 05.3**	**-0.4**
ARCES	**ARCESS Array B**	**81.95**	**340**	P	**P**	**09 46 05.3**	**-0.4**
	1.3nm,0.8s,baz=76,slow=5.1,SNR=4.8						
CLL	**Collm**	**85.14**	**321**	*e*P	**P**	**09 46 22.0**	**-0.4**
TXAR	**Lajitas Array**	**142.69**	**32**	PKP	**PKPdf**	**09 53 22.8**	**+2.6**
	0.1nm,0.3s,baz=238,slow=0.7,SNR=3.7						

*ISCJB **06** 09:40:21.0±0.5, 16°.23S±0°.06×72°.16W±0°.07, h100km, mb3.6/7, Error ellipse: s-maj=12.0km s-min=4.4km az=141.4*
*GUC **06** 09:40:25.9±0.5, 16°.85S×72°.55W, h65km, ML5.0*
*IDC **06** 09:40:25.5±1.6, 15°.94S×71°.95W, h129km±13km, mb3.5/7, mb1 3.7/11, mb1mx3.5/37, mbtmp3.9/11, Error ellipse: s-maj=23.6km s-min=11.2km az=26.0*
ISC 06 09:40:22.2±0.7**, 16°.24S**±0°.07×**72°.13W**±0°.08**, h100**km**, n18, σ1s.77**/27**, mb3.6**/7**, 1C-1D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCH	**Arica**	**2.84**	**142**	*e*P	**Pn**	**09 41 08.2**	**+2.3**
ARCH				*e*S	**Sn**	**09 41 40.4**	**+1.0**
ARCH				IAML		09 41 43.0	
	comp=E,4µm,0.4s						
PB12	**IPOC Station P**	**2.92**	**144**	*e*P	**Pn**	**09 41 08.8**	**+1.8**
PB12				*i* S	**Sn**	**09 41 41.6**	**+0.1**
PB12				IAML		09 41 45.0	
	comp=E,6µm,0.1s						
MNMC	**Minye Minye**	**3.75**	**140**	*e*P	**Pn**	**09 41 19.9**	**+1.6**
MNMC				*i* S	**Sn**	**09 42 01.5**	**-0.3**
MNMC				IAML		09 42 08.6	
	comp=N,1µm,0.2s						
LPAZ	**La Paz**	**3.84**	**91**	P	**Pn**	**09 41 22.9**	**+3.0**
	comp=N,4.5nm,0.3s,baz=305,slow=8.6,SNR=78						
LPAZ				S	**Sn**	**09 42 05.9**	**+1.5**
	comp=N,1.6nm,0.3s,baz=30,slow=18,SNR=4.5						
PSGC	**Pisagua**	**3.84**	**150**⇑	*e*	**Pn**	**09 41 19.2**	**-0.2**
PSGC				*e*P	**Pn**	**09 41 20.9**	**+1.5**
PSGC				*i* S	**Sn**	**09 42 02.4**	**-1.3**
PB11	**IPOC Station P**	**4.22**	**146**	*e*P	**Pn**	**09 41 25.9**	**+1.4**
PB11				*i* S	**Sn**	**09 42 11.4**	**-1.4**
PB08	**IPOC Station P**	**4.80**	**144**⇓	*e*P	**Pn**	**09 41 34.4**	**+1.8**
PB08				*e*S	**Sn**	**09 42 26.2**	**-1.0**
NNA	**Nana**	**6.23**	**312**	P	**Pn**	**09 41 54.1**	**+2.4**
	comp=N,5.5nm,0.3s,baz=130,slow=11,SNR=7.8						
NNA				S	**Sn**	**09 43 02.0**	**+0.4**
	comp=N,3.1nm,0.3s,baz=38,slow=17,SNR=3.8						
SIV	**San Ignacio**	**10.63**	**90**	P	**Pn**	**09 42 51.4**	**-0.2**
	comp=N,0.3nm,0.3s,baz=283,slow=12,SNR=9.1						
PTGA	**Pitinga**	**19.53**	**39**	P	**P**	**09 44 39.5**	**-2.4**
	comp=N,2.8nm,0.3s,baz=212,slow=12,SNR=10						
PLCA	**Paso Flores**	**24.44**	**177**	P	**P**	**09 45 35.3**	**+3.6**
	comp=N,1.9nm,0.7s,baz=25,slow=13,SNR=5.9						
TXAR	**Lajitas Array**	**54.59**	**326**	P	**P**	**09 49 40.6**	**0.0**
	comp=N,0.5nm,1.0s,baz=148,slow=7.2,SNR=4.3						
ULM	**Lac du Bonnet**	**69.43**	**344**	P	**P**	**09 51 18.6**	**-0.8**
	comp=N,1.8nm,0.6s,baz=150,slow=4.8,SNR=5.0						
NVAR	**Mina Array Bea**	**69.49**	**323**	P	**P**	**09 51 19.5**	**-0.8**
	comp=N,0.3nm,0.6s,baz=123,slow=4.5,SNR=3.8						
KOWA	**Kowa**	**73.88**	**69**	P	**P**	**09 51 44.7**	**-2.1**
	comp=N,0.9nm,0.5s,baz=264,slow=10,SNR=3.5						
TORD	**Torodi Ar. Bea**	**78.59**	**73**	P	**P**	**09 52 11.1**	**-2.4**
	comp=N,0.7nm,0.7s,baz=252,slow=4.5,SNR=11						
YKA	**Yellowknife Ar**	**85.25**	**342**	P	**P**	**09 52 47.1**	**-0.2**
	comp=N,0.8nm,0.6s,baz=136,slow=5.2,SNR=23						
WRA	**Warramunga Arr**	**135.62**	**217**	PKP	**PKPdf**	**09 59 29.9**	**-1.9**
	comp=N,0.5nm,1.0s,baz=167,slow=5.6,SNR=3.4						

*JMA **06** 09:43:02.1±0.3, 36°.38N×142°.07E, h53km, M2.8*
*IDC **06** 09:43:03.6±2.7, 36°.55N×141°.78E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/65, mbtmp3.2/4, ML2.8/1, Error ellipse: s-maj=71.0km s-min=32.0km az=59.0*
*ISCJB **06** 09:43:04.6±1.3, 36°.45N±0°.07×141°.8E±0°.1, h26km, mb3.4/3, Error ellipse: s-maj=14.1km s-min=9.8km az=0.4*
ISC 06 09:43:06.6±1.5**, 36°.48N**±0°.06×**141°.72E**±0°.10**, h26**km**, n12, σ1s.42**/15**, mb3.5**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.94**	**278**	P	**Pn**	**09 43 23.3**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.97**	**310**	P	**Pn**	**09 43 23.7**	**-0.9**
CHOJ	**Chosi**	**1.05**	**222**	P	**Pn**	**09 43 22.8**	**-2.8**
JFK	**Kawauchi**	**1.12**	**323**	P	**Pn**	**09 43 25.2**	**-1.4**
JFT	**Otama**	**1.52**	**313**	P	**Pn**	**09 43 32.2**	**+0.1**
JMM	**Marumori**	**1.57**	**332**	P	**Pn**	**09 43 30.9**	**-1.9**
JMM				*e*S	**Sb**	**09 43 53.0**	**-1.4**
JAG	**Ashikaga**	**1.83**	**269**	P	**Pn**	**09 43 36.2**	**-0.2**
JAG				*e*S	**Sb**	**09 44 00.1**	**-1.8**
MJAR	**Matsushiro Arr**	**2.83**	**272**	Pn	**Pn**	**09 43 50.5**	**+0.4**
	1.4nm,0.3s,baz=83,slow=8.6,SNR=14						
MAT	**Matsushiro**	**2.83**	**272**	P	**Pn**	**09 43 51.1**	**+0.9**
MAT				*e*S	**Sb**	**09 44 30.3**	**-0.5**
MKAR	**Makanchi Array**	**44.62**	**303**	P	**P**	**09 51 17.2**	**+0.5**
	0.4nm,0.6s,baz=90,slow=8.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**46.54**	**308**	P	**P**	**09 51 32.7**	**+1.0**
	0.4nm,0.7s,baz=83,slow=7.9,SNR=3.4						
WRA	**Warramunga Arr**	**56.55**	**188**	P	**P**	**09 52 48.4**	**+1.5**
	0.2nm,0.7s,baz=5.3,slow=8.1,SNR=5.5						

IDC 06 09:47:56.5±2.6**, 53°.59N**×**86°.96E, h0**km**, mb1 2.6**/2**, mb1mx2.6**/68**, mbtmp2.6**/2**, ML2.4**/2**, Error ellipse: s-maj=26.1km s-min=15.1km az=70.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**287**	*i*		09 55 02.0	
	baz=105,slow=341,SNR=0.6						
ZALV	**Zalesovo Beam**	**1.32**	**287**	Pg	Pg	09 48 20.2	-1.6
	1.6nm,0.3s,baz=103,slow=16,SNR=15						
ZALV				Lg	Lg	09 48 39.7	
	1.2nm,0.3s,baz=109,slow=29,SNR=9.8						
KURBB	**Kurchatov Arra**	**5.98**	**244**	Pn	Pn	09 49 26.6	+0.4
	0.0nm,0.3s,baz=59,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**7.43**	**206**	Pn	Pn	09 49 47.8	+1.6
	0.1nm,0.3s,baz=25,slow=13,SNR=7.8						

*ISK **06** 09:49:18.5, 40°.54N×43°.10E, h18km, ML2.5/4*
*ISCJB **06** 09:49:19.1±0.5, 40°.51N±0°.03×43°.04E±0°.03, h0km, Error ellipse: s-maj=4.7km s-min=3.4km az=19.5*
*CSEM **06** 09:49:19.2±0.2, 40°.51N×43°.07E, h1km, ML2.5, Error ellipse: s-maj=4.3km s-min=3.6km az=28.0, Suspected Mining explosion.*
*DDA **06** 09:49:19.1, 40°.53N×43°.09E, h7km, Ml2.8, Suspected Mining explosion.*
ISC 06 09:49:18.9±0.9**, 40°.48N**±0°.03×**43°.00E**±0°.03**, h0**km**, n25, σ0s.61**/38**, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.16**	**22**	PG	**Pg**	**09 49 22.2**	**+0.3**
KARS				SG	**Sg**	**09 49 24.9**	**+0.9**
KARS	**Kars**	**0.16**	**22**	*i* Pg	**Pg**	**09 49 22.2**	**+0.3**
KARS				*e*Sg	**Sg**	**09 49 24.9**	**+0.9**
DIGO	**Kars**	**0.29**	**103**	*i* P	**Pg**	**09 49 24.4**	**-0.1**
DIGO				*i* S	**Sg**	**09 49 29.0**	**+0.7**
DIGO	**Kars**	**0.29**	**103**	P	**Pg**	**09 49 24.4**	**-0.1**
DIGO				S	**Sg**	**09 49 29.0**	**+0.7**
EAK	**Akyaka**	**0.50**	**66**	*i* P	**Pg**	**09 49 28.2**	**-0.4**
EAK				*i* S	**Sg**	**09 49 36.0**	**+0.9**
EAK	**Akyaka**	**0.50**	**66**	P	**Pg**	**09 49 28.2**	**-0.4**
EAK				S	**Sg**	**09 49 36.0**	**+0.9**
SENK	**Senkaya-Erzuru**	**0.50**	**279**	PG	**Pb**	**09 49 30.2**	**-0.6**
SENK				SG	**Sb**	**09 49 39.0**	**+0.2**
SENK	**Senkaya-Erzuru**	**0.50**	**279**	*i* Pg	**Pb**	**09 49 30.2**	**-0.6**
SENK				*e*Sg	**Sb**	**09 49 39.0**	**+0.2**
EATA	**Eleskirt**	**0.73**	**212**	*i* P	**Pb**	**09 49 34.7**	**0.0**
EATA	**Eleskirt**	**0.73**	**212**	P	**Pb**	**09 49 34.7**	**0.0**
AGRB	**Hanur-Agry**	**0.91**	**181**	PG	**Pb**	**09 49 37.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.91**	**181**	*e*Pg	**Pb**	**09 49 37.7**	**+0.1**
AKH	**Akhalkalaki**	**1.00**	**22**	PG	**Pg**	**09 49 36.9**	**-1.2**
AKH	**Akhalkalaki**	**1.00**	**22**	*e*Pg	**Pg**	**09 49 36.9**	**-1.2**
DAGI	**Agillar**	**1.02**	**306**	*i* P	**Pb**	**09 49 39.3**	**-0.2**
DAGI				*i* S	**Sb**	**09 49 53.7**	**+0.2**
DDEM	**Demirkent**	**1.04**	**294**	*i* P	**Pb**	**09 49 39.7**	**-0.1**
DDEM	**Demirkent**	**1.04**	**294**	P	**Pb**	**09 49 39.7**	**-0.1**
EPOS	**Posof**	**1.04**	**349**	*i* P	**Pg**	**09 49 38.0**	**-0.9**
EPOS				*i* S	**Sg**	**09 49 52.8**	**+0.4**
EPOS	**Posof**	**1.04**	**349**	P	**Pg**	**09 49 38.0**	**-0.9**
EPOS				S	**Sg**	**09 49 52.8**	**+0.4**
TASB	**TASBURUN-IGDIR**	**1.07**	**117**	PG	**Pg**	**09 49 38.4**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.07**	**117**	*e*Pg	**Pg**	**09 49 38.4**	**-1.0**
ARTV	**Artvin**	**1.08**	**311**	*i* P	**Pg**	**09 49 39.8**	**+0.2**
ARTV				*i* S	**Sg**	**09 49 54.0**	**+0.5**
ARTV	**Artvin**	**1.08**	**311**	P	**Pg**	**09 49 39.8**	**+0.2**
ARTV				S	**Sg**	**09 49 54.0**	**+0.5**
DBAD	**Bademkaya**	**1.13**	**299**	*i* P	**Pn**	**09 49 42.0**	**-0.1**
DBAD	**Bademkaya**	**1.13**	**299**	P	**Pn**	**09 49 42.0**	**-0.1**

JMA 06 09:49:50.7±0.1**, 35°.79N**×**140°.88E, h29**km±1km**, M1.7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**191**	P	Pb	09 49 55.6	-0.2
CHOJ				S	Sb	09 49 59.4	+0.1
JYT	**Yasato**	**0.71**	**308**	P	Pb	09 50 04.0	-0.5
JYT				S	Sb	09 50 13.1	-0.8

*NIED **06** 09:50:00, 37°.70N×141°.90E, h56km, Mw4.4 Best double couple: Mo4.86000×10^15 NP1:φs190.00000°, δ38.00000°, λ94.00000°. NP2:φs5.00000°, δ53.00000°, λ87.00000°.*
*BJI **06** 09:50:19.2, 37°.50N×141°.79E, h45km, mb4.7/44, mB4.9/26, Ms4.2/16, Ms7 4.0/14*
*JMA **06** 09:50:19.6, 37°.77N×141°.78E, h50km±1km, M4.5*
JMA Felt II J1.
*MOS **06** 09:50:19.4±0.9, 37°.81N×141°.73E, h41km, mb4.8/62, Error ellipse: s-maj=7.4km s-min=4.9km az=101.1*
*ISCJB **06** 09:50:20.2±0.4, 37°.76N±0°.02×141°.68E±0°.03, h46km±3km, mb4.6/116, MS3.5/21, Error ellipse: s-maj=4.8km s-min=3.3km az=38.2*
*IDC **06** 09:50:22.9±0.6, 37°.78N×141°.70E, h57km±4km, mb4.2/35, mb1 4.3/40, mb1mx4.2/71, mbtmp4.5/40, MS3.4/23, Ms1 3.4/23, ms1mx3.2/59, Error ellipse: s-maj=11.3km s-min=10.5km az=116.0*
*NEIC **06** 09:50:22.4±0.5, 37°.76N×141°.66E, h52km±4km, mb4.6/50, Error ellipse: s-maj=4.4km s-min=3.7km az=129.0*
NEIC Recorded [2 JMA] in Fukushima and Miyagi.
ISC 06 09:50:21.7±0.5**, 37°.76N**±0°.04×**141°.80E**±0°.04**, h49**km±4km**, h49**km**:pP-P, n284, σ1s.32**/304**, mb4.6**/116**, MS3.5**/21**, 14C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.78**	**333**	P	**Pn**	**09 50 34.2**	**-2.2**
JIO				*e*S	**Sn**	**09 50 44.4**	**-2.7**
JMM	**Marumori**	**0.80**	**278**	P	**Pn**	**09 50 34.5**	**-2.2**
JMM				*e*S	**Sn**	**09 50 45.3**	**-2.3**
JFK	**Kawauchi**	**0.83**	**242**	P	**Pn**	**09 50 35.0**	**-2.1**
ONAJ	**Iwakimizuishiy**	**1.03**	**231**	P	**Pn**	**09 50 37.7**	**-2.1**
ONAJ				*e*S	**Sn**	**09 50 51.3**	**-1.9**
JOU	**Okura**	**1.08**	**305**	P	**Pn**	**09 50 38.5**	**-2.0**
JFT	**Otama**	**1.18**	**259**	P	**Pn**	**09 50 40.4**	**-1.5**
JMK	**Ichinoseki**	**1.27**	**339**	P	**Pn**	**09 50 41.3**	**-1.8**
JYS	**Shirataka**	**1.44**	**289**	P	**Pn**	**09 50 43.6**	**-1.8**
JYK	**Kaneyama**	**1.62**	**316**	P	**Pn**	**09 50 46.1**	**-1.7**
JFY	**Yanaizu**	**1.70**	**259**	P	**Pn**	**09 50 47.4**	**-1.5**
JOM	**Ohasama**	**1.76**	**347**	P	**Pn**	**09 50 48.2**	**-1.5**
JYA	**Atsumi**	**1.84**	**298**	P	**Pn**	**09 50 49.3**	**-1.5**
JRG	**Rokugo**	**1.87**	**331**	P	**Pn**	**09 50 50.2**	**-1.1**
MJAR	**Matsushiro Arr**	**3.11**	**248**	P	**Pn**	**09 51 07.5**	**-0.8**
	14nm,0.3s,baz=54,slow=10,SNR=79						
MJAR				LR	LR	09 52 33.8	
	comp=Z,731nm,19.8s,baz=75,slow=43						
MAJO	**Matsushiro**	**3.11**	**248**	*e*Pn	**Pn**	**09 51 08.0**	**-0.3**
MAJO				*e*Sn	**Sn**	**09 51 40.5**	**-3.8**
MAJO	**Matsushiro**	**3.11**	**248**	*i* P	**Pn**	**09 51 07.8**	**-0.5**
MAT	**Matsushiro**	**3.11**	**248**	P	**Pn**	**09 51 07.8**	**-0.5**
MAT				S	**Sn**	**09 51 40.2**	**-4.1**
MJB9	**Matsu-Tunnel**	**3.11**	**248**	*e*Pn	**Pn**	**09 51 07.9**	**-0.5**
MJB9				*e*Sn	**Sn**	**09 51 40.4**	**-3.9**
ERM	**Erimo**	**4.38**	**13**	*e*Pn	**Pn**	**09 51 25.2**	**-0.4**
ERM				*e*Sn	**Sn**	**09 52 16.7**	**+1.4**
ERM	**Erimo**	**4.38**	**13**	*i* P	**Pn**	**09 51 25.1**	**-0.5**
INU	**Inuyama**	**4.54**	**239**	*e*Pn	**Pn**	**09 51 28.3**	**+0.4**
INU				*e*Sn	**Sn**	**09 52 19.2**	**0.0**
JHJ2	**Mitsune**	**4.91**	**200**	*e*Pn	**Pn**	**09 51 33.8**	**+0.9**
JHJ2				*e*Sn	**Sn**	**09 52 27.1**	**-1.3**
JHJ	**Hachijo jima 2**	**4.91**	**200**	P	**Pn**	**09 51 32.8**	**-0.2**
	38nm,0.3s,baz=330,slow=23,SNR=6.1						
JHJ				S	**Sn**	**09 52 25.1**	**-3.4**
	110nm,0.3s,baz=294,slow=23,SNR=12						
ASAJ	**Asahikawa**	**6.38**	**5**	P	**Pn**	**09 51 52.5**	**-0.5**
	7.0nm,0.3s,baz=238,slow=8.1,SNR=21						
ASAJ				S	**Sn**	**09 53 02.0**	**-2.5**
	2.4nm,0.3s,baz=36,slow=19,SNR=3.1						
YUK	**Yuzh-Kuril'sk**	**6.98**	**25**	P	**Pn**	**09 52 02.7**	**+1.4**
YUK				*e*S	**Sn**	**09 53 16.0**	**-3.4**
SHO	**Shikotan**	**7.20**	**30**	*e*P	**Pn**	**09 52 02.2**	**-2.1**
SHO				*i* S	Sn	09 53 16.1	-8.5
SHO				pmax	pmax		
	comp=Z,109nm,0.9s						
SHO				pmax	pmax		
	comp=E,54nm,0.7s						
KUR	**Kuril'sk**	**8.74**	**29**	*e*P	**Pn**	**09 52 24.9**	**-0.5**
KUR				*e*S	**Sn**	**09 53 56.3**	**-6.3**
KUR				pmax	pmax		
	comp=Z,35nm,0.7s						
KUR				pmax	pmax		
	comp=E,19nm,0.5s						
KUR				pmax	pmax		
	comp=N,20nm,0.3s						
YSS	**Yuzh-Sakhalins**	**9.22**	**4**	*e*Pn	**Pn**	**09 52 32.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**9.22**	**4**	*e*P	**Pn**	**09 52 32.2**	**+0.3**
YSS				*e*		09 54 12.4	
USRK	**Ussuriysk Ar.**	**9.81**	**314**	P	**Pn**	**09 52 39.6**	**-0.4**
	comp=N,2.0nm,0.3s,baz=119,slow=12,SNR=22						
USRK				LR	LR	09 56 29.1	
	comp=N,196nm,18.3s,baz=118,slow=38						
JNU	**Nakatsue**	**10.03**	**246**	P	**Pn**	**09 52 46.0**	**+2.8**
	comp=N,0.6nm,0.3s,baz=68,slow=2.9,SNR=4.8						
JNU				LR	LR	09 57 06.5	
	comp=N,328nm,19.5s,baz=117,slow=40						
JNU	**Nakatsue**	**10.03**	**246**	*e*Pn	**Pn**	**09 52 46.8**	**+3.6**
CBIJ	**Chichi jima**	**10.64**	**178**	*e*Pn	**Pn**	**09 52 50.6**	**-0.8**
JCJ	**Chichijima**	**10.64**	**178**	P	**Pn**	**09 52 49.5**	**-1.9**
	baz=270,slow=19						
JCJ				S	Sn	09 54 38.5	-11
	baz=90,slow=20						
KSRS	**Korea Array**	**11.01**	**273**	P	**Pn**	**09 52 58.0**	**+1.6**
	comp=N,0.8nm,0.3s,baz=83,slow=14,SNR=23						
KSRS				LR	LR	09 56 59.3	
	comp=N,159nm,20.3s,baz=76,slow=36						
KS01	**Wonju Array Si**	**11.03**	**273**	*e*Pn	**Pn**	**09 52 55.1**	**-1.7**
KSAR	**Wonju Array Be**	**11.04**	**273**	P	**Pn**	**09 52 58.0**	**+1.1**
KSAR	**Wonju Array Be**	**11.04**	**273**	P	**Pn**	**09 52 58.1**	**+1.1**
MDJ	**Mudanjiang**	**11.46**	**311**	*e*Pn	**Pn**	**09 53 05.9**	**+3.3**
MDJ				*e*Sn	**Sn**	**09 55 09.7**	**+0.6**
INCN	**Inchon**	**12.03**	**273**	*e*Pn	**Pn**	**09 53 12.2**	**+1.8**
INCN				*e*Sn	**Sn**	**09 55 22.1**	**-1.0**
KLR	**Kul'dur**	**13.57**	**331**	P	**Pn**	**09 53 32.0**	**+0.6**
	comp=N,0.0nm,0.3s,baz=15,slow=20,SNR=2.8						
KLR				LR	LR	09 58 42.5	
	comp=N,13nm,19.5s,baz=144,slow=37						
KLR	**Kul'dur**	**13.57**	**331**	*i* P	**Pn**	**09 53 31.9**	**+0.5**
CN2	**Changchun**	**13.77**	**301**	*e*P	**Pn**	**09 53 34.3**	**+0.1**
SKR	**Severo-Kuril's**	**16.46**	**34**	*e*P	**P**	**09 54 11.2**	**0.0**
SKR				*e*S	**Sn**	**09 57 06.9**	**-3.8**
SKR				pmax	pmax		
	comp=Z,176nm,1.1s						
SKR				MLR	MLR		
	comp=Z,300nm,17.0s						
ZEA	**Zeya**	**18.87**	**333**	*e*P	**P**	**09 54 36.9**	**-0.8**
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
PETK	**Petropavlovsk-**	**18.91**	**31**	LR	LR	10 01 42.0	
	comp=Z,46nm,21.5s,baz=225,slow=36						
NJ2	**Nanjing**	**19.64**	**260**	*e*P	**P**	**09 54 46.2**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TIA	**Tai'an**	**19.76**	**273**	P	**P**	**09 54 46.8**	**-0.8**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BJI	**Beijing**	**20.05**	**284**	P	**P**	**09 54 50.6**	**-0.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NACB	**Ninganchiao**	**21.93**	**238**	*e*P	**P**	**09 55 10.1**	**-0.9**
	comp=Z,28nm,1.0s						
MA2	**Magadan**	**22.58**	**12**	P	**P**	**09 55 17.3**	**-0.5**
	comp=Z,7.9nm,0.8s,baz=196,slow=8.4,SNR=8.4						
MA2				LR	LR	10 03 59.0	
	comp=Z,66nm,19.7s,baz=217,slow=36						
MA2	**Magadan**	**22.58**	**12**⇑	*e*P	**P**	**09 55 17.1**	**-0.6**
TPUB	**Ta-pu**	**23.16**	**238**	*e*P	**P**	**09 55 21.5**	**-2.6**
	comp=Z,84nm,1.7s						
HHC	**Hu-ho-hao-te**	**23.54**	**287**	*e*P	**P**	**09 55 27.4**	**-0.2**
HHC				pmax	pmax		
	comp=Z,26nm,1.0s						
HHC				pmax	pmax		
	comp=Z,180nm,4.5s						
GUMO	**Guam**	**24.23**	**173**	*e*P	**P**	**09 55 33.0**	**-1.0**
	comp=Z,366nm,1.3s						
GUMO	**Guam**	**24.23**	**173**	*e*P	**P**	**09 55 33.0**	**-1.0**
GUMO				pmax	pmax		
	comp=Z,366nm,1.3s						
YAK	**Yakutsk**	**25.43**	**347**	P	**P**	**09 55 44.4**	**-0.1**
	comp=Z,36nm,0.7s,baz=110,slow=0.4,SNR=10.0						
YAK	**Yakutsk**	**25.43**	**347**	*e*P	**P**	**09 55 44.2**	**-0.3**
	comp=Z,38nm,0.6s						
YAK	**Yakutsk**	**25.43**	**347**	*e*P	**P**	**09 55 43.5**	**-1.0**
YAK				*e**PP	**sP**	**09 56 03.0**	**+0.1**
YAK				*e*		09 56 26.9	
YAK				*e*S	**S**	**10 00 03.4**	**-4.4**
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,22nm,0.8s						
YAK				pmax	pmax		
	comp=N,102nm,3.9s						

YAK pmax pmax
comp=Z,154nm,3.3s
YAK pmax pmax
comp=E,115nm,3.7s
YAK smax smax
comp=N,58nm,1.9s
YAK smax smax
comp=E,43nm,2.2s
SEY Seymchan 26.02 11 P **P** **09 55 50.7 +0.8**
comp=E,4.5nm,0.8s,baz=185,slow=8.6,SNR=12
SEY Seymchan 26.02 11⇓ *e*P **P** **09 55 50.1 +0.2**
XAN Xi'an 26.81 272 P **P** **09 55 57.1 -0.3**
XAN pP pP 09 56 06.9 -3.0
XAN pmax pmax
comp=E,17nm,0.7s
XAN pmax pmax
comp=E,170nm,4.6s
BOD Bodaibo 27.09 327 *e*P **P** **09 55 58.3 -1.2**
BOD pmax pmax
comp=Z,9.0nm,1.4s
ULN Ulaanbaatar 27.21 303 *e*P **P** **09 56 01.6 +0.6**
comp=Z,5.6nm,0.9s
ULN Ulaanbaatar 27.21 303⇑ *i*P **P** **09 56 00.9 0.0**
ULN pmax pmax
comp=Z,6.0nm,0.8s
SONA1 Songino Array 27.64 303 *e*P **P** **09 56 04.9 +0.2**
SONA0 Songino Array 27.64 303 *e*P **P** **09 56 05.4 +0.6**
SONM Songino Array 27.64 303 P **P** **09 56 05.4 +0.6**
comp=Z,7.4nm,0.8s,baz=103,slow=9.1,SNR=28
SONM LR LR 10 06 39.4
comp=Z,56nm,19.7s,baz=150,slow=35
ENH Enshi 27.70 264 *e*P **P** **09 56 04.5 -0.8**
comp=Z,33nm,0.8s
H11N2 WAKE ISLAND Hy 28.27 122 T T 10 26 32.2
baz=316,slow=75,SNR=917
H11N1 WAKE ISLAND Hy 28.28 122 T T 10 26 32.9
baz=316,slow=75,SNR=1119
H11N3 WAKE ISLAND Hy 28.29 122 T T 10 26 33.6
baz=316,slow=75,SNR=950
H11S1 WAKE ISLAND Hy 29.01 125 T T 10 27 27.3
baz=317,slow=76,SNR=493
H11S3 WAKE ISLAND Hy 29.01 125 T T 10 27 27.6
baz=317,slow=76,SNR=491
H11S2 WAKE ISLAND Hy 29.02 125 T T 10 27 28.5
baz=317,slow=76,SNR=378
ZAK Zakamensk 30.07 307 *e*P **P** **09 56 25.5 -0.8**
ZAK pmax pmax
comp=Z,5.0nm,0.9s
LZH Lanzhou 30.25 279 *e*P **P** **09 56 30.9 +2.8**
LZH pP pP 09 56 41.4 +0.6
LZH sP sP 09 56 45.4 -1.2
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.0s
LZH LR LR
comp=Z,95nm,13.8s
LZH LR LR
comp=Z,130nm,11.0s
LZH LR LR
comp=Z,210nm,15.4s
CD2 Chengdu 31.98 269 *e*P **P** **09 56 42.7 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
GTA Gaotai 32.65 286 *e*P **P** **09 56 48.6 -0.5**
GTA pP pP 09 57 00.7 -1.1
GTA sP sP 09 57 06.4 -1.2
GTA S **S** **10 02 02.0 +0.2**
GTA sS sS 10 02 23.1 -0.1
GTA SS **SnSn** **10 04 02.1 +2.2**
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,120nm,5.1s
GTA LR LR
comp=Z,68nm,13.8s
GTA LR LR
comp=Z,160nm,16.2s
GTA LR LR
comp=Z,110nm,17.1s
BILL Bilibino 33.25 17 *i*P **P** **09 56 52.2 -1.6**
BILL *i* 09 57 01.2
BILL *i* 09 58 08.3
BILL *i* 09 59 35.2
BILL pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 34.61 353 P **P** **09 57 04.6 -0.9**
comp=Z,1.8nm,0.5s,baz=168,slow=4.8,SNR=5.6
TIXI Tiksi 34.61 353⇑ *e*P **P** **09 57 04.7 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
WMQ Urumqi 40.79 296 P **P** **09 57 59.6 +1.4**
WMQ pP pP 09 58 11.0 -0.2
WMQ sP sP 09 58 16.2 -0.7
WMQ pmax pmax
comp=Z,41nm,1.1s
WMQ LR LR
comp=Z,270nm,28.3s
WMQ LR LR
comp=Z,140nm,25.4s
ZAA0 Zalesovo Array 41.66 312 *e*P **P** **09 58 05.0 -0.1**
comp=Z,9.3nm,1.0s
ZAA1 Zalesovo Array 41.66 312 *e*P **P** **09 58 04.7 -0.4**
ZAA1 *e*PcP **PcP** **10 00 01.1 0.0**
ZALV Zalesovo Beam 41.66 312 P **P** **09 58 04.7 -0.4**
comp=Z,5.9nm,0.7s,baz=90,slow=7.0,SNR=23
ZALV PcP **PcP** **10 00 01.1 0.0**
comp=Z,1.6nm,0.5s,baz=138,slow=1.6,SNR=4.1
ZALV LR LR 10 15 04.7
comp=Z,33nm,18.8s,baz=64,slow=36
ZALV Zalesovo Beam 41.66 312 *e*P **P** **09 58 03.7 -1.4**
ZALV Zalesovo Beam 41.66 312 *e*P **P** **09 58 03.7 -1.4**
CMAR Chiang Mai Arr 41.98 255 P **P** **09 58 08.0 -0.2**
comp=Z,1.5nm,0.4s,baz=52,slow=6.2,SNR=5.1
CMAR LR LR 10 18 16.7
comp=Z,29nm,18.2s,baz=58,slow=40
CMAR Chiang Mai Arr 41.98 255 P **P** **09 58 08.0 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,29nm,18.2s
NVS Novosibirsk 42.56 313 *e*P **P** **09 58 12.6 +0.1**
MK01 Makanchi Array 43.99 301 *e*P **P** **09 58 23.5 -0.7**
MK31 Makanchi Array 43.99 302 *e*P **P** **09 58 23.9 -0.3**
MK31 Makanchi Array 43.99 302 *i*P **P** **09 58 23.6 -0.6**
MK31 pmax pmax
comp=Z,11nm,1.0s
MK32 Makanchi Array 43.99 302 *e*P **P** **09 58 23.9 -0.3**
MKAR Makanchi Array 43.99 302 P **P** **09 58 23.9 -0.2**
comp=Z,5.0nm,0.8s,baz=86,slow=9.5,SNR=36
MKAR LR LR 10 16 50.7
comp=Z,32nm,18.3s,baz=72,slow=36
MKAR Makanchi Array 43.99 302 *e*P **P** **09 58 24.0 -0.2**
comp=Z,39nm,0.5s
MKAR Makanchi Array 43.99 302 *ce*P **P** **09 58 23.8 -0.4**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 44.20 302 *e*P **P** **09 58 25.7 -0.1**
comp=Z,6.3nm,1.0s
MAKZ Makanchi 44.20 302 *i*P **P** **09 58 25.3 -0.6**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 45.73 308 *e*P **P** **09 58 36.3 -1.5**
comp=Z,14nm,0.6s
KURK Kurchatov 45.73 308 P **P** **09 58 37.7 -0.1**
KURK pmax pmax
comp=Z,11nm,0.7s
KURBB Kurchatov Arra 45.80 307 P **P** **09 58 37.7 -0.7**
comp=Z,11nm,0.7s,baz=82,slow=8.1,SNR=64
TAPN Taplejung 46.20 274 *e*P **P** **09 58 42.1 -0.1**
comp=Z,7.1nm,0.4s
KDAK Kodiak Island 46.36 42 *i*P **P** **09 58 43.7 +1.0**
ODAN Odare 46.67 273 *e*P **P** **09 58 45.2 -0.7**
comp=Z,21nm,0.8s
PDGK Podgornoye 46.71 297 *i*P **P** **09 58 45.0 -0.8**
PDGK pmax pmax
comp=Z,9.0nm,0.7s
PMG Port Moresby 47.19 173 LR LR 10 16 30.8
comp=Z,29nm,21.9s,baz=153,slow=33
JIRN Jiri 47.26 275 *e*P **P** **09 58 50.7 +0.1**
comp=Z,20nm,0.5s
RAMN Ramite 47.26 274 *e*P **P** **09 58 50.3 -0.2**
comp=Z,20nm,0.5s
GUN Gumba 47.39 275 *e*P **P** **09 58 51.6 0.0**
comp=Z,49nm,0.8s
PKI Pulchoki 47.91 275 *e*P **P** **09 58 55.2 -0.5**
comp=Z,12nm,0.6s
KKN Kakani 47.92 275 *e*P **P** **09 58 56.1 +0.6**
comp=Z,30nm,0.7s
PKIN Phulchoki 47.92 275 *e*P **P** **09 58 55.9 +0.3**
comp=Z,17nm,0.5s
DMN Daman 48.14 275 *e*P **P** **09 58 57.7 +0.4**
comp=Z,15nm,0.8s
MDM Murphy Dome 48.14 32 *e*P **P** **09 58 58.1 +1.6**
comp=Z,5.1nm,0.9s
KDJ Kajisay 48.68 297 P **P** **09 59 01.6 +0.4**
KDJ pmax pmax
comp=Z,6.0nm,0.5s
IL1 Eielson Array 48.72 33 *e*P **P** **09 59 01.0 0.0**
ILAR Eielson Array 48.72 33 P **P** **09 59 01.6 +0.6**
comp=Z,1.6nm,0.6s,baz=264,slow=5.9,SNR=35
ILAR pP **pP** **09 59 16.6 +2.5**
comp=Z,2.4nm,0.7s,baz=265,slow=6.0,SNR=10
ILB Eielson Array 48.72 33 *e*P **P** **09 59 01.4 +0.4**
DANN Dangsing 48.86 277 *e*P **P** **09 59 03.2 +0.3**
comp=Z,6.9nm,0.8s
KOLN Koldanda 49.25 276 *e*P **P** **09 59 05.6 -0.2**
comp=Z,42nm,1.0s
TKM2 Tokmak 2 49.56 298 P **P** **09 59 08.5 +0.6**
SNR=24
TKM2 Tokmak 2 49.56 298 *i*P **P** **09 59 08.2 +0.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.5s
PYUN Piuthan 49.58 277 *e*P **P** **09 59 08.5 +0.2**
comp=Z,69nm,0.9s
NRN Naryn 49.73 296 P **P** **09 59 10.4 +1.0**
NRN pmax pmax
comp=Z,7.0nm,1.3s
HNR Honiara 49.92 156 LR LR 10 19 48.0
comp=Z,29nm,19.4s,baz=152,slow=35
DOT Dot Lake 50.03 34 *e*P **P** **09 59 11.6 +0.5**
comp=Z,23nm,1.1s
KZA Kyzart 50.06 297 P **P** **09 59 13.0 +1.0**
SNR=14
KBK Karagaybulak 50.09 298 P **P** **09 59 12.3 +0.3**
SNR=13
OTUK Ortayu 50.25 306 P **P** **09 59 12.9 0.0**
OTUK pmax pmax
comp=Z,8.0nm,1.0s
BVA0 Borovoye Array 50.31 312 *i*P **P** **09 59 12.7 -0.6**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 50.31 312 P **P** **09 59 13.2 0.0**
comp=Z,2.6nm,0.7s,baz=73,slow=6.7,SNR=10
BVAR PcP **PcP** **10 00 30.9 -0.4**
comp=Z,2.3nm,0.6s,baz=96,slow=4.1,SNR=5.3
BVAR LR LR 10 21 39.2
comp=Z,53nm,18.5s,baz=76,slow=37
BRVK Borovoye 50.37 312 *e*P **P** **09 59 13.6 0.0**
comp=Z,4.8nm,1.0s
BRVK Borovoye 50.37 312⇓ *i*P **P** **09 59 12.9 -0.8**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
KSH Kashi 50.39 294 *e*P **P** **09 59 17.8 +3.6**
KSH sP sP 09 59 33.3 +0.2
KSH PcP **PcP** **10 00 35.7 +3.6**
KSH PP **PP** **10 01 15.1 +5.2**
KSH S **S** **10 06 26.7 +2.6**
KSH ScS **ScS** **10 09 00.3 -0.8**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,88nm,7.0s
KSH LR LR
comp=Z,95nm,6.4s
KSH LR LR
comp=Z,150nm,9.2s
KSH LR LR
comp=Z,170nm,8.5s
AAK Ala-Archa 50.41 298 P **P** **09 59 14.4 0.0**
SNR=5.7
AAK Ala-Archa 50.41 298 *e*P **P** **09 59 14.1 -0.3**
comp=Z,4.3nm,0.8s
AAK Ala-Archa 50.41 298 *i*P **P** **09 59 13.9 -0.5**
AAK pmax pmax
comp=Z,7.0nm,1.2s
AML Almayashu 51.14 298 P **P** **09 59 20.8 +0.6**
SNR=15
MNAS Manas 51.85 298 *i*P **P** **09 59 25.3 +0.1**
MNAS pmax pmax
comp=Z,10.0nm,0.7s
SFK Sufi-Kurgan 52.00 295 *i*P **P** **09 59 26.2 -0.2**
SFK pmax pmax
comp=Z,16nm,1.1s
KK31 Karatay Array 53.03 300 *i*P **P** **09 59 33.0 -0.7**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 53.60 27 *e*P **P** **09 59 38.5 +1.1**
comp=Z,4.4nm,0.7s
INK Inuvik 53.60 27 *e*P **P** **09 59 38.5 +1.1**
INK pmax pmax
comp=Z,4.0nm,0.7s
SVE Sverdlovsk 54.81 318 *e*P **P** **09 59 46.7 +0.3**
SVE pmax pmax
comp=Z,17nm,1.1s
KBL Kabul 57.44 291 *e*P **P** **10 00 05.0 -0.9**
comp=Z,11nm,0.9s
KBL Kabul 57.44 291 *e*P **P** **10 00 05.0 -0.9**
KBL pmax pmax
comp=Z,11nm,0.9s
AB31 Akbulak array 57.71 310 *i*P **P** **10 00 06.5 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 57.71 310 *e*P **P** **10 00 06.6 -0.6**
comp=Z,44nm,0.6s
WRAB Tennant Creek 57.81 188 *e*P **P** **10 00 08.0 -0.1**
comp=Z,17nm,0.9s
WRAB Tennant Creek 57.81 188⇓ *e*P **P** **10 00 07.4 -0.7**
WRAB pmax pmax
comp=Z,35nm,1.7s
WR1 Warramunga Arr 57.82 188 *e*P **P** **10 00 08.0 -0.2**
comp=Z,14nm,0.6s
WR1 *e*PcP **PcP** **10 01 00.9 +0.6**
WRA Warramunga Arr 57.82 188 P **P** **10 00 08.0 -0.2**
comp=Z,12nm,0.5s,baz=5.5,slow=7.0,SNR=22
WRA PcP **PcP** **10 01 00.9 +0.6**
comp=Z,2.2nm,0.6s,baz=1.9,slow=4.9,SNR=5.1
WRA Warramunga Arr 57.82 188 P **P** **10 00 08.0 -0.2**
WRA 10 01 01.0
WRA pmax pmax
comp=Z,12nm,0.5s
WRA pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 58.42 312 P **P** **10 00 12.0 -0.1**
comp=Z,3.9nm,0.8s,baz=79,slow=11,SNR=7.4
AKTO LR LR 10 28 05.1
comp=Z,30nm,18.2s,baz=61,slow=39
AS01 Alice Springs 61.54 188 *e*P **P** **10 00 33.7 0.0**
AS31 Alice Springs 61.55 188 *e*P **P** **10 00 34.2 +0.4**
comp=Z,1.9nm,1.0s
ASAR Alice Springs 61.55 188 P **P** **10 00 34.2 +0.4**
comp=Z,4.5nm,0.7s,baz=7.7,slow=6.3,SNR=45
YKA Yellowknife Ar 63.03 30 P **P** **10 00 43.5 +0.2**
comp=Z,1.1nm,0.6s,baz=302,slow=6.7,SNR=26
YKA pP **pP** **10 00 58.9 +2.0**
comp=Z,0.7nm,0.6s,baz=303,slow=6.7,SNR=7.0
KLMR Klimovskoe 63.31 328 *e*P **P** **10 00 43.5 -1.6**
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 63.31 328 *e*P **P** **10 00 43.6 -1.6**
KLMR AMP 10 00 46.3
comp=Z,11nm,1.1s
ARA0 ARCESS Array S 63.43 339 *e*P **P** **10 00 45.4 -0.5**
ARCES ARCESS Array B 63.43 339 P **P** **10 00 45.4 -0.5**
comp=Z,2.4nm,0.8s,baz=53,slow=8.0,SNR=3.2
GEYT Alibeck 63.75 299 P **P** **10 00 48.5 -0.1**
comp=Z,2.3nm,0.5s,baz=50,slow=2.5,SNR=5.6
DZM Mont Dzumac 63.87 154 LR LR 10 27 02.0
comp=Z,45nm,19.9s,baz=24,slow=34
SUF Sumiainen 67.47 333 P **P** **10 01 11.3 -0.8**
SUF pmax pmax
comp=Z,11nm,0.9s
OBN Obninsk 67.70 323 *e*P **P** **10 01 12.4 -1.2**
OBN *e* 10 01 37.8
OBN *e* 10 03 43.0
OBN pmax pmax
comp=Z,5.0nm,0.9s
FIA1 FINESS Array S 68.31 332 *e*P **P** **10 01 16.9 -0.4**
FIA0 FINESS Array S 68.31 332 *e*P **P** **10 01 16.7 -0.7**
FIA0 FINESS Array S 68.31 332 *e*P **P** **10 01 16.7 -0.7**
FINES FINESS Array B 68.31 332 P **P** **10 01 16.7 -0.7**
comp=Z,7.5nm,0.9s,baz=54,slow=9.7,SNR=17
FINES LR LR 10 32 19.1
comp=Z,28nm,19.1s,baz=28,slow=37
FINES FINESS Array B 68.31 332 *i*P **P** **10 01 17.1 -0.3**
FINES pmax pmax
comp=Z,8.0nm,0.9s
VAF Ylistaro 68.47 335 P **P** **10 01 17.9 -0.4**
VAF pmax pmax
comp=Z,8.0nm,1.5s
EDM Edmonton 68.59 39 *e*P **P** **10 01 19.8 +0.5**
comp=Z,18nm,1.4s
EDM Edmonton 68.59 39 *e*P **P** **10 01 19.8 +0.5**
EDM pmax pmax
comp=Z,18nm,1.4s
STKA Stephens Creek 69.28 180 P **P** **10 01 23.1 -0.4**
comp=Z,1.9nm,0.6s,baz=340,slow=9.7,SNR=5.6
STKA Stephens Creek 69.28 180 *e*P **P** **10 01 24.2 +0.6**
comp=Z,6.3nm,1.9s
STKA Stephens Creek 69.28 180 *e*P **P** **10 01 24.2 +0.6**
STKA pmax pmax
comp=Z,6.0nm,1.9s
YBH Yreka Blue Hor 69.66 53 P **P** **10 01 28.0 +1.8**
comp=Z,1.4nm,0.8s,baz=35,slow=7.5,SNR=2.7
YBH Yreka Blue Hor 69.66 53 P **P** **10 01 28.0 +1.8**
YBH pmax pmax
comp=Z,1.0nm,0.8s
VSU Vasula 69.98 330 *ce*P **P** **10 01 27.8 +0.1**
VSU pmax pmax
comp=Z,38nm,1.7s
KVAR Kislovodsk Arr 70.66 311 P **P** **10 01 33.5 +1.2**
comp=Z,17nm,0.9s,baz=91,slow=8.5,SNR=4.1
KBZ Khabaz 70.66 311 P **P** **10 01 33.0 +0.9**
comp=Z,6.9nm,0.9s,baz=39,slow=2.3,SNR=8.6
KIV Kislovodsk 70.66 311 *e*P **P** **10 01 33.5 +1.2**
KIV pmax pmax
comp=Z,20nm,1.1s
GNI Garni 71.52 307 LR LR 10 34 42.8
comp=Z,29nm,20.9s,baz=38,slow=37
CYBM Yerba Buena Is 72.04 56 *e*P **P** **10 01 41.1 +0.5**
FFC Flin Flon 72.93 33 *e*P **P** **10 01 46.4 +0.8**
comp=Z,4.4nm,0.9s
FFC Flin Flon 72.93 33 *e*P **P** **10 01 46.4 +0.8**
FFC pmax pmax
comp=Z,4.0nm,0.9s
CMB Columbia Colle 73.20 55 *e*P **P** **10 01 49.0 +1.4**
comp=Z,3.3nm,0.9s
CMB Columbia Colle 73.20 55 *e*P **P** **10 01 49.0 +1.4**
CMB pmax pmax
comp=Z,3.0nm,0.9s
FCC Fort Churchill 73.22 27 *e*P **P** **10 01 46.5 -0.6**
comp=Z,29nm,2.0s
FCC Fort Churchill 73.22 27 *e*P **P** **10 01 46.6 -0.6**
FCC pmax pmax
comp=Z,29nm,2.0s
EGMT Eagleton 73.53 42 *e*P **P** **10 01 50.2 +0.8**
comp=Z,14nm,1.3s
HFS Hagfors 73.55 336 P **P** **10 01 48.5 -0.7**
comp=Z,2.0nm,0.3s,baz=54,slow=7.9,SNR=14
HFS LR LR 10 35 27.8
comp=Z,37nm,18.2s,baz=28,slow=37
NB2 NORSAR Subarra 73.64 337 P **P** **10 01 49.3 -0.4**
comp=Z,4.7nm,0.8s,baz=40,slow=6.2
NB200 NORSAR Array S 73.64 337 *e*P **P** **10 01 49.5 -0.2**
NOA NORSAR Array B 73.64 337 P **P** **10 01 49.5 -0.2**
comp=Z,3.7nm,0.8s,baz=39,slow=5.8,SNR=9.0
NOA LR LR 10 37 59.7
comp=Z,30nm,19.4s,baz=245,slow=39
AKASG Malin Array Be 73.91 322 P **P** **10 01 50.8 -0.6**
comp=Z,2.9nm,0.5s,baz=46,slow=6.1,SNR=17
AKASG LR LR 10 34 54.5
comp=Z,26nm,19.2s,baz=300,slow=36
KIEV Kiev 73.92 322 *e*P **P** **10 01 51.0 -0.5**
comp=Z,10nm,1.1s
KIEV Kiev 73.92 322⇑ *e*P **P** **10 01 50.7 -0.8**
KIEV pmax pmax
comp=Z,12nm,1.4s
NV01 Mina Array Sit 74.31 53 *e*P **P** **10 01 55.5 +1.2**
NVAR Mina Array Bea 74.31 53 P **P** **10 01 54.4 +0.1**
comp=Z,2.6nm,0.8s,baz=293,slow=5.9,SNR=14
H17A Grant Village 75.34 45 *e*P **P** **10 02 03.5 +3.3**
comp=Z,9.0nm,0.9s
FXWY Fox Creek 75.56 46 *e*P **P** **10 02 03.0 +1.6**
comp=Z,5.0nm,1.0s
MOOW Moose Ponds 75.65 46 *e*P **P** **10 02 03.9 +2.0**
comp=Z,3.2nm,0.9s
FRB Frobisher Bay 76.00 13 P **P** **10 02 03.3 +0.1**
FRB pmax pmax
comp=Z,12nm,2.6s
R11A Troy Canyon, C 76.08 52 *e*P **P** **10 02 05.3 +0.9**
comp=Z,5.8nm,1.2s
LAO LASA Array 76.23 41 *e*P **P** **10 02 06.6 +1.6**
comp=Z,6.8nm,0.8s
TPNV Topopah Spring 76.50 54 *e*P **P** **10 02 08.0 +1.2**
comp=Z,4.3nm,0.8s
TPNV Topopah Spring 76.50 54 *e*P **P** **10 02 08.0 +1.2**
TPNV pmax pmax
comp=Z,4.0nm,0.8s
HWUT Hardware Ranch 76.52 48 *e*P **P** **10 02 07.8 +0.9**
comp=Z,15nm,1.9s
DUG Dugway, Tooele 76.65 49 *e*P **P** **10 02 09.1 +1.5**
comp=Z,3.6nm,0.6s
DUG Dugway, Tooele 76.65 49 *e*P **P** **10 02 09.1 +1.5**
DUG pmax pmax
comp=Z,4.0nm,0.6s
PD31 Pinedale Array 76.94 46 *e*P **P** **10 02 10.1 +0.7**
PDAR Pinedale Array 76.94 46 P **P** **10 02 10.0 +0.7**
comp=Z,2.1nm,0.6s,baz=261,slow=2.5,SNR=25
PDAR Pinedale Array 76.94 46 *e*P **P** **10 02 09.9 +0.7**
SHPR Sheep Range 77.47 54 *e*P **P** **10 02 13.7 +1.5**
comp=Z,2.8nm,0.9s
KWP Kalwaria Pacla 77.72 324 *e*P **P** **10 02 13.7 +0.5**
KWP Kalwaria Pacla 77.72 324 *e*P **P** **10 02 13.7 +0.5**
comp=Z,184nm,1.2s
KWP Kalwaria Pacla 77.72 324 *e*P **P** **10 02 13.7 +0.5**
BUR08 Bucovina Ar. S 77.92 322 *e*P **P** **10 02 14.9 +0.4**
BURAR Bucovina Array 77.93 322⇑ *i*P **P** **10 02 15.2 +0.7**
TESR Tescani 77.97 320⇑ *i*P **P** **10 02 14.3 -0.4**
P17A Butcher Ranch, 78.35 49 *e*P **P** **10 02 18.7 +1.6**
comp=Z,4.8nm,0.7s
LCMT Little Creek M 78.36 52 *e*P **P** **10 02 18.8 +1.6**
comp=Z,4.1nm,0.9s
VRI Vrincioaia 78.37 320⇑ *i*P **P** **10 02 18.5 +1.6**
VRI Vrincioaia 78.37 320 P **P** **10 02 18.2 +1.3**
VRI pmax pmax
comp=Z,59nm,1.2s
STHS Stebnicka Huta 78.54 325 *e*P **P** **10 02 19.0 +1.2**
STHS Stebnicka Huta 78.54 325 *e*P **P** **10 02 19.0 +1.2**
BR101 Keskin Array S 78.60 312 *e*P **P** **10 02 18.5 +0.1**
BRTR Keskin Array B 78.60 312 P **P** **10 02 18.5 +0.1**
comp=Z,1.5nm,0.6s,baz=69,slow=4.1,SNR=6.9
BRTR LR LR 10 40 14.9
comp=Z,14nm,18.8s,baz=70,slow=38
OJC Ojcow 78.61 326 *e*P **P** **10 02 18.7 +0.6**
OJC Ojcow 78.61 326 *e*P **P** **10 02 18.7 +0.6**
SRU San Rafael Swe 78.71 49 *e*P **P** **10 02 20.3 +1.2**
comp=Z,5.5nm,0.7s
SRU San Rafael Swe 78.71 49 *e*P **P** **10 02 20.3 +1.2**
SRU pmax pmax
comp=Z,6.0nm,0.7s
ULM Lac du Bonnet 78.73 34 P **P** **10 02 19.3 +0.5**
comp=Z,2.7nm,0.9s,baz=350,slow=9.9,SNR=4.0
NIE Niedzica 78.97 325 P **P** **10 02 20.7 +0.6**
NIE pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 79.03 320 LR LR 10 39 17.6
comp=Z,13nm,18.4s,baz=293,slow=37
BR231 Keskin MP Arra 79.03 312 *e*P **P** **10 02 19.0 -1.8**
VOIR 79.52 320⇑ *i*P **P** **10 02 24.5 +1.2**
DRGR 79.73 322⇑ *i*P **P** **10 02 24.5 +0.1**
ARR Arges 79.78 320⇑ *i*P **P** **10 02 26.2 +1.5**
MORC Moravsky Berou 79.92 327 *e*P **P** **10 02 25.9 +0.6**
comp=Z,24nm,1.0s
MORC Moravsky Berou 79.92 327 *e*P **P** **10 02 25.9 +0.6**
MORC pmax pmax
comp=Z,24nm,1.0s
PV10 Paradox Valley 80.07 49 *e*P **P** **10 02 28.4 +1.8**
PSZ Piszkesteto 80.24 325 P **P** **10 02 27.4 +0.3**
PSZ pmax pmax
comp=Z,10.0nm,1.1s
Y14A Wickenburg 80.44 54 *e*P **P** **10 02 29.7 +1.3**
comp=Z,15nm,0.9s
CLL Collm 80.62 330 *e*P **P** **10 02 29.0 0.0**
comp=Z,7.0nm,1.0s
CLL *ep*P **pP** **10 02 43.0 -0.1**
CLL Collm 80.62 330 *e*P **P** **10 02 29.0 0.0**

CLL				e		10 02 43.0	
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VRAC	**Vranov**	**80.68**	**327**	P	**P**	**10 02 28.5**	**-0.9**
	comp=Z,4.6nm,0.9s,baz=53,slow=5.1,SNR=3.6						
VRAC	**Vranov**	**80.68**	**327**	P	**P**	**10 02 28.5**	**-0.9**
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
X16A	**Lo Mia Camp, P**	**81.14**	**53**	eP	**P**	**10 02 34.1**	**+1.8**
	comp=Z,3.1nm,0.8s						
MDVR	**Moldovita**	**81.66**	**321**	⇑iP	**P**	**10 02 34.3**	**-0.4**
MMAI	**Mount Meron Ar**	**81.79**	**305**	P	**P**	**10 02 36.6**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=31,slow=6.9,SNR=5.0						
MMAI				LR	LR	10 41 14.4	
	comp=Z,27nm,20.2s,baz=325,slow=37						
KHC	**Kasperske Hory**	**82.08**	**329**	eP	**P**	**10 02 37.1**	**+0.3**
KHC				ePCP	**PcP**	**10 02 42.4**	**+0.2**
KHC	**Kasperske Hory**	**82.08**	**329**	eP	**P**	**10 02 37.2**	**+0.3**
	comp=Z,2.2nm,0.9s						
KHC	**Kasperske Hory**	**82.08**	**329**	eP	**P**	**10 02 37.2**	**+0.3**
KHC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GEC2	**GERESS Array S**	**82.26**	**328**	eP	**P**	**10 02 37.7**	**-0.2**
	comp=Z,4.9nm,1.0s						
GEC2	**GERESS Array S**	**82.26**	**328**	eP	**P**	**10 02 37.7**	**-0.2**
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GERES	**GERESS Array B**	**82.26**	**328**	P	**P**	**10 02 37.6**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=35,slow=4.9,SNR=9.3						
GEA0	**GERESS Array S**	**82.26**	**328**	eP	**P**	**10 02 37.4**	**-0.4**
EKA	**Eskdalemuir Ar**	**82.55**	**341**	P	**P**	**10 02 39.3**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=27,slow=6.4,SNR=3.3						
DIVS	**Divibare**	**83.00**	**322**	eP	**P**	**10 02 40.0**	**-1.8**
	comp=Z,14nm,1.4s						
ECSD	**EROS Data Cent**	**83.16**	**38**	eP	**P**	**10 02 42.7**	**+0.2**
	comp=Z,3.7nm,0.8s						
T25A	**Trinidad**	**83.62**	**47**	eP	**P**	**10 02 46.5**	**+1.2**
	comp=Z,26nm,1.6s						
ANMO	**Albuquerque**	**83.89**	**50**	eP	**P**	**10 02 48.3**	**+1.6**
	comp=Z,5.5nm,1.1s						
ANMO	**Albuquerque**	**83.89**	**50c**	eP	**P**	**10 02 47.4**	**+0.7**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GRG	**Griva**	**84.06**	**318**	P	**P**	**10 02 46.5**	**-0.7**
GRG				pmax	pmax		
	comp=Z,9.0nm,1.5s						
319A	**Douglas**	**84.49**	**54**	eP	**P**	**10 02 50.8**	**+1.2**
	comp=Z,5.7nm,0.9s						
SCHQ	**Schefferville**	**84.56**	**16**	P	**P**	**10 02 49.8**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=2.2,slow=7.6,SNR=8.1						
SCHQ	**Schefferville**	**84.56**	**16**	eP	**P**	**10 02 49.8**	**+0.4**
	comp=Z,24nm,1.5s						
BFO	**Black Forest**	**84.82**	**331**	i P	**P**	**10 02 51.4**	**+0.5**
FUORN	**Ofenpass-Fuorn**	**85.44**	**329**	eP	**P**	**10 02 54.0**	**-0.3**
	comp=Z,13nm,0.7s						
MNTX	**Cornudas Mount**	**86.74**	**52**	eP	**P**	**10 03 02.0**	**+1.3**
	comp=Z,10nm,1.9s						
TX31	**Lajitas Ar. Si**	**89.44**	**53**	eP	**P**	**10 03 14.4**	**+0.7**
LTX	**Lajitas**	**89.44**	**53**	eP	**P**	**10 03 14.7**	**+1.0**
LTX	**Lajitas**	**89.44**	**53**	eP	**P**	**10 03 14.7**	**+1.0**
TXAR	**Lajitas Array**	**89.44**	**53**	P	**P**	**10 03 14.7**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=310,slow=2.6,SNR=44						
H06E1	**SOCORRO T-PHAS**	**91.60**	**65**	T	T	11 45 24.7	
	SNR=5.9						
TORD	**Torodi Ar. Bea**	**117.03**	**315**	PP	PP	10 10 04.4	-6.4
	comp=Z,0.6nm,0.9s,baz=45,slow=4.4,SNR=3.6						
LPAZ	**La Paz**	**146.06**	**59**	PKPbc	**PKPbc**	**10 09 57.8**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=347,slow=3.2,SNR=13						
LPAZ				pPKPbc	pPKPbc	10 10 14.3	+2.2
	comp=Z,13nm,0.8s,baz=359,slow=6.4,SNR=12						
LPAZ	**La Paz**	**146.06**	**59**	ePKPdf	**PKPbc**	**10 09 57.7**	**+0.2**
SIV	**San Ignacio**	**150.38**	**49**	PKPbc	**PKPbc**	**10 10 07.8**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=345,slow=3.0,SNR=12						
SIV				pPKPbc	**pPKPbc**	**10 10 24.6**	**+1.7**
	comp=Z,5.0nm,0.9s,baz=310,slow=3.1,SNR=8.1						

*IDC **06** 09:57:57.2±2.5, 37.14N×141.79E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/67, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=63.1km s-min=30.8km az=63.0*
*NIED **06** 09:58:00, 37.10N×141.20E, h89km, Mw3.5 Best double couple: $M_0$1.77000×10^{14} NP1:ϕ_s98.00000°, δ8.00000°, λ-24.00000°. NP2:ϕ_s211.00000°, δ87.00000°, λ-97.00000°.*
*JMA **06** 09:58:06.4±0.1, 37.06N×141.14E, h51km±1km, M3.5*
JMA Felt I J1.
ISC 06 09:58:02.7±1.9**, 37.03N**±0.05×**141.38E**±0.09**, h23**km±13km**, n16,** σ1.01s/27**, mb3.4**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**278**	P	**Pn**	**09 58 15.3**	**+1.3**
ONAJ				S	**Sn**	**09 58 21.6**	**0.0**
JFK	**Kawauchi**	**0.52**	**310**	P	**Pn**	**09 58 16.1**	**+1.4**
JFK				S	**Sn**	**09 58 22.8**	**-0.1**
JHO	**Hitachi**	**0.78**	**237**	P	**Pn**	**09 58 19.1**	**+0.9**
JHO				eS	**Sb**	**09 58 28.0**	**+0.4**
JMM	**Marumori**	**0.95**	**331**	P	**Pn**	**09 58 21.9**	**+1.3**
JMM				S	**Sn**	**09 58 33.2**	**-0.3**
JFT	**Otama**	**0.96**	**300**	P	**Pn**	**09 58 22.2**	**+1.4**
JFT				S	**Sn**	**09 58 33.1**	**-0.6**
JFY	**Yanaizu**	**1.39**	**286**	P	**Pb**	**09 58 27.3**	**-0.6**
JIO	**Ouri**	**1.42**	**359**	P	**Pb**	**09 58 29.1**	**+0.7**
JIO				eS	**Sb**	**09 58 45.5**	**-0.6**
JOU	**Okura**	**1.45**	**337**	P	**Pb**	**09 58 29.1**	**+0.2**
JOU				eS	**Sb**	**09 58 45.9**	**-1.0**
JYS	**Shirataka**	**1.58**	**319**	P	**Pb**	**09 58 30.7**	**-0.5**
JYS				eS	**Sn**	**09 58 48.9**	**0.0**
JAG	**Ashikaga**	**1.66**	**249**	P	**Pn**	**09 58 31.1**	**+0.7**
JAG				eS	**Sn**	**09 58 49.5**	**-1.5**
JKT	**Katashina**	**1.73**	**262**	P	**Pn**	**09 58 32.5**	**+1.1**
MJAR	**Matsushiro Arr**	**2.59**	**260**	Pn	**Pn**	**09 58 44.7**	**+1.5**
	2.3nm,0.3s,baz=85,slow=15,SNR=18						
MJAR				Sn	**Sn**	**09 59 15.1**	**+1.1**
	2.9nm,0.3s,baz=301,slow=6.6,SNR=6.7						
MAT	**Matsushiro**	**2.59**	**260**	P	**Pn**	**09 58 44.8**	**+1.6**
MAT				S	**Sn**	**09 59 15.0**	**+1.0**
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**10 06 08.8**	**-0.1**
	0.2nm,0.7s,baz=84,slow=9.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**45.98**	**308**	P	**P**	**10 06 23.1**	**-0.7**
	0.3nm,0.5s,baz=76,slow=7.9,SNR=3.5						
WRA	**Warramunga Arr**	**57.06**	**188**	P	**P**	**10 07 46.1**	**-0.8**
	0.3nm,0.8s,baz=5.7,slow=7.1,SNR=2.8						

IDC 06 10:06:26.9±1.5**, 16.16S×178.73W, h0**km**, mb3.8**/8**, mb1 4.1**/8**, mb1mx3.8**/43**, mbtmp3.7**/8**, Error ellipse: s-maj=101.7km s-min=19.7km az=148.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.23**	**239**	P	P	10 13 57.0	-0.1
	1.9nm,0.9s,baz=85,slow=8.8,SNR=3.3						
WRA	**Warramunga Arr**	**44.67**	**258**	P	P	10 14 42.0	+0.1
	0.3nm,0.5s,baz=91,slow=6.9,SNR=9.4						
ASAR	**Alice Springs**	**44.99**	**253**	P	P	10 14 44.1	-0.3
	2.0nm,0.4s,baz=89,slow=7.8,SNR=48						
NVAR	**Mina Array Bea**	**78.39**	**44**	P	P	10 18 31.2	+1.5
	0.5nm,0.6s,baz=215,slow=7.7,SNR=4.2						
ILAR	**Eielson Array**	**84.27**	**13**	P	P	10 19 00.1	+0.1
	0.2nm,0.4s,baz=223,slow=5.4,SNR=8.2						
TXAR	**Lajitas Array**	**85.33**	**58**	P	P	10 19 06.2	-0.1
	0.3nm,0.7s,baz=211,slow=5.4,SNR=4.8						
PDAR	**Pinedale Array**	**86.31**	**44**	P	P	10 19 09.9	-1.1
	0.3nm,0.6s,baz=205,slow=2.6,SNR=4.0						
YKA	**Yellowknife Ar**	**92.89**	**25**	P	P	10 19 40.6	-0.7
	0.2nm,0.7s,baz=251,slow=4.5,SNR=2.7						

*NNC **06** 10:09:32.3±4.4, 53.73N×90.57E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=31.9km s-min=20.5km az=69.0*
IDC 06 10:09:29.8±3.3**, 53.84N×90.94E, h0**km**, mb1 3.1**/3**, mb1mx2.9**/67**, mbtmp3.1**/3**, ML3.1**/2**, 5C-4D, Error ellipse: s-maj=28.8km s-min=23.0km az=45.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.62**	**274**	i		10 35 50.0	
	baz=90,slow=334,SNR=1.5						
ZAA0	**Zalesovo Array**	**3.62**	**274**	⇑Pg	Pb	10 10 32.6	-2.2
	11nm,0.7s						
ZAA0				⇑Lg	Lg	10 11 22.5	
	67nm,1.1s						
ZALV	**Zalesovo Beam**	**3.62**	**274**	Pn	Pn	10 10 26.8	-0.3
	baz=91,slow=13,SNR=3.5						
ZALV				Pg	Pb	10 10 33.9	-0.8
	2.1nm,0.3s,baz=100,slow=16,SNR=15						
ZALV				Lg	Lg	10 11 24.5	
	5.0nm,0.3s,baz=93,slow=26,SNR=11						
KURK	**Kurchatov**	**8.18**	**252**	⇓Pn	Pn	10 11 30.3	+0.6
	6.8nm,1.2s						
KURK				⇓Sn	Sn	10 13 02.4	-0.3
	8.7nm,0.8s						
KURK				⇓Lg	Lg	10 13 43.9	
	53nm,1.2s						
KURBB	**Kurchatov Arra**	**8.27**	**252**	Pn	Pn	10 11 31.4	+0.4
	0.2nm,0.3s,baz=69,slow=15,SNR=9.5						
KURBB				Sn	Sn	10 13 03.1	-1.9
	0.1nm,0.3s,baz=67,slow=27,SNR=8.2						
KURBB				Lg	Lg	10 13 52.4	
	0.1nm,0.3s,baz=70,slow=33,SNR=9.1						
MK31	**Makanchi Array**	**8.96**	**222**	Pn	Pn	10 11 41.0	+0.5
	0.8nm,0.6s,baz=40,slow=11,SNR=16						
MK31				⇑Sn	Sn	10 13 18.3	-3.7
	1.4nm,0.6s,baz=40,slow=13,SNR=3.0						
MK31				⇓Lg	Lg	10 14 06.3	
	25nm,1.2s,baz=32,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**8.96**	**222**	Pn	Pn	10 11 40.7	+0.3
	0.2nm,0.3s,baz=39,slow=12,SNR=9.4						
MKAR				Sn	Sn	10 13 21.5	-0.6
	0.3nm,0.3s,baz=34,slow=26,SNR=4.2						
MKAR				Lg	Lg	10 14 09.2	
	0.1nm,0.3s,baz=16,slow=21,SNR=6.2						
MAKZ	**Makanchi**	**9.07**	**223**	⇑Sn	Sn	10 13 23.0	-1.8
	3.7nm,0.8s						
MAKZ				⇑Lg	Lg	10 14 11.1	
	20nm,1.1s						
SONM	**Songino Array**	**11.46**	**115**	Lg	Lg	10 15 23.1	
	0.2nm,0.3s,baz=302,slow=15,SNR=4.8						

MAN 06 10:10:47, 10.00N×123.06E, h48km**, mb4.0, ML2.8, MS2.4, 1C, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.68**	**165**	⇑iP	Pn	10 11 02.4	+1.9
SNPH				i S	Sn	10 11 12.9	+2.8
GUIM	**Jordan**	**0.78**	**323**	eP	Pn	10 11 03.2	+1.5
GUIM				eS	Sn	10 11 15.0	+2.6
MSLP	**Maasin**	**1.77**	**86**	eP	Pn	10 11 16.3	+1.1
MSLP				eS	Sn	10 11 38.2	+1.5

*ISK **06** 10:40:15.7, 40.53N×34.96E, h8km, ML2.4/4*
*CSEM **06** 10:40:16.5±0.2, 40.55N×34.88E, h10km, ML2.8, Error ellipse: s-maj=5.0km s-min=4.4km az=94.0*
*DDA **06** 10:40:16.5, 40.54N×34.85E, h7km, Ml2.8*
*ISCJB **06** 10:40:17.0±0.5, 40.52N±0.03×34.89E±0.04, h11km±4km, Error ellipse: s-maj=5.5km s-min=4.2km az=155.5*
ISC 06 10:40:16.9±0.9**, 40.54N**±0.02×**34.88E**±0.03**, h15**km±7km**, n24,** σ0.85s/42**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAK	**Corum_Osmancik**	**0.13**	**327**	i P	**Pg**	**10 40 20.9**	**+0.2**
CTAK				i S	**Sb**	**10 40 24.6**	**+0.6**
CTAK	**Corum_Osmancik**	**0.13**	**327**	P	**Pg**	**10 40 20.9**	**+0.2**
CTAK				S	**Sb**	**10 40 24.5**	**+0.6**
COAL	**Corum-Alaca**	**0.30**	**164**	i P	**Pg**	**10 40 22.9**	**-0.3**
COAL				i S	**Sg**	**10 40 27.1**	**-0.4**
COAL	**Corum-Alaca**	**0.30**	**164**	P	**Pg**	**10 40 22.9**	**-0.3**
COAL				S	**Sg**	**10 40 27.1**	**-0.4**
CORM	**Corum**	**0.41**	**208**	PG	**Pg**	**10 40 24.6**	**-0.6**
CORM				SG	**Sg**	**10 40 30.9**	**0.0**
CORM	**Corum**	**0.41**	**208**	i Pg	**Pg**	**10 40 24.6**	**-0.6**
CORM				eSg	**Sg**	**10 40 30.9**	**0.0**
HAVZ	**Havza**	**0.83**	**50**	i P	**Pb**	**10 40 32.9**	**-0.1**
HAVZ				i S	**Sg**	**10 40 45.0**	**+1.1**
HAVZ	**Havza**	**0.83**	**50**	P	**Pb**	**10 40 32.9**	**-0.1**
HAVZ				S	**Sg**	**10 40 45.0**	**+1.1**
BOYT	**Boyabat**	**0.88**	**1**	i P	**Pb**	**10 40 33.5**	**-0.3**
BOYT				i S	**Sb**	**10 40 44.8**	**-0.6**
BOYT	**Boyabat**	**0.88**	**1**	P	**Pb**	**10 40 33.5**	**-0.3**
BOYT				S	**Sb**	**10 40 44.8**	**-0.6**
YOZ	**Yozgat**	**0.96**	**159**	PG	**Pb**	**10 40 34.7**	**-0.6**
YOZ				SG	**Sb**	**10 40 46.9**	**-1.0**
YOZ	**Yozgat**	**0.96**	**159**	ePg	**Pb**	**10 40 34.7**	**-0.6**
YOZ				eSg	**Sb**	**10 40 46.9**	**-1.0**
ILGA	**Ilgaz**	**1.02**	**300**	i P	**Pb**	**10 40 35.8**	**-0.6**
ILGA				i S	**Sb**	**10 40 49.3**	**-0.4**
ILGA	**Ilgaz**	**1.02**	**300**	P	**Pb**	**10 40 35.8**	**-0.6**
ILGA				S	**Sb**	**10 40 49.3**	**-0.4**
KVT	**Kavak**	**1.03**	**58**	PG	**Pb**	**10 40 34.4**	**-2.1**
KVT	**Kavak**	**1.03**	**58**	ePg	**Pb**	**10 40 34.4**	**-2.1**
ELDT	**Eldivan**	**1.11**	**268**	i P	**Pb**	**10 40 38.0**	**+0.1**
ELDT				i S	**Sb**	**10 40 52.7**	**+0.5**
ELDT	**Eldivan**	**1.11**	**268**	P	**Pb**	**10 40 38.0**	**+0.1**
ELDT				S	**Sb**	**10 40 52.7**	**+0.5**
CUSAR	**Sarkisla-SIVAS**	**1.54**	**137**	i P	**Pb**	**10 40 45.9**	**+0.8**
CUSAR				i S	**Sb**	**10 41 06.2**	**+1.9**
CUSAR	**Sarkisla-SIVAS**	**1.54**	**137**	P	**Pb**	**10 40 45.9**	**+0.8**
CUSAR				S	**Sb**	**10 41 06.2**	**+1.9**
SVSK	**Karacayir**	**1.74**	**110**	PN	**Pn**	**10 40 46.5**	**+0.1**
SVSK	**Karacayir**	**1.74**	**110**	ePn	**Pn**	**10 40 46.5**	**+0.1**
SERE	**Sereflikochisa**	**1.89**	**213**	PN	**Pn**	**10 40 49.1**	**+0.4**
SERE	**Sereflikochisa**	**1.89**	**213**	ePn	**Pn**	**10 40 49.1**	**+0.4**

IDC 06 10:41:33.5±2.9**, 54.05N×87.19E, h0**km**, mb1 3.1**/3**, mb1mx2.9**/72**, mbtmp3.1**/3**, ML2.8**/3**, Error ellipse: s-maj=29.2km s-min=16.7km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**267**	i		10 48 50.0	
	baz=85,slow=334,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.41**	**267**	Pg	Pn	10 41 58.0	-2.4
	4.3nm,0.3s,baz=86,slow=16,SNR=27						
ZALV				Lg	Lg	10 42 18.1	
	2.1nm,0.3s,baz=81,slow=28,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.32**	**241**	Pn	Pn	10 43 08.4	+0.5
	0.1nm,0.3s,baz=53,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**7.91**	**205**	Pn	Pn	10 43 30.8	+1.0
	0.2nm,0.3s,baz=28,slow=14,SNR=9.5						
MKAR				Lg	Lg	10 45 53.3	
	baz=22,slow=30,SNR=5.2						
BVAR	**Borovoye Array**	**10.06**	**271**	Pn	Pn	10 43 59.3	+0.2
	0.1nm,0.3s,baz=76,slow=14,SNR=2.4						

IDC 06 10:50:16.3±2.1**, 2.63S×138.95E, h0**km**, mb4.0**/3**, mb1 4.2**/4**, mb1mx3.6**/48**, mbtmp4.0**/4**, ML3.8**/1**, Error ellipse: s-maj=146.7km s-min=29.3km az=104.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.79**	**194**	P	P	10 54 27.2	+0.8
	0.3nm,0.3s,baz=14,slow=12,SNR=18						
ASAR	**Alice Springs**	**21.48**	**193**	P	P	10 55 06.5	-0.2
	6.5nm,0.4s,baz=26,slow=8.7,SNR=6.1						
STKA	**Stephens Creek**	**29.20**	**175**	P	P	10 56 19.0	-0.7
	2.0nm,1.0s,baz=339,slow=14,SNR=2.9						
ILAR	**Eielson Array**	**85.66**	**24**	P	P	11 02 56.8	+0.1
	0.3nm,0.8s,baz=259,slow=4.2,SNR=4.3						

IDC 06 10:50:42.5±1.9**, 2.68S×137.61E, h0**km**, mb4.2**/3**, mb1 4.2**/5**, mb1mx3.7**/47**, mbtmp4.1**/5**, ML3.7**/1**, Error ellipse: s-maj=64.3km s-min=29.7km az=99.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**11.61**	**126**	Pn	Pn	10 53 30.5	+0.8
	0.2nm,0.3s,baz=281,slow=18,SNR=3.5						
WRA	**Warramunga Arr**	**17.45**	**190**	P	P	10 54 48.6	-0.3
	0.2nm,0.3s,baz=19,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**21.17**	**189**	P	P	10 55 27.8	-1.8
	9.9nm,0.4s,baz=32,slow=11,SNR=8.5						
STKA	**Stephens Creek**	**29.29**	**173**	P	P	10 56 47.8	+1.1
	2.0nm,0.8s,baz=345,slow=16,SNR=3.2						
ILAR	**Eielson Array**	**86.26**	**25**	P	P	11 03 25.8	-0.2
	0.5nm,0.7s,baz=253,slow=5.1,SNR=5.3						

*IDC **06** 10:50:56.0±17.0, 0.49N×97.75E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.3/65, mbtmp3.7/3, ML4.5/1, Error ellipse: s-maj=528.2km s-min=129.3km az=116.0*
*DJA **06** 10:51:00.3±0.9, 2°N±5°×9°8E±°, h44km±43km, M3.1/6, MLv3.1/6*
ISC 06 10:51:04.3±1.6**, 0.99N**±0.09×**97.3E**±0.2**, h27**km**, n7,** σ0.89s/8**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.42**	**42**	P	**Pn**	**10 51 16.1**	**+1.4**
MNSI	**Mandailing Nat**	**2.30**	**95**	P	**Pn**	**10 51 40.5**	**+0.1**
KCSI	**Kotacane, Aceh**	**2.56**	**11**	P	**Pn**	**10 51 44.7**	**+0.5**
KCSI				S	**Sb**	**10 52 19.6**	**-1.2**
SISI	**Saibi**	**2.92**	**142**	P	**Pb**	**10 51 55.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**17.44**	**5**	P	**P**	**10 55 06.6**	**-0.3**
	0.6nm,0.3s,baz=191,slow=9.2,SNR=4.9						
MKAR	**Makanchi Array**	**47.47**	**346**	P	**P**	**10 59 37.0**	**+0.1**
	0.3nm,0.5s,baz=162,slow=9.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**53.78**	**351**	P	**P**	**11 00 24.2**	**-0.1**
	0.4nm,0.3s,baz=162,slow=5.9,SNR=3.4						

*NNC **06** 10:53:10.7±2.4, 54.30N×86.17E, h3km±19km, mb3.7, mpv3.1, Error ellipse: s-maj=43.9km s-min=14.0km az=154.0*
IDC 06 10:53:13.6±2.1**, 54.23N×86.01E, h0**km**, mb1 3.2**/3**, mb1mx3.0**/70**, mbtmp3.2**/3**, ML2.9**/3**, 7C-3D, Error ellipse: s-maj=16.5km s-min=9.7km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.76**	**249**	i		10 57 52.0	
	baz=66,slow=331,SNR=1.6						
ZAA0	**Zalesovo Array**	**0.76**	**249**	⇑P	Pg	10 53 27.3	-0.8
	1.2nm,0.2s						
ZAA0				⇓S	Sb	10 53 40.0	-0.5
	6.8nm,0.5s						
ZALV	**Zalesovo Beam**	**0.76**	**249**	Pg	Pg	10 53 26.8	-1.3
	1.6nm,0.3s,baz=64,slow=16,SNR=16						
ZALV				Lg	Lg	10 53 38.9	
	4.3nm,0.3s,baz=70,slow=29,SNR=26						
ZALV				Rg	Rg	10 53 44.9	
	11nm,0.3s,baz=57,slow=27,SNR=29						
KURK	**Kurchatov**	**5.72**	**235**	⇓Pn	Pn	10 54 40.4	+0.6
	1.3nm,0.6s						
KURK				⇑Sn	Sn	10 55 44.8	-1.4
	1.5nm,1.0s						
KURK				⇑Lg	Lg	10 56 18.5	
	3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**5.83**	**235**	Pn	Pn	10 54 41.7	+0.5
	0.1nm,0.3s,baz=52,slow=14,SNR=8.4						
KURBB				Lg	Lg	10 56 19.6	
	0.0nm,0.3s,baz=52,slow=32,SNR=4.2						
MK31	**Makanchi Array**	**7.81**	**199**	Pn	Pn	10 55 08.8	+0.3
	0.8nm,0.3s,baz=27,slow=14,SNR=26						
MK31				⇓Sn	Sn	10 56 37.8	+0.3
	0.1nm,0.1s,baz=346,slow=13,SNR=7.3						
MK31				⇑Lg	Lg	10 57 20.5	
	3.5nm,1.1s,baz=28,slow=31,SNR=5.5						
MKAR	**Makanchi Array**	**7.81**	**199**	Pn	Pn	10 55 08.9	+0.4
	0.6nm,0.3s,baz=24,slow=13,SNR=23						
MKAR				Sn	Sn	10 56 37.4	-0.1
	0.1nm,0.3s,baz=26,slow=24,SNR=5.7						
MKAR				Lg	Lg	10 57 22.5	
	0.1nm,0.3s,baz=30,slow=30,SNR=8.9						
MAKZ	**Makanchi**	**7.86**	**201**	⇑Pn	Pn	10 55 09.8	+0.6
	1.4nm,0.8s						
MAKZ				⇑Sn	Sn	10 56 36.2	-2.5
	1.0nm,1.0s						
MAKZ				⇑Lg	Lg	10 57 24.6	
	1.9nm,1.1s						
BVAR	**Borovoye Array**	**9.36**	**269**	Pn	Pn	10 55 30.7	+1.0
	0.1nm,0.3s,baz=58,slow=17,SNR=3.0						

MEX 06 11:14:03.1±0.5**, 18.17N×100.96W, h51**km±8km**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.59**	**79**	eP	Pn	11 14 13.7	-1.9
ARIG				eS	Sn	11 14 23.0	-1.6
ZIIG	**Zihuatanejo**	**0.74**	**221**	eP	Pn	11 14 16.2	-1.2
ZIIG				i S	Sn	11 14 25.8	-1.9
CAIG	**El Cayaco**	**1.30**	**149**	i P	Pn	11 14 23.4	-1.5
CAIG				i S	Sn	11 14 38.7	-2.4
MEIG	**Mezcala**	**1.30**	**100**	eP	Pn	11 14 24.1	-0.8
MEIG				i S	Sn	11 14 39.5	-1.9
PLIG	**Platanillo**	**1.41**	**81**	eP	Pn	11 14 25.1	-1.3
PLIG				i S	Sn	11 14 42.0	-1.9
MOIG	**Morelia**	**1.52**	**352**	i P	Pn	11 14 26.1	-2.0
MOIG				i S	Sn	11 14 44.2	-2.7
YAIG	**Yautepec**	**1.93**	**69**	eP	Pn	11 14 32.4	-1.2
YAIG				eS	Sn	11 14 54.6	-2.2
TLIG	**Tlapa**	**2.36**	**104**	i P	Pn	11 14 38.8	-0.7
TLIG				i S	Sn	11 15 05.3	-2.0

*NIED **06** 11:16:00, 35.80N×142.00E, h5km, Mw4.6 Best double couple: $M_0$1.04000×10^{16} NP1:ϕ_s190.00000°, δ59.00000°, λ-24.00000°. NP2:ϕ_s293.00000°, δ69.00000°, λ-147.00000°.*
*IDC **06** 11:16:58.0±0.4, 35.71N×141.86E, h0km, mb4.5/35, mb1 4.6/40, mb1mx4.5/70, mbtmp4.5/40, ML4.3/4, MS3.8/33, Ms1 3.9/33, ms1mx3.6/71, Error ellipse: s-maj=13.0km s-min=9.8km az=109.0*
*JMA **06** 11:16:59.0±0.2, 35.79N×141.97E, h23km±3km, M4.8*
JMA Felt I J1.
*ISCJB **06** 11:17:00.4±0.2, 35.74N±0.02×141.80E±0.02, h23km, mb4.8/167, MS4.1/51, Error ellipse: s-maj=3.4km s-min=2.6km az=155.4*
*MOS **06** 11:17:02.1±1.0, 35.71N×141.79E, h39km, mb5.0/79, MS4.2/14, Error ellipse: s-maj=7.6km s-min=4.8km az=114.1*
*NEIC **06** 11:17:03.7±0.6, 35.70N×141.78E, h35km±5km, mb4.9/104, Error ellipse: s-maj=4.2km s-min=3.2km az=137.0*
NEIC Recorded [1 JMA] in Chiba and Ibaraki.
*BJI **06** 11:17:04.3, 36.07N×141.55E, h40km, mb4.7/61, mB5.0/48, Ms4.6/54, Ms7 4.3/52*
ISC 06 11:17:02.0±0.3**, 35.78N**±0.04×**141.81E**±0.04**, h23**km**, n380,** σ1.46s/392**, mb4.9**/167**, MS4.2**/52**, 11C-10D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.78**	**264**	P	**Pb**	**11 17 15.7**	**-1.2**
CHOJ				S	**Sb**	**11 17 27.2**	**+0.2**
JHO	**Hitachi**	**1.30**	**310**	P	**Pn**	**11 17 23.7**	**-1.1**
BSO1	**Boso 1**	**1.32**	**211**	P	**Pn**	**11 17 23.3**	**-1.2**
BSO3	**Boso 3**	**1.45**	**228**	P	**Pn**	**11 17 25.7**	**-0.8**
JFK	**Kawauchi**	**1.75**	**335**	P	**Pn**	**11 17 29.5**	**-1.5**
JFK				eS	**Sn**	**11 17 51.9**	**-0.7**
JAG	**Ashikaga**	**2.01**	**289**	P	**Pn**	**11 17 34.0**	**-0.6**
JFT	**Otama**	**2.10**	**326**	P	**Pn**	**11 17 35.5**	**-0.2**
MJAR	**Matsushiro Arr**	**3.01**	**286**	Pn	**Pn**	**11 17 49.3**	**+1.0**
	18nm,0.3s,baz=98,slow=8.1,SNR=121						
MJAR				Sn	**Sn**	**11 18 22.7**	**-1.0**
	18nm,0.3s,baz=69,slow=19,SNR=6.2						
MJAR				LR	LR	11 19 09.5	
	comp=Z,1μm,20.9s,baz=145,slow=43						
MAJO	**Matsushiro**	**3.01**	**286**	ePn	**Pn**	**11 17 49.4**	**+1.1**
MAJO				eSn	**Sn**	**11 18 22.7**	**-1.1**
MAJO	**Matsushiro**	**3.01**	**286**	⇓iP	**Pn**	**11 17 49.5**	**+1.1**
MAT	**Matsushiro**	**3.01**	**286**	P	**Pn**	**11 17 49.3**	**+1.0**
MAT				S	**Sn**	**11 18 25.0**	**+1.3**
MJB9	**Matsu-Tunnel**	**3.02**	**286**	ePn	**Pn**	**11 17 49.4**	**+1.1**
JHJ2	**Mitsune**	**3.13**	**212**	ePn	**Pn**	**11 17 48.0**	**-2.0**
JHJ2				eSn	**Sn**	**11 18 26.1**	**-0.5**
JHJ	**Hachijo jima 2**	**3.14**	**213**	Pn	**Pn**	**11 17 48.4**	**-1.7**
	269nm,0.3s,baz=4.5,slow=2.2,SNR=43						
JHJ				Sn	**Sn**	**11 18 25.4**	**-1.5**
	432nm,0.3s,baz=353,slow=21,SNR=14						
INU	**Inuyama**	**3.93**	**265**	ePn	**Pn**	**11 18 02.7**	**+1.8**
ERM	**Erimo**	**6.31**	**9**	ePn	**Pn**	**11 18 30.6**	**-3.0**
ERM				eSn	**Sn**	**11 19 44.9**	**0.0**
ERM	**Erimo**	**6.31**	**9**	i P	**Pn**	**11 18 32.4**	**-1.2**

ASAJ Asahikawa 8.35 4 Pn Pn 11 18 59.3 -2.2
11nm,0.3s,baz=211,slow=12,SNR=35
ASAJ Sn Sn 11 20 32.1 -2.9
1.3nm,0.3s,baz=198,slow=20,SNR=1.7
ASAJ Asahikawa 8.35 4 ePn Pn 11 18 59.9 -1.6
ASAJ eSn Sn 11 20 38.7 +3.8
CBIJ Chichi jima 8.67 178 ePn Pn 11 19 00.4 -5.6
CBIJ eSn Sn 11 20 33.2 -10
JCJ Chichijima 8.67 178 Pn Pn 11 19 00.3 -5.7
42nm,0.3s,baz=296,slow=23,SNR=26
JCJ Sn Sn 11 20 32.0 -11
11nm,0.3s,baz=294,slow=20,SNR=3.1
JCJ LR LR 11 25 07.1
comp=Z,201nm,18.0s,baz=94,slow=57
YUK Yuzh-Kuril'sk 8.81 19 eP Pn 11 19 04.2 -3.6
YUK pmax pmax
comp=Z,271nm,0.8s
SHO Shikotan 8.95 24 eP Pn 11 19 04.3 -5.5
SHO pmax pmax
comp=Z,65nm,0.8s
SHO pmax pmax
comp=N,41nm,0.4s
SHO pmax pmax
comp=E,25nm,0.4s
JNU Nakatsue 9.41 257 Pn Pn 11 19 16.7 +0.5
comp=E,0.9nm,0.3s,baz=352,slow=3.8,SNR=7.2
JNU LR LR 11 22 54.2
comp=E,832nm,20.9s,baz=74,slow=38
JNU Nakatsue 9.41 257 ePn Pn 11 19 15.2 -1.0
KUR Kuril'sk 10.50 24 eP Pn 11 19 28.7 -2.3
KUR pmax pmax
comp=Z,45nm,0.6s
YSS Yuzh-Sakhalins 11.18 3 ePn Pn 11 19 38.2 -2.1
YSS Yuzh-Sakhalins 11.18 3⇑iP Pn 11 19 39.2 -1.1
YSS pmax pmax
comp=Z,40nm,0.7s
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=N,1μm,13.0s
YSS MLR MLR
comp=E,1μm,16.0s
USRK Ussuriysk Ar. 11.28 321 Pn Pn 11 19 43.0 +1.3
comp=E,0.6nm,0.3s,baz=131,slow=13,SNR=10.0
USRK LR LR 11 24 07.3
comp=E,438nm,18.2s,baz=125,slow=38
KSRS Korea Array 11.29 283 Pn Pn 11 19 45.3 +3.5
comp=E,0.2nm,0.3s,baz=100,slow=14,SNR=10
KSRS LR LR 11 24 23.4
comp=E,793nm,18.4s,baz=91,slow=39
KS15 Wonju Array Si 11.32 283 ePn Pn 11 19 42.0 -0.2
KSAR Wonju Array Be 11.32 283 Pn Pn 11 19 45.3 +3.1
KSAR Wonju Array Be 11.32 283 P Pn 11 19 45.3 +3.1
MDJ Mudanjiang 12.84 317 P Pn 11 20 01.9 -1.1
MDJ pP P 11 20 09.5 -4.2
MDJ sP 11 20 16.0
MDJ S Sn 11 22 17.8 -7.2
MDJ sS 11 22 34.1
MDJ ScP ScP 11 29 08.5 -0.7
MDJ PcS PcS 11 29 14.2 +2.5
MDJ pmax pmax
comp=E,16nm,1.2s
MDJ pmax pmax
comp=E,450nm,4.2s
MDJ LR LR
comp=E,490nm,8.8s
MDJ LR LR
comp=E,1μm,11.5s
MDJ LR LR
comp=E,1μm,15.9s
MDJ Mudanjiang 12.84 317 ePn Pn 11 20 07.3 +4.3
MDJ eSn Sn 11 22 23.3 -1.7
CN2 Changchun 14.89 307 eP Pn 11 20 31.3 +0.3
CN2 esP P 11 20 48.4 +12
CN2 eS Sn 11 23 11.5 -3.8
CN2 pmax pmax
comp=E,10.0nm,1.2s
CN2 LR LR
comp=E,1μm,14.0s
CN2 LR LR
comp=E,600nm,14.0s
CN2 LR LR
comp=E,800nm,14.0s
KLR Kul'dur 15.33 334 Pn Pn 11 20 33.9 -2.9
comp=E,0.1nm,0.3s,baz=163,slow=12,SNR=11
KLR Kul'dur 15.33 334⇑iP Pn 11 20 34.5 -2.3
GRNR Gornyy 15.48 347 eP Pn 11 20 35.0 -3.7
GRNR pmax pmax
comp=Z,16nm,1.0s
NKL Nikolayevsk 17.38 358 eP Pn 11 21 03.4 +0.6
NKL pmax pmax
comp=N,27nm,1.1s
NKL pmax pmax
comp=E,11nm,1.1s
NKL pmax pmax
comp=Z,35nm,1.1s
NKL MLR MLR
comp=N,1μm,14.0s
NKL MLR MLR
comp=E,800nm,14.0s
NKL MLR MLR
comp=Z,2μm,14.0s
SSE Sheshan 17.83 261 P P 11 21 09.3 +0.2
SSE S Sn 11 24 28.1 +1.5
SSE pmax pmax
comp=Z,30nm,0.7s
SSE pmax pmax
comp=Z,130nm,3.0s
SSE LR LR
comp=Z,460nm,16.3s
SSE LR LR
comp=Z,430nm,16.1s
SKR Severo-Kuril's 18.13 30 eP P 11 21 22.0 +10
SKR pmax pmax
comp=Z,112nm,1.3s
SKR pmax pmax
comp=Z,600nm,2.3s
SKR pmax pmax
comp=Z,200nm,2.7s
SKR MLR MLR
comp=Z,1μm,12.0s
SKR MLR MLR
comp=Z,600nm,20.0s
NJ2 Nanjing 19.40 266 eP Pn 11 21 27.4 -0.3
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,1μm,14.9s
NJ2 LR LR
comp=Z,830nm,15.7s
NJ2 LR LR
comp=Z,1μm,20.0s
TIA Tai'an 19.97 279 P P 11 21 30.8 -1.8
TIA pmax pmax
comp=Z,8.0nm,1.2s
TIA pmax pmax
comp=Z,160nm,5.1s
TIA LR LR
comp=Z,940nm,18.4s
TIA LR LR
comp=Z,560nm,20.0s
TIA LR LR
comp=Z,560nm,21.3s
PEA0B Petropavlovsk- 20.62 28 eP P 11 21 40.6 +1.0
comp=Z,69nm,1.3s
PETK Petropavlovsk- 20.62 28 P P 11 21 39.4 -0.2
comp=Z,16nm,0.9s,baz=229,slow=5.7,SNR=8.9
PETK LR LR 11 29 14.9
comp=Z,332nm,21.8s,baz=215,slow=36
PETK Petropavlovsk- 20.62 28 eP P 11 21 39.7 +0.1
PETK Petropavlovsk- 20.62 28 eP P 11 21 39.7 +0.1
PEA1 Petropavlovsk- 20.63 28 eP P 11 21 39.4 -0.2
BJI Beijing 20.64 290 P P 11 21 37.5 -2.3
BJI pmax pmax
comp=Z,23nm,1.4s
BJI LR LR
comp=Z,880nm,18.6s
BJI LR LR
comp=Z,640nm,14.7s
BJI LR LR
comp=Z,470nm,28.4s
ZEA Zeya 20.64 335 eP P 11 21 36.8 -3.0
ZEA pmax pmax
comp=N,36nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,58nm,1.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
ZEA MLR MLR
comp=N,700nm,16.0s
BJT Baijiatuau 20.65 290 eP P 11 21 39.2 -0.7
comp=N,42nm,1.2s
BJT Baijiatuau 20.65 290 eP P 11 21 39.2 -0.7
BJT pmax pmax
comp=Z,42nm,1.2s
PET Petropavlovsk 20.93 29 eP P 11 21 43.4 +0.6
comp=Z,72nm,1.3s
PET Petropavlovsk 20.93 29 eP P 11 21 43.1 +0.3
PET eS S 11 25 26.7 -8.2
PET pmax pmax
comp=Z,42nm,1.1s
PET MLR MLR
comp=Z,800nm,15.0s
NACB Ninganchiao 20.94 242 eP P 11 21 43.2 0.0
comp=Z,16nm,0.8s
GUMO Guam 22.27 172 LR LR 11 28 47.4
comp=Z,66nm,21.4s,baz=85,slow=32
WHN Wuhan 23.54 265 ⇑P P 11 22 09.5 -1.0
WHN LR LR
comp=Z,820nm,11.2s
WHN LR LR
comp=Z,2μm,14.4s
WHN LR LR
comp=Z,2μm,14.5s
TIY Taiyuan 23.58 283 eP P 11 22 13.4 +2.4
TIY S S 11 26 24.9 +0.9
TIY pmax pmax
comp=Z,260nm,5.9s
TIY LR LR
comp=Z,790nm,15.8s
TIY LR LR
comp=Z,750nm,16.7s
TIY LR LR
comp=Z,600nm,13.2s
CLNS Chul'man 23.95 337 eP P 11 22 13.9 -0.4
CLNS e*PP pP 11 22 22.2 +1.0
CLNS e 11 22 42.5
CLNS e 11 25 55.2
CLNS eS S 11 26 28.3 -1.3
CLNS pmax pmax
comp=Z,24nm,1.0s
CLNS pmax pmax
comp=N,20nm,1.2s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS pmax pmax
comp=Z,19nm,0.9s
CLNS pmax pmax
comp=N,20nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.2s
CLNS smax smax
comp=E,311nm,17.3s
CLNS smax smax
comp=N,44nm,8.1s
CLNS MLR MLR
comp=Z,472nm,13.0s
CLNS MLR MLR
comp=N,504nm,13.0s
HHC Hu-ho-hao-te 24.20 291 eP P 11 22 15.5 -1.4
HHC pP sP 11 22 26.0 -0.6
HHC S S 11 26 22.4 -12
HHC SS SnSn 11 27 18.4 +2.0
HHC pmax pmax
comp=N,15nm,0.9s
HHC pmax pmax
comp=N,64nm,3.7s
HHC LR LR
comp=N,370nm,11.6s
HHC LR LR
comp=N,500nm,11.4s
HHC LR LR
comp=N,380nm,11.5s
MA2 Magadan 24.51 11 P P 11 22 19.3 -0.1
comp=N,17nm,0.8s,baz=200,slow=8.4,SNR=27
MA2 Magadan 24.51 11⇓eP P 11 22 18.4 -1.0
XAN Xi'an 26.96 276 P P 11 22 41.5 -0.4
XAN pP sP 11 22 53.4 +1.8
XAN PP PnPn 11 23 24.5 +0.1
XAN S S 11 27 07.6 -10
XAN pmax pmax
comp=N,150nm,5.5s
XAN LR LR
comp=N,650nm,16.9s
XAN LR LR
comp=N,270nm,17.3s
XAN LR LR
comp=N,450nm,12.9s
H11N2 WAKE ISLAND Hy 27.25 119 T T 11 51 04.0
baz=311,slow=75,SNR=87
H11N1 WAKE ISLAND Hy 27.25 119 T T 11 51 04.8
baz=311,slow=75,SNR=68
H11N3 WAKE ISLAND Hy 27.26 119 T T 11 51 07.3
baz=311,slow=75,SNR=78
YAK Yakutsk 27.36 348 P P 11 22 44.7 -0.3
comp=N,40nm,0.5s,baz=105,slow=0.7,SNR=13
YAK Yakutsk 27.36 348 eP P 11 22 45.0 0.0
comp=N,145nm,1.4s
YAK Yakutsk 27.36 348 eP P 11 22 44.4 -0.6
YAK e*PP pP 11 22 51.5 -0.4
YAK eS S 11 27 24.9 +1.5
YAK e*SS sS 11 27 40.4 +5.6
YAK pmax pmax
comp=Z,48nm,1.0s
YAK pmax pmax
comp=N,33nm,1.4s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,49nm,1.0s
YAK pmax pmax
comp=E,43nm,1.1s
YAK pmax pmax
comp=N,48nm,1.3s
YAK smax smax
comp=E,55nm,3.1s
YAK smax smax
comp=N,28nm,2.3s
YAK MLR MLR
comp=Z,697nm,15.0s
YAK MLR MLR
comp=N,758nm,16.0s
YAK MLR MLR
comp=E,278nm,17.0s
WAKE Wake Island 27.37 120 eP P 11 22 43.7 -1.9
comp=E,606nm,1.4s
ENH Enshi 27.58 268 eP P 11 22 47.0 -0.4
comp=E,23nm,1.1s
H11S1 WAKE ISLAND Hy 27.92 121 T T 11 51 57.5
baz=314,slow=75,SNR=109
H11S3 WAKE ISLAND Hy 27.92 122 T T 11 51 56.5
baz=314,slow=75,SNR=90
H11S2 WAKE ISLAND Hy 27.94 122 T T 11 51 50.5
baz=314,slow=75,SNR=86
SEY Seymchan 27.96 10 P P 11 22 51.0 +0.5
comp=E,8.6nm,1.0s,baz=194,slow=7.7,SNR=23
SEY LR LR 11 36 07.6
comp=E,527nm,18.4s,baz=330,slow=41
SEY Seymchan 27.96 10⇑iP P 11 22 50.5 +0.1
ULN Ulaanbaatar 28.34 306 eP P 11 22 54.6 +0.4
comp=E,11nm,1.0s
ULN Ulaanbaatar 28.34 306ceP P 11 22 54.5 +0.3
ULN pmax pmax
comp=Z,20nm,1.7s
TGY Tagaytay City 28.59 226 LR LR 11 31 53.0
comp=Z,124nm,22.0s,baz=78,slow=31
SONA1 Songino Array 28.76 306 eP P 11 22 58.2 +0.3
BOD Bodaibo 28.76 329 eP P 11 22 57.0 -0.6
BOD pmax pmax
comp=Z,34nm,1.4s
SONA0 Songino Array 28.76 306 eP P 11 22 58.4 +0.5
SONM Songino Array 28.76 306 P P 11 22 58.4 +0.5
comp=Z,2.7nm,0.5s,baz=108,slow=8.1,SNR=14
SONM LR LR 11 34 27.2
comp=Z,158nm,21.6s,baz=108,slow=36
LZH Lanzhou 30.62 282 eP P 11 23 15.7 +1.2
LZH pP sP 11 23 26.7 +2.4
LZH sP pP 11 23 30.8 +9.4
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.5s
LZH LR LR
comp=Z,1μm,16.0s
LZH LR LR
comp=Z,400nm,16.8s
LZH LR LR
comp=Z,580nm,17.0s
IRK Irkutsk 31.18 314 eP P 11 23 19.8 +0.6
IRK pmax pmax
comp=Z,24nm,1.3s
ZAK Zakamensk 31.31 310 eP P 11 23 20.2 -0.2
ZAK pmax pmax
comp=Z,8.0nm,1.3s
GYA Guiyang 31.35 263 P P 11 23 26.9 +5.8
GYA pP sP 11 23 35.8 +5.0
GYA PP PP 11 24 29.0 -2.9
GYA PcP PcP 11 26 18.2 +3.6
GYA S S 11 28 27.9 +0.8
GYA sS sS 11 28 47.4 +8.9
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,540nm,17.8s
GYA LR LR
comp=Z,520nm,18.2s
GYA LR LR
comp=Z,500nm,18.6s
TLY Talaya 31.40 312 eP P 11 23 22.2 +1.1
comp=Z,12nm,0.9s
TLY Talaya 31.40 312 eP P 11 23 21.8 +0.7
TLY eS S 11 28 28.7 +1.5
TLY pmax pmax
comp=Z,24nm,1.4s
TLY MLR MLR
comp=Z,330nm,16.0s
CD2 Chengdu 32.02 272 eP P 11 23 27.8 +1.0
CD2 pP sP 11 23 39.0 +2.4
CD2 sP pP 11 23 44.1 +10
CD2 S S 11 28 36.4 -1.0
CD2 sS sS 11 28 55.6 +6.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,870nm,15.9s
CD2 LR LR
comp=Z,970nm,15.9s
CD2 LR LR
comp=Z,960nm,17.4s
DAV Davao City (W) 32.22 211 LR LR 11 34 37.6
comp=Z,89nm,21.0s,baz=328,slow=33
QIZ Qiongzhong 32.73 248 P P 11 23 35.4 +2.3
QIZ S S 11 28 53.5 +5.0
QIZ pmax pmax
comp=Z,14nm,1.3s
QIZ LR LR
comp=Z,390nm,26.5s
QIZ LR LR
comp=Z,320nm,20.8s
QIZ LR LR
comp=Z,190nm,19.2s
MOY Mondy 33.00 312 eP P 11 23 36.4 +1.2
MOY pmax pmax
comp=Z,16nm,1.4s
GTA Gaotai 33.26 289 ⇓P P 11 23 38.1 +0.5
GTA pP sP 11 23 50.0 +2.6
GTA sP pP 11 23 55.0 +10
GTA S S 11 28 53.9 -2.7
GTA sS sS 11 29 13.4 +5.4
GTA SS SnSn 11 30 56.8 -0.4
GTA pmax pmax
comp=Z,15nm,1.2s
GTA pmax pmax
comp=Z,100nm,4.5s
GTA LR LR
comp=Z,310nm,14.0s
GTA LR LR
comp=Z,420nm,14.2s
GTA LR LR
comp=Z,340nm,13.8s
KMI Kunming 35.11 263 P P 11 23 57.3 +3.3
KMI pmax pmax
comp=Z,8.0nm,0.6s
KMI pmax pmax
comp=Z,110nm,4.9s
KMI LR LR
comp=Z,520nm,16.9s
KMI LR LR
comp=Z,330nm,15.8s
KMI LR LR
comp=Z,360nm,16.6s
BILL Bilibino 35.14 16d iP P 11 23 53.6 +0.2
BILL i 11 24 03.7
BILL pmax pmax
comp=Z,28nm,1.2s
BILL MLR MLR
comp=Z,280nm,15.0s
TIXI Tiksi 36.57 353 P P 11 24 05.4 -0.2
comp=Z,7.9nm,0.9s,baz=143,slow=6.6,SNR=16
TIXI Tiksi 36.57 353 eP P 11 24 05.4 -0.2
TIXI eP P 11 24 05.9 +0.3
TIXI Tiksi 36.57 353⇓iP P 11 24 05.0 -0.6
TIXI pmax pmax
comp=Z,23nm,1.7s
HVS Khovu-Aksy 37.43 309 i P P 11 24 12.2 -1.1
SKNT Sakolnakorn 38.42 251 P P 11 24 23.1 +1.2
CHAI Chaiyaphum 40.59 251 P P 11 24 41.1 +1.1
CMAI Chiengmai2 40.63 259 P P 11 24 47.6 +7.0
comp=Z,188nm,0.7s,comp=Z,16μm
CMMT Chiang Mai 41.31 257 P P 11 24 52.2 +6.2
comp=Z,8.1nm,1.4s
CHTO Chiang Mai 41.31 257 P P 11 24 53.3 +7.3
comp=Z,21nm,0.9s
CMAR Chiang Mai Arr 41.51 257 P P 11 24 46.8 -0.9
comp=Z,0.6nm,0.4s,baz=51,slow=8.3,SNR=4.1
CMAR LR LR 11 43 11.9
comp=Z,233nm,19.0s,baz=60,slow=38
WMQ Urumqi 41.70 298 P P 11 24 50.0 +1.0
WMQ pP sP 11 24 57.7 -1.2
WMQ sP pP 11 25 09.2 +13
WMQ pmax pmax
comp=Z,91nm,1.1s
WMQ pmax pmax
comp=Z,760nm,5.3s
WMQ LR LR
comp=Z,2μm,17.1s
WMQ LR LR
comp=Z,510nm,18.5s
WMQ LR LR
comp=Z,310nm,19.5s
ZAA0 Zalesovo Array 43.00 313 eP P 11 24 59.7 +0.4
comp=Z,22nm,1.3s
ZAA1 Zalesovo Array 43.00 313 eP P 11 24 59.7 +0.4
ZALV Zalesovo Beam 43.00 313 P P 11 24 59.7 +0.4
comp=Z,4.0nm,0.6s,baz=93,slow=5.9,SNR=29
ZALV LR LR 11 43 54.5
comp=Z,78nm,20.4s,baz=74,slow=38
ZALV Zalesovo Beam 43.00 313 eP P 11 24 58.2 -1.1
NVS Novosibirsk 43.94 315 eP P 11 25 07.3 +0.4
NVS pmax pmax
comp=E,16nm,1.3s
NVS pmax pmax
comp=Z,24nm,1.3s
KSM Kuching 44.94 228 eP P 11 25 14.8 -0.5
comp=Z,5.3nm,0.7s
MK01 Makanchi Array 45.06 303 eP P 11 25 16.3 +0.3
MK31 Makanchi Array 45.06 303 eP P 11 25 16.3 +0.3
MK31 Makanchi Array 45.06 303 i P P 11 25 15.8 -0.2
MK31 pmax pmax
comp=Z,25nm,1.3s
MK32 Makanchi Array 45.06 303 eP P 11 25 16.3 +0.3
MKAR Makanchi Array 45.06 303 P P 11 25 16.3 +0.3
comp=Z,7.8nm,1.0s,baz=88,slow=9.6,SNR=30
MKAR Makanchi Array 45.06 303 eP P 11 25 16.3 +0.3
comp=Z,64nm,0.8s
MKAR Makanchi Array 45.06 303 i P P 11 25 16.2 +0.2
MKAR pmax pmax
comp=Z,8.0nm,1.0s
PMG Port Moresby 45.23 173 P P 11 25 15.8 -1.7
comp=Z,28nm,1.0s,baz=28,slow=9.9,SNR=8.1
PMG Port Moresby 45.23 173 eP P 11 25 16.9 -0.7
comp=Z,49nm,1.1s
PMG Port Moresby 45.23 173d iP P 11 25 16.8 -0.7

PMG pmax pmax
comp=Z,158nm,1.2s
MAKZ Makanchi 45.27 303 *e*P **P 11 25 18.2 +0.5**
comp=Z,14nm,0.9s
MAKZ Makanchi 45.27 303 *i* P **P 11 25 17.8 +0.1**
MAKZ pmax pmax
comp=Z,15nm,1.2s
KAPI Kappang 45.56 212 *e*P **P 11 25 20.4 +0.3**
comp=Z,45nm,1.4s
SVW2 Sparrevohn 46.33 37 *e*P **P 11 25 25.3 -0.4**
comp=Z,17nm,1.2s
TAPN Taplejung 46.36 275 *e*P **P 11 25 27.8 +0.9**
comp=Z,21nm,0.9s
KURK Kurchatov 46.96 309 *e*P **P 11 25 30.8 -0.1**
comp=Z,32nm,0.9s
KURK Kurchatov 46.96 309*c i*P **P 11 25 30.7 -0.1**
KURK pmax pmax
comp=Z,132nm,1.2s
KURBB Kurchatov Arra 47.03 309 P **P 11 25 31.3 -0.1**
comp=Z,18nm,1.0s,baz=84,slow=8.0,SNR=31
RAMN Ramite 47.43 275 *e*P **P 11 25 35.3 +0.2**
comp=Z,94nm,1.1s
JIRN Jiri 47.46 277 *e*P **P 11 25 36.2 +0.6**
comp=Z,171nm,1.4s
GUN Gumba 47.61 277 *e*P **P 11 25 37.1 +0.4**
comp=Z,114nm,1.3s
PDGK Podgornoye 47.65 299 *i* P **P 11 25 36.3 -0.2**
PDGK pmax pmax
comp=Z,13nm,1.3s
KDAK Kodiak Island 47.82 41 P **P 11 25 37.1 -0.3**
comp=Z,25nm,1.2s,baz=241,slow=3.6,SNR=6.0
KDAK Kodiak Island 47.82 41 *e*P **P 11 25 37.2 -0.3**
comp=Z,75nm,1.5s
KDAK Kodiak Island 47.82 41 *i* P **P 11 25 37.5 +0.1**
PPLA Purkeypile 48.01 34 *e*P **P 11 25 39.0 -0.1**
comp=Z,53nm,1.6s
SPU Mount Spurr 48.04 37 *e*P **P 11 25 40.5 +1.3**
CAST Castle Rocks 48.08 34 *e*P **P 11 25 41.2 +1.8**
comp=Z,9.1nm,1.2s
HNR Honiara 48.12 156 LR LR 11 42 41.7
comp=Z,65nm,22.0s,baz=356,slow=32
PKI Pulchoki 48.13 277 *e*P **P 11 25 40.9 +0.2**
comp=Z,39nm,1.1s
KKN Kakani 48.15 277 *e*P **P 11 25 41.7 +1.0**
comp=Z,73nm,1.2s
SOEI Soe 48.23 203 *e*P **P 11 25 40.6 -0.5**
comp=Z,46nm,0.9s
DMN Daman 48.36 277 *e*P **P 11 25 43.3 +0.9**
comp=Z,84nm,1.6s
KTH Kantishna Hill 48.61 33 *e*P **P 11 25 45.2 +1.7**
comp=Z,28nm,1.2s
SUA Susitna One 48.67 36 *e*P **P 11 25 44.4 +0.2**
comp=Z,24nm,1.4s
MLY Manley 48.74 31 *e*P **P 11 25 45.6 +1.1**
comp=Z,18nm,1.1s
BATI Baumata 48.84 204 P **P 11 25 46.6 +0.8**
comp=Z,9.2nm,0.5s,baz=63,slow=2.3,SNR=2.5
COLD Coldfoot 49.09 29 *e*P **P 11 25 49.0 +1.8**
comp=Z,9.0nm,1.3s
DANN Dangsing 49.14 279 *e*P **P 11 25 49.5 +1.1**
comp=Z,7.2nm,0.9s
RC01 Rabbit Creek A 49.16 37 *e*P **P 11 25 48.1 +0.3**
comp=Z,23nm,1.4s
MTN Manton Dam 49.41 194 *e*P **P 11 25 49.7 -0.3**
comp=Z,58nm,1.4s
PMR Palmer 49.44 36 *e*P **P 11 25 50.0 +0.2**
comp=Z,20nm,1.1s
PMR Palmer 49.44 36 *e*P **P 11 25 50.0 +0.2**
PMR pmax pmax
comp=Z,20nm,1.1s
COEN Coen 49.48 178 *e*P **P 11 25 50.6 0.0**
comp=Z,50nm,1.0s
MCK McKinley 49.50 33 *e*P **P 11 25 50.9 +0.6**
comp=Z,14nm,1.2s
MCK McKinley 49.50 33 *e*P **P 11 25 50.9 +0.6**
MCK pmax pmax
comp=Z,14nm,1.2s
KOLN Koldanda 49.51 278 *e*P **P 11 25 52.2 +1.1**
comp=Z,141nm,1.6s
RND Reindeer 49.53 34 *e*P **P 11 25 51.0 +0.4**
comp=Z,18nm,1.2s
RND Reindeer 49.53 34 *e*P **P 11 25 51.0 +0.4**
RND pmax pmax
comp=Z,19nm,1.2s
MDM Murphy Dome 49.81 32 *e*P **P 11 25 53.8 +1.1**
comp=Z,32nm,1.1s
PYUN Piuthan 49.86 279 *e*P **P 11 25 54.5 +0.7**
comp=Z,159nm,1.2s
COLA College 49.97 32 *e*P **P 11 25 54.2 +0.4**
comp=Z,15nm,1.1s
COLA College 49.97 32 *e*P **P 11 25 54.2 +0.4**
COLA pmax pmax
comp=Z,15nm,1.1s
CCB Clear Creek Bu 49.99 32 *e*P **P 11 25 55.0 +1.1**
comp=Z,14nm,1.6s
ILAR Eielson Array 50.38 32 P **P 11 25 57.0 0.0**
comp=Z,7.2nm,0.9s,baz=268,slow=5.9,SNR=50
ILB Eielson Array 50.38 32 *e*P **P 11 25 57.2 +0.2**
IL1 Eielson Array 50.38 32 *e*P **P 11 25 56.6 -0.3**
TKM2 Tokmak 2 50.51 299 *i* P **P 11 25 59.5 +0.9**
TKM2 pmax pmax
comp=Z,23nm,1.3s
KLU Klutina 50.98 36 *e*P **P 11 26 02.4 +0.8**
comp=Z,27nm,1.3s
FYU Fort Yukon 51.03 29 *e*P **P 11 26 03.8 +2.0**
comp=Z,84nm,1.6s
DIV Divide 51.08 36 *e*P **P 11 26 04.0 +1.6**
comp=Z,42nm,1.2s
KSH Kashi 51.22 295 P **P 11 26 08.1 +4.3**
KSH sP sP 11 26 26.0 +12
KSH PcP **PcP** **11 27 21.2 +2.3**
KSH S **S** **11 33 21.7 +0.6**
KSH sS sS 11 33 42.7 +10
KSH pmax pmax
comp=Z,37nm,1.9s
KSH pmax pmax
comp=Z,150nm,6.6s
KSH LR LR
comp=Z,440nm,19.6s
KSH LR LR
comp=Z,470nm,16.3s
KSH LR LR
comp=Z,240nm,14.6s
FRU Bishkek 51.23 300 *e*P **P 11 26 04.0 +0.2**
FRU *e* 11 26 24.0
AAK Ala-Archa 51.37 299 *e*P **P 11 26 06.3 +1.3**
comp=Z,6.8nm,0.9s
AAK Ala-Archa 51.37 299 *i* P **P 11 26 04.8 -0.2**
AAK pmax pmax
comp=Z,8.0nm,1.5s
PSI Prapat 51.44 240 P **P 11 26 05.6 -0.1**
comp=Z,3.3nm,0.6s,baz=79,slow=7.3,SNR=4.3
PSI Prapat 51.44 240 *e*P **P 11 26 05.7 -0.1**
comp=Z,14nm,1.2s
PSI Prapat 51.44 240 *e*P **P 11 26 05.7 -0.1**
PSI pmax pmax
comp=Z,14nm,1.2s
BVA0 Borovoye Array 51.66 313 *i* P **P 11 26 06.9 +0.2**
BVA0 pmax pmax
comp=Z,13nm,1.3s
BVAR Borovoye Array 51.66 313 P **P 11 26 06.9 +0.2**
comp=Z,7.4nm,1.0s,baz=84,slow=5.8,SNR=23
BMRM Bremner River 51.66 37 *e*P **P 11 26 07.0 +0.3**
comp=Z,38nm,1.3s
DOT Dot Lake 51.67 33 *e*P **P 11 26 07.0 +0.3**
comp=Z,26nm,1.1s
BRVK Borovoye 51.71 313 *e*P **P 11 26 07.3 +0.2**
comp=Z,11nm,1.1s
BRVK Borovoye 51.71 313⇓*i*P **P 11 26 07.1 0.0**
BRVK pmax pmax
comp=Z,31nm,1.2s
MENT Mentasta 51.88 34 *e*P **P 11 26 07.7 -0.7**
comp=Z,17nm,1.3s
UGM Wanagama 52.50 220 *e*P **P 11 26 12.1 -1.3**
comp=Z,244nm,1.3s
MNAS Manas 52.82 300 *i* P **P 11 26 16.5 +0.7**
MNAS pmax pmax
comp=Z,13nm,1.1s
EGAK Eagle 52.83 32 *e*P **P 11 26 15.2 -0.1**
comp=Z,11nm,1.1s
LEM Lembang 53.20 224 P **P 11 26 17.2 -1.5**
comp=Z,45nm,0.7s,baz=12,slow=16,SNR=12
DAWY Dawson 53.68 32 *e*P **P 11 26 22.6 +1.0**
comp=Z,17nm,1.5s
KK31 Karatay Array 54.03 301 *i* P **P 11 26 24.6 +0.1**
KK31 pmax pmax
comp=Z,10.0nm,1.1s
KKAR Karatay Array 54.03 301 *e*P **P 11 26 25.1 +0.6**
KKAR Karatay Array 54.03 301 *e*P **P 11 26 25.1 +0.6**
HYT Haines Junctio 55.11 36 *e*P **P 11 26 33.1 +0.9**
comp=Z,37nm,1.4s
INK Inuvik 55.35 27 P **P 11 26 34.2 +0.6**
comp=Z,7.4nm,0.9s,baz=287,slow=6.0,SNR=16
INK LR LR 11 51 19.9
comp=Z,94nm,21.7s,baz=287,slow=37
INK Inuvik 55.35 27 *e*P **P 11 26 34.5 +0.9**
comp=Z,10nm,0.9s
INK Inuvik 55.35 27 *e*P **P 11 26 34.5 +0.9**
INK pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 55.73 175 *e*P **P 11 26 36.2 -0.6**
comp=Z,22nm,1.5s
CTAO Charters Tower 55.73 175 *e*P **P 11 26 36.2 -0.6**
CTAO pmax pmax
comp=Z,21nm,1.5s
WRAB Tennant Creek 55.86 188 *e*P **P 11 26 36.4 -1.4**
comp=Z,44nm,0.9s
WRAB Tennant Creek 55.86 188*d i*P **P 11 26 36.3 -1.4**
WRAB pmax pmax
comp=Z,129nm,1.2s
WR1 Warramunga Arr 55.87 188 *e*P **P 11 26 36.3 -1.5**
comp=Z,51nm,0.9s
WRA Warramunga Arr 55.87 188 P **P 11 26 36.3 -1.5**
comp=Z,18nm,0.8s,baz=7.7,slow=7.5,SNR=217
SVE Sverdlovsk 56.30 319⇓*i*P **P 11 26 41.9 +1.4**
SVE pmax pmax
comp=Z,24nm,1.3s
SVE MLR MLR
comp=Z,383nm,15.0s
WHY Whitehorse 56.41 36 *e*P **P 11 26 42.1 +0.7**
comp=Z,13nm,1.0s
ARU Arti 57.51 319 *e*P **P 11 26 48.8 -0.4**
comp=Z,33nm,1.4s
ARU Arti 57.51 319*c i*P **P 11 26 49.2 +0.1**
ARU 11 28 53.2
ARU S **S** **11 34 44.3 -0.8**
ARU pmax pmax
comp=Z,23nm,1.2s
AB31 Akbulak array 58.99 311 *i* P **P 11 26 59.0 -0.6**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 58.99 311 *e*P **P 11 26 59.5 -0.1**
comp=Z,44nm,0.5s
AS31 Alice Springs 59.60 188 *e*P **P 11 27 03.0 -1.0**
comp=Z,4.4nm,0.6s
ASAR Alice Springs 59.60 188 P **P 11 27 02.6 -1.4**
comp=Z,4.8nm,0.3s,baz=8.7,slow=8.7,SNR=74
AKTO Aktyubinsk 59.75 313 P **P 11 27 04.7 -0.2**
comp=Z,2.5nm,1.0s,baz=69,slow=12,SNR=6.6
AKTO Aktyubinsk 59.75 313 *i* P **P 11 27 04.3 -0.6**
AKTO pmax pmax
comp=Z,6.0nm,0.8s
MBWA Marble Bar 60.37 204 *e*P **P 11 27 08.5 -0.8**
comp=Z,62nm,1.8s
POO Poona 61.75 273 *e*P P 11 27 08.0 -11
SPITS Spitsbergen Ar 61.81 349 LR LR 11 57 28.3
comp=Z,179nm,18.1s,baz=210,slow=39
LVZ Lovozero 63.38 336*c e*P **P 11 27 29.5 +0.4**
LVZ pmax pmax
comp=Z,21nm,1.2s
RES Resolute Bay 63.73 14 *e*P **P 11 27 31.4 +0.1**
comp=Z,19nm,1.0s
RES Resolute Bay 63.73 14 *e*P **P 11 27 31.4 +0.1**
RES pmax pmax
comp=Z,19nm,1.0s
TMCR Tamitsa 64.00 332 *e*P **P 11 27 32.9 -0.2**
YKW3 Yellowknife Ar 64.69 30 *e*P **P 11 27 38.6 +0.9**
comp=Z,36nm,1.7s
GEYT Alibeck 64.72 300 P **P 11 27 39.0 +0.6**
comp=Z,1.2nm,0.5s,baz=71,slow=4.9,SNR=4.6
YKA Yellowknife Ar 64.73 30 P **P 11 27 38.1 +0.2**
comp=Z,3.5nm,0.9s,baz=298,slow=6.4,SNR=34
YKA Yellowknife Ar 64.73 30 *i* P **P 11 27 38.0 0.0**
YKA pmax pmax
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 64.98 328 *e*P **P 11 27 38.6 -1.1**
KLMR pmax pmax
comp=Z,23nm,1.5s
KLMR Klimovskoe 64.98 328 *e*P **P 11 27 38.6 -1.1**
KLMR AMP 11 27 41.9
comp=Z,23nm,1.5s
ARA0 ARCESS Array S 65.28 340 *e*P **P 11 27 41.4 0.0**
ARCES ARCESS Array B 65.28 340 P **P 11 27 41.4 -0.1**
comp=Z,3.7nm,1.0s,baz=55,slow=10,SNR=4.8
ARCES ARCESS Array B 65.28 340 P **P 11 27 41.4 -0.1**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
TULEG Thule 66.30 7 *e*P **P 11 27 47.3 -0.5**
comp=Z,17nm,1.1s
STKA Stephens Creek 67.31 180 P **P 11 27 54.2 -0.6**
comp=Z,1.9nm,0.9s,baz=32,slow=4.2,SNR=4.1
STKA Stephens Creek 67.31 180 *e*P **P 11 27 54.4 -0.4**
comp=Z,3.4nm,1.4s
STKA Stephens Creek 67.31 180 *e*P **P 11 27 54.4 -0.4**
STKA pmax pmax
comp=Z,3.0nm,1.4s
VRH Novokhopyorsk 68.72 318 *e*P **P 11 28 02.0 -1.6**
VRH pmax pmax
comp=Z,10.0nm,1.4s
OBN Obninsk 69.29 324 *e*P **P 11 28 07.5 +0.5**
OBN *e* 11 28 31.2
OBN *e* 11 30 40.1
OBN *e*PPP PPP 11 32 21.6
OBN pmax pmax
comp=Z,13nm,1.1s
OBN MLR MLR
comp=Z,245nm,16.0s
LPSR Galich'ya Gora 69.47 321 *e*P **P 11 28 06.9 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
FIA1 FINESS Array S 70.07 333 *e*P **P 11 28 11.8 0.0**
FIA1 *e*P **P 11 28 12.3 +0.6**
FIA0 FINESS Array S 70.07 333 *e*P **P 11 28 11.6 -0.1**
FIA0 FINESS Array S 70.07 333 *e*P **P 11 28 11.6 -0.1**
FINES FINESS Array B 70.07 333 P **P 11 28 11.6 -0.1**
comp=Z,5.5nm,0.9s,baz=47,slow=8.4,SNR=12
FINES LR LR 12 02 40.0
comp=Z,249nm,18.1s,baz=18,slow=39
FINES FINESS Array B 70.07 333 *i* P **P 11 28 12.0 +0.2**
FINES pmax pmax
comp=Z,6.0nm,0.9s
VSR Storozhevoye 70.08 319 *e*P **P 11 28 11.7 -0.3**
VSR pmax pmax
comp=Z,20nm,1.5s
EDM Edmonton 70.13 38 *e*P **P 11 28 13.1 +0.7**
comp=Z,17nm,1.4s
EDM Edmonton 70.13 38 *e*P **P 11 28 13.1 +0.7**
EDM pmax pmax
comp=Z,17nm,1.4s
YBH Yreka Blue Hor 70.86 52 LR LR 11 51 21.1
comp=Z,90nm,21.3s,baz=338,slow=29
PINE Pine Mountain 70.90 49 *e*P **P 11 28 18.0 +0.5**
comp=Z,29nm,1.5s
VSU Vasula 71.69 330*c e*P **P 11 28 21.2 -0.5**
VSU pmax pmax
comp=Z,27nm,1.0s
SUMG Summit 71.93 0 *i* P **P 11 28 24.8 +1.4**
comp=Z,21nm,1.1s
SUMG Summit 71.93 0 *e*P **P 11 28 24.4 +1.0**
comp=Z,19nm,1.2s
SUMG Summit 71.93 0 *i* P **P 11 28 24.8 +1.4**
SUMG pmax pmax
comp=Z,21nm,1.1s
KBZ Khabaz 71.96 311 P **P 11 28 23.2 -0.4**
comp=Z,4.2nm,0.9s,baz=320,slow=7.1,SNR=4.3
KIV Kislovodsk 71.97 311 *e*P **P 11 28 25.4 +1.6**
KIV pmax pmax
comp=Z,15nm,1.0s
JTMT Jette 72.68 43 *e*P **P 11 28 29.1 +1.1**
comp=Z,12nm,1.1s
SCO Scoresbysund 73.39 354 *i* P **P 11 28 31.2 -0.4**
comp=Z,12nm,1.1s
SCO Scoresbysund 73.39 354 *e*P **P 11 28 31.2 -0.4**
SCO pmax pmax
comp=Z,12nm,1.1s
MFID Camas Ranch 74.23 48 *e*P **P 11 28 39.2 +2.0**
comp=Z,4.0nm,0.9s
FFC Flin Flon 74.58 33 *e*P **P 11 28 39.0 +0.1**
comp=Z,26nm,1.6s
FFC Flin Flon 74.58 33 *e*P **P 11 28 39.0 +0.1**
FFC pmax pmax
comp=Z,26nm,1.6s
LRM Limekiln Ridge 74.82 44 *e*P **P 11 28 41.5 +0.8**
FCC Fort Churchill 74.97 27 *e*P **P 11 28 41.0 0.0**
comp=Z,34nm,1.5s
FCC Fort Churchill 74.97 27 *e*P **P 11 28 41.0 0.0**
FCC pmax pmax
comp=Z,34nm,1.5s
HFS Hagfors 75.36 336 P **P 11 28 43.4 +0.2**
comp=Z,3.2nm,0.9s,baz=67,slow=3.7,SNR=4.1
HFS LR LR 12 05 58.4
comp=Z,111nm,22.0s,baz=35,slow=39
BOZ Bozeman (W) 75.41 44 *e*P **P 11 28 43.2 -0.8**
comp=Z,8.6nm,0.6s
BOZ Bozeman (W) 75.41 44 *e*P **P 11 28 43.2 -0.8**
BOZ pmax pmax
comp=Z,9.0nm,0.6s
NB2 NORSAR Subarra 75.46 338 P **P 11 28 43.8 -0.1**
comp=Z,9.2nm,1.0s,baz=41,slow=5.9
NB200 NORSAR Array S 75.46 338 *e*P **P 11 28 43.9 0.0**
NOA NORSAR Array B 75.46 338 P **P 11 28 43.9 0.0**
comp=Z,4.5nm,0.9s,baz=39,slow=5.8,SNR=6.9
NOA LR LR 12 06 58.0
comp=Z,134nm,18.3s,baz=20,slow=40
NOA NORSAR Array B 75.46 338 P **P 11 28 43.9 0.0**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA MLR MLR
comp=Z,135nm,18.3s
NV01 Mina Array Sit 75.48 53 *e*P **P 11 28 45.2 +0.6**
NVAR Mina Array Bea 75.48 53 P **P 11 28 45.6 +0.9**
comp=Z,2.3nm,0.9s,baz=285,slow=5.3,SNR=11
NVAR LR LR 11 53 28.8
comp=Z,84nm,20.8s,baz=86,slow=29
AKASG Malin Array Be 75.48 323 P **P 11 28 43.9 -0.2**
comp=Z,2.3nm,0.6s,baz=45,slow=6.2,SNR=20
AKASG LR LR 12 04 36.6
comp=Z,123nm,19.5s,baz=45,slow=38
AKBB Malin Array Si 75.48 323 *e*P **P 11 28 44.2 +0.1**
comp=Z,20nm,1.4s
AKBB Malin Array Si 75.48 323 *e*P **P 11 28 44.2 +0.1**
AKBB pmax pmax
comp=Z,20nm,1.4s
KIEV Kiev 75.50 323 *e*P **P 11 28 44.2 0.0**
comp=Z,19nm,1.4s
KIEV Kiev 75.50 323*d i*P **P 11 28 44.0 -0.2**
KIEV pmax pmax
comp=Z,14nm,1.4s
AK11 Malin Array Si 75.53 323 *e*P **P 11 28 44.7 +0.4**
NBO02 NORSAR Array S 75.56 338 *e*P **P 11 28 43.6 -0.9**
H17A Grant Village 76.73 45 *e*P **P 11 28 51.0 -0.7**
comp=Z,12nm,1.1s
FXWY Fox Creek 76.93 45 *e*P **P 11 28 54.6 +1.8**
comp=Z,13nm,1.6s
MOOW Moose Ponds 77.03 45 *e*P **P 11 28 51.1 -2.2**
comp=Z,11nm,1.5s
SFJD Kangerlussuaq 77.10 5 *e*P **P 11 28 55.5 +2.5**
comp=Z,37nm,1.6s
SFJD Kangerlussuaq 77.10 5 *e*P **P 11 28 55.5 +2.5**
SFJD pmax pmax
comp=Z,37nm,1.6s
R11A Troy Canyon, C 77.28 52 *e*P **P 11 28 55.5 +0.7**
comp=Z,6.8nm,1.4s
HWUT Hardware Ranch 77.84 47 *e*P **P 11 28 59.4 +1.6**
comp=Z,13nm,1.2s
DUG Dugway, Tooele 77.93 49 *e*P **P 11 28 59.4 +1.0**
comp=Z,11nm,1.3s
DUG Dugway, Tooele 77.93 49 *e*P **P 11 28 59.4 +1.0**
DUG pmax pmax
comp=Z,11nm,1.3s
TCUT Toone Canyon 78.23 48 *e*P **P 11 29 01.4 +1.2**
comp=Z,30nm,1.6s
PD31 Pinedale Array 78.31 45 *e*P **P 11 29 00.7 +0.1**
PDAR Pinedale Array 78.31 45 P **P 11 29 00.2 -0.3**
comp=Z,1.0nm,0.8s,baz=258,slow=4.2,SNR=7.5
PDAR LR LR 11 57 53.4
comp=Z,31nm,21.7s,baz=329,slow=31
PDAR Pinedale Array 78.31 45 *e*P **P 11 29 00.5 -0.1**
LVV L'vov 78.58 324 *e*P P 11 28 56.4 -5.1
SHPR Sheep Range 78.63 53 *e*P **P 11 29 03.1 +0.7**
comp=Z,3.8nm,1.1s
CCUT Cedar City 79.17 51 *e*P **P 11 29 06.8 +1.5**
comp=Z,21nm,1.8s
KWP Kalwaria Pacla 79.33 325 *e*P **P 11 29 06.1 +0.4**
KWP Kalwaria Pacla 79.33 325 *e*P **P 11 29 07.1 +1.4**
comp=Z,224nm,1.2s
KWP Kalwaria Pacla 79.33 325 *e*P **P 11 29 07.1 +1.4**
KWP pmax pmax
comp=Z,224nm,1.2s
TMUT Trail Mountain 79.46 49 *e*P **P 11 29 08.3 +1.3**
comp=Z,12nm,1.5s
BUR08 Bucovina Ar. S 79.48 322 *e*P **P 11 29 06.1 -0.6**
BUR04 Bucovina Ar. S 79.49 322 *e*P **P 11 29 06.2 -0.5**
LCMT Little Creek M 79.57 52 *e*P **P 11 29 08.8 +1.4**
comp=Z,5.4nm,1.1s
P17A Butcher Ranch, 79.64 49 *e*P **P 11 29 08.9 +1.1**
comp=Z,9.6nm,1.1s
Q16A Castle Valley 79.71 49 *e*P **P 11 29 08.9 +0.7**
comp=Z,16nm,1.5s
KNB Kanab 79.83 52 *e*P **P 11 29 10.1 +1.2**
comp=Z,12nm,1.2s
KNB Kanab 79.83 52 *e*P **P 11 29 10.1 +1.2**
KNB pmax pmax
comp=Z,12nm,1.2s
BR101 Keskin Array S 79.92 312 *e*P **P 11 29 09.9 +0.7**
BR131 Keskin Array S 79.92 312 *e*P **P 11 29 10.4 +1.1**
BRTR Keskin Array B 79.92 312 P **P 11 29 09.9 +0.7**
comp=Z,1.9nm,0.7s,baz=103,slow=3.9,SNR=11
BRTR Keskin Array B 79.92 312 *i* P **P 11 29 10.3 +1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
SRU San Rafael Swe 79.99 49 *e*P **P 11 29 10.7 +1.0**
comp=Z,7.9nm,1.1s
SRU San Rafael Swe 79.99 49 *e*P **P 11 29 10.7 +1.0**
SRU pmax pmax
comp=Z,8.0nm,1.1s
UZH Uzhgorod 80.22 324 *e*P **P 11 29 11.3 +0.8**
UZH *e* 11 29 20.3
OJC Ojcow 80.26 326 *e*P **P 11 29 11.5 +0.8**
OJC Ojcow 80.26 326 *e*P **P 11 29 11.5 +0.8**
BR231 Keskin MP Arra 80.37 312 *e*P **P 11 29 11.1 -0.6**
ULM Lac du Bonnet 80.37 33 P **P 11 29 10.3 -1.0**
comp=Z,2.5nm,0.9s,baz=295,slow=3.9,SNR=4.2
ULM LR LR 12 04 15.3
comp=Z,38nm,22.0s,baz=292,slow=35
U15A North Rim 80.53 52 *e*P **P 11 29 14.0 +1.2**
comp=Z,4.8nm,1.0s
MLR Muntele Rosu 80.55 320 LR LR 12 08 10.4
comp=Z,25nm,18.3s,baz=50,slow=38
O20A White River Ci 80.73 47 *e*P **P 11 29 14.6 +0.9**
comp=Z,7.2nm,0.9s
PV10 Paradox Valley 81.36 49 *e*P **P 11 29 16.6 -0.6**
RAYN Ar Rayn 81.43 293 *e*P **P 11 29 16.8 -0.7**
comp=Z,6.3nm,1.0s
PV05 Paradox Valley 81.51 49 *e*P **P 11 29 19.2 +1.3**
Y14A Wickenburg 81.58 54 *e*P **P 11 29 19.4 +1.2**
comp=Z,20nm,1.1s
N23A Red Feather La 81.59 45 *e*P **P 11 29 17.1 -1.3**
comp=Z,25nm,1.2s
DPC Dobruska-Polom 81.69 328 *e*P **P 11 29 21.9 +3.5**
DPC AMS AMS 12 10 00.0
comp=Z,300nm,16.0s
DPC Dobruska-Polom 81.69 328 *e*P **P 11 29 21.9 +3.5**
DPC MLR MLR
comp=Z,300nm,16.0s
PSZ Piszkesteto 81.86 325 *e*P **P 11 29 20.5 +1.1**
comp=Z,25nm,0.4s
PSZ Piszkesteto 81.86 325 *e*P **P 11 29 20.5 +1.1**
PSZ pmax pmax
comp=Z,25nm,0.4s
VYHS Vyhne 81.94 326 *e*P **P 11 29 20.9 +1.2**
VYHS Vyhne 81.94 326 *e*P **P 11 29 20.9 +1.2**
SMCO Snowmass 82.09 47 *e*P **P 11 29 22.4 +1.2**
comp=Z,5.6nm,1.1s
BRG Berggiesshubel 82.29 330 *e*P **P 11 29 21.9 +0.4**
BRG pmax pmax
comp=Z,6.0nm,1.0s
X16A Lo Mia Camp, P 82.31 53 *e*P **P 11 29 23.6 +1.4**
comp=Z,4.2nm,1.1s
CLL Collm 82.34 330 *i* P **P 11 29 21.2 -0.5**
comp=Z,15nm,1.3s
CLL *i* pP **sP** **11 29 34.1 +2.2**
CLL *e* 11 29 49.0
CLL Collm 82.34 330 *e*P **P 11 29 21.8 +0.1**
comp=Z,12nm,1.1s
CLL Collm 82.34 330 *e*P **P 11 29 21.8 +0.1**
CLL pmax pmax
comp=Z,12nm,1.1s
PRU Pruhonice 82.72 329 *e*P **P 11 29 23.8 +0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PRU				AMS	AMS	12 09 50.0	
	comp=Z,300nm,17.0s						
PRU	Pruhonice	82.72	329	eP	P	11 29 23.8	+0.1
PRU				MLR	MLR		
	comp=Z,300nm,17.0s						
TREC	Trest	82.84	328	AMS	AMS	12 11 40.0	
	comp=Z,400nm,16.2s						
S22A	4UR Ranch, Cre	83.10	48	eP	P	11 29 28.1	+1.8
	comp=Z,12nm,1.7s						
X18A	Snowflake	83.20	52	eP	P	11 29 26.9	+0.1
	comp=Z,18nm,1.8s						
KHC	Kasperske Hory	83.78	329	eP	P	11 29 29.4	+0.1
KHC	Kasperske Hory	83.78	329	eP	P	11 29 29.8	+0.6
	comp=Z,3.2nm,1.2s						
KHC	Kasperske Hory	83.78	329	eP	P	11 29 29.8	+0.6
KHC				pmax	pmax		
	comp=Z,3.0nm,1.2s						
PPT	Papeete	83.79	117	LR	LR	12 01 21.3	
	comp=Z,75nm,19.3s,baz=330,slow=32						
GEC2	GERESS Array S	83.94	328	eP	P	11 29 30.2	0.0
	comp=Z,18nm,1.8s						
GEC2	GERESS Array S	83.94	328	eP	P	11 29 30.2	0.0
GEC2				pmax	pmax		
	comp=Z,18nm,1.8s						
GERES	GERESS Array B	83.94	328	P	P	11 29 29.9	-0.3
	comp=Z,1.8nm,0.9s,baz=18,slow=4.8,SNR=8.5						
GERES				LR	LR	12 10 54.9	
	comp=Z,121nm,18.1s,baz=352,slow=38						
GEA0	GERESS Array S	83.95	328	eP	P	11 29 30.1	-0.1
VTS	Vitosha	83.97	319	eP	P	11 29 31.6	+1.1
	comp=Z,16nm,1.3s						
VTS	Vitosha	83.97	319	eP	P	11 29 31.6	+1.1
VTS				pmax	pmax		
	comp=Z,17nm,1.3s						
TUC	Tucson	84.05	54	eP	P	11 29 31.9	+0.9
	comp=Z,5.7nm,1.2s						
TUC	Tucson	84.05	54	eP	P	11 29 31.9	+0.9
TUC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
EKA	Eskdalemuir Ar	84.42	341	LR	LR	12 11 09.3	
	comp=Z,61nm,18.9s,baz=335,slow=38						
DIVS	Divibare	84.56	322	eP	P	11 29 34.2	+0.8
	comp=Z,16nm,1.3s						
MHTCO	State Highway	84.79	47	eP	P	11 29 36.7	+1.8
	comp=Z,23nm,1.6s						
ANMO	Albuquerque	85.14	50	eP	P	11 29 36.5	-0.2
	comp=Z,7.8nm,1.3s						
ANMO	Albuquerque	85.14	50	ceP	P	11 29 37.5	+0.8
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
319A	Douglas	85.63	54	eP	P	11 29 39.5	+0.5
	comp=Z,6.7nm,1.0s						
WLF	Walferdange	86.29	333	⇑P	P	11 29 42.1	+0.3
SCHQ	Schefferville	86.45	16	LR	LR	12 10 46.7	
	comp=Z,63nm,20.3s,baz=316,slow=37						
BFO	Black Forest	86.55	331	iP	P	11 29 44.0	+0.8
LPIG	La Paz	89.53	60	LR	LR	12 02 39.8	
	comp=Z,42nm,20.7s,baz=285,slow=31						
TX31	Lajitas Ar. Si	90.63	53	eP	P	11 30 03.3	+0.4
LTX	Lajitas	90.63	53	eP	P	11 30 03.4	+0.5
LTX	Lajitas	90.63	53	eP	P	11 30 03.4	+0.5
TXAR	Lajitas Array	90.63	53	P	P	11 30 03.4	+0.4
	comp=Z,1.9nm,1.0s,baz=284,slow=4.5,SNR=14						
TXAR				LR	LR	12 05 40.0	
	comp=Z,77nm,20.6s,baz=0.0,slow=32						
MIAR	Mount Ida	93.02	43	eP	P	11 30 14.0	+0.2
	comp=Z,6.6nm,1.0s						
MIAR	Mount Ida	93.02	43	eP	P	11 30 14.0	+0.2
MIAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TKL	Tuckaleechee C	97.21	36	LR	LR	12 15 30.7	
	comp=Z,28nm,21.2s,baz=340,slow=36						
ESDC	Sonseca Array	98.55	334	LR	LR	12 18 39.0	
	comp=Z,61nm,19.6s,baz=290,slow=38						
TOA1	Torodi Ar. Sit	118.44	315	ePKPdf	PKPdf	11 35 47.3	-0.9
TOA1				ePP	PP	11 37 04.2	+0.1
TORD	Torodi Ar. Bea	118.44	315	PKP	PKPdf	11 35 47.3	-0.9
	comp=Z,0.3nm,0.8s,baz=38,slow=2.3,SNR=2.2						
TORD				PP	PP	11 37 04.2	+0.1
	comp=Z,0.8nm,0.9s,baz=32,slow=8.8,SNR=3.7						
LPAZ	La Paz	147.03	62	PKPbc	PKPbc	11 36 43.4	-0.7
	comp=Z,4.7nm,1.0s,baz=337,slow=3.9,SNR=7.5						
LPAZ	La Paz	147.03	62	ePKPdf	PKPdf	11 36 43.1	+1.1
LPAZ	La Paz	147.03	62	ePKP2	PKPdf	11 36 43.1	+1.1
PB11	IPOC Station P	148.08	68	ePKPbc	PKPbc	11 36 45.3	-1.0

MAN 06 11:25:25,13°.50N×120°.84E,h32km,mb3.7,ML2.4,MS1.9, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.11	91	⇓eP	Pn	11 25 29.6	-1.1
PGP				iS	Sn	11 25 32.4	-1.6
LUBP	Lubang	0.62	292	eP	Pn	11 25 38.4	+0.8
LUBP				eS	Sn	11 25 48.0	+1.6
BOAC	Boac	0.98	92	eP	Pb	11 25 43.3	-0.2
BOAC				eS	Sb	11 25 56.0	-0.2

ISC 06 11:30:25.2±1.1**,48°.86N**±0°.03×**20°.51E**±0°.03**,h0km,n7, σ0s.42**/14**,Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	Kecovo	0.38	182	ePG	Pg	11 30 32.3	-0.2
KECS				eSG	Sg	11 30 38.1	+0.7
KECS				eLG	Lg	11 30 38.2	
NIE	Niedzica	0.57	346	ePg	Pg	11 30 36.4	+0.2
NIE				eSg	Sg	11 30 43.4	-0.3
CRVS	Cervenica-Dubn	0.63	86	ePG	Pg	11 30 37.0	-0.3
CRVS				eSG	Sg	11 30 45.4	-0.1
STHS	Stebnicka Huta	0.74	41	ePG	Pg	11 30 38.9	-0.4
STHS				eSG	Sg	11 30 49.1	+0.2
STHS				eLG	Lg	11 30 50.2	
LANS	Liptovska Anna	0.74	293	ePG	Pg	11 30 39.4	-0.1
LANS				eSG	Sg	11 30 49.4	+0.3
VYHS	Vyhne	1.17	252	ePG	Pg	11 30 47.2	-0.4
VYHS				eSG	Sg	11 31 02.0	-0.7
VYHS				eLG	Lg	11 31 09.5	
OJC	Ojcow	1.44	341	ePg	Pb	11 30 53.2	+0.4
OJC				eSg	Sn	11 31 11.9	-0.2

*NIED **06** 11:34:00,38°.30N×142°.10E,h44km,Mw3.8 Best double couple: Mo5.93000×10^{14} NP1:φs12.00000°,δ54.00000°, λ168.00000°. NP2:φs109.00000°,δ80.00000°,λ37.00000°.*
*IDC **06** 11:34:28.9±3.4,38°.03N×142°.81E,h50km±26km,mb4.1/3, mb1 3.8/7,mb1mx3.4/70,mbtmp4.1/7,ML3.2/4,Error ellipse: s-maj=40.1km s-min=20.3km az=131.0*
*ISCJB **06** 11:34:30.6±1.1,38°.31N±0°.04×142°.11E±0°.08, h38km±11km,mb4.0/3,Error ellipse: s-maj=11.7km s-min=5.4km az=23.5*
*JMA **06** 11:34:30.8±0.1,38°.33N×142°.08E,h36km±1km,M3.8*
JMA Felt I J1.
ISC 06 11:34:29.7±2.1**,38°.17N**±0°.04×**142°.1E**±0°.1**,h30km**±13km**, n25,**σ**1s.67**/33**,mb4.1**/3**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.62	297	P	Pn	11 34 42.7	+0.2
JIO				S	Sb	11 34 50.7	0.0
OFUJ	Ofunato	0.95	342	P	Pn	11 34 45.8	-1.3
OFUJ				S	Sn	11 34 56.4	-3.3
JMK	Ichinoseki	1.02	320	P	Pn	11 34 47.5	-0.4
JMK				S	Sn	11 34 59.4	-1.8
JMM	Marumori	1.04	253	P	Pb	11 34 49.6	+0.4
JMM				S	Sb	11 35 03.4	+0.9
JOU	Okura	1.11	280	P	Pb	11 34 50.6	+0.2
JOU				S	Sb	11 35 05.0	+0.5
JFK	Kawauchi	1.24	230	P	Pb	11 34 52.7	+0.2
JFK				eS	Sb	11 35 08.2	+0.1
JOM	Ohasama	1.43	336	P	Pn	11 34 53.3	-0.3
JOM				eS	Sn	11 35 09.5	-1.8
JFT	Otama	1.51	245	P	Pb	11 34 57.6	+0.5
JFT				S	Sb	11 35 16.8	+0.9
JYK	Kaneyama	1.52	300	P	Pn	11 34 55.8	+0.9
JYK				eS	Sn	11 35 14.3	+0.6
JYS	Shirataka	1.57	272	P	Pb	11 34 57.4	-0.7
JYS				eS	Sb	11 35 16.9	-0.7
JRG	Rokugo	1.65	318	P	Pn	11 34 57.4	+0.7
MJAR	Matsushiro Arr	3.47	243	P	Pb	11 35 27.9	-2.6
	0.9nm,0.3s,baz=71,slow=10,SNR=8.9						
MJAR				S	Sb	11 36 12.6	+0.3
	0.9nm,0.3s,baz=77,slow=28,SNR=3.7						
MAT	Matsushiro	3.47	243	P	Pb	11 35 28.4	-2.1
MAT				eS	Sb	11 36 07.7	-4.5
JHJ	Hachijo jima 2	5.37	201	P	Pn	11 35 47.7	-0.1
	9.8nm,0.3s,baz=66,slow=19,SNR=2.8						
JHJ				S	Sn	11 36 48.2	-0.4
	4.6nm,0.3s,baz=90,slow=20,SNR=1.8						
ASAJ	Asahikawa	5.95	4	P	Pn	11 35 56.5	+0.7
	0.8nm,0.3s,baz=175,slow=12,SNR=4.7						
ASAJ				S	Sn	11 37 02.9	0.0
	0.3nm,0.3s,baz=246,slow=20,SNR=2.1						
USRK	Ussuriysk Ar.	9.68	312	P	Pn	11 36 51.6	+4.7
	0.3nm,0.3s,baz=118,slow=15,SNR=3.5						
H11N2	WAKE ISLAND Hy	28.32	123	T	T	12 10 14.6	
	baz=316,slow=75,SNR=45						
H11N1	WAKE ISLAND Hy	28.33	124	T	T	12 10 38.6	
	baz=316,slow=75,SNR=42						
H11N3	WAKE ISLAND Hy	28.34	123	T	T	12 10 39.3	
	baz=316,slow=75,SNR=36						
H11S1	WAKE ISLAND Hy	29.08	125	T	T	12 11 11.8	
	baz=321						
H11S3	WAKE ISLAND Hy	29.08	126	T	T	12 11 56.9	
	baz=321,slow=74						
H11S2	WAKE ISLAND Hy	29.09	126	T	T	12 11 35.1	
	baz=321,slow=74						
ZALV	Zalesovo Beam	41.53	311	P	P	11 42 15.2	+1.1
	1.0nm,0.4s,baz=90,slow=8.9,SNR=5.1						
KURBB	Kurchatov Arra	45.71	307	P	P	11 42 48.2	+0.4
	2.0nm,0.7s,baz=83,slow=8.3,SNR=9.5						
FINES	FINESS Array B	68.05	332	P	P	11 45 26.5	+0.6
	1.2nm,0.7s,baz=33,slow=6.9,SNR=3.7						

MAN 06 11:35:06,12°.34N×123°.66E,h18km,mb4.5,ML3.4,MS3.2, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.03	295	⇓iP	Pg	11 35 10.0	+0.8
MMPH				iS	Sg	11 35 11.5	+0.2
CNP	Catarman	1.00	80	eP	Pb	11 35 24.1	-0.6
CNP				eS	Sn	11 35 39.2	+0.4
AUQP	San Andres	1.36	316	eP	Pn	11 35 29.5	-0.7
AUQP				eS	Sb	11 35 48.7	+0.5

*BJI **06** 11:36:17.3,1°.29S×100°.26E,h103km,mb5.2/69,mB5.1/45*
*KLM **06** 11:36:22.6,0°.88S×100°.01E,h108km,mb5.2*
*ISCJB **06** 11:36:22.2±0.2,0°.80S±0°.02×100°.14E±0°.02,h106km±1km, mb5.1/152,Error ellipse: s-maj=3.8km s-min=2.4km az=135.5*
*IDC **06** 11:36:23.5±0.7,0°.75S×100°.24E,h103km±6km,mb4.7/45, mb1 4.7/48,mb1mx4.6/69,mbtmp5.0/48,MS3.5/16, Ms1 3.5/16,ms1mx3.2/57,Error ellipse: s-maj=11.6km s-min=7.6km az=44.0*
*NEIC **06** 11:36:23.2±0.5,0°.84S×100°.16E,h102km±3km,mb5.2/62, Error ellipse: s-maj=5.9km s-min=3.8km az=49.0*
NEIC Felt [IV] at Padang and [II] at Padangpanjang.
*GCMT **06** 11:36:23.2±0.4,0°.79S×100°.14E,h102km±4km,MW4.9/74, Moment Tensor Solution. s16,c21; s74,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr0.68±.11; Mθθ-0.05±.13; Mφφ-0.63±.13; Mrθ1.31±.06; Mθφ-1.79±.10; Mφr-0.57±.08; Best double couple: Mo2.37100×10^{16} NP1:φs80.00000°,δ72.00000°,λ145.00000°. NP2: φs182.00000°,δ57.00000°,λ22.00000°. Principal axes: T 2.5160, Plg37.0000°, Azm37.0000°; N -0.2890, Plg51.0000°, Azm236.0000°; P -2.2260, Plg10.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **06** 11:36:23.0±1.1,0°.64S×100°.34E,h109km,mb5.2/56 Error ellipse: s-maj=8.9km s-min=4.3km az=114.3*
*DJA **06** 11:36:23.2±0.1,1°S±1°×10°0E±°,h86km±2km,M4.9/53, mb5.3/53,mB5.4/26,MLv5.3/27,Mw(mB)4.8/26*
ISC 06 11:36:23.1±0.4**,0°.82S**±0°.03×**100°.10E**±0°.03**,h104km**±3km**, h104km:pP-P,n732,**σ**1s.31**/782**,mb5.1**/170**,45C-12D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.37	104	P	Pn	11 36 38.4	-0.1
PDSI				S	Sn	11 36 49.2	-0.8
SISI	Saibi	1.13	244	P	Pn	11 36 45.8	+0.6
SISI				S	Sn	11 37 00.4	-1.5
SDSI	Sungai Dareh	1.33	95	P	Pn	11 36 47.9	+0.4
SDSI				S	Sn	11 37 06.3	+0.3
BKNI	Bangkinang	1.48	39	P	Pn	11 36 49.8	+0.6
BKNI				S	Sn	11 37 09.1	0.0
BKNI	Bangkinang	1.48	39	ePn	Pn	11 36 49.5	+0.3
BKNI				eSn	Sn	11 37 07.0	-2.1
MNSI	Mandailing Nat	1.69	342	P	Pn	11 36 52.0	+0.1
MNSI				S	Sn	11 37 14.8	+1.0
KRJI	Kerinci	1.85	133	P	Pn	11 36 54.7	+0.7
KRJI				S	Sn	11 37 21.1	+3.5
PPSI	Pulau Pagai	1.93	183	P	Pn	11 36 54.9	0.0
PPSI				S	Sn	11 37 19.0	-0.2
PBSI	Pulau Batu	1.98	293	P	Pn	11 36 55.7	+0.2
PBSI				S	Sn	11 37 19.5	-0.7
RGRI	Rengat	2.28	78	P	Pn	11 37 00.4	+1.0
RGRI				S	Sn	11 37 28.1	+0.8
MASI	Maura Aman, Be	3.14	137	P	Pn	11 37 11.4	+0.5
GSI	Gunungsitoli	3.29	310	P	Pn	11 37 13.3	+0.5
GSI	Gunungsitoli	3.29	310	ePn	Pn	11 37 13.1	+0.3
GSI				eSn	Sn	11 37 50.9	-0.4
JMBI	JAMBI	3.63	103	P	Pn	11 37 18.0	+0.7
PSI	Prapat	3.79	342	P	Pn	11 37 18.5	-1.0
	106nm,0.3s,baz=198,slow=3.4,SNR=314						
PSI				S	Sn	11 37 53.0	-10
	33nm,0.3s,baz=153,slow=12,SNR=5.5						
PSI				LR	LR	11 38 20.9	
	comp=Z,826nm,20.4s,baz=82,slow=32						
KGM	Kluang	4.28	49	⇑P	Pn	11 37 27.6	+1.5
FRIM	Kepong	4.31	21	⇓P	Pn	11 37 27.5	+1.0
FRIM	Kepong	4.31	21	⇓P	Pn	11 37 27.5	+1.0
DSRI	Dabo	4.49	86	P	Pn	11 37 29.4	+0.5
MNAI	Manna	4.53	141	P	Pn	11 37 29.3	-0.2
MNAI	Manna	4.53	141	ePn	Pn	11 37 29.2	-0.2
MNAI				eSn	Sn	11 38 20.0	-1.0
MYKOM	Kota Tinggi	4.56	55	⇑P	Pn	11 37 31.2	+1.4
MYKOM	Kota Tinggi	4.56	55	ePn	Pn	11 37 30.9	+1.0
MYKOM				eSn	Sn	11 38 16.2	-5.5
TSI	Tuntungan	4.56	340	P	Pn	11 37 31.9	+2.0
TPRI	Tanjung Pinang	4.75	69	P	Pn	11 37 33.2	+0.8
TPTI		5.00	324	P	Pn	11 37 34.9	-0.9
	805nm,0.5s,11µm3.5nm						
PMBI	Palembang	5.11	114	P	Pn	11 37 37.4	0.0
	638nm,0.7s,3.8nm						
IPM	Ipoh	5.34	10	⇑P	Pn	11 37 43.1	+2.5
IPM	Ipoh	5.34	10	ePn	Pn	11 37 42.4	+1.9
MDSI	Maura Dua	5.46	132	P	Pn	11 37 42.4	+0.3
	518nm,0.9s,4µm1.6nm						
LWLI	Liwa	5.74	137	P	Pn	11 37 45.6	-0.4
	777nm,0.5s,9µm4.1nm						
KULM	Kulim	6.09	5	⇓P	Pn	11 37 52.1	+1.3
KULM	Kulim	6.09	5	ePn	Pn	11 37 51.4	+0.6
PPBI	Pangkal Pinang	6.18	103	P	Pn	11 37 53.9	+2.1
KLI	Kotabumi	6.22	130	P	Pn	11 37 52.5	+0.1
	321nm,0.7s,5µm1.9nm						
MLSI	Meulaboh, Aceh	6.26	324	P	Pn	11 37 52.7	-0.3
	3µm,0.6s,37µm12nm						
MLSI				S	Sn	11 39 00.8	-2.3
	3µm,0.6s,37µm12nm						
KASI	Kota Agung	6.41	137	P	Pn	11 37 53.6	-1.4
	548nm,0.8s,7µm2.2nm						
LHMI	Lhok Sumawe	6.79	332	P	Pn	11 37 59.3	-0.8
LHMI	Lhok Sumawe	6.79	332	ePn	Pn	11 37 59.2	-0.8
LHMI				eSn	Sn	11 39 16.0	+0.1
KTGM	Kuala Trenggan	6.82	26	⇑P	Pn	11 38 02.1	+1.5
BLSI	Bandar Lampung	6.84	131	P	Pn	11 38 01.0	+0.2
	224nm,0.4s,1.1nm						
SKLT	Songkhla	7.96	4	P	Pn	11 38 15.0	-1.0
	108nm,0.8s,906nm0.3nm						
SBJI	Serang	7.99	131	P	Pn	11 38 15.6	-0.9
CGJI	Cibinong	8.01	136	P	Pn	11 38 14.5	-2.3
TRTT	Trang	8.61	357	P	Pn	11 38 22.9	-2.0
	31nm,0.7s,444nm0.1nm						
PKDT	Phuket	8.83	349	P	Pn	11 38 25.9	-2.0
	24nm,0.6s,963nm0.1nm						
LEM	Lembang	9.58	129	P	Pn	11 38 37.3	-0.9
	5.5nm,0.3s,baz=342,slow=21,SNR=9.2						
LEM				LR	LR	11 42 58.9	
	comp=Z,133nm,19.9s,baz=268,slow=42						
LEM	Lembang	9.58	129	P	Pn	11 38 37.8	-0.4
	2µm,1.0s						
SURT	Suratani	9.80	352	P	Pn	11 38 42.2	+1.1
	17nm,0.7s,222nm						
JCJI	Jatiwangi	9.90	125	P	Pn	11 38 44.8	+2.3
	438nm,0.7s						
CISI	Cisompet, Garu	10.19	131	P	Pn	11 38 43.2	-3.3
CISI	Cisompet, Garu	10.19	131	ePn	Pn	11 38 43.3	-3.1
CISI				eSn	Sn	11 40 37.2	-1.7
KSM	Kuching	10.46	77	⇑P	Pn	11 38 53.2	+3.2
KSM	Kuching	10.46	77	ePn	Pn	11 38 51.9	+1.9
KSM				eSn	Sn	11 40 43.0	-2.3
CMJI	Cimerak	10.82	130	P	Pn	11 38 51.0	-3.9
	167nm,0.7s						
STKI	Sintang	11.41	86	P	P	11 39 14.2	+1.7
COCO	West Island	11.75	196	ePn	Pn	11 39 07.5	+0.1
COCO	West Island	11.75	196	eP	Pn	11 39 07.5	+0.1
SMRI	Semarang	12.02	121	P	Pn	11 39 11.9	+0.8
	506nm,0.8s						
SMRI	Semarang	12.02	121	ePn	Pn	11 39 10.7	-0.4
SBUM	Sibu	12.54	75	⇑P	Pn	11 39 20.9	+3.0
SBUM	Sibu	12.54	75	ePn	Pn	11 39 20.3	+2.3
UGM	Wanagama	12.55	124	P	Pn	11 39 14.9	-3.1
	294nm,1.1s						
UGM	Wanagama	12.55	124	ePn	Pn	11 39 15.2	-2.9
TBJI	Tambak Boyo	13.14	117	P	Pn	11 39 26.5	+0.7
	146nm,1.2s						
PCJI	Pacitan	13.24	124	P	Pn	11 39 22.6	-4.5
	116nm,0.7s						
PHET	Kaeng Krachan	13.65	358	P	P	11 39 38.5	+0.9
PWJI	Pagerwojo	13.68	122	P	Pn	11 39 30.0	-2.8
	98nm,0.6s						
GRJI	Gresik	13.75	116	P	Pn	11 39 35.8	+2.1
	87nm,0.7s,801nm						
MTKI	Muara Teweh, K	14.79	91	P	P	11 39 58.1	+7.7
SRAK	Srakaew	14.86	7	P	P	11 39 51.6	+0.5
	86nm,1.0s,642nm						
BLJI	Banyuglugur	15.10	117	P	Pn	11 39 51.5	+0.5
	92nm,1.0s,1µm						
SRDT	SRDT	15.10	356	P	P	11 39 59.9	+6.1
KMMI	Kalianget	15.15	114	P	Pn	11 39 51.6	0.0
GMJI	Gumukmas	15.21	120	P	Pn	11 39 52.0	-0.4
DGPR	DIGLIPUR	15.62	333	eP	Pn	11 39 53.7	-3.8
JAGI	Jajag, Banyuwa	15.92	119	P	P	11 40 17.6	+15
JAGI	Jajag, Banyuwa	15.92	119	ePn	Pn	11 39 59.7	-1.7
	86nm,1.2s						
KBKI	Kotabaru	16.24	99	P	P	11 40 09.3	+2.9
	36nm,0.8s,3µm						
UTHA	Uthaitani	16.29	358	P	P	11 40 08.1	+1.2
	20nm,0.6s,197nm						
CHAI	Chaiyaphum	16.72	6	P	P	11 40 14.2	+2.5
	7.0nm,0.7s						
KHON	Khomkaen	17.26	9	P	Pn	11 40 25.6	+7.9
KKM	Kota Kinabalu	17.47	67	⇓P	Pn	11 40 22.0	+1.5
KKM	Kota Kinabalu	17.47	67	eP	Pn	11 40 21.3	+0.9
	126nm,1.0s						
PHIT	Phitsanulok	17.90	1	P	Pn	11 40 26.2	+0.8
	52nm,0.9s,454nm						
SKNT	Sakolnakorn	18.09	12	P	P	11 40 25.5	-1.3
	15nm,1.3s,2µm						
SDKM	Sandakan	18.24	69	⇑P	Pn	11 40 30.3	+0.7
KDM	Kudat	18.38	65	⇓P	Pn	11 40 31.7	+0.5
TSM	Tawau	18.47	74	⇓P	Pn	11 40 33.3	+1.0
CM01	Chiang Mai Arr	19.15	357	eP	P	11 40 38.2	-0.2
CM01				ePcP	PcP	11 44 59.3	+0.9
CM31	Chiang Mai Arr	19.19	357	eP	P	11 40 39.1	+0.3
CM31	Chiang Mai Arr	19.19	357	P	P	11 40 39.1	+0.3
CMAR	Chiang Mai Arr	19.19	357	P	P	11 40 39.0	+0.2
	1.8nm,0.3s,baz=187,slow=9.8,SNR=94						
CMAR				S	S	11 44 11.7	+0.8
	0.2nm,0.3s,baz=182,slow=20,SNR=2.5						
CMAR				PcP	PcP	11 44 59.8	+1.4
	0.2nm,0.3s,baz=212,slow=3.1,SNR=6.0						
CMAR				ScP	ScP	11 48 25.1	0.0
	0.4nm,0.3s,baz=204,slow=3.7,SNR=9.4						
LAMP	Lampang	19.23	359	P	P	11 40 39.6	+0.4
	51nm,1.0s,416nm						
MYLDM	Lahad Datu	19.32	72	⇓P	Pn	11 40 43.2	+0.8
MYLDM	Lahad Datu	19.32	72	eP	Pn	11 40 41.4	-0.9
	64nm,0.8s						
CMMT	Chiang Mai	19.54	357	P	P	11 40 41.5	-1.2
	50nm,0.9s,433nm						
CHTO	Chiang Mai	19.55	357	P	P	11 40 42.6	-0.1
	220nm,0.9s,2µm						
CHTO	Chiang Mai	19.55	357	eP	P	11 40 42.1	-0.5
	40nm,0.9s						
CHTO	Chiang Mai	19.55	357	eP	P	11 40 42.1	-0.5
CHTO				pmax	pmax		
	comp=Z,40nm,0.9s						
CHTO	Chiang Mai	19.55	357	P	P	11 40 42.5	-0.2
	SNR=12						
TTSI	Tana Toraja	19.83	97	P	Pn	11 40 50.0	+1.7
	comp=Z,48nm,0.7s,comp=Z,834nm						
MPSI	Mapaga	19.83	87	P	Pn	11 40 48.3	0.0
	comp=Z,51nm,0.9s,comp=Z,2µm						
BNSI	Bone	20.29	100	P	Pn	11 40 54.5	+0.8
CMAI	Chiengmai2	20.65	357	P	P	11 40 55.8	+1.0
	comp=Z,233nm,0.8s						
PALK	Pallekele	20.96	293	P	Pn	11 41 00.5	-1.1
	comp=Z,28nm,0.6s,baz=115,slow=9.7,SNR=22						
PALK				S	S	11 44 45.3	-0.7
	comp=Z,3.6nm,0.3s,baz=115,slow=19,SNR=3.2						
PALK	Pallekele	20.96	293	eP	Pn	11 40 60.0	-1.6
	comp=Z,65nm,1.1s						
PALK	Pallekele	20.96	293	P	Pn	11 41 01.0	-0.5
APSI	Ampana	21.54	90	P	P	11 41 05.3	+1.1
MRSI	Marisa	21.88	87	P	P	11 41 09.5	+1.8
QIZ	Qiongzhong	21.93	25	P	P	11 41 08.2	0.0
QIZ				pmax	pmax		
	comp=Z,51nm,0.8s						
QIZ	Qiongzhong	21.93	25	eP	P	11 41 08.0	-0.1
	comp=Z,71nm,0.9s						
LUWI	Luwuk	22.67	91	P	P	11 41 17.8	+1.8
	comp=Z,206nm,0.8s,comp=Z,2µm						
LUWI	Luwuk	22.67	91	eP	P	11 41 15.9	-0.1
	comp=Z,144nm,0.8s						
KMSI	Cibinong	23.92	87	P	P	11 41 32.5	+4.9
	comp=Z,229nm,0.7s						
MDRS	Chennai	24.05	306	eP	P	11 41 27.0	-1.7
MDRS				IAmb	IAmb	11 41 54.9	
	comp=Z,40nm,1.0s						
VIS	Vishakhapatnam	24.74	319	eP	P	11 41 34.1	-0.9
VIS				⇓ix	x	11 46 14.8	
BATI	Baumata	25.21	113	P	P	11 41 41.4	+2.0
	comp=Z,10.0nm,0.4s,baz=256,slow=5.9,SNR=4.3						
TGY	Tagaytay City	25.41	54	P	P	11 41 41.1	-0.1
	comp=Z,260nm,0.4s,baz=163,slow=12,SNR=3.6						
GIRL	Giralia	25.68	149	P	P	11 41 45.1	+1.6
	baz=26,SNR=5.1						
KMI	Kunming	25.92	5	P	P	11 41 48.4	+2.5
KMI				pmax	pmax		
	comp=Z,16nm,1.0s						
KMI				pmax	pmax		
	comp=Z,160nm,6.0s						
NLAI	Namlea	27.09	95	P	P	11 42 00.0	+3.7
	comp=Z,36nm,0.8s,comp=Z,1µm						
SHL	Shillong	27.41	344	eP	P	11 41 59.2	0.0
SHL				IAmb	IAmb	11 42 00.3	
	comp=Z,42nm,1.1s						
SHL				eS	S	11 46 33.5	+1.3
GYA	Guiyang	27.85	13	⇑iP	P	11 42 01.8	-1.3
GYA				pP	pP	11 42 29.6	+3.5
GYA				sP	sP	11 42 42.0	+3.8
GYA				PP	PnPn	11 42 59.5	+3.9
GYA				PcP	PcP	11 45 18.2	+1.4
GYA				S	S	11 46 41.8	+2.8
GYA				sS	sS	11 47 21.0	+1.9
GYA				ScP	ScP	11 48 48.6	+0.3
GYA				ScS	ScS	11 52 40.2	-0.7
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
MBWA	Marble Bar	27.85	138	eP	P	11 42 03.1	+0.1
	comp=Z,19nm,0.8s						
MBWA	Marble Bar	27.85	138	P	P	11 42 03.3	+0.3
HYB	Hyderabad	27.91	311	iP	P	11 42 03.0	-0.7
HYB	Hyderabad	27.91	311	eP	P	11 42 01.7	-2.0
BOK	Bokaro	28.10	331	eP	P	11 42 05.1	-0.1
BOK				IAmb	IAmb	11 42 08.4	
	comp=Z,34nm,0.8s						
H08S2	Diego Garcia H	28.34	255	T	T	12 10 31.8	
	baz=77,slow=76,SNR=2896						
H08S3	Diego Garcia H	28.34	255	T	T	12 10 33.5	
	baz=77,slow=76,SNR=2419						

H08S1 **Diego Carcia H** 28.36 255 T T 12 10 33.3
baz=77,slow=76,SNR=2768
NGP **Nagpur** 30.01 318 *e*P **P** **11 42 22.2 0.0**
ODAN **Odare** 30.12 337 *e*P **P** **11 42 24.7 +1.3**
comp=Z,60nm,0.8s
TAPN **Taplejung** 30.44 338 *e*P **P** **11 42 27.7 +1.4**
comp=Z,96nm,0.9s
RAMN **Ramite** 30.52 336 *e*P **P** **11 42 28.5 +1.6**
comp=Z,18nm,0.4s
GOA **Goa** 30.61 303 *e*P **P** **11 42 26.6 -1.0**
TPUB **Ta-pu** 31.20 38 *e*P **P** **11 42 33.1 +0.4**
comp=Z,60nm,0.7s
MEEK **Meekatharra** 31.24 147 P **P** **11 42 34.2 +1.2**
baz=31,SNR=6.2
JIRN **Jiri** 31.32 336 *e*P **P** **11 42 35.3 +1.3**
comp=Z,158nm,0.7s
LSA **Lhasa** 31.53 345 P **P** **11 42 37.3 +1.3**
LSA pmax pmax
comp=Z,81nm,1.1s
LSA **Lhasa** 31.53 345 *e*P **P** **11 42 37.3 +1.3**
comp=Z,153nm,1.4s
LSA **Lhasa** 31.53 345 *e*P **P** **11 42 37.3 +1.3**
LSA pmax pmax
comp=Z,153nm,1.4s
PKI **Pulchoki** 31.57 335 *e*P **P** **11 42 37.0 +0.8**
comp=Z,20nm,0.6s
GUN **Gumba** 31.66 336 *e*P **P** **11 42 38.4 +1.3**
comp=Z,59nm,0.4s
YULB **Yu-li** 31.69 39 *e*P **P** **11 42 38.0 +1.0**
comp=Z,30nm,0.6s
DMN **Daman** 31.73 334 *e*P **P** **11 42 38.6 +1.0**
comp=Z,46nm,0.9s
CD2 **Chengdu** 31.75 6 *e*P **P** **11 42 39.4 +2.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
SSLB **Suanglung** 31.76 38 *e*P **P** **11 42 38.1 +0.4**
comp=Z,25nm,0.6s
KKN **Kakani** 31.81 335 *e*P **P** **11 42 39.2 +1.0**
comp=Z,33nm,0.5s
MORW **Morawa** 31.94 153 P **P** **11 42 41.1 +2.0**
baz=32,SNR=8.3
ENH **Enshi** 32.19 15 *e*P **P** **11 42 39.6 -1.7**
comp=Z,63nm,0.6s
FAKI **Fak Fak** 32.20 94 *e*P **P** **11 42 40.6 -0.9**
comp=Z,44nm,1.1s
GKN **Gorkha** 32.28 334 *e*P **P** **11 42 43.7 +1.5**
comp=Z,1.8nm,0.2s
BHPL **Bhopal** 32.54 319 *e*P **P** **11 42 45.0 +0.6**
KOLN **Koldanda** 32.55 332 *e*P **P** **11 42 45.9 +1.2**
comp=Z,99nm,0.8s
YHNB **Yeheng** 32.67 38 *e*P **P** **11 42 46.4 +0.8**
comp=Z,26nm,0.7s
DANN **Dangsing** 32.97 333 *e*P **P** **11 42 49.8 +1.4**
comp=Z,11nm,0.9s
PYUN **Piuthan** 33.12 332 *e*P **P** **11 42 50.9 +1.3**
comp=Z,88nm,1.0s
WHN **Wuhan** 34.01 22 ⇓P **P** **11 42 57.5 +0.4**
MUN **Mundaring** 34.52 155 P **P** **11 43 03.9 +2.4**
baz=35,SNR=15
KLBR **Kellerberrin** 34.86 153 P **P** **11 43 06.2 +1.7**
baz=35,SNR=8.3
XAN **Xi'an** 35.65 13 P **P** **11 43 09.4 -1.8**
XAN pP pP 11 43 34.9 +0.2
XAN sP sP 11 43 47.4 +0.7
XAN PP **PP** **11 44 32.3 -2.0**
XAN pmax pmax
comp=Z,44nm,0.6s
XAN pmax pmax
comp=Z,140nm,6.1s
NWAO **Narrogin (SRO)** 35.77 155 P **P** **11 43 14.1 +1.8**
comp=Z,35nm,0.8s,baz=258,slow=20,SNR=20
NWAO LR LR 11 56 03.0
comp=Z,60nm,19.3s,baz=223,slow=33
NWAO **Narrogin (SRO)** 35.77 155 P **P** **11 43 14.2 +2.0**
baz=36,SNR=14
NWAO P **P** **11 43 14.2 +2.0**
baz=36,SNR=14
H01W3 **Cape Leeuwin H** 36.33 160 T T 12 21 27.3
baz=335,slow=76,SNR=26
H01W2 **Cape Leeuwin H** 36.34 160 T T 12 21 28.3
baz=335,slow=76,SNR=32
H01W1 **Cape Leeuwin H** 36.35 160 T T 12 21 28.6
baz=335,slow=76,SNR=29
WRKA **Warakurna** 36.35 134 P **P** **11 43 17.3 0.0**
baz=36,SNR=23
KMBL **Kambalda** 36.71 148 P **P** **11 43 21.6 +1.3**
baz=37,SNR=9.7
LZH **Lanzhou** 36.88 5 *e*P **P** **11 43 22.5 +0.7**
LZH pP pP 11 43 46.4 +1.0
LZH sP sP 11 43 58.0 +0.6
LZH PP **PP** **11 44 47.1 -0.8**
LZH PcP **PcP** **11 45 42.9 +1.4**
LZH *e*S **S** **11 48 57.8 -1.3**
LZH sS sS 11 49 38.0 -2.0
LZH SS **SnSn** **11 51 41.0 -1.6**
LZH pmax pmax
comp=Z,33nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.2s
RKGY **Rocky Gully** 37.13 157 P **P** **11 43 26.5 +2.7**
baz=37,SNR=7.8
NJ2 **Nanjing** 37.20 27 *e*P **P** **11 43 24.9 +0.5**
NJ2 pmax pmax
comp=Z,20nm,0.7s
WRA **Warramunga Arr** 38.51 122 P **P** **11 43 34.0 -1.7**
comp=Z,4.1nm,0.5s,baz=306,slow=8.6,SNR=84
WRA PcP **PcP** **11 45 46.9 +0.2**
comp=Z,1.6nm,0.5s,baz=314,slow=2.5,SNR=4.8
WRA S S 11 49 13.9 -10
comp=Z,3.5nm,0.9s,baz=294,slow=16,SNR=9.6
WRA ScP **ScP** **11 49 24.5 -0.9**
comp=Z,4.5nm,0.9s,baz=307,slow=2.9,SNR=7.6
WR1 **Warramunga Arr** 38.51 122 *e*P **P** **11 43 34.0 -1.7**
comp=Z,35nm,1.5s
WR1 *e*PcP **PcP** **11 45 46.9 +0.3**
WR1 *e*S S 11 49 13.9 -10
WRAB **Tennant Creek** 38.52 122 *c i*P **P** **11 43 33.6 -2.1**
SMLA **Simla** 38.52 328 *e*P **P** **11 43 36.0 +0.5**
SMLA IAmb IAmb 11 43 36.6
comp=Z,18nm,0.3s
DHRM **DHARAMSHALA** 39.86 328 *e*P **P** **11 43 46.5 -0.4**
DHRM IAmb IAmb 11 43 51.3
comp=Z,43nm,0.5s
AS31 **Alice Springs** 39.87 127 *e*P **P** **11 43 45.7 -1.2**
comp=Z,5.8nm,0.6s
ASAR **Alice Springs** 39.87 127 P **P** **11 43 45.7 -1.2**
comp=Z,7.4nm,0.5s,baz=302,slow=8.1,SNR=56
ASAR ScP **ScP** **11 49 29.9 -0.7**
comp=Z,4.0nm,0.9s,baz=308,slow=3.8,SNR=9.5
ASAR S **S** **11 49 36.0 -8.2**
comp=Z,3.1nm,0.5s,baz=299,slow=16,SNR=6.3
ASAR ScS **ScS** **11 53 41.5 -2.5**
comp=Z,1.7nm,1.0s,baz=297,slow=6.1,SNR=6.4
GTA **Gaotai** 40.04 360 ⇓P **P** **11 43 48.4 +0.2**
GTA pP pP 11 44 10.9 -1.1
GTA sP sP 11 44 23.8 -0.1
GTA PcP **PcP** **11 45 52.3 +1.1**
GTA ScP **ScP** **11 49 30.0 -1.0**
GTA PcS **PcS** **11 49 43.6 +1.9**
GTA S **S** **11 49 47.2 +0.7**
GTA sS sS 11 50 26.1 -1.6
GTA SS **SS** **11 52 43.4 -4.5**
GTA pmax pmax
comp=Z,16nm,0.9s
GTA pmax pmax
comp=Z,100nm,5.2s
GENI **Genyem** 40.08 93 P **P** **11 43 48.9 +0.1**
TIA **Tai'an** 40.11 22 P **P** **11 43 48.0 -0.6**
TIA pmax pmax
comp=Z,37nm,0.7s
HHC **Hu-ho-hao-te** 42.77 13 *e*P **P** **11 44 10.8 +0.4**
HHC S **S** **11 50 23.7 -3.0**
HHC pmax pmax
comp=Z,38nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.3s
BJT **Baijiatuau** 43.22 18 *e*P **P** **11 44 14.1 +0.2**
comp=Z,68nm,0.7s
BJT **Baijiatuau** 43.22 18 *e*P **P** **11 44 14.1 +0.2**
BJT pmax pmax
comp=Z,68nm,0.7s
BJI **Beijing** 43.24 18 *e*P **P** **11 44 14.4 +0.3**
BJI pmax pmax
comp=Z,90nm,0.5s

DL2 **Dalian** 44.21 24 P **P** **11 44 22.0 +0.2**
DL2 pmax pmax
comp=Z,110nm,0.8s
JNU **Nakatsue** 44.51 38 P **P** **11 44 24.6 +0.2**
comp=Z,144nm,0.9s,baz=233,slow=2.3,SNR=48
JNU **Nakatsue** 44.51 38 *e*P **P** **11 44 25.1 +0.7**
comp=Z,160nm,0.9s
TJN **Taejon** 44.85 32 *ce*P **P** **11 44 27.0 0.0**
INCN **Inchon** 45.33 30 P **P** **11 44 30.3 -0.5**
KBL **Kabul** 45.65 323 *e*P **P** **11 44 36.9 +3.2**
comp=Z,13nm,0.6s
KBL **Kabul** 45.65 323 *e*P **P** **11 44 36.9 +3.2**
KBL pmax pmax
comp=Z,13nm,0.6s
WMQ **Urumqi** 45.81 347 P **P** **11 44 36.0 +1.4**
WMQ pP pP 11 44 57.4 -1.6
WMQ sP sP 11 45 08.8 -1.9
WMQ pmax pmax
comp=Z,730nm,3.6s
WMQ LR LR
comp=Z,150nm,23.9s
WMQ LR LR
comp=Z,170nm,23.3s
WMQ LR LR
comp=Z,120nm,26.5s
KSH **Kashi** 45.83 334 P **P** **11 44 34.2 -0.6**
KSH pP pP 11 44 58.7 -0.5
KSH PcP **PcP** **11 46 09.6 -1.0**
KSH PP **PP** **11 46 25.0 +0.7**
KSH S **S** **11 51 06.9 -4.3**
KSH sS sS 11 51 51.9 -1.2
KSH SS **ScS** **11 54 25.7 +5.1**
KSH pmax pmax
comp=Z,22nm,0.6s
KSH pmax pmax
comp=Z,200nm,6.2s
KSH LR LR
comp=Z,140nm,7.9s
KSH LR LR
comp=Z,160nm,12.6s
KSH LR LR
comp=Z,160nm,10.8s
KS15 **Wonju Array Si** 45.93 31 *e*P **P** **11 44 35.9 +0.3**
KSRS **Korea Array** 45.96 31 P **P** **11 44 35.9 +0.1**
comp=Z,80nm,0.8s,baz=226,slow=7.7,SNR=172
KSRS PcP **PcP** **11 46 11.2 +0.2**
comp=Z,4.7nm,0.9s,baz=235,slow=2.0,SNR=4.6
KSRS LR LR 12 05 24.6
comp=Z,29nm,18.6s,baz=211,slow=38
KS01 **Wonju Array Si** 45.97 31 *e*P **P** **11 44 35.3 -0.5**
MTSU **Mount Surprise** 46.69 114 P **P** **11 44 41.4 -0.5**
baz=47,SNR=4.7
SFK **Sufi-Kurgan** 47.35 332 *i*P **P** **11 44 48.2 +1.3**
SFK pmax pmax
comp=Z,13nm,0.4s
PMG **Port Moresby** 47.59 102 P **P** **11 44 48.3 -0.6**
comp=Z,7.8nm,0.6s,baz=238,slow=19,SNR=5.3
PMG LR LR 12 08 12.8
comp=Z,43nm,18.6s,baz=304,slow=40
PDGK **Podgornoye** 47.69 340 *i*P **P** **11 44 50.3 +1.0**
PDGK pmax pmax
comp=Z,73nm,0.7s
ULHL **Ulahol** 47.98 336 P **P** **11 44 52.9 +1.3**
SNR=22
KZA **Kyzart** 48.24 335 P **P** **11 44 55.4 +1.4**
SNR=48
UCH **Uchtor** 48.68 335 P **P** **11 44 58.8 +1.4**
SNR=46
HTT **Hallett** 48.76 136 P **P** **11 44 58.1 +0.5**
baz=49,SNR=9.8
SONA0 **Songino Array** 48.77 6 *e*P **P** **11 44 57.5 0.0**
SONA0 *e*PcP **PcP** **11 46 21.4 +0.5**
SONM **Songino Array** 48.77 6 P **P** **11 44 57.5 0.0**
comp=Z,54nm,0.7s,baz=187,slow=9.8,SNR=237
SONM PcP **PcP** **11 46 21.4 +0.5**
comp=Z,20nm,0.7s,baz=192,slow=4.0,SNR=14
SONM ScP **ScP** **11 50 05.4 -1.1**
comp=Z,1.9nm,0.8s,baz=187,slow=3.0,SNR=5.2
SONM LR LR 12 06 43.0
comp=Z,48nm,19.9s,baz=190,slow=37
SONA1 **Songino Array** 48.78 6 *e*P **P** **11 44 57.3 -0.3**
TKM2 **Tokmak 2** 48.80 336 P **P** **11 45 00.0 +2.0**
SNR=20
TKM2 **Tokmak 2** 48.80 336 *i*P **P** **11 44 59.2 +1.2**
TKM2 pmax pmax
comp=Z,96nm,1.0s
KBK **Karagaybulak** 48.85 335 P **P** **11 45 00.2 +1.9**
SNR=75
ULN **Ulaanbaatar** 48.87 6 *e*P **P** **11 44 57.0 -1.3**
comp=Z,35nm,0.7s
ULN **Ulaanbaatar** 48.87 6 *c i*P **P** **11 44 58.5 +0.2**
ULN pmax pmax
comp=Z,62nm,1.2s
ULN **Ulaanbaatar** 48.87 6 P **P** **11 44 58.5 +0.2**
SNR=15
AML **Almayashu** 48.95 334 P **P** **11 45 00.6 +1.2**
SNR=67
CTA **Charters Tower** 49.01 116 P **P** **11 44 59.3 -0.4**
comp=Z,3.3nm,0.7s,baz=260,slow=9.0,SNR=5.4
AAK **Ala-Archa** 49.02 335 P **P** **11 45 01.1 +1.5**
comp=Z,20nm,0.8s,baz=130,slow=5.5,SNR=52
AAK S **S** **11 51 57.7 +1.2**
comp=Z,1.3nm,0.5s,baz=151,slow=13,SNR=6.1
AAK LR LR 12 09 31.4
comp=Z,35nm,18.1s,baz=132,slow=41
AAK **Ala-Archa** 49.02 335 P **P** **11 45 02.0 +2.4**
SNR=10
AAK **Ala-Archa** 49.02 335 *i*P **P** **11 45 00.8 +1.2**
AAK pmax pmax
comp=Z,19nm,0.7s
AAK **Ala-Archa** 49.02 335 P **P** **11 45 01.2 +1.6**
SNR=8.4
CBIJ **Chichi jima** 49.07 52 *e*P **P** **11 44 59.1 -0.9**
comp=Z,173nm,1.1s
JCJ **Chichijima** 49.07 52 P **P** **11 44 58.5 -1.5**
comp=Z,66nm,0.7s,baz=273,slow=18,SNR=5.0
FRU **Bishkek** 49.13 335 *e*P **P** **11 45 00.0 -0.3**
FRU *e* 11 46 29.0
FRU *e*S S **11 51 59.0 +1.2**
FRU pmax pmax
comp=Z,75nm,1.2s
FRU smax smax
comp=N,50nm,1.8s
CHMS **Chumysh** 49.21 335 P **P** **11 45 01.8 +0.9**
SNR=27
EKS2 **Erkin-Say** 49.35 334 P **P** **11 45 04.0 +1.9**
SNR=6.5
QLP **Quilpie** 49.53 125 P **P** **11 45 03.5 -0.1**
baz=50,SNR=6.7
USP **Ospenovka** 49.54 335 P **P** **11 45 04.6 +1.2**
SNR=46
MNAS **Manas** 49.77 333 *i*P **P** **11 45 06.5 +1.2**
MNAS pmax pmax
comp=Z,55nm,0.8s
INU **Inuyama** 49.81 40 *e*P **P** **11 45 04.9 -0.6**
comp=Z,14nm,0.7s
STKA **Stephens Creek** 49.86 132 P **P** **11 45 06.0 0.0**
comp=Z,11nm,0.7s,baz=302,slow=7.0,SNR=16
STKA LR LR 12 05 58.7
comp=Z,42nm,21.9s,baz=342,slow=36
STKA **Stephens Creek** 49.86 132 P **P** **11 45 06.2 +0.2**
baz=50,SNR=14
STKA **Stephens Creek** 49.86 132 *e*P **P** **11 45 06.2 +0.2**
comp=Z,4.7nm,1.0s
STKA **Stephens Creek** 49.86 132 *e*P **P** **11 45 06.2 +0.2**
STKA pmax pmax
comp=Z,5.0nm,1.0s
CN2 **Changchun** 49.87 24 ⇑ *i*P **P** **11 45 05.1 -0.7**
CN2 *e*PcP **PcP** **11 46 24.7 -0.2**
CN2 *e*S S **11 52 05.9 -2.1**
CN2 pmax pmax
comp=Z,90nm,0.8s
MK01 **Makanchi Array** 49.91 344 *e*P **P** **11 45 06.5 +0.4**
MK01 *e*S S **11 52 08.4 0.0**
MK31 **Makanchi Array** 49.93 344 *e*P **P** **11 45 06.7 +0.4**
MK31 *e*S S **11 52 09.3 +0.5**
MK31 **Makanchi Array** 49.93 344 *i*P **P** **11 45 06.4 +0.1**
MK31 pmax pmax
comp=Z,32nm,0.5s
MK32 **Makanchi Array** 49.93 344 *e*P **P** **11 45 06.8 +0.5**
MK32 *e*S S **11 52 09.3 +0.6**
MKAR **Makanchi Array** 49.93 344 P **P** **11 45 06.8 +0.5**
comp=Z,53nm,0.6s,baz=149,slow=8.0,SNR=575
MKAR S **S** **11 52 09.3 +0.6**
comp=Z,5.6nm,0.9s,baz=159,slow=13,SNR=11
MKAR LR LR 12 09 08.0
comp=Z,37nm,18.6s,baz=114,slow=39
MKAR **Makanchi Array** 49.93 344 *e*P **P** **11 45 06.7 +0.5**
comp=Z,405nm,0.6s
MKAR *e*S S **11 52 08.7 0.0**
MKAR **Makanchi Array** 49.93 344 *e*P **P** **11 45 06.7 +0.5**
MKAR *e*S S **11 52 08.7 0.0**
MKAR pmax pmax
comp=Z,405nm,0.6s
MAKZ **Makanchi** 50.03 344 *e*P **P** **11 45 07.1 0.0**
comp=Z,41nm,0.8s
MAKZ *e*S S **11 52 11.9 +1.8**
MAKZ **Makanchi** 50.03 344 *i*P **P** **11 45 07.0 0.0**
MAKZ pmax pmax
comp=Z,40nm,0.8s
ZAK **Zakamensk** 51.08 3 *e*P **P** **11 45 14.4 -0.5**
ZAK *e* 11 46 25.2
ZAK pmax pmax
comp=Z,9.0nm,1.0s
ZAK pmax pmax
comp=Z,10.0nm,0.9s
KK31 **Karatay Array** 51.16 332 *i*P **P** **11 45 15.7 +0.1**
KK31 pmax pmax
comp=Z,16nm,1.1s
KKAR **Karatay Array** 51.16 332 *e*P **P** **11 45 16.2 +0.6**
KKAR **Karatay Array** 51.16 332 *e*P **P** **11 45 16.2 +0.6**
MAJO **Matsushiro** 51.30 40 *e*P **P** **11 45 16.0 -0.8**
comp=Z,38nm,1.1s
MAJO **Matsushiro** 51.30 40 *e*P **P** **11 45 16.0 -0.8**
MAJO pmax pmax
comp=Z,37nm,1.1s
MAT **Matsushiro** 51.30 40 P **P** **11 45 15.9 -0.9**
MJB9 **Matsu-Tunnel** 51.30 40 *e*P **P** **11 45 15.9 -0.8**
comp=Z,40nm,1.2s
MJAR **Matsushiro Arr** 51.30 40 P **P** **11 45 16.1 -0.6**
comp=Z,22nm,0.9s,baz=220,slow=7.7,SNR=38
HVS **Khovu-Aksy** 52.05 355 *i*P **P** **11 45 21.2 -0.9**
MDJ **Mudanjiang** 52.29 26 P **P** **11 45 22.9 -1.0**
MDJ pP pP 11 45 47.4 -1.5
MDJ sP sP 11 45 58.9 -1.5
MDJ PcP **PcP** **11 46 30.8 -3.1**
MDJ PP **PP** **11 47 23.0 -0.6**
MDJ ScP **ScP** **11 50 18.6 -3.0**
MDJ PcS **PcS** **11 50 29.6 -2.6**
MDJ S **S** **11 52 43.4 +2.1**
MDJ sS sS 11 53 26.0 +1.9
MDJ pmax pmax
comp=Z,42nm,0.9s
MDJ pmax pmax
comp=Z,440nm,3.5s
MDJ **Mudanjiang** 52.29 26 *e*P **P** **11 45 24.2 +0.3**
comp=Z,29nm,0.8s
MOY **Mondy** 52.30 1 *e*P **P** **11 45 24.3 +0.3**
MOY pmax pmax
comp=Z,9.0nm,1.9s
TLY **Talaya** 52.40 3 *e*P **P** **11 45 25.2 +0.7**
comp=Z,21nm,0.8s
TLY **Talaya** 52.40 3 *e*P **P** **11 45 25.3 +0.7**
TLY pmax pmax
comp=Z,22nm,0.8s
TLY **Talaya** 52.40 3 P **P** **11 45 25.3 +0.7**
SNR=7.3
HIA **Hailar** 52.69 16 *e*P **P** **11 45 26.2 -0.6**
comp=Z,15nm,0.8s
HIA **Hailar** 52.69 16 *e*P **P** **11 45 26.2 -0.6**
HIA pmax pmax
comp=Z,15nm,0.8s
CMSA **Cobar Meteorol** 52.78 130 P **P** **11 45 28.3 +0.5**
baz=53,SNR=20
IRK **Irkutsk** 52.99 3 *e*P **P** **11 45 28.2 -0.7**
IRK pmax pmax
comp=Z,38nm,3.4s
USRK **Ussuriysk Ar.** 53.08 28 P **P** **11 45 30.0 +0.3**
comp=Z,137nm,0.6s,baz=238,slow=4.6,SNR=200
KURBB **Kurchatov Arra** 54.46 343 P **P** **11 45 39.9 +0.2**
comp=Z,48nm,0.7s,baz=161,slow=6.5,SNR=57
KURK **Kurchatov** 54.51 343 *e*P **P** **11 45 40.6 +0.5**
KURK **Kurchatov** 54.51 343 *c i*P **P** **11 45 40.4 +0.4**
KURK pmax pmax
comp=Z,364nm,1.0s
KURK **Kurchatov** 54.51 343 P **P** **11 45 40.5 +0.5**
SNR=29
GEYT **Alibeck** 54.62 320 P **P** **11 45 41.5 +0.4**
comp=Z,4.8nm,0.8s,baz=157,slow=8.0,SNR=8.8
GEYT pP **pP** **11 46 05.5 -0.7**
comp=Z,5.5nm,0.8s,baz=151,slow=6.6,SNR=3.3
EIDS **Eidsvold** 54.86 121 P **P** **11 45 44.6 +1.5**
baz=55,SNR=3.3
ZAA0 **Zalesovo Array** 56.04 349 *e*P **P** **11 45 50.8 -0.1**
comp=Z,93nm,1.1s
ZAA0 *e*S **S** **11 53 29.5 -1.8**
ZALV **Zalesovo Beam** 56.04 349 P **P** **11 45 50.8 -0.1**
comp=Z,61nm,0.9s,baz=172,slow=5.9,SNR=189
ZALV S **S** **11 53 31.7 +0.4**
comp=Z,4.5nm,0.7s,baz=160,slow=19,SNR=10
ZALV **Zalesovo Beam** 56.04 349 *e*P **P** **11 45 50.6 -0.3**
ZALV **Zalesovo Beam** 56.04 349 *e*P **P** **11 45 50.6 -0.3**
ZAA1 **Zalesovo Array** 56.04 349 *e*P **P** **11 45 50.8 -0.2**
ZAA1 *e*S **S** **11 53 31.7 +0.3**
KLR **Kul'dur** 56.82 24 P **P** **11 45 56.6 0.0**
comp=Z,7.4nm,0.8s,baz=236,slow=6.4,SNR=173
NVS **Novosibirsk** 57.19 348 ⇓ *i*P **P** **11 45 58.8 -0.2**
NVS *e*S **S** **11 53 42.5 -4.0**
NVS pmax pmax
comp=Z,30nm,1.0s
NVS pmax pmax
comp=N,20nm,1.2s
NVS pmax pmax
comp=E,13nm,1.0s
NVS smax smax
comp=N,10.0nm,1.5s
NVS smax smax
comp=E,22nm,1.5s
ASAJ **Asahikawa** 58.59 35 P **P** **11 46 09.3 +0.2**
comp=E,18nm,0.6s,baz=234,slow=8.1,SNR=21
ASAJ **Asahikawa** 58.59 35 *e*P **P** **11 46 09.5 +0.4**
comp=E,21nm,0.7s
ZEA **Zeya** 58.86 18 *e*P **P** **11 46 10.8 0.0**
ZEA pmax pmax
comp=Z,36nm,0.8s
BVA0 **Borovoye Array** 59.12 340 *i*P **P** **11 46 12.1 -0.5**
BVA0 pmax pmax
comp=Z,49nm,0.7s
BVAR **Borovoye Array** 59.12 340 P **P** **11 46 12.6 0.0**
comp=Z,52nm,0.6s,baz=145,slow=10,SNR=286
BVAR S **S** **11 54 08.8 -3.0**
comp=Z,2.6nm,0.8s,baz=123,slow=16,SNR=6.3
BVAR **Borovoye Array** 59.12 340 P **P** **11 46 12.6 0.0**
BVAR S **S** **11 54 08.8 -3.0**
BVAR pmax pmax
comp=Z,51nm,0.6s
BVAR smax smax
comp=N,3.0nm,0.8s
BRVK **Borovoye** 59.19 340 *e*P **P** **11 46 12.9 -0.1**
comp=N,46nm,0.7s
BRVK **Borovoye** 59.19 340 *c i*P **P** **11 46 12.8 -0.2**
BRVK pmax pmax
comp=Z,196nm,1.2s
BRVK **Borovoye** 59.19 340 P **P** **11 46 12.8 -0.2**
SNR=20
BOD **Bodaibo** 59.51 9 ⇓ *i*P **P** **11 46 14.4 -0.7**
BOD pmax pmax
comp=Z,41nm,1.2s
HNR **Honiara** 60.14 100 P **P** **11 46 19.2 -1.1**
comp=Z,67nm,0.3s,baz=189,slow=22,SNR=11
YSS **Yuzh-Sakhalins** 60.44 32 *e*P **P** **11 46 21.9 +0.2**
comp=Z,125nm,0.9s
YSS **Yuzh-Sakhalins** 60.44 32 ⇑ *i*P **P** **11 46 21.9 +0.2**
YSS *e* 11 46 46.0
YSS *e* 11 47 04.9
YSS *e* 11 48 37.0
YSS pmax pmax
comp=Z,130nm,0.8s
AB31 **Akbulak array** 60.66 331 *i*P **P** **11 46 23.0 -0.2**
AB31 pmax pmax
comp=Z,24nm,0.7s
ABKAR **Akbulak array** 60.66 331 *e*P **P** **11 46 23.1 -0.1**
comp=Z,201nm,0.8s
ABKAR *e*S **S** **11 54 31.8 +0.2**
AKTO **Aktyubinsk** 62.38 331 P **P** **11 46 34.4 -0.4**
comp=Z,4.3nm,0.4s,baz=119,slow=8.2,SNR=20
AKTO S **S** **11 54 49.0 -4.3**
comp=Z,0.4nm,0.3s,baz=325,slow=17,SNR=4.1
AKTO **Aktyubinsk** 62.38 331 *i*P **P** **11 46 34.0 -0.8**
AKTO pmax pmax
comp=Z,5.0nm,0.5s
SVE **Sverdlovsk** 65.64 337 *e*P **P** **11 46 56.3 +0.4**

SVE pmax pmax
comp=Z,87nm,1.0s
ARU Arti 66.17 336 P **P** **11 46 59.1 -0.3**
comp=Z,14nm,0.6s,baz=153,slow=2.0,SNR=33
ARU Arti 66.17 336 *eP* **P** **11 46 59.3 -0.1**
comp=Z,54nm,1.2s
ARU Arti 66.17 336 *c iP* **P** **11 46 59.2 -0.1**
ARU 11 47 28.7
ARU S **S** **11 55 42.1 +2.2**
ARU SS **SS** **12 00 03.9 +6.2**
ARU pmax pmax
comp=Z,56nm,1.2s
ZEI Tsey 66.43 318 *e*P **P** **11 47 01.8 +0.2**
ZEI pmax pmax
comp=Z,15nm,0.5s
YAK Yakutsk 66.58 15 P **P** **11 47 00.6 -1.3**
comp=Z,40nm,0.6s,baz=292,slow=0.9,SNR=25
YAK Yakutsk 66.58 15 *eP* **P** **11 47 00.7 -1.1**
comp=Z,67nm,0.7s
YAK Yakutsk 66.58 15 *eP* **P** **11 46 58.9 -3.0**
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,15nm,1.5s
NCK Nalchik 66.93 319⇑ *eP* **P** **11 47 04.9 +0.4**
NEY Neytrino 67.41 318⇑ *eP* **P** **11 47 08.1 +0.3**
NEY pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 67.49 319 P **P** **11 47 08.9 +0.9**
comp=Z,17nm,0.7s,baz=119,slow=6.1,SNR=34
KVAR Kislovodsk Arr 67.72 319 P **P** **11 47 10.2 +0.6**
comp=Z,14nm,0.8s,baz=45,slow=1.4,SNR=6.3
KIV Kislovodsk 67.72 319 *eP* **P** **11 47 10.7 +1.1**
comp=Z,21nm,1.0s
KIV Kislovodsk 67.72 319 *eP* **P** **11 47 10.4 +0.8**
KIV pmax pmax
comp=Z,22nm,1.0s
ASF Jabal al Asfar 67.99 305 P **P** **11 47 12.1 +0.5**
comp=Z,1.2nm,0.5s,baz=139,slow=7.2,SNR=3.8
EIL Elat 68.98 302 P **P** **11 47 21.6 +4.0**
EIL LR LR 12 18 00.8
comp=Z,4.5nm,0.6s,baz=52,slow=9.3,SNR=3.7
comp=Z,120nm,19.3s,baz=64,slow=36
MMAI Mount Meron Ar 69.43 306 P **P** **11 47 22.0 +1.5**
comp=Z,0.8nm,0.2s,baz=96,slow=8.8,SNR=2.6
SKR Severo-Kuril's 69.84 34 *eP* **P** **11 47 21.0 -1.4**
VRH Novokhopyorsk 71.41 326 *eP* **P** **11 47 31.6 -0.4**
VRH pmax pmax
comp=Z,50nm,0.6s
MAW Mawson 71.44 194 LR LR 12 14 57.4
comp=Z,50nm,20.6s,baz=60,slow=32
PETK Petropavlovsk- 71.84 32 P **P** **11 47 34.2 -0.4**
comp=Z,8.2nm,0.6s,baz=171,slow=1.5,SNR=18
PETK LR LR 12 20 44.1
comp=Z,11nm,19.5s,baz=209,slow=37
PEA1 Petropavlovsk- 71.84 32 *eP* **P** **11 47 34.2 -0.4**
MA2 Magadan 71.92 24 P **P** **11 47 35.0 +0.1**
comp=Z,21nm,0.6s,baz=228,slow=5.9,SNR=83
MA2 Magadan 71.92 24⇑ *iP* **P** **11 47 34.2 -0.7**
PET Petropavlovsk 72.31 33 *eP* **P** **11 47 37.2 -0.1**
comp=Z,148nm,1.8s
PET Petropavlovsk 72.31 33 *eP* **P** **11 47 36.8 -0.5**
PET pmax pmax
comp=Z,38nm,1.1s
BR101 Keskin Array S 72.61 312 *eP* **P** **11 47 39.5 -0.2**
BR131 Keskin Array S 72.61 312 *eP* **P** **11 47 39.5 -0.1**
BR131 Keskin Array S 72.61 312 P **P** **11 47 39.8 +0.2**
BRTR Keskin Array B 72.61 312 P **P** **11 47 39.5 -0.1**
comp=Z,8.4nm,0.8s,baz=130,slow=7.3,SNR=37
VSR Storozhevoye 72.88 325 *eP* **P** **11 47 40.0 -0.7**
VSR pmax pmax
comp=Z,20nm,0.5s
ILGA Ilgaz 72.93 314 *eP* **P** **11 47 42.5 +0.9**
comp=Z,29nm,1.1s
LPSR Galich'ya Gora 73.57 326 *eP* **P** **11 47 44.7 -0.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
SEY Seymchan 74.50 22 P **P** **11 47 50.0 0.0**
comp=Z,18nm,0.6s,baz=240,slow=5.4,SNR=160
TIXI Tiksi 74.69 9 P **P** **11 47 49.8 -1.1**
comp=Z,20nm,0.5s,baz=233,slow=5.8,SNR=65
TIXI Tiksi 74.69 9 *c iP* **P** **11 47 49.7 -1.1**
TIXI pmax pmax
comp=Z,54nm,1.7s
LBTB Lobatse 75.62 244 pP **pP** **11 48 24.4 +0.5**
comp=Z,4.0nm,0.5s,baz=111,slow=16,SNR=4.8
LBTB LR LR 12 15 23.9
comp=Z,43nm,19.0s,baz=64,slow=31
OBN Obninsk 75.86 328⇑ *eP* **P** **11 47 57.5 -0.4**
OBN *e* 11 48 09.1
OBN *e* 11 50 49.4
OBN *e*PPP PPP 11 52 35.6
OBN pmax pmax
comp=Z,82nm,2.5s
OBN MLR MLR
comp=Z,66nm,17.0s
BOSA Boshof 76.31 241 pP pP 11 48 28.3 +0.5
comp=Z,9.8nm,0.7s,baz=102,slow=4.6,SNR=8.0
KLMR Klimovskoe 76.82 334 *eP* **P** **11 48 02.3 -0.9**
KLMR *e**PP **pP** **11 48 27.8 -2.0**
KLMR pmax pmax
comp=Z,35nm,1.2s
KLMR Klimovskoe 76.82 334 *eP* **P** **11 48 02.4 -0.8**
KLMR AMP 11 48 05.1
comp=Z,35nm,1.2s
KLMR *e*pP **pP** **11 48 27.9 -1.9**
TLCR 77.48 317⇑ *iP* **P** **11 48 06.9 -0.3**
TLCR 77.48 317 P **P** **11 48 06.9 -0.3**
TIRR Tirgusor 77.58 316⇑ *iP* **P** **11 48 08.5 +0.7**
TIRR Tirgusor 77.58 316 *eP* **P** **11 48 08.4 +0.5**
comp=Z,20nm,0.8s
TIRR Tirgusor 77.58 316 P **P** **11 48 08.5 +0.7**
TLB Topalu 77.87 316⇑ *iP* **P** **11 48 09.8 +0.4**
TLB Topalu 77.87 316 P **P** **11 48 09.8 +0.4**
ICOR Ion Corvin 77.93 315⇑ *iP* **P** **11 48 11.2 +1.4**
CFR Carcaliu 77.94 317⇑ *iP* **P** **11 48 10.5 +0.7**
CFR Carcaliu 77.94 317 P **P** **11 48 10.5 +0.7**
IDI Anoyia 78.43 306 P **P** **11 48 13.2 +0.4**
comp=Z,9.7nm,0.7s,baz=117,slow=13,SNR=6.0
SORM Soroca 78.51 320⇑ *iP* **P** **11 48 13.4 +0.5**
SORM Soroca 78.51 320 P **P** **11 48 13.4 +0.5**
AKASG Malin Array Be 78.62 322 P **P** **11 48 13.2 -0.3**
comp=Z,3.3nm,0.5s,baz=84,slow=4.6,SNR=20
KIEV Kiev 78.63 322 *eP* **P** **11 48 13.3 -0.2**
comp=Z,14nm,1.3s
KIEV Kiev 78.63 322 *eP* **P** **11 48 13.3 -0.2**
KIEV pmax pmax
comp=Z,15nm,1.3s
AK11 Malin Array Si 78.65 322 *eP* **P** **11 48 13.5 -0.1**
TMCR Tamitsa 78.91 337 *eP* P 11 48 04.7 -10
TMCR pmax pmax
comp=Z,35nm,0.8s
BKZ Black Stump Fm 78.94 130 *eP* **P** **11 48 15.8 +0.3**
comp=Z,27nm,0.9s
SYO Syowa Base 79.01 199⇑ *eX* pP 11 48 37.4 -4.5
VRI Vrincioaia 79.06 317⇑ *iP* **P** **11 48 17.5 +1.5**
VRI Vrincioaia 79.06 317 P **P** **11 48 17.6 +1.5**
PLOR Plostina 79.11 317⇑ *iP* **P** **11 48 18.0 +1.7**
PLOR Plostina 79.11 317 P **P** **11 48 18.0 +1.7**
TESR Tescani 79.26 318⇑ *iP* **P** **11 48 17.9 +0.8**
MLR Muntele Rosu 79.52 317 P **P** **11 48 19.7 +1.0**
comp=Z,4.4nm,0.8s,baz=90,slow=8.1,SNR=19
MLR Muntele Rosu 79.52 317⇑ *iP* **P** **11 48 20.0 +1.3**
MLR Muntele Rosu 79.52 317 *eP* **P** **11 48 19.6 +0.9**
comp=Z,24nm,0.9s
MLR Muntele Rosu 79.52 317 P **P** **11 48 20.0 +1.3**
PRAR RASCA 79.73 318⇑ *iP* **P** **11 48 19.7 +0.1**
HORU Horodok 80.01 320 P **P** **11 48 21.2 +0.2**
ARR Arges 80.40 316⇑ *iP* **P** **11 48 24.0 +0.7**
BURAR Bucovina Array 80.45 319⇑ *iP* **P** **11 48 25.5 +1.9**
BURAR Bucovina Array 80.45 319 P **P** **11 48 25.5 +1.9**
BUR04 Bucovina Ar. S 80.45 319 *eP* **P** **11 48 24.9 +1.3**
BUR08 Bucovina Ar. S 80.47 319 *eP* **P** **11 48 25.3 +1.6**
VTS Vitosha 80.92 313⇑ *iP* **P** **11 48 26.9 +0.6**
VTS Vitosha 80.92 313 *eP* **P** **11 48 26.7 +0.5**
comp=Z,11nm,0.8s
VTS Vitosha 80.92 313 P **P** **11 48 26.9 +0.6**
ARCR ARCALIA 80.92 318⇑ *iP* **P** **11 48 28.2 +2.2**
NACGM Naroch 81.13 326 *e* **P** **11 48 26.0 -0.9**
IDID Didziasalis 81.26 326 *eP* **P** **11 48 28.6 +1.1**
IDID IAmb IAmb 11 48 29.9
comp=Z,16nm,0.9s
IIGN Ignalina 81.55 326 *eP* **P** **11 48 30.2 +1.0**
IIGN IAmb IAmb 11 48 31.4
comp=Z,17nm,0.7s
IZAR Zarasai 81.64 327 *eP* **P** **11 48 30.6 +1.0**
IZAR IAmb IAmb 11 48 33.1
comp=Z,11nm,0.6s
ISAL Salakas 81.66 327 *eP* **P** **11 48 30.7 +1.1**
ISAL IAmb IAmb 11 48 31.8
comp=Z,9.2nm,0.7s
DRGR 81.97 317⇑ *iP* **P** **11 48 32.9 +1.3**
DRGR 81.97 317 P **P** **11 48 32.9 +1.3**
BILL Bilibino 82.02 20 *eP* **P** **11 48 29.4 -1.9**
BILL pmax pmax
comp=Z,2.0nm,0.8s
APA Apatity 82.03 339⇑ *iP* **P** **11 48 30.6 -0.8**
APA *i* *PP **pP** **11 48 58.2 0.0**
APA pmax pmax
comp=Z,7.0nm,0.8s
TRSU Trosnyk 82.03 319 P **P** **11 48 33.2 +1.4**
VSU Vasula 82.05 329*ce***P** **P** **11 48 31.1 -0.5**
VSU pmax pmax
comp=Z,46nm,0.6s
MDVR Moldovita 82.34 315⇑ *iP* **P** **11 48 34.7 +1.1**
KWP Kalwaria Pacla 82.47 320 *eP* **P** **11 48 35.3 +1.2**
KWP Kalwaria Pacla 82.47 320 *eP* **P** **11 48 35.5 +1.4**
comp=Z,258nm,1.3s
KWP Kalwaria Pacla 82.47 320 *eP* **P** **11 48 35.5 +1.4**
KWP pmax pmax
comp=Z,258nm,1.3s
BZS Buzias 82.53 316⇑ *iP* **P** **11 48 35.6 +1.1**
BZS Buzias 82.53 316 P **P** **11 48 35.6 +1.1**
UZH Uzhgorod 82.56 319 P **P** **11 48 36.4 +1.8**
TSUM Tsumeb 82.66 251 pP pP 11 49 03.4 +0.7
comp=Z,6.2nm,0.9s,baz=250,slow=11,SNR=4.1
SUW Suwalki 82.99 325 *eP* **P** **11 48 36.9 +0.2**
SUW Suwalki 82.99 325 *eP* **P** **11 48 37.2 +0.6**
comp=Z,76nm,0.9s
SUW Suwalki 82.99 325 *eP* **P** **11 48 37.2 +0.6**
SUW pmax pmax
comp=Z,76nm,0.9s
FIA1 FINESS Array S 83.12 332 *eP* **P** **11 48 37.8 +0.6**
FIA0 FINESS Array S 83.12 332 *eP* **P** **11 48 37.8 +0.6**
FIA0 FINESS Array S 83.12 332 *eP* **P** **11 48 37.8 +0.6**
FINES FINESS Array B 83.12 332 P **P** **11 48 37.8 +0.6**
comp=Z,15nm,0.5s,baz=103,slow=5.7,SNR=118
CRVS Cervenica-Dubn 83.15 319 *eP* **P** **11 48 38.6 +1.0**
CRVS Cervenica-Dubn 83.15 319 *eP* **P** **11 48 38.6 +1.0**
VNDA Vanda 83.29 169 P **P** **11 48 39.5 +1.8**
comp=Z,1.0nm,0.5s,baz=324,slow=3.4,SNR=3.9
VNDA LR LR 12 19 43.6
comp=Z,34nm,20.8s,baz=272,slow=31
VNDA Vanda 83.29 169 *eP* **P** **11 48 38.5 +0.7**
STHS Stebnicka Huta 83.37 320 *eP* **P** **11 48 40.5 +1.7**
STHS pmax pmax
comp=Z,13nm,0.7s
STHS Stebnicka Huta 83.37 320 *eP* **P** **11 48 40.5 +1.7**
DIVS Divibare 83.46 314 *eP* **P** **11 48 39.9 +0.5**
comp=Z,15nm,1.3s
KECS Kecovo 83.73 319 *eP* **P** **11 48 41.7 +1.1**
KECS pmax pmax
comp=Z,6.0nm,0.8s
KECS Kecovo 83.73 319 *eP* **P** **11 48 41.7 +1.1**
PDG Podgorica 83.79 313⇑ *iP* **P** **11 48 41.0 0.0**
NIE Niedzica 83.98 320 *eP* **P** **11 48 42.8 +0.9**
NIE Niedzica 83.98 320 *eP* **P** **11 48 42.8 +0.9**
PSZ Piszkesteto 84.04 318⇑ *iP* **P** **11 48 43.5 +1.2**
PSZ Piszkesteto 84.04 318 *eP* **P** **11 48 43.2 +0.9**
comp=Z,11nm,0.9s
PSZ Piszkesteto 84.04 318 P **P** **11 48 43.5 +1.2**
OJC Ojcow 84.42 320 *eP* **P** **11 48 45.4 +1.4**
OJC Ojcow 84.42 320 *eP* **P** **11 48 45.3 +1.3**
comp=Z,11nm,0.9s
OJC Ojcow 84.42 320 *eP* **P** **11 48 45.4 +1.4**
VYHS Vyhne 84.81 319 *eP* **P** **11 48 46.7 +0.6**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 84.81 319 *eP* **P** **11 48 46.7 +0.6**
ARA0 ARCESS Array S 85.41 340 *eP* **P** **11 48 49.1 +0.5**
ARCES ARCESS Array B 85.41 340 P **P** **11 48 49.1 +0.5**
comp=Z,13nm,0.4s,baz=103,slow=4.5,SNR=140
ARCES ARCESS Array B 85.41 340 *eP* **P** **11 48 49.2 +0.6**
ARE0 ARCESS Array S 85.41 340 *eP* **P** **11 48 49.1 +0.5**
comp=Z,35nm,1.1s
OKC Ostrava-Krasne 85.42 320 *eP* **P** **11 48 50.6 +1.5**
OKC Ostrava-Krasne 85.42 320 *eP* **P** **11 48 50.6 +1.5**
BLY Banja Luka 85.53 315 *eP* **P** **11 48 51.0 +1.3**
comp=Z,16nm,0.8s
HEF Hetta 85.78 339 *eP* **P** **11 48 50.8 +0.3**
MORC Moravsky Berou 85.81 320⇑ *iP* **P** **11 48 52.4 +1.3**
MORC Moravsky Berou 85.81 320 *eP* **P** **11 48 52.3 +1.3**
comp=Z,38nm,0.7s
MORC Moravsky Berou 85.81 320 P **P** **11 48 52.4 +1.3**
MODS Modra-Piesok 85.83 318 *eP* **P** **11 48 52.3 +1.1**
MODS Modra-Piesok 85.83 318 *eP* **P** **11 48 52.3 +1.1**
DPC Dobruska-Polom 86.65 320 *eP* **P** **11 48 57.0 +1.8**
DPC Dobruska-Polom 86.65 320 *eP* **P** **11 48 57.0 +1.8**
KSP Ksiaz 86.71 321 *eP* **P** **11 48 57.6 +2.2**
KSP Ksiaz 86.71 321 *eP* **P** **11 48 57.6 +2.2**
CONA Conrad Observa 86.73 318 *i* P **P** **11 48 56.4 +0.7**
comp=Z,5.9nm,0.8s
ARSA Arzberg 86.91 317 *i* P **P** **11 48 57.7 +1.3**
comp=Z,7.6nm,0.9s
KIF Kilpisjarvi 86.93 339 *eP* **P** **11 48 56.4 +0.4**
BOJS Bojanci 86.96 315 *i* P **P** **11 48 57.9 +1.2**
PERS Pernice 87.14 317 *i* P **P** **11 48 59.0 +1.3**
SOKA Soboth 87.20 317 *eP* **P** **11 48 59.1 +1.2**
comp=Z,13nm,0.9s
VISS Visnje 87.27 316 *i* P **P** **11 48 59.3 +1.1**
GOPC GO Pecny, Ondr 87.60 320 *eP* **P** **11 49 01.2 +1.5**
GOPC GO Pecny, Ondr 87.60 320 *eP* **P** **11 49 01.2 +1.5**
TRO Tromso 87.69 340 *eP* **P** **11 48 59.5 -0.2**
TRO IAmb IAmb 11 49 00.6
comp=Z,11nm,0.7s
PRU Pruhonice 87.76 320 *eP* **P** **11 49 01.9 +1.4**
PRU Pruhonice 87.76 320 *eP* **P** **11 49 01.9 +1.4**
MOA Molln 87.80 318 *i* P **P** **11 49 01.8 +1.1**
comp=Z,5.6nm,0.9s
JAVS Javornik 87.82 316 *i* P **P** **11 49 01.7 +0.8**
MYKA Terra Mystica 88.15 317 *i* PcP **PcP** **11 49 03.7 -0.5**
comp=Z,3.6nm,0.5s
BRG Berggiesshubel 88.20 321 *eP* **P** **11 49 03.9 +1.4**
BRG pmax pmax
comp=Z,14nm,0.9s
GEA0 GERESS Array S 88.23 319 *eP* **P** **11 49 04.0 +1.1**
GEC2 GERESS Array S 88.24 319 *eP* **P** **11 49 04.1 +1.2**
comp=Z,41nm,1.6s
GEC2 GERESS Array S 88.24 319 *eP* **P** **11 49 04.1 +1.2**
GEC2 pmax pmax
comp=Z,41nm,1.6s
GERES GERESS Array B 88.24 319 P **P** **11 49 04.1 +1.2**
comp=Z,4.7nm,0.7s,baz=84,slow=4.2,SNR=29
GERES pP **pP** **11 49 30.4 +0.3**
comp=Z,1.8nm,0.7s,baz=63,slow=3.3,SNR=3.4
KHC Kasperske Hory 88.33 319 *eP* **P** **11 49 04.4 +1.2**
KHC Kasperske Hory 88.33 319 *eP* **P** **11 49 04.4 +1.2**
comp=Z,2.1nm,0.8s
KHC Kasperske Hory 88.33 319 *eP* **P** **11 49 04.4 +1.2**
KBA Koelnbreinsper 88.38 317 *eP* **P** **11 49 03.7 0.0**
comp=Z,8.3nm,1.3s
CLL Collm 88.81 321 *i* P **P** **11 49 06.5 +1.1**
comp=Z,16nm,1.2s
CLL *e* 11 49 11.0
CLL *e*pP **pP** **11 49 31.0 -1.6**
CLL Collm 88.81 321 *eP* **P** **11 49 06.5 +1.1**
comp=Z,12nm,1.0s
CLL Collm 88.81 321 *i* P **P** **11 49 06.5 +1.1**
CLL *e**PP **pP** **11 49 31.0 -1.6**
CLL pmax pmax
comp=Z,16nm,1.2s
STEI Steigen 88.81 338 *eP* **P** **11 49 05.7 +0.7**
STEI IAmb IAmb 11 49 06.2
comp=Z,41nm,0.6s
HFS Hagfors 88.91 330 P **P** **11 49 06.2 +0.5**
comp=Z,6.3nm,0.8s,baz=127,slow=2.2,SNR=9.0
MOR8 Moi Rana 88.98 336 *eP* **P** **11 49 06.2 +0.3**
MOR8 IAmb IAmb 11 49 07.2
comp=Z,15nm,0.8s
NKC Novy Kostel 89.12 320 *eP* **P** **11 49 08.7 +1.8**
NKC Novy Kostel 89.12 320 *eP* **P** **11 49 08.7 +1.8**
LOF Lofoten 89.47 338 *eP* **P** **11 49 08.3 +0.3**
LOF IAmb IAmb 11 49 10.6
comp=Z,282nm,1.9s
SPA0 Spitsbergen Ar 89.51 348 *eP* **P** **11 49 07.8 -0.4**
SPA0 Spitsbergen Ar 89.51 348 *eP* **P** **11 49 07.8 -0.4**
SPA0 IAmb IAmb 11 49 08.1
comp=Z,28nm,0.8s
SPITS Spitsbergen Ar 89.51 348 P **P** **11 49 07.6 -0.5**
comp=Z,15nm,0.5s,baz=115,slow=6.5,SNR=38
SPITS LR LR 12 34 45.4
comp=Z,26nm,18.9s,baz=200,slow=39
KONS Konsvik 89.54 336 *eP* **P** **11 49 09.7 +1.3**
KONS IAmb IAmb 11 49 10.6
comp=Z,15nm,0.9s
WTTA Wattenberg 89.55 317 *i* P **P** **11 49 09.7 +0.5**
comp=Z,13nm,0.9s,SNR=5.0
STOK Stokkvaagen 89.57 336 *eP* **P** **11 49 09.7 +1.2**
STOK IAmb IAmb 11 49 10.6
comp=Z,24nm,0.8s
WATA Walderalm 89.59 317 *eP* **P** **11 49 09.6 +0.2**
comp=Z,7.8nm,0.7s
MOTA Moosalm 89.92 317 *eP* **P** **11 49 11.3 +0.4**
comp=Z,11nm,0.7s
NSS Namsos 89.93 334 *eP* **P** **11 49 11.1 +0.8**
NSS IAmb IAmb 11 49 13.5
comp=Z,52nm,1.6s
GAMB Gambell 89.93 26 *eP* **P** **11 49 10.6 +0.3**
comp=Z,7.4nm,0.9s
NC303 NORSAR Array S 90.10 331 *eP* **P** **11 49 10.1 -1.1**
NC303 IAmb IAmb 11 49 11.8
comp=Z,128nm,2.0s
RETA Reutte 90.15 317 *i* PcP **PcP** **11 49 12.7 -0.3**
comp=Z,16nm,0.7s
FETA Feichten 90.17 317 *i* PcP **PcP** **11 49 13.1 -0.1**
comp=Z,6.0nm,0.7s,SNR=6.0
NB2 NORSAR Subarra 90.17 331 P **P** **11 49 11.7 +0.2**
comp=Z,2.0nm,0.8s,baz=93,slow=5.1
NB2 NORSAR Subarra 90.17 331 P **P** **11 49 11.7 +0.2**
baz=93,slow=5.1
NB200 NORSAR Array S 90.17 331 *eP* **P** **11 49 11.8 +0.2**
NOA NORSAR Array B 90.17 331 P **P** **11 49 11.8 +0.2**
comp=Z,2.9nm,0.8s,baz=92,slow=4.9,SNR=8.3
NC204 NORSAR Array S 90.39 331 *eP* **P** **11 49 12.4 -0.3**
NC204 IAmb IAmb 11 49 18.0
comp=Z,56nm,1.7s
FUORN Ofenpass-Fuorn 90.48 316 *eP* **P** **11 49 14.7 +1.1**
comp=Z,21nm,1.0s
DAVA Damuels 90.75 317 *i* PcP **PcP** **11 49 16.0 +0.3**
comp=Z,19nm,0.8s
KEST Kesra 91.09 306 P **P** **11 49 19.1 +2.6**
comp=Z,19nm,0.9s,baz=132,slow=3.3,SNR=12
KEST Kesra 91.09 306 *eP* **P** **11 49 19.1 +2.6**
comp=Z,16nm,0.8s
BFO Black Forest 91.79 318 *eP* **P** **11 49 20.4 +1.0**
comp=Z,9.9nm,1.0s
BFO Black Forest 91.79 318 *i* P **P** **11 49 18.1 -1.3**
COLD Coldfoot 98.30 22 *eP* Pdif 11 49 49.7 +1.1
comp=Z,3.4nm,1.0s
TORD Torodi Ar. Bea 98.37 283 P Pdif 11 49 51.5 +1.3
comp=Z,0.3nm,0.9s,baz=99,slow=4.7,SNR=2.8
TORD LR LR 12 33 01.7
comp=Z,36nm,18.9s,baz=15,slow=34
TOA1 Torodi Ar. Sit 98.38 283 *eP* Pdif 11 49 51.5 +1.3
MLY Manley 98.75 24 *eP* Pdif 11 49 51.1 +0.3
comp=Z,15nm,1.7s
MCK McKinley 99.90 25 *e*Pdif **Pdif** **11 49 55.9 0.0**
comp=Z,12nm,0.9s
MCK McKinley 99.90 25 *eP* **Pdif** **11 49 55.9 0.0**
MCK pmax pmax
comp=Z,12nm,0.9s
ILAR Eielson Array 100.39 24 P **Pdif** **11 49 56.1 -1.9**
comp=Z,0.8nm,0.6s,baz=288,slow=4.1,SNR=19
ILAR PP **PP** **11 54 03.4 -2.0**
comp=Z,0.9nm,0.7s,baz=288,slow=7.4,SNR=6.8
ILAR PKKPbc **PKKPbc** **12 06 14.4 -2.2**
comp=Z,0.3nm,0.6s,baz=119,slow=1.1,SNR=3.9
ILB Eielson Array 100.39 24 *e*Pdif **Pdif** **11 49 56.3 -1.7**
INK Inuvik 103.52 18 Pdiff **Pdif** **11 50 11.0 -0.8**
comp=Z,2.4nm,0.9s,baz=0.3,slow=1.6,SNR=6.8
INK Inuvik 103.52 18 *e*Pdif **Pdif** **11 50 11.0 -0.8**
YKA Yellowknife Ar 113.22 17 Pdiff **Pdif** **11 50 57.4 +2.3**
comp=Z,0.2nm,0.8s,baz=327,slow=4.6,SNR=5.3
YKA PKKP **PKiKP** **11 54 47.2 -1.0**
comp=Z,0.7nm,0.8s,baz=326,slow=1.9,SNR=10
YKA PP **PP** **11 55 38.0 -1.0**
comp=Z,0.5nm,0.9s,baz=330,slow=8.3,SNR=4.7
YKA PKKP **PKKPdf** **12 05 58.4 +1.5**
comp=Z,0.5nm,0.9s,baz=141,slow=3.1,SNR=7.4
YKA Yellowknife Ar 113.22 17 P **Pdif** **11 50 57.4 +2.3**
YKA *i* 11 54 47.2
YKA 11 55 38.0
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.9s
EDM Edmonton 120.86 23 *e*PKPdf **PKPdf** **11 55 03.1 -0.2**
EDM Edmonton 120.86 23 *e*PKIKP **PKPdf** **11 55 03.1 -0.2**
FCC Fort Churchill 121.15 9 *e*PKPdf **PKPdf** **11 55 02.8 -0.7**
FCC Fort Churchill 121.15 9 *e*PKIKP **PKPdf** **11 55 02.8 -0.7**
B08A Colville Reser 121.71 30 *e*PKPdf **PKPdf** **11 55 03.8 -1.2**
D08A Wollman Farm, 122.79 31 *e*PKPdf **PKPdf** **11 55 07.9 +0.8**
E08A Dider Farm, El 123.09 31 *e*PKPdf **PKPdf** **11 55 08.7 +1.0**
FFC Flin Flon 123.30 15 *e*PKPdf **PKPdf** **11 55 07.3 -0.5**
FFC Flin Flon 123.30 15 *e*PKIKP **PKPdf** **11 55 07.3 -0.5**
YBH Yreka Blue Hor 123.95 38 PKP **PKPdf** **11 55 09.4 -0.2**
comp=Z,1.7nm,0.8s,baz=6.8,slow=2.8,SNR=4.9
F10A Beach Ranch, E 124.38 31 *e*PKPdf **PKPdf** **11 55 10.8 +0.5**
BMO Blue Mountains 125.10 32 *e*PKPdf **PKPdf** **11 55 10.4 -1.3**
BMO Blue Mountains 125.10 32 *e*PKIKP **PKPdf** **11 55 10.4 -1.3**
SCHQ Schefferville 125.11 351 PKP **PKPdf** **11 55 11.3 0.0**
comp=Z,2.7nm,0.6s,baz=63,slow=4.5,SNR=5.3
MOD Modoc Plateau 125.30 36 *e*PKPdf **PKPdf** **11 55 12.8 +0.5**
MSO Missoula 125.40 28 *e*PKPdf **PKPdf** **11 55 12.2 0.0**
J08A Circle Bar Ran 125.44 34 *e*PKPdf **PKPdf** **11 55 13.2 +0.7**
EGMT Eagleton 126.35 25 *e*PKPdf **PKPdf** **11 55 14.7 +0.7**
AFDM Forest Hills D 126.63 40 *e*PKPdf **PKPdf** **11 55 15.7 +0.9**
MFID Camas Ranch 126.85 32 *e*PKPdf **PKPdf** **11 55 16.2 +1.1**
BOZ Bozeman (W) 127.39 28 *e*PKPdf **PKPdf** **11 55 17.2 +1.0**
BOZ Bozeman (W) 127.39 28 *e*PKIKP **PKPdf** **11 55 17.2 +1.0**
BBGB Big Mountain B 127.92 42 *e*PKPpre PKPpre 11 55 08.4
YMR Madison River 128.40 28 *e*PKPdf **PKPdf** **11 55 17.3 -0.9**
NV01 Mina Array Sit 128.62 39 *e*PKPdf **PKPdf** **11 55 20.2 +1.4**
NVAR Mina Array Bea 128.62 39 PKP **PKPdf** **11 55 20.1 +1.3**
comp=Z,2.1nm,0.6s,baz=270,slow=1.9,SNR=13
MCID Moose Creek 128.65 29 *e*PKPpre PKPpre 11 55 08.9
YPP Pitchstone Pla 128.77 28 *e*PKPpre PKPpre 11 55 08.8
LAO LASA Array 128.85 23 *e*PKPdf **PKPdf** **11 55 19.8 +1.0**
ULM Lac du Bonnet 128.91 13 PKP **PKPdf** **11 55 18.4 -0.3**
comp=Z,6.9nm,0.7s,baz=347,slow=1.9,SNR=16
ULM Lac du Bonnet 128.91 13 *e*PKPdf **PKPdf** **11 55 18.7 0.0**
ULM Lac du Bonnet 128.91 13 *e*PKIKP **PKPdf** **11 55 18.7 0.0**
TPAW Teton Pass 129.29 29 *e*PKPdf **PKPdf** **11 55 21.0 +1.0**
REDW Red Top Meadow 129.43 29 *e*PKPdf **PKPdf** **11 55 21.7 +1.5**
HVU Hansel Valley 129.61 32 *e*PKPdf **PKPdf** **11 55 21.8 +1.3**
HVU Hansel Valley 129.61 32 *e*PKIKP **PKPdf** **11 55 21.8 +1.3**
R11A Troy Canyon, C 130.34 37 *e*PKPdf **PKPdf** **11 55 24.1 +2.0**
HWUT Hardware Ranch 130.36 31 *e*PKPdf **PKPdf** **11 55 23.3 +1.3**
DAC Darwin (Calif) 130.37 40 *e*PKPdf **PKPdf** **11 55 24.0 +1.8**
DAC Darwin (Calif) 130.37 40 *e*PKIKP **PKPdf** **11 55 24.0 +1.8**
PD31 Pinedale Array 130.50 29 *e*PKPdf **PKPdf** **11 55 23.0 +0.7**
PDAR Pinedale Array 130.50 29 PKP **PKPdf** **11 55 22.2 0.0**
comp=Z,1.5nm,0.6s,baz=203,slow=0.9,SNR=15
PDAR PP **PP** **11 57 38.0 +1.1**
comp=Z,2.2nm,1.1s,baz=300,slow=3.3,SNR=7.1
PDAR SKPbc **SKPab** **11 58 33.8 -2.8**
comp=Z,1.5nm,0.8s,baz=270,slow=1.5,SNR=7.2
PDAR Pinedale Array 130.50 29 *e*PKPdf **PKPdf** **11 55 22.6 +0.4**
DUG Dugway, Tooele 130.70 33 *e*PKPdf **PKPdf** **11 55 23.4 +0.8**
DUG Dugway, Tooele 130.70 33 *e*PKIKP **PKPdf** **11 55 23.4 +0.8**
NLU North Lily Min 131.27 33 *e*PKPdf **PKPdf** **11 55 25.7 +1.9**
RSSD Black Hills 131.84 23 *e*PKPdf **PKPdf** **11 55 25.4 +0.7**
RSSD Black Hills 131.84 23 *e*PKIKP **PKPdf** **11 55 25.4 +0.7**
K22A Casper 132.00 26 *e*PKPdf **PKPdf** **11 55 25.7 +0.6**
TMUT Trail Mountain 132.21 33 *e*PKPdf **PKPdf** **11 55 25.8 0.0**
P18A Preston Nutter 132.49 32 *e*PKPdf **PKPdf** **11 55 26.8 +0.6**
Q16A Castle Valley 132.50 33 *e*PKPdf **PKPdf** **11 55 28.3 +2.2**
LCMT Little Creek M 132.62 37 *e*PKPdf **PKPdf** **11 55 28.6 +2.3**
SRU San Rafael Swe 132.72 33 *e*PKPdf **PKPdf** **11 55 26.9 +0.4**
SRU San Rafael Swe 132.72 33 *e*PKIKP **PKPdf** **11 55 26.9 +0.4**
O20A White River Ci 133.14 30 *e*PKPdf **PKPdf** **11 55 27.3 0.0**
W13A Hualapai Mount 133.47 39 *e*PKPdf **PKPdf** **11 55 30.6 +2.5**
U15A North Rim 133.58 37 *e*PKPdf **PKPdf** **11 55 30.7 +2.4**
PV10 Paradox Valley 134.04 32 *e*PKPdf **PKPdf** **11 55 30.4 +1.2**
X16A Lo Mia Camp, P 135.44 38 *e*PKPdf **PKPdf** **11 55 34.6 +2.9**
W18A Petrified Fore 135.99 36 *e*PKPdf **PKPdf** **11 55 34.6 +1.9**
PLCA Paso Flores 137.77 191 SKPbc **SKPbc** **11 58 59.6 -0.8**
comp=Z,2.5nm,0.8s,baz=230,slow=3.3,SNR=7.1
ANMO Albuquerque 137.97 33 *e*PKPdf **PKPdf** **11 55 37.3 +0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ANMO	Albuquerque	137.97	33	ePKIKP	PKPdf	11 55 37.3	+0.9
KSU1	Kansas State U	138.95	20	ePKPdf	PKPdf	11 55 37.3	-0.5
MSTX	Muleshoe	140.67	31	ePKPdf	PKPdf	11 55 39.2	-2.1
OK021	N3530 Road, Sp	142.02	23	ePKPpre	PKPpre	11 55 38.5	
OK022	N3560 Road, Pr	142.10	23	ePKPpre	PKPpre	11 55 38.8	
WCI	Wyandotte Cave	142.31	8	ePKPpre	PKPpre	11 55 40.1	
WCI	Wyandotte Cave	142.31	8	ePKIKP	PKPpre	11 55 40.1	
HHAR	Hobbs	142.39	19	ePKPpre	PKPpre	11 55 40.2	
PBMO	Poplar Bluff	142.92	14	ePKPpre	PKPpre	11 55 41.5	
SLBS	Sierra La Lagu	143.05	50	ePKPdf	PKPbc	11 55 43.8	+0.9
V40A	Witts Springs	143.18	18	P	PKPbc	11 55 42.5	-0.3
	baz=338						
T46A	Princeton	143.21	11	P	PKPbc	11 55 42.5	-0.3
	baz=346						
ABTX	Abilene, Hawle	143.30	28	P	PKPbc	11 55 43.0	-0.2
	baz=326						
ABTX	Abilene, Hawle	143.30	28	ePKPdf	PKPbc	11 55 43.9	+0.7
V41A	Mountainview	143.39	17	P	PKPbc	11 55 42.8	-0.5
	baz=339						
T48A	Bowling Green	143.40	9	P	PKPab	11 55 42.5	+0.4
	baz=349						
T47A	Sharon Grove	143.40	10	P	PKPbc	11 55 42.8	-0.5
	baz=348						
V42A	Cord	143.59	16	P	PKPab	11 55 43.2	+0.3
	baz=340						
TX31	Lajitas Ar. Si	143.70	36	ePKPdf	PKPbc	11 55 45.2	+0.7
TXAR	Lajitas Array	143.70	36	PKP	PKPbc	11 55 44.8	+0.2
	comp=Z,8.3nm,0.6s,baz=290,slow=0.5,SNR=118						
TXAR				SKPbc	**SKPbc**	**11 59 15.6**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=289,slow=2.8,SNR=5.2						
WHAR	Wooly Hollow	143.81	17	ePKPpre	PKPpre	11 55 44.0	
U47A	Clarksville	143.90	10	P	PKPab	11 55 44.1	0.0
	baz=347						
W41B	Gary Mavity, V	143.94	17	P	PKPab	11 55 43.9	-0.3
	baz=339,SNR=8.1						
X39A	Fountain Ranch	143.94	20	P	PKPbc	11 55 44.9	0.0
	baz=335,SNR=40						
MIAR	Mount Ida	144.09	19	P	PKPbc	11 55 45.4	0.0
	baz=336,SNR=63						
MIAR	Mount Ida	144.09	19	ePKPdf	**PKPab**	**11 55 44.8**	**-0.1**
MIAR	Mount Ida	144.09	19	ePKIKP	**PKPab**	**11 55 44.8**	**-0.1**
WVT	Waverly	144.10	11	P	**PKPab**	**11 55 44.9**	**+0.1**
	baz=346						
HPIG		144.13	41	ePKPdf	PKPbc	11 55 46.6	+0.6
V45A	Humboldt	144.25	13	P	**PKPab**	**11 55 45.3**	**-0.1**
	baz=344						
UALR	University of	144.28	18	ePKPdf	PKPbc	11 55 46.0	+0.1
TZTN	Tazewell	144.29	5	P	**PKPab**	**11 55 45.6**	**0.0**
	baz=354						
V46A	Holladay	144.37	12	P	**PKPab**	**11 55 45.6**	**-0.2**
	baz=346						
X40A	Basin Creek Fa	144.39	19	P	**PKPab**	**11 55 46.0**	**0.0**
	baz=337,SNR=26						
W43A	Forest City	144.45	15	P	**PKPab**	**11 55 46.1**	**-0.1**
	baz=341						
V47A	Nunnelly	144.46	11	P	**PKPab**	**11 55 45.9**	**-0.3**
	baz=347						
V48A	Smith Brothers	144.67	10	P	**PKPab**	**11 55 46.5**	**-0.5**
	baz=348						
Y40A	Okolona	144.68	19	P	**PKPab**	**11 55 47.0**	**-0.1**
	baz=336,SNR=18						
X42A	Stuttgart	144.70	17	P	**PKPab**	**11 55 47.0**	**-0.1**
	baz=339,SNR=5.1						
W45A	Hickory Valley	144.76	13	P	**PKPab**	**11 55 47.1**	**-0.2**
	baz=344,SNR=20						
WHTX	Lake Whitney,	144.84	26	P	**PKPab**	**11 55 47.5**	**-0.3**
	baz=328						
WHTX	Lake Whitney,	144.84	26	ePKPbc	**PKPab**	**11 55 47.6**	**-0.2**
NCAT	North Carolina	144.92	360	ePKPbc	**PKPab**	**11 55 47.7**	**-0.2**
X43A	Marvell	144.94	16	P	PKPbc	11 55 48.2	+0.2
	baz=341,SNR=8.9						
W46A	Michie	144.96	12	P	**PKPab**	**11 55 47.4**	**-0.6**
	baz=345,SNR=37						
JCT	Junction City	144.97	31	P	**PKPab**	**11 55 48.5**	**+0.2**
	baz=324						
JCT	Junction City	144.97	31	ePKPbc	**PKPab**	**11 55 48.6**	**+0.2**
JCT	Junction City	144.97	31	ePKIKP	**PKPab**	**11 55 48.6**	**+0.2**
W47A	Westpoint	145.00	11	P	**PKPbc**	**11 55 47.8**	**-0.4**
	baz=346,SNR=76						
Y41A	Eaglette Beard	145.02	19	P	**PKPab**	**11 55 48.4**	**+0.1**
	baz=337,SNR=20						
WLAR	White Oak Lake	145.03	19	ePKPbc	**PKPdf**	**11 55 48.9**	**+0.1**
X44A	Crenshaw	145.15	15	P	**PKPbc**	**11 55 48.5**	**-0.2**
	baz=342,SNR=22						
TKL	Tuckaleechee C	145.15	6	PKPbc	**PKPbc**	**11 55 48.1**	**-0.6**
	comp=Z,81nm,0.6s,baz=314,slow=4.2,SNR=168						
TKL	Tuckaleechee C	145.15	6	ePKPbc	**PKPbc**	**11 55 48.3**	**-0.4**
TKL	Tuckaleechee C	145.15	6	ePKIKP	**PKPbc**	**11 55 48.3**	**-0.4**
PLAL	Pickwick Lake	145.17	12	ePKPbc	**PKPbc**	**11 55 47.8**	**-1.0**
W48A	Pulaski	145.23	10	P	**PKPbc**	**11 55 48.3**	**-0.6**
	baz=348,SNR=78						
CCAR	Cane Creek	145.25	17	ePKPbc	**PKPdf**	**11 55 49.4**	**+0.2**
Y42A	Garnett, Star	145.32	18	P	**PKPab**	**11 55 49.5**	**0.0**
	baz=339,SNR=8.6						
CPUP	Villa Florida	145.32	217	PKPbc	**PKPab**	**11 55 51.0**	**+1.3**
	comp=Z,4.6nm,0.9s,baz=126,slow=3.5,SNR=9.1						
CPUP	Villa Florida	145.32	217	ePKPdf	**PKPbc**	**11 55 47.8**	**-1.6**
OXF	Oxford	145.32	14	P	**PKPbc**	**11 55 48.8**	**-0.4**
	baz=343,SNR=21						
OXF	Oxford	145.32	14	ePKPbc	**PKPbc**	**11 55 49.0**	**-0.3**
OXF	Oxford	145.32	14	ePKIKP	**PKPbc**	**11 55 49.0**	**-0.3**
Z40A	Long Farm, Mag	145.33	20	P	**PKPab**	**11 55 49.6**	**+0.1**
	baz=336,SNR=10						
X45A	UM Field Stati	145.41	14	P	**PKPdf**	**11 55 49.0**	**-0.4**
	baz=343,SNR=20						
X46A	Booneville	145.47	13	P	**PKPdf**	**11 55 49.1**	**-0.4**
	baz=344,SNR=12						
Y43A	Makayla and Ka	145.50	16	P	**PKPab**	**11 55 50.2**	**+0.1**
	baz=340,SNR=8.9						
Z41A	Richland Creek	145.53	19	P	**PKPab**	**11 55 50.1**	**-0.1**
	baz=337,SNR=5.8						
Y44A	Strider, Charl	145.64	15	P	**PKPbc**	**11 55 50.4**	**+0.1**
	baz=342,SNR=9.8						
X47A	Russelville	145.66	12	P	**PKPdf**	**11 55 49.3**	**-0.6**
	baz=346,SNR=34						
Z42A	Norrel Spur, H	145.79	18	P	**PKPbc**	**11 55 50.8**	**+0.1**
	baz=338,SNR=13						
435B	Jarrell	145.80	28	P	**PKPbc**	**11 55 50.7**	**-0.2**
	baz=327						
140A	Cam and Jess,	145.83	21	P	**PKPab**	**11 55 51.2**	**-0.2**
	baz=335						
KMSC	Kings Mountain	145.83	2	P	**PKPdf**	**11 55 50.3**	**+0.1**
	baz=357,SNR=19						
KMSC	Kings Mountain	145.83	2	ePKPdf	**PKPbc**	**11 55 50.6**	**-0.2**
X48A	Hartselle	145.88	11	P	**PKPdf**	**11 55 50.2**	**-0.1**
	baz=347,SNR=31						
BG3	Lake Jocassee	145.88	4	ePKPdf	**PKPbc**	**11 55 50.9**	**-0.1**
Y45A	Yeager Farm, C	145.91	14	P	**PKPbc**	**11 55 51.0**	**-0.1**
	baz=343,SNR=21						
X49A	Woodville	145.95	10	P	**PKPbc**	**11 55 50.8**	**-0.3**
	baz=348,SNR=49						
Y46A	Houston	146.06	13	P	**PKPdf**	**11 55 50.9**	**+0.3**
	baz=344,SNR=25						
Z43A	Armstrong Fami	146.06	17	P	**PKPbc**	**11 55 51.4**	**-0.1**
	baz=339						
X50A	Fort Payne	146.11	9	P	**PKPdf**	**11 55 50.9**	**+0.2**
	baz=350,SNR=14						
PAULI	Pauline	146.13	3	ePKPdf	**PKPbc**	**11 55 51.2**	**-0.5**
NATX	Nacogdoches	146.21	23	P	**PKPbc**	**11 55 51.9**	**-0.1**
	baz=333						
NATX	Nacogdoches	146.21	23	ePKPdf	**PKPab**	**11 55 52.5**	**-0.3**
Z44A	Pea Ridge, Bel	146.23	16	P	**PKPbc**	**11 55 52.2**	**+0.2**
	baz=341						
240A	Hunter Patters	146.30	22	P	**PKPbc**	**11 55 52.5**	**+0.2**
	baz=334						
Z45A	Winona	146.34	15	P	**PKPbc**	**11 55 52.3**	**0.0**
	baz=342,SNR=5.1						
Y48A	Jasper	146.38	11	P	**PKPdf**	**11 55 51.7**	**+0.6**
	baz=347,SNR=22						
142A	Monroe	146.46	19	P	**PKPbc**	**11 55 53.0**	**+0.2**
	baz=338						
143A	Socs Landing,	146.49	18	P	**PKPbc**	**11 55 53.0**	**+0.1**
	baz=339,SNR=11						
Y49A	Blount Mountai	146.57	10	P	**PKPbc**	**11 55 52.6**	**-0.5**
	baz=348,SNR=29						
241A	Mo Tay, Goldon	146.62	20	P	**PKPbc**	**11 55 53.4**	**+0.2**
	baz=336						
Y50A	Piedmont	146.65	9	P	**PKPbc**	**11 55 52.6**	**-0.7**
	baz=349,SNR=15						
JSC	Jenkinsville	146.69	2	ePKPdf	**PKPbc**	**11 55 53.2**	**-0.2**
JSC	Jenkinsville	146.69	2	ePKP2	**PKPbc**	**11 55 53.2**	**-0.2**
HODGE	Hodges	146.69	4	ePKPdf	**PKPbc**	**11 55 53.1**	**-0.3**
Z46A	Louisville	146.69	14	P	**PKPbc**	**11 55 53.5**	**+0.1**
	baz=343,SNR=13						
Z48A	Northport	146.83	12	P	**PKPbc**	**11 55 53.0**	**-0.8**
	baz=346,SNR=10						
144A	Alexander Plac	146.84	16	P	**PKPbc**	**11 55 54.0**	**+0.2**
	baz=340						
242A	Grayson	146.84	19	P	**PKPbc**	**11 55 54.1**	**+0.2**
	baz=337						
Z47A	Carrollton	146.89	13	P	**PKPbc**	**11 55 53.5**	**-0.5**
	baz=345,SNR=10						
833A	Chaparral WMA,	146.90	33	P	**PKPbc**	**11 55 54.6**	**+0.4**
	baz=322						
145A	Houston Renfro	147.00	16	P	**PKPbc**	**11 55 54.8**	**+0.5**
	baz=341,SNR=12						
341A	Kurthwood	147.15	21	P	**PKPbc**	**11 55 54.9**	**+0.2**
	baz=335						
146A	Union	147.20	14	P	**PKPbc**	**11 55 55.2**	**+0.4**
	baz=343,SNR=7.8						
Z49A	Columbiana	147.20	10	P	**PKPbc**	**11 55 54.4**	**-0.5**
	baz=348,SNR=18						
VBMS	Vicksburg	147.20	17	P	**PKPbc**	**11 55 55.2**	**+0.4**
	baz=340						
VBMS	Vicksburg	147.20	17	ePKPbc	**PKPbc**	**11 55 55.5**	**+0.6**
243A	Waterproof	147.22	18	P	**PKPbc**	**11 55 55.2**	**+0.2**
	baz=338						
Z50A	Ashland	147.24	9	P	**PKPbc**	**11 55 54.5**	**-0.5**
	baz=349,SNR=11						
LRAL	Lakeview Retre	147.27	11	P	**PKPbc**	**11 55 54.4**	**-0.6**
	baz=347,SNR=9.3						
LRAL	Lakeview Retre	147.27	11	ePKPdf	**PKPbc**	**11 55 54.5**	**-0.6**
LRAL				ePKPbc	**PKPab**	**11 55 56.5**	**-0.4**
244A	Avery, Jackson	147.32	17	P	**PKPbc**	**11 55 55.4**	**+0.3**
	baz=340						
147A	Livingston	147.35	13	P	**PKPbc**	**11 55 55.2**	**-0.1**
	baz=344,SNR=13						
GOGA	Godfrey	147.41	6	P	**PKPbc**	**11 55 55.3**	**-0.1**
	baz=353,SNR=13						
GOGA	Godfrey	147.41	6	ePKPbc	**PKPbc**	**11 55 55.5**	**+0.1**
GOGA	Godfrey	147.41	6	ePKP2	**PKPbc**	**11 55 55.5**	**+0.1**
342A	Flagon Creek P	147.41	20	P	**PKPbc**	**11 55 55.8**	**+0.3**
	baz=336						
148A	Greensboro	147.53	12	P	**PKPbc**	**11 55 55.6**	**-0.2**
	baz=346,SNR=5.6						
245A	Little AP, Sta	147.55	16	P	**PKPbc**	**11 55 56.3**	**+0.4**
	baz=341						
343A	Vidalia	147.73	19	P	**PKPbc**	**11 55 56.9**	**+0.6**
	baz=338						
344A	Westbrook Farm	147.85	18	P	**PKPbc**	**11 55 57.4**	**+0.7**
	baz=339						
150A	Eclectic	147.86	10	P	**PKPbc**	**11 55 56.3**	**-0.4**
	baz=348,SNR=8.2						
247A	Quitman	147.86	14	P	**PKPbc**	**11 55 57.2**	**+0.5**
	baz=343						
248A	Dixon Mills	148.03	13	P	**PKPbc**	**11 55 57.4**	**+0.3**
	baz=345						
151A	Opelika	148.05	9	P	**PKPbc**	**11 55 56.9**	**-0.3**
	baz=350,SNR=13						
443A	Delano Plantat	148.16	20	P	**PKPbc**	**11 55 58.4**	**+1.0**
	baz=337						
345A	Thompson Farm,	148.20	17	P	**PKPbc**	**11 55 58.1**	**+0.5**
	baz=340						
249A	Camden	148.27	12	P	**PKPbc**	**11 55 58.1**	**+0.3**
	baz=346						
346A	Big Creek Wild	148.28	16	P	**PKPbc**	**11 55 58.2**	**+0.4**
	baz=342						
250A	Grady	148.43	10	P	**PKPbc**	**11 55 58.3**	**+0.1**
	baz=348						
251A	Midway	148.46	9	P	**PKPbc**	**11 55 58.6**	**+0.4**
	baz=349						
347A	Saraland	148.50	14	P	**PKPbc**	**11 55 58.9**	**+0.5**
	baz=343						
444A	Pine Grove	148.54	18	P	**PKPbc**	**11 55 59.2**	**+0.7**
	baz=339						
348A	Jackson	148.64	13	P	**PKPbc**	**11 55 59.4**	**+0.7**
	baz=344						
445A	Amite	148.65	17	P	**PKPbc**	**11 55 59.6**	**+0.8**
	baz=340						
349A	Repton	148.86	12	P	**PKPbc**	**11 55 59.9**	**+0.7**
	baz=346						
350A	Dozier	148.96	11	P	**PKPbc**	**11 56 00.0**	**+0.5**
	baz=347						
ZAIG	Zacatecas	148.99	44	ePKPbc	**PKPbc**	**11 56 01.5**	**+1.2**
351A	Pinckard	149.23	10	P	**PKPbc**	**11 56 00.7**	**+0.5**
	baz=349						
TIGA	Tifton	149.35	6	P	**PKPbc**	**11 56 00.9**	**+0.4**
	baz=353						
TIGA	Tifton	149.35	6	ePKPdf	**PKPdf**	**11 55 55.3**	**-0.8**
TIGA				ePKPbc	**PKPbc**	**11 56 00.5**	**0.0**
TIGA				ePKPab	**PKPab**	**11 56 04.8**	**-0.5**
449A	Pace	149.43	12	P	**PKPbc**	**11 56 01.4**	**+0.7**
	baz=345						
LNIG	Linares	149.49	37	ePKPbc	**PKPbc**	**11 56 00.5**	**-0.6**
LNIG				ePKPab	**PKPab**	**11 56 04.9**	**-1.2**
450A	Crestview	149.51	11	P	**PKPbc**	**11 56 01.5**	**+0.6**
	baz=347						
452A	Marianna	149.72	9	P	**PKPbc**	**11 56 01.1**	**-0.3**
	baz=349						
453A	Whigham	149.84	8	P	**PKPbc**	**11 56 02.0**	**+0.2**
	baz=351						
454A	Quitman	150.06	6	P	**PKPbc**	**11 56 02.5**	**+0.2**
	baz=352						
455A	Stateville	150.09	5	P	**PKPbc**	**11 56 02.8**	**+0.5**
	baz=354						
456A	Hilliard	150.19	4	P	**PKPbc**	**11 56 03.2**	**+0.7**
	baz=356						
555A	McAlpin	150.72	5	P	**PKPbc**	**11 56 04.3**	**+0.5**
	baz=354						
556A	Lake Butler	150.88	4	P	**PKPbc**	**11 56 04.6**	**+0.3**
	baz=355						
557A	Orange Park	150.91	3	P	**PKPbc**	**11 56 04.8**	**+0.5**
	baz=356						
656A	Willston	151.50	5	P	**PKPbc**	**11 56 06.0**	**+0.3**
	baz=354						
JRQG	Juriquilla Cam	151.83	44	ePKPbc	**PKPbc**	**11 56 08.0**	**+1.0**
LPAZ	La Paz	159.41	214	PKP	**PKPdf**	**11 56 11.3**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=134,slow=1.2,SNR=10						
LPAZ				pPKP	**pPKPdf**	**11 56 39.4**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=58,slow=6.7,SNR=3.8						
LPAZ	La Paz	159.41	214	ePKPdf	**PKPdf**	**11 56 12.8**	**+1.6**
SDV	Santo Domingo	167.78	311	PKPab	**PKPab**	**11 57 26.2**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=359,slow=11,SNR=3.1						

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*CSEM **06** 11:38:53.7, 36°.44N×40°.26E, h16km, MD2.7, After DDA*
*DDA **06** 11:38:53.6, 36°.44N×40°.26E, h16km, Md2.7*
ISC 06 11:38:50.7±3.0**, 36°.2N**±0°.1×**40°.51E**±0°.06**, h20**km±9km**, n13, σ1s.31**/24**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MARD	Mardin	1.09	11	iP	**Pg**	**11 39 11.9**	**-0.1**
MARD				iS	**Sg**	**11 39 25.8**	**-0.6**
MAZI	Mazidag	1.22	358	ePG	**Pb**	**11 39 13.1**	**0.0**
MAZI				eSG	**Sg**	**11 39 29.7**	**-0.6**
SURC	SANLIURFA_SURC	1.65	293	iP	**Pb**	**11 39 20.4**	**-0.2**
SURC				iS	**Sn**	**11 39 39.3**	**-0.1**
SURC	SANLIURFA_SURC	1.65	293	P	**Pb**	**11 39 20.4**	**-0.2**
SURC				S	**Sn**	**11 39 39.3**	**-0.1**
DIYA	Diyarbakir	1.71	350	iP	**Pg**	**11 39 26.0**	**+2.4**
DIYA				iS	**Sg**	**11 39 43.0**	**-2.9**
DIYA	Diyarbakir	1.71	350	P	**Pg**	**11 39 26.0**	**+2.4**
DIYA				S	**Sg**	**11 39 43.0**	**-2.9**
DYBB	Diyarbakir	1.73	350	ePG	**Pn**	**11 39 20.7**	**+0.9**
BTMN	Batman	1.75	20	iP	**Pg**	**11 39 25.1**	**+0.6**
BTMN				iS	**Sg**	**11 39 47.5**	**+0.1**
BTMN	Batman	1.75	20	P	**Pg**	**11 39 25.1**	**+0.6**
BTMN				S	**Sg**	**11 39 47.5**	**+0.1**
URFA	Urfa	1.81	312	ePG	**Pn**	**11 39 19.9**	**-0.9**
URFA				eSG	**Sn**	**11 39 42.4**	**-0.8**
SRTM	Siirt_Merkez	2.08	32	iP	**Pg**	**11 39 30.3**	**-0.4**
SRTM				iS	**Sg**	**11 39 57.3**	**-0.5**
SRTM	Siirt_Merkez	2.08	32	P	**Pg**	**11 39 30.3**	**-0.4**
SRTM				S	**Sg**	**11 39 57.3**	**-0.5**
PTK	Pertek	2.79	342	ePG	**Pn**	**11 39 35.9**	**+1.4**

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*IDC **06** 11:45:10.8±0.8, 2°.00N×128°.81E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/57, mbtmp4.0/10, MS4.0/1, Ms1 4.0/1, ms1mx2.6/46, Error ellipse: s-maj=37.7km s-min=16.2km az=73.0*
*ISCJB **06** 11:45:14.5±0.6, 2°.0N±0°.1×128°.8E±0°.2, h40km, mb3.9/10, MS3.9/1, Error ellipse: s-maj=31.3km s-min=12.8km az=163.8*
ISC 06 11:45:16.5±0.8**, 2°.0N**±0°.1×**128°.9E**±0°.2**, h40**km**, n17, σ1s.18**/10**, mb4.0**/10**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	Warramunga Arr	22.44	166	P	**P**	**11 50 11.7**	**-0.5**
	2.5nm,0.6s,baz=341,slow=11,SNR=6.2						
ASAR	Alice Springs	25.96	169	P	**P**	**11 50 45.8**	**+0.3**
	1.0nm,0.8s,baz=358,slow=8.5,SNR=8.1						
CTA	Charters Tower	27.79	143	LR	LR	12 02 56.6	
	comp=Z,345nm,21.6s,baz=59,slow=38						
CMAR	Chiang Mai Arr	33.59	301	P	**P**	**11 51 53.4**	**+0.2**
	0.9nm,0.4s,baz=115,slow=6.4,SNR=5.9						
MJAR	Matsushiro Arr	35.47	13	P	**P**	**11 52 08.0**	**-1.2**
	1.5nm,0.7s,baz=183,slow=9.3,SNR=4.7						
STKA	Stephens Creek	35.77	161	P	**P**	**11 52 11.8**	**-0.1**
	3.2nm,0.7s,baz=345,slow=7.3,SNR=6.5						
H11S3	WAKE ISLAND Hy	40.55	64	T	T	12 36 13.1	
	baz=250,slow=76,SNR=6.2						
H11S2	WAKE ISLAND Hy	40.56	64	T	T	12 36 14.3	
	baz=250,slow=76,SNR=5.1						
H11S1	WAKE ISLAND Hy	40.57	64	T	T	12 36 17.0	
	baz=250,slow=76,SNR=4.3						
H11N1	WAKE ISLAND Hy	41.15	62	T	T	12 36 59.7	
	baz=249,slow=75						
H11N2	WAKE ISLAND Hy	41.16	62	T	T	12 37 02.1	
	baz=249						
H11N3	WAKE ISLAND Hy	41.16	62	T	T	12 37 01.5	
	baz=249,slow=75						
MKAR	Makanchi Array	60.20	325	P	**P**	**11 55 19.5**	**-1.0**
	0.4nm,0.4s,baz=122,slow=8.4,SNR=3.0						
SEY	Seymchan	63.28	12	P	**P**	**11 55 41.8**	**+0.9**
	1.6nm,0.8s,baz=204,slow=6.5,SNR=4.9						
KURBB	Kurchatov Arra	64.35	327	P	**P**	**11 55 46.5**	**-1.8**
	0.3nm,0.3s,baz=131,slow=5.4,SNR=3.7						
BVAR	Borovoye Array	69.94	327	P	**P**	**11 56 25.1**	**+1.5**
	1.9nm,0.9s,baz=111,slow=7.9,SNR=4.5						
ILAR	Eielson Array	85.77	25	P	**P**	**11 57 52.2**	**+0.8**
	0.2nm,0.7s,baz=248,slow=6.4,SNR=3.5						

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*NNC **06** 11:51:22.8±2.7, 40°.97N×71°.12E, h5km±27km, mb3.1, mpv2.7, Error ellipse: s-maj=40.1km s-min=18.7km az=123.0*
*KRNET **06** 11:51:27.5±0.1, 41°.27N×71°.27E, h7km, mb2.2*
ISC 06 11:51:25.7±1.9**, 41°.19N**±0°.06×**71°.20E**±0°.07**, h3**km±13km**, n12, σ0s.85**/22**, 17C-7D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ARK	Arkit	0.84	43	⇑eP	**Pg**	**11 51 41.6**	**-0.2**
	baz=47						
ARK				⇑eS	**Sg**	**11 51 52.3**	**-0.4**
	baz=47						
ARSB	Arslanbob	1.35	84	⇓iP	**Pg**	**11 51 52.2**	**+0.6**
	baz=87						
ARSB				⇓iS	**Sn**	**11 52 10.4**	**+0.3**
	baz=87						
TOKL	Toktogul	1.46	58	⇑eP	**Pb**	**11 51 53.6**	**0.0**
	baz=61						
TOKL				⇑iS	**Sb**	**11 52 13.0**	**+0.4**
	baz=61						
MNAS	Manas	1.63	36	⇓Pg	**Pb**	**11 51 56.1**	**-0.2**
	1.2nm,0.3s						
MNAS				⇑Lg	Lg	11 52 22.1	
	2.3nm,0.3s						
MNAS	Manas	1.63	36	⇑iP	**Pb**	**11 51 56.2**	**-0.2**
	baz=37						
MNAS				⇑iS	**Sb**	**11 52 18.3**	**+0.9**
	baz=37						
KK31	Karatay Array	1.98	345	⇓Pn	**Pn**	**11 51 59.9**	**-0.2**
	2.5nm,0.2s,baz=158,slow=14,SNR=5.3						
KK31				⇓Sn	**Sb**	**11 52 28.3**	**+0.8**
	8.1nm,0.5s,baz=164,slow=30,SNR=11						
AML	Almayashu	2.10	62	⇑iP	**Pb**	**11 52 04.7**	**+0.2**
	baz=64						
AML				⇑iS	**Sg**	**11 52 33.6**	**+0.6**
	baz=64						
SFK	Sufi-Kurgan	2.11	123	⇑eP	**Pg**	**11 52 05.8**	**-0.3**
	baz=26						
SFK				⇑iS	**Sg**	**11 52 34.1**	**+0.6**
	baz=26						
EKS2	Erkin-Say	2.42	52	⇑iP	**Pb**	**11 52 09.1**	**-0.9**
	baz=53						
EKS2				⇑iS	**Sb**	**11 52 40.7**	**+0.4**
	baz=53						
UCH	Uchtor	2.69	66	⇑iP	**Pb**	**11 52 13.8**	**-0.9**
	baz=68						
UCH				⇑iS	**Sb**	**11 52 48.4**	**+0.1**
	baz=68						
AAK	Ala-Archa	2.86	58	⇓Pg	**Pb**	**11 52 18.7**	**+1.4**
	1.1nm,0.3s						
AAK				⇓Lg	Lg	11 52 57.7	
	3.5nm,0.8s						
AAK	Ala-Archa	2.86	58	⇑iP	**Pb**	**11 52 15.4**	**-2.0**
	baz=59						
AAK				⇑iS	**Sb**	**11 52 51.3**	**-1.5**
	baz=59						

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*ISCJB **06** 12:04:17.9±0.5, 13°.06N±0°.07×51°.22E±0°.06, h16km, mb4.2/27, MS3.4/11, Error ellipse: s-maj=12.1km s-min=6.7km az=146.9*
*IDC **06** 12:04:17.1±0.7, 13°.12N×51°.30E, h0km, mb4.0/16, mb1 4.1/18, mb1mx3.8/63, mbtmp4.0/18, ML3.8/2, MS3.5/13, Ms1 3.4/13, ms1mx3.1/57, Error ellipse: s-maj=18.6km s-min=14.6km az=148.0*
*CSEM **06** 12:04:18.9, 13°.06N×51°.27E, h10km, mb4.3/11, After NEIC*
*NEIC **06** 12:04:18.9±0.4, 13°.06N×51°.27E, h10km, mb4.3/11, Error ellipse: s-maj=10.5km s-min=5.8km az=146.0*
ISC 06 12:04:19.8±0.6**, 13°.1N**±0°.1×**51°.19E**±0°.08**, h16**km**, n78, σ1s.33**/69**, mb4.2**/27**, MS3.5**/11**, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
DAMY	Dhamar	6.77	284	ePn	**Pn**	**12 05 59.3**	**+0.5**
DAMY	Dhamar	6.77	284	ePn	**Pn**	**12 05 59.3**	**+0.5**
ATD	Arta Tunnel	8.29	260	Pn	**Pn**	**12 06 19.5**	**0.0**
	2.6nm,0.3s,baz=41,slow=20,SNR=3.3						
ATD				LR	LR	12 08 45.6	
	comp=Z,264nm,18.6s,baz=60,slow=32						
ATD	Arta Tunnel	8.29	260	ePn	**Pn**	**12 06 21.5**	**+2.0**
ATD				eSn	**Sn**	**12 07 49.0**	**-3.9**
WSAR	Wadi Sarin	12.34	34	LR	LR	12 11 36.4	
	comp=Z,271nm,19.8s,baz=238,slow=36						
KMBO	Kilima Mbogo	19.75	225	P	**Pn**	**12 08 50.2**	**-0.6**
	0.1nm,0.3s,baz=38,slow=17,SNR=2.8						
MBAR	Mbarara	24.40	238	eP	**P**	**12 09 40.0**	**+2.1**
	8.6nm,1.0s						
GYB5	ALIBECK ARRAY	25.51	13	eP	**P**	**12 09 47.6**	**0.0**
	5.2nm,0.9s						
GYB1	ALIBECK ARRAY	25.52	13	eP	**P**	**12 09 51.3**	**+3.6**
	6.6nm,0.9s						
GYA1	ALIBECK ARRAY	25.52	13	eP	**P**	**12 09 51.1**	**+3.5**
	7.6nm,1.0s						
GYB4	ALIBECK ARRAY	25.52	13	eP	**P**	**12 09 51.3**	**+3.7**
	7.4nm,0.9s						
GEYT	Alibeck	25.52	13	P	**P**	**12 09 47.2**	**-0.4**
	2.2nm,0.7s,baz=204,slow=11,SNR=4.6						
GEYT				LR	LR	12 21 46.6	
	comp=Z,204nm,18.0s,baz=165,slow=41						
GYA0	ALIBECK ARRAY	25.52	13	eP	**P**	**12 09 47.8**	**+0.1**
	5.5nm,0.8s						
GYA0	ALIBECK ARRAY	25.52	13	eP	**P**	**12 09 47.8**	**+0.1**
	5.5nm,0.8s						
GYA0B	ALIBECK ARRAY	25.52	13	eP	**P**	**12 09 47.6**	**-0.1**
	5.9nm,0.9s						
GYA0B	ALIBECK ARRAY	25.52	13	eP	**P**	**12 09 47.6**	**-0.1**
	5.9nm,0.9s						
H08N2	Diego Garcia H	27.54	133	T	T	12 36 33.7	
	baz=315,slow=76						
H08N3	Diego Garcia H	27.55	133	T	T	12 36 34.7	
	baz=315						
H08N1	Diego Carcia H	27.57	133	T	T	12 36 37.9	
	baz=315,slow=76						
GNI	Garni	27.57	349	LR	LR	12 22 46.3	
	comp=Z,154nm,20.8s,baz=171,slow=40						
BRTR	Keskin Array B	30.73	333	LR	LR	12 23 33.0	
	comp=Z,40nm,21.9s,baz=80,slow=38						
KBZ	Khabaz	31.38	348	LR	LR	12 25 23.4	
	comp=Z,196nm,20.8s,baz=148,slow=40						
OPO	Ambohidratompo	31.68	187	LR	LR	12 21 44.2	
	comp=Z,86nm,21.0s,baz=360,slow=33						
KK07	Karatay Array	34.25	26	eP	**P**	**12 11 05.8**	**+0.8**
KK08	Karatay Array	34.26	25	eP	**P**	**12 11 06.6**	**+1.5**
KK08	Karatay Array	34.26	25	eP	**P**	**12 11 06.6**	**+1.5**
KK03	Karatay Array	34.26	25	eP	**P**	**12 11 06.1**	**+0.9**
KK06	Karatay Array	34.27	26	eP	**P**	**12 11 05.7**	**+0.5**
KK01	Karatay Array	34.27	25	eP	**P**	**12 11 06.4**	**+1.2**
KK02	Karatay Array	34.27	25	eP	**P**	**12 11 06.5**	**+1.3**
KK31	Karatay Array	34.27	25	eP	**P**	**12 11 06.7**	**+1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKAR	**Karatay Array**	**34.27**	**25**	*e*P	**P**	**12 11 06.9**	**+1.7**
KK04	**Karatay Array**	**34.27**	**25**	*e*P	**P**	**12 11 06.4**	**+1.2**
ABKAR	**Akbulak array**	**36.80**	**10**	*e*P	**P**	**12 11 27.9**	**+1.0**
	17nm,0.8s						
ABKAR	**Akbulak array**	**36.80**	**10**	*e*P	**P**	**12 11 27.9**	**+1.0**
	17nm,0.8s						
AKTO	**Aktyubinsk**	**37.68**	**7**	P	**P**	**12 11 33.2**	**-1.1**
	0.6nm,0.5s,baz=208,slow=13,SNR=2.8						
MLR	**Muntele Rosu**	**38.77**	**331**	LR	LR	12 28 58.7	
	comp=Z,15nm,21.8s,baz=135,slow=38						
MAKZ	**Makanchi**	**42.42**	**31**	*e*P	**P**	**12 12 13.3**	**-0.4**
	2.3nm,0.8s						
MAKZ	**Makanchi**	**42.42**	**31**	*e*P	**P**	**12 12 13.3**	**-0.4**
	2.3nm,0.8s						
MK01	**Makanchi Array**	**42.56**	**32**	*e*P	**P**	**12 12 14.3**	**-0.6**
MK01	**Makanchi Array**	**42.56**	**32**	*e*P	**P**	**12 12 14.3**	**-0.6**
MK31	**Makanchi Array**	**42.57**	**32**	*e*P	**P**	**12 12 14.4**	**-0.6**
MK31	**Makanchi Array**	**42.57**	**32**	*e*P	**P**	**12 12 14.4**	**-0.6**
MK32	**Makanchi Array**	**42.57**	**32**	*e*P	**P**	**12 12 14.4**	**-0.5**
MK32	**Makanchi Array**	**42.57**	**32**	*e*P	**P**	**12 12 14.4**	**-0.5**
MKAR	**Makanchi Array**	**42.57**	**32**	P	**P**	**12 12 14.4**	**-0.5**
	1.1nm,0.5s,baz=220,slow=8.5,SNR=18						
MKAR				LR	LR	12 31 11.4	
	comp=Z,36nm,19.2s,baz=213,slow=38						
MKAR	**Makanchi Array**	**42.57**	**32**	*e*P	**P**	**12 12 14.4**	**-0.5**
	14nm,0.6s						
MKAR	**Makanchi Array**	**42.57**	**32**	*e*P	**P**	**12 12 14.4**	**-0.5**
	14nm,0.6s						
BVAR	**Borovoye Array**	**42.70**	**17**	P	**P**	**12 12 15.3**	**-0.6**
	0.7nm,0.5s,baz=215,slow=6.5,SNR=4.7						
BVAR				LR	LR	12 32 48.8	
	comp=Z,52nm,18.0s,baz=198,slow=40						
TAM	**Tamanrasset**	**44.36**	**289**	*e*P	**P**	**12 12 30.7**	**+0.9**
	3.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**46.17**	**77**	P	**P**	**12 12 43.1**	**-1.0**
	1.9nm,0.7s,baz=274,slow=9.1,SNR=14						
GERES	**GERESS Array B**	**47.20**	**327**	P	**P**	**12 12 51.7**	**-0.2**
	0.4nm,0.4s,baz=139,slow=7.7,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**48.14**	**276**	*e*P	**P**	**12 13 00.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**48.14**	**276**	P	**P**	**12 13 00.3**	**+0.8**
	6.5nm,0.7s,baz=87,slow=7.6,SNR=44						
TOA1	**Torodi Ar. Sit**	**48.14**	**276**	*e*P	**P**	**12 13 00.3**	**+0.8**
BOSA	**Boshof**	**48.43**	**211**	P	**P**	**12 13 02.8**	**+1.1**
	2.8nm,0.9s,baz=42,slow=15,SNR=2.3						
BOSA				LR	LR	12 32 52.6	
	comp=Z,50nm,20.4s,baz=32,slow=35						
ZALV	**Zalesovo Beam**	**48.64**	**26**	P	**P**	**12 13 01.0**	**-1.9**
	1.6nm,0.6s,baz=231,slow=8.4,SNR=8.8						
ZALV	**Zalesovo Beam**	**48.64**	**26**	*e*P	**P**	**12 13 01.1**	**-1.7**
ZALV	**Zalesovo Beam**	**48.64**	**26**	*e*P	**P**	**12 13 01.1**	**-1.7**
ZAA1	**Zalesovo Array**	**48.65**	**26**	*e*P	**P**	**12 13 01.0**	**-1.9**
ZAA1	**Zalesovo Array**	**48.65**	**26**	*e*P	**P**	**12 13 01.0**	**-1.9**
FIA0	**FINESS Array S**	**51.61**	**345**	*e*P	**P**	**12 13 24.9**	**-0.4**
FIA0	**FINESS Array S**	**51.61**	**345**	*e*P	**P**	**12 13 24.9**	**-0.4**
FINES	**FINESS Array B**	**51.61**	**345**	P	**P**	**12 13 24.9**	**-0.4**
	1.1nm,0.7s,baz=131,slow=8.6,SNR=4.2						
FINES				LR	LR	12 40 52.9	
	comp=Z,42nm,18.9s,baz=144,slow=43						
KOWA	**Kowa**	**53.52**	**278**	P	**P**	**12 13 40.0**	**-0.2**
	1.8nm,0.7s,baz=90,slow=4.0,SNR=3.2						
HFS	**Hagfors**	**54.45**	**338**	P	**P**	**12 13 45.5**	**-0.7**
	1.2nm,0.5s,baz=139,slow=9.6,SNR=4.8						
ES19	**SONSECA Array**	**55.03**	**309**	*e*P	**P**	**12 13 50.5**	**-0.3**
ESDC	**Sonseca Array**	**55.07**	**309**	P	**P**	**12 13 51.7**	**+0.5**
	3.2nm,0.6s,baz=94,slow=6.4,SNR=21						
NOA	**NORSAR Array B**	**55.97**	**338**	LR	LR	12 42 04.9	
	comp=Z,30nm,18.2s,baz=115,slow=40						
SONA0	**Songino Array**	**57.28**	**41**	*e*P	**P**	**12 14 05.8**	**-1.1**
SONM	**Songino Array**	**57.28**	**41**	P	**P**	**12 14 05.8**	**-1.1**
	0.4nm,0.6s,baz=235,slow=8.3,SNR=3.4						
EKA	**Eskdalemuir Ar**	**59.41**	**327**	P	**P**	**12 14 20.8**	**-0.7**
	1.0nm,0.5s,baz=112,slow=7.0,SNR=3.8						
WR1	**Warramunga Arr**	**88.10**	**111**	*e*P	**P**	**12 17 09.2**	**-1.2**
WRA	**Warramunga Arr**	**88.10**	**111**	P	**P**	**12 17 09.2**	**-1.2**
	0.9nm,0.8s,baz=298,slow=4.1,SNR=17						
ASAR	**Alice Springs**	**88.65**	**115**	P	**P**	**12 17 12.0**	**-0.9**
	8.8nm,0.4s,baz=284,slow=4.9,SNR=7.2						
NV01	**Mina Array Sit**	**127.84**	**350**	*e*PKPdf	**PKPdf**	**12 23 26.5**	**+1.0**
NVAR	**Mina Array Bea**	**127.84**	**350**	PKP	**PKPdf**	**12 23 26.5**	**+1.0**
	0.6nm,0.6s,baz=45,slow=1.8,SNR=2.8						
TXAR	**Lajitas Array**	**131.36**	**330**	PKP	**PKPdf**	**12 23 32.5**	**+0.2**
	0.1nm,0.6s,baz=348,slow=1.6,SNR=2.8						

*ISCJB **06** 12:10:00.1±0.5, 30.°88N±0.°04×138.°81E±0.°09, h384km, mb3.4/10, Error ellipse: s-maj=10.3km s-min=5.7km az=0.1*
*IDC **06** 12:10:01.2±1.1, 30.°79N×138.°59E, h373km±13km, mb3.1/9, mb1 3.1/14, mb1mx3.0/63, mbtmp3.8/14, Error ellipse: s-maj=21.3km s-min=11.7km az=74.0*
*JMA **06** 12:10:04.1±0.3, 31.°29N×139.°12E, h409km±3km, M3.7*
ISC 06 12:10:01.0±0.7**, 30.°90N**±0.°07×**138.°9E**±0.°1**, h384**km**, n24, σ2.s12**/32**, mb3.4**/10**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.33**	**18**	P	**Pn**	**12 10 59.0**	**+1.4**
	29nm,0.3s,baz=173,slow=23,SNR=8.8						
JHJ				S	**S**	**12 11 45.2**	**+1.8**
	28nm,0.3s,baz=253,slow=19,SNR=6.2						
JHJ2	**Mitsune**	**2.33**	**19**	P	**Pn**	**12 11 00.7**	**+3.1**
JHJ2				*e*S	**S**	**12 11 44.8**	**+1.4**
JIE	**Ise**	**3.95**	**332**	P	**Pn**	**12 11 13.8**	**+2.3**
BSO3	**Boso 3**	**4.11**	**19**	P	**Pn**	**12 11 13.9**	**+1.2**
BSO3				S	**S**	**12 12 10.1**	**-0.9**
BSO1	**Boso 1**	**4.12**	**24**	P	**Pn**	**12 11 14.2**	**+1.7**
JCJ	**Chichijima**	**4.75**	**142**	P	**Pn**	**12 11 18.7**	**-0.9**
	6.2nm,0.3s,baz=301,slow=20,SNR=5.1						
JCJ				S	**S**	**12 12 20.5**	**-2.9**
	baz=270,slow=19						
JHU	**Hanno**	**4.95**	**3**	S	**S**	**12 12 24.3**	**-2.7**
JRY	**Ryogami san**	**5.10**	**360**	P	**Pn**	**12 11 24.4**	**+1.2**
JRY				*e*S	**S**	**12 12 26.9**	**-3.1**
JYT	**Yasato**	**5.42**	**11**	S	**S**	**12 12 32.3**	**-3.8**
JAG	**Ashikaga**	**5.53**	**4**	P	**Pn**	**12 11 27.7**	**0.0**
JAG				S	**S**	**12 12 33.9**	**-4.4**
MJAR	**Matsushiro Arr**	**5.66**	**354**	P	**Pn**	**12 11 29.9**	**+0.8**
	0.7nm,0.3s,baz=175,slow=12,SNR=8.8						
MJAR				S	**S**	**12 12 38.5**	**-2.4**
	0.2nm,0.3s,baz=156,slow=17,SNR=3.2						
JHO	**Hitachi**	**5.86**	**13**	P	**Pn**	**12 11 31.6**	**+0.3**
JHO				S	**S**	**12 12 40.7**	**-4.2**
KSRS	**Korea Array**	**11.21**	**309**	P	**Pn**	**12 12 31.8**	**-1.1**
	0.3nm,0.3s,baz=122,slow=11,SNR=4.1						
ASAJ	**Asahikawa**	**13.51**	**11**	P	**Pn**	**12 13 01.9**	**+2.2**
	0.2nm,0.3s,baz=170,slow=18,SNR=3.8						
SONM	**Songino Array**	**30.01**	**314**	P	**P**	**12 15 35.9**	**0.0**
	0.6nm,0.3s,baz=124,slow=7.6,SNR=6.5						
CMAR	**Chiang Mai Arr**	**38.18**	**261**	P	**P**	**12 16 44.0**	**-1.6**
	0.6nm,0.3s,baz=54,slow=9.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**44.76**	**317**	P	**P**	**12 17 37.7**	**-0.1**
	0.6nm,0.4s,baz=93,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**45.88**	**307**	P	**P**	**12 17 46.5**	**-0.1**
	0.7nm,0.3s,baz=90,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**50.74**	**186**	P	**P**	**12 18 23.8**	**+0.2**
	1.0nm,0.5s,baz=2.0,slow=7.7,SNR=26						
BVAR	**Borovoye Array**	**53.33**	**316**	P	**P**	**12 18 42.1**	**+0.2**
	2.1nm,0.5s,baz=97,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**54.47**	**186**	P	**P**	**12 18 51.1**	**+0.6**
	9.4nm,0.4s,baz=18,slow=9.8,SNR=9.7						
YKA	**Yellowknife Ar**	**70.16**	**28**	P	**P**	**12 20 35.5**	**+2.7**
	0.1nm,0.5s,baz=300,slow=6.0,SNR=3.2						
FINES	**FINESS Array B**	**73.27**	**332**	P	**P**	**12 20 51.7**	**+0.7**
	0.6nm,0.6s,baz=72,slow=4.5,SNR=3.6						
BRTR	**Keskin Array B**	**81.34**	**311**	P	**P**	**12 21 36.7**	**+0.7**
	0.6nm,0.7s,baz=14,slow=7.4,SNR=3.0						

GUC 06 12:13:16.5±0.6**, 35.°72S**×**73.°03W, h20**km±4km**, ML3.9, 2C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.46**	**155**	⇓*i*P	Pb	12 13 25.0	-0.9
COCH				*i* S	Sb	12 13 31.0	-1.1
GO05	**HualaæØ**	**1.14**	**52**	⇑*i*P	Pn	12 13 35.9	-1.4
GO05				*i* S	Sb	12 13 50.5	-1.4
CCHI	**Chillan**	**1.17**	**139**	⇓*i*P	Pn	12 13 36.3	-1.4
CCHI				*i* S	Sb	12 13 51.5	-1.2
LMEL	**Las Melosas**	**2.98**	**52**	*e*P	Pn	12 14 03.9	+1.1
LMEL				*i* S	Sn	12 14 38.9	+0.9
LMEL				IAML		12 14 50.7	
	comp=N,273nm,0.9s						
CLCH	**Cerro Calan**	**3.10**	**42**	⇑*i*P	Pn	12 14 04.8	+0.5
CLCH				*i* S	Sn	12 14 42.1	+1.3
CLCH				IAML		12 15 01.2	
	comp=N,405nm,0.9s						
FCH	**Farellones**	**3.28**	**44**	*e*P	Pn	12 14 07.9	+0.8
FCH				IAML		12 15 01.0	
	comp=N,155nm,0.6s						

*SOME **06** 12:14:00.6, 44.°62N×82.°08E, h10km*
*NNC **06** 12:14:00.8±1.6, 44.°67N×82.°18E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=21.7km s-min=3.3km az=116.0*
*ISCJB **06** 12:14:01.1±1.6, 44.°60N±0.°08×82.°2E±0.°1, h10km, Error ellipse: s-maj=17.3km s-min=6.6km az=39.6*
ISC 06 12:13:59.4±2.2**, 44.°61N**±0.°09×**82.°2E**±0.°1**, h10**km**, n8, σ1.s52**/15**, 4C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.77**	**262**	*e*P	**Pb**	**12 14 30.9**	**-1.1**
	16nm,0.2s						
DJR				*e*S	**Sb**	**12 14 53.0**	**-1.3**
	14nm,0.6s						
MK31	**Makanchi Array**	**2.18**	**1**	⇑P	**Pb**	**12 14 38.1**	**-0.8**
	6.1nm,0.2s,baz=181,slow=13,SNR=558						
MAKZ	**Makanchi**	**2.20**	**355**	⇑P	**Pb**	**12 14 38.1**	**-1.2**
	5.9nm,0.5s						
MAKZ				⇓S	**Sb**	**12 15 06.3**	**-0.3**
	7.3nm,0.3s						
PDGK	**Podgornoye**	**2.36**	**238**	⇑P	**Pb**	**12 14 40.6**	**-1.5**
	4.3nm,0.4s						
PDGK				⇑S	**Sb**	**12 15 12.1**	**+0.8**
	19nm,0.7s						
TDK	**Taldyqorghan**	**2.75**	**279**	*e*P	**Pb**	**12 14 48.3**	**-0.4**
	28nm,0.1s						
TDK				*e*S	**Sb**	**12 15 22.3**	**-0.2**
	52nm,0.2s						
MNBS	**Baschi**	**2.80**	**260**	*e*P	**Pn**	**12 14 45.8**	**+1.5**
	7.8nm,0.3s						
MNBS				*e*S	**Sn**	**12 15 18.1**	**-0.2**
	25nm,0.4s						
ARXS	**Arharly**	**3.18**	**264**	*e*P	**Pb**	**12 14 52.6**	**-3.5**
	6.3nm,0.4s						
ARXS				*e*S	**Sn**	**12 15 29.8**	**+2.2**
	20nm,0.4s						
CHKK	**Chushkaly**	**3.85**	**260**	*e*P	**Pb**	**12 15 06.8**	**-0.5**
	1.2nm,0.1s						
CHKK				*e*S	**Sb**	**12 15 54.5**	**+0.5**
	11nm,0.2s						

*IDC **06** 12:18:47.3±0.8, 6.°79N×73.°01W, h154km±17km, mb3.0/1, mb1 3.3/3, mb1mx2.9/45, mbtmp3.5/3, Error ellipse: s-maj=68.8km s-min=8.1km az=132.0*
*ISCJB **06** 12:18:48.0±0.8, 6.°81N±0.°04×73.°12W±0.°04, h147km±6km, mb3.2/1, Error ellipse: s-maj=7.3km s-min=5.6km az=33.8*
*RSNC **06** 12:18:49.6±0.8, 6.°77N×73.°14W, h142km±4km, ML3.0*
ISC 06 12:18:47.5±1.0**, 6.°82N**±0.°04×**73.°10W**±0.°05**, h153**km±7km**, n19, σ0.s80**/34**, 1C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**199**	⇓*i*P	**Pn**	**12 19 08.9**	**+0.4**
BARC				*e*S	**Sn**	**12 19 23.4**	**-1.2**
BARC				*i*		12 19 25.2	
	comp=Z,353nm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**38**	*e*P	**Pn**	**12 19 11.7**	**+1.1**
PAMC				*e*S	**Sn**	**12 19 28.1**	**-0.1**
BRRC	**Barranca, Sant**	**0.67**	**295**	⇑*i*P	**Pn**	**12 19 10.8**	**+0.7**
BRRC				*i*		12 19 11.1	
	comp=Z,185nm,0.1s						
BRRC				*e*S	**Sn**	**12 19 27.3**	**0.0**
RUSC	**La Rusia**	**0.92**	**179**	*e*P	**Pn**	**12 19 12.8**	**+0.3**
RUSC				*e*S	**Sn**	**12 19 30.7**	**-0.8**
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	*e*P	**Pn**	**12 19 15.6**	**-0.3**
PTBC				*e*S	**Sn**	**12 19 36.8**	**-1.0**
OCAC	**Ocana**	**1.43**	**351**	*e*P	**Pn**	**12 19 17.7**	**+1.0**
YOPC	**Yopal, Colombi**	**1.60**	**155**	*e*P	**Pn**	**12 19 19.4**	**+0.9**
YOPC				*e*S	**Sn**	**12 19 42.2**	**-0.1**
YOPC				*i*		12 19 47.7	
	comp=Z,67nm,0.8s						
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e*P	**Pn**	**12 19 21.6**	**+0.3**
ZARC				*e*S	**Sn**	**12 19 47.0**	**-0.2**
ZARC				*i*		12 19 52.8	
	comp=Z,147nm,0.3s						
NORC	**Norcasia**	**2.15**	**235**	*e*P	**Pn**	**12 19 25.0**	**+0.4**
NORC				*e*S	**Sn**	**12 19 52.6**	**-0.6**
CHIC	**Chingaza**	**2.26**	**196**	*e*P	**Pn**	**12 19 27.1**	**+0.7**
CHIC				*e*S	**Sn**	**12 19 55.5**	**-0.7**
CHIC				*i*		12 20 03.7	
	comp=Z,40nm,0.5s						
ROSC	**El Rosal**	**2.31**	**212**	P	**Pn**	**12 19 29.0**	**+2.2**
	comp=Z,5.8nm,0.3s,baz=108,slow=20,SNR=15						
ROSC				S	**Sn**	**12 19 57.5**	**+0.4**
	comp=Z,16nm,0.3s,baz=119,slow=21,SNR=7.9						
HELC	**Santa Helena**	**2.49**	**256**	*e*P	**Pn**	**12 19 29.9**	**+1.0**
HELC				*e*S	**Sn**	**12 20 00.9**	**0.0**
HELC				*i*		12 20 08.1	
	comp=Z,56nm,0.3s						
VILC	**Villavicencio,**	**2.75**	**192**	*e*P	**Pn**	**12 19 32.3**	**+0.3**
VILC				*e*S	**Sn**	**12 20 05.8**	**-0.6**
VILC				*i*		12 20 12.7	
	comp=Z,36nm,0.5s						
RREF	**El Recreo**	**2.93**	**230**	*e*P	**Pn**	**12 19 35.6**	**+0.9**
RREF				*e*S	**Sn**	**12 20 11.2**	**0.0**
RREF				*i*		12 20 17.2	
	comp=Z,59nm,0.4s						
TOLC	**Tolima**	**3.13**	**225**	*e*P	**Pn**	**12 19 37.4**	**+0.4**
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**12 19 38.5**	**+0.8**
	comp=Z,8.8nm,0.3s,baz=239,slow=12,SNR=44						
SDV				S	**Sn**	**12 20 15.1**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=253,slow=19,SNR=11						
PRAC	**Prado**	**3.56**	**210**	*e*P	**Pn**	**12 19 42.4**	**+0.2**
PRAC				*e*S	**Sn**	**12 20 24.0**	**-0.6**
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**12 28 59.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=130,slow=7.0,SNR=6.4						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**12 38 21.0**	**-0.7**
	comp=Z,1.3nm,1.2s,baz=106,slow=2.7,SNR=6.9						

*JMA **06** 12:19:06.2±0.2, 23.°10N×121.°58E, h16km±5km*
*ISCJB **06** 12:19:07.1±0.3, 23.°08N±0.°02×121.°52E±0.°02, h21km±3km, Error ellipse: s-maj=3.5km s-min=2.8km az=28.2*
*TAP **06** 12:19:07.6, 23.°11N×121.°41E, h24km, ML3.4, C*
ISC 06 12:19:07.5±0.9**, 23.°11N**±0.°02×**121.°49E**±0.°03**, h24**km±6km**, n68, σ0.s79**/106**, 2C-11D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.12**	**267**	⇑*i*P	**Pb**	**12 19 12.5**	**+0.3**
	baz=242						
CHKT				S	**Sb**	**12 19 15.6**	**+0.3**
	baz=242						
FULB	**Fuli**	**0.20**	**297**	⇑*i*P	**Pb**	**12 19 12.8**	**-0.4**
	baz=309						
FULB				S	**Sb**	**12 19 16.5**	**-0.5**
	baz=309						
TWF1	**Yuli**	**0.30**	**324**	⇓*i*P	**Pb**	**12 19 14.3**	**-0.2**
	baz=338						
TWF1				S	**Sb**	**12 19 19.5**	**+0.1**
	baz=338						
YULB	**Yu-li**	**0.34**	**328**	⇓*e*P	**Pb**	**12 19 14.6**	**-0.4**
	baz=340						
YULB				*e*S	**Sb**	**12 19 19.9**	**-0.3**
	baz=340						
HGSD	**Ruisui**	**0.39**	**351**	*e*P	**Pb**	**12 19 15.7**	**-0.2**
	baz=2.0						
TWH	**Lutao**	**0.39**	**182**	P	**Pn**	**12 19 17.4**	**-0.2**
	baz=170						
TWH				*e*S	**Sn**	**12 19 25.2**	**+0.8**
	baz=170						
EHY	**Hungye**	**0.43**	**339**	P	**Pb**	**12 19 15.9**	**-0.6**
	baz=349						
EHY				S	**Sb**	**12 19 23.1**	**+0.5**
	baz=349						
ELDTW	**Lidau**	**0.44**	**281**	⇓*i*P	**Pb**	**12 19 15.7**	**-1.1**
	baz=281						
ELDTW				S	**Sb**	**12 19 21.1**	**-2.1**
	baz=281						
TTN	**Taitung**	**0.47**	**222**	*e*S	**Sn**	**12 19 26.4**	**+0.1**
	baz=212						
TWGBT	**Beinan**	**0.47**	**233**	P	**Pb**	**12 19 17.0**	**-0.3**
	baz=225						
TWGBT				*e*S	**Sb**	**12 19 23.6**	**-0.4**
	baz=225						
TWG	**Pinlang**	**0.48**	**234**	P	**Pb**	**12 19 17.0**	**-0.3**
	baz=225						
TWG				S	**Sb**	**12 19 23.6**	**-0.4**
	baz=225						
EGFH	**Guangfu**	**0.56**	**354**	*e*P	**Pb**	**12 19 19.0**	**+0.2**
	baz=2.0						
EGFH				*e*S	**Sn**	**12 19 28.3**	**-0.3**
	baz=2.0						
YUS	**Yu-Shan**	**0.63**	**308**	⇓*i*P	**Pb**	**12 19 19.1**	**-1.0**
	baz=311						
YUS				*e*S	**Sb**	**12 19 26.7**	**-2.0**
	baz=311						
STYT	**Tauyuan**	**0.68**	**275**	P	**Pb**	**12 19 19.8**	**-1.0**
	baz=274						
STYT				*e*S	**Sb**	**12 19 28.2**	**-1.5**
	baz=274						
ECL	**Taimali**	**0.71**	**225**	P	**Pb**	**12 19 20.1**	**-1.1**
	baz=218						
ECL				S	**Sb**	**12 19 29.1**	**-1.4**
	baz=218						
ESL	**Shilin**	**0.71**	**356**	*e*P	**Pb**	**12 19 20.3**	**-1.0**
	baz=2.0						
ESL				*e*S	**Sn**	**12 19 32.0**	**-0.2**
	baz=2.0						
ALS	**Alishan**	**0.75**	**303**	⇓*e*P	**Pb**	**12 19 21.4**	**-0.7**
	baz=305						
ALS				*e*S	**Sb**	**12 19 30.7**	**-1.3**
	baz=305						
SLGT	**Liugui**	**0.79**	**262**	⇓P	**Pb**	**12 19 22.0**	**-0.5**
	baz=260						
SLGT				S	**Sb**	**12 19 32.2**	**-0.6**
	baz=260						
ENLB	**Shoufeng**	**0.80**	**7**	P	**Pn**	**12 19 23.3**	**0.0**
	baz=12						
ENLB				S	**Sn**	**12 19 34.8**	**+0.3**
	baz=12						
TPUB	**Ta-pu**	**0.82**	**284**	⇓*e*P	**Pb**	**12 19 22.6**	**-0.4**
	baz=284						
TPUB				*e*S	**Sb**	**12 19 33.4**	**-0.3**
	baz=284						
WTP	**Ta-pu**	**0.82**	**280**	⇓P	**Pb**	**12 19 22.7**	**-0.4**
	baz=280						
WTP				*e*S	**Sb**	**12 19 33.7**	**-0.1**
	baz=280						
SGST	**Jiashian**	**0.84**	**269**	P	**Pb**	**12 19 23.4**	**+0.1**
	baz=267						
SGST				*e*S	**Sb**	**12 19 34.0**	**-0.3**
	baz=267						
CHN4	**Tsaushan**	**0.86**	**287**	⇓P	**Pb**	**12 19 23.6**	**-0.2**
	baz=287						
CHN4				*e*S	**Sb**	**12 19 35.0**	**0.0**
	baz=287						
SSD	**Sandimen**	**0.87**	**246**	*e*P	**Pb**	**12 19 23.3**	**-0.6**
	baz=242						
HWA	**Hwalien**	**0.87**	**7**	*e*P	**Pn**	**12 19 25.2**	**+0.9**
	baz=12						
CHN1	**Nanshi**	**0.89**	**275**	⇓P	**Pb**	**12 19 24.2**	**-0.1**
	baz=275						
CHN1				*e*S	**Sb**	**12 19 36.1**	**+0.4**
	baz=275						
CHN5	**Tsauling**	**0.89**	**303**	⇓P	**Pb**	**12 19 24.2**	**-0.2**
	baz=305						
CHN5				*e*S	**Sb**	**12 19 36.1**	**+0.2**
	baz=305						
OWD	**Renai**	**0.89**	**341**	*e*P	**Pb**	**12 19 23.1**	**-1.3**
	baz=345						
TAW	**Tawu**	**0.93**	**217**	*e*P	**Pb**	**12 19 23.9**	**-0.9**
	baz=211						
EAST	**Anshuo**	**0.93**	**220**	P	**Pb**	**12 19 23.9**	**-1.2**
	baz=214						
SMLT	**Sun Moon Lake**	**0.95**	**325**	*e*P	**Pb**	**12 19 24.5**	**-0.8**
	baz=329						
SMLT				S	**Sb**	**12 19 37.2**	**-0.3**
	baz=329						
TWD	**Chiawan**	**0.97**	**6**	*e*P	**Pb**	**12 19 25.8**	**0.0**
	baz=10.0						
TYC	**Yuchr**	**0.98**	**324**	*e*P	**Pb**	**12 19 25.9**	**0.0**
	baz=328						
WJS	**Zhushan**	**1.00**	**316**	P	**Pb**	**12 19 26.3**	**+0.1**
	baz=318						
WJS				*e*S	**Sn**	**12 19 39.4**	**0.0**
	baz=318						
TWM1	**Shoushan**	**1.02**	**254**	*e*P	**Pb**	**12 19 27.8**	**+1.3**
	baz=252						
CHN3	**Shinhua**	**1.04**	**269**	*e*P	**Pb**	**12 19 28.2**	**+1.4**
	baz=267						
CHN3				*e*S	**Sn**	**12 19 43.1**	**+2.8**
	baz=267						
WDLH	**Douliu**	**1.05**	**304**	*e*P	**Pb**	**12 19 27.6**	**+0.5**
	baz=305						
WDLH				*e*S	**Sn**	**12 19 41.8**	**+1.2**
	baz=305						
SSPT	**Xinbi**	**1.05**	**234**	*e*P	**Pb**	**12 19 28.0**	**+0.9**
	baz=230						
CHY	**Chiayi**	**1.06**	**292**	*e*P	**Pb**	**12 19 27.1**	**0.0**
	baz=293						
CHY				*e*S	**Sn**	**12 19 41.1**	**+0.4**
	baz=293						
WHF	**Hehuan Shan**	**1.06**	**349**	P	**Pn**	**12 19 26.4**	**-0.8**
	baz=353						
WHF				*e*S	**Sb**	**12 19 40.3**	**-0.7**
	baz=353						
DPDB	**Guoxing**	**1.06**	**331**	*e*P	**Pn**	**12 19 27.0**	**+0.1**
	baz=334						
DPDB				*e*S	**Sn**	**12 19 41.0**	**0.0**
	baz=334						
LAY	**Lan-yu**	**1.06**	**177**	*e*P	**Pn**	**12 19 26.8**	**-0.1**
	baz=172						
WNT	**Mingjian**	**1.07**	**316**	*e*P	**Pb**	**12 19 27.7**	**+0.4**
	baz=319						
SCZT	**Fangliau**	**1.09**	**228**	P	**Pn**	**12 19 26.9**	**-0.3**
	baz=224						
CHN8	**Yiju**	**1.20**	**282**	*e*S	**Sb**	**12 19 45.7**	**+1.0**
	baz=282						
WSSB	**Gushan**	**1.22**	**248**	*e*P	**Pb**	**12 19 30.8**	**+0.8**
	baz=246						
NNSH	**Datong**	**1.32**	**356**	*e*P	**Pn**	**12 19 30.3**	**-0.3**
	baz=359						
NNSH				*e*S	**Sn**	**12 19 45.9**	**-1.6**
	baz=359						
NNS	**Nan Shan**	**1.33**	**355**	*e*P	**Pn**	**12 19 30.8**	**0.0**
	baz=359						
SANB	**Taian**	**1.37**	**340**	*e*P	**Pb**	**12 19 32.2**	**-0.3**
	baz=343						
TWQ1	**Liyutan**	**1.40**	**332**	*e*P	**Pb**	**12 19 33.3**	**+0.3**
	baz=334						
NSY	**Sanyi**	**1.47**	**333**	*e*S	**Sb**	**12 19 53.6**	**+1.2**
	baz=335						
PTSB	**Yuanli**	**1.52**	**332**	*e*P	**Pb**	**12 19 34.4**	**-0.6**
	baz=334						
ENTT	**Nioudou**	**1.53**	**3**	*e*P	**Pn**	**12 19 33.6**	**+0.3**
	baz=5.0						
TWC	**Suao**	**1.53**	**12**	*e*P	**Pb**	**12 19 34.9**	**-0.3**
	baz=15						
NMLH	**Miaoli**	**1.56**	**336**	*e*P	**Pb**	**12 19 35.3**	**-0.4**
	baz=338						
NMLH				*e*S	**Sb**	**12 19 55.4**	**+0.3**
	baz=338						
NSTT	**Nanjuang**	**1.58**	**344**	*e*P	**Pb**	**12 19 35.6**	**-0.5**
	baz=346						
LIOB	**Emei**	**1.59**	**344**	*e*P	**Pb**	**12 19 36.2**	**-0.1**
	baz=346						
TWE	**Neicheng**	**1.62**	**6**	*e*P	**Pb**	**12 19 36.7**	**+0.1**
	baz=9.0						
NWLT	**Wulai**	**1.67**	**0**	*e*P	**Pb**	**12 19 36.4**	**-1.1**
	baz=3.0						
TIPB	**Shuangxi**	**1.88**	**9**	*e*P	**Pn**	**12 19 39.3**	**+1.1**
	baz=11						
YOJ	**Yonaguni jima**	**1.94**	**46**	P	**Pn**	**12 19 38.3**	**-0.7**
YOJ				S	**Sn**	**12 20 03.1**	**+0.5**
HATJ	**Hateruma jima**	**2.33**	**65**	*e*S	**Sn**	**12 20 12.1**	**0.0**
IRIF	**Iriomote-Funau**	**2.39**	**59**	P	**Pn**	**12 19 46.5**	**+1.4**
IRIF				S	**Sn**	**12 20 14.1**	**+0.4**
JKRS	**Kuro-shima**	**2.57**	**63**	P	**Pn**	**12 19 48.8**	**+1.2**
JKRS				*e*S	**Sn**	**12 20 19.0**	**+0.9**
JIJ	**Ishigaki jima**	**2.73**	**62**	P	**Pn**	**12 19 50.7**	**+0.8**
JIJ				S	**Sn**	**12 20 21.4**	**-0.8**
JISG	**Ishigakijimahi**	**2.97**	**60**	P	**Pn**	**12 19 53.7**	**+0.5**
JISG				S	**Sn**	**12 20 27.9**	**-0.2**
JTJ	**Tarama**	**3.31**	**62**	P	**Pn**	**12 19 58.7**	**+0.9**
JTJ				S	**Sn**	**12 20 35.9**	**-0.6**
JIRB	**Irabujima**	**3.78**	**62**	P	**Pn**	**12 20 04.7**	**+0.4**

*SOME **06** 12:55:00.8, 50.°22N×87.°08E, h0km*
*IDC **06** 12:55:05.6±2.2, 49.°89N×88.°06E, h0km, mb3.5/1, mb1 3.7/7, mb1mx3.3/80, mbtmp3.7/7, ML3.4/6, MS3.4/2, Ms1 3.4/2, ms1mx2.4/53, Error ellipse: s-maj=22.0km*

s-min=13.5km az=99.0

*NNC **06** 12:55:06.2±1.4, 49°.98N×88°.02E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=13.7km s-min=5.5km az=100.0*

ISC 06 12:55:08.2±2.0**, 49°.94N**±0°.05×**87°.9E**±0°.1**, h11km, n21, σ2.46s**/32**, 14C-6D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZSN	Zaisan	3.20	220	eP	Pb	12 56 03.6	-1.4
	4.2nm,0.3s						
ZSN				eS	Sb	12 56 48.6	+4.5
	64nm,0.7s						
ZAA0	Zalesovo Array	4.44	336	⇓Pn	Pn	12 56 14.9	-0.6
	2.2nm,0.3s						
ZAA0				⇑Pg	Pb	12 56 24.8	-1.4
	5.7nm,0.5s						
ZAA0				⇓Sn	Sn	12 57 08.7	+1.6
	6.7nm,0.3s						
ZAA0				⇑Lg	Lg	12 57 26.3	
	57nm,0.8s						
ZALV	Zalesovo Beam	4.44	336	Pn	Pn	12 56 14.8	-0.7
	2.7nm,0.3s,baz=156,slow=14,SNR=42						
ZALV				Sn	Sn	12 57 09.7	+2.6
	3.4nm,0.3s,baz=156,slow=22,SNR=4.2						
ZALV				Lg	Lg	12 57 23.8	
	2.6nm,0.3s,baz=160,slow=26,SNR=4.8						
MK31	Makanchi Array	4.89	232	⇑Pn	Pn	12 56 22.9	+1.2
	6.1nm,0.2s,baz=54,slow=12,SNR=414						
MK31				⇑Pg	Pb	12 56 35.2	+1.4
	6.2nm,0.5s,baz=57,slow=18,SNR=5.4						
MKAR	Makanchi Array	4.89	232	Pn	Pn	12 56 22.8	+1.1
	5.2nm,0.3s,baz=51,slow=15,SNR=305						
MKAR				Sn	Sn	12 57 19.1	+0.9
	6.6nm,0.3s,baz=52,slow=22,SNR=6.3						
MKAR				Lg	Lg	12 57 44.8	
	11nm,0.3s,baz=54,slow=27,SNR=11						
SEM	Semipalatinsk	4.94	278	eP	Pn	12 56 23.8	+1.3
	13nm,0.2s						
SEM				eS	Sn	12 57 24.4	+4.8
	52nm,0.6s						
MAKZ	Makanchi	5.04	234	⇓Pn	Pn	12 56 24.6	+0.9
	10nm,0.7s						
MAKZ				⇓Sn	Sn	12 57 25.4	+3.5
	10nm,0.4s						
MAKZ				⇑Lg	Lg	12 57 47.3	
	70nm,0.8s						
KURK	Kurchatov	5.99	281	⇑Pn	Pn	12 56 37.4	+0.7
	4.4nm,0.5s						
KURK				⇓Sn	Sn	12 57 48.1	+2.8
	12nm,0.6s						
KURK				⇑Lg	Lg	12 58 19.9	
	67nm,0.9s						
KURBB	Kurchatov Arra	6.04	280	Pn	Pn	12 56 38.4	+0.9
	0.8nm,0.3s,baz=94,slow=15,SNR=105						
KURBB				Sn	Sn	12 57 47.9	+1.3
	1.0nm,0.3s,baz=89,slow=26,SNR=9.7						
KURBB				Lg	Lg	12 58 17.8	
	0.5nm,0.3s,baz=88,slow=35,SNR=4.6						
KAPS	Kapalarasan	7.42	234	eP	Pn	12 57 04.8	+8.4
	5.1nm,0.4s						
KAPS				eS	Sn	12 58 33.5	+13
	9.1nm,0.5s						
DJR	Jarkent	7.87	228	eP	Pb	12 57 15.6	-9.1
	5.7nm,0.4s						
DJR				eS	Sb	12 58 52.1	-6.4
	3.9nm,0.7s						
PDGK	Podgornoye	8.78	224	⇓Pn	Pn	12 57 16.9	+1.7
	1.7nm,0.5s						
PDGK				⇑Sn	Sn	12 58 56.5	+2.3
	5.1nm,0.8s						
OTUK	Ortayu	10.35	267	⇑Pn	Pn	12 57 34.5	-2.1
	2.1nm,0.4s						
OTUK				⇑Lg	Lg	13 00 37.1	
	13nm,1.1s						
BVA0	Borovoye Array	11.34	292	⇑Pn	Pn	12 57 50.6	+0.5
	1.7nm,0.6s,baz=84,slow=13,SNR=4.0						
BVA0				⇑Sn	Sn	12 59 59.9	+3.2
	2.1nm,0.5s,baz=98,slow=20,SNR=5.6						
BVAR	Borovoye Array	11.34	292	Pn	Pn	12 57 49.6	-0.5
	0.4nm,0.3s,baz=93,slow=16,SNR=5.6						
BVAR				Sn	Sn	12 59 53.1	-3.7
	0.3nm,0.3s,baz=98,slow=22,SNR=6.4						
AAK	Ala-Archa	11.79	237	Pn	Pn	12 57 56.6	+0.2
	0.3nm,0.3s,baz=71,slow=5.1,SNR=7.5						
AAK				Sn	Sn	13 00 05.1	-2.9
	0.2nm,0.3s,baz=246,slow=20,SNR=3.8						
AAK				Lg	Lg	13 01 18.3	
	0.1nm,0.3s,baz=319,slow=20,SNR=3.6						
AAK	Ala-Archa	11.79	237	⇑Pn	Pn	12 57 56.5	+0.2
	1.3nm,0.6s						
AAK				⇑Lg	Lg	13 01 25.6	
	7.0nm,1.1s						
SONM	Songino Array	12.36	93	Lg	Lg	13 01 24.2	
	baz=270,slow=27,SNR=3.5						
AKTO	Aktyubinsk	19.08	283	P	P	12 59 31.4	+0.8
	0.1nm,0.3s,baz=67,slow=13,SNR=2.7						
AKTO				LR	LR	13 07 36.6	
	comp=Z,30nm,19.0s,baz=266,slow=39						
FINES	FINESS Array B	35.32	313	P	P	13 02 01.6	-1.3
	0.4nm,0.6s,baz=83,slow=12,SNR=3.2						
DAV	Davao City (W)	53.07	131	LR	LR	13 28 50.3	
	comp=Z,107nm,19.5s,baz=337,slow=38						

IDC 06 13:22:53.8±9.1**, 7°.24S×128°.86E, h142km**±93km**, mb2.7**/1**, mb1 3.1**/4**, mb1mx2.9**/49**, mbtmp3.5**/4**, Error ellipse: s-maj=105.7km s-min=31.6km az=44.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	5.92	240	P	Pn	13 24 19.8	+0.4
	4.0nm,0.3s,baz=83,slow=8.1,SNR=7.0						
BATI				S	Sn	13 25 23.8	-2.4
	3.6nm,0.3s,baz=86,slow=19,SNR=5.2						
FITZ	Fitzroy Crossi	11.24	196	P	Pn	13 25 26.8	-3.6
	0.5nm,0.3s,baz=18,slow=12,SNR=18						
FITZ				S	Sn	13 27 25.4	-9.2
	baz=96,slow=19,SNR=1.9						
WRA	Warramunga Arr	13.70	158	P	Pn	13 26 00.5	-1.8
	0.3nm,0.3s,baz=335,slow=13,SNR=24						
WRA				S	Sn	13 28 21.8	-12
	0.4nm,0.3s,baz=338,slow=21,SNR=9.8						
ASAR	Alice Springs	17.04	164	P	Pn	13 26 44.4	+0.8
	0.1nm,0.3s,baz=339,slow=10.0,SNR=21						
ASAR				S	S	13 29 45.1	-8.5
	0.1nm,0.3s,baz=345,slow=27,SNR=6.3						
MKAR	Makanchi Array	67.81	327	P	P	13 33 36.4	-0.1
	0.1nm,0.6s,baz=116,slow=6.6,SNR=2.6						

*IDC **06** 13:25:34.1±2.2, 8°.75S×115°.05E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/50, mbtmp3.6/5, Error ellipse: s-maj=113.5km s-min=20.3km az=55.0*

*ISCJB **06** 13:25:51.6±0.6, 9°.0S±0°.1×115°.43E±0°.10, h150km, mb3.5/5, Error ellipse: s-maj=23.3km s-min=6.8km az=31.0*

*DJA **06** 13:25:54.2±0.6, 9°S±8°×11°6E±°, h120km±5km, M3.4/11, MLv3.4/11*

ISC 06 13:25:51.8±0.9**, 8°.9S**±0°.1×**115°.48E**±0°.08**, h150km, n14, σ1.08s**/18**, mb3.5**/5**, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGBI	Denpasar	0.34	282	P	Pn	13 26 13.3	+0.8
IGBI				S	Sn	13 26 27.8	-0.3
DNP	Denpasar	0.34	309	P	Pn	13 26 12.9	+0.4
SRBI	Singaraja	0.84	342	P	Pn	13 26 16.0	+0.6
JAGI	Jajag, Banyuwa	1.38	288	P	Pn	13 26 20.2	+0.1
JAGI				S	Sn	13 26 40.7	-1.0
ABJI	Asem Bagus	1.64	311	P	Pn	13 26 23.9	+1.0
ABJI				S	Sn	13 26 47.2	+0.4
GMJI	Gumukmas	2.10	287	P	Pn	13 26 28.2	0.0
BLJI	Banyuglugur	2.18	301	P	Pn	13 26 29.9	+0.8
BLJI				S	Sn	13 26 58.8	+1.0
PLAI	Plampang	2.27	89	P	Pn	13 26 30.4	+0.2
KMMI	Kalianget	2.36	321	P	Pn	13 26 33.2	+1.9
WRA	Warramunga Arr	21.29	123	P	P	13 30 27.1	+0.3
	0.8nm,0.4s,baz=299,slow=12,SNR=4.0						
ASAR	Alice Springs	22.95	132	P	P	13 30 44.8	+1.4
	0.9nm,0.6s,baz=303,slow=8.6,SNR=14						
STKA	Stephens Creek	33.33	137	P	P	13 32 16.7	+1.1
	1.6nm,0.6s,baz=316,slow=9.8,SNR=5.6						
SONM	Songino Array	57.05	353	P	P	13 35 20.1	-2.1
	0.5nm,0.3s,baz=157,slow=7.8,SNR=3.1						
MKAR	Makanchi Array	62.83	335	P	P	13 36 00.6	-1.0
	0.1nm,0.4s,baz=143,slow=6.9,SNR=4.8						

*IDC **06** 13:31:07.7±8.6, 7°.17S×129°.72E, h90km±82km, mb3.6/3, mb1 4.1/7, mb1mx3.6/53, mbtmp4.3/7, ML4.5/3, Error ellipse: s-maj=98.8km s-min=29.9km az=49.0*

*ISCJB **06** 13:31:11.5±0.5, 7°.38S±0°.04×129°.57E±0°.05, h150km, mb3.6/3, Error ellipse: s-maj=6.7km s-min=6.0km az=43.2*

*DJA **06** 13:31:13.5±0.5, 7°S±4°×13°0E±°, h121km±16km, M4.4/8, mB5.4/2, mb4.3/5, MLv4.5/8, Mw(mB)4.9/2*

ISC 06 13:31:12.6±0.8**, 7°.40S**±0°.06×**129°.57E**±0°.05**, h150km, n16, σ1.96s**/21**, mb3.6**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.81	109	P	Pn	13 31 47.4	+1.9
SAUI				S	Sn	13 32 09.8	-0.9
BNDI	Bandanaira	2.88	7	P	Pn	13 31 57.7	-0.8
MSAI	Masohi	4.08	351	P	Pn	13 32 14.1	+0.2
FAKI	Fak Fak	5.19	31	P	Pn	13 32 26.0	-2.6
	51nm,0.8s,0.4nm						
KMPI	Kaimana, Papua	5.54	48	P	Pn	13 32 33.1	-0.1
SOEI	Soe	5.74	246	P	Pn	13 32 36.5	+0.5
SOEI				S	Sn	13 33 40.9	-0.3
SANI	Sanana	6.41	326	P	Pn	13 32 44.2	-0.5
BATI	Baumata	6.47	244	P	Pn	13 32 44.3	-1.3
	6.0nm,0.3s,baz=56,slow=3.6,SNR=5.9						
BATI				S	Sn	13 33 56.9	-1.6
	7.2nm,0.3s,baz=90,slow=20,SNR=11						
BATI	Baumata	6.47	244	P	Pn	13 32 47.1	+1.5
BATI				S	Sn	13 33 59.3	+0.8
FITZ	Fitzroy Crossi	11.30	199	P	Pn	13 33 49.0	-0.8
	baz=31,slow=12						
FITZ				S	Sn	13 35 47.5	-7.2
	1.7nm,0.3s,baz=270,slow=16,SNR=2.4						
WRA	Warramunga Arr	13.30	160	P	Pn	13 34 14.7	-0.9
	4.5nm,0.3s,baz=340,slow=14,SNR=111						
WRA				S	Sn	13 36 35.4	-7.4
	3.7nm,0.3s,baz=335,slow=20,SNR=8.2						
ASAR	Alice Springs	16.70	166	P	P	13 34 59.9	+2.2
	0.9nm,0.3s,baz=343,slow=13,SNR=79						
ASAR				S	S	13 37 57.7	-5.9
	0.7nm,0.3s,baz=345,slow=25,SNR=4.6						
CMAR	Chiang Mai Arr	39.67	311	P	P	13 38 30.5	+0.3
	0.6nm,0.6s,baz=124,slow=8.8,SNR=4.2						
MKAR	Makanchi Array	68.33	327	P	P	13 41 59.2	+1.6
	0.9nm,0.4s,baz=122,slow=7.9,SNR=31						
ZALV	Zalesovo Beam	71.75	334	P	P	13 42 18.9	+0.6
	0.6nm,0.5s,baz=118,slow=5.7,SNR=3.1						
TORD	Torodi Ar. Bea	128.47	281	PKP	PKPdf	13 50 04.9	+2.3
	0.4nm,0.8s,baz=87,slow=1.7,SNR=2.7						

*IDC **06** 13:32:05.3±5.7, 14°.75N×97°.65W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/46, mbtmp3.7/9, ML3.5/2, MS3.1/9, Ms1 3.1/9, ms1mx2.8/43, Error ellipse: s-maj=102.2km s-min=42.9km az=176.0*

*ISCJB **06** 13:32:12.8±1.4, 15°.63N±0°.07×97°.90W±0°.04, h27km±8km, mb3.9/7, MS3.0/7, Error ellipse: s-maj=12.4km s-min=4.8km az=16.7*

*NEIC **06** 13:32:14.8±0.0, 15°.57N×97°.92W, h20km, mb4.3/3, MD4.2(MEX), After MEX.*

*MEX **06** 13:32:14.8±0.6, 15°.57N×97°.92W, h20km±23km, MD4.2*

ISC 06 13:32:12.6±2.1**, 15°.61N**±0°.08×**97°.88W**±0°.04**, h9km**±10km**, n33, σ2.02s**/41**, mb3.9**/7**, MS3.0**/7**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.82	343	eP	Pg	13 32 28.2	-0.1
PNIG				eS	Sg	13 32 38.4	-0.5
PNIG	Pinotepa	0.82	343	eP	Pg	13 32 28.2	-0.1
PNIG				eS	Sg	13 32 38.4	-0.5
PANG	Puerto Angel	1.36	87	i P	Pn	13 32 36.6	-1.1
PANG				i S	Sn	13 32 52.7	-3.1
HUIG	Huatulco	1.72	84	eP	Pn	13 32 40.7	-1.9
HUIG				i S	Sn	13 33 01.9	-2.8
HUIG	Huatulco	1.72	84	eP	Pn	13 32 40.7	-1.9
HUIG				i S	Sn	13 33 01.9	-2.8
VHO	Vista Hermosa	1.83	37	eP	Pn	13 32 44.1	-0.2
VHO				i S	Sn	13 33 05.6	-2.1
VHO	Vista Hermosa	1.83	37	eP	Pn	13 32 44.1	-0.2
VHO				i S	Sn	13 33 05.6	-2.1
ACX	Acapulco	2.28	304	i P	Pn	13 32 49.7	-0.7
ACX				i S	Sn	13 33 16.4	-2.1
ACX	Acapulco	2.28	304	i P	Pn	13 32 49.7	-0.7
ACX				i S	Sn	13 33 16.4	-2.1
MEIG	Mezcala	2.84	324	eP	Pn	13 32 57.2	-1.0
MEIG				eS	Sn	13 33 29.4	-3.2
MEIG	Mezcala	2.84	324	eP	Pn	13 32 57.2	-1.0
MEIG				eS	Sn	13 33 29.4	-3.2
PLIG	Platanillo	3.17	331	eP	Pn	13 33 01.1	-1.7
PLIG				eS	Sn	13 33 38.6	-2.3
PLIG	Platanillo	3.17	331	eP	Pn	13 33 01.1	-1.7
PLIG				eS	Sn	13 33 38.6	-2.3
CMIG	Matias Romero	3.23	62	Pn	Pn	13 33 02.6	-0.9
	5.8nm,0.3s,baz=244,slow=12,SNR=38						
CMIG				LR	LR	13 33 35.9	
	comp=Z,89nm,21.4s,baz=224,slow=26						
CMIG				Sn	Sn	13 33 41.5	-0.7
	23nm,0.3s,baz=182,slow=22,SNR=8.3						
ARIG	Puente Sto Nin	3.55	319	eP	Pn	13 33 07.2	-0.7
ARIG				i S	Sn	13 33 46.6	-3.6
ZIIG	Zihuatanejo	3.97	301	i P	Pn	13 33 11.6	-2.0
ZIIG	Zihuatanejo	3.97	301	i P	Pn	13 33 11.6	-2.0
H06E1	SOCORRO T-PHAS	12.86	286	T	T	13 48 30.6	
	SNR=24						
H06S1	SOCORRO T	12.88	286	T	T	13 48 29.8	
	SNR=6.9						
TXAR	Lajitas Array	14.67	340	Pn	P	13 35 49.0	+2.3
	0.0nm,0.3s,baz=161,slow=11,SNR=4.9						
TXAR				LR	LR	13 41 35.7	
	comp=Z,100nm,20.7s,baz=0.0,slow=37						
ANMO	Albuquerque	20.74	340	P	Pn	13 36 56.9	+0.8
	3.3nm,0.8s,baz=90,slow=11,SNR=5.1						
ANMO				LR	LR	13 44 27.8	
	comp=Z,80nm,20.9s,baz=342,slow=34						
WUAZ	Wupatki	23.22	331	eP	P	13 37 24.0	+3.9
	13nm,0.9s						
TKL	Tuckaleechee C	23.62	30	LR	LR	13 48 09.6	
	comp=Z,32nm,19.1s,baz=270,slow=40						
SDV	Santo Domingo	27.43	101	LR	LR	13 48 25.2	
	comp=Z,31nm,19.1s,baz=254,slow=36						
PDAR	Pinedale Array	28.86	342	P	P	13 38 13.2	+1.5
	0.4nm,0.8s,baz=143,slow=7.9,SNR=3.8						
PDAR				LR	LR	13 49 19.6	
	comp=Z,48nm,21.0s,baz=166,slow=35						
NVAR	Mina Array Bea	28.99	326	P	P	13 38 15.6	+2.7
	0.7nm,0.6s,baz=147,slow=8.6,SNR=4.9						
YBH	Yreka Blue Hor	33.71	326	LR	LR	13 52 26.8	
	comp=Z,23nm,18.9s,baz=146,slow=35						
NNA	Nana	34.43	142	LR	LR	13 49 56.0	
	comp=Z,37nm,18.2s,baz=292,slow=32						
ULM	Lac du Bonnet	34.59	2	P	P	13 39 03.2	+1.5
	1.5nm,0.7s,baz=173,slow=8.1,SNR=3.2						
ULM				LR	LR	13 53 47.1	
	comp=Z,28nm,18.0s,baz=68,slow=37						
YKA	Yellowknife Ar	48.30	350	P	P	13 40 53.2	-0.7
	0.6nm,0.8s,baz=155,slow=6.9,SNR=9.8						
INK	Inuvik	57.36	345	P	P	13 41 59.9	-0.9
	3.9nm,0.8s,baz=171,slow=5.6,SNR=3.6						
INK	Inuvik	57.36	345	eP	P	13 41 59.7	-1.1
	5.1nm,0.9s						
ILAR	Eielson Array	59.17	338	P	P	13 42 14.8	+1.2
	1.0nm,1.0s,baz=144,slow=4.2,SNR=9.1						

SJA 06 13:37:16.3±0.3**, 31°.76S×69°.20W, h109km**±4km**, ML2.9, MW3.3, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTLS	Leoncito	0.09	248	i P	Pn	13 37 32.6	+0.9
RTLS				i S	Sn	13 37 44.7	+1.5
RTLS				IAML		13 37 45.6	
	comp=Z,297nm,0.7s						
AUSP	Uspallata	0.49	199	i P	Pn	13 37 34.3	+1.0
RTCV	Cerro Valdivia	0.57	100	i P	Pn	13 37 34.3	+0.8
AMOG	MOGNA	1.02	36	i P	Pn	13 37 38.5	+0.8
ACAN	Cantantal	1.78	107	i P	Pn	13 37 47.4	+0.9

*ISCJB **06** 13:37:40.9±1.0, 23°.99S±0°.08×66°.7W±0°.2, h195km, mb3.2/2, Error ellipse: s-maj=20.6km s-min=10.1km az=165.4*

*IDC **06** 13:37:42.6±2.6, 23°.93S×66°.67W, h200km±23km, mb3.2/2, mb1 3.2/6, mb1mx3.0/41, mbtmp3.5/6, Error ellipse: s-maj=33.6km s-min=24.3km az=75.0*

ISC 06 13:37:42.1±1.0**, 23°.91S**±0°.10×**66°.7W**±0°.1**, h195km, n9, σ0.79s**/10**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	7.70	350	P	Pn	13 39 33.4	+1.3
	0.3nm,0.3s,baz=156,slow=5.2,SNR=5.8						
LPAZ				S	Sn	13 40 58.9	-0.6
	0.1nm,0.3s,baz=265,slow=19,SNR=2.8						
CPUP	Villa Florida	8.81	108	P	Pn	13 39 46.3	+0.4
	0.1nm,0.3s,baz=289,slow=15,SNR=6.4						
SIV	San Ignacio	9.47	35	P	Pn	13 39 55.1	+0.3
	0.5nm,0.3s,baz=216,slow=14,SNR=6.8						
PLCA	Paso Flores	17.09	190	P	P	13 41 28.8	+0.5
	0.1nm,0.3s,baz=34,slow=9.3,SNR=4.2						
TORD	Torodi Ar. Bea	76.26	69	P	P	13 49 09.3	-0.4
	0.4nm,0.5s,baz=255,slow=5.5,SNR=4.3						
YKA	Yellowknife Ar	94.14	340	P	P	13 50 37.2	-0.8
	0.1nm,0.5s,baz=137,slow=4.7,SNR=3.2						
ASAR	Alice Springs	128.66	204	PKP	PKPdf	13 56 25.7	-1.0
	0.3nm,0.8s,baz=143,slow=2.3,SNR=3.8						
WRA	Warramunga Arr	131.84	207	PKP	PKPdf	13 56 32.7	-0.2
	0.1nm,0.3s,baz=158,slow=1.7,SNR=3.8						
MKAR	Makanchi Array	146.26	40	PKPbc	PKPbc	13 57 00.0	+0.4
	0.4nm,0.7s,baz=307,slow=2.7,SNR=5.6						

WEL 06 13:38:09.9±1.2**, 36°S**±10°×**17°9W**±1°3**, h33km, ML4.0**/16**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.06	228	P	Pn	13 38 55.4	-0.5
MXZ	Matakaoa Point	3.06	228	S	Sn	13 39 30.1	-1.2
WMGZ	Waiomatatini S	3.17	223	P	Pn	13 38 57.9	+0.5
WMGZ	Waiomatatini S	3.17	223	S	Sn	13 39 35.3	+1.3
PKGZ	Pakihiroa	3.41	225	P	Pn	13 39 01.3	+0.5
PUZ	Puketiti	3.44	222	P	Pn	13 39 00.9	-0.2
PUZ	Puketiti	3.44	222	S	Sn	13 39 41.4	+0.7
HAZ	Te Kaha	3.50	230	P	Pn	13 39 03.0	+1.1
HAZ	Te Kaha	3.50	230	S	Sn	13 39 45.2	+3.0
TWGZ	Tauwhareparae	3.66	223	P	Pn	13 39 04.6	+0.3
TWGZ	Tauwhareparae	3.66	223	S	Sn	13 39 47.6	+1.3
RUGZ	Raukumara Rang	3.70	228	P	Pn	13 39 05.4	+0.6
TKGZ	Te Karaka	3.92	221	S	Sn	13 39 52.9	+0.2
TKGZ	Te Karaka	3.92	221	P	Pn	13 39 07.5	-0.3
MWZ	Matawai	4.03	225	P	Pn	13 39 09.4	+0.1
MWZ	Matawai	4.03	225	S	Sn	13 39 55.1	-0.3
RIGZ	Rimuhau	4.17	219	P	Pn	13 39 10.9	-0.3
URZ	Urewera	4.23	229	P	Pn	13 39 12.5	+0.5
MHGZ	Mahia Peninsul	4.44	215	P	Pn	13 39 14.5	-0.4
SNGZ	Shannon Statio	4.45	222	P	Pn	13 39 14.6	-0.4
RTZ	Ruatahuna	4.54	226	P	Pn	13 39 17.1	+0.8
KUZ	Kuaotunu	4.55	253	P	Pn	13 39 16.2	-0.2
MUGZ	Murupara	4.57	229	P	Pn	13 39 15.0	-1.7
MTHZ	Maungataniwha	4.78	225	P	Pn	13 39 19.6	+0.1
TOZ	Tahuroa Road	5.04	243	P	Pn	13 39 24.4	+1.2
MKAZ	Moumakai	5.08	250	P	Pn	13 39 23.5	-0.2
BKZ	Black Stump Fm	5.19	224	P	Pn	13 39 24.8	-0.5
BKZ	Black Stump Fm	5.19	224	S	Sn	13 40 22.9	-1.0
KWHZ	Kaweka Forest	5.40	223	P	Pn	13 39 27.3	-0.9
WCZ	Waipu Caves	5.55	264	P	Pn	13 39 29.5	-0.6
MRZ	Mangatainoka R	6.74	219	P	Pn	13 39 44.7	-1.9

*IDC **06** 13:50:24.6±1.7, 22°.05S×169°.82E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/36, mbtmp3.8/6, ML3.6/1, MS3.4/5, Ms1 3.4/5, ms1mx2.9/37, Error ellipse: s-maj=40.9km s-min=30.4km az=30.0*

*NEIC **06** 13:50:26.5±0.8, 22°.11S×169°.74E, h10km, mb4.3/1, Error ellipse: s-maj=29.4km s-min=13.7km az=171.0*

ISC 06 13:50:28.8±1.0**, 22°.0S**±0°.2×**169°.68E**±0°.09**, h25km, n12, σ1.45s**/9**, mb3.9**/6**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.01	269	Pn	Pn	13 51 16.4	+1.5
	7.6nm,0.3s,baz=87,slow=19,SNR=22						
DZM				Sn	Sb	13 51 55.8	-2.2
	6.5nm,0.3s,baz=74,slow=14,SNR=4.3						
RAO	Raoul Island	13.29	125	LR	LR	13 56 28.0	
	comp=Z,840nm,19.6s,baz=348,slow=28						
HNR	Honiara	15.64	322	LR	LR	13 58 04.7	
	comp=Z,68nm,20.4s,baz=299,slow=29						
URZ	Urewera	17.39	160	LR	LR	13 59 33.3	
	comp=Z,108nm,18.7s,baz=342,slow=32						
AFI	Afiamalu	19.38	68	P	Pn	13 54 52.8	-1.4
STKA	Stephens Creek	26.82	243	LR	LR	14 06 00.4	
	comp=Z,46nm,18.9s,baz=24,slow=35						
ASAR	Alice Springs	32.96	260	P	P	13 57 02.0	+0.2
	1.6nm,1.0s,baz=85,slow=9.6,SNR=11						
ASAR				LR	LR	14 10 06.6	
	comp=Z,51nm,20.6s,baz=92,slow=36						
WRAB	Tennant Creek	33.01	267	eP	P	13 57 01.4	-0.8
	4.7nm,1.1s						
WRA	Warramunga Arr	33.02	267	P	P	13 57 01.6	-0.7
	0.6nm,0.6s,baz=100,slow=8.2,SNR=5.6						
VNDA	Vanda	55.67	182	P	P	14 00 02.1	-0.2
	3.7nm,1.2s,baz=9.0,slow=6.4,SNR=4.8						
CMAR	Chiang Mai Arr	80.03	295	P	P	14 02 38.1	+1.5
	0.2nm,0.3s,baz=130,slow=3.8,SNR=2.6						
SONM	Songino Array	89.69	323	P	P	14 03 24.7	0.0
	0.3nm,0.4s,baz=108,slow=4.7,SNR=3.5						

IDC 06 14:00:42.2±1.5**, 2°.84S×141°.35E, h0km, mb3.6**/4**, mb1 3.9**/5**, mb1mx3.5**/45**, mbtmp3.6**/5**, ML3.7**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.4**/31**, Error ellipse: s-maj=66.7km s-min=25.2km az=98.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.71	139	LR	LR	14 06 46.8	
	comp=Z,129nm,18.3s,baz=226,slow=42						
WRA	Warramunga Arr	18.32	201	P	Pn	14 04 58.0	0.0
	0.3nm,0.3s,baz=24,slow=12,SNR=12						
WRA				S	Sn	14 08 13.7	-10
	0.0nm,0.3s,baz=18,slow=21,SNR=3.5						
ASAR	Alice Springs	21.92	199	P	P	14 05 37.3	0.0
	1.7nm,0.7s,baz=30,slow=9.4,SNR=20						
H11S3	WAKE ISLAND Hy	32.74	49	T	T	14 41 51.4	
	baz=232,slow=75,SNR=30						
H11S2	WAKE ISLAND Hy	32.76	49	T	T	14 41 50.9	
	baz=232,slow=75,SNR=35						
H11S1	WAKE ISLAND Hy	32.76	49	T	T	14 41 52.7	
	baz=232,slow=75,SNR=23						
MKAR	Makanchi Array	71.51	322	P	P	14 12 04.9	-0.1
	0.2nm,0.6s,baz=116,slow=6.6,SNR=3.0						
BVAR	Borovoye Array	80.93	325	P	P	14 12 58.4	0.0
	0.5nm,0.6s,baz=126,slow=6.4,SNR=3.5						
ILAR	Eielson Array	84.87	24	P	P	14 13 18.8	+0.2
	0.3nm,0.8s,baz=258,slow=4.5,SNR=3.8						

*NIED **06** 14:08:00, 39°.60N×143°.70E, h17km, Mw4.2 Best double couple: $M_0$2.42000×10^15 NP1:ϕ_s191.00000°, δ32.00000°, λ78.00000°. NP2:ϕ_s25.00000°, δ59.00000°, λ97.00000°.*

*BJI **06** 14:08:17.3, 39°.50N×143°.90E, h31km, mb4.5/47, mB4.9/30, Ms4.2/15, Ms7 4.0/14*

*JMA **06** 14:08:18.9±0.2, 39°.65N×143°.65E, h28km, M4.3*

*IDC **06** 14:08:18.3±0.7, 39°.72N×143°.46E, h0km, mb4.1/27, mb1 4.2/31, mb1mx4.1/70, mbtmp4.1/31, ML3.5/4, MS3.6/8, Ms1 3.7/8, ms1mx3.1/55, Error ellipse: s-maj=16.9km s-min=13.6km az=124.0*

*ISCJB **06** 14:08:19.7±1.0, 39°.68N±0°.03×143°.55E±0°.05, h24km±7km, mb4.3/62, MS3.9/12, Error ellipse: s-maj=6.8km s-min=3.5km az=34.9*

*MOS **06** 14:08:22.0±1.0, 39°.73N×143°.46E, h39km, mb4.6/31, Error ellipse: s-maj=8.4km s-min=5.7km az=103.6*

*NEIC **06** 14:08:23.6±0.8, 39°.69N×143°.47E, h37km±6km, mb4.5/9, Error ellipse: s-maj=8.9km s-min=5.4km az=124.0*

ISC 06 14:08:21.6±2.1**, 39°.71N**±0°.05×**143°.58E**±0°.06**, h22km**±8km**, n149, σ1.47s**/163**, mb4.4**/62**, MS4.0**/13**, 8C, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	1.34	280	P	Pn	14 08 43.0	-1.9
MIYJ	Miyakonagasawa	1.36	265	P	Pn	14 08 43.4	-1.9
OFUJ	Ofunato	1.60	248	P	Pn	14 08 46.6	-2.0

OFUJ eS Sn **14 09 06.8 -1.8**
JANG Nango 1.72 293 P Pn **14 08 48.5 -1.6**
JOM Ohasama 1.78 263 P Pn **14 08 49.9 -1.1**
JOM eS Sn **14 09 12.0 -1.0**
JMK Ichinoseki 1.98 248 P Pn **14 08 52.1 -1.6**
JIO Ouri 2.14 235 P Pn **14 08 53.6 -2.3**
ERM Erimo 2.33 352 ePn Pn **14 08 59.2 +0.7**
ERM Erimo 2.33 352 eP Pn **14 08 58.5 0.0**
JOT Ohata 2.55 312 P Pn **14 09 00.9 -0.7**
JOT eS Sn **14 09 32.2 +0.2**
JYK Kaneyama 2.62 253 P Pn **14 09 01.5 -1.0**
JNBK Urakawa-nobuka 2.64 347 P Pn **14 09 03.3 +0.4**
JNBK eS Sn **14 09 34.8 +0.5**
JCH Churui 2.91 357 P Pn **14 09 05.9 -0.6**
JCH eS Sn **14 09 39.5 -1.3**
JFT Otama 3.35 230 P Pn **14 09 10.9 -1.7**
JFT eS Sn **14 09 50.3 -1.4**
JAK Akkeshi 3.39 14 P Pn **14 09 12.2 -1.0**
JAK eS Sn **14 09 50.1 -2.6**
ASAJ Asahikawa 4.47 351 Pn Pn **14 09 28.4 +0.5**
2.5nm,0.3s,baz=202,slow=11,SNR=22
ASAJ Sn Sn **14 10 19.8 +0.6**
2.9nm,0.3s,baz=186,slow=32,SNR=3.9
YUK Yuzh-Kuril'sk 4.65 21 eP Pn **14 09 27.1 -3.3**
YUK eS Sn **14 10 19.6 -4.1**
YUK pmax pmax
comp=Z,159nm,0.5s
YUK smax smax
comp=N,611nm,0.6s
YUK smax smax
comp=E,327nm,0.5s
SHO Shikotan 4.82 29 eP Pn **14 09 28.8 -3.9**
SHO eS Sn **14 10 22.4 -5.4**
SHO pmax pmax
comp=Z,144nm,0.7s
SHO smax smax
comp=E,90nm,0.3s
SHO smax smax
comp=N,275nm,0.5s
MJAR Matsushiro Arr 5.28 235 Pn Pn **14 09 38.5 -0.6**
comp=N,2.3nm,0.3s,baz=40,slow=12,SNR=68
MJAR Sn Sn **14 10 38.0 -1.4**
baz=60,slow=24,SNR=2.3
MAJO Matsushiro 5.28 235 ePn Pn **14 09 38.4 -0.8**
MAJO Matsushiro 5.28 235 eP Pn **14 09 38.5 -0.7**
MAT Matsushiro 5.28 235 P Pn **14 09 38.6 -0.6**
MAT S Sn **14 10 40.0 +0.6**
MJB9 Matsu-Tunnel 5.28 235 ePn Pn **14 09 38.5 -0.7**
KUR Kuril'sk 6.37 28 eP Pn **14 09 54.0 0.0**
KUR i S Sn **14 11 03.4 -2.6**
KUR pmax pmax
comp=Z,43nm,0.6s
KUR smax smax
comp=N,117nm,0.7s
KUR smax smax
comp=E,57nm,0.5s
INU Inuyama 6.79 232 ePn Pn **14 09 59.0 -0.8**
JHJ Hachijo jima 2 7.25 206 Pn Pn **14 10 06.6 +0.4**
comp=E,9.6nm,0.3s,baz=90,slow=20,SNR=2.5
JHJ Sn Sn 14 11 18.5 -9.4
comp=E,22nm,0.3s,baz=106,slow=17,SNR=3.9
YSS Yuzh-Sakhalins 7.27 356 eP Pn **14 10 08.0 +1.6**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=N,580nm,15.0s
YSS MLR MLR
comp=E,560nm,16.0s
USRK Ussuriysk Ar. 9.73 301 Pn Pn **14 10 42.2 +2.1**
comp=E,0.4nm,0.3s,baz=93,slow=13,SNR=9.2
USRK LR LR 14 14 25.5
comp=E,269nm,18.6s,baz=104,slow=38
MDJ Mudanjiang 11.47 300 ePn Pn **14 11 05.7 +1.7**
comp=E,18nm,1.0s
GRNR Gornyy 12.15 338 eP Pn 14 11 06.0 -7.2
JNU Nakatsue 12.15 241 LR LR 14 16 19.2
comp=E,323nm,18.2s,baz=93,slow=40
KSRS Korea Array 12.46 265 Pn Pn **14 11 20.4 +3.0**
comp=E,0.2nm,0.3s,baz=89,slow=13,SNR=5.4
KSRS LR LR 14 15 44.8
comp=E,209nm,18.0s,baz=82,slow=36
KSAR Wonju Array Be 12.49 265 Pn Pn **14 11 20.4 +2.6**
KSAR Wonju Array Be 12.49 265 P Pn **14 11 20.5 +2.6**
KLR Kul'dur 12.71 322 Pn Pn **14 11 21.1 +0.2**
comp=E,0.0nm,0.3s,baz=126,slow=11,SNR=5.6
KLR LR LR 14 16 03.2
comp=E,11nm,19.8s,baz=135,slow=37
KLR Kul'dur 12.71 322 eP Pn **14 11 20.3 -0.6**
NKL Nikolayevsk 13.59 353 eP P **14 11 40.7 -1.0**
SKR Severo-Kuril's 14.07 35 eP Pn **14 11 41.7 +2.3**
SKR pmax pmax
comp=Z,101nm,1.2s
SKR pmax pmax
comp=Z,800nm,4.2s
SKR pmax pmax
comp=Z,300nm,3.8s
SKR MLR MLR
comp=Z,300nm,16.0s
SKR MLR MLR
comp=Z,600nm,15.0s
CN2 Changchun 14.13 293 eP P 14 11 53.3 +5.5
PETK Petropavlovsk- 16.52 31 Pn Pn **14 12 13.0 +1.2**
comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=4.4
PETK Petropavlovsk- 16.52 31 P Pn **14 12 13.0 +1.2**
ZEA Zeya 17.89 327 eP Pn **14 12 25.4 -3.4**
ZEA pmax pmax
comp=Z,17nm,1.0s
ZEA MLR MLR
comp=Z,400nm,15.0s
ZEA MLR MLR
comp=N,200nm,14.0s
HIA Hailar 19.43 307 eP P **14 12 45.5 -0.9**
comp=N,9.3nm,0.5s
HIA Hailar 19.43 307 eP P **14 12 45.5 -0.9**
HIA pmax pmax
comp=Z,9.0nm,0.5s
MA2 Magadan 20.40 11 P P **14 12 56.9 +0.1**
comp=Z,9.0nm,0.8s,baz=194,slow=8.8,SNR=33
TIA Tai'an 21.12 269 P P **14 13 02.6 -2.2**
TIA pmax pmax
comp=Z,8.0nm,1.0s
NJ2 Nanjing 21.39 257 eP P **14 13 07.2 -0.5**
NJ2 pmax pmax
comp=Z,12nm,0.5s
SEY Seymchan 23.85 10 P P **14 13 33.0 +0.1**
comp=Z,7.2nm,0.8s,baz=198,slow=8.6,SNR=29
SEY Seymchan 23.85 10 eP P **14 13 33.8 +0.8**
YAK Yakutsk 23.91 344 P P **14 13 32.1 -1.4**
comp=Z,10nm,0.5s,baz=224,slow=2.6,SNR=4.2
YAK Yakutsk 23.91 344 eP P **14 13 31.9 -1.5**
comp=Z,15nm,0.8s
YAK Yakutsk 23.91 344 eP P **14 13 31.4 -2.0**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
HHC Hu-ho-hao-te 24.38 283 eP P **14 13 36.6 -1.6**
HHC S S **14 17 51.0 -5.6**
HHC pmax pmax
comp=E,15nm,0.9s
HHC pmax pmax
comp=E,58nm,4.5s
HHC LR LR
comp=E,160nm,12.0s
HHC LR LR
comp=E,300nm,11.7s
HHC LR LR
comp=E,290nm,11.7s
WHN Wuhan 25.50 258⇑ i P P **14 13 47.4 -0.9**
WHN pmax pmax
comp=E,52nm,0.8s
BOD Bodaibo 26.29 323 eP P **14 13 54.0 -1.2**
BOD pmax pmax
comp=Z,16nm,1.1s
ULN Ulaanbaatar 27.39 299 eP P **14 14 05.2 -0.2**
comp=Z,10nm,1.1s
ULN Ulaanbaatar 27.39 299 ceP P **14 14 05.0 -0.4**
ULN pmax pmax
comp=Z,12nm,1.2s
SONA1 Songino Array 27.83 299 eP P **14 14 09.3 -0.1**
SONM Songino Array 27.83 299 P P **14 14 09.1 -0.3**
comp=Z,2.9nm,0.7s,baz=94,slow=8.6,SNR=19
SONM LR LR 14 25 50.5
comp=Z,134nm,20.4s,baz=114,slow=38
XAN Xi'an 28.18 269 P P **14 14 12.0 -0.5**
XAN pP pP 14 14 19.6 +0.6
XAN pmax pmax
comp=Z,7.0nm,1.0s
XAN pmax pmax
comp=Z,110nm,4.5s
H11N2 WAKE ISLAND Hy 28.25 128 T T 14 45 13.9
baz=318,slow=75,SNR=3.2
H11N1 WAKE ISLAND Hy 28.26 128 T T 14 44 52.7
baz=318,slow=75,SNR=11
H11N3 WAKE ISLAND Hy 28.27 128 T T 14 45 16.4
baz=318,slow=75,SNR=2.7
ENH Enshi 29.32 262 eP P **14 14 21.1 -1.6**
comp=Z,12nm,0.9s
TLY Talaya 29.98 307 eP P **14 14 29.0 +0.8**
TLY pmax pmax
comp=Z,7.0nm,1.3s
TLY MLR MLR
comp=Z,86nm,17.0s
ZAK Zakamensk 30.06 304 eP P **14 14 28.1 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
BILL Bilibino 30.99 16 i P P **14 14 39.5 +2.6**
BILL i 14 17 31.2
BILL pmax pmax
comp=Z,2.0nm,1.1s
LZH Lanzhou 31.38 276 eP P **14 14 41.2 +0.2**
LZH pP sP 14 14 50.5 +0.2
LZH sP pP 14 14 53.8 +6.2
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,160nm,4.4s
LZH LR LR
comp=Z,220nm,12.4s
LZH LR LR
comp=Z,250nm,11.6s
LZH LR LR
comp=Z,250nm,12.8s
TIXI Tiksi 32.87 351 eP P **14 14 53.8 +0.4**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
CD2 Chengdu 33.43 267 eP P **14 14 57.4 -1.5**
CD2 pP pP 14 15 06.4 +0.9
CD2 sP sP 14 15 10.4 +2.2
CD2 S S **14 20 18.8 -0.3**
CD2 sS sS 14 20 34.2 +4.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,350nm,11.9s
CD2 LR LR
comp=Z,360nm,11.7s
GTA Gaotai 33.49 284 eP P **14 14 59.7 +0.3**
GTA pP sP 14 15 09.1 +0.4
GTA sP pP 14 15 12.7 +6.7
GTA S S **14 20 19.6 -0.4**
GTA sS sS 14 20 35.7 +4.8
GTA SS SnSn **14 22 24.0 +1.5**
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,59nm,6.2s
GTA LR LR
comp=Z,130nm,14.3s
GTA LR LR
comp=Z,260nm,17.6s
GTA LR LR
comp=Z,330nm,16.9s
KMI Kunming 37.09 259 P P **14 15 30.8 +0.3**
KMI pmax pmax
comp=Z,20nm,0.5s
KMI pmax pmax
comp=Z,120nm,4.7s
WMQ Urumqi 41.21 295 P P **14 16 04.9 +0.2**
WMQ pP pP 14 16 11.1 -0.3
WMQ sP sP 14 16 15.4 +1.3
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ pmax pmax
comp=Z,290nm,4.1s
WMQ LR LR
comp=Z,95nm,15.9s
WMQ LR LR
comp=Z,97nm,16.7s
WMQ LR LR
comp=Z,110nm,16.7s
ZAA0 Zalesovo Array 41.43 310 eP P **14 16 06.0 -0.2**
comp=Z,3.6nm,0.6s
ZALV Zalesovo Beam 41.43 310 P P **14 16 06.0 -0.2**
comp=Z,2.5nm,0.5s,baz=95,slow=7.8,SNR=10
ZALV PcP PcP **14 18 03.4 -0.4**
comp=Z,1.1nm,0.6s,baz=62,slow=3.9,SNR=3.9
ZALV LR LR 14 34 04.8
comp=Z,56nm,18.5s,baz=79,slow=37
ZALV Zalesovo Beam 41.43 310 eP P **14 16 05.5 -0.7**
ZALV PcP PcP **14 18 03.4 -0.4**
ZALV Zalesovo Beam 41.43 310 eP P **14 16 05.5 -0.7**
ZALV 14 18 03.4
CHTO Chiang Mai 43.62 255 eP P **14 16 23.2 -1.2**
CHTO Chiang Mai 43.62 255 eP P **14 16 23.2 -1.2**
CMAR Chiang Mai Arr 43.84 254 P P **14 16 25.7 -0.5**
comp=Z,0.8nm,0.6s,baz=41,slow=7.2,SNR=8.9
MK01 Makanchi Array 44.19 300 eP P **14 16 28.2 -0.6**
MK31 Makanchi Array 44.19 300 eP P **14 16 28.2 -0.6**
MK31 Makanchi Array 44.19 300 ceP P **14 16 27.9 -0.9**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 44.19 300 P P **14 16 28.4 -0.4**
comp=Z,3.8nm,0.8s,baz=84,slow=9.0,SNR=32
MKAR LR LR 14 35 47.7
comp=Z,85nm,18.9s,baz=56,slow=37
MKAR Makanchi Array 44.19 300 eP P **14 16 28.2 -0.6**
comp=Z,28nm,0.7s
MAKZ Makanchi 44.40 300 eP P **14 16 30.0 -0.4**
comp=Z,6.1nm,1.0s
MAKZ Makanchi 44.40 300 i P P **14 16 29.8 -0.6**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 45.67 306 eP P **14 16 39.8 -0.6**
comp=Z,9.6nm,0.8s
KURK Kurchatov 45.67 306 ceP P **14 16 39.7 -0.7**
KURK pmax pmax
comp=Z,11nm,1.0s
KURBB Kurchatov Arra 45.74 306 P P **14 16 40.3 -0.7**
comp=Z,6.2nm,0.8s,baz=81,slow=8.5,SNR=54
ILAR Eielson Array 46.33 34 P P **14 16 46.0 +0.6**
comp=Z,0.7nm,0.7s,baz=259,slow=5.7,SNR=8.3
PDGK Podgornoye 47.07 296 i P P **14 16 50.5 -1.2**
PDGK pmax pmax
comp=Z,1.0nm,0.5s
TAPN Taplejung 47.48 273 eP P **14 16 53.8 -1.5**
comp=Z,16nm,1.2s
JIRN Jiri 48.50 274 eP P **14 17 02.6 -0.7**
comp=Z,30nm,0.9s
RAMN Ramite 48.54 273 eP P **14 17 03.2 -0.2**
comp=Z,22nm,0.8s
GUN Gumba 48.61 274 eP P **14 17 03.7 -0.4**
comp=Z,28nm,0.6s
KKN Kakani 49.13 275 eP P **14 17 07.7 -0.3**
comp=Z,22nm,0.7s
DMN Daman 49.36 275 eP P **14 17 09.5 -0.2**
comp=Z,9.3nm,0.8s
TKM2 Tokmak 2 49.89 297 i P P **14 17 13.4 -0.1**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
DANN Dangsing 50.03 276 eP P **14 17 15.2 +0.4**
comp=Z,3.0nm,0.9s
BVA0 Borovoye Array 50.07 311 i P P **14 17 14.0 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 50.07 311 P P **14 17 14.4 -0.1**
comp=Z,2.4nm,0.6s,baz=86,slow=12,SNR=13
BRVK Borovoye 50.12 311 i P P **14 17 15.2 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
KOLN Koldanda 50.44 276 eP P **14 17 17.7 -0.1**
comp=Z,20nm,1.0s
PYUN Piuthan 50.74 276 eP P **14 17 20.7 +0.6**
comp=Z,36nm,1.0s
AAK Ala-Archa 50.75 297 eP P **14 17 18.8 -1.2**
AAK pmax pmax
comp=Z,1.0nm,0.9s
KSH Kashi 50.90 293 eP P **14 17 24.5 +3.4**
KSH sP sP 14 17 38.0 +7.4
KSH PcP PcP **14 18 38.1 +0.7**
KSH S S **14 24 40.5 +4.0**
KSH sS sS 14 24 56.5 +8.8
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,49nm,6.8s
KSH LR LR
comp=Z,99nm,10.5s
KSH LR LR
comp=Z,140nm,5.9s
KSH LR LR
comp=Z,220nm,6.4s
INK Inuvik 51.23 28 P P **14 17 24.2 +1.3**
comp=Z,1.1nm,0.9s,baz=314,slow=4.4,SNR=4.0
MNAS Manas 52.17 298 i P P **14 17 30.1 -0.5**
MNAS pmax pmax
comp=Z,5.0nm,0.8s
SFK Sufi-Kurgan 52.45 294 i P P **14 17 32.5 -0.3**
SFK pmax pmax
comp=Z,6.0nm,1.0s
KK31 Karatay Array 53.28 299 ceP P **14 17 37.6 -1.1**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 53.28 299 eP P **14 17 37.9 -0.8**
KKAR Karatay Array 53.28 299 eP P **14 17 37.9 -0.8**
SVE Sverdlovsk 54.29 318 eP P **14 17 46.5 +0.7**
ARU Arti 55.50 318 P P **14 17 53.4 -1.2**
comp=Z,3.0nm,0.7s,baz=97,slow=3.9,SNR=6.3
ARU Arti 55.50 318 eP P **14 17 54.5 0.0**
comp=Z,4.1nm,0.9s
ARU Arti 55.50 318 eP P **14 17 54.5 0.0**
ARU pmax pmax
comp=Z,4.0nm,0.9s
AB31 Akbulak array 57.54 309 ceP P **14 18 08.5 -0.6**
AB31 pmax pmax
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 57.54 309 eP P **14 18 08.7 -0.4**
comp=Z,35nm,0.6s
AKTO Aktyubinsk 58.17 311 P P **14 18 12.7 -0.9**
comp=Z,1.8nm,0.7s,baz=50,slow=9.4,SNR=8.1
AKTO Aktyubinsk 58.17 311 i P P **14 18 15.4 +1.8**
AKTO pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 59.96 190 P P **14 18 24.8 -1.5**
comp=Z,0.9nm,0.9s,baz=7.6,slow=6.9,SNR=8.0
WRA Warramunga Arr 59.96 190 i P P **14 18 25.6 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 60.65 31 P P **14 18 28.9 -1.5**
comp=Z,0.2nm,0.8s,baz=298,slow=6.4,SNR=3.7
ASAR Alice Springs 63.69 190 P P **14 18 52.4 +1.1**
comp=Z,0.6nm,0.9s,baz=26,slow=6.0,SNR=4.4
GEYT Alibeck 64.04 299 P P **14 18 53.5 -0.2**
comp=Z,1.1nm,0.3s,baz=83,slow=4.7,SNR=6.4
OBN Obninsk 66.97 323 eP P **14 19 11.3 -0.9**
OBN e 14 21 38.4
OBN ePPP PPP 14 23 14.5
OBN pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 67.24 332 P P **14 19 13.6 -0.2**
comp=Z,3.5nm,0.8s,baz=46,slow=5.5,SNR=10
FINES FINESS Array B 67.24 332 i P P **14 19 12.6 -1.2**
FINES pmax pmax
comp=Z,4.0nm,0.8s
VSU Vasula 69.01 330 ceP P **14 19 24.6 -0.3**
VSU pmax pmax
comp=Z,39nm,2.5s
KIV Kislovodsk 70.43 311 eP P **14 19 30.8 -3.4**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,71nm,18.0s
KBZ Khabaz 70.45 311 P P **14 19 34.6 +0.6**
comp=Z,2.6nm,0.8s,baz=55,slow=4.4,SNR=4.5
GNI Garni 71.47 307 eP P **14 19 38.8 -1.8**
GNI pmax pmax
comp=Z,43nm,1.2s
NVAR Mina Array Bea 72.04 55 P P **14 19 45.5 +1.3**
comp=Z,0.5nm,0.7s,baz=297,slow=7.0,SNR=2.7
HFS Hagfors 72.34 336 P P **14 19 44.6 -0.7**
comp=Z,3.1nm,0.9s,baz=35,slow=5.4,SNR=6.3
HFS Hagfors 72.34 336 P P **14 19 44.6 -0.7**
HFS pmax pmax
comp=Z,5.0nm,0.9s
NB2 NORSAR Subarra 72.37 338 P P **14 19 45.3 -0.2**
comp=Z,1.8nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 72.37 338 P P **14 19 44.6 -0.9**
comp=Z,2.4nm,0.8s,baz=39,slow=6.0,SNR=7.8
NOA LR LR 14 54 38.9
comp=Z,39nm,21.3s,baz=295,slow=38
AKASG Malin Array Be 73.21 323 P P **14 19 50.0 -0.5**
comp=Z,0.2nm,0.3s,baz=43,slow=5.7,SNR=5.8
AKASG Malin Array Be 73.21 323 ceP P **14 19 51.2 +0.6**
KIEV Kiev 73.22 323 eP P **14 19 49.4 -1.2**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 74.59 47 P P **14 20 00.0 +0.9**
comp=Z,0.3nm,0.5s,baz=298,slow=4.6,SNR=3.0
BUR08 Bucovina Ar. S 77.24 322 eP P **14 20 14.4 +0.4**
BRTR Keskin Array B 78.33 312 P P **14 20 20.4 +0.1**
comp=Z,0.6nm,0.7s,baz=59,slow=4.7,SNR=3.1
CLL Collm 79.61 331 eP P **14 20 27.0 +0.2**
GERES GERESS Array B 81.31 329 P P **14 20 36.1 -0.1**
comp=Z,0.4nm,0.2s,baz=28,slow=6.7,SNR=3.2
ANMO Albuquerque 81.58 51 eP P **14 20 37.8 -0.2**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
TXAR Lajitas Array 87.16 54 P P **14 21 08.8 +2.6**
comp=Z,0.2nm,0.5s,baz=278,slow=3.3,SNR=3.8
ESDC Sonseca Array 95.61 335 LR LR 15 12 15.0
comp=Z,48nm,18.2s,baz=340,slow=40

ISCJB ***06*** *14:20:00.5±0.5,53.°00S±0.°07×10.°3E±0.°2,h10km, mb4.4/11,MS3.8/18,Error ellipse: s-maj=17.5km s-min=9.8km az=7.3*
IDC ***06*** *14:20:00.7±0.6,52.°92S×10.°37E,h0km,mb4.5/9, mb1 4.7/10,mb1mx4.4/35,mbtmp4.5/10,ML4.5/1,MS3.8/19, Ms1 3.8/19,ms1mx3.6/34,Error ellipse: s-maj=23.3km s-min=17.4km az=91.0*
NEIC ***06*** *14:20:02.2±0.3,52.°98S×10.°27E,h10km,mb4.8/1,Error ellipse: s-maj=15.6km s-min=9.9km az=97.0*
ISC 06 14:20:02.2±0.5,52.°99S±0.°09×10.°3E±0.°2,h10km,n41, σ0.92/29,mb4.7/11,MS3.8/18,1C,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**19.61**	**198**	P	P		**Pn**	**14 24 31.2**	**-0.4**
SNAA	**Sanae**	**19.63**	**192**	P	P		**Pn**	**14 24 31.5**	**-0.4**
SNAA	**Sanae**	**19.63**	**192**	P	P		**Pn**	**14 24 31.0**	**+0.4**
	1.3nm,0.3s,baz=26,slow=10.0,SNR=53								
SNAA				S	S		S	14 27 54.9	-17
	0.1nm,0.3s,baz=335,slow=19,SNR=2.5								
SNAA				LR	LR		LR	14 30 21.6	
	comp=Z,524nm,20.9s,baz=356,slow=32								
VNA2	**Neumayer--Watz**	**19.68**	**197**	P	P		**P**	**14 24 31.1**	**+0.1**
	baz=22,slow=12								
VNA3	**Neumayer Olymp**	**20.36**	**199**	P	P		**P**	**14 24 39.1**	**+0.6**
SYO	**Syowa Base**	**21.08**	**151**⇑	eP	P		**P**	**14 24 45.6**	**-0.6**
SUR	**Sutherland**	**21.94**	**24**	P	P		**P**	**14 24 54.9**	**-1.1**
	1.8nm,1.1s,baz=187,slow=7.0,SNR=2.7								
SUR				LR	LR		LR	14 31 20.9	
	comp=Z,38nm,19.8s,baz=200,slow=31								
SUR	**Sutherland**	**21.94**	**24**	eP	P		**P**	**14 24 57.6**	**+1.6**
BOSA	**Boshof**	**26.73**	**30**	LR	LR		LR	14 34 31.7	
	comp=Z,412nm,19.8s,baz=195,slow=33								
MAW	**Mawson**	**28.76**	**141**	LR	LR		LR	14 35 18.5	
	comp=Z,84nm,21.1s,baz=246,slow=32								
QSPA	**South Pole Qui**	**37.25**	**180**	eP	P		**P**	**14 27 13.1**	**-0.6**
LSZ	**Lusaka**	**40.19**	**27**	P	P		**P**	**14 27 38.9**	**+0.1**
	2.3nm,0.8s,baz=187,slow=8.1,SNR=3.1								
OPO	**Ambohidratompo**	**44.68**	**54**	LR	LR		LR	14 43 23.9	
	comp=Z,85nm,18.2s,baz=186,slow=31								
VNDA	**Vanda**	**48.56**	**172**	P	P		**P**	**14 28 45.9**	**+1.0**
	7.4nm,0.8s,baz=230,slow=6.8,SNR=15								
VNDA				LR	LR		LR	14 48 28.6	
	comp=Z,316nm,19.8s,baz=187,slow=35								
PLCA	**Paso Flores**	**53.80**	**248**	LR	LR		LR	14 49 08.1	
	comp=Z,76nm,21.3s,baz=163,slow=32								
CPUP	**Villa Florida**	**56.10**	**270**	P	P		**P**	**14 29 41.4**	**-0.2**
	16nm,0.9s,baz=126,slow=6.0,SNR=33								
CPUP				LR	LR		LR	14 50 42.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,27nm,20.4s,baz=146,slow=33						
KMBO	Kilima Mbogo	56.32	33	LR	LR	14 53 42.3	
	comp=Z,207nm,18.2s,baz=92,slow=36						
TORD	Torodi Ar. Bea	66.28	351	P	P	14 30 50.2	-0.3
	5.5nm,1.0s,baz=184,slow=7.5,SNR=16						
TORD				LR	LR	14 54 04.0	
	comp=Z,56nm,21.5s,baz=160,slow=31						
H08N3	Diego Garcia H	67.55	70	T	T	15 44 38.2	
	baz=214						
H08N1	Diego Carcia H	67.57	70	T	T	15 44 47.1	
	baz=214						
H08N2	Diego Garcia H	67.57	70	T	T	15 44 43.5	
	baz=214						
KOWA	Kowa	68.33	345	P	P	14 31 02.8	-0.7
	5.3nm,1.0s,baz=202,slow=6.8,SNR=8.0						
KOWA				LR	LR	14 56 57.0	
	comp=Z,100nm,18.1s,baz=209,slow=32						
LPAZ	La Paz	70.23	269	P	P	14 31 17.0	+0.8
	24nm,0.8s,baz=125,slow=4.3,SNR=57						
LPAZ				LR	LR	14 59 29.9	
	comp=Z,34nm,20.3s,baz=123,slow=34						
SAML	Samuel	72.98	278	eP	P	14 31 32.1	0.0
	8.7nm,1.0s						
STKA	Stephens Creek	85.45	140	P	P	14 32 40.5	+0.5
	2.1nm,0.8s,baz=172,slow=7.1,SNR=3.4						
KEST	Kesra	88.35	359	LR	LR	15 08 55.7	
	comp=Z,41nm,20.9s,baz=268,slow=33						
MMAI	Mount Meron Ar	88.39	21	LR	LR	15 12 22.3	
	comp=Z,71nm,18.3s,baz=210,slow=36						
IDI	Anoyia	88.82	12	LR	LR	15 13 59.2	
	comp=Z,57nm,20.1s,baz=259,slow=36						
ASAR	Alice Springs	89.35	130	P	P	14 32 59.1	+0.1
	1.7nm,1.0s,baz=200,slow=4.4,SNR=5.8						
WRA	Warramunga Arr	92.76	129	P	P	14 33 14.4	-0.4
	0.5nm,1.1s,baz=203,slow=4.5,SNR=2.5						
BRTR	Keskin Array B	94.52	18	LR	LR	15 18 00.7	
	comp=Z,26nm,18.5s,baz=170,slow=37						
GNI	Garni	97.43	26	LR	LR	15 18 12.7	
	comp=Z,51nm,18.2s,baz=206,slow=36						
MLR	Muntele Rosu	99.01	11	LR	LR	15 21 27.7	
	comp=Z,15nm,19.2s,baz=212,slow=37						
GEYT	Alibeck	99.58	36	LR	LR	15 22 18.1	
	comp=Z,50nm,18.2s,baz=330,slow=38						
MKAR	Makanchi Array	116.75	47	PKP	PKPdf	14 38 44.7	-1.1
	0.6nm,0.9s,baz=233,slow=5.9,SNR=4.7						
BVAR	Borovoye Array	116.91	36	PKP	PKPdf	14 38 46.5	+0.6
	1.2nm,0.8s,baz=246,slow=2.4,SNR=4.9						
TXAR	Lajitas Array	127.08	271	PKP	PKPdf	14 39 06.3	0.0
	0.6nm,1.0s,baz=178,slow=3.8,SNR=4.1						
PDAR	Pinedale Array	139.53	280	PKP	PKPdf	14 39 28.8	-0.7
	0.4nm,0.6s,baz=126,slow=3.8,SNR=3.8						
TIXI	Tiksi	147.89	32	ePKPbc	PKPbc	14 39 45.5	-0.3
YKA	Yellowknife Ar	150.02	310	PKP	PKPdf	14 39 44.6	-1.9
	0.6nm,1.0s,baz=72,slow=2.1,SNR=8.1						
YKA				PKPbc	sPKPdf	14 39 51.3	+0.2
	5.3nm,0.9s,baz=90,slow=2.5,SNR=57						
YKA				PKPab	PKPab	14 39 57.6	+0.2
	1.3nm,0.7s,baz=94,slow=3.0,SNR=11						
ILAR	Eielson Array	163.45	324	PKP	PKPdf	14 40 06.5	+2.8
	0.5nm,0.9s,baz=90,slow=0.5,SNR=4.3						
ILAR				PKPab	PKPab	14 40 55.3	+0.3
	0.7nm,0.9s,baz=50,slow=3.8,SNR=5.8						

IDC 06 14:25:27.7±999.0, 66°.49N×39°.36E, h0km, Error ellipse: s-maj=710.7km s-min=272.7km az=118.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	18.72	140	i		16 24 10.0	
	baz=336,slow=342,SNR=1.7						
I46RU	ZALESOVO INFRA	25.15	98	i		16 56 30.0	
	baz=321,slow=330,SNR=1.1						
I34MN	SONGINO INFRAS	38.56	85	i		18 25 10.0	
	baz=321,slow=333,SNR=0.6						

MAN 06 14:34:45, 10°.30N×123°.19E, h1km, mb4.0, ML2.8, MS2.4, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.68	299	eP	Pb	14 34 59.7	+0.1
GUIM				eS	Sb	14 35 10.8	+1.3
LLP	Lapu-Lapu	0.76	88	eP	Pg	14 35 00.2	+0.6
LLP				eS	Sg	14 35 10.5	+0.9
SNPH	Sibulan	0.95	177	⇓iP	Pb	14 35 04.3	+0.1
SNPH				i S	Sb	14 35 16.6	-0.8
RCP	Roxas	1.33	341	⇑eP	Pb	14 35 10.8	+0.1
MSLP	Maasin	1.65	95	eP	Pb	14 35 16.0	-0.3
MSLP				eS	Sg	14 35 38.5	+0.4

NNC 06 14:35:56.9±1.6, 39°.24N×76°.05E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=12.9km s-min=6.2km az=160.0

ISC 06 14:35:59.6±3.1, 39°.4N±0°.2×76°.01E±0°.08, h10km, n13, σ1s.80/15, 8C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.04	290	⇑P	Pn	14 36 33.0	-1.3
	10nm,0.2s						
SFK				⇑S	Sb	14 37 02.4	-0.1
	78nm,0.5s						
KZA	Kyzart	2.79	348	P	Pb	14 36 50.3	+0.6
	SNR=12						
ULHL	Ulahol	2.90	3	P	Pg	14 36 52.8	-2.3
	SNR=18						
UCH	Uchtor	3.09	339	P	Pb	14 36 55.2	+0.3
	SNR=12						
AML	Almayashu	3.29	328	P	Pb	14 36 59.0	+0.7
	SNR=11						
KBK	Karagaybulak	3.40	347	P	Pg	14 37 01.9	-2.8
	SNR=14						
AAK	Ala-Archa	3.48	341	⇓Pg	Pb	14 37 02.9	+1.5
AAK				⇓Lg	Lg	14 37 50.5	
	19nm,1.1s						
TKM2	Tokmak 2	3.58	355	⇓Pg	Pb	14 37 04.6	+1.5
	1.8nm,0.3s						
TKM2				⇓Lg	Lg	14 37 54.6	
	5.7nm,0.6s						
TKM2	Tokmak 2	3.58	355	P	Pb	14 37 04.0	+0.8
	SNR=5.8						
MDOK	Medeo	3.89	11	Pn	Pn	14 37 01.0	+1.4
	2.7nm,0.5s						
MDOK				⇑Lg	Lg	14 38 04.2	
	7.0nm,0.6s						
MNAS	Manas	4.11	321	⇑Pg	Pb	14 37 13.3	+1.2
	1.1nm,0.6s						
MNAS				⇓Lg	Lg	14 38 08.9	
	3.3nm,0.6s						
PDGK	Podgornoye	4.76	32	⇑Pg	Pb	14 37 24.4	+1.2
	3.0nm,0.7s						
PDGK				⇑Lg	Lg	14 38 29.3	
	10nm,0.8s						
KK31	Karatay Array	5.59	314	⇓Pg	Pb	14 37 40.1	+2.9
	1.0nm,0.6s,baz=138,slow=16,SNR=4.6						
KK31				⇑Sn	Sn	14 38 29.1	+2.1
	0.4nm,0.4s						
KK31				⇑Lg	Lg	14 38 57.1	
	1.3nm,0.6s						

IDC 06 14:41:31.4±0.8, 35°.11N×141°.36E, h0km, mb3.5/8, mb1 3.7/11, mb1mx3.5/65, mbtmp3.7/11, ML3.6/4, MS3.4/3, Ms1 3.4/3, ms1mx2.6/49, Error ellipse: s-maj=25.8km s-min=15.4km az=94.0

ISCJB 06 14:41:33.4±0.6, 35°.09N±0°.05×141°.46E±0°.07, h27km, mb3.5/8, MS3.7/2, Error ellipse: s-maj=8.0km s-min=6.2km az=21.3

JMA 06 14:41:33.5±0.3, 35°.14N×141°.45E, h31km, M2.8

ISC 06 14:41:35.2±0.8, 35°.16N±0°.05×141°.34E±0°.08, h27km, n30, σ1s.08/24, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.58	211	P	Pb	14 41 45.6	-0.9
CHOJ	Chosi	0.67	325	P	Pb	14 41 47.7	-0.7
BSO3	Boso 3	0.77	243	P	Pb	14 41 49.0	-0.7
BSO4	Boso 4	0.84	259	P	Pn	14 41 50.7	-0.4
BSO4				eS	Sn	14 42 02.3	-0.2
JCN	Nagara	0.97	286	P	Pn	14 41 52.6	-0.4
JYT	Yasato	1.42	319	P	Pn	14 41 59.7	+0.5
JHO	Hitachi	1.58	337	P	Pn	14 42 01.3	-0.2
JIM2	Oshima 3	1.63	255	P	Pn	14 42 01.7	-0.4
JHJ	Hachijo jima 2	2.41	213	Pn	Pn	14 42 13.2	+0.4
	17nm,0.3s,baz=337,slow=21,SNR=7.2						
JHJ				Sn	Sn	14 42 41.8	+0.4
	27nm,0.3s,baz=90,slow=20,SNR=4.2						
MJAR	Matsushiro Arr	2.89	299	Pn	Pn	14 42 21.0	+1.4
	1.3nm,0.3s,baz=127,slow=8.7,SNR=15						
MAT	Matsushiro	2.90	299	P	Pn	14 42 21.8	+2.2
MAT				S	Sn	14 42 52.0	-1.5
JCJ	Chichijima	8.07	175	Pn	Pn	14 43 29.0	-1.6
	3.9nm,0.3s,baz=345,slow=19,SNR=2.9						
ASAJ	Asahikawa	9.00	6	Pn	Pn	14 43 41.2	-2.1
	1.3nm,0.3s,baz=222,slow=9.2,SNR=20						
KSRS	Korea Array	11.07	286	LR	LR	14 48 40.7	
	comp=Z,42nm,18.0s,baz=62,slow=39						
MA2	Magadan	25.20	11	P	P	14 46 59.9	+1.6
	0.6nm,0.2s,baz=227,slow=8.9,SNR=5.3						
H11N2	WAKE ISLAND Hy	27.29	118	T	T	15 15 54.0	
	baz=309,slow=75,SNR=6.4						
H11N1	WAKE ISLAND Hy	27.29	118	T	T	15 15 56.7	
	baz=309,slow=75,SNR=4.9						
H11N3	WAKE ISLAND Hy	27.30	118	T	T	15 15 55.8	
	baz=309,slow=75,SNR=5.6						
H11S1	WAKE ISLAND Hy	27.93	120	T	T	15 16 37.8	
	baz=312,slow=75,SNR=12						
H11S3	WAKE ISLAND Hy	27.93	120	T	T	15 16 38.9	
	baz=312,slow=75,SNR=4.8						
H11S2	WAKE ISLAND Hy	27.95	120	T	T	15 16 39.6	
	baz=312,slow=75,SNR=7.3						
ZALV	Zalesovo Beam	43.15	314	P	P	14 49 33.5	+0.3
	0.6nm,0.7s,baz=95,slow=6.9,SNR=3.5						
MKAR	Makanchi Array	45.09	304	P	P	14 49 49.3	+0.4
	0.5nm,0.7s,baz=89,slow=9.5,SNR=7.3						
ILAR	Eielson Array	51.12	32	P	P	14 50 36.0	+0.8
	0.5nm,1.0s,baz=262,slow=5.4,SNR=4.3						
BVAR	Borovoye Array	51.80	313	P	P	14 50 40.1	-0.4
	0.3nm,0.6s,baz=73,slow=6.3,SNR=3.5						
WRA	Warramunga Arr	55.20	188	P	P	14 51 05.3	-0.3
	0.7nm,0.5s,baz=5.7,slow=7.6,SNR=17						
ASAR	Alice Springs	58.92	188	P	P	14 51 31.8	-0.2
	0.3nm,0.7s,baz=12,slow=14,SNR=3.5						
DZM	Mont Dzumac	61.70	153	LR	LR	15 16 20.6	
	comp=Z,46nm,20.5s,baz=234,slow=34						
YKA	Yellowknife Ar	65.46	30	P	P	14 52 16.5	+1.1
	0.2nm,0.7s,baz=300,slow=4.9,SNR=3.1						
FINES	FINESS Array B	70.45	333	LR	LR	15 25 40.1	
	comp=Z,47nm,18.7s,baz=189,slow=38						

IDC 06 14:41:40.4±2.2, 7°.17S×128°.98E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.2/54, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=79.9km s-min=30.1km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.34	196	Pn	Pn	14 44 25.2	+1.4
	0.1nm,0.3s,baz=9.5,slow=12,SNR=4.7						
FITZ				Sn	Sn	14 46 19.2	-12
	0.1nm,0.3s,baz=345,slow=20,SNR=2.3						
WRA	Warramunga Arr	13.72	158	Pn	Pn	14 44 55.5	-0.8
	0.3nm,0.3s,baz=336,slow=12,SNR=11						
WRA				Sn	Sn	14 47 15.6	-14
	0.1nm,0.3s,baz=334,slow=23,SNR=4.1						
ASAR	Alice Springs	17.07	164	P	Pn	14 45 40.0	-0.6
	0.1nm,0.3s,baz=336,slow=9.4,SNR=8.3						
MKAR	Makanchi Array	67.82	327	P	P	14 52 40.3	0.0
	0.1nm,0.5s,baz=137,slow=7.2,SNR=2.6						

IDC 06 14:44:54.7±7.3, 4°.02N×96°.70E, h40km±54km, mb3.2/5, mb1 3.5/6, mb1mx3.1/67, mbtmp3.5/6, ML3.7/1, MS2.5/2, Ms1 2.6/2, ms1mx2.3/28, Error ellipse: s-maj=114.6km s-min=21.0km az=57.0

DJA 06 14:44:54.5±0.3, 4°N±2°×9°7E±°, h10km, M4.1/11, MLv4.1/11

ISC 06 14:44:55.3±1.1, 4°.15N±0°.05×97°.05E±0°.05, h31km±10km, n17, σ1s.48/20, mb3.4/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	0.66	280	P	Pb	14 45 07.4	-1.0
MLSI				S	Sn	14 45 18.0	+0.3
TPTI		0.90	172	P	Pb	14 45 11.4	-1.0
TPTI				S	Sb	14 45 24.1	+0.1
KCSI	Kotacane, Aceh	0.95	131	P	Pn	14 45 12.2	-0.4
KCSI				S	Sb	14 45 26.0	+0.3
LHMI	Lhok Sumawe	1.07	355	P	Pn	14 45 14.5	+0.2
LHMI				S	Sb	14 45 30.2	+1.1
TSI	Tuntungan	1.64	113	P	Pb	14 45 24.7	-0.3
TSI				S	Sb	14 45 46.4	+1.0
PSI	Prapat	2.30	126	Pn	Pb	14 45 34.0	-2.3
	15nm,0.3s,baz=323,slow=12,SNR=47						
PSI				Sn	Sb	14 46 04.7	+0.2
	12nm,0.3s,baz=321,slow=22,SNR=5.6						
PSI				LR	LR	14 46 58.4	
	comp=Z,65nm,19.2s,baz=172,slow=48						
GSI	Gunungsitoli	2.88	169	P	Pn	14 45 41.3	+2.2
MNSI	Mandailing Nat	4.18	143	P	Pn	14 45 58.9	+1.9
CMAR	Chiang Mai Arr	14.34	7	Pn	P	14 48 26.1	+3.2
	0.1nm,0.3s,baz=200,slow=11,SNR=9.8						
CMAR				Lg	Lg	14 52 27.3	
	0.1nm,0.3s,baz=187,slow=33,SNR=5.2						
CMAR				LR	LR	14 53 47.7	
	comp=Z,23nm,18.3s,baz=170,slow=37						
H08S2	Diego Garcia H	27.16	244	T	T	15 18 02.1	
	baz=65						
H08S3	Diego Garcia H	27.16	245	T	T	15 18 05.8	
	baz=65						
H08S1	Diego Carcia H	27.18	244	T	T	15 18 13.7	
	baz=65						
WRA	Warramunga Arr	43.77	125	P	P	14 52 58.2	-0.2
	1.5nm,0.8s,baz=303,slow=9.2,SNR=15						
SONM	Songino Array	44.26	9	P	P	14 53 01.8	-0.2
	0.3nm,0.6s,baz=198,slow=8.5,SNR=2.1						
MKAR	Makanchi Array	44.36	346	P	P	14 53 01.7	-1.1
	0.5nm,0.8s,baz=147,slow=8.6,SNR=5.3						
ASAR	Alice Springs	45.33	129	P	P	14 53 10.8	0.0
	0.4nm,0.5s,baz=301,slow=8.0,SNR=6.2						
BVAR	Borovoye Array	53.44	340	P	P	14 54 09.9	-2.3
	0.3nm,0.8s,baz=131,slow=8.6,SNR=2.7						

ISCJB 06 14:45:20.6±0.7, 27°.65N±0°.09×141°.1E±0°.1, h100km, mb3.7/7, Error ellipse: s-maj=16.9km s-min=10.5km az=145.0

IDC 06 14:45:22.2±1.8, 27°.66N×141°.19E, h99km±17km, mb3.4/7, mb1 3.6/8, mb1mx3.1/64, mbtmp3.7/8, Error ellipse: s-maj=35.6km s-min=15.4km az=96.0

ISC 06 14:45:22.4±0.9, 27°.6N±0°.1×141°.2E±0°.2, h100km, n9, σ0s.41/10, mb3.6/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.06	120	P	Pn	14 45 43.6	+0.2
	baz=288,slow=20						
JCJ				S	Sn	14 45 59.0	-0.3
	418nm,0.3s,baz=288,slow=20,SNR=36						
MJAR	Matsushiro Arr	9.22	345	P	Pn	14 47 32.8	+0.3
	baz=160,slow=12,SNR=2.7						
WRA	Warramunga Arr	47.76	189	P	P	14 53 49.5	-0.1
	2.1nm,0.6s,baz=8.3,slow=8.0,SNR=24						
FITZ	Fitzroy Crossi	47.89	200	P	P	14 53 51.0	+0.4
	1.5nm,0.6s,baz=20,slow=12,SNR=3.5						
ASAR	Alice Springs	51.48	189	P	P	14 54 17.9	+0.1
	0.2nm,0.3s,baz=12,slow=7.0,SNR=5.9						
ILAR	Eielson Array	57.68	29	P	P	14 55 01.9	-0.2
	0.2nm,0.6s,baz=270,slow=5.4,SNR=4.1						
INK	Inuvik	62.92	25	P	P	14 55 37.6	0.0
	0.5nm,0.7s,baz=281,slow=5.2,SNR=3.0						
YKA	Yellowknife Ar	72.10	28	P	P	14 56 35.9	+0.3
	0.2nm,0.5s,baz=299,slow=6.1,SNR=3.7						
FINES	FINESS Array B	77.06	333	P	P	14 57 03.4	-0.8
	0.9nm,0.3s,baz=63,slow=5.9,SNR=12						

IDC 06 15:00:10.7±7.8, 7°.30S×129°.61E, h382km±98km, mb2.6/1, mb1 2.5/4, mb1mx2.4/52, mbtmp3.3/4, Error ellipse: s-maj=64.2km s-min=40.5km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.42	199	P	P	15 02 43.9	-0.7
	0.1nm,0.3s,baz=12,slow=9.3,SNR=2.1						
FITZ				S	S	15 04 50.2	-1.3
	0.0nm,0.3s,baz=338,slow=9.3,SNR=3.4						
WRA	Warramunga Arr	13.38	160	P	P	15 03 05.5	-0.8
	0.1nm,0.3s,baz=344,slow=12,SNR=15						
WRA				S	S	15 05 31.0	-0.6
	0.1nm,0.3s,baz=342,slow=20,SNR=5.4						
ASAR	Alice Springs	16.79	166	P	P	15 03 45.2	+1.9
	0.1nm,0.3s,baz=346,slow=10,SNR=12						
MKAR	Makanchi Array	68.26	327	P	P	15 10 31.4	-0.1
	0.3nm,0.8s,baz=115,slow=7.2,SNR=3.4						

MAN 06 15:18:46, 9°.93N×123°.11E, h12km, mb4.6, ML3.5, MS3.3, 3D, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.60	168	⇓iP	Pb	15 18 59.1	+0.6
SNPH				i S	Sn	15 19 08.6	-1.4
TBP	Tagbilaran	0.78	108	eP	Pn	15 19 02.2	-0.6
TBP				i S	Sn	15 19 14.5	+0.1
GUIM	Jordan	0.86	323	eP	Pg	15 19 01.4	-1.2
GUIM				eS	Sg	15 19 13.3	-0.7
LLP	Lapu-Lapu	0.92	65	eP	Pg	15 19 01.2	-2.6
LLP				eS	Sg	15 19 13.2	-2.7
DCPH	Dipolog City	1.36	170	⇓eP	Pn	15 19 11.0	+0.2
DCPH				eS	Sg	15 19 29.5	-0.4
RCP	Roxas	1.66	347	⇓eP	Pn	15 19 15.3	+0.3
RCP				eS	Sb	15 19 38.2	+0.8
MSLP	Maasin	1.73	83	eP	Pn	15 19 15.9	0.0
MSLP				eS	Sb	15 19 39.5	+0.1

IDC 06 15:23:08.4±2.9, 26°.34N×141°.38E, h190km±123km, mb2.6/3, mb1 2.8/3, mb1mx2.6/55, mbtmp3.1/3, Error ellipse: s-maj=347.8km s-min=23.0km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.04	43	P	Pn	15 23 38.0	+0.6
	8.7nm,0.3s,baz=262,slow=19,SNR=35						
JCJ				S	Sn	15 23 59.9	0.0
	14nm,0.3s,baz=253,slow=19,SNR=14						
SONM	Songino Array	34.77	317	P	P	15 29 41.0	+0.2
	0.1nm,0.4s,baz=100,slow=7.5,SNR=2.4						
WRA	Warramunga Arr	46.51	189	P	P	15 31 16.7	-0.2
	0.2nm,0.3s,baz=10,slow=8.8,SNR=5.7						
MKAR	Makanchi Array	50.41	310	P	P	15 31 45.9	-0.5
	0.4nm,1.0s,baz=104,slow=6.1,SNR=2.5						

IDC 06 15:28:28.5±1.9, 0°.18N×127°.72E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/47, mbtmp3.7/3, Error ellipse: s-maj=133.4km s-min=25.0km az=67.0

ISCJB 06 15:29:25.6±0.7, 3°.93S±0°.06×128°.58E±0°.07, h150km, Error ellipse: s-maj=9.7km s-min=9.0km az=167.3

DJA 06 15:29:27.3±0.7, 4°S±5°×12°9E±°, h144km±5km, M3.4/6, MLv3.4/6

ISC 06 15:29:26.6±1.2, 3°.88S±0°.09×128°.54E±0°.07, h150km, n9, σ1s.14/13, Seram

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.39	299	P	Pn	15 29 48.9	+1.5
AAI				S	Sn	15 30 04.8	+1.5
MSAI	Masohi	0.66	37	P	Pn	15 29 49.8	+1.0
MSAI				S	Sn	15 30 06.8	+1.1
NLAI	Namlea	1.57	294	P	Pn	15 29 57.1	+0.3
SANI	Sanana	3.12	305	P	Pn	15 30 15.1	-0.4
LBMI	Labuha	3.38	342	P	Pn	15 30 19.2	+0.4
LBMI				S	Sn	15 30 59.7	+0.4
FAKI	Fak Fak	3.83	76	P	Pn	15 30 25.3	+0.7
SWI	Sorong	4.04	42	P	Pn	15 30 27.7	+0.3
SWI				S	Sn	15 31 13.7	-1.0
WRA	Warramunga Arr	16.94	161	P	P	15 33 12.8	-1.6
	1.2nm,0.3s,baz=342,slow=12,SNR=56						
ASAR	Alice Springs	20.35	166	P	P	15 33 50.1	-1.2
	1.6nm,0.5s,baz=344,slow=11,SNR=32						

MAN 06 15:29:58, 12°.34N×123°.73E, h16km, mb4.1, ML2.9, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNP	Catarman	0.92	79	eP	Pb	15 30 14.3	-1.3
CNP				eS	Sn	15 30 30.2	+1.0
RCP	Roxas	1.24	231	⇑eP	Pn	15 30 19.9	-0.8
RCP				eS	Sn	15 30 37.4	+0.2
MKAR	Makanchi Array	48.88	323	P	P	15 38 44.0	+0.9
	0.2nm,0.6s,baz=134,slow=6.2,SNR=3.8						

NEIC 06 15:35:00.9±0.0, 17°.15N×94°.63W, h134km, MD4.0(MEX), After MEX.

MEX 06 15:35:00.9±0.4, 17°.15N×94°.64W, h133km±8km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGIG		1.50	104	eP	Pn	15 35 28.2	-1.0
TGIG				i S	Sn	15 35 49.0	-1.9
TGIG		1.50	104	eP	Pn	15 35 28.2	-1.0
TGIG				i S	Sn	15 35 49.0	-1.9
HUIG	Huatulco	1.97	226	eP	Pn	15 35 30.1	-4.6
HUIG				eS	Sn	15 35 55.6	-5.1
HUIG	Huatulco	1.97	226	eP	Pn	15 35 30.1	-4.6
HUIG				eS	Sn	15 35 55.6	-5.1
PCIG		1.98	136	eP	Pn	15 35 33.5	-1.3
PCIG				eS	Sn	15 35 59.0	-1.8
PCIG		1.98	136	eP	Pn	15 35 33.5	-1.3
PCIG				eS	Sn	15 35 59.0	-1.8
VHO	Vista Hermosa	2.01	268	eP	Pn	15 35 33.7	-1.6
VHO				i S	Sn	15 36 00.2	-1.5
VHO	Vista Hermosa	2.01	268	eP	Pn	15 35 33.7	-1.6
VHO				i S	Sn	15 36 00.2	-1.5
TPIG	Tehuac#an	2.89	296	eP	Pn	15 35 45.4	-0.9
TPIG				i S	Sn	15 36 19.0	-2.4
TPIG	Tehuac#an	2.89	296	eP	Pn	15 35 45.4	-0.9
TPIG				i S	Sn	15 36 19.0	-2.4
TLIG	Tlapa	3.78	277	i P	Pn	15 35 56.6	-1.3
TLIG				eS	Sn	15 36 39.9	-2.1
TLIG	Tlapa	3.78	277	i P	Pn	15 35 56.6	-1.3
TLIG				eS	Sn	15 36 39.9	-2.1

ISK 06 15:37:20.5, 37°.77N×38°.01E, h8km, ML2.5/3

ISCJB 06 15:37:21.2±0.4, 37°.75N±0°.02×38°.03E±0°.04, h0km, Error ellipse: s-maj=4.3km s-min=3.4km az=20.5

DDA 06 15:37:21.0, 37°.77N×38°.02E, h2km, Ml2.5, Suspected Mining explosion.

CSEM 06 15:37:21.3±0.3, 37°.75N×38°.03E, h1km, ML2.5, Error ellipse: s-maj=6.4km s-min=4.9km az=111.0, Suspected Mining explosion.

ISC 06 15:37:20.9±0.8, 37°.73N±0°.03×38°.05E±0°.03, h0km, n23, σ0s.53/36, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKCD	Akcadag	0.57	350	i P	Pg	15 37 31.5	-0.4
AKCD				i S	Sg	15 37 38.8	-0.5
AKCD	Akcadag	0.57	350	P	Pg	15 37 31.5	-0.4
AKCD				S	Sg	15 37 38.8	-0.5
MALT	Malatya	0.65	27	PG	Pg	15 37 32.9	-0.5
MALT				SG	Sg	15 37 42.9	+1.1
MALT	Malatya	0.65	27	ePg	Pg	15 37 32.9	-0.5
MALT				eSg	Sg	15 37 42.9	+1.1
URFA	Urfa	0.68	115	PG	Pg	15 37 33.9	+0.1
URFA				SG	Sb	15 37 45.9	+0.4
URFA	Urfa	0.68	115	ePg	Pg	15 37 33.9	+0.1
URFA				eSg	Sb	15 37 45.9	+0.4
GAZ	Gaziantep	0.87	230	PG	Pg	15 37 37.8	+0.2
GAZ	Gaziantep	0.87	230	ePg	Pg	15 37 37.8	+0.2
KMRS	Kahramanmaras	0.94	256	PG	Pg	15 37 38.8	-0.2
KMRS	Kahramanmaras	0.94	256	ePg	Pg	15 37 38.8	-0.2
SURC	SANLIURFA_SURC	0.96	152	i P	Pb	15 37 40.3	-0.1
SURC				i S	Sn	15 37 55.0	-1.1
SURC	SANLIURFA_SURC	0.96	152	P	Pb	15 37 40.3	-0.1
SURC				S	Sn	15 37 55.0	-1.1
HCB	Kahramanmara¯	0.99	247	i P	Pg	15 37 39.8	0.0
HCB				i S	Sb	15 37 55.0	+0.5
ELZG	Elazig	1.06	44	i P	Pn	15 37 43.1	-0.1
ELZG				i S	Sn	15 38 00.0	+1.3
ELZG	Elazig	1.06	44	P	Pn	15 37 43.1	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HEKM	Malatya_Hekimh	1.15	356	*i* P	Pn	15 37 44.8	+0.4
HEKM				*i* S	Sn	15 38 00.6	-0.3
HEKM	Malatya_Hekimh	1.15	356	P	Pn	15 37 44.8	+0.4
KUZU	Kuzuini	1.24	220	*i* P	Pb	15 37 45.2	+0.1
KUZU				*i* S	Sn	15 38 02.7	-0.2
KUZU	Kuzuini	1.24	220	P	Pb	15 37 45.2	+0.1
KUZU				S	Sn	15 38 02.7	-0.2
PTK	Pertek	1.56	42	PN	Pn	15 37 49.6	-0.5
PTK	Pertek	1.56	42	*e*Pn	Pn	15 37 49.6	-0.5
MAZI	Mazidag	1.92	97	PN	Pn	15 37 54.8	-0.1
MAZI	Mazidag	1.92	97	*e*Pn	Pn	15 37 54.8	-0.1

*ATH **06** 15:44:27.9, 39.°62N×26.°05E, h18km±1km, ML2.2/6, Error ellipse: s-maj=2.5km s-min=0.9km az=253.0*
*THE **06** 15:44:27.9, 39.°62N×26.°04E, h3km±6km, ML2.0/6, Error ellipse: s-maj=6.1km s-min=0.4km az=205.0*
*CSEM **06** 15:44:27.8±0.1, 39.°61N×26.°07E, h5km, ML3.1, Error ellipse: s-maj=3.4km s-min=2.1km az=84.0*
*ISCJB **06** 15:44:27.4±0.5, 39.°62N±0.°02×26.°07E±0.°03, h1km±4km, Error ellipse: s-maj=4.4km s-min=2.6km az=173.3*
*ISK **06** 15:44:27.2, 39.°62N×26.°05E, h6km, ML3.1/10*
*DDA **06** 15:45:18.9, 39.°59N×26.°07E, h14km, Ml3.0*
ISC 06 15:44:28.1±1.0, **39.°62N**±0.°01×**26.°07E**±0.°02, **h8**km±8km, **n73**, σ**0.s67**/109, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.17	162	PG	Pg	15 44 31.3	-0.3
GPNR	Gulpinar-Canak	0.17	162	*e*Pg	Pg	15 44 31.3	-0.3
PRK	Paraskevi	0.41	157	P	Pg	15 44 36.1	+0.2
PRK				S	Sg	15 44 41.9	+0.6
PRK				AML	AML	15 44 42.3	
	comp=N,1804μm,0.3s						
PRK				AML	AML	15 44 43.2	
	comp=E,1864μm,0.5s						
PRK	Paraskevi	0.41	157	P	Pg	15 44 36.1	+0.2
PRK				S	Sg	15 44 41.8	+0.6
PRK	Paraskevi	0.41	157	P	Pg	15 44 36.1	+0.2
PRK				S	Sg	15 44 41.8	+0.6
SIGR	SIGRI	0.44	202	PG	Pg	15 44 36.2	-0.3
SIGR				SG	Sg	15 44 42.7	+0.4
SIGR	SIGRI	0.44	202	P	Pg	15 44 36.0	-0.6
SIGR				S	Sg	15 44 43.1	+0.8
SIGR				AML	AML	15 44 43.2	
	comp=N,657μm,0.3s						
SIGR				AML	AML	15 44 43.6	
	comp=E,534μm,0.2s						
SIGR	SIGRI	0.44	202	P	Pg	15 44 36.3	-0.3
SIGR				S	Sg	15 44 42.4	+0.1
SIGR	SIGRI	0.44	202	P	Pg	15 44 36.2	-0.3
SIGR				S	Sg	15 44 42.4	+0.1
GADA	Gvkgeada	0.59	347	PG	Pg	15 44 38.8	-0.6
GADA				SG	Sg	15 44 47.4	+0.3
GADA	Gvkgeada	0.59	347	P	Pg	15 44 38.9	-0.5
GADA				S	Sg	15 44 47.3	+0.2
GADA	Gvkgeada	0.59	347	P	Pg	15 44 38.9	-0.5
GADA				S	Sg	15 44 47.3	+0.2
LIA	Limnos Island	0.74	293	P	Pg	15 44 42.3	0.0
LIA				S	Sb	15 44 52.5	-0.8
LIA				AML	AML	15 44 55.2	
	comp=E,244μm,0.5s						
LIA				AML	AML	15 44 56.2	
	comp=N,252μm,0.6s						
LIA	Limnos Island	0.74	293	P	Pg	15 44 42.1	-0.1
LIA				S	Sg	15 44 51.9	+0.1
LIA	Limnos Island	0.74	293	P	Pg	15 44 41.8	-0.4
LIA				S	Sg	15 44 51.9	+0.1
GELI	Tayfur-Gelibol	0.84	22	PG	Pg	15 44 44.2	0.0
GELI				SG	Sb	15 44 55.9	-0.4
GELI	Tayfur-Gelibol	0.84	22	*e*Pg	Pg	15 44 44.2	0.0
GELI				*e*Sg	Sb	15 44 55.9	-0.4
CAND	Candarli	0.88	139	PG	Pg	15 44 44.7	-0.2
LPK	Lapseki	0.92	35	PG	Pg	15 44 44.8	-1.0
LPK				SG	Sg	15 44 57.9	+0.1
LPK	Lapseki	0.92	35	*e*Pg	Pg	15 44 44.8	-1.0
LPK				*e*Sg	Sg	15 44 57.9	+0.1
SMTH	Samothraki Isl	0.95	334	P	Pg	15 44 46.0	-0.3
SMTH	Samothraki Isl	0.95	334	P	Pg	15 44 45.9	-0.3
SMTH				S	Sb	15 44 59.0	-0.4
SMTH	Samothraki Isl	0.95	334	P	Pg	15 44 45.5	-0.7
SMTH				S	Sb	15 44 59.0	-0.4
FOCM	Foˆ§a	1.04	150	PG	Pg	15 44 47.4	-0.6
FOCM	Foˆ§a	1.04	150	*e*Pg	Pg	15 44 47.4	-0.6
KRBN	Karaburun	1.09	160	PN	Pg	15 44 48.4	-0.6
KRBN	Karaburun	1.09	160	*e*Pn	Pg	15 44 48.4	-0.6
ERIK	Erikli-Kesan	1.10	18	PN	Pg	15 44 48.7	-0.6
ERIK	Erikli-Kesan	1.10	18	*e*Pn	Pg	15 44 48.7	-0.6
ENEZ	Enez	1.12	3	PN	Pg	15 44 49.2	-0.3
ENEZ	Enez	1.12	3	*e*Pn	Pg	15 44 49.2	-0.3
BALY	Balya	1.20	84	*i* P	Pg	15 44 49.8	-1.4
BALY				*i* S	Sg	15 45 06.9	+0.1
BALY	Balya	1.20	84	P	Pg	15 44 49.8	-1.4
BALY				S	Sg	15 45 06.9	+0.1
KRBG	Karabiga-Canak	1.22	50	PN	Pg	15 44 51.4	-0.1
KRBG	Karabiga-Canak	1.22	50	*e*Pn	Pg	15 44 51.4	-0.1
CHOS	Chios island	1.23	180	PN	Pg	15 44 51.5	-0.2
CHOS	Chios island	1.23	180	P	Pb	15 44 51.7	+0.1
CHOS				S	Sg	15 45 07.3	-0.3
CHOS				AML	AML	15 45 10.9	
	comp=E,272μm,0.3s						
CHOS				AML	AML	15 45 14.8	
	comp=N,131μm,0.3s						
CHOS	Chios island	1.23	180	P	Pg	15 44 51.4	-0.2
CHOS				S	Sb	15 45 07.8	+0.2
CHOS	Chios island	1.23	180	P	Pg	15 44 50.9	-0.8
CHOS				S	Sn	15 45 08.7	+0.3
ALN	Alexandroupoli	1.28	359	PN	Pn	15 44 51.6	-0.6
ALN	Alexandroupoli	1.28	359	P	Pg	15 44 52.4	-0.2
ALN				S	Sb	15 45 09.3	+0.4
ALN				AML	AML	15 45 09.9	
	comp=E,105μm,0.4s						
ALN				AML	AML	15 45 10.6	
	comp=N,48μm,0.5s						
ALN	Alexandroupoli	1.28	359	*e*Pn	Pn	15 44 51.6	-0.6
ALN	Alexandroupoli	1.28	359	P	Pn	15 44 52.2	0.0
ALN				S	Sb	15 45 09.1	+0.2
ALN	Alexandroupoli	1.28	359	P	Pn	15 44 51.9	-0.3
ALN				S	Sb	15 45 09.1	+0.2
STEP	BALIKESIR_Sava	1.30	100	*i* P	Pn	15 44 52.3	-0.2
STEP				*i* S	Sn	15 45 10.4	+0.3
STEP	BALIKESIR_Sava	1.30	100	P	Pn	15 44 52.3	-0.2
STEP				S	Sn	15 45 10.4	+0.3
GONE	Gonen-Balikesi	1.32	71	PN	Pn	15 44 52.9	+0.2
GONE	Gonen-Balikesi	1.32	71	*e*Pn	Pn	15 44 52.9	+0.2
URLA	Izmir	1.32	162	PN	Pn	15 44 52.6	-0.2
URLA	Izmir	1.32	162	*i* P	Pn	15 44 50.8	-2.0
URLA				*i* S	Sg	15 45 08.6	-2.0
URLA	Izmir	1.32	162	P	Pn	15 44 50.8	-2.0
URLA	Izmir	1.32	162	*e*Pn	Pn	15 44 52.6	-0.2
URLA				S	Sg	15 45 08.6	-2.0
RKY	Sarkoy-Tekirda	1.36	38	PN	Pn	15 44 53.5	+0.1
RKY	Sarkoy-Tekirda	1.36	38	*e*Pn	Pn	15 44 53.5	+0.1
EDC	Edincik	1.56	62	PN	Pn	15 44 56.7	+0.6
EDC	Edincik	1.56	62	*e*Pn	Pn	15 44 56.7	+0.6
RDO	Rodhopi	1.58	345	P	Pn	15 44 55.9	-0.4
RDO				S	Sg	15 45 18.8	0.0
RDO	Rodhopi	1.58	345	P	Pn	15 44 56.5	+0.2
RDO				S	Sg	15 45 18.6	-0.2
DGB	˜zmir	1.69	158	*i* P	Pn	15 44 58.6	+0.8
DGB				*i* S	Sb	15 45 21.3	+0.6
KCTX	Karacabey (Bur	1.88	69	PN	Pn	15 45 00.5	+0.1
KCTX	Karacabey (Bur	1.88	69	*e*Pn	Pn	15 45 00.5	+0.1
SMG	Samos	2.00	162	P	Pn	15 45 03.5	+1.4
SMG				S	Sb	15 45 30.4	+0.7
SMG				AML	AML	15 45 35.3	
	comp=N,106μm,0.3s						
SMG				AML	AML	15 45 36.0	
	comp=E,70μm,0.3s						
SMG	Samos	2.00	162	P	Pn	15 45 03.3	+1.2
SMG				S	Sb	15 45 29.7	0.0
SLVT	Silivri	2.29	45	PN	Pn	15 45 07.1	+0.9
SLVT	Silivri	2.29	45	*e*Pn	Pn	15 45 07.1	+0.9
ARMT	Armutlu	2.34	65	PN	Pn	15 45 07.9	+1.0
ARMT	Armutlu	2.34	65	*e*Pn	Pn	15 45 07.9	+1.0
CTKS	Kestanelik-??a	2.47	48	PN	Pn	15 45 09.0	+0.5
CTKS	Kestanelik-??a	2.47	48	*e*Pn	Pn	15 45 09.0	+0.5
CTYL	Yalikoy Yolu	2.51	42	PN	Pn	15 45 10.4	+1.3
CTYL	Yalikoy Yolu	2.51	42	*e*Pn	Pn	15 45 10.4	+1.3
KNT	Kendrikon	2.87	304	PN	Pn	15 45 14.3	+0.2
KNT	Kendrikon	2.87	304	*e*Pn	Pn	15 45 14.3	+0.2

*IDC **06** 15:48:51.5±0.6, 7.°21S×129.°30E, h0km, mb4.0/14, mb1 4.2/17, mb1mx4.0/55, mbtmp4.1/17, ML3.9/3, MS3.6/16, Ms1 3.6/16, ms1mx3.3/46, Error ellipse: s-maj=22.5km s-min=13.8km az=62.0*
*ISCJB **06** 15:48:55.2±0.3, 7.°30S±0.°03×129.°48E±0.°03, h50km, mb4.1/16, MS3.5/12, Error ellipse: s-maj=5.0km s-min=3.7km az=22.1*
*DJA **06** 15:48:57.8±0.2, 7°S±2°×12°9E±°, h58km±29km, M4.7/14, mb5.0/8, mB5.1/7, MLv4.8/14, Mw(mB)4.4/7*
*NEIC **06** 15:48:58.8±0.7, 7.°28S×129.°33E, h55km±7km, mb4.5/12, Error ellipse: s-maj=8.6km s-min=6.2km az=215.0*
ISC 06 15:48:58.1±0.4, **7.°28S**±0.°04×**129.°39E**±0.°04, **h50**km, **n78**, σ**1.s90**/76, **mb4.2**/15, **MS3.5**/12, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.02	110	P	Pn	15 49 30.7	+1.0
SAUI				S	Sn	15 49 54.5	+0.7
SAUI	Saumlaki	2.02	110	*e*Pn	Pn	15 49 32.2	+2.5
BNDI	Bandanaira	2.79	11	P	Pn	15 49 39.1	-1.2
BNDI				S	Sn	15 50 10.7	-2.0
AAI	Ambon	3.76	342	P	Pn	15 49 51.3	-2.4
AAI				S	Sn	15 50 33.1	-3.7
MSAI	Masohi	3.94	353	P	Pn	15 49 55.5	-0.6
MSAI				S	Sn	15 50 39.3	-1.7
NLAI	Namlea	4.62	330	P	Pn	15 50 04.2	-1.2
NLAI				S	Sn	15 50 55.3	-2.5
FAKI	Fak Fak	5.19	33	P	Pn	15 50 12.2	-1.0
	93nm,0.6s,0.5nm						
FAKI				S	Sn	15 51 09.6	-2.2
	93nm,0.6s,0.5nm						
FAKI	Fak Fak	5.19	33	*e*Pn	Pn	15 50 12.0	-1.2
KMPI	Kaimana, Papua	5.60	50	P	Pn	15 50 17.0	-1.9
	162nm,0.5s,3μm						
KMPI				S	Sn	15 51 18.6	-3.4
	162nm,0.5s,3μm						
SOEI	Soe	5.63	244	P	Pn	15 50 19.6	+0.2
	139nm,0.8s						
SOEI				S	Sn	15 51 25.8	+2.9
	139nm,0.8s						
SOEI	Soe	5.63	244	*e*Pn	Pn	15 50 18.5	-0.9
MTN	Manton Dam	5.79	163	*e*Pn	Pn	15 50 20.1	-1.4
SANI	Sanana	6.21	327	P	Pn	15 50 27.1	-0.1
	71nm,0.6s,979nm						
SANI				S	Sn	15 51 35.1	-1.8
	71nm,0.6s,979nm						
BATI	Baumata	6.36	242	Pn	Pn	15 50 27.9	-1.5
	6.7nm,0.3s,baz=74,slow=6.2,SNR=10						
BATI				Sn	Sn	15 51 40.2	-0.6
	9.6nm,0.3s,baz=119,slow=19,SNR=4.9						
BATI	Baumata	6.36	242	P	Pn	15 50 29.2	-0.2
	52nm,0.9s,584nm						
BATI				S	Sn	15 51 40.2	-0.6
	52nm,0.9s,584nm						
SWI	Sorong	6.64	16	P	Pn	15 50 32.5	-0.7
LBMI	Labuha	6.86	344	P	Pn	15 50 36.2	0.0
LBMI				S	Sn	15 51 51.9	-1.2
MMRI	Maumere	7.21	259	P	Pn	15 50 42.1	+1.1
MMRI	Maumere	7.21	259	*e*Pn	Pn	15 50 42.2	+1.3
RKPI	Ransiki, Papua	7.46	40	P	Pn	15 50 43.4	-1.0
TNTI	Ternate	8.25	346	*e*Pn	Pn	15 50 56.5	+1.2
LUWI	Luwuk	9.05	313	*e*Pn	Pn	15 51 08.1	+1.9
FITZ	Fitzroy Crossi	11.36	198	Pn	Pn	15 51 34.3	-3.4
	2.8nm,0.3s,baz=36,slow=12,SNR=57						
FITZ				Sn	Sn	15 53 33.5	-10
	2.7nm,0.3s,baz=52,slow=21,SNR=3.5						
FITZ	Fitzroy Crossi	11.36	198	*e*Pn	Pn	15 51 33.0	-4.8
FITZ				Sn	Sn	15 53 33.5	-10
WRAB	Tennant Creek	13.47	160	*e*Pn	Pn	15 52 01.0	-5.6
WRA	Warramunga Arr	13.47	160	Pn	Pn	15 52 00.7	-6.0
	1.9nm,0.3s,baz=343,slow=9.9,SNR=50						
WRA				Sn	Sn	15 54 23.4	-12
	2.2nm,0.3s,baz=336,slow=22,SNR=11						
WRA				LR	LR	15 57 41.3	
	comp=Z,511nm,19.4s,baz=340,slow=39						
WB2	Warramunga Arr	13.47	160	*e*Pn	Pn	15 52 01.0	-5.7
WB2				*e*Sn	Sn	15 54 24.3	-11
DAV	Davao City (W)	14.76	345	LR	LR	15 58 42.1	
	comp=Z,152nm,18.2s,baz=98,slow=40						
COEN	Coen	15.08	117	*e*Pn	Pn	15 52 24.3	-3.8
	45nm,1.3s						
JAGI	Jajag, Banyuwa	15.14	265	*e*Pn	Pn	15 52 29.0	+0.1
	12nm,0.9s						
MBWA	Marble Bar	16.66	213	*e*Pn	Pn	15 52 44.8	-3.4
	39nm,1.3s						
AS31	Alice Springs	16.86	166	*e*Pn	Pn	15 52 46.6	-4.1
	7.2nm,0.8s						
ASAR	Alice Springs	16.86	166	Pn	Pn	15 52 46.2	-4.5
	0.8nm,0.3s,baz=328,slow=8.9,SNR=59						
ASAR				Sn	Sn	15 55 46.8	-10
	0.2nm,0.3s,baz=346,slow=23,SNR=3.9						
ASAR				LR	LR	15 59 43.9	
	comp=Z,414nm,19.5s,baz=341,slow=38						
ASAR				ScP	ScP	16 01 07.0	0.0
	0.1nm,0.3s,baz=1.9,slow=1.7,SNR=5.1						
AS01	Alice Springs	16.87	165	*e*Pn	Pn	15 52 46.6	-4.3
PMG	Port Moresby	17.71	98	P	Pn	15 53 02.0	+0.7
	1.4nm,0.3s,baz=245,slow=5.0,SNR=8.5						
PMG				LR	LR	16 01 17.3	
	comp=Z,329nm,20.1s,baz=267,slow=42						
PMG	Port Moresby	17.71	98	*e*Pn	P	15 53 03.4	+1.8
	37nm,0.9s						
KKM	Kota Kinabalu	18.66	315	P	P	15 53 11.8	-0.4
	47nm,1.4s						
SBUM	Sibu	19.67	299	*e*P	Pn	15 53 24.5	-0.5
	18nm,1.1s						
CTA	Charters Tower	20.72	130	P	P	15 53 36.8	+2.3
	17nm,0.8s,baz=298,slow=14,SNR=15						
CTAO	Charters Tower	20.72	130	*e*P	P	15 53 36.6	+2.1
	20nm,0.8s						
KSM	Kuching	20.93	294	*e*P	P	15 53 37.5	+0.7
	23nm,1.1s						
LEM	Lembang	21.61	270	LR	LR	16 04 29.2	
	comp=Z,216nm,19.1s,baz=84,slow=44						
STKA	Stephens Creek	26.99	157	P	P	15 54 36.0	+0.6
	2.4nm,0.4s,baz=330,slow=9.5,SNR=19						
STKA				LR	LR	16 06 25.0	
	comp=Z,338nm,18.2s,baz=340,slow=39						
HNR	Honiara	30.30	96	LR	LR	16 07 46.0	
	comp=Z,118nm,18.3s,baz=258,slow=37						
DZM	Mont Dzumac	38.61	116	LR	LR	16 12 54.2	
	comp=Z,101nm,19.5s,baz=234,slow=37						
CMAR	Chiang Mai Arr	39.45	311	P	P	15 56 24.1	+0.3
	0.7nm,0.7s,baz=146,slow=7.2,SNR=7.4						
JNU	Nakatsue	40.20	2	LR	LR	16 12 42.6	
	comp=Z,26nm,21.1s,baz=130,slow=36						
NJ2	Nanjing	40.38	346	*e*P	P	15 56 32.3	+1.0
MJAR	Matsushiro Arr	44.37	10	P	P	15 57 03.3	-0.4
	1.2nm,0.8s,baz=195,slow=12,SNR=2.6						
MJAR				LR	LR	16 16 20.2	
	comp=Z,21nm,18.9s,baz=280,slow=37						
KSRS	Korea Array	44.52	358	LR	LR	16 17 05.8	
	comp=Z,22nm,18.2s,baz=152,slow=38						
CD2	Chengdu	45.22	328	*e*P	P	15 57 12.0	+1.4
HHC	Hu-ho-hao-te	50.62	343	*e*P	P	15 57 55.3	+3.0
PALK	Pallekele	50.66	286	LR	LR	16 20 12.8	
	comp=Z,60nm,20.5s,baz=116,slow=37						
CN2	Changchun	50.97	356	*e*P	P	15 57 58.3	+3.6
USRK	Ussuriysk Ar.	51.30	2	P	P	15 57 57.0	-0.1
	4.3nm,1.1s,baz=186,slow=8.3,SNR=3.0						
RPZ	Rata Peaks	51.38	142	P	P	15 57 58.7	+0.8
	2.6nm,0.5s,baz=253,slow=17,SNR=2.7						
LSA	Lhasa	51.99	317	*e*P	P	15 58 01.4	-1.7
	3.8nm,0.6s						
ASAJ	Asahikawa	52.53	12	P	P	15 58 05.8	-0.5
	1.1nm,0.5s,baz=207,slow=14,SNR=4.6						
URZ	Urewera	52.91	133	P	P	15 58 10.0	+0.7
	9.5nm,1.0s,baz=197,slow=20,SNR=3.3						
GTA	Gaotai	53.93	332	*e*P	P	15 58 23.6	+6.7
GTA				pP	sP	15 58 40.5	+4.1
GTA				sP	pP	15 58 47.9	+17
AFI	Afiamalu	58.09	102	LR	LR	16 22 31.6	
	comp=Z,32nm,19.7s,baz=186,slow=35						
SONM	Songino Array	58.52	342	P	P	15 58 50.2	+0.8
	0.2nm,0.3s,baz=159,slow=8.6,SNR=2.9						
SONM				ScP	ScP	16 03 41.0	+5.1
	0.3nm,0.7s,baz=146,slow=0.5,SNR=2.6						
WMQ	Urumqi	63.30	327	P	P	15 59 23.4	+1.4
KSH	Kashi	67.82	318	*e*P	P	15 59 51.5	+0.2
MK01	Makanchi Array	68.11	327	*e*P	P	15 59 52.0	-0.9
MK31	Makanchi Array	68.13	327	*e*P	P	15 59 52.4	-0.5
MKAR	Makanchi Array	68.13	327	P	P	15 59 52.2	-0.8
	0.4nm,0.3s,baz=117,slow=8.1,SNR=17						
MKAR	Makanchi Array	68.13	327	*e*P	P	15 59 52.5	-0.4
	10nm,0.9s						
RAR	Rarotonga	69.57	110	LR	LR	16 30 10.2	
	comp=Z,13nm,18.1s,baz=242,slow=36						
ZALV	Zalesovo Beam	71.57	334	P	P	16 00 13.9	0.0
	0.5nm,0.4s,baz=129,slow=5.9,SNR=3.8						
KURBB	Kurchatov Arra	72.43	329	P	P	16 00 18.3	-0.9
	1.3nm,0.8s,baz=127,slow=4.9,SNR=17						
KURK	Kurchatov	72.44	329	*e*P	P	16 00 19.1	-0.1
	24nm,1.8s						
KURK				*e*		16 00 28.1	
BVAR	Borovoye Array	77.98	328	P	P	16 00 51.0	0.0
	0.4nm,0.6s,baz=102,slow=13,SNR=2.1						
PPT	Papeete	79.32	106	LR	LR	16 32 09.9	
	comp=Z,23nm,20.8s,baz=222,slow=33						
ILAR	Eielson Array	93.86	25	P	P	16 02 09.8	-0.1
	0.8nm,1.2s,baz=262,slow=5.4,SNR=4.0						
INK	Inuvik	99.35	22	LR	LR	16 44 03.1	
	comp=Z,242nm,21.1s,baz=100,slow=33						
CPUP	Villa Florida	145.96	169	PKPbc	PKPdf	16 08 32.0	-0.3
	0.7nm,0.4s,baz=247,slow=7.7,SNR=2.9						
LPAZ	La Paz	150.86	144	PKPbc	PKPbc	16 08 47.7	+0.7
	0.8nm,0.3s,baz=198,slow=3.2,SNR=5.8						

MAN 06 15:51:08, 10.°15N×123.°22E, h1km, mb4.0, ML2.8, MS2.4, 2C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.76	77	*e*P	Pg	15 51 22.2	-0.3
LLP				*e*S	Sb	15 51 34.9	0.0
GUIM	Jordan	0.78	308	*e*P	Pg	15 51 22.6	-0.4
GUIM				*e*S	Sg	15 51 33.2	+0.1
SNPH	Sibulan	0.80	179⇑	*e*P	Pg	15 51 23.0	-0.3
SNPH				*e*S	Sg	15 51 33.1	-0.6
RCP	Roxas	1.48	342⇑	*e*P	Pn	15 51 35.9	+0.1
RCP				*e*S	Sn	15 51 57.1	+1.3
MSLP	Maasin	1.62	90	*e*P	Pb	15 51 38.4	-0.3
MSLP				*e*S	Sg	15 52 01.4	+1.3

*IDC **06** 15:54:31.2±3.5, 14.°42N×92.°03W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/45, mbtmp3.5/5, ML3.5/2, MS3.4/1, Ms1 3.3/1, ms1mx2.3/44, Error ellipse: s-maj=119.7km s-min=43.1km az=38.0*
*MEX **06** 15:54:34.8±0.3, 14.°13N×92.°33W, h72km±10km, MD3.9*
ISC 06 15:54:39.5±1.7, **14.°4N**±0.°1×**92.°3W**±0.°1, **h67**km, **n13**, σ**1.s91**/15, **mb3.9**/3, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.47	1	*e*P	Pn	15 54 49.3	-2.5
THIG				*i* S	Sn	15 55 00.9	+0.2
PCIG		1.56	324	*e*P	Pn	15 55 02.3	-2.8
PCIG				*e*S	Sn	15 55 23.8	-0.6
CCIG	Comitan	1.84	4	*e*P	Pn	15 55 07.5	-1.6
CCIG				*i* S	Sn	15 55 32.8	+1.4
TGIG		2.46	341	*e*P	Pn	15 55 16.0	-1.5
TGIG				*i* S	Sn	15 55 46.4	-0.2
CMIG	Matias Romero	3.64	317	Pn	Pn	15 55 31.6	-1.9
	3.0nm,0.3s,baz=139,slow=10,SNR=12						
CMIG				Pg		15 55 47.5	
	5.4nm,0.3s,baz=121,slow=11,SNR=8.3						
CMIG				Sn	Sn	15 56 18.8	+3.5
	5.7nm,0.3s,baz=151,slow=9.2,SNR=4.7						
JTS	JuntasAbangare	8.25	119	Lg	Lg	15 58 37.7	
	0.4nm,0.3s,baz=255,slow=19,SNR=4.6						
TXAR	Lajitas Array	18.19	326	P	P	15 58 45.7	-1.4
	0.0nm,0.3s,baz=152,slow=14,SNR=2.2						
H06E1	SOCORRO T-PHAS	18.39	286	T	T	16 17 39.9	
	SNR=8.2						
SCHQ	Schefferville	44.91	21	LR	LR	16 22 00.9	
	comp=Z,38nm,18.0s,baz=316,slow=37						
YKA	Yellowknife Ar	50.54	347	P	P	16 03 31.7	+0.8
	0.7nm,0.6s,baz=151,slow=7.4,SNR=16						
INK	Inuvik	59.94	344	P	P	16 04 39.6	+1.2
	1.1nm,0.8s,baz=119,slow=7.8,SNR=3.3						
ILAR	Eielson Array	62.33	337	P	P	16 04 56.3	+1.6
	0.5nm,0.9s,baz=98,slow=6.1,SNR=5.2						
CMAR	Chiang Mai Arr	145.49	341	PKPbc	PKPbc	16 14 11.5	+0.5
	1.2nm,0.8s,baz=333,slow=3.0,SNR=8.3						

*BJI **06** 16:05:52.7, 12.°18S×12.°72W, h9km, Ms4.8/1, Ms7 4.7/2*
*IDC **06** 16:05:55.2±0.5, 11.°49S×13.°29W, h0km, mb4.2/28, mb1 4.2/28, mb1mx4.1/54, mbtmp4.2/28, MS4.2/35, Ms1 4.1/35, ms1mx4.1/42, Error ellipse: s-maj=15.0km s-min=13.6km az=141.0*
*ISCJB **06** 16:05:56.5±0.4, 11.°46S±0.°06×13.°28W±0.°06, h20km, mb4.3/34, MS4.2/38, Error ellipse: s-maj=9.8km s-min=7.8km az=137.6*
*GCMT **06** 16:05:56.4±0.2, 11.°62S×13.°34W, h22km±1km, MW5.2/113, Moment Tensor Solution. s58,c88; s113,c184; Duration: 1.s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70±.19; $M_{\theta\theta}$-2.68±.15; $M_{\phi\phi}$3.38±.18; $M_{r\theta}$-1.60±.26; $M_{\theta\phi}$7.00±.14; $M_{\phi r}$-0.36±.27; Best double couple: $M_0$7.80400×10^{16} NP1:ϕ_s78.00000°, δ89.00000°, λ-12.00000°. NP2:ϕ_s168.00000°, δ78.00000°, λ-179.00000°. Principal axes: T 8.1360, Plg8.0000°, Azm124.0000°; N -0.6680, Plg78.0000°, Azm252.0000°; P -7.4730, Plg10.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 16:05:56.4±0.3, 11.°52S×13.°25W, h10km, mb4.8/14 Error ellipse: s-maj=7.0km s-min=6.6km az=170.0*
ISC 06 16:05:57.9±0.4, **11.°55S**±0.°07×**13.°23W**±0.°07, **h20**km, **n86**, σ**1.s83**/68, **mb4.4**/34, **MS4.2**/38, **Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	2.93	331	T	T	16 09 32.1	
	baz=153,slow=74,SNR=1621						
H10S3	ASCENSION HYDR	2.94	331	T	T	16 09 34.3	
	baz=153,slow=74,SNR=1729						
H10S1	ASCENSION HYDR	2.94	331	T	T	16 09 34.7	
	baz=153,slow=74,SNR=836						
ASCN	Ascension	3.76	343	*e*Pn	Pn	16 06 53.1	-1.7
H10N1	ASCENSION HYDR	3.88	341	T	T	16 10 47.0	
	baz=148,SNR=8.3						
H10N3	ASCENSION HYDR	3.89	341	T	T	16 10 47.6	
	baz=148,SNR=12						
H10N2	ASCENSION HYDR	3.90	341	T	T	16 10 47.0	
	baz=148,SNR=9.4						
SHEL	Horse Pasture	8.49	122	*e*Pn	Pn	16 07 57.1	-2.7
LIC	Lamto	19.45	25	*e*P	Pn	16 10 23.8	-0.9
	254nm,1.8s						
KIC	Kosan Boka	19.69	26	*e*P	Pn	16 10 26.3	-1.3
	361nm,1.7s						
TIC	Toumodi	19.83	25	*e*P	Pn	16 10 29.1	-0.1
DBIC	Dimbokro	19.92	25	P	Pn	16 10 29.3	-1.0
	baz=180,slow=13						
RCBR	Riachuelo	23.12	282	P	P	16 11 01.8	-1.2
	7.2nm,0.8s,baz=112,slow=7.6,SNR=2.7						
RCBR	Riachuelo	23.12	282	*e*P	P	16 11 01.8	-1.2
	24nm,1.1s						
BBTS	Babate	26.25	353	P	P	16 11 31.3	-0.5
	6.8nm,0.4s,baz=173,slow=3.3,SNR=3.1						
BBTS				LR	LR	16 20 32.6	
	comp=Z,783nm,20.7s,baz=164,slow=34						
KOWA	Kowa	27.44	20	P	P	16 11 42.9	+0.3
	7.9nm,0.7s,baz=210,slow=8.5,SNR=24						
KOWA				LR	LR	16 20 56.7	
	comp=Z,626nm,19.7s,baz=200,slow=33						
KOWA	Kowa	27.44	20	*e*P	P	16 11 42.0	-0.7
	60nm,1.6s						
TOA0	Torodi Ar. Sit	28.65	32	*e*P	P	16 11 53.2	-0.3
	28nm,1.3s						
TORD	Torodi Ar. Bea	28.65	32	P	P	16 11 53.9	+0.3
	4.2nm,0.5s,baz=215,slow=9.2,SNR=18						
TORD				LR	LR	16 21 30.9	
	comp=Z,642nm,21.7s,baz=210,slow=33						
SPB	Sao Paulo	34.65	245	P	P	16 12 47.3	+1.1
	24nm,1.1s						
SUR	Sutherland	37.52	129	P	P	16 13 11.6	+0.7
	0.6nm,0.7s,baz=308,slow=12,SNR=7.2						
LBTB	Lobatse	39.07	116	P	P	16 13 25.6	+1.6
	5.6nm,1.0s,baz=252,slow=6.4,SNR=2.9						
BOSA	Boshof	39.71	121	P	P	16 13 29.4	+0.1
	5.3nm,0.9s,baz=272,slow=8.6,SNR=5.6						
BOSA				LR	LR	16 26 43.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,857nm,21.7s,baz=272,slow=31						
BOSA	Boshof	39.71	121	eP	P	16 13 30.0	+0.7
	41nm,1.5s						
LSZ	Lusaka	40.41	100	P	P	16 13 35.7	+0.4
	2.7nm,0.7s,baz=290,slow=8.1,SNR=5.8						
LSZ	Lusaka	40.41	100	eP	P	16 13 35.5	+0.2
	8.0nm,1.0s						
CPUP	Villa Florida	44.01	244	P	P	16 14 04.1	-0.2
	2.8nm,0.9s,baz=89,slow=4.0,SNR=6.1						
CPUP				LR	LR	16 29 44.2	
	comp=Z,348nm,18.4s,baz=88,slow=32						
CPUP	Villa Florida	44.01	244	eP	P	16 14 04.1	-0.2
	11nm,1.3s						
MBAR	Mbarara	44.97	79	P	P	16 14 13.0	+0.6
	2.3nm,0.3s,baz=277,slow=5.2,SNR=3.7						
SIV	San Ignacio	46.60	259	P	P	16 14 25.4	+0.3
	1.3nm,0.9s,baz=104,slow=14,SNR=4.9						
SAML	Samuel	49.18	268	eP	P	16 14 44.4	-0.8
	5.5nm,0.9s						
KMBO	Kilima Mbogo	51.14	82	LR	LR	16 35 30.0	
	comp=Z,198nm,19.3s,baz=276,slow=35						
KEST	Kesra	51.64	23	P	P	16 15 02.1	-1.3
	16nm,1.3s,baz=180,slow=20,SNR=3.0						
KEST				LR	LR	16 36 03.2	
	comp=Z,405nm,19.6s,baz=198,slow=35						
KEST	Kesra	51.64	23	eP	P	16 15 02.5	-0.8
	38nm,1.4s						
ESDC	Sonseca Array	51.68	9	P	P	16 15 03.2	-0.3
	0.1nm,0.3s,baz=186,slow=11,SNR=2.9						
ESDC				LR	LR	16 34 55.8	
	comp=Z,299nm,21.4s,baz=170,slow=34						
LPAZ	La Paz	53.38	258	P	P	16 15 18.1	+0.8
	1.5nm,0.8s,baz=22,slow=16,SNR=4.0						
LPAZ	La Paz	53.38	258	eP	P	16 15 16.7	-0.6
	6.5nm,1.0s						
H05S1	Guadeloupe/Mar	53.78	297	T	T	17 13 06.7	
	SNR=9.3						
H05N1	Guadeloupe/Mar	54.82	299	T	T	17 14 19.7	
	SNR=3.5						
VAE	Valguarnera	55.24	27	LR	LR	16 38 34.8	
	comp=Z,317nm,18.0s,baz=140,slow=36						
PCRV	Puerto La Cruz	55.47	291	LR	LR	16 35 20.3	
	comp=Z,230nm,21.6s,baz=96,slow=32						
PLCA	Paso Flores	57.91	229	LR	LR	16 36 23.8	
	comp=Z,125nm,21.9s,baz=102,slow=32						
IDI	Anoyia	58.91	36	P	P	16 15 56.7	+0.8
	12nm,0.9s,baz=191,slow=15,SNR=6.2						
IDI				LR	LR	16 42 09.2	
	comp=Z,116nm,19.5s,baz=242,slow=37						
SNAA	Sanae	60.42	176	P	P	16 16 06.8	+1.1
	4.2nm,0.8s,baz=335,slow=3.0,SNR=6.4						
SNAA				LR	LR	16 35 13.2	
	comp=Z,198nm,21.2s,baz=352,slow=29						
SNAA	Sanae	60.42	176	eP	P	16 16 06.1	+0.4
SDV	Santo Domingo	60.59	287	P	P	16 16 08.1	+0.1
	1.4nm,0.4s,baz=38,slow=7.9,SNR=3.6						
SDV				LR	LR	16 39 35.4	
	comp=Z,201nm,21.8s,baz=93,slow=33						
ROSC	El Rosal	62.91	282	LR	LR	16 43 18.4	
	comp=Z,235nm,18.4s,baz=110,slow=36						
MMAI	Mount Meron Ar	64.13	44	P	P	16 16 31.7	+0.5
	0.2nm,0.2s,baz=258,slow=7.2,SNR=2.9						
MMAI				LR	LR	16 43 18.9	
	comp=Z,102nm,19.7s,baz=145,slow=35						
GERES	GERESS Array B	64.67	19	P	P	16 16 34.7	+0.4
	0.3nm,0.6s,baz=200,slow=7.1,SNR=2.9						
GERES				LR	LR	16 45 53.3	
	comp=Z,178nm,18.1s,baz=228,slow=37						
KHC	Kasperske Hory	64.88	19	eP	P	16 16 36.3	+0.6
KHC				AMS	AMS	16 40 50.0	
	comp=Z,500nm,21.8s						
VYHS	Vyhne	66.17	23	eP	P	16 16 46.6	+2.6
BR231	Keskin MP Arra	66.59	37	eP	P	16 16 46.5	-0.5
CLL	Collm	66.61	18	eS	S	16 25 44.0	+7.1
CLL				ePPS	PPS	16 26 12.0	
CLL				eSS	SS	16 29 54.0	-0.8
KECS	Kecovo	66.80	24	eP	P	16 16 50.8	+2.8
MLR	Muntele Rosu	66.85	29	P	P	16 16 49.0	+0.4
	0.3nm,0.4s,baz=176,slow=13,SNR=3.0						
MLR				LR	LR	16 44 48.8	
	comp=Z,61nm,21.9s,baz=237,slow=35						
MLR	Muntele Rosu	66.85	29	eP	P	16 16 48.2	-0.4
	25nm,1.3s						
BRTR	Keskin Array B	67.03	38	P	P	16 16 51.4	+1.5
	0.8nm,0.8s,baz=216,slow=6.1,SNR=4.7						
BRTR				LR	LR	16 46 29.3	
	comp=Z,60nm,21.0s,baz=237,slow=36						
EKA	Eskdalemuir Ar	67.16	6	LR	LR	16 46 14.7	
	comp=Z,173nm,18.1s,baz=180,slow=36						
CRVS	Cervenica-Dubn	67.52	24	eP	P	16 16 55.1	+2.5
AK11	Malin Array Si	72.12	27	eP	P	16 17 20.7	-0.1
KIEV	Kiev	72.15	27	eP	P	16 17 21.2	+0.2
	8.0nm,0.9s						
AKASG	Malin Array Be	72.16	27	P	P	16 17 21.2	+0.1
	1.6nm,0.7s,baz=224,slow=6.2,SNR=11						
AKASG				LR	LR	16 49 29.1	
	comp=Z,95nm,19.5s,baz=265,slow=36						
AKBB	Malin Array Si	72.16	27	eP	P	16 17 21.2	+0.1
	7.7nm,0.8s						
MAW	Mawson	74.10	157	LR	LR	16 42 59.8	
	comp=Z,167nm,19.4s,baz=258,slow=30						
GNI	Garni	74.29	42	LR	LR	16 50 15.3	
	comp=Z,132nm,21.8s,baz=254,slow=36						
JTS	JuntasAbangare	74.51	284	LR	LR	16 49 20.0	
	comp=Z,93nm,21.6s,baz=180,slow=35						
HFS	Hagfors	74.62	14	P	P	16 17 34.8	-0.6
	1.2nm,0.7s,baz=207,slow=16,SNR=3.0						
HFS				LR	LR	16 49 11.6	
	comp=Z,237nm,22.0s,baz=220,slow=35						
NOA	NORSAR Array B	74.90	12	P	P	16 17 36.1	-0.9
	1.6nm,1.0s,baz=208,slow=6.3,SNR=2.5						
BORG	Borgarnes	76.32	356	LR	LR	16 47 11.0	
	comp=Z,109nm,19.1s,baz=191,slow=32						
FINES	FINESS Array B	79.05	18	P	P	16 18 00.9	+0.6
	0.8nm,0.6s,baz=212,slow=4.9,SNR=4.0						
FINES				LR	LR	16 54 21.3	
	comp=Z,215nm,18.8s,baz=230,slow=37						
SCHQ	Schefferville	79.97	332	LR	LR	16 46 30.6	
	comp=Z,160nm,21.5s,baz=108,slow=30						
GOGA	Godfrey	80.32	307	eP	P	16 18 08.3	+0.4
	31nm,0.7s						
TKL	Tuckaleechee C	81.35	309	LR	LR	16 47 17.9	
	comp=Z,42nm,18.5s,baz=111,slow=30						
GEYT	Alibeck	82.75	49	P	P	16 18 22.7	+1.9
	0.5nm,0.4s,baz=221,slow=7.7,SNR=2.1						
GEYT				LR	LR	16 55 37.9	
	comp=Z,95nm,19.2s,baz=220,slow=36						
AKTO	Aktyubinsk	87.21	37	P	P	16 18 44.2	+1.4
	0.5nm,0.5s,baz=203,slow=15,SNR=1.6						
AKTO				LR	LR	17 01 13.3	
	comp=Z,36nm,19.5s,baz=248,slow=38						
VNDA	Vanda	91.05	179	LR	LR	16 55 07.4	
	comp=Z,149nm,20.5s,baz=182,slow=32						
ULM	Lac du Bonnet	94.13	320	LR	LR	16 54 04.9	
	comp=Z,304nm,19.5s,baz=78,slow=31						
BVAR	Borovoye Array	95.32	37	LR	LR	17 06 34.0	
	comp=Z,96nm,18.4s,baz=272,slow=38						
TXAR	Lajitas Array	95.94	299	P	P	16 19 23.9	-0.2
	0.8nm,1.0s,baz=134,slow=5.1,SNR=3.2						
TXAR				LR	LR	16 58 19.5	
	comp=Z,22nm,22.0s,baz=0.0,slow=33						
KSH	Kashi	96.63	51	eP	P	16 19 24.5	-2.5
KSH				sP	pP	16 19 30.1	-3.6
KSH				PP	PP	16 23 23.0	+1.3
KSH				S	S	16 30 38.7	-8.8
KSH				sS	ScS	16 30 46.6	-1.3
KSH				LR	LR		
	comp=Z,190nm,12.4s						
LZH	Lanzhou	118.55	55	ePKP	PKPdf	16 24 43.8	-1.2
LZH				LR	LR		
	comp=N,120nm,17.9s						
LZH				LR	LR		
	comp=Z,150nm,20.0s						
CD2	Chengdu	118.94	61	PKP	PKPdf	16 24 45.0	-0.8
GYA	Guiyang	121.73	66	ePdif	Pdif	16 21 18.0	-1.0
GYA				PKP	PKPdf	16 24 50.2	-1.1
GYA				PP	PP	16 26 27.8	+3.4
HHC	Hu-ho-hao-te	123.62	48	ePKP	PKPdf	16 24 53.4	-1.2
ASAR	Alice Springs	132.48	138	PKP	PKPdf	16 25 11.1	-0.8
	0.3nm,0.8s,baz=240,slow=1.7,SNR=3.7						
WRA	Warramunga Arr	135.29	134	PKP	PKPdf	16 25 19.0	+1.8
	0.2nm,0.7s,baz=244,slow=1.9,SNR=2.6						

IDC 06 16:20:49.1±22.0, 21°.29S×179°.58W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/41, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=416.0km s-min=58.0km az=63.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.15	189	P	Pn	16 24 50.1	-0.1
	0.7nm,0.3s,baz=6.3,slow=18,SNR=5.2						
STKA	Stephens Creek	36.11	245	P	P	16 27 52.5	-0.6
	1.4nm,0.8s,baz=112,slow=6.6,SNR=2.2						
ASAR	Alice Springs	42.90	258	P	P	16 28 49.7	-0.1
	0.8nm,0.6s,baz=93,slow=7.8,SNR=24						
WRA	Warramunga Arr	43.03	263	P	P	16 28 51.0	+0.1
	0.5nm,0.5s,baz=96,slow=8.5,SNR=28						

MEX 06 16:22:50.7±0.7, 14°.77N×93°.19W, h17km±842km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		0.91	81	i P	Pb	16 23 05.5	-2.6
THIG				eS	Sb	16 23 16.3	-3.5
PCIG		0.93	358	i P	Pb	16 23 05.3	-3.1
PCIG				i S	Sb	16 23 16.6	-4.0
CCIG	Comitan	1.82	34	eP	Pn	16 23 19.1	-2.4
CCIG				i S	Sn	16 23 39.8	-4.4
TGIG		2.00	2	i P	Pn	16 23 20.4	-3.4
TGIG				i S	Sn	16 23 44.3	-4.2

NNC 06 16:32:21.3±4.1, 37°.00N×70°.68E, h0km, mb3.5, mpv3.2, 4C-4D, Error ellipse: s-maj=33.7km s-min=28.2km az=147.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.73	35	⇑P	Pn	16 33 21.8	+1.4
	0.8nm,0.2s						
SFK				⇓S	Sn	16 34 06.7	+1.5
	3.6nm,0.4s						
MNAS	Manas	5.66	14	⇑P	Pn	16 33 45.9	-0.8
	0.9nm,0.5s						
MNAS				⇑S	Sn	16 34 52.9	+0.4
	1.6nm,0.3s						
KK31	Karatay Array	6.10	359	⇓P	Pn	16 33 53.0	+0.4
	2.8nm,0.3s						
KK31				S	Sn	16 35 06.3	+3.1
	0.9nm,0.3s,baz=189,slow=26,SNR=6.9						
AAK	Ala-Archa	6.35	26	⇓S	Sn	16 35 08.4	-1.1
	1.2nm,0.6s						
TKM2	Tokmak 2	7.01	31	⇑P	Pn	16 34 03.9	-1.6
	0.5nm,0.4s						
AB31	Akbulak array	14.52	331	⇓P	Pn	16 35 45.8	-2.2
	0.3nm,0.4s,baz=155,slow=11,SNR=17						

IDC 06 16:40:44.5±53.0, 19°.33S×175°.53W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/38, mbtmp3.6/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/35, Error ellipse: s-maj=993.4km s-min=164.9km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.39	243	P	P	16 48 23.8	-0.6
	1.0nm,0.6s,baz=90,slow=9.1,SNR=2.6						
ASAR	Alice Springs	47.05	255	P	P	16 49 18.9	+0.6
	0.4nm,0.5s,baz=90,slow=7.5,SNR=16						
WRA	Warramunga Arr	47.07	260	P	P	16 49 18.0	-0.4
	0.2nm,0.3s,baz=97,slow=7.4,SNR=11						
BATI	Baumata	59.25	269	LR	LR	17 17 29.2	
	comp=Z,124nm,18.8s,baz=260,slow=37						
CMAR	Chiang Mai Arr	91.93	289	LR	LR	17 36 45.7	
	comp=Z,6.2nm,18.9s,baz=5.0,slow=37						

IDC 06 16:51:49.2±2.0, 7°.25S×155°.82E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/43, mbtmp3.5/6, ML1.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/23, Error ellipse: s-maj=61.5km s-min=27.0km az=136.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.84	255	Pn	Pn	16 53 58.2	0.0
	0.2nm,0.3s,baz=41,slow=11,SNR=2.2						
PMG				Sn	Sn	16 55 40.2	+1.6
	0.2nm,0.3s,baz=204,slow=21,SNR=2.8						
WRA	Warramunga Arr	24.35	237	P	P	16 57 09.9	+0.8
	0.6nm,0.9s,baz=63,slow=10.0,SNR=3.3						
ASAR	Alice Springs	26.63	230	P	P	16 57 29.4	-0.3
	0.2nm,0.5s,baz=57,slow=10.0,SNR=4.8						
TGY	Tagaytay City	40.60	301	LR	LR	17 14 11.2	
	comp=Z,56nm,21.9s,baz=114,slow=33						
CMAR	Chiang Mai Arr	61.63	295	P	P	17 02 09.7	+0.4
	0.5nm,0.4s,baz=126,slow=5.1,SNR=4.1						
ILAR	Eielson Array	83.31	21	P	P	17 04 17.2	-0.4
	0.4nm,1.0s,baz=234,slow=4.3,SNR=4.3						
MKAR	Makanchi Array	84.14	319	P	P	17 04 21.9	-0.4
	0.4nm,0.9s,baz=108,slow=4.7,SNR=3.2						

IDC 06 16:58:40.0±999.0, 56°.92N×34°.99E, h0km, Error ellipse: s-maj=836.1km s-min=33.6km az=98.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	1.24	98	i		17 05 20.0	
	baz=280,slow=320,SNR=2.1						
I31KZ	AKTYUBINSK INF	15.09	106	i		18 32 00.0	
	baz=303,slow=378,SNR=0.4						
I46RU	ZALESOVO INFRA	27.92	75	i		19 51 40.0	
	baz=298,slow=332,SNR=1.6						

*ISCJB **06** 17:00:56.6±0.3, 35°.88N±0°.02×26°.85E±0°.02, h92km±4km, mb3.8/4, Error ellipse: s-maj=3.9km s-min=2.7km az=153.5*
*IDC **06** 17:00:57.0±1.6, 35°.72N×27°.05E, h69km±19km, mb3.6/4, mb1 3.4/8, mb1mx3.1/57, mbtmp3.6/8, Error ellipse: s-maj=25.5km s-min=12.7km az=158.0*
*CSEM **06** 17:00:57.6±0.1, 35°.87N×26°.85E, h88km±3km, ML3.2, Error ellipse: s-maj=3.2km s-min=2.4km az=154.0*
*ISK **06** 17:00:57.9, 35°.98N×26°.86E, h76km, ML3.3/5*
*ATH **06** 17:00:57.8, 35°.95N×26°.78E, h81km±4km, ML3.2/15, Error ellipse: s-maj=4.0km s-min=1.0km az=115.0*
*DDA **06** 17:00:58.8, 35°.99N×26°.89E, h46km, Ml3.3*
*THE **06** 17:00:59.7, 35°.96N×26°.78E, h73km±3km, ML3.2/9, Error ellipse: s-maj=3.4km s-min=0.6km az=126.0*
*HLW **06** 17:01:02.2, 35°.51N×27°.02E, h21km±33km, Md3.8, Ml3.5*
ISC 06 17:00:57.5±0.7, 35°.92N±0°.03×26°.82E±0°.03, h85km±6km, n150, σ1°.47/218, mb3.9/4, Crete

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.46	143	PG	Pn	17 01 12.3	+0.7
KARP	Karpathos	0.46	143	P	Pn	17 01 12.6	+1.0
KARP				S	Sn	17 01 21.2	-0.7
KARP				AML	AML	17 01 22.8	
	comp=E,15488µm,0.2s						
KARP				AML	AML	17 01 23.0	
	comp=N,12744µm,0.2s						
KARP	Karpathos	0.46	143	ePg	Pn	17 01 12.3	+0.7
KARP				S	Sn	17 01 21.9	0.0
KARP	Karpathos	0.46	143	P	Pn	17 01 12.2	+0.7
KARP				S	Sn	17 01 21.9	0.0
NISR	Nisiros	0.74	20	P	Pn	17 01 14.8	+0.8
NISR				AML	AML	17 01 27.1	
	comp=E,3259µm,0.2s						
NISR				S	Sn	17 01 27.3	+1.1
NISR				AML	AML	17 01 29.7	
	comp=N,1816µm,0.3s						
NISR	Nisiros	0.74	20	P	Pn	17 01 14.5	+0.5
NISR				S	Sn	17 01 26.9	+0.7
NISR	Nisiros	0.74	20	P	Pn	17 01 14.4	+0.5
NISR				S	Sn	17 01 25.3	-0.9
ZKR	Zakros	0.94	212	PG	Pn	17 01 17.5	+1.2
ZKR				SG	Sn	17 01 31.5	+1.3
ZKR	Zakros	0.94	212	P	Pn	17 01 17.9	+1.7
ZKR				S	Sn	17 01 32.0	+1.8
ZKR				AML	AML	17 01 33.5	
	comp=E,2076µm,0.3s						
ZKR				AML	AML	17 01 34.0	
	comp=N,1165µm,0.5s						
ZKR	Zakros	0.94	212	P	Pn	17 01 17.4	+1.2
ZKR				S	Sn	17 01 31.1	+0.9
ZKR	Zakros	0.94	212	P	Pn	17 01 17.4	+1.2
ZKR				S	Sn	17 01 31.1	+0.9
ARG	Arkhangelos	1.10	74	P	Pn	17 01 19.7	+1.7
ARG				S	Sn	17 01 33.8	+0.3
ARG				AML	AML	17 01 34.6	
	comp=N,1940µm,0.3s						
ARG				AML	AML	17 01 35.2	
	comp=E,3377µm,0.3s						
ARG	Arkhangelos	1.10	74	P	Pn	17 01 19.3	+1.2
ARG				S	Sn	17 01 34.3	+0.8
ARG	Arkhangelos	1.10	74	P	Pn	17 01 19.3	+1.2
ARG				S	Sn	17 01 33.8	+0.3
NPS	Neapolis	1.18	237	P	Pn	17 01 19.7	+0.5
NPS				S	Sn	17 01 34.1	-1.1
NPS				AML	AML	17 01 35.3	
	comp=N,2679µm,0.2s						
NPS				AML	AML	17 01 36.0	
	comp=E,4045µm,0.3s						
NPS	Neapolis	1.18	237	P	Pn	17 01 19.6	+0.5
NPS				S	Sn	17 01 35.1	-0.2
NPS	Neapolis	1.18	237	P	Pn	17 01 19.6	+0.5
NPS				S	Sn	17 01 34.9	-0.4
SANT	Santorini	1.19	293	P	Pn	17 01 19.8	+0.6
SANT				S	Sn	17 01 34.2	-1.3
SANT	Santorini	1.19	293	P	Pn	17 01 19.7	+0.5
SANT				S	Sn	17 01 34.8	-0.7
SANT	Santorini	1.19	293	P	Pn	17 01 19.6	+0.4
BODT	Bodrum	1.21	19	PN	Pn	17 01 18.8	-0.6
BODT				SN	Sn	17 01 34.7	-1.2
BODT	Bodrum	1.21	19	ePn	Pn	17 01 18.8	-0.6
BODT	Bodrum	1.21	19	P	Pn	17 01 19.4	0.0
BODT				eSn	Sn	17 01 34.7	-1.2
BODT				S	Sn	17 01 35.1	-0.8
BODT	Bodrum	1.21	19	P	Pn	17 01 19.4	0.0
BODT				S	Sn	17 01 35.1	-0.8
THT1	Athinios (Pele	1.22	293	P	Pn	17 01 20.1	+0.6
THT1				S	Sn	17 01 34.8	-1.2
THT1				AML	AML	17 01 35.6	
	comp=N,743µm,0.2s						
THT1				AML	AML	17 01 39.3	
	comp=E,482µm,0.2s						
THT1	Athinios (Pele	1.22	293	P	Pn	17 01 20.0	+0.6
THT1				S	Sn	17 01 35.4	-0.6
THT1	Athinios (Pele	1.22	293	P	Pn	17 01 19.8	+0.3
THR6	Thira Island,	1.23	291	P	Pn	17 01 21.0	+1.4
THR6	Thira Island,	1.23	291	P	Pn	17 01 20.3	+0.6
THR6	Thira Island,	1.23	291	P	Pn	17 01 20.3	+0.6
THR2	Thira island,	1.24	296	P	Pn	17 01 20.9	+1.2
THR2	Thira island,	1.24	296	P	Pn	17 01 20.5	+0.8
THR2	Thira island,	1.24	296	P	Pn	17 01 20.2	+0.5
THT2	Imerovigli	1.24	295	P	Pn	17 01 20.4	+0.6
THT2	Imerovigli	1.24	295	P	Pn	17 01 20.4	+0.6
THR3	Thira Island,	1.25	294	P	Pn	17 01 21.1	+1.3
THR3	Thira Island,	1.25	294	P	Pn	17 01 20.6	+0.7
THR3	Thira Island,	1.25	294	P	Pn	17 01 20.6	+0.7
BDRM	Kayabasi	1.25	24	i P	Pn	17 01 20.7	+0.8
BDRM				i S	Sn	17 01 37.3	+0.5
BDRM	Kayabasi	1.25	24	P	Pn	17 01 20.7	+0.8
BDRM				S	Sn	17 01 37.3	+0.5
YKAV	Yalikavak-Bodr	1.26	17	PN	Pn	17 01 19.7	-0.3
YKAV	Yalikavak-Bodr	1.26	17	ePn	Pn	17 01 19.7	-0.3
CMBO	Columbo, Santo	1.27	296	P	Pn	17 01 19.1	-1.1
CMBO				S	Sn	17 01 36.7	-0.5
CMBO				AML	AML	17 01 40.1	
	comp=E,1083µm,0.4s						
CMBO				AML	AML	17 01 45.8	
	comp=N,871µm,0.4s						
CMBO	Columbo, Santo	1.27	296	P	Pn	17 01 19.9	-0.2
CMBO				S	Sn	17 01 36.9	-0.3
CMBO	Columbo, Santo	1.27	296	P	Pn	17 01 19.9	-0.2
CMBO				S	Sn	17 01 36.9	-0.3
THR5	Thira Island,	1.29	293	P	Pn	17 01 21.7	+1.3
THR5	Thira Island,	1.29	293	P	Pn	17 01 21.0	+0.6
THR5	Thira Island,	1.29	293	P	Pn	17 01 21.0	+0.6
LAST	Lasithi	1.33	236	P	Pn	17 01 21.7	+0.6
LAST				S	Sn	17 01 37.5	-1.2
LAST				AML	AML	17 01 39.1	
	comp=E,658µm,0.1s						
LAST				AML	AML	17 01 39.5	
	comp=N,831µm,0.2s						
LAST	Lasithi	1.33	236	P	Pn	17 01 21.6	+0.6
LAST				S	Sn	17 01 38.5	-0.1
LAST	Lasithi	1.33	236	P	Pn	17 01 21.6	+0.6
LAST				S	Sn	17 01 38.5	-0.1
APE	Apeiranthos	1.55	318	PN	Pn	17 01 25.1	+1.4
APE	Apeiranthos	1.55	318	P	Pn	17 01 24.8	+1.1
APE				S	Sn	17 01 42.5	-1.0
APE				AML	AML	17 01 43.8	
	comp=E,247µm,0.5s						
APE				AML	AML	17 01 44.0	
	comp=N,424µm,0.5s						
APE	Apeiranthos	1.55	318	P	Pn	17 01 24.5	+0.8
APE	Apeiranthos	1.55	318	ePn	Pn	17 01 25.1	+1.4
APE				S	Sn	17 01 43.1	-0.5
APE	Apeiranthos	1.55	318	P	Pn	17 01 24.5	+0.8
APE				S	Sn	17 01 43.0	-0.5
YER	Yerkesik	1.69	44	PN	Pn	17 01 26.0	+0.4
YER	Yerkesik	1.69	44	ePn	Pn	17 01 26.0	+0.4
YER	Yerkesik	1.69	44	P	Pn	17 01 26.9	+1.3
YER				S	Sn	17 01 47.8	+0.9
YER	Yerkesik	1.69	44	P	Pn	17 01 26.9	+1.3
YER				S	Sn	17 01 47.8	+0.9
IDI	Anoyia	1.69	249	P	Pn	17 01 26.1	+0.5
	comp=N,10nm,0.3s,baz=67,slow=21,SNR=91						
IDI				S	Sn	17 01 45.3	-1.6
	comp=N,36nm,0.3s,baz=300,slow=19,SNR=27						
IDI	Anoyia	1.69	249	P	Pn	17 01 25.5	-0.2
IDI				S	Sn	17 01 47.2	+0.3
IDI				AML	AML	17 01 48.6	
	comp=E,943µm,0.2s						
IDI				AML	AML	17 01 51.5	
	comp=N,885µm,0.3s						
IDI	Anoyia	1.69	249	P	Pn	17 01 26.0	+0.4
IDI				S	Sn	17 01 47.4	+0.5
IDI	Anoyia	1.69	249	P	Pn	17 01 26.0	+0.4
TURN	Turunc	1.73	56	PN	Pn	17 01 23.0	-2.9
TURN	Turunc	1.73	56	i P	Pn	17 01 23.2	-2.7
TURN				i S	Sn	17 01 41.1	-6.4
TURN	Turunc	1.73	56	P	Pn	17 01 23.2	-2.7
SMG	Samos	1.79	0	P	Pn	17 01 27.8	+1.0
SMG				S	Sn	17 01 47.2	-1.8
SMG				AML	AML	17 01 49.7	
	comp=N,289µm,0.4s						
SMG				AML	AML	17 01 50.5	
	comp=E,333µm,0.7s						
SMG	Samos	1.79	0	P	Pn	17 01 27.7	+0.9
SMG				S	Sn	17 01 48.3	-0.7
GCAM	G?zelcaml?	1.81	10	PN	Pn	17 01 27.5	+0.5
GCAM	G?zelcaml?	1.81	10	i P	Pn	17 01 28.3	+1.2
GCAM				i S	Sn	17 01 50.4	+0.9
GCAM	G?zelcaml?	1.81	10	ePn	Pn	17 01 27.5	+0.5
GCAM	G?zelcaml?	1.81	10	P	Pn	17 01 28.3	+1.2
GCAM				S	Sn	17 01 50.4	+0.9
SIVA	Sivas	1.87	242	P	Pn	17 01 30.0	+2.1
SIVA				S	Sn	17 01 52.4	+1.5
SIVA				AML	AML	17 01 58.0	
	comp=N,1648µm,0.6s						
SIVA				AML	AML	17 01 58.4	
	comp=E,1714µm,0.4s						
SIVA	Sivas	1.87	242	P	Pn	17 01 29.4	+1.6
SIVA				S	Sn	17 01 51.5	+0.6
SIVA	Sivas	1.87	242	P	Pn	17 01 29.4	+1.6
SIVA				S	Sn	17 01 51.5	+0.6
FETY	Fethiye	1.96	68	PN	Pn	17 01 29.4	+0.3
FETY	Fethiye	1.96	68	P	Pn	17 01 29.1	0.0
FETY	Fethiye	1.96	68	ePn	Pn	17 01 29.4	+0.3
FETY				S	Sn	17 01 51.2	-2.0
DGB	˜zmir	2.13	1	i P	Pn	17 01 32.1	+0.8
DGB				i S	Sn	17 01 56.9	-0.2
KSL	Kastellorizon	2.25	83	P	Pn	17 01 33.7	+0.8
KSL				S	Sn	17 02 00.3	+0.4
KSL				AML	AML	17 02 01.3	
	comp=E,408µm,0.3s						
KSL				AML	AML	17 02 01.4	
	comp=N,249µm,0.4s						
KSL	Kastellorizon	2.25	83	P	Pn	17 01 33.9	+1.0
KSL				S	Sn	17 02 01.1	+1.2
KSL	Kastellorizon	2.25	83	P	Pn	17 01 33.9	+1.0
AKAS	Kas	2.28	81	PN	Pn	17 01 33.6	+0.2
AKAS	Kas	2.28	81	i P	Pn	17 01 33.5	+0.2
AKAS				i S	Sn	17 01 56.6	-4.2

AKAS	Kas	2.28	81	P	Pn	17 01 33.5	+0.2
AKAS				S	Sn	17 01 56.6	-4.2
TAVA	DENIZLI_Tavas	2.28	47	*i* P	Pn	17 01 34.6	+1.2
TAVA	DENIZLI_Tavas	2.28	47	P	Pn	17 01 34.6	+1.2
IMMV	Iera Moni Meta	2.35	260	P	Pn	17 01 35.3	+0.9
IMMV				S	Sn	17 02 02.5	+0.1
IMMV				AML	AML	17 02 06.4	
	comp=N,473μm,0.4s						
IMMV				AML	AML	17 02 08.8	
	comp=E,646μm,0.3s						
IMMV	Iera Moni Meta	2.35	260	P	Pn	17 01 35.2	+0.9
IMMV				S	Sn	17 02 02.8	+0.4
IMMV	Iera Moni Meta	2.35	260	P	Pn	17 01 35.2	+0.9
URLA	Izmir	2.44	356	PN	Pn	17 01 35.4	-0.1
URLA	Izmir	2.44	356	*i* P	Pn	17 01 35.5	0.0
URLA	Izmir	2.44	356	P	Pn	17 01 35.5	0.0
GVD	Gavdhos	2.48	245	P	Pn	17 01 38.1	+2.2
GVD				S	Sn	17 02 04.9	-0.5
GVD				AML	AML	17 02 08.1	
	comp=N,1205μm,0.5s						
GVD				AML	AML	17 02 11.4	
	comp=E,926μm,0.3s						
GVD	Gavdhos	2.48	245	P	Pn	17 01 37.7	+1.8
GVD				S	Sn	17 02 05.6	+0.2
CHOS	Chios island	2.54	346	PN	Pn	17 01 37.6	+0.8
CHOS	Chios island	2.54	346	*e*Pn	Pn	17 01 37.6	+0.8
GOLH	Golhisar	2.57	58	*i* P	Pn	17 01 38.0	+0.8
GOLH				*i* S	Sn	17 02 07.1	-0.6
GOLH	Golhisar	2.57	58	P	Pn	17 01 38.0	+0.8
GOLH				S	Sn	17 02 07.1	-0.6
ELL	Elmali	2.63	71	PN	Pn	17 01 38.9	+0.8
ELL	Elmali	2.63	71	*e*Pn	Pn	17 01 38.9	+0.8
ANKY	Antikythira Is	2.86	270	P	Pn	17 01 42.0	+1.0
ANKY				S	Sn	17 02 13.6	-0.9
ANKY	Antikythira Is	2.86	270	P	Pn	17 01 42.2	+1.2
ANKY				S	Sn	17 02 14.3	-0.2
KULA	Kula-Manisa	2.98	29	PN	Pn	17 01 44.2	+1.5
KULA	Kula-Manisa	2.98	29	*e*Pn	Pn	17 01 44.2	+1.5
KORT	Korkueli	3.04	68	PN	Pn	17 01 45.2	+1.5
KORT	Korkueli	3.04	68	*i* P	Pn	17 01 47.4	+3.7
KORT				*i* S	Sn	17 02 19.3	+0.1
KORT	Korkueli	3.04	68	*e*Pn	Pn	17 01 45.2	+1.5
KORT	Korkueli	3.04	68	P	Pn	17 01 47.4	+3.7
KORT				S	Sn	17 02 19.3	+0.1
KYTH	Kithira	3.08	278	P	Pn	17 01 44.8	+0.9
BRDR	BURDUR-Merkez	3.15	55	*i* P	Pn	17 01 46.4	+1.4
BRDR	BURDUR-Merkez	3.15	55	P	Pn	17 01 46.4	+1.4
VLI	Veliai	3.24	285	P	Pn	17 01 46.8	+0.6
VLI	Veliai	3.24	285	P	Pn	17 01 47.1	+1.0
VLI	Veliai	3.24	285	P	Pn	17 01 47.2	+1.1
KHAL	Karahalli	3.25	40	*i* P	Pn	17 01 47.6	+1.2
KHAL	Karahalli	3.25	40	P	Pn	17 01 47.6	+1.2
DID	Didima	3.29	300	P	Pn	17 01 48.3	+1.5
DID	Didima	3.29	300	P	Pn	17 01 48.3	+1.5
BRTR	Keskin Array B	6.60	53	P	Pn	17 02 30.8	-1.2
	comp=E,0.1nm,0.3s,baz=229,slow=15,SNR=3.3						
BRTR				S	Sn	17 03 44.0	-1.8
	comp=E,0.2nm,0.3s,baz=221,slow=26,SNR=6.6						
SWA2		6.75	190	P	Pn	17 02 32.9	-1.1
	baz=193						
SWA2				S	Sn	17 03 41.5	-8.0
	baz=193						
SWA2		6.75	190	P	Pn	17 02 32.9	-1.1
KOT	Kottamia	7.31	143	P	Pn	17 02 39.5	-2.1
	baz=142						
KOT				S	Sn	17 03 53.7	-9.4
	baz=142						
KOT	Kottamia	7.31	143	P	Pn	17 02 39.5	-2.1
HHAG	Hagoal	7.42	142	P	Pn	17 02 42.0	-1.1
	baz=140						
HHAG				S	Sn	17 03 56.9	-8.9
	baz=140						
HHAG	Hagoal	7.42	142	P	Pn	17 02 42.0	-1.1
HSAF	As Saff	7.44	146	P	Pn	17 02 42.1	-1.3
	baz=145						
HSAF	As Saff	7.44	146	P	Pn	17 02 42.1	-1.3
GLL	Jalalah	7.54	146	P	Pn	17 02 43.3	-1.6
	baz=144						
GLL	Jalalah	7.54	146	P	Pn	17 02 43.3	-1.6
RSH		7.60	129	P	Pn	17 02 43.9	-1.6
	baz=127						
RSH		7.60	129	P	Pn	17 02 43.9	-1.6
MMAI	Mount Meron Ar	7.66	110	P	Pn	17 02 43.4	-3.0
	comp=E,0.3nm,0.3s,baz=301,slow=15,SNR=2.6						
MMAI				S	Sn	17 04 06.0	-5.6
	comp=E,2.8nm,0.3s,baz=297,slow=26,SNR=7.4						
HNKL	Nakhl	8.48	133	P	Pn	17 02 56.5	-1.1
	baz=131						
HNKL	Nakhl	8.48	133	P	Pn	17 02 56.5	-1.1
HFRF	Wahat Farafira	8.84	171	P	Pn	17 03 00.8	-1.6
	baz=172						
HFRF	Wahat Farafira	8.84	171	P	Pn	17 03 00.8	-1.6
EIL	Elat	9.25	130	P	Pn	17 03 09.7	+1.6
	comp=E,0.4nm,0.3s,baz=301,slow=3.6,SNR=5.3						
EIL				S	Sn	17 04 46.0	-4.5
	comp=E,1.3nm,0.3s,baz=281,slow=3.6,SNR=7.5						
TR2	Tor 2	9.52	140	P	Pn	17 03 10.2	-1.6
	baz=139						
TR2	Tor 2	9.52	140	P	Pn	17 03 10.2	-1.6
HDK1	Dakhla	10.58	167	P	Pn	17 03 24.8	-1.4
	baz=167						
HDK1	Dakhla	10.58	167	P	Pn	17 03 24.8	-1.4
KEST	Kesra	14.18	274	P	P	17 04 18.6	-0.7
	comp=E,0.3nm,0.3s,baz=57,slow=11,SNR=4.7						
KBZ	Khabaz	14.60	53	P	P	17 04 26.2	+2.6
	comp=E,0.1nm,0.3s,baz=236,slow=12,SNR=6.0						
AKASG	Malin Array Be	14.88	6	P	P	17 04 26.8	+0.1
	comp=E,1.3nm,0.3s,baz=195,slow=11,SNR=9.9						
TORD	Torodi Ar. Bea	32.02	231	P	P	17 07 16.6	+0.6
	comp=E,1.2nm,0.6s,baz=33,slow=8.5,SNR=9.7						
KURBB	Kurchatov Arra	39.59	52	P	P	17 08 21.4	+1.1
	comp=E,1.0nm,0.4s,baz=276,slow=8.7,SNR=7.7						
MKAR	Makanchi Array	42.23	57	P	P	17 08 43.2	+1.1
	comp=E,0.6nm,0.3s,baz=271,slow=8.4,SNR=27						
ZALV	Zalesovo Beam	43.50	47	P	P	17 08 52.4	+0.1
	comp=E,0.4nm,0.3s,baz=266,slow=7.2,SNR=3.6						

*DDA **06** 17:03:40.7, 39°.15N×28°.91E, h7km, Ml2.7*
*ISK **06** 17:03:40.3, 39°.05N×29°.07E, h9km, ML2.6/8*
*ISCJB **06** 17:03:41.2±0.4, 39°.11N±0°.03×28°.93E±0°.03, h5km±4km, Error ellipse: s-maj=5.4km s-min=3.9km az=153.1*
*CSEM **06** 17:03:41.2±0.2, 39°.12N×28°.94E, h2km, ML2.6, Error ellipse: s-maj=4.3km s-min=4.1km az=141.0*
ISC 06 17:03:41.0±0.8, **39°.11N**±0°.03×**28°.94E**±0°.02, **h10**km±5km, **n36**, σ**0s.46**/52, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.04	126	PG	Pg	17 03 43.3	+0.2
SIMA				SG	Sg	17 03 44.6	0.0
SIMA	Simav-Kutahya	0.04	126	*e*Pg	Pg	17 03 43.3	+0.2
SIMA				*e*Sg	Sg	17 03 44.6	0.0
DEMI	Demirci	0.19	250	*i* P	Pg	17 03 44.8	-0.2
DEMI				*i* S	Sg	17 03 47.4	-0.3
DEMI	Demirci	0.19	250	P	Pg	17 03 44.8	-0.2
DEMI				S	Sg	17 03 47.4	-0.3
GDZ	Gediz	0.42	92	*i* P	Pg	17 03 49.0	-0.3
GDZ				*i* S	Sg	17 03 55.4	+0.5
GDZ	Gediz	0.42	92	P	Pg	17 03 49.0	-0.3
GDZ				S	Sg	17 03 55.4	+0.5
TVSB	Tavsanli	0.53	50	PG	Pg	17 03 50.5	-0.8
TVSB				SG	Sg	17 03 58.1	-0.2
TVSB	Tavsanli	0.53	50	*e*Pg	Pg	17 03 50.5	-0.8
TVSB				*e*Sg	Sg	17 03 58.1	-0.2
KULA	Kula-Manisa	0.63	200	PG	Pg	17 03 53.4	+0.2
KULA				SG	Sg	17 04 01.7	+0.2
KULA	Kula-Manisa	0.63	200	*e*Pg	Pg	17 03 53.4	+0.2
KULA				*e*Sg	Sg	17 04 01.7	+0.2
KHAL	Karahalli	0.85	149	*i* P	Pn	17 03 59.0	-0.1
KHAL				*i* S	Sb	17 04 09.8	+0.4
KHAL	Karahalli	0.85	149	P	Pn	17 03 59.0	-0.1
KHAL				S	Sb	17 04 09.8	+0.4
AKHS	Akhisar	0.91	256	*i* P	Pg	17 03 58.0	-0.4
AKHS				*i* S	Sg	17 04 10.1	-0.2
AKHS	Akhisar	0.91	256	P	Pg	17 03 58.0	-0.4
AKHS				S	Sg	17 04 10.1	-0.2
ORLT	Orhaneli	0.94	358	PG	Pn	17 03 59.6	-0.6
ORLT	Orhaneli	0.94	358	*e*Pg	Pn	17 03 59.6	-0.6
BALB	Balikesir	0.98	303	PN	Pn	17 04 01.2	+0.5
BALB	Balikesir	0.98	303	*e*Pn	Pn	17 04 01.2	+0.5
KCTX	Karacabey (Bur	1.24	339	PN	Pn	17 04 05.2	+0.8
KCTX	Karacabey (Bur	1.24	339	*e*Pn	Pn	17 04 05.2	+0.8
MDNY	Mudanya-Bursa	1.26	358	PN	Pg	17 04 05.5	+0.3
MDNY	Mudanya-Bursa	1.26	358	*e*Pn	Pg	17 04 05.5	+0.3
CAVI	Cavuskoy	1.30	32	PN	Pn	17 04 04.9	-0.2
CAVI	Cavuskoy	1.30	32	*e*Pn	Pn	17 04 04.9	-0.2
GONE	Gonen-Balikesi	1.35	314	PN	Pg	17 04 07.5	+0.6
GONE	Gonen-Balikesi	1.35	314	*e*Pn	Pg	17 04 07.5	+0.6
BORA	Eskisehir	1.40	56	*i* P	Pg	17 04 08.2	+0.3
BORA				*i* S	Sg	17 04 26.9	+0.8
BORA	Eskisehir	1.40	56	P	Pg	17 04 08.2	+0.3
BORA				S	Sg	17 04 26.9	+0.8
EDC	Edincik	1.49	326	PN	Pg	17 04 09.5	-0.1
EDC	Edincik	1.49	326	*e*Pn	Pg	17 04 09.5	-0.1
GULT	Gulveren	1.80	42	PN	Pn	17 04 11.6	-0.4
GULT	Gulveren	1.80	42	*e*Pn	Pn	17 04 11.6	-0.4
SBT3	Marmara-Eregli	1.92	338	PN	Pb	17 04 15.9	-0.1
SBT3	Marmara-Eregli	1.92	338	*e*Pn	Pb	17 04 15.9	-0.1
RKY	Sarkoy-Tekirda	2.08	320	PN	Pb	17 04 18.1	-0.7
RKY	Sarkoy-Tekirda	2.08	320	*e*Pn	Pb	17 04 18.1	-0.7

*IDC **06** 17:17:02.7±2.3, 36°.28N×67°.69E, h0km, mb3.6/5, mb1 3.6/11, mb1mx3.4/72, mbtmp3.6/11, ML3.3/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/58, Error ellipse: s-maj=43.8km s-min=17.9km az=149.0*
*ISCJB **06** 17:17:03.8±0.5, 36°.44N±0°.04×67°.60E±0°.06, h22km, mb3.6/5, MS2.7/1, Error ellipse: s-maj=6.6km s-min=6.0km az=169.4*
*NNC **06** 17:17:11.4±1.9, 36°.74N×67°.48E, h62km±22km, mb3.7, mpv3.7, Error ellipse: s-maj=17.5km s-min=12.5km az=159.0*
ISC 06 17:17:05.7±0.8, **36°.43N**±0°.08×**67°.58E**±0°.06, **h22**km, **n40**, σ**1s.62**/46, **mb3.8**/5, **7C-4D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	5.88	51	⇑Pn	Pn	17 18 35.0	+3.3
	1.5nm,0.3s						
SFK				⇓Sn	Sn	17 19 39.7	+1.1
	19nm,0.4s						
KK31	Karatay Array	7.04	18	Pn	Pn	17 18 49.0	+1.5
	3.5nm,0.7s,baz=209,slow=15,SNR=36						
KK31				⇑Sn	Sn	17 20 04.6	-2.3
	1.4nm,0.3s,baz=207,slow=26,SNR=3.5						
MNAS	Manas	7.15	31	⇑Pn	Pn	17 18 51.3	+2.2
	1.6nm,0.4s						
MNAS				⇓Sn	Sn	17 20 09.0	-0.7
	7.2nm,0.8s						
AML	Almayashu	7.41	38	P	Pn	17 18 54.3	+1.4
	SNR=12						
GEYT	Alibeck	7.70	284	Pn	Pn	17 18 57.7	+1.1
	0.3nm,0.3s,baz=98,slow=10,SNR=4.4						
GEYT				Sn	Sn	17 20 21.2	-1.9
	0.7nm,0.3s,baz=105,slow=17,SNR=3.9						
EKS2	Erkin-Say	7.86	36	P	Pn	17 18 59.8	+1.0
	SNR=6.3						
UCH	Uchtor	7.90	41	P	Pn	17 19 01.2	+1.6
	SNR=9.8						
AAK	Ala-Archa	8.19	39	Pn	Pn	17 19 05.0	+1.7
	1.9nm,0.3s,baz=217,slow=6.1,SNR=40						
AAK				Sn	Sn	17 20 35.0	-0.2
	0.5nm,0.3s,baz=141,slow=22,SNR=2.0						
AAK	Ala-Archa	8.19	39	⇓Pn	Pn	17 19 04.7	+1.4
	2.8nm,0.4s						
AAK				⇑Sn	Sn	17 20 36.4	+1.2
	5.6nm,0.8s						
AAK	Ala-Archa	8.19	39	P	Pn	17 19 04.9	+1.6
	SNR=11						
KZA	Kyzart	8.20	44	P	Pn	17 19 05.9	+2.1
	SNR=14						
KBK	Karagaybulak	8.43	40	P	Pn	17 19 09.1	+2.4
	SNR=11						
USP	Ospenovka	8.66	36	P	Pn	17 19 10.8	+1.1
	SNR=5.8						
TKM2	Tokmak 2	8.96	41	⇑Pn	Pn	17 19 15.1	+1.2
	2.5nm,0.5s						
TKM2				⇑Sn	Sn	17 20 52.3	-1.9
	3.6nm,0.9s						
TKM2	Tokmak 2	8.96	41	P	Pn	17 19 15.5	+1.6
	SNR=5.2						
MDOK	Medeo	9.91	44	Pn	Pn	17 19 28.3	+1.4
	3.2nm,0.9s						
AB31	Akbulak array	13.98	339	P	Pn	17 20 20.4	-1.9
	0.4nm,0.3s,baz=157,slow=12,SNR=17						
MK31	Makanchi Array	15.09	42	P	Pn	17 20 36.8	-0.6
	0.7nm,0.9s,baz=225,slow=11,SNR=5.3						
MKAR	Makanchi Array	15.09	42	Pn	Pn	17 20 36.2	-1.3
	0.1nm,0.3s,baz=230,slow=11,SNR=6.3						
AKTO	Aktyubinsk	15.61	337	Pn	Pn	17 20 42.7	-1.6
	0.2nm,0.3s,baz=149,slow=14,SNR=4.2						
AKTO	Aktyubinsk	15.61	337	⇑P	Pn	17 20 43.6	-0.7
	3.7nm,1.2s						
KOLN	Koldanda	16.07	118	*e*P	Pn	17 20 48.1	-2.4
	4.9nm,0.5s						
KURBB	Kurchatov Arra	16.24	26	Pn	Pn	17 20 49.8	-2.4
	0.0nm,0.3s,baz=216,slow=12,SNR=4.6						
GKN	Gorkha	16.68	115	*e*P	Pn	17 20 57.9	-0.4
	0.6nm,0.2s						
BVA0	Borovoye Array	16.72	6	P	Pn	17 20 56.8	-1.5
	4.1nm,1.1s,baz=227,slow=36,SNR=13						
BVAR	Borovoye Array	16.72	6	Pn	Pn	17 20 56.5	-1.9
	0.5nm,0.3s,baz=184,slow=13,SNR=9.0						
KKN	Kakani	17.27	115	*e*P	Pn	17 21 05.2	-0.6
	5.9nm,0.5s						
PKIN	Phulchoki	17.48	115	*e*P	Pn	17 21 07.3	-1.1
	8.3nm,0.6s						
PKI	Pulchoki	17.49	115	*e*P	Pn	17 21 07.0	-1.6
	6.3nm,0.6s						
GUN	Gumba	17.65	114	*e*P	P	17 21 11.0	-0.4
	16nm,0.8s						
JIRN	Jiri	18.02	114	*e*P	Pn	17 21 14.6	-0.5
	30nm,0.4s						
TAPN	Taplejung	19.31	112	*e*P	P	17 21 28.5	-1.2
	4.4nm,0.4s						
ODAN	Odare	19.35	114	*e*P	P	17 21 26.8	-3.2
	18nm,0.4s						
ARU	Arti	20.92	346	P	P	17 21 48.1	+1.5
	1.0nm,0.3s,baz=218,slow=21,SNR=3.1						
ZAA0	Zalesovo Array	21.22	29	⇓P	P	17 21 50.0	+0.1
	2.7nm,0.7s						
ZALV	Zalesovo Beam	21.22	29	P	P	17 21 50.5	+0.6
	2.7nm,0.6s,baz=226,slow=11,SNR=17						
MMAI	Mount Meron Ar	26.60	272	LR	LR	17 34 39.1	
	comp=Z,20nm,18.3s,baz=330,slow=40						
HFS	Hagfors	41.43	322	P	P	17 24 50.8	+0.4
	3.4nm,1.0s,baz=126,slow=16,SNR=2.7						
TORD	Torodi Ar. Bea	62.96	267	P	P	17 27 32.6	+1.7
	0.3nm,0.8s,baz=57,slow=6.2,SNR=3.2						
YKA	Yellowknife Ar	81.41	1	P	P	17 29 20.9	+0.4
	0.1nm,0.5s,baz=355,slow=5.0,SNR=4.1						

*ISCJB **06** 17:24:20.0±0.8, 33°.21N±0°.04×140°.94E±0°.08, h57km±7km, mb3.7/9, MS3.1/1, Error ellipse: s-maj=11.0km s-min=6.6km az=177.6*
*JMA **06** 17:24:20.9±0.1, 33°.28N×140°.93E, h44km, M3.9*
*IDC **06** 17:24:22.2±2.0, 33°.16N×140°.78E, h54km±14km, mb3.3/8, mb1 3.5/11, mb1mx3.3/71, mbtmp3.7/11, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/31, Error ellipse: s-maj=23.9km s-min=11.7km az=77.0*
ISC 06 17:24:19.4±1.0, **33°.14N**±0°.05×**141°.01E**±0°.07, **h37**km±2km, **n36**, σ**1s.23**/37, **mb3.6**/9, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.00	269	P	Pn	17 24 38.0	+1.1
JHJ2				S	Sn	17 24 50.0	+0.3
JHCJ	Hachijojimakas	1.02	267	P	Pn	17 24 38.4	+1.3
JHJ	Hachijo jima 2	1.03	269	P	Pn	17 24 38.4	+1.1
	524nm,0.3s,baz=95,slow=22,SNR=118						
JHJ				S	Sn	17 24 49.9	-0.6
	846nm,0.3s,baz=143,slow=20,SNR=32						
BSO1	Boso 1	1.51	359	P	Pn	17 24 44.4	+1.0
BSO3	Boso 3	1.71	346	P	Pn	17 24 47.0	+0.6
JKO	Kozu shima	1.88	304	P	Pn	17 24 50.0	+1.0
JNIO	Niijimaoohara	1.89	311	P	Pn	17 24 50.0	+0.9
BSO4	Boso 4	1.93	343	P	Pn	17 24 50.2	+0.6
BSO4				S	Sn	17 25 11.9	-0.6
JIM2	Oshima 3	2.05	321	P	Pn	17 24 51.8	+0.5
JIM2				S	Sn	17 25 14.8	-0.9
JIZS	Izushimoda	2.37	312	P	Pn	17 24 57.0	+1.3
JIZS				*e*S	Sn	17 25 22.7	-0.8
JOD2	Odawara 2	2.65	324	P	Pn	17 25 00.3	+0.7
TK04	Tokai 4	2.89	296	P	Pn	17 25 04.2	+1.4
JYN	Shimob	3.12	320	S	Sn	17 25 41.6	-0.4
MJAR	Matsushiro Arr	4.10	327	P	Pn	17 25 22.0	+2.4
	6.6nm,0.3s,baz=175,slow=16,SNR=101						
MJAR				S	Sn	17 26 06.4	+0.1
	3.8nm,0.3s,baz=151,slow=22,SNR=6.5						
MAT	Matsushiro	4.10	327	P	Pn	17 25 22.2	+2.6
MAT				S	Sn	17 26 05.8	-0.5
JCJ	Chichijima	6.11	170	P	Pn	17 25 49.1	+2.0
	6.0nm,0.3s,baz=292,slow=19,SNR=12						
JCJ				S	Sn	17 26 55.1	-0.6
	11nm,0.3s,baz=270,slow=20,SNR=4.6						
JNU	Nakatsue	8.50	273	P	Pn	17 26 18.8	-1.2
	0.1nm,0.3s,baz=153,slow=11,SNR=1.8						
ASAJ	Asahikawa	11.03	6	P	Pn	17 26 54.1	-0.4
	0.8nm,0.3s,baz=217,slow=12,SNR=18						
KSRS	Korea Array	11.53	296	P	Pn	17 27 07.9	+6.6
	0.1nm,0.3s,baz=116,slow=14,SNR=4.5						
KLR	Kul'dur	17.50	339	P	Pn	17 28 18.8	-1.6
	0.0nm,0.3s,baz=166,slow=17,SNR=3.2						
H11N2	WAKE ISLAND Hy	26.66	114	T	T	17 58 04.8	
	baz=304						
H11N1	WAKE ISLAND Hy	26.67	114	T	T	17 58 03.1	
	baz=304,slow=74,SNR=43						
H11N3	WAKE ISLAND Hy	26.68	114	T	T	17 58 05.9	
	baz=304,slow=74,SNR=31						
H11S3	WAKE ISLAND Hy	27.23	116	T	T	17 58 53.4	
	baz=307,slow=75,SNR=8.9						
H11S1	WAKE ISLAND Hy	27.23	116	T	T	17 58 52.8	
	baz=307,slow=75,SNR=6.8						
H11S2	WAKE ISLAND Hy	27.25	116	T	T	17 58 53.4	
	baz=307,slow=75,SNR=4.3						
SONM	Songino Array	29.86	310	P	P	17 30 24.3	+1.0
	0.2nm,0.3s,baz=114,slow=9.8,SNR=3.3						
ZALV	Zalesovo Beam	44.37	315	P	P	17 32 25.2	-0.7
	0.3nm,0.3s,baz=101,slow=13,SNR=2.7						
MKAR	Makanchi Array	46.00	305	P	P	17 32 38.5	-0.6
	0.3nm,0.6s,baz=84,slow=11,SNR=7.1						
MKAR				ScP	ScP	17 38 02.9	-2.5
	0.5nm,1.1s,baz=92,slow=3.5,SNR=2.4						
KURBB	Kurchatov Arra	48.21	311	P	P	17 32 55.5	-0.7
	0.4nm,0.3s,baz=90,slow=7.8,SNR=5.2						
PSI	Prapat	49.58	242	LR	LR	17 54 27.4	
	comp=Z,20nm,18.1s,baz=298,slow=36						
WRA	Warramunga Arr	53.16	188	P	P	17 33 35.0	+1.3
	5.5nm,0.5s,baz=4.5,slow=7.6,SNR=151						
ASAR	Alice Springs	56.89	188	P	P	17 34 02.2	+1.6
	1.4nm,0.6s,baz=1.6,slow=6.1,SNR=74						
YKA	Yellowknife Ar	67.35	29	P	P	17 35 11.0	+0.7
	0.1nm,0.4s,baz=284,slow=5.0,SNR=3.8						
FINES	FINESS Array B	72.11	333	P	P	17 35 39.2	-0.4
	0.5nm,0.7s,baz=107,slow=4.7,SNR=2.1						
AKASG	Malin Array Be	77.18	323	P	P	17 36 09.2	0.0
	0.4nm,0.5s,baz=45,slow=6.6,SNR=5.6						

MEX 06 17:26:18.4±0.6, **16°.93N**×**99°.07W**, **h16**km±6km, **MD3.9**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.76	266	*i* P	Pb	17 26 33.6	+0.3
ACX				*e*S	Sb	17 26 43.5	+0.2
ACP2	Acapulco	0.78	266	*e*P	Pb	17 26 30.1	-3.5
ACP2				*e*S	Sb	17 26 39.6	-4.4
TLIG	Tlapa	0.79	37	*e*P	Pb	17 26 30.5	-3.5
TLIG				*e*S	Sg	17 26 41.1	-3.4
HMTT	Tlapaneco	0.99	29	*i* P	Pb	17 26 33.7	-3.6
HMTT				*e*S	Sb	17 26 45.8	-4.5
PNIG	Pinotepa	1.05	120	*e*P	Pb	17 26 34.4	-3.8
PNIG				*e*S	Sb	17 26 47.9	-3.8
MEIG	Mezcala	1.12	332	*e*P	Pb	17 26 35.6	-3.9
MEIG				*e*S	Sb	17 26 49.1	-4.9
PLIG	Platanillo	1.51	344	*e*P	Pn	17 26 41.4	-3.6
PLIG				*e*S	Sn	17 26 58.7	-5.7
ARIG	Puente Sto Nin	1.81	318	*e*P	Pn	17 26 46.3	-2.8
ARIG				*e*S	Sn	17 27 07.1	-4.7
YAIG	Yautepec	1.92	0	*i* P	Pn	17 26 47.8	-2.8
YAIG				*i* S	Sn	17 27 09.7	-4.9
TPIG	Tehuac#an	2.20	47	*e*P	Pn	17 26 51.6	-2.9
TPIG				*i* S	Sn	17 27 16.8	-4.7
VHO	Vista Hermosa	2.24	86	*i* P	Pn	17 26 51.5	-3.5
VHO				*i* S	Sn	17 27 17.6	-4.9
ZIIG	Zihuatanejo	2.39	287	*e*P	Pn	17 26 53.3	-3.5
ZIIG				*e*S	Sn	17 27 21.6	-4.2
HUIG	Huatulco	3.07	112	*i* P	Pn	17 27 04.4	-1.8
HUIG				*i* S	Sn	17 27 39.3	-3.4

*ISK **06** 17:37:31.8, 38°.27N×26°.61E, h18km, ML2.2/1*
*ISCJB **06** 17:37:32.4±0.8, 38°.26N±0°.06×26°.60E±0°.07, h17km±6km, Error ellipse: s-maj=12.6km s-min=6.5km az=36.2*
*CSEM **06** 17:37:32.0±0.2, 38°.26N×26°.62E, h15km, ML2.2, Error ellipse: s-maj=8.4km s-min=4.8km az=44.0*
*DDA **06** 17:37:33.4, 38°.24N×26°.63E, h7km, Md2.5*
ISC 06 17:37:32.1±0.9, **38°.26N**±0°.06×**26°.64E**±0°.04, **h17**km±6km, **n13**, σ**0s.37**/20, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.10	342	PG	Pg	17 37 35.5	-0.2
URLA				SG	Sg	17 37 38.3	+0.2
URLA	Izmir	0.10	342	*i* P	Pg	17 37 35.5	-0.2
URLA				*i* S	Sg	17 37 38.6	+0.4
URLA	Izmir	0.10	342	P	Pg	17 37 35.5	-0.2
URLA				*e*Sg	Sg	17 37 38.3	+0.2
ZEY	˜zmir	0.11	257	*i* P	Pb	17 37 35.8	+0.1
ZEY				*i* S	Sg	17 37 38.0	-0.1
DGB	˜zmir	0.29	137	*i* P	Pb	17 37 39.1	+0.4
DGB				*i* S	Sb	17 37 43.9	+0.7
CHOS	Chios island	0.47	285	PG	Pg	17 37 41.6	0.0
CHOS				SG	Sg	17 37 48.2	+0.1
CHOS	Chios island	0.47	285	*e*Pg	Pg	17 37 41.6	0.0
CHOS				*e*Sg	Sg	17 37 48.2	+0.1
GCAM	G?zelcaml?	0.73	140	PG	Pn	17 37 46.9	-0.7
GCAM	G?zelcaml?	0.73	140	*e*Pg	Pn	17 37 46.9	-0.7
SIGR	SIGRI	1.13	327	PN	Pb	17 37 53.3	+0.2
SIGR	SIGRI	1.13	327	*e*Pn	Pb	17 37 53.3	+0.2
APE	Apeiranthos	1.48	217	PN	Pn	17 37 57.7	-0.2
APE	Apeiranthos	1.48	217	*e*Pn	Pn	17 37 57.7	-0.2

*IDC **06** 17:46:21.7±62.0, 21°.51S×178°.51W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/39, mbtmp4.2/3, Error ellipse: s-maj=1120.0km s-min=163.2km az=84.0*
*ISCJB **06** 17:47:01.1±1.6, 23°.3S±0°.4×178°.6W±0°.3, h377km, mb3.9/10, Error ellipse: s-maj=57.1km s-min=22.9km az=155.5*
*NEIC **06** 17:47:04.7±0.9, 23°.33S×178°.59W, h407km±9km, mb4.3/8, Error ellipse: s-maj=47.9km s-min=17.3km az=156.0*
ISC 06 17:47:02.1±1.9, **23°.3S**±0°.4×**178°.5W**±0°.3, **h377**km, **n16**, σ**0s.91**/14, **mb4.2**/10, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EIDS	Eidsvold	27.75	260	*e*P	P	17 52 18.7	+0.8
	87nm,1.9s						
CTAO	Charters Tower	32.85	269	*e*P	P	17 53 03.3	+0.9
	40nm,1.8s						
PMG	Port Moresby	35.61	287	*e*P	P	17 53 25.9	0.0
	14nm,1.0s						
STKA	Stephens Creek	36.21	247	P	P	17 53 31.1	+0.5
	2.5nm,1.0s,baz=82,slow=10,SNR=3.7						
STKA	Stephens Creek	36.21	247	*e*P	P	17 53 31.2	+0.5
	6.3nm,1.9s						
BBOO	Buckleboo	40.93	246	*e*P	P	17 54 08.7	-0.9
	74nm,1.9s						
AS01	Alice Springs	43.44	260	*e*P	P	17 54 29.6	-0.1
AS31	Alice Springs	43.48	260	*e*P	P	17 54 29.8	-0.2
	0.9nm,0.6s						
ASAR	Alice Springs	43.48	260	P	P	17 54 29.6	-0.4
	1.8nm,0.5s,baz=95,slow=7.4,SNR=33						
WB2	Warramunga Arr	43.80	265	*e*P	P	17 54 31.5	-1.0
WRAB	Tennant Creek	43.81	265	*e*P	P	17 54 30.5	-2.1
	14nm,1.0s						
WR1	Warramunga Arr	43.81	265	*e*P	P	17 54 32.0	-0.7
	30nm,1.9s						
WRA	Warramunga Arr	43.81	265	P	P	17 54 32.0	-0.7
	1.2nm,0.3s,baz=94,slow=8.3,SNR=120						
MDPB	Devils Postpil	82.42	44	*e*pP	pP	18 00 15.6	+6.0
MFID	Camas Ranch	87.83	40	*e*pP	pP	18 00 42.6	+5.6
FPU	Francis Peak	88.96	44	*e*P	P	17 59 15.4	+0.1

*CRAAG **06** 17:48:35.5, 35°.95N×4°.09E, Ml4.2*
*CSEM **06** 17:48:36.2±0.2, 35°.86N×4°.09E, h2^{km}, mb4.2*
*MDD **06** 17:48:37.3±0.4, 35°.91N×4°.09E, h0^{km}, mb4.2/23, Error ellipse: s-maj=8.7km s-min=3.4km az=14.0, PRXIMO*
*IDC **06** 17:48:39.8±5.0, 36°.06N×4°.06E, h34^{km}±43^{km}, mb3.1/5, mb1 3.3/8, mb1mx3.1/61, mbtmp3.3/8, ML3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.2/24, Error ellipse: s-maj=27.1km s-min=23.6km az=173.0*
ISC 06 17:48:36.2±1.1, **35°.91N**±0°.04×**4°.05E**±0°.02, **h13**^{km}±7^{km}, **n117**, σ**1^{s}72**/129, **mb3.2**/5, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAF	Djebel Tarf	0.19	101	P	Pg	17 48 39.7	-0.8
ATAF	Djebel Tarf	0.19	101	P	Pg	17 48 39.7	-0.8
ATAF	Djebel Tarf	0.19	101	P	Pg	17 48 39.7	-0.8
AKET	Djebel Ketaf	0.19	315	P	Pg	17 48 40.6	0.0
AKET	Djebel Ketaf	0.19	315	P	Pg	17 48 40.6	0.0
AKET	Djebel Ketaf	0.19	315	P	Pg	17 48 40.6	0.0
EMHD	Djebel Mahouad	0.93	288	P	Pn	17 48 55.5	+0.3
EMHD	Djebel Mahouad	0.93	288	P	Pn	17 48 55.5	+0.3
EMHD	Djebel Mahouad	0.93	288	P	Pn	17 48 55.5	+0.3
SET	Setif	1.13	75	P	Pn	17 48 58.5	+0.6
SET	Setif	1.13	75	P	Pn	17 48 58.5	+0.6
SET	Setif	1.13	75	P	Pn	17 48 58.5	+0.6
CKHR	Kef el Ahmar	1.19	85	P	Pn	17 48 58.9	+0.2
CKHR	Kef el Ahmar	1.19	85	P	Pn	17 48 58.9	+0.2
CKHR	Kef el Ahmar	1.19	85	P	Pn	17 48 58.9	+0.2
ABA	Alger-Bouzarea	1.21	318	P	Pn	17 48 58.7	-0.2
ABA	Alger-Bouzarea	1.21	318	P	Pn	17 48 58.7	-0.2
ABA	Alger-Bouzarea	1.21	318	P	Pn	17 48 58.7	-0.2
DFRA	Djebel Bou Aff	1.61	66	P	Pb	17 49 05.3	-0.6
DFRA	Djebel Bou Aff	1.61	66	P	Pb	17 49 05.3	-0.6
DFRA	Djebel Bou Aff	1.61	66	P	Pb	17 49 05.3	-0.6
CTEI	Djebel Teioual	1.92	85	P	Pb	17 49 12.1	+0.9
CTEI	Djebel Teioual	1.92	85	P	Pb	17 49 12.1	+0.9
CTEI	Djebel Teioual	1.92	85	P	Pb	17 49 12.1	+0.9
CASM	Ain Smara	2.01	79	P	Pn	17 49 10.1	+0.2
CASM	Ain Smara	2.01	79	P	Pn	17 49 10.1	+0.2
CASM	Ain Smara	2.01	79	P	Pn	17 49 10.1	+0.2
EBNR	Beni Rached	2.07	281	P	Pb	17 49 13.0	-0.8
EBNR	Beni Rached	2.07	281	P	Pb	17 49 13.0	-0.8
ECHA	Ech Chlef	2.19	277	P	Pb	17 49 14.5	-1.1
ECHA	Ech Chlef	2.19	277	P	Pb	17 49 14.5	-1.1
ECHF	Ech Chlef	2.21	277	P	Pn	17 49 14.5	+1.9
ECHF	Ech Chlef	2.21	277	P	Pn	17 49 14.5	+1.9
CKFL	Kef-Lekhel	2.22	77	P	Pn	17 49 05.8	-7.0
CKFL	Kef-Lekhel	2.22	77	P	Pn	17 49 05.8	-7.0
CKFL	Kef-Lekhel	2.22	77	P	Pn	17 49 05.8	-7.0
ETRT	Tiaret	2.30	258	P	Pb	17 49 17.0	-0.6
ETRT	Tiaret	2.30	258	P	Pb	17 49 17.0	-0.6
ETRT	Tiaret	2.30	258	P	Pb	17 49 17.0	-0.6
EANR	'Ain N'Sour	2.39	272	P	Pn	17 49 17.0	+1.8
EANR	'Ain N'Sour	2.39	272	P	Pn	17 49 17.0	+1.8
EANR	'Ain N'Sour	2.39	272	P	Pn	17 49 17.0	+1.8
OJGS	Djebel Guires	2.71	262	P	Pn	17 49 21.0	+1.3
OJGS	Djebel Guires	2.71	262	P	Pn	17 49 21.0	+1.3
OJGS	Djebel Guires	2.71	262	P	Pn	17 49 21.0	+1.3
ABSA	Djebel Ababsia	2.80	82	P	Pn	17 49 21.0	+0.2
ABSA	Djebel Ababsia	2.80	82	P	Pn	17 49 21.0	+0.2
CABS	Djebel Ababsia	2.80	82	P	Pn	17 49 21.0	+0.2
CABS	Djebel Ababsia	2.80	82	P	Pn	17 49 21.0	+0.2
CMAH	Djebel Manchou	2.82	74	P	Pn	17 49 20.3	-0.7
CMAH	Djebel Manchou	2.82	74	P	Pn	17 49 20.3	-0.7
CMAH	Djebel Manchou	2.82	74	P	Pn	17 49 20.3	-0.7
OJBR	Djebel Berber	3.03	265	P	Pn	17 49 25.0	+1.0
OJBR	Djebel Berber	3.03	265	P	Pn	17 49 25.0	+1.0
OJBR	Djebel Berber	3.03	265	P	Pn	17 49 25.0	+1.0
ODJA	Bouhanifia	3.47	262	P	Pn	17 49 24.0	-6.0
ODJA	Bouhanifia	3.47	262	P	Pn	17 49 24.0	-6.0
ODJA	Bouhanifia	3.47	262	P	Pn	17 49 24.0	-6.0
EIBI	Ibiza	3.78	326	P	Pn	17 49 35.9	+1.7
	14nm,0.4s,SNR=9.1						
EIBI				S	Sn	17 50 17.5	-1.1
	12nm,0.3s						
EIBI	Ibiza	3.78	326	P	Pn	17 49 35.9	+1.7
	14nm,0.4s,SNR=9.1						
EIBI				S	Sn	17 50 17.5	-1.1
	12nm,0.3s						
ETOS	Mallorca	3.97	346	P	Pn	17 49 38.5	+1.6
	9.0nm,0.4s,SNR=7.9						
ETOS				S	Sn	17 50 21.4	-1.9
	18nm,0.8s,SNR=7.9						
ETOS	Mallorca	3.97	346	P	Pn	17 49 38.5	+1.6
	9.0nm,0.4s,SNR=7.9						
ETOS				S	Sn	17 50 21.4	-1.9
	18nm,0.8s,SNR=7.9						
KEST	Kesra	4.31	91	Pn	Pn	17 49 42.4	+0.8
	3.1nm,0.3s,baz=244,slow=3.7,SNR=28						
KEST				Sn	Sn	17 50 30.8	-1.0
	0.6nm,0.3s,baz=267,slow=19,SNR=2.1						
EMUR	La Murta	4.66	296	P	Pn	17 49 47.9	+1.6
	6.8nm,0.3s,SNR=10						
EMUR	La Murta	4.66	296	P	Pn	17 49 47.9	+1.6
	6.8nm,0.3s,SNR=10						
ENIJ	Nijar	5.15	284	P	Pn	17 49 53.5	+0.4
	9.0nm,0.5s,SNR=7.9						
ENIJ	Nijar	5.15	284	P	Pn	17 49 53.5	+0.4
	9.0nm,0.5s,SNR=7.9						
ETOB	Tobarra	5.23	303	P	Pn	17 49 57.0	+2.8
	2.3nm,0.2s,SNR=31						
ETOB				S	Sn	17 50 54.3	-0.1
	3.9nm,0.5s						
ETOB	Tobarra	5.23	303	P	Pn	17 49 57.0	+2.8
	2.3nm,0.2s,SNR=31						
ETOB				S	Sn	17 50 54.3	-0.1
	3.9nm,0.5s						
EBER	Berja	5.68	282	P	Pn	17 50 01.7	+1.2
	3.5nm,0.4s,SNR=8.9						
EBER				S	Sn	17 51 05.1	-0.6
	4.5nm,0.5s						
EBER	Berja	5.68	282	P	Pn	17 50 01.7	+1.2
	3.5nm,0.4s,SNR=8.9						
EBER				S	Sn	17 51 05.1	-0.6
	4.5nm,0.5s						
EMOS	Mosqueruela	5.70	323	P	Pn	17 50 02.1	+1.4
	4.4nm,0.4s,SNR=6.4						
EMOS				S	Sn	17 51 04.5	-1.5
	7.2nm,0.7s						
EMOS	Mosqueruela	5.70	323	P	Pn	17 50 02.1	+1.4
	4.4nm,0.4s,SNR=6.4						
EMOS				S	Sn	17 51 04.5	-1.5
	7.2nm,0.7s						
SESP	Santiago Espad	5.72	295	P	Pn	17 50 04.2	+3.2
	22nm,0.7s,SNR=7.9						
SESP				S	Sn	17 51 05.6	-1.0
	6.5nm,0.4s,SNR=7.9						
SESP	Santiago Espad	5.72	295	P	Pn	17 50 04.2	+3.2
	22nm,0.7s,SNR=7.9						
SESP				S	Sn	17 51 05.6	-1.0
	6.5nm,0.4s,SNR=7.9						
EPOB	Poblet	5.91	338	P	Pn	17 50 06.7	+3.2
	3.0nm,0.4s,SNR=7.9						
EPOB	Poblet	5.91	338	P	Pn	17 50 06.7	+3.2
	3.0nm,0.4s,SNR=7.9						
CFON	Fontmartina	5.98	348	P	Pn	17 50 05.2	+0.7
	1.9nm,0.2s,SNR=7.5						
CFON	Fontmartina	5.98	348	P	Pn	17 50 05.2	+0.7
	1.9nm,0.2s,SNR=7.5						
EQES	Quesada	6.01	290	P	Pn	17 50 08.0	+3.0
	6.4nm,0.3s,SNR=16						
EQES				S	Sn	17 51 12.0	-1.8
	3.0nm,0.4s						
EQES	Quesada	6.01	290	P	Pn	17 50 08.0	+3.0
	6.4nm,0.3s,SNR=16						
EQES				S	Sn	17 51 12.0	-1.8
	3.0nm,0.4s						
EQUE	Quentar	6.16	284	P	Pn	17 50 09.5	+2.4
	6.5nm,0.4s,SNR=18						
EQUE				S	Sn	17 51 16.4	-1.1
	2.3nm,0.4s						
EQUE	Quentar	6.16	284	P	Pn	17 50 09.5	+2.4
	6.5nm,0.4s,SNR=18						
EQUE				S	Sn	17 51 16.4	-1.1
	2.3nm,0.4s						
ELGU	Los Guajares,	6.26	281	P	Pn	17 50 10.2	+1.8
	5.6nm,0.5s,SNR=7.9						
ELGU	Los Guajares,	6.26	281	P	Pn	17 50 10.2	+1.8
	5.6nm,0.5s,SNR=7.9						
EMIR	Miracle	6.31	343	P	Pn	17 50 11.5	+2.5
	8.4nm,0.3s,SNR=6.4						
EMIR				S	Sn	17 51 19.2	-1.8
	12nm,0.5s						
EMIR	Miracle	6.31	343	P	Pn	17 50 11.5	+2.5
	8.4nm,0.3s,SNR=6.4						
EMIR				S	Sn	17 51 19.2	-1.8
	12nm,0.5s						
EJON	La Jonquera	6.59	352	P	Pn	17 50 16.0	+3.2
	2.9nm,0.3s,SNR=7.9						
EJON				S	Sn	17 51 26.1	-1.8
	5.2nm,0.4s,SNR=7.9						
EJON	La Jonquera	6.59	352	P	Pn	17 50 16.0	+3.2
	2.9nm,0.3s,SNR=7.9						
EJON				S	Sn	17 51 26.1	-1.8
	5.2nm,0.4s,SNR=7.9						
SJAF	Saint Jean de	6.63	353	P	Pn	17 50 16.6	+3.3
	2.8nm,0.4s,SNR=7.9						
SJAF	Saint Jean de	6.63	353	P	Pn	17 50 16.6	+3.3
	2.8nm,0.4s,SNR=7.9						
EGOR	Sierra Gorda,	6.68	283	P	Pn	17 50 17.4	+3.2
	1.3nm,0.3s,SNR=7.9						
EGOR	Sierra Gorda,	6.68	283	P	Pn	17 50 17.4	+3.2
	1.3nm,0.3s,SNR=7.9						
CLLI	Llivia	6.75	347	P	Pn	17 50 18.3	+3.1
	1.0nm,0.4s,SNR=7.9						
CLLI	Llivia	6.75	347	P	Pn	17 50 18.3	+3.1
	1.0nm,0.4s,SNR=7.9						
CSOR	Sort	6.84	342	P	Pn	17 50 19.5	+3.1
	1.4nm,0.3s,SNR=7.9						
CSOR	Sort	6.84	342	P	Pn	17 50 19.5	+3.1
	1.4nm,0.3s,SNR=7.9						
ETOR	Torete	6.86	317	P	Pn	17 50 21.4	+4.8
	0.9nm,0.3s,SNR=7.9						
ETOR	Torete	6.86	317	P	Pn	17 50 21.4	+4.8
	0.9nm,0.3s,SNR=7.9						
EADA	Adamuz	7.26	291	P	Pn	17 50 24.0	+2.0
	0.3nm,0.2s,SNR=7.9						
EADA	Adamuz	7.26	291	P	Pn	17 50 24.0	+2.0
	0.3nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	7.37	303	Pn	Pn	17 50 25.3	+1.7
	0.9nm,0.3s,baz=118,slow=13,SNR=6.3						
ESDC	Sonseca Array	7.37	303	P	Pn	17 50 25.5	+1.9
	1.7nm,0.2s,baz=121,slow=13,SNR=5.8						
ESDC	Sonseca Array	7.37	303	P	Pn	17 50 25.5	+1.9
	1.7nm,0.2s,SNR=5.8						
PAB	San Pablo	7.58	301	P	Pn	17 50 28.0	+1.5
	1.5nm,0.4s,SNR=7.9						
PAB	San Pablo	7.58	301	P	Pn	17 50 28.0	+1.5
	1.5nm,0.4s,SNR=7.9						
ECAB	El Cabril	7.88	289	P	Pn	17 50 32.0	+1.5
	1.3nm,0.6s,SNR=7.9						
ECAB	El Cabril	7.88	289	P	Pn	17 50 32.0	+1.5
	1.3nm,0.6s,SNR=7.9						
EARI	Arriondas	10.27	319	P	Pn	17 51 06.5	+3.3
	2.9nm,0.5s,SNR=7.2						
EARI	Arriondas	10.27	319	P	Pn	17 51 06.5	+3.3
	2.9nm,0.5s,SNR=7.2						
GERES	GERESS Array B	14.74	26	Pn	Pn	17 52 04.1	-0.4
	0.1nm,0.3s,baz=182,slow=8.7,SNR=2.8						
TORD	Torodi Ar. Bea	22.77	186	P	P	17 53 40.8	+2.4
	0.3nm,0.4s,baz=355,slow=10,SNR=3.6						
AKASG	Malin Array Be	23.39	43	P	P	17 53 42.8	-1.8
	0.5nm,0.5s,baz=239,slow=9.3,SNR=4.1						
BRTR	Keskin Array B	23.63	72	P	P	17 53 48.3	+1.1
	0.4nm,0.7s,baz=300,slow=6.5,SNR=2.5						
OBN	Obninsk	29.40	39	LR	LR	18 06 53.3	
	comp=Z,42nm,18.2s,baz=273,slow=37						
MKAR	Makanchi Array	57.45	53	P	P	17 58 25.5	+0.7
	0.7nm,0.6s,baz=289,slow=6.3,SNR=12						
YKA	Yellowknife Ar	70.34	334	P	P	17 59 47.8	-1.4
	0.1nm,0.5s,baz=54,slow=6.4,SNR=3.0						

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*IDC **06** 18:09:49.7±12.0, 6°.94S×129°.48E, h99^{km}±125^{km}, mb3.1/2, mb1 3.4/6, mb1mx3.1/49, mbtmp3.6/6, ML3.8/4, Error ellipse: s-maj=127.9km s-min=34.4km az=43.0*
*ISCJB **06** 18:09:52.0±0.5, 7°.25S±0°.04×129°.25E±0°.05, h150^{km}, Error ellipse: s-maj=7.3km s-min=5.9km az=153.7*
*NEIC **06** 18:09:53.6±0.8, 7°.13S×129°.25E, h140^{km}±10^{km}, mb4.6/2, Error ellipse: s-maj=12.0km s-min=8.8km az=77.0*
ISC 06 18:09:52.2±0.7, **7°.34S**±0°.05×**129°.29E**±0°.05, **h150**^{km}, **n20**, σ**3^{s}33**/28, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.10	108	*e*Pn	Pn	18 10 30.1	+1.6
SAUI				*e*Sn	Sn	18 10 55.5	-0.9
FAKI	Fak Fak	5.29	34	*e*Pn	Pn	18 11 09.8	+0.2
FAKI				*e*Sn	Sn	18 12 04.9	-5.0
SOEI	Soe	5.52	244	*e*Pn	Pn	18 11 15.9	+3.3
SOEI				*e*Sn	Sn	18 12 12.3	-3.2
MTN	Manton Dam	5.77	162	*e*Pn	Pn	18 11 20.2	+4.3
MTN				*e*Sn	Sn	18 12 22.1	+0.8
BATI	Baumata	6.25	242	P	Pn	18 11 24.4	+2.0
	1.3nm,0.3s,baz=63,slow=2.3,SNR=5.4						
BATI				S	Sn	18 12 32.6	-0.2
	3.4nm,0.3s,baz=24,slow=20,SNR=7.0						
TNTI	Ternate	8.28	347	*e*Pn	Pn	18 11 47.4	-2.0
FITZ	Fitzroy Crossi	11.27	198	P	P	18 12 33.8	-3.3
	0.5nm,0.3s,baz=273,slow=0.3,SNR=17						
FITZ				S	Sn	18 14 27.6	-6.1
	0.4nm,0.3s,baz=315,slow=18,SNR=5.9						
WR1	Warramunga Arr	13.46	159	*e*Pn	Pn	18 12 59.2	+1.8
WRA	Warramunga Arr	13.46	159	P	Pn	18 12 59.2	+1.8
	0.7nm,0.3s,baz=342,slow=13,SNR=33						
WRA				S	Sn	18 15 21.3	-5.1
	0.7nm,0.3s,baz=338,slow=22,SNR=10						
WB2	Warramunga Arr	13.46	159	*e*Pn	Pn	18 12 57.5	+0.1
COEN	Coen	15.15	117	*e*Pn	P	18 13 22.6	+2.4
	12nm,1.4s						
AS31	Alice Springs	16.83	165	*e*P	Pn	18 13 44.5	+5.3
	0.8nm,0.8s						
ASAR	Alice Springs	16.83	165	P	Pn	18 13 44.2	+5.0
	0.2nm,0.3s,baz=340,slow=9.9,SNR=25						
ASAR				S	S	18 16 42.8	-3.7
	0.1nm,0.3s,baz=339,slow=23,SNR=4.7						
AS01	Alice Springs	16.84	165	*e*P	Pn	18 13 45.3	+5.9
SSLB	Suanglung	31.99	345	*e*P	P	18 16 04.1	-0.3
	63nm,1.7s						
COCO	West Island	32.33	259	*e*P	P	18 16 08.0	+0.6
	434nm,1.6s						
MK32	Makanchi Array	68.12	327	*e*P	P	18 20 38.3	+2.3
MKAR	Makanchi Array	68.12	327	P	P	18 20 38.3	+2.3
	0.1nm,0.7s,baz=131,slow=7.9,SNR=3.6						
ZALV	Zalesovo Beam	71.57	334	P	P	18 20 57.6	+0.7
	0.3nm,0.3s,baz=145,slow=5.3,SNR=3.0						
ZAA1	Zalesovo Array	71.58	334	*e*P	P	18 20 57.6	+0.7

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*ISCJB **06** 18:12:57.8±0.7, 36°.67N±0°.04×7°.22W±0°.04, h59^{km}±12^{km}, Error ellipse: s-maj=7.0km s-min=4.5km az=21.0*
*CSEM **06** 18:12:58.9±0.2, 36°.66N×7°.23W, h40^{km}, ML1.7, Error ellipse: s-maj=4.6km s-min=2.7km az=19.0*
*INMG **06** 18:12:59.4±1.1, 36°.65N×7°.32W, h19^{km}±3^{km}, ML1.7, Error ellipse: s-maj=4.5km s-min=3.1km az=10.0*
*IGIL **06** 18:12:59.5, 36°.62N×7°.33W, h21^{km}, ML1.7*
*MDD **06** 18:12:59.3±0.8, 36°.63N×7°.24W, h44^{km}±30^{km}, mb3.8/6, Error ellipse: s-maj=8.3km s-min=5.1km az=20.0, PRXIMO*
ISC 06 18:12:57.7±1.4, **36°.63N**±0°.04×**7°.23W**±0°.03, **h58**^{km}±15^{km}, **n60**, σ**1^{s}03**/108, **5D**, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	0.83	318	⇓*i*P	Pn	18 13 13.7	+0.1
PBDV				*e*S	Sn	18 13 24.1	-1.2
PBDV				A	A	18 13 25.2	
	8.8nm,0.1s						
PBDV	Barranco-do-Ve	0.83	318	P	Pn	18 13 13.7	+0.1
PBDV				S	Sn	18 13 24.1	-1.2
	8.8nm,0.1s						
PBDV	Barranco-do-Ve	0.83	318	⇓*i*P	Pn	18 13 13.7	+0.1
PBDV				S	Sn	18 13 24.1	-1.2
	8.8nm,0.1s						
PVAQ	Vaqueiros	0.87	333	⇓*i*P	Pn	18 13 14.4	+0.4
PVAQ				*e*S	Sn	18 13 25.2	-0.8
PVAQ				A	A	18 13 28.6	
	11nm,0.1s						
PVAQ	Vaqueiros	0.87	333	P	Pn	18 13 14.4	+0.4
PVAQ				S	Sn	18 13 25.2	-0.8
	11nm,0.1s						
PVAQ	Vaqueiros	0.87	333	⇓*i*P	Pn	18 13 14.4	+0.4
PVAQ				S	Sn	18 13 25.2	-0.8
	11nm,0.1s						
EGRO	El Granado	0.93	347	⇓P	Pn	18 13 15.4	+0.6
	2.0nm,0.1s,SNR=18						
EGRO				S	Sn	18 13 27.3	0.0
	8.6nm,0.1s,SNR=12						
EGRO	El Granado	0.93	347	P	Pn	18 13 15.4	+0.6
	2.0nm,0.1s,SNR=18						
EGRO				S	Sn	18 13 27.3	0.0
	8.6nm,0.1s,SNR=12						
ESPR	Espera	1.13	77	P	Pn	18 13 18.6	+1.2
	3.2nm,0.2s,SNR=7.7						
ESPR				S	Sn	18 13 32.7	+0.7
	14nm,0.2s,SNR=5.9						
ESPR	Espera	1.13	77	P	Pn	18 13 18.6	+1.2
	3.2nm,0.2s,SNR=7.7						
ESPR				S	Sn	18 13 32.7	+0.7
	14nm,0.2s,SNR=5.9						
PCVE	Castro Verde	1.19	327	*e*P	Pn	18 13 19.0	+0.7
PCVE				*e*S	Sn	18 13 33.6	0.0
PCVE	Castro Verde	1.19	327	P	Pn	18 13 19.0	+0.7
PCVE				S	Sn	18 13 33.6	0.0
PCVE	Castro Verde	1.19	327	*e*P	Pn	18 13 19.0	+0.7
PCVE				*e*S	Sn	18 13 33.6	0.0
EMIN	Mina Concepcio	1.22	21	P	Pn	18 13 19.2	+0.5
	0.3nm,0.1s,SNR=11						
EMIN				S	Sn	18 13 33.3	-0.9
	4.4nm,0.1s,SNR=11						
EMIN	Mina Concepcio	1.22	21	P	Pn	18 13 19.2	+0.5
	0.3nm,0.1s,SNR=11						
EMIN				S	Sn	18 13 33.3	-0.9
	4.4nm,0.1s,SNR=11						
MORF	Marmelete	1.33	301	*e*S	Sn	18 13 35.7	-1.1
MORF				AML	AML	18 13 36.6	
	comp=N,16nm,0.2s						
MORF	Marmelete	1.33	301	*e*S	Sn	18 13 35.9	-0.9
MORF				A	A	18 13 43.9	
	comp=N,6.6nm,0.2s						
MORF	Marmelete	1.33	301	S	Sn	18 13 35.7	-1.1
	comp=N,16nm,0.2s						
MORF	Marmelete	1.33	301	*e*S	Sn	18 13 35.9	-0.9
	comp=N,6.6nm,0.2s						
PFVI	Vila Bisbo	1.38	292	*e*S	Sn	18 13 37.1	-0.9
PFVI				A	A	18 13 48.6	
	comp=N,14nm,0.9s						
PFVI	Vila Bisbo	1.38	292	P	Pn	18 13 20.9	+0.2
	comp=N,2.3nm,0.2s,SNR=4.0						
PFVI				S	Sn	18 13 36.9	-1.1
	comp=N,8.6nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	1.38	292	P	Pn	18 13 20.9	+0.2
	comp=N,2.3nm,0.2s,SNR=4.0						
PFVI				*e*S	Sn	18 13 37.1	-0.9
	comp=N,14nm,0.9s						
MESJ	Messejana	1.45	327	*e*P	Pn	18 13 22.5	+0.8
MESJ				*e*S	Sn	18 13 39.1	-0.5
MESJ				AML	AML	18 13 40.4	
	comp=E,6.6nm,0.1s						
MESJ	Messejana	1.45	327	*e*P	Pn	18 13 22.5	+0.8
MESJ				*e*S	Sn	18 13 39.1	-0.5
MESJ	Messejana	1.45	327	P	Pn	18 13 22.5	+0.8
MESJ				S	Sn	18 13 39.1	-0.5
	comp=E,6.6nm,0.1s						
MESJ	Messejana	1.45	327	*e*P	Pn	18 13 22.5	+0.8
MESJ				S	Sn	18 13 39.1	-0.5
	comp=E,6.6nm,0.1s						
PTEO	Sao Teotonio	1.51	308	*e*P	Pn	18 13 23.3	+0.8
PTEO				*e*S	Sn	18 13 40.7	-0.4
PTEO				A	A	18 13 45.2	
	comp=E,11nm,0.5s						
PTEO	Sao Teotonio	1.51	308	P	Pn	18 13 23.3	+0.8
PTEO				S	Sn	18 13 40.7	-0.4
	comp=E,5.3nm,0.5s						
PTEO	Sao Teotonio	1.51	308	*e*P	Pn	18 13 23.3	+0.8
PTEO				S	Sn	18 13 40.7	-0.4
	comp=E,5.3nm,0.5s						
PBAR	Barrancos	1.55	5	*e*P	Pn	18 13 24.0	+0.9
PBAR				*e*S	Sn	18 13 43.0	+0.8
PBAR				A	A	18 13 49.0	
	comp=E,8.0nm,0.3s						
PBAR	Barrancos	1.55	5	P	Pn	18 13 24.0	+0.9
PBAR				S	Sn	18 13 43.0	+0.8
	comp=E,8.0nm,0.3s						
PBAR	Barrancos	1.55	5	*e*P	Pn	18 13 24.0	+0.9
PBAR				S	Sn	18 13 43.0	+0.8
	comp=E,8.0nm,0.3s						
ECEU	Ceuta	1.66	115	P	Pn	18 13 25.6	+1.0
	comp=E,9.0nm,0.1s,SNR=8.8						
ECEU				S	Sn	18 13 44.0	-0.9
	comp=E,4.0nm,0.1s,SNR=14						
ECEU	Ceuta	1.66	115	P	Pn	18 13 25.6	+1.0
	comp=E,9.0nm,0.1s,SNR=8.8						
ECEU				S	Sn	18 13 44.0	-0.9
	comp=E,4.0nm,0.1s,SNR=14						
PNCL	Nicolau / Gran	1.81	325	*e*Pn	Pn	18 13 27.4	+0.8
PNCL				*e*Sn	Sn	18 13 48.4	0.0
PNCL				A	A	18 14 03.0	
	comp=E,4.6nm,0.9s						
PNCL	Nicolau / Gran	1.81	325	*e*Pn	Pn	18 13 27.4	+0.8
PNCL				*e*Sn	Sn	18 13 48.4	0.0
	comp=E,4.6nm,0.9s						
EVO	Evora	2.00	342	*e*Pn	Pn	18 13 30.2	+1.0
EVO	Evora	2.00	342	P	Pn	18 13 30.2	+1.0
EVO	Evora	2.00	342	P	Pn	18 13 30.2	+1.0
ECAB	El Cabril	2.04	44	P	Pn	18 13 31.4	+1.6
	comp=E,0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	18 13 52.4	-1.7
	comp=E,0.7nm,0.1s,SNR=7.9						
ECAB	El Cabril	2.04	44	P	Pn	18 13 31.4	+1.6
	comp=E,0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	18 13 52.4	-1.7
	comp=E,0.7nm,0.1s,SNR=7.9						
EBAD	Badajoz	2.13	5	P	Pn	18 13 31.0	0.0
	comp=E,1.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	18 13 55.4	-0.9
	comp=E,1.8nm,0.1s,SNR=7.9						
EBAD	Badajoz	2.13	5	P	Pn	18 13 31.0	0.0
	comp=E,1.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	18 13 55.4	-0.9
	comp=E,1.8nm,0.1s,SNR=7.9						
PESTR	Estremoz	2.25	353	*e*Pn	Pn	18 13 33.5	+0.8
PESTR				*e*Sn	Sn	18 13 59.8	+0.5
PESTR	Estremoz	2.25	353	*e*Pn	Pn	18 13 33.5	+0.8
PESTR				*e*Sn	Sn	18 13 59.8	+0.5
PMTG	Montargil	2.56	342	*e*Pn	Pn	18 13 37.8	+1.0
PMTG				*e*Sn	Sn	18 14 07.5	+0.7
PMTG				A	A	18 14 28.0	
	comp=E,2.5nm,0.5s						
PMTG	Montargil	2.56	342	*e*Pn	Pn	18 13 37.8	+1.0
PMTG				*e*Sn	Sn	18 14 07.5	+0.7
	comp=E,2.5nm,0.5s						
EADA	Adamuz	2.61	53	P	Pn	18 13 38.5	+1.0
	comp=E,0.2nm,0.2s,SNR=4.0						
EADA				S	Sn	18 14 07.3	-0.8
	comp=E,1.0nm,0.1s,SNR=7.9						
EADA	Adamuz	2.61	53	P	Pn	18 13 38.5	+1.0
	comp=E,0.2nm,0.2s,SNR=4.0						
EADA				S	Sn	18 14 07.3	-0.8
	comp=E,1.0nm,0.1s,SNR=7.9						
PMRV	Marv??o	2.80	357	*e*Pn	Pn	18 13 41.0	+0.9
PMRV				*e*Sn	Sn	18 14 13.2	+0.5
PMRV	Marv??o	2.80	357	P	Pn	18 13 41.0	+0.9
PMRV				S	Sn	18 14 13.2	+0.5
PMRV	Marv??o	2.80	357	P	Pn	18 13 41.0	+0.9
PMRV				S	Sn	18 14 13.2	+0.5
EPLA	Plasencia	3.55	14	P	Pn	18 13 50.1	-0.2
	comp=E,1.5nm,0.2s,SNR=7.2						
EPLA				S	Sn	18 14 29.1	-2.0
	comp=E,2.1nm,0.3s,SNR=7.9						
EPLA	Plasencia	3.55	14	P	Pn	18 13 50.2	-0.2
	comp=E,1.5nm,0.2s,SNR=7.2						
EPLA				S	Sn	18 14 29.1	-2.0
	comp=E,2.1nm,0.3s,SNR=7.9						
PAB	San Pablo	3.69	37	P	Pn	18 13 53.1	+0.7
	comp=E,0.3nm,0.1s,SNR=7.9						
PAB				S	Sn	18 14 31.6	-3.1
	comp=E,0.5nm,0.1s,SNR=7.9						
PAB	San Pablo	3.69	37	P	Pn	18 13 53.1	+0.7
	comp=E,0.3nm,0.1s,SNR=7.9						
PAB				S	Sn	18 14 31.6	-3.1
	comp=E,0.5nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	3.98	39	S	Sn	18 14 39.0	-2.8
	baz=221,slow=24,SNR=7.9						
ESDC	Sonseca Array	3.98	39	S	Sn	18 14 39.0	-2.8
	baz=221,slow=24,SNR=7.9						
MVO	Moncorvo	4.53	2	P	Pn	18 14 05.0	+1.1
	comp=E,1.6nm,0.1s,SNR=6.3						
MVO	Moncorvo	4.53	2	P	Pn	18 14 05.0	+1.1
	comp=E,1.6nm,0.1s,SNR=6.3						

DJA 06 18:13:00.3±1.3, **1°S**±4°×**12°0E**±°, **h12**^{km}±12^{km}, **M3.6**/8, **MLv3.6**/8, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.19**	**346**	P	Pn	18 13 22.6	-0.2
APSI	**Ampana**	**1.47**	**93**	P	Pn	18 13 26.1	-0.5
APSI				S	Sb	18 13 46.5	+0.2
MRSI	**Marisa**	**2.19**	**54**	P	Pn	18 13 36.2	-0.3
TTSI	**Tana Toraja**	**2.23**	**189**	P	Pn	18 13 37.1	0.0
TTSI				S	Sn	18 14 05.3	+0.7
LUWI	**Luwuk**	**2.60**	**95**	P	Pn	18 13 41.8	-0.4
BKB	**Balikpapan**	**3.31**	**263**	P	Pn	18 13 51.3	-0.7
BNSI	**Bone**	**3.55**	**181**	P	Pn	18 13 55.0	-0.2
BNSI				S	Sn	18 14 38.4	+1.3

*IDC **06** 18:14:05.3±2.7, 2°.43S×77°.74W, h51km±26km, mb3.7/10, mb1 4.0/13, mb1mx3.8/39, mbtmp4.0/13, ML4.1/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/32, Error ellipse: s-maj=22.2km s-min=14.4km az=9.0*
*ISCJB **06** 18:14:08.6±0.3, 2°.91S±0°.03×77°.91W±0°.04, h100km, mb4.1/15, Error ellipse: s-maj=6.4km s-min=3.8km az=157.7*
*NEIC **06** 18:14:08.4±0.7, 2°.75S×77°.94W, h89km±7km, mb4.5/9, ML4.5(IGQ), Error ellipse: s-maj=10.4km s-min=7.0km az=74.0*
*IGQ **06** 18:14:11.0±1.0, 3°S±10°×7°8W±°, h65km±23km, MLv4.6/5*
ISC 06 18:14:08.7±0.5**, 2°.86S**±0°.05×**77°.91W**±0°.06**, h100km, n94, σ2s.03**/104**, mb4.0**/15**, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOE1	**Riobamba**	**1.32**	**327**	P	**Pn**	**18 14 33.5**	**+0.4**
RIOE1				S	**Sn**	**18 14 50.6**	**-1.0**
BPAT	**Tungurahua Vol**	**1.45**	**339**	P	**Pn**	**18 14 35.4**	**+0.6**
BPAT				S	**Sn**	**18 14 54.8**	**+0.3**
BMAS	**Trigal station**	**1.47**	**337**	P	**Pn**	**18 14 35.5**	**+0.5**
BMAS				S	**Sn**	**18 14 54.6**	**-0.2**
RETU	**Refugio**	**1.50**	**339**	P	**Pn**	**18 14 36.3**	**+0.7**
BULB	**Ulba Tungurahu**	**1.50**	**340**	P	**Pn**	**18 14 35.9**	**+0.5**
BULB				S	**Sn**	**18 14 55.3**	**-0.2**
BRUN	**Tungurahua Vol**	**1.52**	**341**	P	**Pn**	**18 14 36.3**	**+0.8**
BBIL	**Ulba Tungurahu**	**1.52**	**337**	P	**Pn**	**18 14 36.3**	**+0.8**
BIL2	**Estacion Bilba**	**1.52**	**337**	P	**Pn**	**18 14 36.7**	**+1.2**
POND	**Pondoa**	**1.53**	**339**	P	**Pn**	**18 14 36.3**	**+0.6**
IGUA	**Igualata**	**1.55**	**332**	P	**Pn**	**18 14 36.5**	**+0.4**
BTAM	**Cotopaxi Volca**	**2.23**	**347**	P	**Pn**	**18 14 46.6**	**+1.8**
BREF	**Cotopaxi Volca**	**2.24**	**346**	P	**Pn**	**18 14 47.0**	**+1.9**
BVC2	**Cotopaxi Volca**	**2.25**	**347**	P	**Pn**	**18 14 46.9**	**+1.9**
BNAS	**Cotopaxi Volca**	**2.25**	**345**	P	**Pn**	**18 14 46.8**	**+1.8**
CAMI	**Rancho Maria**	**2.25**	**345**	P	**Pn**	**18 14 47.1**	**+2.1**
VC1	**Cotopaxi 1**	**2.26**	**347**	P	**Pn**	**18 14 47.5**	**+2.3**
NAS2	**Nasa**	**2.27**	**346**	P	**Pn**	**18 14 47.3**	**+2.0**
ILLI	**Illinizas Sur**	**2.29**	**339**	P	**Pn**	**18 14 47.4**	**+1.9**
ANTG	**Antisana-Guama**	**2.37**	**352**	P	**Pn**	**18 14 48.2**	**+1.6**
ANTI	**Antisana**	**2.41**	**354**	P	**Pn**	**18 14 48.0**	**+0.8**
PULU	**Pululahua**	**2.93**	**348**	P	**Pn**	**18 14 56.2**	**+2.4**
OTAV	**Otavalo**	**3.13**	**350**	*e*Pn	**Pn**	**18 14 57.5**	**+0.9**
OTAV	**Otavalo**	**3.13**	**350**	*e*P	**Pn**	**18 15 01.1**	**+4.5**
IMBA	**Imbabura, San**	**3.13**	**355**	P	**Pn**	**18 14 59.9**	**+3.3**
COTA	**Cotacachi**	**3.21**	**352**	P	**Pn**	**18 15 02.5**	**+4.7**
YAHU	**Yahuarcocha**	**3.22**	**357**	P	**Pn**	**18 15 00.4**	**+2.7**
URCU	**Urcuqui**	**3.30**	**354**	P	**Pn**	**18 15 01.4**	**+2.6**
MAG1	**Magdalena**	**3.34**	**326**	P	**Pn**	**18 14 59.2**	**+0.2**
ISPT	**Isla de la Pla**	**3.54**	**297**	P	**Pn**	**18 15 00.6**	**-1.2**
CMBC	**Cumbal**	**3.78**	**1**	*e*P	**Pn**	**18 15 08.0**	**+2.7**
GCUF	**Volcan Galeras**	**4.10**	**8**	*e*P	**Pn**	**18 15 11.4**	**+1.7**
ATAH	**Atahualpa**	**4.27**	**187**	P	**Pn**	**18 15 14.6**	**+2.7**
	34nm,0.3s,baz=26,slow=6.9,SNR=106						
ATAH				S	**Sn**	**18 16 02.3**	**+1.4**
	22nm,0.3s,baz=90,slow=20,SNR=11						
CRUC	**La Cruz**	**4.50**	**12**	*e*P	**Pn**	**18 15 16.5**	**+1.5**
FLOC	**Florencia**	**4.96**	**27**	*e*P	**Pn**	**18 15 20.4**	**-0.5**
SOTA	**Rioblanco**	**5.13**	**15**	*e*P	**Pn**	**18 15 25.2**	**+1.6**
PCON	**Cinco Dias**	**5.37**	**16**	*e*P	**Pn**	**18 15 29.4**	**+2.4**
MARP	**Paez Belalcaza**	**5.99**	**19**	*e*P	**Pn**	**18 15 36.3**	**+1.1**
HORQ	**Saladito**	**6.43**	**11**	*e*P	**Pn**	**18 15 42.5**	**+1.4**
YOTC	**Yotoco, Valle**	**6.98**	**13**	*e*P	**Pn**	**18 15 46.0**	**-2.5**
PRAC	**Prado**	**7.20**	**25**	*e*Pn	**Pn**	**18 15 51.5**	**+0.2**
PRAC	**Prado**	**7.20**	**25**	*e*P	**Pn**	**18 15 55.0**	**+3.6**
SJAC	**San Juan de Ar**	**7.26**	**33**	*e*P	**Pn**	**18 15 54.1**	**+1.8**
TOLC	**Tolima**	**7.84**	**19**	*e*P	**Pn**	**18 15 59.3**	**-1.0**
ROSC	**El Rosal**	**8.45**	**25**	*e*Pn	**Pn**	**18 16 04.2**	**-4.5**
CHIC	**Chingaza**	**8.53**	**29**	*e*P	**Pn**	**18 16 12.9**	**+3.1**
NNA	**Nana**	**9.13**	**173**	P	**Pn**	**18 16 19.1**	**+1.5**
	9.1nm,0.3s,baz=331,slow=12,SNR=11						
NNA				S	**Sn**	**18 17 51.4**	**-7.2**
	7.8nm,0.3s,baz=292,slow=19,SNR=5.8						
NNA	**Nana**	**9.13**	**173**	*e*Pn	**Pn**	**18 16 17.3**	**-0.3**
NNA				*e*Sn	Sn	18 17 48.0	-11
HELC	**Santa Helena**	**9.30**	**15**	*e*Pn	**Pn**	**18 16 17.5**	**-2.8**
RUSC	**La Rusia**	**9.94**	**29**	*e*Pn	**Pn**	**18 16 30.7**	**+1.6**
RUSC	**La Rusia**	**9.94**	**29**	*e*P	**Pn**	**18 16 29.5**	**+0.4**
PAYG	**Puerto Ayora**	**12.56**	**280**	*e*Pn	**Pn**	**18 17 01.2**	**-2.7**
SDV	**Santo Domingo**	**13.74**	**32**	LR	LR	18 23 26.2	
	comp=Z,35nm,19.4s,baz=110,slow=42						
SDV	**Santo Domingo**	**13.74**	**32**	*e*Pn	**Pn**	**18 17 16.9**	**-2.6**
SAML	**Samuel**	**15.84**	**113**	*e*Pn	**Pn**	**18 17 45.6**	**-0.5**
	6.5nm,0.7s						
LPAZ	**La Paz**	**16.45**	**145**	P	**P**	**18 17 56.9**	**+1.7**
	0.2nm,0.3s,baz=347,slow=16,SNR=4.5						
PTGA	**Pitinga**	**18.05**	**84**	P	**P**	**18 18 11.4**	**-0.9**
	0.1nm,0.3s,baz=287,slow=20,SNR=2.4						
PTGA				S	**S**	**18 21 28.0**	**-6.3**
	0.5nm,0.3s,baz=347,slow=12,SNR=2.6						
PTGA	**Pitinga**	**18.05**	**84**	*e*P	**P**	**18 18 12.5**	**+0.2**
	7.8nm,0.6s						
PTGA				S	**S**	**18 21 28.0**	**-6.3**
MNMC	**Minye Minye**	**18.10**	**154**	*e*P	**Pn**	**18 18 16.2**	**+2.3**
	32nm,0.7s						
PB11	**IPOC Station P**	**18.63**	**155**	*e*P	**Pn**	**18 18 19.9**	**-0.3**
	10nm,0.9s						
SIV	**San Ignacio**	**21.09**	**129**	P	**P**	**18 18 48.0**	**+2.8**
	1.6nm,0.6s,baz=324,slow=11,SNR=8.3						
LTX	**Lajitas**	**40.43**	**324**	*e*P	**P**	**18 21 37.4**	**-0.1**
TXAR	**Lajitas Array**	**40.43**	**324**	P	**P**	**18 21 37.4**	**-0.1**
	0.2nm,0.4s,baz=146,slow=6.6,SNR=3.5						
TXAR				PcP	**PcP**	**18 23 40.5**	**+1.9**
	0.8nm,0.7s,baz=156,slow=6.7,SNR=5.5						
TUC	**Tucson**	**46.85**	**321**	*e*P	**P**	**18 22 29.9**	**+1.0**
	4.0nm,0.9s						
SMCO	**Snowmass**	**49.66**	**330**	*e*S	**S**	**18 29 52.1**	**-0.2**
JLU	**Jordanelle**	**53.01**	**328**	*e*P	**P**	**18 23 13.8**	**-1.9**
	4.8nm,0.6s						
PD31	**Pinedale Array**	**53.66**	**331**	*e*P	**P**	**18 23 20.0**	**-0.4**
PDAR	**Pinedale Array**	**53.66**	**331**	P	**P**	**18 23 20.6**	**+0.2**
	0.6nm,0.6s,baz=116,slow=10,SNR=7.0						
PDAR				PcP	**PcP**	**18 24 25.1**	**-0.3**
	1.1nm,1.0s,baz=126,slow=4.6,SNR=3.4						
ULM	**Lac du Bonnet**	**55.12**	**346**	P	**P**	**18 23 29.4**	**-1.1**
	2.8nm,0.5s,baz=148,slow=6.4,SNR=7.8						
ULM				PcP	**PcP**	**18 24 29.2**	**-1.3**
	0.5nm,0.4s,baz=222,slow=1.1,SNR=3.1						
NV01	**Mina Array Sit**	**55.48**	**322**	*e*P	**P**	**18 23 33.5**	**-0.1**
NVAR	**Mina Array Bea**	**55.48**	**322**	P	**P**	**18 23 33.9**	**+0.4**
	0.7nm,0.5s,baz=125,slow=9.0,SNR=2.3						
J08A	**Circle Bar Ran**	**58.71**	**326**	*e*P	**P**	**18 23 57.3**	**+1.2**
	9.2nm,0.8s						
YKA	**Yellowknife Ar**	**70.86**	**343**	P	**P**	**18 25 14.5**	**+0.1**
	0.7nm,0.5s,baz=140,slow=5.9,SNR=19						
DBIC	**Dimbokro**	**73.53**	**82**	P	**P**	**18 25 32.8**	**+1.5**
	1.7nm,0.6s,baz=213,slow=8.0						
KOWA	**Kowa**	**75.16**	**74**	P	**P**	**18 25 42.7**	**+1.9**
	1.0nm,0.4s,baz=261,slow=5.6,SNR=4.9						
TOA1	**Torodi Ar. Sit**	**80.53**	**76**	*e*P	**P**	**18 26 11.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**80.54**	**76**	P	**P**	**18 26 11.4**	**+0.8**
	0.5nm,0.6s,baz=275,slow=6.2,SNR=4.1						
INK	**Inuvik**	**80.58**	**342**	*e*P	**P**	**18 26 10.8**	**+1.1**
	9.5nm,1.4s						
IL1	**Eielson Array**	**83.76**	**336**	*e*P	**P**	**18 26 26.8**	**+0.4**
ILAR	**Eielson Array**	**83.76**	**336**	P	**P**	**18 26 26.8**	**+0.4**
	1.2nm,0.8s,baz=124,slow=3.9,SNR=12						
ILB	**Eielson Array**	**83.76**	**336**	*e*P	**P**	**18 26 27.2**	**+0.8**
BPAW	**Bear Paw Mtn.**	**85.23**	**335**	*e*P	**P**	**18 26 34.5**	**+0.6**
	11nm,1.3s						
BVAR	**Borovoye Array**	**123.56**	**22**	PKP	**PKPdf**	**18 32 56.0**	**+1.5**
	0.4nm,0.6s,baz=242,slow=3.1,SNR=3.2						
GEYT	**Alibeck**	**126.78**	**43**	PKP	**PKPdf**	**18 33 03.0**	**+1.9**
	0.8nm,0.5s,baz=249,slow=4.0,SNR=2.8						
ZAA1	**Zalesovo Array**	**127.14**	**13**	*e*PKPdf	**PKPdf**	**18 33 02.3**	**+1.1**
ZALV	**Zalesovo Beam**	**127.14**	**13**	PKP	**PKPdf**	**18 33 02.3**	**+1.1**
	0.9nm,0.4s,baz=271,slow=2.7,SNR=6.0						
KURK	**Kurchatov**	**128.37**	**19**	*e*PKPdf	**PKPdf**	**18 33 05.4**	**+1.7**
KURBB	**Kurchatov Arra**	**128.42**	**19**	PKP	**PKPdf**	**18 33 05.4**	**+1.6**
	0.9nm,0.7s,baz=321,slow=2.2,SNR=13						
MK32	**Makanchi Array**	**132.98**	**19**	*e*PKPdf	**PKPdf**	**18 33 13.7**	**+1.1**
MKAR	**Makanchi Array**	**132.98**	**19**	PKP	**PKPdf**	**18 33 13.7**	**+1.1**
	0.3nm,0.5s,baz=311,slow=2.9,SNR=7.2						
SONA0	**Songino Array**	**135.05**	**356**	*e*PKPdf	**PKPdf**	**18 33 17.2**	**+0.6**
SONM	**Songino Array**	**135.05**	**356**	PKP	**PKPdf**	**18 33 17.2**	**+0.6**
	0.3nm,0.7s,baz=0.0,slow=0.3,SNR=3.0						
ASAR	**Alice Springs**	**139.32**	**228**	PKhKP	PKPpre	18 33 16.8	
	0.3nm,0.6s,baz=127,slow=3.7,SNR=3.6						
ASAR				PKP	**PKiKP**	**18 33 27.2**	**-0.2**
	0.5nm,1.0s,baz=100,slow=2.0,SNR=3.0						
WR1	**Warramunga Arr**	**141.07**	**233**	*e*PKPpre	PKPpre	18 33 22.6	
WR1				*e*PKPdf	**PKiKP**	**18 33 29.9**	**-1.1**
WRA	**Warramunga Arr**	**141.07**	**233**	PKhKP	PKPpre	18 33 22.6	
	0.4nm,0.6s,baz=121,slow=2.8,SNR=6.2						
WRA				PKP	**PKiKP**	**18 33 29.9**	**-1.1**
	0.6nm,0.6s,baz=130,slow=1.7,SNR=5.1						

IDC 06 18:22:14.1±8.8**, 6°.64S**×**129°.94E, h117km**±91km**, mb3.7**/1**, mb1 3.4**/5**, mb1mx3.1**/54**, mbtmp3.8**/5**, ML3.6**/4**, Error ellipse: s-maj=72.2km s-min=28.3km az=35.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.15**	**240**	P	Pn	18 23 56.4	+0.2
	0.5nm,0.3s,baz=115,slow=19,SNR=2.9						
BATI				S	Sn	18 25 16.6	+0.6
	3.6nm,0.3s,baz=133,slow=19,SNR=9.2						
FITZ	**Fitzroy Crossi**	**12.14**	**200**	P	Pn	18 25 04.2	+0.9
	0.3nm,0.3s,baz=25,slow=11,SNR=27						
FITZ				S	Sn	18 27 07.8	-9.3
	0.1nm,0.3s,baz=318,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**13.90**	**163**	P	Pn	18 25 24.4	-1.7
	0.3nm,0.3s,baz=341,slow=13,SNR=19						
WRA				S	Sn	18 27 50.9	-8.7
	0.8nm,0.3s,baz=341,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.35**	**168**	P	Pn	18 26 09.4	+0.2
	0.2nm,0.3s,baz=349,slow=13,SNR=16						
ASAR				S	Sn	18 29 15.2	-7.6
	0.2nm,0.3s,baz=344,slow=24,SNR=4.5						
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	18 33 00.1	0.0
	0.8nm,0.4s,baz=121,slow=8.2,SNR=23						

*LDG **06** 18:30:56.6±0.1, 48°.33N×8°.48E, h3km, Md2.0/4, Ml2.1/6, Error ellipse: s-maj=2.2km s-min=1.7km az=167.0*
STR 06 18:30:57.0±0.8**, 48°N**±2°×°±°**, h10km, M2.3**/6**, MLv2.3**/6**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZ	**Kirchzarten**	**0.51**	**227**	Pg	Pg	18 31 06.7	-0.2
KIZ	**Kirchzarten**	**0.51**	**227**	Sg	Sg	18 31 14.2	+0.7
CDF	**Champ du Feu**	**0.81**	**278**	*e*Pg	Pg	18 31 11.9	-0.6
CDF				*e*Sg	Sg	18 31 22.1	-0.9
	8.9nm,0.2s						
ECH	**Echery**	**0.88**	**265**	Pg	Pg	18 31 13.9	-0.1
ECH	**Echery**	**0.88**	**265**	Sg	Sg	18 31 24.9	-0.6
HINF	**Hinteralfeld**	**1.19**	**247**	*e*Pg	Pb	18 31 18.4	-1.3
HINF				*e*Sg	Sb	18 31 33.9	-1.2
	5.0nm,0.2s						
HAU	**Haudompre**	**1.45**	**259**	*e*Pg	Pb	18 31 23.8	-0.3
HAU				*e*Sg	Sb	18 31 43.0	+0.3
	5.3nm,0.3s						
LOMF	**Lomont**	**1.46**	**230**	Pg	Pg	18 31 24.8	-0.2
ABH	**Alteburg**	**1.69**	**339**	Pg	Pn	18 31 27.4	+0.7
PAGF	**Fort de Pagny**	**1.85**	**279**	*e*Pg	Pb	18 31 31.4	+0.6
	baz=88						
PAGF				*e*Sg	Sb	18 31 55.1	+1.1
	0.8nm,0.2s,baz=80						
SFTF	**Sexfontaines**	**2.30**	**269**	*e*Sg	Sg	18 32 09.6	-1.2
	5.1nm,0.3s						
CABF	**La Chapelle**	**2.34**	**225**	*e*Sg	Sg	18 32 10.8	-1.4
	0.8nm,0.2s						
LOR	**Lormes**	**3.28**	**253**	*e*Pg	Pg	18 31 58.1	-1.7
	baz=75						
LOR				*e*Sg	Sg	18 32 40.2	-2.0
	0.9nm,0.2s						

MAN 06 18:31:01, 8°.32N×126°.43E, h20km, mb4.5, ML3.3, MS3.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.15**	**206**⇓	*e*P	Pb	18 31 08.2	+2.6
BIPH				*e*S	Sb	18 31 14.0	+5.3
BUTP	**Butuan**	**1.03**	**309**	*e*P	Pb	18 31 19.4	-0.6
BUTP				*e*S	Sn	18 31 35.7	+1.6
BUKP	**Musuan**	**1.43**	**252**	*e*P	Pb	18 31 26.6	-0.3
BUKP				*e*S	Sb	18 31 45.0	+0.4

MAN 06 18:34:51, 12°.37N×123°.69E, h27km, mb4.3, ML3.1, MS2.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.22**	**229**⇑	*e*P	Pn	18 35 12.2	-0.2
PVCP	**Virac**	**1.30**	**20**	*e*P	Pn	18 35 13.4	0.0
PVCP				*e*S	Sn	18 35 30.4	+0.4
GQP	**Guinayangan**	**1.95**	**322**⇓	*e*P	Pn	18 35 23.0	+0.7
GQP				*e*S	Sn	18 35 46.6	+0.7

KRSC 06 18:50:54.3±1.2**, 53°.93N**×**161°.46E, h41km**±21km**, ML3.5, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**1.19**	**276**	*e*P	Pn	18 51 15.9	+1.4
KII				*e*S	Sn	18 51 30.1	+0.6
SPN	**Mys Shipunski**	**1.20**	**226**	*e*P	Pn	18 51 15.0	+0.5
SPN				*e*S	Sn	18 51 29.8	+0.2
KZV	**Kizimen**	**1.36**	**331**	*e*P	Pn	18 51 18.4	+1.4
KZV				*e*S	Sn	18 51 35.7	+1.8
TUMD	**Tumrok D**	**1.42**	**335**	*e*S	Sn	18 51 36.3	+1.4
NLC	**Nalytchevo**	**1.48**	**240**	*e*P	Pn	18 51 20.9	+2.6
NLC				*e*S	Sn	18 51 38.3	+2.0
TUMR	**Tumrok**	**1.55**	**331**	*e*P	Pn	18 51 21.2	+1.7
SDLR	**Sedlovina**	**1.67**	**248**	*e*P	Pn	18 51 22.9	+1.8
SDLR				*e*S	Sn	18 51 43.5	+2.2
SMAR	**Somma**	**1.72**	**248**	*e*P	Pn	18 51 23.9	+2.0
UGLR	**Uglovaya**	**1.73**	**246**	*e*P	Pn	18 51 23.9	+2.0
UGLR				*e*S	Sn	18 51 45.0	+2.1
AVH	**Avacha**	**1.75**	**249**	*e*P	Pn	18 51 24.5	+2.3
AVH				*e*S	Sn	18 51 46.3	+2.9
KRX	**Arik**	**1.77**	**252**	*e*P	Pn	18 51 24.5	+2.0
KRX				*e*S	Sn	18 51 46.0	+2.2
KOK	**Koryaka**	**1.80**	**250**	*e*P	Pn	18 51 26.4	+3.5
KOK				*e*S	Sn	18 51 49.5	+5.0
DALK	**Dalny**	**1.85**	**242**	*e*P	Pn	18 51 25.1	+1.6
DALK				*e*S	Sn	18 51 47.8	+2.2
PET	**Petropavlovsk**	**1.91**	**243**	*e*P	Pn	18 51 26.2	+1.9
PET				*e*S	Sn	18 51 49.2	+2.2
KMNR	**Kamenistaya**	**1.96**	**339**	*e*P	Pn	18 51 27.9	+2.8
GNL	**Ganaly**	**2.10**	**265**	*e*P	Pn	18 51 29.8	+2.8
KRMR	**Karymshinskiy**	**2.28**	**242**	*e*P	Pn	18 51 32.1	+2.7
KRMR				*e*S	Sn	18 51 59.6	+3.4
RUS	**Russkaya**	**2.32**	**231**	*e*P	Pn	18 51 33.3	+3.3
RUS				*e*S	Sn	18 52 01.5	+4.2
KBTR	**Krutoberegovo**	**2.41**	**18**	*e*P	Pn	18 51 32.5	+1.3
MTVR	**Mutnovka**	**2.45**	**235**	*e*P	Pn	18 51 33.6	+1.8
MTVR				*e*S	Sn	18 52 02.5	+1.9
ESO	**Esso**	**2.55**	**323**	*e*P	Pn	18 51 35.6	+2.4
ASAK	**Asacha**	**2.65**	**236**	*e*P	Pn	18 51 38.5	+4.0
SMKR	**Semkarok**	**2.66**	**0**	*e*P	Pn	18 51 37.3	+2.7
SMKR				*e*S	Sn	18 52 09.7	+4.1
SRKR	**Sorokina**	**2.73**	**357**	*e*P	Pn	18 51 39.6	+4.0
KDTR	**Khodutka, Kamc**	**2.96**	**225**	*e*P	Pn	18 51 41.5	+2.9
KDTR				*e*S	Sn	18 52 15.5	+2.7

*ISCJB **06** 19:02:19.0±0.6, 43°.67N±0°.06×105°.34W±0°.08, h0km, Error ellipse: s-maj=8.7km s-min=7.9km az=152.2*
*IDC **06** 19:02:19.1±2.4, 43°.62N×105°.47W, h0km, mb1 3.5/3, mb1mx3.2/58, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=56.1km s-min=9.1km az=151.0*
*NEIC **06** 19:02:19.6±0.7, 43°.63N×105°.31W, h0km, ML3.2, Error ellipse: s-maj=10.3km s-min=8.9km az=173.0, Suspected Mining explosion.*
NEIC 76 km [47 miles] SSE of Gillette.
ISC 06 19:02:19.3±1.0**, 43°.65N**±0°.05×**105°.35W**±0°.05**, h0km, n18, σ1s.72**/17**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.06**	**63**	*e*Pg	**Pg**	**19 02 39.3**	**-0.2**
K22A	**Casper**	**1.32**	**221**	*e*Pn	**Pg**	**19 02 44.5**	**-0.1**
RLMT	**Red Lodge**	**3.17**	**299**	*e*Pn	**Pn**	**19 03 11.1**	**+0.4**
BW06	**Boulder Array**	**3.20**	**255**	*e*Pn	**Pn**	**19 03 13.3**	**+2.2**
PDAR	**Pinedale Array**	**3.20**	**255**	Pn	**Pn**	**19 03 13.4**	**+2.3**
	3.0nm,0.3s,baz=79,slow=15,SNR=34						
PDAR				Lg	Lg	19 03 54.9	
	13nm,0.3s,baz=78,slow=30,SNR=16						
OGNE	**Ogallala**	**3.66**	**137**	*e*Pn	**Pn**	**19 03 18.4**	**+1.2**
LKWY	**Lake**	**3.75**	**286**	*e*Pn	**Pn**	**19 03 20.1**	**+1.4**
H17A	**Grant Village**	**3.84**	**283**	*e*Pn	**Pn**	**19 03 20.3**	**+0.4**
ISCO	**Idaho Springs**	**3.86**	**183**	*e*Pn	**Pn**	**19 03 22.0**	**+1.9**
O20A	**White River Ci**	**4.13**	**213**	*e*Pn	**Pn**	**19 03 23.8**	**0.0**
AHID	**Auburn Hatcher**	**4.30**	**260**	*e*Pn	**Pn**	**19 03 23.0**	**-3.2**
DGMT	**Dagmar**	**4.88**	**9**	*e*Pn	**Pn**	**19 03 36.2**	**+2.2**
BOZ	**Bozeman (W)**	**4.89**	**296**	*e*Pn	**Pn**	**19 03 34.1**	**-0.1**
HWUT	**Hardware Ranch**	**5.02**	**248**	*e*Pn	**Pn**	**19 03 35.4**	**-0.6**
	5.7nm,0.5s						
CBKS	**Cedar Bluff**	**6.42**	**137**	*e*Pg	**Pg**	**19 04 20.2**	**-2.1**
	16nm,0.6s						
ULM	**Lac du Bonnet**	**9.24**	**41**	Pn	**Pn**	**19 04 31.9**	**-1.8**
	1.0nm,0.3s,baz=232,slow=14,SNR=7.2						
ULM				Lg	Lg	19 07 05.6	
	0.2nm,0.3s,baz=276,slow=13,SNR=2.4						
TXAR	**Lajitas Array**	**14.36**	**174**	Lg	Lg	19 09 47.0	
	0.0nm,0.3s,baz=102,slow=4.1,SNR=2.4						
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**Pn**	**19 06 51.2**	**+0.7**
	0.1nm,0.3s,baz=158,slow=9.2,SNR=6.3						

*IDC **06** 19:12:58.6±2.1, 6°.32S×148°.01E, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/46, mbtmp4.0/8, ML4.2/1, MS3.2/11, Ms1 3.1/11, ms1mx2.9/37, Error ellipse: s-maj=68.3km s-min=19.5km az=97.0*
*ISCJB **06** 19:13:03.8±0.5, 6°.47S±0°.06×147°.92E±0°.07, h51km, mb4.5/14, MS3.1/10, Error ellipse: s-maj=11.3km s-min=7.4km az=33.3*
*NEIC **06** 19:13:07.0±1.0, 6°.55S×148°.01E, h66km±10km, mb4.5/11, Error ellipse: s-maj=12.4km s-min=7.1km az=136.0*
ISC 06 19:13:05.8±0.6**, 6°.42S**±0°.07×**147°.83E**±0°.09**, h51km, n42, σ1s.90**/37**, mb4.6**/14**, MS3.0**/10**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.04**	**193**	Pn	**Pn**	**19 13 51.1**	**-0.3**
	26nm,0.3s,baz=4.5,slow=6.6,SNR=49						
PMG				Sn	**Sn**	**19 14 31.1**	**+4.6**
	12nm,0.3s,baz=18,slow=20,SNR=6.2						
PMG				LR	LR	19 15 33.2	
	comp=Z,584nm,19.2s,baz=334,slow=49						
PMG	**Port Moresby**	**3.04**	**193**	*e*Pn	**Pn**	**19 13 50.5**	**-0.8**
PMG				*e*Sn	**Sn**	**19 14 29.3**	**+2.8**
RABL	**Rabaul**	**4.85**	**63**	*e*Pn	**Pn**	**19 14 17.2**	**+0.9**
COEN	**Coen**	**8.78**	**211**	*e*Pn	**Pn**	**19 15 10.2**	**+0.1**
COEN				*e*Sn	**Sn**	**19 16 40.8**	**-7.0**
CTAO	**Charters Tower**	**13.67**	**186**	*e*Pn	**Pn**	**19 16 17.9**	**+0.8**
FAKI	**Fak Fak**	**15.92**	**282**	*e*Pn	**Pn**	**19 16 44.7**	**-1.9**
	186nm,1.6s						
MTN	**Manton Dam**	**17.65**	**248**	*e*Pn	**Pn**	**19 17 09.2**	**+1.0**
	9.4nm,1.0s						
WR1	**Warramunga Arr**	**18.77**	**223**	*e*P	**P**	**19 17 21.2**	**+0.3**
	28nm,1.9s						
WRA	**Warramunga Arr**	**18.77**	**223**	P	**P**	**19 17 21.2**	**+0.3**
	0.8nm,0.3s,baz=51,slow=10,SNR=42						
GUMO	**Guam**	**20.10**	**352**	LR	LR	19 23 42.0	
	comp=Z,33nm,21.7s,baz=110,slow=32						
AS01	**Alice Springs**	**21.73**	**216**	*e*P	**P**	**19 17 52.6**	**-0.4**
AS31	**Alice Springs**	**21.75**	**217**	*e*P	**P**	**19 17 53.1**	**-0.1**
	2.8nm,0.6s						
ASAR	**Alice Springs**	**21.75**	**217**	P	**P**	**19 17 53.9**	**+0.7**
	6.9nm,0.6s,baz=54,slow=9.1,SNR=127						
SOEI	**Soe**	**23.56**	**260**	*e*P	**P**	**19 18 14.9**	**+2.9**
	77nm,1.8s						
BATI	**Baumata**	**24.20**	**259**	LR	LR	19 30 28.8	
	comp=Z,49nm,19.6s,baz=70,slow=43						
FITZ	**Fitzroy Crossi**	**24.56**	**240**	P	**P**	**19 18 22.2**	**+1.1**
	16nm,0.5s,baz=60,slow=9.5,SNR=109						
FITZ	**Fitzroy Crossi**	**24.56**	**240**	*e*P	**P**	**19 18 22.0**	**+0.9**
	21nm,1.0s						
MMRI	**Maumere**	**25.47**	**263**	*e*P	**P**	**19 18 30.9**	**+1.5**
	16nm,0.9s						
DAV	**Davao City (W)**	**25.94**	**301**	LR	LR	19 29 15.2	
	comp=Z,19nm,19.8s,baz=304,slow=38						
STKA	**Stephens Creek**	**25.98**	**192**	P	**P**	**19 18 33.8**	**-0.1**
	2.9nm,0.5s,baz=11,slow=7.7,SNR=9.8						
STKA				LR	LR	19 29 32.6	
	comp=Z,97nm,18.1s,baz=24,slow=38						
STKA	**Stephens Creek**	**25.98**	**192**	*e*P	**P**	**19 18 33.3**	**-0.6**
	4.3nm,1.5s						
BBOO	**Buckleboo**	**28.45**	**201**	*e*P	**P**	**19 18 54.6**	**-1.4**
	32nm,1.4s						
MBWA	**Marble Bar**	**30.89**	**239**	*e*P	**P**	**19 19 18.4**	**+0.7**
	26nm,1.3s						
FUNA	**Funafuti**	**31.16**	**96**	*e*P	**P**	**19 19 18.0**	**-2.2**
	82nm,1.1s						
JAGI	**Jajag, Banyuwa**	**33.45**	**264**	*e*P	**P**	**19 19 41.2**	**+0.9**
	17nm,1.1s						
LEM	**Lembang**	**39.94**	**267**	LR	LR	19 42 15.0	
	comp=Z,20nm,18.1s,baz=19,slow=44						
YHNB	**Yeheng**	**40.24**	**321**	*e*P	**P**	**19 20 39.7**	**+1.7**
	162nm,1.7s						
JNU	**Nakatsue**	**42.50**	**339**	LR	LR	19 36 24.1	
	comp=Z,28nm,18.5s,baz=124,slow=33						
KSRS	**Korea Array**	**47.45**	**338**	LR	LR	19 38 41.1	
	comp=Z,12nm,21.5s,baz=137,slow=32						
PETK	**Petropavlovsk-**	**59.89**	**7**	LR	LR	19 44 59.7	
	comp=Z,18nm,21.6s,baz=170,slow=32						
SONA0	**Songino Array**	**65.18**	**331**	*e*P	**P**	**19 23 43.3**	**+1.5**
SONM	**Songino Array**	**65.18**	**331**	P	**P**	**19 23 43.3**	**+1.5**
	0.6nm,0.9s,baz=133,slow=8.1,SNR=3.7						
SONM				LR	LR	19 52 02.1	
	comp=Z,12nm,21.2s,baz=216,slow=36						
MK32	**Makanchi Array**	**78.35**	**320**	*e*P	**P**	**19 24 60.0**	**-0.9**
MKAR	**Makanchi Array**	**78.35**	**320**	P	**P**	**19 24 60.0**	**-0.9**
	0.2nm,0.7s,baz=102,slow=11,SNR=3.1						
BVAR	**Borovoye Array**	**87.60**	**324**	P	**P**	**19 25 47.6**	**-0.9**
	0.4nm,0.6s,baz=101,slow=7.5,SNR=2.6						
FTR	**Fort Ross**	**93.18**	**52**	*e*P	**P**	**19 26 13.3**	**-1.6**
JSFB	**Stanford Teles**	**93.85**	**53**	*e*P	**P**	**19 26 17.1**	**-0.9**
GULW	**Guler Mountain**	**94.96**	**44**	*e*P	**P**	**19 26 21.1**	**-1.9**
SNAA	**Sanae**	**99.71**	**189**	LR	LR	20 10 04.2	
	comp=Z,44nm,21.9s,baz=342,slow=34						
TORD	**Torodi Ar. Bea**	**146.00**	**284**	PKPbc	**PKPab**	**19 32 42.0**	**+0.4**
	0.9nm,0.8s,baz=84,slow=3.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**146.00**	**284**	PKPbc	**PKPab**	**19 32 42.0**	**+0.4**
TOA1	**Torodi Ar. Sit**	**146.00**	**284**	*e*PKPdf	**PKPab**	**19 32 42.0**	**+0.4**

WEL 06 19:14:47.1±1.2**, 45°S**±6°×**16°7E**±°**, h5km, ML3.7**/7**, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**107**	P	Pg	19 14 55.8	+0.7
DCZ	**Deep Cove**	**0.41**	**107**	S	Sg	19 15 00.8	+0.3
PYZ	**Puysegur Point**	**0.82**	**176**	P	Pg	19 15 02.8	-0.1
MLZ	**Mavora Lakes**	**1.08**	**92**	P	Pg	19 15 06.8	-0.9
MSZ	**Milford Sound**	**1.16**	**55**	P	Pg	19 15 08.4	-1.0
MSZ	**Milford Sound**	**1.16**	**55**	S	Sb	19 15 25.4	+0.4
APZ	**The Paps**	**1.78**	**147**	P	Pn	19 15 18.7	+0.2
WKZ	**Wanaka**	**1.80**	**74**	P	Pn	19 15 18.5	-0.3
WKZ	**Wanaka**	**1.80**	**74**	S	Sg	19 15 44.1	-0.7
EAZ	**Earnscleugh**	**1.92**	**87**	P	Pn	19 15 20.4	-0.1
JCZ	**Jackson Bay**	**2.02**	**52**	P	Pb	19 15 24.1	-0.2
JCZ	**Jackson Bay**	**2.02**	**52**	S	Sb	19 15 50.6	+0.9
SYZ	**Scrubby Hill**	**2.14**	**125**	P	Pn	19 15 23.2	-0.2
SYZ	**Scrubby Hill**	**2.14**	**125**	S	Sb	19 15 51.8	-1.3
TUZ	**Tuapeka**	**2.22**	**107**	P	Pn	19 15 24.5	0.0
TUZ	**Tuapeka**	**2.22**	**107**	S	Sn	19 15 53.8	+1.5
LBZ	**Lake Benmore**	**2.73**	**71**	P	Pn	19 15 30.7	-0.9
HHSZ	**Highcliff Hill**	**2.86**	**102**	P	Pn	19 15 33.6	+0.2
ODZ	**Otahua Downs**	**2.88**	**85**	P	Pn	19 15 32.4	-1.2
FOZ	**Fox Glacier**	**2.94**	**53**	P	Pn	19 15 35.9	+1.5
RPZ	**Rata Peaks**	**3.58**	**64**	P	Pn	19 15 42.0	-1.4
WVZ	**Waitaha Valley**	**3.75**	**54**	P	Pn	19 15 46.6	+1.1
MQZ	**McQueen's Vall**	**4.64**	**71**	P	Pn	19 15 56.9	-0.8
LTZ	**Lake Taylor**	**4.83**	**60**	P	Pn	19 15 59.7	-0.8

*NIED **06** 19:26:00, 40°.60N×142°.00E, h47km, Mw3.7 Best double couple: $M_0$3.41000×10^{14} NP1:ϕ_s305.00000°, δ58.00000°, λ174.00000°. NP2:ϕ_s38.00000°, δ85.00000°, λ32.00000°.*
*ISCJB **06** 19:26:25.8±0.7, 40°.61N±0°.03×141°.93E±0°.09, h53km±4km, mb3.4/7, Error ellipse: s-maj=11.3km s-min=5.2km az=179.2*
*JMA **06** 19:26:25.9±0.1, 40°.62N×142°.02E, h45km±1km, M3.9*
JMA Felt II J1.
*IDC **06** 19:26:28.5±2.3, 40°.62N×141°.95E, h67km±25km, mb3.2/7, mb1 3.3/9, mb1mx3.1/60, mbtmp3.5/9, Error ellipse: s-maj=31.6km s-min=15.7km az=89.0*
ISC 06 19:26:26.6±1.2, **40°.61N**±0°.04×**141°.91E**±0°.08, **h44**km±10km, **n28**, σ**1.08**/31, **mb3.5**/7, **4C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JANG	Nango	0.38	232	⇑P	Pn	19 26 36.3	+0.2
JANG				S	Sn	19 26 43.0	+0.2
JTM	Tenmabayashi	0.66	286	⇑P	Pn	19 26 39.8	+0.1
JTM				S	Sn	19 26 49.1	+0.1
JTH	Tanohata	0.67	183	⇓P	Pn	19 26 39.0	-0.8
JTH				S	Sn	19 26 48.2	-1.0
JKZ	Kuzumaki	0.77	216	⇑P	Pn	19 26 41.6	+0.5
JKZ				S	Sn	19 26 52.2	+0.6
JOT	Ohata	1.01	320	⇓P	Pn	19 26 43.9	-0.5
JOT				S	Sn	19 26 56.8	-0.6
JAH	Hinai	1.06	247	⇑P	Pn	19 26 45.7	+0.7
JAH				S	Sn	19 26 59.8	+1.2
JOM	Ohasama	1.23	203	⇓P	Pn	19 26 47.8	+0.4
JOM				S	Sn	19 27 03.0	+0.2
JKB	Kayabe	1.44	333	⇓P	Pn	19 26 50.0	-0.2
JKB				*e*S	Sn	19 27 06.9	-1.0
ASAJ	Asahikawa	3.54	8	P	Pn	19 27 20.4	+1.3
	7.9nm,0.3s,baz=211,slow=10,SNR=41						
ASAJ				S	Sn	19 28 02.3	+2.6
	2.9nm,0.3s,baz=233,slow=20,SNR=3.6						
MJAR	Matsushiro Arr	4.99	217	P	Pn	19 27 41.0	+2.0
	0.5nm,0.3s,baz=25,slow=14,SNR=6.4						
SONM	Songino Array	26.28	298	P	P	19 31 56.4	-1.5
	0.2nm,0.5s,baz=96,slow=8.8,SNR=2.7						
H11N2	WAKE ISLAND Hy	29.82	127	T	T	20 04 01.3	
	baz=319,slow=74,SNR=55						
H11N1	WAKE ISLAND Hy	29.82	127	T	T	20 04 02.8	
	baz=319,slow=74,SNR=54						
H11N3	WAKE ISLAND Hy	29.83	127	T	T	20 04 00.5	
	baz=319,SNR=55						
H11S1	WAKE ISLAND Hy	30.64	129	T	T	20 05 03.0	
	baz=320,slow=74,SNR=18						
H11S3	WAKE ISLAND Hy	30.64	129	T	T	20 05 06.0	
	baz=320,SNR=14						
H11S2	WAKE ISLAND Hy	30.65	129	T	T	20 05 04.9	
	baz=320,slow=74,SNR=14						
ZALV	Zalesovo Beam	39.87	309	P	P	19 33 55.3	-0.4
	0.7nm,0.5s,baz=96,slow=7.1,SNR=3.6						
MKAR	Makanchi Array	42.64	299	P	P	19 34 18.4	-0.2
	0.6nm,0.5s,baz=85,slow=10,SNR=14						
CMAR	Chiang Mai Arr	42.88	252	P	P	19 34 21.8	+1.0
	0.4nm,0.7s,baz=46,slow=7.8,SNR=3.4						
JIRN	Jiri	47.17	272	*e*P	P	19 34 56.4	+1.1
	11nm,0.7s						
GUN	Gumba	47.28	273	*e*P	P	19 34 56.6	+0.5
	17nm,0.6s						
KKN	Kakani	47.80	273	*e*P	P	19 35 00.4	+0.4
	10nm,0.6s						
BVAR	Borovoye Array	48.51	310	P	P	19 35 04.7	-0.2
	0.2nm,0.3s,baz=78,slow=7.8,SNR=3.2						
DANN	Dangsing	48.67	274	*e*P	P	19 35 07.6	+0.8
	1.8nm,0.8s						
KOLN	Koldanda	49.09	274	*e*P	P	19 35 07.6	-2.3
	24nm,0.7s						
WRA	Warramunga Arr	60.65	188	P	P	19 36 32.0	-1.2
	0.3nm,0.8s,baz=6.1,slow=6.8,SNR=5.6						
ASAR	Alice Springs	64.38	188	P	P	19 36 57.7	-0.3
	0.4nm,0.8s,baz=11,slow=6.2,SNR=3.2						

*ISK **06** 19:33:23.7, 39°.06N×40°.34E, h2km, ML2.7/2*
*CSEM **06** 19:33:24.5±0.2, 39°.03N×40°.35E, h2km, MD2.7, Error ellipse: s-maj=6.5km s-min=3.8km az=158.0*
*ISCJB **06** 19:33:25.1±0.7, 39°.05N±0°.04×40°.31E±0°.03, h3km±6km, Error ellipse: s-maj=6.0km s-min=3.8km az=177.3*
*DDA **06** 19:33:25.1, 39°.07N×40°.31E, h7km, Md2.7*
ISC 06 19:33:24.6±1.3, **39°.05N**±0°.03×**40°.34E**±0°.02, **h5**km±12km, **n28**, σ**0.52**/40, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNCL	Tunceli-Merkez	0.62	276	*i* P	Pg	19 33 36.9	+0.3
TNCL				*i* S	Sb	19 33 46.2	-1.0
TNCL	Tunceli-Merkez	0.62	276	P	Pg	19 33 36.9	+0.3
TNCL				S	Sb	19 33 46.2	-1.0
BNGL	BINGOL	0.64	99	*i* P	Pb	19 33 38.3	-0.1
BNGL				*i* S	Sb	19 33 48.4	+0.6
ECAT	Cat-ERZURUM	0.74	42	*i* P	Pg	19 33 38.9	+0.1
ECAT				*i* S	Sb	19 33 50.4	-0.2
ECAT	Cat-ERZURUM	0.74	42	P	Pg	19 33 38.9	+0.1
ECAT				S	Sb	19 33 50.4	-0.2
PTK	Pertek	0.76	258	PG	Pg	19 33 39.0	-0.1
PTK				SG	Sb	19 33 50.6	-0.5
PTK	Pertek	0.76	258	*e*Pg	Pg	19 33 39.0	-0.1
PTK				*e*Sg	Sb	19 33 50.6	-0.5
ERZM	Erzurum	1.16	43	*i* P	Pg	19 33 46.1	-0.8
ERZM				*i* S	Sn	19 34 04.9	+0.6
ERZM	Erzurum	1.16	43	P	Pg	19 33 46.1	-0.8
ERZM				S	Sn	19 34 04.9	+0.6
ELZG	Elazig	1.20	243	*i* P	Pg	19 33 47.2	-0.3
ELZG	Elazig	1.20	243	P	Pg	19 33 47.2	-0.3
BAYT	Ayd˜–ntepe-Bay	1.35	354	PN	Pb	19 33 50.8	+0.3
BAYT	Ayd˜–ntepe-Bay	1.35	354	*e*Pn	Pb	19 33 50.8	+0.3
EKAR	Karacoban	1.36	81	*i* P	Pg	19 33 50.5	-0.1
EKAR	Karacoban	1.36	81	P	Pg	19 33 50.5	-0.1
KELT	Kelkit	1.38	323	*i* P	Pb	19 33 51.7	+0.7
KELT				*i* S	Sn	19 34 09.5	0.0
KELT	Kelkit	1.38	323	P	Pb	19 33 51.7	+0.7
KELT				S	Sn	19 34 09.5	0.0
GURO	Guroymak-BITLI	1.42	110	PN	Pn	19 33 50.7	-0.5
GURO	Guroymak-BITLI	1.42	110	*e*Pn	Pn	19 33 50.7	-0.5
ILIC	ilic-Erzincan	1.43	287	PN	Pn	19 33 50.7	-0.7
ILIC	ilic-Erzincan	1.43	287	*e*Pn	Pn	19 33 50.7	-0.7
KEMA	Kemaliye	1.45	279	*i* P	Pn	19 33 51.7	+0.1
KEMA	Kemaliye	1.45	279	P	Pn	19 33 51.7	+0.1
MAZI	Mazidag	1.59	177	PN	Pb	19 33 54.5	-0.1
MAZI	Mazidag	1.59	177	*e*Pn	Pb	19 33 54.5	-0.1
SRTM	Siirt_Merkez	1.63	130	*i* P	Pg	19 33 56.3	+0.4
SRTM				*i* S	Sg	19 34 17.3	+0.2
MALT	Malatya	1.67	244	PN	Pn	19 33 55.4	+0.8
MALT	Malatya	1.67	244	*e*Pn	Pn	19 33 55.4	+0.8

*ISCJB **06** 19:37:43.7±0.8, 36°.94N±0°.07×28°.28E±0°.06, h10km±10km, Error ellipse: s-maj=12.4km s-min=6.9km az=31.0*
*CSEM **06** 19:37:43.8±0.5, 36°.95N×28°.26E, h10km, ML2.3, Error ellipse: s-maj=14.2km s-min=8.0km az=10.0*
*DDA **06** 19:37:44.5, 36°.97N×28°.18E, h7km, Md2.5*
*ISK **06** 19:37:44.0, 36°.99N×28°.24E, h15km, ML2.3/3*
ISC 06 19:37:43.1±1.1, **36°.90N**±0°.06×**28°.22E**±0°.04, **h9**km±12km, **n13**, σ**0.58**/20, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.24	13	PG	Pg	19 37 48.4	+0.3
YER				SG	Sg	19 37 51.1	-0.3
YER	Yerkesik	0.24	13	*e*Pg	Pg	19 37 48.4	+0.3
YER				*e*Sg	Sg	19 37 51.1	-0.3
TURN	Turunc	0.31	94	PG	Pg	19 37 49.2	-0.1
TURN				SG	Sg	19 37 53.0	-0.5
TURN	Turunc	0.31	94	*i* P	Pg	19 37 49.1	-0.2
TURN				*i* S	Sg	19 37 52.9	-0.5
TURN	Turunc	0.31	94	*e*Pg	Pg	19 37 49.2	-0.1
TURN				S	Sg	19 37 52.9	-0.5
BDRM	Kayabasi	0.64	285	*i* P	Pg	19 37 55.1	-0.4
BDRM				*i* S	Sn	19 38 08.3	-0.3
BDRM	Kayabasi	0.64	285	P	Pg	19 37 55.1	-0.4
BDRM				S	Sn	19 38 08.3	-0.3
BODT	Bodrum	0.74	283	PG	Pb	19 37 58.9	+0.7
BODT	Bodrum	0.74	283	*e*Pg	Pb	19 37 58.9	+0.7
FETY	Fethiye	0.74	110	PG	Pb	19 37 59.1	+0.9
FETY	Fethiye	0.74	110	*e*Pg	Pb	19 37 59.1	+0.9
TAVA	DENIZLI_Tavas	0.80	44	*i* P	Pg	19 37 57.7	-0.7
TAVA	DENIZLI_Tavas	0.80	44	P	Pg	19 37 57.7	-0.7

*ISCJB **06** 19:52:09.8±0.5, 41°.07N±0°.02×43°.95E±0°.03, h6km±4km, Error ellipse: s-maj=4.4km s-min=2.9km az=137.8*
*CSEM **06** 19:52:09.8±0.1, 41°.06N×43°.93E, h5km, ML2.8, Error ellipse: s-maj=3.6km s-min=2.3km az=137.0*
*DDA **06** 19:52:09.0, 41°.08N×43°.90E, h7km, Ml2.8*
*TIF **06** 19:52:09.8, 41°.11N×43°.94E, h23km±2km*
*ISK **06** 19:52:10.0, 41°.08N×43°.93E, h9km, ML2.6/2*
ISC 06 19:52:09.9±0.9, **41°.08N**±0°.02×**43°.93E**±0°.02, **h13**km±8km, **n39**, σ**0.53**/70, **Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BGD	Bogdanovka	0.31	308	P	Pg	19 52 16.7	+0.2
BGD				S	Sg	19 52 21.5	+0.6
BGD	Bogdanovka	0.31	308	P	Pg	19 52 16.7	+0.2
BGD				S	Sg	19 52 21.5	+0.6
EAK	Akyaka	0.46	212	*i* P	Pg	19 52 18.3	-0.8
EAK	Akyaka	0.46	212	P	Pg	19 52 18.3	-0.8
AKH	Akhalkalaki	0.47	316	PG	Pb	19 52 20.2	+0.1
AKH				SG	Sb	19 52 26.3	-0.7
AKH	Akhalkalaki	0.47	316	P	Pg	19 52 19.2	-0.1
AKH				S	Sg	19 52 25.5	-0.1
AKH	Akhalkalaki	0.47	316	P	Pg	19 52 19.2	-0.1
AKH	Akhalkalaki	0.47	316	*i* Pg	Pb	19 52 20.2	+0.1
AKH				S	Sg	19 52 25.5	-0.1
AKH				*e*Sg	Sb	19 52 26.3	-0.7
KZR	Kazreti	0.48	50	P	Pb	19 52 19.7	-0.6
KZR				S	Sg	19 52 26.1	+0.2
KZR	Kazreti	0.48	50	P	Pb	19 52 19.7	-0.6
KZR				S	Sg	19 52 26.1	+0.2
DIGO	Kars	0.78	213	*i* P	Pg	19 52 24.2	-0.9
DIGO				*i* S	Sg	19 52 35.4	-0.1
DIGO	Kars	0.78	213	P	Pg	19 52 24.2	-0.9
DIGO				S	Sg	19 52 35.4	-0.1
KARS	Kars	0.78	235	PG	Pb	19 52 25.6	+0.1
KARS				SG	Sb	19 52 36.8	+0.8
KARS	Kars	0.78	235	*e*Pg	Pb	19 52 25.6	+0.1
KARS				*e*Sg	Sb	19 52 36.8	+0.8
BTNK	Botanikuri	0.90	47	P	Pg	19 52 26.8	-0.5
BTNK				S	Sb	19 52 39.0	-0.1
BTNK	Botanikuri	0.90	47	P	Pg	19 52 26.8	-0.5
BTNK				S	Sb	19 52 39.0	-0.1
TBLG	Delisi	0.90	43	PG	Pb	19 52 27.4	+0.1
TBLG				SG	Sb	19 52 40.2	+1.0
TBLG	Delisi	0.90	43	P	Pg	19 52 26.8	-0.5
TBLG				S	Sb	19 52 39.1	-0.1
TBLG	Delisi	0.90	43	P	Pg	19 52 26.9	-0.4
TBLG	Delisi	0.90	43	*e*Pg	Pb	19 52 27.4	+0.1
TBLG				S	Sb	19 52 39.0	-0.1
TBLG				*e*Sg	Sb	19 52 40.2	+1.0
SEAG	Tbilisi Sea	0.95	44	P	Pg	19 52 28.0	-0.4
SEAG				S	Sb	19 52 41.5	+0.7
SEAG	Tbilisi Sea	0.95	44	P	Pg	19 52 28.0	-0.4
SEAG				S	Sb	19 52 41.5	+0.7
EPOS	Posof	1.00	296	*i* P	Pg	19 52 27.8	-1.4
EPOS				*i* S	Sg	19 52 41.5	-0.8
EPOS	Posof	1.00	296	P	Pg	19 52 27.8	-1.4
EPOS				S	Sg	19 52 41.5	-0.8
TASB	TASBURUN-IGDIR	1.12	168	PN	Pn	19 52 31.8	+0.5
TASB	TASBURUN-IGDIR	1.12	168	*e*Pn	Pn	19 52 31.8	+0.5
IGDI	IGDIR	1.21	174	*i* P	Pb	19 52 32.8	0.0
IGDI				*i* S	Sg	19 52 49.0	0.0
SENK	Senkaya-Erzuru	1.30	247	PN	Pg	19 52 34.9	-0.1
SENK	Senkaya-Erzuru	1.30	247	*e*Pn	Pg	19 52 34.9	-0.1
GUDG	Gudauri	1.45	16	P	Pn	19 52 35.8	-0.2
GUDG				S	Sn	19 52 55.1	+0.2
GUDG	Gudauri	1.45	16	P	Pn	19 52 35.8	-0.2
GUDG				S	Sn	19 52 55.1	+0.2
ARTV	Artvin	1.51	275	*i* P	Pn	19 52 37.1	+0.2
ARTV				*i* S	Sn	19 52 57.1	+0.6
ARTV	Artvin	1.51	275	P	Pn	19 52 37.1	+0.2
ARTV				S	Sn	19 52 57.1	+0.6
DAGI	Agillar	1.52	271	*i* P	Pb	19 52 38.5	+0.5
DAGI				*i* S	Sg	19 52 59.0	+0.1
ONI	Oni	1.55	347	P	Pb	19 52 38.7	+0.1
ONI				S	Sg	19 52 59.9	-0.1
AGRB	Hanur-Agry	1.66	206	PN	Pb	19 52 40.2	-0.2
AGRB	Hanur-Agry	1.66	206	*e*Pn	Pb	19 52 40.2	-0.2
DBAD	Bademkaya	1.69	269	*i* P	Pb	19 52 40.7	-0.2
DBAD				*i* S	Sg	19 53 04.0	-0.2
DBAD	Bademkaya	1.69	269	P	Pb	19 52 40.7	-0.2
DBAD				S	Sg	19 53 04.1	-0.2

IDC 06 19:59:09.7±2.6, **7°.12N**×**124°.21E**, **h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.3**/51, **mbtmp3.4**/3, **Error ellipse: s-maj=266.9km s-min=27.1km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.68	160	P	P	20 05 08.5	-0.1
	0.1nm,0.3s,baz=340,slow=9.7,SNR=8.1						
ASAR	Alice Springs	32.03	163	P	P	20 05 38.3	+0.1
	0.3nm,0.3s,baz=335,slow=7.4,SNR=13						
MKAR	Makanchi Array	53.36	325	P	P	20 08 30.9	-0.1
	0.2nm,0.5s,baz=123,slow=9.1,SNR=4.7						

MAN 06 20:00:35, 10°.24N×**123°.20E, h16**km, **mb4.3, ML3.1, MS2.8, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	0.71	303	*e*P	Pn	20 00 49.8	-0.6
GUIM				*e*S	Sn	20 01 02.5	+1.5
SNPH	Sibulan	0.90	177	*e*P	Pg	20 00 52.4	0.0
MSLP	Maasin	1.64	94	*e*P	Pn	20 01 03.6	+0.4
MSLP				*e*S	Sb	20 01 25.9	+0.6

*DDA **06** 20:19:53.9, 37°.43N×37°.11E, h7km, Ml2.6*
*ISCJB **06** 20:19:55.8±0.7, 37°.27N±0°.05×36°.94E±0°.06, h9km±6km, Error ellipse: s-maj=10.6km s-min=5.5km az=39.2*
*ISK **06** 20:19:55.5, 37°.30N×36°.99E, h5km, ML2.2/3*
*CSEM **06** 20:19:56.0±0.1, 37°.28N×36°.96E, h8km, ML2.2, Error ellipse: s-maj=3.0km s-min=1.8km az=37.0*
ISC 06 20:19:55.7±1.2, **37°.30N**±0°.04×**36°.99E**±0°.03, **h13**km±7km, **n15**, σ**0.26**/22, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HCB	Kahramanmara¯	0.08	303	*i* P	Pg	20 19 58.2	-0.3
HCB				*i* S	Sg	20 20 00.1	-0.4
KMRS	Kahramanmaras	0.22	341	PG	Pg	20 20 00.9	+0.5
KMRS				SG	Sg	20 20 03.9	+0.2
KMRS	Kahramanmaras	0.22	341	*e*Pg	Pg	20 20 00.9	+0.5
KMRS				*e*Sg	Sg	20 20 03.9	+0.2
GAZ	Gaziantep	0.22	126	PG	Pg	20 20 00.5	0.0
GAZ				SG	Sg	20 20 03.8	0.0
GAZ	Gaziantep	0.22	126	*e*Pg	Pg	20 20 00.5	0.0
GAZ				*e*Sg	Sg	20 20 03.8	0.0
KUZU	Kuzuini	0.53	173	*i* P	Pg	20 20 06.4	+0.3
KUZU	Kuzuini	0.53	173	P	Pg	20 20 06.4	+0.3
ANDN	Andirin	0.58	299	*i* P	Pg	20 20 07.0	-0.2
ANDN				*i* S	Sg	20 20 14.9	0.0
ANDN	Andirin	0.58	299	P	Pg	20 20 06.9	-0.2
ANDN				S	Sg	20 20 14.9	0.0
KOZT	Kozan	0.94	281	PG	Pg	20 20 13.8	-0.1
KOZT	Kozan	0.94	281	*e*Pg	Pg	20 20 13.8	-0.1
URFA	Urfa	1.47	84	PN	Pg	20 20 23.5	-0.4
URFA	Urfa	1.47	84	*e*Pn	Pg	20 20 23.5	-0.4
MALT	Malatya	1.52	48	PN	Pb	20 20 23.9	0.0
MALT	Malatya	1.52	48	*e*Pn	Pb	20 20 23.9	0.0

MAN 06 20:27:48, 12°.42N×**123°.80E, h43**km, **mb4.2, ML3.0, MS2.7, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNP	Catarman	0.85	84	*e*P	Pn	20 28 05.5	+1.9
CNP				*e*S	Sn	20 28 25.8	+11
AUQP	San Andres	1.42	310	*e*P	Pn	20 28 12.9	+1.6
AUQP				*e*S	Sn	20 28 31.0	+2.2

*ISK **06** 20:33:24.4, 38°.13N×42°.75E, h6km, ML2.8/3*
*CSEM **06** 20:33:26.4±0.4, 38°.15N×42°.64E, h5km, ML2.5, Error ellipse: s-maj=7.7km s-min=7.6km az=74.0*
*ISCJB **06** 20:33:27.1±0.6, 38°.10N±0°.03×42°.59E±0°.04, h4km±7km, Error ellipse: s-maj=5.4km s-min=4.8km az=5.0*
*DDA **06** 20:33:27.1, 38°.06N×42°.60E, h7km, Ml2.5*
ISC 06 20:33:25.9±1.3, **38°.14N**±0°.03×**42°.66E**±0°.03, **h3**km±13km, **n22**, σ**1.04**/34, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GEVA	Gevas	0.36	61	*i* P	Pb	20 33 35.3	+0.2
GEVA				*i* S	Sb	20 33 43.2	+2.0
GEVA	Gevas	0.36	61	P	Pb	20 33 35.3	+0.2
GEVA				S	Sb	20 33 43.2	+2.0
SRTM	Siirt_Merkez	0.60	256	*i* P	Pg	20 33 37.1	-0.3
SRTM				*i* S	Sg	20 33 45.8	+0.6
SRTM	Siirt_Merkez	0.60	256	P	Pg	20 33 37.1	-0.3
SRTM				S	Sg	20 33 45.8	+0.6
GURO	Guroymak-BITLI	0.64	310	PG	Pg	20 33 38.7	+0.4
GURO				SG	Sb	20 33 48.4	-1.0
GURO	Guroymak-BITLI	0.64	310	*e*Pg	Pg	20 33 38.7	+0.4
GURO				*e*Sg	Sb	20 33 48.4	-1.0
SIRT	Sirnak	0.66	195	PG	Pg	20 33 38.1	-0.4
SIRT				SG	Sg	20 33 47.3	+0.2
SIRT	Sirnak	0.66	195	*e*Pg	Pg	20 33 38.1	-0.4
SIRT				*e*Sg	Sg	20 33 47.3	+0.2
SIRN	S˜–rnak	0.67	197	*i* P	Pb	20 33 41.2	+0.9
SIRN				*i* S	Sg	20 33 47.3	-0.1
SIRN	S˜–rnak	0.67	197	P	Pb	20 33 41.2	+0.9
SIRN				S	Sg	20 33 47.3	-0.1
HAKT	HAKKARI	1.01	125	*i* P	Pg	20 33 46.2	+0.9
HAKT				*i* S	Sn	20 34 02.1	0.0
HAKT	HAKKARI	1.01	125	P	Pg	20 33 46.2	+0.9
BTMN	Batman	1.13	258	*i* P	Pb	20 33 48.0	-0.1
BTMN				*i* S	Sb	20 34 03.3	+0.2
BTMN	Batman	1.13	258	P	Pb	20 33 48.0	-0.1
CUKT	Cukurca	1.16	140	PN	Pg	20 33 45.9	-2.3
CUKT	Cukurca	1.16	140	*e*Pn	Pg	20 33 45.9	-2.3
AGRB	Hanur-Agry	1.46	10	PN	Pn	20 33 51.6	-1.8
AGRB	Hanur-Agry	1.46	10	*e*Pn	Pn	20 33 51.6	-1.8
MAZI	Mazidag	1.88	250	PN	Pn	20 33 59.5	+0.4
MAZI	Mazidag	1.88	250	*e*Pn	Pn	20 33 59.5	+0.4
PTK	Pertek	2.67	287	PN	Pn	20 34 10.1	0.0
PTK	Pertek	2.67	287	*e*Pn	Pn	20 34 10.1	0.0

*NEIC **06** 20:53:20.0±0.7, 26°.65S×177°.19W, h119km±6km, mb4.9/21, Error ellipse: s-maj=10.9km s-min=6.9km az=139.0*
*ISCJB **06** 20:53:21.7±0.5, 26°.67S±0°.06×177°.26W±0°.09, h150km, mb4.7/22, Error ellipse: s-maj=11.4km s-min=7.2km az=20.9*
*IDC **06** 20:53:23.6±2.8, 26°.68S×177°.38W, h142km±27km, mb3.9/6, mb1 4.2/7, mb1mx3.8/41, mbtmp4.3/7, Error ellipse: s-maj=34.1km s-min=21.3km az=166.0*
ISC 06 20:53:23.0±0.5, **26°.77S**±0°.07×**177°.15W**±0°.10, **h150**km, **n63**, σ**1.60**/67, **mb4.9**/22, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.57	195	P	Pn	20 54 05.7	+0.8
	baz=125,slow=19						
RAO				S	Sn	20 54 38.7	+1.4
	223nm,0.3s,baz=210,slow=22,SNR=8.9						
RAO	Raoul Island	2.57	195	*e*Pn	Pn	20 54 03.1	-1.8
RAO				*e*Sn	Sn	20 54 38.8	+1.4
URZ	Urewera	12.44	201	P	P	20 56 19.9	-0.7
	1.4nm,0.3s,baz=31,slow=7.6,SNR=4.6						
URZ	Urewera	12.44	201	*e*Pn	Pn	20 56 15.6	+0.7
BKZ	Black Stump Fm	13.46	202	*e*Pn	Pn	20 56 30.3	+2.2
BFZ	Birch Farm	14.92	200	*e*Pn	Pn	20 56 44.6	-1.7
DZM	Mont Dzumac	15.66	284	P	P	20 56 59.6	+2.9
	1.8nm,0.3s,baz=115,slow=15,SNR=7.9						
DZM	Mont Dzumac	15.66	284	*e*P	P	20 56 54.3	-2.4
	22nm,0.7s						
RAR	Rarotonga	16.81	74	*e*Pn	P	20 57 07.1	-2.1
	54nm,1.0s						
THZ	Tophouse	17.05	206	*e*P	P	20 57 06.4	-5.4
	58nm,1.7s						
KHZ	Kahutara	17.37	204	*e*P	P	20 57 09.5	-5.8
	142nm,1.8s						
WKZ	Wanaka	21.17	208	*e*P	P	20 57 58.1	+1.6
	138nm,1.6s						
LHI	Lord Howe Isla	21.30	252	*e*P	P	20 57 59.6	+1.7
	498nm,1.9s						
MLZ	Mavora Lakes	21.99	209	*e*P	P	20 58 05.2	+0.2
	123nm,1.9s						
DCZ	Deep Cove	22.49	210	*e*P	P	20 58 08.1	-1.7
	95nm,1.5s						
EIDS	Eidsvold	28.54	266	*e*P	P	20 59 04.6	-0.1
	108nm,2.0s						
CTAO	Charters Tower	34.15	273	*e*P	P	20 59 53.8	-0.1
	31nm,1.7s						
STKA	Stephens Creek	36.17	252	P	P	21 00 11.1	-0.1
	1.7nm,0.7s,baz=83,slow=12,SNR=3.9						
STKA	Stephens Creek	36.17	252	*e*P	P	21 00 10.8	-0.3
	9.3nm,2.0s						
COEN	Coen	39.16	281	*e*P	P	21 00 36.2	-0.2
	6.2nm,0.7s						
BBOO	Buckleboo	40.80	250	*e*P	P	21 00 48.7	-1.1
	56nm,1.6s						
JOHN	Johnston Islan	43.87	11	*e*P	P	21 01 13.1	-1.5
	229nm,1.1s						
AS01	Alice Springs	44.14	263	*e*P	P	21 01 16.1	-0.8
AS31	Alice Springs	44.18	263	*e*P	P	21 01 15.7	-1.5
	1.6nm,0.4s						
ASAR	Alice Springs	44.18	263	P	P	21 01 16.6	-0.7
	4.3nm,0.6s,baz=93,slow=7.3,SNR=44						
WRAB	Tennant Creek	44.84	268	*e*P	P	21 01 22.4	0.0
	16nm,0.6s						
WR1	Warramunga Arr	44.84	268	*e*P	P	21 01 21.5	-1.0
	14nm,0.8s						
WRA	Warramunga Arr	44.84	268	P	P	21 01 21.5	-1.0
	9.2nm,0.7s,baz=106,slow=7.5,SNR=41						
NWAO	Narrogin (SRO)	56.45	247	*e*P	P	21 02 48.1	-1.1
	139nm,1.8s						
MBWA	Marble Bar	57.45	261	*e*P	P	21 02 55.3	-1.2
	53nm,1.5s						
SOEI	Soe	57.67	275	*e*P	P	21 02 56.8	-1.5
	18nm,1.0s						
PETK	Petropavlovsk-	82.50	345	P	P	21 05 29.0	+0.6
	4.4nm,0.9s,baz=102,slow=6.1,SNR=4.8						
PEA1	Petropavlovsk-	82.51	345	*e*P	P	21 05 29.0	+0.5
NV01	Mina Array Sit	85.07	42	*e*P	P	21 05 42.5	+0.3
NVAR	Mina Array Bea	85.07	42	P	P	21 05 43.5	+1.4
	0.9nm,0.5s,baz=210,slow=7.1,SNR=3.8						
BPO	Bald Peter	87.25	36	*e*P	P	21 05 54.5	+1.9
BW06	Boulder Array	92.98	43	*e*P	P	21 06 18.4	-1.1
	9.3nm,0.5s						
PD31	Pinedale Array	92.98	43	*e*P	P	21 06 16.3	-3.2
PDAR	Pinedale Array	92.98	43	*e*P	P	21 06 18.0	-1.5
COLA	College	94.14	12	*e*pP	pP	21 06 54.4	-7.5
ILAR	Eielson Array	94.23	13	P	P	21 06 24.2	-0.2
	0.7nm,0.8s,baz=209,slow=7.0,SNR=5.6						
ZAA1	Zalesovo Array	115.80	319	*e*PKPdf	PKPdf	21 11 47.3	0.0
ZALV	Zalesovo Beam	115.80	319	PKP	PKPdf	21 11 47.3	0.0
	0.5nm,0.6s,baz=164,slow=5.0,SNR=3.0						
MK32	Makanchi Array	115.98	311	*e*PKPdf	PKPdf	21 11 47.9	0.0
MKAR	Makanchi Array	115.98	311	PKP	PKPdf	21 11 47.9	0.0
	1.0nm,0.8s,baz=136,slow=0.3,SNR=11						
BVAR	Borovoye Array	124.29	317	PKP	PKPdf	21 12 04.4	+0.8
	1.5nm,0.6s,baz=109,slow=1.5,SNR=12						
AKTO	Aktyubinsk	132.15	315	PKP	PKPdf	21 12 19.7	+1.0
	1.1nm,0.7s,baz=36,slow=2.4,SNR=5.6						
ARA0	ARCESS Array S	135.20	349	*e*PKPdf	PKPdf	21 12 25.2	+1.3
ARCES	ARCESS Array B	135.20	349	PKP	PKPdf	21 12 25.2	+1.3
	2.0nm,0.7s,baz=0.0,slow=1.7,SNR=8.4						
FIA0	FINESS Array S	141.97	342	*e*PKPpre	PKPpre	21 12 32.8	
FINES	FINESS Array B	141.97	342	PKhKP	PKPpre	21 12 32.8	
	0.9nm,0.6s,baz=27,slow=4.0,SNR=8.1						
NB2	NORSAR Subarra	145.27	353	PKP	PKPab	21 12 43.2	+0.6
	comp=Z,6.0nm,1.0s,baz=17,slow=2.6						
NB200	NORSAR Array S	145.27	353	*e*PKPbc	PKPab	21 12 43.7	+1.1
NOA	NORSAR Array B	145.27	353	PKPbc	PKPab	21 12 43.7	+1.1
	comp=Z,7.1nm,0.9s,baz=11,slow=2.8,SNR=11						
HFS	Hagfors	145.82	350	PKPbc	PKPab	21 12 45.3	+0.6
	comp=Z,6.3nm,0.6s,baz=69,slow=5.2,SNR=21						
AKASG	Malin Array Be	148.77	327	PKPbc	PKPbc	21 12 52.7	+0.3
	comp=Z,4.4nm,0.6s,baz=43,slow=4.0,SNR=20						
ASF	Jabal al Asfar	149.96	289	PKPbc	PKPbc	21 12 57.6	+1.5
	comp=Z,2.3nm,0.8s,baz=331,slow=3.8,SNR=5.0						
MMAI	Mount Meron Ar	151.18	290	PKPbc	PKPbc	21 13 00.8	+1.9
	comp=Z,4.5nm,0.6s,baz=73,slow=5.0,SNR=17						
BR101	Keskin Array S	151.35	305	*e*PKPbc	PKPbc	21 12 59.8	+0.6
BR101				*e*PKPab	PKPab	21 13 09.3	+1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRTR	**Keskin Array B**	**151.35**	**305**	PKPbc	**PKPbc**	**21 12 59.8**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=134,slow=4.1,SNR=8.3						
BRTR				PKPab	**PKPab**	**21 13 09.3**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=81,slow=4.3,SNR=6.0						
CLL	**Collm**	**154.31**	**345**	*e*PKPbc	**PKPbc**	**21 13 05.0**	**-0.1**
CLL				*e*PKPab	**PKPab**	**21 13 21.0**	**+1.3**
	comp=Z,6.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**166.40**	**175**	PKP	**PKPdf**	**21 13 12.2**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=162,slow=0.9,SNR=3.3						
TORD				PKPab	**PKPab**	**21 14 14.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=172,slow=4.3,SNR=4.6						
TOA1	**Torodi Ar. Sit**	**166.41**	**175**	*e*PKPdf	**PKPdf**	**21 13 12.2**	**+1.1**
TOA1				*e*PKPab	**PKPab**	**21 14 14.0**	**+0.8**

*IDC **06** 21:16:53.4±2.9, 37.°81N×142.°94E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/60, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=71.8km s-min=31.2km az=62.0*
*ISCJB **06** 21:16:57.7±1.5, 37.°72N±0.°05×142.°33E±0.°08, h17km±8km, mb3.3/3, Error ellipse: s-maj=11.1km s-min=7.8km az=22.9*
*JMA **06** 21:16:58.5±0.2, 37.°72N×142.°32E, h32km±3km, M3.4*
ISC 06 21:16:56.5±2.3**, 37.°77N**±0.°05×**142.°29E**±0.°09**, h2**km±12km**, n15, σ1s16**/24**, mb3.4**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.01**	**313**	P	**Pb**	**21 17 17.4**	**+0.7**
JIO				*e*S	**Sb**	**21 17 30.4**	**0.0**
JMM	**Marumori**	**1.19**	**275**	P	**Pb**	**21 17 19.6**	**-0.2**
JMM				*e*S	**Sb**	**21 17 34.9**	**-0.7**
JFK	**Kawauchi**	**1.19**	**251**	P	**Pg**	**21 17 19.2**	**-0.1**
JFK				*e*S	**Sg**	**21 17 34.4**	**-0.4**
JOU	**Okura**	**1.41**	**296**	P	**Pb**	**21 17 23.9**	**+0.3**
JOU				*e*S	**Sn**	**21 17 41.9**	**-0.6**
JMK	**Ichinoseki**	**1.45**	**325**	P	**Pn**	**21 17 24.2**	**+0.4**
JMK				*e*S	**Sg**	**21 17 42.4**	**-0.7**
JFT	**Otama**	**1.57**	**261**	P	**Pn**	**21 17 25.9**	**+0.5**
JFT				*e*S	**Sb**	**21 17 45.7**	**-0.9**
JYS	**Shirataka**	**1.81**	**285**	P	**Pb**	**21 17 30.2**	**-0.2**
JYS				*e*S	**Sb**	**21 17 52.7**	**-0.9**
JOM	**Ohasama**	**1.87**	**336**	P	**Pn**	**21 17 30.2**	**+0.6**
JOM				*e*S	**Sn**	**21 17 54.0**	**+0.1**
JYK	**Kaneyama**	**1.90**	**308**	P	**Pn**	**21 17 30.9**	**+0.9**
JRG	**Rokugo**	**2.08**	**322**	P	**Pn**	**21 17 33.9**	**+1.4**
JRG				*e*S	**Sn**	**21 17 59.6**	**+0.7**
JFY	**Yanaizu**	**2.08**	**261**	*e*S	**Sn**	**21 17 58.7**	**-0.3**
MJAR	**Matsushiro Arr**	**3.48**	**251**	Pn	**Pn**	**21 17 55.4**	**+3.7**
	0.4nm,0.3s,baz=65,slow=11,SNR=5.7						
SONM	**Songino Array**	**27.96**	**303**	P	**P**	**21 22 49.4**	**+0.8**
	0.6nm,0.7s,baz=101,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	**44.32**	**302**	P	**P**	**21 25 08.3**	**+0.4**
	0.2nm,0.7s,baz=83,slow=8.7,SNR=3.8						
WRA	**Warramunga Arr**	**57.89**	**189**	P	**P**	**21 26 47.8**	**-2.2**
	0.2nm,0.5s,baz=6.2,slow=6.8,SNR=3.8						

*ISK **06** 21:23:11.5, 38.°56N×31.°84E, h16km, ML2.6/5*
*ISCJB **06** 21:23:12.4±0.6, 38.°57N±0.°04×31.°87E±0.°05, h12km±7km, Error ellipse: s-maj=6.0km s-min=5.9km az=40.2*
*CSEM **06** 21:23:12.4±0.3, 38.°55N×31.°84E, h10km, ML2.3, Error ellipse: s-maj=7.5km s-min=6.9km az=9.0*
*DDA **06** 21:23:13.7, 38.°55N×31.°78E, h7km, Ml2.3*
ISC 06 21:23:11.9±1.3**, 38.°53N**±0.°03×**31.°80E**±0.°04**, h7**km±12km**, n18, σ0s77**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DOGA	**KONYA_Doganhis**	**0.43**	**194**	*i* P	**Pb**	**21 23 22.8**	**+0.8**
DOGA				*i* S	**Sb**	**21 23 29.4**	**+0.7**
DOGA	**KONYA_Doganhis**	**0.43**	**194**	P	**Pb**	**21 23 22.8**	**+0.8**
DOGA				S	**Sb**	**21 23 29.4**	**+0.7**
BOLV	**Bolvadin**	**0.70**	**286**	*i* P	**Pb**	**21 23 26.7**	**+0.2**
BOLV				*i* S	**Sb**	**21 23 36.5**	**+0.1**
BOLV	**Bolvadin**	**0.70**	**286**	P	**Pb**	**21 23 26.7**	**+0.2**
BOLV				S	**Sb**	**21 23 36.5**	**+0.1**
CHBY	**Cihanbeyli**	**0.85**	**86**	PG	**Pg**	**21 23 28.6**	**+0.3**
CHBY				SG	**Sg**	**21 23 39.4**	**0.0**
CHBY	**Cihanbeyli**	**0.85**	**86**	*e*Pg	**Pg**	**21 23 28.6**	**+0.3**
CHBY				*e*Sg	**Sg**	**21 23 39.4**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.95**	**347**	PG	**Pb**	**21 23 30.5**	**-0.2**
SVRH				SG	**Sg**	**21 23 42.3**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.95**	**347**	*e*Pg	**Pb**	**21 23 30.5**	**-0.2**
SVRH				*e*Sg	**Sg**	**21 23 42.3**	**-0.1**
KKUL	**Konya-Kulu**	**1.08**	**53**	*i* P	**Pn**	**21 23 34.5**	**+0.8**
KKUL				*i* S	**Sn**	**21 23 49.9**	**+0.9**
KKUL	**Konya-Kulu**	**1.08**	**53**	P	**Pn**	**21 23 34.5**	**+0.8**
SUTC	**Sutluce-Ispart**	**1.23**	**212**	PN	**Pb**	**21 23 34.8**	**-0.7**
SUTC	**Sutluce-Ispart**	**1.23**	**212**	*e*Pn	**Pb**	**21 23 34.8**	**-0.7**
ESKT	**Eskisehir**	**1.24**	**323**	*i* P	**Pb**	**21 23 35.8**	**0.0**
ESKT				*i* S	**Sg**	**21 23 51.8**	**0.0**
SEYT	**Eskypehyr**	**1.24**	**323**	P	**Pb**	**21 23 35.8**	**0.0**
SEYT				S	**Sg**	**21 23 51.8**	**0.0**
AFSR	**Af¯ar-Bala (A**	**1.35**	**47**	PN	**Pn**	**21 23 36.3**	**-1.0**
AFSR	**Af¯ar-Bala (A**	**1.35**	**47**	*e*Pn	**Pn**	**21 23 36.3**	**-1.0**
SULT	**Sultanhani-AKS**	**1.38**	**103**	PN	**Pn**	**21 23 35.9**	**-1.9**
SULT	**Sultanhani-AKS**	**1.38**	**103**	*e*Pn	**Pn**	**21 23 35.9**	**-1.9**

*ISCJB **06** 21:28:32.5±1.1, 14.°3N±0.°2×145.°7E±0.°2, h100km, mb3.4/6, Error ellipse: s-maj=35.0km s-min=12.0km az=32.7*
*IDC **06** 21:28:33.6±1.9, 14.°31N×145.°68E, h93km±17km, mb3.2/6, mb1 3.3/6, mb1mx3.1/56, mbtmp3.5/6, Error ellipse: s-maj=35.0km s-min=25.7km az=96.0*
ISC 06 21:28:34.1±1.2**, 14.°3N**±0.°2×**145.°7E**±0.°2**, h100**km**, n7, σ0s84**/8**, mb3.5**/6**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.02**	**230**	P	**Pn**	**21 28 54.7**	**-0.1**
	110nm,0.3s,baz=80,slow=2.5,SNR=42						
GUMO				S	**Sn**	**21 29 09.8**	**-0.6**
	401nm,0.3s,baz=71,slow=18,SNR=34						
WRA	**Warramunga Arr**	**35.77**	**198**	P	**P**	**21 35 24.0**	**+0.3**
	0.1nm,0.6s,baz=12,slow=8.2,SNR=2.7						
ZALV	**Zalesovo Beam**	**61.54**	**324**	P	**P**	**21 38 40.1**	**-0.5**
	0.6nm,0.6s,baz=105,slow=4.9,SNR=3.0						
MKAR	**Makanchi Array**	**61.56**	**316**	P	**P**	**21 38 41.7**	**+0.8**
	0.2nm,0.3s,baz=90,slow=8.8,SNR=14						
ILAR	**Eielson Array**	**67.64**	**25**	P	**P**	**21 39 18.8**	**-1.2**
	0.3nm,0.6s,baz=252,slow=5.8,SNR=5.4						
BVAR	**Borovoye Array**	**69.89**	**322**	P	**P**	**21 39 34.1**	**-0.2**
	0.3nm,0.3s,baz=102,slow=8.0,SNR=4.3						
YKA	**Yellowknife Ar**	**81.91**	**28**	P	**P**	**21 40 43.2**	**+0.8**
	0.1nm,0.4s,baz=279,slow=4.9,SNR=2.7						

MAN 06 21:42:01, 10.°27N×123.°18E, h6km, mb4.6, ML3.5, MS3.4, 2C-4D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.68**	**302**	*e*P	Pb	21 42 14.7	-0.6
LLP	**Lapu-Lapu**	**0.78**	**86**	⇑*e*P	Pg	21 42 15.8	-0.2
LLP				*e*S	Sg	21 42 26.5	+0.4
TBP	**Tagbilaran**	**0.89**	**130**	*e*P	Pn	21 42 19.9	-0.1
TBP				*i* S	Sn	21 42 32.9	-0.2
SNPH	**Sibulan**	**0.92**	**176**	⇓*i*P	Pb	21 42 19.4	0.0
SNPH				*i* S	Sb	21 42 32.0	+0.1
JAP	**San Jose, Anti**	**1.30**	**292**	⇓*e*P	Pg	21 42 27.2	+1.3
RCP	**Roxas**	**1.35**	**342**	⇑*e*P	Pn	21 42 26.0	-0.5
OCLP	**Ormoc**	**1.61**	**61**	*e*P	Pn	21 42 29.5	-0.5
OCLP				*e*S	Sb	21 42 52.3	+0.5
MSLP	**Maasin**	**1.66**	**94**	*e*P	Pb	21 42 31.4	-0.6
MSLP				*e*S	Sg	21 42 54.2	-0.3
DCPH	**Dipolog City**	**1.68**	**174**	⇓*e*P	Pn	21 42 30.4	-0.5
DCPH				*e*S	Sb	21 42 53.5	-0.3
PLP	**Palo**	**1.98**	**63**	⇓*e*P	Pn	21 42 34.7	-0.5
PLP				*e*S	Sn	21 42 58.1	-2.3
OTRP	**Odiongan**	**2.37**	**332**	*e*P	Pn	21 42 41.9	+1.4
OTRP				*e*S	Sn	21 43 11.2	+1.3
PAGZ	**Pagadian**	**2.41**	**175**	*e*P	Pb	21 42 43.8	-1.0
PAGZ				*e*S	Sb	21 43 16.3	+1.5

IDC 06 21:53:30.1±3.2**, 22.°83S×170.°33E, h0**km**, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.6**/40**, mbtmp3.7**/4**, ML3.8**/1**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.5**/32**, Error ellipse: s-maj=109.1km s-min=52.3km az=3.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.67**	**281**	Pn	Pn	21 54 29.4	+1.1
	8.4nm,0.3s,baz=62,slow=13,SNR=35						
DZM				Sn	Sn	21 55 12.2	-0.2
	4.0nm,0.3s,baz=218,slow=24,SNR=8.0						
URZ	**Urewera**	**16.45**	**161**	LR	LR	22 02 41.0	
	comp=Z,55nm,18.6s,baz=340,slow=34						
ASAR	**Alice Springs**	**33.42**	**261**	P	P	22 00 11.8	+0.9
	0.4nm,0.7s,baz=86,slow=9.6,SNR=4.8						
WRA	**Warramunga Arr**	**33.58**	**268**	P	P	22 00 11.0	-1.3
	0.9nm,1.0s,baz=102,slow=8.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**80.90**	**294**	P	P	22 05 46.9	+0.1
	0.8nm,0.6s,baz=134,slow=4.1,SNR=6.3						

IDC 06 21:54:17.9±3.3**, 22.°48S×170.°38E, h0**km**, mb3.8**/3**, mb1 4.1**/4**, mb1mx3.7**/40**, mbtmp3.9**/4**, ML3.8**/1**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.4**/35**, Error ellipse: s-maj=118.7km s-min=51.6km az=174.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.67**	**276**	Pn	Pn	21 55 17.4	+1.3
	6.9nm,0.3s,baz=128,slow=18,SNR=9.3						
DZM				Sn	Sn	21 55 59.7	-0.5
	3.3nm,0.3s,baz=59,slow=19,SNR=4.4						
DZM				LR	LR	21 56 22.4	
	comp=Z,205nm,21.8s,baz=17,slow=34						
ASAR	**Alice Springs**	**33.53**	**261**	P	P	22 00 59.6	+0.1
	0.9nm,0.8s,baz=86,slow=9.1,SNR=5.3						
WRA	**Warramunga Arr**	**33.65**	**267**	P	P	22 00 59.9	-0.7
	1.0nm,0.8s,baz=100,slow=8.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**80.80**	**294**	P	P	22 06 34.1	+0.2
	0.8nm,0.4s,baz=138,slow=4.4,SNR=6.2						

IDC 06 21:56:43.3±63.0**, 21.°23S×178.°78W, h0**km**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.6**/40**, mbtmp3.9**/3**, MS4.0**/2**, Ms1 4.0**/2**, ms1mx2.8**/42**, Error ellipse: s-maj=1151.0km s-min=159.3km az=84.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.02**	**175**	LR	LR	22 00 41.9	
	comp=Z,2μm,21.6s,baz=110,slow=30						
STKA	**Stephens Creek**	**36.82**	**245**	P	P	22 03 52.4	-0.8
	3.5nm,0.9s,baz=100,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**43.65**	**258**	P	P	22 04 50.0	-0.1
	1.5nm,0.8s,baz=90,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**43.79**	**263**	P	P	22 04 51.5	+0.4
	0.3nm,0.3s,baz=96,slow=8.4,SNR=13						
PFO	**Pinyon Flats O**	**80.60**	**49**	LR	LR	22 36 34.8	
	comp=Z,53nm,18.6s,baz=51,slow=30						

*NIED **06** 21:58:00, 35.°90N×141.°10E, h8km, Mw3.3 Best double couple: $M_0$1.09000×10^{14} NP1:ϕ_s30.00000°, δ41.00000°, λ-43.00000°. NP2:ϕ_s156.00000°, δ63.00000°, λ-123.00000°.*
JMA 06 21:58:20.7±0.1**, 35.°91N×141.°01E, h17**km±1km**, M3.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.24**	**211**	P	Pg	21 58 26.2	0.0
CHOJ				S	Sg	21 58 30.1	+0.2
JYT	**Yasato**	**0.73**	**296**	P	Pb	21 58 34.6	-0.4
JYT				S	Sb	21 58 44.2	-0.6
JHO	**Hitachi**	**0.79**	**333**	P	Pb	21 58 35.6	-0.3
JHO				S	Sg	21 58 46.7	+0.3
MAT	**Matsushiro**	**2.35**	**286**	P	Pn	21 58 59.0	+0.4
MAT				S	Sn	21 59 27.1	0.0

*IDC **06** 22:00:33.7±5.9, 37.°48N×71.°94E, h191km±52km, mb3.1/1, mb1 2.9/6, mb1mx2.6/65, mbtmp3.5/6, Error ellipse: s-maj=65.2km s-min=39.2km az=149.0*
*ISCJB **06** 22:00:35.2±1.2, 37.°61N±0.°09×72.°04E±0.°08, h200km, mb3.3/1, Error ellipse: s-maj=13.3km s-min=7.7km az=154.0*
*NNC **06** 22:00:37.9±1.6, 37.°74N×72.°08E, h190km±15km, mb2.4, mpv3.5, Error ellipse: s-maj=17.2km s-min=13.3km az=63.0*
ISC 06 22:00:34.5±1.7**, 37.°5N**±0.°1×**72.°04E**±0.°09**, h200**km**, n22, σ0s95**/28**, 3C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.73**	**24**	⇓P	**Pn**	**22 01 21.7**	**+0.5**
	4.0nm,0.3s						
SFK				⇓S	**Sn**	**22 01 56.5**	**-1.3**
	48nm,0.3s						
AML	**Almayashu**	**4.77**	**15**	P	**Pn**	**22 01 47.0**	**+0.7**
	SNR=66						
MNAS	**Manas**	**4.96**	**4**	⇓P	**Pn**	**22 01 49.5**	**+1.1**
	4.2nm,0.3s						
MNAS				⇑S	**Sn**	**22 02 45.0**	**-1.9**
	16nm,0.6s						
UCH	**Uchtor**	**5.06**	**21**	P	**Pn**	**22 01 50.6**	**+0.6**
	SNR=9.4						
KZA	**Kyzart**	**5.17**	**28**	P	**Pn**	**22 01 51.2**	**-0.2**
	SNR=16						
EKS2	**Erkin-Say**	**5.29**	**14**	P	**Pn**	**22 01 53.6**	**+1.0**
	SNR=8.8						
AAK	**Ala-Archa**	**5.43**	**20**	P	**Pn**	**22 01 55.5**	**+0.9**
	2.4nm,0.3s,baz=160,slow=6.4,SNR=57						
AAK				S	**Sn**	**22 02 57.6**	**-0.3**
	2.0nm,0.3s,baz=133,slow=23,SNR=14						
AAK	**Ala-Archa**	**5.43**	**20**	⇓P	**Pn**	**22 01 55.4**	**+0.9**
	4.1nm,0.4s						
AAK				⇓S	**Sn**	**22 02 57.1**	**-0.7**
	13nm,0.8s						
AAK	**Ala-Archa**	**5.43**	**20**	P	**Pn**	**22 01 55.5**	**+0.9**
	SNR=13						
KBK	**Karagaybulak**	**5.58**	**23**	P	**Pn**	**22 01 58.0**	**+1.5**
	SNR=7.8						
KK31	**Karatay Array**	**5.68**	**349**	⇑P	**Pn**	**22 01 58.5**	**+0.9**
	0.8nm,0.5s,baz=156,slow=11,SNR=24						
KK31				S	**Sn**	**22 03 02.2**	**-1.2**
	3.5nm,0.4s,baz=152,slow=17,SNR=15						
ULHL	**Ulahol**	**5.71**	**33**	P	**Pn**	**22 01 57.9**	**-0.3**
	SNR=6.0						
CHMS	**Chumysh**	**5.84**	**20**	P	**Pn**	**22 02 00.8**	**+1.2**
	SNR=5.0						
TKM2	**Tokmak 2**	**6.03**	**26**	⇓P	**Pn**	**22 02 02.8**	**+0.5**
	3.8nm,0.5s						
TKM2				⇑S	**Sn**	**22 03 10.6**	**-1.1**
	1.3nm,0.5s						
TKM2	**Tokmak 2**	**6.03**	**26**	P	**Pn**	**22 02 03.1**	**+0.8**
	SNR=11						
MDOK	**Medeo**	**6.80**	**33**	P	**Pn**	**22 02 12.4**	**+0.1**
	7.0nm,0.6s						
GEYT	**Alibeck**	**11.03**	**276**	S	**Sn**	**22 05 09.7**	**-0.4**
	0.2nm,0.3s,baz=111,slow=22,SNR=2.8						
MKAR	**Makanchi Array**	**11.97**	**36**	P	**Pn**	**22 03 19.4**	**+0.5**
	0.1nm,0.3s,baz=208,slow=13,SNR=3.9						
BVAR	**Borovoye Array**	**15.53**	**356**	P	**P**	**22 04 04.3**	**+1.2**
	0.1nm,0.3s,baz=156,slow=8.9,SNR=5.2						
AKTO	**Aktyubinsk**	**16.34**	**327**	P	**P**	**22 04 11.9**	**0.0**
	0.1nm,0.3s,baz=177,slow=19,SNR=2.5						
ZALV	**Zalesovo Beam**	**18.63**	**24**	P	**P**	**22 04 37.8**	**+0.8**
	0.4nm,0.3s,baz=218,slow=11,SNR=14						
TORD	**Torodi Ar. Bea**	**66.57**	**269**	P	**P**	**22 11 02.8**	**-0.6**
	0.3nm,0.4s,baz=48,slow=6.1,SNR=9.1						

*STR **06** 22:23:53.8±0.6, 47.°46N±0.°07×12.°09E±0.°05, h5km, MLv2.9/9*
*CSEM **06** 22:23:53.0±0.1, 47.°46N×12.°04E, h2km, ML3.1/26, Error ellipse: s-maj=2.1km s-min=1.8km az=175.0*
*VIE **06** 22:23:53.4±0.1, 47.°43N×12.°04E, h8km, mb2.0/12, ML3.0/15, Error ellipse: s-maj=1.5km s-min=1.1km az=154.0*
*PRU **06** 22:23:54.2, 47.°47N×12.°08E, h6km*
*LDG **06** 22:23:54.6±0.1, 47.°39N×12.°06E, h2km, Ml2.7/16, Error ellipse: s-maj=1.8km s-min=1.5km az=15.0*
*BGR **06** 22:23:55.2±0.2, 47.°44N×12.°03E, h10km, ML2.6/11, Error ellipse: s-maj=5.6km s-min=2.2km az=0.0*
BGR Felt IV EMS.
*ROM **06** 22:23:55.4±0.4, 47.°35N×12.°00E, h10km, Ml2.6/18, Error ellipse: s-maj=5.2km s-min=2.3km az=6.0*
ISC 06 22:23:53.3±0.9**, 47.°47N**±0.°01×**12.°05E**±0.°01**, h15**km±7km**, n204, σ1s32**/297**, 2C-1D, Austria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WTTA	**Wattenberg**	**0.35**	**234**	*e*Pg	**Pg**	**22 24 00.4**	**-0.2**
WTTA				*e*Sg	**Sg**	**22 24 05.0**	**-0.5**
WTTA	**Wattenberg**	**0.35**	**234**	Pg	**Pg**	**22 24 00.3**	**-0.2**
	33nm,0.2s,SNR=66						
WTTA				Sg	**Sg**	**22 24 04.6**	**-0.9**
WTTA	**Wattenberg**	**0.35**	**234**	Pg	**Pg**	**22 24 00.4**	**-0.2**
WTTA				Sg	**Sg**	**22 24 05.0**	**-0.5**
	183nm,0.6s						
WTTA	**Wattenberg**	**0.35**	**234**	*e*Pg	**Pg**	**22 24 00.3**	**-0.2**
	33nm,0.2s,SNR=66						
WTTA				*e*Sg	**Sg**	**22 24 04.9**	**-0.6**
	53nm,0.2s						
WATA	**Walderalm**	**0.35**	**248**	Pg	**Pg**	**22 24 00.5**	**0.0**
	SNR=38						
WATA	**Walderalm**	**0.35**	**248**	*e*Pg	**Pg**	**22 24 00.5**	**0.0**
	SNR=38						
RISI	**Rein**	**0.52**	**178**	Pg	**Pg**	**22 24 03.3**	**-0.4**
RISI				Sg	**Sg**	**22 24 10.2**	**-0.4**
	2μm,0.5s						
RISI	**Rein**	**0.52**	**178**	Pg	**Pg**	**22 24 03.3**	**-0.4**
RISI				Sg	**Sg**	**22 24 10.2**	**-0.4**
	2μm,0.5s						
RJOB	**Jochberg**	**0.57**	**62**	*e*Pg	**Pb**	**22 24 05.7**	**+0.7**
MOTA	**Moosalm**	**0.65**	**260**	Pg	**Pg**	**22 24 05.8**	**-0.4**
	4.3nm,0.2s,SNR=28						
MOTA	**Moosalm**	**0.65**	**260**	*e*Pg	**Pg**	**22 24 05.8**	**-0.4**
	4.3nm,0.2s,SNR=28						
ROSI	**Rosskopf**	**0.69**	**219**	Pg	**Pg**	**22 24 06.6**	**-0.3**
ROSI				Sg	**Sg**	**22 24 15.1**	**-1.0**
	426nm,0.5s						
ROSI	**Rosskopf**	**0.69**	**219**	Pg	**Pg**	**22 24 06.6**	**-0.3**
ROSI				Sg	**Sg**	**22 24 15.1**	**-1.0**
	426nm,0.5s						
ABTA	**Abfaltersbach**	**0.79**	**156**	Pg	**Pg**	**22 24 08.2**	**-0.4**
	10nm,0.1s,SNR=69						
ABTA				Sg	**Sg**	**22 24 18.4**	**-0.6**
	48nm,0.1s						
ABTA	**Abfaltersbach**	**0.79**	**156**	*e*Pg	**Pg**	**22 24 08.2**	**-0.4**
	10nm,0.1s,SNR=69						
ABTA				*e*Sg	**Sg**	**22 24 18.4**	**-0.6**
	48nm,0.1s						
FUR	**Furstenfeldbru**	**0.87**	**324**	*e*Pn	**Pn**	**22 24 12.1**	**+1.1**
FUR				*e*Pg	**Pb**	**22 24 13.4**	**+3.3**
FUR				*e*Sg	**Sn**	**22 24 24.5**	**+1.0**
FUR	**Furstenfeldbru**	**0.87**	**324**	Pn	**Pn**	**22 24 12.1**	**+1.1**
RETA	**Reutte**	**0.87**	**272**	Sg	**Sb**	**22 24 23.0**	**+1.3**
	16nm,0.2s,SNR=14						
RETA	**Reutte**	**0.87**	**272**	Sg	**Sb**	**22 24 23.0**	**+1.3**
	16nm,0.2s,SNR=14						
ABSI	**Aberstueckl**	**0.89**	**214**	Pg	**Pg**	**22 24 10.0**	**-0.6**
ABSI				Sg	**Sg**	**22 24 21.2**	**-1.1**
	326nm,0.6s						
ABSI	**Aberstueckl**	**0.89**	**214**	Pg	**Pg**	**22 24 10.0**	**-0.6**
ABSI				Sg	**Sg**	**22 24 21.2**	**-1.1**
	326nm,0.6s						
AFL	**Alpe Faloria**	**0.94**	**175**	*e*Pg	**Pg**	**22 24 11.5**	**-0.1**
AFL	**Alpe Faloria**	**0.94**	**175**	*e*Pg	**Pg**	**22 24 11.5**	**-0.1**
KBA	**Koelnbreinsper**	**0.96**	**113**	*e*Pg	**Pb**	**22 24 12.0**	**+0.2**
KBA				*e*Sg	**Sb**	**22 24 25.3**	**+1.0**
KBA	**Koelnbreinsper**	**0.96**	**113**	Pg	**Pb**	**22 24 11.5**	**-0.2**
	1.8nm,0.1s,SNR=21						
KBA				Sg	**Sb**	**22 24 25.3**	**+1.0**
KBA	**Koelnbreinsper**	**0.96**	**113**	*e*Pg	**Pb**	**22 24 11.5**	**-0.2**
	1.8nm,0.1s,SNR=21						
KBA				*e*Sg	**Sb**	**22 24 25.4**	**+1.0**
	9.8nm,0.1s						
FVI	**Forni Avoltri**	**1.00**	**150**	Pg	**Pg**	**22 24 12.5**	**-0.2**
	153nm,0.3s						
FVI	**Forni Avoltri**	**1.00**	**150**	Pg	**Pg**	**22 24 12.5**	**-0.2**
	153nm,0.3s						
FETA	**Feichten**	**1.00**	**244**	*e*Pg	**Pg**	**22 24 12.3**	**-0.5**
	6.0nm,0.3s,SNR=17						
FETA				Sg	**Sg**	**22 24 25.2**	**-0.7**
	4.7nm,0.2s						
CSMI	**Casera Mimoias**	**1.04**	**156**	*e*Pg	**Pg**	**22 24 13.2**	**-0.2**
CSMI				*e*Sg	**Sg**	**22 24 26.5**	**-0.6**
CSMI	**Casera Mimoias**	**1.04**	**156**	⇓*e*Pg	**Pg**	**22 24 13.2**	**-0.2**
CSMI				*e*Sg	**Sg**	**22 24 26.5**	**-0.6**
KOSI	**Kohlern**	**1.10**	**205**	Pg	**Pg**	**22 24 14.1**	**-0.6**
	176nm,0.6s						
KOSI	**Kohlern**	**1.10**	**205**	Pg	**Pg**	**22 24 14.1**	**-0.6**
	176nm,0.6s						
ZOU	**Zoufplan**	**1.11**	**145**	*e*Pg	**Pg**	**22 24 14.4**	**-0.3**
ZOU				*e*Sg	**Sg**	**22 24 28.8**	**-0.4**
ZOU	**Zoufplan**	**1.11**	**145**	⇑*e*Pg	**Pg**	**22 24 14.4**	**-0.3**
ZOU				*e*Sg	**Sg**	**22 24 28.8**	**-0.4**
ZOU	**Zoufplan**	**1.11**	**145**	⇑*e*Pg	**Pg**	**22 24 14.4**	**-0.3**
ZOU				*e*Sg	**Sg**	**22 24 28.8**	**-0.4**
APPI	**Appiano**	**1.14**	**210**	Pg	**Pg**	**22 24 14.7**	**-0.6**
	217nm,0.2s						
APPI	**Appiano**	**1.14**	**210**	Pg	**Pg**	**22 24 14.7**	**-0.6**
	217nm,0.2s						
CLUD	**Cludinico**	**1.16**	**150**	*e*Pg	**Pg**	**22 24 15.1**	**-0.6**
CLUD	**Cludinico**	**1.16**	**150**	*e*Pg	**Pg**	**22 24 15.1**	**-0.6**
AGOR	**Agordo**	**1.19**	**180**	Pg	**Pg**	**22 24 15.7**	**-0.4**
	73nm,0.4s						
AGOR	**Agordo**	**1.19**	**180**	*e*Pg	**Pg**	**22 24 15.1**	**-1.1**
PLRO	**Paularo**	**1.19**	**140**	*e*Pg	**Pg**	**22 24 15.7**	**-0.5**
PLRO	**Paularo**	**1.19**	**140**	*e*Pg	**Pg**	**22 24 15.7**	**-0.5**
CIMO	**Cimolais**	**1.19**	**167**	*e*Pg	**Pg**	**22 24 15.6**	**-0.6**
CIMO	**Cimolais**	**1.19**	**167**	*e*Pg	**Pg**	**22 24 15.6**	**-0.6**
CSO	**Casso**	**1.21**	**171**	*e*Pg	**Pg**	**22 24 15.6**	**-1.0**
CSO	**Casso**	**1.21**	**171**	*e*Pg	**Pg**	**22 24 15.6**	**-1.0**
FAU	**Forcella Aurin**	**1.24**	**182**	*e*Pg	**Pg**	**22 24 16.3**	**-0.9**
FAU	**Forcella Aurin**	**1.24**	**182**	*e*Pg	**Pg**	**22 24 16.3**	**-0.9**
FUSE	**Fusea**	**1.24**	**148**	*e*Pg	**Pg**	**22 24 16.4**	**-0.8**
FUSE	**Fusea**	**1.24**	**148**	*e*Pg	**Pg**	**22 24 16.4**	**-0.8**
OZOL	**Ozolo**	**1.26**	**213**	*e*Pg	**Pg**	**22 24 16.3**	**-1.4**
OZOL	**Ozolo**	**1.26**	**213**	*e*Pg	**Pg**	**22 24 16.3**	**-1.4**
STAL	**STALIGIAL**	**1.29**	**159**	Pg	**Pn**	**22 24 17.4**	**+0.7**
	71nm,0.2s						
STAL	**STALIGIAL**	**1.29**	**159**	Pg	**Pn**	**22 24 17.4**	**+0.7**
	71nm,0.2s						
MOSI	**Grossmontoni**	**1.33**	**231**	Pg	**Pn**	**22 24 18.6**	**+1.1**
	154nm,0.6s						
MOSI	**Grossmontoni**	**1.33**	**231**	Pg	**Pn**	**22 24 18.6**	**+1.1**
	154nm,0.6s						
ACOM	**Acomizza, Ital**	**1.36**	**132**	Pg	**Pb**	**22 24 19.3**	**+0.8**
	82nm,0.3s						
ACOM	**Acomizza, Ital**	**1.36**	**132**	Pg	**Pb**	**22 24 19.3**	**+0.8**
	82nm,0.3s						
ACOM	**Acomizza, Ital**	**1.36**	**132**	*e*Pg	**Pb**	**22 24 19.2**	**+0.7**
MYKA	**Terra Mystica**	**1.37**	**127**	Pg	**Pn**	**22 24 18.6**	**+0.7**
	1.2nm,0.2s,SNR=5.3						
MYKA				Sg	**Sg**	**22 24 36.7**	**-0.9**
	5.7nm,0.2s						
MYKA	**Terra Mystica**	**1.37**	**127**	Pg	**Pn**	**22 24 18.6**	**+0.7**
	1.2nm,0.2s,SNR=5.3						
MYKA				Sg	**Sg**	**22 24 36.7**	**-0.9**
	5.7nm,0.2s						
PTCC	**Patocco-Chiusa**	**1.39**	**139**	Pg	**Pb**	**22 24 19.3**	**+0.4**
	38nm,0.5s						
PTCC	**Patocco-Chiusa**	**1.39**	**139**	Pg	**Pb**	**22 24 19.3**	**+0.4**
	38nm,0.5s						
CARE	**Lago del Cares**	**1.40**	**222**	*e*Pg	**Pn**	**22 24 18.0**	**-0.4**
CARE	**Lago del Cares**	**1.40**	**222**	*e*Pg	**Pn**	**22 24 18.0**	**-0.4**
LSR	**Lussari**	**1.42**	**134**	*e*Pg	**Pg**	**22 24 19.9**	**-0.7**
LSR	**Lussari**	**1.42**	**134**	*e*Pg	**Pg**	**22 24 19.9**	**-0.7**
CTI	**Castel Tesino**	**1.45**	**191**	Pg	**Pg**	**22 24 20.9**	**-0.2**
	156nm,0.3s						
CTI	**Castel Tesino**	**1.45**	**191**	Pg	**Pg**	**22 24 20.9**	**-0.2**
	156nm,0.3s						
PRED	**Cave del Predi**	**1.46**	**134**	*e*Pg	**Pb**	**22 24 20.4**	**+0.3**
PRED	**Cave del Predi**	**1.46**	**134**	*e*Pg	**Pb**	**22 24 20.4**	**+0.3**
VARN	**Col Varnada, M**	**1.48**	**179**	*e*Pg	**Pg**	**22 24 21.5**	**-0.1**
VARN	**Col Varnada, M**	**1.48**	**179**	*e*Pg	**Pg**	**22 24 21.5**	**-0.1**
VINO	**Villanova**	**1.48**	**145**	Pg	**Pb**	**22 24 21.0**	**+0.6**
VINO	**Villanova**	**1.48**	**145**	Pg	**Pb**	**22 24 21.0**	**+0.6**
VINO	**Villanova**	**1.48**	**145**	*e*Pg	**Pb**	**22 24 21.0**	**+0.6**
BAD	**Bernadia**	**1.48**	**146**	*e*Pg	**Pg**	**22 24 21.3**	**-0.4**
BAD	**Bernadia**	**1.48**	**146**	*e*Pg	**Pg**	**22 24 21.3**	**-0.4**
DAVA	**Damuels**	**1.49**	**264**	*e*Pn	**Pg**	**22 24 22.0**	**+0.1**
DAVA				*e*Sg	**Sg**	**22 24 43.0**	**+1.8**
DAVA	**Damuels**	**1.49**	**264**	Sg	**Sg**	**22 24 42.5**	**+1.3**
	54nm,0.2s						
DAVA	**Damuels**	**1.49**	**264**	Pg	**Pg**	**22 24 22.0**	**+0.1**
	9.7nm,0.2s,SNR=25						
DAVA				Sg	**Sg**	**22 24 42.5**	**+1.3**
	54nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**1.49**	**236**	Pg	**Pb**	**22 24 21.4**	**+0.7**
FUORN	**Ofenpass-Fuorn**	**1.49**	**236**	Pg	**Pb**	**22 24 21.4**	**+0.7**
PANI	**Panarotta**	**1.50**	**199**	*e*Pg	**Pn**	**22 24 20.3**	**+0.5**
BRMO	**Bormio**	**1.52**	**230**	Pg	**Pn**	**22 24 21.6**	**+1.6**

	31nm,0.4s						
BRMO	Bormio	1.52	230	Pg	Pn	22 24 21.6	+1.6
	31nm,0.4s						
MOA	Molln	1.55	75	*e*Pn	Pg	22 24 23.1	+0.1
MOA				*e*Sg	Sg	22 24 45.2	+2.1
MOA	Molln	1.55	75	Pg	Pg	22 24 23.1	+0.1
	4.0nm,0.1s,SNR=31						
MOA				Sg	Sg	22 24 45.0	+1.9
	20nm,0.1s						
MOA	Molln	1.55	75	*e*Pg	Pg	22 24 23.1	+0.1
	4.0nm,0.1s,SNR=31						
MOA				*e*Sg	Sg	22 24 45.0	+1.9
	20nm,0.1s						
CGRP	Cima Grappa	1.60	186	Pg	Pg	22 24 24.1	+0.1
	126nm,0.5s						
CGRP	Cima Grappa	1.60	186	Pg	Pg	22 24 24.1	+0.1
	126nm,0.5s						
CGRP	Cima Grappa	1.60	186	*e*Pg	Pg	22 24 23.7	-0.3
DAVOX	Davos/Dischmat	1.63	246	Pg	Pb	22 24 23.7	+0.5
	37nm,0.6s						
DAVOX	Davos/Dischmat	1.63	246	Pg	Pb	22 24 23.7	+0.5
	37nm,0.6s						
CADS	Cadrg	1.70	136	*i* Pn	Pg	22 24 25.4	-0.5
CADS				*e*Sn	Sg	22 24 48.0	+0.1
CADS	Cadrg	1.70	136	*i* Pn	Pg	22 24 25.4	-0.5
CADS				*e*Sn	Sg	22 24 48.0	+0.1
BERNI	Berninapass	1.74	234	Pg	Pb	22 24 26.2	+1.1
	18nm,0.5s						
BERNI	Berninapass	1.74	234	Pg	Pb	22 24 26.2	+1.1
	18nm,0.5s						
GORS	Gorjuse	1.76	130	*i* Pn	Pg	22 24 26.4	-0.7
GORS	Gorjuse	1.76	130	*i* Pn	Pg	22 24 26.4	-0.7
WET	Wettzell	1.77	18	*e*Pn	Pb	22 24 24.8	-0.6
WET	Wettzell	1.77	18	Pn	Pb	22 24 24.8	-0.6
GEC2	GERESS Array S	1.77	38	*e*Pn	Pb	22 24 25.0	-0.4
GEC2	GERESS Array S	1.77	38	Pn	Pb	22 24 25.0	-0.4
RNI	Roncone	1.78	214	*e*Pg	Pn	22 24 25.2	+1.5
RNI	Roncone	1.78	214	*e*Pg	Pn	22 24 25.2	+1.5
SABO	M.te Sabotino	1.83	144	Pg	Pb	22 24 27.0	+0.6
SABO	M.te Sabotino	1.83	144	Pg	Pb	22 24 27.0	+0.6
PLONS	Plons/SG	1.87	258	*e*Pn	Pb	22 24 27.4	+0.3
PLONS	Plons/SG	1.87	258	Pn	Pb	22 24 27.4	+0.3
VOJS	Vojsko	1.91	138	*i* Pn	Pb	22 24 28.2	+0.4
VOJS				*e*Sn	Sg	22 24 53.7	-1.0
VOJS	Vojsko	1.91	138	*i* Pn	Pb	22 24 28.2	+0.4
VOJS				*e*Sn	Sg	22 24 53.7	-1.0
KHC	Kasperske Hory	1.95	31	*e*PN	Pb	22 24 27.4	-1.1
KHC				*e*PG	Pg	22 24 30.2	-0.6
KHC				*e*SN	Sb	22 24 52.5	-0.2
KHC				*e*SG	Sg	22 24 56.6	+0.5
	comp=Z,32nm,0.3s						
KHC	Kasperske Hory	1.95	31	Pn	Pb	22 24 27.4	-1.1
MAGA	Magasa	1.96	211	Pg	Pb	22 24 28.9	+0.3
	168nm,0.5s						
MAGA	Magasa	1.96	211	Pg	Pb	22 24 28.9	+0.3
	168nm,0.5s						
OBKA	Obir	1.96	118	*e*Pn	Pg	22 24 29.6	-1.3
OBKA	Obir	1.96	118	Pn	Pg	22 24 29.6	-1.3
	3.3nm,0.3s,SNR=4.5						
OBKA				Sg	Sg	22 24 55.7	-0.7
	11nm,0.3s						
OBKA	Obir	1.96	118	Pn	Pg	22 24 29.6	-1.3
	3.3nm,0.3s,SNR=4.5						
OBKA				Sg	Sg	22 24 55.7	-0.7
	11nm,0.3s						
MOZS	Mozjanca	2.02	125	*i* Pn	Pb	22 24 30.4	+0.8
MOZS	Mozjanca	2.02	125	*i* Pn	Pb	22 24 30.5	+0.8
WILA	Wila	2.13	270	*e*Sg	Sg	22 25 02.1	+0.2
WILA	Wila	2.13	270	Sg	Sg	22 25 02.1	+0.2
SOKA	Soboth	2.19	110	Sn	Sb	22 24 59.6	+0.2
	3.1nm,0.3s						
SOKA	Soboth	2.19	110	Sn	Sb	22 24 59.6	+0.2
	3.1nm,0.3s						
GRA1	Grafenberg Arr	2.29	346	Pn	Pn	22 24 32.6	+2.1
GRF	Grafenberg Arr	2.29	346	*e*Pn	Pn	22 24 32.6	+2.1
GRF				*e*Pg	Pg	22 24 38.3	+1.0
ROTZ	Rotzenmuhle	2.30	3	*e*Pn	Pn	22 24 31.4	+0.7
ARSA	Arzberg	2.37	94	Pg	Pg	22 24 38.1	-0.7
	2.2nm,0.3s						
ARSA				Sn	Sb	22 25 04.9	+0.2
	1.5nm,0.3s						
ARSA				Sg	Sg	22 25 10.6	+1.1
	2.5nm,0.3s						
ARSA	Arzberg	2.37	94	Pg	Pg	22 24 38.1	-0.7
	2.2nm,0.3s						
ARSA				Sn	Sb	22 25 04.9	+0.2
	1.5nm,0.3s						
ARSA				Sg	Sg	22 25 10.6	+1.1
	2.5nm,0.3s						
SLE	Schleitheim	2.42	278	*e*Pn	Pn	22 24 34.7	+2.4
SLE				*e*Sg	Sg	22 25 10.2	-1.1
CONA	Conrad Observa	2.62	78	Pg	Pg	22 24 43.0	-0.4
	0.4nm,0.1s						
CONA				Sn	Sb	22 25 11.4	-0.4
	3.7nm,0.2s						
CONA	Conrad Observa	2.62	78	*e*Pg	Pg	22 24 43.0	-0.4
	0.4nm,0.1s						
CONA				Sn	Sb	22 25 11.4	-0.4
	3.7nm,0.2s						
BFO	Black Forest	2.65	290	*e*Pn	Pn	22 24 37.9	+2.5
BFO				*e*Sg	Sg	22 25 18.6	+0.2
FELD	Feldberg im Sc	2.77	280	S	Sb	22 25 15.1	-1.0
FELD	Feldberg im Sc	2.77	280	P	Pn	22 24 38.7	+1.6
FELD	Feldberg im Sc	2.77	280	S	Sb	22 25 15.2	-1.0
NKC	Novy Kostel	2.78	5	*e*PN	Pn	22 24 37.8	+0.6
NKC				*e*PG	Pg	22 24 45.4	-1.2
NKC				*e*SG	Sg	22 25 22.4	-0.2
	comp=Z,13nm,0.4s						
TREC	Trest	2.93	50	*e*PN	Pn	22 24 41.0	+1.7
TREC				*e*PG	Pg	22 24 48.3	-1.1
TREC				*e*SN	Sn	22 25 16.1	+1.9
TREC				*e*SG	Sg	22 25 25.5	-1.9
	comp=Z,14nm,0.3s						
TREC	Trest	2.93	50	Pn	Pn	22 24 41.0	+1.7
BALST	Balsthal	2.96	269	*e*Pn	Pn	22 24 41.8	+2.0
BALST				*e*Sg	Sg	22 25 27.9	-0.5
BALST	Balsthal	2.96	269	Pn	Pn	22 24 41.8	+2.0
BALST				Sg	Sg	22 25 27.9	-0.5
PRU	Pruhonice	3.01	32	*e*PN	Pn	22 24 42.5	+2.1
PRU				*e*PG	Pg	22 24 49.8	-1.2
PRU				*e*SN	Sn	22 25 17.4	+1.2
PRU				*e*SG	Sg	22 25 29.3	-0.8
	comp=Z,8.6nm,0.2s						
PRU	Pruhonice	3.01	32	Pn	Pn	22 24 42.5	+2.1
GOPC	GO Pecny, Ondr	3.05	36	*e*PN	Pn	22 24 42.5	+1.6
GOPC				*e*PG	Pg	22 24 48.7	-3.0
GOPC	GO Pecny, Ondr	3.05	36	Pn	Pn	22 24 42.5	+1.6
MOX	Moxa	3.19	355	*e*Pn	Pn	22 24 43.9	+1.0
LANF	Langenberg	3.22	300	P	Pn	22 24 45.8	+2.6
LANF				S	Sb	22 25 26.9	-2.1
LANF	Langenberg	3.22	300	P	Pn	22 24 45.9	+2.6
CDF	Champ du Feu	3.35	288	*e*Pn	Pn	22 24 47.0	+1.9
CDF				*e*Sg	Sg	22 25 41.4	+0.7
	6.4nm,0.4s						
MOF	Molkenrain	3.35	278	S	Sb	22 25 31.4	-1.4
MOF	Molkenrain	3.35	278	P	Pn	22 24 46.9	+1.8
MOF	Molkenrain	3.35	278	S	Sb	22 25 31.4	-1.4
ECH	Echery	3.38	285	S	Sb	22 25 31.6	-2.1
ECH	Echery	3.38	285	P	Pn	22 24 47.4	+2.0
ECH	Echery	3.38	285	S	Sb	22 25 31.6	-2.1
PVCC	Panska Ves	3.48	27	*e*SG	Sg	22 25 45.5	+0.4
	comp=Z,17nm,0.2s						
PVCC	Panska Ves	3.48	27	Sg	Sg	22 25 45.5	+0.4
	17nm,0.2s						
NVLJ	Novalja	3.51	145	*e*Pn	Pn	22 24 49.1	+1.9
NVLJ				Sn	Sn	22 25 31.0	+2.6
NVLJ	Novalja	3.51	145	*e*Pn	Pn	22 24 49.0	+1.9
NVLJ				Sn	Sn	22 25 30.9	+2.6
HINF	Hinteralfeld	3.53	278	*e*Pn	Pn	22 24 49.1	+1.5
HINF				*e*Sn	Sn	22 25 28.8	-0.2
	3.7nm,0.2s						
HINF				*e*Sg	Sg	22 25 45.1	-1.6
	9.4nm,0.5s						
HINF	Hinteralfeld	3.53	278	*e*Pn	Pn	22 24 49.1	+1.5
HINF				*e*Sn	Sn	22 25 28.8	-0.2
	1.9nm,0.2s						
HINF				*e*Sg	Sg	22 25 45.1	-1.6
	4.7nm,0.5s						
MODS	Modra-Piesok	3.63	74	*e*Sg	Sg	22 25 49.3	-0.6
MODS	Modra-Piesok	3.63	74	*e*SG	Sg	22 25 49.2	-0.6
HAU	Haudompre	3.89	280	*e*Pn	Pn	22 24 54.1	+1.7
HAU				*e*Sn	Sn	22 25 37.9	+0.2
HAU				*e*Sg	Sg	22 25 57.2	-0.8
	14nm,0.4s						
HAU	Haudompre	3.89	280	*e*Pn	Pn	22 24 54.1	+1.7
HAU				*e*Sn	Sn	22 25 37.9	+0.2
HAU				*e*Sg	Sg	22 25 57.2	-0.8
	7.0nm,0.4s						
CLL	Collm	3.90	9	*i* Pn	Pn	22 24 53.7	+1.2
CLL				*e*Pg	Pg	22 25 08.0	+0.1
CLL				*e*Sg	Sg	22 25 59.0	+0.7
	comp=Z,9.0nm,1.0s						
UDBI	Udbina	3.92	137	*e*Pn	Pn	22 24 53.6	+0.7
UDBI				Sn	Sn	22 25 38.5	-0.1
UDBI	Udbina	3.92	137	*e*Pn	Pn	22 24 53.6	+0.7
UDBI				Sn	Sn	22 25 38.4	-0.1
UPC	Upice	4.01	39	*e*SG	Sg	22 25 58.5	-3.4
	comp=Z,8.8nm,0.4s						
UPC	Upice	4.01	39	Sg	Sg	22 25 58.5	-3.4
	comp=Z,8.8nm,0.4s						
DPC	Dobruska-Polom	4.03	43	*e*PN	Pn	22 24 55.5	+1.0
DPC				*e*SN	Sn	22 25 41.6	+0.2
DPC				*e*SG	Sg	22 25 59.9	-2.8
	comp=Z,6.9nm,0.5s						
DPC	Dobruska-Polom	4.03	43	Pn	Pn	22 24 55.5	+1.0
DPC				Sn	Sn	22 25 41.6	+0.2
DPC				Sg	Sg	22 25 59.9	-2.8
	comp=Z,6.9nm,0.5s						
THEF	They Montfort	4.15	283	P	Pn	22 24 57.7	+1.7
LPG	La Plagne	4.16	244	*e*P	Pn	22 24 59.6	+3.2
LPG				*e*Sn	Sn	22 25 43.8	-1.0
	comp=Z,5.7nm,0.6s						
LPG	La Plagne	4.16	244	*e*P	Pn	22 24 59.6	+3.2
LPG				*e*Sn	Sn	22 25 43.8	-1.0
	comp=Z,2.8nm,0.6s						
LPL	La Plagne	4.16	244	*e*P	Pn	22 24 59.1	+2.7
LPL				*e*Sn	Sn	22 25 43.2	-1.6
	comp=Z,2.1nm,0.5s						
LPL	La Plagne	4.16	244	*e*P	Pn	22 24 59.1	+2.7
LPL				*e*Sn	Sn	22 25 43.2	-1.6
	comp=Z,1.0nm,0.5s						
CABF	La Chapelle	4.17	260	*e*Pn	Pn	22 24 57.7	+1.4
CABF				*e*Sn	Sn	22 25 42.6	-2.2
	comp=Z,2.2nm,0.3s						
CABF				*e*Sg	Sg	22 26 07.3	+0.3
	comp=Z,2.5nm,0.3s						
CABF	La Chapelle	4.17	260	*e*Pn	Pn	22 24 57.7	+1.4
CABF				*e*Sn	Sn	22 25 42.6	-2.2
	comp=Z,1.1nm,0.3s						
CABF				*e*Sg	Sg	22 26 07.3	+0.3
	comp=Z,1.2nm,0.3s						
PAGF	Fort de Pagny	4.38	287	*e*Pn	Pn	22 25 00.8	+1.6
	baz=106						
PAGF				*e*Sg	Sg	22 26 12.7	-1.2
	comp=Z,1.1nm,0.3s,baz=109						
PAGF	Fort de Pagny	4.38	287	*e*Pn	Pn	22 25 00.8	+1.6
PAGF				*e*Sg	Sg	22 26 12.7	-1.2
	comp=Z,0.6nm,0.3s						
MBDF	Montbardon	4.58	235	*e*P	Pn	22 25 05.9	+3.8
MBDF	Montbardon	4.58	235	*e*P	Pn	22 25 05.9	+3.8
ORIF	Oris-en-Rattie	4.99	242	*e*Pn	Pn	22 25 07.5	-0.1
ORIF	Oris-en-Rattie	4.99	242	*e*P	Pn	22 25 11.9	+4.3
ORIF	Oris-en-Rattie	4.99	242	*e*Pn	Pn	22 25 07.5	-0.1
ORIF	Oris-en-Rattie	4.99	242	*e*P	Pn	22 25 11.9	+4.3
SMF	Signal de Mont	5.67	265	*e*Pn	Pn	22 25 17.1	+0.2
SMF	Signal de Mont	5.67	265	*e*Pn	Pn	22 25 17.1	+0.2
VIVF	Saint-Julien-l	5.75	246	*e*Pn	Pn	22 25 19.1	+1.0
VIVF				*e*Sn	Sn	22 26 20.6	-3.1
	comp=Z,1.4nm,0.4s						
VIVF	Saint-Julien-l	5.75	246	*e*Pn	Pn	22 25 19.1	+1.0
AVF	Avril sur Loir	5.97	267	*e*Pn	Pn	22 25 22.4	+1.3
AVF	Avril sur Loir	5.97	267	*e*Pn	Pn	22 25 22.4	+1.3
BGF	Bois d'Agland	6.36	265	*e*Pn	Pn	22 25 27.7	+1.3
BGF				*e*Sn	Sn	22 26 36.4	-2.3
	comp=Z,2.3nm,0.3s						
BGF	Bois d'Agland	6.36	265	*e*Pn	Pn	22 25 27.7	+1.3
TCF	Toulx Ste Croi	6.85	264	*e*Pn	Pn	22 25 34.1	+1.0
TCF				*e*Sn	Sn	22 26 48.6	-2.1
	comp=Z,1.1nm,0.3s						
TCF	Toulx Ste Croi	6.85	264	*e*Pn	Pn	22 25 34.1	+1.0
CAF	Calviac	7.38	254	*e*Pn	Pn	22 25 41.4	+1.0
CAF				*e*Sn	Sn	22 26 58.7	-5.1
	comp=Z,0.6nm,0.2s						
CAF	Calviac	7.38	254	*e*Pn	Pn	22 25 41.4	+1.0
MFF	Saint Martin d	8.38	269	*e*Pn	Pn	22 25 54.4	+0.3
MFF	Saint Martin d	8.38	269	*e*Pn	Pn	22 25 54.4	+0.3

*NIED **06** 22:33:00, 47°.20N×154°.30E, h32km, Mw4.3 Best double couple: Mo3.23000×10^{15} NP1:φs219.00000°, δ71.00000°, λ-176.00000°. NP2:φs128.00000°, δ86.00000°, λ-19.00000°.*

*IDC **06** 22:33:12.7±0.6, 47°.19N×154°.36E, h0km, mb4.7/35, mb1 4.8/40, mb1mx4.6/81, mbtmp4.7/40, ML4.2/4, MS3.5/26, Ms1 3.5/26, ms1mx3.3/66, Error ellipse: s-maj=16.5km s-min=11.9km az=153.0*

*ISCJB **06** 22:33:14.6±0.9, 47°.18N±0°.04×154°.25E±0°.06, h19km±6km, mb4.9/125, MS3.7/31, Error ellipse: s-maj=8.6km s-min=3.3km az=137.4*

*BJI **06** 22:33:15.7, 47°.36N×154°.51E, h37km, mb4.8/50, mB5.0/39, Ms4.3/16, Ms7 4.0/14*

*JMA **06** 22:33:17.5±0.8, 47°.20N×154°.26E, h30km, M5.2*

*MOS **06** 22:33:17.3±1.1, 47°.26N×154°.08E, h33km, mb5.1/66, Error ellipse: s-maj=6.8km s-min=4.2km az=100.6*

*NEIC **06** 22:33:18.1±0.7, 47°.11N×154°.32E, h37km±5km, mb4.9/25, Error ellipse: s-maj=8.7km s-min=4.3km az=146.0*

*SKHL **06** 22:33:18.3±0.1, 47°.14N×154°.38E, h56km±2km, mb4.9/9*

ISC 06 22:33:16.1±0.7**, 47°.01N**±0°.06**×154°.43E**±0°.05**, h29**km±4km**, n443, σ1°.66**/477**, mb5.0**/152**, MS3.8**/31**, 34C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.84	16	*e*P	Pn	22 34 13.8	+0.6
SKR				AMB	AMB	22 34 15.9	
	95nm,0.5s						
SKR				*e*S	Sn	22 34 55.5	-1.8
SKR				A	A	22 34 57.5	
	832nm,0.5s						
SKR				A	A	22 34 57.5	
	759nm,0.5s						
SKR	Severo-Kuril's	3.84	16	*e*PN	Pn	22 34 13.8	+0.6
SKR				*e*S	Sn	22 34 55.5	-1.8
SKR				pmax	pmax		
	comp=Z,95nm,0.5s						
SKR				smax	smax		
	comp=N,832nm,0.5s						
SKR				smax	smax		
	comp=E,760nm,0.5s						
PAU	Pauzhetka	4.72	18	*e*P	Pn	22 34 26.0	+0.7
PAU				*e*S	Sn	22 35 16.7	-2.4
PAU				A	A	22 35 19.9	
	comp=E,500nm,0.3s						
KUR	Kuril'sk	4.90	251	*i* P	Pn	22 34 30.9	+3.2
KUR				AMB	AMB	22 34 32.0	
	comp=E,252nm,0.4s						
KUR				AMB	AMB	22 34 32.0	
	comp=E,74nm,0.4s						
KUR				AMB	AMB	22 34 32.0	
	comp=E,101nm,0.4s						
KUR				*i* S	Sn	22 35 23.8	+0.4
KUR				A	A	22 35 30.0	
	comp=E,242nm,0.4s						
KUR				A	A	22 35 30.0	
	comp=E,551nm,0.4s						
KUR	Kuril'sk	4.90	251	*d i*PN	Pn	22 34 31.5	+3.8
KUR				*i* S	Sn	22 35 24.8	+1.4
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=N,252nm,0.3s						
KUR				pmax	pmax		
	comp=E,74nm,0.3s						
KUR				smax	smax		
	comp=E,551nm,0.4s						
KUR				smax	smax		
	comp=N,242nm,0.5s						
SHO	Shikotan	6.20	242	*i* P	Pn	22 34 45.7	+0.1
SHO				AMB	AMB	22 34 48.2	
	comp=N,36nm,0.3s						
SHO				*e*S	Sn	22 35 50.7	-4.8
SHO				A	A	22 35 56.2	
	comp=N,633nm,0.5s						
SHO				A	A	22 35 56.2	
	comp=N,218nm,0.5s						
SHO	Shikotan	6.20	242	*c i*PN	Pn	22 34 45.7	+0.1
SHO				pmax	pmax		
	comp=Z,361nm,0.3s						
SHO				pmax	pmax		
	comp=E,184nm,0.4s						
SHO				pmax	pmax		
	comp=N,133nm,0.5s						
PEA0B	Petropavlovsk-	6.45	18	*e*Pn	Pn	22 34 51.0	+1.9
PETK	Petropavlovsk-	6.45	18	Pn	Pn	22 34 50.1	+1.0
	comp=N,3.1nm,0.3s,baz=178,slow=12,SNR=38						
PETK				LR	LR	22 37 33.8	
	comp=N,320nm,18.8s,baz=195,slow=41						
PET	Petropavlovsk	6.60	23	*e*P	Pn	22 34 51.4	+0.3
PET				AMB	AMB	22 34 51.7	
	comp=N,15nm,0.4s						
PET				*e*S	Sn	22 36 02.4	-3.0
PET				A	A	22 36 07.2	
	comp=N,142nm,0.4s						
PET	Petropavlovsk	6.60	23	*e*Pn	Pn	22 34 51.3	+0.1
	comp=N,19nm,0.4s						
PET				*e*Sn	Sn	22 36 03.1	-2.3
PET	Petropavlovsk	6.60	23	*e*PN	Pn	22 34 51.4	+0.3
PET				pmax	pmax		
	comp=Z,15nm,0.4s						
YUK	Yuzh-Kuril'sk	6.71	247	*e*P	Pn	22 34 55.5	+2.8
YUK				AMB	AMB	22 35 05.9	
	comp=Z,237nm,0.4s						
YUK				AMB	AMB	22 35 05.9	
	comp=Z,276nm,0.4s						
YUK				AMB	AMB	22 35 05.9	
	comp=Z,346nm,0.4s						
YUK				*e*S	Sn	22 36 07.8	-0.3
YUK				A	A	22 36 11.8	
	comp=Z,270nm,0.4s						
YUK				A	A	22 36 11.8	
	comp=Z,710nm,0.4s						
YUK	Yuzh-Kuril'sk	6.71	247	*c i*PN	Pn	22 34 55.5	+2.8
YUK				pmax	pmax		
	comp=E,276nm,0.4s						
YUK				pmax	pmax		
	comp=Z,346nm,0.4s						
YUK				pmax	pmax		
	comp=N,237nm,0.3s						
LAGR	Lagunnoye	6.75	247	*e*P	Pn	22 34 55.8	+2.6
LAGR	Lagunnoye	6.75	247	*e*PN	Pn	22 34 55.8	+2.6
GRPR	Tuman	6.79	247	*e*P	Pn	22 34 56.2	+2.5
GRPR	Tuman	6.79	247	*e*PN	Pn	22 34 56.2	+2.5
NEM2	Nemuro 2	7.14	242	P	Pn	22 34 58.8	+0.3
NEM2				*e*S	Sn	22 36 13.1	-5.5
JRA	Rausu	7.23	248	P	Pn	22 35 02.4	+2.7
JNK	Nakash	7.66	247	P	Pn	22 35 07.6	+2.0
JNK				*e*S	Sn	22 36 29.1	-2.2
JAK	Akkeshi	7.98	243	P	Pn	22 35 10.3	+0.3
JAK				*e*S	Sn	22 36 33.5	-5.8
YSS	Yuzh-Sakhalins	7.99	274	*e*P	Pn	22 35 15.9	+5.8
YSS				AMB	AMB	22 35 16.5	
	comp=N,50nm,0.9s						
YSS	Yuzh-Sakhalins	7.99	274	*e*Pn	Pn	22 35 12.5	+2.4
	comp=N,43nm,0.6s						
YSS				*e*Sn	Sn	22 36 42.2	+2.8
YSS	Yuzh-Sakhalins	7.99	274	⇑ *e*PN	Pn	22 35 15.9	+5.8
YSS				*e*S	Sn	22 36 43.9	+4.5
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
JTKR	Abashiri--Toko	7.99	251	P	Pn	22 35 13.2	+3.0
JMP	Maruseppu	8.34	253	P	Pn	22 35 18.0	+3.0
JAR	Ashorobuto	8.40	248	P	Pn	22 35 17.9	+2.1
JAR				*e*S	Sn	22 36 48.4	-1.2
JSE	Soyaes	8.50	260	P	Pn	22 35 22.3	+5.1
JOB	Onbets	8.56	245	P	Pn	22 35 19.1	+1.1
JOB				*e*S	Sn	22 36 49.1	-4.5
TYV	Tymovskoe	8.65	301	*e*P	Pn	22 35 24.0	+4.7
TYV				AMB	AMB	22 35 25.3	
	comp=Z,31nm,0.8s						
JKA	Kamikawa-asahi	8.79	255	*e*P	Pn	22 35 22.9	+1.7
ASAJ	Asahikawa	8.79	255	Pn	Pn	22 35 22.9	+1.7
	comp=Z,5.9nm,0.3s,baz=85,slow=14,SNR=32						
ASAJ	Asahikawa	8.79	255	P	Pn	22 35 25.0	+3.8
ASAJ	Asahikawa	8.79	255	*e*Pn	Pn	22 35 23.3	+2.1
JKK2	Kamakawa 2	8.79	253	P	Pn	22 35 24.6	+3.4
JCH	Churui	9.01	245	P	Pn	22 35 25.0	+0.8
JCH				*e*S	Sn	22 36 59.7	-4.9
JFR	Furan	9.21	250	P	Pn	22 35 29.6	+2.6
JAB	Ashibetsu	9.29	252	P	Pn	22 35 31.5	+3.4
ERM	Erimo	9.47	242	*e*Pn	Pn	22 35 31.9	+1.4
ERM				*e*Sn	Sn	22 37 08.9	-7.0
ERM	Erimo	9.47	242	⇓ *e*PN	Pn	22 35 31.6	+1.1
ERM				pmax	pmax		
	comp=Z,24nm,0.5s						
JBT2	Biratori 2	9.55	248	P	Pn	22 35 33.0	+1.4
JBT2				*e*S	Sn	22 37 13.8	-4.1
JNBK	Urakawa-nobuka	9.57	245	*e*S	Sn	22 37 09.4	-9.0
JEW	Eniwo	10.10	250	P	Pn	22 35 41.7	+2.5
JNB	Noboribetsu	10.55	249	P	Pn	22 35 45.8	+0.5
JNB				*e*S	Sn	22 37 38.5	-3.9
NKL	Nikolayevsk	10.75	310	*e*P	Pn	22 35 50.0	+2.1
NKL				AMB	AMB	22 35 55.0	
	comp=Z,29nm,0.9s						
NKL	Nikolayevsk	10.75	310	*e*PN	Pn	22 35 51.8	+3.9
NKL				*e*		22 37 48.8	
NKL				pmax	pmax		
	comp=Z,29nm,0.9s						
NKL				MLR	MLR		
	comp=E,450nm,16.0s						
NKL				MLR	MLR		
	comp=Z,400nm,16.0s						
JKB	Kayabe	10.86	247	P	Pn	22 35 48.2	-1.3
JKB				*e*S	Sn	22 37 41.5	-8.4
JSH	Shimam	11.11	252	P	Pn	22 35 54.4	+1.5
JYM2	Yakumo 2	11.16	249	P	Pn	22 35 54.2	+0.6
JANG	Nango	11.46	239	P	Pn	22 35 55.3	-2.4
JANG				*e*S	Sn	22 37 52.3	-12
JTM	Tenmabayashi	11.47	242	P	Pn	22 35 56.4	-1.4
JTM				*e*S	Sn	22 37 54.3	-11
JOSM	Okushiri--Mats	11.75	251	P	Pn	22 36 02.2	+0.5
OFUJ	Ofunato	12.23	234	P	Pn	22 36 06.3	-2.0
GRNR	Gornyy	12.43	294	*e*P	Pn	22 36 14.0	+3.1
JRG	Rokugo	12.61	238	P	Pn	22 36 11.9	-1.5
MA2	Magadan	12.77	352	Pn	Pn	22 36 15.2	-0.3
	comp=Z,1.4nm,0.3s,baz=144,slow=13,SNR=4.8						
MA2				LR	LR	22 41 43.4	
	comp=Z,180nm,18.5s,baz=166,slow=41						
MA2	Magadan	12.77	352	*e*P	Pn	22 36 15.8	+0.2
MA2	Magadan	12.77	352	⇓ *i*PN	Pn	22 36 15.8	+0.2
JIO	Ouri	12.86	233	P	Pn	22 36 15.0	-1.8
SMY	Shemya	13.90	58	*e*Pn	Pn	22 36 30.0	-0.9
SMY	Shemya	13.90	58	*e*P	Pn	22 36 30.0	-0.9
EKMR	Ekimchan	15.04	302	*e*P	Pn	22 36 45.0	-1.5
EKMR				AMB	AMB	22 36 55.0	
	comp=Z,20nm,0.7s						
KLR	Kul'dur	15.30	287	Pn	Pn	22 36 50.3	+0.4
	comp=Z,0.0nm,0.3s,baz=95,slow=14,SNR=2.8						
KLR				LR	LR	22 43 01.5	
	comp=Z,23nm,18.8s,baz=93,slow=39						
KLR	Kul'dur	15.30	287	⇑ *i*P	P	22 36 52.5	-1.9
USRK	Ussuriysk Ar.	15.95	268	Pn	Pn	22 36 58.6	+0.3
	comp=Z,1.7nm,0.3s,baz=74,slow=14,SNR=25						
USRK				LR	LR	22 43 02.9	
	comp=Z,162nm,18.6s,baz=62,slow=37						
MJAR	Matsushiro Arr	15.96	235	Pn	Pn	22 36 58.0	-0.6
	comp=Z,1.2nm,0.3s,baz=26,slow=13,SNR=23						
MJB9	Matsu-Tunnel	15.96	235	*e*Pn	Pn	22 36 57.3	-1.2
	comp=Z,20nm,0.8s						
MAJO	Matsushiro	15.96	235	*e*Pn	Pn	22 36 57.4	-1.1
	comp=Z,139nm,1.9s						
MAJO	Matsushiro	15.96	235	⇓ *i*P	Pn	22 36 57.9	-0.7
MAJO				pmax	pmax		
	comp=Z,101nm,3.6s						
MAT	Matsushiro	15.96	235	P	Pn	22 36 57.4	-1.2
SEY	Seymchan	16.00	357	Pn	Pn	22 36 57.7	-1.1
	comp=Z,0.6nm,0.3s,baz=156,slow=8.1,SNR=14						
SEY	Seymchan	16.00	357	*c e*P	P	22 37 00.2	-1.8
MDJ	Mudanjiang	17.46	271	P	P	22 37 18.9	+0.5
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,540nm,4.4s						
JHJ	Hachijo jima 2	17.80	224	LR	LR	22 48 12.5	
	comp=Z,14nm,18.9s,baz=13,slow=50						
BMKR	Bomnak	17.82	305	*e*P	Pn	22 37 19.0	-2.7
BMKR				AMB	AMB	22 37 24.8	
	comp=Z,50nm,0.6s						
ZEA	Zeya	18.52	301	*e*P	Pn	22 37 31.5	+1.2

ZEA AMB AMB 22 37 33.0
comp=Z,26nm,0.8s
ZEA AMB AMB 22 37 33.0
comp=Z,21nm,0.8s
ZEA AMB AMB 22 37 33.0
comp=Z,28nm,0.8s
ZEA Zeya 18.52 301 *e*P **P 22 37 29.1 -0.9**
ZEA pmax pmax
comp=N,26nm,0.8s
ZEA pmax pmax
comp=E,21nm,0.8s
ZEA pmax pmax
comp=Z,28nm,0.8s
KROS Kirovskiy 18.82 303 *e*P **P 22 37 33.0 -0.2**
KROS AMB AMB 22 37 37.1
comp=Z,9.0nm,0.5s
KROS AMB AMB 22 37 37.1
comp=Z,18nm,0.5s
KROS AMB AMB 22 37 37.1
comp=Z,12nm,0.5s
YAK Yakutsk 20.60 326 P **P 22 37 52.9 +0.3**
comp=Z,28nm,0.5s,baz=198,slow=3.7,SNR=5.7
YAK Yakutsk 20.60 326 *e*P **P 22 37 52.6 0.0**
comp=Z,27nm,0.6s
YAK Yakutsk 20.60 326 *e*P **P 22 37 50.7 -1.8**
YAK *e**PP **pP 22 38 00.4 +0.1**
YAK *e* 22 38 09.2
YAK *e*S **S 22 41 35.1 -6.0**
YAK *e*SS **SnSn 22 41 59.1 -1.7**
YAK *e*SSS SSS 22 42 13.7
YAK pmax pmax
comp=Z,14nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,24nm,1.2s
YAK pmax pmax
comp=N,18nm,1.5s
YAK pmax pmax
comp=E,12nm,1.1s
YAK smax smax
comp=N,91nm,3.0s
YAK smax smax
comp=E,92nm,2.8s
KSRS Korea Array 21.74 254 P **P 22 38 07.5 +2.5**
comp=E,6.9nm,0.8s,baz=53,slow=9.3,SNR=16
KSRS LR LR 22 45 20.9
comp=E,70nm,21.1s,baz=62,slow=33
KS01 Wonju Array Si 21.74 254 *e*P **P 22 38 07.7 +2.7**
KSAR Wonju Array Be 21.77 254 P **P 22 38 07.5 +2.2**
KSAR Wonju Array Be 21.77 254 P **P 22 38 07.5 +2.2**
BILL Bilibino 21.94 12 *e*P **P 22 38 07.1 +0.2**
BILL Bilibino 21.94 12*c i*P **P 22 38 07.1 +0.2**
BILL *i* 22 42 11.2
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,101nm,18.0s
JNU Nakatsue 22.63 241 LR LR 22 47 44.4
comp=Z,48nm,20.1s,baz=121,slow=38
DL2 Dalian 25.19 263 P **P 22 38 41.0 +2.0**
DL2 pmax pmax
comp=Z,31nm,0.9s
BOD Bodaibo 26.52 309 *e*P **P 22 38 48.9 -2.0**
BOD pmax pmax
comp=Z,18nm,1.4s
TIK Tiksi 27.46 343 *e*P **P 22 38 58.0 -1.2**
TIXI Tiksi 27.48 343 P **P 22 38 58.2 -1.2**
comp=Z,6.0nm,0.3s,baz=146,slow=8.1,SNR=23
TIXI LR LR 22 50 43.1
comp=Z,76nm,18.7s,baz=164,slow=38
TIXI Tiksi 27.48 343 *e*P **P 22 38 58.1 -1.2**
comp=Z,73nm,1.8s
TIXI Tiksi 27.48 343*d i*P **P 22 38 58.0 -1.3**
TIXI pmax pmax
comp=Z,29nm,1.3s
BJT Baijiatuau 28.40 270 *e*P **P 22 39 09.7 +1.8**
comp=Z,11nm,0.8s
BJT Baijiatuau 28.40 270 *e*P **P 22 39 09.7 +1.8**
BJT pmax pmax
comp=Z,11nm,0.8s
NJ2 Nanjing 30.94 254 *e*P **P 22 39 33.9 +3.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
HHC Hu-ho-hao-te 31.17 274 *e*P **P 22 39 33.7 +1.1**
HHC S **S 22 44 40.0 +3.3**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,67nm,4.8s
HHC LR LR
comp=Z,120nm,13.6s
HHC LR LR
comp=Z,350nm,14.7s
HHC LR LR
comp=Z,140nm,13.5s
ULN Ulaanbaatar 31.66 289 *e*P **P 22 39 35.5 -1.4**
ULN Ulaanbaatar 31.66 289 *e*P **P 22 39 35.9 -1.0**
comp=Z,5.1nm,0.9s
ULN Ulaanbaatar 31.66 289⇓ *i*P **P 22 39 35.5 -1.4**
ULN pmax pmax
comp=Z,3.0nm,0.6s
SONA1 Songino Array 32.09 289 *e*P **P 22 39 40.0 -0.6**
SONM Songino Array 32.10 289 P **P 22 39 40.1 -0.6**
comp=Z,3.3nm,0.7s,baz=62,slow=8.8,SNR=28
SONM LR LR 22 53 36.4
comp=Z,127nm,18.9s,baz=59,slow=38
TLY Talaya 32.86 297 *e*P **P 22 39 46.3 -0.9**
TLY Talaya 32.86 297 *e*P **P 22 39 46.6 -0.5**
comp=Z,8.7nm,0.7s
TLY Talaya 32.86 297 *e*P **P 22 39 46.3 -0.9**
TLY pmax pmax
comp=Z,10.0nm,0.8s
TLY MLR MLR
comp=Z,150nm,20.0s
ZAK Zakamensk 33.38 295 *e*P **P 22 39 50.3 -1.5**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
SUA Susitna One 34.01 45 *e*P **P 22 39 59.9 +2.7**
comp=Z,47nm,2.0s
TOLK Toolik Lake Re 35.05 32 *e*P **P 22 40 08.0 +2.0**
comp=Z,7.2nm,0.6s
SML Sawmill 35.16 44 *e*P **P 22 40 08.2 +1.2**
SML Sawmill 35.16 44 *e*P **P 22 40 08.2 +1.2**
comp=Z,23nm,1.2s
SML Sawmill 35.16 44 *e*P **P 22 40 08.2 +1.2**
SML pmax pmax
comp=Z,23nm,1.2s
HDA Harding Lake 35.75 39 *e*P **P 22 40 12.4 +0.4**
comp=Z,72nm,1.4s
ILAR Eielson Array 35.78 39 P **P 22 40 13.2 +1.0**
comp=Z,0.7nm,0.8s,baz=250,slow=8.0,SNR=8.8
ILB Eielson Array 35.78 39 *e*P **P 22 40 13.3 +1.1**
XAN Xi'an 36.44 266 P **P 22 40 19.2 +0.9**
XAN pP sP 22 40 28.0 -2.2
XAN pmax pmax
comp=Z,15nm,1.1s
XAN pmax pmax
comp=Z,130nm,4.8s
FYU Fort Yukon 36.51 36 *e*P **P 22 40 21.6 +3.2**
comp=Z,10.0nm,0.9s
LZH Lanzhou 38.78 272 *e*P **P 22 40 38.6 +0.4**
LZH pP sP 22 40 48.4 -1.8
LZH sP pP 22 40 52.3 +5.6
LZH pmax pmax
comp=Z,56nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.5s
LZH LR LR
comp=Z,140nm,14.3s
LZH LR LR
comp=Z,170nm,13.7s
LZH LR LR
comp=Z,190nm,18.2s
HVS Khovu-Aksy 39.01 299 *e*P **P 22 40 40.2 +0.4**
HVS Khovu-Aksy 39.01 299 *i*P **P 22 40 40.2 +0.4**
GTA Gaotai 39.82 279 *e*P **P 22 40 47.3 +0.5**
GTA pP pP 22 40 56.3 +1.0
GTA sP sP 22 41 00.5 +1.7
GTA PcP **PcP 22 42 52.7 +0.3**
GTA S **S 22 46 46.6 -2.8**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,5.3s
GTA LR LR
comp=Z,62nm,15.7s
GTA LR LR
comp=Z,85nm,15.2s
GTA LR LR
comp=Z,98nm,14.7s
INK Inuvik 40.94 33 P **P 22 40 55.8 +0.2**
comp=Z,2.0nm,0.5s,baz=276,slow=6.8,SNR=10.0
INK Inuvik 40.94 33 *e*P **P 22 40 57.1 +1.5**
INK Inuvik 40.94 33 *e*P **P 22 40 57.1 +1.5**
comp=Z,5.7nm,0.9s
INK Inuvik 40.94 33 *e*P **P 22 40 57.1 +1.5**
INK pmax pmax
comp=Z,6.0nm,0.9s
CD2 Chengdu 41.80 266 *e*P **P 22 41 03.0 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
GYA Guiyang 42.65 258 P **P 22 41 10.9 +0.7**
GYA pP sP 22 41 23.2 +1.0
GYA PP **PP 22 42 54.6 +5.3**
GYA ScP **ScP 22 46 51.2 +0.7**
GYA S **S 22 47 32.8 +1.2**
GYA sS sS 22 47 51.0 +5.3
GYA SS **SS 22 50 35.6 -6.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=Z,510nm,17.9s
GYA LR LR
comp=Z,480nm,18.0s
GYA LR LR
comp=Z,460nm,18.2s
ZAA0 Zalesovo Array 43.19 306 *e*P **P 22 41 12.4 -1.6**
ZALV Zalesovo Beam 43.19 306 P **P 22 41 13.2 -0.9**
comp=Z,8.1nm,0.5s,baz=64,slow=6.7,SNR=54
ZALV PcP **PcP 22 43 01.5 -1.5**
comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=4.4
ZALV LR LR 22 59 55.7
comp=Z,97nm,19.4s,baz=70,slow=37
NVS Novosibirsk 43.74 308 *e*P **P 22 41 17.7 -0.8**
NVS Novosibirsk 43.74 308 *e*P **P 22 41 17.7 -0.8**
NVS pmax pmax
comp=E,6.0nm,0.5s
NVS pmax pmax
comp=Z,9.0nm,0.5s
WMQ Urumqi 45.67 292 P **P 22 41 36.2 +2.1**
WMQ pP sP 22 41 46.3 +0.1
WMQ sP pP 22 41 52.7 +10
WMQ pmax pmax
comp=Z,27nm,0.7s
WMQ pmax pmax
comp=Z,220nm,4.1s
WMQ LR LR
comp=Z,170nm,21.7s
WMQ LR LR
comp=Z,120nm,24.1s
WMQ LR LR
comp=Z,150nm,19.3s
KMI Kunming 46.18 260 P **P 22 41 40.6 +2.1**
KMI pmax pmax
comp=Z,8.0nm,0.8s
KMI pmax pmax
comp=Z,160nm,6.4s
MK31 Makanchi Array 47.62 298 *e*P **P 22 41 48.5 -0.8**
MK31 Makanchi Array 47.62 298 *i*P **P 22 41 48.1 -1.2**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 47.62 298 P **P 22 41 48.8 -0.5**
comp=Z,2.2nm,0.5s,baz=68,slow=7.7,SNR=50
MKAR PcP **PcP 22 43 17.6 -1.0**
comp=Z,1.6nm,0.7s,baz=62,slow=3.3,SNR=5.5
MKAR LR LR 23 03 37.0
comp=Z,56nm,18.5s,baz=73,slow=38
MKAR Makanchi Array 47.62 298 P **P 22 41 48.8 -0.5**
comp=Z,37nm,0.5s
MKAR PcP **PcP 22 43 17.6 -1.0**
MK01 Makanchi Array 47.62 298 *e*P **P 22 41 48.1 -1.2**
MAKZ Makanchi 47.80 298 *e*P **P 22 41 50.2 -0.5**
comp=Z,8.1nm,1.4s
MAKZ Makanchi 47.80 298 *e*P **P 22 41 50.2 -0.5**
MAKZ pmax pmax
comp=Z,8.0nm,1.4s
KURK Kurchatov 47.97 304 *e*P **P 22 41 51.2 -0.7**
KURK Kurchatov 47.97 304 *e*P **P 22 41 50.7 -1.2**
comp=Z,22nm,0.8s
KURK Kurchatov 47.97 304*c i*P **P 22 41 51.2 -0.7**
KURK pmax pmax
comp=Z,25nm,0.8s
YKA Yellowknife Ar 50.17 37 P **P 22 42 09.8 +1.2**
comp=Z,0.5nm,0.6s,baz=295,slow=7.1,SNR=5.3
YKA PcP **PcP 22 43 27.3 -0.1**
comp=Z,1.4nm,0.6s,baz=298,slow=3.6,SNR=10
RES Resolute Bay 50.30 19 P **P 22 42 10.2 +0.9**
comp=Z,7.4nm,0.6s,baz=278,slow=7.5,SNR=16
RES Resolute Bay 50.30 19 P **P 22 42 10.2 +0.9**
RES pmax pmax
comp=Z,4.0nm,0.5s
PDGK Podgornoye 51.07 295 *i*P **P 22 42 16.8 +1.0**
PDGK pmax pmax
comp=Z,4.0nm,0.7s
LSA Lhasa 51.16 274 P **P 22 42 19.5 +2.5**
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 51.16 274 *e*P **P 22 42 19.1 +2.1**
comp=Z,14nm,0.6s
LSA Lhasa 51.16 274 *e*P **P 22 42 19.1 +2.1**
LSA pmax pmax
comp=Z,14nm,0.6s
BVAR Borovoye Array 51.39 310 P **P 22 42 17.5 -0.4**
comp=Z,8.1nm,0.3s,baz=59,slow=7.5,SNR=89
BVAR LR LR 23 05 38.3
comp=Z,88nm,19.6s,baz=59,slow=38
BRVK Borovoye 51.43 310 *e*P **P 22 42 17.7 -0.5**
BRVK Borovoye 51.43 310 *e*P **P 22 42 17.6 -0.6**
comp=Z,14nm,0.7s
BRVK Borovoye 51.43 310*d i*P **P 22 42 17.7 -0.5**
BRVK pmax pmax
comp=Z,31nm,0.6s
PRZ Przheval'sk 52.20 295 P **P 22 42 25.9 +1.6**
PRZ pmax pmax
comp=Z,6.0nm,0.6s
CMAI Chiengmai2 52.20 258 P **P 22 42 26.9 +2.3**
comp=Z,919nm,1.2s
SPA0 Spitsbergen Ar 52.51 350 *e*P **P 22 42 22.7 -3.2**
SPA0 IAmb IAmb 22 42 24.2
comp=Z,19nm,1.2s
SPITS Spitsbergen Ar 52.51 350 P **P 22 42 25.7 -0.3**
comp=Z,3.7nm,0.5s,baz=38,slow=7.7,SNR=21
SPITS LR LR 23 06 25.5
comp=Z,28nm,18.4s,baz=5.0,slow=38
OTUK Ortayu 52.75 304 P **P 22 42 27.8 -0.3**
CMMT Chiang Mai 53.05 258 P **P 22 42 31.8 +1.1**
comp=Z,10nm,0.9s
CHTO Chiang Mai 53.06 258 P **P 22 42 32.9 +2.2**
comp=Z,45nm,0.9s
CHTO Chiang Mai 53.06 258 *e*P **P 22 42 32.3 +1.6**
comp=Z,8.1nm,0.9s
CHTO Chiang Mai 53.06 258 *e*P **P 22 42 32.3 +1.6**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
KDJ Kajisay 53.15 295 P **P 22 42 31.5 +0.1**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
PHIT Phitsanulok 53.23 255 P **P 22 42 34.6 +2.6**
comp=Z,8.5nm,0.9s
CMAR Chiang Mai Arr 53.31 257 P **P 22 42 34.2 +1.7**
comp=Z,1.5nm,0.4s,baz=32,slow=7.7,SNR=19
CMAR LR LR 23 05 16.1
comp=Z,25nm,20.8s,baz=68,slow=36
CM01 Chiang Mai Arr 53.33 257 *e*P **P 22 42 34.6 +2.0**
TULEG Thule 53.69 11 *e*P **P 22 42 33.8 -0.8**
comp=Z,15nm,1.0s
SVE Sverdlovsk 54.25 317 *e*P **P 22 42 38.1 -0.8**
SVE Sverdlovsk 54.25 317 *e*P **P 22 42 38.1 -0.8**
SVE pmax pmax
comp=Z,20nm,0.8s
AAK Ala-Archa 54.52 297 P **P 22 42 41.5 +0.1**
comp=Z,3.5nm,0.6s,baz=104,slow=3.7,SNR=13
AAK Ala-Archa 54.52 297 *e*P **P 22 42 41.1 -0.3**
AAK Ala-Archa 54.52 297 *e*P **P 22 42 40.7 -0.7**
comp=Z,4.3nm,0.6s
AAK Ala-Archa 54.52 297⇑ *e*P **P 22 42 41.1 -0.3**
AAK pmax pmax
comp=Z,4.0nm,0.7s
KSH Kashi 55.38 293 P **P 22 42 51.9 +4.3**
KSH sP sP 22 43 09.4 +10
KSH ScP **ScP 22 47 44.9 +0.5**
KSH S **S 22 50 31.1 +0.9**
KSH sS sS 22 50 52.1 +7.4
KSH SS **SS 22 54 15.7 +1.2**
KSH pmax pmax
comp=Z,16nm,1.5s
KSH pmax pmax
comp=Z,83nm,8.7s
KSH LR LR
comp=Z,90nm,7.3s
KSH LR LR
comp=Z,120nm,6.7s
KSH LR LR
comp=Z,140nm,7.6s
ARU Arti 55.43 318 P **P 22 42 47.3 -0.1**
comp=Z,24nm,0.5s,baz=74,slow=5.6
ARU Arti 55.43 318 *e*P **P 22 42 46.8 -0.7**
ARU Arti 55.43 318 *e*P **P 22 42 46.6 -0.9**
comp=Z,31nm,0.5s
ARU Arti 55.43 318*c i*P **P 22 42 46.8 -0.7**
ARU *PP **sP 22 42 59.3 -0.4**
ARU 22 43 47.1
ARU PPP PPP 22 46 00.6
ARU S **S 22 50 30.5 +0.5**
ARU SS **SS 22 54 13.2 -0.9**
ARU pmax pmax
comp=Z,24nm,0.6s
HNR Honiara 56.41 173 LR LR 23 07 55.5
comp=Z,20nm,18.3s,baz=330,slow=37
KK31 Karatay Array 56.66 299 *i*P **P 22 42 56.0 -0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 56.66 299 *e*P **P 22 42 56.1 -0.5**
KKAR Karatay Array 56.66 299 *e*P **P 22 42 56.1 -0.5**
KULLO Kullorsuaq 56.85 10 *i*P **P 22 42 57.9 +0.5**
comp=Z,17nm,1.0s
KULLO Kullorsuaq 56.85 10 *i*P **P 22 42 57.9 +0.5**
KULLO pmax pmax
comp=Z,17nm,1.0s
PHET Kaeng Krachan 56.87 252 P **P 22 43 01.4 +3.1**
comp=Z,7.4nm,0.8s
ARCES ARCESS Array B 57.90 341 P **P 22 43 04.7 -0.2**
comp=Z,6.5nm,0.7s,baz=35,slow=7.1,SNR=35
ARE0 ARCESS Array S 57.90 341 *e*P **P 22 43 04.5 -0.4**
ARE0 IAmb IAmb 22 43 06.5
comp=Z,19nm,1.0s
TMCR Tamitsa 58.52 333 *e*P **P 22 43 09.2 0.0**
TMCR pmax pmax
comp=Z,11nm,0.6s
AB31 Akbulak array 58.95 310 *i*P **P 22 43 11.9 -0.6**
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 58.95 310 *e*P **P 22 43 12.0 -0.4**
comp=Z,7.9nm,0.6s
TRO Tromso 59.19 343 *e*P **P 22 43 14.0 +0.2**
TRO IAmb IAmb 22 43 14.4
comp=Z,7.4nm,0.4s
HEF Hetta 59.20 341 *e*P **P 22 43 14.1 +0.2**
AKTO Aktyubinsk 59.22 312 P **P 22 43 14.9 +0.6**
comp=Z,4.6nm,0.6s,baz=70,slow=7.6,SNR=12
AKTO LR LR 23 11 07.7
comp=Z,62nm,19.1s,baz=49,slow=38
AKTO Aktyubinsk 59.22 312 *i*P **P 22 43 14.3 0.0**
AKTO pmax pmax
comp=Z,6.0nm,0.7s
KIF Kilpisjarvi 59.33 342 *e*P **P 22 43 14.7 -0.1**
KLMR Klimovskoe 60.35 329 *e*P **P 22 43 19.2 -2.7**
KLMR pmax pmax
comp=Z,17nm,1.0s
KLMR Klimovskoe 60.35 329 *e*P **P 22 43 19.2 -2.7**
KLMR AMP 22 43 23.3
comp=Z,17nm,1.0s
SUMG Summit 60.37 4 *i*P **P 22 43 23.5 +1.1**
comp=Z,18nm,0.8s
SUMG Summit 60.37 4 *e*P **P 22 43 22.8 +0.4**
comp=Z,21nm,0.9s
SUMG Summit 60.37 4 *i*P **P 22 43 23.5 +1.1**
SUMG pmax pmax
comp=Z,18nm,0.8s
FCC Fort Churchill 60.54 34 *e*P **P 22 43 24.3 +1.1**
OUL Oulu 61.31 338 P **P 22 43 27.2 -1.2**
OUL pmax pmax
comp=Z,52nm,0.8s
STEI Steigen 61.35 344 *e*P **P 22 43 28.7 +0.1**
STEI IAmb IAmb 22 43 29.6
comp=Z,22nm,1.0s
JOF Joensuu 61.49 334 P **P 22 43 30.4 +0.8**
JOF pmax pmax
comp=Z,43nm,0.9s
LOF Lofoten 61.50 344 *e*P **P 22 43 29.4 -0.2**
LOF IAmb IAmb 22 43 29.6
comp=Z,47nm,1.0s
ILULI Ilulissat 62.56 10 *i*P **P 22 43 39.9 +3.2**
comp=Z,19nm,0.8s
ILULI Ilulissat 62.56 10 *i*P **P 22 43 39.9 +3.2**
ILULI pmax pmax
comp=Z,19nm,0.8s
SCO Scoresbysund 62.79 359 *i*P **P 22 43 39.3 +1.1**
SCO Scoresbysund 62.79 359 *e*P **P 22 43 39.3 +1.1**
KBL Kabul 62.80 292 *e*P **P 22 43 39.1 -0.1**
comp=Z,22nm,0.8s
KBL Kabul 62.80 292 *e*P **P 22 43 39.1 -0.1**
KBL pmax pmax
comp=Z,22nm,0.8s
KONS Konsvik 63.01 344 *e*P **P 22 43 40.0 +0.3**
KONS IAmb IAmb 22 43 40.7
comp=Z,26nm,1.0s
MOR8 Moi Rana 63.04 343 *e*P **P 22 43 38.9 -1.1**
MOR8 IAmb IAmb 22 43 39.9
comp=Z,57nm,0.7s
SUF Sumiainen 63.14 336 P **P 22 43 41.1 +0.5**
SUF pmax pmax
comp=Z,49nm,0.8s
STOK Stokkvaagen 63.18 344 *e*P **P 22 43 40.7 -0.1**
STOK IAmb IAmb 22 43 41.2
comp=Z,13nm,0.6s
RCWM Renegade Canyo 63.49 65 *e*P **P 22 43 42.6 -0.9**
VAF Ylistaro 63.81 338 P **P 22 43 45.9 +0.9**
VAF pmax pmax
comp=Z,38nm,0.9s
FIA1 FINESS Array S 64.18 335 *e*P **P 22 43 47.4 -0.1**
FINES FINESS Array B 64.18 335 P **P 22 43 47.6 +0.1**
comp=Z,49nm,0.7s,baz=33,slow=7.7,SNR=202
FINES LR LR 23 13 41.7
comp=Z,83nm,19.2s,baz=19,slow=38
SFJD Kangerlussuaq 64.73 11 *i*P **P 22 43 51.7 +0.7**
SFJD Kangerlussuaq 64.73 11 *i*P **P 22 43 51.7 +0.7**
NSS Namsos 64.98 343 *e*P **P 22 43 52.8 +0.1**
NSS IAmb IAmb 22 43 55.7
comp=Z,117nm,1.7s
OBN Obninsk 65.60 326 P **P 22 43 56.4 -0.4**
comp=Z,24nm,0.6s,baz=14,slow=5.7
OBN Obninsk 65.60 326 *e*P **P 22 43 56.6 -0.2**
OBN Obninsk 65.60 326 *e*P **P 22 43 56.1 -0.7**
comp=Z,29nm,0.7s
OBN Obninsk 65.60 326*c i*P **P 22 43 56.6 -0.2**
OBN *e* 22 44 26.7
OBN *e* 22 46 19.7
OBN *e*PPP PPP 22 47 57.3
OBN pmax pmax
comp=Z,65nm,1.7s
OBN MLR MLR
comp=Z,57nm,18.0s
ULM Lac du Bonnet 65.73 42 P **P 22 43 57.9 +0.1**
comp=Z,1.2nm,0.4s,baz=233,slow=13,SNR=5.4
VRH Novokhopyorsk 66.38 321 *e*P **P 22 44 01.4 -0.6**
VRH pmax pmax
comp=Z,30nm,0.7s
VSU Vasula 66.39 333*c i*P **P 22 44 01.9 0.0**
VSU pmax pmax
comp=Z,88nm,1.2s
LPSR Galich'ya Gora 66.53 323 *e*P **P 22 44 02.8 -0.1**
LPSR pmax pmax
comp=Z,40nm,0.7s
GEYT Alibeck 67.24 302 P **P 22 44 08.7 +0.9**
comp=Z,11nm,0.7s,baz=29,slow=3.4,SNR=23
GEYT LR LR 23 15 33.7
comp=Z,39nm,18.4s,baz=40,slow=38
VSR Storozhevoye 67.46 322 *e*P **P 22 44 08.4 -0.4**
VSR pmax pmax

comp=Z,40nm,1.2s
MOL Molde 67.61 344 *e*P P **22 44 08.7 -0.8**
MOL IAmb IAmb 22 44 10.4
comp=Z,21nm,1.0s
DOMB Dombas 67.80 343 *e*P P **22 44 10.2 -0.7**
DOMB IAmb IAmb 22 44 11.9
comp=Z,9.1nm,0.8s
NC303 NORSAR Array S 68.07 342 *e*P P **22 44 12.9 +0.4**
NC303 IAmb IAmb 22 44 13.7
comp=Z,11nm,0.5s
AKN Aaknes 68.07 344 *e*P P **22 44 12.0 -0.6**
AKN IAmb IAmb 22 44 12.5
comp=Z,9.3nm,0.6s
NC204 NORSAR Array S 68.15 342 *e*P P **22 44 13.4 +0.3**
NC204 IAmb IAmb 22 44 14.2
comp=Z,17nm,0.6s
NB201 NORSAR Array S 68.24 342 *e*P P **22 44 12.9 -0.7**
NB201 IAmb IAmb 22 44 15.3
comp=Z,20nm,0.7s
NB2 NORSAR Subarra 68.27 342 P P **22 44 13.9 +0.1**
comp=Z,4.3nm,0.5s,baz=28,slow=6.9
NB2 NORSAR Subarra 68.27 342 P P **22 44 13.8 0.0**
NB2 pmax pmax
comp=Z,3.0nm,0.4s
NB2 NORSAR Subarra 68.27 342 P P **22 44 13.9 +0.1**
baz=28,slow=6.9
NOA NORSAR Array B 68.27 342 P P **22 44 14.1 +0.3**
comp=Z,4.8nm,0.6s,baz=29,slow=6.5,SNR=48
NOA LR LR 23 18 39.6
comp=Z,29nm,18.3s,baz=330,slow=40
NBO00 NORSAR Array S 68.37 342 *e*P P **22 44 15.0 +0.5**
NBO00 IAmb IAmb 22 44 15.7
comp=Z,92nm,1.4s
NC602 NORSAR Array S 68.47 341 *e*P P **22 44 14.0 -1.1**
NC602 IAmb IAmb 22 44 14.9
comp=Z,84nm,1.0s
NAO01 NORSAR Array S 68.51 342 *e*P P **22 44 15.6 +0.3**
NAO01 IAmb IAmb 22 44 17.5
comp=Z,12nm,1.1s
HFS Hagfors 68.52 340 P P **22 44 15.2 -0.1**
comp=Z,9.1nm,0.4s,baz=55,slow=5.5,SNR=74
HFS LR LR 23 17 02.8
comp=Z,60nm,18.3s,baz=66,slow=38
IZAR Zarasai 68.76 332 *e*P P **22 44 16.4 -0.5**
IZAR IAmb IAmb 22 44 18.7
comp=Z,3.8nm,0.5s
ISAL Salakas 68.94 331 *e*P P **22 44 17.5 -0.5**
ISAL IAmb IAmb 22 44 19.6
comp=Z,8.3nm,1.1s
IDID Didziasalis 68.95 331 *e*P P **22 44 17.4 -0.7**
IDID IAmb IAmb 22 44 19.4
comp=Z,7.3nm,0.7s
IIGN Ignalina 69.09 331 *e*P P **22 44 18.4 -0.5**
IIGN IAmb IAmb 22 44 20.5
comp=Z,7.2nm,0.5s
HYA Hoyanger 69.16 344 *e*P P **22 44 20.0 +0.8**
HYA IAmb IAmb 22 44 20.7
comp=Z,23nm,0.8s
NACGM Naroch 69.27 331 *e* P **22 44 19.0 -1.1**
OSL Oslo 69.37 341 *e*P P **22 44 20.1 -0.5**
OSL IAmb IAmb 22 44 22.2
comp=Z,15nm,1.0s
ODD1 Odda 70.24 343 *e*P P **22 44 26.4 +0.4**
ODD1 IAmb IAmb 22 44 27.0
comp=Z,7.1nm,0.7s
BLS5 Blasjo 70.72 343 *e*P P **22 44 27.9 -1.1**
BLS5 IAmb IAmb 22 44 30.0
comp=Z,278nm,2.2s
ZKTA Zakatala 70.98 311 P P **22 44 28.8 -2.1**
SEKA Sheki 71.00 310 P P **22 44 28.7 -2.3**
NCK Nalchik 71.15 314⇑*i*P P **22 44 32.8 +0.9**
NCK pmax pmax
comp=Z,27nm,0.7s
KVAR Kislovodsk Arr 71.25 315 P P **22 44 33.6 +1.0**
comp=Z,17nm,0.8s,baz=90,slow=2.0,SNR=13
KIV Kislovodsk 71.26 315 *e*P P **22 44 31.5 -1.1**
KIV Kislovodsk 71.26 315 *e*P P **22 44 32.3 -0.3**
KIV Kislovodsk 71.26 315 *e*P P **22 44 31.5 -1.1**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,68nm,18.0s
KBZ Khabaz 71.32 315 P P **22 44 33.9 +1.1**
comp=Z,20nm,0.8s,baz=72,slow=4.4,SNR=34
KBZ LR LR 23 19 41.9
comp=Z,70nm,18.8s,baz=48,slow=39
STAV Stavanger 71.32 343 *e*P P **22 44 33.6 +1.0**
STAV IAmb IAmb 22 44 34.1
comp=Z,9.7nm,0.8s
ZEI Tsey 71.52 313 *e*P P **22 44 33.7 -0.6**
ZEI Tsey 71.52 313 *e*P P **22 44 33.7 -0.6**
ZEI pmax pmax
comp=Z,13nm,0.8s
SNART Snartemo 71.57 342 *e*P P **22 44 34.6 +0.5**
SNART IAmb IAmb 22 44 36.5
comp=Z,28nm,1.1s
NEY Neytrino 71.76 314⇓*e*P P **22 44 37.5 +1.7**
NEY pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 71.83 327 P P **22 44 35.2 -0.5**
comp=Z,8.0nm,0.5s,baz=34,slow=6.1,SNR=32
AKASG LR LR 23 18 28.3
comp=Z,47nm,19.1s,baz=55,slow=38
AKBB Malin Array Si 71.83 327 *e*P P **22 44 35.3 -0.4**
AKBB Malin Array Si 71.83 327 *e*P P **22 44 35.3 -0.4**
AKH Kiev 71.84 327 *e*P P **22 44 35.2 -0.6**
KIEV Kiev 71.84 327 *e*P P **22 44 35.2 -0.6**
comp=Z,9.2nm,0.5s
KIEV Kiev 71.84 327 *e*P P **22 44 35.2 -0.6**
KIEV pmax pmax
comp=Z,9.0nm,0.5s
GANJ Ganja 71.86 310 P P **22 44 34.2 -2.0**
AK11 Malin Array Si 71.86 327 *e*P P **22 44 35.7 -0.3**
TBLG Delisi 71.88 312 *e*P P **22 44 37.9 +1.6**
TBLG Delisi 71.88 312 *e*P P **22 44 37.9 +1.6**
LKRN Lenkeran, Azer 71.96 308 P P **22 44 34.8 -1.9**
BSD Bornholm Skovb 72.67 337 *e*P P **22 44 40.5 -0.2**
AKH Akhalkalaki 72.75 313⇑*i*P P **22 44 43.6 +1.9**
AKH Akhalkalaki 72.75 313 *e*P P **22 44 43.6 +1.9**
AKH Akhalkalaki 72.75 313 *e*P P **22 44 43.6 +1.9**
ASAR Alice Springs 72.75 200 P P **22 44 43.5 +2.0**
comp=Z,1.9nm,0.6s,baz=17,slow=4.7,SNR=6.8
GNI Garni 73.04 311 P P **22 44 43.9 +0.6**
comp=Z,9.5nm,0.8s,baz=345,slow=4.5,SNR=7.3
GNI LR LR 23 20 29.0
comp=Z,69nm,19.8s,baz=38,slow=39
GNI Garni 73.04 311 P P **22 44 44.0 +0.6**
GKP Gorka Klasztor 73.65 335 *e*P P **22 44 46.8 +0.3**
GKP Gorka Klasztor 73.65 335 *e*P P **22 44 46.8 +0.3**
SORM Soroca 74.25 326 P P **22 44 49.6 -0.5**
LVV L'vov 74.44 329 *e*P P **22 44 52.7 +1.5**
KPL Plockton 74.70 349 *e*P P **22 44 52.0 -0.6**
KWP Kalwaria Pacla 75.05 330 *e*P P **22 44 54.9 +0.1**
KWP Kalwaria Pacla 75.05 330 *e*P P **22 44 54.3 -0.5**
KWP Kalwaria Pacla 75.05 330 *e*P P **22 44 54.9 +0.1**
OJC Ojcow 75.52 332 *e*P P **22 44 58.1 +0.6**
OJC Ojcow 75.52 332 *e*P P **22 44 58.1 +0.6**
OJC Ojcow 75.52 332 *e*P P **22 44 57.8 +0.4**
OJC Ojcow 75.52 332 *e*P P **22 44 58.1 +0.6**
STHS Stebnicka Huta 75.73 331 *e*P P **22 44 59.7 +1.0**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 75.73 331 *e*P P **22 44 59.7 +1.0**
BUR08 Bucovina Ar. S 75.84 327 *e*P P **22 44 59.2 -0.3**
BUR04 Bucovina Ar. S 75.86 327 *e*P P **22 44 59.5 0.0**
BURAR Bucovina Array 75.86 327⇑*i*P P **22 44 59.9 +0.3**
BURAR Bucovina Array 75.86 327 P P **22 44 59.8 +0.2**
NIE Niedzica 76.05 331 *e*P P **22 45 01.6 +1.1**
NIE Niedzica 76.05 331 *e*P P **22 45 01.6 +1.1**
UZH Uzhgorod 76.05 330 *e*P P **22 45 00.2 -0.3**
UZH *i* 22 45 06.4
UZH *i* 22 45 16.6
KSP Ksiaz 76.06 334 *e*P P **22 45 02.8 +2.2**
KSP Ksiaz 76.06 334 *e*P P **22 45 02.8 +2.2**
CRVS Cervenica-Dubn 76.10 330 *e*P P **22 45 01.0 +0.2**
CRVS Cervenica-Dubn 76.10 330 *e*P P **22 45 01.0 +0.2**
TESR Tescani 76.24 326⇑*i*P P **22 45 01.5 -0.1**
EKA Eskdalemuir Ar 76.29 347 P P **22 45 01.9 +0.2**
comp=Z,5.5nm,0.5s,baz=19,slow=5.3,SNR=15
ESK Eskdalemuir 76.31 347 *e*P P **22 45 00.6 -1.2**
OKC Ostrava-Krasne 76.38 333 *e*P P 22 45 09.1 +6.8
OKC Ostrava-Krasne 76.38 333 *e*P P 22 45 09.1 +6.8
UPC Upice 76.44 334 *e*P P **22 45 03.8 +1.1**
UPC Upice 76.44 334 *e*P P **22 45 03.8 +1.1**
TLCR 76.48 324⇑*i*P P **22 45 03.6 +0.6**
DPC Dobruska-Polom 76.49 334 *e*P P **22 45 03.5 +0.5**
DPC *ex* x 22 45 05.3
DPC *e*pP PcP **22 45 13.6 -1.0**
DPC Dobruska-Polom 76.49 334 *e*P P **22 45 03.5 +0.5**
DPC *e* 22 45 13.6
LANS Liptovska Anna 76.55 331 *e*P P **22 45 04.5 +1.1**
LANS Liptovska Anna 76.55 331 *e*P P **22 45 04.5 +1.1**
TX31 Lajitas Ar. Si 76.57 61 *e*P P **22 45 05.2 +1.3**
TXAR Lajitas Array 76.58 61 P P **22 45 05.3 +1.3**
comp=Z,3.5nm,0.6s,baz=300,slow=4.2,SNR=41
CLL Collm 76.59 336 *e*P P **22 45 03.4 -0.1**
CLL Collm 76.59 336⇑*i*P P **22 45 03.4 -0.1**
comp=Z,8.0nm,0.6s
CLL ⇓*i*P(2) 22 45 05.6
comp=Z,20nm,0.9s
CLL *i* 22 45 30.7
CLL Collm 76.59 336 *e*P P **22 45 03.5 -0.1**
CLL Collm 76.59 336⇑*i*P P **22 45 03.4 -0.1**
CLL pmax pmax
comp=Z,8.0nm,0.6s
MORC Moravsky Berou 76.62 333⇑*i*P P **22 45 04.9 +1.1**
MORC Moravsky Berou 76.62 333 *e*P P **22 45 04.3 +0.5**
MORC Moravsky Berou 76.62 333 *e*P P **22 45 04.3 +0.5**
ARCR Arcalita 76.62 327⇑*i*P P **22 45 04.9 +1.1**
PETR Petresti 76.67 325⇑*i*P P **22 45 05.7 +1.7**
ODBI Odobesti 76.70 325⇑*i*P P **22 45 05.8 +1.6**
BRG Berggiesshubel 76.72 336 *e*P P **22 45 04.3 0.0**
BRG Berggiesshubel 76.72 336 *e*P P **22 45 04.3 0.0**
BRG pmax pmax
comp=Z,5.0nm,1.0s
VRI Vrincioaia 76.75 325⇑*i*P P **22 45 06.0 +1.5**
CFR Carcaliu 76.76 324⇑*i*P P **22 45 05.2 +0.7**
CFR Carcaliu 76.76 324 P P **22 45 05.2 +0.7**
KECS Kecovo 76.79 331 *e*P P **22 45 05.2 +0.5**
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 76.79 331 *e*P P **22 45 05.2 +0.5**
PVCC Panska Ves 76.85 335 *e*P P **22 45 05.4 +0.4**
PVCC *ex* x 22 45 07.4
PVCC Panska Ves 76.85 335 *e*P P **22 45 05.4 +0.4**
GRER 77.05 325⇑*i*P P **22 45 07.7 +1.5**
HARR Harsova 77.25 324⇑*i*P P **22 45 09.0 +1.7**
VRAC Vranov 77.33 333⇑*i*P P **22 45 08.7 +1.0**
VYHS Vyhne 77.33 332 *e*P P **22 45 07.9 +0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 77.33 332 *e*P P **22 45 07.9 +0.1**
GOPC GO Pecny, Ondr 77.33 335 *e*P P **22 45 08.5 +0.7**
GOPC *ex* x 22 45 10.2
GOPC GO Pecny, Ondr 77.33 335 *e*P P **22 45 08.5 +0.7**
PRU Pruhonice 77.34 335 *e*P P **22 45 08.5 +0.8**
PRU *ex* x 22 45 10.2
PRU *e*pP pP **22 45 16.6 -0.2**
PRU Pruhonice 77.34 335 *e*P P **22 45 08.5 +0.8**
PRU Pruhonice 77.34 335 *e*P P **22 45 08.5 +0.8**
PRU *e* 22 45 16.6
MLR Muntele Rosu 77.36 326 LR LR 23 21 09.8
comp=Z,10.0nm,21.1s,baz=46,slow=37
MLR Muntele Rosu 77.36 326⇑*i*P P **22 45 09.1 +0.9**
MLR Muntele Rosu 77.36 326 *e*P P **22 45 09.0 +0.9**
MLR Muntele Rosu 77.36 326 *e*P P **22 45 09.0 +0.9**
DRGR 77.47 328⇑*i*P P **22 45 09.3 +0.6**
DRGR 77.47 328 P P **22 45 09.2 +0.6**
PSZ Piszkesteto 77.48 331⇑*i*P P **22 45 08.7 0.0**
PSZ Piszkesteto 77.48 331 *e*P P **22 45 08.9 +0.2**
PSZ Piszkesteto 77.48 331 *e*P P **22 45 08.9 +0.2**
MOX Moxa 77.57 337 P P **22 45 11.6 +2.5**
TREC Trest 77.68 334 *e*P P **22 45 10.2 +0.5**
TREC Trest 77.68 334 *e*P P **22 45 10.2 +0.5**
NKC Novy Kostel 77.72 336 *e*P P **22 45 10.4 +0.5**
NKC *ex* x 22 45 12.5
NKC Novy Kostel 77.72 336 *e*P P **22 45 10.4 +0.5**
ICOR Ion Corvin 77.77 324⇑*i*P P **22 45 11.6 +1.4**
MODS Modra-Piesok 77.94 332 *e*P P **22 45 11.8 +0.6**
MODS Modra-Piesok 77.94 332 *e*P P **22 45 11.8 +0.6**
KHC Kasperske Hory 78.39 335 *e*P P **22 45 14.3 +0.6**
KHC *ex* x 22 45 16.5
KHC *e*pP pP **22 45 21.9 -0.9**
KHC Kasperske Hory 78.39 335 *e*P P **22 45 14.4 +0.7**
KHC Kasperske Hory 78.39 335 *e*P P **22 45 14.4 +0.7**
GRF Grafenberg Arr 78.54 337 P P **22 45 17.6 +3.1**
GRFO Grafenberg 78.54 337 *e*P P **22 45 15.3 +0.8**
GRFO Grafenberg 78.54 337 *e*P P **22 45 15.3 +0.8**
GEC2 GERESS Array S 78.61 335 *e*P P **22 45 15.2 +0.2**
GEC2 GERESS Array S 78.61 335 *e*P P **22 45 15.2 +0.2**
GERES GERESS Array B 78.61 335 P P **22 45 15.1 +0.1**
comp=Z,2.4nm,0.4s,baz=36,slow=5.8,SNR=21
GERES LR LR 23 22 20.4
comp=Z,54nm,19.7s,baz=14,slow=38
GEA0 GERESS Array S 78.62 335 *e*P P **22 45 15.0 0.0**
CONA Conrad Observa 78.78 333 *i*P P **22 45 16.5 +0.6**
BR131 Keskin Array S 78.81 318 *e*P P **22 45 17.1 +0.8**
BRTR Keskin Array B 78.81 318 P P **22 45 16.8 +0.5**
comp=Z,3.4nm,0.8s,baz=80,slow=3.0,SNR=17
BRTR LR LR 23 26 51.0
comp=Z,22nm,18.8s,baz=46,slow=41
MEM Membach 79.01 340 ⇓P P **22 45 17.4 +0.4**
comp=Z,14nm,0.9s
BR231 Keskin MP Arra 79.11 318 *e*P P **22 45 17.3 -0.6**
MOA Molln 79.33 334 *i*P P **22 45 18.4 -0.4**
BCLA Clavier 79.35 340 ⇓P P **22 45 19.3 +0.4**
GIVF Givet 79.76 341 *e*P P **22 45 24.2 +3.1**
GIVF pmax pmax
comp=Z,21nm,1.2s
DOU Dourbes 79.81 341⇑P P **22 45 22.6 +1.2**
comp=Z,6.8nm,1.1s
BAIF Baives 79.94 341 *e*P P **22 45 24.4 +2.4**
BAIF pmax pmax
comp=Z,47nm,1.9s
SOKA Soboth 80.15 333 *i*P P **22 45 24.9 +1.6**
PERS Pernice 80.16 333 *i*P P **22 45 23.8 +0.4**
KBA Koelnbreinsper 80.30 334 *i*P P **22 45 24.1 -0.3**
OBKA Obir 80.45 333 *i*P P **22 45 22.7 -2.3**
BFO Black Forest 80.56 338 *e*P P **22 45 25.4 0.0**
comp=Z,12nm,0.9s
BFO Black Forest 80.56 338 *i*P P **22 45 26.9 +1.4**
WATA Walderalm 80.58 335 *i*PcP P **22 45 27.9 +2.1**
WTTA Wattenberg 80.63 335 *i*PcP P **22 45 29.5 +3.4**
MOTA Moosalm 80.71 336 *i*P P **22 45 27.2 +0.8**
SNR=7.5
DIVS Divibare 80.76 329 *e*P P **22 45 26.6 -0.1**
ABTA Abfaltersbach 80.85 335 *i*P P **22 45 29.0 +1.8**
VTS Vitosha 80.87 326⇑*i*P P **22 45 27.8 +0.4**
VTS Vitosha 80.87 326 *e*P P **22 45 27.4 0.0**
VTS Vitosha 80.87 326 *e*P P **22 45 27.4 0.0**
ECH Echery 80.96 339 *e*P P **22 45 28.1 +0.5**
ECH Echery 80.96 339 *e*P P **22 45 28.1 +0.5**
VISS Visnje 80.99 333 *i*P P **22 45 30.1 +2.3**
DAVA Damuels 81.10 336 *i*P P **22 45 30.0 +1.4**
FETA Feichten 81.11 336 *i*PcP P **22 45 30.9 +2.3**
JAVS Javornik 81.15 333 *i*P P **22 45 30.6 +1.8**
HAU Haudompre 81.36 339 *e*P P **22 45 29.4 -0.3**
HAU pmax pmax
comp=Z,6.0nm,0.8s
HINF Hinteralfeld 81.41 339 *e*P P **22 45 29.5 -0.5**
HINF pmax pmax
comp=Z,19nm,1.5s
FUORN Ofenpass-Fuorn 81.61 336 *e*P P **22 45 35.1 +3.7**
TUE Stuetta 82.00 336 *e*P P **22 45 34.5 +1.1**
FLN La Foliniere 82.14 344 *e*P P **22 45 36.6 +2.8**
FLN pmax pmax
comp=Z,13nm,0.8s
PDG Podgorica 82.48 328⇑*i*P P **22 45 34.9 -0.8**
GRR Gorron 82.57 344 *e*P P **22 45 36.0 -0.1**
GRR pmax pmax
comp=Z,54nm,1.6s
SSF Saint Saulge 82.92 340 *e*P P **22 45 37.7 -0.2**
SSF pmax pmax
comp=Z,12nm,0.9s
SGMF Saint Gilles 83.02 345 *e*P P **22 45 38.3 -0.1**
SGMF pmax pmax
comp=Z,14nm,0.6s
ROSF Rostrenen 83.07 345 *e*P P **22 45 38.7 +0.1**
ROSF pmax pmax
comp=Z,16nm,0.7s
AVF Avril sur Loir 83.21 340 *e*P P **22 45 39.3 -0.1**
AVF pmax pmax
comp=Z,16nm,0.7s
ASF Jabal al Asfar 83.21 311 P P **22 45 40.8 +1.0**
comp=Z,4.5nm,0.9s,baz=298,slow=3.6,SNR=8.0
SMF Signal de Mont 83.23 340 *e*P P **22 45 40.5 +1.0**
SMF pmax pmax
comp=Z,31nm,1.1s
MMAI Mount Meron Ar 83.31 312 P P **22 45 40.6 +0.3**
comp=Z,7.6nm,0.6s,baz=39,slow=6.0,SNR=31
MMAI LR LR 23 27 45.4
comp=Z,40nm,18.8s,baz=315,slow=39
QUIF Quistinic 83.45 345 *e*P P **22 45 43.7 +3.1**
QUIF pmax pmax
comp=Z,89nm,1.8s
LPL La Plagne 83.58 338 *e*P P **22 45 42.2 +0.6**
LPL pmax pmax
comp=Z,16nm,0.9s
LPG La Plagne 83.59 338 *e*P P **22 45 42.4 +0.6**
LPG pmax pmax
comp=Z,20nm,0.9s
TCF Toulx Ste Croi 83.94 341 *e*P P **22 45 43.3 +0.1**
TCF pmax pmax
comp=Z,12nm,0.8s
MFF Saint Martin d 84.14 343 *e*P P **22 45 44.9 +0.7**
MFF pmax pmax
comp=Z,10.0nm,0.7s
MBDF Montbardon 84.30 337 *e*P P **22 45 45.7 +0.5**
MBDF pmax pmax
comp=Z,32nm,1.5s
ORIF Oris-en-Rattie 84.35 338 *e*P P **22 45 45.9 +0.5**
ORIF pmax pmax
comp=Z,12nm,0.9s
CAF Calviac 85.26 341 *e*P P **22 45 50.8 +0.9**
CAF pmax pmax
comp=Z,17nm,0.9s
LFF La Frestale 85.54 342 *e*P P **22 45 52.1 +0.9**
LFF pmax pmax
comp=Z,13nm,0.9s
IDI Anoyia 86.39 321 P P **22 45 54.8 -0.9**
comp=Z,6.1nm,0.6s,baz=8.1,slow=14,SNR=7.7
EPF Esparros 87.45 341 *e*P P **22 46 04.8 +4.1**
EPF pmax pmax
comp=Z,4.0nm,0.6s
ESDC Sonseca Array 91.56 343 P P **22 46 19.3 -0.8**
comp=Z,0.2nm,0.4s,baz=74,slow=5.5,SNR=3.0
KEST Kesra 91.86 332 P P **22 46 20.8 -0.8**
comp=Z,3.7nm,0.8s,baz=305,slow=12,SNR=3.9
TORD Torodi Ar. Bea 115.32 330 PKP **PKPdf 22 51 54.8 -0.4**
comp=Z,0.4nm,0.4s,baz=18,slow=1.8,SNR=8.1
TORD PP PP 22 52 49.9 -5.2
comp=Z,1.3nm,0.9s,baz=0.3,slow=8.3,SNR=6.9
PLCA Paso Flores 147.33 96 PKPbc **PKPbc 22 52 57.3 +0.8**
comp=Z,2.1nm,0.8s,baz=295,slow=3.6,SNR=5.9
CPUP Villa Florida 147.55 62 PKPbc **PKPbc 22 52 57.8 +0.4**
comp=Z,1.9nm,0.7s,baz=312,slow=4.4,SNR=5.8

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*IDC **06** 22:34:54.7±0.7, 18.06S×174.21W, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.3/49, mbtmp4.5/13, ML4.6/1, MS3.4/16, Ms1 3.4/16, ms1mx3.2/39, Error ellipse: s-maj=30.1km s-min=15.6km az=128.0*
*ISCJB **06** 22:34:55.3±0.3, 18.05S±0.05×174.28W±0.09, h10km, mb4.8/37, MS3.5/14, Error ellipse: s-maj=13.0km s-min=5.3km az=20.2*
*WEL **06** 22:34:56.0, 18.13S×174.13W, h10km*
*NEIC **06** 22:34:56.2±4.2, 18.13S×174.13W, h10km±26km, mb4.9/20, Error ellipse: s-maj=12.5km s-min=6.2km az=128.0*
*BJI **06** 22:35:00.1, 18.56S×173.93W, h54km, mb4.9/12, mB5.2/3, Ms4.7/1, Ms7 4.5/1*
ISC 06 22:34:55.9±0.4, 18.20S±0.07×174.00W±0.09, h10km, n126, σ1§80/109, mb4.8/37, MS3.3/14, 5C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.77**	**27**	Pn		**Pn**	**22 36 09.7**	**+1.8**
	28nm,0.3s,baz=290,slow=3.8,SNR=13							
AFI				Sn		**Sn**	**22 36 57.8**	**-5.5**
	110nm,0.3s,baz=58,slow=21,SNR=9.6							
AFI				LR		LR	22 37 56.1	
	comp=Z,251nm,20.5s,baz=234,slow=38							
AFI	**Afiamalu**	**4.77**	**27**	Pn		**Pn**	**22 36 09.7**	**+1.8**
AFI				*e*Pn		**Pn**	**22 36 11.0**	**+3.1**
AFI				*e*S		**Sn**	**22 36 57.9**	**-5.5**
RAR	**Rarotonga**	**13.73**	**105**	Pn		**Pn**	**22 38 10.8**	**+0.1**
	2.4nm,0.3s,baz=229,slow=2.2,SNR=3.5							
RAR	**Rarotonga**	**13.73**	**105**	Pn		**Pn**	**22 38 10.8**	**+0.1**
RAR				*e*Pn		P	22 38 12.0	-7.4
DZM	**Mont Dzumac**	**18.76**	**255**	LR		LR	22 45 32.7	
	comp=Z,135nm,18.2s,baz=44,slow=34							
DZM	**Mont Dzumac**	**18.76**	**255**	*e*LR		LR	22 44 23.2	
	341nm,26.7s							
HAZ	**Te Kaha**	**20.77**	**199**	P		Pn	22 39 39.5	+0.1
PKGZ	**Pakihiroa**	**20.81**	**198**	P		Pn	22 39 41.1	+1.1
PUZ	**Puketiti**	**20.93**	**197**	P		Pn	22 39 41.4	+0.1
RUGZ	**Raukumara Rang**	**21.00**	**199**	P		**P**	**22 39 41.5**	**+1.9**
TWGZ	**Tauwhareparae**	**21.11**	**198**	P		**P**	**22 39 43.8**	**+3.1**
MWZ	**Matawai**	**21.39**	**199**	P		**P**	**22 39 45.0**	**+1.3**
URZ	**Urewera**	**21.45**	**199**	P		**P**	**22 39 44.0**	**-0.2**
	30nm,0.5s,baz=294,slow=2.8,SNR=25							
URZ				S		**S**	**22 43 35.2**	**-7.0**
	3.5nm,0.7s,baz=160,slow=15,SNR=2.9							
URZ	**Urewera**	**21.45**	**199**	P		**P**	**22 39 44.0**	**-0.2**
URZ				*e*P		**P**	**22 39 45.4**	**+1.1**
URZ				S		**S**	**22 43 35.2**	**-7.0**
URZ	**Urewera**	**21.45**	**199**	P		**P**	**22 39 44.0**	**+0.6**
RAGZ	**Rawiri**	**21.57**	**199**	P		**P**	**22 39 48.2**	**+2.6**
RIGZ	**Rimuhau**	**21.66**	**198**	P		**P**	**22 39 47.1**	**+0.5**
MUGZ	**Murupara**	**21.75**	**200**	P		**P**	**22 39 48.9**	**+1.3**
RTZ	**Ruatahuna**	**21.81**	**199**	P		**P**	**22 39 50.0**	**+1.7**
KNZ	**Kokohu**	**21.98**	**198**	P		**P**	**22 39 53.2**	**+3.3**
HIZ	**Hauiti**	**22.46**	**203**	*e*P		**P**	**22 39 56.6**	**+1.5**
	119nm,1.7s							
BKZ	**Black Stump Fm**	**22.47**	**200**	*e*P		**P**	**22 39 55.3**	**0.0**
	12nm,0.6s							
FWVZ	**Far West T-bar**	**22.86**	**201**	P		**P**	**22 40 01.0**	**+1.3**
KAHZ	**Kahuranaki**	**22.93**	**198**	P		**P**	**22 40 03.0**	**+2.9**
MOVZ	**Moawhango**	**22.93**	**201**	P		**P**	**22 40 01.4**	**+1.2**
PAE	**Paea**	**23.24**	**92**	*e*T		T	23 03 32.2	
	7.7nm,0.3s							
PPT2	**Papeete2**	**23.25**	**92**	*e*LR		LR	22 45 24.8	
	328nm,28.8s							
PPT2	**Papeete2**	**23.25**	**92**	*e*LR		LR	22 39 42.1	
	178nm,26.0s							
PPT	**Papeete**	**23.25**	**92**	LR		LR	22 46 35.8	
	comp=Z,58nm,21.8s,baz=211,slow=30							
PRHZ	**Porangahau**	**23.43**	**198**	P		**P**	**22 40 07.4**	**+2.1**
TBI	**Tubuai**	**23.50**	**107**	*e*T		T	23 04 02.5	
	10nm,0.2s							
TVO	**Taravao**	**23.54**	**93**	*e*T		T	23 03 54.5	
	2.6nm,0.3s							
DVHZ	**Dannevirke**	**23.61**	**199**	P		**P**	**22 40 10.4**	**+3.4**
BFZ	**Birch Farm**	**23.93**	**199**	*e*P		**P**	**22 40 10.4**	**+0.3**
	66nm,1.5s							
VAH	**Vaihoa**	**25.42**	**87**	*e*T		T	23 06 11.9	
	6.3nm,0.2s							
THZ	**Tophouse**	**26.02**	**203**	*e*P		**P**	**22 40 29.2**	**+0.1**
	72nm,1.6s							
KHZ	**Kahutara**	**26.37**	**201**	*e*P		**P**	**22 40 32.9**	**+0.7**
	360nm,2.0s							
HNR	**Honiara**	**26.73**	**286**	LR		LR	22 49 50.1	
	comp=Z,64nm,18.5s,baz=248,slow=34							
LTZ	**Lake Taylor**	**27.14**	**203**	*e*P		**P**	**22 40 43.4**	**+4.1**
	18nm,0.7s							
OXZ	**Oxford**	**27.70**	**202**	*e*P		**P**	**22 40 42.8**	**-1.3**
	134nm,1.6s							
RPZ	**Rata Peaks**	**28.39**	**203**	P		**P**	**22 40 52.5**	**+2.1**
	13nm,0.5s,baz=326,slow=3.9,SNR=11							
RPZ				LR		LR	22 51 00.7	
	comp=Z,91nm,22.0s,baz=2.5,slow=34							
RPZ	**Rata Peaks**	**28.39**	**203**	*e*P		**P**	**22 40 52.4**	**+2.0**
	152nm,1.9s							
RPZ				P		**P**	**22 40 52.5**	**+2.1**
FOZ	**Fox Glacier**	**28.72**	**205**	*e*P		**P**	**22 40 56.7**	**+3.5**
	84nm,1.4s							
LBZ	**Lake Benmore**	**29.29**	**204**	*e*P		**P**	**22 41 00.4**	**+2.0**
	182nm,1.9s							
WKZ	**Wanaka**	**30.11**	**204**	*e*P		**P**	**22 41 06.2**	**+0.5**
	220nm,1.9s							
DCZ	**Deep Cove**	**31.39**	**206**	*e*P		**P**	**22 41 18.0**	**+1.1**
TAOE	**Nuku Hiva Isla**	**34.15**	**79**	*e*T		T	23 17 02.0	
	37nm,0.2s							
RKT	**Rikitea**	**36.77**	**104**	*e*T		T	23 20 35.0	
	2.4nm,0.3s							
CTAO	**Charters Tower**	**37.53**	**261**	*e*P		**P**	**22 42 11.5**	**+1.0**
	8.8nm,0.7s							
STKA	**Stephens Creek**	**42.19**	**242**	P		**P**	**22 42 49.0**	**-0.1**
	2.6nm,0.8s,baz=110,slow=14,SNR=4.9							
STKA				LR		LR	22 58 06.4	

comp=Z,30nm,18.9s,baz=27,slow=33
WB2 Warramunga Arr 48.69 259 *e*P **P 22 43 39.4 -1.4**
WRAB Tennant Creek 48.69 259 *e*P **P 22 43 39.0 -1.8**
8.0nm,0.8s
WRA Warramunga Arr 48.70 259 P **P 22 43 39.4 -1.5**
3.1nm,0.3s,baz=97,slow=7.3,SNR=40
AS01 Alice Springs 48.70 254 *e*P **P 22 43 40.4 -0.4**
AS31 Alice Springs 48.75 254 *e*P **P 22 43 40.5 -0.7**
5.7nm,1.0s
ASAR Alice Springs 48.75 254 P **P 22 43 40.0 -1.2**
13nm,0.6s,baz=89,slow=8.5,SNR=83
ASAR LR LR 23 03 35.0
comp=Z,23nm,18.8s,baz=77,slow=35
BATI Baumata 60.72 268 LR LR 23 12 12.5
comp=Z,25nm,18.3s,baz=157,slow=37
H06S1 SOCORRO T 71.98 63 T T 00 04 46.7
SNR=4.4
JNU Nakatsue 73.30 314 LR LR 23 11 17.4
comp=Z,15nm,21.8s,baz=117,slow=30
PETK Petropavlovsk- 75.11 343 P **P 22 46 36.8 -1.1**
2.4nm,0.7s,baz=111,slow=8.1,SNR=4.2
YBH Yreka Blue Hor 76.17 37 LR LR 23 11 21.2
comp=Z,61nm,19.6s,baz=208,slow=29
NVAR Mina Array Bea 76.78 42 P **P 22 46 49.0 +0.9**
2.3nm,0.6s,baz=227,slow=8.5,SNR=4.2
LEM Lembang 76.89 267 LR LR 23 22 28.3
comp=Z,12nm,18.5s,baz=185,slow=37
KSRS Korea Array 77.75 316 LR LR 23 15 27.1
comp=Z,10nm,21.3s,baz=152,slow=31
G08A Pilot Rock 80.52 36 *e*P **P 22 47 09.5 +1.1**
5.8nm,0.8s
NJ2 Nanjing 81.39 308 *e*P **P 22 47 13.2 0.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
F10A Beach Ranch, E 81.91 36 *e*P **P 22 47 16.3 +0.6**
6.6nm,0.8s
TXAR Lajitas Array 82.64 56 P **P 22 47 21.1 +1.1**
0.8nm,0.9s,baz=213,slow=6.0,SNR=4.4
MCMT McKenzie Canyo 83.78 39 *e*P **P 22 47 27.1 +1.4**
MCK McKinley 83.96 11 *e*P **P 22 47 25.9 0.0**
27nm,1.5s
IMW Indian Meadow 84.44 40 *e*P **P 22 47 30.5 +1.3**
3.7nm,0.9s
PDAR Pinedale Array 84.72 42 P **P 22 47 30.9 +0.4**
0.9nm,0.6s,baz=204,slow=3.3,SNR=4.4
PDAR LR LR 23 16 46.4
comp=Z,30nm,19.4s,baz=302,slow=30
PDAR Pinedale Array 84.72 42 *e*P **P 22 47 30.4 -0.1**
PDAR P **P 22 47 30.9 +0.4**
YHB Horse Butte 84.73 40 *e*P **P 22 47 32.7 +2.2**
5.3nm,0.9s
MLY Manley 84.86 10 *e*P **P 22 47 30.0 -0.4**
5.7nm,1.2s
CCB Clear Creek Bu 85.00 11 *e*P **P 22 47 31.0 -0.1**
5.7nm,0.9s
SEY Seymchan 85.06 345 P **P 22 47 30.1 -1.2**
3.6nm,0.6s,baz=127,slow=5.1,SNR=14
IL1 Eielson Array 85.28 11 *e*P **P 22 47 31.2 -1.3**
ILAR Eielson Array 85.28 11 P **P 22 47 32.2 -0.3**
1.3nm,0.8s,baz=229,slow=6.4,SNR=15
GYA Guiyang 88.84 298 *e*P **P 22 47 51.8 +1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
SYO Syowa Base 89.76 192⇑*e*sP sP 22 48 07.6 +8.9
HHC Hu-ho-hao-te 90.50 313 *e*P **P 22 47 58.1 -0.1**
HHC pmax pmax
comp=Z,15nm,1.5s
INK Inuvik 91.11 14 LR LR 23 19 59.6
comp=Z,175nm,21.7s,baz=278,slow=30
KMI Kunming 91.71 296 P **P 22 48 05.0 +0.6**
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI pmax pmax
comp=Z,76nm,5.0s
CD2 Chengdu 92.77 302 *e*P **P 22 48 09.0 +0.1**
YKA Yellowknife Ar 92.88 24 P **P 22 48 08.2 -0.3**
0.1nm,0.2s,baz=240,slow=4.4,SNR=6.6
LZH Lanzhou 94.41 306 *e*P **P 22 48 20.0 +3.5**
LZH pP sP 22 48 33.8 +13
LZH sP pP 22 48 39.1 +19
LZH pmax pmax
comp=Z,11nm,1.0s
ULM Lac du Bonnet 96.45 39 LR LR 23 25 49.8
comp=Z,59nm,18.8s,baz=357,slow=32
LPAZ La Paz 99.39 111 LR LR 23 23 02.2
comp=Z,17nm,18.6s,baz=294,slow=29
KSH Kashi 116.65 306 *e*PKP **PKPdf 22 53 41.3 +0.6**
ARCES ARCESS Array B 127.28 352 PKP **PKPdf 22 54 00.1 0.0**
3.5nm,0.9s,baz=354,slow=0.9,SNR=3.6
OJC Ojcow 146.19 344 *e*PKP **PKPab 22 54 36.7 -0.3**
KSP Ksiaz 146.41 348 *e*PKP **PKPab 22 54 37.9 0.0**
CLL Collm 146.50 352⇑*i*PKPbc **PKPbc 22 54 37.0 -0.3**
comp=Z,15nm,1.1s
CLL *e* 22 54 57.0
CLL Collm 146.50 352 *e*PKPdf **PKPbc 22 54 37.6 +0.4**
STHS Stebnicka Huta 146.51 342 *e*PKP **PKPbc 22 54 37.5 +0.1**
UPC Upice 146.78 348 *e*PKP **PKPab 22 54 38.8 -0.5**
NIE Niedzica 146.78 343 *e*PKP **PKPab 22 54 39.2 -0.3**
DPC Dobruska-Polom 146.87 348 *e*PKP **PKPab 22 54 39.3 -0.4**
DPC *e*pPKP pPKPbc 22 54 42.0 +0.1
CRVS Cervenica-Dubn 146.91 341 *e*PKP **PKPab 22 54 40.0 +0.1**
OKC Ostrava-Krasne 146.96 346 *e*PKP **PKPbc 22 54 38.3 -0.3**
PVCC Panska Ves 147.02 350 *e*PKP **PKPbc 22 54 39.0 +0.2**
LANS Liptovska Anna 147.25 344 *e*PKP **PKPbc 22 54 39.8 +0.2**
PRU Pruhonice 147.55 350 *e*PKP **PKPdf 22 54 38.9 +1.2**
GOPC GO Pecny, Ondr 147.58 349 *e*PKP **PKPbc 22 54 40.3 -0.1**
NKC Novy Kostel 147.62 352 *e*PKP **PKPab 22 54 42.9 +0.2**
MEM Membach 147.66 360 ⇑PKPbc **PKPbc 22 54 40.0 -0.6**
SNF Seneffe 147.73 2 ⇑PKPbc **PKPbc 22 54 39.8 -0.9**
BCLA Clavier 147.85 1 ⇑PKPbc **PKPbc 22 54 40.1 -0.9**
BRTR Keskin Array B 147.89 318 PKPbc **PKPbc 22 54 41.2 -0.5**
comp=Z,0.7nm,0.6s,baz=144,slow=3.7,SNR=4.7
VYHS Vyhne 148.03 344 *e*PKP **PKPbc 22 54 41.7 0.0**
DOU Dourbes 148.16 2 ⇓PKPbc **PKPbc 22 54 42.1 +0.2**
BR231 Keskin MP Arra 148.37 319 *e*PKPbc **PKPbc 22 54 42.3 -0.7**
KHC Kasperske Hory 148.54 350 *e*PKP **PKPbc 22 54 43.6 +0.6**
KHC *e*pPKP **pPKPbc 22 54 46.9 +0.5**
GERES GERESS Array B 148.79 350 PKPbc **PKPbc 22 54 43.7 0.0**
comp=Z,2.1nm,0.9s,baz=29,slow=3.0,SNR=11
GEA0 GERESS Array S 148.80 350 *e*PKPbc **PKPbc 22 54 44.1 +0.3**
CONA Conrad Observa 149.27 347 *i* PKiKP **PKiKP 22 54 46.1 -0.1**
MOA Molln 149.66 349 *i* PKiKP **PKiKP 22 54 47.6 +0.7**
MMAI Mount Meron Ar 149.78 305 PKPbc **PKPbc 22 54 47.3 +0.6**
comp=Z,0.6nm,0.5s,baz=46,slow=4.2,SNR=4.2
KBA Koelnbreinsper 150.57 350 *i* PKPbc **PKPbc 22 54 47.9 -0.3**
MOTA Moosalm 150.63 353 *i* PKiKP **PKiKP 22 54 49.4 +0.4**
WTTA Wattenberg 150.64 352 *i* PKiKP **PKiKP 22 54 49.4 +0.3**
DAVA Damuels 150.81 355 *i* pPKPbc pPKPbc 22 54 50.6 -1.7
FETA Feichten 150.99 353 *i* pPKPbc **PKPbc 22 54 50.9 +1.7**
ABTA Abfaltersbach 151.02 351 *i* PKiKP **PKiKP 22 54 50.2 +0.4**
TORD Torodi Ar. Bea 173.49 140 PKPab **PKPab 22 56 35.2 0.0**
comp=Z,0.6nm,0.9s,baz=246,slow=3.5,SNR=2.9

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*IDC **06** 22:43:50.4±3.5, 37.˚78N×72.˚90E, h116km±27km, mb3.5/13, mb1 3.6/19, mb1mx3.3/74, mbtmp3.9/19, Error ellipse: s-maj=34.7km s-min=16.3km az=157.0*
*ISCJB **06** 22:43:50.9±0.3, 37.˚97N±0.˚02×72.˚88E±0.˚04, h127km, mb3.7/20, Error ellipse: s-maj=4.2km s-min=3.1km az=167.9*
*BJI **06** 22:43:53.0, 38.˚20N×72.˚87E, h114km, mb4.2/8, mB4.6/4*
*MOS **06** 22:43:53.4±1.0, 38.˚07N×72.˚84E, h147km, mb4.0/15, Error ellipse: s-maj=9.3km s-min=5.6km az=92.0*
*NEIC **06** 22:43:54.2±0.8, 38.˚08N×72.˚82E, h145km±13km, mb4.0/2, Error ellipse: s-maj=12.6km s-min=9.6km az=127.0*
*NNC **06** 22:43:56.9±1.4, 38.˚36N×72.˚77E, h159km±9km, mb3.2, mpv4.1, Error ellipse: s-maj=12.8km s-min=7.8km az=1.0*
ISC 06 22:43:51.9±0.5**, 38.˚02N**±0.˚04×**72.˚76E**±0.˚04**, h127**km**, n103,** σ**2.s49**/124**, mb3.8**/20**, 13C-12D, Tajikistan**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SFK Sufi-Kurgan 2.08 16 ⇑P **Pn 22 44 29.8 +3.0**
212nm,0.3s
SFK ⇓S **Sn 22 44 55.9 +2.3**
439nm,0.4s
SFK Sufi-Kurgan 2.08 16 PN **Pn 22 44 29.8 +3.0**
SFK S **Sn 22 44 55.9 +2.3**
SFK pmax pmax
comp=Z,212nm,0.3s
SFK smax smax
comp=N,439nm,0.4s
KSH Kashi 2.92 58 P **Pn 22 44 34.7 -2.8**
KSH S **Sn 22 45 03.9 -8.7**
KSH pmax pmax
comp=N,380nm,0.9s
KSH smax smax
comp=N,760nm,0.6s
KSH smax smax
comp=N,800nm,0.7s
AML Almayashu 4.17 10 P **Pn 22 44 56.3 +2.1**
SNR=238
CEP Cherat 4.24 190 P **Pn 22 44 57.4 +2.5**
CEP S **Sn 22 45 45.0 +1.2**
TAS Tashkent 4.26 322 ⇓P **Pn 22 44 57.3 +2.3**
comp=N,12nm,0.3s
TAS ⇓S **Sn 22 45 43.9 -0.1**
comp=N,490nm,0.5s
TAS Tashkent 4.26 322 PN **Pn 22 44 57.3 +2.3**
TAS pmax pmax
comp=Z,12nm,0.3s
CHCP Chirah Chowk 4.37 175 P **Pn 22 44 59.6 +3.1**
UCH Uchtor 4.42 17 P **Pn 22 44 59.6 +2.2**
SNR=45
MNAS Manas 4.47 358 ⇓P **Pn 22 45 00.1 +2.2**
comp=Z,5.9nm,0.4s
MNAS ⇓S **Sn 22 45 48.5 -0.7**
comp=Z,125nm,0.5s
MNAS Manas 4.47 358 PN **Pn 22 45 00.1 +2.2**
MNAS pmax pmax
comp=Z,6.0nm,0.4s
KZA Kyzart 4.48 24 P **Pn 22 44 59.7 +1.4**
SNR=44
KBL Kabul 4.59 222 *e*Pn **Pn 22 45 03.7 +4.1**
KBL Kabul 4.59 222 *e*PN **Pn 22 45 03.7 +4.1**
EKS2 Erkin-Say 4.70 9 P **Pn 22 45 03.4 +2.4**
SNR=60
AAK Ala-Archa 4.80 15 P **Pn 22 45 04.8 +2.5**
comp=Z,7.3nm,0.3s,baz=158,slow=6.0,SNR=94
AAK S **Sn 22 45 56.8 -0.4**
comp=Z,8.1nm,0.3s,baz=334,slow=19,SNR=20
AAK Ala-Archa 4.80 15 ⇓P **Pn 22 45 04.4 +2.0**
comp=Z,16nm,0.5s
AAK ⇑S **Sn 22 45 58.3 +1.1**
comp=Z,121nm,0.8s
AAK Ala-Archa 4.80 15 P **Pn 22 45 04.9 +2.5**
SNR=42
AAK Ala-Archa 4.80 15 *e*Pn **Pn 22 45 04.8 +2.5**
AAK *e*Sn **Sn 22 45 57.5 +0.3**
AAK Ala-Archa 4.80 15*c i*PN **Pn 22 45 04.6 +2.2**
KBK Karagaybulak 4.93 19 P **Pn 22 45 06.3 +2.3**
SNR=17
ULHL Ulahol 5.00 31 P **Pn 22 45 06.5 +1.5**
SNR=19
CHMS Chumysh 5.20 16 P **Pn 22 45 09.7 +2.1**
SNR=40
THW Thamme Wali 5.28 189 P **Pn 22 45 11.0 +2.3**
TKM2 Tokmak 2 5.35 23 ⇓P **Pn 22 45 11.3 +1.5**
comp=Z,6.8nm,0.6s
TKM2 ⇓S **Sn 22 46 09.1 -1.4**
comp=Z,17nm,0.8s
TKM2 Tokmak 2 5.35 23 P **Pn 22 45 11.7 +1.9**
SNR=19
TKM2 Tokmak 2 5.35 23 PN **Pn 22 45 11.3 +1.5**
TKM2 pmax pmax
comp=Z,7.0nm,0.6s
KK31 Karatay Array 5.36 342 ⇑P **Pn 22 45 12.0 +2.2**
comp=Z,24nm,0.4s,baz=150,slow=11,SNR=488
KK31 ⇑S **Sn 22 46 09.4 -1.0**
comp=Z,78nm,0.4s,baz=163,slow=24,SNR=4.3
KK31 Karatay Array 5.36 342 PN **Pn 22 45 12.0 +2.2**
KK31 pmax pmax
comp=Z,24nm,0.4s
KKAR Karatay Array 5.36 342 *e*Pn **Pn 22 45 12.1 +2.3**
KKAR *e*Sn **Sn 22 46 09.1 -1.4**
KKAR Karatay Array 5.36 342 *e*PN **Pn 22 45 12.1 +2.3**
USP Ospenovka 5.41 14 P **Pn 22 45 12.3 +1.9**
SNR=37
SARP Sargodha 6.08 181 P **Pn 22 45 19.7 +0.2**
MDOK Medeo 6.09 31 ⇓P **Pn 22 45 20.5 +0.9**
comp=Z,7.0nm,0.5s
MDOK ⇓S **Sn 22 46 25.8 -2.3**
comp=Z,17nm,1.2s
KNDC Almaty 6.10 30 ⇑P **Pn 22 45 22.5 +2.9**
PDGK Podgornoye 7.37 42 ⇑P **Pn 22 45 37.1 +0.3**
comp=Z,24nm,1.0s
PDGK ⇑S **Sn 22 46 56.7 -2.3**
comp=Z,16nm,1.1s
PDGK Podgornoye 7.37 42 PN **Pn 22 45 37.1 +0.3**
PDGK pmax pmax
comp=Z,24nm,1.0s
MAKZ Makanchi 11.11 35 *e*Pn **Pn 22 46 27.4 +0.5**
MAKZ Makanchi 11.11 35 *e*P **Pn 22 46 27.4 +0.5**
MK01 Makanchi Array 11.23 36 *e*Pn **Pn 22 46 29.1 +0.5**
MK31 Makanchi Array 11.24 36 ⇓P **Pn 22 46 29.1 +0.4**
comp=Z,2.2nm,0.7s,baz=221,slow=13,SNR=16
MK31 Makanchi Array 11.24 36 *e*Pn **Pn 22 46 29.7 +1.0**
MK31 Makanchi Array 11.24 36 *e*P **Pn 22 46 29.7 +1.0**
MKAR Makanchi Array 11.24 36 P **Pn 22 46 28.6 -0.1**
comp=Z,0.2nm,0.3s,baz=226,slow=14,SNR=19
MKAR Makanchi Array 11.24 36 *e*Pn **Pn 22 46 29.7 +1.0**
MKAR Makanchi Array 11.24 36 *e*P **Pn 22 46 29.7 +1.0**
GEYT Alibeck 11.56 274 P **Pn 22 46 31.9 -1.2**
comp=Z,3.1nm,0.3s,baz=107,slow=9.8,SNR=33
GEYT S **Sn 22 48 33.9 -6.5**
comp=Z,3.6nm,0.3s,baz=99,slow=18,SNR=9.4
WMQ Urumqi 12.69 58 P **Pn 22 46 49.0 +1.2**
PYUN Piuthan 13.08 136 *e*P **Pn 22 46 49.6 -3.5**
comp=Z,71nm,0.6s
DANN Dangsing 13.32 133 *e*P **Pn 22 46 53.4 -2.9**
comp=Z,7.5nm,0.9s
KURK Kurchatov 13.36 16 *e*P **Pn 22 46 53.8 -2.5**
KOLN Koldanda 13.67 135 *e*P **Pn 22 46 57.6 -3.1**
comp=Z,22nm,0.4s
AB31 Akbulak array 14.55 325 ⇑P **Pn 22 47 10.8 -0.7**
comp=Z,1.5nm,0.3s,baz=139,slow=12,SNR=88
AB31 ⇑S **Sn 22 49 45.8 -6.4**
comp=Z,5.2nm,0.5s,baz=143,slow=22,SNR=19
AB31 Akbulak array 14.55 325 P **Pn 22 47 10.8 -0.7**
AB31 S **Sn 22 49 45.8 -6.4**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
AB31 smax smax
comp=N,5.0nm,0.5s
ABKAR Akbulak array 14.55 325 *e*Pn **Pn 22 47 10.8 -0.6**
ABKAR *e*S Sn 22 49 39.0 -13
KKN Kakani 14.63 131 *e*P **Pn 22 47 10.0 -2.9**
comp=N,44nm,0.5s
DMN Daman 14.66 131 *e*P **Pn 22 47 10.4 -3.0**
comp=N,22nm,0.5s
PKIN Phulchoki 14.86 131 *e*P **Pn 22 47 13.1 -2.7**
comp=N,25nm,0.5s
PKI Pulchoki 14.87 131 *e*P **Pn 22 47 13.1 -2.9**
comp=N,29nm,0.6s
GUN Gumba 14.91 129 *e*P **Pn 22 47 13.5 -3.1**
comp=N,30nm,0.5s
BVAR Borovoye Array 15.10 354 P **P 22 47 20.7 +0.1**
comp=N,0.2nm,0.3s,baz=156,slow=11,SNR=4.0
BVAR S **Sn 22 50 00.5 -4.9**
comp=N,0.2nm,0.3s,baz=168,slow=23,SNR=3.6
BRVK Borovoye 15.14 354 *e*P **Pn 22 47 19.9 +1.0**
JIRN Jiri 15.28 129 *e*P **Pn 22 47 18.3 -2.9**
comp=N,71nm,0.6s
RAMN Ramite 16.04 129 *e*P **Pn 22 47 28.1 -2.5**
comp=N,17nm,0.3s
AKTO Aktyubinsk 16.27 324 P **P 22 47 34.2 +0.7**
comp=N,1.0nm,0.3s,baz=127,slow=9.6,SNR=25
AKTO S **Sn 22 50 24.6 -9.0**
comp=N,0.7nm,0.3s,baz=157,slow=22,SNR=10
AKTO Aktyubinsk 16.27 324 ⇑P **P 22 47 33.2 -0.3**
comp=N,6.9nm,0.7s
AKTO ⇑S **Sn 22 50 29.6 -3.9**
comp=N,9.6nm,0.7s
TAPN Taplejung 16.45 126 *e*P **Pn 22 47 32.8 -2.8**
comp=N,43nm,0.6s
ODAN Odare 16.60 128 *e*P **Pn 22 47 35.3 -2.0**
comp=N,34nm,0.7s
LSA Lhasa 17.36 113 *e*P **Pn 22 47 46.5 -0.3**
comp=N,7.9nm,1.1s
LSA Lhasa 17.36 113 *e*P **Pn 22 47 46.5 -0.3**
LSA pmax pmax
comp=Z,8.0nm,1.1s
ZAA0 Zalesovo Array 17.96 24 ⇑P **P 22 47 52.5 +0.4**
comp=Z,7.1nm,0.8s
ZAA0 Zalesovo Array 17.96 24 *e*P **Pn 22 47 53.0 -0.2**
comp=Z,6.6nm,0.8s
ZALV Zalesovo Beam 17.96 24 P **Pn 22 47 52.9 -0.3**
comp=Z,0.5nm,0.3s,baz=213,slow=11,SNR=37
ZALV Zalesovo Beam 17.96 24 *e*P **P 22 47 52.3 +0.3**
NVS Novosibirsk 18.27 20 *e*P **Pn 22 47 56.2 -0.8**
ARU Arti 20.72 337 P **P 22 48 23.5 +1.6**
comp=Z,2.2nm,0.5s,baz=152,slow=6.5,SNR=6.3
ARU Arti 20.72 337*d i*P **P 22 48 22.0 +0.1**
ARU 22 48 47.9
ARU S **S 22 52 02.5 -3.5**
ARU SS Sn 22 52 49.7 +30
ARU pmax pmax
comp=Z,15nm,2.5s
GTA Gaotai 21.13 78 *e*P **P 22 48 30.8 +4.1**
GTA pmax pmax
comp=Z,2.0nm,1.1s
GNI Garni 21.82 284 *e*P **P 22 48 35.3 +1.2**
GNI pmax pmax
comp=Z,44nm,1.4s
NCK Nalchik 22.70 293 *e*P **P 22 48 43.5 +0.8**
NCK pmax pmax
comp=Z,7.0nm,1.0s
NEY Neytrino 23.32 292 *e*P **P 22 48 49.8 +1.1**
NEY pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 23.39 294 *e*P **P 22 48 51.8 +2.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
ZAK Zakamensk 24.94 50 *e*P **P 22 49 03.8 +0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
SONM Songino Array 26.32 57 P **P 22 49 16.0 +0.2**
comp=Z,0.4nm,0.5s,baz=243,slow=9.6,SNR=4.0
SONM Songino Array 26.32 57 P **P 22 49 16.0 +0.2**
CD2 Chengdu 26.44 96 *e*P **P 22 49 17.0 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
OBN Obninsk 29.75 317 *e*P **P 22 49 47.2 +1.2**
OBN *e* 22 50 48.6
OBN pmax pmax
comp=Z,4.0nm,1.2s
ASF Jabal al Asfar 29.79 270 P **P 22 49 47.3 +0.5**
comp=Z,2.3nm,0.6s,baz=200,slow=2.9,SNR=4.4
BRTR Keskin Array B 30.35 286 P **P 22 49 53.9 +2.2**
comp=Z,0.5nm,0.8s,baz=90,slow=7.4,SNR=3.8
AKASG Malin Array Be 33.13 307 P **P 22 50 17.2 +1.5**
comp=Z,0.2nm,0.3s,baz=88,slow=6.8,SNR=4.5
AKASG Malin Array Be 33.13 307 *i* P **P 22 50 19.0 +3.3**
KIEV Kiev 33.14 307 *e*P **P 22 50 15.8 0.0**
KIEV pmax pmax
comp=Z,2.0nm,1.0s
HIA Hailar 35.27 56 *e*P **P 22 50 35.7 +1.4**
HIA pmax pmax
comp=Z,3.0nm,0.8s
MLR Muntele Rosu 35.30 297 P **P 22 50 36.9 +2.2**
comp=Z,0.5nm,0.7s,baz=130,slow=7.9
FIA1 FINESS Array S 37.04 325 *e*P **P 22 50 50.6 +1.5**
FINES FINESS Array B 37.04 325 P **P 22 50 50.9 +1.8**
comp=Z,1.0nm,0.4s,baz=116,slow=11,SNR=11
ARCES ARCESS Array B 40.30 336 P **P 22 51 17.6 +1.5**
comp=Z,1.5nm,0.8s,baz=101,slow=6.3,SNR=6.3
HFS Hagfors 42.76 321 P **P 22 51 37.9 +1.5**
comp=Z,1.7nm,0.4s,baz=98,slow=10,SNR=14
TIXI Tiksi 43.84 22 P **P 22 51 45.5 +0.7**
comp=Z,2.4nm,0.5s,baz=285,slow=9.4,SNR=4.6
NB2 NORSAR Subarra 44.03 322 P **P 22 51 48.1 +1.5**
comp=Z,0.8nm,0.4s,baz=94,slow=7.9
NOA NORSAR Array B 44.03 322 P **P 22 51 47.8 +1.2**
comp=Z,6.4nm,1.2s,baz=94,slow=7.8,SNR=3.3
ESDC Sonseca Array 58.00 298 P **P 22 53 31.4 +0.1**
comp=Z,0.4nm,0.5s,baz=51,slow=7.4,SNR=5.0
TORD Torodi Ar. Bea 67.15 269 P **P 22 54 32.6 +0.3**
comp=Z,0.6nm,0.5s,baz=51,slow=5.9,SNR=9.1

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*ATH **06** 22:46:07.7, 38.˚15N×26.˚75E, h33km±1km, ML2.5/4, Error ellipse: s-maj=3.7km s-min=1.1km az=243.0*
*CSEM **06** 22:46:07.6±0.1, 38.˚19N×26.˚74E, h5km, ML2.9, Error ellipse: s-maj=3.8km s-min=2.3km az=66.0*
*ISK **06** 22:46:07.1, 38.˚18N×26.˚72E, h8km, ML2.9/13*
*ISCJB **06** 22:46:07.9±0.3, 38.˚21N±0.˚02×26.˚78E±0.˚03, h6km±3km, Error ellipse: s-maj=5.0km s-min=2.5km az=148.1*
*DDA **06** 22:46:07.3, 38.˚21N×26.˚79E, h13km, Ml2.9*
*THE **06** 22:46:08.8, 38.˚17N×26.˚75E, h15km±1km, ML2.4/4, Error ellipse: s-maj=2.3km s-min=0.5km az=239.0*
ISC 06 22:46:07.8±0.8**, 38.˚18N**±0.˚02×**26.˚76E**±0.˚02**, h11**km±5km**,** **n77,** σ**0.s70**/117**, Aegean Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DGB ˜zmir 0.16 143 *i* P **Pg 22 46 11.7 +0.2**
DGB *i* S **Sg 22 46 14.2 +0.2**
GMLD Gumuldur 0.16 130 PG **Pg 22 46 11.6 +0.1**
GMLD SG **Sg 22 46 14.0 0.0**
GMLD Gumuldur 0.16 130 *e*Pg **Pg 22 46 11.6 +0.1**
GMLD *e*Sg **Sg 22 46 14.0 0.0**
ZEY ˜zmir 0.21 286 *i* P **Pg 22 46 12.8 +0.6**
ZEY *i* S **Sg 22 46 16.8 +1.5**
URLA Izmir 0.22 324 PG **Pg 22 46 11.6 -0.9**
URLA SG **Sg 22 46 15.6 -0.1**
URLA Izmir 0.22 324 *i* P **Pg 22 46 11.5 -0.9**
URLA *i* S **Sg 22 46 15.5 -0.1**
URLA Izmir 0.22 324 *e*Pg **Pg 22 46 11.6 -0.9**
URLA S **Sg 22 46 15.5 -0.1**
KRBN Karaburun 0.44 339 PG **Pg 22 46 15.7 -0.8**
KRBN SG **Sg 22 46 22.6 +0.2**
KRBN Karaburun 0.44 339 *e*Pg **Pg 22 46 15.7 -0.8**
KRBN *e*Sg **Sg 22 46 22.6 +0.2**
SMG Samos 0.48 172 P **Pb 22 46 17.9 -0.3**
SMG S **Sb 22 46 25.9 +0.8**
SMG AML AML 22 46 25.9
comp=N,1250μm,0.5s
SMG AML AML 22 46 27.0
comp=E,1010μm,0.2s
SMG Samos 0.48 172 P **Pb 22 46 17.9 -0.3**
SMG S **Sb 22 46 25.3 +0.1**
SMG Samos 0.48 172 P **Pb 22 46 17.9 -0.3**
SMG S **Sb 22 46 25.3 +0.1**
FOCM Fo˚§a 0.53 358 PG **Pg 22 46 17.5 -0.7**
FOCM Fo˚§a 0.53 358 *e*Pg **Pg 22 46 17.5 -0.7**
CHOS Chios island 0.59 291 P **Pb 22 46 20.0 -0.2**
CHOS S **Sb 22 46 29.6 +1.0**
CHOS AML AML 22 46 32.7
comp=E,1039μm,0.3s
CHOS AML AML 22 46 33.7
comp=N,611μm,0.2s
CHOS Chios island 0.59 291 P **Pb 22 46 19.9 -0.2**
CHOS S **Sb 22 46 29.5 +1.0**
CHOS Chios island 0.59 291 P **Pb 22 46 19.9 -0.2**
CHOS S **Sb 22 46 29.6 +1.0**
GCAM G?zelcaml? 0.61 142 PG **Pg 22 46 19.8 +0.1**
GCAM SG **Sb 22 46 28.6 -0.4**
GCAM G?zelcaml? 0.61 142 *i* P **Pb 22 46 20.0 -0.4**
GCAM *i* S **Sb 22 46 28.5 -0.5**
GCAM G?zelcaml? 0.61 142 *e*Pg **Pg 22 46 19.8 +0.1**
GCAM S **Sb 22 46 28.5 -0.5**
CAND Candarli 0.77 3 PG **Pg 22 46 22.6 -0.2**
AKHS Akhisar 1.08 50 *i* P **Pb 22 46 27.3 -1.2**
AKHS *i* S **Sb 22 46 42.1 -0.5**
AKHS Akhisar 1.08 50 P **Pb 22 46 27.3 -1.2**
AKHS S **Sb 22 46 42.2 -0.5**
AKS Akhisar 1.08 50 PN **Pn 22 46 29.0 +0.1**
AKS Akhisar 1.08 50 *e*Pn **Pn 22 46 29.0 +0.1**
PRK Paraskevi 1.13 340 P **Pb 22 46 29.0 -0.3**
PRK S **Sg 22 46 44.4 +0.2**
PRK AML AML 22 46 46.6
comp=N,708μm,0.7s
PRK AML AML 22 46 47.0
comp=E,1716μm,0.7s
PRK Paraskevi 1.13 340 P **Pb 22 46 29.1 -0.2**
PRK S **Sn 22 46 44.7 -0.2**
PRK Paraskevi 1.13 340 P **Pb 22 46 29.0 -0.3**
PRK S **Sn 22 46 44.8 -0.2**
BODT Bodrum 1.20 158 P **Pn 22 46 29.3 -1.2**
BODT S **Sg 22 46 46.2 -0.3**
BODT Bodrum 1.20 158 P **Pn 22 46 29.3 -1.2**
BODT S **Sg 22 46 46.2 -0.3**
BDRM Kayabasi 1.24 154 *i* P **Pn 22 46 30.9 -0.1**
BDRM *i* S **Sg 22 46 48.5 +0.7**
BDRM Kayabasi 1.24 154 P **Pn 22 46 30.9 -0.1**
BDRM S **Sg 22 46 48.5 +0.7**
SIGR SIGRI 1.25 326 P **Pn 22 46 30.9 -0.2**
SIGR S **Sg 22 46 49.5 +1.5**
SIGR AML AML 22 46 51.2
comp=N,302μm,0.6s
SIGR AML AML 22 46 52.0

	comp=E,214μm,0.3s						
SIGR	SIGRI	1.25	326	P	Pn	22 46 30.9	-0.2
SIGR				S	Sb	22 46 47.4	0.0
SIGR	SIGRI	1.25	326	P	Pn	22 46 30.9	-0.2
SIGR				S	Sb	22 46 47.4	0.0
STEP	BALIKESIR_Sava	1.41	32	*i* P	Pn	22 46 32.7	-0.7
STEP				*i* S	Sb	22 46 52.1	0.0
STEP	BALIKESIR_Sava	1.41	32	P	Pn	22 46 32.7	-0.7
STEP				S	Sb	22 46 52.1	0.0
APE	Apeiranthos	1.48	222	P	Pn	22 46 33.2	-1.1
APE	Apeiranthos	1.48	222	P	Pn	22 46 33.4	-0.9
APE	Apeiranthos	1.48	222	P	Pn	22 46 33.2	-1.1
KULA	Kula-Manisa	1.53	77	PN	Pb	22 46 35.9	-0.3
KULA	Kula-Manisa	1.53	77	*e*Pn	Pb	22 46 35.9	-0.3
YER	Yerkesik	1.60	130	PN	Pb	22 46 36.8	-0.5
YER	Yerkesik	1.60	130	*e*Pn	Pb	22 46 36.8	-0.5
BALY	Balya	1.70	23	*i* P	Pn	22 46 35.9	-1.5
BALY				*i* S	Sb	22 47 00.4	0.0
BALY	Balya	1.70	23	P	Pn	22 46 35.9	-1.5
BALY				S	Sb	22 47 00.4	0.0
BALB	Balikesir	1.70	31	PN	Pn	22 46 37.9	+0.6
BALB	Balikesir	1.70	31	*e*Pn	Pn	22 46 37.9	+0.6
DEMI	Demirci	1.76	60	*i* P	Pb	22 46 39.7	-0.4
DEMI				*i* S	Sn	22 47 01.1	+0.4
DEMI	Demirci	1.76	60	P	Pb	22 46 39.7	-0.4
DEMI				S	Sn	22 47 01.0	+0.4
TAVA	DENIZLI_Tavas	1.85	112	*i* P	Pb	22 46 40.9	-0.8
TAVA				*i* S	Sb	22 47 05.7	+0.9
TAVA	DENIZLI_Tavas	1.85	112	P	Pb	22 46 40.8	-0.8
TAVA				S	Sb	22 47 05.7	+0.9
SIMA	Simav-Kutahya	1.96	62	PN	Pn	22 46 42.2	+1.2
SIMA	Simav-Kutahya	1.96	62	*e*Pn	Pn	22 46 42.2	+1.2
LIA	Limnos Island	2.11	325	P	Pn	22 46 43.2	+0.3
LIA	Limnos Island	2.11	325	P	Pn	22 46 43.1	+0.2
LIA	Limnos Island	2.11	325	P	Pn	22 46 43.2	+0.3
KHAL	Karahalli	2.16	84	*i* P	Pb	22 46 47.4	+0.5
KHAL				*i* S	Sb	22 47 13.2	-0.5
KHAL	Karahalli	2.16	84	P	Pb	22 46 47.4	+0.5
KHAL				S	Sb	22 47 13.2	-0.5
GELI	Tayfur-Gelibol	2.23	354	PN	Pn	22 46 45.1	+0.5
GELI	Tayfur-Gelibol	2.23	354	*e*Pn	Pn	22 46 45.1	+0.5
KRBG	Karabiga-Canak	2.25	11	PN	Pn	22 46 45.4	+0.5
KRBG	Karabiga-Canak	2.25	11	*e*Pn	Pn	22 46 45.4	+0.5
EDC	Edincik	2.33	21	PN	Pn	22 46 46.7	+0.7
EDC	Edincik	2.33	21	*e*Pn	Pn	22 46 46.7	+0.7
KCTX	Karacabey (Bur	2.42	30	PN	Pn	22 46 48.3	+1.0
KCTX	Karacabey (Bur	2.42	30	*e*Pn	Pn	22 46 48.3	+1.0
TVSB	Tavsanli	2.46	58	PN	Pn	22 46 48.9	+1.0
TVSB	Tavsanli	2.46	58	*e*Pn	Pn	22 46 48.9	+1.0
ERIK	Erikli-Kesan	2.49	356	PN	Pn	22 46 48.6	+0.4
ERIK	Erikli-Kesan	2.49	356	*e*Pn	Pn	22 46 48.6	+0.4
RKY	Sarkoy-Tekirda	2.52	7	PN	Pn	22 46 49.9	+1.2
RKY	Sarkoy-Tekirda	2.52	7	*e*Pn	Pn	22 46 49.9	+1.2
SBT3	Marmara-Eregli	2.86	19	PN	Pn	22 46 54.5	+1.4
SBT3	Marmara-Eregli	2.86	19	*e*Pn	Pn	22 46 54.5	+1.4
ARMT	Armutlu	2.89	34	PN	Pn	22 46 54.8	+1.1
ARMT	Armutlu	2.89	34	*e*Pn	Pn	22 46 54.8	+1.1

*NIED **06** 22:52:00, 39°.40N×143°.80E, h11km, Mw3.8 Best double couple: M₀6.23000×10¹⁴ NP1:φs190.00000°, δ37.00000°, λ85.00000°. NP2:φs16.00000°, δ53.00000°, λ94.00000°.*
*ISCJB **06** 22:52:29.4±0.7, 39°.46N±0°.04×143°.79E±0°.06, h11km, mb3.7/8, Error ellipse: s-maj=8.0km s-min=4.0km az=39.2*
*IDC **06** 22:52:29.3±1.1, 39°.30N×143°.76E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.7/64, mbtmp3.8/12, ML3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.1/61, Error ellipse: s-maj=26.6km s-min=19.8km az=119.0*
*JMA **06** 22:52:30.8±0.2, 39°.43N×143°.79E, h30km, M4.2*
ISC 06 22:52:31.0±0.9, 39°.41N±0°.06×143°.74E±0°.08, h11km, n31, σ1°.93/37, mb3.8/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.50	277	P	Pn	22 52 57.0	-0.8
MIYJ				*e*S	Sn	22 53 15.6	-1.7
JTH	Tanohata	1.54	291	P	Pn	22 52 57.4	-1.0
OFUJ	Ofunato	1.64	259	P	Pn	22 52 59.0	-0.8
JOM	Ohasama	1.90	273	P	Pn	22 53 03.1	-0.2
JOM				*e*S	Sn	22 53 26.9	-0.3
JANG	Nango	1.96	300	P	Pn	22 53 02.8	-1.4
JMK	Ichinoseki	2.01	258	P	Pn	22 53 04.4	-0.5
JYK	Kaneyama	2.67	260	P	Pn	22 53 14.2	+0.2
JYK				*e*S	Sn	22 53 46.5	+0.1
JOT	Ohata	2.84	315	P	Pn	22 53 15.7	-0.6
JNBK	Urakawa-nobuka	2.96	346	P	Pn	22 53 18.4	+0.5
JNBK				*e*S	Sn	22 53 53.0	-0.4
JAW	Awa shima	3.63	256	P	Pn	22 53 27.8	+0.7
JAK	Akkeshi	3.65	11	P	Pn	22 53 26.2	-1.2
JAK				*e*S	Sn	22 54 07.6	-2.8
JFR	Furan	3.84	347	*e*S	Sn	22 54 14.3	-1.0
JAR	Ashorobuto	3.88	0	P	Pn	22 53 29.4	-1.2
JAR				*e*S	Sn	22 54 12.2	-3.9
NEM2	Nemuro 2	4.23	20	P	Pn	22 53 34.3	-1.0
NEM2				*e*S	Sn	22 54 20.4	-4.2
ASAJ	Asahikawa	4.78	350	Pn	Pn	22 53 44.2	+1.4
	2.7nm,0.3s,baz=200,slow=12,SNR=8.0						
ASAJ				Sn	Sn	22 54 38.4	+0.2
	2.7nm,0.3s,baz=16,slow=16,SNR=5.0						
MJAR	Matsushiro Arr	5.23	238	Pn	Pn	22 53 49.4	+0.3
	3.6nm,0.3s,baz=34,slow=14,SNR=30						
MAT	Matsushiro	5.23	238	P	Pn	22 53 50.4	+1.3
MAT				S	Sn	22 54 51.8	+2.4
JHJ	Hachijo jima 2	7.05	208	Sn	Sn	22 55 27.1	-7.1
	23nm,0.3s,baz=259,slow=22,SNR=4.6						
USRK	Ussuriysk Ar.	9.99	302	Pn	Pn	22 54 56.8	+2.4
	0.5nm,0.3s,baz=99,slow=14,SNR=7.6						
USRK				LR	LR	22 58 54.5	
	comp=Z,50nm,19.7s,baz=143,slow=38						
MA2	Magadan	20.67	10	P	P	22 57 10.6	0.0
	3.4nm,0.4s,baz=0.2,slow=22,SNR=3.6						
SEY	Seymchan	24.12	10	P	P	22 57 48.0	+1.5
	0.8nm,0.4s,baz=180,slow=20,SNR=3.1						
H11N2	WAKE ISLAND Hy	27.97	128	T	T	23 27 51.1	
	baz=320,slow=76,SNR=4.7						
H11N1	WAKE ISLAND Hy	27.98	128	T	T	23 27 51.0	
	baz=320,slow=76,SNR=3.2						
H11N3	WAKE ISLAND Hy	27.99	128	T	T	23 28 03.7	
	baz=320,slow=76,SNR=3.6						
SONM	Songino Array	28.09	300	P	P	22 58 23.1	+0.4
	0.4nm,0.3s,baz=96,slow=8.6,SNR=4.2						
ZALV	Zalesovo Beam	41.72	310	P	P	23 00 20.2	+0.5
	1.6nm,0.4s,baz=95,slow=8.6,SNR=9.3						
MKAR	Makanchi Array	44.45	300	P	P	23 00 42.1	+0.2
	0.5nm,0.5s,baz=83,slow=10,SNR=9.2						
WRA	Warramunga Arr	59.70	190	P	P	23 02 34.5	-1.0
	0.4nm,0.5s,baz=6.8,slow=6.9,SNR=4.0						
RES	Resolute Bay	59.84	15	P	P	23 02 36.5	+0.7
	0.5nm,0.5s,baz=330,slow=5.8,SNR=3.4						
YKA	Yellowknife Ar	60.83	31	P	P	23 02 44.3	+1.5
	0.2nm,0.6s,baz=303,slow=6.7,SNR=3.3						
FINES	FINESS Array B	67.56	333	P	P	23 03 26.6	-0.4
	1.7nm,0.8s,baz=95,slow=7.0,SNR=3.5						

IDC 06 23:07:03.8±10.0, 30°.19S×177°.23W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/36, mbtmp3.5/2, Error ellipse: s-maj=466.1km s-min=56.5km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.78	266	P	P	23 15 11.2	-0.3
	0.2nm,0.3s,baz=110,slow=8.0,SNR=2.9						
WRA	Warramunga Arr	44.75	272	P	P	23 15 19.2	0.0
	0.5nm,0.5s,baz=112,slow=7.5,SNR=6.0						
FINES	FINESS Array B	145.18	341	PKPbc	PKPbc	23 26 41.4	-0.8
	1.3nm,0.9s,baz=66,slow=4.7,SNR=5.3						

IDC 06 23:24:46.2±4.1, 20°.69S×169°.02E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/39, mbtmp3.7/4, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/35, Error ellipse: s-maj=137.0km s-min=40.8km az=138.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.77	240	Pn	Pn	23 25 32.1	+0.2
	2.8nm,0.3s,baz=122,slow=16,SNR=42						
DZM				Sn	Sb	23 26 10.8	-0.3
	0.7nm,0.3s,baz=0.0,slow=20,SNR=2.7						
HNR	Honiara	14.20	321	LR	LR	23 31 58.5	
	comp=Z,32nm,19.6s,baz=135,slow=30						
STKA	Stephens Creek	26.92	240	P	P	23 30 28.7	-0.5
	2.4nm,0.7s,baz=76,slow=8.3,SNR=3.1						
WRA	Warramunga Arr	32.50	265	P	P	23 31 17.3	-1.5
	0.4nm,0.5s,baz=98,slow=8.3,SNR=3.8						
ASAR	Alice Springs	32.60	258	P	P	23 31 21.5	+1.7
	0.9nm,0.8s,baz=90,slow=9.6,SNR=5.7						
BATI	Baumata	44.80	276	LR	LR	23 52 00.5	
	comp=Z,43nm,18.4s,baz=220,slow=36						
GERES	GERESS Array B	145.65	331	PKPbc	PKPdf	23 44 26.1	-0.5
	1.0nm,0.7s,baz=56,slow=3.7,SNR=7.4						

MAN 06 23:29:59, 12°.47N×123°.61E, h24km, mb4.4, ML3.2, MS3.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNP	Catarman	1.03	87	*e*P	Pb	23 30 18.2	+0.1
CNP				*e*S	Sn	23 30 31.9	+0.3
RCP	Roxas	1.24	223	⇑*e*P	Pn	23 30 21.0	+0.2
RCP				*e*S	Sb	23 30 38.2	+0.9
AUQP	San Andres	1.25	313	*e*P	Pb	23 30 23.4	+1.5
AUQP				*e*S	Sb	23 30 43.3	+5.7
OTRP	Odiongan	1.56	266	*e*P	Pn	23 30 25.8	+0.5
OTRP				*e*S	Sb	23 30 46.4	-0.1
PLP	Palo	1.86	134	⇓*e*P	Pn	23 30 30.2	+0.9
PLP				*e*S	Sb	23 30 54.6	-0.6
SJMP	San Jose	2.44	270	*e*P	Pn	23 30 38.5	+1.2
SJMP				*e*S	Sn	23 31 08.0	+1.6
MSLP	Maasin	2.62	152	*e*P	Pb	23 30 46.4	+1.1
MSLP				*e*S	Sb	23 31 21.4	+4.4

DJA 06 23:32:47.4±0.7, 3°S±4°×12°8E±°, h27km±9km, M3.6/3, MLv3.6/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	Ambon	0.63	171	P	Pb	23 32 59.9	0.0
AAI				S	Sn	23 33 09.4	-0.4
MSAI	Masohi	0.88	109	P	Pb	23 33 04.3	+0.3
MSAI				S	Sn	23 33 18.1	+2.3
NLAI	Namlea	1.01	260	P	Pb	23 33 06.5	+0.2
NLAI				S	Sb	23 33 20.8	+1.5
SANI	Sanana	2.34	295	P	Pn	23 33 22.7	-1.4
LBMI	Labuha	2.48	346	P	Pn	23 33 27.9	+1.8
LBMI				S	Sn	23 33 57.0	+1.5
SWI	Sorong	3.84	55	P	Pn	23 33 44.7	0.0
FAKI	Fak Fak	4.15	88	P	Pn	23 33 49.2	+0.2
FAKI				S	Sn	23 34 36.8	+0.2

*ISCJB **06** 23:35:49.6±0.6, 27°.82N±0°.06×52°.04E±0°.05, h10km, mb3.7/14, Error ellipse: s-maj=8.9km s-min=5.6km az=159.7*
*IDC **06** 23:35:50.0±1.4, 27°.87N×51°.98E, h0km, mb3.8/14, mb1 3.9/19, mb1mx3.7/64, mbtmp3.8/19, ML3.4/5, Error ellipse: s-maj=28.0km s-min=18.2km az=178.0*
*CSEM **06** 23:35:52.5±2.0, 27°.90N×52°.07E, h10km, ML3.7, Error ellipse: s-maj=44.5km s-min=15.4km az=7.0*
*TEH **06** 23:35:54.0, 27°.95N×51°.93E, h10km, ML3.7*
ISC 06 23:35:51.0±0.8, 27°.80N±0°.07×52°.04E±0°.05, h10km, n35, σ1°.21/39, mb3.8/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.97	60	*e*Pg	Pg	23 36 08.7	-1.0
GHIR				*e*Sg	Sg	23 36 20.6	-1.7
AHBU	AHRAM	1.25	328	*e*Pg	Pg	23 36 14.4	-0.6
ISRV	Sarvestan	1.84	31	*e*Pn	Pn	23 36 24.8	+1.9
ISRV				*e*Sg	Sb	23 36 49.2	+1.1
ISRV				*e*AMB	AMB	23 37 00.8	
	comp=Z,8μm,0.4s						
ISRV	Sarvestan	1.84	31	*e*Pn	Pn	23 36 24.8	+1.9
ISRV				*e*Sg	Sb	23 36 49.2	+1.1
IKAZ	Kazeroun	1.98	355	*e*Pn	Pn	23 36 25.7	+0.8
IKAZ				*e*AMB	AMB	23 37 01.2	
	comp=Z,7μm,0.2s						
IKAZ	Kazeroun	1.98	355	*e*Pn	Pn	23 36 25.7	+0.8
IMEH	Mehriz	4.22	31	*e*Pn	Pn	23 36 57.9	+2.2
IMEH				*e*AMB	AMB	23 36 58.6	
	comp=Z,5μm,0.1s						
IMEH	Mehriz	4.22	31	*e*Pn	Pn	23 36 57.9	+2.2
ISAD	Sadrabad	4.34	19	*e*Pn	Pn	23 36 58.2	+0.8
ISAD				*e*AMB	AMB	23 37 55.2	
	comp=N,326nm,0.1s						
ISAD	Sadrabad	4.34	19	*e*Pn	Pn	23 36 58.2	+0.8
IBAF	Bafgh	4.87	38	*e*AMB	AMB	23 37 06.1	
	comp=Z,925nm,0.2s						
IBAF				*e*Pn	Pn	23 37 05.6	+1.1
ICHK	Chekchek	4.88	24	*e*AMB	AMB	23 37 07.5	
	comp=Z,647nm,0.2s						
ICHK				*e*Pn	Pn	23 37 05.6	+0.9
NASN	Na'in	5.03	7	*e*Pn	Pn	23 37 05.2	-1.6
IZEF	Zefreh	5.08	3	*e*AMB	AMB	23 37 27.9	
	comp=Z,148nm,0.3s						
IZEF				*e*Pn	Pn	23 37 07.8	+0.3
TABS	Tabas	7.29	36	*e*Pn	Pn	23 37 36.2	-1.4
WSAR	Wadi Sarin	7.49	126	Pn	Pn	23 37 42.2	+1.8
	comp=Z,0.7nm,0.3s,baz=312,slow=7.3,SNR=7.1						
WSAR				Sn	Sn	23 39 03.6	-1.8
	comp=Z,0.3nm,0.3s,baz=323,slow=20,SNR=4.0						
GEYT	Alibeck	11.31	25	Pn	Pn	23 38 33.7	+0.9
	comp=Z,0.4nm,0.3s,baz=207,slow=13,SNR=9.4						
ASF	Jabal al Asfar	13.82	292	Pn	Pn	23 39 07.3	+0.1
	comp=Z,0.1nm,0.3s,baz=160,slow=12,SNR=2.3						
KBZ	Khabaz	17.52	338	P	Pn	23 39 55.4	+0.1
	comp=Z,0.1nm,0.3s,baz=132,slow=14,SNR=2.9						
BRTR	Keskin Array B	19.33	313	P	P	23 40 17.4	+0.8
	comp=Z,0.3nm,0.3s,baz=134,slow=13,SNR=9.9						
AKTO	Aktyubinsk	23.06	10	P	P	23 40 57.3	+0.8
	comp=Z,1.7nm,0.7s,baz=204,slow=12,SNR=4.3						
AAK	Ala-Archa	23.47	45	P	P	23 41 02.6	+1.6
	comp=Z,0.8nm,0.8s,baz=158,slow=9.2,SNR=5.5						
MLR	Muntele Rosu	27.20	317	P	P	23 41 35.9	+0.9
	comp=Z,0.3nm,0.7s,baz=341,slow=8.1,SNR=4.0						
BVAR	Borovoye Array	28.64	23	P	P	23 41 47.6	-0.1
	comp=Z,0.9nm,0.4s,baz=218,slow=7.5,SNR=12						
AKASG	Malin Array Be	28.68	329	P	P	23 41 47.2	-0.7
	comp=Z,0.3nm,0.3s,baz=126,slow=7.8,SNR=3.6						
MKAR	Makanchi Array	30.36	43	P	P	23 42 03.2	+0.2
	comp=Z,0.7nm,0.6s,baz=230,slow=8.9,SNR=15						
ZALV	Zalesovo Beam	35.47	33	P	P	23 42 47.1	-0.4
	comp=Z,1.4nm,0.4s,baz=240,slow=9.6,SNR=12						
FINES	FINESS Array B	37.85	340	P	P	23 43 06.8	-0.9
	comp=Z,1.2nm,0.5s,baz=145,slow=9.4,SNR=11						
HFS	Hagfors	41.46	332	P	P	23 43 37.2	-0.5
	comp=Z,2.5nm,0.5s,baz=120,slow=10,SNR=16						
NB2	NORSAR Subarra	42.98	332	P	P	23 43 48.5	-1.7
	comp=Z,1.2nm,0.6s,baz=123,slow=8.6						
NOA	NORSAR Array B	42.98	332	P	P	23 43 48.5	-1.7
	comp=Z,1.1nm,0.6s,baz=123,slow=8.4,SNR=5.3						
ARCES	ARCESS Array B	44.52	347	P	P	23 44 02.4	0.0
	comp=Z,3.3nm,1.0s,baz=134,slow=6.9,SNR=7.6						
TORD	Torodi Ar. Bea	49.04	263	P	P	23 44 38.9	+0.4
	comp=Z,0.3nm,0.7s,baz=60,slow=8.3,SNR=5.7						
ILAR	Eielson Array	86.56	8	P	P	23 48 33.7	-0.4
	comp=Z,0.3nm,0.6s,baz=315,slow=4.7,SNR=3.5						
YKA	Yellowknife Ar	89.39	354	P	P	23 48 47.9	+0.3
	comp=Z,0.6nm,0.6s,baz=5.9,slow=5.0,SNR=9.5						

IDC 06 23:54:35.1±2.4, 22°.93S×169°.66E, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/38, mbtmp4.0/3, ML3.6/1, MS3.2/6, Ms1 3.2/6, ms1mx2.8/35, Error ellipse: s-maj=83.8km s-min=39.6km az=0.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.09	285	Pn	Pn	23 55 25.4	+0.1
	7.4nm,0.3s,baz=113,slow=9.8,SNR=59						
DZM				Sn	Sn	23 56 04.1	+1.1
	3.6nm,0.3s,baz=348,slow=18,SNR=6.4						
DZM				LR	LR	23 56 48.6	
	comp=Z,354nm,19.1s,baz=98,slow=43						
HNR	Honiara	16.33	324	LR	LR	00 02 55.8	
	comp=Z,40nm,21.8s,baz=13,slow=31						
RPZ	Rata Peaks	20.76	177	LR	LR	00 06 17.2	
	comp=Z,48nm,20.9s,baz=22,slow=34						
STKA	Stephens Creek	26.40	244	LR	LR	00 10 37.0	
	comp=Z,33nm,19.1s,baz=29,slow=36						
ASAR	Alice Springs	32.79	262	P	P	00 01 10.9	+0.6
	2.8nm,0.8s,baz=91,slow=8.7,SNR=22						
WRA	Warramunga Arr	32.96	268	P	P	00 01 10.7	-1.1
	1.1nm,0.8s,baz=100,slow=8.2,SNR=5.1						
WRA				LR	LR	00 14 55.0	
	comp=Z,47nm,18.8s,baz=105,slow=37						
PLCA	Paso Flores	95.53	139	LR	LR	00 42 37.6	
	comp=Z,28nm,20.2s,baz=252,slow=30						
GERES	GERESS Array B	147.89	330	PKPbc	PKPbc	00 14 21.6	-0.6
	0.3nm,0.6s,baz=35,slow=3.6,SNR=2.3						

MAN 07 00:01:08, 12°.47N×123°.62E, h23km, mb4.4, ML3.2, MS2.9, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	Masbate	0.11	179	⇑*i* P	Pn	00 01 14.3	-0.1
MMPH				*i* S	Sb	00 01 16.1	+0.7
PVCP	Virac	1.24	25	*e*P	Pb	00 01 31.0	+0.3
PVCP				*e*S	Sb	00 01 46.8	+0.5
RCP	Roxas	1.24	224	⇓*e*P	Pn	00 01 30.0	0.0
RCP				*e*S	Sb	00 01 47.0	+0.6
OCLP	Ormoc	1.71	145	*e*P	Pb	00 01 37.6	-1.1
OCLP				*e*S	Sb	00 02 03.7	+4.0
GQP	Guinayangan	1.83	321	⇓*e*P	Pb	00 01 39.6	-1.3
GQP				*e*S	Sb	00 02 07.6	+4.2
PLP	Palo	1.85	134	⇑*i* P	Pn	00 01 39.2	+0.8
PLP				*e*S	Sb	00 02 03.3	-0.7
GUIM	Jordan	2.09	209	*e*P	Pn	00 01 43.4	+1.8
GUIM				*e*S	Sb	00 02 09.2	-1.5
LLP	Lapu-Lapu	2.16	171	*e*P	Pn	00 01 43.2	+0.6
LLP				*e*S	Sb	00 02 12.2	-0.7

IDC 07 00:03:09.3±2.3, 5°.52S×131°.10E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.4/50, mbtmp3.5/5, ML3.6/3, Error ellipse: s-maj=118.6km s-min=26.3km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.60	203	Pn	Pn	00 06 22.8	-0.7
	0.3nm,0.3s,baz=26,slow=13,SNR=14						
FITZ				Sn	Sn	00 08 47.1	-8.4
	0.3nm,0.3s,baz=140,slow=19,SNR=4.5						
WRA	Warramunga Arr	14.68	168	Pn	Pn	00 06 37.7	-0.7
	0.2nm,0.3s,baz=350,slow=13,SNR=6.5						
WRA				Sn	Sn	00 09 11.8	-10
	0.7nm,0.3s,baz=358,slow=23,SNR=6.7						
ASAR	Alice Springs	18.25	172	P	P	00 07 24.6	+0.2
	0.2nm,0.3s,baz=350,slow=10.0,SNR=7.6						
ASAR				S	Sn	00 10 41.0	-7.6
	0.2nm,0.3s,baz=358,slow=27,SNR=4.6						
MKAR	Makanchi Array	67.60	326	P	P	00 14 07.8	-0.1
	0.3nm,0.5s,baz=116,slow=8.3,SNR=5.0						
KURBB	Kurchatov Arra	71.83	328	P	P	00 14 34.0	+0.1
	0.1nm,0.5s,baz=120,slow=4.8,SNR=3.3						

IDC 07 00:21:13.1±10.0, 23°.05S×177°.24W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/36, mbtmp3.4/2, Error ellipse: s-maj=471.0km s-min=63.0km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.67	259	P	P	00 29 28.1	+0.1
	0.2nm,0.4s,baz=110,slow=8.0,SNR=2.0						
WRA	Warramunga Arr	45.00	264	P	P	00 29 30.3	-0.3
	0.3nm,0.4s,baz=103,slow=8.6,SNR=2.3						
AKASG	Malin Array Be	145.57	330	PKPbc	PKPdf	00 40 52.4	-0.7
	0.7nm,0.5s,baz=42,slow=4.1,SNR=5.8						

*CSEM **07** 00:21:23.7, 67°.86N×20°.18E, h1km, ML1.6, Mining explosion. After UPP*
UPP 07 00:21:23.7, 67°.86N×20°.18E, h1km, ML1.6, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.11	33	P	Pg	00 21 26.0	+0.2
KUA				S	Sg	00 21 27.6	+0.4
KUA	Kurravaara	0.11	33	P	Pg	00 21 25.9	+0.2
KUA				S	Sg	00 21 27.6	+0.4
RATU	Laukkuluspa	0.23	260	P	Pg	00 21 28.1	+0.1
RATU	Laukkuluspa	0.23	260	P	Pg	00 21 28.1	+0.1
NIKU	Nikkaluokta	0.43	271	P	Pg	00 21 32.0	0.0
NIKU	Nikkaluokta	0.43	271	P	Pg	00 21 32.0	0.0

*CSEM **07** 00:21:29.8±0.3, 68°.21N×21°.14E, h2km, ML2.3, Error ellipse: s-maj=7.6km s-min=5.3km az=90.0, Mining explosion.*
*UPP **07** 00:21:33.8, 67°.82N×20°.26E, h0km, ML2.3, Mining explosion.*
HEL 07 00:21:31.8±0.2, 68°.25N×21°.26E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANU	Lannavaara	0.34	126	Pg	Pg	00 21 37.0	-1.3
LANU				Sg	Sb	00 21 46.2	-0.5
LANU	Lannavaara	0.34	126	P	Pg	00 21 37.0	-1.3
LANU	Lannavaara	0.34	126	P	Pg	00 21 37.0	-1.3
LANU	Lannavaara	0.34	126	P	Pn	00 21 46.6	+2.6
LANU	Lannavaara	0.34	126	PG	Pg	00 21 37.1	-1.2
LANU				SG	Sb	00 21 46.2	-0.4
KUA	Kurravaara	0.45	230	P	Pg	00 21 36.7	-3.8
KUA	Kurravaara	0.45	230	P	Pg	00 21 36.6	-3.8
KIF	Kilpisjarvi	0.78	348	*e*P	Pg	00 21 46.4	-0.3
KIF				Sb	Sg	00 21 57.4	+0.6
KIF	Kilpisjarvi	0.78	348	*e*P	Pg	00 21 46.4	-0.3
KIF	Kilpisjarvi	0.78	348	PG	Pg	00 21 46.5	-0.2
KIF				SB	Sg	00 21 57.4	+0.6
HEF	Hetta	0.91	79	*e*P	Pg	00 21 49.5	+0.4
HEF				Sg	Sg	00 22 00.0	-0.9
HEF	Hetta	0.91	79	*e*P	Pg	00 21 49.5	+0.3
HEF	Hetta	0.91	79	PG	Pg	00 21 49.5	+0.4
HEF				MSG		00 21 59.8	
	comp=Z,2.3nm,0.2s						
HEF				SG	Sg	00 22 00.0	-0.9
NIKU	Nikkaluokta	0.92	246	P	Pg	00 21 42.7	-6.6
NIKU				S	Sg	00 21 48.7	-12
PAJU	Pajala	1.42	149	P	Pb	00 21 59.6	+0.5
ERTU	Ertsjaerv	1.74	168	P	Pn	00 22 01.7	-1.5
ERTU	Ertsjaerv	1.74	168	Pg	Pn	00 22 02.9	-0.3
ERTU				Sg	Sn	00 22 25.5	-0.6
ERTU	Ertsjaerv	1.74	168	P	Pn	00 22 01.7	-1.5
ERTU	Ertsjaerv	1.74	168	PG	Pn	00 22 02.9	-0.3
ERTU				SG	Sn	00 22 25.5	-0.5
ARE0	ARCESS Array S	2.01	48	Pg	Pn	00 22 07.9	+1.0
ARE0	ARCESS Array S	2.01	48	PG	Pn	00 22 07.9	+1.0
SGF	Sodankyl	2.15	110	Pn	Pn	00 22 07.3	-1.6
SGF	Sodankyl	2.15	110	PN	Pn	00 22 07.3	-1.6
TOF	Tornio	2.48	150	Pb	Pb	00 22 16.2	-1.0
TOF				Sg	Sb	00 22 48.9	+0.6
TOF	Tornio	2.48	150	PB	Pb	00 22 16.2	-1.0
TOF				MSG		00 22 45.1	
	comp=Z,3.5nm,0.2s						
TOF				SG	Sb	00 22 48.9	+0.6
KALU	Kalix	2.54	160	Pb	Pn	00 22 15.0	+0.9
KALU				Sb	Sn	00 22 46.7	+1.1
KALU	Kalix	2.54	160	PB	Pn	00 22 15.0	+0.9
KALU				SB	Sn	00 22 46.7	+1.1
OUL	Oulu	3.67	148	Pg	Pb	00 22 39.0	+1.5
OUL				Sb	Sb	00 23 21.3	-1.2
OUL	Oulu	3.67	148	PG	Pb	00 22 39.0	+1.5
	baz=328						
OUL				SB	Sb	00 23 21.3	-1.2
MSF	Maaselka	3.84	124	Pb	Pb	00 22 37.7	-2.7
MSF	Maaselka	3.84	124	PB	Pb	00 22 37.7	-2.7

MEX 07 00:36:05.6±0.6, 16°.71N×99°.73W, h11km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.20	322	*e*P	Pb	00 36 12.6	+1.2
ACX				*i* S	Sg	00 36 16.0	+3.1
ACP2	Acapulco	0.22	317	*e*P	Pg	00 36 09.3	-1.0
ACP2				*e*S	Sg	00 36 13.8	+0.3
CAIG	El Cayaco	0.62	303	*e*P	Pg	00 36 16.1	-1.5
CAIG				*e*S	Sg	00 36 24.4	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	1.21	5	eP	Pn	00 36 24.4	-4.3
MEIG				eS	Sb	00 36 39.3	-5.1
TLIG	Tlapa	1.40	52	eP	Pn	00 36 27.5	-3.7
TLIG				eS	Sn	00 36 44.7	-5.1
HMTT	Tlapaneco	1.56	46	eP	Pn	00 36 29.4	-3.9
HMTT				i S	Sn	00 36 49.4	-4.2
PNIG	Pinotepa	1.57	101	eP	Pn	00 36 29.8	-3.7
PNIG				i S	Sn	00 36 49.2	-4.5
ARIG	Puente Sto Nin	1.67	339	i P	Pn	00 36 32.0	-2.9
ARIG				i S	Sn	00 36 50.9	-5.4
PLIG	Platanillo	1.69	7	eP	Pn	00 36 31.2	-4.0
PLIG				i S	Sn	00 36 52.8	-4.0
ZIIG	Zihuatanejo	1.89	298	eP	Pn	00 36 35.0	-2.8
ZIIG				eS	Sn	00 36 57.1	-4.5
YAIG	Yautepec	2.23	16	eP	Pn	00 36 38.9	-3.8
YAIG				i S	Sn	00 37 06.5	-3.9
VHO	Vista Hermosa	2.89	82	i P	Pn	00 36 48.1	-3.7

*NEIC **07** 00:36:06.3±5.8, 6°.72S×129°.93E, h122km±55km, mb4.0/4, Error ellipse: s-maj=67.8km s-min=14.5km az=225.0*
*ISCJB **07** 00:36:08.0±0.9, 7°.00S±0°.07×129°.67E±0°.07, h150km, mb3.6/3, Error ellipse: s-maj=11.2km s-min=9.2km az=137.5*
*IDC **07** 00:36:10.9±12.0, 6°.94S×129°.63E, h161km±126km, mb3.6/1, mb1 3.8/5, mb1mx3.2/49, mbtmp4.2/5, ML4.1/4, Error ellipse: s-maj=135.5km s-min=30.6km az=48.0*
ISC 07 00:36:09.4±1.2, **7°.10S**±0°.09×**129°.70E**±0°.10, **h150**km, **n9**, σ**2s.41**/14, **mb3.7**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	5.98	243	ePn	Pn	00 37 38.1	+2.1
	16nm,0.6s						
SOEI				eSn	Sn	00 38 43.6	-0.2
BATI	Baumata	6.72	242	P	Pn	00 37 48.5	+2.7
	3.8nm,0.3s,baz=95,slow=7.2,SNR=2.8						
BATI				S	Sn	00 38 58.1	-3.1
	5.9nm,0.3s,baz=66,slow=12,SNR=3.5						
FITZ	Fitzroy Crossi	11.63	200	P	Pn	00 38 52.6	+1.8
	0.6nm,0.3s,baz=34,slow=11,SNR=11						
FITZ				S	Sn	00 40 56.1	-3.4
WRAB	Tennant Creek	13.54	161	ePn	Pn	00 39 16.3	+0.8
	7.4nm,0.4s						
WRAB				eSn	Sn	00 41 40.2	-5.3
WRA	Warramunga Arr	13.54	161	P	Pn	00 39 17.1	+1.6
	0.9nm,0.3s,baz=331,slow=13,SNR=19						
WRA				S	Sn	00 41 43.3	-2.3
	0.5nm,0.3s,baz=333,slow=22,SNR=3.3						
ASAR	Alice Springs	16.96	167	P	Pn	00 40 01.9	+3.9
	1.1nm,0.3s,baz=344,slow=9.9,SNR=90						
ASAR				S	S	00 43 06.4	-0.2
	0.1nm,0.3s,baz=348,slow=26,SNR=4.7						
MKAR	Makanchi Array	68.14	327	P	P	00 46 52.5	-0.8
	0.9nm,0.5s,baz=117,slow=8.1,SNR=24						
AAK	Ala-Archa	70.42	320	eP	P	00 47 07.2	-0.4
	0.8nm,0.7s						
ABKAR	Akbulak array	82.40	322	eP	P	00 48 12.8	-1.9
	0.6nm,0.6s						

MAN 07 00:37:28, 12°.29N×123°.68E, h18km, mb3.7, ML2.4, MS1.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.09	320⇓	i P	Pg	00 37 32.7	+1.2
MMPH				i S	Sg	00 37 34.8	+0.8
CNP	Catarman	0.98	77	eP	Pb	00 37 45.8	-0.8
CNP				eS	Sn	00 38 01.0	+0.6
RCP	Roxas	1.17	232⇑	eP	Pn	00 37 48.8	-0.7
RCP				eS	Sg	00 38 05.6	-0.3

*DDA **07** 01:03:24.9, 38°.74N×43°.35E, h7km, Md2.6*
*ISK **07** 01:03:24.7, 38°.68N×43°.39E, h3km, ML2.2/7*
*ISCJB **07** 01:03:25.6±0.5, 38°.71N±0°.03×43°.37E±0°.05, h13km±4km, Error ellipse: s-maj=6.7km s-min=4.4km az=5.3*
*CSEM **07** 01:03:25.2±0.2, 38°.69N×43°.39E, h10km, ML2.2, Error ellipse: s-maj=6.5km s-min=4.7km az=98.0*
ISC 07 01:03:25.2±1.1, **38°.71N**±0°.02×**43°.36E**±0°.04, **h17**km±7km, **n26**, σ**1s.36**/40, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.11	170	PG	Pg	01 03 29.1	+0.1
VANB	Van	0.11	170	ePg	Pg	01 03 29.1	+0.1
TVAN	Van	0.18	169	i P	Pb	01 03 29.6	-0.6
TVAN				i S	Sb	01 03 33.2	-0.3
TVAN	Van	0.18	169	P	Pb	01 03 29.6	-0.6
TVAN				S	Sb	01 03 33.2	-0.3
ERCV	ERCIS-VAN	0.31	356	PG	Pb	01 03 32.2	-0.2
ERCV				SG	Sb	01 03 37.8	+0.5
ERCV	ERCIS-VAN	0.31	356	ePg	Pb	01 03 32.2	-0.2
ERCV				eSg	Sb	01 03 37.8	+0.5
GEVA	Gevas	0.46	211	i P	Pb	01 03 34.7	-0.2
GEVA				i S	Sb	01 03 41.9	+0.4
GEVA	Gevas	0.46	211	P	Pb	01 03 34.7	-0.2
GEVA				S	Sb	01 03 41.9	+0.4
ADCV	BITLIS_Adilcev	0.51	282	i P	Pb	01 03 34.5	-1.2
ADCV				i S	Sn	01 03 45.9	-0.4
ADCV	BITLIS_Adilcev	0.51	282	P	Pb	01 03 34.5	-1.2
ADCV				S	Sn	01 03 45.9	-0.4
CLDR	Caldiran	0.61	45	PG	Pg	01 03 37.3	-0.1
CLDR	Caldiran	0.61	45	i P	Pg	01 03 36.3	-1.1
CLDR				i S	Sb	01 03 46.2	+0.2
CLDR	Caldiran	0.61	45	P	Pg	01 03 36.3	-1.1
CLDR	Caldiran	0.61	45	ePg	Pg	01 03 37.3	-0.1
CLDR				S	Sb	01 03 46.2	+0.2
BASK	Baskale_VAN	0.82	142	i P	Pg	01 03 39.5	-1.8
BASK				i S	Sn	01 03 53.6	-0.5
BASK	Baskale_VAN	0.82	142	P	Pg	01 03 39.5	-1.8
BASK				S	Sn	01 03 53.6	-0.5
AGRB	Hanur-Agry	0.91	342	PG	Pn	01 03 43.6	+0.2
AGRB	Hanur-Agry	0.91	342	ePg	Pn	01 03 43.6	+0.2
GURO	Guroymak-BITLI	1.05	262	PG	Pn	01 03 45.9	+0.6
GURO	Guroymak-BITLI	1.05	262	ePg	Pn	01 03 45.9	+0.6
HAKT	HAKKARI	1.18	167	i P	Pn	01 03 46.6	-0.5
HAKT				i S	Sn	01 04 07.8	+4.9
HAKT	HAKKARI	1.18	167	P	Pn	01 03 46.6	-0.5
HAKT				S	Sn	01 04 07.8	+4.9
TASB	TASBURUN-IGDIR	1.44	28	PN	Pg	01 03 52.6	-0.4
TASB	TASBURUN-IGDIR	1.44	28	ePn	Pg	01 03 52.6	-0.4
CUKT	Cukurca	1.47	172	PN	Pg	01 03 52.6	-0.9
CUKT	Cukurca	1.47	172	ePn	Pg	01 03 52.6	-0.9

*SJA **07** 01:09:34.6±0.4, 35°.46S×71°.03W, h293km±7km, ML3.6, MW3.5*
*GUC **07** 01:09:44.6±0.7, 34°.67S×71°.86W, h36km±3km, ML3.6*
*ISCJB **07** 01:09:45.2±0.9, 34°.71S±0°.07×71°.84W±0°.09, h31km±7km, Error ellipse: s-maj=15.6km s-min=5.7km az=40.3*
ISC 07 01:09:46.7±1.6, **34°.74S**±0°.07×**71°.75W**±0°.09, **h24**km±13km, **n12**, σ**2s.59**/17, **1D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO05	HualaæØ	0.31	208	eP	Pb	01 09 52.8	-1.1
GO05				eS	Sb	01 09 59.0	+0.3
NICH	Los Niches	0.51	121	eP	Pb	01 09 56.2	-0.7
NICH				eS	Sb	01 10 05.0	+1.0
ANTU	Antumapu	1.49	39	eP	Pn	01 10 09.8	-2.1
ANTU				eS	Sn	01 10 30.4	-0.3
ANTU				IAML		01 10 31.9	
	comp=N,1μm,0.2s						
LMEL	Las Melosas	1.56	56	eP	Pn	01 10 11.2	-1.8
LMEL				eS	Sn	01 10 32.0	-0.6
LMEL				IAML		01 10 35.4	
	comp=E,2μm,0.1s						
COCH	Cobquecura	1.62	211	eP	Pn	01 10 11.1	-2.6
COCH				eS	Sn	01 10 32.6	-1.3
CLCH	Cerro Calan	1.68	37	eP	Pn	01 10 12.8	-1.8
CLCH				eS	Sn	01 10 34.3	-1.1
FCH	Farellones	1.86	41⇓	eP	Pn	01 10 15.4	-1.9
FCH				eS	Sn	01 10 39.3	-0.9
FCH				IAML		01 10 43.1	
	comp=N,850nm,0.2s						
CCHI	Chillan	1.88	188	i P	Pn	01 10 16.3	-1.0
CCHI				i S	Sb	01 10 47.4	+4.1
AUSP	Uspallata	3.19	39	i P	Pn	01 10 35.9	+0.3
RTLS	Leoncito	3.58	36	i P	Pn	01 10 40.7	-0.3
RTLS				i S	Sn	01 11 29.7	+7.0
RTLS				IAML		01 11 38.6	
	comp=Z,43nm,0.7s						
RTCV	Cerro Valdivia	3.93	44	i P	Pn	01 10 42.6	-3.0
AGUA	GUANDACOL	5.92	29	i P	Pn	01 11 08.7	-4.3

*NIED **07** 01:12:00, 37°.10N×141°.20E, h59km, Mw3.9 Best double couple: M0 7.26000×10^14 NP1:φs169.00000°, δ18.00000°, λ31.00000°. NP2:φs48.00000°, δ81.00000°, λ105.00000°.*
*ISCJB **07** 01:12:34.1±0.8, 37°.05N±0°.04×141°.34E±0°.08, h53km±5km, mb3.6/8, Error ellipse: s-maj=11.2km s-min=5.8km az=13.7*
*IDC **07** 01:12:36.6±3.7, 36°.99N×141°.36E, h65km±34km, mb3.4/8, mb1 3.5/10, mb1mx3.3/63, mbtmp3.7/10, ML3.7/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/35, Error ellipse: s-maj=30.1km s-min=14.4km az=55.0*
*JMA **07** 01:12:36.4±0.1, 37°.09N×141°.14E, h52km±1km, M3.8*
JMA Felt II J1.
ISC 07 01:12:35.0±1.3, **37°.07N**±0°.04×**141°.30E**±0°.08, **h44**km±10km, **n28**, σ**1s.01**/31, **mb3.6**/8, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.40	274	P	Pn	01 12 45.4	+0.6
ONAJ				S	Sn	01 12 51.6	-0.1
JFK	Kawauchi	0.45	311	P	Pn	01 12 46.0	+0.7
JFK				S	Sn	01 12 52.6	0.0
JHO	Hitachi	0.75	232	P	Pn	01 12 49.3	+0.1
JHO				S	Sn	01 12 58.3	-1.1
JFT	Otama	0.89	300	P	Pn	01 12 51.9	+0.8
JFT				eS	Sn	01 13 02.8	0.0
JMM	Marumori	0.89	333	P	Pn	01 12 51.7	+0.6
JMM				S	Sn	01 13 02.8	0.0
JFY	Yanaizu	1.32	285	P	Pn	01 12 57.1	+0.2
JIO	Ouri	1.38	2	P	Pn	01 12 58.9	+1.1
JIO				eS	Sn	01 13 15.4	+0.6
JYS	Shirataka	1.51	320	P	Pn	01 13 00.5	+0.9
JYS				eS	Sn	01 13 18.2	+0.2
JAG	Ashikaga	1.62	247	P	Pn	01 13 01.2	+0.1
MJAR	Matsushiro Arr	2.54	259	P	Pn	01 13 14.7	+0.9
	9.3nm,0.3s,baz=84,slow=15,SNR=25						
MJAR				S	Sn	01 13 46.7	+3.3
	9.2nm,0.3s,baz=314,slow=36,SNR=5.5						
MAT	Matsushiro	2.54	259	P	Pn	01 13 14.6	+0.9
MAT				eS	Sn	01 13 44.8	+1.4
JHJ	Hachijo jima 2	4.14	198	P	Pn	01 13 37.4	+1.7
	17nm,0.3s,baz=338,slow=23,SNR=14						
JHJ				S	Sn	01 14 22.4	-0.4
	38nm,0.3s,baz=291,slow=23,SNR=8.2						
USRK	Ussuriysk Ar.	10.03	318	P	Pn	01 14 54.6	-1.8
	0.1nm,0.3s,baz=134,slow=14,SNR=2.2						
KSRS	Korea Array	10.67	276	LR	LR	01 19 04.0	
	comp=Z,37nm,18.1s,baz=161,slow=36						
SONM	Songino Array	27.69	304	P	P	01 18 18.5	-0.5
	0.5nm,0.4s,baz=108,slow=9.5,SNR=6.2						
H11N2	WAKE ISLAND Hy	28.25	121	T	T	01 48 21.6	
	baz=312,slow=75,SNR=58						
H11N1	WAKE ISLAND Hy	28.25	121	T	T	01 48 22.0	
	baz=312,slow=75,SNR=45						
H11N3	WAKE ISLAND Hy	28.26	121	T	T	01 48 22.8	
	baz=312,slow=75,SNR=41						
H11S1	WAKE ISLAND Hy	28.96	123	T	T	01 49 25.6	
	baz=314,slow=75,SNR=34						
H11S3	WAKE ISLAND Hy	28.96	123	T	T	01 49 22.5	
	baz=314,slow=75,SNR=39						
H11S2	WAKE ISLAND Hy	28.97	123	T	T	01 49 22.6	
	baz=314,slow=75,SNR=33						
ZALV	Zalesovo Beam	41.82	312	P	P	01 20 20.6	+0.4
	1.8nm,0.5s,baz=89,slow=8.3,SNR=7.5						
MKAR	Makanchi Array	44.02	302	P	P	01 20 38.2	0.0
	0.7nm,0.7s,baz=82,slow=10.0,SNR=11						
KURBB	Kurchatov Arra	45.91	308	P	P	01 20 53.0	0.0
	0.8nm,0.5s,baz=82,slow=8.2,SNR=8.9						
ILAR	Eielson Array	49.51	32	P	P	01 21 21.0	+0.2
	0.3nm,0.7s,baz=262,slow=6.3,SNR=3.6						
BVAR	Borovoye Array	50.48	312	P	P	01 21 27.7	-0.6
	0.4nm,0.5s,baz=70,slow=8.4,SNR=4.5						
WRA	Warramunga Arr	57.09	188	P	P	01 22 16.6	-0.3
	0.2nm,0.5s,baz=7.7,slow=7.1,SNR=2.8						
FINES	FINESS Array B	68.74	332	P	P	01 23 33.5	-0.3
	0.9nm,0.7s,baz=52,slow=7.2,SNR=3.4						

ISC 07 01:18:19.7±3.0, **42°.9N**±0°.1×**15°.7E**±0°.1, **h10**km, **n7**, σ**1s.00**/14, **Adriatic Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STON	Ston	1.50	90	ePn	Pn	01 18 46.3	-0.4
STON				Sn	Sg	01 19 08.4	+0.4
UDBI	Udbina	1.65	3	ePn	Pn	01 18 48.4	-0.4
UDBI				Sn	Sb	01 19 10.4	-0.6
NVLJ	Novalja	1.77	341	ePn	Pn	01 18 50.2	-0.3
NVLJ				Sn	Sb	01 19 13.2	-1.4
BOJS	Bojanci	2.64	354	i Pn	Pn	01 19 02.9	+0.5
BOJS				i Sn	Sn	01 19 34.9	+0.5
OZLJ	Ozalj	2.73	357	ePn	Pn	01 19 02.9	-0.7
OZLJ				Sn	Sn	01 19 37.8	+1.1
CRES	Cresnjev	2.94	357	i Pn	Pn	01 19 08.4	+1.8
CRES				i Sn	Sb	01 19 47.0	-1.4
VISS	Visnje	2.98	349	i Pn	Pn	01 19 07.5	+0.5
VISS				i Sn	Sn	01 19 43.5	+0.7

*ISCJB **07** 01:25:54.6±0.4, 24°.67N±0°.08×123°.06E±0°.05, h122km±4km, mb3.6/11, Error ellipse: s-maj=13.0km s-min=7.8km az=177.7*
*JMA **07** 01:25:56.3±0.2, 24°.62N×123°.07E, h114km±2km, M3.6*
*IDC **07** 01:26:03.7±5.1, 24°.67N×123°.01E, h198km±53km, mb3.2/11, mb1 3.4/12, mb1mx3.1/59, mbtmp3.8/12, Error ellipse: s-maj=29.8km s-min=10.8km az=70.0*
ISC 07 01:25:55.5±0.7, **24°.65N**±0°.10×**123°.05E**±0°.06, **h118**km±6km, **n23**, σ**0s.64**/32, **mb3.6**/11, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.20	191	P	Pn	01 26 12.3	+0.4
YOJ				S	Sn	01 26 23.7	-0.5
JYNG	Yonagunijimaku	0.22	206	P	Pn	01 26 12.4	+0.4
JYNG				S	Sn	01 26 24.0	-0.3
IRIF	Iriomote-Funau	0.70	117	P	Pn	01 26 14.9	+0.3
IRIF				eS	Sn	01 26 28.9	-0.1
HATJ	Hateruma jima	0.91	131	P	Pn	01 26 17.1	+0.6
HATJ				S	Sn	01 26 31.9	-0.4
JKRS	Kuro-shima	0.97	115	P	Pn	01 26 17.7	+0.7
JKRS				S	Sn	01 26 33.1	-0.2
JIJ	Ishigaki jima	1.04	106	P	Pn	01 26 18.0	+0.3
JIJ				S	Sn	01 26 33.1	-1.4
JISG	Ishigakijimahi	1.15	93	P	Pn	01 26 19.2	+0.3
JISG				S	Sn	01 26 35.6	-0.9
JTJ	Tarama	1.50	90	P	Pn	01 26 23.5	+0.7
JTJ				S	Sn	01 26 42.9	-0.7
JIRB	Irabujima	1.94	84	P	Pn	01 26 28.8	+0.7
JIRB				S	Sn	01 26 52.1	-0.8
JMJ	Miyako jima 2	2.04	85	eS	Sn	01 26 55.0	-0.3
JOGS	Gusukube	2.15	87	eS	Sn	01 26 57.7	+0.1
KSRS	Korea Array	13.42	17	P	P	01 29 07.2	+0.8
	0.9nm,0.3s,baz=195,slow=12,SNR=6.4						
KLR	Kul'dur	25.46	13	P	P	01 31 12.7	+0.3
	0.2nm,0.8s,baz=210,slow=8.1,SNR=4.4						
SONM	Songino Array	26.64	334	P	P	01 31 23.5	+0.3
	0.8nm,0.6s,baz=151,slow=10,SNR=5.4						
MKAR	Makanchi Array	39.20	315	P	P	01 33 12.1	0.0
	0.3nm,0.3s,baz=100,slow=8.4,SNR=14						
ZALV	Zalesovo Beam	40.79	326	P	P	01 33 24.3	-0.8
	1.3nm,0.4s,baz=116,slow=9.0,SNR=7.6						
FITZ	Fitzroy Crossi	42.57	176	P	P	01 33 39.3	-0.5
	0.6nm,0.3s,baz=354,slow=10						
KURBB	Kurchatov Arra	42.86	319	P	P	01 33 42.2	+0.3
	0.3nm,0.4s,baz=91,slow=5.7,SNR=3.2						
WRA	Warramunga Arr	45.67	165	P	P	01 34 05.0	+0.3
	2.8nm,0.6s,baz=346,slow=8.5,SNR=17						
BVAR	Borovoye Array	48.40	320	P	P	01 34 25.8	+0.4
	0.5nm,0.4s,baz=111,slow=8.2,SNR=5.9						
ASAR	Alice Springs	49.17	167	P	P	01 34 32.6	+0.9
	0.8nm,0.3s,baz=351,slow=12,SNR=12						
NOA	NORSAR Array B	78.60	333	P	P	01 37 43.2	-0.8
	0.6nm,0.6s,baz=73,slow=9.3,SNR=2.4						
YKA	Yellowknife Ar	81.87	23	P	P	01 38 00.6	-0.8
	0.2nm,0.5s,baz=315,slow=5.0,SNR=5.5						

*IDC **07** 01:27:44.3±2.1, 32°.13S×179°.04W, h0km, mb4.4/2, mb1 4.7/2, mb1mx3.9/36, mbtmp4.4/2, Error ellipse: s-maj=73.9km s-min=44.1km az=19.0*
*ISCJB **07** 01:28:26.4±0.6, 32°.72S±0°.08×179°.6W±0°.2, h350km, mb3.7/2, Error ellipse: s-maj=24.9km s-min=5.8km az=20.6*
*WEL **07** 01:28:30.3±0.8, 33°S±7°×18°0W±1°7, h287km±15km*
ISC 07 01:28:26.6±1.1, **32°.71S**±0°.09×**179°.6W**±0°.2, **h350**km, **n57**, σ**1s.67**/52, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.72	23	P	Pn	01 29 33.7	+0.8
GLKZ	Green Lake	3.72	23	S	S	01 30 23.8	-2.4
MXZ	Matakaoa Point	5.14	199	P	Pn	01 29 48.5	+0.8
MXZ	Matakaoa Point	5.14	199	S	S	01 30 52.4	-0.8
WMGZ	Waiomatatini S	5.35	197	P	Pn	01 29 52.8	+2.8
HAZ	Te Kaha	5.48	203	P	Pn	01 29 51.8	+0.4
HAZ	Te Kaha	5.48	203	S	S	01 30 59.7	-0.3
PKGZ	Pakihiroa	5.51	200	P	Pn	01 29 53.8	+2.0
PUZ	Puketiti	5.63	198	P	Pn	01 29 53.7	+0.5
PUZ	Puketiti	5.63	198	S	S	01 31 02.2	-1.1
RUGZ	Raukumara Rang	5.70	202	P	Pn	01 29 54.5	+0.5
RUGZ	Raukumara Rang	5.70	202	S	S	01 31 02.4	-2.5
TWGZ	Tauwhareparae	5.81	199	P	Pn	01 29 55.8	+0.7
TWGZ	Tauwhareparae	5.81	199	S	S	01 31 07.5	+0.6
WIAZ	Waiheke Island	5.96	225	P	Pn	01 29 57.6	+0.7
WCZ	Waipu Caves	5.97	236	P	Pn	01 29 57.7	+0.7
OPRZ	Ohinepanea	6.02	211	P	Pn	01 29 60.0	+2.5
CNGZ	Carnagh Statio	6.04	197	P	Pn	01 29 59.6	+1.9
MWZ	Matawai	6.09	202	P	Pn	01 29 58.3	0.0
MWZ	Matawai	6.09	202	S	S	01 31 10.5	-2.2
TKGZ	Te Karaka	6.09	199	P	Pn	01 29 59.5	+1.3
TKGZ	Te Karaka	6.09	199	S	S	01 31 11.3	-1.4
MKAZ	Moumakai	6.16	223	P	Pn	01 30 01.1	+2.1
URZ	Urewera	6.16	205	P	Pn	01 29 58.0	-1.1
URZ	Urewera	6.16	205	S	S	01 31 10.9	-3.3
RIGZ	Rimuhau	6.36	199	P	Pn	01 30 01.0	-0.5
TARZ	Mount Tarawera	6.37	209	P	Pn	01 30 05.2	+3.5
MUGZ	Murupara	6.48	206	P	Pn	01 30 01.7	-1.1
RTZ	Ruatahuna	6.52	204	P	Pn	01 30 03.6	+0.2
PRGZ	Paritu Road	6.53	198	P	Pn	01 30 04.5	+1.1
HSRZ	Hossack Road	6.54	210	P	Pn	01 30 06.3	+2.7
SNGZ	Shannon Statio	6.55	202	P	Pn	01 30 06.8	+3.1
HRRZ	Handcock Road	6.59	210	P	Pn	01 30 06.6	+2.4
KNZ	Kokohu	6.68	199	P	Pn	01 30 05.9	+0.8
MHGZ	Mahia Peninsul	6.74	197	P	Pn	01 30 08.6	+2.8
RAHZ	Arahi	6.76	203	P	Pn	01 30 04.2	-1.9
RAHZ	Arahi	6.76	203	S	S	01 31 24.5	-2.4
MTHZ	Maungataniwha	6.78	204	P	Pn	01 30 05.4	-1.0
WHHZ	Waihua	6.86	201	P	Pn	01 30 07.8	+0.6
TLZ	Tolley Road	6.88	214	P	Pn	01 30 10.3	+2.8
MRHZ	Matea Rd	6.92	207	P	Pn	01 30 09.4	+1.4
NMHZ	Naumai	7.01	204	P	Pn	01 30 09.3	+0.2
ARHZ	Aropaoanui	7.10	202	P	Pn	01 30 10.5	+0.5
BKZ	Black Stump Fm	7.19	205	P	Pn	01 30 09.2	-1.9
MCHZ	McNeill Hill	7.36	203	P	Pn	01 30 13.3	+0.2
CKHZ	Cape Kidnapper	7.44	200	P	Pn	01 30 14.6	+0.7
KWHZ	Kaweka Forest	7.44	205	P	Pn	01 30 12.8	-1.2
WTVZ	West Tongariro	7.50	210	P	Pn	01 30 15.1	+0.3
NGZ	Ngauruhoe	7.54	210	P	Pn	01 30 16.2	+0.8
TUVZ	Tukino	7.60	209	P	Pn	01 30 14.1	-1.9
KAHZ	Kahuranaki	7.63	201	P	Pn	01 30 16.7	+0.5
WHVZ	Whangaehu Hut	7.64	210	P	Pn	01 30 15.5	-1.0
TRVZ	Turoa	7.67	210	P	Pn	01 30 17.1	+0.2
ASAR	Alice Springs	41.71	270	P	P	01 35 38.7	-4.0
	1.1nm,0.3s,baz=108,slow=7.9,SNR=14						
WRA	Warramunga Arr	42.91	275	P	P	01 35 48.0	-4.3
	2.7nm,0.3s,baz=113,slow=8.0,SNR=32						
FINES	FINESS Array B	146.81	338	PKPbc	PKPdf	01 47 26.5	+1.7
	1.0nm,0.7s,baz=45,slow=5.7,SNR=4.3						
TORD	Torodi Ar. Bea	160.49	184	PKPab	PKPab	01 48 29.3	+0.8
	0.2nm,0.4s,baz=167,slow=4.5,SNR=7.2						

IDC 07 01:33:20.5±2.1, **2°.16S**×**138°.16E**, **h0**km, **mb3.7**/3, **mb1 4.0**/5, **mb1mx3.7**/50, **mbtmp3.9**/5, **ML4.1**/2, **MS2.6**/1, **Ms1 2.6**/1, **ms1mx2.2**/36, **Error ellipse: s-maj=80.0km s-min=27.1km az=76.0**, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.07	192	P	Pn	01 37 32.8	-0.4
	0.5nm,0.3s,baz=16,slow=12,SNR=11						
CTA	Charters Tower	19.50	157	P	P	01 37 49.5	+0.1
	0.6nm,0.3s,baz=335,slow=11,SNR=12						
ASAR	Alice Springs	21.77	191	P	P	01 38 13.6	-0.6
	2.0nm,0.6s,baz=20,slow=11,SNR=19						
STKA	Stephens Creek	29.74	174	P	P	01 39 29.5	+0.8
	2.3nm,0.8s,baz=0.0,slow=9.1,SNR=3.3						
JNU	Nakatsue	35.76	350	LR	LR	01 54 17.7	
	comp=Z,9.8nm,20.6s,baz=107,slow=35						
MKAR	Makanchi Array	69.02	322	P	P	01 44 28.0	-0.1
	0.3nm,0.8s,baz=132,slow=7.1,SNR=2.5						

*ISK **07** 01:45:42.9, 39°.41N×44°.42E, h5km, ML2.6/8*
*DDA **07** 01:45:44.0, 39°.50N×44°.48E, h11km, Md2.8*
*TEH **07** 01:45:44.3, 39°.36N×44°.32E, h5km, ML2.6*
*CSEM **07** 01:45:45.0±0.5, 39°.44N×44°.35E, h5km, ML2.6, Error ellipse: s-maj=11.5km s-min=6.0km az=94.0*
ISC 07 01:45:44.5±1.1, **39°.42N**±0°.02×**44°.41E**±0°.03, **h11**km±9km, **n35**, σ**1s.86**/53, **Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLDR	Caldiran	0.47	234	PG	Pb	01 45 53.1	-1.9
CLDR				SG	Sb	01 46 01.1	-1.0
CLDR	Caldiran	0.47	234	i P	Pg	01 45 52.4	-1.4
CLDR				i S	Sb	01 46 00.2	-1.9
CLDR	Caldiran	0.47	234	P	Pg	01 45 52.4	-1.4
CLDR	Caldiran	0.47	234	ePg	Pb	01 45 53.1	-1.9
CLDR				S	Sb	01 46 00.2	-1.9
CLDR				eSg	Sb	01 46 01.1	-1.0
IGDI	IGDIR	0.52	330	i P	Pg	01 45 53.9	-0.7
IGDI				i S	Sg	01 46 01.5	+0.1
DYDN	Diyadin	0.57	283	i P	Pb	01 45 56.0	-0.7
DYDN				i S	Sn	01 46 07.4	-1.0
DYDN	Diyadin	0.57	283	P	Pb	01 45 56.0	-0.7
DYDN				S	Sn	01 46 07.4	-1.0
TASB	TASBURUN-IGDIR	0.58	347	PG	Pg	01 45 55.5	-0.3
TASB				SG	Sg	01 46 04.8	+1.4
TASB	TASBURUN-IGDIR	0.58	347	ePg	Pg	01 45 55.5	-0.3
TASB				eSg	Sg	01 46 04.8	+1.4
AGRB	Hanur-Agry	1.11	278	PN	Pn	01 46 05.6	-0.6
AGRB	Hanur-Agry	1.11	278	ePn	Pn	01 46 05.6	-0.6
VANB	Van	1.14	224	PN	Pn	01 46 07.0	+0.4
VANB	Van	1.14	224	ePn	Pn	01 46 07.0	+0.4
TVAN	Van	1.18	222	i P	Pn	01 46 07.5	+0.2
TVAN				i S	Sn	01 46 27.2	+3.7
TVAN	Van	1.18	222	P	Pn	01 46 07.5	+0.2
TVAN				S	Sn	01 46 27.2	+3.7
IMRD	Marand	1.23	125	eSg	Sb	01 46 23.3	-0.6
IMRD				ePg	Pn	01 46 06.3	-1.6
IMRD				eAMB	AMB	01 46 24.7	
	comp=Z,5μm,0.1s						
TUTA	Tutak	1.23	270	i P	Pn	01 46 09.3	+1.3
TUTA				i S	Sn	01 46 26.3	+1.5
TUTA	Tutak	1.23	270	P	Pn	01 46 09.3	+1.3
TUTA				S	Sn	01 46 26.3	+1.5
EAK	Akyaka	1.41	334	i P	Pn	01 46 09.7	-0.6
EAK				i S	Sg	01 46 33.7	+3.9
EAK	Akyaka	1.41	334	P	Pn	01 46 09.7	-0.6
EAK				S	Sg	01 46 33.7	+3.9
ISHB	Shabestar	1.48	140	ePg	Pn	01 46 10.2	-1.1
ISHB				eSg	Sb	01 46 31.1	+0.1
ISHB				eAMB	AMB	01 46 36.1	
	comp=Z,784nm,0.2s						
KARS	Kars	1.58	320	PN	Pn	01 46 13.1	+0.5
KARS	Kars	1.58	320	ePn	Pn	01 46 13.1	+0.5
ITBZ	Tabriz	1.80	131	ePg	Pn	01 46 16.7	+1.0
ITBZ				eAMB	AMB	01 46 42.0	
	comp=Z,341nm,0.2s						
YOVA	Hakkari_Yˆ…kse	1.83	183	i P	Pg	01 46 19.5	-0.2
YOVA				i S	Sg	01 46 49.5	+6.0
YOVA	Hakkari_Yˆ…kse	1.83	183	P	Pg	01 46 19.5	-0.2
HAKT	HAKKARI	1.94	197	i P	Pg	01 46 20.2	-1.5
HAKT				i S	Sg	01 46 49.0	+2.1
HAKT	HAKKARI	1.94	197	P	Pg	01 46 20.2	-1.5
SENK	Senkaya-Erzuru	1.95	306	PN	Pb	01 46 18.7	-1.5

SENK	**Senkaya-Erzuru**	**1.95**	**306**	*e*Pn	**Pb**	**01 46 18.7**	**-1.5**
GURO	**Guroymak-BITLI**	**2.04**	**246**	PN	**Pb**	**01 46 19.9**	**-1.9**
GURO	**Guroymak-BITLI**	**2.04**	**246**	*e*Pn	**Pb**	**01 46 19.9**	**-1.9**
CUKT	**Cukurca**	**2.26**	**196**	PN	**Pb**	**01 46 22.9**	**-2.5**
CUKT	**Cukurca**	**2.26**	**196**	*e*Pn	**Pb**	**01 46 22.9**	**-2.5**
IHRS	**Heris**	**2.33**	**117**	*e*AMB	AMB	01 47 02.0	
	comp=Z,186nm,0.2s						

MAN 07 01:52:35,12°30N×123°71E,h18km,mb3.7,ML2.4,MS1.9, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.10**	**305**	⇓*i*P	Pg	01 52 39.9	+1.2
MMPH				*i* S	Sg	01 52 41.8	+0.7
CNP	**Catarman**	**0.96**	**77**	*e*P	Pb	01 52 52.8	-0.3
CNP				*e*S	Sn	01 53 07.2	+0.4
RCP	**Roxas**	**1.20**	**232**	⇑*e*P	Pn	01 52 55.4	-1.4
RCP				*e*S	Sg	01 53 13.8	0.0

ISK 07 01:59:24.7,38°42N×28°29E,h8km,ML2.3/8
ISCJB 07 01:59:25.3±0.6,38°48N±0°04×28°24E±0°05,h9km,Error ellipse: s-maj=6.1km s-min=4.8km az=39.3
CSEM 07 01:59:25.2±0.2,38°46N×28°24E,h8km,ML2.3,Error ellipse: s-maj=4.5km s-min=3.4km az=131.0
DDA 07 01:59:25.3,38°48N×28°26E,h7km,Ml2.7
ISC 07 01:59:25.3±0.9,38°44N±0°04×28°27E±0°03,h9km,n22, σ0s28/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.32**	**76**	PG	**Pg**	**01 59 31.3**	**-0.3**
KULA				SG	**Sg**	**01 59 36.1**	**+0.3**
KULA	**Kula-Manisa**	**0.32**	**76**	*e*Pg	**Pg**	**01 59 31.3**	**-0.3**
KULA				*e*Sg	**Sg**	**01 59 36.1**	**+0.3**
DEMI	**Demirci**	**0.70**	**30**	*i* P	**Pg**	**01 59 38.4**	**-0.4**
DEMI				*i* S	**Sg**	**01 59 47.7**	**-0.2**
DEMI	**Demirci**	**0.70**	**30**	P	**Pg**	**01 59 38.4**	**-0.4**
DEMI				S	**Sg**	**01 59 47.7**	**-0.2**
SIMA	**Simav-Kutahya**	**0.85**	**41**	PG	**Pg**	**01 59 41.6**	**-0.1**
SIMA	**Simav-Kutahya**	**0.85**	**41**	*e*Pg	**Pg**	**01 59 41.6**	**-0.1**
KHAL	**Karahalli**	**0.96**	**94**	*i* P	**Pn**	**01 59 44.9**	**-0.2**
KHAL				*i* S	**Sb**	**01 59 57.2**	**+0.2**
KHAL	**Karahalli**	**0.96**	**94**	P	**Pn**	**01 59 44.9**	**-0.2**
KHAL				S	**Sb**	**01 59 57.2**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.10**	**152**	*i* P	**Pn**	**01 59 47.5**	**+0.6**
TAVA				*i* S	**Sn**	**02 00 02.4**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.10**	**152**	P	**Pn**	**01 59 47.5**	**+0.6**
TAVA				S	**Sn**	**02 00 02.4**	**+0.2**
GCAM	**G?zelcaml?**	**1.10**	**228**	PN	**Pg**	**01 59 46.0**	**-0.4**
GCAM	**G?zelcaml?**	**1.10**	**228**	*e*Pn	**Pg**	**01 59 46.0**	**-0.4**
BALB	**Balikesir**	**1.24**	**346**	PN	**Pg**	**01 59 49.3**	**+0.3**
BALB	**Balikesir**	**1.24**	**346**	*e*Pn	**Pg**	**01 59 49.3**	**+0.3**
YER	**Yerkesik**	**1.30**	**180**	PN	**Pn**	**01 59 49.6**	**-0.1**
YER	**Yerkesik**	**1.30**	**180**	*e*Pn	**Pn**	**01 59 49.6**	**-0.1**
URLA	**Izmir**	**1.32**	**267**	PN	**Pb**	**01 59 50.2**	**0.0**
URLA	**Izmir**	**1.32**	**267**	*e*Pn	**Pb**	**01 59 50.2**	**0.0**
TVSB	**Tavsanli**	**1.37**	**42**	PN	**Pb**	**01 59 51.0**	**-0.2**
TVSB	**Tavsanli**	**1.37**	**42**	*e*Pn	**Pb**	**01 59 51.0**	**-0.2**
BODT	**Bodrum**	**1.57**	**209**	PN	**Pn**	**01 59 53.3**	**0.0**
BODT	**Bodrum**	**1.57**	**209**	*e*Pn	**Pn**	**01 59 53.3**	**0.0**

GUC 07 02:00:01.0±0.4,21°92S×68°80W,h117km±3km,ML3.6, 5C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.43**	**287**	⇑*e*P	Pn	02 00 18.8	+0.4
PB09				*e*S	Sn	02 00 32.3	+0.8
PB07	**IPOC Station P**	**1.03**	**281**	⇑*e*P	Pn	02 00 24.0	+0.7
PB07				*e*S	Sn	02 00 41.3	+1.3
PB07				IAML		02 00 42.9	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.06**	**222**	⇑*i*P	Pn	02 00 24.1	+0.6
PB06				*e*S	Sn	02 00 41.5	+0.9
PB06				IAML		02 00 42.0	
	comp=N,1μm,0.4s						
PB01	**IPOC Station P**	**1.08**	**324**	⇑*e*P	Pn	02 00 24.0	+0.2
PB01				*e*S	Sn	02 00 41.7	+0.8
PB01				IAML		02 00 42.5	
	comp=E,2μm,0.5s						
PB04	**IPOC Station P**	**1.31**	**252**	⇑*i*P	Pn	02 00 27.0	+0.7
PB04				*e*S	Sn	02 00 46.4	+1.0
PB04				IAML		02 00 51.2	
	comp=E,753nm,0.1s						
PB11	**IPOC Station P**	**2.30**	**339**	⇓*e*P	Pn	02 00 38.2	-0.1
PB11				*e*S	Sn	02 01 06.3	-0.4

ISCJB 07 02:00:51.7±1.1,21°19S±0°10×177°8W±0°2,h400km, mb3.9/6,Error ellipse: s-maj=25.4km s-min=12.8km az=3.6
IDC 07 02:00:54.0±4.0,21°29S×177°84W,h410km±38km,mb3.6/6, mb1 3.8/8,mb1mx3.4/39,mbtmp4.4/8,Error ellipse: s-maj=26.2km s-min=20.2km az=81.0
ISC 07 02:00:52.6±0.9,21°3S±0°1×177°7W±0°2,h400km,n17, σ0s82/19,mb3.9/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.79**	**264**	P	**P**	**02 04 04.3**	**+1.4**
	1.3nm,0.3s,baz=91,slow=19,SNR=9.3						
URZ	**Urewera**	**17.49**	**194**	P	**P**	**02 04 31.6**	**+0.1**
	5.3nm,0.3s,baz=283,slow=3.6,SNR=21						
URZ				S	**S**	**02 07 31.9**	**-1.0**
	0.5nm,0.3s,baz=204,slow=22,SNR=1.8						
RPZ	**Rata Peaks**	**24.24**	**200**	P	**P**	**02 05 36.4**	**+1.1**
	7.0nm,0.7s,baz=29,slow=14,SNR=3.8						
STKA	**Stephens Creek**	**37.73**	**245**	P	**P**	**02 07 31.9**	**-0.1**
	7.0nm,0.5s,baz=93,slow=11,SNR=19						
ASAR	**Alice Springs**	**44.64**	**257**	P	**P**	**02 08 27.1**	**-0.7**
	1.9nm,0.4s,baz=90,slow=8.5,SNR=18						
ASAR				PcP	**PcP**	**02 10 02.1**	**-0.4**
	0.8nm,0.7s,baz=97,slow=4.3,SNR=4.0						
WRA	**Warramunga Arr**	**44.80**	**263**	P	**P**	**02 08 27.4**	**-1.6**
	1.7nm,0.4s,baz=96,slow=7.6,SNR=35						
WRA				PcP	**PcP**	**02 10 02.9**	**-0.2**
	0.5nm,0.8s,baz=95,slow=4.1,SNR=2.8						
PETK	**Petropavlovsk-**	**77.12**	**345**	P	**P**	**02 12 03.2**	**+0.3**
	2.0nm,0.8s,baz=134,slow=6.2,SNR=5.0						
ILAR	**Eielson Array**	**89.03**	**13**	P	**P**	**02 13 02.7**	**-0.1**
	0.5nm,0.7s,baz=221,slow=5.0,SNR=6.2						
MKAR	**Makanchi Array**	**111.97**	**313**	PKiKP	**PKiKP**	**02 18 40.1**	**-0.8**
	0.2nm,0.6s,baz=76,slow=3.6,SNR=3.5						
BVAR	**Borovoye Array**	**119.89**	**320**	PKP	**PKPdf**	**02 18 55.5**	**-0.5**
	0.6nm,0.4s,baz=105,slow=1.6,SNR=4.8						
ARCES	**ARCESS Array B**	**129.76**	**350**	PKP	**PKPdf**	**02 19 14.2**	**-0.1**
	3.3nm,1.0s,baz=4.1,slow=1.3,SNR=5.6						
HFS	**Hagfors**	**140.38**	**351**	PKhKP	PKPpre	02 19 28.2	
	0.5nm,0.4s,baz=355,slow=1.6,SNR=7.0						
AKASG	**Malin Array Be**	**143.86**	**331**	PKP	PKPab	02 19 38.5	-0.9
	4.0nm,0.4s,baz=43,slow=4.2,SNR=27						
BRTR	**Keskin Array B**	**147.60**	**312**	PKPbc	**PKPbc**	**02 19 50.6**	**-0.4**
	1.3nm,0.7s,baz=140,slow=3.8,SNR=8.2						
MMAI	**Mount Meron Ar**	**148.47**	**299**	PKPbc	**PKPbc**	**02 19 53.7**	**+0.3**
	1.9nm,0.4s,baz=90,slow=4.3,SNR=13						
GERES	**GERESS Array B**	**151.05**	**344**	PKP	**PKPdf**	**02 19 53.2**	**+0.4**
	0.1nm,0.4s,baz=45,slow=0.3,SNR=2.7						
GERES				PKPbc	**PKPbc**	**02 19 59.0**	**-0.1**
	0.8nm,0.6s,baz=29,slow=2.3,SNR=7.6						
TORD	**Torodi Ar. Bea**	**171.87**	**176**	PKPab	**PKPab**	**02 21 41.0**	**+1.4**
	1.0nm,0.9s,baz=187,slow=4.2,SNR=5.5						

IDC 07 02:34:25.2±2.5,20°91S×170°23E,h0km,mb3.8/3, mb1 4.1/4,mb1mx3.7/42,mbtmp3.8/4,ML3.5/1,MS3.2/5, Ms1 3.1/5,ms1mx2.8/35,Error ellipse: s-maj=113.5km s-min=29.2km az=151.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.71**	**251**	Pn	Pn	02 35 24.7	+0.8
	3.6nm,0.3s,baz=77,slow=19,SNR=28						
DZM				Sn	Sn	02 36 08.8	+0.5
	2.5nm,0.3s,baz=90,slow=20,SNR=5.5						
URZ	**Urewera**	**18.29**	**163**	LR	LR	02 43 55.5	
	comp=Z,69nm,19.8s,baz=323,slow=31						
AFI	**Afiamalu**	**18.52**	**71**	LR	LR	02 44 51.2	
	comp=Z,25nm,18.2s,baz=74,slow=34						
PMG	**Port Moresby**	**24.99**	**294**	LR	LR	02 47 47.4	
	comp=Z,55nm,20.6s,baz=220,slow=32						
STKA	**Stephens Creek**	**27.80**	**241**	LR	LR	02 50 15.4	
	comp=Z,36nm,21.2s,baz=26,slow=34						
WRA	**Warramunga Arr**	**33.60**	**265**	P	P	02 41 07.2	-0.3
	1.7nm,0.9s,baz=102,slow=8.4,SNR=5.5						
ASAR	**Alice Springs**	**33.67**	**258**	P	P	02 41 07.5	-0.6
	0.9nm,0.7s,baz=78,slow=9.1,SNR=9.0						
BATI	**Baumata**	**45.95**	**276**	LR	LR	03 02 28.8	
	comp=Z,66nm,18.8s,baz=122,slow=37						
ILAR	**Eielson Array**	**91.55**	**17**	P	P	02 47 33.0	-0.3
	0.4nm,1.0s,baz=213,slow=6.5,SNR=1.2						
GERES	**GERESS Array B**	**146.40**	**332**	PKPbc	PKPdf	02 54 07.3	+0.4
	0.7nm,0.9s,baz=35,slow=3.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**166.60**	**237**	PKPab	PKPab	02 55 36.3	+0.6
	0.4nm,1.0s,baz=108,slow=3.2,SNR=1.4						

NNC 07 02:47:21.7±6.0,36°98N×70°26E,h0km,mb3.8,mpv3.4, 3C-7D,Error ellipse: s-maj=48.7km s-min=43.3km az=131.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.95**	**39**	⇓Pn	Pn	02 48 25.2	+1.4
	2.0nm,0.3s						
SFK				⇓Sn	Sn	02 49 14.4	+3.4
	3.6nm,0.3s						
MNAS	**Manas**	**5.76**	**17**	⇓Pn	Pn	02 48 48.9	+0.3
	4.8nm,0.7s						
MNAS				⇑Sn	Sn	02 49 57.2	+1.8
	1.2nm,0.5s						
KK31	**Karatay Array**	**6.12**	**2**	⇓Pn	Pn	02 48 54.3	+1.0
	0.5nm,0.3s,baz=176,slow=12,SNR=11						
KK31				⇓Sn	Sn	02 50 05.0	+1.0
	0.3nm,0.3s						
AAK	**Ala-Archa**	**6.52**	**29**	⇓Pn	Pn	02 48 57.6	-1.4
	1.9nm,0.3s						
AAK				⇑Sn	Sn	02 50 15.0	+0.9
	2.3nm,0.8s						
TKM2	**Tokmak 2**	**7.21**	**33**	⇓Pn	Pn	02 49 05.7	-2.8
	1.7nm,0.6s						
TKM2				⇑Sn	Sn	02 50 28.0	-3.2
	0.9nm,0.7s						

ISCJB 07 02:57:59.0±0.6,35°66N±0°04×140°80E±0°08,h45km, mb3.6/8,MS3.3/3,Error ellipse: s-maj=9.5km s-min=5.3km az=153.7
JMA 07 02:58:01.2±0.1,35°71N×140°60E,h46km±1km,M3.1
JMA Felt I J1.
IDC 07 02:58:03.1±2.1,35°48N×140°52E,h73km±19km,mb3.4/8, mb1 3.5/12,mb1mx3.3/71,mbtmp3.7/12,MS3.0/7, Ms1 3.0/7,ms1mx2.8/34,Error ellipse: s-maj=26.5km s-min=8.3km az=67.0
ISC 07 02:58:00.6±0.8,35°63N±0°05×140°69E±0°07,h45km,n30, σ1s31/24,mb3.7/8,MS3.2/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.15**	**62**	P	**Pn**	**02 58 09.2**	**+1.1**
JCN	**Nagara**	**0.45**	**242**	P	**Pn**	**02 58 12.1**	**+1.1**
BSO4	**Boso 4**	**0.70**	**205**	P	**Pn**	**02 58 15.5**	**+1.4**
JYT	**Yasato**	**0.72**	**326**	P	**Pn**	**02 58 13.6**	**-0.9**
JYT				S	**Sn**	**02 58 22.7**	**-1.8**
BSO3	**Boso 3**	**0.84**	**190**	P	**Pn**	**02 58 17.2**	**+1.4**
BSO1	**Boso 1**	**1.00**	**166**	P	**Pn**	**02 58 19.6**	**+1.8**
JAG	**Ashikaga**	**1.28**	**309**	P	**Pn**	**02 58 21.4**	**-0.7**
MJAR	**Matsushiro Arr**	**2.21**	**295**	P	**Pn**	**02 58 35.6**	**+0.8**
	4.6nm,0.3s,baz=99,slow=11,SNR=52						
MJAR				S	**Sn**	**02 59 03.0**	**+2.0**
	4.1nm,0.3s,baz=143,slow=16,SNR=5.9						
MJAR				LR	LR	02 59 35.0	
	comp=Z,250nm,19.0s,baz=120,slow=43						
MAT	**Matsushiro**	**2.21**	**295**	P	**Pn**	**02 58 35.8**	**+1.0**
MAT				*e*S	**Sn**	**02 59 02.8**	**+1.8**
JHJ	**Hachijo jima 2**	**2.62**	**197**	P	**Pn**	**02 58 40.9**	**+0.5**
	18nm,0.3s,baz=138,slow=22,SNR=12						
JHJ				S	**Sn**	**02 59 09.9**	**-1.0**
	20nm,0.3s,baz=52,slow=12,SNR=3.8						
JHJ				LR	LR	02 59 49.3	
	comp=Z,89nm,20.6s,baz=29,slow=44						
JNU	**Nakatsue**	**8.49**	**256**	LR	LR	03 03 48.7	
	comp=Z,134nm,18.3s,baz=116,slow=42						
JCJ	**Chichijima**	**8.60**	**171**	P	**Pn**	**03 00 02.3**	**-0.3**
	2.5nm,0.3s,baz=9.9,slow=22,SNR=6.2						
KSRS	**Korea Array**	**10.44**	**284**	P	**Pn**	**03 00 27.5**	**-0.1**
	0.5nm,0.3s,baz=90,slow=13,SNR=4.0						
KSRS				LR	LR	03 04 22.3	
	comp=Z,75nm,20.7s,baz=95,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.97**	**118**	T	T	03 32 56.9	
	baz=310,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.98**	**118**	T	T	03 32 59.3	
	baz=310,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.99**	**118**	T	T	03 32 58.9	
	baz=310,slow=75						
SONM	**Songino Array**	**28.12**	**306**	P	**P**	**03 03 47.0**	**-1.3**
	0.5nm,0.7s,baz=106,slow=7.9,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**28.63**	**120**	T	T	03 33 48.3	
	baz=311,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.63**	**120**	T	T	03 33 48.4	
	baz=311,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.64**	**120**	T	T	03 33 49.5	
	baz=311,slow=75						
ZALV	**Zalesovo Beam**	**42.44**	**314**	P	**P**	**03 05 49.9**	**-0.9**
	0.6nm,0.4s,baz=92,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**44.38**	**303**	LR	LR	03 26 17.4	
	comp=Z,30nm,18.1s,baz=67,slow=38						
KURBB	**Kurchatov Arra**	**46.42**	**309**	P	**P**	**03 06 21.9**	**-0.7**
	1.4nm,0.7s,baz=84,slow=8.3,SNR=5.6						
AAK	**Ala-Archa**	**50.65**	**299**	LR	LR	03 29 33.5	
	comp=Z,25nm,20.0s,baz=32,slow=37						
ILAR	**Eielson Array**	**50.99**	**32**	P	**P**	**03 06 58.3**	**+0.8**
	0.6nm,0.8s,baz=274,slow=7.1,SNR=6.5						
LEM	**Lembang**	**52.45**	**223**	LR	LR	03 28 56.4	
	comp=Z,33nm,20.3s,baz=186,slow=36						
WRA	**Warramunga Arr**	**55.59**	**187**	P	**P**	**03 07 31.0**	**-0.8**
	0.9nm,0.8s,baz=5.2,slow=7.7,SNR=8.5						
ASAR	**Alice Springs**	**59.32**	**187**	P	**P**	**03 07 56.0**	**-2.0**
	0.2nm,0.4s,baz=18,slow=9.3,SNR=4.1						
YKA	**Yellowknife Ar**	**65.31**	**30**	P	**P**	**03 08 39.4**	**+1.8**
	0.1nm,0.6s,baz=296,slow=6.1,SNR=2.7						
FINES	**FINESS Array B**	**69.78**	**332**	P	**P**	**03 09 05.7**	**-0.1**
	2.3nm,1.0s,baz=68,slow=7.7,SNR=2.6						

IDC 07 03:02:57.6±0.7,39°47N×74°02E,h0km,mb4.0/21, mb1 4.1/26,mb1mx3.9/68,mbtmp3.9/26,ML3.3/6,MS3.4/9, Ms1 3.4/9,ms1mx2.9/61,Error ellipse: s-maj=13.9km s-min=9.3km az=125.0
KRNET 07 03:02:59.0±0.1,39°54N×73°79E,mb4.4
BJI 07 03:02:58.0,39°58N×73°81E,h6km,mb4.0/10,mB4.4/9, ML4.0/5,Ms3.9/10,Ms7 3.7/7
NNC 07 03:03:00.7±1.0,39°61N×73°81E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=10.9km s-min=4.3km az=44.0
ISCJB 07 03:03:00.1±0.9,39°38N±0°02×73°77E±0°03,h24km±7km, mb4.3/48,MS3.5/10,Error ellipse: s-maj=3.6km s-min=2.7km az=173.5
MOS 07 03:03:01.4±1.3,39°51N×73°80E,h30km,mb4.3/22,Error ellipse: s-maj=8.3km s-min=5.3km az=99.0
SOME 07 03:03:04.7,40°00N×73°82E,h0km
NEIC 07 03:03:05.0±1.5,39°56N×73°85E,h51km±12km,mb4.4/21, Error ellipse: s-maj=10.6km s-min=6.2km az=180.0
ISC 07 03:03:01.1±0.7,39°55N±0°03×73°81E±0°02,h17km±4km, n222,σ2s21/267,mb4.3/48,MS3.5/10,24C-47D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.52**	**334**	⇓P	**Pg**	**03 03 09.5**	**-2.2**
	231nm,0.2s						
SFK				⇓S	**Sg**	**03 03 16.7**	**-2.0**
	2μm,0.2s						
SFK	**Sufi-Kurgan**	**0.52**	**334**	PG	**Pg**	**03 03 09.5**	**-2.2**
SFK				pmax	pmax		
	comp=Z,231nm,0.2s						
SFK	**Sufi-Kurgan**	**0.52**	**334**	⇓*i*P	**Pg**	**03 03 09.5**	**-2.2**
	baz=36						
SFK				⇓*i*S	**Sg**	**03 03 16.6**	**-2.2**
	baz=36						
KSH	**Kashi**	**1.68**	**90**	Pg	Pn	03 03 24.4	-5.4
KSH				Sg	Sn	03 03 42.7	-8.3
KSH				smax	smax		
	comp=Z,2μm,0.7s						
KSH				smax	smax		
	comp=Z,2μm,0.7s						
ARSB	**Arslanbob**	**1.88**	**341**	⇓*e*P	**Pb**	**03 03 33.9**	**-1.3**
	baz=41						
ARSB				⇓*i*S	**Sg**	**03 04 00.0**	**-1.9**
	baz=41						
TOKL	**Toktogul**	**2.50**	**344**	⇓*i*P	**Pb**	**03 03 43.0**	**-2.5**
	baz=44						
TOKL				⇓*i*S	**Sb**	**03 04 15.0**	**-1.0**
	baz=44						
NRN	**Naryn**	**2.52**	**41**	⇓*i*P	**Pb**	**03 03 43.5**	**-2.6**
	baz=41						
NRN				⇓*i*S	**Sb**	**03 04 16.1**	**-0.9**
	baz=41						
AML	**Almayashu**	**2.58**	**358**	P	**Pn**	**03 03 44.1**	**+1.5**
	SNR=320						
AML	**Almayashu**	**2.58**	**358**	⇓*i*P	**Pn**	**03 03 43.9**	**+1.4**
	baz=58						
AML				⇓*i*S	**Sb**	**03 04 17.5**	**-1.3**
	baz=58						
ARK	**Arkit**	**2.65**	**329**	⇓*i*P	**Pb**	**03 03 45.2**	**-3.0**
	baz=29						
ARK				⇓*i*S	**Sb**	**03 04 18.5**	**-2.0**
	baz=29						
UCH	**Uchtor**	**2.73**	**11**	P	**Pn**	**03 03 46.4**	**+1.8**
	SNR=525						
UCH	**Uchtor**	**2.73**	**11**	⇓*i*P	**Pn**	**03 03 46.4**	**+1.8**
	baz=11						
UCH				⇓*i*S	**Sb**	**03 04 20.8**	**-2.4**
	baz=11						
KZA	**Kyzart**	**2.76**	**23**	P	**Pn**	**03 03 46.1**	**+1.3**
	SNR=466						
KZA	**Kyzart**	**2.76**	**23**	⇓*i*P	**Pn**	**03 03 46.2**	**+1.3**
	baz=23						
KZA				⇓*i*S	**Sb**	**03 04 21.4**	**-2.4**
	baz=23						
MNAS	**Manas**	**3.10**	**342**	⇓Pn	**Pn**	**03 03 51.2**	**+1.8**
	comp=Z,21nm,0.6s						
MNAS				⇓Sn	**Sn**	**03 04 28.8**	**+2.7**
	comp=Z,168nm,0.5s						
MNAS	**Manas**	**3.10**	**342**	PN	**Pn**	**03 03 51.2**	**+1.8**
MNAS				S	**Sn**	**03 04 28.8**	**+2.7**
MNAS				pmax	pmax		
	comp=Z,21nm,0.6s						
MNAS				smax	smax		
	comp=N,168nm,0.5s						
MNAS	**Manas**	**3.10**	**342**	⇓*i*P	**Pn**	**03 03 51.4**	**+2.0**
	baz=42						
MNAS				⇓*i*S	**Sn**	**03 04 28.0**	**+1.9**
	baz=42						
EKS2	**Erkin-Say**	**3.11**	**360**	P	**Pn**	**03 03 51.7**	**+2.2**
	SNR=41						
EKS2	**Erkin-Say**	**3.11**	**360**	⇑*i*P	**Pn**	**03 03 51.7**	**+2.2**
	baz=60						
EKS2				⇑*i*S	**Sb**	**03 04 30.1**	**-3.7**
	baz=60						
AAK	**Ala-Archa**	**3.13**	**9**	Pn	**Pb**	**03 03 52.5**	**-4.0**
	comp=N,13nm,0.3s,baz=174,slow=9.6,SNR=109						
AAK				Pg	**Pg**	**03 03 56.6**	**-4.6**
	comp=N,30nm,0.3s,baz=180,slow=12,SNR=61						
AAK				LR	LR	03 04 31.6	
	comp=N,71nm,21.7s,baz=336,slow=30						
AAK				Lg	Lg	03 04 37.2	
	comp=N,52nm,0.3s,baz=180,slow=10,SNR=9.0						
AAK	**Ala-Archa**	**3.13**	**9**	⇑Pn	**Pn**	**03 03 51.9**	**+2.1**
	comp=N,19nm,0.8s						
AAK				⇓Lg	Lg	03 04 36.3	
	comp=N,452nm,0.8s						
AAK	**Ala-Archa**	**3.13**	**9**	P	**Pn**	**03 03 52.2**	**+2.3**
	SNR=88						
AAK	**Ala-Archa**	**3.13**	**9**	*e*Pn	**Pn**	**03 03 52.1**	**+2.3**
AAK				*e*Sn	**Sn**	**03 04 27.6**	**+0.7**
AAK				Lg	Lg	03 04 37.2	
AAK	**Ala-Archa**	**3.13**	**9**	*d i*PN	**Pn**	**03 03 51.9**	**+2.1**
AAK	**Ala-Archa**	**3.13**	**9**	⇓*i*P	**Pn**	**03 03 52.1**	**+2.3**
	baz=10.0						
AAK				⇓*i*S	**Sb**	**03 04 30.4**	**-4.0**
	baz=10.0						
KBK	**Karagaybulak**	**3.23**	**15**	P	**Pn**	**03 03 53.4**	**+2.3**
	SNR=81						
KBK	**Karagaybulak**	**3.23**	**15**	⇓*i*P	**Pn**	**03 03 53.3**	**+2.2**
	baz=15						
KBK				⇓*i*S	**Sb**	**03 04 33.2**	**-3.9**
	baz=15						
ULHL	**Ulahol**	**3.27**	**34**	P	**Pn**	**03 03 53.0**	**+1.2**
	SNR=26						
ULHL	**Ulahol**	**3.27**	**34**	⇓*i*P	**Pn**	**03 03 53.3**	**+1.5**
	baz=34						
ULHL				⇓*i*S	**Sn**	**03 04 33.3**	**+2.9**
	baz=34						
FRU1	**Bishkek**	**3.32**	**11**	⇑*i*P	**Pn**	**03 03 54.9**	**+2.6**
	baz=11						
FRU1				⇑*i*S	**Sb**	**03 04 35.0**	**-4.7**
	baz=11						
FRU	**Bishkek**	**3.34**	**10**	*e*PN	**Pb**	**03 03 57.0**	**-2.9**
FRU				*i*		03 04 40.0	
FRU				*i*		03 04 43.0	
FRU				pmax	pmax		
	comp=Z,360nm,1.8s						
FRU				pmax	pmax		
	comp=N,3μm,2.0s						
BOOM	**Boomskoye usch**	**3.35**	**28**	⇑*i*P	**Pn**	**03 03 54.9**	**+2.0**
	baz=28						
BOOM				⇑*i*S	**Sb**	**03 04 35.8**	**-5.0**
	baz=28						
CHMS	**Chumysh**	**3.52**	**11**	P	**Pn**	**03 03 56.9**	**+1.8**
	SNR=23						
CHMS	**Chumysh**	**3.52**	**11**	⇑*i*P	**Pn**	**03 03 57.0**	**+1.9**
	baz=12						
CHMS				⇑*i*S	**Sn**	**03 04 39.3**	**+2.9**
	baz=12						
TKM2	**Tokmak 2**	**3.63**	**21**	⇑Pn	**Pn**	**03 03 58.4**	**+1.7**
	comp=N,11nm,0.8s						
TKM2				⇑Lg	Lg	03 04 52.3	
	comp=N,43nm,0.6s						
TKM2	**Tokmak 2**	**3.63**	**21**	P	**Pn**	**03 03 58.6**	**+1.9**
	SNR=24						
TKM2	**Tokmak 2**	**3.63**	**21**	PN	**Pn**	**03 03 58.4**	**+1.7**
TKM2				pmax	pmax		
	comp=Z,11nm,0.8s						
TKM2	**Tokmak 2**	**3.63**	**21**	⇓*i*P	**Pn**	**03 03 58.5**	**+1.7**
	baz=21						
TKM2				⇓*i*S	**Sn**	**03 04 42.1**	**+2.8**
	baz=21						
KDJ	**Kajisay**	**3.63**	**44**	⇑*i*P	**Pn**	**03 04 00.1**	**+3.3**
	baz=44						
KDJ				⇑*i*S	**Sn**	**03 04 43.3**	**+3.9**
	baz=44						
USP	**Ospenovka**	**3.75**	**8**	P	**Pn**	**03 04 00.3**	**+2.0**
	SNR=24						
USP	**Ospenovka**	**3.75**	**8**	⇓*i*P	**Pn**	**03 03 59.8**	**+1.5**
	baz=8.0						
USP				⇓*i*S	**Sn**	**03 04 45.7**	**+3.6**
	baz=8.0						
IUG	**Iuzhnay**	**3.87**	**313**	*e*P	**Pb**	**03 04 10.4**	**+1.5**
	comp=Z,93nm,0.4s						
IUG				*e*S	**Sb**	**03 04 57.3**	**+1.9**
	comp=Z,683nm,0.7s						
TAS	**Tashkent**	**3.88**	**299**	⇓Pg	**Pg**	**03 04 12.4**	**-3.1**
	comp=Z,99nm,0.4s						
TAS				⇑Lg	Lg	03 05 05.3	
	comp=Z,745nm,0.5s						
TAS	**Tashkent**	**3.88**	**299**	PN	**Pg**	**03 04 12.4**	**-3.1**
TAS				pmax	pmax		
	comp=Z,99nm,0.4s						
TAS	**Tashkent**	**3.88**	**299**	⇓*e*P	**Pn**	**03 04 01.6**	**+1.6**
	baz=99						
TAS				⇓*i*S	**Sn**	**03 04 47.7**	**+2.5**
	baz=99						
DGS	**Degeres**	**3.98**	**21**	*e*P	**Pb**	**03 04 10.7**	**-0.1**
	comp=Z,71nm,0.6s						
DGS				*e*S	**Sb**	**03 04 59.7**	**+1.0**
	comp=Z,223nm,0.5s						
IZV	**Izvestkoviy**	**4.08**	**30**	*e*P	**Pb**	**03 04 12.7**	**+0.2**
	comp=Z,102nm,0.9s						
IZV				*e*S	**Sb**	**03 05 02.3**	**+0.7**
	comp=Z,302nm,0.5s						
TNSS	**Tian-Shan**	**4.21**	**33**	*e*P	**Pb**	**03 04 16.0**	**+1.0**
	comp=Z,154nm,0.6s						
TNSS				*e*S	**Sb**	**03 05 08.2**	**+2.4**
	comp=Z,228nm,1.2s						
KK31	**Karatay Array**	**4.33**	**326**	⇑Pn	**Pn**	**03 04 07.9**	**+1.7**
	comp=Z,0.6nm,0.2s,baz=131,slow=13,SNR=418						
KK31				⇑Pg	**Pb**	**03 04 18.5**	**+1.7**
	comp=Z,48nm,0.7s,baz=145,slow=16,SNR=26						
KK31				⇓Sn	**Sn**	**03 05 01.2**	**+4.8**
	comp=Z,23nm,0.4s,baz=135,slow=24,SNR=8.8						
KK31				⇑Lg	Lg	03 05 17.9	

comp=Z,110nm,0.5s,baz=156,slow=27,SNR=3.7
KK31 Karatay Array 4.33 326 PN **Pb 03 04 18.5 +1.7**
KK31 S **Sn 03 05 01.2 +4.8**
KK31 pmax pmax
comp=Z,48nm,0.7s
KK31 smax smax
comp=N,23nm,0.4s
KKAR Karatay Array 4.33 326 *e*Pn **Pn 03 04 08.3 +2.1**
KKAR *e*Sn **Sn 03 04 58.0 +1.7**
KKAR Karatay Array 4.33 326 *e*PN **Pn 03 04 08.3 +2.1**
KKAR *e* 03 04 58.0
AAA Alma-Ata 4.34 32 *e*PN **Pb 03 04 14.4 -2.6**
AAA *e*S **Sg 03 05 13.5 -7.1**
AAA pmax pmax
comp=Z,109nm,0.6s
AAA smax smax
comp=E,482nm,1.0s
MDOK Medeo 4.36 33 ⇓Pn **Pn 03 04 09.0 +2.3**
comp=E,9.8nm,0.7s
MDOK ⇑Lg Lg 03 05 13.7
comp=E,83nm,0.8s
KNDC Almaty 4.37 32 ⇓Pn **Pn 03 04 10.0 +3.3**
comp=E,12nm,0.4s
KNDC ⇓Lg Lg 03 05 15.3
comp=E,462nm,1.4s
KOTS Kotyrbulak 4.45 33 *e*P **Pb 03 04 20.3 +1.4**
KOTS *e*S **Sb 03 05 15.1 +3.0**
KTBS Karatobe 4.69 26 *e*P **Pb 03 04 23.1 +0.2**
KTBS *e*S **Sb 03 05 20.0 +1.0**
CHKK Chushkaly 4.92 28 *e*P **Pb 03 04 27.2 +0.4**
comp=E,66nm,0.7s
CHKK *e*S **Sb 03 05 27.4 +1.8**
comp=E,171nm,0.7s
ARXS Arharly 5.54 31 *e*P **Pb 03 04 39.0 +1.5**
comp=E,94nm,0.7s
ARXS *e*S **Sb 03 05 47.4 +3.7**
comp=E,120nm,0.6s
PDGK Podgornoye 5.70 47 ⇓Pn **Pn 03 04 25.7 +0.6**
comp=E,16nm,1.0s
PDGK ⇑Pg **Pb 03 04 42.5 +2.3**
comp=E,35nm,0.7s
PDGK ⇓Lg Lg 03 05 54.5
comp=E,58nm,0.8s
PDGK Podgornoye 5.70 47 PN **Pn 03 04 25.7 +0.6**
PDGK pmax pmax
comp=E,16nm,1.0s
PDGK Podgornoye 5.70 47 ⇓*i*P **Pn 03 04 26.3 +1.2**
baz=47
PDGK ⇓*e*S **Sn 03 05 31.4 +1.2**
baz=47
CHCP Chirah Chowk 5.89 184 P Pn 03 04 34.2 +6.5
CEP Cherat 5.91 196 P Pn 03 04 33.9 +5.9
KBL Kabul 6.28 219 *e*Pn Pn 03 04 38.6 +5.4
KBL *e*Sn **Sn 03 05 48.5 +3.9**
KBL Kabul 6.28 219 *e*PN Pn 03 04 38.6 +5.4
KBL *e* 03 05 48.5
THW Thamme Wali 6.94 195 P **Pn 03 04 46.5 +4.4**
DHRM DHARAMSHALA 7.56 164 *e*P **Pn 03 04 52.2 +1.5**
DHRM *e*S **Sn 03 06 14.9 -1.1**
SARP Sargodha 7.66 187 P Pn 03 04 57.1 +5.1
OTUK Ortayu 8.76 354 ⇑Pn **Pn 03 05 08.1 +1.1**
comp=Z,2.5nm,0.6s
OTUK ⇑Lg Lg 03 07 39.6
comp=Z,34nm,0.8s
OTUK Ortayu 8.76 354 P **Pn 03 05 08.8 +1.8**
OTUK pmax pmax
comp=Z,3.0nm,0.6s
SMLA Simla 8.84 161 *e*P **Pn 03 05 09.2 +1.2**
SMLA *e*S **Sn 03 06 41.5 -5.6**
MAKZ Makanchi 9.39 37 ⇑Pn **Pn 03 05 17.6 +1.9**
comp=Z,0.6nm,0.5s
MAKZ Makanchi 9.39 37 *e*Pn Pn 03 05 21.4 +5.8
MAKZ Makanchi 9.39 37 *e*P Pn 03 05 21.4 +5.8
MK01 Makanchi Array 9.52 38 *e*Pn **Pn 03 05 19.2 +1.9**
MK31 Makanchi Array 9.53 38 Pn **Pn 03 05 18.3 +0.8**
comp=Z,0.6nm,0.6s,baz=214,slow=16,SNR=22
MK31 Makanchi Array 9.53 38 *e*Pn **Pn 03 05 19.4 +1.9**
MK31 Makanchi Array 9.53 38 *e*P **Pn 03 05 19.4 +1.9**
MK32 Makanchi Array 9.53 38 *e*Pn **Pn 03 05 17.2 -0.3**
MKAR Makanchi Array 9.53 38 Pn **Pn 03 05 17.2 -0.3**
comp=Z,0.1nm,0.3s,baz=210,slow=14,SNR=11
MKAR Lg Lg 03 07 56.4
comp=Z,0.3nm,0.3s,baz=227,slow=30,SNR=3.4
MKAR Makanchi Array 9.53 38 *e*Pn **Pn 03 05 19.4 +1.8**
MKAR Lg Lg 03 07 56.4
MKAR Makanchi Array 9.53 38 *e*P **Pn 03 05 19.3 +1.8**
DDI Dehra Dun 9.84 158 *e*P **Pn 03 05 20.9 -1.0**
DDI *e*S Sn 03 07 04.3 -7.7
DDI IAML 03 07 15.8
comp=N,112nm,0.4s
DDI IAML 03 07 19.9
comp=E,105nm,0.2s
WMQ Urumqi 11.23 63 P **Pn 03 05 42.1 +1.3**
WMQ Urumqi 11.23 63 P Pn 03 05 46.1 +5.3
WMQ pP 03 05 51.3
WMQ S **Sn 03 07 50.7 +4.8**
WMQ pmax pmax
comp=E,17nm,0.7s
WMQ LR LR
comp=E,370nm,22.5s
WMQ LR LR
comp=E,150nm,17.3s
WMQ LR LR
comp=E,210nm,18.1s
KURBB Kurchatov Arra 11.56 15 Pn **Pn 03 05 43.9 -1.4**
comp=E,0.1nm,0.3s,baz=207,slow=12,SNR=3.1
KURBB Lg Lg 03 09 02.0
comp=E,0.1nm,0.3s,baz=206,slow=30,SNR=13
KURK Kurchatov 11.67 15 ⇓Lg Lg 03 09 06.8
comp=E,67nm,1.2s
KURK Kurchatov 11.67 15 *e*Pn **Pn 03 05 49.4 +2.6**
KURK Lg Lg 03 09 02.0
KURK Kurchatov 11.67 15 *e*P **Pn 03 05 49.4 +2.6**
GEYT Alibeck 12.36 267 Pn **Pn 03 05 54.5 -1.8**
comp=E,1.2nm,0.3s,baz=81,slow=13,SNR=9.3
GEYT Sn **Sn 03 08 11.4 -2.2**
comp=E,0.8nm,0.3s,baz=79,slow=15,SNR=3.7
GEYT LR LR 03 11 31.7
comp=E,124nm,18.0s,baz=55,slow=41
BVAR Borovoye Array 13.69 351 Pn **Pn 03 06 12.4 -1.8**
comp=E,0.3nm,0.3s,baz=164,slow=13,SNR=11
BVAR Lg Lg 03 10 16.4
comp=E,0.3nm,0.3s,baz=171,slow=28,SNR=4.0
PYUN Piuthan 13.72 144 *e*P **Pn 03 06 11.9 -3.2**
comp=E,51nm,0.7s
BRVK Borovoye 13.73 351 *e*Pn **Pn 03 06 13.6 -1.2**
BRVK Borovoye 13.73 351 *e*P **Pn 03 06 13.7 -1.2**
AB31 Akbulak array 13.85 319 ⇑P **Pn 03 06 15.3 -1.2**
comp=E,4.0nm,0.8s,baz=124,slow=13,SNR=45
AB31 S **Sn 03 08 46.9 -2.9**
comp=E,10nm,0.8s,baz=124,slow=24,SNR=5.7
AB31 Akbulak array 13.85 319 P **Pn 03 06 15.3 -1.2**
AB31 S **Sn 03 08 46.9 -2.9**
AB31 pmax pmax
comp=Z,4.0nm,0.8s
AB31 smax smax
comp=N,11nm,0.8s
ABKAR Akbulak array 13.85 319 *e*Pn **Pn 03 06 14.9 -1.6**
KOLN Koldanda 14.29 142 *e*P **Pn 03 06 19.6 -3.2**
comp=N,24nm,0.7s
KKN Kakani 15.11 137 *e*P **Pn 03 06 32.4 -1.6**
comp=N,11nm,0.4s
GUN Gumba 15.33 136 *e*P **Pn 03 06 36.2 -0.8**
comp=N,17nm,0.5s
PKIN Phulchoki 15.34 138 *e*P **Pn 03 06 35.6 -1.5**
comp=N,21nm,0.7s
PKI Pulchoki 15.35 138 *e*P **Pn 03 06 35.5 -1.8**
comp=N,8.3nm,0.4s
AKTO Aktyubinsk 15.56 320 Pn **Pn 03 06 38.8 -0.8**
comp=N,0.3nm,0.3s,baz=111,slow=15,SNR=9.5
AKTO Sn **Sn 03 09 22.4 -9.1**
baz=161,slow=14,SNR=2.5
AKTO LR LR 03 13 02.5
comp=N,111nm,19.7s,baz=138,slow=38
AKTO Aktyubinsk 15.56 320 ⇓P **Pn 03 06 38.2 -1.4**
comp=N,4.2nm,0.9s
JIRN Jiri 15.70 135 *e*P **Pn 03 06 40.7 -1.1**
comp=N,39nm,0.6s
ZAA0 Zalesovo Array 16.23 24 *e*Pn **P 03 06 50.7 -0.5**
comp=N,4.6nm,0.7s
ZALV Zalesovo Beam 16.23 24 Pn **Pn 03 06 46.3 -1.8**
comp=N,0.2nm,0.3s,baz=209,slow=11,SNR=9.4
ZALV Sn **Sn 03 09 52.9 +5.2**
comp=N,0.2nm,0.3s,baz=212,slow=27,SNR=2.5
ZALV Lg Lg 03 11 26.9
comp=N,0.2nm,0.3s,baz=202,slow=31,SNR=2.0
ZALV Zalesovo Beam 16.23 24 *e*Pn **Pn 03 06 49.1 +0.9**
ZALV Sn **Sn 03 09 52.9 +5.2**
ZALV Lg Lg 03 11 26.9
ZALV Zalesovo Beam 16.23 24 *e*P **Pn 03 06 49.1 +0.9**
ZALV 03 09 52.9
ZAA1 Zalesovo Array 16.24 24 *e*Pn **Pn 03 06 46.4 -1.9**
ZAA1 *e*Sn **Sn 03 09 52.9 +5.1**
RAMN Ramite 16.48 136 *e*P **Pn 03 06 49.3 -2.5**
comp=N,21nm,0.6s
BHPL Bhopal 16.54 168 *e*P **Pn 03 06 53.6 +1.2**
NVS Novosibirsk 16.56 19 *e*P **P 03 06 54.9 +0.1**
NVS *e* 03 09 54.7
TAPN Taplejung 16.79 132 *e*P **Pn 03 06 55.0 -0.7**
comp=N,7.2nm,0.4s
ODAN Odare 16.98 134 *e*P **Pn 03 06 55.7 -2.4**
comp=N,19nm,0.5s
HVS Khovu-Aksy 18.10 44 *e*P **P 03 07 12.6 +0.7**
BOK Bokaro 18.74 143 *e*P **P 03 07 19.3 +0.2**
NGP Nagpur 18.88 165 *e*P **P 03 07 19.5 -1.2**
ARU Arti 19.66 334 P **P 03 07 28.8 -0.1**
baz=180,slow=14
ARU Arti 19.66 334 *e*P **P 03 07 28.8 -0.1**
comp=N,5.0nm,0.7s
ARU Arti 19.66 334 *c i*P **Pn 03 07 30.1 -0.2**
ARU S **S 03 11 09.2 -0.6**
ARU pmax pmax
comp=Z,7.0nm,1.0s
GTA Gaotai 20.06 82 *e*P Pn 03 07 36.0 +0.6
GTA pP sP 03 07 40.0 -0.7
GTA sP pP 03 07 43.1 +4.6
GTA S Sn 03 11 21.8 +1.1
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,4.8s
GTA LR LR
comp=Z,97nm,13.8s
GTA LR LR
comp=Z,140nm,15.0s
GTA LR LR
comp=Z,220nm,14.0s
SHL Shillong 20.60 127 *e*P **P 03 07 39.2 -0.4**
SHL IAmb IAmb 03 07 43.7
GNI Garni 22.28 281 P **P 03 08 00.3 +2.7**
comp=Z,22nm,1.2s,baz=62,slow=15,SNR=2.0
GNI Garni 22.28 281 *e*P **P 03 07 57.4 -0.2**
comp=Z,31nm,1.3s
GNI Garni 22.28 281 *e*P **P 03 08 01.4 +3.8**
GNI pmax pmax
comp=Z,59nm,1.2s
NCK Nalchik 22.90 290 *e*P **P 03 08 06.0 +2.1**
NCK pmax pmax
comp=Z,4.0nm,0.5s
ZAK Zakamensk 23.35 53 *e*P **P 03 08 08.9 +0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
KBZ Khabaz 23.40 290 P **P 03 08 11.0 +2.0**
comp=Z,1.5nm,1.0s,baz=112,slow=18,SNR=2.1
KBZ Khabaz 23.40 290 P **P 03 08 11.0 +2.0**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
NEY Neytrino 23.54 289 *e*P **P 03 08 10.6 0.0**
NEY pmax pmax
comp=Z,2.0nm,1.2s
KVAR Kislovodsk Arr 23.55 291 P **P 03 08 11.6 +1.0**
comp=Z,1.8nm,0.5s,baz=84,slow=9.2,SNR=2.1
KIV Kislovodsk 23.55 291 *e*P **P 03 08 11.6 +1.0**
comp=Z,12nm,0.9s
KIV Kislovodsk 23.55 291 *e*P **P 03 08 12.6 +2.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,33nm,14.0s
LZH Lanzhou 23.93 89 *e*P **P 03 08 12.5 -1.9**
LZH pP pP 03 08 15.4 -4.2
LZH sP sP 03 08 17.2 -4.6
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,65nm,5.2s
LZH LR LR
comp=Z,180nm,12.0s
LZH LR LR
comp=Z,170nm,12.5s
LZH LR LR
comp=Z,220nm,14.6s
SONA0 Songino Array 24.83 60 *e*P **P 03 08 21.9 -0.6**
SONM Songino Array 24.83 60 P **P 03 08 21.9 -0.6**
comp=Z,2.6nm,1.0s,baz=261,slow=10,SNR=8.6
SONM LR LR 03 18 55.1
comp=Z,116nm,19.4s,baz=12,slow=39
SONA1 Songino Array 24.84 60 *e*P **P 03 08 24.2 +1.6**
ULN Ulaanbaatar 25.28 60 *e*P **P 03 08 27.2 +0.7**
comp=Z,4.4nm,0.9s
ULN Ulaanbaatar 25.28 60 *e*P **P 03 08 27.2 +0.7**
ULN pmax pmax
comp=Z,4.0nm,0.9s
VSR Storozhevoye 26.73 307 *e*P **P 03 08 38.2 -1.3**
VSR pmax pmax
comp=Z,4.0nm,0.9s
ANN Anapa 27.31 293 *e*P **P 03 08 40.8 -3.9**
ANN *e**PP **sP 03 08 55.7 +3.6**
ANN *e*S S 03 13 13.4 -10
ANN pmax pmax
comp=Z,40nm,1.2s
HHC Hu-ho-hao-te 28.73 75 *e*P **P 03 09 01.0 +3.4**
HHC PP **PnPn 03 09 50.6 +2.4**
HHC S **S 03 13 45.5 -0.6**
HHC SS **SnSn 03 15 14.2 +7.2**
HHC ScS **ScS 03 19 39.2 -2.4**
HHC pmax pmax
comp=Z,12nm,1.2s
HHC pmax pmax
comp=Z,70nm,5.6s
HHC LR LR
comp=Z,160nm,12.6s
HHC LR LR
comp=Z,150nm,13.7s
HHC LR LR
comp=Z,120nm,12.0s
BR101 Keskin Array S 30.75 283 *e*P **P 03 09 17.2 +1.6**
BRTR Keskin Array B 30.75 283 P **P 03 09 17.2 +1.6**
comp=Z,0.6nm,0.8s,baz=90,slow=6.2,SNR=4.1
DGPR DIGLIPUR 31.22 142 *e*P **P 03 09 17.5 -2.1**
AKASG Malin Array Be 32.90 305 P **P 03 09 34.3 +0.1**
comp=Z,1.1nm,0.5s,baz=79,slow=7.4,SNR=7.7
AKASG LR LR 03 24 24.3
comp=Z,69nm,19.5s,baz=350,slow=39
AKASG Malin Array Be 32.90 305 *e*P **P 03 09 35.6 +1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 32.90 305 *e*P **P 03 09 36.4 +2.2**
comp=Z,1.9nm,0.6s
AKBB Malin Array Si 32.90 305 *e*P **P 03 09 36.4 +2.2**
AKBB pmax pmax
comp=Z,2.0nm,0.6s
KIEV Kiev 32.91 305 *e*P **P 03 09 34.2 0.0**
comp=Z,2.5nm,0.9s
KIEV Kiev 32.91 305 *e*P **P 03 09 34.2 0.0**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
HIA Hailar 33.76 58 *e*P **P 03 09 43.9 +2.2**
HIA pmax pmax
comp=Z,3.0nm,0.8s
VSU Vasula 35.28 318 *e*P **P 03 09 55.6 +0.9**
VSU pmax pmax
comp=Z,17nm,0.9s
MLR Muntele Rosu 35.35 296 *e*P **P 03 09 55.1 -0.5**
comp=Z,17nm,1.6s
MLR Muntele Rosu 35.35 296 *e*P **P 03 09 55.1 -0.5**
MLR pmax pmax
comp=Z,17nm,1.6s
BUR04 Bucovina Ar. S 35.61 299 *e*P **P 03 09 58.9 +1.0**
FIA0 FINESS Array S 36.29 323 *e*P **P 03 10 03.6 +0.3**
FIA0 FINESS Array S 36.29 323 *e*P **P 03 10 03.6 +0.3**
FIA1 FINESS Array S 36.29 323 *e*P **P 03 10 03.5 +0.2**
comp=Z,19nm,1.4s
FINES FINESS Array B 36.29 323 P **P 03 10 03.6 +0.3**
comp=Z,1.4nm,0.4s,baz=114,slow=9.7,SNR=22
KWP Kalwaria Pacla 37.11 303 *e*P **P 03 10 11.1 +0.6**
comp=Z,303nm,1.9s
KWP Kalwaria Pacla 37.11 303 *e*P **P 03 10 11.1 +0.6**
KWP pmax pmax
comp=Z,303nm,1.9s
VTS Vitosha 37.81 291 *e*P **P 03 10 14.8 -1.9**
comp=Z,8.6nm,1.5s
VTS Vitosha 37.81 291 *e*P **P 03 10 14.8 -1.9**
VTS pmax pmax
comp=Z,9.0nm,1.5s
IDI Anoyia 38.70 280 P **P 03 10 24.9 +0.7**
comp=Z,3.3nm,0.8s,baz=94,slow=14,SNR=3.2
IDI Anoyia 38.70 280 *e*P **P 03 10 24.9 +0.7**
comp=Z,29nm,1.6s
ATD Arta Tunnel 39.12 233 *e*P **P 03 10 26.7 -1.1**
comp=Z,7.1nm,1.0s
ARA0 ARCESS Array S 39.24 335 *e*P **P 03 10 28.6 +0.5**
ARCES ARCESS Array B 39.24 335 P **P 03 10 28.6 +0.5**
comp=Z,2.0nm,0.6s,baz=105,slow=8.0,SNR=16
ARCES ARCESS Array B 39.24 335 *e*P **P 03 10 28.5 +0.3**
ARE0 ARCESS Array S 39.24 335 *e*P **P 03 10 28.4 +0.2**
comp=Z,49nm,1.6s
AGG Agios Georgios 39.39 286 *e*P **P 03 10 28.8 -1.1**
comp=Z,84nm,1.8s
AGG Agios Georgios 39.39 286 *e*P **P 03 10 28.8 -1.1**
AGG pmax pmax
comp=Z,84nm,1.8s
KS01 Wonju Array Si 41.84 75 *e*P **P 03 10 51.3 +1.2**
HFS Hagfors 42.11 320 P **P 03 10 52.0 0.0**
comp=Z,4.4nm,0.7s,baz=98,slow=6.1,SNR=4.2
HFS LR LR 03 29 11.5
comp=Z,123nm,18.5s,baz=70,slow=37
HFS Hagfors 42.11 320 P **P 03 10 52.0 0.0**
HFS pmax pmax
comp=Z,4.0nm,0.7s
HFS MLR MLR
comp=Z,123nm,18.5s
TIXI Tiksi 42.12 23 *e*P **P 03 10 51.7 -0.2**
comp=Z,3.3nm,0.8s
TIXI Tiksi 42.12 23 *e*P **P 03 10 51.7 -0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
GEC2 GERESS Array S 43.06 303 *e*P **P 03 11 00.9 +0.9**
comp=Z,12nm,1.8s
GEC2 GERESS Array S 43.06 303 *e*P **P 03 11 00.9 +0.9**
GEC2 pmax pmax
comp=Z,12nm,1.8s
GERES GERESS Array B 43.06 303 P **P 03 11 00.9 +0.9**
comp=Z,1.0nm,0.7s,baz=74,slow=7.3,SNR=9.4
GERES GERESS Array B 43.06 303 *e*P **P 03 11 01.0 +1.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GEA0 GERESS Array S 43.06 303 *e*P **P 03 10 58.2 -1.8**
CLL Collm 43.08 307 *e*P **P 03 11 01.0 +1.1**
CLL LmV 03 30 00.0
comp=Z,100nm,20.7s
CLL Collm 43.08 307 *e*P **P 03 11 01.0 +1.1**
NC405 NORSAR Array S 43.10 321 *e*P **P 03 10 58.0 -2.0**
NC303 NORSAR Array S 43.27 321 *e*P **P 03 11 00.4 -1.0**
NB2 NORSAR Subarra 43.35 321 P **P 03 11 01.6 -0.4**
comp=Z,3.4nm,0.8s,baz=93,slow=8.6
NB200 NORSAR Array S 43.35 321 *e*P **P 03 11 01.9 -0.1**
NOA NORSAR Array B 43.35 321 P **P 03 11 01.9 -0.1**
comp=Z,2.1nm,0.7s,baz=92,slow=8.0,SNR=6.8
NOA LR LR 03 29 51.6
comp=Z,51nm,19.6s,baz=285,slow=37
NOA NORSAR Array B 43.35 321 *e*P **P 03 11 02.0 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NC204 NORSAR Array S 43.57 321 *e*P **P 03 11 04.0 +0.1**
YOJ Yonaguni jima 43.82 95 *e*P **P 03 11 06.8 +0.6**
comp=Z,388nm,1.4s
YOJ Yonaguni jima 43.82 95 *e*P **P 03 11 06.8 +0.6**
YOJ pmax pmax
comp=Z,388nm,1.4s
SPITS Spitsbergen Ar 45.06 346 LR LR 03 32 36.4
comp=Z,38nm,18.1s,baz=325,slow=39
DGAR Diego Garcia 46.74 182 *e*P **P 03 11 29.0 -0.4**
comp=Z,167nm,1.3s
DGAR Diego Garcia 46.74 182 *e*P **P 03 11 29.0 -0.4**
DGAR pmax pmax
comp=Z,167nm,1.3s
EKA Eskdalemuir Ar 51.68 315 P **P 03 12 07.8 +1.1**
comp=Z,2.0nm,0.7s,baz=79,slow=7.3,SNR=7.8
ESDC Sonseca Array 58.02 297 P **P 03 12 53.9 +0.9**
comp=Z,0.2nm,0.4s,baz=64,slow=6.8,SNR=5.1
RES Resolute Bay 65.80 357 *e*P **P 03 13 42.1 -2.6**
comp=Z,3.2nm,0.9s
RES Resolute Bay 65.80 357 *e*P **P 03 13 42.2 -2.6**
RES pmax pmax
comp=Z,3.0nm,0.9s
TOA1 Torodi Ar. Sit 67.99 269 *e*P **P 03 13 59.0 -0.6**
TOA0 Torodi Ar. Sit 68.00 269 *e*P **P 03 13 59.0 -0.6**
TORD Torodi Ar. Bea 68.00 269 P **P 03 13 59.0 -0.6**
comp=Z,1.7nm,0.6s,baz=45,slow=5.3,SNR=37
ILAR Eielson Array 71.23 17 P **P 03 14 17.0 -1.8**
comp=Z,0.8nm,0.9s,baz=326,slow=5.2,SNR=5.8
ILAR Eielson Array 71.23 17 P **P 03 14 17.0 -1.8**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILB Eielson Array 71.23 17 *e*P **P 03 14 17.0 -1.8**
KOWA Kowa 71.59 274 P **P 03 14 21.1 -0.7**
comp=Z,1.3nm,0.5s,baz=53,slow=7.7,SNR=7.1
DBIC Dimbokro 77.05 268 P **P 03 14 53.4 -0.1**
comp=Z,2.0nm,0.7s,baz=349,slow=6.7,SNR=4.3
DBIC LR LR 03 54 28.7
comp=Z,28nm,18.2s,baz=32,slow=40
DBIC Dimbokro 77.05 268 *e*P **P 03 14 53.4 -0.1**
comp=Z,17nm,1.4s
DBIC Dimbokro 77.05 268 P **P 03 14 53.4 -0.1**
DBIC pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 78.08 4 P **P 03 14 57.7 -0.8**
comp=Z,0.6nm,0.7s,baz=351,slow=5.8,SNR=10
YKA Yellowknife Ar 78.08 4 *e*P **P 03 15 00.4 +1.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKB5 Yellowknife Ar 78.08 4 *e*P **P 03 14 57.7 -0.8**
WR1 Warramunga Arr 81.79 124 *e*P **P 03 15 17.8 -1.4**
comp=Z,6.6nm,1.0s
WRA Warramunga Arr 81.79 124 P **P 03 15 17.8 -1.4**
comp=Z,0.7nm,0.7s,baz=313,slow=4.0,SNR=8.6
AS31 Alice Springs 84.24 127 *e*P **P 03 15 30.4 -1.4**
comp=Z,0.7nm,0.8s
ASAR Alice Springs 84.24 127 P **P 03 15 30.4 -1.4**
comp=Z,0.3nm,0.3s,baz=315,slow=5.0,SNR=4.6
LONY Lake Ozonia 91.51 338 *e*P **P 03 16 03.5 -3.1**
comp=Z,34nm,1.0s
YMR Madison River 96.06 3 *e*P **P 03 16 30.2 +2.4**
comp=Z,15nm,1.8s

SJA 07 03:13:13.9±0.5, 29.77S×68.50W, h110km±7km, ML3.0, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.28**	**1**	*i* P		Pn	03 13 30.1	+0.2
VCA	**Vinchina**	**1.06**	**14**	*i* P		Pn	03 13 36.8	+0.8
VCA				*i* S		Sn	03 13 54.1	+1.5
VCA				IAML			03 13 54.9	
comp=Z,462nm,0.5s								
AMOG	**MOGNA**	**1.16**	**180**	*i* P		Pn	03 13 37.7	+0.7
RTLL	**Cerro Villicun**	**1.55**	**179**	*i* P		Pn	03 13 42.4	+1.0
RTLL				*i* S		Sn	03 14 03.6	+1.3
APLL	**PUNTA DE LOS L**	**1.82**	**110**	*i* P		Pn	03 13 45.6	+1.0
RTCV	**Cerro Valdivia**	**2.08**	**181**	*i* P		Pn	03 13 49.4	+1.4
RTCV				*i* S		Sn	03 14 15.3	+1.2
RTLS	**Leoncito**	**2.13**	**199**	*i* P		Pn	03 13 50.4	+1.5
RTLS				IAML			03 14 18.8	
comp=Z,46nm,0.8s								

MAN 07 03:22:47, 10.11N×123.36E, h3km, mb3.6, ML2.3, MS1.8, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.63**	**71**	*e*P		Pb	03 22 59.9	-0.8
LLP				*e*S		Sn	03 23 13.2	-0.3
TBP	**Tagbilaran**	**0.65**	**130**	*e*P		Pb	03 23 01.8	+0.8
TBP				*i* S		Sn	03 23 14.4	+0.5
SNPH	**Sibulan**	**0.77**	**189**	⇓*i*P		Pg	03 23 01.9	+0.1
SNPH				*i* S		Sg	03 23 11.8	-0.1
GUIM	**Jordan**	**0.91**	**304**	*e*P		Pg	03 23 02.3	-2.2
GUIM				*e*S		Sg	03 23 13.9	-2.5
RCP	**Roxas**	**1.56**	**337**	⇓*e*P		Pn	03 23 16.0	+0.3
RCP				*e*S		Sg	03 23 37.4	+0.1

*ISK **07** 03:35:56.7, 38.60N×43.26E, h7km, ML2.3/6*

ISCJB ***07*** *03:35:57.8±0.5, 38°.65N±0°.03×43°.28E±0°.04, h1km±6km, Error ellipse: s-maj=5.1km s-min=4.2km az=146.8*
DDA ***07*** *03:35:57.7, 38°.62N×43°.29E, h7km, Ml2.9*
CSEM ***07*** *03:35:57.3±0.2, 38°.62N×43°.31E, h10km, ML2.3, Error ellipse: s-maj=5.4km s-min=4.5km az=122.0*
ISC 07 03:35:57.9±0.9**, 38°.62N**±0°.02×**43°.28E**±0°.02**, h9**km±6km**,** **n32,** σ**1.20**/54**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.09**	**103**	PG	**Pg**	**03 36 00.3**	**-0.1**
VANB	**Van**	**0.09**	**103**	*e*Pg	**Pg**	**03 36 00.3**	**-0.1**
TVAN	**Van**	**0.13**	**131**	*i* P	**Pg**	**03 36 00.8**	**-0.3**
TVAN				*i* S	**Sg**	**03 36 03.9**	**+0.6**
TVAN	**Van**	**0.13**	**131**	P	**Pg**	**03 36 00.8**	**-0.3**
TVAN				S	**Sg**	**03 36 03.9**	**+0.6**
GEVA	**Gevas**	**0.35**	**210**	*i* P	**Pg**	**03 36 04.1**	**-0.8**
GEVA				*i* S	**Sb**	**03 36 11.3**	**-0.8**
GEVA	**Gevas**	**0.35**	**210**	P	**Pg**	**03 36 04.1**	**-0.8**
GEVA				S	**Sb**	**03 36 11.3**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.48**	**294**	*i* P	**Pg**	**03 36 07.0**	**-0.2**
ADCV				*i* S	**Sb**	**03 36 15.7**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.48**	**294**	P	**Pg**	**03 36 07.1**	**-0.2**
ADCV				S	**Sb**	**03 36 15.7**	**0.0**
CLDR	**Caldiran**	**0.72**	**43**	PG	**Pg**	**03 36 11.5**	**-0.5**
CLDR				SG	**Sb**	**03 36 22.4**	**-0.6**
CLDR	**Caldiran**	**0.72**	**43**	*i* P	**Pg**	**03 36 10.5**	**-1.5**
CLDR				*i* S	**Sb**	**03 36 23.4**	**+0.4**
CLDR	**Caldiran**	**0.72**	**43**	P	**Pg**	**03 36 10.5**	**-1.5**
CLDR	**Caldiran**	**0.72**	**43**	*e*Pg	**Pg**	**03 36 11.5**	**-0.5**
CLDR				*e*Sg	**Sb**	**03 36 22.4**	**-0.6**
CLDR				S	**Sb**	**03 36 23.4**	**+0.4**
TUTA	**Tutak**	**0.87**	**335**	*i* P	**Pg**	**03 36 13.9**	**-0.7**
TUTA				*i* S	**Sb**	**03 36 26.9**	**-0.2**
TUTA	**Tutak**	**0.87**	**335**	P	**Pg**	**03 36 13.9**	**-0.7**
TUTA				S	**Sb**	**03 36 26.9**	**-0.2**
GURO	**Guroymak-BITLI**	**0.98**	**267**	PG	**Pg**	**03 36 15.6**	**-1.2**
GURO				SG	**Sg**	**03 36 29.3**	**-0.2**
GURO	**Guroymak-BITLI**	**0.98**	**267**	*e*Pg	**Pg**	**03 36 15.6**	**-1.2**
GURO				*e*Sg	**Sg**	**03 36 29.3**	**-0.2**
AGRB	**Hanur-Agry**	**0.98**	**347**	PG	**Pg**	**03 36 16.3**	**-0.6**
AGRB	**Hanur-Agry**	**0.98**	**347**	*e*Pg	**Pg**	**03 36 16.3**	**-0.6**
HAKT	**HAKKARI**	**1.11**	**162**	*i* P	**Pg**	**03 36 17.5**	**-1.7**
HAKT				*i* S	**Sn**	**03 36 37.3**	**+2.0**
HAKT	**HAKKARI**	**1.11**	**162**	P	**Pg**	**03 36 17.5**	**-1.7**
HAKT				S	**Sn**	**03 36 37.3**	**+2.0**
EKAR	**Karacoban**	**1.14**	**304**	*i* P	**Pg**	**03 36 19.1**	**-0.8**
EKAR				*i* S	**Sn**	**03 36 40.5**	**+4.2**
EKAR	**Karacoban**	**1.14**	**304**	P	**Pg**	**03 36 19.1**	**-0.8**
SRTM	**Siirt_Merkez**	**1.24**	**240**	*i* P	**Pg**	**03 36 20.9**	**-0.8**
SRTM				*i* S	**Sn**	**03 36 39.2**	**+0.9**
SRTM	**Siirt_Merkez**	**1.24**	**240**	P	**Pg**	**03 36 20.9**	**-0.8**
SRTM				S	**Sn**	**03 36 39.2**	**+0.9**
SIRT	**Sirnak**	**1.29**	**211**	PN	**Pn**	**03 36 21.4**	**-0.8**
SIRT	**Sirnak**	**1.29**	**211**	*e*Pn	**Pn**	**03 36 21.4**	**-0.8**
SIRN	**S˜–rnak**	**1.31**	**212**	*i* P	**Pg**	**03 36 23.9**	**+0.8**
SIRN				*i* S	**Sn**	**03 36 43.0**	**+2.9**
SIRN	**S˜–rnak**	**1.31**	**212**	P	**Pg**	**03 36 23.9**	**+0.8**
SIRN				S	**Sn**	**03 36 43.0**	**+2.9**
CUKT	**Cukurca**	**1.39**	**169**	PN	**Pn**	**03 36 22.9**	**-0.7**
CUKT	**Cukurca**	**1.39**	**169**	*e*Pn	**Pn**	**03 36 22.9**	**-0.7**
BTMN	**Batman**	**1.74**	**246**	*i* P	**Pb**	**03 36 29.3**	**-0.7**
BTMN				*i* S	**Sg**	**03 36 54.6**	**+0.7**
BTMN	**Batman**	**1.74**	**246**	P	**Pb**	**03 36 29.3**	**-0.7**

ISCJB ***07*** *03:59:05.2±0.3, 67°.17N±0°.02×20°.56E±0°.07, h0km, Error ellipse: s-maj=4.2km s-min=2.8km az=0.2*
IDC ***07*** *03:59:06.6±0.8, 67°.16N×20°.91E, h0km, mb1 3.1/4, mb1mx2.8/63, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=15.6km s-min=5.8km az=115.0*
UPP ***07*** *03:59:06.4, 67°.18N×20°.65E, h0km, ML1.7, Suspected Mining explosion.*
NAO ***07*** *03:59:06.7±0.9, 67°.13N×20°.99E, ML2.3*
HEL ***07*** *03:59:06.9±0.1, 67°.19N×20°.66E, h0km, ML2.1, ML1.7(UPP), Explosion*
CSEM ***07*** *03:59:06.6±0.2, 67°.17N×20°.70E, h2km, ML1.7, Error ellipse: s-maj=4.8km s-min=3.5km az=89.0, Mining explosion.*
BER ***07*** *03:59:09.1±3.4, 67°.14N×20°.62E, h0km, ML2.1, ML2.3(NAO), Suspected explosion*
ISC 07 03:59:06.0±0.7**, 67°.17N**±0°.02×**20°.71E**±0°.02**, h0**km**, n78,** σ**1.47**/120**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**230**	P	**Pg**	**03 59 08.0**	**+0.7**
DUNU				S	**Sg**	**03 59 09.4**	**+1.1**
DUNU	**Dundret**	**0.07**	**230**	P	**Pg**	**03 59 08.1**	**+0.7**
DUNU				S	**Sg**	**03 59 09.4**	**+1.1**
DUNU	**Dundret**	**0.07**	**230**	*i* P	**Pg**	**03 59 08.1**	**+0.7**
DUNU				*i* S	**Sg**	**03 59 09.4**	**+1.1**
MASU	**Masugnsbyn**	**0.58**	**59**	P	**Pg**	**03 59 17.8**	**+0.8**
MASU	**Masugnsbyn**	**0.58**	**59**	P	**Pg**	**03 59 17.8**	**+0.8**
MASU	**Masugnsbyn**	**0.58**	**59**	*i* P	**Pg**	**03 59 17.8**	**+0.8**
KUA	**Kurravaara**	**0.80**	**350**	P	**Pg**	**03 59 21.1**	**-0.2**
KUA	**Kurravaara**	**0.80**	**350**	P	**Pg**	**03 59 21.1**	**-0.2**
KUA	**Kurravaara**	**0.80**	**350**	*i* P	**Pg**	**03 59 21.1**	**-0.2**
ERTU	**Ertsjaerv**	**0.85**	**136**	P	**Pg**	**03 59 22.4**	**+0.2**
ERTU				Sb	**Sg**	**03 59 34.7**	**+1.5**
ERTU	**Ertsjaerv**	**0.85**	**136**	P	**Pg**	**03 59 22.4**	**+0.2**
ERTU	**Ertsjaerv**	**0.85**	**136**	*e*P	**Pg**	**03 59 22.2**	**0.0**
	baz=315						
ERTU				*e*SB	**Sg**	**03 59 34.8**	**+1.5**
PAJU	**Pajala**	**0.95**	**98**	P	**Pg**	**03 59 24.5**	**+0.3**
PAJU	**Pajala**	**0.95**	**98**	P	**Pg**	**03 59 24.5**	**+0.3**
PAJU	**Pajala**	**0.95**	**98**	*e*P	**Pg**	**03 59 24.5**	**+0.3**
NIKU	**Nikkaluokta**	**0.95**	**318**	P	**Pg**	**03 59 23.8**	**-0.4**
NIKU	**Nikkaluokta**	**0.95**	**318**	P	**Pg**	**03 59 23.8**	**-0.4**
NIKU	**Nikkaluokta**	**0.95**	**318**	*e*P	**Pg**	**03 59 23.8**	**-0.4**
LANU	**Lannavaara**	**1.01**	**28**	P	**Pg**	**03 59 25.1**	**-0.2**
LANU	**Lannavaara**	**1.01**	**28**	P	**Pg**	**03 59 25.1**	**-0.2**
LANU	**Lannavaara**	**1.01**	**28**	*e*P	**Pg**	**03 59 24.2**	**-1.1**
HEF	**Hetta**	**1.67**	**41**	*e*P	**Pn**	**03 59 36.9**	**+0.4**
	SNR=50						
HEF				Sn	**Sg**	**04 00 00.9**	**+1.2**
HEF	**Hetta**	**1.67**	**41**	*e*P	**Pn**	**03 59 36.9**	**+0.4**
HEF	**Hetta**	**1.67**	**41**	*e*P	**Pn**	**03 59 36.6**	**+0.1**
	baz=220						
HEF				MSG		03 59 56.2	
	comp=Z,12nm,0.2s						
HEF				*e*SN	**Sg**	**04 00 00.9**	**+1.2**
KALU	**Kalix**	**1.69**	**140**	P	**Pn**	**03 59 37.4**	**+0.8**
KALU	**Kalix**	**1.69**	**140**	*e*P	**Pn**	**03 59 37.5**	**+0.8**
KALU				*e*SN	**Sg**	**04 00 02.3**	**+2.2**
TOF	**Tornio**	**1.81**	**126**	P	**Pn**	**03 59 39.4**	**+1.1**
TOF				Sn	**Sb**	**04 00 04.7**	**+1.7**
TOF	**Tornio**	**1.81**	**126**	*e*P	**Pn**	**03 59 39.4**	**+1.1**
	baz=314						
TOF				MSG		04 00 01.7	
	comp=Z,11nm,0.2s						
TOF				*e*SN	**Sb**	**04 00 04.7**	**+1.7**
KIF	**Kilpisjarvi**	**1.84**	**1**	Pn	**Pn**	**03 59 40.0**	**+1.2**
KIF				Sn	**Sg**	**04 00 06.2**	**+1.0**
KIF	**Kilpisjarvi**	**1.84**	**1**	Pn	**Pn**	**03 59 39.9**	**+1.1**
KIF				Sg	**Sg**	**04 00 06.2**	**+1.0**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	**Pn**	**03 59 40.1**	**+1.3**
KIF				Sn	**Sg**	**04 00 06.2**	**+1.0**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*PN	**Pn**	**03 59 39.9**	**+1.1**
KIF				MSG		04 00 02.2	
	comp=Z,18nm,0.2s						
KIF				*e*SG	**Sg**	**04 00 06.2**	**+1.0**
SGF	**Sodankyl**	**2.27**	**80**	Pb	**Pn**	**03 59 46.3**	**+1.7**
SGF				Sg	**Sb**	**04 00 18.2**	**+1.8**
SGF	**Sodankyl**	**2.27**	**80**	*e*PB	**Pn**	**03 59 46.4**	**+1.7**
SGF				*e*SG	**Sb**	**04 00 18.2**	**+1.8**
TRO	**Tromso**	**2.56**	**346**	*e*P	**Pn**	**03 59 50.4**	**+1.8**
	SNR=50						
TRO	**Tromso**	**2.56**	**346**	*e*P	**Pn**	**03 59 50.4**	**+1.8**
BURU	**Burvik**	**2.61**	**174**	P	**Pn**	**03 59 50.9**	**+1.6**
BURU				Sg	**Sb**	**04 00 28.3**	**+2.2**
BURU	**Burvik**	**2.61**	**174**	*e*P	**Pn**	**03 59 51.0**	**+1.6**
BURU				*e*SG	**Sb**	**04 00 28.3**	**+2.2**
MOR8	**Moi Rana**	**2.69**	**251**	*e*Sg	**Sn**	**04 00 25.4**	**+1.6**
MOR8				IAML		04 00 26.9	
	comp=Z,20nm,0.4s						
LOF	**Lofoten**	**2.91**	**293**	*e*Sg	**Sg**	**04 00 39.7**	**+0.5**
	SNR=90						
LOF	**Lofoten**	**2.91**	**293**	*e*Sg	**Sg**	**04 00 39.7**	**+0.5**
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**03 59 55.0**	**+0.7**
	baz=209,slow=14						
ARA0				Sn	**Sn**	**04 00 31.0**	**+0.5**
	baz=216,slow=28						
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**03 59 55.0**	**+0.7**
	SNR=50						
ARA0				Sn	**Sn**	**04 00 31.0**	**+0.5**
	SNR=50						
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**03 59 55.0**	**+0.7**
	baz=209,slow=14						
ARA0				Sn	**Sn**	**04 00 31.0**	**+0.5**
	baz=216,slow=28						
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**03 59 55.1**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=215,slow=14,SNR=64						
ARCES				Pg	**Pb**	**03 59 57.7**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=209,slow=16,SNR=33						
ARCES				Sn	**Sn**	**04 00 31.4**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=216,slow=28,SNR=7.4						
ARCES				Lg	Lg	04 00 37.5	
	comp=Z,1.8nm,0.3s,baz=224,slow=30,SNR=9.3						
ARE0	**ARCESS Array S**	**2.97**	**35**	P	**Pn**	**03 59 55.0**	**+0.7**
ARE0				Sb	**Sb**	**04 00 34.6**	**-1.8**
ARE0	**ARCESS Array S**	**2.97**	**35**	*e*P	**Pn**	**03 59 55.0**	**+0.7**
	baz=217						
ARE0				*e*SB	**Sb**	**04 00 34.6**	**-1.8**
OUL	**Oulu**	**2.97**	**132**	P	**Pn**	**03 59 55.6**	**+1.3**
OUL	**Oulu**	**2.97**	**132**	*e*P	**Pn**	**03 59 55.6**	**+1.3**
	baz=315						
OUF	**Merijarvi**	**3.27**	**148**	P	**Pn**	**03 59 59.9**	**+1.6**
OUF				Sg	**Sg**	**04 00 49.0**	**-1.7**
OUF	**Merijarvi**	**3.27**	**148**	*e*P	**Pn**	**03 59 59.9**	**+1.6**
	baz=331						
OUF				*e*SG	**Sg**	**04 00 49.0**	**-1.7**
UMAU	**Umeaa**	**3.30**	**180**	P	**Pn**	**04 00 00.0**	**+1.2**
UMAU				Sg	**Sg**	**04 00 50.8**	**-1.1**
UMAU	**Umeaa**	**3.30**	**180**	*e*P	**Pn**	**04 00 00.0**	**+1.2**
UMAU				*e*SG	**Sg**	**04 00 50.8**	**-1.1**
VRF	**Varrio**	**3.48**	**76**	P	**Pn**	**04 00 02.3**	**+1.1**
VRF	**Varrio**	**3.48**	**76**	*e*P	**Pn**	**04 00 02.4**	**+1.1**
MSF	**Maaselka**	**3.56**	**107**	P	**Pn**	**04 00 03.6**	**+1.2**
MSF	**Maaselka**	**3.56**	**107**	*e*P	**Pn**	**04 00 03.6**	**+1.2**
	baz=298						
KU6	**Riekki**	**3.84**	**103**	P	**Pn**	**04 00 07.3**	**+1.1**
KU6				S	**Sn**	**04 00 49.1**	**-2.8**
KU6	**Riekki**	**3.84**	**103**	*e*P	**Pn**	**04 00 07.3**	**+1.1**
KU6				*e*S	**Sn**	**04 00 49.1**	**-2.8**
VAF	**Ylistaro**	**4.23**	**168**	P	**Pn**	**04 00 13.5**	**+2.0**
VAF				S	**Sn**	**04 01 00.7**	**-0.8**
VAF	**Ylistaro**	**4.23**	**168**	*e*P	**Pn**	**04 00 13.5**	**+2.0**
VAF				*e*S	**Sn**	**04 01 00.7**	**-0.8**
HEMU	**Hemsoen**	**4.65**	**195**	S	**Sn**	**04 01 13.5**	**+1.5**
HEMU	**Hemsoen**	**4.65**	**195**	*e*S	**Sn**	**04 01 13.5**	**+1.5**
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**04 00 39.8**	**+1.2**
	baz=349,slow=14						
FIA0				Sn	**Sn**	**04 01 48.1**	**-2.1**
	baz=340,slow=22						
FIA0				Lg	Lg	04 02 20.6	
	baz=346,slow=37						
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**04 00 39.8**	**+1.2**
	SNR=50						
FIA0				Lg	Lg	04 02 20.5	
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**04 00 39.8**	**+1.2**
	baz=349,slow=14						
FIA0				Sn	**Sn**	**04 01 48.1**	**-2.1**
	baz=340,slow=22						
FIA0				Lg	Lg	04 02 20.6	
	baz=346,slow=37						
FINES	**FINESS Array B**	**6.20**	**155**	Pn	**Pn**	**04 00 39.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=346,slow=14,SNR=4.7						
FINES				Sn	**Sn**	**04 01 47.7**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=341,slow=21,SNR=6.3						
FINES				Lg	Lg	04 02 20.7	
	comp=Z,0.5nm,0.3s,baz=344,slow=28,SNR=4.3						
NB2	**NORSAR Subarra**	**7.42**	**218**	Pn	**Pn**	**04 00 55.9**	**+0.5**
NB2	**NORSAR Subarra**	**7.42**	**218**	Pn	**Pn**	**04 00 55.8**	**+0.5**
	SNR=50						
NB2	**NORSAR Subarra**	**7.42**	**218**	Pn	**Pn**	**04 00 55.9**	**+0.5**
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**04 00 56.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=35,slow=12,SNR=2.6						
NOA				Sn	**Sn**	**04 02 15.3**	**-4.8**
	comp=Z,0.3nm,0.3s,baz=315,slow=21,SNR=4.7						
NOA				Lg	Lg	04 02 57.8	
	comp=Z,0.5nm,0.3s,baz=222,slow=23,SNR=2.0						
NRA0	**NORESS Array S**	**7.61**	**216**	Pn	**Pn**	**04 00 57.8**	**-0.2**
	baz=30,slow=16						
NRA0				Sn	**Sn**	**04 02 21.0**	**-3.7**
	baz=38,slow=22						
NRA0	**NORESS Array S**	**7.61**	**216**	Pn	**Pn**	**04 00 57.8**	**-0.2**
	SNR=50						
NRA0	**NORESS Array S**	**7.61**	**216**	Pn	**Pn**	**04 00 57.8**	**-0.2**
	baz=30,slow=16						
NRA0				Sn	**Sn**	**04 02 21.0**	**-3.7**
	baz=38,slow=22						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**04 00 58.7**	**-0.7**
	baz=16,slow=12						
HFS				Sn	**Sn**	**04 02 24.4**	**-3.0**
	baz=32,slow=28						
HFS				Lg	Lg	04 03 05.3	
	baz=3.7,slow=37						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**04 00 58.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=24,slow=11,SNR=2.2						
HFS				Sn	**Sn**	**04 02 24.3**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=31,slow=27,SNR=2.4						
HFS				Lg	Lg	04 03 04.3	
	comp=Z,0.3nm,0.3s,baz=27,slow=27,SNR=1.7						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**04 00 58.7**	**-0.7**
	SNR=50						
HFS				Lg	Lg	04 03 05.3	
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**04 00 58.7**	**-0.7**
	baz=16,slow=12						
HFS				Sn	**Sn**	**04 02 24.4**	**-3.0**
	baz=32,slow=28						
HFS				Lg	Lg	04 03 05.3	
	baz=3.7,slow=37						

TRN 07 04:02:37.3, 15°.84N×61°.58W, h17km, MD3.6, 2C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.06**	**283**⇓	*i*P	Pg	04 02 41.1	+0.7
PHG	**Guadaloupe-2**	**0.18**	**342**	*e*P	Pb	04 02 43.6	+1.2
DOG	**Dongo Capester**	**0.20**	**350**⇑	*i*P	Pb	04 02 43.7	+1.1
TAG	**Tarade**	**0.22**	**339**	*e*P	Pb	04 02 44.2	+1.2
TAG				*e*S	Sb	04 02 47.6	+0.8
MDPV	**Dominica, Penn**	**0.26**	**144**	*e*S	Sb	04 02 49.6	+1.8
MGG	**Marie-Galante**	**0.27**	**73**	*e*P	Pn	04 02 45.4	-1.2
MGG	**Marie-Galante**	**0.27**	**73**	*e*	Pn	04 02 47.7	+1.1
MGG				*e*S	Sb	04 02 49.9	+1.8
MDVC	**Dominica, Viel**	**0.28**	**143**	*e*P	Pn	04 02 45.7	-1.1
MDVC				*e*S	Sb	04 02 50.2	+1.8
MDPO	**Dominica; Chan**	**0.29**	**154**	*e*P	Pn	04 02 45.5	-1.3
MDPO	**Dominica; Chan**	**0.29**	**154**	*e*P	Pn	04 02 45.7	-1.2
MDPO				*e*S	Sb	04 02 50.6	+1.9
MDMP	**Dominica, Moor**	**0.29**	**146**	*e*P	Pn	04 02 45.9	-1.0
MDMP				*e*S	Sb	04 02 50.7	+1.9
BBL	**Barber's Block**	**0.33**	**161**	*e*P	Pn	04 02 46.4	-1.1
BBL				*e*S	Sb	04 02 51.2	+1.3
DEG	**La Desirade**	**0.69**	**47**⇑	*i*P	Pn	04 02 51.9	-0.5
DEG				*e*S	Sn	04 03 04.9	+2.0
MLYT	**Lee's Yard**	**1.05**	**326**	*e*P	Pg	04 03 00.0	+2.2
MLYT				*e*S	Sn	04 03 16.0	+4.2
PCM	**Pelee Case Pet**	**1.08**	**161**	*e*P	Pg	04 02 58.3	+0.1
PCM	**Pelee Case Pet**	**1.08**	**161**	*e*P	Pg	04 02 58.9	+0.6
PCM				*e*S	Sn	04 03 13.1	+0.7

IDC 07 04:06:24.2±1.6**, 2°.29N**×**126°.50E, h0**km**, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.5**/61**, mbtmp3.7**/5**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.2**/56**, Error ellipse: s-maj=184.7km s-min=19.4km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.40**	**161**	P	P	04 11 34.4	-0.6
	0.6nm,0.3s,baz=341,slow=11,SNR=29						
ASAR	**Alice Springs**	**26.79**	**165**	P	P	04 12 06.2	0.0
	0.4nm,0.5s,baz=343,slow=6.4,SNR=4.1						
PSI	**Prapat**	**27.55**	**272**	LR	LR	04 25 49.9	
	comp=Z,30nm,18.5s,baz=292,slow=42						
STKA	**Stephens Creek**	**36.88**	**158**	P	P	04 13 35.3	+0.6
	3.1nm,0.7s,baz=338,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**58.60**	**326**	P	P	04 16 23.0	-0.1
	0.2nm,0.3s,baz=116,slow=7.8,SNR=6.3						
KURBB	**Kurchatov Arra**	**62.82**	**328**	P	P	04 16 51.5	-0.2
	0.3nm,0.4s,baz=131,slow=5.8,SNR=7.0						

IDC ***07*** *04:08:37.3±2.2, 51°.63N×176°.13W, h0km, mb3.3/6, mb1 3.7/7, mb1mx3.4/83, mbtmp3.4/7, ML3.5/1, Error ellipse: s-maj=62.7km s-min=23.3km az=1.0*
ISCJB ***07*** *04:08:44.8±0.8, 51°.8N±0°.2×176°.05W±0°.08, h70km±5km, mb3.3/5, Error ellipse: s-maj=31.8km s-min=5.1km az=167.5*
NEIC ***07*** *04:08:44.2±0.0, 51°.66N×175°.98W, h58km, ML3.8(AEIC), After AEIC.*
ISC 07 04:08:46.1±1.3**, 51°.9N**±0°.3×**176°.07W**±0°.07**, h64**km±7km**,** **n27,** σ**1.62**/28**, mb3.5**/5**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.13**	**5**	P	**Pn**	**04 08 55.3**	**-0.5**
GSTD	**Great Sitkin T**	**0.15**	**343**	P	**Pn**	**04 08 55.7**	**-0.2**
GSTD				S	**Sn**	**04 09 03.8**	**+0.6**
ADAG	**Mount Adagdak**	**0.33**	**282**	P	**Pn**	**04 08 56.7**	**-0.3**
KIRH	**Kanaga Island**	**0.63**	**269**	P	**Pn**	**04 08 59.0**	**-0.8**
KIRH				S	**Sn**	**04 09 09.5**	**-0.4**
KIKV	**Kanaga Island**	**0.68**	**268**	P	**Pn**	**04 08 59.3**	**-1.1**
TAPA	**Tanaga Point A**	**1.08**	**266**	P	**Pn**	**04 09 04.5**	**-0.9**
TAPA				S	**Sn**	**04 09 19.1**	**-0.7**
TAFP	**Tanaga Falls P**	**1.18**	**270**	P	**Pn**	**04 09 06.3**	**-0.4**
TAFP				S	**Sn**	**04 09 23.1**	**+1.1**
KOWE	**Korovin West**	**1.21**	**67**	P	**Pn**	**04 09 06.8**	**-0.3**
TASE	**Tanaga Southea**	**1.22**	**267**	P	**Pn**	**04 09 06.8**	**-0.4**
KOKL	**Mount Kliuchef**	**1.23**	**70**	P	**Pn**	**04 09 06.4**	**-0.9**
KOKL				S	**Sn**	**04 09 23.4**	**+0.2**
KOFP	**Korovin Flat P**	**1.27**	**73**	P	**Pn**	**04 09 06.6**	**-1.3**
GAEA	**Gareloi East**	**1.66**	**267**	P	**Pn**	**04 09 13.0**	**-0.1**
GALAA	**Gareloi Lava P**	**1.68**	**266**	P	**Pn**	**04 09 13.2**	**-0.1**
UNV	**Unalaska Valle**	**6.11**	**68**	P	**Pn**	**04 10 15.0**	**+1.3**
UNV				S	**Sn**	**04 11 25.5**	**+3.4**
KDAK	**Kodiak Island**	**14.71**	**57**	Pn	**Pn**	**04 12 09.0**	**-1.3**
	0.2nm,0.3s,baz=326,slow=7.3,SNR=5.7						
KDAK				Sn	**S**	**04 15 01.1**	**-6.0**
	0.0nm,0.3s,baz=152,slow=15,SNR=2.2						
ILAR	**Eielson Array**	**19.77**	**38**	P	**P**	**04 13 11.0**	**+0.4**
	0.4nm,0.4s,baz=227,slow=9.6,SNR=16						
YKA	**Yellowknife Ar**	**33.63**	**47**	P	**P**	**04 15 21.4**	**+1.4**
	0.1nm,0.5s,baz=279,slow=8.6,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**34.77**	**209**	T	T	04 52 10.4	
	baz=18,slow=76,SNR=58						
H11N3	**WAKE ISLAND Hy**	**34.78**	**209**	T	T	04 52 05.4	
	baz=18,slow=76,SNR=37						
H11N1	**WAKE ISLAND Hy**	**34.79**	**209**	T	T	04 52 12.7	
	baz=18,slow=76,SNR=44						
H11S1	**WAKE ISLAND Hy**	**35.99**	**209**	T	T	04 53 37.0	
	baz=18,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**36.00**	**209**	T	T	04 53 44.9	
	baz=18,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**36.00**	**209**	T	T	04 53 41.4	
	baz=18,slow=76,SNR=12						
PDAR	**Pinedale Array**	**44.53**	**74**	P	**P**	**04 16 51.7**	**+0.3**
	0.3nm,0.5s,baz=307,slow=4.4,SNR=4.3						
TXAR	**Lajitas Array**	**56.90**	**84**	P	**P**	**04 18 24.4**	**0.0**
	0.4nm,0.9s,baz=303,slow=5.3,SNR=3.5						
KURBB	**Kurchatov Arra**	**59.97**	**315**	P	**P**	**04 18 46.5**	**+1.2**
	0.2nm,0.4s,baz=45,slow=6.6,SNR=3.1						
MKAR	**Makanchi Array**	**61.02**	**310**	P	**P**	**04 18 52.9**	**+0.3**
	0.2nm,0.5s,baz=58,slow=7.8,SNR=4.4						

IDC ***07*** *04:13:13.5±0.8, 2°.00N×128°.57E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/60, mbtmp3.7/10, Error ellipse: s-maj=49.9km s-min=16.0km az=77.0*
ISCJB ***07*** *04:13:16.7±0.6, 1°.97N±0°.08×128°.3E±0°.1, h35km, mb3.7/10, Error ellipse: s-maj=16.5km s-min=10.6km az=158.1*
DJA ***07*** *04:13:17.1±1.8, 2°N±17°×12°8E±°, h72km±18km, M4.0/5, MLv4.0/5*
ISC 07 04:13:19.2±0.7**, 2°.05N**±0°.09×**128°.5E**±0°.1**, h35**km**, n19,** σ**1.37**/12**, mb3.8**/10**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.83**	**200**	P	**Pn**	**04 14 03.4**	**+1.4**
SWI	**Sorong**	**4.03**	**136**	P	**Pn**	**04 14 20.4**	**+2.0**
KMSI	**Cibinong**	**4.71**	**252**	P	Pn	04 14 24.0	-3.7
WRA	**Warramunga Arr**	**22.60**	**165**	P	**P**	**04 18 14.7**	**-2.3**
	1.1nm,0.7s,baz=345,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.10**	**169**	P	**P**	**04 18 48.8**	**-1.2**
	0.5nm,0.5s,baz=356,slow=8.6,SNR=6.9						
MJAR	**Matsushiro Arr**	**35.49**	**14**	P	**P**	**04 20 11.3**	**-1.2**
	2.3nm,0.8s,baz=190,slow=9.8,SNR=4.8						
STKA	**Stephens Creek**	**35.97**	**161**	P	**P**	**04 20 15.8**	**-0.9**
	1.3nm,0.5s,baz=324,slow=8.7,SNR=3.6						
H11S3	**WAKE ISLAND Hy**	**40.87**	**64**	T	T	05 04 20.9	
	baz=250,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**40.89**	**64**	T	T	05 04 22.3	
	baz=250,slow=76,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**40.89**	**64**	T	T	05 04 19.5	
	baz=250,slow=76,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**41.46**	**62**	T	T	05 04 57.3	
	baz=249,slow=75,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**41.47**	**62**	T	T	05 04 57.6	
	baz=249,slow=75,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**41.48**	**62**	T	T	05 05 03.2	
	baz=249,slow=75,SNR=6.1						
KLR	**Kul'dur**	**47.09**	**3**	P	**P**	**04 21 47.3**	**-0.3**
	0.2nm,1.0s,baz=204,slow=7.6,SNR=4.7						
SONM	**Songino Array**	**49.44**	**341**	P	**P**	**04 22 06.9**	**+1.0**
	0.2nm,0.6s,baz=152,slow=7.1,SNR=2.2						
MKAR	**Makanchi Array**	**59.91**	**325**	P	**P**	**04 23 22.0**	**+0.2**
	0.5nm,0.4s,baz=114,slow=7.9,SNR=13						
SEY	**Seymchan**	**63.29**	**12**	P	**P**	**04 23 44.3**	**+0.2**
	1.3nm,0.6s,baz=198,slow=5.1,SNR=6.6						
KURBB	**Kurchatov Arra**	**64.08**	**327**	P	**P**	**04 23 49.2**	**-0.3**
	0.3nm,0.4s,baz=127,slow=5.9,SNR=7.2						
BVAR	**Borovoye Array**	**69.66**	**327**	P	**P**	**04 24 25.8**	**+0.7**
	0.5nm,0.5s,baz=98,slow=5.0,SNR=3.1						

IDC ***07*** *04:24:29.4±0.9, 1°.30S×132°.98E, h0km, mb3.9/7, mb1 4.2/10, mb1mx3.9/52, mbtmp4.1/10, ML4.3/3, MS3.2/5, Ms1 3.2/5, ms1mx2.8/51, Error ellipse: s-maj=48.3km s-min=12.8km az=83.0*
DJA ***07*** *04:24:30.0±0.4, 1°S±4°×13°3E±°, h10km, M4.8/9, mb4.9/4, mB4.9/3, MLv4.9/9, Mw(mB)4.2/3*
ISCJB ***07*** *04:24:32.6±0.4, 1°.38S±0°.04×132°.90E±0°.04, h33km, mb4.3/12, MS3.3/1, Error ellipse: s-maj=6.4km s-min=5.0km az=136.5*
NEIC ***07*** *04:24:36.7±2.2, 1°.45S×132°.86E, h51km±19km, mb4.3/9, Error ellipse: s-maj=22.5km s-min=8.4km az=59.0*
ISC 07 04:24:34.4±0.7**, 1°.32S**±0°.05×**132°.88E**±0°.05**, h35**km**, n43,** σ**2.71**/47**, mb4.1**/12**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.31**	**98**	P	**Pn**	**04 24 54.3**	**-1.9**
RKPI				S	**Sn**	**04 25 11.9**	**-0.7**
SWI	**Sorong**	**1.68**	**286**	P	**Pn**	**04 24 58.4**	**-2.8**
SWI				S	**Sn**	**04 25 20.5**	**-1.0**
FAKI	**Fak Fak**	**1.70**	**202**	P	**Pn**	**04 25 03.0**	**+1.4**
FAKI				S	Sn	04 25 32.6	+10
FAKI	**Fak Fak**	**1.70**	**202**	*e*Pn	**Pn**	**04 25 03.0**	**+1.4**
KMPI	**Kaimana, Papua**	**2.47**	**160**	P	**Pn**	**04 25 15.0**	**+2.9**
BNDI	**Bandanaira**	**4.35**	**223**	P	**Pn**	**04 25 40.2**	**+2.2**
MSAI	**Masohi**	**4.42**	**243**	P	**Pn**	**04 25 41.8**	**+2.7**
AAI	**Ambon**	**5.23**	**243**	P	**Pn**	**04 25 52.0**	**+1.8**
LBMI	**Labuha**	**5.42**	**277**	P	**Pn**	**04 25 52.5**	**-0.2**
NLAI	**Namlea**	**6.08**	**252**	P	**Pn**	**04 26 03.0**	**+1.3**
DAV	**Davao City (W)**	**11.07**	**319**	LR	LR	04 31 04.4	
	comp=Z,81nm,18.8s,baz=154,slow=36						
MTN	**Manton Dam**	**11.57**	**188**	*e*Pn	**Pn**	**04 27 17.1**	**-0.1**
MTN				*e*Sn	**Sn**	**04 29 20.8**	**-4.5**
BATI	**Baumata**	**12.72**	**226**	Pn	**Pn**	**04 27 34.5**	**+1.6**
	2.8nm,0.3s,baz=49,slow=12,SNR=6.6						
BATI				LR	LR	04 32 50.0	
	comp=Z,42nm,20.2s,baz=58,slow=39						
COEN	**Coen**	**16.17**	**141**	*e*Pn	Pn	04 28 10.9	-8.2
	10.0nm,1.0s						
PMG	**Port Moresby**	**16.32**	**120**	LR	LR	04 35 52.0	
	comp=Z,171nm,18.4s,baz=345,slow=42						
FITZ	**Fitzroy Crossi**	**18.12**	**203**	Pn	**Pn**	**04 28 41.4**	**-2.1**
	0.2nm,0.3s,baz=23,slow=13,SNR=6.2						
FITZ				Sn	**Sn**	**04 31 55.9**	**-8.9**
	0.5nm,0.3s,baz=156,slow=23,SNR=6.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	18.55	176	ePn	P	04 28 48.0	-0.3
	7.5nm,0.4s						
WR1	Warramunga Arr	18.56	176	eP	P	04 28 48.2	-0.2
	27nm,1.5s						
WR1				eSn	Sn	04 32 08.6	-6.8
WRA	Warramunga Arr	18.56	176	P	P	04 28 48.2	-0.2
	2.1nm,0.3s,baz=354,slow=12,SNR=37						
WRA				S	Sn	04 32 08.6	-6.8
	0.3nm,0.3s,baz=352,slow=23,SNR=4.6						
WRA				LR	LR	04 37 09.5	
	comp=Z,87nm,21.4s,baz=345,slow=41						
WB2	Warramunga Arr	18.56	176	eP	Pn	04 28 49.3	+0.5
AS31	Alice Springs	22.23	178	eP	P	04 29 29.1	+0.9
	3.0nm,0.8s						
AS31				eS	S	04 33 35.2	+4.2
ASAR	Alice Springs	22.23	178	P	P	04 29 28.4	+0.2
	3.1nm,0.8s,baz=1.5,slow=12,SNR=23						
ASAR				S	S	04 33 35.2	+4.2
	1.1nm,0.8s,baz=358,slow=29,SNR=3.9						
AS01	Alice Springs	22.23	177	eP	P	04 29 24.2	-4.0
STKA	Stephens Creek	31.49	166	P	P	04 30 53.1	+0.2
	9.3nm,1.3s,baz=354,slow=9.2,SNR=3.3						
STKA	Stephens Creek	31.49	166	eP	P	04 30 53.1	+0.2
	1.8nm,1.4s						
IPM	Ipoh	32.34	280	eP	P	04 31 00.7	0.0
	12nm,1.3s						
DCZ	Deep Cove	53.30	150	eP	P	04 33 48.7	-1.2
	32nm,1.2s						
PYZ	Puysegur Point	53.57	151	eP	P	04 33 51.4	-0.5
	177nm,1.4s						
MK01	Makanchi Array	65.18	324	eP	P	04 35 13.6	+1.5
MK31	Makanchi Array	65.20	324	eP	P	04 35 14.0	+1.7
MK32	Makanchi Array	65.20	324	eP	P	04 35 12.9	+0.7
MKAR	Makanchi Array	65.20	324	P	P	04 35 12.9	+0.7
	0.8nm,0.7s,baz=117,slow=7.5,SNR=9.1						
MKAR	Makanchi Array	65.20	324	eP	P	04 35 14.0	+1.7
	5.3nm,0.8s						
SEY	Seymchan	65.75	10	P	P	04 35 15.5	+0.1
	1.3nm,0.8s,baz=188,slow=8.3,SNR=7.1						
ZALV	Zalesovo Beam	67.88	332	P	P	04 35 30.5	+1.3
	0.6nm,0.6s,baz=120,slow=8.5,SNR=2.6						
ZAA1	Zalesovo Array	67.89	332	eP	P	04 35 30.5	+1.3
KURK	Kurchatov	69.29	327	eP	P	04 35 38.2	+0.2
KURBB	Kurchatov Arra	69.30	326	P	P	04 35 38.2	+0.1
	1.5nm,0.9s,baz=124,slow=5.8,SNR=6.8						
BVAR	Borovoye Array	74.89	326	P	P	04 36 12.3	+0.8
	0.6nm,0.5s,baz=102,slow=6.1,SNR=4.5						
PPT	Papeete	77.73	108	LR	LR	05 07 12.1	
	comp=Z,16nm,20.6s,baz=263,slow=33						
ABKAR	Akbulak array	79.93	320	eP	P	04 36 43.1	+3.3
	10.0nm,0.7s						
TORD	Torodi Ar. Bea	130.27	286	PKP	PKPdf	04 43 43.1	+1.1
	0.2nm,0.7s,baz=49,slow=1.6,SNR=2.7						
TOA1	Torodi Ar. Sit	130.27	286	ePKPdf	PKPdf	04 43 43.1	+1.0

BJI 07 04:24:38.5, 32.66N×105.39E, h10km, mb3.4/1, ML3.5/14, Ms3.3/2, Ms7 3.3/2, Sichuan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CD2	Chengdu	2.23	219	Pn	Pn	04 25 16.3	+0.7
CD2				Pg	Pb	04 25 19.5	+0.6
CD2				Sn	Sn	04 25 40.1	-3.1
CD2				Sg	Sg	04 25 49.1	-1.1
CD2				smax	smax		
	comp=N,1μm,0.5s						
CD2				smax	smax		
	comp=E,1μm,0.6s						
XAN	Xi'an	3.26	64	Pn	Pn	04 25 30.7	+1.0
XAN				Pg	Pg	04 25 39.1	-1.9
XAN				Sg	Sb	04 26 17.5	+1.2
XAN				smax	smax		
	comp=N,140nm,0.5s						
XAN				smax	smax		
	comp=E,120nm,0.8s						
LZH	Lanzhou	3.65	340	Pn	Pn	04 25 39.0	+3.8
LZH				Pg	Pg	04 25 47.8	-0.6
LZH				Sg	Sg	04 26 35.2	-0.5
LZH				smax	smax		
	comp=N,210nm,1.0s						
LZH				smax	smax		
	comp=E,420nm,1.1s						
LZH				LR	LR		
	comp=N,380nm,5.4s						
LZH				LR	LR		
	comp=E,290nm,5.0s						
LZH				LR	LR		
	comp=Z,390nm,5.8s						
GTA	Gaotai	8.11	328	eP	Pn	04 26 38.2	+1.8
GTA				pP	Pb	04 26 41.5	-18
GTA				sP	Pg	04 26 44.2	-30
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	Urumqi	17.78	314	eP	Pn	04 28 46.4	+0.3
WMQ				pP	pP	04 28 49.8	+0.1
WMQ				sP	sP	04 28 52.2	+1.2

IDC 07 04:30:01.4±2.2, 16.09S×174.85W, h260km±20km, mb3.1/4, mb1 3.5/5, mb1mx3.2/48, mbtmp3.8/5, Error ellipse: s-maj=142.7km s-min=18.9km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.68	54	P	Pn	04 31 02.5	+0.4
	5.0nm,0.3s,baz=232,slow=12,SNR=4.6						
AFI				S	S	04 31 50.6	+0.3
	12nm,0.3s,baz=139,slow=22,SNR=7.4						
WRA	Warramunga Arr	48.33	257	P	P	04 38 17.0	-0.4
	0.6nm,0.5s,baz=91,slow=6.6,SNR=8.2						
ASAR	Alice Springs	48.57	252	P	P	04 38 19.0	-0.1
	1.1nm,0.4s,baz=88,slow=8.1,SNR=17						
ILAR	Eielson Array	83.39	12	P	P	04 41 58.9	-0.2
	0.3nm,0.5s,baz=202,slow=6.8,SNR=6.9						
PDAR	Pinedale Array	83.71	42	P	P	04 42 01.3	-0.3
	0.3nm,0.6s,baz=201,slow=4.8,SNR=3.2						
BRTR	Keskin Array B	145.78	319	PKPbc	PKPbc	04 49 10.3	-0.2
	0.8nm,0.8s,baz=92,slow=2.9,SNR=5.7						

ISCJB 07 04:31:53.0±1.1, 5.3N±0.1×127.1E±0.2, h10km, mb3.6/5, Error ellipse: s-maj=33.6km s-min=9.0km az=148.5
IDC 07 04:31:53.2±1.1, 4.22N×124.18E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/59, mbtmp3.7/5, Error ellipse: s-maj=156.0km s-min=19.2km az=65.0
MAN 07 04:31:59, 5.47N×127.00E, h15km, mb4.7, ML3.6, MS3.5
ISC 07 04:31:54.1±1.1, 5.3N±0.1×127.0E±0.2, h10km, n8, σ2.60/9, mb3.6/5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	1.83	337	eP	Pn	04 32 27.3	+1.6
MATI				eS	Sn	04 32 45.5	-3.4
GSPH	General Santos	2.19	292	⇑iP	Pn	04 32 31.2	+0.5
BUKP	Musuan	3.23	324	eP	Pn	04 32 48.4	+3.4
BUKP				eS	Sn	04 33 25.6	+2.0
WRA	Warramunga Arr	26.07	164	P	P	04 37 28.7	+0.6
	0.4nm,0.3s,baz=334,slow=11,SNR=12						
STKA	Stephens Creek	39.47	160	P	P	04 39 25.2	+0.5
	0.5nm,0.3s,baz=322,slow=12,SNR=2.4						
SONM	Songino Array	45.95	341	P	P	04 40 17.5	+0.1
	0.3nm,0.4s,baz=161,slow=7.9,SNR=3.3						
MKAR	Makanchi Array	56.46	325	P	P	04 41 31.8	-4.5
	0.4nm,0.5s,baz=120,slow=7.1,SNR=10						
KURBB	Kurchatov Arra	60.60	327	P	P	04 42 01.9	-3.1
	0.8nm,0.7s,baz=125,slow=6.1,SNR=9.1						

ISCJB 07 04:39:36.4±0.3, 9.60N±0.03×79.07W±0.02, h51km±5km, mb4.2/25, MS3.1/2, Error ellipse: s-maj=4.9km s-min=3.4km az=19.2
CASC 07 04:39:37.4±1.8, 9.48N×79.09W, h63km±17km, ML4.0, mb4.6(NEIC)
NEIC 07 04:39:38.3±0.5, 9.60N×79.04W, h54km±7km, mb4.6/18, MW4.5(UPA), Error ellipse: s-maj=7.0km s-min=6.0km az=53.0
NEIC Felt [III] at Ancon and [II] at Alcaldediaz, Panama, San Miguelito and Tocumen. Also felt at Cerro Azul, La Cabima and Veracruz.
IDC 07 04:39:39.3±2.0, 9.51N×79.10W, h64km±20km, mb3.7/13, mb1 3.9/14, mb1mx3.7/41, mbtmp4.1/14, MS3.1/7, Ms1 3.1/7, ms1mx2.8/44, Error ellipse: s-maj=26.4km s-min=11.9km az=23.0
ISC 07 04:39:37.4±0.8, 9.60N±0.05×79.01W±0.04, h45km±7km, n99, σ1.86/116, mb4.3/25, 4C-1D, Panama

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UPA	Univ. de Panam	0.81	220	⇑iP	Pn	04 39 51.9	-0.5
UPA				eS	Sn	04 40 01.4	-1.9
BCIP	Isla Barro Col	0.93	242	ePn	Pn	04 39 53.8	-0.2
BCIP				eSn	Sn	04 40 04.8	-1.4
BCIP	Isla Barro Col	0.93	242	⇑iP	Pn	04 39 53.2	-0.8
BCIP				eS	Sn	04 40 04.7	-1.4
ZANG	Zanguenga, Cho	1.06	233	⇓iP	Pn	04 39 56.1	+0.3
ZANG				eS	Sn	04 40 09.2	-0.3
UPD2	Meteti	1.44	137	eP	Pn	04 39 59.9	-1.1
UPD2				eS	Sn	04 40 19.4	+0.7
PNME	Penonome	1.71	230	⇑iP	Pn	04 40 04.0	-0.7
PNME				eS	Sn	04 40 23.5	-1.9
CAPC	Capurgana	1.90	120	eP	Pn	04 40 08.2	+0.9
AZU	Azuero	2.19	215	⇑iP	Pn	04 40 10.0	-1.3
AZU				eS	Sn	04 40 34.3	-3.0
MOTC	Monteria, Cord	3.40	104	eP	Pn	04 40 30.2	+2.2
DBBC	Dabeiba	3.78	133	eP	Pn	04 40 36.9	+3.7
ZARC	Zaragoza, Cauc	4.61	117	eP	Pn	04 40 46.1	+1.6
HELC	Santa Helena	4.83	134	ePn	Pn	04 40 48.9	+0.9
HELC				eSn	Sn	04 41 35.4	-7.5
HELC	Santa Helena	4.83	134	eP	Pn	04 40 49.8	+1.8
HDC	Heredia	5.05	275	ePn	Pn	04 40 51.3	+0.6
HDC				eSn	Sn	04 41 47.0	-0.9
HDC	Heredia	5.05	275	eP	Pn	04 40 49.5	-1.2
HDC				eS	Sn	04 41 46.5	-1.4
PTBC	PUERTO BERRIO,	5.44	124	eP	Pn	04 40 57.4	+1.4
NORC	Norcasia	5.74	134	eP	Pn	04 41 03.0	+2.9
OCAC	Ocana	5.78	103	eP	Pn	04 41 02.4	+1.6
BRRC	Barranca, Sant	5.80	115	eP	Pn	04 41 02.5	+1.7
ESPN	Las Esperanzas	5.80	297	eP	Pn	04 41 01.3	+0.4
ESPN				eS	Sn	04 42 04.0	-2.2
ESPN				AML	AML	04 42 05.8	
	comp=N,249nm,0.4s						
JTS	JuntasAbangare	5.90	277	P	Pn	04 41 03.2	+0.9
	comp=N,88nm,0.3s,baz=134,slow=7.5,SNR=239						
JTS				S	Sn	04 42 09.0	+0.3
	comp=N,14nm,0.3s,baz=11,slow=19,SNR=3.4						
JTS	JuntasAbangare	5.90	277	ePn	Pn	04 41 02.8	+0.6
JTS				eSn	Sn	04 42 08.6	-0.1
JTS	JuntasAbangare	5.90	277	eP	Pn	04 41 02.0	-0.3
JTS				eS	Sn	04 42 07.6	-1.0
RREF	El Recreo	5.92	142	eP	Pn	04 41 05.4	+2.3
YOTC	Yotoco, Valle	6.18	154	eP	Pn	04 41 07.1	+0.8
ACON	Acoyapa	6.50	292	eP	Pn	04 41 11.1	+0.6
HORQ	Saladito	6.52	159	eP	Pn	04 41 11.4	+0.3
ROSC	El Rosal	6.63	135	P	Pn	04 41 15.4	+2.7
	comp=N,0.9nm,0.3s,baz=51,slow=21,SNR=16						
ROSC				LR	LR	04 44 00.1	
	comp=N,114nm,20.1s,baz=256,slow=39						
ROSC	El Rosal	6.63	135	ePn	Pn	04 41 12.8	0.0
ROSC	El Rosal	6.63	135	eP	Pn	04 41 14.8	+2.1
RUSC	La Rusia	6.93	122	ePn	Pn	04 41 19.0	+2.1
RUSC				eSn	Sn	04 42 29.5	-5.2
PRAC	Prado	7.14	145	ePn	Pn	04 41 21.6	+2.2
MATN	Matagalpa	7.55	297	eP	Pn	04 41 26.3	+1.3
SOTA	Rioblanco	7.79	162	eP	Pn	04 41 30.4	+1.7
COPN	Copaltepe	7.88	290	eP	Pn	04 41 30.7	+1.3
MOMN	Momotombo	7.90	291	eP	Pn	04 41 31.0	+1.1
ESTN	Estel	8.01	296	eP	Pn	04 41 33.1	+1.8
SJAC	San Juan de Ar	8.05	141	eP	Pn	04 41 33.5	+1.6
CNGN	Cerro Negro	8.08	292	eP	Pn	04 41 33.9	+1.6
SDV	Santo Domingo	8.30	94	P	Pn	04 41 37.0	+1.6
	comp=N,5.5nm,0.3s,baz=283,slow=7.7,SNR=90						
SDV				S	Sn	04 43 06.1	-1.8
	comp=N,28nm,0.3s,baz=45,slow=14,SNR=18						
SDV				LR	LR	04 45 26.6	
	comp=N,148nm,21.6s,baz=247,slow=42						
SDV	Santo Domingo	8.30	94	ePn	Pn	04 41 36.9	+1.6
SDV				eSn	Sn	04 43 05.4	-2.5
SDV	Santo Domingo	8.30	94	eP	Pn	04 41 37.8	+2.4
SDV	Santo Domingo	8.30	94	eP	Pn	04 41 36.5	+1.1
HOJ	Hope	8.63	14	iP	Pn	04 41 42.3	+2.5
STH	Stony Hill	8.69	14	iP	Pn	04 41 42.7	+2.1
MTDJ	Mount Denham	8.69	9	ePn	Pn	04 41 41.4	+0.8
MTDJ				eSn	Sn	04 43 11.3	-6.2
GWJ	Greenwich	8.71	14	iP	Pn	04 41 43.0	+2.1
OTAV	Otavalo	9.32	177	ePn	Pn	04 41 50.9	+1.3
FSCY	Frank Sound, G	9.88	348	ePn	Pn	04 41 57.5	+0.7
WBCY	West Bay, Gran	9.99	347	ePn	Pn	04 42 00.0	+1.7
LGNH	LØogne	10.81	34	ePn	Pn	04 42 11.6	+2.0
GTBY	Guantanamo Bay	10.93	20	ePn	Pn	04 42 13.1	+1.8
SDDR	Presa de Saban	11.95	38	ePn	Pn	04 42 28.0	+2.8
SDDR				eSn	Sn	04 44 35.4	-1.9
BANI	BANI	12.11	43	ePn	Pn	04 42 23.7	-3.8
PCRV	Puerto La Cruz	14.17	86	P	Pn	04 42 56.0	+0.4
	comp=N,1.1nm,0.3s,baz=288,slow=3.2,SNR=4.6						
PCRV				S	Sn	04 45 28.9	-2.7
	comp=N,0.9nm,0.3s,baz=235,slow=18,SNR=3.4						
PCRV				LR	LR	04 50 57.8	
	comp=N,135nm,19.3s,baz=307,slow=47						
SJG	San Juan	15.07	54	S	Sn	04 45 42.8	-10
	comp=N,2.0nm,0.3s,baz=30,slow=20,SNR=6.4						
SJG				LR	LR	04 49 00.6	
	comp=N,34nm,18.5s,baz=289,slow=37						
SJG	San Juan	15.07	54	ePn	Pn	04 43 06.2	-1.3
	comp=N,146nm,1.9s						
HUMP	Col San Antoni	15.33	55	ePn	Pn	04 43 08.2	-2.7
	comp=N,37nm,1.2s						
HUMP				eSn	Sn	04 45 48.3	-11
CBYP	Canovanas	15.39	55	ePn	Pn	04 43 11.1	-0.6
	comp=N,121nm,1.8s						
MTP	Monte Pirata	15.55	56	ePn	Pn	04 43 12.1	-1.5
	comp=N,97nm,1.7s						
ABVI	Anegada Island	16.86	56	ePn	Pn	04 43 30.9	+0.5
	comp=N,163nm,0.9s						
CMIG	Matias Romero	17.14	297	LR	LR	04 51 28.8	
	comp=N,51nm,19.8s,baz=102,slow=42						
PTGA	Pitinga	21.56	117	P	P	04 44 24.2	+0.9
	comp=N,5.7nm,0.8s,baz=289,slow=10,SNR=6.4						
PTGA				LR	LR	04 52 49.1	
	comp=N,72nm,21.1s,baz=278,slow=37						
GOGA	Godfrey	24.05	351	eP	P	04 44 49.4	+0.9
	comp=N,52nm,1.8s						
SAML	Samuel	24.25	139	eP	P	04 44 49.5	-0.9
	comp=N,5.5nm,0.9s						
CVRD	Centerville Ro	28.36	2	eP	P	04 45 26.5	-0.8
	comp=N,18nm,1.3s						
PBMO	Poplar Bluff	28.97	341	eP	P	04 45 32.3	-0.4
	comp=N,10nm,0.8s						
TXAR	Lajitas Array	30.30	314	P	P	04 45 45.0	+0.2
	comp=N,0.3nm,0.5s,baz=134,slow=9.7,SNR=6.7						
TX31	Lajitas Ar. Si	30.31	314	eP	P	04 45 44.2	-0.6
CCM	Cathedral Cave	30.40	341	eP	P	04 45 47.4	+2.1
	comp=N,34nm,1.8s						
OK021	N3530 Road, Sp	30.50	331	eP	P	04 45 42.3	-4.0
	comp=N,25nm,0.6s						
PB11	IPOC Station P	30.60	163	eP	P	04 45 47.0	-0.4
	comp=N,13nm,1.1s						
WMOK	Wichita Mounta	30.88	327	eP	P	04 45 49.4	-0.3
	comp=N,3.0nm,0.8s						
LPIG	La Paz	33.14	300	LR	LR	04 58 55.3	
	comp=N,42nm,19.3s,baz=302,slow=35						
ANMO	Albuquerque	35.57	319	eP	P	04 46 29.0	-1.8
	comp=N,1.5nm,0.9s						
SDCO	Great Sand Dun	36.80	324	eP	P	04 46 42.0	+0.5
	comp=N,8.1nm,1.3s						
PDAR	Pinedale Array	42.48	326	P	P	04 47 29.4	+0.9
	comp=N,0.6nm,0.6s,baz=127,slow=9.6,SNR=7.9						
ULM	Lac du Bonnet	42.87	344	P	P	04 47 30.7	-0.6
	comp=N,1.3nm,0.6s,baz=146,slow=7.6,SNR=5.6						
LAO	LASA Array	43.62	333	eP	P	04 47 33.0	-4.5
	comp=N,27nm,1.0s						
MCID	Moose Creek	44.31	327	eP	P	04 47 47.4	+4.2
NVAR	Mina Array Bea	45.41	316	P	P	04 47 52.9	+0.8
	comp=N,0.7nm,0.6s,baz=163,slow=5.4,SNR=3.6						
SCHQ	Schefferville	46.14	10	P	P	04 47 58.4	+1.1
	comp=N,3.4nm,0.9s,baz=204,slow=6.8,SNR=5.9						
YKA	Yellowknife Ar	58.73	342	P	P	04 49 30.0	-0.4
	comp=N,0.6nm,0.6s,baz=133,slow=7.3,SNR=13						
KOWA	Kowa	73.23	78	P	P	04 51 05.3	+0.8
	comp=N,8.1nm,0.6s,baz=270,slow=5.6,SNR=50						
KOWA	Kowa	73.23	78	eP	P	04 51 05.8	+1.3
	comp=N,8.8nm,0.7s						
DBIC	Dimbokro	73.34	86	P	P	04 51 05.7	+0.5
	comp=N,3.5nm,0.9s,baz=272,slow=7.6,SNR=3.4						
TOA0	Torodi Ar. Sit	78.89	78	eP	P	04 51 36.7	-0.1
TORD	Torodi Ar. Bea	78.89	78	P	P	04 51 36.8	+0.1
	comp=N,2.2nm,0.5s,baz=287,slow=6.3,SNR=43						
TAM	Tamanrasset	81.34	68	eP	P	04 51 51.9	+1.8
	comp=N,3.0nm,1.0s						
NOA	NORSAR Array B	81.78	29	P	P	04 51 52.4	+1.0
	comp=N,1.0nm,0.9s,baz=256,slow=3.2,SNR=3.4						
GERES	GERESS Array B	84.63	42	P	P	04 52 07.2	+0.7
	comp=N,0.4nm,0.5s,baz=233,slow=4.8,SNR=3.0						
ARCES	ARCESS Array B	86.09	20	P	P	04 52 12.9	-0.3
	comp=N,1.5nm,0.7s,baz=297,slow=5.3,SNR=5.4						
KSH	Kashi	125.89	24	ePKP	PKPdf	04 58 35.4	+0.3
HHC	Hu-ho-hao-te	128.86	350	ePKP	PKPdf	04 58 41.1	+0.4
HHC				PP	PP	05 00 51.9	+5.6
HHC				SKS	SKSdf	05 05 47.5	-1.6
HHC				SKKS	SKKSac	05 07 39.1	-2.3
HHC	Hu-ho-hao-te	128.86	350	SS	SS	05 18 04.2	+3.3
GTA	Gaotai	131.23	1	ePKP	PKPdf	04 58 43.6	-1.6
GTA				sPKP		04 58 58.1	
LZH	Lanzhou	134.48	357	ePKP	PKPdf	04 58 50.6	-0.9
LZH				pPKP	pPKPdf	04 59 05.2	-0.1
LZH				sPKP		04 59 10.5	
ASAR	Alice Springs	145.61	242	PKPbc	PKPdf	04 59 10.0	-1.8
	comp=N,1.4nm,0.7s,baz=106,slow=2.7,SNR=9.9						
WRA	Warramunga Arr	146.22	248	PKPbc	PKPdf	04 59 12.1	-0.7
	comp=N,1.4nm,1.0s,baz=100,slow=2.6,SNR=6.4						

IDC 07 04:39:55.5±1.4, 2.39N×126.64E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/65, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.3/49, Error ellipse: s-maj=106.3km s-min=17.7km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.38	183	P	P	04 44 34.8	+0.8
	1.8nm,1.0s,baz=347,slow=11,SNR=1.8						
LEM	Lembang	21.08	244	LR	LR	04 53 45.0	
	comp=Z,60nm,20.2s,baz=340,slow=39						
WRA	Warramunga Arr	23.44	162	P	P	04 45 06.3	-0.3
	0.9nm,0.4s,baz=340,slow=11,SNR=19						
ASAR	Alice Springs	26.84	165	P	P	04 45 37.5	-0.5
	0.5nm,0.6s,baz=347,slow=8.3,SNR=4.3						
STKA	Stephens Creek	36.91	159	P	P	04 47 06.6	+0.4
	2.6nm,0.8s,baz=333,slow=12,SNR=5.1						
MKAR	Makanchi Array	58.61	326	P	P	04 49 54.1	-0.3
	0.4nm,0.4s,baz=122,slow=8.0,SNR=11						
KURBB	Kurchatov Arra	62.82	328	P	P	04 50 23.0	0.0
	1.0nm,0.5s,baz=130,slow=6.4,SNR=11						

DJA 07 04:40:57.0±1.0, 9°S±8°×11°1E±°, h29km±7km, M3.6/9, MLv3.6/9, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	0.59	332	P	Pb	04 41 09.0	+0.1
PCJI				S	Sn	04 41 19.2	+1.1
PWJI	Pagerwojo	0.77	26	P	Pb	04 41 11.5	-0.4
PWJI				S	Sb	04 41 18.3	-3.8
GMJI	Gumukmas	2.01	77	P	Pn	04 41 28.0	-1.0
GMJI				S	Sn	04 41 53.1	-0.1
BLJI	Banyuglugur	2.33	66	P	Pn	04 41 33.8	+0.5
JAGI	Jajag, Banyuwa	2.67	85	P	Pn	04 41 37.4	-0.7
ABJI	Asem Bagus	2.90	72	P	Pn	04 41 41.3	+0.1
CMJI	Cimerak	3.12	287	P	Pn	04 41 44.8	+0.5

IDC 07 04:47:11.8±2.1, 22.03S×170.60E, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.0/40, mbtmp4.3/6, ML4.0/1, MS3.5/14, Ms1 3.5/14, ms1mx3.2/38, Error ellipse: s-maj=66.6km s-min=34.9km az=146.0
ISC 07 04:47:17.4±1.2, 21.9S±0.4×170.4E±0.1, h25km, n25, σ1.19/15, mb4.2/5, MS3.5/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.65	267	Pn	Pn	04 48 13.1	+0.6
	11nm,0.3s,baz=129,slow=12,SNR=90						
DZM				Sn	Sn	04 48 56.6	+1.9
	8.3nm,0.3s,baz=174,slow=14,SNR=6.5						
DZM	Mont Dzumac	3.65	267	ePn	Pn	04 48 13.0	+0.6
	54nm,0.2s						
DZM				eSn	Sn	04 48 52.9	-1.8
	39nm,0.2s						
DZM				eLR	LR	04 48 55.6	
	995nm,24.6s						
HNR	Honiara	15.95	319	LR	LR	04 56 23.0	
	comp=Z,180nm,22.0s,baz=152,slow=34						
URZ	Urewera	17.30	162	LR	LR	04 56 26.9	
	comp=Z,173nm,19.8s,baz=344,slow=32						
AFI	Afiamalu	18.75	68	LR	LR	04 57 47.1	
	comp=Z,52nm,21.1s,baz=150,slow=34						
PMG	Port Moresby	25.53	296	LR	LR	05 01 12.0	
	comp=Z,116nm,22.0s,baz=176,slow=33						
STKA	Stephens Creek	27.44	243	P	P	04 53 01.1	-0.4
	3.2nm,0.8s,baz=70,slow=10.0,SNR=4.7						
STKA				LR	LR	05 03 13.1	
	comp=Z,62nm,19.2s,baz=46,slow=35						
ASAR	Alice Springs	33.61	260	P	P	04 53 55.7	-0.4
	2.5nm,0.8s,baz=84,slow=9.1,SNR=23						
ASAR				LR	LR	05 07 51.1	
	comp=Z,77nm,19.6s,baz=100,slow=37						
WRA	Warramunga Arr	33.67	267	P	P	04 53 55.9	-0.7
	6.9nm,1.1s,baz=99,slow=8.2,SNR=20						
WRA				LR	LR	05 08 10.5	
	comp=Z,132nm,18.2s,baz=100,slow=37						
PPT2	Papeete2	37.87	91	eLR	LR	05 04 55.8	
	157nm,29.0s						
GUMO	Guam	43.25	322	LR	LR	05 12 16.8	
	comp=Z,54nm,18.4s,baz=108,slow=35						
BATI	Baumata	46.20	277	LR	LR	05 15 28.2	
	comp=Z,179nm,19.7s,baz=122,slow=36						
VNDA	Vanda	55.81	182	LR	LR	05 16 50.0	
	comp=Z,32nm,19.8s,baz=342,slow=32						
LEM	Lembang	62.23	274	LR	LR	05 24 20.4	
	comp=Z,69nm,21.8s,baz=277,slow=36						
PSI	Prapat	73.91	280	LR	LR	05 33 17.8	
	comp=Z,26nm,19.4s,baz=212,slow=37						
CMAR	Chiang Mai Arr	80.56	294	P	P	04 59 28.5	+0.3
	0.8nm,0.3s,baz=132,slow=4.8,SNR=8.6						
YAK	Yakutsk	89.73	342	LR	LR	05 32 58.7	
	comp=Z,26nm,21.5s,baz=96,slow=31						
SONM	Songino Array	89.98	323	P	P	05 00 14.0	-0.7
	0.8nm,0.9s,baz=143,slow=5.0,SNR=4.6						
TIXI	Tiksi	97.56	348	LR	LR	05 40 36.7	
	comp=Z,16nm,18.9s,baz=339,slow=33						
DPC	Dobruska-Polom	145.07	331	ePKP	PKPbc	05 06 51.2	-0.8
DPC				ex	x	05 06 57.6	
UPC	Upice	145.09	331	ePKP	PKPbc	05 06 51.2	-0.8
UPC				ex	x	05 06 57.6	
PRU	Pruhonice	146.12	332	ePKP	PKPdf	05 06 54.6	+0.3
PRU				ex	x	05 07 00.6	
KHC	Kasperske Hory	147.18	331	ePKP	PKPdf	05 06 56.8	+0.6
KHC				ex	x	05 07 03.6	
GERES	GERESS Array B	147.33	331	PKPbc	PKPdf	05 06 57.1	+0.6
	1.6nm,0.7s,baz=77,slow=2.9,SNR=6.6						
TORD	Torodi Ar. Bea	166.13	233	PKP	PKPdf	05 07 23.3	+2.1
	0.3nm,0.8s,baz=359,slow=1.3,SNR=2.6						
TORD				PKPab	PKPab	05 08 20.4	-1.4
	0.8nm,1.1s,baz=96,slow=4.3,SNR=3.1						

ISK 07 05:18:05.9, 38.70N×43.06E, h7km, ML2.8/9
ISCJB 07 05:18:06.7±0.4, 38.70N±0.03×43.06E±0.04, h15km, Error ellipse: s-maj=4.6km s-min=4.2km az=6.3
CSEM 07 05:18:06.3±0.2, 38.70N×43.07E, h10km, ML2.8, Error ellipse: s-maj=4.1km s-min=3.7km az=112.0
DDA 07 05:18:06.4, 38.69N×43.07E, h7km, Ml2.7
ISC 07 05:18:06.8±0.8, 38.69N±0.02×43.07E±0.03, h15km, n42, σ0.71/48, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.27	111	PG	Pg	05 18 12.9	+0.4
VANB				SG	Sb	05 18 18.0	+0.3
VANB	Van	0.27	111	ePg	Pg	05 18 12.9	+0.4
VANB				eSg	Sb	05 18 18.0	+0.3
ADCV	BITLIS_Adilcev	0.30	293	iP	Pg	05 18 13.1	0.0
ADCV	BITLIS_Adilcev	0.30	293	P	Pg	05 18 13.1	0.0
TVAN	Van	0.31	122	iP	Pg	05 18 12.8	-0.5
TVAN				iS	Sg	05 18 18.1	+0.3
TVAN	Van	0.31	122	P	Pg	05 18 12.8	-0.5
TVAN				S	Sg	05 18 18.1	+0.3
GEVA	Gevas	0.38	182	iP	Pg	05 18 13.5	-1.1
GEVA	Gevas	0.38	182	P	Pg	05 18 13.5	-1.1

ERCV	**ERCIS-VAN**	**0.39**	**32**	PG	**Pg**	**05 18 14.1**	**-0.6**
ERCV	**ERCIS-VAN**	**0.39**	**32**	*e*Pg	**Pg**	**05 18 14.1**	**-0.6**
TUTA	**Tutak**	**0.74**	**344**	*i* P	**Pg**	**05 18 20.7**	**-0.5**
TUTA	**Tutak**	**0.74**	**344**	P	**Pg**	**05 18 20.7**	**-0.5**
CLDR	**Caldiran**	**0.80**	**55**	PG	**Pg**	**05 18 21.0**	**-1.3**
CLDR	**Caldiran**	**0.80**	**55**	*i* P	**Pg**	**05 18 21.2**	**-1.1**
CLDR				*i* S	**Sb**	**05 18 33.8**	**+0.6**
CLDR	**Caldiran**	**0.80**	**55**	*e*Pg	**Pg**	**05 18 21.0**	**-1.3**
CLDR	**Caldiran**	**0.80**	**55**	P	**Pg**	**05 18 21.2**	**-1.1**
CLDR				S	**Sb**	**05 18 33.8**	**+0.6**
GURO	**Guroymak-BITLI**	**0.83**	**261**	PG	**Pg**	**05 18 21.9**	**-1.0**
GURO	**Guroymak-BITLI**	**0.83**	**261**	*e*Pg	**Pg**	**05 18 21.9**	**-1.0**
AGRB	**Hanur-Agry**	**0.89**	**356**	PG	**Pb**	**05 18 23.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.89**	**356**	*e*Pg	**Pb**	**05 18 23.3**	**-0.7**
EKAR	**Karacoban**	**0.97**	**306**	*i* P	**Pb**	**05 18 25.3**	**-0.1**
EKAR	**Karacoban**	**0.97**	**306**	P	**Pb**	**05 18 25.3**	**-0.1**
SRTM	**Siirt_Merkez**	**1.14**	**233**	*i* P	**Pb**	**05 18 28.2**	**-0.1**
SRTM	**Siirt_Merkez**	**1.14**	**233**	P	**Pb**	**05 18 28.2**	**-0.1**
HAKT	**HAKKARI**	**1.24**	**156**	*i* P	**Pn**	**05 18 30.2**	**+0.4**
HAKT	**HAKKARI**	**1.24**	**156**	P	**Pn**	**05 18 30.2**	**+0.4**
EATA	**Eleskirt**	**1.25**	**339**	*i* P	**Pn**	**05 18 30.3**	**+0.2**
EATA	**Eleskirt**	**1.25**	**339**	P	**Pn**	**05 18 30.3**	**+0.2**
SIRT	**Sirnak**	**1.29**	**203**	PN	**Pn**	**05 18 30.8**	**+0.5**
SIRT	**Sirnak**	**1.29**	**203**	*e*Pn	**Pn**	**05 18 30.8**	**+0.5**
SIRN	**S˜–rnak**	**1.30**	**204**	*i* P	**Pn**	**05 18 29.3**	**-1.2**
SIRN	**S˜–rnak**	**1.30**	**204**	P	**Pn**	**05 18 29.3**	**-1.2**
CUKT	**Cukurca**	**1.50**	**164**	PN	**Pn**	**05 18 34.0**	**+0.7**
CUKT	**Cukurca**	**1.50**	**164**	*i* P	**Pn**	**05 18 33.1**	**-0.2**
CUKT	**Cukurca**	**1.50**	**164**	P	**Pn**	**05 18 33.1**	**-0.2**
CUKT	**Cukurca**	**1.50**	**164**	*e*Pn	**Pn**	**05 18 34.0**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.57**	**35**	PN	**Pn**	**05 18 35.0**	**+0.8**
TASB	**TASBURUN-IGDIR**	**1.57**	**35**	*e*Pn	**Pn**	**05 18 35.0**	**+0.8**
BTMN	**Batman**	**1.63**	**241**	*i* P	**Pb**	**05 18 36.9**	**+0.3**
BTMN	**Batman**	**1.63**	**241**	P	**Pb**	**05 18 36.9**	**+0.3**
MAZI	**Mazidag**	**2.41**	**240**	PN	**Pn**	**05 18 46.8**	**+1.0**
MAZI	**Mazidag**	**2.41**	**240**	*e*Pn	**Pn**	**05 18 46.8**	**+1.0**

ISCJB ***07*** *05:20:19.8±0.2, 7°.39S±0°.03×129°.13E±0°.04, h131km, mb4.4/29, Error ellipse: s-maj=5.6km s-min=3.6km az=162.4*

IDC ***07*** *05:20:19.9±2.8, 7°.21S×129°.12E, h107km±26km, mb3.9/19, mb1 4.1/21, mb1mx3.9/57, mbtmp4.3/21, MS3.1/3, Ms1 3.1/3, ms1mx2.6/36, Error ellipse: s-maj=19.3km s-min=12.6km az=64.0*

DJA ***07*** *05:20:21.5±0.5, 7°S±3°×12°9E±°, h159km±15km, M4.9/2, mB5.2/2, mb4.8/1, MLv4.9/2, Mw(mB)4.6/2*

NEIC ***07*** *05:20:21.1±0.6, 7°.35S×129°.12E, h126km±6km, mb4.7/18, Error ellipse: s-maj=7.2km s-min=5.1km az=64.0*

ISC 07 05:20:21.4±0.3**, 7°.46S**±0°.04**×129°.16E**±0°.05**, h131**km**, n114, σ1^{s}98**/127**, mb4.4**/29**, 2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.18**	**104**	P	**Pn**	**05 20 59.8**	**+2.2**
SAUI				S	**Sn**	**05 21 29.6**	**+4.2**
SAUI	**Saumlaki**	**2.18**	**104**	*e*Pn	**Pn**	**05 21 00.2**	**+2.5**
SAUI				*e*Sn	**Sn**	**05 21 23.2**	**-2.2**
BNDI	**Bandanaira**	**3.01**	**14**	P	**Pn**	**05 21 07.4**	**-0.8**
AAI	**Ambon**	**3.87**	**346**	P	**Pn**	**05 21 17.9**	**-1.6**
MSAI	**Masohi**	**4.09**	**357**	P	**Pn**	**05 21 22.2**	**-0.2**
NLAI	**Namlea**	**4.67**	**334**	P	**Pn**	**05 21 31.1**	**+1.0**
SOEI	**Soe**	**5.35**	**244**	P	**Pn**	**05 21 40.1**	**+0.7**
SOEI	**Soe**	**5.35**	**244**	*e*Pn	**Pn**	**05 21 40.2**	**+0.8**
FAKI	**Fak Fak**	**5.46**	**34**	P	**Pn**	**05 21 39.4**	**-1.2**
	75nm,0.5s,2μm						
FAKI	**Fak Fak**	**5.46**	**34**	*e*Pn	**Pn**	**05 21 39.1**	**-1.6**
MTN	**Manton Dam**	**5.69**	**160**	*e*Pn	**Pn**	**05 21 45.7**	**+1.9**
BATI	**Baumata**	**6.08**	**243**	P	**Pn**	**05 21 49.8**	**+0.6**
	34nm,0.3s,baz=115,slow=4.6,SNR=28						
BATI				S	**Sn**	**05 22 57.1**	**-0.5**
	32nm,0.3s,baz=270,slow=20,SNR=22						
BATI	**Baumata**	**6.08**	**243**	P	**Pn**	**05 21 49.7**	**+0.6**
SWI	**Sorong**	**6.88**	**18**	P	**Pn**	**05 21 58.9**	**-0.8**
BNSI	**Bone**	**9.51**	**288**	P	**Pn**	**05 22 38.8**	**+3.7**
FITZ	**Fitzroy Crossi**	**11.12**	**198**	S	**Sn**	**05 24 53.3**	**-6.1**
SGSI	**Sangihe**	**11.65**	**342**	P	**Pn**	**05 22 59.1**	**-4.6**
WRAB	**Tennant Creek**	**13.38**	**158**	*e*Pn	**Pn**	**05 23 25.3**	**-1.0**
WR1	**Warramunga Arr**	**13.39**	**158**	*e*Pn	**Pn**	**05 23 25.2**	**-1.1**
WR1				*e*Sn	**Sn**	**05 25 47.0**	**-7.2**
WRA	**Warramunga Arr**	**13.39**	**158**	P	**Pn**	**05 23 25.2**	**-1.1**
	5.5nm,0.3s,baz=342,slow=13,SNR=251						
WRA				S	**Sn**	**05 25 47.0**	**-7.2**
	9.9nm,0.3s,baz=341,slow=21,SNR=9.3						
WB2	**Warramunga Arr**	**13.39**	**158**	*e*Pn	**Pn**	**05 23 23.5**	**-2.9**
WB2				*e*Pn	P	05 23 26.2	-4.9
DAV	**Davao City (W)**	**14.87**	**346**	*e*Pn	**Pn**	**05 23 42.8**	**-2.3**
COEN	**Coen**	**15.20**	**116**	*e*Pn	**P**	**05 23 50.8**	**-0.5**
	9.0nm,0.7s						
MBWA	**Marble Bar**	**16.39**	**213**	*e*Pn	**Pn**	**05 24 03.9**	**0.0**
	121nm,1.7s						
MYLDM	**Lahad Datu**	**16.46**	**319**	*e*Pn	**Pn**	**05 24 04.0**	**-0.8**
	43nm,1.0s						
AS31	**Alice Springs**	**16.75**	**165**	*e*Pn	**P**	**05 24 09.3**	**+0.9**
	7.6nm,0.5s						
AS31				*e*Sn	**Sn**	**05 27 08.6**	**-6.4**
ASAR	**Alice Springs**	**16.75**	**165**	P	**P**	**05 24 09.6**	**+1.3**
	3.1nm,0.3s,baz=337,slow=9.0,SNR=59						
ASAR				S	**Sn**	**05 27 08.6**	**-6.4**
	3.5nm,0.3s,baz=358,slow=28,SNR=9.9						
AS01	**Alice Springs**	**16.76**	**165**	*e*Pn	**Pn**	**05 24 09.3**	**+0.9**
PMG	**Port Moresby**	**17.91**	**97**	S	**S**	**05 27 38.8**	**-1.5**
	1.3nm,0.3s,baz=89,slow=3.7,SNR=3.3						
PMG				LR	LR	05 32 51.8	
	comp=Z,29nm,19.7s,baz=186,slow=42						
KKM	**Kota Kinabalu**	**18.62**	**316**	*e*P	**P**	**05 24 28.2**	**-0.8**
	33nm,1.1s						
SBUM	**Sibu**	**19.56**	**300**	*e*P	**P**	**05 24 39.8**	**+0.6**
	29nm,0.8s						
CTA	**Charters Tower**	**20.78**	**129**	P	Pn	05 24 55.8	-0.3
	1.9nm,0.7s,baz=326,slow=18,SNR=3.1						
KSM	**Kuching**	**20.80**	**295**	*e*P	**P**	**05 24 52.1**	**-0.4**
	34nm,0.9s						
BBOO	**Buckleboo**	**26.03**	**167**	*e*P	**P**	**05 25 44.3**	**+1.9**
	33nm,1.4s						
STKA	**Stephens Creek**	**26.92**	**156**	P	**P**	**05 25 53.2**	**+2.8**
	2.0nm,0.4s,baz=330,slow=12,SNR=6.7						
STKA	**Stephens Creek**	**26.92**	**156**	*e*P	**P**	**05 25 52.3**	**+1.9**
	2.2nm,1.1s						
NWAO	**Narrogin (SRO)**	**27.66**	**202**	LR	LR	05 38 55.8	
	comp=Z,29nm,18.1s,baz=266,slow=40						
NWAO	**Narrogin (SRO)**	**27.66**	**202**	*e*P	**P**	**05 25 59.0**	**+2.0**
	160nm,1.9s						
NWAO				*e*		05 38 55.8	
ANA2	**Anatahan**	**28.76**	**35**	*e*P	**P**	**05 26 06.7**	**-0.2**
PSI	**Prapat**	**31.85**	**288**	P	**P**	**05 26 34.5**	**+0.1**
	6.9nm,0.8s,baz=144,slow=6.8,SNR=4.2						
PSI	**Prapat**	**31.85**	**288**	*e*P	**P**	**05 26 33.2**	**-1.2**
	13nm,1.0s						
CM01	**Chiang Mai Arr**	**39.36**	**311**	*e*P	**P**	**05 27 37.0**	**-1.3**
CM31	**Chiang Mai Arr**	**39.40**	**311**	*e*P	**P**	**05 27 38.2**	**-0.4**
CM31				*e*PcP	**PcP**	**05 29 45.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**39.40**	**311**	P	**P**	**05 27 38.4**	**-0.2**
	1.8nm,0.5s,baz=138,slow=6.9,SNR=13						
CMAR				PcP	**PcP**	**05 29 45.6**	**+1.2**
	0.6nm,0.3s,baz=204,slow=2.0,SNR=4.5						
CHTO	**Chiang Mai**	**39.62**	**312**	P	**P**	**05 27 41.8**	**+1.4**
NJ2	**Nanjing**	**40.50**	**346**	*e*P	**P**	**05 27 47.7**	**+0.2**
KMI	**Kunming**	**41.36**	**322**	P	**P**	**05 27 56.6**	**+1.7**
MJAR	**Matsushiro Arr**	**44.58**	**10**	P	**P**	**05 28 18.6**	**-1.9**
	1.2nm,0.5s,baz=187,slow=8.3,SNR=4.4						
KS15	**Wonju Array Si**	**44.68**	**359**	*e*P	**P**	**05 28 20.8**	**-0.4**
KSAR	**Wonju Array Be**	**44.68**	**359**	P	**P**	**05 28 20.8**	**-0.4**
KSRS	**Korea Array**	**44.69**	**359**	P	**P**	**05 28 20.8**	**-0.4**
	1.4nm,0.6s,baz=175,slow=9.5,SNR=4.7						
CD2	**Chengdu**	**45.25**	**329**	*e*P	**P**	**05 28 26.5**	**+0.6**
LZH	**Lanzhou**	**49.42**	**333**	⇓P	**P**	**05 28 58.3**	**0.0**
LZH				pP	pP	05 29 27.9	-0.6
LZH				sP	sP	05 29 42.8	-0.3
LZH				PP	**PP**	**05 30 55.6**	**+1.9**
HHC	**Hu-ho-hao-te**	**50.73**	**343**	*e*P	**P**	**05 29 10.5**	**+2.6**
HHC				pP	pP	05 29 39.7	+1.4
HHC				sP	sP	05 29 54.0	+1.1
HHC				PP	**PP**	**05 31 09.4**	**+4.0**
HHC				S	**S**	**05 36 15.1**	**+1.7**
HHC				sS	sS	05 37 06.3	+0.4
HHC	**Hu-ho-hao-te**	**50.73**	**343**	SS	**SS**	**05 39 48.1**	**-1.7**
CN2	**Changchun**	**51.13**	**357**	*e*P	**P**	**05 29 08.8**	**-1.9**
LSA	**Lhasa**	**51.96**	**317**	P	**P**	**05 29 18.0**	**+0.2**
LSA	**Lhasa**	**51.96**	**317**	*e*P	**P**	**05 29 17.9**	**+0.2**
	17nm,0.8s						
ODAN	**Odare**	**52.94**	**312**	*e*P	**P**	**05 29 23.9**	**-0.8**
	16nm,0.6s						
TAPN	**Taplejung**	**52.98**	**312**	*e*P	**P**	**05 29 24.4**	**-0.7**
	41nm,0.9s						
RAMN	**Ramite**	**53.57**	**311**	*e*P	**P**	**05 29 29.0**	**-0.4**
	52nm,0.7s						
GTA	**Gaotai**	**53.98**	**332**	⇓P	**P**	**05 29 31.8**	**-0.2**
GTA				pP	pP	05 30 01.2	-1.5
GTA				sP	sP	05 30 15.6	-1.6
JIRN	**Jiri**	**54.27**	**312**	*e*P	**P**	**05 29 33.9**	**-0.7**
	32nm,0.8s						
GUN	**Gumba**	**54.63**	**312**	*e*P	**P**	**05 29 36.5**	**-0.7**
	43nm,0.7s						
PKI	**Pulchoki**	**54.80**	**311**	*e*P	**P**	**05 29 37.1**	**-1.3**
	10nm,0.5s						
PKIN	**Phulchoki**	**54.81**	**311**	*e*P	**P**	**05 29 37.4**	**-1.0**
	13nm,0.6s						
KKN	**Kakani**	**55.01**	**311**	*e*P	**P**	**05 29 39.0**	**-0.8**
	14nm,0.6s						
DMN	**Daman**	**55.04**	**311**	*e*P	**P**	**05 29 39.4**	**-0.7**
	26nm,1.0s						
GKN	**Gorkha**	**55.60**	**311**	*e*P	**P**	**05 29 43.3**	**-0.7**
	1.2nm,0.2s						
KOLN	**Koldanda**	**56.26**	**310**	*e*P	**P**	**05 29 48.1**	**-0.6**
	40nm,0.9s						
PYUN	**Piuthan**	**56.89**	**310**	*e*P	**P**	**05 29 52.6**	**-0.6**
	62nm,0.9s						
SONA0	**Songino Array**	**58.62**	**342**	*e*P	**P**	**05 30 04.4**	**-0.3**
SONM	**Songino Array**	**58.62**	**342**	P	**P**	**05 30 04.4**	**-0.3**
	0.7nm,0.5s,baz=165,slow=8.4,SNR=4.5						
WMQ	**Urumqi**	**63.33**	**328**	P	**P**	**05 30 36.8**	**+0.2**
WMQ				pP	pP	05 31 08.1	-0.1
PETK	**Petropavlovsk-**	**65.02**	**19**	P	**P**	**05 30 47.0**	**-0.3**
	2.6nm,0.7s,baz=167,slow=7.2,SNR=3.6						
PEA1	**Petropavlovsk-**	**65.02**	**19**	*e*P	**P**	**05 30 47.0**	**-0.3**
KSH	**Kashi**	**67.80**	**318**	*e*P	**P**	**05 31 06.4**	**+0.9**
KSH				S	**S**	**05 39 49.2**	**-4.1**
MK01	**Makanchi Array**	**68.14**	**327**	*e*P	**P**	**05 31 06.8**	**-0.5**
MK32	**Makanchi Array**	**68.16**	**327**	*e*P	**P**	**05 31 07.3**	**-0.1**
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**05 31 07.3**	**-0.1**
	1.7nm,0.4s,baz=116,slow=8.2,SNR=6.0						
MAKZ	**Makanchi**	**68.33**	**327**	*e*P	**P**	**05 31 07.1**	**-1.5**
	4.4nm,1.3s						
MA2	**Magadan**	**69.01**	**12**	P	**P**	**05 31 12.3**	**-0.1**
	2.1nm,0.3s,baz=178,slow=8.5,SNR=3.8						
AAK	**Ala-Archa**	**70.36**	**320**	P	**P**	**05 31 21.7**	**+0.4**
	2.1nm,0.6s,baz=93,slow=6.7,SNR=8.4						
AAK	**Ala-Archa**	**70.36**	**320**	*e*P	**P**	**05 31 21.3**	**0.0**
	18nm,1.8s						
AAK				*e*P	**P**	**05 31 21.7**	**+0.4**
ZALV	**Zalesovo Beam**	**71.63**	**334**	P	**P**	**05 31 27.2**	**-1.2**
	3.0nm,0.6s,baz=134,slow=5.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**71.63**	**334**	*e*P	**P**	**05 31 27.0**	**-1.4**
ZAA1	**Zalesovo Array**	**71.63**	**334**	*e*P	**P**	**05 31 27.2**	**-1.3**
VNDA	**Vanda**	**72.10**	**173**	P	**P**	**05 31 33.3**	**+2.3**
	1.1nm,0.7s,baz=297,slow=6.7,SNR=3.8						
SEY	**Seymchan**	**72.41**	**11**	P	**P**	**05 31 33.3**	**+0.4**
	5.8nm,0.8s,baz=210,slow=3.8,SNR=33						
KURBB	**Kurchatov Arra**	**72.47**	**329**	P	**P**	**05 31 33.2**	**-0.3**
	3.9nm,0.5s,baz=131,slow=5.0,SNR=47						
KURK	**Kurchatov**	**72.48**	**329**	*e*P	**P**	**05 31 31.4**	**-2.1**
	19nm,1.5s						
KURK				*e*P	**P**	**05 31 33.2**	**-0.4**
BVAR	**Borovoye Array**	**78.01**	**328**	P	**P**	**05 32 04.9**	**-0.4**
	1.1nm,0.5s,baz=144,slow=5.5,SNR=7.6						
TIXI	**Tiksi**	**78.94**	**360**	P	**P**	**05 32 08.9**	**-1.0**
	1.6nm,0.4s,baz=175,slow=3.8,SNR=5.6						
ABKAR	**Akbulak array**	**82.35**	**322**	*e*P	**P**	**05 32 27.9**	**-0.6**
	17nm,0.6s						
AKTO	**Aktyubinsk**	**83.93**	**323**	P	**P**	**05 32 36.8**	**+0.1**
	1.6nm,0.6s,baz=102,slow=9.5,SNR=5.5						
RAYN	**Ar Rayn**	**87.17**	**294**	*e*P	**P**	**05 32 53.0**	**-0.4**
	5.5nm,0.7s						
GLI	**Glacier Island**	**93.42**	**29**	*e*P	**P**	**05 33 22.8**	**+1.2**
	64nm,0.9s						
KLU	**Klutina**	**94.07**	**29**	*e*P	**P**	**05 33 25.1**	**+0.4**
	24nm,0.9s						
DIV	**Divide**	**94.09**	**29**	*e*P	**P**	**05 33 24.4**	**-0.5**
	25nm,0.8s						
ILAR	**Eielson Array**	**94.11**	**25**	P	**P**	**05 33 23.4**	**-1.4**
	0.6nm,0.8s,baz=254,slow=4.6,SNR=5.4						
ILB	**Eielson Array**	**94.11**	**25**	*e*P	**P**	**05 33 23.4**	**-1.4**
SNAA	**Sanae**	**95.03**	**194**	LR	LR	06 15 01.8	
	comp=Z,17nm,18.7s,baz=294,slow=34						
ILGA	**Ilgaz**	**98.95**	**310**	*e*P	**P**	**05 33 45.9**	**-1.6**
	17nm,0.4s						
YKA	**Yellowknife Ar**	**108.52**	**26**	PKiKP	**PKiKP**	**05 38 34.7**	**+0.5**
	0.2nm,0.7s,baz=298,slow=1.6,SNR=4.6						
GERES	**GERESS Array B**	**112.24**	**320**	PKiKP	**PKiKP**	**05 38 41.9**	**+0.1**
	0.2nm,0.3s,baz=63,slow=0.4,SNR=3.6						
TXAR	**Lajitas Array**	**125.87**	**59**	PKP	**PKPdf**	**05 39 10.0**	**+1.4**
	0.3nm,0.6s,baz=144,slow=2.5,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**128.08**	**281**	*e*PKPdf	**PKPdf**	**05 39 13.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**128.08**	**281**	PKP	**PKPdf**	**05 39 13.6**	**+0.6**
	1.8nm,0.9s,baz=28,slow=1.8,SNR=7.4						
TOA1	**Torodi Ar. Sit**	**128.09**	**281**	*e*PKPdf	**PKPdf**	**05 39 13.6**	**+0.6**
PLCA	**Paso Flores**	**128.73**	**161**	PKP	**PKPdf**	**05 39 15.8**	**+2.0**
	0.4nm,0.6s,baz=153,slow=2.3,SNR=3.5						
CPUP	**Villa Florida**	**145.83**	**170**	PKPbc	**PKPab**	**05 39 48.2**	**+1.6**
	5.0nm,0.9s,baz=171,slow=3.1,SNR=12						
CPUP	**Villa Florida**	**145.83**	**170**	*e*PKPdf	**PKPab**	**05 39 48.0**	**+1.4**
LPAZ	**La Paz**	**150.85**	**144**	PKPbc	**PKPbc**	**05 40 02.7**	**+2.4**
	1.6nm,0.6s,baz=103,slow=1.6,SNR=5.4						
LPAZ	**La Paz**	**150.85**	**144**	*e*PKPdf	**PKPdf**	**05 39 57.4**	**+2.8**
LPAZ				PKPbc	**PKPbc**	**05 40 02.7**	**+2.4**

NIED ***07*** *05:34:00, 39°.20N×142°.40E, h32km, Mw4.1 Best double couple: M0 1.70000×10^15 NP1:φs95.00000°, δ18.00000°, λ-26.00000°. NP2:φs209.00000°, δ82.00000°, λ-106.00000°.*

JMA ***07*** *05:34:06.0, 39°.24N×142°.41E, h34km±1km, M4.3*

JMA Felt II J1.

ISCJB ***07*** *05:34:06.7±0.5, 39°.27N±0°.03×142°.36E±0°.05, h48km±3km, mb4.3/48, MS3.6/11, Error ellipse: s-maj=6.5km s-min=4.0km az=29.6*

MOS ***07*** *05:34:07.8±1.0, 39°.32N×142°.32E, h58km, mb4.4/31, Error ellipse: s-maj=8.5km s-min=5.7km az=83.5*

IDC ***07*** *05:34:10.9±2.5, 39°.16N×142°.36E, h76km±23km, mb3.8/25, mb1 3.9/28, mb1mx3.8/66, mbtmp4.1/28, MS3.3/16, Ms1 3.3/16, ms1mx3.1/53, Error ellipse: s-maj=14.7km s-min=11.9km az=134.0*

NEIC ***07*** *05:34:10.3±0.6, 39°.28N×142°.33E, h65km±5km, mb4.5/16, Error ellipse: s-maj=6.5km s-min=4.5km az=137.0*

NEIC Recorded [2 JMA] in Iwate.

ISC 07 05:34:08.1±0.9**, 39°.25N**±0°.04**×142°.38E**±0°.06**, h44**km±8km**, n148, σ1^{s}78**/149**, mb4.3**/48**, MS3.6**/11**, 9C-8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.55**	**307**	P	**Pn**	**05 34 17.2**	**-2.4**
MIYJ				S	**Sn**	**05 34 25.4**	**-2.4**
OFUJ	**Ofunato**	**0.58**	**254**	P	**Pn**	**05 34 17.8**	**-2.2**
OFUJ				S	**Sn**	**05 34 26.1**	**-2.4**
JTH	**Tanohata**	**0.80**	**330**	P	**Pn**	**05 34 21.0**	**-1.9**
JTH				*e*S	**Sn**	**05 34 31.8**	**-1.9**
JOM	**Ohasama**	**0.88**	**285**	P	**Pn**	**05 34 22.4**	**-1.6**
JOM				S	**Sn**	**05 34 34.2**	**-1.4**
JMK	**Ichinoseki**	**0.95**	**252**	P	**Pn**	**05 34 23.3**	**-1.7**
JMK				S	**Sn**	**05 34 35.8**	**-1.6**
JKZ	**Kuzumaki**	**1.10**	**313**	P	**Pn**	**05 34 25.9**	**-1.1**
JKZ				S	**Sn**	**05 34 40.4**	**-0.7**
JIO	**Ouri**	**1.13**	**226**	P	**Pn**	**05 34 25.4**	**-2.0**
JIO				*e*S	**Sn**	**05 34 39.6**	**-2.1**
JANG	**Nango**	**1.31**	**330**	P	**Pn**	**05 34 28.5**	**-1.4**
JANG				S	**Sn**	**05 34 45.0**	**-1.2**
JRG	**Rokugo**	**1.36**	**277**	P	**Pn**	**05 34 29.8**	**-0.8**
JRG				*e*S	**Sn**	**05 34 47.4**	**-0.1**
ERM	**Erimo**	**2.83**	**12**	*e*Pn	**Pn**	**05 34 51.8**	**+1.1**
ERM				*e*Sn	**Sn**	**05 35 21.7**	**-1.8**
ERM	**Erimo**	**2.83**	**12**	⇓*e*P	**Pn**	**05 34 51.1**	**+0.4**
MJA0	**Matsu Arr-Jizo**	**4.24**	**232**	*e*P	**Pn**	**05 35 12.7**	**+2.5**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MAJO	**Matsushiro**	**4.26**	**232**	*e*Pn	**Pn**	**05 35 12.8**	**+2.3**
MAJO	**Matsushiro**	**4.26**	**232**	*d i*P	**Pn**	**05 35 12.7**	**+2.2**
MAT	**Matsushiro**	**4.26**	**232**	P	**Pn**	**05 35 12.4**	**+1.9**
MAT				*e*S	**Sn**	**05 36 04.5**	**+5.5**
MJAR	**Matsushiro Arr**	**4.26**	**232**	P	**Pn**	**05 35 12.5**	**+2.1**
	comp=Z,3.8nm,0.3s,baz=38,slow=12,SNR=79						
MJAR				LR	LR	05 37 01.5	
	comp=Z,318nm,18.5s,baz=65,slow=41						
MJB9	**Matsu-Tunnel**	**4.26**	**232**	*e*Pn	**Pn**	**05 35 13.2**	**+2.7**
ASAJ	**Asahikawa**	**4.87**	**2**	P	**Pn**	**05 35 19.3**	**+0.6**
	comp=Z,4.3nm,0.3s,baz=219,slow=15,SNR=9.9						
ASAJ				S	**Sn**	**05 36 14.2**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=256,slow=19,SNR=3.2						
ASAJ	**Asahikawa**	**4.87**	**2**	*e*Pn	**Pn**	**05 35 18.8**	**+0.1**
ASAJ				*e*Sn	**Sn**	**05 36 14.2**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**5.45**	**27**	P	**Pn**	**05 35 28.9**	**+2.3**
YUK				*e*S	**Sn**	**05 36 24.7**	**-3.3**
YUK				smax	smax		
	comp=N,143nm,0.4s						
YUK				smax	smax		
	comp=E,356nm,0.4s						
SHO	**Shikotan**	**5.70**	**34**	*e*P	**Pn**	**05 35 29.4**	**-0.7**
SHO				*i* S	**Sn**	**05 36 26.4**	**-7.7**
SHO				pmax	pmax		
	comp=Z,34nm,0.5s						
SHO				pmax	pmax		
	comp=N,89nm,0.7s						
SHO				pmax	pmax		
	comp=E,28nm,0.5s						
SHO				smax	smax		
	comp=E,325nm,0.5s						
SHO				smax	smax		
	comp=N,248nm,0.4s						
INU	**Inuyama**	**5.78**	**229**	*e*Pn	**Pn**	**05 35 33.4**	**+2.1**
JHJ	**Hachijo jima 2**	**6.46**	**200**	P	**Pn**	**05 35 39.4**	**-1.3**
	comp=N,7.4nm,0.3s,baz=86,slow=18,SNR=4.0						
JHJ				S	**Sn**	**05 36 49.1**	**-4.0**
	comp=N,8.3nm,0.3s,baz=240,slow=20,SNR=2.4						
JHJ				LR	LR	05 38 19.0	
	comp=N,122nm,19.1s,baz=26,slow=39						
KUR	**Kuril'sk**	**7.23**	**32**	*e*P	**Pn**	**05 35 51.0**	**-0.1**
KUR				*e*S	**Sn**	**05 37 04.8**	**-7.1**
KUR				smax	smax		
	comp=E,79nm,0.4s						
KUR				smax	smax		
	comp=N,52nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.71**	**2**	*e*P	**Pn**	**05 35 54.4**	**-3.2**
MSHR	**Mys Shultsa**	**9.13**	**295**	*ce*P	**Pn**	**05 36 14.9**	**-2.2**
USRK	**Ussuriysk Ar.**	**9.21**	**306**	P	**Pn**	**05 36 21.6**	**+3.4**
	comp=N,1.2nm,0.3s,baz=112,slow=14,SNR=30						
USRK				LR	LR	05 39 46.5	
	comp=N,329nm,18.2s,baz=128,slow=36						
MDJ	**Mudanjiang**	**10.93**	**304**	*e*Pn	**Pn**	**05 36 44.0**	**+2.2**
KSRS	**Korea Array**	**11.50**	**266**	P	**Pn**	**05 36 53.2**	**+3.7**
	comp=N,0.3nm,0.3s,baz=82,slow=14,SNR=6.5						
KSRS				LR	LR	05 40 54.9	
	comp=N,112nm,21.0s,baz=81,slow=35						
KS15	**Wonju Array Si**	**11.53**	**266**	*e*Pn	**Pn**	**05 36 53.2**	**+3.2**
KS15				*e*		05 40 54.9	
KSAR	**Wonju Array Be**	**11.53**	**266**	P	**Pn**	**05 36 53.2**	**+3.2**
KSAR	**Wonju Array Be**	**11.53**	**266**	P	**Pn**	**05 36 53.2**	**+3.2**
JCJ	**Chichijima**	**12.12**	**181**	LR	LR	05 42 57.5	
	comp=N,24nm,19.5s,baz=350,slow=44						
TJN	**Taejon**	**12.22**	**261**	⇓*e*P	**Pn**	**05 36 59.5**	**+0.1**
KLR	**Kul'dur**	**12.54**	**326**	P	**Pn**	**05 37 03.9**	**+0.1**
	comp=N,0.0nm,0.3s,baz=118,slow=8.4,SNR=5.9						
KLR				LR	LR	05 41 55.7	
	comp=N,19nm,18.8s,baz=143,slow=37						
KLR	**Kul'dur**	**12.54**	**326**	⇑*i*P	**Pn**	**05 37 03.5**	**-0.3**
NKL	**Nikolayevsk**	**13.96**	**356**	*e*P	**Pn**	**05 37 24.2**	**+1.2**
PETK	**Petropavlovsk-**	**17.40**	**32**	LR	LR	05 44 14.2	
	comp=N,62nm,19.1s,baz=206,slow=34						
MA2	**Magadan**	**21.03**	**12**	P	**P**	**05 38 47.6**	**-0.3**
	comp=N,8.7nm,0.9s,baz=200,slow=9.6,SNR=11						
MA2	**Magadan**	**21.03**	**12**	⇑*i*P	**P**	**05 38 47.8**	**-0.1**
SSLB	**Suanglung**	**23.81**	**236**	*e*P	**P**	**05 39 16.7**	**-0.3**
	comp=N,34nm,1.4s						
YAK	**Yakutsk**	**24.10**	**345**	⇑*e*P	**P**	**05 39 17.9**	**-1.3**
SEY	**Seymchan**	**24.48**	**11**	P	**P**	**05 39 23.6**	**+0.9**
	comp=N,1.9nm,0.5s,baz=191,slow=8.7,SNR=11						
SEY	**Seymchan**	**24.48**	**11**	⇑*e*P	**P**	**05 39 23.8**	**+1.1**
BOD	**Bodaibo**	**26.12**	**325**	*e*P	**P**	**05 39 36.2**	**-1.4**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.5s						
SONA1	**Songino Array**	**27.25**	**300**	*e*P	**P**	**05 39 47.7**	**-0.4**
SONA0	**Songino Array**	**27.26**	**300**	*e*P	**P**	**05 39 48.0**	**-0.2**
SONA0				*e*		05 51 17.1	
SONM	**Songino Array**	**27.26**	**300**	P	**P**	**05 39 48.0**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=102,slow=8.4,SNR=3.5						
SONM				LR	LR	05 51 17.1	
	comp=Z,100nm,19.1s,baz=45,slow=38						
SONM	**Songino Array**	**27.26**	**300**	P	**P**	**05 39 48.0**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,100nm,19.1s						
ENH	**Enshi**	**28.34**	**262**	*e*P	**P**	**05 39 58.2**	**+0.3**
	comp=Z,13nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.72**	**126**	T	T	06 10 25.7	
	baz=318,slow=75,SNR=216						
H11N1	**WAKE ISLAND Hy**	**28.73**	**126**	T	T	06 10 36.7	
	baz=318,slow=75,SNR=153						
H11N3	**WAKE ISLAND Hy**	**28.73**	**126**	T	T	06 10 36.0	
	baz=318,slow=75,SNR=142						
H11S1	**WAKE ISLAND Hy**	**29.51**	**128**	T	T	06 11 39.0	
	baz=320,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**29.51**	**128**	T	T	06 11 34.4	
	baz=320,slow=76,SNR=18						
TLY	**Talaya**	**29.52**	**308**	*e*P	**P**	**05 40 08.0**	**-0.1**
	comp=Z,14nm,2.0s						
TLY	**Talaya**	**29.52**	**308**	*e*P	**P**	**05 40 07.5**	**-0.6**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,90nm,14.0s						
H11S2	**WAKE ISLAND Hy**	**29.52**	**128**	T	T	06 11 34.3	
	baz=320,slow=76,SNR=20						
ZAK	**Zakamensk**	**29.56**	**305**	*e*P	**P**	**05 40 05.9**	**-2.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TIXI	**Tiksi**	**33.20**	**352**	P	**P**	**05 40 40.4**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=340,slow=0.8,SNR=4.2						
TIXI	**Tiksi**	**33.20**	**352**	⇓*e*P	**P**	**05 40 41.0**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.8s						
ZAA0	**Zalesovo Array**	**41.02**	**311**	*e*P	**P**	**05 41 45.9**	**-0.8**
	comp=Z,4.1nm,0.6s						
ZAA1	**Zalesovo Array**	**41.02**	**311**	*e*P	**P**	**05 41 46.2**	**-0.5**
ZAA1				*e*		05 59 36.6	
ZALV	**Zalesovo Beam**	**41.02**	**311**	P	**P**	**05 41 46.2**	**-0.5**
	comp=Z,3.7nm,0.5s,baz=92,slow=8.1,SNR=13						
ZALV				LR	LR	05 59 36.6	
	comp=Z,111nm,18.2s,baz=68,slow=37						
CMAR	**Chiang Mai Arr**	**42.82**	**254**	P	**P**	**05 42 01.6**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=51,slow=7.1,SNR=2.3						
CMAR				LR	LR	06 01 04.2	
	comp=Z,16nm,18.7s,baz=230,slow=38						
MK01	**Makanchi Array**	**43.63**	**300**	*e*P	**P**	**05 42 07.3**	**-0.8**
MK31	**Makanchi Array**	**43.63**	**300**	*e*P	**P**	**05 42 07.7**	**-0.4**
MK31	**Makanchi Array**	**43.63**	**300**	*e*P	**P**	**05 42 07.7**	**-0.4**
MK32	**Makanchi Array**	**43.63**	**300**	*e*P	**P**	**05 42 07.5**	**-0.5**
MKAR	**Makanchi Array**	**43.63**	**300**	P	**P**	**05 42 07.5**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=83,slow=9.5,SNR=18						
MKAR	**Makanchi Array**	**43.63**	**300**	*e*P	**P**	**05 42 07.8**	**-0.3**
	comp=Z,12nm,0.6s						
MKAR	**Makanchi Array**	**43.63**	**300**	*e*P	**P**	**05 42 07.3**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAKZ	**Makanchi**	**43.83**	**300**	*e*P	**P**	**05 42 09.5**	**-0.2**
	comp=Z,3.2nm,1.0s						
MAKZ	**Makanchi**	**43.83**	**300**	*e*P	**P**	**05 42 09.5**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KDAK	**Kodiak Island**	**44.96**	**43**	P	**P**	**05 42 17.9**	**-0.5**
	comp=Z,5.9nm,0.8s,baz=249,slow=8.6,SNR=3.2						
KDAK	**Kodiak Island**	**44.96**	**43**	*e*P	**P**	**05 42 17.9**	**-0.5**
	comp=Z,47nm,1.5s						
KURK	**Kurchatov**	**45.20**	**307**	*e*P	**P**	**05 42 19.8**	**-0.7**
	comp=Z,5.6nm,0.6s						
KURK	**Kurchatov**	**45.20**	**307**	*e*P	**P**	**05 42 19.8**	**-0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ILAR	**Eielson Array**	**47.22**	**33**	P	**P**	**05 42 36.5**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=269,slow=6.3,SNR=34						
ILAR	**Eielson Array**	**47.22**	**33**	*e*P	**P**	**05 42 36.4**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILB	**Eielson Array**	**47.22**	**33**	*e*P	**P**	**05 42 36.5**	**+0.2**
IL1	**Eielson Array**	**47.23**	**33**	*e*P	**P**	**05 42 36.0**	**-0.2**
BVAR	**Borovoye Array**	**49.67**	**311**	P	**P**	**05 42 54.7**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=76,slow=7.0,SNR=7.9						
BRVK	**Borovoye**	**49.73**	**311**	⇓*e*P	**P**	**05 42 55.2**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AAK	**Ala-Archa**	**50.14**	**297**	⇑*e*P	**P**	**05 42 58.6**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK				pmax	pmax		
	comp=Z,6.0nm,2.0s						
INK	Inuvik	52.08	28	P	P	05 43 13.4	+0.4
	comp=Z,3.0nm,0.8s,baz=288,slow=6.7,SNR=13						
INK	Inuvik	52.08	28	eP	P	05 43 13.4	+0.4
	comp=Z,3.7nm,0.8s						
HYT	Haines Junctio	52.08	38	eP	P	05 43 13.9	+0.5
	comp=Z,9.5nm,0.9s						
KKAR	Karatay Array	52.70	299	eP	P	05 43 17.5	-0.6
KKAR	Karatay Array	52.70	299	eP	P	05 43 17.5	-0.6
ARU	Arti	55.23	318	P	P	05 43 35.9	-0.4
	baz=94,slow=11						
ARU	Arti	55.23	318	eP	P	05 43 35.9	-0.4
	comp=Z,6.0nm,1.0s						
ARU	Arti	55.23	318d	iP	P	05 43 36.1	-0.2
ARU						05 45 34.8	
ARU				S	S	05 51 15.3	-1.1
ARU				SS	SS	05 54 56.2	-4.2
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ABKAR	Akbulak array	57.12	309	eP	P	05 43 49.5	-0.4
	comp=Z,38nm,0.6s						
AKTO	Aktyubinsk	57.78	311	P	P	05 43 54.4	-0.1
	comp=Z,1.7nm,0.6s,baz=80,slow=11,SNR=7.2						
AKTO				LR	LR	06 08 32.8	
	comp=Z,47nm,18.8s,baz=352,slow=36						
WRAB	Tennant Creek	59.35	189⇑	eP	P	05 44 04.2	-1.5
WRAB				pmax	pmax		
	comp=Z,15nm,1.7s						
WR1	Warramunga Arr	59.36	189	eP	P	05 44 04.2	-1.6
WRA	Warramunga Arr	59.36	189	P	P	05 44 04.2	-1.6
	comp=Z,3.3nm,0.8s,baz=7.5,slow=7.1,SNR=33						
RES	Resolute Bay	60.27	15	P	P	05 44 10.9	-0.5
	comp=Z,0.9nm,0.7s,baz=321,slow=5.8,SNR=5.1						
YKA	Yellowknife Ar	61.52	31	P	P	05 44 19.4	-0.6
	comp=Z,0.3nm,0.8s,baz=300,slow=6.6,SNR=5.4						
YKA	Yellowknife Ar	61.52	31	eP	P	05 44 22.2	+2.2
ASAR	Alice Springs	63.08	189	P	P	05 44 29.1	-1.9
	comp=Z,1.0nm,0.6s,baz=9.7,slow=6.7,SNR=10						
ASAR	Alice Springs	63.08	189	eP	P	05 44 30.1	-0.9
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GEYT	Alibeck	63.45	298	LR	LR	06 13 01.7	
	comp=Z,33nm,21.5s,baz=25,slow=37						
OBN	Obninsk	66.79	323⇑	eP	P	05 44 54.3	-0.4
OBN				e		05 47 19.7	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,99nm,14.0s						
FIA0	FINESS Array S	67.22	332	eP	P	05 44 56.9	-0.4
FIA0	FINESS Array S	67.22	332	eP	P	05 44 56.9	-0.4
FINES	FINESS Array B	67.22	332	P	P	05 44 56.9	-0.4
	comp=Z,1.4nm,0.7s,baz=18,slow=6.6,SNR=3.9						
FINES	FINESS Array B	67.22	332	eP	P	05 44 56.1	-1.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GBL	Gable Mountain	67.64	48	eP	P	05 45 00.5	+0.2
GBL	Gable Mountain	67.64	48	eP	P	05 45 00.5	+0.2
YBH	Yreka Blue Hor	68.40	53	P	P	05 45 05.9	+0.6
	comp=Z,3.9nm,1.1s,baz=270,slow=1.0,SNR=3.2						
VSU	Vasula	68.94	329⇓	eP	P	05 45 06.9	-1.2
VSU				pmax	pmax		
	comp=Z,44nm,2.2s						
FFC	Flin Flon	71.44	33	eP	P	05 45 23.9	+0.3
	comp=Z,6.1nm,1.0s						
FFC	Flin Flon	71.44	33	eP	P	05 45 23.9	+0.3
FFC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LRM	Limekiln Ridge	72.04	45	eP	P	05 45 28.4	+0.7
HFS	Hagfors	72.39	336	LR	LR	06 22 14.9	
	comp=Z,94nm,18.1s,baz=300,slow=40						
NB200	NORSAR Array S	72.44	337	eP	P	05 45 29.4	-0.2
NOA	NORSAR Array B	72.44	337	P	P	05 45 29.4	-0.2
	comp=Z,0.6nm,0.7s,baz=40,slow=5.8,SNR=2.6						
AKASG	Malin Array Be	73.02	322	P	P	05 45 32.2	-0.9
	comp=Z,0.6nm,0.3s,baz=46,slow=6.0,SNR=8.4						
AKBB	Malin Array Si	73.02	322	eP	P	05 45 32.2	-0.8
	comp=Z,13nm,1.6s						
AKBB	Malin Array Si	73.02	322	eP	P	05 45 32.2	-0.8
AKBB				pmax	pmax		
	comp=Z,13nm,1.6s						
KIEV	Kiev	73.03	322⇓	eP	P	05 45 32.4	-0.7
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NV01	Mina Array Sit	73.06	54	eP	P	05 45 33.4	-0.4
NVAR	Mina Array Bea	73.06	54	P	P	05 45 33.8	0.0
	comp=Z,2.0nm,0.7s,baz=274,slow=6.4,SNR=6.1						
YHB	Horse Butte	73.40	45	eP	P	05 45 37.1	+1.3
	comp=Z,17nm,1.7s						
H17A	Grant Village	73.97	45	eP	P	05 45 41.7	+2.6
	comp=Z,5.1nm,0.9s						
IMW	Indian Meadow	74.08	46	eP	P	05 45 41.4	+1.5
	comp=Z,2.6nm,0.8s						
MOOW	Moose Ponds	74.28	46	eP	P	05 45 42.2	+1.3
	comp=Z,2.6nm,0.8s						
PD31	Pinedale Array	75.58	46	eP	P	05 45 48.5	+0.1
PDAR	Pinedale Array	75.58	46	P	P	05 45 48.1	-0.3
	comp=Z,1.5nm,0.8s,baz=269,slow=1.2,SNR=12						
PDAR	Pinedale Array	75.58	46	eP	P	05 45 48.2	-0.2
ULM	Lac du Bonnet	77.24	34	P	P	05 45 56.4	-1.0
	comp=Z,1.3nm,0.8s,baz=338,slow=5.4,SNR=4.2						
BR101	Keskin Array S	77.95	312	eP	P	05 46 01.8	0.0
BRTR	Keskin Array B	77.96	312	P	P	05 46 01.8	0.0
	comp=Z,0.5nm,0.7s,baz=44,slow=4.4,SNR=3.0						
MLR	Muntele Rosu	78.19	320	LR	LR	06 21 36.9	
	comp=Z,22nm,18.7s,baz=14,slow=36						
CLL	Collm	79.56	330	eP(2)	P	05 46 14.0	+3.9
CLL	Collm	79.56	330	eP	P	05 46 14.0	+3.9
MMAI	Mount Meron Ar	81.31	306	LR	LR	06 24 32.8	
	comp=Z,28nm,18.8s,baz=10.0,slow=37						
ANMO	Albuquerque	82.59	51⇑	iP	P	05 46 27.8	+1.0
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PMOR	Pomariorio Ree	84.38	114	eT	T	07 19 57.4	
	comp=Z,4.8nm,0.2s						
PPT	Papeete	84.95	117	LR	LR	06 15 10.1	
	comp=Z,31nm,21.6s,baz=325,slow=29						
PPT2	Papeete2	84.97	117	eLR	LR	06 13 29.6	
	comp=Z,54nm,24.0s						
PPT2	Papeete2	84.97	117	eT	T	07 20 46.8	
	comp=Z,2.7nm,0.3s						
TAOE	Nuku Hiva Isla	85.98	105	eLR	LR	06 13 46.3	
	comp=Z,106nm,29.4s						
TXAR	Lajitas Array	88.17	53	P	P	05 46 54.6	0.0
	comp=Z,0.5nm,0.7s,baz=292,slow=2.7,SNR=7.6						
TXAR	Lajitas Array	88.17	53	eP	P	05 46 54.5	-0.1
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TBI	Tubuai	89.01	121	eT	T	07 25 51.8	
	comp=Z,5.2nm,0.3s						

IDC 07 05:52:39.9±2.0**, 4°.91S×151°.62E, h0**^{km}**, mb3.5**/3**, mb1 3.9**/4**, mb1mx3.6**/42**, mbtmp3.7**/4**, ML2.0**/1**, Error ellipse: s-maj=136.9km s-min=24.2km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.29	225	Pn	Pn	05 54 14.6	+0.6
	2.0nm,0.3s,baz=210,slow=20,SNR=2.4						
PMG				Sn	Sn	05 55 28.0	+1.4
	3.0nm,0.3s,baz=292,slow=18,SNR=4.9						
WRA	Warramunga Arr	22.50	227	P	P	05 57 40.4	-0.9
	0.8nm,0.6s,baz=51,slow=9.8,SNR=8.4						
ASAR	Alice Springs	25.29	221	P	P	05 58 08.6	+0.3
	0.9nm,0.6s,baz=56,slow=8.8,SNR=9.4						
ILAR	Eielson Array	82.71	22	P	P	06 05 05.1	-0.2
	0.5nm,0.6s,baz=242,slow=5.0,SNR=5.4						
TORD	Torodi Ar. Bea	149.23	287	PKPbc	PKPbc	06 12 31.5	-0.1
	0.8nm,0.9s,baz=81,slow=2.9,SNR=3.7						

MAN 07 05:56:38, 9°.94N×123°.09E, h1^{km}**, mb4.1, ML2.8, MS2.5, 3C, Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.61	167⇑	iP	Pb	05 56 50.9	-0.5
SNPH				iS	Sb	05 56 59.4	-1.1
TBP	Tagbilaran	0.80	108	eP	Pb	05 56 55.0	+0.4
TBP				iS	Sn	05 57 10.6	+1.7
GUIM	Jordan	0.85	324	eP	Pg	05 56 54.7	+0.4
GUIM				eS	Sb	05 57 07.2	-0.2
LLP	Lapu-Lapu	0.94	66	eP	Pg	05 56 56.2	+0.2
LLP				eS	Sn	05 57 12.1	-0.3
DCPH	Dipolog City	1.37	169⇑	eP	Pn	05 57 03.1	-1.2
RCP	Roxas	1.65	348⇑	eP	Pb	05 57 09.4	+0.2
RCP				eS	Sg	05 57 32.4	+1.4
MSLP	Maasin	1.75	83	eP	Pg	05 57 12.8	+1.3
MSLP				eS	Sg	05 57 37.5	+3.2

KRSC 07 05:59:02.6±1.2**, 49°.20N×156°.53E, h6**^{km}±15^{km}**, ML4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.51	350	eP	Pn	05 59 29.2	-0.9
SKR				eS	Sn	05 59 49.6	-0.4
PAU	Pauzhetka	2.28	4	eP	Pn	05 59 42.0	+1.4
PAU				eS	Sb	06 00 11.4	-1.0
KDTR	Khodutka, Kamc	2.79	20	eS	Sb	06 00 25.0	-2.2
RUS	Russkaya	3.47	21	eP	Pn	05 59 59.5	+2.4
UGLR	Uglovaya	4.26	19	eP	Pn	06 00 12.5	+4.4
AVH	Avacha	4.30	18	eP	Pn	06 00 12.8	+4.3
SMAR	Somma	4.31	18	eP	Pb	06 00 13.9	-4.9
SDLR	Sedlovina	4.34	19	eP	Pn	06 00 12.9	+3.8
GNL	Ganaly	4.59	11	eP	Pn	06 00 17.0	+4.5

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*NIED **07** 06:09:00, 39°.20N×142°.40E, h5^{km}, Mw4.0 Best double couple: $M_0$1.05000×10^{15} NP1:ϕ_s83.00000°, δ28.00000°, λ68.00000°. NP2:ϕ_s288.00000°, δ65.00000°, λ101.00000°.*
*IDC **07** 06:09:45.8±1.5, 39°.11N×142°.35E, h0^{km}, mb3.3/3, mb1 3.5/4, mb1mx3.2/57, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=47.3km s-min=25.6km az=100.0*
*JMA **07** 06:09:50.7±0.1, 39°.25N×142°.39E, h36^{km}±1^{km}, M3.6*
ISC 07 06:09:47.7±2.4**, 39°.22N**±0°.04**×142°.50E**±0°.08**, h7**^{km}±14^{km}**, n14, σ1s.64**/23**, mb3.4**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.64	304	P	Pb	06 10 01.8	+0.7
MIYJ				S	Sb	06 10 09.6	-0.6
OFUJ	Ofunato	0.67	258	P	Pb	06 10 02.4	+0.8
OFUJ				iS	Sb	06 10 10.6	-0.4
JTH	Tanohata	0.87	326	P	Pb	06 10 05.6	+0.5
JTH				eS	Sg	06 10 15.9	+0.2
JOM	Ohasama	0.97	285	P	Pg	06 10 06.9	+0.6
JOM				eS	Sg	06 10 18.3	-0.7
JMK	Ichinoseki	1.04	255	P	Pb	06 10 07.8	-0.1
JMK				eS	Sb	06 10 20.2	-1.4
JIO	Ouri	1.18	230	P	Pb	06 10 09.9	-0.5
JIO				eS	Sb	06 10 24.0	-1.9
JKZ	Kuzumaki	1.19	310	P	Pb	06 10 10.4	-0.1
JKZ				S	Sb	06 10 24.5	-1.5
JANG	Nango	1.38	327	P	Pn	06 10 13.0	-0.3
JANG				S	Sb	06 10 29.5	-2.1
JRG	Rokugo	1.46	277	P	Pn	06 10 14.4	0.0
MJAR	Matsushiro Arr	4.33	233	Pn	Pn	06 10 56.9	+3.1
	1.0nm,0.3s,baz=40,slow=13,SNR=11						
ASAJ	Asahikawa	4.89	1	Pn	Pn	06 11 00.5	-1.1
	0.7nm,0.3s,baz=114,slow=20,SNR=4.8						
ASAJ				Sn	Sn	06 12 02.9	+4.5
	0.7nm,0.3s,baz=127,slow=20,SNR=3.7						
MKAR	Makanchi Array	43.72	300	P	P	06 17 52.3	-1.0
	0.1nm,0.4s,baz=90,slow=9.1,SNR=3.4						
ILAR	Eielson Array	47.19	33	P	P	06 18 21.3	+0.8
	0.2nm,0.6s,baz=261,slow=5.0,SNR=3.5						
WRA	Warramunga Arr	59.35	189	P	P	06 19 48.6	-1.8
	0.4nm,0.6s,baz=8.3,slow=7.0,SNR=4.5						

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*ATH **07** 06:14:47.5, 41°.70N×20°.20E, h10^{km}±2^{km}, ML2.6/5, Error ellipse: s-maj=3.6km s-min=1.3km az=187.0*
*ISCJB **07** 06:14:48.7±0.3, 41°.63N±0°.02×20°.20E±0°.02, h1^{km}±2^{km}, Error ellipse: s-maj=3.5km s-min=1.7km az=139.4*
*BEO **07** 06:14:49.4±0.3, 41°.58N×20°.23E, h6^{km}±3^{km}, M2.5/8*
*CSEM **07** 06:14:49.2±0.1, 41°.61N×20°.18E, h5^{km}, ML3.1, Error ellipse: s-maj=3.3km s-min=1.9km az=51.0*
*SKO **07** 06:14:49.7, 41°.62N×20°.15E, h15^{km}, M2.0, ML2.5*
*TIR **07** 06:14:49.9, 41°.60N×20°.14E, h25^{km}, ML3.1*
*PDG **07** 06:14:49.6±0.2, 41°.62N×20°.12E, h6^{km}, ML2.7/9, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*THE **07** 06:14:50.5, 41°.73N×20°.17E, h28^{km}±8^{km}, ML2.6/4, Error ellipse: s-maj=9.8km s-min=1.3km az=294.0*
ISC 07 06:14:49.6±0.9**, 41°.61N**±0°.01**×20°.17E**±0°.02**, h10**^{km}±7^{km}**, n106, σ0s.86**/181**, 19C-20D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.22	69	i PG	Pg	06 14 48.3	-6.0
PHP				i SG	Sg	06 14 58.4	+1.0
TIR	Tirane	0.34	222	i PG	Pg	06 14 56.0	-0.5
TIR				i SG	Sg	06 15 02.0	+0.9
TIR	Tirane	0.34	222⇑	iPg	Pg	06 14 56.1	-0.4
TIR				eSg	Sg	06 15 01.8	+0.7
TIR	Tirane	0.34	222⇓	iP	Pg	06 14 56.0	-0.5
TIR				S	Sg	06 15 02.4	+1.3
TIR	Tirane	0.34	222	P	Pg	06 14 56.0	-0.5
TIR				S	Sg	06 15 02.4	+1.3
TIR				AML	AML	06 15 03.7	
	comp=E,3451μm,0.2s						
TIR				AML	AML	06 15 03.8	
	comp=N,2633μm,0.3s						
TIR	Tirane	0.34	222⇑	iPg	Pg	06 14 56.1	-0.4
TIR				eSg	Sg	06 15 01.8	+0.7
TIR				S	Sb	06 15 02.3	-1.0
PUK	Puka	0.48	335	i PG	Pg	06 14 59.1	0.0
PUK				i SG	Sb	06 15 06.9	-0.5
PUK	Puka	0.48	335	i Pg	Pg	06 14 59.1	0.0
PUK				i Sg	Sb	06 15 06.9	-0.5
OHR	Ohrid	0.68	136	i Pg	Pg	06 15 02.2	-0.7
OHR				i Sg	Sb	06 15 13.3	+0.1
OHR				eLg	Lg	06 15 13.6	
	comp=N,254nm,0.6s						
OHR				eLg	Lg	06 15 13.7	
	comp=E,100nm,0.5s						
ULC	Ulcinj	0.78	298⇓	iPg	Pg	06 15 03.6	-1.1
ULC				eSg	Sg	06 15 14.9	+0.1
ULC	Ulcinj	0.78	298⇓	iPg	Pg	06 15 03.6	-1.1
ULC	Ulcinj	0.78	298	P	Pg	06 15 03.9	-0.8
ULC				eSg	Sg	06 15 14.9	+0.1
KRUS	Krusevo	0.84	106	i Pg	Pg	06 15 04.7	-1.2
KRUS				i Sg	Sg	06 15 17.0	0.0
DRME	Dracevica, Mon	0.94	309⇓	iPg	Pg	06 15 06.5	-1.2
DRME				eSg	Sb	06 15 20.6	+0.2
DRME	Dracevica, Mon	0.94	309⇓	iPg	Pg	06 15 06.5	-1.2
DRME				eSg	Sb	06 15 20.6	+0.2
PVY	Plav	1.00	351⇓	iPg	Pg	06 15 07.9	-1.0
PVY				eSg	Sn	06 15 23.2	-0.8
PVY	Plav	1.00	351⇓	iPg	Pg	06 15 07.9	-1.0
PVY				eSg	Sn	06 15 23.2	-0.8
SKO	Skopje	1.02	69	ePg	Pg	06 15 08.8	-0.4
SKO				eSg	Sg	06 15 22.3	-0.2
SKO	Skopje	1.02	69	ePg	Pg	06 15 08.8	-0.4
SKO				eSg	Sg	06 15 22.3	-0.2
SKO	Skopje	1.02	69	P	Pg	06 15 08.9	-0.3
SKO				S	Sb	06 15 22.4	-0.3
SKO	Skopje	1.02	69	i Pg	Pg	06 15 08.7	-0.5
PEJK	Peje	1.04	4	P	Pg	06 15 09.4	-0.2
PEJK				S	Sn	06 15 26.9	+2.0
BIA	Bitola	1.05	124	P	Pg	06 15 09.7	-0.1
BIA				S	Sn	06 15 24.6	-0.5
BIA	Bitola	1.05	124	P	Pg	06 15 09.7	-0.1
BIA				S	Sn	06 15 24.6	-0.5
BIA	Bitola	1.05	124	i Pg	Pg	06 15 09.7	-0.1
BIA				i Sg	Sb	06 15 24.4	+0.8
PDG	Podgorica	1.07	321⇑	iPg	Pg	06 15 08.9	-1.2
PDG				eSg	Sn	06 15 25.5	0.0
PDG	Podgorica	1.07	321⇑	iP	Pg	06 15 09.0	-1.2
PDG				S	Sn	06 15 26.4	+0.9
PDG	Podgorica	1.07	321⇑	iP	Pg	06 15 09.0	-1.2
PDG				eSg	Sn	06 15 25.0	-0.5
PDG				S	Sn	06 15 26.4	+0.9
TTG	Podgorica	1.07	321⇓	iPg	Pg	06 15 08.9	-1.2
TTG				eSg	Sn	06 15 25.0	-0.5
KBN	Korca	1.09	154	i PG	Pg	06 15 10.3	-0.2
KBN				i SG	Sn	06 15 26.1	0.0
KBN	Korca	1.09	154	i Pg	Pg	06 15 10.3	-0.2
KBN				i Sg	Sn	06 15 26.0	0.0
BUM	Brajici-Budva	1.18	307⇑	iPg	Pb	06 15 10.9	-1.2
BUM				eSg	Sn	06 15 28.7	+0.4
BUM	Brajici-Budva	1.18	307⇑	iPg	Pb	06 15 10.9	-1.2
BUM				eSg	Sn	06 15 28.7	+0.4
FNA	Florina	1.23	132	i PG	Pn	06 15 11.7	-1.1
FNA				i SG	Sb	06 15 28.5	-0.3
FNA	Florina	1.23	132	P	Pn	06 15 12.4	-0.5
FNA				S	Sb	06 15 27.9	-0.8
FNA				AML	AML	06 15 34.4	
	comp=E,674μm,0.3s						
FNA				AML	AML	06 15 35.5	
	comp=N,513μm,0.3s						
FNA	Florina	1.23	132	i Pg	Pn	06 15 11.7	-1.1
FNA	Florina	1.23	132	P	Pn	06 15 12.1	-0.7
FNA				S	Sb	06 15 28.6	-0.2
FNA	Florina	1.23	132	P	Pn	06 15 12.1	-0.7
FNA				S	Sg	06 15 29.1	0.0
BEY	Berane	1.28	351⇑	iPg	Pn	06 15 13.1	-0.5
BEY	Berane	1.28	351	P	Pn	06 15 13.6	0.0
BEY				eSg	Sn	06 15 32.8	+1.9
IVA	Berane	1.28	351⇑	iPg	Pn	06 15 13.1	-0.5
IVA				eSg	Sn	06 15 32.8	+1.9
CEME	Cevo	1.32	316⇑	iPg	Pn	06 15 13.6	-0.6
CEME				eSg	Sg	06 15 33.5	+1.3
CEME	Cevo	1.32	316⇑	iPg	Pn	06 15 13.6	-0.6
CEME				eSg	Sg	06 15 33.5	+1.3
KOME	Kolasin	1.33	339⇑	iPg	Pn	06 15 13.5	-0.9
KOME				eSg	Sg	06 15 34.6	+2.0
KOME	Kolasin	1.33	339⇑	iPg	Pn	06 15 13.5	-0.9
KOME				eSg	Sg	06 15 34.6	+2.0
NEST	Nestorio	1.36	150	P	Pg	06 15 15.7	-0.1
NEST				S	Sg	06 15 33.6	+0.2
NEST				AML	AML	06 15 40.2	
	comp=N,155μm,0.4s						
NEST				AML	AML	06 15 40.5	
	comp=E,206μm,0.4s						
NEST	Nestorio	1.36	150	P	Pn	06 15 15.1	+0.3
NEST				S	Sn	06 15 33.3	+0.4
NEST	Nestorio	1.36	150	P	Pn	06 15 13.9	-0.9
NEST				S	Sn	06 15 33.3	+0.4
SMRK	Smrekonice	1.39	24	P	Pb	06 15 15.3	-0.4
SMRK				S	Sg	06 15 37.1	+2.8
NKME	Niksic	1.47	322⇓	iPg	Pn	06 15 16.1	-0.1
NKME				eSg	Sg	06 15 38.8	+1.8
NKME	Niksic	1.47	322⇓	iPg	Pn	06 15 16.1	-0.1
NKME				eSg	Sg	06 15 38.8	+1.8
NKY	Niksic	1.49	324⇓	iPg	Pn	06 15 16.6	+0.1
NKY				eSg	Sg	06 15 39.4	+1.8
NKY	Niksic	1.49	324⇓	iPg	Pn	06 15 16.6	+0.1
NKY				eSg	Sg	06 15 39.4	+1.8
HCY	Herceg Novi	1.50	305⇓	iPg	Pn	06 15 16.5	-0.1
HCY				eSg	Sg	06 15 39.8	+1.8
HCY	Herceg Novi	1.50	305⇓	iPg	Pn	06 15 16.5	-0.1
HCY				eSn	Sg	06 15 38.1	+0.1
HCY				eSg	Sg	06 15 39.8	+1.8
SJES	Sjenica	1.66	355	ePn	Pb	06 15 19.5	-0.8
SJES				eSg	Sg	06 15 42.1	-0.9
BARS	Barje	1.72	45	ePn	Pb	06 15 20.8	-0.5
BARS				eSg	Sb	06 15 42.5	-0.5
BARS	Barje	1.72	45	ePn	Pb	06 15 20.8	-0.5
BARS				eSg	Sb	06 15 42.5	-0.5
TREB	Trebinje	1.75	310	ePn	Pn	06 15 20.6	+0.6
TREB				eSn	Sb	06 15 43.8	0.0
SELS	Selova	1.76	23	ePn	Pn	06 15 19.1	-1.0
BRY	Bratogost	1.77	317	ePn	Pb	06 15 21.4	-0.9
BRY				eSn	Sg	06 15 46.6	0.0
BRY	Bratogost	1.77	317	ePn	Pb	06 15 21.4	-0.9
BRY				eSn	Sb	06 15 44.1	-0.5
KZN	Kozani	1.78	136	P	Pb	06 15 22.7	+0.4
KZN				S	Sg	06 15 46.6	-0.1
KZN				AML	AML	06 15 48.5	
	comp=E,202μm,0.5s						
KZN				AML	AML	06 15 51.0	
	comp=N,297μm,0.5s						
KZN	Kozani	1.78	136	P	Pb	06 15 22.0	-0.3
KZN				S	Sg	06 15 46.3	-0.4
PLE	Pljevlja	1.82	342⇑	iPn	Pb	06 15 22.4	-0.6
PLE				eSn	Sg	06 15 48.1	0.0
PLE	Pljevlja	1.82	342⇑	iPn	Pb	06 15 22.4	-0.6
PLE				eSn	Sg	06 15 48.1	0.0
VAY	Valandovo	1.83	98	ePn	Pn	06 15 19.9	-1.1
VAY				eSg	Sn	06 15 44.6	+0.4
VAY	Valandovo	1.83	98	ePn	Pn	06 15 19.9	-1.1
VAY				eSg	Sn	06 15 44.6	+0.4
VAY	Valandovo	1.83	98	i Pn	Pn	06 15 20.4	-0.6
VAY				eSg	Sb	06 15 46.6	+0.6
VAY				eLg	Lg	06 15 47.1	
	comp=E,24nm,0.5s						
VAY				eLg	Lg	06 15 47.4	
	comp=N,30nm,0.5s						
KPRO	Kipourio	1.88	151	P	Pn	06 15 21.6	-0.2
KPRO	Kipourio	1.88	151	P	Pn	06 15 22.3	+0.4
KPRO	Kipourio	1.88	151	P	Pn	06 15 21.4	-0.5
IVAS	Ivanjica	1.97	360	ePn	Pn	06 15 23.4	+0.3
IVAS	Ivanjica	1.97	360	ePn	Pn	06 15 23.4	+0.3
SGD	Sagiada	1.99	179	P	Pn	06 15 23.3	0.0
SGD	Sagiada	1.99	179	P	Pn	06 15 24.0	+0.7
SGD	Sagiada	1.99	179	P	Pn	06 15 24.0	+0.7
KNT	Kendrikon	2.10	101	P	Pn	06 15 23.8	-1.0
KNT	Kendrikon	2.10	101	P	Pn	06 15 24.4	-0.4
KNT	Kendrikon	2.10	101	P	Pn	06 15 24.4	-0.4
BBLS	Lazići	2.33	346	ePn	Pn	06 15 29.1	+1.1
BBLS	Lazići	2.33	346	ePn	Pn	06 15 28.8	+0.8
BBLS				eSn	Sn	06 15 58.0	+1.3
VTS	Vitosha	2.47	65⇓	iP	Pn	06 15 30.3	+0.3
VTS	Vitosha	2.47	65⇓	iP	Pn	06 15 30.3	+0.3
ZAPS	Zavoj	2.47	47	ePn	Pn	06 15 30.9	+1.0
ZAPS	Zavoj	2.47	47	ePn	Pn	06 15 30.9	+1.0
THL	Klokotos Trika	2.48	145	P	Pn	06 15 31.4	+1.5
THL				S	Sb	06 16 04.3	-0.4
THL				AML	AML	06 16 05.2	
	comp=N,66μm,0.5s						
THL				AML	AML	06 16 06.3	
	comp=E,65μm,0.5s						
THL	Klokotos Trika	2.48	145	P	Pn	06 15 29.4	-0.5
THL				S	Sn	06 16 02.3	+2.1
THL	Klokotos Trika	2.48	145	P	Pn	06 15 29.4	-0.5
THL				S	Sn	06 16 02.3	+2.1
DIVS	Divibare	2.50	357	ePn	Pn	06 15 30.3	0.0
DIVS	Divibare	2.50	357	ePn	Pn	06 15 30.3	0.0
DIVS				eSn	Sn	06 16 01.2	+0.4
HAPS	Han Pijesak,Bl	2.64	341	ePn	Pn	06 15 32.6	+0.3
HAPS				eSn	Sn	06 16 05.3	+1.0
TEKS	Tekeris	2.98	351	ePn	Pn	06 15 37.5	+0.6
TEKS				eSn	Sn	06 16 14.0	+1.3
AGG	Agios Georgios	3.06	147	P	Pn	06 15 38.5	+0.4
AGG	Agios Georgios	3.06	147	P	Pn	06 15 38.5	+0.4
AGG				S	Sn	06 16 15.6	+0.8
AGG	Agios Georgios	3.06	147	P	Pn	06 15 38.5	+0.4
AGG				S	Sn	06 16 15.6	+0.8
FGSL	Fruska Gora	3.56	356	ePn	Pn	06 15 44.4	-0.5
FRGS	Fruska Gora	3.56	356	ePn	Pn	06 15 44.4	-0.5
BLY	Banja Luka	3.83	326⇑	iP	Pn	06 15 48.3	-0.2
BLY	Banja Luka	3.83	326⇑	iP	Pn	06 15 48.3	-0.2
BZS	Buzias	4.14	14⇓	iP	Pn	06 15 52.8	-0.1
BZS	Buzias	4.14	14⇓	iP	Pn	06 15 52.8	-0.1
VOIR		5.22	41⇓	iP	Pn	06 16 08.6	+0.9
VOIR		5.22	41⇓	iP	Pn	06 16 08.6	+0.9
MLR	Muntele Rosu	5.72	45⇑	iP	Pn	06 16 14.2	-0.4
MLR	Muntele Rosu	5.72	45⇑	iP	Pn	06 16 14.2	-0.4

MAN 07 06:15:06, 10°.15N×123°.34E, h26^{km}**, mb3.6, ML2.3, MS1.7, Cebu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.64	74	eP	Pn	06 15 19.2	-0.2
LLP				eS	Sn	06 15 30.1	+1.4
TBP	Tagbilaran	0.68	131	eP	Pn	06 15 19.8	-0.2
GUIM	Jordan	0.88	303	eP	Pn	06 15 22.9	+0.2
GUIM				eS	Sn	06 15 35.3	+0.6
MSLP	Maasin	1.49	90	eP	Pn	06 15 31.7	+0.6
MSLP				eS	Sb	06 15 58.3	+6.7

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*NIED **07** 06:18:00, 25°.50N×127°.30E, h20^{km}, Mw4.8 Best double couple: $M_0$1.60000×10^{16} NP1:ϕ_s215.00000°, δ41.00000°, λ-127.00000°. NP2:ϕ_s80.00000°, δ59.00000°, λ-63.00000°.*
*BJI **07** 06:18:05.5, 25°.39N×127°.48E, h42^{km}, mb5.0/53, mB5.0/49, Ms4.7/68, Ms7 4.5/63*

ISCJB **07** 06:18:08.8±0.4, 25.°63N±0.°02×127.°18E±0.°02, h39km±3km, mb5.2/235, MS4.4/58, Error ellipse: s-maj=3.7km s-min=2.6km az=149.9
JMA **07** 06:18:08.3±0.2, 25.°53N×127.°28E, h47km±5km, M5.2
JMA Felt II J1.
IDC **07** 06:18:10.0±0.3, 25.°59N×127.°19E, h42km±2km, mb4.7/43, mb1 4.7/48, mb1mx4.7/66, mbtmp4.9/48, ML4.3/5, MS4.2/45, Ms1 4.2/45, ms1mx4.0/70, Error ellipse: s-maj=10.0km s-min=8.1km az=87.0
GCMT **07** 06:18:11.0±0.4, 25.°43N×127.°23E, h30km, MW4.9/50, Moment Tensor Solution. s34,c38; s50,c67; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.22±.23; $M_{\theta\theta}$2.88±.15; $M_{\phi\phi}$0.33±.15; $M_{r\theta}$-0.50±.18; $M_{\theta\phi}$0.58±.09; $M_{\phi r}$0.57±.25; Best double couple: $M_0$3.19600×10^{16} NP1:ϕ_s88.00000°,δ49.00000°,λ-76.00000°. NP2: ϕ_s248.00000°,δ43.00000°,λ-105.00000°. Principal axes: T 3.0290, Plg3.0000°, Azm168.0000°; N 0.3320, Plg10.0000°, Azm259.0000°; P -3.3630, Plg79.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
MOS **07** 06:18:11.5±1.0, 25.°92N×127.°10E, h51km, mb5.5/92, MS4.6/15 Error ellipse: s-maj=6.5km s-min=3.9km az=112.3
NEIC **07** 06:18:11.0±0.4, 25.°61N×127.°13E, h48km±3km, mb5.2/134, Error ellipse: s-maj=3.9km s-min=2.8km az=134.0
NEIC Felt [III] at Chatan and Urasoe and [II] at Okinawa, Okinawa. Also felt at Ginowan, Gushikawa, Ishikawa, Naha, Nishihara and Yomitan. Recorded [2 JMA] in the Kerama-retto and on Kume-jima and Okinawa.

ISC 07 06:18:10.1±0.3, 25.°63N±0.°03×127.°22E±0.°03, h41km±2km, h41km:pP-P, n691, σ1.s39/822, mb5.2/251, MS4.5/59, 34C-36D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.70	43	P	Pn	06 18 22.6	-0.9
JJT2				eS	Sn	06 18 33.5	+0.4
JKE	Kume jima 2	0.80	331	P	Pn	06 18 25.1	+0.2
JKE				eS	Sn	06 18 37.6	+2.0
JAGN	Aguni-jima	0.96	1	P	Pn	06 18 27.2	+0.2
JAGN				eS	Sn	06 18 41.3	+1.8
JNTH	Nagotoyohara	1.14	39	P	Pn	06 18 28.4	-1.2
JNTH				S	Sn	06 18 44.3	+0.3
JOW	Kunigami	1.53	38	P	Pn	06 18 34.0	-0.9
JOW				eS	Sn	06 18 54.5	+1.0
JOW	Kunigami	1.53	38	ePn	Pn	06 18 37.7	+2.9
JIH	Iheya	1.55	25	P	Pn	06 18 34.8	-0.4
JIH				eS	Sn	06 18 55.4	+1.3
JOGS	Gusukube	1.86	243	P	Pn	06 18 39.3	-0.1
JIKM	Ikemajima	1.92	249	P	Pn	06 18 39.5	-0.8
JMJ	Miyako jima 2	1.93	246	P	Pn	06 18 39.6	-0.7
JIRB	Irabujima	2.02	247	P	Pn	06 18 40.6	-1.0
JOKE	Okinoerabujima	2.11	35	P	Pn	06 18 42.7	-0.1
JAM	Amami Oshima	3.49	37	P	Pn	06 19 00.9	-1.0
JTAJ	Takarajima	3.93	26	P	Pn	06 19 07.7	-0.1
YOJ	Yonaguni jima	3.99	254	ePn	Pn	06 19 11.8	+3.0
YOJ	Yonaguni jima	3.99	254	eP	Pn	06 19 11.8	+3.0
TATO	Taipei	5.23	264	ePn	Pn	06 19 28.4	+2.7
NACB	Ninganchiao	5.31	255	ePn	Pn	06 19 24.8	-2.1
NACB				ePn	Pn	06 19 30.3	+3.4
YHNB	Yeheng	5.38	261	ePn	Pn	06 19 28.5	+0.5
YULB	Yu-li	5.84	249	ePn	Pn	06 19 30.6	-3.6
YULB				ePn	Pn	06 19 35.9	+1.7
SSLB	Suanglung	5.99	253	ePn	Pn	06 19 35.5	-0.8
TWG	Pinlang	6.27	245	ePn	Pn	06 19 40.2	+0.1
TPUB	Ta-pu	6.44	250	ePn	Pn	06 19 44.1	+1.7
QZH	Quanzhou	7.84	267	⇑iP	Pn	06 20 09.9	+8.3
QZH				S	Sn	06 21 46.8	+18
JTA	Tamana	7.86	21	P	Pn	06 20 02.7	+0.9
JNU	Nakatsue	8.12	22	P	Pn	06 20 05.9	+0.5
	22nm,0.3s,baz=191,slow=5.7,SNR=100						
JNU				LR	LR	06 23 35.9	
	comp=Z,2µm,20.3s,baz=284,slow=40						
JNU	Nakatsue	8.12	22	P	Pn	06 20 05.8	+0.4
JNU	Nakatsue	8.12	22	ePn	Pn	06 20 06.0	+0.6
NJ2	Nanjing	9.73	313	eP	Pn	06 20 29.3	+1.8
NJ2				S	Sn	06 22 17.9	+2.4
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
NJ2				LR	LR		
	comp=N,3µm,14.6s						
NJ2				LR	LR		
	comp=E,2µm,14.1s						
NJ2				LR	LR		
	comp=Z,4µm,13.0s						
TJN	Taejon	10.71	1	⇓eP	Pn	06 20 42.5	+1.6
KS15	Wonju Array Si	11.79	3	ePn	Pn	06 20 56.6	+1.0
KSAR	Wonju Array Be	11.79	3	P	Pn	06 20 57.5	+1.9
KSAR	Wonju Array Be	11.79	3	P	Pn	06 20 57.6	+1.9
KSRS	Korea Array	11.80	3	P	Pn	06 20 57.5	+1.7
	0.6nm,0.3s,baz=177,slow=14,SNR=49						
KSRS				LR	LR	06 25 56.3	
	comp=Z,1µm,18.7s,baz=170,slow=39						
KS01	Wonju Array Si	11.83	3	ePn	Pn	06 20 56.5	+0.4
INCN	Inchon	11.83	358	ePn	Pn	06 20 56.8	+0.6
WHN	Wuhan	12.37	296	⇑P	Pn	06 21 05.7	+2.1
WHN				pP	P	06 21 13.6	-1.2
WHN				S	Sn	06 23 23.0	+2.9
WHN				LR	LR		
	comp=N,2µm,14.0s						
WHN				LR	LR		
	comp=E,4µm,9.3s						
WHN				LR	LR		
	comp=Z,7µm,13.0s						
TGY	Tagaytay City	12.90	208	LR	LR	06 26 38.6	
	comp=Z,369nm,18.9s,baz=4.0,slow=40						
JHJ	Hachijo jima 2	13.25	53	P	Pn	06 21 15.6	0.0
	10.0nm,0.3s,baz=252,slow=20,SNR=3.2						
JHJ				LR	LR	06 25 35.9	
	comp=Z,359nm,20.3s,baz=214,slow=34						
TIA	Tai'an	13.64	323	P	Pn	06 21 17.7	-3.3
TIA				S	S	06 24 29.2	+17
DL2	Dalian	14.05	342	P	P	06 21 32.6	-0.9
DL2				S	S	06 24 14.8	-6.2
DL2				pmax	pmax		
	comp=Z,81nm,0.9s						
DL2				pmax	pmax		
	comp=Z,490nm,4.0s						
DL2				LR	LR		
	comp=N,2µm,14.7s						
DL2				LR	LR		
	comp=E,880nm,14.2s						
DL2				LR	LR		
	comp=Z,3µm,13.7s						
MAJO	Matsushiro	14.37	38	ePn	P	06 21 35.8	-1.3
MAJO	Matsushiro	14.37	38	deP	P	06 21 38.1	+1.0
MAJO				pmax	pmax		
	comp=Z,166nm,1.4s						
MAT	Matsushiro	14.37	38	P	P	06 21 37.7	+0.6
MAT				eS	Sn	06 24 16.2	+7.3
MJAR	Matsushiro Arr	14.37	38	P	Pn	06 21 32.8	+2.0
	comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=6.7						
MJAR				LR	LR	06 27 48.5	
	comp=Z,434nm,18.6s,baz=210,slow=40						
MJB9	Matsu-Tunnel	14.37	38	ePn	P	06 21 35.0	-2.0
ENH	Enshi	16.34	290	ePn	Pn	06 21 56.7	+0.2
	comp=Z,46nm,1.0s						
BJT	Baijiatuau	17.07	330	ePn	Pn	06 22 06.0	+0.4
	comp=Z,88nm,1.1s						
BJT	Baijiatuau	17.07	330	eP	Pn	06 22 06.0	+0.4
BJT				pmax	pmax		
	comp=Z,88nm,1.1s						
BJI	Beijing	17.09	330	P	P	06 22 07.0	-0.1
BJI				S	Sn	06 25 15.2	+0.5
BJI				LR	LR		
	comp=Z,2µm,15.7s						
BJI				LR	LR		
	comp=Z,1µm,18.2s						
QIZ	Qiongzhong	17.36	251	P	P	06 22 10.9	+0.6
QIZ				S	Sn	06 25 17.9	-3.8
QIZ				pmax	pmax		
	comp=Z,260nm,2.8s						
QIZ				LR	LR		
	comp=Z,530nm,15.7s						
QIZ				LR	LR		
	comp=Z,750nm,21.0s						
QIZ				LR	LR		
	comp=Z,830nm,19.0s						
QIZ	Qiongzhong	17.36	251	eP	P	06 22 09.9	-0.4
	comp=Z,103nm,1.5s						
TIY	Taiyuan	17.40	317	eP	P	06 22 12.9	+2.2
TIY				S	Sn	06 25 20.0	-2.4
TIY				pmax	pmax		
	comp=Z,76nm,1.2s						
TIY				pmax	pmax		
	comp=Z,430nm,4.9s						
TIY				LR	LR		
	comp=Z,2µm,15.8s						
TIY				LR	LR		
	comp=Z,980nm,13.0s						
TIY				LR	LR		
	comp=Z,2µm,14.9s						
XAN	Xi'an	17.94	302	P	Pn	06 22 16.2	-0.2
XAN				pP	pP	06 22 25.6	-1.1
XAN				PP	sP	06 22 30.7	-1.2
XAN				S	Sn	06 25 31.8	-3.7
XAN				pmax	pmax		
	comp=Z,180nm,4.2s						
XAN				LR	LR		
	comp=Z,750nm,12.8s						
XAN				LR	LR		
	comp=Z,2µm,14.7s						
XAN				LR	LR		
	comp=Z,2µm,13.7s						
CN2	Changchun	18.19	356	eP	P	06 22 19.1	-0.2
CN2				epP	pP	06 22 29.6	+0.3
CN2				eS	Sn	06 25 38.0	-3.3
CN2				pmax	pmax		
	comp=Z,70nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,1µm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
GYA	Guiyang	18.49	277	⇑iP	Pn	06 22 23.4	0.0
GYA				pP	pP	06 22 33.0	0.0
GYA				PP	sP	06 22 39.6	+1.4
GYA				S	Sn	06 25 45.4	-3.8
GYA				sS	S	06 25 59.2	+7.2
GYA				SS	SnSn	06 26 09.0	+5.8
GYA				PcP	PcP	06 26 54.3	+2.4
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,7.2s						
GYA				LR	LR		
	comp=Z,710nm,14.6s						
GYA				LR	LR		
	comp=Z,1µm,16.2s						
GYA				LR	LR		
	comp=Z,1µm,18.1s						
DAV	Davao City (W)	18.52	185	LR	LR	06 30 38.6	
	comp=Z,370nm,18.2s,baz=8.5,slow=40						
USRK	Ussuriysk Ar.	18.93	11	P	Pn	06 22 28.8	+0.5
	comp=Z,1.1nm,0.3s,baz=186,slow=11,SNR=14						
USRK				LR	LR	06 29 50.2	
	comp=Z,587nm,19.6s,baz=181,slow=37						
MDJ	Mudanjiang	19.04	5	P	Pn	06 22 30.0	+0.3
MDJ				pP	pP	06 22 40.2	+1.5
MDJ				sP	sP	06 22 45.8	+1.8
MDJ				S	S	06 26 02.6	+0.1
MDJ				sS	sS	06 26 15.7	-3.0
MDJ				PcS	PcS	06 30 30.9	+1.7
MDJ				pmax	pmax		
	comp=Z,560nm,4.5s						
MDJ				LR	LR		
	comp=Z,730nm,21.2s						
MDJ				LR	LR		
	comp=Z,600nm,15.9s						
MDJ				LR	LR		
	comp=Z,1µm,19.9s						
MDJ	Mudanjiang	19.04	5	eP	Pn	06 22 29.7	0.0
	comp=Z,16nm,1.0s						
HHC	Hu-ho-hao-te	20.00	323	eP	P	06 22 40.2	+0.9
HHC				pP	pP	06 22 50.8	+1.4
HHC				sP	sP	06 22 56.8	+2.2
HHC				PP	PnPn	06 23 00.3	+4.1
HHC				S	S	06 26 16.6	-5.4
HHC				pmax	pmax		
	comp=Z,32nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.4s						
HHC				LR	LR		
	comp=Z,2µm,14.1s						
HHC				LR	LR		
	comp=Z,1µm,14.7s						
HHC				LR	LR		
	comp=Z,2µm,15.3s						
GUMO	Guam	20.46	123	LR	LR	06 29 04.7	
	comp=Z,195nm,20.2s,baz=248,slow=32						
BTO	Baotou	20.70	320	eP	P	06 22 47.0	+0.2
ERM	Erimo	20.98	35	eP	P	06 22 49.4	-0.3
	comp=Z,136nm,1.0s						
ERM	Erimo	20.98	35	⇑eP	P	06 22 48.9	-0.7
CD2	Chengdu	21.31	290	P	P	06 22 53.0	-0.5
CD2				pP	pP	06 23 03.4	-0.3
CD2				sP	sP	06 23 09.1	+0.2
CD2				S	S	06 26 47.2	-0.8
CD2				sS	sS	06 27 04.7	+0.3
CD2				pmax	pmax		
	comp=Z,110nm,0.6s						
CD2				pmax	pmax		
	comp=Z,230nm,4.0s						
CD2				LR	LR		
	comp=Z,2µm,13.3s						
CD2				LR	LR		
	comp=Z,2µm,12.5s						
CD2				LR	LR		
	comp=Z,3µm,13.5s						
MYLDM	Lahad Datu	21.98	204	eP	P	06 23 02.2	+1.5
	comp=Z,192nm,1.3s						
KMI	Kunming	22.12	274	P	P	06 23 01.8	-0.6
KMI				pP	sP	06 23 15.4	-2.4
KMI				sP	pP	06 23 22.2	+10
KMI				S	S	06 27 03.5	-0.6
KMI				pmax	pmax		
	comp=Z,62nm,1.3s						
KMI				pmax	pmax		
	comp=Z,250nm,3.2s						
KMI				LR	LR		
	comp=Z,370nm,18.8s						
KMI				LR	LR		
	comp=Z,1µm,16.4s						
KMI				LR	LR		
	comp=Z,1µm,16.4s						
KKM	Kota Kinabalu	22.14	210	eP	P	06 23 02.7	+0.2
	comp=Z,67nm,1.3s						
ASAJ	Asahikawa	22.28	30	P	P	06 23 02.7	-0.9
	comp=Z,15nm,0.8s,baz=245,slow=15,SNR=7.7						
ASAJ	Asahikawa	22.28	30	eP	P	06 23 03.1	-0.5
	comp=Z,40nm,0.9s						
ASAJ	Asahikawa	22.28	30	P	P	06 23 02.7	-0.9
ASAJ				pmax	pmax		
	comp=Z,25nm,0.9s						
LZH	Lanzhou	22.56	303	⇑P	P	06 23 06.4	-0.6
LZH				pP	pP	06 23 17.2	0.0
LZH				sP	sP	06 23 22.7	+0.3
LZH				PP	PnPn	06 23 35.1	+3.7
LZH				eS	S	06 27 04.2	-7.6
LZH				SS	SnSn	06 27 49.0	+6.0
LZH				pmax	pmax		
	comp=Z,110nm,1.0s						
LZH				pmax	pmax		
	comp=Z,280nm,4.5s						
LZH				LR	LR		
	comp=Z,850nm,13.0s						
LZH				LR	LR		
	comp=Z,2µm,13.5s						
LZH				LR	LR		
	comp=Z,2µm,15.0s						
UBPT	Khong Chiam	22.80	247	P	P	06 23 09.3	-0.1
	comp=Z,58nm,1.2s						
SKNT	Sakolnakorn	23.27	253	P	P	06 23 14.1	-0.1
	comp=Z,24nm,1.1s						
KLR	Kul'dur	23.82	7	P	P	06 23 17.9	-1.3
	comp=Z,2.5nm,1.0s,baz=199,slow=8.0,SNR=44						
KLR				LR	LR	06 32 46.0	
	comp=Z,32nm,19.8s,baz=186,slow=37						
HIA	Hailar	24.31	348	eP	P	06 23 21.9	-1.7
	comp=Z,11nm,0.8s						
HIA	Hailar	24.31	348	eP	P	06 23 21.9	-1.7
HIA				pmax	pmax		
	comp=Z,11nm,0.8s						
KHON	Khomkaen	24.55	253	P	P	06 23 28.3	+2.2
	comp=Z,27nm,1.1s,comp=Z,2µm						
YSS	Yuzh-Sakhalins	24.60	26	eP	P	06 23 26.6	+0.3
	comp=Z,238nm,0.9s						
YSS	Yuzh-Sakhalins	24.60	26	⇑eP	P	06 23 26.9	+0.6
YSS				e		06 23 37.0	
YSS				e		06 24 10.2	
YSS				pmax	pmax		
	comp=Z,240nm,0.9s						
YSS				MLR	MLR		
	comp=Z,800nm,16.0s						
TNTI	Ternate	24.71	180	eP	P	06 23 27.7	+0.1
	comp=Z,234nm,1.2s						
CHAI	Chaiyaphum	25.46	253	P	P	06 23 34.6	+0.2
	comp=Z,16nm,0.9s,comp=Z,132nm						
MRSI	Marisa	25.52	192	P	P	06 23 36.3	+1.4
	comp=Z,33nm,1.4s,comp=Z,507nm						
KUR	Kuril'sk	25.67	35	⇑eP	P	06 23 37.5	+1.5
GRNR	Gornyy	26.08	13	eP	P	06 23 40.0	+0.3
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
MPSI	Mapaga	26.12	197	P	P	06 23 41.4	+1.1
	comp=Z,19nm,1.2s						
PHIT	Phitsanulok	26.29	257	P	P	06 23 42.5	+0.6
	comp=Z,48nm,0.9s,comp=Z,333nm						
SRAK	Srakaew	26.30	249	P	P	06 23 38.4	-3.6
	comp=Z,155nm,1.0s,comp=Z,1µm						
LAMP	Lampang	26.49	260	P	P	06 23 44.6	+0.8
	comp=Z,11nm,0.9s,comp=Z,147nm						
CMAI	Chiengmai2	26.56	263	P	P	06 23 45.8	+1.3
	comp=Z,132nm,1.1s						
GTA	Gaotai	26.76	308	⇓P	P	06 23 44.9	-1.3
GTA				PcP	PcP	06 27 05.9	-2.6
GTA				S	S	06 28 19.5	+0.1
GTA				SS	SnSn	06 29 33.4	+7.7
GTA				pmax	pmax		
	comp=Z,43nm,1.3s						
GTA				pmax	pmax		
	comp=Z,180nm,5.0s						
GTA				LR	LR		
	comp=Z,900nm,15.0s						
GTA				LR	LR		
	comp=Z,1µm,16.6s						
GTA				LR	LR		
	comp=Z,1µm,14.5s						
NAYO	Nakonayok	26.77	250	P	P	06 23 47.6	+1.4
	comp=Z,13nm,1.1s						
APSI	Ampana	26.93	192	P	P	06 23 48.6	+1.0
CMMT	Chiang Mai	27.00	261	P	P	06 23 47.6	-0.8
	comp=Z,24nm,1.1s						
CHTO	Chiang Mai	27.01	261	P	P	06 23 48.7	+0.3
	comp=Z,175nm,1.0s						
CHTO	Chiang Mai	27.01	261	eP	P	06 23 48.7	+0.3
	comp=Z,25nm,1.0s						
CHTO	Chiang Mai	27.01	261	eP	P	06 23 48.7	+0.3
CHTO				pmax	pmax		
	comp=Z,25nm,1.0s						
CHTO	Chiang Mai	27.01	261	P	P	06 23 48.7	+0.3
	SNR=9.3						
CHTO	Chiang Mai	27.01	261	P	P	06 23 48.7	+0.3
	SNR=9.3						
CM01	Chiang Mai Arr	27.13	260	eP	P	06 23 49.3	-0.1
CM01				epP	P	06 23 49.7	+0.2
CM31	Chiang Mai Arr	27.13	260	eP	P	06 23 49.6	+0.2
CMAR	Chiang Mai Arr	27.13	260	P	P	06 23 49.5	0.0
	comp=Z,9.4nm,1.1s,baz=60,slow=8.1,SNR=33						
CMAR				PcP	PcP	06 27 10.8	+1.2
	comp=Z,1.0nm,0.3s,baz=31,slow=0.9,SNR=4.9						
CMAR				LR	LR	06 35 24.6	
	comp=Z,160nm,18.3s,baz=54,slow=38						
SBUM	Sibu	27.20	214	eP	P	06 23 50.1	0.0
	comp=Z,29nm,1.0s						
ULN	Ulaanbaatar	27.30	330	eP	P	06 23 50.2	-0.7
	comp=Z,41nm,1.1s						
ULN	Ulaanbaatar	27.30	330	eP	P	06 23 50.2	-0.7
ULN				pmax	pmax		
	comp=Z,41nm,1.1s						
ULN	Ulaanbaatar	27.30	330	P	P	06 23 50.5	-0.4
	SNR=15						
ULN	Ulaanbaatar	27.30	330	P	P	06 23 50.5	-0.4
	SNR=15						
SANI	Sanana	27.54	183	P	P	06 23 55.2	+2.1
	comp=Z,78nm,0.7s						
SONA0	Songino Array	27.58	329	eP	P	06 23 52.3	-1.1
SONA0				ePcP	PcP	06 27 11.5	+1.2
SONM	Songino Array	27.58	329	P	P	06 23 52.3	-1.1
	comp=Z,28nm,0.9s,baz=268,slow=31,SNR=24						
SONM				PcP	PcP	06 27 11.5	+1.2
	comp=Z,2.1nm,0.8s,baz=153,slow=4.5,SNR=3.5						
SONM				LR	LR	06 36 40.7	
	comp=Z,1µm,18.3s,baz=157,slow=40						
SONA1	Songino Array	27.59	329	eP	P	06 23 52.6	-0.8
UTHA	Uthaitani	27.81	254	P	P	06 23 58.1	+2.5
	comp=Z,3.4nm,1.4s,comp=Z,86nm						
TYV	Tymovskoe	27.84	21	eP	P	06 23 56.0	+0.5
TYV				pmax	pmax		
	comp=Z,500nm,5.5s						
TYV				pmax	pmax		
	comp=Z,24nm,1.4s						
ZEA	Zeya	28.07	0	eP	P	06 23 57.9	+0.4
ZEA				pmax	pmax		
	comp=Z,28nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,2µm,16.0s						
ZEA				MLR	MLR		
	comp=N,1µm,15.0s						
PHET	Kaeng Krachan	28.88	249	P	P	06 24 07.0	+1.9
	comp=N,7.7nm,0.9s						
KSM	Kuching	29.03	217	eP	P	06 24 04.8	-1.6
	comp=N,32nm,1.3s						
NKL	Nikolayevsk	29.29	17	eP	P	06 24 07.8	-0.5
NKL				pmax	pmax		
	comp=N,19nm,1.0s						
NKL				pmax	pmax		
	comp=Z,43nm,1.0s						
NKL				MLR	MLR		
	comp=E,500nm,15.0s						
NKL				MLR	MLR		
	comp=Z,600nm,15.0s						
ZAK	Zakamensk	30.83	330	eP	P	06 24 20.5	-1.7
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
TLY	Talaya	31.60	332	eP	P	06 24 27.8	-1.0
	comp=Z,33nm,1.1s						
TLY	Talaya	31.60	332	eP	P	06 24 28.3	-0.5
TLY				pmax	pmax		
	comp=Z,33nm,1.0s						
TLY				MLR	MLR		
	comp=Z,636nm,16.0s						
TLY	Talaya	31.60	332	P	P	06 24 27.9	-0.9
	SNR=21						
TLY	Talaya	31.60	332	P	P	06 24 27.9	-0.9
	SNR=21						
SURT	Suratani	31.69	244	P	P	06 24 31.6	+1.6
	comp=Z,13nm,1.2s						
IRK	Irkutsk	31.75	333	eP	P	06 24 29.1	-1.0
IRK				pmax	pmax		
	comp=Z,70nm,2.0s						
SHL	Shillong	31.82	278	eP	P	06 24 34.5	+3.3
SHL				eS	S	06 29 45.0	+5.9
LSA	Lhasa	32.12	286	P	P	06 24 34.7	+0.5
LSA				pmax	pmax		
	comp=Z,23nm,0.8s						
LSA	Lhasa	32.12	286	eP	P	06 24 34.0	-0.2
	comp=Z,15nm,0.7s						
LSA	Lhasa	32.12	286	eP	P	06 24 34.0	-0.2
LSA				pmax	pmax		
	comp=Z,15nm,0.7s						
IPM	Ipoh	32.76	234	eP	P	06 24 39.7	+0.3
	comp=Z,19nm,0.9s						
IPM				epP	pP	06 24 51.4	+0.8
MOY	Mondy	32.77	329	eP	P	06 24 38.4	-0.7
MOY				pmax	pmax		
	comp=Z,52nm,1.6s						
TAPN	Taplejung	35.31	282	eP	P	06 25 02.1	+0.4
	comp=Z,216nm,1.3s						
PSI	Prapat	35.43	235	P	P	06 25 01.1	-1.6
	comp=Z,3.6nm,0.7s,baz=14,slow=4.2,SNR=3.3						
PSI				LR	LR	06 39 53.0	
	comp=Z,132nm,19.9s,baz=8.0,slow=37						
PSI	Prapat	35.43	235	eP	P	06 25 01.1	-1.6
	comp=Z,16nm,1.1s						
ODAN	Odare	35.65	281	eP	P	06 25 05.1	+0.5
	comp=Z,408nm,1.1s						
PETK	Petropavlovsk-	35.68	32	P	P	06 25 03.9	-0.3
	comp=Z,13nm,0.9s,baz=217,slow=4.7,SNR=7.9						
PETK				pP	pP	06 25 16.3	+0.7

comp=Z,15nm,0.8s,baz=205,slow=4.7,SNR=6.8
PETK LR LR 06 40 10.1
comp=Z,197nm,20.8s,baz=230,slow=37
PETK Petropavlovsk- 35.68 32 *e*P **P 06 25 03.3 -1.0**
PETK pP **pP 06 25 16.3 +0.7**
PETK Petropavlovsk- 35.68 32 *e*P **P 06 25 03.3 -1.0**
PETK *PP **pP 06 25 16.3 +0.7**
PEA1 Petropavlovsk- 35.69 32 *e*P **P 06 25 03.9 -0.4**
PEA1 *e*pP **pP 06 25 16.3 +0.7**
WSI Waingapu 35.73 192 P P 06 25 18.5 +14
BATI Baumata 35.79 186 LR LR 06 40 24.9
comp=Z,94nm,20.9s,baz=328,slow=37
HVS Khovu-Aksy 36.08 324⇓ *i*P **P 06 25 07.5 -0.3**
HVS pmax pmax
comp=Z,64nm,1.0s
PET Petropavlovsk 36.09 32 *e*P **P 06 25 07.6 -0.1**
comp=Z,103nm,1.3s
PET *e*pP **pP 06 25 18.9 -0.1**
PET Petropavlovsk 36.09 32⇑ *i*P **P 06 25 07.9 +0.2**
PET *e**PP **pP 06 25 18.5 -0.5**
PET *e*S **S 06 30 43.8 -0.3**
PET pmax pmax
comp=Z,69nm,1.3s
RAMN Ramite 36.34 281 *e*P **P 06 25 10.8 +0.3**
comp=Z,148nm,1.2s
YAK Yakutsk 36.43 2 *e*P **P 06 25 08.7 -1.8**
YAK *e*pP **pP 06 25 21.9 +0.1**
YAK Yakutsk 36.43 2 *e*P **P 06 25 07.9 -2.6**
YAK *e**PP **pP 06 25 21.2 -0.7**
YAK *e* 06 26 59.7
YAK *e* 06 27 32.1
YAK *e*S **S 06 30 41.4 -7.7**
YAK pmax pmax
comp=Z,34nm,1.1s
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=Z,290nm,5.4s
YAK pmax pmax
comp=N,75nm,5.3s
YAK pmax pmax
comp=E,200nm,5.3s
YAK smax smax
comp=E,204nm,4.9s
YAK smax smax
comp=N,211nm,5.7s
YAK MLR MLR
comp=Z,675nm,21.0s
YAK MLR MLR
comp=N,758nm,20.0s
JIRN Jiri 36.62 282 *e*P **P 06 25 13.1 +0.1**
comp=N,69nm,0.9s
WMQ Urumqi 36.79 310 P **P 06 25 13.7 -0.3**
WMQ pP pP 06 25 25.6 +0.3
WMQ PcP **PcP 06 27 36.2 +0.7**
WMQ pmax pmax
comp=N,93nm,1.7s
WMQ pmax pmax
comp=N,360nm,4.3s
WMQ LR LR
comp=N,1μm,12.9s
WMQ LR LR
comp=N,2μm,17.1s
WMQ LR LR
comp=N,1μm,17.1s
GUN Gumba 36.86 283 *e*P **P 06 25 15.2 +0.1**
comp=N,223nm,1.4s
H11N1 WAKE ISLAND Hy 36.97 91 T T 07 04 41.4
baz=283,slow=75,SNR=4.6
H11N2 WAKE ISLAND Hy 36.97 91 T T 07 04 48.0
baz=283,slow=75,SNR=6.1
H11N3 WAKE ISLAND Hy 36.99 91 T T 07 04 42.4
baz=283,slow=75,SNR=5.3
H11S3 WAKE ISLAND Hy 37.15 93 T T 07 04 45.7
baz=290,slow=74,SNR=6.7
H11S1 WAKE ISLAND Hy 37.16 93 T T 07 04 45.9
baz=290,slow=74,SNR=9.0
H11S2 WAKE ISLAND Hy 37.17 93 T T 07 04 47.1
baz=290,slow=74,SNR=8.2
PKI Pulchoki 37.31 282 *e*P **P 06 25 18.8 -0.1**
comp=N,211nm,1.2s
PKIN Phulchoki 37.32 282 *e*P **P 06 25 19.0 +0.1**
comp=N,96nm,0.8s
KKN Kakani 37.40 283 *e*P **P 06 25 19.5 0.0**
comp=N,111nm,0.8s
DMN Daman 37.58 283 *e*P **P 06 25 20.9 -0.1**
comp=N,279nm,1.3s
MA2 Magadan 37.67 19 LR LR 06 43 14.6
comp=N,125nm,18.0s,baz=193,slow=40
MA2 Magadan 37.67 19*c i*P **P 06 25 20.8 -0.3**
MTN Manton Dam 38.43 174 *e*P **P 06 25 25.9 -2.0**
comp=N,43nm,0.7s
DANN Dangsing 38.67 284 *e*P **P 06 25 30.9 +0.6**
comp=N,15nm,0.8s
KOLN Koldanda 38.88 283 *e*P **P 06 25 32.2 +0.2**
comp=N,331nm,1.1s
PYUN Piuthan 39.38 284 *e*P **P 06 25 36.6 +0.5**
comp=N,467nm,1.1s
PMG Port Moresby 39.87 148 LR LR 06 39 20.2
comp=N,112nm,21.5s,baz=328,slow=32
SEY Seymchan 40.86 17 P **P 06 25 48.1 +0.5**
comp=N,45nm,0.9s,baz=218,slow=8.3,SNR=147
SEY pP **pP 06 26 00.0 +0.9**
comp=N,82nm,0.8s,baz=226,slow=9.4,SNR=26
MK01 Makanchi Array 41.25 313 *e*P **P 06 25 50.1 -1.0**
MK31 Makanchi Array 41.27 313 *e*P **P 06 25 50.3 -1.0**
MK31 Makanchi Array 41.27 313 *e*P **P 06 25 50.3 -1.0**
MK32 Makanchi Array 41.27 313 *e*P **P 06 25 50.3 -1.0**
MK32 *e*PcP **PcP 06 27 50.2 +0.7**
MK32 *e* 06 28 02.1
MKAR Makanchi Array 41.27 313 P **P 06 25 50.3 -1.0**
comp=N,24nm,0.8s,baz=99,slow=10,SNR=224
MKAR PcP **PcP 06 27 50.2 +0.7**
comp=N,6.8nm,1.0s,baz=99,slow=4.4,SNR=3.7
MKAR pPcP 06 28 02.1
comp=N,4.3nm,0.6s,baz=86,slow=2.7,SNR=5.9
MKAR LR LR 06 44 52.4
comp=N,391nm,19.7s,baz=96,slow=39
MKAR Makanchi Array 41.27 313 *e*P **P 06 25 50.3 -1.0**
comp=N,148nm,0.8s
MKAR PcP **PcP 06 27 50.2 +0.7**
MKAR Makanchi Array 41.27 313 *i*P **P 06 25 50.4 -0.9**
MKAR pmax pmax
comp=Z,24nm,0.8s
MAKZ Makanchi 41.48 313 *e*P **P 06 25 52.3 -0.7**
comp=Z,66nm,1.0s
MAKZ Makanchi 41.48 313 *e*P **P 06 25 52.3 -0.7**
MAKZ pmax pmax
comp=Z,66nm,1.0s
ZAA0 Zalesovo Array 42.18 324 *e*P **P 06 25 57.4 -1.2**
comp=Z,40nm,0.7s
ZALV Zalesovo Beam 42.18 324 P **P 06 25 57.5 -1.2**
comp=Z,36nm,1.0s,baz=110,slow=8.1,SNR=77
ZALV pP **pP 06 26 09.6 -0.6**
comp=Z,36nm,0.6s,baz=112,slow=7.8,SNR=23
ZALV PcP **PcP 06 27 53.1 +0.8**
comp=Z,2.9nm,0.9s,baz=119,slow=5.3,SNR=2.7
ZALV pPcP 06 28 04.3
comp=Z,1.8nm,0.5s,baz=121,slow=5.3,SNR=4.5
ZALV LR LR 06 45 08.2
comp=Z,692nm,18.4s,baz=74,slow=38
ZAA1 Zalesovo Array 42.19 324 *e*P **P 06 25 57.5 -1.2**
ZAA1 *e*pP **pP 06 26 09.6 -0.6**
ZAA1 *e*PcP **PcP 06 27 53.1 +0.8**
ZAA1 *e* 06 28 04.3
COEN Coen 42.30 157 *e*P **P 06 25 59.7 -0.2**
COEN *e*pP **pP 06 26 11.1 -0.4**
PDGK Podgornoye 42.51 307 *i*P **P 06 26 00.9 -0.7**
PDGK pmax pmax
comp=Z,98nm,1.1s
UZB Uzynbulak 42.82 307 *e*P **P 06 26 03.7 -0.5**
comp=Z,632nm,1.2s
UZB *i*pP **pP 06 26 15.2 -0.5**
UZB *i*sP **sP 06 26 20.2 -0.4**
UZB *e*S **S 06 32 25.5 -0.2**
KPKS Kokpek 43.11 307 *e*P **P 06 26 06.5 0.0**
comp=Z,129nm,1.2s
PRZ Przheval'sk 43.19 306 P **P 06 26 07.8 +0.6**
PRZ pmax pmax
comp=Z,65nm,1.2s
SATY Saty 43.25 306 *e*P **P 06 26 07.5 -0.1**
comp=Z,900nm,1.2s
NVS Novosibirsk 43.40 324 *e*P **P 06 26 07.2 -1.2**
NVS *e* 06 26 17.4
NVS *e*S **S 06 32 34.8 +1.3**
NVS pmax pmax
comp=Z,56nm,1.4s
NVS pmax pmax
comp=N,18nm,1.5s
NVS pmax pmax
comp=E,43nm,1.5s
NVS smax smax
comp=N,26nm,1.4s
FITZ Fitzroy Crossi 43.49 182 P **P 06 26 08.4 -1.1**
comp=N,16nm,0.8s,baz=4.7,slow=14,SNR=31
TDK Taldyqorghan 43.54 309 *e*P **P 06 26 09.1 -0.7**
comp=N,1μm,1.2s
SEM Semipalatinsk 43.55 317⇓ *e*P **P 06 26 08.9 -1.1**
comp=N,873nm,1.0s
SEM LR LR 06 45 08.4
comp=N,624nm,15.2s
KDJ Kajisay 44.05 305 P **P 06 26 12.1 -2.0**
KDJ pmax pmax
comp=Z,49nm,1.0s
MDOK Medeo 44.25 306 *e*P **P 06 26 15.3 -0.5**
comp=Z,223nm,1.1s
MDOK *i*pP **pP 06 26 26.6 -0.7**
MDOK LR LR 06 46 00.6
comp=Z,293nm,14.5s
AAA Alma-Ata 44.35 306 LR LR 06 46 09.0
comp=Z,389nm,16.2s
KURK Kurchatov 44.64 317 *e*P **P 06 26 17.5 -0.9**
comp=Z,39nm,0.8s
KURK *e*P **P 06 26 17.9 -0.5**
KURK *e*PcP **PcP 06 28 00.6 0.0**
KURK Kurchatov 44.64 317*d i*P **P 06 26 17.4 -0.9**
KURK pmax pmax
comp=Z,83nm,1.3s
KURK Kurchatov 44.64 317 P **P 06 26 17.5 -0.9**
SNR=23
KURK Kurchatov 44.64 317 P **P 06 26 17.5 -0.9**
SNR=23
KURBB Kurchatov Arra 44.67 317 P **P 06 26 17.9 -0.8**
comp=Z,31nm,1.0s,baz=106,slow=8.2,SNR=102
KURBB PcP **PcP 06 28 00.6 -0.1**
comp=Z,3.4nm,0.8s,baz=112,slow=3.0,SNR=3.9
ULHL Ulahol 44.75 305 P **P 06 26 19.9 +0.2**
SNR=9.6
KSH Kashi 44.79 301 P **P 06 26 23.3 +3.3**
KSH pP pP 06 26 33.3 +1.7
KSH PP **PP 06 28 07.5 +2.5**
KSH S **S 06 32 57.3 +2.8**
KSH sS sS 06 33 17.4 +3.6
KSH SS **ScS 06 36 11.0 -3.3**
KSH pmax pmax
comp=Z,28nm,1.0s
KSH pmax pmax
comp=Z,210nm,7.8s
KSH LR LR
comp=Z,120nm,7.9s
KSH LR LR
comp=Z,280nm,8.0s
KSH LR LR
comp=Z,670nm,18.4s
KUU Kurty 44.85 307⇓ *e*P **P 06 26 20.1 -0.2**
comp=Z,289nm,1.2s
KUU *e*S **S 06 32 54.6 -0.4**
KUU LR LR 06 46 26.2
comp=Z,118nm,13.5s
NRN Naryn 44.87 304 P **P 06 26 21.1 +0.2**
NRN pmax pmax
comp=Z,68nm,1.2s
TKM2 Tokmak 2 45.29 306 P **P 06 26 24.3 +0.3**
SNR=15
TKM2 Tokmak 2 45.29 306 *i*P **P 06 26 24.1 +0.1**
TKM2 pmax pmax
comp=Z,62nm,1.0s
KZA Kyzart 45.48 305 P **P 06 26 26.6 +0.9**
SNR=24
KBK Karagaybulak 45.74 305 P **P 06 26 27.7 +0.1**
SNR=14
HYB Hyderabad 45.80 270 *i*P **P 06 26 28.0 -0.2**
WRAB Tennant Creek 45.82 171 *e*P **P 06 26 27.1 -0.9**
comp=Z,67nm,0.7s
WRAB Tennant Creek 45.82 171*c i*P **P 06 26 27.0 -1.1**
WRAB pmax pmax
comp=Z,72nm,1.2s
WR1 Warramunga Arr 45.82 171 *e*P **P 06 26 26.7 -1.4**
WR1 *e*pP **pP 06 26 39.0 -0.8**
WRA Warramunga Arr 45.82 171 P **P 06 26 26.7 -1.4**
comp=Z,32nm,0.8s,baz=351,slow=8.2,SNR=124
WRA pP **pP 06 26 39.0 -0.8**
comp=Z,68nm,0.7s,baz=352,slow=8.3,SNR=34
CHMS Chumysh 45.91 306 P **P 06 26 28.7 0.0**
SNR=20
FRU Bishkek 46.00 306 *e*P **P 06 26 29.0 -0.4**
FRU pmax pmax
comp=Z,70nm,2.0s
UCH Uchtor 46.03 305 P **P 06 26 31.1 +1.0**
SNR=52
TIXI Tiksi 46.06 1 LR LR 06 47 00.5
comp=Z,493nm,19.8s,baz=192,slow=38
TIXI Tiksi 46.06 1 *e*P **P 06 26 28.6 -0.8**
comp=Z,12nm,0.7s
TIXI Tiksi 46.06 1⇑ *e*P **P 06 26 28.4 -1.0**
AAK Ala-Archa 46.07 305 LR LR 06 48 43.7
comp=Z,461nm,19.7s,baz=70,slow=40
AAK Ala-Archa 46.07 305 P **P 06 26 30.6 +0.5**
SNR=8.5
AAK Ala-Archa 46.07 305 *e*P **P 06 26 29.6 -0.6**
comp=Z,17nm,1.0s
AAK Ala-Archa 46.07 305⇓ *e*P **P 06 26 29.9 -0.3**
AAK pmax pmax
comp=Z,72nm,1.7s
AAK Ala-Archa 46.07 305 P **P 06 26 30.2 0.0**
SNR=7.0
AAK Ala-Archa 46.07 305 P **P 06 26 30.2 0.0**
SNR=7.0
USP Ospenovka 46.12 306 P **P 06 26 30.3 -0.1**
SNR=11
EKS2 Erkin-Say 46.60 305 P **P 06 26 34.0 -0.3**
SNR=13
BTLS Baital 46.61 309⇓ *e*P **P 06 26 33.5 -0.6**
comp=Z,452nm,1.1s
BTLS *e*S **S 06 33 20.2 -0.1**
AML Almayashu 46.63 305 P **P 06 26 35.6 +0.7**
SNR=14
SFK Sufi-Kurgan 46.70 302 *i*P **P 06 26 35.2 -0.1**
SFK pmax pmax
comp=Z,23nm,1.1s
MNAS Manas 47.53 305 *i*P **P 06 26 41.5 -0.1**
MNAS pmax pmax
comp=Z,37nm,1.4s
PALK Pallekele 47.91 256 LR LR 06 47 06.2
comp=Z,151nm,21.8s,baz=116,slow=36
PALK Pallekele 47.91 256 *e*P **P 06 26 42.9 -1.8**
comp=Z,25nm,1.3s
PALK Pallekele 47.91 256 *i*P **P 06 26 47.0 +2.3**
OTUK Ortayu 48.16 313 P **P 06 26 45.8 -0.4**
OTUK pmax pmax
comp=Z,60nm,1.3s
BRZS Berezniki 48.20 315 LR LR 06 47 23.1
comp=Z,67nm,5.7s
DZA Taraz 48.41 306 *e*P **P 06 26 47.8 -0.4**
comp=Z,339nm,0.6s
KK31 Karatay Array 49.02 306 *i*P **P 06 26 52.9 0.0**
KK31 pmax pmax
comp=Z,32nm,1.0s
KKAR Karatay Array 49.02 306 *e*P **P 06 26 53.1 +0.2**
KKAR Karatay Array 49.02 306 *e*P **P 06 26 53.1 +0.2**
CTAO Charters Tower 49.06 156 *e*P **P 06 26 53.6 +0.3**
comp=Z,62nm,1.4s
CTAO Charters Tower 49.06 156 *e*P **P 06 26 53.6 +0.3**
CTAO pmax pmax
comp=Z,63nm,1.4s
IUG Iuzhnay 49.36 305 *e*P **P 06 26 54.5 -1.1**
comp=Z,407nm,1.1s
AS31 Alice Springs 49.43 172 *e*P **P 06 26 55.8 -0.3**
AS31 *e*pP **pP 06 27 07.3 -0.5**
AS31 *e* 06 28 29.9
ASAR Alice Springs 49.43 172 P **P 06 26 55.3 -0.8**
comp=Z,8.1nm,0.8s,baz=358,slow=8.6,SNR=66
ASAR pP **pP 06 27 07.3 -0.5**
comp=Z,25nm,0.7s,baz=358,slow=8.7,SNR=28
ASAR pPcP 06 28 29.9
comp=Z,5.4nm,0.8s,baz=356,slow=3.9,SNR=3.7
AS01 Alice Springs 49.43 172 *e*P **P 06 26 55.4 -0.7**
CHM Chimkent 49.68 305 *e*P **P 06 26 56.9 -1.0**
comp=Z,588nm,1.3s
POO Poona 49.69 273 *e*P P 06 26 50.0 -8.4
BVA0 Borovoye Array 50.12 319 P **P 06 27 00.3 -0.8**
BVA0 pmax pmax
comp=Z,44nm,1.2s
BVAR Borovoye Array 50.12 319 P **P 06 27 00.4 -0.7**
comp=Z,8.1nm,0.6s,baz=106,slow=7.0,SNR=49
BVAR pP **pP 06 27 12.7 -0.1**
comp=Z,44nm,0.6s,baz=102,slow=8.9,SNR=31
BVAR LR LR 06 49 52.7
comp=Z,542nm,19.2s,baz=96,slow=38
BRVK Borovoye 50.19 319 *e*P **P 06 27 01.4 -0.2**
comp=Z,115nm,1.2s
BRVK Borovoye 50.19 319*d i*P **P 06 27 01.1 -0.5**
BRVK pmax pmax
comp=Z,64nm,1.2s
BRVK Borovoye 50.19 319 P **P 06 27 01.2 -0.3**
SNR=25
BRVK Borovoye 50.19 319 P **P 06 27 01.2 -0.3**
SNR=25
KBL Kabul 50.53 295 *e*P **P 06 27 05.1 +0.4**
comp=Z,275nm,1.4s
KBL Kabul 50.53 295 *e*P **P 06 27 05.1 +0.4**
KBL pmax pmax
comp=Z,275nm,1.4s
GAMB Gambell 54.59 28 *e*P **P 06 27 34.6 +0.6**
comp=Z,24nm,1.2s
SVE Sverdlovsk 56.18 323*d i*P **P 06 27 46.1 +0.5**
SVE pmax pmax
comp=Z,132nm,1.3s
SVE MLR MLR
comp=Z,1μm,16.0s
ARU Arti 57.30 322 LR LR 06 55 05.9
comp=Z,1μm,18.8s,baz=88,slow=39
ARU Arti 57.30 322 *e*P **P 06 27 53.2 -0.4**
comp=Z,98nm,1.1s
ARU Arti 57.30 322*c i*P **P 06 27 53.4 -0.1**
ARU *e**PP **pP 06 28 04.5 -1.0**
ARU 06 28 45.0
ARU 06 29 57.4
ARU S **S 06 35 48.2 +1.5**
ARU SS **SS 06 39 32.4 -3.7**
ARU pmax pmax
comp=Z,119nm,1.2s
ARU MLR MLR
comp=Z,1μm,19.0s
AKTO Aktyubinsk 57.61 315 P **P 06 27 56.0 +0.1**
comp=Z,14nm,1.0s,baz=92,slow=11,SNR=15
AKTO LR LR 06 55 09.7
comp=Z,308nm,18.8s,baz=82,slow=38
AKTO Aktyubinsk 57.61 315 P **P 06 27 56.0 +0.1**
AKTO pmax pmax
comp=Z,15nm,1.0s
AKTO MLR MLR
comp=Z,308nm,18.8s
GEYT Alibeck 58.81 300 P **P 06 28 05.2 +0.7**
comp=Z,32nm,0.9s,baz=90,slow=3.0,SNR=44
GEYT pP **pP 06 28 17.6 +1.2**
comp=Z,30nm,0.6s,baz=72,slow=3.7,SNR=18
GEYT LR LR 06 58 09.8
comp=Z,342nm,18.1s,baz=70,slow=41
STKA Stephens Creek 58.81 166 P **P 06 28 03.6 -0.7**
comp=Z,16nm,1.2s,baz=339,slow=9.5,SNR=7.8
STKA pP **pP 06 28 15.5 -0.8**
comp=Z,15nm,0.7s,baz=340,slow=6.9,SNR=12
STKA LR LR 06 52 21.3
comp=Z,48nm,21.9s,baz=23,slow=35
DZM Mont Dzumac 60.79 138 P **P 06 28 17.9 -0.3**
comp=Z,10nm,1.0s,baz=312,slow=16,SNR=3.9
DZM LR LR 06 50 20.1
comp=Z,49nm,21.8s,baz=226,slow=32
DZM Mont Dzumac 60.79 138 *e*P **P 06 28 17.9 -0.3**
comp=Z,18nm,1.0s
SVW2 Sparrevohn 61.76 33 *e*P **P 06 28 25.5 +1.4**
comp=Z,21nm,1.0s
WSAR Wadi Sarin 61.84 284 P **P 06 28 25.1 -0.3**
comp=Z,14nm,0.9s,baz=117,slow=6.8,SNR=4.5
IM3 Indian Mountai 62.43 27 *e*P **P 06 28 29.4 +0.8**
PPLA Purkeypile 63.26 30 *e*P **P 06 28 35.1 +0.7**
comp=Z,18nm,0.9s
CAST Castle Rocks 63.27 30 *e*P **P 06 28 35.3 +1.1**
comp=Z,25nm,1.0s
SPU Mount Spurr 63.46 32 *e*P **P 06 28 36.0 +0.4**
KDAK Kodiak Island 63.54 36 P **P 06 28 35.7 -0.3**
comp=Z,46nm,1.1s,baz=298,slow=4.1,SNR=16
KDAK pP **pP 06 28 49.9 +1.8**
comp=Z,21nm,0.7s,baz=269,slow=7.7,SNR=6.3
KDAK Kodiak Island 63.54 36 *e*P **P 06 28 36.0 -0.1**
comp=Z,60nm,1.1s
KDAK pP **pP 06 28 49.9 +1.8**
KDAK Kodiak Island 63.54 36 *i*P **P 06 28 36.1 +0.1**
BPAW Bear Paw Mtn. 63.70 29 *e*P **P 06 28 38.2 +1.1**
comp=Z,16nm,1.0s
MLY Manley 63.73 28 *e*P **P 06 28 38.6 +1.3**
comp=Z,34nm,1.1s
KTH Kantishna Hill 63.77 30 *e*P **P 06 28 38.2 +0.6**
comp=Z,12nm,1.0s
COLD Coldfoot 63.79 25 *e*P **P 06 28 38.8 +1.2**
comp=Z,8.0nm,0.8s
TOLK Toolik Lake Re 63.93 24 P **P 06 28 39.6 +1.0**
baz=274
TOLK Toolik Lake Re 63.93 24 *e*P **P 06 28 39.8 +1.2**
comp=Z,42nm,1.1s
SUA Susitna One 64.06 32 *e*P **P 06 28 39.2 -0.4**
comp=Z,26nm,0.8s
TRF Thorofare Moun 64.07 30 *e*P **P 06 28 40.3 +0.6**
comp=Z,19nm,1.2s
BRLK Bradley Lake 64.19 34 *e*P **P 06 28 40.7 +0.3**
BRLK *e*pP **pP 06 28 50.7 -1.7**
RC01 Rabbit Creek A 64.59 32 *e*P **P 06 28 43.5 +0.6**
comp=Z,87nm,1.8s
MCK McKinley 64.64 29 *e*P **P 06 28 43.9 +0.7**
comp=Z,28nm,0.8s
MCK McKinley 64.64 29 *e*P **P 06 28 43.9 +0.7**
MCK pmax pmax
comp=Z,28nm,0.8s
RND Reindeer 64.71 30 *e*P **P 06 28 43.8 0.0**
comp=Z,41nm,0.8s
RND Reindeer 64.71 30 *e*P **P 06 28 43.8 0.0**
RND pmax pmax
comp=Z,41nm,0.8s
MDM Murphy Dome 64.80 28 *e*P **P 06 28 45.6 +1.4**
comp=Z,53nm,0.8s
PMR Palmer 64.81 32 *e*P **P 06 28 44.3 0.0**
comp=Z,51nm,1.6s
PMR Palmer 64.81 32 *e*P **P 06 28 44.3 0.0**
PMR pmax pmax
comp=Z,51nm,1.6s
SEW Seward 64.86 33 *e*P **P 06 28 45.0 +0.3**
SEW *e*pP **pP 06 28 55.8 -1.0**
COLA College 64.97 28 *e*P **P 06 28 46.0 +0.7**
comp=Z,13nm,0.8s
COLA College 64.97 28 *e*P **P 06 28 46.0 +0.7**
COLA pmax pmax
comp=Z,13nm,0.8s
CCB Clear Creek Bu 65.02 28 *e*P **P 06 28 46.5 +0.8**
comp=Z,8.9nm,0.7s
SML Sawmill 65.16 31 *e*P **P 06 28 47.3 +0.6**
comp=Z,41nm,1.3s
SML Sawmill 65.16 31 *e*P **P 06 28 47.3 +0.6**
SML pmax pmax
comp=Z,41nm,1.3s
IL1 Eielson Array 65.39 28 *e*P **P 06 28 47.3 -0.8**
ILAR Eielson Array 65.39 28 P **P 06 28 47.6 -0.5**
comp=Z,3.0nm,0.7s,baz=267,slow=6.1,SNR=28
ILAR pP **pP 06 29 01.6 +1.4**
comp=Z,5.0nm,0.7s,baz=272,slow=6.5,SNR=14
ILB Eielson Array 65.39 28 *e*P **P 06 28 47.8 -0.3**
ILB *e*pP **pP 06 29 01.6 +1.4**
HDA Harding Lake 65.42 28 *e*P **P 06 28 48.3 0.0**
comp=Z,34nm,0.8s
SCM Sheep Creek Mo 65.63 31 *e*P **P 06 28 50.7 +0.9**
comp=Z,85nm,1.4s
SCM Sheep Creek Mo 65.63 31 *e*P **P 06 28 50.7 +0.9**
SCM pmax pmax
comp=Z,85nm,1.4s
FYU Fort Yukon 65.81 26 *e*P **P 06 28 52.5 +1.7**
comp=Z,55nm,1.4s
PAX Paxson 66.30 30 *e*P **P 06 28 54.9 +0.9**
comp=Z,14nm,0.7s
PAX Paxson 66.30 30 *e*P **P 06 28 54.9 +0.9**
PAX pmax pmax
comp=Z,14nm,0.7s
KLU Klutina 66.35 32 *e*P **P 06 28 55.1 +0.7**
comp=Z,36nm,1.4s
RIDG Independ'e Rid 66.44 29 *e*P **P 06 28 55.1 +0.2**
comp=Z,18nm,0.7s
DIV Divide 66.48 32 *e*P **P 06 28 56.3 +1.0**
comp=Z,36nm,1.0s

HARP **HAARP** 66.54 30 eP P 06 28 56.5 +0.9
comp=Z,27nm,0.8s
DOT **Dot Lake** 66.80 29 eP P 06 28 57.2 0.0
comp=Z,57nm,0.9s
KLMR **Klimovskoe** 66.87 328 eP P 06 28 55.1 -2.5
KLMR e 06 31 21.7
KLMR pmax pmax
comp=Z,47nm,1.5s
KLMR **Klimovskoe** 66.87 328 eP P 06 28 55.2 -2.4
KLMR AMP 06 29 00.4
comp=Z,47nm,1.5s
KLMR ePP PP 06 31 21.7 -3.2
KLMR LQ LQ 06 53 37.6
KLMR LQ LQ 06 53 37.6
KLMR LR LR 07 00 45.7
TMCR **Tamitsa** 66.90 332 eP P 06 28 57.4 -0.3
TMCR pmax pmax
comp=Z,71nm,1.0s
BMRM **Bremner River** 67.07 32 eP P 06 28 59.7 +0.7
comp=Z,26nm,0.9s
MENT **Mentasta** 67.09 30 eP P 06 28 60.0 +1.0
comp=Z,23nm,1.0s
RAGM **Ragged Mountai** 67.16 33 eP P 06 29 00.4 +0.9
comp=Z,76nm,1.3s
VRH **Novokhopyorsk** 67.73 317 eP P 06 29 02.2 -1.0
VRH e*PP pP 06 29 13.4 -2.0
VRH pmax pmax
comp=Z,40nm,1.1s
EGAK **Eagle** 67.81 28 eP P 06 29 04.2 +0.7
comp=Z,7.1nm,0.6s
APA **Apatity** 68.03 336⇑iP P 06 29 03.2 -1.6
APA i 06 29 15.2
APA iPPP PPP 06 33 17.0
APA iS S 06 37 51.0 -10
APA eSSS SSS 06 45 15.0
APA pmax pmax
comp=Z,22nm,1.1s
APA MLR MLR
comp=Z,800nm,12.0s
ZEI **Tsey** 68.38 308 eP P 06 29 06.8 -1.0
ZEI pmax pmax
comp=Z,31nm,0.7s
GOF **Gofitskoye** 68.39 311⇑eP P 06 29 07.2 -0.3
GOF pmax pmax
comp=Z,82nm,1.7s
GNI **Garni** 68.48 305 LR LR 07 03 48.0
comp=Z,179nm,18.7s,baz=92,slow=40
GNI **Garni** 68.48 305c iP P 06 29 10.0 +1.6
GNI pmax pmax
comp=Z,128nm,1.2s
DAWY **Dawson** 68.72 28 eP P 06 29 10.0 +0.7
comp=Z,13nm,1.0s
KBZ **Khabaz** 68.84 309 P P 06 29 11.2 +0.9
comp=Z,22nm,0.8s,baz=89,slow=4.0,SNR=34
KBZ pP pP 06 29 23.3 +0.8
comp=Z,38nm,0.8s,baz=147,slow=4.0,SNR=17
KBZ LR LR 07 03 19.1
comp=Z,262nm,18.6s,baz=59,slow=39
KVAR **Kislovodsk Arr** 68.92 310 LR LR 07 03 20.7
comp=Z,254nm,18.6s,baz=129,slow=39
KIV **Kislovodsk** 68.92 310 eP P 06 29 11.7 +0.7
comp=Z,61nm,0.9s
KIV **Kislovodsk** 68.92 310 eP P 06 29 11.5 +0.5
KIV pmax pmax
comp=Z,44nm,1.0s
KIV MLR MLR
comp=Z,207nm,17.0s
KIV **Kislovodsk** 68.92 310 P P 06 29 12.1 +1.1
SNR=11
KIV **Kislovodsk** 68.92 310 P P 06 29 12.1 +1.1
SNR=11
MOS **Moscow** 69.00 323 eP P 06 29 08.3 -2.8
MOS e 06 29 20.6
MOS pmax pmax
comp=Z,104nm,1.2s
AKH **Akhalkalaki** 69.05 307⇓iP P 06 29 13.4 +1.5
AKH **Akhalkalaki** 69.05 307 eP P 06 29 12.7 +0.8
AKH epP pP 06 29 24.5 +0.4
AKH **Akhalkalaki** 69.05 307 eP P 06 29 12.7 +0.8
AKH e*PP pP 06 29 24.5 +0.4
LPSR **Galich'ya Gora** 69.07 319 eP P 06 29 10.9 -0.6
LPSR e*PP pP 06 29 21.5 -2.2
LPSR pmax pmax
comp=Z,50nm,1.0s
NEY **Neytrino** 69.09 309⇓eP P 06 29 12.7 +0.6
NEY pmax pmax
comp=Z,5.0nm,0.8s
SPA0 **Spitsbergen Ar** 69.23 348 eP P 06 29 12.4 +0.2
SPA0 epP pP 06 29 19.5 -4.9
SPA0 **Spitsbergen Ar** 69.23 348 eP P 06 29 12.6 +0.4
SPA0 IAmb IAmb 06 29 13.7
comp=Z,92nm,1.2s
SPA0 epP pP 06 29 24.2 -0.1
SPITS **Spitsbergen Ar** 69.23 348 P P 06 29 12.3 +0.1
comp=Z,40nm,1.0s,baz=54,slow=7.3,SNR=10
SPITS pP pP 06 29 24.2 -0.1
comp=Z,21nm,0.6s,baz=72,slow=6.2,SNR=11
SPITS LR LR 07 05 44.2
comp=Z,122nm,19.2s,baz=185,slow=41
VSR **Storozhevoye** 69.29 318 eP P 06 29 11.6 -1.3
VSR e*PP pP 06 29 23.4 -1.7
VSR pmax pmax
comp=Z,40nm,1.6s
KBS **Kingsbay** 69.66 349 eP P 06 29 15.7 +0.9
KBS epP pP 06 29 26.9 -0.1
OBN **Obninsk** 69.75 322 LR LR 07 02 40.9
comp=Z,468nm,18.8s,baz=86,slow=38
OBN **Obninsk** 69.75 322 eP P 06 29 15.3 -0.4
comp=Z,39nm,0.6s
OBN **Obninsk** 69.75 322ceP P 06 29 15.8 +0.1
OBN i 06 29 27.3
OBN e 06 29 36.4
OBN e 06 31 50.2
OBN pmax pmax
comp=Z,85nm,1.7s
OBN MLR MLR
comp=Z,436nm,18.0s
INK **Inuvik** 69.80 23 P P 06 29 16.3 +0.6
comp=Z,23nm,1.0s,baz=285,slow=5.3,SNR=20
INK **Inuvik** 69.80 23 eP P 06 29 16.5 +0.7
comp=Z,47nm,1.1s
INK **Inuvik** 69.80 23 eP P 06 29 16.5 +0.7
INK pmax pmax
comp=Z,47nm,1.1s
HSPB **Hornsund (broa** 69.91 347 eP P 06 29 17.3 +1.0
HSPB e 06 29 26.6
ARA0 **ARCESS Array S** 70.23 339 eP P 06 29 18.3 -0.1
ARCES **ARCESS Array B** 70.23 339 P P 06 29 18.3 -0.1
comp=Z,7.5nm,0.9s,baz=65,slow=7.5,SNR=10
ARCES **ARCESS Array B** 70.23 339 eP P 06 29 18.7 +0.2
ARCES **ARCESS Array B** 70.23 339 eP P 06 29 18.7 +0.2
ARE0 **ARCESS Array S** 70.23 339 epP pP 06 29 30.4 -0.3
ARTV **Artvin** 70.24 307 iP P 06 29 18.9 -0.4
ARTV **Artvin** 70.24 307 P P 06 29 18.9 -0.4
DAGI **Agillar** 70.28 307 iP P 06 29 19.7 +0.3
DAGI iS pP 06 29 29.6 -2.1
HAMF **Hammerfest** 70.42 340 epP pP 06 29 31.1 -0.7
DBAD **Bademkaya** 70.46 307 iP P 06 29 20.8 +0.3
DBAD iS pP 06 29 32.1 -0.6
DBAD **Bademkaya** 70.46 307 P P 06 29 20.8 +0.3
DBAD S pP 06 29 32.1 -0.6
HYT **Haines Junctio** 70.47 31 eP P 06 29 20.3 +0.1
comp=Z,20nm,0.9s
HYT epP sP 06 29 36.2 -0.9
EKAR **Karacoban** 70.72 305 iS pP 06 29 35.3 +0.8
ERZM **Erzurum** 71.03 306 iP P 06 29 24.2 0.0
ERZM **Erzurum** 71.03 306 P P 06 29 24.2 0.0
KOPT **Kop Dagi** 71.63 306 iP P 06 29 29.5 +1.7
KOPT **Kop Dagi** 71.63 306 P P 06 29 29.5 +1.7
BAYB **BAYBURT** 71.73 306 iP P 06 29 28.8 +0.4
BAYB **BAYBURT** 71.73 306 P P 06 29 28.8 +0.4
WHY **Whitehorse** 71.74 31 eP P 06 29 28.9 +1.0
comp=Z,23nm,1.0s
KIF **Kilpisjarvi** 71.98 339 eP P 06 29 28.8 -0.3
KIF epP pP 06 29 40.0 -1.2
ANN **Anapa** 72.28 312 eP P 06 29 28.8 -2.4
ANN e*PP pP 06 29 40.7 -2.8
ANN e 06 29 45.9
ANN e 06 32 07.8
ANN eS S 06 38 48.5 -2.8
ANN pmax pmax
comp=Z,68nm,1.0s
KELT **Kelkit** 72.49 307 iP P 06 29 32.9 0.0
KELT **Kelkit** 72.49 307 P P 06 29 32.9 0.0

FIA1 **FINESS Array S** 72.94 330 eP P 06 29 34.5 -0.4
FIA1 eP P 06 29 35.4 +0.6
FIA1 epP pP 06 29 44.0 -3.1
FIA0 **FINESS Array S** 72.94 330 eP P 06 29 34.7 -0.2
FIA0 **FINESS Array S** 72.94 330 eP P 06 29 34.7 -0.2
FINES **FINESS Array B** 72.94 330 P P 06 29 34.7 -0.2
comp=Z,12nm,0.8s,baz=76,slow=8.0,SNR=25
FINES LR LR 07 05 30.6
comp=Z,502nm,18.2s,baz=67,slow=39
RAYN **Ar Rayn** 73.14 288 eP P 06 29 37.5 +0.7
comp=Z,41nm,1.3s
RAYN **Ar Rayn** 73.14 288⇑eP P 06 29 37.4 +0.6
RAYN pmax pmax
comp=Z,41nm,1.3s
ELZG **Elazig** 73.23 305 iP P 06 29 37.7 +0.4
ELZG iS pP 06 29 53.1 +3.6
KEMA **Kemaliye** 73.34 306 iP P 06 29 37.5 -0.3
VSU **Vasula** 73.76 327⇑iP P 06 29 40.2 +0.4
VSU pmax pmax
comp=Z,125nm,1.5s
HEKM **Malatya_Hekimh** 73.86 306 iP P 06 29 42.0 +1.0
HEKM iS pP 06 29 54.2 +0.9
AKCD **Akcadag** 74.09 305 iP P 06 29 43.7 +1.4
SIM **Simferopol'** 74.45 313ceP P 06 29 44.7 +0.7
SIM pmax pmax
comp=Z,33nm,1.1s
ELBS **KAHRAMANMARAS** 74.66 305 iP P 06 29 47.3 +1.7
DLBC **Dease Lake** 74.87 32 eP P 06 29 47.8 +1.5
comp=Z,39nm,1.5s
IDID **Didziasalis** 74.99 324 eP P 06 29 47.2 +0.3
IDID IAmb IAmb 06 30 00.7
comp=Z,32nm,0.9s
IZAR **Zarasai** 75.07 325 eP P 06 29 47.8 +0.3
IZAR IAmb IAmb 06 30 00.3
comp=Z,19nm,0.7s
NACGM **Naroch** 75.12 324 e P 06 29 47.0 -0.8
ISAL **Salakas** 75.20 325 eP P 06 29 48.7 +0.5
ISAL IAmb IAmb 06 30 02.0
comp=Z,25nm,1.1s
IIGN **Ignalina** 75.24 325 eP P 06 29 48.8 +0.4
IIGN IAmb IAmb 06 30 02.2
comp=Z,22nm,1.0s
AKASG **Malin Array Be** 75.40 319 P P 06 29 48.9 -0.5
comp=Z,21nm,0.8s,baz=57,slow=6.4,SNR=65
AKASG LR LR 07 05 17.8
comp=Z,453nm,19.7s,baz=55,slow=38
AKBB **Malin Array Si** 75.40 319 eP P 06 29 49.0 -0.4
comp=Z,43nm,0.7s
AKBB **Malin Array Si** 75.40 319 eP P 06 29 49.0 -0.4
AKBB pmax pmax
comp=Z,43nm,0.7s
KIEV **Kiev** 75.41 319 eP P 06 29 48.9 -0.6
comp=Z,42nm,0.7s
KIEV **Kiev** 75.41 319 eP P 06 29 48.9 -0.6
KIEV pmax pmax
comp=Z,42nm,0.7s
AK11 **Malin Array Si** 75.44 319 eP P 06 29 49.4 -0.2
ILGA **Ilgaz** 76.13 309 eP P 06 29 54.5 +0.4
comp=Z,21nm,1.0s
RES **Resolute Bay** 76.30 11 P P 06 29 54.3 +0.2
comp=Z,35nm,0.9s,baz=307,slow=6.2,SNR=48
RES pP pP 06 30 06.7 +0.3
comp=Z,35nm,0.6s,baz=292,slow=7.4,SNR=19
BR101 **Keskin Array S** 76.68 308 eP P 06 29 57.2 +0.1
BR101 epP pP 06 30 09.5 0.0
BR131 **Keskin Array S** 76.68 308 eP P 06 29 57.4 +0.6
BR131 **Keskin Array S** 76.68 308 P P 06 29 57.7 +0.6
BR131 **Keskin Array S** 76.68 308 P P 06 29 57.7 +0.6
BRTR **Keskin Array B** 76.68 308 P P 06 29 57.2 +0.1
comp=Z,29nm,0.9s,baz=101,slow=4.0,SNR=105
BRTR pP pP 06 30 09.5 0.0
comp=Z,42nm,0.9s,baz=95,slow=5.0,SNR=25
BRTR LR LR 07 07 02.5
comp=Z,72nm,19.0s,baz=68,slow=38
SORM **Soroca** 76.93 317⇑iP P 06 29 57.9 -0.3
SORM **Soroca** 76.93 317 P P 06 29 57.9 -0.3
ASF **Jabal al Asfar** 77.08 300 P P 06 30 00.1 +0.6
comp=Z,19nm,1.1s,baz=62,slow=2.3,SNR=15
ANTO **Ankara** 77.23 308 eP P 06 30 00.9 +0.8
comp=Z,48nm,0.8s
ANTO **Ankara** 77.23 308 eP P 06 30 00.9 +0.8
ANTO pmax pmax
comp=Z,48nm,0.8s
ANTO **Ankara** 77.23 308 P P 06 30 01.3 +1.1
SNR=8.1
ANTO **Ankara** 77.23 308 P P 06 30 01.3 +1.1
SNR=8.1
BR231 **Keskin MP Arra** 77.25 308 eP P 06 29 58.0 -2.3
SUW **Suwalki** 77.41 324 eP P 06 30 01.5 +0.8
SUW **Suwalki** 77.41 324 eP P 06 30 01.3 +0.5
SUW epP pP 06 30 12.6 -0.5
SUW **Suwalki** 77.41 324 eP P 06 30 01.5 +0.8
TULEG **Thule** 77.59 4 eP P 06 30 00.8 -0.6
comp=Z,41nm,0.9s
LEOM **Leova** 77.67 316⇓iP P 06 30 03.3 +1.0
LEOM **Leova** 77.67 316 P P 06 30 03.3 +1.0
TLCR 77.83 314⇓iP P 06 30 03.8 +0.5
TLCR 77.83 314 P P 06 30 03.8 +0.5
MMAI **Mount Meron Ar** 77.92 301 P P 06 30 05.2 +1.1
comp=Z,0.5nm,0.3s,baz=61,slow=6.8,SNR=9.1
MMAI LR LR 07 10 51.7
comp=Z,94nm,19.4s,baz=5.0,slow=41
CFR **Carcaliu** 78.27 314⇓iP P 06 30 05.7 0.0
CFR **Carcaliu** 78.27 314 P P 06 30 05.7 0.0
TIRR **Tirgusor** 78.39 314⇑iP P 06 30 06.3 -0.1
TIRR **Tirgusor** 78.39 314 eP P 06 30 06.7 +0.3
TIRR epP pP 06 30 18.2 -0.5
TIRR **Tirgusor** 78.39 314 eP P 06 30 06.7 +0.3
TIRR e*PP pP 06 30 18.2 -0.5
PRAR **RASCA** 78.56 317⇓iP P 06 30 08.4 +1.1
TLB **Topalu** 78.58 314⇓iP P 06 30 08.0 +0.6
TLB **Topalu** 78.58 314 P P 06 30 08.0 +0.6
HARR **Harsova** 78.61 314⇓iP P 06 30 09.9 +2.3
HARR **Harsova** 78.61 314 P P 06 30 09.9 +2.3
PETR **Petresti** 78.62 315⇓iP P 06 30 11.0 +3.4
TESR **Tescani** 78.66 316⇑iP P 06 30 08.0 +0.2
CSS **Mathiatis** 78.75 303 eP P 06 30 09.0 +0.4
comp=Z,17nm,0.8s
LVV **L'vov** 78.80 320 eP P 06 30 09.9 +1.4
PSN **Preselentsi** 78.86 313 eP pP 06 30 21.9 +0.5
VRI **Vrincioaia** 78.88 316⇓iP P 06 30 10.3 +1.2
VRI **Vrincioaia** 78.88 316 P P 06 30 10.3 +1.2
HFS **Hagfors** 78.93 332 P P 06 30 08.0 -1.1
comp=Z,13nm,0.9s,baz=37,slow=7.4,SNR=10
HFS LR LR 07 09 18.0
comp=Z,632nm,18.7s,baz=64,slow=39
HFS **Hagfors** 78.93 332 P P 06 30 08.0 -1.1
HFS pmax pmax
comp=Z,13nm,0.9s
HFS MLR MLR
comp=Z,632nm,18.7s
GRER 78.93 315⇑iP P 06 30 13.2 +3.8
PLOR **Plostina** 78.94 316⇑iP P 06 30 11.0 +1.6
PLOR **Plostina** 78.94 316 P P 06 30 11.0 +1.6
BUR08 **Bucovina Ar. S** 79.06 318 eP P 06 30 10.9 +0.7
BURAR **Bucovina Array** 79.06 318⇑iP P 06 30 11.0 +0.8
BURAR **Bucovina Array** 79.06 318 P P 06 30 11.0 +0.8
BUR04 **Bucovina Ar. S** 79.06 318 eP P 06 30 10.5 +0.3
NC405 **NORSAR Array S** 79.20 334 eP P 06 30 09.8 -0.7
NC405 epP PcP 06 30 20.8 +2.0
YKW3 **Yellowknife Ar** 79.41 25 eP P 06 30 12.2 +0.7
comp=Z,45nm,1.1s
NB2 **NORSAR Subarra** 79.45 334 P P 06 30 11.6 -0.4
comp=Z,50nm,1.2s,baz=54,slow=5.6
NB2 **NORSAR Subarra** 79.45 334 P P 06 30 11.5 -0.4
NB2 pmax pmax
comp=Z,42nm,1.3s
NB2 **NORSAR Subarra** 79.45 334 P P 06 30 11.6 -0.4
baz=54,slow=5.6
NB200 **NORSAR Array S** 79.45 334 eP P 06 30 10.6 -1.3
NB200 epP pP 06 30 23.0 -1.3
NOA **NORSAR Array B** 79.45 334 P P 06 30 10.6 -1.3
comp=Z,9.4nm,0.8s,baz=56,slow=5.7,SNR=19
NOA pP pP 06 30 23.0 -1.3
comp=Z,32nm,0.9s,baz=54,slow=5.5,SNR=17
NOA LR LR 07 09 38.9
comp=Z,494nm,18.8s,baz=70,slow=39
NOA **NORSAR Array B** 79.45 334 P P 06 30 10.6 -1.3
NOA *PP pP 06 30 23.0 -1.3
NOA pmax pmax
comp=Z,10.0nm,0.9s
NOA pmax pmax
comp=Z,32nm,0.9s
NOA MLR MLR
comp=Z,494nm,18.8s
YKA **Yellowknife Ar** 79.45 25 P P 06 30 12.4 +0.6
comp=Z,15nm,0.8s,baz=299,slow=5.4,SNR=154
NC204 **NORSAR Array S** 79.49 334 eP P 06 30 12.1 -0.1
MLR **Muntele Rosu** 79.54 315 P P 06 30 13.2 +0.4
comp=Z,6.0nm,1.1s,baz=46,slow=5.8,SNR=15
MLR LR LR 07 08 30.5
comp=Z,65nm,20.4s,baz=52,slow=38
MLR **Muntele Rosu** 79.54 315⇓iP P 06 30 13.7 +0.8
MLR **Muntele Rosu** 79.54 315 eP P 06 30 13.1 +0.2
comp=Z,40nm,0.9s
MLR eP P 06 30 13.2 +0.4
MLR **Muntele Rosu** 79.54 315 P P 06 30 13.7 +0.8
PRD **Provadia** 79.58 313 eP pP 06 30 25.3 0.0
EIL **Elat** 79.59 298 LR LR 07 11 20.8
comp=Z,112nm,20.6s,baz=66,slow=40
KWP **Kalwaria Pacla** 79.65 320 eP P 06 30 13.9 +0.7
KWP **Kalwaria Pacla** 79.65 320 eP P 06 30 13.9 +0.7
DOPR **Dopca** 79.68 316⇓iP P 06 30 14.8 +1.3
BEL **Belsk** 79.69 323 eP P 06 30 13.3 -0.1
BEL **Belsk** 79.69 323 eP P 06 30 13.3 -0.1
ARCR **ARCALIA** 79.82 317⇑iP P 06 30 17.4 +3.2
BMR **Baia Mare** 80.08 318⇓iP P 06 30 17.8 +2.2
BMR **Baia Mare** 80.08 318 P P 06 30 17.8 +2.2
VOIR 80.13 316⇑iP P 06 30 16.9 +0.9
VOIR 80.13 316 P P 06 30 16.9 +0.9
MTUR **Matau** 80.21 315⇓iP P 06 30 19.9 +3.4
MTUR **Matau** 80.21 315 P P 06 30 19.9 +3.4
UZH **Uzhgorod** 80.35 319 eP P 06 30 16.1 -0.9
UZH i 06 30 30.1
TRPA **Tarpa** 80.44 319⇓eP P 06 30 18.1 +0.6
CJR **Cluj-Napoca** 80.45 317⇓iP P 06 30 20.2 +2.5
CJR **Cluj-Napoca** 80.45 317 P P 06 30 20.2 +2.5
SZH **Strazhica** 80.52 313 eP pP 06 30 29.8 -0.6
HUMR **Humele** 80.58 315⇓iP P 06 30 19.7 +1.4
STHS **Stebnicka Huta** 80.59 320 eP P 06 30 19.2 +0.9
STHS e 06 30 31.6
STHS pmax pmax
comp=Z,15nm,1.0s
STHS **Stebnicka Huta** 80.59 320 eP P 06 30 19.2 +0.9
STHS e 06 30 31.6
CRVS **Cervenica-Dubn** 80.71 320 eP P 06 30 20.1 +1.1
CRVS e 06 30 30.9
CRVS **Cervenica-Dubn** 80.71 320 eP P 06 30 20.1 +1.1
CRVS e 06 30 30.9
ZIMR 80.72 314⇓iP P 06 30 18.8 -0.2
ZIMR 80.72 314 P P 06 30 18.8 -0.2
LOT **Lotru** 80.93 316⇑iP P 06 30 21.8 +1.5
DRGR 80.96 318⇑iP P 06 30 21.4 +1.0
DRGR 80.96 318 P P 06 30 21.4 +1.0
OJC **Ojcow** 81.02 322 eP P 06 30 21.2 +0.6
OJC **Ojcow** 81.02 322 eP P 06 30 21.2 +0.6
comp=Z,51nm,0.9s
OJC **Ojcow** 81.02 322 eP P 06 30 21.2 +0.6
NIE **Niedzica** 81.13 321 eP P 06 30 21.5 +0.3
NIE **Niedzica** 81.13 321 eP P 06 30 21.5 +0.3
KECS **Kecovo** 81.48 320 eP P 06 30 25.4 +2.4
KECS e 06 30 35.4
KECS pmax pmax
comp=Z,6.0nm,0.7s
KECS **Kecovo** 81.48 320 eP P 06 30 25.4 +2.4
KECS e 06 30 35.4
SUMG **Summit** 81.57 356 iP P 06 30 24.4 +0.9
comp=Z,46nm,1.0s
SUMG **Summit** 81.57 356 eP P 06 30 23.7 +0.2
comp=Z,46nm,0.9s
SUMG **Summit** 81.57 356 iP P 06 30 24.4 +0.9
SUMG pmax pmax
comp=Z,46nm,1.0s
SCO **Scoresbysund** 81.68 350 iP P 06 30 24.7 +1.0
comp=Z,52nm,1.1s
SCO **Scoresbysund** 81.68 350 iP P 06 30 24.7 +1.0
SCO pmax pmax
comp=Z,52nm,1.1s
LANS **Liptovska Anna** 81.74 321 eP P 06 30 26.9 +2.5
LANS e 06 30 37.3
LANS e 06 33 30.9
LANS **Liptovska Anna** 81.74 321 eP P 06 30 26.9 +2.5
LANS e 06 30 37.3
LANS ePP PP 06 33 30.9 -0.3
SIRR **Siria** 81.85 318⇓iP P 06 30 25.7 +0.7
PSZ **Piszkesteto** 82.10 320⇓iP P 06 30 27.2 +0.8
PSZ **Piszkesteto** 82.10 320⇓eP P 06 30 26.8 +0.3
PSZ **Piszkesteto** 82.10 320 eP P 06 30 26.7 +0.3
comp=Z,16nm,1.1s
PSZ epP pP 06 30 39.1 +0.2
PSZ **Piszkesteto** 82.10 320 eP P 06 30 26.7 +0.3
PSZ e*PP pP 06 30 39.1 +0.2
PSZ pmax pmax
comp=Z,16nm,1.1s
OKC **Ostrava-Krasne** 82.14 322 eP P 06 30 28.5 +2.0
OKC epP pP 06 30 39.0 +0.1
OKC **Ostrava-Krasne** 82.14 322 eP P 06 30 28.5 +2.0
OKC e 06 30 39.0
BZS **Buzias** 82.19 317⇓iP P 06 30 28.1 +1.3
BZS **Buzias** 82.19 317 P P 06 30 28.1 +1.3
VYHS **Vyhne** 82.43 320 eP P 06 30 29.2 +1.2
VYHS pmax pmax
comp=Z,20nm,0.8s
VYHS **Vyhne** 82.43 320 eP P 06 30 29.2 +1.2
VYHS e 06 30 41.0
VYHS e 06 46 30.5
MORC **Moravsky Berou** 82.50 322⇑iP P 06 30 29.4 +0.9
MORC **Moravsky Berou** 82.50 322 eP P 06 30 29.1 +0.7
comp=Z,104nm,1.1s
MORC **Moravsky Berou** 82.50 322 eP P 06 30 29.1 +0.7
MORC pmax pmax
comp=Z,104nm,1.1s
VTS **Vitosha** 82.61 314⇓iP P 06 30 30.0 +0.7
VTS **Vitosha** 82.61 314 eP P 06 30 29.8 +0.5
comp=Z,53nm,0.8s
VTS **Vitosha** 82.61 314 P P 06 30 30.0 +0.7
VTS **Vitosha** 82.61 314 eP P 06 30 29.9 +0.7
KSP **Ksiaz** 82.63 323 eP P 06 30 30.3 +1.2
KSP **Ksiaz** 82.63 323 eP P 06 30 30.3 +1.2
MMB **Musomiste** 82.74 313 eP P 06 30 30.7 +0.9
LLLB **Lillooet** 82.74 37 eP P 06 30 30.2 +0.6
comp=Z,14nm,0.9s
DPC **Dobruska-Polom** 82.88 323 eP P 06 30 31.5 +1.1
DPC epP pP 06 30 42.2 -0.6
DPC **Dobruska-Polom** 82.88 323 eP P 06 30 31.5 +1.1
DPC e 06 30 42.2
UPC **Upice** 82.96 323 eP P 06 30 31.5 +0.7
UPC epP pP 06 30 43.2 0.0
UPC AMS AMS 07 11 10.0
comp=Z,600nm,14.5s
UPC **Upice** 82.96 323 eP P 06 30 31.5 +0.7
UPC e 06 30 43.2
UPC MLR MLR
comp=Z,600nm,14.5s
MUD **Monsted U'grnd** 82.98 330 iP P 06 30 31.4 +0.7
MUD **Monsted U'grnd** 82.98 330 iP P 06 30 31.4 +0.7
KARP **Karpathos** 83.09 306 eP P 06 30 32.1 +0.4
KARP epP pP 06 30 44.3 +0.1
SMOL **Smolenice** 83.22 321 eP pP 06 30 45.2 +0.6
SMOL **Smolenice** 83.22 321 e pP 06 30 45.2 +0.6
MORH M̈‡r¨igy, Hung 83.69 319⇓eP P 06 30 35.0 +0.4
BRG **Berggiesshubel** 83.87 324 iP P 06 30 36.8 +1.4
BRG i 06 30 48.2
BRG pmax pmax
comp=Z,35nm,1.2s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=N,419nm,18.1s
BRG MLR MLR
comp=E,421nm,23.4s
BRG MLR MLR
comp=Z,617nm,17.9s
DIVS **Divibare** 83.94 316 eP P 06 30 36.2 +0.2
comp=Z,30nm,0.9s
GOPC **GO Pecny, Ondr** 83.95 323 eP P 06 30 37.3 +1.5
GOPC epP pP 06 30 48.4 +0.1
GOPC **GO Pecny, Ondr** 83.95 323 eP P 06 30 37.3 +1.5
GOPC e 06 30 48.4
SANT **Santorini** 83.95 307⇓iP P 06 30 34.8 -1.4
SANT **Santorini** 83.95 307 eP P 06 30 34.8 -1.4
SANT epP pP 06 30 46.7 -1.9
PRU **Pruhonice** 84.04 323 eP P 06 30 38.0 +1.7
PRU epP pP 06 30 48.9 +0.1
PRU AMS AMS 07 11 40.0
comp=Z,700nm,16.7s

PRU	Pruhonice	84.04	323	eP	P	06 30 38.0	+1.7
PRU				e		06 30 48.9	
PRU				MLR	MLR		
	comp=Z,700nm,16.7s						
B06A	Marblemount	84.07	39	eP	P	06 30 37.2	+0.8
B06A				epP	pP	06 30 49.5	+0.6
CLL	Collm	84.12	325	⇑iP	P	06 30 37.6	+0.9
	comp=Z,55nm,1.4s						
CLL				e(pP)	pP	06 30 48.0	-1.1
CLL				esP	sP	06 30 57.0	+3.2
CLL				e(pPP)		06 34 01.0	
CLL				Lm	MLR	07 11 00.0	
	comp=N,400nm,20.9s						
CLL				Lm	MLR	07 11 00.0	
	comp=E,300nm,21.9s						
CLL				Lm	MLR	07 11 00.0	
	comp=Z,700nm,20.2s						
CLL	Collm	84.12	325	eP	P	06 30 37.5	+0.8
	comp=Z,42nm,1.2s						
CLL	Collm	84.12	325	⇑iP	P	06 30 37.6	+0.9
CLL				e*PP	pP	06 30 48.0	-1.1
CLL				pmax	pmax		
	comp=Z,55nm,1.4s						
CLL				MLR	MLR		
	comp=Z,700nm,20.2s						
CONA	Conrad Observa	84.42	321	ePcP	P	06 30 39.7	+1.3
	comp=Z,24nm,1.1s,SNR=7.7						
IDI	Anoyia	84.86	307	P	P	06 30 39.8	-1.1
	comp=Z,4.8nm,0.9s,baz=354,slow=9.2,SNR=4.9						
IDI				LR	LR	07 12 15.2	
	comp=Z,71nm,18.9s,baz=36,slow=38						
IDI	Anoyia	84.86	307	⇑iP	P	06 30 40.3	-0.5
IDI	Anoyia	84.86	307	eP	P	06 30 42.1	+1.3
	comp=Z,31nm,0.9s						
AGG	Agios Georgios	84.89	311	eP	P	06 30 40.3	-0.6
AGG				epP	pP	06 30 52.2	-1.2
AGG	Agios Georgios	84.89	311	eP	P	06 30 40.3	-0.6
AGG				e*PP	pP	06 30 52.2	-1.2
ARSA	Arzberg	84.98	321	ePcP	P	06 30 42.7	+1.5
	comp=Z,12nm,1.2s						
NKC	Novy Kostel	85.02	324	eP	P	06 30 42.3	+1.0
NKC				epP	pP	06 30 53.6	-0.2
NKC	Novy Kostel	85.02	324	eP	P	06 30 42.3	+1.0
NKC				e		06 30 53.6	
KHC	Kasperske Hory	85.03	323	eP	P	06 30 42.5	+1.1
KHC				epP	pP	06 30 54.2	+0.3
KHC				AMS	AMS	07 12 10.0	
	comp=Z,500nm,18.1s						
KHC	Kasperske Hory	85.03	323	eP	P	06 30 42.0	+0.6
	comp=Z,8.7nm,1.1s						
KHC				epP	pP	06 30 54.1	+0.2
KHC	Kasperske Hory	85.03	323	eP	P	06 30 42.5	+1.1
KHC				e		06 30 54.2	
KHC				MLR	MLR		
	comp=Z,500nm,18.1s						
GEC2	GERESS Array S	85.13	323	eP	P	06 30 43.0	+1.0
	comp=Z,27nm,1.1s						
GEC2				epP	pP	06 30 53.4	-1.0
GEC2	GERESS Array S	85.13	323	eP	P	06 30 43.0	+1.0
GEC2				e*PP	pP	06 30 53.4	-1.0
GEC2				pmax	pmax		
	comp=Z,27nm,1.1s						
GERES	GERESS Array B	85.13	323	P	P	06 30 42.8	+0.9
	comp=Z,8.4nm,0.9s,baz=57,slow=4.9,SNR=44						
GERES				LR	LR	07 12 51.2	
	comp=Z,392nm,18.9s,baz=68,slow=38						
GEA0	GERESS Array S	85.13	323	eP	P	06 30 42.3	+0.4
LTY	Liberty	85.21	39	eP	P	06 30 43.2	+0.9
	comp=Z,10.0nm,1.1s						
PDG	Podgorica	85.24	315	⇑iP	P	06 30 45.3	+2.8
TTG	Podgorica	85.24	315	eP	P	06 30 43.4	+0.9
TTG				epP	pP	06 30 54.6	-0.3
TTG				eS	S	06 41 14.2	+4.4
TTG	Podgorica	85.24	315	eP	P	06 30 43.4	+0.9
TTG				e*PP	pP	06 30 54.6	-0.3
TTG				eS	S	06 41 14.2	+4.4
BLY	Banja Luka	85.33	318	eP	P	06 30 43.6	+0.7
BLY				epP	pP	06 30 55.9	+0.5
B08A	Colville Reser	85.36	38	eP	P	06 30 43.9	+0.9
	comp=Z,35nm,1.5s						
MOA	Molln	85.37	322	ePcP	P	06 30 44.5	+1.4
	comp=Z,8.1nm,0.8s,SNR=5.3						
NAC	Naches	85.40	40	eP	P	06 30 44.2	+0.9
ILULI	Ilulissat	85.43	359	eP	P	06 30 42.9	0.0
ILULI				epP	pP	06 30 56.8	+1.4
ILULI	Ilulissat	85.43	359	eP	P	06 30 42.9	0.0
ILULI				e*PP	pP	06 30 56.8	+1.4
SOKA	Soboth	85.57	320	ePcP	P	06 30 45.0	+0.8
	comp=Z,35nm,1.5s,SNR=6.4						
EDM	Edmonton	85.58	32	eP	P	06 30 45.1	+1.1
	comp=Z,36nm,1.2s						
EDM	Edmonton	85.58	32	eP	P	06 30 45.1	+1.1
EDM				pmax	pmax		
	comp=Z,36nm,1.2s						
H04A	Detroit Lake	85.70	42	eP	P	06 30 46.0	+1.2
	comp=Z,53nm,1.5s						
OBKA	Obir	85.94	320	ePcP	P	06 30 46.8	+0.7
	comp=Z,21nm,1.4s						
GRFO	Grafenberg	85.98	324	eP	P	06 30 47.5	+1.5
	comp=Z,49nm,1.0s						
GRFO	Grafenberg	85.98	324	eP	P	06 30 47.6	+1.5
GRFO				pmax	pmax		
	comp=Z,49nm,1.0s						
BPO	Bald Peter	86.02	42	eP	P	06 30 48.2	+1.6
E07A	Sunnyside	86.06	40	eP	P	06 30 47.7	+1.2
E07A				epP	pP	06 30 58.6	-0.4
C09A	Chrisman Ranch	86.26	38	eP	P	06 30 48.4	+1.0
	comp=Z,29nm,1.6s						
C09A				epP	pP	06 31 01.2	+1.2
D08A	Wollman Farm,	86.31	39	eP	P	06 30 48.5	+0.7
	comp=Z,10nm,0.8s						
KBA	Koelnbreinsper	86.31	321	P	P	06 30 48.4	+0.4
KBA	Koelnbreinsper	86.31	321	ePcP	P	06 30 48.4	+0.4
	comp=Z,19nm,1.3s,SNR=5.1						
F07A	Phinny Hill Vi	86.38	40	eP	P	06 30 49.2	+1.1
F07A				epP	pP	06 31 02.4	+1.8
MYKA	Terra Mystica	86.40	321	ePcP	P	06 30 48.5	+0.3
	comp=Z,12nm,0.9s						
J04D	Umpqua Nationa	86.51	43	P	P	06 30 50.0	+0.9
	baz=302						
NEW	Newport	86.62	37	P	P	06 30 49.0	-0.3
	comp=Z,4.9nm,0.8s,baz=313,slow=3.2,SNR=13						
NEW	Newport	86.62	37	P	P	06 30 50.3	+1.0
	baz=306						
NEW	Newport	86.62	37	eP	P	06 30 50.1	+0.8
	comp=Z,10nm,0.8s						
NEW	Newport	86.62	37	eP	P	06 30 50.1	+0.8
NEW				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PINE	Pine Mountain	86.93	42	eP	P	06 30 52.5	+1.4
	comp=Z,30nm,1.2s						
YBH	Yreka Blue Hor	86.94	45	P	P	06 30 51.4	+0.4
	comp=Z,8.2nm,1.0s,baz=256,slow=1.6,SNR=8.0						
YBH	Yreka Blue Hor	86.94	45	eP	P	06 30 51.8	+0.8
	comp=Z,16nm,1.1s						
YBH	Yreka Blue Hor	86.94	45	eP	P	06 30 51.8	+0.8
YBH				pmax	pmax		
	comp=Z,16nm,1.1s						
ABTA	Abfaltersbach	86.97	321	eP	P	06 30 50.4	-0.7
	comp=Z,25nm,1.2s						
M02C	Callahan	87.02	45	P	P	06 30 53.1	+1.7
	baz=302						
J05D	Fort Rock, OR	87.03	43	P	P	06 30 52.6	+1.1
	baz=303						
E09A	Wood Farm, Sta	87.06	39	eP	P	06 30 52.2	+0.8
	comp=Z,14nm,1.2s						
WATA	Walderalm	87.16	322	ePcP	P	06 30 52.4	+0.3
	comp=Z,14nm,1.1s						
WTTA	Wattenberg	87.17	322	ePcP	P	06 30 52.1	0.0
	comp=Z,18nm,1.1s						
G08A	Pilot Rock	87.28	40	eP	P	06 30 53.0	+0.4
	comp=Z,5.8nm,1.3s						
MOTA	Moosalm	87.41	322	ePcP	P	06 30 53.7	+0.4
	comp=Z,8.7nm,0.9s						
M04C	Macdoel	87.46	44	P	P	06 30 55.0	+1.4
	baz=303						
RETA	Reutte	87.52	323	ePcP	PcP	06 30 54.8	-0.9
	comp=Z,3.8nm,0.6s						
SFJD	Kangerlussuaq	87.65	359	eP	P	06 30 53.8	0.0
	comp=Z,16nm,0.9s						
SFJD				epP	pP	06 31 04.4	-1.9
SFJD	Kangerlussuaq	87.65	359	eP	P	06 30 53.8	0.0
SFJD				e*PP	pP	06 31 04.4	-1.9
SFJD				pmax	pmax		
	comp=Z,16nm,0.9s						
FETA	Feichten	87.81	322	ePcP	P	06 30 55.6	+0.4
	comp=Z,21nm,1.2s						
WALA	Waterton Lakes	87.86	35	eP	P	06 30 56.4	+1.0
WALA				epP	pP	06 31 06.6	-1.4
DAVA	Damuels	88.12	323	ePcP	P	06 30 57.2	+0.5
	comp=Z,14nm,1.2s						
FUORN	Ofenpass-Fuorn	88.31	322	eP	P	06 30 58.2	+0.5
	comp=Z,26nm,0.8s						
BFO	Black Forest	88.32	324	eP	P	06 30 57.6	+0.1
BFO				epP	pP	06 31 09.8	-0.2
BFO	Black Forest	88.32	324	i P	P	06 30 58.1	+0.7
MOD	Modoc Plateau	88.36	44	eP	P	06 30 58.8	+0.8
MOD				epP	pP	06 31 07.7	-2.7
JTMT	Jette	88.47	36	eP	P	06 30 58.8	+0.5
	comp=Z,12nm,1.0s						
BMO	Blue Mountains	88.50	40	eP	P	06 30 59.4	+1.0
	comp=Z,7.6nm,0.9s						
BMO	Blue Mountains	88.50	40	eP	P	06 30 59.4	+1.0
BMO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
J08A	Circle Bar Ran	88.66	42	eP	P	06 31 00.2	+0.9
	comp=Z,7.9nm,0.9s						
ORV	Oroville	88.88	46	eP	P	06 31 00.6	+0.4
	comp=Z,6.2nm,1.0s						
ORV	Oroville	88.88	46	eP	P	06 31 00.6	+0.4
ORV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TUE	Stuetta	88.90	322	eP	P	06 31 00.4	0.0
	comp=Z,14nm,0.8s						
EKA	Eskdalemuir Ar	88.92	334	P	P	06 30 59.8	-0.2
	comp=Z,2.1nm,0.8s,baz=33,slow=5.4,SNR=3.8						
WVOR	Wild Horse Val	89.09	43	eP	P	06 31 02.6	+1.3
	comp=Z,19nm,1.5s						
WVOR				epP	pP	06 31 15.2	+1.3
WVOR	Wild Horse Val	89.09	43	eP	P	06 31 02.6	+1.3
WVOR				e*PP	pP	06 31 15.2	+1.3
WVOR				pmax	pmax		
	comp=Z,19nm,1.5s						
MSO	Missoula	89.21	37	P	P	06 31 02.3	+0.6
	baz=308						
MSO	Missoula	89.21	37	eP	P	06 31 02.0	+0.3
	comp=Z,8.8nm,1.1s						
FCC	Fort Churchill	89.21	20	eP	P	06 31 01.2	-0.1
	comp=Z,48nm,1.4s						
FCC	Fort Churchill	89.21	20	eP	P	06 31 01.2	-0.1
FCC				pmax	pmax		
	comp=Z,48nm,1.4s						
BEKR	Beckworth	89.44	45	eP	P	06 31 03.4	+0.3
	comp=Z,6.6nm,0.7s						
FFC	Flin Flon	89.53	26	eP	P	06 31 03.2	+0.3
	comp=Z,26nm,1.0s						
FFC	Flin Flon	89.53	26	eP	P	06 31 03.2	+0.3
FFC				pmax	pmax		
	comp=Z,26nm,1.0s						
MFID	Camas Ranch	90.20	41	eP	P	06 31 06.8	+0.4
	comp=Z,41nm,1.8s						
KMBO	Kilima Mbogo	90.45	269	P	P	06 31 08.7	+0.4
	comp=Z,1.2nm,0.4s,baz=44,slow=3.0,SNR=5.4						
KMBO	Kilima Mbogo	90.45	269	eP	P	06 31 08.7	+0.4
	comp=Z,10nm,1.3s						
LRM	Limekiln Ridge	90.64	37	eP	P	06 31 09.5	+0.9
EGMT	Eagleton	90.65	34	P	P	06 31 09.6	+1.1
	baz=311						
EGMT	Eagleton	90.65	34	eP	P	06 31 09.2	+0.7
	comp=Z,23nm,0.8s						
DLMT	Dillon	90.85	38	eP	P	06 31 10.5	+1.0
	comp=Z,17nm,0.9s						
HLID	Hailey	90.94	40	P	P	06 31 11.1	+1.2
	baz=308						
HLID	Hailey	90.94	40	eP	P	06 31 11.2	+1.3
	comp=Z,6.4nm,0.9s						
BOZ	Bozeman (W)	91.23	37	P	P	06 31 12.3	+1.0
	baz=310						
BOZ	Bozeman (W)	91.23	37	eP	P	06 31 12.3	+1.0
	comp=Z,6.1nm,0.9s						
BOZ	Bozeman (W)	91.23	37	eP	P	06 31 12.3	+1.0
BOZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MDPB	Devils Postpil	91.52	47	eP	P	06 31 12.0	-0.9
	comp=Z,37nm,1.2s						
PPT2	Papeete2	91.56	109	eLR	LR	07 01 15.3	
	comp=Z,108nm,23.2s						
NV01	Mina Array Sit	91.57	46	eP	P	06 31 13.7	+0.6
NVAR	Mina Array Bea	91.57	46	P	P	06 31 14.2	+1.1
	comp=Z,3.2nm,1.0s,baz=268,slow=5.7,SNR=8.0						
NVAR				LR	LR	07 13 14.3	
	comp=Z,32nm,18.2s,baz=206,slow=36						
QLMT	Earthquake Lak	91.83	37	eP	P	06 31 15.3	+1.2
QLMT				epP	pP	06 31 28.4	+1.7
YHB	Horse Butte	92.01	37	eP	P	06 31 16.8	+1.8
	comp=Z,15nm,0.9s						
GCMT	Greycliff	92.16	36	eP	P	06 31 16.8	+1.2
YHH	Holmes Hill	92.17	37	eP	P	06 31 17.4	+1.6
	comp=Z,4.8nm,1.0s						
YMR	Madison River	92.19	37	eP	P	06 31 17.8	+2.0
	comp=Z,15nm,0.9s						
YNR	Norris Junctio	92.31	37	eP	P	06 31 18.9	+2.5
	comp=Z,12nm,1.4s						
YFT	Old Faithful	92.40	37	eP	P	06 31 19.6	+2.8
	comp=Z,12nm,0.9s						
H17A	Grant Village	92.58	37	P	P	06 31 20.9	+3.3
	baz=310						
H17A	Grant Village	92.58	37	eP	P	06 31 20.1	+2.5
	comp=Z,15nm,1.1s						
IMW	Indian Meadow	92.70	38	eP	P	06 31 20.2	+2.0
IMW				epP	pP	06 31 32.3	+1.5
RLMT	Red Lodge	92.81	36	P	P	06 31 19.8	+1.1
	baz=311						
RLMT	Red Lodge	92.81	36	eP	P	06 31 19.7	+1.1
	comp=Z,11nm,1.0s						
FXWY	Fox Creek	92.81	38	eP	P	06 31 20.3	+1.6
FXWY				epP	pP	06 31 33.3	+2.0
MOOW	Moose Ponds	92.90	38	eP	P	06 31 20.6	+1.5
	comp=Z,8.2nm,1.5s						
TPAW	Teton Pass	92.95	38	eP	P	06 31 20.5	+1.1
TPAW				epP	pP	06 31 32.6	+0.6
REDW	Red Top Meadow	93.09	38	eP	P	06 31 21.4	+1.4
	comp=Z,16nm,1.7s						
R11A	Troy Canyon, C	93.36	44	P	P	06 31 22.2	+1.0
	baz=307						
PD31	Pinedale Array	94.19	38	eP	P	06 31 25.8	+0.7
PD31				epP	pP	06 31 38.4	+0.7
PDAR	Pinedale Array	94.19	38	P	P	06 31 25.4	+0.3
	comp=Z,1.2nm,0.8s,baz=130,slow=2.4,SNR=10						
PDAR	Pinedale Array	94.19	38	eP	P	06 31 24.8	-0.3
KEST	Kesra	95.35	314	LR	LR	07 21 30.2	
	comp=Z,88nm,18.2s,baz=299,slow=40						
ULM	Lac du Bonnet	95.36	26	P	P	06 31 30.1	+0.2
	comp=Z,3.3nm,0.8s,baz=324,slow=4.3,SNR=7.1						
ULM				LR	LR	07 21 33.4	
	comp=Z,50nm,19.0s,baz=342,slow=40						
ULM	Lac du Bonnet	95.36	26	eP	P	06 31 30.3	+0.4
	comp=Z,7.5nm,1.2s						
ULM	Lac du Bonnet	95.36	26	eP	P	06 31 30.3	+0.4
ULM				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SCHQ	Schefferville	98.96	8	LR	LR	07 17 38.2	
	comp=Z,154nm,22.0s,baz=343,slow=36						
ES19	SONSECA Array	100.62	324	ePdif	Pdif	06 31 54.0	+0.1
ESDC	Sonseca Array	100.68	324	Pdiff	Pdif	06 31 53.7	-0.5
	comp=Z,0.2nm,0.3s,baz=48,slow=3.8,SNR=5.3						
ESDC				PP	PP	06 36 01.1	+0.2
	comp=Z,0.2nm,0.3s,baz=38,slow=8.8,SNR=8.1						
TXAR	Lajitas Array	106.71	45	PKiKP	PKiKP	06 36 32.3	+0.7
	comp=Z,0.9nm,1.1s,baz=241,slow=0.9,SNR=2.9						
TOA1	Torodi Ar. Sit	114.44	299	ePKiKP	PKPdf	06 36 45.7	-0.6
TOA1				ePP	PP	06 37 43.5	+1.0
TORD	Torodi Ar. Bea	114.44	299	PKP	PKPdf	06 36 45.7	-0.6
	comp=Z,0.4nm,0.6s,baz=143,slow=2.1,SNR=4.4						
TORD				PP	PP	06 37 43.5	+1.0
	comp=Z,1.4nm,1.0s,baz=62,slow=5.1,SNR=8.6						
KOWA	Kowa	117.99	304	PKP	PKPdf	06 36 53.1	-0.1
	comp=Z,0.8nm,0.3s,baz=95,slow=4.3,SNR=4.2						
KOWA				pPKP	pPKPdf	06 37 05.5	-0.6
	comp=Z,2.0nm,0.6s,baz=35,slow=0.9,SNR=3.8						
DBIC	Dimbokro	123.46	298	PKP	PKPdf	06 37 02.9	-0.8
	comp=Z,5.3nm,1.1s,baz=0.0,slow=3.0,SNR=2.9						
DBIC				pPKP	pPKPdf	06 37 16.7	0.0
	comp=Z,2.7nm,0.6s,baz=69,slow=1.8,SNR=2.5						
PMSA	Palmer Station	140.18	172	ePKPdf	PKPdf	06 37 32.7	-0.9
SDV	Santo Domingo	141.54	29	PKP	PKPdf	06 37 37.6	-0.3
	comp=Z,6.9nm,0.9s,baz=216,slow=2.0,SNR=5.5						
SDV				pPKP	pPKPdf	06 37 51.4	+0.6
	comp=Z,12nm,0.8s,baz=48,slow=1.3,SNR=6.4						
OTAV	Otavalo	144.28	48	ePKPdf	PKPbc	06 37 42.2	+0.9
NNA	Nana	153.55	64	i PKIKP	PKPbc	06 38 05.9	+0.8
PLCA	Paso Flores	158.89	140	PKPab	PKPab	06 38 40.1	+0.3
	comp=Z,2.1nm,0.9s,baz=218,slow=2.7,SNR=4.5						
LPAZ	La Paz	162.93	60	PKP	PKPdf	06 38 09.0	-0.3
	comp=Z,0.8nm,0.5s,baz=278,slow=3.5,SNR=5.1						
LPAZ	La Paz	162.93	60	ePKPdf	PKPdf	06 38 08.6	-0.8
CPUP	Villa Florida	175.84	101	PKP	PKPdf	06 38 15.7	-0.4
	comp=Z,0.9nm,0.7s,baz=270,slow=3.0,SNR=2.8						

JMA 07 06:25:24.6±0.5, 31°.28N×127°.49E, h0km, M3.5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFU	Fukue jima 2	1.74	38	P	Pn	06 25 56.2	+0.1
JFU				eS	Sb	06 26 19.6	-0.2
JSJ	Shimokoshiki	1.94	78	P	Pn	06 25 58.9	0.0
JSJ				eS	Sn	06 26 24.6	+0.6
NGSJ	Nagasakinomoza	2.38	55	P	Pn	06 26 06.5	+1.6
JTU	Tsushima	3.61	26	P	Pn	06 26 23.0	+1.2

MAN 07 06:25:46, 10°.12N×123°.30E, h1km, mb3.8, ML2.6, MS2.1, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.69	74	⇓eP	Pg	06 25 59.6	+0.4
LLP				eS	Sg	06 26 09.3	+1.2
TBP	Tagbilaran	0.70	128	eP	Pb	06 26 00.8	-0.3
TBP				i S	Sn	06 26 14.2	-0.5
GUIM	Jordan	0.85	306	eP	Pg	06 26 02.7	+0.3
GUIM				eS	Sb	06 26 14.7	-1.0
RCP	Roxas	1.53	339	⇑eP	Pb	06 26 14.8	-0.3
RCP				eS	Sg	06 26 35.7	+0.6
MSLP	Maasin	1.54	89	eP	Pn	06 26 14.8	+0.2
MSLP				eS	Sg	06 26 36.1	+0.6
OCLP	Ormoc	1.59	54	eP	Pn	06 26 15.0	-0.2
OCLP				eS	Sn	06 26 34.5	-1.9

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*NIED **07** 06:34:00, 25°.50N×127°.30E, h23km, Mw4.1 Best double couple: $M_0$1.62000×10[15] NP1:ϕ_s235.00000°, δ12.00000°, λ-84.00000°. NP2:ϕ_s49.00000°, δ78.00000°, λ-91.00000°.*

*MOS **07** 06:34:07.7±0.9, 25°.58N×127°.10E, h39km, mb4.6/26, Error ellipse: s-maj=11.6km s-min=6.4km az=100.1*

*ISCJB **07** 06:34:08.7±0.5, 25°.56N±0°.04×127°.25E±0°.04, h51km±4km, mb4.4/42, MS3.3/2, Error ellipse: s-maj=7.5km s-min=4.8km az=135.7*

*JMA **07** 06:34:08.3±0.3, 25°.53N×127°.26E, h45km, M3.9*

*IDC **07** 06:34:09.8±0.5, 25°.57N×127°.18E, h40km±3km, mb4.1/24, mb1 4.1/28, mb1mx4.0/70, mbtmp4.3/28, ML4.0/4, MS3.3/4, Ms1 3.3/4, ms1mx2.8/63, Error ellipse: s-maj=16.5km s-min=10.9km az=75.0*

*NEIC **07** 06:34:10.6±0.5, 25°.58N×127°.21E, h51km±4km, mb4.6/8, Error ellipse: s-maj=5.7km s-min=4.6km az=128.0*

ISC 07 06:34:09.6±0.5, 25°.58N±0°.06×127°.25E±0°.05, h42km±3km, h42km:pP-P, n131, σ0s.91/175, mb4.5/42, 6C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.72	39	P	Pn	06 34 22.8	-0.7
JJT2				S	Sn	06 34 34.3	+0.9
JKE	Kume jima 2	0.85	331	P	Pn	06 34 25.0	-0.2
JKE				eS	Sn	06 34 37.8	+1.2
JAGN	Aguni-jima	1.01	360	P	Pn	06 34 27.1	-0.2
JAGN				eS	Sn	06 34 41.5	+1.2
JNTH	Nagotoyohara	1.17	37	P	Pn	06 34 28.3	-1.3
JNTH				eS	Sn	06 34 44.3	0.0
JOW	Kunigami	1.56	36	P	Pn	06 34 34.9	0.0
JOW	Kunigami	1.56	36	ePn	Pn	06 34 36.0	+1.1
JIH	Iheya	1.59	24	P	Pn	06 34 34.9	-0.4
JOGS	Gusukube	1.85	244	P	Pn	06 34 39.4	+0.5
JIKM	Ikemajima	1.92	251	P	Pn	06 34 39.3	-0.6
JMJ	Miyako jima 2	1.92	247	P	Pn	06 34 39.5	-0.4
JIRB	Irabujima	2.02	249	P	Pn	06 34 40.4	-0.8
JOKE	Okinoerabujima	2.14	33	P	Pn	06 34 42.7	-0.2
YHNB	Yeheng	5.40	262	ePn	Pn	06 35 34.3	+6.7
YULB	Yu-li	5.84	249	ePn	Pn	06 35 34.4	+0.7
SSLB	Suanglung	5.99	254	ePn	Pn	06 35 36.9	+1.1
JNU	Nakatsue	8.16	22	P	Pn	06 36 05.6	+0.1
	5.7nm,0.3s,baz=220,slow=6.8,SNR=31						
JNU				LR	LR	06 39 26.6	
	comp=Z,155nm,19.3s,baz=297,slow=39						
JNU	Nakatsue	8.16	22	ePn	Pn	06 36 05.9	+0.3
KS15	Wonju Array Si	11.84	2	ePn	Pn	06 36 57.1	+1.2
KSAR	Wonju Array Be	11.84	2	P	Pn	06 36 57.1	+1.2
KSAR	Wonju Array Be	11.84	2	P	Pn	06 36 57.1	+1.2
KSRS	Korea Array	11.86	3	P	Pn	06 36 57.1	+1.0
	0.3nm,0.3s,baz=180,slow=14,SNR=4.6						
KSRS				LR	LR	06 42 07.0	
	comp=Z,116nm,18.2s,baz=172,slow=40						
MAJO	Matsushiro	14.40	38	ePn	Pn	06 37 31.0	+0.2
MAJO	Matsushiro	14.40	38	eP	Pn	06 37 31.0	+0.2
MJAR	Matsushiro Arr	14.40	38	P	Pn	06 37 33.2	+2.4
	0.7nm,0.3s,baz=209,slow=13,SNR=3.5						
MSHR	Mys Shultsa	17.26	10	ceP	Pn	06 38 05.9	-1.6
USRK	Ussuriysk Ar.	18.98	11	P	Pn	06 38 28.4	0.0
	0.6nm,0.3s,baz=172,slow=8.8,SNR=7.2						
MYLDM	Lahad Datu	21.94	204	eP	P	06 38 56.5	-3.2
	32nm,0.7s						
KLR	Kul'dur	23.87	7	P	P	06 39 18.9	-0.2
	0.1nm,0.5s,baz=199,slow=7.8,SNR=4.6						
YSS	Yuzh-Sakhalins	24.64	26	⇑eP	P	06 39 28.6	+2.5
YSS				pmax	pmax		
	comp=Z,61nm,2.5s						
SONA0	Songino Array	27.64	329	eP	P	06 39 52.5	-0.8
SONA0				ePcP	PcP	06 43 11.3	+1.4
SONM	Songino Array	27.64	329	P	P	06 39 52.5	-0.8
	comp=Z,4.9nm,0.8s,baz=143,slow=9.3,SNR=17						
SONM				PcP	PcP	06 43 11.3	+1.4
	comp=Z,0.4nm,0.6s,baz=180,slow=2.9,SNR=4.9						
SONM				LR	LR	06 52 14.8	
	comp=Z,80nm,20.1s,baz=148,slow=39						
SONM	Songino Array	27.64	329	eP	P	06 39 53.1	-0.3
SONM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONA1	Songino Array	27.64	329	eP	P	06 39 52.7	-0.7
TYV	Tymovskoe	27.89	21	eP	P	06 39 54.2	-1.2
TYV				pmax	pmax		
	comp=Z,7.0nm,1.5s						
TAPN	Taplejung	35.34	282	eP	P	06 41 02.3	+0.8
	comp=Z,5.7nm,0.3s						
ODAN	Odare	35.68	281	eP	P	06 41 05.2	+0.9
	comp=Z,43nm,0.7s						
RAMN	Ramite	36.37	281	eP	P	06 41 10.5	+0.3
	comp=Z,6.5nm,0.4s						
JIRN	Jiri	36.65	283	eP	P	06 41 13.4	+0.7
	comp=Z,15nm,0.6s						
GUN	Gumba	36.89	283	eP	P	06 41 15.4	+0.6
	comp=Z,7.8nm,0.3s						
PKI	Pulchoki	37.34	283	eP	P	06 41 18.9	+0.3
	comp=Z,10nm,0.4s						
KKN	Kakani	37.43	283	eP	P	06 41 19.8	+0.5
	comp=Z,11nm,0.4s						
LEM	Lembang	37.44	213	LR	LR	06 58 55.1	
	comp=Z,55nm,19.2s,baz=252,slow=40						
DMN	Daman	37.61	283	eP	P	06 41 21.0	+0.2
	comp=Z,10nm,0.5s						
MA2	Magadan	37.72	19	ceP	P	06 41 21.9	+0.9
KOLN	Koldanda	38.91	283	eP	P	06 41 32.7	+1.0
	comp=Z,24nm,0.9s						
PYUN	Piuthan	39.41	284	eP	P	06 41 36.9	+1.1
	comp=Z,57nm,0.7s						
SEY	Seymchan	40.90	17	P	P	06 41 48.1	+0.7
	comp=Z,4.1nm,0.8s,baz=234,slow=10,SNR=24						
SEY				pP	pP	06 42 00.4	+1.2
	comp=Z,6.2nm,0.8s,baz=219,slow=10,SNR=11						
SEY	Seymchan	40.90	17	ceP	P	06 41 48.7	+1.2
MK01	Makanchi Array	41.30	313	eP	P	06 41 50.1	-1.0
MK31	Makanchi Array	41.31	313	eP	P	06 41 50.4	-0.8
MK31	Makanchi Array	41.31	313	eP	P	06 41 50.4	-0.8
MK32	Makanchi Array	41.31	313	eP	P	06 41 50.5	-0.6
MK32				epP	pP	06 42 02.3	-0.6
MK32				ePcP	PcP	06 43 49.5	+0.5
MKAR	Makanchi Array	41.31	313	P	P	06 41 50.5	-0.6
	comp=Z,5.9nm,0.5s,baz=100,slow=10,SNR=121						
MKAR				pP	pP	06 42 02.3	-0.6
	comp=Z,3.4nm,0.4s,baz=95,slow=10,SNR=13						
MKAR				PcP	PcP	06 43 49.6	+0.5
	comp=Z,0.6nm,0.7s,baz=80,slow=4.7,SNR=4.5						
MKAR	Makanchi Array	41.31	313	eP	P	06 41 50.4	-0.8

	comp=Z,46nm,0.5s						
MKAR				pP	pP	06 42 02.3	-0.6
MKAR				PcP	PcP	06 43 49.5	+0.5
MKAR	Makanchi Array	41.31	313	eP	P	06 41 50.4	-0.8
MKAR				*PP	pP	06 42 02.3	-0.6
MKAR						06 43 49.6	
MKAR				pmax	pmax		
	comp=Z,46nm,0.5s						
MAKZ	Makanchi	41.53	313	eP	P	06 41 52.4	-0.5
	comp=Z,5.1nm,0.7s						
MAKZ	Makanchi	41.53	313	eP	P	06 41 52.4	-0.5
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZALV	Zalesovo Beam	42.24	324	P	P	06 41 57.5	-1.0
	comp=Z,4.1nm,0.7s,baz=115,slow=8.2,SNR=9.3						
ZALV				pP	pP	06 42 09.6	-0.7
	comp=Z,3.7nm,0.5s,baz=118,slow=7.9,SNR=6.7						
ZALV	Zalesovo Beam	42.24	324	eP	P	06 41 57.2	-1.3
ZALV				epP	pP	06 42 09.1	-1.1
ZALV	Zalesovo Beam	42.24	324	eP	P	06 41 57.2	-1.3
ZALV				e*PP	pP	06 42 09.1	-1.1
ZAA1	Zalesovo Array	42.24	324	eP	P	06 41 57.5	-1.0
ZAA1				epP	pP	06 42 09.6	-0.7
PDGK	Podgornoye	42.55	307	i P	P	06 42 00.8	-0.7
PDGK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KURK	Kurchatov	44.69	317	eP	P	06 42 17.5	-0.8
	comp=Z,4.4nm,0.9s						
KURK				eP	P	06 42 18.1	-0.3
KURK				epP	pP	06 42 30.4	+0.3
KURK	Kurchatov	44.69	317	eP	P	06 42 17.5	-0.8
KURK				e*PP	pP	06 42 30.4	+0.3
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURBB	Kurchatov Arra	44.72	317	P	P	06 42 18.1	-0.5
	comp=Z,3.4nm,0.5s,baz=105,slow=8.9,SNR=13						
KURBB				pP	pP	06 42 30.4	+0.1
	comp=Z,3.7nm,0.7s,baz=105,slow=8.5,SNR=6.9						
TKM2	Tokmak 2	45.33	306	i P	P	06 42 23.6	-0.3
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRAB	Tennant Creek	45.76	171	ceP	P	06 42 28.2	+1.1
WRAB				pmax	pmax		
	comp=Z,26nm,2.5s						
WR1	Warramunga Arr	45.77	171	eP	P	06 42 26.9	-0.3
WR1				epP	pP	06 42 38.6	-0.4
WRA	Warramunga Arr	45.77	171	P	P	06 42 26.9	-0.3
	comp=Z,2.0nm,0.7s,baz=353,slow=8.5,SNR=18						
WRA				pP	pP	06 42 38.6	-0.4
	comp=Z,6.5nm,0.7s,baz=352,slow=8.4,SNR=26						
KK31	Karatay Array	49.07	306	i P	P	06 42 52.5	-0.2
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KKAR	Karatay Array	49.07	306	eP	P	06 42 52.8	+0.1
KKAR	Karatay Array	49.07	306	eP	P	06 42 52.8	+0.1
AS31	Alice Springs	49.37	172	eP	P	06 42 54.8	-0.3
AS31				epP	pP	06 43 07.2	+0.1
ASAR	Alice Springs	49.38	172	P	P	06 42 55.4	+0.3
	comp=Z,0.7nm,0.5s,baz=359,slow=14,SNR=14						
ASAR				pP	pP	06 43 07.2	+0.1
	comp=Z,3.5nm,0.6s,baz=1.1,slow=9.5,SNR=19						
ASAR				PcP	PcP	06 44 17.1	-0.1
	comp=Z,0.5nm,1.0s,baz=108,slow=8.0,SNR=2.4						
AS01	Alice Springs	49.38	172	eP	P	06 42 54.7	-0.5
AS01				epP	pP	06 43 07.3	+0.2
BVA0	Borovoye Array	50.17	319	i P	P	06 43 00.1	-0.9
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	Borovoye Array	50.17	319	P	P	06 43 00.4	-0.5
	comp=Z,3.1nm,0.6s,baz=92,slow=7.4,SNR=15						
BVAR				pP	pP	06 43 12.3	-0.6
	comp=Z,4.4nm,0.7s,baz=99,slow=8.1,SNR=11						
BRVK	Borovoye	50.24	319	eP	P	06 43 01.5	0.0
	comp=Z,5.5nm,0.7s						
BRVK	Borovoye	50.24	319	ceP	P	06 43 01.7	+0.2
BRVK				pmax	pmax		
	comp=Z,28nm,2.5s						
KBL	Kabul	50.57	295	eP	P	06 43 04.5	0.0
	comp=Z,15nm,0.6s						
KBL	Kabul	50.57	295	eP	P	06 43 04.5	0.0
KBL				pmax	pmax		
	comp=Z,15nm,0.6s						
AB31	Akbulak array	56.45	314	i P	P	06 43 46.9	-0.2
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	Akbulak array	56.45	314	eP	P	06 43 46.6	-0.4
	comp=Z,84nm,0.4s						
ARU	Arti	57.36	322	P	P	06 43 53.2	-0.2
	comp=Z,4.7nm,0.2s,baz=112,slow=1.6,SNR=7.2						
ARU	Arti	57.36	322	eP	P	06 43 53.2	-0.2
	comp=Z,7.2nm,0.7s						
ARU	Arti	57.36	322	d iP	P	06 43 52.2	-1.2
ARU						06 45 55.3	
ARU				S	S	06 51 46.4	-0.4
ARU				SS	SS	06 55 31.3	-5.0
ARU				pmax	pmax		
	comp=Z,17nm,1.7s						
AKTO	Aktyubinsk	57.66	315	P	P	06 43 56.4	+0.8
	comp=Z,0.9nm,0.4s,baz=79,slow=13,SNR=5.1						
GEYT	Alibeck	58.85	300	P	P	06 44 05.0	+0.8
	comp=Z,2.1nm,0.4s,baz=101,slow=7.5,SNR=5.9						
GEYT				pP	pP	06 44 17.4	+1.0
	comp=Z,3.2nm,0.6s,baz=49,slow=4.4,SNR=3.1						
RND	Reindeer	64.75	30	eP	P	06 44 43.4	-0.1
	comp=Z,6.6nm,0.8s						
RND	Reindeer	64.75	30	eP	P	06 44 43.4	-0.1
RND				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDM	Murphy Dome	64.84	28	eP	P	06 44 45.0	+1.0
	comp=Z,4.4nm,0.8s						
ILAR	Eielson Array	65.43	28	P	P	06 44 47.2	-0.6
	comp=Z,0.4nm,0.6s,baz=265,slow=6.5,SNR=7.9						
ILAR	Eielson Array	65.43	28	eP	P	06 44 48.6	+0.8
DOT	Dot Lake	66.83	29	eP	P	06 44 56.9	0.0
	comp=Z,35nm,1.7s						
KBZ	Khabaz	68.89	309	P	P	06 45 10.9	+0.9
	comp=Z,3.4nm,0.7s,baz=97,slow=3.1,SNR=7.6						
KVAR	Kislovodsk Arr	68.97	310	P	P	06 45 11.8	+1.1
	comp=Z,4.5nm,0.5s,baz=169,slow=5.2,SNR=3.4						
SPA0	Spitsbergen Ar	69.28	348	eP	P	06 45 12.2	+0.2
SPA0				epP	pP	06 45 23.7	-0.7
SPITS	Spitsbergen Ar	69.28	348	P	P	06 45 12.2	+0.2
	comp=Z,6.5nm,0.9s,baz=46,slow=10,SNR=7.7						
SPITS				pP	pP	06 45 23.7	-0.7
	comp=Z,2.7nm,0.5s,baz=66,slow=8.1,SNR=1.9						
SPITS	Spitsbergen Ar	69.28	348	P	P	06 45 12.2	+0.2
SPITS				*PP	pP	06 45 23.7	-0.7
SPITS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SPITS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	Inuvik	69.84	23	P	P	06 45 16.3	+0.8
	comp=Z,0.8nm,0.5s,baz=299,slow=5.8,SNR=6.2						
INK	Inuvik	69.84	23	eP	P	06 45 15.8	+0.3
	comp=Z,5.7nm,1.3s						
INK	Inuvik	69.84	23	eP	P	06 45 15.8	+0.3
INK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ARA0	ARCESS Array S	70.29	339	eP	P	06 45 18.4	+0.1
ARCES	ARCESS Array B	70.29	339	P	P	06 45 18.4	+0.1
	comp=Z,1.4nm,0.7s,baz=63,slow=7.5,SNR=8.9						
ARCES	ARCESS Array B	70.29	339	eP	P	06 45 17.7	-0.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FIA0	FINESS Array S	72.99	330	eP	P	06 45 34.5	-0.1
FIA0				epP	pP	06 45 46.5	-0.7
FIA0	FINESS Array S	72.99	330	eP	P	06 45 34.6	-0.1
FIA0				e*PP	pP	06 45 46.5	-0.7
FINES	FINESS Array B	72.99	330	P	P	06 45 34.5	-0.1
	comp=Z,2.0nm,0.6s,baz=58,slow=6.0,SNR=12						
FINES				pP	pP	06 45 46.5	-0.7
	comp=Z,2.3nm,0.7s,baz=58,slow=7.0,SNR=3.5						
FINES	FINESS Array B	72.99	330	i P	P	06 45 34.4	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	75.45	319	P	P	06 45 49.1	-0.1
	comp=Z,1.1nm,0.4s,baz=59,slow=6.6,SNR=9.1						
AKASG				pP	pP	06 46 01.1	-0.6
	comp=Z,3.7nm,0.7s,baz=57,slow=6.6,SNR=8.1						
AKBB	Malin Array Si	75.45	319	eP	P	06 45 48.6	-0.6
AKBB				epP	pP	06 46 01.1	-0.6
AKBB	Malin Array Si	75.45	319	eP	P	06 45 48.6	-0.6
AKBB				e*PP	pP	06 46 01.1	-0.6
AK11	Malin Array Si	75.49	319	eP	P	06 45 49.3	-0.1
AK11				epP	pP	06 46 02.0	0.0
BR101	Keskin Array S	76.73	308	eP	P	06 45 57.4	+0.5
BR101				epP	pP	06 46 09.3	-0.2
BR131	Keskin Array S	76.73	308	eP	P	06 45 57.2	+0.3
BR131				epP	pP	06 46 09.1	-0.4
BRTR	Keskin Array B	76.73	308	P	P	06 45 57.4	+0.5
	comp=Z,3.4nm,0.9s,baz=79,slow=4.3,SNR=12						
BRTR				pP	pP	06 46 09.3	-0.2
	comp=Z,4.4nm,0.8s,baz=109,slow=4.6,SNR=14						
BR231	Keskin MP Arra	77.30	308	eP	P	06 45 58.2	-1.9
HFS	Hagfors	78.98	332	P	P	06 46 08.5	-0.3
	comp=Z,0.8nm,0.4s,baz=69,slow=7.9,SNR=5.2						
HFS	Hagfors	78.98	332	P	P	06 46 08.5	-0.3
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BUR08	Bucovina Ar. S	79.11	318	eP	P	06 46 10.4	+0.5
BUR04	Bucovina Ar. S	79.12	318	eP	P	06 46 10.7	+0.7
BUR04				epP	pP	06 46 22.6	0.0
YKA	Yellowknife Ar	79.49	25	P	P	06 46 12.3	+0.8
	comp=Z,3.2nm,0.8s,baz=299,slow=5.4,SNR=43						
NB2	NORSAR Subarra	79.50	334	P	P	06 46 11.4	-0.3
	comp=Z,0.9nm,0.6s,baz=55,slow=5.6						
NB200	NORSAR Array S	79.50	334	eP	P	06 46 11.3	-0.3
NOA	NORSAR Array B	79.50	334	P	P	06 46 11.3	-0.3
	comp=Z,1.4nm,0.7s,baz=55,slow=5.4,SNR=3.9						
CRVS	Cervenica-Dubn	80.76	320	eP	P	06 46 16.3	-2.5
CRVS	Cervenica-Dubn	80.76	320	eP	P	06 46 16.2	-2.5
GERES	GERESS Array B	85.18	323	P	P	06 46 42.8	+1.1
	comp=Z,0.3nm,0.3s,baz=68,slow=5.4,SNR=5.0						
GERES	GERESS Array B	85.18	323	eP	P	06 46 43.6	+1.9
NAC	Naches	85.43	40	eP	P	06 46 43.2	+0.3
GNO	Genoa	90.31	46	eP	P	06 47 05.6	-1.0

IDC 07 06:46:25.8±741.0, 50.̊91N×51.̊80E, h0km, Error ellipse: s-maj=364.4km s-min=88.6km az=93.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	4.00	95	i		07 10 20.0	
	baz=279,slow=316,SNR=6.2						
I46RU	ZALESOVO INFRA	20.26	68	i		08 53 10.0	
	baz=275,slow=322,SNR=6.7						
I34MN	SONGINO INFRAS	35.03	73	i		10 21 50.0	
	baz=298,slow=365,SNR=1.4						

DJA 07 06:51:58.6±0.4, 1°S±7°×13°3E±°, h10km, M3.6/4, MLv3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.35	110	P	Pn	06 52 22.3	-1.2
RKPI				S	Sb	06 52 40.7	-0.6
SWI	Sorong	1.66	276	P	Pn	06 52 27.3	-0.5
SWI				S	Sn	06 52 49.4	+0.2
FAKI	Fak Fak	1.97	200	P	Pn	06 52 32.5	+0.4

*TEH **07** 06:57:41.5, 31.̊43N×56.̊74E, h10km, ML4.5*
*THR **07** 06:57:43.6±1.1, 31.̊55N×56.̊78E, h14km±7km, ML4.2*
*MOS **07** 06:57:43.1±0.9, 31.̊34N×56.̊60E, h24km, mb4.3/31, Error ellipse: s-maj=7.9km s-min=5.4km az=73.9*
*NEIC **07** 06:57:43.7±0.0, 31.̊53N×56.̊78E, h16km, mb4.4/18, ML4.3(THR), MN4.5(TEH), After THR.*
*CSEM **07** 06:57:45.4±0.1, 31.̊47N×56.̊75E, h20km, mb4.4/28, Error ellipse: s-maj=4.2km s-min=3.6km az=135.0*
*IDC **07** 06:57:49.2±2.2, 31.̊42N×56.̊72E, h59km±20km, mb3.9/26, mb1 4.0/35, mb1mx3.9/65, mbtmp4.2/35, ML3.9/9, MS3.4/4, Ms1 3.4/4, ms1mx2.9/65, Error ellipse: s-maj=13.5km s-min=10.4km az=6.0*

ISC 07 06:57:42.8±0.8, 31.̊43N±0.̊03×56.̊73E±0.̊03, h9km±5km, n296, σ1.̊81/300, mb4.2/43, MS3.4/3, 2C-11D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	Bafgh	1.01	280	ePg	Pg	06 58 01.0	-1.2
KHGB	Koh Gabri	1.07	192	ePg	Pn	06 58 02.7	-1.4
TVBK	TV Kerman	1.44	179	ePn	Pg	06 58 10.4	0.0
TVBK	TV Kerman	1.44	179	ePn	Pg	06 58 10.4	0.0
KRBR	Kerman	1.44	179	ePg	Pg	06 58 12.6	+2.2
KRBR	Kerman	1.44	179	ePg	Pg	06 58 12.6	+2.2
KRBR	Kerman	1.44	179	ePg	Pg	06 58 12.6	+2.2
CHMN	Cheshme madani	1.71	156	ePn	Pg	06 58 14.6	-1.0
CHMN	Cheshme madani	1.71	156	ePn	Pg	06 58 14.6	-1.0
NGRK	Negar Kerman	1.78	180	ePn	Pg	06 58 15.3	-1.6
NGRK	Negar Kerman	1.78	180	ePn	Pg	06 58 15.3	-1.6
IMEH	Mehriz	1.81	269	ePn	Pg	06 58 15.8	-1.8
IMEH				eAMB	AMB	06 58 42.0	
	comp=Z,54µm,0.3s						
IMEH	Mehriz	1.81	269	ePn	Pg	06 58 15.8	-1.8
ICHK	Chekchek	2.14	293	ePn	Pb	06 58 19.9	-1.9
ICHK				eAMB	AMB	06 58 56.8	
	comp=Z,42µm,0.3s						
ICHK	Chekchek	2.14	293	ePn	Pb	06 58 19.9	-1.9
IKOO	Kooshah	2.17	62	ePn	Pb	06 58 20.0	-2.4
IKOO				eAMB	AMB	06 58 53.8	
	comp=Z,64µm,0.4s						
IKOO	Kooshah	2.17	62	ePn	Pb	06 58 20.0	-2.4
TABS	Tabas	2.24	8	ePn	Pb	06 58 21.1	-2.3
TABS				eSg	Sb	06 58 50.5	-0.8
TABS	Tabas	2.24	8	ePn	Pb	06 58 21.1	-2.3
TABS				eSg	Sb	06 58 50.5	-0.8
TABS	Tabas	2.24	8	ePg	Pb	06 58 21.1	-2.3
TABS				eSg	Sb	06 58 50.5	-0.8
TABS				AML	AML	06 59 01.4	
	comp=N,2µm,0.4s						
TABS				AML	AML	06 59 08.1	
	comp=E,1µm,0.6s						
ITEG	Tejag	2.25	49	ePn	Pb	06 58 21.1	-2.6
ITEG				eAMB	AMB	06 59 00.1	
	comp=Z,43µm,0.2s						
ITEG	Tejag	2.25	49	ePn	Pb	06 58 21.1	-2.6
ISAD	Sadrabad	2.64	281	eAMB	AMB	06 59 12.7	
	comp=Z,21µm,0.3s						
IDAH	Dahanechah	2.97	63	ePn	Pb	06 58 31.9	-4.0
IDAH				eAMB	AMB	06 59 32.4	
	comp=Z,15µm,0.4s						
IDAH	Dahanechah	2.97	63	ePn	Pb	06 58 31.9	-4.0
IMON	Monand	3.04	54	ePn	Pn	06 58 32.7	+1.4
IMON				eAMB	AMB	06 58 46.8	
	comp=Z,12µm,0.2s						
IMON	Monand	3.04	54	ePn	Pn	06 58 32.7	+1.4
NASN	Na'in	3.60	293	ePn	Pn	06 58 41.3	+2.3
NASN	Na'in	3.60	293	ePn	Pn	06 58 41.3	+2.3
IRAM	Ramesheh	3.73	277	ePn	Pn	06 58 41.9	+1.2
IRAM				eAMB	AMB	06 59 55.7	
	comp=Z,3µm,0.3s						
IRAM	Ramesheh	3.73	277	ePn	Pn	06 58 41.9	+1.2
SHRT	Shahrakht	3.73	53	ePn	Pn	06 58 42.2	+1.6
SHRT	Shahrakht	3.73	53	ePn	Pn	06 58 42.2	+1.6
NIAN	Nian	3.85	179	ePn	Pb	06 58 47.2	-3.7
ZHSF	Zahedan	3.93	116	ePn	Pn	06 58 45.4	+2.0
ZHSF	Zahedan	3.93	116	ePn	Pn	06 58 45.4	+2.0
ZHSF	Zahedan	3.93	116	ePn	Pn	06 58 45.7	+2.3
IBND	Bandar-abas	3.97	182	ePn	Pb	06 58 51.6	-1.3
GENO	Geno	4.04	187	ePn	Pn	06 58 46.6	+1.6
GENO	Geno	4.04	187	ePn	Pn	06 58 46.6	+1.6
GHIR	Ghir-Karzin	4.51	227	ePn	Pn	06 58 54.5	+3.1
GHIR	Ghir-Karzin	4.51	227	ePn	Pn	06 58 54.5	+3.1
GHIR	Ghir-Karzin	4.51	227	ePn	Pn	06 58 54.9	+3.5
IKAZ	Kazeroun	4.53	250	ePn	Pn	06 58 55.2	+3.4
IKAZ				eAMB	AMB	07 00 34.7	
	comp=Z,5µm,0.5s						
IKAZ	Kazeroun	4.53	250	ePn	Pn	06 58 55.2	+3.4
SHRO	Shahrood	4.59	353	ePn	Pn	06 58 53.6	+1.1
SHRO	Shahrood	4.59	353	ePn	Pn	06 58 53.6	+1.1
SHRO				AML	AML	07 00 10.2	
	comp=E,455nm,0.3s						
SHRO				AML	AML	07 00 20.8	
	comp=N,269nm,0.5s						
ILAS	Lasjerd	5.05	322	ePn	Pn	06 59 00.7	+1.8
ILAS				eAMB	AMB	07 00 40.4	
	comp=E,4µm,0.4s						
ILAS	Lasjerd	5.05	322	ePn	Pn	06 59 00.7	+1.8
IMOG	Moghan	5.15	24	ePn	Pn	06 59 02.3	+2.0
IMOG				eAMB	AMB	07 00 43.8	
	comp=Z,2µm,0.4s						
IMOG	Moghan	5.15	24	ePn	Pn	06 59 02.3	+2.0
AHBU	AHRAM	5.36	243	ePn	Pn	06 59 06.4	+3.5
IAKL	Akhelmad	5.43	17	eAMB	AMB	06 59 10.6	
	comp=Z,2µm,0.1s						
IAKL				ePn	Pn	06 59 05.4	+1.3
GHVR	GHOM	5.49	305	ePn	Pn	06 59 07.3	+2.5
GHVR	GHOM	5.49	305	ePn	Pn	06 59 07.3	+2.5
GHVR				AML	AML	07 01 01.5	
	comp=E,106nm,0.6s						
IMYA	Miami	5.65	29	ePn	Pn	06 59 09.6	+2.6
IMYA				eAMB	AMB	07 01 03.2	
	comp=Z,2µm,0.5s						
IMYA	Miami	5.65	29	ePn	Pn	06 59 09.6	+2.6
IALA	Alasht	5.68	326	ePn	Pn	06 59 09.7	+2.2
IALA				eAMB	AMB	07 01 07.0	
	comp=Z,3µm,0.7s						
IALA	Alasht	5.68	326	ePn	Pn	06 59 09.7	+2.2
ISFR	Sfrayin	5.71	10	eAMB	AMB	06 59 10.6	
	comp=Z,3µm,0.3s						
KHMZ	Khomeyn	6.16	294	ePn	Pn	06 59 16.8	+2.7
KHMZ	Khomeyn	6.16	294	ePn	Pn	06 59 16.8	+2.7
IEMG	Emamgholi	6.18	14	ePn	Pn	06 59 15.8	+1.3
IEMG				eAMB	AMB	07 01 05.0	
	comp=Z,1µm,0.4s						
IEMG	Emamgholi	6.18	14	ePn	Pn	06 59 15.8	+1.3
MRVT	Maraveh tapeh	6.24	355	ePn	Pn	06 59 16.4	+1.3
MRVT	Maraveh tapeh	6.24	355	ePn	Pn	06 59 16.4	+1.3
BJRD	Bojnurd	6.28	5	ePn	Pn	06 59 17.1	+1.4
BJRD	Bojnurd	6.28	5	ePn	Pn	06 59 17.1	+1.4
BJRD	Bojnurd	6.28	5	ePn	Pn	06 59 17.1	+1.4
ASAO	Ashtian	6.44	301	ePn	Pn	06 59 20.3	+2.3
ASAO	Ashtian	6.44	301	ePn	Pn	06 59 20.3	+2.3
CHTH	Charan	6.47	315	ePn	Pn	06 59 19.6	+1.3
CHTH	Charan	6.47	315	ePn	Pn	06 59 19.6	+1.3
UOSS	Minazif	6.47	184	ePn	Pn	06 59 22.4	+4.2
UOSS	Minazif	6.47	184	ePn	Pn	06 59 22.5	+4.2
GYB5	ALIBECK ARRAY	6.58	10	ePn	Pn	06 59 21.0	+1.3
GYB5	ALIBECK ARRAY	6.58	10	ePn	Pn	06 59 21.0	+1.3
GYB1	ALIBECK ARRAY	6.58	10	ePn	Pn	06 59 21.2	+1.5
GYB1	ALIBECK ARRAY	6.58	10	ePn	Pn	06 59 21.2	+1.5
GYA1	ALIBECK ARRAY	6.58	10	ePn	Pn	06 59 21.2	+1.5
GYA1	ALIBECK ARRAY	6.58	10	ePn	Pn	06 59 21.2	+1.5
GEYT	Alibeck	6.59	10	P	Pn	06 59 21.6	+1.8
	comp=Z,5.5nm,0.3s,baz=191,slow=14,SNR=44						
GEYT				S	Sn	07 00 36.8	+1.8
	baz=184,slow=17,SNR=2.7						
GYA0	ALIBECK ARRAY	6.59	10	ePn	Pn	06 59 21.2	+1.4
GYA0	ALIBECK ARRAY	6.59	10	ePn	Pn	06 59 21.2	+1.4
GYA0B	ALIBECK ARRAY	6.59	10	ePn	Pn	06 59 21.2	+1.4
GYA0B	ALIBECK ARRAY	6.59	10	ePn	Pn	06 59 21.2	+1.4
GYB4	ALIBECK ARRAY	6.59	9	ePn	Pn	06 59 21.1	+1.3
GYB4	ALIBECK ARRAY	6.59	9	ePn	Pn	06 59 21.1	+1.3
GYA2	ALIBECK ARRAY	6.59	10	ePn	Pn	06 59 21.6	+1.7
GYA2	ALIBECK ARRAY	6.59	10	ePn	Pn	06 59 21.6	+1.7
GYB2	ALIBECK ARRAY	6.60	10	ePn	Pn	06 59 21.6	+1.7
GYB2	ALIBECK ARRAY	6.60	10	ePn	Pn	06 59 21.6	+1.7
GYB3	ALIBECK ARRAY	6.60	10	ePn	Pn	06 59 21.3	+1.3
GYB3	ALIBECK ARRAY	6.60	10	ePn	Pn	06 59 21.3	+1.3
THKV	Tehran--Karaj	6.62	314	ePn	Pn	06 59 22.5	+2.1
THKV	Tehran--Karaj	6.62	314	ePn	Pn	06 59 22.5	+2.1
WSAR	Wadi Sarin	8.33	168	P	Pn	06 59 47.2	+3.5
	comp=Z,0.6nm,0.3s,baz=5.2,slow=11,SNR=4.3						
ZNJK	Zanjan	8.48	310	ePn	Pn	06 59 47.5	+1.6
ZNJK	Zanjan	8.48	310	ePn	Pn	06 59 47.5	+1.6
SNGE	Sanandaj	8.67	297	ePn	Pn	06 59 51.6	+3.1
SNGE	Sanandaj	8.67	297	ePn	Pn	06 59 51.6	+3.1
GRMI	Germi	10.32	318	ePn	Pn	07 00 12.9	+1.8
GRMI	Germi	10.32	318	ePn	Pn	07 00 12.9	+1.8
RAYN	Ar Rayn	12.70	234	ePn	Pn	07 00 42.1	-1.5
RAYN				eSn	Sn	07 03 01.4	-3.7
RAYN	Ar Rayn	12.70	234	P	Pn	07 00 42.1	-1.5
ZEI	Tsey	15.26	322	eP	P	07 01 25.2	+1.8
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZEI	Tsey	15.26	322	eP	P	07 01 25.2	+1.8
	comp=Z,8.0nm,0.9s						
KK07	Karatay Array	15.96	39	ePn	Pn	07 01 26.8	-0.8
KK08	Karatay Array	15.97	39	ePn	P	07 01 28.4	-2.8
KK03	Karatay Array	15.97	39	ePn	P	07 01 28.1	-3.1
KK01	Karatay Array	15.98	39	ePn	Pn	07 01 27.9	+0.2
KK02	Karatay Array	15.98	39	ePn	P	07 01 28.4	-2.9
KK31	Karatay Array	15.98	39	ePn	P	07 01 28.8	-2.5
KK31	Karatay Array	15.98	39	eP	P	07 01 28.8	-2.5
KKAR	Karatay Array	15.98	39	ePn	P	07 01 28.9	-2.3
KKAR	Karatay Array	15.98	39	eP	P	07 01 29.0	-2.3
KK04	Karatay Array	15.98	39	ePn	P	07 01 28.3	-3.0
KK06	Karatay Array	15.98	39	ePn	P	07 01 28.2	-3.1
KK05	Karatay Array	15.99	39	ePn	Pn	07 01 27.8	-0.1
SFK	Sufi-Kurgan	16.07	53	P	P	07 01 31.2	-1.4
SFK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SFK	Sufi-Kurgan	16.07	53	P	P	07 01 31.2	-1.4
	comp=Z,10.0nm,1.1s						
KBZ	Khabaz	16.43	322	P	P	07 01 36.8	+0.5
	comp=Z,0.1nm,0.3s,baz=139,slow=6.4,SNR=5.0						
KVAR	Kislovodsk Arr	16.70	322	P	P	07 01 40.4	+1.0
	baz=64,slow=3.0,SNR=4.2						
KIV	Kislovodsk	16.70	322	ePn	Pn	07 01 36.0	-1.0
	comp=Z,22nm,0.9s						
KIV	Kislovodsk	16.70	322	eP	Pn	07 01 35.9	-1.1
KIV				pmax	pmax		
	comp=Z,28nm,1.1s						
KIV	Kislovodsk	16.70	322	ePn	Pn	07 01 36.0	-1.0
	comp=Z,22nm,0.9s						
MNAS	Manas	16.73	44	P	P	07 01 38.8	-0.9
MNAS				pmax	pmax		
	comp=Z,15nm,1.0s						
MNAS	Manas	16.73	44	P	P	07 01 38.8	-0.9
	comp=Z,15nm,1.0s						
ASF	Jabal al Asfar	16.88	278	P	P	07 01 42.2	+0.7
	comp=Z,0.5nm,0.3s,baz=44,slow=8.1,SNR=9.3						
AML	Almayashu	17.25	47	P	P	07 01 44.7	-1.1
	SNR=7.0						
EKS2	Erkin-Say	17.60	46	P	P	07 01 48.0	-1.3
	SNR=7.1						
KSH	Kashi	17.61	57	P	Pn	07 01 45.9	-2.5
KSH				sP	sP	07 01 52.2	-1.1
KSH				PP	PnPn	07 02 00.3	+1.5
KSH				S	Sn	07 04 55.1	-10
KSH				SS	SnSn	07 05 15.6	-2.5
UCH	Uchtor	17.82	48	P	P	07 01 51.7	-0.5
	SNR=10						
AB07	Akbulak array	17.96	7	ePn	P	07 01 52.2	-0.9
AB07	Akbulak array	17.96	7	ePn	P	07 01 52.2	-0.9
AB03	Akbulak array	17.97	7	ePn	P	07 01 52.3	-0.9
AB03	Akbulak array	17.97	7	ePn	P	07 01 52.3	-0.9
AB01	Akbulak array	17.97	7	ePn	P	07 01 52.7	-0.5
AB01	Akbulak array	17.97	7	ePn	P	07 01 52.7	-0.5
AB31	Akbulak array	17.97	7	ePn	P	07 01 52.6	-0.6
AB31	Akbulak array	17.97	7	eP	P	07 01 52.7	-0.6
AB31	Akbulak array	17.97	7	eP	P	07 01 52.7	-0.6
ABKAR	Akbulak array	17.97	7	ePn	P	07 01 52.9	-0.4
	comp=Z,36nm,0.8s						
ABKAR	Akbulak array	17.97	7	ePn	P	07 01 52.9	-0.4
	comp=Z,36nm,0.8s						
AB04	Akbulak array	17.98	7	ePn	P	07 01 52.8	-0.5
AB04	Akbulak array	17.98	7	ePn	P	07 01 52.8	-0.5
AB02	Akbulak array	17.98	7	ePn	P	07 01 53.1	-0.2
AB02	Akbulak array	17.98	7	ePn	P	07 01 53.1	-0.2
AB09	Akbulak array	17.98	7	ePn	P	07 01 52.4	-0.9
AB09	Akbulak array	17.98	7	ePn	P	07 01 52.4	-0.9
AB06	Akbulak array	17.98	7	ePn	P	07 01 52.5	-0.9
AB06	Akbulak array	17.98	7	ePn	P	07 01 52.5	-0.9
AB05	Akbulak array	17.99	7	ePn	P	07 01 52.9	-0.5
AB05	Akbulak array	17.99	7	ePn	P	07 01 52.9	-0.5
AAK	Ala-Archa	18.03	47	P	P	07 01 56.5	+2.4
	comp=Z,0.3nm,0.3s,baz=222,slow=13,SNR=14						
AAK				LR	LR	07 09 59.2	
	comp=Z,128nm,19.8s,baz=237,slow=40						
AAK	Ala-Archa	18.03	47	P	P	07 01 54.7	+0.6
	SNR=8.4						
AAK	Ala-Archa	18.03	47	ePn	P	07 01 54.9	+0.8
	comp=Z,22nm,1.3s						
AAK	Ala-Archa	18.03	47	⇓iP	P	07 01 53.9	-0.2
AAK				pmax	pmax		
	comp=Z,13nm,2.4s						
MMAI	Mount Meron Ar	18.12	281	P	P	07 01 55.8	+0.7
	comp=Z,1.8nm,0.3s,baz=91,slow=17,SNR=3.7						
FRU	Bishkek	18.21	46	eP	P	07 01 58.0	+2.0
FRU	Bishkek	18.21	46	eP	P	07 01 58.0	+2.0
KZA	Kyzart	18.22	49	P	P	07 01 59.6	+3.1
	SNR=7.7						
KBK	Karagaybulak	18.32	47	P	P	07 02 00.9	+3.6
	SNR=6.2						
NRN	Naryn	18.41	52	P	P	07 02 01.1	+2.6
NRN				pmax	pmax		

	comp=Z,10.0nm,1.1s						
NRN	Naryn	18.41	52	P	P	07 02 01.1	+2.6
	comp=Z,10.0nm,1.1s						
EIL	Elat	18.84	270	P	Pn	07 02 05.5	+2.1
	comp=Z,0.5nm,0.3s,baz=49,slow=4.4,SNR=7.1						
TKM2	Tokmak 2	18.86	47	P	Pn	07 02 06.6	+2.7
	SNR=7.3						
AKTK	Aktyubinsk	19.01	3	P	Pn	07 02 05.9	+0.5
	comp=Z,120nm,18.3s						
AKTO	Aktyubinsk	19.01	3	P	Pn	07 02 05.9	+0.5
	comp=Z,0.4nm,0.3s,baz=189,slow=11,SNR=16						
AKTO				LR	LR	07 11 09.2	
	comp=Z,120nm,18.3s,baz=171,slow=42						
KDJ	Kajisay	19.51	51	*e*P	Pn	07 02 12.2	+0.6
	comp=Z,10nm,1.0s						
KDJ	Kajisay	19.51	51	P	Pn	07 02 12.4	+0.8
KDJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KDJ	Kajisay	19.51	51	P	Pn	07 02 12.4	+0.8
	comp=Z,10.0nm,1.0s						
TARG	Taragay, Kyrgy	19.75	53	*e*P	Pn	07 02 14.3	-0.6
	comp=Z,10nm,1.0s						
DAMY	Dhamar	20.23	217	*e*P	Pn	07 02 21.2	+0.7
	comp=Z,29nm,1.2s						
BR101	Keskin Array S	20.49	300	*e*P	Pn	07 02 21.8	-1.4
BR101	Keskin Array S	20.49	300	*e*P	Pn	07 02 21.8	-1.4
BR131	Keskin Array S	20.49	300	*e*P	Pn	07 02 22.1	-1.2
BR131	Keskin Array S	20.49	300	*e*P	Pn	07 02 22.0	-1.2
BRTR	Keskin Array B	20.49	300	P	Pn	07 02 21.8	-1.4
	comp=Z,10nm,1.0s,baz=118,slow=13,SNR=34						
OTUK	Ortayu	20.57	31	P	Pn	07 02 23.1	-0.8
OTUK				pmax	pmax		
	comp=Z,11nm,1.6s						
OTUK	Ortayu	20.57	31	P	Pn	07 02 23.1	-0.8
	comp=Z,11nm,1.6s						
ANTO	Ankara	21.15	300	*e*P	P	07 02 27.5	-0.7
	comp=Z,13nm,0.7s						
ANTO	Ankara	21.15	300	*e*P	P	07 02 27.5	-0.7
ANTO				pmax	pmax		
	comp=Z,13nm,0.7s						
ANTO	Ankara	21.15	300	*e*P	P	07 02 27.5	-0.7
	comp=Z,13nm,0.7s						
BR231	Keskin MP Arra	21.16	300	*e*P	P	07 02 22.6	-5.7
PDGK	Podgornoye	21.56	50	P	P	07 02 35.9	+3.3
PDGK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VRH	Novokhopyorsk	22.66	335	*e*P	P	07 02 45.1	+0.9
VRH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VRH	Novokhopyorsk	22.66	335	*e*P	P	07 02 45.1	+0.9
	comp=Z,9.0nm,0.7s						
PYUN	Piuthan	23.02	92	*e*P	P	07 02 49.2	+0.9
	comp=Z,44nm,1.0s						
ATD	Arta Tunnel	23.60	216	LR	LR	07 13 44.9	
	comp=Z,71nm,18.0s,baz=51,slow=40						
DANN	Dangsing	23.61	91	*e*P	P	07 02 55.6	+1.2
	comp=Z,7.1nm,1.0s						
VSR	Storozhevoye	23.66	332	*e*P	P	07 02 54.1	-0.2
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	Borovoye	23.75	21	*e*P	P	07 02 56.0	+0.8
	comp=Z,8.7nm,1.0s						
BRVK	Borovoye	23.75	21⇑	*e*P	P	07 02 56.5	+1.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRVK	Borovoye	23.75	21	*e*P	P	07 02 56.0	+0.8
	comp=Z,8.7nm,1.0s						
BVAR	Borovoye Array	23.75	21	P	P	07 02 56.5	+1.2
	comp=Z,0.7nm,0.6s,baz=78,slow=24,SNR=9.8						
BVAR				LR	LR	07 13 17.5	
	comp=Z,127nm,21.0s,baz=230,slow=39						
BVAR	Borovoye Array	23.75	21	P	P	07 02 56.5	+1.2
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR				MLR	MLR		
	comp=Z,127nm,21.0s						
MAKZ	Makanchi	24.74	44	*e*P	P	07 03 05.3	+0.8
	comp=Z,4.6nm,0.8s						
MAKZ	Makanchi	24.74	44	*e*P	P	07 03 05.3	+0.8
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAKZ	Makanchi	24.74	44	*e*P	P	07 03 05.3	+0.8
	comp=Z,4.6nm,0.8s						
LPSR	Galich'ya Gora	24.82	334	*e*P	P	07 03 05.6	+0.5
LPSR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LPSR	Galich'ya Gora	24.82	334	*e*P	P	07 03 05.6	+0.5
	comp=Z,7.0nm,0.6s						
MK01	Makanchi Array	24.92	45	*e*P	P	07 03 06.7	+0.6
MK01	Makanchi Array	24.92	45	*e*P	P	07 03 06.7	+0.6
MK31	Makanchi Array	24.92	45	*e*P	P	07 03 07.2	+1.1
MK31	Makanchi Array	24.92	45	*e*P	P	07 03 07.2	+1.1
MK31	Makanchi Array	24.92	45	*e*P	P	07 03 07.2	+1.1
MK32	Makanchi Array	24.92	45	*e*P	P	07 03 06.9	+0.8
MK32	Makanchi Array	24.92	45	*e*P	P	07 03 06.9	+0.8
MKAR	Makanchi Array	24.92	45	P	P	07 03 06.9	+0.8
	comp=Z,1.4nm,0.6s,baz=234,slow=8.9,SNR=15						
MKAR	Makanchi Array	24.92	45	*e*P	P	07 03 07.2	+1.1
	comp=Z,20nm,0.8s						
MKAR	Makanchi Array	24.92	45	*e*P	P	07 03 07.2	+1.1
MKAR				pmax	pmax		
	comp=Z,20nm,0.8s						
MKAR	Makanchi Array	24.92	45	*e*P	P	07 03 07.2	+1.1
	comp=Z,20nm,0.8s						
ARU	Arti	25.03	2	P	P	07 03 08.6	+1.8
	comp=Z,4.3nm,0.2s,baz=111,slow=5.4,SNR=2.3						
ARU	Arti	25.03	2	*e*P	P	07 03 07.7	+0.8
	comp=Z,4.9nm,0.6s						
ARU	Arti	25.03	2⇓	*e*P	P	07 03 08.7	+1.8
ARU				pmax	pmax		
	comp=Z,34nm,3.6s						
KURBB	Kurchatov Arra	25.10	34	P	P	07 03 08.8	+1.2
	comp=Z,3.8nm,0.8s,baz=234,slow=9.4,SNR=11						
KURK	Kurchatov	25.20	34	*e*P	P	07 03 08.8	+0.3
KURK	Kurchatov	25.20	34⇓	*i*P	P	07 03 09.6	+1.1
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PKIN	Phulchoki	25.21	91	*e*P	P	07 03 09.4	+0.2
PKI	Pulchoki	25.22	91	*e*P	P	07 03 09.5	+0.2
	comp=Z,36nm,0.9s						
GUN	Gumba	25.53	90	*e*P	P	07 03 13.3	+1.1
	comp=Z,66nm,1.0s						
JIRN	Jiri	25.86	91	*e*P	P	07 03 16.5	+1.3
	comp=Z,55nm,0.9s						
RAMN	Ramite	26.41	92	*e*P	P	07 03 20.7	+0.6
	comp=Z,17nm,0.7s						
WMQ	Urumqi	27.30	54	P	P	07 03 30.5	+2.8
WMQ				pP	sP	07 03 35.0	+3.3
OBN	Obninsk	27.66	335	P	P	07 03 31.1	+0.4
	comp=Z,14nm,0.4s,baz=170,slow=12,SNR=2.2						
OBN	Obninsk	27.66	335	*e*P	P	07 03 30.6	-0.1
	comp=Z,75nm,1.7s						
OBN	Obninsk	27.66	335⇓	*e*P	P	07 03 30.5	-0.1
OBN				*e*		07 04 14.2	
OBN				pmax	pmax		
	comp=Z,31nm,1.5s						
OBN				MLR	MLR		
	comp=Z,101nm,18.0s						
MLR	Muntele Rosu	27.70	309	P	P	07 03 33.4	+2.0
	comp=Z,0.5nm,0.7s,baz=252,slow=11,SNR=3.4						
AKASG	Malin Array Be	28.04	321	P	P	07 03 34.5	+0.4
	comp=Z,1.2nm,0.6s,baz=122,slow=8.4,SNR=10						
AKASG				PcP	PcP	07 06 47.0	-1.6
	comp=Z,0.9nm,0.6s,baz=94,slow=2.3,SNR=5.8						
AKASG	Malin Array Be	28.04	321	P	P	07 03 34.5	+0.4
	comp=Z,4.0nm,1.0s						
AKBB	Malin Array Si	28.04	321	*e*P	P	07 03 34.1	0.0
	comp=Z,14nm,1.3s						
AKBB	Malin Array Si	28.04	321	*e*P	P	07 03 34.1	0.0
AKBB				pmax	pmax		
	comp=Z,14nm,1.3s						
AKBB	Malin Array Si	28.04	321	*e*P	P	07 03 34.1	0.0
	comp=Z,14nm,1.3s						
KIEV	Kiev	28.05	321	*e*P	P	07 03 33.9	-0.3
	comp=Z,14nm,1.3s						
KIEV	Kiev	28.05	321	*e*P	P	07 03 34.4	+0.2
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AK11	Malin Array Si	28.06	321	*e*P	P	07 03 33.8	-0.6
BUR04	Bucovina Ar. S	28.94	313	*e*P	P	07 03 42.9	+0.6
ZAA0	Zalesovo Array	30.20	34	*e*P	P	07 03 53.2	0.0
	comp=Z,2.3nm,0.6s						
ZALV	Zalesovo Beam	30.20	34	P	P	07 03 53.5	+0.3
	comp=Z,2.3nm,0.5s,baz=238,slow=10,SNR=11						
ZALV				PcP	PcP	07 06 51.4	-2.6
	comp=Z,0.3nm,0.3s,baz=258,slow=5.5,SNR=2.2						
ZAA1	Zalesovo Array	30.20	34	*e*P	P	07 03 53.5	+0.2
ZAA1				*e*PcP	PcP	07 06 51.4	-2.6
VSU	Vasula	33.84	332⇓	*e*P	P	07 04 25.7	+0.5
VSU				pmax	pmax		
	comp=Z,119nm,2.4s						
GTA	Gaotai	35.73	65	⇓P	P	07 04 44.2	+2.3
GTA				pP	sP	07 04 48.6	+2.6
GTA				sP	pP	07 04 51.3	+6.5
GTA				S	S	07 10 21.7	+2.7
FIA0	FINESS Array S	36.06	335	*e*P	P	07 04 44.7	+0.5
FIA0	FINESS Array S	36.06	335	*e*P	P	07 04 44.7	+0.5
FINES	FINESS Array B	36.06	335	P	P	07 04 44.7	+0.5
	comp=Z,2.9nm,0.9s,baz=133,slow=11,SNR=5.5						
GEA0	GERESS Array S	36.64	311	*e*P	P	07 04 49.0	-0.6
GEC2	GERESS Array S	36.65	311	*e*P	P	07 04 49.8	+0.2
	comp=Z,20nm,1.7s						
GEC2	GERESS Array S	36.65	311	*e*P	P	07 04 49.8	+0.2
GEC2				pmax	pmax		
	comp=Z,20nm,1.7s						
GEC2	GERESS Array S	36.65	311	*e*P	P	07 04 49.8	+0.2
	comp=Z,20nm,1.7s						
GERES	GERESS Array B	36.65	311	P	P	07 04 49.8	+0.2
	comp=Z,1.0nm,0.5s,baz=117,slow=7.8,SNR=8.3						
GERES				PcP	PcP	07 07 13.0	+0.6
	comp=Z,0.6nm,0.5s,baz=114,slow=1.6,SNR=4.9						
CLL	Collm	37.66	315	*e*P	P	07 04 59.0	+1.0
CLL				*e*pP	sP	07 05 02.0	-0.1
CLL	Collm	37.66	315	*e*P	P	07 04 54.0	-4.0
CLL				*e*		07 05 02.0	
LZH	Lanzhou	39.15	70	*e*P	P	07 05 12.7	+1.7
LZH				pP	sP	07 05 16.0	+1.0
LZH				sP	pP	07 05 17.5	+3.6
LZH				*e*PP	PnPn	07 06 46.5	+3.4
CHTO	Chiang Mai	40.00	98	P	P	07 05 19.1	+1.1
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CMAR	Chiang Mai Arr	40.16	99	P	P	07 05 20.0	+0.6
	comp=Z,2.4nm,0.8s,baz=291,slow=8.2,SNR=9.4						
HFS	Hagfors	40.37	328	P	P	07 05 21.1	+0.5
	comp=Z,5.6nm,0.6s,baz=125,slow=9.0,SNR=9.3						
SONA0	Songino Array	40.87	52	*e*P	P	07 05 26.1	+1.0
SONM	Songino Array	40.87	52	P	P	07 05 26.1	+1.0
	comp=Z,1.2nm,0.9s,baz=261,slow=7.4,SNR=5.9						
ULN	Ulaanbaatar	41.31	52⇓	*e*P	P	07 05 30.0	+1.2
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NB2	NORSAR Subarra	41.86	329	P	P	07 05 30.6	-2.3
	comp=Z,1.4nm,0.7s,baz=117,slow=8.6						
NB200	NORSAR Array S	41.86	329	*e*P	P	07 05 32.5	-0.4
NOA	NORSAR Array B	41.86	329	P	P	07 05 32.5	-0.4
	comp=Z,2.4nm,0.8s,baz=116,slow=8.1,SNR=5.8						
HHC	Hu-ho-hao-te	44.64	62	*e*P	P	07 05 57.5	+1.8
HHC				pP	sP	07 06 02.0	+2.2
HHC				sP	pP	07 06 04.5	+5.8
HHC				PP	PP	07 07 42.8	+3.0
HHC				S	S	07 12 32.4	+0.4
HHC				sS	sS	07 12 40.3	+3.4
HHC				SS	SS	07 15 43.9	-8.0
HHC				ScS	ScS	07 15 52.5	-1.5
EKA	Eskdalemuir Ar	47.87	318	P	P	07 06 20.9	+0.2
	comp=Z,1.2nm,0.6s,baz=109,slow=7.3,SNR=5.5						
EKA	Eskdalemuir Ar	47.87	318	P	P	07 06 21.0	+0.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PSI	Prapat	48.87	117	P	P	07 06 30.2	+1.1
	comp=Z,4.9nm,0.8s,baz=268,slow=13,SNR=3.5						
PSI	Prapat	48.87	117	*e*P	P	07 06 30.2	+1.1
	comp=Z,16nm,1.3s						
TOA0	Torodi Ar. Sit	53.52	263	*e*P	P	07 07 03.3	-0.7
TOA1	Torodi Ar. Sit	53.52	263	*e*P	P	07 07 02.3	-1.7
TORD	Torodi Ar. Bea	53.52	263	P	P	07 07 02.3	-1.7
	comp=Z,1.0nm,0.7s,baz=51,slow=5.9,SNR=5.9						
TIXI	Tiksi	54.88	22⇑	*e*P	P	07 07 15.2	+2.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KLR	Kul'dur	57.54	49⇓	*e*P	P	07 07 34.9	+2.4
KS15	Wonju Array Si	57.73	63	*e*P	P	07 07 34.4	+0.4
KS15	Wonju Array Si	57.73	63	*e*P	P	07 07 34.3	+0.4
KSAR	Wonju Array Be	57.73	63	P	P	07 07 34.4	+0.4
KSAR	Wonju Array Be	57.73	63	P	P	07 07 34.4	+0.4
KSAR	Wonju Array Be	57.73	63	P	P	07 07 34.3	+0.4
KOWA	Kowa	57.75	268	P	P	07 07 34.3	-0.1
	comp=Z,1.1nm,0.5s,baz=60,slow=10.0,SNR=3.7						
KSRS	Korea Array	57.76	63	P	P	07 07 34.4	+0.2
	comp=Z,1.6nm,0.6s,baz=282,slow=5.8,SNR=5.2						
USRK	Ussuriysk Ar.	58.87	54	P	P	07 07 40.9	-0.9
	comp=Z,1.5nm,0.6s,baz=246,slow=7.3,SNR=2.2						
SEY	Seymchan	64.98	30⇓	*e*P	P	07 08 23.3	+0.7
YSS	Yuzh-Sakhalins	65.25	49⇓	*e*P	P	07 08 26.6	+2.0
YSS				pmax	pmax		
	comp=Z,51nm,2.5s						
MA2	Magadan	65.42	34⇓	*e*P	P	07 08 27.1	+1.6
FRB	Frobisher Bay	75.81	338	P	P	07 09 28.4	-0.3
IM3	Indian Mountai	80.10	12	*e*P	P	07 09 52.5	-0.1
SCHQ	Schefferville	81.39	331	P	P	07 10 00.1	+0.3
	comp=Z,2.6nm,0.8s,baz=43,slow=8.8,SNR=4.6						
ILAR	Eielson Array	82.35	10	P	P	07 10 03.6	-1.0
	comp=Z,0.7nm,1.0s,baz=335,slow=4.0,SNR=3.7						
ILB	Eielson Array	82.35	10	*e*P	P	07 10 03.6	-1.0
YKA	Yellowknife Ar	86.15	356	P	P	07 10 23.9	0.0
	comp=Z,0.9nm,0.8s,baz=359,slow=5.1,SNR=13						
YKB5	Yellowknife Ar	86.15	356	*e*P	P	07 10 24.9	+1.0
FCC	Fort Churchill	86.91	345	P	P	07 10 28.0	+0.3
WR1	Warramunga Arr	90.19	113	*e*P	P	07 10 43.2	-0.6
	comp=Z,17nm,1.4s						
WRA	Warramunga Arr	90.19	113	P	P	07 10 43.2	-0.6
	comp=Z,1.1nm,0.8s,baz=316,slow=3.9,SNR=8.5						
ASAR	Alice Springs	91.90	117	P	P	07 10 51.1	-0.6
	comp=Z,0.8nm,0.7s,baz=302,slow=4.5,SNR=7.7						
ULM	Lac du Bonnet	95.13	343	P	P	07 11 05.0	-1.2
	comp=Z,1.6nm,0.9s,baz=297,slow=2.3,SNR=3.2						

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*JMA **07** 07:12:03.0±0.5, 25°.53N×127°.21E, h11km, M3.0*
*IDC **07** 07:12:51.6±12.0, 26°.09N×126°.16E, h482km±167km, mb2.6/5, mb1 2.8/5, mb1mx2.6/60, mbtmp3.5/5, Error ellipse: s-maj=83.6km s-min=16.5km az=73.0*
ISC 07 07:12:03.5±1.9**, 25°.4N**±0°.1×**127°.17E**±0°.09**, h35**km**, n11, σ1s.52**/13**, mb3.4**/5**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.88	36	P	Pn	07 12 18.0	-1.4
JJT2				S	Sn	07 12 28.7	-2.3
JKE	Kume jima 2	0.96	339	P	Pn	07 12 19.8	-0.7
JKE				S	Sn	07 12 33.0	+0.1
JAGN	Aguni-jima	1.16	3	P	Pn	07 12 22.0	-1.2
JAGN				S	Sn	07 12 37.2	-0.6
JNTH	Nagotoyohara	1.33	35	P	Pn	07 12 25.3	-0.3
JOW	Kunigami	1.71	35	P	Pn	07 12 31.9	+1.0
JIH	Iheya	1.75	24	P	Pn	07 12 32.7	+1.3
JIH				*e*S	Sn	07 12 54.3	+1.8
SONM	Songino Array	27.73	329	P	P	07 17 51.3	+2.6
	0.6nm,0.9s,baz=144,slow=8.3,SNR=3.6						
MKAR	Makanchi Array	41.36	313	P	P	07 19 45.3	-0.8
	0.4nm,0.5s,baz=101,slow=10.0,SNR=8.5						
WRA	Warramunga Arr	45.64	171	P	P	07 20 33.4	+13
	0.7nm,0.7s,baz=350,slow=8.3,SNR=4.4						
ASAR	Alice Springs	49.24	172	P	P	07 21 01.6	+13
	0.5nm,0.8s,baz=354,slow=7.7,SNR=5.9						
YKA	Yellowknife Ar	79.65	25	P	P	07 24 06.6	-0.4
	0.3nm,0.7s,baz=299,slow=5.3,SNR=4.3						

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*MOS **07** 07:19:41.0±0.7, 19°.19S×175°.81W, h227km, mb5.0/38, Error ellipse: s-maj=8.4km s-min=7.8km az=52.0*
*BJI **07** 07:19:43.0, 19°.30S×175°.80W, h243km, mb5.1/48, mB5.2/31*
*ISCJB **07** 07:19:43.8±0.1, 19°.19S±0°.02×175°.84W±0°.03, h254km, mb4.9/231, Error ellipse: s-maj=3.6km s-min=2.3km az=27.2*
*GCMT **07** 07:19:45.1±0.3, 19°.24S×175°.53W, h284km±2km, MW5.1/68, Moment Tensor Solution. s41,c46; s68,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.26±.24; $M_{\theta\theta}$-0.15±.30; $M_{\phi\phi}$0.41±.25; $M_{r\theta}$0.67±.23; $M_{\theta\phi}$-3.35±.17; $M_{\phi r}$5.43±.18; Best double couple: $M_0$6.41600×10^{16} NP1:ϕ_s183.00000°,δ89.00000°,λ-58.00000°. NP2: ϕ_s275.00000°,δ32.00000°,λ-178.00000°. Principal axes: T 6.2060, Plg36.0000°, Azm246.0000°; N 0.4200, Plg32.0000°, Azm3.0000°; P -6.6260, Plg38.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 07:19:45.1±0.9, 19°.28S×175°.80W, h258km±9km, mb4.9/148 Error ellipse: s-maj=4.7km s-min=3.0km az=158.0*
*IDC **07** 07:19:45.3±0.7, 19°.32S×175°.74W, h259km±6km, mb4.6/37, mb1 4.6/40, mb1mx4.5/50, mbtmp5.2/40, Error ellipse: s-maj=8.8km s-min=7.9km az=132.0*
*WEL **07** 07:19:50.2±0.9, 20°S±13°×17°5W±4°7, h244km±11km*
ISC 07 07:19:44.8±0.5**, 19°.38S**±0°.04×**175°.67W**±0°.04**, h259**km±4km**, h259**km**:pP-P, n622, σ1s.26**/668**, mb5.0**/231**, 25C-27D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.43	88	P	Pn	07 21 05.1	-1.0
	baz=5.5,SNR=98						
AFI	Afiamalu	6.59	35	P	Pn	07 21 15.8	-4.8
	319nm,0.3s,baz=180,slow=1.8,SNR=354						
AFI				S	S	07 22 23.3	-14
	363nm,0.3s,baz=37,slow=22,SNR=9.2						
AFI	Afiamalu	6.59	35	*e*Pn	Pn	07 21 15.5	-5.1
AFI				*e*		07 21 15.6	
AFI				*e*S	S	07 22 23.3	-14
RAO	Raoul Island	10.04	191	P	Pn	07 22 03.6	-0.1
	46nm,0.3s,baz=48,slow=17,SNR=2.0						
RAO				S	S	07 23 52.4	-4.3
	58nm,0.3s,baz=90,slow=20,SNR=2.7						
GLKZ	Green Lake	10.05	191	S	S	07 23 53.0	-3.9
GLKZ	Green Lake	10.05	191	P	Pn	07 22 03.7	-0.1
RAR	Rarotonga	15.03	100	P	Pn	07 23 05.2	+0.2
	1.7nm,0.3s,baz=267,slow=6.7,SNR=11						
RAR				S	S	07 25 46.5	-3.8
	0.9nm,0.3s,baz=111,slow=8.6,SNR=2.1						
RAR	Rarotonga	15.03	100	*e*P	Pn	07 23 05.2	+0.2
	229nm,1.1s						
RAR				*e*S	S	07 25 46.5	-3.8
RAR	Rarotonga	15.03	100	*e*P	Pn	07 23 05.2	+0.2
RAR				*e*S	S	07 25 46.5	-3.8
RAR				pmax	pmax		
	comp=Z,229nm,1.1s						
DZM	Mont Dzumac	16.95	258	P	Pn	07 23 28.2	+0.4
	comp=Z,7.8nm,0.3s,baz=82,slow=18,SNR=66						
DZM				S	S	07 26 32.4	+3.3
	comp=Z,0.1nm,0.3s,baz=65,slow=19,SNR=3.8						
DZM	Mont Dzumac	16.95	258	*e*P	Pn	07 23 27.7	-0.1
	comp=Z,655nm,1.2s						
DZM	Mont Dzumac	16.95	258	*e*P	Pn	07 23 28.2	+0.4
	comp=Z,210nm,0.9s						
DZM				*e*S	S	07 26 29.2	+0.1
OUZ	Omahuta	18.42	209	*e*P	Pn	07 23 43.5	-1.3
	comp=Z,109nm,0.8s						
OUZ	Omahuta	18.42	209	P	Pn	07 23 44.6	-0.2
GRZ	Great Barrier	18.54	203	P	Pn	07 23 45.6	-0.6
WCZ	Waipu Caves	18.70	206	P	Pn	07 23 47.7	-0.4
MXZ	Matakaoa Point	18.87	195	*e*P	P	07 23 47.0	+0.9
	comp=Z,91nm,0.5s						
MXZ	Matakaoa Point	18.87	195	P	Pn	07 23 50.0	0.0
MXZ	Matakaoa Point	18.87	195	S	S	07 27 08.1	+1.6
KUZ	Kuaotunu	18.88	202	P	Pn	07 23 48.9	-1.3
WMGZ	Waiomatatini S	19.09	194	P	Pn	07 23 54.1	+1.5
WMGZ	Waiomatatini S	19.09	194	S	S	07 27 12.3	+1.5
HAZ	Te Kaha	19.18	196	P	P	07 23 51.0	+1.5
HAZ	Te Kaha	19.18	196	S	S	07 27 12.5	-0.2
PKGZ	Pakihiroa	19.23	195	P	P	07 23 51.8	+1.7
PKGZ	Pakihiroa	19.23	195	S	S	07 27 14.3	+0.4
PUZ	Puketiti	19.37	195	P	Pn	07 23 53.7	-2.2
PUZ	Puketiti	19.37	195	S	S	07 27 14.5	-1.9
RUGZ	Raukumara Rang	19.41	196	P	P	07 23 54.1	+2.1
RUGZ	Raukumara Rang	19.41	196	S	S	07 27 17.2	-0.1
TWGZ	Tauwhareparae	19.53	195	P	P	07 23 54.1	+0.9
TWGZ	Tauwhareparae	19.53	195	S	S	07 27 20.6	+1.0
OPRZ	Ohinepanea	19.61	199	P	Pn	07 23 57.4	-1.3
CNGZ	Carnagh Statio	19.77	194	P	Pn	07 23 58.2	-2.4
MWZ	Matawai	19.80	196	P	P	07 23 56.7	+0.6
MWZ	Matawai	19.80	196	S	S	07 27 24.5	-0.2
KMRZ	Kaimai	19.80	200	P	Pn	07 23 59.6	-1.4
TKGZ	Te Karaka	19.81	195	P	P	07 23 57.3	+1.2
TKGZ	Te Karaka	19.81	195	S	S	07 27 24.5	-0.4
URZ	Urewera	19.84	197	P	P	07 23 56.8	+0.4
	comp=Z,32nm,0.3s,baz=276,slow=2.4,SNR=90						
URZ				S	S	07 27 23.1	-2.2
	comp=Z,1.6nm,0.3s,baz=306,slow=19,SNR=5.4						
URZ	Urewera	19.84	197	*e*P	P	07 23 56.8	+0.4
URZ				*e*S	S	07 27 23.1	-2.2
URZ				*e*S	S	07 27 28.0	+2.7
URZ	Urewera	19.84	197	P	P	07 23 56.0	-0.4
URZ	Urewera	19.84	197	S	S	07 27 26.5	+1.2
KARZ	Kaharoa	19.87	199	P	Pn	07 23 59.9	-1.8
OMRZ	Omania	19.91	199	P	Pn	07 24 01.4	-0.9
RAGZ	Rawiri	19.98	196	P	Pn	07 24 00.8	-2.3
TARZ	Mount Tarawera	19.99	198	P	Pn	07 24 01.2	-2.0
HLRZ	Highlands Stat	20.05	199	P	Pn	07 24 02.6	-1.2
RRRZ	Republican Roa	20.08	198	P	Pn	07 24 03.1	-1.1
RIGZ	Rimuhau	20.09	195	P	P	07 24 01.4	+2.3
MUGZ	Murupara	20.14	197	P	P	07 24 00.7	+1.1
HSRZ	Hossack Road	20.14	199	P	Pn	07 24 03.4	-1.5
HRRZ	Handcock Road	20.20	199	P	P	07 24 02.5	+2.2
RTZ	Ruatahuna	20.21	197	P	P	07 24 03.0	+2.5
PRGZ	Paritu Road	20.26	195	P	Pn	07 24 04.9	-1.5
PRRZ	Plateau Road	20.27	198	P	Pn	07 24 03.9	-2.4
SNGZ	Shannon Statio	20.27	196	P	Pn	07 24 03.8	-2.6
ALRZ	Allen Road	20.34	198	P	P	07 24 03.9	+2.1
RAHZ	Arahi	20.46	196	P	P	07 24 03.7	+0.6
MTHZ	Maungataniwha	20.47	197	P	Pn	07 24 06.9	-1.9
MHGZ	Mahia Peninsul	20.48	194	P	Pn	07 24 06.2	-2.7
WHHZ	Waihua	20.57	196	P	P	07 24 06.2	+1.9
NMHZ	Naumai	20.70	197	P	P	07 24 06.8	+1.1
HIZ	Hauiti	20.77	201	*e*P	P	07 24 08.3	+2.0
	comp=Z,230nm,0.8s						
ARHZ	Aropaoanui	20.81	196	P	P	07 24 08.4	+1.7
BKZ	Black Stump Fm	20.86	197	*e*P	P	07 24 07.1	-0.1
	comp=Z,53nm,0.8s						
BKZ				*e*S	S	07 27 47.3	+4.1
BFZ	Birch Farm	22.34	196	*e*P	P	07 24 22.2	+1.2
	comp=Z,335nm,1.7s						
SNZO	South Karori	23.36	199	*e*P	P	07 24 31.8	+1.5
	comp=Z,206nm,0.9s						
THZ	Tophouse	24.34	201	*e*P	P	07 24 40.8	+1.5
	comp=Z,99nm,0.6s						
KHZ	Kahutara	24.72	199	*e*P	P	07 24 45.0	+2.4
	comp=Z,92nm,0.7s						
PAE	Paea	24.79	90	*e*P	P	07 24 43.2	-0.3
	comp=Z,26nm,1.0s						
PPT2	Papeete2	24.80	90	*e*P	P	07 24 43.7	-0.1
	comp=Z,159nm,1.1s						
PPT	Papeete	24.81	90	P	P	07 24 44.4	+0.7
	comp=Z,147nm,0.9s,baz=350,slow=2.1,SNR=22						
PPT	Papeete	24.81	90	*e*P	P	07 24 43.9	+0.1
PPT				*e*P	P	07 24 44.4	+0.7
PPT				*e*		07 24 44.5	
PPTF	Pamatai, Papee	24.81	90	*e*P	P	07 24 44.2	+0.4
	comp=Z,159nm,0.9s						
TVO	Taravao	25.08	91	*e*P	P	07 24 46.0	-0.3
	comp=Z,19nm,1.0s						
LTZ	Lake Taylor	25.46	201	*e*P	P	07 24 50.4	+1.1
	comp=Z,219nm,0.5s						
HNR	Honiara	25.57	289	P	P	07 24 51.0	+0.4
	comp=Z,204nm,0.7s,baz=117,slow=2.3,SNR=2.9						
HNR	Honiara	25.57	289	*e*P	P	07 24 51.0	+0.4
OXZ	Oxford	26.02	201	*e*P	P	07 24 54.4	+0.1
	comp=Z,205nm,0.7s						
MQZ	McQueen's Vall	26.16	199	*e*P	P	07 24 57.6	+2.1
	comp=Z,162nm,1.3s						
RPZ	Rata Peaks	26.70	202	P	P	07 25 01.1	+0.7
	comp=Z,92nm,0.7s,baz=102,slow=0.9,SNR=13						
RPZ	Rata Peaks	26.70	202	*e*P	P	07 25 01.1	+0.7
RPZ				*e*P	P	07 25 01.9	+1.6
PMOR	Pomariorio Ree	26.87	85	*e*P	P	07 25 01.8	-0.4
	comp=Z,169nm,1.1s						
FOZ	Fox Glacier	27.00	204	*e*P	P	07 25 03.3	+0.3
	comp=Z,61nm,0.7s						
VAH	Vaihoa	27.07	86	*e*P	P	07 25 03.1	-0.8
	comp=Z,76nm,1.1s						
LBZ	Lake Benmore	27.60	202	*e*P	P	07 25 08.4	+0.1
	comp=Z,31nm,0.8s						
ODZ	Otahua Downs	28.01	201	*e*P	P	07 25 13.1	+1.1
	comp=Z,58nm,0.9s						
WKZ	Wanaka	28.40	203	*e*P	P	07 25 16.4	+1.0
	comp=Z,70nm,1.1s						
MLZ	Mavora Lakes	29.20	204	*e*P	P	07 25 23.1	+0.6
	comp=Z,74nm,1.0s						
DCZ	Deep Cove	29.65	205	*e*P	P	07 25 27.9	+1.5
	comp=Z,73nm,0.8s						

WHZ **Wether Hill Ro** 29.70 203 *e*P P 07 25 27.6 +0.6
comp=Z,167nm,0.7s
EIDS **Eidsvold** 31.27 253 P P 07 25 40.9 0.0
baz=31,SNR=16
EIDS **Eidsvold** 31.27 253 *e*P P 07 25 40.9 0.0
comp=Z,78nm,0.9s
ARMA **Armidale** 31.53 243 P P 07 25 44.0 +0.7
baz=32,SNR=10
ARMA **Armidale** 31.53 243 *e*P P 07 25 43.9 +0.6
comp=Z,47nm,0.8s
MGCD **Mangrove Creek** 32.66 238 P P 07 25 54.2 +1.3
baz=33,SNR=11
RMQ **Roma** 33.44 251 P P 07 26 00.5 +0.8
baz=33,SNR=12
CNB **Canberra Magne** 34.67 235 P P 07 26 10.4 +0.2
baz=35,SNR=20
CAN **Canberra** 34.95 236 *e*P P 07 26 12.7 0.0
comp=Z,80nm,1.1s
CAN **Canberra** 34.95 236 *e*P P 07 26 12.7 0.0
CAN pmax pmax
comp=Z,80nm,1.1s
CTAO **Charters Tower** 35.80 262 *e*P P 07 26 20.0 0.0
comp=Z,394nm,0.6s
CTAO **Charters Tower** 35.80 262 *e*P P 07 26 20.0 0.0
CTAO pmax pmax
comp=Z,394nm,0.6s
CMSA **Cobar Meteorol** 36.75 243 P P 07 26 27.9 0.0
baz=37,SNR=32
PMG **Port Moresby** 37.27 280 P P 07 26 31.8 -0.5
comp=Z,103nm,0.9s,baz=102,slow=4.0,SNR=23
PMG **Port Moresby** 37.27 280 *e*P P 07 26 32.4 0.0
comp=Z,90nm,0.8s
PMG **Port Moresby** 37.27 280 *c i*P P 07 26 32.0 -0.4
PMG pmax pmax
comp=Z,341nm,0.8s
QLP **Quilpie** 37.49 251 P P 07 26 33.7 -0.4
baz=38,SNR=92
MTSU **Mount Surprise** 37.85 265 P P 07 26 36.9 -0.3
baz=38,SNR=113
RKT **Rikitea** 38.03 103 *e*P P 07 26 39.3 +0.7
comp=Z,160nm,0.9s
TOO **Toolangi** 38.33 233 P P 07 26 41.2 +0.2
baz=38,SNR=22
TOO **Toolangi** 38.33 233 P P 07 26 41.9 +0.9
TOO pmax pmax
comp=Z,92nm,1.0s
COEN **Coen** 39.73 271 P P 07 26 52.6 -0.2
baz=40,SNR=238
COEN **Coen** 39.73 271 *e*P P 07 26 52.6 -0.2
comp=Z,122nm,0.6s
STKA **Stephens Creek** 40.25 243 P P 07 26 56.8 0.0
comp=Z,53nm,1.0s,baz=88,slow=8.3,SNR=58
STKA PcP **PcP** 07 28 55.8 +0.5
comp=Z,7.8nm,0.9s,baz=66,slow=2.9,SNR=3.6
STKA **Stephens Creek** 40.25 243 P P 07 26 56.7 -0.2
baz=40,SNR=33
STKA **Stephens Creek** 40.25 243 *e*P P 07 26 57.0 +0.1
comp=Z,23nm,1.2s
STKA PcP **PcP** 07 28 55.8 +0.5
STKA **Stephens Creek** 40.25 243 *e*P P 07 26 57.0 +0.1
STKA 07 28 55.8
STKA pmax pmax
comp=Z,23nm,1.2s
ARPS **Mount Arapiles** 40.93 236 P P 07 27 02.7 +0.4
baz=41,SNR=7.2
QIS **Mount Isa** 41.96 261 P P 07 27 09.8 -1.1
baz=42,SNR=22
HTT **Hallett** 42.69 241 P P 07 27 16.5 -0.1
baz=43,SNR=22
BBOO **Buckleboo** 45.01 243 P P 07 27 34.4 -0.6
baz=45,SNR=32
BBOO **Buckleboo** 45.01 243 *e*P P 07 27 34.4 -0.6
comp=Z,66nm,0.8s
JAY **Jayapura** 45.81 286 P P 07 27 41.2 -0.3
comp=Z,2µm,0.8s,comp=Z,13µm
GENI **Genyem** 46.26 286 P P 07 27 45.3 +0.3
comp=Z,390nm,1.1s,comp=Z,9µm
AS01 **Alice Springs** 46.87 255 *e*P P 07 27 48.8 -0.8
AS31 **Alice Springs** 46.92 255 *e*P P 07 27 49.4 -0.6
comp=Z,47nm,1.0s
AS31 *e*PcP **PcP** 07 29 18.5 +0.3
ASAR **Alice Springs** 46.92 255 P P 07 27 49.6 -0.4
comp=Z,124nm,0.7s,baz=93,slow=7.9,SNR=944
ASAR PcP **PcP** 07 29 18.5 +0.3
comp=Z,27nm,0.7s,baz=103,slow=4.1,SNR=13
ASAR ScP **ScP** 07 32 48.7 +1.7
comp=Z,3.1nm,1.0s,baz=97,slow=4.8,SNR=4.3
ASAR S **S** 07 34 18.2 -3.0
comp=Z,6.4nm,0.9s,baz=93,slow=15,SNR=17
WB2 **Warramunga Arr** 46.93 260 *e*P P 07 27 48.5 -1.5
WB2 *e*P P 07 27 49.0 -1.0
WRAB **Tennant Creek** 46.93 261 *e*P P 07 27 49.0 -1.1
comp=Z,102nm,0.9s
WRAB **Tennant Creek** 46.93 261 *c e*P P 07 27 48.6 -1.5
WRAB pmax pmax
comp=Z,116nm,1.0s
WR1 **Warramunga Arr** 46.94 260 *e*P P 07 27 48.8 -1.4
comp=Z,156nm,1.0s
WR1 *e*PcP **PcP** 07 29 18.8 +0.4
WR1 *e*S **S** 07 34 18.9 -2.6
WRA **Warramunga Arr** 46.94 260 P P 07 27 48.8 -1.4
comp=Z,33nm,0.3s,baz=97,slow=7.2,SNR=683
WRA PcP **PcP** 07 29 18.8 +0.4
comp=Z,16nm,0.8s,baz=90,slow=3.6,SNR=6.7
WRA S **S** 07 34 18.9 -2.6
comp=Z,3.5nm,0.9s,baz=95,slow=13,SNR=5.1
GUMO **Guam** 50.82 307 P P 07 28 18.9 -0.7
comp=Z,156nm,0.7s,baz=245,slow=7.3,SNR=4.9
MTN **Manton Dam** 51.36 269 P P 07 28 22.6 -1.0
baz=51,SNR=71
MTN **Manton Dam** 51.36 269 *e*P P 07 28 22.6 -1.0
comp=Z,300nm,0.8s
WRKA **Warakurna** 51.89 253 P P 07 28 26.7 -0.7
baz=52,SNR=393
SAUI **Saumlaki** 52.57 275 P P 07 28 32.4 -0.1
comp=Z,530nm,1.0s
SAUI **Saumlaki** 52.57 275 *e*P P 07 28 31.7 -0.8
comp=Z,508nm,1.0s
KNRA **Kununurra** 52.93 265 P P 07 28 34.5 -0.6
baz=53,SNR=55
FAKI **Fak Fak** 53.41 281 P P 07 28 37.7 -0.9
comp=Z,98nm,1.2s
FAKI **Fak Fak** 53.41 281 *e*P P 07 28 38.2 -0.5
comp=Z,77nm,0.9s
SWI **Sorong** 55.10 283 P P 07 28 50.0 -0.8
comp=Z,660nm,0.8s,comp=Z,5µm
PALU **Palau** 55.82 294 P P 07 28 54.6 -1.2
baz=56,SNR=5.1
KMBL **Kambalda** 57.02 245 P P 07 29 03.3 -0.8
baz=57,SNR=4.9
NLAI **Namlea** 58.09 278 P P 07 29 11.4 -0.3
comp=Z,90nm,1.4s,comp=Z,950nm
SOEI **Soe** 58.67 270 P P 07 29 15.5 -0.4
comp=Z,355nm,0.8s,comp=Z,3µm
SOEI **Soe** 58.67 270 *e*P P 07 29 16.6 +0.6
comp=Z,246nm,0.8s
BATI **Baumata** 59.12 270 P P 07 29 19.8 +0.9
comp=Z,77nm,0.8s,baz=100,slow=18,SNR=10
BATI **Baumata** 59.12 270 P P 07 29 16.9 -2.0
comp=Z,57nm,0.9s
VNDA **Vanda** 59.23 186 P P 07 29 20.7 +2.2
comp=Z,3.3nm,0.7s,baz=6.2,slow=6.6,SNR=7.4
TNTI **Ternate** 59.32 283 *e*P P 07 29 20.0 -0.2
comp=Z,358nm,1.0s
SANI **Sanana** 59.55 279 P P 07 29 20.6 -1.1
comp=Z,187nm,1.0s,comp=Z,1µm
MBWA **Marble Bar** 60.24 256 *e*P P 07 29 25.8 -0.6
comp=Z,98nm,0.7s
MEEK **Meekatharra** 60.36 250 P P 07 29 25.9 -1.3
baz=60,SNR=26
KLBR **Kellerberrin** 60.52 244 P P 07 29 27.7 -0.4
baz=60,SNR=27
NWAO **Narrogin (SRO)** 60.83 243 P P 07 29 30.0 -0.2
baz=61,SNR=8.5
NWAO P P 07 29 30.0 -0.2
baz=61,SNR=8.5
NWAO **Narrogin (SRO)** 60.83 243 *e*P P 07 29 30.0 -0.2
comp=Z,103nm,1.3s
NWAO **Narrogin (SRO)** 60.83 243 *e*P P 07 29 30.0 -0.2
NWAO pmax pmax
comp=Z,103nm,1.3s
RKGY **Rocky Gully** 60.90 241 P P 07 29 31.0 +0.4
baz=61,SNR=6.3
MMRI **Maumere** 60.92 271 P P 07 29 30.3 -0.7
comp=Z,131nm,1.0s
MMRI **Maumere** 60.92 271 *e*P P 07 29 30.1 -1.0
comp=Z,70nm,0.7s
BLDU **Ballidu** 61.51 245 P P 07 29 34.0 -0.8
baz=62,SNR=12
CBIJ **Chichi jima** 61.67 317 *e*P P 07 29 35.0 -0.8
comp=Z,570nm,1.9s
JCJ **Chichijima** 61.67 317 P P 07 29 35.0 -0.8
comp=Z,60nm,0.7s,baz=133,slow=18
MORW **Morawa** 62.28 247 P P 07 29 39.4 -0.6
baz=62,SNR=10.0
LUWI **Luwuk** 62.90 279 P P 07 29 43.5 -0.7
comp=Z,164nm,1.1s
LUWI **Luwuk** 62.90 279 *e*P P 07 29 44.3 +0.1
comp=Z,120nm,0.8s
WBSI **Waikabubak, Su** 63.31 269 P P 07 29 46.1 -0.8
comp=Z,76nm,0.8s
APSI **Ampana** 64.00 279 P P 07 29 50.6 -0.8
comp=Z,182nm,1.1s,comp=Z,2µm
MRSI **Marisa** 64.23 280 P P 07 29 52.1 -0.8
comp=Z,19nm,0.7s
BNSI **Bone** 64.25 275 P P 07 29 52.2 -0.8
comp=Z,57nm,1.2s,comp=Z,900nm
KAPI **Kappang** 64.38 274 *e*P P 07 29 52.3 -1.5
comp=Z,39nm,1.4s
KAPI **Kappang** 64.38 274 *e*P P 07 29 52.3 -1.5
KAPI pmax pmax
comp=Z,39nm,1.4s
GIRL **Giralia** 64.97 253 P P 07 29 58.3 +0.8
baz=65,SNR=9.7
PLAI **Plampang** 65.07 269 P P 07 29 57.5 -0.8
comp=Z,177nm,0.9s,comp=Z,2µm
MPSI **Mapaga** 66.08 279 P P 07 30 03.9 -0.8
comp=Z,44nm,0.9s
JHJ **Hachijo jima 2** 67.34 320 P P 07 30 12.4 +0.2
comp=Z,245nm,0.3s,baz=151,slow=6.2,SNR=8.7
DNP **Denpasar** 67.54 268 P P 07 30 13.0 -0.9
comp=Z,168nm,0.4s
IGBI **Denpasar** 67.56 268 P P 07 30 13.1 -0.9
comp=Z,280nm,0.8s
SRBI **Singaraja** 67.71 269 P P 07 30 14.1 -0.9
comp=Z,73nm,0.9s,comp=Z,888nm
JAGI **Jajag, Banyuwa** 68.60 268 P P 07 30 18.9 -1.5
comp=Z,151nm,0.9s
JAGI **Jajag, Banyuwa** 68.60 268 *e*P P 07 30 19.0 -1.5
comp=Z,116nm,0.9s
KMMI **Kalianget** 69.20 270 P P 07 30 23.6 -0.6
comp=Z,101nm,0.8s
GMJI **Gumukmas** 69.33 268 P P 07 30 24.0 -0.9
comp=Z,72nm,1.0s
BLJI **Banyuglugur** 69.34 269 P P 07 30 24.1 -0.9
INU **Inuyama** 70.53 320 *e*P P 07 30 31.7 -0.1
comp=Z,29nm,1.0s
MJAR **Matsushiro Arr** 70.64 322 P P 07 30 32.3 -0.2
comp=Z,54nm,0.7s,baz=164,slow=6.2,SNR=100
MAJO **Matsushiro** 70.64 322 *e*P P 07 30 32.1 -0.4
comp=Z,76nm,0.7s
MAJO **Matsushiro** 70.64 322 *i*P P 07 30 32.0 -0.4
MAJO pmax pmax
comp=Z,86nm,0.8s
MAT **Matsushiro** 70.64 322 P P 07 30 31.7 -0.8
MJB9 **Matsu-Tunnel** 70.65 322 *e*P P 07 30 32.2 -0.3
comp=Z,77nm,0.7s
QSPA **South Pole Qui** 70.69 180 *e*P P 07 30 34.8 +2.3
comp=Z,13nm,0.9s
TGY **Tagaytay City** 70.71 293 P P 07 30 33.0 -0.3
comp=Z,133nm,0.4s,baz=296,slow=5.3,SNR=3.9
TGY **Tagaytay City** 70.71 293 *e*P P 07 30 33.0 -0.3
KKM **Kota Kinabalu** 71.61 283 *e*P P 07 30 38.4 -0.5
comp=Z,27nm,0.7s
UGM **Wanagama** 72.19 268 *e*P P 07 30 41.6 -0.7
comp=Z,120nm,0.6s
SMRI **Semarang** 72.53 269 *e*P P 07 30 44.5 +0.3
comp=Z,120nm,0.8s
JNU **Nakatsue** 73.00 315 P P 07 30 46.4 -0.1
comp=Z,32nm,0.7s,baz=139,slow=4.3,SNR=18
JNU **Nakatsue** 73.00 315 *e*P P 07 30 46.2 -0.3
comp=Z,36nm,0.7s
ASAJ **Asahikawa** 73.82 330 P P 07 30 52.2 +1.3
comp=Z,6.5nm,0.5s,baz=177,slow=4.2,SNR=7.7
ASAJ **Asahikawa** 73.82 330 *e*P P 07 30 51.7 +0.7
comp=Z,13nm,0.9s
SBUM **Sibu** 74.00 278 *e*P P 07 30 52.9 +0.2
comp=Z,15nm,0.9s
TWG **Pinlang** 74.65 301 *e*P P 07 30 54.4 -1.9
comp=Z,191nm,0.6s
YULB **Yu-li** 74.75 302 *e*P P 07 30 54.7 -2.1
comp=Z,26nm,0.6s
NACB **Ninganchiao** 74.89 303 *e*P P 07 30 56.9 -0.7
comp=Z,140nm,1.1s
SSLB **Suanglung** 75.21 302 *e*P P 07 30 57.4 -2.1
TPUB **Ta-pu** 75.24 302 *e*P P 07 30 57.8 -1.8
comp=Z,141nm,0.7s
LEM **Lembang** 75.26 268 P P 07 31 00.7 +0.5
comp=Z,118nm,0.7s,baz=76,slow=8.3,SNR=12
KSM **Kuching** 75.44 277 *e*P P 07 31 01.1 +0.1
comp=Z,52nm,1.0s
PET **Petropavlovsk** 75.46 344 ⇓ *e*P P 07 31 00.8 +0.7
PET pmax pmax
comp=Z,48nm,1.8s
PEA0B **Petropavlovsk-** 75.78 344 *e*P P 07 31 01.6 -0.4
comp=Z,30nm,0.9s
PETK **Petropavlovsk-** 75.78 344 P P 07 31 01.9 -0.1
comp=Z,20nm,0.7s,baz=118,slow=7.8,SNR=23
PETK **Petropavlovsk-** 75.78 344 *e*P P 07 31 01.4 -0.6
PETK **Petropavlovsk-** 75.78 344 P P 07 31 01.9 -0.1
PETK pmax pmax
comp=Z,21nm,0.7s
PEA1 **Petropavlovsk-** 75.78 344 *e*P P 07 31 01.9 -0.1
YSS **Yuzh-Sakhalins** 75.91 332 *e*P P 07 31 03.4 +0.6
comp=Z,37nm,0.9s
YSS **Yuzh-Sakhalins** 75.91 332 *e*P P 07 31 03.3 +0.5
YSS pmax pmax
comp=Z,40nm,1.0s
ISA **Isabella, Lake** 76.99 45 *e*P P 07 31 10.0 +0.7
comp=Z,24nm,1.4s
ISA **Isabella, Lake** 76.99 45 *e*P P 07 31 10.0 +0.7
ISA pmax pmax
comp=Z,24nm,1.4s
SLBS **Sierra La Lagu** 77.05 59 *e*P P 07 31 10.5 +0.7
comp=Z,7.0nm,0.9s
CMB **Columbia Colle** 77.16 42 *e*P P 07 31 10.9 +0.7
comp=Z,6.3nm,1.0s
CMB **Columbia Colle** 77.16 42 *e*P P 07 31 10.9 +0.7
CMB pmax pmax
comp=Z,6.0nm,1.0s
TJN **Taejon** 77.26 316 ⇑ *e*P P 07 31 10.5 -0.1
KSRS **Korea Array** 77.53 317 P P 07 31 13.3 +1.2
comp=Z,22nm,0.9s,baz=138,slow=5.8,SNR=42
KS15 **Wonju Array Si** 77.55 317 *e*P P 07 31 12.9 +0.7
KSAR **Wonju Array Be** 77.55 317 P P 07 31 13.3 +1.1
KSAR **Wonju Array Be** 77.55 317 P P 07 31 13.3 +1.1
KS01 **Wonju Array Si** 77.56 317 *e*P P 07 31 12.5 +0.2
GSC **Goldstone, Bar** 77.90 46 *e*P P 07 31 15.4 +1.0
comp=Z,13nm,1.1s
GSC **Goldstone, Bar** 77.90 46 *e*P P 07 31 15.4 +1.0
GSC pmax pmax
comp=Z,13nm,1.1s
GNO **Genoa** 78.03 41 *e*P P 07 31 14.8 -0.3
YBH **Yreka Blue Hor** 78.06 38 P P 07 31 15.8 +0.8
comp=Z,1.6nm,0.5s,baz=185,slow=3.2,SNR=12
YBH pP **pP** 07 32 16.7 +0.8
comp=Z,2.2nm,0.8s,baz=234,slow=4.4,SNR=1.3
YERR **Yerington** 78.45 42 *e*P P 07 31 17.8 +0.3
comp=Z,8.7nm,0.8s
NV01 **Mina Array Sit** 78.71 42 *e*P P 07 31 19.3 +0.4
NVAR **Mina Array Bea** 78.71 42 P P 07 31 19.6 +0.7
comp=Z,6.9nm,0.7s,baz=224,slow=9.3,SNR=24
PAHR **Pah Rah Range** 78.79 41 *e*P P 07 31 20.1 +0.9
comp=Z,6.9nm,1.0s
NV11 **Mina Array Sit** 78.81 42 *e*P P 07 31 20.2 +0.9
comp=Z,0.7nm,1.0s
TYV **Tymovskoe** 78.94 335 *e*P P 07 31 18.7 -0.8
TYV pmax pmax
comp=Z,27nm,0.8s
TYV pmax pmax
comp=Z,300nm,4.9s
KDAK **Kodiak Island** 79.24 12 P P 07 31 20.9 0.0
comp=Z,7.0nm,0.6s,baz=179,slow=4.9,SNR=7.1
KDAK **Kodiak Island** 79.24 12 *e*P P 07 31 20.9 0.0
comp=Z,138nm,2.0s
KDAK **Kodiak Island** 79.24 12 *c e*P P 07 31 21.1 +0.2
USRK **Ussuriysk Ar.** 79.30 325 P P 07 31 22.8 +1.2
comp=Z,9.0nm,0.9s,baz=132,slow=2.8,SNR=8.3
MOD **Modoc Plateau** 79.57 39 *e*P P 07 31 23.6 +0.3
comp=Z,5.4nm,0.6s
SHPR **Sheep Range** 79.68 45 *e*P P 07 31 25.0 +0.9
comp=Z,7.7nm,1.0s
W13A **Hualapai Mount** 79.79 47 *e*P P 07 31 25.7 +1.0
comp=Z,5.5nm,0.9s
Y14A **Wickenburg** 79.80 49 *e*P P 07 31 25.3 +0.7
comp=Z,45nm,1.0s
PINE **Pine Mountain** 80.36 37 *e*P P 07 31 28.8 +1.2
comp=Z,13nm,0.9s
BMN **Battle Mountai** 80.56 41 *e*P P 07 31 29.5 +0.8
comp=Z,5.5nm,0.8s
BMN **Battle Mountai** 80.56 41 *e*P P 07 31 29.5 +0.8
BMN pmax pmax
comp=Z,6.0nm,0.8s
TUC **Tucson** 80.57 51 *e*P P 07 31 30.2 +1.4
comp=Z,9.4nm,1.0s
TUC **Tucson** 80.57 51 P P 07 31 30.6 +1.8
WVOR **Wild Horse Val** 80.87 39 *e*P P 07 31 30.2 -0.1
comp=Z,7.5nm,1.1s
WVOR **Wild Horse Val** 80.87 39 *e*P P 07 31 30.2 -0.1
WVOR pmax pmax
comp=Z,8.0nm,1.1s
NJ2 **Nanjing** 80.88 309 *e*P P 07 31 30.9 +0.6
NJ2 pmax pmax
comp=Z,21nm,0.6s
MDJ **Mudanjiang** 80.89 324 P P 07 31 29.8 -0.3
MDJ pmax pmax
comp=Z,54nm,1.0s
MDJ pmax pmax
comp=Z,480nm,3.9s
MDJ **Mudanjiang** 80.89 324 *e*P P 07 31 30.8 +0.7
comp=Z,58nm,1.1s
X16A **Lo Mia Camp, P** 81.15 49 *e*P P 07 31 33.1 +1.1
comp=Z,18nm,1.3s
319A **Douglas** 81.22 52 *e*P P 07 31 34.2 +1.9
comp=Z,19nm,0.8s
LCMT **Little Creek M** 81.25 46 *e*P P 07 31 33.3 +0.9
comp=Z,4.3nm,0.9s
CCUT **Cedar City** 81.46 45 *e*P P 07 31 34.5 +0.9
comp=Z,7.4nm,1.0s
NKL **Nikolayevsk** 81.48 335 *e*P P 07 31 32.2 -0.7
NKL pmax pmax
comp=Z,36nm,1.0s
J08A **Circle Bar Ran** 81.52 38 *e*P P 07 31 34.5 +0.9
comp=Z,15nm,1.3s
KNB **Kanab** 81.54 46 *e*P P 07 31 35.0 +1.1
comp=Z,41nm,1.9s
KNB **Kanab** 81.54 46 *e*P P 07 31 35.0 +1.1
KNB pmax pmax
comp=Z,41nm,1.9s
GRNR **Gornyy** 81.54 332 *e*P P 07 31 33.4 0.0
GRNR pmax pmax
comp=Z,42nm,1.0s
U15A **North Rim** 81.59 47 *e*P P 07 31 35.5 +1.1
comp=Z,12nm,0.8s
MYKOM **Kota Tinggi** 81.62 275 *e*P P 07 31 34.3 -0.3
comp=Z,25nm,0.8s
SZCU **Shurtz Canyon** 81.66 45 *e*P P 07 31 36.0 +1.4
comp=Z,7.3nm,1.0s
WUAZ **Wupatki** 81.76 48 *e*P P 07 31 36.5 +1.4
comp=Z,16nm,1.2s
HPIG **Hopi Point** 81.97 58 *e*P P 07 31 36.8 +0.4
comp=Z,4.7nm,0.8s
X18A **Snowflake** 82.27 49 *e*P P 07 31 38.8 +1.0
comp=Z,13nm,1.1s
BBB **Bella Bella** 82.39 27 P P 07 31 39.1 +1.5
comp=Z,17nm,1.1s,baz=233,slow=10,SNR=2.3
G08A **Pilot Rock** 82.40 37 *e*P P 07 31 39.0 +0.8
comp=Z,12nm,1.0s
MTPU **Mount Pierson** 82.51 45 *e*P P 07 31 40.3 +1.2
comp=Z,9.9nm,0.9s
LTY **Liberty** 82.68 34 *e*P P 07 31 39.8 +0.4
comp=Z,13nm,1.3s
E07A **Sunnyside** 82.68 35 *e*P P 07 31 40.4 +1.0
comp=Z,9.5nm,0.7s
KLR **Kul'dur** 82.70 328 P P 07 31 40.0 +0.6
comp=Z,0.4nm,0.8s,baz=76,slow=3.5,SNR=8.6
KLR **Kul'dur** 82.70 328 ⇑ *e*P P 07 31 39.4 0.0
W18A **Petrified Fore** 82.72 49 *e*P P 07 31 41.4 +1.3
comp=Z,21nm,1.3s
ZAIG **Zacatecas** 82.74 63 *e*P P 07 31 41.6 +1.0
comp=Z,15nm,1.5s
MSU **Marysvale** 82.76 45 *e*P P 07 31 42.0 +1.7
CN2 **Changchun** 82.77 321 *e*P P 07 31 39.9 0.0
CN2 pmax pmax
comp=Z,30nm,1.2s
121A **Cookes Peak, D** 82.89 52 *e*P P 07 31 41.2 +0.2
comp=Z,14nm,0.8s
SUA **Susitna One** 83.00 12 *e*P P 07 31 40.7 -0.1
comp=Z,12nm,0.4s
E08A **Dider Farm, El** 83.08 36 *e*P P 07 31 42.1 +0.8
comp=Z,9.8nm,1.1s
BMO **Blue Mountains** 83.08 38 *e*P P 07 31 42.1 +0.5
comp=Z,5.7nm,0.8s
MFID **Camas Ranch** 83.12 39 *e*P P 07 31 42.6 +0.8
comp=Z,9.9nm,1.0s
DUG **Dugway, Tooele** 83.23 43 *e*P P 07 31 42.9 +0.4
comp=Z,7.2nm,1.1s
DUG **Dugway, Tooele** 83.23 43 *e*P P 07 31 42.9 +0.4
DUG pmax pmax
comp=Z,7.0nm,1.1s
MA2 **Magadan** 83.31 344 P P 07 31 41.6 -0.7
comp=Z,6.3nm,0.6s,baz=136,slow=6.5,SNR=15
MA2 **Magadan** 83.31 344 *d i*P P 07 31 41.7 -0.6
MAW **Mawson** 83.35 199 P P 07 31 43.7 +1.2
comp=Z,17nm,0.9s,baz=98,slow=7.1,SNR=2.5
MAW **Mawson** 83.35 199 *e*P P 07 31 43.7 +1.2
comp=Z,44nm,1.5s
MAW **Mawson** 83.35 199 *e*P P 07 31 43.7 +1.2
MAW pmax pmax
comp=Z,44nm,1.5s
BGU **Big Grassy Mou** 83.48 43 *e*P P 07 31 43.7 -0.1
BGU *e*PcP P 07 31 44.3 +0.5
D08A **Wollman Farm,** 83.50 35 *e*P P 07 31 44.2 +0.6
comp=Z,11nm,0.8s
EPT **El Paso** 83.50 53 *e*P P 07 31 44.8 +0.8
comp=Z,33nm,1.3s
WHN **Wuhan** 83.57 305 ⇑ P P 07 31 44.8 +0.6
E09A **Wood Farm, Sta** 83.59 36 *e*P P 07 31 44.5 +0.4
comp=Z,6.9nm,1.0s
Q16A **Castle Valley** 83.64 45 *e*P P 07 31 45.3 +0.6
comp=Z,8.8nm,0.7s
F10A **Beach Ranch, E** 83.79 37 *e*P P 07 31 45.2 0.0
comp=Z,15nm,0.8s
TMUT **Trail Mountain** 83.81 45 *e*P P 07 31 46.5 +0.8
comp=Z,18nm,0.8s
MPU **Maple Canyon** 83.90 44 *e*P P 07 31 46.8 +0.8
comp=Z,6.9nm,0.9s
SCM **Sheep Creek Mo** 84.03 13 *e*P P 07 31 46.0 0.0
comp=Z,12nm,0.9s
SCM **Sheep Creek Mo** 84.03 13 *e*P P 07 31 46.0 0.0
SCM pmax pmax
comp=Z,12nm,0.9s
HLID **Hailey** 84.06 40 *e*P P 07 31 47.4 +0.7
comp=Z,8.2nm,0.8s
B08A **Colville Reser** 84.07 34 *e*P P 07 31 46.1 -0.3
comp=Z,6.4nm,0.8s
SRU **San Rafael Swe** 84.17 45 *e*P P 07 31 47.9 +0.5
comp=Z,11nm,0.8s
SRU **San Rafael Swe** 84.17 45 *e*P P 07 31 47.9 +0.5
SRU pmax pmax
comp=Z,11nm,0.8s
CTU **Camp Tracy** 84.18 43 *e*P P 07 31 47.7 +0.3
comp=Z,9.2nm,1.0s
LLLB **Lillooet** 84.19 31 *e*P P 07 31 47.5 +0.5
comp=Z,5.2nm,0.6s
P17A **Butcher Ranch,** 84.21 45 *e*P P 07 31 48.5 +1.0
comp=Z,13nm,0.7s
LAZ **Ladron** 84.25 51 *e*P P 07 31 49.2 +1.3
C09A **Chrisman Ranch** 84.30 35 *e*P P 07 31 48.1 +0.5
comp=Z,22nm,0.2s
MNTX **Cornudas Mount** 84.32 54 *e*P P 07 31 49.4 +1.4
comp=Z,26nm,1.0s
BNM **Barren Site** 84.50 51 *e*P P 07 31 49.5 +0.3
CAST **Castle Rocks** 84.57 10 *e*P P 07 31 47.5 -1.0
comp=Z,5.6nm,0.8s
LPM **Los Pinos Moun** 84.58 51 *e*P P 07 31 50.6 +1.1
LTX **Lajitas** 84.61 57 *e*P P 07 31 50.9 +1.2
TX31 **Lajitas Ar. Si** 84.61 57 *e*P P 07 31 50.8 +1.1
TX31 *e*P P 07 31 51.0 +1.4
TXAR **Lajitas Array** 84.61 57 P P 07 31 50.9 +1.2
comp=Z,14nm,1.0s,baz=211,slow=7.0,SNR=70
TXAR PKKP **PKKPbc** 07 49 56.4 -2.7
comp=Z,0.5nm,1.0s,baz=96,slow=2.5,SNR=3.4
P18A **Preston Nutter** 84.62 45 *e*P P 07 31 51.2 +1.5
comp=Z,104nm,0.3s
TCUT **Toone Canyon** 84.62 43 *e*P P 07 31 50.6 +1.0
comp=Z,73nm,1.8s
KTH **Kantishna Hill** 84.89 11 *e*P P 07 31 50.8 +0.5
comp=Z,8.9nm,1.1s
TRF **Thorofare Moun** 84.91 11 *e*P P 07 31 50.2 -0.2
comp=Z,16nm,0.8s
ANMO **Albuquerque** 85.00 50 *e*P P 07 31 50.3 -1.3

comp=Z,8.8nm,0.8s
ANMO Albuquerque 85.00 50⇑ *e*P **P** **07 31 52.1 +0.5**
ANMO pmax pmax
comp=Z,10.0nm,0.9s
RND Reindeer 85.14 12 *e*P **P** **07 31 52.0 +0.5**
comp=Z,16nm,0.8s
RND Reindeer 85.14 12 *e*P **P** **07 31 52.0 +0.5**
RND pmax pmax
comp=Z,16nm,0.8s
IPM Ipoh 85.17 276 *e*P **P** **07 31 53.0 +0.3**
comp=Z,61nm,0.6s
NEW Newport 85.19 35 P **P** **07 31 51.2 -0.8**
comp=Z,2.6nm,0.8s,baz=214,slow=4.0,SNR=5.7
NEW Newport 85.19 35 *e*P **P** **07 31 52.1 +0.1**
comp=Z,15nm,1.8s
NEW Newport 85.19 35 *e*P **P** **07 31 52.1 +0.1**
NEW pmax pmax
comp=Z,15nm,1.8s
MCK McKinley 85.42 12 *e*P **P** **07 31 52.7 -0.1**
comp=Z,23nm,1.0s
MCK McKinley 85.42 12 *e*P **P** **07 31 52.7 -0.1**
MCK pmax pmax
comp=Z,23nm,1.0s
KULM Kulim 85.80 277 *e*P **P** **07 31 55.9 +0.1**
comp=Z,23nm,0.8s
SEY Seymchan 85.80 346 P **P** **07 31 54.1 -0.5**
comp=Z,26nm,0.9s,baz=145,slow=5.5,SNR=107
SEY Seymchan 85.80 346⇑ *i*P **P** **07 31 54.0 -0.6**
MENT Mentasta 85.81 14 *e*P **P** **07 31 54.7 0.0**
comp=Z,10.0nm,1.0s
S22A 4UR Ranch, Cre 86.04 48 *e*P **P** **07 31 57.6 +0.8**
comp=Z,6.5nm,0.9s
LNIG Linares 86.19 62 *e*P **P** **07 31 57.3 -0.1**
comp=Z,22nm,0.8s
O20A White River Ci 86.21 45 *e*P **P** **07 31 57.3 -0.1**
comp=Z,24nm,1.7s
MLY Manley 86.29 10 *e*P **P** **07 31 56.3 -0.7**
comp=Z,7.0nm,0.8s
DOT Dot Lake 86.35 14 *e*P **P** **07 31 57.5 +0.2**
comp=Z,16nm,0.8s
IMW Indian Meadow 86.36 41 *e*P **P** **07 31 58.6 +0.4**
comp=Z,7.1nm,1.3s
SKLT Songkhla 86.46 279 P **P** **07 31 59.1 +0.1**
comp=Z,55nm,1.0s
CCB Clear Creek Bu 86.46 12 *e*P **P** **07 31 56.7 -1.1**
comp=Z,12nm,1.1s
PSI Prapat 86.59 274 P **P** **07 31 58.7 -1.1**
comp=Z,22nm,0.9s,baz=116,slow=3.6,SNR=9.9
PSI Prapat 86.59 274 *e*P **P** **07 31 58.7 -1.1**
comp=Z,29nm,0.9s
SMCO Snowmass 86.61 47 *e*P **P** **07 31 59.9 +0.3**
comp=Z,4.0nm,0.8s
BJT Baijiatuau 86.65 314 *e*P **P** **07 31 59.7 +0.4**
comp=Z,150nm,1.8s
PD31 Pinedale Array 86.65 42 *e*P **P** **07 31 59.3 -0.3**
PDAR Pinedale Array 86.65 42 P **P** **07 31 59.5 -0.1**
comp=Z,1.5nm,0.8s,baz=208,slow=3.0,SNR=13
PDAR pP **pP** **07 33 02.2 +0.6**
comp=Z,0.9nm,0.8s,baz=224,slow=4.1,SNR=3.1
PDAR Pinedale Array 86.65 42 *e*P **P** **07 31 59.1 -0.4**
PDAR pP **pP** **07 33 02.2 +0.6**
BJI Beijing 86.66 314 P **P** **07 31 59.8 +0.5**
BJI S **S** **07 42 13.3 -0.7**
BJI pmax pmax
comp=Z,46nm,1.4s
BJI LR LR
comp=Z,370nm,14.5s
BJI LR LR
comp=Z,810nm,24.5s
COLA College 86.66 12 *e*P **P** **07 31 58.3 -0.4**
comp=Z,8.1nm,0.8s
COLA College 86.66 12 *e*P **P** **07 31 58.3 -0.4**
COLA pmax pmax
comp=Z,8.0nm,0.8s
MDM Murphy Dome 86.67 11 *e*P **P** **07 31 58.7 -0.2**
comp=Z,29nm,1.4s
IM3 Indian Mountai 86.70 9 *e*P **P** **07 31 59.4 +0.4**
YMR Madison River 86.74 40 *e*P **P** **07 32 01.4 +1.5**
comp=Z,23nm,1.7s
IL1 Eielson Array 86.75 12 *e*P **P** **07 32 00.1 +0.9**
IL1 *e*pP **pP** **07 33 02.2 +0.9**
ILAR Eielson Array 86.75 12 P **P** **07 31 58.6 -0.6**
comp=Z,1.3nm,0.5s,baz=229,slow=5.2,SNR=13
ILAR pP **pP** **07 33 02.7 +1.3**
comp=Z,8.4nm,1.2s,baz=214,slow=5.6,SNR=3.6
ILB Eielson Array 86.75 12 *e*P **P** **07 31 59.0 -0.2**
SKNT Sakolnakorn 86.80 289 P **P** **07 32 00.0 -0.5**
comp=Z,14nm,1.0s
BOZ Bozeman (W) 86.83 39 *e*P **P** **07 32 00.9 +0.7**
comp=Z,9.1nm,1.3s
BOZ Bozeman (W) 86.83 39 *e*P **P** **07 32 00.9 +0.7**
BOZ pmax pmax
comp=Z,9.0nm,1.3s
SDCO Great Sand Dun 86.97 48 *e*P **P** **07 32 01.4 +0.2**
comp=Z,5.2nm,1.1s
ENH Enshi 87.24 303 *e*P **P** **07 32 03.0 +0.6**
comp=Z,65nm,0.8s
MSTX Muleshoe 87.29 53 *e*P **P** **07 32 02.9 +0.2**
comp=Z,14nm,1.1s
WALA Waterton Lakes 87.39 35 *e*P **P** **07 32 03.3 +0.5**
comp=Z,6.4nm,0.8s
TRTT Trang 87.55 279 P **P** **07 32 04.3 +0.1**
comp=Z,33nm,0.9s,comp=Z,300nm
ZEA Zeya 87.74 330 *e*P **P** **07 32 04.2 +0.1**
ZEA pmax pmax
comp=N,36nm,0.8s
ZEA pmax pmax
comp=Z,43nm,0.9s
GYA Guiyang 88.02 299 P **P** **07 32 07.0 +0.7**
GYA pP pP 07 33 08.6 0.0
GYA sP sP 07 33 35.2 -0.5
GYA PP **PP** **07 35 39.4 +2.3**
GYA SKS **SKSac** **07 42 09.0 -1.1**
GYA S **S** **07 42 25.8 -2.0**
GYA pmax pmax
comp=Z,20nm,1.0s
TIY Taiyuan 88.18 311 *e*P **P** **07 32 07.8 +1.1**
NAYO Nakonayok 88.26 286 P **P** **07 32 08.8 +1.3**
comp=Z,22nm,0.7s,comp=Z,913nm
SYO Syowa Base 88.29 192⇑ *i*P **P** **07 32 05.6 -1.0**
SYO Syowa Base 88.29 192‖ *e*PcP **PcP** **07 32 07.4 -0.7**
COLD Coldfoot 88.39 10 *e*P **P** **07 32 07.5 +0.6**
comp=Z,8.1nm,1.0s
PLCA Paso Flores 88.44 133 P **P** **07 32 09.5 +1.5**
comp=Z,3.1nm,0.8s,baz=247,slow=4.0,SNR=6.2
SURT Suratani 88.76 280 P **P** **07 32 11.0 +1.1**
comp=Z,14nm,1.6s
SNAA Sanae 89.06 178 P **P** **07 32 10.4 +0.1**
SNAA Sanae 89.06 178 P **P** **07 32 10.9 +0.7**
comp=Z,3.3nm,0.9s,baz=170,slow=3.7,SNR=3.7
SNAA Sanae 89.06 178‖ *e*P **P** **07 32 13.7 +3.4**
HIA Hailar 89.07 324‖ *e*P **P** **07 32 10.2 -0.4**
HIA pmax pmax
comp=Z,14nm,1.2s
VNA3 Neumayer Olymp 89.10 176 P **P** **07 32 11.0 +0.5**
ABTX Abilene, Hawie 89.11 55 *e*P **P** **07 32 11.4 +0.2**
comp=Z,20nm,1.0s
XAN Xi'an 89.21 307 P **P** **07 32 12.0 +0.4**
XAN pP pP 07 33 10.5 -3.6
XAN pmax pmax
comp=Z,62nm,1.1s
XAN pmax pmax
comp=Z,210nm,4.0s
PHET Kaeng Krachan 89.33 284 P **P** **07 32 14.2 +1.7**
comp=Z,17nm,0.9s,comp=Z,194nm
VNA2 Neumayer--Watz 89.57 176 P **P** **07 32 14.5 +1.9**
baz=190,slow=3.6
HHC Hu-ho-hao-te 90.16 314 *e*P **P** **07 32 17.1 +1.2**
HHC pP pP 07 33 19.0 +0.5
HHC sP sP 07 33 45.3 -0.2
HHC PP **PP** **07 35 57.1 +3.4**
HHC SKS **SKSac** **07 42 21.8 -0.2**
HHC S **S** **07 42 46.2 -0.8**
HHC sS sS 07 44 35.0 -2.2
HHC SS **SS** **07 48 55.8 +2.5**
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,160nm,5.1s
SRDT SRDT 90.28 285 P **P** **07 32 17.7 +0.8**
comp=Z,34nm,0.9s,comp=Z,3μm
NANT Nan 90.37 290 P **P** **07 32 18.3 +1.0**
comp=Z,7.0nm,1.0s
UTHA Uthaitani 90.39 286 P **P** **07 32 18.8 +1.4**
comp=Z,7.4nm,0.9s
KMI Kunming 90.81 296 P **P** **07 32 20.6 +1.1**
KMI pmax pmax
comp=Z,24nm,1.0s
RSSD Black Hills 90.83 43 *e*P **P** **07 32 19.3 +0.1**
comp=Z,11nm,1.1s
RSSD Black Hills 90.83 43 *e*P **P** **07 32 19.3 +0.1**
RSSD pmax pmax
comp=Z,11nm,1.1s
LAMP Lampang 91.22 289 P **P** **07 32 22.4 +1.2**
comp=Z,18nm,0.9s,comp=Z,147nm
CM01 Chiang Mai Arr 91.79 289 *e*P **P** **07 32 24.5 +0.6**
CM31 Chiang Mai Arr 91.82 289 *e*P **P** **07 32 24.0 0.0**
CMAR Chiang Mai Arr 91.82 289 P **P** **07 32 24.0 0.0**
comp=Z,15nm,0.9s,baz=115,slow=2.9,SNR=48
CMAR Chiang Mai Arr 91.82 289 P **P** **07 32 24.0 0.0**
CMAR pmax pmax
comp=Z,15nm,0.9s
YAK Yakutsk 91.91 337 P **P** **07 32 22.3 -1.1**
comp=Z,8.8nm,0.4s,baz=96,slow=3.1,SNR=3.1
YAK Yakutsk 91.91 337‖ *e*P **P** **07 32 23.6 +0.3**
YAK pmax pmax
comp=Z,12nm,0.6s
CMMT Chiang Mai 91.93 289 P **P** **07 32 24.2 -0.3**
comp=Z,27nm,0.9s
CHTO Chiang Mai 91.94 289 P **P** **07 32 25.3 +0.8**
comp=Z,118nm,1.0s
CHTO Chiang Mai 91.94 289 *e*P **P** **07 32 25.0 +0.5**
comp=Z,19nm,0.9s
CHTO Chiang Mai 91.94 289 *e*P **P** **07 32 25.0 +0.5**
CHTO pmax pmax
comp=Z,19nm,0.9s
CD2 Chengdu 92.05 302 *e*P **P** **07 32 25.4 +0.6**
CD2 pP pP 07 33 26.7 -0.7
CD2 sP sP 07 33 53.4 -1.0
CD2 SKS **SKSac** **07 42 33.2 +0.2**
CD2 S **S** **07 43 04.9 +0.6**
CD2 SS **SS** **07 49 21.5 +0.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,620nm,7.9s
CD2 LR LR
comp=Z,410nm,12.0s
CD2 LR LR
comp=Z,490nm,15.4s
CD2 LR LR
comp=Z,630nm,11.4s
CMAI Chiengmai2 92.22 290 P **P** **07 32 27.0 +1.0**
INK Inuvik 92.63 14 P **P** **07 32 26.2 -0.3**
comp=Z,4.2nm,0.9s,baz=203,slow=6.2,SNR=9.4
LZH Lanzhou 93.84 307⇑ P **P** **07 32 34.1 +1.0**
LZH pP pP 07 33 35.2 -0.6
LZH sP sP 07 34 01.5 -1.3
LZH PP **PP** **07 36 26.1 +3.3**
LZH pmax pmax
comp=Z,45nm,1.6s
LZH pmax pmax
comp=Z,120nm,7.2s
YKA Yellowknife A 94.59 24 P **P** **07 32 35.3 -0.4**
comp=Z,1.4nm,0.8s,baz=239,slow=4.4,SNR=19
YKA pP **pP** **07 33 38.5 +0.2**
comp=Z,0.1nm,0.6s,baz=241,slow=4.9,SNR=1.1
YKA PKKP **PKKPdf** **07 49 33.4 -1.4**
comp=Z,0.2nm,0.8s,baz=39,slow=2.2,SNR=5.2
ECSD EROS Data Cent 95.58 46 *e*P **P** **07 32 40.8 +0.1**
comp=Z,14nm,1.3s
ULN Ulaanbaatar 95.96 319 *e*P **P** **07 32 42.1 -0.4**
ULN Ulaanbaatar 95.96 319 *e*P **P** **07 32 42.1 -0.4**
SONA0 Songino Array 96.36 318 *e*P **P** **07 32 43.8 -0.5**
SONA0 *e*PP PP 07 36 52.6 +11
SONM Songino Array 96.36 318 P **P** **07 32 43.8 -0.5**
comp=Z,2.2nm,0.7s,baz=123,slow=5.3,SNR=4.8
SONM PP PP 07 36 52.6 +11
comp=Z,0.7nm,0.9s,baz=126,slow=6.4,SNR=4.2
GTA Gaotai 97.97 309 *e*P **P** **07 32 51.7 0.0**
GTA pP pP 07 33 51.0 -3.5
GTA pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 98.24 345⇑ *e*P **P** **07 32 51.0 -1.0**
TIXI pmax pmax
comp=Z,8.0nm,1.5s
TLY Talaya 99.38 321⇑ *e*P **Pdif** **07 32 58.0 +0.4**
TLY pmax pmax
comp=Z,3.0nm,1.2s
LPAZ La Paz 100.44 111 P **Pdif** **07 33 05.1 +1.2**
comp=Z,1.8nm,1.0s,baz=288,slow=3.2,SNR=3.4
ZALV Zalesovo Beam 110.99 321 PKiKP **PKiKP** **07 37 46.0 -1.0**
comp=Z,1.4nm,0.5s,baz=159,slow=1.3,SNR=6.5
ZALV PP **PP** **07 38 28.6 -1.3**
comp=Z,2.6nm,0.7s,baz=98,slow=7.6,SNR=4.2
ZAA1 Zalesovo Array 110.99 321 *e*PKiKP **PKiKP** **07 37 46.0 -1.0**
ZAA1 *e*PP **PP** **07 38 28.6 -1.3**
MK32 Makanchi Array 112.02 314 *e*Pdif **Pdif** **07 33 54.0 +0.1**
MK32 *e*PKiKP **PKiKP** **07 37 48.2 -1.0**
MK32 *e*PP **PP** **07 38 33.8 -3.8**
MKAR Makanchi Array 112.02 314 Pdiff **Pdif** **07 33 54.0 +0.1**
comp=Z,0.5nm,0.7s,baz=82,slow=3.2,SNR=4.0
MKAR PKiKP **PKiKP** **07 37 48.2 -1.0**
comp=Z,1.3nm,0.4s,baz=180,slow=0.9,SNR=20
MKAR PP **PP** **07 38 33.8 -3.8**
comp=Z,1.7nm,1.0s,baz=92,slow=9.7,SNR=5.5
MKAR PKKPbc **PKKPbc** **07 48 42.5 -0.7**
comp=Z,0.8nm,0.9s,baz=281,slow=3.3,SNR=6.3
KURK Kurchatov 114.65 318 *e*PKiKP PKPdf 07 37 53.1 -0.9
KURK *e*PP **PP** **07 38 50.8 -5.1**
KURK Kurchatov 114.65 318 *e*PKiKP PKPdf 07 37 53.1 -1.0
KURK *e* 07 38 50.8
KURBB Kurchatov Arra 114.71 318 PKP PKPdf 07 37 53.1 -1.1
comp=Z,1.8nm,0.6s,baz=95,slow=1.8,SNR=17
KURBB PP **PP** **07 38 50.8 -5.5**
comp=Z,0.8nm,0.7s,baz=89,slow=6.6,SNR=7.0
KSH Kashi 116.04 305 *e*PKP **PKPdf** **07 37 57.3 0.0**
KSH PP **PP** **07 39 06.9 +0.7**
KSH PKS **PKSdf** **07 41 34.9 +0.8**
KSH SKS **SKSdf** **07 44 46.1 +1.5**
KSH SS **SS** **07 54 52.7 +4.4**
KSH AMB AMB
comp=Z,93nm,7.0s
KSH LR LR
comp=Z,170nm,10.3s
KSH LR LR
comp=Z,130nm,7.9s
KSH LR LR
comp=Z,190nm,8.8s
AAK Ala-Archa 117.32 309 PKP **PKPdf** **07 37 59.2 -0.5**
comp=Z,1.4nm,0.4s,baz=192,slow=4.8,SNR=4.6
AAK Ala-Archa 117.32 309‖ *i*PKIKP **PKPdf** **07 37 58.9 -0.8**
BVAR Borovoye Array 119.62 321 PKP **PKPdf** **07 38 03.0 -0.6**
comp=Z,3.6nm,0.5s,baz=122,slow=1.0,SNR=24
BVAR PP **PP** **07 39 26.9 -3.3**
comp=Z,1.5nm,0.9s,baz=79,slow=7.9,SNR=4.0
BRVK Borovoye 119.68 321 *e*PKPdf **PKPdf** **07 38 03.0 -0.7**
BRVK Borovoye 119.68 321 *e*PKiKP **PKPdf** **07 38 03.0 -0.7**
KKAR Karatay Array 120.25 309 *e*PKPdf **PKPdf** **07 38 04.2 -1.0**
KKAR Karatay Array 120.25 309 *e*PKiKP **PKPdf** **07 38 04.2 -1.0**
SPA0 Spitsbergen Ar 120.87 357 *e*PKPdf **PKPdf** **07 38 04.2 -1.2**
SPITS Spitsbergen Ar 120.87 357 PKP **PKPdf** **07 38 04.2 -1.2**
comp=Z,7.7nm,0.9s,baz=190,slow=4.4,SNR=5.3
KBL Kabul 121.27 299 *e*PKPdf **PKPdf** **07 38 07.4 -0.3**
KBL Kabul 121.27 299 *e*PKiKP **PKPdf** **07 38 07.4 -0.3**
ARU Arti 125.50 326 PKP **PKPdf** **07 38 14.2 -0.5**
comp=Z,6.3nm,0.2s,baz=283,slow=1.5,SNR=11
ARU PP **PP** **07 40 06.0 -3.6**
comp=Z,4.6nm,0.2s,baz=61,slow=3.3,SNR=5.5
ARU Arti 125.50 326 *i* PKiKP **PKPdf** **07 38 14.4 -0.4**
ARU 07 40 10.5
ARU 07 45 01.2
ARU SS SS 07 56 46.6 -0.6
SUR Sutherland 126.17 197 PKP **PKPdf** **07 38 17.8 +0.6**
comp=Z,0.5nm,0.9s,baz=120,slow=8.1,SNR=2.8
ABKAR Akbulak array 126.76 318 *e*PKPdf **PKPdf** **07 38 16.7 -0.7**
AKTO Aktyubinsk 127.67 319 PKP **PKPdf** **07 38 18.6 -0.6**
comp=Z,2.1nm,0.9s,baz=72,slow=6.4,SNR=7.4
AKTO PP **PP** **07 40 18.0 -6.0**
comp=Z,2.4nm,1.1s,baz=101,slow=5.2,SNR=2.8
BOSA Boshof 128.18 204 PKP **PKPdf** **07 38 22.3 +1.3**
comp=Z,1.4nm,0.7s,baz=181,slow=4.7,SNR=3.5
ARA0 ARCESS Array S 128.19 351 *e*PKPdf **PKPdf** **07 38 19.4 -0.2**
ARCES ARCESS Array B 128.19 351 PKP **PKPdf** **07 38 19.4 -0.1**
comp=Z,2.9nm,0.5s,baz=17,slow=1.6,SNR=40
GEYT Alibeck 130.01 304 PKP **PKPdf** **07 38 24.5 +0.5**
comp=Z,2.5nm,0.6s,baz=316,slow=4.1,SNR=5.4
GEYT PP **PP** **07 40 36.0 -3.9**
comp=Z,1.0nm,0.5s,baz=75,slow=7.6,SNR=3.8
FIA0 FINESS Array S 135.28 345 *e*PKPpre PKPpre 07 38 28.3
FIA0 *e*PKPdf **PKiKP** **07 38 34.1 -0.6**
FIA0 FINESS Array S 135.28 345 *e*PKiKP PKPpre 07 38 28.3
FINES FINESS Array B 135.28 345 PKhKP PKPpre 07 38 28.3
comp=Z,0.4nm,0.3s,baz=198,slow=35,SNR=5.3
FINES PKP **PKiKP** **07 38 34.1 -0.6**
comp=Z,1.4nm,0.5s,baz=19,slow=3.7,SNR=7.6
VSR Storozhevoye 138.05 327‖ *e*PKiKP **PKPdf** **07 38 39.8 +1.2**
NB2 NORSAR Subarra 138.09 355 PKP **PKPdf** **07 38 39.9 +1.5**
comp=Z,1.0nm,0.6s,baz=17,slow=2.6
NB200 NORSAR Array S 138.09 355 *e*PKPdf PKPpre 07 38 34.6
NOA NORSAR Array B 138.09 355 PKhKP PKPpre 07 38 34.6
comp=Z,2.3nm,1.0s,baz=16,slow=5.0,SNR=2.9
HFS Hagfors 138.74 353 PKhKP PKPpre 07 38 32.0
comp=Z,2.6nm,0.6s,baz=336,slow=3.2,SNR=5.4
HFS SKP 07 41 50.5
comp=Z,4.4nm,0.9s,baz=291,slow=12,SNR=3.1
GOF Gofitskoye 139.00 317⇑ *e*P **Pdif** **07 36 01.2 +7.3**
KBZ Khabaz 139.66 316 PP PP 07 41 43.4 +3.4
comp=Z,3.4nm,1.0s,baz=63,slow=2.3,SNR=3.6
RAYN Ar Rayn 141.55 284 *e*PKPpre PKPpre 07 38 41.1
RAYN Ar Rayn 141.55 284 *e*PKHKP PKPpre 07 38 41.1
KMBO Kilima Mbogo 141.80 241 PKhKP PKPpre 07 38 42.7
comp=Z,1.5nm,0.5s,baz=109,slow=4.0,SNR=4.0
AKASG Malin Array Be 143.04 334 PKhKP PKPpre 07 38 43.8
comp=Z,4.7nm,0.5s,baz=40,slow=4.2,SNR=32
AKBB Malin Array Si 143.04 334 *e*PKPpre PKPpre 07 38 43.5
KIEV Kiev 143.05 334 *e*PKPpre PKPpre 07 38 43.0
KIEV Kiev 143.05 334‖ *i*PKIKP **PKPdf** **07 38 49.2 +1.6**
AK11 Malin Array Si 143.08 334 *e*PKPpre PKPpre 07 38 43.5
KELT Kelkit 143.62 312 *i* P PKPbc 07 38 48.0 +0.5
EKA Eskdalemuir Ar 143.66 7 PKhKP PKPpre 07 38 45.6
comp=Z,2.1nm,0.7s,baz=329,slow=2.5,SNR=5.1
ELZG Elazig 144.47 310 *i* P **PKPdf** **07 38 51.0 +0.2**
SIM Simferopol' 144.49 323*c i*PKIKP PKPbc 07 38 49.8 +0.2
SIM pmax pmax
comp=Z,48nm,0.7s
KEMA Kemaliye 144.52 311 *i* P **PKPdf** **07 38 50.8 +0.1**
HEKM Malatya_Hekimh 145.06 311 *i* P **PKPab** **07 38 53.0 +0.9**
ERBA Erbaa 145.10 315 *i* P **PKPab** **07 38 52.3 +0.3**
BEL Belsk 145.12 342 *e*PKP **PKPab** **07 38 52.1 +0.5**
BEL Belsk 145.12 342 *e*PKIKP **PKPab** **07 38 52.1 +0.5**
AKCD Akcadag 145.32 310 *i* P **PKPab** **07 38 53.5 +0.4**
SORM Soroca 145.34 331‖ *i*P **PKPdf** **07 38 51.8 +0.2**
SORM Soroca 145.34 331 PKP2 **PKPdf** **07 38 51.8 +0.2**
SURC SANLIURFA_SURC 145.34 307 *i* P **PKPab** **07 38 52.8 -0.2**
CUALT Altinyayla-SIV 145.74 312 *i* P **PKPab** **07 38 54.6 0.0**
LVV L'vov 145.79 337 *e*PKP2 **PKPbc** **07 38 53.0 -0.4**
ELBS ELAHRAMANMARAS 145.87 311 *i* P **PKPab** **07 38 55.1 0.0**
BOYT Boyabat 145.96 317 *i* P **PKPbc** **07 38 54.2 -0.1**
CUSAR Sarkisla-SIVAS 146.03 313 *i* P **PKPbc** **07 38 55.2 +0.5**
KWP Kalwaria Pacla 146.42 338 *e*PKP **PKPbc** **07 38 55.1 -0.1**
KWP Kalwaria Pacla 146.42 338 *e*PKP2 **PKPbc** **07 38 55.1 -0.1**
CTAK Corum_Osmancik 146.43 316 *i* P **PKPab** **07 38 56.7 -0.6**
HCB Kahramanmara˘ 146.43 309 *i* P **PKPbc** **07 38 55.7 0.0**
COAL Corum-Alaca 146.49 315 *i* P **PKPbc** **07 38 56.6 +0.7**
ANDN Andirin 146.75 310 *i* P **PKPbc** **07 38 57.3 +0.6**
OJC Ojcow 146.85 342 *e*PKP **PKPbc** **07 38 56.7 +0.3**
OJC Ojcow 146.85 342 *e*PKPdf **PKPbc** **07 38 56.1 -0.4**
OJC Ojcow 146.85 342 *e*PKP2 **PKPbc** **07 38 56.7 +0.3**
ILGA Ilgaz 146.92 317 *i* P **PKPbc** **07 38 58.0 +0.8**
BUR08 Bucovina Ar. S 147.08 334 *e*PKPdf **PKPbc** **07 38 57.1 -0.2**
BUR04 Bucovina Ar. S 147.10 334 *e*PKPdf **PKPbc** **07 38 57.0 -0.3**
BURAR Bucovina Array 147.10 334‖ *i*P **PKPbc** **07 38 57.9 +0.6**
BURAR Bucovina Array 147.10 334 PKP2 **PKPbc** **07 38 57.9 +0.6**
STHS Stebnicka Huta 147.10 340 *e*PKP2 **PKPbc** **07 38 57.8 +0.6**
STHS Stebnicka Huta 147.10 340 *e*PKP **PKPbc** **07 38 57.8 +0.6**
STHS *e* 07 39 00.5
KSP Ksiaz 147.20 346 *e*PKP **PKPbc** **07 38 58.1 +0.8**
KSP Ksiaz 147.20 346 *e*PKP2 **PKPbc** **07 38 58.1 +0.8**
CDAG Cicekdag 147.21 314 *i* P **PKPbc** **07 38 58.0 +0.1**
TLCR 147.22 327‖ *i*P **PKPbc** **07 38 57.9 +0.3**
TLCR 147.22 327 PKP2 **PKPbc** **07 38 57.9 +0.3**
YAHY KAYSERI_Yahyal 147.23 311 *i* P **PKPbc** **07 38 58.5 +0.5**
AVNS Nevsehir-Avano 147.28 313 *i* P **PKPbc** **07 38 58.2 0.0**
TESR Tescani 147.32 331⇑ *i*P **PKPbc** **07 38 57.5 -0.3**
MBAR Mbarara 147.36 236 *e*PKPdf **PKPdf** **07 38 57.2 +0.9**
ELDT Eldivan 147.40 317 *i* P **PKPbc** **07 38 58.9 +0.4**
NIE Niedzica 147.40 341 *e*PKP **PKPbc** **07 38 58.9 +0.9**
NIE Niedzica 147.40 341 *e*PKP2 **PKPbc** **07 38 58.9 +0.9**
CLL Collm 147.41 350 *i* PKPbc **PKPbc** **07 38 57.9 0.0**
comp=Z,22nm,0.7s
CLL *e*PKPab **PKiKP** **07 39 00.0 +0.1**
comp=Z,20nm,1.1s
CLL *i* 07 39 02.0
comp=Z,23nm,0.8s
CLL *e*pPKPbc **pPKPab** **07 40 11.0 +6.8**
CLL *e* 07 40 19.0
CLL *e*PP **PP** **07 42 26.0 +0.7**
CLL Collm 147.41 350 *e*PKPdf **PKPbc** **07 38 57.5 -0.4**
CLL Collm 147.41 350 *i* PKP2 **PKPbc** **07 38 57.9 0.0**
CLL pmax pmax
comp=Z,22nm,0.7s
CLL pmax pmax
comp=Z,20nm,1.1s
UZH Uzhgorod 147.41 338 *e*PKHKP PKPpre 07 38 46.7
UZH *i* 07 38 55.9
UZH *i* 07 39 51.3
AKO Adana 147.44 310 *i* P **PKPbc** **07 38 58.5 0.0**
CRVS Cervenica-Dubn 147.47 339 *e*PKP2 **PKPbc** **07 38 58.7 +0.5**
CRVS Cervenica-Dubn 147.47 339 *e*PKP **PKPbc** **07 38 58.7 +0.5**
CRVS *e* 07 39 01.7
YAYL Yayladag 147.53 307 *i* P **PKPbc** **07 38 59.1 +0.2**
CFR Carcaliu 147.57 328⇑ *i*P **PKPbc** **07 38 58.1 -0.4**
CFR Carcaliu 147.57 328 PKP2 **PKPbc** **07 38 58.1 -0.4**
YURE YUREGIR 147.57 309 *i* P **PKPbc** **07 38 59.4 +0.5**
BR101 Keskin Array S 147.65 315 *e*PKPbc **PKPbc** **07 38 58.9 -0.2**
BR131 Keskin Array S 147.65 315 *e*PKPdf **PKPbc** **07 38 57.8 -1.3**
BRTR Keskin Array B 147.65 315 PKPbc **PKPbc** **07 38 58.9 -0.2**
comp=Z,16nm,0.8s,baz=138,slow=3.6,SNR=62
DPC Dobruska-Polom 147.65 346⇑ *e*PKP **PKPbc** **07 38 59.2 +0.5**
DPC *e*PKPAB **PKPab** **07 39 02.2 +0.6**
DPC Dobruska-Polom 147.65 346 *e*PKP2 **PKPbc** **07 38 59.2 +0.5**
BRG Berggiesshubel 147.66 349 *i* PKP2 **PKPbc** **07 38 59.0 +0.4**
BRG pmax pmax
comp=Z,10.0nm,0.7s
OKC Ostrava-Krasne 147.66 343 *e*PKPAB **PKPab** **07 39 01.7 +0.1**
OKC Ostrava-Krasne 147.66 343 *e*PKP2 **PKPab** **07 39 01.7 +0.1**
TRPA Tarpa 147.74 337‖ *e*S **PKPbc** **07 38 59.1 +0.2**
VRI Vrincioaia 147.76 330‖ *i*P **PKPbc** **07 38 59.2 +0.1**
VRI Vrincioaia 147.76 330 PKP2 **PKPbc** **07 38 59.2 +0.1**
PLOR Plostina 147.81 330⇑ *i*P **PKPbc** **07 38 59.2 0.0**
PLOR Plostina 147.81 330 PKP2 **PKPbc** **07 38 59.2 0.0**
PVCC Panska Ves 147.87 348 *e*PKP **PKPbc** **07 38 59.3 +0.1**
PVCC Panska Ves 147.87 348 *e*PKP2 **PKPbc** **07 38 59.3 +0.1**
MORC Moravsky Berou 147.88 344‖ *i*P **PKPbc** **07 38 59.9 +0.6**
MORC Moravsky Berou 147.88 344 *e*PKPdf **PKPbc** **07 38 58.6 -0.7**
MORC Moravsky Berou 147.88 344 PKP2 **PKPbc** **07 38 59.9 +0.6**
TIRR Tirgusor 147.93 327‖ *i*P **PKPbc** **07 38 59.8 +0.3**
TIRR Tirgusor 147.93 327 PKP2 **PKPbc** **07 38 59.8 +0.3**
HARR Harsova 148.02 327‖ *i*P **PKPbc** **07 39 00.4 +0.7**
HARR Harsova 148.02 327 PKP2 **PKPbc** **07 39 00.4 +0.7**
TLB Topalu 148.03 327⇑ *i*P **PKPbc** **07 38 59.3 -0.4**
TLB Topalu 148.03 327 PKP2 **PKPbc** **07 38 59.3 -0.4**
ANTO Ankara 148.14 316 *e*PKPdf **PKPdf** **07 38 57.4 +0.7**
KECS Kecovo 148.16 339 *e*PKP2 **PKPbc** **07 39 00.6 +0.6**
KECS Kecovo 148.16 339 *e*PKP **PKPbc** **07 39 00.6 +0.6**
KECS *e* 07 39 04.5
BR231 Keskin MP Arra 148.16 316 *e*PKPdf **PKPdf** **07 38 55.5 -1.4**
BR231 *e*PKPdf **PKPbc** **07 38 55.8 -4.7**
DOPR Dopca 148.30 332‖ *i*P **PKPbc** **07 39 01.2 +0.7**
PRU Pruhonice 148.39 347 *e*PKP **PKPbc** **07 39 00.9 +0.4**
PRU Pruhonice 148.39 347 *e*PKP2 **PKPbc** **07 39 00.9 +0.4**
GOPC GO Pecny, Ondr 148.41 347⇑ *e*PKP **PKPbc** **07 39 00.9 +0.3**
GOPC GO Pecny, Ondr 148.41 347 *e*PKP2 **PKPbc** **07 39 00.9 +0.3**
MLR Muntele Rosu 148.41 330 PKPbc **PKPbc** **07 39 01.2 +0.4**
comp=Z,2.0nm,0.7s,baz=50,slow=3.1,SNR=7.1
MLR Muntele Rosu 148.41 330‖ *i*P **PKPbc** **07 39 00.8 -0.1**
MLR Muntele Rosu 148.41 330 *e*PKPdf **PKPbc** **07 38 56.6 -0.4**
KERG Konya-Eregli 148.41 311 *i* P **PKPbc** **07 38 59.7 -1.5**
VYHS Vyhne 148.67 341 *e*PKP2 **PKPbc** **07 39 01.6 +0.3**
VYHS Vyhne 148.67 341 *e*PKP **PKPbc** **07 39 01.6 +0.3**
DRGR 148.78 335⇑ *i*P **PKPbc** **07 39 01.8 +0.1**
DRGR 148.78 335 PKP2 **PKPbc** **07 39 01.8 +0.1**
MEM Membach 148.81 358‖ PKP **PKPbc** **07 39 01.8 +0.3**
PSZ Piszkesteto 148.84 340‖ *e*S **PKPbc** **07 39 02.2 +0.4**
PSZ Piszkesteto 148.84 340 *e*PKPdf **PKPbc** **07 38 58.1 +0.5**
PSZ Piszkesteto 148.84 340 *e*PKIKP **PKPdf** **07 38 58.1 +0.5**
VOIR 148.86 331⇑ *i*P **PKPbc** **07 39 02.3 +0.3**
VOIR 148.86 331 PKP2 **PKPbc** **07 39 02.3 +0.3**
MMAI Mount Meron Ar 149.12 302 PKPbc **PKPbc** **07 39 03.9 +0.9**
comp=Z,29nm,0.6s,baz=76,slow=5.9,SNR=33
DOU Dourbes 149.35 360‖ PKP **PKPbc** **07 39 03.3 +0.4**

KHC	Kasperske Hory	149.40	348⇑	ePKP	PKPbc	07 39 03.3	+0.2
KHC				ePKPAB	PKPab	07 39 07.5	-1.2
KHC				epPKP	pPKPab	07 40 13.5	+1.3
KHC	Kasperske Hory	149.40	348	ePKPdf	PKPdf	07 38 59.4	+1.0
KHC	Kasperske Hory	149.40	348	ePKP2	PKPbc	07 39 03.3	+0.2
SIRR	Siria	149.62	336⇓	iP	PKPbc	07 39 04.3	+0.6
GEC2	GERESS Array S	149.64	348	ePKPdf	PKPdf	07 38 58.3	-0.6
GEC2	GERESS Array S	149.64	348	ePKIKP	PKPdf	07 38 58.3	-0.6
GERES	GERESS Array B	149.64	348	PKPbc	PKPbc	07 39 04.0	+0.2
	comp=Z,6.5nm,0.9s,baz=29,slow=3.0,SNR=24						
GEA0	GERESS Array S	149.65	348	ePKPdf	PKPdf	07 38 59.7	+0.8
CONA	Conrad Observa	150.02	344	ePKPbc	PKPbc	07 39 04.2	-0.5
	comp=Z,20nm,1.2s						
CSS	Mathiatis	150.03	307	ePKPdf	PKPdf	07 38 59.2	-0.7
BZS	Buzias	150.18	335⇓	iP	PKPbc	07 39 05.3	+0.2
MOA	Molln	150.47	346	ePKPbc	PKPbc	07 39 05.6	-0.1
	comp=Z,3.6nm,0.5s						
ARSA	Arzberg	150.73	344	ePKPbc	PKPbc	07 39 05.7	-0.6
	comp=Z,7.8nm,1.0s						
BFO	Black Forest	150.94	355	ePKPdf	PKPdf	07 39 00.1	-0.8
BFO	Black Forest	150.94	355	ePKIKP	PKPdf	07 39 00.1	-0.8
KHAL	Karahalli	151.11	316	i P	PKPbc	07 39 07.5	-0.1
SOKA	Soboth	151.39	345	ePKPbc	PKPbc	07 39 07.2	-0.7
	comp=Z,7.6nm,0.8s						
KBA	Koelnbreinsper	151.40	347	ePKPbc	PKPbc	07 39 07.4	-0.7
	comp=Z,7.9nm,0.5s						
RETA	Reutte	151.47	351	ePKPbc	PKPbc	07 39 08.1	0.0
	comp=Z,7.3nm,0.9s						
WATA	Walderalm	151.49	350	i PKiKP	PKPbc	07 39 08.2	-0.1
	comp=Z,5.9nm,0.5s						
WTTA	Wattenberg	151.55	350	ePKiKP	PKPbc	07 39 08.5	+0.1
	comp=Z,13nm,0.5s						
MOTA	Moosalm	151.56	350	ePKiKP	PKPbc	07 39 08.4	-0.1
	comp=Z,11nm,0.9s						
OBKA	Obir	151.66	345	ePKPbc	PKPbc	07 39 08.5	-0.1
	comp=Z,5.2nm,0.8s						
MYKA	Terra Mystica	151.76	346	ePKPbc	PKPbc	07 39 08.1	-0.7
	comp=Z,8.4nm,0.5s						
DAVA	Damuels	151.79	352	ePKiKP	PKiKP	07 39 09.5	+0.2
	comp=Z,13nm,0.9s						
ABTA	Abfaltersbach	151.89	348	ePKPbc	PKPbc	07 39 08.6	-0.5
	comp=Z,14nm,0.5s						
VTS	Vitosha	151.89	330⇓	iP	PKPbc	07 39 09.6	+0.3
VTS	Vitosha	151.89	330	ePKPdf	PKPdf	07 39 03.4	+0.8
VTS	Vitosha	151.89	330	ePKIKP	PKPdf	07 39 03.4	+0.8
FETA	Feichten	151.93	351	i PKPbc	PKPbc	07 39 08.8	-0.5
	comp=Z,8.8nm,0.7s						
GCIS	Gornji Cirnik	151.98	343	i PKPbc	PKPbc	07 39 09.1	-0.1
DIVS	Divibare	152.08	335	ePKPdf	PKPdf	07 39 01.9	-0.9
LJU	Ljubljana	152.10	345	i PKPbc	PKPbc	07 39 09.3	-0.2
CRNS	Crni Vrh	152.13	345	i PKPbc	PKPbc	07 39 09.1	-0.5
FUORN	Ofenpass-Fuorn	152.39	351	ePKPdf	PKPdf	07 39 03.4	0.0
BLY	Banja Luka	152.53	340⇑	iP	PKPbc	07 39 11.3	+0.8
KARP	Karpathos	154.21	313	ePKPdf	PKPdf	07 39 06.0	-0.1
APE	Apeiranthos	154.41	318⇓	iP	PKPab	07 39 29.4	-0.8
APE	Apeiranthos	154.41	318	PKP2	PKPab	07 39 29.4	-0.8
IDI	Anoyia	155.89	315	PKPbc	PKPbc	07 39 19.0	
	comp=Z,2.3nm,0.5s,baz=350,slow=11,SNR=4.0						
IDI				PKPab	PKPab	07 39 35.3	-1.4
	comp=Z,5.7nm,0.7s,baz=270,slow=3.0,SNR=5.2						
ESDC	Sonseca Array	158.54	18	PKPab	PKPab	07 39 48.3	+0.4
	comp=Z,0.2nm,0.3s,baz=320,slow=3.4,SNR=6.2						
LIC	Lamto	164.07	144	ePKP2	PKPab	07 40 12.8	+0.2
	comp=Z,24nm,1.0s						
KIC	Kosan Boka	164.34	145	ePKP2	PKPab	07 40 13.9	+0.1
	comp=Z,11nm,0.9s						
TIC	Toumodi	164.42	143	ePKP2	PKPab	07 40 14.3	+0.1
DBIC	Dimbokro	164.53	144	PKPab	PKPab	07 40 15.0	+0.4
	comp=Z,5.9nm,0.9s,baz=256,slow=8.6,SNR=6.7						
KOWA	Kowa	170.66	120	PKP	PKPdf	07 39 22.2	-0.4
	comp=Z,1.7nm,0.8s,baz=236,slow=3.6,SNR=2.3						
KOWA				PKPab	PKPab	07 40 41.6	-0.3
	comp=Z,7.3nm,0.9s,baz=249,slow=2.7,SNR=11						
TORD	Torodi Ar. Bea	173.31	157	PKP	PKPdf	07 39 22.8	-1.1
	comp=Z,0.7nm,0.8s,baz=284,slow=1.5,SNR=3.6						
TORD				PKPab	PKPab	07 40 54.6	+1.3
	comp=Z,2.2nm,0.8s,baz=225,slow=4.0,SNR=9.0						
TORD				PP	PP	07 44 51.0	+6.8
	comp=Z,0.7nm,1.0s,baz=250,slow=3.1,SNR=5.2						
TOA1	Torodi Ar. Sit	173.31	157	ePKPdf	PKPdf	07 39 22.8	-1.1
TOA1				ePKPab	PKPab	07 40 54.6	+1.2
TOA1				ePP	PP	07 44 51.0	+6.8

*IDC **07** 07:23:43.5±0.5, 34°.17N×81°.84E, h0km, mb4.4/32, mb1 4.6/37, mb1mx4.4/73, mbtmp4.5/37, ML3.8/4, MS3.5/9, Ms1 3.5/9, ms1mx3.1/62, Error ellipse: s-maj=14.2km s-min=11.1km az=30.0*

*ISCJB **07** 07:23:44.6±0.1, 34°.30N±0°.02×81°.75E±0°.03, h10km, mb4.6/101, MS3.5/7, Error ellipse: s-maj=3.6km s-min=1.9km az=149.0*

*MOS **07** 07:23:46.0±1.1, 34°.23N×81°.85E, h25km, mb4.8/41, Error ellipse: s-maj=8.5km s-min=3.9km az=115.9*

*NEIC **07** 07:23:46.8±1.0, 34°.19N×81°.82E, h21km±7km, mb4.6/44, Error ellipse: s-maj=4.3km s-min=3.0km az=195.0*

*BJI **07** 07:23:47.7, 34°.42N×81°.57E, h6km, mb4.3/8, mB4.4/4, ML4.1/5, Ms3.9/10, Ms7 3.7/7*

ISC 07 07:23:46.6±1.3**, 34°.25N**±0°.04×**81°.74E**±0°.04**, h15**km±8km**, n308,** σ1s.74/334**, mb4.7**/101**, MS3.6**/8**, 16C-15D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	Piuthan	6.22	170	ePn	Pn	07 25 20.0	+1.8
PYUN				eSn	Sn	07 26 31.1	+2.0
	225nm,0.8s						
KOLN	Koldanda	6.65	166	ePn	Pn	07 25 25.8	+1.7
KOLN				eSn	Sn	07 26 42.0	+2.3
	127nm,0.8s						
GKN	Gorkha	6.70	157	ePn	Pn	07 25 27.6	+2.9
KSH	Kashi	7.00	320	Pn	Pn	07 25 31.1	+2.3
KSH				LR	LR		
	comp=N,740nm,8.3s						
KSH				LR	LR		
	comp=Z,710nm,9.2s						
KSH	Kashi	7.00	320	Pn	Pn	07 25 31.1	+2.3
KKN	Kakani	7.12	154	ePn	Pn	07 25 33.7	+3.2
KKN				eSn	Sn	07 26 55.2	+4.0
	79nm,0.7s						
DMN	Daman	7.22	156	ePn	Pn	07 25 35.8	+3.9
DMN				eSn	Sn	07 26 56.7	+2.9
	381nm,1.3s						
GUN	Gumba	7.24	150	ePn	Pn	07 25 36.0	+3.7
PKIN	Phulchoki	7.35	154	ePn	Pn	07 25 37.1	+3.4
PKIN				eSn	Sn	07 27 00.9	+3.8
	149nm,0.8s						
PKI	Pulchoki	7.36	154	ePn	Pn	07 25 37.4	+3.5
PKI				eSn	Sn	07 27 00.5	+3.1
	77nm,0.7s						
JIRN	Jiri	7.59	149	ePn	Pn	07 25 40.8	+3.6
JIRN				eSn	Sn	07 27 06.2	+3.0
	142nm,0.8s						
TARG	Taragay, Kyrgy	8.09	339	ePn	Pn	07 25 45.9	+2.0
CEP	Cherat	8.17	270	P	Pn	07 25 49.4	+4.5
CEP				S	Sn	07 27 20.0	+2.9
RAMN	Ramite	8.39	149	ePn	Pn	07 25 51.2	+3.2
RAMN				eSn	Sn	07 27 23.8	+1.2
	128nm,0.8s						
THW	Thamme Wali	8.47	263	P	Pn	07 25 52.0	+3.1
NRN	Naryn	8.49	329	P	Pn	07 25 53.2	+3.8
NRN				pmax	pmax		
	comp=Z,15nm,1.0s						
TAPN	Taplejung	8.58	142	ePn	Pn	07 25 53.5	+2.9
TAPN				eSn	Sn	07 27 31.1	+3.8
	comp=Z,64nm,0.9s						
PRZ	Przheval'sk	8.63	343	P	Pn	07 25 54.5	+3.3
PRZ				pmax	pmax		
	comp=Z,26nm,1.2s						
KDJ	Kajisay	8.65	337	ePn	Pn	07 25 54.0	+2.6
KDJ	Kajisay	8.65	337	P	Pn	07 25 55.0	+3.6
SFK	Sufi-Kurgan	8.74	314	P	Pn	07 25 57.2	+4.5
SFK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
UZB	Uzynbulak	9.14	347	ePn	Pn	07 26 00.9	+2.8
	comp=Z,1µm,0.8s						
UZB				ePg		07 26 35.5	
UZB				eSn	Sn	07 27 44.0	+3.2
UZB				LR	LR	07 29 26.1	
	comp=Z,123nm,8.6s						
SATY	Saty	9.18	344	ePn	Pn	07 26 01.7	+3.1
	comp=Z,956nm,0.8s						
SATY				ePg		07 26 36.8	
SATY				LR	LR	07 29 06.5	
	comp=Z,148nm,9.6s						
LSA	Lhasa	9.19	117	P	Pn	07 26 05.2	+6.1
LSA				pmax	pmax		
	comp=Z,21nm,1.2s						
LSA	Lhasa	9.19	117	ePn	Pn	07 25 58.3	-0.8
LSA	Lhasa	9.19	117	eP	Pn	07 25 58.3	-0.8
PDGK	Podgornoye	9.24	350	P	Pn	07 26 01.4	+2.0
PDGK				pmax	pmax		
	comp=Z,32nm,0.7s						
KZA	Kyzart	9.34	329	P	Pn	07 26 04.2	+3.1
	SNR=24						
KPKS	Kokpek	9.51	346	ePn	Pn	07 26 05.8	+2.7
	comp=Z,1µm,0.9s						
MDOK	Medeo	9.63	339	ePn	Pn	07 26 07.3	+2.5
	comp=Z,163nm,0.6s						
MDOK				eLg	Lg	07 28 54.0	
MDOK				LR	LR	07 29 43.3	
	comp=Z,264nm,11.0s						
AAA	Alma-Ata	9.71	339	LR	LR	07 29 49.3	
	comp=Z,300nm,9.8s						
UCH	Uchtor	9.78	327	P	Pn	07 26 09.7	+2.4
	SNR=32						
TKM2	Tokmak 2	9.90	333	P	Pn	07 26 12.3	+3.7
	SNR=18						
KBK	Karagaybulak	9.94	330	P	Pn	07 26 13.5	+4.4
	SNR=12						
BMNS	Besmoynak	10.04	334	ePn	Pn	07 26 13.8	+3.4
	comp=Z,441nm,1.1s						
BMNS				LR	LR	07 29 43.3	
	comp=Z,156nm,8.6s						
AML	Almayashu	10.10	324	P	Pn	07 26 13.6	+2.1
	SNR=13						
AAK	Ala-Archa	10.12	328	Pn	Pn	07 26 12.9	+1.3
	comp=Z,0.3nm,0.3s,baz=147,slow=13,SNR=11						
AAK				Lg	Lg	07 29 06.0	
	comp=Z,0.1nm,0.3s,baz=354,slow=17,SNR=2.2						
AAK				LR	LR	07 30 25.7	
	comp=Z,156nm,19.8s,baz=125,slow=39						
AAK	Ala-Archa	10.12	328	P	Pn	07 26 15.5	+3.9
	SNR=8.2						
AAK	Ala-Archa	10.12	328	P	Pn	07 26 13.5	+1.9
AAK				pmax	pmax		
	comp=Z,22nm,1.2s						
AAK	Ala-Archa	10.12	328	P	Pn	07 26 14.3	+2.8
	SNR=12						
FRU1	Bishkek	10.20	329	P	Pn	07 26 16.8	+4.2
FRU	Bishkek	10.22	329	eP	Pn	07 26 16.0	+3.1
FRU				pmax	pmax		
	comp=Z,180nm,1.7s						
CHMS	Chumysh	10.30	330	P	Pn	07 26 17.4	+3.4
	SNR=9.6						
EKS2	Erkin-Say	10.46	326	P	Pn	07 26 19.4	+3.2
	SNR=6.4						
KBL	Kabul	10.50	275	ePn	Pn	07 26 16.6	-0.2
KBL				eSn	Sn	07 28 14.8	+0.5
KBL	Kabul	10.50	275	eP	Pn	07 26 16.6	-0.2
KBL				e		07 28 14.8	
KUU	Kurty	10.51	338	ePn	Pn	07 26 19.6	+2.9
	comp=Z,51nm,0.7s						
KUU				eSn	Sn	07 28 17.2	+3.1
KUU				LR	LR	07 30 23.3	
	comp=Z,133nm,8.1s						
WMQ	Urumqi	10.62	24	P	Pn	07 26 19.4	+1.2
WMQ	Urumqi	10.62	24	eP	Pn	07 26 19.5	+1.2
WMQ				LR	LR		
	comp=Z,480nm,21.3s						
WMQ				LR	LR		
	comp=Z,950nm,22.3s						
WMQ				LR	LR		
	comp=Z,340nm,15.7s						
TDK	Taldyqorghan	11.04	348	ePn	Pn	07 26 26.2	+2.1
	comp=Z,353nm,0.9s						
TDK				eSn	Sn	07 28 30.0	+2.7
IUG	Iuzhnay	12.12	314	ePn	Pn	07 26 39.4	+0.6
	comp=Z,297nm,0.8s						
IUG				ePg		07 27 28.1	
IUG				eSn	Sn	07 28 54.6	+0.9
IUG				LR	LR	07 30 50.8	
	comp=Z,73nm,8.6s						
SHL	Shillong	12.33	132	ex	Pn	07 26 45.0	+3.1
KK06	Karatay Array	12.43	319	ePn	Pn	07 26 43.6	+0.5
KK07	Karatay Array	12.44	318	ePn	Pn	07 26 43.6	+0.4
KK02	Karatay Array	12.45	319	ePn	Pn	07 26 43.3	0.0
KK31	Karatay Array	12.45	319	ePn	Pn	07 26 43.5	+0.2
KK31	Karatay Array	12.45	319c	eP	Pn	07 26 43.0	-0.3
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	Karatay Array	12.45	319	ePn	Pn	07 26 43.8	+0.5
KKAR	Karatay Array	12.45	319	eP	Pn	07 26 43.8	+0.5
KK05	Karatay Array	12.45	319	ePn	Pn	07 26 43.6	+0.3
KK01	Karatay Array	12.45	319	ePn	Pn	07 26 43.8	+0.5
KK03	Karatay Array	12.45	319	ePn	Pn	07 26 43.7	+0.4
KK04	Karatay Array	12.46	319	ePn	Pn	07 26 43.7	+0.4
KK08	Karatay Array	12.46	319	ePn	Pn	07 26 44.1	+0.6
MK01	Makanchi Array	12.52	2	ePn	Pn	07 26 43.7	-0.5
MK31	Makanchi Array	12.54	2	ePn	Pn	07 26 44.2	-0.3
MK31	Makanchi Array	12.54	2	eP	Pn	07 26 44.3	-0.3
MK32	Makanchi Array	12.54	2	ePn	Pn	07 26 44.4	-0.1
MK32				eSn	Sn	07 29 03.2	-0.7
MKAR	Makanchi Array	12.54	2	Pn	Pn	07 26 44.4	-0.1
	comp=Z,3.1nm,0.3s,baz=182,slow=13,SNR=43						
MKAR				Sn	Sn	07 29 03.2	-0.7
	baz=176,slow=25,SNR=2.8						
MKAR				LR	LR	07 32 21.1	
	comp=Z,115nm,18.6s,baz=186,slow=41						
MAKZ	Makanchi	12.55	1	ePn	Pn	07 26 44.5	-0.1
MAKZ	Makanchi	12.55	1	eP	Pn	07 26 44.5	-0.1
ZSN	Zaisan	13.40	9	ePn	Pn	07 26 55.5	-0.8
	comp=Z,51nm,0.7s						
ZSN				ePg	P	07 27 49.5	+44
ZSN				Sn	Sn	07 29 22.9	-1.9
GTA	Gaotai	15.36	65⇓	P	P	07 27 29.3	+1.7
GTA				pP	sP	07 27 32.7	-1.0
GTA				sP	pP	07 27 36.2	+4.4
GTA				S	Sn	07 30 19.0	+6.2
GTA				sS	S	07 30 25.2	-3.9
GTA				pmax	pmax		
	comp=Z,7.0nm,1.6s						
GTA				LR	LR		
	comp=Z,370nm,12.6s						
GTA				LR	LR		
	comp=Z,410nm,11.4s						
GTA				LR	LR		
	comp=Z,320nm,11.6s						
SEM	Semipalatinsk	16.19	357	ePn	P	07 27 36.8	0.0
	comp=Z,192nm,1.2s						
SEM				LR	LR	07 33 28.5	
	comp=Z,260nm,14.7s						
KURBB	Kurchatov Arra	16.53	353	Pn	Pn	07 27 36.1	-1.8
	baz=174,slow=11,SNR=25						
KURK	Kurchatov	16.62	353	ePn	Pn	07 27 37.2	-1.7
KURK	Kurchatov	16.62	353⇓	eP	Pn	07 27 37.5	-1.4
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KURK	Kurchatov	16.62	353	P	Pn	07 27 37.5	-1.4
	SNR=17						
HYB	Hyderabad	17.00	190	i P	Pn	07 27 40.0	-4.0
HYB				eS	Sn	07 30 45.0	-7.9
BRZS	Berezniki	17.08	340	ePn	P	07 27 48.4	+1.9
	comp=Z,46nm,1.1s						
POO	Poona	17.16	206	eP	Pn	07 27 38.0	-8.1
LZH	Lanzhou	18.16	78	eP	P	07 28 05.0	+6.3
LZH				pP	sP	07 28 07.6	+2.8
LZH				sP	pP	07 28 09.7	+6.8
LZH				ePP	PnPn	07 28 20.6	+11
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,52nm,4.6s						
LZH				LR	LR		
	comp=Z,190nm,11.4s						
LZH				LR	LR		
	comp=Z,190nm,12.7s						
LZH				LR	LR		
	comp=Z,200nm,15.0s						
HVS	Khovu-Aksy	18.99	24⇓	eP	Pn	07 28 09.4	+1.1
HVS				pmax	pmax		
	comp=Z,11nm,0.8s						
GYB1	ALIBECK ARRAY	19.42	288	eP	P	07 28 12.1	-0.3
	comp=Z,16nm,1.0s						
GYB2	ALIBECK ARRAY	19.42	288	eP	P	07 28 12.5	+0.1
	comp=Z,24nm,1.0s						
GYA2	ALIBECK ARRAY	19.43	288	eP	P	07 28 13.0	+0.5
	comp=Z,17nm,0.9s						
GYA1	ALIBECK ARRAY	19.43	288	eP	P	07 28 13.0	+0.5
	comp=Z,18nm,1.0s						
GEYT	Alibeck	19.43	288	P	P	07 28 13.0	+0.4
	comp=Z,0.3nm,0.3s,baz=108,slow=9.8,SNR=22						
GEYT				LR	LR	07 37 09.7	
	comp=Z,257nm,18.1s,baz=80,slow=41						
GYA0	ALIBECK ARRAY	19.43	288	eP	P	07 28 13.3	+0.8
	comp=Z,22nm,1.1s						
GYA0B	ALIBECK ARRAY	19.43	288	eP	P	07 28 13.1	+0.6
	comp=Z,18nm,0.9s						
GYB3	ALIBECK ARRAY	19.43	288	eP	P	07 28 13.0	+0.4
	comp=Z,28nm,1.1s						
GYB5	ALIBECK ARRAY	19.44	288	eP	P	07 28 13.0	+0.4
	comp=Z,19nm,1.1s						
GYB4	ALIBECK ARRAY	19.45	288	eP	P	07 28 13.2	+0.5
	comp=Z,25nm,1.1s						
ZAA0	Zalesovo Array	19.82	5	eP	P	07 28 15.6	-1.0
	comp=Z,8.9nm,0.9s						
ZALV	Zalesovo Beam	19.82	5	P	P	07 28 16.6	0.0
	comp=Z,0.6nm,0.3s,baz=194,slow=12,SNR=17						
ZALV	Zalesovo Beam	19.82	5	eP	P	07 28 14.0	-2.5
ZALV				ePn	P	07 28 16.6	0.0
ZAA1	Zalesovo Array	19.82	5	eP	P	07 28 16.6	0.0
BVAR	Borovoye Array	20.44	340	P	P	07 28 24.3	+0.9
	comp=Z,40nm,0.7s,baz=145,slow=10,SNR=95						
BVAR				LR	LR	07 36 38.1	
	comp=Z,59nm,18.5s,baz=83,slow=38						
BRVK	Borovoye	20.50	340	eP	P	07 28 24.7	+0.7
	comp=Z,83nm,0.9s						
BRVK	Borovoye	20.50	340	eP	P	07 28 24.7	+0.7
BRVK				pmax	pmax		
	comp=Z,83nm,0.9s						
NVS	Novosibirsk	20.62	2	eP	P	07 28 24.7	-0.5
NVS				pmax	pmax		
	comp=Z,21nm,1.0s						
NVS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CMAI	Chiengmai2	20.95	128	P	Pn	07 28 32.3	+0.5
	comp=N,162nm,1.1s						
CHTO	Chiang Mai	21.70	131	P	P	07 28 37.1	-0.1
	comp=N,128nm,0.9s						
CHTO	Chiang Mai	21.70	131	eP	P	07 28 34.5	-2.7
	comp=N,15nm,0.7s						
CHTO	Chiang Mai	21.70	131	eP	P	07 28 34.5	-2.7
CHTO				pmax	pmax		
	comp=Z,15nm,0.7s						
CHTO	Chiang Mai	21.70	131	P	P	07 28 36.9	-0.3
	SNR=6.4						
CMMT	Chiang Mai	21.70	131	P	P	07 28 36.0	-1.2
	comp=Z,29nm,0.8s						
CM31	Chiang Mai Arr	21.97	131	eP	P	07 28 38.1	-1.9
CM31	Chiang Mai Arr	21.97	131	P	P	07 28 40.4	+0.3
	SNR=16						
CMAR	Chiang Mai Arr	21.97	131	P	P	07 28 39.5	-0.5
	comp=Z,28nm,0.8s,baz=310,slow=11,SNR=82						
CMAR	Chiang Mai Arr	21.97	131c	eP	P	07 28 40.5	+0.5
CMAR				pmax	pmax		
	comp=Z,29nm,0.8s						
AB07	Akbulak array	21.99	319	eP	P	07 28 40.2	+0.1
AB06	Akbulak array	22.00	320	eP	P	07 28 40.2	0.0
CM01	Chiang Mai Arr	22.00	131	eP	P	07 28 38.2	-2.2
AB03	Akbulak array	22.01	320	eP	P	07 28 40.0	-0.2
AB01	Akbulak array	22.01	320	eP	P	07 28 40.0	-0.3
AB02	Akbulak array	22.01	320	eP	P	07 28 40.1	-0.2
AB31	Akbulak array	22.01	320	eP	P	07 28 40.1	-0.2
AB31	Akbulak array	22.01	320	eP	P	07 28 40.1	-0.2
ABKAR	Akbulak array	22.01	320	eP	P	07 28 40.0	-0.2
	comp=Z,11nm,0.7s						
AB04	Akbulak array	22.01	320	eP	P	07 28 40.4	+0.1
AB05	Akbulak array	22.02	320	eP	P	07 28 40.4	0.0
AB09	Akbulak array	22.02	320	eP	P	07 28 40.3	-0.2
LAMP	Lampang	22.35	130	P	P	07 28 48.0	+3.8
	comp=Z,7.2nm,0.8s						
ZAK	Zakamensk	22.54	38	eP	P	07 28 46.4	+0.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GYA	Guiyang	22.83	103⇑	iP	P	07 28 53.1	+3.8
GYA				LR	LR		
	comp=Z,510nm,16.6s						
SONA0	Songino Array	22.90	46	eP	P	07 28 49.9	0.0
SONM	Songino Array	22.90	46	P	P	07 28 49.9	0.0
	comp=Z,2.8nm,0.9s,baz=234,slow=10,SNR=12						
SONA1	Songino Array	22.91	46	eP	P	07 28 49.7	-0.4
ULN	Ulaanbaatar	23.31	47	eP	P	07 28 53.9	-0.2
	comp=Z,8.5nm,1.0s						
ULN	Ulaanbaatar	23.31	47⇑	eP	P	07 28 54.0	-0.2
ULN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
TLY	Talaya	23.53	36⇓	eP	P	07 28 55.0	-1.1
AKTO	Aktyubinsk	23.70	320	P	P	07 28 57.5	-0.3
	comp=Z,15nm,0.9s,baz=112,slow=9.4,SNR=34						
AKTO				LR	LR	07 38 21.5	
	comp=Z,97nm,18.6s,baz=126,slow=37						
PHIT	Phitsanulok	23.84	131	P	P	07 29 00.2	+0.9
	comp=Z,21nm,0.9s						
HHC	Hu-ho-hao-te	24.47	66	ScS	ScS	07 39 57.4	-12
SRDT	SRDT	25.29	137	P	P	07 29 15.5	+2.9
	comp=Z,28nm,0.9s						
CHAI	Chaiyaphum	25.79	130	P	P	07 29 18.3	+1.1
	comp=Z,8.5nm,0.7s						
SKNT	Sakolnakorn	26.32	125	P	P	07 29 21.4	-0.6
ARU	Arti	27.27	331	P	P	07 29 30.2	0.0
	comp=Z,5.0nm,0.2s,baz=100,slow=6.1,SNR=4.4						
ARU	Arti	27.27	331	eP	P	07 29 30.2	0.0
	comp=Z,9.3nm,1.0s						
ARU	Arti	27.27	331d	iP	P	07 29 29.4	-0.8
ARU						07 30 11.1	
ARU				S	S	07 34 11.0	+2.1
ARU				SS	SnSn	07 35 20.9	+3.7
ARU				pmax	pmax		
	comp=Z,18nm,2.5s						
GNI	Garni	29.91	292	LR	LR	07 43 30.1	
	comp=Z,66nm,19.0s,baz=80,slow=40						
NJ2	Nanjing	31.04	84	eP	P	07 29 48.6	-15
VRH	Novokhopyorsk	33.43	313	eP	P	07 30 24.3	-0.4
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR	Storozhevoye	35.00	312	eP	P	07 30 37.0	-1.3
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LPSR	Galich'ya Gora	35.46	314	eP	P	07 30 41.0	-1.2
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OBN	Obninsk	37.44	318⇓	eP	P	07 31 00.1	+1.0
OBN				e		07 32 25.0	
OBN				eS	S	07 36 45.7	-1.1
OBN				pmax	pmax		
	comp=Z,25nm,1.1s						
OBN				MLR	MLR		
	comp=Z,84nm,15.0s						
ILGA	Ilgaz	38.23	295	eP	P	07 31 05.5	-0.8
	comp=Z,15nm,1.0s						
BR101	Keskin Array S	38.44	293	eP	P	07 31 09.7	+1.7
BR101				ePP	PnPn	07 32 39.6	+1.8
BR101				ePcP	PcP	07 33 20.6	-0.5
BR131	Keskin Array S	38.44	293	eP	P	07 31 08.4	+0.4
BRTR	Keskin Array B	38.44	293	P	P	07 31 09.7	+1.7
	comp=Z,2.5nm,0.7s,baz=119,slow=10,SNR=17						
BRTR				PP	PnPn	07 32 39.6	+1.8
	comp=Z,0.8nm,0.8s,baz=74,slow=11,SNR=3.2						
BRTR				PcP	PcP	07 33 20.6	-0.5
	comp=Z,0.5nm,0.7s,baz=129,slow=4.5,SNR=2.5						
BR231	Keskin MP Arra	39.09	293	eP	P	07 31 10.4	-2.9
KLR	Kul'dur	39.47	52	P	P	07 31 15.7	-0.6
	comp=Z,0.1nm,0.9s,baz=277,slow=19,SNR=3.1						
KLR	Kul'dur	39.47	52⇑	eP	P	07 31 16.7	+0.5
AKASG	Malin Array Be	41.16	310	P	P	07 31 30.1	-0.1
	comp=Z,1.1nm,0.6s,baz=79,slow=7.8,SNR=7.3						
AKASG				PP	PnPn	07 33 08.5	-1.1
	comp=Z,0.1nm,0.2s,baz=87,slow=9.6,SNR=4.8						
AKBB	Malin Array Si	41.16	310	eP	P	07 31 29.7	-0.6
	comp=Z,4.6nm,0.8s						
AKBB	Malin Array Si	41.16	310	eP	P	07 31 29.7	-0.6
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIEV	Kiev	41.17	310	eP	P	07 31 30.1	-0.2
	comp=Z,4.2nm,0.7s						
KIEV	Kiev	41.17	310	eP	P	07 31 30.1	-0.2
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AK11	Malin Array Si	41.20	310	eP	P	07 31 30.9	+0.3
SORM	Soroca	41.68	306⇓	iP	P	07 31 34.8	+0.2
SORM	Soroca	41.68	306	P	P	07 31 34.8	+0.2
JOF	Joensuu	42.30	328	P	P	07 31 40.7	+1.3
JOF				pmax	pmax		
	comp=Z,17nm,2.3s						
VRI	Vrincioaia	42.89	303⇓	iP	P	07 31 47.0	+2.5

VRI Vrincioaia 42.89 303 P P 07 31 47.0 +2.5
TESR Tescani 42.90 304⇑iP P 07 31 45.5 +0.9
LVZ Lovozero 42.95 336⇓eP P 07 31 45.6 +0.9
LVZ pmax pmax
comp=Z,25nm,1.1s
PLOR Plostina 42.95 303⇑iP P 07 31 47.4 +2.4
PLOR Plostina 42.95 303 P P 07 31 47.4 +2.4
VSU Vasula 43.43 321⇓eP P 07 31 49.6 +1.0
VSU pmax pmax
comp=Z,62nm,1.7s
MLR Muntele Rosu 43.47 302 P P 07 31 51.2 +1.8
comp=Z,2.7nm,0.7s,baz=127,slow=10,SNR=20
MLR Muntele Rosu 43.47 302⇓iP P 07 31 52.0 +2.7
MLR Muntele Rosu 43.47 302 eP P 07 31 50.2 +0.8
comp=Z,17nm,0.9s
MLR Muntele Rosu 43.47 302 P P 07 31 52.0 +2.7
BURAR Bucovina Array 43.81 305⇑iP P 07 31 52.5 +0.5
BURAR Bucovina Array 43.81 305 P P 07 31 52.5 +0.5
DOPR Dopca 43.82 303⇑iP P 07 31 53.5 +1.5
VOIR 44.10 302⇓iP P 07 31 55.9 +1.5
VOIR 44.10 302 P P 07 31 55.9 +1.5
FIA0 FINESS Array S 44.29 325 eP P 07 31 55.9 +0.4
FIA0 ePP PP 07 33 37.4 -1.2
FIA0 FINESS Array S 44.29 325 eP P 07 31 55.9 +0.4
FIA0 e 07 33 37.4
FIA1 FINESS Array S 44.29 325 eP P 07 31 55.7 +0.2
FINES FINESS Array B 44.29 325 P P 07 31 55.9 +0.4
comp=Z,5.1nm,0.6s,baz=101,slow=9.9,SNR=17
FINES PcP PP 07 33 37.4 -1.2
comp=Z,1.8nm,0.7s,baz=106,slow=3.0,SNR=4.1
TIXI Tiksi 44.78 19 P P 07 31 58.8 -0.4
comp=Z,1.1nm,0.3s,baz=225,slow=6.4,SNR=3.5
TIXI Tiksi 44.78 19⇑eP P 07 31 58.6 -0.6
TIXI pmax pmax
comp=Z,9.0nm,1.6s
MAJO Matsushiro 45.52 70 eP P 07 32 04.7 -1.0
MAJO Matsushiro 45.52 70 eP P 07 32 04.7 -1.0
MJAR Matsushiro Arr 45.52 70 P P 07 32 04.7 -1.0
comp=Z,1.1nm,0.5s,baz=284,slow=8.5,SNR=2.8
DRGR 45.58 304⇑iP P 07 32 08.0 +1.9
DRGR 45.58 304 P P 07 32 08.0 +1.9
VTS Vitosha 45.81 299⇑iP P 07 32 10.1 +2.0
VTS Vitosha 45.81 299 P P 07 32 10.1 +2.0
STHS Stebnicka Huta 46.32 308 eP P 07 32 12.5 +0.7
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 46.32 308 eP P 07 32 12.5 +0.7
SIRR Siria 46.36 304⇑iP P 07 32 14.3 +2.1
ARA0 ARCESS Array S 46.66 336 eP P 07 32 14.5 +0.3
ARA0 ePcP PcP 07 33 47.6 -0.1
ARCES ARCESS Array B 46.66 336 P P 07 32 14.5 +0.3
comp=Z,5.9nm,0.9s,baz=91,slow=7.4,SNR=11
ARCES PcP PcP 07 33 47.6 -0.1
comp=Z,2.5nm,0.8s,baz=96,slow=2.4,SNR=4.2
KECS Kecovo 46.90 307 eP P 07 32 17.5 +1.1
KECS pmax pmax
comp=Z,2.0nm,1.1s
KECS Kecovo 46.90 307 eP P 07 32 17.5 +1.1
DIVS Divibare 47.86 301 eP P 07 32 24.6 +0.6
comp=Z,14nm,0.9s
MORC Moravsky Berou 48.68 309⇑iP P 07 32 31.4 +1.2
MORC Moravsky Berou 48.68 309 P P 07 32 31.4 +1.2
PDG Podgorica 48.71 299⇑iP P 07 32 31.1 +0.7
VRAC Vranov 49.35 308 LR LR 07 59 03.5
comp=Z,139nm,18.9s,baz=84,slow=43
CONA Conrad Observa 50.04 307 eP P 07 32 41.8 +1.1
comp=Z,14nm,1.4s,SNR=4.1
HFS Hagfors 50.21 323 P P 07 32 41.9 +0.3
comp=Z,5.8nm,0.9s,baz=89,slow=7.5,SNR=6.0
MA2 Magadan 50.72 38 P P 07 32 44.9 -0.6
comp=Z,3.5nm,0.5s,baz=294,slow=7.6,SNR=5.7
MA2 Magadan 50.72 38⇓eP P 07 32 45.0 -0.6
SOKA Soboth 50.82 305 i P P 07 32 47.8 +1.2
comp=Z,20nm,0.8s,SNR=4.9
BRG Berggiesshubel 50.82 311 eP P 07 32 47.4 +1.0
BRG pmax pmax
comp=Z,11nm,1.4s
MOA Molln 51.11 307 eP P 07 32 49.4 +0.7
comp=Z,6.9nm,0.7s
GEC2 GERESS Array S 51.30 308 eP P 07 32 50.8 +0.6
comp=Z,7.2nm,1.1s
GEC2 GERESS Array S 51.30 308 eP P 07 32 50.8 +0.6
GEC2 pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 51.30 308 P P 07 32 51.4 +1.2
comp=Z,2.8nm,0.8s,baz=79,slow=6.9,SNR=15
GERES PcP PcP 07 34 04.8 -0.2
comp=Z,0.4nm,0.5s,baz=101,slow=5.1,SNR=2.4
GERES PP PP 07 34 53.5 +6.5
comp=Z,0.3nm,0.2s,baz=49,slow=4.1,SNR=4.3
GEA0 GERESS Array S 51.31 308 eP P 07 32 50.5 +0.3
KHC Kasperske Hory 51.34 309 eP P 07 32 51.0 +0.6
KHC Kasperske Hory 51.34 309 eP P 07 32 51.0 +0.6
TIP Timpagrande 51.34 296⇓iP P 07 32 51.3 +0.7
NB2 NORSAR Subarra 51.41 324 P P 07 32 50.5 -0.2
comp=Z,1.3nm,0.6s,baz=86,slow=7.4
NB200 NORSAR Array S 51.41 324 eP P 07 32 50.8 +0.1
NOA NORSAR Array B 51.41 324 P P 07 32 50.8 +0.1
comp=Z,2.3nm,0.8s,baz=89,slow=7.5,SNR=5.0
SEY Seymchan 51.41 34 P P 07 32 50.6 0.0
comp=Z,4.1nm,0.8s,baz=267,slow=7.7,SNR=2.7
SEY Seymchan 51.41 34⇑eP P 07 32 49.8 -0.8
KBA Koelnbreinsper 51.88 306 P P 07 32 55.3 +0.7
comp=Z,3.2nm,0.7s
ABTA Abfaltersbach 52.50 306 eP P 07 32 59.2 +0.1
WTTA Wattenberg 52.98 307 eP P 07 33 02.8 0.0
comp=Z,4.9nm,0.6s
WATA Walderalm 53.00 307 eP P 07 33 03.3 +0.4
comp=Z,4.8nm,0.6s
MOTA Moosalm 53.31 307 eP P 07 33 05.2 0.0
comp=Z,9.8nm,0.7s
RETA Reutte 53.51 307 eP P 07 33 06.8 +0.3
comp=Z,3.9nm,0.6s
FETA Feichten 53.63 307 eP P 07 33 07.6 0.0
comp=Z,5.4nm,0.6s
DAVA Damuels 54.13 307 eP P 07 33 11.7 +0.4
comp=Z,11nm,0.8s
CDF Champ du Feu 55.56 309 P P 07 33 21.3 -0.2
CDF pmax pmax
comp=Z,55nm,2.0s
HINF Hinteralfeld 55.99 308 eP P 07 33 24.2 -0.3
HINF pmax pmax
comp=Z,11nm,0.8s
PGF Pioggiola 56.01 302 eP P 07 33 25.0 +0.2
PGF pmax pmax
comp=Z,123nm,1.8s
SENIN Lac Senin/Sane 56.08 306 eP P 07 33 25.4 0.0
comp=Z,67nm,1.9s
HAU Haudompre 56.27 309 eP P 07 33 27.0 +0.6
HAU pmax pmax
comp=Z,6.0nm,0.6s
LPG La Plagne 56.70 306 eP P 07 33 30.0 +0.1
LPG pmax pmax
comp=Z,30nm,0.8s
LPL La Plagne 56.70 306 eP P 07 33 30.0 +0.2
LPL pmax pmax
comp=Z,34nm,0.7s
CABF La Chapelle 56.82 307 eP P 07 33 31.6 +1.1
CABF pmax pmax
comp=Z,89nm,2.0s
BNI Bardonecchia 56.87 305 eP P 07 33 31.2 +0.2
comp=Z,39nm,1.3s
BNI Bardonecchia 56.87 305 eP P 07 33 31.2 +0.2
BNI pmax pmax
comp=Z,39nm,1.3s
KEST Kesra 58.03 294 P P 07 33 39.3 +0.1
comp=Z,13nm,1.3s,baz=35,slow=12,SNR=3.7
VIVF Saint-Julien-l 58.29 305 eP P 07 33 41.3 +0.5
VIVF pmax pmax
comp=Z,48nm,1.8s
AVF Avril sur Loir 58.56 308 eP P 07 33 42.0 -0.6
AVF pmax pmax
comp=Z,22nm,1.4s
TCF Toulx Ste Croi 59.47 308 eP P 07 33 48.8 -0.2
TCF pmax pmax
comp=Z,12nm,0.9s
EKA Eskdalemuir Ar 59.88 319 P P 07 33 51.4 -0.2
comp=Z,7.1nm,0.9s,baz=72,slow=7.5,SNR=4.5
CAF Calviac 60.02 306 eP P 07 33 52.7 -0.1
CAF pmax pmax
comp=Z,6.0nm,0.8s
GUMO Guam 60.34 93 LR LR 07 59 37.3
comp=Z,64nm,21.6s,baz=86,slow=36
GRR Gorron 60.74 311 eP P 07 33 56.8 -0.8
GRR pmax pmax
comp=Z,36nm,1.4s
MFF Saint Martin d 60.90 309 eP P 07 33 57.9 -0.8
MFF pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 65.88 343 i P P 07 34 31.3 -0.5
comp=Z,10.0nm,1.0s
SUMG Summit 65.88 343 i P P 07 34 31.3 -0.5
SUMG pmax pmax
comp=Z,10.0nm,1.0s
ES19 SONSECA Array 66.11 303 eP P 07 34 33.1 -0.3
ESDC Sonseca Array 66.17 303 P P 07 34 33.2 -0.6
comp=Z,1.9nm,0.8s,baz=51,slow=6.7,SNR=9.0
TOLK Toolik Lake Re 70.64 18 eP P 07 35 01.1 -0.1
comp=Z,18nm,0.6s
RES Resolute Bay 71.32 359 P P 07 35 04.5 -0.6
comp=Z,0.4nm,0.5s,baz=350,slow=6.7,SNR=2.1
RES Resolute Bay 71.32 359 eP P 07 35 04.5 -0.6
comp=Z,12nm,0.5s
IM3 Indian Mountai 71.40 21 eP P 07 35 05.2 -0.6
COLD Coldfoot 71.51 19 eP P 07 35 06.1 -0.3
comp=Z,8.1nm,1.0s
MLY Manley 72.96 21 eP P 07 35 15.4 +0.2
comp=Z,7.0nm,0.8s
WR1 Warramunga Arr 73.53 129 eP P 07 35 18.1 -1.1
comp=Z,36nm,1.8s
WRA Warramunga Arr 73.53 129 P P 07 35 18.1 -1.1
comp=Z,3.3nm,0.6s,baz=327,slow=5.6,SNR=11
WRA Warramunga Arr 73.53 129 i P P 07 35 18.6 -0.5
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 73.53 129d iP P 07 35 21.8 +2.7
WRAB pmax pmax
comp=Z,47nm,2.5s
BPAW Bear Paw Mtn. 73.56 21 eP P 07 35 18.7 -0.1
comp=Z,7.8nm,1.0s
CAST Castle Rocks 73.72 22 eP P 07 35 19.5 -0.2
comp=Z,7.0nm,0.9s
MDM Murphy Dome 73.73 20 eP P 07 35 19.7 0.0
comp=Z,11nm,1.2s
KTH Kantishna Hill 73.98 22 eP P 07 35 21.0 -0.3
comp=Z,9.9nm,1.1s
CCB Clear Creek Bu 74.09 20 eP P 07 35 21.6 -0.2
comp=Z,4.4nm,1.0s
IL1 Eielson Array 74.25 20 eP P 07 35 21.3 -1.4
ILAR Eielson Array 74.25 20 P P 07 35 21.7 -1.0
comp=Z,4.6nm,0.7s,baz=318,slow=5.3,SNR=38
ILB Eielson Array 74.25 20 eP P 07 35 21.8 -1.0
INK Inuvik 74.42 13 P P 07 35 23.1 -0.5
comp=Z,2.9nm,0.5s,baz=350,slow=6.3,SNR=20
INK Inuvik 74.42 13 eP P 07 35 23.2 -0.4
comp=Z,8.1nm,1.1s
INK Inuvik 74.42 13 eP P 07 35 23.2 -0.4
INK pmax pmax
comp=Z,8.0nm,1.1s
TOA0 Torodi Ar. Sit 74.57 276 eP P 07 35 24.9 -0.4
TOA1 Torodi Ar. Sit 74.57 276 eP P 07 35 25.1 -0.3
TORD Torodi Ar. Bea 74.57 276 P P 07 35 25.1 -0.3
comp=Z,6.0nm,0.7s,baz=44,slow=5.2,SNR=34
TORD LR LR 08 10 19.0
comp=Z,31nm,22.0s,baz=5.0,slow=37
RIDG Independ'e Rid 75.61 19 eP P 07 35 30.0 -0.7
comp=Z,26nm,1.2s
DOT Dot Lake 75.90 19 eP P 07 35 31.7 -0.6
comp=Z,16nm,0.9s
AS31 Alice Springs 75.98 132 eP P 07 35 32.4 -0.9
comp=Z,1.3nm,0.7s
ASAR Alice Springs 75.98 132 P P 07 35 32.7 -0.5
comp=Z,2.5nm,0.7s,baz=313,slow=5.9,SNR=11
HARP HAARP 76.57 20 eP P 07 35 36.2 0.0
comp=Z,22nm,1.0s
DAWY Dawson 76.78 17 eP P 07 35 37.0 -0.3
comp=Z,6.0nm,0.9s
KOWA Kowa 78.54 280 P P 07 35 47.7 -0.2
comp=Z,3.9nm,0.6s,baz=50,slow=7.0,SNR=11
HYT Haines Junctio 79.98 18 eP P 07 35 54.4 -0.7
comp=Z,8.2nm,0.7s
BOSA Boshof 82.23 228 P P 07 36 06.5 -0.9
comp=Z,2.4nm,0.7s,baz=42,slow=4.4,SNR=5.7
YKW3 Yellowknife Ar 82.63 8 eP P 07 36 07.9 -1.1
comp=Z,11nm,1.0s
YKA Yellowknife Ar 82.70 8 P P 07 36 08.2 -1.2
comp=Z,5.9nm,0.7s,baz=340,slow=5.2,SNR=97
DBIC Dimbokro 83.48 274 P P 07 36 14.0 -0.3
comp=Z,10nm,0.8s,baz=49,slow=6.1,SNR=12
DBIC Dimbokro 83.48 274 eP P 07 36 13.5 -0.8
DBIC Dimbokro 83.48 274 eP P 07 36 13.5 -0.8
KIC Kosan Boka 83.56 273 eP P 07 36 14.3 -0.4
comp=Z,21nm,0.8s
TIC Toumodi 83.64 274 eP P 07 36 14.3 -0.8
LIC Lamto 83.87 273 eP P 07 36 15.8 -0.5
comp=Z,42nm,0.9s
STKA Stephens Creek 86.59 133 P P 07 36 27.4 -1.9
comp=Z,2.8nm,1.0s,baz=336,slow=10.0,SNR=2.6
STKA Stephens Creek 86.59 133 eP P 07 36 27.4 -1.9
comp=Z,6.0nm,1.8s
SCHQ Schefferville 87.25 342 P P 07 36 31.2 -1.3
comp=Z,2.3nm,0.9s,baz=34,slow=7.3,SNR=3.0
SCHQ Schefferville 87.25 342 eP P 07 36 31.2 -1.3
comp=Z,24nm,1.6s
FFC Flin Flon 91.33 2 eP P 07 36 50.8 -0.8
comp=Z,5.9nm,1.1s
FFC Flin Flon 91.33 2 eP P 07 36 50.8 -0.8
FFC pmax pmax
comp=Z,6.0nm,1.1s
PDAR Pinedale Array 102.66 9 PKiKP PKiKP 07 42 03.2 -1.1
comp=Z,0.3nm,0.7s,baz=118,slow=1.5,SNR=2.6
TXAR Lajitas Array 116.56 5 PKP PKPdf 07 42 28.4 -2.1
comp=Z,0.2nm,0.7s,baz=198,slow=2.7,SNR=3.8
CPUP Villa Florida 143.98 271 PKP PKPab 07 43 18.5 -0.7
comp=Z,5.3nm,0.9s,baz=63,slow=3.7,SNR=11
CPUP Villa Florida 143.98 271 ePKPdf PKPab 07 43 18.7 -0.5
CPUP Villa Florida 143.98 271 ePKIKP PKPab 07 43 18.7 -0.5
LPAZ La Paz 147.59 296 PKPbc PKPdf 07 43 28.8 -0.3
comp=Z,2.5nm,0.5s,baz=21,slow=1.7,SNR=6.7
LPAZ PKPab pPKPdf 07 43 32.7 -1.4
comp=Z,2.5nm,0.5s,baz=45,slow=1.4,SNR=12
LPAZ La Paz 147.59 296 PKP2 PKPdf 07 43 28.8 -0.3
LPAZ pmax pmax
comp=Z,3.0nm,0.5s
LPAZ pmax pmax
comp=Z,3.0nm,0.5s

ISCJB ***07*** *07:26:15.6±1.1, 53°.47N±0°.09×159°.67W±0°.09, h33km, mb3.4/2, Error ellipse: s-maj=12.8km s-min=7.0km az=19.9*
NEIC ***07*** *07:26:15.2±0.0, 53°.34N×160°.07W, h20km, ML3.1(AEIC), After AEIC.*
IDC ***07*** *07:26:15.5±5.3, 53°.32N×159°.40W, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/82, mbtmp3.3/5, ML3.2/3, Error ellipse: s-maj=101.2km s-min=31.6km az=92.0*
ISC 07 07:26:17.9±1.5**, 53°.5N**±0°.1×**159°.77W**±0°.06**, h35**km**, n20, σ1§91**/21**, South of Alaska**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
SDPT Sand Point 1.89 348 P Pn 07 26 47.4 -0.2
SDPT S Sn 07 27 13.3 +3.2
DOL Dolgoi Island 2.05 324 P Pn 07 26 49.2 -0.6
DOL S Sn 07 27 14.6 +0.5
DRIA Deer Island 2.07 316 P Pn 07 26 48.9 -1.2
DRIA S Sn 07 27 14.6 0.0
DT1 Dutton Round H 2.17 318 P Pn 07 26 50.8 -0.8
PS4A Pavlof South-4 2.21 327 P Pn 07 26 52.0 +0.1
PS4A S Sn 07 27 19.7 +1.6
PVV Pavlof Volcano 2.21 328 P Pn 07 26 52.1 +0.1
PVV S Sn 07 27 20.3 +2.2
BALA Baldy Mountain 2.44 315 P Pn 07 26 56.0 +0.8
ISLZ Isanotski Laza 2.62 299 P Pn 07 26 55.7 -2.0
SSLW Shishaldin Wes 2.86 298 P Pn 07 26 59.4 -1.6
KDAK Kodiak Island 5.90 41 Pn Pn 07 27 42.5 -0.2
0.5nm,0.3s,baz=199,slow=5.3,SNR=34
KDAK Sn Sn 07 28 47.4 -1.6
1.0nm,0.3s,baz=339,slow=20,SNR=6.4
ILAR Eielson Array 13.04 25 Pn Pn 07 29 18.8 -1.7
0.1nm,0.3s,baz=219,slow=12,SNR=4.2
ILAR Sn Sn 07 31 39.4 -4.7
0.0nm,0.3s,baz=212,slow=21,SNR=2.5
INK Inuvik 19.31 30 P Pn 07 30 43.2 +2.4
0.1nm,0.3s,baz=230,slow=11,SNR=9.1
YKA Yellowknife Ar 25.05 51 P P 07 31 40.5 +2.0
0.4nm,0.7s,baz=265,slow=8.3,SNR=8.3
H11N2 WAKE ISLAND Hy 42.34 230 T T 08 18 59.3
baz=29,slow=76,SNR=5.1
H11N3 WAKE ISLAND Hy 42.34 230 T T 08 19 03.9
baz=29,slow=76,SNR=4.6
H11N1 WAKE ISLAND Hy 42.36 230 T T 08 19 05.8
baz=29,slow=76,SNR=4.5
H11S1 WAKE ISLAND Hy 43.49 230 T T 08 20 23.9
baz=29,slow=76,SNR=4.1
H11S2 WAKE ISLAND Hy 43.51 230 T T 08 20 29.9
baz=29,slow=76,SNR=3.4
H11S3 WAKE ISLAND Hy 43.51 230 T T 08 20 26.6
baz=29,slow=76,SNR=4.5
TXAR Lajitas Array 47.02 98 P P 07 34 46.4 +0.7
0.6nm,0.7s,baz=303,slow=5.0,SNR=5.0

JMA ***07*** *07:29:03.5±0.4, 25°.56N×127°.25E, h11km±4km, M3.2*
IDC ***07*** *07:29:14.4±1.1, 28°.48N×127°.36E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/64, mbtmp3.5/7, Error ellipse: s-maj=51.9km s-min=20.8km az=64.0*
ISC 07 07:29:00.3±1.6**, 25°.4N**±0°.1×**127°.19E**±0°.09**, h19**km**, n12, σ1§55**/15**, mb3.5**/6**, Ryukyu Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
JJT2 Tamagusuku 2 0.89 34 P Pb 07 29 17.4 +0.3
JKE Kume jima 2 0.98 338 P Pg 07 29 20.1 +0.7
JKE eS Sb 07 29 31.4 +0.1
JAGN Aguni-jima 1.18 2 P Pn 07 29 22.1 +0.4
JAGN eS Sb 07 29 35.9 -1.0
JNTH Nagotoyohara 1.33 34 P Pb 07 29 25.2 +0.5
JNTH eS Sn 07 29 40.7 -0.5
JOW Kunigami 1.72 34 P Pb 07 29 31.8 +0.5
JOW eS Sb 07 29 51.9 -0.7
JIH Iheya 1.76 23 P Pb 07 29 33.5 +1.5
SONM Songino Array 27.75 329 P P 07 34 43.2 -4.7
0.2nm,0.3s,baz=143,slow=7.8,SNR=3.7
MKAR Makanchi Array 41.39 313 P P 07 36 45.7 +0.4
0.7nm,0.5s,baz=102,slow=9.9,SNR=12
KURBB Kurchatov Arra 44.81 317 P P 07 37 13.1 +0.2
0.3nm,0.6s,baz=107,slow=8.6,SNR=3.5
WRA Warramunga Arr 45.61 171 P P 07 37 33.3 +14
0.8nm,0.6s,baz=353,slow=8.5,SNR=4.6
BVAR Borovoye Array 50.27 319 P P 07 37 55.9 +0.6
0.4nm,0.5s,baz=89,slow=8.8,SNR=3.5
YKA Yellowknife Ar 79.66 25 P P 07 41 07.4 +1.1
0.2nm,0.5s,baz=298,slow=5.3,SNR=4.3

IDC ***07*** *07:29:18.8±1.3, 24°.41N×127°.04E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/62, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/65, Error ellipse: s-maj=54.5km s-min=26.5km az=63.0*
JMA ***07*** *07:29:28.9±0.2, 25°.56N×127°.22E, h0km, M3.3*
ISC 07 07:29:27.5±1.7**, 25°.46N**±0°.10×**127°.21E**±0°.08**, h19**km**, n11, σ1§08**/10**, mb3.7**/6**, Ryukyu Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
JJT2 Tamagusuku 2 0.84 35 P Pg 07 29 43.9 0.0
JJT2 S Sb 07 29 54.7 +0.3
JKE Kume jima 2 0.94 336 P Pg 07 29 45.9 0.0
JKE S Sg 07 29 58.3 -0.1
JAGN Aguni-jima 1.13 2 eS Sb 07 30 02.8 +0.1
JIH Iheya 1.71 23 eS Sg 07 30 22.3 -0.5
USRK Ussuriysk Ar. 19.10 11 LR LR 07 42 00.7
comp=Z,52nm,18.8s,baz=299,slow=38
SONM Songino Array 27.72 329 P P 07 35 17.1 +2.3
0.4nm,0.5s,baz=145,slow=11,SNR=2.3
MKAR Makanchi Array 41.37 313 P P 07 37 11.4 -1.0
0.8nm,0.5s,baz=99,slow=9.8,SNR=7.4
KURBB Kurchatov Arra 44.78 317 P P 07 37 38.6 -1.3
0.4nm,0.4s,baz=107,slow=8.9,SNR=4.0
WRA Warramunga Arr 45.66 171 P P 07 37 59.3 +12
0.7nm,0.6s,baz=351,slow=8.3,SNR=4.1
ASAR Alice Springs 49.26 172 P P 07 38 27.9 +13
0.4nm,0.6s,baz=0.5,slow=14,SNR=4.8
YKA Yellowknife Ar 79.61 25 P P 07 41 33.2 0.0
0.2nm,0.5s,baz=307,slow=5.7,SNR=5.2

NIED ***07*** *07:49:00, 25°.40N×127°.30E, h23km, Mw4.4 Best double couple: Mo3.82000×10^15 NP1:φs236.00000°, δ20.00000°, λ-85.00000°. NP2:φs50.00000°, δ70.00000°, λ-92.00000°.*
JMA ***07*** *07:49:00.3±0.3, 25°.50N×127°.26E, h36km, M4.2*
JMA Felt I J1.
ISCJB ***07*** *07:49:01.5±0.5, 25°.60N±0°.04×127°.27E±0°.04, h51km±4km, mb4.5/77, MS3.7/19, Error ellipse: s-maj=6.8km s-min=4.5km az=146.6*
IDC ***07*** *07:49:02.3±0.4, 25°.59N×127°.24E, h42km±2km, mb4.1/32, mb1 4.2/35, mb1mx4.1/69, mbtmp4.4/35, ML4.6/1, MS3.6/15, Ms1 3.6/15, ms1mx3.3/53, Error ellipse: s-maj=12.7km s-min=9.3km az=81.0*
MOS ***07*** *07:49:02.0±1.1, 25°.66N×127°.30E, h54km, mb4.7/44, Error ellipse: s-maj=9.9km s-min=5.6km az=108.7*
NEIC ***07*** *07:49:02.5±0.5, 25°.61N×127°.23E, h44km±4km, mb4.8/26, Error ellipse: s-maj=5.6km s-min=4.0km az=137.0*
NEIC Felt [II] at Urasoe, Okinawa. Also felt at Chatan. Recorded [1 JMA] in the Kerama-retto.
BJI ***07*** *07:49:04.7, 25°.90N×127°.21E, h71km, mb4.4/36, mB4.6/20, Ms4.2/18, Ms7 3.9/16*
ISC 07 07:49:02.4±0.4**, 25°.62N**±0°.05×**127°.24E**±0°.04**, h43**km±2km**, h43**km**:pP-P, n199, σ1§29**/259**, mb4.6**/77**, MS3.8**/19**, 14C-9D, Ryukyu Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
JJT2 Tamagusuku 2 0.70 41 P Pn 07 49 15.0 -0.9
JJT2 S Sn 07 49 26.2 +0.5
JKE Kume jima 2 0.81 330 P Pn 07 49 17.4 -0.1
JKE eS Sn 07 49 30.9 +2.4
JAGN Aguni-jima 0.97 0 P Pn 07 49 19.7 +0.1
JAGN eS Sn 07 49 33.9 +1.7
JNTH Nagotoyohara 1.14 38 P Pn 07 49 20.9 -1.1
JNTH S Sn 07 49 36.8 +0.3
JOW Kunigami 1.53 37 P Pn 07 49 27.4 +0.1
JOW eS Sn 07 49 48.1 +2.1
JOW Kunigami 1.53 37 ePn Pn 07 49 28.4 +1.1
JIH Iheya 1.56 25 P Pn 07 49 27.3 -0.4
JIKM Ikemajima 1.93 249 P Pn 07 49 31.4 -1.3
JIRB Irabujima 2.03 248 P Pn 07 49 33.5 -0.6
JOKE Okinoerabujima 2.11 34 P Pn 07 49 35.7 +0.4
YOJ Yonaguni jima 4.00 254 ePn Pn 07 50 07.5 +6.3
YOJ Yonaguni jima 4.00 254 eP Pn 07 50 07.5 +6.3
SSLB Suanglung 6.00 254 ePn Pn 07 50 30.7 +2.0
TPUB Ta-pu 6.45 250 ePn Pn 07 50 36.5 +1.7
JNU Nakatsue 8.13 22 P Pn 07 50 58.1 +0.3
7.3nm,0.3s,baz=260,slow=4.3,SNR=41
JNU S Sn 07 52 29.1 +0.6
0.2nm,0.3s,baz=270,slow=3.0,SNR=1.6
JNU LR LR 07 54 28.8
comp=Z,265nm,19.0s,baz=297,slow=40
NJ2 Nanjing 9.75 313 eP Pn 07 51 18.7 -1.4
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
KS15 Wonju Array Si 11.80 3 ePn Pn 07 51 48.7 +0.6
KSAR Wonju Array Be 11.80 3 P Pn 07 51 49.1 +1.0
KSAR Wonju Array Be 11.80 3 P Pn 07 51 49.1 +1.0
KSRS Korea Array 11.82 3 P Pn 07 51 49.1 +0.8
baz=181,slow=13,SNR=7.0
KSRS LR LR 07 56 49.4
comp=Z,200nm,19.1s,baz=172,slow=40
MAJO Matsushiro 14.38 38 ePn Pn 07 52 22.9 -0.3
MAJO Matsushiro 14.38 38 eP Pn 07 52 22.9 -0.3
MAT Matsushiro 14.38 38 P P 07 52 29.9 +0.6
MJAR Matsushiro Arr 14.38 38 pP P 07 52 31.2 +1.9
0.5nm,0.3s,baz=226,slow=9.6,SNR=4.2
MJB9 Matsu-Tunnel 14.38 38 ePn Pn 07 52 23.0 -0.2
CN2 Changchun 18.20 356 eP Pn 07 53 12.8 +1.0
DAV Davao City (W) 18.51 185 LR LR 07 59 52.2
comp=Z,80nm,18.9s,baz=343,slow=35
USRK Ussuriysk Ar. 18.94 11 P Pn 07 53 21.1 +0.4
0.6nm,0.3s,baz=168,slow=9.8,SNR=7.7
HHC Hu-ho-hao-te 20.02 323 eP P 07 53 30.4 -1.3
HHC pP pP 07 53 44.6 +2.5
HHC PP PnPn 07 53 50.7 +1.9
HHC sP sP 07 53 55.0 +7.4
HHC S S 07 56 59.1 -15
HHC pmax pmax
comp=Z,12nm,1.1s
HHC LR LR
comp=N,260nm,14.1s
HHC LR LR
comp=E,360nm,12.6s

HHC LR LR
comp=Z,300nm,13.9s
CD2 Chengdu 21.33 290 *e*P **P** **07 53 46.5 +0.7**
CD2 pP sP 07 54 01.1 -0.7
CD2 sP pP 07 54 10.3 +14
CD2 S **S** **07 57 36.1 -4.3**
CD2 sS sS 07 58 01.0 +3.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=N,410nm,12.1s
CD2 LR LR
comp=E,410nm,13.3s
CD2 LR LR
comp=Z,630nm,11.5s
KMI Kunming 22.14 274 P **P** **07 53 59.0 +4.3**
KMI pP sP 07 54 14.2 +3.5
KMI pmax pmax
comp=Z,19nm,1.4s
KMI LR LR
comp=N,200nm,24.7s
KMI LR LR
comp=E,260nm,20.4s
KMI LR LR
comp=Z,330nm,16.7s
ASAJ Asahikawa 22.28 30 P **P** **07 53 53.1 -2.8**
5.7nm,0.8s,baz=216,slow=19,SNR=2.6
ASAJ Asahikawa 22.28 30 *e*P **P** **07 53 53.1 -2.8**
32nm,1.4s
LZH Lanzhou 22.58 303 *e*P **P** **07 53 58.3 -1.1**
LZH pP sP 07 54 14.4 -0.9
LZH sP pP 07 54 22.8 +13
LZH PP **PnPn** **07 54 26.8 +2.9**
LZH *e*S S 07 57 51.5 -13
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.1s
LZH LR LR
comp=N,220nm,10.5s
LZH LR LR
comp=E,400nm,12.0s
LZH LR LR
comp=Z,460nm,13.0s
KLR Kul'dur 23.84 7 P **P** **07 54 10.4 -1.0**
0.3nm,0.9s,baz=218,slow=7.5,SNR=6.0
KLR LR LR 08 02 35.3
comp=Z,7.4nm,20.7s,baz=188,slow=34
KLR Kul'dur 23.84 7⇑*e*P **P** **07 54 09.0 -2.4**
YSS Yuzh-Sakhalins 24.61 26 *e*P **P** **07 54 18.5 0.0**
35nm,0.7s
YSS Yuzh-Sakhalins 24.61 26⇓*e*P **P** **07 54 19.7 +1.2**
YSS pmax pmax
comp=Z,40nm,0.6s
GTA Gaotai 26.78 308 ⇑P **P** **07 54 37.6 -0.9**
GTA pP pP 07 54 51.9 +1.9
GTA sP sP 07 54 59.8 +4.6
GTA S **S** **07 59 03.8 -7.9**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,100nm,5.9s
GTA LR LR
comp=Z,150nm,15.2s
GTA LR LR
comp=Z,180nm,15.0s
GTA LR LR
comp=Z,270nm,15.9s
CHTO Chiang Mai 27.02 261 *e*P **P** **07 54 41.1 +0.5**
comp=Z,6.6nm,1.0s
CHTO Chiang Mai 27.02 261 *e*P **P** **07 54 41.1 +0.5**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CMAR Chiang Mai Arr 27.14 261 P **P** **07 54 41.5 -0.2**
comp=Z,1.7nm,0.5s,baz=58,slow=8.4,SNR=8.6
CMAR LR LR 08 06 56.9
comp=Z,69nm,19.0s,baz=73,slow=40
CMAR Chiang Mai Arr 27.14 261 *i* P **P** **07 54 42.7 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
ULN Ulaanbaatar 27.32 330 *e*P **P** **07 54 41.7 -1.5**
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 27.32 330⇑*e*P **P** **07 54 42.7 -0.5**
ULN pmax pmax
comp=Z,6.0nm,1.0s
SONA0 Songino Array 27.60 329 *e*P **P** **07 54 45.1 -0.6**
SONM Songino Array 27.60 329 P **P** **07 54 45.1 -0.6**
comp=Z,6.3nm,0.8s,baz=144,slow=8.8,SNR=17
SONM LR LR 08 07 04.8
comp=Z,148nm,18.5s,baz=152,slow=39
SONA1 Songino Array 27.60 329 *e*P **P** **07 54 43.8 -1.9**
TLY Talaya 31.61 332 *e*P **P** **07 55 20.7 -0.4**
TLY pmax pmax
comp=Z,5.0nm,1.1s
TAPN Taplejung 35.32 282 *e*P **P** **07 55 54.8 +0.8**
comp=Z,13nm,0.6s
PSI Prapat 35.43 235 LR LR 08 10 07.1
comp=Z,48nm,19.0s,baz=286,slow=36
ODAN Odare 35.66 281 *e*P **P** **07 55 57.6 +0.7**
comp=Z,52nm,0.7s
PETK Petropavlovsk- 35.69 32 P **P** **07 55 54.6 -1.9**
comp=Z,6.0nm,1.0s,baz=232,slow=7.1,SNR=2.8
PETK LR LR 08 11 14.9
comp=Z,37nm,20.7s,baz=250,slow=37
PEA1 Petropavlovsk- 35.69 32 *e*P **P** **07 55 54.6 -1.9**
PET Petropavlovsk 36.09 32⇑*e*P **P** **07 55 59.4 -0.5**
PET pmax pmax
comp=Z,40nm,1.8s
HVS Khovu-Aksy 36.09 324⇑*e*P **P** **07 55 58.7 -1.4**
HVS pmax pmax
comp=Z,8.0nm,0.7s
RAMN Ramite 36.35 281 *e*P **P** **07 56 03.5 +0.7**
comp=Z,21nm,0.8s
JIRN Jiri 36.63 283 *e*P **P** **07 56 06.0 +0.7**
comp=Z,14nm,0.6s
WMQ Urumqi 36.81 310 P **P** **07 56 06.4 +0.1**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,210nm,4.3s
WMQ LR LR
comp=Z,120nm,18.3s
WMQ LR LR
comp=Z,210nm,18.3s
WMQ LR LR
comp=Z,220nm,18.3s
GUN Gumba 36.88 283 *e*P **P** **07 56 07.9 +0.6**
comp=Z,23nm,0.8s
PKI Pulchoki 37.33 283 *e*P **P** **07 56 11.2 0.0**
comp=Z,16nm,0.5s
KKN Kakani 37.41 283 *e*P **P** **07 56 12.1 +0.3**
comp=Z,6.8nm,0.3s
DMN Daman 37.59 283 *e*P **P** **07 56 13.9 +0.6**
comp=Z,41nm,1.0s
MA2 Magadan 37.68 19 P **P** **07 56 13.0 -0.3**
comp=Z,2.2nm,0.8s,baz=210,slow=7.3,SNR=4.8
MA2 pP **pP** **07 56 24.9 -0.2**
comp=Z,3.6nm,0.5s,baz=201,slow=6.7,SNR=3.8
DANN Dangsing 38.69 284 *e*P **P** **07 56 22.8 +0.2**
comp=Z,2.5nm,0.7s
KOLN Koldanda 38.90 283 *e*P **P** **07 56 24.8 +0.6**
comp=Z,50nm,1.0s
PYUN Piuthan 39.39 284 *e*P **P** **07 56 29.1 +0.7**
comp=Z,94nm,0.9s
SEY Seymchan 40.87 17 P **P** **07 56 40.8 +0.9**
comp=Z,5.7nm,0.7s,baz=219,slow=6.0,SNR=38
SEY pP **pP** **07 56 52.5 +0.8**
comp=Z,7.7nm,0.7s,baz=238,slow=7.8,SNR=13
SEY Seymchan 40.87 17⇑*e*P **P** **07 56 39.8 -0.1**
MK01 Makanchi Array 41.27 313 *e*P **P** **07 56 42.6 -0.9**
MK31 Makanchi Array 41.28 313 *e*P **P** **07 56 43.1 -0.4**
MK31 Makanchi Array 41.28 313 *e*P **P** **07 56 43.2 -0.4**
MK32 Makanchi Array 41.28 313 *e*P **P** **07 56 43.2 -0.4**
MK32 *e*pP **pP** **07 56 54.9 -0.6**
MK32 *e*PcP **PcP** **07 58 42.6 +0.9**
MKAR Makanchi Array 41.28 313 P **P** **07 56 43.2 -0.4**
comp=Z,7.7nm,0.5s,baz=99,slow=10,SNR=118
MKAR pP **pP** **07 56 54.9 -0.6**
comp=Z,3.3nm,0.4s,baz=97,slow=10.0,SNR=11
MKAR PcP **PcP** **07 58 42.6 +0.9**
comp=Z,1.0nm,0.7s,baz=90,slow=5.8,SNR=3.3
MKAR LR LR 08 15 36.0
comp=Z,78nm,19.6s,baz=77,slow=39
MAKZ Makanchi 41.49 313 *e*P **P** **07 56 44.7 -0.6**
comp=Z,7.8nm,0.8s
MAKZ Makanchi 41.49 313 *e*P **P** **07 56 44.7 -0.6**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
ZAA0 Zalesovo Array 42.20 324 *e*P **P** **07 56 50.2 -0.7**
comp=Z,7.3nm,0.9s
ZAA0 *e*pP **pP** **07 57 01.3 -1.6**
ZALV Zalesovo Beam 42.20 324 P **P** **07 56 50.1 -0.8**
comp=Z,4.5nm,0.7s,baz=115,slow=8.1,SNR=20
ZALV pP **pP** **07 57 01.9 -0.9**
comp=Z,4.1nm,0.5s,baz=116,slow=7.7,SNR=7.8
ZALV PcP **PcP** **07 58 44.6 +0.2**
comp=Z,0.6nm,0.3s,baz=120,slow=7.3,SNR=3.2
ZALV Zalesovo Beam 42.20 324 *e*P **P** **07 56 49.6 -1.3**
ZALV pP **pP** **07 57 01.9 -0.9**
ZALV PcP **PcP** **07 58 44.6 +0.2**
ZALV Zalesovo Beam 42.20 324 *e*P **P** **07 56 49.6 -1.3**
ZALV *PP **pP** **07 57 01.9 -0.9**
ZALV 07 58 44.6
ZAA1 Zalesovo Array 42.20 324 *e*P **P** **07 56 50.1 -0.8**
ZAA1 *e*pP **pP** **07 57 01.9 -0.9**
ZAA1 *e*PcP **PcP** **07 58 44.6 +0.2**
NVS Novosibirsk 43.41 324 *e*P **P** **07 57 00.3 -0.4**
NVS pmax pmax
comp=Z,13nm,1.5s
NVS pmax pmax
comp=E,7.0nm,1.2s
TARG Taragay, Kyrgy 43.56 304 *e*P **P** **07 57 03.0 +0.4**
comp=E,7.8nm,1.0s
KURK Kurchatov 44.66 317 *e*P **P** **07 57 10.0 -0.7**
comp=E,22nm,1.4s
KURK *e*P **P** **07 57 10.2 -0.5**
KURK *e*pP **pP** **07 57 22.4 -0.3**
KURK Kurchatov 44.66 317 *e*P **P** **07 57 10.0 -0.7**
KURK *e*PP **pP** **07 57 22.4 -0.3**
KURK pmax pmax
comp=Z,22nm,1.4s
KURBB Kurchatov Arra 44.69 317 P **P** **07 57 10.2 -0.7**
comp=Z,5.7nm,0.7s,baz=105,slow=9.2,SNR=13
KURBB pP **pP** **07 57 22.4 -0.6**
comp=Z,4.9nm,0.7s,baz=105,slow=8.6,SNR=11
KSH Kashi 44.80 301 *e*P **P** **07 57 14.6 +2.3**
KSH pP sP 07 57 31.9 +2.5
KSH PP **PP** **07 59 02.0 +4.6**
KSH PcS **PcS** **08 02 49.1 +1.7**
KSH S **S** **08 03 42.1 -4.6**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,160nm,5.6s
KSH LR LR
comp=Z,90nm,7.8s
KSH LR LR
comp=Z,130nm,8.4s
KSH LR LR
comp=Z,310nm,6.0s
NRN Naryn 44.89 304 P **P** **07 57 13.5 +0.4**
NRN pmax pmax
comp=Z,17nm,1.4s
WRAB Tennant Creek 45.80 171 *e*P **P** **07 57 19.9 -0.2**
comp=Z,15nm,0.8s
WRAB Tennant Creek 45.80 171 *e*P **P** **07 57 19.9 -0.2**
WRAB pmax pmax
comp=Z,15nm,0.8s
WR1 Warramunga Arr 45.81 171 *e*P **P** **07 57 19.4 -0.7**
WR1 *e*pP **pP** **07 57 31.3 -0.9**
WRA Warramunga Arr 45.81 171 P **P** **07 57 19.4 -0.7**
comp=Z,3.2nm,0.8s,baz=353,slow=8.6,SNR=18
WRA pP **pP** **07 57 31.3 -0.9**
comp=Z,10nm,0.7s,baz=351,slow=8.3,SNR=30
AAK Ala-Archa 46.09 305 P **P** **07 57 22.7 +0.3**
comp=Z,3.8nm,1.0s,baz=149,slow=6.8,SNR=5.6
AAK Ala-Archa 46.09 305⇑*e*P **P** **07 57 22.0 -0.5**
AAK pmax pmax
comp=Z,4.0nm,1.2s
KKAR Karatay Array 49.04 306 *e*P **P** **07 57 45.3 +0.1**
KKAR Karatay Array 49.04 306 *e*P **P** **07 57 45.3 +0.1**
AS31 Alice Springs 49.41 172 *e*P **P** **07 57 47.9 -0.2**
AS31 *e*pP **pP** **07 57 59.3 -1.0**
ASAR Alice Springs 49.41 172 P **P** **07 57 47.9 -0.2**
comp=Z,1.5nm,0.7s,baz=359,slow=9.3,SNR=20
ASAR pP **pP** **07 57 59.9 -0.4**
comp=Z,6.0nm,0.8s,baz=360,slow=7.6,SNR=20
ASAR PcP **PcP** **07 59 08.8 -1.2**
comp=Z,0.7nm,0.8s,baz=345,slow=3.2,SNR=2.5
AS01 Alice Springs 49.42 172 *e*P **P** **07 57 47.8 -0.3**
BVAR Borovoye Array 50.14 319 P **P** **07 57 53.1 -0.3**
comp=Z,2.9nm,0.5s,baz=98,slow=8.1,SNR=15
BVAR pP **pP** **07 58 05.2 -0.3**
comp=Z,6.2nm,0.6s,baz=100,slow=7.9,SNR=15
BVAR PcP **PcP** **07 59 12.8 +0.5**
comp=Z,1.1nm,0.6s,baz=114,slow=3.5,SNR=2.4
BRVK Borovoye 50.21 319 *e*P **P** **07 57 53.7 -0.1**
comp=Z,15nm,1.3s
BRVK Borovoye 50.21 319*d i*P **P** **07 57 53.4 -0.5**
BRVK pmax pmax
comp=Z,11nm,1.2s
KBL Kabul 50.54 295 *e*P **P** **07 57 57.9 +0.9**
comp=Z,22nm,0.7s
KBL Kabul 50.54 295 *e*P **P** **07 57 57.9 +0.9**
KBL pmax pmax
comp=Z,22nm,0.7s
SVE Sverdlovsk 56.20 323 *e*P **P** **07 58 38.0 +0.2**
ABKAR Akbulak array 56.41 313 *e*P **P** **07 58 39.9 +0.4**
comp=Z,98nm,0.5s
ARU Arti 57.32 322 P **P** **07 58 45.7 -0.1**
comp=Z,4.7nm,0.6s,baz=111,slow=3.8,SNR=9.0
ARU pP **pP** **07 58 57.9 -0.2**
comp=Z,2.2nm,0.3s,baz=130,slow=2.9,SNR=1.5
ARU LR LR 08 26 09.1
comp=Z,184nm,19.0s,baz=106,slow=39
ARU Arti 57.32 322 *e*P **P** **07 58 45.7 -0.1**
comp=Z,20nm,1.2s
ARU *e*pP **pP** **07 58 57.9 -0.2**
AKTO Aktyubinsk 57.63 315 P **P** **07 58 48.5 +0.4**
comp=Z,2.0nm,0.6s,baz=91,slow=10,SNR=7.5
AKTO pP **pP** **07 59 01.3 +0.9**
comp=Z,4.4nm,0.7s,baz=82,slow=10,SNR=7.8
STKA Stephens Creek 58.79 166 P **P** **07 58 56.0 -0.3**
comp=Z,1.8nm,0.9s,baz=353,slow=8.8,SNR=2.3
STKA pP **pP** **07 59 08.0 -0.7**
comp=Z,3.3nm,0.6s,baz=347,slow=10.0,SNR=4.9
STKA Stephens Creek 58.79 166 P **P** **07 58 56.0 -0.3**
STKA *PP **pP** **07 59 08.0 -0.7**
STKA pmax pmax
comp=Z,2.0nm,1.0s
STKA pmax pmax
comp=Z,3.0nm,0.6s
GEYT Alibeck 58.82 300 P **P** **07 58 57.3 +0.6**
comp=Z,6.4nm,0.8s,baz=354,slow=1.5,SNR=12
GEYT pP **pP** **07 59 10.1 +1.0**
comp=Z,4.0nm,0.5s,baz=75,slow=1.7,SNR=5.2
GEYT LR LR 08 29 28.1
comp=Z,66nm,18.3s,baz=285,slow=41
KDAK Kodiak Island 63.54 36 *i* P **P** **07 59 29.3 +1.1**
BPAW Bear Paw Mtn. 63.71 29 *e*P **P** **07 59 30.0 +0.7**
comp=Z,9.8nm,1.2s
BPAW *eS **S** **08 07 59.5 -0.9**
MLY Manley 63.74 28 *e*P **P** **07 59 29.4 -0.1**
comp=Z,7.0nm,1.2s
MLY *epP **sP** **07 59 45.3 -1.6**
TOLK Toolik Lake Re 63.94 24 *e*P **P** **07 59 31.8 +1.1**
comp=Z,8.2nm,1.2s
SUA Susitna One 64.07 32 *e*P **P** **07 59 32.5 +0.7**
comp=Z,50nm,2.0s
RND Reindeer 64.72 30 *e*P **P** **07 59 36.3 +0.3**
comp=Z,9.1nm,0.7s
RND Reindeer 64.72 30 *e*P **P** **07 59 36.3 +0.3**
RND pmax pmax
comp=Z,9.0nm,0.7s
MDM Murphy Dome 64.81 28 *e*P **P** **07 59 37.7 +1.2**
comp=Z,28nm,1.6s
ILAR Eielson Array 65.40 28 P **P** **07 59 40.0 -0.3**
comp=Z,0.9nm,0.7s,baz=264,slow=6.6,SNR=11
ILB Eielson Array 65.40 28 *e*P **P** **07 59 40.0 -0.3**
DOT Dot Lake 66.80 29 *e*P **P** **07 59 49.8 +0.4**
comp=Z,13nm,0.9s
ZEI Tsey 68.40 308 *e*P **P** **07 59 59.3 -0.7**
ZEI pmax pmax
comp=Z,7.0nm,0.8s
NCK Nalchik 68.43 309⇑*e*P **P** **08 00 01.8 +1.9**
NCK pmax pmax
comp=Z,37nm,0.7s
KBZ Khabaz 68.85 309 P **P** **08 00 03.4 +0.9**
comp=Z,5.2nm,0.8s,baz=119,slow=3.7,SNR=12
KBZ pP **pP** **08 00 15.7 +0.5**
comp=Z,6.0nm,0.8s,baz=136,slow=4.8,SNR=7.4
KIV Kislovodsk 68.94 310 *e*P **P** **08 00 03.8 +0.6**
KIV pmax pmax
comp=Z,12nm,1.1s
AKH Akhalkalaki 69.06 307⇓*i*P **P** **08 00 04.4 +0.3**
NEY Neytrino 69.11 309⇑*e*P **P** **08 00 06.0 +1.6**
NEY pmax pmax
comp=Z,1.0nm,0.8s
SPA0 Spitsbergen Ar 69.24 348 *e*P **P** **08 00 04.8 +0.4**
SPA0 *e*pP **pP** **08 00 16.8 -0.3**
SPITS Spitsbergen Ar 69.24 348 P **P** **08 00 04.8 +0.4**
comp=Z,3.5nm,0.6s,baz=73,slow=6.8,SNR=7.5
SPITS pP **pP** **08 00 16.8 -0.3**
comp=Z,4.0nm,0.6s,baz=60,slow=8.7,SNR=2.4
VSR Storozhevoye 69.30 318⇓*e*P **P** **08 00 06.4 +1.2**
VSR pmax pmax
comp=Z,4.0nm,0.4s
OBN Obninsk 69.76 322⇑*e*P **P** **08 00 08.6 +0.7**
OBN pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 69.80 23 P **P** **08 00 08.3 +0.4**
comp=Z,2.7nm,0.9s,baz=307,slow=7.6,SNR=8.7
INK Inuvik 69.80 23 *e*P **P** **08 00 08.3 +0.4**
comp=Z,6.1nm,1.1s
ARA0 ARCESS Array S 70.25 339 *e*P **P** **08 00 10.8 +0.1**
ARA0 *e*pP **pP** **08 00 23.1 -0.3**
ARCES ARCESS Array B 70.25 339 P **P** **08 00 10.8 +0.1**
comp=Z,0.7nm,0.4s,baz=63,slow=7.2,SNR=10
ARCES pP **pP** **08 00 23.1 -0.3**
comp=Z,3.1nm,1.0s,baz=69,slow=6.9,SNR=2.4
FIA0 FINESS Array S 72.95 330 *e*P **P** **08 00 27.2 +0.1**
FIA0 *e*pP **pP** **08 00 39.7 -0.1**
FIA0 FINESS Array S 72.95 330 *e*P **P** **08 00 27.2 +0.1**
FIA0 *e*PP **pP** **08 00 39.7 -0.1**
FINES FINESS Array B 72.95 330 P **P** **08 00 27.2 +0.1**
comp=Z,2.3nm,0.6s,baz=71,slow=6.5,SNR=9.8
FINES pP **pP** **08 00 39.7 -0.1**
comp=Z,3.0nm,0.8s,baz=75,slow=5.2,SNR=3.1
FINES LR LR 08 36 42.3
comp=Z,112nm,19.8s,baz=286,slow=39
RAYN Ar Rayn 73.15 288 *e*P **P** **08 00 29.8 +0.8**
comp=Z,6.5nm,1.0s
RAYN Ar Rayn 73.15 288 P **P** **08 00 29.8 +0.8**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 75.42 319 P **P** **08 00 41.6 0.0**
comp=Z,1.4nm,0.4s,baz=59,slow=6.6,SNR=15
AKASG pP **pP** **08 00 53.6 -0.8**
comp=Z,4.6nm,0.7s,baz=57,slow=6.6,SNR=8.2
AKBB Malin Array Si 75.42 319 *e*P **P** **08 00 41.6 0.0**
AKBB *e*pP **pP** **08 00 53.6 -0.8**
AKBB Malin Array Si 75.42 319 *e*P **P** **08 00 41.7 0.0**
AKBB *e*PP **pP** **08 00 53.6 -0.8**
KIEV Kiev 75.43 319⇑*e*P **P** **08 00 41.8 +0.1**
KIEV pmax pmax
comp=Z,18nm,2.6s
RES Resolute Bay 76.31 11 *e*P **P** **08 00 46.6 +0.3**
comp=Z,7.6nm,0.8s
RES Resolute Bay 76.31 11 *e*P **P** **08 00 46.6 +0.3**
RES pmax pmax
comp=Z,8.0nm,0.8s
BR101 Keskin Array S 76.70 308 *e*P **P** **08 00 49.8 +0.4**
BR101 *e*pP **pP** **08 01 01.6 -0.5**
BR131 Keskin Array S 76.70 308 *e*P **P** **08 00 49.5 +0.1**
BRTR Keskin Array B 76.70 308 P **P** **08 00 49.8 +0.4**
comp=Z,5.2nm,0.9s,baz=98,slow=5.1,SNR=20
BRTR pP **pP** **08 01 01.6 -0.5**
comp=Z,6.9nm,0.9s,baz=94,slow=5.0,SNR=13
SORM Soroca 76.95 317⇑*i*P **P** **08 00 49.6 -0.8**
SORM Soroca 76.95 317 P **P** **08 00 49.6 -0.8**
ASF Jabal al Asfar 77.10 300 P **P** **08 00 51.6 -0.1**
comp=Z,1.0nm,0.4s,baz=98,slow=9.5,SNR=2.3
BR231 Keskin MP Arra 77.27 308 *e*P **P** **08 00 50.7 -1.8**
TLB Topalu 78.60 314⇓*i*P **P** **08 01 01.3 +1.7**
TLB Topalu 78.60 314 P **P** **08 01 01.3 +1.7**
VRI Vrincioaia 78.90 316⇓*i*P **P** **08 01 03.0 +1.7**
VRI Vrincioaia 78.90 316 P **P** **08 01 03.0 +1.7**
HFS Hagfors 78.94 332 P **P** **08 01 01.4 +0.2**
comp=Z,1.8nm,0.7s,baz=72,slow=14,SNR=5.8
PLOR Plostina 78.95 316⇑*i*P **P** **08 01 05.2 +3.5**
PLOR Plostina 78.95 316 P **P** **08 01 05.2 +3.5**
BUR08 Bucovina Ar. S 79.08 318 *e*P **P** **08 01 03.2 +0.8**
BUR08 *e*pP **pP** **08 01 14.9 -0.3**
BURAR Bucovina Array 79.08 318⇓*i*P **P** **08 01 05.1 +2.7**
BURAR Bucovina Array 79.08 318 P **P** **08 01 05.1 +2.7**
BUR04 Bucovina Ar. S 79.08 318 *e*P **P** **08 01 03.3 +0.9**
YKW3 Yellowknife Ar 79.41 25 *e*P **P** **08 01 03.9 +0.2**
comp=Z,5.8nm,0.9s
YKA Yellowknife Ar 79.46 25 P **P** **08 01 04.9 +0.9**
comp=Z,3.6nm,0.7s,baz=298,slow=5.4,SNR=66
YKA pP **pP** **08 01 17.2 +0.4**
comp=Z,0.6nm,0.5s,baz=304,slow=5.7,SNR=5.3
YKB5 Yellowknife Ar 79.46 25 *e*P **P** **08 01 04.9 +0.9**
YKB5 *e*pP **pP** **08 01 17.2 +0.3**
NB2 NORSAR Subarra 79.47 334 P **P** **08 01 04.1 -0.1**
comp=Z,17nm,1.4s,baz=53,slow=5.6
NB200 NORSAR Array S 79.47 334 *e*P **P** **08 01 04.2 +0.1**
NB200 *e*pP **pP** **08 01 16.6 -0.4**
NOA NORSAR Array B 79.47 334 P **P** **08 01 04.2 +0.1**
comp=Z,1.6nm,0.6s,baz=55,slow=5.5,SNR=4.2
NOA pP **pP** **08 01 16.6 -0.4**
comp=Z,1.9nm,0.7s,baz=53,slow=5.7,SNR=2.7
NOA LR LR 08 40 41.8
comp=Z,80nm,20.7s,baz=285,slow=39
MLR Muntele Rosu 79.56 315⇓*i*P **P** **08 01 06.8 +1.7**
MLR Muntele Rosu 79.56 315 P **P** **08 01 06.8 +1.7**
ATD Arta Tunnel 80.10 278 LR LR 08 37 41.7
comp=Z,17nm,18.4s,baz=352,slow=36
DRGR 80.98 318⇓*i*P **P** **08 01 14.8 +2.2**
DRGR 80.98 318 P **P** **08 01 14.8 +2.2**
SUMG Summit 81.58 356 *i* P **P** **08 01 16.7 +1.0**
comp=Z,9.7nm,0.9s
SUMG Summit 81.58 356 *e*P **P** **08 01 15.7 0.0**
comp=Z,54nm,1.9s
SUMG Summit 81.58 356 *i* P **P** **08 01 16.7 +1.0**
SUMG pmax pmax
comp=Z,10.0nm,0.9s
VYHS Vyhne 82.44 320 *e*P **P** **08 01 23.2 +2.9**
VYHS pmax pmax
comp=Z,34nm,2.6s
VYHS Vyhne 82.44 320 *e*P **P** **08 01 23.2 +2.9**
VTS Vitosha 82.63 314⇑*i*P **P** **08 01 23.4 +1.9**
VTS Vitosha 82.63 314 P **P** **08 01 23.4 +1.9**
VRAC Vranov 83.29 322 P **P** **08 01 26.2 +1.5**
comp=Z,2.3nm,0.4s,baz=62,slow=17,SNR=2.9
VRAC pP **pP** **08 01 38.3 +0.8**
comp=Z,2.5nm,0.4s,baz=80,slow=6.1,SNR=2.7
VRAC LR LR 08 41 29.8
comp=Z,105nm,18.1s,baz=22,slow=38
IDI Anoyia 84.87 307 LR LR 08 44 12.3
comp=Z,19nm,18.5s,baz=16,slow=39
GEC2 GERESS Array S 85.14 323 *e*P **P** **08 01 35.0 +0.9**
GEC2 *e*pP **pP** **08 01 47.3 +0.2**
GEC2 GERESS Array S 85.14 323 *e*P **P** **08 01 35.0 +0.9**
GEC2 *e*PP **pP** **08 01 47.3 +0.2**
GERES GERESS Array B 85.14 323 P **P** **08 01 35.0 +0.9**
comp=Z,1.7nm,0.7s,baz=45,slow=4.0,SNR=9.4
GERES pP **pP** **08 01 47.3 +0.2**
comp=Z,1.8nm,0.9s,baz=72,slow=4.3,SNR=5.4
TRW Toppenish Ridg 85.81 40 *e*P **P** **08 01 36.3 -1.2**
EKA Eskdalemuir Ar 88.94 334 P **P** **08 01 52.7 +0.4**
comp=Z,3.0nm,1.0s,baz=40,slow=3.7,SNR=3.8
CPIM Pinole Ridge 89.25 48 *e*P **P** **08 01 53.2 -0.9**
FFC Flin Flon 89.53 26 *e*P **P** **08 01 55.5 +0.4**
comp=Z,12nm,1.3s
FFC Flin Flon 89.53 26 *e*P **P** **08 01 55.5 +0.4**
FFC pmax pmax
comp=Z,12nm,1.3s
GNO Genoa 90.29 46 *e*P **P** **08 01 59.3 +0.1**
LAO LASA Array 93.34 34 *e*P **P** **08 02 09.7 -3.3**
comp=Z,8.8nm,0.6s
PDAR Pinedale Array 94.20 38 P **P** **08 02 17.5 +0.2**
comp=Z,0.3nm,0.6s,baz=211,slow=1.7,SNR=4.1
TOA1 Torodi Ar. Sit 114.46 299 *e*PKIKP PKPdf 08 07 38.4 -0.1
TORD Torodi Ar. Bea 114.46 299 PKP PKPdf 08 07 38.4 -0.1
comp=Z,0.4nm,0.9s,baz=16,slow=1.9,SNR=2.4

*MOS **07** 07:49:19.6±0.9, 48°.63N×155°.92E, h45km, mb4.2/2, Error ellipse: s-maj=28.4km s-min=5.7km az=77.4*
*ISCJB **07** 07:49:23.1±0.9, 49°.01N±0°.07×155°.9E±0°.2, h34km, mb3.7/8, Error ellipse: s-maj=16.2km s-min=6.4km az=31.6*
*KRSC **07** 07:49:26.1±1.7, 49°.16N×156°.66E, h40km±24km, ML4.4*

IDC 07 07:49:31.4±2.6, 49°.62N×154°.87E, h127km±19km, mb3.4/8, mb1 3.6/11, mb1mx3.3/71, mbtmp3.8/11, Error ellipse: s-maj=38.1km s-min=14.1km az=143.0

ISC 07 07:49:21.5±1.0, 48°.88N±0°.09×156°.1E±0°.1, h34km, n53, σ2ˢ79/53, mb3.6/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.81	1	*e*PN	Pb	07 49 52.1	-1.8
SKR	Severo-Kuril's	1.81	1	*e*P	Pn	07 49 51.8	+1.6
SKR				*e*S	Sn	07 50 10.8	-1.1
PAU	Pauzhetka	2.64	10	PN	Pn	07 50 03.9	+2.3
PAU	Pauzhetka	2.64	10	*e*P	Pn	07 50 03.9	+2.3
PAU				*e*S	Sn	07 50 31.8	-0.6
KDTR	Khodutka, Kamc	3.21	23	*e*P	Pn	07 50 11.9	+2.4
KDTR				*e*S	Sn	07 50 45.7	-0.8
ASAK	Asacha	3.70	18	PN	Pn	07 50 19.3	+3.0
ASAK	Asacha	3.70	18	*e*P	Pn	07 50 19.3	+3.0
MTVR	Mutnovka	3.85	20	PN	Pn	07 50 21.5	+3.0
MTVR	Mutnovka	3.85	20	*e*P	Pn	07 50 21.5	+3.0
MTVR				*e*S	Sn	07 51 02.1	-0.5
RUS	Russkaya	3.89	23	PN	Pn	07 50 21.0	+2.2
RUS	Russkaya	3.89	23	*e*P	Pn	07 50 21.0	+2.2
RUS				*e*S	Sn	07 51 01.6	-1.6
APC	Apacha	4.11	9	PN	Pn	07 50 26.0	+4.1
APC	Apacha	4.11	9	*e*P	Pn	07 50 26.0	+4.1
KRMR	Karymshinskiy	4.17	18	PN	Pn	07 50 26.8	+4.1
KRMR	Karymshinskiy	4.17	18	*e*P	Pn	07 50 26.8	+4.1
KRMR				*e*S	Sn	07 51 12.0	+1.8
PETK	Petropavlovsk-	4.36	13	P	Pn	07 50 28.2	+2.9
	1.8nm,0.3s,baz=184,slow=11,SNR=22						
PETK				S	Sn	07 51 16.9	+1.9
	0.6nm,0.3s,baz=234,slow=35,SNR=2.5						
PET	Petropavlovsk	4.46	21	*e*PN	Pb	07 50 33.9	-5.2
PET	Petropavlovsk	4.46	21	*e*P	Pn	07 50 30.5	+3.8
PET				*e*S	Sn	07 51 17.8	+0.4
DALK	Dalny	4.50	21	*e*S	Sn	07 51 17.4	-0.8
UGLR	Uglovaya	4.67	21	PN	Pn	07 50 32.9	+3.2
UGLR	Uglovaya	4.67	21	*e*P	Pn	07 50 32.9	+3.2
AVH	Avacha	4.71	20	PN	Pn	07 50 34.2	+4.1
AVH	Avacha	4.71	20	*e*P	Pn	07 50 34.2	+4.1
KOK	Koryaka	4.71	19	PN	Pn	07 50 34.3	+4.1
KOK	Koryaka	4.71	19	*e*P	Pn	07 50 34.3	+4.1
SMAR	Somma	4.72	21	PN	Pn	07 50 33.8	+3.4
SMAR	Somma	4.72	21	*e*P	Pn	07 50 33.8	+3.4
SDLR	Sedlovina	4.75	21	PN	Pn	07 50 33.2	+2.4
SDLR	Sedlovina	4.75	21	*e*P	Pn	07 50 33.2	+2.4
NLC	Nalytchevo	4.77	25	*e*S	Sn	07 51 21.8	-3.2
SPN	Mys Shipunski	4.91	29	PN	Pn	07 50 35.7	+2.8
SPN	Mys Shipunski	4.91	29	*e*P	Pn	07 50 35.7	+2.8
SPN				*e*S	Sn	07 51 27.1	-1.4
GNL	Ganaly	4.97	13	PN	Pn	07 50 37.2	+3.5
GNL	Ganaly	4.97	13	*e*P	Pn	07 50 37.2	+3.5
ASAJ	Asahikawa	10.42	248	P	Pn	07 51 51.5	+3.1
	1.1nm,0.3s,baz=84,slow=17,SNR=10						
KLR	Kul'dur	15.92	280	P	Pn	07 53 02.2	-0.6
	0.0nm,0.3s,baz=93,slow=6.7,SNR=4.8						
USRK	Ussuriysk Ar.	17.17	263	P	Pn	07 53 15.0	-3.6
	0.2nm,0.3s,baz=91,slow=13,SNR=3.5						
H11N2	WAKE ISLAND Hy	30.36	159	T	T	08 28 29.2	
	baz=341						
H11N1	WAKE ISLAND Hy	30.38	159	T	T	08 28 15.1	
	baz=341,slow=74						
H11N3	WAKE ISLAND Hy	30.38	159	T	T	08 28 45.4	
	baz=341,slow=74						
H11S1	WAKE ISLAND Hy	31.50	160	T	T	08 29 48.8	
	baz=346,slow=76,SNR=59						
H11S3	WAKE ISLAND Hy	31.51	160	T	T	08 29 47.5	
	baz=346,slow=76,SNR=77						
H11S2	WAKE ISLAND Hy	31.52	160	T	T	08 29 53.4	
	baz=346,slow=76,SNR=67						
ILAR	Eielson Array	33.65	40	P	P	07 55 58.1	-0.4
	0.2nm,0.6s,baz=264,slow=5.4,SNR=4.0						
ILAR	Eielson Array	33.65	40	*e*P	P	07 55 58.8	+0.2
INK	Inuvik	38.79	34	P	P	07 56 41.7	-0.6
	0.5nm,0.6s,baz=302,slow=6.8,SNR=6.0						
YKA	Yellowknife Ar	48.03	39	P	P	07 57 56.5	-0.4
	0.3nm,0.7s,baz=299,slow=7.5,SNR=4.4						
YKA	Yellowknife Ar	48.03	39	*e*P	P	07 57 58.3	+1.4
CMAR	Chiang Mai Arr	54.78	257	P	P	07 58 45.0	-3.0
	1.1nm,0.3s,baz=28,slow=6.9,SNR=4.6						
FINES	FINESS Array B	62.94	336	P	P	07 59 35.3	-8.7
	0.3nm,0.3s,baz=46,slow=11,SNR=3.4						
SCHQ	Schefferville	70.56	25	P	P	08 00 29.9	-2.8
	2.8nm,1.0s,baz=330,slow=8.1,SNR=3.1						
TXAR	Lajitas Array	74.74	63	P	P	08 00 59.4	+1.3
	0.4nm,0.5s,baz=299,slow=5.1,SNR=13						
GERES	GERESS Array B	77.37	336	P	P	08 01 06.7	-6.0
	0.2nm,0.3s,baz=48,slow=5.8,SNR=2.2						

TAP 07 07:50:06.4, 24°.08N×121°.62E, h10km, ML1.9, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.03	281	⇓*i*P	Pg	07 50 08.9	+0.7
	baz=290						
TWD				*i* S	Sg	07 50 10.2	+0.6
	baz=290						
HWA	Hwalien	0.10	190	P	Pg	07 50 09.6	+0.6
	baz=185						
HWA				S	Sg	07 50 11.7	+0.9
	baz=185						
NACB	Ninganchiao	0.10	345	P	Pb	07 50 09.8	-0.6
	baz=344						
NACB				S	Sg	07 50 12.0	+1.0
	baz=344						
ENLB	Shoufeng	0.17	187	*e*P	Pg	07 50 10.8	+0.7
	baz=186						
ENLB				*e*S	Sg	07 50 14.2	+1.5
	baz=186						
WHF	Hehuan Shan	0.34	282	*i* P	Pb	07 50 14.2	-0.5
	baz=282						
WHF				S	Sg	07 50 19.0	+1.2
	baz=282						
NANB	Nanao	0.37	18	*e*P	Pb	07 50 14.7	-0.3
	baz=18						
NANB				*e*S	Sb	07 50 20.1	-0.7
	baz=18						
CHGB	Renai	0.41	268	P	Pb	07 50 15.6	-0.3
	baz=267						
CHGB				*e*S	Sb	07 50 22.1	-0.2
	baz=267						
NNSB	Datong	0.41	328	*e*P	Pb	07 50 15.8	-0.1
	baz=328						
NNSB				*e*S	Sb	07 50 21.9	-0.4
	baz=328						
NNSH	Datong	0.41	328	*e*S	Sb	07 50 21.8	-0.4
	baz=328						
ENTT	Nioudou	0.56	355	*e*P	Pb	07 50 19.0	+0.6
	baz=355						
ENTT				S	Sb	07 50 26.7	+0.2
	baz=355						
TWC	Suao	0.57	21	*e*P	Pb	07 50 18.4	0.0
	baz=22						
TWC				*e*S	Sb	07 50 26.9	+0.3
	baz=22						
YHNB	Yeheng	0.63	339	*e*P	Pb	07 50 20.0	+0.4
	baz=339						
YHNB				*e*S	Sb	07 50 29.1	+0.6
	baz=339						
YHNB	Yeheng	0.63	339	*e*Pn	Pb	07 50 20.2	+0.6
YULB	Yu-li	0.74	204	*e*Pn	Pn	07 50 23.9	+1.0

CSEM 07 07:58:33.2, 38°.27N×21°.64E, h29km, ML1.7/14, After ATH

ATH 07 07:58:33.2, 38°.27N×21°.64E, h29km±2km, ML1.7/14, Error ellipse: s-maj=2.5km s-min=0.8km az=105.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.25	213	P	Pb	07 58 39.6	-0.2
RLS				S	Sb	07 58 44.0	-0.3
RLS				AML	AML	07 58 44.7	
	comp=E,508μm,0.3s						
RLS				AML	AML	07 58 45.0	
	comp=N,376μm,0.2s						
RLS	Riolos of Patr	0.25	213	P	Pb	07 58 39.8	0.0
RLS				S	Sb	07 58 44.4	+0.1
EFP	Efpalio	0.27	52	P	Pb	07 58 39.9	-0.2
EFP				S	Sb	07 58 44.8	+0.1
EFP				AML	AML	07 58 45.5	
	comp=E,418μm,0.2s						
EFP				AML	AML	07 58 47.1	
	comp=N,190μm,0.3s						
EFP	Efpalio	0.27	52	P	Pb	07 58 40.0	0.0
EFP				S	Sb	07 58 45.0	+0.3
LAKA	Lakka	0.27	95	P	Pb	07 58 40.5	+0.4
LAKA				S	Sb	07 58 44.7	-0.2
LAKA				AML	AML	07 58 45.2	
	comp=N,435μm,0.4s						
LAKA				AML	AML	07 58 47.0	
	comp=E,210μm,0.2s						
LAKA	Lakka	0.27	95	P	Pb	07 58 40.3	+0.2
LAKA				S	Sb	07 58 45.0	+0.1
DRO	Drossia	0.32	170	P	Pb	07 58 40.6	-0.1
DRO				S	Sn	07 58 46.9	-0.7
DRO				AML	AML	07 58 47.0	
	comp=E,588μm,0.3s						
DRO				AML	AML	07 58 48.2	
	comp=N,595μm,0.2s						
DRO	Drossia	0.32	170	P	Pb	07 58 40.8	0.0
DRO				S	Sb	07 58 46.7	+0.8
TRIZ	Trizonia	0.36	74	P	Pb	07 58 41.5	+0.3
TRIZ				S	Sb	07 58 47.2	+0.4
TRIZ	Trizonia	0.36	74	P	Pb	07 58 41.5	+0.2
TRIZ				S	Sb	07 58 47.4	+0.6
SERG	Sergoula	0.36	66	P	Pb	07 58 41.6	+0.2
SERG				S	Sb	07 58 47.6	+0.6
SERG				AML	AML	07 58 48.0	
	comp=N,423μm,0.2s						
SERG				AML	AML	07 58 48.1	
	comp=E,229μm,0.1s						
SERG	Sergoula	0.36	66	P	Pb	07 58 41.5	+0.1
SERG				S	Sb	07 58 47.6	+0.6
PVO	Paravola	0.36	346	P	Pb	07 58 41.6	+0.2
PVO				S	Sb	07 58 47.2	+0.2
PVO				AML	AML	07 58 49.1	
	comp=N,330μm,0.2s						
PVO				AML	AML	07 58 49.3	
	comp=E,284μm,0.2s						
PVO	Paravola	0.36	346	P	Pb	07 58 41.6	+0.2
PVO				S	Sb	07 58 47.4	+0.4
KALE	Kalithea	0.41	72	P	Pb	07 58 42.2	0.0
KALE				S	Sn	07 58 49.9	-0.2
KALE				AML	AML	07 58 51.5	
	comp=E,164μm,0.3s						
KALE				AML	AML	07 58 51.6	
	comp=N,155μm,0.2s						
KALE	Kalithea	0.41	72	P	Pb	07 58 42.3	+0.1
KALE				S	Sn	07 58 49.5	-0.5
KLV	Kalavryta, Ach	0.46	119	P	Pb	07 58 43.1	+0.2
KLV				S	Sn	07 58 50.8	-0.3
KLV				AML	AML	07 58 52.6	
	comp=N,54μm,0.3s						
KLV				AML	AML	07 58 53.2	
	comp=E,57μm,0.3s						
KLV	Kalavryta, Ach	0.46	119	P	Pb	07 58 43.1	+0.2
KLV				S	Sn	07 58 50.6	-0.6
GUR	Goura	0.65	120	P	Pb	07 58 46.2	+0.2
GUR				AML	AML	07 58 57.4	
	comp=E,160μm,0.4s						
GUR				S	Sn	07 58 57.4	+1.6
GUR				AML	AML	07 58 58.9	
	comp=N,213μm,0.3s						
GUR	Goura	0.65	120	P	Pb	07 58 46.2	+0.2
GUR				S	Sn	07 58 56.6	+0.8
KFL	Anninata	0.69	257	P	Pn	07 58 47.1	+0.1
KFL	Anninata	0.69	257	P	Pn	07 58 47.0	0.0
DSF	Desfina	0.71	78	P	Pn	07 58 47.6	+0.2
DSF				S	Sn	07 58 58.5	+1.0
DSF				AML	AML	07 58 60.0	
	comp=E,53μm,0.2s						
DSF				AML	AML	07 59 01.6	
	comp=N,84μm,0.3s						
DSF	Desfina	0.71	78	P	Pn	07 58 47.5	+0.1
DSF				S	Sn	07 58 58.1	+0.7
AMT	Artemida-Makis	0.73	176	P	Pb	07 58 45.8	-1.7
AMT				AML	AML	07 59 01.6	
	comp=E,138μm,0.4s						
AMT				AML	AML	07 59 02.5	
	comp=N,124μm,0.4s						
AMT	Artemida-Makis	0.73	176	P	Pb	07 58 46.8	-0.6
VLS	Valsamata	0.83	264	P	Pn	07 58 48.1	-0.8
VLS				AML	AML	07 59 02.8	
	comp=N,534μm,0.2s						
VLS				AML	AML	07 59 03.3	
	comp=E,314μm,0.2s						
VLS				S	Sn	07 59 03.3	+3.1
VLS	Valsamata	0.83	264	P	Pn	07 58 48.8	-0.1
VLS				S	Sn	07 59 02.4	+2.2
TRIP	Tripoli	0.89	146	P	Pb	07 58 50.8	+0.7
TRIP	Tripoli	0.89	146	P	Pb	07 58 50.7	+0.6
AGG	Agios Georgios	0.93	35	P	Pb	07 58 51.0	+0.3
AGG				AML	AML	07 59 09.3	
	comp=E,52μm,0.4s						
AGG				AML	AML	07 59 10.5	
	comp=N,60μm,0.6s						
AGG	Agios Georgios	0.93	35	P	Pb	07 58 51.2	+0.5
LKD2	Lefkada island	0.93	305	P	Pn	07 58 49.6	-0.7
LKD2				S	Sb	07 59 05.8	+3.1
LKD2	Lefkada island	0.93	305	P	Pn	07 58 50.4	+0.1
LKD2				S	Sb	07 59 05.2	+2.5
DSL	Palaion Diasel	0.97	334	P	Pb	07 58 51.5	+0.1
DSL				AML	AML	07 59 10.2	
	comp=N,40μm,0.4s						
DSL				AML	AML	07 59 14.4	
	comp=E,53μm,0.9s						
DSL	Palaion Diasel	0.97	334	P	Pb	07 58 51.7	+0.4

IDC 07 08:09:14.5±2.2, 6°.54S×135°.52E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.5/44, mbtmp3.6/4, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=88.0km s-min=31.1km az=81.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.37	185	Pn	Pn	08 12 25.4	-0.3
	0.3nm,0.3s,baz=6.4,slow=13,SNR=18						
WRA				Sn	Sn	08 14 42.1	-13
	0.6nm,0.3s,baz=3.8,slow=23,SNR=11						
ASAR	Alice Springs	17.10	185	Pn	Pn	08 13 15.4	+0.3
	0.2nm,0.3s,baz=11,slow=10,SNR=20						
ASAR				Sn	Sn	08 16 11.8	-14
	0.1nm,0.3s,baz=358,slow=27,SNR=8.3						
SONM	Songino Array	59.92	338	LR	LR	08 44 52.1	
	comp=Z,27nm,19.6s,baz=355,slow=36						
MKAR	Makanchi Array	70.95	324	P	P	08 20 33.7	-0.2
	0.5nm,0.6s,baz=115,slow=7.4,SNR=7.7						
KURBB	Kurchatov Arra	75.08	326	P	P	08 20 58.4	+0.2
	0.2nm,0.6s,baz=125,slow=4.7,SNR=3.8						

NIED 07 08:27:00, 42°.00N×144°.20E, h35km, Mw3.9 Best double couple: M₀8.88000×10¹⁴ NP1:φs277.00000°, δ51.00000°, λ-135.00000°. NP2:φs155.00000°, δ57.00000°, λ-49.00000°.

ISCJB 07 08:27:16.4±0.6, 41°.97N±0°.04×144°.31E±0°.05, h43km±6km, mb3.6/18, MS2.6/1, Error ellipse: s-maj=8.1km s-min=4.1km az=42.0

MOS 07 08:27:16.9±1.3, 41°.97N×144°.26E, h49km, mb4.0/6, Error ellipse: s-maj=14.8km s-min=7.4km az=72.8

JMA 07 08:27:17.3±0.2, 42°.04N×144°.25E, h60km±3km, M4.0

IDC 07 08:27:19.4±0.6, 41°.90N×144°.18E, h51km±4km, mb3.3/15, mb1 3.5/18, mb1mx3.4/64, mbtmp3.6/18, MS2.6/6, Ms1 2.6/6, ms1mx2.5/33, Error ellipse: s-maj=13.3km s-min=10.8km az=60.0

ISC 07 08:27:18.6±0.5, 41°.94N±0°.05×144°.35E±0°.05, h50km±5km, h50km:pP-P, n48, σ2ˢ16/64, mb3.8/19, 2C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	Churui	0.99	313	P	Pn	08 27 34.0	-2.2
JCH				*e*S	Sn	08 27 45.2	-4.0
JOB	Onbets	1.03	339	P	Pn	08 27 35.0	-1.7
JOB				*e*S	Sn	08 27 47.6	-2.5
JAK	Akkeshi	1.08	14	⇑P	Pn	08 27 35.8	-1.6
JAK				*e*S	Sn	08 27 49.7	-1.7
JNBK	Urakawa-nobuka	1.23	286	P	Pn	08 27 37.4	-2.1
JAR	Ashorobuto	1.42	343	⇑P	Pn	08 27 39.6	-2.4
JAR				*e*S	Sn	08 27 55.4	-4.1
JNK	Nakash	1.66	9	P	Pn	08 27 42.9	-2.4
JBT2	Biratori 2	1.69	300	P	Pn	08 27 42.6	-3.1
NEM2	Nemuro 2	1.75	35	P	Pn	08 27 45.2	-1.3
NEM2				*e*S	Sn	08 28 04.5	-3.2
GRPR	Tuman	2.30	27	*e*P	Pn	08 27 53.6	-0.4
GRPR				*e*S	Sn	08 28 17.9	-3.2
LAGR	Lagunnoye	2.36	26	*e*P	Pn	08 27 55.7	+0.9
LAGR				*e*S	Sn	08 28 21.5	-1.1
YUK	Yuzh-Kuril'sk	2.37	27	*e*P	Pn	08 27 55.2	+0.3
YUK				*e*S	Sn	08 28 20.7	-2.0
YUK				pmax	pmax		
	comp=Z,307nm,0.3s						
YUK				pmax	pmax		
	comp=N,33nm,0.2s						
YUK				pmax	pmax		
	comp=E,124nm,0.2s						
YUK				smax	smax		
	comp=N,725nm,0.4s						
YUK				smax	smax		
	comp=E,395nm,0.4s						
ASAJ	Asahikawa	2.52	330	P	Pn	08 27 56.7	-0.4
	comp=E,5.7nm,0.3s,baz=183,slow=7.7,SNR=15						
ASAJ				S	Sn	08 28 28.2	+1.6
	comp=E,17nm,0.3s,baz=155,slow=30,SNR=5.7						
SHO	Shikotan	2.65	43	*d i*P	Pn	08 27 57.6	-1.2
SHO				*e*S	Sn	08 28 24.8	-4.9
SHO				pmax	pmax		
	comp=Z,109nm,0.3s						
SHO				smax	smax		
	comp=N,382nm,0.4s						
SHO				smax	smax		
	comp=E,507nm,0.4s						
KUR	Kuril'sk	4.17	37	*e*P	Pn	08 28 20.5	+0.9
KUR				*e*S	Sn	08 29 05.4	-1.5
KUR				pmax	pmax		
	comp=E,41nm,0.4s						
KUR				pmax	pmax		
	comp=Z,59nm,0.4s						
KUR				pmax	pmax		
	comp=N,16nm,0.1s						
KUR				smax	smax		
	comp=E,62nm,0.2s						
KUR				smax	smax		
	comp=N,106nm,0.3s						
MAT	Matsushiro	7.20	223	P	Pn	08 29 00.9	-0.3
MAT				*e*S	Sn	08 30 22.6	+1.1
MJAR	Matsushiro Arr	7.20	223	P	Pn	08 29 01.3	+0.1
	comp=N,1.7nm,0.3s,baz=26,slow=13,SNR=24						
MJAR				S	Sn	08 30 24.0	+2.5
	comp=N,0.2nm,0.3s,baz=41,slow=22,SNR=2.8						
MJAR				LR	LR	08 32 24.8	
	comp=N,76nm,19.9s,baz=55,slow=43						
JHJ	Hachijo jima 2	9.52	204	P	Pn	08 29 32.1	-0.9
	comp=N,9.6nm,0.3s,baz=20,slow=16,SNR=3.8						
JHJ				S	Sn	08 31 10.6	-8.0
	comp=N,13nm,0.3s,baz=80,slow=23,SNR=5.1						
JHJ				LR	LR	08 33 06.4	
	comp=N,44nm,19.1s,baz=234,slow=37						
KLR	Kul'dur	11.44	314	LR	LR	08 34 47.9	
	comp=N,5.6nm,18.8s,baz=104,slow=39						
KSRS	Korea Array	13.42	256	P	Pn	08 30 26.8	+0.6
	comp=N,0.1nm,0.3s,baz=76,slow=14,SNR=3.1						
KSRS				LR	LR	08 35 39.0	
	comp=N,46nm,18.4s,baz=28,slow=38						
PETK	Petropavlovsk-	14.33	34	P	Pn	08 30 36.0	-2.4
	comp=N,0.2nm,0.3s,baz=178,slow=8.1,SNR=4.6						
MA2	Magadan	18.10	11	P	P	08 31 24.0	-2.0
	comp=N,0.3nm,0.3s,baz=170,slow=12,SNR=2.9						
MA2				LR	LR	08 37 24.1	
	comp=N,28nm,21.9s,baz=207,slow=33						
MA2	Magadan	18.10	11	P	P	08 31 24.0	-2.0
MA2				MLR	MLR		
	comp=Z,28nm,21.9s						
SEY	Seymchan	21.55	10	P	P	08 32 00.1	-3.2
	comp=Z,1.4nm,0.7s,baz=171,slow=6.3,SNR=10.0						
SONM	Songino Array	27.32	295	P	P	08 32 59.3	+0.6
	comp=Z,0.2nm,0.3s,baz=101,slow=6.0,SNR=2.4						
SONM				pP	pP	08 33 12.3	+0.8
	comp=Z,1.1nm,0.8s,baz=79,slow=7.4,SNR=4.0						
GUMO	Guam	28.25	179	LR	LR	08 43 54.8	
	comp=Z,16nm,19.2s,baz=88,slow=35						
H11N2	WAKE ISLAND Hy	29.25	132	T	T	09 04 46.8	
	baz=325,slow=75,SNR=321						
H11N1	WAKE ISLAND Hy	29.26	132	T	T	09 04 47.7	
	baz=325,slow=75,SNR=182						
H11N3	WAKE ISLAND Hy	29.26	132	T	T	09 04 48.2	
	baz=325,slow=75,SNR=171						
H11S1	WAKE ISLAND Hy	30.13	134	T	T	09 05 50.4	
	baz=326,slow=76,SNR=169						
H11S3	WAKE ISLAND Hy	30.14	134	T	T	09 05 52.4	
	baz=326,slow=76,SNR=129						
H11S2	WAKE ISLAND Hy	30.15	134	T	T	09 05 55.7	
	baz=326,slow=76,SNR=152						
ZALV	Zalesovo Beam	40.47	308	P	P	08 34 49.5	-2.6
	comp=Z,0.5nm,0.4s,baz=75,slow=17,SNR=3.6						
MKAR	Makanchi Array	43.61	298	P	P	08 35 17.2	-0.6
	comp=Z,0.2nm,0.7s,baz=72,slow=9.3,SNR=2.1						
MKAR				pP	pP	08 35 31.7	+0.5
	comp=Z,0.5nm,0.5s,baz=80,slow=9.6,SNR=5.9						
ILAR	Eielson Array	44.16	35	P	P	08 35 23.4	+1.5
	comp=Z,0.5nm,0.6s,baz=259,slow=6.1,SNR=6.9						
ILAR				pP	pP	08 35 38.3	+3.0
	comp=Z,2.8nm,1.0s,baz=279,slow=8.5,SNR=8.2						
KURK	Kurchatov	44.85	305	P	P	08 35 28.3	+0.7
KURK				*PP	pP	08 35 41.8	+0.8
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURBB	Kurchatov Arra	44.93	305	P	P	08 35 28.3	+0.1
	comp=Z,0.3nm,0.4s,baz=77,slow=8.9,SNR=3.3						
KURBB				pP	pP	08 35 41.8	+0.2
	comp=Z,1.7nm,0.4s,baz=75,slow=8.8,SNR=13						
INK	Inuvik	48.99	29	P	P	08 36 00.9	+1.2
	comp=Z,0.4nm,0.4s,baz=280,slow=7.6,SNR=7.9						
INK				pP	pP	08 36 14.7	+1.5
	comp=Z,0.6nm,0.4s,baz=293,slow=4.8,SNR=2.7						
BVAR	Borovoye Array	49.06	310	P	P	08 36 00.4	0.0
	comp=Z,0.4nm,0.3s,baz=74,slow=11,SNR=2.5						
BVAR				pP	pP	08 36 14.8	+0.8
	comp=Z,1.2nm,0.4s,baz=72,slow=7.6,SNR=4.0						
HNR	Honiara	53.09	161	pP	pP	08 36 45.0	+0.4
	comp=Z,517nm,1.0s,baz=349,slow=7.9,SNR=2.6						
YKA	Yellowknife Ar	58.44	32	P	P	08 37 10.1	+1.3
	comp=Z,0.1nm,0.4s,baz=300,slow=6.8,SNR=3.8						
YKA				pP	pP	08 37 24.2	+1.6
	comp=Z,0.4nm,0.8s,baz=302,slow=6.7,SNR=5.0						
WRA	Warramunga Arr	62.27	191	P	P	08 37 36.1	+0.8
	comp=Z,0.4nm,0.6s,baz=7.6,slow=6.8,SNR=6.3						
FINES	FINESS Array B	65.53	332	P	P	08 37 55.9	-0.4
	comp=Z,0.8nm,0.6s,baz=51,slow=7.6,SNR=5.6						
FINES				pP	pP	08 38 09.3	-1.0
	comp=Z,1.4nm,0.5s,baz=50,slow=7.5,SNR=3.4						
ASAR	Alice Springs	65.99	190	P	P	08 37 59.6	-0.1
	comp=Z,0.2nm,0.5s,baz=10,slow=6.6,SNR=2.9						
NOA	NORSAR Array B	70.52	338	P	P	08 38 28.9	+1.1
	comp=Z,1.0nm,0.8s,baz=41,slow=6.0,SNR=2.9						
HFS	Hagfors	70.53	336	P	P	08 38 28.7	+1.0
	comp=Z,0.9nm,0.6s,baz=67,slow=11,SNR=4.2						
PDAR	Pinedale Array	72.65	48	P	P	08 38 42.8	+1.7
	comp=Z,0.3nm,0.4s,baz=346,slow=1.9,SNR=5.6						
PDAR				pP	pP	08 38 56.6	+1.3
	comp=Z,0.3nm,0.4s,baz=212,slow=0.2,SNR=3.5						
BRTR	Keskin Array B	77.27	312	P	P	08 39 06.5	-1.1
	comp=Z,0.4nm,0.6s,baz=13,slow=8.9,SNR=2.6						
TXAR	Lajitas Array	85.37	54	P	P	08 39 53.0	+2.3
	comp=Z,0.3nm,0.7s,baz=337,slow=1.6,SNR=4.4						
TXAR				pP	pP	08 40 06.3	+1.0
	comp=Z,0.6nm,0.9s,baz=293,slow=2.8,SNR=4.0						

MAN 07 08:34:54, 12°.44N×123°.64E, h22km, mb4.6, ML3.5, MS3.4, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.09	193	⇓*i*P	Pb	08 34 59.8	+1.7
MMPH				*i* S	Sb	08 35 01.4	+0.5
CNP	Catarman	1.00	86	*e*P	Pn	08 35 12.7	+0.1
CNP				*e*S	Sn	08 35 27.5	+1.5
RCP	Roxas	1.24	225	⇑*e*P	Pn	08 35 16.3	+0.2
RCP				*e*S	Sb	08 35 33.5	+1.1
PVCP	Virac	1.25	23	*e*P	Pb	08 35 17.4	+0.5
PVCP				*e*S	Sb	08 35 33.1	+0.5
AUQP	San Andres	1.29	313	*e*P	Pb	08 35 19.0	+1.5
AUQP				*e*S	Sb	08 35 39.6	+6.0
OTRP	Odiongan	1.59	267	*e*P	Pn	08 35 21.4	+0.5
OTRP				*e*S	Sb	08 35 42.4	+0.1
OCLP	Ormoc	1.68	146	*e*P	Pn	08 35 23.0	+1.0
OCLP				*e*S	Sb	08 35 48.6	+3.8
PLP	Palo	1.82	134	⇓*e*P	Pn	08 35 24.6	+0.5
PLP				*i* S	Sb	08 35 48.6	-0.4
GQP	Guinayangan	1.86	321	⇓*e*P	Pb	08 35 26.2	-1.2

GQP				*i* S	Sb	08 35 53.1	+2.8
BOAC	Boac	2.02	300	*e*P	Pn	08 35 27.7	+0.8
BOAC				*e*S	Sb	08 35 56.3	+1.4
LLP	Lapu-Lapu	2.13	171	*e*P	Pn	08 35 28.7	+0.4
LLP				*e*S	Sb	08 35 56.7	-1.4
SJMP	San Jose	2.47	271	*e*P	Pb	08 35 35.7	-2.0
SJMP				*e*S	Sn	08 36 05.0	+2.6
MSLP	Maasin	2.58	152	*e*P	Pb	08 35 39.4	-0.2
MSLP				*e*S	Sb	08 36 16.2	+5.1
BUSP	Coron	3.40	263	*e*P	Pn	08 35 46.8	+1.1

*NEIC **07** 08:36:16.0±0.0, 16.°08N×98.°31W, h4^{km}, MD4.2(MEX), After MEX.*

MEX 07 08:36:16.0±0.4**, 16.°08N×98.°31W, h4^{km}±3^{km}, MD4.2, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.35	30	*i* P	Pg	08 36 22.4	-0.5
PNIG				*i* S	Sg	08 36 27.9	+0.4
PNIG	Pinotepa	0.35	30	*i* P	Pg	08 36 22.4	-0.5
PNIG				*i* S	Sg	08 36 27.9	+0.4
TLIG	Tlapa	1.49	351	*e*P	Pn	08 36 39.4	-4.4
TLIG				*e*S	Sb	08 36 59.1	-4.7
TLIG	Tlapa	1.49	351	*e*P	Pn	08 36 39.4	-4.4
TLIG				*e*S	Sb	08 36 59.1	-4.7
ACX	Acapulco	1.68	298	*e*P	Pn	08 36 45.5	-0.8
ACX				*e*S	Sn	08 37 06.9	-1.4
ACX	Acapulco	1.68	298	*e*P	Pn	08 36 45.5	-0.8
ACX				*e*S	Sn	08 37 06.9	-1.4
ACP2	Acapulco	1.71	298	*e*P	Pn	08 36 43.1	-3.5
ACP2				*e*S	Sn	08 37 04.7	-4.2
VHO	Vista Hermosa	1.80	57	*e*P	Pn	08 36 44.9	-3.2
VHO				*e*S	Sn	08 37 06.9	-4.7
VHO	Vista Hermosa	1.80	57	*e*P	Pn	08 36 44.9	-3.2
VHO				*e*S	Sn	08 37 06.9	-4.7
HUIG	Huatulco	2.14	98	*i* P	Pn	08 36 49.5	-3.1
HUIG				*e*S	Sn	08 37 14.7	-5.0
HUIG	Huatulco	2.14	98	*i* P	Pn	08 36 49.5	-3.1
HUIG				*e*S	Sn	08 37 14.7	-5.0
MEIG	Mezcala	2.22	326	*i* P	Pn	08 36 50.7	-3.0
MEIG				*i* S	Sn	08 37 16.8	-4.9
MEIG	Mezcala	2.22	326	*i* P	Pn	08 36 50.7	-3.0
MEIG				*i* S	Sn	08 37 16.8	-4.9
TPIG	Tehuac#an	2.49	21	*i* P	Pn	08 36 55.2	-2.4
TPIG				*i* S	Sn	08 37 25.0	-3.6
TPIG	Tehuac#an	2.49	21	*i* P	Pn	08 36 55.2	-2.4
TPIG				*i* S	Sn	08 37 25.0	-3.6
YAIG	Yautepec	2.86	345	*i* P	Pn	08 36 59.1	-3.4
YAIG				*i* S	Sn	08 37 33.2	-4.4
YAIG	Yautepec	2.86	345	*i* P	Pn	08 36 59.1	-3.4
YAIG				*i* S	Sn	08 37 33.2	-4.4
ARIG	Puente Sto Nin	2.93	319	*e*P	Pn	08 37 01.1	-2.4
ARIG				*i* S	Sn	08 37 34.9	-4.2

*ISCJB **07** 08:47:52.3±0.3, 33.°35N±0.°01×35.°38E±0.°03, h9^{km}±3^{km}, Error ellipse: s-maj=3.6km s-min=2.2km az=12.7*
*GII **07** 08:47:52.9±0.4, 33.°29N×35.°40E, h3^{km}, MD3.7/5*
*CSEM **07** 08:47:52.7±0.1, 33.°33N×35.°36E, h2^{km}, ML3.6, Error ellipse: s-maj=3.7km s-min=2.3km az=90.0*
*NSSC **07** 08:47:52.0±1.4, 33.°04N×35.°53E, h4^{km}±22^{km}, ML3.5*
*NIC **07** 08:47:53.8±0.2, 33.°17N×35.°52E, h25^{km}, mb4.1, ML3.4*
*GRAL **07** 08:47:53.8±0.2, 33.°31N×35.°42E, h0^{km}±1^{km}, MD3.6*
*JSO **07** 08:48:05.3±0.3, 32.°59N×35.°80E, h3^{km}±9^{km}, MD3.8*
*DDA **07** 08:48:31.8, 33.°75N×35.°15E, h8^{km}, Ml3.7*

ISC 07 08:47:52.8±1.0**, 33.°31N**±0.°02×**35.°42E**±0.°03**, h13^{km}**±7^{km}**, n94,** σ1^{s}52/131**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDI	Kefar Szold	0.23	119	Pg	Pg	08 47 58.1	+0.3
KSDI				Sg	Sg	08 48 02.0	+0.8
SHBL	Chebaa	0.28	81	*e*P	Pb	08 47 58.7	-1.0
SHBL				*e*S	Sg	08 48 02.3	-0.4
SHBL	Chebaa	0.28	81	*e*P	Pb	08 47 58.7	-1.0
SHBL				*e*S	Sg	08 48 02.3	-0.4
MMA0B	Mount Meron ar	0.29	182	Pg	Pb	08 47 59.1	-0.8
MMA0B				Sg	Sb	08 48 03.8	-0.9
QRWL	Qaraoun	0.33	43	*e*P	Pb	08 47 59.5	-1.0
QRWL	Qaraoun	0.33	43	*e*P	Pb	08 47 59.5	-1.0
RCY	Rachaya	0.40	62	*e*P	Pb	08 48 00.8	-1.0
RCY				*e*S	Sg	08 48 06.1	-0.2
DQRL	Deir Qamar	0.42	18	*e*P	Pb	08 48 01.2	-0.9
DQRL				*e*S	Sg	08 48 06.7	-0.1
DQRL	Deir Qamar	0.42	18	*e*P	Pb	08 48 01.2	-0.9
DQRL				*e*S	Sg	08 48 06.7	-0.1
BRBR	Barbar	0.46	77	*e*P	Pb	08 48 02.1	-0.7
BRBR				*e*S	Sb	08 48 09.0	-0.6
BRBR				AML	AML	08 48 11.1	
	comp=E,5μm,0.7s						
BRBR				AML	AML	08 48 13.7	
	comp=N,4μm,0.4s						
BEYL	Beirut	0.57	7	*e*P	Pb	08 48 03.8	-0.7
BEYL	Beirut	0.57	7	*e*P	Pb	08 48 03.8	-0.7
BLGI	Bet Lehem HaGe	0.60	198	Pg	Pb	08 48 04.8	-0.4
BLGI				Sg	Sb	08 48 13.8	+0.3
BLGI	Bet Lehem HaGe	0.60	198	Pg	Pb	08 48 04.8	-0.4
BLGI				Sg	Sb	08 48 13.8	+0.3
BHL	Bhannes	0.63	18	*e*P	Pb	08 48 04.9	-0.8
BHL				*e*S	Sg	08 48 13.2	-0.2
BHL	Bhannes	0.63	18	*e*P	Pb	08 48 04.9	-0.8
BHL				*e*S	Sg	08 48 13.2	-0.2
SHMJ	Saham	0.65	153	*e*P	Pb	08 48 06.2	+0.2
QASN	Qassioun	0.75	72	*e*P	Pb	08 48 08.1	+0.3
QASN				*e*S	Sb	08 48 18.0	-0.1
QASN				AML	AML	08 48 21.1	
	comp=E,8μm,0.5s						
QASN				AML	AML	08 48 21.2	
	comp=N,5μm,0.7s						
OFRI	‘Ofer	0.77	208	Pg	Pb	08 48 08.0	-0.1
OFRI				Sg	Sb	08 48 19.4	+0.9
TCHB	Talchebab	0.79	144	*e*P	Pg	08 48 01.4	-6.7
TCHB				*e*S	Sg	08 48 09.9	-8.5
TCHB				AML	AML	08 48 19.7	
	comp=N,3μm,0.3s						
TCHB				AML	AML	08 48 24.6	
	comp=E,3μm,0.4s						
TOTH	TOTAH	0.85	86	*e*P	Pb	08 48 09.3	-0.1
TOTH				*e*S	Sg	08 48 19.2	-1.2
TOTH				AML	AML	08 48 30.6	
	comp=E,729nm,0.8s						
TOTH				AML	AML	08 48 33.9	
	comp=N,406nm,0.6s						
MMLI	Mount Malkishu	0.87	180	Pg	Pb	08 48 09.5	-0.2
MMLI				Sg	Sb	08 48 21.8	+0.6
QRNJ	Al-Qirein	0.98	172	*e*P	Pb	08 48 11.4	-0.1
HMDT	Nahal Hemdat	1.05	175	Pg	Pb	08 48 12.8	-0.1
HMDT				Sg	Sn	08 48 28.0	+0.2
HWQ	Hawqa	1.06	24	*e*P	Pb	08 48 12.8	-0.3
HWQ	Hawqa	1.06	24	*e*P	Pb	08 48 12.8	-0.3
SLTI	Sal’it	1.11	197	Pg	Pb	08 48 13.8	0.0
SLTI				Sg	Sn	08 48 29.7	+0.6
DSI	Dead Sea	1.73	181	Pn	Pn	08 48 23.6	+1.0
WALJ	Wala	1.77	169	*e*P	Pb	08 48 24.3	-0.8
AMAZ	Amatzia	1.82	194	Pn	Pb	08 48 25.7	-0.2
AMAZ				Sn	Sg	08 48 50.3	-1.0
YTIR	Yattir	1.96	188	Pn	Pb	08 48 28.0	-0.3
MZDA	Masada	1.99	181	Pn	Pb	08 48 27.9	-0.9
MZDA	Masada	1.99	181	Pn	Pb	08 48 27.9	-0.9
PHNC	Paralimni	2.04	326	P	Pn	08 48 27.3	+0.4
	baz=145						
PHNC	Paralimni	2.04	326	P	Pn	08 48 27.3	+0.4
LISJ	El Lisan	2.06	178	*e*P	Pb	08 48 30.1	+0.1
SWQJ	Swaqa	2.13	165	*e*P	Pn	08 48 27.8	-0.3
KARJ		2.19	175	*e*P	Pn	08 48 17.0	-12
CSS	Mathiatis	2.39	314	*e*P	Pn	08 48 30.9	-0.7
CSS	Mathiatis	2.39	314	Pn	Pn	08 48 31.6	0.0
CSS	Mathiatis	2.39	314	Pn	Pn	08 48 31.6	0.0
EREN	Erenkoy	2.44	335	*e*P	Pn	08 48 31.9	-0.4
LFK	Lefkose	2.51	322	*e*P	Pn	08 48 32.7	-0.6
SZAC	Souni	2.55	305	P	Pn	08 48 34.5	+0.6
	baz=125						
SZAC				S	Sn	08 49 05.8	+1.0
SZAC	Souni	2.55	305	P	Pn	08 48 34.5	+0.6
SZAC				S	Sn	08 49 05.8	+1.0
JDRJ	Daraweish	2.58	175	*e*P	Pb	08 48 36.9	-2.1
ZFRI	Zfri	2.75	184	Pn	Pn	08 48 38.0	+1.4
ZFRI	Zfri	2.75	184	Pn	Pn	08 48 38.0	+1.4
LEF	Lefka	2.77	312	*e*P	Pn	08 48 36.7	-0.1
LEF	Lefka	2.77	312	P	Pn	08 48 36.9	+0.1
LEF				S	Sn	08 49 10.3	+0.3
YAYL	Yayladag	2.78	12	*e*P	Pn	08 48 36.9	-0.2
YAYL	Yayladag	2.78	12	*i* P	Pn	08 48 37.7	+0.6
YAYL				*i* S	Sn	08 49 11.6	+1.0
YAYL	Yayladag	2.78	12	P	Pn	08 48 37.7	+0.6
YAYL				S	Sn	08 49 11.6	+1.0
BYRJ	Bayer	2.81	161	*e*P	Pn	08 48 39.5	+1.9
AKDN	Akdeniz- K˜–br	2.84	315	*e*P	Pn	08 48 37.3	-0.4
PRNI	Paran	2.97	187	Pn	Pn	08 48 41.2	+1.6
ALFC	Alefka	2.97	309	P	Pn	08 48 40.4	+0.7
	baz=128						
ALFC				S	Sn	08 49 16.9	+1.7
ALFC	Alefka	2.97	309	P	Pn	08 48 40.4	+0.7
ALFC				S	Sn	08 49 16.9	+1.7
PPCY	Paphos	3.00	303	P	Pn	08 48 40.2	+0.3
	baz=122						
PPCY	Paphos	3.00	303	P	Pn	08 48 40.2	+0.3
YESI	Yesilovacik-Me	3.23	334	*e*P	Pn	08 48 42.9	-0.2
AKKU	Akkuyu-Mersin	3.23	332	*e*P	Pn	08 48 42.9	-0.3
KRMI	Paran Flat	3.23	191	Pn	Pn	08 48 45.3	+2.0
KRMI	Paran Flat	3.23	191	Pn	Pn	08 48 45.3	+2.0
GULN	MERSIN_Gulnar	3.26	332	*i* P	Pn	08 48 43.0	-0.5
GULN				*i* S	Sn	08 49 19.4	-2.8
GULN	MERSIN_Gulnar	3.26	332	P	Pn	08 48 43.0	-0.5
GULN				S	Sn	08 49 19.4	-2.8
HRFI	Mount Harif	3.28	186	Pn	Pn	08 48 45.2	+1.4
HRFI	Mount Harif	3.28	186	Pn	Pn	08 48 45.2	+1.4
SILI	Silifke-Mersin	3.29	339	*e*P	Pn	08 48 43.9	-0.1
KIZK	Mersin	3.33	342	*e*P	Pn	08 48 44.4	-0.1
KIZK	Mersin	3.33	342	*i* P	Pn	08 48 44.5	-0.1
KIZK				*i* S	Sn	08 49 22.0	-2.0
KIZK	Mersin	3.33	342	P	Pn	08 48 44.5	-0.1
KIZK				S	Sn	08 49 22.0	-2.0
TEKE	Tekeli-Mersin	3.41	327	*e*P	Pn	08 48 45.5	-0.1
YURE	YUREGIR	3.52	3	*e*P	Pn	08 48 47.3	+0.2
YURE	YUREGIR	3.52	3	*i* P	Pn	08 48 48.8	+1.7
YURE				*i* S	Sn	08 49 30.9	+2.4
YURE	YUREGIR	3.52	3	P	Pn	08 48 48.8	+1.7
YURE				S	Sn	08 49 30.9	+2.4
TEVE	Tevekalti-Mers	3.52	333	*e*P	Pn	08 48 47.1	-0.1
SLMH	Al Salmeh	3.56	35	*e*P	Pn	08 48 47.1	-0.7
HITJ	Hittiya	3.57	174	*e*P	Pn	08 48 50.1	+2.1
DED	Mersin	3.68	352	*i* P	Pn	08 48 48.8	-0.6
DED				*i* S	Sn	08 49 29.7	-2.9
CEYT	Ceyhan	3.70	4	*e*P	Pn	08 48 50.1	+0.4
KUZU	Kuzuini	3.72	21	*i* P	Pn	08 48 51.2	+1.3
KUZU				*i* S	Sg	08 49 47.9	-4.2
KUZU	Kuzuini	3.72	21	P	Pn	08 48 51.2	+1.3
KARA	Karaisali	3.96	356	*e*P	Pn	08 48 53.4	+0.3
AKO	Adana	4.14	0	*i* P	Pn	08 48 55.9	+0.1
AKO				*i* S	Sn	08 49 43.5	-0.6
HCB	Kahramanmara¯	4.21	16	*i* P	Pn	08 48 57.5	+0.9
KERG	Konya-Eregli	4.23	346	*i* P	Pn	08 48 57.9	+0.8
KERG				*i* S	Sn	08 49 42.7	-3.7
KERG	Konya-Eregli	4.23	346	P	Pn	08 48 57.9	+0.8
KERG				S	Sn	08 49 42.7	-3.7
SURC	SANLIURFA_SURC	4.42	35	*i* P	Pb	08 49 05.4	-4.9
SURC				*i* S	Sb	08 50 08.6	+5.0
SURC	SANLIURFA_SURC	4.42	35	P	Pb	08 49 05.4	-4.9
KEPZ	Antalya-Kepez	4.76	320	*i* P	Pn	08 49 05.8	+1.6
KEPZ				*i* S	Sn	08 50 01.0	+1.8
KEPZ	Antalya-Kepez	4.76	320	P	Pn	08 49 05.8	+1.6
KEPZ				S	Sn	08 50 01.0	+1.8
AKCD	Akcadag	5.38	22	*i* P	Pn	08 49 15.7	+2.9
AKCD	Akcadag	5.38	22	P	Pn	08 49 15.7	+2.9

*DDA **07** 09:17:26.7, 38.°55N×44.°10E, h7^{km}, Ml2.8*
*ISK **07** 09:17:26.3, 38.°62N×43.°98E, h5^{km}, ML2.6/6*
*CSEM **07** 09:17:26.3±0.4, 38.°58N×44.°11E, h2^{km}, ML2.6, Error ellipse: s-maj=8.2km s-min=5.0km az=92.0*

ISC 07 09:17:26.5±1.3**, 38.°57N**±0.°02×**44.°07E**±0.°04**, h4^{km}**±11^{km}**, n24,** σ0^{s}62/38**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASK	Baskale_VAN	0.52	186	*i* P	Pg	09 17 35.7	-0.8
BASK				*i* S	Sb	09 17 45.4	-0.8
BASK	Baskale_VAN	0.52	186	P	Pg	09 17 35.7	-0.8
BASK				S	Sb	09 17 45.4	-0.8
TVAN	Van	0.52	266	*i* P	Pg	09 17 37.3	+0.7
TVAN				*i* S	Sn	09 17 50.5	+0.2
TVAN	Van	0.52	266	P	Pg	09 17 37.3	+0.7
VANB	Van	0.53	273	PG	Pg	09 17 36.6	-0.2
VANB				SG	Sg	09 17 43.9	+0.2
VANB	Van	0.53	273	*e*Pg	Pg	09 17 36.6	-0.2
VANB				*e*Sg	Sg	09 17 43.9	+0.2
CLDR	Caldiran	0.58	348	PG	Pg	09 17 37.1	-0.7
CLDR				SG	Sg	09 17 46.1	+0.7
CLDR	Caldiran	0.58	348	*i* P	Pg	09 17 37.9	+0.1
CLDR				*i* S	Sb	09 17 48.8	+0.6
CLDR	Caldiran	0.58	348	*e*Pg	Pg	09 17 37.1	-0.7
CLDR	Caldiran	0.58	348	P	Pg	09 17 37.9	+0.1
CLDR				*e*Sg	Sg	09 17 46.1	+0.7
CLDR				S	Sb	09 17 48.8	+0.6
GEVA	Gevas	0.83	252	*i* P	Pg	09 17 42.0	-0.5
GEVA				*i* S	Sb	09 17 55.6	+0.3
GEVA	Gevas	0.83	252	P	Pg	09 17 42.0	-0.5
GEVA				S	Sb	09 17 55.6	+0.3
HAKT	HAKKARI	1.05	196	*i* P	Pg	09 17 46.8	+0.1
HAKT				*i* S	Sn	09 18 04.3	+0.9
HAKT	HAKKARI	1.05	196	P	Pg	09 17 46.8	+0.1
ADCV	BITLIS_Adilcev	1.08	283	*i* P	Pn	09 17 48.3	-0.3
ADCV				*i* S	Sn	09 18 04.1	0.0
ADCV	BITLIS_Adilcev	1.08	283	P	Pn	09 17 48.3	-0.3
ADCV				S	Sn	09 18 04.1	0.0
AGRB	Hanur-Agry	1.31	320	PN	Pg	09 17 50.9	-0.7
AGRB	Hanur-Agry	1.31	320	*e*Pn	Pg	09 17 50.9	-0.7
CUKT	Cukurca	1.37	196	PN	Pg	09 17 54.1	+1.3
CUKT	Cukurca	1.37	196	*e*Pn	Pg	09 17 54.1	+1.3
TASB	TASBURUN-IGDIR	1.42	5	PN	Pg	09 17 53.8	+0.1
TASB	TASBURUN-IGDIR	1.42	5	*e*Pn	Pg	09 17 53.8	+0.1
SIRT	Sirnak	1.67	231	PN	Pb	09 17 57.6	-0.3
SIRT	Sirnak	1.67	231	*e*Pn	Pb	09 17 57.6	-0.3

*NIED **07** 09:24:00, 37.°90N×143.°20E, h5^{km}, Mw3.7 Best double couple: M$_0$3.69000×10^{14} NP1:ϕ$_s$146.00000°, δ43.00000°, λ-41.00000°. NP2:ϕ$_s$268.00000°, δ64.00000°, λ-125.00000°.*
*IDC **07** 09:24:54.2±1.1, 37.°75N×143.°48E, h0^{km}, mb3.5/6, mb1 3.6/10, mb1mx3.5/76, mbtmp3.6/10, ML3.4/3, MS2.9/5, Ms1 3.0/5, ms1mx2.6/54, Error ellipse: s-maj=30.1km s-min=18.6km az=96.0*
*ISCJB **07** 09:24:55.2±0.7, 37.°85N±0.°06×143.°23E±0.°06, h19^{km}, mb3.6/6, MS3.3/2, Error ellipse: s-maj=8.7km s-min=6.9km az=149.2*
*JMA **07** 09:24:56.6±0.2, 37.°94N×143.°23E, h43^{km}, M3.6*

ISC 07 09:24:56.5±1.0**, 37.°87N**±0.°06×**143.°28E**±0.°09**, h19^{km}, n31,** σ2^{s}40/26**, mb3.6**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.63	292	P	Pn	09 25 22.8	-1.4
JIO				*e*S	Sn	09 25 41.0	-3.6
OFUJ	Ofunato	1.75	314	P	Pn	09 25 24.3	-1.5
JMK	Ichinoseki	1.94	304	P	Pn	09 25 27.2	-1.3
JMM	Marumori	1.97	271	P	Pn	09 25 27.9	-0.9
JMM				*e*S	Sn	09 25 51.0	-2.0
JFK	Kawauchi	1.98	256	P	Pn	09 25 27.9	-1.1
JOM	Ohasama	2.23	316	P	Pn	09 25 31.3	-1.2
JFT	Otama	2.36	262	P	Pn	09 25 34.6	+0.3
JFT				*e*S	Sn	09 26 02.2	-0.5
JYK	Kaneyama	2.52	295	P	Pn	09 25 36.1	-0.4
JRY	Ryogami san	3.97	244	P	Pn	09 25 56.0	-0.4
MJAR	Matsushiro Arr	4.26	253	Pn	Pn	09 26 02.1	+1.7
	0.6nm,0.3s,baz=73,slow=14,SNR=7.8						
MJAR				Sn	Sn	09 26 36.4	-13
	1.2nm,0.3s,baz=101,slow=14,SNR=5.6						
MAT	Matsushiro	4.26	253	P	Pn	09 26 01.0	+0.6
MAT				*e*S	Sn	09 26 48.2	-1.4
JHJ	Hachijo jima 2	5.53	212	Pn	Pn	09 26 17.1	-0.8
	7.2nm,0.3s,baz=28,slow=19,SNR=6.4						
JHJ				Sn	Sn	09 27 14.5	-6.4
	24nm,0.3s,baz=76,slow=23,SNR=5.7						
ASAJ	Asahikawa	6.26	355	Pn	Pn	09 26 28.1	+0.2
	1.1nm,0.3s,baz=324,slow=19,SNR=4.2						
ASAJ				Sn	Sn	09 27 33.3	-5.5
	0.7nm,0.3s,baz=326,slow=16,SNR=2.1						
USRK	Ussuriysk Ar.	10.61	310	Pn	Pn	09 27 30.2	+2.7
	0.1nm,0.3s,baz=74,slow=16,SNR=2.4						
JNU	Nakatsue	11.16	249	LR	LR	09 31 57.5	
	comp=Z,36nm,20.9s,baz=262,slow=38						
KSRS	Korea Array	12.18	273	LR	LR	09 31 44.5	
	comp=Z,26nm,18.4s,baz=45,slow=33						
PETK	Petropavlovsk-	18.23	29	LR	LR	09 36 46.2	
	comp=Z,25nm,18.3s,baz=247,slow=39						
SEY	Seymchan	25.70	10	P	P	09 30 27.1	+1.9
	0.4nm,0.3s,baz=90,slow=20,SNR=4.6						
H11N2	WAKE ISLAND Hy	27.35	125	T	T	09 59 28.1	
	baz=317,slow=75,SNR=42						
H11N1	WAKE ISLAND Hy	27.36	125	T	T	09 59 24.6	
	baz=317,slow=75,SNR=26						
H11N3	WAKE ISLAND Hy	27.37	125	T	T	09 59 24.0	
	baz=317,slow=75,SNR=28						
H11S1	WAKE ISLAND Hy	28.12	127	T	T	10 00 25.7	
	baz=319,slow=76,SNR=9.2						
H11S3	WAKE ISLAND Hy	28.12	127	T	T	10 00 30.6	
	baz=319,slow=76,SNR=8.6						
H11S2	WAKE ISLAND Hy	28.13	127	T	T	10 00 23.8	
	baz=319,slow=76,SNR=7.9						
MKAR	Makanchi Array	44.94	302	P	P	09 33 13.9	+3.8
	0.6nm,0.8s,baz=84,slow=9.3,SNR=5.2						
KURBB	Kurchatov Arra	46.66	308	P	P	09 33 24.2	+0.5
	1.2nm,0.8s,baz=81,slow=8.1,SNR=6.7						
PMG	Port Moresby	47.17	175	LR	LR	09 50 34.9	
	comp=Z,19nm,21.4s,baz=234,slow=33						
WRA	Warramunga Arr	58.12	190	P	P	09 34 48.6	-0.3
	0.9nm,0.7s,baz=11,slow=7.3,SNR=9.0						
ASAR	Alice Springs	61.84	190	P	P	09 35 14.7	+0.3
	0.4nm,0.8s,baz=17,slow=6.8,SNR=4.5						
YKA	Yellowknife Ar	62.33	31	P	P	09 35 18.3	+1.1
	0.1nm,0.5s,baz=302,slow=7.0,SNR=2.0						
NVAR	Mina Array Bea	73.30	54	LR	LR	10 05 39.3	
	comp=Z,32nm,18.7s,baz=96,slow=33						

IDC 07 09:32:48.7±2.1**, 54.°24N×86.°12E, h0^{km}, mb1 3.3**/3**, mb1mx3.0**/74**, mbtmp3.3**/3**, ML3.2**/3**, Error ellipse: s-maj=17.3km s-min=11.2km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.82	250	*i*		09 37 35.0	
	baz=67,slow=332,SNR=3.4						
ZALV	Zalesovo Beam	0.82	250	Pg	Pg	09 33 02.7	-1.7
	2.6nm,0.3s,baz=62,slow=16,SNR=21						
ZALV				Lg	Lg	09 33 16.4	
	12nm,0.3s,baz=65,slow=25,SNR=29						
ZALV				Rg	Rg	09 33 18.2	
	29nm,0.5s,baz=63,slow=25,SNR=20						
KURBB	Kurchatov Arra	5.89	235	Pn	Pn	09 34 18.0	+0.9
	0.3nm,0.3s,baz=51,slow=13,SNR=19						
KURBB				Sn	Sn	09 35 26.1	+0.8
	0.0nm,0.3s,baz=0.6,slow=12,SNR=2.6						
KURBB				Lg	Lg	09 35 56.6	
	0.1nm,0.3s,baz=56,slow=30,SNR=4.3						
MKAR	Makanchi Array	7.85	200	Pn	Pn	09 34 44.5	+0.5
	0.7nm,0.3s,baz=26,slow=14,SNR=27						
MKAR				Sn	Sn	09 36 13.0	-0.4
	0.2nm,0.3s,baz=19,slow=24,SNR=3.9						
MKAR				Lg	Lg	09 36 56.8	
	0.1nm,0.3s,baz=30,slow=30,SNR=3.9						
BVAR	Borovoye Array	9.43	269	Pn	Pn	09 35 06.3	+0.7
	0.2nm,0.3s,baz=68,slow=14,SNR=3.2						

*ISCJB **07** 09:37:16.3±1.0, 67.°54N±0.°04×34.°2E±0.°1, h0^{km}, Error ellipse: s-maj=8.0km s-min=5.8km az=12.4*
*CSEM **07** 09:37:19.2±0.7, 67.°58N×33.°97E, h2^{km}, ML2.4, Error ellipse: s-maj=13.6km s-min=7.0km az=97.0, Mining explosion.*
*KOLA **07** 09:37:19.5, 67.°64N×34.°14E, h0^{km}*
*HEL **07** 09:37:21.9±0.3, 67.°71N×33.°73E, h0^{km}, ML2.4, Explosion*
*NAO **07** 09:37:23.1±1.7, 67.°60N×33.°25E, ML2.8*
*IDC **07** 09:37:24.9±1.8, 67.°75N×33.°34E, h0^{km}, mb1 3.6/5, mb1mx3.1/76, mbtmp3.6/5, ML3.1/5, Error ellipse: s-maj=20.8km s-min=9.7km az=79.0*

ISC 07 09:37:18.3±1.5**, 67.°57N**±0.°04×**34.°14E**±0.°08**, h0^{km}, n32,** σ1^{s}44/52**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.28	269	P	Pg	09 37 24.6	+0.9
APA				S	Sg	09 37 28.4	+1.1
APA0	Apatity Array	0.44	275	P	Pg	09 37 27.3	+0.6
APA0				S	Sg	09 37 33.0	+0.5
VRF	Varrio	1.74	278	Pg	Pn	09 37 50.1	+0.4
VRF				Sn	Sn	09 38 11.4	-1.2
VRF	Varrio	1.74	278	PG	Pn	09 37 50.2	+0.4
	baz=85						
VRF				MSG		09 38 09.1	
	comp=Z,50nm,0.2s						
VRF				SN	Sn	09 38 11.4	-1.2
KU6	Riekki	2.29	229	PN	Pb	09 37 60.0	-0.5
KU6				MSG		09 38 29.3	
	comp=Z,21nm,0.2s						
KU6				SG	Sg	09 38 32.0	+0.2
MSF	Maaselka	2.62	233	Pb	Pb	09 38 06.4	+0.3
MSF				Sg	Sg	09 38 41.2	-1.3
MSF	Maaselka	2.62	233	PB	Pb	09 38 06.4	+0.3
MSF				SG	Sg	09 38 41.2	-1.3
SGF	Sodankyl	2.93	271	Pn	Pn	09 38 07.6	+1.6
SGF	Sodankyl	2.93	271	PN	Pn	09 38 07.7	+1.6
SGF				SG	Sb	09 38 47.2	-0.5
ARA0	ARCESS Array S	3.73	306	Pn	Pn	09 38 18.0	+0.9
	baz=122,slow=16						
ARA0				Sn	Sn	09 38 58.8	-2.9
	baz=127,slow=22						
ARA0				Lg	Lg	09 39 10.9	
	baz=115,slow=37						
ARA0	ARCESS Array S	3.73	306	Pn	Pn	09 38 18.0	+0.9
	baz=122,slow=15,SNR=658						
ARA0				Sn	Sn	09 38 58.8	-2.9
	baz=127,slow=21,SNR=7.8						
ARA0				Lg	Lg	09 39 10.9	
	SNR=1.7						
ARA0	ARCESS Array S	3.73	306	Pn	Pn	09 38 18.0	+0.9
	baz=122,slow=16						
ARA0				Sn	Sn	09 38 58.8	-2.9
	baz=127,slow=22						
ARA0				Lg	Lg	09 39 10.9	
	baz=115,slow=37						
ARCES	ARCESS Array B	3.73	306	Pn	Pn	09 38 17.9	+0.8
	comp=Z,5.8nm,0.3s,baz=122,slow=14,SNR=173						
ARCES				Sn	Sn	09 38 59.1	-2.5
	comp=Z,2.9nm,0.3s,baz=132,slow=26,SNR=11						
ARCES				Lg	Lg	09 39 10.5	
	comp=Z,5.3nm,0.3s,baz=117,slow=28,SNR=9.3						
ARE0	ARCESS Array S	3.73	306	Pn	Pn	09 38 17.3	+0.2
ARE0				Sn	Sn	09 39 01.8	+0.1
ARE0	ARCESS Array S	3.73	306	PN	Pn	09 38 17.3	+0.2
ARE0				SN	Sn	09 39 01.8	+0.1
HEF	Hetta	4.03	287	Pn	Pn	09 38 20.7	-0.5
HEF				Sn	Sn	09 39 09.6	+0.5
HEF	Hetta	4.03	287	PN	Pn	09 38 20.7	-0.5
HEF				SN	Sn	09 39 09.6	+0.5
OUL	Oulu	4.16	237	PN	Pn	09 38 26.0	+3.1
OUL				SB	Sb	09 39 21.6	-1.3
TOF	Tornio	4.16	253	Pn	Pn	09 38 24.9	+2.0
TOF	Tornio	4.16	253	PN	Pn	09 38 24.9	+2.0
FIA0	FINESS Array S	7.07	213	Pn	Pn	09 39 03.2	+0.4
	baz=28,slow=12						
FIA0				Sn	Sn	09 40 21.4	-2.2
	baz=41,slow=28						
FIA0				Lg	Lg	09 40 57.1	
	baz=13,slow=28						
FIA0	FINESS Array S	7.07	213	Pn	Pn	09 39 03.2	+0.4
	baz=28,slow=12						
FIA0				Sn	Sn	09 40 21.4	-2.2
	baz=41,slow=28						
FIA0				Lg	Lg	09 40 57.1	
	baz=13,slow=28						
FINES	FINESS Array B	7.07	213	Pn	Pn	09 39 06.7	+3.9
	comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=6.0						
FINES				Sn	Sn	09 40 24.9	+1.3
	comp=Z,0.2nm,0.3s,baz=33,slow=20,SNR=3.7						
FINES				Lg	Lg	09 40 56.3	
	comp=Z,0.6nm,0.3s,baz=26,slow=20,SNR=5.4						
HFS	Hagfors	11.65	240	Pn	Pn	09 40 06.2	+0.7
	comp=Z,0.1nm,0.3s,baz=34,slow=16,SNR=3.4						

SPA0	**Spitsbergen Ar**	**11.77**	**342**	Pn	**Pn**	**09 40 07.0**	**-0.2**
	baz=150,slow=14						
SPA0	**Spitsbergen Ar**	**11.77**	**342**	Pn	**Pn**	**09 40 07.0**	**-0.2**
	baz=150,slow=14						
SPITS	**Spitsbergen Ar**	**11.77**	**342**	Pn	**Pn**	**09 40 07.4**	**+0.2**
	baz=133,slow=12,SNR=11						
NB2	**NORSAR Subarra**	**11.85**	**247**	Pn	**Pn**	**09 40 08.6**	**+0.3**
NB2	**NORSAR Subarra**	**11.85**	**247**	Pn	**Pn**	**09 40 08.6**	**+0.3**
NOA	**NORSAR Array B**	**11.85**	**247**	Pn	**Pn**	**09 40 08.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=40,slow=11,SNR=2.3						
NRA0	**NORESS Array S**	**11.95**	**246**	Pn	**Pn**	**09 40 08.3**	**-1.3**
NRA0	**NORESS Array S**	**11.95**	**246**	Pn	**Pn**	**09 40 08.3**	**-1.3**

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*IDC **07** 09:44:05.5±0.9, 52°.99N×166°.95W, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.8/82, mbtmp3.8/14, ML3.2/1, MS3.3/13, Ms1 3.3/13, ms1mx3.0/67, Error ellipse: s-maj=27.1km s-min=14.0km az=5.0*

*ISCJB **07** 09:44:08.8±1.2, 53°.01N±0°.05×166°.81W±0°.06, h28km±8km, mb4.2/22, MS3.2/13, Error ellipse: s-maj=9.0km s-min=5.9km az=157.9*

*NEIC **07** 09:44:11.0±0.0, 53°.15N×166°.79W, h28km, mb4.4/18, ML3.9(AEIC), After AEIC.*

ISC 07 09:44:08.9±1.0, **53°.04N**±0°.06×**166°.71W**±0°.05, **h19**km±3km, **n94**, σ**1.95**/88, **mb4.2**/22, **MS3.3**/13, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.76**	**353**	P	**Pb**	**09 44 23.9**	**+0.4**
UNV	**Unalaska Valle**	**0.82**	**9**	P	**Pb**	**09 44 24.1**	**-0.3**
UNV				S	**Sb**	**09 44 34.3**	**-0.7**
MSW	**Makushin Switc**	**0.88**	**357**	P	**Pb**	**09 44 25.6**	**+0.2**
MCIR	**Makushin Cirqu**	**0.92**	**353**	P	**Pb**	**09 44 26.6**	**+0.4**
OKSP	**Okmok Steeple**	**0.97**	**283**	P	**Pb**	**09 44 27.1**	**0.0**
OKWE	**Okmok W'ng Wal**	**1.01**	**296**	P	**Pb**	**09 44 27.8**	**0.0**
OKAK	**Okmok**	**1.12**	**299**	P	**Pn**	**09 44 28.2**	**-1.3**
AKRB	**Akutan Reef Bi**	**1.16**	**19**	P	**Pn**	**09 44 29.9**	**-0.1**
AKRB				S	**Sb**	**09 44 44.5**	**-0.3**
AHB	**Akutan Harbor**	**1.20**	**26**	P	**Pn**	**09 44 30.4**	**-0.3**
AKUT	**Akutan**	**1.23**	**27**	P	**Pn**	**09 44 30.6**	**-0.4**
AKUT				S	**Sb**	**09 44 45.7**	**-1.2**
AKSA	**Akutan Strait**	**1.25**	**28**	P	**Pn**	**09 44 30.8**	**-0.5**
WESP	**Westdahl Peak**	**1.88**	**38**	P	**Pn**	**09 44 41.1**	**+1.2**
WESP				S	**Sn**	**09 45 03.5**	**+0.4**
WESE	**West Dahl East**	**1.91**	**40**	P	**Pn**	**09 44 41.4**	**+1.0**
WESN	**West Dahl Nort**	**1.98**	**39**	P	**Pn**	**09 44 42.4**	**+1.0**
SSLW	**Shishaldin Wes**	**2.31**	**40**	P	**Pn**	**09 44 46.9**	**+1.0**
SSLS	**Shishaldin Sou**	**2.32**	**43**	P	**Pn**	**09 44 47.4**	**+1.4**
SSLS				S	**Sb**	**09 45 17.3**	**-1.0**
ISLZ	**Isanotski Laza**	**2.45**	**45**	P	**Pn**	**09 44 48.8**	**+1.0**
FALS	**False Pass**	**2.67**	**46**	P	**Pn**	**09 44 52.5**	**+1.8**
DT1	**Dutton Round H**	**3.33**	**50**	P	**Pn**	**09 45 01.7**	**+1.8**
SDPT	**Sand Point**	**4.33**	**55**	*e*Pn	**Pn**	**09 45 15.4**	**+1.9**
SDPT				*e*Sn	**Sb**	**09 46 15.3**	**-0.8**
SPIA	**Saint Paul Isl**	**4.62**	**335**	*e*Pg	**Pn**	**09 45 18.7**	**+1.2**
CHGN	**Chignik**	**5.82**	**53**	*e*Pn	**Pn**	**09 45 35.1**	**+1.2**
CHGN				*e*Sn	**Sb**	**09 46 59.1**	**+0.3**
OHAK	**Old Harbor**	**8.75**	**56**	*e*Pn	**Pn**	**09 46 14.5**	**+0.3**
KDAK	**Kodiak Island**	**9.33**	**54**	Pn	**Pn**	**09 46 21.4**	**-0.6**
	0.6nm,0.3s,baz=185,slow=3.8,SNR=15						
KDAK				Sn	**Sn**	**09 47 58.7**	**-7.6**
	baz=315,slow=8.6,SNR=1.7						
SVW2	**Sparrevohn**	**10.08**	**32**	*e*Pn	Pn	09 46 37.6	+5.2
HOM	**Homer**	**10.65**	**46**	*e*Pn	Pn	09 46 48.2	+7.9
BRLK	**Bradley Lake**	**11.04**	**46**	*e*Pn	**Pn**	**09 46 47.5**	**+2.0**
SPU	**Mount Spurr**	**11.38**	**38**	*e*Pn	**Pn**	**09 46 53.6**	**+3.5**
SEW	**Seward**	**11.83**	**46**	*e*Pn	**Pn**	**09 46 55.0**	**-1.3**
SUA	**Susitna One**	**12.05**	**39**	*e*Pn	**Pn**	**09 47 02.1**	**+2.7**
PPLA	**Purkeypile**	**12.49**	**32**	*e*Pn	**Pn**	**09 47 08.6**	**+3.1**
CAST	**Castle Rocks**	**12.91**	**31**	*e*Pn	**Pn**	**09 47 15.1**	**+4.1**
KTH	**Kantishna Hill**	**13.37**	**32**	*e*Pn	**Pn**	**09 47 21.3**	**+4.0**
TRF	**Thorofare Moun**	**13.50**	**33**	*e*Pn	**P**	**09 47 24.3**	**-4.1**
SCM	**Sheep Creek Mo**	**13.61**	**42**	*e*Pn	**Pn**	**09 47 21.9**	**+1.3**
EYAK	**Cordova Ski Ar**	**13.68**	**48**	*e*Pn	**Pn**	**09 47 21.6**	**+0.1**
DIV	**Divide**	**13.92**	**46**	*e*Pn	**Pn**	**09 47 23.2**	**-1.6**
KLU	**Klutina**	**14.02**	**45**	*e*Pn	**Pn**	**09 47 27.5**	**+1.3**
	12nm,0.9s						
RAGM	**Ragged Mountai**	**14.11**	**50**	*e*Pn	**P**	**09 47 32.5**	**-2.5**
	66nm,1.5s						
IM3	**Indian Mountai**	**14.50**	**22**	*e*Pn	**Pn**	**09 47 36.0**	**+3.2**
PAX	**Paxson**	**14.94**	**40**	*e*Pn	**P**	**09 47 42.4**	**-1.9**
	5.5nm,1.1s						
HDA	**Harding Lake**	**15.24**	**34**	*e*Pn	**P**	**09 47 46.1**	**-1.4**
	6.3nm,0.8s						
HDA				*e*Sn	**S**	**09 50 47.3**	**-0.1**
HDA				*e*PcP	PcP	09 52 37.3	-10
COLA	**College**	**15.25**	**32**	*e*Pn	**Pn**	**09 47 45.3**	**+2.5**
	11nm,1.3s						
IL1	**Eielson Array**	**15.50**	**33**	*e*Pn	**P**	**09 47 49.0**	**-1.4**
IL1				*e*PcP	PcP	09 52 36.7	-11
ILAR	**Eielson Array**	**15.50**	**33**	Pn	**Pn**	**09 47 47.2**	**+1.2**
	0.1nm,0.3s,baz=230,slow=11,SNR=7.3						
MENT	**Mentasta**	**15.62**	**42**	*e*Pn	**P**	**09 47 50.7**	**-1.0**
	26nm,1.8s						
COLD	**Coldfoot**	**16.34**	**23**	*e*Pn	**P**	**09 48 00.1**	**+0.4**
COLD				*e*pP	**sP**	**09 48 06.6**	**-1.1**
HYT	**Haines Junctio**	**17.61**	**52**	*e*P	**P**	**09 48 16.3**	**+2.4**
	37nm,1.7s						
DAWY	**Dawson**	**17.86**	**41**	*e*P	**P**	**09 48 17.6**	**+1.0**
	12nm,1.5s						
SIT	**Sitka**	**18.33**	**65**	*e*P	**Pn**	**09 48 26.7**	**+5.1**
	96nm,1.4s						
SKAG	**Skagway**	**18.45**	**57**	*e*P	**Pn**	**09 48 24.9**	**+1.7**
	54nm,1.3s						
WHY	**Whitehorse**	**18.84**	**54**	*e*P	**Pn**	**09 48 30.7**	**+2.6**
	8.7nm,1.0s						
WRAK	**Wrangell Islan**	**20.00**	**67**	*e*P	**Pn**	**09 48 44.9**	**+3.1**
PETK	**Petropavlovsk-**	**21.25**	**285**	P	**P**	**09 48 53.1**	**-0.4**
	2.4nm,0.7s,baz=72,slow=14,SNR=9.6						
PETK				LR	LR	09 56 57.2	
	comp=Z,66nm,20.7s,baz=84,slow=36						
INK	**Inuvik**	**21.90**	**33**	P	**P**	**09 49 00.6**	**+0.3**
	4.0nm,0.6s,baz=237,slow=7.7,SNR=15						
INK				LR	LR	09 58 09.7	
	comp=Z,82nm,21.5s,baz=148,slow=38						
SEY	**Seymchan**	**23.42**	**311**	P	**P**	**09 49 17.0**	**+0.7**
	1.2nm,0.6s,baz=95,slow=11,SNR=11						
PGC	**Sidney**	**27.35**	**82**	*e*P	**P**	**09 49 52.5**	**+0.2**
	77nm,1.9s						
YKA	**Yellowknife Ar**	**28.58**	**50**	P	**P**	**09 50 03.4**	**+0.3**
	0.5nm,0.6s,baz=272,slow=8.5,SNR=9.7						
YKA				LR	LR	10 02 17.9	
	comp=Z,6.6nm,20.0s,baz=0.0,slow=38						
B08A	**Colville Reser**	**29.93**	**80**	*e*P	**P**	**09 50 15.2**	**-0.2**
	9.2nm,1.6s						
HUMO	**Hull Mountain**	**30.72**	**92**	*e*P	**P**	**09 50 24.1**	**+1.7**
	51nm,1.9s						
NEW	**Newport**	**31.28**	**78**	P	**P**	**09 50 28.2**	**+0.8**
	2.5nm,0.9s,baz=302,slow=9.5,SNR=7.3						
YBH	**Yreka Blue Hor**	**31.38**	**93**	P	**P**	**09 50 29.1**	**+0.8**
	3.0nm,0.8s,baz=336,slow=5.8,SNR=5.2						
EGMT	**Eagleton**	**35.73**	**75**	*e*P	**P**	**09 51 07.3**	**+1.2**
	12nm,0.9s						
NVAR	**Mina Array Bea**	**36.08**	**94**	P	**P**	**09 51 10.5**	**+1.2**
	0.9nm,0.6s,baz=316,slow=7.5,SNR=4.2						
YHH	**Holmes Hill**	**36.78**	**80**	*e*P	**P**	**09 51 16.8**	**+1.5**
	5.2nm,1.0s						
RLMT	**Red Lodge**	**37.53**	**78**	*e*P	**P**	**09 51 23.4**	**+1.7**
	2.6nm,0.8s						
RCWM	**Renegade Canyo**	**38.10**	**97**	*e*P	**P**	**09 51 24.6**	**-1.8**
RCWM				*e*PcP	PcP	09 53 32.7	-8.4
PDAR	**Pinedale Array**	**38.70**	**82**	P	**P**	**09 51 32.3**	**+0.8**
	1.5nm,0.8s,baz=292,slow=4.3,SNR=10						
H11N2	**WAKE ISLAND Hy**	**39.01**	**222**	T	T	10 33 08.7	
	baz=25,slow=76,SNR=501						
H11N3	**WAKE ISLAND Hy**	**39.02**	**222**	T	T	10 33 13.8	
	baz=25,slow=76,SNR=368						
H11N1	**WAKE ISLAND Hy**	**39.03**	**222**	T	T	10 33 09.0	
	baz=25,slow=76,SNR=333						
FCC	**Fort Churchill**	**39.26**	**52**	*e*P	**P**	**09 51 36.3**	**+0.7**
	34nm,1.9s						
H11S1	**WAKE ISLAND Hy**	**40.19**	**221**	T	T	10 34 39.1	
	baz=24,slow=76,SNR=206						
H11S2	**WAKE ISLAND Hy**	**40.20**	**221**	T	T	10 34 38.9	
	baz=24,slow=76,SNR=163						
H11S3	**WAKE ISLAND Hy**	**40.21**	**221**	T	T	10 34 40.3	
	baz=24,slow=76,SNR=115						
O20A	**White River Ci**	**41.07**	**84**	*e*P	**P**	**09 51 52.0**	**+0.8**
	12nm,1.2s						
MJAR	**Matsushiro Arr**	**41.33**	**269**	LR	LR	10 06 56.9	
	comp=Z,29nm,21.2s,baz=10.0,slow=33						
PV10	**Paradox Valley**	**41.70**	**87**	*e*P	**P**	**09 51 56.7**	**+0.2**
JHJ	**Hachijo jima 2**	**42.70**	**264**	LR	LR	10 08 20.7	
	comp=Z,36nm,19.5s,baz=42,slow=34						
KSRS	**Korea Array**	**46.92**	**278**	LR	LR	10 10 36.0	
	comp=Z,14nm,21.7s,baz=350,slow=34						
JNU	**Nakatsue**	**48.07**	**271**	LR	LR	10 11 48.7	
	comp=Z,26nm,21.8s,baz=120,slow=35						
TX31	**Lajitas Ar. Si**	**51.13**	**92**	*e*P	**P**	**09 53 11.1**	**+0.7**
TXAR	**Lajitas Array**	**51.13**	**92**	P	**P**	**09 53 11.1**	**+0.7**
	1.2nm,0.7s,baz=304,slow=5.7,SNR=15						
SONM	**Songino Array**	**52.33**	**302**	ScP	**ScP**	**09 58 30.4**	**+4.6**
	0.5nm,0.7s,baz=67,slow=3.2,SNR=3.8						
SONM				LR	LR	10 18 14.8	
	comp=Z,36nm,18.0s,baz=329,slow=39						
OXF	**Oxford**	**56.00**	**76**	*e*P	**P**	**09 53 43.2**	**-2.7**
	28nm,1.1s						
ZALV	**Zalesovo Beam**	**58.00**	**319**	PcP	**PcP**	**09 54 51.1**	**-0.4**
	0.4nm,0.3s,baz=350,slow=5.1,SNR=3.5						
ZALV				LR	LR	10 20 06.8	
	comp=Z,42nm,19.1s,baz=72,slow=37						
BVAR	**Borovoye Array**	**64.08**	**326**	P	**P**	**09 54 39.7**	**-1.3**
	1.2nm,0.6s,baz=38,slow=7.3,SNR=6.4						
MKAR	**Makanchi Array**	**64.50**	**315**	P	**P**	**09 54 41.4**	**-2.6**
	0.2nm,0.5s,baz=49,slow=4.4,SNR=4.2						
MKAR				LR	LR	10 23 21.4	
	comp=Z,40nm,19.6s,baz=332,slow=37						
ARU	**Arti**	**64.74**	**334**	LR	LR	10 24 20.9	
	comp=Z,34nm,20.8s,baz=316,slow=37						
PMOR	**Pomariorio Ree**	**69.68**	**161**	*e*T	T	11 11 16.6	
	4.4nm,0.2s						
PPT	**Papeete**	**71.86**	**163**	LR	LR	10 20 49.2	
	comp=Z,43nm,21.9s,baz=344,slow=31						
PPT2	**Papeete2**	**71.88**	**163**	*e*LR	LR	10 17 25.1	
	56nm,25.0s						
CMAR	**Chiang Mai Arr**	**78.03**	**285**	P	**P**	**09 56 05.4**	**-0.7**
	1.6nm,0.4s,baz=27,slow=5.9,SNR=7.1						
CMAR				LR	LR	10 32 48.8	
	comp=Z,23nm,19.9s,baz=2.0,slow=38						
ASAR	**Alice Springs**	**92.08**	**232**	P	**P**	**09 57 16.6**	**+0.1**
	0.2nm,0.7s,baz=35,slow=5.0,SNR=3.1						

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*ISCJB **07** 10:07:27.0±1.0, 51°.6N±0°.1×75°.5E±0°.1, h0km, Error ellipse: s-maj=20.5km s-min=8.4km az=33.1*

*IDC **07** 10:07:27.6±0.9, 51°.60N×75°.53E, h0km, mb1 2.7/3, mb1mx2.6/66, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=34.6km s-min=7.6km az=29.0*

*NNC **07** 10:07:30.0±1.2, 51°.68N×75°.74E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=36.6km s-min=8.5km az=28.0, Suspected Mining explosion.*

ISC 07 10:07:27.5±1.1, **51°.7N**±0°.1×**75°.44E**±0°.06, **h0**km, **n8**, σ**0.91**/10, **3C-3D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.20**	**117**	Pg	**Pn**	**10 08 05.4**	**+0.1**
	0.3nm,0.3s,baz=297,slow=19,SNR=33						
KURBB				Lg	Lg	10 08 34.8	
	0.3nm,0.3s,baz=310,slow=32,SNR=14						
KURK	**Kurchatov**	**2.21**	**114**	⇓Pn	**Pn**	**10 08 05.3**	**0.0**
	2.0nm,0.7s						
KURK				⇑Sn	**Sn**	**10 08 33.3**	**0.0**
	9.5nm,0.6s						
BVA0	**Borovoye Array**	**3.39**	**296**	⇑Pn	**Pb**	**10 08 26.8**	**-1.6**
	2.2nm,0.8s,baz=116,slow=18,SNR=8.8						
BVA0				⇑Sn	**Sb**	**10 09 10.1**	**-0.1**
	4.5nm,0.5s,baz=104,slow=25,SNR=4.0						
BVAR	**Borovoye Array**	**3.39**	**296**	Pn	**Pn**	**10 08 22.8**	**+1.2**
	0.2nm,0.3s,baz=97,slow=12,SNR=4.2						
BVAR				Pg	**Pb**	**10 08 27.7**	**-0.7**
	0.3nm,0.3s,baz=116,slow=17,SNR=9.7						
BVAR				Lg	Lg	10 09 13.2	
	1.6nm,0.3s,baz=114,slow=26,SNR=11						
ZALV	**Zalesovo Beam**	**6.13**	**64**	Pn	**Pn**	**10 09 00.1**	**+0.8**
	0.2nm,0.3s,baz=255,slow=16,SNR=3.4						
I46RU	**ZALESOVO INFRA**	**6.14**	**64**	*i*		10 44 20.0	
	baz=250,slow=324,SNR=4.0						
MK31	**Makanchi Array**	**6.61**	**135**	⇓Sn	**Sn**	**10 10 22.5**	**+0.6**
	0.9nm,0.7s						
MK31				⇓Lg	Lg	10 10 55.3	
	1.0nm,0.5s,baz=315,slow=26,SNR=6.5						
MKAR	**Makanchi Array**	**6.61**	**135**	Pn	**Pn**	**10 09 06.0**	**+0.1**
	0.1nm,0.3s,baz=308,slow=13,SNR=3.1						
MKAR				Lg	Lg	10 10 54.4	
	0.2nm,0.3s,baz=315,slow=30,SNR=10.0						

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*ISCJB **07** 10:13:53.0±0.5, 39°.58N±0°.02×37°.99E±0°.03, h2km±4km, Error ellipse: s-maj=3.9km s-min=3.3km az=1.1*

*ISK **07** 10:13:52.2, 39°.56N×37°.95E, h10km, ML2.3/5*

*DDA **07** 10:13:53.1, 39°.57N×38°.00E, h7km, Ml2.9*

*CSEM **07** 10:13:53.0±0.2, 39°.59N×37°.98E, h8km, ML2.9, Error ellipse: s-maj=3.4km s-min=3.0km az=174.0*

ISC 07 10:13:53.2±1.0, **39°.58N**±0°.02×**37°.99E**±0°.02, **h10**km±9km, **n38**, σ**0.79**/71, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUZAR	**Zara_SIVAS**	**0.35**	**332**	*i* P	**Pg**	**10 14 00.7**	**+0.4**
CUZAR				*i* S	**Sb**	**10 14 06.6**	**-0.8**
CUZAR	**Zara_SIVAS**	**0.35**	**332**	P	**Pg**	**10 14 00.7**	**+0.4**
CUZAR				S	**Sb**	**10 14 06.6**	**-0.8**
ILIC	**ilic-Erzincan**	**0.47**	**105**	PG	**Pg**	**10 14 02.2**	**-0.1**
ILIC				SG	**Sb**	**10 14 09.5**	**-1.2**
ILIC	**ilic-Erzincan**	**0.47**	**105**	*e*Pg	**Pg**	**10 14 02.2**	**-0.1**
ILIC				*e*Sg	**Sb**	**10 14 09.5**	**-1.2**
CUKAN	**kangal_SIVAS**	**0.48**	**237**	*i* P	**Pg**	**10 14 02.0**	**-0.6**
CUKAN				*i* S	**Sg**	**10 14 09.7**	**+0.8**
CUKAN	**kangal_SIVAS**	**0.48**	**237**	P	**Pg**	**10 14 02.0**	**-0.6**
CUKAN				S	**Sg**	**10 14 09.7**	**+0.8**
KEMA	**Kemaliye**	**0.50**	**128**	*i* P	**Pg**	**10 14 03.1**	**+0.2**
KEMA				*i* S	**Sb**	**10 14 10.5**	**-1.1**
KEMA	**Kemaliye**	**0.50**	**128**	P	**Pg**	**10 14 03.1**	**+0.2**
KEMA				S	**Sb**	**10 14 10.5**	**-1.1**
HEKM	**Malatya_Hekimh**	**0.70**	**182**	*i* P	**Pg**	**10 14 06.6**	**-0.1**
HEKM				*i* S	**Sb**	**10 14 17.0**	**-0.4**
HEKM	**Malatya_Hekimh**	**0.70**	**182**	P	**Pg**	**10 14 06.6**	**-0.1**
HEKM				S	**Sb**	**10 14 17.0**	**-0.4**
SVSK	**Karacayir**	**0.83**	**294**	PG	**Pg**	**10 14 08.5**	**-0.8**
SVSK				SG	**Sg**	**10 14 20.4**	**+0.3**
SVSK	**Karacayir**	**0.83**	**294**	*e*Pg	**Pg**	**10 14 08.5**	**-0.8**
SVSK				*e*Sg	**Sg**	**10 14 20.4**	**+0.3**
CUALT	**Altinyayla-SIV**	**1.00**	**253**	*i* P	**Pg**	**10 14 11.5**	**-0.9**
CUALT				*i* S	**Sn**	**10 14 27.0**	**-0.7**
CUALT	**Altinyayla-SIV**	**1.00**	**253**	P	**Pg**	**10 14 11.5**	**-0.9**
CUALT				S	**Sn**	**10 14 27.0**	**-0.7**
CUGUR	**Gurin_S˜VAS**	**1.02**	**213**	*i* P	**Pb**	**10 14 12.9**	**-0.1**
CUGUR				*i* S	**Sb**	**10 14 26.9**	**+0.5**
CUGUR	**Gurin_S˜VAS**	**1.02**	**213**	P	**Pb**	**10 14 12.9**	**-0.1**
CUGUR				S	**Sb**	**10 14 27.0**	**+0.5**
DARE	**Darende-Malaty**	**1.08**	**201**	PG	**Pg**	**10 14 12.8**	**-1.1**
DARE				SG	**Sb**	**10 14 27.9**	**-0.3**
DARE	**Darende-Malaty**	**1.08**	**201**	*e*Pg	**Pg**	**10 14 12.8**	**-1.1**
DARE				*e*Sg	**Sb**	**10 14 27.9**	**-0.3**
KELT	**Kelkit**	**1.13**	**59**	*i* P	**Pg**	**10 14 14.2**	**-0.8**
KELT				*i* S	**Sb**	**10 14 29.9**	**0.0**
KELT	**Kelkit**	**1.13**	**59**	P	**Pg**	**10 14 14.2**	**-0.8**
KELT				S	**Sb**	**10 14 29.9**	**0.0**
AKCD	**Akcadag**	**1.28**	**182**	*i* P	**Pg**	**10 14 17.9**	**+0.1**
AKCD				*i* S	**Sn**	**10 14 35.7**	**+1.1**
AKCD	**Akcadag**	**1.28**	**182**	P	**Pg**	**10 14 17.9**	**+0.1**
AKCD				S	**Sn**	**10 14 35.7**	**+1.1**
PTK	**Pertek**	**1.29**	**122**	PN	**Pn**	**10 14 17.0**	**-0.5**
PTK				SN	**Sn**	**10 14 35.3**	**+0.4**
PTK	**Pertek**	**1.29**	**122**	*e*Pn	**Pn**	**10 14 17.0**	**-0.5**
PTK				*e*Sn	**Sn**	**10 14 35.3**	**+0.4**
TNCL	**Tunceli-Merkez**	**1.29**	**110**	*i* P	**Pg**	**10 14 18.5**	**+0.5**
TNCL				*i* S	**Sn**	**10 14 36.1**	**+1.2**
TNCL	**Tunceli-Merkez**	**1.29**	**110**	P	**Pg**	**10 14 18.5**	**+0.5**
TNCL				S	**Sn**	**10 14 36.1**	**+1.2**
MALT	**Malatya**	**1.31**	**165**	PN	**Pn**	**10 14 16.9**	**-0.8**
MALT				SN	**Sg**	**10 14 34.9**	**-0.4**
MALT	**Malatya**	**1.31**	**165**	*e*Pn	**Pn**	**10 14 16.9**	**-0.8**
MALT				*e*Sn	**Sg**	**10 14 34.9**	**-0.4**
ELZG	**Elazig**	**1.33**	**144**	*i* P	**Pn**	**10 14 17.5**	**-0.5**
ELZG				*i* S	**Sn**	**10 14 36.5**	**+0.6**
ELZG	**Elazig**	**1.33**	**144**	P	**Pn**	**10 14 17.5**	**-0.5**
ELZG				S	**Sn**	**10 14 36.5**	**+0.6**
CUSAR	**Sarkisla-SIVAS**	**1.36**	**264**	*i* P	**Pb**	**10 14 18.6**	**-0.2**
CUSAR				*i* S	**Sn**	**10 14 40.0**	**+3.4**
CUSAR	**Sarkisla-SIVAS**	**1.36**	**264**	P	**Pb**	**10 14 18.6**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.42**	**208**	*i* P	**Pg**	**10 14 21.2**	**+0.8**
ELBS				*i* S	**Sg**	**10 14 39.8**	**+1.0**
ELBS	**KAHRAMANMARAS**	**1.42**	**208**	P	**Pg**	**10 14 21.2**	**+0.8**
ELBS				S	**Sg**	**10 14 39.8**	**+1.0**
ESPY	**Espiye-Giresun**	**1.45**	**23**	PN	**Pn**	**10 14 19.7**	**+0.1**
ESPY	**Espiye-Giresun**	**1.45**	**23**	*e*Pn	**Pn**	**10 14 19.7**	**+0.1**
BAYT	**Ayd˜–ntepe-Bay**	**1.85**	**63**	PN	**Pn**	**10 14 25.1**	**0.0**
BAYT	**Ayd˜–ntepe-Bay**	**1.85**	**63**	*e*Pn	**Pn**	**10 14 25.1**	**0.0**

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*IDC **07** 10:36:46.4±2.9, 3°.96N×95°.49E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/62, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=118.5km s-min=29.2km az=52.0*

*DJA **07** 10:36:50.5±1.5, 5°N±3°×9°6E±1°1, h10km, M3.9/4, MLv3.9/4*

ISC 07 10:36:52.0±1.0, **4°.50N**±0°.05×**96°.47E**±0°.08, **h10**km, **n11**, σ**1.42**/11, **mb3.6**/3, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.24**	**195**	P	**Pb**	**10 36 57.3**	**+0.4**
MLSI				S	**Sb**	**10 37 01.7**	**+1.5**
LHMI	**Lhok Sumawe**	**0.87**	**34**	P	**Pg**	**10 37 09.6**	**+0.9**
LHMI				S	**Sb**	**10 37 23.2**	**+2.3**
TPTI		**1.42**	**150**	P	**Pn**	**10 37 17.8**	**-0.1**
TPTI				S	**Sb**	**10 37 38.6**	**+1.8**
PSI	**Prapat**	**2.98**	**124**	Pn	**Pb**	**10 37 44.4**	**-0.9**
	2.2nm,0.3s,baz=307,slow=16,SNR=6.4						
PSI				Sn	**Sb**	**10 38 22.3**	**+0.6**
	2.1nm,0.3s,baz=279,slow=19,SNR=2.9						
CMAR	**Chiang Mai Arr**	**14.08**	**10**	Pn	P	10 40 25.4	+5.8
	baz=200,slow=10,SNR=6.9						
H08S2	**Diego Garcia H**	**26.79**	**243**	T	T	11 09 58.2	
	baz=65,slow=74						
H08S3	**Diego Garcia H**	**26.79**	**243**	T	T	11 09 57.3	
	baz=65,slow=74						
H08S1	**Diego Carcia H**	**26.81**	**243**	T	T	11 09 51.7	
	baz=65						
MKAR	**Makanchi Array**	**43.88**	**346**	P	**P**	**10 44 57.0**	**-1.8**
	0.1nm,0.3s,baz=160,slow=8.6,SNR=1.9						
WRA	**Warramunga Arr**	**44.44**	**124**	P	**P**	**10 45 03.2**	**-0.4**
	0.8nm,0.4s,baz=301,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**46.00**	**129**	P	**P**	**10 45 15.6**	**-0.4**
	0.3nm,0.4s,baz=301,slow=7.4,SNR=9.8						

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*IDC **07** 10:46:53.5±1.1, 0°.08S×134°.12E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/50, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=48.4km s-min=17.7km az=78.0*

*DJA **07** 10:46:57.2±1.6, 0°S±14°×13°3E±°, h10km, M4.1/4, MLv4.1/4*

*ISCJB **07** 10:46:58.6±0.8, 0°.13S±0°.08×133°.4E±0°.1, h33km, mb3.8/8, Error ellipse: s-maj=16.2km s-min=8.8km az=148.3*

ISC 07 10:47:00.2±0.8, **0°.20S**±0°.09×**133°.4E**±0°.1, **h35**km, **n13**, σ**1.88**/14, **mb3.8**/8, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.50**	**150**	P	**Pn**	**10 47 24.5**	**-0.3**
RKPI				S	**Sn**	**10 47 45.0**	**+1.8**
SWI	**Sorong**	**2.26**	**253**	P	**Pn**	**10 47 34.0**	**-1.1**
FAKI	**Fak Fak**	**2.94**	**203**	P	**Pn**	**10 47 43.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.37**	**203**	P	**Pn**	**10 51 26.2**	**+1.9**
	0.1nm,0.3s,baz=45,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**19.64**	**177**	P	**P**	**10 51 25.0**	**-1.1**
	0.3nm,0.3s,baz=358,slow=11,SNR=44						
ASAR	**Alice Springs**	**23.33**	**179**	P	**P**	**10 52 04.5**	**-1.0**
	3.5nm,0.6s,baz=359,slow=12,SNR=57						
CTA	**Charters Tower**	**23.42**	**148**	P	**P**	**10 52 08.2**	**+1.8**
	4.3nm,0.8s,baz=338,slow=10.0,SNR=4.2						
STKA	**Stephens Creek**	**32.44**	**167**	P	**P**	**10 53 24.4**	**-2.8**
	1.4nm,0.7s,baz=346,slow=12,SNR=2.6						
CMAR	**Chiang Mai Arr**	**38.62**	**301**	P	**P**	**10 54 23.4**	**+2.9**
	0.6nm,0.3s,baz=121,slow=6.4,SNR=4.5						
MKAR	**Makanchi Array**	**64.62**	**324**	P	**P**	**10 57 33.8**	**-0.6**
	0.6nm,0.7s,baz=110,slow=7.8,SNR=6.1						
KURBB	**Kurchatov Arra**	**68.67**	**326**	P	**P**	**10 58 00.9**	**+0.8**
	0.6nm,0.7s,baz=119,slow=5.8,SNR=6.1						
BVAR	**Borovoye Array**	**74.27**	**326**	P	**P**	**10 58 34.7**	**+0.9**
	0.6nm,0.7s,baz=125,slow=7.6,SNR=2.6						
ILAR	**Eielson Array**	**85.78**	**25**	P	**P**	**10 59 33.2**	**-2.5**
	0.4nm,0.8s,baz=242,slow=7.1,SNR=4.2						

IDC 07 10:57:25.8±1.9, **0°.72N**×**125°.85E, h0**km, **mb3.5**/3, **mb1 3.8**/3, **mb1mx3.4**/49, **mbtmp3.5**/3, **Error ellipse: s-maj=166.6km s-min=25.9km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.16**	**158**	P	P	11 02 23.4	-0.1
	1.7nm,0.6s,baz=337,slow=11,SNR=18						
ASAR	**Alice Springs**	**25.48**	**163**	P	P	11 02 55.9	0.0
	0.8nm,0.6s,baz=342,slow=8.0,SNR=17						
MKAR	**Makanchi Array**	**59.54**	**327**	P	P	11 07 31.1	0.0
	0.1nm,0.3s,baz=115,slow=8.0,SNR=4.7						

IDC 07 11:06:35.0±2.8, **54°.41N**×**86°.55E, h0**km, **mb1 2.9**/3, **mb1mx2.8**/61, **mbtmp2.9**/3, **ML2.7**/3, **Error ellipse: s-maj=25.4km s-min=15.7km az=50.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**246**	*i*		11 15 17.1	
	baz=67,slow=316,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.12**	**246**	Pg	Pg	11 06 56.4	0.0
	0.7nm,0.3s,baz=64,slow=16,SNR=9.3						
ZALV				Lg	Lg	11 07 11.2	
	0.6nm,0.3s,baz=67,slow=24,SNR=4.9						
KURBB	**Kurchatov Arra**	**6.19**	**236**	Pn	Pn	11 08 09.0	+1.4
	0.1nm,0.3s,baz=53,slow=14,SNR=9.8						
MKAR	**Makanchi Array**	**8.09**	**201**	Pn	Pn	11 08 34.6	+0.9
	0.2nm,0.3s,baz=23,slow=13,SNR=9.8						
BVAR	**Borovoye Array**	**9.68**	**268**	Pn	Pn	11 08 53.2	-2.4
	0.1nm,0.3s,baz=62,slow=18,SNR=1.4						

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*ISK **07** 11:06:57.5, 38°.73N×43°.25E, h21km, ML2.4/5*

*ISCJB **07** 11:06:58.9±0.5, 38°.74N±0°.02×43°.23E±0°.04, h10km±5km, Error ellipse: s-maj=5.0km s-min=3.9km az=22.2*

*CSEM **07** 11:06:58.6±0.2, 38°.73N×43°.23E, h10km, ML2.4, Error ellipse: s-maj=4.1km s-min=3.3km az=113.0*

*DDA **07** 11:06:58.5, 38°.72N×43°.21E, h7km, Ml2.6*

ISC 07 11:06:59.0±1.0, **38°.73N**±0°.02×**43°.23E**±0°.03, **h17**km±7km, **n21**, σ**0.81**/40, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**138**	PG	**Pg**	**11 07 03.8**	**+0.1**
VANB				SG	**Sg**	**11 07 08.5**	**+1.6**
VANB	**Van**	**0.19**	**138**	*e*Pg	**Pg**	**11 07 03.8**	**+0.1**
TVAN	**Van**	**0.25**	**146**	*i* P	**Pg**	**11 07 03.8**	**-0.9**
TVAN				*i* S	**Sg**	**11 07 08.2**	**-0.3**
TVAN	**Van**	**0.25**	**146**	P	**Pg**	**11 07 03.8**	**-0.9**
TVAN				S	**Sg**	**11 07 08.2**	**-0.3**
ERCV	**ERCIS-VAN**	**0.30**	**17**	PG	**Pg**	**11 07 04.6**	**-0.9**
ERCV				SG	**Sg**	**11 07 09.8**	**-0.1**
ERCV	**ERCIS-VAN**	**0.30**	**17**	*e*Pg	**Pg**	**11 07 04.6**	**-0.9**
ERCV				*e*Sg	**Sg**	**11 07 09.8**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.40**	**281**	*i* P	**Pg**	**11 07 07.2**	**-0.1**
ADCV				*i* S	**Sb**	**11 07 14.3**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.40**	**281**	P	**Pg**	**11 07 07.2**	**-0.1**
ADCV				S	**Sb**	**11 07 14.3**	**+0.6**
GEVA	**Gevas**	**0.44**	**198**	*i* P	**Pg**	**11 07 06.9**	**-1.1**
GEVA				*i* S	**Sg**	**11 07 13.1**	**-0.9**
GEVA	**Gevas**	**0.44**	**198**	P	**Pg**	**11 07 06.9**	**-1.1**
GEVA				S	**Sg**	**11 07 13.1**	**-0.9**
CLDR	**Caldiran**	**0.67**	**53**	PG	**Pg**	**11 07 11.1**	**-1.2**
CLDR				SG	**Sg**	**11 07 21.1**	**-0.2**
CLDR	**Caldiran**	**0.67**	**53**	*i* P	**Pg**	**11 07 11.3**	**-1.0**
CLDR				*i* S	**Sb**	**11 07 22.3**	**+0.7**
CLDR	**Caldiran**	**0.67**	**53**	P	**Pg**	**11 07 11.3**	**-1.0**
CLDR				*e*Sg	**Sg**	**11 07 21.1**	**-0.2**
CLDR				S	**Sb**	**11 07 22.3**	**+0.7**
TUTA	**Tutak**	**0.74**	**334**	*i* P	**Pg**	**11 07 13.1**	**-0.4**
TUTA				*i* S	**Sb**	**11 07 23.5**	**0.0**
TUTA	**Tutak**	**0.74**	**334**	P	**Pg**	**11 07 13.1**	**-0.4**
TUTA				S	**Sb**	**11 07 23.5**	**0.0**
AGRB	**Hanur-Agry**	**0.86**	**348**	PG	**Pg**	**11 07 14.9**	**-0.8**
AGRB				SG	**Sb**	**11 07 27.6**	**+0.7**
AGRB	**Hanur-Agry**	**0.86**	**348**	*e*Pg	**Pg**	**11 07 14.9**	**-0.8**
AGRB				*e*Sg	**Sb**	**11 07 27.6**	**+0.7**
GURO	**Guroymak-BITLI**	**0.95**	**259**	PG	**Pg**	**11 07 16.3**	**-1.2**
GURO	**Guroymak-BITLI**	**0.95**	**259**	*e*Pg	**Pg**	**11 07 16.3**	**-1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SRTM	Siirt_Merkez	1.27	235	i P	Pg	11 07 22.8	-0.6
SRTM				i S	Sn	11 07 39.8	+1.1
SRTM	Siirt_Merkez	1.27	235	P	Pg	11 07 22.8	-0.6
SRTM				S	Sn	11 07 39.8	+1.1

*SJA **07** 11:08:21.8±0.7, 31°.22S×68°.92W, h104km±3km, ML3.7, MW4.1*
*ISCJB **07** 11:08:22.3±0.6, 31°.24S±0°.06×68°.9W±0°.1, h111km, mb3.2/2, Error ellipse: s-maj=13.9km s-min=7.7km az=16.3*
*IDC **07** 11:08:22.3±13.0, 31°.42S×68°.92W, h110km±112km, mb3.1/2, mb1 3.4/3, mb1mx3.2/29, mbtmp3.5/3, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/8, Error ellipse: s-maj=70.4km s-min=47.1km az=16.0*
ISC 07 11:08:22.3±0.8**, 31°.20S**±0°.07×**68°.91W**±0°.10**, h111**km**, n21,** σ**0s.66**/24**, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.39	109	i P	Pn	11 08 37.8	-1.0
ZON	Zonda	0.40	150	i P	Pn	11 08 38.3	-0.5
ZON				i S	Sn	11 08 49.8	-1.4
SJA	San Juan	0.44	138	i P	Pn	11 08 38.6	-0.4
SJA				i S	Sn	11 08 50.5	-1.1
SJA				IAML		11 08 51.8	
	comp=Z,2μm,0.3s						
AMOG	MOGNA	0.44	54	i P	Pn	11 08 38.9	-0.2
RTLS	Leoncito	0.68	209	i P	Pn	11 08 40.7	-0.3
RTLS				i S	Sn	11 08 54.5	-0.5
RTLS				IAML		11 08 55.3	
	comp=Z,2μm,0.2s						
RTCV	Cerro Valdivia	0.73	155	i P	Pn	11 08 40.6	-0.6
AUSP	Uspallata	1.10	202	i P	Pn	11 08 44.9	-0.1
ASAL	Salagasta	1.39	177	i P	Pn	11 08 48.1	+0.1
ASAL				i S	Sn	11 09 07.1	-0.4
ARCO	CERRO ARCO	1.64	181	i P	Pn	11 08 51.2	+0.2
ACAN	Cantantal	1.81	127	i P	Pn	11 08 53.4	+0.4
AAGR	Agrelo	1.88	178	i P	Pn	11 08 54.1	+0.1
APLL	PUNTA DE LOS L	2.20	69	i P	Pn	11 08 58.2	+0.2
AVIZ	Vizcacheras	2.29	172	i P	Pn	11 08 59.3	+0.1
CPUP	Villa Florida	11.26	67	LR	LR	11 15 57.7	
	comp=Z,65nm,21.9s,baz=93,slow=40						
LPAZ	La Paz	14.86	3	P	P	11 11 50.0	-0.5
	comp=Z,0.0nm,0.3s,baz=178,slow=13,SNR=5.1						
TXAR	Lajitas Array	68.69	328	P	P	11 19 15.3	+1.3
	comp=Z,0.1nm,0.6s,baz=156,slow=6.9,SNR=2.6						
TORD	Torodi Ar. Bea	80.75	69	P	P	11 20 24.6	+0.8
	comp=Z,0.4nm,0.5s,baz=259,slow=3.5,SNR=2.8						
ASAR	Alice Springs	121.23	205	PKP	PKPdf	11 27 02.0	-0.8
	comp=Z,0.3nm,0.6s,baz=174,slow=0.9,SNR=2.5						
WRA	Warramunga Arr	124.47	207	PKP	PKPdf	11 27 08.6	-0.5
	comp=Z,0.3nm,0.3s,baz=153,slow=1.9,SNR=11						
ZALV	Zalesovo Beam	150.46	32	PKPbc	PKPbc	11 28 00.2	-0.2
	comp=Z,0.7nm,0.5s,baz=321,slow=3.5,SNR=5.6						
MKAR	Makanchi Array	152.93	47	PKPbc	PKPbc	11 28 06.6	+0.3
	comp=Z,0.2nm,0.7s,baz=281,slow=2.5,SNR=3.7						

WEL 07 11:30:26.0±0.5**, 33°S**±6°×**18°0W**±1°4**, h33**km**, ML4.8**/19**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.33	25	S	Sn	11 32 20.4	+1.7
GLKZ	Green Lake	4.33	25	P	Pn	11 31 28.3	-1.2
MXZ	Matakaoa Point	4.55	197	P	Pn	11 31 34.4	+1.9
MXZ	Matakaoa Point	4.55	197	S	Sn	11 32 25.5	+1.3
WMGZ	Waiomatatini S	4.77	195	P	Pn	11 31 36.7	+1.1
WMGZ	Waiomatatini S	4.77	195	S	Sn	11 32 32.9	+3.2
HAZ	Te Kaha	4.88	201	P	Pn	11 31 38.4	+1.4
HAZ	Te Kaha	4.88	201	S	Sn	11 32 32.7	+0.4
PKGZ	Pakihiroa	4.92	198	P	Pn	11 31 38.1	+0.5
PKGZ	Pakihiroa	4.92	198	S	Sn	11 32 34.8	+1.4
PUZ	Puketiti	5.05	196	P	Pn	11 31 39.2	-0.2
PUZ	Puketiti	5.05	196	S	Sn	11 32 36.8	+0.2
RUGZ	Raukumara Rang	5.10	201	P	Pn	11 31 41.4	+1.2
TWGZ	Tauwhareparae	5.22	198	P	Pn	11 31 41.8	+0.1
TWGZ	Tauwhareparae	5.22	198	S	Sn	11 32 42.4	+1.7
WCZ	Waipu Caves	5.40	238	P	Pn	11 31 44.2	0.0
OPRZ	Ohinepanea	5.41	210	P	Pn	11 31 45.5	+1.3
CNGZ	Carnagh Statio	5.46	195	P	Pn	11 31 45.2	+0.2
MWZ	Matawai	5.49	201	P	Pn	11 31 44.3	-1.1
MWZ	Matawai	5.49	201	S	Sn	11 32 45.1	-2.3
TKGZ	Te Karaka	5.50	198	P	Pn	11 31 44.2	-1.3
TKGZ	Te Karaka	5.50	198	S	Sn	11 32 47.1	-0.5
URZ	Urewera	5.55	204	P	Pn	11 31 45.4	-0.9
URZ	Urewera	5.55	204	S	Sn	11 32 47.4	-1.6
RIGZ	Rimuhau	5.77	198	P	Pn	11 31 47.8	-1.5
RRRZ	Republican Roa	5.84	208	P	Pn	11 31 51.4	+1.1
RTZ	Ruatahuna	5.92	204	P	Pn	11 31 50.2	-1.2
PRGZ	Paritu Road	5.95	196	P	Pn	11 31 50.9	-0.8
SNGZ	Shannon Statio	5.96	200	P	Pn	11 31 50.6	-1.3
SNGZ	Shannon Statio	5.96	200	S	Sn	11 32 56.7	-2.2
PRRZ	Plateau Road	6.03	208	P	Pn	11 31 52.6	-0.2
KNZ	Kokohu	6.09	197	P	Pn	11 31 52.1	-1.5
ALRZ	Allen Road	6.11	208	P	Pn	11 31 53.8	-0.1
RAHZ	Arahi	6.16	202	P	Pn	11 31 52.1	-2.5
MHGZ	Mahia Peninsul	6.16	195	P	Pn	11 31 53.5	-1.1
MTHZ	Maungataniwha	6.18	204	P	Pn	11 31 53.2	-1.7
KUTZ	Kaahu Road	6.26	212	P	Pn	11 31 56.7	+0.7
TLZ	Tolley Road	6.26	214	P	Pn	11 31 56.8	+0.7
WHHZ	Waihua	6.26	200	P	Pn	11 31 54.6	-1.4
NMHZ	Naumai	6.41	203	P	Pn	11 31 56.8	-1.4
WATZ	Wairara	6.48	211	P	Pn	11 31 59.0	0.0
ARHZ	Aropaoanui	6.50	201	P	Pn	11 31 56.5	-2.9
BKZ	Black Stump Fm	6.58	205	P	Pn	11 31 58.2	-2.3
RITZ	Rihia Road	6.66	209	P	Pn	11 32 00.4	-1.1
HIZ	Hauiti	6.74	217	P	Pn	11 32 03.5	+1.0
MCHZ	McNeill Hill	6.76	202	P	Pn	11 32 00.4	-2.5
KWHZ	Kaweka Forest	6.83	204	P	Pn	11 32 01.0	-3.0
CKHZ	Cape Kidnapper	6.85	199	P	Pn	11 32 01.5	-2.5
TUVZ	Tukino	6.99	209	P	Pn	11 32 03.7	-2.4
FWVZ	Far West T-bar	7.02	210	P	Pn	11 32 03.7	-2.9
BHHZ	Black Hill Sta	7.02	206	P	Pn	11 32 02.5	-4.0
WHVZ	Whangaehu Hut	7.03	209	P	Pn	11 32 04.1	-2.6
KAHZ	Kahuranaki	7.03	200	P	Pn	11 32 03.8	-2.8

*ISCJB **07** 11:36:36.7±2.3, 38°.2S±0°.3×93°.8W±0°.3, h10km, mb3.9/6, MS3.2/3, Error ellipse: s-maj=55.1km s-min=19.7km az=31.7*
*IDC **07** 11:36:36.6±3.2, 38°.21S×93°.81W, h0km, mb3.9/6, mb1 4.2/7, mb1mx4.0/28, mbtmp3.9/7, ML3.4/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/32, Error ellipse: s-maj=78.5km s-min=31.2km az=22.0*
ISC 07 11:36:38.5±2.7**, 38°.2S**±0°.4×**93°.8W**±0°.3**, h10**km**, n9,** σ**1s.58**/7**, mb3.8**/6**, MS3.1**/3**, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	17.09	306	LR	LR	11 45 24.5	
	comp=Z,161nm,19.7s,baz=129,slow=31						
PLCA	Paso Flores	18.11	105	P	Pn	11 40 51.2	+1.0
	0.0nm,0.3s,baz=298,slow=11,SNR=4.3						
PLCA				LR	LR	11 46 02.4	
	comp=Z,119nm,20.5s,baz=282,slow=31						
NNA	Nana	30.14	35	LR	LR	11 50 47.4	
	comp=Z,39nm,19.3s,baz=195,slow=28						
LPAZ	La Paz	31.36	53	P	P	11 43 00.5	+0.4
	4.6nm,0.9s,baz=205,slow=8.5,SNR=7.3						
LPAZ				LR	LR	11 53 25.8	
	comp=Z,36nm,18.5s,baz=222,slow=32						
CPUP	Villa Florida	32.81	80	P	P	11 43 10.6	-1.4
	1.7nm,0.9s,baz=238,slow=13,SNR=2.6						
CPUP				LR	LR	11 54 37.2	
	comp=Z,84nm,18.3s,baz=228,slow=33						
ATAH	Atahualpa	33.89	28	P	P	11 43 22.8	+0.8
	5.9nm,0.8s,baz=84,slow=16,SNR=3.6						
TXAR	Lajitas Array	67.78	351	P	P	11 47 35.5	-1.0
	0.3nm,0.8s,baz=156,slow=4.9,SNR=2.3						
NVAR	Mina Array Bea	79.50	341	P	P	11 48 47.2	+2.0
	0.5nm,0.6s,baz=165,slow=3.7,SNR=1.7						
PDAR	Pinedale Array	81.82	348	P	P	11 48 56.5	-1.1
	0.4nm,0.8s,baz=124,slow=4.8,SNR=3.5						

*TIR **07** 11:42:17.4, 43°.05N×17°.69E, h7km, ML3.8*
*BEO **07** 11:42:17.4±0.6, 43°.22N×17°.69E, h0km±2km, M3.5/1*
*IDC **07** 11:42:19.0±1.4, 43°.18N×17°.46E, h0km, mb3.2/3, mb1 3.5/7, mb1mx3.3/57, mbtmp3.4/7, ML3.2/4, Error ellipse: s-maj=17.0km s-min=12.3km az=32.0*
*PDG **07** 11:42:18.4±0.4, 43°.20N×17°.80E, h5km, MD3.7/8, ML3.7/9, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*
*CSEM **07** 11:42:18.6±0.1, 43°.21N×17°.82E, h2km, ML3.9/11, Error ellipse: s-maj=3.0km s-min=2.0km az=30.0*
*LDG **07** 11:42:19.1±0.1, 43°.21N×17°.78E, h2km, Ml4.0/3, Error ellipse: s-maj=3.8km s-min=2.5km az=11.0*
*PRU **07** 11:42:20.8, 43°.29N×17°.88E, h0km*
ISC 07 11:42:18.3±1.1**, 43°.22N**±0°.02×**17°.80E**±0°.02**, h4**km±8km**, n233,** σ**1s.70**/352**, mb3.3**/3**, 42C-23D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.35	192	i Pg	Pg	11 42 24.2	-0.9
STON				Sg	Sg	11 42 30.3	+0.6
STON	Ston	0.35	192	i Pg	Pg	11 42 24.2	-0.9
STON				Sg	Sg	11 42 30.3	+0.6
TREB	Trebinje	0.64	141	⇑iPg	Pg	11 42 30.1	-0.5
HCY	Herceg Novi	0.92	146	⇓iPg	Pg	11 42 35.0	-1.0
HCY				eSg	Sb	11 42 49.5	0.0
HCY	Herceg Novi	0.92	146	⇑iPg	Pg	11 42 35.0	-1.0
HCY				eSg	Sb	11 42 48.7	-0.8
NKME	Niksic	0.96	118	⇑iPg	Pg	11 42 35.8	-0.9
NKME				eSg	Sb	11 42 50.8	+0.3
NKME	Niksic	0.96	118	⇑iPg	Pg	11 42 35.8	-0.9
NKME				eSg	Sb	11 42 50.8	+0.3
NKY	Niksic	0.96	114	⇓iPg	Pg	11 42 35.8	-1.0
NKY				eSg	Sb	11 42 50.8	0.0
NKY	Niksic	0.96	114	⇓iPg	Pg	11 42 35.8	-1.0
NKY				eSg	Sb	11 42 50.8	0.0
CEME	Cevo	1.06	129	⇓iPg	Pg	11 42 37.3	-1.3
CEME				eSg	Sn	11 42 54.2	-1.0
CEME	Cevo	1.06	129	⇓iPg	Pg	11 42 37.3	-1.3
CEME				eSg	Sn	11 42 54.2	-1.0
PLE	Pljevlja	1.17	84	⇓iPg	Pb	11 42 39.6	-1.5
PLE				eSg	Sn	11 42 58.4	+0.5
PLE	Pljevlja	1.17	84	⇓iPg	Pb	11 42 39.6	-1.5
PLE				eSg	Sn	11 42 58.4	+0.5
HAPS	Han Pijesak,Bl	1.20	44	ePg	Pb	11 42 40.4	-1.3
HAPS	Han Pijesak,Bl	1.20	44	ePg	Pb	11 42 40.4	-1.3
HAPS				eSg	Sb	11 42 56.7	-1.0
BUM	Brajici-Budva	1.22	138	⇑iPg	Pn	11 42 40.9	-1.3
BUM				eSg	Sn	11 42 59.6	+0.4
BUM	Brajici-Budva	1.22	138	⇑iPg	Pn	11 42 40.9	-1.3
BUM				eSg	Sn	11 42 59.6	+0.4
KOME	Kolasin	1.31	106	⇓iPg	Pn	11 42 42.8	-0.7
KOME				eSg	Sg	11 43 03.4	+3.0
KOME	Kolasin	1.31	106	⇓iPg	Pn	11 42 42.8	-0.7
KOME				eSg	Sg	11 43 03.4	+3.0
PDG	Podgorica	1.33	126	ePg	Pn	11 42 42.3	-1.3
PDG				eSg	Sg	11 43 01.6	+0.6
PDG	Podgorica	1.33	126	⇓iP	Pn	11 42 42.4	-1.2
PDG	Podgorica	1.33	126	⇓iP	Pn	11 42 42.4	-1.2
PDG	Podgorica	1.33	126	⇑iPg	Pn	11 42 42.8	-0.8
PDG				eSg	Sg	11 43 01.2	+0.2
PDG				S	Sn	11 43 03.1	+1.4
TTG	Podgorica	1.33	126	⇑iPg	Pn	11 42 42.8	-0.8
TTG				eSg	Sg	11 43 03.5	+2.5
BBLS	Lazići	1.33	60	ePg	Pb	11 42 43.5	-0.4
BBLS				eSg	Sb	11 43 00.7	-0.7
BBLS	Lazići	1.33	60	⇑iPg	Pn	11 42 43.1	-0.7
BBLS				eSg	Sb	11 43 00.7	-0.7
DRME	Dracevica, Mon	1.45	135	⇓iPg	Pn	11 42 45.1	-0.2
DRME				eSg	Sg	11 43 07.6	+2.7
DRME	Dracevica, Mon	1.45	135	⇓iPg	Pn	11 42 44.9	-0.4
DRME				eSg	Sb	11 43 04.2	-0.4
DOB	Doboj	1.53	8	ePn	Pb	11 42 46.7	-0.5
DOB				eSn	Sb	11 43 06.8	-0.1
BEY	Berane	1.57	102	⇓iPg	Pb	11 42 47.5	-0.5
BEY	Berane	1.57	102	P	Pb	11 42 47.8	-0.2
BEY				eSg	Sg	11 43 10.8	+2.0
IVA	Berane	1.57	102	⇓iPg	Pb	11 42 47.5	-0.5
IVA				eSg	Sg	11 43 10.8	+2.0
SJES	Sjenica	1.59	88	ePg	Pb	11 42 48.2	-0.1
SJES				eSg	Sg	11 43 10.6	+1.3
BLY	Banja Luka	1.59	344	⇓iP	Pb	11 42 48.0	-0.3
BLY	Banja Luka	1.59	344	⇓iP	Pb	11 42 48.0	-0.3
BLY	Banja Luka	1.59	344	⇑iPn	Pb	11 42 48.4	+0.1
BLY				S	Sb	11 43 08.7	-0.1
BLY				eSn	Sg	11 43 09.4	-0.1
ULC	Ulcinj	1.65	139	⇑iPn	Pb	11 42 48.5	-0.7
ULC				eSn	Sg	11 43 12.8	+1.6
ULC	Ulcinj	1.65	139	⇑iPn	Pb	11 42 48.5	-0.7
ULC	Ulcinj	1.65	139	P	Pb	11 42 48.8	-0.4
ULC				eSn	Sg	11 43 12.8	+1.6
PVY	Plav	1.70	111	⇑iPn	Pb	11 42 49.9	-0.3
PVY				eSn	Sg	11 43 14.5	+1.5
IVAS	Ivanjica	1.75	77	ePn	Pb	11 42 50.5	-0.5
IVAS				eSn	Sg	11 43 14.2	-0.3
IVAS	Ivanjica	1.75	77	ePn	Pb	11 42 50.5	-0.5
IVAS				eSn	Sg	11 43 14.2	-0.3
DIVS	Divibare	1.82	60	ePn	Pn	11 42 50.5	+0.1
DIVS				eSn	Sb	11 43 14.6	-0.7
DIVS	Divibare	1.82	60	ePn	Pn	11 42 50.5	+0.1
DIVS				eSn	Sn	11 43 13.9	-0.1
TEKS	Tekeris	1.82	43	ePn	Pn	11 42 50.3	-0.2
TEKS				eSn	Sn	11 43 13.8	-0.3
TEKS	Tekeris	1.82	43	ePn	Pn	11 42 50.3	-0.2
TEKS				eSn	Sn	11 43 13.9	-0.2
PEJK	Peje	1.91	107	P	Pg	11 42 54.4	-0.5
PUK	Puka	1.94	127	i PN	Pb	11 42 54.1	-0.1
PUK				i SN	Sg	11 43 21.6	+1.0
PUK	Puka	1.94	127	i Pn	Pb	11 42 54.1	-0.1
UDBI	Udbina	1.97	312	i Pn	Pg	11 42 55.8	-0.2
UDBI				Sn	Sg	11 43 21.4	-0.2
UDBI				Sg	Sb	11 43 24.6	+4.8
UDBI	Udbina	1.97	312	i Pn	Pg	11 42 55.8	-0.2
UDBI				Sn	Sg	11 43 21.3	-0.2
UDBI				Sg	Sb	11 43 24.5	+4.8
MS1	Monte Sant'Ang	2.04	223	ePn	Pb	11 42 56.5	+0.5
SGRT	San Giovanni R	2.11	227	i PN	Pn	11 42 55.1	+0.7
SGRT	San Giovanni R	2.11	227	i Pn	Pn	11 42 55.1	+0.7
TRUS	Trudelj	2.14	61	ePn	Pn	11 42 54.7	-0.1
TRUS				eSn	Sb	11 43 22.7	-1.8
TRUS	Trudelj	2.14	61	ePn	Pn	11 42 54.7	-0.1
TRUS				eSn	Sb	11 43 22.7	-1.8
ZATK	Zatriq	2.21	109	P	Pb	11 42 59.0	+0.1
BAI	Bari	2.22	198	ePn	Pb	11 42 58.8	-0.1
GRUS	Gruza	2.22	71	ePn	Pn	11 42 56.5	+0.6
GRUS				eSn	Sb	11 43 26.3	-0.6
GRUS	Gruza	2.22	71	ePn	Pn	11 42 56.5	+0.6
GRUS				eSn	Sb	11 43 26.3	-0.6
SMRK	Smrekonice	2.33	97	P	Pb	11 42 59.4	-1.4
TIR	Tirane	2.42	140	i PN	Pn	11 42 59.4	+0.9
TIR	Tirane	2.42	140	ePg	Pb	11 43 00.8	-1.5
TIR				eSg	Sg	11 43 35.4	-0.5
TIR	Tirane	2.42	140	⇑iP	Pn	11 42 59.5	+0.9
TIR	Tirane	2.42	140	i Pn	Pn	11 42 59.4	+0.9
TIR	Tirane	2.42	140	ePg	Pb	11 43 00.8	-1.5
TIR				eSg	Sg	11 43 35.4	-0.5
FGSL	Fruska Gora	2.42	36	ePn	Pn	11 42 57.5	-1.1
FGSL	Fruska Gora	2.42	36	ePg	Pb	11 43 02.2	-0.2
FGSL				eSg	Sg	11 43 36.6	+0.6
FRGS	Fruska Gora	2.42	36	ePn	Pn	11 42 57.5	-1.1
FRGS	Fruska Gora	2.42	36	ePg	Pb	11 43 02.2	-0.2
FRGS				eSg	Sg	11 43 36.6	+0.6
FASA	Fasano	2.42	188	ePn	Pb	11 43 02.3	-0.1
SELS	Selova	2.43	89	ePn	Pn	11 42 59.1	+0.4
SELS				eSn	Sb	11 43 31.4	-1.4
SELS	Selova	2.43	89	ePn	Pn	11 42 59.1	+0.4
SELS				eSn	Sb	11 43 31.4	-1.4
MRVN	Minervino Murg	2.46	210	i PN	Pn	11 42 59.1	-0.2
MRVN	Minervino Murg	2.46	210	i Pn	Pn	11 42 59.1	-0.2
NOCI	Noci	2.49	193	i PN	Pn	11 42 58.8	-0.8
NOCI	Noci	2.49	193	i Pn	Pn	11 42 58.8	-0.8
NVLJ	Novalja	2.51	303	ePn	Pb	11 43 02.7	-1.2
NVLJ				Sn	Sb	11 43 35.1	0.0
NVLJ	Novalja	2.51	303	ePn	Pb	11 43 02.6	-1.2
NVLJ				Sn	Sb	11 43 35.0	0.0
MASS	Massafra	2.63	191	ePn	Pb	11 43 05.8	-0.1
MATE	Matera	2.69	198	⇑iP	Pn	11 43 03.4	+1.0
MATE	Matera	2.69	198	⇑iP	Pn	11 43 03.4	+1.0
TAR1	Taranto	2.72	188	ePn	Pb	11 43 07.3	-0.1
BOVS	Bovan	2.88	80	ePn	Pn	11 43 06.1	+1.2
BOVS				eSn	Sb	11 43 42.4	-3.3
BOVS	Bovan	2.88	80	ePn	Pn	11 43 06.1	+1.2
BOVS				eSn	Sb	11 43 42.4	-3.3
ZAG	Zagreb	2.91	334	ePn	Pn	11 43 06.1	+0.7
ZAG				eSn	Sn	11 43 41.7	+0.9
OZLJ	Ozalj	2.92	326	i Pn	Pn	11 43 07.5	+2.0
OZLJ				Sn	Sb	11 43 44.0	-3.0
OZLJ	Ozalj	2.92	326	i Pn	Pn	11 43 07.5	+2.0
OZLJ				Sn	Sb	11 43 43.9	-3.0
BOJS	Bojanci	2.93	322	i Pn	Pn	11 43 07.8	+2.2
BOJS				i Sn	Sb	11 43 44.3	-2.8
BOJS	Bojanci	2.93	322	i Pn	Pn	11 43 07.8	+2.2
BOJS				i Sn	Sb	11 43 44.3	-2.8
SKO	Skopje	2.96	114	i Pn	Pn	11 43 08.3	+2.2
SKO				i Sn	Sb	11 43 46.3	-1.8
BARS	Barje	2.97	96	ePn	Pn	11 43 07.6	+1.4
BARS				eSn	Sn	11 43 43.5	+1.2
BARS	Barje	2.97	96	ePn	Pn	11 43 07.6	+1.4
BARS				eSn	Sn	11 43 43.5	+1.2
NISS		3.03	85	ePn	Pn	11 43 07.5	+0.4
NISS				eSn	Sn	11 43 45.6	+1.7
NISS		3.03	85	ePn	Pn	11 43 07.5	+0.4
NISS				eSn	Sn	11 43 45.6	+1.7
MORH	Mˆ‡rˆ¡gy, Hung	3.06	11	ePn	Pn	11 43 06.9	-0.5
MORH				eSn	Sg	11 43 57.6	+1.2
MORH	Mˆ‡rˆ¡gy, Hung	3.06	11	ePn	Pn	11 43 06.9	-0.5
OHR	Ohrid	3.07	132	i Pn	Pb	11 43 10.2	-3.2
CRES	Cresnjev	3.10	328	ePn	Pn	11 43 09.0	+1.0
CRES				eSn	Sn	11 43 46.1	+0.6
KRUS	Krusevo	3.16	125	i Pn	Pn	11 43 10.7	+1.8
KRUS				i Sn	Sb	11 43 52.3	-1.5
MDVR	Moldovita	3.23	60	⇓iP	Pn	11 43 09.9	+0.1
MDVR	Moldovita	3.23	60	⇓iP	Pn	11 43 09.9	+0.1
ZAGS	Zajecar	3.28	78	ePn	Pn	11 43 11.1	+0.7
ZAGS				eSn	Sn	11 43 50.3	+0.5
ZAGS	Zajecar	3.28	78	ePn	Pn	11 43 11.1	+0.7
ZAGS				eSn	Sn	11 43 50.3	+0.5
BEHE	Becsehely	3.33	348	⇑ePn	Pn	11 43 12.3	+1.1
BEHE				eSn	Sn	11 43 53.5	+2.3
BEHE	Becsehely	3.33	348	⇑iPn	Pn	11 43 12.1	+0.9
BEHE				eSn	Sn	11 43 51.2	0.0
VISS	Visnje	3.34	322	i Pn	Pn	11 43 13.5	+2.2
VISS				i Sn	Sb	11 43 55.5	-3.6
VISS	Visnje	3.34	322	i Pn	Pn	11 43 13.5	+2.2
VISS				i Sn	Sb	11 43 55.5	-3.6
AQU	L'Aquila	3.35	257	ePn	Pn	11 43 12.2	+0.7
AQU				eSn	Sn	11 43 52.8	+1.1
BIA	Bitola	3.42	129	i Pn	Pn	11 43 14.6	+2.1
CEY	Cerknica	3.49	317	ePn	Pn	11 43 14.8	+1.4
CEY				eSn	Sn	11 43 55.6	+0.5
ZAPS	Zavoj	3.53	87	ePn	Pn	11 43 15.2	+1.2
ZAPS				eSn	Sn	11 43 57.4	+1.2
BZS	Buzias	3.64	47	⇑iP	Pn	11 43 15.5	+0.2
BZS	Buzias	3.64	47	⇑iP	Pn	11 43 15.5	+0.2
LJU	Ljubljana	3.67	322	ePn	Pn	11 43 16.3	+0.5
LJU				eSn	Sn	11 44 00.2	+0.8
JAVS	Javornik	3.78	316	i Pn	Pn	11 43 19.2	+1.8
JAVS				i Sn	Sn	11 44 05.5	+3.1
JAVS	Javornik	3.78	316	i Pn	Pn	11 43 19.2	+1.8
JAVS				i Sn	Sn	11 44 05.5	+3.1
PERS	Pernice	3.91	332	i Pn	Pn	11 43 20.4	+1.2
PERS				i Sn	Sn	11 44 05.9	+0.3
PERS	Pernice	3.91	332	i Pn	Pn	11 43 20.4	+1.2
PERS				i Sn	Sn	11 44 05.9	+0.3
SOKA	Soboth	3.98	331	Pn	Pn	11 43 21.6	+1.5
	22nm,0.3s,SNR=13						
SOKA				Sn	Sn	11 44 07.9	+0.7
	29nm,0.5s						
SOKA	Soboth	3.98	331	ePn	Pn	11 43 21.6	+1.5
	22nm,0.3s,SNR=13						
SOKA				eSn	Sn	11 44 07.9	+0.7
	29nm,0.5s						
VAY	Valandovo	4.01	117	i Pn	Pg	11 43 36.2	+1.0
OBKA	Obir	4.02	326	Pn	Pn	11 43 22.9	+2.2
	4.9nm,0.2s						
OBKA				Sn	Sn	11 44 09.3	+1.0
	133nm,0.8s						
OBKA	Obir	4.02	326	ePn	Pn	11 43 22.9	+2.2
	4.9nm,0.2s						
OBKA				eSn	Sn	11 44 09.3	+1.0
	133nm,0.8s						
VTS	Vitosha	4.02	97	⇑iP	Pn	11 43 22.6	+1.8
VTS	Vitosha	4.02	97	⇑iP	Pn	11 43 22.6	+1.8
SIRR	Siria	4.11	41	⇑iP	Pn	11 43 20.9	-0.9
SIRR	Siria	4.11	41	⇑iP	Pn	11 43 20.9	-0.9
TIP	Timpagrande	4.11	191	⇑iP	Pn	11 43 21.3	-0.7
TIP	Timpagrande	4.11	191	⇑iP	Pn	11 43 21.3	-0.7
CSKK	Csˆ‡kako	4.16	4	⇑ePn	Pn	11 43 23.5	+1.0
CSKK				eSn	Sn	11 44 16.3	+4.8
CSKK	Csˆ‡kako	4.16	4	⇑ePn	Pn	11 43 23.5	+1.0
CSKK				eSn	Sn	11 44 16.3	+4.8
SRE	Strehaia	4.16	68	⇑iP	Pn	11 43 23.7	+1.1
SRE	Strehaia	4.16	68	⇑iP	Pn	11 43 23.7	+1.1
ARSA	Arzberg	4.34	339	Pn	Pn	11 43 26.0	+0.9
	22nm,0.4s,SNR=20						
ARSA				Sn	Sn	11 44 18.0	+1.9
	24nm,0.5s						
ARSA	Arzberg	4.34	339	ePn	Pn	11 43 26.0	+0.9
	22nm,0.4s,SNR=20						
ARSA				Sn	Sn	11 44 18.0	+1.9
	24nm,0.5s						
BUD	Budapest	4.35	11	⇑ex	Pg	11 43 41.0	-0.6
MYKA	Terra Mystica	4.51	321	Pn	Pn	11 43 29.5	+2.1
	3.2nm,0.2s						
MYKA				Sn	Sn	11 44 24.0	+3.6
	22nm,0.7s						
MYKA	Terra Mystica	4.51	321	ePn	Pn	11 43 29.5	+2.1
	3.2nm,0.2s						
MYKA				eSn	Sn	11 44 24.0	+3.6
	22nm,0.7s						
SOP	Sopron	4.55	349	⇑ePn	Pb	11 43 33.7	-5.0
SOP				eSn	Sn	11 44 22.6	+1.4
CONA	Conrad Observa	4.90	345	Pn	Pn	11 43 33.9	+1.1
	4.8nm,0.3s						
CONA				Sn	Sn	11 44 29.5	-0.5
	34nm,0.5s						
CONA	Conrad Observa	4.90	345	ePn	Pn	11 43 33.9	+1.1
	4.8nm,0.3s						
CONA				eSn	Sn	11 44 29.5	-0.5
	34nm,0.5s						
PSZ	Piszkesteto	4.92	17	⇑ex	Pn	11 43 32.6	-0.5
PSZ	Piszkesteto	4.92	17	⇑ePn	Pn	11 43 32.6	-0.5
KBA	Koelnbreinsper	4.98	322	Pn	Pn	11 43 36.1	+2.1
	8.9nm,0.4s,SNR=6.9						
KBA				Sn	Sn	11 44 34.3	+2.2
	17nm,0.7s						
KBA	Koelnbreinsper	4.98	322	ePn	Pn	11 43 36.1	+2.1
	8.9nm,0.4s,SNR=6.9						
KBA				Sn	Sn	11 44 34.3	+2.2
	17nm,0.7s						
DRGR		4.99	43	⇑iP	Pn	11 43 33.8	-0.2
DRGR		4.99	43	⇑iP	Pn	11 43 33.8	-0.2
ABTA	Abfaltersbach	5.15	315	Pn	Pn	11 43 37.4	+1.2
	3.0nm,0.2s						
ABTA				Sn	Sn	11 44 39.9	+3.8
	42nm,0.8s						
ABTA	Abfaltersbach	5.15	315	ePn	Pn	11 43 37.4	+1.2
	3.0nm,0.2s						
ABTA				Sn	Sn	11 44 39.9	+3.8
	42nm,0.8s						
MODS	Modra-Piesok	5.17	356	ePn	Pn	11 43 36.0	-0.4
MODS				eSn	Sn	11 44 34.6	-1.9
MODS	Modra-Piesok	5.17	356	ePN	Pn	11 43 36.0	-0.4
MODS				eSN	Sn	11 44 34.6	-1.9
MOA	Molln	5.25	333	Pn	Pn	11 43 39.7	+2.1
	5.4nm,0.3s						
MOA				Sn	Sn	11 44 40.1	+1.5
	51nm,0.6s						
MOA	Molln	5.25	333	i Pn	Pn	11 43 39.7	+2.1
	5.4nm,0.3s						
MOA				eSn	Sn	11 44 40.1	+1.5
	51nm,0.6s						
VYHS	Vyhne	5.33	7	ePn	Pn	11 43 38.5	-0.1
VYHS				eSn	Sn	11 44 41.1	+0.7
VYHS	Vyhne	5.33	7	ePN	Pn	11 43 38.5	-0.1
VYHS				eSN	Sn	11 44 41.1	+0.7
KECS	Kecovo	5.59	19	ePn	Pn	11 43 42.1	-0.1
KECS	Kecovo	5.59	19	ePN	Pn	11 43 42.0	-0.1
KECS				eSN	Sn	11 44 43.1	-3.7
VOIR		5.65	64	⇓iP	Pn	11 43 43.7	+0.6
VOIR		5.65	64	⇓iP	Pn	11 43 43.7	+0.6
WTTA	Wattenberg	5.94	315	Pn	Pn	11 43 49.4	+2.2
WTTA				Sn	Sn	11 44 56.5	+0.8
	11nm,0.5s						
WTTA	Wattenberg	5.94	315	ePn	Pn	11 43 49.8	+2.6
	6.5nm,0.2s						
WTTA				Sn	Sn	11 44 56.5	+0.8

	11nm,0.5s						
WATA	Walderalm	6.02	315	Pn	Pn	11 43 50.6	+2.4
	9.3nm,0.2s,SNR=7.9						
WATA	Walderalm	6.02	315	ePn	Pn	11 43 50.6	+2.4
	9.3nm,0.2s,SNR=7.9						
LANS	Liptovska Anna	6.04	10	ePn	Pn	11 43 50.7	+2.2
LANS	Liptovska Anna	6.04	10	ePN	Pn	11 43 50.7	+2.2
DOPR	Dopca	6.08	60	⇓iP	Pn	11 43 48.2	-0.7
DOPR	Dopca	6.08	60	⇓iP	Pn	11 43 48.2	-0.7
VRAC	Vranov	6.15	353	Pn	Pn	11 43 52.6	+2.7
	0.1nm,0.3s,baz=162,slow=19,SNR=1.3						
VRAC				Sn	Sn	11 45 02.2	+1.5
	1.6nm,0.3s,baz=248,slow=6.7,SNR=3.5						
CRVS	Cervenica-Dubn	6.23	23	ePn	Pn	11 43 51.0	0.0
CRVS	Cervenica-Dubn	6.23	23	ePN	Pn	11 43 51.0	0.0
MLR	Muntele Rosu	6.26	66	Pn	Pn	11 43 57.0	+5.5
	0.1nm,0.3s,baz=169,slow=10,SNR=2.1						
MLR				Sn	Sn	11 45 11.4	+7.7
	0.1nm,0.3s,baz=216,slow=17,SNR=2.0						
MLR				Lg	Lg	11 45 46.1	
	0.1nm,0.3s,baz=108,slow=20,SNR=1.8						
MOTA	Moosalm	6.27	313	Pn	Pn	11 43 53.5	+1.8
	20nm,0.5s,SNR=16						
MOTA	Moosalm	6.27	313	ePn	Pn	11 43 53.5	+1.8
	20nm,0.5s,SNR=16						
FETA	Feichten	6.28	310	Pn	Pn	11 43 53.4	+1.5
	1.1nm,0.2s						
FETA	Feichten	6.28	310	ePn	Pn	11 43 53.4	+1.5
	1.1nm,0.2s						
FETA				eSn	Sn	11 45 09.2	+5.0
	14nm,0.6s						
GERES	GERESS Array B	6.31	335	Pn	Pn	11 43 53.6	+1.5
	2.1nm,0.3s,baz=161,slow=14,SNR=29						
GERES				Sn	Sn	11 45 03.6	-1.1
	2.0nm,0.3s,baz=147,slow=22,SNR=11						
PGF	Pioggiola	6.50	267	ePn	Pn	11 43 55.0	+0.2
PGF	Pioggiola	6.50	267	ePn	Pn	11 43 55.0	+0.2
RETA	Reutte	6.54	313	Pn	Pn	11 43 56.1	+0.8
	2.1nm,0.2s						
RETA				Sn	Sn	11 45 12.4	+2.0
	16nm,0.4s						
RETA	Reutte	6.54	313	ePn	Pn	11 43 56.1	+0.8
	2.1nm,0.2s						
RETA				eSn	Sn	11 45 12.4	+2.0
	16nm,0.4s						
MORC	Moravsky Berou	6.56	359	⇑iP	Pn	11 43 55.1	-0.5
MORC	Moravsky Berou	6.56	359	⇑iP	Pn	11 43 55.1	-0.5
KHC	Kasperske Hory	6.60	335	ePN	Pn	11 43 57.8	+1.7
KHC				eSN	Sn	11 45 10.6	-1.1
KHC	Kasperske Hory	6.60	335	Pn	Pn	11 43 57.8	+1.7
BURAR	Bucovina Array	6.82	47	⇑iP	Pn	11 44 00.1	+0.9
BURAR	Bucovina Array	6.82	47	⇑iP	Pn	11 44 00.1	+0.9
VRI	Vrincioaia	6.91	64	⇑iP	Pn	11 44 01.3	+1.0
VRI	Vrincioaia	6.91	64	⇑iP	Pn	11 44 01.3	+1.0
DAVA	Damuels	6.91	309	Pn	Pn	11 44 03.7	+3.2
	2.6nm,0.3s						
DAVA				Sn	Sn	11 45 22.5	+2.9
	9.6nm,0.4s						
DAVA	Damuels	6.91	309	ePn	Pn	11 44 03.7	+3.2
	2.6nm,0.3s						
DAVA				eSn	Sn	11 45 22.5	+2.9
	9.6nm,0.4s						
DPC	Dobruska-Polom	7.21	352	eSN	Sn	11 45 24.7	-2.0
SBF	Sospel	7.56	278	ePn	Pn	11 44 09.0	-0.3
SBF	Sospel	7.56	278	ePn	Pn	11 44 09.0	-0.3
MBDF	Montbardon	8.10	285	ePn	Pn	11 44 15.3	-1.5
MBDF	Montbardon	8.10	285	ePn	Pn	11 44 15.3	-1.5
FRF	La Foret Royal	8.13	276	ePn	Pn	11 44 16.9	-0.2
FRF	La Foret Royal	8.13	276	ePn	Pn	11 44 16.9	-0.2
LPG	La Plagne	8.24	290	eSn	Sn	11 45 46.2	-6.3
	16nm,0.4s						
LMR	La Mourre	8.24	275	ePn	Pn	11 44 18.4	-0.2
LMR	La Mourre	8.24	275	ePn	Pn	11 44 18.4	-0.2
LPL	La Plagne	8.26	290	eSn	Sn	11 45 46.0	-6.8
	35nm,0.8s						
CLL	Collm	8.72	340	eSn	Sn	11 45 49.0	-15
CLL				eSb	Sg	11 46 28.0	-30
CLL				e(Sg)	Sg	11 47 02.0	+3.9
ORIF	Oris-en-Rattie	8.75	285	ePn	Pn	11 44 25.5	-0.1
ORIF	Oris-en-Rattie	8.75	285	ePn	Pn	11 44 25.5	-0.1
SMRF	Simiane la Rot	8.91	279	ePn	Pn	11 44 27.2	-0.5
SMRF	Simiane la Rot	8.91	279	eP	Pn	11 44 29.9	+2.2
SMRF	Simiane la Rot	8.91	279	ePn	Pn	11 44 27.2	-0.5
SMRF	Simiane la Rot	8.91	279	eP	Pn	11 44 29.9	+2.2
HINF	Hinteralfeld	8.95	305	ePn	Pn	11 44 29.6	+1.2
HINF				eSn	Sn	11 46 04.1	-5.6
	16nm,0.7s						
HINF	Hinteralfeld	8.95	305	ePn	Pn	11 44 29.6	+1.2
CABF	La Chapelle	8.98	296	ePn	Pn	11 44 28.5	-0.2
CABF	La Chapelle	8.98	296	ePn	Pn	11 44 28.5	-0.2
CDF	Champ du Feu	9.00	309	ePn	Pn	11 44 28.7	-0.3
CDF	Champ du Feu	9.00	309	ePn	Pn	11 44 28.7	-0.3
VIVF	Saint-Julien-l	9.60	284	ePn	Pn	11 44 36.2	-1.0
VIVF	Saint-Julien-l	9.60	284	ePn	Pn	11 44 36.2	-1.0
IDI	Anoyia	9.64	143	Pn	Pn	11 44 37.2	-0.6
	0.4nm,0.3s,baz=312,slow=17,SNR=2.0						
IDI				Sn	Sn	11 46 19.0	-7.5
	0.5nm,0.3s,baz=294,slow=20,SNR=1.8						
LASF	Ste Croix	10.15	280	ePn	Pn	11 44 43.1	-1.6
LASF	Ste Croix	10.15	280	ePn	Pn	11 44 43.1	-1.6
SMF	Signal de Mont	10.47	294	ePn	Pn	11 44 48.2	-1.0
SMF	Signal de Mont	10.47	294	ePn	Pn	11 44 48.2	-1.0
LOR	Lormes	10.63	297	ePn	Pn	11 44 51.1	-0.2
LOR	Lormes	10.63	297	ePn	Pn	11 44 51.1	-0.2
SSF	Saint Saulge	10.80	296	ePn	Pn	11 44 52.4	-1.3
SSF	Saint Saulge	10.80	296	ePn	Pn	11 44 52.4	-1.3
AVF	Avril sur Loir	10.84	294	ePn	Pn	11 44 53.7	-0.4
AVF	Avril sur Loir	10.84	294	ePn	Pn	11 44 53.7	-0.4
BGF	Bois d'Agland	11.12	293	ePn	Pn	11 44 57.2	-0.8
FINES	FINESS Array B	18.91	12	P	Pn	11 46 42.0	+1.7
	0.1nm,0.3s,baz=209,slow=8.0,SNR=3.6						
TORD	Torodi Ar. Bea	33.03	210	P	P	11 48 53.8	-0.9
	0.2nm,0.5s,baz=11,slow=8.8,SNR=2.4						
MKAR	Makanchi Array	44.59	62	P	P	11 50 36.4	+5.0
	0.2nm,0.7s,baz=284,slow=9.0,SNR=2.2						
SONM	Songino Array	58.92	52	P	P	11 52 20.1	+1.6
	0.1nm,0.4s,baz=305,slow=5.1,SNR=1.4						

IDC 07 11:46:51.1±10.0**, 5°.18S**×**153°.34E, h99**km±70km**, mb2.9**/3**, mb1 3.1**/4**, mb1mx2.8**/50**, mbtmp3.3**/4**, ML1.7**/1**, Error ellipse: s-maj=103.8km s-min=41.1km az=105.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.43	235	P	Pn	11 48 36.4	-0.5
	0.7nm,0.3s,baz=237,slow=18,SNR=1.7						
PMG				S	Sn	11 50 01.1	+1.4
	1.0nm,0.3s,baz=295,slow=18,SNR=1.6						
WRA	Warramunga Arr	23.61	230	P	P	11 51 53.8	+0.5
	0.3nm,0.6s,baz=53,slow=9.5,SNR=8.0						
ASAR	Alice Springs	26.24	224	P	P	11 52 16.6	-0.6
	0.2nm,0.8s,baz=50,slow=8.7,SNR=4.3						
MKAR	Makanchi Array	80.96	319	P	P	11 58 55.0	+0.3
	0.2nm,0.5s,baz=106,slow=5.1,SNR=3.5						
TORD	Torodi Ar. Bea	150.94	288	PKPbc	PKPbc	12 06 32.9	-0.5
	0.4nm,0.5s,baz=91,slow=1.5,SNR=8.2						

*ISK **07** 11:53:22.8, 38°.58N×43°.23E, h23km, ML2.4/5*
*ISCJB **07** 11:53:23.6±1.0, 38°.58N±0°.04×43°.22E±0°.06, h26km±8km, Error ellipse: s-maj=8.5km s-min=6.2km az=44.7*
*CSEM **07** 11:53:23.2±0.2, 38°.58N×43°.21E, h20km, ML2.4, Error ellipse: s-maj=4.1km s-min=3.5km az=144.0*
*DDA **07** 11:53:24.1, 38°.65N×43°.21E, h7km, Ml2.6*
ISC 07 11:53:23.2±1.0**, 38°.58N**±0°.03×**43°.21E**±0°.03**, h25**km±7km**, n20,** σ**0s.40**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.14	82	PG	Pb	11 53 28.1	-0.3
VANB				SG	Sb	11 53 31.8	0.0
VANB	Van	0.14	82	ePg	Pb	11 53 28.1	-0.3
VANB				eSg	Sb	11 53 31.8	0.0
TVAN	Van	0.16	107	iP	Pb	11 53 28.4	-0.3
TVAN				iS	Sb	11 53 32.4	+0.1
TVAN	Van	0.16	107	P	Pb	11 53 28.4	-0.3
TVAN				S	Sb	11 53 32.4	+0.1
GEVA	Gevas	0.29	205	iP	Pb	11 53 30.7	+0.5
GEVA				iS	Sn	11 53 37.1	-0.6
GEVA	Gevas	0.29	205	P	Pb	11 53 30.7	+0.5
GEVA				S	Sn	11 53 37.1	-0.6
ADCV	BITLIS_Adilcev	0.45	301	iP	Pb	11 53 32.3	-0.4
ADCV				iS	Sb	11 53 39.0	-0.1
ADCV	BITLIS_Adilcev	0.45	301	P	Pb	11 53 32.3	-0.4
ADCV				S	Sb	11 53 39.0	-0.1
ERCV	ERCIS-VAN	0.46	12	PG	Pb	11 53 32.8	0.0
ERCV				SG	Sb	11 53 39.9	+0.6
ERCV	ERCIS-VAN	0.46	12	ePg	Pb	11 53 32.8	0.0
ERCV				eSg	Sb	11 53 39.9	+0.6
CLDR	Caldiran	0.79	44	PG	Pb	11 53 38.4	-0.1
CLDR				SG	Sn	11 53 50.1	0.0
CLDR	Caldiran	0.79	44	iP	Pb	11 53 37.7	-0.8
CLDR				iS	Sb	11 53 49.5	+0.6
CLDR	Caldiran	0.79	44	P	Pb	11 53 37.7	-0.8
CLDR	Caldiran	0.79	44	ePg	Pb	11 53 38.4	-0.1
CLDR				S	Sb	11 53 49.5	+0.6
CLDR				eSg	Sn	11 53 50.1	0.0
TUTA	Tutak	0.88	339	iP	Pb	11 53 39.7	-0.3
TUTA	Tutak	0.88	339	P	Pb	11 53 39.7	-0.3
GURO	Guroymak-BITLI	0.93	269	PG	Pn	11 53 40.9	+0.1
GURO	Guroymak-BITLI	0.93	269	ePg	Pn	11 53 40.9	+0.1
AGRB	Hanur-Agry	1.01	350	PG	Pn	11 53 42.0	-0.1
AGRB				SG	Sn	11 53 56.1	+0.5
AGRB	Hanur-Agry	1.01	350	ePg	Pn	11 53 42.0	-0.1
AGRB				eSg	Sn	11 53 56.1	+0.5

IDC 07 11:54:06.8±2.0**, 1°.56N**×**126°.91E, h0**km**, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.4**/56**, mbtmp3.8**/4**, MS4.7**/1**, Ms1 4.7**/1**, ms1mx3.2**/59**, Error ellipse: s-maj=200.5km s-min=20.9km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.58	162	P	P	11 59 09.4	+0.5
	1.0nm,0.5s,baz=340,slow=11,SNR=11						
ASAR	Alice Springs	25.98	165	P	P	11 59 41.0	-0.4
	0.3nm,0.5s,baz=346,slow=7.3,SNR=14						
MKAR	Makanchi Array	59.44	326	P	P	12 04 11.1	-0.4
	0.2nm,0.4s,baz=117,slow=8.3,SNR=5.9						
RPZ	Rata Peaks	59.90	144	LR	LR	12 29 45.4	
	comp=Z,644nm,21.9s,baz=312,slow=36						
KURBB	Kurchatov Arra	63.66	328	P	P	12 04 40.1	+0.3
	2.2nm,0.2s,baz=125,slow=8.0,SNR=2.6						

DJA 07 11:56:04.5±1.3**, 0°S**±5°×**12°3E**±1°0**, h50**km±17km**, M2.8**/3**, MLv2.8**/3**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUWI	Luwuk	0.65	201	P	Pn	11 56 18.4	+0.7
LUWI				S	Sn	11 56 29.7	+2.5
MRSI	Marisa	1.40	310	P	Pn	11 56 27.4	-0.2
MRSI				S	Sn	11 56 45.1	+0.1
APSI	Ampana	1.44	251	P	Pn	11 56 28.6	+0.4

*IDC **07** 12:00:38.9±0.3, 2°.82S×138°.96E, h0km, mb5.2/31, mb1 5.2/36, mb1mx5.1/47, mbtmp5.2/36, ML4.7/3, MS5.1/36, Ms1 5.1/36, ms1mx5.0/47, Error ellipse: s-maj=13.3km s-min=8.3km az=86.0*
*BJI **07** 12:00:39.6, 3°.10S×139°.33E, h41km, mb5.5/82, mB5.5/63, Ms5.3/82, Ms7 5.2/76*
*ISCJB **07** 12:00:43.7±0.4, 2°.81S±0°.02×138°.95E±0°.02, h49km±3km, mb5.5/206, MS5.1/58, Error ellipse: s-maj=3.4km s-min=2.9km az=14.4*
*MOS **07** 12:00:43.6±0.9, 2°.74S×138°.92E, h45km, mb5.6/60, MS5.2/11, Error ellipse: s-maj=7.8km s-min=4.7km az=116.3*
*DJA **07** 12:00:45.4±0.2, 3°S±3°×13°9E±°, h56km±3km, M5.5/65, mb5.7/65, mB5.9/42, Mw(mB)5.5/42, Mwp6.0/3*
*NEIC **07** 12:00:45.0±0.0, 2°.86S×138°.87E, h50km, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}2.46; $M_{\theta\theta}$-2.28; $M_{\phi\phi}$-0.18; $M_{r\theta}$-2.02; $M_{\theta\phi}$0.59; $M_{\phi r}$1.07; Best double couple: M_o3.30000×10^{17} NP1:ϕ_s293.00000°, δ67.00000°, λ97.00000°. NP2:ϕ_s96.00000°, δ24.00000°, λ74.00000°. Principal axes: T 3.3900, Plg67.0000°, Azm216.0000°; N -0.0900, Plg6.0000°, Azm110.0000°; P -3.3000, Plg21.0000°, Azm18.0000°;*
*NEIC **07** 12:00:46.0±0.6, 2°.81S×138°.89E, h54km±6km, mb5.5/75, MW5.7, MW5.6 Error ellipse: s-maj=4.1km s-min=3.5km az=55.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^{17}Nm; M_{rr}4.65; $M_{\theta\theta}$-2.85; $M_{\phi\phi}$-1.80; $M_{r\theta}$-1.21; $M_{\theta\phi}$1.41; $M_{\phi r}$1.18; Best double couple: M_o4.60000×10^{17} NP1:ϕ_s123.00000°, δ34.00000°, λ86.00000°. NP2: ϕ_s308.00000°, δ56.00000°, λ93.00000°. Principal axes: T 4.9800, Plg79.0000°, Azm229.0000°; N -0.8300, Plg2.0000°, Azm126.0000°; P -4.1500, Plg11.0000°, Azm36.0000°;*
NEIC Felt [III] at Sarmi and [II] at Genyem.
*GCMT **07** 12:00:46.0±0.1, 2°.63S×138°.98E, h38km, MW5.7/125, Moment Tensor Solution. s125,c228; s120,c279; Duration: 1s.7 Moment tensor: Scale 10^{17}Nm; M_{rr}3.29±.05; $M_{\theta\theta}$-3.09±.03; $M_{\phi\phi}$-0.19±.04; $M_{r\theta}$-1.57±.04; $M_{\theta\phi}$1.12±.03; $M_{\phi r}$1.49±.05; Best double couple: M_o4.01800×10^{17} NP1:ϕ_s302.00000°, δ61.00000°, λ103.00000°. NP2:ϕ_s96.00000°, δ31.00000°, λ67.00000°. Principal axes: T 4.0190, Plg71.0000°, Azm241.0000°; N 0.0000, Plg11.0000°, Azm115.0000°; P -4.0170, Plg15.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 07 12:00:45.0±0.4**, 2°.78S**±0°.03×**138°.98E**±0°.03**, h46**km±3km**, h46**km**:pP-P, n636,** σ**1s.46**/721**, mb5.5**/216**, MS5.1**/62**, 29C-31D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	1.20	81	P	Pn	12 01 03.8	-1.6
GENI				S	Sn	12 01 22.6	+2.0
JAY	Jayapura	1.75	81	P	Pn	12 01 11.1	-1.8
JAY				S	Sn	12 01 33.1	-0.9
JAY	Jayapura	1.75	81	P	Pn	12 01 11.5	-1.4
RKPI	Ransiki, Papua	4.96	285	P	Pn	12 01 57.8	+0.8
RKPI				S	Sn	12 02 55.4	+2.3
KMPI	Kaimana, Papua	5.34	260	P	Pn	12 02 05.1	+2.9
MMPI	Merauke	5.82	166	P	Pn	12 02 11.0	+2.1
FAKI	Fak Fak	6.72	269	P	Pn	12 02 22.1	+0.9
FAKI	Fak Fak	6.72	269	ePn	Pn	12 02 22.3	+1.0
FAKI				eSn	Sn	12 03 36.5	-0.1
SWI	Sorong	7.95	284	P	Pn	12 02 40.8	+2.8
SWI	Sorong	7.95	284	P	Pn	12 02 39.1	+1.1
SWI				pmax	pmax		
	comp=Z,780nm,0.6s						
BNDI	Bandanaira	9.22	259	P	Pn	12 02 57.0	+1.5
SAUI	Saumlaki	9.23	236	P	Pn	12 02 58.6	+3.0
SAUI	Saumlaki	9.23	236	ePn	Pn	12 02 56.5	+0.9
MSAI	Masohi	10.05	267	P	Pn	12 03 08.4	+1.5
PMG	Port Moresby	10.46	129	Pn	Pn	12 03 10.7	-1.8
	comp=Z,0.9nm,0.3s,baz=260,slow=6.9,SNR=3.2						
PMG				Sn	Sn	12 05 11.2	+2.8
	comp=Z,0.5nm,0.3s,baz=291,slow=14,SNR=1.7						
PMG	Port Moresby	10.46	129	ePn	Pn	12 03 15.9	+3.4
PMG				Sn	Sn	12 05 11.2	+2.8
PMG	Port Moresby	10.46	129	d iP	Pn	12 03 16.4	+3.9
PMG				pmax	pmax		
	comp=Z,776nm,1.0s						
AAI	Ambon	10.80	265	P	Pn	12 03 17.7	+0.5
AAI	Ambon	10.80	265	P	Pn	12 03 16.9	-0.3
AAI				pmax	pmax		
	comp=Z,513nm,0.9s						
PALU	Palau	11.01	336	P	Pn	12 03 20.9	+0.8
	baz=11,SNR=24						
I39PW	PALAU INFRASON	11.16	337	i		13 12 50.0	
	baz=158,slow=312,SNR=0.4						
LBMI	Labuha	11.67	280	P	Pn	12 03 29.0	0.0
	comp=Z,804nm,1.0s,comp=Z,8μm						
COEN	Coen	11.86	160	P	Pn	12 03 30.2	-1.3
	baz=12,SNR=242						
COEN	Coen	11.86	160	ePn	Pn	12 03 31.5	-0.1
NLAI	Namlea	11.87	267	P	Pn	12 03 33.2	+1.4
	comp=Z,1μm,1.0s,comp=Z,7μm						
MTN	Manton Dam	12.66	217	ePn	Pn	12 03 40.8	-1.8
SANI	Sanana	13.00	273	P	Pn	12 03 46.5	-0.7
	comp=Z,772nm,0.8s,comp=Z,6μm						
RABL	Rabaul	13.24	96	ePn	Pn	12 03 52.9	+2.4
KMSI	Cibinong	15.36	282	P	Pn	12 04 19.5	+0.7
MTSU	Mount Surprise	16.13	161	P	Pn	12 04 29.2	+0.4
	baz=16,SNR=81						
SOEI	Soe	16.17	244	P	Pn	12 04 30.5	+1.1
	comp=Z,2μm,1.1s,comp=Z,18μm						
SOEI	Soe	16.17	244	ePn	Pn	12 04 28.4	-1.0
	comp=Z,2μm,1.0s						
LUWI	Luwuk	16.29	276	P	Pn	12 04 30.1	-0.6
	comp=Z,546nm,0.8s,comp=Z,7μm						
LUWI	Luwuk	16.29	276	ePn	Pn	12 04 29.7	-1.0
	comp=Z,521nm,0.9s						
KNRA	Kununurra	16.30	218	P	Pn	12 04 29.6	-1.2
	baz=16,SNR=96						
DAV	Davao City (W)	16.57	306	Pn	Pn	12 04 33.4	-0.9
	comp=Z,36nm,0.3s,baz=48,slow=14,SNR=1.7						
DAV				LR	LR	12 11 46.5	
	comp=Z,4μm,18.1s,baz=130,slow=40						
BBSI	Bau Bau	16.58	260	P	P	12 04 38.0	+1.6
BATI	Baumata	16.90	243	Pn	Pn	12 04 38.0	-0.5
	comp=Z,4.2nm,0.3s,baz=230,slow=3.2,SNR=22						
BATI				Sn	Sn	12 07 46.3	+0.8
	comp=Z,2.1nm,0.3s,baz=12,slow=19,SNR=1.7						
BATI	Baumata	16.90	243	P	Pn	12 04 38.6	+0.1
	comp=Z,694nm,0.7s,comp=Z,6μmcomp=Z,3μm						
GUMO	Guam	17.28	20	P	Pn	12 04 37.0	-6.1
	comp=Z,3.7nm,0.3s,baz=248,slow=16,SNR=2.2						
GUMO				LR	LR	12 11 00.2	
	comp=Z,6μm,19.2s,baz=210,slow=36						
GUMO	Guam	17.28	20	ePn	P	12 04 46.5	+2.5
GUMO	Guam	17.28	20	eP	P	12 04 46.5	+2.5
MRSI	Marisa	17.34	280	P	Pn	12 04 44.0	+0.2
	comp=Z,230nm,0.9s,comp=Z,2μm						
APSI	Ampana	17.42	276	P	P	12 04 45.7	+0.1
	comp=Z,756nm,1.2s,comp=Z,8μm						
BUKP	Musuan	17.46	307	eP	P	12 04 47.4	+1.3
MMRI	Maumere	17.64	250	P	P	12 04 49.0	+0.9
	comp=Z,264nm,1.1s,comp=Z,4μm						
MMRI	Maumere	17.64	250	eP	Pn	12 04 45.4	-2.2
	comp=Z,214nm,1.0s						
WRAB	Tennant Creek	17.64	195	ePn	Pn	12 04 44.5	-3.1
	comp=Z,402nm,0.8s						
WRAB				eSn	Sn	12 07 55.8	-7.5
WRAB	Tennant Creek	17.64	195	d iP	Pn	12 04 44.2	-3.3
WRAB				pmax	pmax		
	comp=Z,244nm,1.2s						
WB2	Warramunga Arr	17.65	194	ePn	P	12 04 49.9	+1.7
WRA	Warramunga Arr	17.65	195	P	Pn	12 04 45.0	-2.7
	comp=Z,4.1nm,0.3s,baz=7.9,slow=13,SNR=121						
WRA				S	Sn	12 07 53.0	-11
	comp=Z,0.9nm,0.3s,baz=24,slow=23,SNR=3.6						
WRA				Lg	Lg	12 10 00.5	
	baz=26,slow=29,SNR=2.5						
WRA				LR	LR	12 12 19.7	
	comp=Z,29μm,18.5s,baz=15,slow=40						
BUTP	Butuan	17.70	311	eP	P	12 04 49.7	+0.9
SCPH	Surigao	18.34	313	⇓eP	Pn	12 04 56.5	+0.4
CTA	Charters Tower	18.61	158	P	Pn	12 04 59.5	+0.1
	comp=Z,0.5nm,0.3s,baz=353,slow=16,SNR=10.0						
CTA				Lg	Lg	12 10 30.5	
	comp=Z,0.6nm,0.3s,baz=246,slow=19,SNR=3.3						
CTA				LR	LR	12 12 36.1	
	comp=Z,23μm,19.2s,baz=342,slow=39						
CTAO	Charters Tower	18.61	158	eP	Pn	12 05 00.1	+0.7
	comp=Z,163nm,1.0s						
CTAO				eS	Sn	12 08 27.5	+0.7
CTAO	Charters Tower	18.61	158	eP	Pn	12 05 00.2	+0.7
CTAO				eS	Sn	12 08 27.5	+0.7
CTAO				pmax	pmax		
	comp=Z,163nm,1.0s						
BSSI	Bau Bau, Buton	18.73	259	P	Pn	12 05 03.1	+2.2
PAGZ	Pagadian	18.80	304	eP	Pn	12 05 03.3	+1.6
BNSI	Bone	18.90	265	P	Pn	12 05 05.6	+2.7
MSLP	Maasin	19.03	313	eP	Pn	12 05 04.0	-0.4
TTSI	Tana Toraja	19.14	269	P	Pn	12 05 07.7	+2.0
KAPI	Kappang	19.31	263	eP	P	12 05 05.2	-1.2
	comp=Z,75nm,0.8s						
KAPI				eS	S	12 08 40.7	-2.0
KAPI	Kappang	19.31	263	P	P	12 05 04.5	-2.0
	SNR=11						
MPSI	Mapaga	19.32	279	P	Pn	12 05 07.9	-0.1
	comp=Z,105nm,0.7s,comp=Z,2μm						
BESP	Borongan	19.63	317	eP	Pn	12 05 13.3	+1.8
PLP	Palo	19.64	315	⇑eP	P	12 05 10.9	+0.8
BASI	Baing, Sumba	19.71	247	P	Pn	12 05 12.9	+0.4
	comp=Z,478nm,1.5s,comp=Z,5μm						
WSI	Waingapu	19.78	249	P	Pn	12 05 17.0	+3.6
OCLP	Ormoc	19.83	314	eP	Pn	12 05 13.7	-0.3
FITZ	Fitzroy Crossi	20.07	220	P	P	12 05 14.6	-0.1
	comp=Z,115nm,0.8s,baz=43,slow=16						
FITZ				LR	LR	12 13 47.9	
	comp=Z,18μm,19.2s,baz=96,slow=39						
WBSI	Waikabubak, Su	20.62	250	P	P	12 05 18.5	-2.2
CNP	Catarman	20.81	317	eP	P	12 05 23.4	+0.7
GUIM	Jordan	21.06	309	eP	P	12 05 26.4	+1.0
AS01	Alice Springs	21.33	193	eP	P	12 05 27.6	-0.7
AS31	Alice Springs	21.34	193	eP	P	12 05 27.1	-1.2
	comp=Z,105nm,0.8s						
ASAR	Alice Springs	21.34	193	P	P	12 05 28.1	-0.3
	comp=Z,52nm,0.9s,baz=25,slow=9.6,SNR=220						
ASAR				S	S	12 09 25.0	+2.0
	comp=Z,8.4nm,0.7s,baz=17,slow=11,SNR=4.6						
ASAR				Lg	Lg	12 11 53.4	
	comp=Z,44nm,1.0s,baz=18,slow=30,SNR=3.1						
ASAR				LR	LR	12 14 25.3	
	comp=Z,22μm,19.5s,baz=13,slow=39						
SGKI	Sangatta, Kali	21.48	276	P	P	12 05 33.0	+3.0
RCP	Roxas	21.53	312	⇓eP	P	12 05 32.2	+1.8
HNR	Honiara	21.86	109	P	P	12 05 33.9	-0.2
	comp=Z,54nm,0.5s,baz=260,slow=9.6						
HNR	Honiara	21.86	109	P	P	12 05 32.0	-2.0
HNR	Honiara	21.86	109	eP	P	12 05 33.8	-0.2
	comp=Z,185nm,0.8s						
HNR	Honiara	21.86	109	eP	P	12 05 33.8	-0.2
HNR				pmax	pmax		
	comp=Z,185nm,0.8s						
SMKI	Samarinda	21.88	276	P	P	12 05 37.4	+3.1
PLAI	Plampang	21.92	253	P	P	12 05 32.4	-2.3
PVCP	Virac	21.93	318	eP	P	12 05 34.5	-0.2
MYLDM	Lahad Datu	21.93	291	⇓P	P	12 05 38.1	+3.3
MYLDM	Lahad Datu	21.93	291	eP	P	12 05 36.9	+2.1
	comp=Z,451nm,1.1s						
BKB	Balikpapan	22.12	273	P	P	12 05 40.3	+3.5
TSM	Tawau	22.23	288	⇑P	P	12 05 39.4	+1.4
OTRP	Odiongan	22.59	312	eP	P	12 05 42.7	+0.9
KBKI	Kotabaru	22.78	268	P	P	12 05 45.3	+1.4
	comp=Z,260nm,0.9s,comp=Z,3μm						
SDKM	Sandakan	23.31	291	⇑P	P	12 05 50.2	+0.9
SJMP	San Jose	23.32	311	eP	P	12 05 49.9	+0.6
BOAC	Boac	23.44	314	eP	P	12 05 50.8	+0.4
BUSP	Coron	23.75	309	eP	P	12 05 54.2	+0.9
ENPP	El Nido	23.90	306	eP	P	12 05 55.2	+0.4
LQP	Lukban	24.09	315	⇓eP	P	12 05 56.5	-0.2
KDM	Kudat	24.11	294	⇑P	P	12 05 57.6	+0.9
MTKI	Muara Teweh, K	24.14	274	P	P	12 05 57.3	+0.3
	comp=Z,284nm,1.4s						
QLP	Quilpie	24.20	168	P	P	12 05 57.1	-0.2
	baz=24,SNR=38						
SRBI	Singaraja	24.23	256	P	P	12 05 57.3	-0.5
	comp=Z,184nm,1.1s,comp=Z,2μm						
DNP	Denpasar	24.35	255	P	P	12 05 59.6	+0.7
	comp=Z,499nm,0.8s						
KKM	Kota Kinabalu	24.36	291	⇑P	P	12 06 00.3	+1.1
KKM	Kota Kinabalu	24.36	291	eP	P	12 05 59.1	0.0
	comp=Z,94nm,0.8s						
WRKA	Warakurna	24.41	204	P	P	12 05 58.2	-1.1
	baz=24,SNR=132						
IGBI	Denpasar	24.45	255	P	P	12 05 59.6	-0.2
	comp=Z,550nm,0.6s,comp=Z,7μm						
TGY	Tagaytay City	24.52	314	P	P	12 06 01.1	+0.6
	comp=Z,2μm,0.9s,baz=220,slow=2.1,SNR=48						
TGY				LR	LR	12 16 02.1	
	comp=Z,4μm,19.9s,baz=134,slow=38						
ABJI	Asem Bagus	25.13	258	P	P	12 06 05.4	-0.6
	comp=Z,142nm,1.2s,comp=Z,2μm						
BALP	Baler	25.20	317	eP	P	12 06 07.8	+1.3
KMMI	Kalianget	25.27	259	P	P	12 06 08.3	+1.0
	comp=Z,504nm,1.2s,comp=Z,8μmcomp=Z,14μm						
EIDS	Eidsvold	25.30	154	P	P	12 06 08.9	+1.5
	baz=25,SNR=17						
EIDS	Eidsvold	25.30	154	eP	P	12 06 08.3	+0.9
	comp=Z,300nm,1.4s						
JAGI	Jajag, Banyuwa	25.33	256	P	P	12 06 07.5	-0.4
	comp=Z,154nm,0.7s,comp=Z,2μm						
JAGI	Jajag, Banyuwa	25.33	256	eP	P	12 06 05.9	-2.0
	comp=Z,111nm,0.7s						
BLJI	Banyuglugur	25.74	258	P	P	12 06 10.2	-1.4
	comp=Z,146nm,0.8s,comp=Z,2μm						
CAUP	Cauayan	25.90	320	eP	P	12 06 15.0	+2.1

GMJI **Gumukmas** 25.98 257 P P 12 06 13.7 0.0
comp=Z,97nm,0.9s
MBWA **Marble Bar** 26.17 224 eP P 12 06 15.5 +0.1
comp=Z,432nm,1.8s
MBWA **Marble Bar** 26.17 224 P P 12 06 13.6 -1.7
SNR=5.4
SCZP **Santa Cruz** 26.37 315 eP P 12 06 16.3 -0.9
BWJI **Bawean** 26.42 262 P P 12 06 17.1 -0.6
comp=Z,101nm,1.1s,comp=Z,4μm
BTM **Bintulu** 26.55 283 ⇑P P 12 06 21.5 +2.6
GRJI **Gresik** 26.71 260 P P 12 06 20.6 +0.3
comp=Z,228nm,1.4s,comp=Z,2μm
APYP **Conner** 26.95 320 eP P 12 06 20.8 -1.6
ABRA **Dolores** 27.14 319 eP P 12 06 21.4 -2.7
SBUM **Sibu** 27.25 281 ⇓P P 12 06 26.9 +1.7
SBUM **Sibu** 27.25 281 eP P 12 06 25.8 +0.7
comp=Z,48nm,1.1s
PBKI **Pangkalan Bun** 27.28 269 P P 12 06 26.6 +1.2
comp=Z,414nm,1.0s,comp=Z,3μm
PWJI **Pagerwojo** 27.54 258 P P 12 06 27.7 0.0
comp=Z,106nm,0.9s
STKI **Sintang** 27.63 275 P P 12 06 29.3 +0.7
comp=Z,36nm,0.6s,comp=Z,19μm
PCJI **Pacitan** 28.18 258 P P 12 06 33.3 -0.2
comp=Z,126nm,1.1s
SMRI **Semarang** 28.74 260 P P 12 06 45.9 +7.4
SMRI **Semarang** 28.74 260 eP P 12 06 37.0 -1.4
comp=Z,158nm,1.0s
KSM **Kuching** 28.97 278 ⇓P P 12 06 41.2 +0.7
KSM **Kuching** 28.97 278 eP P 12 06 39.9 -0.6
comp=Z,45nm,0.8s
KSM LR LR
comp=Z,2μm,21.0s
STKA **Stephens Creek** 29.05 175 P P 12 06 41.1 +0.1
comp=Z,4.3nm,0.4s,baz=359,slow=8.4,SNR=16
STKA LR LR 12 19 30.7
comp=Z,18μm,18.6s,baz=345,slow=39
STKA **Stephens Creek** 29.05 175 P P 12 06 41.4 +0.4
baz=29,SNR=18
STKA **Stephens Creek** 29.05 175 eP P 12 06 41.4 +0.4
comp=Z,13nm,0.9s
STKA **Stephens Creek** 29.05 175 eP P 12 06 41.4 +0.4
STKA pmax pmax
comp=Z,13nm,0.9s
CMSA **Cobar Meteorol** 29.30 168 P P 12 06 44.3 +1.1
baz=29,SNR=15
CBIJ **Chichi jima** 29.86 6 P P 12 06 48.0 -0.2
JCJ **Chichijima** 29.86 6 P P 12 06 47.9 -0.2
comp=Z,77nm,1.0s,baz=302,slow=19,SNR=3.1
JCJ LR LR 12 17 10.5
comp=Z,3μm,19.7s,baz=170,slow=33
ARMA **Armidale** 29.99 158 P P 12 06 50.3 +0.8
baz=30,SNR=5.7
BBOO **Buckleboo** 30.00 185 P P 12 06 49.0 -0.4
baz=30,SNR=7.7
BBOO **Buckleboo** 30.00 185 eP P 12 06 49.7 +0.2
comp=Z,67nm,0.8s
HTT **Hallett** 30.49 180 P P 12 06 53.3 -0.5
baz=31,SNR=15
MEEK **Meekatharra** 30.73 218 P P 12 06 55.8 -0.1
baz=31,SNR=12
TWG **Pinlang** 30.86 326 eP P 12 06 54.3 -2.8
comp=Z,650nm,2.0s
GIRL **Giralia** 31.08 229 P P 12 07 01.0 +1.9
baz=31,SNR=6.5
YULB **Yu-li** 31.20 327 eP P 12 06 59.1 -1.0
comp=Z,68nm,0.6s
CISI **Cisompet, Garu** 31.39 260 P P 12 06 59.5 -2.5
CISI **Cisompet, Garu** 31.39 260 eP P 12 06 59.1 -2.9
comp=Z,99nm,0.8s
TPUB **Ta-pu** 31.49 326 eP P 12 07 01.3 -1.4
comp=Z,88nm,0.9s
LEM **Lembang** 31.50 262 P P 12 07 03.5 +0.4
comp=Z,13nm,0.5s,baz=19,slow=9.4,SNR=3.7
NACB **Ninganchiao** 31.68 329 eP P 12 07 04.1 -0.2
comp=Z,193nm,1.0s
SSLB **Suanglung** 31.70 327 eP P 12 07 03.5 -1.0
comp=Z,100nm,0.8s
YHNB **Yeheng** 32.20 329 eP P 12 07 10.6 +1.7
comp=Z,78nm,0.8s
TATO **Taipei** 32.39 329 eP P 12 07 11.5 +0.9
comp=Z,136nm,0.8s
YNG **Young** 32.57 165 P P 12 07 12.7 +0.7
baz=33,SNR=5.0
KMBL **Kambalda** 32.69 208 P P 12 07 12.6 -0.5
baz=33,SNR=5.2
PPBI **Pangkal Pinang** 32.82 270 P P 12 07 14.8 +0.4
comp=Z,1.0nm,0.8s,comp=Z,1μm
DZM **Mont Dzumac** 32.85 128 P P 12 07 13.4 -1.4
comp=Z,5.2nm,0.8s,baz=267,slow=18,SNR=3.8
DZM LR LR 12 21 35.2
comp=Z,1μm,18.2s,baz=310,slow=38
DZM **Mont Dzumac** 32.85 128 eLR LR 12 16 04.5
comp=Z,11μm,25.7s
CGJI **Cibinong** 33.38 262 P P 12 07 18.8 -0.6
CAN **Canberra** 33.69 165 P P 12 07 18.1 -3.7
CAN **Canberra** 33.69 165 P P 12 07 18.1 -3.7
CNB **Canberra Magne** 33.78 165 P P 12 07 23.7 +1.1
baz=34,SNR=6.9
QZH **Quanzhou** 33.92 325 ⇑iP P 12 07 24.2 +0.3
QZH S S 12 12 45.3 -0.3
QZH pmax pmax
comp=Z,170nm,0.6s
QZH LR LR
comp=Z,2μm,22.9s
QZH LR LR
comp=Z,2μm,22.9s
QZH LR LR
comp=Z,4μm,23.9s
ARPS **Mount Arapiles** 33.93 176 P P 12 07 24.3 +0.5
baz=34,SNR=14
MORW **Morawa** 34.05 218 P P 12 07 24.8 -0.2
baz=34,SNR=9.0
PMBI **Palembang** 34.16 269 P P 12 07 28.7 +2.5
comp=Z,985nm,1.0s,comp=Z,79μm
DSRI **Dabo** 34.46 273 P P 12 07 29.6 +0.8
comp=Z,207nm,1.3s,comp=Z,6μmcomp=Z,141μm
KASI **Kota Agung** 34.49 264 P P 12 07 28.1 -0.9
comp=Z,135nm,0.9s,comp=Z,2μm
TPRI **Tanjung Pinang** 34.64 276 P P 12 07 31.2 +0.9
comp=Z,118nm,0.9s,comp=Z,11μm
MDSI **Maura Dua** 34.77 266 P P 12 07 31.6 +0.2
comp=Z,294nm,1.0s,comp=Z,3μm
BLDU **Ballidu** 34.79 215 P P 12 07 32.0 +0.6
baz=35,SNR=15
LWLI **Liwa** 34.91 265 P P 12 07 31.6 -1.1
comp=Z,188nm,0.9s
KLBR **Kellerberrin** 34.95 213 P P 12 07 32.6 -0.2
baz=35,SNR=8.2
TOO **Toolangi** 35.14 171 P P 12 07 36.3 +2.0
baz=35,SNR=9.9
JMBI **JAMBI** 35.33 271 P P 12 07 37.0 +0.8
comp=Z,682nm,1.1s
MYKOM **Kota Tinggi** 35.41 277 ⇓P P 12 07 38.3 +1.3
MYKOM **Kota Tinggi** 35.41 277 eP P 12 07 37.7 +0.8
comp=Z,85nm,1.0s
JHJ **Hachijo jima 2** 35.71 1 LR LR 12 19 12.1
comp=Z,4μm,19.5s,baz=190,slow=31
QIZ **Qiongzhong** 35.93 308 P P 12 07 41.3 0.0
QIZ PP PP 12 09 03.8 +0.2
QIZ S S 12 13 17.7 +1.1
QIZ pmax pmax
comp=Z,22nm,0.9s
QIZ LR LR
comp=Z,930nm,20.9s
QIZ LR LR
comp=Z,1μm,19.7s
QIZ LR LR
comp=Z,2μm,21.6s
QIZ **Qiongzhong** 35.93 308 eP P 12 07 40.6 -0.7
KGM **Kluang** 35.96 277 ⇓P P 12 07 43.3 +1.6
MUN **Mundaring** 36.09 214 P P 12 07 42.9 +0.3
baz=36,SNR=3.2
NWAO **Narrogin (SRO)** 36.26 212 P P 12 07 43.8 -0.1
comp=Z,6.7nm,0.5s,baz=282,slow=8.2,SNR=6.6
JNU **Nakatsue** 36.52 349 P P 12 07 46.7 +0.6
comp=Z,60nm,0.9s,baz=135,slow=3.7,SNR=30
JNU LR LR 12 21 47.7
comp=Z,3μm,19.1s,baz=168,slow=35
JNU **Nakatsue** 36.52 349 eP P 12 07 46.9 +0.7
comp=Z,82nm,1.0s
MASI **Maura Aman, Be** 36.69 268 P P 12 07 48.3 +0.3
comp=Z,729nm,1.1s
KTGM **Kuala Trenggan** 36.70 283 ⇓P P 12 07 49.1 +1.1
SSE **Sheshan** 37.71 335 P P 12 07 57.3 +1.0
SSE S S 12 13 44.2 +0.8
SSE pmax pmax
comp=Z,60nm,1.0s
SSE pmax pmax
comp=Z,200nm,6.2s
SSE LR LR
comp=Z,1μm,22.9s
SSE LR LR
comp=Z,820nm,20.2s
FRIM **Kepong** 37.81 279 ⇓P P 12 07 58.6 +1.2
BKNI **Bangkinang** 38.05 274 P P 12 07 59.3 -0.1
comp=Z,460nm,1.1s,comp=Z,4μm
BKNI **Bangkinang** 38.05 274 eP P 12 08 00.2 +0.8
comp=Z,313nm,0.9s
PDSI **Padang** 38.54 272 P P 12 08 02.6 -1.0
comp=Z,126nm,0.8s
IPM **Ipoh** 38.60 281 ⇓P P 12 08 04.8 +0.7
IPM **Ipoh** 38.60 281 eP P 12 08 04.5 +0.4
comp=Z,52nm,0.6s
KULM **Kulim** 39.12 282 ⇓P P 12 08 08.7 +0.3
KULM **Kulim** 39.12 282 eP P 12 08 07.8 -0.6
comp=Z,84nm,1.1s
MJAR **Matsushiro Arr** 39.12 359 P P 12 08 07.7 -0.4
comp=Z,2.8nm,0.6s,baz=181,slow=8.1,SNR=12
MJAR PcP PcP 12 10 17.1 0.0
comp=Z,5.1nm,0.8s,baz=203,slow=4.1,SNR=7.7
MJAR LR LR 12 22 14.5
comp=Z,3μm,20.8s,baz=145,slow=33
MAJO **Matsushiro** 39.12 359 eP P 12 08 08.2 +0.1
comp=Z,72nm,1.9s
MAJO ePcP PcP 12 10 17.8 +0.6
MAJO **Matsushiro** 39.12 359 ⇑iP P 12 08 08.0 -0.1
MAJO pmax pmax
comp=Z,8.0nm,0.6s
MAT **Matsushiro** 39.12 359 P P 12 08 06.6 -1.5
MAT eS S 12 14 02.6 -2.1
MJB9 **Matsu-Tunnel** 39.13 359 eP P 12 08 08.6 +0.4
comp=Z,76nm,1.9s
SKLT **Songkhla** 39.53 285 P P 12 08 11.5 -0.4
comp=Z,118nm,0.9s,comp=Z,1μm
MNSI **Mandaling Nat** 39.55 275 P P 12 08 11.3 -0.7
comp=Z,128nm,0.7s,comp=Z,2μm
NJ2 **Nanjing** 39.56 333 eP P 12 08 12.7 +0.9
NJ2 pP pP 12 08 25.5 +1.3
NJ2 sP sP 12 08 28.9 -0.8
NJ2 S S 12 14 13.1 +1.8
NJ2 sS sS 12 14 31.6 -0.6
NJ2 ScS ScS 12 18 15.2 -0.9
NJ2 pmax pmax
comp=Z,80nm,0.8s
NJ2 LR LR
comp=Z,2μm,22.8s
NJ2 LR LR
comp=Z,2μm,22.8s
NJ2 LR LR
comp=Z,3μm,16.3s
SKNT **Sakolnakorn** 39.73 301 P P 12 08 12.1 -1.3
comp=Z,32nm,1.4s
SISI **Saibi** 39.89 271 P P 12 08 13.8 -1.0
comp=Z,403nm,1.1s
MOO **Moorlands** 40.17 171 P P 12 08 17.9 +1.2
baz=40,SNR=5.0
SRAK **Srakaew** 40.24 295 P P 12 08 12.9 -4.8
PSI **Prapat** 40.42 278 P P 12 08 19.3 -0.1
comp=Z,102nm,0.8s,baz=111,slow=3.6,SNR=46
PSI PcP PcP 12 10 21.6 -0.3
comp=Z,18nm,0.7s,baz=11,slow=18,SNR=4.8
PSI LR LR 12 29 04.7
comp=Z,636nm,20.6s,baz=114,slow=42
PSI **Prapat** 40.42 278 eP P 12 08 18.7 -0.7
comp=Z,193nm,1.0s
PSI PcP PcP 12 10 21.6 -0.3
TJN **Taejon** 40.43 345 ⇓eP P 12 08 19.5 +0.6
TRTT **Trang** 40.58 285 P P 12 08 19.8 -0.8
comp=Z,43nm,1.2s,comp=Z,561nm
WHN **Wuhan** 40.62 326 ⇑iP P 12 08 22.2 +1.6
WHN pP pP 12 08 33.0 -0.1
WHN S S 12 14 30.7 +3.4
WHN pmax pmax
comp=Z,98nm,1.0s
WHN LR LR
comp=Z,2μm,12.6s
WHN LR LR
comp=Z,2μm,19.8s
WHN LR LR
comp=Z,3μm,18.6s
TAU **Tasmania Unive** 40.65 171 eP P 12 08 21.0 +0.4
comp=Z,75nm,1.0s
TAU **Tasmania Unive** 40.65 171 eP P 12 08 21.0 +0.4
TAU pmax pmax
comp=Z,75nm,1.0s
NAYO **Nakonayok** 41.00 295 P P 12 08 24.0 0.0
comp=Z,23nm,1.1s
CHAI **Chaiyaphum** 41.01 298 P P 12 08 23.6 -0.5
comp=Z,9.2nm,0.8s
KS15 **Wonju Array Si** 41.32 347 eP P 12 08 28.3 +2.0
KSAR **Wonju Array Be** 41.32 347 P P 12 08 27.4 +1.2
KSAR PcP PcP 12 10 25.1 +1.0
KSAR **Wonju Array Be** 41.32 347 P P 12 08 27.4 +1.2
KSAR 12 10 25.1
KSRS **Korea Array** 41.32 347 P P 12 08 27.4 +1.2
comp=Z,15nm,0.6s,baz=158,slow=8.7,SNR=52
KSRS PcP PcP 12 10 25.1 +1.0
comp=Z,9.1nm,0.9s,baz=173,slow=4.1,SNR=12
KSRS LR LR 12 23 01.3
comp=Z,2μm,21.9s,baz=154,slow=32
KS01 **Wonju Array Si** 41.35 347 eP P 12 08 26.6 +0.1
KS01 ePcP PcP 12 10 25.1 +0.9
GSI **Gunungsitoli** 41.59 275 P P 12 08 28.1 -0.8
comp=Z,226nm,0.8s
GSI **Gunungsitoli** 41.59 275 eP P 12 08 27.8 -1.1
comp=Z,131nm,0.6s
SURT **Suratani** 41.71 287 P P 12 08 29.2 -0.7
comp=Z,16nm,1.1s,comp=Z,342nm
PHET **Kaeng Krachan** 42.06 293 P P 12 08 33.1 +0.4
comp=Z,36nm,0.7s,comp=Z,241nm
TPTI 42.21 278 P P 12 08 33.3 -0.6
comp=Z,122nm,0.7s
GYA **Guiyang** 42.66 315 ⇑iP P 12 08 37.7 +0.2
GYA pP pP 12 08 51.0 +0.9
GYA PP PP 12 10 21.2 +4.0
GYA PcP PcP 12 10 30.8 +1.8
GYA ScP ScP 12 14 16.4 +0.1
GYA S S 12 14 58.9 +1.1
GYA sS sS 12 15 16.0 -2.9
GYA SS SS 12 18 03.2 -6.4
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.2s
GYA LR LR
comp=Z,3μm,17.6s
GYA LR LR
comp=Z,2μm,18.2s
GYA LR LR
comp=Z,2μm,18.1s
LHMI **Lhok Sumawe** 42.73 281 P P 12 08 38.1 -0.1
comp=Z,322nm,0.8s
LHMI **Lhok Sumawe** 42.73 281 eP P 12 08 39.0 +0.8
comp=Z,239nm,0.7s
PHIT **Phitsanulok** 42.91 299 P P 12 08 39.8 +0.3
comp=Z,17nm,0.9s,comp=Z,182nm
SRDT **SRDT** 43.01 294 P P 12 08 39.7 -0.6
comp=Z,49nm,1.1s
MLSI **Meulaboh, Aceh** 43.12 279 P P 12 08 40.2 -1.1
comp=Z,257nm,0.8s
UTHA **Uthaitani** 43.14 296 P P 12 08 41.5 +0.1
comp=Z,12nm,0.8s,comp=Z,157nm
ENH **Enshi** 43.28 322 eP P 12 08 42.7 +0.3
comp=Z,98nm,0.8s
ENH ePcP PcP 12 10 31.8 +0.9
NANT **Nan** 43.33 301 P P 12 08 43.3 +0.3
comp=Z,10nm,1.0s,comp=Z,97nm
TIA **Tai'an** 43.83 334 P P 12 08 46.7 0.0
TIA S S 12 15 16.8 +2.4
TIA SS SS 12 18 32.9 +1.0
TIA pmax pmax
comp=Z,58nm,1.0s
TIA pmax pmax
comp=Z,450nm,4.9s
TIA LR LR
comp=Z,2μm,24.5s
TIA LR LR
comp=Z,1μm,22.5s
TIA LR LR
comp=Z,3μm,24.5s
LAMP **Lampang** 44.13 300 P P 12 08 49.9 +0.5
comp=Z,10nm,0.8s
DL2 **Dalian** 44.46 341 ⇑iP P 12 08 51.8 +0.2
DL2 S S 12 15 24.7 +1.2
DL2 ScS ScS 12 18 48.0 +2.2
DL2 pmax pmax
comp=Z,150nm,0.7s
DL2 pmax pmax
comp=Z,340nm,5.1s
DL2 LR LR
comp=Z,1μm,21.4s
DL2 LR LR
comp=Z,1μm,23.5s
DL2 LR LR
comp=Z,2μm,28.5s
CM01 **Chiang Mai Arr** 44.67 300 eP P 12 08 52.8 -0.9
CM31 **Chiang Mai Arr** 44.70 300 eP P 12 08 54.5 +0.6
CMAR **Chiang Mai Arr** 44.70 300 P P 12 08 54.7 +0.7
comp=Z,15nm,0.8s,baz=119,slow=6.5,SNR=92
CMAR PcP PcP 12 10 37.4 +1.4
comp=Z,9.2nm,0.8s,baz=144,slow=2.2,SNR=7.5
CMAR LR LR 12 26 43.2
comp=Z,789nm,20.8s,baz=114,slow=35
CMAR **Chiang Mai Arr** 44.70 300 iP P 12 08 54.4 +0.4
CMAR pmax pmax
comp=Z,15nm,0.8s
KMI **Kunming** 44.77 310 P P 12 08 55.0 +0.4
KMI pP pP 12 09 06.7 -0.6
KMI sP sP 12 09 14.2 +1.5
KMI PP PP 12 10 40.6 +0.7
KMI S S 12 15 30.7 +1.8
KMI sS sS 12 15 54.4 +4.4
KMI SS ScS 12 18 48.5 -0.4
KMI pmax pmax
comp=Z,21nm,1.4s
KMI pmax pmax
comp=Z,290nm,6.6s
KMI LR LR
comp=Z,490nm,21.5s
KMI LR LR
comp=Z,2μm,22.7s
KMI LR LR
comp=Z,3μm,25.3s
CMMT **Chiang Mai** 44.84 300 P P 12 08 53.9 -1.2
comp=Z,44nm,1.0s,comp=Z,534nm
CHTO **Chiang Mai** 44.85 300 P P 12 08 54.9 -0.2
comp=Z,105nm,1.2s,comp=Z,2μm
CHTO **Chiang Mai** 44.85 300 eP P 12 08 55.3 +0.2
comp=Z,17nm,0.9s
CHTO ePcP PcP 12 10 38.1 +1.7
CHTO **Chiang Mai** 44.85 300 eP P 12 08 55.3 +0.2
CHTO e 12 10 38.1
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO **Chiang Mai** 44.85 300 P P 12 08 54.7 -0.4
SNR=6.7
CMAI **Chiengmai2** 45.23 302 P P 12 08 58.3 0.0
comp=Z,152nm,1.1s,comp=Z,18μm
VLA **Vladivostok** 46.13 353 ⇓iP P 12 09 05.4 +0.6
VLA pmax pmax
comp=Z,77nm,1.5s
XAN **Xi'an** 46.28 325 P P 12 09 06.4 +0.1
XAN pP pP 12 09 18.4 -0.6
XAN sP sP 12 09 24.0 -0.4
XAN PcP PcP 12 10 42.8 +1.6
XAN PP PP 12 10 54.8 -0.9
XAN S S 12 15 48.5 -1.6
XAN ScS ScS 12 18 55.4 -2.6
XAN pmax pmax
comp=Z,510nm,5.5s
XAN LR LR
comp=Z,2μm,22.9s
XAN LR LR
comp=Z,960nm,24.3s
XAN LR LR
comp=Z,2μm,25.5s
ASAJ **Asahikawa** 46.80 4 P P 12 09 11.4 +1.4
comp=Z,7.3nm,0.7s,baz=173,slow=4.1,SNR=7.6
ASAJ **Asahikawa** 46.80 4 eP P 12 09 11.5 +1.4
comp=Z,12nm,1.4s
YUK **Yuzh-Kuril'sk** 47.01 7 eP P 12 09 12.3 +0.6
YUK iS S 12 15 51.3 -8.7
YUK pmax pmax
comp=N,140nm,1.2s
YUK pmax pmax
comp=Z,657nm,1.2s
YUK pmax pmax
comp=E,204nm,0.8s
USRK **Ussuriysk Ar.** 47.19 353 P P 12 09 14.2 +1.1
comp=E,22nm,0.8s,baz=176,slow=7.2,SNR=42
USRK LR LR 12 25 53.6
comp=E,4μm,21.7s,baz=147,slow=32
TIY **Taiyuan** 47.21 331 eP P 12 09 13.9 +0.4
TIY S S 12 16 03.7 +0.4
TIY ScS ScS 12 19 03.5 -0.4
TIY pmax pmax
comp=E,60nm,1.0s
TIY pmax pmax
comp=E,240nm,5.2s
TIY LR LR
comp=E,3μm,21.9s
TIY LR LR
comp=E,1μm,17.4s
TIY LR LR
comp=E,2μm,20.3s
CD2 **Chengdu** 47.41 318 ⇑P P 12 09 15.7 +0.6
CD2 pP pP 12 09 30.0 +2.1
CD2 sP sP 12 09 36.5 +3.2
CD2 PcS PcS 12 14 40.7 0.0
CD2 S S 12 16 07.1 +0.8
CD2 SS SS 12 19 37.1 +2.4
CD2 pmax pmax
comp=E,130nm,0.5s
CD2 pmax pmax
comp=E,530nm,5.0s
CD2 LR LR
comp=E,1μm,23.8s
CD2 LR LR
comp=E,2μm,17.9s
CD2 LR LR
comp=E,2μm,17.7s
BJT **Baijiatuau** 47.45 336 eP P 12 09 16.0 +0.8
comp=E,76nm,0.7s
BJT **Baijiatuau** 47.45 336 eP P 12 09 16.0 +0.8
BJT pmax pmax
comp=Z,76nm,0.7s
BJI **Beijing** 47.47 336 P P 12 09 15.0 -0.3
BJI S S 12 16 04.8 -1.8
BJI pmax pmax
comp=E,160nm,1.2s
BJI LR LR
comp=Z,4μm,23.0s
BJI LR LR
comp=Z,2μm,22.7s
BJI LR LR
comp=Z,5μm,22.7s
MDJ **Mudanjiang** 47.92 351 P P 12 09 18.6 -0.2
MDJ pP pP 12 09 30.1 -1.5
MDJ sP sP 12 09 35.6 -1.3
MDJ S S 12 16 16.4 +3.3
MDJ sS sS 12 16 37.1 +2.8
MDJ ScS ScS 12 19 07.6 -0.6
MDJ pmax pmax
comp=Z,56nm,0.9s
MDJ pmax pmax
comp=Z,730nm,3.9s
MDJ LR LR
comp=Z,2μm,19.9s
MDJ LR LR
comp=Z,1μm,19.1s
MDJ LR LR
comp=Z,4μm,20.3s
MDJ **Mudanjiang** 47.92 351 eP P 12 09 20.0 +1.2
comp=Z,61nm,1.2s
CN2 **Changchun** 47.94 347 eP P 12 09 18.6 -0.3
CN2 epP pP 12 09 31.0 -0.7
CN2 esP sP 12 09 36.4 -0.6
CN2 eS S 12 16 11.9 -1.4
CN2 esS sS 12 16 33.4 -1.1
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,3μm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR

comp=Z,3µm,22.0s
PBA Port Blair 48.15 288 *e*P P 12 09 19.2 -1.8
DGPR DIGLIPUR 48.37 290 *e*P **P** **12 09 21.8 -1.0**
DGPR IAmb IAmb 12 09 31.9
comp=Z,94nm,2.0s
RAO Raoul Island 48.65 127 LR LR 12 28 52.1
comp=Z,590nm,19.2s,baz=250,slow=35
MLZ Mavora Lakes 49.52 153 *e*P **P** **12 09 33.0 +1.9**
comp=Z,73nm,1.0s
URZ Urewera 49.59 140 LR LR 12 29 58.4
comp=Z,2µm,20.4s,baz=321,slow=36
YSS Yuzh-Sakhalins 49.63 3 *e*P **P** **12 09 31.6 -0.3**
comp=Z,76nm,1.5s
YSS Yuzh-Sakhalins 49.63 3⇑ *e*P **P** **12 09 31.5 -0.3**
YSS *e*S **S** **12 16 34.0 -3.0**
YSS *e*SS **SS** **12 20 09.0 -0.9**
YSS pmax pmax
comp=Z,20nm,1.1s
LTZ Lake Taylor 49.67 148 *e*P **P** **12 09 33.5 +1.2**
comp=Z,40nm,0.8s
RPZ Rata Peaks 49.70 150 *e*P **P** **12 09 33.3 +0.8**
comp=Z,122nm,0.8s
LBZ Lake Benmore 49.75 151 *e*P **P** **12 09 34.1 +1.2**
comp=Z,62nm,1.0s
AFI Afiamalu 49.86 106 LR LR 12 30 41.4
comp=Z,983nm,18.2s,baz=276,slow=36
OXZ Oxford 49.92 149 *e*P **P** **12 09 35.5 +1.3**
comp=Z,42nm,0.7s
HHC Hu-ho-hao-te 50.11 333 *e*P **P** **12 09 36.5 +0.7**
HHC pP pP 12 09 46.4 -2.2
HHC sP sP 12 09 50.4 -3.6
HHC PP **PP** **12 11 32.7 +1.3**
HHC S **S** **12 16 44.9 +0.7**
HHC sS sS 12 17 01.5 -4.1
HHC ScS **ScS** **12 19 21.9 -1.5**
HHC SS **SS** **12 20 15.3 -2.8**
HHC pmax pmax
comp=Z,68nm,1.1s
HHC pmax pmax
comp=Z,380nm,5.3s
HHC LR LR
comp=Z,2µm,20.0s
HHC LR LR
comp=Z,1µm,19.2s
HHC LR LR
comp=Z,3µm,22.2s
BTO Baotou 50.64 332 *e*P **P** **12 09 39.0 -0.8**
LZH Lanzhou 50.70 323 ⇓P **P** **12 09 42.0 +1.6**
LZH pP pP 12 09 54.1 +0.9
LZH sP sP 12 09 59.2 +0.6
LZH PP **PP** **12 11 40.3 +3.5**
LZH S **S** **12 16 53.0 +0.4**
LZH sS sS 12 17 14.1 +0.1
LZH SS **SS** **12 20 23.0 -4.6**
LZH pmax pmax
comp=Z,100nm,1.0s
LZH pmax pmax
comp=Z,460nm,4.1s
LZH LR LR
comp=Z,2µm,15.0s
LZH LR LR
comp=Z,3µm,15.5s
LZH LR LR
comp=Z,3µm,18.6s
KLR Kul'dur 52.18 354 P **P** **12 09 51.7 +0.8**
baz=147,slow=5.0
KLR LR LR 12 29 08.0
comp=Z,267nm,21.5s,slow=33
GRNR Gornyy 53.38 358 *e*P **P** **12 10 00.8 +0.9**
GRNR pmax pmax
comp=Z,42nm,1.0s
TYV Tymovskoe 53.53 3 *e*P **P** **12 09 56.4 -4.5**
TYV *e*S **S** **12 17 23.6 -6.9**
TYV pmax pmax
comp=Z,11nm,1.9s
TYV pmax pmax
comp=Z,500nm,4.2s
TYV smax smax
comp=N,1µm,6.2s
SHL Shillong 53.59 305 *e*P **P** **12 10 01.6 -0.5**
SHL IAmb IAmb 12 10 03.1
comp=Z,23nm,0.9s
SHL Shillong 53.59 305⇑ *i*P **P** **12 10 05.0 +2.9**
HIA Hailar 54.45 345 *e*P **P** **12 10 08.6 +0.9**
comp=Z,42nm,1.0s
HIA Hailar 54.45 345 *e*P **P** **12 10 08.6 +0.9**
HIA pmax pmax
comp=Z,41nm,1.0s
GTA Gaotai 55.28 323 ⇑P **P** **12 10 13.6 -0.5**
GTA pP pP 12 10 26.2 -0.8
GTA sP sP 12 10 31.6 -0.8
GTA S **S** **12 17 53.6 -1.3**
GTA sS sS 12 18 15.5 -1.0
GTA SS **SS** **12 21 40.0 +0.1**
GTA pmax pmax
comp=Z,48nm,1.2s
GTA pmax pmax
comp=Z,330nm,5.2s
GTA LR LR
comp=Z,690nm,20.4s
GTA LR LR
comp=Z,940nm,23.8s
GTA LR LR
comp=Z,1µm,20.4s
NKL Nikolayevsk 55.74 1 *e*P **P** **12 10 17.7 +0.8**
NKL *e* 12 18 23.0
NKL pmax pmax
comp=Z,130nm,1.8s
LSA Lhasa 55.96 309 P **P** **12 10 20.6 +1.1**
LSA pmax pmax
comp=Z,31nm,1.2s
LSA Lhasa 55.96 309 *e*P **P** **12 10 20.6 +1.1**
comp=Z,10nm,0.5s
LSA Lhasa 55.96 309 *e*P **P** **12 10 20.6 +1.1**
LSA pmax pmax
comp=Z,10.0nm,0.5s
LSA Lhasa 55.96 309 P **P** **12 10 20.4 +0.9**
LSA Lhasa 55.96 309 P **P** **12 10 20.4 +0.9**
ZEA Zeya 57.16 352 *e*P **P** **12 10 27.0 0.0**
ZEA *i* 12 18 19.0
ZEA pmax pmax
comp=N,44nm,0.9s
ZEA pmax pmax
comp=Z,61nm,1.0s
ULN Ulaanbaatar 57.64 335 *e*P **P** **12 10 31.0 +0.3**
comp=Z,37nm,0.9s
ULN Ulaanbaatar 57.64 335 *c i*P **P** **12 10 31.3 +0.6**
ULN pmax pmax
comp=Z,39nm,0.8s
ULN Ulaanbaatar 57.64 335 P **P** **12 10 31.3 +0.6**
SNR=8.7
TAPN Taplejung 57.73 305 *e*P **P** **12 10 31.9 0.0**
comp=Z,124nm,1.1s
ODAN Odare 57.81 304 *e*P **P** **12 10 32.6 +0.2**
comp=Z,91nm,0.9s
PETK Petropavlovsk- 57.87 13 P **P** **12 10 33.3 +1.3**
comp=Z,22nm,0.7s,baz=170,slow=6.3,SNR=18
PETK LR LR 12 32 00.7
comp=Z,2µm,21.8s,baz=203,slow=32
PETK Petropavlovsk- 57.87 13 *e*P **P** **12 10 32.7 +0.7**
SONM Songino Array 57.90 335 P **P** **12 10 33.6 +1.2**
comp=Z,19nm,0.7s,baz=153,slow=8.1,SNR=30
SONM LR LR 12 34 03.5
comp=Z,3µm,21.9s,baz=140,slow=35
SONM PKPPKP **P'P'df**
comp=Z,0.3nm,0.6s,baz=253,slow=2.4,SNR=4.7
SONM PKP2bc 12 40 28.3
comp=Z,1.6nm,1.1s,baz=262,slow=1.0,SNR=5.0
SONA1 Songino Array 57.90 335 *e*P **P** **12 10 33.1 +0.6**
BOK Bokaro 57.98 300 *e*P **P** **12 10 33.8 +0.3**
BOK IAmb IAmb 12 10 35.2
comp=Z,19nm,0.3s
PET Petropavlovsk 58.01 14 *e*P **P** **12 10 33.9 +1.0**
comp=Z,28nm,1.0s
PET Petropavlovsk 58.01 14 *e*P **P** **12 10 34.0 +1.0**
PET *e*S **S** **12 18 31.5 +1.4**
PET *e*SS **SS** **12 22 22.5 +0.5**
PET pmax pmax
comp=Z,32nm,0.9s
VIS Vishakhapatnam 58.49 293 *e*P **P** **12 10 35.9 -1.1**
VIS IAmb IAmb 12 10 37.6
comp=Z,147nm,0.1s
RAMN Ramite 58.49 304 *e*P **P** **12 10 37.3 +0.1**
comp=Z,138nm,1.1s
CIT Chita 58.70 342 *e*P **P** **12 10 39.5 +1.6**
CIT *e* 12 10 53.2
CIT *e* 12 11 00.8
CIT *e* 12 11 27.8
CIT pmax pmax
comp=Z,138nm,1.2s
PALK Pallekele 59.00 280 *e*P **P** **12 10 40.8 +0.1**
comp=Z,70nm,1.6s
PALK Pallekele 59.00 280 *e*P **P** **12 10 40.8 +0.1**
PALK pmax pmax
comp=Z,70nm,1.6s
PALK Pallekele 59.00 280 P **P** **12 10 40.3 -0.4**
PALK Pallekele 59.00 280 P **P** **12 10 40.3 -0.4**
PALK Pallekele 59.00 280 P **P** **12 10 40.3 -0.4**
JIRN Jiri 59.10 305 *e*P **P** **12 10 41.5 0.0**
comp=Z,126nm,1.0s
GUN Gumba 59.45 305 *e*P **P** **12 10 43.6 -0.3**
comp=Z,129nm,1.0s
PKI Pulchoki 59.71 304 *e*P **P** **12 10 45.3 -0.4**
comp=Z,40nm,0.9s
PKIN Phulchoki 59.72 304 *e*P **P** **12 10 45.7 0.0**
comp=Z,19nm,0.5s
KKN Kakani 59.90 304 *e*P **P** **12 10 46.5 -0.3**
comp=Z,64nm,0.8s
PVM Polavaram 59.95 292 *e*P **P** **12 10 47.0 -0.1**
DMN Daman 59.97 304 *e*P **P** **12 10 47.1 -0.3**
comp=Z,126nm,1.1s
MDRS Chennai 60.37 287 *e*P **P** **12 10 47.2 -2.8**
MDRS IAmb IAmb 12 10 51.2
comp=Z,30nm,1.0s
CLNS Chul'man 60.51 351 *e*P **P** **12 10 50.3 0.0**
CLNS *e**PP **pP** **12 11 00.7 -2.7**
CLNS *e* 12 11 32.1
CLNS *e* 12 13 04.9
CLNS *e*S **S** **12 19 03.4 +0.9**
CLNS *e*SS **SS** **12 22 58.7 -2.6**
CLNS pmax pmax
comp=Z,59nm,0.8s
CLNS pmax pmax
comp=N,30nm,0.8s
CLNS pmax pmax
comp=E,16nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS smax smax
comp=E,321nm,12.8s
CLNS smax smax
comp=N,207nm,11.2s
SKHT Srikalahasti 61.01 287 *e*P **P** **12 10 53.8 -0.6**
ZAK Zakamensk 61.16 335 *e*P **P** **12 10 55.2 +0.3**
ZAK pmax pmax
comp=Z,60nm,1.1s
ADKI Addanki 61.19 290 *e*P **P** **12 10 55.2 -0.3**
KOLN Koldanda 61.28 304 *e*P **P** **12 10 55.9 -0.4**
comp=Z,85nm,1.2s
DANN Dangsing 61.35 304 *e*P **P** **12 10 57.1 +0.3**
PYUN Piuthan 61.90 304 *e*P **P** **12 11 00.2 -0.3**
comp=Z,133nm,0.8s
NJS Nagarjunasagar 61.96 290 *e*P **P** **12 10 59.1 -1.6**
TLY Talaya 61.99 336 *e*P **P** **12 11 01.3 +1.0**
comp=Z,34nm,0.9s
TLY Talaya 61.99 336 *e*P **P** **12 11 01.3 +1.0**
TLY *e*S **S** **12 19 24.2 +2.8**
TLY *e* 12 20 38.8
TLY pmax pmax
comp=Z,37nm,0.9s
TLY MLR MLR
comp=Z,1µm,18.0s
TLY Talaya 61.99 336 P **P** **12 11 01.2 +0.8**
SNR=13
IRK Irkutsk 62.16 337 *e*P **P** **12 11 01.5 0.0**
IRK pmax pmax
comp=Z,101nm,1.7s
RAR Rarotonga 62.25 112 LR LR 12 36 51.1
comp=Z,510nm,19.9s,baz=270,slow=35
SRLM Srisailam 62.25 290 *e*P **P** **12 11 01.7 -1.1**
RPR Rampur 62.48 293 *e*P **P** **12 11 03.9 -0.3**
TRD Trivandrum 62.84 281 *e*P **P** **12 11 06.4 -0.3**
TRD IAmb IAmb 12 11 07.3
comp=Z,288nm,2.1s
HYB Hyderabad 62.85 291 *e*P **P** **12 11 05.0 -1.7**
HYB IAmb IAmb 12 11 05.9
comp=Z,16nm,0.9s
HYBB Hyderabad (bro 62.85 291 *e*P **P** **12 11 05.6 -1.1**
MA2 Magadan 62.86 7 *e*P **P** **12 11 07.1 +1.1**
comp=Z,30nm,0.8s,baz=180,slow=5.8,SNR=75
MA2 Magadan 62.86 7 *c i*P **P** **12 11 06.3 +0.3**
MOY Mondy 63.09 335 *e*P **P** **12 11 08.5 +0.7**
MOY pmax pmax
comp=Z,84nm,1.4s
NGP Nagpur 63.26 295 *e*P **P** **12 11 07.9 -1.5**
NGP IAmb IAmb 12 11 10.2
comp=Z,18nm,1.2s
SRSP Sriramsagar 63.38 293 *e*P **P** **12 11 09.1 -1.2**
URV Uravakonda 63.57 288 *e*P **P** **12 11 10.4 -1.1**
BOD Bodaibo 63.65 345 *e*P **P** **12 11 11.2 0.0**
BOD pmax pmax
comp=Z,45nm,1.8s
KLRI Killari 64.81 291 *e*P **P** **12 11 18.1 -1.6**
YAK Yakutsk 65.02 355 P **P** **12 11 21.3 +1.2**
comp=Z,177nm,0.8s,baz=169,slow=2.1,SNR=69
YAK LR LR 12 37 02.6
comp=Z,2µm,21.0s,baz=94,slow=34
YAK Yakutsk 65.02 355 *e*P **P** **12 11 20.3 +0.2**
comp=Z,210nm,0.8s
YAK Yakutsk 65.02 355 *c i*P **P** **12 11 20.3 +0.2**
YAK *e**PP **sP** **12 11 38.0 -0.6**
YAK *e* 12 11 51.4
YAK *e*S **S** **12 19 55.9 -2.8**
YAK *e**SS sS 12 20 29.2 +8.4
YAK *e* 12 21 10.5
YAK *e*SS **SS** **12 24 10.6 -0.9**
YAK pmax pmax
comp=Z,213nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=N,61nm,1.1s
YAK pmax pmax
comp=Z,230nm,5.6s
YAK pmax pmax
comp=E,182nm,6.1s
YAK pmax pmax
comp=N,190nm,5.8s
YAK smax smax
comp=N,436nm,5.2s
YAK smax smax
comp=E,102nm,3.1s
WMQ Urumqi 65.23 322 P **P** **12 11 23.0 +1.0**
WMQ pP pP 12 11 34.6 -0.6
WMQ sP sP 12 11 42.5 +2.0
WMQ S **S** **12 20 04.2 +2.1**
WMQ SS **SS** **12 24 22.1 +6.5**
WMQ pmax pmax
comp=E,300nm,1.1s
WMQ pmax pmax
comp=E,430nm,4.5s
WMQ LR LR
comp=E,2µm,36.9s
WMQ LR LR
comp=E,1µm,23.3s
WMQ LR LR
comp=E,1µm,27.3s
HVS Khovu-Aksy 66.08 331 *c i*P **P** **12 11 28.7 +1.4**
HVS pmax pmax
comp=Z,180nm,1.0s
SEY Seymchan 66.32 7 P **P** **12 11 29.5 +1.0**
comp=Z,20nm,0.9s,baz=189,slow=4.6,SNR=81
SEY Seymchan 66.32 7⇑ *i*P **P** **12 11 28.8 +0.3**
DDI Dehra Dun 66.70 305 *e*P **P** **12 11 31.4 -0.3**
DDI IAmb IAmb 12 11 31.7
POO Poona 67.46 291 *e*P **P** **12 11 36.0 -0.7**
POO IAmb IAmb 12 11 36.9
comp=Z,21nm,0.7s
SMLA Simla 67.67 305 *e*P **P** **12 11 36.7 -1.0**
SMLA IAmb IAmb 12 11 39.2
comp=Z,27nm,0.6s
DHRM DHARAMSHALA 68.72 306 *e*P **P** **12 11 43.3 -1.3**
DHRM IAmb IAmb 12 11 44.8
comp=Z,44nm,1.1s
ZSN Zaisan 68.77 324⇓ *i*P **P** **12 11 45.1 +0.8**
comp=Z,116nm,1.2s
MK01 Makanchi Array 69.99 322 *e*P **P** **12 11 51.5 -0.4**
MK31 Makanchi Array 70.01 322 *e*P **P** **12 11 52.7 +0.7**
MK31 Makanchi Array 70.01 322 *i* P **P** **12 11 52.6 +0.6**
MK31 pmax pmax
comp=Z,61nm,0.7s
MKAR Makanchi Array 70.01 322 P **P** **12 11 52.7 +0.7**
comp=Z,78nm,0.7s,baz=113,slow=8.0,SNR=332
MKAR LR LR 12 44 31.0
comp=Z,454nm,20.4s,baz=105,slow=38
MKAR Makanchi Array 70.01 322 *e*P **P** **12 11 52.7 +0.7**
comp=Z,437nm,0.8s
MKAR Makanchi Array 70.01 322 *i* P **P** **12 11 52.2 +0.2**
MKAR pmax pmax
comp=Z,78nm,0.7s
MAKZ Makanchi 70.20 322 *e*P **P** **12 11 53.2 0.0**
comp=Z,125nm,0.7s
MAKZ Makanchi 70.20 322 *e*P **P** **12 11 53.2 0.0**
MAKZ pmax pmax
comp=Z,125nm,0.7s
PDGK Podgornoye 70.30 318 *i* P **P** **12 11 53.8 -0.2**
PDGK pmax pmax
comp=Z,44nm,0.9s
UZB Uzynbulak 70.54 318⇑ *i*P **P** **12 11 55.5 0.0**
comp=Z,750nm,1.2s
PRZ Przheval'sk 70.70 317 P **P** **12 11 58.6 +2.1**
PRZ pmax pmax
comp=Z,90nm,1.0s
KPKS Kokpek 70.89 318⇓ *i*P **P** **12 11 58.8 +1.2**
comp=Z,84nm,0.9s
SATY Saty 70.92 318⇓ *i*P **P** **12 11 58.9 +1.1**
comp=Z,2µm,1.0s
KSH Kashi 71.33 313 P **P** **12 12 01.7 +1.4**
KSH pP pP 12 12 13.7 0.0
KSH PcP **PcP** **12 12 20.5 +0.6**
KSH PP **PP** **12 14 40.9 +1.9**
KSH S **S** **12 21 12.5 -2.5**
KSH sS SKiKP 12 21 34.6 -2.4
KSH ScS **SKSac** **12 21 56.7 -3.2**
KSH pmax pmax
comp=Z,66nm,0.9s
KSH pmax pmax
comp=Z,400nm,5.3s
KSH LR LR
comp=Z,1µm,21.0s
KSH LR LR
comp=Z,1µm,19.0s
KSH LR LR
comp=Z,1µm,20.0s
KDJ Kajisay 71.40 316 P **P** **12 12 01.9 +1.1**
KDJ pmax pmax
comp=Z,60nm,1.0s
PPT2 Papeete2 71.48 108 *e*S **S** **12 21 17.8 +0.4**
comp=Z,793nm,29.5s
PPT2 *e*LQ LQ 12 30 51.4
comp=Z,4µm,36.8s
PPT2 *e*LR LR 12 33 58.0
comp=Z,3µm,28.5s
TDK Taldyqorghan 71.69 319 *i* P **P** **12 12 03.3 +1.1**
comp=Z,734nm,1.2s
MDOK Medeo 71.88 317 *i* P **P** **12 12 04.2 +0.6**
comp=Z,698nm,0.9s
MDOK *e*S **S** **12 21 22.2 +0.9**
MDOK LR LR 12 41 38.1
comp=Z,345nm,19.8s
NRN Naryn 71.97 315 P **P** **12 12 05.1 +0.7**
NRN pmax pmax
comp=Z,361nm,1.1s
AAA Alma-Ata 71.98 317⇓ *i*P **P** **12 12 05.6 +1.5**
comp=Z,802nm,1.0s
AAA LR LR 12 41 36.9
comp=Z,281nm,16.1s
TBI Tubuai 71.98 114 *e*S **S** **12 21 23.9 +1.0**
comp=Z,506nm,30.8s
TBI *e*LQ LQ 12 31 06.3
comp=Z,1µm,39.0s
TBI *e*LR LR 12 34 10.3
comp=Z,3µm,32.0s,baz=283
ZAA0 Zalesovo Array 72.13 330 *e*P **P** **12 12 04.0 -0.6**
ZALV Zalesovo Beam 72.13 330 P **P** **12 12 04.5 -0.2**
comp=Z,12nm,0.4s,baz=114,slow=5.3,SNR=58
ZALV PP **PP** **12 14 47.5 +2.1**
comp=Z,12nm,1.1s,baz=128,slow=9.6,SNR=4.0
ZALV LR LR 12 42 45.3
comp=Z,1µm,22.0s,baz=100,slow=35
ZALV Zalesovo Beam 72.13 330 *e*P **P** **12 12 03.5 -1.1**
ZALV PP **PP** **12 14 47.5 +2.1**
ZALV Zalesovo Beam 72.13 330 *e*P **P** **12 12 03.5 -1.1**
ZALV 12 14 47.5
KUU Kurty 72.62 318⇑ *i*P **P** **12 12 08.2 +0.3**
comp=Z,356nm,1.2s
KZA Kyzart 72.72 316 P **P** **12 12 09.9 +1.0**
SNR=145
TKM2 Tokmak 2 72.78 317 P **P** **12 12 09.4 +0.4**
SNR=64
BMNS Besmoynak 72.79 317 *i* P **P** **12 12 09.7 +0.6**
comp=Z,690nm,1.0s
BMNS *e*S **S** **12 21 32.4 +0.5**
SEM Semipalatinsk 72.86 325⇓ *i*P **P** **12 12 09.0 -0.3**
comp=Z,293nm,1.2s
SEM LR LR 12 45 50.5
comp=Z,206nm,18.6s
KBK Karagaybulak 73.13 316 P **P** **12 12 11.5 +0.4**
SNR=36
SFK Sufi-Kurgan 73.29 313 *i* P **P** **12 12 12.5 +0.4**
SFK pmax pmax
comp=Z,75nm,0.9s
UCH Uchtor 73.29 316 P **P** **12 12 13.1 +0.7**
SNR=82
NVS Novosibirsk 73.38 330⇑ *i*P **P** **12 12 12.2 +0.2**
NVS pmax pmax
comp=N,22nm,1.2s
NVS pmax pmax
comp=E,34nm,1.2s
NVS pmax pmax
comp=Z,66nm,1.2s
CHMS Chumysh 73.39 316 P **P** **12 12 13.1 +0.7**
SNR=29
FRU Bishkek 73.42 316 *e*P **P** **12 12 12.0 -0.6**
FRU *e* 12 12 36.0
FRU pmax pmax
comp=Z,60nm,1.9s
AAK Ala-Archa 73.44 316 P **P** **12 12 13.9 +1.1**
SNR=29
AAK Ala-Archa 73.44 316 *e*P **P** **12 12 13.7 +0.8**
comp=Z,26nm,0.9s
AAK Ala-Archa 73.44 316 *c i*P **P** **12 12 13.2 +0.3**
AAK pmax pmax
comp=Z,31nm,1.0s
AAK Ala-Archa 73.44 316 P **P** **12 12 13.2 +0.3**
SNR=16
AAK Ala-Archa 73.44 316 *i* P **P** **12 12 13.2 +0.3**
SNR=37
AAK Ala-Archa 73.44 316 *i* P **P** **12 12 13.2 +0.3**
SNR=37
USP Ospenovka 73.65 317 P **P** **12 12 14.0 0.0**
SNR=93
AML Almayashu 73.83 315 P **P** **12 12 16.1 +0.6**
SNR=96
KURK Kurchatov 73.92 325 *e*P **P** **12 12 15.0 -0.3**
comp=Z,65nm,0.9s
KURK Kurchatov 73.92 325 *c i*P **P** **12 12 15.2 -0.1**
KURK pmax pmax
comp=Z,342nm,1.2s
KURK Kurchatov 73.92 325 P **P** **12 12 15.0 -0.3**
SNR=23
KURBB Kurchatov Arra 73.94 325 P **P** **12 12 15.6 +0.2**
comp=Z,47nm,0.9s,baz=112,slow=5.4,SNR=142
EKS2 Erkin-Say 73.95 316 P **P** **12 12 16.6 +0.7**
SNR=42
TIXI Tiksi 74.58 357 *e*P **P** **12 12 18.3 -0.4**
comp=Z,19nm,0.9s
TIXI Tiksi 74.58 357 *e*P **P** **12 12 18.3 -0.4**
TIXI pmax pmax
comp=Z,19nm,0.9s
MNAS Manas 74.78 315 *i* P **P** **12 12 20.7 0.0**
MNAS pmax pmax
comp=Z,69nm,0.9s
KBL Kabul 75.18 307 *e*P **P** **12 12 23.0 -0.3**
comp=Z,27nm,0.9s
KBL Kabul 75.18 307 *e*P **P** **12 12 23.0 -0.3**
KBL pmax pmax
comp=Z,27nm,0.9s
VNDA Vanda 75.69 175 P **P** **12 12 26.3 +1.2**
comp=Z,24nm,0.7s,baz=313,slow=8.0,SNR=6.9
VNDA LR LR 12 45 58.1
comp=Z,5µm,18.5s,baz=354,slow=36
VNDA Vanda 75.69 175 *e*P **P** **12 12 26.7 +1.6**
comp=Z,38nm,0.9s

VNDA	Vanda	75.69	175	eP	P	12 12 26.7	+1.6
VNDA				pmax	pmax		
	comp=Z,38nm,0.9s						
DZA	Taraz	75.73	315⇓	iP	P	12 12 27.1	+1.1
	comp=Z,608nm,1.2s						
GAMB	Gambell	75.75	20	eP	P	12 12 26.2	+0.7
	comp=Z,28nm,1.1s						
SDPT	Sand Point	76.05	31	eP	P	12 12 28.6	+1.1
	comp=Z,100nm,0.7s						
KK31	Karatay Array	76.36	315	i P	P	12 12 29.7	+0.1
KK31				pmax	pmax		
	comp=Z,33nm,1.0s						
KKAR	Karatay Array	76.36	315	eP	P	12 12 29.9	+0.3
KKAR	Karatay Array	76.36	315	eP	P	12 12 29.9	+0.3
DZET	Dzherino	76.41	311	P	P	12 12 30.2	+0.1
DZET				pmax	pmax		
	comp=Z,115nm,0.9s						
IUG	Iuzhnay	76.43	314⇓	iP	P	12 12 31.1	+1.0
	comp=Z,620nm,1.2s						
IUG				LR	LR	12 44 44.3	
	comp=Z,355nm,18.6s						
OTUK	Ortayu	76.77	321	P	P	12 12 31.1	-0.7
OTUK				pmax	pmax		
	comp=Z,65nm,0.9s						
CHM	Chimkent	76.78	315⇓	iP	P	12 12 33.2	+1.2
	comp=Z,963nm,1.1s						
CHM				LR	LR	12 45 01.0	
	comp=Z,260nm,21.0s						
BRLS	Borolday	76.82	315⇓	iP	P	12 12 33.1	+1.0
	comp=Z,21nm,1.2s						
BRZS	Berezniki	77.15	323⇓	iP	P	12 12 34.4	+0.5
	comp=Z,38nm,1.2s						
CHGN	Chignik	77.52	30	eP	P	12 12 35.4	-0.2
	comp=Z,24nm,0.8s						
BVA0	Borovoye Array	79.52	325	i P	P	12 12 46.5	-0.4
BVA0				pmax	pmax		
	comp=Z,74nm,0.9s						
BVAR	Borovoye Array	79.52	325	P	P	12 12 47.4	+0.5
	comp=Z,42nm,0.7s,baz=113,slow=6.7,SNR=177						
BVAR				LR	LR	12 50 22.0	
	comp=Z,576nm,19.3s,baz=100,slow=38						
BRVK	Borovoye	79.59	325	eP	P	12 12 47.3	0.0
	comp=Z,68nm,0.9s						
BRVK	Borovoye	79.59	325c	iP	P	12 12 47.1	-0.1
BRVK				pmax	pmax		
	comp=Z,213nm,1.0s						
BRVK	Borovoye	79.59	325	P	P	12 12 47.2	-0.1
	SNR=24						
OHAK	Old Harbor	80.48	31	eP	P	12 12 53.0	+1.2
	comp=Z,45nm,1.0s						
TAOE	Nuku Hiva Isla	80.57	98	eLR	LR	12 38 01.0	
	comp=Z,2µm,25.2s,baz=274						
SVW2	Sparrevohn	80.82	27	eP	P	12 12 54.3	+0.6
	comp=Z,41nm,1.3s						
KDAK	Kodiak Island	81.03	30	eP	P	12 12 55.9	+1.1
	comp=Z,130nm,1.6s						
KDAK	Kodiak Island	81.03	30	i P	P	12 12 55.4	+0.6
MRIV	Mauritius Mete	81.05	250	eP	P	12 12 55.5	-0.3
MRIV				epP	pP	12 13 08.0	-1.5
MAW	Mawson	82.16	202	P	P	12 13 01.5	+0.9
	comp=Z,47nm,1.1s,baz=88,slow=15,SNR=3.1						
MAW				LR	LR	12 47 35.8	
	comp=Z,4µm,19.3s,baz=68,slow=34						
WSAR	Wadi Sarin	82.23	294	P	P	12 13 03.0	+1.0
	comp=Z,4.1nm,0.7s,baz=129,slow=14,SNR=3.9						
WSAR				LR	LR	12 52 15.4	
	comp=Z,213nm,21.6s,baz=132,slow=38						
BRLK	Bradley Lake	82.52	29	eP	P	12 13 03.1	+0.4
PPLA	Purkeypile	82.97	25	eP	P	12 13 05.9	+0.8
	comp=Z,46nm,1.3s						
SUA	Susitna One	83.13	27	eP	P	12 13 05.7	-0.3
	comp=Z,13nm,0.8s						
CAST	Castle Rocks	83.20	25	eP	P	12 13 06.2	+0.1
	comp=Z,14nm,0.9s						
SEW	Seward	83.31	29	eP	P	12 13 07.5	+0.8
SEW				epP	pP	12 13 21.8	+1.4
IM3	Indian Mountai	83.45	22	eP	P	12 13 07.4	0.0
RC01	Rabbit Creek A	83.47	28	eP	P	12 13 07.2	-0.4
KTH	Kantishna Hill	83.73	25	eP	P	12 13 09.4	+0.4
BPAW	Bear Paw Mtn.	83.89	25	eP	P	12 13 10.5	+0.8
BPAW				epP	pP	12 13 24.2	+0.9
PMR	Palmer	83.91	27	eP	P	12 13 09.0	-0.7
	comp=Z,28nm,1.0s						
PMR	Palmer	83.91	27	eP	P	12 13 09.0	-0.7
PMR				pmax	pmax		
	comp=Z,29nm,1.0s						
TRF	Thorofare Moun	83.97	25	eP	P	12 13 10.4	+0.1
SOHO	SOHO	84.24	294	i P	P	12 13 11.5	-0.8
	SNR=11						
SOHO	SOHO	84.24	294	i P	P	12 13 11.5	-0.8
	SNR=11						
MLY	Manley	84.29	24	eP	P	12 13 11.7	0.0
SML	Sawmill	84.33	27	eP	P	12 13 12.1	+0.1
SML	Sawmill	84.33	27	eP	P	12 13 12.1	+0.1
GEYT	Alibeck	84.49	308	P	P	12 13 14.7	+1.3
	comp=Z,30nm,0.7s,baz=132,slow=2.2,SNR=65						
GEYT				LR	LR	12 53 23.5	
	comp=Z,1µm,21.7s,baz=190,slow=38						
RND	Reindeer	84.57	25	eP	P	12 13 12.4	-0.8
RND	Reindeer	84.57	25	eP	P	12 13 12.4	-0.8
UOSS	Minazif	84.61	295	eP	P	12 13 14.0	-0.2
	comp=Z,25nm,1.1s						
UOSS	Minazif	84.61	295	P	P	12 13 12.7	-1.5
UOSS	Minazif	84.61	295	P	P	12 13 13.1	-1.1
UOSS	Minazif	84.61	295	P	P	12 13 13.1	-1.1
BANOM	Banah	84.62	296	i P	P	12 13 14.9	+0.6
	SNR=6.5						
BANOM	Banah	84.62	296	i P	P	12 13 14.9	+0.6
	SNR=6.5						
MCK	McKinley	84.63	25	eP	P	12 13 12.9	-0.6
MCK	McKinley	84.63	25	eP	P	12 13 12.9	-0.6
GLI	Glacier Island	84.65	28	eP	P	12 13 14.4	+0.8
HATD	Hatta, Dubai	84.67	295	P	P	12 13 13.9	-0.6
HATD	Hatta, Dubai	84.67	295	P	P	12 13 13.9	-0.6
MSFE	Esma-Masafi	84.69	296	i P	P	12 13 14.9	+0.3
	SNR=7.8						
MSFE	Esma-Masafi	84.69	296	i P	P	12 13 14.9	+0.3
	SNR=7.8						
ASHO	Ashiyiah	84.72	295	i P	P	12 13 14.0	-0.8
	SNR=7.3						
ASHO	Ashiyiah	84.72	295	i P	P	12 13 14.0	-0.8
	SNR=7.3						
SHME	Shamm	84.78	296	i P	P	12 13 15.4	+0.4
	SNR=7.2						
SHME	Shamm	84.78	296	i P	P	12 13 15.4	+0.4
	SNR=7.2						
SCM	Sheep Creek Mo	84.80	27	eP	P	12 13 15.5	+1.1
SCM	Sheep Creek Mo	84.80	27	eP	P	12 13 15.5	+1.1
ALNE	Al Ain	84.94	294	i P	P	12 13 15.5	-0.3
	SNR=7.8						
ALNE	Al Ain	84.94	294	i P	P	12 13 15.5	-0.3
	SNR=7.8						
AB31	Akbulak array	84.94	320	i P	P	12 13 15.4	+0.1
AB31				pmax	pmax		
	comp=Z,36nm,0.7s						
ABKAR	Akbulak array	84.94	320	eP	P	12 13 14.8	-0.5
DHY	Denali Highway	85.12	26	eP	P	12 13 16.1	0.0
COLD	Coldfoot	85.22	22	eP	P	12 13 17.4	+1.1
MDM	Murphy Dome	85.28	24	eP	P	12 13 15.9	-0.8
RKT	Rikitea	85.29	113	eS	S	12 23 45.4	+0.3
	comp=Z,289nm,25.8s						
RKT	Rikitea	85.29	113	eLR	LR	12 40 19.6	
	comp=Z,2µm,36.2s						
DIV	Divide	85.34	28	eP	P	12 13 17.5	+0.4
KLU	Klutina	85.36	28	eP	P	12 13 18.1	+0.9
CCB	Clear Creek Bu	85.37	24	eP	P	12 13 15.9	-1.2
COLA	College	85.42	24	eP	P	12 13 16.9	-0.4
	comp=Z,28nm,0.9s						
COLA	College	85.42	24	eP	P	12 13 16.9	-0.4
COLA				pmax	pmax		
	comp=Z,28nm,0.9s						
HDA	Harding Lake	85.66	25	eP	P	12 13 18.7	+0.1
ILAR	Eielson Array	85.78	24	P	P	12 13 18.2	-1.0
	comp=Z,22nm,0.8s,baz=262,slow=4.4,SNR=152						
ILAR				PKKPbc	PKKPbc	12 31 20.8	-2.9
	comp=Z,0.3nm,0.5s,baz=12,slow=1.1,SNR=7.2						
ILAR				LR	LR	12 47 47.0	
	comp=Z,652nm,22.0s,baz=238,slow=33						
ILB	Eielson Array	85.78	24	eP	P	12 13 17.4	-1.8
BMRM	Bremner River	85.85	28	eP	P	12 13 20.4	+0.7
TOLK	Toolik Lake Re	85.89	20	P	P	12 13 20.4	+0.6
	baz=252						
TOLK	Toolik Lake Re	85.89	20	eP	P	12 13 20.5	+0.8
PAX	Paxson	85.93	26	eP	P	12 13 20.5	+0.5
PAX	Paxson	85.93	26	eP	P	12 13 20.5	+0.5
HARP	HAARP	85.93	27	eP	P	12 13 21.3	+1.3
SVE	Sverdlovsk	85.94	327⇑	eP	P	12 13 19.8	-0.3
SVE				pmax	pmax		
	comp=Z,22nm,0.9s						
SVE				MLR	MLR		
	comp=Z,821nm,19.0s						
AKTO	Aktyubinsk	86.37	321	P	P	12 13 22.0	-0.4
	comp=Z,13nm,1.0s,baz=78,slow=8.4,SNR=17						
AKTO	Aktyubinsk	86.37	321	i P	P	12 13 21.4	-1.0
AKTO				pmax	pmax		
	comp=Z,27nm,1.4s						
RIDG	Independ'e Rid	86.39	26	eP	P	12 13 22.1	-0.1
MENT	Mentasta	86.70	27	eP	P	12 13 24.2	+0.4
DOT	Dot Lake	86.70	26	eP	P	12 13 23.8	+0.1
FYU	Fort Yukon	86.91	23	eP	P	12 13 25.8	+1.1
ARU	Arti	87.00	327	eP	P	12 13 24.2	-1.1
ARU	Arti	87.00	327⇓	iP	P	12 13 24.1	-1.2
ARU				pmax	pmax		
	comp=Z,22nm,1.0s						
EGAK	Eagle	88.18	25	eP	P	12 13 30.9	+0.1
DAWY	Dawson	88.81	26	eP	P	12 13 34.3	+0.4
HYT	Haines Junctio	89.24	29	eP	P	12 13 35.9	-0.1
WHY	Whitehorse	90.50	29	eP	P	12 13 42.2	+0.3
SYO	Syowa Base	90.79	201⇓	eP	P	12 13 41.4	-1.5
SYO	Syowa Base	90.79	201⇑	ePcP	PcP	12 13 45.4	+1.4
INK	Inuvik	91.63	22	PKKPbc	PKKPbc	12 31 07.0	-2.3
	comp=Z,0.4nm,0.4s,baz=72,slow=2.0,SNR=5.3						
INK				LR	LR	12 52 19.3	
	comp=Z,799nm,21.3s,baz=221,slow=34						
INK	Inuvik	91.63	22	eP	P	12 13 46.9	+0.1
INK				PKKPbc	PKKPdf	12 31 07.0	+1.0
INK	Inuvik	91.63	22	eP	P	12 13 46.9	+0.1
MAK	Makhachkala	92.95	313	eP	P	12 14 04.9	+11
RAYN	Ar Rayn	94.28	293	eP	P	12 13 59.5	-0.7
ZEI	Tsey	95.60	313	eP	P	12 14 03.7	-2.3
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBZ	Khabaz	96.31	314	P	P	12 14 07.3	-1.5
	comp=Z,2.4nm,0.9s,baz=151,slow=9.1,SNR=4.9						
KIV	Kislovodsk	96.45	314	eP	P	12 14 07.5	-2.2
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NEY	Neytrino	96.45	313⇓	eP	P	12 14 10.0	+0.2
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VRH	Novokhopyorsk	96.71	321	eP	P	12 14 08.2	-2.3
VRH				pmax	pmax		
	comp=Z,30nm,0.7s						
KLMR	Klimovskoe	97.03	331	eP	P	12 14 08.3	-3.4
KLMR				e		12 18 04.0	
KLMR				pmax	pmax		
	comp=Z,11nm,1.4s						
KLMR	Klimovskoe	97.03	331	eP	P	12 14 08.3	-3.4
KLMR				AMP		12 14 25.6	
	comp=Z,11nm,1.4s						
KLMR				ePP	PP	12 18 04.0	-3.7
KLMR				LQ	LQ	12 48 17.8	
KLMR				LQ	LQ	12 48 17.8	
KLMR				LR	LR	12 53 59.3	
YBH	Yreka Blue Hor	98.05	48	LR	LR	12 51 02.8	
	comp=Z,3µm,20.8s,baz=328,slow=31						
LPSR	Galich'ya Gora	98.31	323	eP	P	12 14 16.0	-1.7
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR	Storozhevoye	98.31	321	eP	P	12 14 15.7	-2.0
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SPITS	Spitsbergen Ar	99.10	350	P	Pdif	12 14 19.9	-0.9
	comp=Z,14nm,1.2s,baz=135,slow=29,SNR=3.6						
SPITS				LR	LR	12 58 14.5	
	comp=Z,2µm,21.9s,baz=35,slow=35						
SPITS	Spitsbergen Ar	99.10	350	P	Pdif	12 14 19.9	-0.9
SPITS				pmax	pmax		
	comp=Z,16nm,1.3s						
SPITS				MLR	MLR		
	comp=Z,2µm,21.9s						
OBN	Obninsk	99.36	325⇓	eP	Pdif	12 14 20.6	-1.7
OBN				e		12 18 25.3	
OBN				eS	SKSac	12 25 02.4	+5.5
OBN				eSS	SS	12 32 38.6	-2.3
OBN				pmax	pmax		
	comp=Z,29nm,1.4s						
OBN				MLR	MLR		
	comp=Z,1µm,21.0s						
YKA	Yellowknife Ar	100.00	27	P	Pdif	12 14 24.9	-0.1
	comp=Z,0.6nm,0.6s,baz=286,slow=4.9,SNR=11						
YKA				PKiKP	PKiKP	12 18 53.3	+0.5
	comp=Z,0.3nm,0.6s,baz=299,slow=1.7,SNR=4.0						
YKA				PKKPbc	PKKPbc	12 30 43.3	-3.1
	comp=Z,0.7nm,0.6s,baz=103,slow=2.8,SNR=14						
MSF	Maaselka	100.58	337	P	Pdif	12 14 25.5	-2.1
MSF				pmax	pmax		
	comp=Z,20nm,0.9s						
ARCES	ARCESS Array B	100.66	341	P	Pdif	12 14 26.7	-1.2
	comp=Z,7.8nm,0.8s,baz=81,slow=6.4,SNR=19						
ARCES				PKiKP	PKiKP	12 18 54.2	+0.4
	comp=Z,1.7nm,0.8s,baz=98,slow=1.3,SNR=5.6						
KMBO	Kilima Mbogo	101.65	268	i P	Pdif	12 14 35.9	+2.1
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SNAA	Sanae	101.70	192⇑	eP	Pdif	12 14 34.2	+1.7
RES	Resolute Bay	101.71	13	P	Pdif	12 14 32.3	-0.1
RES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
OUL	Oulu	102.09	337	P	Pdif	12 14 32.4	-1.8
OUL				pmax	pmax		
	comp=Z,28nm,1.0s						
FINES	FINESS Array B	103.24	333	Pdiff	Pdif	12 14 39.1	-0.3
	comp=Z,0.9nm,0.4s,baz=67,slow=6.8,SNR=8.6						
FINES				PP	PP	12 18 56.6	+1.9
	comp=Z,5.6nm,1.0s,baz=95,slow=4.6,SNR=5.6						
BRTR	Keskin Array B	103.56	310	Pdiff	Pdif	12 14 39.8	-1.8
	comp=Z,2.1nm,0.7s,baz=115,slow=3.7,SNR=11						
BRTR				PKiKP	PP	12 18 58.3	+0.2
	comp=Z,1.6nm,1.0s,baz=101,slow=7.5,SNR=2.6						
AKASG	Malin Array Be	104.59	322	Pdiff	Pdif	12 14 44.6	-1.1
	comp=Z,0.8nm,0.3s,baz=220,slow=30,SNR=7.7						
PDAR	Pinedale Array	107.56	46	PKiKP	PKiKP	12 19 08.4	+0.9
	comp=Z,0.3nm,0.7s,baz=187,slow=3.6,SNR=2.6						
PDAR				PKKPbc	PKKPbc	12 30 22.3	-1.2
	comp=Z,0.5nm,0.7s,baz=114,slow=4.0,SNR=4.4						
PDAR				PKKP	PKKPab	12 30 37.5	+0.6
	comp=Z,0.4nm,0.6s,baz=112,slow=6.4,SNR=4.5						
BUR04	Bucovina Ar. S	107.92	319	ePdif	Pdif	12 15 00.9	+0.1
IDI	Anoyia	111.17	307	PKiKP	PKiKP	12 19 15.9	+1.6
	comp=Z,1.4nm,0.4s,baz=225,slow=13,SNR=3.3						
ITZ	Itezhi-Tezhi	111.24	252	eP	PP	12 19 44.0	-11
DPC	Dobruska-Polom	112.47	324	AMS	AMS	13 08 30.0	
	comp=Z,2µm,20.3s						
UPC	Upice	112.59	325	AMS	AMS	13 08 30.0	
	comp=Z,1µm,17.5s						
GOPC	GO Pecny, Ondr	113.55	324	AMS	AMS	13 12 10.0	
	comp=Z,2µm,19.4s						
PRU	Pruhonice	113.66	324	AMS	AMS	13 09 20.0	
	comp=Z,2µm,22.4s						
CLL	Collm	113.94	326	ePS	PS	12 29 48.0	-2.7
CLL				ePPS	PPS	12 31 06.0	
CLL				eSS	SS	12 36 06.0	+7.2
CLL				Lm	MLR	13 11 00.0	
	comp=N,900nm,18.2s						
CLL				Lm	MLR	13 11 00.0	
	comp=E,700nm,19.4s						
CLL				Lm	MLR	13 11 00.0	
	comp=Z,2µm,19.4s						
ULM	Lac du Bonnet	113.96	35	PKP	PKiKP	12 19 17.7	-1.3
	comp=Z,1.5nm,0.8s,baz=237,slow=5.5,SNR=3.3						
KHC	Kasperske Hory	114.60	324	ePKP	PKPdf	12 19 20.0	-0.4
KHC				AMS	AMS	13 13 10.0	
	comp=Z,2µm,20.1s						
KHC	Kasperske Hory	114.60	324	ePKIKP	PKPdf	12 19 20.0	-0.4
KHC				MLR	MLR		
	comp=Z,2µm,20.1s						
GERES	GERESS Array B	114.66	324	PKP	PKPdf	12 19 20.8	+0.2
	comp=Z,1.3nm,0.7s,baz=71,slow=2.0,SNR=9.5						
TXAR	Lajitas Array	115.10	59	PKP	PKPdf	12 19 22.9	+0.8
	comp=Z,0.3nm,0.6s,baz=194,slow=2.9,SNR=6.7						
TXAR				PKKPbc	PKKPbc	12 29 59.5	+1.4
	comp=Z,1.5nm,0.7s,baz=120,slow=4.8,SNR=8.8						
ECSD	EROS Data Cent	116.25	42	P	PKPdf	12 19 23.6	-0.1
	baz=293						
H34A	Spellman Lake,	116.42	41	P	PKPdf	12 19 23.8	-0.2
	baz=294						
D35A	Remer	116.47	38	P	PKPdf	12 19 23.4	-0.6
	baz=297						
E36A	McGregor	117.21	38	P	PKPdf	12 19 25.1	-0.3
	baz=298						
F36A	Milaca	117.34	39	P	PKPdf	12 19 25.5	-0.2
	baz=297						
P34A	Walnut Farm, R	117.68	46	P	PKPdf	12 19 26.8	+0.2
	baz=291						
JCT	Junction City	118.12	57	P	PKPdf	12 19 27.8	+0.1
	baz=284						
JCT	Junction City	118.12	57	ePKPdf	PKPdf	12 19 27.7	0.0
JCT	Junction City	118.12	57	ePKIKP	PKPdf	12 19 27.7	0.0
E38A	The Farm, Brul	118.20	37	P	PKPdf	12 19 25.8	-1.5
	baz=299						
F39A	Loretta	118.92	38	P	PKPdf	12 19 28.2	-0.6
	baz=299						
H39A	Augusta	119.29	39	P	PKPdf	12 19 29.1	-0.4
	baz=298						
J39A	Decorah	119.65	41	P	PKPdf	12 19 29.3	-0.9
	baz=297						
P38A	Dawn	120.01	45	P	PKPdf	12 19 30.8	-0.2
	baz=294						
R38A	Fenwick Farm,	120.31	47	P	PKPdf	12 19 30.7	-1.0
	baz=293						
T38A	Diamond	120.46	48	P	PKPdf	12 19 30.8	-1.2
	baz=292						
Q39A	Willow Grove F	120.64	45	P	PKPdf	12 19 32.0	-0.3
	baz=294						
R39A	Chumby, Stover	120.88	46	P	PKPdf	12 19 32.7	-0.1
	baz=294						
S39A	Bolivar	120.92	47	P	PKPdf	12 19 32.6	-0.3
	baz=293						
P40A	Paris	121.09	45	P	PKPdf	12 19 32.7	-0.4
	baz=295						
T39A	Clever	121.14	48	P	PKPdf	12 19 33.2	-0.1
	baz=293						
U39A	Green Forest	121.31	48	P	PKPdf	12 19 33.0	-0.6
	baz=292						
V39A	Pettigrew	121.38	49	P	PKPdf	12 19 33.7	-0.2
	baz=292						
K42A	Prairie Point,	121.44	40	P	PKPdf	12 19 32.9	-0.7
	baz=299						
R40A	Maddies Statio	121.45	46	P	PKPdf	12 19 33.4	-0.5
	baz=294						
X39A	Fountain Ranch	121.50	51	P	PKPdf	12 19 34.9	+0.8
	baz=291						
W39A	Magazine	121.51	50	P	PKPdf	12 19 34.2	+0.1
	baz=291						
S40A	Lebanon	121.56	47	P	PKPdf	12 19 33.4	-0.7
	baz=294						
O41A	Passleys Farm,	121.65	44	P	PKPdf	12 19 33.7	-0.5
	baz=296						
T40A	Mansfield	121.72	47	P	PKPdf	12 19 33.9	-0.5
	baz=293						
U40A	Yellville	121.78	48	P	PKPdf	12 19 36.9	+2.3
	baz=293						
Q41A	Truxton	121.91	45	P	PKPdf	12 19 34.5	-0.2
	baz=295						
V40A	Witts Springs	122.02	49	P	PKPdf	12 19 34.5	-0.6
	baz=292						
R41A	Rosebud	122.08	46	P	PKPdf	12 19 34.6	-0.5
	baz=295						
S41A	Jillco Farms,	122.11	47	P	PKPdf	12 19 34.8	-0.4
	baz=294						
P42A	Winchester	122.25	44	P	PKPdf	12 19 35.3	-0.1
	baz=296						
CCM	Cathedral Cave	122.28	46	P	PKPdf	12 19 35.2	-0.2
	baz=295						
T41A	Mountain View	122.32	47	P	PKPdf	12 19 35.1	-0.5
	baz=294						
R42A	Luebbering	122.51	45	P	PKPdf	12 19 35.5	-0.4
	baz=295						
S42A	Caledonia	122.72	46	P	PKPdf	12 19 35.6	-0.7
	baz=295						
T42A	Van Buren	122.81	47	P	PKPdf	12 19 35.3	-1.2
	baz=294						
KEST	Kesra	123.12	312	PKP	PKPdf	12 19 38.0	+0.8
	comp=Z,6.4nm,0.8s,baz=279,slow=7.4,SNR=6.1						
S43A	Fulton Ridge,	123.32	46	P	PKPdf	12 19 36.9	-0.5
	baz=296						
T43A	Greenville	123.38	47	P	PKPdf	12 19 36.8	-0.7
	baz=295						
SCHQ	Schefferville	124.02	18	PKP	PKPdf	12 19 38.1	-0.2
	comp=Z,7.6nm,0.7s,baz=2.8,slow=5.4,SNR=9.1						
Q45A	Warren Harvey,	124.08	44	P	PKPdf	12 19 38.6	-0.3
	baz=298						
P46A	Rosedale	124.38	42	P	PKPdf	12 19 39.7	+0.3
	baz=299						
O47A	Sheridan	124.77	41	P	PKPdf	12 19 39.8	-0.3
	baz=301						
P47A	Martinsville	125.08	42	P	PKPdf	12 19 40.7	-0.1
	baz=300						
T46A	Princeton	125.12	46	P	PKPdf	12 19 40.7	-0.2
	baz=297						
R47A	Wooly Knot Far	125.49	44	P	PKPdf	12 19 41.5	-0.1
	baz=299						
U47A	Clarksville	125.82	46	P	PKPdf	12 19 41.9	-0.3
	baz=297						
V47A	Nunnelly	125.93	47	P	PKPdf	12 19 42.5	0.0
	baz=297						
S48A	Wiedeman Farm,	126.12	44	P	PKPdf	12 19 42.8	-0.1
	baz=299						
W47A	Westpoint	126.13	47	P	PKPdf	12 19 42.1	-0.9
	baz=296						
TKL	Tuckaleechee C	128.70	45	PKP	PKPdf	12 19 48.4	+0.6
	comp=Z,3.1nm,0.5s,baz=154,slow=5.5,SNR=7.6						
TKL	Tuckaleechee C	128.70	45	PKIKP	PKPdf	12 19 48.4	+0.6
TKL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PLCA	Paso Flores	128.99	151	PKP	PKPdf	12 19 49.7	+1.4
	comp=Z,5.7nm,0.8s,baz=274,slow=2.3,SNR=15						
ESDC	Sonseca Array	130.22	322	PKP	PKPdf	12 19 51.8	+1.1
	comp=Z,0.6nm,0.5s,baz=22,slow=2.9,SNR=3.7						
ESDC				PP	PP	12 22 03.3	-0.2
	comp=Z,0.1nm,0.3s,baz=42,slow=7.1,SNR=6.3						
TORD	Torodi Ar. Bea	136.53	286	PKhKP	PKPpre	12 19 51.1	
	comp=Z,2.0nm,0.8s,baz=37,slow=2.1,SNR=6.5						
TORD				PKP	PKPdf	12 20 03.5	+0.4
	comp=Z,7.5nm,0.8s,baz=55,slow=1.2,SNR=16						
KOWA	Kowa	141.68	290	PKhKP	PKPpre	12 20 07.2	
	comp=Z,4.3nm,0.5s,baz=87,slow=5.6,SNR=9.2						
KIC	Kosan Boka	143.67	277	ePKP1	PKPab	12 20 12.7	-0.1
	comp=Z,38nm,0.6s						
TIC	Toumodi	143.92	277	ePKP1	PKPab	12 20 13.8	0.0
LIC	Lamto	143.96	277	ePKP1	PKPab	12 20 13.4	-0.5
	comp=Z,127nm,1.2s						
ROSC	El Rosal	146.72	85	PKPbc	PKPbc	12 20 22.9	-0.6
	comp=Z,13nm,0.6s,baz=49,slow=23,SNR=5.3						
CPUP	Villa Florida	147.04	152	PKPbc	PKPbc	12 20 23.0	-0.6
	comp=Z,30nm,0.9s,baz=225,slow=2.2,SNR=29						
LPAZ	La Paz	147.19	126	PKPbc	PKPbc	12 20 25.2	+0.2
	comp=Z,19nm,0.9s,baz=255,slow=2.4,SNR=23						
SDV	Santo Domingo	149.94	77	PKPbc	PKPbc	12 20 31.3	-0.4
	comp=Z,17nm,0.9s,baz=246,slow=6.9,SNR=4.3						
SDV	Santo Domingo	149.94	77	ePKPdf	PKPdf	12 20 26.5	-0.3
SDV				ePKPbc	PKPbc	12 20 31.6	-0.1
SDV				ePKPab	PKPab	12 20 38.4	+1.0

IDC ***07*** *12:02:43.7±0.3, 58°.02S×25°.40W, h0km, mb5.4/20, mb1 5.4/21, mb1mx5.2/29, mbtmp5.3/21, ML5.4/1, MS4.7/16, Ms1 4.7/16, ms1mx4.5/30, Error ellipse: s-maj=16.5km s-min=11.3km az=34.0*

MOS ***07*** *12:02:49.5±1.1, 58°.00S×25°.44W, h42km, mb5.6/32, Error ellipse: s-maj=21.9km s-min=10.4km az=108.3*

ISCJB ***07*** *12:02:49.6±0.2, 57°.94S±0°.04×25°.36W±0°.09, h50km, mb5.5/71, MS4.8/19, Error ellipse: s-maj=7.8km s-min=4.8km az=146.4*

BJI ***07*** *12:02:51.3, 57°.90S×25°.30W, h47km, mB5.6/13, Ms5.6/11, Ms7 5.3/9*

NEIC ***07*** *12:02:52.3±1.1, 57°.94S×25°.31W, h58km±8km, mb5.6/57, Error ellipse: s-maj=6.3km s-min=4.8km az=49.0*

GCMT ***07*** *12:02:52.3±0.2, 58°.20S×24°.68W, h42km, MW5.4/90, Moment Tensor Solution. s75,c115; s90,c153; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.14±.04; $M_{\theta\theta}$0.23±.03; $M_{\phi\phi}$-1.37±.03; $M_{r\theta}$-0.15±.03; $M_{\theta\phi}$0.32±.02; $M_{\phi r}$0.41±.03; Best double couple: $M_0$1.35800×10^{17} NP1:ϕ_s345.00000°, δ54.00000°, λ85.00000°. NP2:ϕ_s174.00000°, δ36.00000°, λ98.00000°. Principal axes: T 1.2160, Plg80.0000°, Azm233.0000°; N 0.2840, Plg4.0000°, Azm348.0000°; P -1.5000, Plg9.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 07 12:02:51.2±0.8**, 57°.98S**±0°.06×**25°.36W**±0°.06**, h51**km±7km**, n580, σ1s06**/616**, mb5.6**/71**, MS4.8**/19**, 8C-6D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.24**	**296**	*e*Pn	**Pn**	**12 04 38.0**	**+3.7**
VNA1	**Neumayer--Stat**	**14.62**	**157**	P	**Pn**	**12 06 12.5**	**-2.2**
VNA3	**Neumayer Olymp**	**14.83**	**160**	P	**Pn**	**12 06 15.1**	**-2.3**
VNA3				S	Sn	12 08 47.6	-13
VNA2	**Neumayer--Watz**	**15.02**	**157**	P	**Pn**	**12 06 17.6**	**-2.3**
	baz=327,slow=14						
VNA2				S	Sn	12 08 51.6	-13
SNAA	**Sanae**	**16.56**	**155**	P	**Pn**	**12 06 38.3**	**-1.3**
SNAA				S	Sn	12 09 25.7	-17
SNAA	**Sanae**	**16.56**	**155**	Pn	**Pn**	**12 06 38.2**	**-1.3**
	12nm,0.3s,baz=320,slow=15,SNR=109						
SNAA				Sn	Sn	12 09 28.6	-14
	0.7nm,0.3s,baz=338,slow=18,SNR=4.7						
SNAA				LR	LR	12 11 30.2	
	comp=Z,2μm,21.4s,baz=341,slow=32						
SNAA				T	T	12 22 09.9	
	0.9nm,0.3s,baz=331,slow=10,SNR=4.0						
SNAA	**Sanae**	**16.56**	**155**	*e*Pn	**Pn**	**12 06 39.7**	**+0.1**
	182nm,1.3s						
SNAA				Sn	Sn	12 09 28.6	-14
SNAA				TT		12 22 09.9	
SNAA	**Sanae**	**16.56**	**155***c*	*i*P	**Pn**	**12 06 38.7**	**-0.9**
PMSA	**Palmer Station**	**19.47**	**233**	*e*P	**Pn**	**12 07 15.6**	**+0.7**
	149nm,0.8s						
EFI	**East Falkland**	**19.72**	**275**	*e*P	**Pn**	**12 07 17.9**	**-0.2**
	253nm,1.3s						
EFI				*e*PcP	**PcP**	**12 11 33.5**	**+0.8**
EFI	**East Falkland**	**19.72**	**275***c*	*i*P	**Pn**	**12 07 18.1**	**+0.1**
EFI				pmax	pmax		
	comp=Z,31nm,0.4s						
NVL	**N'lazarevskaya**	**20.10**	**144**	*e*P	Pn	12 07 21.7	-0.6
NVL				*e*S	**S**	**12 11 00.2**	**-2.5**
NVL				pmax	pmax		
	comp=Z,56nm,1.7s						
GO09	**Cerro Castillo**	**27.53**	**264**	*e*P	**P**	**12 08 32.6**	**0.0**
	comp=Z,121nm,1.4s						
SYO	**Syowa Base**	**29.46**	**138**⇑	*e*P	**P**	**12 08 47.1**	**-2.5**
CHRN	**Cochrane**	**30.01**	**270**	*e*P	**P**	**12 08 55.6**	**+1.0**
	comp=Z,13nm,0.8s						
TRQA	**Tornquist**	**31.02**	**294**	*e*P	**P**	**12 09 02.9**	**-0.8**
	comp=Z,16nm,0.8s						
TRQA				*e*PcP	**PcP**	**12 11 58.7**	**+0.2**
TRQA	**Tornquist**	**31.02**	**294**	P	**P**	**12 09 02.9**	**-0.8**
TRQA				pmax	pmax		
	comp=Z,27nm,0.9s						
PLCA	**Paso Flores**	**33.34**	**281**	P	**P**	**12 09 23.9**	**-0.2**
	comp=Z,57nm,0.9s,baz=166,slow=8.3,SNR=109						
PLCA				PcP	**PcP**	**12 12 05.3**	**+0.4**
	comp=Z,10nm,0.7s,baz=85,slow=2.5,SNR=4.9						
PLCA				LR	LR	12 23 18.0	
	comp=Z,1μm,18.1s,baz=150,slow=37						
PLCA	**Paso Flores**	**33.34**	**281**	*e*P	**P**	**12 09 23.7**	**-0.5**
	comp=Z,76nm,0.9s						
PLCA				*e*PcP	**PcP**	**12 12 05.6**	**+0.8**
PLCA	**Paso Flores**	**33.34**	**281**	*e*P	**P**	**12 09 23.7**	**-0.5**
PLCA				*e*		12 12 05.6	
PLCA				pmax	pmax		
	comp=Z,76nm,0.9s						
SPB	**Sao Paulo**	**37.84**	**326**	*e*P	**P**	**12 10 03.6**	**+0.9**
	comp=Z,155nm,0.7s						
MAW	**Mawson**	**38.00**	**142**	P	**P**	**12 10 03.4**	**-0.2**
	comp=Z,21nm,0.7s,baz=182,slow=1.8,SNR=6.5						
MAW				LR	LR	12 23 34.3	
	comp=Z,837nm,20.1s,baz=247,slow=33						
GO05	**HualaæØ**	**38.38**	**286**	*e*P	**P**	**12 10 07.3**	**+0.1**
	comp=Z,98nm,1.3s						
CPUP	**Villa Florida**	**38.84**	**311**	P	**P**	**12 10 10.0**	**-1.1**
	comp=Z,34nm,0.8s,baz=155,slow=7.8,SNR=48						
CPUP				PcP	**PcP**	**12 12 21.3**	**+0.1**
	comp=Z,23nm,0.6s,baz=156,slow=1.9,SNR=13						
CPUP				S	**S**	**12 16 04.6**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=150,slow=3.2,SNR=5.2						
CPUP				LR	LR	12 24 09.6	
	comp=Z,633nm,22.0s,baz=164,slow=33						
CPUP	**Villa Florida**	**38.84**	**311**	*e*P	**P**	**12 10 09.4**	**-1.7**
	comp=Z,29nm,0.8s						
CPUP				PcP	**PcP**	**12 12 21.3**	**+0.1**
CPUP				*e*S	**S**	**12 16 05.2**	**0.0**
ROC1	**El Roble**	**39.52**	**289**	*e*P	**P**	**12 10 16.8**	**-0.2**
	comp=Z,31nm,0.7s						
SUR	**Sutherland**	**40.25**	**71**	P	**P**	**12 10 23.5**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=244,slow=6.4,SNR=3.5						
SUR				PcP	**PcP**	**12 12 26.9**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=225,slow=3.0,SNR=4.0						
LCO	**Las Campanas**	**42.58**	**293**	*e*P	**P**	**12 10 41.6**	**-0.6**
	comp=Z,26nm,1.0s						
LCO	**Las Campanas**	**42.58**	**293**	P	**P**	**12 10 41.3**	**-1.0**
LCO				pmax	pmax		
	comp=Z,33nm,2.0s						
SBA	**Scott Base**	**44.21**	**184**	P	**P**	**12 10 56.5**	**+2.0**
SBA				pmax	pmax		
	comp=Z,100nm,1.6s						
VNDA	**Vanda**	**44.68**	**182**	P	**P**	**12 10 58.7**	**+0.5**
	comp=Z,64nm,0.6s,baz=185,slow=6.9,SNR=200						
VNDA				PcP	**PcP**	**12 12 40.3**	**+0.6**
	comp=Z,11nm,0.6s,baz=311,slow=10,SNR=3.1						
VNDA	**Vanda**	**44.68**	**182**	*e*P	**P**	**12 10 59.2**	**+1.1**
	comp=Z,81nm,0.8s						
VNDA				PcP	**PcP**	**12 12 40.3**	**+0.6**
VNDA	**Vanda**	**44.68**	**182**	*e*P	**P**	**12 10 59.3**	**+1.1**
VNDA						12 12 40.3	
VNDA				pmax	pmax		
	comp=Z,81nm,0.8s						
BOSA	**Boshof**	**45.54**	**72**	P	**P**	**12 11 04.3**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=224,slow=6.2,SNR=7.8						
BOSA				LR	LR	12 26 04.6	
	comp=Z,1μm,21.5s,baz=215,slow=31						
BOSA	**Boshof**	**45.54**	**72**	*e*P	**P**	**12 11 06.0**	**+0.2**
	comp=Z,32nm,1.1s						
BOSA	**Boshof**	**45.54**	**72**	*e*P	**P**	**12 11 06.0**	**+0.2**
BOSA				pmax	pmax		
	comp=Z,32nm,1.1s						
MIR	**Mirnyy**	**47.60**	**152**⇓	*i*P	**P**	**12 11 22.0**	**+0.7**
MIR				pmax	pmax		
	comp=Z,80nm,1.0s						
PB04	**IPOC Station P**	**47.95**	**299**	*e*P	**P**	**12 11 24.1**	**-0.6**
	comp=Z,48nm,1.1s						
PB01	**IPOC Station P**	**48.76**	**300**	*e*P	**P**	**12 11 30.1**	**-0.7**
	comp=Z,34nm,0.6s						
H10S2	**ASCENSION HYDR**	**49.60**	**14**	T	T	13 06 14.0	
	baz=188,slow=75,SNR=298						
H10S3	**ASCENSION HYDR**	**49.61**	**14**	T	T	13 06 14.4	
	baz=188,slow=75,SNR=348						
H10S1	**ASCENSION HYDR**	**49.62**	**14**	T	T	13 06 15.4	
	baz=188,slow=75,SNR=241						
TSUM	**Tsumeb**	**49.82**	**57**	*e*P	**P**	**12 11 39.1**	**+0.1**
	comp=Z,13nm,0.9s						
MNMC	**Minye Minye**	**50.47**	**301**	*e*P	**P**	**12 11 43.7**	**-0.4**
	comp=Z,85nm,0.7s						
H10N1	**ASCENSION HYDR**	**50.72**	**14**	T	T	13 07 38.8	
	baz=182,slow=72,SNR=49						
H10N3	**ASCENSION HYDR**	**50.73**	**14**	T	T	13 07 38.6	
	baz=182,slow=72,SNR=386						
H10N2	**ASCENSION HYDR**	**50.74**	**14**	T	T	13 07 39.6	
	baz=182,slow=72,SNR=125						
LPAZ	**La Paz**	**52.31**	**304**	P	**P**	**12 11 57.5**	**-0.7**
	comp=Z,35nm,0.5s,baz=160,slow=5.9,SNR=88						
LPAZ				PcP	**PcP**	**12 13 09.4**	**+0.6**
	comp=Z,20nm,0.5s,baz=57,slow=4.1,SNR=8.7						
LPAZ				LR	LR	12 33 30.6	
	comp=Z,246nm,21.9s,baz=175,slow=35						
LPAZ	**La Paz**	**52.31**	**304**	*e*P	**P**	**12 11 57.8**	**-0.4**
	comp=Z,38nm,0.5s						
LPAZ				PcP	**PcP**	**12 13 09.4**	**+0.6**
LPAZ	**La Paz**	**52.31**	**304**	*e*P	**P**	**12 11 57.8**	**-0.4**
LPAZ						12 13 09.5	
LPAZ				pmax	pmax		
	comp=Z,38nm,0.5s						
SAML	**Samuel**	**56.87**	**314**	*e*P	**P**	**12 12 29.7**	**-0.9**
	comp=Z,87nm,0.8s						
LSZ	**Lusaka**	**58.19**	**66**	*e*P	**P**	**12 12 40.4**	**+0.3**
	comp=Z,41nm,1.4s						
LSZ	**Lusaka**	**58.19**	**66**	*e*P	**P**	**12 12 40.4**	**+0.3**
LSZ				pmax	pmax		
	comp=Z,41nm,1.4s						
NNA	**Nana**	**60.05**	**298**	P	**P**	**12 12 51.0**	**-1.8**
	comp=Z,10nm,0.6s,baz=214,slow=11,SNR=3.3						
NNA	**Nana**	**60.05**	**298**	*i* P	**P**	**12 12 52.0**	**-0.8**
PTGA	**Pitinga**	**63.31**	**321**	P	**P**	**12 13 14.0**	**-0.7**
	comp=Z,36nm,0.6s,baz=164,slow=9.2						
PTGA	**Pitinga**	**63.31**	**321**	*e*P	**P**	**12 13 14.1**	**-0.6**
	comp=Z,44nm,0.6s						
RPN	**Rapa Nui**	**64.30**	**260**	P	**P**	**12 13 20.2**	**-0.9**
	comp=Z,56nm,0.9s,baz=73,slow=4.3,SNR=4.2						
ATAH	**Atahualpa**	**65.02**	**299**	P	**P**	**12 13 26.8**	**+0.4**
	comp=Z,16nm,0.8s,baz=155,slow=4.0,SNR=13						
OPO	**Ambohidratompo**	**65.20**	**85**	LR	LR	12 36 01.2	
	comp=Z,702nm,21.1s,baz=152,slow=31						
LIC	**Lamto**	**66.08**	**22**	*e*P	**P**	**12 13 32.8**	**+0.2**
	comp=Z,161nm,0.8s						
KIC	**Kosan Boka**	**66.27**	**22**	*e*P	**P**	**12 13 33.9**	**0.0**
	comp=Z,117nm,0.8s						
TIC	**Toumodi**	**66.49**	**22**	*e*P	**P**	**12 13 35.3**	**0.0**
FLOC	**Florencia**	**71.52**	**306**	*e*P	**P**	**12 14 05.1**	**-1.5**
OTAV	**Otavalo**	**71.55**	**303**	*e*P	**P**	**12 14 07.0**	**-0.3**
	comp=Z,81nm,1.4s						
OTAV	**Otavalo**	**71.55**	**303**	*e*P	**P**	**12 14 06.5**	**-0.8**
MBAR	**Mbarara**	**72.18**	**61**	LR	LR	12 42 58.6	
	comp=Z,650nm,18.4s,baz=207,slow=33						
BETC	**Betania**	**72.41**	**307**	*e*P	**P**	**12 14 11.4**	**-0.5**
PCON	**Cinco Dias**	**72.51**	**305**	*e*P	**P**	**12 14 13.5**	**+0.4**
BBTS	**Babate**	**72.75**	**9**	LR	LR	12 38 57.0	
	comp=Z,386nm,21.7s,baz=188,slow=30						
MARP	**Paez Belalcaza**	**72.78**	**306**	*e*P	**P**	**12 14 14.2**	**-0.2**
PRAC	**Prado**	**73.11**	**307**	*e*P	**P**	**12 14 15.5**	**-0.5**
	comp=Z,124nm,0.6s						
PRAC	**Prado**	**73.11**	**307**	*e*P	**P**	**12 14 14.9**	**-1.1**
CHIC	**Chingaza**	**73.45**	**309**	*e*P	**P**	**12 14 17.8**	**-0.7**
HORQ	**Saladito**	**73.64**	**306**	*e*P	**P**	**12 14 18.5**	**-1.0**
HORQ				*e*P	**P**	**12 14 19.2**	**-0.3**
ROSC	**El Rosal**	**73.88**	**309**	P	**P**	**12 14 21.1**	**+0.1**
	comp=Z,32nm,0.8s,baz=185,slow=7.7,SNR=12						
ROSC	**El Rosal**	**73.88**	**309**	*e*P	**P**	**12 14 20.8**	**-0.2**
	comp=Z,26nm,0.8s						
GRGC	**Isla de Gorgon**	**73.89**	**304**	*e*P	**P**	**12 14 19.9**	**-0.7**
ANIL	**Santa Ana**	**74.02**	**307**	*e*P	**P**	**12 14 19.9**	**-1.8**
TOA0	**Torodi Ar. Sit**	**74.28**	**27**	*e*P	**P**	**12 14 23.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**74.28**	**27**	P	**P**	**12 14 23.1**	**+0.4**
	comp=Z,56nm,0.6s,baz=198,slow=6.4,SNR=461						
TORD				LR	LR	12 40 17.7	
	comp=Z,554nm,21.2s,baz=185,slow=30						
RUSC	**La Rusia**	**74.33**	**310**	*e*P	**P**	**12 14 22.3**	**-1.4**
	comp=Z,16nm,0.8s						
RUSC	**La Rusia**	**74.33**	**310**	*e*P	**P**	**12 14 22.0**	**-1.7**
KOWA	**Kowa**	**74.33**	**21**	P	**P**	**12 14 23.5**	**+0.5**
	comp=Z,30nm,0.7s,baz=197,slow=5.5,SNR=80						
KOWA				LR	LR	12 40 11.8	
	comp=Z,522nm,21.4s,baz=204,slow=30						
KOWA	**Kowa**	**74.33**	**21**	*e*P	**P**	**12 14 23.0**	**-0.1**
	comp=Z,39nm,0.9s						
RREF	**El Recreo**	**74.37**	**308**	*e*P	P	12 14 17.1	-7.1
GUYC	**Guyana, Colomb**	**74.68**	**308**	*e*P	**P**	**12 14 24.1**	**-1.6**
NORC	**Norcasia**	**74.76**	**308**	*e*P	**P**	**12 14 23.4**	**-2.3**
PCRV	**Puerto La Cruz**	**75.08**	**320**	P	**P**	**12 14 28.4**	**+1.0**
	comp=Z,223nm,0.5s,baz=133,slow=2.5,SNR=101						
PCRV				LR	LR	12 50 59.3	
	comp=Z,164nm,18.3s,baz=150,slow=39						
PTBC	**PUERTO BERRIO,**	**75.47**	**309**	*e*P	**P**	**12 14 26.2**	**-3.5**
HELC	**Santa Helena**	**75.61**	**308**	*e*P	**P**	**12 14 28.8**	**-2.1**
	comp=Z,58nm,0.7s						
WHZ	**Wether Hill Ro**	**75.90**	**190**	*e*P	**P**	**12 14 33.0**	**+1.2**
	comp=Z,62nm,0.8s						
GRGR	**Grenville**	**75.93**	**323**	*e*P	**P**	**12 14 33.3**	**+1.1**
	comp=Z,382nm,0.6s						
SDV	**Santo Domingo**	**76.08**	**314**	P	**P**	**12 14 33.2**	**-0.2**
	comp=Z,60nm,0.8s,baz=160,slow=5.3,SNR=57						
SDV	**Santo Domingo**	**76.08**	**314**	*e*P	**P**	**12 14 33.0**	**-0.4**
	comp=Z,58nm,0.8s						
PAYG	**Puerto Ayora**	**76.37**	**291**	*e*P	**P**	**12 14 35.9**	**+1.0**
	comp=Z,66nm,1.3s						
DCZ	**Deep Cove**	**76.39**	**189**	*e*P	**P**	**12 14 35.6**	**+1.0**
	comp=Z,53nm,0.9s						
MLZ	**Mavora Lakes**	**76.41**	**190**	*e*P	**P**	**12 14 35.5**	**+0.7**
	comp=Z,70nm,0.8s						
ODZ	**Otahua Downs**	**76.48**	**192**	*e*P	**P**	**12 14 35.9**	**+0.8**
	comp=Z,107nm,1.6s						
WKZ	**Wanaka**	**76.86**	**190**	*e*P	**P**	**12 14 38.5**	**+1.2**
	comp=Z,79nm,0.9s						
SVB	**Belmont**	**76.87**	**324**	*e*P	**P**	**12 14 38.2**	**+0.6**
	comp=Z,268nm,0.5s						
LBZ	**Lake Benmore**	**77.18**	**191**	*e*P	**P**	**12 14 39.9**	**+0.8**
	comp=Z,46nm,0.7s						
RPZ	**Rata Peaks**	**77.75**	**192**	*e*P	**P**	**12 14 43.4**	**+1.1**
	comp=Z,57nm,0.7s						
OXZ	**Oxford**	**78.02**	**193**	*e*P	**P**	**12 14 44.8**	**+1.1**
	comp=Z,111nm,1.6s						
FOZ	**Fox Glacier**	**78.06**	**191**	*e*P	**P**	**12 14 45.0**	**+1.0**
	comp=Z,44nm,0.9s						
FDF	**Fort de France**	**78.22**	**325**	*e*P	**P**	**12 14 46.3**	**+1.2**
	comp=Z,284nm,0.8s						
FDF	**Fort de France**	**78.22**	**325**	*e*P	**P**	**12 14 46.3**	**+1.2**
FDF				pmax	pmax		
	comp=Z,283nm,0.8s						
LTZ	**Lake Taylor**	**78.52**	**193**	*e*P	**P**	**12 14 47.7**	**+1.1**
	comp=Z,58nm,0.7s						
BBL	**Barber's Block**	**79.06**	**325**	*e*P	**P**	**12 14 51.0**	**+1.2**
TAU	**Tasmania Unive**	**79.28**	**175**	*e*P	**P**	**12 14 51.0**	**+0.2**
	comp=Z,70nm,1.0s						
TAU	**Tasmania Unive**	**79.28**	**175**	*e*P	**P**	**12 14 51.0**	**+0.2**
TAU				pmax	pmax		
	comp=Z,71nm,1.0s						
MGG	**Marie-Galante**	**79.39**	**325**	*e*P	**P**	**12 14 52.7**	**+1.2**
TBG	**Guadaloupe-3**	**79.42**	**325**	*e*P	**P**	**12 14 53.2**	**+1.5**
THZ	**Tophouse**	**79.45**	**194**	*e*P	**P**	**12 14 52.5**	**+0.7**
	comp=Z,147nm,0.7s						
TAG	**Tarade**	**79.61**	**325**	*e*P	**P**	**12 14 54.6**	**+1.8**
SNZO	**South Karori**	**79.65**	**195**	*e*P	**P**	**12 14 53.0**	**+0.2**
DEG	**La Desirade**	**79.68**	**325**	*e*P	**P**	**12 14 54.2**	**+1.1**
GDHS	**Morne Mazeau,**	**79.86**	**325**	*e*P	**P**	**12 14 55.4**	**+1.3**
	comp=Z,839nm,0.9s						
MBWH		**80.43**	**324**	*e*P	**P**	**12 14 57.6**	**+0.5**
SKI	**Saint Kitts**	**81.16**	**324**	*e*P	**P**	**12 15 01.3**	**+0.3**
	comp=Z,593nm,0.8s						
SKI	**Saint Kitts**	**81.16**	**324**	*e*P	**P**	**12 15 01.3**	**+0.3**
SKI				pmax	pmax		
	comp=Z,593nm,0.8s						
BKZ	**Black Stump Fm**	**81.49**	**197**	*e*P	**P**	**12 15 03.9**	**+1.1**
	comp=Z,137nm,1.6s						
SABA	**Saba**	**81.58**	**324**	*e*P	**P**	**12 15 04.7**	**+1.4**
	comp=Z,234nm,1.0s						
URZ	**Urewera**	**82.28**	**198**	*e*P	**P**	**12 15 07.4**	**+0.6**
	comp=Z,45nm,0.9s						
HIZ	**Hauiti**	**82.38**	**196**	*e*P	**P**	**12 15 07.0**	**-0.4**
	comp=Z,75nm,0.5s						
MTP	**Monte Pirata**	**82.78**	**322**	*e*P	**P**	**12 15 08.4**	**-1.0**
	comp=Z,187nm,1.2s						
HUMP	**Col San Antoni**	**82.92**	**322**	*e*P	**P**	**12 15 10.1**	**-0.1**
	comp=Z,102nm,0.6s						
SJG	**San Juan**	**82.99**	**321**	P	**P**	**12 15 09.6**	**-0.9**
	comp=Z,33nm,0.7s,baz=80,slow=3.5,SNR=8.9						
SJG	**San Juan**	**82.99**	**321**	*e*P	**P**	**12 15 10.1**	**-0.4**
	comp=Z,60nm,0.9s						
SJG	**San Juan**	**82.99**	**321**	*e*P	**P**	**12 15 10.1**	**-0.4**
SJG				pmax	pmax		
	comp=Z,60nm,0.9s						
CBYP	**Canovanas**	**83.04**	**322**	*e*P	**P**	**12 15 10.4**	**-0.5**
	comp=Z,163nm,0.6s						
JTS	**JuntasAbangare**	**83.39**	**301**	P	**P**	**12 15 12.3**	**-0.5**
	comp=Z,26nm,0.9s,baz=356,slow=5.0,SNR=6.8						
JTS	**JuntasAbangare**	**83.39**	**301**	*e*P	**P**	**12 15 12.5**	**-0.3**
	comp=Z,42nm,1.0s						
JTS	**JuntasAbangare**	**83.39**	**301**	*e*P	**P**	**12 15 12.5**	**-0.3**
JTS				pmax	pmax		
	comp=Z,42nm,1.0s						
TAM	**Tamanrasset**	**84.50**	**28**	*e*P	**P**	**12 15 21.0**	**+2.7**
	comp=Z,14nm,1.0s						
TAM	**Tamanrasset**	**84.50**	**28**	*e*P	**P**	**12 15 21.0**	**+2.7**
TAM				pmax	pmax		
	comp=Z,14nm,1.0s						
SDDR	**Presa de Saban**	**85.58**	**317**	*e*P	**P**	**12 15 24.2**	**+0.5**
	comp=Z,25nm,0.6s						
OUZ	**Omahuta**	**85.79**	**195**	*e*P	**P**	**12 15 25.1**	**+0.4**
	comp=Z,59nm,0.9s						
H08N3	**Diego Garcia H**	**88.03**	**99**	T	T	13 54 28.7	
	baz=217,slow=75,SNR=4.5						
H08N1	**Diego Carcia H**	**88.05**	**99**	T	T	13 54 37.4	
	baz=217,slow=75,SNR=3.8						
H08N2	**Diego Garcia H**	**88.05**	**99**	T	T	13 54 30.4	
	baz=217,slow=75,SNR=3.7						
STKA	**Stephens Creek**	**89.81**	**169**	P	**P**	**12 15 44.3**	**+0.2**
	comp=Z,21nm,0.9s,baz=124,slow=4.0,SNR=6.4						
STKA				LR	LR	12 56 05.1	
	comp=Z,632nm,18.0s,baz=227,slow=36						
CMIG	**Matias Romero**	**93.95**	**296**	P	**P**	**12 16 02.6**	**-0.6**
	comp=Z,10nm,0.8s,baz=142,slow=3.4,SNR=15						
ASAR	**Alice Springs**	**96.83**	**161**	P	**P**	**12 16 15.9**	**-0.6**
	comp=Z,10nm,0.7s,baz=181,slow=4.1,SNR=11						
ASAR				PP	**PP**	**12 20 08.1**	**-3.0**
	comp=Z,1.2nm,0.9s,baz=195,slow=7.3,SNR=4.2						
ASAR				PKiKP	**PKiKP**	**12 20 52.2**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=177,slow=1.2,SNR=7.8						
ASAR				PKKP	**PKKPdf**	**12 32 57.0**	**+1.7**
	comp=Z,1.2nm,0.7s,baz=24,slow=2.6,SNR=8.3						
ASAR				LR	LR	12 57 36.1	
	comp=Z,629nm,19.6s,baz=208,slow=34						
ASAR	**Alice Springs**	**96.83**	**161**	P	**P**	**12 16 16.0**	**-0.6**
ASAR						12 20 08.1	
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KEST	**Kesra**	**97.80**	**28**	LR	LR	12 55 51.0	
	comp=Z,413nm,19.6s,baz=186,slow=33						
ESDC	**Sonseca Array**	**98.94**	**17**	P	**P**	**12 16 26.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=189,slow=4.6,SNR=2.9						
DZM	**Mont Dzumac**	**99.64**	**191**	LR	LR	12 59 24.1	
	comp=Z,316nm,18.8s,baz=212,slow=34						
WRA	**Warramunga Arr**	**100.55**	**161**	P	**Pdif**	**12 16 31.9**	**-1.3**
	comp=Z,2.4nm,0.7s,baz=193,slow=4.0,SNR=4.0						
WRA				PKKP	**PKKPbc**	**12 32 46.7**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=356,slow=2.9,SNR=9.4						
JCT	**Junction City**	**107.69**	**299**	P	**PKiKP**	**12 21 11.6**	**-0.4**
	baz=148						
Y40A	**Okolona**	**107.75**	**306**	P	**PKiKP**	**12 21 11.9**	**0.0**
	baz=149						
TXAR	**Lajitas Array**	**108.56**	**296**	PKiKP	**PKiKP**	**12 21 14.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=133,slow=2.5,SNR=9.3						
TXAR				PKKP	**PKKPdf**	**12 32 36.1**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=318,slow=1.7,SNR=3.7						
BRTR	**Keskin Array B**	**109.09**	**44**	PKKPbc	PKKPbc	12 32 19.6	-0.6
	comp=Z,3.1nm,0.7s,baz=102,slow=2.4,SNR=13						
BRTR				PKKP	**PKKPdf**	**12 32 33.7**	**-2.2**
	comp=Z,0.8nm,0.6s,baz=32,slow=1.4,SNR=3.1						
T41A	**Mountain View**	**109.70**	**309**	P	**PKiKP**	**12 21 15.1**	**-0.4**
	baz=149						
P44A	**Sand Creek, Wi**	**110.50**	**312**	P	**PKiKP**	**12 21 16.9**	**0.0**
	baz=150						
T38A	**Diamond**	**110.75**	**307**	P	**PKiKP**	**12 21 16.9**	**-0.6**
	baz=148						
S39A	**Bolivar**	**110.90**	**308**	P	**PKiKP**	**12 21 17.0**	**-0.8**
	baz=148						
MNTX	**Cornudas Mount**	**111.34**	**296**	P	**PKiKP**	**12 21 18.7**	**-0.1**
	baz=146						
KHC	**Kasperske Hory**	**111.47**	**26**	*e*P	**PKKPab**	**12 32 23.0**	**+3.5**
Q40A	**Laux Farm, Aux**	**111.49**	**310**	P	**PKiKP**	**12 21 19.3**	**+0.5**
	baz=148						
MSTX	**Muleshoe**	**111.97**	**299**	P	**PKiKP**	**12 21 19.9**	**-0.1**
	baz=146						
PMG	**Port Moresby**	**112.57**	**172**⇑	*i*PKIKP	**PKiKP**	**12 21 22.8**	**+1.1**
P38A	**Dawn**	**112.62**	**309**	P	**PKiKP**	**12 21 20.5**	**-0.4**
	baz=148						
R34A	**Isabella, Hill**	**113.08**	**306**	P	**PKiKP**	**12 21 21.9**	**0.0**
	baz=147						
121A	**Cookes Peak, D**	**113.18**	**294**	P	**PKiKP**	**12 21 22.7**	**+0.2**
	baz=145						
121A	**Cookes Peak, D**	**113.18**	**294**	*e*PKPdf	**PKiKP**	**12 21 22.4**	**-0.1**
P34A	**Walnut Farm, R**	**113.94**	**307**	P	**PKiKP**	**12 21 23.4**	**-0.1**
	baz=146						
M37A	**Trindle Farm,**	**114.33**	**310**	P	PKPdf	12 21 25.2	+1.1
	baz=147						
TUC	**Tucson**	**114.47**	**292**	P	PKPdf	12 21 25.1	+0.3
	baz=144						
TUC	**Tucson**	**114.47**	**292**	*e*PKPdf	PKPdf	12 21 25.6	+0.8
TUC	**Tucson**	**114.47**	**292**	*e*PKIKP	PKPdf	12 21 25.6	+0.8
ANMO	**Albuquerque**	**114.51**	**297**	P	PKPdf	12 21 25.0	0.0
	baz=145						
ANMO	**Albuquerque**	**114.51**	**297**⇓	*i*PKIKP	PKPdf	12 21 25.2	+0.2
J39A	**Decorah**	**115.01**	**312**	P	**PKPdf**	**12 21 25.3**	**-0.1**
	baz=148						
I39A	**Houston**	**115.38**	**313**	P	**PKPdf**	**12 21 25.9**	**-0.2**
	baz=147						
L35A	**Bielow Farm, R**	**115.53**	**309**	P	**PKPdf**	**12 21 26.1**	**-0.3**
	baz=146						
H40A	**Chili**	**115.58**	**314**	P	**PKPdf**	**12 21 26.4**	**-0.1**
	baz=148						
NEY	**Neytrino**	**115.62**	**49**⇓	*i*PKIKP	**PKPdf**	**12 21 27.7**	**+0.9**
M33A	**Taylor Creek F**	**115.78**	**308**	P	**PKPdf**	**12 21 26.9**	**0.0**
	baz=146						
H39A	**Augusta**	**115.98**	**314**	P	**PKPdf**	**12 21 27.4**	**+0.1**
	baz=147						
F41A	**Three Lakes**	**116.04**	**316**	P	**PKPdf**	**12 21 27.5**	**+0.2**
	baz=148						
J36A	**Seneca 1, Swea**	**116.05**	**311**	P	**PKPdf**	**12 21 27.7**	**+0.3**
	baz=146						
G40A	**Rib Lake**	**116.06**	**315**	P	**PKPdf**	**12 21 27.6**	**+0.2**
	baz=148						
K34A	**Le Mars**	**116.24**	**309**	P	**PKPdf**	**12 21 27.8**	**0.0**
	baz=146						
I37A	**Lemond, Waseca**	**116.25**	**312**	P	**PKPdf**	**12 21 28.0**	**+0.2**
	baz=147						
L33A	**Hoskins**	**116.30**	**308**	P	**PKPdf**	**12 21 27.8**	**-0.1**
	baz=146						
SDCO	**Great Sand Dun**	**116.33**	**299**	P	**PKPdf**	**12 21 28.7**	**+0.2**
	baz=144						
SDCO	**Great Sand Dun**	**116.33**	**299**	*e*PKPdf	**PKPdf**	**12 21 28.8**	**+0.2**
G39A	**Holcombe**	**116.44**	**314**	P	**PKPdf**	**12 21 28.0**	**-0.1**
	baz=147						
F40A	**Park Falls**	**116.58**	**315**	P	**PKPdf**	**12 21 28.7**	**+0.3**
	baz=147						
H36A	**Jessenland, He**	**116.93**	**312**	P	**PKPdf**	**12 21 29.3**	**+0.3**
	baz=146						
S22A	**4UR Ranch, Cre**	**116.95**	**298**	P	**PKPdf**	**12 21 30.1**	**+0.4**
	baz=144						
S22A	**4UR Ranch, Cre**	**116.95**	**298**	*e*PKPdf	**PKPdf**	**12 21 30.4**	**+0.7**
D41A	**Chassel**	**116.97**	**317**	P	**PKPdf**	**12 21 29.1**	**+0.1**
	baz=148						
SPMN	**Marine on St.**	**117.02**	**313**	P	**PKPdf**	**12 21 28.8**	**-0.3**
	baz=146						
SPMN	**Marine on St.**	**117.02**	**313**	*e*PKPdf	**PKPdf**	**12 21 28.9**	**-0.3**
J33A	**Davis**	**117.12**	**309**	P	**PKPdf**	**12 21 29.2**	**-0.3**
	baz=145						
E39A	**Mellen**	**117.13**	**315**	P	**PKPdf**	**12 21 28.9**	**-0.5**
	baz=147						
AKASG	**Malin Array Be**	**117.18**	**36**	PKP	**PKPdf**	**12 21 27.9**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=228,slow=1.2,SNR=5.6						
F38A	**Pierce - Schro**	**117.28**	**314**	P	**PKPdf**	**12 21 29.8**	**+0.1**
	baz=147						
MVCO	**Mesa Verde**	**117.31**	**297**	P	**PKPdf**	**12 21 30.4**	**0.0**
	baz=144						
MVCO	**Mesa Verde**	**117.31**	**297**	*e*PKPdf	**PKPdf**	**12 21 30.6**	**+0.2**
ECSD	**EROS Data Cent**	**117.32**	**309**	P	**PKPdf**	**12 21 29.7**	**-0.1**
	baz=145						
ECSD	**EROS Data Cent**	**117.32**	**309**	*e*PKPdf	**PKPdf**	**12 21 29.2**	**-0.6**
WUAZ	**Wupatki**	**117.34**	**294**	P	**PKPdf**	**12 21 30.8**	**+0.4**
	baz=143						
WUAZ	**Wupatki**	**117.34**	**294**	*e*PKPdf	**PKPdf**	**12 21 31.0**	**+0.6**
SCHQ	**Schefferville**	**117.34**	**334**	PKP	**PKPdf**	**12 21 27.9**	**-1.7**
	comp=Z,4.3nm,0.5s,baz=229,slow=6.8,SNR=6.0						
OGNE	**Ogallala**	**117.35**	**304**	P	**PKPdf**	**12 21 30.3**	**+0.2**
	baz=144						
F37A	**Hinrichs Farm,**	**117.37**	**313**	P	**PKPdf**	**12 21 29.8**	**-0.1**
	baz=146						
H35A	**Sunnyside Ranc**	**117.39**	**311**	P	**PKPdf**	**12 21 29.7**	**-0.2**
	baz=146						
G36A	**St. Michael**	**117.40**	**312**	P	**PKPdf**	**12 21 30.0**	**0.0**
	baz=146						
IKP	**In-Ko-Pah, Jac**	**117.41**	**288**	P	**PKPdf**	**12 21 30.8**	**+0.3**
	baz=143						
SWSC	**Sam W. Stewart**	**117.48**	**289**	P	**PKPdf**	**12 21 31.1**	**+0.6**
	baz=143						
Y12C	**Blythe**	**117.49**	**290**	P	**PKPdf**	**12 21 31.1**	**+0.7**
	baz=143						
Y12C	**Blythe**	**117.49**	**290**	*e*PKPdf	**PKPdf**	**12 21 31.6**	**+1.2**
E38A	**The Farm, Brul**	**117.69**	**315**	P	**PKPdf**	**12 21 30.2**	**-0.3**
	baz=147						
PDMCI	**Parker Dam,Lak**	**117.74**	**291**	P	**PKPdf**	**12 21 31.7**	**+0.7**
	baz=143						
H34A	**Spellman Lake,**	**117.74**	**311**	P	**PKPdf**	**12 21 30.6**	**0.0**
	baz=146						
F36A	**Milaca**	**117.83**	**313**	P	**PKPdf**	**12 21 31.0**	**+0.2**
	baz=146						
BC3	**Big Chuckawall**	**117.88**	**289**	P	**PKPdf**	**12 21 31.6**	**+0.2**
	baz=143						
ISCO	**Idaho Springs**	**118.04**	**301**	P	**PKPdf**	**12 21 31.8**	**0.0**
	baz=144						
ISCO	**Idaho Springs**	**118.04**	**301**	*e*PKPdf	**PKPdf**	**12 21 32.2**	**+0.4**
ISCO	**Idaho Springs**	**118.04**	**301**	*e*PKIKP	**PKPdf**	**12 21 32.2**	**+0.4**
H33A	**Prehn Over Nor**	**118.15**	**310**	P	**PKPdf**	**12 21 31.4**	**-0.1**
	baz=145						
SMCO	**Snowmass**	**118.17**	**299**	*e*PKPdf	**PKPdf**	**12 21 32.8**	**+0.7**
C39A	**Grand Marais**	**118.17**	**316**	P	**PKPdf**	**12 21 30.9**	**-0.4**
	baz=147						
F35A	**Swanville**	**118.24**	**312**	P	**PKPdf**	**12 21 31.2**	**-0.3**
	baz=146						

E36A	**McGregor**	**118.27**	**313**	P	**PKPdf**	**12 21 31.2**	**-0.4**
	baz=146						
H32A	**Carlson Farm,**	**118.29**	**309**	P	**PKPdf**	**12 21 31.4**	**-0.3**
	baz=145						
BELC	**Belle Mtn. Jos**	**118.42**	**289**	P	**PKPdf**	**12 21 32.9**	**+0.4**
	baz=143						
F34A	**Alexandria**	**118.46**	**312**	P	**PKPdf**	**12 21 31.7**	**-0.2**
	baz=145						
D37A	**Cotton**	**118.49**	**314**	P	**PKPdf**	**12 21 31.5**	**-0.5**
	baz=146,SNR=13						
PV10	**Paradox Valley**	**118.50**	**297**	*e*PKPdf	**PKPdf**	**12 21 33.2**	**+0.5**
H31A	**Wolsey**	**118.70**	**309**	P	**PKPdf**	**12 21 32.1**	**-0.4**
	baz=144						
D36A	**Goodland**	**118.78**	**314**	P	**PKPdf**	**12 21 32.4**	**-0.2**
	baz=146						
EYMN	**Ely**	**118.79**	**315**	P	**PKPdf**	**12 21 32.3**	**-0.2**
	baz=146						
GMRC	**Granite Mounta**	**118.88**	**290**	P	**PKPdf**	**12 21 33.8**	**+0.5**
	baz=143						
G32A	**Webster**	**118.93**	**310**	P	**PKPdf**	**12 21 33.2**	**+0.3**
	baz=145						
E34A	**Wadena**	**119.02**	**312**	P	**PKPdf**	**12 21 32.8**	**-0.2**
	baz=145						
D35A	**Remer**	**119.05**	**313**	P	**PKPdf**	**12 21 32.5**	**-0.5**
	baz=145,SNR=8.3						
N23A	**Red Feather La**	**119.07**	**301**	P	**PKPdf**	**12 21 33.4**	**-0.2**
	baz=143						
N23A	**Red Feather La**	**119.07**	**301**	*e*PKPdf	**PKPdf**	**12 21 33.9**	**+0.2**
PHWY	**Pilot Hill**	**119.17**	**302**	*e*PKPdf	**PKPdf**	**12 21 33.2**	**-0.6**
KNB	**Kanab**	**119.24**	**294**	*e*PKPdf	**PKPdf**	**12 21 34.7**	**+0.7**
KNB	**Kanab**	**119.24**	**294**	*e*PKIKP	**PKPdf**	**12 21 34.7**	**+0.7**
HEC	**Hector,Ludlow**	**119.25**	**289**	P	**PKPdf**	**12 21 34.5**	**+0.5**
	baz=142						
E33A	**Westby DABS, E**	**119.34**	**312**	P	**PKPdf**	**12 21 33.7**	**+0.1**
	baz=145						
MMU	**Miners Mountai**	**119.43**	**296**	*e*PKPdf	**PKPdf**	**12 21 34.9**	**+0.4**
LCMT	**Little Creek M**	**119.44**	**293**	*e*PKPdf	**PKPdf**	**12 21 35.5**	**+1.2**
BFSC	**Mount Baldy Ra**	**119.45**	**288**	P	**PKPdf**	**12 21 34.8**	**+0.3**
	baz=142						
O20A	**White River Ci**	**119.52**	**299**	P	**PKPdf**	**12 21 34.4**	**-0.1**
	baz=143						
O20A	**White River Ci**	**119.52**	**299**	*e*PKPdf	**PKPdf**	**12 21 34.5**	**0.0**
C35A	**Jirik Farms, M**	**119.53**	**314**	P	**PKPdf**	**12 21 33.6**	**-0.4**
	baz=145						
F31A	**Hecla**	**119.73**	**310**	P	**PKPdf**	**12 21 34.6**	**+0.2**
	baz=144						
MTPU	**Mount Pierson**	**119.74**	**295**	*e*PKPdf	**PKPdf**	**12 21 36.0**	**+0.9**
SRU	**San Rafael Swe**	**119.79**	**297**	*e*PKPdf	**PKPdf**	**12 21 34.9**	**-0.1**
SRU	**San Rafael Swe**	**119.79**	**297**	*e*PKIKP	**PKPdf**	**12 21 34.9**	**-0.1**
D33A	**AnnSam, Waubun**	**119.80**	**312**	P	**PKPdf**	**12 21 34.6**	**+0.1**
	baz=145						
SZCU	**Shurtz Canyon**	**119.83**	**294**	*e*PKPdf	**PKPdf**	**12 21 36.3**	**+1.1**
GSC	**Goldstone, Bar**	**119.86**	**289**	P	**PKPdf**	**12 21 35.6**	**+0.4**
	baz=142						
GSC	**Goldstone, Bar**	**119.86**	**289**	*e*PKPdf	**PKPdf**	**12 21 36.0**	**+0.9**
GSC	**Goldstone, Bar**	**119.86**	**289**	*e*PKIKP	**PKPdf**	**12 21 36.0**	**+0.9**
CCUT	**Cedar City**	**119.92**	**294**	*e*PKPdf	**PKPdf**	**12 21 36.7**	**+1.3**
Q16A	**Castle Valley**	**119.94**	**296**	*e*PKPdf	**PKPdf**	**12 21 35.8**	**+0.4**
B35A	**Bob, Littlefor**	**119.97**	**314**	P	**PKPdf**	**12 21 34.0**	**-0.8**
	baz=145,SNR=5.7						
SHPR	**Sheep Range**	**119.99**	**292**	*e*PKPdf	**PKPdf**	**12 21 36.5**	**+1.1**
P18A	**Preston Nutter**	**120.06**	**297**	*e*PKPdf	**PKPdf**	**12 21 35.9**	**+0.2**
MSU	**Marysvale**	**120.11**	**295**	*e*PKPdf	**PKPdf**	**12 21 37.0**	**+1.3**
MSU	**Marysvale**	**120.11**	**295**	*e*PKIKP	**PKPdf**	**12 21 37.0**	**+1.3**
EDW2	**Edwards Air Fo**	**120.13**	**288**	P	**PKPdf**	**12 21 35.8**	**+0.2**
	baz=142						
TMUT	**Trail Mountain**	**120.26**	**296**	*e*PKPdf	**PKPdf**	**12 21 36.6**	**+0.6**
SCZ2	**Santa Cruz Isl**	**120.27**	**286**	P	**PKPdf**	**12 21 36.3**	**+0.5**
	baz=142						
C33A	**Trail**	**120.27**	**313**	P	**PKPdf**	**12 21 35.1**	**-0.3**
	baz=144						
RWWY	**Rawlins**	**120.28**	**301**	*e*PKPdf	**PKPdf**	**12 21 35.7**	**-0.3**
B34A	**Aery, Baudette**	**120.43**	**314**	P	**PKPdf**	**12 21 35.0**	**-0.7**
	baz=145,SNR=8.3						
B33A	**Robert and Kas**	**120.62**	**313**	P	**PKPdf**	**12 21 36.0**	**0.0**
	baz=144						
K22A	**Casper**	**120.73**	**302**	P	**PKPdf**	**12 21 36.2**	**-0.4**
	baz=142						
K22A	**Casper**	**120.73**	**302**	*e*PKPdf	**PKPdf**	**12 21 36.3**	**-0.4**
AGMN	**Agassiz Nation**	**120.75**	**313**	P	**PKPdf**	**12 21 35.5**	**-0.7**
	baz=144,SNR=7.7						
AGMN	**Agassiz Nation**	**120.75**	**313**	*e*PKPdf	**PKPdf**	**12 21 35.6**	**-0.7**
RSSD	**Black Hills**	**120.78**	**305**	P	**PKPdf**	**12 21 36.3**	**-0.4**
	baz=143						
RSSD	**Black Hills**	**120.78**	**305**	*e*PKPdf	**PKPdf**	**12 21 36.4**	**-0.4**
RSSD	**Black Hills**	**120.78**	**305**	*e*PKIKP	**PKPdf**	**12 21 36.4**	**-0.4**
MPMC	**Manual Prospec**	**120.80**	**289**	P	**PKPdf**	**12 21 37.7**	**+0.7**
	baz=142						
FURC	**Furnace Creek,**	**120.80**	**290**	P	**PKPdf**	**12 21 37.7**	**+1.0**
	baz=142						
ISA	**Isabella, Lake**	**120.98**	**288**	P	**PKPdf**	**12 21 38.4**	**+1.1**
	baz=142						
ISA	**Isabella, Lake**	**120.98**	**288**	*e*PKPdf	**PKPdf**	**12 21 38.6**	**+1.3**
ISA	**Isabella, Lake**	**120.98**	**288**	*e*PKIKP	**PKPdf**	**12 21 38.6**	**+1.3**
DAC	**Darwin (Calif)**	**121.02**	**290**	*e*PKPdf	**PKPdf**	**12 21 37.9**	**+0.4**
DAC	**Darwin (Calif)**	**121.02**	**290**	*e*PKIKP	**PKPdf**	**12 21 37.9**	**+0.4**
MPU	**Maple Canyon**	**121.03**	**297**	*e*PKPdf	**PKPdf**	**12 21 38.2**	**+0.8**
PKM	**Mcpherson Peak**	**121.06**	**287**	P	**PKPdf**	**12 21 38.6**	**+1.0**
	baz=142						
A33A	**Warroad**	**121.08**	**314**	P	**PKPdf**	**12 21 36.2**	**-0.7**
	baz=144,SNR=15						
B32A	**Ashes, Strandq**	**121.09**	**313**	P	**PKPdf**	**12 21 35.9**	**-1.1**
	baz=144,SNR=9.3						
NLU	**North Lily Min**	**121.19**	**296**	*e*PKPdf	**PKPdf**	**12 21 38.5**	**+0.8**
CWC	**Cottonwood Cre**	**121.39**	**289**	P	**PKPdf**	**12 21 38.5**	**+0.4**
	baz=142						
JLU	**Jordanelle**	**121.40**	**297**	*e*PKPdf	**PKPdf**	**12 21 39.3**	**+1.1**
VES	**Vestal, Richgr**	**121.43**	**288**	P	**PKPdf**	**12 21 38.4**	**+0.4**
	baz=142						
GRAC	**Grapevine Rang**	**121.47**	**290**	P	**PKPdf**	**12 21 39.2**	**+1.1**
	baz=141						
SMMC	**Simmler**	**121.48**	**287**	P	**PKPdf**	**12 21 39.6**	**+1.4**
	baz=142						
A32A	**Rocking H Ranc**	**121.50**	**313**	P	**PKPdf**	**12 21 36.8**	**-0.9**
	baz=144,SNR=13						
CTU	**Camp Tracy**	**121.61**	**297**	*e*PKPdf	**PKPdf**	**12 21 39.4**	**+1.0**
R11A	**Troy Canyon, C**	**121.64**	**293**	P	**PKPdf**	**12 21 39.0**	**+0.4**
	baz=141						
R11A	**Troy Canyon, C**	**121.64**	**293**	*e*PKPdf	**PKPdf**	**12 21 39.2**	**+0.7**
HFS	**Hagfors**	**121.71**	**22**	PKP	**PKPdf**	**12 21 36.2**	**-1.6**
	comp=Z,2.7nm,0.7s,baz=157,slow=4.1,SNR=7.2						
DUG	**Dugway, Tooele**	**121.73**	**296**	P	**PKPdf**	**12 21 39.1**	**+0.5**
	baz=141						
DUG	**Dugway, Tooele**	**121.73**	**296**	*e*PKPdf	**PKPdf**	**12 21 39.1**	**+0.5**
DUG	**Dugway, Tooele**	**121.73**	**296**	*e*PKIKP	**PKPdf**	**12 21 39.1**	**+0.5**
TCUT	**Toone Canyon**	**121.78**	**298**	*e*PKPdf	**PKPdf**	**12 21 40.0**	**+1.1**
MDND	**Maddock**	**121.88**	**310**	*e*PKPdf	**PKPdf**	**12 21 38.2**	**-0.3**
NOA	**NORSAR Array B**	**122.08**	**20**	PKP	**PKPdf**	**12 21 38.2**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=192,slow=2.0,SNR=2.6						
PD31	**Pinedale Array**	**122.20**	**300**	*e*PKPdf	**PKPdf**	**12 21 38.7**	**-0.9**
PDAR	**Pinedale Array**	**122.20**	**300**	PKP	**PKPdf**	**12 21 38.6**	**-1.0**
	comp=Z,4.0nm,0.5s,baz=122,slow=4.9,SNR=57						
PDAR				PKKPbc	**PKKPbc**	**12 31 34.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=96,slow=1.6,SNR=3.8						
PDAR	**Pinedale Array**	**122.20**	**300**	*e*PKPdf	**PKPdf**	**12 21 37.5**	**-2.1**
PDAR				PKKPbc	**PKKPbc**	**12 31 34.7**	**+0.2**
BW06	**Boulder Array**	**122.20**	**300**	P	**PKPdf**	**12 21 38.8**	**-0.8**
	baz=141						
BW06	**Boulder Array**	**122.20**	**300**	*e*PKPdf	**PKPdf**	**12 21 38.5**	**-1.1**
ULM	**Lac du Bonnet**	**122.33**	**314**	PKP	**PKPdf**	**12 21 38.5**	**-0.7**
	comp=Z,15nm,0.6s,baz=154,slow=1.9,SNR=48						
ULM				PP	**PP**	**12 23 14.5**	**-2.1**
	comp=Z,7.5nm,0.9s,baz=154,slow=8.5,SNR=4.5						
ULM				PKKPbc	**PKKPbc**	**12 31 34.4**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=330,slow=4.6,SNR=4.8						
MDPB	**Devils Postpil**	**122.82**	**289**	*e*PKPdf	**PKPdf**	**12 21 43.0**	**+2.0**
AHID	**Auburn Hatcher**	**122.92**	**299**	*e*PKPdf	**PKPdf**	**12 21 40.9**	**0.0**
NV11	**Mina Array Sit**	**122.98**	**291**	*e*PKPdf	**PKPdf**	**12 21 42.4**	**+1.3**
PYUN	**Piuthan**	**123.00**	**89**	*e*P	**PKPdf**	**12 21 40.6**	**-1.0**
	comp=Z,37nm,0.8s						
NV01	**Mina Array Sit**	**123.05**	**291**	*e*PKPdf	**PKPdf**	**12 21 42.0**	**+0.7**
NVAR	**Mina Array Bea**	**123.05**	**291**	PKP	**PKPdf**	**12 21 42.7**	**+1.4**
	comp=Z,10nm,0.8s,baz=152,slow=2.7,SNR=25						
NVAR				PKKPbc	**PKKPab**	**12 31 33.4**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=284,slow=5.7,SNR=4.0						
KOLN	**Koldanda**	**123.07**	**90**	*e*P	**PKPdf**	**12 21 40.9**	**-0.8**
	comp=Z,44nm,0.8s						
VSU	**Vasula**	**123.22**	**30**⇑	*i*PKIKP	**PKPdf**	**12 21 41.0**	**+0.4**
VSU				pmax	pmax		
	comp=Z,85nm,1.7s						
REDW	**Red Top Meadow**	**123.26**	**300**	*e*PKPdf	**PKPdf**	**12 21 41.9**	**+0.3**
OBN	**Obninsk**	**123.27**	**37**⇓	*i*PKIKP	**PKPdf**	**12 21 40.8**	**0.0**
OBN				pmax	pmax		
	comp=Z,16nm,0.7s						
SNOW	**Snow King Moun**	**123.30**	**300**	*e*PKPdf	**PKPdf**	**12 21 42.4**	**+0.8**

RYN	**Ryan**	**123.31**	**291**	*e*PKPdf	**PKPdf**	**12 21 43.7**	**+1.9**
LOHW	**Long Hollow**	**123.34**	**300**	*e*PKPdf	**PKPdf**	**12 21 41.9**	**+0.1**
TPAW	**Teton Pass**	**123.41**	**300**	*e*PKPdf	**PKPdf**	**12 21 41.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**123.45**	**110**	PKP	**PKPdf**	**12 21 42.0**	**-0.4**
	comp=Z,13nm,0.7s,baz=230,slow=3.8,SNR=62						
CMAR				PKKPab	**PKKPab**	**12 31 31.9**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=360,slow=3.0,SNR=9.3						
MOOW	**Moose Ponds**	**123.51**	**300**	*e*PKPdf	**PKPdf**	**12 21 42.0**	**0.0**
FXWY	**Fox Creek**	**123.56**	**300**	*e*PKPdf	**PKPdf**	**12 21 42.6**	**+0.5**
DANN	**Dangsing**	**123.61**	**89**	*e*P	**PKPdf**	**12 21 42.0**	**-0.8**
	comp=Z,4.8nm,0.9s						
WAKR	**Walker**	**123.67**	**290**	*e*PKPdf	**PKPdf**	**12 21 44.5**	**+2.0**
IMW	**Indian Meadow**	**123.72**	**300**	*e*PKPdf	**PKPdf**	**12 21 43.0**	**+0.5**
DMN	**Daman**	**123.74**	**91**	*e*P	**PKPdf**	**12 21 42.6**	**-0.4**
	comp=Z,29nm,0.8s						
LAO	**LASA Array**	**123.75**	**305**	P	**PKPdf**	**12 21 42.2**	**0.0**
	baz=141						
LAO	**LASA Array**	**123.75**	**305**	*e*PKPdf	**PKPdf**	**12 21 42.3**	**0.0**
CHTO	**Chiang Mai**	**123.76**	**110**	*e*PKPdf	**PKPdf**	**12 21 43.0**	**0.0**
CHTO	**Chiang Mai**	**123.76**	**110**	*e*PKIKP	**PKPdf**	**12 21 43.0**	**0.0**
CMB	**Columbia Colle**	**123.79**	**289**	*e*PKPdf	**PKPdf**	**12 21 43.8**	**+1.2**
CMB	**Columbia Colle**	**123.79**	**289**	*e*PKIKP	**PKPdf**	**12 21 43.8**	**+1.2**
PKIN	**Phulchoki**	**123.87**	**91**	*e*P	**PKPdf**	**12 21 43.2**	**-0.1**
	comp=Z,17nm,0.7s						
PKI	**Pulchoki**	**123.87**	**91**	*e*P	**PKPdf**	**12 21 42.2**	**-1.2**
	comp=Z,30nm,0.7s						
RLMT	**Red Lodge**	**123.89**	**302**	P	**PKPdf**	**12 21 42.7**	**0.0**
	baz=140						
RLMT	**Red Lodge**	**123.89**	**302**	*e*PKPdf	**PKPdf**	**12 21 42.8**	**0.0**
H17A	**Grant Village**	**123.93**	**301**	*e*PKPdf	**PKPdf**	**12 21 44.3**	**+1.4**
YPP	**Pitchstone Pla**	**123.94**	**300**	*e*PKPdf	**PKPdf**	**12 21 44.4**	**+1.5**
YERR	**Yerington**	**123.94**	**290**	*e*PKPdf	**PKPdf**	**12 21 44.9**	**+1.9**
KKN	**Kakani**	**123.98**	**91**	*e*P	**PKPdf**	**12 21 42.9**	**-0.5**
	comp=Z,24nm,0.7s						
RAMN	**Ramite**	**124.01**	**93**	*e*P	**PKPdf**	**12 21 43.2**	**-0.4**
	comp=Z,51nm,0.6s						
BMN	**Battle Mountai**	**124.05**	**293**	*e*PKPdf	**PKPdf**	**12 21 43.7**	**+0.6**
BMN	**Battle Mountai**	**124.05**	**293**	*e*PKIKP	**PKPdf**	**12 21 43.7**	**+0.6**
YFT	**Old Faithful**	**124.09**	**300**	*e*PKPdf	**PKPdf**	**12 21 45.3**	**+2.1**
DGMT	**Dagmar**	**124.27**	**308**	P	**PKPdf**	**12 21 43.2**	**+0.1**
	baz=141,SNR=7.0						
DGMT	**Dagmar**	**124.27**	**308**	*e*PKPdf	**PKPdf**	**12 21 43.1**	**+0.1**
YMR	**Madison River**	**124.32**	**301**	*e*PKPdf	**PKPdf**	**12 21 44.9**	**+1.4**
ODAN	**Odare**	**124.36**	**94**	*e*P	**PKPdf**	**12 21 44.2**	**0.0**
JIRN	**Jiri**	**124.36**	**92**	*e*P	**PKPdf**	**12 21 43.6**	**-0.8**
	comp=Z,102nm,0.6s						
YHH	**Holmes Hill**	**124.36**	**301**	*e*PKPdf	**PKPdf**	**12 21 44.5**	**+0.8**
VCNR	**Virginia City**	**124.39**	**290**	*e*PKPdf	**PKPdf**	**12 21 45.8**	**+1.9**
GUN	**Gumba**	**124.39**	**92**	*e*P	**PKPdf**	**12 21 43.6**	**-0.8**
	comp=Z,44nm,0.7s						
YHB	**Horse Butte**	**124.49**	**300**	*e*PKPdf	**PKPdf**	**12 21 45.2**	**+1.3**
PAHR	**Pah Rah Range**	**124.57**	**291**	*e*PKPdf	**PKPdf**	**12 21 45.8**	**+1.7**
GCMT	**Greycliff**	**124.59**	**302**	*e*PKPdf	**PKPdf**	**12 21 44.6**	**+0.7**
QLMT	**Earthquake Lak**	**124.66**	**300**	*e*PKPdf	**PKPdf**	**12 21 45.8**	**+1.6**
AFDM	**Forest Hills D**	**124.78**	**289**	*e*PKPdf	**PKPdf**	**12 21 45.5**	**+1.1**
TAPN	**Taplejung**	**124.92**	**94**	*e*P	**PKPdf**	**12 21 44.8**	**-0.6**
	comp=Z,6.8nm,0.4s						
BEKR	**Beckworth**	**125.17**	**290**	*e*PKPdf	**PKPdf**	**12 21 46.5**	**+1.2**
MCMT	**McKenzie Canyo**	**125.31**	**299**	*e*PKPdf	**PKPdf**	**12 21 46.6**	**+1.2**
ORV	**Oroville**	**125.51**	**289**	*e*PKPdf	**PKPdf**	**12 21 47.1**	**+1.4**
ORV	**Oroville**	**125.51**	**289**	*e*PKIKP	**PKPdf**	**12 21 47.1**	**+1.4**
DLMT	**Dillon**	**125.60**	**300**	*e*PKPdf	**PKPdf**	**12 21 47.2**	**+1.3**
FINES	**FINESS Array B**	**125.64**	**28**	PKP	**PKPdf**	**12 21 44.5**	**-0.6**
	comp=Z,16nm,0.5s,baz=160,slow=1.5,SNR=91						
FIA1	**FINESS Array S**	**125.64**	**28**	*e*PKPdf	**PKPdf**	**12 21 44.3**	**-0.9**
FIA1				*e*PKPdf	**PKiKP**	**12 21 44.6**	**-0.9**
MFID	**Camas Ranch**	**125.64**	**296**	*e*PKPdf	**PKPdf**	**12 21 47.0**	**+1.0**
LRM	**Limekiln Ridge**	**125.88**	**300**	*e*PKPdf	**PKPdf**	**12 21 47.9**	**+1.3**
SFJD	**Kangerlussuaq**	**126.08**	**348**	*i* P	**PKPdf**	**12 21 45.7**	**-0.2**
	comp=Z,12nm,0.9s						
SFJD	**Kangerlussuaq**	**126.08**	**348**	*e*PKPdf	**PKPdf**	**12 21 46.1**	**+0.3**
SFJD	**Kangerlussuaq**	**126.08**	**348**	*e*PKIKP	**PKPdf**	**12 21 46.1**	**+0.3**
O03D	**Paynes Creek**	**126.22**	**290**	P	**PKPdf**	**12 21 47.1**	**0.0**
	baz=139,SNR=20						
WVOR	**Wild Horse Val**	**126.26**	**294**	*e*PKPdf	**PKPdf**	**12 21 48.5**	**+1.3**
WVOR	**Wild Horse Val**	**126.26**	**294**	*e*PKIKP	**PKPdf**	**12 21 48.5**	**+1.3**
HRY	**Holter Researc**	**126.27**	**302**	*e*PKPdf	**PKPdf**	**12 21 48.1**	**+1.0**
EGMT	**Eagleton**	**126.32**	**304**	P	**PKPdf**	**12 21 47.4**	**+0.3**
	baz=139,SNR=16						
EGMT	**Eagleton**	**126.32**	**304**	*e*PKPdf	**PKPdf**	**12 21 47.9**	**+0.8**
MOD	**Modoc Plateau**	**126.68**	**292**	*e*PKPdf	**PKPdf**	**12 21 49.3**	**+1.2**
WDC	**Whiskeytown Da**	**126.81**	**289**	*e*PKPdf	**PKPdf**	**12 21 49.0**	**+0.9**
WDC	**Whiskeytown Da**	**126.81**	**289**	*e*PKIKP	**PKPdf**	**12 21 49.0**	**+0.9**
J08A	**Circle Bar Ran**	**126.88**	**294**	*e*PKPdf	**PKPdf**	**12 21 49.6**	**+1.2**
CHM	**Chimkent**	**127.00**	**68**	*e*PKP	**PKPdf**	**12 21 48.3**	**-0.2**
	comp=Z,414nm,0.8s						
IUG	**Iuzhnay**	**127.09**	**68**	*i* PKP	**PKPdf**	**12 21 48.3**	**-0.5**
	comp=Z,110nm,1.0s						
N02D	**Trinity Center**	**127.18**	**290**	P	**PKPdf**	**12 21 49.5**	**+0.5**
	baz=138,SNR=12						
MSO	**Missoula**	**127.32**	**300**	P	**PKPdf**	**12 21 49.4**	**+0.4**
	baz=138,SNR=36						
MSO	**Missoula**	**127.32**	**300**	*e*PKPdf	**PKPdf**	**12 21 49.5**	**+0.4**
M04C	**Macdoel**	**127.36**	**291**	P	**PKPdf**	**12 21 50.0**	**+0.7**
	baz=138,SNR=13						
BMO	**Blue Mountains**	**127.43**	**296**	*e*PKPdf	**PKPdf**	**12 21 50.0**	**+0.7**
BMO	**Blue Mountains**	**127.43**	**296**	*e*PKIKP	**PKPdf**	**12 21 50.0**	**+0.7**
M02C	**Callahan**	**127.57**	**290**	P	**PKPdf**	**12 21 50.4**	**+0.7**
	baz=138,SNR=7.1						
AB31	**Akbulak array**	**127.64**	**56***c*	*i*PKIKP	**PKPdf**	**12 21 48.3**	**-1.1**
AB31				pmax	pmax		
	comp=Z,12nm,0.8s						
ABKAR	**Akbulak array**	**127.64**	**56**	*e*PKPdf	**PKPdf**	**12 21 48.9**	**-0.5**
BRLS	**Borolday**	**127.65**	**67**	*i* PKP	**PKPdf**	**12 21 48.6**	**-1.1**
	comp=Z,14nm,0.8s						
AKTO	**Aktyubinsk**	**127.69**	**53**	PKP	**PKPdf**	**12 21 49.0**	**-0.5**
	comp=Z,11nm,0.8s,baz=169,slow=3.4,SNR=25						
AKTO	**Aktyubinsk**	**127.69**	**53**	PKP	**PKPdf**	**12 21 49.0**	**-0.5**
AKTO	**Aktyubinsk**	**127.69**	**53**	PKIKP	**PKPdf**	**12 21 49.0**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,11nm,0.8s						
YBH	**Yreka Blue Hor**	**127.75**	**290**	PKP	**PKPdf**	**12 21 49.3**	**-0.7**
	comp=Z,6.9nm,0.9s,baz=68,slow=4.4,SNR=10.0						
YBH	**Yreka Blue Hor**	**127.75**	**290**	*e*PKPdf	**PKPdf**	**12 21 50.9**	**+0.8**
YBH	**Yreka Blue Hor**	**127.75**	**290**	*e*PKIKP	**PKPdf**	**12 21 50.9**	**+0.8**
I07A	**Izee**	**127.91**	**294**	*e*PKPdf	**PKPdf**	**12 21 51.7**	**+1.4**
KK31	**Karatay Array**	**128.03**	**68***c*	*i*PKIKP	**PKPdf**	**12 21 49.7**	**-0.7**
KK31				pmax	pmax		
	comp=Z,15nm,1.0s						
KKAR	**Karatay Array**	**128.03**	**68**	*e*PKPdf	**PKPdf**	**12 21 49.7**	**-0.7**
KKAR	**Karatay Array**	**128.03**	**68**	*e*PKIKP	**PKPdf**	**12 21 49.7**	**-0.7**
KSH	**Kashi**	**128.12**	**75**	PKP	**PKPdf**	**12 21 50.3**	**-0.6**
KSH				sPKP		12 22 14.9	
KSH				PP	**PP**	**12 23 53.4**	**-2.2**
KSH				PKS	**PKSdf**	**12 25 28.1**	**+0.6**
KSH				SKS	**SKSdf**	**12 28 57.8**	**-0.1**
KSH				SS	**SS**	**12 41 02.3**	**-3.7**
KSH				AMB	AMB		
	comp=Z,150nm,9.4s						
KSH				LR	LR		
	comp=Z,160nm,10.7s						
KSH				LR	LR		
	comp=Z,250nm,6.8s						
KSH				LR	LR		
	comp=Z,220nm,11.9s						
JTMT	**Jette**	**128.15**	**301**	*e*PKPdf	**PKPdf**	**12 21 51.4**	**+0.7**
FFC	**Flin Flon**	**128.16**	**314**	*e*PKPdf	**PKPdf**	**12 21 50.4**	**+0.2**
FFC	**Flin Flon**	**128.16**	**314**	*e*PKIKP	**PKPdf**	**12 21 50.4**	**+0.2**
J05D	**Fort Rock, OR**	**128.17**	**292**	P	**PKPdf**	**12 21 52.1**	**+1.2**
	baz=138,SNR=14						
F10A	**Beach Ranch, E**	**128.22**	**297**	*e*PKPdf	**PKPdf**	**12 21 51.1**	**+0.3**
DZA	**Taraz**	**128.28**	**68**	*i* PKP	**PKPdf**	**12 21 50.4**	**-0.6**
	comp=Z,127nm,1.0s						
PINE	**Pine Mountain**	**128.40**	**293**	*e*PKPdf	**PKPdf**	**12 21 52.9**	**+1.5**
FCC	**Fort Churchill**	**128.43**	**322**	*e*PKPdf	**PKPdf**	**12 21 50.0**	**-0.6**
FCC				*e*PP	**PP**	**12 23 56.3**	**-0.8**
FCC	**Fort Churchill**	**128.43**	**322**	*e*PKIKP	**PKPdf**	**12 21 50.0**	**-0.6**
FCC				*e*		12 23 56.3	
L02D	**Cave Junction,**	**128.51**	**290**	P	**PKPdf**	**12 21 52.4**	**+1.0**
	baz=138						
HUMO	**Hull Mountain**	**128.52**	**291**	*e*PKPdf	**PKPdf**	**12 21 52.3**	**+0.9**
G08A	**Pilot Rock**	**128.54**	**296**	*e*PKPdf	**PKPdf**	**12 21 52.1**	**+0.6**
J04D	**Umpqua Nationa**	**128.57**	**292**	P	**PKPdf**	**12 21 52.6**	**+0.9**
	baz=138,SNR=8.5						
LSA	**Lhasa**	**128.61**	**95**	*e*PKPdf	**PKPdf**	**12 21 53.1**	**+0.5**
LSA	**Lhasa**	**128.61**	**95**	*e*PKIKP	**PKPdf**	**12 21 53.1**	**+0.5**
KLMR	**Klimovskoe**	**128.85**	**35**	*e*PKIKP	**PKPdf**	**12 21 50.2**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,27nm,1.1s						
KLMR	**Klimovskoe**	**128.85**	**35**	*e*PKPdf	**PKPdf**	**12 21 50.2**	**-1.1**
KLMR				AMP		12 21 52.6	
	comp=Z,27nm,1.1s						
KLMR				*e*PP	**PP**	**12 23 56.4**	**-3.4**
KLMR				*e*SKP		12 25 22.0	

AML	**Almayashu**	**128.90**	**71**	P	**PKPdf**	**12 21 52.5**	**-0.1**
	SNR=25						
WALA	**Waterton Lakes**	**128.94**	**302**	*e*PKPdf	**PKPdf**	**12 21 52.3**	**+0.2**
I05D	**Terrebonne, OR**	**129.00**	**293**	P	**PKPdf**	**12 21 53.3**	**+1.0**
	baz=137,SNR=9.9						
E09A	**Wood Farm, Sta**	**129.05**	**297**	*e*PKPdf	**PKPdf**	**12 21 52.8**	**+0.6**
I04A	**Tendick Farm,**	**129.12**	**292**	P	**PKPdf**	**12 21 53.5**	**+0.9**
	baz=137						
G06A	**Carlson Farm,**	**129.31**	**295**	*e*PKPdf	**PKPdf**	**12 21 54.0**	**+1.1**
EKS2	**Erkin-Say**	**129.33**	**70**	P	**PKPdf**	**12 21 53.1**	**+0.1**
	SNR=16						
UCH	**Uchtor**	**129.38**	**71**	P	**PKPdf**	**12 21 54.1**	**+0.5**
	SNR=14						
F07A	**Phinny Hill Vi**	**129.45**	**296**	*e*PKPdf	**PKPdf**	**12 21 54.8**	**+1.8**
E08A	**Dider Farm, El**	**129.46**	**297**	*e*PKPdf	**PKPdf**	**12 21 54.0**	**+0.9**
I03D	**Drain, OR**	**129.52**	**291**	P	**PKPdf**	**12 21 54.4**	**+1.2**
	baz=137						
G05D	**Wamic, OR**	**129.64**	**294**	P	**PKPdf**	**12 21 54.4**	**+1.0**
	baz=137						
KZA	**Kyzart**	**129.65**	**72**	P	**PKPdf**	**12 21 54.5**	**+0.4**
	SNR=9.9						
H04A	**Detroit Lake**	**129.66**	**293**	*e*PKPdf	**PKPdf**	**12 21 53.8**	**+0.3**
AAK	**Ala-Archa**	**129.68**	**71**	PKP	**PKPdf**	**12 21 54.0**	**+0.2**
	comp=Z,16nm,0.7s,baz=170,slow=2.7,SNR=46						
AAK	**Ala-Archa**	**129.68**	**71**	P	**PKPdf**	**12 21 53.7**	**-0.1**
	SNR=19						
AAK	**Ala-Archa**	**129.68**	**71**	*e*PKPdf	**PKPdf**	**12 21 53.6**	**-0.1**
D08A	**Wollman Farm,**	**129.81**	**297**	*e*PKPdf	**PKPdf**	**12 21 54.5**	**+0.8**
NEW	**Newport**	**129.84**	**300**	P	**PKPdf**	**12 21 54.6**	**+0.9**
	baz=136						
NEW	**Newport**	**129.84**	**300**	*e*PKPdf	**PKPdf**	**12 21 53.4**	**-0.4**
NEW	**Newport**	**129.84**	**300**	*e*PKIKP	**PKPdf**	**12 21 53.4**	**-0.4**
FRU	**Bishkek**	**129.88**	**71**	*e*PKIKP	**PKPdf**	**12 21 53.0**	**-1.0**
FRU				*e*		12 22 07.0	
E07A	**Sunnyside**	**129.89**	**296**	*e*PKPdf	**PKPdf**	**12 21 55.6**	**+1.7**
KBK	**Karagaybulak**	**129.92**	**71**	P	**PKPdf**	**12 21 54.5**	**+0.2**
	SNR=12						
C09A	**Chrisman Ranch**	**130.04**	**298**	*e*PKPdf	**PKPdf**	**12 21 54.5**	**+0.4**
CHMS	**Chumysh**	**130.07**	**71**	P	**PKPdf**	**12 21 54.3**	**0.0**
	SNR=5.9						
USP	**Ospenovka**	**130.14**	**70**	P	**PKPdf**	**12 21 54.3**	**-0.2**
	SNR=17						
TKM2	**Tokmak 2**	**130.44**	**71**	P	**PKPdf**	**12 21 54.7**	**-0.6**
	SNR=9.8						
SUMG	**Summit**	**130.59**	**355**	*i* P	**PKPdf**	**12 21 55.6**	**+0.7**
SUMG	**Summit**	**130.59**	**355**	*i* PKIKP	**PKPdf**	**12 21 55.6**	**+0.7**
BMNS	**Besmoynak**	**130.61**	**71**	*i* PKP	**PKPdf**	**12 21 55.0**	**-0.5**
	comp=Z,100nm,0.8s						
BMNS				*e*pPKP	**pPKPdf**	**12 22 10.3**	**-0.7**
LTY	**Liberty**	**130.78**	**296**	*e*PKPdf	**PKPdf**	**12 21 55.6**	**0.0**
B08A	**Colville Reser**	**130.93**	**298**	*e*PKPdf	**PKPdf**	**12 21 56.2**	**+0.4**
KMI	**Kunming**	**130.94**	**109**	PKP	**PKPdf**	**12 21 57.7**	**+0.9**
LON	**Longmire**	**130.97**	**295**	*e*PKPdf	**PKPdf**	**12 21 56.5**	**+0.5**
LON	**Longmire**	**130.97**	**295**	*e*PKIKP	**PKPdf**	**12 21 56.5**	**+0.5**
BTLS	**Baital**	**131.19**	**68**	*e*PKP	**PKPdf**	**12 21 56.0**	**-0.4**
	comp=Z,80nm,1.0s						
MDOK	**Medeo**	**131.35**	**72**	*i* PKP	**PKPdf**	**12 21 56.4**	**-0.6**
	comp=Z,70nm,0.8s						
C06D	**Leavenworth**	**131.36**	**297**	P	**PKPdf**	**12 21 57.7**	**+1.1**
	baz=135						
D05A	**Enumclaw**	**131.37**	**295**	*e*PKPdf	**PKPdf**	**12 21 57.7**	**+1.1**
KUU	**Kurty**	**131.51**	**71**	*i* PKP	**PKPdf**	**12 21 56.3**	**-0.8**
	comp=Z,54nm,1.0s						
EDM	**Edmonton**	**131.68**	**306**	*e*PKPdf	**PKPdf**	**12 21 57.0**	**0.0**
EDM	**Edmonton**	**131.68**	**306**	*e*PKIKP	**PKPdf**	**12 21 57.0**	**0.0**
SATY	**Saty**	**131.96**	**73**	*e*PKP	**PKPdf**	**12 21 57.4**	**-0.7**
	comp=Z,64nm,1.2s						
B06A	**Marblemount**	**132.06**	**297**	*e*PKPdf	**PKPdf**	**12 21 58.1**	**+0.3**
B05A	**Bryant**	**132.18**	**296**	P	**PKPdf**	**12 21 58.7**	**+0.6**
	baz=134						
ARU	**Arti**	**132.25**	**48**	PKP	**PKPdf**	**12 21 57.8**	**-0.1**
	comp=Z,2.4nm,0.4s,baz=270,slow=20,SNR=4.2						
ARU	**Arti**	**132.25**	**48**	*i* PKIKP	**PKPdf**	**12 21 57.1**	**-0.8**
ARU						12 24 20.0	
ARU				SS	SS	12 41 53.5	-2.5
UZB	**Uzynbulak**	**132.34**	**74**	*i* PKP	**PKPdf**	**12 21 58.0**	**-0.8**
	comp=Z,60nm,0.9s						
ARCES	**ARCESS Array B**	**132.38**	**22**	PKP	**PKPdf**	**12 21 57.5**	**-0.4**
	comp=Z,6.3nm,0.5s,baz=202,slow=1.8,SNR=29						
ARCES				SKPbc	**SKiKP**	**12 25 27.5**	**-2.8**
	comp=Z,5.7nm,0.9s,baz=197,slow=2.8,SNR=6.4						
APA	**Apatity**	**132.49**	**26**	*e*PKIKP	**PKPdf**	**12 21 54.0**	**-4.1**
APA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRZS	**Berezniki**	**133.98**	**63**	*e*PKP	**PKPdf**	**12 22 01.5**	**0.0**
	comp=Z,15nm,0.8s						
GYA	**Guiyang**	**134.00**	**112**	Pdif	**Pdif**	**12 19 02.4**	**+0.6**
GYA				PKP	**PKPdf**	**12 22 03.0**	**+0.6**
GYA				sPKP		12 22 28.6	
GYA				PP	**PP**	**12 24 39.2**	**+5.8**
GYA				AMB	AMB		
	comp=Z,130nm,8.0s						
BRVK	**Borovoye**	**134.94**	**58**	*e*PKPdf	**PKPdf**	**12 22 03.8**	**+0.7**
BRVK	**Borovoye**	**134.94**	**58**	*e*PKIKP	**PKPdf**	**12 22 03.8**	**+0.7**
BVAR	**Borovoye Array**	**134.97**	**58**	PKP	**PKPdf**	**12 22 02.9**	**-0.3**
	comp=Z,8.7nm,0.6s,baz=259,slow=1.5,SNR=26						
CD2	**Chengdu**	**136.18**	**106**	PKP	**PKPdf**	**12 22 07.0**	**+0.7**
CD2				sPKP		12 22 30.2	
CD2				PP	**PP**	**12 24 48.2**	**+1.1**
CD2				SKKS		12 31 36.7	
CD2				SS	**SS**	**12 42 46.2**	**+2.6**
CD2				AMB	AMB		
	comp=Z,220nm,5.0s						
MK31	**Makanchi Array**	**136.54**	**72**	*e*PKPpre	PKPpre	12 21 58.5	
MK31	**Makanchi Array**	**136.54**	**72**	*e*PKHKP	PKPpre	12 21 58.6	
MKAR	**Makanchi Array**	**136.54**	**72**	PKhKP	PKPpre	12 21 54.7	
	comp=Z,2.0nm,0.6s,baz=328,slow=1.9,SNR=14						
MKAR				PKP	**PKPdf**	**12 22 05.3**	**-1.1**
	comp=Z,4.9nm,0.8s,baz=205,slow=1.8,SNR=16						
MKAR				SKPbc	**SKPbc**	**12 25 35.0**	**+0.8**
	comp=Z,2.7nm,1.0s,baz=254,slow=3.1,SNR=6.8						
MKAR				PKKP	**PKKPdf**	**12 31 43.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=52,slow=0.9,SNR=10.0						
KURBB	**Kurchatov Arra**	**137.21**	**66**	PKhKP	PKPpre	12 21 57.9	
	comp=Z,1.3nm,0.6s,baz=230,slow=3.8,SNR=8.7						
KURBB				PKP	**PKPdf**	**12 22 06.7**	**-0.7**
	comp=Z,6.4nm,0.7s,baz=235,slow=2.4,SNR=17						
KURBB				SKPbc	**SKPbc**	**12 25 36.8**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=234,slow=3.2,SNR=8.8						
WMQ	**Urumqi**	**137.30**	**79**	PKP	**PKPdf**	**12 22 10.3**	**+2.4**
WMQ				LR	LR		
	comp=Z,310nm,23.1s						
WMQ				LR	LR		
	comp=Z,350nm,18.1s						
WMQ				LR	LR		
	comp=Z,390nm,20.7s						
KURK	**Kurchatov**	**137.31**	**65**	*e*PKPdf	**PKPdf**	**12 22 07.4**	**-0.2**
KURK				SKPbc	**SKPbc**	**12 25 36.8**	**+0.5**
KURK	**Kurchatov**	**137.31**	**65**	*e*PKIKP	**PKPdf**	**12 22 07.4**	**-0.2**
SEM	**Semipalatinsk**	**137.91**	**67**	*e*PKP	**PKPdf**	**12 22 08.9**	**-0.2**
	comp=Z,85nm,0.9s						
SPITS	**Spitsbergen Ar**	**138.26**	**12**	PKhKP	PKPpre	12 21 56.4	
	comp=Z,12nm,1.0s,baz=146,slow=26,SNR=2.8						
YKA	**Yellowknife Ar**	**138.27**	**316**	PKhKP	PKPpre	12 21 54.6	
	comp=Z,2.7nm,0.6s,baz=124,slow=3.4,SNR=26						
YKA				PKP	**PKPdf**	**12 22 09.0**	**0.0**
	comp=Z,32nm,0.6s,baz=129,slow=2.2,SNR=98						
YKA				PP	**PP**	**12 24 53.8**	**-6.0**
	comp=Z,2.8nm,0.9s,baz=120,slow=6.1,SNR=6.1						
YKA				SKPbc	**SKPbc**	**12 25 38.9**	**+0.3**
	comp=Z,6.2nm,0.8s,baz=126,slow=2.2,SNR=12						
YKA	**Yellowknife Ar**	**138.27**	**316**	PKIKP	**PKPdf**	**12 22 09.0**	**0.0**
ZSN	**Zaisan**	**138.29**	**73**	*e*PKP	**PKPdf**	**12 22 08.8**	**-0.8**
	comp=Z,42nm,0.8s						
ZSN				*e*pPKP	**pPKPdf**	**12 22 23.8**	**-1.2**
ENH	**Enshi**	**138.55**	**112**	*e*PKPpre	PKPpre	12 22 09.8	
ENH				*e*PKPdf	**PKPdf**	**12 22 11.3**	**+0.7**
RES	**Resolute Bay**	**140.03**	**337**	*e*PKPpre	PKPpre	12 22 03.3	
RES				*e*PKPdf	**PKPdf**	**12 22 12.4**	**+0.6**
RES	**Resolute Bay**	**140.03**	**337**	*e*PKHKP	PKPpre	12 22 03.3	
RES				*e*		12 22 12.4	
LZH	**Lanzhou**	**140.27**	**101**	*e*PKP	**PKPdf**	**12 22 14.5**	**+0.7**
LZH				sPKP		12 22 40.2	
LZH				*e*PP	**PP**	**12 25 18.0**	**+5.4**
LZH				SKKS		12 32 00.5	
LZH				*e*SS	**SS**	**12 43 35.2**	**+2.9**
LZH				AMB	AMB		
	comp=Z,290nm,5.8s						
LZH				LR	LR		
	comp=Z,290nm,18.0s						
LZH				LR	LR		
	comp=Z,290nm,18.2s						
LZH				LR	LR		
	comp=Z,330nm,20.3s						
GTA	**Gaotai**	**140.61**	**94**	PKP	**PKPdf**	**12 22 13.1**	**-1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTA				sPKP		12 22 39.2	
GTA				PP	PP	12 25 17.9	+3.2
GTA				SS	SS	12 43 36.3	0.0
GTA				AMB	AMB		
	comp=Z,150nm,9.5s						
GTA				LR	LR		
	comp=Z,170nm,16.4s						
GTA				LR	LR		
	comp=Z,320nm,15.4s						
XAN	Xi'an	141.30	108	PKP	PKPdf	12 22 16.6	+1.1
NVS	Novosibirsk	142.06	63	ePKHKP	PKPpre	12 22 11.7	
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
DLBC	Dease Lake	142.25	304	ePKPdf	PKPpre	12 22 12.0	
ZALV	Zalesovo Beam	142.30	65	PKhKP	PKPpre	12 22 10.8	
	comp=Z,3.4nm,0.5s,baz=231,slow=4.2,SNR=14						
ZALV				SKP		12 25 48.0	
	comp=Z,2.7nm,0.8s,baz=242,slow=3.1,SNR=4.0						
NJ2	Nanjing	144.48	121	ePKP	PKPab	12 22 19.5	-0.1
HVS	Khovu-Aksy	145.11	74⇓	ePKIKP	PKPdf	12 22 21.6	-0.1
SKAG	Skagway	145.14	303	ePKPdf	PKPdf	12 22 21.2	-0.1
SKAG				ePKPbc	PKPab	12 22 21.8	+0.7
BTO	Baotou	146.86	102	ePKPbc	PKPdf	12 22 25.5	+0.4
TIA	Tai'an	147.09	115	PKPbc	PKPbc	12 22 27.2	-0.5
HHC	Hu-ho-hao-te	147.84	103	ePKPbc	PKPbc	12 22 30.1	+0.4
JCJ	Chichijima	147.90	159	PKPbc	PKPdf	12 22 28.3	+1.2
	comp=Z,110nm,0.7s,baz=348,slow=22,SNR=7.2						
CBIJ	Chichi jima	147.90	159	PKPbc	PKPdf	12 22 28.3	+1.2
INK	Inuvik	147.93	318	PKPbc	PKPbc	12 22 29.2	+0.3
	baz=75,slow=3.3						
INK	Inuvik	147.93	318	ePKPdf	PKPdf	12 22 25.1	-0.6
INK				ePKPbc	PKPbc	12 22 28.4	-0.6
DAWY	Dawson	148.81	309	ePKPbc	PKPbc	12 22 30.9	-0.5
BJT	Baijiatuau	149.58	109	ePKPbc	PKPbc	12 22 34.1	+0.1
BJT				ePKPab	PKPab	12 22 39.5	+0.2
BJT	Baijiatuau	149.58	109	ePKP2	PKPbc	12 22 34.1	+0.1
ZAK	Zakamensk	149.66	82	ePKIKP	PKPdf	12 22 29.0	-0.3
ZAK				pmax	pmax		
	comp=Z,54nm,1.4s						
EGAK	Eagle	149.77	310	ePKPdf	PKPdf	12 22 27.8	-1.1
SONM	Songino Array	149.81	88	PKPbc	PKPbc	12 22 34.2	-0.3
	comp=Z,44nm,0.7s,baz=235,slow=2.2,SNR=87						
BMRM	Bremner River	149.97	302	ePKPbc	PKPbc	12 22 35.5	+1.1
ULN	Ulaanbaatar	150.18	89	ePKPbc	PKPbc	12 22 35.3	-0.1
ULN				ePKPab	PKPab	12 22 41.8	0.0
ULN	Ulaanbaatar	150.18	89	ePKIKP	PKPbc	12 22 35.3	-0.1
ULN				e		12 22 41.8	
JNU	Nakatsue	150.39	137	PKPbc	PKPbc	12 22 36.1	-0.1
	comp=Z,32nm,0.7s,baz=7.2,slow=1.6,SNR=23						
JNU	Nakatsue	150.39	137	ePKPbc	PKPbc	12 22 36.2	-0.1
JNU				ePKPab	PKPab	12 22 42.9	+0.1
DIV	Divide	150.56	302	ePKPbc	PKPbc	12 22 36.6	+0.9
DIV				ePKPab	PKPab	12 22 42.9	+0.1
TLY	Talaya	150.57	80	ePKPdf	PKPdf	12 22 30.2	-0.4
TLY				ePKPbc	PKPbc	12 22 36.0	-0.1
TLY	Talaya	150.57	80	ePKIKP	PKPbc	12 22 35.8	-0.3
TLY				pmax	pmax		
	comp=Z,46nm,1.0s						
DOT	Dot Lake	150.64	307	ePKPbc	PKPbc	12 22 37.0	+1.1
PAX	Paxson	151.03	305	ePKPbc	PKPbc	12 22 37.5	+0.6
PAX	Paxson	151.03	305	ePKIKP	PKPbc	12 22 37.5	+0.6
IRK	Irkutsk	151.20	79	ePKIKP	PKPbc	12 22 36.8	-0.7
IRK				pmax	pmax		
	comp=Z,100nm,2.4s						
DL2	Dalian	151.39	117	P	PKPbc	12 22 38.2	-0.1
TJN	Taejon	151.87	128c	iPKIKP	PKPbc	12 22 38.9	-0.6
SEW	Seward	151.89	298	ePKPbc	PKPbc	12 22 39.4	+0.7
SEW				ePKPab	PKPab	12 22 48.3	0.0
SML	Sawmill	151.94	302	ePKPbc	PKPbc	12 22 38.9	0.0
SML	Sawmill	151.94	302	ePKIKP	PKPbc	12 22 38.9	0.0
ILAR	Eielson Array	152.13	309	PKPbc	PKPbc	12 22 39.5	+0.3
	comp=Z,101nm,0.8s,baz=135,slow=1.9,SNR=411						
PMR	Palmer	152.24	301	ePKPbc	PKPbc	12 22 40.1	+0.6
PMR				ePKPab	PKPab	12 22 49.9	+0.2
PMR	Palmer	152.24	301	ePKIKP	PKPbc	12 22 40.1	+0.6
PMR				e		12 22 49.9	
RC01	Rabbit Creek A	152.35	300	ePKPbc	PKPbc	12 22 40.7	+0.8
RC01				ePKPab	PKPab	12 22 51.1	+0.8
INCN	Inchon	152.49	126	ePKPbc	PKPbc	12 22 40.3	-0.7
KDAK	Kodiak Island	152.53	292	PKPbc	PKPbc	12 22 40.9	+0.6
	comp=Z,172nm,0.6s,baz=172,slow=1.2,SNR=243						
KDAK	Kodiak Island	152.53	292	ePKPbc	PKPbc	12 22 40.8	+0.5
KDAK	Kodiak Island	152.53	292	i PKIKP	PKPbc	12 22 40.4	+0.1
COLA	College	152.56	309	ePKPbc	PKPbc	12 22 39.9	-0.2
COLA				ePKPab	PKPab	12 22 51.3	+0.4
COLA	College	152.56	309	ePKIKP	PKPbc	12 22 39.9	-0.2
COLA				e		12 22 51.3	
OHAK	Old Harbor	152.66	291	ePKPbc	PKPbc	12 22 41.1	+0.5
MCK	McKinley	152.75	306	ePKPbc	PKPbc	12 22 41.2	+0.5
MCK				ePKPab	PKPab	12 22 52.2	+0.3
MCK	McKinley	152.75	306	ePKIKP	PKPbc	12 22 41.2	+0.5
MCK				e		12 22 52.2	
KSAR	Wonju Array Be	152.99	128	PKPbc	PKPbc	12 22 41.9	-0.1
KSAR	Wonju Array Be	152.99	128	PKIKP	PKPbc	12 22 41.9	-0.1
KSRS	Korea Array	153.02	128	PKPbc	PKPbc	12 22 41.9	-0.1
	comp=Z,9.0nm,0.7s,baz=195,slow=2.3,SNR=31						
TRF	Thorofare Moun	153.26	305	ePKPbc	PKPbc	12 22 41.5	-0.5
TRF				ePKPab	PKPab	12 22 54.5	+0.2
KTH	Kantishna Hill	153.56	305	ePKPbc	PKPbc	12 22 42.6	0.0
BPAW	Bear Paw Mtn.	153.71	306	ePKPbc	PKPbc	12 22 42.8	0.0
BPAW				ePKPab	PKPab	12 22 55.6	-0.3
TOLK	Toolik Lake Re	153.79	317	P	PKPbc	12 22 43.4	+0.5
	baz=94						
COLD	Coldfoot	153.90	313	ePKPdf	PKPdf	12 22 33.5	-1.6
COLD				ePKPbc	PKiKP	12 22 43.4	+0.3
PPLA	Purkeypile	153.97	303	ePKPbc	PKPbc	12 22 43.7	+0.2
MAT	Matsushiro	155.95	146	ePKP	PKPdf	12 22 44.3	+5.4
MJAR	Matsushiro Arr	155.95	146	PKPbc	PKPbc	12 22 47.9	
	comp=Z,1.3nm,0.5s,baz=202,slow=3.9,SNR=5.9						
CN2	Changchun	156.99	115	eP	PKPab	12 23 09.0	-1.5
UNV	Unalaska Valle	158.05	276	ePKPdf	PKPdf	12 22 40.6	-0.3
BOD	Bodaibo	158.63	73	ePKIKP	PKPdf	12 22 38.1	-3.4
BOD				pmax	pmax		
	comp=Z,12nm,1.1s						
USRK	Ussuriysk Ar.	160.32	125	PKPab	PKPab	12 23 23.1	-1.8
	comp=Z,4.4nm,0.7s,baz=237,slow=2.7,SNR=8.0						
TIXI	Tiksi	162.68	28	PKPab	PKPab	12 23 35.8	+1.3
	comp=Z,2.8nm,0.2s,baz=307,slow=5.4,SNR=4.0						
KLR	Kul'dur	163.91	113	PKP	PKPdf	12 22 46.7	-0.7
	comp=Z,0.2nm,0.7s,baz=342,slow=1.7,SNR=5.1						
KLR				PKPab	PKPab	12 23 39.7	-0.8
	comp=Z,0.6nm,0.7s,baz=207,slow=3.5,SNR=14						
KLR	Kul'dur	163.91	113⇓	ePKIKP	PKPdf	12 22 46.5	-0.9
YAK	Yakutsk	166.91	61	PKPab	PKPab	12 23 53.3	-0.2
	comp=Z,18nm,0.7s,baz=251,slow=0.2,SNR=7.4						
NKL	Nikolayevsk	170.73	116	ePKP2	PKPab	12 24 09.8	-0.8
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
PETK	Petropavlovsk-	174.81	201	PKP	PKPdf	12 22 53.2	-0.7
	comp=Z,11nm,0.9s,baz=127,slow=4.8,SNR=5.7						
PETK				PKPab	PKPab	12 24 28.2	-0.4
	comp=Z,3.6nm,0.6s,baz=118,slow=6.4,SNR=6.6						
PETK	Petropavlovsk-	174.81	201	PKIKP	PKPdf	12 22 53.2	-0.7
PETK						12 24 28.2	
PETK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PETK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SEY	Seymchan	174.91	12	PKP	PKPdf	12 22 51.1	-2.5
	comp=Z,3.1nm,0.9s,baz=132,slow=5.3,SNR=7.1						
SEY				PKPab	PKPab	12 24 30.1	+1.3
	comp=Z,0.8nm,0.3s,baz=34,slow=5.1,SNR=4.3						
MA2	Magadan	177.43	50	PKPab	PKPab	12 24 41.3	+1.2
	comp=Z,5.7nm,0.8s,baz=318,slow=2.2,SNR=12						

ISCJB 07 12:09:41.0±0.6, 39°.16N±0°.04×27°.56E±0°.04, h0km, Error ellipse: s-maj=6.0km s-min=4.7km az=176.9
CSEM 07 12:09:41.4±0.3, 39°.16N×27°.56E, h1km, ML2.3, Error ellipse: s-maj=8.4km s-min=6.9km az=179.0, Suspected Mining explosion.
ISK 07 12:09:41.1, 39°.11N×27°.56E, h10km, ML2.3/6, Suspected Mining explosion.
DDA 07 12:09:42.2, 39°.13N×27°.54E, h7km, Md2.5, Suspected Mining explosion.
ISC 07 12:09:40.5±1.0, 39°.12N±0°.03×27°.60E±0°.03, h0km, n21, σ0s.38/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STEP	BALIKESIR_Sava	0.28	19	i P	Pb	12 09 48.4	+0.1
STEP	BALIKESIR_Sava	0.28	19	P	Pb	12 09 48.4	+0.1
AKHS	Akhisar	0.29	145	i P	Pb	12 09 48.5	0.0
AKHS				i S	Sb	12 09 54.8	+0.9
AKHS	Akhisar	0.29	145	P	Pb	12 09 48.5	0.0
AKHS				S	Sb	12 09 54.8	+0.9
DEMI	Demirci	0.87	94	i P	Pn	12 09 59.9	-0.1
DEMI	Demirci	0.87	94	P	Pn	12 09 59.9	-0.1
KULA	Kula-Manisa	1.02	126	PG	Pn	12 10 01.6	-0.5
KULA				SG	Sn	12 10 16.6	-0.6
KULA	Kula-Manisa	1.02	126	ePg	Pn	12 10 01.6	-0.5
KULA				eSg	Sn	12 10 16.6	-0.6
SIMA	Simav-Kutahya	1.07	91	PN	Pn	12 10 02.7	-0.2
SIMA				SN	Sn	12 10 18.4	-0.1
SIMA	Simav-Kutahya	1.07	91	ePn	Pn	12 10 02.7	-0.2
SIMA				eSn	Sn	12 10 18.4	-0.1
URLA	Izmir	1.09	227	PG	Pb	12 10 02.0	-0.2
URLA				SG	Sb	12 10 17.2	+0.2
URLA	Izmir	1.09	227	i P	Pn	12 10 02.9	-0.1
URLA	Izmir	1.09	227	ePg	Pb	12 10 02.0	-0.2
URLA	Izmir	1.09	227	P	Pn	12 10 02.9	-0.1
URLA				eSg	Sb	12 10 17.2	+0.2
DGB	˜zmir	1.20	208	i P	Pn	12 10 05.2	+0.7
EZN	Ezine	1.22	306	PN	Pb	12 10 04.3	-0.1
EZN	Ezine	1.22	306	ePn	Pb	12 10 04.3	-0.1
TVSB	Tavsanli	1.48	76	PN	Pb	12 10 08.9	0.0
TVSB	Tavsanli	1.48	76	ePn	Pb	12 10 08.9	0.0
GELI	Tayfur-Gelibol	1.55	326	PN	Pn	12 10 09.3	0.0
GELI	Tayfur-Gelibol	1.55	326	ePn	Pn	12 10 09.3	0.0

IDC 07 12:18:55.8±5.8, 15°.73S×175°.66W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/48, mbtmp4.2/3, Error ellipse: s-maj=221.4km s-min=57.5km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.99	240	P	P	12 26 50.1	+1.2
	2.1nm,0.9s,baz=98,slow=14,SNR=3.8						
WRA	Warramunga Arr	47.65	257	P	P	12 27 33.1	-1.2
	0.4nm,0.4s,baz=90,slow=6.9,SNR=41						
ASAR	Alice Springs	47.94	252	P	P	12 27 36.2	-0.3
	11nm,0.5s,baz=88,slow=8.3,SNR=284						
BRTR	Keskin Array B	145.00	319	PKPbc	PKPab	12 38 34.7	-0.2
	1.3nm,0.9s,baz=72,slow=4.7,SNR=5.6						

IDC 07 12:23:11.8±2.4, 54°.29N×85°.94E, h0km, mb1 3.3/2, mb1mx2.9/72, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=19.0km s-min=11.1km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.74	243	i		12 27 50.1	
	baz=62,slow=332,SNR=1.2						
ZALV	Zalesovo Beam	0.74	243	Pg	Pg	12 23 24.7	-1.3
	1.3nm,0.3s,baz=61,slow=17,SNR=9.4						
ZALV				Lg	Lg	12 23 36.9	
	3.8nm,0.3s,baz=65,slow=28,SNR=7.3						
KURBB	Kurchatov Arra	5.83	234	Pn	Pn	12 24 40.6	+1.2
	0.2nm,0.3s,baz=51,slow=13,SNR=4.1						
MKAR	Makanchi Array	7.85	199	Pn	Pn	12 25 08.0	+0.8
	0.5nm,0.3s,baz=23,slow=13,SNR=21						

ISK 07 12:25:55.4, 39°.92N×33°.89E, h11km, ML2.6/6
ISCJB 07 12:25:56.9±0.5, 39°.95N±0°.03×33°.87E±0°.04, h10km, Error ellipse: s-maj=4.8km s-min=4.1km az=28.8
CSEM 07 12:25:56.7±0.3, 39°.96N×33°.86E, h2km, ML2.6, Error ellipse: s-maj=5.9km s-min=5.7km az=4.0
DDA 07 12:25:57.5, 39°.98N×33°.92E, h7km, Ml2.6
ISC 07 12:25:56.7±0.8, 39°.97N±0°.02×33°.90E±0°.02, h10km, n33, σ1s.07/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CDAG	Cicekdag	0.50	133	i P	Pb	12 26 07.3	-0.3
CDAG				i S	Sb	12 26 14.5	-0.5
CDAG	Cicekdag	0.50	133	P	Pb	12 26 07.3	-0.3
CDAG				S	Sb	12 26 14.5	-0.5
CORM	Corum	0.60	69	PG	Pg	12 26 08.0	-0.3
CORM				SG	Sg	12 26 17.1	+0.9
CORM	Corum	0.60	69	ePg	Pg	12 26 08.0	-0.3
CORM				eSg	Sg	12 26 17.1	+0.9
ELDT	Eldivan	0.64	325	i P	Pb	12 26 10.0	0.0
ELDT				i S	Sb	12 26 19.3	+0.3
ELDT	Eldivan	0.64	325	P	Pb	12 26 10.0	0.0
ELDT				S	Sb	12 26 19.3	+0.3
CANT	Cankiri	0.67	341	PG	Pg	12 26 09.6	-0.1
AFSR	Af¯ar-Bala (A	0.83	231	PG	Pg	12 26 11.1	-1.5
AFSR	Af¯ar-Bala (A	0.83	231	ePg	Pg	12 26 11.1	-1.5
ANTO	Ankara	0.86	264	PG	Pg	12 26 11.8	-1.5
ANTO	Ankara	0.86	264	ePg	Pg	12 26 11.8	-1.5
COAL	Corum-Alaca	0.88	71	i P	Pb	12 26 14.3	+0.2
COAL	Corum-Alaca	0.88	71	P	Pb	12 26 14.3	+0.2
CTAK	Corum_Osmancik	0.96	45	i P	Pn	12 26 16.0	-0.4
CTAK				i S	Sn	12 26 29.7	-0.6
CTAK	Corum_Osmancik	0.96	45	P	Pn	12 26 16.0	-0.4
CTAK				S	Sn	12 26 29.7	-0.6
SERE	Sereflikochisa	1.05	195	PG	Pg	12 26 15.3	-1.7
SERE	Sereflikochisa	1.05	195	ePg	Pg	12 26 15.3	-1.7
ILGA	Ilgaz	1.09	353	i P	Pb	12 26 17.8	-0.1
ILGA	Ilgaz	1.09	353	P	Pb	12 26 17.8	-0.1
KKUL	Konya-Kulu	1.10	224	i P	Pn	12 26 18.7	+0.4
KKUL				i S	Sn	12 26 35.4	+1.8
KKUL	Konya-Kulu	1.10	224	P	Pn	12 26 18.7	+0.4
YOZ	Yozgat	1.14	106	PN	Pb	12 26 17.3	-1.3
YOZ	Yozgat	1.14	106	ePn	Pb	12 26 17.3	-1.3
CMDR	Camlidere-ANKA	1.21	296	i P	Pg	12 26 19.9	-0.1
CMDR	Camlidere-ANKA	1.21	296	P	Pg	12 26 19.9	-0.1
AVNS	Nevsehir-Avano	1.37	147	i P	Pg	12 26 23.9	+0.9
AVNS				i S	Sg	12 26 43.7	+2.9
AVNS	Nevsehir-Avano	1.37	147	P	Pg	12 26 23.9	+0.9
AVNS				S	Sg	12 26 43.7	+2.9
BOYT	Boyabat	1.64	27	i P	Pg	12 26 27.6	-0.6
BOYT	Boyabat	1.64	27	P	Pg	12 26 27.5	-0.6
CUSAR	Sarkisla-SIVAS	1.89	106	i P	Pg	12 26 32.3	-0.6
CUSAR	Sarkisla-SIVAS	1.89	106	P	Pg	12 26 32.3	-0.6
SVSK	Karacayir	2.38	90	PN	Pn	12 26 34.6	-1.1
SVSK	Karacayir	2.38	90	ePn	Pn	12 26 34.6	-1.1

ISK 07 12:29:57.5, 41°.06N×36°.15E, h6km, ML2.5/5
ISCJB 07 12:29:58.1±0.6, 41°.01N±0°.03×36°.07E±0°.05, h0km, Error ellipse: s-maj=5.8km s-min=4.9km az=159.1
CSEM 07 12:29:58.4±0.4, 41°.01N×36°.07E, h1km, ML2.5, Error ellipse: s-maj=9.8km s-min=8.3km az=56.0, Suspected Mining explosion.
DDA 07 12:29:59.3, 41°.07N×35°.97E, h7km, Ml2.5, Suspected Mining explosion.
ISC 07 12:29:57.4±0.9, 41°.05N±0°.03×36°.15E±0°.03, h0km, n26, σ0s.40/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KVT	Kavak	0.08	293	PG	Pg	12 29 59.8	+0.8
KVT	Kavak	0.08	293	ePg	Pg	12 29 59.8	+0.8
SAMS	Samsun-Alacam	0.32	5	i P	Pb	12 30 05.9	-0.1
SAMS				i S	Sb	12 30 11.3	-0.3
SAMS	Samsun-Alacam	0.32	5	P	Pb	12 30 05.9	-0.1
SAMS				S	Sb	12 30 11.3	-0.3
HAVZ	Havza	0.33	275	i P	Pg	12 30 03.6	-0.1
HAVZ				i S	Sg	12 30 08.5	+0.6
HAVZ	Havza	0.33	275	P	Pg	12 30 03.6	-0.1
HAVZ				S	Sg	12 30 08.5	+0.6
ERBA	Erbaa	0.59	128	i P	Pn	12 30 13.1	0.0
ERBA				i S	Sn	12 30 23.7	+0.3
ERBA	Erbaa	0.59	128	P	Pn	12 30 13.1	0.0
DIKM	Dikmen	0.90	312	PG	Pg	12 30 15.1	+0.4
DIKM				SG	Sb	12 30 27.9	-0.6
DIKM	Dikmen	0.90	312	ePg	Pg	12 30 15.1	+0.4
DIKM				eSg	Sb	12 30 27.9	-0.6
BOYT	Boyabat	1.01	292	i P	Pg	12 30 15.8	-1.0
CTAK	Corum_Osmancik	1.10	249	i P	Pb	12 30 19.6	+0.1
CTAK	Corum_Osmancik	1.10	249	P	Pb	12 30 19.6	+0.1
RSDY	Resadiye-TOKAT	1.11	126	PN	Pb	12 30 19.2	-0.2
RSDY	Resadiye-TOKAT	1.11	126	ePn	Pb	12 30 19.2	-0.2
COAL	Corum-Alaca	1.19	229	i P	Pg	12 30 20.2	0.0
COAL	Corum-Alaca	1.19	229	P	Pg	12 30 20.2	0.0
SNOP	Sinop	1.20	324	PN	Pb	12 30 20.7	-0.4
SNOP	Sinop	1.20	324	ePn	Pb	12 30 20.7	-0.4
SINO	SINOP_Merkez	1.20	324	i P	Pb	12 30 20.8	-0.3
SVSK	Karacayir	1.30	150	PN	Pn	12 30 22.9	+0.1
SVSK	Karacayir	1.30	150	ePn	Pn	12 30 22.9	+0.1
CORM	Corum	1.45	234	PN	Pn	12 30 24.9	-0.1
CORM	Corum	1.45	234	ePn	Pn	12 30 24.9	-0.1
YOZ	Yozgat	1.54	205	PN	Pn	12 30 26.2	-0.1
YOZ	Yozgat	1.54	205	ePn	Pn	12 30 26.2	-0.1

IDC 07 12:32:36.6±6.4, 2°.84S×139°.04E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/41, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=263.9km s-min=29.8km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.61	195	P	Pn	12 36 43.2	-0.4
	0.2nm,0.3s,baz=14,slow=13,SNR=12						
WRA				S	Sn	12 39 56.6	-4.0
	0.0nm,0.3s,baz=4.6,slow=22,SNR=3.4						
ASAR	Alice Springs	21.29	193	P	P	12 37 25.3	+0.2
	1.2nm,0.5s,baz=23,slow=9.7,SNR=8.0						
ASAR				S	Sn	12 41 26.2	-3.3
	0.7nm,0.9s,baz=14,slow=24,SNR=4.4						
MKAR	Makanchi Array	70.09	322	P	P	12 43 50.8	0.0
	0.2nm,0.5s,baz=99,slow=8.1,SNR=2.8						

IDC 07 12:40:05.4±0.6, 3°.82S×151°.92E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.2/47, mbtmp4.2/20, ML2.5/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/41, Error ellipse: s-maj=21.5km s-min=12.7km az=86.0
ISCJB 07 12:40:08.7±0.4, 3°.85S±0°.06×151°.92E±0°.10, h33km, mb4.3/25, MS3.9/1, Error ellipse: s-maj=13.9km s-min=8.3km az=6.7
NEIC 07 12:40:12.6±2.3, 3°.90S×151°.90E, h55km±21km, mb4.7/4, Error ellipse: s-maj=14.2km s-min=10.6km az=65.0
ISC 07 12:40:10.7±0.6, 3°.89S±0°.08×151°.9E±0°.1, h35km, n31, σ1s.02/31, mb4.3/25, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.24	221	Pn	Pn	12 41 55.3	+1.2
	0.4nm,0.3s,baz=344,slow=15,SNR=3.5						
PMG				Sn	Sn	12 43 25.7	+11
	baz=254,slow=20,SNR=1.6						
PMG				LR	LR	12 44 09.8	
	comp=Z,281nm,18.7s,baz=355,slow=34						
PMG	Port Moresby	7.24	221	Pn	Pn	12 41 55.3	+1.2
PMG				eSn	Sn	12 43 13.8	-1.3
PMG				Sn	Sn	12 43 25.8	+11
CTA	Charters Tower	17.02	198	P	P	12 44 07.4	-0.4
	0.1nm,0.3s,baz=100,slow=6.1,SNR=2.8						
DZM	Mont Dzumac	22.91	143	P	P	12 45 11.1	-0.8
	8.4nm,0.8s,baz=296,slow=7.8,SNR=9.2						
WRAB	Tennant Creek	23.41	226	eP	P	12 45 16.1	-0.7
	10nm,0.6s						
WRA	Warramunga Arr	23.42	226	P	P	12 45 15.5	-1.4
	3.4nm,0.8s,baz=52,slow=9.6,SNR=24						
ASAR	Alice Springs	26.25	220	P	P	12 45 42.0	-0.9
	4.2nm,0.5s,baz=56,slow=9.0,SNR=23						
BATI	Baumata	28.72	256	LR	LR	12 59 28.5	
	comp=Z,350nm,21.8s,baz=192,slow=40						
STKA	Stephens Creek	29.48	198	P	P	12 46 11.3	-0.3
	1.9nm,0.6s,baz=22,slow=12,SNR=11						
URZ	Urewera	41.21	149	P	P	12 47 53.3	+1.1
	6.6nm,0.6s,baz=94,slow=3.1,SNR=5.6						
JNU	Nakatsue	41.86	333	P	P	12 47 57.9	+0.2
	10nm,1.0s,baz=173,slow=9.6,SNR=3.0						
KSM	Kuching	41.93	277	eP	P	12 47 59.5	+1.0
	16nm,1.1s						
RPZ	Rata Peaks	43.12	160	P	P	12 48 09.4	+1.6
	29nm,0.8s,baz=134,slow=1.2,SNR=7.8						
KSRS	Korea Array	46.80	334	P	P	12 48 37.3	+0.3
	0.6nm,0.7s,baz=150,slow=8.2,SNR=2.4						
KSAR	Wonju Array Be	46.81	334	P	P	12 48 37.3	+0.2
CMAR	Chiang Mai Arr	56.70	295	P	P	12 49 52.7	+1.3
	0.5nm,0.4s,baz=117,slow=4.3,SNR=6.3						
PETK	Petropavlovsk-	57.00	4	P	P	12 49 53.3	+0.5
	13nm,0.9s,baz=180,slow=3.9,SNR=2.8						
SONM	Songino Array	65.09	328	P	P	12 50 47.2	-0.8
	0.9nm,1.0s,baz=156,slow=3.9,SNR=2.7						
MKAR	Makanchi Array	79.07	319	P	P	12 52 11.4	-0.2
	1.6nm,0.9s,baz=102,slow=5.6,SNR=12						
ZALV	Zalesovo Beam	79.92	326	P	P	12 52 15.1	-0.8
	1.4nm,0.7s,baz=116,slow=3.4,SNR=5.7						
MCK	McKinley	80.37	23	eP	P	12 52 17.2	-1.1
	11nm,0.9s						
COLA	College	81.34	22	eP	P	12 52 22.4	-1.0
	6.8nm,0.8s						
ILAR	Eielson Array	81.65	22	P	P	12 52 23.3	-1.8
	1.3nm,0.8s,baz=254,slow=5.6,SNR=22						
KURK	Kurchatov	82.52	322	eP	P	12 52 29.6	-0.3
	50nm,1.1s						
KURBB	Kurchatov Arra	82.55	322	P	P	12 52 29.7	-0.3
	0.6nm,0.2s,baz=110,slow=5.2,SNR=6.1						
AAK	Ala-Archa	83.41	314	eP	P	12 52 34.1	-0.8
	4.6nm,1.1s						
INK	Inuvik	87.92	21	P	P	12 52 55.4	-1.1
	1.8nm,1.1s,baz=358,slow=7.9,SNR=2.9						
BVAR	Borovoye Array	87.99	323	P	P	12 52 56.1	-1.2
	2.1nm,0.7s,baz=101,slow=6.0,SNR=12						
BRVK	Borovoye	88.06	323	eP	P	12 52 56.3	-1.3
	18nm,0.8s						
YKA	Yellowknife Ar	95.03	28	P	P	12 53 30.9	+1.2
	0.2nm,0.6s,baz=275,slow=4.4,SNR=2.7						
TORD	Torodi Ar. Bea	149.19	289	PKPbc	PKPab	13 00 00.4	-0.7
	1.1nm,0.8s,baz=61,slow=2.3,SNR=5.3						

IDC 07 12:44:53.3±1.9, 29°.17N×139°.74E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/61, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=50.4km s-min=28.6km az=63.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	2.99	133	Pn	Pn	12 45 41.7	-0.3
	44nm,0.3s,baz=288,slow=20,SNR=25						
JCJ				Sn	Sn	12 46 20.7	+2.2
	8.7nm,0.3s,baz=274,slow=19,SNR=2.9						
MJAR	Matsushiro Arr	7.46	350	Pn	Pn	12 46 43.3	-0.1
	0.2nm,0.3s,baz=142,slow=13,SNR=3.9						
H11N2	WAKE ISLAND Hy	26.39	105	T	T	13 18 09.6	
	baz=298,slow=75						
H11N1	WAKE ISLAND Hy	26.40	105	T	T	13 18 01.2	
	baz=298,slow=75						
H11N3	WAKE ISLAND Hy	26.41	105	T	T	13 18 05.8	
	baz=298,slow=75,SNR=12						
H11S3	WAKE ISLAND Hy	26.78	107	T	T	13 18 36.0	
	baz=282						
H11S1	WAKE ISLAND Hy	26.79	107	T	T	13 18 43.1	
	baz=282						
H11S2	WAKE ISLAND Hy	26.80	107	T	T	13 18 36.7	
	baz=282						
WRA	Warramunga Arr	49.11	187	P	P	12 53 42.4	-0.3
	0.3nm,0.4s,baz=7.3,slow=7.9,SNR=7.1						
ASAR	Alice Springs	52.83	187	P	P	12 54 10.8	0.0
	0.2nm,0.8s,baz=2.3,slow=5.0,SNR=2.9						

IDC 07 12:53:20.9±1.5, 2°.85S×139°.19E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/46, mbtmp3.7/5, Error ellipse: s-maj=66.6km s-min=14.6km az=96.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.64	195	P	Pn	12 57 28.1	-0.2
	baz=18,slow=12,SNR=2.7						
WRA				S	Sn	13 00 35.6	-10
	0.0nm,0.3s,baz=11,slow=22,SNR=3.1						
ASAR	Alice Springs	21.32	193	P	P	12 58 11.2	+1.6
	1.0nm,0.6s,baz=26,slow=9.7,SNR=6.9						
ASAR				S	S	13 02 08.0	+0.6
	0.8nm,1.1s,baz=9.6,slow=28,SNR=3.2						
MKAR	Makanchi Array	70.19	322	P	P	13 04 36.0	+0.4
	0.5nm,0.4s,baz=121,slow=7.8,SNR=11						
BVAR	Borovoye Array	79.70	325	P	P	13 05 30.1	-0.4
	0.5nm,0.7s,baz=94,slow=6.4,SNR=3.2						
ILAR	Eielson Array	85.76	24	P	P	13 06 01.5	-0.3
	0.6nm,0.7s,baz=264,slow=4.4,SNR=5.5						

IDC 07 13:05:21.4±2.0**,0°.28N×126°.56E,h0km,mb3.0**/3**, mb1 3.3**/3**,mb1mx3.1**/54**,mbtmp3.1**/3**,Error ellipse: s-maj=175.4km s-min=25.6km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.50**	**160**	P	P	13 10 11.8	-0.2
	0.3nm,0.9s,baz=338,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**24.85**	**164**	P	P	13 10 46.0	+0.2
	0.3nm,0.6s,baz=343,slow=9.2,SNR=6.7						
MKAR	**Makanchi Array**	**60.29**	**326**	P	P	13 15 31.8	-0.1
	0.1nm,0.4s,baz=122,slow=7.6,SNR=2.5						

*JMA **07** 13:07:36.9±0.1,23°.68N×121°.99E,h19km,M3.0*
*TAP **07** 13:07:37.4,23°.67N×122°.01E,h21km,ML3.8,C*
ISC 07 13:07:36.9±0.9**,23°.64N**±0°.02×**122°.01E**±0°.02**,h22km**±9km**, n97,σ0s.65**/159**,13C-6D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.46**	**305**	P	**Pb**	**13 07 46.4**	**+0.1**
	baz=314						
ENLB				S	**Sb**	**13 07 53.2**	**+0.5**
	baz=314						
HWA	**Hwalien**	**0.50**	**312**	P	**Pb**	**13 07 47.0**	**-0.1**
	baz=310						
HWA				*e*S	**Sb**	**13 07 54.6**	**+0.7**
	baz=310						
EGFH	**Guangfu**	**0.54**	**273**	P	**Pb**	**13 07 47.7**	**0.0**
	baz=270						
EGFH				S	**Sb**	**13 07 55.5**	**+0.6**
	baz=270						
ESL	**Shilin**	**0.56**	**288**	⇓P	**Pb**	**13 07 47.5**	**-0.5**
	baz=286						
ESL				*e*S	**Sb**	**13 07 56.0**	**+0.5**
	baz=286						
HGSD	**Ruisui**	**0.56**	**255**	*e*P	**Pb**	**13 07 48.2**	**+0.1**
	baz=252						
HGSD				*e*S	**Sb**	**13 07 56.0**	**+0.4**
	baz=252						
TWD	**Chiawan**	**0.58**	**319**	⇑*i*P	**Pb**	**13 07 48.0**	**-0.4**
	baz=318						
TWD				*i* S	**Sb**	**13 07 55.4**	**-0.8**
	baz=318						
EHY	**Hungye**	**0.65**	**258**	P	**Pb**	**13 07 49.8**	**+0.3**
	baz=266						
EHY				*e*S	**Sn**	**13 07 59.2**	**-1.1**
	baz=266						
NACB	**Ninganchiao**	**0.65**	**324**	⇑*e*P	**Pb**	**13 07 49.0**	**-0.7**
	baz=314						
NACB				*e*S	**Sb**	**13 07 57.5**	**-0.8**
	baz=314						
YULB	**Yu-li**	**0.70**	**249**	*e*P	**Pb**	**13 07 50.7**	**+0.2**
	baz=247						
YULB				S	**Sn**	**13 08 00.7**	**-0.9**
	baz=247						
TWF1	**Yuli**	**0.72**	**246**	P	**Pb**	**13 07 51.1**	**+0.4**
	baz=244						
TWF1				*e*S	**Sn**	**13 08 01.4**	**-0.6**
	baz=244						
FULB	**Fuli**	**0.79**	**236**	⇑P	**Pb**	**13 07 51.8**	**-0.3**
	baz=221						
FULB				*e*S	**Sn**	**13 08 03.5**	**-0.5**
	baz=221						
CHKT	**Chengkung**	**0.80**	**228**	⇑*i*P	**Pb**	**13 07 51.7**	**-0.4**
	baz=214						
CHKT				*e*S	**Sb**	**13 08 02.0**	**-0.6**
	baz=214						
NANB	**Nanao**	**0.82**	**343**	⇑*e*P	**Pb**	**13 07 52.2**	**-0.3**
	baz=333						
NANB				*e*S	**Sb**	**13 08 03.2**	**+0.2**
	baz=333						
ENA	**Nanau**	**0.82**	**343**	⇑*i*P	**Pb**	**13 07 52.2**	**-0.3**
	baz=333						
ENA				*e*S	**Sb**	**13 08 03.3**	**+0.1**
	baz=333						
ENAH	**Nanao**	**0.82**	**347**	P	**Pb**	**13 07 52.6**	**+0.1**
	baz=332						
ENAH				*e*S	**Sn**	**13 08 04.0**	**-0.6**
	baz=332						
OWD	**Renai**	**0.82**	**292**	P	**Pb**	**13 07 52.5**	**-0.2**
	baz=300						
OWD				*e*S	**Sb**	**13 08 02.9**	**-0.5**
	baz=300						
CHGB	**Renai**	**0.87**	**299**	P	**Pb**	**13 07 53.2**	**-0.3**
	baz=307						
CHGB				*e*S	**Sb**	**13 08 05.1**	**+0.3**
	baz=307						
EOS1	**EOS1**	**0.91**	**7**	*e*P	**Pn**	**13 07 54.2**	**-0.1**
	baz=18						
EOS1				*e*S	**Sn**	**13 08 06.3**	**-0.4**
	baz=18						
NNSB	**Datong**	**0.97**	**324**	⇑*e*P	**Pb**	**13 07 54.6**	**-0.5**
	baz=323						
NNSB				*e*S	**Sb**	**13 08 06.9**	**-0.6**
	baz=323						
NNSH	**Datong**	**0.97**	**324**	⇑*i*P	**Pb**	**13 07 54.6**	**-0.5**
	baz=323						
NNSH				*e*S	**Sb**	**13 08 07.0**	**-0.6**
	baz=323						
TWC	**Suao**	**0.97**	**351**	P	**Pn**	**13 07 55.1**	**-0.2**
	baz=351						
TWC				S	**Sn**	**13 08 07.9**	**-0.5**
	baz=351						
SSLB	**Suanglung**	**0.98**	**279**	⇓*e*P	**Pb**	**13 07 54.6**	**-0.6**
	baz=277						
YUS	**Yu-Shan**	**0.98**	**261**	⇓P	**Pb**	**13 07 55.5**	**0.0**
	baz=260						
YUS				*e*S	**Sb**	**13 08 07.9**	**-0.4**
	baz=260						
NNS	**Nan Shan**	**0.98**	**324**	⇑P	**Pb**	**13 07 54.8**	**-0.5**
	baz=323						
NNS				*e*S	**Sb**	**13 08 07.5**	**-0.5**
	baz=323						
TDCB	**Techi**	**0.99**	**308**	P	**Pb**	**13 07 55.1**	**-0.4**
	baz=307						
TDCB				*e*S	**Sn**	**13 08 08.7**	**-0.3**
	baz=307						
ELDTW	**Lidau**	**1.02**	**244**	⇑P	**Pb**	**13 07 55.3**	**-0.7**
	baz=243						
ELDTW				*e*S	**Sb**	**13 08 07.4**	**-1.5**
	baz=243						
SMLT	**Sun Moon Lake**	**1.04**	**283**	⇓P	**Pb**	**13 07 56.0**	**-0.4**
	baz=283						
SMLT				*e*S	**Sb**	**13 08 09.4**	**-0.3**
	baz=283						
TWH	**Lutao**	**1.05**	**208**	⇑*i*P	**Pn**	**13 07 55.8**	**-0.5**
	baz=206						
TWH				*e*S	**Sb**	**13 08 08.6**	**-1.1**
	baz=206						
DPDB	**Guoxing**	**1.07**	**292**	P	**Pb**	**13 07 56.6**	**-0.1**
	baz=291						
DPDB				*e*S	**Sn**	**13 08 10.9**	**+0.1**
	baz=291						
ENTT	**Nioudou**	**1.07**	**338**	P	**Pn**	**13 07 56.2**	**-0.4**
	baz=337						
ENTT				*e*S	**Sb**	**13 08 10.3**	**-0.2**
	baz=337						
TYC	**Yuchr**	**1.09**	**284**	P	**Pn**	**13 07 56.7**	**-0.1**
	baz=283						
TYC				*e*S	**Sn**	**13 08 11.2**	**0.0**
	baz=283						
ALS	**Alishan**	**1.11**	**263**	⇓*i*P	**Pb**	**13 07 57.8**	**+0.1**
	baz=262						
ALS				*e*S	**Sn**	**13 08 12.2**	**0.0**
	baz=262						
TWE	**Neicheng**	**1.12**	**344**	⇑P	**Pn**	**13 07 57.1**	**-0.1**
	baz=344						
TWE				*e*S	**Sn**	**13 08 11.7**	**-0.2**
	baz=344						
ILA	**Ilan**	**1.14**	**348**	*e*P	**Pb**	**13 07 58.4**	**+0.4**
	baz=348						
ILA				*e*S	**Sn**	**13 08 13.4**	**+0.8**
	baz=348						
JYNG	**Yonagunijimaku**	**1.17**	**47**	P	**Pb**	**13 07 58.5**	**0.0**
JYNG				S	**Sn**	**13 08 13.5**	**+0.2**
YHNB	**Yeheng**	**1.18**	**331**	P	**Pn**	**13 07 57.8**	**-0.3**
	baz=330						
YHNB				*e*S	**Sb**	**13 08 12.5**	**-1.0**
	baz=330						
TWGBT	**Beinan**	**1.19**	**226**	*e*P	**Pn**	**13 07 57.5**	**-0.7**
	baz=226						
TTN	**Taitung**	**1.19**	**222**	P	**Pn**	**13 07 58.2**	**+0.1**
	baz=210						
TWG	**Pinlang**	**1.19**	**227**	P	**Pn**	**13 07 57.5**	**-0.7**
	baz=239						
TWG				*e*S	**Sb**	**13 08 12.7**	**-1.0**
	baz=239						
WJS	**Zhushan**	**1.19**	**279**	P	**Pb**	**13 07 59.2**	**+0.4**
	baz=278						
WJS				*e*S	**Sn**	**13 08 15.2**	**+1.5**
	baz=278						
EGS		**1.20**	**357**	*e*P	**Pb**	**13 07 59.1**	**+0.1**
	baz=10.0						
NTC	**Toucheng**	**1.22**	**352**	P	**Pb**	**13 07 59.1**	**-0.2**
	baz=4.0						
NWLT	**Wulai**	**1.22**	**338**	P	**Pn**	**13 07 58.8**	**+0.1**
	baz=322						
NWLT				*e*S	**Sb**	**13 08 13.6**	**-1.1**
	baz=322						
CHN5	**Tsauling**	**1.22**	**268**	P	**Pb**	**13 07 59.7**	**+0.3**
	baz=267						
YOJ	**Yonaguni jima**	**1.23**	**48**	*e*P	**Pb**	**13 07 59.1**	**-0.3**
	baz=47						
YOJ	**Yonaguni jima**	**1.23**	**48**	P	**Pn**	**13 07 59.0**	**+0.3**
WNT	**Mingjian**	**1.24**	**281**	*e*P	**Pb**	**13 08 00.2**	**+0.6**
	baz=280						
STYT	**Tauyuan**	**1.25**	**248**	*e*P	**Pb**	**13 07 59.6**	**-0.2**
	baz=235						
STYT				S	**Sn**	**13 08 15.1**	**-0.1**
	baz=235						
TPUB	**Ta-pu**	**1.31**	**255**	*e*P	**Pb**	**13 08 01.1**	**+0.2**
	baz=254						
TPUB				*e*S	**Sb**	**13 08 18.6**	**+1.3**
	baz=254						
TCU	**Taichung**	**1.32**	**293**	*e*P	**Pb**	**13 08 02.2**	**+1.2**
	baz=292						
WGK	**Gukeng**	**1.33**	**272**	*e*P	**Pb**	**13 08 01.4**	**+0.3**
	baz=271						
WGK				*e*S	**Sb**	**13 08 18.8**	**+1.0**
	baz=271						
TWQ1	**Liyutan**	**1.33**	**302**	P	**Pb**	**13 08 01.7**	**+0.5**
	baz=301						
TWQ1				*e*S	**Sb**	**13 08 18.7**	**+0.9**
	baz=301						
CHN4	**Tsaushan**	**1.33**	**258**	P	**Pb**	**13 08 01.6**	**+0.4**
	baz=257						
TIPB	**Shuangxi**	**1.33**	**353**	⇑*i*P	**Pn**	**13 08 00.2**	**-0.1**
	baz=3.0						
TIPB				*e*S	**Sn**	**13 08 16.6**	**-0.8**
	baz=3.0						
WTP	**Ta-pu**	**1.34**	**253**	P	**Pb**	**13 08 01.5**	**+0.1**
	baz=252						
WTP				*e*S	**Sb**	**13 08 19.7**	**+1.5**
	baz=252						
NSTT	**Nanjuang**	**1.35**	**317**	*e*P	**Pb**	**13 08 01.8**	**+0.3**
	baz=316						
NSTT				*e*S	**Sb**	**13 08 17.8**	**-0.6**
	baz=316						
LIOB	**Emei**	**1.35**	**318**	P	**Pb**	**13 08 01.8**	**+0.2**
	baz=317						
WDLH	**Douliu**	**1.35**	**272**	*e*P	**Pb**	**13 08 01.6**	**+0.1**
	baz=271						
WDLH				*e*S	**Sb**	**13 08 19.2**	**+0.8**
	baz=271						
TWB1	**Santiao Chiao**	**1.36**	**359**	⇓P	**Pn**	**13 08 01.0**	**+0.4**
	baz=359						
TWB1				*e*S	**Sn**	**13 08 17.3**	**-0.6**
	baz=359						
TWA	**Mucha**	**1.39**	**344**	P	**Pb**	**13 08 02.0**	**-0.2**
	baz=343						
TWA				S	**Sn**	**13 08 18.7**	**0.0**
	baz=343						
WLTB	**Daxi**	**1.39**	**330**	P	**Pb**	**13 08 02.4**	**+0.2**
	baz=329						
WCHH	**Zhanghua**	**1.40**	**288**	*e*P	**Pb**	**13 08 02.5**	**+0.2**
	baz=287						
SLGT	**Liugui**	**1.41**	**243**	*e*P	**Pb**	**13 08 02.5**	**-0.1**
	baz=232						
TATO	**Taipei**	**1.41**	**340**	*e*P	**Pn**	**13 08 01.4**	**+0.1**
	baz=327						
TATO				*e*S	**Sb**	**13 08 19.5**	**-0.6**
	baz=327						
ECL	**Taimali**	**1.42**	**223**	P	**Pn**	**13 08 00.5**	**-0.9**
	baz=233						
ECL				*e*S	**Sn**	**13 08 17.9**	**-1.5**
	baz=233						
SGST	**Jiashian**	**1.43**	**247**	*e*P	**Pb**	**13 08 03.6**	**+0.8**
	baz=235						
SGST				*e*S	**Sb**	**13 08 22.0**	**+1.4**
	baz=235						
NMLH	**Miaoli**	**1.43**	**309**	*e*P	**Pb**	**13 08 02.9**	**0.0**
	baz=307						
CHN1	**Nanshi**	**1.44**	**252**	*e*P	**Pb**	**13 08 03.2**	**+0.2**
	baz=251						
CHN1				*e*S	**Sb**	**13 08 22.5**	**+1.6**
	baz=251						
PTSB	**Yuanli**	**1.44**	**304**	*e*P	**Pb**	**13 08 03.4**	**+0.4**
	baz=303						
NWF	**Wu-fen Shan**	**1.44**	**352**	P	**Pb**	**13 08 02.9**	**-0.2**
	baz=5.0						
NWF				*e*S	**Sb**	**13 08 20.9**	**0.0**
	baz=5.0						
WFSB	**Wu-fen Shan**	**1.44**	**352**	*e*P	**Pb**	**13 08 02.9**	**-0.1**
	baz=5.0						
WFSB				*e*S	**Sb**	**13 08 20.6**	**-0.3**
	baz=5.0						
CHY	**Chiayi**	**1.46**	**265**	*e*P	**Pb**	**13 08 03.5**	**+0.1**
	baz=264						
SBCB	**Hsinchu**	**1.48**	**321**	*e*P	**Pb**	**13 08 04.2**	**+0.5**
	baz=319						
HSN	**Hsinchu**	**1.50**	**321**	*e*P	**Pb**	**13 08 04.2**	**+0.2**
	baz=322						
HSN				*e*S	**Sb**	**13 08 23.3**	**+0.8**
	baz=322						
NCU	**National Centr**	**1.52**	**331**	*e*P	**Pb**	**13 08 03.8**	**-0.6**
	baz=330						
NCU				*e*S	**Sb**	**13 08 23.3**	**0.0**
	baz=330						
RLNB	**Erlin**	**1.53**	**280**	*e*P	**Pb**	**13 08 04.2**	**-0.5**
	baz=279						
TWS1	**Kuangyinshan**	**1.55**	**340**	*e*P	**Pb**	**13 08 04.1**	**-0.8**
	baz=339						
TWS1				*e*S	**Sb**	**13 08 23.8**	**-0.3**
	baz=339						
SSD	**Sandimen**	**1.55**	**235**	*e*P	**Pn**	**13 08 03.6**	**+0.4**
	baz=225						
YM10	**YM10**	**1.56**	**345**	*e*P	**Pb**	**13 08 04.3**	**-0.9**
	baz=326						
YM04	**YM04**	**1.57**	**344**	*e*P	**Pn**	**13 08 04.2**	**+0.7**
	baz=342						
YM07	**YM07**	**1.57**	**347**	P	**Pn**	**13 08 03.6**	**+0.1**
	baz=2.0						
YM07				*e*S	**Sn**	**13 08 22.8**	**-0.3**
	baz=2.0						
YM03	**YM03**	**1.59**	**344**	*e*P	**Pb**	**13 08 04.6**	**-1.1**
	baz=343						
NTST	**Danshui**	**1.60**	**341**	*e*P	**Pb**	**13 08 04.7**	**-1.1**
	baz=340						
EAST	**Anshuo**	**1.65**	**221**	P	**Pn**	**13 08 04.2**	**-0.4**
	baz=221						
LAY	**Lan-yu**	**1.65**	**195**	P	**Pn**	**13 08 03.3**	**-1.3**
	baz=196						
TWM1	**Shoushan**	**1.67**	**241**	*e*P	**Pb**	**13 08 07.6**	**+0.6**
	baz=241						
CHN8	**Yiju**	**1.68**	**260**	*e*S	**Sb**	**13 08 28.5**	**+0.7**
	baz=260						
HATJ	**Hateruma jima**	**1.69**	**76**	*e*S	**Sn**	**13 08 26.1**	**-0.1**
IRIF	**Iriomote-Funau**	**1.72**	**66**	P	**Pb**	**13 08 06.8**	**-1.0**
IRIF				*e*S	**Sb**	**13 08 28.6**	**-0.3**
SCZT	**Fangliau**	**1.80**	**226**	*e*P	**Pn**	**13 08 07.4**	**+0.8**
	baz=218						
SCZT				*e*S	**Sb**	**13 08 30.9**	**-0.4**
	baz=218						
WLCH	**Liuqiu**	**1.98**	**230**	*e*P	**Pb**	**13 08 13.2**	**+0.9**
	baz=230						
HEN	**Hengchun**	**2.01**	**216**	*e*P	**Pb**	**13 08 12.5**	**-0.2**
	baz=217						
TWK1	**Hengchun**	**2.02**	**214**	P	**Pn**	**13 08 10.1**	**+0.4**
	baz=214						
JIJ	**Ishigaki jima**	**2.08**	**69**	P	**Pn**	**13 08 11.5**	**+1.1**
JISG	**Ishigakijimahi**	**2.30**	**65**	P	**Pn**	**13 08 14.1**	**+0.6**
JISG				*e*S	**Sn**	**13 08 40.5**	**-0.7**
JTJ	**Tarama**	**2.65**	**67**	*e*S	**Sn**	**13 08 51.3**	**+1.5**
JIRB	**Irabujima**	**3.12**	**67**	P	**Pn**	**13 08 27.3**	**+2.6**
JIRB				*e*S	**Sn**	**13 09 01.8**	**+0.5**

*IDC **07** 13:18:15.7±0.7,31°.89N×78°.04E,h0km,mb3.9/18, mb1 4.1/21,mb1mx3.9/61,mbtmp3.9/21,ML3.7/3,Error ellipse: s-maj=19.8km s-min=13.3km az=41.0*
*ISCJB **07** 13:18:17.7±0.2,32°.14N±0°.02×78°.34E±0°.03,h17km, mb4.0/23,Error ellipse: s-maj=4.5km s-min=2.6km az=138.4*
*NDI **07** 13:18:18.9±2.2,32°.13N×78°.14E,h10km,ML3.8*
*BJI **07** 13:18:20.0,32°.09N×78°.26E,h17km,mb4.0/9,ML3.7/3, Ms3.7/3,Ms7 3.4/1*
*NNC **07** 13:18:21.7±3.8,32°.35N×77°.94E,h0km,mb4.2,mpv4.1, Error ellipse: s-maj=50.0km s-min=34.7km az=84.0*
*NEIC **07** 13:18:23.4±1.2,32°.03N×78°.11E,h56km±10km,mb4.3/7, Error ellipse: s-maj=10.7km s-min=7.2km az=213.0*
ISC 07 13:18:19.1±0.4**,32°.11N**±0°.04×**78°.21E**±0°.04**,h17km,n72, σ2s.48**/96**,mb4.0**/23**,8C-5D,Kashmir-Xizang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMLA	**Simla**	**1.32**	**223**	*e*x	**Pn**	**13 18 40.6**	**-2.1**
SMLA				*e*P	**Pn**	**13 18 42.2**	**-0.5**
SMLA				*e*S	**Sg**	**13 19 01.4**	**-0.4**
SMLA				IAML		13 19 03.4	
	comp=E,1μm,0.2s						
SMLA				IAML		13 19 03.5	
	comp=N,1μm,0.1s						
DHRM	**DHARAMSHALA**	**1.62**	**275**	*e*P	**Pn**	**13 18 47.0**	**-0.1**
DHRM				*e*S	**Sb**	**13 19 09.6**	**+0.5**
DHRM				IAML		13 19 12.3	
	comp=E,3μm,0.5s						
DHRM				IAML		13 19 12.5	
	comp=N,3μm,0.2s						
DDI	**Dehra Dun**	**1.79**	**184**	*e*P	**Pn**	**13 18 49.7**	**+0.5**
DDI				*e*S	**Sb**	**13 19 13.2**	**-0.4**
PTH	**Pithoragarh**	**3.08**	**145**	*e*P	**Pb**	**13 19 12.9**	**-0.7**
PTH				*e*S	**Sb**	**13 19 50.9**	**0.0**
CHCP	**Chirah Chowk**	**4.44**	**292**	P	**Pn**	**13 19 27.8**	**+2.2**
THW	**Thamme Wali**	**5.51**	**279**	P	**Pn**	**13 19 42.4**	**+2.0**
CEP	**Cherat**	**5.56**	**290**	P	**Pn**	**13 19 41.7**	**+0.5**
PYUN	**Piuthan**	**5.76**	**133**	*e*Pn	**Pn**	**13 19 45.7**	**+1.8**
PYUN				*e*Sn	**Sn**	**13 20 49.7**	**0.0**
	comp=N,179nm,0.4s						
KOLN	**Koldanda**	**6.37**	**131**	*e*Pn	**Pn**	**13 19 53.5**	**+1.1**
GKN	**Gorkha**	**6.91**	**125**	*e*Pn	**Pn**	**13 20 00.8**	**+1.0**
GKN				*e*Sn	**Sn**	**13 21 16.6**	**-1.6**
DMN	**Daman**	**7.48**	**125**	*e*Pn	**Pn**	**13 20 08.2**	**+0.5**
DMN				*e*Sn	**Sn**	**13 21 30.2**	**-2.1**
	comp=N,48nm,0.5s						
KKN	**Kakani**	**7.49**	**123**	*e*Pn	**Pn**	**13 20 08.8**	**+1.0**
KKN				*e*Sn	**Sn**	**13 21 30.3**	**-2.3**
	comp=N,34nm,0.4s						
KSH	**Kashi**	**7.61**	**347**	Pn	**Pn**	**13 20 11.6**	**+2.3**
KSH				Sn	**Sn**	**13 21 27.2**	**-8.0**
KSH				smax	smax		
	comp=N,140nm,0.6s						
KSH				smax	smax		
	comp=N,200nm,0.5s						
KSH	**Kashi**	**7.61**	**347**	Pn	**Pn**	**13 20 11.6**	**+2.3**
KSH				Sn	**Sn**	**13 21 27.2**	**-8.0**
PKIN	**Phulchoki**	**7.71**	**124**	*e*Pn	**Pn**	**13 20 12.3**	**+1.5**
PKI	**Pulchoki**	**7.72**	**124**	*e*Pn	**Pn**	**13 20 11.3**	**+0.3**
PKI				*e*Sn	**Sn**	**13 21 36.2**	**-2.0**
	comp=N,70nm,0.7s						
GUN	**Gumba**	**7.86**	**120**	*e*Pn	**Pn**	**13 20 13.6**	**+0.7**
KBL	**Kabul**	**8.04**	**290**	*e*Pn	**Pn**	**13 20 18.2**	**+2.9**
JIRN	**Jiri**	**8.23**	**121**	*e*Pn	**Pn**	**13 20 18.6**	**+0.6**
JIRN				*e*Sn	**Sn**	**13 21 48.9**	**-1.9**
	comp=N,135nm,0.4s						
SFK	**Sufi-Kurgan**	**8.76**	**336**	⇑Pn	**Pn**	**13 20 29.2**	**+4.1**
	comp=N,4.3nm,0.5s						
SFK				⇑Sn	**Sn**	**13 22 05.6**	**+2.1**
	comp=N,24nm,0.5s						
RAMN	**Ramite**	**8.94**	**123**	*e*Pn	**Pn**	**13 20 27.7**	**+0.1**
RAMN				*e*Sn	**Sn**	**13 22 04.3**	**-3.8**
	comp=N,95nm,0.4s						
TAPN	**Taplejung**	**9.52**	**117**	*e*Pn	**Pn**	**13 20 35.8**	**0.0**
TAPN				*e*Sn	**Sn**	**13 22 18.8**	**-3.8**
	comp=N,32nm,0.6s						
ODAN	**Odare**	**9.56**	**121**	*e*Sn	**Sn**	**13 22 20.6**	**-2.7**
	comp=N,58nm,0.6s						
BOK	**Bokaro**	**10.70**	**139**	*e*P	**Pn**	**13 20 52.2**	**+0.5**
BOK				*e*S	**Sn**	**13 22 43.7**	**-7.5**
BOK				IAML		13 22 48.1	
	comp=E,17nm,1.9s						
BOK				IAML		13 22 51.4	
	comp=N,18nm,0.2s						
AAK	**Ala-Archa**	**10.91**	**345**	Pn	**Pn**	**13 20 57.1**	**+2.5**
	comp=N,0.4nm,0.3s,baz=180,slow=14,SNR=5.7						
AAK				Sn	**Sn**	**13 22 51.5**	**-4.9**
	comp=N,0.3nm,0.3s,baz=205,slow=17,SNR=2.4						
AAK	**Ala-Archa**	**10.91**	**345**	⇑Pn	Pn	13 21 00.7	+6.1
	comp=N,1.1nm,0.4s						
AAK				⇑Sn	**Sn**	**13 22 53.4**	**-3.0**
	comp=N,4.9nm,0.8s						
AAK	**Ala-Archa**	**10.91**	**345**	*e*Pn	**Pn**	**13 20 58.4**	**+3.7**
AAK				Sn	**Sn**	**13 22 51.5**	**-4.9**
NGP	**Nagpur**	**10.94**	**176**	*e*P	**Pn**	**13 20 56.7**	**+1.8**
NGP				*e*x	Sn	13 22 45.9	-11
TKM2	**Tokmak 2**	**10.99**	**350**	⇑P	**Pn**	**13 20 57.7**	**+2.0**
	comp=N,4.7nm,0.9s						
PDGK	**Podgornoye**	**11.25**	**5**	⇑Pn	**Pn**	**13 21 01.1**	**+1.9**
	comp=N,2.8nm,0.5s						
PDGK				⇑Sn	**Sn**	**13 23 03.8**	**-0.7**
	comp=N,6.4nm,0.6s						
MNAS	**Manas**	**11.31**	**338**	⇓Pn	**Pn**	**13 21 00.6**	**+0.6**
	comp=N,3.2nm,0.6s						
MNAS				⇓Sn	**Sn**	**13 23 04.7**	**-1.3**
	comp=N,18nm,0.7s						
KK31	**Karatay Array**	**12.55**	**333**	Pn	**Pn**	**13 21 16.4**	**-0.5**
	comp=N,1.4nm,0.4s,baz=158,slow=13,SNR=38						
KK31				⇑Sn	**Sn**	**13 23 31.9**	**-4.3**
	comp=N,10nm,0.7s,baz=149,slow=20,SNR=16						
KKAR	**Karatay Array**	**12.55**	**333**	*e*Pn	**Pn**	**13 21 16.1**	**-0.8**
WMQ	**Urumqi**	**13.87**	**30**	*e*P	**P**	**13 21 44.0**	**+0.9**
MAKZ	**Makanchi**	**14.96**	**10**	*e*Pn	**Pn**	**13 21 49.8**	**0.0**
	comp=N,6.8nm,0.5s						
MK01	**Makanchi Array**	**14.98**	**11**	*e*Pn	**Pn**	**13 21 49.9**	**-0.1**
MK31	**Makanchi Array**	**15.00**	**11**	⇓P	**Pn**	**13 21 52.9**	**+2.7**
	comp=N,4.9nm,0.6s,baz=189,slow=12,SNR=74						
MK31	**Makanchi Array**	**15.00**	**11**	*e*Pn	**Pn**	**13 21 50.3**	**+0.1**
MKAR	**Makanchi Array**	**15.00**	**11**	Pn	**Pn**	**13 21 49.3**	**-1.0**
	comp=N,0.7nm,0.3s,baz=204,slow=12,SNR=15						
MKAR				Sn	**Sn**	**13 24 30.2**	**-5.7**
	comp=N,0.1nm,0.3s,baz=194,slow=22,SNR=2.9						
MKAR	**Makanchi Array**	**15.00**	**11**	*e*Pn	**Pn**	**13 21 50.6**	**+0.4**
	comp=N,39nm,0.6s						
MKAR				Sn	**Sn**	**13 24 30.2**	**-5.7**
KURBB	**Kurchatov Arra**	**18.50**	**1**	P	**Pn**	**13 22 34.5**	**0.0**
	comp=N,0.1nm,0.3s,baz=189,slow=10,SNR=15						
KURK	**Kurchatov**	**18.59**	**1**	⇓P	**P**	**13 22 35.1**	**-0.2**
	comp=N,4.0nm,0.7s						
KURK	**Kurchatov**	**18.59**	**1**	*e*P	**P**	**13 22 34.9**	**-0.4**
	comp=N,8.7nm,1.1s						
GTA	**Gaotai**	**18.96**	**61**	*e*P	**Pn**	**13 22 47.4**	**+7.1**
GTA				pP	sP	13 22 53.9	+7.2
GTA				sP	pP	13 22 56.9	+12
GTA				pmax	pmax		
	comp=N,4.0nm,0.8s						
BVAR	**Borovoye Array**	**21.66**	**347**	P	**P**	**13 23 09.4**	**+0.9**
	comp=N,2.0nm,0.4s,baz=154,slow=14,SNR=20						
BRVK	**Borovoye**	**21.71**	**347**	*e*P	**P**	**13 23 10.3**	**+1.2**
	comp=N,5.7nm,0.9s						
AB31	**Akbulak array**	**21.93**	**327**	P	**P**	**13 23 12.2**	**+0.6**
	comp=N,4.5nm,0.6s,baz=129,slow=9.9,SNR=49						
ABKAR	**Akbulak array**	**21.93**	**327**	*e*P	**P**	**13 23 11.6**	**+0.1**
	comp=N,61nm,0.6s						
ZALV	**Zalesovo Beam**	**22.34**	**10**	P	**P**	**13 23 16.8**	**+1.0**
	comp=N,2.0nm,0.6s,baz=210,slow=13,SNR=7.9						
ZALV	**Zalesovo Beam**	**22.34**	**10**	*e*P	**P**	**13 23 16.4**	**+0.6**
CHTO	**Chiang Mai**	**22.88**	**120**	*e*P	**P**	**13 23 23.1**	**+1.2**
	comp=N,3.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**23.10**	**121**	P	**P**	**13 23 23.6**	**-0.6**
	comp=N,3.7nm,0.8s,baz=309,slow=9.5,SNR=12						
AKTO	**Aktyubinsk**	**23.65**	**327**	P	**P**	**13 23 30.1**	**+0.7**
	comp=N,1.8nm,0.4s,baz=129,slow=7.7,SNR=7.4						
AKTO	**Aktyubinsk**	**23.65**	**327**	⇓P	**P**	**13 23 29.9**	**+0.5**
	comp=N,8.1nm,1.0s						
SONM	**Songino Array**	**26.51**	**45**	P	**P**	**13 23 58.1**	**+2.4**
	comp=N,2.0nm,0.9s,baz=248,slow=10,SNR=12						
SONA1	**Songino Array**	**26.52**	**45**	*e*P	**P**	**13 23 57.8**	**+1.9**
BRTR	**Keskin Array B**	**36.58**	**295**	P	**P**	**13 25 24.2**	**-0.1**
	comp=N,0.3nm,0.5s,baz=90,slow=8.6,SNR=2.5						
AKASG	**Malin Array Be**	**40.32**	**312**	P	**P**	**13 25 54.7**	**-0.8**
	comp=N,0.4nm,0.3s,baz=79,slow=8.0,SNR=2.1						
KSAR	**Wonju Array Be**	**40.77**	**68**	P	**P**	**13 25 60.0**	**+0.7**
KSRS	**Korea Array**	**40.80**	**68**	P	**P**	**13 25 60.0**	**+0.4**
	comp=N,0.6nm,0.5s,baz=272,slow=8.9,SNR=4.1						
FINES	**FINESS Array B**	**44.42**	**327**	P	**P**	**13 26 29.7**	**+1.1**
	comp=N,2.0nm,0.5s,baz=103,slow=8.7,SNR=16						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**47.47**	**338**	P	**P**	**13 26 53.4**	**+0.8**
	comp=N,3.3nm,0.7s,baz=99,slow=7.5,SNR=12						
HFS	**Hagfors**	**50.15**	**324**	P	**P**	**13 27 13.7**	**+0.4**
	comp=N,1.6nm,0.5s,baz=96,slow=13,SNR=7.6						
NOA	**NORSAR Array B**	**51.43**	**325**	P	**P**	**13 27 23.2**	**+0.2**
	comp=N,0.6nm,0.6s,baz=94,slow=7.5,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**71.80**	**274**	*e*P	**P**	**13 29 39.3**	**-1.8**
TORD	**Torodi Ar. Bea**	**71.80**	**274**	P	**P**	**13 29 39.4**	**-1.7**
	comp=N,2.3nm,0.7s,baz=49,slow=4.9,SNR=13						
WRA	**Warramunga Arr**	**74.60**	**126**	P	**P**	**13 29 57.2**	**-0.3**
	comp=N,3.0nm,0.7s,baz=322,slow=5.2,SNR=49						
WRAB	**Tennant Creek**	**74.60**	**126**	*e*P	**P**	**13 29 57.4**	**-0.1**
	comp=N,8.4nm,0.8s						
KOWA	**Kowa**	**75.95**	**278**	P	**P**	**13 30 03.1**	**-2.3**
	comp=N,1.4nm,0.5s,baz=51,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**76.86**	**129**	P	**P**	**13 30 09.9**	**-0.4**
	comp=N,1.1nm,0.4s,baz=314,slow=6.2,SNR=42						
ILAR	**Eielson Array**	**77.22**	**18**	P	**P**	**13 30 11.9**	**+0.1**
	comp=N,0.4nm,0.6s,baz=305,slow=5.0,SNR=4.4						
YKA	**Yellowknife Ar**	**85.17**	**6**	P	**P**	**13 30 53.4**	**-0.7**
	comp=N,0.3nm,0.6s,baz=342,slow=5.4,SNR=5.5						

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*IDC **07** 13:24:54.2±1.8, 37°.41N×142°.35E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.4/70, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=37.2km s-min=23.1km az=86.0*
*ISCJB **07** 13:24:57.6±1.6, 37°.40N±0°.04×142°.12E±0°.06, h15km±12km, mb3.4/4, Error ellipse: s-maj=8.8km s-min=6.5km az=23.2*
*JMA **07** 13:24:58.9±0.2, 37°.36N×141°.98E, h34km±4km, M3.3*
ISC 07 13:24:55.9±2.1, **37°.33N**±0°.05×**141°.93E**±0°.07, **h5**km±11km, **n24**, σ**1s19**/30, **mb3.4**/4, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.84**	**273**	P	**Pn**	**13 25 15.2**	**+0.7**
JFK				*e*S	**Sn**	**13 25 26.1**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.93**	**256**	P	**Pn**	**13 25 16.4**	**+0.7**
ONAJ				S	**Sn**	**13 25 28.5**	**-1.0**
JMM	**Marumori**	**1.05**	**301**	P	**Pn**	**13 25 17.9**	**+0.6**
JMM				*e*S	**Sb**	**13 25 31.2**	**+0.6**
JIO	**Ouri**	**1.21**	**338**	P	**Pn**	**13 25 19.7**	**+0.2**
JIO				S	**Sg**	**13 25 33.6**	**-1.2**
JFT	**Otama**	**1.28**	**279**	P	**Pn**	**13 25 22.3**	**+1.8**
JFT				S	**Sn**	**13 25 38.5**	**+0.4**
JOU	**Okura**	**1.44**	**316**	P	**Pg**	**13 25 24.2**	**+0.7**
JOU				*e*S	**Sg**	**13 25 41.8**	**-0.3**
JMK	**Ichinoseki**	**1.71**	**341**	P	**Pb**	**13 25 27.4**	**-0.4**
JMK				*e*S	**Sn**	**13 25 47.2**	**-1.4**
JYS	**Shirataka**	**1.73**	**302**	P	**Pg**	**13 25 29.4**	**+0.4**
JYS				S	**Sg**	**13 25 51.1**	**-0.2**
JFY	**Yanaizu**	**1.78**	**273**	P	**Pg**	**13 25 30.5**	**+0.6**
JFY				*e*S	**Sg**	**13 25 52.6**	**-0.4**
JYK	**Kaneyama**	**2.01**	**322**	P	**Pb**	**13 25 32.7**	**-0.2**
MJAR	**Matsushiro Arr**	**3.09**	**256**	Pn	**Pb**	**13 25 50.2**	**-1.1**
	1.4nm,0.3s,baz=75,slow=13,SNR=15						
MJAR				Sn	**Sb**	**13 26 29.4**	**+0.2**
	2.2nm,0.3s,baz=79,slow=25,SNR=4.7						
MAT	**Matsushiro**	**3.09**	**256**	P	**Pb**	**13 25 48.4**	**-2.9**
MAT				S	**Sb**	**13 26 29.0**	**-0.3**
JHJ	**Hachijo jima 2**	**4.56**	**203**	Pn	**Pn**	**13 26 08.5**	**+3.0**
	10nm,0.3s,baz=278,slow=19,SNR=5.1						
JHJ				Sn	**Sn**	**13 26 57.6**	**-1.3**
	5.6nm,0.3s,baz=72,slow=19,SNR=3.2						
ASAJ	**Asahikawa**	**6.79**	**4**	Pn	**Pn**	**13 26 36.1**	**-0.1**
	0.3nm,0.3s,baz=323,slow=20,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**27.95**	**122**	T	T	14 00 17.6	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**27.96**	**122**	T	T	14 00 18.1	
	baz=314						
SONM	**Songino Array**	**27.96**	**303**	P	**P**	**13 30 49.4**	**+1.9**
	0.2nm,0.4s,baz=94,slow=9.6,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**27.97**	**122**	T	T	14 00 22.6	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.68**	**124**	T	T	14 01 16.4	
	baz=331						
H11S3	**WAKE ISLAND Hy**	**28.68**	**124**	T	T	14 01 15.6	
	baz=331						
H11S2	**WAKE ISLAND Hy**	**28.69**	**124**	T	T	14 01 16.4	
	baz=331						
MKAR	**Makanchi Array**	**44.31**	**302**	P	**P**	**13 33 06.9**	**+0.2**
	0.2nm,0.5s,baz=78,slow=8.2,SNR=3.1						
KURBB	**Kurchatov Arra**	**46.15**	**308**	P	**P**	**13 33 20.8**	**-0.4**
	0.7nm,0.4s,baz=81,slow=7.9,SNR=6.2						
WRA	**Warramunga Arr**	**57.41**	**188**	P	**P**	**13 34 45.2**	**-0.3**
	0.4nm,0.8s,baz=6.9,slow=7.4,SNR=6.6						

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*IDC **07** 13:34:59.9±0.8, 9°.17S×126°.04E, h0km, mb3.8/8, mb1 4.0/12, mb1mx3.8/55, mbtmp3.9/12, ML4.2/4, Error ellipse: s-maj=24.2km s-min=16.0km az=68.0*
*ISCJB **07** 13:35:02.4±0.5, 9°.20S±0°.06×126°.04E±0°.04, h33km, mb3.8/8, Error ellipse: s-maj=8.7km s-min=5.9km az=3.9*
*DJA **07** 13:35:05.4±0.5, 9°S±5°×12°6E±°, h63km±13km, M4.7/2, mB5.1/1, mb4.7/2, MLv4.7/2, Mw(mB)4.5/1*
ISC 07 13:35:04.1±0.7, **9°.35S**±0°.06×**126°.08E**±0°.06, **h35**km, **n21**, σ**2s20**/26, **mb3.8**/8, **Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.84**	**257**	P	**Pn**	**13 35 34.0**	**+0.7**
BATI	**Baumata**	**2.53**	**250**	Pn	**Pn**	**13 35 43.5**	**+0.7**
	29nm,0.3s,baz=138,slow=3.6,SNR=53						
BATI				Sn	**Sn**	**13 36 15.1**	**+2.6**
	50nm,0.3s,baz=198,slow=20,SNR=8.2						
BATI	**Baumata**	**2.53**	**250**	P	**Pn**	**13 35 43.8**	**+1.0**
BATI				S	**Sn**	**13 36 14.3**	**+1.8**
MMRI	**Maumere**	**3.87**	**280**	P	**Pn**	**13 36 00.0**	**-1.1**
MMRI				S	**Sn**	**13 36 42.4**	**-2.9**
BBSI	**Bau Bau**	**5.18**	**318**	P	**Pn**	**13 36 17.0**	**-2.2**
BASI	**Baing, Sumba**	**5.50**	**260**	P	**Pn**	**13 36 23.2**	**-0.3**
BASI				S	**Sn**	**13 37 22.9**	**-2.7**
WSI	**Waingapu**	**5.72**	**266**	P	Pn	13 36 31.7	+5.1
WSI				S	**Sn**	**13 37 29.6**	**-1.4**
WBSI	**Waikabubak, Su**	**6.61**	**267**	P	Pn	13 36 33.5	-5.4
FITZ	**Fitzroy Crossi**	**8.71**	**183**	Pn	**Pn**	**13 37 09.6**	**+2.0**
	3.2nm,0.3s,baz=12,slow=12,SNR=85						
FITZ				Sn	**Sn**	**13 38 40.8**	**-3.9**
	5.1nm,0.3s,baz=18,slow=20,SNR=6.2						
APSI	**Ampana**	**9.47**	**332**	P	Pn	13 37 11.8	-6.4
WRA	**Warramunga Arr**	**13.21**	**144**	Pn	**Pn**	**13 38 10.3**	**+0.9**
	0.8nm,0.3s,baz=317,slow=12,SNR=34						
WRA				Sn	**Sn**	**13 40 30.9**	**-4.3**
	2.0nm,0.3s,baz=324,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.08**	**153**	Pn	**Pn**	**13 38 49.1**	**+1.3**
	1.0nm,0.3s,baz=320,slow=11,SNR=95						
ASAR				Sn	**Sn**	**13 41 41.2**	**-3.9**
	0.5nm,0.3s,baz=327,slow=20,SNR=10.0						
CTA	**Charters Tower**	**22.21**	**121**	P	**P**	**13 39 58.3**	**+0.5**
	5.7nm,0.9s,baz=346,slow=8.3,SNR=3.4						
STKA	**Stephens Creek**	**26.64**	**150**	P	**P**	**13 40 42.7**	**+3.1**
	1.5nm,1.0s,baz=340,slow=15,SNR=2.0						
KSRS	**Korea Array**	**46.59**	**2**	P	**P**	**13 43 29.3**	**+0.7**
	1.8nm,0.6s,baz=180,slow=8.2,SNR=11						
SONM	**Songino Array**	**59.55**	**345**	P	**P**	**13 45 03.9**	**-0.3**
	0.5nm,0.6s,baz=161,slow=7.6,SNR=5.0						
MKAR	**Makanchi Array**	**68.15**	**329**	P	**P**	**13 45 60.0**	**-0.8**
	0.5nm,0.5s,baz=134,slow=6.4,SNR=7.0						
ZALV	**Zalesovo Beam**	**72.04**	**336**	P	**P**	**13 46 23.9**	**-0.5**
	0.3nm,0.3s,baz=149,slow=5.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**72.55**	**330**	P	**P**	**13 46 26.6**	**-0.9**
	0.3nm,0.7s,baz=143,slow=4.4,SNR=4.9						
SEY	**Seymchan**	**74.86**	**12**	P	**P**	**13 46 41.9**	**+1.1**
	1.4nm,0.7s,baz=162,slow=20,SNR=10						
TORD	**Torodi Ar. Bea**	**125.41**	**279**	PKP	**PKPdf**	**13 54 05.0**	**+2.6**
	0.8nm,0.7s,baz=79,slow=1.8,SNR=5.1						

IDC 07 13:39:47.2±3.0, **32°.74S**×**178°.27W**, **h0**km, **mb3.9**/2, **mb1 4.1**/3, **mb1mx3.7**/38, **mbtmp3.8**/3, **ML3.1**/1, **Error ellipse: s-maj=69.5km s-min=35.9km az=117.0**, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.67**	**213**	Pn	Pn	13 41 25.2	-1.1
	0.4nm,0.3s,baz=285,slow=19,SNR=3.0						
URZ				Sn	Sn	13 42 43.6	+0.5
	0.9nm,0.3s,baz=260,slow=5.1,SNR=8.2						
ASAR	**Alice Springs**	**42.80**	**270**	P	P	13 47 47.1	+0.2
	1.0nm,0.6s,baz=110,slow=7.7,SNR=9.1						
WRA	**Warramunga Arr**	**44.01**	**275**	P	P	13 47 56.6	0.0
	0.8nm,0.3s,baz=113,slow=8.0,SNR=23						
FINES	**FINESS Array B**	**147.25**	**339**	PKPbc	PKPbc	13 59 30.9	-0.9
	1.3nm,0.7s,baz=45,slow=4.3,SNR=5.4						

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*IDC **07** 13:49:44.9±1.1, 22°.73N×121°.13E, h0km, mb3.2/5, mb1 3.5/5, mb1mx3.2/62, mbtmp3.2/5, MS2.8/1, Ms1 2.8/1, ms1mx2.5/24, Error ellipse: s-maj=52.0km s-min=23.4km az=75.0*
*JMA **07** 13:49:47.9, 22°.64N×120°.67E, h24km±3km, M4.1*
*TAP **07** 13:49:49.6, 22°.73N×120°.75E, h25km, ML3.8, B*
*ISCJB **07** 13:49:50.5±0.2, 22°.70N±0°.01×120°.76E±0°.02, h32km±1km, mb3.1/5, Error ellipse: s-maj=2.5km s-min=2.2km az=0.6*
ISC 07 13:49:50.0±0.7, **22°.72N**±0°.02×**120°.76E**±0°.02, **h29**km±4km, **n120**, σ**1s27**/173, **mb3.3**/5, **11C-18D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.12**	**281**	⇑*i*P	**Pb**	**13 49 54.8**	**-0.5**
	baz=280						
SSD				*i* S	**Sb**	**13 49 58.2**	**-0.7**
	baz=280						
MASBT	**Mashibuluo**	**0.16**	**226**	⇑*i*P	**Pb**	**13 49 55.2**	**-0.4**
	baz=224						
MASBT				*i* S	**Sb**	**13 49 58.8**	**-0.7**
	baz=224						
ECL	**Taimali**	**0.22**	**125**	⇓*i*P	**Pb**	**13 49 56.2**	**-0.2**
	baz=124						
ECL				*i* S	**Sb**	**13 50 01.1**	**+0.5**
	baz=124						
SGLT	**Jiouru**	**0.25**	**271**	⇑*i*P	**Pb**	**13 49 57.2**	**+0.5**
	baz=270						
SLGT	**Liugui**	**0.29**	**339**	⇓*i*P	**Pb**	**13 49 57.1**	**-0.1**
	baz=345						
SLGT				*i* S	**Sb**	**13 50 02.2**	**0.0**
	baz=345						
SSPT	**Xinbi**	**0.30**	**216**	⇑*i*P	**Pb**	**13 49 57.5**	**+0.2**
	baz=210						
SSPT				S	**Sn**	**13 50 03.6**	**-0.2**
	baz=210						
TWG	**Pinlang**	**0.31**	**71**	⇓*i*P	**Pb**	**13 49 57.6**	**+0.1**
	baz=73						
TWG				*i* S	**Sb**	**13 50 02.8**	**+0.3**
	baz=73						
TWGBT	**Beinan**	**0.31**	**72**	⇓*i*P	**Pb**	**13 49 57.5**	**0.0**
	baz=73						
TWGBT				*i* S	**Sb**	**13 50 02.8**	**+0.1**
	baz=73						
TWM1	**Shoushan**	**0.33**	**288**	⇑*i*P	**Pn**	**13 49 58.9**	**0.0**
	baz=292						
EAST	**Anshuo**	**0.35**	**166**	⇓*i*P	**Pb**	**13 49 58.0**	**-0.1**
	baz=160						
EAST				*i* S	**Sb**	**13 50 03.3**	**-0.2**
	baz=160						
SCZT	**Fangliau**	**0.37**	**200**	⇑*i*P	**Pb**	**13 49 58.2**	**-0.2**
	baz=201						
SCZT				*i* S	**Sb**	**13 50 03.8**	**-0.3**
	baz=201						
TAW	**Tawu**	**0.39**	**161**	⇓*i*P	**Pb**	**13 49 58.5**	**-0.1**
	baz=159						
TAW				S	**Sb**	**13 50 04.2**	**-0.2**
	baz=159						
SGST	**Jiashian**	**0.39**	**336**	⇓*i*P	**Pb**	**13 49 59.3**	**+0.6**
	baz=341						
SGST				S	**Sn**	**13 50 05.8**	**-0.5**
	baz=341						
STYT	**Tauyuan**	**0.44**	**360**	⇑*i*P	**Pb**	**13 49 59.4**	**0.0**
	baz=8.0						
STYT				S	**Sb**	**13 50 06.5**	**+0.6**
	baz=8.0						
KAU	**Kaohsiung**	**0.44**	**250**	*e*P	**Pn**	**13 50 01.4**	**+1.0**
	baz=248						
KAU				*e*S	**Sn**	**13 50 10.7**	**+3.2**
	baz=248						
WSSB	**Gushan**	**0.47**	**260**	⇓*i*P	**Pn**	**13 50 01.4**	**+0.7**
	baz=270						
WSSB				S	**Sn**	**13 50 10.4**	**+2.4**
	baz=270						
CHN3	**Shinhua**	**0.51**	**314**	*e*P	**Pn**	**13 50 02.0**	**+0.7**
	baz=315						
CHN3				*e*S	**Sn**	**13 50 11.4**	**+2.4**
	baz=315						
CHN1	**Nanshi**	**0.51**	**335**	⇓*i*P	**Pb**	**13 50 01.0**	**+0.5**
	baz=346						
CHN1				S	**Sn**	**13 50 09.7**	**+0.6**
	baz=346						
WLCH	**Liuqiu**	**0.51**	**223**	⇓*e*P	**Pn**	**13 50 02.9**	**+1.6**
	baz=217						
WLCH				*e*S	**Sn**	**13 50 13.5**	**+4.4**
	baz=217						
ELDTW	**Lidau**	**0.52**	**27**	⇑*i*P	**Pb**	**13 50 00.8**	**0.0**
	baz=29						
ELDTW				S	**Sb**	**13 50 08.8**	**+0.6**
	baz=29						
TWP	**Hsiaoliuchiu**	**0.52**	**224**	⇓P	**Pn**	**13 50 02.9**	**+1.4**
	baz=223						
TWP				*e*S	**Sn**	**13 50 13.5**	**+4.1**
	baz=223						
WTP	**Ta-pu**	**0.54**	**346**	⇓*i*P	**Pb**	**13 50 01.4**	**+0.3**
	baz=347						
WTP				*e*S	**Sn**	**13 50 10.1**	**+0.2**
	baz=347						
TAI1	**Yung-k'ang**	**0.58**	**303**	*e*P	**Pn**	**13 50 03.0**	**+0.7**
	baz=303						
TPUB	**Ta-pu**	**0.59**	**348**	*e*P	**Pb**	**13 50 01.9**	**+0.1**
	baz=349						
TPUB				*e*S	**Sn**	**13 50 11.0**	**-0.1**
	baz=349						
CHN4	**Tsaushan**	**0.64**	**346**	*e*P	**Pb**	**13 50 02.9**	**+0.2**
	baz=347						
CHN4				*i* S	**Sn**	**13 50 13.8**	**+1.3**
	baz=347						
TWH	**Lutao**	**0.66**	**91**	⇓P	**Pb**	**13 50 02.9**	**-0.2**
	baz=94						
TWH				S	**Sn**	**13 50 12.8**	**-0.2**
	baz=94						
CHKT	**Chengkung**	**0.67**	**56**	P	**Pb**	**13 50 03.5**	**+0.2**
	baz=67						
CHKT				S	**Sn**	**13 50 13.9**	**+0.7**
	baz=67						
FULB	**Fuli**	**0.68**	**46**	⇑P	**Pn**	**13 50 03.9**	**+0.1**
	baz=42						
FULB				*e*S	**Sn**	**13 50 14.2**	**+0.7**
	baz=42						
SCLT	**Jiali**	**0.69**	**311**	*e*P	**Pn**	**13 50 04.0**	**+0.2**
	baz=312						
SCLT				S	**Sn**	**13 50 15.2**	**+1.7**
	baz=312						
HEN	**Hengchun**	**0.71**	**181**	*e*P	**Pn**	**13 50 04.8**	**+0.6**
	baz=180						
HEN				*e*S	**Sn**	**13 50 15.8**	**+1.6**
	baz=180						
TWK1	**Hengchun**	**0.78**	**177**	⇓*i*P	**Pn**	**13 50 05.7**	**+0.7**
	baz=175						
TWK1				*e*S	**Sn**	**13 50 16.7**	**+1.0**
	baz=175						
TWKBT	**Hengchun**	**0.78**	**176**	⇓P	**Pn**	**13 50 05.5**	**+0.5**
	baz=176						
TWKBT				*e*S	**Sn**	**13 50 16.9**	**+1.1**
	baz=176						
YUS	**Yu-Shan**	**0.78**	**13**	⇑P	**Pb**	**13 50 05.4**	**-0.1**
	baz=13						
ALS	**Alishan**	**0.79**	**3**	⇑*i*P	**Pb**	**13 50 05.6**	**+0.2**
	baz=10.0						
ALS				*e*S	**Sn**	**13 50 17.5**	**+1.2**
	baz=10.0						
CHN8	**Yiju**	**0.80**	**321**	*e*P	**Pb**	**13 50 05.2**	**-0.1**
	baz=322						
CHN8				*e*S	**Sn**	**13 50 17.4**	**+1.1**
	baz=322						
TWF1	**Yuli**	**0.80**	**38**	*e*P	**Pb**	**13 50 05.1**	**-0.3**
	baz=44						
CHY	**Chiayi**	**0.83**	**338**	*e*P	**Pn**	**13 50 06.2**	**+0.4**
	baz=339						
CHY				*e*S	**Sn**	**13 50 19.1**	**+2.0**
	baz=339						
TSEB	**Hengchuen, Pin**	**0.83**	**171**	*e*P	**Pn**	**13 50 06.1**	**+0.4**
	baz=185						
TSEB				*e*S	**Sn**	**13 50 18.8**	**+1.8**
	baz=185						
YULB	**Yu-li**	**0.83**	**37**	P	**Pb**	**13 50 05.7**	**-0.2**
	baz=37						
YULB				*e*S	**Sn**	**13 50 17.2**	**+0.1**
	baz=37						
CHN2	**Minshiung**	**0.85**	**342**	*e*P	**Pn**	**13 50 06.9**	**+0.9**
	baz=343						
CHN2				*e*S	**Sn**	**13 50 19.2**	**+1.8**
	baz=343						
WLGB	**Puzi**	**0.86**	**331**	*e*P	**Pb**	**13 50 06.2**	**-0.2**
	baz=331						
WLGB				*e*S	**Sn**	**13 50 19.1**	**+1.3**
	baz=331						
CHN5	**Tsauling**	**0.87**	**355**	*e*P	**Pb**	**13 50 06.7**	**0.0**
	baz=356						
CHN5				S	**Sn**	**13 50 19.9**	**+1.6**
	baz=356						
EHY	**Hungye**	**0.94**	**34**	*e*P	**Pb**	**13 50 07.5**	**-0.2**
	baz=35						
EHY				*e*S	**Sn**	**13 50 20.1**	**+0.4**
	baz=35						
WGK	**Gukeng**	**0.97**	**349**	*e*P	**Pn**	**13 50 08.2**	**+0.4**
	baz=351						
WGK				*e*S	**Sn**	**13 50 22.3**	**+1.6**
	baz=351						
HGSD	**Ruisui**	**0.98**	**39**	*e*P	**Pb**	**13 50 08.5**	**+0.1**
	baz=29						
WDLH	**Douliu**	**0.98**	**348**	*e*P	**Pb**	**13 50 08.6**	**+0.2**
	baz=347						
LAY	**Lan-yu**	**1.00**	**133**	*e*P	**Pn**	**13 50 07.3**	**-0.8**
	baz=134						
WSF	**Szhu**	**1.04**	**332**	*e*P	**Pn**	**13 50 08.5**	**-0.1**
	baz=333						
WSF				S	**Sn**	**13 50 22.9**	**+0.8**
	baz=333						
SSLB	**Suanglung**	**1.07**	**10**	*e*P	**Pb**	**13 50 09.9**	**-0.1**
	baz=11						
SSLB				*e*S	**Sn**	**13 50 24.4**	**+1.3**
	baz=11						
WJS	**Zhushan**	**1.09**	**359**	*e*P	**Pn**	**13 50 09.9**	**+0.5**
	baz=341						
EGFH	**Guangfu**	**1.12**	**33**	*e*P	**Pb**	**13 50 11.2**	**+0.3**
	baz=32						
WDGT	**Dungji**	**1.14**	**298**	⇓P	**Pn**	**13 50 09.4**	**-0.7**
	baz=297						
WNT	**Mingjian**	**1.15**	**357**	*e*P	**Pn**	**13 50 10.8**	**+0.6**
	baz=343						
WNT				*e*S	**Sb**	**13 50 26.5**	**+0.6**
	baz=343						
SMLT	**Sun Moon Lake**	**1.16**	**6**	*e*P	**Pb**	**13 50 11.5**	**-0.1**
	baz=9.0						
SMLT				*e*S	**Sb**	**13 50 27.3**	**+1.0**
	baz=9.0						
TYC	**Yuchr**	**1.18**	**4**	*e*P	**Pb**	**13 50 11.5**	**-0.2**
	baz=7.0						
TYC				*e*S	**Sb**	**13 50 28.9**	**+2.3**
	baz=7.0						
WTCT	**Ta-ch'eng**	**1.22**	**339**	*e*P	**Pn**	**13 50 11.1**	**0.0**
	baz=338						
RLNB	**Erlin**	**1.22**	**343**	*e*P	**Pn**	**13 50 11.4**	**+0.3**
	baz=327						
ESL	**Shilin**	**1.25**	**30**	*e*P	**Pb**	**13 50 12.5**	**-0.4**
	baz=32						
ESL				*e*S	**Sb**	**13 50 30.3**	**+1.6**
	baz=32						
OWD	**Renai**	**1.28**	**17**	*e*P	**Pb**	**13 50 13.4**	**-0.2**
	baz=16						
DPDB	**Guoxing**	**1.31**	**7**	*e*P	**Pn**	**13 50 13.5**	**+1.0**
	baz=8.0						
DPDB				*e*S	**Sb**	**13 50 30.8**	**+0.3**
	baz=8.0						
PHUB	**P'eng-hu**	**1.35**	**306**	*e*P	**Pn**	**13 50 11.9**	**-0.9**
	baz=304						
WCHH	**Zhanghua**	**1.36**	**352**	*e*P	**Pb**	**13 50 14.5**	**-0.4**
	baz=350						
CHGB	**Renai**	**1.39**	**16**	*e*P	**Pb**	**13 50 14.8**	**-0.5**
	baz=358						
PNG	**Penghu**	**1.39**	**307**	⇓*e*P	**Pn**	**13 50 12.8**	**-0.7**
	baz=308						
PNG				*e*S	**Sn**	**13 50 29.6**	**-1.3**
	baz=308						
ENLB	**Shoufeng**	**1.41**	**33**	*e*P	**Pn**	**13 50 14.8**	**+1.1**
	baz=33						
TCU	**Taichung**	**1.42**	**357**	*e*P	**Pn**	**13 50 14.8**	**+0.9**
	baz=341						
HWA	**Hwalien**	**1.47**	**32**	*e*P	**Pb**	**13 50 16.6**	**-0.1**
	baz=31						
WHF	**Hehuan Shan**	**1.49**	**18**	*e*P	**Pb**	**13 50 16.8**	**-0.5**
	baz=17						
TWD	**Chiawan**	**1.56**	**30**	P	**Pn**	**13 50 16.8**	**+1.0**
	baz=32						
TWD				*e*S	**Sb**	**13 50 37.3**	**-0.1**
	baz=32						
TDCB	**Techi**	**1.57**	**13**	*e*P	**Pn**	**13 50 17.0**	**+0.9**
	baz=356						
TWT	**Tachien**	**1.57**	**14**	*e*P	**Pn**	**13 50 17.3**	**+1.2**
	baz=356						
TWQ1	**Liyutan**	**1.62**	**0**	*e*P	**Pn**	**13 50 17.9**	**+1.2**
	baz=359						
NACB	**Ninganchiao**	**1.64**	**28**	*e*P	**Pn**	**13 50 17.8**	**+0.9**
	baz=41						
NSY	**Sanyi**	**1.69**	**0**	*e*P	**Pb**	**13 50 19.3**	**-1.1**
	baz=341						
NNSB	**Datong**	**1.79**	**19**	*e*P	**Pn**	**13 50 20.9**	**+1.8**
NNSH	**Datong**	**1.79**	**19**	*e*P	**Pn**	**13 50 20.9**	**+1.7**
NNS	**Nan Shan**	**1.80**	**18**	⇓P	**Pb**	**13 50 21.4**	**-1.0**
	baz=21						
NNS				*e*S	**Sb**	**13 50 44.2**	**-0.4**
	baz=21						
NSTT	**Nanjuang**	**1.91**	**7**	*e*P	**Pn**	**13 50 21.7**	**+1.1**
	baz=349						
ENA	**Nanau**	**1.92**	**28**	*e*P	**Pn**	**13 50 21.8**	**+1.0**
	baz=28						
NANB	**Nanao**	**1.93**	**28**	*e*P	**Pn**	**13 50 21.9**	**+1.1**
	baz=28						
LIOB	**Emei**	**1.93**	**7**	*e*P	**Pn**	**13 50 22.0**	**+1.1**
	baz=349						
ENAH	**Nanao**	**1.97**	**29**	*e*P	**Pn**	**13 50 23.0**	**+1.6**
	baz=29						
YHNB	**Yeheng**	**2.02**	**16**	*e*P	**Pn**	**13 50 23.6**	**+1.4**
	baz=358						
ENTT	**Nioudou**	**2.05**	**21**	*e*P	**Pb**	**13 50 24.9**	**-1.6**
	baz=36						
TWC	**Suao**	**2.13**	**28**	*e*P	**Pn**	**13 50 25.6**	**+2.0**
	baz=28						
NWLT	**Wulai**	**2.16**	**18**	*e*P	**Pn**	**13 50 25.4**	**+1.4**
	baz=360						
TWE	**Neicheng**	**2.16**	**23**	*e*P	**Pn**	**13 50 26.4**	**+2.4**
	baz=37						
WLTB	**Daxi**	**2.17**	**12**	*e*P	**Pb**	**13 50 27.4**	**-1.1**
	baz=353						
EOS1	**EOS1**	**2.21**	**34**	*e*P	**Pb**	**13 50 27.3**	**-1.9**
	baz=48						
TATO	**Taipei**	**2.34**	**16**	*e*P	**Pn**	**13 50 29.3**	**+2.8**
	baz=358						
TWA	**Mucha**	**2.37**	**18**	*e*P	**Pb**	**13 50 30.0**	**-2.1**
	baz=1.0						
TIPB	**Shuangxi**	**2.44**	**23**	*e*P	**Pn**	**13 50 29.1**	**+1.1**
	baz=36						
NWF	**Wu-fen Shan**	**2.52**	**22**	*e*P	**Pn**	**13 50 31.7**	**+2.6**
	baz=35						
WFSB	**Wu-fen Shan**	**2.52**	**22**	*e*P	**Pn**	**13 50 31.6**	**+2.6**
	baz=35						
YM04	**YM04**	**2.52**	**16**	*e*P	**Pn**	**13 50 30.3**	**+1.2**
YM10	**YM10**	**2.53**	**17**	*e*P	**Pn**	**13 50 30.4**	**+1.1**
	baz=1.0						
TWB1	**Santiao Chiao**	**2.54**	**26**	*e*P	**Pn**	**13 50 31.4**	**+2.1**
	baz=26						
YM03	**YM03**	**2.55**	**16**	*e*P	**Pn**	**13 50 31.7**	**+2.2**
VWUC	**VWUC**	**2.56**	**332**	*e*P	**Pn**	**13 50 30.0**	**+0.5**
	baz=330						
YM07	**YM07**	**2.57**	**18**	*e*P	**Pn**	**13 50 30.1**	**+0.4**
	baz=2.0						
JYNG	**Yonagunijimaku**	**2.64**	**49**	P	**Pn**	**13 50 32.8**	**+2.1**
JYNG				S	**Sn**	**13 51 04.6**	**+2.8**
YOJ	**Yonaguni jima**	**2.70**	**50**	*e*P	**Pn**	**13 50 33.4**	**+1.9**
	baz=49						
YOJ	**Yonaguni jima**	**2.70**	**50**	P	**Pn**	**13 50 33.6**	**+2.2**
YOJ				S	**Sn**	**13 51 06.4**	**+3.3**
KNM	**Kinmen**	**2.72**	**309**	*e*P	**Pn**	**13 50 33.0**	**+1.3**
	baz=304						
KNMB	**Chin-men Tao**	**2.78**	**309**	*e*P	**Pn**	**13 50 32.3**	**-0.2**
	baz=306						
HATJ	**Hateruma jima**	**3.10**	**64**	P	**Pn**	**13 50 37.6**	**+0.7**
HATJ				*e*S	**Sn**	**13 51 14.8**	**+1.8**
IRIF	**Iriomote-Funau**	**3.16**	**59**	P	**Pn**	**13 50 39.6**	**+1.7**
IRIF				*e*S	**Sn**	**13 51 17.0**	**+2.3**
MATB	**Ma-tsu**	**3.49**	**348**	*e*P	**Pn**	**13 50 42.4**	**+0.1**
	baz=346						
JIJ	**Ishigaki jima**	**3.51**	**62**	P	**Pn**	**13 50 43.7**	**+1.1**
JIJ				*e*S	**Sn**	**13 51 23.3**	**+0.1**
JISG	**Ishigakijimahi**	**3.75**	**60**	P	**Pn**	**13 50 46.7**	**+0.8**
JTJ	**Tarama**	**4.09**	**61**	P	**Pn**	**13 50 52.5**	**+1.9**
VDOS	**Pratas Island**	**4.25**	**243**	*e*P	**Pn**	**13 50 53.6**	**+0.8**
	baz=242						
JIRB	**Irabujima**	**4.55**	**62**	P	**Pn**	**13 50 58.6**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**4.72**	**64**	P	**Pn**	**13 51 00.9**	**+1.7**
KSRS	**Korea Array**	**15.93**	**21**	LR	LR	14 00 35.1	
	comp=Z,34nm,18.8s,baz=335,slow=41						
MKAR	**Makanchi Array**	**39.13**	**317**	P	**P**	**13 57 15.8**	**+0.8**
	0.1nm,0.5s,baz=106,slow=8.5,SNR=2.4						
WRA	**Warramunga Arr**	**44.43**	**162**	P	**P**	**13 57 56.4**	**-2.1**
	0.3nm,0.9s,baz=344,slow=8.8,SNR=2.6						
ASAR	**Alice Springs**	**47.85**	**164**	P	**P**	**13 58 24.3**	**-1.1**
	0.2nm,0.6s,baz=344,slow=8.1,SNR=4.1						
ILAR	**Eielson Array**	**70.69**	**27**	P	**P**	**14 01 01.3**	**-1.5**
	0.2nm,0.8s,baz=280,slow=6.2,SNR=3.0						
YKA	**Yellowknife Ar**	**84.46**	**23**	P	**P**	**14 02 18.6**	**-1.1**
	0.2nm,0.5s,baz=307,slow=4.6,SNR=4.2						

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*ISCJB **07** 13:56:00.1±0.2, 19°.54S±0°.06×168°.09E±0°.06, h10km, mb4.8/46, MS3.9/10, Error ellipse: s-maj=10.8km s-min=5.5km az=139.2*
*IDC **07** 13:56:00.1±0.8, 19°.62S×168°.14E, h0km, mb4.4/16, mb1 4.6/17, mb1mx4.4/39, mbtmp4.4/17, ML4.1/1, MS3.8/9, Ms1 3.8/9, ms1mx3.3/40, Error ellipse: s-maj=26.2km s-min=15.0km az=136.0*
*BJI **07** 13:56:01.8, 19°.31S×168°.41E, h25km, mb4.8/18, mB5.3/12, Ms5.0/6, Ms7 4.8/6*
*NEIC **07** 13:56:02.1±6.7, 19°.57S×168°.19E, h15km±41km, mb5.1/27, Error ellipse: s-maj=14.8km s-min=10.1km az=185.0*
ISC 07 13:56:01.4±0.6**, 19°.64S**±0°.08×**168°.3E**±0°.1**, h10**km**, n87, σ1s.03**/84**, mb5.0**/46**, MS3.8**/11**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.96**	**215**	Pn	**Pn**	**13 56 48.5**	**-0.1**
	25nm,0.3s,baz=53,slow=12,SNR=278						
DZM				Sn	**Sn**	**13 57 23.1**	**-1.0**
	78nm,0.3s,baz=318,slow=21,SNR=12						
DZM				LR	LR	13 57 53.2	
	comp=Z,1μm,18.3s,baz=24,slow=39						
LHI	**Lord Howe Isla**	**14.44**	**213**	*e*Pn	**Pn**	**13 59 26.4**	**+0.4**
FUNA	**Funafuti**	**15.30**	**45**	*e*Pn	Pn	13 59 30.7	-7.0
	143nm,1.3s						
EIDS	**Eidsvold**	**16.86**	**247**	*e*Pn	**Pn**	**13 59 58.5**	**+0.8**
	70nm,1.6s						
URZ	**Urewera**	**20.08**	**159**	LR	LR	14 07 51.8	
	comp=Z,237nm,18.2s,baz=356,slow=35						
CTA	**Charters Tower**	**20.70**	**265**	P	**P**	**14 00 42.2**	**+0.2**
	14nm,0.9s,baz=97,slow=12,SNR=4.6						
CTAO	**Charters Tower**	**20.70**	**265**	*e*P	**P**	**14 00 42.5**	**+0.5**
	25nm,0.8s						
PMG	**Port Moresby**	**22.80**	**294**	P	**P**	**14 01 08.0**	**+3.5**
	16nm,0.9s,baz=60,slow=5.4,SNR=3.8						
PMG				LR	LR	14 09 15.0	
	comp=Z,161nm,18.6s,baz=130,slow=35						
RPZ	**Rata Peaks**	**24.12**	**175**	LR	LR	14 08 59.3	
	comp=Z,154nm,21.9s,baz=13,slow=32						
COEN	**Coen**	**24.66**	**279**	*e*P	**P**	**14 01 21.9**	**-0.7**
	76nm,1.9s						
STKA	**Stephens Creek**	**26.85**	**238**	P	**P**	**14 01 42.0**	**-0.3**
	7.9nm,0.9s,baz=85,slow=8.6,SNR=8.6						
STKA				LR	LR	14 11 49.9	
	comp=Z,129nm,20.2s,baz=42,slow=36						
STKA	**Stephens Creek**	**26.85**	**238**	*e*P	**P**	**14 01 42.5**	**+0.2**
	3.3nm,1.2s						
WRA	**Warramunga Arr**	**31.89**	**264**	P	P	14 02 24.4	-2.8
	1.7nm,0.6s,baz=85,slow=8.4,SNR=19						
WRA				LR	LR	14 14 22.6	
	comp=Z,185nm,20.5s,baz=65,slow=35						
AS01	**Alice Springs**	**32.09**	**257**	*e*P	**P**	**14 02 26.8**	**-2.2**
AS31	**Alice Springs**	**32.14**	**257**	*e*P	**P**	**14 02 27.6**	**-1.8**
	2.3nm,0.8s						
ASAR	**Alice Springs**	**32.14**	**257**	P	**P**	**14 02 27.5**	**-1.9**
	5.4nm,0.7s,baz=88,slow=8.8,SNR=73						
ASAR				LR	LR	14 15 20.5	
	comp=Z,255nm,18.3s,baz=178,slow=36						
FITZ	**Fitzroy Crossi**	**40.29**	**265**	P	**P**	**14 03 38.4**	**-0.7**
	12nm,0.9s,baz=116,slow=6.9,SNR=8.0						
BATI	**Baumata**	**43.99**	**276**	LR	LR	14 21 01.4	
	comp=Z,79nm,21.9s,baz=165,slow=34						
MJAR	**Matsushiro Arr**	**62.68**	**333**	P	**P**	**14 06 26.4**	**-0.1**
	1.0nm,0.8s,baz=138,slow=4.2,SNR=3.2						
ASAJ	**Asahikawa**	**67.66**	**340**	P	**P**	**14 06 59.0**	**+0.4**
	6.9nm,1.0s,baz=131,slow=9.3,SNR=3.6						
NJ2	**Nanjing**	**69.86**	**317**	*e*P	**P**	**14 07 11.5**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
QSPA	**South Pole Qui**	**70.41**	**180**	*e*P	**P**	**14 07 17.4**	**+1.7**
	15nm,1.2s						
USRK	**Ussuriysk Ar.**	**71.67**	**333**	P	**P**	**14 07 22.6**	**-0.7**
	2.4nm,0.8s,baz=116,slow=13,SNR=3.8						
PETK	**Petropavlovsk-**	**73.02**	**353**	P	**P**	**14 07 30.8**	**-0.4**
	6.1nm,0.9s,baz=125,slow=9.0,SNR=3.2						
CN2	**Changchun**	**74.33**	**329**	*e*P	**P**	**14 07 37.2**	**-1.9**
KMI	**Kunming**	**77.71**	**302**	P	**P**	**14 07 58.2**	**-0.9**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
CMAR	**Chiang Mai Arr**	**77.83**	**295**	P	**P**	**14 08 01.2**	**+1.6**
	0.4nm,0.4s,baz=120,slow=3.6,SNR=4.1						
CD2	**Chengdu**	**79.75**	**308**	*e*P	**P**	**14 08 10.0**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC	**Hu-ho-hao-te**	**79.93**	**320**	*e*P	**P**	**14 08 12.1**	**+1.3**
HHC				PP	**PP**	**14 11 15.4**	**+2.6**
HHC				S	**S**	**14 18 15.4**	**+0.7**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
HHC				LR	LR		
	comp=N,200nm,15.9s						
HHC				LR	LR		
	comp=E,220nm,17.1s						
HHC				LR	LR		
	comp=Z,90nm,17.3s						
LZH	**Lanzhou**	**82.31**	**313**	*e*P	**P**	**14 08 22.4**	**-1.3**
LZH				pP	pP	14 08 29.0	+1.9
LZH				sP	PcP	14 08 31.8	+2.8
LZH				*e*PP	**PP**	**14 11 33.5**	**+0.8**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,97nm,5.3s						
LZH				LR	LR		
	comp=N,230nm,16.7s						
LZH				LR	LR		
	comp=E,230nm,17.0s						
LZH				LR	LR		
	comp=Z,380nm,18.6s						
GAMB	**Gambell**	**84.60**	**9**	*e*P	**P**	**14 08 34.2**	**-0.4**
	11nm,0.8s						
SVW2	**Sparrevohn**	**85.55**	**17**	*e*P	**P**	**14 08 38.8**	**-0.7**
	16nm,1.2s						
ULN	**Ulaanbaatar**	**86.64**	**324**	*e*P	**P**	**14 08 44.0**	**-1.3**
	4.1nm,0.8s						
GTA	**Gaotai**	**86.73**	**314**	*e*P	P	14 08 52.3	+6.3
GTA				pP	sP	14 08 59.5	+9.0
GTA				sP	pP	14 09 02.7	+13
SONM	**Songino Array**	**86.99**	**323**	P	**P**	**14 08 46.3**	**-0.7**
	1.6nm,1.1s,baz=141,slow=3.9,SNR=5.0						
SONA1	**Songino Array**	**86.99**	**324**	*e*P	**P**	**14 08 45.7**	**-1.4**
WDC	**Whiskeytown Da**	**87.80**	**45**	*e*P	**P**	**14 08 51.1**	**+0.1**
	15nm,1.1s						
N02D	**Trinity Center**	**87.87**	**45**	P	**P**	**14 08 52.5**	**+1.1**
	baz=242						
M02C	**Callahan**	**87.97**	**45**	P	**P**	**14 08 52.3**	**+0.5**
	baz=242						
ORV	**Oroville**	**88.03**	**47**	*e*P	**P**	**14 08 52.0**	**0.0**
	7.9nm,0.9s						
CMB	**Columbia Colle**	**88.11**	**48**	*e*P	**P**	**14 08 52.1**	**-0.4**
	8.3nm,0.9s						
AFDM	**Forest Hills D**	**88.11**	**47**	*e*P	**P**	**14 08 52.1**	**-0.4**
	9.6nm,1.0s						
O03D	**Paynes Creek**	**88.16**	**46**	P	**P**	**14 08 52.8**	**0.0**
	baz=242						
YBH	**Yreka Blue Hor**	**88.23**	**44**	P	**P**	**14 08 53.5**	**+0.5**
	6.2nm,0.9s,baz=180,slow=13,SNR=8.8						
ISA	**Isabella, Lake**	**88.45**	**51**	P	**P**	**14 08 53.4**	**-0.9**
	baz=244						
SNAA	**Sanae**	**88.72**	**183**	P	**P**	**14 08 55.3**	**+0.3**
	3.2nm,0.8s,baz=319,slow=11,SNR=4.8						
M04C	**Macdoel**	**88.83**	**45**	P	**P**	**14 08 55.3**	**-0.7**
	baz=242						
J04D	**Umpqua Nationa**	**89.33**	**43**	P	**P**	**14 08 58.1**	**-0.3**
	baz=242						
MPMC	**Manual Prospec**	**89.34**	**51**	P	**P**	**14 08 59.2**	**+0.6**
	baz=245						
I04A	**Tendick Farm,**	**89.40**	**43**	P	**P**	**14 08 57.9**	**-0.5**
	baz=242						
PAHR	**Pah Rah Range**	**89.55**	**47**	*e*P	**P**	**14 08 59.5**	**0.0**
	14nm,1.2s						
NV01	**Mina Array Sit**	**89.76**	**49**	*e*P	**P**	**14 09 00.2**	**-0.4**
NVAR	**Mina Array Bea**	**89.76**	**49**	P	**P**	**14 09 01.1**	**+0.6**
	3.6nm,0.8s,baz=219,slow=8.1,SNR=16						
NV11	**Mina Array Sit**	**89.86**	**49**	*e*P	**P**	**14 09 00.6**	**-0.4**
	0.5nm,0.9s						
MOD	**Modoc Plateau**	**89.90**	**45**	*e*P	**P**	**14 09 00.6**	**-0.4**
	10nm,0.9s						
J05D	**Fort Rock, OR**	**89.92**	**44**	P	**P**	**14 09 01.9**	**+0.8**
	baz=243						
FURC	**Furnace Creek,**	**89.97**	**51**	P	**P**	**14 09 02.2**	**+1.0**
	baz=246						
GLA	**Glamis**	**90.12**	**55**	P	**P**	**14 09 03.3**	**+1.1**
	baz=247						
I05D	**Terrebonne, OR**	**90.33**	**43**	P	**P**	**14 09 03.3**	**+0.4**
	baz=243						
PINE	**Pine Mountain**	**90.34**	**43**	*e*P	**P**	**14 09 03.3**	**+0.3**
	10nm,0.8s						
LPIG	**La Paz**	**90.42**	**65**	LR	LR	14 42 21.3	
	comp=Z,109nm,18.9s,baz=238,slow=31						
LVP	**Lakeview Peak**	**90.47**	**41**	*e*P	**P**	**14 09 02.7**	**-0.8**
G05D	**Wamic, OR**	**90.76**	**42**	P	**P**	**14 09 04.9**	**+0.1**
	baz=243						
ILAR	**Eielson Array**	**90.89**	**18**	P	**P**	**14 09 03.4**	**-1.5**
	1.3nm,0.8s,baz=224,slow=5.8,SNR=12						
IL1	**Eielson Array**	**90.89**	**18**	*e*P	**P**	**14 09 02.6**	**-2.3**
PDMCI	**Parker Dam,Lak**	**91.14**	**54**	P	**P**	**14 09 07.7**	**+1.0**
	baz=247						
WVOR	**Wild Horse Val**	**91.25**	**45**	*e*P	**P**	**14 09 06.4**	**-0.8**
	9.1nm,1.0s						
D05A	**Enumclaw**	**91.25**	**40**	*e*P	**P**	**14 09 06.9**	**-0.1**
	24nm,1.1s						
214A	**Organ Pipe Nat**	**91.27**	**57**	P	**P**	**14 09 08.6**	**+1.1**
	baz=248						
BMN	**Battle Mountai**	**91.36**	**47**	*e*P	**P**	**14 09 07.6**	**-0.2**
	6.6nm,0.9s						
B05A	**Bryant**	**91.69**	**39**	P	**P**	**14 09 09.3**	**+0.3**
	baz=242						
J08A	**Circle Bar Ran**	**91.75**	**44**	*e*P	**P**	**14 09 09.0**	**-0.6**
	6.5nm,1.0s						
G08A	**Pilot Rock**	**92.27**	**42**	*e*P	**P**	**14 09 11.5**	**-0.4**
	6.7nm,0.9s						
LCMT	**Little Creek M**	**92.85**	**52**	*e*P	**P**	**14 09 14.9**	**0.0**
	6.9nm,1.0s						
X16A	**Lo Mia Camp, P**	**93.25**	**55**	*e*P	**P**	**14 09 17.3**	**+0.5**
	7.8nm,1.0s						
U15A	**North Rim**	**93.34**	**53**	*e*P	**P**	**14 09 17.3**	**0.0**
	4.9nm,0.8s						
WUAZ	**Wupatki**	**93.70**	**54**	P	**P**	**14 09 19.1**	**+0.2**
	baz=249						
WUAZ	**Wupatki**	**93.70**	**54**	*e*P	**P**	**14 09 18.2**	**-0.7**
	34nm,2.0s						
319A	**Douglas**	**93.86**	**58**	*e*P	**P**	**14 09 19.1**	**-0.5**
	11nm,0.8s						
MTPU	**Mount Pierson**	**94.02**	**51**	*e*P	**P**	**14 09 20.3**	**-0.2**
	18nm,1.9s						
WMQ	**Urumqi**	**96.82**	**314**	P	**P**	**14 09 33.0**	**+0.3**
WMQ				LR	LR		
	comp=N,2μm,26.7s						
WMQ				LR	LR		
	comp=E,980nm,20.1s						
WMQ				LR	LR		
	comp=Z,2μm,14.7s						
TXAR	**Lajitas Array**	**97.77**	**62**	P	**P**	**14 09 38.0**	**+0.6**
	0.6nm,0.8s,baz=205,slow=5.3,SNR=6.1						
S22A	**4UR Ranch, Cre**	**97.90**	**53**	P	**P**	**14 09 39.6**	**+1.5**
	baz=251						
MKAR	**Makanchi Array**	**101.38**	**316**	P	**Pdif**	**14 09 54.5**	**+1.5**
	0.2nm,0.8s,baz=115,slow=6.5,SNR=3.0						
YKA	**Yellowknife Ar**	**101.45**	**28**	P	**Pdif**	**14 09 52.7**	**-0.1**
	0.5nm,0.7s,baz=255,slow=4.8,SNR=11						
ARCES	**ARCESS Array B**	**125.22**	**345**	PKP	**PKPdf**	**14 15 04.0**	**+2.3**
	4.2nm,1.0s,baz=19,slow=3.1,SNR=7.7						
GERES	**GERESS Array B**	**144.40**	**331**	PKP	**PKPab**	**14 15 36.5**	**+0.3**
	0.6nm,0.7s,baz=35,slow=3.6,SNR=4.5						

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*NSSC **07** 14:06:10.6±1.2, 33°.01N×35°.98E, h52km±25km, MD1.1, ML2.7*
*CSEM **07** 14:06:12.2±0.1, 33°.33N×35°.41E, h2km, MD3.2, Error ellipse: s-maj=5.3km s-min=1.7km az=115.0*
*GRAL **07** 14:06:12.9±0.4, 33°.32N×35°.41E, h0km±2km, MD3.2*
*GII **07** 14:06:12.3±0.0, 33°.21N×35°.43E, h1km, MD3.2/9*
ISC 07 14:06:12.3±0.9**, 33°.32N**±0°.02×**35°.56E**±0°.03**, h27**km±5km**, n41, σ1s.54**/67**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSDI	**Kefar Szold**	**0.15**	**146**	Pg	**Pb**	**14 06 17.2**	**-0.4**
KSDI				Sg	**Sb**	**14 06 21.3**	**+0.2**
SHBL	**Chebaa**	**0.16**	**78**	*e*P	**Pb**	**14 06 17.9**	**0.0**
SHBL				*e*S	**Sb**	**14 06 21.8**	**+0.2**
SHBL	**Chebaa**	**0.16**	**78**	*e*P	**Pb**	**14 06 17.9**	**0.0**
SHBL				*e*S	**Sb**	**14 06 21.8**	**+0.2**
QRWL	**Qaraoun**	**0.25**	**24**	*e*P	**Pb**	**14 06 18.6**	**-0.3**
QRWL	**Qaraoun**	**0.25**	**24**	*e*P	**Pb**	**14 06 18.6**	**-0.3**
RCY	**Rachaya**	**0.29**	**52**	*e*P	**Pb**	**14 06 20.0**	**+0.5**
RCY				*e*S	**Sb**	**14 06 25.3**	**+0.9**
MMA0B	**Mount Meron ar**	**0.33**	**204**	Pg	**Pb**	**14 06 18.1**	**-1.8**
MMA0B				Sg	**Sb**	**14 06 22.8**	**-2.3**
BRBR	**Barbar**	**0.34**	**74**	*e*P	**Pb**	**14 06 20.9**	**+0.6**
BRBR				*e*S	**Sn**	**14 06 28.2**	**+0.3**
BRBR				AML	AML	14 06 30.2	
	comp=N,1μm,0.7s						
BRBR				AML	AML	14 06 32.8	
	comp=E,704nm,0.4s						
BRBR	**Barbar**	**0.34**	**74**	*e*P	**Pn**	**14 06 21.6**	**-0.1**
BRBR				*e*S	**Sn**	**14 06 28.4**	**+0.5**
BRBR				AML	AML	14 06 30.2	
	comp=N,1μm,0.7s						
BRBR				AML	AML	14 06 32.8	
	comp=E,704nm,0.4s						
DQRL	**Deir Qamar**	**0.39**	**1**	*e*P	**Pb**	**14 06 20.2**	**-0.7**
DQRL				*e*S	**Sb**	**14 06 25.5**	**-1.2**
DQRL	**Deir Qamar**	**0.39**	**1**	*e*P	**Pb**	**14 06 20.2**	**-0.7**
DQRL				*e*S	**Sb**	**14 06 25.5**	**-1.2**
HNTI	**Hanita**	**0.40**	**234**	Pg	**Pb**	**14 06 18.7**	**-2.2**
HNTI				Sg	**Sb**	**14 06 23.5**	**-3.3**
HNTI	**Hanita**	**0.40**	**234**	Pg	**Pb**	**14 06 18.7**	**-2.2**
HNTI				Sg	**Sb**	**14 06 23.5**	**-3.3**
BHL	**Bhannes**	**0.59**	**8**	*e*P	**Pb**	**14 06 23.9**	**-0.3**
BHL				*e*S	**Sb**	**14 06 32.1**	**-0.2**
BHL	**Bhannes**	**0.59**	**8**	*e*P	**Pb**	**14 06 23.9**	**-0.3**
BHL				*e*S	**Sb**	**14 06 32.1**	**-0.2**
QASN	**Qassioun**	**0.64**	**70**	*e*P	**Pb**	**14 06 22.5**	**-2.4**
QASN				*e*S	**Sb**	**14 06 32.0**	**-1.5**
QASN				AML	AML	14 06 34.6	
	comp=N,2μm,0.5s						
QASN				AML	AML	14 06 37.2	
	comp=E,292nm,0.9s						
QASN	**Qassioun**	**0.64**	**70**	*e*P	**Pb**	**14 06 22.6**	**-2.3**
QASN				*e*S	**Sb**	**14 06 32.0**	**-1.5**
QASN				AML	AML	14 06 34.6	
	comp=N,2μm,0.5s						
QASN				AML	AML	14 06 37.2	
	comp=E,292nm,0.9s						
BLGI	**Bet Lehem HaGe**	**0.66**	**208**	Pg	**Pb**	**14 06 24.1**	**-1.1**
BLGI				Sg	**Sb**	**14 06 32.0**	**-2.0**
TOTH	**TOTAH**	**0.73**	**86**	*e*P	**Pb**	**14 06 23.0**	**-3.4**
TOTH				*e*S	**Sb**	**14 06 32.2**	**-3.8**
TOTH				AML	AML	14 06 40.0	
	comp=N,116nm,0.4s						
TOTH				AML	AML	14 06 50.0	
	comp=E,86nm,1.0s						
TOTH	**TOTAH**	**0.73**	**86**	*e*P	**Pb**	**14 06 23.2**	**-3.2**
TOTH				AML	AML	14 06 40.0	
	comp=N,116nm,0.4s						
TOTH				AML	AML	14 06 50.0	
	comp=E,86nm,1.0s						
TCHB	**Talchebab**	**0.73**	**152**	*e*P	Pb	14 06 20.4	-6.0
TCHB				AML	AML	14 06 35.4	
	comp=E,259nm,0.5s						
TCHB				AML	AML	14 06 39.6	
	comp=N,519nm,0.5s						
TCHB	**Talchebab**	**0.73**	**152**	*e*P	Pb	14 06 20.4	-6.0
TCHB				AML	AML	14 06 35.4	
	comp=E,259nm,0.5s						
TCHB				AML	AML	14 06 39.6	
	comp=N,519nm,0.5s						
OFRI	**'Ofer**	**0.84**	**215**	Pg	**Pb**	**14 06 27.1**	**-1.3**
OFRI				Sg	**Sb**	**14 06 39.2**	**-0.1**
MMLI	**Mount Malkishu**	**0.88**	**188**	Pg	**Pn**	**14 06 28.6**	**-0.4**
MMLI				Sg	**Sb**	**14 06 40.6**	**+0.2**
HWQ	**Hawqa**	**1.01**	**18**	*e*P	**Pb**	**14 06 31.9**	**+0.6**
HWQ	**Hawqa**	**1.01**	**18**	*e*P	**Pb**	**14 06 31.9**	**+0.6**
HMDT	**Nahal Hemdat**	**1.06**	**182**	Pg	**Pn**	**14 06 31.9**	**+0.5**
HMDT				Sg	**Sb**	**14 06 47.1**	**+1.7**
SLTI	**Sal'it**	**1.16**	**202**	Pg	**Pn**	**14 06 33.0**	**+0.2**
SLTI				Sg	**Sb**	**14 06 49.0**	**+0.8**
SLTI	**Sal'it**	**1.16**	**202**	Pg	**Pn**	**14 06 33.0**	**+0.2**
SLTI				Sg	**Sb**	**14 06 49.0**	**+0.8**
DSI	**Dead Sea**	**1.75**	**185**	Pn	**Pb**	**14 06 42.7**	**-1.0**
DSI				Sn	**Sb**	**14 07 07.1**	**+1.9**
DSI	**Dead Sea**	**1.75**	**185**	Pn	**Pb**	**14 06 42.7**	**-1.0**
DSI				Sn	**Sb**	**14 07 07.1**	**+1.9**
AMAZ	**Amatzia**	**1.86**	**197**	Pn	**Pb**	**14 06 45.0**	**-0.6**
AMAZ				Sn	**Sb**	**14 07 09.4**	**+1.0**
AMAZ	**Amatzia**	**1.86**	**197**	Pn	**Pb**	**14 06 45.0**	**-0.6**
AMAZ				Sn	**Sb**	**14 07 09.4**	**+1.0**
YTIR	**Yattir**	**1.98**	**191**	Pn	**Pb**	**14 06 47.1**	**-0.6**
YTIR	**Yattir**	**1.98**	**191**	Pn	**Pb**	**14 06 47.1**	**-0.6**
MZDA	**Masada**	**2.01**	**185**	Pn	**Pb**	**14 06 47.0**	**-1.1**
MZDA				Sn	**Sb**	**14 07 13.0**	**+0.4**
MZDA	**Masada**	**2.01**	**185**	Pn	**Pb**	**14 06 47.0**	**-1.1**
MZDA				Sn	**Sb**	**14 07 13.0**	**+0.4**
PRNI	**Paran**	**2.99**	**189**	Pn	**Pn**	**14 07 00.5**	**+2.5**
PRNI	**Paran**	**2.99**	**189**	Pn	**Pn**	**14 07 00.5**	**+2.5**
HRFI	**Mount Harif**	**3.30**	**188**	Pn	**Pn**	**14 07 04.7**	**+2.4**
HRFI	**Mount Harif**	**3.30**	**188**	Pn	**Pn**	**14 07 04.7**	**+2.4**

MEX 07 14:15:40.9±0.4**, 17°.99N**×**101°.98W, h5**km±5km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.62**	**128**	*e*P	Pg	14 15 52.2	-0.6
ZIIG				*e*S	Sg	14 16 01.0	+0.1
MMIG	**Aquila**	**1.33**	**283**	*e*P	Pn	14 16 02.5	-3.7
MMIG				*e*S	Sb	14 16 18.9	-4.9
ARIG	**Puente Sto Nin**	**1.58**	**79**	*e*P	Pn	14 16 05.9	-3.7
ARIG				*e*S	Sn	14 16 25.4	-5.0
MEIG	**Mezcala**	**2.25**	**91**	*i* P	Pn	14 16 14.8	-4.0
MEIG				*i* S	Sn	14 16 42.8	-4.2
PLIG	**Platanillo**	**2.39**	**80**	*i* P	Pn	14 16 18.3	-2.4
PLIG				*i* S	Sn	14 16 47.2	-3.2

IDC 07 14:19:58.6±1.5**, 2°.66S**×**139°.40E, h0**km**, mb3.4**/3**, mb1 3.9**/5**, mb1mx3.6**/42**, mbtmp3.7**/5**, ML4.0**/2**, Error ellipse: s-maj=56.0km s-min=26.1km az=105.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**17.33**	**244**	P	Pn	14 24 02.9	+0.7
	1.2nm,0.3s,baz=73,slow=2.4,SNR=3.6						
WRA	**Warramunga Arr**	**17.87**	**196**	P	P	14 24 09.6	-0.1
	0.3nm,0.3s,baz=18,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**21.55**	**194**	P	P	14 24 48.9	-0.9
	0.3nm,0.7s,baz=24,slow=9.0,SNR=4.2						
MKAR	**Makanchi Array**	**70.17**	**322**	P	P	14 31 12.9	-0.4
	0.5nm,0.7s,baz=123,slow=5.3,SNR=3.7						
ILAR	**Eielson Array**	**85.50**	**24**	P	P	14 32 38.7	+0.5
	0.4nm,0.7s,baz=261,slow=4.5,SNR=7.4						

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*ISCJB **07** 14:28:19.3±0.5, 15°.82N±0°.09×92°.99W±0°.06, h200km, mb3.6/6, Error ellipse: s-maj=14.0km s-min=5.6km az=22.4*
*IDC **07** 14:28:19.5±1.2, 16°.14N×92°.71W, h161km±16km, mb3.5/5, mb1 3.7/8, mb1mx3.4/48, mbtmp3.9/8, MS2.2/1, Ms1 2.2/1, ms1mx2.1/33, Error ellipse: s-maj=43.6km s-min=11.1km az=45.0*
*NEIC **07** 14:28:23.0±0.0, 16°.06N×93°.00W, h185km, MD4.1(MEX), After MEX.*
*MEX **07** 14:28:23.0±0.8, 16°.06N×93°.00W, h185km±7km, MD4.1*
ISC 07 14:28:21.9±0.7**, 15°.99N**±0°.08×**92°.92W**±0°.05**, h200**km**, n30, σ3s.18**/41**, mb3.7**/6**, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		**0.40**	**226**	*e*P	**Pn**	**14 28 46.4**	**-2.3**
PCIG				*e*S	**Sn**	**14 29 05.4**	**-4.0**
PCIG		**0.40**	**226**	*e*P	**Pn**	**14 28 46.4**	**-2.3**
PCIG				*e*S	**Sn**	**14 29 05.4**	**-4.0**
CCIG	**Comitan**	**0.81**	**68**	*e*P	**Pn**	**14 28 49.1**	**-1.6**
CCIG				*i* S	**Sn**	**14 29 09.2**	**-3.8**
CCIG	**Comitan**	**0.81**	**68**	*e*P	**Pn**	**14 28 49.1**	**-1.6**
CCIG				*i* S	**Sn**	**14 29 09.2**	**-3.8**
TGIG		**0.81**	**346**	*e*P	**Pn**	**14 28 48.4**	**-2.3**
TGIG				*i* S	**Sn**	**14 29 07.1**	**-5.9**
TGIG		**0.81**	**346**	*e*P	**Pn**	**14 28 48.4**	**-2.3**
TGIG				*i* S	**Sn**	**14 29 07.1**	**-5.9**
CMIG	**Matias Romero**	**2.18**	**301**	P	**Pn**	**14 29 00.1**	**-2.3**
	58nm,0.3s,baz=100,slow=10,SNR=339						
CMIG				S	**Sn**	**14 29 28.9**	**-4.9**
	116nm,0.3s,baz=287,slow=19,SNR=46						
CMIG				LR	LR	14 30 08.4	
	comp=Z,50nm,19.1s,baz=20,slow=48						
CMIG	**Matias Romero**	**2.18**	**301**	*e*P	**Pn**	**14 29 00.4**	**-2.0**
CMIG	**Matias Romero**	**2.18**	**301**	*e*P	**Pn**	**14 29 00.4**	**-2.0**
TUIG	**Tuzandepetl**	**2.50**	**325**	*i* S	**Sn**	**14 29 35.2**	**-4.8**
TUIG	**Tuzandepetl**	**2.50**	**325**	*i* S	**Sn**	**14 29 35.2**	**-4.8**
HUIG	**Huatulco**	**3.08**	**266**	*i* P	**Pn**	**14 29 10.2**	**-2.3**
HUIG				*i* S	**Sn**	**14 29 47.6**	**-4.4**
HUIG	**Huatulco**	**3.08**	**266**	*i* P	**Pn**	**14 29 10.2**	**-2.3**
HUIG				*i* S	**Sn**	**14 29 47.6**	**-4.4**
VHO	**Vista Hermosa**	**3.82**	**287**	*i* P	**Pn**	**14 29 20.1**	**-1.6**
VHO				*i* S	**Sn**	**14 30 03.5**	**-4.9**
VHO	**Vista Hermosa**	**3.82**	**287**	*i* P	**Pn**	**14 29 20.1**	**-1.6**
VHO				*i* S	**Sn**	**14 30 03.5**	**-4.9**
YAIG	**Yautepec**	**6.53**	**297**	*e*P	**Pn**	**14 29 57.4**	**+1.2**
YAIG	**Yautepec**	**6.53**	**297**	*e*P	**Pn**	**14 29 57.4**	**+1.2**
MEIG	**Mezcala**	**6.70**	**288**	*e*P	**Pn**	**14 29 60.0**	**+1.6**
MEIG	**Mezcala**	**6.70**	**288**	*e*P	**Pn**	**14 29 60.0**	**+1.6**
PLIG	**Platanillo**	**6.73**	**292**	*e*P	**Pn**	**14 30 00.7**	**+1.9**
PLIG	**Platanillo**	**6.73**	**292**	*e*P	**Pn**	**14 30 00.7**	**+1.9**
ARIG	**Puente Sto Nin**	**7.46**	**289**	*e*P	**Pn**	**14 30 10.5**	**+2.3**
JTS	**JuntasAbangare**	**9.60**	**125**	P	Pn	14 30 33.4	-2.7
	baz=339,slow=18						
JTS				S	Sn	14 32 18.1	-5.5
	0.3nm,0.3s,baz=228,slow=15,SNR=2.3						
TXAR	**Lajitas Array**	**16.57**	**325**	P	**Pn**	**14 32 03.7**	**+0.5**
	baz=138,slow=12,SNR=3.3						
SDV	**Santo Domingo**	**22.86**	**105**	P	**P**	**14 33 08.2**	**-0.2**
	5.4nm,0.9s,baz=4.2,slow=5.8,SNR=4.0						
NVAR	**Mina Array Bea**	**31.58**	**320**	P	**P**	**14 34 30.1**	**+4.0**
	0.6nm,0.7s,baz=140,slow=9.2,SNR=5.1						
LPAZ	**La Paz**	**40.33**	**142**	P	**P**	**14 35 43.0**	**+2.1**
	3.2nm,0.7s,baz=348,slow=7.8,SNR=11						
YKA	**Yellowknife Ar**	**48.90**	**347**	P	**P**	**14 36 47.8**	**+0.6**
	0.6nm,0.5s,baz=147,slow=7.6,SNR=16						
YKA				PcP	**PcP**	**14 38 08.9**	**+0.4**
	0.3nm,0.8s,baz=148,slow=4.8,SNR=3.3						
CPUP	**Villa Florida**	**54.47**	**140**	P	**P**	**14 37 29.1**	**+0.1**
	1.8nm,0.7s,baz=310,slow=9.7,SNR=5.0						
ILAR	**Eielson Array**	**60.68**	**337**	P	**P**	**14 38 13.1**	**+1.3**
	0.9nm,0.7s,baz=125,slow=5.2,SNR=9.9						

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*BJI **07** 14:33:53.1, 51°.81N×95°.97E, h14km, mb4.3/40, mB4.8/29, ML5.1/2, Ms4.8/42, Ms7 4.5/38*
*IDC **07** 14:33:54.3±0.4, 51°.61N×96°.19E, h0km, mb4.3/28, mb1 4.3/34, mb1mx4.2/72, mbtmp4.3/34, ML3.7/6, MS3.8/30, Ms1 3.8/30, ms1mx3.7/70, Error ellipse: s-maj=12.8km s-min=7.9km az=180.0*
*NNC **07** 14:33:54.1±2.8, 51°.46N×96°.14E, h0km, mb4.5, mpv4.7, Error ellipse: s-maj=28.2km s-min=20.6km az=72.0*
*ISCJB **07** 14:33:54.5±0.1, 51°.68N±0°.02×96°.13E±0°.03, h11km, mb4.6/81, MS3.9/35, Error ellipse: s-maj=3.3km s-min=2.4km az=8.4*
*ASRS **07** 14:33:54.4±0.6, 51°.61N×96°.08E, h15km, Ms4.3/2*
*MOS **07** 14:33:55.5±1.5, 51°.57N×96°.11E, h19km, mb4.8/32, MS4.1/13, Error ellipse: s-maj=6.7km s-min=5.4km az=3.6*
*NEIC **07** 14:33:56.3±1.7, 51°.62N×96°.12E, h14km±11km, mb4.8/33, Error ellipse: s-maj=5.7km s-min=3.0km az=179.0*
ISC 07 14:33:56.9±0.5**, 51°.71N**±0°.04×**96°.13E**±0°.03**, h13**km±3km**, h12**km**:pP-P, n260, σ2s.09**/285**, mb4.6**/86**, MS4.0**/37**, 21C-19D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZLR	Kyzyl	1.04	270	*i* Pg	Pb	14 34 12.9	-3.8
KZLR				*e*Sg	Sb	14 34 26.3	-4.0
HVS	Khovu-Aksy	1.62	250	⇓*i*P	Pn	14 34 22.4	-2.8
HVS	Khovu-Aksy	1.62	250	*d i*PN	Pn	14 34 22.3	-2.9
ORL	Orlik	2.42	69	*e*P	Pn	14 34 37.1	+0.9
ORL	Orlik	2.42	69	*e*PN	Pn	14 34 37.1	+0.9
MOY	Mondy	3.03	89	*e*PN	Pb	14 34 48.6	-2.1
MOY				*e*		14 35 27.8	
MOY				pmax	pmax		
	comp=Z,2µm,0.5s						
MOY				smax	smax		
	comp=N,7µm,1.3s						
CERR	Cheremushki	3.11	293	*e*Pn	Pn	14 34 46.7	+1.1
CERR				*i* Pg	Pb	14 34 52.1	+0.1
CERR				*e*Sg	Sb	14 35 30.7	+0.8
ARS	Arshan	3.91	84	*e*P	Pn	14 34 57.2	+0.5
ARS	Arshan	3.91	84	*e*PN	Pn	14 34 57.2	+0.5
TLY	Talaya	4.68	87	*e*Pn	Pn	14 35 05.7	-1.4
TLY				*e*Sg	Sb	14 36 17.9	+3.0
TLY	Talaya	4.68	87	*e*PN	Pb	14 35 17.6	-1.1
TLY				*e*		14 36 17.5	
TLY				pmax	pmax		
	comp=Z,183nm,0.4s						
ZAK	Zakamensk	4.71	104	*e*PN	Pb	14 35 16.8	-2.4
ZAK				*e*		14 36 19.4	
ZAK				pmax	pmax		
	comp=Z,448nm,0.9s						
ZAK				smax	smax		
	comp=N,4µm,1.1s						
IRK	Irkutsk	5.06	81	*e*PN	Pn	14 35 12.1	-0.3
IRK				*e*		14 35 25.1	
IRK				*e*		14 36 29.9	
IRK				pmax	pmax		
	comp=Z,744nm,1.3s						
IRK				smax	smax		
	comp=N,350nm,2.7s						
TASR	Tashtagol	5.18	285	*e*Pn	Pn	14 35 16.1	+2.1
TASR				*e*Pg	Pb	14 35 28.4	+1.2
TASR				*e*Sg	Sg	14 36 36.8	-6.1
ARTR	Artybash	5.50	274	*e*Pn	Pn	14 35 18.6	+0.3
ARTR				*e*Pg	Pb	14 35 32.2	-0.4
ARTR				*e*Sg	Sb	14 36 44.5	+6.1
AKAR	Aktash	5.55	259	*e*Pn	Pn	14 35 19.9	+0.7
AKAR				*e*Pg	Pb	14 35 35.0	+1.4
AKAR				*e*Sg	Sb	14 36 42.2	+2.2
DGZ	Jazzator, Alta	5.88	253	*c e*PN	Pn	14 35 23.8	0.0
ELT	Eltsovka	6.24	288	*e*Pn	Pn	14 35 29.0	+0.5
ELT				*e*Pg	Pb	14 35 45.8	+0.6
ELT				*e*Sg	Sb	14 37 07.6	+7.9
ZAA0	Zalesovo Array	7.21	293	⇑Pn	Pn	14 35 43.4	+1.6
	comp=N,37nm,0.9s						
ZAA0				⇓Pg	Pb	14 36 04.8	+3.1
	comp=N,51nm,0.9s						
ZAA0				⇑Lg	Lg	14 37 39.2	
	comp=N,370nm,0.8s						
ZAA0	Zalesovo Array	7.21	293	*e*Pn	Pn	14 35 41.5	-0.3
ZALV	Zalesovo Beam	7.21	293	Pn	Pn	14 35 42.3	+0.5
	comp=N,2.3nm,0.3s,baz=103,slow=12,SNR=39						
ZALV				Lg	Lg	14 37 39.1	
	comp=N,11nm,0.3s,baz=101,slow=24,SNR=7.3						
ZALV	Zalesovo Beam	7.21	293	*e*Pn	Pn	14 35 42.9	+1.1
ZALV				Lg	Lg	14 37 39.1	
ZALV	Zalesovo Beam	7.21	293	*e*P	Pn	14 35 42.9	+1.1
OGRR	Ongureny	7.24	70	*e*P	Pn	14 35 42.1	-0.1
OGRR				pmax	pmax		
	comp=Z,101nm,1.2s						
SONA1	Songino Array	7.69	116	*e*Pn	Pn	14 35 47.8	-0.9
SONM	Songino Array	7.70	116	Pn	Pn	14 35 47.7	-1.0
	comp=Z,0.9nm,0.3s,baz=303,slow=15,SNR=16						
SONM				Pg	Pb	14 36 11.4	+1.3
	comp=Z,5.1nm,0.3s,baz=300,slow=16,SNR=81						
SONM				Lg	Lg	14 37 55.9	
	comp=Z,27nm,0.3s,baz=297,slow=26,SNR=21						
SONM				LR	LR	14 38 50.6	
	comp=Z,1µm,21.1s,baz=316,slow=39						
ULN	Ulaanbaatar	8.05	114	*e*Pn	Pn	14 35 53.4	-0.2
ULN	Ulaanbaatar	8.05	114	⇓*i*P	Pn	14 35 55.4	+1.9
ULN				pmax	pmax		
	comp=Z,21nm,1.2s						
NVS	Novosibirsk	8.34	297	*e*P	Pn	14 35 58.4	+1.2
NVS	Novosibirsk	8.34	297	*e*Pn	Pn	14 35 58.5	+1.2
NVS				*e*Pg	Pb	14 36 27.8	+6.9
NVS				*e*Sg	Sg	14 38 12.6	-12
SYVR	Suvo	8.65	72	*e*P	Pn	14 36 01.6	0.0
SYVR				pmax	pmax		
	comp=Z,48nm,1.4s						
NIZ	Nizh Angarsk	8.93	58	*e*P	Pn	14 36 06.1	+0.7
NIZ				pmax	pmax		
	comp=Z,62nm,1.0s						
YLYR	Ulyunkhan	9.54	65	*e*P	Pn	14 36 14.8	+1.0
WMQ	Urumqi	9.72	219	P	Pn	14 36 18.2	+1.9
WMQ				pP		14 36 22.0	
WMQ				sP		14 36 28.4	
WMQ				S	Sn	14 38 07.8	+2.5
WMQ				sS		14 38 13.4	
WMQ				pmax	pmax		
	comp=Z,33nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,550nm,4.5s						
WMQ				smax	smax		
	comp=Z,440nm,1.5s						
WMQ				smax	smax		
	comp=Z,670nm,1.1s						
WMQ				LR	LR		
	comp=Z,4µm,4.7s						
WMQ				LR	LR		
	comp=Z,2µm,4.1s						
WMQ				LR	LR		
	comp=Z,2µm,18.3s						
MK31	Makanchi Array	10.29	247	Pn	Pn	14 36 22.9	-1.3
	comp=Z,15nm,0.8s,baz=75,slow=16,SNR=52						
MK31				⇑Pg		14 37 02.1	
	comp=Z,6.5nm,0.5s,baz=73,slow=15,SNR=9.3						
MK31				⇓Lg	Lg	14 39 18.7	
	comp=Z,105nm,0.8s,baz=71,slow=28,SNR=6.2						
MK31	Makanchi Array	10.29	247	*e*Pn	Pn	14 36 22.5	-1.7
MK31	Makanchi Array	10.29	247	*i* P	Pn	14 36 22.9	-1.3
MK31				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MKAR	Makanchi Array	10.29	247	Pn	Pn	14 36 22.9	-1.3
	comp=Z,1.2nm,0.3s,baz=75,slow=11,SNR=78						
MKAR				Pg		14 37 04.0	
	comp=Z,1.9nm,0.3s,baz=77,slow=19,SNR=8.0						
MKAR				Lg	Lg	14 39 20.2	
	comp=Z,1.9nm,0.3s,baz=44,slow=27,SNR=4.2						
MKAR				LR	LR	14 40 05.7	
	comp=Z,243nm,19.1s,baz=49,slow=36						
MKAR	Makanchi Array	10.29	247	*e*Pn	Pn	14 36 22.5	-1.7
MKAR				Pg		14 37 04.0	
MKAR				Lg	Lg	14 39 20.2	
MKAR	Makanchi Array	10.29	247	*i* P	Pn	14 36 22.8	-1.3
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MK01	Makanchi Array	10.30	247	*e*Pn	Pn	14 36 22.1	-2.2
MAKZ	Makanchi	10.47	248	*e*Pn	Pn	14 36 24.6	-1.9
MAKZ	Makanchi	10.47	248	*e*P	Pn	14 36 24.6	-1.9
KURK	Kurchatov	11.03	272	⇑Pn	Pn	14 36 35.7	+1.5
	comp=Z,9.9nm,0.7s						
KURK				⇓Lg	Lg	14 39 42.1	
	comp=Z,370nm,1.0s						
KURK	Kurchatov	11.03	272	*e*Pn	Pn	14 36 34.2	0.0
KURK				Lg	Lg	14 39 40.0	
KURK	Kurchatov	11.03	272	P	Pn	14 36 35.6	+1.5
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURBB	Kurchatov Arra	11.11	271	Pn	Pn	14 36 34.9	-0.3
	comp=Z,0.4nm,0.3s,baz=78,slow=14,SNR=18						
KURBB				Lg	Lg	14 39 40.0	
	comp=Z,0.7nm,0.3s,baz=80,slow=34,SNR=5.6						
BOD	Bodaibo	11.98	52	*e*P	Pn	14 36 45.3	-1.8
BOD				pmax	pmax		
	comp=Z,59nm,1.6s						
GTA	Gaotai	12.57	167	⇑P	Pn	14 36 55.7	+0.3
GTA				pP	P	14 36 58.7	-8.3
GTA				sP		14 37 01.6	
GTA				S	Sn	14 39 15.7	+0.5
GTA				SS	SnSn	14 39 30.4	+3.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,140nm,5.0s						
GTA				LR	LR		
	comp=Z,2µm,11.9s						
GTA				LR	LR		
	comp=Z,6µm,10.9s						
GTA				LR	LR		
	comp=Z,1µm,11.4s						
PDGK	Podgornoye	14.00	240	⇓Pn	Pn	14 37 12.5	-2.5
	comp=Z,11nm,0.9s						
PDGK				⇑Lg	Lg	14 41 13.4	
	comp=Z,84nm,1.1s						
PDGK	Podgornoye	14.00	240	*i* P	Pn	14 37 12.4	-2.5
PDGK				pmax	pmax		
	comp=Z,16nm,0.9s						
BTO	Baotou	14.67	134	*e*P	Pn	14 37 22.0	-2.0
HHC	Hu-ho-hao-te	15.19	130	*e*P	Pn	14 37 30.6	-0.5
HHC				pP	P	14 37 34.0	-2.1
HHC				sP	pP	14 37 37.6	-2.2
HHC				PP	sP	14 37 42.8	+1.3
HHC				S	Sn	14 40 18.5	-0.7
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
HHC				LR	LR		
	comp=Z,2µm,8.4s						
HHC				LR	LR		
	comp=Z,1µm,9.2s						
HHC				LR	LR		
	comp=Z,2µm,9.5s						
HIA	Hailar	15.21	90	*e*Pn	Pn	14 37 30.9	-0.3
	comp=Z,58nm,0.9s						
HIA	Hailar	15.21	90	*e*P	Pn	14 37 30.9	-0.3
HIA				pmax	pmax		
	comp=Z,57nm,0.9s						
MDOK	Medeo	15.45	244	⇓Lg	Lg	14 41 59.0	
	comp=Z,137nm,1.5s						
OTUK	Ortayu	15.67	267	⇓Lg	Lg	14 42 20.1	
	comp=Z,81nm,1.0s						
BVA0	Borovoye Array	15.75	285	⇓Pn	Pn	14 37 36.5	-1.8
	comp=Z,26nm,1.3s,baz=124,slow=1.1,SNR=46						
BVA0				⇓Sn	S	14 40 41.8	-5.4
	comp=Z,30nm,1.1s,baz=86,slow=22,SNR=3.6						
BVA0	Borovoye Array	15.75	285	*i* P	Pn	14 37 36.4	-1.8
BVA0				pmax	pmax		
	comp=Z,26nm,1.3s						
BVAR	Borovoye Array	15.75	285	Pn	Pn	14 37 36.7	-1.5
	comp=Z,0.9nm,0.3s,baz=88,slow=14,SNR=19						
BRVK	Borovoye	15.81	285	*e*Pn	Pn	14 37 37.1	-1.9
	comp=Z,76nm,1.8s						
BRVK	Borovoye	15.81	285	*e*P	Pn	14 37 38.1	-0.9
TKM2	Tokmak 2	16.42	246	⇑Pn	Pn	14 37 44.5	-2.5
	comp=Z,25nm,1.1s						
TKM2				⇑Lg	Lg	14 42 31.2	
	comp=Z,72nm,1.4s						
TKM2	Tokmak 2	16.42	246	P	Pn	14 37 45.1	-2.0
	SNR=19						
TKM2	Tokmak 2	16.42	246	*i* P	Pn	14 37 44.5	-2.5
TKM2				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH	Lanzhou	16.57	158	*e*P	Pn	14 37 48.1	-0.8
LZH				pP	P	14 37 51.3	-0.1
LZH				sP	pP	14 37 54.2	-0.9
LZH				PP	PnPn	14 38 02.0	+4.0
LZH				*e*S	Sn	14 40 52.0	-0.6
LZH				SS	SnSn	14 41 09.3	+3.7
LZH				pmax	pmax		
	comp=Z,62nm,1.2s						
LZH				pmax	pmax		
	comp=Z,260nm,4.7s						
LZH				LR	LR		
	comp=Z,2µm,10.0s						
LZH				LR	LR		
	comp=Z,2µm,10.8s						
LZH				LR	LR		
	comp=Z,4µm,12.5s						
KBK	Karagaybulak	16.96	246	P	Pn	14 37 52.0	-1.8
	SNR=12						
FRU	Bishkek	17.04	247	*e*P	Pn	14 37 52.0	-2.7
FRU				*e*S	Sn	14 41 03.0	-0.8
FRU				pmax	pmax		
	comp=Z,60nm,2.0s						
FRU				MLR	MLR		
	comp=E,4µm,8.0s						
AAK	Ala-Archa	17.23	247	P	Pn	14 37 55.6	-1.6
	comp=E,0.2nm,0.3s,baz=37,slow=9.3,SNR=16						
AAK				Lg	Lg	14 42 56.9	
	comp=E,0.1nm,0.3s,baz=2.2,slow=20,SNR=7.3						
AAK				LR	LR	14 44 49.1	
	comp=E,970nm,19.6s,baz=26,slow=38						
AAK	Ala-Archa	17.23	247	Pn	Pn	14 37 54.5	-2.8
	comp=E,9.8nm,0.8s						
AAK				⇑Lg	Lg	14 43 01.5	
	comp=E,50nm,1.4s						
AAK	Ala-Archa	17.23	247	*e*Pn	Pn	14 37 54.9	-2.3
	comp=E,41nm,1.8s						
AAK				Lg	Lg	14 42 56.9	
AAK	Ala-Archa	17.23	247	P	Pn	14 37 54.4	-2.8
AAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
UCH	Uchtor	17.48	246	P	Pn	14 37 59.6	-1.1
	SNR=16						
EKS2	Erkin-Say	17.62	248	P	Pn	14 38 00.4	-1.7
	SNR=9.6						
AML	Almayashu	18.01	247	P	Pn	14 38 05.8	-1.3
	SNR=17						
BJI	Beijing	18.13	122	P	P	14 38 09.3	+0.9
BJI				S	Sn	14 41 28.9	-1.2
BJI				pmax	pmax		
	comp=Z,14nm,1.2s						
BJI				LR	LR		
	comp=Z,4µm,9.1s						
BJI				LR	LR		
	comp=Z,3µm,9.0s						
BJI				LR	LR		
	comp=Z,2µm,62.0s						
BJT	Baijiatuau	18.14	122	*e*Pn	Pn	14 38 05.7	-2.6
	comp=Z,76nm,2.0s						
BJT	Baijiatuau	18.14	122	*e*P	Pn	14 38 05.7	-2.6
BJT				pmax	pmax		
	comp=Z,76nm,2.0s						
MNAS	Manas	18.47	249	⇓Pn	P	14 38 09.9	-2.5
	comp=Z,19nm,1.4s						
MNAS				⇑Lg	Lg	14 43 38.2	
	comp=Z,42nm,1.4s						
MNAS	Manas	18.47	249	*i* P	P	14 38 08.7	-3.7
MNAS				pmax	pmax		
	comp=Z,19nm,1.3s						
KSH	Kashi	18.57	237	*e*P	Pn	14 38 17.3	+3.6
KSH				sP	sP	14 38 22.4	+3.6
KSH				PP	PnPn	14 38 33.1	+7.8
KSH				S	Sn	14 41 42.4	+1.4
KSH				SS	SnSn	14 42 07.7	+13
KSH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,190nm,4.8s						
KSH				LR	LR		
	comp=Z,500nm,10.4s						
KSH				LR	LR		
	comp=Z,510nm,7.8s						
KSH				LR	LR		
	comp=Z,820nm,10.1s						
ZEA	Zeya	18.88	72	*e*P	Pn	14 38 22.0	+4.7
ZEA				pmax	pmax		
	comp=Z,84nm,2.0s						
ZEA				MLR	MLR		
	comp=Z,1µm,7.0s						
ZEA				MLR	MLR		
	comp=N,700nm,5.0s						
KK31	Karatay Array	19.28	254	⇑Pn	P	14 38 19.5	-1.6
	comp=N,3.8nm,0.7s,baz=52,slow=11,SNR=43						
KK31				⇓Lg	Lg	14 44 01.4	
	comp=N,27nm,1.2s,baz=26,slow=28,SNR=4.5						
KK31	Karatay Array	19.28	254	*i* P	P	14 38 19.5	-1.6
KK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KKAR	Karatay Array	19.28	254	*e*P	P	14 38 19.3	-1.8
KKAR	Karatay Array	19.28	254	*e*P	P	14 38 19.3	-1.8
SFK	Sufi-Kurgan	19.53	242	⇓Pn	P	14 38 22.5	-1.6
	comp=Z,7.6nm,0.9s						
SFK				⇑Lg	Lg	14 44 11.1	
	comp=Z,11nm,1.5s						
SFK	Sufi-Kurgan	19.53	242	P	P	14 38 22.5	-1.6
SFK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YAK	Yakutsk	20.79	47	P	P	14 38 38.1	+0.7
	comp=Z,15nm,0.5s,baz=77,slow=2.6,SNR=13						
YAK	Yakutsk	20.79	47	*e*P	P	14 38 37.0	-0.4
	comp=Z,33nm,0.8s						
YAK	Yakutsk	20.79	47	*e*P	P	14 38 36.7	-0.7
YAK				*e**PP	sP	14 38 45.0	+2.2
YAK				*e*PPP	PPP	14 39 02.7	
YAK				*e*S	S	14 42 30.1	+1.3
YAK				*e**SS	pS	14 42 38.5	+0.4
YAK				*e*SS	SnSn	14 42 55.4	+6.8
YAK				*e*SSS	SSS	14 43 09.8	
YAK				pmax	pmax		
	comp=Z,42nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,25nm,1.1s						
YAK				smax	smax		
	comp=E,114nm,3.2s						
YAK				smax	smax		
	comp=N,173nm,3.7s						
YAK				MLR	MLR		
	comp=Z,733nm,8.0s						
YAK				MLR	MLR		
	comp=N,165nm,8.0s						
YAK				MLR	MLR		
	comp=E,283nm,8.0s						
CN2	Changchun	21.13	100	*e*P	P	14 38 37.7	-3.5
CN2				*e*S	S	14 42 26.0	-10
CN2				LR	LR		
	comp=E,2µm,10.0s						
CN2				LR	LR		
	comp=E,2µm,10.0s						
CN2				LR	LR		
	comp=E,2µm,10.0s						
SVE	Sverdlovsk	21.18	298	*e*P	P	14 38 28.8	-13
SVE				pmax	pmax		
	comp=Z,36nm,0.9s						
SVE				MLR	MLR		
	comp=Z,666nm,10.0s						
TIA	Tai'an	21.53	128	P	P	14 38 44.2	-1.3
TIA				S	S	14 42 47.7	+3.9
TIA				pmax	pmax		
	comp=Z,10.0nm,1.8s						
TIA				LR	LR		
	comp=Z,640nm,11.2s						
TIA				LR	LR		
	comp=Z,580nm,10.0s						
TIA				LR	LR		
	comp=Z,1µm,10.6s						
CD2	Chengdu	21.54	162	*e*P	P	14 38 45.0	-0.7
CD2				pP	pP	14 38 48.8	-0.6
CD2				sP	sP	14 38 50.6	-0.5
CD2				S	S	14 42 43.7	-0.4
CD2				sS	sS	14 42 50.0	0.0
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,4.6s						
CD2				LR	LR		
	comp=Z,920nm,9.3s						
CD2				LR	LR		
	comp=Z,5µm,13.5s						
CD2				LR	LR		
	comp=Z,800nm,9.0s						
LSA	Lhasa	22.30	191	*e*P	P	14 38 55.1	+0.7
	comp=Z,6.8nm,0.8s						
LSA	Lhasa	22.30	191	*e*P	P	14 38 55.1	+0.7
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	Arti	22.34	297	P	P	14 38 54.1	0.0
	comp=Z,7.9nm,0.4s,baz=80,slow=6.6,SNR=24						
ARU				LR	LR	14 48 36.0	
	comp=Z,405nm,20.2s,baz=78,slow=39						
ARU	Arti	22.34	297	*e*P	P	14 38 53.8	-0.3
	comp=Z,64nm,1.0s						
ARU	Arti	22.34	297	*d i*P	P	14 38 55.3	+1.2
ARU						14 39 14.7	
ARU				S	S	14 43 02.5	+3.4
ARU				SS	SnSn	14 43 32.2	+5.6
ARU				pmax	pmax		
	comp=Z,78nm,1.7s						
ARU				MLR	MLR		
	comp=Z,318nm,9.0s						
KLR	Kul'dur	22.67	82	P	P	14 38 57.0	-0.7
	comp=Z,0.8nm,0.9s,baz=282,slow=9.1,SNR=13						
KLR				Lg	Lg	14 45 50.2	
	comp=Z,1.0nm,1.1s,baz=211,slow=23,SNR=3.6						
KLR				LR	LR	14 48 09.5	
	comp=Z,42nm,19.5s,baz=292,slow=38						
KLR	Kul'dur	22.67	82	⇑*i*P	P	14 38 57.2	-0.5
AB31	Akbulak array	23.01	278	⇑Pn	P	14 39 01.1	-0.2
	comp=Z,3.5nm,0.7s,baz=69,slow=10,SNR=32						
AB31	Akbulak array	23.01	278	*i* P	P	14 39 01.0	-0.2
AB31				pmax	pmax		
	comp=Z,16nm,1.2s						
ABKAR	Akbulak array	23.01	278	*e*P	P	14 39 00.4	-0.7
	comp=Z,60nm,1.0s						
ENH	Enshi	23.60	150	*e*P	P	14 39 06.5	-0.8
	comp=Z,10.0nm,1.0s						
AKTO	Aktyubinsk	23.80	282	P	P	14 39 08.9	-0.2
	comp=Z,12nm,0.7s,baz=81,slow=8.4,SNR=32						
AKTO				LR	LR	14 49 28.0	
	comp=Z,93nm,18.1s,baz=25,slow=39						
AKTO	Aktyubinsk	23.80	282	⇑Pn	P	14 39 09.3	+0.2
	comp=Z,26nm,1.0s						
TIXI	Tiksi	24.72	24	P	P	14 39 16.9	-0.4
	comp=Z,62nm,0.8s,baz=238,slow=7.4,SNR=21						
TIXI				LR	LR	14 49 14.5	
	comp=Z,553nm,18.6s,baz=233,slow=37						
TIXI	Tiksi	24.72	24	*e*P	P	14 39 17.2	-0.2
	comp=Z,58nm,0.8s						
TIXI	Tiksi	24.72	24	*d e*P	P	14 39 18.1	+0.7
TIXI				pmax	pmax		
	comp=Z,23nm,0.7s						
USRK	Ussuriysk Ar.	24.96	93	P	P	14 39 20.2	+0.4
	comp=Z,8.6nm,0.9s,baz=343,slow=6.0,SNR=8.0						
GUN	Gumba	24.99	202	*e*P	P	14 39 20.2	-0.4
	comp=Z,10nm,0.6s						
TAPN	Taplejung	25.15	198	*e*P	P	14 39 22.2	+0.3
	comp=Z,22nm,0.9s						
JIRN	Jiri	25.16	201	*e*P	P	14 39 21.6	-0.5
	comp=Z,41nm,1.0s						
KKN	Kakani	25.25	203	*e*P	P	14 39 22.9	+0.2
	comp=Z,10nm,0.5s						
PKIN	Phulchoki	25.43	203	*e*P	P	14 39 24.6	+0.2
	comp=Z,12nm,0.8s						
PKI	Pulchoki	25.43	203	*e*P	P	14 39 24.3	-0.2
	comp=Z,15nm,0.8s						
PYUN	Piuthan	25.57	208	*e*P	P	14 39 26.4	+0.8
	comp=Z,30nm,1.0s						
KOLN	Koldanda	25.71	206	*e*P	P	14 39 27.1	+0.2
	comp=Z,29nm,1.0s						
NJ2	Nanjing	25.74	131	P	P	14 39 26.4	-0.5
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RAMN	Ramite	25.76	200	*e*P	P	14 39 28.5	+1.1
	comp=Z,29nm,0.7s						
KBL	Kabul	25.95	239	*e*P	P	14 39 27.5	-1.6
	comp=Z,20nm,1.3s						
KBL	Kabul	25.95	239	*e*P	P	14 39 27.5	-1.6
KBL				pmax	pmax		
	comp=Z,21nm,1.3s						
GYA	Guiyang	26.46	158	*e*P	P	14 39 33.9	+0.3
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KS01	Wonju Array Si	26.47	110	*e*P	P	14 39 32.1	-1.4
KSAR	Wonju Array Be	26.49	110	P	P	14 39 33.1	-0.5
KSAR	Wonju Array Be	26.49	110	P	P	14 39 33.2	-0.5
KSRS	Korea Array	26.50	110	P	P	14 39 33.1	-0.6
	comp=Z,4.0nm,0.9s,baz=318,slow=7.0,SNR=15						
KSRS				LR	LR	14 49 42.1	
	comp=Z,170nm,18.4s,baz=326,slow=36						
KMI	Kunming	27.03	167	P	P	14 39 39.0	+0.2
KMI				pP	pP	14 39 43.2	+0.4
KMI				sP	sP	14 39 44.7	+0.2
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
KMI				LR	LR		
	comp=Z,360nm,12.4s						
KMI				LR	LR		
	comp=Z,910nm,12.9s						
KMI				LR	LR		
	comp=Z,440nm,9.8s						
GEYT	Alibeck	29.91	258	P	P	14 40 04.8	+0.6
	comp=Z,1.8nm,0.7s,baz=9.5,slow=4.5,SNR=4.2						
GEYT				LR	LR	14 54 03.9	
	comp=Z,58nm,19.3s,baz=5.0,slow=40						

MA2	Magadan	31.00	54	P	P	14 40 14.1	+0.5
	comp=Z,2.0nm,0.6s,baz=300,slow=5.7,SNR=7.4						
MA2	Magadan	31.00	54⇓	eP	P	14 40 14.5	+0.9
JNU	Nakatsue	31.27	113	LR	LR	14 53 44.4	
	comp=Z,336nm,18.1s,baz=310,slow=38						
SEY	Seymchan	31.32	47	P	P	14 40 16.8	+0.4
	comp=Z,0.7nm,0.4s,baz=273,slow=15,SNR=7.1						
SEY	Seymchan	31.32	47⇓	iP	P	14 40 16.3	-0.1
KLMR	Klimovskoe	31.76	309	eP	P	14 40 19.5	-0.7
KLMR				pmax	pmax		
	comp=Z,31nm,1.4s						
KLMR	Klimovskoe	31.76	309	eP	P	14 40 19.5	-0.7
KLMR				AMP		14 40 23.1	
	comp=Z,31nm,1.4s						
VRH	Novokhopyorsk	33.24	291	eP	P	14 40 32.8	-0.5
VRH				pmax	pmax		
	comp=Z,90nm,1.5s						
CMAR	Chiang Mai Arr	33.26	175	P	P	14 40 33.0	-0.8
	comp=Z,1.1nm,0.7s,baz=354,slow=8.8,SNR=7.3						
CMAR				LR	LR	14 54 53.9	
	comp=Z,141nm,19.2s,baz=348,slow=38						
CMAR	Chiang Mai Arr	33.26	175	iP	P	14 40 35.5	+1.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAK	Makhachkala	33.54	274	eP	P	14 40 34.2	-1.8
MAK				MLR	MLR		
	comp=Z,264nm,9.0s						
MOS	Moscow	33.95	300	eP	P	14 40 39.0	-0.5
MOS				e		14 41 53.5	
MOS				pmax	pmax		
	comp=Z,70nm,1.3s						
LPSR	Galich'ya Gora	34.31	295	eP	P	14 40 43.2	+0.6
LPSR				pmax	pmax		
	comp=Z,30nm,1.1s						
QIZ	Qiongzhong	34.36	157	P	P	14 40 44.1	+0.8
QIZ				S	S	14 46 10.2	-0.3
QIZ				pmax	pmax		
	comp=Z,29nm,2.4s						
QIZ				LR	LR		
	comp=Z,730nm,12.4s						
QIZ				LR	LR		
	comp=Z,510nm,9.8s						
VSR	Storozhevoye	34.72	292	eP	P	14 40 46.8	+0.7
VSR				pmax	pmax		
	comp=Z,60nm,1.4s						
OBN	Obninsk	34.73	300c	eP	P	14 40 47.1	+0.9
OBN				pmax	pmax		
	comp=Z,76nm,1.7s						
OBN				MLR	MLR		
	comp=Z,291nm,13.0s						
NCK	Nalchik	35.67	278⇑	eP	P	14 40 56.4	+1.9
NCK				pmax	pmax		
	comp=Z,12nm,0.4s						
KBZ	Khabaz	35.98	279	P	P	14 40 57.8	+0.8
	comp=Z,2.8nm,0.9s,baz=67,slow=9.7,SNR=4.4						
KIV	Kislovodsk	35.99	279	eP	P	14 40 57.4	+0.1
	comp=Z,25nm,1.2s						
KIV	Kislovodsk	35.99	279	eP	P	14 40 59.2	+1.9
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
NEY	Neytrino	36.34	278⇑	iP	P	14 41 02.1	+1.7
NEY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	ARCESS Array B	36.34	326	P	P	14 41 00.5	+0.5
	comp=Z,4.9nm,0.9s,baz=63,slow=8.7,SNR=5.1						
BILL	Bilibino	36.40	37	iP	P	14 41 01.4	+1.0
BILL				i		14 42 24.8	
BILL				i		14 43 24.1	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,287nm,16.0s						
PETK	Petropavlovsk-	36.57	63	P	P	14 41 02.3	+0.3
	comp=Z,6.0nm,1.0s,baz=327,slow=7.6,SNR=3.8						
PETK				LR	LR	14 56 58.6	
	comp=Z,428nm,18.3s,baz=310,slow=38						
GNI	Garni	36.83	272⇑	eP	P	14 41 03.0	-1.6
GNI				pmax	pmax		
	comp=Z,61nm,1.5s						
AKH	Akhalkalaki	36.88	275	eP	P	14 41 05.8	+0.8
	comp=Z,12nm,1.0s						
AKH	Akhalkalaki	36.88	275	eP	P	14 41 05.8	+0.8
AKH				pmax	pmax		
	comp=Z,12nm,1.0s						
SPITS	Spitsbergen Ar	37.92	341	LR	LR	15 00 25.6	
	comp=Z,146nm,18.1s,baz=250,slow=42						
FIA1	FINESS Array S	37.95	313	eP	P	14 41 14.6	+1.0
FINES	FINESS Array B	37.95	313	P	P	14 41 14.1	+0.5
	comp=Z,2.9nm,0.4s,baz=76,slow=7.3,SNR=25						
FINES				LR	LR	14 57 42.5	
	comp=Z,280nm,19.0s,baz=1.5,slow=38						
VSU	Vasula	38.64	308⇑	eP	P	14 41 21.1	+1.7
VSU				pmax	pmax		
	comp=Z,74nm,1.2s						
ANN	Anapa	38.75	284	eP	P	14 41 10.1	-10
ANN				e*PP	pP	14 41 17.3	-7.3
ANN				pmax	pmax		
	comp=Z,70nm,1.1s						
IDID	Didziasalis	39.87	303	eP	P	14 41 31.7	+2.0
IDID				IAmb	IAmb	14 41 33.5	
	comp=Z,13nm,1.1s						
IZAR	Zarasai	39.94	304	eP	P	14 41 32.0	+1.7
IZAR				IAmb	IAmb	14 41 32.8	
	comp=Z,13nm,1.0s						
ISAL	Salakas	40.08	304	eP	P	14 41 33.7	+2.3
ISAL				IAmb	IAmb	14 41 34.2	
	comp=Z,10.0nm,1.0s						
IIGN	Ignalina	40.12	304	eP	P	14 41 33.5	+1.7
IIGN				IAmb	IAmb	14 41 35.6	
	comp=Z,5.5nm,0.8s						
WSAR	Wadi Sarin	40.43	240	LR	LR	15 00 42.3	
	comp=Z,169nm,21.3s,baz=64,slow=40						
AKASG	Malin Array Be	40.59	296	P	P	14 41 35.5	-0.3
	comp=Z,1.1nm,0.4s,baz=52,slow=9.3,SNR=17						
AKASG				LR	LR	14 59 34.3	
	comp=Z,234nm,18.1s,baz=0.0,slow=38						
AKASG	Malin Array Be	40.59	296	iP	P	14 41 36.7	+0.9
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	Malin Array Si	40.59	296	eP	P	14 41 35.6	-0.2
	comp=Z,33nm,1.8s						
AKBB	Malin Array Si	40.59	296	eP	P	14 41 35.6	-0.2
AKBB				pmax	pmax		
	comp=Z,33nm,1.8s						
KIEV	Kiev	40.60	296	eP	P	14 41 35.6	-0.3
	comp=Z,32nm,1.8s						
KIEV	Kiev	40.60	296⇓	eP	P	14 41 36.0	+0.1
KIEV				pmax	pmax		
	comp=Z,18nm,1.7s						
KIEV				MLR	MLR		
	comp=Z,163nm,13.0s						
MALT	Malatya	41.85	275	P	P	14 41 49.3	+2.8
MALT				pmax	pmax		
	comp=Z,41nm,1.2s						
TGY	Tagaytay City	42.48	143	LR	LR	15 00 58.6	
	comp=Z,77nm,19.4s,baz=100,slow=38						
ILGA	Ilgaz	43.10	281	eP	P	14 41 57.3	+0.5
	comp=Z,22nm,1.4s						
LVV	L'vov	43.92	297	eP	P	14 42 05.4	+2.5
BR131	Keskin Array S	43.95	280	eP	P	14 42 03.8	+0.3
BRTR	Keskin Array B	43.95	280	P	P	14 42 03.6	+0.2
	comp=Z,14nm,1.0s,baz=76,slow=5.2,SNR=30						
BRTR				LR	LR	15 02 58.0	
	comp=Z,88nm,18.5s,baz=349,slow=40						
BRTR	Keskin Array B	43.95	280	iP	P	14 42 04.4	+0.9
BRTR				pmax	pmax		
	comp=Z,14nm,1.0s						
HFS	Hagfors	44.05	314	P	P	14 42 04.3	+0.5
	comp=Z,6.5nm,0.7s,baz=102,slow=6.3,SNR=15						
HFS				LR	LR	15 00 08.1	
	comp=Z,181nm,20.1s,baz=38,slow=36						
CFR	Carcaliu	44.08	290	P	P	14 42 06.4	+2.1
ANTO	Ankara	44.38	280	eP	P	14 42 07.1	+0.2
	comp=Z,42nm,1.4s						
ANTO	Ankara	44.38	280	eP	P	14 42 07.1	+0.2
ANTO				pmax	pmax		
	comp=Z,42nm,1.4s						
BR231	Keskin MP Arra	44.40	280	eP	P	14 42 04.7	-2.4
BUR08	Bucovina Ar. S	44.42	294	eP	P	14 42 07.4	+0.3
BUR04	Bucovina Ar. S	44.43	294	eP	P	14 42 06.7	-0.4
NB2	NORSAR Subarra	44.70	316	P	P	14 42 08.6	-0.5
	comp=Z,7.7nm,0.8s,baz=62,slow=7.9						
NOA	NORSAR Array B	44.70	316	P	P	14 42 08.8	-0.3
	comp=Z,0.6nm,0.5s,baz=63,slow=6.4,SNR=8.8						
NOA				LR	LR	15 02 32.8	
	comp=Z,190nm,20.2s,baz=65,slow=38						
KWP	Kalwaria Pacla	44.75	298	eP	P	14 42 11.9	+2.3
KWP	Kalwaria Pacla	44.75	298	eP	P	14 42 09.8	+0.2
	comp=Z,494nm,1.5s						
KWP	Kalwaria Pacla	44.75	298	eP	P	14 42 11.9	+2.3
ISR	Istrita	45.05	290	P	P	14 42 15.5	+3.4
ISR				pmax	pmax		
	comp=Z,49nm,1.2s						
MLR	Muntele Rosu	45.18	291	LR	LR	15 00 07.5	
	comp=Z,44nm,18.2s,baz=17,slow=35						
OJC	Ojcow	46.02	300	eP	P	14 42 20.0	+0.4
OJC	Ojcow	46.02	300	eP	P	14 42 20.0	+0.4
NIE	Niedzica	46.18	299	P	P	14 42 23.7	+2.7
NIE				pmax	pmax		
	comp=Z,7.0nm,1.8s						
GAMB	Gambell	46.30	38	eP	P	14 42 21.5	-0.1
	comp=Z,7.6nm,1.2s						
KECS	Kecovo	46.60	297	eP	P	14 42 22.1	-2.1
KECS				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KECS	Kecovo	46.60	297	eP	P	14 42 22.1	-2.1
ASF	Jabal al Asfar	46.78	269	P	P	14 42 26.3	+0.3
	comp=Z,6.7nm,1.0s,baz=293,slow=1.1,SNR=6.6						
MMAI	Mount Meron Ar	47.14	271	P	P	14 42 29.2	+0.5
	comp=Z,0.8nm,0.2s,baz=67,slow=8.0,SNR=4.6						
MORC	Moravsky Berou	47.48	300	eP	P	14 42 31.6	+0.5
	comp=Z,53nm,1.2s						
MORC	Moravsky Berou	47.48	300	eP	P	14 42 31.6	+0.5
MORC				pmax	pmax		
	comp=Z,53nm,1.2s						
VYHS	Vyhne	47.50	298	eP	P	14 42 31.9	+0.6
VYHS				pmax	pmax		
	comp=Z,21nm,1.9s						
VYHS	Vyhne	47.50	298	eP	P	14 42 31.9	+0.6
RAYN	Ar Rayn	47.70	254	eP	P	14 42 32.6	-0.6
	comp=Z,15nm,1.0s						
DPC	Dobruska-Polom	47.80	302	eP	P	14 42 36.0	+2.3
DPC	Dobruska-Polom	47.80	302	eP	P	14 42 36.0	+2.3
BRG	Berggiesshubel	48.75	303	eP	P	14 42 43.3	+2.4
BRG				e		14 44 34.5	
BRG				pmax	pmax		
	comp=Z,40nm,1.7s						
PRU	Pruhonice	48.95	302	eP	P	14 42 45.0	+2.6
PRU	Pruhonice	48.95	302	eP	P	14 42 45.0	+2.6
CLL	Collm	48.99	304	eP	P	14 42 43.0	+0.3
CLL				ipP	pP	14 42 44.5	-2.3
	comp=Z,16nm,1.2s						
CLL				isP	sP	14 42 47.7	-0.8
CLL				Lm	MLR	15 05 00.0	
	comp=Z,400nm,19.3s						
CLL	Collm	48.99	304	eP	P	14 42 43.0	+0.3
CLL				i		14 42 44.5	
CLL				MLR	MLR		
	comp=Z,400nm,19.3s						
KHC	Kasperske Hory	49.96	302	eP	P	14 42 52.2	+2.0
KHC	Kasperske Hory	49.96	302	eP	P	14 42 51.1	+0.9
	comp=Z,5.8nm,1.4s						
KHC	Kasperske Hory	49.96	302	eP	P	14 42 52.2	+2.0
GERES	GERESS Array B	50.06	301	P	P	14 42 51.0	-0.1
	comp=Z,1.5nm,0.9s,baz=52,slow=8.6,SNR=7.3						
GERES				LR	LR	15 06 18.2	
	comp=Z,270nm,19.7s,baz=310,slow=39						
IM3	Indian Mountai	51.19	30	eP	P	14 42 58.5	-0.7
COLD	Coldfoot	51.40	27	eP	P	14 43 00.2	-0.6
	comp=Z,4.8nm,0.7s						
MDM	Murphy Dome	53.57	28	eP	P	14 43 16.5	-0.4
	comp=Z,20nm,1.7s						
KTH	Kantishna Hill	53.74	31	eP	P	14 43 20.4	+2.2
	comp=Z,20nm,1.6s						
TRF	Thorofare Moun	54.02	31	eP	P	14 43 19.8	-0.6
	comp=Z,8.2nm,1.1s						
IL1	Eielson Array	54.10	28	eP	P	14 43 19.5	-1.3
ILAR	Eielson Array	54.10	28	P	P	14 43 20.1	-0.7
	comp=Z,1.9nm,0.9s,baz=310,slow=4.1,SNR=13						
ILAR	Eielson Array	54.10	28	P	P	14 43 20.1	-0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	Inuvik	54.76	20	eP	P	14 43 25.0	-0.5
	comp=Z,4.3nm,0.8s						
INK	Inuvik	54.76	20	eP	P	14 43 25.0	-0.5
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DHY	Denali Highway	55.20	30	eP	P	14 43 28.4	-0.6
	comp=Z,4.7nm,0.8s						
SUA	Susitna One	55.29	32	eP	P	14 43 29.3	-0.3
	comp=Z,29nm,1.8s						
SML	Sawmill	55.83	31	eP	P	14 43 33.6	+0.2
	comp=Z,9.7nm,0.9s						
SML	Sawmill	55.83	31	eP	P	14 43 33.6	+0.2
SML				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BNI	Bardonecchia	56.19	301	eP	P	14 43 35.8	-0.5
	comp=Z,32nm,1.3s						
BNI	Bardonecchia	56.19	301	eP	P	14 43 35.8	-0.5
BNI				pmax	pmax		
	comp=Z,32nm,1.3s						
VAE	Valguarnera	56.93	290	LR	LR	15 09 43.4	
	comp=Z,112nm,21.5s,baz=154,slow=38						
KDAK	Kodiak Island	57.31	36	iP	P	14 43 46.9	+3.1
HYT	Haines Junctio	59.89	27	eP	P	14 44 01.0	-0.9
	comp=Z,24nm,1.4s						
YKA	Yellowknife Ar	63.57	15	P	P	14 44 25.0	-1.5
	comp=Z,0.6nm,0.8s,baz=339,slow=7.2,SNR=6.5						
YKA				LR	LR	15 16 38.9	
	comp=Z,7.8nm,18.4s,baz=0.0,slow=40						
YKA	Yellowknife Ar	63.57	15	P	P	14 44 25.0	-1.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ES19	SONSECA Array	65.51	303	eP	P	14 44 39.2	-0.5
ESDC	Sonseca Array	65.56	303	P	P	14 44 39.5	-0.6
	comp=Z,1.1nm,0.5s,baz=41,slow=6.8,SNR=8.8						
FITZ	Fitzroy Crossi	74.14	151	P	P	14 45 31.4	-1.4
	comp=Z,2.4nm,0.8s,baz=342,slow=8.9,SNR=4.1						
ULM	Lac du Bonnet	77.90	8	P	P	14 45 54.3	+0.4
	comp=Z,1.7nm,0.6s,baz=341,slow=3.7,SNR=4.0						
ULM				LR	LR	15 20 48.0	
	comp=Z,94nm,19.8s,baz=22,slow=36						
WRA	Warramunga Arr	78.79	144	P	P	14 45 57.4	-1.7
	comp=Z,3.7nm,0.9s,baz=346,slow=6.0,SNR=9.6						
WRA	Warramunga Arr	78.79	144	iP	P	14 45 58.5	-0.6
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YBH	Yreka Blue Hor	81.00	28	LR	LR	15 23 15.6	
	comp=Z,55nm,21.3s,baz=346,slow=36						
ASAR	Alice Springs	82.05	145	P	P	14 46 14.9	-1.6
	comp=Z,2.8nm,0.9s,baz=329,slow=4.9,SNR=10						
ASAR	Alice Springs	82.05	145	P	P	14 46 15.0	-1.6
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AS01	Alice Springs	82.06	145	eP	P	14 46 14.7	-1.9
TOA0	Torodi Ar. Sit	82.53	282	eP	P	14 46 18.5	-0.8
	comp=Z,20nm,1.8s						
TORD	Torodi Ar. Bea	82.53	282	P	P	14 46 18.5	-0.9
	comp=Z,2.5nm,0.7s,baz=36,slow=5.2,SNR=12						
PDAR	Pinedale Array	83.29	19	LR	LR	15 29 40.2	
	comp=Z,64nm,18.2s,baz=24,slow=40						
KOWA	Kowa	84.92	287	LR	LR	15 27 09.0	
	comp=Z,99nm,18.9s,baz=28,slow=38						
PV09	Paradox Valley	87.49	20	eP	P	14 46 43.3	-1.1
PV01	Paradox Valley	87.95	19	eP	P	14 46 46.0	-0.6
MVL	Millersville	88.43	354	eP	P	14 46 45.3	-3.1
	comp=Z,14nm,0.9s						
MATP	Matopo	92.84	240	LR	LR	15 30 00.4	
	comp=Z,50nm,19.6s,baz=8.5,slow=36						
TXAR	Lajitas Array	97.45	17	LR	LR	15 38 16.8	
	comp=Z,33nm,18.8s,baz=0.0,slow=40						
CPUP	Villa Florida	147.66	311	PKPbc	PKPdf	14 53 38.8	+0.8
	comp=Z,1.7nm,0.8s,baz=122,slow=8.2,SNR=4.0						

*ISCJB **07** 14:37:30.0±0.4, 40.°16N±0.°02×29.°93E±0.°02, h3km±3km, Error ellipse: s-maj=3.3km s-min=2.7km az=169.7*
*DDA **07** 14:37:29.6, 40.°13N×29.°96E, h17km, Ml3.6*
*CSEM **07** 14:37:30.2±0.1, 40.°15N×29.°94E, h2km, ML3.5, Error ellipse: s-maj=2.1km s-min=1.9km az=178.0*
*ISK **07** 14:37:30.0, 40.°18N×29.°94E, h5km, ML3.5/38*
ISC 07 14:37:30.2±0.9**, 40.°14N**±0.°02×**29.°93E**±0.°02**, h8**km±7km**,**
n141, σ0.°72/156**, 12C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAVI	Cavuskoy	0.10	314	PG	Pg	14 37 32.4	-0.1
CAVI				SG	Sg	14 37 34.2	0.0
CAVI	Cavuskoy	0.10	314	ePg	Pg	14 37 32.4	-0.1
CAVI				eSg	Sg	14 37 34.2	0.0
GPA	Golpazari	0.33	62	PG	Pg	14 37 36.1	-0.6
GPA	Golpazari	0.33	62	ePg	Pg	14 37 36.1	-0.6
ADVT	Abdulvahap	0.33	333	PG	Pg	14 37 36.5	-0.3
ADVT	Abdulvahap	0.33	333	ePg	Pg	14 37 36.5	-0.3
GEYV	SAKARYA_Geyve	0.45	38	iP	Pg	14 37 38.3	-0.6
GEYV				iS	Sg	14 37 44.8	+0.1
GEYV	SAKARYA_Geyve	0.45	38	P	Pg	14 37 38.3	-0.6
GEYV				S	Sg	14 37 44.8	+0.1
BORA	Eskisehir	0.47	122	iP	Pg	14 37 38.9	-0.5
BORA				iS	Sg	14 37 46.0	+0.4
BORA	Eskisehir	0.47	122	P	Pg	14 37 38.9	-0.5
BORA				S	Sg	14 37 46.0	+0.4
GULT	Gulveren	0.53	56	PG	Pg	14 37 40.3	-0.3
GULT				SG	Sg	14 37 47.8	+0.2
GULT	Gulveren	0.53	56	ePg	Pg	14 37 40.3	-0.3
GULT				eSg	Sg	14 37 47.8	+0.2
IGD	Bursa	0.57	283	iP	Pg	14 37 40.8	-0.5
SPNC	Sapanca-Adapaz	0.62	27	PG	Pg	14 37 41.6	-0.6
SPNC				SG	Sg	14 37 50.2	-0.1
SPNC	Sapanca-Adapaz	0.62	27	ePg	Pg	14 37 41.6	-0.6
SPNC				eSg	Sg	14 37 50.2	-0.1
GEMT	Gemlik	0.64	298	PG	Pg	14 37 42.5	-0.1
GEMT	Gemlik	0.64	298	ePg	Pg	14 37 42.5	-0.1
SAUV	Serdivan-Sakar	0.67	26	PG	Pg	14 37 42.7	-0.5
SAUV	Serdivan-Sakar	0.67	26	ePg	Pg	14 37 42.7	-0.5
HRT	Hereke	0.71	344	PG	Pg	14 37 43.2	-0.8
HRT	Hereke	0.71	344	ePg	Pg	14 37 43.2	-0.8
TVSB	Tavsanli	0.78	208	PG	Pb	14 37 46.1	0.0
TVSB	Tavsanli	0.78	208	ePg	Pb	14 37 46.1	0.0
ORLT	Orhaneli	0.80	264	PG	Pb	14 37 46.1	-0.3
ORLT	Orhaneli	0.80	264	ePg	Pb	14 37 46.1	-0.3
MDNY	Mudanya-Bursa	0.84	286	PG	Pb	14 37 46.9	-0.1
MDNY	Mudanya-Bursa	0.84	286	ePg	Pb	14 37 46.9	-0.1
BTAS	Taskesti	0.92	62	iP	Pg	14 37 47.3	-0.7
BTAS				iS	Sb	14 38 01.2	+0.2
BTAS	Taskesti	0.92	62	P	Pg	14 37 47.3	-0.7
BTAS				S	Sb	14 38 01.2	+0.2
ARMT	Armutlu	0.93	298	PG	Pg	14 37 47.7	-0.3
ARMT	Armutlu	0.93	298	ePg	Pg	14 37 47.7	-0.3
ESKT	Eskisehir	0.94	131	PG	Pb	14 37 49.1	+0.3
ESKT	Eskisehir	0.94	131	iP	Pg	14 37 47.0	-1.2
ESKT	Eskisehir	0.94	131	ePg	Pb	14 37 49.1	+0.3
SEYT	Eskypehyr	0.94	131	P	Pg	14 37 47.0	-1.2
BUY	Buyukada	0.95	319	PG	Pg	14 37 47.9	-0.5
BUY	Buyukada	0.95	319	iP	Pb	14 37 48.5	-0.4
BUY	Buyukada	0.95	319	ePg	Pg	14 37 47.9	-0.5
BUY	Buyukada	0.95	319	P	Pb	14 37 48.5	-0.4
KAND	Kocaeli-Kandir	0.98	12	iP	Pg	14 37 48.5	-0.5
KAND				iS	Sb	14 38 02.1	-0.4
KAND	Kocaeli-Kandir	0.98	12	P	Pg	14 37 48.5	-0.5
KAND				S	Sb	14 38 02.1	-0.4
SAHE	Sakarya_HENDEK	1.00	44	iP	Pg	14 37 48.8	-0.7
SAHE				iS	Sb	14 38 02.7	-0.6
SAHE	Sakarya_HENDEK	1.00	44	P	Pg	14 37 48.8	-0.7
SAHE				S	Sb	14 38 02.7	-0.6
MDUB	Mudurnu	1.02	71	PG	Pg	14 37 49.6	-0.3
MDUB	Mudurnu	1.02	71	ePg	Pg	14 37 49.6	-0.3
SILT	Sile	1.04	348	PG	Pg	14 37 49.9	-0.3
SILT	Sile	1.04	348	ePg	Pg	14 37 49.9	-0.3
GDZ	Gediz	1.10	199	iP	Pg	14 37 49.9	-1.6
GDZ	Gediz	1.10	199	P	Pg	14 37 49.8	-1.6
KAVV	Kandilli-Istan	1.14	325	PN	Pg	14 37 51.8	-0.3
KAVV	Kandilli-Istan	1.14	325	ePn	Pg	14 37 51.8	-0.3
ISK	Istanbul-Kandi	1.14	325	PN	Pg	14 37 51.8	-0.4
ISK	Istanbul-Kandi	1.14	325	ePn	Pg	14 37 51.8	-0.4
DST	Dursunbey	1.14	243	PN	Pb	14 37 52.3	0.0
DST	Dursunbey	1.14	243	ePn	Pb	14 37 52.3	0.0
KCTX	Karacabey (Bur	1.22	277	PN	Pn	14 37 53.9	+0.3
KCTX	Karacabey (Bur	1.22	277	ePn	Pn	14 37 53.9	+0.3
SIMA	Simav-Kutahya	1.28	215	PN	Pb	14 37 55.7	+1.0
SIMA	Simav-Kutahya	1.28	215	ePn	Pb	14 37 55.7	+1.0
KLYT	Kilyos	1.30	329	PN	Pn	14 37 54.5	-0.3
KLYT	Kilyos	1.30	329	ePn	Pn	14 37 54.5	-0.3
BGKT	Bogazkoy	1.37	320	PN	Pb	14 37 55.8	-0.3
BGKT	Bogazkoy	1.37	320	ePn	Pb	14 37 55.8	-0.3
SVRH	Sivrihisar-ESK	1.41	119	PN	Pg	14 37 57.2	0.0
SVRH	Sivrihisar-ESK	1.41	119	ePn	Pg	14 37 57.2	0.0
DEMI	Demirci	1.44	221	iP	Pb	14 37 57.3	-0.1
DEMI	Demirci	1.44	221	P	Pb	14 37 57.3	-0.1
ELBA	Catalca	1.52	312	iP	Pb	14 37 58.3	-0.5
ELBA	Catalca	1.52	312	P	Pb	14 37 58.3	-0.5
CTKS	Kestanelik-??a	1.54	316	PN	Pn	14 37 58.5	+0.4
CTKS	Kestanelik-??a	1.54	316	ePn	Pn	14 37 58.5	+0.4
EDC	Edincik	1.60	278	PN	Pb	14 37 59.8	-0.2
EDC	Edincik	1.60	278	ePn	Pb	14 37 59.8	-0.2
BOLV	Bolvadin	1.62	151	iP	Pb	14 38 00.2	-0.3
BOLV	Bolvadin	1.62	151	P	Pb	14 38 00.2	-0.3
SHUT	Suhut-Afyon	1.65	163	PN	Pb	14 38 01.0	0.0
SHUT	Suhut-Afyon	1.65	163	ePn	Pb	14 38 01.0	0.0
BALB	Balikesir	1.66	253	PN	Pn	14 37 59.8	+0.2
BALB	Balikesir	1.66	253	ePn	Pn	14 37 59.8	+0.2
SBT3	Marmara-Eregli	1.67	297	PN	Pb	14 38 01.2	+0.1
SBT3	Marmara-Eregli	1.67	297	ePn	Pb	14 38 01.2	+0.1
SLVT	Silivri	1.71	310	PN	Pn	14 38 00.8	+0.5
SLVT	Silivri	1.71	310	ePn	Pn	14 38 00.8	+0.5
GONE	Gonen-Balikesi	1.73	268	PN	Pn	14 38 01.4	+0.8
GONE	Gonen-Balikesi	1.73	268	ePn	Pn	14 38 01.4	+0.8
BCAM	Yenicaga	1.76	67	iP	Pn	14 38 01.5	+0.3
BCAM	Yenicaga	1.76	67	P	Pn	14 38 01.5	+0.3
KHAL	Karahalli	1.80	191	iP	Pn	14 38 02.5	+0.8
KHAL	Karahalli	1.80	191	P	Pn	14 38 02.5	+0.8
BALY	Balya	1.82	258	iP	Pn	14 38 01.2	-0.8
BALY	Balya	1.82	258	P	Pn	14 38 01.2	-0.8
CTYL	Yalikoy Yolu	1.83	318	PN	Pn	14 38 02.4	+0.4
CTYL	Yalikoy Yolu	1.83	318	ePn	Pn	14 38 02.4	+0.4
KHL	Karahalli	1.84	190	PN	Pb	14 38 03.4	-0.8
KHL	Karahalli	1.84	190	ePn	Pb	14 38 03.4	-0.8
STEP	BALIKESIR_Sava	1.87	247	iP	Pn	14 38 01.9	-0.7
STEP	BALIKESIR_Sava	1.87	247	P	Pn	14 38 01.9	-0.7
KZIL	AFYON_Kizioren	1.88	175	iP	Pb	14 38 04.7	-0.2
KZIL	AFYON_Kizioren	1.88	175	P	Pb	14 38 04.7	-0.2
KULA	Kula-Manisa	1.90	212	PN	Pb	14 38 04.3	-0.8
KULA	Kula-Manisa	1.90	212	ePn	Pb	14 38 04.3	-0.8
CMDR	Camlidere-ANKA	1.98	79	iP	Pn	14 38 04.5	+0.3
CMDR	Camlidere-ANKA	1.98	79	P	Pn	14 38 04.5	+0.3
KRBG	Karabiga-Canak	2.03	278	PN	Pn	14 38 05.7	+0.9
KRBG	Karabiga-Canak	2.03	278	ePn	Pn	14 38 05.7	+0.9
AKHS	Akhisar	2.06	233	iP	Pb	14 38 08.3	+0.3
AKHS	Akhisar	2.06	233	P	Pb	14 38 08.3	+0.3
AKS	Akhisar	2.07	233	PN	Pn	14 38 06.7	+1.4
AKS	Akhisar	2.07	233	ePn	Pn	14 38 06.7	+1.4
RKY	Sarkoy-Tekirda	2.17	286	PN	Pn	14 38 07.7	+0.9
RKY	Sarkoy-Tekirda	2.17	286	ePn	Pn	14 38 07.7	+0.9
LOD	Lodumlu	2.19	96	PN	Pn	14 38 07.8	+0.8
LOD	Lodumlu	2.19	96	ePn	Pn	14 38 07.8	+0.8
ANTO	Ankara	2.21	96	PN	Pb	14 38 08.9	-1.6
ANTO	Ankara	2.21	96	ePn	Pb	14 38 08.9	-1.6
BTIN	Bart˜–n	2.31	49	iP	Pn	14 38 09.7	+1.1
BTIN	Bart˜–n	2.31	49	P	Pn	14 38 09.7	+1.1
PHSR	Pinarhisar	2.36	310	PN	Pn	14 38 10.1	+0.8
PHSR	Pinarhisar	2.36	310	ePn	Pn	14 38 10.1	+0.8
LPK	Lapseki	2.44	277	PN	Pn	14 38 11.5	+1.1
LPK	Lapseki	2.44	277	ePn	Pn	14 38 11.5	+1.1
AFSR	Af¯ar-Bala (A	2.51	105	PN	Pn	14 38 12.9	+1.4
AFSR	Af¯ar-Bala (A	2.51	105	ePn	Pn	14 38 12.9	+1.4
GELI	Tayfur-Gelibol	2.66	277	PN	Pn	14 38 14.6	+1.2
GELI	Tayfur-Gelibol	2.66	277	ePn	Pn	14 38 14.6	+1.2
ERIK	Erikli-Kesan	2.67	283	PN	Pn	14 38 14.7	+1.2
ERIK	Erikli-Kesan	2.67	283	ePn	Pn	14 38 14.7	+1.2
ELDT	Eldivan	2.69	81	iP	Pn	14 38 15.3	+1.2
ELDT	Eldivan	2.69	81	P	Pn	14 38 15.3	+1.2
TIRR	Tirgusor	4.46	346⇑	iP	Pn	14 38 38.4	+0.2
TIRR	Tirgusor	4.46	346⇑	iP	Pn	14 38 38.4	+0.2
TLB	Topalu	4.66	343⇑	iP	Pn	14 38 41.3	+0.4
TLB	Topalu	4.66	343⇑	iP	Pn	14 38 41.3	+0.4
CFR	Carcaliu	5.21	346⇑	iP	Pn	14 38 50.7	+2.3
CFR	Carcaliu	5.21	346⇑	iP	Pn	14 38 50.7	+2.3
VTS	Vitosha	5.62	298⇑	iP	Pn	14 38 54.5	+0.2
VTS	Vitosha	5.62	298⇑	iP	Pn	14 38 54.5	+0.2
VRI	Vrincioaia	6.19	339⇑	iP	Pn	14 39 03.2	+1.3
VRI	Vrincioaia	6.19	339⇑	iP	Pn	14 39 03.2	+1.3
BZS	Buzias	8.20	315⇑	iP	Pb	14 39 52.7	+0.2
BURAR	Bucovina Array	8.21	337⇑	iP	Pb	14 39 57.8	+5.0

IDC 07 14:38:07.5±1.8**, 2.°77S**×**139.°24E, h0**km**, mb3.5**/4**, mb1 3.8**/5**, mb1mx3.4**/47**, mbtmp3.5**/5**, ML4.0**/1**, Error ellipse: s-maj=69.6km s-min=24.9km az=100.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.72**	**195**	P	Pn	14 42 15.1	-0.9
	0.5nm,0.3s,baz=14,slow=12,SNR=10.0						
FITZ	**Fitzroy Crossi**	**20.25**	**220**	P	P	14 42 44.1	-0.4
	1.2nm,0.7s,baz=56,slow=15,SNR=2.8						
ASAR	**Alice Springs**	**21.40**	**194**	P	P	14 42 57.8	+0.7
	1.8nm,0.8s,baz=21,slow=10.0,SNR=11						
MKAR	**Makanchi Array**	**70.17**	**322**	P	P	14 49 22.3	+0.2
	0.3nm,0.5s,baz=108,slow=7.2,SNR=8.1						
ILAR	**Eielson Array**	**85.67**	**24**	P	P	14 50 47.7	-0.3
	0.3nm,0.8s,baz=267,slow=4.5,SNR=3.1						

IDC 07 14:39:11.7±1.6**,2°.45S**×**139°.21E,h0**km**,mb3.5**/3**, mb1 4.0**/4**,mb1mx3.5**/44**,mbtmp3.7**/4**,ML3.8**/1**,Error ellipse: s-maj=78.2km s-min=27.4km az=97.0,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.02**	**195**	P	Pn	14 43 23.0	-0.9
	0.3nm,0.3s,baz=15,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**21.70**	**193**	P	P	14 44 04.6	0.0
	2.6nm,0.7s,baz=15,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**69.89**	**322**	P	P	14 50 24.9	+0.2
	0.2nm,0.5s,baz=102,slow=7.9,SNR=4.6						
ILAR	**Eielson Array**	**85.39**	**24**	P	P	14 51 50.9	0.0
	0.3nm,0.8s,baz=274,slow=4.3,SNR=4.5						

*IDC **07** 14:48:18.2±1.4, 2°.84S×139°.16E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/41, mbtmp3.8/6, ML4.3/1, MS3.7/2, Ms1 3.6/2, ms1mx2.9/48, Error ellipse: s-maj=57.2km s-min=12.5km az=98.0*
*ISCJB **07** 14:48:23.6±0.6, 2°.86S±0°.07×138°.94E±0°.05, h46km, mb3.8/4, MS3.6/2, Error ellipse: s-maj=11.4km s-min=6.2km az=152.1*
*DJA **07** 14:48:23.4±0.4, 3°S±7°×13°9E±°, h10km, M4.7/5, mB5.4/1, mb4.9/3, MLv4.6/5, Mw(mB)4.9/1*
ISC 07 14:48:24.7±0.8**,2°.91S**±0°.09×**138°.92E**±0°.08**,h46**km**,n12,** σ**2°.09**/13**,mb3.8**/4**,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.28**	**76**	P	**Pn**	**14 48 44.3**	**-1.9**
GENI				S	**Sn**	**14 49 01.5**	**-0.7**
JAY	**Jayapura**	**1.82**	**78**	P	**Pn**	**14 48 50.8**	**-2.8**
JAY				S	**Sn**	**14 49 15.8**	**+0.2**
MMPI	**Merauke**	**5.71**	**165**	P	**Pn**	**14 49 51.2**	**+4.2**
	351nm,0.7s						
FAKI	**Fak Fak**	**6.67**	**270**	P	**Pn**	**14 50 02.9**	**+2.7**
WRA	**Warramunga Arr**	**17.51**	**194**	P	**Pn**	**14 52 25.1**	**-0.6**
	1.0nm,0.3s,baz=14,slow=12,SNR=8.9						
WRA				S	**Sn**	**14 55 38.7**	**-1.2**
	0.2nm,0.3s,baz=12,slow=24,SNR=3.9						
FITZ	**Fitzroy Crossi**	**19.94**	**220**	P	**Pn**	**14 52 55.0**	**+0.1**
	2.6nm,0.6s,baz=43,slow=14,SNR=5.1						
ASAR	**Alice Springs**	**21.20**	**193**	P	**P**	**14 53 07.5**	**+0.9**
	2.8nm,0.7s,baz=16,slow=9.5,SNR=24						
ASAR				S	Sn	14 57 08.1	-0.7
	2.4nm,0.8s,baz=16,slow=25,SNR=8.3						
STKA	**Stephens Creek**	**28.93**	**175**	LR	LR	15 06 51.3	
	comp=Z,112nm,20.2s,baz=220,slow=38						
NWAO	**Narrogin (SRO)**	**36.12**	**212**	LR	LR	15 11 30.3	
	comp=Z,151nm,20.2s,slow=38						
MKAR	**Makanchi Array**	**70.08**	**322**	P	**P**	**14 59 33.2**	**+1.0**
	0.5nm,0.4s,baz=105,slow=6.1,SNR=16						
BVAR	**Borovoye Array**	**79.60**	**325**	P	**P**	**15 00 27.7**	**+0.7**
	0.4nm,0.5s,baz=105,slow=6.3,SNR=2.8						
ILAR	**Eielson Array**	**85.92**	**24**	P	**P**	**15 00 58.0**	**-1.6**
	0.7nm,0.9s,baz=261,slow=4.6,SNR=6.7						

*GUC **07** 14:53:45.6±0.4, 31°.56S×71°.44W, h20km±7km, ML3.8*
*SJA **07** 14:53:47.7±1.4, 31°.59S×71°.79W, h10km, ML3.9, MW3.6*
ISC 07 14:53:45.1±1.6**,31°.49S**±0°.03×**71°.63W**±0°.07**,h13**km±11km**, n20,** σ**1°.02**/35**,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**1.50**	**29**	eP	**Pb**	**14 54 13.3**	**+0.5**
GO04				eS	**Sg**	**14 54 34.5**	**+1.0**
GO04				IAML		14 54 38.8	
	comp=N,6μm,0.7s						
TLL	**Tololo Astrono**	**1.50**	**28**	eP	**Pb**	**14 54 13.5**	**+0.6**
TLL				eS	**Sg**	**14 54 34.2**	**+0.7**
TLL				IAML		14 54 42.2	
	comp=E,2μm,0.5s						
ROCH	**El Roble**	**1.56**	**161**	eP	**Pn**	**14 54 12.7**	**-0.1**
ROCH				eS	**Sb**	**14 54 33.0**	**-0.8**
ROCH				IAML		14 54 41.5	
	comp=N,2μm,0.5s						
ROC1	**El Roble**	**1.57**	**161**	eP	**Pg**	**14 54 15.5**	**+0.3**
ROC1				eS	**Sg**	**14 54 35.6**	**0.0**
RTLS	**Leoncito**	**2.01**	**99**	eP	**Pg**	**14 54 23.3**	**-0.4**
RTLS				eS	**Sg**	**14 54 51.6**	**+1.8**
RTLS				IAML		14 54 57.6	
	comp=Z,543nm,0.6s						
AUSP	**Uspallata**	**2.04**	**111**	eP	**Pg**	**14 54 23.7**	**-0.6**
AUSP				eS	**Sg**	**14 54 51.0**	**+0.2**
RCDM	**Rinconada Maip**	**2.11**	**161**	eP	**Pn**	**14 54 20.5**	**+0.5**
RCDM				eS	**Sn**	**14 54 46.9**	**+0.8**
CLCH	**Cerro Calan**	**2.11**	**154**	eP	**Pn**	**14 54 20.6**	**+0.5**
CLCH				eS	**Sn**	**14 54 47.1**	**+0.8**
CLCH				IAML		14 54 55.6	
	comp=E,1μm,0.6s						
FCH	**Farellones**	**2.15**	**149**	eP	**Pn**	**14 54 21.9**	**+0.9**
FCH				eS	**Sb**	**14 54 49.1**	**-1.6**
FCH				IAML		14 54 54.1	
	comp=E,747nm,0.2s						
ZON	**Zonda**	**2.52**	**92**	eP	**Pb**	**14 54 30.2**	**0.0**
ZON				eS	**Sb**	**14 55 01.7**	**+0.6**
ASAL	**Salagasta**	**2.61**	**115**	eP	**Pb**	**14 54 31.9**	**+0.1**
SJA	**San Juan**	**2.62**	**92**	eP	**Pb**	**14 54 31.5**	**-0.4**
SJA				IAML		14 55 16.3	
	comp=Z,348nm,0.4s						
LMEL	**Las Melosas**	**2.64**	**153**	eP	**Pn**	**14 54 28.9**	**+1.5**
LMEL				eS	**Sb**	**14 55 03.4**	**-1.2**
ARCO	**CERRO ARCO**	**2.65**	**121**	eP	**Pb**	**14 54 31.9**	**-0.6**
ARCO				eS	**Sb**	**14 55 04.7**	**-0.3**
ARCO				IAML		14 55 21.2	
	comp=Z,303nm,0.9s						
RTCV	**Cerro Valdivia**	**2.66**	**99**	eP	**Pb**	**14 54 32.2**	**-0.4**
RTCV				eS	**Sb**	**14 55 05.3**	**+0.2**
RTLL	**Cerro Villicun**	**2.70**	**87**	eP	**Pb**	**14 54 33.0**	**-0.3**
AMOG	**MOGNA**	**2.74**	**79**	eP	**Pb**	**14 54 33.9**	**-0.1**
AAGR	**Agrelo**	**2.85**	**125**	eP	**Pb**	**14 54 34.7**	**-1.2**
AAGR				eS	**Sb**	**14 55 10.0**	**-0.8**
AGUA	**GUANDACOL**	**3.37**	**54**	eP	**Pb**	**14 54 43.3**	**-1.4**
VCA	**Vinchina**	**4.04**	**48**	eP	**Pb**	**14 54 53.4**	**-2.9**
VCA				eS	**Sb**	**14 55 43.5**	**-1.7**
VCA				IAML		14 55 50.3	
	comp=Z,257nm,0.4s						

IDC 07 15:04:16.5±2.4**,7°.13S**×**120°.17E,h544**km±26km**,mb2.6**/3**, mb1 2.7**/6**,mb1mx2.4**/67**,mbtmp3.5**/6**,Error ellipse: s-maj=137.1km s-min=22.0km az=58.0,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.61**	**132**	P	P	15 05 44.1	+1.3
	2.9nm,0.3s,baz=296,slow=5.8,SNR=7.2						
BATI				S	S	15 06 52.5	-0.6
	0.9nm,0.3s,baz=241,slow=19,SNR=3.1						
FITZ	**Fitzroy Crossi**	**12.13**	**154**	P	P	15 06 56.4	0.0
	0.2nm,0.3s,baz=335,slow=9.5,SNR=6.1						
WRA	**Warramunga Arr**	**18.73**	**134**	P	P	15 08 01.9	+0.5
	0.1nm,0.3s,baz=311,slow=9.4,SNR=4.7						
ASAR	**Alice Springs**	**21.07**	**143**	P	P	15 08 22.4	-0.3
	0.2nm,0.3s,baz=318,slow=8.7,SNR=5.1						
MKAR	**Makanchi Array**	**63.35**	**332**	P	P	15 13 52.7	+0.1
	0.4nm,0.4s,baz=145,slow=7.5,SNR=6.5						
ZALV	**Zalesovo Beam**	**67.73**	**338**	P	P	15 14 19.3	-0.5
	0.4nm,0.3s,baz=140,slow=6.9,SNR=2.4						

*ASRS **07** 15:05:22.9±0.5, 51°.73N×96°.07E, h15km, Ms3.2/2*
*MOS **07** 15:05:23.1±1.6, 51°.37N×96°.17E, h14km, mb4.3/6, Error ellipse: s-maj=16.5km s-min=10.8km az=7.0*
*IDC **07** 15:05:24.1±1.6, 51°.43N×96°.16E, h0km, mb4.0/1, mb1 3.3/6, mb1mx3.0/80, mbtmp3.2/6, ML2.6/5, Error ellipse: s-maj=32.7km s-min=15.9km az=10.0*
ISC 07 15:05:24.6±0.7**,51°.72N**±0°.07×**95°.95E**±0°.04**,h10**km**,n34,** σ**3°.25**/44**,mb4.1**/6**,1C-7D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.93**	**270**	i Pg	**Pg**	**15 05 40.9**	**-1.7**
KZLR				eSg	**Sg**	**15 05 54.1**	**-0.5**
HVS	**Khovu-Aksy**	**1.52**	**248**	d iPN	**Pn**	**15 05 50.8**	**-1.2**
ORL	**Orlik**	**2.52**	**69**	ePN	**Pb**	**15 06 05.9**	**-4.0**
ORL				e		15 06 37.0	
ORL				pmax	pmax		
	comp=Z,85nm,0.4s						
ORL				smax	smax		
	comp=N,519nm,0.8s						
CERR	**Cheremushki**	**3.01**	**294**	ePn	**Pb**	**15 06 14.9**	**-3.3**
CERR				ePg	**Pg**	**15 06 20.3**	**-1.9**
CERR				eSg	**Sb**	**15 06 57.6**	**+2.6**
MOY	**Mondy**	**3.14**	**89**	ePN	**Pb**	**15 06 16.7**	**-3.9**
MOY				i		15 06 21.6	
MOY				e		15 06 56.9	
MOY				i		15 07 01.5	
ARS	**Arshan**	**4.02**	**85**	ePN	**Pn**	**15 06 26.0**	**-0.3**
ARS				e		15 06 35.7	
ARS				e		15 07 25.1	
ARS				pmax	pmax		
	comp=Z,56nm,0.5s						
ARS				smax	smax		
	comp=E,747nm,0.7s						
TLY	**Talaya**	**4.79**	**87**	ePN	**Pb**	**15 06 48.2**	**-0.4**
TLY				e		15 07 46.7	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.2s						
ZAK	**Zakamensk**	**4.81**	**103**	ePN	**Pb**	**15 06 45.5**	**-3.6**
ZAK				pmax	pmax		
	comp=Z,26nm,0.6s						
TASR	**Tashtagol**	**5.07**	**285**	ePn	**Pn**	**15 06 44.3**	**+3.7**
TASR				ePg	**Pg**	**15 06 57.3**	**-4.3**
TASR				eSg	**Sg**	**15 08 02.5**	**-4.7**
IRK	**Irkutsk**	**5.17**	**81**	ePN	**Pb**	**15 06 54.5**	**-0.6**
IRK				e		15 07 58.0	
IRK				pmax	pmax		
	comp=Z,58nm,0.2s						
IRK				smax	smax		
	comp=N,427nm,1.0s						
ARTR	**Artybash**	**5.39**	**274**	ePg	**Pb**	**15 07 01.2**	**+2.4**
ARTR				eSg	**Sg**	**15 08 12.1**	**-5.3**
AKAR	**Aktash**	**5.44**	**258**	ePn	**Pn**	**15 06 48.5**	**+2.7**
AKAR				ePg	**Pg**	**15 07 04.6**	**-4.2**
AKAR				eSg	**Sb**	**15 08 12.1**	**+6.9**
DGZ	**Jazzator, Alta**	**5.78**	**253**	⇓ePN	**Pn**	**15 06 52.9**	**+2.4**
ELT	**Eltsovka**	**6.13**	**288**	ePn	**Pn**	**15 06 54.0**	**-1.2**
ELT				ePg	Pb	15 07 15.8	+4.4
ELT				eSg	**Sg**	**15 08 35.4**	**-5.9**
ZALV	**Zalesovo Beam**	**7.10**	**293**	Pn	**Pn**	**15 07 11.2**	**+2.7**
	comp=N,0.3nm,0.3s,baz=110,slow=12,SNR=4.1						
ZALV				Lg	Lg	15 09 05.4	
	comp=N,1.5nm,0.3s,baz=116,slow=23,SNR=8.7						
OGRR	**Ongureny**	**7.34**	**70**	eP	**Pn**	**15 07 09.8**	**-2.0**
OGRR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**7.80**	**116**	Pn	**Pn**	**15 07 15.7**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=305,slow=15,SNR=2.5						
SONM				Pg	**Pb**	**15 07 40.3**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=304,slow=18,SNR=34						
SONM				Lg	Lg	15 09 24.1	
	comp=Z,1.7nm,0.3s,baz=301,slow=26,SNR=11						
ULN	**Ulaanbaatar**	**8.15**	**114**	⇓eP	**Pn**	**15 07 23.5**	**+0.4**
NVS	**Novosibirsk**	**8.24**	**297**	eSg	Sg	15 09 39.5	-9.2
MKAR	**Makanchi Array**	**10.20**	**246**	Pn	**Pn**	**15 07 52.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=64,slow=8.5,SNR=6.7						
MKAR				Pg		15 08 32.1	
	comp=Z,0.1nm,0.3s,baz=71,slow=15,SNR=5.3						
MKAR				Lg	Lg	15 10 46.7	
	comp=Z,0.2nm,0.3s,baz=67,slow=19,SNR=3.8						
MKAR	**Makanchi Array**	**10.20**	**246**	i P	**Pn**	**15 07 52.5**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURK	**Kurchatov**	**10.92**	**272**	P	**Pn**	**15 08 03.3**	**+2.5**
KURBB	**Kurchatov Arra**	**10.99**	**271**	Pn	**Pn**	**15 08 03.3**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=74,slow=15,SNR=3.0						
KURBB				Lg	Lg	15 11 13.9	
	comp=Z,0.0nm,0.3s,baz=80,slow=31,SNR=7.1						
BVAR	**Borovoye Array**	**15.64**	**285**	Pn	**P**	**15 09 07.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=83,slow=13,SNR=4.4						
BRVK	**Borovoye**	**15.70**	**285**	⇑eP	**P**	**15 09 10.4**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.0s						
ARU	**Arti**	**22.24**	**297**	d iP	**P**	**15 10 25.9**	**+4.7**
ARU						15 10 47.3	
ARU				S	Sn	15 14 34.7	-2.6
ARU				SS	**SnSn**	**15 15 00.0**	**+7.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TIXI	**Tiksi**	**24.76**	**24**	⇓eP	**P**	**15 10 48.1**	**+2.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OBN	**Obninsk**	**34.63**	**300**	⇓eP	**P**	**15 12 09.2**	**-4.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	**FINESS Array B**	**37.86**	**313**	P	**P**	**15 12 44.2**	**+3.1**
	comp=Z,2.3nm,1.1s,baz=72,slow=8.6,SNR=2.4						
KIEV	**Kiev**	**40.50**	**296**	⇓eP	**P**	**15 13 05.0**	**+1.7**
KIEV				pmax	pmax		
	comp=Z,13nm,2.1s						
STHS	**Stebnicka Huta**	**45.56**	**298**	eP	**P**	**15 13 44.4**	**0.0**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.4s						
STHS	**Stebnicka Huta**	**45.56**	**298**	eP	**P**	**15 13 44.4**	**0.0**
VYHS	**Vyhne**	**47.40**	**298**	eP	**P**	**15 14 01.1**	**+2.3**
VYHS	**Vyhne**	**47.40**	**298**	eP	**P**	**15 14 01.0**	**+2.3**

*DDA **07** 15:08:10.0, 38°.65N×43°.04E, h19km, Ml4.0*
*ISK **07** 15:08:09.1, 38°.64N×43°.05E, h5km, ML4.0/19*
*ISCJB **07** 15:08:10.2±0.4, 38°.66N±0°.02×43°.05E±0°.02, h2km±3km, mb3.7/7, Error ellipse: s-maj=2.7km s-min=2.6km az=141.6*
*CSEM **07** 15:08:10.8±0.2, 38°.64N×43°.08E, h10km, ML4.0, Error ellipse: s-maj=4.2km s-min=3.8km az=144.0*
*IDC **07** 15:08:12.9±3.9, 38°.69N×43°.15E, h21km±25km, mb3.7/8, mb1 3.6/13, mb1mx3.4/68, mbtmp3.7/13, ML3.1/5, MS2.2/1, Ms1 2.1/1, ms1mx2.0/64, Error ellipse: s-maj=20.9km s-min=12.6km az=153.0*
ISC 07 15:08:11.3±0.9**,38°.66N**±0°.01×**43°.09E**±0°.02**,h11**km±6km**, n114,** σ**1°.44**/164**,mb3.9**/7**,17C-15D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.24**	**105**	PG	**Pg**	**15 08 16.6**	**+0.3**
VANB				SG	**Sg**	**15 08 21.4**	**+1.7**
VANB	**Van**	**0.24**	**105**	ePg	**Pg**	**15 08 16.6**	**+0.3**
VANB				eSg	**Sg**	**15 08 21.4**	**+1.7**
TVAN	**Van**	**0.28**	**117**	⇑iP	**Pg**	**15 08 16.7**	**-0.3**
TVAN				i S	**Sb**	**15 08 22.4**	**-0.7**
TVAN	**Van**	**0.28**	**117**	P	**Pg**	**15 08 16.7**	**-0.3**
TVAN				S	**Sb**	**15 08 22.4**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.33**	**298**	⇓iP	**Pg**	**15 08 16.5**	**-1.4**
ADCV				i S	**Sg**	**15 08 22.1**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.33**	**298**	P	**Pg**	**15 08 16.5**	**-1.4**
ADCV				S	**Sg**	**15 08 22.1**	**-0.3**
GEVA	**Gevas**	**0.34**	**185**	⇓iP	**Pg**	**15 08 16.5**	**-1.7**
GEVA				i S	**Sg**	**15 08 22.5**	**-0.4**
GEVA	**Gevas**	**0.34**	**185**	P	**Pg**	**15 08 16.5**	**-1.7**
GEVA				S	**Sg**	**15 08 22.5**	**-0.4**
ERCV	**ERCIS-VAN**	**0.41**	**28**	PG	**Pg**	**15 08 18.9**	**-0.5**
ERCV				SG	**Sb**	**15 08 26.0**	**-1.0**
ERCV	**ERCIS-VAN**	**0.41**	**28**	ePg	**Pg**	**15 08 18.9**	**-0.5**
ERCV				eSg	**Sb**	**15 08 26.0**	**-1.0**
TUTA	**Tutak**	**0.78**	**344**	⇓iP	**Pg**	**15 08 25.0**	**-1.3**
TUTA				i S	**Sg**	**15 08 35.8**	**-0.7**
TUTA	**Tutak**	**0.78**	**344**	P	**Pg**	**15 08 25.0**	**-1.3**
TUTA				S	**Sg**	**15 08 35.8**	**-0.7**
CLDR	**Caldiran**	**0.81**	**53**	PG	**Pg**	**15 08 25.6**	**-1.3**
CLDR	**Caldiran**	**0.81**	**53**	⇑iP	**Pg**	**15 08 24.9**	**-2.0**
CLDR				i S	**Sb**	**15 08 37.8**	**-0.7**
CLDR	**Caldiran**	**0.81**	**53**	P	**Pg**	**15 08 24.9**	**-2.0**
CLDR	**Caldiran**	**0.81**	**53**	ePg	**Pg**	**15 08 25.6**	**-1.3**
CLDR				S	**Sb**	**15 08 37.8**	**-0.7**
GURO	**Guroymak-BITLI**	**0.84**	**263**	PG	**Pg**	**15 08 24.9**	**-2.6**
GURO	**Guroymak-BITLI**	**0.84**	**263**	ePg	**Pg**	**15 08 24.9**	**-2.6**
AGRB	**Hanur-Agry**	**0.92**	**355**	PG	**Pg**	**15 08 27.8**	**-1.3**
AGRB	**Hanur-Agry**	**0.92**	**355**	ePg	**Pg**	**15 08 27.8**	**-1.3**
BASK	**Baskale_VAN**	**0.94**	**130**	i P	**Pg**	**15 08 26.7**	**-2.6**
BASK				i S	**Sb**	**15 08 42.9**	**+0.8**
BASK	**Baskale_VAN**	**0.94**	**130**	P	**Pg**	**15 08 26.7**	**-2.6**
BASK				S	**Sb**	**15 08 42.9**	**+0.8**
DYDN	**Diyadin**	**1.00**	**27**	i P	**Pb**	**15 08 29.8**	**-0.9**
DYDN				i S	**Sn**	**15 08 46.7**	**+1.0**
DYDN	**Diyadin**	**1.00**	**27**	P	**Pb**	**15 08 29.8**	**-0.9**
DYDN				S	**Sn**	**15 08 46.7**	**+1.0**
EKAR	**Karacoban**	**1.00**	**307**	⇓iP	**Pg**	**15 08 28.0**	**-2.6**
EKAR				i S	**Sb**	**15 08 45.5**	**+1.4**
EKAR	**Karacoban**	**1.00**	**307**	P	**Pg**	**15 08 28.0**	**-2.6**
EKAR				S	**Sb**	**15 08 45.5**	**+1.4**
SRTM	**Siirt_Merkez**	**1.14**	**235**	⇑iP	**Pg**	**15 08 30.6**	**-2.5**
SRTM				i S	**Sb**	**15 08 49.5**	**+1.7**
SRTM	**Siirt_Merkez**	**1.14**	**235**	P	**Pg**	**15 08 30.6**	**-2.5**
SRTM				S	**Sb**	**15 08 49.5**	**+1.7**
HAKT	**HAKKARI**	**1.20**	**156**	⇓iP	**Pg**	**15 08 31.9**	**-2.5**
HAKT				i S	**Sb**	**15 08 50.9**	**+1.2**
HAKT	**HAKKARI**	**1.20**	**156**	P	**Pg**	**15 08 31.9**	**-2.5**
HAKT				S	**Sb**	**15 08 50.9**	**+1.2**
SIRT	**Sirnak**	**1.26**	**204**	PN	**Pg**	**15 08 33.8**	**-1.8**
SIRT	**Sirnak**	**1.26**	**204**	ePn	**Pg**	**15 08 33.8**	**-1.8**
SIRN	**S˜–rnak**	**1.28**	**205**	⇑iP	**Pn**	**15 08 33.2**	**-2.0**
SIRN				i S	**Sg**	**15 08 52.9**	**+0.5**
SIRN	**S˜–rnak**	**1.28**	**205**	P	**Pn**	**15 08 33.2**	**-2.0**
SIRN				S	**Sg**	**15 08 52.9**	**+0.5**
EATA	**Eleskirt**	**1.29**	**339**	⇓iP	**Pg**	**15 08 34.1**	**-2.0**
EATA				i S	**Sn**	**15 08 53.5**	**+0.5**
EATA	**Eleskirt**	**1.29**	**339**	P	**Pg**	**15 08 34.1**	**-2.0**
EATA				S	**Sn**	**15 08 53.5**	**+0.5**
YOVA	**Hakkari_Yˆ…kse**	**1.42**	**138**	i P	**Pn**	**15 08 37.3**	**0.0**
YOVA				i S	**Sn**	**15 08 59.3**	**+3.2**
YOVA	**Hakkari_Yˆ…kse**	**1.42**	**138**	P	**Pn**	**15 08 37.3**	**0.0**
YOVA				S	**Sn**	**15 08 59.3**	**+3.2**
IGDI	**IGDIR**	**1.43**	**32**	⇑iP	**Pn**	**15 08 37.1**	**-0.2**
IGDI				i S	**Sn**	**15 08 58.8**	**+2.6**
CUKT	**Cukurca**	**1.46**	**164**	PN	**Pn**	**15 08 37.4**	**-0.4**
CUKT	**Cukurca**	**1.46**	**164**	⇑iP	**Pn**	**15 08 36.2**	**-1.5**
CUKT				i S	**Sg**	**15 08 59.0**	**+0.6**
CUKT	**Cukurca**	**1.46**	**164**	P	**Pn**	**15 08 36.2**	**-1.5**
CUKT	**Cukurca**	**1.46**	**164**	ePn	**Pn**	**15 08 37.4**	**-0.4**
CUKT				S	**Sg**	**15 08 59.0**	**+0.6**
BNGL	**BINGOL**	**1.55**	**282**	⇓iP	**Pn**	**15 08 38.0**	**-0.9**
BNGL				i S	**Sn**	**15 08 59.0**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.59**	**33**	PN	**Pb**	**15 08 39.9**	**-0.9**
TASB	**TASBURUN-IGDIR**	**1.59**	**33**	ePn	**Pb**	**15 08 39.9**	**-0.9**
BTMN	**Batman**	**1.63**	**243**	⇑iP	**Pn**	**15 08 40.0**	**+0.1**
BTMN				i S	**Sn**	**15 09 01.7**	**+0.8**
BTMN	**Batman**	**1.63**	**243**	P	**Pn**	**15 08 40.0**	**+0.1**
BTMN				S	**Sn**	**15 09 01.7**	**+0.8**
HOMI	**Horasan**	**1.67**	**327**	i P	**Pn**	**15 08 40.0**	**-0.7**
HOMI				i S	**Sg**	**15 09 09.2**	**+4.3**
HYR	**Heyderabad**	**1.73**	**52**	⇑P	**Pb**	**15 08 42.0**	**-1.1**
	SNR=117						
DIGO	**Kars**	**1.77**	**7**	i P	**Pn**	**15 08 42.4**	**+0.2**
DIGO				i S	**Sg**	**15 09 10.2**	**+2.0**
DIGO	**Kars**	**1.77**	**7**	P	**Pn**	**15 08 42.3**	**+0.2**
ERZM	**Erzurum**	**1.83**	**313**	i P	**Pn**	**15 08 42.5**	**-0.4**
ERZM				i S	**Sg**	**15 09 10.1**	**-0.1**
ERZM	**Erzurum**	**1.83**	**313**	P	**Pn**	**15 08 42.5**	**-0.4**
ERZM				S	**Sg**	**15 09 10.1**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.90**	**301**	⇓iP	**Pn**	**15 08 43.9**	**+0.1**
ECAT				i S	**Sg**	**15 09 12.7**	**+0.2**
ECAT	**Cat-ERZURUM**	**1.90**	**301**	P	**Pn**	**15 08 43.9**	**+0.1**
ECAT				S	**Sg**	**15 09 12.6**	**+0.2**
NAX	**Nakhchivan**	**1.94**	**74**	⇓P	**Pb**	**15 08 45.9**	**-0.8**
	SNR=58						
GNI	**Garni**	**1.96**	**40**	Pn	**Pb**	**15 08 45.9**	**-1.2**
	11nm,0.3s,baz=337,slow=0.4,SNR=21						
GNI				Lg	Lg	15 09 19.0	
	20nm,0.3s,baz=193,slow=23,SNR=8.0						
GNI				LR	LR	15 09 37.3	
	comp=Z,64nm,18.5s,baz=68,slow=44						
KARS	**Kars**	**1.97**	**360**	PN	**Pn**	**15 08 44.9**	**+0.2**
KARS	**Kars**	**1.97**	**360**	ePn	**Pn**	**15 08 44.9**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.99**	**343**	PN	**Pn**	**15 08 45.3**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.99**	**343**	ePn	**Pn**	**15 08 45.3**	**+0.3**
SBZ	**Shahbuz**	**2.05**	**68**	⇑P	**Pb**	**15 08 47.3**	**-1.3**
	SNR=172						
EAK	**Akyaka**	**2.07**	**11**	i P	**Pb**	**15 08 48.8**	**-0.1**
EAK				i S	**Sg**	**15 09 19.8**	**+2.1**
EAK	**Akyaka**	**2.07**	**11**	P	**Pb**	**15 08 48.8**	**-0.1**
ORD	**Ordubad**	**2.28**	**82**	⇑P	**Pb**	**15 08 50.5**	**-2.0**
	SNR=93						
DIY	**Diyarbakir**	**2.38**	**252**	ePn	**Pn**	**15 08 50.9**	**+0.6**
MAZI	**Mazidag**	**2.41**	**241**	PN	**Pn**	**15 08 50.6**	**-0.1**
MAZI	**Mazidag**	**2.41**	**241**	ePn	**Pn**	**15 08 50.6**	**-0.1**
DYBB	**Diyarbakir**	**2.43**	**254**	PN	**Pn**	**15 08 50.9**	**-0.1**
KOPT	**Kop Dagi**	**2.43**	**305**	i P	**Pb**	**15 08 55.1**	**-0.1**
KOPT				i S	**Sg**	**15 09 30.7**	**+1.3**
KOPT	**Kop Dagi**	**2.43**	**305**	P	**Pb**	**15 08 55.1**	**-0.1**
DIYA	**Diyarbakir**	**2.45**	**254**	i P	**Pn**	**15 08 51.5**	**+0.2**
DIYA	**Diyarbakir**	**2.45**	**254**	P	**Pn**	**15 08 51.5**	**+0.2**
DDEM	**Demirkent**	**2.46**	**336**	i P	**Pb**	**15 08 54.7**	**-0.9**
DDEM	**Demirkent**	**2.46**	**336**	P	**Pb**	**15 08 54.7**	**-0.9**
AKH	**Akhalkalaki**	**2.77**	**6**	PN	**Pn**	**15 08 56.5**	**+0.8**
AKH	**Akhalkalaki**	**2.77**	**6**	ePn	**Pn**	**15 08 56.5**	**+0.8**
BAYT	**Ayd˜–ntepe-Bay**	**2.87**	**308**	PN	**Pn**	**15 08 57.6**	**+0.5**
BAYT	**Ayd˜–ntepe-Bay**	**2.87**	**308**	ePn	**Pn**	**15 08 57.6**	**+0.5**
PTK	**Pertek**	**2.90**	**276**	PN	**Pn**	**15 08 57.7**	**+0.1**
PTK	**Pertek**	**2.90**	**276**	ePn	**Pn**	**15 08 57.7**	**+0.1**
GDB	**GEDABAY**	**2.91**	**44**	⇓P	**Pn**	**15 08 56.0**	**-1.7**
	SNR=7.6						
GDB				⇓S	**Sb**	**15 09 36.8**	**-2.1**
QZX	**Qazax, Azerbai**	**2.97**	**35**	⇑P	**Pn**	**15 08 55.4**	**-3.0**
	SNR=17						
QZX				⇓S	**Sn**	**15 09 35.7**	**+1.7**
GANJ	**Ganja**	**3.19**	**50**	⇓P	**Pn**	**15 09 00.5**	**-0.9**
	SNR=5.0						
GANJ				⇑S	**Sb**	**15 09 44.7**	**-2.1**
KTUT	**Trabzon**	**3.46**	**313**	PN	**Pn**	**15 09 05.9**	**+0.8**
KTUT	**Trabzon**	**3.46**	**313**	ePn	**Pn**	**15 09 05.9**	**+0.8**
BRDA	**Brd**	**3.55**	**62**	⇑P	**Pn**	**15 09 06.4**	**+0.2**
	SNR=6.6						
URFA	**Urfa**	**3.58**	**252**	PN	**Pn**	**15 09 07.4**	**+0.5**
URFA	**Urfa**	**3.58**	**252**	ePn	**Pn**	**15 09 07.4**	**+0.5**
ILIC	**ilic-Erzincan**	**3.61**	**284**	PN	**Pn**	**15 09 08.0**	**+0.7**
ILIC	**ilic-Erzincan**	**3.61**	**284**	ePn	**Pn**	**15 09 08.0**	**+0.7**
MALT	**Malatya**	**3.68**	**266**	PN	**Pn**	**15 09 08.8**	**+0.6**
MALT	**Malatya**	**3.68**	**266**	ePn	**Pn**	**15 09 08.8**	**+0.6**
MNGR	**Mingechevir, A**	**3.73**	**54**	⇑P	**Pn**	**15 09 08.2**	**-0.6**
	SNR=7.1						
MNGR				⇓S	**Sb**	**15 09 58.7**	**-3.7**
ZRD	**Zardab**	**3.90**	**64**	⇑P	**Pn**	**15 09 11.6**	**+0.4**
	SNR=5.5						
ESPY	**Espiye-Giresun**	**4.05**	**305**	PN	**Pn**	**15 09 14.4**	**+1.2**
ESPY	**Espiye-Giresun**	**4.05**	**305**	ePn	**Pn**	**15 09 14.4**	**+1.2**
SEKA	**Sheki**	**4.06**	**50**	⇑P	**Pn**	**15 09 12.9**	**-0.4**
	SNR=3.3						
SEKA				⇓S	**Sb**	**15 10 07.2**	**-4.6**
LRK	**Lerik**	**4.11**	**89**	⇑P	**Pn**	**15 09 16.1**	**+2.0**
	SNR=7.9						
KBZ	**Khabaz**	**5.07**	**358**	Pn	**Pn**	**15 09 29.9**	**+2.7**
	0.1nm,0.3s,baz=65,slow=13,SNR=2.5						
KBZ				Pg	**Pb**	**15 09 43.3**	**+3.3**
	0.2nm,0.3s,baz=174,slow=11,SNR=7.0						
KBZ				LR	LR	15 11 17.8	
	comp=Z,23nm,18.3s,baz=225,slow=37						
BRTR	**Keskin Array B**	**7.42**	**281**	Pn	**Pn**	**15 10 01.8**	**+2.1**
	0.1nm,0.3s,baz=102,slow=13,SNR=2.6						
ASF	**Jabal al Asfar**	**8.21**	**220**	Pn	**Pn**	**15 10 10.2**	**-0.2**
	0.4nm,0.3s,baz=18,slow=14,SNR=2.6						
ASF				Lg	Lg	15 12 30.7	
	0.4nm,0.3s,baz=174,slow=23,SNR=3.0						
MMAI	**Mount Meron Ar**	**8.40**	**230**	Pn	**Pn**	**15 10 16.3**	**+3.3**
	0.8nm,0.3s,baz=62,slow=13,SNR=2.5						
AKASG	**Malin Array Be**	**15.53**	**325**	Pn	**Pn**	**15 11 50.8**	**+0.7**
	0.6nm,0.3s,baz=134,slow=11,SNR=10						
AKTO	**Aktyubinsk**	**15.83**	**37**	Pn	**Pn**	**15 11 54.2**	**+0.2**
	0.2nm,0.3s,baz=220,slow=12,SNR=7.3						
ARU	**Arti**	**20.53**	**25**	P	**P**	**15 12 49.6**	**+0.1**
	0.9nm,0.3s,baz=212,slow=9.5,SNR=2.6						
BVAR	**Borovoye Array**	**23.64**	**44**	P	**P**	**15 13 21.1**	**-1.3**
	1.6nm,0.5s,baz=306,slow=2.5,SNR=24						
FINES	**FINESS Array B**	**25.14**	**341**	P	**P**	**15 13 35.2**	**-0.8**
	2.7nm,0.9s,baz=153,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**29.67**	**61**	P	**P**	**15 14 17.7**	**+0.8**
	0.4nm,0.7s,baz=273,slow=10,SNR=3.0						
TORD	**Torodi Ar. Bea**	**44.54**	**247**	P	**P**	**15 16 24.2**	**+1.0**
	0.4nm,0.7s,baz=47,slow=8.6,SNR=3.5						
CMAR	**Chiang Mai Arr**	**52.20**	**96**	P	**P**	**15 17 21.9**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.5nm,0.7s,baz=299,slow=8.1,SNR=17						
SEY	Seymchan	64.22	29	P	P	15 18 46.0	+0.2
	1.1nm,0.8s,baz=269,slow=5.5,SNR=5.1						
KSRS	Korea Array	64.35	62	P	P	15 18 46.8	-0.2
	1.1nm,0.7s,baz=297,slow=6.9,SNR=5.6						

MAN 07 15:10:26, 9°.84N×122°.96E, h1^{km}, mb4.1, ML2.9, MS2.5, 3C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.57	151	⇑iP	Pb	15 10 38.3	-0.5
SNPH				iS	Sb	15 10 47.2	-0.2
GUIM	Jordan	0.86	335	eP	Pg	15 10 42.4	-0.2
GUIM				eS	Sg	15 10 54.5	+0.8
TBP	Tagbilaran	0.91	99	eP	Pg	15 10 42.8	-0.6
TBP				iS	Sg	15 10 55.8	+0.6
LLP	Lapu-Lapu	1.10	64	⇑eP	Pg	15 10 45.2	-2.0
LLP				iS	Sg	15 11 00.0	-1.4
DCPH	Dipolog City	1.31	163	⇑eP	Pg	15 10 50.5	-0.6
DCPH				eS	Sn	15 11 09.3	-0.3
JAP	San Jose, Anti	1.34	312	⇓eP	Pb	15 10 53.6	+1.6
RCP	Roxas	1.72	353	⇓eP	Pn	15 10 57.1	0.0
RCP				eS	Sb	15 11 20.3	-0.3
MSLP	Maasin	1.90	81	eP	Pn	15 10 59.5	-0.1
MSLP				eS	Sb	15 11 25.2	-0.5
OCLP	Ormoc	2.02	53	eP	Pb	15 11 03.1	-0.5
OCLP				eS	Sn	15 11 27.2	0.0
PAGZ	Pagadian	2.02	168	eP	Pb	15 11 03.0	-0.6
PAGZ				eS	Sn	15 11 27.1	-0.1
BUKP	Musuan	2.85	133	eP	Pn	15 11 14.5	+1.8
BUKP				eS	Sb	15 11 52.2	-1.0
ENPP	El Nido	3.73	292	eP	Pn	15 11 25.8	+1.1

IDC 07 15:10:53.3±1.2, 28°.00N×140°.19E, h244^{km}±14^{km}, mb2.9/6, mb1 3.1/6, mb1mx2.7/65, mbtmp3.5/6, Error ellipse: s-maj=26.5km s-min=19.7km az=86.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.98	116	P	Pn	15 11 33.2	-2.0
	54nm,0.3s,baz=277,slow=20,SNR=30						
JCJ				S	S	15 12 09.1	+0.9
	8.4nm,0.3s,baz=274,slow=19,SNR=2.8						
H11N2	WAKE ISLAND Hy	25.73	103	T	T	15 43 55.1	
	baz=298,slow=75,SNR=29						
H11N1	WAKE ISLAND Hy	25.73	103	T	T	15 43 55.5	
	baz=298,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	25.75	103	T	T	15 43 56.3	
	baz=298,slow=75,SNR=21						
H11S3	WAKE ISLAND Hy	26.07	106	T	T	15 44 31.7	
	baz=300						
H11S1	WAKE ISLAND Hy	26.07	106	T	T	15 44 23.5	
	baz=300						
H11S2	WAKE ISLAND Hy	26.09	106	T	T	15 44 26.2	
	baz=300						
SONM	Songino Array	32.84	316	P	P	15 17 04.4	+0.2
	0.5nm,1.0s,baz=110,slow=6.6,SNR=2.4						
MKAR	Makanchi Array	48.54	309	P	P	15 19 11.8	-0.1
	0.4nm,0.8s,baz=96,slow=9.9,SNR=4.1						
ASAR	Alice Springs	51.72	187	P	P	15 19 35.8	-0.1
	0.5nm,0.7s,baz=21,slow=10,SNR=3.9						
ILAR	Eielson Array	57.78	29	P	P	15 20 18.5	-0.2
	0.6nm,1.0s,baz=248,slow=4.2,SNR=4.5						
YKA	Yellowknife Ar	72.19	28	P	P	15 21 51.2	0.0
	0.1nm,0.4s,baz=287,slow=5.0,SNR=2.4						
NOA	NORSAR Array B	82.11	338	P	P	15 22 46.8	+0.4
	0.7nm,0.5s,baz=30,slow=6.2,SNR=3.7						

CSEM 07 15:11:12.1, 43°.44N×13°.00E, h8^{km}, MD1.8/9, After ROM
ROM 07 15:11:12.1±0.1, 43°.44N×13°.00E, h8^{km}±1^{km}, Md1.8/9, Ml1.3/6, Error ellipse: s-maj=1.9km s-min=1.0km az=53.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARVD	Arcevia	0.07	323	Pg	Pg	15 11 14.3	+0.3
ARVD				Sg	Sg	15 11 15.8	+0.4
ARVD	Arcevia	0.07	323	Pg	Pg	15 11 14.3	+0.3
ARVD				Sg	Sg	15 11 15.8	+0.4
CING	Cingoli	0.16	115	Pg	Pg	15 11 16.0	+0.6
CING				Sg	Sg	15 11 19.1	+1.4
	44nm,0.7s						
CING	Cingoli	0.16	115	Pg	Pg	15 11 16.0	+0.6
CING				Sg	Sg	15 11 19.1	+1.4
	44nm,0.7s						
SNTG	Esanatoglia	0.19	192	Pg	Pg	15 11 16.5	+0.5
SNTG				Sg	Sg	15 11 19.9	+1.2
	30nm,0.6s						
SNTG	Esanatoglia	0.19	192	Pg	Pg	15 11 16.5	+0.5
SNTG				Sg	Sg	15 11 19.9	+1.2
	30nm,0.6s						
FRON	Frontone	0.21	291	Pg	Pg	15 11 17.0	+0.6
FRON				Sg	Sg	15 11 20.9	+1.7
FRON	Frontone	0.21	291	Pg	Pg	15 11 17.0	+0.6
FRON				Sg	Sg	15 11 20.9	+1.7
MPAG	Monte Paganucc	0.25	317	Pg	Pg	15 11 17.9	+0.7
MPAG				Sg	Sb	15 11 22.2	-1.5
	67nm,1.1s						
MPAG	Monte Paganucc	0.25	317	Pg	Pg	15 11 17.9	+0.7
MPAG				Sg	Sb	15 11 22.2	-1.5
	67nm,1.1s						
FSSB	Fossombrone	0.29	327	Pg	Pb	15 11 19.0	-0.7
FSSB				Sg	Sb	15 11 24.0	-0.8
	73nm,0.4s						
FSSB	Fossombrone	0.29	327	Pg	Pb	15 11 19.0	-0.7
FSSB				Sg	Sb	15 11 24.0	-0.8
	73nm,0.4s						
PIEI	Pieia	0.35	285	Pg	Pg	15 11 19.3	+0.3
PIEI				Sg	Sb	15 11 25.3	-1.1
	360nm,3.4s						
PIEI	Pieia	0.35	285	Pg	Pg	15 11 19.3	+0.3
PIEI				Sg	Sb	15 11 25.3	-1.1
	360nm,3.4s						
MURB	Monte Urbino	0.39	242	Pg	Pg	15 11 20.3	+0.6
MURB				Sg	Sb	15 11 27.5	0.0
	60nm,0.3s						
MURB	Monte Urbino	0.39	242	Pg	Pg	15 11 20.3	+0.6
MURB				Sg	Sb	15 11 27.5	0.0
	60nm,0.3s						
ATPC	Poggio Castell	0.40	276	Pg	Pb	15 11 20.9	-0.5
ATPC				Sg	Sb	15 11 27.7	0.0
ATPC	Poggio Castell	0.40	276	Pg	Pb	15 11 20.9	-0.5
ATPC				Sg	Sb	15 11 27.7	0.0

ISCJB 07 15:16:48.6±0.4, 7°.6S±0°.1×113°.75E±0°.08, h240^{km}±5^{km}, mb3.4/9, Error ellipse: s-maj=19.3km s-min=8.7km az=29.7
DJA 07 15:16:49.8±0.8, 8°S±12°×11°4E±°, h231^{km}±8^{km}, M3.4/14, mB4.8/1, mb3.8/2, MLv3.2/14, Mw(mB)4.0/1
IDC 07 15:16:60.0±8.3, 7°.51S×114°.05E, h342^{km}±96^{km}, mb3.1/9, mb1 3.2/9, mb1mx2.9/54, mbtmp3.7/9, Error ellipse: s-maj=51.7km s-min=16.1km az=53.0
ISC 07 15:16:49.5±0.9, 7°.7S±0°.1×113°.74E±0°.07, h237^{km}±9^{km}, n24, σ0^{s}.81/24, mb3.4/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLJI	Banyuglugur	0.15	251	P	Pn	15 17 20.2	0.0
ABJI	Asem Bagus	0.50	102	P	Pn	15 17 21.2	+0.3
GMJI	Gumukmas	0.65	207	P	Pn	15 17 20.7	-0.7
KMMI	Kalianget	0.68	19	P	Pn	15 17 21.8	+0.2
JAGI	Jajag, Banyuwa	0.87	152	P	Pn	15 17 21.6	-0.9
GRJI	Gresik	1.47	302	P	Pn	15 17 26.5	+0.1
SRBI	Singaraja	1.51	105	P	Pn	15 17 26.8	+0.1
DNP	Denpasar	1.75	124	P	Pn	15 17 28.8	+0.1
IGBI	Denpasar	1.78	129	P	Pn	15 17 28.4	-0.6
PWJI	Pagerwojo	1.94	260	P	Pn	15 17 30.2	-0.2
PCJI	Pacitan	2.59	259	P	Pn	15 17 36.9	+0.2
PLAI	Plampang	4.15	106	P	Pn	15 17 54.8	+0.2
CISI	Cisompet, Garu	5.87	271	P	Pn	15 18 15.7	-0.2
WBSI	Waikabubak, Su	5.91	110	P	Pn	15 18 16.0	-0.4
FITZ	Fitzroy Crossi	15.53	133	P	Pn	15 20 24.5	+7.8
	0.3nm,0.3s,baz=330,slow=10.0,SNR=13						
FITZ				S	S	15 23 07.0	-0.5
	0.1nm,0.3s,baz=189,slow=20,SNR=5.2						
WRA	Warramunga Arr	23.38	123	P	P	15 21 38.0	+0.6
	0.5nm,0.6s,baz=300,slow=11,SNR=6.7						
ASAR	Alice Springs	25.02	132	P	P	15 21 52.7	+0.4
	0.4nm,0.4s,baz=307,slow=8.0,SNR=11						
CMAR	Chiang Mai Arr	29.81	331	P	P	15 22 36.5	+1.8
	1.4nm,0.5s,baz=162,slow=9.7,SNR=12						
STKA	Stephens Creek	35.37	137	P	P	15 23 24.4	+1.5
	1.0nm,0.3s,baz=325,slow=7.1,SNR=6.6						
MJAR	Matsushiro Arr	49.64	26	P	P	15 25 15.5	-1.8
	1.0nm,0.6s,baz=214,slow=8.4,SNR=4.0						
SONM	Songino Array	55.67	354	P	P	15 26 01.1	-0.2
	0.5nm,0.4s,baz=170,slow=8.6,SNR=3.1						
MKAR	Makanchi Array	61.03	336	P	P	15 26 37.9	-0.3
	0.3nm,0.3s,baz=145,slow=7.0,SNR=14						
ZALV	Zalesovo Beam	66.08	342	P	P	15 27 10.9	0.0
	0.4nm,0.4s,baz=147,slow=6.7,SNR=2.6						
BVAR	Borovoye Array	70.77	334	P	P	15 27 38.8	-1.2
	0.3nm,0.7s,baz=145,slow=5.7,SNR=2.8						

CSEM 07 15:32:58.0, 38°.27N×21°.63E, h27^{km}, ML1.1/2, After ATH
ATH 07 15:32:58.0, 38°.27N×21°.63E, h27^{km}±5^{km}, ML1.1/2, Error ellipse: s-maj=5.0km s-min=1.3km az=122.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.24	212	P	Pb	15 33 04.4	0.0
RLS	Riolos of Patr	0.24	212	P	Pb	15 33 04.4	0.0
EFP	Efpalio	0.27	53	P	Pb	15 33 04.5	-0.1
EFP				S	Sb	15 33 10.1	+0.8
EFP	Efpalio	0.27	53	P	Pb	15 33 04.7	0.0
EFP				S	Sb	15 33 09.9	+0.6
DRO	Drossia	0.32	169	P	Pb	15 33 05.5	0.0
DRO				S	Sb	15 33 11.5	+1.0
DRO				AML	AML	15 33 11.7	
	comp=N,108μm,0.1s						
DRO				AML	AML	15 33 11.9	
	comp=E,109μm,0.1s						
DRO	Drossia	0.32	169	P	Pb	15 33 05.5	+0.1
DRO				S	Sb	15 33 11.3	+0.8
TRIZ	Trizonia	0.36	74	P	Pb	15 33 06.2	+0.1
TRIZ				S	Sb	15 33 11.2	-0.3
TRIZ	Trizonia	0.36	74	P	Pb	15 33 06.1	+0.1
TRIZ				S	Sb	15 33 11.7	+0.2
SERG	Sergoula	0.36	66	P	Pb	15 33 06.4	+0.3
SERG				S	Sb	15 33 12.0	+0.3
SERG				AML	AML	15 33 12.7	
	comp=N,60μm,0.2s						
SERG				AML	AML	15 33 13.7	
	comp=E,58μm,0.2s						
SERG	Sergoula	0.36	66	P	Pb	15 33 06.3	+0.2
SERG				S	Sb	15 33 12.1	+0.4
ANX	Ano Chora	0.40	35	P	Pb	15 33 06.9	+0.2
ANX	Ano Chora	0.40	35	P	Pb	15 33 06.8	+0.1
KALE	Kalithea	0.42	73	P	Pb	15 33 06.9	-0.1
KALE				S	Sn	15 33 14.3	-0.8
KALE	Kalithea	0.42	73	P	Pb	15 33 07.0	0.0
KALE				S	Sb	15 33 14.0	+0.9
KLV	Kalavryta, Ach	0.47	118	P	Pb	15 33 07.8	+0.1
KLV	Kalavryta, Ach	0.47	118	P	Pb	15 33 07.8	+0.1

ISCJB 07 15:33:54.4±0.4, 7°.32S±0°.05×106°.67E±0°.04, h84^{km}±3^{km}, mb4.2/25, Error ellipse: s-maj=10.0km s-min=3.6km az=29.4
NEIC 07 15:33:54.6±1.0, 7°.08S×106°.57E, h67^{km}±9^{km}, mb4.6/9, Error ellipse: s-maj=14.8km s-min=7.5km az=220.0
NEIC Felt [II] at Cisarua. Also felt at Bogor and Sukabumi.
DJA 07 15:33:54.5±0.4, 8°S±4°×10°7E±°, h35^{km}±5^{km}, M4.5/15, mB4.5/2, mb4.1/3, MLv4.7/15, Mw(mB)3.7/2
IDC 07 15:33:58.4±1.1, 7°.07S×106°.69E, h101^{km}±9^{km}, mb3.9/22, mb1 4.0/23, mb1mx3.8/60, mbtmp4.2/23, MS3.3/4, Ms1 3.3/4, ms1mx2.8/59, Error ellipse: s-maj=20.5km s-min=10.8km az=51.0
ISC 07 15:33:54.0±0.8, 7°.38S±0°.06×106°.62E±0°.04, h69^{km}±6^{km}, n96, σ2^{s}.10/109, mb4.3/25, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.38	350	P	Pn	15 34 05.8	+0.1
SKJI				S	Sn	15 34 13.8	-0.5
CNJI	Cibinong	0.51	82	P	Pn	15 34 06.9	+0.1
LEM	Lembang	1.13	61	LR	LR	15 34 14.3	
	comp=Z,42nm,21.9s,baz=206,slow=17						
LEM				P	Pn	15 34 17.0	+2.7
	884nm,0.3s,baz=310,slow=24,SNR=423						
LEM				S	Sn	15 34 34.5	+5.1
	1μm,0.3s,baz=277,slow=21,SNR=21						
LEM	Lembang	1.13	61	P	Pn	15 34 16.6	+2.3
CISI	Cisompet, Garu	1.20	98	P	Pn	15 34 15.4	+0.4
CISI				S	Sn	15 34 30.5	-0.2
CISI	Cisompet, Garu	1.20	98	ePn	Pn	15 34 15.4	+0.4
CGJI	Cibinong	1.20	310	P	Pn	15 34 15.2	+0.2
CGJI				S	Sn	15 34 29.6	-1.1
TNG	Tangerang	1.20	1	P	Pn	15 34 17.2	+2.1
TNG				S	Sn	15 34 34.2	+3.4
SBJI	Serang	1.35	339	P	Pn	15 34 18.7	+1.8
SBJI				S	Sn	15 34 36.7	+2.6
CMJI	Cimerak	1.85	103	P	Pn	15 34 24.2	+0.6
JCJI	Jatiwangi	1.86	62	P	Pn	15 34 24.8	+1.1
JCJI				S	Sn	15 34 47.3	+0.9
BLSI	Bandar Lampung	2.43	326	P	Pn	15 34 33.0	+1.6
KASI	Kota Agung	2.81	311	P	Pn	15 34 37.8	+1.2
KASI				S	Sn	15 35 10.1	+0.8
KLI	Kotabumi	3.06	325	P	Pn	15 34 43.9	+3.9
LWLI	Liwa	3.47	313	P	Pn	15 34 47.9	+2.2
LWLI				S	Sn	15 35 28.4	+2.7
MDSI	Maura Dua	3.77	320	P	Pn	15 34 52.1	+2.4
SMRI	Semarang	3.80	85	P	Pn	15 34 50.6	+0.4
SMRI	Semarang	3.80	85	ePn	Pn	15 34 51.5	+1.3
UGM	Wanagama	3.90	98	P	Pn	15 34 53.2	+1.6
UGM				S	Sn	15 35 36.5	+0.3
UGM	Wanagama	3.90	98	ePn	Pn	15 34 53.2	+1.6
PCJI	Pacitan	4.58	100	P	Pn	15 35 02.2	+1.4
PCJI				S	Sn	15 35 52.5	-0.3
MNAI	Manna	4.72	309	P	Pn	15 35 04.7	+1.9
MNAI	Manna	4.72	309	ePn	Pn	15 35 04.4	+1.6
PWJI	Pagerwojo	5.17	97	P	Pn	15 35 10.2	+1.3
	82nm,0.9s,1.4nm						
PPBI	Pangkal Pinang	5.21	355	P	Pn	15 35 11.0	+1.6
GMJI	Gumukmas	6.82	98	P	Pn	15 35 36.0	+4.6
DSRI	Dabo	7.16	343	P	Pn	15 35 40.2	+4.2
JAGI	Jajag, Banyuwa	7.54	99	P	Pn	15 35 42.5	+1.3
JAGI	Jajag, Banyuwa	7.54	99	ePn	Pn	15 35 44.2	+2.9
ABJI	Asem Bagus	7.56	94	P	Pn	15 35 48.9	+7.4
SRBI	Singaraja	8.54	95	P	Pn	15 35 56.0	+1.0
COCO	West Island	10.76	243	ePn	Pn	15 36 32.2	+6.9
GSI	Gunungsitoli	12.49	313	P	Pn	15 36 46.1	-2.8
GSI	Gunungsitoli	12.49	313	ePn	Pn	15 36 44.8	-4.1
PSI	Prapat	12.70	323	LR	LR	15 42 54.3	
	comp=Z,70nm,18.3s,baz=137,slow=43						
MMRI	Maumere	15.51	96	ePn	P	15 37 30.7	-1.1
	26nm,0.7s						
BATI	Baumata	17.07	101	P	P	15 37 51.5	+2.4
	2.7nm,0.3s,baz=297,slow=2.3,SNR=3.7						
BATI				S	Sn	15 40 49.2	-8.4
	0.5nm,0.3s,baz=54,slow=21,SNR=2.2						
MYLDM	Lahad Datu	17.21	44	ePn	Pn	15 37 47.2	-2.8
	19nm,1.3s						
SOEI	Soe	17.61	99	ePn	P	15 37 58.1	+3.0
	22nm,0.6s						
MBWA	Marble Bar	18.66	139	eP	Pn	15 38 09.2	+1.7
	31nm,1.3s						
FITZ	Fitzroy Crossi	21.36	122	P	P	15 38 39.4	+3.6
	1.6nm,0.6s,baz=319,slow=11,SNR=5.2						
FITZ				S	S	15 42 27.0	-2.4
	1.4nm,0.9s,baz=164,slow=23,SNR=2.7						
FITZ				LR	LR	15 47 03.2	
	comp=Z,44nm,19.9s,baz=338,slow=36						
CMAR	Chiang Mai Arr	26.77	344	P	P	15 39 25.7	-1.8
	1.0nm,0.6s,baz=180,slow=8.6,SNR=10						
CMAR				LR	LR	15 51 33.1	
	comp=Z,28nm,18.7s,baz=210,slow=40						
WRA	Warramunga Arr	29.62	118	P	P	15 39 53.9	+0.9
	0.9nm,0.3s,baz=308,slow=8.9,SNR=28						
WRA				PcP	PcP	15 42 57.1	+0.7
	0.9nm,0.5s,baz=306,slow=2.1,SNR=7.2						
ASAR	Alice Springs	30.77	125	P	P	15 40 04.7	+1.5
	0.5nm,0.3s,baz=298,slow=7.8,SNR=16						
ASAR				PcP	PcP	15 43 00.5	+1.1
	1.0nm,0.8s,baz=303,slow=2.3,SNR=6.9						
KMI	Kunming	32.53	353	P	P	15 40 19.9	+1.2
H08S2	Diego Garcia H	33.83	267	T	T	16 16 05.8	
	baz=91,slow=75,SNR=127						
H08S3	Diego Garcia H	33.84	267	T	T	16 16 08.9	
	baz=91,slow=75,SNR=117						
H08S1	Diego Carcia H	33.85	267	T	T	16 15 56.8	
	baz=91,slow=75,SNR=99						
CD2	Chengdu	38.17	356	eP	P	15 41 06.0	-0.9
STKA	Stephens Creek	40.66	132	P	P	15 41 29.7	+2.0
	12nm,0.6s,baz=306,slow=8.3,SNR=52						
STKA				PcP	PcP	15 43 29.6	+1.2
	1.6nm,0.6s,baz=296,slow=3.3,SNR=3.8						
STKA	Stephens Creek	40.66	132	eP	P	15 41 29.6	+2.0
	3.0nm,0.6s						
STKA				PcP	PcP	15 43 29.6	+1.2
NJ2	Nanjing	40.92	16	eP	P	15 41 29.5	-0.1
LZH	Lanzhou	43.32	357	eP	P	15 41 42.5	-6.8
LZH				pP	pP	15 41 58.0	-8.6
LZH				sP	sP	15 42 05.2	-9.4
LZH				ePP	PP	15 43 24.6	-6.7
GTA	Gaotai	46.98	353	eP	P	15 42 17.7	-0.6
GTA				pP	pP	15 42 30.2	-5.6
GTA				sP	sP	15 42 36.1	-7.6
HHC	Hu-ho-hao-te	48.21	5	eP	P	15 42 28.7	+0.9
HHC				pP	pP	15 42 44.2	-1.1
HHC				sP	sP	15 42 51.3	-1.9
HHC				S	S	15 49 21.8	-0.3
HHC				sS	sS	15 49 48.5	-3.4
HHC				ScS	ScS	15 52 13.2	-1.2
HHC	Hu-ho-hao-te	48.21	5	SS	SS	15 52 46.3	-6.2
CN2	Changchun	53.73	17	eP	P	15 43 08.7	-0.3
CN2				esP	sP	15 43 31.5	-3.1
WMQ	Urumqi	53.77	343	P	P	15 43 10.7	+1.3
KSH	Kashi	54.61	331	eP	P	15 43 15.4	-0.3
SONM	Songino Array	54.98	360	P	P	15 43 16.8	-1.4
	0.5nm,0.4s,baz=163,slow=11,SNR=3.8						
SONM				PcP	PcP	15 44 19.1	-0.1
	1.9nm,0.4s,baz=176,slow=3.7,SNR=12						
AAK	Ala-Archa	57.75	332	PcP	PcP	15 44 30.4	+0.3
	1.0nm,0.4s,baz=114,slow=3.7,SNR=6.8						
MK01	Makanchi Array	58.09	341	eP	P	15 43 37.9	-2.4
MK31	Makanchi Array	58.12	341	eP	P	15 43 38.3	-2.1
MKAR	Makanchi Array	58.12	341	P	P	15 43 37.9	-2.5
	0.9nm,0.4s,baz=153,slow=8.1,SNR=16						
MKAR	Makanchi Array	58.12	341	eP	P	15 43 38.1	-2.2
	7.7nm,0.4s						
KURBB	Kurchatov Arra	62.68	340	P	P	15 44 10.2	-1.2
	0.8nm,0.7s,baz=156,slow=6.0,SNR=4.3						
KURK	Kurchatov	62.73	340	P	P	15 44 10.2	-1.5
GEYT	Alibeck	63.80	319	P	P	15 44 18.9	-0.2
	0.7nm,0.4s,baz=132,slow=6.6,SNR=3.4						
ZALV	Zalesovo Beam	63.81	346	P	P	15 44 16.9	-1.8
	0.9nm,0.3s,baz=164,slow=5.4,SNR=4.4						
ZALV				LR	LR	16 16 42.2	
	comp=Z,102nm,18.2s,baz=284,slow=40						
RAYN	Ar Rayn	67.11	299	eP	P	15 44 40.8	0.0
	5.0nm,1.2s						
BVAR	Borovoye Array	67.57	337	P	P	15 44 41.1	-1.9
	1.7nm,0.5s,baz=145,slow=9.2,SNR=17						
ABKAR	Akbulak array	69.55	329	eP	P	15 44 54.2	-1.2
	31nm,0.6s						
AKTO	Aktyubinsk	71.26	330	P	P	15 45 05.9	0.0
	1.1nm,0.7s,baz=101,slow=5.2,SNR=3.8						
PETK	Petropavlovsk-	74.11	29	P	P	15 45 23.6	+1.0
	3.9nm,0.9s,baz=151,slow=3.4,SNR=4.2						
MATP	Matopo	76.36	251	P	P	15 45 38.5	+2.0
	5.5nm,0.7s,baz=127,slow=4.6,SNR=12						
KBZ	Khabaz	76.68	318	P	P	15 45 38.6	+1.0
	3.2nm,0.8s,baz=132,slow=6.6,SNR=5.7						
ASF	Jabal al Asfar	77.07	305	P	P	15 45 42.2	+2.0
	3.2nm,0.5s,baz=63,slow=6.8,SNR=5.8						
MMAI	Mount Meron Ar	78.52	306	P	P	15 45 50.0	+1.7
	0.9nm,0.4s,baz=77,slow=8.1,SNR=3.4						
BOSA	Boshof	78.95	242	P	P	15 45 52.6	+1.8
	2.6nm,0.4s,baz=115,slow=4.0,SNR=11						
BR131	Keskin Array S	81.80	312	eP	P	15 46 05.3	-0.6
BRTR	Keskin Array B	81.80	312	P	P	15 46 05.2	-0.6
	1.1nm,0.6s,baz=140,slow=7.2,SNR=7.7						
BR231	Keskin MP Arra	82.47	312	eP	P	15 46 06.3	-3.0
KARP	Karpathos	85.75	306	eP	P	15 46 27.3	+1.3
	9.4nm,0.5s						
SNAA	Sanae	89.05	197	P	P	15 46 43.8	+2.7
	3.2nm,1.0s,baz=108,slow=4.2,SNR=3.6						
FINES	FINESS Array B	91.93	332	P	P	15 46 54.7	+0.1
	2.3nm,0.9s,baz=103,slow=4.6,SNR=2.9						
ARCES	ARCESS Array B	93.76	340	P	P	15 47 02.0	-0.9
	2.4nm,0.8s,baz=90,slow=4.9,SNR=4.2						
YKA	Yellowknife Ar	117.35	20	PKP	PKPdf	15 52 31.7	+0.5
	0.2nm,0.5s,baz=325,slow=2.3,SNR=4.5						
LON	Longmire	123.04	38	ePKPdf	PKPdf	15 52 41.5	-1.3
PDAR	Pinedale Array	132.52	36	PKP	PKPdf	15 53 02.9	+1.7
	0.5nm,0.7s,baz=85,slow=1.6,SNR=4.8						
TX31	Lajitas Ar. Si	144.10	49	ePKPdf	PKPdf	15 53 22.1	-0.5
TXAR	Lajitas Array	144.10	49	PKP	PKPdf	15 53 22.3	-0.4
	1.1nm,0.6s,baz=305,slow=0.7,SNR=14						
JCT	Junction City	146.22	44	ePKPdf	PKPab	15 53 28.2	+0.2
N59A	State Game Lan	146.54	3	ePKPdf	PKPbc	15 53 27.5	-0.4
MIAR	Mount Ida	147.18	32	ePKPbc	PKPab	15 53 30.9	-0.8
WVT	Waverly	148.48	23	ePKPbc	PKPbc	15 53 34.0	+0.7
TKL	Tuckaleechee C	150.29	17	PKPbc	PKPbc	15 53 38.5	+0.7
	8.8nm,0.5s,baz=124,slow=7.3,SNR=6.9						

ISCJB 07 15:34:23.8±0.3, 44°.43N±0°.02×25°.98E±0°.02, h11^{km}±2^{km}, Error ellipse: s-maj=3.5km s-min=2.6km az=161.6
CSEM 07 15:34:23.7±0.1, 44°.43N×26°.00E, h8^{km}, MD3.7, Error ellipse: s-maj=3.6km s-min=2.5km az=155.0
BUC 07 15:34:23.3±0.4, 44°.45N×26°.02E, h12^{km}±3^{km}, MD3.7/5, Error ellipse: s-maj=4.3km s-min=3.7km az=4.0
BEO 07 15:34:26.8±0.8, 44°.29N×25°.80E, h12^{km}±4^{km}, M2.9/1
ISC 07 15:34:23.4±0.7, 44°.47N±0°.02×25°.96E±0°.01, h13^{km}±4^{km}, n125, σ1^{s}.06/175, 50C-41D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIOR	Ciorogarla	0.06	246	⇑iP	Pg	15 34 26.0	+0.1
CIOR	Ciorogarla	0.06	246	⇑iP	Pg	15 34 26.0	+0.1
CIOR				iS	Sg	15 34 29.2	+1.5
CIOR	Ciorogarla	0.06	246	⇑iP	Pg	15 34 26.0	+0.1
CIOR				iS	Sg	15 34 29.2	+1.5
BUC	Bucharest	0.12	120	⇓iP	Pg	15 34 25.7	-0.8
BUC	Bucharest	0.12	120	⇓iP	Pg	15 34 25.7	-0.8
BUC				iS	Sg	15 34 28.6	-0.2
BUC	Bucharest	0.12	120	⇓iP	Pg	15 34 25.7	-0.8
BUC				iS	Sg	15 34 28.6	-0.2
INCR	INCERC-Sediu C	0.15	102	⇓iP	Pg	15 34 26.0	-1.0
INCR	INCERC-Sediu C	0.15	102	⇓iP	Pg	15 34 26.0	-1.0
INCR				iS	Sg	15 34 29.2	-0.3
INCR	INCERC-Sediu C	0.15	102	⇓iP	Pg	15 34 26.0	-1.0
INCR				iS	Sg	15 34 29.2	-0.3
SGRR	Singureni	0.25	177	⇓iP	Pg	15 34 29.1	+0.5
SGRR	Singureni	0.25	177	⇓iP	Pg	15 34 29.1	+0.5
SGRR				iS	Sg	15 34 32.4	+0.2
SGRR	Singureni	0.25	177	⇓iP	Pg	15 34 29.1	+0.5
SGRR				iS	Sg	15 34 32.4	+0.2
SULR		0.30	46	⇑iP	Pg	15 34 28.9	-0.6
SULR		0.30	46	⇑iP	Pg	15 34 28.9	-0.6
SULR				iS	Sg	15 34 34.6	+1.0
SULR		0.30	46	⇑iP	Pg	15 34 28.9	-0.6
SULR				iS	Sg	15 34 34.6	+1.0
PLAR	PLOIESTI	0.45	7	⇑iP	Pb	15 34 33.3	+0.2
PLAR	PLOIESTI	0.45	7	⇑iP	Pb	15 34 33.3	+0.2
PLAR				iS	Sb	15 34 40.3	+0.6
PLAR	PLOIESTI	0.45	7	⇑iP	Pb	15 34 33.3	+0.2
PLAR				iS	Sb	15 34 40.3	+0.6
HUMR	Humele	0.70	275	⇑iP	Pb	15 34 38.0	+0.5
HUMR	Humele	0.70	275	⇑iP	Pb	15 34 38.0	+0.5
HUMR				iS	Sn	15 34 49.0	-0.7
HUMR	Humele	0.70	275	⇑iP	Pb	15 34 38.0	+0.5
HUMR				iS	Sn	15 34 49.0	-0.7
ISR	Istrita	0.77	33	⇓iP	Pb	15 34 38.9	+0.2
ISR	Istrita	0.77	33	⇓iP	Pb	15 34 38.9	+0.2
ISR				iS	Sn	15 34 51.1	-0.4
ISR	Istrita	0.77	33	⇓iP	Pb	15 34 38.9	+0.2
ISR				iS	Sn	15 34 51.1	-0.4
ZIMR		0.92	208	⇓iP	Pg	15 34 41.7	+0.6
ZIMR		0.92	208	⇓iP	Pg	15 34 41.7	+0.6
ZIMR				iS	Sn	15 34 55.1	0.0
MTUR	Matau	0.98	320	⇓iP	Pn	15 34 43.3	+0.3
MTUR	Matau	0.98	320	⇓iP	Pn	15 34 43.3	+0.3
MTUR	Matau	0.98	320	⇓iP	Pn	15 34 43.3	+0.3
AMRR	Amara	1.00	82	⇑iP	Pb	15 34 41.7	-0.8
AMRR	Amara	1.00	82	⇑iP	Pb	15 34 41.7	-0.8
AMRR				iS	Sb	15 34 55.7	+0.2
AMRR	Amara	1.00	82	⇑iP	Pb	15 34 41.7	-0.8
AMRR				iS	Sb	15 34 55.7	+0.2
MLR	Muntele Rosu	1.02	360	⇓iP	Pn	15 34 43.7	+0.2

MLR	**Muntele Rosu**	**1.02**	**360**	⇓	*i*P	**Pn**	**15 34 43.7**	**+0.2**
MLR					*i*S	**Sn**	**15 34 58.0**	**+0.2**
MLR	**Muntele Rosu**	**1.02**	**360**	⇓	*i*P	**Pn**	**15 34 43.7**	**+0.2**
MLR					*i*S	**Sn**	**15 34 58.0**	**+0.2**
GRER		**1.16**	**38**	⇓	*i*P	**Pg**	**15 34 46.8**	**+1.1**
GRER		**1.16**	**38**	⇓	*i*P	**Pg**	**15 34 46.8**	**+1.1**
GRER		**1.16**	**38**	⇓	*i*P	**Pg**	**15 34 46.8**	**+1.1**
HARR	**Harsova**	**1.43**	**81**	⇑	*i*P	**Pn**	**15 34 48.6**	**-0.4**
HARR	**Harsova**	**1.43**	**81**	⇑	*i*P	**Pn**	**15 34 48.6**	**-0.4**
HARR	**Harsova**	**1.43**	**81**	⇑	*i*P	**Pn**	**15 34 48.6**	**-0.4**
TLB	**Topalu**	**1.50**	**85**	⇑	*i*P	**Pn**	**15 34 49.4**	**-0.5**
TLB	**Topalu**	**1.50**	**85**	⇑	*i*P	**Pn**	**15 34 49.4**	**-0.5**
TLB					*i*S	**Sn**	**15 35 09.1**	**-0.2**
TLB	**Topalu**	**1.50**	**85**	⇑	*i*P	**Pn**	**15 34 49.4**	**-0.5**
TLB					*i*S	**Sn**	**15 35 09.1**	**-0.2**
VRI	**Vrincioaia**	**1.50**	**21**	⇓	*i*P	**Pg**	**15 34 52.0**	**-0.1**
VRI	**Vrincioaia**	**1.50**	**21**	⇓	*i*P	**Pg**	**15 34 52.0**	**-0.1**
VRI					*i*S	**Sg**	**15 35 11.1**	**-0.5**
VRI	**Vrincioaia**	**1.50**	**21**	⇓	*i*P	**Pg**	**15 34 52.0**	**-0.1**
VRI					*i*S	**Sg**	**15 35 11.1**	**-0.5**
CVDA	**Cernavoda**	**1.50**	**95**		S	**Sb**	**15 35 09.9**	**-0.1**
CVDA	**Cernavoda**	**1.50**	**95**		*i*S	**Sb**	**15 35 09.9**	**-0.1**
CVDA	**Cernavoda**	**1.50**	**95**		*i*S	**Sb**	**15 35 09.9**	**-0.1**
PETR	**Petresti**	**1.54**	**35**	⇑	*i*P	**Pg**	**15 34 53.1**	**+0.1**
PETR	**Petresti**	**1.54**	**35**	⇑	*i*P	**Pg**	**15 34 53.1**	**+0.1**
PETR					*i*S	**Sg**	**15 35 13.0**	**0.0**
PETR	**Petresti**	**1.54**	**35**	⇑	*i*P	**Pg**	**15 34 53.1**	**+0.1**
PETR					*i*S	**Sg**	**15 35 13.0**	**0.0**
DOPR	**Dopca**	**1.55**	**345**	⇓	*i*P	**Pb**	**15 34 52.0**	**+0.1**
DOPR	**Dopca**	**1.55**	**345**	⇓	*i*P	**Pb**	**15 34 52.0**	**+0.1**
DOPR					*i*S	**Sg**	**15 35 13.8**	**+0.6**
DOPR	**Dopca**	**1.55**	**345**	⇓	*i*P	**Pb**	**15 34 52.0**	**+0.1**
DOPR					*i*S	**Sg**	**15 35 13.8**	**+0.6**
CFR	**Carcaliu**	**1.70**	**65**	⇓	*i*P	**Pn**	**15 34 53.6**	**+0.8**
CFR	**Carcaliu**	**1.70**	**65**	⇓	*i*P	**Pn**	**15 34 53.6**	**+0.8**
CFR					*i*S	**Sb**	**15 35 15.4**	**-0.5**
CFR	**Carcaliu**	**1.70**	**65**	⇓	*i*P	**Pn**	**15 34 53.6**	**+0.8**
CFR					*i*S	**Sb**	**15 35 15.4**	**-0.5**
TIRR	**Tirgusor**	**1.76**	**90**	⇑	*i*P	**Pn**	**15 34 54.0**	**+0.4**
TIRR	**Tirgusor**	**1.76**	**90**	⇑	*i*P	**Pn**	**15 34 54.0**	**+0.4**
TIRR					*i*S	**Sn**	**15 35 16.2**	**+0.4**
TIRR	**Tirgusor**	**1.76**	**90**	⇑	*i*P	**Pn**	**15 34 54.0**	**+0.4**
TIRR					*i*S	**Sn**	**15 35 16.2**	**+0.4**
LOT	**Lotru**	**1.83**	**303**	⇑	*i*P	**Pb**	**15 34 57.5**	**+0.6**
LOT	**Lotru**	**1.83**	**303**	⇑	*i*P	**Pb**	**15 34 57.5**	**+0.6**
LOT	**Lotru**	**1.83**	**303**	⇑	*i*P	**Pb**	**15 34 57.5**	**+0.6**
GIUM	**Giurgiulesti**	**1.89**	**57**	⇑	*i*P	**Pb**	**15 34 57.0**	**-0.8**
GIUM	**Giurgiulesti**	**1.89**	**57**	⇑	*i*P	**Pb**	**15 34 57.0**	**-0.8**
GIUM	**Giurgiulesti**	**1.89**	**57**	⇑	*i*P	**Pb**	**15 34 57.0**	**-0.8**
EFOR	**EFORIE**	**1.96**	**101**		S	**Sn**	**15 35 22.1**	**+1.3**
EFOR	**EFORIE**	**1.96**	**101**		*i*S	**Sn**	**15 35 22.1**	**+1.3**
EFOR	**EFORIE**	**1.96**	**101**		*i*S	**Sn**	**15 35 22.1**	**+1.3**
SRE	**Strehaia**	**1.98**	**276**	⇓	*i*P	**Pb**	**15 34 58.2**	**-1.0**
SRE	**Strehaia**	**1.98**	**276**	⇓	*i*P	**Pb**	**15 34 58.2**	**-1.0**
SRE	**Strehaia**	**1.98**	**276**	⇓	*i*P	**Pb**	**15 34 58.2**	**-1.0**
MANR	**Mangalia**	**2.00**	**108**	⇑	*i*P	**Pn**	**15 34 57.9**	**+1.0**
MANR	**Mangalia**	**2.00**	**108**	⇑	*i*P	**Pn**	**15 34 57.9**	**+1.0**
MANR	**Mangalia**	**2.00**	**108**	⇑	*i*P	**Pn**	**15 34 57.9**	**+1.0**
TESR	**Tescani**	**2.10**	**13**	⇓	*i*P	**Pn**	**15 34 59.3**	**+1.1**
TESR	**Tescani**	**2.10**	**13**	⇓	*i*P	**Pn**	**15 34 59.3**	**+1.1**
TESR					*i*S	**Sb**	**15 35 26.4**	**-0.8**
TESR	**Tescani**	**2.10**	**13**	⇓	*i*P	**Pn**	**15 34 59.3**	**+1.1**
TESR					*i*S	**Sb**	**15 35 26.4**	**-0.8**
TLCR		**2.16**	**70**	⇓	*i*P	**Pn**	**15 34 59.8**	**+0.8**
TLCR		**2.16**	**70**	⇓	*i*P	**Pn**	**15 34 59.8**	**+0.8**
TLCR					*i*S	**Sn**	**15 35 26.4**	**+0.8**
TLCR		**2.16**	**70**	⇓	*i*P	**Pn**	**15 34 59.8**	**+0.8**
TLCR					*i*S	**Sn**	**15 35 26.4**	**+0.8**
DJES	**Djerdap**	**2.46**	**276**		*e*Sg	**Sg**	**15 35 42.1**	**-0.4**
PLD	**Plovdiv**	**2.54**	**202**		*e*Pn	**Pn**	**15 35 06.5**	**+2.2**
PLD	**Plovdiv**	**2.54**	**202**		*e*Pn	**Pn**	**15 35 06.5**	**+2.2**
ZAPS	**Zavoj**	**2.69**	**245**		*e*Pn	**Pn**	**15 35 08.1**	**+1.8**
ZAPS	**Zavoj**	**2.69**	**245**		*e*Pn	**Pn**	**15 35 08.1**	**+1.8**
VTS	**Vitosha**	**2.74**	**228**		*e*Pn	**Pn**	**15 35 08.3**	**+1.0**
VTS	**Vitosha**	**2.74**	**228**	⇑	*i*P	**Pn**	**15 35 08.4**	**+1.1**
VTS	**Vitosha**	**2.74**	**228**	⇑	*i*P	**Pn**	**15 35 08.4**	**+1.1**
VTS	**Vitosha**	**2.74**	**228**		*e*Pn	**Pn**	**15 35 08.3**	**+1.0**
ZAGS	**Zajecar**	**2.76**	**257**		*e*Pn	**Pn**	**15 35 07.4**	**+0.1**
ZAGS					*e*Sg	**Sg**	**15 35 50.6**	**-1.4**
ZAGS	**Zajecar**	**2.76**	**257**		*e*Pn	**Pn**	**15 35 07.4**	**+0.1**
ZAGS					*e*Sg	**Sg**	**15 35 50.6**	**-1.4**
BOVS	**Bovan**	**3.18**	**256**		*e*Pn	**Pn**	**15 35 12.9**	**-0.1**
BOVS	**Bovan**	**3.18**	**256**		*e*Pn	**Pn**	**15 35 12.9**	**-0.1**
BURAR	**Bucovina Array**	**3.19**	**351**	⇑	*i*P	**Pn**	**15 35 15.4**	**+2.1**
BURAR	**Bucovina Array**	**3.19**	**351**	⇑	*i*P	**Pn**	**15 35 15.4**	**+2.1**
BURAR	**Bucovina Array**	**3.19**	**351**	⇑	*i*P	**Pn**	**15 35 15.4**	**+2.1**
DRGR		**3.25**	**317**		*e*Pn	**Pb**	**15 35 18.3**	**-2.7**
DRGR					*e*Sn	**Sb**	**15 35 58.4**	**-2.1**
DRGR		**3.25**	**317**	⇑	*i*P	**Pn**	**15 35 15.0**	**+0.9**
DRGR		**3.25**	**317**	⇑	*i*P	**Pn**	**15 35 15.0**	**+0.9**
DRGR		**3.25**	**317**	⇑	*i*P	**Pn**	**15 35 15.0**	**+0.9**
DRGR		**3.25**	**317**		*e*Pn	**Pb**	**15 35 18.3**	**-2.7**
DRGR					*e*Sn	**Sb**	**15 35 58.4**	**-2.1**
BZS	**Buzias**	**3.28**	**292**		*e*Pn	**Pb**	**15 35 19.1**	**-2.4**
BZS					*e*Sn	**Sn**	**15 35 57.1**	**+3.7**
BZS	**Buzias**	**3.28**	**292**	⇑	*i*P	**Pn**	**15 35 15.2**	**+0.7**
BZS	**Buzias**	**3.28**	**292**	⇑	*i*P	**Pn**	**15 35 15.2**	**+0.7**
BZS	**Buzias**	**3.28**	**292**	⇑	*i*P	**Pn**	**15 35 15.2**	**+0.7**
BZS	**Buzias**	**3.28**	**292**		*e*Pn	**Pb**	**15 35 19.1**	**-2.4**
BZS					*e*Sn	**Sn**	**15 35 57.1**	**+3.7**
BARS	**Barje**	**3.43**	**243**		*e*Pn	**Pn**	**15 35 18.1**	**+1.5**
BARS	**Barje**	**3.43**	**243**		*e*Pn	**Pn**	**15 35 18.1**	**+1.5**
SIRR	**Siria**	**3.52**	**302**	⇑	*i*P	**Pn**	**15 35 19.6**	**+1.8**
SIRR	**Siria**	**3.52**	**302**	⇑	*i*P	**Pn**	**15 35 19.6**	**+1.8**
SIRR	**Siria**	**3.52**	**302**	⇑	*i*P	**Pn**	**15 35 19.6**	**+1.8**
SELS	**Selova**	**3.72**	**252**		*e*Pn	**Pn**	**15 35 22.8**	**+2.3**
SELS	**Selova**	**3.72**	**252**		*e*Pn	**Pn**	**15 35 22.8**	**+2.3**
GRUS	**Gruza**	**3.81**	**263**		*e*Pn	**Pn**	**15 35 22.7**	**+0.9**
GRUS					*e*Sn	**Sn**	**15 36 06.0**	**-0.5**
GRUS	**Gruza**	**3.81**	**263**		*e*Pn	**Pn**	**15 35 22.7**	**+0.9**
GRUS					*e*Sn	**Sn**	**15 36 06.0**	**-0.5**
TRUS	**Trudelj**	**3.99**	**268**		*e*Pn	**Pn**	**15 35 24.4**	**+0.2**
TRUS					*e*Sn	**Sn**	**15 36 10.0**	**-0.8**
TRUS	**Trudelj**	**3.99**	**268**		*e*Pn	**Pn**	**15 35 24.4**	**+0.2**
TRUS					*e*Sn	**Sn**	**15 36 10.0**	**-0.8**
VAY	**Valandovo**	**4.01**	**219**		*e*Pn	**Pg**	**15 35 39.0**	**-1.3**
VAY					*e*Sn	**Sg**	**15 36 32.0**	**-0.2**
IVAS	**Ivanjica**	**4.28**	**260**		*e*Pn	**Pn**	**15 35 29.6**	**+1.3**
IVAS					*e*Sn	**Sn**	**15 36 16.7**	**-1.4**
DIVS	**Divibare**	**4.30**	**267**		*e*Pn	**Pn**	**15 35 29.0**	**+0.4**
DIVS	**Divibare**	**4.30**	**267**		*e*Pn	**Pn**	**15 35 29.0**	**+0.4**
BBLS	**Lazići**	**4.75**	**265**		*e*Pn	**Pn**	**15 35 36.0**	**+1.2**
BBLS					*e*Sn	**Sn**	**15 36 28.2**	**-1.6**

*KRSC **07** 15:48:51.6±1.1,53°.65N×160°.58E, h62km±20km, ML4.2*
*ISCJB **07** 15:48:53.0±0.5,53°.67N±0°.04×160°.43E±0°.10, h79km±4km, mb3.6/14, Error ellipse: s-maj=11.1km s-min=3.5km az=28.8*
*MOS **07** 15:48:53.0±1.3,53°.70N×160°.34E, h74km, mb4.2/5, Error ellipse: s-maj=11.1km s-min=5.1km az=77.7*
*IDC **07** 15:48:55.7±1.8,53°.83N×160°.44E, h86km±15km, mb3.3/12, mb1 3.5/14, mb1mx3.3/71, mbtmp3.7/14, Error ellipse: s-maj=19.8km s-min=14.3km az=132.0*

ISC 07 15:48:53.2±0.9,53°.65N±0°.04×160°.48E±0°.05, h63km±8km, n83, σ1s41/110, mb3.7/14, 2C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.62**	**206**		PN	**Pn**	**15 49 07.9**	**+1.3**
SPN	**Mys Shipunski**	**0.62**	**206**		*e*P	**Pn**	**15 49 07.9**	**+1.3**
KII	**Karymskiy**	**0.72**	**303**		PN	**Pn**	**15 49 07.7**	**-0.2**
KII					S	**Sn**	**15 49 19.5**	**+0.7**
KII	**Karymskiy**	**0.72**	**303**		*e*P	**Pn**	**15 49 07.7**	**-0.2**
KII					*e*S	**Sn**	**15 49 19.5**	**+0.7**
NLC	**Nalytchevo**	**0.83**	**235**		PN	**Pn**	**15 49 08.6**	**-0.6**
NLC					S	**Sn**	**15 49 20.8**	**-0.1**
NLC	**Nalytchevo**	**0.83**	**235**		*e*P	**Pn**	**15 49 08.6**	**-0.6**
NLC					*e*S	**Sn**	**15 49 20.8**	**-0.1**
SDLR	**Sedlovina**	**1.02**	**249**		PN	**Pn**	**15 49 12.1**	**+0.3**
SDLR					S	**Sn**	**15 49 26.4**	**+0.9**
SDLR	**Sedlovina**	**1.02**	**249**		*i*P	**Pn**	**15 49 12.1**	**+0.3**
SDLR					*e*S	**Sn**	**15 49 26.4**	**+0.9**
SMAR	**Somma**	**1.08**	**249**		PN	**Pn**	**15 49 12.9**	**+0.4**
SMAR					S	**Sn**	**15 49 29.3**	**+2.4**
SMAR	**Somma**	**1.08**	**249**		*i*P	**Pn**	**15 49 12.9**	**+0.4**
SMAR					*e*S	**Sn**	**15 49 29.3**	**+2.4**
UGLR	**Uglovaya**	**1.08**	**247**		PN	**Pn**	**15 49 13.1**	**+0.6**
UGLR					S	**Sn**	**15 49 27.7**	**+0.8**
UGLR	**Uglovaya**	**1.08**	**247**		*i*P	**Pn**	**15 49 13.1**	**+0.6**
UGLR					*e*S	**Sn**	**15 49 27.7**	**+0.8**
AVH	**Avacha**	**1.11**	**250**		PN	**Pn**	**15 49 13.7**	**+0.9**
AVH					S	**Sn**	**15 49 29.8**	**+2.4**
AVH	**Avacha**	**1.11**	**250**		*i*P	**Pn**	**15 49 13.7**	**+0.9**
AVH					*e*S	**Sn**	**15 49 29.8**	**+2.4**
KRX	**Arik**	**1.13**	**256**		PN	**Pn**	**15 49 13.8**	**+0.6**
KRX					S	**Sn**	**15 49 29.4**	**+1.4**
KRX	**Arik**	**1.13**	**256**		*i*P	**Pn**	**15 49 13.8**	**+0.6**
KRX					*e*S	**Sn**	**15 49 29.4**	**+1.4**
KOK	**Koryaka**	**1.16**	**253**		PN	**Pn**	**15 49 14.2**	**+0.7**
KOK	**Koryaka**	**1.16**	**253**		*e*P	**Pn**	**15 49 14.2**	**+0.7**
DALK	**Dalny**	**1.21**	**240**		PN	**Pn**	**15 49 14.0**	**0.0**
DALK					S	**Sn**	**15 49 30.5**	**+1.0**
DALK	**Dalny**	**1.21**	**240**		*e*P	**Pn**	**15 49 14.0**	**0.0**
DALK					*e*S	**Sn**	**15 49 30.5**	**+1.0**
PET	**Petropavlovsk**	**1.26**	**241**	⇑	*i*PN	**Pn**	**15 49 15.2**	**+0.5**
PET					*e*S	**Sn**	**15 49 31.6**	**+0.8**
PET					pmax	pmax		
	comp=Z,83nm,0.3s							
PET					smax	smax		
	comp=E,801nm,0.6s							
PET					smax	smax		
	comp=N,586nm,0.6s							
PET	**Petropavlovsk**	**1.26**	**241**		*i*P	**Pn**	**15 49 15.0**	**+0.3**
PET					*e*S	**Sn**	**15 49 32.3**	**+1.5**
KZV	**Kizimen**	**1.47**	**356**		PN	**Pn**	**15 49 17.4**	**-0.2**
KZV					S	**Sn**	**15 49 35.5**	**-0.5**
KZV	**Kizimen**	**1.47**	**356**		*i*P	**Pn**	**15 49 17.4**	**-0.2**
KZV					*e*S	**Sn**	**15 49 35.5**	**-0.5**
GNL	**Ganaly**	**1.51**	**273**		PN	**Pn**	**15 49 19.6**	**+1.4**
GNL	**Ganaly**	**1.51**	**273**		*i*P	**Pn**	**15 49 19.6**	**+1.4**
KRMR	**Karymshinskiy**	**1.63**	**241**		PN	**Pn**	**15 49 20.4**	**+0.7**
KRMR	**Karymshinskiy**	**1.63**	**241**		*e*P	**Pn**	**15 49 20.4**	**+0.7**
TUMR	**Tumrok**	**1.65**	**353**		PN	**Pn**	**15 49 20.4**	**+0.4**
TUMR					S	**Sn**	**15 49 40.2**	**0.0**
TUMR	**Tumrok**	**1.65**	**353**		*i*P	**Pn**	**15 49 20.4**	**+0.4**
TUMR					*e*S	**Sn**	**15 49 40.2**	**0.0**
RUS	**Russkaya**	**1.70**	**225**		PN	**Pn**	**15 49 20.6**	**0.0**
RUS					S	**Sn**	**15 49 41.8**	**+0.4**
RUS	**Russkaya**	**1.70**	**225**		*i*P	**Pn**	**15 49 20.6**	**0.0**
RUS					*e*S	**Sn**	**15 49 41.8**	**+0.4**
PETK	**Petropavlovsk-**	**1.75**	**253**		P	**Pn**	**15 49 23.0**	**+1.7**
	comp=N,18nm,0.3s,baz=81,slow=20,SNR=342							
PETK					S	**Sn**	**15 49 47.9**	**+5.2**
	comp=N,23nm,0.3s,baz=61,slow=23,SNR=8.5							
MTVR	**Mutnovka**	**1.81**	**231**		PN	**Pn**	**15 49 23.1**	**+0.8**
MTVR					S	**Sn**	**15 49 46.7**	**+2.4**
MTVR	**Mutnovka**	**1.81**	**231**		*e*P	**Pn**	**15 49 23.1**	**+0.8**
MTVR					*e*S	**Sn**	**15 49 46.7**	**+2.4**
ASAK	**Asacha**	**2.01**	**232**		PN	**Pn**	**15 49 27.5**	**+2.6**
ASAK	**Asacha**	**2.01**	**232**		*i*P	**Pn**	**15 49 27.5**	**+2.6**
KMNR	**Kamenistaya**	**2.11**	**356**		PN	**Pn**	**15 49 27.4**	**+1.1**
KMNR	**Kamenistaya**	**2.11**	**356**		*i*P	**Pn**	**15 49 27.4**	**+1.1**
KDTR	**Khodutka, Kamc**	**2.35**	**219**		*e*P	**Pn**	**15 49 29.3**	**-0.1**
KDTR					*e*S	**Sn**	**15 49 57.6**	**+0.4**
KOZ	**Kozyrevsk**	**2.44**	**352**		PN	**Pn**	**15 49 31.2**	**+0.6**
KOZ	**Kozyrevsk**	**2.44**	**352**		*e*P	**Pn**	**15 49 31.2**	**+0.6**
LGNR	**Loginova**	**2.44**	**3**		PN	**Pn**	**15 49 33.4**	**+2.5**
LGNR	**Loginova**	**2.44**	**3**		*e*P	**Pn**	**15 49 33.4**	**+2.5**
KRSR	**Krestovskiy**	**2.57**	**1**		PN	**Pn**	**15 49 31.8**	**-0.7**
KRSR	**Krestovskiy**	**2.57**	**1**		*e*P	**Pn**	**15 49 31.8**	**-0.7**
KLY	**Klyuchi**	**2.67**	**2**		PN	**Pn**	**15 49 34.5**	**+0.8**
KLY	**Klyuchi**	**2.67**	**2**		*e*P	**Pn**	**15 49 34.5**	**+0.8**
KBTR	**Krutoberegovo**	**2.90**	**27**		PN	**Pn**	**15 49 37.7**	**+0.9**
KBTR					S	**Sn**	**15 50 11.6**	**+1.2**
KBTR	**Krutoberegovo**	**2.90**	**27**		*i*P	**Pn**	**15 49 37.7**	**+0.9**
KBTR					*e*S	**Sn**	**15 50 11.6**	**+1.2**
SMKR	**Semkarok**	**2.99**	**11**		PN	**Pn**	**15 49 38.7**	**+0.5**
SMKR					S	**Sn**	**15 50 16.8**	**+3.9**
SMKR	**Semkarok**	**2.99**	**11**		*e*P	**Pn**	**15 49 38.7**	**+0.5**
SMKR					*e*S	**Sn**	**15 50 16.8**	**+3.9**
SRKR	**Sorokina**	**3.04**	**7**		PN	**Pn**	**15 49 39.7**	**+0.9**
SRKR					S	**Sn**	**15 50 16.4**	**+2.5**
SRKR	**Sorokina**	**3.04**	**7**		*e*P	**Pn**	**15 49 39.7**	**+0.9**
SRKR					*e*S	**Sn**	**15 50 16.4**	**+2.5**
OSSR	**Ossora**	**5.79**	**13**		PN	**Pn**	**15 50 18.8**	**+2.4**
OSSR	**Ossora**	**5.79**	**13**		*e*P	**Pn**	**15 50 18.8**	**+2.4**
MA2	**Magadan**	**7.99**	**322**		P	**Pn**	**15 50 47.5**	**+1.1**
	comp=N,0.3nm,0.3s,baz=123,slow=12,SNR=6.0							
YAK	**Yakutsk**	**18.25**	**310**		P	**Pn**	**15 53 00.6**	**-1.1**
	comp=N,0.0nm,0.3s,baz=69,slow=2.3,SNR=6.0							
YAK	**Yakutsk**	**18.25**	**310**	⇑	*e*P	**Pn**	**15 53 01.0**	**-0.7**
YAK					pmax	pmax		
	comp=Z,11nm,0.8s							
ILAR	**Eielson Array**	**28.26**	**46**		*e*P	**P**	**15 54 39.1**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=267,slow=7.2,SNR=4.2							
ILAR	**Eielson Array**	**28.26**	**46**		*e*P	P	**15 54 43.6**	**+3.6**
H11N2	**WAKE ISLAND Hy**	**34.22**	**169**		T	T	16 31 49.2	
	baz=353,slow=76,SNR=141							
H11N3	**WAKE ISLAND Hy**	**34.23**	**169**		T	T	16 31 56.5	
	baz=353,slow=76,SNR=90							
H11N1	**WAKE ISLAND Hy**	**34.23**	**169**		T	T	16 31 57.4	
	baz=353,slow=76,SNR=125							
H11S1	**WAKE ISLAND Hy**	**35.41**	**170**		T	T	16 33 22.5	
	baz=352,slow=76,SNR=74							
H11S3	**WAKE ISLAND Hy**	**35.42**	**170**		T	T	16 33 24.3	
	baz=352,slow=76,SNR=8.5							
H11S2	**WAKE ISLAND Hy**	**35.42**	**170**		T	T	16 33 19.6	
	baz=352,slow=76,SNR=8.5							
YKA	**Yellowknife Ar**	**42.59**	**43**		P	**P**	**15 56 41.6**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=298,slow=8.2,SNR=3.7							
KURK	**Kurchatov**	**47.63**	**302**	⇓	*e*P	**P**	**15 57 21.8**	**-0.8**
KURK					pmax	pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**48.12**	**295**		P	**P**	**15 57 24.5**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=57,slow=7.6,SNR=7.5							
MKAR	**Makanchi Array**	**48.12**	**295**		*e*P	**P**	**15 57 25.1**	**-1.4**
BVAR	**Borovoye Array**	**50.22**	**308**		P	**P**	**15 57 39.9**	**-2.5**
	comp=Z,0.3nm,0.4s,baz=74,slow=7.8,SNR=5.3							
ARCES	**ARCESS Array B**	**52.83**	**342**		P	**P**	**15 58 00.8**	**-0.7**
	comp=Z,3.1nm,1.0s,baz=46,slow=7.7,SNR=3.2							
CMAR	**Chiang Mai Arr**	**58.52**	**258**		P	**P**	**15 58 43.6**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=29,slow=7.3,SNR=3.9							
FINES	**FINESS Array B**	**59.70**	**337**		P	**P**	**15 58 49.9**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=32,slow=7.5,SNR=9.2							
NOA	**NORSAR Array B**	**63.07**	**344**		P	**P**	**15 59 12.9**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=24,slow=6.5,SNR=4.6							
NOA	**NORSAR Array B**	**63.07**	**344**		*e*P	**P**	**15 59 13.4**	**0.0**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.5s							
HFS	**Hagfors**	**63.49**	**342**		P	**P**	**15 59 15.0**	**-1.1**
	comp=Z,1.1nm,1.2s,baz=72,slow=4.8,SNR=5.8							
TXAR	**Lajitas Array**	**70.21**	**67**		P	**P**	**15 59 59.3**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=311,slow=5.7,SNR=3.2							
CLL	**Collm**	**71.91**	**339**		*e*P	**P**	**16 00 11.0**	**+1.8**
BRTR	**Keskin Array B**	**76.34**	**321**		P	**P**	**16 00 34.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=21,slow=6.6,SNR=2.9							
WRA	**Warramunga Arr**	**76.69**	**205**		P	**P**	**16 00 37.7**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=24,slow=6.6,SNR=4.2							
ASAR	**Alice Springs**	**80.36**	**205**		P	**P**	**16 00 58.7**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=8.7,slow=6.7,SNR=5.0							

*ISCJB **07** 16:20:27.3±4.3,31°.31S±0°.08×177°.3W±0°.7, h33km, mb4.6/6, Error ellipse: s-maj=81.1km s-min=9.4km az=4.4*
*IDC **07** 16:20:27.9±1.0,31°.12S×177°.80W, h0km, mb4.6/5, mb1 4.7/6, mb1mx4.1/45, mbtmp4.5/6, ML3.8/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/42, Error ellipse: s-maj=29.8km s-min=21.0km az=120.0*
*NEIC **07** 16:20:29.2±0.6,31°.12S×177°.75W, h10km, mb4.9/1, Error ellipse: s-maj=15.4km s-min=9.9km az=112.0*

ISC 07 16:20:33.8±1.2,31°.20S±0°.08×177°.9W±0°.2, h46km, n23, σ1s71/22, mb4.7/6, MS3.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.94**	**358**		Pn	**Pn**	**16 21 01.6**	**-2.8**
	236nm,0.3s,baz=287,slow=23,SNR=6.9							
RAO					Sn	**Sn**	**16 21 27.0**	**-0.6**
	425nm,0.3s,baz=259,slow=16,SNR=7.5							
RAO	**Raoul Island**	**1.94**	**358**		*e*Pn	**Pn**	**16 21 01.2**	**-3.1**
RAO					Sn	**Sn**	**16 21 27.0**	**-0.6**
URZ	**Urewera**	**8.17**	**209**		Pn	**Pn**	**16 22 29.0**	**-0.7**
	1.2nm,0.3s,baz=117,slow=4.5,SNR=5.8							
URZ					Sn	**Sn**	**16 23 56.0**	**-4.7**
	3.8nm,0.3s,baz=184,slow=21,SNR=10.0							
DZM	**Mont Dzumac**	**16.71**	**299**		LR	LR	16 29 45.8	
	comp=Z,98nm,18.4s,baz=84,slow=33							
PPT	**Papeete**	**29.01**	**69**		LR	LR	16 35 27.6	
	comp=Z,22nm,21.5s,baz=270,slow=31							
CTA	**Charters Tower**	**34.05**	**280**		P	**P**	**16 27 15.2**	**+1.3**
	4.8nm,0.6s,baz=103,slow=14,SNR=5.9							
CTAO	**Charters Tower**	**34.05**	**280**		*e*P	**P**	**16 27 15.7**	**+1.8**
STKA	**Stephens Creek**	**34.42**	**258**		P	**P**	**16 27 18.6**	**+1.6**
	8.2nm,0.8s,baz=81,slow=9.7,SNR=12							
ASAR	**Alice Springs**	**43.19**	**268**		P	**P**	**16 28 30.8**	**+0.3**
	12nm,0.7s,baz=106,slow=7.3,SNR=164							
WRAB	**Tennant Creek**	**44.25**	**273**		*e*P	**P**	**16 28 39.3**	**+0.3**
	15nm,0.8s							
WRA	**Warramunga Arr**	**44.26**	**273**		P	**P**	**16 28 39.6**	**+0.5**
	8.7nm,0.5s,baz=111,slow=8.1,SNR=126							
FITZ	**Fitzroy Crossi**	**52.48**	**270**		P	**P**	**16 29 42.2**	**-0.2**
	1.9nm,0.7s,baz=99,slow=6.0,SNR=3.8							
RPN	**Rapa Nui**	**59.11**	**105**		LR	LR	16 51 45.5	
	comp=Z,13nm,20.5s,baz=296,slow=32							
NEW	**Newport**	**95.95**	**36**		LR	LR	17 07 38.8	
	comp=Z,81nm,21.8s,baz=276,slow=30

WERD	**Werda**	**2.67**	**246**	Pn		**Pn**	**16 44 44.7**	**+0.6**
WERD				Sg		**Sg**	**16 45 24.9**	**-0.6**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn		**Pn**	**16 44 44.9**	**+0.5**
OJC				*e*Pg		**Pg**	**16 44 52.1**	**+0.7**
OJC				*e*Sg		**Sg**	**16 45 28.0**	**+1.7**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn		**Pn**	**16 44 44.9**	**+0.5**
OJC				*e*Sg		**Sg**	**16 45 28.6**	**+2.3**
OJC	**Ojcow**	**2.69**	**119**	Pn		**Pn**	**16 44 44.9**	**+0.5**
NKC	**Novy Kostel**	**2.70**	**241**	⇓ *e*PN		**Pn**	**16 44 44.8**	**+0.4**
NKC				*e*PG		**Pg**	**16 44 50.7**	**-0.7**
NKC				*e*SG		**Sg**	**16 45 26.2**	**-0.2**
	comp=Z,79nm,0.4s							
NKC	**Novy Kostel**	**2.70**	**241**	Pn		**Pn**	**16 44 44.8**	**+0.4**
KHC	**Kasperske Hory**	**2.95**	**215**	⇓ *e*PN		**Pn**	**16 44 48.0**	**+0.1**
KHC				*e*PG		**Pb**	**16 44 54.2**	**+0.9**
KHC				*e*SN		**Sn**	**16 45 22.5**	**-1.6**
KHC				*e*SG		**Sg**	**16 45 32.5**	**-2.0**
	comp=Z,39nm,0.5s							
KHC	**Kasperske Hory**	**2.95**	**215**	Pn		**Pn**	**16 44 48.0**	**+0.1**
MOX	**Moxa**	**3.00**	**253**	*e*Pn		**Pn**	**16 44 49.2**	**+0.7**
MOX				*e*Sg		**Sg**	**16 45 36.7**	**+0.7**
MOX	**Moxa**	**3.00**	**253**	Pn		**Pn**	**16 44 49.2**	**+0.7**
MOX				Sg		**Sg**	**16 45 36.7**	**+0.7**
MANZ	**Manzenberg**	**3.01**	**239**	*e*Pn		**Pn**	**16 44 49.4**	**+0.6**
MANZ				*e*Sg		**Sg**	**16 45 36.4**	**-0.1**
MANZ	**Manzenberg**	**3.01**	**239**	Pn		**Pn**	**16 44 49.4**	**+0.6**
MANZ				Sg		**Sg**	**16 45 36.4**	**-0.1**
ROTZ	**Rotzenmuhle**	**3.09**	**235**	*e*Pn		**Pn**	**16 44 50.4**	**+0.6**
ROTZ	**Rotzenmuhle**	**3.09**	**235**	Pn		**Pn**	**16 44 50.4**	**+0.6**
GEC2	**GERESS Array S**	**3.15**	**211**	*e*Pn		**Pn**	**16 44 51.0**	**+0.2**
GEC2	**GERESS Array S**	**3.15**	**211**	Pn		**Pn**	**16 44 51.0**	**+0.2**
GERES	**GERESS Array B**	**3.15**	**211**	Pn		**Pn**	**16 44 51.0**	**+0.2**
	comp=Z,4.2nm,0.3s,baz=30,slow=12,SNR=83							
GERES				Pg		**Pb**	**16 44 57.7**	**+0.9**
	comp=Z,9.3nm,0.3s,baz=28,slow=17,SNR=42							
GERES				Sn		**Sn**	**16 45 24.9**	**-4.3**
	comp=Z,3.8nm,0.3s,baz=32,slow=20,SNR=5.9							
GERES				Lg		Lg	16 45 37.3	
	comp=Z,5.8nm,0.3s,baz=30,slow=26,SNR=5.9							
SMOL	**Smolenice**	**3.19**	**164**	*e*Pg		**Pg**	**16 45 01.7**	**+0.9**
SMOL				*e*Sg		**Sg**	**16 45 44.8**	**+2.7**
SMOL	**Smolenice**	**3.19**	**164**	*e*PG		**Pg**	**16 45 01.7**	**+0.9**
SMOL				*e*SG		**Sg**	**16 45 44.8**	**+2.7**
WET	**Wettzell**	**3.21**	**222**	*e*Pn		**Pn**	**16 44 51.6**	**+0.1**
WET	**Wettzell**	**3.21**	**222**	Pn		**Pn**	**16 44 51.6**	**+0.1**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*Pg		**Pg**	**16 45 00.9**	**-1.0**
LANS				*e*Sg		**Sg**	**16 45 43.7**	**-0.1**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*		**Pn**	**16 44 52.9**	**+1.0**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*PG		**Pg**	**16 45 00.9**	**-1.0**
LANS				*e*SG		**Sg**	**16 45 43.7**	**-0.1**
MODS	**Modra-Piesok**	**3.30**	**167**	*e*Pg		**Pg**	**16 45 01.5**	**-1.5**
MODS				*e*Sg		**Sg**	**16 45 42.7**	**-3.0**
MODS	**Modra-Piesok**	**3.30**	**167**	*e*PG		**Pg**	**16 45 01.5**	**-1.5**
MODS				*e*SG		**Sg**	**16 45 42.7**	**-3.0**
MODS				*e*LG		Lg	16 45 47.9	
NIE	**Niedzica**	**3.43**	**128**	*e*Pn		**Pn**	**16 44 55.7**	**+1.2**
NIE				*e*Pg		**Pg**	**16 45 05.6**	**+0.1**
NIE				*e*Sg		**Sg**	**16 45 50.4**	**+0.4**
NIE	**Niedzica**	**3.43**	**128**	*e*Pn		**Pn**	**16 44 55.7**	**+1.2**
VYHS	**Vyhne**	**3.55**	**150**	*e*Pg		**Pg**	**16 45 07.5**	**-0.3**
VYHS				*e*Sg		**Sg**	**16 45 52.2**	**-1.6**
VYHS	**Vyhne**	**3.55**	**150**	*e*		**Pn**	**16 44 56.4**	**+0.2**
VYHS	**Vyhne**	**3.55**	**150**	*e*PG		**Pg**	**16 45 07.5**	**-0.3**
VYHS				*e*SG		**Sg**	**16 45 52.2**	**-1.6**
VYHS				*e*LG		Lg	16 45 58.3	
CLZ	**Clausthal**	**3.59**	**276**	*e*Pn		**Pn**	**16 44 58.2**	**+1.5**
CLZ	**Clausthal**	**3.59**	**276**	Pn		**Pn**	**16 44 58.2**	**+1.5**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P		**Pn**	**16 44 58.2**	**+1.3**
BSD				*e*S		**Sn**	**16 45 38.8**	**-1.4**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P		**Pn**	**16 44 58.2**	**+1.3**
BSD				*e*S		**Sn**	**16 45 38.8**	**-1.4**
GRA1	**Grafenberg Arr**	**3.66**	**241**	Pn		**Pn**	**16 44 57.8**	**+0.2**
GRF	**Grafenberg Arr**	**3.66**	**241**	*e*Pn		**Pn**	**16 44 57.8**	**+0.2**
CONA	**Conrad Observa**	**3.66**	**183**	Pn		**Pn**	**16 44 58.3**	**+0.5**
	comp=Z,5.5nm,0.4s							
CONA	**Conrad Observa**	**3.66**	**183**	*e*Pn		**Pn**	**16 44 58.3**	**+0.5**
	comp=Z,5.5nm,0.4s							
CONA				*e*Pg		**Pg**	**16 45 08.8**	**-1.2**
	comp=Z,16nm,0.4s							
CONA				Sg		**Sg**	**16 45 57.1**	**-0.4**
	comp=Z,40nm,0.5s							
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*Pg		**Pg**	**16 45 15.6**	**+0.7**
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*		**Pn**	**16 45 02.5**	**+1.3**
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*PG		**Pg**	**16 45 15.6**	**+0.7**
STHS				*e*LG		Lg	16 46 11.0	
MOA	**Molln**	**3.93**	**199**	Pn		**Pn**	**16 45 02.1**	**+0.7**
	comp=Z,9.7nm,0.4s							
MOA				Sg		**Sg**	**16 46 05.5**	**-0.5**
	comp=Z,42nm,0.5s							
MOA	**Molln**	**3.93**	**199**	*i* Pn		**Pn**	**16 45 02.1**	**+0.7**
	comp=Z,9.7nm,0.4s							
MOA				Sg		**Sg**	**16 46 05.5**	**-0.5**
	comp=Z,42nm,0.5s							
KECS	**Kecovo**	**4.18**	**136**	*e*Pg		**Pg**	**16 45 19.6**	**-0.4**
KECS				*e*Sg		**Sg**	**16 46 12.6**	**-1.6**
KECS	**Kecovo**	**4.18**	**136**	*e*		**Pn**	**16 45 04.4**	**-0.5**
KECS	**Kecovo**	**4.18**	**136**	*e*PG		**Pg**	**16 45 19.6**	**-0.4**
KECS				*e*SG		**Sg**	**16 46 12.6**	**-1.6**
KECS				*e*LG		Lg	16 46 27.0	
CRVS	**Cervenica-Dubn**	**4.35**	**126**	*e*Pg		**Pg**	**16 45 23.9**	**+0.8**
CRVS				*e*Sg		**Sg**	**16 46 19.4**	**0.0**
CRVS	**Cervenica-Dubn**	**4.35**	**126**	*e*		**Pn**	**16 45 08.6**	**+1.5**
CRVS	**Cervenica-Dubn**	**4.35**	**126**	*e*PG		**Pg**	**16 45 23.9**	**+0.8**
CRVS				*e*SG		**Sg**	**16 46 19.4**	**0.0**
ARSA	**Arzberg**	**4.36**	**185**	Pn		**Pn**	**16 45 09.1**	**+1.9**
	comp=Z,3.2nm,0.3s							
ARSA				Sg		**Sg**	**16 46 16.4**	**-3.3**
	comp=Z,43nm,0.8s							
ARSA	**Arzberg**	**4.36**	**185**	*e*Pn		**Pn**	**16 45 09.1**	**+1.9**
	comp=Z,3.2nm,0.3s							
ARSA				*i* Sg		**Sg**	**16 46 16.4**	**-3.3**
	comp=Z,43nm,0.8s							
PSZ	**Piszkesteto**	**4.41**	**145**	⇑ *i*P		**Pn**	**16 45 09.1**	**+1.1**
PSZ	**Piszkesteto**	**4.41**	**145**	⇑ *i*P		**Pn**	**16 45 09.1**	**+1.1**
KBA	**Koelnbreinsper**	**4.86**	**203**	Pn		**Pn**	**16 45 15.4**	**+1.0**
	comp=Z,7.9nm,0.4s							
KBA				Sg		**Sg**	**16 46 39.4**	**+3.4**
	comp=Z,21nm,0.6s							
KBA	**Koelnbreinsper**	**4.86**	**203**	*e*Pn		**Pn**	**16 45 15.4**	**+1.0**
	comp=Z,7.9nm,0.4s							
KBA				*i* Sg		**Sg**	**16 46 39.4**	**+3.4**
	comp=Z,21nm,0.6s							
SOKA	**Soboth**	**4.96**	**189**	Pn		**Pn**	**16 45 17.5**	**+1.9**
	comp=Z,1.3nm,0.2s							
SOKA				Sg		**Sg**	**16 46 40.6**	**+1.4**
	comp=Z,6.3nm,0.7s							
SOKA	**Soboth**	**4.96**	**189**	*e*Pn		**Pn**	**16 45 17.5**	**+1.9**
	comp=Z,1.3nm,0.2s							
SOKA				Sg		**Sg**	**16 46 40.6**	**+1.4**
	comp=Z,6.3nm,0.7s							
PERS	**Pernice**	**5.00**	**188**	*i* Pn		**Pn**	**16 45 18.1**	**+2.0**
PERS	**Pernice**	**5.00**	**188**	Pn		**Pn**	**16 45 18.1**	**+2.0**
GROS	**Grobnik**	**5.14**	**185**	*i* Pn		**Pn**	**16 45 19.5**	**+1.4**
GROS	**Grobnik**	**5.14**	**185**	*i* Pn		**Pn**	**16 45 19.5**	**+1.4**
OBKA	**Obir**	**5.18**	**192**	Pn		**Pn**	**16 45 20.1**	**+1.4**
	comp=Z,0.7nm,0.1s							
OBKA	**Obir**	**5.18**	**192**	*e*Pn		**Pn**	**16 45 20.1**	**+1.4**
	comp=Z,0.7nm,0.1s							
WATA	**Walderalm**	**5.19**	**217**	Pn		**Pn**	**16 45 20.4**	**+1.7**
	comp=Z,6.8nm,0.5s							
WATA	**Walderalm**	**5.19**	**217**	*e*Pn		**Pn**	**16 45 20.4**	**+1.7**
	comp=Z,6.8nm,0.5s							
MYKA	**Terra Mystica**	**5.22**	**199**	Sg		**Sg**	**16 46 46.0**	**-1.4**
	comp=Z,9.8nm,0.5s							
MYKA	**Terra Mystica**	**5.22**	**199**	Sg		**Sg**	**16 46 46.0**	**-1.4**
	comp=Z,9.8nm,0.5s							
MOTA	**Moosalm**	**5.36**	**220**	Pn		**Pn**	**16 45 21.1**	**0.0**
	comp=Z,4.0nm,0.3s							
MOTA	**Moosalm**	**5.36**	**220**	*i* Pn		**Pn**	**16 45 21.1**	**0.0**
	comp=Z,4.0nm,0.3s							
RETA	**Reutte**	**5.39**	**223**	Pn		**Pn**	**16 45 21.7**	**+0.3**
	comp=Z,1.4nm,0.2s							
RETA				Sn		**Sn**	**16 46 23.1**	**-1.1**
	comp=Z,2.9nm,0.4s							
RETA				Sg		**Sg**	**16 46 52.7**	**-0.1**
	comp=Z,7.9nm,0.4s							
RETA	**Reutte**	**5.39**	**223**	*i* Pn		**Pn**	**16 45 21.7**	**+0.3**
	comp=Z,1.4nm,0.2s							
RETA				*i* Sn		**Sn**	**16 46 23.1**	**-1.1**
	comp=Z,2.9nm,0.4s							
RETA				Sg		**Sg**	**16 46 52.7**	**-0.1**
	comp=Z,7.9nm,0.4s							
ABTA	**Abfaltersbach**	**5.39**	**208**	Pn		**Pn**	**16 45 22.9**	**+1.4**
	comp=Z,3.2nm,0.4s							
ABTA				Sn		**Sn**	**16 46 24.0**	**-0.3**
	comp=Z,3.6nm,0.5s							
ABTA	**Abfaltersbach**	**5.39**	**208**	*e*Pn		**Pn**	**16 45 22.9**	**+1.4**
	comp=Z,3.2nm,0.4s							
ABTA				*e*Sn		**Sn**	**16 46 24.0**	**-0.3**
	comp=Z,3.6nm,0.5s							
CRES	**Cresnjev**	**5.78**	**185**	*i* Pn		**Pn**	**16 45 27.8**	**+1.0**
CRES	**Cresnjev**	**5.78**	**185**	*i* Pn		**Pn**	**16 45 27.8**	**+1.0**
DAVA	**Damuels**	**5.93**	**226**	Pn		**Pn**	**16 45 29.0**	**+0.1**
	comp=Z,2.4nm,0.3s							
DAVA				Sg		**Sg**	**16 47 11.4**	**+1.3**
DAVA	**Damuels**	**5.93**	**226**	*e*Pn		**Pn**	**16 45 29.0**	**+0.1**
	comp=Z,2.4nm,0.3s							
DAVA				*i* Sg		**Sg**	**16 47 11.4**	**+1.3**
BURAR	**Bucovina Array**	**7.12**	**120**	⇑ *i*P		**Pn**	**16 45 46.0**	**+0.8**
AKASG	**Malin Array Be**	**8.28**	**91**	Pn		**Pn**	**16 46 00.6**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=280,slow=12,SNR=11							
AKASG				Sn		**Sn**	**16 47 29.2**	**-6.0**
	comp=Z,1.2nm,0.3s,baz=280,slow=22,SNR=4.2							
AKASG				Lg		Lg	16 48 25.6	
	baz=277,slow=26,SNR=3.2							
HFS	**Hagfors**	**8.68**	**352**	Pn		**Pn**	**16 46 05.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=161,slow=14,SNR=4.8							
HFS				Sn		**Sn**	**16 47 38.1**	**-6.8**
	comp=Z,0.1nm,0.3s,baz=166,slow=25,SNR=2.6							
NOA	**NORSAR Array B**	**9.86**	**346**	Pn		**Pn**	**16 46 21.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=165,slow=13,SNR=3.0							
FINES	**FINESS Array B**	**11.29**	**25**	Pn		**Pn**	**16 46 41.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=7.5							
FINES				Sn		**Sn**	**16 48 42.3**	**-6.6**
	comp=Z,0.3nm,0.3s,baz=217,slow=21,SNR=4.3							
EKA	**Eskdalemuir Ar**	**12.09**	**296**	Pn		**Pn**	**16 46 50.9**	**-2.2**
	baz=95,slow=12,SNR=2.9							
ARCES	**ARCESS Array B**	**18.55**	**10**	Pn		**P**	**16 48 15.8**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=191,slow=14,SNR=7.4							
KBZ	**Khabaz**	**19.59**	**103**	LR		LR	16 55 56.4	
	comp=Z,181nm,18.4s,baz=318,slow=36							
AKTO	**Aktyubinsk**	**26.12**	**76**	P		**P**	**16 49 38.2**	**+3.0**
	comp=Z,0.8nm,0.6s,baz=320,slow=16,SNR=3.0							
BVAR	**Borovoye Array**	**32.55**	**66**	P		**P**	**16 50 35.1**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=310,slow=7.0,SNR=4.6							
KURBB	**Kurchatov Arra**	**38.13**	**66**	P		**P**	**16 51 22.0**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=295,slow=9.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**40.07**	**202**	P		**P**	**16 51 36.9**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=8.5,slow=7.9,SNR=3.7							
MKAR	**Makanchi Array**	**42.17**	**69**	P		**P**	**16 51 56.3**	**+2.4**
	comp=Z,0.2nm,0.7s,baz=284,slow=5.8,SNR=2.6							
YKA	**Yellowknife Ar**	**59.79**	**336**	P		**P**	**16 54 07.0**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=34,slow=6.2,SNR=6.2							
PDAR	**Pinedale Array**	**74.89**	**322**	P		**P**	**16 55 44.5**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=52,slow=6.2,SNR=2.5							

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*GII **07** 16:57:08.8±0.6,32.52N×47.58E,h100km,mb4.5/1, MD4.4/1*
*IDC **07** 16:57:09.8±0.7,32.56N×47.00E,h0km,mb4.2/28, mb1 4.2/38,mb1mx4.1/66,mbtmp4.2/38,ML3.6/9,MS3.3/8, Ms1 3.3/8,ms1mx3.0/66,Error ellipse: s-maj=14.8km s-min=10.0km az=173.0*
*MOS **07** 16:57:11.9±1.2,32.54N×47.03E,h24km,mb4.5/42,Error ellipse: s-maj=6.9km s-min=4.7km az=104.2*
*OMAN **07** 16:57:11.4±99.0,32.18N×46.46E,h26km±149km,Error ellipse: s-maj=137.1km s-min=20.9km az=298.0*
*ISN **07** 16:57:12.2±2.8,32.61N×46.79E,h15km,ML4.4*
*ISCJB **07** 16:57:12.4±0.8,32.38N±0.03×46.94E±0.02,h33km±6km, mb4.3/59,MS3.6/4,Error ellipse: s-maj=4.9km s-min=3.1km az=19.3*
*THR **07** 16:57:12.0±0.6,32.54N×46.84E,h15km±6km,ML4.2*
*CSEM **07** 16:57:13.1±0.1,32.48N×46.96E,h20km,mb4.4/47,Error ellipse: s-maj=5.5km s-min=3.4km az=21.0*
*TEH **07** 16:57:16.3,32.57N×47.01E,h28km,ML4.2*
*NEIC **07** 16:57:16.3±0.0,32.57N×47.01E,h28km,mb4.4/23, ML4.2(THR),MN4.2(TEH),After TEH.*
*DSN **07** 16:57:25.8±0.8,31.54N×47.62E,h15km,Error ellipse: s-maj=20.0km s-min=7.2km az=36.0*

ISC 07 16:57:14.8±1.0,32.54N±0.04×46.99E±0.03,h33km±4km, n343,σ1s70/356,mb4.3/58,MS3.6/4,16C-19D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.22**	**36**	*e*Pg	**Pn**	**16 57 34.9**	**-0.7**
IKFM				*e*Sg	**Sb**	**16 57 54.4**	**+1.5**
IKFM				*e*AMB	AMB	16 58 03.1	
	comp=Z,99nm,0.5s						
IKFM	**Kafar-mosalman**	**1.22**	**36**	*e*Pg	**Pn**	**16 57 34.9**	**-0.7**
IKFM				*e*Sg	**Sb**	**16 57 54.4**	**+1.5**
SHGR	**Shooshtar-Gavs**	**1.59**	**105**	*e*P	**Pb**	**16 57 43.1**	**-0.6**
SHGR				*e*Sg	**Sb**	**16 58 06.6**	**+3.1**
SHGR	**Shooshtar-Gavs**	**1.59**	**105**	*e*P	**Pb**	**16 57 43.1**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.59**	**105**	*e*Pg	**Pb**	**16 57 43.1**	**-0.6**
SHGR				*e*Sg	**Sb**	**16 58 06.6**	**+3.1**
SHGR				AML	AML	16 58 13.3	
	comp=E,3μm,0.3s						
SHGR				AML	AML	16 58 13.6	
	comp=N,2μm,0.4s						
IKOM	**Komasi**	**1.69**	**15**	*e*Pn	**Pn**	**16 57 43.4**	**+1.2**
IKOM				*e*AMB	AMB	16 58 09.9	
	comp=Z,86μm,0.4s						
IKOM	**Komasi**	**1.69**	**15**	Pn	**Pn**	**16 57 43.3**	**+1.1**
IKOM	**Komasi**	**1.69**	**15**	*e*Pn	**Pn**	**16 57 43.4**	**+1.2**
IGHG	**Ghaleghazi**	**1.82**	**349**	*e*Pn	**Pb**	**16 57 45.7**	**-2.0**
IGHG				*e*AMB	AMB	16 58 21.6	
	comp=Z,81μm,0.3s						
IGHG	**Ghaleghazi**	**1.82**	**349**	Pn	**Pb**	**16 57 45.7**	**-2.0**
IGHG	**Ghaleghazi**	**1.82**	**349**	*e*Pn	**Pb**	**16 57 45.7**	**-2.0**
IVIS	**Veis**	**1.99**	**357**	*e*Pn	**Pn**	**16 57 47.4**	**+1.2**
IVIS				*e*Sg	**Sb**	**16 58 18.0**	**+3.1**
IVIS				*e*AMB	AMB	16 58 22.4	
	comp=Z,32μm,0.2s						
IVIS	**Veis**	**1.99**	**357**	Pn	**Pn**	**16 57 47.3**	**+1.1**
IVIS				Sg	**Sb**	**16 58 17.9**	**+3.1**
IVIS	**Veis**	**1.99**	**357**	*e*Pn	**Pn**	**16 57 47.4**	**+1.2**
BHD	**Baghdad**	**2.31**	**289**	*e*Pg	**Pn**	**16 57 49.0**	**-1.5**
	SNR=9.0						
BHD				*i* Sg	**Sb**	**16 58 21.0**	**-3.0**
	SNR=9.0						
ILIN	**Lien**	**2.38**	**360**	*e*Pn	**Pn**	**16 57 53.2**	**+1.5**
ILIN				*e*AMB	AMB	16 58 37.9	
	comp=Z,13μm,0.4s						
ILIN	**Lien**	**2.38**	**360**	Pn	**Pn**	**16 57 53.2**	**+1.5**
ILIN	**Lien**	**2.38**	**360**	*e*Pn	**Pn**	**16 57 53.2**	**+1.5**
SNGE	**Sanandaj**	**2.57**	**7**	*e*Pn	**Pn**	**16 57 55.6**	**+1.3**
SNGE				*e*Sg	**Sb**	**16 58 33.0**	**+1.4**
SNGE	**Sanandaj**	**2.57**	**7**	*e*Pn	**Pn**	**16 57 55.6**	**+1.3**
SNGE	**Sanandaj**	**2.57**	**7**	*e*Pn	**Pn**	**16 57 55.6**	**+1.3**
SNGE				*e*Sg	**Sb**	**16 58 33.0**	**+1.4**
SNGE				AML	AML	16 58 39.7	
	comp=E,905nm,0.6s						
SNGE				AML	AML	16 58 42.7	
	comp=N,1μm,0.6s						
ASAO	**Ashtian**	**3.23**	**51**	*e*Pn	**Pn**	**16 58 05.7**	**+2.2**
ASAO				*e*Sg	**Sb**	**16 58 55.7**	**+4.9**
ASAO	**Ashtian**	**3.23**	**51**	*e*Pn	**Pn**	**16 58 05.7**	**+2.2**
ASAO	**Ashtian**	**3.23**	**51**	*e*Pn	**Pn**	**16 58 05.7**	**+2.2**
ASAO				*e*Sg	**Sb**	**16 58 55.7**	**+4.9**
IPIR	**Pirpir**	**3.30**	**86**	*e*AMB	AMB	16 58 49.8	
	comp=Z,6μm,0.3s						
IPIR				*e*Pn	**Pn**	**16 58 06.5**	**+2.1**
IRAZ	**Razeghan**	**3.76**	**40**	*e*Pn	**Pn**	**16 58 12.6**	**+1.9**
IRAZ				*e*AMB	AMB	16 59 23.8	
	comp=Z,5μm,0.3s						
IRAZ	**Razeghan**	**3.76**	**40**	*e*Pn	**Pn**	**16 58 12.6**	**+1.9**
QAM	**Ghamsar**	**3.93**	**71**	*e*Pn	**Pn**	**16 58 15.2**	**+2.2**
QAM				*e*AMB	AMB	16 59 26.6	
	comp=Z,4μm,0.2s						
IKLH	**Kolahrood**	**3.94**	**77**	*e*Pn	**Pn**	**16 58 14.6**	**+1.4**
IKLH				*e*AMB	AMB	16 59 33.8	
	comp=Z,3μm,0.3s						
IKLH	**Kolahrood**	**3.94**	**77**	*e*Pn	**Pn**	**16 58 14.6**	**+1.4**
GHVR	**GHOM**	**4.09**	**61**	*e*Pn	**Pn**	**16 58 17.1**	**+2.0**
GHVR	**GHOM**	**4.09**	**61**	*e*Pn	**Pn**	**16 58 17.1**	**+2.0**
GHVR	**GHOM**	**4.09**	**61**	*e*Pn	**Pn**	**16 58 17.1**	**+2.0**
IGAR	**Gharneh**	**4.28**	**90**	*e*Pn	**Pn**	**16 58 19.1**	**+1.3**
IGAR				*e*AMB	AMB	16 59 12.0	
	comp=Z,2μm,0.2s						
IZEF	**Zefreh**	**4.52**	**84**	*e*Pn	**Pn**	**16 58 22.4**	**+1.2**
IZEF				*e*AMB	AMB	16 58 45.7	
	comp=Z,1μm,0.3s						
IZEF	**Zefreh**	**4.52**	**84**	*e*Pn	**Pn**	**16 58 22.4**	**+1.2**
IRAM	**Rameshe**	**4.63**	**98**	*e*Pn	**Pn**	**16 58 22.8**	**+0.1**
IRAM				*e*AMB	AMB	16 59 25.3	
	comp=Z,871nm,0.2s						
IRAM	**Rameshe**	**4.63**	**98**	*e*Pn	**Pn**	**16 58 22.8**	**+0.1**
IVRN	**Varamin**	**4.65**	**57**	*e*Pn	**Pn**	**16 58 24.0**	**+1.2**
IVRN				*e*AMB	AMB	16 59 50.4	
	comp=Z,2μm,0.4s						
IVRN	**Varamin**	**4.65**	**57**	Pn	**Pn**	**16 58 24.0**	**+1.2**
IVRN	**Varamin**	**4.65**	**57**	*e*Pn	**Pn**	**16 58 24.0**	**+1.2**
THKV	**Tehran--Karaj**	**4.67**	**43**	*e*P	**Pn**	**16 58 25.1**	**+2.0**
THKV	**Tehran--Karaj**	**4.67**	**43**	*e*P	**Pn**	**16 58 25.1**	**+2.0**
THKV	**Tehran--Karaj**	**4.67**	**43**	*e*P	**Pn**	**16 58 25.1**	**+2.0**
IGZV	**Ghazvin**	**4.68**	**34**	*e*Pn	**Pn**	**16 58 23.7**	**+0.4**
IGZV				*e*AMB	AMB	16 58 46.1	
	comp=Z,1μm,0.3s						
IGZV	**Ghazvin**	**4.68**	**34**	*e*Pn	**Pn**	**16 58 23.7**	**+0.4**
IKAZ	**Kazeroun**	**4.99**	**122**	*e*Pn	**Pn**	**16 58 29.4**	**+1.7**
IKAZ				*e*AMB	AMB	16 59 44.0	
	comp=Z,4μm,0.3s						
IKAZ	**Kazeroun**	**4.99**	**122**	Pn	**Pn**	**16 58 29.3**	**+1.6**
IKAZ	**Kazeroun**	**4.99**	**122**	Pn	**Pn**	**16 58 29.3**	**+1.6**
IDMV	**Damavand**	**5.17**	**53**	*e*Pn	**Pn**	**16 58 30.4**	**+0.3**
IDMV				*e*AMB	AMB	17 00 12.8	
	comp=Z,2μm,0.5s						
IDMV	**Damavand**	**5.17**	**53**	*e*Pn	**Pn**	**16 58 30.4**	**+0.3**
IFIR	**Firoozkooh**	**5.70**	**56**	*e*Pn	**Pn**	**16 58 37.6**	**+0.2**
IFIR				*e*AMB	AMB	16 59 02.6	
	comp=Z,363nm,0.2s						
IFIR	**Firoozkooh**	**5.70**	**56**	*e*Pn	**Pn**	**16 58 37.6**	**+0.2**
ISAD	**Sadrabad**	**5.71**	**94**	*e*Pn	**Pn**	**16 58 38.1**	**+0.5**
ISAD				*e*AMB	AMB	17 00 39.1	
	comp=Z,596nm,0.5s						
ISAD	**Sadrabad**	**5.71**	**94**	*e*Pn	**Pn**	**16 58 38.1**	**+0.5**
IPAR	**Pars**	**5.85**	**116**	*e*Pn	**Pn**	**16 58 40.5**	**+1.0**
IPAR				*e*AMB	AMB	17 00 00.9	
	comp=Z,813nm,0.4s						
IPAR	**Pars**	**5.85**	**116**	*e*Pn	**Pn**	**16 58 40.5**	**+1.0**
ICHK	**Chekchek**	**6.28**	**91**	*e*Pn	**Pn**	**16 58 45.2**	**-0.2**
ICHK				*e*AMB	AMB	17 00 01.0	
	comp=Z,672nm,0.3s						
ICHK	**Chekchek**	**6.28**	**91**	*e*Pn	**Pn**	**16 58 45.2**	**-0.2**
IMEH	**Mehriz**	**6.58**	**98**	*e*Pn	**Pn**	**16 58 50.2**	**+0.7**
IMEH				*e*AMB	AMB	17 00 08.2	
	comp=Z,257nm,0.3s						
IMEH	**Mehriz**	**6.58**	**98**	*e*Pn	**Pn**	**16 58 50.2**	**+0.7**
IBAF	**Bafgh**	**7.34**	**95**	*e*Pn	**Pn**	**16 59 00.1**	**+0.2**
IBAF				*e*AMB	AMB

SNR=6.6
SHAO Shalim 16.42 150 *i* Pn **Pn** 17 01 01.4 -1.4
SNR=6.6
SHAO Shalim 16.42 150 *i* P **Pn** 17 01 01.4 -1.4
SNR=6.6
SANT Santorini 18.16 288 *e*Pn **P** 17 01 23.9 -0.5
comp=Z,10nm,0.8s
SANT Santorini 18.16 288 *e*Pn **P** 17 01 23.9 -0.5
comp=Z,10nm,0.8s
KBL Kabul 18.49 78 *e*P **P** 17 01 25.6 -2.8
comp=Z,15nm,1.0s
KBL Kabul 18.49 78 *e*P **P** 17 01 25.6 -2.8
KBL pmax pmax
comp=Z,15nm,1.0s
IDI Anoyia 18.54 285 P **Pn** 17 01 28.5 -0.6
comp=Z,0.9nm,0.3s,baz=88,slow=11,SNR=14
IDI Anoyia 18.54 285 *i*P **Pn** 17 01 29.0 -0.1
IDI Anoyia 18.54 285 *e*P **Pn** 17 01 30.1 +1.0
comp=Z,21nm,1.2s
IDI Anoyia 18.54 285 *e*P **Pn** 17 01 30.1 +1.0
comp=Z,21nm,1.2s
TIRR Tirgusor 18.74 315 ⇓ *i*P **Pn** 17 01 32.6 +1.3
TIRR Tirgusor 18.74 315 *e*P **Pn** 17 01 32.2 +0.9
comp=Z,26nm,1.7s
TIRR Tirgusor 18.74 315 *e*P **Pn** 17 01 32.2 +0.9
TIRR pmax pmax
comp=Z,26nm,1.7s
TIRR Tirgusor 18.74 315 *e*P **Pn** 17 01 32.2 +0.9
comp=Z,26nm,1.7s
TLB Topalu 19.03 315 ⇓ *i*P **Pn** 17 01 35.1 +0.3
TLB Topalu 19.03 315 ⇓ *i*P **Pn** 17 01 35.1 +0.3
VRH Novokhopyorsk 19.05 350 *e*P **P** 17 01 32.0 -2.0
VRH pmax pmax
comp=Z,20nm,0.8s
HARR Harsova 19.15 315 ⇑ *i*P **P** 17 01 34.8 -0.4
HARR Harsova 19.15 315 ⇑ *i*P **P** 17 01 34.8 -0.4
CFR Carcaliu 19.30 316 ⇑ *i*P **Pn** 17 01 36.8 -1.3
CFR Carcaliu 19.30 316 P **P** 17 01 35.5 -1.4
CFR pmax pmax
comp=Z,8.0nm,0.9s
CFR Carcaliu 19.30 316 P **P** 17 01 35.5 -1.4
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 19.32 26 *e*P **P** 17 01 37.2 +0.2
comp=Z,47nm,0.6s
ABKAR Akbulak array 19.32 26 *e*P **P** 17 01 37.2 +0.2
comp=Z,47nm,0.6s
VSR Storozhevoye 19.53 345 *e*P **P** 17 01 38.3 -1.0
VSR *e*S **S** 17 05 16.9 -1.1
VSR pmax pmax
comp=Z,30nm,0.9s
VSR smax smax
comp=N,30nm,1.1s
VSR Storozhevoye 19.53 345 *e*P **P** 17 01 38.3 -1.0
comp=N,30nm,0.9s
VSR *e*S **S** 17 05 16.9 -1.1
comp=N,30nm,1.1s
AKTK Aktyubinsk 19.66 21 P **P** 17 01 40.1 -0.7
comp=N,1.0nm,0.3s
AKTO Aktyubinsk 19.66 21 P **P** 17 01 40.1 -0.6
comp=N,0.5nm,0.3s,baz=200,slow=11,SNR=6.8
VORR Voronezh 19.95 346 P **Pn** 17 01 45.0 -0.7
VORR pmax pmax
comp=Z,250nm,1.2s
VORR Voronezh 19.95 346 P **Pn** 17 01 45.0 -0.7
comp=Z,250nm,1.2s
ISR Istrita 20.22 314 ⇑ *i*P Pn 17 01 48.8 -0.2
ISR Istrita 20.22 314 P Pn 17 01 48.8 -0.2
ISR pmax pmax
comp=Z,30nm,1.3s
ISR Istrita 20.22 314 P Pn 17 01 48.8 -0.2
comp=Z,30nm,1.3s
VRI Vrincioaia 20.51 316 P Pn 17 01 51.2 -1.2
VRI pmax pmax
comp=Z,60nm,2.3s
VRI Vrincioaia 20.51 316 P Pn 17 01 51.2 -1.2
comp=Z,60nm,2.3s
MLR Muntele Rosu 20.77 315 P Pn 17 01 54.7 -0.9
comp=Z,1.9nm,0.9s,baz=89,slow=3.3,SNR=8.0
MLR Muntele Rosu 20.77 315 ⇑ *i*P Pn 17 01 55.8 +0.3
MLR Muntele Rosu 20.77 315 *e*P Pn 17 01 55.6 +0.1
comp=Z,11nm,0.9s
MLR Muntele Rosu 20.77 315 *e*P Pn 17 01 55.6 +0.1
MLR pmax pmax
comp=Z,11nm,0.9s
MLR Muntele Rosu 20.77 315 *e*P Pn 17 01 55.6 +0.1
comp=Z,11nm,0.9s
THE Thessaloniki 20.87 300 P **P** 17 01 54.1 +0.2
THE pmax pmax
comp=Z,33nm,0.9s
THE Thessaloniki 20.87 300 P **P** 17 01 54.1 +0.2
comp=Z,33nm,0.9s
LPSR Galich'ya Gora 20.89 346 *e*P **P** 17 01 52.6 -1.4
LPSR *e*S **S** 17 05 43.7 -1.3
LPSR pmax pmax
comp=Z,170nm,0.7s
LPSR smax smax
comp=E,30nm,0.9s
LPSR Galich'ya Gora 20.89 346 *e*P **P** 17 01 52.6 -1.4
comp=E,170nm,0.7s
LPSR *e*S **S** 17 05 43.7 -1.3
TESR Tescani 20.91 318 ⇓ *i*P **P** 17 01 54.4 0.0
TESR Tescani 20.91 318 ⇓ *i*P **P** 17 01 54.4 0.0
SORM Soroca 21.00 323 ⇑ *i*P **P** 17 01 54.5 -0.8
SORM Soroca 21.00 323 P **P** 17 01 54.4 -0.8
SORM Soroca 21.00 323 P **P** 17 01 54.4 -0.8
KKAR Karatay Array 21.30 54 *e*P **P** 17 01 58.0 -0.6
KKAR Karatay Array 21.30 54 *e*P **P** 17 01 58.0 -0.6
KKAR Karatay Array 21.30 54 *e*P **P** 17 01 58.0 -0.6
DOPR Dopca 21.35 315 ⇓ *i*P **P** 17 02 00.4 +1.3
DOPR Dopca 21.35 315 ⇓ *i*P **P** 17 02 00.4 +1.3
FNA Florina 22.08 299 P **P** 17 02 08.7 +1.7
FNA pmax pmax
comp=Z,15nm,1.7s
FNA Florina 22.08 299 P **P** 17 02 08.7 +1.7
comp=Z,15nm,1.7s
BURAR Bucovina Array 22.35 319 ⇑ *i*P **P** 17 02 10.9 +1.0
BURAR Bucovina Array 22.35 319 P **P** 17 02 10.8 +0.9
BURAR Bucovina Array 22.35 319 ⇑ *i*P **P** 17 02 10.9 +1.0
BUR04 Bucovina Ar. S 22.35 319 *e*P **P** 17 02 09.3 -0.6
BUR04 Bucovina Ar. S 22.35 319 *e*P **P** 17 02 09.3 -0.6
BUR08 Bucovina Ar. S 22.37 319 *e*P **P** 17 02 10.8 +0.6
BUR08 Bucovina Ar. S 22.37 319 *e*P **P** 17 02 10.8 +0.6
AKASG Malin Array Be 22.39 329 P **P** 17 02 08.7 -1.4
comp=Z,4.5nm,0.8s,baz=136,slow=9.6,SNR=23
AKASG Malin Array Be 22.39 329 *i*P **P** 17 02 11.0 +0.9
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 22.39 329 *i*P **P** 17 02 11.0 +0.9
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 22.39 329 *e*P **P** 17 02 09.4 -0.7
comp=Z,15nm,1.1s
AKBB Malin Array Si 22.39 329 *e*P **P** 17 02 09.4 -0.7
AKBB pmax pmax
comp=Z,15nm,1.1s
AKBB Malin Array Si 22.39 329 *e*P **P** 17 02 09.4 -0.7
comp=Z,15nm,1.1s
KIEV Kiev 22.39 329 *e*P **P** 17 02 09.3 -0.9
comp=Z,13nm,1.1s
KIEV Kiev 22.39 329 ⇓ *i*P **P** 17 02 11.3 +1.2
KIEV pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 22.39 329 *i*P **P** 17 02 11.3 +1.2
comp=Z,11nm,1.1s
AK11 Malin Array Si 22.39 329 *e*P **P** 17 02 09.2 -1.0
AK11 Malin Array Si 22.39 329 *e*P **P** 17 02 09.2 -1.0
MNAS Manas 22.47 56 P **P** 17 02 11.9 +0.5
MNAS pmax pmax
comp=Z,18nm,1.1s
MNAS Manas 22.47 56 P **P** 17 02 11.9 +0.5
comp=Z,18nm,1.1s
SFK Sufi-Kurgan 22.59 63 P **P** 17 02 13.5 +0.8
SFK pmax pmax
comp=Z,18nm,1.4s
SFK Sufi-Kurgan 22.59 63 P **P** 17 02 13.5 +0.8
comp=Z,18nm,1.4s
AML Almayashu 23.22 58 P **P** 17 02 19.9 +0.5
SNR=13
DRGR 23.37 315 ⇓ *i*P **P** 17 02 20.6 +0.2
DRGR 23.37 315 P **P** 17 02 20.0 -0.4
DRGR pmax pmax
comp=Z,32nm,1.0s
DRGR 23.37 315 P **P** 17 02 20.0 -0.4
comp=Z,32nm,1.0s
EKS2 Erkin-Say 23.42 57 P **P** 17 02 22.9 +1.8
SNR=12
OBN Obninsk 23.74 345 P **P** 17 02 23.7 0.0
comp=Z,17nm,0.4s,baz=183,slow=18,SNR=6.1
OBN Obninsk 23.74 345 *de*P **P** 17 02 23.9 +0.2
OBN pmax pmax
comp=Z,53nm,1.0s
OBN Obninsk 23.74 345 *e*P **P** 17 02 23.9 +0.2
comp=Z,53nm,1.0s
AAK Ala-Archa 23.92 57 P **P** 17 02 26.9 +1.0
comp=Z,5.3nm,0.8s,baz=227,slow=8.2,SNR=21
AAK LR LR 17 12 59.5
comp=Z,123nm,20.4s,baz=285,slow=40
AAK Ala-Archa 23.92 57 P **P** 17 02 28.4 +2.5
SNR=7.5
AAK Ala-Archa 23.92 57 *e*P **P** 17 02 27.1 +1.2
comp=Z,6.9nm,0.9s
AAK Ala-Archa 23.92 57 *de*P **P** 17 02 27.8 +2.0
AAK pmax pmax
comp=Z,7.0nm,0.9s
AAK Ala-Archa 23.92 57 P **P** 17 02 27.9 +2.0
SNR=11
AAK Ala-Archa 23.92 57 *e*P **P** 17 02 27.1 +1.2
comp=Z,6.9nm,0.9s
FRU Bishkek 24.07 57 *e*P **P** 17 02 28.0 +0.9
FRU Bishkek 24.07 57 *e*P **P** 17 02 28.0 +0.9
USP Ospenovka 24.11 56 P **P** 17 02 28.4 +0.9
SNR=15
CHMS Chumysh 24.21 56 P **P** 17 02 29.6 +1.3
SNR=16
KBK Karagaybulak 24.25 57 P **P** 17 02 31.0 +2.1
SNR=25
KZA Kyzart 24.32 59 P **P** 17 02 31.9 +2.0
SNR=7.5
KSH Kashi 24.39 65 *e*P **P** 17 02 28.0 -2.2
KSH PP **PnPn** 17 03 02.1 +0.9
KSH S **S** 17 06 42.4 -5.3
KSH SS **SnSn** 17 07 32.1 -0.5
OTUK Ortayu 24.72 43 P **P** 17 02 33.3 +0.3
OTUK pmax pmax
comp=Z,9.0nm,0.9s
OTUK Ortayu 24.72 43 P **P** 17 02 33.3 +0.3
comp=Z,9.0nm,0.9s
TKM2 Tokmak 2 24.78 57 P **P** 17 02 34.7 +0.9
SNR=24
CRVS Cervenica-Dubn 25.15 318 *e*P **P** 17 02 38.6 +1.7
CRVS Cervenica-Dubn 25.15 318 *e*P **P** 17 02 38.6 +1.7
CRVS Cervenica-Dubn 25.15 318 *e*P **P** 17 02 38.6 +1.7
ARU Arti 25.21 15 P **P** 17 02 37.2 0.0
comp=Z,4.2nm,0.5s,baz=198,slow=6.9,SNR=14
ARU Arti 25.21 15 *e*P **P** 17 02 37.5 +0.3
comp=Z,28nm,1.2s
ARU Arti 25.21 15 ⇓ *e*P **P** 17 02 37.7 +0.5
ARU pmax pmax
comp=Z,25nm,1.1s
ARU Arti 25.21 15 *e*P **P** 17 02 37.7 +0.5
comp=Z,25nm,1.1s
TIP Timpagrande 25.30 294 ⇑ *i*P **P** 17 02 38.7 +0.3
TIP Timpagrande 25.30 294 ⇑ *i*P **P** 17 02 38.7 +0.3
KECS Kecovo 25.50 316 *e*P **P** 17 02 40.8 +0.8
KECS pmax pmax
comp=Z,6.0nm,0.8s
KECS Kecovo 25.50 316 *e*P **P** 17 02 40.8 +0.8
comp=Z,6.0nm,0.8s
KECS Kecovo 25.50 316 *e*P **P** 17 02 40.8 +0.8
STHS Stebnicka Huta 25.55 319 *e*P **P** 17 02 43.2 +2.8
STHS pmax pmax
comp=Z,6.0nm,1.3s
STHS Stebnicka Huta 25.55 319 *e*P **P** 17 02 43.2 +2.8
PSZ Piszkesteto 25.59 315 *e*P **P** 17 02 40.6 -0.3
comp=Z,7.1nm,0.9s
PSZ Piszkesteto 25.59 315 *e*P **P** 17 02 40.6 -0.3
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 25.59 315 *e*P **P** 17 02 40.6 -0.3
comp=Z,7.1nm,0.9s
SVE Sverdlovsk 26.05 17 *e*P **P** 17 02 45.2 +0.3
SVE pmax pmax
comp=Z,14nm,1.1s
SVE Sverdlovsk 26.05 17 *e*P **P** 17 02 45.2 +0.3
comp=Z,14nm,1.1s
LANS Liptovska Anna 26.42 317 *e*P **P** 17 02 49.5 +1.2
LANS Liptovska Anna 26.42 317 *e*P **P** 17 02 49.5 +1.2
LANS Liptovska Anna 26.42 317 *e*P **P** 17 02 49.5 +1.2
VYHS Vyhne 26.48 315 *e*P **P** 17 02 50.3 +1.4
VYHS Vyhne 26.48 315 *e*P **P** 17 02 50.3 +1.4
VYHS Vyhne 26.48 315 *e*P **P** 17 02 50.3 +1.4
BRVK Borovoye 26.49 32 *e*P **P** 17 02 48.2 -0.7
comp=Z,12nm,1.1s
BRVK Borovoye 26.49 32 *ce*P **P** 17 02 49.0 +0.1
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 26.49 32 *e*P **P** 17 02 49.0 +0.1
comp=Z,13nm,1.2s
BVAR Borovoye Array 26.51 33 P **P** 17 02 49.3 +0.2
comp=Z,11nm,0.9s,baz=228,slow=8.8,SNR=43
BVAR PcP **PcP** 17 06 13.6 +0.4
comp=Z,0.5nm,0.5s,baz=203,slow=2.4,SNR=5.7
BVAR LR LR 17 15 42.6
comp=Z,176nm,19.4s,baz=304,slow=42
PDGK Podgornoye 27.65 58 P **P** 17 02 59.4 -0.2
PDGK pmax pmax
comp=Z,3.0nm,1.0s
PDGK Podgornoye 27.65 58 P **P** 17 02 59.4 -0.2
comp=Z,3.0nm,1.0s
KLMR Klimovskoe 28.75 352 *e*P **P** 17 03 07.1 -1.9
KLMR pmax pmax
comp=Z,12nm,1.1s
KLMR Klimovskoe 28.75 352 *e*P **P** 17 03 07.2 -1.8
KLMR AMP 17 03 08.9
comp=Z,12nm,1.1s
VSU Vasula 29.32 338 ⇓ *i*P **P** 17 03 15.1 +1.0
VSU pmax pmax
comp=Z,21nm,0.7s
KURBB Kurchatov Arra 29.41 43 P **P** 17 03 15.5 +0.6
comp=Z,4.0nm,0.9s,baz=250,slow=9.3,SNR=15
PUL Pulkovo 29.41 343 ⇓ *e*P **P** 17 03 15.7 +0.9
PUL pmax pmax
comp=Z,40nm,0.6s
KURK Kurchatov 29.50 43 *e*P **P** 17 03 15.8 +0.1
comp=Z,6.0nm,0.9s
KURK Kurchatov 29.50 43 ⇑ *i*P **P** 17 03 17.0 +1.2
KURK pmax pmax
comp=Z,7.0nm,1.0s
GERES GERESS Array B 29.74 313 P **P** 17 03 17.8 -0.3
comp=Z,0.2nm,0.4s,baz=119,slow=8.0,SNR=2.9
GERES PcP **PcP** 17 06 22.0 +0.7
comp=Z,0.5nm,0.6s,baz=102,slow=4.5,SNR=3.5
MAKZ Makanchi 30.19 52 *e*P **P** 17 03 21.6 -0.3
comp=Z,7.8nm,1.4s
MAKZ Makanchi 30.19 52 *e*P **P** 17 03 21.7 -0.3
MAKZ pmax pmax
comp=Z,8.0nm,1.4s
MAKZ Makanchi 30.19 52 *e*P **P** 17 03 21.7 -0.3
comp=Z,8.0nm,1.4s
MK31 Makanchi Array 30.40 52 *e*P **P** 17 03 23.9 +0.1
MK31 Makanchi Array 30.40 52 *e*P **P** 17 03 23.9 +0.1
MK31 Makanchi Array 30.40 52 *e*P **P** 17 03 23.9 +0.1
MKAR Makanchi Array 30.40 52 P **P** 17 03 24.4 +0.6
comp=Z,5.0nm,0.9s,baz=247,slow=7.3,SNR=43
MKAR Makanchi Array 30.40 52 *e*P **P** 17 03 23.7 -0.1
comp=Z,44nm,1.0s
MKAR Makanchi Array 30.40 52 *i*P **P** 17 03 24.3 +0.5
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 30.40 52 *e*P **P** 17 03 23.7 -0.1
comp=Z,44nm,1.0s
MK01 Makanchi Array 30.40 52 *e*P **P** 17 03 24.1 +0.3
MK01 Makanchi Array 30.40 52 *e*P **P** 17 03 24.1 +0.3
PYUN Pyuhan 31.30 89 *e*P **P** 17 03 32.7 +0.5
DANN Dangsing 31.88 88 *e*P **P** 17 03 37.9 +0.5
comp=Z,3.4nm,0.9s
KOLN Koldanda 31.91 89 *e*P **P** 17 03 37.8 +0.2
comp=Z,10nm,0.9s
FINES FINESS Array B 31.94 341 P **P** 17 03 37.0 -0.1
comp=Z,6.2nm,0.9s,baz=138,slow=9.3,SNR=9.5
DMN Daman 33.23 88 *e*P **P** 17 03 49.8 +0.6
comp=Z,15nm,0.6s
KKN Kakani 33.32 88 *e*P **P** 17 03 50.6 +0.6
comp=Z,21nm,0.6s
PKIN Phulchoki 33.49 88 *e*P **P** 17 03 51.8 +0.3
comp=Z,22nm,0.7s
PKI Pulchoki 33.50 88 *e*P **P** 17 03 51.8 +0.2
comp=Z,50nm,1.1s
WMQ Urumqi 33.61 59 P **P** 17 03 53.8 +1.7
GUN Gumba 33.79 87 *e*P **P** 17 03 54.9 +0.7
comp=Z,64nm,1.0s
NVS Novosibirsk 33.83 38 *e*P **P** 17 03 54.7 +0.9
JIRN Jiri 34.13 88 *e*P **P** 17 03 57.8 +0.6
comp=Z,31nm,0.5s
ZAA0 Zalesovo Array 34.30 40 *e*P **P** 17 03 57.5 -0.3
comp=Z,6.3nm,1.0s
ZALV Zalesovo Beam 34.30 40 P **P** 17 03 57.2 -0.6
comp=Z,4.5nm,0.7s,baz=252,slow=9.0,SNR=17
ZALV Zalesovo Beam 34.30 40 *e*P **P** 17 03 57.4 -0.5
ZALV Zalesovo Beam 34.30 40 *e*P **P** 17 03 57.4 -0.5
DGZ Jazzator, Alta 34.47 48 *d*P **P** 17 04 00.6 +1.0
DGZ pmax pmax
comp=Z,1.0nm,0.8s
DGZ Jazzator, Alta 34.47 48 *i*P **P** 17 04 00.6 +1.0
comp=Z,1.0nm,0.8s
RAMN Ramite 34.70 89 *e*P **P** 17 04 02.3 +0.3
comp=Z,24nm,0.8s
HFS Hagfors 35.24 332 P **P** 17 04 06.1 +0.3
comp=Z,3.3nm,0.4s,baz=125,slow=9.0,SNR=23
TAPN Taplejung 35.51 88 *e*P **P** 17 04 09.3 +0.3
comp=Z,17nm,1.0s
NOA NORSAR Array B 36.76 332 P **P** 17 04 17.9 -1.0
comp=Z,1.3nm,0.7s,baz=123,slow=8.5,SNR=3.2
LSA Lhasa 37.72 82 P **P** 17 04 27.9 -0.1
LSA pmax pmax
comp=Z,4.0nm,1.3s
LSA Lhasa 37.72 82 P **P** 17 04 27.9 -0.1
comp=Z,4.0nm,1.3s
TAM Tamanrasset 37.78 266 *e*P **P** 17 04 30.9 +2.7
comp=Z,9.5nm,1.3s
TAM Tamanrasset 37.78 266 *e*P **P** 17 04 30.9 +2.7
TAM pmax pmax
comp=Z,9.0nm,1.3s
ARCES ARCESS Array B 38.97 348 P **P** 17 04 36.5 -1.0
comp=Z,2.6nm,0.8s,baz=158,slow=9.7,SNR=6.1
ESDC Sonseca Array 41.32 295 P **P** 17 04 57.5 +0.1
comp=Z,0.2nm,0.3s,baz=72,slow=8.8,SNR=6.4
EKA Eskdalemuir Ar 41.53 319 P **P** 17 04 58.4 -0.4
comp=Z,0.6nm,0.4s,baz=106,slow=7.4,SNR=3.9
GTA Gaotai 42.79 65 *e*P **P** 17 05 10.5 +1.0
GTA pP pP 17 05 15.1 -4.2
GTA sP sP 17 05 17.6 -5.7
TORD Torodi Ar. Bea 45.59 256 P **P** 17 05 31.7 -0.2
comp=Z,1.7nm,0.6s,baz=70,slow=7.5,SNR=16
LZH Lanzhou 46.53 69 *e*P **P** 17 05 38.6 -0.8
LZH pP pP 17 05 40.8 -8.5
LZH sP sP 17 05 42.0 -11
LZH *e*PP **PP** 17 07 27.5 -1.5
SONM Songino Array 46.75 53 P **P** 17 05 40.7 -0.3
comp=Z,0.5nm,0.4s,baz=263,slow=10.0,SNR=5.8
ULN Ulaanbaatar 47.19 53 *e*P **P** 17 05 44.5 0.0
comp=Z,6.2nm,1.1s
ULN Ulaanbaatar 47.19 53 *ce*P **P** 17 05 45.0 +0.6
ULN pmax pmax
comp=Z,6.0nm,1.1s
ULN Ulaanbaatar 47.19 53 P **P** 17 05 45.1 +0.6
SNR=6.4
SPITS Spitsbergen Ar 47.65 352 P **P** 17 05 47.7 +0.4
comp=Z,8.8nm,0.9s,baz=126,slow=7.3,SNR=11
CD2 Chengdu 47.82 76 *e*P **P** 17 05 48.0 -1.4
CHTO Chiang Mai 48.34 93 *e*P **P** 17 05 53.1 -0.4
comp=Z,6.4nm,1.4s
CHTO Chiang Mai 48.34 93 *e*P **P** 17 05 53.1 -0.4
CHTO pmax pmax
comp=Z,6.0nm,1.4s
CMAR Chiang Mai Arr 48.51 94 P **P** 17 05 53.9 -0.9
comp=Z,1.2nm,0.6s,baz=298,slow=7.4,SNR=8.4
CMAR Chiang Mai Arr 48.51 94 *i*P **P** 17 05 54.7 -0.1
CMAR pmax pmax
comp=Z,1.0nm,0.6s
KMI Kunming 48.94 84 P **P** 17 05 57.4 -0.9
KOWA Kowa 49.61 261 P **P** 17 06 03.2 0.0
comp=Z,2.0nm,0.6s,baz=53,slow=8.6,SNR=4.7
OPO Ambohidratompo 50.82 180 LR LR 17 28 57.2
comp=Z,108nm,19.1s,baz=264,slow=38
HHC Hu-ho-hao-te 51.40 61 *e*P **P** 17 06 18.3 +1.7
HHC PP **PP** 17 08 16.0 +2.2
HHC S **S** 17 13 36.4 +2.2
HHC ScS **ScS** 17 16 07.8 +3.2
HHC Hu-ho-hao-te 51.40 61 SS **SS** 17 17 09.4 -0.5
YAK Yakutsk 58.49 33 LR LR 17 35 19.4
comp=Z,45nm,20.6s,baz=274,slow=39
YAK Yakutsk 58.49 33 ⇓ *e*P **P** 17 07 06.6 -0.7
YAK pmax pmax
comp=Z,3.0nm,0.6s
KLR Kul'dur 62.95 47 ⇓ *e*P **P** 17 07 37.7 -0.3
BOSA Boshof 64.22 201 P **P** 17 07 47.3 +0.7
comp=Z,4.4nm,0.9s,baz=129,slow=4.3,SNR=4.3
KSAR Wonju Array Be 64.51 61 P **P** 17 07 47.8 -0.6
KSAR Wonju Array Be 64.51 61 P **P** 17 07 47.8 -0.6
KSRS Korea Array 64.53 61 P **P** 17 07 47.8 -0.7
comp=Z,2.1nm,0.6s,baz=284,slow=6.8,SNR=9.0
USRK Ussuriysk Ar. 64.86 52 P **P** 17 07 49.0 -1.5
comp=Z,2.9nm,0.6s,baz=295,slow=5.0,SNR=6.9
SEY Seymchan 68.08 28 ⇓ *i*P **P** 17 08 10.8 0.0
MA2 Magadan 69.00 32 ⇓ *e*P **P** 17 08 18.1 +1.4
FRB Frobisher Bay 71.49 335 P **P** 17 08 30.9 -0.8
comp=Z,3.7nm,0.6s,baz=153,slow=2.3,SNR=17
FRB Frobisher Bay 71.49 335 P **P** 17 08 31.0 -0.8
FRB pmax pmax
comp=Z,6.0nm,0.8s
SCHQ Schefferville 76.16 327 P **P** 17 08 59.7 +0.3
comp=Z,2.2nm,0.6s,baz=68,slow=5.5,SNR=6.4
INK Inuvik 79.46 0 P **P** 17 09 16.6 -0.8
comp=Z,1.4nm,0.9s,baz=17,slow=7.3,SNR=5.1
COLD Coldfoot 79.69 7 *e*P **P** 17 09 19.1 +0.4
comp=Z,2.3nm,0.9s
IM3 Indian Mountai 80.50 8 *e*P **P** 17 09 22.9 -0.2
MDM Murphy Dome 82.10 6 *e*P **P** 17 09 31.9 +0.2
comp=Z,6.5nm,1.1s
COLA College 82.22 6 ⇓ *i*P **P** 17 09 32.9 +0.7
COLA pmax pmax
comp=Z,6.0nm,1.1s
ILAR Eielson Array 82.41 6 P **P** 17 09 32.7 -0.6
comp=Z,0.9nm,1.0s,baz=329,slow=4.5,SNR=6.8
CAST Castle Rocks 83.17 9 *e*P **P** 17 09 37.7 +0.5
comp=Z,5.8nm,1.1s
DOT Dot Lake 83.74 5 *e*P **P** 17 09 40.7 +0.5
comp=Z,14nm,1.0s
YKA Yellowknife Ar 84.15 352 P **P** 17 09 42.0 -0.2
comp=Z,1.7nm,1.0s,baz=15,slow=5.2,SNR=16
YKA Yellowknife Ar 84.15 352 *i*P **P** 17 09 42.4 +0.2
YKA pmax pmax
comp=Z,2.0nm,1.0s
FFC Flin Flon 89.07 343 *i*P **P** 17 10 07.5 +1.1

ISCJB ***07*** *17:07:56.4±1.2, 17°.1S±0°.4×179°.0W±0°.3, h533km, mb3.7/9, Error ellipse: s-maj=60.9km s-min=16.0km az=147.6*
IDC ***07*** *17:07:56.5±6.3, 17°.16S×178°.92W, h524km±72km, mb3.3/9, mb1 3.6/9, mb1mx3.2/47, mbtmp4.2/9, Error ellipse: s-maj=53.9km s-min=23.6km az=148.0*

ISC 07 17:07:57.2±1.3, **17°.2S**±0°.4×**178°.9W**±0°.3, **h533km, n11, σ0s54/12, mb3.5/9, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
STKA	**Stephens Creek**	**38.55**	**240**	P	**P**	**17 14 34.5**	**+0.3**
	1.9nm,0.3s,baz=90,slow=9.3,SNR=20						
WRA	**Warramunga Arr**	**44.27**	**259**	P	**P**	**17 15 19.2**	**-0.6**
	0.9nm,0.2s,baz=88,slow=8.3,SNR=31						
ASAR	**Alice Springs**	**44.51**	**254**	P	**P**	**17 15 21.8**	**+0.2**
	13nm,0.5s,baz=89,slow=7.9,SNR=382						
ASAR				PcP	**PcP**	**17 16 53.3**	**-0.2**
	0.1nm,0.4s,baz=106,slow=2.9,SNR=2.9						
NVAR	**Mina Array Bea**	**79.24**	**44**	P	**P**	**17 19 06.7**	**-0.8**
	1.0nm,0.7s,baz=226,slow=6.9,SNR=4.1						
SEY	**Seymchan**	**82.94**	**347**	P	**P**	**17 19 26.3**	**+0.7**
	1.7nm,0.5s,baz=127,slow=10,SNR=8.1						
ILAR	**Eielson Array**	**85.28**	**13**	P	**P**	**17 19 37.0**	**-0.2**
	0.4nm,0.4s,baz=222,slow=5.3,SNR=12						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**17 19 42.3**	**+0.5**
	0.7nm,0.7s,baz=221,slow=6.6,SNR=9.1						
PDAR	**Pinedale Array**	**87.16**	**44**	P	**P**	**17 19 47.0**	**0.0**
	0.5nm,0.5s,baz=214,slow=3.7,SNR=6.5						
YKA	**Yellowknife Ar**	**93.87**	**25**	P	**P**	**17 20 17.2**	**0.0**
	0.3nm,0.8s,baz=253,slow=4.1,SNR=3.9						
BVAR	**Borovoye Array**	**115.95**	**321**	PKP	**PKPdf**	**17 25 38.5**	**-0.8**
	0.3nm,0.4s,baz=136,slow=2.6,SNR=3.7						
GERES	**GERESS Array B**	**146.76**	**345**	PKPbc	**PKPbc**	**17 26 39.8**	**+0.2**
	1.1nm,0.6s,baz=28,slow=3.2,SNR=7.5						

ISCJB ***07*** *17:15:04.8±0.6, 51°.9N±0°.1×151°.5E±0°.2, h472km, mb3.2/11, Error ellipse: s-maj=19.5km s-min=12.1km az=44.7*
IDC ***07*** *17:15:08.3±1.6, 51°.73N×151°.48E, h510km±20km, mb2.9/11, mb1 3.0/15, mb1mx2.8/78, mbtmp3.8/15, Error*

ellipse: s-maj=17.6km s-min=12.9km az=139.0

ISC 07 17:15:05.7±0.8, 51°.7N±0°.1×151°.6E±0°.1, h472km, n15, σ1§68/15, mb3.3/11, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**7.94**	**357**	P	**P**	**17 17 03.9**	**+3.5**
	1.3nm,0.3s,baz=172,slow=10,SNR=33						
ASAJ	**Asahikawa**	**9.68**	**222**	P	**P**	**17 17 21.9**	**+2.5**
	0.4nm,0.3s,baz=18,slow=9.6,SNR=5.8						
SEY	**Seymchan**	**11.30**	**2**	P	**P**	**17 17 39.0**	**+2.6**
	0.4nm,0.3s,baz=177,slow=11,SNR=32						
MJAR	**Matsushiro Arr**	**17.88**	**217**	P	**P**	**17 18 46.5**	**+0.2**
	0.3nm,0.3s,baz=357,slow=6.1,SNR=4.1						
INK	**Inuvik**	**38.11**	**36**	P	**P**	**17 21 42.4**	**-0.1**
	0.5nm,0.4s,baz=290,slow=6.8,SNR=5.0						
MKAR	**Makanchi Array**	**43.98**	**292**	P	**P**	**17 22 28.6**	**-1.1**
	0.7nm,0.4s,baz=59,slow=7.0,SNR=3.1						
BVAR	**Borovoye Array**	**47.08**	**305**	P	**P**	**17 22 52.8**	**-0.6**
	0.4nm,0.3s,baz=46,slow=10,SNR=4.1						
YKA	**Yellowknife Ar**	**47.63**	**39**	P	**P**	**17 22 56.8**	**-0.5**
	0.3nm,0.5s,baz=303,slow=7.1,SNR=5.2						
FINES	**FINESS Array B**	**59.18**	**333**	P	**P**	**17 24 17.6**	**-2.0**
	0.9nm,0.7s,baz=46,slow=8.0,SNR=3.8						
NVAR	**Mina Array Bea**	**61.08**	**64**	P	**P**	**17 24 32.4**	**-0.5**
	0.2nm,0.4s,baz=302,slow=8.4,SNR=2.7						
PDAR	**Pinedale Array**	**62.68**	**55**	P	**P**	**17 24 43.0**	**-0.4**
	0.3nm,0.4s,baz=343,slow=2.2,SNR=5.6						
HFS	**Hagfors**	**63.51**	**338**	P	**P**	**17 24 46.9**	**-1.2**
	3.2nm,0.9s,baz=58,slow=3.6,SNR=2.5						
TXAR	**Lajitas Array**	**75.92**	**61**	P	**P**	**17 26 03.3**	**+0.1**
	0.3nm,0.5s,baz=316,slow=5.7,SNR=4.0						
ASAR	**Alice Springs**	**76.61**	**197**	P	**P**	**17 26 06.5**	**-0.2**
	0.3nm,0.4s,baz=10,slow=4.9,SNR=9.7						
MMAI	**Mount Meron Ar**	**78.86**	**310**	P	**P**	**17 26 18.1**	**-0.9**
	0.3nm,0.3s,baz=30,slow=6.7,SNR=3.3						

*MOS **07** 17:15:24.3±1.3,51°.55N×95°.97E,h8km,mb4.2/12,Error ellipse: s-maj=11.3km s-min=8.1km az=167.9*

*IDC **07** 17:15:24.6±0.6,51°.66N×96°.11E,h0km,mb4.0/16, mb1 4.0/21,mb1mx3.8/79,mbtmp4.0/21,ML3.0/6,Error ellipse: s-maj=17.2km s-min=9.9km az=178.0*

*ISCJB **07** 17:15:24.7±0.3,51°.56N±0°.06×95°.96E±0°.04,h10km, mb4.0/18,Error ellipse: s-maj=8.5km s-min=3.7km az=174.8*

*NEIC **07** 17:15:25.8±0.3,51°.62N×96°.08E,h10km,mb4.4/5,Error ellipse: s-maj=8.3km s-min=4.8km az=178.0*

*ASRS **07** 17:15:26.1±0.5,51°.82N×95°.90E,h15km,Ms3.7/3*

*BJI **07** 17:15:27.5,50°.94N×96°.45E,h12km,mb4.6/2,ML4.3/2, Ms3.8/1*

ISC 07 17:15:26.9±0.5, 51°.60N±0°.06×96°.00E±0°.03, h10km, n100, σ1§77/109, mb4.1/18, 8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.97**	**277**	*i* Pg	Pg	17 15 42.4	-3.1
KZLR				*i* Sg	**Sg**	**17 15 54.4**	**-3.7**
HVS	**Khovu-Aksy**	**1.51**	**253**	⇓*i* P	**Pn**	**17 15 52.6**	**-1.6**
HVS	**Khovu-Aksy**	**1.51**	**253**	*d i* PG	**Pn**	**17 15 52.5**	**-1.6**
ORL	**Orlik**	**2.53**	**67**	*e* PN	**Pn**	**17 16 09.5**	**+1.3**
ORL				*e*		17 16 42.6	
ORL				pmax	pmax		
	comp=Z,131nm,0.4s						
ORL				smax	smax		
	comp=N,767nm,0.8s						
CERR	**Cheremushki**	**3.09**	**296**	*e* Pn	**Pn**	**17 16 15.6**	**0.0**
CERR				*e* Pg	**Pb**	**17 16 19.7**	**-2.2**
CERR				*e* Sg	**Sn**	**17 16 58.0**	**+5.4**
MOY	**Mondy**	**3.11**	**87**	*e* PN	Pn	17 16 22.0	+5.9
MOY				*e*		17 17 02.7	
MOY				pmax	pmax		
	comp=Z,164nm,0.8s						
MOY				smax	smax		
	comp=N,836nm,1.1s						
ARS	**Arshan**	**4.00**	**83**	*e* PN	**Pn**	**17 16 30.0**	**+1.7**
ARS				*e*		17 16 40.7	
ARS				*e*		17 17 31.3	
ARS				pmax	pmax		
	comp=Z,113nm,0.5s						
ARS				smax	smax		
	comp=E,2μm,0.8s						
ZAK	**Zakamensk**	**4.76**	**102**	*e* PN	**Pb**	**17 16 51.3**	**+0.9**
ZAK				*e*		17 17 53.6	
ZAK				pmax	pmax		
	comp=Z,43nm,0.7s						
ZAK				smax	smax		
	comp=N,318nm,0.9s						
TLY	**Talaya**	**4.76**	**86**	*e* PN	**Pb**	**17 16 52.2**	**+1.8**
TLY				*e*		17 17 53.9	
TLY				pmax	pmax		
	comp=Z,11nm,0.5s						
TASR	**Tashtagol**	**5.13**	**286**	*e* Pn	**Pn**	**17 16 43.9**	**+0.1**
TASR				*e* Pg	**Pb**	**17 16 57.2**	**+0.5**
TASR				*e* Sg	**Sb**	**17 17 58.9**	**+0.6**
IRK	**Irkutsk**	**5.16**	**80**	*e* PN	**Pb**	**17 16 57.5**	**+0.3**
IRK				*e*		17 18 03.2	
IRK				pmax	pmax		
	comp=Z,62nm,0.2s						
IRK				smax	smax		
	comp=N,471nm,1.0s						
ARTR	**Artybash**	**5.43**	**275**	*e* Pn	**Pn**	**17 16 48.3**	**+0.5**
ARTR				*e* Pg	**Pb**	**17 17 03.1**	**+1.3**
ARTR				*e* Sg	**Sb**	**17 18 11.2**	**+4.4**
AKAR	**Aktash**	**5.45**	**260**	*e* Pn	**Pn**	**17 16 49.7**	**+1.4**
AKAR				*e* Pg	**Pb**	**17 17 06.1**	**+3.9**
AKAR				*e* Sg	**Sb**	**17 18 14.3**	**+6.7**
DGZ	**Jazzator, Alta**	**5.77**	**254**	*de* PN	**Pn**	**17 16 54.1**	**+1.4**
ELT	**Eltsovka**	**6.20**	**289**	*e* Pn	**Pn**	**17 16 59.0**	**+0.6**
ELT				*e* Pg	**Pb**	**17 17 16.4**	**+1.6**
ELT				*e* Sg	**Sb**	**17 18 33.7**	**+4.8**
TRG	**Tyrgan**	**6.47**	**76**	*e* PN	**Pn**	**17 17 04.3**	**+2.1**
TRG				*e*		17 17 23.0	
TRG				*e* S	**Sn**	**17 18 14.7**	**-1.3**
TRG				*e*		17 18 45.2	
TRG				pmax	pmax		
	comp=Z,20nm,0.6s						
TRG				smax	smax		
	comp=N,249nm,1.0s						
ZAA0	**Zalesovo Array**	**7.18**	**293**	*e* Pn	**Pn**	**17 17 13.1**	**+1.2**
ZALV	**Zalesovo Beam**	**7.18**	**293**	Pn	**Pn**	**17 17 12.2**	**+0.4**
	comp=N,0.4nm,0.3s,baz=101,slow=11,SNR=22						
ZALV				Lg	Lg	17 19 06.4	
	comp=N,4.3nm,0.3s,baz=114,slow=23,SNR=8.0						
ZALV	**Zalesovo Beam**	**7.18**	**293**	*e* Pn	**Pn**	**17 17 13.2**	**+1.5**
ZALV				Lg	Lg	17 19 06.4	
ZALV	**Zalesovo Beam**	**7.18**	**293**	*e* PN	**Pn**	**17 17 13.3**	**+1.5**
ZAA1	**Zalesovo Array**	**7.18**	**294**	*e* Pn	**Pn**	**17 17 12.2**	**+0.4**
OGRR	**Ongureny**	**7.35**	**69**	*e* P	**Pn**	**17 17 15.4**	**+1.2**
OGRR				pmax	pmax		
	comp=Z,16nm,0.8s						
SONA0	**Songino Array**	**7.72**	**115**	*e* Pn	**Pn**	**17 17 17.8**	**-1.6**
SONA0				*e* Pg	**Pb**	**17 17 44.1**	**+3.3**
SONM	**Songino Array**	**7.72**	**115**	Pn	**Pn**	**17 17 17.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=295,slow=15,SNR=3.1						
SONM				Pg	**Pb**	**17 17 44.1**	**+3.3**
	comp=Z,0.8nm,0.3s,baz=297,slow=17,SNR=23						
SONM				Lg	Lg	17 19 29.4	
	comp=Z,3.4nm,0.3s,baz=308,slow=27,SNR=16						
NVS	**Novosibirsk**	**8.32**	**298**	*e* P	Pn	17 17 39.9	+12
NVS	**Novosibirsk**	**8.32**	**298**	*e* Pn	**Pn**	**17 17 26.4**	**-1.0**
NVS				*e* Pg	Pb	17 17 56.2	+5.3
NVS				*e* Sg	Sb	17 19 41.0	+11
MK31	**Makanchi Array**	**10.18**	**247**	*e* Pn	**Pn**	**17 17 53.4**	**+0.4**
MK31	**Makanchi Array**	**10.18**	**247**	*e* P	**Pn**	**17 17 53.4**	**+0.4**
MK32	**Makanchi Array**	**10.18**	**247**	*e* Pn	**Pn**	**17 17 53.5**	**+0.5**
MK32				*e*		17 18 32.7	
MKAR	**Makanchi Array**	**10.18**	**247**	Pn	**Pn**	**17 17 53.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=57,slow=15,SNR=8.4						
MKAR				Pg		17 18 32.7	
	comp=Z,0.3nm,0.3s,baz=62,slow=17,SNR=5.0						
MKAR				Lg	Lg	17 20 44.8	
	comp=Z,0.5nm,0.3s,baz=56,slow=32,SNR=7.2						
MKAR	**Makanchi Array**	**10.18**	**247**	*i* P	**Pn**	**17 17 54.5**	**+1.5**
MK01	**Makanchi Array**	**10.18**	**247**	*e* Pn	**Pn**	**17 17 54.4**	**+1.3**
MAKZ	**Makanchi**	**10.35**	**248**	*e* Pn	**Pn**	**17 17 56.1**	**+0.8**
MAKZ	**Makanchi**	**10.35**	**248**	*e* P	**Pn**	**17 17 56.1**	**+0.8**
KURK	**Kurchatov**	**10.95**	**272**	*e* Pn	**Pn**	**17 18 04.4**	**+0.8**
KURK				Lg	Lg	17 21 13.8	
KURK	**Kurchatov**	**10.95**	**272**	P	**Pn**	**17 18 04.4**	**+0.8**
KURBB	**Kurchatov Arra**	**11.03**	**272**	Pn	**Pn**	**17 18 04.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=75,slow=15,SNR=4.8						
KURBB				Lg	Lg	17 21 13.8	
	comp=Z,0.1nm,0.3s,baz=74,slow=27,SNR=6.1						
HHC	**Hu-ho-hao-te**	**15.19**	**129**	*e* P	Pn	17 18 54.0	-7.4
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
BVAR	**Borovoye Array**	**15.70**	**285**	Pn	**Pn**	**17 19 06.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=68,slow=16,SNR=12						
BRVK	**Borovoye**	**15.76**	**285**	*e* Pn	**Pn**	**17 19 08.4**	**-0.4**
	comp=Z,16nm,1.8s						
BRVK	**Borovoye**	**15.76**	**285**	⇓*e* P	**Pn**	**17 19 09.8**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**17.11**	**247**	P	**Pn**	**17 19 24.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=6.0,slow=19,SNR=1.9						
AAK				Lg	Lg	17 24 26.1	
	comp=Z,0.0nm,0.3s,baz=295,slow=13,SNR=4.0						
AAK	**Ala-Archa**	**17.11**	**247**	⇓*e* P	**Pn**	**17 19 25.3**	**-0.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
KK02	**Karatay Array**	**19.17**	**254**	*e* P	**P**	**17 19 48.1**	**-2.3**
KK31	**Karatay Array**	**19.17**	**254**	*e* P	**P**	**17 19 48.3**	**-2.1**
KK31	**Karatay Array**	**19.17**	**254**	*e* P	**P**	**17 19 48.3**	**-2.1**
KKAR	**Karatay Array**	**19.17**	**254**	*e* P	**P**	**17 19 48.2**	**-2.2**
KKAR	**Karatay Array**	**19.17**	**254**	*e* P	**P**	**17 19 48.2**	**-2.2**
KK01	**Karatay Array**	**19.17**	**254**	*e* P	**P**	**17 19 48.2**	**-2.2**
KK03	**Karatay Array**	**19.18**	**254**	*e* P	**P**	**17 19 48.5**	**-1.9**
YAK	**Yakutsk**	**20.93**	**47**	P	**P**	**17 20 07.6**	**-1.7**
	comp=Z,5.7nm,0.5s,baz=328,slow=1.8,SNR=3.1						
YAK				Lg	Lg	17 26 16.6	
	comp=Z,3.2nm,0.5s,baz=334,slow=11,SNR=3.6						
YAK	**Yakutsk**	**20.93**	**47**	*e* P	**P**	**17 20 07.8**	**-1.6**
	comp=Z,10nm,0.7s						
YAK				Lg	Lg	17 26 16.6	
YAK	**Yakutsk**	**20.93**	**47**	*e* P	**P**	**17 20 10.3**	**+1.0**
YAK				*e* *PP	**sP**	**17 20 17.4**	**+3.9**
YAK				*e*		17 20 35.9	
YAK				*e* S	**S**	**17 24 03.4**	**+1.1**
YAK				*e* *SS	**pS**	**17 24 12.8**	**+2.7**
YAK				*e*		17 24 35.4	
YAK				*e*		17 31 42.1	
YAK				pmax	pmax		
	comp=Z,11nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,280nm,5.2s						
YAK				pmax	pmax		
	comp=E,190nm,5.2s						
YAK				pmax	pmax		
	comp=N,202nm,5.6s						
YAK				smax	smax		
	comp=E,85nm,4.0s						
YAK				smax	smax		
	comp=N,170nm,4.4s						
YAK				MLR	MLR		
	comp=Z,81nm,6.0s						
YAK				MLR	MLR		
	comp=N,46nm,6.0s						
YAK				MLR	MLR		
	comp=E,60nm,6.0s						
SVE	**Sverdlovsk**	**21.16**	**298**	*e* P	**P**	**17 20 11.3**	**-0.6**
ARU	**Arti**	**22.32**	**297**	P	**P**	**17 20 24.4**	**0.0**
	comp=E,4.8nm,0.7s,baz=90,slow=14,SNR=10						
ARU	**Arti**	**22.32**	**297**	*e* P	**P**	**17 20 24.4**	**0.0**
	comp=E,10nm,1.0s						
ARU	**Arti**	**22.32**	**297**	*d i* P	**P**	**17 20 24.7**	**+0.3**
ARU						17 20 46.6	
ARU				SS	Sn	17 25 01.3	+20
ARU				pmax	pmax		
	comp=Z,15nm,1.2s						
AB06	**Akbulak array**	**22.93**	**278**	*e* P	**P**	**17 20 30.0**	**-0.8**
AB05	**Akbulak array**	**22.94**	**278**	*e* P	**P**	**17 20 30.1**	**-0.8**
AB07	**Akbulak array**	**22.94**	**278**	*e* P	**P**	**17 20 30.1**	**-0.9**
AB02	**Akbulak array**	**22.94**	**278**	*e* P	**P**	**17 20 30.2**	**-0.8**
AB01	**Akbulak array**	**22.95**	**278**	*e* P	**P**	**17 20 30.2**	**-0.8**
AB31	**Akbulak array**	**22.95**	**278**	*e* P	**P**	**17 20 29.3**	**-1.7**
AB31	**Akbulak array**	**22.95**	**278**	*e* P	**P**	**17 20 29.3**	**-1.7**
ABKAR	**Akbulak array**	**22.95**	**278**	*e* P	**P**	**17 20 29.5**	**-1.6**
	comp=Z,12nm,0.6s						
AB03	**Akbulak array**	**22.95**	**278**	*e* P	**P**	**17 20 30.2**	**-0.9**
AB04	**Akbulak array**	**22.95**	**278**	*e* P	**P**	**17 20 30.1**	**-1.0**
AB09	**Akbulak array**	**22.96**	**278**	*e* P	**P**	**17 20 30.1**	**-1.1**
AB08	**Akbulak array**	**22.96**	**278**	*e* P	**P**	**17 20 30.7**	**-0.5**
AKTO	**Aktyubinsk**	**23.75**	**282**	P	**P**	**17 20 39.1**	**0.0**
	comp=Z,5.0nm,0.6s,baz=54,slow=14,SNR=17						
TIXI	**Tiksi**	**24.86**	**24**	P	**P**	**17 20 48.0**	**-1.1**
	comp=Z,16nm,0.7s,baz=280,slow=6.3,SNR=7.0						
TIXI	**Tiksi**	**24.86**	**24**	⇓*e* P	**P**	**17 20 48.1**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,21nm,1.0s						
SEY	**Seymchan**	**31.46**	**47**	P	**P**	**17 21 47.8**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=288,slow=13,SNR=4.9						
OBN	**Obninsk**	**34.71**	**300**	⇓*e* P	**P**	**17 22 16.5**	**-0.1**
OBN				pmax	pmax		
	comp=Z,17nm,1.3s						
PEA1	**Petropavlovsk-**	**36.69**	**63**	*e* P	**P**	**17 22 32.3**	**-1.3**
PETK	**Petropavlovsk-**	**36.69**	**63**	P	**P**	**17 22 32.3**	**-1.3**
	comp=Z,7.6nm,1.1s,baz=313,slow=7.3,SNR=4.3						
PETK	**Petropavlovsk-**	**36.69**	**63**	P	**P**	**17 22 32.3**	**-1.3**
PETK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FIA0	**FINESS Array S**	**37.96**	**313**	*e* P	**P**	**17 22 43.0**	**-1.3**
FIA0	**FINESS Array S**	**37.96**	**313**	*e* P	**P**	**17 22 43.0**	**-1.3**
FINES	**FINESS Array B**	**37.96**	**313**	P	**P**	**17 22 43.0**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=69,slow=7.9,SNR=2.8						
FINES	**FINESS Array B**	**37.96**	**313**	P	**P**	**17 22 43.0**	**-1.3**
FINES	**FINESS Array B**	**37.96**	**313**	P	**P**	**17 22 43.0**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**40.57**	**296**	P	**P**	**17 23 05.0**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=54,slow=8.7,SNR=4.1						
AKASG	**Malin Array Be**	**40.57**	**296**	*i* P	**P**	**17 23 06.3**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BR101	**Keskin Array S**	**43.89**	**280**	*e* P	**P**	**17 23 34.1**	**+0.6**
BR131	**Keskin Array S**	**43.89**	**280**	*e* P	**P**	**17 23 34.1**	**+0.6**
BRTR	**Keskin Array B**	**43.89**	**280**	P	**P**	**17 23 34.1**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=76,slow=7.0,SNR=15						
HFS	**Hagfors**	**44.07**	**315**	P	**P**	**17 23 33.0**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=72,slow=9.3,SNR=2.3						
NB200	**NORSAR Array S**	**44.73**	**316**	*e* P	P	17 23 37.5	-2.4
NOA	**NORSAR Array B**	**44.73**	**316**	P	P	17 23 37.5	-2.4
	comp=Z,2.8nm,1.0s,baz=62,slow=8.0,SNR=3.3						
NOA	**NORSAR Array B**	**44.73**	**316**	P	P	17 23 37.5	-2.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CLL	**Collm**	**48.99**	**304**	*e* P	**P**	**17 24 13.0**	**-0.2**
CLL	**Collm**	**48.99**	**304**	*e* P	**P**	**17 24 13.0**	**-0.2**
YKA	**Yellowknife Ar**	**63.70**	**15**	P	P	17 25 56.1	-1.8
	comp=Z,0.2nm,0.6s,baz=333,slow=7.3,SNR=3.0						
ESDC	**Sonseca Array**	**65.56**	**303**	P	**P**	**17 26 09.4**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=58,slow=7.0,SNR=3.6						
WR1	**Warramunga Arr**	**78.74**	**143**	*e* P	**P**	**17 27 28.9**	**-0.5**
	comp=Z,20nm,1.6s						
WRA	**Warramunga Arr**	**78.74**	**143**	P	**P**	**17 27 28.9**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=343,slow=6.3,SNR=5.6						
ASAR	**Alice Springs**	**82.00**	**145**	P	**P**	**17 27 46.1**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=337,slow=4.7,SNR=9.3						
TOA1	**Torodi Ar. Sit**	**82.47**	**282**	*e* P	**P**	**17 27 48.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**82.47**	**282**	P	**P**	**17 27 48.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=31,slow=5.5,SNR=7.3						

*NIED **07** 17:19:00,37°.20N×142°.20E,h29km,Mw3.7 Best double couple: M0 3.97000×10^14 NP1:φs 17.00000°,δ 12.00000°, λ -37.00000°. NP2:φs 143.00000°,δ 83.00000°, λ -99.00000°.*

*IDC **07** 17:19:18.1±0.8,37°.11N×142°.29E,h0km,mb3.6/12, mb1 3.8/17,mb1mx3.6/74,mbtmp3.7/17,ML3.4/4,MS2.5/2, Ms1 2.5/2,ms1mx2.2/66,Error ellipse: s-maj=22.1km s-min=14.7km az=117.0*

*ISCJB **07** 17:19:19.2±0.6,37°.19N±0°.05×142°.33E±0°.06,h19km, mb3.6/12,MS2.8/1,Error ellipse: s-maj=7.2km s-min=5.6km az=138.2*

*JMA **07** 17:19:21.0±0.2,37°.18N×142°.16E,h26km,M3.9*

ISC 07 17:19:21.2±0.8, 37°.16N±0°.06×142°.13E±0°.07, h19km, n38, σ1§09/36, mb3.5/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.02**	**282**	P	**Pb**	**17 19 39.8**	**-0.4**
JFK				*e* S	**Sb**	**17 19 53.0**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.06**	**267**	P	**Pn**	**17 19 40.6**	**-0.5**
JMM	**Marumori**	**1.27**	**304**	P	**Pn**	**17 19 43.4**	**-0.5**
JIO	**Ouri**	**1.43**	**335**	P	**Pn**	**17 19 45.2**	**-0.9**
JFT	**Otama**	**1.47**	**285**	P	**Pb**	**17 19 47.5**	**-0.4**
JOU	**Okura**	**1.67**	**316**	P	**Pn**	**17 19 50.0**	**+0.6**
JOU				*e* S	**Sn**	**17 20 10.4**	**+0.1**
JMK	**Ichinoseki**	**1.93**	**338**	P	**Pn**	**17 19 53.4**	**+0.5**
JFY	**Yanaizu**	**1.95**	**278**	P	**Pb**	**17 19 55.5**	**-0.5**
JYS	**Shirataka**	**1.95**	**303**	P	**Pb**	**17 19 54.8**	**-1.2**
JYK	**Kaneyama**	**2.24**	**322**	P	**Pn**	**17 19 57.2**	**0.0**
JAG	**Ashikaga**	**2.27**	**252**	P	**Pn**	**17 19 58.5**	**+0.9**
JOM	**Ohasama**	**2.40**	**344**	P	**Pn**	**17 19 59.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.20**	**260**	Pn	**Pn**	**17 20 13.2**	**+2.7**
	4.9nm,0.3s,baz=88,slow=15,SNR=63						
MJAR				Sn	**Sb**	**17 20 54.5**	**-1.6**
	2.9nm,0.3s,baz=53,slow=20,SNR=4.9						
MJAR				LR	LR	17 21 13.7	
	comp=Z,34nm,22.0s,baz=70,slow=35						
MAT	**Matsushiro**	**3.21**	**260**	P	Pn	**17 20 13.3**	**+2.8**
MAT				S	**Sb**	**17 20 54.5**	**-1.6**
JHJ	**Hachijo jima 2**	**4.47**	**206**	Pn	**Pn**	**17 20 29.0**	**+1.1**
	15nm,0.3s,baz=300,slow=23,SNR=10						
JHJ				Sn	**Sn**	**17 21 17.3**	**-2.0**
	12nm,0.3s,baz=9.2,slow=22,SNR=6.1						
ASAJ	**Asahikawa**	**6.96**	**3**	Pn	**Pn**	**17 21 01.8**	**-0.2**
	1.4nm,0.3s,baz=224,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**17 22 19.1**	**-1.5**
	0.7nm,0.3s,baz=192,slow=20,SNR=4.1						
JNU	**Nakatsue**	**10.05**	**250**	Pn	**Pn**	**17 21 45.8**	**+1.2**
	0.1nm,0.3s,baz=58,slow=3.1,SNR=3.5						
JNU				Sn	Sn	17 23 46.6	+10
	0.3nm,0.3s,baz=24,slow=7.7,SNR=5.2						
USRK	**Ussuriysk Ar.**	**10.42**	**316**	Pn	**Pn**	**17 21 50.3**	**+0.8**
	0.2nm,0.3s,baz=106,slow=15,SNR=2.6						
KSRS	**Korea Array**	**11.32**	**276**	Pn	Pn	17 22 08.9	+7.1
	0.1nm,0.3s,baz=90,slow=14,SNR=3.6						
MA2	**Magadan**	**23.11**	**11**	P	**P**	**17 24 25.8**	**+0.1**
	0.9nm,0.2s,baz=209,slow=9.8,SNR=6.3						
SEY	**Seymchan**	**26.56**	**10**	P	**P**	**17 24 58.0**	**+0.4**
	0.6nm,0.5s,baz=246,slow=17,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**27.73**	**122**	T	T	17 54 01.5	
	SNR=20						
H11N1	**WAKE ISLAND Hy**	**27.73**	**122**	T	T	17 54 35.4	
	baz=199,slow=74,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.75**	**122**	T	T	17 54 06.5	
	baz=314,slow=74,SNR=12						
SONM	**Songino Array**	**28.19**	**304**	P	**P**	**17 25 14.2**	**+1.7**
	0.8nm,0.8s,baz=107,slow=9.2,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	17 54 57.0	
	baz=316,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	17 54 57.1	
	baz=316,slow=76,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**28.47**	**124**	T	T	17 54 58.3	
	baz=316,slow=76,SNR=8.9						
DAV	**Davao City (W)**	**33.53**	**211**	LR	LR	17 38 47.5	
	comp=Z,18nm,21.7s,baz=232,slow=35						
CMAR	**Chiang Mai Arr**	**42.08**	**256**	P	**P**	**17 27 11.9**	**-0.1**
	0.1nm,0.4s,baz=68,slow=7.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.25**	**312**	P	**P**	**17 27 13.0**	**+0.1**
	0.5nm,0.5s,baz=122,slow=8.2,SNR=3.2						
MKAR	**Makanchi Array**	**44.53**	**302**	P	**P**	**17 27 31.7**	**+0.1**
	0.3nm,0.7s,baz=74,slow=9.9,SNR=3.7						
KURBB	**Kurchatov Arra**	**46.37**	**308**	P	**P**	**17 27 46.7**	**+0.7**
	1.2nm,0.7s,baz=83,slow=8.4,SNR=4.7						
ILAR	**Eielson Array**	**49.08**	**32**	P	**P**	**17 28 06.7**	**-0.2**
	0.7nm,0.7s,baz=261,slow=6.8,SNR=8.3						
INK	**Inuvik**	**54.01**	**27**	P	**P**	**17 28 43.6**	**0.0**
	1.0nm,0.6s,baz=296,slow=7.4,SNR=5.5						
WRA	**Warramunga Arr**	**57.27**	**189**	P	**P**	**17 29 06.8**	**-0.8**
	0.6nm,0.6s,baz=5.7,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**61.00**	**189**	P	**P**	**17 29 32.9**	**-0.5**
	0.3nm,0.7s,baz=10,slow=5.7,SNR=4.6						
YKA	**Yellowknife Ar**	**63.41**	**30**	P	**P**	**17 29 49.1**	**0.0**
	0.2nm,0.6s,baz=294,slow=5.0,SNR=3.5						

MAN 07 17:22:02,10°.24N×123°.15E,h5km,mb4.2,ML3.0,MS2.7, 2D,Cebu

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

DSI	**Dead Sea**	**1.74**	**181**	Pn	**Pn**	**17 31 50.8 +0.5**
DSI				Sn	**Sb**	**17 32 14.1 +0.2**
AMAZ	**Amatzia**	**1.82**	**194**	Pn	**Pn**	**17 31 52.6 +1.1**
AMAZ				Sn	**Sb**	**17 32 17.2 +0.7**
AMAZ	**Amatzia**	**1.82**	**194**	Pn	**Pn**	**17 31 52.6 +1.1**
AMAZ				Sn	**Sb**	**17 32 17.2 +0.7**
YTIR	**Yattir**	**1.96**	**188**	Pn	**Pn**	**17 31 53.6 +0.1**
YTIR				Sn	**Sb**	**17 32 20.9 +0.5**
YTIR	**Yattir**	**1.96**	**188**	Pn	**Pn**	**17 31 53.6 +0.1**
YTIR				Sn	**Sb**	**17 32 20.9 +0.5**
MZDA	**Masada**	**2.00**	**182**	Pn	**Pn**	**17 31 54.3 +0.5**
MZDA				Sn	**Sb**	**17 32 21.2 -0.1**
MZDA	**Masada**	**2.00**	**182**	Pn	**Pn**	**17 31 54.3 +0.5**
MZDA				Sn	**Sb**	**17 32 21.2 -0.1**
PRNI	**Paran**	**2.97**	**187**	Pn	**Pn**	**17 32 07.8 +0.5**
PRNI	**Paran**	**2.97**	**187**	Pn	**Pn**	**17 32 07.8 +0.5**

*IDC **07** 17:34:54.2±1.7,2°.88S×138°.59E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/40, mbtmp3.7/5, ML3.8/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/43, Error ellipse: s-maj=43.7km s-min=13.2km az=100.0*

*ISCJB **07** 17:34:56.5±0.7,2°.85S±0°.06×138°.9E±0°.1, h35km, mb3.6/4, MS3.6/1, Error ellipse: s-maj=17.9km s-min=8.6km az=8.9*

*NEIC **07** 17:34:58.6±0.7,2°.87S×138°.78E, h35km, mb4.2/3, Error ellipse: s-maj=17.6km s-min=11.4km az=87.0*

ISC 07 17:34:58.8±0.9,2°.85S±0°.08×138°.8E±0°.1, h35km, n13, σ2s03/16, mb3.7/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.52**	**129**	*e*Pn	**Pn**	**17 37 28.0**	**+0.8**
SOEI	**Soe**	**16.02**	**244**	*e*Pn	**P**	**17 38 46.7**	**+1.9**
	40nm,1.3s						
WR1	**Warramunga Arr**	**17.55**	**194**	*e*Pn	**Pn**	**17 38 59.3**	**-1.5**
	44nm,1.9s						
WR1				*e*Sn	**Sn**	**17 42 12.8**	**-2.4**
WRA	**Warramunga Arr**	**17.55**	**194**	P	**Pn**	**17 38 59.3**	**-1.5**
	0.5nm,0.3s,baz=17,slow=13,SNR=22						
WRA				S	**Sn**	**17 42 12.8**	**-2.4**
	0.1nm,0.3s,baz=6.9,slow=23,SNR=3.3						
FITZ	**Fitzroy Crossi**	**19.93**	**220**	P	**P**	**17 39 26.8**	**-1.0**
	0.1nm,0.3s,baz=32,slow=11,SNR=3.9						
FITZ				S	**S**	**17 43 10.2**	**0.0**
	0.1nm,0.3s,baz=194,slow=17,SNR=3.5						
FITZ				LR	LR	17 48 02.8	
	comp=Z,66nm,19.6s,baz=6.0,slow=40						
AS01	**Alice Springs**	**21.23**	**192**	*e*P	**P**	**17 39 46.4**	**+4.6**
AS31	**Alice Springs**	**21.24**	**193**	*e*P	**P**	**17 39 43.1**	**+1.2**
	2.1nm,0.6s						
ASAR	**Alice Springs**	**21.24**	**193**	P	**P**	**17 39 41.8**	**-0.2**
	1.8nm,0.7s,baz=19,slow=10,SNR=19						
ASAR				S	**S**	**17 43 39.1**	**+2.8**
	0.3nm,0.3s,baz=18,slow=24,SNR=2.8						
SONM	**Songino Array**	**57.90**	**335**	LR	LR	18 10 44.9	
	comp=Z,44nm,19.7s,baz=336,slow=37						
MK32	**Makanchi Array**	**69.98**	**322**	*e*P	**P**	**17 46 07.0**	**+0.2**
MKAR	**Makanchi Array**	**69.98**	**322**	P	**P**	**17 46 07.0**	**+0.2**
	0.3nm,0.3s,baz=104,slow=6.1,SNR=14						
BVAR	**Borovoye Array**	**79.50**	**325**	P	**P**	**17 47 01.3**	**-0.5**
	0.3nm,0.4s,baz=122,slow=7.4,SNR=5.2						
LGMM	**Garner Mountai**	**98.86**	**49**	*e*P	**P**	**17 48 34.4**	**-1.3**

*IDC **07** 17:58:04.8±0.9, 19°.03S×176°.69W, h0km, mb4.1/8, mb1 4.4/8, mb1mx3.9/43, mbtmp4.1/8, MS3.8/18, Ms1 3.8/18, ms1mx3.6/40, Error ellipse: s-maj=49.2km s-min=19.8km az=156.0*

*ISCJB **07** 17:58:08.7±0.6, 18°.9S±0°.2×176°.9W±0°.1, h35km, mb4.4/15, MS3.8/15, Error ellipse: s-maj=32.8km s-min=10.7km az=154.2*

*NEIC **07** 17:58:10.4±0.6, 18°.85S×176°.83W, h35km, mb4.6/8, Error ellipse: s-maj=36.4km s-min=11.9km az=152.0*

ISC 07 17:58:10.6±0.7, 18°.9S±0°.2×176°.8W±0°.2, h35km, n45, σ1s32/27, mb4.4/15, MS3.9/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.38**	**186**	LR	LR	18 04 00.5	
	comp=Z,1µm,20.0s,baz=334,slow=35						
DZM	**Mont Dzumac**	**16.05**	**256**	LR	LR	18 07 10.5	
	comp=Z,745nm,19.9s,baz=76,slow=34						
DZM	**Mont Dzumac**	**16.05**	**256**	*e*LQ	LQ	18 05 15.2	
	1µm,28.0s						
DZM				*e*LR	LR	18 06 18.6	
	1µm,25.0s						
RAR	**Rarotonga**	**16.14**	**101**	LR	LR	18 07 44.2	
	comp=Z,94nm,19.6s,baz=258,slow=36						
URZ	**Urewera**	**20.03**	**194**	LR	LR	18 09 30.3	
	comp=Z,392nm,19.1s,baz=29,slow=34						
TBI	**Tubuai**	**25.84**	**105**	*e*LQ	LQ	18 08 36.0	
	528nm,28.8s						
TBI				*e*LR	LR	18 09 48.0	
	535nm,28.5s,baz=287						
PPT2	**Papeete2**	**25.85**	**92**	*e*LR	LR	18 09 45.2	
	986nm,27.0s,baz=254						
PPT	**Papeete**	**25.85**	**91**	LR	LR	18 10 52.6	
	comp=Z,199nm,21.9s,baz=244,slow=30						
PMG	**Port Moresby**	**36.16**	**280**	P	**P**	**18 05 10.4**	**+0.4**
	13nm,1.0s,baz=63,slow=6.8,SNR=4.1						
PMG				LR	LR	18 18 01.6	
	comp=Z,243nm,19.5s,baz=110,slow=33						
TAOE	**Nuku Hiva Isla**	**36.85**	**79**	*e*LR	LR	18 14 45.4	
	279nm,24.3s						
STKA	**Stephens Creek**	**39.55**	**243**	P	**P**	**18 05 37.4**	**-1.0**
	6.0nm,0.9s,baz=79,slow=10,SNR=8.8						
STKA				LR	LR	18 20 01.9	
	comp=Z,47nm,20.9s,baz=38,slow=33						
STKA	**Stephens Creek**	**39.55**	**243**	*e*P	**P**	**18 05 38.3**	**-0.2**
	1.4nm,0.9s						
AS01	**Alice Springs**	**45.99**	**255**	*e*P	**P**	**18 06 29.6**	**-1.3**
WR1	**Warramunga Arr**	**46.00**	**260**	*e*P	**P**	**18 06 29.0**	**-1.9**
WR1				*e*		18 24 52.6	
WRA	**Warramunga Arr**	**46.00**	**260**	P	**P**	**18 06 29.0**	**-1.9**
	1.2nm,0.8s,baz=93,slow=7.6,SNR=7.9						
WRA				LR	LR	18 24 52.6	
	comp=Z,287nm,20.0s,baz=195,slow=35						
AS31	**Alice Springs**	**46.04**	**255**	*e*P	**P**	**18 06 30.7**	**-0.6**
	1.9nm,0.8s						
ASAR	**Alice Springs**	**46.04**	**255**	P	**P**	**18 06 30.1**	**-1.1**
	3.2nm,0.8s,baz=95,slow=8.4,SNR=24						
FITZ	**Fitzroy Crossi**	**54.41**	**261**	LR	LR	18 29 43.2	
	comp=Z,178nm,20.1s,slow=35						
VNDA	**Vanda**	**59.62**	**185**	LR	LR	18 29 12.7	
	comp=Z,55nm,21.8s,baz=336,slow=31						
RPN	**Rapa Nui**	**61.98**	**111**	LR	LR	18 28 05.6	
	comp=Z,97nm,21.9s,baz=288,slow=29						
DAV	**Davao City (W)**	**62.39**	**289**	LR	LR	18 34 27.0	
	comp=Z,36nm,19.3s,baz=112,slow=35						
QSPA	**South Pole Qui**	**71.18**	**180**	*e*P	**P**	**18 09 27.0**	**+1.3**
	7.7nm,1.1s						
PETK	**Petropavlovsk-**	**75.02**	**344**	LR	LR	18 35 39.5	
	comp=Z,86nm,21.1s,baz=150,slow=30						
LPIG	**La Paz**	**77.58**	**59**	LR	LR	18 36 04.5	
	comp=Z,87nm,19.1s,baz=24,slow=29						
MDPB	**Devils Postpil**	**78.10**	**43**	*e*P	**P**	**18 10 05.4**	**-1.0**
	59nm,1.0s						
NVAR	**Mina Array Bea**	**79.05**	**43**	P	**P**	**18 10 11.1**	**-0.6**
	0.5nm,0.5s,baz=221,slow=6.8,SNR=2.6						
CCUT	**Cedar City**	**81.85**	**46**	*e*P	**P**	**18 10 23.3**	**-3.4**
	14nm,1.4s						
PANH	**Panhandle Gap,**	**82.09**	**35**	*e*P	**P**	**18 10 29.1**	**+1.4**
G08A	**Pilot Rock**	**82.63**	**37**	*e*P	**P**	**18 10 31.1**	**+0.7**
	4.6nm,1.2s						
F10A	**Beach Ranch, E**	**84.02**	**37**	*e*P	**P**	**18 10 36.6**	**-0.9**
	4.7nm,1.1s						
MNTX	**Cornudas Mount**	**84.87**	**54**	*e*P	**P**	**18 10 42.4**	**+0.3**
	12nm,1.4s						
TX31	**Lajitas Ar. Si**	**85.20**	**57**	*e*P	**P**	**18 10 42.5**	**-1.4**
TXAR	**Lajitas Array**	**85.20**	**57**	P	**P**	**18 10 42.8**	**-1.1**
	2.8nm,1.0s,baz=223,slow=5.1,SNR=10						
LTX	**Lajitas**	**85.21**	**57**	*e*P	**P**	**18 10 42.8**	**-1.1**
PLCA	**Paso Flores**	**89.53**	**133**	LR	LR	18 44 43.5	
	comp=Z,21nm,19.5s,baz=240,slow=31						
SNAA	**Sanae**	**89.59**	**178**	LR	LR	18 48 19.9	
	comp=Z,42nm,20.5s,baz=161,slow=34						
CMAR	**Chiang Mai Arr**	**90.68**	**289**	P	**P**	**18 11 12.2**	**+2.0**
	0.4nm,0.4s,baz=116,slow=4.1,SNR=3.0						
YKA	**Yellowknife Ar**	**94.56**	**24**	P	**P**	**18 11 27.7**	**+0.6**
	0.1nm,0.4s,baz=245,slow=4.1,SNR=2.9						
YKA				LR	LR	18 52 58.8	
	comp=Z,8.8nm,18.7s,baz=0.0,slow=35						
JTS	**JuntasAbangare**	**94.97**	**81**	LR	LR	18 46 40.8	
	comp=Z,47nm,18.9s,baz=172,slow=31						

BR101	**Keskin Array S**	**146.57**	**315**	*e*PKPdf	**PKPab**	**18 17 50.4**	**+0.5**
BRTR	**Keskin Array B**	**146.57**	**315**	PKPbc	**PKPab**	**18 17 50.4**	**+0.5**
	1.0nm,0.9s,baz=130,slow=2.3,SNR=4.2						
CLL	**Collm**	**146.73**	**349**	*e*PKPbc	**PKPab**	**18 17 50.0**	**+0.1**
	comp=Z,8.0nm,1.2s						
CLL				*i*		18 17 56.7	
	comp=Z,10.0nm,1.0s						
KHC	**Kasperske Hory**	**148.69**	**347**	*e*PKP	**PKPbc**	**18 17 55.5**	**+1.4**
GERES	**GERESS Array B**	**148.93**	**347**	PKPbc	**PKPbc**	**18 17 53.8**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=20,slow=4.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**174.11**	**165**	PKPab	**PKPab**	**18 19 48.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=183,slow=3.5,SNR=4.7						

*ISCJB **07** 18:00:30.9±0.3,51°.47N±0°.07×96°.08E±0°.04, h10km, mb3.9/12, Error ellipse: s-maj=10.3km s-min=3.8km az=5.6*

*IDC **07** 18:00:30.6±0.8,51°.49N×96°.33E, h0km, mb3.8/10, mb1 3.8/14, mb1mx3.5/72, mbtmp3.7/14, ML2.9/5, Error ellipse: s-maj=21.2km s-min=11.4km az=1.0*

*MOS **07** 18:00:31.4±1.6,51°.47N×96°.12E, h13km, mb4.1/4, Error ellipse: s-maj=13.9km s-min=9.8km az=179.7*

*ASRS **07** 18:00:32.3±0.5,51°.85N×95°.99E, h15km, Ms3.3/3*

*NEIC **07** 18:00:32.6±2.8,51°.67N×96°.32E, h14km±19km, mb4.3/4, Error ellipse: s-maj=12.9km s-min=5.8km az=194.0*

ISC 07 18:00:33.2±0.5,51°.52N±0°.07×96°.19E±0°.04, h10km, n60, σ1s88/62, mb3.9/12, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**1.10**	**280**	*e*Pg	Pg	18 00 51.3	-3.0
KZLR				*e*Sg	**Sg**	**18 01 03.2**	**-5.4**
HVS	**Khovu-Aksy**	**1.61**	**257**	*d i*P*	Pn	18 00 50.3	-11
ORL	**Orlik**	**2.46**	**64**	*e*PN	**Pn**	**18 01 15.5**	**+2.0**
ORL				*e*		18 01 48.1	
ORL				pmax	pmax		
	comp=Z,187nm,0.4s						
ORL				smax	smax		
	comp=N,627nm,1.0s						
MOY	**Mondy**	**3.00**	**85**	*e*PN	**Pb**	**18 01 27.4**	**+0.6**
MOY				*e*		18 02 07.2	
MOY				pmax	pmax		
	comp=Z,100nm,0.7s						
MOY				smax	smax		
	comp=N,448nm,0.7s						
CERR	**Cheremushki**	**3.23**	**296**	*e*Pn	Pn	18 01 21.3	-2.6
CERR				*e*Pg	Pb	18 01 27.6	-3.0
CERR				*e*Sg	**Sn**	**18 02 06.9**	**+4.5**
ARS	**Arshan**	**3.90**	**82**	*e*PN	**Pn**	**18 01 35.6**	**+2.4**
ARS				*e*		18 01 44.6	
ARS				*e*		18 02 35.7	
ARS				pmax	pmax		
	comp=Z,93nm,0.3s						
ARS				smax	smax		
	comp=E,1µm,0.9s						
ZAK	**Zakamensk**	**4.63**	**102**	*e*PN	**Pn**	**18 01 46.4**	**+3.1**
ZAK				*e*		18 01 55.2	
ZAK				pmax	pmax		
	comp=Z,40nm,0.5s						
TLY	**Talaya**	**4.65**	**85**	*e*Pn	Pn	18 01 38.9	-4.6
TLY	**Talaya**	**4.65**	**85**	*e*PN	**Pb**	**18 01 56.0**	**+1.2**
TLY				*e*		18 02 56.9	
TLY				pmax	pmax		
	comp=Z,16nm,0.4s						
IRK	**Irkutsk**	**5.06**	**79**	*e*PN	**Pb**	**18 02 03.1**	**+1.3**
IRK				*e*		18 03 08.7	
IRK				pmax	pmax		
	comp=Z,51nm,0.1s						
IRK				smax	smax		
	comp=N,610nm,0.6s						
TASR	**Tashtagol**	**5.27**	**287**	*e*Pg	**Pb**	**18 02 04.5**	**-0.9**
TASR				*e*Sg	**Sb**	**18 03 08.6**	**0.0**
AKAR	**Aktash**	**5.55**	**261**	*e*Pn	**Pn**	**18 01 57.6**	**+1.6**
AKAR				*e*Pg	**Pb**	**18 02 12.1**	**+1.8**
AKAR				*e*Sg	**Sb**	**18 03 21.1**	**+4.2**
ARTR	**Artybash**	**5.55**	**276**	*e*Pn	**Pn**	**18 01 56.2**	**+0.3**
ARTR				*e*Pg	**Pb**	**18 02 11.1**	**+0.9**
ARTR				*e*Sg	**Sb**	**18 03 18.2**	**+1.4**
DGZ	**Jazzator, Alta**	**5.87**	**255**	*i e*PN	Pn	18 01 54.8	-5.5
ELT	**Eltsovka**	**6.34**	**290**	*e*PN	**Pn**	**18 02 07.9**	**+1.3**
ELT	**Eltsovka**	**6.34**	**290**	*e*Pn	**Pn**	**18 02 06.5**	**-0.1**
ELT				*e*Pg	**Pb**	**18 02 21.5**	**-2.1**
ELT				*e*Sg	**Sb**	**18 03 41.9**	**+2.6**
TRG	**Tyrgan**	**6.38**	**75**	*e*PN	**Pn**	**18 02 06.8**	**-0.4**
TRG				*e*		18 02 25.3	
TRG				*e*		18 03 47.6	
TRG				pmax	pmax		
	comp=Z,23nm,1.0s						
TRG				smax	smax		
	comp=N,182nm,1.4s						
OGRR	**Ongureny**	**7.27**	**69**	*e*P	**Pn**	**18 02 20.7**	**+1.3**
OGRR				pmax	pmax		
	comp=Z,12nm,0.4s						
ZAA0	**Zalesovo Array**	**7.32**	**294**	*e*Pn	**Pn**	**18 02 20.5**	**+0.4**
ZALV	**Zalesovo Beam**	**7.32**	**294**	Pn	**Pn**	**18 02 20.4**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=104,slow=13,SNR=10						
ZALV				Lg	Lg	18 04 14.6	
	comp=Z,2.1nm,0.3s,baz=111,slow=28,SNR=4.3						
ZAA1	**Zalesovo Array**	**7.32**	**294**	*e*Pn	**Pn**	**18 02 20.4**	**+0.2**
SONA1	**Songino Array**	**7.58**	**115**	*e*Pn	**Pn**	**18 02 24.8**	**+1.0**
SONA0	**Songino Array**	**7.58**	**115**	*e*Pn	**Pn**	**18 02 22.5**	**-1.3**
SONA0				*e*Pg	**Pb**	**18 02 48.1**	**+3.3**
SONA0				*e*Sn	**Sn**	**18 03 46.3**	**-3.5**
SONM	**Songino Array**	**7.58**	**115**	Pn	**Pn**	**18 02 22.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=294,slow=13,SNR=2.6						
SONM				Pg	**Pb**	**18 02 48.1**	**+3.3**
	comp=Z,0.7nm,0.3s,baz=309,slow=19,SNR=16						
SONM				Sn	**Sn**	**18 03 46.3**	**-3.5**
	comp=Z,1.1nm,0.3s,baz=323,slow=12,SNR=4.1						
SONM				Lg	Lg	18 04 33.1	
	comp=Z,2.2nm,0.3s,baz=304,slow=29,SNR=15						
NVS	**Novosibirsk**	**8.46**	**298**	*e*P	**Pn**	**18 02 37.3**	**+1.6**
NVS	**Novosibirsk**	**8.46**	**298**	*e*Sg	Sb	18 04 46.7	+6.4
SYVR	**Suvo**	**8.68**	**70**	*e*P	**Pn**	**18 02 40.2**	**+1.5**
SYVR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MK31	**Makanchi Array**	**10.26**	**248**	*e*Pn	**Pn**	**18 03 01.3**	**+0.9**
MK31	**Makanchi Array**	**10.26**	**248**	*e*P	**Pn**	**18 03 01.3**	**+0.9**
MK32	**Makanchi Array**	**10.26**	**248**	*e*Pn	**Pn**	**18 02 58.5**	**-1.8**
MK32				*e*		18 03 43.3	
MKAR	**Makanchi Array**	**10.26**	**248**	Pn	**Pn**	**18 02 58.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=52,slow=14,SNR=5.8						
MKAR				Pg		18 03 43.3	
	comp=Z,0.4nm,0.3s,baz=66,slow=18,SNR=4.7						
MKAR				Lg	Lg	18 05 50.7	
	comp=Z,0.5nm,0.3s,baz=59,slow=25,SNR=4.2						
MKAR	**Makanchi Array**	**10.26**	**248**	*e*Pn	**Pn**	**18 03 01.4**	**+1.0**
MKAR				Pg		18 03 43.3	
MKAR				Lg	Lg	18 05 50.7	
MKAR	**Makanchi Array**	**10.26**	**248**	*e*P	**Pn**	**18 03 01.4**	**+1.0**
KURK	**Kurchatov**	**11.08**	**273**	*i e*P	**Pn**	**18 03 11.2**	**-0.3**
KURBB	**Kurchatov Arra**	**11.15**	**272**	Pn	**Pn**	**18 03 12.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=74,slow=14,SNR=10						
KURBB				Sn	**Sn**	**18 05 16.7**	**-0.5**
	baz=73,slow=13,SNR=3.4						
KURBB				Lg	Lg	18 06 20.3	
	comp=Z,0.1nm,0.3s,baz=80,slow=33,SNR=6.3						
BVAR	**Borovoye Array**	**15.84**	**286**	Pn	**Pn**	**18 04 14.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=72,slow=14,SNR=10.0						
BRVK	**Borovoye**	**15.90**	**286**	*e*Pn	**Pn**	**18 04 15.5**	**-1.4**
	comp=Z,3.3nm,0.6s						
BRVK	**Borovoye**	**15.90**	**286**	*i e*P	**Pn**	**18 04 18.0**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**17.19**	**247**	Lg	Lg	18 09 28.3	
	comp=Z,0.1nm,0.3s,baz=34,slow=3.6,SNR=2.8						
ARU	**Arti**	**22.46**	**297**	P	**P**	**18 05 33.2**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=94,slow=16,SNR=7.0						
ARU	**Arti**	**22.46**	**297**	*e*P	**P**	**18 05 32.0**	**-0.2**
	comp=Z,6.7nm,0.9s						
ARU	**Arti**	**22.46**	**297**	P	**P**	**18 05 35.5**	**+3.3**
AKTO	**Aktyubinsk**	**23.88**	**283**	P	**P**	**18 05 46.1**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=87,slow=11,SNR=14						
TIXI	**Tiksi**	**24.88**	**24**	P	**P**	**18 05 55.3**	**-0.4**
	comp=Z,12nm,0.6s,baz=278,slow=4.5,SNR=5.0						
TIXI	**Tiksi**	**24.88**	**24**	P	**P**	**18 05 55.3**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,40nm,0.2s						
BR101	**Keskin Array S**	**44.02**	**280**	*e*P	**P**	**18 08 40.6**	**-0.4**
BRTR	**Keskin Array B**	**44.02**	**280**	P	**P**	**18 08 40.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=79,slow=8.3,SNR=4.4						
BR231	**Keskin MP Arra**	**44.48**	**281**	*e*P	P	18 08 42.2	-2.3
NB200	**NORSAR Array S**	**44.87**	**317**	*e*P	P	18 08 44.8	-2.6
NOA	**NORSAR Array B**	**44.87**	**317**	P	P	18 08 44.8	-2.6
	comp=Z,1.4nm,0.8s,baz=62,slow=8.0,SNR=3.1						
RAYN	**Ar Rayn**	**47.69**	**254**	*e*P	**P**	**18 09 10.5**	**+0.5**
	comp=Z,3.5nm,0.6s						
ILAR	**Eielson Array**	**54.25**	**28**	P	P	18 09 55.9	-2.9
	comp=Z,0.5nm,0.8s,baz=307,slow=4.1,SNR=2.8						
ILB	**Eielson Array**	**54.25**	**28**	*e*P	P	18 09 55.9	-2.9
YKA	**Yellowknife Ar**	**63.74**	**15**	P	**P**	**18 11 03.3**	**-1.2**
	comp=Z,0.1nm,0.6s,baz=341,slow=6.7,SNR=3.1						
WR1	**Warramunga Arr**	**78.61**	**144**	*e*P	**P**	**18 12 34.0**	**-1.0**
	comp=Z,32nm,1.8s						
WRA	**Warramunga Arr**	**78.61**	**144**	P	**P**	**18 12 34.0**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=343,slow=6.1,SNR=3.3						
WRA	**Warramunga Arr**	**78.61**	**144**	P	**P**	**18 12 34.0**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**81.86**	**145**	P	**P**	**18 12 52.1**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=328,slow=5.0,SNR=4.2						
TOA1	**Torodi Ar. Sit**	**82.60**	**282**	*e*P	**P**	**18 12 55.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**82.60**	**282**	P	**P**	**18 12 55.7**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=35,slow=5.7,SNR=3.0						

*ISCJB **07** 18:04:31.9±0.3,67°.08N±0°.02×21°.03E±0°.07, h0km, Error ellipse: s-maj=4.0km s-min=3.0km az=1.4*

*IDC **07** 18:04:32.7±0.9,67°.15N×20°.93E, h0km, mb1 3.7/5, mb1mx3.1/67, mbtmp3.7/5, ML2.2/4, Error ellipse: s-maj=15.7km s-min=6.9km az=105.0*

*CSEM **07** 18:04:32.8±0.3,67°.08N×21°.11E, h2km, ML1.8, Error ellipse: s-maj=7.0km s-min=5.9km az=70.0, Mining explosion.*

*UPP **07** 18:04:32.0,67°.06N×20°.94E, h0km, ML1.8, Mining explosion.*

*HEL **07** 18:04:32.8±0.1,67°.07N×20°.95E, h0km, ML2.1, ML1.8(UPP), Explosion*

*BER **07** 18:04:34.6±2.4,66°.93N×21°.24E, h0km, ML1.8, Suspected explosion*

ISC 07 18:04:32.0±0.7, 67°.10N±0°.02×20°.99E±0°.02, h0km, n80, σ1s38/95, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.17**	**279**	P	**Pg**	**18 04 35.4**	**+0.2**
DUNU	**Dundret**	**0.17**	**279**	P	**Pg**	**18 04 35.4**	**+0.2**
DUNU	**Dundret**	**0.17**	**279**	*i* P	**Pg**	**18 04 35.4**	**+0.2**
MASU	**Masugnsbyn**	**0.53**	**47**	P	**Pb**	**18 04 43.0**	**-1.2**
MASU	**Masugnsbyn**	**0.53**	**47**	P	**Pb**	**18 04 43.0**	**-1.2**
MASU	**Masugnsbyn**	**0.53**	**47**	*i* P	**Pb**	**18 04 43.0**	**-1.2**
ERTU	**Ertsjaerv**	**0.72**	**138**	P	**Pg**	**18 04 45.3**	**-0.4**
ERTU	**Ertsjaerv**	**0.72**	**138**	P	**Pg**	**18 04 45.3**	**-0.4**
ERTU	**Ertsjaerv**	**0.72**	**138**	*e*P	**Pg**	**18 04 45.2**	**-0.6**
PAJU	**Pajala**	**0.83**	**94**	P	**Pg**	**18 04 48.0**	**0.0**
PAJU	**Pajala**	**0.83**	**94**	P	**Pg**	**18 04 48.0**	**0.0**
PAJU	**Pajala**	**0.83**	**94**	*i* P	**Pg**	**18 04 48.0**	**0.0**
KUA	**Kurravaara**	**0.90**	**344**	P	**Pg**	**18 04 49.2**	**0.0**
KUA				S	**Sb**	**18 05 01.7**	**-1.2**
KUA	**Kurravaara**	**0.90**	**344**	P	**Pg**	**18 04 49.2**	**0.0**
KUA				S	**Sb**	**18 05 01.7**	**-1.2**
KUA	**Kurravaara**	**0.90**	**344**	*e*P	**Pg**	**18 04 49.2**	**0.0**
KUA				*e*S	**Sb**	**18 05 01.7**	**-1.2**
LANU	**Lannavaara**	**1.03**	**21**	P	**Pb**	**18 04 51.9**	**-0.8**
LANU	**Lannavaara**	**1.03**	**21**	P	**Pb**	**18 04 51.9**	**-0.8**
LANU	**Lannavaara**	**1.03**	**21**	*e*P	**Pg**	**18 04 51.5**	**-0.2**
	baz=211						
NIKU	**Nikkaluokta**	**1.08**	**317**	P	**Pg**	**18 04 52.3**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**317**	P	**Pg**	**18 04 52.3**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**317**	*e*P	**Pg**	**18 04 52.3**	**-0.4**
KALU	**Kalix**	**1.56**	**142**	P	**Pn**	**18 05 00.4**	**-0.5**
KALU	**Kalix**	**1.56**	**142**	P	**Pn**	**18 05 00.4**	**-0.5**
KALU	**Kalix**	**1.56**	**142**	*e*P	**Pn**	**18 05 00.3**	**-0.6**
	baz=314						
SJUU	**Sjulsmark**	**1.61**	**171**	P	**Pn**	**18 05 01.0**	**-0.6**
SJUU	**Sjulsmark**	**1.61**	**171**	P	**Pn**	**18 05 01.0**	**-0.6**
SJUU	**Sjulsmark**	**1.61**	**171**	*e*P	**Pn**	**18 05 01.0**	**-0.6**
HEF	**Hetta**	**1.66**	**36**	*e*P	**Pb**	**18 05 02.9**	**-0.5**
	SNR=50						
HEF				*e*S	**Sg**	**18 05 26.0**	**+0.6**
	SNR=50						
HEF	**Hetta**	**1.66**	**36**	*e*P	**Pb**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=305						
VAF	**Ylistaro**	**4.13**	**169**	P	**Pn**	**18 05 38.5**	**+2.3**
VAF	**Ylistaro**	**4.13**	**169**	*e*P	**Pn**	**18 05 38.6**	**+2.3**
	baz=358						
NSS	**Namsos**	**4.52**	**239**	*e*P	**Pn**	**18 05 43.4**	**+1.9**
	SNR=49						
NSS	**Namsos**	**4.52**	**239**	*e*P	**Pn**	**18 05 43.4**	**+1.9**
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**18 06 04.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=2.6						
FINES				Pg	**Pb**	**18 06 17.3**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=8.5						
FINES				Sn	**Sn**	**18 07 15.7**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=350,slow=23,SNR=2.5						
FINES				Lg	Lg	18 07 48.5	
	comp=Z,0.2nm,0.3s,baz=344,slow=25,SNR=4.7						
NOA	**NORSAR Array B**	**7.43**	**220**	Pn	**Pn**	**18 06 20.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=46,slow=22,SNR=2.6						
NOA				Pg	Pb	18 06 35.1	-6.5
	comp=Z,0.1nm,0.3s,baz=26,slow=16,SNR=3.7						
HFS	**Hagfors**	**7.70**	**208**	Pn	**Pn**	**18 06 24.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=17,slow=15,SNR=3.3						
HFS				Pg	Pb	18 06 38.2	-8.0
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=10						
SPITS	**Spitsbergen Ar**	**11.22**	**355**	Pn	**Pn**	**18 07 12.3**	**-1.0**
	baz=161,slow=27,SNR=2.8						
EKA	**Eskdalemuir Ar**	**16.41**	**236**	Pn	**Pn**	**18 08 23.6**	**+0.3**
	baz=23,slow=11,SNR=3.4						

*DDA **07** 18:10:15.9, 41°.26N×39°.07E, h5km, Ml2.7*
*CSEM **07** 18:10:16.1±0.8, 41°.32N×39°.13E, h2km, ML2.5, Error ellipse: s-maj=15.1km s-min=5.7km az=7.0*
*ISK **07** 18:10:16.5, 41°.20N×39°.17E, h5km, ML2.5/5*
ISC 07 18:10:14.9±1.3**, 41°.35N**±0°.05×**39°.13E**±0°.02**, h12**km±9km**, n40, σ1s.07**/65**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESPY	**Espiye-Giresun**	**0.52**	**215**	PG	**Pb**	**18 10 26.3**	**+0.2**
ESPY				SG	**Sb**	**18 10 33.5**	**-0.2**
ESPY	**Espiye-Giresun**	**0.52**	**215**	*e*Pg	**Pb**	**18 10 26.3**	**+0.2**
ESPY				*e*Sg	**Sb**	**18 10 33.5**	**-0.2**
KTUT	**Trabzon**	**0.60**	**126**	PG	**Pg**	**18 10 27.5**	**+0.9**
KTUT				SG	**Sb**	**18 10 35.5**	**-0.4**
KTUT	**Trabzon**	**0.60**	**126**	*e*Pg	**Pg**	**18 10 27.5**	**+0.9**
KTUT				*e*Sg	**Sb**	**18 10 35.5**	**-0.4**
MACK	**Trabzon**	**0.63**	**129**	*i* P	**Pb**	**18 10 28.6**	**+0.7**
MACK				*i* S	**Sb**	**18 10 38.0**	**+1.3**
MACK	**Trabzon**	**0.63**	**129**	P	**Pb**	**18 10 28.6**	**+0.7**
MACK				S	**Sb**	**18 10 38.0**	**+1.3**
GRSN	**GIRESUNGRSN**	**0.77**	**237**	*i* P	**Pg**	**18 10 29.4**	**-0.5**
GRSN				*i* S	**Sg**	**18 10 39.5**	**-0.5**
GRSN	**GIRESUNGRSN**	**0.77**	**237**	P	**Pg**	**18 10 29.4**	**-0.5**
GRSN				S	**Sg**	**18 10 39.5**	**-0.5**
GUMT	**Gumushane**	**0.92**	**163**	PG	**Pg**	**18 10 32.5**	**-0.3**
GUMT				SG	**Sb**	**18 10 44.2**	**-1.1**
GUMT	**Gumushane**	**0.92**	**163**	*e*Pg	**Pg**	**18 10 32.5**	**-0.3**
GUMT				*e*Sg	**Sb**	**18 10 44.2**	**-1.1**
ORDU	**Ordu-Boztepe**	**1.02**	**250**	*i* P	**Pg**	**18 10 34.7**	**+0.1**
ORDU				*i* S	**Sb**	**18 10 48.8**	**+0.8**
ORDU	**Ordu-Boztepe**	**1.02**	**250**	P	**Pg**	**18 10 34.7**	**+0.1**
ORDU				S	**Sb**	**18 10 48.8**	**+0.8**
KELT	**Kelkit**	**1.20**	**175**	*i* P	**Pb**	**18 10 38.0**	**+0.3**
KELT				*i* S	**Sn**	**18 10 54.4**	**+0.3**
KELT	**Kelkit**	**1.20**	**175**	P	**Pb**	**18 10 38.0**	**+0.3**
KELT				S	**Sn**	**18 10 54.4**	**+0.3**
BAYT	**Ayd˜–ntepe-Bay**	**1.22**	**141**	PN	**Pg**	**18 10 38.3**	**-0.2**
BAYT	**Ayd˜–ntepe-Bay**	**1.22**	**141**	*e*Pn	**Pg**	**18 10 38.3**	**-0.2**
SUSE	**Susehri**	**1.33**	**212**	*i* P	**Pg**	**18 10 39.2**	**-1.4**
SUSE				*i* S	**Sn**	**18 10 58.1**	**+0.8**
SUSE	**Susehri**	**1.33**	**212**	P	**Pg**	**18 10 39.2**	**-1.4**
BAYB	**BAYBURT**	**1.38**	**141**	*i* P	**Pg**	**18 10 40.9**	**-0.6**
BAYB				*i* S	**Sn**	**18 10 59.2**	**+0.6**
BAYB	**BAYBURT**	**1.38**	**141**	P	**Pg**	**18 10 40.9**	**-0.6**
BAYB				S	**Sn**	**18 10 59.2**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.66**	**236**	PN	**Pg**	**18 10 47.1**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.66**	**236**	*e*Pn	**Pg**	**18 10 47.1**	**+0.3**
KOPT	**Kop Dagi**	**1.69**	**141**	*i* P	Pg	18 10 56.7	+9.3
KOPT				*i* S	**Sg**	**18 11 09.9**	**+0.7**
EUZM	**Uzumlu**	**1.69**	**165**	*i* P	**Pb**	**18 10 46.2**	**+0.1**
EUZM	**Uzumlu**	**1.69**	**165**	P	**Pb**	**18 10 46.2**	**+0.1**
CUZAR	**Zara_SIVAS**	**1.79**	**216**	*i* P	**Pb**	**18 10 48.1**	**+0.4**
CUZAR				*i* S	**Sg**	**18 11 12.8**	**+0.4**
CUZAR	**Zara_SIVAS**	**1.79**	**216**	P	**Pb**	**18 10 48.1**	**+0.4**
CUZAR				S	**Sg**	**18 11 12.8**	**+0.4**
DBOC	**Borcka**	**1.91**	**89**	*i* P	Pn	18 10 43.9	-3.5
DBOC				*i* S	**Sn**	**18 11 08.7**	**-2.7**
ILIC	**ilic-Erzincan**	**1.94**	**193**	PN	**Pb**	**18 10 49.9**	**-0.4**
ILIC	**ilic-Erzincan**	**1.94**	**193**	*e*Pn	**Pb**	**18 10 49.9**	**-0.4**
DBAD	**Bademkaya**	**1.96**	**99**	*i* P	**Pn**	**18 10 47.2**	**-1.0**
DBAD				*i* S	**Sn**	**18 11 09.9**	**-2.9**
DDEM	**Demirkent**	**2.03**	**102**	*i* P	**Pb**	**18 10 54.0**	**+2.1**
DDEM				*i* S	**Sn**	**18 11 14.3**	**-0.2**
DAGI	**Agillar**	**2.12**	**96**	*i* P	**Pn**	**18 10 50.1**	**-0.2**
DAGI				*i* S	**Sn**	**18 11 13.8**	**-2.8**
KEMA	**Kemaliye**	**2.13**	**193**	*i* P	**Pg**	**18 10 55.2**	**-0.6**
KEMA				*i* S	**Sg**	**18 11 22.2**	**-1.2**
KEMA	**Kemaliye**	**2.13**	**193**	P	**Pg**	**18 10 55.2**	**-0.6**
KEMA				S	**Sg**	**18 11 22.2**	**-1.2**
SVSK	**Karacayir**	**2.16**	**229**	PN	**Pb**	**18 10 54.2**	**+0.2**
SVSK	**Karacayir**	**2.16**	**229**	*e*Pn	**Pb**	**18 10 54.2**	**+0.2**
CUKAN	**kangal_SIVAS**	**2.39**	**213**	*i* P	**Pb**	**18 10 59.3**	**+1.2**
CUKAN				*i* S	**Sg**	**18 11 29.5**	**-2.3**
PTK	**Pertek**	**2.46**	**175**	PN	**Pn**	**18 10 57.3**	**+2.2**
PTK	**Pertek**	**2.46**	**175**	*e*Pn	**Pn**	**18 10 57.3**	**+2.2**

*IDC **07** 18:19:12.2±1.0, 2°.94S×138°.28E, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.7/42, mbtmp3.9/8, ML2.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/40, Error ellipse: s-maj=26.3km s-min=11.1km az=101.0*
*ISCJB **07** 18:19:14.3±0.6, 2°.91S±0°.05×138°.9E±0°.1, h35km, mb3.9/7, MS3.5/1, Error ellipse: s-maj=17.6km s-min=6.5km az=5.9*
*NEIC **07** 18:19:15.9±0.6, 2°.74S×139°.17E, h35km, mb4.3/6, Error ellipse: s-maj=15.3km s-min=8.6km az=91.0*
ISC 07 18:19:16.4±1.0**, 2°.94S**±0°.08×**138°.9E**±0°.1**, h35**km**, n27, σ2s.27**/28**, mb3.8**/7**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.44**	**128**	Pn	Pn	18 21 50.4	+6.7
	0.2nm,0.3s,baz=306,slow=14,SNR=4.0						
COEN	**Coen**	**11.74**	**159**	*e*Pn	**Pn**	**18 22 03.7**	**+2.2**
MTN	**Manton Dam**	**12.48**	**217**	*e*Pn	**Pn**	**18 22 15.7**	**+4.1**
SOEI	**Soe**	**16.02**	**244**	*e*Pn	**P**	**18 23 04.0**	**+1.6**
	38nm,1.1s						
BATI	**Baumata**	**16.75**	**244**	Pn	**P**	**18 23 12.4**	**+2.0**
	2.7nm,0.3s,baz=78,slow=3.0,SNR=16						
GUMO	**Guam**	**17.46**	**20**	LR	LR	18 29 25.1	
	comp=Z,51nm,21.1s,baz=131,slow=35						
WRAB	**Tennant Creek**	**17.46**	**194**	*e*Pn	**P**	**18 23 21.9**	**+3.6**
	66nm,1.9s						
WR1	**Warramunga Arr**	**17.47**	**194**	*e*Pn	**Pn**	**18 23 16.1**	**-1.4**
	37nm,1.5s						
WR1				*e*Sn	**Sn**	**18 26 28.5**	**-2.6**
WRA	**Warramunga Arr**	**17.47**	**194**	P	**Pn**	**18 23 16.1**	**-1.4**
	0.7nm,0.3s,baz=14,slow=11,SNR=20						
WRA				S	**Sn**	**18 26 28.5**	**-2.6**
	0.1nm,0.3s,baz=11,slow=22,SNR=5.2						
FITZ	**Fitzroy Crossi**	**19.89**	**220**	P	**P**	**18 23 41.0**	**-3.9**
	0.0nm,0.3s,baz=359,slow=18,SNR=1.6						
FITZ				S	**S**	**18 27 22.7**	**-4.4**
	0.1nm,0.3s,baz=49,slow=19,SNR=2.5						
FITZ	**Fitzroy Crossi**	**19.89**	**220**	*e*P	**Pn**	**18 23 48.5**	**+1.7**
FITZ				S	**S**	**18 27 22.7**	**-4.4**
AS01	**Alice Springs**	**21.15**	**193**	*e*P	**P**	**18 23 59.3**	**+0.7**
AS31	**Alice Springs**	**21.16**	**193**	*e*P	**P**	**18 23 59.3**	**+0.6**
	3.2nm,0.8s						
ASAR	**Alice Springs**	**21.16**	**193**	P	**P**	**18 23 59.0**	**+0.3**
	1.8nm,0.7s,baz=20,slow=9.9,SNR=34						
ASAR				S	**S**	**18 27 54.3**	**+1.9**
	2.5nm,1.2s,baz=17,slow=26,SNR=3.2						
STKA	**Stephens Creek**	**28.90**	**175**	LR	LR	18 37 43.4	
	comp=Z,128nm,19.4s,baz=23,slow=38						
MK01	**Makanchi Array**	**70.06**	**322**	*e*P	**P**	**18 30 24.6**	**-0.3**
MK31	**Makanchi Array**	**70.07**	**322**	*e*P	**P**	**18 30 24.9**	**-0.1**
MK32	**Makanchi Array**	**70.07**	**322**	*e*P	**P**	**18 30 24.4**	**-0.6**
MKAR	**Makanchi Array**	**70.07**	**322**	P	**P**	**18 30 24.4**	**-0.6**
	0.6nm,0.4s,baz=113,slow=7.4,SNR=12						
MKAR	**Makanchi Array**	**70.07**	**322**	*e*P	**P**	**18 30 24.9**	**-0.1**
	6.4nm,0.8s						
MAKZ	**Makanchi**	**70.27**	**322**	*e*P	**P**	**18 30 25.9**	**-0.3**
	2.8nm,1.2s						
KURK	**Kurchatov**	**74.00**	**325**	*e*P	**P**	**18 30 47.5**	**-0.9**
KURBB	**Kurchatov Arra**	**74.01**	**325**	P	**P**	**18 30 47.5**	**-1.0**
	0.4nm,0.4s,baz=115,slow=5.3,SNR=4.9						
VNDA	**Vanda**	**75.54**	**175**	P	**P**	**18 30 57.9**	**+1.1**
	3.4nm,0.9s,baz=326,slow=7.3,SNR=2.9						
BVAR	**Borovoye Array**	**79.60**	**325**	P	**P**	**18 31 19.2**	**-0.7**
	0.7nm,0.7s,baz=119,slow=7.4,SNR=4.3						
GHCM	**House Creek**	**98.02**	**52**	*e*P	**P**	**18 32 47.4**	**-2.0**
GACM	**Adobe Creek**	**98.27**	**51**	*e*P	Pdif	18 32 53.4	+2.7

IDC 07 18:22:42.9±4.2**, 5°.48S**×**150°.22E, h0**km**, mb3.7**/4**, mb1 4.0**/5**, mb1mx3.6**/43**, mbtmp3.8**/5**, ML2.2**/1**, Error ellipse: s-maj=113.8km s-min=32.7km az=107.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.94**	**218**	Pn	Pn	18 23 58.5	0.0
	6.8nm,0.3s,baz=35,slow=16,SNR=23						
PMG				Sn	Sn	18 24 45.4	-11
	5.7nm,0.3s,baz=129,slow=19,SNR=7.5						
WRA	**Warramunga Arr**	**21.10**	**226**	P	P	18 27 28.7	-0.6
	1.8nm,0.4s,baz=52,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**23.95**	**219**	P	P	18 27 59.6	+0.4
	1.0nm,0.8s,baz=54,slow=9.3,SNR=8.5						
FITZ	**Fitzroy Crossi**	**27.09**	**240**	P	P	18 28 28.0	+0.4
	1.7nm,0.6s,baz=50,slow=7.9,SNR=3.4						
MKAR	**Makanchi Array**	**79.16**	**320**	P	P	18 34 49.4	-0.3
	0.6nm,1.0s,baz=104,slow=4.6,SNR=3.8						

*NIED **07** 18:41:00, 38°.30N×142°.00E, h50km, Mw3.7 Best double couple: M0 3.95000×10^14 NP1:φs311.00000°, δ54.00000°, λ-22.00000°. NP2:φs55.00000°, δ72.00000°, λ-142.00000°.*
*ISCJB **07** 18:41:22.0±0.7, 38°.31N±0°.03×142°.09E±0°.06, h68km±4km, mb4.4/16, Error ellipse: s-maj=8.8km s-min=5.1km az=22.2*
*IDC **07** 18:41:21.7±2.1, 38°.34N×142°.25E, h56km±17km, mb3.7/10, mb1 3.7/15, mb1mx3.4/67, mbtmp3.9/15, ML3.9/4, Error ellipse: s-maj=20.6km s-min=10.8km az=103.0*
*NEIC **07** 18:41:23.8±0.9, 38°.32N×142°.14E, h71km±8km, mb4.7/4, Error ellipse: s-maj=10.2km s-min=7.8km az=102.0*
*JMA **07** 18:41:24.2±0.1, 38°.32N×141°.93E, h63km±1km, M3.8*
JMA Felt I J1.
ISC 07 18:41:22.7±1.3**, 38°.30N**±0°.05×**142°.09E**±0°.09**, h60**km±10km**, n53, σ1s.16**/69**, mb4.2**/16**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.60**	**285**	P	**Pn**	**18 41 36.2**	**+0.5**
JIO				S	**Sn**	**18 41 44.6**	**-0.7**
OFUJ	**Ofunato**	**0.85**	**337**	P	**Pn**	**18 41 39.6**	**+0.9**
OFUJ				S	**Sn**	**18 41 50.9**	**+0.3**
JMK	**Ichinoseki**	**0.94**	**314**	P	**Pn**	**18 41 40.6**	**+0.7**
JMK				S	**Sn**	**18 41 52.5**	**-0.2**
JMM	**Marumori**	**1.11**	**248**	P	**Pn**	**18 41 42.1**	**0.0**
JMM				S	**Sn**	**18 41 55.1**	**-1.5**
JOU	**Okura**	**1.12**	**274**	P	**Pn**	**18 41 42.5**	**+0.2**
JOU				S	**Sn**	**18 41 56.0**	**-1.0**
JOM	**Ohasama**	**1.33**	**332**	P	**Pn**	**18 41 45.9**	**+0.9**
JOM				S	**Sn**	**18 42 02.1**	**+0.3**
JFK	**Kawauchi**	**1.34**	**226**	P	**Pn**	**18 41 45.5**	**+0.3**
JYK	**Kaneyama**	**1.49**	**295**	P	**Pn**	**18 41 47.5**	**+0.3**
JYK				*e*S	**Sn**	**18 42 05.1**	**-0.6**
JRG	**Rokugo**	**1.58**	**314**	P	**Pn**	**18 41 48.9**	**+0.5**
JRG				S	**Sn**	**18 42 08.3**	**+0.5**
JFT	**Otama**	**1.59**	**241**	P	**Pn**	**18 41 49.3**	**+0.7**
JFT				S	**Sn**	**18 42 07.4**	**-0.7**
JYS	**Shirataka**	**1.60**	**268**	P	**Pn**	**18 41 49.0**	**+0.4**
JYS				S	**Sn**	**18 42 07.7**	**-0.6**
JYA	**Atsumi**	**1.89**	**280**	P	**Pn**	**18 41 52.9**	**+0.3**
JYA				S	**Sn**	**18 42 15.2**	**-0.1**
MJAR	**Matsushiro Arr**	**3.55**	**242**	P	**Pn**	**18 42 17.0**	**+1.7**
	2.6nm,0.3s,baz=54,slow=10,SNR=27						
MJAR				S	**Sn**	**18 42 58.5**	**+2.4**
	1.7nm,0.3s,baz=48,slow=11,SNR=4.1						
MAJO	**Matsushiro**	**3.55**	**242**	*e*Pn	**Pn**	**18 42 17.6**	**+2.3**
MAJO				*e*Sn	**Sn**	**18 42 58.5**	**+2.4**
MAT	**Matsushiro**	**3.55**	**242**	P	**Pn**	**18 42 16.7**	**+1.3**
MAT				S	**Sn**	**18 42 57.7**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.56**	**242**	*e*Pn	**Pn**	**18 42 17.6**	**+2.3**
JHJ	**Hachijo jima 2**	**5.50**	**201**	P	**Pn**	**18 42 41.6**	**-0.4**
	22nm,0.3s,baz=332,slow=18,SNR=22						
JHJ				S	**Sn**	**18 43 40.2**	**-3.7**
	32nm,0.3s,baz=34,slow=22,SNR=8.5						
ASAJ	**Asahikawa**	**5.83**	**4**	P	**Pn**	**18 42 46.6**	**+0.3**
	6.4nm,0.3s,baz=209,slow=11,SNR=92						
ASAJ				S	**Sn**	**18 43 48.7**	**-3.1**
	0.6nm,0.3s,baz=194,slow=33,SNR=1.8						
USRK	**Ussuriysk Ar.**	**9.62**	**311**	P	**Pn**	**18 43 38.8**	**+0.5**
	0.4nm,0.3s,baz=120,slow=14,SNR=5.4						
KSRS	**Korea Array**	**11.23**	**270**	P	**Pn**	**18 44 02.2**	**+1.8**
	0.2nm,0.3s,baz=79,slow=14,SNR=3.5						
KSAR	**Wonju Array Be**	**11.27**	**270**	P	**Pn**	**18 44 02.2**	**+1.4**
SONA0	**Songino Array**	**27.55**	**302**	*e*P	**P**	**18 47 02.8**	**-1.1**
SONM	**Songino Array**	**27.55**	**302**	P	**P**	**18 47 02.8**	**-1.1**
	1.0nm,0.6s,baz=103,slow=9.6,SNR=12						
TGY	**Tagaytay City**	**30.53**	**224**	P	**P**	**18 47 29.8**	**-0.6**
	264nm,0.4s,baz=104,slow=19,SNR=2.9						
ZAA1	**Zalesovo Array**	**41.47**	**311**	*e*P	**P**	**18 49 03.7**	**+0.3**
ZALV	**Zalesovo Beam**	**41.47**	**311**	P	**P**	**18 49 03.7**	**+0.3**
	1.5nm,0.4s,baz=85,slow=7.1,SNR=9.6						
MK01	**Makanchi Array**	**43.91**	**301**	*e*P	**P**	**18 49 24.4**	**+1.0**
MK31	**Makanchi Array**	**43.91**	**301**	*e*P	**P**	**18 49 24.6**	**+1.2**
MK32	**Makanchi Array**	**43.91**	**301**	*e*P	**P**	**18 49 23.6**	**+0.3**
MKAR	**Makanchi Array**	**43.91**	**301**	P	**P**	**18 49 23.6**	**+0.3**
	2.0nm,0.7s,baz=85,slow=11,SNR=24						
MKAR	**Makanchi Array**	**43.91**	**301**	*e*P	**P**	**18 49 24.6**	**+1.2**
	15nm,0.8s						
MAKZ	**Makanchi**	**44.12**	**301**	*e*P	**P**	**18 49 25.3**	**+0.3**
	9.4nm,1.8s						
KURK	**Kurchatov**	**45.59**	**307**	*e*P	**P**	**18 49 36.0**	**-0.6**
	13nm,1.8s						
KURBB	**Kurchatov Arra**	**45.66**	**307**	P	**P**	**18 49 37.2**	**+0.1**
	1.2nm,0.3s,baz=82,slow=8.3,SNR=14						
JIRN	**Jiri**	**47.45**	**274**	*e*P	**P**	**18 49 52.4**	**+0.5**
GUN	**Gumba**	**47.58**	**275**	*e*P	**P**	**18 49 53.3**	**+0.4**
PMG	**Port Moresby**	**47.69**	**173**	P	**P**	**18 49 52.6**	**-0.7**
	3.9nm,0.6s,baz=360,slow=15,SNR=2.2						
KKN	**Kakani**	**48.10**	**275**	*e*P	**P**	**18 49 57.2**	**+0.4**
PKI	**Pulchoki**	**48.10**	**275**	*e*P	**P**	**18 49 55.3**	**-1.6**
	3.1nm,0.5s						
PKIN	**Phulchoki**	**48.11**	**275**	*e*P	**P**	**18 49 55.3**	**-1.6**
	3.2nm,0.4s						
KOLN	**Koldanda**	**49.43**	**276**	*e*P	**P**	**18 50 07.0**	**+0.1**
PYUN	**Piuthan**	**49.75**	**277**	*e*P	**P**	**18 50 09.9**	**+0.5**
BVAR	**Borovoye Array**	**50.13**	**312**	P	**P**	**18 50 11.4**	**-0.2**
	0.4nm,0.4s,baz=91,slow=9.2,SNR=3.1						
WR1	**Warramunga Arr**	**58.39**	**189**	*e*P	**P**	**18 51 12.3**	**+0.3**
	24nm,1.7s						
WRA	**Warramunga Arr**	**58.39**	**189**	P	**P**	**18 51 12.3**	**+0.3**
	0.3nm,0.4s,baz=6.2,slow=7.3,SNR=7.6						
GEYT	**Alibeck**	**63.70**	**299**	P	**P**	**18 51 48.3**	**+0.4**
	0.8nm,0.7s,baz=64,slow=3.4,SNR=2.7						
PANH	**Panhandle Gap,**	**67.05**	**48**	*e*P	**P**	**18 52 10.8**	**+1.1**
FIA0	**FINESS Array S**	**67.95**	**332**	*e*P	**P**	**18 52 14.4**	**-0.4**
FINES	**FINESS Array B**	**67.95**	**332**	P	**P**	**18 52 14.4**	**-0.4**
	0.9nm,0.7s,baz=60,slow=8.2,SNR=3.6						
MAC	**Mark West Spri**	**70.89**	**56**	*e*P	**P**	**18 52 32.1**	**-1.3**
AKASG	**Malin Array Be**	**73.63**	**322**	P	**P**	**18 52 49.9**	**+0.5**
	0.2nm,0.4s,baz=48,slow=6.4,SNR=3.2						
IP04	**Greensprings**	**95.46**	**31**	*e*P	**P**	**18 54 39.3**	**-1.5**
	27nm,1.1s						
IP07	**Quail**	**95.63**	**31**	*e*P	**P**	**18 54 42.0**	**+0.4**
	38nm,1.2s						

JMA 07 18:46:42.1±0.2**, 36°.51N**×**141°.42E, h43**km±4km**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.69**	**279**	P	Pn	18 46 55.7	+0.2
JAG	**Ashikaga**	**1.59**	**268**	P	Pn	18 47 08.6	+0.9

*IDC **07** 18:46:44.9±2.8, 36°.44N×141°.87E, h0km, mb3.4/3, mb1 3.4/6, mb1mx3.2/70, mbtmp3.4/6, ML3.2/3, Error ellipse: s-maj=57.1km s-min=28.4km az=65.0*
*ISCJB **07** 18:46:48.0±1.1, 36°.44N±0°.05×141°.6E±0°.1, h26km, mb3.3/3, Error ellipse: s-maj=12.1km s-min=6.7km az=173.7*
*JMA **07** 18:46:49.9±0.2, 36°.48N×141°.44E, h40km±4km, M3.0*
ISC 07 18:46:49.9±1.3**, 36°.48N**±0°.05×**141°.49E**±0°.09**, h26**km**, n14, σ1s.43**/18**, mb3.4**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.75**	**280**	P	**Pb**	**18 47 03.3**	**-1.1**
CHOJ	**Chosi**	**0.93**	**214**	P	**Pb**	**18 47 06.5**	**-0.8**
JFK	**Kawauchi**	**1.01**	**331**	P	**Pn**	**18 47 07.7**	**-0.8**
JFT	**Otama**	**1.39**	**319**	P	**Pn**	**18 47 13.4**	**-0.2**
JFT				*e*S	**Sn**	**18 47 30.2**	**-0.9**
JMM	**Marumori**	**1.49**	**338**	P	**Pn**	**18 47 14.4**	**-0.6**
JAG	**Ashikaga**	**1.64**	**269**	P	**Pn**	**18 47 16.5**	**-0.6**
JFY	**Yanaizu**	**1.70**	**304**	P	**Pn**	**18 47 18.2**	**+0.2**
MJAR	**Matsushiro Arr**	**2.64**	**272**	Pn	**Pn**	**18 47 31.0**	**+0.2**
	2.4nm,0.3s,baz=89,slow=8.7,SNR=19						
MJAR				Sn	**Sb**	**18 48 06.6**	**-2.0**
	2.3nm,0.3s,baz=97,slow=9.4,SNR=4.4						
MAT	**Matsushiro**	**2.65**	**272**	P	**Pn**	**18 47 31.3**	**+0.4**
MAT				*e*S	**Sn**	**18 48 02.8**	**+0.7**
JHJ	**Hachijo jima 2**	**3.63**	**203**	Pn	**Pn**	**18 47 44.9**	**+0.4**
	11nm,0.3s,baz=45,slow=20,SNR=4.0						
JHJ				Sn	**Sn**	**18 48 25.4**	**-1.0**
	16nm,0.3s,baz=61,slow=19,SNR=3.8						
KSRS	**Korea Array**	**10.90**	**279**	Pn	**Pn**	**18 49 28.1**	**+3.9**
	0.1nm,0.3s,baz=96,slow=14,SNR=3.1						
SONM	**Songino Array**	**28.15**	**305**	P	**P**	**18 52 41.6**	**+1.6**
	0.6nm,0.8s,baz=105,slow=9.7,SNR=5.5						
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**18 54 59.7**	**+0.9**
	0.2nm,0.6s,baz=76,slow=9.4,SNR=5.0						
WRA	**Warramunga Arr**	**56.52**	**188**	P	**P**	**18 56 28.6**	**-1.4**
	0.3nm,0.6s,baz=6.5,slow=7.5,SNR=3.4						

*CSEM **07** 18:50:37.6±0.7, 49°.59N×18°.93E, h1km, ML1.0, Error ellipse: s-maj=14.7km s-min=6.0km az=47.0*
*IPEC **07** 18:50:43.3±0.2, 49°.86N×18°.49E, h0km, ML1.0/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
PRU 07 18:50:43.5, 49°.87N×**18°.46E, h0**km**, 2D, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**261**	⇓*i*PG	Pg	18 50 48.1	+0.7
OKC				*e*SG	Sg	18 50 51.0	+0.9
	comp=Z,15nm,0.2s						
OKC	**Ostrava-Krasne**	**0.20**	**261**	Pg	Pg	18 50 48.1	+0.7
MORC	**Moravsky Berou**	**0.60**	**261**	*e*Pg	Pg	18 50 54.9	-0.1
	baz=82						
MORC				*e*Sg	Sg	18 51 02.7	-0.1
VRAC	**Vranov**	**1.34**	**246**	*e*Pg	Pg	18 51 08.5	-0.6
	baz=65						
VRAC				*e*Sg	Sg	18 51 25.8	-0.7
	1.2nm,0.2s,baz=65						
DPC	**Dobruska-Polom**	**1.46**	**290**	*e*PG	Pn	18 51 10.2	-0.9
DPC				*e*SG	Sg	18 51 30.0	-0.3
	comp=Z,3.1nm,0.4s						
KRUC	**Moravsky**	**1.57**	**240**	*e*Pg	Pn	18 51 12.1	-0.5
	baz=59						
KRUC				*e*Sg	Sn	18 51 33.0	-0.7
	1.9nm,0.2s,baz=59						
UPC	**Upice**	**1.70**	**293**	⇓*e*SG	Sb	18 51 37.3	-0.2
KHC	**Kasperske Hory**	**3.27**	**259**	*e*SG	Sg	18 52 27.1	-1.3

*NIED **07** 18:50:00, 36°.10N×139°.90E, h53km, Mw4.2 Best double couple: M0 2.48000×10^15 NP1:φs283.00000°, δ30.00000°, λ156.00000°. NP2:φs34.00000°, δ79.00000°, λ62.00000°.*
*MOS **07** 18:50:55.8±0.9, 35°.98N×139°.82E, h50km, mb4.7/30, Error ellipse: s-maj=9.8km s-min=6.6km az=105.1*
*ISCJB **07** 18:50:56.9±0.3, 36°.02N±0°.03×139°.88E±0°.04, h60km±2km, mb4.4/52, MS3.5/3, Error ellipse: s-maj=5.2km s-min=4.3km az=30.3*
*IDC **07** 18:50:58.0±0.6, 35°.98N×139°.93E, h55km±5km, mb4.0/34, mb1 4.1/38, mb1mx3.9/70, mbtmp4.3/38, MS3.0/7, Ms1 3.0/7, ms1mx2.8/59, Error ellipse: s-maj=8.0km s-min=6.2km az=53.0*
*JMA **07** 18:50:58.3±0.1, 36°.07N×139°.87E, h44km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs43.00000°, δ71.00000°, λ85.00000°. NP2:φs237.00000°, δ20.00000°, λ103.00000°. Principal axes: T Plg64.0000°, Azm306.0000°; N Plg4.0000°, Azm45.0000°; P Plg26.0000°, Azm137.0000°;*
JMA Felt III J1.
*NEIC **07** 18:50:59.0±0.5, 36°.03N×139°.75E, h62km±4km, mb4.7/16 Error ellipse: s-maj=5.3km s-min=4.6km az=133.0*
NEIC Recorded [3 JMA] in Ibaraki, Saitama and Tochigi.
ISC 07 18:50:57.7±0.5**, 35°.97N**±0°.04×**139°.92E**±0°.04**, h54**km±5km**, n132, σ1s.36**/160**, mb4.5**/52**, MS3.4**/3**, 3C-5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.32**	**205**	P	**Pn**	**18 51 08.9**	**+1.6**
JYT	**Yasato**	**0.34**	**41**	⇑P	**Pn**	**18 51 06.9**	**-0.7**
JYT				S	**Sn**	**18 51 13.2**	**-1.5**
JHU	**Hanno**	**0.53**	**257**	⇓P	**Pn**	**18 51 09.0**	**-0.7**
JHU				S	**Sn**	**18 51 16.7**	**-1.6**
JAG	**Ashikaga**	**0.59**	**320**	⇓P	**Pn**	**18 51 09.1**	**-1.2**
JAG				S	**Sn**	**18 51 16.9**	**-2.6**
JRY	**Ryogami san**	**0.83**	**273**	⇓P	**Pn**	**18 51 12.7**	**-0.6**
JRY				S	**Sn**	**18 51 23.2**	**-1.6**
JKT	**Katashina**	**0.96**	**326**	⇓P	**Pn**	**18 51 13.8**	**-1.3**
JKT				S	**Sn**	**18 51 26.0**	**-2.0**
JOD2	**Odawara 2**	**0.98**	**224**	P	**Pn**	**18 51 16.2**	**+0.9**
JOD2				*e*S	**Sn**	**18 51 29.6**	**+1.3**
JYN	**Shimob**	**1.22**	**247**	⇑P	**Pn**	**18 51 19.4**	**+0.9**
JFY	**Yanaizu**	**1.44**	**353**	⇓P	**Pn**	**18 51 21.0**	**-0.5**
MJAR	**Matsushiro Arr**	**1.50**	**293**	P	**Pn**	**18 51 21.8**	**-0.4**
	122nm,0.3s,baz=89,slow=21,SNR=968						
MJAR				S	**Sn**	**18 51 41.1**	**+0.4**
	83nm,0.3s,baz=219,slow=27,SNR=11						
MJAR				LR	LR	18 52 09.1	
	comp=Z,502nm,20.6s,baz=105,slow=49						
MAJO	**Matsushiro**	**1.50**	**293**	*e*Pn	**Pn**	**18 51 21.9**	**-0.3**
MAJO				*e*Sn	**Sn**	**18 51 41.1**	**+0.3**
MAJO	**Matsushiro**	**1.50**	**293**	*e*P	**Pn**	**18 51 22.0**	**-0.3**
MAJO				*e*		18 51 41.1	
MAT	**Matsushiro**	**1.50**	**293**	P	**Pn**	**18 51 20.6**	**-1.7**
MAT				*e*S	**Sn**	**18 51 38.7**	**-2.1**
MJB9	**Matsu-Tunnel**	**1.50**	**293**	*e*Pn	**Pn**	**18 51 22.0**	**-0.3**
INU	**Inuyama**	**2.44**	**256**	*e*Pn	**Pn**	**18 51 36.5**	**+1.3**
JHJ	**Hachijo jima 2**	**2.85**	**182**	P	**Pn**	**18 51 41.7**	**+1.0**
	496nm,0.3s,baz=325,slow=14,SNR=217						
JHJ				S	**Sn**	**18 52 14.7**	**+0.9**
	235nm,0.3s,baz=60,slow=23,SNR=9.8						
JHJ				LR	LR	18 52 59.7	
	comp=Z,283nm,18.6s,baz=26,slow=43						
JHJ2	**Mitsune**	**2.85**	**182**	*e*Pn	**Pn**	**18 51 41.4**	**+0.6**
JNU	**Nakatsue**	**7.98**	**252**	P	**Pn**	**18 52 52.7**	**+1.6**
	0.6nm,0.3s,baz=76,slow=5.3,SNR=6.7						
JNU				LR	LR	18 56 28.5	
	comp=Z,164nm,18.0s,baz=123,slow=41						
JNU	**Nakatsue**	**7.98**	**252**	*e*Pn	**Pn**	**18 52 52.1**	**+1.0**
ASAJ	**Asahikawa**	**8.39**	**13**	P	**Pn**	**18 52 58.0**	**+1.4**
	1.7nm,0.3s,baz=207,slow=16,SNR=21						
ASAJ				S	**Sn**	**18 54 29.7**	**-0.1**
	0.5nm,0.3s,baz=197,slow=11,SNR=2.5						
ASAJ	**Asahikawa**	**8.39**	**13**	*e*Pn	**Pn**	**18 52 57.5**	**+0.9**
ASAJ				S	**Sn**	**18 54 29.7**	**-0.1**
CBIJ	**Chichi jima**	**9.06**	**167**	*e*Pn	**Pn**	**18 53 04.2**	**-1.6**
CBIJ				S	**Sn**	**18 54 41.5**	**-4.8**
JCJ	**Chichijima**	**9.06**	**167**	P	**Pn**	**18 53 04.2**	**-1.6**
	36nm,0.3s,baz=342,slow=20,SNR=17						
JCJ				S	**Sn**	**18 54 41.5**	**-4.8**
	9.0nm,0.3s,baz=288,slow=20,SNR=3.4						
YUK	**Yuzh-Kuril'sk**	**9.25**	**28**	P	**Pn**	**18 53 10.5**	**+2.2**
YUK				pmax	pmax		
	comp=Z,50nm,0.7s						
YUK				pmax	pmax		
	comp=N,100nm,0.8s						
YUK				pmax	pmax		
	comp=E,52nm,0.7s						
SHO	**Shikotan**	**9.50**	**32**	*e*P	**Pn**	**18 53 12.8**	**+1.0**
SHO				pmax	pmax		
	comp=N,13nm,0.8s						
SHO				pmax	pmax		

comp=Z,70nm,0.8s
KSRS Korea Array 9.75 282 P **Pn** 18 53 19.1 +3.9
comp=Z,0.5nm,0.3s,baz=93,slow=14,SNR=8.4
KSRS LR LR 18 56 31.3
comp=Z,162nm,21.4s,baz=48,slow=34
KS15 Wonju Array Si 9.78 282 *e*Pn **Pn** 18 53 13.3 -2.3
KSAR Wonju Array Be 9.78 282 P **Pn** 18 53 19.1 +3.5
KSAR Wonju Array Be 9.78 282 P **Pn** 18 53 19.1 +3.5
USRK Ussuriysk Ar. 10.21 326 P **Pn** 18 53 25.4 +3.9
comp=Z,0.6nm,0.3s,baz=139,slow=14,SNR=11
USRK LR LR 18 56 24.2
comp=Z,79nm,21.6s,baz=188,slow=32
KUR Kuril'sk 11.04 31 *i*P **Pn** 18 53 35.5 +2.7
KUR *i* S **Sn** 18 55 28.0 -6.7
KUR pmax pmax
comp=N,13nm,0.5s
KUR pmax pmax
comp=E,17nm,0.5s
KUR pmax pmax
comp=Z,19nm,0.5s
CN2 Changchun 13.57 310 *e*P **P** 18 54 15.7 +0.9
KLR Kul'dur 14.54 338 P **Pn** 18 54 21.2 +1.0
comp=Z,0.0nm,0.3s,baz=169,slow=16,SNR=5.3
KLR LR LR 19 00 12.4
comp=Z,6.7nm,18.1s,baz=50,slow=38
PETK Petropavlovsk- 21.21 31 P **P** 18 55 39.6 +0.9
comp=Z,2.5nm,0.8s,baz=226,slow=18,SNR=2.4
PEA1 Petropavlovsk- 21.21 31 *e*P **P** 18 55 39.6 +0.9
HHC Hu-ho-hao-te 22.70 291 *e*P **P** 18 55 54.1 -0.8
HHC S **S** 18 59 57.0 -2.4
MA2 Magadan 24.65 13 P **P** 18 56 13.2 +0.2
comp=Z,4.1nm,0.5s,baz=204,slow=8.3,SNR=12
ENH Enshi 26.05 266 *e*P **P** 18 56 24.1 -1.9
comp=Z,6.7nm,0.6s
YAK Yakutsk 26.86 349 P **P** 18 56 31.9 -1.0
comp=Z,8.6nm,0.7s,baz=237,slow=0.7,SNR=7.0
YAK Yakutsk 26.86 349 *e*P **P** 18 56 31.9 -1.0
comp=Z,10nm,0.7s
SONA0 Songino Array 27.41 306 *e*P **P** 18 56 36.9 -1.3
SONA0 ePcP **PcP** 18 59 56.4 +0.6
SONM Songino Array 27.41 306 P **P** 18 56 36.9 -1.3
comp=Z,0.7nm,0.5s,baz=103,slow=8.6,SNR=9.5
SONM PcP **PcP** 18 59 56.4 +0.6
comp=Z,0.2nm,0.6s,baz=95,slow=3.0,SNR=2.4
SONM LR LR 19 06 39.1
comp=Z,93nm,20.4s,baz=12,slow=34
SEY Seymchan 28.07 12 P **P** 18 56 42.5 -1.3
comp=Z,0.3nm,0.3s,baz=190,slow=9.8,SNR=2.2
LSA Lhasa 41.11 276 *e*P **P** 18 58 37.5 +0.5
comp=Z,14nm,1.6s
LSA Lhasa 41.11 276 *e*P **P** 18 58 37.5 +0.5
LSA pmax pmax
comp=Z,14nm,1.6s
ZAA0 Zalesovo Array 41.75 313 *e*P **P** 18 58 40.6 -0.7
comp=Z,9.7nm,0.7s
ZALV Zalesovo Beam 41.75 313 P **P** 18 58 41.0 -0.3
comp=Z,11nm,0.6s,baz=95,slow=6.8,SNR=48
ZALV PcP **PcP** 19 00 36.5 -0.3
comp=Z,1.6nm,0.4s,baz=105,slow=3.1,SNR=6.7
ZAA1 Zalesovo Array 41.75 313 *e*P **P** 18 58 41.0 -0.3
ZAA1 ePcP **PcP** 19 00 36.5 -0.3
NVS Novosibirsk 42.71 315 *e*P **P** 18 58 48.5 -0.6
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,8.0nm,0.6s
NVS pmax pmax
comp=Z,10.0nm,0.6s
MK01 Makanchi Array 43.67 303 *e*P **P** 18 58 56.2 -0.8
MK31 Makanchi Array 43.67 303 *e*P **P** 18 58 56.3 -0.8
MK31 Makanchi Array 43.67 303 *e*P **P** 18 58 56.3 -0.8
MK32 Makanchi Array 43.67 303 *e*P **P** 18 58 56.5 -0.5
MK32 ePcP **PcP** 19 00 43.4 0.0
MKAR Makanchi Array 43.67 303 P **P** 18 58 56.5 -0.5
comp=Z,2.8nm,0.6s,baz=88,slow=9.8,SNR=38
MKAR PcP **PcP** 19 00 43.4 0.0
comp=Z,0.3nm,0.6s,baz=72,slow=4.7,SNR=2.3
MKAR Makanchi Array 43.67 303 *e*P **P** 18 58 56.2 -0.8
comp=Z,18nm,0.6s
MKAR PcP **PcP** 19 00 43.4 0.0
MAKZ Makanchi 43.88 303 *e*P **P** 18 58 58.6 -0.2
comp=Z,8.1nm,1.5s
MAKZ Makanchi 43.88 303 *e*P **P** 18 58 58.6 -0.2
MAKZ pmax pmax
comp=Z,8.0nm,1.5s
TAPN Taplejung 44.82 274 *e*P **P** 18 59 06.3 -0.5
comp=Z,4.6nm,0.4s
KURK Kurchatov 45.65 309 *e*P **P** 18 59 11.9 -0.7
comp=Z,13nm,0.7s
KURK Kurchatov 45.65 309 *e*P **P** 18 59 11.9 -0.7
KURK pmax pmax
comp=Z,13nm,0.7s
KURBB Kurchatov Arra 45.71 309 P **P** 18 59 12.7 -0.5
comp=Z,7.5nm,0.4s,baz=84,slow=8.0,SNR=73
RAMN Ramite 45.88 274 *e*P **P** 18 59 14.7 -0.4
comp=Z,20nm,0.7s
JIRN Jiri 45.92 275 *e*P **P** 18 59 15.4 -0.2
comp=Z,22nm,0.7s
GUN Gumba 46.06 276 *e*P **P** 18 59 16.5 -0.2
comp=Z,8.1nm,0.7s
PDGK Podgornoye 46.21 298 P **P** 18 59 16.9 -0.5
PDGK pmax pmax
comp=Z,10.0nm,0.6s
PKI Pulchoki 46.59 276 *e*P **P** 18 59 20.1 -0.6
PKIN Phulchoki 46.59 276 *e*P **P** 18 59 20.4 -0.3
comp=Z,8.2nm,0.6s
KKN Kakani 46.60 276 *e*P **P** 18 59 20.3 -0.4
DANN Dangsing 47.59 277 *e*P **P** 18 59 29.0 +0.4
comp=Z,4.2nm,1.0s
TARG Taragay, Kyrgy 47.80 297 *e*P **P** 18 59 30.4 +0.3
comp=Z,7.7nm,0.7s
KOLN Koldanda 47.96 277 *e*P **P** 18 59 30.9 -0.4
comp=Z,27nm,1.1s
PYUN Piuthan 48.31 278 *e*P **P** 18 59 33.9 -0.1
comp=Z,70nm,1.1s
KDAK Kodiak Island 48.69 41 P **P** 18 59 37.5 +1.3
comp=Z,3.2nm,0.4s,baz=299,slow=3.1,SNR=14
HNR Honiara 48.95 153 LR LR 19 18 33.2
comp=Z,15nm,21.3s,baz=288,slow=34
AAK Ala-Archa 49.94 299 P **P** 18 59 46.0 -0.2
comp=Z,3.4nm,0.7s,baz=110,slow=4.2,SNR=12
AAK Ala-Archa 49.94 299 *e*P **P** 18 59 46.0 -0.2
AAK *e*P **P** 18 59 46.2 -0.1
OTUK Ortayu 50.08 306 P **P** 18 59 46.5 -0.5
OTUK pmax pmax
comp=Z,20nm,0.8s
BVAR Borovoye Array 50.40 313 P **P** 18 59 48.8 -0.5
comp=Z,2.6nm,0.6s,baz=77,slow=7.8,SNR=12
MDM Murphy Dome 50.45 32 *e*P **P** 18 59 51.0 +1.4
comp=Z,11nm,1.4s
ILAR Eielson Array 51.03 32 P **P** 18 59 54.4 +0.5
comp=Z,1.7nm,0.8s,baz=277,slow=6.8,SNR=12
ILAR pP **pP** 19 00 09.2 +0.7
comp=Z,1.4nm,0.8s,baz=263,slow=6.3,SNR=6.4
ILB Eielson Array 51.03 32 *e*P **P** 18 59 54.9 +1.0
MNAS Manas 51.39 299 P **P** 18 59 57.6 +0.4
MNAS pmax pmax
comp=Z,9.0nm,0.7s
SFK Sufi-Kurgan 51.41 296 P **P** 18 59 57.4 0.0
SFK pmax pmax
comp=Z,7.0nm,0.8s
FITZ Fitzroy Crossi 55.45 197 P **P** 19 00 27.3 +0.5
comp=Z,2.3nm,0.6s,baz=335,slow=1.8,SNR=5.9
WR1 Warramunga Arr 55.86 186 *e*P **P** 19 00 29.9 +0.2
WR1 *ep*P **pP** 19 00 43.8 -0.7
WRA Warramunga Arr 55.86 186 P **P** 19 00 30.0 +0.2
comp=Z,2.0nm,0.5s,baz=1.2,slow=7.5,SNR=51
WRA pP **pP** 19 00 43.8 -0.7
comp=Z,1.5nm,0.4s,baz=2.1,slow=7.5,SNR=6.5
INK Inuvik 55.88 27 P **P** 19 00 30.5 +1.2
comp=Z,2.0nm,0.7s,baz=276,slow=4.8,SNR=7.7
INK pP **pP** 19 00 43.4 -0.6
comp=Z,1.3nm,0.7s,baz=263,slow=7.5,SNR=2.7
ARU Arti 56.36 319 *e*P **P** 19 00 32.1 -0.9
comp=Z,6.6nm,0.5s
ARU Arti 56.36 319 *e*P **P** 19 00 32.1 -0.9
ARU pmax pmax
comp=Z,7.0nm,0.5s
KBL Kabul 56.67 291 *e*P **P** 19 00 35.0 -0.8
comp=Z,4.4nm,0.6s
KBL Kabul 56.67 291 *e*P **P** 19 00 35.0 -0.8
KBL pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 57.70 310 *e*P **P** 19 00 42.0 -0.5
comp=Z,43nm,0.4s
AKTO Aktyubinsk 58.49 312 P **P** 19 00 47.9 -0.2
comp=Z,1.7nm,0.4s,baz=78,slow=12,SNR=14
AS31 Alice Springs 59.59 186 *e*P **P** 19 00 56.9 +1.0
comp=Z,1.2nm,0.5s
ASAR Alice Springs 59.59 186 P **P** 19 00 56.9 +1.0
comp=Z,0.6nm,0.5s,baz=17,slow=10,SNR=14
PALK Pallekele 60.96 257 P **P** 19 01 05.6 0.0
comp=Z,5.3nm,0.9s,baz=106,slow=5.3,SNR=3.5
SPITS Spitsbergen Ar 61.33 349 P **P** 19 01 07.0 -0.1
comp=Z,5.2nm,0.9s,baz=0.0,slow=3.5,SNR=6.4
SPITS LR LR 19 30 32.9
comp=Z,158nm,18.2s,baz=180,slow=39
GEYT Alibeck 63.29 299 P **P** 19 01 20.9 -0.1
comp=Z,2.2nm,0.8s,baz=20,slow=4.7,SNR=7.3
ARA0 ARCESS Array S 64.56 339 *e*P **P** 19 01 28.6 -0.1
ARCES ARCESS Array B 64.56 339 P **P** 19 01 28.6 0.0
comp=Z,2.8nm,0.8s,baz=53,slow=7.5,SNR=9.9
ARCES ARCESS Array B 64.56 339 P **P** 19 01 28.7 0.0
ARCES pmax pmax
comp=Z,5.0nm,1.0s
FIA0 FINESS Array S 69.19 332 *e*P **P** 19 01 57.9 -0.3
FIA0 FINESS Array S 69.19 332 *e*P **P** 19 01 57.9 -0.3
FINES FINESS Array B 69.19 332 P **P** 19 01 57.9 -0.3
comp=Z,4.2nm,0.7s,baz=63,slow=6.2,SNR=11
WSAR Wadi Sarin 69.97 285 P **P** 19 02 03.8 +0.1
comp=Z,6.7nm,1.0s,baz=68,slow=4.6,SNR=2.3
WPW White Pass 70.04 46 *e*P **P** 19 02 07.4 +3.5
KBZ Khabaz 70.67 310 P **P** 19 02 08.3 +0.7
comp=Z,3.4nm,0.9s,baz=72,slow=3.2,SNR=6.1
AKASG Malin Array Be 74.39 322 P **P** 19 02 28.8 -0.8
comp=Z,1.2nm,0.4s,baz=48,slow=6.3,SNR=18
AKASG pP **PcP** 19 02 43.7 -0.4
comp=Z,1.4nm,0.6s,baz=48,slow=6.3,SNR=3.2
AKBB Malin Array Si 74.39 322 *e*P **P** 19 02 28.8 -0.8
comp=Z,30nm,2.0s
AKBB Malin Array Si 74.39 322 *e*P **P** 19 02 28.8 -0.8
AKBB pmax pmax
comp=Z,31nm,2.0s
AK11 Malin Array Si 74.44 322 *e*P **P** 19 02 28.9 -0.9
BEKR Beckworth 74.46 52 *e*P **P** 19 02 30.5 +0.1
comp=Z,16nm,0.9s
HFS Hagfors 74.55 335 P **P** 19 02 30.5 +0.2
comp=Z,0.8nm,0.4s,baz=46,slow=6.2,SNR=6.4
NB200 NORSAR Array S 74.69 337 *e*P **P** 19 02 31.1 -0.1
NOA NORSAR Array B 74.69 337 P **P** 19 02 31.1 -0.1
comp=Z,1.3nm,0.5s,baz=55,slow=7.9,SNR=5.3
NV01 Mina Array Sit 76.59 52 *e*P **P** 19 02 44.1 +1.4
NVAR Mina Array Bea 76.59 52 P **P** 19 02 44.9 +2.1
comp=Z,0.5nm,0.3s,baz=282,slow=7.4,SNR=4.9
BR101 Keskin Array S 78.64 311 *e*P **P** 19 02 53.9 -0.2
BRTR Keskin Array B 78.65 311 P **P** 19 02 53.9 -0.2
comp=Z,0.4nm,0.4s,baz=136,slow=3.3,SNR=5.3
STHS Stebnicka Huta 79.12 324 *e*P **P** 19 02 57.2 +0.8
STHS Stebnicka Huta 79.12 324 *e*P **P** 19 02 57.2 +0.8
PDAR Pinedale Array 79.27 45 P **P** 19 02 58.6 +1.1
comp=Z,0.4nm,0.6s,baz=52,slow=2.4,SNR=4.6
GERES GERESS Array B 82.97 328 P **P** 19 03 16.7 -0.2
comp=Z,0.4nm,0.5s,baz=54,slow=6.8,SNR=3.7
EKA Eskdalemuir Ar 83.72 340 P **P** 19 03 20.2 -0.3
comp=Z,0.6nm,0.5s,baz=31,slow=8.3,SNR=2.6
IDI Anoyia 86.81 312 P **P** 19 03 36.3 -0.1
comp=Z,2.2nm,0.7s,baz=38,slow=12,SNR=2.4
IDI Anoyia 86.81 312 *e*P **P** 19 03 35.6 -0.8
comp=Z,17nm,1.6s
LTX Lajitas 91.72 51 *e*P **P** 19 04 01.1 +1.4
LTX Lajitas 91.72 51 *e*P **P** 19 04 01.1 +1.4
TXAR Lajitas Array 91.72 51 P **P** 19 04 01.1 +1.4
comp=Z,0.6nm,0.6s,baz=305,slow=3.4,SNR=6.0
TOA1 Torodi Ar. Sit 117.20 313 *e*PKPdf **PKPdf** 19 09 37.3 -0.1
TORD Torodi Ar. Bea 117.20 313 PKP **PKPdf** 19 09 37.3 -0.1
comp=Z,0.4nm,0.7s,baz=324,slow=2.2,SNR=2.6
KOWA Kowa 119.32 319 PKP **PKPdf** 19 09 41.5 0.0
comp=Z,0.7nm,0.4s,baz=14,slow=3.1,SNR=2.8

*BEO **07** 18:52:04.0±1.3, 43.°36N×17.°81E, h1km±4km, M1.7/5*
CSEM 07 18:51:59.9±0.4, 43.°19N×17.°94E, h2km, ML1.9,1C, Error ellipse: s-maj=8.8km s-min=7.0km az=93.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.36**	**208**	*i* Pg	Pg	18 52 05.1	-1.8
STON				Sg	Sg	18 52 11.0	-0.6
STON	**Ston**	**0.36**	**208**	*i* Pg	Pg	18 52 05.0	-1.9
STON				Sg	Sg	18 52 10.9	-0.7
TREB	**Trebinje**	**0.56**	**147**	*e*Pg	Pg	18 52 11.0	+0.3
TREB				*e*Sg	Sb	18 52 20.8	-0.2
HCY	**Herceg Novi**	**0.85**	**151**	*i*Pg	Pg	18 52 16.1	-0.1
HCY				*e*Sg	Sb	18 52 29.8	+0.6
HAPS	**Han Pijesak,Bl**	**1.16**	**39**	*e*Pg	Pn	18 52 23.8	+0.5
HAPS				*e*Sg	Sb	18 52 37.7	-0.5
HAPS	**Han Pijesak,Bl**	**1.16**	**39**	*e*Pg	Pg	18 52 21.0	-1.1
HAPS				*e*Sg	Sg	18 52 37.4	+0.3
HAPS	**Han Pijesak,Bl**	**1.16**	**39**	*e*Pg	Pn	18 52 23.8	+0.5
BBLS	**Lazići**	**1.26**	**57**	*e*Pg	Pn	18 52 26.7	+2.0
BBLS	**Lazići**	**1.26**	**57**	*e*Pg	Pg	18 52 22.1	-1.2
BBLS				*e*Sg	Sb	18 52 41.6	+0.4
BBLS	**Lazići**	**1.26**	**57**	*e*Pg	Pn	18 52 26.7	+2.0
DRME	**Dracevica, Mon**	**1.36**	**137**	*e*Pg	Pn	18 52 25.4	-0.5
DRME				*e*Sg	Sn	18 52 46.4	+1.8
IVAS	**Ivanjica**	**1.66**	**76**	*e*Sn	Sg	18 52 56.6	+3.3
DIVS	**Divibare**	**1.75**	**58**	*e*Pn	Pg	18 52 35.9	+2.5
DIVS				*e*Sn	Sg	18 52 58.5	+2.5
DIVS	**Divibare**	**1.75**	**58**	*e*Pn	Pn	18 52 30.0	-1.3
DIVS				*e*Sn	Sn	18 52 54.3	+0.1
TEKS	**Tekeris**	**1.78**	**40**	*e*Pn	Pg	18 52 34.1	+0.1
TEKS				*e*Sn	Sg	18 52 58.5	+1.4
TEKS	**Tekeris**	**1.78**	**40**	*e*Pn	Pg	18 52 34.1	+0.1
TEKS				*e*Sn	Sg	18 52 58.5	+1.4
UDBI	**Udbina**	**2.06**	**311**	*e*Pn	Pb	18 52 37.0	-1.1
UDBI				Sn	Sb	18 53 03.6	-0.6
UDBI	**Udbina**	**2.06**	**311**	*e*Pn	Pb	18 52 36.9	-1.2
UDBI	**Udbina**	**2.06**	**311**	Sn	Sb	18 53 03.5	-0.7
NVLJ	**Novalja**	**2.60**	**303**	*e*Pn	Pn	18 52 43.4	+0.4
NVLJ				Sn	Sn	18 53 16.8	+1.6
NVLJ	**Novalja**	**2.60**	**303**	*e*Pn	Pn	18 52 43.3	+0.3
NVLJ				Sn	Sn	18 53 16.7	+1.5

*NSSC **07** 19:03:36.6±1.0, 33.°03N×35.°50E, h4km±18km, ML2.4*
*ISCJB **07** 19:03:37.9±0.5, 33.°32N±0.°02×35.°41E±0.°04, h2km±4km, Error ellipse: s-maj=5.6km s-min=2.6km az=28.4*
*CSEM **07** 19:03:38.2±0.1, 33.°32N×35.°43E, h2km, MD2.6, Error ellipse: s-maj=6.0km s-min=1.7km az=111.0*
*GII **07** 19:03:38.3±0.0, 33.°21N×35.°43E, h1km, MD2.6/7*
*GRAL **07** 19:03:39.0±0.7, 33.°31N×35.°41E, h0km±7km, MD3.1*
ISC 07 19:03:38.7±1.0, 33.°30N±0.°02×35.°44E±0.°03, h8km±9km, n37,σ1°33/63, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDI	**Kefar Szold**	**0.21**	**121**	Pg	**Pg**	**19 03 43.2**	**+0.2**
KSDI				Sg	**Sg**	**19 03 47.4**	**+1.5**
SHBL	**Chebaa**	**0.26**	**80**	*e*P	**Pg**	**19 03 43.8**	**0.0**
SHBL	**Chebaa**	**0.26**	**80**	*e*P	**Pg**	**19 03 43.8**	**0.0**
MMA0B	**Mount Meron ar**	**0.29**	**186**	Pg	**Pg**	**19 03 44.1**	**-0.3**
MMA0B				Sg	**Sg**	**19 03 48.7**	**+0.5**
HNTI	**Hanita**	**0.31**	**226**	Pg	**Pg**	**19 03 44.5**	**-0.3**
HNTI				Sg	**Sg**	**19 03 49.5**	**+0.5**
HNTI	**Hanita**	**0.31**	**226**	Pg	**Pg**	**19 03 44.5**	**-0.3**
HNTI				Sg	**Sg**	**19 03 49.5**	**+0.5**
QRWL	**Qaraoun**	**0.32**	**40**	*e*P	**Pg**	**19 03 44.9**	**-0.1**
QRWL	**Qaraoun**	**0.32**	**40**	*e*P	**Pg**	**19 03 44.9**	**-0.1**
RCY	**Rachaya**	**0.38**	**60**	*e*P	**Pg**	**19 03 46.1**	**-0.1**
DQRL	**Deir Qamar**	**0.42**	**15**	*e*P	**Pg**	**19 03 46.2**	**-0.6**
DQRL				*e*S	**Sg**	**19 03 51.8**	**-0.5**
DQRL	**Deir Qamar**	**0.42**	**15**	*e*P	**Pg**	**19 03 46.2**	**-0.6**
DQRL				*e*S	**Sg**	**19 03 51.8**	**-0.5**
BRBR	**Barbar**	**0.44**	**76**	*e*P	**Pg**	**19 03 47.2**	**0.0**
BRBR				*e*S	**Sg**	**19 03 54.5**	**+1.4**
BRBR				AML	AML	19 03 56.3	
	comp=N,538nm,0.7s						
BRBR				AML	AML	19 03 58.8	
	comp=E,321nm,0.4s						
BLGI	**Bet Lehem HaGe**	**0.60**	**200**	Pg	**Pg**	**19 03 50.0**	**-0.3**
BLGI				Sg	**Sg**	**19 03 58.4**	**+0.2**
BLGI	**Bet Lehem HaGe**	**0.60**	**200**	Pg	**Pg**	**19 03 50.0**	**-0.3**
BLGI				Sg	**Sg**	**19 03 58.4**	**+0.2**
BHL	**Bhannes**	**0.63**	**17**	*e*P	**Pg**	**19 03 50.1**	**-0.7**
BHL				*e*S	**Sg**	**19 03 58.3**	**-0.7**
BHL	**Bhannes**	**0.63**	**17**	*e*P	**Pg**	**19 03 50.1**	**-0.7**
BHL				*e*S	**Sg**	**19 03 58.3**	**-0.7**
QASN	**Qassioun**	**0.74**	**72**	*e*P	**Pg**	**19 03 53.2**	**+0.4**
QASN				*e*S	**Sg**	**19 04 03.5**	**+1.0**
QASN				AML	AML	19 04 06.2	
	comp=N,690nm,0.5s						
QASN				AML	AML	19 04 08.5	
	comp=E,134nm,0.5s						
TCHB	**Talchebab**	**0.77**	**145**	*e*P	Pg	19 03 46.4	-7.1
TCHB				*e*S	**Sg**	**19 03 54.7**	**-8.9**
TCHB				AML	AML	19 04 04.9	
	comp=N,274nm,0.3s						
TCHB				AML	AML	19 04 05.3	
	comp=E,145nm,0.5s						
OFRI	**'Ofer**	**0.78**	**209**	Pg	**Pg**	**19 03 53.2**	**-0.5**
OFRI				Sg	**Sb**	**19 04 04.6**	**-0.7**
TOTH	**TOTAH**	**0.83**	**86**	*e*P	**Pg**	**19 03 54.0**	**-0.6**
TOTH				*e*S	**Sg**	**19 04 04.8**	**-0.6**
TOTH				AML	AML	19 04 13.2	
	comp=N,70nm,0.8s						
TOTH				AML	AML	19 04 14.3	
	comp=E,45nm,0.2s						
MMLI	**Mount Malkishu**	**0.86**	**181**	Pg	**Pg**	**19 03 54.7**	**-0.5**
MMLI				Sg	**Sg**	**19 04 06.4**	**-0.1**
HMDT	**Nahal Hemdat**	**1.05**	**176**	Pg	**Pg**	**19 03 57.9**	**-0.9**
HMDT				Sg	**Sg**	**19 04 12.5**	**+0.1**
HMDT	**Nahal Hemdat**	**1.05**	**176**	Pg	**Pg**	**19 03 57.9**	**-0.9**
HMDT				Sg	**Sg**	**19 04 12.5**	**+0.1**
HWQ	**Hawqa**	**1.06**	**23**	*e*P	**Pg**	**19 03 57.8**	**-1.2**
HWQ				*e*S	**Sg**	**19 04 12.3**	**-0.6**
HWQ	**Hawqa**	**1.06**	**23**	*e*P	**Pg**	**19 03 57.8**	**-1.2**
SLTI	**Sal'it**	**1.11**	**198**	Pg	**Pg**	**19 03 58.9**	**-1.1**
SLTI				Sg	**Sb**	**19 04 14.7**	**-0.1**
SLTI	**Sal'it**	**1.11**	**198**	Pg	**Pg**	**19 03 58.9**	**-1.1**
SLTI				Sg	**Sb**	**19 04 14.7**	**-0.1**
DSI	**Dead Sea**	**1.73**	**182**	Pn	**Pn**	**19 04 09.0**	**-0.1**
DSI				Sn	**Sb**	**19 04 32.8**	**+0.2**
DSI	**Dead Sea**	**1.73**	**182**	Pn	**Pn**	**19 04 09.0**	**-0.1**
DSI				Sn	**Sb**	**19 04 32.8**	**+0.2**
AMAZ	**Amatzia**	**1.82**	**194**	Pn	**Pn**	**19 04 10.9**	**+0.6**
AMAZ				Sn	**Sb**	**19 04 35.7**	**+0.5**
AMAZ	**Amatzia**	**1.82**	**194**	Pn	**Pn**	**19 04 10.9**	**+0.6**
AMAZ				Sn	**Sb**	**19 04 35.7**	**+0.5**
YTIR	**Yattir**	**1.95**	**188**	Pn	**Pn**	**19 04 13.1**	**+0.9**
YTIR	**Yattir**	**1.95**	**188**	Pn	**Pn**	**19 04 13.1**	**+0.9**
MZDA	**Masada**	**1.99**	**182**	Pn	**Pn**	**19 04 13.2**	**+0.6**
MZDA				Sn	**Sn**	**19 04 38.9**	**+1.2**
MZDA	**Masada**	**1.99**	**182**	Pn	**Pn**	**19 04 13.2**	**+0.6**
MZDA				Sn	**Sn**	**19 04 38.9**	**+1.2**
PRNI	**Paran**	**2.97**	**187**	Pn	**Pn**	**19 04 26.1**	**0.0**
PRNI	**Paran**	**2.97**	**187**	Pn	**Pn**	**19 04 26.1**	**0.0**

*ISK **07** 19:33:33.8, 35.°96N×28.°71E, h21km, ML3.3/15*
*ISCJB **07** 19:33:33.5±0.2, 35.°86N±0.°02×28.°76E±0.°02, h66km±5km, mb3.2/3, Error ellipse: s-maj=3.6km s-min=2.7km az=173.9*
*IDC **07** 19:33:35.0±1.4, 36.°06N×28.°63E, h54km±19km, mb3.1/3, mb1 3.5/8, mb1mx3.2/57, mbtmp3.5/8, ML3.2/5, Error ellipse: s-maj=24.0km s-min=9.3km az=160.0*
*ATH **07** 19:33:34.1, 35.°95N×28.°73E, h64km±4km, ML3.0/7, Error ellipse: s-maj=5.1km s-min=1.2km az=1.0*
*DDA **07** 19:33:34.6, 36.°03N×28.°68E, h41km, Ml3.4*
*CSEM **07** 19:33:35.7±0.1, 35.°94N×28.°73E, h40km, ML3.0, Error ellipse: s-maj=3.9km s-min=2.2km az=161.0*
*THE **07** 19:33:35.8, 35.°97N×28.°76E, h53km±6km, ML3.1/5, Error ellipse: s-maj=6.4km s-min=1.1km az=42.0*
*HLW **07** 19:33:53.1, 34.°21N×28.°73E, h34km±25km, Md3.6, Ml3.2*
ISC 07 19:33:34.4±0.9, 35.°91N±0.°03×28.°76E±0.°02, h52km±9km, n138,σ1°38/202, mb3.3/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.60**	**301**	P	**Pn**	**19 33 48.0**	**+1.0**
ARG				S	**Sn**	**19 33 57.4**	**+1.2**
ARG				AML	AML	19 33 59.6	
	comp=N,1806μm,0.2s						
ARG				AML	AML	19 34 00.3	
	comp=E,2805μm,0.3s						
ARG	**Arkhangelos** baz=121	**0.60**	**301**	P	**Pn**	**19 33 47.0**	**0.0**
ARG				S	**Sn**	**19 33 57.0**	**+0.8**
ARG	**Arkhangelos**	**0.60**	**301**	P	**Pn**	**19 33 47.0**	**0.0**
ARG				S	**Sn**	**19 33 57.0**	**+0.8**
ARG	**Arkhangelos**	**0.60**	**301**	P	**Pn**	**19 33 47.7**	**+0.7**
ARG				S	**Sn**	**19 33 57.2**	**+1.0**
KSL	**Kastellorizon**	**0.71**	**70**	P	**Pn**	**19 33 49.6**	**+1.3**
KSL				S	**Sn**	**19 34 00.2**	**+1.8**
KSL				AML	AML	19 34 00.8	
	comp=E,2516μm,0.3s						
KSL				AML	AML	19 34 01.0	
	comp=N,1374μm,0.2s						
KSL	**Kastellorizon**	**0.71**	**70**	P	**Pn**	**19 33 49.6**	**+1.3**
KSL				S	**Sn**	**19 33 59.3**	**+0.8**
AKAS	**Kas**	**0.76**	**64**	PG	**Pn**	**19 33 49.3**	**+0.2**
AKAS				SG	**Sn**	**19 34 00.5**	**+0.7**
AKAS	**Kas**	**0.76**	**64**	*i* P	**Pn**	**19 33 49.3**	**+0.2**
AKAS				*i* S	**Sn**	**19 34 00.4**	**+0.7**
AKAS	**Kas**	**0.76**	**64**	P	**Pn**	**19 33 49.3**	**+0.2**
AKAS				*e*Sg	**Sn**	**19 34 00.5**	**+0.7**
FETY	**Fethiye**	**0.77**	**20**	PG	**Pn**	**19 33 48.7**	**-0.5**
FETY				SG	**Sn**	**19 33 59.5**	**-0.5**
FETY	**Fethiye**	**0.77**	**20**	*e*Pg	**Pn**	**19 33 48.7**	**-0.5**
FETY				*e*Sg	**Sn**	**19 33 59.5**	**-0.5**
FETY	**Fethiye**	**0.77**	**20**	P	**Pn**	**19 33 48.6**	**-0.6**
FETY				S	**Sn**	**19 33 58.9**	**-1.1**
TURN	**Turunc**	**0.97**	**352**	PG	**Pn**	**19 33 51.7**	**-0.1**
TURN				SG	**Sn**	**19 34 04.7**	**+0.1**
TURN	**Turunc**	**0.97**	**352**	*i* P	**Pn**	**19 33 52.8**	**+1.0**
TURN				*i* S	**Sn**	**19 34 05.6**	**+1.0**
TURN	**Turunc**	**0.97**	**352**	*e*Pg	**Pn**	**19 33 51.7**	**-0.1**
TURN	**Turunc**	**0.97**	**352**	P	**Pn**	**19 33 52.8**	**+1.0**
TURN				*e*Sg	**Sn**	**19 34 04.7**	**+0.1**
TURN				S	**Sn**	**19 34 05.6**	**+1.0**
ELL	**Elmali**	**1.25**	**47**	PN	**Pn**	**19 33 56.6**	**+0.9**
ELL				SN	**Sn**	**19 34 13.1**	**+1.6**
ELL	**Elmali**	**1.25**	**47**	*e*Pn	**Pn**	**19 33 56.6**	**+0.9**
ELL				*e*Sn	**Sn**	**19 34 13.1**	**+1.6**
YER	**Yerkesik**	**1.28**	**343**	PN	**Pn**	**19 33 56.4**	**+0.3**
YER				SN	**Sn**	**19 34 12.6**	**+0.3**
YER	**Yerkesik**	**1.28**	**343**	*e*Pn	**Pn**	**19 33 56.4**	**+0.3**
YER	**Yerkesik**	**1.28**	**343**	P	**Pn**	**19 33 57.5**	**+1.4**
YER				S	**Sn**	**19 34 12.5**	**+0.3**
YER	**Yerkesik**	**1.28**	**343**	P	**Pn**	**19 33 57.5**	**+1.4**
YER				S	**Sn**	**19 34 12.5**	**+0.3**
KARP	**Karpathos**	**1.35**	**255**	PN	**Pn**	**19 33 57.9**	**+1.0**
KARP	**Karpathos**	**1.35**	**255**	P	**Pn**	**19 33 58.5**	**+1.5**
KARP				S	**Sn**	**19 34 14.4**	**+0.5**
KARP				AML	AML

YKAV	**Yalikavak-Bodr**	**1.70**	**316**	*e*Pn		**Pn**	**19 34 02.2**	**+0.5**
ANTB	**Antalya**	**1.82**	**56**	PN		**Pn**	**19 34 04.8**	**+1.5**
ANTB	**Antalya**	**1.82**	**56**	*e*Pn		**Pn**	**19 34 04.8**	**+1.5**
DENT	**Denizli**	**1.85**	**7**	PN		**Pn**	**19 34 04.6**	**+0.7**
DENT	**Denizli**	**1.85**	**7**	*e*Pn		**Pn**	**19 34 04.6**	**+0.7**
AYDN	**Tasoluk**	**1.89**	**338**	*i* P		**Pn**	**19 34 06.0**	**+1.7**
AYDN				*i* S		**Sn**	**19 34 27.1**	**+0.1**
AYDN	**Tasoluk**	**1.89**	**338**	P		**Pn**	**19 34 06.0**	**+1.7**
AYDN				S		**Sn**	**19 34 27.1**	**+0.1**
BRDR	**BURDUR-Merkez**	**2.07**	**30**	*i* P		**Pn**	**19 34 08.5**	**+1.7**
BRDR				*i* S		**Sn**	**19 34 33.1**	**+1.7**
BRDR	**BURDUR-Merkez**	**2.07**	**30**	P		**Pn**	**19 34 08.5**	**+1.7**
BRDR				S		**Sn**	**19 34 33.1**	**+1.7**
BCK	**Bucak**	**2.13**	**43**	PN		**Pn**	**19 34 09.2**	**+1.5**
BCK	**Bucak**	**2.13**	**43**	*e*Pn		**Pn**	**19 34 09.2**	**+1.5**
GCAM	**G?zelcaml?**	**2.17**	**326**	PN		**Pn**	**19 34 08.6**	**+0.5**
GCAM	**G?zelcaml?**	**2.17**	**326**	*i* P		**Pn**	**19 34 08.4**	**+0.3**
GCAM				*i* S		**Sn**	**19 34 33.7**	**-0.1**
GCAM	**G?zelcaml?**	**2.17**	**326**	*e*Pn		**Pn**	**19 34 08.6**	**+0.5**
GCAM				S		**Sn**	**19 34 33.7**	**-0.1**
ZKR	**Zakros**	**2.22**	**250**	P		**Pn**	**19 34 10.4**	**+1.5**
ZKR				S		**Sn**	**19 34 35.8**	**+0.7**
ZKR				AML	AML		19 34 38.4	
	comp=E,368µm,0.4s							
ZKR				AML	AML		19 34 39.8	
	comp=N,235µm,0.4s							
ZKR	**Zakros**	**2.22**	**250**	P		**Pn**	**19 34 10.0**	**+1.2**
	baz=69							
ZKR				S		**Sn**	**19 34 36.0**	**+0.9**
ZKR	**Zakros**	**2.22**	**250**	P		**Pn**	**19 34 10.0**	**+1.2**
ZKR				S		**Sn**	**19 34 36.0**	**+0.9**
ZKR	**Zakros**	**2.22**	**250**	P		**Pn**	**19 34 10.2**	**+1.4**
ZKR				S		**Sn**	**19 34 35.4**	**+0.3**
ISP	**Isparta**	**2.38**	**36**	PN		**Pn**	**19 34 12.5**	**+1.5**
ISP	**Isparta**	**2.38**	**36**	*e*Pn		**Pn**	**19 34 12.5**	**+1.5**
SUTC	**Sutluce-Ispart**	**2.38**	**48**	PN		**Pn**	**19 34 12.7**	**+1.5**
SUTC	**Sutluce-Ispart**	**2.38**	**48**	*e*Pn		**Pn**	**19 34 12.7**	**+1.5**
KEPZ	**Antalya-Kepez**	**2.50**	**66**	*i* P		**Pn**	**19 34 14.7**	**+2.1**
KEPZ				*i* S		**Sn**	**19 34 43.8**	**+1.9**
KEPZ	**Antalya-Kepez**	**2.50**	**66**	P		**Pn**	**19 34 14.7**	**+2.1**
KEPZ				S		**Sn**	**19 34 43.8**	**+1.9**
KHAL	**Karahalli**	**2.53**	**13**	*i* P		**Pn**	**19 34 13.4**	**+0.3**
KHAL				*i* S		**Sn**	**19 34 41.5**	**-1.2**
KHAL	**Karahalli**	**2.53**	**13**	P		**Pn**	**19 34 13.4**	**+0.3**
KHAL				S		**Sn**	**19 34 41.5**	**-1.2**
KZIL	**AFYON_Kizioren**	**2.59**	**25**	*i* P		**Pn**	**19 34 14.8**	**+0.8**
KZIL	**AFYON_Kizioren**	**2.59**	**25**	P		**Pn**	**19 34 14.8**	**+0.8**
KULA	**Kula-Manisa**	**2.60**	**358**	PN		**Pn**	**19 34 14.6**	**+0.5**
KULA	**Kula-Manisa**	**2.60**	**358**	*e*Pn		**Pn**	**19 34 14.6**	**+0.5**
DGB	**˜zmir**	**2.62**	**325**	*i* P		**Pn**	**19 34 14.3**	**+0.1**
DGB				*i* S		**Sn**	**19 34 43.6**	**-1.1**
BAGO	**Egridir - ISPA**	**2.64**	**37**	*i* P		**Pn**	**19 34 15.8**	**+1.2**
BAGO				*i* S		**Sn**	**19 34 47.3**	**+1.9**
NPS	**Neapolis**	**2.65**	**257**	P		**Pn**	**19 34 15.4**	**+0.8**
NPS				AML	AML		19 34 46.4	
	comp=E,518µm,0.3s							
NPS				AML	AML		19 34 46.5	
	comp=N,446µm,0.3s							
NPS	**Neapolis**	**2.65**	**257**	P		**Pn**	**19 34 15.7**	**+1.0**
NPS				S		**Sn**	**19 34 45.4**	**-0.2**
NPS	**Neapolis**	**2.65**	**257**	P		**Pn**	**19 34 15.6**	**+0.9**
NPS				S		**Sn**	**19 34 45.4**	**-0.2**
THT1	**Athinios (Pele**	**2.74**	**281**	P		**Pn**	**19 34 15.6**	**-0.3**
THT1	**Athinios (Pele**	**2.74**	**281**	P		**Pn**	**19 34 16.3**	**+0.4**
THT1	**Athinios (Pele**	**2.74**	**281**	P		**Pn**	**19 34 16.3**	**+0.4**
THR2	**Thira island,**	**2.75**	**282**	P		**Pn**	**19 34 16.6**	**+0.7**
THR2	**Thira island,**	**2.75**	**282**	P		**Pn**	**19 34 16.8**	**+0.8**
THR6	**Thira Island,**	**2.76**	**280**	P		**Pn**	**19 34 16.7**	**+0.5**
THR6	**Thira Island,**	**2.76**	**280**	P		**Pn**	**19 34 17.0**	**+0.8**
THR6	**Thira Island,**	**2.76**	**280**	P		**Pn**	**19 34 17.0**	**+0.8**
THR3	**Thira Island,**	**2.77**	**281**	P		**Pn**	**19 34 16.8**	**+0.6**
THR3	**Thira Island,**	**2.77**	**281**	P		**Pn**	**19 34 17.1**	**+0.8**
THR3	**Thira Island,**	**2.77**	**281**	P		**Pn**	**19 34 17.1**	**+0.8**
LAST	**Lasithi**	**2.78**	**255**	P		**Pn**	**19 34 17.9**	**+1.3**
LAST				AML	AML		19 34 49.5	
	comp=E,97µm,0.3s							
LAST				AML	AML		19 34 52.0	
	comp=N,203µm,0.6s							
LAST	**Lasithi**	**2.78**	**255**	P		**Pn**	**19 34 17.7**	**+1.1**
LAST	**Lasithi**	**2.78**	**255**	P		**Pn**	**19 34 17.7**	**+1.1**
THR5	**Thira Island,**	**2.81**	**281**	P		**Pn**	**19 34 18.4**	**+1.6**
THR5	**Thira Island,**	**2.81**	**281**	P		**Pn**	**19 34 18.2**	**+1.3**
APE	**Apeiranthos**	**2.85**	**295**	P		**Pn**	**19 34 18.4**	**+0.9**
APE	**Apeiranthos**	**2.85**	**295**	P		**Pn**	**19 34 18.4**	**+0.9**
SHUT	**Suhut-Afyon**	**3.00**	**28**	PN		**Pn**	**19 34 20.5**	**+0.9**
SHUT	**Suhut-Afyon**	**3.00**	**28**	*e*Pn		**Pn**	**19 34 20.5**	**+0.9**
DEMI	**Demirci**	**3.13**	**359**	*i* P		**Pn**	**19 34 21.3**	**0.0**
DEMI				*i* S		**Sn**	**19 34 56.2**	**-1.3**
DEMI	**Demirci**	**3.13**	**359**	P		**Pn**	**19 34 21.3**	**0.0**
DEMI				S		**Sn**	**19 34 56.2**	**-1.3**
DOGA	**KONYA_Doganhis**	**3.20**	**46**	*i* P		**Pn**	**19 34 24.1**	**+1.8**
DOGA				*i* S		**Sn**	**19 35 01.7**	**+2.5**
DOGA	**KONYA_Doganhis**	**3.20**	**46**	P		**Pn**	**19 34 24.1**	**+1.8**
DOGA				S		**Sn**	**19 35 01.7**	**+2.5**
ALFC	**Alefka**	**3.22**	**102**	S		**Sn**	**19 34 58.5**	**-1.1**
	baz=283							
ALFC	**Alefka**	**3.22**	**102**	S		**Sn**	**19 34 58.5**	**-1.1**
IDI	**Anoyia**	**3.22**	**260**	P		**Pn**	**19 34 23.0**	**+0.4**
	comp=N,4.1nm,0.3s,baz=80,slow=12,SNR=34							
IDI				S		**Sn**	**19 34 58.4**	**-1.3**
	comp=N,8.1nm,0.3s,baz=355,slow=22,SNR=15							
IDI	**Anoyia**	**3.22**	**260**	P		**Pn**	**19 34 22.3**	**-0.2**
IDI				AML	AML		19 35 00.1	
	comp=E,134µm,0.2s							
IDI				AML	AML		19 35 00.6	
	comp=N,155µm,0.4s							
IDI	**Anoyia**	**3.22**	**260**	P		**Pn**	**19 34 23.1**	**+0.6**
IDI	**Anoyia**	**3.22**	**260**	P		**Pn**	**19 34 22.9**	**+0.4**
GDZ	**Gediz**	**3.23**	**10**	*i* P		**Pn**	**19 34 21.9**	**-0.8**
GDZ				*i* S		**Sn**	**19 34 56.0**	**-3.9**
GDZ	**Gediz**	**3.23**	**10**	P		**Pn**	**19 34 21.9**	**-0.8**
GDZ				S		**Sn**	**19 34 56.0**	**-3.9**
BOLV	**Bolvadin**	**3.30**	**31**	*i* P		**Pn**	**19 34 24.9**	**+1.2**
BOLV	**Bolvadin**	**3.30**	**31**	P		**Pn**	**19 34 24.9**	**+1.2**
KMER	**Konya-Meram**	**3.44**	**56**	*i* P		**Pn**	**19 34 28.3**	**+2.8**
KMER				*i* S		**Sn**	**19 34 59.4**	**-5.7**
KMER	**Konya-Meram**	**3.44**	**56**	P		**Pn**	**19 34 28.3**	**+2.8**
LEF	**Lefka**	**3.46**	**102**	P		**Pn**	**19 34 25.2**	**-0.5**
SZAC	**Souni**	**3.56**	**108**	S		**Sn**	**19 35 06.9**	**-1.1**
	baz=289							
SZAC	**Souni**	**3.56**	**108**	S		**Sn**	**19 35 06.9**	**-1.1**
CSS	**Mathiatis**	**3.85**	**103**	P		**Pn**	**19 34 32.2**	**+1.1**
	baz=285							
CSS				S		**Sn**	**19 35 13.5**	**-1.6**
CSS	**Mathiatis**	**3.85**	**103**	P		**Pn**	**19 34 32.2**	**+1.1**
CSS				S		**Sn**	**19 35 13.5**	**-1.6**
IMMV	**Iera Moni Meta**	**3.92**	**265**	P		**Pn**	**19 34 34.8**	**+2.8**
IMMV	**Iera Moni Meta**	**3.92**	**265**	P		**Pn**	**19 34 34.3**	**+2.2**
BRTR	**Keskin Array B**	**5.42**	**44**	P		**Pn**	**19 34 54.0**	**+1.2**
	comp=N,0.3nm,0.3s,baz=220,slow=15,SNR=7.7							
BRTR				S		**Sn**	**19 35 53.8**	**-0.1**
	comp=N,0.5nm,0.3s,baz=213,slow=26,SNR=9.6							
MMAI	**Mount Meron Ar**	**6.20**	**116**	P		**Pn**	**19 35 04.0**	**+0.6**
	comp=N,3.5nm,0.3s,baz=313,slow=12,SNR=10							
MMAI				S		**Sn**	**19 36 08.9**	**-4.1**
	comp=N,7.2nm,0.3s,baz=142,slow=33,SNR=6.7							
SQR	**Saqqara**	**6.35**	**161**	P		**Pn**	**19 35 03.5**	**-1.9**
	baz=153							
KOT	**Kottamia**	**6.50**	**156**	P		**Pn**	**19 35 06.8**	**-0.7**
	baz=147							
KOT				AMP			19 36 00.0	
	baz=147							
HSAF	**As Saff**	**6.70**	**159**	P		**Pn**	**19 35 09.2**	**-1.0**
	baz=151							
GLL	**Jalalah**	**6.78**	**158**	P		**Pn**	**19 35 10.1**	**-1.3**
	baz=150							
SUZ	**Suez**	**6.95**	**149**	P		**Pn**	**19 35 14.8**	**+1.1**
	baz=140							
SWA2		**7.21**	**204**	P		**Pn**	**19 35 15.9**	**-1.2**
	baz=211							
SWA2				S		Sn	19 36 18.9	-19
	baz=211							
ASF	**Jabal al Asfar**	**7.71**	**117**	P		**Pn**	**19 35 25.7**	**+1.6**
	comp=N,0.5nm,0.3s,baz=300,slow=20,SNR=2.5							
EIL	**Elat**	**8.11**	**138**	P		Pn	19 35 34.5	+4.9
	comp=N,0.5nm,0.3s,baz=334,slow=4.2,SNR=11							
EIL				S		**Sn**	**19 37 00.8**	**+0.9**
	comp=N,1.5nm,0.3s,baz=22,slow=13,SNR=7.6							
TAMRE	**El Minia**	**8.40**	**167**	P		**Pn**	**19 35 30.7**	**-2.9**
	baz=163							
HKAT	**Jabal Katrina**	**8.59**	**148**	P		**Pn**	**19 35 37.1**	**+0.7**
	baz=140							
TR2	**Tor 2**	**8.60**	**149**	P		**Pn**	**19 35 37.2**	**+1.0**
	baz=142							
HFRF	**Wahat Farafira**	**8.74**	**183**	P		**Pn**	**19 35 34.9**	**-3.3**
	baz=184							
VAE	**Valguarnera**	**11.63**	**282**	P		**Pn**	**19 36 17.2**	**-0.4**
	comp=N,1.1nm,0.3s,baz=135,slow=1.4,SNR=2.4							
ESDC	**Sonseca Array**	**26.05**	**288**	P		**P**	**19 39 02.6**	**-0.3**
	comp=N,0.4nm,0.4s,baz=82,slow=9.7,SNR=8.0							
TORD	**Torodi Ar. Bea**	**33.26**	**234**	P		**P**	**19 40 06.8**	**-0.1**
	comp=N,0.3nm,0.6s,baz=24,slow=8.3,SNR=2.7							
MKAR	**Makanchi Array**	**40.90**	**58**	P		**P**	**19 41 11.5**	**+0.1**
	comp=N,0.2nm,0.5s,baz=272,slow=9.8,SNR=4.8							

*ROM **07** 19:36:16.5±0.1, 44.5°54N×9.37°E, h6km±1km, Md2.3/6, Ml2.3/4, Error ellipse: s-maj=1.6km s-min=1.0km az=63.0*
*ISCJB **07** 19:36:17.0±0.3, 44.5°50N±0.02°×9.33°E±0.02°, h7km±2km, Error ellipse: s-maj=3.7km s-min=2.6km az=9.2*
*GEN **07** 19:36:17.1, 44.5°57N×9.42°E, h9km, ML2.0*
*CSEM **07** 19:36:17.5±0.2, 44.4°47N×9.35°E, h2km, ML2.6/14, Error ellipse: s-maj=4.4km s-min=2.9km az=12.0*
*LDG **07** 19:36:17.1±0.1, 44.5°54N×9.43E, h2km, Md2.6/4, Ml2.6/12, Error ellipse: s-maj=2.7km s-min=1.8km az=29.0*

ISC 07 19:36:16.6±0.8, 44.5°53N±0.02°×9.40E±0.02°, h14km±6km, n66, σ1.9°42/118, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SC2M	**Scurtabo**	**0.16**	**144**	P		**Pb**	**19 36 20.9**		**-0.4**
SC2M				S		**Sb**	**19 36 23.8**		**+0.6**
SC2M	**Scurtabo**	**0.16**	**144**	Pg		**Pb**	**19 36 20.9**		**-0.4**
SC2M				Sg		**Sg**	**19 36 23.9**		**+0.7**
	1µm,0.4s								
MSSA	**Maissana**	**0.23**	**159**	Pg		**Pb**	**19 36 22.2**		**-0.4**
MSSA				Sg		**Sb**	**19 36 26.3**		**-0.3**
	393nm,0.3s								
MSSA	**Maissana**	**0.23**	**159**	Pg		**Pb**	**19 36 22.2**		**-0.4**
MSSA				Sg		**Sb**	**19 36 26.3**		**-0.3**
	393nm,0.3s								
BOB	**Bobbio (Coli)**	**0.24**	**8**	Pg		**Pb**	**19 36 21.9**		**-0.8**
BOB				Sg		**Sg**	**19 36 25.5**		**+0.1**
BOB	**Bobbio (Coli)**	**0.24**	**8**	Pg		**Pb**	**19 36 21.9**		**-0.8**
BOB				Sg		**Sg**	**19 36 25.5**		**+0.1**
GENL	**Genova Univers**	**0.34**	**248**	P		**Pb**	**19 36 24.5**		**+0.2**
GENL				S		**Sb**	**19 36 29.5**		**0.0**
CODM	**Codolo**	**0.35**	**114**	P		**Pb**	**19 36 23.9**		**-0.7**
CODM				S		**Sb**	**19 36 28.9**		**-1.0**
GRAM	**Graiana**	**0.47**	**95**	P		**Pb**	**19 36 26.1**		**-0.6**
GRAM				S		**Sb**	**19 36 33.2**		**-0.4**
PLMA	**Palmaria, Port**	**0.58**	**146**	Pg		**Pb**	**19 36 28.3**		**-0.1**
PLMA				Sg		**Sb**	**19 36 37.8**		**+1.3**
	106nm,0.3s								
PLMA	**Palmaria, Port**	**0.58**	**146**	Pg		**Pb**	**19 36 28.3**		**-0.1**
PLMA				Sg		**Sb**	**19 36 37.8**		**+1.3**
	106nm,0.3s								
PCP	**Piancastagn**	**0.61**	**271**	P		**Pg**	**19 36 28.7**		**+0.1**
PCP	**Piancastagn**	**0.61**	**271**	Pg		**Pb**	**19 36 29.0**		**-0.1**
PCP				S		**Sg**	**19 36 36.7**		**-0.1**
PCP				Sg		**Sg**	**19 36 37.3**		**+0.5**
	74nm,0.1s								
PCP	**Piancastagn**	**0.61**	**271**	Pg		**Pb**	**19 36 29.0**		**-0.1**
PCP				Sg		**Sg**	**19 36 37.3**		**+0.5**
	74nm,0.1s								
QLNO	**Quiliano**	**0.79**	**255**	Pg		**Pg**	**19 36 31.9**		**+0.1**
QLNO				Sg		**Sb**	**19 36 42.9**		**+0.4**
QLNO	**Quiliano**	**0.79**	**255**	Pg		**Pg**	**19 36 31.9**		**+0.1**
QLNO				Sg		**Sb**	**19 36 42.9**		**+0.4**
BDI	**Bagni Di Lucca**	**0.98**	**118**	Pg		**Pn**	**19 36 35.8**		**-0.1**
BDI				Sg		**Sn**	**19 36 50.6**		**+1.1**
BDI	**Bagni Di Lucca**	**0.98**	**118**	Pg		**Pn**	**19 36 35.8**		**-0.1**
BDI				Sg		**Sn**	**19 36 50.6**		**+1.1**
SBF	**Sospel**	**1.57**	**245**	*e*Pg		**Pb**	**19 36 44.9**		**-0.4**
SBF				*e*Sg		**Sg**	**19 37 07.2**		**+0.2**
	22nm,0.3s								
SBF	**Sospel**	**1.57**	**245**	*e*Pg		**Pb**	**19 36 44.9**		**-0.4**
SBF				*e*Sg		**Sg**	**19 37 07.2**		**+0.2**
	11nm,0.3s								
MBDF	**Montbardon**	**1.89**	**277**	*e*P		**Pb**	**19 36 51.2**		**+0.3**
MBDF				*e*Sn		**Sn**	**19 37 12.8**		**+0.6**
MBDF				*e*Sg		**Sg**	**19 37 17.7**		**+0.3**
	11nm,0.4s								
MBDF	**Montbardon**	**1.89**	**277**	*e*P		**Pb**	**19 36 51.2**		**+0.3**
MBDF				*e*Sn		**Sn**	**19 37 12.8**		**+0.6**
MBDF				*e*Sg		**Sg**	**19 37 17.7**		**+0.3**
	5.6nm,0.4s								
PGF	**Pioggiola**	**2.00**	**189**	*e*Pn		**Pn**	**19 36 50.1**		**0.0**
PGF				*e*Sn		**Sn**	**19 37 14.8**		**-0.2**
	2.2nm,0.2s								
PGF	**Pioggiola**	**2.00**	**189**	*e*Pn		**Pn**	**19 36 50.1**		**0.0**
PGF				*e*Sn		**Sn**	**19 37 14.8**		**-0.2**
	1.1nm,0.2s								
LPG	**La Plagne**	**2.11**	**298**	*e*P		**Pb**	**19 36 54.6**		**-0.2**
LPG	**La Plagne**	**2.11**	**298**	*e*Pg		**Pg**	**19 36 57.9**		**+0.8**
LPG				*e*Sn		**Sn**	**19 37 16.5**		**-1.4**
	3.6nm,0.3s								
LPG				*e*Sg		**Sg**	**19 37 24.2**		**-0.4**
	4.3nm,0.4s								
LPG	**La Plagne**	**2.11**	**298**	*e*P		**Pb**	**19 36 54.6**		**-0.2**
LPG	**La Plagne**	**2.11**	**298**	*e*Pg		**Pg**	**19 36 57.9**		**+0.8**
LPG				*e*Sn		**Sn**	**19 37 16.5**		**-1.4**
	1.8nm,0.3s								
LPG				*e*Sg		**Sg**	**19 37 24.2**		**-0.4**
	2.2nm,0.4s								
LPL	**La Plagne**	**2.13**	**298**	*e*P		**Pb**	**19 36 55.2**		**+0.1**
LPL	**La Plagne**	**2.13**	**298**	*e*Pg		**Pg**	**19 36 57.8**		**+0.3**
LPL				*e*Sg		**Sg**	**19 37 24.3**		**-0.9**
	6.3nm,0.4s								
LPL	**La Plagne**	**2.13**	**298**	*e*P		**Pb**	**19 36 55.2**		**+0.1**
LPL	**La Plagne**	**2.13**	**298**	*e*Pg		**Pg**	**19 36 57.8**		**+0.3**
LPL				*e*Sg		**Sg**	**19 37 24.3**		**-0.9**
	3.2nm,0.4s								
FRF	**La Foret Royal**	**2.21**	**245**	*e*Pn		**Pn**	**19 36 53.3**		**+0.5**
FRF	**La Foret Royal**	**2.21**	**245**	*e*P		**Pb**	**19 36 54.7**		**-1.6**
FRF				*e*Sn		**Sn**	**19 37 19.5**		**-0.4**
	8.2nm,0.3s								
FRF	**La Foret Royal**	**2.21**	**245**	*e*Pn		**Pn**	**19 36 53.3**		**+0.5**
FRF	**La Foret Royal**	**2.21**	**245**	*e*P		**Pb**	**19 36 54.7**		**-1.6**
FRF				*e*Sn		**Sn**	**19 37 19.5**		**-0.4**
	4.1nm,0.3s								
LMR	**La Mourre**	**2.41**	**241**	*e*Pn		**Pn**	**19 36 56.0**		**+0.5**
LMR	**La Mourre**	**2.41**	**241**	*e*Pg		**Pg**	**19 37 02.4**		**-0.4**
LMR				*e*Sn		**Sn**	**19 37 24.7**		**-0.1**
	4.2nm,0.2s								
LMR	**La Mourre**	**2.41**	**241**	*e*Pn		**Pn**	**19 36 56.0**		**+0.5**
LMR	**La Mourre**	**2.41**	**241**	*e*Pg		**Pg**	**19 37 02.4**		**-0.4**
LMR				*e*Sn		**Sn**	**19 37 24.7**		**-0.1**
	2.1nm,0.2s								
ORIF	**Oris-en-Rattie**	**2.54**	**280**	*e*P		**Pb**	**19 37 00.9**		**-1.1**
ORIF				*e*Sn		**Sn**	**19 37 28.5**		**+0.3**
ORIF				*e*Sg		**Sg**	**19 37 37.9**		**-0.3**
	9.9nm,0.6s								
ORIF	**Oris-en-Rattie**	**2.54**	**280**	*e*P		**Pb**	**19 37 00.9**		**-1.1**
ORIF				*e*Sn		**Sn**	**19 37 28.5**		**+0.3**
ORIF				*e*Sg		**Sg**	**19 37 37.9**		**-0.3**
	4.9nm,0.6s								
DAVA	**Damuels**	**2.77**	**7**	Pn		**Pb**	**19 37 05.0**		**-1.0**
	0.8nm,0.1s								
DAVA				Sn		**Sb**	**19 37 39.1**		**-0.8**
	5.9nm,0.3s								
DAVA	**Damuels**	**2.77**	**7**	*e*Pn		**Pb**	**19 37 05.0**		**-1.0**
	0.8nm,0.1s								
DAVA				*i* Sn		**Sb**	**19 37 39.1**		**-0.8**
	5.9nm,0.3s								
SMRF	**Simiane la Rot**	**2.81**	**260**	*e*Pn		**Pn**	**19 37 03.3**		**+2.3**
SMRF				*e*Sn		**Sn**	**19 37 35.1**		**+0.4**
	2.3nm,0.3s								
SMRF	**Simiane la Rot**	**2.81**	**260**	*e*Pn		**Pn**	**19 37 03.3**		**+2.3**
SMRF				*e*Sn		**Sn**	**19 37 35.1**		**+0.4**
	1.1nm,0.3s								
MOTA	**Moosalm**	**3.05**	**22**	Pn		**Pb**	**19 37 08.6**		**-2.1**
	1.7nm,0.3s								
MOTA				Sn		**Sb**	**19 37 47.1**		**-0.8**
	4.0nm,0.4s								
MOTA	**Moosalm**	**3.05**	**22**	*i* Pn		**Pb**	**19 37 08.6**		**-2.1**
	1.7nm,0.3s								
MOTA				*i* Sn		**Sb**	**19 37 47.1**		**-0.8**
	4.0nm,0.4s								
CABF	**La Chapelle**	**3.12**	**313**	*e*P		**Pb**	**19 37 08.7**		**-3.2**
CABF				*e*S		**Sb**	**19 37 47.4**		**-2.4**
CABF	**La Chapelle**	**3.12**	**313**	*e*P		**Pb**	**19 37 08.7**		**-3.2**
CABF				*e*S		**Sb**	**19 37 47.4**		**-2.4**
VIVF	**Saint-Julien-l**	**3.39**	**277**	*e*P		**Pb**	**19 37 13.0**		**-3.4**
VIVF	**Saint-Julien-l**	**3.39**	**277**	*e*P		**Pb**	**19 37 13.0**		**-3.4**
HINF	**Hinteralfeld**	**3.73**	**333**	*e*S		**Sn**	**19 38 01.2**		**+3.7**
HINF	**Hinteralfeld**	**3.73**	**333**	*e*S		**Sn**	**19 38 01.2**		**+3.7**
NVLJ	**Novalja**	**3.91**	**88**	*e*Pn		Pb	19 37 19.7		-5.5
NVLJ				Sn		**Sn**	**19 38 01.9**		**+0.2**
NVLJ	**Novalja**	**3.91**	**88**	*e*Pn		Pb	19 37 19.7		-5.5
NVLJ				Sn		**Sn**	**19 38 01.9**		**+0.2**
LASF	**Ste Croix**	**4.01**	**265**	*e*Pg		**Pg**	**19 37 31.2**		**-2.1**
LASF	**Ste Croix**	**4.01**	**265**	*e*Pg		**Pg**	**19 37 31.2**		**-2.1**
HAU	**Haudompre**	**4.07**	**330**	*e*S		**Sn**	**19 38 09.3**		**+3.5**
HAU	**Haudompre**	**4.07**	**330**	*e*S		**Sn**	**19 38 09.3**		**+3.5**
SMF	**Signal de Mont**	**4.44**	**300**	*e*P		**Pn**	**19 37 26.6**		**+3.2**
SMF				*e*Sn		**Sn**	**19 38 14.4**		**-0.5**
	3.3nm,0.3s								
SMF	**Signal de Mont**	**4.44**	**300**	*e*P		**Pn**	**19 37 26.6**		**+3.2**
SMF				*e*Sn		**Sn**	**19 38 14.4**		**-0.5**
	1.6nm,0.3s								
LOR	**Lormes**	**4.74**	**307**	*e*P		**Pn**	**19 37 30.5**		**+2.9**
LOR				*e*Sn		**Sn**	**19 38 21.9**		**-0.4**
	2.2nm,0.3s								
LOR	**Lormes**	**4.74**	**307**	*e*P		**Pn**	**19 37 30.5**		**+2.9**
LOR				*e*Sn		**Sn**	**19 38 21.9**		**-0.4**
	1.1nm,0.3s								
BGF	**Bois d'Agland**	**5.03**	**296**	*e*P		**Pn**	**19 37 34.9**		**+3.3**
BGF	**Bois d'Agland**	**5.03**	**296**	*e*P		**Pn**	**19 37 34.9**		**+3.3**

MAN 07 19:36:22.1±1.0, 8°08N×124°63E, h23km, mb4.6, ML3.4, MS3.3, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
OCLP	**Ormoc**	**0.04**	**216**	*e*P		Pb	19 36 26.3		+0.2
OCLP				*e*S		Sb	19 36 27.5		-1.3
PLP	**Palo**	**0.35**	**76**	*e*P		Pb	19 36 28.9		-0.8
PLP				*i* S		Sb	19 36 32.3		-2.6
BESP	**Borongan**	**0.94**	**57**	*e*P		Pn	19 36 40.4		+0.6
BESP				*e*S		Sn	19 36 53.1		+0.4
MSLP	**Maasin**	**0.97**	**167**	*e*P		Pn	19 36 40.3		+0.1
MSLP				*e*S		Sn	19 36 54.5		+1.2

MEX 07 19:39:40.5±0.6, 18°18N×101°97W, h52km±17km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
ZIIG	**Zihuatanejo**	**0.74**	**140**	*i* P		Pn	19 39 53.6		-1.3
ZIIG				*e*S		Sn	19 40 03.6		-1.8
MMIG	**Aquila**	**1.31**	**275**	*e*P		Pn	19 40 00.5		-1.9
MMIG				*e*S		Sn	19 40 16.4		-2.5
ARIG	**Puente Sto Nin**	**1.55**	**86**	*e*P		Pn	19 40 04.1

LCO	Las Campanas	9.00	182	*e*Pn	Pn	20 15 55.8	-1.6		
NNA	Nana	10.13	321	P	Pn	20 16 13.7	+0.9		
	comp=E,2.0nm,0.3s,baz=187,slow=11,SNR=2.3								
NNA				S	Sn	20 18 03.4	-1.8		
	comp=E,3.5nm,0.3s,baz=79,slow=21,SNR=3.1								
NNA				LR	LR	20 20 08.4			
	comp=E,228nm,21.4s,baz=166,slow=38								
SAML	Samuel	12.95	33	*e*Pn	Pn	20 16 50.3	-0.9		
ROC1	El Roble	12.96	183	*e*Pn	Pn	20 16 51.5	0.0		
CPUP	Villa Florida	13.50	120	P	Pn	20 16 58.6	-0.1		
	comp=E,0.2nm,0.3s,baz=297,slow=12,SNR=7.5								
CPUP				LR	LR	20 23 03.9			
	comp=E,92nm,20.1s,baz=310,slow=41								
CPUP	Villa Florida	13.50	120	*e*Pn	Pn	20 16 58.8	0.0		
ATAH	Atahualpa	14.99	327	P	Pn	20 17 19.9	+0.8		
	comp=E,0.4nm,0.3s,baz=117,slow=18,SNR=2.1								
TRQA	Tornquist	19.41	160	*e*P	P	20 18 12.2	+0.3		
	comp=E,9.9nm,0.9s								
PLCA	Paso Flores	20.68	181	P	P	20 18 27.4	+1.6		
	comp=E,3.3nm,0.9s,baz=29,slow=11,SNR=8.2								
PLCA	Paso Flores	20.68	181	*e*P	P	20 18 27.2	+1.5		
	comp=E,21nm,1.3s								
PTGA	Pitinga	21.64	29	P	P	20 18 34.2	-2.0		
	comp=E,8.4nm,0.4s,baz=220,slow=11,SNR=15								
PTGA	Pitinga	21.64	29	*e*P	P	20 18 34.4	-1.7		
	comp=E,11nm,0.6s								
RUSC	La Rusia	25.86	354	*e*P	P	20 19 18.6	+1.1		
	comp=E,19nm,1.4s								
HELC	Santa Helena	26.51	348	*e*P	P	20 19 24.1	+0.9		
	comp=E,25nm,0.7s								
SDV	Santo Domingo	28.69	359	P	P	20 19 42.3	-0.2		
	comp=E,2.6nm,0.4s,baz=1.9,slow=20,SNR=2.5								
SDV				LR	LR	20 32 22.8			
	comp=E,99nm,18.2s,baz=72,slow=39								
RCBR	Riachuelo	36.26	72	P	P	20 20 48.1	-0.6		
	comp=E,6.9nm,0.8s,baz=222,slow=7.3,SNR=2.7								
RPN	Rapa Nui	36.37	251	LR	LR	20 32 10.5			
	comp=E,67nm,20.5s,baz=218,slow=30								
LTX	Lajitas	58.65	326	*e*P	P	20 23 40.5	-1.8		
TXAR	Lajitas Array	58.65	326	P	P	20 23 40.5	-1.8		
	comp=E,0.4nm,0.8s,baz=167,slow=8.2,SNR=3.4								
MHTCO	State Highway	65.41	330	*e*P	P	20 24 25.5	-2.2		
	comp=E,17nm,0.9s								
PFO	Pinyon Flats O	69.11	320	P	P	20 24 50.1	-1.0		
LCMT	Little Creek M	69.67	324	*e*P	P	20 24 53.7	-0.7		
	comp=E,23nm,0.6s								
ULM	Lac du Bonnet	73.49	343	P	P	20 25 15.9	-1.0		
	comp=E,1.9nm,0.5s,baz=145,slow=4.0,SNR=5.8								
NVAR	Mina Array Bea	73.50	323	pP	pP	20 25 30.7	-1.2		
	comp=E,0.4nm,0.3s,baz=134,slow=7.7,SNR=2.3								
KOWA	Kowa	73.63	68	P	P	20 25 17.0	-1.6		
	comp=E,1.6nm,0.5s,baz=248,slow=9.2,SNR=5.5								
LHEM	Herd Peak	77.87	323	*e*P	P	20 25 44.2	+1.7		
TOA1	Torodi Ar. Sit	78.09	71	*e*P	P	20 25 42.8	-1.3		
TORD	Torodi Ar. Bea	78.09	71	P	P	20 25 42.8	-1.3		
	comp=E,3.4nm,0.5s,baz=252,slow=5.2,SNR=45								
YKA	Yellowknife Ar	89.33	341	P	P	20 26 40.7	+0.3		
	comp=E,3.5nm,0.9s,baz=155,slow=4.8,SNR=48								
YKW3	Yellowknife Ar	89.39	341	*e*P	P	20 26 40.9	+0.3		
	comp=E,7.2nm,1.0s								
H11S2	WAKE ISLAND Hy	26.38	279	T	T	22 52 11.0			
	baz=102,slow=74,SNR=609								
H11S1	WAKE ISLAND Hy	26.39	279	T	T	22 52 15.9			
	baz=102,slow=74,SNR=284								
H11S3	WAKE ISLAND Hy	26.40	279	T	T	22 52 12.4			
	baz=102,slow=74,SNR=382								
H11N3	WAKE ISLAND Hy	26.42	280	T	T	22 52 15.1			
	baz=102,slow=74,SNR=113								
H11N2	WAKE ISLAND Hy	26.44	280	T	T	22 52 18.0			
	baz=102,slow=74,SNR=115								
H11N1	WAKE ISLAND Hy	26.44	280	T	T	22 52 14.1			
	baz=102,slow=74,SNR=80								
ASAR	Alice Springs	130.61	210	PKP	PKPdf	20 32 56.6	+0.6		
	comp=E,0.6nm,0.8s,baz=126,slow=1.7,SNR=7.5								
ASAR				pPKP	pPKPdf	20 33 11.2	0.0		
	comp=E,0.8nm,1.0s,baz=134,slow=1.6,SNR=3.1								
WR1	Warramunga Arr	133.56	213	*e*PKPdf	PKPdf	20 33 02.1	+0.5		
WRA	Warramunga Arr	133.56	213	PKP	PKPdf	20 33 02.1	+0.5		
	comp=E,0.6nm,0.7s,baz=151,slow=1.8,SNR=14								
BVAR	Borovoye Array	135.26	33	PKP	PKPdf	20 33 05.1	+1.3		
	comp=E,0.6nm,0.6s,baz=302,slow=2.7,SNR=4.9								
KURK	Kurchatov	140.74	31	*e*PKPpre	PKPpre	20 33 09.2			
KURK				*e*PKPdf	PKPdf	20 33 13.6	-0.2		
KURBB	Kurchatov Arra	140.76	31	PKhKP	PKPpre	20 33 09.2			
	comp=E,0.3nm,0.5s,baz=307,slow=2.6,SNR=7.1								
KURBB				PKP	PKPdf	20 33 13.6	-0.3		
	comp=E,0.7nm,0.8s,baz=305,slow=2.4,SNR=5.7								
ZAA1	Zalesovo Array	141.11	23	*e*PKPpre	PKPpre	20 33 08.0			
ZAA1				*e*PKPdf	PKPdf	20 33 15.4	+0.9		
ZAA1				*ep*PKPdf	pPKPdf	20 33 28.7	-0.9		
ZALV	Zalesovo Beam	141.11	23	PKhKP	PKPpre	20 33 08.0			
	comp=E,0.4nm,0.5s,baz=27,slow=0.3,SNR=3.9								
ZALV				PKP	PKPdf	20 33 15.4	+0.9		
	comp=E,2.1nm,0.6s,baz=303,slow=2.0,SNR=10.0								
ZALV				pPKP	pPKPdf	20 33 28.7	-0.9		
	comp=E,1.6nm,0.7s,baz=310,slow=2.1,SNR=4.5								
MK32	Makanchi Array	145.13	34	*e*PKPbc	PKPab	20 33 21.9	+0.4		
MK32				*ep*PKPab	pPKPbc	20 33 35.9	-0.7		
MKAR	Makanchi Array	145.13	34	PKP	PKPab	20 33 21.9	+0.4		
	comp=E,21nm,1.0s,baz=333,slow=3.0,SNR=108								
MKAR				pPKP	pPKPbc	20 33 35.9	-0.7		
	comp=E,3.3nm,0.8s,baz=324,slow=1.6,SNR=9.3								
KLR	Kul'dur	145.89	334	PKPbc	PKPab	20 33 24.6	+0.5		
	comp=E,0.2nm,0.8s,baz=40,slow=7.9,SNR=3.0								
USRK	Ussuriysk Ar.	149.53	327	PKPbc	PKPbc	20 33 35.0	+1.3		
	comp=E,5.2nm,0.9s,baz=7.5,slow=0.8,SNR=4.6								
MJAR	Matsushiro Arr	150.11	310	PKPbc	PKPbc	20 33 36.6	+1.2		
	comp=E,1.6nm,0.6s,baz=107,slow=1.5,SNR=5.6								
SONA0	Songino Array	152.09	5	*e*PKPbc	PKPbc	20 33 40.8	+0.9		
SONM	Songino Array	152.09	5	PKPbc	PKPbc	20 33 40.8	+0.9		
	comp=E,4.2nm,0.9s,baz=309,slow=0.9,SNR=6.2								
CMAR	Chiang Mai Arr	169.73	97	PKPab	PKPab	20 35 06.6	-0.4		
	comp=E,0.2nm,0.6s,baz=247,slow=4.7,SNR=3.0								

NIED **07** *20:27:00,40.30N×143.40E,h20km,Mw4.6 Best double couple: M0 7.83000×10^15 NP1:φs 176.00000°,δ25.00000°, λ62.00000°. NP2:φs 26.00000°,δ68.00000°,λ102.00000°.*

ISCJB **07** *20:27:06.9±1.0,40.26N±0.03×143.52E±0.04,h11km±6km, mb4.5/79,MS4.0/22,Error ellipse: s-maj=5.5km s-min=3.1km az=41.4*

JMA **07** *20:27:07.2±0.2,40.29N×143.43E,h2km±2km,M4.5*

IDC **07** *20:27:07.2±0.6,40.27N×143.49E,h0km,mb4.3/28, mb1 4.3/35,mb1mx4.2/78,mbtmp4.3/35,ML3.7/5,MS3.9/24, Ms1 3.9/24,ms1mx3.6/65,Error ellipse: s-maj=15.1km s-min=11.8km az=120.0*

BJI **07** *20:27:09.3,40.06N×143.29E,h29km,mb4.6/41,mB5.1/24, Ms4.3/18,Ms7 4.2/18*

MOS **07** *20:27:10.3±1.0,40.31N×143.49E,h34km,mb4.8/41, MS4.0/11,Error ellipse: s-maj=7.5km s-min=4.6km az=99.6*

NEIC **07** *20:27:12.6±1.3,40.29N×143.35E,h34km±9km,mb4.7/30, Error ellipse: s-maj=6.1km s-min=3.8km az=125.0*

ISC 07 20:27:08.0±2.1,40.26N±0.04×143.49E±0.05,h10km±12km, n233,σ1§51/257,mb4.7/79,MS4.1/22,12C-10D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.29	256	P	Pn	20 27 31.0	-1.1
JTH				*e*S	Sb	20 27 47.2	-1.7
MIYJ	Miyakonagasawa	1.45	243	P	Pn	20 27 33.7	-0.7
MIYJ				*e*S	Sn	20 27 52.4	-1.1
JANG	Nango	1.51	275	P	Pn	20 27 34.4	-0.8
ERM	Erimo	1.77	352	*e*Pn	Pn	20 27 39.1	+0.4
ERM	Erimo	1.77	352	*e*P	Pn	20 27 40.7	+0.1
JEM	Erimo	1.77	352	P	Pn	20 27 38.4	-0.3
JEM				*e*S	Sb	20 28 02.2	-0.7
JOM	Ohasama	1.86	246	P	Pn	20 27 40.3	+0.3
JOM				S	Sg	20 28 05.8	-2.1
JTM	Tenmabayashi	1.92	287	P	Pn	20 27 40.7	0.0
JTM				S	Sb	20 28 04.9	-2.2
JNBK	Urakawa-nobuka	2.09	345	P	Pn	20 27 43.7	+0.6
JNBK				*e*S	Sb	20 28 11.4	-0.7
JOT	Ohata	2.17	302	P	Pn	20 27 44.2	+0.1
JOT				*e*S	Sb	20 28 11.3	-2.9
JAH	Hinai	2.19	269	P	Pn	20 27 45.1	+0.7
JAH				*e*S	Sb	20 28 13.7	-1.1
JMK	Ichinoseki	2.19	234	P	Pn	20 27 44.9	+0.5
JMK				*e*S	Sb	20 28 13.8	-1.0
JCH	Churui	2.35	358	P	Pn	20 27 46.6	-0.1
JCH				S	Sn	20 28 14.9	-0.8
JRG	Rokugo	2.36	249	P	Pn	20 27 47.9	+1.1
JKB	Kayabe	2.47	312	P	Pn	20 27 48.5	+0.2
JYK	Kaneyama	2.77	242	P	Pn	20 27 53.2	+0.8
GLVR	Golovnino	3.79	23	*e*P	Pn	20 28 06.5	0.0
GLVR				*e*S	Sn	20 28 48.5	-2.6
ASAJ	Asahikawa	3.91	351	Pn	Pn	20 28 09.6	+1.5
	3.7nm,0.3s,baz=196,slow=7.4,SNR=27						
ASAJ				Sn	Sn	20 28 57.0	+2.9
	5.3nm,0.3s,baz=275,slow=34,SNR=5.7						
ASAJ	Asahikawa	3.91	351	*e*Pn	Pn	20 28 09.0	+0.9
ASAJ				*e*Sn	Sn	20 28 57.0	+2.9
GRPR	Tuman	4.10	24	⇓*e*P	Pn	20 28 10.8	+0.1
GRPR				*e*S	Sn	20 28 55.3	-3.4
LAGR	Lagunnoye	4.16	23	*d*P	Pn	20 28 12.3	+0.8
LAGR				*i* S	Sn	20 28 57.4	-2.8
YUK	Yuzh-Kuril'sk	4.16	24	*d*P	Pn	20 28 11.8	+0.2
YUK				*i* S	Sn	20 28 55.4	-4.9
YUK				pmax	pmax		
	comp=N,40nm,0.2s						
YUK				pmax	pmax		
	comp=Z,200nm,0.2s						
YUK				pmax	pmax		
	comp=E,72nm,0.3s						
YUK				smax	smax		
	comp=N,803nm,0.5s						
YUK				smax	smax		
	comp=E,550nm,0.3s						
SHO	Shikotan	4.38	33	*e*P	Pn	20 28 13.4	-1.2
SHO				*i* S	Sn	20 28 59.7	-6.0
SHO				pmax	pmax		
	comp=Z,44nm,0.3s						
SHO				pmax	pmax		
	comp=N,25nm,0.2s						
SHO				pmax	pmax		
	comp=E,23nm,0.2s						
SHO				smax	smax		
	comp=N,515nm,0.3s						
SHO				smax	smax		
	comp=E,340nm,0.3s						
MAJO	Matsushiro	5.56	230	*e*Pn	Pn	20 28 32.7	+1.8
MAJO	Matsushiro	5.56	230	*c i*P	Pn	20 28 32.9	+2.0
MJAR	Matsushiro Arr	5.56	230	Pn	Pn	20 28 32.9	+2.0
	comp=E,5.2nm,0.3s,baz=38,slow=11,SNR=123						
MJAR				LR	LR	20 30 52.5	
	comp=E,661nm,19.4s,baz=55,slow=40						
MJB9	Matsu-Tunnel	5.56	230	*e*Pn	Pn	20 28 32.7	+1.8
MAT	Matsushiro	5.57	230	P	Pn	20 28 32.2	+1.3
MAT				*e*S	Sn	20 29 42.1	+7.2
KUR	Kuril'sk	5.92	32	*e*P	Pn	20 28 36.4	+0.7
KUR				*e*S	Sn	20 29 40.5	-3.1
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
KUR				pmax	pmax		
	comp=N,66nm,0.3s						
KUR				smax	smax		
	comp=E,146nm,0.5s						
KUR				smax	smax		
	comp=N,84nm,0.3s						
YSS	Yuzh-Sakhalins	6.71	356	*e*Pn	Pn	20 28 48.8	+2.2
YSS	Yuzh-Sakhalins	6.71	356	*e*P	Pn	20 28 49.3	+2.7
YSS				*e*S	Sn	20 30 03.6	+0.5
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS				smax	smax		
	comp=E,20nm,0.7s						
INU	Inuyama	7.09	228	*e*Pn	Pn	20 28 54.1	+2.3
JHJ	Hachijo jima 2	7.72	204	Pn	Pn	20 28 59.3	-1.2
	comp=E,10nm,0.3s,baz=22,slow=19,SNR=6.2						
JHJ				Sn	Sn	20 30 20.4	-7.6
	comp=E,18nm,0.3s,baz=267,slow=22,SNR=6.7						
JHJ				LR	LR	20 32 15.0	
	comp=E,471nm,20.4s,baz=72,slow=40						
VLA	Vladivostok	9.14	292	⇑*e*P	Pn	20 29 23.4	+3.5
USRK	Ussuriysk Ar.	9.39	299	Pn	Pn	20 29 25.1	+1.8
	comp=E,0.4nm,0.3s,baz=97,slow=12,SNR=27						
USRK				LR	LR	20 33 02.5	
	comp=E,898nm,18.7s,baz=83,slow=38						
TYV	Tymovskoe	10.62	357	*e*P	Pn	20 29 42.5	+2.4
TYV				*e*		20 31 31.9	
TYV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MDJ	Mudanjiang	11.15	298	P	Pn	20 29 49.9	+2.4
MDJ				pmax	pmax		
	comp=Z,34nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,670nm,5.2s						
MDJ	Mudanjiang	11.15	298	*e*Pn	Pn	20 29 49.4	+1.9
KLR	Kul'dur	12.24	321	Pn	Pn	20 30 03.0	+0.7
	comp=Z,0.0nm,0.3s,baz=126,slow=14,SNR=6.5						
KLR				LR	LR	20 35 08.6	
	comp=Z,56nm,19.1s,baz=138,slow=39						
KLR	Kul'dur	12.24	321	⇓*e*P	Pn	20 30 02.2	-0.1
JNU	Nakatsue	12.37	239	Pn	Pn	20 30 04.7	+0.5
	comp=Z,0.4nm,0.3s,baz=164,slow=3.6,SNR=6.2						
JNU				LR	LR	20 35 06.2	
	comp=Z,537nm,18.6s,baz=88,slow=39						
JNU	Nakatsue	12.37	239	*e*Pn	Pn	20 30 04.1	-0.1
KSRS	Korea Array	12.45	262	Pn	Pn	20 30 07.7	+2.4
	comp=Z,0.1nm,0.3s,baz=58,slow=12,SNR=5.6						
KSRS				LR	LR	20 34 33.9	
	comp=Z,752nm,18.5s,baz=76,slow=36						
KS15	Wonju Array Si	12.49	262	*e*Pn	Pn	20 30 06.7	+1.0
KSAR	Wonju Array Be	12.49	262	Pn	Pn	20 30 07.7	+2.0
KSAR	Wonju Array Be	12.49	262	P	Pn	20 30 07.7	+2.0
NKL	Nikolayevsk	13.04	352	*e*P	Pn	20 30 14.0	+0.9
NKL				pmax	pmax		
	comp=N,22nm,1.1s						
NKL				pmax	pmax		
	comp=Z,28nm,1.1s						
CN2	Changchun	13.87	291	*e*P	Pn	20 30 24.6	+0.1
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PETK	Petropavlovsk-	16.09	32	LR	LR	20 37 54.4	
	comp=Z,175nm,19.4s,baz=216,slow=40						
ZEA	Zeya	17.39	326	*e*P	Pn	20 31 07.6	-3.0
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,25nm,1.2s						
ZEA				MLR	MLR		
	comp=N,800nm,14.0s						
HIA	Hailar	19.05	306	*e*P	P	20 31 29.3	-1.0
	comp=N,16nm,1.0s						
HIA	Hailar	19.05	306	*e*P	P	20 31 29.3	-1.0
HIA				pmax	pmax		
	comp=Z,16nm,1.0s						
MA2	Magadan	19.87	11	P	P	20 31 39.7	+0.5
	comp=Z,0.3nm,0.3s,baz=203,slow=8.9,SNR=8.5						
MA2	Magadan	19.87	11	⇑*e*P	Pn	20 31 41.1	+0.4
BJT	Baijiatuau	20.86	278	*e*P	P	20 31 48.6	-1.4
	comp=Z,18nm,0.9s						
BJT	Baijiatuau	20.86	278	*e*P	P	20 31 48.6	-1.4
BJT				pmax	pmax		
	comp=Z,18nm,0.9s						
TIA	Tai'an	21.07	267	P	P	20 31 49.6	-2.7
TIA				pmax	pmax		
	comp=Z,11nm,1.0s						
TIA				LR	LR		
	comp=Z,300nm,16.7s						
TIA				LR	LR		
	comp=Z,510nm,20.6s						
TIA				LR	LR		
	comp=Z,810nm,16.2s						
SEY	Seymchan	23.32	10	P	P	20 32 14.8	-1.2
	comp=Z,6.2nm,1.0s,baz=186,slow=7.6,SNR=20						
SEY	Seymchan	23.32	10	⇓*i*P	P	20 32 15.1	-0.9
YAK	Yakutsk	23.36	344	P	P	20 32 15.2	-1.1
	comp=Z,22nm,0.8s,baz=180,slow=2.5,SNR=15						
YAK				LR	LR	20 42 25.6	
	comp=Z,258nm,18.3s,baz=258,slow=39						
YAK	Yakutsk	23.36	344	*e*P	P	20 32 14.0	-2.3
	comp=Z,27nm,0.8s						
YAK	Yakutsk	23.36	344	*e*P	P	20 32 14.5	-1.8
YAK				*e*		20 36 27.4	
YAK				pmax	pmax		
	comp=Z,31nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
HHC	Hu-ho-hao-te	24.20	282	*e*P	P	20 32 23.4	-1.4
HHC				S	S	20 36 37.1	-5.9
HHC				pmax	pmax		
	comp=E,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=E,110nm,5.4s						
HHC				LR	LR		
	comp=E,360nm,11.4s						
HHC				LR	LR		
	comp=E,440nm,11.6s						
HHC				LR	LR		
	comp=E,620nm,13.7s						
TWG	Pinlang	25.72	234	*e*P	P	20 32 37.8	-0.8
	comp=E,98nm,1.0s						
GUMO	Guam	26.60	177	LR	LR	20 42 05.9	
	comp=E,91nm,21.1s,baz=64,slow=34						
ULN	Ulaanbaatar	27.07	298	*e*P	P	20 32 50.6	-0.1
	comp=E,12nm,1.2s						
ULN	Ulaanbaatar	27.07	298	*c i*P	P	20 32 50.8	+0.1
ULN				pmax	pmax		
	comp=Z,12nm,1.2s						
SONA1	Songino Array	27.50	298	*e*P	P	20 32 54.7	+0.1
SONA0	Songino Array	27.51	298	*e*P	P	20 32 55.2	+0.5
SONA0				*e*PcP	PcP	20 36 13.7	+1.1
SONM	Songino Array	27.51	298	P	P	20 32 55.2	+0.5
	comp=Z,7.0nm,1.1s,baz=103,slow=8.4,SNR=36						
SONM				PcP	PcP	20 36 13.7	+1.1
	comp=Z,0.7nm,0.8s,baz=119,slow=5.1,SNR=2.8						
SONM				LR	LR	20 44 29.0	
	comp=Z,522nm,18.8s,baz=94,slow=38						
H11N2	WAKE ISLAND Hy	28.65	129	T	T	21 03 13.3	
	baz=321,slow=75,SNR=176						
H11N1	WAKE ISLAND Hy	28.66	129	T	T	21 03 12.8	
	baz=321,slow=75,SNR=106						
H11N3	WAKE ISLAND Hy	28.67	129	T	T	21 03 13.3	
	baz=321,slow=75,SNR=136						
ENH	Enshi	29.34	261	*e*P	P	20 33 10.7	-0.3
	comp=E,56nm,1.7s						
H11S1	WAKE ISLAND Hy	29.48	131	T	T	21 04 16.3	
	baz=322,slow=76,SNR=50						
H11S3	WAKE ISLAND Hy	29.49	131	T	T	21 04 13.5	
	baz=322,slow=76,SNR=33						
H11S2	WAKE ISLAND Hy	29.50	131	T	T	21 04 19.1	
	baz=322,slow=76,SNR=31						
TLY	Talaya	29.59	306	*e*P	P	20 33 14.2	+1.1
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,429nm,20.0s						
MOY	Mondy	31.23	306	*e*P	P	20 33 28.2	+0.5
LZH	Lanzhou	31.26	275	*e*P	P	20 33 28.0	-0.1
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,69nm,5.8s						
LZH				LR	LR		
	comp=Z,230nm,14.0s						
LZH				LR	LR		
	comp=Z,240nm,14.6s						
LZH				LR	LR		
	comp=Z,300nm,18.3s						
TIXI	Tiksi	32.31	351	⇓*e*P	P	20 33 35.7	-1.1
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA	Gaotai	33.30	283	⇓P	P	20 33 46.4	+0.5
GTA				pP	sP	20 33 58.8	+8.6
GTA				sP	pP	20 34 03.6	+15
GTA				PcP	PcP	20 36 29.3	+1.4
GTA				pmax	pmax		
	comp=Z,14nm,1.3s						
GTA				pmax	pmax		
	comp=Z,170nm,5.0s						
GTA				LR	LR		
	comp=Z,270nm,16.2s						
GTA				LR	LR		
	comp=Z,440nm,17.1s						
GTA				LR	LR		
	comp=Z,710nm,16.9s						
GYA	Guiyang	33.45	257	⇑*i*P	P	20 33 46.4	-0.9
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
DAV	Davao City (W)	36.73	211	LR	LR	20 47 40.2	
	comp=Z,105nm,20.0s,baz=346,slow=34						
KMI	Kunming	37.12	259	P	P	20 34 19.2	+0.1
KMI				pP	sP	20 34 29.4	+6.0
KMI				pmax	pmax		
	comp=Z,18nm,1.1s						
DGZ	Jazzator, Alta	39.91	303	*c i*P	P	20 34 42.9	+0.7
DGZ				pmax	pmax		
	comp=Z,11nm,0.9s						
ZAA0	Zalesovo Array	41.02	310	*e*P	P	20 34 51.4	+0.2
	comp=Z,6.9nm,1.0s						
ZAA1	Zalesovo Array	41.02	310	*e*P	P	20 34 51.5	+0.3
ZAA1				*e*PcP	PcP	20 36 51.5	+0.6
ZALV	Zalesovo Beam	41.02	310	P	P	20 34 51.5	+0.3
	comp=Z,5.2nm,1.0s,baz=88,slow=7.8,SNR=12						
ZALV				PcP	PcP	20 36 51.5	+0.7
	comp=Z,3.3nm,0.8s,baz=101,slow=3.7,SNR=4.7						
ZALV				LR	LR	20 52 57.5	
	comp=Z,243nm,19.7s,baz=270,slow=38						
ZALV	Zalesovo Beam	41.02	310	*e*P	P	20 34 50.9	-0.2
ZALV				*e*PcP	PcP	20 36 51.6	+0.7
ZALV	Zalesovo Beam	41.02	310	*e*P	P	20 34 50.9	-0.2
ZALV				*e*		20 36 51.6	
NVS	Novosibirsk	41.86	311	*e*P	P	20 34 58.4	+0.4
IM3	Indian Mountai	43.06	32	*e*P	P	20 35 09.2	+1.6
LSA	Lhasa	43.60	273	*e*P	P	20 35 13.2	+0.2
	comp=Z,15nm,1.8s						
LSA	Lhasa	43.60	273	*e*P	P	20 35 13.3	+0.2
LSA				pmax	pmax		
	comp=Z,15nm,1.8s						
KDAK	Kodiak Island	43.64	44	P	P	20 35 12.5	+0.2
	comp=Z,3.3nm,0.7s,baz=290,slow=4.7,SNR=3.8						
CHTO	Chiang Mai	43.70	254	*e*P	P	20 35 13.4	+0.1
	comp=Z,3.6nm,0.8s						
CHTO	Chiang Mai	43.70	254	*e*P	P	20 35 13.4	+0.1
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MK01	Makanchi Array	43.86	300	*e*P	P	20 35 14.1	-0.3
MK31	Makanchi Array	43.86	300	*e*P	P	20 35 14.6	+0.2
MK31	Makanch

TARG	**Taragay, Kyrgy**	**48.49 294**	*e*P		**P**	**20 35 51.6**	**+0.3**
	comp=Z,7.0nm,0.9s							
GUN	**Gumba**	**48.51 274**	*e*P		**P**	**20 35 51.8**	**+0.2**
	comp=Z,40nm,0.8s							
KKN	**Kakani**	**49.02 274**	*e*P		**P**	**20 35 55.6**	**+0.2**
	comp=Z,34nm,1.0s							
PKI	**Pulchoki**	**49.04 274**	*e*P		**P**	**20 35 55.5**	**-0.1**
	comp=Z,43nm,1.4s							
DMN	**Daman**	**49.25 274**	*e*P		**P**	**20 35 57.0**	**-0.2**
	comp=Z,29nm,1.1s							
TKM2	**Tokmak 2**	**49.58 297**	*i* P		**P**	**20 35 59.8**	**+0.3**
TKM2			pmax	pmax				
	comp=Z,14nm,0.8s							
BVA0	**Borovoye Array**	**49.66 311**	*i* P		**P**	**20 36 00.0**	**+0.4**
BVA0			pmax	pmax				
	comp=Z,8.0nm,0.9s							
BVAR	**Borovoye Array**	**49.66 311**	P		**P**	**20 36 00.1**	**+0.5**
	comp=Z,7.2nm,0.8s,baz=79,slow=8.0,SNR=28							
BVAR			LR		LR	20 58 24.1		
	comp=Z,237nm,18.3s,baz=320,slow=38							
BRVK	**Borovoye**	**49.71 311**	*e*P		**P**	**20 36 00.1**	**+0.1**
	comp=Z,7.3nm,0.9s							
BRVK	**Borovoye**	**49.71 311**⇑	*e*P		**P**	**20 36 00.2**	**+0.2**
BRVK			pmax	pmax				
	comp=Z,8.0nm,0.9s							
DANN	**Dangsing**	**49.90 276**	*e*P		**P**	**20 36 02.9**	**+0.7**
OTUK	**Ortayu**	**49.91 304**	P		**P**	**20 36 01.5**	**-0.1**
KOLN	**Koldanda**	**50.32 275**	*e*P		**P**	**20 36 05.4**	**+0.2**
AAK	**Ala-Archa**	**50.44 297**	P		**P**	**20 36 06.2**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=72,slow=8.1,SNR=7.9							
AAK	**Ala-Archa**	**50.44 297**⇓	*i* P		**P**	**20 36 06.1**	**+0.2**
AAK			pmax	pmax				
	comp=Z,5.0nm,0.9s							
PYUN	**Piuthan**	**50.61 276**	*e*P		**P**	**20 36 07.9**	**+0.4**
	comp=Z,54nm,1.0s							
HYT	**Haines Junctio**	**50.75 38**	*e*P		**P**	**20 36 10.5**	**+2.5**
	comp=Z,9.9nm,1.0s							
INK	**Inuvik**	**50.78 28**	P		**P**	**20 36 09.4**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=256,slow=6.9,SNR=3.6							
INK	**Inuvik**	**50.78 28**	*e*P		**P**	**20 36 09.4**	**+1.5**
	comp=Z,9.4nm,1.5s							
HNR	**Honiara**	**51.73 159**	LR		LR	20 55 51.8		
	comp=Z,37nm,21.4s,baz=322,slow=33							
MNAS	**Manas**	**51.86 297**	*i* P		**P**	**20 36 16.8**	**+0.2**
MNAS			pmax	pmax				
	comp=Z,14nm,0.9s							
SFK	**Sufi-Kurgan**	**52.16 294**	*i* P		**P**	**20 36 18.8**	**-0.2**
SFK			pmax	pmax				
	comp=Z,10.0nm,0.8s							
KKAR	**Karatay Array**	**52.96 299**	*e*P		**P**	**20 36 24.6**	**0.0**
KKAR	**Karatay Array**	**52.96 299**	*e*P		**P**	**20 36 24.6**	**0.0**
SVE	**Sverdlovsk**	**53.84 317**⇑	*e*P		**P**	**20 36 32.0**	**+1.2**
SVE			pmax	pmax				
	comp=Z,20nm,1.1s							
PSI	**Prapat**	**54.84 239**	LR		LR	21 00 10.5		
	comp=Z,51nm,21.9s,baz=27,slow=36							
ARU	**Arti**	**55.05 318**	P		**P**	**20 36 40.3**	**+0.7**
	comp=Z,5.5nm,0.9s,baz=81,slow=5.1,SNR=13							
ARU	**Arti**	**55.05 318**	*e*P		**P**	**20 36 40.0**	**+0.4**
	comp=Z,19nm,1.1s							
ARU	**Arti**	**55.05 318**	*e*P		**P**	**20 36 40.0**	**+0.4**
ARU			pmax	pmax				
	comp=Z,19nm,1.1s							
AB31	**Akbulak array**	**57.13 309**	*i* P		**P**	**20 36 54.8**	**+0.2**
AB31			pmax	pmax				
	comp=Z,6.0nm,0.8s							
ABKAR	**Akbulak array**	**57.13 309**	*e*P		**P**	**20 36 54.9**	**+0.3**
	comp=Z,42nm,0.8s							
SPITS	**Spitsbergen Ar**	**57.68 349**	LR		LR	21 05 37.5		
	comp=Z,152nm,20.6s,baz=160,slow=40							
AKTO	**Aktyubinsk**	**57.76 311**	P		**P**	**20 36 59.4**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=70,slow=13,SNR=9.9							
AKTO			LR		LR	21 03 14.8		
	comp=Z,160nm,19.1s,baz=325,slow=38							
KBL	**Kabul**	**57.81 290**	*e*P		**P**	**20 36 59.6**	**-0.3**
	comp=Z,13nm,1.0s							
KBL	**Kabul**	**57.81 290**	*e*P		**P**	**20 36 59.6**	**-0.3**
KBL			pmax	pmax				
	comp=Z,13nm,1.0s							
RES	**Resolute Bay**	**59.07 15**	P		**P**	**20 37 08.8**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=340,slow=6.4,SNR=6.3							
RES	**Resolute Bay**	**59.07 15**	*e*P		**P**	**20 37 08.5**	**+0.7**
	comp=Z,3.8nm,0.9s							
RES	**Resolute Bay**	**59.07 15**	*e*P		**P**	**20 37 08.5**	**+0.7**
RES			pmax	pmax				
	comp=Z,4.0nm,0.9s							
YKA	**Yellowknife Ar**	**60.21 32**	P		**P**	**20 37 16.8**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=296,slow=6.8,SNR=4.8							
WR1	**Warramunga Arr**	**60.49 190**	*e*P		**P**	**20 37 18.1**	**-0.1**
	comp=Z,27nm,1.8s							
WRA	**Warramunga Arr**	**60.49 190**	P		**P**	**20 37 18.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=7.6,slow=6.9,SNR=15							
KLMR	**Klimovskoe**	**61.91 327**	*e*P		**P**	**20 37 25.8**	**-1.5**
KLMR			*e*			20 38 04.4		
KLMR			*e*			20 39 41.2		
KLMR			pmax	pmax				
	comp=Z,13nm,1.3s							
KLMR	**Klimovskoe**	**61.91 327**	*e*P		**P**	**20 37 25.8**	**-1.5**
KLMR			AMP			20 37 28.5		
	comp=Z,13nm,1.3s							
KLMR			*e*PcP		**PcP**	**20 38 04.4**	**-3.7**
KLMR			*e*PP		**PP**	**20 39 41.3**	**-1.8**
GEYT	**Alibeck**	**63.71 298**	P		**P**	**20 37 40.1**	**+0.3**
	comp=Z,4.5nm,0.9s,baz=29,slow=3.4,SNR=12							
AS31	**Alice Springs**	**64.22 190**	*e*P		**P**	**20 37 43.9**	**+0.8**
	comp=Z,1.5nm,1.1s							
ASAR	**Alice Springs**	**64.22 190**	P		**P**	**20 37 43.9**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=14,slow=5.5,SNR=7.6							
PANH	**Panhandle Gap,**	**64.93 49**	*e*P		**P**	**20 37 49.8**	**+1.9**
VRH	**Novokhopyorsk**	**66.28 318**	*e*P		**P**	**20 37 55.7**	**-0.5**
VRH			pmax	pmax				
	comp=Z,10.0nm,1.0s							
OBN	**Obninsk**	**66.49 323**⇓	*e*P		**P**	**20 37 58.0**	**+0.5**
OBN			*e*			20 38 03.4		
OBN			*e*			20 40 23.3		
OBN			pmax	pmax				
	comp=Z,28nm,1.5s							
FIA0	**FINESS Array S**	**66.72 332**	*e*P		**P**	**20 37 59.5**	**+0.7**
FIA0	**FINESS Array S**	**66.72 332**	*e*P		**P**	**20 37 59.5**	**+0.7**
FINES	**FINESS Array B**	**66.72 332**	P		**P**	**20 37 59.5**	**+0.7**
	comp=Z,7.1nm,0.9s,baz=52,slow=7.5,SNR=11							
FINES			LR		LR	21 09 44.1		
	comp=Z,234nm,19.3s,baz=276,slow=38							
LPSR	**Galich'ya Gora**	**66.87 320**	*e*P		**P**	**20 37 59.8**	**-0.2**
LPSR			pmax	pmax				
	comp=Z,10.0nm,0.8s							
YBH	**Yreka Blue Hor**	**67.11 54**	LR		LR	21 01 55.3		
	comp=Z,62nm,20.7s,baz=26,slow=31							
VSR	**Storozhevoye**	**67.58 319**	*e*P		**P**	**20 38 03.4**	**-1.1**
VSR			pmax	pmax				
	comp=Z,6.0nm,0.8s							
NCK	**Nalchik**	**69.77 310**⇑	*e*P		**P**	**20 38 18.9**	**+0.6**
NCK			pmax	pmax				
	comp=Z,16nm,1.0s							
KVAR	**Kislovodsk Arr**	**70.02 311**	P		**P**	**20 38 21.5**	**+1.6**
	comp=Z,20nm,1.0s,baz=35,slow=17,SNR=10							
KIV	**Kislovodsk**	**70.02 311**	*e*P		**P**	**20 38 21.2**	**+1.3**
	comp=Z,29nm,1.0s							
KIV	**Kislovodsk**	**70.02 311**	*e*P		**P**	**20 38 20.6**	**+0.6**
KIV			pmax	pmax				
	comp=Z,33nm,1.1s							
KBZ	**Khabaz**	**70.03 311**	P		**P**	**20 38 21.3**	**+1.4**
	comp=Z,7.2nm,0.9s,baz=35,slow=3.3,SNR=13							
NEY	**Neytrino**	**70.42 310**⇑	*e*P		**P**	**20 38 24.8**	**+2.2**
NEY			pmax	pmax				
	comp=Z,2.0nm,0.9s							
LRM	**Limekiln Ridge**	**70.72 46**	*e*P		**P**	**20 38 26.4**	**+2.0**
NACGM	**Naroch**	**70.92 327**	*e*		**P**	**20 38 25.0**	**-0.1**
HFS	**Hagfors**	**71.81 336**	P		**P**	**20 38 30.9**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=54,slow=7.5,SNR=6.0							
HFS			LR		LR	21 13 04.1		
	comp=Z,451nm,18.6s,baz=272,slow=38							
NB2	**NORSAR Subarra**	**71.83 338**	P		**P**	**20 38 30.7**	**+0.1**
	comp=Z,8.9nm,1.0s,baz=38,slow=6.2							
NB200	**NORSAR Array S**	**71.83 338**	*e*P		**P**	**20 38 31.4**	**+0.8**
NOA	**NORSAR Array B**	**71.83 338**	P		**P**	**20 38 31.4**	**+0.8**
	comp=Z,4.7nm,0.9s,baz=38,slow=6.0,SNR=6.1							
NOA			LR		LR	21 15 50.8		
	comp=Z,135nm,18.3s,baz=270,slow=41							
AKASG	**Malin Array Be**	**72.73 323**	P		**P**	**20 38 36.5**	**+0.5**
	comp=Z,5.8nm,0.9s,baz=43,slow=6.0,SNR=5.1							
AKBB	**Malin Array Si**	**72.73 323**	*e*P		**P**	**20 38 35.9**	**-0.2**
	comp=Z,9.2nm,0.9s							
AKBB	**Malin Array Si**	**72.73 323**	*e*P		**P**	**20 38 35.9**	**-0.2**
AKBB			pmax	pmax				
	comp=Z,9.0nm,0.9s							

KIEV	**Kiev**	**72.75 323**	*e*P		**P**	**20 38 36.1**	**0.0**
	comp=Z,8.3nm,0.9s							
KIEV	**Kiev**	**72.75 323**⇑	*i*P		**P**	**20 38 36.0**	**-0.2**
KIEV			pmax	pmax				
	comp=Z,12nm,1.1s							
AK11	**Malin Array Si**	**72.78 323**	*e*P		**P**	**20 38 37.0**	**+0.7**
FRB	**Frobisher Bay**	**73.26 14**	P		**P**	**20 38 38.7**	**-0.2**
FRB			pmax	pmax				
	comp=Z,8.0nm,0.9s							
PDAR	**Pinedale Array**	**74.27 47**	P		**P**	**20 38 47.0**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=67,slow=6.9,SNR=3.4							
MALT	**Malatya**	**76.05 308**	P		**P**	**20 38 57.9**	**+2.1**
MALT			pmax	pmax				
	comp=Z,30nm,1.1s							
W13A	**Hualapai Mount**	**76.63 55**	*e*P		**P**	**20 39 00.6**	**+1.3**
	comp=Z,19nm,1.8s							
BUR08	**Bucovina Ar. S**	**76.76 322**	*e*P		**P**	**20 38 59.8**	**+0.1**
BUR04	**Bucovina Ar. S**	**76.77 322**	*e*P		**P**	**20 39 00.3**	**+0.5**
STHS	**Stebnicka Huta**	**77.24 326**	*e*P		**P**	**20 39 03.8**	**+1.6**
STHS			pmax	pmax				
	comp=Z,3.0nm,0.9s							
STHS	**Stebnicka Huta**	**77.24 326**	*e*P		**P**	**20 39 03.8**	**+1.6**
STHS			*e*PP		**PP**	**20 41 54.5**	**-1.0**
CRVS	**Cervenica-Dubn**	**77.53 325**	*e*P		**P**	**20 39 05.4**	**+1.6**
CRVS	**Cervenica-Dubn**	**77.53 325**	*e*P		**P**	**20 39 05.4**	**+1.6**
BR101	**Keskin Array S**	**77.91 312**	*e*P		**P**	**20 39 07.0**	**+0.6**
BRTR	**Keskin Array B**	**77.91 312**	P		**P**	**20 39 07.0**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=54,slow=6.3,SNR=7.6							
BRTR			LR		LR	21 20 07.7		
	comp=Z,156nm,18.5s,baz=302,slow=41							
BRTR	**Keskin Array B**	**77.91 312**	P		**P**	**20 39 07.0**	**+0.7**
BRTR			pmax	pmax				
	comp=Z,1.0nm,0.9s							
BRTR			MLR	MLR				
	comp=Z,157nm,18.5s							
LANS	**Liptovska Anna**	**78.20 326**	*e*P		**P**	**20 39 09.4**	**+1.8**
LANS	**Liptovska Anna**	**78.20 326**	*e*P		**P**	**20 39 09.4**	**+1.8**
BR231	**Keskin MP Arra**	**78.32 313**	*e*P		**P**	**20 39 07.1**	**-1.4**
MORC	**Moravsky Berou**	**78.53 328**	*e*P		**P**	**20 39 10.1**	**+0.7**
	comp=Z,40nm,1.0s							
MORC	**Moravsky Berou**	**78.53 328**	*e*P		**P**	**20 39 10.1**	**+0.7**
MORC			pmax	pmax				
	comp=Z,40nm,1.0s							
DPC	**Dobruska-Polom**	**78.57 329**	*e*P		**P**	**20 39 11.2**	**+1.6**
DPC	**Dobruska-Polom**	**78.57 329**	*e*P		**P**	**20 39 11.2**	**+1.6**
UPC	**Upice**	**78.57 329**	*e*P		**P**	**20 39 11.2**	**+1.6**
UPC	**Upice**	**78.57 329**	*e*P		**P**	**20 39 11.2**	**+1.6**
VYHS	**Vyhne**	**78.98 326**	*e*P		**P**	**20 39 13.2**	**+1.4**
VYHS			pmax	pmax				
	comp=Z,3.0nm,1.1s							
VYHS	**Vyhne**	**78.98 326**	*e*P		**P**	**20 39 13.2**	**+1.4**
CLL	**Collm**	**79.09 331**	*e*P		**P**	**20 39 13.0**	**+0.6**
	comp=Z,7.0nm,0.9s							
CLL	**Collm**	**79.09 331**	*e*P		**P**	**20 39 13.0**	**+0.6**
CLL			pmax	pmax				
	comp=Z,7.0nm,0.9s							
VRAC	**Vranov**	**79.28 328**	P		**P**	**20 39 15.1**	**+1.7**
	comp=Z,3.0nm,0.6s,baz=45,slow=7.3,SNR=3.7							
GOPC	**GO Pecny, Ondr**	**79.53 329**	*e*P		**P**	**20 39 16.2**	**+1.4**
GOPC	**GO Pecny, Ondr**	**79.53 329**	*e*P		**P**	**20 39 16.2**	**+1.4**
PRU	**Pruhonice**	**79.56 329**	*e*P		**P**	**20 39 16.1**	**+1.1**
PRU	**Pruhonice**	**79.56 329**	*e*P		**P**	**20 39 16.1**	**+1.1**
KHC	**Kasperske Hory**	**80.62 329**	*e*P		**P**	**20 39 22.0**	**+1.2**
KHC			*ex*		x	20 39 40.6		
KHC	**Kasperske Hory**	**80.62 329**	*e*P		**P**	**20 39 22.0**	**+1.2**
KHC			*e*			20 39 40.6		
GERES	**GERESS Array B**	**80.81 329**	P		**P**	**20 39 22.6**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=33,slow=5.1,SNR=6.5							
RAYN	**Ar Rayn**	**80.92 293**	*e*P		**P**	**20 39 22.9**	**+0.1**
	comp=Z,4.6nm,1.2s							
VTS	**Vitosha**	**81.42 320**	*e*P		**P**	**20 39 26.1**	**+0.8**
	comp=Z,5.5nm,0.9s							
VTS	**Vitosha**	**81.42 320**	*e*P		**P**	**20 39 26.2**	**+0.8**
VTS			pmax	pmax				
	comp=Z,6.0nm,0.9s							
SOKA	**Soboth**	**82.00 327**	*i* PcP		**P**	**20 39 29.2**	**+1.0**
	SNR=11							
FUORN	**Ofenpass-Fuorn**	**83.96 330**	*e*P		**P**	**20 39 40.3**	**+1.7**
	comp=Z,16nm,1.0s							
SNAA	**Sanae**	**144.31 197**	PKP		**PKPab**	**20 46 42.1**	**+1.0**
	comp=Z,4.4nm,0.7s,baz=148,slow=5.2,SNR=6.7							

*SIGU **07** 20:34:46.9±1.0, 50.°N±1.°×18.°5E±0.°9, h5km, MD2.7/11*
*ISCJB **07** 20:34:47.3±0.3, 49.°85N±0.°02×18.°42E±0.°02, h0km, Error ellipse: s-maj=3.7km s-min=2.0km az=18.1*
*IPEC **07** 20:34:48.5±0.2, 49.°86N×18.°54E, h2km±3km, ML2.2/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
*CSEM **07** 20:34:48.3±0.1, 49.°84N×18.°48E, h1km, ML3.2/8, Error ellipse: s-maj=3.9km s-min=2.1km az=18.0*

ISC 07 20:34:47.7±0.7, 49.87N±0.°03×18.51E±0.°02, h0km, n69, σ1.9s 03/108, 5C-12D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**263**	⇓*i*P		**Pg**	**Sg**	**20 34 53.9**	**+1.7**
OKC				*e*SG			**Sg**	**20 34 57.5**	**+2.2**
	comp=Z,1µm,1.0s								
OKC	**Ostrava-Krasne**	**0.24**	**263**	Pg		**Pg**	**Sg**	**20 34 53.9**	**+1.7**
OKC				Sg			**Sg**	**20 34 57.5**	**+2.2**
	1µm,1.0s								
RAC	**Raciborz**	**0.30**	**317**	*e*Pg		**Pb**		**20 34 55.7**	**-0.2**
RAC				*e*Sg		**Sb**		**20 35 00.4**	**-1.0**
MORC	**Moravsky Berou**	**0.63**	**262**	S		**Sg**		**20 35 09.2**	**+1.2**
MORC				⇑*i*P		**Pb**		**20 35 00.8**	**-0.9**
MORC	**Moravsky Berou**	**0.63**	**262**	*e*Pg		**Pb**		**20 35 00.7**	**-0.9**
MORC				S		**Sg**		**20 35 09.2**	**+1.2**
OJC	**Ojcow**	**0.90**	**67**	*e*Pg		**Pb**		**20 35 05.6**	**-0.6**
OJC				*e*Sg		**Sb**		**20 35 18.7**	**-0.1**
OJC	**Ojcow**	**0.90**	**67**	*e*Pg		**Pb**		**20 35 05.6**	**-0.6**
OJC				*e*Sg		**Sb**		**20 35 18.7**	**-0.1**
LANS	**Liptovska Anna**	**0.95**	**139**	*e*PG		**Pb**		**20 35 07.0**	**-0.1**
LANS				*e*SG		**Sn**		**20 35 21.6**	**-1.1**
NIE	**Niedzica**	**1.25**	**110**	*e*Pg		**Pn**		**20 35 12.5**	**0.0**
NIE				*e*Sg		**Sn**		**20 35 31.0**	**+1.0**
NIE	**Niedzica**	**1.25**	**110**	*e*Pg		**Pn**		**20 35 12.5**	**0.0**
NIE				*e*Sg		**Sn**		**20 35 31.0**	**+1.0**
VRAC	**Vranov**	**1.37**	**247**	⇓*i*P		**Pg**		**20 35 13.8**	**-0.1**
VRAC	**Vranov**	**1.37**	**247**	⇓*i*P		**Pg**		**20 35 13.8**	**-0.1**
VRAC	**Vranov**	**1.37**	**247**	*e*Pg		**Pb**		**20 35 14.2**	**0.0**
	baz=66								
VRAC				*e*Sg			**Sg**	**20 35 31.7**	**+0.1**
	28nm,0.2s,baz=66								
VRAC				S			**Sb**	**20 35 32.4**	**+0.2**
VYHS	**Vyhne**	**1.39**	**171**	*e*Pg			**Pn**	**20 35 14.3**	**-0.1**
VYHS				*e*Sn			**Sn**	**20 35 33.7**	**+0.2**
VYHS	**Vyhne**	**1.39**	**171**	*e*PG			**Pn**	**20 35 14.3**	**-0.1**
VYHS				*e*SN			**Sn**	**20 35 33.6**	**+0.1**
VYHS				*e*LG			Lg	20 35 39.9	
DPC	**Dobruska-Polom**	**1.49**	**290**	*e*PG			**Pb**	**20 35 16.2**	**-0.1**
DPC				*e*SG			**Sb**	**20 35 35.7**	**0.0**
	comp=Z,229nm,1.7s								
DPC	**Dobruska-Polom**	**1.49**	**290**	Pg			**Pb**	**20 35 16.2**	**-0.1**
DPC				Sg			**Sb**	**20 35 35.7**	**0.0**
	229nm,1.7s								
SMOL	**Smolenice**	**1.53**	**208**	*e*PG			**Pn**	**20 35 16.2**	**-0.1**
SMOL				*e*SN			**Sg**	**20 35 36.8**	**0.0**
KRUC	**Moravsky**	**1.60**	**240**	*e*Pg			**Pn**	**20 35 17.6**	**+0.4**
	baz=60								
KRUC				*e*Sg			**Sg**	**20 35 39.1**	**+0.1**
	21nm,0.3s,baz=60								
MODS	**Modra-Piesok**	**1.70**	**209**	*e*PG			**Pn**	**20 35 17.8**	**-0.9**
MODS				*e*LG			Lg	20 35 38.7	
KSP	**Ksiaz**	**1.72**	**305**	*e*Pn			**Pn**	**20 35 19.3**	**+0.4**
KSP				*e*Pg			**Pg**	**20 35 21.7**	**+1.0**
KSP				*e*Sg			**Sg**	**20 35 44.2**	**+1.2**
KSP	**Ksiaz**	**1.72**	**305**	*e*Pn			**Pn**	**20 35 19.3**	**+0.4**
UPC	**Upice**	**1.73**	**293**	⇓*e*PG			**Pb**	**20 35 20.2**	**-0.1**
UPC				*e*SG			**Sg**	**20 35 43.8**	**+0.6**
	comp=Z,134nm,1.0s								
UPC	**Upice**	**1.73**	**293**	Pg			**Pb**	**20 35 20.2**	**-0.1**
UPC				Sg			**Sg**	**20 35 43.8**	**+0.6**
	134nm,1.0s								
STHS	**Stebnicka Huta**	**1.83**	**103**	*e*Pg			**Pg**	**20 35 23.6**	**+0.8**
STHS	**Stebnicka Huta**	**1.83**	**103**	*e*PG			**Pg**	**20 35 23.6**	**+0.8**
STHS				*e*SN			**Sg**	**20 35 50.2**	**+3.6**
STHS				*e*LG			Lg	20 35 53.1	
KECS	**Kecovo**	**1.90**	**136**	*e*Sn			**Sb**	**20 35 47.0**	**-0.5**
KECS	**Kecovo**	**1.90**	**136**	*e*SN			**Sb**	**20 35 47.0**	**-0.5**
KECS				*e*LG			Lg	20 35 51.9	
ZST	**Bratislava**	**1.91**	**209**	*e*PG			**Pn**	**20 35 20.6**	**-0.9**
ZST				*e*SN			**Sn**	**20 35 44.5**	**-1.8**
ZST				*e*LG			Lg	20 35 48.4	

PSZ	**Piszkesteto**	**2.15 154**⇑	*i*P			**Pn**	**20 35 25.4**	**+0.4**
PSZ	**Piszkesteto**	**2.15 154**⇑	*i*P			**Pn**	**20 35 25.4**	**+0.4**
CRVS	**Cervenica-Dubn**	**2.16 116**	*e*Pg			**Pg**	**20 35 28.9**	**-0.2**
CRVS	**Cervenica-Dubn**	**2.16 116**	*e*PG			**Pg**	**20 35 28.9**	**-0.2**
PRU	**Pruhonice**	**2.57 274**⇓	*e*PN			**Pn**	**20 35 29.8**	**-0.7**
PRU			*e*PG			**Pb**	**20 35 35.6**	**+1.0**
PRU			*e*SG			**Sg**	**20 36 08.9**	**-1.2**
	comp=Z,23nm,0.7s							
PRU	**Pruhonice**	**2.57 274**	Pn			**Pn**	**20 35 29.8**	**-0.7**
CONA	**Conrad Observa**	**2.61 223**	Pn			**Pn**	**20 35 30.9**	**-0.3**
	1.5nm,0.2s							
CONA	**Conrad Observa**	**2.61 223**	*e*Pn			**Pn**	**20 35 30.9**	**-0.3**
	1.5nm,0.2s							
PVCC	**Panska Ves**	**2.62 286**⇓	*e*PN			**Pn**	**20 35 30.8**	**-0.4**
PVCC			*e*PG			**Pb**	**20 35 35.3**	**-0.2**
PVCC			*e*SG			**Sg**	**20 36 11.2**	**-0.5**
PVCC	**Panska Ves**	**2.62 286**	Pn			**Pn**	**20 35 30.8**	**-0.4**
PVCC			Sg			**Sg**	**20 36 11.2**	**-0.5**
UZH	**Uzhgorod**	**2.77 115**	*e*Pn			**Pb**	**20 35 37.6**	**-0.5**
ONO	**Onokovtsy**	**2.78 114**	*e*Pn			**Pb**	**20 35 37.1**	**-1.1**
STZU	**Stuzhytsa**	**2.82 106**	*e*Pn			**Pb**	**20 35 37.3**	**-1.6**
MUKU	**Mukachevo**	**3.09 116**	*e*Pn			**Pb**	**20 35 43.5**	**+0.1**
BERU	**Beregovo**	**3.17 119**	*e*Pn			**Pb**	**20 35 43.5**	**-1.5**
SHIU	**Shidnytsya**	**3.23 100**	*e*Pn			**Pb**	**20 35 44.3**	**-1.6**
ARSA	**Arzberg**	**3.29 218**	Pn			**Pn**	**20 35 41.1**	**+0.6**
	1.2nm,0.2s							
ARSA	**Arzberg**	**3.29 218**	*e*Pn			**Pn**	**20 35 41.1**	**+0.6**
	1.2nm,0.2s							
KHC	**Kasperske Hory**	**3.30 259**	*e*PN			**Pn**	**20 35 40.3**	**-0.3**
KHC			*e*PG			**Pb**	**20 35 48.1**	**+1.0**
KHC			*e*SG			**Sg**	**20 36 32.6**	**-1.0**
	comp=Z,21nm,0.6s							
KHC	**Kasperske Hory**	**3.30 259**	Pn			**Pn**	**20 35 40.3**	**-0.3**
KHC			Sg			**Sg**	**20 36 32.6**	**-1.0**
	21nm,0.6s							
BRIU	**Brid**	**3.34 116**	*e*Pn			**Pb**	**20 35 45.7**	**-2.0**
MOA	**Molln**	**3.45 236**	Pn			**Pn**	**20 35 42.6**	**-0.1**
	0.9nm,0.1s							
MOA	**Molln**	**3.45 236**	*i* Pn			**Pn**	**20 35 42.6**	**-0.1**
	0.9nm,0.1s							
KORU	**Korolevo**	**3.49 118**	*e*Pn			**Pb**	**20 35 48.5**	**-1.9**
MEZ	**Mezhgor'ye**	**3.55 111**	*e*Pn			**Pb**	**20 35 49.5**	**-1.9**
MORS	**Morshin**	**3.59 100**	*e*Pn			**Pb**	**20 35 50.3**	**-1.7**
CLL	**Collm**	**3.79 294**	*e*Pn			**Pn**	**20 35 47.0**	**-0.4**
CLL			*e*Pg			**Pg**	**20 36 00.0**	**-0.4**
CLL			*e*Sg			**Sg**	**20 36 47.0**	**-2.5**
	comp=Z,31nm,1.0s							
NKC	**Novy Kostel**	**3.92 278**	*e*PN			**Pn**	**20 35 49.7**	**+0.5**
NKC			*e*PG			**Pg**	**20 36 00.8**	**-2.1**
NKC			*e*SG			**Sg**	**20 36 54.1**	**+0.4**
	comp=Z,24nm,0.7s							
NKC	**Novy Kostel**	**3.92 278**	Pn			**Pn**	**20 35 49.7**	**+0.5**
NKC			Sg			**Sg**	**20 36 54.1**	**+0.4**
	comp=Z,24nm,0.7s							
DRGR		**4.16 136**⇓	*i*P			**Pn**	**20 35 53.1**	**+0.5**
DRGR		**4.16 136**⇓	*i*P			**P

VVHS	**Vashon High Sc**	**62.62**	**327**	*e*P		**P**	**20 47 06.5**	**-2.1**
YKA	**Yellowknife Ar**	**69.87**	**343**	P		**P**	**20 47 54.6**	**+0.2**
	0.7nm,0.5s,baz=141,slow=5.9,SNR=14							
LIC	**Lamto**	**73.02**	**83**	*e*P		**P**	**20 48 14.7**	**+0.5**
	29nm,1.1s							
TIC	**Toumodi**	**73.06**	**83**	*e*P		**P**	**20 48 14.7**	**+0.2**
DBIC	**Dimbokro**	**73.22**	**83**	P		**P**	**20 48 16.1**	**+0.7**
	2.5nm,0.4s,baz=262,slow=7.9							
KIC	**Kosan Boka**	**73.31**	**83**	*e*P		**P**	**20 48 16.6**	**+0.6**
	16nm,0.6s							
KOWA	**Kowa**	**74.71**	**75**	P		**P**	**20 48 24.9**	**+0.9**
	7.9nm,0.6s,baz=256,slow=7.4,SNR=26							
TOA1	**Torodi Ar. Sit**	**80.11**	**76**	*e*P		**P**	**20 48 54.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**80.12**	**76**	P		**P**	**20 48 54.1**	**0.0**
	1.4nm,0.3s,baz=283,slow=5.9,SNR=22							
ILAR	**Eielson Array**	**82.83**	**336**	P		**P**	**20 49 08.6**	**+1.4**
	0.2nm,0.7s,baz=139,slow=3.7,SNR=6.5							
ILB	**Eielson Array**	**82.83**	**336**	*e*P		**P**	**20 49 08.0**	**+0.8**
ARA0	**ARCESS Array S**	**96.27**	**20**	*e*P		**P**	**20 50 11.2**	**+0.4**
ARCES	**ARCESS Array B**	**96.27**	**20**	P		**P**	**20 50 11.2**	**+0.4**
	8.8nm,1.1s,baz=268,slow=4.5,SNR=3.3							
KURK	**Kurchatov**	**127.28**	**19**	*e*PKPdf		**PKPdf**	**20 55 48.6**	**+2.3**
KURBB	**Kurchatov Arra**	**127.33**	**19**	PKP		**PKPdf**	**20 55 48.6**	**+2.2**
	0.3nm,0.5s,baz=321,slow=2.7,SNR=5.7							
MK32	**Makanchi Array**	**131.89**	**18**	*e*PKPdf		**PKPdf**	**20 55 56.8**	**+1.5**
MKAR	**Makanchi Array**	**131.89**	**18**	PKP		**PKPdf**	**20 55 56.8**	**+1.5**
	0.2nm,0.5s,baz=299,slow=2.4,SNR=6.0							
SONA0	**Songino Array**	**133.97**	**356**	*e*PKPdf		**PKPdf**	**20 56 02.3**	**+3.0**
SONM	**Songino Array**	**133.97**	**356**	PKP		**PKPdf**	**20 56 02.3**	**+3.0**
	0.1nm,0.4s,baz=326,slow=0.2,SNR=2.9							
WR1	**Warramunga Arr**	**141.85**	**234**	*e*PKPpre		PKPpre	20 56 10.1	
WRA	**Warramunga Arr**	**141.85**	**234**	PKhKP		PKPpre	20 56 10.1	
	0.4nm,0.7s,baz=125,slow=2.7,SNR=5.6							
PYUN	**Piuthan**	**147.98**	**33**	*e*P		**PKPab**	**20 56 32.8**	**+1.3**
KKN	**Kakani**	**149.44**	**31**	*e*P		**PKPab**	**20 56 33.6**	**-3.8**
DMN	**Daman**	**149.50**	**31**	*e*P		**PKPab**	**20 56 33.9**	**-3.8**
PKIN	**Phulchoki**	**149.67**	**31**	*e*P		**PKPab**	**20 56 34.6**	**-3.8**
PKI	**Pulchoki**	**149.69**	**31**	*e*P		**PKPbc**	**20 56 33.8**	**+1.0**
RAMN	**Ramite**	**150.79**	**30**	*e*P		**PKPbc**	**20 56 36.6**	**+1.3**
	8.7nm,0.7s							
ODAN	**Odare**	**151.25**	**28**	*e*P		**PKPbc**	**20 56 37.7**	**+1.3**
	6.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**163.09**	**11**	PKPab		**PKPab**	**20 57 36.0**	**+0.4**
	0.7nm,0.7s,baz=337,slow=5.4,SNR=6.5							

MAN 07 20:49:39.9 7.8N×125.5 0.5E, h27 km, mb3.9, ML2.7, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.01**	**287**	⇑*i*P	Pb	20 49 42.7	-0.8
SCPH				*i* S	Sb	20 49 45.4	-1.3
MSLP	**Maasin**	**0.73**	**299**	*e*P	Pn	20 49 54.0	+0.5
MSLP				*e*S	Sn	20 50 04.4	+0.7
BUTP	**Butuan**	**0.81**	**172**	*e*P	Pb	20 49 54.4	-0.2
BUTP				*e*S	Sn	20 50 07.0	+1.2

*ISK **07** 20:59:09.5, 39.07N×29.12E, h5 km, ML2.7/18*
*ISCJB **07** 20:59:10.3±0.5, 39.12N±0.03×29.07E±0.03, h1km±6km, Error ellipse: s-maj=4.6km s-min=3.4km az=173.5*
*CSEM **07** 20:59:10.6±0.1, 39.12N×29.08E, h5km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.9km az=168.0*
*DDA **07** 20:59:10.3, 39.12N×29.06E, h8km, Ml2.8*
ISC 07 20:59:10.5±0.9, 39.12N±0.02×29.08E±0.02, h7 km±6km, n55, σ1§54/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.09**	**248**	PG	**Pg**	**20 59 12.4**	**-0.2**
SIMA				SG	**Sg**	**20 59 14.3**	**+0.1**
SIMA	**Simav-Kutahya**	**0.09**	**248**	*e*Pg	**Pg**	**20 59 12.4**	**-0.2**
SIMA				*e*Sg	**Sg**	**20 59 14.3**	**+0.1**
DEMI	**Demirci**	**0.29**	**256**	*i* P	**Pg**	**20 59 16.3**	**0.0**
DEMI				*i* S	**Sg**	**20 59 20.1**	**-0.1**
DEMI	**Demirci**	**0.29**	**256**	P	**Pg**	**20 59 16.3**	**0.0**
DEMI				S	**Sg**	**20 59 20.1**	**-0.1**
GDZ	**Gediz**	**0.31**	**95**	*i* P	**Pg**	**20 59 16.2**	**-0.4**
GDZ				*i* S	**Sg**	**20 59 21.1**	**+0.3**
GDZ	**Gediz**	**0.31**	**95**	P	**Pg**	**20 59 16.2**	**-0.4**
GDZ				S	**Sg**	**20 59 21.1**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**41**	PG	**Pg**	**20 59 18.5**	**-0.7**
TVSB	**Tavsanli**	**0.45**	**41**	*e*Pg	**Pg**	**20 59 18.5**	**-0.7**
KULA	**Kula-Manisa**	**0.69**	**209**	PG	**Pg**	**20 59 32.3**	**-0.3**
KULA				SG	**Sg**	**20 59 32.3**	**-0.3**
KULA	**Kula-Manisa**	**0.69**	**209**	*e*Pg	**Pg**	**20 59 22.9**	**-0.8**
KULA				*e*Sg	**Sg**	**20 59 32.3**	**-0.3**
KHAL	**Karahalli**	**0.81**	**157**	*i* P	**Pn**	**20 59 28.3**	**-0.1**
KHAL				*i* S	**Sg**	**20 59 37.1**	**+0.5**
KHAL	**Karahalli**	**0.81**	**157**	P	**Pn**	**20 59 28.3**	**-0.1**
KHAL				S	**Sg**	**20 59 37.1**	**+0.5**
ORLT	**Orhaneli**	**0.94**	**351**	PG	**Pb**	**20 59 28.7**	**-0.5**
ORLT	**Orhaneli**	**0.94**	**351**	*e*Pg	**Pb**	**20 59 28.7**	**-0.5**
AKHS	**Akhisar**	**1.02**	**257**	*i* P	**Pb**	**20 59 30.4**	**0.0**
AKHS				*i* S	**Sg**	**20 59 42.8**	**-0.4**
AKHS	**Akhisar**	**1.02**	**257**	P	**Pb**	**20 59 30.4**	**0.0**
AKHS				S	**Sg**	**20 59 42.8**	**-0.4**
BALB	**Balikesir**	**1.07**	**300**	PN	**Pb**	**20 59 31.4**	**+0.1**
BALB	**Balikesir**	**1.07**	**300**	*e*Pn	**Pb**	**20 59 31.4**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.09**	**284**	*i* P	**Pb**	**20 59 31.7**	**0.0**
STEP				*i* S	**Sn**	**20 59 47.5**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.09**	**284**	P	**Pb**	**20 59 31.7**	**0.0**
STEP				S	**Sn**	**20 59 47.5**	**-0.1**
IGD	**Bursa**	**1.15**	**4**	*i* P	**Pg**	**20 59 32.3**	**-0.3**
IGD				*i* S	**Sn**	**20 59 49.0**	**0.0**
KZIL	**AFYON_Kizioren**	**1.19**	**136**	*i* P	**Pn**	**20 59 34.6**	**+0.9**
KZIL				*i* S	**Sn**	**20 59 50.8**	**+0.7**
KZIL	**AFYON_Kizioren**	**1.19**	**136**	P	**Pn**	**20 59 34.6**	**+0.9**
KZIL				S	**Sn**	**20 59 50.8**	**+0.7**
CAVI	**Cavuskoy**	**1.23**	**28**	PN	**Pg**	**20 59 33.9**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**28**	*e*Pn	**Pg**	**20 59 33.9**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	PN	**Pn**	**20 59 34.9**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	*e*Pn	**Pn**	**20 59 34.9**	**+0.4**
SHUT	**Suhut-Afyon**	**1.28**	**116**	PN	**Pg**	**20 59 33.8**	**-1.2**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*Pn	**Pg**	**20 59 33.8**	**-1.2**
KCTX	**Karacabey (Bur**	**1.28**	**334**	PN	**Pb**	**20 59 35.4**	**+0.5**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*Pn	**Pb**	**20 59 35.4**	**+0.5**
BALY	**Balya**	**1.29**	**299**	*i* P	Pn	20 59 28.4	-6.6
BALY				*i* S	**Sg**	**20 59 50.3**	**-1.9**
BORA	**Eskisehir**	**1.31**	**54**	*i* P	**Pb**	**20 59 35.4**	**0.0**
BORA				*i* S	**Sn**	**20 59 53.5**	**+0.5**
BORA	**Eskisehir**	**1.31**	**54**	P	**Pb**	**20 59 35.4**	**0.0**
BORA				S	**Sn**	**20 59 53.5**	**+0.5**
ADVT	**Abdulvahap**	**1.41**	**21**	PN	**Pb**	**20 59 36.9**	**-0.2**
ADVT	**Abdulvahap**	**1.41**	**21**	*e*Pn	**Pb**	**20 59 36.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.43**	**311**	PN	**Pg**	**20 59 37.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*Pn	**Pg**	**20 59 37.5**	**-0.3**
ESKT	**Eskisehir**	**1.43**	**73**	*i* P	**Pn**	**20 59 36.6**	**-0.3**
SEYT	**Eskypehyr**	**1.43**	**73**	P	**Pn**	**20 59 36.6**	**-0.3**
ARMT	**Armutlu**	**1.46**	**353**	PN	**Pb**	**20 59 37.9**	**-0.1**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pb**	**20 59 37.9**	**-0.1**
EDC	**Edincik**	**1.55**	**323**	PN	**Pb**	**20 59 39.2**	**-0.3**
EDC	**Edincik**	**1.55**	**323**	*e*Pn	**Pb**	**20 59 39.2**	**-0.3**
GULT	**Gulveren**	**1.72**	**40**	PN	**Pn**	**20 59 41.3**	**+0.4**
GULT	**Gulveren**	**1.72**	**40**	*e*Pn	**Pn**	**20 59 41.3**	**+0.4**
AYDN	**Tasoluk**	**1.73**	**213**	*i* P	Pg	20 59 52.4	+8.7
BUY	**Buyukada**	**1.74**	**1**	PN	**Pn**	**20 59 41.7**	**+0.7**
BUY	**Buyukada**	**1.74**	**1**	*e*Pn	**Pn**	**20 59 41.7**	**+0.7**
KAVV	**Kandilli-Istan**	**1.95**	**359**	PN	**Pn**	**20 59 44.6**	**+0.7**
KAVV	**Kandilli-Istan**	**1.95**	**359**	*e*Pn	**Pn**	**20 59 44.6**	**+0.7**
ISK	**Istanbul-Kandi**	**1.95**	**359**	PN	**Pn**	**20 59 44.6**	**+0.7**
ISK	**Istanbul-Kandi**	**1.95**	**359**	*e*Pn	**Pn**	**20 59 44.6**	**+0.7**
CTKS	**Kestanelik-??a**	**2.17**	**348**	PN	**Pn**	**20 59 47.8**	**+0.9**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*Pn	**Pn**	**20 59 47.8**	**+0.9**

*CSEM **07** 20:59:38.1, 36.95N×27.92E, h6km, ML2.2, After ISK*
ISK 07 20:59:38.1, 36.95N×27.92E, h6 km, ML2.2/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.34**	**58**	PG	Pg	20 59 45.2	+0.4
YER				SG	Sg	20 59 50.7	+1.4
YER	**Yerkesik**	**0.34**	**58**	*e*Pg	Pg	20 59 45.2	+0.4
YER				*e*Sg	Sg	20 59 50.7	+1.4
BODT	**Bodrum**	**0.50**	**283**	PG	Pg	20 59 48.1	+0.4
BODT				SG	Sb	20 59 55.8	-1.0
BODT	**Bodrum**	**0.50**	**283**	*e*Pg	Pg	20 59 48.1	+0.4
BODT				*e*Sg	Sb	20 59 55.8	-1.0
TURN	**Turunc**	**0.55**	**98**	PG	Pg	20 59 44.8	-4.0
TURN				SG	Sg	20 59 49.8	-6.2
TURN	**Turunc**	**0.55**	**98**	*i* P	Pg	20 59 44.7	-4.1
TURN				*i* S	Sg	20 59 49.8	-6.2
TURN	**Turunc**	**0.55**	**98**	*e*Pg	Pg	20 59 44.8	-4.0
TURN				*e*Sg	Sg	20 59 49.8	-6.2
GCAM	**G?zelcaml?**	**0.92**	**324**	PG	Pb	20 59 56.4	-0.1
GCAM				SG	Sb	21 00 09.8	+0.8
GCAM	**G?zelcaml?**	**0.92**	**324**	*e*Pg	Pb	20 59 56.4	-0.1
GCAM				*e*Sg	Sb	21 00 09.8	+0.8
FETY	**Fethiye**	**0.99**	**108**	PG	Pb	20 59 57.4	-0.2
FETY	**Fethiye**	**0.99**	**108**	*e*Pg	Pb	20 59 57.4	-0.2
KARP	**Karpathos**	**1.53**	**204**	PN	Pb	21 00 06.6	-0.3
KARP	**Karpathos**	**1.53**	**204**	*e*Pn	Pb	21 00 06.6	-0.3

*IDC **07** 21:12:40.0±1.5, 22.12S×170.08E, h0km, mb3.9/10, mb1 4.1/11, mb1mx4.0/44, mbtmp3.9/11, ML3.8/1, MS3.9/25, Ms1 3.9/25, ms1mx3.8/42, Error ellipse: s-maj=47.3km s-min=20.8km az=148.0*
*NEIC **07** 21:12:41.3±0.9, 22.11S×170.12E, h10km, mb4.1/1, Error ellipse: s-maj=30.6km s-min=11.9km az=155.0*
*ISCJB **07** 21:12:42.1±1.0, 22.1S±0.2×170.05E±0.10, h25km, mb3.8/13, MS3.9/20, Error ellipse: s-maj=31.3km s-min=10.3km az=163.7*
ISC 07 21:12:43.8±1.3, 22.0S±0.3×170.1E±0.1, h25 km, n41, σ1§54/26, mb4.0/13, MS3.9/20, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.36**	**269**	Pn	**Pn**	**21 13 33.8**	**-1.0**
	8.6nm,0.3s,baz=114,slow=8.3,SNR=103						
DZM				LR	LR	21 14 05.3	
	comp=Z,256nm,18.8s,baz=226,slow=25						
DZM				Sn	**Sn**	**21 14 12.5**	**-1.4**
	21nm,0.3s,baz=108,slow=20,SNR=5.6						
DZM	**Mont Dzumac**	**3.36**	**269**	*e*Pn	**Pn**	**21 13 34.2**	**-0.6**
DZM				*e*S	**Sn**	**21 14 13.8**	**-0.2**
RAO	**Raoul Island**	**13.00**	**126**	LR	LR	21 19 33.4	
	comp=Z,545nm,19.0s,baz=300,slow=32						
HNR	**Honiara**	**15.86**	**321**	LR	LR	21 22 11.2	
	comp=Z,337nm,18.4s,baz=155,slow=36						
URZ	**Urewera**	**17.27**	**161**	LR	LR	21 21 52.8	
	comp=Z,380nm,18.8s,baz=350,slow=32						
AFI	**Afiamalu**	**19.06**	**68**	LR	LR	21 23 44.6	
	comp=Z,192nm,18.1s,baz=148,slow=35						
RPZ	**Rata Peaks**	**21.63**	**178**	LR	LR	21 24 46.6	
	comp=Z,163nm,19.1s,baz=356,slow=34						
CTA	**Charters Tower**	**22.30**	**271**	P	**P**	**21 17 41.1**	**+1.5**
	4.6nm,0.9s,baz=96,slow=9.2,SNR=2.2						
PMG	**Port Moresby**	**25.33**	**296**	LR	LR	21 27 28.8	
	comp=Z,316nm,18.2s,baz=136,slow=35						
STKA	**Stephens Creek**	**27.13**	**243**	P	**P**	**21 18 24.9**	**-0.2**
	0.9nm,0.7s,baz=101,slow=17,SNR=2.7						
STKA				LR	LR	21 28 27.9	
	comp=Z,277nm,18.9s,baz=36,slow=35						
ASAR	**Alice Springs**	**33.31**	**260**	P	**P**	**21 19 19.5**	**-0.3**
	1.8nm,0.9s,baz=85,slow=8.9,SNR=10						
ASAR				LR	LR	21 32 15.3	
	comp=Z,267nm,20.1s,baz=92,slow=35						
WRA	**Warramunga Arr**	**33.38**	**267**	P	**P**	**21 19 19.3**	**-1.1**
	1.0nm,0.5s,baz=98,slow=8.2,SNR=14						
FITZ	**Fitzroy Crossi**	**41.80**	**267**	LR	LR	21 38 06.5	
	comp=Z,344nm,18.1s,slow=36						
FITZ	**Fitzroy Crossi**	**41.80**	**267**	*e*P	**P**	**21 20 35.4**	**+3.7**
	2.9nm,0.8s						
GUMO	**Guam**	**43.18**	**323**	LR	LR	21 37 08.5	
	comp=Z,101nm,19.2s,baz=65,slow=34						
BATI	**Baumata**	**45.93**	**277**	LR	LR	21 40 19.6	
	comp=Z,243nm,19.3s,baz=145,slow=36						
NWAO	**Narrogin (SRO)**	**47.68**	**245**	LR	LR	21 39 41.6	
	comp=Z,241nm,20.8s,slow=34						
DAV	**Davao City (W)**	**52.31**	**298**	LR	LR	21 44 02.7	
	comp=Z,54nm,20.1s,baz=351,slow=36						
VNDA	**Vanda**	**55.67**	**182**	LR	LR	21 42 17.7	
	comp=Z,78nm,21.0s,baz=2.0,slow=32						
MJAR	**Matsushiro Arr**	**65.58**	**332**	P	**P**	**21 23 24.9**	**-0.5**
	0.6nm,0.4s,baz=146,slow=7.4,SNR=4.0						
MJAR				LR	LR	21 48 59.4	
	comp=Z,48nm,22.0s,baz=320,slow=33						
JNU	**Nakatsue**	**66.39**	**325**	LR	LR	21 48 58.1	
	comp=Z,60nm,21.9s,baz=305,slow=33						
KSRS	**Korea Array**	**71.24**	**326**	P	**P**	**21 24 01.3**	**+0.5**
	0.7nm,0.5s,baz=305,slow=31,SNR=3.1						
KSRS				LR	LR	21 53 59.8	
	comp=Z,50nm,19.1s,baz=349,slow=35						
KSAR	**Wonju Array Be**	**71.25**	**326**	P	**P**	**21 24 01.3**	**+0.4**
PSI	**Prapat**	**73.65**	**280**	LR	LR	21 59 13.5	
	comp=Z,129nm,18.3s,baz=146,slow=38						
USRK	**Ussuriysk Ar.**	**74.57**	**333**	P	**P**	**21 24 22.4**	**+2.0**
	0.8nm,0.6s,baz=146,slow=3.7,SNR=3.6						
PETK	**Petropavlovsk-**	**75.60**	**352**	LR	LR	21 57 44.0	
	comp=Z,39nm,18.1s,baz=173,slow=36						
KLR	**Kul'dur**	**78.73**	**336**	P	**P**	**21 24 44.7**	**+0.9**
	0.1nm,0.6s,baz=186,slow=7.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**80.36**	**294**	P	**P**	**21 24 54.0**	**+0.6**
	0.2nm,0.3s,baz=134,slow=3.9,SNR=3.7						
CMAR				LR	LR	22 01 41.4	
	comp=Z,60nm,20.0s,baz=276,slow=37						
SONM	**Songino Array**	**89.91**	**323**	P	**P**	**21 25 41.2**	**+0.5**
	1.4nm,0.9s,baz=118,slow=3.5,SNR=6.4						
SONM				LR	LR	22 04 18.5	
	comp=Z,59nm,20.8s,baz=351,slow=34						
LPIG	**La Paz**	**89.93**	**64**	LR	LR	21 59 27.6	
	comp=Z,74nm,18.2s,baz=20,slow=31						
NVAR	**Mina Array Bea**	**90.08**	**48**	P	**P**	**21 25 41.9**	**+0.1**
	0.2nm,0.3s,baz=258,slow=6.4,SNR=3.3						
ILAR	**Eielson Array**	**92.67**	**17**	P	**P**	**21 25 50.3**	**-2.7**
	0.2nm,0.8s,baz=224,slow=2.5,SNR=3.0						
ILAR				LR	LR	22 03 55.0	
	comp=Z,75nm,19.0s,baz=8.5,slow=33						
TXAR	**Lajitas Array**	**97.42**	**61**	LR	LR	22 01 46.1	
	comp=Z,115nm,20.4s,baz=0.0,slow=30						
CLL	**Collm**	**145.77**	**334**	*e*PKPbc	**PKPab**	**21 32 24.0**	**+3.2**
CLL				*e*		21 32 32.0	
EKA	**Eskdalemuir Ar**	**146.37**	**353**	PKPbc	**PKPab**	**21 32 21.8**	**-1.1**
	0.8nm,0.5s,baz=4.1,slow=2.9,SNR=4.2						
IDI	**Anoyia**	**146.89**	**301**	PKPbc	**PKPab**	**21 32 24.6**	**-1.2**
	0.9nm,0.4s,baz=261,slow=16,SNR=2.0						
KHC	**Kasperske Hory**	**147.15**	**331**	*e*PKP	**PKPab**	**21 32 28.5**	**+2.2**
GERES	**GERESS Array B**	**147.31**	**331**	PKPbc	**PKPab**	**21 32 25.8**	**-1.2**
	0.8nm,0.6s,baz=48,slow=5.8,SNR=6.3						
KBA	**Koelnbreinsper**	**148.74**	**329**	*i* pPKiKP	**PKPab**	**21 32 33.7**	**+0.8**
	0.5nm,0.3s						
MOTA	**Moosalm**	**149.59**	**331**	*e*sPKiKP	**PKPab**	**21 32 36.9**	**+0.6**
	1.3nm,0.6s						
FETA	**Feichten**	**150.00**	**331**	*e*PKPab	**PKPab**	**21 32 37.5**	**-0.5**
	1.3nm,0.7s						

*CSEM **07** 21:15:43.5, 51.52N×16.22E, h0km, After GFU*
PRU 07 21:15:43.5, 51.52N×16.22E, h0 km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPC	**Upice**	**1.02**	**187**	*e*PG	Pg	21 16 02.5	-0.6
UPC				*e*SG	Sg	21 16 15.5	-0.8
UPC	**Upice**	**1.02**	**187**	Pg	Pg	21 16 02.5	-0.6
UPC				Sg	Sg	21 16 15.5	-0.8
DPC	**Dobruska-Polom**	**1.17**	**177**	*e*PG	Pg	21 16 04.7	-1.3
DPC				*e*SG	Sg	21 16 20.6	-0.5
DPC	**Dobruska-Polom**	**1.17**	**177**	Pg	Pg	21 16 04.7	-1.3
DPC				Sg	Sg	21 16 20.6	-0.5
PVCC	**Panska Ves**	**1.44**	**227**	*e*PG	Pn	21 16 08.6	-2.2
PVCC				*e*SG	Sg	21 16 28.4	-1.3
PVCC	**Panska Ves**	**1.44**	**227**	Pg	Pn	21 16 08.6	-2.2
PVCC				Sg	Sg	21 16 28.4	-1.3
PRU	**Pruhonice**	**1.87**	**215**	*e*SG	Sg	21 16 43.5	+0.1
PRU	**Pruhonice**	**1.87**	**215**	Sg	Sg	21 16 43.5	+0.1
KHC	**Kasperske Hory**	**2.93**	**216**	*e*SG	Sg	21 17 17.1	-0.5
KHC	**Kasperske Hory**	**2.93**	**216**	Sg	Sg	21 17 17.1	-0.5

*IDC **07** 21:15:43.6±0.8, 20.73S×174.12W, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.0/49, mbtmp4.1/12, ML4.0/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/40, Error ellipse: s-maj=32.4km s-min=17.6km az=133.0*
*ISCJB **07** 21:15:45.7±0.9, 20.7S±0.2×174.1W±0.2, h27km, mb4.1/11, MS3.8/2, Error ellipse: s-maj=29.1km s-min=12.7km az=135.5*
*NEIC **07** 21:15:48.9±0.6, 20.60S×174.18W, h35km, mb4.3/1, Error ellipse: s-maj=24.0km s-min=12.4km az=135.0*
ISC 07 21:15:47.8±0.8, 20.6S±0.2×174.2W±0.2, h27 km, n32, σ1§10/28, mb4.2/11, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.05**	**19**	Pn	**Pn**	**21 17 29.4**	**0.0**
	5.5nm,0.3s,baz=147,slow=21,SNR=3.0						
AFI				Sn	Sn	21 18 39.3	-9.4
	25nm,0.3s,baz=86,slow=5.5,SNR=5.7						
AFI	**Afiamalu**	**7.05**	**19**	Pn	**Pn**	**21 17 26.6**	**-2.8**
AFI				*e*S	Sn	21 18 30.2	-19
RAR	**Rarotonga**	**13.45**	**95**	LR	LR	21 23 10.9	
	comp=Z,157nm,18.1s,baz=282,slow=33						
DZM	**Mont Dzumac**	**18.13**	**262**	P	**P**	**21 19 58.3**	**+0.3**
	0.2nm,0.3s,baz=140,slow=22,SNR=1.8						
DZM	**Mont Dzumac**	**18.13**	**262**	*e*LR	LR	21 24 33.0	
	167nm,20.6s						
PPT2	**Papeete2**	**23.41**	**87**	*e*LR	LR	21 26 08.6	
	145nm,26.2s						
RPZ	**Rata Peaks**	**26.13**	**205**	P	**P**	**21 21 17.8**	**-1.8**
	6.3nm,0.7s,baz=39,slow=13,SNR=3.4						
HNR	**Honiara**	**27.33**	**290**	LR	LR	21 31 15.4	
	comp=Z,91nm,18.2s,baz=148,slow=34						
STKA	**Stephens Creek**	**40.99**	**245**	P	**P**	**21 23 28.3**	**-0.4**
	1.9nm,0.8s,baz=91,slow=6.9,SNR=3.6						
ASAR	**Alice Springs**	**47.99**	**256**	P	**P**	**21 24 23.9**	**-0.8**
	3.3nm,0.8s,baz=90,slow=8.3,SNR=23						
ASAR				PcP	**PcP**	**21 25 53.7**	**+1.0**
	0.6nm,0.7s,baz=101,slow=4.8,SNR=3.8						
WRAB	**Tennant Creek**	**48.14**	**261**	*e*P	**P**	**21 24 24.7**	**-1.2**
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**48.15**	**261**	P	**P**	**21 24 24.9**	**-1.1**
	1.8nm,0.7s,baz=96,slow=7.7,SNR=21						
WRA				PcP	**PcP**	**21 25 54.1**	**+0.8**
	0.8nm,0.7s,baz=91,slow=3.6,SNR=4.8						
MJAR	**Matsushiro Arr**	**72.50**	**321**	P	**P**	**21 27 12.3**	**+0.1**
	1.9nm,0.6s,baz=152,slow=6.9,SNR=4.8						
PETK	**Petropavlovsk-**	**77.37**	**343**	P	**P**	**21 27 41.4**	**+1.4**
	5.8nm,0.9s,baz=130,slow=7.9,SNR=3.6						
NVAR	**Mina Array Bea**	**78.68**	**42**	P	**P**	**21 27 48.0**	**+0.1**
	0.8nm,0.6s,baz=234,slow=7.7,SNR=3.6						
ILAR	**Eielson Array**	**87.68**	**11**	P	**P**	**21 28 33.8**	**+0.4**
	0.3nm,0.8s,baz=200,slow=8.3,SNR=3.3						
SNAA	**Sanae**	**87.75**	**177**	LR	LR	22 04 34.8	
	comp=Z,76nm,19.7s,baz=325,slow=33						
CMAR	**Chiang Mai Arr**	**93.56**	**288**	P	**P**	**21 29 02.7**	**+0.8**
	0.3nm,0.7s,baz=112,slow=2.5,SNR=4.1						
YKA	**Yellowknife Ar**	**95.15**	**24**	P	**P**	**21 29 08.0**	**-0.2**
	0.2nm,0.6s,baz=240,slow=4.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**112.85**	**321**	PKiKP	**PKiKP**	**21 34 20.3**	**-1.6**
	0.3nm,0.4s,baz=90,slow=2.5,SNR=3.0						
MKAR	**Makanchi Array**	**113.91**	**313**	PKP	**PKiKP**	**21 34 23.6**	**-0.7**
	0.2nm,0.4s,baz=124,slow=1.2,SNR=5.1						
KURK	**Kurchatov**	**116.53**	**317**	PKP	**PKPdf**	**21 34 29.0**	**0.0**
KURBB	**Kurchatov Arra**	**116.58**	**317**	PKP	**PKPdf**

Ms1 3.2/3,ms1mx2.9/47, Error ellipse: s-maj=34.6km s-min=18.6km az=139.0
*ISCJB **07** 21:43:44.9±0.9, 20.3°S×174.5°W±0.2, h56km, mb4.0/9, MS3.1/2, Error ellipse: s-maj=31.8km s-min=12.4km az=137.5*

ISC 07 21:43:47.3±0.8, **20.5°S**±0.2°×**174.5°W**±0.2, **h56**km, **n23**, σ0s**89**/22, **mb4.1**/9, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.02**	**22**	Pn	Pn	Pn	21 45 22.2	-5.4
	14nm,0.3s,baz=184,slow=5.6,SNR=3.7							
AFI				Sn		Sn	21 46 35.5	-11
	baz=23,slow=22,SNR=2.8							
DZM	**Mont Dzumac**	**17.87**	**261**	P		**Pn**	**21 47 50.5**	**-1.6**
	0.2nm,0.3s,baz=84,slow=19,SNR=2.0							
DZM				LR		LR	21 52 55.7	
	comp=Z,40nm,18.1s,baz=90,slow=31							
PPT	**Papeete**	**23.70**	**87**	LR		LR	21 55 52.5	
	comp=Z,72nm,19.6s,baz=352,slow=31							
RPZ	**Rata Peaks**	**26.14**	**204**	P		**P**	**21 49 15.8**	**-0.4**
	6.3nm,0.6s,baz=50,slow=7.9,SNR=3.5							
HNR	**Honiara**	**27.01**	**290**	LR		LR	21 58 26.9	
	comp=Z,60nm,20.6s,baz=138,slow=33							
CTA	**Charters Tower**	**36.79**	**264**	P		**P**	**21 50 49.9**	**-0.1**
	1.0nm,0.4s,baz=99,slow=13,SNR=2.1							
STKA	**Stephens Creek**	**40.79**	**245**	P		**P**	**21 51 23.2**	**-0.2**
	2.9nm,0.8s,baz=75,slow=12,SNR=4.4							
ASAR	**Alice Springs**	**47.75**	**256**	P		**P**	**21 52 19.1**	**-0.1**
	2.7nm,0.8s,baz=97,slow=8.2,SNR=25							
ASAR				PcP		**PcP**	**21 53 48.6**	**+1.0**
	0.6nm,0.7s,baz=97,slow=3.7,SNR=4.1							
WRA	**Warramunga Arr**	**47.88**	**261**	P		**P**	**21 52 19.9**	**-0.3**
	1.3nm,0.7s,baz=95,slow=7.8,SNR=22							
WRA				PcP		**PcP**	**21 53 49.1**	**+1.0**
	0.6nm,0.6s,baz=94,slow=3.3,SNR=3.3							
MJAR	**Matsushiro Arr**	**72.20**	**322**	P		**P**	**21 55 08.0**	**+1.5**
	1.7nm,0.7s,baz=142,slow=7.1,SNR=7.0							
NVAR	**Mina Array Bea**	**78.77**	**42**	P		**P**	**21 55 43.5**	**-0.9**
	0.2nm,0.2s,baz=218,slow=6.9,SNR=2.6							
ILAR	**Eielson Array**	**87.59**	**11**	P		**P**	**21 56 27.5**	**-1.4**
	0.4nm,0.8s,baz=208,slow=6.9,SNR=2.9							
YKA	**Yellowknife Ar**	**95.13**	**24**	P		**P**	**21 57 02.8**	**-1.1**
	0.3nm,0.7s,baz=241,slow=4.7,SNR=4.9							
ZALV	**Zalesovo Beam**	**112.55**	**321**	PKiKP		**PKiKP**	**22 02 17.2**	**+0.2**
	0.4nm,0.5s,baz=343,slow=40,SNR=2.9							
MKAR	**Makanchi Array**	**113.59**	**313**	PKiKP		**PKiKP**	**22 02 19.7**	**+0.4**
	0.2nm,0.5s,baz=92,slow=1.9,SNR=3.9							
KURBB	**Kurchatov Arra**	**116.28**	**317**	PKP		**PKPdf**	**22 02 24.1**	**-0.2**
	0.3nm,0.6s,baz=82,slow=2.0,SNR=4.3							
BVAR	**Borovoye Array**	**121.19**	**320**	PKP		**PKPdf**	**22 02 33.8**	**+0.2**
	0.6nm,0.6s,baz=122,slow=2.0,SNR=5.5							
AKASG	**Malin Array Be**	**144.52**	**334**	PKP		**PKPab**	**22 03 16.4**	**+0.6**
	2.0nm,0.4s,baz=41,slow=3.8,SNR=18							
BRTR	**Keskin Array B**	**149.23**	**315**	PKPbc		**PKPbc**	**22 03 30.8**	**+0.7**
	1.1nm,0.7s,baz=131,slow=3.7,SNR=9.7							
MLR	**Muntele Rosu**	**149.91**	**331**	PKPbc		**PKPbc**	**22 03 32.7**	**+1.2**
	0.6nm,1.1s,baz=197,slow=12,SNR=2.5							
MMAI	**Mount Meron Ar**	**150.66**	**301**	PKPbc		**PKPbc**	**22 03 34.7**	**+1.0**
	1.1nm,0.6s,baz=74,slow=5.1,SNR=3.1							
GERES	**GERESS Array B**	**150.94**	**349**	PKPbc		**PKPbc**	**22 03 34.2**	**+0.4**
	0.3nm,0.6s,baz=345,slow=3.0,SNR=4.2							
TORD	**Torodi Ar. Bea**	**171.84**	**153**	PKPab		**PKPab**	**22 05 13.4**	**+0.7**
	1.2nm,1.2s,baz=205,slow=5.5,SNR=3.7							

*JMA **07** 21:54:11.9±0.1, 24.°15N×121.°71E, h27km±1km, M2.8*
*TAP **07** 21:54:12.9, 24.°21N×121.°73E, h25km, ML3.4, C*
*ISCJB **07** 21:54:13.1±0.3, 24.°19N±0.°02×121.°79E±0.°02, h20km±3km, Error ellipse: s-maj=3.3km s-min=2.2km az=34.8*

ISC 07 21:54:12.5±1.0, **24.°20N**±0.°02×**121.°77E**±0.°02, **h17**km±8km, **n86**, σ0s**57**/118, **10C-6D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.16**	**262**	⇓P		**Pb**	**21 54 17.8**	**+0.7**
	baz=252							
NACB				S		**Sb**	**21 54 21.1**	**+1.0**
	baz=252							
TWD	**Chiawan**	**0.20**	**234**	⇓*i*P		**Pb**	**21 54 18.2**	**+0.6**
	baz=226							
TWD				*e*S		**Sb**	**21 54 22.3**	**+1.2**
	baz=226							
NANB	**Nanao**	**0.23**	**356**	⇓*e*P		**Pb**	**21 54 18.8**	**+0.5**
	baz=5.0							
NANB				*e*S		**Sb**	**21 54 22.8**	**+0.6**
	baz=5.0							
ENA	**Nanau**	**0.23**	**354**	⇓*i*P		**Pb**	**21 54 18.8**	**+0.4**
	baz=5.0							
ENA				*i* S		**Sb**	**21 54 22.9**	**+0.7**
	baz=5.0							
ENAH	**Nanao**	**0.26**	**8**	⇓*i*P		**Pb**	**21 54 19.3**	**+0.6**
	baz=10.0							
ENAH				S		**Sb**	**21 54 23.9**	**+1.0**
	baz=10.0							
HWA	**Hwalien**	**0.26**	**215**	⇑P		**Pb**	**21 54 20.1**	**+1.2**
	baz=203							
ENLB	**Shoufeng**	**0.33**	**208**	P		**Pb**	**21 54 20.9**	**+0.9**
	baz=192							
ENLB				S		**Sn**	**21 54 27.5**	**-1.4**
	baz=192							
TWC	**Suao**	**0.42**	**10**	P		**Pb**	**21 54 21.8**	**+0.3**
	baz=14							
TWC				*i* S		**Sb**	**21 54 28.2**	**+0.6**
	baz=14							
NNSB	**Datong**	**0.42**	**303**	⇑P		**Pb**	**21 54 21.5**	**-0.1**
	baz=305							
NNSB				S		**Sb**	**21 54 27.6**	**-0.1**
	baz=305							
NNSH	**Datong**	**0.42**	**303**	*e*P		**Pb**	**21 54 21.4**	**-0.2**
	baz=304							
NNSH				*e*S		**Sb**	**21 54 27.4**	**-0.4**
	baz=304							
NNS	**Nan Shan**	**0.44**	**304**	⇑P		**Pb**	**21 54 21.6**	**-0.2**
	baz=306							
NNS				S		**Sb**	**21 54 27.9**	**-0.3**
	baz=306							
WHF	**Hehuan Shan**	**0.46**	**264**	⇑*i*P		**Pb**	**21 54 22.3**	**-0.2**
	baz=261							
WHF				*i* S		**Sb**	**21 54 29.0**	**-0.3**
	baz=261							
ENTT	**Nioudou**	**0.48**	**337**	⇑P		**Pb**	**21 54 22.5**	**0.0**
	baz=342							
ENTT				S		**Sb**	**21 54 29.6**	**+0.2**
	baz=342							
EOS1	**EOS1**	**0.48**	**43**	*e*P		**Pn**	**21 54 24.1**	**-0.5**
	baz=41							
ESL	**Shilin**	**0.49**	**219**	*e*P		**Pg**	**21 54 22.4**	**0.0**
	baz=223							
TWE	**Neicheng**	**0.53**	**350**	⇑*i*P		**Pb**	**21 54 23.5**	**+0.1**
	baz=353							
TWE				S		**Sb**	**21 54 30.7**	**-0.1**
	baz=353							
TWT	**Tachien**	**0.55**	**276**	*e*P		**Pb**	**21 54 24.1**	**+0.4**
	baz=275							
TWT				S		**Sb**	**21 54 31.7**	**+0.3**
	baz=275							
CHGB	**Renai**	**0.56**	**256**	⇑P		**Pg**	**21 54 23.9**	**+0.1**
	baz=245							
CHGB				S		**Sb**	**21 54 31.8**	**0.0**
	baz=245							
TDCB	**Techi**	**0.56**	**276**	⇑P		**Pb**	**21 54 23.9**	**-0.1**
	baz=275							
TDCB				*i* S		**Sg**	**21 54 31.3**	**-0.1**
	baz=275							
ILA	**Ilan**	**0.57**	**358**	*e*P		**Pb**	**21 54 24.6**	**+0.5**
	baz=358							
OWD	**Renai**	**0.59**	**246**	*e*P		**Pg**	**21 54 24.0**	**-0.3**
	baz=237							
YHNB	**Yeheng**	**0.59**	**323**	⇑P		**Pg**	**21 54 24.3**	**0.0**
	baz=325							
YHNB				S		**Sg**	**21 54 32.1**	**-0.3**
	baz=325							
EGFH	**Guangfu**	**0.61**	**211**	*e*P		**Pg**	**21 54 24.8**	**+0.1**
	baz=220							
NWLT	**Wulai**	**0.63**	**337**	P		**Pb**	**21 54 25.0**	**-0.1**
	baz=333							
NWLT				*e*S		**Sg**	**21 54 33.3**	**-0.1**
	baz=333							
NTC	**Toucheng**	**0.66**	**5**	*e*P		**Pg**	**21 54 25.0**	**-0.5**
	baz=9.0							
EGS		**0.66**	**13**	*e*P		**Pn**	**21 54 26.5**	**-0.7**
	baz=12							
HGSD	**Ruisui**	**0.77**	**204**	*e*P		**Pb**	**21 54 28.1**	**+0.6**
	baz=214							
DPDB	**Guoxing**	**0.79**	**258**	*e*P		**Pg**	**21 54 27.7**	**-0.2**
	baz=249							
EHY	**Hungye**	**0.80**	**211**	*e*P		**Pb**	**21 54 26.7**	**-1.3**
	baz=206							
TATO	**Taipei**	**0.82**	**342**	*e*P		**Pg**	**21 54 28.4**	**-0.1**
	baz=345							
TATO				*e*S		**Sg**	**21 54 39.3**	**0.0**
	baz=345							
LIOB	**Emei**	**0.82**	**303**	⇓P		**Pg**	**21 54 28.7**	**+0.2**
	baz=304							
LIOB				*e*S		**Sg**	**21 54 39.4**	**0.0**
	baz=304							
NSTT	**Nanjuang**	**0.82**	**302**	⇑P		**Pg**	**21 54 28.4**	**-0.2**
	baz=303							
NSTT				S		**Sb**	**21 54 38.9**	**-0.3**
	baz=303							
TWB1	**Santiao Chiao**	**0.83**	**14**	*e*P		**Pb**	**21 54 28.4**	**-0.1**
	baz=18							
SSLB	**Suanglung**	**0.85**	**242**	*e*P		**Pb**	**21 54 28.6**	**-0.3**
	baz=248							
SMLT	**Sun Moon Lake**	**0.85**	**249**	*e*P		**Pb**	**21 54 28.7**	**-0.3**
	baz=247							
NWF	**Wu-fen Shan**	**0.87**	**1**	*e*P		**Pn**	**21 54 29.8**	**-0.3**
	baz=349							
NWF				*e*S		**Sg**	**21 54 41.6**	**+0.5**
	baz=349							
WFSB	**Wu-fen Shan**	**0.87**	**1**	*e*P		**Pn**	**21 54 29.9**	**-0.1**
	baz=350							
WFSB				*e*S		**Sn**	**21 54 41.8**	**-0.6**
	baz=350							
TAP	**Taipei**	**0.87**	**344**	*e*P		**Pg**	**21 54 29.6**	**0.0**
	baz=347							
TYC	**Yuchr**	**0.88**	**251**	*e*P		**Pb**	**21 54 29.2**	**-0.2**
	baz=249							
TWQ1	**Liyutan**	**0.92**	**280**	P		**Pg**	**21 54 30.6**	**+0.1**
	baz=286							
TWQ1				*e*S		**Sn**	**21 54 43.1**	**-0.5**
	baz=286							
SBCB	**Hsinchu**	**0.93**	**310**	*e*P		**Pn**	**21 54 31.1**	**+0.3**
	baz=324							
NCU	**National Centr**	**0.94**	**326**	*e*P		**Pg**	**21 54 30.6**	**-0.1**
	baz=328							
NCU				S		**Sn**	**21 54 44.4**	**+0.5**
	baz=328							
TWF1	**Yuli**	**0.94**	**207**	*e*P		**Pb**	**21 54 28.2**	**-2.3**
	baz=213							
HSN	**Hsinchu**	**0.95**	**310**	*e*P		**Pn**	**21 54 31.1**	**+0.1**
	baz=313							
NSY	**Sanyi**	**0.95**	**284**	*e*P		**Pn**	**21 54 31.5**	**+0.4**
	baz=284							
NMLH	**Miaoli**	**0.95**	**291**	*e*P		**Pn**	**21 54 31.8**	**+0.6**
	baz=291							
TWS1	**Kuangyinshan**	**0.96**	**341**	*e*P		**Pg**	**21 54 31.0**	**-0.1**
	baz=343							
TWS1				*e*S		**Sn**	**21 54 45.0**	**+0.6**
	baz=343							
YM10	**YM10**	**0.97**	**349**	*e*P		**Pn**	**21 54 31.7**	**+0.2**
	baz=352							
YM04	**YM04**	**0.98**	**348**	*e*P		**Pb**	**21 54 30.7**	**-0.4**
	baz=350							
YM07	**YM07**	**0.98**	**352**	*e*P		**Pb**	**21 54 30.7**	**-0.5**
	baz=355							
TCU	**Taichung**	**1.00**	**267**	*e*P		**Pn**	**21 54 32.5**	**+0.7**
	baz=267							
YM03	**YM03**	**1.00**	**348**	*e*P		**Pb**	**21 54 31.5**	**0.0**
	baz=351							
YM03				*e*S		**Sg**	**21 54 45.1**	**-0.1**
	baz=351							
YM08	**YM08**	**1.00**	**351**	*e*P		**Pb**	**21 54 31.6**	**+0.1**
	baz=341							
YM08				*e*S		**Sg**	**21 54 45.1**	**-0.1**
	baz=341							
PTSB	**Yuanli**	**1.00**	**285**	*e*P		**Pn**	**21 54 32.3**	**+0.5**
	baz=284							
NTST	**Danshui**	**1.01**	**343**	*e*P		**Pb**	**21 54 31.2**	**-0.3**
	baz=345							
WJS	**Zhushan**	**1.02**	**249**	*e*P		**Pg**	**21 54 32.8**	**+0.4**
	baz=241							
YUS	**Yu-Shan**	**1.03**	**227**	*e*P		**Pb**	**21 54 31.5**	**-0.6**
	baz=224							
WNT	**Mingjian**	**1.04**	**253**	*e*P		**Pg**	**21 54 32.7**	**0.0**
	baz=252							
FULB	**Fuli**	**1.08**	**204**	*e*P		**Pb**	**21 54 32.1**	**-0.7**
	baz=213							
WCHH	**Zhanghua**	**1.11**	**264**	*e*P		**Pn**	**21 54 33.5**	**+0.2**
	baz=264							
YOJ	**Yonaguni jima**	**1.16**	**77**	*e*S		**Sn**	**21 54 49.9**	**+0.4**
WGK	**Gukeng**	**1.22**	**246**	*e*P		**Pg**	**21 54 36.0**	**0.0**
	baz=245							
WDLH	**Douliu**	**1.23**	**246**	*e*P		**Pb**	**21 54 35.4**	**0.0**
	baz=246							
CHN2	**Minshiung**	**1.36**	**241**	*e*P		**Pg**	**21 54 38.6**	**-0.2**
	baz=227							
CHN4	**Tsaushan**	**1.37**	**232**	*e*P		**Pb**	**21 54 38.0**	**+0.3**
	baz=231							
CHN4				S		**Sg**	**21 54 57.2**	**+0.4**
	baz=231							
TPUB	**Ta-pu**	**1.37**	**230**	*e*P		**Pb**	**21 54 37.9**	**+0.1**
	baz=228							
STYT	**Tauyuan**	**1.39**	**222**	*e*P		**Pb**	**21 54 38.4**	**+0.3**
	baz=220							
CHY	**Chiayi**	**1.41**	**241**	*e*P		**Pg**	**21 54 39.2**	**-0.6**
	baz=228							
WTP	**Ta-pu**	**1.42**	**228**	*e*P		**Pb**	**21 54 38.4**	**-0.2**
	baz=227							
TWH	**Lutao**	**1.50**	**190**	*e*P		**Pn**	**21 54 37.4**	**-1.3**
	baz=186							
TWG	**Pinlang**	**1.51**	**205**	*e*P		**Pn**	**21 54 39.6**	**+0.8**
	baz=187							
TWGBT	**Beinan**	**1.51**	**205**	*e*P		**Pn**	**21 54 39.5**	**+0.6**
	baz=227							
CHN1	**Nanshi**	**1.52**	**229**	*e*P		**Pb**	**21 54 40.5**	**+0.3**
	baz=228							
CHN1				*e*S		**Sg**	**21 55 01.2**	**-0.4**
	baz=228							
SLGT	**Liugui**	**1.58**	**221**	*e*P		**Pb**	**21 54 41.1**	**-0.2**
	baz=219							
ECL	**Taimali**	**1.76**	**205**	*e*P		**Pn**	**21 54 42.7**	**+0.4**
	baz=190							
SSD	**Sandimen**	**1.78**	**216**	*e*P		**Pb**	**21 54 43.9**	**-0.9**
	baz=198							
IRIF	**Iriomote-Funau**	**1.79**	**85**	P		**Pn**	**21 54 42.7**	**0.0**
HATJ	**Hateruma jima**	**1.86**	**94**	*e*S		**Sn**	**21 55 06.6**	**-0.2**
MASBT	**Mashibuluo**	**1.89**	**214**	*e*P		**Pn**	**21 54 44.2**	**+0.2**
	baz=211							
EAST	**Anshuo**	**1.99**	**205**	*e*P		**Pn**	**21 54 46.5**	**+1.0**
	baz=192							
JKRS	**Kuro-shima**	**2.04**	**88**	P		**Pn**	**21 54 47.4**	**+1.2**
JKRS				*e*S		**Sn**	**21 55 10.6**	**-0.7**
SCZT	**Fangliau**	**2.10**	**210**	*e*P		**Pn**	**21 54 48.6**	**+1.7**
	baz=192							
PNG	**Penghu**	**2.12**	**253**	*e*P		**Pn**	**21 54 47.0**	**-0.2**
	baz=253							
PHUB	**P'eng-hu**	**2.12**	**252**	*e*P		**Pn**	**21 54 46.9**	**-0.3**
	baz=252							
PHUB				*e*S		**Sn**	**21 55 12.7**	**-0.6**
	baz=252							
JIJ	**Ishigaki jima**	**2.17**	**85**	*e*S		**Sn**	**21 55 13.7**	**-0.7**
JISG	**Ishigakijimahi**	**2.35**	**80**	*e*S		**Sn**	**21 55 18.5**	**-0.3**

*ISCJB **07** 22:02:00.6±1.7, 13.°7N±0.°2×93.°7W±0.°3, h22km, mb4.1/4, MS3.6/2, Error ellipse: s-maj=49.0km s-min=12.5km az=145.5*
*IDC **07** 22:02:00.5±2.5, 13.°97N×93.°44W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.7/54, mbtmp3.8/6, ML3.0/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/44, Error ellipse: s-maj=88.2km s-min=25.1km az=43.0*

ISC 07 22:02:03.1±1.9, **13.°8N**±0.°3×**93.°6W**±0.°3, **h22**km, **n9**, σ0s**55**/8, **mb4.2**/4, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.48**	**338**	Pn		**Pn**	**22 02 55.8**	**-0.1**
	1.5nm,0.3s,baz=160,slow=14,SNR=14							
CMIG						Sn	**22 03 36.6**	**+0.1**
	5.1nm,0.3s,baz=95,slow=9.8,SNR=7.2							
CMIG						LR	22 03 50.7	
	comp=Z,133nm,19.2s,baz=162,slow=32							
TXAR	**Lajitas Array**	**18.04**	**330**	P		**P**	**22 06 13.2**	**+0.3**
	baz=151,slow=11,SNR=6.6							
SDV	**Santo Domingo**	**22.99**	**100**	P		**P**	**22 07 06.7**	**-0.1**
	7.7nm,0.9s,baz=321,slow=6.8,SNR=5.1							
TKL	**Tuckaleechee C**	**23.44**	**20**	LR		LR	22 17 59.2	
	comp=Z,125nm,18.2s,baz=168,slow=41							
YBH	**Yreka Blue Hor**	**37.58**	**323**	LR		LR	22 24 28.7	
	comp=Z,130nm,18.4s,baz=36,slow=36							
YKA	**Yellowknife Ar**	**50.85**	**348**	P		**P**	**22 11 01.8**	**0.0**
	2.9nm,0.9s,baz=150,slow=7.6,SNR=29							
INK	**Inuvik**	**60.17**	**344**	P		**P**	**22 12 09.3**	**+0.5**
	1.6nm,0.9s,baz=123,slow=8.5,SNR=6.1							
ILAR	**Eielson Array**	**62.40**	**337**	P		**P**	**22 12 23.1**	**-1.0**
	1.4nm,1.1s,baz=140,slow=4.8,SNR=7.8							
CMAR	**Chiang Mai Arr**	**145.62**	**339**	PKPbc		**PKPdf**	**22 21 41.2**	**+0.5**
	1.6nm,0.5s,baz=340,slow=3.9,SNR=14							

*GCMT **07** 22:10:16.0±0.4, 22.°20S×170.°07E, h18km±2km, MW4.9/58, Moment Tensor Solution. s21,c25; s58,c79; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.42±.14; Mθθ0.46±.13; Mϕϕ-0.88±.12; Mrθ1.15±.30; Mrϕ-0.21±.25; Best double couple: Mo2.51700×10^16^ NP1:ϕs101.00000°, δ85.00000°, λ29.00000°. NP2: ϕs8.00000°, δ61.00000°, λ174.00000°. Principal axes: T 2.3650, Plg24.0000°, Azm328.0000°; N 0.3040, Plg60.0000°, Azm111.0000°; P -2.6690, Plg16.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 22:10:26.7±1.0, 22.°12S×170.°14E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/43, mbtmp4.2/14, ML4.2/1, MS3.8/3, Ms1 3.8/3, ms1mx3.5/17 Error ellipse: s-maj=31.4km s-min=19.2km az=146.0*
*ISCJB **07** 22:10:29.8±0.7, 22.°0S±0.°1×170.°0E±0.°1, h25km, mb4.1/14, MS3.9/2, Error ellipse: s-maj=15.7km s-min=14.1km az=6.2*

ISC 07 22:10:31.4±0.8, **22.°1S**±0.°1×**170.°0E**±0.°1, **h25**km, **n24**, σ1s**30**/19, **mb4.1**/14, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.33**	**271**	Pn		**Pn**	**22 11 21.4**	**-0.5**
	22nm,0.3s,baz=134,slow=23,SNR=130							
DZM	**Mont Dzumac**	**3.33**	**271**	*e*Pn		**Pn**	**22 11 21.5**	**-0.5**
	127nm,0.2s							
URZ	**Urewera**	**17.18**	**161**	P		**P**	**22 14 32.2**	**+1.1**
	0.2nm,0.3s,baz=356,slow=9.9,SNR=3.6							
AFI	**Afiamalu**	**19.12**	**68**	LR		LR	22 21 16.0	
	comp=Z,246nm,21.6s,baz=247,slow=34							
CTA	**Charters Tower**	**22.27**	**271**	P		**P**	**22 15 27.2**	**+0.4**
	3.3nm,0.6s,baz=99,slow=11,SNR=5.0							
STKA	**Stephens Creek**	**27.06**	**243**	P		**P**	**22 16 12.6**	**+0.6**
	2.4nm,0.7s,baz=94,slow=13,SNR=4.9							
ASAR	**Alice Springs**	**33.26**	**260**	P		**P**	**22 17 06.6**	**-0.4**
	4.1nm,0.8s,baz=88,slow=9.1,SNR=34							
WRA	**Warramunga Arr**	**33.34**	**267**	P		**P**	**22 17 07.0**	**-0.7**
	1.9nm,0.6s,baz=100,slow=8.4,SNR=22							
TBI	**Tubuai**	**37.29**	**100**	*e*LQ		LQ	22 26 16.4	
	913nm,32.8s							
TBI				*e*LR		LR	22 27 56.8	
	508nm,31.0s							
PPT2	**Papeete2**	**38.18**	**91**	*e*LQ		LQ	22 26 35.8	
	1μm,29.2s							
PPT2				*e*LR		LR	22 28 22.9	
	316nm,25.8s							
PPT	**Papeete**	**38.18**	**91**	LR		LR	22 30 16.3	
	comp=Z,210nm,21.5s,baz=250,slow=31							
FITZ	**Fitzroy Crossi**	**41.77**	**267**	P		**P**	**22 18 20.5**	**+1.5**
	6.9nm,0.9s,baz=111,slow=11,SNR=8.4							
NWAO	**Narrogin (SRO)**	**47.61**	**245**	P		**P**	**22 19 04.4**	**-1.0**
	6.4nm,0.8s,baz=122,slow=6.2,SNR=3.1							
TAOE	**Nuku Hiva Isla**	**49.57**	**83**	*e*LR		LR	22 33 36.0	
	199nm,28.0s							
MJAR	**Matsushiro Arr**	**65.66**	**332**	P		**P**	**22 21 11.9**	**-1.7**
	0.7nm,0.5s,baz=163,slow=6.0,SNR=3.4							
KSRS	**Korea Array**	**71.31**	**326**	P		**P**	**22 21 46.6**	**-2.2**
	0.6nm,0.4s,baz=116,slow=5.5,SNR=2.6							
USRK	**Ussuriysk Ar.**	**74.64**	**333**	P		**P**	**22 22 09.7**	**+1.3**
	1.1nm,0.7s,baz=139,slow=5.9,SNR=2.7							
USRK						LR	22 55 53.0	
	comp=Z,50nm,18.8s,baz=139,slow=36							
CMAR	**Chiang Mai Arr**	**80.37**	**294**	P		**P**	**22 22 44.1**	**+3.0**
	0.6nm,0.4s,baz=136,slow=4.1,SNR=4.9							
SNAA	**Sanae**	**86.31**	**182**	P		**P**	**22 23 09.7**	**-1.1**
	4.2nm,1.0s,baz=186,slow=9.2,SNR=5.6							
SONM	**Songino Array**	**89.97**	**323**	P		**P**	**22 23 28.9**	**+0.2**
	0.8nm,0.9s,baz=138,slow=5.6,SNR=5.3							
NVAR	**Mina Array Bea**	**90.17**	**48**	P		**P**	**22 23 29.8**	**-0.1**
	0.3nm,0.7s,baz=52,slow=28,SNR=4.2							
ILAR	**Eielson Array**	**92.77**	**17**	P		**P**	**22 23 40.4**	**-0.7**
	0.2nm,0.6s,baz=221,slow=6.7,SNR=2.6							
EKA	**Eskdalemuir Ar**	**146.47**	**353**	PKPbc		**PKPdf**	**22 30 08.4**	**-0.2**
	0.8nm,0.4s,baz=350,slow=2.6,SNR=7.9							
GERES	**GERESS Array B**	**147.38**	**331**	PKPbc		**PKPbc**	**22 30 12.1**	**-0.8**
	1.1nm,0.8s,baz=42,slow=4.2,SNR=6.5							

*IDC **07** 22:11:00.5±2.5, 21.°99S×170.°14E, h0km, mb4.5/9, mb1 4.7/10, mb1mx4.3/42, mbtmp4.5/10, ML4.1/1, MS4.2/1, Ms1 4.2/1, ms1mx3.5/18, Error ellipse: s-maj=76.1km s-min=25.9km az=148.0*

ISC 07 22:11:04.5±2.0, **21.°9S**±0.°4×**170.°1E**±0.°2, **h25**km, **n14**, σ0s**78**/15, **mb4.6**/9, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.35**	**267**	Pn		**Pn**	**22 11 55.3**	**0.0**
	19nm,0.3s,baz=81,slow=20,SNR=5.5							
DZM						Sn	**22 12 34.0**	**-0.5**
	18nm,0.3s,baz=124,slow=20,SNR=5.1							
DZM						LR	22 12 42.5	
	comp=Z,4μm,18.5s,baz=128,slow=30							
DZM	**Mont Dzumac**	**3.35**	**267**	*e*Sn

70nm,0.5s,2µm1.0nm
LUWI Luwuk 5.23 283 *e*Pn **Pn 22 30 14.1 -0.8**
LUWI *e*S **Sn 22 31 11.1 -3.0**
APSI Ampana 6.35 281 P **Pn 22 30 30.9 +0.6**
210nm,0.6s,4µm
MRSI Marisa 6.50 294 P **Pn 22 30 32.2 -0.2**
BNSI Bone 8.06 254 P **Pn 22 30 55.2 +1.4**
21nm,0.6s
MPSI Mapaga 8.36 287 P **Pn 22 30 58.3 +0.4**
SMKI Samarinda 10.80 279 P **Pn 22 31 29.5 -1.9**
MTN Manton Dam 11.06 163 *e*Pn **Pn 22 31 36.3 +1.4**
MTN *e*Sn **Sn 22 33 40.9 +3.3**
FITZ Fitzroy Crossi 15.96 188 Pn **Pn 22 32 41.1 0.0**
0.1nm,0.3s,baz=14,slow=10,SNR=3.5
FITZ Fitzroy Crossi 15.96 188 *e*Pn **Pn 22 32 42.1 +1.0**
KSM Kuching 17.94 282 *e*Pn **P 22 33 08.7 +2.3**
10nm,1.0s
WRAB Tennant Creek 18.73 161 *e*P **P 22 33 14.6 -0.4**
16nm,1.0s
WRAB *e*S **Sn 22 36 39.7 -4.6**
WRA Warramunga Arr 18.73 161 P **P 22 33 14.9 -0.2**
1.4nm,0.3s,baz=342,slow=12,SNR=51
WRA S **Sn 22 36 38.5 -5.9**
0.2nm,0.3s,baz=340,slow=19,SNR=5.3
WB2 Warramunga Arr 18.74 161 *e*P **P 22 33 14.8 -0.4**
COEN Coen 19.11 129 *e*P **Pn 22 33 20.1 -0.2**
44nm,1.6s
MBWA Marble Bar 20.45 202 *e*P **P 22 33 34.2 +0.4**
81nm,2.0s
AS31 Alice Springs 22.13 165 *e*P **P 22 33 52.2 +0.3**
4.9nm,0.5s
AS31 *e*S **S 22 37 51.5 -2.6**
ASAR Alice Springs 22.13 165 P **P 22 33 52.2 +0.3**
8.4nm,0.5s,baz=349,slow=12,SNR=88
ASAR S **S 22 37 51.5 -2.6**
5.7nm,1.1s,baz=344,slow=20,SNR=17
AS01 Alice Springs 22.14 165 *e*P **P 22 33 51.7 -0.3**
CTA Charters Tower 25.27 136 P **P 22 34 25.7 +3.3**
2.1nm,0.5s,baz=309,slow=6.5,SNR=4.8
TPUB Ta-pu 26.31 345 *e*P **P 22 34 31.3 -0.5**
103nm,1.7s
PSI Prapat 29.36 280 P **P 22 34 58.5 -0.9**
4.2nm,0.5s,baz=37,slow=8.2,SNR=3.9
KHON Khomkaen 30.85 308 P **P 22 35 13.9 +1.6**
17nm,0.8s
NAYO Nakonayok 31.01 303 P **P 22 35 15.8 +2.1**
8.4nm,0.9s,2µm
CHAI Chaiyaphum 31.28 306 P **P 22 35 17.3 +1.2**
7.0nm,0.8s
STKA Stephens Creek 32.23 158 P **P 22 35 24.4 +0.1**
1.8nm,0.4s,baz=337,slow=8.5,SNR=9.4
UTHA Uthaitani 33.19 303 P **P 22 35 34.6 +1.6**
4.3nm,0.8s
PHIT Phitsanulok 33.24 306 P **P 22 35 35.2 +1.9**
11nm,1.1s
CM01 Chiang Mai Arr 35.07 307 *e*P **P 22 35 50.6 +1.4**
CM31 Chiang Mai Arr 35.10 307 *e*P **P 22 35 48.5 -1.0**
CMAR Chiang Mai Arr 35.10 307 P **P 22 35 50.5 +1.0**
2.8nm,0.7s,baz=137,slow=7.8,SNR=29
NJ2 Nanjing 35.12 347 *e*P **P 22 35 49.7 +0.3**
CMMT Chiang Mai 35.29 308 P **P 22 35 51.4 +0.3**
15nm,1.0s
CHTO Chiang Mai 35.29 308 P **P 22 35 52.4 +1.2**
68nm,1.1s
CHTO Chiang Mai 35.29 308 *e*P **P 22 35 52.3 +1.2**
12nm,0.8s
CMAI Chiengmai2 35.83 309 P **P 22 35 57.2 +1.2**
KMI Kunming 36.49 320 P **P 22 36 00.0 -1.6**
KSAR Wonju Array Be 39.44 0 P **P 22 36 25.4 -0.5**
KSRS Korea Array 39.45 0 P **P 22 36 25.4 -0.6**
2.6nm,0.7s,baz=177,slow=9.8,SNR=9.5
MJAR Matsushiro Arr 39.73 13 P **P 22 36 26.5 -1.9**
1.5nm,0.6s,baz=195,slow=9.6,SNR=7.2
CD2 Chengdu 40.14 327 *e*P **P 22 36 32.5 +0.5**
LZH Lanzhou 44.20 332 *e*P **P 22 37 07.6 +2.4**
LZH pP sP 22 37 20.3 +1.4
LZH sP pP 22 37 25.8 +11
LZH *e*PP **PcP 22 38 53.0 +3.4**
HHC Hu-ho-hao-te 45.35 343 *e*P **P 22 37 16.7 +2.5**
HHC pP sP 22 37 29.1 +1.1
HHC sP pP 22 37 34.4 +10
HHC PP **PP 22 39 04.1 +3.3**
HHC S **S 22 43 54.6 +1.5**
HHC sS sS 22 44 15.5 +6.3
HHC SS **ScS 22 47 10.0 +1.4**
CN2 Changchun 45.84 358 *e*P **P 22 37 22.1 +4.2**
USRK Ussuriysk Ar. 46.34 4 P **P 22 37 21.4 -0.4**
3.8nm,0.6s,baz=176,slow=3.7,SNR=8.8
LSA Lhasa 47.30 315 *e*P **P 22 37 31.6 +1.4**
4.7nm,0.8s
ODAN Odare 48.56 309 *e*P **P 22 37 40.5 +0.8**
10nm,0.6s
TAPN Taplejung 48.56 310 *e*P **P 22 37 40.5 +0.7**
GTA Gaotai 48.77 331 ⇓P **P 22 37 44.2 +3.2**
GTA pP pP 22 37 50.2 -0.7
GTA sP sP 22 37 53.8 -1.0
RAMN Ramite 49.22 309 *e*P **P 22 37 45.9 +1.2**
JIRI Jiri 49.80 310 *e*P **P 22 37 50.6 +0.6**
GUN Gumba 50.24 310 *e*P **P 22 37 53.3 +0.6**
PKI Pulchoki 50.44 309 *e*P **P 22 37 54.5 +0.3**
KKN Kakani 50.65 309 *e*P **P 22 37 56.0 +0.4**
DMN Daman 50.70 309 *e*P **P 22 37 56.6 +0.6**
KOLN Koldanda 51.95 308 *e*P **P 22 38 06.2 +0.9**
DANN Dangsing 52.10 309 *e*P **P 22 38 07.4 +0.9**
PYUN Piuthan 52.58 308 *e*P **P 22 38 10.9 +0.9**
SONM Songino Array 53.25 342 P **P 22 38 13.5 -1.0**
2.0nm,0.9s,baz=148,slow=7.4,SNR=14
SONM LR LR 23 02 04.4
comp=Z,106nm,18.3s,baz=147,slow=37
WMQ Urumqi 58.24 327 P **P 22 38 50.8 +0.5**
PETK Petropavlovsk- 60.51 20 P **P 22 39 05.2 -0.6**
4.3nm,0.9s,baz=160,slow=10,SNR=4.9
MK01 Makanchi Array 63.05 327 *e*P **P 22 39 22.6 -0.4**
MK31 Makanchi Array 63.07 327 *e*P **P 22 39 22.9 -0.2**
MKAR Makanchi Array 63.07 327 P **P 22 39 22.9 -0.2**
6.4nm,0.6s,baz=123,slow=8.3,SNR=95
MKAR Makanchi Array 63.07 327 *e*P **P 22 39 22.9 -0.2**
40nm,0.7s
KSH Kashi 63.08 317 P **P 22 39 24.4 +1.0**
KSH pP sP 22 39 35.7 -1.8
KSH ScP 22 43 59.2
KSH S **S 22 47 49.2 -3.1**
KSH sS sS 22 48 11.1 +2.1
KSH Kashi 63.08 317 SS 22 51 58.5 -0.1
MAKZ Makanchi 63.26 326 *e*P **P 22 39 24.1 -0.3**
YAK Yakutsk 64.07 1 *e*P **P 22 39 29.3 0.0**
24nm,0.9s
KZA Kyzart 64.78 319 P **P 22 39 35.8 +0.9**
SNR=9.9
TKM2 Tokmak 2 64.96 320 P **P 22 39 36.2 +0.3**
SNR=5.2
UCH Uchtor 65.33 319 P **P 22 39 39.6 +1.0**
SNR=7.0
AAK Ala-Archa 65.53 319 *e*P **P 22 39 39.6 +0.1**
2.7nm,0.8s
AML Almayashu 65.82 319 P **P 22 39 42.5 +0.8**
SNR=6.3
USP Ospenovka 65.83 320 P **P 22 39 41.8 +0.5**
SNR=6.9
EKS2 Erkin-Say 66.01 319 P **P 22 39 43.3 +0.8**
SNR=5.9
KBL Kabul 66.08 309 *e*P **P 22 39 42.7 -0.6**
4.1nm,0.8s
ZAA0 Zalesovo Array 66.37 334 *e*P **P 22 39 43.5 -0.9**
ZALV Zalesovo Beam 66.37 334 P **P 22 39 43.2 -1.2**
2.1nm,0.8s,baz=108,slow=4.8,SNR=9.6
KURBB Kurchatov Arra 67.33 328 P **P 22 39 50.3 -0.3**
9.2nm,0.6s,baz=130,slow=6.0,SNR=143
KURK Kurchatov 67.34 329 *e*P **P 22 39 50.0 -0.7**
14nm,0.6s
KKAR Karatay Array 68.36 318 *e*P **P 22 39 57.0 -0.3**
0.9nm,0.4s
BVAR Borovoye Array 72.90 328 P **P 22 40 24.5 -0.2**
3.1nm,0.5s,baz=135,slow=10,SNR=37
BRVK Borovoye 72.97 328 *e*P **P 22 40 24.3 -0.8**
13nm,1.1s
GEYT Alibeck 75.52 310 P **P 22 40 40.6 +0.3**
1.5nm,0.6s,baz=160,slow=4.7,SNR=6.7
ABKAR Akbulak array 77.45 322 *e*P **P 22 40 50.5 -0.5**
2.0nm,0.5s
AKTO Aktyubinsk 79.00 322 P **P 22 40 59.2 -0.4**
5.9nm,0.7s,baz=117,slow=7.5,SNR=20
AKTO LR LR 23 19 54.7
comp=Z,175nm,18.4s,baz=314,slow=39
SYO Syowa Base 87.35 201⇑*e*P **P 22 41 41.0 -1.3**

ILAR Eielson Array 89.93 25 P **P 22 41 53.5 -1.0**
0.3nm,0.6s,baz=251,slow=4.5,SNR=5.0
BRTR Keskin Array B 94.66 309 P **P 22 42 15.7 -1.5**
0.7nm,0.9s,baz=23,slow=7.8,SNR=3.1
ARCES ARCESS Array B 96.37 340 P **P 22 42 22.4 -1.8**
9.1nm,1.1s,baz=92,slow=6.6,SNR=5.2
TORD Torodi Ar. Bea 125.68 285 PKP **PKPdf 22 47 58.2 +0.1**
0.8nm,1.0s,baz=193,slow=1.6,SNR=3.2

*IDC **07** 22:45:52.0±0.9,22.°37S×170.°15E,h0km,mb4.5/14, mb1 4.6/16,mb1mx4.5/36,mbtmp4.6/16,ML4.6/1,MS4.3/31, Ms1 4.3/31,ms1mx4.3/32,Error ellipse: s-maj=26.2km s-min=19.7km az=151.0*
*BJI **07** 22:45:53.0,22.°30S×169.°90E,h10km,mb4.7/23,mB5.3/13, Ms5.1/4,Ms7 4.8/3*
*ISCJB **07** 22:45:54.5±0.4,22.°35S±0.°08×169.°95E±0.°06,h21km, mb4.7/33,MS4.3/29,Error ellipse: s-maj=11.0km s-min=8.2km az=168.8*
*GCMT **07** 22:45:54.8±0.2,22.°25S×170.°02E,h15km,MW5.1/87, Moment Tensor Solution. s58,c77; s87,c133; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.10±.13; Mθθ0.20±.12; Mϕϕ0.89±.13; Mrθ3.16±.36; Mϕϕ4.78±.08; Mθr-2.84±.37; Best double couple: M◎6.27200×10^16^ NP1:ϕ◎262.00000°,δ67.00000°,λ-27.00000°. NP2: ϕ◎4.00000°,δ65.00000°,λ-154.00000°. Principal axes: T 5.3410, Plg1.0000°, Azm313.0000°; N 1.8560, Plg55.0000°, Azm45.0000°; P -7.2030, Plg35.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 22:45:54.8±0.4,22.°14S×169.°90E,h10km,mb4.9/13 Error ellipse: s-maj=11.1km s-min=10.3km az=3.0*
ISC 07 22:45:55.8±0.5,22.°35S±0.°09×170.°01E±0.°07,h21km,n113, σ1§52/98,mb4.7/33,MS4.2/29,2C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.32**	**274**	Pn		**Pn**	**22 46 46.4**	**-0.1**
	55nm,0.3s,baz=114,slow=9.0,SNR=185							
DZM				Sn		**Sn**	**22 47 25.6**	**+0.1**
	56nm,0.3s,baz=118,slow=22,SNR=7.8							
DZM	**Mont Dzumac**	**3.32**	**274**	*e*Pn		**Pn**	**22 46 46.4**	**-0.1**
	184nm,0.2s							
DZM				*e*Sn		**Sn**	**22 47 24.3**	**-1.1**
	141nm,0.2s							
DZM	**Mont Dzumac**	**3.32**	**274**	*e*Pn		**Pn**	**22 46 46.5**	**-0.1**
DZM				*e*S		**Sn**	**22 47 25.8**	**+0.4**
RAO	**Raoul Island**	**12.86**	**125**	LR		LR	22 52 45.6	
	comp=Z,µm,20.6s,baz=261,slow=32							
HNR	**Honiara**	**16.07**	**321**	Pn		**Pn**	**22 49 41.2**	**+0.7**
	baz=189,slow=5.0,SNR=2.5							
HNR				LR		LR	22 55 15.2	
	comp=Z,2µm,19.6s,baz=148,slow=35							
HNR	**Honiara**	**16.07**	**321**	*e*Pn		**P**	**22 49 42.7**	**-1.1**
HIZ	**Hauiti**	**16.64**	**167**	*e*Pn		**P**	**22 49 52.0**	**+2.0**
	142nm,1.2s							
URZ	**Urewera**	**16.99**	**161**	Pn		**P**	**22 49 56.3**	**+2.4**
	0.3nm,0.3s,baz=2.1,slow=17,SNR=2.7							
URZ				LR		LR	22 54 52.4	
	comp=Z,1µm,20.5s,baz=340,slow=32							
EIDS	**Eidsvold**	**17.57**	**256**	Pn		**Pn**	**22 49 59.3**	**-0.2**
	33nm,1.1s							
AFI	**Afiamalu**	**19.22**	**67**	LR		LR	22 56 07.1	
	comp=Z,599nm,20.4s,baz=217,slow=32							
RPZ	**Rata Peaks**	**21.33**	**178**	P		**P**	**22 50 45.9**	**+4.6**
	19nm,0.9s,baz=190,slow=6.3,SNR=6.9							
RPZ				LR		LR	22 58 03.8	
	comp=Z,878nm,18.4s,baz=354,slow=34							
CTA	**Charters Tower**	**22.26**	**271**	P		**P**	**22 50 53.5**	**+2.0**
	9.1nm,0.8s,baz=87,slow=11,SNR=7.8							
CTA				LR		LR	22 58 52.2	
	comp=Z,2µm,19.7s,baz=90,slow=35							
CTAO	**Charters Tower**	**22.26**	**271**	*e*P		**P**	**22 50 51.6**	**0.0**
	35nm,1.2s							
PMG	**Port Moresby**	**25.42**	**297**	P		**P**	**22 51 23.6**	**+1.5**
	5.1nm,0.4s,baz=21,slow=4.0,SNR=3.0							
PMG				LR		LR	23 00 23.2	
	comp=Z,1µm,18.4s,baz=136,slow=34							
COEN	**Coen**	**26.80**	**284**	*e*P		**P**	**22 51 34.6**	**0.0**
	20nm,1.0s							
STKA	**Stephens Creek**	**26.95**	**243**	P		**P**	**22 51 37.1**	**+1.3**
	11nm,1.1s,baz=100,slow=9.0,SNR=8.0							
STKA				LR		LR	23 01 50.9	
	comp=Z,1µm,18.4s,baz=71,slow=35							
RAR	**Rarotonga**	**28.06**	**93**	LR		LR	23 02 39.5	
	comp=Z,214nm,18.1s,baz=260,slow=36							
BBOO	**Buckleboo**	**31.73**	**243**	*e*P		**P**	**22 52 16.9**	**-1.4**
	26nm,1.1s							
AS01	**Alice Springs**	**33.17**	**261**	*e*P		**P**	**22 52 29.2**	**-1.9**
AS31	**Alice Springs**	**33.21**	**261**	*e*P		**P**	**22 52 30.1**	**-1.4**
	4.6nm,1.0s							
ASAR	**Alice Springs**	**33.21**	**261**	P		**P**	**22 52 31.6**	**+0.2**
	7.9nm,0.9s,baz=85,slow=8.9,SNR=28							
ASAR				LR		LR	23 05 17.4	
	comp=Z,909nm,20.5s,baz=95,slow=35							
WB2	**Warramunga Arr**	**33.30**	**267**	*e*P		**P**	**22 52 31.0**	**-1.2**
WRAB	**Tennant Creek**	**33.30**	**267**	*e*P		**P**	**22 52 31.0**	**-1.2**
	10nm,0.9s							
WRA	**Warramunga Arr**	**33.31**	**267**	P		**P**	**22 52 31.3**	**-1.0**
	6.7nm,0.8s,baz=98,slow=8.3,SNR=25							
WRA				LR		LR	23 06 37.9	
	comp=Z,2µm,18.7s,baz=95,slow=37							
TBI	**Tubuai**	**37.28**	**100**	*e*LQ		LQ	23 01 26.3	
	1µm,29.2s							
TBI				*e*LR		LR	23 03 09.4	
	700nm,30.2s							
MTN	**Manton Dam**	**38.15**	**278**	*e*P		**P**	**22 53 12.6**	**-1.3**
	76nm,1.8s							
PPT2	**Papeete2**	**38.20**	**90**	*e*LQ		LQ	23 01 48.7	
	2µm,26.8s							
PPT2				*e*LR		LR	23 03 33.8	
	753nm,26.2s,baz=241							
PPT	**Papeete**	**38.20**	**90**	LR		LR	23 05 37.2	
	comp=Z,367nm,19.4s,baz=248,slow=31							
FITZ	**Fitzroy Crossi**	**41.74**	**268**	*e*P		**P**	**22 53 44.4**	**+0.7**
GUMO	**Guam**	**43.39**	**323**	LR		LR	23 11 46.3	
	comp=Z,287nm,18.1s,baz=136,slow=36							
BATI	**Baumata**	**45.92**	**278**	LR		LR	23 13 23.3	
	comp=Z,767nm,20.0s,baz=146,slow=36							
MBWA	**Marble Bar**	**46.54**	**262**	*e*P		**P**	**22 54 22.2**	**0.0**
	23nm,0.9s							
NWAO	**Narrogin (SRO)**	**47.51**	**245**	*e*P		**P**	**22 54 29.8**	**+0.2**
RKT	**Rikitea**	**50.48**	**102**	*e*LR		LR	23 09 14.0	
	430nm,28.0s							
LUWI	**Luwuk**	**50.56**	**288**	*e*P		**P**	**22 54 53.6**	**+0.4**
DAV	**Davao City (W)**	**52.42**	**299**	LR		LR	23 17 57.5	
	comp=Z,191nm,19.5s,baz=100,slow=37							
VNDA	**Vanda**	**55.37**	**182**	LR		LR	23 16 08.2	
	comp=Z,104nm,18.5s,baz=21,slow=33							
TGY	**Tagaytay City**	**60.20**	**302**	LR		LR	23 17 44.6	
	comp=Z,147nm,21.7s,baz=154,slow=32							
LEM	**Lembang**	**61.92**	**274**	LR		LR	23 24 02.8	
	comp=Z,392nm,18.8s,baz=207,slow=37							
JHJ	**Hachijo jima 2**	**62.24**	**331**	LR		LR	23 25 52.9	
	comp=Z,109nm,18.1s,baz=128,slow=38							
MJAR	**Matsushiro Arr**	**65.82**	**332**	P		**P**	**22 56 38.4**	**-1.2**
	3.1nm,0.7s,baz=161,slow=6.5,SNR=6.7							
MJAR				LR		LR	23 21 30.0	
	comp=Z,151nm,22.0s,baz=135,slow=32							
JNU	**Nakatsue**	**66.61**	**325**	P		**P**	**22 56 44.1**	**-0.6**
	6.6nm,0.8s,baz=166,slow=2.5,SNR=3.8							
JNU				LR		LR	23 25 41.6	
	comp=Z,82nm,18.6s,baz=128,slow=36							
KSRS	**Korea Array**	**71.47**	**326**	P		**P**	**22 57 15.2**	**+0.5**
	4.0nm,0.9s,baz=142,slow=5.4,SNR=6.5							
KSRS				LR		LR	23 26 12.1	
	comp=Z,118nm,19.6s,baz=152,slow=34							
KSAR	**Wonju Array Be**	**71.48**	**326**	P		**P**	**22 57 15.2**	**+0.4**
KS01	**Wonju Array Si**	**71.50**	**326**	*e*P		**P**	**22 57 16.4**	**+1.4**
RPN	**Rapa Nui**	**72.22**	**113**	LR		LR	23 20 38.6	
	comp=Z,325nm,19.0s,baz=256,slow=29							
NJ2	**Nanjing**	**72.94**	**316**	*e*P		**P**	**22 57 24.1**	**+0.4**
NJ2				pmax		pmax		
	comp=Z,14nm,0.7s							
PSI	**Prapat**	**73.66**	**280**	LR		LR	23 32 59.6	
	comp=Z,271nm,18.1s,baz=117,slow=38							
USRK	**Ussuriysk Ar.**	**74.81**	**333**	P		**P**	**22 57 35.0**	**+0.6**
	4.0nm,0.8s,baz=35,slow=4.1,SNR=5.2							
USRK				LR		LR	23 30 21.6	
	comp=Z,114nm,19.1s,baz=136,slow=36							
PETK	**Petropavlovsk-**	**75.89**	**352**	P		**P**	**22 57 41.9**	**+1.5**
	5.0nm,0.9s,baz=171,slow=10,SNR=3.0							
PETK				LR		LR	23 25 59.6	
	comp=Z,681nm,19.1s,baz=156,slow=32							
TIA	**Tai'an**	**76.74**	**319**	P		**P**	**22 57 44.2**	**-1.4**
TIA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
ENH	**Enshi**	**78.20**	**310**	*e*P		**P**	**22 57 53.1**	**-0.9**
	12nm,0.9s							
KLR	**Kul'dur**	**78.98**	**336**	LR		LR	23 25 53.3	
	comp=Z,12nm,21.8s,slow=30							
CMAR	**Chiang Mai Arr**	**80.44**	**294**	P		**P**	**22 58 07.6**	**+1.2**
	2.0nm,0.3s,baz=136,slow=3.9,SNR=10.0							
CMAR				LR		LR	23 35 56.9	
	comp=Z,132nm,19.9s,baz=158,slow=37							
KMI	**Kunming**	**80.52**	**302**	P		**P**	**22 58 08.5**	**+1.5**
KMI				pP		pP	22 58 14.9	+1.0
KMI				pmax		pmax		
	comp=Z,13nm,1.6s							
CHTO	**Chiang Mai**	**80.60**	**295**	*e*P		**P**	**22 58 08.4**	**+1.1**
	33nm,1.9s							
SYO	**Syowa Base**	**82.17**	**196**⇑	*e*X		**P**	**22 58 11.0**	**-3.7**
CD2	**Chengdu**	**82.69**	**308**	*e*P		**P**	**22 58 19.5**	**+1.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**83.04**	**319**	*e*P		**P**	**22 58 22.0**	**+2.2**
HHC				pmax		pmax		
	comp=Z,11nm,1.1s							
HHC				pmax		pmax		
	comp=Z,140nm,4.9s							
LZH	**Lanzhou**	**85.33**	**312**	*e*P		**P**	**22 58 32.2**	**+0.6**
LZH				pP		PcP	22 58 35.5	+0.8
LZH				sP		pP	22 58 37.0	-1.6
LZH				*e*PP		**PP**	**23 01 52.5**	**+2.5**
LZH				pmax		pmax		
	comp=Z,25nm,1.1s							
LZH				pmax		pmax		
	comp=Z,86nm,8.3s							
LZH				LR		LR		
	comp=N,260nm,17.2s							
LZH				LR		LR		
	comp=E,270nm,17.5s							
LZH				LR		LR		
	comp=Z,350nm,19.3s							
SNAA	**Sanae**	**86.10**	**182**	P		**P**	**22 58 30.9**	**-3.9**
SNAA	**Sanae**	**86.10**	**182**	P		**P**	**22 58 34.5**	**-0.3**
	5.9nm,0.9s,baz=178,slow=7.2,SNR=5.8							
SNAA	**Sanae**	**86.10**	**182**	*e*P		**P**	**22 58 32.8**	**-2.0**
	824nm,1.2s							
VNA3	**Neumayer Olymp**	**86.66**	**180**	P		**P**	**22 58 37.7**	**+0.2**
VNA2	**Neumayer--Watz**	**86.97**	**181**	P		**P**	**22 58 38.0**	**-0.9**
	baz=180,slow=4.5							
GAMB	**Gambell**	**87.03**	**8**	*e*P		**P**	**22 58 37.7**	**-1.3**
	7.7nm,1.0s							
GRTM	**Round Top Moun**	**87.60**	**46**	*e*P		**P**	**22 58 45.5**	**+3.0**
GTA	**Gaotai**	**89.77**	**313**	*e*P		**P**	**22 58 52.4**	**-0.5**
GTA				pP		sP	22 59 02.3	-0.1
GTA				sP		pP	22 59 06.3	+6.4
GTA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
ULN	**Ulaanbaatar**	**89.77**	**323**	*e*P		**P**	**22 58 52.3**	**-0.4**
	7.0nm,1.3s							
LPIG	**La Paz**	**90.11**	**64**	LR		LR	23 31 54.4	
	comp=Z,193nm,19.0s,baz=242,slow=31							
SONM	**Songino Array**	**90.12**	**323**	P		**P**	**22 58 54.1**	**-0.2**
	2.4nm,0.9s,baz=139,slow=4.2,SNR=11							
SONM				LR		LR	23 40 35.8	
	comp=Z,89nm,18.0s,baz=120,slow=36							
SONA1	**Songino Array**	**90.12**	**323**	*e*P		**P**	**22 58 53.4**	**-1.0**
NVAR	**Mina Array Bea**	**90.31**	**48**	P		**P**	**22 58 55.1**	**-0.5**
	0.2nm,0.3s,baz=224,slow=5.0,SNR=3.0							
ILAR	**Eielson Array**	**92.97**	**17**	P		**P**	**22 59 03.8**	**-3.2**
	0.4nm,0.8s,baz=234,slow=5.6,SNR=4.6							
PLCA	**Paso Flores**	**95.74**	**138**	LR		LR	23 32 24.6	
	comp=Z,50nm,21.2s,baz=226,slow=29							
TXAR	**Lajitas Array**	**97.61**	**62**	LR		LR	23 34 34.8	
	comp=Z,327nm,21.3s,baz=0.0,slow=30							
WMQ	**Urumqi**	**99.86**	**313**	P		**Pdif**	**22 59 41.1**	**+2.3**
YKA	**Yellowknife Ar**	**103.08**	**27**	Pdiff		**Pdif**	**22 59 52.0**	**-0.5**
	0.1nm,0.7s,baz=248,slow=3.3,SNR=2.2							
MKAR	**Makanchi Array**	**104.44**	**315**	Pdiff		**Pdif**	**22 59 59.9**	**+0.8**
	0.2nm,0.7s,baz=139,slow=4.8,SNR=2.6							
KSH	**Kashi**	**106.86**	**306**	*e*Pdif		**Pdif**	**23 00 14.2**	**+4.1**
ARCES	**ARCESS Array B**	**128.24**	**345**	PKP		**PKPdf**	**23 04 58.5**	**-1.3**
	2.5nm,0.9s,baz=36,slow=3.1,SNR=3.9							
FINES	**FINESS Array B**	**133.72**	**337**	PKP		**PKPdf**	**23 05 09.6**	**-0.9**
	3.3nm,1.1s,baz=93,slow=5.6,SNR=2.6							
BRTR	**Keskin Array B**	**139.24**	**305**	PKP		**PKPdf**	**23 05 22.3**	**+0.7**
	0.8nm,1.1s,baz=94,slow=4.3,SNR=2.8							
KECS	**Kecovo**	**144.40**	**325**	*e*PKP		**PKPdf**	**23 05 31.3**	**+1.0**
KECS				*e*			23 05 44.1	
KARP	**Karpathos**	**145.14**	**301**	*e*PKPbc		**PKPbc**	**23 05 31.6**	**0.0**
VYHS	**Vyhne**	**145.26**	**326**	*e*PKP		**PKPdf**	**23 05 33.4**	**+1.6**
VYHS				*e*			23 05 49.2	
DPC	**Dobruska-Polom**	**145.28**	**330**	*e*PKP		**PKPbc**	**23 05 29.1**	**-2.5**
UPC	**Upice**	**145.31**	**331**	*e*PKP		**PKPab**	**23 05 31.8**	**0.0**
PVCC	**Panska Ves**	**145.94**	**332**	*e*PKP		**PKPab**	**23 05 34.3**	**+0.2**
CLL	**Collm**	**146.02**	**334**	*e*PKPbc		**PKPbc**	**23 05 34.0**	**+0.2**
CLL				*i* pPKPdf		**PKiKP**	**23 05 36.8**	**-0.4**
	comp=Z,14nm,0.9s							
CLL				*i*			23 05 46.4	
CLL	**Collm**	**146.02**	**334**	*e*PKPdf		**PKPbc**	**23 05 33.6**	**-0.1**
MODS	**Modra-Piesok**	**146.14**	**327**	*e*PKP		**PKPab**	**23 05 37.3**	**+2.3**
PRU	**Pruhonice**	**146.34**	**331**	*e*PKP		**PKPbc**	**23 05 34.8**	**0.0**
EKA	**Eskdalemuir Ar**	**146.66**	**353**	PKPbc		**PKPdf**	**23 05 34.0**	**0.0**
	comp=Z,1.6nm,0.5s,baz=2.3,slow=3.6,SNR=10							
IDI	**Anoyia**	**147.01**	**301**	*e*PKPbc		**PKPbc**	**23 05 38.0**	**+0.7**
NKC	**Novy Kostel**	**147.07**	**333**	*e*PKP		**PKPbc**	**23 05 37.7**	**+0.8**
CONA	**Conrad Observa**	**147.15**	**327**	*e*PKPdf		**PKPdf**	**23 05 35.7**	**+0.5**
	comp=Z,8.7nm,1.1s							
KHC	**Kasperske Hory**	**147.40**	**331**	*e*PKP		**PKPbc**	**23 05 38.0**	**+0.1**
KHC				*ex*		x	23 05 51.1	
GERES	**GERESS Array B**	**147.55**	**330**	PKPbc		**PKPbc**	**23 05 37.6**	**-0.8**
	comp=Z,4.3nm,1.0s,baz=35,slow=3.3,SNR=13							
GEA0	**GERESS Array S**	**147.55**	**330**	*e*PKPdf		**PKPbc**	**23 05 37.5**	**-0.9**
ARSA	**Arzberg**	**147.77**	**327**	pPKPdf		**PKPbc**	**23 05 39.4**	**+0.4**
	comp=Z,6.1nm,1.1s							
MOA	**Molln**	**147.99**	**329**	*i* sPKPbc		**PKPab**	**23 05 44.0**	**+1.8**
	comp=Z,5.1nm,1.1s							
SOKA	**Soboth**	**148.40**	**326**	*i* sPKPbc		**PKPab**	**23 05 44.8**	**+0.8**
	comp=Z,5.4nm,1.2s							
OBKA	**Obir**	**148.76**	**326**	*i* sPKiKP		**PKPab**	**23 05 47.5**	**+2.0**
	comp=Z,5.6nm,1.4s							
KBA	**Koelnbre

*IDC **07** 22:50:03.5±1.0,22.26S×170.15E,h0km,mb4.4/9, mb1 4.5/10,mb1mx4.2/41,mbtmp4.4/10,ML4.2/1,Error ellipse: s-maj=26.5km s-min=26.2km az=113.0*
*NEIC **07** 22:50:04.9±0.8,22.23S×170.18E,h10km,mb4.5/3,Error ellipse: s-maj=19.2km s-min=16.2km az=197.0*
*ISCJB **07** 22:50:05.8±0.8,22.3S±0.1×170.08E±0.09,h25km, mb4.4/12,Error ellipse: s-maj=20.8km s-min=10.8km az=17.4*

ISC 07 22:50:07.2±0.8,22.3S±0.2×170.1E±0.1,h25km,n24, σ1§61/26,mb4.4/12,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.42**	**273**	Pn	**Pn**	**22 50 58.4**	**-0.7**
	24nm,0.3s,baz=116,slow=21,SNR=39						
DZM				Sn	**Sn**	**22 51 37.9**	**-1.1**
	24nm,0.3s,baz=333,slow=17,SNR=4.2						
RPZ	**Rata Peaks**	**21.35**	**178**	P	**P**	**22 54 54.5**	**+1.9**
	12nm,0.8s,baz=3.3,slow=5.6,SNR=3.8						
CTA	**Charters Tower**	**22.36**	**271**	P	**P**	**22 55 04.8**	**+1.2**
	8.1nm,0.8s,baz=84,slow=14,SNR=4.2						
CTAO	**Charters Tower**	**22.36**	**271**	*eP*	**P**	**22 55 05.5**	**+1.8**
	44nm,0.7s						
STKA	**Stephens Creek**	**27.06**	**243**	P	**P**	**22 55 48.8**	**+1.0**
	5.5nm,0.7s,baz=95,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**33.32**	**261**	P	**P**	**22 56 42.8**	**-0.5**
	5.0nm,0.8s,baz=87,slow=9.1,SNR=17						
ASAR				PcP	**PcP**	**22 59 26.1**	**+0.9**
	1.2nm,1.0s,baz=123,slow=3.4,SNR=4.3						
WRAB	**Tennant Creek**	**33.41**	**267**	*eP*	**P**	**22 56 43.3**	**-0.8**
	4.9nm,0.9s						
WRA	**Warramunga Arr**	**33.42**	**267**	P	**P**	**22 56 42.6**	**-1.6**
	5.1nm,1.0s,baz=103,slow=8.3,SNR=6.5						
MBWA	**Marble Bar**	**46.65**	**261**	*eP*	**P**	**22 58 34.3**	**+0.4**
	14nm,0.7s						
MJAR	**Matsushiro Arr**	**65.85**	**332**	P	**P**	**23 00 50.1**	**-0.5**
	2.1nm,0.9s,baz=166,slow=7.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**80.52**	**294**	P	**P**	**23 02 19.5**	**+1.8**
	1.0nm,0.4s,baz=127,slow=4.1,SNR=8.2						
CHTO	**Chiang Mai**	**80.69**	**295**	*eP*	**P**	**23 02 20.6**	**+2.0**
	3.7nm,0.9s						
SNAA	**Sanae**	**86.14**	**182**	P	**P**	**23 02 41.1**	**-4.7**
SNAA	**Sanae**	**86.14**	**182**	P	**P**	**23 02 45.3**	**-0.5**
	4.3nm,0.8s,baz=204,slow=6.2,SNR=7.8						
VNA3	**Neumayer Olymp**	**86.69**	**180**	P	**P**	**23 02 46.6**	**-1.9**
VNA2	**Neumayer--Watz**	**87.00**	**181**	P	**P**	**23 02 48.2**	**-1.8**
	baz=189,slow=4.4						
SONM	**Songino Array**	**90.17**	**323**	P	**P**	**23 03 05.7**	**+0.4**
	1.7nm,0.9s,baz=136,slow=4.8,SNR=7.9						
CLL	**Collm**	**146.04**	**334**	*e*PKPbc	**PKPab**	**23 09 45.0**	**-0.3**
	comp=Z,10.0nm,1.0s						
CLL				*e*		23 09 55.0	
EKA	**Eskdalemuir Ar**	**146.65**	**353**	PKPbc	**PKPbc**	**23 09 45.4**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=10,slow=3.2,SNR=6.7						
CONA	**Conrad Observa**	**147.18**	**327**	*i* sPKPbc	**PKPab**	**23 09 52.3**	**+2.3**
	comp=Z,3.1nm,0.9s						
KHC	**Kasperske Hory**	**147.43**	**331**	*e*PKP	**PKPbc**	**23 09 48.5**	**-0.3**
GERES	**GERESS Array B**	**147.58**	**330**	PKPbc	**PKPbc**	**23 09 49.2**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=66,slow=2.4,SNR=4.0						
MOTA	**Moosalm**	**149.86**	**331**	*i* PKPab	**PKPab**	**23 09 59.8**	**-1.0**
	comp=Z,3.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**165.71**	**232**	PKP	**PKPdf**	**23 10 10.2**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=80,slow=1.8,SNR=4.2						

IDC 07 23:18:13.1±7.0,7.62S×128.17E,h188km±75km,mb3.0/1, mb1 3.3/5,mb1mx3.0/53,mbtmp3.7/5,Error ellipse: s-maj=75.1km s-min=23.8km az=40.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.14**	**240**	P	Pn	23 19 29.3	+0.3
	11nm,0.3s,baz=109,slow=4.2,SNR=9.9						
BATI				S	Sn	23 20 29.2	+0.4
	8.6nm,0.3s,baz=5.1,slow=18,SNR=6.8						
FITZ	**Fitzroy Crossi**	**10.71**	**193**	P	Pn	23 20 40.5	-1.3
	0.1nm,0.3s,baz=29,slow=10,SNR=3.3						
FITZ				S	Sn	23 22 34.3	-6.6
	0.4nm,0.3s,baz=233,slow=20,SNR=5.1						
WRA	**Warramunga Arr**	**13.63**	**155**	P	Pn	23 21 19.9	+0.9
	0.2nm,0.3s,baz=335,slow=12,SNR=6.4						
WRA				S	Sn	23 23 39.0	-12
	0.5nm,0.3s,baz=336,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**16.88**	**162**	P	P	23 21 57.9	+0.2
	0.2nm,0.3s,baz=340,slow=11,SNR=12						
ASAR				S	S	23 24 58.3	-5.9
	0.3nm,0.3s,baz=345,slow=25,SNR=3.8						
MKAR	**Makanchi Array**	**67.76**	**328**	P	P	23 28 50.5	0.0
	0.2nm,0.3s,baz=116,slow=5.9,SNR=5.7						

*ISK **07** 23:18:26.7,39.85N×42.59E,h6km,ML2.4/6*
*CSEM **07** 23:18:27.1±0.2,39.87N×42.58E,h12km,ML2.4,Error ellipse: s-maj=5.2km s-min=3.6km az=77.0*

DDA 07 23:18:28.3,39.94N×42.50E,h12km,Ml2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EATA	**Eleskirt**	**0.07**	**187**	*i* P	Pg	23 18 30.2	-1.0
EATA				*i* S	Sg	23 18 33.5	+0.3
EATA	**Eleskirt**	**0.07**	**187**	P	Pg	23 18 30.2	-1.0
EATA				S	Sg	23 18 33.5	+0.2
AGRB	**Hanur-Agry**	**0.52**	**134**	PG	Pg	23 18 35.3	-3.2
AGRB				SG	Sg	23 18 41.4	-4.1
AGRB	**Hanur-Agry**	**0.52**	**134**	*e*Pg	Pg	23 18 35.3	-3.2
AGRB				*e*Sg	Sg	23 18 41.4	-4.1
SENK	**Senkaya-Erzuru**	**0.64**	**349**	PG	Pb	23 18 41.3	-0.2
SENK				SG	Sb	23 18 51.9	+1.5
SENK	**Senkaya-Erzuru**	**0.64**	**349**	*e*Pg	Pb	23 18 41.3	-0.2
SENK				*e*Sg	Sb	23 18 51.9	+1.5
EKAR	**Karacoban**	**0.76**	**207**	*i* P	Pg	23 18 42.2	-0.9
EKAR				*i* S	Sb	23 18 54.7	+0.7
EKAR	**Karacoban**	**0.76**	**207**	P	Pg	23 18 42.2	-0.8
EKAR				S	Sb	23 18 54.7	+0.7
KARS	**Kars**	**0.82**	**32**	PG	Pg	23 18 43.7	-0.4
KARS				SG	Sb	23 18 55.9	+0.3
KARS	**Kars**	**0.82**	**32**	*e*Pg	Pg	23 18 43.7	-0.4
KARS				*e*Sg	Sb	23 18 55.9	+0.3
DAGI	**Agillar**	**1.23**	**339**	*i* P	Pg	23 18 52.0	+0.1
DAGI				*i* S	Sn	23 19 11.8	+3.8
DBAD	**Bademkaya**	**1.24**	**331**	*i* P	Pn	23 18 51.0	-0.6
DBAD	**Bademkaya**	**1.24**	**331**	P	Pn	23 18 51.0	-0.6
TASB	**TASBURUN-IGDIR**	**1.33**	**87**	PN	Pn	23 18 51.5	-1.3
TASB	**TASBURUN-IGDIR**	**1.33**	**87**	*e*Pn	Pn	23 18 51.5	-1.3
CLDR	**Caldiran**	**1.35**	**126**	PN	Pn	23 18 50.9	-2.3
CLDR	**Caldiran**	**1.35**	**126**	*e*Pn	Pn	23 18 50.9	-2.3
GURO	**Guroymak-BITLI**	**1.43**	**195**	PN	Pn	23 18 52.9	-1.3
GURO	**Guroymak-BITLI**	**1.43**	**195**	*e*Pn	Pn	23 18 52.9	-1.3

IDC 07 23:18:57.8±2.1,3.35S×125.63E,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.3/55,mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=308.6km s-min=25.9km az=64.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.55**	**153**	P	P	23 23 15.5	-0.8
	0.3nm,0.3s,baz=324,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**21.72**	**159**	P	P	23 23 51.4	+0.5
	1.2nm,0.5s,baz=344,slow=12,SNR=11						
MKAR	**Makanchi Array**	**62.83**	**328**	P	P	23 29 25.3	-0.1
	0.2nm,0.6s,baz=116,slow=8.4,SNR=2.5						

*ISCJB **07** 23:24:31.2±0.4,51.44N±0.02×16.21E±0.03,h0km, mb3.3/4,MS4.1/1,Error ellipse: s-maj=3.3km s-min=2.7km az=179.9*
*CSEM **07** 23:24:32.2±0.3,51.48N×16.20E,h2km,ML3.5/6,Error ellipse: s-maj=5.2km s-min=4.9km az=105.0*
*IDC **07** 23:24:33.6±0.6,51.46N×16.11E,h0km,mb3.3/4, mb1 3.4/10,mb1mx3.2/58,mbtmp3.3/10,ML3.1/6,MS4.1/1, Ms1 4.0/1,ms1mx2.9/38,Error ellipse: s-maj=14.3km s-min=7.8km az=116.0*
*WAR **07** 23:24:38.6,51.02N×15.80E,h1km,Mw2.7*

ISC 07 23:24:32.1±0.6,51.52N±0.03×16.21E±0.02,h0km,n54, σ1§33/94,mb3.3/4,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**175**	*i* Pg	**Pg**	**23 24 45.4**	**+0.2**
KSP				*e*Sg	**Sg**	**23 24 53.4**	**-0.6**
KSP	**Ksiaz**	**0.68**	**175**	*i* Pg	**Pg**	**23 24 45.4**	**+0.2**
KSP				*e*Sg	**Sg**	**23 24 53.4**	**-0.6**
UPC	**Upice**	**1.02**	**187**	*e*PG	**Pg**	**23 24 51.7**	**0.0**
UPC				*e*SG	**Sg**	**23 25 04.3**	**-0.7**
	comp=Z,169nm,0.4s						
UPC	**Upice**	**1.02**	**187**	Pg	**Pg**	**23 24 51.7**	**0.0**
UPC				Sg	**Sg**	**23 25 04.3**	**-0.7**
	169nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**176**	*e*PG	**Pg**	**23 24 54.3**	**-0.3**
DPC				*e*SG	**Sg**	**23 25 08.4**	**-1.5**
	comp=Z,66nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**176**	Pg	**Pg**	**23 24 54.3**	**-0.3**
DPC				Sg	**Sg**	**23 25 08.4**	**-1.5**
	66nm,0.4s						
PVCC	**Panska Ves**	**1.44**	**227**	*e*PG	**Pb**	**23 25 00.0**	**+0.3**
PVCC				*e*SG	**Sb**	**23 25 18.5**	**0.0**
PVCC	**Panska Ves**	**1.44**	**227**	Pg	**Pb**	**23 25 00.0**	**+0.3**
PVCC				Sg	**Sb**	**23 25 18.5**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.84**	**210**	*e*PN	**Pn**	**23 25 05.3**	**+0.2**
GOPC				*e*PG	**Pb**	**23 25 06.8**	**+0.1**
GOPC				*e*SG	**Sb**	**23 25 29.9**	**-0.5**
GOPC	**GO Pecny, Ondr**	**1.84**	**210**	Pn	**Pn**	**23 25 05.3**	**+0.2**
GKP	**Gorka Klasztor**	**1.86**	**19**	*e*Pg	Pg	23 25 13.8	+6.0
GKP	**Gorka Klasztor**	**1.86**	**19**	*e*Pg	Pg	23 25 13.8	+6.0
PRU	**Pruhonice**	**1.86**	**215**	*e*PN	**Pn**	**23 25 04.5**	**-0.8**
PRU				*e*PG	**Pb**	**23 25 06.9**	**-0.1**
PRU				*e*SG	**Sb**	**23 25 30.4**	**-0.5**
	comp=Z,54nm,0.5s						
PRU	**Pruhonice**	**1.86**	**215**	Pn	**Pn**	**23 25 04.5**	**-0.8**
CLL	**Collm**	**2.02**	**265**	*e*Pn	**Pn**	**23 25 08.0**	**+0.6**
CLL				*e*Pg	**Pb**	**23 25 10.0**	**+0.3**
CLL				*e*Sg	**Sg**	**23 25 38.0**	**+1.1**
	comp=Z,25nm,0.6s						
OKC	**Ostrava-Krasne**	**2.09**	**143**	*e*PN	**Pn**	**23 25 08.0**	**-0.4**
OKC				*e*PG	**Pg**	**23 25 11.6**	**-0.6**
OKC				*e*SG	**Sb**	**23 25 37.1**	**-0.3**
	comp=Z,49nm,0.6s						
OKC	**Ostrava-Krasne**	**2.09**	**143**	Pn	**Pn**	**23 25 08.0**	**-0.4**
OJC	**Ojcow**	**2.62**	**118**	*e*Pn	**Pn**	**23 25 15.2**	**-0.6**
OJC				*e*Pg	**Pg**	**23 25 22.4**	**0.0**
OJC				*e*Sg	**Sg**	**23 25 56.8**	**+0.4**
OJC	**Ojcow**	**2.62**	**118**	*e*Pn	**Pn**	**23 25 15.2**	**-0.6**
OJC				*e*Pg	**Pg**	**23 25 22.4**	**0.0**
OJC				*e*Sg	**Sg**	**23 25 56.8**	**+0.4**
NKC	**Novy Kostel**	**2.71**	**243**	*e*PG	**Pg**	**23 25 23.6**	**-0.4**
NKC				*e*SG	**Sg**	**23 25 59.4**	**+0.3**
	comp=Z,35nm,0.3s						
NKC	**Novy Kostel**	**2.71**	**243**	Pg	**Pg**	**23 25 23.6**	**-0.4**
NKC				Sg	**Sg**	**23 25 59.4**	**+0.3**
	comp=Z,35nm,0.3s						
KHC	**Kasperske Hory**	**2.93**	**216**	*e*PN	**Pn**	**23 25 20.0**	**+0.1**
KHC				*e*PG	**Pb**	**23 25 26.0**	**+0.8**
KHC				*e*SN	**Sn**	**23 25 54.9**	**-0.9**
KHC				*e*SG	**Sb**	**23 26 03.4**	**+1.9**
	comp=Z,21nm,0.3s						
KHC	**Kasperske Hory**	**2.93**	**216**	Pn	**Pn**	**23 25 20.0**	**+0.1**
SMOL	**Smolenice**	**3.11**	**165**	*e*PG	**Pg**	**23 25 31.6**	**-0.2**
SMOL				*e*SG	**Sg**	**23 26 10.6**	**-1.5**
GERES	**GERESS Array B**	**3.13**	**212**	Pn	**Pn**	**23 25 22.8**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=34,slow=13,SNR=20						
GERES				Pg	**Pb**	**23 25 29.4**	**+0.8**
	comp=Z,6.8nm,0.3s,baz=32,slow=19,SNR=67						
GERES				Lg		23 26 09.4	
	comp=Z,7.1nm,0.3s,baz=35,slow=28,SNR=12						
LANS	**Liptovska Anna**	**3.16**	**137**	*e*	**Pn**	**23 25 24.4**	**+1.2**
LANS	**Liptovska Anna**	**3.16**	**137**	*e*Pg	**Pg**	**23 25 32.9**	**+0.2**
LANS				*e*SG	**Sb**	**23 26 10.7**	**+2.4**
MODS	**Modra-Piesok**	**3.23**	**167**	*e*PG	**Pg**	**23 25 32.3**	**-1.6**
MODS				*e*SG	**Sg**	**23 26 13.7**	**-2.0**
NIE	**Niedzica**	**3.36**	**127**	*e*P	**Pg**	**23 25 35.4**	**-1.0**
NIE				*e*S	**Sg**	**23 26 19.7**	**-0.3**
NIE	**Niedzica**	**3.36**	**127**	*e*P	**Pg**	**23 25 35.4**	**-1.0**
NIE				*e*S	**Sg**	**23 26 19.7**	**-0.3**
VYHS	**Vyhne**	**3.47**	**150**	*e*Sg	**Sg**	**23 26 21.4**	**-2.3**
VYHS	**Vyhne**	**3.47**	**150**	*e*PG	**Pg**	**23 25 38.7**	**0.0**
VYHS				*e*SG	**Sg**	**23 26 21.4**	**-2.3**
CONA	**Conrad Observa**	**3.60**	**184**	*e*Pn	**Pn**	**23 25 30.7**	**+1.4**
	comp=Z,0.8nm,0.3s						
CONA				*i* Sg	**Sg**	**23 26 26.2**	**-1.7**
	comp=Z,17nm,0.4s						
BSD	**Bornholm Skovb**	**3.68**	**348**	*i* P	**Pn**	**23 25 30.9**	**+0.7**
BSD				*i* S	**Sn**	**23 26 12.7**	**-1.6**
BSD	**Bornholm Skovb**	**3.68**	**348**	*i* P	**Pn**	**23 25 30.9**	**+0.7**
	SNR=56						
BSD				*i* S	**Sn**	**23 26 12.8**	**-1.6**
	SNR=56						
STHS	**Stebnicka Huta**	**3.85**	**121**	*e*PG	**Pg**	**23 25 48.1**	**+2.3**
STHS				*e*SG	**Sg**	**23 26 40.2**	**+4.6**
STHS				*e*LG	Lg	23 26 52.4	
MOA	**Molln**	**3.89**	**200**	*i* Pn	**Pn**	**23 25 33.4**	**+0.3**
	comp=Z,1.9nm,0.3s						
MOA				Sg	**Sg**	**23 26 36.4**	**-0.5**
	comp=Z,17nm,0.6s						
KECS	**Kecovo**	**4.11**	**136**	*e*PG	Pg	**23 25 52.1**	**+1.3**
KECS				*e*SG	**Sg**	**23 26 42.8**	**-1.2**
KECS				*e*LG	Lg	23 26 51.2	
CRVS	**Cervenica-Dubn**	**4.27**	**126**	*e*PG	**Pg**	**23 25 56.1**	**+2.1**
CRVS				*e*SG	**Sg**	**23 26 50.6**	**+1.2**
ARSA	**Arzberg**	**4.30**	**186**	*e*Pn	**Pn**	**23 25 40.6**	**+1.8**
	comp=Z,0.9nm,0.3s						
ARSA				*i* Sg	**Sg**	**23 26 50.2**	**0.0**
	comp=Z,5.9nm,0.4s						
KWP	**Kalwaria Pacla**	**4.55**	**112**	*e*Pn	**Pg**	**23 25 57.1**	**-2.3**
KWP				*e*Sn	**Sg**	**23 26 56.4**	**-2.0**
KWP	**Kalwaria Pacla**	**4.55**	**112**	*e*Pn	**Pg**	**23 25 57.1**	**-2.3**
KWP				*e*Sn	**Sg**	**23 26 56.4**	**-2.0**
KBA	**Koelnbreinsper**	**4.83**	**204**	*i* Pn	**Pn**	**23 25 47.1**	**+1.0**
	comp=Z,1.0nm,0.4s						
KBA				Sg	**Sb**	**23 27 00.5**	**+4.3**
	comp=Z,11nm,0.6s						
SOKA	**Soboth**	**4.91**	**189**	*i* Sg	**Sg**	**23 27 06.6**	**-3.1**
	comp=Z,2.1nm,0.5s						
AKASG	**Malin Array Be**	**8.24**	**91**	Pn	**Pn**	**23 26 32.1**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=278,slow=12,SNR=3.4						
HFS	**Hagfors**	**8.75**	**352**	Pn	**Pn**	**23 26 40.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=165,slow=17,SNR=5.4						
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	**Pn**	**23 26 55.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=157,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**23 27 13.6**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=6.7						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**P**	**23 28 47.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=192,slow=12,SNR=8.8						
BVAR	**Borovoye Array**	**32.53**	**66**	P	**P**	**23 31 06.4**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=291,slow=9.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**38.12**	**66**	P	**P**	**23 31 52.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=298,slow=8.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**40.14**	**59**	P	**P**	**23 32 10.7**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=304,slow=11,SNR=2.8						
SCHQ	**Schefferville**	**47.10**	**308**	LR	LR	23 51 34.2	
	comp=Z,229nm,20.6s,baz=322,slow=34						
YKA	**Yellowknife Ar**	**59.87**	**336**	P	**P**	**23 34 40.0**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=30,slow=6.4,SNR=3.0						

*ISCJB **07** 23:30:17.9±0.2,44.52N±0.01×6.71E±0.02,h7km±2km, mb3.3/3,Error ellipse: s-maj=2.1km s-min=1.8km az=154.7*
*GEN **07** 23:30:18.5,44.50N×6.69E,h2km,ML2.9*
*CSEM **07** 23:30:18.7±0.1,44.51N×6.70E,h2km,ML3.7/31,Error ellipse: s-maj=2.0km s-min=1.9km az=54.0*
*IDC **07** 23:30:18.7±1.6,44.43N×6.78E,h0km,mb3.3/5,mb1 3.6/8, mb1mx3.3/61,mbtmp3.4/8,ML4.0/3,Error ellipse: s-maj=28.6km s-min=20.4km az=152.0*
*LDG **07** 23:30:18.7±0.0,44.49N×6.67E,h5km,Md3.4/1,Ml3.5/38, Error ellipse: s-maj=1.1km s-min=1.0km az=62.0*
*ROM **07** 23:30:18.4±0.2,44.51N×6.74E,h5km±1km,Md2.9/24, Ml3.0/19,Error ellipse: s-maj=2.2km s-min=1.0km az=63.0*
*PRU **07** 23:30:20.0,44.53N×6.56E,h0km*
*STR **07** 23:30:20.2±0.1,44.48N±0.01×6.75E±0.02,h5km, MLv3.4/17*

ISC 07 23:30:18.9±0.9,44.51N±0.01×6.66E±0.01,h11km±6km, n188,σ1§55/298,mb3.3/3,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.23**	**20**	*e*Pg	**Pg**	**23 30 23.8**	**-0.1**
MBDF				*e*Sg	**Sg**	**23 30 27.3**	**0.0**
	4μm,0.5s,SNR=1.0						
MBDF	**Montbardon**	**0.23**	**20**	*e*Pg	**Pg**	**23 30 23.8**	**-0.1**
MBDF				*e*Sg	**Sg**	**23 30 27.3**	**0.0**
	2μm,0.5s,SNR=1.0						
PZZ	**Stroppo**	**0.33**	**90**	Pg	**Pg**	**23 30 24.3**	**-1.2**
PZZ				S	**Sg**	**23 30 29.0**	**-1.0**
PZZ	**Stroppo**	**0.33**	**90**	Pg	**Pg**	**23 30 24.3**	**-1.2**
PZZ				Sg	**Sg**	**23 30 28.9**	**-1.0**
	3μm,0.5s						
DOI	**San Damiano**	**0.42**	**90**	Pg	**Pg**	**23 30 26.8**	**-0.4**
DOI				Sg	**Sg**	**23 30 32.7**	**-0.1**
	1μm,0.5s						
DOI	**San Damiano**	**0.42**	**90**	Pg	**Pg**	**23 30 26.8**	**-0.4**
DOI				Sg	**Sg**	**23 30 32.7**	**-0.1**
	1μm,0.5s						
RRL	**Rocca Remolon**	**0.42**	**13**	P	**Pg**	**23 30 26.3**	**-1.1**
RRL				S	**Sg**	**23 30 32.9**	**-0.2**
RRL	**Rocca Remolon**	**0.42**	**13**	Pg	**Pg**	**23 30 26.3**	**-1.1**
	1μm,0.4s						
STV	**Sant Anna di V**	**0.55**	**118**	Pg	**Pg**	**23 30 28.2**	**-1.3**
STV				S	**Sg**	**23 30 35.0**	**-1.7**
STV				Sg	**Sg**	**23 30 36.9**	**+0.2**
	718nm,0.2s						
STV	**Sant Anna di V**	**0.55**	**118**	Pg	**Pg**	**23 30 28.2**	**-1.3**
STV				Sg	**Sg**	**23 30 36.9**	**+0.2**
	718nm,0.2s						
BNI	**Bardonecchia**	**0.55**	**1**	Pg	**Pg**	**23 30 29.3**	**-0.3**
BNI				Sg	**Sb**	**23 30 38.3**	**-0.2**
	257nm,0.5s						
BNI	**Bardonecchia**	**0.55**	**1**	Pg	**Pg**	**23 30 29.3**	**-0.3**
BNI				Sg	**Sb**	**23 30 38.3**	**-0.2**
	257nm,0.5s						
BHB	**Bricherasio**	**0.55**	**52**	P	**Pg**	**23 30 29.2**	**-0.4**
BHB				S	**Sg**	**23 30 36.0**	**-0.8**
BHB				Sg	**Sg**	**23 30 36.3**	**-0.5**
	1μm,0.4s						
BHB	**Bricherasio**	**0.55**	**52**	Pg	**Pg**	**23 30 29.4**	**-0.2**
BHB				Sg	**Sg**	**23 30 36.3**	**-0.5**
	1μm,0.4s						
ENR	**Entracque**	**0.61**	**117**	Pg	**Pg**	**23 30 30.3**	**-0.5**
ENR				S	**Sg**	**23 30 37.8**	**-1.1**
ENR				Sg	**Sg**	**23 30 39.3**	**+0.4**
	690nm,0.4s						
ENR	**Entracque**	**0.61**	**117**	Pg	**Pg**	**23 30 30.3**	**-0.5**
ENR				Sg	**Sg**	**23 30 39.3**	**+0.4**
	690nm,0.4s						
ORIF	**Oris-en-Rattie**	**0.69**	**307**	*e*Pg	**Pg**	**23 30 32.1**	**-0.2**
ORIF				*e*Sg	**Sg**	**23 30 42.0**	**+0.6**
	756nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.69**	**307**	*e*Pg	**Pg**	**23 30 32.1**	**-0.2**
ORIF				*e*Sg	**Sg**	**23 30 42.0**	**+0.6**
	378nm,0.2s,SNR=1.0						
RSP	**Reno Superiore**	**0.77**	**34**	P	**Pg**	**23 30 33.7**	**-0.2**
RSP				S	**Sg**	**23 30 43.6**	**-0.4**
RSP				Sg	**Sg**	**23 30 44.3**	**+0.3**
	600nm,0.4s						
RSP	**Reno Superiore**	**0.77**	**34**	Pg	**Pg**	**23 30 33.7**	**-0.2**
RSP				Sg	**Sg**	**23 30 44.3**	**+0.3**
	600nm,0.4s						
LUCF	**Luceram**	**0.79**	**141**	Pg	**Pg**	**23 30 33.6**	**-0.5**
LUCF				Sg	**Sg**	**23 30 44.1**	**-0.3**
LUCF	**Luceram**	**0.79**	**141**	Pg	**Pg**	**23 30 33.6**	**-0.5**
GDM	**Grand'Maison**	**0.80**	**331**	Pg	**Pb**	**23 30 45.8**	**+1.0**
SBF	**Sospel**	**0.85**	**139**	*e*Pg	**Pg**	**23 30 34.8**	**-0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**23 30 45.0**	**-1.4**
	418nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.85**	**139**	*e*Pg	**Pg**	**23 30 34.8**	**-0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**23 30 45.0**	**-1.4**
	209nm,0.2s,SNR=1.0						
GBOS	**Grotte di Boss**	**0.89**	**107**	S	**Sg**	**23 30 46.1**	**-1.5**
GBOS				Sg	**Sg**	**23 30 46.8**	**-0.8**
	429nm,0.6s						
GBOS	**Grotte di Boss**	**0.89**	**107**	Pg	**Pg**	**23 30 35.3**	**-0.7**
GBOS				Sg	**Sg**	**23 30 46.8**	**-0.8**
	429nm,0.6s						
REVF	**Revere**	**0.92**	**146**	Pg	**Pg**	**23 30 36.3**	**-0.3**
REVF				Sg	**Sb**	**23 30 49.1**	**0.0**
REVF	**Revere**	**0.92**	**146**	Pg	**Pg**	**23 30 36.3**	**-0.3**
SMRF	**Simiane la Rot**	**0.94**	**236**	*e*Pn	**Pb**	**23 30 37.8**	**+0.6**
	SNR=1.0						
SMRF	**Simiane la Rot**	**0.94**	**236**	*e*P	**Pn**	**23 30 38.7**	**+0.6**
SMRF				*e*Sg	**Sg**	**23 30 48.6**	**-0.7**
	230nm,0.

CIRO				Sg		Sb	23 30 58.6	-0.9
	274nm,0.5s							
MRGE	**Morge**	**1.29**	**13**	Pg		Pn	23 30 42.9	-0.2
MRGE				Sg		Sb	23 31 00.2	+0.2
	395nm,0.6s							
MRGE	**Morge**	**1.29**	**13**	Pg		Pn	23 30 42.9	-0.2
MRGE				Sg		Sb	23 31 00.2	+0.2
	395nm,0.6s							
PCP	**Piancastagn**	**1.35**	**88**	Pg		Pn	23 30 42.3	-1.4
PCP				Sg		Sb	23 30 59.9	-1.6
	196nm,0.7s							
VIVF	**Saint-Julien-l**	**1.46**	**285**	*e*Pg		Pb	23 30 46.0	0.0
	SNR=1.0							
VIVF				*e*Sg		Sb	23 31 05.4	+0.8
	144nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.46**	**285**	*e*Pg		Pb	23 30 46.0	0.0
	SNR=1.0							
VIVF				*e*Sg		Sb	23 31 05.4	+0.8
	72nm,0.3s,SNR=1.0							
EMV	**Vieux Emosson**	**1.57**	**6**	Pg		Pb	23 30 48.1	+0.1
SATI	**Passo dei Sala**	**1.61**	**32**	Pg		Pn	23 30 47.9	+0.3
SATI				Sg		Sn	23 31 09.2	+0.6
SATI	**Passo dei Sala**	**1.61**	**32**	Pg		Pn	23 30 47.9	+0.3
SATI				Sg		Sn	23 31 09.2	+0.6
DIX	**Grande Dixence**	**1.66**	**18**	Pg		Pb	23 30 49.3	-0.3
DIX	**Grande Dixence**	**1.66**	**18**	Pg		Pb	23 30 49.3	-0.3
MMK	**Mattmark**	**1.80**	**30**	Pg		Pb	23 30 51.7	-0.3
MMK				Sg		Sn	23 31 13.9	+0.9
MMK	**Mattmark**	**1.80**	**30**	Pg		Pb	23 30 51.7	-0.3
MMK				Sg		Sn	23 31 13.9	+0.9
BOB	**Bobbio (Coli)**	**2.01**	**82**	Pg		Pn	23 30 53.2	+0.4
LASF	**Ste Croix**	**2.06**	**259**	*e*P		Pn	23 30 54.1	+0.7
	SNR=1.0							
LASF				*e*Sn		Sn	23 31 17.5	-1.5
	37nm,0.2s							
LASF	**Ste Croix**	**2.06**	**259**	*e*P		Pn	23 30 54.1	+0.7
	SNR=1.0							
SC2M	**Scurtabo**	**2.06**	**92**	Pg		Pn	23 30 54.1	+0.6
SC2M				Sg		Sn	23 31 19.6	+0.4
CABF	**La Chapelle**	**2.14**	**349**	*e*P		Pb	23 30 56.7	-1.0
	SNR=1.0							
CABF				*e*Sn		Sn	23 31 19.7	-1.6
CABF				*e*Sg		Sg	23 31 26.6	-1.2
	266nm,0.7s							
CABF	**La Chapelle**	**2.14**	**349**	*e*P		Pb	23 30 56.7	-1.0
	SNR=1.0							
CABF				*e*Sg		Sg	23 31 26.6	-1.2
	133nm,0.7s							
PLMA	**Palmaria, Port**	**2.34**	**100**	Pg		Pn	23 30 57.6	+0.4
LBL	**Lubilhac**	**2.53**	**288**	Pn		Pn	23 31 01.5	+1.6
LBL	**Lubilhac**	**2.53**	**288**	Pn		Pn	23 31 01.6	+1.6
PGF	**Pioggiola**	**2.59**	**138**	*e*P		Pn	23 31 00.9	+0.1
	SNR=1.0							
PGF				*e*Sn		Sn	23 31 29.3	-3.1
	34nm,0.2s,SNR=1.0							
PGF	**Pioggiola**	**2.59**	**138**	*e*P		Pn	23 31 00.9	+0.1
	SNR=1.0							
MAIM	**Mastiano**	**2.82**	**101**	Pg		Pn	23 31 04.2	+0.4
	35nm,0.7s							
LOMF	**Lomont**	**2.85**	**2**	Pn		Pn	23 31 06.0	+1.6
PYM	**Petit Puy Mans**	**2.87**	**297**	Pn		Pn	23 31 05.4	+0.9
PYM	**Petit Puy Mans**	**2.87**	**297**	Pn		Pn	23 31 05.5	+0.9
SMF	**Signal de Mont**	**2.91**	**318**	*e*P		Pn	23 31 06.7	+1.5
	SNR=1.0							
SMF				*e*Sg		Sg	23 31 50.4	-2.0
	71nm,0.4s							
SMF	**Signal de Mont**	**2.91**	**318**	*e*P		Pn	23 31 06.7	+1.5
	SNR=1.0							
AGO	**Saint Agoulin**	**2.93**	**303**	Pn		Pn	23 31 06.3	+0.9
AGO	**Saint Agoulin**	**2.93**	**303**	Pn		Pn	23 31 06.4	+0.9
AVF	**Avril sur Loir**	**3.25**	**316**	*e*P		Pn	23 31 11.5	+1.7
	SNR=1.0							
AVF				*e*Sn		Sn	23 31 45.8	-2.7
	87nm,0.6s,SNR=1.0							
AVF				*e*Sg		Sg	23 32 01.5	-1.9
	102nm,0.6s							
AVF	**Avril sur Loir**	**3.25**	**316**	*e*P		Pn	23 31 11.5	+1.7
	SNR=1.0							
CAF	**Calviac**	**3.30**	**279**	*e*P		Pn	23 31 11.7	+1.2
	SNR=1.0							
CAF				*e*Sn		Sn	23 31 47.4	-2.3
	18nm,0.3s,SNR=1.0							
CAF	**Calviac**	**3.30**	**279**	*e*P		Pn	23 31 11.7	+1.2
	SNR=1.0							
HINF	**Hinteralfeld**	**3.31**	**2**	*e*P		Pn	23 31 11.6	+0.9
	SNR=1.0							
HINF				*e*Sn		Sn	23 31 46.5	-3.6
	SNR=1.0							
HINF				*e*Sg		Sg	23 32 03.2	-2.1
	25nm,0.4s,SNR=1.0							
HINF	**Hinteralfeld**	**3.31**	**2**	*e*P		Pn	23 31 11.6	+0.9
	SNR=1.0							
MOF	**Molkenrain**	**3.36**	**5**	Pn		Pn	23 31 11.6	+0.2
BGF	**Bois d'Agland**	**3.37**	**309**	*e*P		Pn	23 31 13.2	+1.7
	SNR=1.0							
BGF				*e*Sg		Sg	23 32 04.5	-2.7
	103nm,0.5s							
BGF	**Bois d'Agland**	**3.37**	**309**	*e*P		Pn	23 31 13.2	+1.7
	SNR=1.0							
SSF	**Saint Saulge**	**3.38**	**320**	*e*P		Pn	23 31 13.2	+1.7
	SNR=1.0							
SSF				*e*Sg		Sg	23 32 05.0	-2.2
	41nm,0.4s							
SSF	**Saint Saulge**	**3.38**	**320**	*e*P		Pn	23 31 13.2	+1.7
	SNR=1.0							
LOR	**Lormes**	**3.38**	**326**	*e*P		Pn	23 31 13.2	+1.6
	baz=146,SNR=1.0							
LOR				*e*Sn		Sn	23 31 48.8	-2.9
	28nm,0.3s,baz=169							
LOR				*e*Sg		Sg	23 32 05.3	-2.2
	26nm,0.3s,baz=152							
LOR	**Lormes**	**3.38**	**326**	*e*P		Pn	23 31 13.2	+1.6
	SNR=1.0							
MTLF	**Montolieu**	**3.41**	**252**	*e*P		Pn	23 31 13.2	+1.2
	SNR=1.0							
MTLF				*e*Sn		Sn	23 31 50.0	-2.4
	6.5nm,0.2s,SNR=1.0							
MTLF	**Montolieu**	**3.41**	**252**	*e*P		Pn	23 31 13.2	+1.2
	SNR=1.0							
FELD	**Feldberg im Sc**	**3.50**	**15**	Pg		Pg	23 31 25.5	-0.4
FELD	**Feldberg im Sc**	**3.50**	**15**	Pn		Pn	23 31 13.4	+0.1
FELD	**Feldberg im Sc**	**3.50**	**15**	Pg		Pg	23 31 25.5	-0.4
HAU	**Haudompre**	**3.51**	**357**	*e*P		Pn	23 31 15.1	+1.8
	SNR=1.0							
HAU				*e*Sn		Sn	23 31 52.2	-2.6
	28nm,0.3s,SNR=1.0							
HAU				*e*Sg		Sg	23 32 10.3	-1.2
	44nm,0.4s							
HAU	**Haudompre**	**3.51**	**357**	*e*P		Pn	23 31 15.1	+1.8
	SNR=1.0							
HAU				*e*Sg		Sg	23 32 10.3	-1.2
	22nm,0.4s							
TCF	**Toulx Ste Croi**	**3.60**	**301**	*e*P		Pn	23 31 16.5	+1.8
	SNR=1.0							
TCF				*e*Sn		Sn	23 31 54.1	-3.1
	8.6nm,0.2s							
TCF				*e*Sg		Sg	23 32 12.3	-2.3
	62nm,0.7s							
TCF	**Toulx Ste Croi**	**3.60**	**301**	*e*P		Pn	23 31 16.5	+1.8
	SNR=1.0							
ECH	**Echery**	**3.73**	**5**	Pn		Pn	23 31 17.3	+1.0
RJF	**Les Rejaudoux**	**3.74**	**284**	*e*P		Pn	23 31 18.5	+2.0
	SNR=1.0							
RJF				*e*Sn		Sn	23 31 58.1	-2.4
	31nm,0.6s,SNR=1.0							
RJF				*e*Sg		Sg	23 32 16.3	-2.6
	48nm,0.7s							
RJF	**Les Rejaudoux**	**3.74**	**284**	*e*P		Pn	23 31 18.5	+2.0
	SNR=1.0							
THEF	**They Montfort**	**3.75**	**353**	Pn		Pn	23 31 17.9	+1.3
THEF	**They Montfort**	**3.75**	**353**	Pn		Pn	23 31 17.9	+1.3
FETA	**Feichten**	**3.80**	**47**	Pn		Pn	23 31 20.4	+3.0
	2.8nm,0.4s							
FETA				Sn		Sn	23 32 03.1	+0.9
	16nm,0.7s							
FETA	**Feichten**	**3.80**	**47**	*e*Pn		Pn	23 31 20.4	+3.0
	2.8nm,0.4s							
FETA				*i* Sn		Sn	23 32 03.1	+0.9
	16nm,0.7s							
CTI	**Castel Tesino**	**3.85**	**65**	Pg		Pn	23 31 18.7	+0.7
CTI				Sg		Sn	23 32 02.2	-1.1
SFTF	**Sexfontaines**	**3.87**	**344**	*e*P		Pn	23 31 20.1	+1.9
	baz=153							
SFTF				*e*Sg		Sg	23 32 20.3	-2.7
	47nm,0.6s							
SFTF	**Sexfontaines**	**3.87**	**344**	*e*P		Pn	23 31 20.1	+1.9

SPAK	**Spaichingen-Ko**	**3.89**	**22**	Pg		Pg	23 31 34.1	+0.8
SPAK	**Spaichingen-Ko**	**3.89**	**22**	Pg		Pg	23 31 34.2	+0.8
CDF	**Champ du Feu**	**3.93**	**6**	*e*Pn		Pn	23 31 19.4	+0.2
	SNR=1.0							
CDF				*e*Sg		Sg	23 32 22.1	-2.9
	26nm,0.6s							
CDF	**Champ du Feu**	**3.93**	**6**	*e*Pn		Pn	23 31 19.4	+0.2
	SNR=1.0							
HYF	**Humbligny**	**3.94**	**316**	*e*P		Pn	23 31 21.5	+2.3
HYF				*e*Sn		Sn	23 32 03.0	-2.4
HYF				*e*Sg		Sg	23 32 22.5	-2.8
HYF	**Humbligny**	**3.94**	**316**	*e*P		Pn	23 31 21.5	+2.3
PAGF	**Fort de Pagny**	**4.10**	**351**	*e*P		Pn	23 31 23.5	+2.0
	baz=173							
PAGF				*e*Sg		Sg	23 32 27.9	-2.6
	15nm,0.7s							
PAGF	**Fort de Pagny**	**4.10**	**351**	*e*P		Pn	23 31 23.5	+2.0
MEZF	**Maizieres J'vi**	**4.15**	**345**	*e*P		Pn	23 31 24.2	+2.1
	baz=160,SNR=1.0							
MEZF				*e*Sg		Sg	23 32 29.7	-2.3
	46nm,0.5s,baz=170							
MEZF	**Maizieres J'vi**	**4.15**	**345**	*e*P		Pn	23 31 24.2	+2.1
	SNR=1.0							
LFF	**La Frestale**	**4.24**	**278**	*e*P		Pn	23 31 25.1	+1.8
	SNR=1.0							
LFF				*e*Sg		Sg	23 32 31.9	-3.1
	31nm,0.6s,SNR=1.0							
LFF	**La Frestale**	**4.24**	**278**	*e*P		Pn	23 31 25.1	+1.8
	SNR=1.0							
ABTA	**Abfaltersbach**	**4.68**	**59**	Pn		Pn	23 31 31.9	+2.4
	2.1nm,0.3s							
ABTA				Sn		Sn	23 32 27.1	+3.4
	14nm,0.6s							
ABTA	**Abfaltersbach**	**4.68**	**59**	*e*Pn		Pn	23 31 31.9	+2.4
	2.1nm,0.3s							
ABTA				*e*Sn		Sn	23 32 27.1	+3.4
	14nm,0.6s							
EPF	**Esparros**	**4.81**	**254**	*e*Pn		Pn	23 31 31.1	-0.1
	SNR=1.0							
EPF	**Esparros**	**4.81**	**254**	*e*P		Pn	23 31 33.7	+2.5
EPF				*e*Sg		Sg	23 32 49.2	-4.0
	4.2nm,0.3s							
EPF	**Esparros**	**4.81**	**254**	*e*Pn		Pn	23 31 31.1	-0.1
	SNR=1.0							
EPF	**Esparros**	**4.81**	**254**	*e*P		Pn	23 31 33.7	+2.5
MFF	**Saint Martin d**	**5.22**	**296**	*e*P		Pn	23 31 39.1	+2.3
	SNR=1.0							
MFF				*e*Sg		Sg	23 33 02.8	-3.5
	14nm,0.6s							
MFF	**Saint Martin d**	**5.22**	**296**	*e*P		Pn	23 31 39.1	+2.3
	SNR=1.0							
SKDS	**Skadanscina**	**5.32**	**76**	*i* Pn		Pn	23 31 37.9	-0.3
SKDS	**Skadanscina**	**5.32**	**76**	*i* Pn		Pn	23 31 37.9	-0.3
KNDS	**Knezji Dol**	**5.57**	**77**	*i* Pn		Pn	23 31 42.0	+0.3
KNDS	**Knezji Dol**	**5.57**	**77**	*i* Pn		Pn	23 31 42.0	+0.3
GIVF	**Givet**	**5.74**	**348**	*e*Pn		Pn	23 31 42.9	-1.0
GIVF	**Givet**	**5.74**	**348**	*e*P		Pn	23 31 46.1	+2.2
	SNR=1.0							
GIVF				*e*Sn		Sn	23 32 45.8	-3.8
	7.2nm,0.4s							
GIVF	**Givet**	**5.74**	**348**	*e*Pn		Pn	23 31 42.9	-1.0
GIVF	**Givet**	**5.74**	**348**	*e*P		Pn	23 31 46.1	+2.2
	SNR=1.0							
BAIF	**Baives**	**5.80**	**344**	*e*P		Pn	23 31 46.7	+1.9
	SNR=1.0							
BAIF				*e*Sn		Sn	23 32 46.7	-4.5
	8.1nm,0.5s,SNR=1.0							
BAIF	**Baives**	**5.80**	**344**	*e*P		Pn	23 31 46.7	+1.9
	SNR=1.0							
NVLJ	**Novalja**	**5.87**	**87**	*e*Pn		Pn	23 31 45.9	+0.1
NVLJ				Sn		Sn	23 32 50.9	-2.1
NVLJ	**Novalja**	**5.87**	**87**	*e*Pn		Pn	23 31 45.8	+0.1
SJPF	**Ste Jean**	**5.87**	**259**	*e*P		Pn	23 31 48.2	+2.4
SJPF	**Ste Jean**	**5.87**	**259**	*e*P		Pn	23 31 48.2	+2.4
OBKA	**Obir**	**5.90**	**67**	Pn		Pn	23 31 48.4	+2.2
	0.1nm,0.1s							
OBKA	**Obir**	**5.90**	**67**	*e*Pn		Pn	23 31 48.4	+2.2
	0.1nm,0.1s							
BOJS	**Bojanci**	**6.17**	**78**	*i* Pn		Pn	23 31 49.9	0.0
BOJS	**Bojanci**	**6.17**	**78**	*i* Pn		Pn	23 31 49.9	0.0
LDF	**La Druitiere**	**6.21**	**314**	*e*P		Pn	23 31 51.7	+1.3
	SNR=1.0							
LDF				*e*Sn		Sn	23 32 57.1	-4.2
	11nm,0.8s,SNR=1.0							
LDF				*e*Sg		Sg	23 33 33.6	-4.5
	34nm,0.8s							
LDF	**La Druitiere**	**6.21**	**314**	*e*P		Pn	23 31 51.7	+1.3
	SNR=1.0							
MOA	**Molln**	**6.25**	**55**	*e*Pn		Pn	23 31 55.2	+4.2
	1.7nm,0.3s							
MOA				Sn		Sn	23 33 03.8	+1.4
	4.3nm,0.5s							
SOKA	**Soboth**	**6.26**	**67**	Pn		Pn	23 31 54.2	+3.0
	1.4nm,0.2s							
SOKA				Sn		Sn	23 33 04.9	+2.1
	3.5nm,0.9s							
SOKA	**Soboth**	**6.26**	**67**	*e*Pn		Pn	23 31 54.2	+3.0
	1.4nm,0.2s							
SOKA				*e*Sn		Sn	23 33 04.9	+2.1
	3.5nm,0.9s							
GRR	**Gorron**	**6.48**	**309**	*e*P		Pn	23 31 55.9	+1.8
	SNR=1.0							
GRR	**Gorron**	**6.48**	**309**	*e*P		Pn	23 31 55.9	+1.8
	SNR=1.0							
FLN	**La Foliniere**	**6.50**	**313**	*e*P		Pn	23 31 56.0	+1.6
	baz=139,SNR=1.0							
FLN	**La Foliniere**	**6.50**	**313**	*e*P		Pn	23 31 56.0	+1.6
	SNR=1.0							
GERES	**GERESS Array B**	**6.50**	**46**	Pn		Pn	23 31 55.2	+0.7
	1.4nm,0.3s,baz=224,slow=14,SNR=28							
GERES				Sn		Sn	23 33 09.0	+0.3
	1.5nm,0.3s,baz=241,slow=22,SNR=8.4							
KHC	**Kasperske Hory**	**6.63**	**43**	*e*PN		Pn	23 31 57.6	+1.4
KHC				*ex*		x	23 32 09.0	
KHC				*e*SN		Sn	23 33 10.3	-1.4
KHC	**Kasperske Hory**	**6.63**	**43**	Pn		Pn	23 31 57.6	+1.4
CONA	**Conrad Observa**	**7.24**	**59**	Sn		Sn	23 33 27.6	+0.7
	3.0nm,0.4s							
CONA	**Conrad Observa**	**7.24**	**59**	*i* Sn		Sn	23 33 27.6	+0.7
	3.0nm,0.4s							
SGMF	**Saint Gilles**	**7.39**	**304**	*e*P		Pn	23 32 08.2	+1.6
	SNR=1.0							
SGMF	**Saint Gilles**	**7.39**	**304**	*e*P		Pn	23 32 08.2	+1.6
	SNR=1.0							
VRAC	**Vranov**	**8.32**	**51**	Sn		Sn	23 33 52.9	-0.4
	0.2nm,0.3s,baz=166,slow=19,SNR=2.9							
DPC	**Dobruska-Polom**	**8.78**	**45**	*e*SN		Sn	23 34 01.6	-2.9
ESDC	**Sonseca Array**	**9.25**	**242**	Pn		Pn	23 32 34.8	+2.6
	0.2nm,0.3s,baz=55,slow=14,SNR=5.4							
EKA	**Eskdalemuir Ar**	**12.53**	**333**	Pn		Pn	23 33 17.7	+0.7
	baz=143,slow=14,SNR=6.0							
FINES	**FINESS Array B**	**20.46**	**27**	P		Pn	23 34 58.0	-0.2
	1.8nm,0.8s,baz=236,slow=15,SNR=2.9							
BRTR	**Keskin Array B**	**20.53**	**94**	P		P	23 34 58.0	+0.6
	0.2nm,0.4s,baz=293,slow=8.6,SNR=2.5							
KVAR	**Kislovodsk Arr**	**25.70**	**78**	P		P	23 35 50.2	+1.2
	1.4nm,0.5s,baz=289,slow=9.7,SNR=3.8							
JMIC	**Jan Mayen**	**27.58**	**349**	P		P	23 36 08.4	+2.9
	236nm,0.5s,baz=180,slow=7.1,SNR=5.6							
BVAR	**Borovoye Array**	**41.58**	**55**	P		P	23 38 08.2	+1.9
	0.3nm,0.5s,baz=279,slow=9.4,SNR=3.1							
KURBB	**Kurchatov Arra**	**47.13**	**56**	P		P	23 38 50.2	-0.6
	0.1nm,0.6s,baz=287,slow=8.7,SNR=3.2							

*IDC **07** 23:36:23.2±1.6,22.32S×169.94E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.9/37,mbtmp3.9/7,ML3.5/1,MS3.4/1, Ms1 3.3/1,ms1mx2.8/39,Error ellipse: s-maj=68.7km s-min=24.3km az=165.0*

*ISCJB **07** 23:36:24.1±1.1,22.25S±0.3×170.02E±0.10,h21km, mb3.8/6,MS3.3/1,Error ellipse: s-maj=44.4km s-min=13.1km az=0.3*

ISC 07 23:36:25.8±1.4,22.3S±0.4×170.0E±0.1,h21km,n8, σ0.59/9,mb3.8/6,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.32**	**273**	Pn		**Pn**	**23 37 16.9**	**+0.3**
	5.6nm,0.3s,baz=83,slow=18,SNR=88							
DZM				Sn		**Sn**	**23 37 55.9**	**+0.5**
	4.3nm,0.3s,baz=93,slow=20,SNR=4.2							
CTA	**Charters Tower**	**22.26**	**271**	P		**P**	**23 41 21.4**	**-0.2**
	5.6nm,0.8s,baz=153,slow=10,SNR=3.6							
STKA	**Stephens Creek**	**26.97**	**243**	P		**P**	**23 42 06.6**	**+0.5**
	2.5nm,0.8s,baz=88,slow=4.3,SNR=4.2							
STKA				LR		LR	23 51 18.2	
	comp=Z,76nm,19.4s,baz=22,slow=33							
ASAR	**Alice Springs**	**33.22**	**261**	P		**P**	**23 43 01.1**	**-0.4**
	1.1nm,0.8s,baz=79,slow=8.9,SNR=9.6							
WRA	**Warramunga Arr**	**33.31**	**267**	P		**P**	**23 43 01.4**	**-1.1**
	0.7nm,0.7s,baz=99,slow=8.0,SNR=4.6							
SONM	**Songino Array**	**90.09**	**323**	P		**P**	**23 49 24.2**	**0.0**
	0.3nm,0.5s,baz=145,slow=5.3,SNR=3.4							
TXAR	**Lajitas Array**	**97.58**	**62**	P		**P**	**23 49 59.5**	**+0.4**
	0.1nm,0.4s,baz=258,slow=5.1,SNR=2.4							
GERES	**GERESS Array B**	**147.51**	**330**	PKPbc		**PKPab**	**23 56 10.2**	**-0.2**
	0.2nm,0.5s,baz=321,slow=2.5,SNR=2.8							

*CSEM **07** 23:47:33.1,40.13N×24.04E,h18km,ML1.9/1,After ATH*
ATH 07 23:47:33.1,40.13N×24.04E,h18km±2km,ML1.9/1,Error ellipse: s-maj=2.5km s-min=1.1km az=302.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OUR	**Ouranopolis**	**0.21**	**348**	P		Pg	23 47 37.8	-0.3
OUR				S		Sb	23 47 41.5	-0.1
OUR				AML		AML	23 47 41.7	
	comp=N,1111μm,0.4s							
OUR				AML		AML	23 47 41.7	
	comp=E,733μm,0.2s							
OUR	**Ouranopolis**	**0.21**	**348**	P		Pg	23 47 38.0	-0.2
OUR				S		Sg	23 47 41.6	0.0
PAIG	**Paliouri**	**0.34**	**234**	P		Pb	23 47 40.6	-0.1
PAIG				S		Sb	23 47 45.8	+0.1
PAIG	**Paliouri**	**0.34**	**234**	P		Pg	23 47 40.4	+0.1
PAIG				S		Sb	23 47 45.6	-0.1
PLG	**Polygyros**	**0.51**	**299**	P		Pb	23 47 43.7	+0.1
PLG				S		Sb	23 47 50.8	+0.1
PLG	**Polygyros**	**0.51**	**299**	P		Pg	23 47 43.5	+0.1
PLG				S		Sb	23 47 50.8	0.0
HORT	**Hortiatis**	**0.85**	**303**	P		Pn	23 47 50.5	+0.1
HORT	**Hortiatis**	**0.85**	**303**	P		Pg	23 47 50.0	+0.2
SOH	**Sokhos**	**0.86**	**323**	P		Pb	23 47 49.3	-0.3
SOH	**Sokhos**	**0.86**	**323**	P		Pb	23 47 49.5	-0.1
LIA	**Limnos Island**	**0.91**	**104**	P		Pn	23 47 51.0	0.0
LIA				S		Sg	23 48 02.9	+0.1
LIA	**Limnos Island**	**0.91**	**104**	P		Pg	23 47 50.7	-0.1
LIA				S		Sg	23 48 03.0	+0.2
KAVA	**Kavala**	**0.94**	**23**	P		Pn	23 47 51.6	+0.2
KAVA	**Kavala**	**0.94**	**23**	P		Pg	23 47 51.3	-0.1
XOR	**Xorichti**	**1.00**	**221**	P		Pb	23 47 51.2	-0.7
XOR	**Xorichti**	**1.00**	**221**	P		Pb	23 47 51.7	-0.2
SRS	**Serrai**	**1.04**	**341**	P		Pb	23 47 52.2	-0.5
SRS	**Serrai**	**1.04**	**341**	P		Pb	23 47 52.5	-0.1
SMTH	**Samothraki Isl**	**1.19**	**73**	P		Pn	23 47 54.8	-0.1
SMTH	**Samothraki Isl**	**1.19**	**73**	P		Pb	23 47 55.2	0.0
NVR	**Nevrokopi**	**1.23**	**354**	P		Pn	23 47 55.5	+0.1
NVR	**Nevrokopi**	**1.23**	**354**	P		Pb	23 47 55.9	+0.1
KNT	**Kendrikon**	**1.35**	**320**	P		Pb	23 47 57.7	-0.1
KNT	**Kendrikon**	**1.35**	**320**	P		Pb	23 47 58.1	+0.3
ALN	**Alexandroupoli**	**1.71**	**63**	P		Pb	23 48 04.9	+0.9
ALN	**Alexandroupoli**	**1.71**	**63**	P		Pb	23 48 04.6	+0.6
AGG	**Agios Georgios**	**1.72**	**231**	P		Pb	23 48 03.5	-0.7
AGG	**Agios Georgios**	**1.72**	**231**	P		Pb	23 48 03.9	-0.3

IDC 07 23:47:38.1±6.5,3.21S×148.69E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.2/47,mbtmp3.4/3,Error ellipse: s-maj=212.2km s-min=29.7km az=99.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.74**	**219**	P		P	23 52 30.6	-0.7
	0.8nm,0.6s,baz=45,slow=10,SNR=5.1							
ASAR	**Alice Springs**	**24.86**	**214**	P		P	23 53 03.1	+0.5
	0.6nm,0.5s,baz=46,slow=8.3,SNR=11							
SONM	**Songino Array**	**62.84**	**329**	P		P	23 58 05.9	-0.1
	0.2nm,0.5s,baz=129,slow=7.0,SNR=3.3							

*CSEM **07** 23:48:43.6±0.2,43.07N×17.88E,h2km,ML2.5,Error ellipse: s-maj=3.8km s-min=2.5km az=47.0*
*BEO **07** 23:48:44.3±0.6,43.07N×17.82E,h6km±2km,M2.4/1*
*PDG **07** 23:48:46.6±0.6,43.02N×18.07E,h8km±2km,ML2.4/9, Error ellipse: s-maj=1.2km s-min=2.3km az=0.0*

ISC 07 23:48:44.4±1.1,43.06N±0.02×17.95E±0.02,h3km±10km, n64,σ1.19/119,11C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STON	**Ston**	**0.26**	**225**	*i* Pg		Pg	23 48 47.8	-1.6
STON				Sg		**Sg**	**23 48 52.0**	**

TRUS	**Trudelj**	**2.13**	**56**	*e*Pn		**Pn**	**23 49 21.0**	**+0.1**
TRUS				*e*Sn		**Sb**	**23 49 49.5**	**-1.1**
UDBI	**Udbina**	**2.16**	**314**	*i* Pn		**Pn**	**23 49 22.6**	**+1.3**
UDBI				Sn		**Sn**	**23 49 50.2**	**+1.5**
UDBI				Sg		**Sb**	**23 49 53.0**	**+1.6**
UDBI	**Udbina**	**2.16**	**314**	Sn		**Sn**	**23 49 50.1**	**+1.5**
UDBI				Sg		**Sb**	**23 49 52.9**	**+1.5**
GRUS	**Gruza**	**2.18**	**67**	*e*Pn		**Pn**	**23 49 21.5**	**-0.1**
GRUS				*e*Sn		**Sb**	**23 49 51.4**	**-0.5**
GRUS	**Gruza**	**2.18**	**67**	*e*Pn		**Pn**	**23 49 21.5**	**-0.1**
GRUS				*e*Sn		**Sb**	**23 49 51.4**	**-0.5**
SELS	**Selova**	**2.33**	**85**	*e*Pn		**Pn**	**23 49 24.0**	**+0.4**
SELS	**Selova**	**2.33**	**85**	*e*Pn		**Pn**	**23 49 24.0**	**+0.4**
NVLJ	**Novalja**	**2.69**	**305**	*i* Pn		**Pn**	**23 49 29.0**	**+0.5**
NVLJ				Sn		**Sn**	**23 50 00.8**	**-0.7**
NVLJ	**Novalja**	**2.69**	**305**	Sn		**Sn**	**23 50 00.8**	**-0.7**
KUBS	**Kucevo**	**3.02**	**62**	*e*Pn		**Pn**	**23 49 33.2**	**0.0**
KUBS	**Kucevo**	**3.02**	**62**	*e*Pn		**Pn**	**23 49 33.2**	**0.0**
OZLJ	**Ozalj**	**3.12**	**326**	*e*Pn		**Pn**	**23 49 34.6**	**+0.2**
OZLJ				Sn		**Sn**	**23 50 13.5**	**+1.4**
OZLJ	**Ozalj**	**3.12**	**326**	Sn		**Sn**	**23 50 13.5**	**+1.4**
BOJS	**Bojanci**	**3.12**	**323**	*i* Pn		**Pn**	**23 49 35.8**	**+1.4**
BOJS				*i* Sn		**Sn**	**23 50 14.2**	**+2.0**
ZAGS	**Zajecar**	**3.21**	**75**	*e*Pn		**Pn**	**23 49 35.2**	**-0.5**
ZAGS				*e*Sn		**Sn**	**23 50 14.3**	**-0.2**
ZAGS	**Zajecar**	**3.21**	**75**	*e*Pn		**Pn**	**23 49 35.2**	**-0.5**
ZAGS				*e*Sn		**Sn**	**23 50 14.3**	**-0.2**
CRES	**Cresnjev**	**3.29**	**328**	*e*Pn		**Pn**	**23 49 34.9**	**-2.0**
CRES				*e*Sn		**Sn**	**23 50 13.7**	**-2.8**
ZAPS	**Zavoj**	**3.44**	**85**	*e*Pn		**Pn**	**23 49 40.7**	**+1.9**
ZAPS				*e*Sn		**Sn**	**23 50 20.6**	**+0.5**
VISS	**Visnje**	**3.54**	**322**	*i* Pn		**Pn**	**23 49 41.2**	**+1.0**
VISS				*i* Sn		**Sn**	**23 50 24.8**	**+2.3**
VISS	**Visnje**	**3.54**	**322**	*i* Sn		**Sn**	**23 50 24.8**	**+2.3**
CEY	**Cerknica**	**3.68**	**318**	*e*Pn		**Pn**	**23 49 40.7**	**-1.5**
CEY				*e*Sn		**Sn**	**23 50 23.2**	**-2.9**
PERS	**Pernice**	**4.11**	**332**	*i* Pn		**Pn**	**23 49 48.4**	**+0.4**
PERS				*i* Sn		**Sn**	**23 50 36.2**	**-0.4**
SOKA	**Soboth**	**4.17**	**331**	Pn		**Pn**	**23 49 49.3**	**+0.3**
	1.9nm,0.3s							
SOKA				Sn		**Sn**	**23 50 37.8**	**-0.5**
	1.5nm,0.5s							
SOKA	**Soboth**	**4.17**	**331**	*i* Pn		**Pn**	**23 49 49.3**	**+0.3**
	1.9nm,0.3s							
SOKA				*i* Sn		**Sn**	**23 50 37.8**	**-0.5**
	1.5nm,0.5s							
ARSA	**Arzberg**	**4.53**	**339**	Pn		**Pn**	**23 49 54.9**	**+1.0**
	2.0nm,0.5s							
ARSA				Sn		**Sn**	**23 50 48.9**	**+1.8**
	1.9nm,0.4s							
ARSA	**Arzberg**	**4.53**	**339**	*i* Pn		**Pn**	**23 49 54.9**	**+1.0**
	2.0nm,0.5s							
ARSA				Sn		**Sn**	**23 50 48.9**	**+1.8**
	1.9nm,0.4s							

*IDC **07** 23:55:38.0±0.9, 17°.33S×173°.25W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/48, mbtmp4.2/9, ML4.1/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/45, Error ellipse: s-maj=34.4km s-min=14.3km az=136.0*

*ISCJB **07** 23:55:39.9±0.8, 17°.5S±0°.1×173°.0W±0°.2, h28km, mb4.1/8, MS3.5/4, Error ellipse: s-maj=26.3km s-min=7.9km az=30.1*

ISC 07 23:55:42.0±0.9,**17°.4S**±0°.1×**173°.1W**±0°.2,**h28**km,**n21,** σ1**9**62/19,**mb4.1/8,MS3.5/4,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.69**	**20**	Pn	**Pn**	**23 56 35.5**	**-1.8**
	14nm,0.3s,baz=148,slow=6.3,SNR=5.3						
AFI				Sn	**Sn**	**23 57 20.4**	**+0.5**
	13nm,0.3s,baz=6.0,slow=19,SNR=3.6						
DZM	**Mont Dzumac**	**19.84**	**253**	P	**Pn**	**00 00 13.3**	**+0.7**
	0.2nm,0.3s,baz=143,slow=6.3,SNR=3.5						
DZM				LR	LR	00 06 23.1	
	comp=Z,133nm,18.1s,baz=37,slow=33						
PPT	**Papeete**	**22.40**	**94**	LR	LR	00 07 09.4	
	comp=Z,63nm,19.0s,baz=200,slow=31						
URZ	**Urewera**	**22.49**	**201**	P	**P**	**00 00 37.6**	**-1.6**
	6.2nm,0.5s,baz=47,slow=3.3,SNR=6.4						
HNR	**Honiara**	**27.40**	**283**	LR	LR	00 11 00.2	
	comp=Z,97nm,21.3s,baz=138,slow=34						
RPZ	**Rata Peaks**	**29.47**	**204**	P	**P**	**00 01 43.9**	**+0.3**
	3.5nm,0.6s,baz=0.0,slow=20,SNR=3.2						
STKA	**Stephens Creek**	**43.35**	**242**	P	**P**	**00 03 40.5**	**-1.5**
	1.7nm,0.7s,baz=87,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**49.73**	**258**	P	**P**	**00 04 31.8**	**-0.4**
	2.7nm,0.5s,baz=96,slow=7.1,SNR=41						
ASAR	**Alice Springs**	**49.83**	**253**	P	**P**	**00 04 33.1**	**+0.2**
	10nm,0.8s,baz=90,slow=8.9,SNR=54						
ASAR				S	**S**	**00 11 42.6**	**+1.3**
	0.2nm,0.3s,baz=98,slow=16,SNR=4.6						
MJAR	**Matsushiro Arr**	**70.67**	**320**	LR	LR	00 32 45.9	
	comp=Z,33nm,21.3s,baz=325,slow=32						
NVAR	**Mina Array Bea**	**75.60**	**41**	P	**P**	**00 07 25.8**	**+1.1**
	0.6nm,0.6s,baz=232,slow=10,SNR=3.7						
ANMO	**Albuquerque**	**81.84**	**50**	LR	LR	00 37 53.8	
	comp=Z,66nm,18.4s,baz=234,slow=31						
PDAR	**Pinedale Array**	**83.54**	**42**	P	**P**	**00 08 10.2**	**+2.4**
	0.5nm,0.9s,baz=235,slow=6.6,SNR=2.9						
ILAR	**Eielson Array**	**84.34**	**11**	P	**P**	**00 08 10.2**	**-0.9**
	0.5nm,0.6s,baz=226,slow=5.8,SNR=7.0						
CLL	**Collm**	**145.83**	**353**	*i* (PKP)	**PKPab**	**00 15 22.1**	**+3.2**
	comp=Z,12nm,1.2s						
CLL				*e*		00 15 31.0	
BRTR	**Keskin Array B**	**147.90**	**319**	PKPbc	**PKPbc**	**00 15 23.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=90,slow=2.9,SNR=3.8						
GERES	**GERESS Array B**	**148.16**	**352**	PKPbc	**PKPbc**	**00 15 24.2**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=2.7,SNR=3.8						
KBA	**Koelnbreinsper**	**149.94**	**351**	sPdiff	**PKPbc**	**00 15 32.5**	**+2.5**
	comp=Z,2.7nm,1.0s						
MOTA	**Moosalm**	**149.95**	**354**	*es*Pdiff	**PKPbc**	**00 15 30.1**	**+0.1**
	comp=Z,1.6nm,0.8s						
FETA	**Feichten**	**150.30**	**355**	*es*Pdiff	**PKPbc**	**00 15 29.0**	**-1.8**
	comp=Z,0.7nm,0.5s						
ABTA	**Abfaltersbach**	**150.38**	**352**	sPdiff	**PKPbc**	**00 15 29.9**	**-1.1**
	comp=Z,3.3nm,0.8s						

IDC 07 23:57:28.2±38.0,**22°.39N×143°.28E, h251**km±259km, **mb3.2/7,mb1 3.3/7,mb1mx2.9/66,mbtmp3.7/7,Error ellipse: s-maj=388.1km s-min=30.9km az=174.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**54.30**	**312**	P	P	00 06 28.9	0.0
	0.2nm,0.6s,baz=97,slow=7.9,SNR=4.9						
KURBB	**Kurchatov Arra**	**57.09**	**317**	P	P	00 06 48.3	-0.1
	0.5nm,0.4s,baz=95,slow=7.5,SNR=8.0						
ILAR	**Eielson Array**	**61.39**	**27**	P	P	00 07 17.7	+0.1
	0.1nm,0.5s,baz=240,slow=5.1,SNR=2.9						
BVAR	**Borovoye Array**	**62.21**	**319**	P	P	00 07 23.0	-0.2
	0.6nm,0.3s,baz=107,slow=7.8,SNR=11						
YKA	**Yellowknife Ar**	**75.81**	**28**	P	P	00 08 46.1	-0.3
	0.2nm,0.6s,baz=300,slow=4.8,SNR=4.0						
ARCES	**ARCESS Array B**	**78.30**	**341**	P	P	00 09 00.3	+0.1
	5.2nm,1.1s,baz=56,slow=7.6,SNR=4.1						
NOA	**NORSAR Array B**	**88.34**	**339**	P	P	00 09 51.5	+0.2
	1.4nm,1.0s,baz=37,slow=6.1,SNR=3.9						

*ISCJB **08** 00:01:03.8±0.3, 24°.17S±0°.03×67°.18W±0°.03, h185km±2km, mb4.3/22, Error ellipse: s-maj=5.6km s-min=4.0km az=27.8*

*SJA **08** 00:01:03.4±0.7, 24°.22S×67°.17W, h192km±6km, ML3.6, MW4.5*

*NEIC **08** 00:01:03.7±0.5, 24°.13S×67°.05W, h166km±5km, mb4.7/7, MD4.5(SJA), Error ellipse: s-maj=8.1km s-min=5.2km az=72.0*

*IDC **08** 00:01:04.8±1.9, 24°.12S×67°.02W, h175km±15km, mb4.0/18, mb1 4.1/21, mb1mx4.0/39, mbtmp4.4/21, Error ellipse: s-maj=16.9km s-min=10.6km az=50.0*

*GUC **08** 00:01:05.8±0.5, 24°.14S×67°.58W, h204km±12km, ML4.9*

ISC 08 00:01:04.6±0.6,**24°.12S**±0°.04×**67°.19W**±0°.04,**h177**km±5km, **n85,**σ1**9**40/105,**mb4.2/22,4C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.65**	**112**	*i* P	**Pn**	**00 01 38.7**	**+0.7**
SLA				IAML		00 01 40.2	
	comp=Z,625nm,0.6s						
SLA				*i* S	**Sn**	**00 02 03.5**	**-0.3**
HJA	**Humahuaca**	**1.87**	**61**	*i* P	**Pn**	**00 01 41.6**	**+1.1**
HJA				IAML		00 01 43.1	
	comp=Z,316nm,0.6s						
HJA				*i* S	**Sn**	**00 02 10.5**	**+2.3**
AZAP	**Zapla**	**1.94**	**94**	*i* P	**Pn**	**00 01 41.5**	**+0.4**
AZAP				IAML		00 01 43.1	
	comp=Z,590nm,0.5s						
AZAP				*i* S	**Sn**	**00 02 09.9**	**+0.5**
FSA	**Cafayete**	**2.27**	**151**	*i* P	**Pn**	**00 01 43.9**	**-0.7**
FSA				IAML		00 01 44.3	
	comp=Z,82nm,0.4s						
FSA				*i* S	**Sn**	**00 02 14.4**	**-1.4**
GO02	**Mina Guanaco**	**2.42**	**244**	*i* P	**Pn**	**00 01 47.3**	**+0.8**
GO02				*e*S	**Sn**	**00 02 19.0**	**-0.1**
GO02				IAML		00 02 22.3	
	comp=N,4μm,0.4s						
ASTB	**Santa Barbara**	**2.51**	**87**	*i* P	**Pn**	**00 01 47.6**	**+0.2**
PB06	**IPOC Station P**	**2.60**	**302**	*i* P	**Pn**	**00 01 50.1**	**+1.6**
PB06				*i* S	**Sn**	**00 02 23.1**	**+0.5**
PB06				IAML		00 02 24.7	
	comp=E,2μm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.95**	**85**	*i* P	**Pn**	**00 01 52.8**	**+0.2**
ALOL				*i* S	**Sn**	**00 02 28.6**	**-1.3**
PB14	**IPOC Station P**	**2.97**	**260**	*i* P	**Pn**	**00 01 53.4**	**+0.3**
PB14				*i* S	**Sn**	**00 02 30.4**	**-0.4**
PB14	**IPOC Station P**	**2.97**	**260**	*e*P	**Pn**	**00 01 53.4**	**+0.3**
PB14				*i* S	**Sn**	**00 02 29.7**	**-1.2**
PB14				IAML		00 02 31.7	
	comp=E,2μm,0.3s						
PB09	**IPOC Station P**	**2.98**	**320**	*i* P	**Pn**	**00 01 55.4**	**+2.3**
PB09				*e*S	**Sn**	**00 02 32.3**	**+1.4**
PB10	**IPOC Station P**	**3.14**	**280**	*e*Pn	**Pn**	**00 01 55.8**	**+1.0**
PB10	**IPOC Station P**	**3.14**	**280**	*i* P	**Pn**	**00 01 55.5**	**+0.7**
PB10				*i* S	**Sn**	**00 02 33.5**	**-0.5**
PB10	**IPOC Station P**	**3.14**	**280**	*i* P	**Pn**	**00 01 55.8**	**+1.0**
PB10				*e*S	**Sn**	**00 02 33.3**	**-0.6**
PB10				IAML		00 02 39.8	
	comp=N,3μm,0.6s						
AHML	**Horco Molle**	**3.14**	**148**	*i* P	**Pn**	**00 01 53.7**	**-1.2**
AHML				IAML		00 01 56.1	
	comp=Z,66nm,0.5s						
PB04	**IPOC Station P**	**3.25**	**303**	*e*Pn	**Pn**	**00 01 57.2**	**+0.8**
PB04	**IPOC Station P**	**3.25**	**303**	*i* P	**Pn**	**00 01 57.2**	**+0.8**
PB04				*e*S	**Sn**	**00 02 36.2**	**-0.5**
PB04				IAML		00 02 39.0	
	comp=E,2μm,0.4s						
PB01	**IPOC Station P**	**3.72**	**325**	*e*Pn	**Pn**	**00 02 02.3**	**+0.1**
PB11	**IPOC Station P**	**4.90**	**332**	*e*Pn	**Pn**	**00 02 17.1**	**-0.3**
MNMC	**Minye Minye**	**5.44**	**335**	*e*Pn	**Pn**	**00 02 24.6**	**0.0**
LCO	**Las Campanas**	**5.80**	**212**	*e*Pn	**Pn**	**00 02 26.9**	**-2.3**
LCO				*e*S	Sn	00 03 22.2	-14
LPAZ	**La Paz**	**7.84**	**353**	P	**Pn**	**00 02 58.0**	**+1.6**
	comp=E,1.7nm,0.3s,baz=166,slow=6.7,SNR=28						
LPAZ				S	**Sn**	**00 04 23.9**	**-0.9**
	comp=E,0.3nm,0.3s,baz=33,slow=17,SNR=2.1						
LPAZ	**La Paz**	**7.84**	**353**	*e*Pn	**Pn**	**00 02 57.7**	**+1.3**
LPAZ				S	**Sn**	**00 04 23.9**	**-0.9**
ARE	**Arequipa**	**8.62**	**331**	P	**Pn**	**00 03 05.0**	**-1.4**
ARE				*e*S	**Sn**	**00 04 38.0**	**-4.9**
CPUP	**Villa Florida**	**9.20**	**106**	P	**Pn**	**00 03 10.4**	**-3.2**
	comp=E,0.4nm,0.3s,baz=283,slow=12,SNR=24						
CPUP	**Villa Florida**	**9.20**	**106**	*e*Pn	**Pn**	**00 03 11.7**	**-1.9**
ROC1	**El Roble**	**9.45**	**200**	*e*Pn	**Pn**	**00 03 18.0**	**+0.9**
TRQA	**Tornquist**	**14.59**	**163**	*e*Pn	**Pn**	**00 04 20.8**	**-1.9**
SAML	**Samuel**	**15.56**	**15**	*e*Pn	**Pn**	**00 04 32.8**	**-2.0**
	comp=E,2.4nm,0.8s						
PLCA	**Paso Flores**	**16.81**	**189**	P	**P**	**00 04 48.9**	**0.0**
	comp=E,0.4nm,0.3s,baz=31,slow=11,SNR=12						
PLCA				S	**Sn**	**00 08 00.2**	**+1.9**
	comp=E,0.0nm,0.3s,baz=304,slow=18,SNR=1.6						
PLCA	**Paso Flores**	**16.81**	**189**	*e*P	**P**	**00 04 49.2**	**+0.3**
	comp=E,14nm,0.6s						
PLCA				S	**Sn**	**00 08 00.2**	**+1.9**
SPB	**Sao Paulo**	**18.08**	**92**	*e*P	**P**	**00 05 01.7**	**-1.2**
	comp=E,28nm,0.7s						
ATAH	**Atahualpa**	**20.02**	**326**	P	Pn	00 05 27.2	-1.0
	comp=E,3.1nm,0.7s,baz=148,slow=15,SNR=2.4						
PTGA	**Pitinga**	**24.28**	**18**	P	**P**	**00 06 01.2**	**-4.5**
	comp=E,1.0nm,0.4s,baz=270,slow=20,SNR=2.3						
PTGA	**Pitinga**	**24.28**	**18**	*e*P	**P**	**00 06 05.8**	**+0.1**
	comp=E,26nm,1.6s						
RUSC	**La Rusia**	**30.38**	**348**	*e*P	**P**	**00 07 00.3**	**-0.3**
	comp=E,2.2nm,1.1s						
HELC	**Santa Helena**	**31.20**	**344**	*e*P	**P**	**00 07 06.8**	**-0.9**
	comp=E,17nm,0.5s						
RCBR	**Riachuelo**	**35.13**	**64**	P	**P**	**00 07 40.9**	**-0.6**
	comp=E,22nm,0.7s,baz=266,slow=1.3,SNR=6.2						
RCBR	**Riachuelo**	**35.13**	**64**	*e*P	**P**	**00 07 41.0**	**-0.5**
	comp=E,26nm,1.2s						
ZAIG	**Zacatecas**	**57.91**	**321**	*e*P	**P**	**00 10 41.8**	**+3.2**
SNAA	**Sanae**	**59.30**	**161**	P	**P**	**00 10 47.2**	**-0.1**
	comp=E,3.0nm,0.7s,baz=209,slow=21,SNR=9.3						
TKL	**Tuckaleechee C**	**61.49**	**345**	P	**P**	**00 11 03.0**	**+0.5**
	comp=E,7.2nm,0.8s,baz=144,slow=11,SNR=5.0						
WLAR	**White Oak Lake**	**62.55**	**336**	*e*P	**P**	**00 11 11.9**	**+2.3**
JCT	**Junction City**	**62.65**	**328**	*e*P	**P**	**00 11 12.0**	**+1.6**
WVT	**Waverly**	**63.02**	**341**	*e*P	**P**	**00 11 12.9**	**+0.3**
MIAR	**Mount Ida**	**63.49**	**336**	*e*P	**P**	**00 11 16.5**	**+0.7**
TXAR	**Lajitas Array**	**63.67**	**325**	P	**P**	**00 11 18.6**	**+1.4**
	comp=E,1.8nm,0.8s,baz=153,slow=8.7,SNR=10						
FVM	**French Village**	**65.52**	**340**	*e*P	**P**	**00 11 29.5**	**+0.7**
CCM	**Cathedral Cave**	**65.84**	**339**	*e*P	**P**	**00 11 30.8**	**-0.1**
	comp=E,66nm,1.0s						
DBIC	**Dimbokro**	**68.00**	**72**	P	**P**	**00 11 44.6**	**-0.4**
	comp=E,2.1nm,0.5s,baz=232,slow=3.1,SNR=9.3						
KOWA	**Kowa**	**72.64**	**65**	P	**P**	**00 12 13.0**	**-0.2**
	comp=E,1.5nm,0.3s,baz=242,slow=6.0,SNR=11						
SYO	**Syowa Base**	**73.50**	**159**	*e*P	**P**	**00 12 16.0**	**-1.4**
SYO	**Syowa Base**	**73.50**	**159**	*e*PcP	**PcP**	**00 12 29.0**	**-3.5**
TORD	**Torodi Ar. Bea**	**76.77**	**69**	P	**P**	**00 12 36.6**	**-0.4**
	comp=E,1.5nm,0.3s,baz=258,slow=5.7,SNR=61						
PDAR	**Pinedale Array**	**77.16**	**329**	P	**P**	**00 12 40.5**	**+1.7**
	comp=E,0.9nm,0.5s,baz=132,slow=7.2,SNR=17						
ULM	**Lac du Bonnet**	**78.28**	**342**	P	**P**	**00 12 45.5**	**+0.9**
	comp=E,6.8nm,0.6s,baz=149,slow=6.1,SNR=18						
NVAR	**Mina Array Bea**	**78.52**	**321**	P	**P**	**00 12 46.2**	**-0.3**
	comp=E,2.0nm,0.7s,baz=166,slow=6.0,SNR=9.3						
SCHQ	**Schefferville**	**78.62**	**0**	P	**P**	**00 12 46.9**	**+0.6**
	comp=E,1.2nm,0.5s,baz=232,slow=5.2,SNR=8.0						
BOSA	**Boshof**	**80.83**	**117**	P	**P**	**00 12 59.1**	**-0.1**
	comp=E,1.1nm,0.4s,baz=253,slow=3.9,SNR=8.6						
MAW	**Mawson**	**81.38**	**163**	P	**P**	**00 13 01.4**	**+0.4**
	comp=E,30nm,1.1s,baz=273,slow=18,SNR=2.9						
YBH	**Yreka Blue Hor**	**83.24**	**322**	P	**P**	**00 13 11.2**	**0.0**
	comp=E,1.5nm,0.7s,baz=97,slow=8.1,SNR=3.1						
FCC	**Fort Churchill**	**85.53**	**346**	*e*P	**P**	**00 13 22.9**	**+0.8**
	comp=E,16nm,0.9s						
ESDC	**Sonseca Array**	**86.60**	**44**	P	**P**	**00 13 28.4**	**+0.4**
	comp=E,0.5nm,0.7s,baz=251,slow=5.2,SNR=3.6						
MATP	**Matopo**	**86.79**	**111**	P	**P**	**00 13 30.2**	**+0.7**
	comp=E,2.3nm,0.6s,baz=240,slow=5.9,SNR=15						
YKA	**Yellowknife Ar**	**94.17**	**340**	P	**P**	**00 14 03.5**	**+0.9**
	comp=E,2.3nm,0.6s,baz=130,slow=4.5,SNR=58						
CTA	**Charters Tower**	**125.30**	**219**	PKP	**PKPdf**	**00 19 45.6**	**+0.6**
	comp=E,2.1nm,0.4s,baz=18,slow=3.2,SNR=3.2						
ASAR	**Alice Springs**	**128.28**	**205**	PKP	**PKPdf**	**00 19 51.0**	**+0.3**
	comp=E,2.6nm,0.5s,baz=133,slow=1.7,SNR=28						
WRA	**Warramunga Arr**	**131.44**	**207**	PKP	**PKPdf**	**00 19 57.3**	**+0.6**
	comp=E,2.5nm,0.5s,baz=158,slow=1.7,SNR=44						
WRA				SKPbc	**SKPbc**	**00 23 05.6**	**+0.2**
	comp=E,1.1nm,0.6s,baz=151,slow=3.7,SNR=11						
SEY	**Seymchan**	**133.12**	**336**	PKP	**PKPdf**	**00 19 60.0**	**+1.6**
	comp=E,2.1nm,0.6s,baz=93,slow=2.9,SNR=8.7						
PETK	**Petropavlovsk-**	**135.60**	**323**	PKP	**PKPdf**	**00 20 05.0**	**+1.7**
	comp=E,12nm,1.1s,baz=74,slow=3.9,SNR=4.9						
KURK	**Kurchatov**	**142.57**	**36**	PKPpre	PKPpre	00 20 13.6	
KURBB	**Kurchatov Arra**	**142.57**	**36**	PKhKP	PKPpre	00 20 13.6	
	comp=E,0.7nm,0.7s,baz=317,slow=2.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**143.58**	**28**	PKP	PKPbc	00 20 16.7	+1.0
	comp=E,4.3nm,0.5s,baz=295,slow=4.7,SNR=27						
BATI	**Baumata**	**144.28**	**199**	PKP	**PKPdf**	**00 20 20.5**	**+0.1**
	comp=E,18nm,0.4s,baz=220,slow=4.3,SNR=5.6						
KSH	**Kashi**	**145.41**	**55**	PKPbc	**PKPbc**	**00 20 22.2**	**+0.2**
KSH				sPKP		00 21 22.0	
KSH				PP	**PP**	**00 23 47.1**	**+3.5**
KSH				SKS	**SKSdf**	**00 27 13.2**	**-1.0**
KSH				SKKS	**SKKSac**	**00 30 18.0**	**-0.3**
MKAR	**Makanchi Array**	**146.72**	**39**	PKPbc	**PKPbc**	**00 20 24.6**	**-0.9**
	comp=E,8.8nm,0.8s,baz=325,slow=1.8,SNR=71						
LEM	**Lembang**	**148.83**	**170**	PKPbc	**PKPbc**	**00 20 33.6**	**+1.3**
	comp=E,17nm,0.6s,baz=294,slow=20,SNR=4.6						
KLR	**Kul'dur**	**150.85**	**334**	PKPbc	**PKPbc**	**00 20 36.5**	**+0.7**
	comp=E,0.7nm,0.7s,baz=49,slow=2.6,SNR=27						
MJAR	**Matsushiro Arr**	**154.91**	**305**	PKPab	**PKPab**	**00 21 01.1**	**-0.3**
	comp=E,3.9nm,0.9s,baz=130,slow=1.4,SNR=6.4						
SONM	**Songino Array**	**155.79**	**11**	PKP	**PKPdf**	**00 20 37.2**	**-0.2**
	comp=E,0.5nm,0.7s,baz=318,slow=2.9,SNR=4.2						
SONM				PKPab	**PKPab**	**00 21 03.2**	**-1.6**
	comp=E,0.8nm,0.6s,baz=322,slow=4.8,SNR=7.1						
GTA	**Gaotai**	**161.20**	**33**	*e*PKP	**PKPdf**	**00 20 45.3**	**+1.2**
GTA				pPKP	PKPab	00 21 29.2	+0.6
GTA				sPKP		00 21 47.9	
HHC	**Hu-ho-hao-te**	**163.28**	**3**	*e*P	**PKPdf**	**00 20 45.8**	**-0.3**
LZH	**Lanzhou**	**165.78**	**31**	*e*PKP	**PKPdf**	**00 20 49.4**	**+0.9**
LZH				pPKP	pPKPdf	00 21 33.7	-1.6
LZH				sPKP		00 21 52.5	
LZH				PKP	**sPKPdf**	**00 21 53.4**	**+0.2**
CD2	**Chengdu**	**169.50**	**48**	PKP	**PKPdf**	**00 20 50.0**	**-1.2**
NJ2	**Nanjing**	**170.46**	**327**	*e*P	**PKPdf**	**00 20 49.2**	**-2.4**

*CSEM **08** 00:09:47.4±0.1, 45°.71N×14°.14E, h10km, ML1.4/11, Error ellipse: s-maj=2.8km s-min=2.2km az=63.0*

*VIE **08** 00:09:47.7±0.3, 45°.80N×14°.14E, h12km±5km, ML1.1/3*

LJU 08 00:09:47.2,45°.72N×14°.15E,h19km,**ML0.9,2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAVS	**Javornik**	**0.18**	**341**	*i* Pg	Pg	00 09 52.0	-0.1
JAVS				*i* Sg	Sg	00 09 55.3	-0.2
	comp=Z,2.0nm,0.0s						
JAVS	**Javornik**	**0.18**	**341**	*i* Pg	Pg	00 09 52.0	-0.1
JAVS				*i* Sg	Sg	00 09 55.3	-0.2
	comp=Z,2.0nm,0.0s						
CEY	**Cerknica**	**0.20**	**85**	*i* Pg	Pg	00 09 52.0	-0.2
CEY				*i* Sg	Sg	00 09 55.4	-0.2
	comp=Z,3.0nm,0.0s						
CEY	**Cerknica**	**0.20**	**85**	*i* Pg	Pg	00 09 52.0	-0.2
CEY				*i* Sg	Sg	00 09 55.4	-0.2
	comp=Z,3.0nm,0.0s						
SKDS	**Skadanscina**	**0.20**	**209**	*i* Pg	Pg	00 09 52.0	-0.2
SKDS				*i* Sg	Sg	00 09 55.5	-0.3
	comp=Z,8.0nm,0.0s						
SKDS	**Skadanscina**	**0.20**	**209**	*i* Pg	Pg	00 09 52.0	-0.3
SKDS				*i* Sg	Sg	00 09 55.5	-0.2
	comp=Z,8.0nm,0.0s						
KNDS	**Knezji Dol**	**0.25**	**140**	*i* Pg	Pb	00 09 53.0	-0.1
KNDS				*i* Sg	Sg	00 09 57.3	+0.1
	comp=Z,4.0nm,0.1s						
KNDS	**Knezji Dol**	**0.25**	**140**	*i* Pg	Pb	00 09 53.0	0.0
KNDS				*i* Sg	Sg	00 09 57.3	+0.1
	comp=Z,4.0nm,0.1s						
GBAS	**Gorenja Brezov**	**0.30**	**44**	*i* Pg	Pg	00 09 53.8	0.0
GBAS				*i* Sg	Sb	00 09 58.4	+0.1
	comp=Z,2.0nm,0.1s						
GBAS	**Gorenja Brezov**	**0.30**	**44**	*i* Pg	Pg	00 09 53.8	0.0
GBAS				*i* Sg	Sb	00 09 58

JTM	**Tenmabayashi**	**3.54**	**308**	P		**Pn**		**00 16 52.6**	**-0.9**
JTM				*eS*		**Sn**		**00 17 32.0**	**-2.3**
JFT	**Otama**	**3.66**	**253**	*eS*		**Sn**		**00 17 34.3**	**-2.9**
JNBK	**Urakawa-nobuka**	**3.92**	**338**	P		**Pn**		**00 16 58.1**	**-0.6**
JNBK				*eS*		**Sn**		**00 17 42.8**	**-1.0**
JCH	**Churui**	**4.09**	**346**	P		**Pn**		**00 16 59.3**	**-1.7**
JCH				*eS*		**Sn**		**00 17 44.2**	**-3.7**
NEM2	**Nemuro 2**	**4.76**	**9**	P		**Pn**		**00 17 07.5**	**-2.8**
NEM2				*eS*		**Sn**		**00 17 58.5**	**-6.0**
JTKR	**Abashiri--Toko**	**5.34**	**354**	P		**Pn**		**00 17 16.6**	**-1.7**
JTKR				*eS*		**Sn**		**00 18 15.2**	**-3.6**
JRY	**Ryogami san**	**5.35**	**242**	P		**Pn**		**00 17 16.0**	**-2.4**
JRY				*eS*		**Sn**		**00 18 12.8**	**-6.2**
MJAR	**Matsushiro Arr**	**5.60**	**250**	Pn		**Pn**		**00 17 21.3**	**-0.5**
	1.6nm,0.3s,baz=55,slow=8.3,SNR=9.4								
MJAR				Sn		**Sn**		**00 18 23.1**	**-2.1**
	1.4nm,0.3s,baz=75,slow=22,SNR=3.8								
MJAR				LR		LR		00 19 34.0	
	comp=Z,72nm,20.6s,baz=295,slow=39								
MAT	**Matsushiro**	**5.60**	**250**	P		**Pn**		**00 17 21.4**	**-0.4**
MAT				S		**Sn**		**00 18 21.9**	**-3.3**
ASAJ	**Asahikawa**	**5.69**	**344**	Pn		**Pn**		**00 17 22.6**	**-0.4**
	1.6nm,0.3s,baz=161,slow=16,SNR=7.4								
ASAJ				Sn		**Sn**		**00 18 25.1**	**-2.1**
	1.1nm,0.3s,baz=38,slow=19,SNR=3.3								
JHJ	**Hachijo jima 2**	**6.83**	**218**	Sn		Sn		00 18 45.3	-10
	8.2nm,0.3s,baz=253,slow=19,SNR=2.6								
USRK	**Ussuriysk Ar.**	**11.05**	**304**	Pn		**Pn**		**00 18 37.6**	**+1.1**
	0.3nm,0.3s,baz=99,slow=15,SNR=7.6								
PETK	**Petropavlovsk-**	**17.00**	**28**	P		**P**		**00 19 57.0**	**-0.6**
	0.2nm,0.3s,baz=225,slow=14,SNR=3.8								
SEY	**Seymchan**	**24.75**	**8**	P		**P**		**00 21 21.0**	**+1.9**
	0.8nm,0.5s,baz=150,slow=6.8,SNR=6.2								
H11N2	**WAKE ISLAND Hy**	**26.89**	**128**	T		T		00 49 27.1	
	baz=320,slow=74,SNR=5.0								
H11N1	**WAKE ISLAND Hy**	**26.91**	**128**	T		T		00 49 28.0	
	baz=320,slow=74,SNR=4.2								
H11N3	**WAKE ISLAND Hy**	**26.91**	**128**	T		T		00 49 31.5	
	baz=320,slow=74,SNR=5.9								
SONM	**Songino Array**	**29.14**	**301**	P		**P**		**00 22 02.5**	**+3.5**
	0.4nm,0.6s,baz=99,slow=8.9,SNR=3.1								
ZALV	**Zalesovo Beam**	**42.80**	**311**	P		**P**		**00 23 56.2**	**+0.8**
	0.3nm,0.4s,baz=74,slow=11,SNR=3.2								
MKAR	**Makanchi Array**	**45.51**	**301**	P		**P**		**00 24 17.8**	**+0.6**
	0.6nm,0.7s,baz=82,slow=9.5,SNR=6.2								
ILAR	**Eielson Array**	**46.71**	**33**	P		**P**		**00 24 26.6**	**+0.3**
	0.2nm,0.6s,baz=241,slow=9.2,SNR=2.8								
KURBB	**Kurchatov Arra**	**47.10**	**307**	P		**P**		**00 24 29.9**	**+0.3**
	1.1nm,0.5s,baz=81,slow=8.2,SNR=9.9								
BVAR	**Borovoye Array**	**51.44**	**312**	P		**P**		**00 25 04.5**	**+1.8**
	0.2nm,0.3s,baz=78,slow=10,SNR=2.4								
WRA	**Warramunga Arr**	**59.10**	**191**	P		**P**		**00 25 56.2**	**-2.0**
	0.9nm,0.8s,baz=17,slow=7.5,SNR=8.3								
WRA				LR		LR		00 51 36.8	
	comp=Z,36nm,19.6s,baz=270,slow=36								
AKTO	**Aktyubinsk**	**59.54**	**312**	P		**P**		**00 26 01.5**	**+0.4**
	0.6nm,0.5s,baz=57,slow=17,SNR=3.1								
YKA	**Yellowknife Ar**	**61.07**	**31**	P		**P**		**00 26 11.2**	**0.0**
	0.1nm,0.5s,baz=297,slow=6.9,SNR=2.9								
ASAR	**Alice Springs**	**62.82**	**191**	P		**P**		**00 26 21.5**	**-2.0**
	0.4nm,0.6s,baz=13,slow=6.7,SNR=4.8								
FINES	**FINESS Array B**	**68.58**	**333**	P		**P**		**00 27 00.4**	**+0.2**
	3.3nm,1.1s,baz=29,slow=9.1,SNR=5.1								
KBZ	**Khabaz**	**71.82**	**312**	P		**P**		**00 27 21.2**	**+0.9**
	1.5nm,0.8s,baz=146,slow=7.3,SNR=3.2								
NVAR	**Mina Array Bea**	**71.91**	**55**	P		**P**		**00 27 22.3**	**+1.0**
	0.2nm,0.3s,baz=278,slow=6.3,SNR=2.6								
AKASG	**Malin Array Be**	**74.59**	**323**	P		**P**		**00 27 36.4**	**-0.2**
	0.4nm,0.4s,baz=60,slow=2.5,SNR=2.8								
PDAR	**Pinedale Array**	**74.64**	**47**	P		**P**		**00 27 37.1**	**-0.3**
	0.2nm,0.8s,baz=343,slow=2.8,SNR=2.5								
BRTR	**Keskin Array B**	**79.71**	**313**	P		**P**		**00 28 07.0**	**+1.3**
	0.4nm,0.8s,baz=38,slow=7.3,SNR=2.5								

NIED ***08*** *00:19:00,24.7N×127.6E,h5km,Mw4.2 Best double couple: M0 1.95000×10^15 NP1:φ=246.00000°, δ=30.00000°, λ=-81.00000°. NP2:φ=56.00000°, δ=61.00000°, λ=-95.00000°.*
BJI ***08*** *00:19:02.7,24.41N×127.98E,h15km,mb4.3/28,mB4.7/19, Ms4.2/7,Ms7 4.0/7*
IDC ***08*** *00:19:06.1±0.5,24.59N×127.59E,h0km,mb4.2/29, mb1 4.3/31,mb1mx4.2/66,mbtmp4.2/31,ML3.8/2,MS3.2/5, Ms1 3.2/5,ms1mx2.9/64,Error ellipse: s-maj=17.4km s-min=11.6km az=92.0*
NEIC ***08*** *00:19:07.5±0.3,24.60N×127.50E,h10km,mb4.6/10,Error ellipse: s-maj=7.3km s-min=5.7km az=121.0*
JMA ***08*** *00:19:09.0±0.3,24.70N×127.57E,h66km,M4.0*
MOS ***08*** *00:19:10.0±1.3,24.54N×127.32E,h33km,mb4.7/16,Error ellipse: s-maj=10.5km s-min=6.7km az=123.0*

ISC 08 00:19:06.5±3.1,24.58N±0.05×127.65E±0.04,h6km±19km, n152,σ2§21/175,mb4.3/58,8C-12D,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.56**	**3**	P	**Pn**	**00 19 33.7**	**-1.1**
JJT2				*eS*	**Sn**	**00 19 52.0**	**-3.3**
JKE	**Kume jima 2**	**1.90**	**336**	P	**Pn**	**00 19 38.8**	**-0.7**
JKE				S	**Sn**	**00 19 59.5**	**-4.3**
JNTH	**Nagotoyohara**	**1.96**	**10**	P	**Pn**	**00 19 38.9**	**-1.4**
JNTH				*eS*	**Sn**	**00 20 00.1**	**-5.1**
JAGN	**Aguni-jima**	**2.03**	**350**	P	**Pn**	**00 19 40.1**	**-1.2**
JAGN				S	**Sn**	**00 20 02.8**	**-4.2**
JOGS	**Gusukube**	**2.05**	**275**	P	**Pn**	**00 19 41.1**	**-0.4**
JOGS				S	**Sn**	**00 20 04.8**	**-2.6**
JMJ	**Miyako jima 2**	**2.15**	**277**	S	**Sn**	**00 20 06.5**	**-3.5**
JIKM	**Ikemajima**	**2.21**	**279**	P	**Pn**	**00 19 43.0**	**-0.7**
JIKM				*eS*	**Sn**	**00 20 08.1**	**-3.3**
JIRB	**Irabujima**	**2.27**	**277**	P	**Pn**	**00 19 43.7**	**-0.8**
JIRB				S	**Sn**	**00 20 08.2**	**-4.5**
JOW	**Kunigami**	**2.31**	**14**	P	**Pn**	**00 19 44.1**	**-1.1**
JOW				*eS*	**Sn**	**00 20 08.8**	**-5.1**
JOW	**Kunigami**	**2.31**	**14**	*e*Pn	**Pn**	**00 19 44.1**	**-1.1**
JOW				*eS*	**Sn**	**00 20 07.3**	**-6.6**
JIH	**Iheya**	**2.46**	**7**	P	**Pn**	**00 19 46.6**	**-0.6**
JIH				S	**Sn**	**00 20 13.7**	**-3.9**
JTJ	**Tarama**	**2.68**	**272**	P	**Pn**	**00 19 49.3**	**-0.9**
JTJ				*eS*	**Sn**	**00 20 18.8**	**-4.2**
JOKE	**Okinoerabujima**	**2.89**	**16**	P	**Pn**	**00 19 52.8**	**-0.3**
JISG	**Ishigakijimahi**	**3.04**	**271**	P	**Pn**	**00 19 53.6**	**-1.5**
JIJ	**Ishigaki jima**	**3.20**	**267**	P	**Pn**	**00 19 56.4**	**-1.0**
JIJ				*eS*	**Sn**	**00 20 29.7**	**-6.2**
JTK	**Tokunoshima**	**3.40**	**20**	P	**Pn**	**00 19 59.1**	**-1.0**
JTK				*eS*	**Sn**	**00 20 32.8**	**-7.9**
JMZ	**Minamidaito 2**	**3.46**	**68**	P	**Pn**	**00 19 58.6**	**-2.4**
JMZ				S	**Sn**	**00 20 36.4**	**-5.9**
IRIF	**Iriomote-Funau**	**3.58**	**267**	P	**Pn**	**00 20 01.4**	**-1.2**
JAMN	**Amaminishikomi**	**3.90**	**20**	P	**Pn**	**00 20 06.3**	**-0.6**
JAMN				S	**Sn**	**00 20 49.1**	**-3.9**
JAM	**Amami Oshima**	**4.20**	**24**	P	**Pn**	**00 20 10.6**	**-0.5**
JAM				S	**Sn**	**00 20 54.4**	**-6.0**
YOJ	**Yonaguni jima**	**4.23**	**269**	*e*Pn	**Pn**	**00 20 08.8**	**-2.7**
YOJ	**Yonaguni jima**	**4.23**	**269**	*e*P	**Pn**	**00 20 08.8**	**-2.7**
JZK	**Kikaishima**	**4.26**	**29**	P	**Pn**	**00 20 12.2**	**+0.2**
JTAJ	**Takarajima**	**4.76**	**17**	P	**Pn**	**00 20 18.4**	**-0.4**
NACB	**Ninganchiao**	**5.54**	**267**	*e*Pn	**Pn**	**00 20 27.3**	**-2.2**
	68nm,0.4s						
NACB				*eS*	**Sn**	**00 21 28.9**	**-4.6**
YHNB	**Yeheng**	**5.71**	**272**	*e*Pn	**Pn**	**00 20 31.9**	**0.0**
YHNB				*eS*	**Sn**	**00 21 32.7**	**-5.2**
YULB	**Yu-li**	**5.93**	**260**	*e*Pn	**Pn**	**00 20 32.0**	**-2.8**
YULB				*eS*	**Sn**	**00 21 35.4**	**-7.8**
SSLB	**Suanglung**	**6.16**	**264**	*e*Pn	**Pn**	**00 20 36.0**	**-2.2**
SSLB				*eS*	Sn	00 21 34.6	-14
JNU	**Nakatsue**	**8.97**	**18**	Pn	**Pn**	**00 21 16.7**	**+0.1**
	1.8nm,0.3s,baz=182,slow=14,SNR=8.8						
JNU				Sn	Sn	00 22 47.6	-10
	0.2nm,0.3s,baz=180,slow=10,SNR=1.3						
JNU				LR	LR	00 25 05.2	
	comp=Z,77nm,20.0s,baz=293,slow=40						
KSAR	**Wonju Array Be**	**12.82**	**1**	Pn	**Pn**	**00 22 08.8**	**-0.5**
KSAR	**Wonju Array Be**	**12.82**	**1**	P	**Pn**	**00 22 08.8**	**-0.5**
KSRS	**Korea Array**	**12.83**	**1**	Pn	**Pn**	**00 22 08.8**	**-0.7**
	0.2nm,0.3s,baz=176,slow=13,SNR=5.8						
KSRS				LR	LR	00 27 29.7	
	comp=Z,111nm,18.2s,baz=175,slow=39						
MAJO	**Matsushiro**	**14.98**	**35**	*e*P	**P**	**00 22 45.5**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MJAR	**Matsushiro Arr**	**14.98**	**35**	Pn	**P**	**00 22 46.1**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=210,slow=8.1,SNR=6.0						
DAV	**Davao City (W)**	**17.53**	**187**	LR	LR	00 30 23.8	
	comp=Z,82nm,18.5s,baz=338,slow=39						
XAN	**Xi'an**	**18.83**	**304**	P	**P**	**00 23 27.2**	**+0.1**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,230nm,7.1s						
CN2	**Changchun**	**19.26**	**355**	*e*P	**Pn**	**00 23 33.0**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GUMO	**Guam**	**19.58**	**121**	LR	LR	00 29 29.6	
	comp=Z,51nm,20.7s,baz=116,slow=32						
USRK	**Ussuriysk Ar.**	**19.89**	**9**	P	**Pn**	**00 23 41.9**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=211,slow=7.8,SNR=7.9						
HHC	**Hu-ho-hao-te**	**21.07**	**324**	*e*P	**P**	**00 23 52.4**	**+0.9**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,470nm,6.2s						
CD2	**Chengdu**	**22.04**	**292**	*e*P	**P**	**00 24 01.0**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
KMI	**Kunming**	**22.60**	**277**	P	**P**	**00 24 10.8**	**+2.5**
KMI				pmax	pmax		
	comp=Z,16nm,1.3s						
ASAJ	**Asahikawa**	**23.00**	**28**	P	**P**	**00 24 12.4**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=207,slow=9.0,SNR=1.7						
LZH	**Lanzhou**	**23.46**	**305**	*e*P	**P**	**00 24 13.5**	**-3.5**
LZH				*e*PP	**PnPn**	**00 24 45.7**	**+2.4**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,52nm,4.1s						
LZH				LR	LR		
	comp=Z,260nm,11.5s						
LZH				LR	LR		
	comp=Z,270nm,12.0s						
LZH				LR	LR		
	comp=Z,370nm,14.3s						
KLR	**Kul'dur**	**24.81**	**6**	P	**P**	**00 24 30.2**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=206,slow=3.7,SNR=7.0						
YSS	**Yuzh-Sakhalins**	**25.38**	**25**	*e*P	**P**	**00 24 40.2**	**+5.8**
YSS				*e*		00 24 52.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
CMAR	**Chiang Mai Arr**	**27.36**	**263**	P	**P**	**00 24 54.2**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=59,slow=7.4,SNR=4.8						
GTA	**Gaotai**	**27.71**	**309**	*e*P	**P**	**00 24 55.4**	**-0.4**
GTA				pP	sP	00 25 05.8	+7.5
GTA				sP	pP	00 25 10.4	+13
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ULN	**Ulaanbaatar**	**28.39**	**330**	*e*P	**P**	**00 25 00.8**	**-1.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,2.5s						
SONM	**Songino Array**	**28.67**	**329**	P	**P**	**00 25 03.4**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=146,slow=8.6,SNR=4.8						
SONM				LR	LR	00 37 27.1	
	comp=Z,99nm,19.9s,baz=184,slow=38						
TYV	**Tymovskoe**	**28.68**	**20**	*e*P	P	00 25 11.6	+7.5
TYV				pmax	pmax		
	comp=Z,6.0nm,1.9s						
TYV				pmax	pmax		
	comp=Z,500nm,5.5s						
TLY	**Talaya**	**32.70**	**332**	*e*P	**P**	**00 25 40.4**	**+0.8**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BATI	**Baumata**	**34.79**	**187**	P	**P**	**00 25 57.0**	**-1.2**
	comp=Z,7.1nm,0.4s,baz=63,slow=4.5,SNR=2.7						
PSI	**Prapat**	**35.16**	**236**	P	**P**		
	comp=Z,4.6nm,0.7s,baz=245,slow=19,SNR=3.1						
PSI	**Prapat**	**35.16**	**236**	P	**P**	**00 26 02.0**	**+0.4**
TAPN	**Taplejung**	**35.91**	**283**	*e*P	**P**	**00 26 09.3**	**+1.2**
	comp=Z,13nm,0.9s						
ODAN	**Odare**	**36.24**	**282**	*e*P	**P**	**00 26 11.9**	**+1.1**
	comp=Z,9.1nm,0.5s						
RAMN	**Ramite**	**36.93**	**283**	*e*P	**P**	**00 26 17.5**	**+0.7**
JIRN	**Jiri**	**37.23**	**284**	*e*P	**P**	**00 26 20.4**	**+1.0**
YAK	**Yakutsk**	**37.46**	**2**	*e*P	**P**	**00 26 20.6**	**+0.1**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s						
GUN	**Gumba**	**37.48**	**284**	*e*P	**P**	**00 26 22.6**	**+1.0**
	comp=Z,12nm,0.6s						
WMQ	**Urumqi**	**37.76**	**311**	P	**P**	**00 26 23.2**	**-0.2**
PKI	**Pulchoki**	**37.93**	**284**	*e*P	**P**	**00 26 25.6**	**+0.3**
	comp=Z,16nm,1.0s						
PKIN	**Phulchoki**	**37.94**	**284**	*e*P	**P**	**00 26 26.3**	**+1.0**
KKN	**Kakani**	**38.02**	**284**	*e*P	**P**	**00 26 26.6**	**+0.6**
DMN	**Daman**	**38.19**	**284**	*e*P	**P**	**00 26 27.9**	**+0.4**
DANN	**Dangsing**	**39.31**	**285**	*e*P	**P**	**00 26 38.2**	**+1.3**
KOLN	**Koldanda**	**39.51**	**284**	*e*P	**P**	**00 26 39.1**	**+0.7**
	comp=Z,16nm,0.9s						
DGZ	**Jazzator, Alta**	**40.00**	**319**	*e*P	**P**	**00 26 44.5**	**+2.3**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PYUN	**Piuthan**	**40.01**	**285**	*e*P	**P**	**00 26 43.6**	**+1.0**
	comp=Z,33nm,0.9s						
SEY	**Seymchan**	**41.74**	**17**	P	**P**	**00 26 57.5**	**+1.4**
	comp=Z,3.2nm,0.8s,baz=225,slow=7.2,SNR=14						
SEY	**Seymchan**	**41.74**	**17**	*i*P	**P**	**00 26 57.8**	**+1.6**
MK01	**Makanchi Array**	**42.25**	**313**	*e*P	**P**	**00 26 59.9**	**-0.7**
MK31	**Makanchi Array**	**42.26**	**313**	*e*P	**P**	**00 26 59.9**	**-0.8**
MK31	**Makanchi Array**	**42.26**	**313**	*e*P	**P**	**00 26 59.9**	**-0.8**
MKAR	**Makanchi Array**	**42.26**	**313**	P	**P**	**00 27 00.3**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=98,slow=10,SNR=47						
MKAR				PcP	**PcP**	**00 28 54.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=77,slow=5.4,SNR=3.8						
MKAR	**Makanchi Array**	**42.26**	**313**	*e*P	**P**	**00 26 59.9**	**-0.8**
	comp=Z,21nm,0.6s						
MKAR				PcP	**PcP**	**00 28 54.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**42.47**	**183**	P	**P**	**00 27 03.1**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=11,slow=8.9						
MAKZ	**Makanchi**	**42.47**	**313**	*e*P	**P**	**00 27 02.2**	**-0.2**
	comp=Z,4.7nm,0.9s						
MAKZ	**Makanchi**	**42.47**	**313**	*e*P	**P**	**00 27 02.2**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAA0	**Zalesovo Array**	**43.25**	**324**	*e*P	**P**	**00 27 08.0**	**-0.6**
	comp=Z,4.6nm,0.8s						
ZALV	**Zalesovo Beam**	**43.25**	**324**	P	**P**	**00 27 07.8**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=116,slow=7.5,SNR=17						
ZALV				PcP	**PcP**	**00 28 57.3**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=169,slow=2.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**43.25**	**324**	*e*P	**P**	**00 27 07.5**	**-1.1**
ZALV				PcP	**PcP**	**00 28 57.3**	**-0.3**
ZALV	**Zalesovo Beam**	**43.25**	**324**	*e*P	**P**	**00 27 07.5**	**-1.1**
ZALV						00 28 57.3	
WRAB	**Tennant Creek**	**44.73**	**171**	*e*P	**P**	**00 27 21.3**	**+0.6**
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**44.73**	**171**	*e*P	**P**	**00 27 21.4**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**44.73**	**171**	P	**P**	**00 27 21.5**	**+0.7**
	comp=Z,7.2nm,0.6s,baz=352,slow=8.7,SNR=52						
KSH	**Kashi**	**45.66**	**302**	*e*P	**P**	**00 27 32.0**	**+3.7**
KSH				S	**S**	**00 34 17.1**	**+5.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,380nm,8.0s						
KSH				LR	LR		
	comp=Z,320nm,8.0s						
KSH				LR	LR		
	comp=Z,410nm,9.3s						
KSH				LR	LR		
	comp=Z,620nm,7.9s						
KURK	**Kurchatov**	**45.67**	**318**	*e*P	**P**	**00 27 27.4**	**-0.6**
	comp=Z,4.2nm,1.0s						
KURK				PcP	**PcP**	**00 29 06.0**	**0.0**
KURK	**Kurchatov**	**45.67**	**318**	*e*P	**P**	**00 27 27.5**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**45.70**	**318**	P	**P**	**00 27 27.7**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=106,slow=8.8,SNR=14						
KURBB				PcP	**PcP**	**00 29 06.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=114,slow=3.1,SNR=6.6						
NRN	**Naryn**	**45.77**	**305**	P	**P**	**00 27 27.9**	**-1.5**
NRN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**47.00**	**306**	*e*P	**P**	**00 27 38.4**	**-0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.9s						
ASAR	**Alice Springs**	**48.34**	**172**	P	**P**	**00 27 50.3**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=355,slow=6.8,SNR=19						
AS01	**Alice Springs**	**48.35**	**172**	*e*P	**P**	**00 27 49.3**	**+0.1**
KKAR	**Karatay Array**	**49.95**	**307**	*e*P	**P**	**00 28 01.6**	**+0.3**
	comp=Z,1.1nm,0.4s						
KKAR	**Karatay Array**	**49.95**	**307**	*e*P	**P**	**00 28 01.6**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**51.16**	**319**	P	**P**	**00 28 10.8**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=120,slow=8.5,SNR=11						
BVAR				PcP	**PcP**	**00 29 26.3**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=72,slow=5.0,SNR=3.7						
BRVK	**Borovoye**	**51.23**	**319**	*e*P	**P**	**00 28 11.6**	**+0.8**
	comp=Z,23nm,1.6s						
BRVK	**Borovoye**	**51.23**	**319**	*i*P	**P**	**00 28 11.0**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,14nm,1.5s						
KBL	**Kabul**	**51.32**	**295**	*e*P	**P**	**00 28 13.1**	**+1.1**
	comp=Z,12nm,0.8s						
KBL	**Kabul**	**51.32**	**295**	*e*P	**P**	**00 28 13.1**	**+1.1**
KBL				pmax	pmax		
	comp=Z,12nm,0.8s						
SVE	**Sverdlovsk**	**57.25**	**323**	*e*P	**P**	**00 28 54.0**	**-0.6**
ABKAR	**Akbulak array**	**57.40**	**314**	*e*P	**P**	**00 28 56.0**	**+0.2**
	comp=Z,6.1nm,0.5s						
ARU	**Arti**	**58.37**	**322**	*e*P	**P**	**00 29 02.2**	**-0.3**
	comp=Z,7.0nm,1.1s						
ARU	**Arti**	**58.37**	**322**	*i*P	**P**	**00 29 02.5**	**0.0**
AKTO	**Aktyubinsk**	**58.62**	**315**	P	**P**	**00 29 04.3**	**0.0**
	comp=Z,2.4nm,0.6s,baz=94,slow=12,SNR=8.6						
GEYT	**Ailbeck**	**59.67**	**301**	P	**P**	**00 29 12.6**	**+0.7**
	comp=Z,7.7nm,0.8s,baz=45,slow=2.3,SNR=19						
ILAR	**Eielson Array**	**66.13**	**28**	P	**P**	**00 29 54.7**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=256,slow=7.3,SNR=3.9						
TMCR	**Tamitsa**	**68.00**	**332**	*e*P	**P**	**00 30 06.7**	**+0.4**
TMCR				pmax	pmax		
	comp=Z,21nm,0.9s						
KBZ	**Khabaz**	**69.80**	**310**	P	**P**	**00 30 19.0**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=86,slow=1.9,SNR=8.7						
KIV	**Kislovodsk**	**69.89**	**310**	*e*P	**P**	**00 30 19.7**	**+1.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
INK	**Inuvik**	**70.61**	**23**	P	**P**	**00 30 23.3**	**+1.0**
	comp=Z,2.3nm,1.1s,baz=288,slow=10,SNR=3.4						
OBN	**Obninsk**	**70.81**	**323**	*i*P	**P**	**00 30 24.0**	**+0.2**
OBN				*e*		00 30 36.3	
OBN						00 30 44.0	
OBN				SS	SS	00 44 04.0	-6.6
OBN				pmax	pmax		
	comp=Z,19nm,1.7s						
OBN				MLR	MLR		
	comp=Z,239nm,10.0s						
ARCES	**ARCESS Array B**	**71.34**	**339**	P	**P**	**00 30 26.5**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=72,slow=7.8,SNR=5.9						
FINES	**FINESS Array B**	**74.03**	**331**	P	**P**	**00 30 43.0**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=57,slow=5.8,SNR=24						
FINES	**FINESS Array B**	**74.03**	**331**	P	**P**	**00 30 43.0**	**+0.1**
FINES	**FINESS Array B**	**74.03**	**331**	*i*P	**P**	**00 30 43.9**	**+1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**76.44**	**320**	P	**P**	**00 30 56.9**	**0.0**
	comp=Z,0.8nm,0.5s,baz=57,slow=7.0,SNR=5.4						
AKASG				LR	LR	01 07 20.8	
	comp=Z,214nm,18.4s,baz=320,slow=38						
AKASG	**Malin Array Be**	**76.44**	**320**	*ce*P	**P**	**00 30 57.0**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIEV	**Kiev**	**76.45**	**320**	*i*P	**P**	**00 30 56.8**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RES	**Resolute Bay**	**77.26**	**11**	P	**P**	**00 31 01.9**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=303,slow=5.3,SNR=5.3						
BR131	**Keskin Array B**	**77.63**	**309**	*e*P	**P**	**00 31 05.2**	**+1.1**
BRTR	**Keskin Array B**	**77.63**	**308**	P	**P

*IDC **08** 01:02:12.2±4.2,37°.48N×78°.70E,h13^{km}±26^{km},mb3.8/22, mb1 3.9/28,mb1mx3.8/72,mbtmp3.9/28,ML3.8/6,Error ellipse: s-maj=14.5km s-min=13.1km az=8.0*
*NEIC **08** 01:02:13.9±2.0,37°.43N×78°.65E,h24^{km}±14^{km}, mb4.3/18, ML4.0(BJI),Error ellipse: s-maj=7.0km s-min=5.7km az=189.0*
*NNC **08** 01:02:15.2±4.6,37°.57N×78°.47E,h11^{km}±18^{km},mb4.3, mpv4.0,Error ellipse: s-maj=33.9km s-min=23.0km az=165.0*

ISC 08 01:02:13.3±0.5,**37°.42N**±0°.05×**78°.47E**±0°.04,**h10**^{km},**n149,** σ**29**/153,**mb4.1**/42,**14C-20D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.86**	**318**	Pn	**Pn**	**01 03 00.7**	**+1.6**
KSH				Sn	**Sn**	**01 03 37.0**	**+3.3**
KSH				*s*max	*s*max		
	comp=N,1μm,0.8s						
KSH				*s*max	*s*max		
	comp=E,1μm,0.7s						
KSH	**Kashi**	**2.86**	**318**	Pn	**Pn**	**01 03 00.7**	**+1.6**
KSH				Sn	**Sn**	**01 03 37.0**	**+3.3**
NRN	**Naryn**	**4.44**	**335**	P	**Pn**	**01 03 22.4**	**+1.5**
NRN				S	**Sn**	**01 04 10.1**	**-2.7**
NRN				*s*max	*s*max		
	comp=N,97nm,0.8s						
SFK	**Sufi-Kurgan**	**4.67**	**305**	⇑Pn	**Pn**	**01 03 25.6**	**+1.6**
	comp=N,1.5nm,0.2s						
SFK				⇑Pg	**Pb**	**01 03 39.0**	**+3.7**
	comp=N,11nm,0.3s						
SFK				⇑Sn	**Sn**	**01 04 19.9**	**+1.6**
	comp=N,39nm,0.3s						
SFK				⇑Lg	Lg	01 04 40.9	
	comp=N,75nm,0.4s						
SFK	**Sufi-Kurgan**	**4.67**	**305**	*i* P	**Pn**	**01 03 25.6**	**+1.6**
SFK				*p*max	*p*max		
	comp=Z,2.0nm,0.1s						
KDJ	**Kajisay**	**4.80**	**348**	P	**Pn**	**01 03 27.0**	**+1.1**
KDJ				S	**Sn**	**01 04 21.2**	**-0.5**
PRZ	**Przheval'sk**	**5.05**	**359**	P	**Pn**	**01 03 29.7**	**+0.4**
PRZ				*p*max	*p*max		
	comp=Z,56nm,0.9s						
ULHL	**Ulahol**	**5.11**	**341**	P	**Pn**	**01 03 30.7**	**+0.6**
	SNR=8.8						
KZA	**Kyzart**	**5.27**	**333**	P	**Pn**	**01 03 33.3**	**+0.9**
	SNR=12						
CHCP	**Chirak Chowk**	**5.67**	**230**	P	**Pn**	**01 03 40.9**	**+3.3**
UCH	**Uchtor**	**5.68**	**329**	P	**Pn**	**01 03 39.1**	**+0.9**
	SNR=28						
MDOK	**Medeo**	**5.83**	**350**	⇓Pn	**Pn**	**01 03 41.9**	**+1.9**
MDOK				⇓Pg	**Pb**	**01 03 57.3**	**+2.1**
	comp=Z,21nm,0.4s						
MDOK				⇓Lg	Lg	01 05 13.8	
	comp=Z,77nm,0.7s						
KNDC	**Almaty**	**5.90**	**349**	⇓Pg	**Pb**	**01 03 59.5**	**+3.2**
	comp=Z,40nm,0.5s						
KNDC				⇓Lg	Lg	01 05 21.2	
	comp=Z,211nm,0.7s						
TKM2	**Tokmak 2**	**5.91**	**339**	⇓Pn	**Pn**	**01 03 42.1**	**+0.9**
	comp=Z,5.0nm,0.3s						
TKM2				⇓Pg	**Pb**	**01 03 60.0**	**+3.4**
	comp=Z,9.4nm,0.4s						
TKM2				⇓Lg	Lg	01 05 19.4	
	comp=Z,53nm,0.9s						
TKM2	**Tokmak 2**	**5.91**	**339**	P	**Pn**	**01 03 42.1**	**+0.9**
	SNR=22						
TKM2	**Tokmak 2**	**5.91**	**339**	*i* P	**Pn**	**01 03 42.0**	**+0.9**
TKM2				*p*max	*p*max		
	comp=Z,5.0nm,0.3s						
PDGK	**Podgornoye**	**5.95**	**7**	⇓Pn	**Pn**	**01 03 40.4**	**-1.2**
	comp=Z,11nm,0.4s						
PDGK				⇓Pg	**Pb**	**01 03 59.7**	**+2.5**
	comp=Z,20nm,0.5s						
PDGK				⇑Lg	Lg	01 05 18.3	
	comp=Z,96nm,0.8s						
PDGK	**Podgornoye**	**5.95**	**7**	*i* P	**Pn**	**01 03 40.3**	**-1.2**
PDGK				*p*max	*p*max		
	comp=Z,11nm,0.3s						
AML	**Almayashu**	**5.97**	**323**	P	**Pn**	**01 03 43.4**	**+1.4**
	SNR=50						
AAK	**Ala-Archa**	**6.03**	**331**	Pn	**Pn**	**01 03 43.8**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=143,slow=7.7,SNR=22						
AAK				Pg	**Pb**	**01 04 02.1**	**+3.5**
	comp=Z,4.7nm,0.3s,baz=131,slow=11,SNR=25						
AAK				Lg	Lg	01 05 21.4	
	comp=Z,3.6nm,0.3s,baz=28,slow=20,SNR=3.6						
AAK	**Ala-Archa**	**6.03**	**331**	⇓Pn	**Pn**	**01 03 43.9**	**+1.2**
	comp=Z,1.5nm,0.3s						
AAK				⇑Pg	**Pb**	**01 04 00.9**	**+2.3**
	comp=Z,23nm,0.6s						
AAK				⇓Lg	Lg	01 05 25.6	
	comp=Z,95nm,0.9s						
AAK	**Ala-Archa**	**6.03**	**331**	P	**Pn**	**01 03 43.9**	**+1.2**
	SNR=8.0						
AAK	**Ala-Archa**	**6.03**	**331**	*e*Pn	**Pn**	**01 03 43.8**	**+1.0**
AAK				Pg	**Pb**	**01 04 02.1**	**+3.5**
AAK				*e*Sn	**Sn**	**01 04 46.5**	**-5.4**
FRU	**Bishkek**	**6.16**	**333**	*e*P	**Pb**	**01 04 01.0**	**+0.4**
FRU				*p*max	*p*max		
	comp=Z,40nm,1.8s						
FRU				*p*max	*p*max		
	comp=N,250nm,2.0s						
CHMS	**Chumysh**	**6.25**	**334**	P	**Pn**	**01 03 46.3**	**+0.7**
	SNR=7.4						
EKS2	**Erkin-Say**	**6.35**	**327**	P	**Pn**	**01 03 48.9**	**+1.9**
	SNR=8.0						
CEP	**Cherat**	**6.44**	**238**	P	**Pn**	**01 03 50.2**	**+1.9**
CEP				S	**Sn**	**01 05 04.0**	**+2.2**
MNAS	**Manas**	**6.82**	**320**	⇑Pn	**Pn**	**01 03 54.0**	**+0.5**
	comp=N,1.3nm,0.4s						
MNAS				⇑Pg	Pb	01 04 19.2	+7.2
	comp=N,12nm,0.9s						
MNAS				⇑Lg	Lg	01 05 51.5	
	comp=N,51nm,1.7s						
MNAS	**Manas**	**6.82**	**320**	*i* P	**Pn**	**01 03 54.0**	**+0.5**
MNAS				*p*max	*p*max		
	comp=Z,1.0nm,0.4s						
THW	**Thamme Wali**	**7.19**	**232**	P	**Pn**	**01 03 59.8**	**+1.3**
DZET	**Dzherino**	**7.72**	**283**	⇓Pn	**Pn**	**01 04 05.1**	**-0.8**
	comp=Z,5.3nm,0.5s						
DZET				⇓Sn	**Sn**	**01 05 31.9**	**-1.6**
	comp=Z,37nm,0.5s						
DZET	**Dzherino**	**7.72**	**283**	P	**Pn**	**01 04 05.1**	**-0.8**
DZET				S	**Sn**	**01 05 31.9**	**-1.6**
DZET				*p*max	*p*max		
	comp=Z,5.0nm,0.5s						
DZET				*s*max	*s*max		
	comp=N,37nm,0.5s						
KBL	**Kabul**	**8.16**	**252**	*e*Pn	**Pn**	**01 04 12.7**	**+0.7**
KBL				*e*Sn	**Sn**	**01 05 41.5**	**-2.9**
KBL	**Kabul**	**8.16**	**252**	*e*P	**Pn**	**01 04 12.7**	**+0.7**
KBL				*e*		01 05 41.5	
KK31	**Karatay Array**	**8.31**	**315**	⇑Pn	**Pn**	**01 04 13.0**	**-0.9**
	comp=N,0.3nm,0.3s,baz=127,slow=12,SNR=11						
KK31				⇑Pg	Pb	01 04 47.6	+10
	comp=N,0.4nm,0.2s,baz=132,slow=13,SNR=5.7						
KK31				⇓Sn	**Sn**	**01 05 45.9**	**-2.0**
	comp=N,1.1nm,0.3s,baz=137,slow=25,SNR=4.1						
KK31				⇓Lg	Lg	01 06 35.8	
	comp=N,9.6nm,0.7s,baz=121,slow=32,SNR=5.0						
KK31	**Karatay Array**	**8.31**	**315**	*i* P	**Pn**	**01 04 13.0**	**-0.9**
KKAR	**Karatay Array**	**8.31**	**315**	*e*Pn	**Pn**	**01 04 13.8**	**-0.1**
KKAR				*e*Sn	**Sn**	**01 05 45.8**	**-2.1**
KKAR	**Karatay Array**	**8.31**	**315**	*e*P	**Pn**	**01 04 13.8**	**-0.1**
KKAR				*e*		01 05 45.8	
WMQ	**Urumqi**	**9.48**	**45**	P	Pn	01 04 35.1	+5.1
WMQ				S	**Sn**	**01 06 18.7**	**+2.0**
MAKZ	**Makanchi**	**9.73**	**14**	*e*Pn	Pn	01 04 30.9	-2.4
MAKZ	**Makanchi**	**9.73**	**14**	*e*P	Pn	01 04 30.9	-2.4
MK01	**Makanchi Array**	**9.76**	**16**	*e*Pn	Pn	01 04 31.1	-2.7
MK01				*e*Sn	**Sn**	**01 06 25.2**	**+1.8**
MK31	**Makanchi Array**	**9.78**	**16**	*e*Pn	Pn	01 04 31.7	-2.3
MK31	**Makanchi Array**	**9.78**	**16**	*i* P	Pn	01 04 31.8	-2.2
MK31				*p*max	*p*max		
	comp=Z,2.0nm,0.3s						
MK32	**Makanchi Array**	**9.78**	**16**	*e*Pn	**Pn**	**01 04 32.0**	**-2.0**
MK32				*e*Sn	**Sn**	**01 06 18.9**	**-5.0**
MKAR	**Makanchi Array**	**9.78**	**16**	Pn	**Pn**	**01 04 32.0**	**-2.0**
	comp=Z,4.1nm,0.3s,baz=201,slow=13,SNR=232						
MKAR				Sn	**Sn**	**01 06 18.9**	**-5.0**
	comp=Z,1.0nm,0.3s,baz=197,slow=24,SNR=4.3						
MKAR	**Makanchi Array**	**9.78**	**16**	*e*Pn	Pn	01 04 31.7	-2.3
MKAR	**Makanchi Array**	**9.78**	**16**	*i* P	Pn	01 04 31.6	-2.4
MKAR				*p*max	*p*max		
	comp=Z,5.0nm,0.3s						
KURBB	**Kurchatov Arra**	**13.20**	**0**	Pn	Pn	01 05 17.2	-3.4
	comp=Z,0.1nm,0.3s,baz=188,slow=12,SNR=6.7						
KURBB				Lg	Lg	01 09 07.7	
	comp=Z,0.0nm,0.3s,baz=180,slow=29,SNR=4.9						
KURK	**Kurchatov**	**13.29**	**0**	Pn	**Pn**	**01 05 22.8**	**+0.9**
KURK	**Kurchatov**	**13.29**	**0**	P	**Pn**	**01 05 22.8**	**+0.9**
GEYT	**Alibeck**	**16.12**	**278**	Pn	**Pn**	**01 06 01.8**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=107,slow=7.4,SNR=14						
GEYT				Sn	Sn	01 08 49.9	-9.0
	baz=84,slow=13,SNR=3.0						
BVA0	**Borovoye Array**	**16.59**	**343**	*i* P	**Pn**	**01 06 06.6**	**+0.8**
BVA0				*p*max	*p*max		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**16.59**	**343**	Pn	**Pn**	**01 06 03.6**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=144,slow=12,SNR=21						
BVAR				Lg	Lg	01 11 01.4	
	comp=Z,0.1nm,0.3s,baz=152,slow=25,SNR=4.3						
BRVK	**Borovoye**	**16.64**	**343**	*e*Pn	**Pn**	**01 06 05.1**	**-1.4**
	comp=Z,6.6nm,0.8s						
BRVK	**Borovoye**	**16.64**	**343**	⇓*e*P	**Pn**	**01 06 08.3**	**+1.8**
GTA	**Gaotai**	**16.85**	**77**	⇑P	**Pn**	**01 06 10.4**	**+1.1**
GTA				*p*P	P	01 06 14.7	+3.3
GTA				*s*P	*s*P	01 06 17.5	+2.0
GTA				S	**Sn**	**01 09 17.2**	**+0.7**
GTA				*p*max	*p*max		
	comp=Z,6.0nm,0.9s						
GTA				LR	LR		
	comp=Z,250nm,10.9s						
GTA				LR	LR		
	comp=Z,270nm,9.5s						
ZAA0	**Zalesovo Array**	**17.10**	**13**	*e*Pn	**Pn**	**01 06 11.1**	**-1.2**
	comp=Z,3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**17.10**	**13**	Pn	Pn	01 06 06.8	-5.4
	comp=Z,0.6nm,0.3s,baz=197,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**17.10**	**13**	*e*Pn	**Pn**	**01 06 10.9**	**-1.3**
ZALV	**Zalesovo Beam**	**17.10**	**13**	*e*P	**Pn**	**01 06 10.9**	**-1.3**
ZAA1	**Zalesovo Array**	**17.10**	**13**	*e*Pn	Pn	01 06 06.8	-5.5
HVS	**Khovu-Aksy**	**17.47**	**33**	⇓*e*P	**Pn**	**01 06 17.4**	**+0.4**
HVS				*p*max	*p*max		
	comp=Z,21nm,0.9s						
NVS	**Novosibirsk**	**17.72**	**9**	*e*P	**Pn**	**01 06 18.1**	**-1.9**
NVS				*p*max	*p*max		
	comp=N,7.0nm,0.9s						
NVS				*p*max	*p*max		
	comp=E,3.0nm,0.9s						
NVS				*p*max	*p*max		
	comp=Z,9.0nm,0.9s						
AB31	**Akbulak array**	**17.87**	**317**	*i* P	**Pn**	**01 06 21.9**	**0.0**
AB31				*p*max	*p*max		
	comp=Z,1.0nm,0.5s						
ABKAR	**Akbulak array**	**17.87**	**317**	*e*Pn	**Pn**	**01 06 22.5**	**+0.7**
	comp=Z,11nm,0.8s						
AKTO	**Aktyubinsk**	**19.57**	**318**	P	**P**	**01 06 40.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=106,slow=17,SNR=5.4						
LZH	**Lanzhou**	**20.36**	**86**	*e*P	**P**	**01 06 53.0**	**+2.9**
LZH				*e*PP	**PnPn**	**01 07 14.2**	**+7.3**
LZH				*p*max	*p*max		
	comp=Z,25nm,1.0s						
LZH				*p*max	*p*max		
	comp=Z,92nm,5.2s						
LZH				LR	LR		
	comp=Z,470nm,13.7s						
CD2	**Chengdu**	**21.88**	**100**	*e*P	**P**	**01 07 07.5**	**+1.2**
CD2				*p*max	*p*max		
	comp=Z,10.0nm,0.5s						
ZAK	**Zakamensk**	**21.95**	**46**	*e*P	**P**	**01 07 05.4**	**-1.7**
ZAK				*p*max	*p*max		
	comp=Z,2.0nm,1.4s						
WSAR	**Wadi Sarin**	**22.14**	**236**	P	**P**	**01 07 09.9**	**+0.7**
	comp=Z,5.6nm,0.9s,baz=73,slow=14,SNR=3.1						
SVE	**Sverdlovsk**	**22.76**	**334**	*e*P	**P**	**01 07 15.1**	**-0.4**
SONA0	**Songino Array**	**22.91**	**54**	*e*P	**P**	**01 07 14.0**	**-3.4**
SONM	**Songino Array**	**22.91**	**54**	P	**P**	**01 07 14.0**	**-3.4**
	comp=Z,1.1nm,0.8s,baz=250,slow=12,SNR=4.9						
SONM	**Songino Array**	**22.91**	**54**	P	**P**	**01 07 14.0**	**-3.4**
SONM	**Songino Array**	**22.91**	**54**	P	**P**	**01 07 14.0**	**-3.4**
SONM				*p*max	*p*max		
	comp=Z,1.0nm,0.8s						
SONA1	**Songino Array**	**22.92**	**54**	*e*P	**P**	**01 07 17.1**	**-0.4**
ARU	**Arti**	**23.22**	**331**	P	**P**	**01 07 19.7**	**-0.5**
	baz=119,slow=19						
ARU	**Arti**	**23.22**	**331**	*e*P	**P**	**01 07 19.7**	**-0.5**
	comp=Z,15nm,1.5s						
ARU	**Arti**	**23.22**	**331**	*c i*P	**P**	**01 07 20.6**	**+0.4**
ARU						01 07 44.5	
ARU				S	**S**	**01 11 34.1**	**+2.1**
ARU				SS	**SnSn**	**01 12 12.7**	**+7.2**
ARU				*p*max	*p*max		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**23.35**	**54**	*e*P	**P**	**01 07 19.6**	**-2.2**
ULN				*e*pP	**sP**	**01 07 29.6**	**+3.6**
ULN	**Ulaanbaatar**	**23.35**	**54**	⇓*e*P	**P**	**01 07 20.0**	**-1.8**
ULN				*p*max	*p*max		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**25.78**	**130**	*e*P	**P**	**01 07 41.0**	**-3.4**
	comp=Z,6.0nm,1.4s						
CHTO	**Chiang Mai**	**25.78**	**130**	*e*P	**P**	**01 07 41.0**	**-3.4**
CHTO				*p*max	*p*max		
	comp=Z,6.0nm,1.4s						
HHC	**Hu-ho-hao-te**	**25.81**	**72**	*e*P	**P**	**01 07 46.7**	**+2.0**
HHC				*p*max	*p*max		
	comp=Z,5.0nm,0.6s						
CM31	**Chiang Mai Arr**	**26.05**	**131**	*e*P	**P**	**01 07 45.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**26.05**	**131**	P	**P**	**01 07 45.4**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=325,slow=5.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	**26.05**	**131**	*i* P	**P**	**01 07 42.5**	**-4.4**
CMAR				*p*max	*p*max		
	comp=Z,1.0nm,0.3s						
NCK	**Nalchik**	**27.08**	**294**	⇓*e*P	**P**	**01 07 52.1**	**-3.9**
NCK				*p*max	*p*max		
	comp=Z,5.0nm,0.3s						
KBZ	**Khabaz**	**27.59**	**294**	P	**P**	**01 08 00.6**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=164,slow=15,SNR=2.5						
KIV	**Kislovodsk**	**27.75**	**295**	*e*P	**P**	**01 07 58.8**	**-3.3**
	comp=Z,4.4nm,0.6s						
KIV	**Kislovodsk**	**27.75**	**295**	*e*P	**P**	**01 07 59.7**	**-2.4**
KIV				*p*max	*p*max		
	comp=Z,6.0nm,1.1s						
QIZ	**Qiongzhong**	**32.95**	**115**	*e*P	**P**	**01 08 50.0**	**+1.8**
	comp=Z,87nm,1.8s						
NJ2	**Nanjing**	**33.43**	**87**	*e*P	**P**	**01 08 54.4**	**+2.1**
BR101	**Keskin Array S**	**34.85**	**288**	*e*P	**P**	**01 09 05.5**	**+0.8**
BRTR	**Keskin Array B**	**34.85**	**288**	P	**P**	**01 09 05.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=115,slow=9.0,SNR=2.7						
BR231	**Keskin MP Arra**	**35.48**	**288**	*e*P	P	01 09 07.2	-2.9
MLR	**Muntele Rosu**	**39.57**	**299**	P	**P**	**01 09 46.8**	**+2.2**
	comp=Z,0.2nm,0.7s,baz=6.3,slow=18,SNR=4.8						
MLR	**Muntele Rosu**	**39.57**	**299**	*e*P	**P**	**01 09 46.6**	**+1.9**
	comp=Z,1.0nm,0.7s						
MLR	**Muntele Rosu**	**39.57**	**299**	*e*P	**P**	**01 09 46.6**	**+1.9**
MLR				*p*max	*p*max		
	comp=Z,1.0nm,0.7s						
FIA1	**FINESS Array S**	**40.17**	**324**	*e*P	**P**	**01 09 48.6**	**-0.6**
	comp=Z,48nm,1.8s						
FIA0	**FINESS Array S**	**40.17**	**324**	*e*P	**P**	**01 09 49.0**	**-0.3**
FIA0	**FINESS Array S**	**40.17**	**324**	*e*P	**P**	**01 09 49.0**	**-0.3**
FINES	**FINESS Array B**	**40.17**	**324**	P	**P**	**01 09 49.0**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=108,slow=9.3,SNR=6.4						
FINES	**FINESS Array B**	**40.17**	**324**	P	**P**	**01 09 49.0**	**-0.3**
FINES				*p*max	*p*max		
	comp=Z,3.0nm,0.9s						
BKNI	**Bangkinang**	**42.39**	**145**	*e*P	P	01 10 04.0	-4.0
	comp=Z,113nm,0.4s						
ARA0	**ARCESS Array S**	**42.68**	**336**	*e*P	**P**	**01 10 08.6**	**-1.2**
ARCES	**ARCESS Array B**	**42.68**	**336**	P	**P**	**01 10 08.6**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=100,slow=8.3,SNR=12						
ARCES	**ARCESS Array B**	**42.68**	**336**	*e*P	**P**	**01 10 08.3**	**-1.5**
ARE0	**ARCESS Array S**	**42.68**	**336**	*e*P	**P**	**01 10 08.3**	**-1.6**
	comp=Z,88nm,1.7s						
TIXI	**Tiksi**	**42.72**	**21**	P	**P**	**01 10 08.5**	**-1.5**
	comp=Z,4.1nm,0.3s,baz=45,slow=1.4,SNR=3.1						
IDI	**Anoyia**	**42.72**	**284**	P	**P**	**01 10 09.9**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=201,slow=8.6,SNR=2.6						
IDI	**Anoyia**	**42.72**	**284**	*e*P	**P**	**01 10 09.9**	**-0.7**
	comp=Z,3.8nm,1.0s						
HFS	**Hagfors**	**46.08**	**321**	P	**P**	**01 10 35.7**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=126,slow=9.7,SNR=7.8						
NC405	**NORSAR Array S**	**47.03**	**322**	*e*P	**P**	**01 10 42.7**	**-1.9**
NC303	**NORSAR Array S**	**47.20**	**323**	*e*P	**P**	**01 10 45.0**	**-0.8**
GEC2	**GERESS Array S**	**47.27**	**306**	*e*P	**P**	**01 10 47.2**	**+0.4**
	comp=Z,3.4nm,1.3s						
GEC2	**GERESS Array S**	**47.27**	**306**	*e*P	**P**	**01 10 47.2**	**+0.4**
GEC2				*p*max	*p*max		
	comp=Z,3.0nm,1.3s						
GERES	**GERESS Array B**	**47.27**	**306**	P	**P**	**01 10 47.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=70,slow=6.4,SNR=2.5						
NB200	**NORSAR Array S**	**47.28**	**322**	*e*P	**P**	**01 10 45.4**	**-1.2**
NOA	**NORSAR Array B**	**47.28**	**322**	P	**P**	**01 10 45.3**	**-1.2**
	comp=Z,3.2nm,1.1s,baz=78,slow=6.8,SNR=2.8						
SPA0	**Spitsbergen Ar**	**48.01**	**346**	*e*P	**P**	**01 10 51.2**	**-0.8**
SPITS	**Spitsbergen Ar**	**48.01**	**346**	P	**P**	**01 10 51.2**	**-0.8**
	comp=Z,8.8nm,0.9s,baz=143,slow=5.0,SNR=2.9						
KONO	**Kongsberg**	**48.16**	**321**	*e*P	**P**	**01 10 52.9**	**-0.4**
	comp=Z,70nm,1.4s						
KONO	**Kongsberg**	**48.16**	**321**	*e*P	**P**	**01 10 52.9**	**-0.4**
ERM	**Erimo**	**48.92**	**63**	*e*P	**P**	**01 11 00.1**	**+0.8**
	comp=Z,79nm,1.3s						
ERM	**Erimo**	**48.92**	**63**	*e*P	**P**	**01 11 00.2**	**+0.8**
SEY	**Seymchan**	**50.28**	**35**	P	P	01 11 05.4	-4.1
	comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=4.8						
SEY	**Seymchan**	**50.28**	**35**	⇓*e*P	**P**	**01 11 07.5**	**-2.0**
EKA	**Eskdalemuir Ar**	**55.75**	**317**	P	**P**	**01 11 48.5**	**-1.4**
	comp=Z,6.0nm,1.1s,baz=46,slow=6.1,SNR=3.3						
TOLK	**Toolik Lake Re**	**68.40**	**17**	*e*P	**P**	**01 13 12.9**	**-1.9**
	comp=Z,2.4nm,0.6s						
IM3	**Indian Mountai**	**69.36**	**20**	*e*P	P	01 13 18.4	-2.3
TOA1	**Torodi Ar. Sit**	**71.69**	**273**	*e*P	**P**	**01 13 34.1**	**-1.6**
TORD	**Torodi Ar. Bea**	**71.69**	**273**	P	**P**	**01 13 34.1**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=46,slow=5.5,SNR=28						
INK	**Inuvik**	**71.90**	**12**	P	P	01 13 33.8	-2.3
	comp=Z,0.3nm,0.4s,baz=329,slow=3.7,SNR=3.5						
INK	**Inuvik**	**71.90**	**12**	*e*P	P	01 13 33.8	-2.3
	comp=Z,4.3nm,1.6s						
ILAR	**Eielson Array**	**72.12**	**19**	P	P	01 13 35.0	-2.5
	comp=Z,0.5nm,0.7s,baz=303,slow=4.7,SNR=7.8						
ILB	**Eielson Array**	**72.12**	**19**	*e*P	P	01 13 35.0	-2.5
MENT	**Mentasta**	**74.44**	**19**	*e*P	**P**	**01 13 51.1**	**-0.2**
	comp=Z,5.0nm,0.6s						
KOWA	**Kowa**	**75.44**	**277**	P	**P**	**01 13 56.0**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=36,slow=7.0,SNR=2.6						
WR1	**Warramunga Arr**	**77.58**	**127**	*e*P	P	01 14 07.2	-2.5
	comp=Z,4.7nm,1.1s						
WRA	**Warramunga Arr**	**77.58**	**127**	P	P	01 14 07.2	-2.5
	comp=Z,0.4nm,0.5s,baz=328,slow=5.7,SNR=7.8						
WRA	**Warramunga Arr**	**77.58**	**127**	*i* P	**P**	**01 14 08.0**	**-1.7**
YKA	**Yellowknife Ar**	**79.87**	**6**	*i* P	P	01 14 19.1	-2.6
	comp=Z,0.2nm,0.4s,baz=345,slow=5.6,SNR=6.6						
YKA	**Yellowknife Ar**	**79.87**	**6**	*i* P	P	01 14 19.2	-2.5
YKB5	**Yellowknife Ar**	**79.87**	**6**	*e*P	P	01 14 19.1	-2.6
AS31	**Alice Springs**	**80.06**	**130**	*e*P	**P**	**01 14 21.7**	**-1.6**
	comp=Z,3.3nm,1.8s						
ASAR	**Alice Springs**	**80.06**	**130**	P	**P**	**01 14 21.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=304,slow=4.1,SNR=3.1						
F07A	**Phinny Hill Vi**	**95.42**	**13**	*e*P	**P**	**01 15 38.9**	**+1.0**
	comp=Z,12nm,1.5s						

*ISCJB **08** 01:12:31.7±0.6,38°.57N±0°.03×43°.18E±0°.05,h7^{km}±7^{km}, Error ellipse: s-maj=6.4km s-min=5.5km az=164.8*
*CSEM **08** 01:12:31.5±0.2,38°.55N×43°.21E,h8^{km}, MD2.5,Error ellipse: s-maj=4.4km s-min=3.6km az=97.0*
*ISK **08** 01:12:31.2,38°.57N×43°.21E,h12^{km}, ML2.0/3*
*DDA **08** 01:12:32.8,38°.47N×43°.25E,h7^{km}, Md2.5*

ISC 08 01:12:32.1±0.9,**38°.55N**±0°.03×**43°.21E**±0°.03,**h10**^{km}±8^{km}, **n18,** σ**0°62/29,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.15**	**71**	Pg	**Pg**	**01 12 35.4**	**-0.1**
VANB				Sg	**Sg**	**01 12 38.2**	**+0.3**
VANB	**Van**	**0.15**	**71**	*e*Pg	**Pg**	**01 12 35.4**	**-0.1**
VANB				*e*Sg	**Sg**	**01 12 38.2**	**+0.3**
TVAN	**Van**	**0.16**	**97**	*i* P	**Pg**	**01 12 35.5**	**-0.2**
TVAN				*i* S	**Sg**	**01 12 38.4**	**+0.2**
TVAN	**Van**	**0.16**	**97**	P	**Pg**	**01 12 35.5**	**-0.2**
TVAN				S	**Sg**	**01 12 38.4**	**+0.2**
GEVA	**Gevas**	**0.26**	**207**	*i* P	**Pg**	**01 12 36.9**	**-0.6**
GEVA				*i* S	**Sg**	**01 12 41.0**	**-0.1**
GEVA	**Gevas**	**0.26**	**207**	P	**Pg**	**01 12 36.9**	**-0.6**
GEVA				S	**Sg**	**01 12 41

LFK	**Lefkose**	**2.42**	**323**	*e*Pn	**Pn**	**01**	**16**	**33.2 +1.1**
KZIT	**Kziot**	**2.58**	**198**	Pn	**Pn**	**01**	**16**	**36.1 +2.0**
KZIT	**Kziot**	**2.58**	**198**	Pn	**Pn**	**01**	**16**	**36.1 +2.0**
LEF	**Lefka**	**2.67**	**312**	PN	**Pb**	**01**	**16**	**38.5 -1.7**
LEF	**Lefka**	**2.67**	**312**	*e*Pn	**Pb**	**01**	**16**	**38.5 -1.7**
YAYL	**Yayladag**	**2.74**	**13**	PN	**Pn**	**01**	**16**	**38.2 +1.7**
YAYL	**Yayladag**	**2.74**	**13**	*i* P	**Pn**	**01**	**16**	**37.4 +0.8**
YAYL				*i* S	**Sn**	**01**	**17**	**08.7 -1.2**
YAYL	**Yayladag**	**2.74**	**13**	P	**Pn**	**01**	**16**	**37.3 +0.8**
YAYL	**Yayladag**	**2.74**	**13**	*e*Pn	**Pn**	**01**	**16**	**38.2 +1.7**
YAYL				S	**Sn**	**01**	**17**	**08.7 -1.2**
ZFRI	**Zfri**	**2.80**	**183**	Pn	**Pn**	**01**	**16**	**38.2 +0.9**
ZFRI	**Zfri**	**2.80**	**183**	Pn	**Pn**	**01**	**16**	**38.2 +0.9**
PRNI	**Paran**	**3.02**	**185**	Pn	**Pn**	**01**	**16**	**41.3 +1.1**
AKKU	**Akkuyu-Mersin**	**3.15**	**333**	PN	**Pn**	**01**	**16**	**42.9 +0.9**
AKKU	**Akkuyu-Mersin**	**3.15**	**333**	*e*Pn	**Pn**	**01**	**16**	**42.9 +0.9**
GULN	**MERSIN_Gulnar**	**3.17**	**333**	*i* P	**Pn**	**01**	**16**	**43.2 +0.8**
GULN				*i* S	**Sn**	**01**	**17**	**20.7 +0.3**
GULN	**MERSIN_Gulnar**	**3.17**	**333**	P	**Pn**	**01**	**16**	**43.2 +0.8**
GULN				S	**Sn**	**01**	**17**	**20.7 +0.3**
KRTS	**Karatas**	**3.20**	**1**	PN	**Pn**	**01**	**16**	**43.7 +1.0**
KRTS	**Karatas**	**3.20**	**1**	*e*Pn	**Pn**	**01**	**16**	**43.7 +1.0**
SILI	**Silifke-Mersin**	**3.21**	**339**	PN	**Pn**	**01**	**16**	**43.4 +0.5**
SILI	**Silifke-Mersin**	**3.21**	**339**	*e*Pn	**Pn**	**01**	**16**	**43.4 +0.5**
KIZK	**Mersin**	**3.26**	**343**	PN	**Pn**	**01**	**16**	**43.9 +0.4**
KIZK	**Mersin**	**3.26**	**343**	*i* P	**Pn**	**01**	**16**	**44.9 +1.4**
KIZK				*i* S	**Sn**	**01**	**17**	**21.0 -1.5**
KIZK	**Mersin**	**3.26**	**343**	P	**Pn**	**01**	**16**	**44.9 +1.4**
KIZK				S	**Sn**	**01**	**17**	**21.0 -1.5**
TEKE	**Tekeli-Mersin**	**3.32**	**327**	PN	**Pn**	**01**	**16**	**45.8 +1.5**
TEKE	**Tekeli-Mersin**	**3.32**	**327**	*e*Pn	**Pn**	**01**	**16**	**45.8 +1.5**
MBRI	**Mt Berech**	**3.33**	**184**	Pn	**Pn**	**01**	**16**	**45.6 +1.1**
MBRI	**Mt Berech**	**3.33**	**184**	Pn	**Pn**	**01**	**16**	**45.6 +1.1**
HRFI	**Mount Harif**	**3.33**	**184**	Pn	**Pn**	**01**	**16**	**45.6 +1.1**
TEVE	**Tevekalti-Mers**	**3.44**	**334**	PN	**Pn**	**01**	**16**	**47.2 +1.2**
TEVE	**Tevekalti-Mers**	**3.44**	**334**	*e*Pn	**Pn**	**01**	**16**	**47.2 +1.2**
YURE	**YUREGIR**	**3.46**	**4**	PN	**Pn**	**01**	**16**	**47.4 +1.0**
YURE	**YUREGIR**	**3.46**	**4**	*e*Pn	**Pn**	**01**	**16**	**47.4 +1.0**
MBRI	**Mt Berech**	**3.58**	**186**	Pn	**Pn**	**01**	**16**	**49.0 +1.0**
MBRI	**Mt Berech**	**3.58**	**186**	Pn	**Pn**	**01**	**16**	**49.0 +1.0**
DED	**Mersin**	**3.62**	**353**	*i* P	**Pn**	**01**	**16**	**49.7 +1.3**
DED				*i* S	**Sn**	**01**	**17**	**29.5 -1.9**
KUZU	**Kuzuini**	**3.69**	**22**	*i* P	**Pb**	**01**	**16**	**58.1 +0.5**
EIL	**Elat**	**3.70**	**185**	Pn	**Pn**	**01**	**16**	**50.9 +1.3**
EIL	**Elat**	**3.70**	**185**	Pn	**Pn**	**01**	**16**	**50.9 +1.3**
KARA	**Karaisali**	**3.90**	**357**	PN	**Pn**	**01**	**16**	**53.3 +1.0**
KARA	**Karaisali**	**3.90**	**357**	*e*Pn	**Pn**	**01**	**16**	**53.3 +1.0**
AKO	**Adana**	**4.09**	**1**	*i* P	**Pn**	**01**	**16**	**57.2 +2.2**
AKO				*i* S	**Sn**	**01**	**17**	**44.1 +1.0**
GAZ	**Gaziantep**	**4.10**	**22**	PN	**Pn**	**01**	**16**	**58.2 +3.0**
GAZ	**Gaziantep**	**4.10**	**22**	*e*Pn	**Pn**	**01**	**16**	**58.2 +3.0**
KOZT	**Kozan**	**4.13**	**6**	PN	**Pn**	**01**	**16**	**57.4 +1.9**
KOZT	**Kozan**	**4.13**	**6**	*e*Pn	**Pn**	**01**	**16**	**57.4 +1.9**
KERG	**Konya-Eregli**	**4.16**	**347**	*i* P	**Pn**	**01**	**16**	**58.0 +1.9**
KERG				*i* S	**Sn**	**01**	**17**	**46.8 +1.8**
KERG	**Konya-Eregli**	**4.16**	**347**	P	**Pn**	**01**	**16**	**58.0 +1.9**
KERG				S	**Sn**	**01**	**17**	**46.8 +1.8**
ANDN	**Andirin**	**4.29**	**11**	*i* P	**Pn**	**01**	**16**	**58.2 +0.4**
ANDN	**Andirin**	**4.29**	**11**	P	**Pn**	**01**	**16**	**58.2 +0.4**
YAHY	**KAYSERI_Yahyal**	**4.72**	**0**	*i* P	**Pn**	**01**	**17**	**06.4 +2.7**
YAHY				*i* S	**Sn**	**01**	**18**	**00.1 +1.3**
YAHY	**KAYSERI_Yahyal**	**4.72**	**0**	P	**Pn**	**01**	**17**	**06.4 +2.7**
YAHY				S	**Sn**	**01**	**18**	**00.1 +1.3**
GULA	**Gulagac**	**5.05**	**350**	PN	**Pn**	**01**	**17**	**09.4 +1.2**
GULA	**Gulagac**	**5.05**	**350**	*e*Pn	**Pn**	**01**	**17**	**09.4 +1.2**

IDC 08 01:43:48.3±2.1, 7°13.5′S × 129°39.8′E, h0 km, mb3.4/1, mb1 3.8/4, mb1mx3.5/50, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=64.8km s-min=29.4km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.66**	**200**	Pn	**Pn**	01 46 37.2	+1.0
	0.5nm,0.3s,baz=42,slow=12,SNR=26						
FITZ				Sn	**Sn**	01 48 35.9	-11
	baz=90,slow=20						
WRA	**Warramunga Arr**	**13.45**	**162**	Pn	**Pn**	01 47 00.3	-0.3
	0.6nm,0.3s,baz=341,slow=14,SNR=20						
WRA				Sn	**Sn**	01 49 20.0	-11
	0.3nm,0.3s,baz=339,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**16.89**	**167**	Pn	**Pn**	01 47 45.5	-0.8
	0.3nm,0.3s,baz=352,slow=14,SNR=9.9						
ASAR				Sn	**Sn**	01 50 46.0	-8.7
	0.1nm,0.3s,baz=6.5,slow=25,SNR=2.7						
MKAR	**Makanchi Array**	**68.27**	**327**	P	P	01 54 51.1	0.0
	0.2nm,0.5s,baz=122,slow=6.6,SNR=4.2						

IDC 08 01:51:07.2±2.5, 5°86.5′S × 150°59.6′E, h0 km, mb3.5/4, mb1 3.7/4, mb1mx3.5/44, mbtmp3.5/4, Error ellipse: s-maj=91.4km s-min=31.6km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.11**	**227**	P	P	01 55 54.5	+0.8
	1.1nm,0.9s,baz=52,slow=9.7,SNR=4.0						
ASAR	**Alice Springs**	**23.90**	**221**	P	P	01 56 22.2	-0.7
	0.6nm,0.7s,baz=53,slow=9.4,SNR=2.8						
SONM	**Songino Array**	**66.07**	**329**	P	P	02 01 56.0	-0.2
	0.2nm,0.3s,baz=128,slow=8.0,SNR=2.8						
YKA	**Yellowknife Ar**	**97.39**	**28**	P	Pdif	02 04 42.5	0.0
	0.1nm,0.7s,baz=263,slow=2.8,SNR=2.4						

*ISK **08** 01:59:37.9, 36°.74N × 29°.18E, h5 km, ML2.7/4*
*ISCJB **08** 01:59:38.0±0.6, 36°.76N±0°.04 × 29°.20E±0°.04, h0 km, Error ellipse: s-maj=5.4km s-min=4.5km az=145.7*
*CSEM **08** 01:59:38.3±0.1, 36°.76N × 29°.19E, h1 km, ML2.7, Error ellipse: s-maj=3.4km s-min=3.1km az=17.0, Suspected Mining explosion.*
*DDA **08** 01:59:38.3, 36°.77N × 29°.14E, h7 km, Ml2.1, Suspected Mining explosion.*

ISC 08 01:59:37.6±0.9, 36°.75N±0°.03 × 29°.25E±0°.04, h0 km, n28, σ0 s1 s51/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.18**	**230**	PG	**Pg**	**01**	**59**	**40.8 -0.2**
FETY				SG	**Sg**	**01**	**59**	**43.3 0.0**
FETY	**Fethiye**	**0.18**	**230**	*e*Pg	**Pg**	**01**	**59**	**40.8 -0.2**
FETY				*e*Sg	**Sg**	**01**	**59**	**43.3 0.0**
FETY				S	**Sg**	**01**	**59**	**44.6 +1.3**
ELL	**Elmali**	**0.53**	**90**	PG	**Pb**	**01**	**59**	**49.7 -0.2**
ELL	**Elmali**	**0.53**	**90**	*e*Pg	**Pb**	**01**	**59**	**49.7 -0.2**
TURN	**Turunc**	**0.53**	**284**	PG	**Pn**	**01**	**59**	**52.9 +0.4**
TURN				SG	**Sn**	**02**	**00**	**03.5 +1.3**
TURN	**Turunc**	**0.53**	**284**	*i* P	**Pn**	**01**	**59**	**52.4 -0.1**
TURN	**Turunc**	**0.53**	**284**	P	**Pn**	**01**	**59**	**52.4 -0.1**
TURN	**Turunc**	**0.53**	**284**	*e*Pg	**Pn**	**01**	**59**	**52.9 +0.4**
TURN				*e*Sg	**Sn**	**02**	**00**	**03.5 +1.3**
GOLH	**Golhisar**	**0.55**	**27**	*i* P	**Pg**	**01**	**59**	**48.2 0.0**
GOLH				*i* S	**Sb**	**01**	**59**	**58.2 -0.4**
GOLH	**Golhisar**	**0.55**	**27**	P	**Pg**	**01**	**59**	**48.2 0.0**
GOLH				S	**Sb**	**01**	**59**	**58.2 -0.4**
AKAS	**Kas**	**0.59**	**151**	PG	**Pb**	**01**	**59**	**50.2 -0.7**
AKAS	**Kas**	**0.59**	**151**	*i* P	**Pb**	**01**	**59**	**51.0 +0.1**
AKAS	**Kas**	**0.59**	**151**	*e*Pg	**Pb**	**01**	**59**	**50.2 -0.7**
AKAS	**Kas**	**0.59**	**151**	P	**Pb**	**01**	**59**	**51.0 +0.1**
TAVA	**DENIZLI_Tavas**	**0.76**	**339**	*i* P	**Pg**	**01**	**59**	**52.2 -0.1**
TAVA	**DENIZLI_Tavas**	**0.76**	**339**	P	**Pg**	**01**	**59**	**52.2 -0.1**
YER	**Yerkesik**	**0.87**	**297**	PG	**Pg**	**01**	**59**	**54.1 -0.1**
YER	**Yerkesik**	**0.87**	**297**	*e*Pg	**Pg**	**01**	**59**	**54.1 -0.1**
KORT	**Korkueli**	**0.92**	**74**	PG	**Pb**	**01**	**59**	**56.9 +0.4**
KORT	**Korkueli**	**0.92**	**74**	*e*Pg	**Pb**	**01**	**59**	**56.9 +0.4**
AYDN	**Tasoluk**	**1.42**	**310**	*i* P	**Pg**	**02**	**00**	**04.3 -0.5**
AYDN				*i* S	**Sg**	**02**	**00**	**23.0 -0.4**
AYDN	**Tasoluk**	**1.42**	**310**	P	**Pg**	**02**	**00**	**04.3 -0.5**
AYDN				S	**Sg**	**02**	**00**	**23.0 -0.4**
BDRM	**Kayabasi**	**1.48**	**283**	*i* P	**Pn**	**02**	**00**	**05.8 +0.2**
BDRM				*i* S	**Sg**	**02**	**00**	**24.8 -0.5**
BDRM	**Kayabasi**	**1.48**	**283**	P	**Pn**	**02**	**00**	**05.8 +0.2**
BDRM				S	**Sg**	**02**	**00**	**24.8 -0.5**
BODT	**Bodrum**	**1.59**	**282**	PN	**Pn**	**02**	**00**	**06.5 -0.5**
BODT	**Bodrum**	**1.59**	**282**	*e*Pn	**Pn**	**02**	**00**	**06.5 -0.5**
KARP	**Karpathos**	**2.07**	**235**	PN	**Pn**	**02**	**00**	**13.5 -0.2**
KARP	**Karpathos**	**2.07**	**235**	*e*Pn	**Pn**	**02**	**00**	**13.5 -0.2**

*MOS **08** 02:01:40.7±1.2, 28°.05N × 55°.30E, h21 km, mb4.5/25, Error ellipse: s-maj=9.0km s-min=5.5km az=113.9*
*TEH **08** 02:01:42.7, 28°.31N × 55°.32E, h10 km, ML4.0*
*ISCJB **08** 02:01:42.4±0.2, 28°.26N±0°.02 × 55°.22E±0°.03, h22 km, mb4.2/64, MS4.2/2, Error ellipse: s-maj=3.6km s-min=2.5km az=157.5*
*CSEM **08** 02:01:42.5±0.1, 28°.27N × 55°.19E, h10 km, mb4.4/40, Error ellipse: s-maj=5.9km s-min=4.2km az=60.0*
*NEIC **08** 02:01:43.0±0.0, 28°.21N × 55°.38E, h14 km, mb4.5/29, ML4.0(THR), MN4.0(TEH), After THR.*
*THR **08** 02:01:43.3±1.3, 28°.22N × 55°.36E, h14 km±11 km, ML4.0*
*IDC **08** 02:01:46.7±2.6, 28°.27N × 55°.34E, h46 km±26 km, mb3.8/26, mb1 3.9/29, mb1mx3.8/62, mbtmp4.0/29, ML4.1/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/59, Error ellipse: s-maj=14.0km s-min=12.6km az=134.0*
*OMAN **08** 02:01:46.4±9.5, 28°.00N × 55°.41E, h10 km, Error ellipse: s-maj=7.0km s-min=2.9km az=3.0*
*DSN **08** 02:01:48.7±1.8, 27°.99N × 55°.50E, h15 km, ML4.0/8, Error ellipse: s-maj=35.7km s-min=13.2km az=60.0*

ISC 08 02:01:43.2±0.3, 28°.04N±0°.03 × 55°.22E±0°.03, h22 km, n311, σ1 s97/332, mb4.3/64, 11C-8D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.06**	**127**	*e*Pg	**Pb**	**02**	**02**	**03.9 +1.0**
BNDS				*e*Sg	**Sn**	**02**	**02**	**18.5 +1.5**
BNDS	**Bandar-Abbas**	**1.06**	**127**	*e*Pg	**Pb**	**02**	**02**	**03.9 +1.0**
BNDS				*e*Sg	**Sn**	**02**	**02**	**18.5 +1.5**
BNDS				AML	AML	02 02 26.3		
	comp=E,4μm,0.5s							
BNDS				AML	AML	02 02 31.7		
	comp=N,4μm,0.5s							
GENO	**Geno**	**1.06**	**127**	*e*Pg	**Pb**	**02**	**02**	**05.9 +3.0**
GENO	**Geno**	**1.06**	**127**	*e*Pg	**Pb**	**02**	**02**	**05.9 +3.0**
IBND	**Bandar-abas**	**1.31**	**117**	*e*Pn	**Pb**	**02**	**02**	**10.6 +3.5**
IBND				*e*Pn	**Pb**	**02**	**02**	**10.6 +3.5**
IBND	**Bandar-abas**	**1.31**	**117**	Pn	**Pb**	**02**	**02**	**10.5 +3.5**
IBND	**Bandar-abas**	**1.31**	**117**	Pn	**Pb**	**02**	**02**	**10.5 +3.5**
NIAN	**Nian**	**1.51**	**108**	*e*Pn	**Pb**	**02**	**02**	**11.7 +1.2**
NIAN	**Nian**	**1.51**	**108**	*e*Pn	**Pb**	**02**	**02**	**11.7 +1.2**
GHIR	**Ghir-Karzin**	**1.99**	**277**	*i* Pn	**Pb**	**02**	**02**	**20.7 +2.0**
GHIR				*e*Sg	**Sb**	**02**	**02**	**50.2 +7.1**
GHIR	**Ghir-Karzin**	**1.99**	**277**	*e*Pg	**Pb**	**02**	**02**	**21.1 +2.4**
GHIR				AML	AML	02 03 04.9		
	comp=E,1μm,0.5s							
GHIR				AML	AML	02 03 11.4		
	comp=N,974nm,0.4s							
NGRK	**Negar Kerman**	**2.07**	**39**	*e*Pn	**Pn**	**02**	**02**	**15.8 -1.2**
NGRK	**Negar Kerman**	**2.07**	**39**	*e*Pn	**Pn**	**02**	**02**	**15.8 -1.2**
SHME	**Shamm**	**2.15**	**157**	S	**Sb**	**02**	**02**	**51.1 +3.4**
SHME	**Shamm**	**2.15**	**157**	*e*P	**Pb**	**02**	**02**	**21.8 +0.3**
	SNR=25							
SHME				S	**Sb**	**02**	**02**	**48.2 +0.5**
ISRV	**Sarvestan**	**2.28**	**306**	*e*Pn	**Pb**	**02**	**02**	**23.0 -0.9**
ISRV				*e*Sg	**Sb**	**02**	**02**	**57.3 +5.5**
ISRV	**Sarvestan**	**2.28**	**306**	Pn	**Pb**	**02**	**02**	**22.9 -0.9**
ISRV				Sg	**Sb**	**02**	**02**	**57.3 +5.5**
ISRV	**Sarvestan**	**2.28**	**306**	Pn	**Pb**	**02**	**02**	**22.9 -0.9**
ISRV				*e*Sg	**Sb**	**02**	**02**	**57.3 +5.5**
BANOM	**Banah**	**2.32**	**155**	P	**Pb**	**02**	**02**	**24.4 0.0**
	SNR=11							
BANOM	**Banah**	**2.32**	**155**	P	**Pb**	**02**	**02**	**24.4 0.0**
	SNR=11							
BANOM	**Banah**	**2.32**	**155**	*e*P	**Pb**	**02**	**02**	**24.2 -0.1**
	SNR=95							
KRBR	**Kerman**	**2.36**	**35**	*e*Pn	**Pn**	**02**	**02**	**21.7 +0.9**
KRBR	**Kerman**	**2.36**	**35**	*e*Pg	**Pn**	**02**	**02**	**21.7 +0.9**
TVBK	**TV Kerman**	**2.36**	**35**	*e*Pn	**Pn**	**02**	**02**	**21.0 +0.1**
TVBK	**TV Kerman**	**2.36**	**35**	*e*Pn	**Pn**	**02**	**02**	**21.0 +0.1**
KHGB	**Koh Gabri**	**2.57**	**25**	*e*Pn	**Pn**	**02**	**02**	**24.1 +0.4**
KHGB	**Koh Gabri**	**2.57**	**25**	*e*Pn	**Pn**	**02**	**02**	**24.1 +0.4**
IPAR	**Pars**	**2.62**	**314**	*e*Pn	**Pb**	**02**	**02**	**27.1 -2.4**
IPAR	**Pars**	**2.62**	**314**	Pn	**Pb**	**02**	**02**	**27.1 -2.4**
IPAR	**Pars**	**2.62**	**314**	*e*Pn	**Pb**	**02**	**02**	**27.1 -2.4**
CHMN	**Cheshme madani**	**2.72**	**48**	*e*Pn	**Pn**	**02**	**02**	**27.2 +1.3**
CHMN	**Cheshme madani**	**2.72**	**48**	*e*Pn	**Pn**	**02**	**02**	**27.2 +1.3**
MSFE	**Esma-Masafi**	**2.80**	**162**	P	**Pb**	**02**	**02**	**32.3 -0.3**
MSFE	**Esma-Masafi**	**2.80**	**162**	*e*P	**Pb**	**02**	**02**	**32.2 -0.3**
	SNR=35							
MDH	**Madha**	**2.90**	**160**	*e*P	**Pb**	**02**	**02**	**32.6 -1.6**
	SNR=19							
NAZ	**Nazwa, Dubai**	**3.07**	**173**	P	**Pb**	**02**	**02**	**37.0 -0.1**
	SNR=14							
NAZ	**Nazwa, Dubai**	**3.07**	**173**	*i* P	**Pb**	**02**	**02**	**37.0 -0.1**
	SNR=14							
UOSS	**Minazif**	**3.21**	**164**	*e*Pn	**Pb**	**02**	**02**	**37.5 -2.0**
UOSS				*e*Sn	**Sn**	**02**	**03**	**13.4 +3.5**
UOSS	**Minazif**	**3.21**	**164**	P	**Pb**	**02**	**02**	**37.5 -2.0**
	SNR=22							
UOSS	**Minazif**	**3.21**	**164**	P	**Pb**	**02**	**02**	**37.5 -2.0**
	SNR=22							
UOSS				*e*Sn	**Sn**	**02**	**03**	**13.4 +3.5**
UOSS	**Minazif**	**3.21**	**164**	*i* P	**Pb**	**02**	**02**	**37.2 -2.3**
	SNR=39							
HATD	**Hatta, Dubai**	**3.31**	**165**	P	**Pb**	**02**	**02**	**39.5 -1.7**
	SNR=15							
HATD				S	**Sb**	**02**	**03**	**19.6 -1.4**
HATD	**Hatta, Dubai**	**3.31**	**165**	P	**Pb**	**02**	**02**	**39.5 -1.7**
	SNR=15							
HATD				S	**Sb**	**02**	**03**	**19.6 -1.4**
HATD	**Hatta, Dubai**	**3.31**	**165**	*i* P	**Pb**	**02**	**02**	**39.4 -1.7**
	SNR=15							
IMEH	**Mehriz**	**3.38**	**351**	*e*Pn	**Pn**	**02**	**02**	**35.8 +1.0**
IMEH				*e*AMB	AMB	02 02 46.0		
	comp=Z,3μm,0.2s							
IMEH	**Mehriz**	**3.38**	**351**	Pn	**Pn**	**02**	**02**	**35.8 +1.0**
IMEH	**Mehriz**	**3.38**	**351**	*e*Pn	**Pn**	**02**	**02**	**35.8 +1.0**
ASHO	**Ashiyiah**	**3.43**	**167**	P	**Pb**	**02**	**02**	**41.0 -2.3**
	SNR=66							
ASHO				S	**Sb**	**02**	**03**	**23.0 -1.5**
ASHO	**Ashiyiah**	**3.43**	**167**	P	**Pb**	**02**	**02**	**41.0 -2.3**
	SNR=66							
ASHO				S	**Sb**	**02**	**03**	**23.0 -1.5**
ASHO	**Ashiyiah**	**3.43**	**167**	*i* P	**Pb**	**02**	**02**	**41.0 -2.3**
	SNR=66							
IKAZ	**Kazeroun**	**3.43**	**301**	*e*Pn	**Pn**	**02**	**02**	**38.4 +2.7**
IKAZ				*e*AMB	AMB	02 03 36.4		
	comp=Z,6μm,0.3s							
IKAZ	**Kazeroun**	**3.43**	**301**	Pn	**Pn**	**02**	**02**	**38.4 +2.7**
IKAZ	**Kazeroun**	**3.43**	**301**	*e*Pn	**Pn**	**02**	**02**	**38.4 +2.7**
AJN	**Ajban**	**3.47**	**184**	*i* P	**Pb**	**02**	**02**	**42.3 -1.7**
	SNR=18							
IBAF	**Bafgh**	**3.55**	**5**	*e*Pn	**Pn**	**02**	**02**	**36.9 -0.2**
IBAF				*e*AMB	AMB	02 03 34.8		
	comp=Z,4μm,0.5s							
IBAF	**Bafgh**	**3.55**	**5**	Pn	**Pn**	**02**	**02**	**36.8 -0.3**
IBAF	**Bafgh**	**3.55**	**5**	Pn	**Pn**	**02**	**02**	**36.8 -0.3**
AHBU	**AHRAM**	**3.55**	**284**	*e*Pn	**Pb**	**02**	**02**	**41.7 -3.6**
ISAD	**Sadrabad**	**4.08**	**341**	*e*Pn	**Pn**	**02**	**02**	**46.0 +1.5**
ISAD				*e*AMB	AMB	02 02 58.8		
	comp=Z,2μm,0.3s							
ISAD	**Sadrabad**	**4.08**	**341**	Pn	**Pn**	**02**	**02**	**46.0 +1.5**
ISAD	**Sadrabad**	**4.08**	**341**	*e*Pn	**Pn**	**02**	**02**	**46.0 +1.5**
ICHK	**Chekchek**	**4.25**	**351**	*e*Pn	**Pn**	**02**	**02**	**47.0 +0.3**
ICHK				*e*AMB	AMB	02 03 05.1		
	comp=Z,2μm,0.2s							
ICHK	**Chekchek**	**4.25**	**351**	Pn	**Pn**	**02**	**02**	**47.0 +0.3**
ICHK	**Chekchek**	**4.25**	**351**	*e*Pn	**Pn**	**02**	**02**	**47.0 +0.3**
IRAM	**Rameseh**	**4.49**	**327**	*e*Pn	**Pn**	**02**	**02**	**51.3 +1.1**
IRAM				*e*AMB	AMB	02 03 06.7		
	comp=Z,1μm,0.3s							
IRAM	**Rameseh**	**4.49**	**327**	Pn	**Pn**	**02**	**02**	**51.2 +1.1**
IRAM	**Rameseh**	**4.49**	**327**	Pn	**Pn**	**02**	**02**	**51.2 +1.1**
ZHSF	**Zahedan**	**5.12**	**71**	*e*Pn	**Pn**	**02**	**02**	**59.7 +1.0**
ZHSF	**Zahedan**	**5.12**	**71**	*e*Pn	**Pn**	**02**	**02**	**59.7 +1.0**
IGAR	**Gharneh**	**5.14**	**328**	*e*Pn	**Pn**	**02**	**03**	**00.2 +1.1**
IGAR				*e*AMB	AMB	02 03 22.5		
	comp=Z,827nm,0.2s							
SLWS		**5.22**	**233**	P	Pn	02 03 06.1	+6.1	
SLWS				S	**Sn**	**02**	**04**	**06.5 +6.9**
IZEF	**Zefreh**	**5.44**	**333**	*e*Pn	**Pn**	**02**	**03**	**02.9 -0.3**
IZEF				*e*AMB	AMB	02 03 39.4		
	comp=Z,442nm,0.4s							
IZEF	**Zefreh**	**5.44**	**333**	Pn	**Pn**	**02**	**03**	**02.8 -0.4**
IZEF	**Zefreh**	**5.44**	**333**	Pn	**Pn**	**02**	**03**	**02.8 -0.4**
IKOO	**Kooshah**	**5.46**	**36**	*e*Pn	**Pn**	**02**	**03**	**03.5 0.0**
IKOO				*e*AMB	AMB	02 04 31.4		
	comp=Z,1μm,0.3s							
IKOO	**Kooshah**	**5.46**	**36**	Pn	**Pn**	**02**	**03**	**03.4 0.0**
IKOO	**Kooshah**	**5.46**	**36**	Pn	**Pn**	**02**	**03**	**03.4 0.0**
BSY	**Bisya**	**5.57**	**161**	P	Pn	02 03 09.9	+5.1	
BSYO	**Bisya**	**5.60**	**161**	P	**Pn**	**02**	**03**	**09.9 +4.8**
BOQSS		**5.65**	**249**	P	Pn	02 03 11.4	+5.6	
BOQSS				S	**Sn**	**02**	**04**	**16.8 +6.8**
WSAR	**Wadi Sarin**	**5.69**	**146**	P	**Pn**	**02**	**03**	**09.6 +3.2**
	comp=Z,9.0nm,0.3s,baz=330,slow=7.4,SNR=168							
WSAR				S	**Sn**	**02**	**04**	**12.5 +1.4**
	comp=Z,6.8nm,0.3s,baz=196,slow=15,SNR=7.9							
WSAR				LR	LR	02 06 15.7		
	comp=Z,134nm,18.2s,baz=342,slow=46							
WSAR	**Wadi Sarin**	**5.69**	**146**	P	**Pn**	**02**	**03**	**09.2 +2.8**
	SNR=73							
WSAR				S	**Sn**	**02**	**04**	**12.7 +1.7**
WSAR	**Wadi Sarin**	**5.69**	**146**	P	**Pn**	**02**	**03**	**09.2 +2.8**
	SNR=73							
ITEG	**Tejag**	**5.71**	**31**	*e*Pn	**Pn**	**02**	**03**	**06.8 -0.1**
ITEG				*e*AMB	AMB	02 05 03.8		
	comp=Z,753nm,0.4s							
ITEG	**Tejag**	**5.71**	**31**	Pn	**Pn**	**02**	**03**	**06.8 -0.1**
ITEG	**Tejag**	**5.71**	**31**	*e*Pn	**Pn**	**02**	**03**	**06.8 -0.1**
TABS	**Tabas**	**5.82**	**16**	*e*Pn	**Pn**	**02**	**03**	**09.2 +0.9**
TABS				*e*Sg	**Sb**	**02**	**04**	**37.4 +4.0**
TABS	**Tabas**	**5.82**	**16**	*e*Pn	**Pn**	**02**	**03**	**09.2 +0.9**
TABS				*e*Sg	**Sb**	**02**	**04**	**37.4 +4.0**
IPIR	**Pirpir**	**5.95**	**322**	*e*Pn	**Pn**	**02**	**03**	**11.3 +1.0**
IPIR				*e*AMB	AMB	02 03 47.9		
	comp=Z,640nm,0.4s							
IPIR	**Pirpir**	**5.95**	**322**	Pn	**Pn**	**02**	**03**	**11.2 +1.0**
IPIR	**Pirpir**	**5.95**	**322**	Pn	**Pn**	**02**	**03**	**11.2 +1.0**
IKLH	**Kolahrood**	**6.12**	**330**	*e*Pn	**Pn**	**02**	**03**	**13.7 +1.1**
IKLH				*e*AMB	AMB	02 04 12.6		
	comp=Z,443nm,0.3s							
IKLH	**Kolahrood**	**6.12**	**330**	Pn	**Pn**	**02**	**03**	**13.6 +1.0**
IKLH	**Kolahrood**	**6.12**	**330**	Pn	**Pn**	**02**	**03**	**13.6 +1.0**
WBK	**Wadi Bani Khal**	**6.38**	**147**	P	**Pn**	**02**	**03**	**19.4 +3.4**
WBK				S	**Sn**	**02**	**04**	**30.0 +1.7**
WBK	**Wadi Bani Khal**	**6.38**	**147**	P	**Pn**	**02**	**03**	**19.4 +3.4**
WBK				S	**Sn**	**02**	**04**	**30.0 +1.7**
RAYN	**Ar Rayn**	**9.85**	**245**	*e*Pn	**Pn**	**02**	**04**	**04.9 +1.4**
RAYN				*e*Sn	**Sn**	**02**	**05**	**51.5 -1.9**

comp=Z,27nm,1.9s
TIRR Tirgusor 26.95 315 *e*P P 02 07 20.8 -2.2
comp=Z,26nm,1.9s
HMDM Hanimaadhoo 27.15 138 *e*P P 02 07 21.9 -3.0
comp=Z,3.3nm,0.7s
BVAR Borovoye Array 27.37 20 P P 02 07 25.2 -1.5
comp=Z,1.2nm,0.6s,baz=213,slow=6.5,SNR=9.3
MAKZ Makanchi 28.11 41 *e*P P 02 07 32.9 -0.5
comp=Z,2.5nm,0.8s
MAKZ Makanchi 28.11 41 *e*P P 02 07 32.9 -0.5
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 28.11 41 *e*P P 02 07 32.9 -0.5
comp=Z,2.5nm,0.8s
MK01 Makanchi Array 28.28 41 *e*P P 02 07 33.8 -1.1
MK01 Makanchi Array 28.28 41 *e*P P 02 07 33.8 -1.1
MK31 Makanchi Array 28.29 41 *e*P P 02 07 33.9 -1.0
MK31 Makanchi Array 28.29 41 *e*P P 02 07 33.9 -1.0
MK31 Makanchi Array 28.29 41 *e*P P 02 07 33.9 -1.0
MK32 Makanchi Array 28.29 41 *e*P P 02 07 33.8 -1.2
MK32 Makanchi Array 28.29 41 *e*P P 02 07 33.8 -1.2
MKAR Makanchi Array 28.29 41 P P 02 07 33.8 -1.2
comp=Z,0.9nm,0.8s,baz=223,slow=7.9,SNR=8.4
MKAR Makanchi Array 28.29 41 *e*P P 02 07 33.9 -1.0
comp=Z,8.9nm,0.6s
MKAR Makanchi Array 28.29 41 *e*P P 02 07 33.9 -1.0
comp=Z,8.9nm,0.6s
KURBB Kurchatov Arra 28.65 32 P P 02 07 36.5 -1.6
comp=Z,0.5nm,0.7s,baz=230,slow=9.0,SNR=7.4
PLOR Plostina 28.71 316 ⇑*i*P P 02 07 40.1 +1.3
PLOR Plostina 28.71 316 P P 02 07 40.1 +1.3
PLOR Plostina 28.71 316 P P 02 07 40.1 +1.3
KURK Kurchatov 28.75 32 *e*P P 02 07 36.5 -2.5
KURK Kurchatov 28.75 32 P P 02 07 36.5 -2.5
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 28.75 32 P P 02 07 36.5 -2.5
comp=Z,1.0nm,0.7s
SORM Soroca 28.91 321 ⇑*i*P P 02 07 39.3 -1.1
SORM Soroca 28.91 321 P P 02 07 39.3 -1.1
SORM Soroca 28.91 321 P P 02 07 39.3 -1.1
MLR Muntele Rosu 28.98 315 ⇑*i*P P 02 07 42.5 +1.2
MLR Muntele Rosu 28.98 315 *e*P P 02 07 39.8 -1.5
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 28.98 315 *e*P P 02 07 39.8 -1.5
MLR pmax pmax
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 28.98 315 *e*P P 02 07 39.8 -1.5
comp=Z,5.0nm,0.9s
TESR Tescani 29.03 317 ⇓*i*P P 02 07 41.3 -0.3
VOIR 29.53 314 ⇓*i*P P 02 07 46.7 +0.7
VOIR 29.53 314 P P 02 07 46.7 +0.7
VOIR 29.53 314 P P 02 07 46.7 +0.7
DOPR Dopca 29.55 315 ⇓*i*P P 02 07 45.4 -0.8
AKASG Malin Array Be 29.99 326 P P 02 07 49.0 -0.9
comp=Z,1.9nm,0.5s,baz=133,slow=8.7,SNR=18
AKBB Malin Array Si 29.99 326 *e*P P 02 07 49.0 -0.9
AKBB Malin Array Si 29.99 326 *e*P P 02 07 49.0 -0.9
KIEV Kiev 29.99 326 *e*P P 02 07 49.2 -0.7
comp=Z,6.9nm,0.7s
KIEV Kiev 29.99 326 ⇓*i*P P 02 07 49.0 -0.9
KIEV pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 29.99 326 *e*P P 02 07 49.2 -0.7
comp=Z,6.9nm,0.7s
OBN Obninsk 30.24 339 *e*P P 02 07 50.8 -1.2
comp=Z,56nm,2.0s
OBN Obninsk 30.24 339 ⇓*e*P P 02 07 53.6 +1.5
OBN *e**PP **sP** 02 08 01.2 -0.3
OBN S **S** 02 12 43.0 -7.3
OBN pmax pmax
comp=Z,4.0nm,0.6s
OBN MLR MLR
comp=Z,216nm,10.0s
WMQ Urumqi 30.41 50 P P 02 07 53.3 -0.6
WMQ pP sP 02 08 06.7 +3.5
WMQ sP pP 02 08 12.0 +11
BURAR Bucovina Array 30.43 318 ⇑*i*P P 02 07 53.0 -1.0
BURAR Bucovina Array 30.43 318 P P 02 07 53.0 -1.0
BUR04 Bucovina Ar. S 30.43 318 *e*P P 02 07 54.1 +0.1
BUR04 Bucovina Ar. S 30.43 318 *e*P P 02 07 54.2 +0.1
BUR08 Bucovina Ar. S 30.45 318 *e*P P 02 07 53.4 -0.9
BUR08 Bucovina Ar. S 30.45 318 *e*P P 02 07 53.4 -0.9
FNA Florina 30.48 304 P P 02 07 55.6 +1.0
FNA pmax pmax
comp=Z,26nm,1.8s
FNA Florina 30.48 304 P P 02 07 55.6 +1.0
comp=Z,26nm,1.8s
DRGR 31.57 315 ⇑*i*P P 02 08 04.7 +0.6
DRGR 31.57 315 P P 02 08 04.7 +0.6
DRGR 31.57 315 ⇑*i*P P 02 08 04.7 +0.6
BZS Buzias 31.81 313 ⇓*i*P P 02 08 02.2 -3.9
BZS Buzias 31.81 313 P P 02 08 02.2 -3.9
DGZ Jazzator, Alta 32.73 40 ⇑*i*P P 02 08 13.6 -0.7
DGZ pmax pmax
comp=Z,1.0nm,0.6s
ZAA0 Zalesovo Array 33.74 32 *e*P P 02 08 21.2 -1.7
comp=Z,2.7nm,0.6s
ZALV Zalesovo Beam 33.74 32 P P 02 08 21.2 -1.7
comp=Z,1.9nm,0.5s,baz=245,slow=9.5,SNR=14
ZALV Zalesovo Beam 33.74 32 *e*P P 02 08 20.8 -2.1
ZALV Zalesovo Beam 33.74 32 *e*P P 02 08 20.8 -2.1
ZAA1 Zalesovo Array 33.75 32 *e*P P 02 08 21.2 -1.7
ZAA1 Zalesovo Array 33.75 32 *e*P P 02 08 21.2 -1.7
KLMR Klimovskoe 34.48 346 *e*P P 02 08 36.7 +7.6
KLMR pmax pmax
comp=Z,15nm,1.5s
KLMR Klimovskoe 34.48 346 *e*P P 02 08 36.8 +7.7
KLMR AMP 02 08 44.0
comp=Z,15nm,1.5s
VYHS Vyhne 34.66 316 *e*P P 02 08 27.4 -3.5
VYHS *e* 02 08 31.3
MOA Molln 37.32 313 P P 02 08 53.6 -0.1
comp=Z,2.5nm,0.6s
MOA Molln 37.32 313 *e*P P 02 08 53.6 -0.1
comp=Z,2.5nm,0.6s
KBA Koelnbreinsper 37.70 312 P P 02 08 56.0 -1.2
comp=Z,0.1nm,0.3s
KBA Koelnbreinsper 37.70 312 *e*P P 02 08 56.0 -1.2
comp=Z,0.1nm,0.3s
GEA0 GERESS Array S 37.97 315 *e*P P 02 08 58.6 -0.7
GEC2 GERESS Array S 37.97 315 *e*P P 02 08 59.0 -0.4
comp=Z,9.9nm,1.7s
GEC2 GERESS Array S 37.97 315 *e*P P 02 08 59.0 -0.4
GEC2 pmax pmax
comp=Z,10.0nm,1.7s
GEC2 GERESS Array S 37.97 315 *e*P P 02 08 59.0 -0.4
comp=Z,9.9nm,1.7s
GERES GERESS Array B 37.97 315 P P 02 08 58.9 -0.5
comp=Z,0.9nm,0.4s,baz=112,slow=7.9,SNR=14
KHC Kasperske Hory 38.14 315 *e*P P 02 09 00.0 -0.7
KHC Kasperske Hory 38.14 315 *e*P P 02 08 59.3 -1.4
comp=Z,10nm,1.8s
KHC Kasperske Hory 38.14 315 *e*P P 02 09 00.0 -0.7
KHC Kasperske Hory 38.14 315 *e*P P 02 08 59.3 -1.4
comp=Z,10nm,1.8s
ABTA Abfaltersbach 38.17 311 P P 02 09 00.7 -0.3
comp=Z,1.0nm,0.5s
ABTA Abfaltersbach 38.17 311 *e*P P 02 09 00.7 -0.3
comp=Z,1.0nm,0.5s
GTA Gaotai 38.43 61 *e*P P 02 09 05.3 +1.9
GTA pP sP 02 09 14.3 +1.5
GTA sP pP 02 09 18.3 +8.2
FIA0 FINESS Array S 38.64 338 *e*P P 02 09 03.8 -0.8
FIA0 FINESS Array S 38.64 338 *e*P P 02 09 03.8 -0.8
FIA1 FINESS Array S 38.64 338 *e*P P 02 09 03.8 -0.8
FINES FINESS Array B 38.64 338 P P 02 09 03.8 -0.8
comp=Z,1.9nm,0.4s,baz=139,slow=9.9,SNR=19
WTTA Wattenberg 38.88 312 P P 02 09 05.3 -1.8
comp=Z,4.6nm,1.0s
WTTA Wattenberg 38.88 312 *e*P P 02 09 05.3 -1.8
comp=Z,4.6nm,1.0s
WATA Walderalm 38.93 312 *i*P P 02 09 06.2 -1.3
comp=Z,1.8nm,0.4s
VLC Villacollemand 39.12 306 *e*P P 02 09 09.8 +0.8
comp=Z,36nm,1.7s
VLC Villacollemand 39.12 306 *e*P P 02 09 09.8 +0.8
comp=Z,36nm,1.7s
MOTA Moosalm 39.25 312 P P 02 09 09.1 -1.1
comp=Z,1.8nm,0.4s
MOTA Moosalm 39.25 312 *e*P P 02 09 09.1 -1.1
comp=Z,1.8nm,0.4s
FETA Feichten 39.42 311 P P 02 09 10.8 -0.8
comp=Z,1.7nm,0.4s
FETA Feichten 39.42 311 *i*P P 02 09 10.8 -0.8
comp=Z,1.7nm,0.4s
RETA Reutte 39.51 312 P P 02 09 11.0 -1.2
comp=Z,1.4nm,0.5s
RETA Reutte 39.51 312 *i*P P 02 09 11.0 -1.2
comp=Z,1.4nm,0.5s
FUORN Ofenpass-Fuorn 39.65 310 *e*P P 02 09 12.4 -1.2
comp=Z,23nm,1.8s
DAVA Damuels 40.05 311 P P 02 09 16.0 -0.8
comp=Z,6.3nm,0.4s
DAVA Damuels 40.05 311 *i*P P 02 09 16.0 -0.8
comp=Z,6.3nm,0.4s
SENIN Lac Senin/Sane 41.62 309 *e*P P 02 09 29.0 -0.9
comp=Z,18nm,1.5s
HFS Hagfors 42.60 331 P P 02 09 36.8 -0.6
comp=Z,6.3nm,0.5s,baz=128,slow=9.3,SNR=48
NC602 NORSAR Array S 43.83 331 *e*P P 02 09 46.2 -1.1
NC605 NORSAR Array S 43.90 331 *e*P P 02 09 46.2 -1.7
NC405 NORSAR Array S 43.93 331 *e*P P 02 09 46.2 -2.0
NB201 NORSAR Array S 44.08 331 *e*P P 02 09 47.1 -2.3
NB2 NORSAR Subarra 44.11 331 P P 02 09 48.0 -1.6
comp=Z,0.9nm,0.6s,baz=118,slow=8.6
NB2 NORSAR Subarra 44.11 331 P P 02 09 48.1 -1.6
NB2 pmax pmax
comp=Z,3.0nm,0.8s
NB200 NORSAR Array S 44.11 331 *e*P P 02 09 48.4 -1.2
NOA NORSAR Array B 44.11 331 P P 02 09 48.4 -1.2
comp=Z,3.8nm,0.7s,baz=119,slow=8.1,SNR=11
NAO01 NORSAR Array S 44.16 331 *e*P P 02 09 49.1 -0.9
NBO02 NORSAR Array S 44.27 331 *e*P P 02 09 48.7 -2.2
NBO00 NORSAR Array S 44.30 331 *e*P P 02 09 50.0 -1.0
NC204 NORSAR Array S 44.42 331 *e*P P 02 09 50.1 -2.0
TAM Tamanrasset 44.95 275 *e*P P 02 09 55.5 -1.4
comp=Z,13nm,1.9s
TAM Tamanrasset 44.95 275 *e*P P 02 09 55.6 -1.4
TAM pmax pmax
comp=Z,13nm,1.9s
HHC Hu-ho-hao-te 47.44 59 *e*P P 02 10 15.1 -1.2
CART Cartagena 47.59 297 *e*P P 02 10 15.7 -1.6
comp=Z,31nm,1.1s
CART Cartagena 47.59 297 *e*P P 02 10 15.7 -1.6
comp=Z,31nm,1.1s
PSI Prapat 48.63 113 *e*P P 02 10 24.6 -1.2
comp=Z,30nm,1.7s
PSI Prapat 48.63 113 *e*P P 02 10 24.6 -1.2
PSI pmax pmax
comp=Z,30nm,1.7s
EKA Eskdalemuir Ar 49.56 320 P P 02 10 31.3 -1.0
comp=Z,0.4nm,0.3s,baz=95,slow=7.8,SNR=4.1
ESDC Sonseca Array 49.70 300 P P 02 10 33.1 -0.6
comp=Z,0.2nm,0.4s,baz=76,slow=7.0,SNR=5.5
TOA0 Torodi Ar. Sit 51.86 265 *e*P P 02 10 51.6 +1.4
comp=Z,3.7nm,0.8s
TORD Torodi Ar. Bea 51.86 265 P P 02 10 51.3 +1.1
comp=Z,2.5nm,0.6s,baz=61,slow=7.6,SNR=68
TOA1 Torodi Ar. Sit 51.86 265 *e*P P 02 10 51.3 +1.1
SPA0 Spitsbergen Ar 53.16 351 *e*P P 02 10 58.9 -0.1
SPITS Spitsbergen Ar 53.16 351 P P 02 10 58.9 -0.1
comp=Z,2.5nm,0.6s,baz=153,slow=9.7,SNR=3.3
SPITS Spitsbergen Ar 53.16 351 P P 02 10 58.9 -0.1
SPITS pmax pmax
comp=Z,2.0nm,0.6s
MATP Matopo 54.68 211 P P 02 11 13.6 +2.8
comp=Z,1.5nm,0.8s,baz=0,slow=5.1,SNR=4.4
KOWA Kowa 56.34 269 P P 02 11 24.2 +1.3
comp=Z,1.6nm,0.6s,baz=91,slow=4.2,SNR=10
DBIC Dimbokro 60.53 261 P P 02 11 54.2 +2.1
comp=Z,3.3nm,1.0s,baz=51,slow=6.5,SNR=4.6
DBIC Dimbokro 60.53 261 *e*P P 02 11 54.2 +2.1
comp=Z,40nm,1.9s
DBIC Dimbokro 60.53 261 P P 02 11 54.3 +2.1
DBIC pmax pmax
comp=Z,1.0nm,0.4s
BOSA Boshof 63.23 209 P P 02 12 12.7 +2.6
comp=Z,1.0nm,0.5s,baz=41,slow=2.5,SNR=4.1
SEY Seymchan 68.56 29 ⇑*e*P P 02 12 43.5 -0.4
RES Resolute Bay 75.69 352 LR LR 02 51 09.9
comp=Z,148nm,18.3s,baz=78,slow=39
SCHQ Schefferville 83.68 330 P P 02 14 09.1 -0.9
comp=Z,2.9nm,1.0s,baz=30,slow=14,SNR=2.8
SCHQ Schefferville 83.68 330 *e*P P 02 14 09.1 -0.9
comp=Z,39nm,1.9s
ILAR Eielson Array 85.89 9 P P 02 14 20.2 -0.9
comp=Z,0.6nm,0.9s,baz=320,slow=4.6,SNR=4.1
ILB Eielson Array 85.89 9 *e*P P 02 14 20.2 -0.9
YKA Yellowknife Ar 89.41 355 P P 02 14 37.6 -0.3
comp=Z,0.3nm,0.8s,baz=4.5,slow=4.8,SNR=8.0
YKB5 Yellowknife Ar 89.41 355 *e*P P 02 14 37.6 -0.3
WR1 Warramunga Arr 90.09 113 *e*P P 02 14 40.9 -0.9
comp=Z,28nm,1.8s
WRA Warramunga Arr 90.09 113 P P 02 14 40.9 -0.9
comp=Z,0.3nm,0.9s,baz=319,slow=4.2,SNR=2.9
WRA Warramunga Arr 90.09 113 P P 02 14 40.9 -0.9
WRA pmax pmax
comp=Z,1.0nm,1.1s
AS31 Alice Springs 91.58 116 *e*P P 02 14 49.2 +0.5
comp=Z,6.3nm,1.9s
ASAR Alice Springs 91.58 116 P P 02 14 49.2 +0.5
comp=Z,0.2nm,0.3s,baz=308,slow=5.4,SNR=2.5
RPZ Rata Peaks 17.87 211 P P 02 12 33.7 +0.7
1.4nm,0.3s,baz=110,slow=2.2,SNR=7.6
PPT Papeete 26.99 71 LR LR 02 24 59.0
comp=Z,40nm,18.5s,baz=124,slow=37
STKA Stephens Creek 36.25 255 P P 02 15 26.1 -0.7
2.8nm,0.9s,baz=103,slow=12,SNR=5.1
STKA LR LR 02 28 33.8
comp=Z,39nm,18.6s,baz=205,slow=34
STKA Stephens Creek 36.25 255 *e*P P 02 15 25.0 -1.8
5.8nm,1.8s
PMG Port Moresby 39.37 292 LR LR 02 30 17.5
comp=Z,54nm,18.4s,baz=175,slow=34
COEN Coen 40.33 283 *e*P P 02 15 58.9 -2.4
12nm,1.2s
BBOO Buckleboo 40.78 252 *e*P P 02 16 03.0 -1.9
15nm,1.3s
MANU Manus Island 43.72 301 *e*P P 02 16 24.3 -4.7
AS01 Alice Springs 44.63 265 *e*P P 02 16 34.3 -2.0
AS31 Alice Springs 44.67 265 *e*P P 02 16 34.3 -2.3
3.9nm,1.6s
ASAR Alice Springs 44.67 265 P P 02 16 34.3 -2.3
1.2nm,0.7s,baz=94,slow=7.2,SNR=14
ASAR LR LR 02 33 32.5
comp=Z,74nm,19.3s,baz=202,slow=34
WB2 Warramunga Arr 45.52 270 *e*P P 02 16 40.8 -2.6
WR1 Warramunga Arr 45.53 270 *e*P P 02 16 40.7 -2.7
13nm,1.4s
WRA Warramunga Arr 45.53 270 P P 02 16 40.7 -2.7
1.1nm,0.4s,baz=110,slow=6.5,SNR=15
WAKE Wake Island 50.70 339 *e*P P 02 17 20.5 -2.6
805nm,1.8s
FITZ Fitzroy Crossi 53.85 268 P P 02 17 43.7 -3.1
1.9nm,0.9s,baz=82,slow=7.1,SNR=3.3
LDFC Landfair 85.95 46 *e*P P 02 21 05.6 +2.0
NV01 Mina Array Sit 86.19 42 *e*P P 02 21 06.9 +2.0
NVAR Mina Array Bea 86.19 42 P P 02 21 06.9 +2.0
0.2nm,0.3s,baz=218,slow=5.7,SNR=3.2
YKA Yellowknife Ar 103.52 25 PP PP 02 26 39.7 -0.5
0.1nm,0.3s,baz=231,slow=5.3,SNR=3.6
ZALV Zalesovo Beam 117.93 319 PKP **PKPdf** 02 27 09.0 -0.3
0.5nm,0.3s,baz=96,slow=1.4,SNR=2.8
ZAA1 Zalesovo Array 117.93 319 *e*PKPdf **PKPdf** 02 27 09.0 -0.3
MK32 Makanchi Array 117.96 310 *e*PKPdf **PKPdf** 02 27 08.7 -1.0
MKAR Makanchi Array 117.96 310 PKP **PKPdf** 02 27 08.7 -1.0
0.8nm,0.7s,baz=104,slow=0.4,SNR=8.1
KURK Kurchatov 121.10 314 *e*PKPdf **PKPdf** 02 27 14.5 -1.0
KURBB Kurchatov Arra 121.15 314 PKP **PKPdf** 02 27 14.5 -1.1
0.9nm,0.6s,baz=92,slow=1.8,SNR=8.4
KKAR Karatay Array 125.48 304 *e*PKPdf **PKPdf** 02 27 24.3 +0.1
BVAR Borovoye Array 126.38 316 PKP **PKPdf** 02 27 25.6 0.0
1.0nm,0.5s,baz=138,slow=0.5,SNR=9.5
AKTO Aktyubinsk 134.19 314 PKP **PKPdf** 02 27 40.0 -0.5
1.0nm,0.6s,baz=104,slow=4.4,SNR=6.2
FIA0 FINESS Array S 144.27 342 *e*PKPdf **PKPab** 02 27 55.4 -1.1
FIA0 *e* 02 27 59.5
FINES FINESS Array B 144.27 342 PKhKP PKPpre 02 27 55.4
2.3nm,0.8s,baz=343,slow=6.0,SNR=12
FINES PKP **PKPdf** 02 27 59.5 +1.0
1.6nm,0.8s,baz=46,slow=5.5,SNR=4.6
KBZ Khabaz 145.49 306 PKP **PKPdf** 02 28 00.6 -0.5
1.5nm,1.1s,baz=70,slow=12,SNR=2.7
NB2 NORSAR Subarra 147.52 353 PKP **PKPdf** 02 28 05.8 +1.7
comp=Z,1.8nm,0.6s,baz=11,slow=2.9
NB200 NORSAR Array S 147.52 353 *e*PKPbc **PKPdf** 02 28 06.1 +2.0
NOA NORSAR Array B 147.52 353 PKPbc **PKPdf** 02 28 06.1 +2.0
comp=Z,2.1nm,0.6s,baz=14,slow=4.5,SNR=5.0
HFS Hagfors 148.10 351 PKPbc **PKPdf** 02 28 07.4 +2.4
comp=Z,4.3nm,0.6s,baz=66,slow=3.5,SNR=13
AKASG Malin Array Be 150.39 326 PKPbc **PKPbc** 02 28 14.9 -0.7
comp=Z,3.9nm,0.6s,baz=43,slow=3.2,SNR=18
AK11 Malin Array Si 151.03 326 *e*PKPbc **PKPbc** 02 28 15.0 -0.8
MMAI Mount Meron Ar 152.56 287 PKPbc **PKPbc** 02 28 21.0 +1.0
comp=Z,3.8nm,0.9s,baz=79,slow=9.0,SNR=6.4
BR101 Keskin Array S 153.15 302 *e*PKPbc **PKPbc** 02 28 20.8 -0.4
BR101 *e*PKPab **sPKPdf** 02 28 30.9 +1.8
BRTR Keskin Array B 153.15 301 PKPbc **PKPbc** 02 28 20.8 -0.4
comp=Z,0.7nm,0.5s,baz=152,slow=5.3,SNR=8.7
BRTR PKPab **sPKPdf** 02 28 30.9 +1.8
comp=Z,0.5nm,0.7s,baz=142,slow=6.2,SNR=3.7
BR231 Keskin MP Arra 153.76 302 *e*PKPbc **PKPbc** 02 28 21.4 -1.0
TORD Torodi Ar. Bea 164.16 173 PKPab **PKPab** 02 29 24.6 +3.9
comp=Z,0.7nm,0.9s,baz=166,slow=3.7,SNR=3.4
TOA1 Torodi Ar. Sit 164.16 173 *e*PKPab **PKPab** 02 29 24.6 +3.9

*MOS **08** 02:05:26.6± 1.2, 60.°75N×165.°67E, h20km, mb4.4/1, Error ellipse: s-maj=66.3km s-min=21.4km az=81.9*
KRSC 08 02:05:26.6±0.4**, 60.°75N×165.°67E, h20**km±9km**, ML4.3, FELT [III] at Tilichiki; [felt] at Korf, Khailino no., Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.38**	**142**	PN	Pb	02 05 35.2	+0.6
TILK				S	Sb	02 05 41.1	+1.1
TILK	**Tilichiki**	**0.38**	**142**	*i*P	Pb	02 05 35.2	+0.6
TILK				*i*S	Sb	02 05 41.1	+1.1
KMSK	**Kamenskaya**	**1.74**	**8**	PN	Pb	02 05 57.4	-0.4
KMSK				S	Sb	02 06 19.3	0.0
KMSK	**Kamenskaya**	**1.74**	**8**	*e*P	Pb	02 05 57.4	-0.4
KMSK				*e*S	Sb	02 06 19.3	0.0
OSSR	**Ossora**	**1.99**	**222**	PN	Pb	02 06 01.2	-0.9
OSSR				S	Sb	02 06 26.2	-0.3
OSSR	**Ossora**	**1.99**	**222**	*e*P	Pb	02 06 01.2	-0.9
OSSR				*e*S	Sb	02 06 26.2	-0.3
PALN	**Palana**	**3.32**	**242**	PN	Pn	02 06 20.3	+3.0
PALN				S	Sn	02 06 59.8	+3.8
PALN	**Palana**	**3.32**	**242**	*e*P	Pn	02 06 20.3	+3.0
PALN				*e*S	Sn	02 06 59.8	+3.8
KBTR	**Krutoberegovo**	**4.79**	**199**	PN	Pn	02 06 41.5	+4.0
KBTR	**Krutoberegovo**	**4.79**	**199**	*e*P	Pn	02 06 41.5	+4.0

*IDC **08** 02:08:23.2± 0.9, 28.°15S×176.°92W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/35, mbtmp4.0/5, MS3.3/5, Ms1 3.3/5, ms1mx3.0/40, Error ellipse: s-maj=39.8km s-min=18.4km az=136.0*
*NEIC **08** 02:08:30.6± 1.6, 28.°89S×176.°78W, h66km± 13km, mb4.5/8, Error ellipse: s-maj=15.9km s-min=13.5km az=144.0*
ISC 08 02:08:26.9±0.6**, 28.°96S**±0.°09×**176.°32W**±0.°09**, h35**km**, n54,** σ1**89**/55**, mb4.2**/10**, MS3.3/4, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.43**	**258**	Pn	**Pn**	**02 08 51.5**	**+1.2**
	516nm,0.3s,baz=70,slow=10.0,SNR=18						
RAO				Sn	**Sn**	**02 09 09.7**	**+1.8**
	1μm,0.3s,baz=250,slow=24,SNR=16						
RAO				LR	LR	02 09 21.8	
	comp=Z,2μm,20.3s,baz=280,slow=42						
RAO	**Raoul Island**	**1.43**	**258**	*e*Pn	**Pn**	**02 08 50.7**	**+0.3**
RAO				*e*Sn	**Sn**	**02 09 08.3**	**+0.4**
OUZ	**Omahuta**	**10.59**	**231**	Pn	**Pn**	**02 10 58.8**	**+2.7**
URZ	**Urewera**	**10.77**	**209**	Pn	**Pn**	**02 10 58.2**	**-0.3**
	0.6nm,0.3s,baz=18,slow=20,SNR=2.1						
URZ				Sn	**Sn**	**02 12 58.1**	**+0.3**
	0.5nm,0.3s,baz=328,slow=19,SNR=4.7						
BKZ	**Black Stump Fm**	**11.79**	**208**	*e*Pn	**Pn**	**02 11 11.6**	**-1.1**
BKZ				*e*Sn	Sn	02 13 14.5	-8.5
BFZ	**Birch Farm**	**13.19**	**206**	*e*Pn	**Pn**	**02 11 29.1**	**-2.5**
THZ	**Tophouse**	**15.49**	**212**	*e*Pn	**Pn**	**02 12 01.9**	**-0.9**
	159nm,1.7s						
KHZ	**Kahutara**	**15.74**	**209**	*e*Pn	**Pn**	**02 12 04.7**	**-1.1**
	125nm,1.7s						
DZM	**Mont Dzumac**	**16.99**	**290**	Pn	**P**	**02 12 27.1**	**+3.4**
	0.7nm,0.3s,baz=103,slow=10,SNR=8.0						
DZM				LR	LR	02 17 02.6	
	comp=Z,94nm,18.5s,baz=180,slow=32						
DZM	**Mont Dzumac**	**16.99**	**290**	*e*Pn	**P**	**02 12 26.9**	**+3.3**
	22nm,1.2s						

*ISCJB **08** 02:19:01.0± 0.4, 6.°11S×0.°04×130.°92E±0.°06, h100km, mb3.9/9, Error ellipse: s-maj=8.2km s-min=5.0km az=0.8*
*DJA **08** 02:19:04.5± 0.4, 6.°3S×2.°3×13.°1E±*, h124km±8km, M4.5/10, mb4.3/4, mB5.2/3, MLv4.5/10, Mw(mB)4.6/3*
*IDC **08** 02:19:05.3± 4.4, 6.°08S×130.°76E, h118km±42km, mb3.7/9, mb1 3.8/12, mb1mx3.6/52, mbtmp4.2/12, Error ellipse: s-maj=33.5km s-min=19.3km az=65.0*
ISC 08 02:19:03.1±0.6**, 6.°03S**±0.°04×**130.°90E**±0.°07**, h100**km**, n35,** σ2**38**/41**, mb3.9**/9**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.79**	**327**	P	**Pn**	**02 19 37.0**	**+3.9**
BNDI				S	Sn	**02 20 00.6**	**+4.7**
SAUI	**Saumlaki**	**1.98**	**168**	P	**Pn**	**02 19 39.8**	**+4.4**
SAUI				S	**Sn**	**02 20 03.2**	**+3.1**
MSAI	**Masohi**	**3.31**	**324**	P	**Pn**	**02 19 56.0**	**+3.0**
MSAI				S	**Sn**	**02 20 33.1**	**+1.5**
FAKI	**Fak Fak**	**3.38**	**24**	P	**Pn**	**02 19 54.7**	**+0.8**
FAKI				S	**Sn**	**02 20 33.6**	**+0.5**
AAI	**Ambon**	**3.56**	**311**	P	**Pn**	**02 19 58.8**	**+2.4**
KMPI	**Kaimana, Papua**	**3.66**	**50**	P	Sn	02 20 36.2	-3.8
NLAI	**Namlea**	**4.69**	**306**	P	**Pn**	**02 20 14.8**	**+3.1**
SWI	**Sorong**	**5.15**	**4**	P	**Pn**	**02 20 19.0**	**+1.1**
SWI				S	**Sn**	**02 21 14.0**	**-2.1**
SANI	**Sanana**	**6.29**	**309**	P	**Pn**	**02 20 33.1**	**-0.3**
LBMI	**Labuha**	**6.34**	**328**	P	**Pn**	**02 20 35.5**	**+1.4**
LBMI				S	**Sn**	**02 21 42.6**	**-2.5**
SOEI	**Soe**	**7.53**	**240**	P	**Pn**	**02 20 54.6**	**+4.2**
BATI	**Baumata**	**8.27**	**239**	P	**Pn**	**02 21 02.0**	**+1.6**
	8.4nm,0.3s,baz=91,slow=4.8,SNR=4.8						
BATI				S	**Sn**	**02 22 31.1**	**-1.1**
	4.2nm,0.3s,baz=28,slow=17,SNR=3.2						
FITZ	**Fitzroy Crossi**	**13.04**	**203**	P	**Pn**	**02 22 03.1**	**-1.5**
	0.8nm,0.3s,baz=33,slow=9.9,SNR=2.9						
WRA	**Warramunga Arr**	**14.23**	**167**	P	Pn	02 22 16.4	-3.6
	0.4nm,0.3s,baz=340,slow=13,SNR=23						
WRA				S	Sn	02 24 47.2	-10
	3.3nm,0.3s,baz=355,slow=23,SNR=8.3						
ASAR	**Alice Springs**	**17.77**	**171**	P	**P**	**02 23 03.9**	**+0.3**
	0.5nm,0.3s,baz=353,slow=9.6,SNR=32						
ASAR				S	**Sn**	**02 26 13.5**	**-8.9**
	0.7nm,0.3s,baz=355,slow=27,SNR=5.7						
STKA	**Stephens Creek**	**27.59**	**160**	P	**P**	**02 24 41.9**	**+0.9**
	1.1nm,0.3s,baz=345,slow=7.0,SNR=7.3						
KSRS	**Korea Array**	**43.35**	**357**	P	**P**	**02 26 56.5**	**+1.1**
	0.6nm,0.4s,baz=168,slow=7.6,SNR=2.0						
USRK	**Ussuriysk Ar.**	**50.01**	**1**	P	**P**	**02 27 47.3**	**+0.1**
	1.2nm,0.5s,baz=167,slow=7.2,SNR=3.0						
ODAN	**Odare**	**53.31**	**310**	*e*P	**P**	**02 28 12.0**	**-0.5**
	11nm,0.7s						
TAPN	**Taplejung**	**53.32**	**311**	*e*P	**P**	**02 28 12.2**	**-0.4**
	11nm,0.5s						
RAMN	**Ramite**	**53.96**	**310**	*e*P	**P**	**02 28 17.2**	**0.0**
	28nm,0.6s						
JIRN	**Jiri**	**54.64**	**310**	*e*P	**P**	**02 28 21.9**	**-0.4**
	7.2nm,0.3s						
GUN	**Gumba**	**55.00**	**310**	*e*P	**P**	**02 28 24.4**	**-0.5**
	21nm,0.5s						
PKI	**Pulchoki**	**55.19**	**310**	*e*P	**P**	**02 28 25.4**	**-0.8**
	7.8nm,0.5s						
PKIN	**Phulchoki**	**55.20**	**310**	*e*P	**P**	**02 28 26.4**	**+0.2**
	9.1nm,0.6s						
DMN	**Daman**	**55.44**	**309**	*e*P	**P**	**02 28 27.5**	**-0.4**
	7.1nm,0.4s						
KOLN	**Koldanda**	**56.68**	**309**	*e*P	**P**	**02 28 36.4**	**-0.3**
	11nm,0.6s						
PYUN	**Piuthan**	**57.31**	**309**	*e*P	**P**	**02 28 41.0**	**-0.1**
SONM	**Songino Array**	**57.82**	**341**	P	**P**	**02 28 45.0**	**+0.7**
	0.6nm,0.5s,baz=161,slow=5.8,SNR=6.5						
MKAR	**Makanchi Array**	**67.92**	**326**	P	**P**	**02 29 51.4**

TORD	**Torodi Ar. Bea**	**129.49**	**282**	PKP		**PKPdf**	**02 38 01.1**	**-0.1**
	0.1nm,0.3s,baz=100,slow=4.1,SNR=1.5							

*ISCJB **08** 02:22:33.9±0.6, 42.°28N±0.°03×19.°44E±0.°04, h20km±4km, Error ellipse: s-maj=5.4km s-min=4.0km az=149.5*
*CSEM **08** 02:22:33.9±0.3, 42.°32N×19.°42E, h20km, ML1.6, Error ellipse: s-maj=6.1km s-min=4.2km az=144.0*
*PDG **08** 02:22:33.7±0.1, 42.°35N×19.°40E, h24km, ML1.6/9, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
*BEO **08** 02:22:33.3±1.0, 42.°26N×19.°46E, h9km±3km, M1.8/4*
*TIR **08** 02:22:34.3, 42.°34N×19.°42E, h7km, ML2.5*

ISC 08 02:22:33.5±1.0, 42.°29N±0.°03×19.°45E±0.°02, h20km±1km, n40, σ0°991/76, 11C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
PDG	**Podgorica**	**0.20**	**315**	*e*Pg		**Pb**	**02 22 38.3**	**-0.8**
PDG				*e*Sg		**Sb**	**02 22 42.0**	**-1.1**
PDG	**Podgorica**	**0.20**	**315**	⇑*i*Pg		**Pb**	**02 22 38.4**	**-0.7**
PDG				*e*Sg		**Sb**	**02 22 41.9**	**-1.1**
TTG	**Podgorica**	**0.20**	**315**	⇑*i*Pg		**Pb**	**02 22 38.4**	**-0.7**
TTG				*e*Sg		**Sb**	**02 22 42.2**	**-0.8**
DRME	**Dracevica, Mon**	**0.22**	**243**	⇑*i*Pg		**Pb**	**02 22 39.5**	**+0.3**
DRME				*e*Sg		**Sb**	**02 22 44.4**	**+1.2**
DRME	**Dracevica, Mon**	**0.22**	**243**	⇑*i*Pg		**Pb**	**02 22 39.5**	**+0.3**
DRME				*e*Sg		**Sb**	**02 22 44.4**	**+1.2**
ULC	**Ulcinj**	**0.36**	**205**	⇓*i*Pg		**Pb**	**02 22 42.1**	**+1.1**
ULC				*e*Sg		**Sn**	**02 22 49.2**	**-0.8**
ULC	**Ulcinj**	**0.36**	**205**	⇓*i*Pg		**Pb**	**02 22 42.1**	**+1.1**
ULC				*e*Sg		**Sn**	**02 22 49.2**	**-0.8**
BUM	**Brajici-Budva**	**0.41**	**272**	*e*Pg		**Pb**	**02 22 41.8**	**-0.2**
BUM				*e*Sg		**Sb**	**02 22 48.4**	**+0.6**
BUM	**Brajici-Budva**	**0.41**	**272**	*e*Pg		**Pb**	**02 22 41.8**	**-0.2**
BUM				*e*Sg		**Sb**	**02 22 48.4**	**+0.6**
CEME	**Cevo**	**0.47**	**303**	⇓*i*Pg		**Pb**	**02 22 42.2**	**-0.8**
CEME				*e*Sg		**Sb**	**02 22 49.5**	**-0.1**
CEME	**Cevo**	**0.47**	**303**	⇓*i*Pg		**Pb**	**02 22 42.2**	**-0.8**
CEME				*e*Sg		**Sb**	**02 22 49.5**	**-0.1**
PVY	**Plav**	**0.49**	**51**	⇓*i*Pg		**Pb**	**02 22 43.5**	**+0.1**
PVY				*e*Sg		**Sb**	**02 22 51.6**	**+1.5**
PVY	**Plav**	**0.49**	**51**	⇓*i*Pg		**Pb**	**02 22 43.5**	**+0.1**
PVY				*e*Sg		**Sb**	**02 22 51.6**	**+1.5**
KOME	**Kolasin**	**0.56**	**5**	*e*Pg		**Pb**	**02 22 44.0**	**-0.8**
KOME				*e*Sg		**Sb**	**02 22 52.3**	**-0.2**
KOME	**Kolasin**	**0.56**	**5**	*e*Pg		**Pb**	**02 22 44.0**	**-0.8**
KOME				*e*Sg		**Sb**	**02 22 52.3**	**-0.2**
NKME	**Niksic**	**0.60**	**323**	⇑*i*Pg		**Pb**	**02 22 44.2**	**-1.2**
NKME				*e*Sg		**Sb**	**02 22 53.2**	**-0.3**
NKME	**Niksic**	**0.60**	**323**	⇑*i*Pg		**Pb**	**02 22 44.2**	**-1.2**
NKME				*e*Sg		**Sb**	**02 22 53.2**	**-0.3**
NKY	**Niksic**	**0.62**	**327**	⇑*i*Pg		**Pb**	**02 22 44.6**	**-1.2**
NKY				*e*Sg		**Sb**	**02 22 54.0**	**-0.2**
NKY	**Niksic**	**0.62**	**327**	⇑*i*Pg		**Pb**	**02 22 44.6**	**-1.2**
NKY				*e*Sg		**Sb**	**02 22 54.0**	**-0.2**
BEY	**Berane**	**0.67**	**29**	⇑*i*Pg		**Pb**	**02 22 46.1**	**-0.4**
BEY				*e*Sg		**Sn**	**02 22 56.6**	**-1.2**
IVA	**Berane**	**0.67**	**29**	⇑*i*Pg		**Pb**	**02 22 46.1**	**-0.4**
IVA				*e*Sg		**Sn**	**02 22 56.6**	**-1.2**
HCY	**Herceg Novi**	**0.72**	**283**	⇑*i*Pg		**Pb**	**02 22 46.8**	**-0.6**
HCY				*e*Sg		**Sn**	**02 22 58.0**	**-1.0**
HCY	**Herceg Novi**	**0.72**	**283**	*e*Pg		**Pb**	**02 22 47.4**	**0.0**
HCY				*e*Sg		**Sb**	**02 22 57.7**	**+0.8**
TREB	**Trebinje**	**0.92**	**298**	*e*Pg		**Pb**	**02 22 50.8**	**+0.1**
TREB				*e*Sg		**Sn**	**02 23 04.4**	**+0.6**
PHP	**Peshkopia**	**0.95**	**129**	*i* PG		**Pb**	**02 22 49.0**	**-2.3**
PHP				*i* SG		**Pb**	**02 22 50.7**	**-0.6**
PHP	**Peshkopia** baz=129	**0.95**	**129**	*i* Pg		**Pb**	**02 22 49.0**	**-2.3**
PLE	**Pljevlja**	**1.04**	**358**	*e*Pg		**Pb**	**02 22 52.2**	**-0.7**
PLE				*e*Sg		**Sn**	**02 23 08.0**	**+1.0**
PLE	**Pljevlja**	**1.04**	**358**	*e*Pg		**Pb**	**02 22 52.2**	**-0.7**
PLE				*e*Sg		**Sn**	**02 23 08.0**	**+1.0**
SJES	**Sjenica**	**1.05**	**22**	*e*Pg		**Pb**	**02 22 52.9**	**0.0**
SJES				*e*Sg		**Sn**	**02 23 08.9**	**+1.8**
SJES	**Sjenica**	**1.05**	**22**	*e*Pg		**Pb**	**02 22 52.9**	**0.0**
SJES				*e*Sg		**Sn**	**02 23 08.9**	**+1.8**
IVAS	**Ivanjica**	**1.39**	**22**	*e*Pg		**Pn**	**02 22 57.9**	**+0.2**
IVAS				*e*Sg		**Sb**	**02 23 17.3**	**+1.3**
IVAS	**Ivanjica**	**1.39**	**22**	*e*Pg		**Pn**	**02 22 57.9**	**+0.2**
IVAS				*e*Sg		**Sb**	**02 23 17.3**	**+1.3**
STON	**Ston**	**1.42**	**295**	*e*Pn		**Pn**	**02 22 58.0**	**0.0**
STON				Sg		**Sb**	**02 23 17.2**	**+0.5**
STON	**Ston**	**1.42**	**295**	*e*Pn		**Pn**	**02 22 58.0**	**0.0**
STON				Sg		**Sb**	**02 23 17.2**	**+0.5**
SELS	**Selova**	**1.54**	**52**	*e*Pn		**Pb**	**02 23 00.8**	**-0.5**
BBLS	**Lazići**	**1.58**	**359**	*e*Pn		**Pb**	**02 22 59.2**	**+0.2**
BBLS				*e*Sn		**Sb**	**02 23 22.5**	**+1.0**
BBLS	**Lazići**	**1.58**	**359**	*e*Pg		**Pb**	**02 23 01.1**	**-0.9**
BBLS	**Lazići**	**1.58**	**359**	*e*Pn		**Pb**	**02 23 02.2**	**+0.2**
BBLS				*e*Sg		**Sb**	**02 23 21.6**	**+0.1**
BBLS				*e*Sn		**Sb**	**02 23 22.5**	**+1.0**
HAPS	**Han Pijesak,Bl**	**1.83**	**349**	*e*Sn		**Sb**	**02 23 28.1**	**-0.8**
DIVS	**Divibare**	**1.85**	**12**	*e*Sn		**Sb**	**02 23 28.3**	**-1.1**

*ISCJB **08** 02:30:35.1±0.5, 8.°26S±0.°05×76.°53W±0.°07, h150km, mb3.5/9, Error ellipse: s-maj=10.4km s-min=6.8km az=157.5*
*IDC **08** 02:30:35.7±1.1, 8.°27S×76.°53W, h139km±13km, mb3.4/9, mb1 3.6/14, mb1mx3.5/46, mbtmp3.8/14, Error ellipse: s-maj=24.1km s-min=8.6km az=62.0*

ISC 08 02:30:36.4±0.6, 8.°26S±0.°07×76.°51W±0.°10, h150km, n22, σ1°948/24, mb3.5/9, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
ATAH	**Atahualpa**	**2.18**	**301**	P		**Pn**	**02 31 12.9**	**-1.1**
	17nm,0.3s,baz=124,slow=1.8,SNR=111							
ATAH				S		**Sn**	**02 31 41.2**	**-1.7**
	36nm,0.3s,baz=40,slow=18,SNR=14							
NNA	**Nana**	**3.72**	**185**	P		**Pn**	**02 31 33.1**	**-0.1**
	22nm,0.3s,baz=11,slow=12,SNR=22							
NNA				S		**Sn**	**02 32 15.5**	**-1.7**
	58nm,0.3s,baz=129,slow=3.5,SNR=12							
OTAV	**Otavalo**	**8.66**	**347**	*e*P		**Pn**	**02 32 37.5**	**-1.6**
CMBC	**Cumbal**	**9.23**	**352**	*e*P		**Pn**	**02 32 46.8**	**+0.1**
FLOC	**Florencia**	**9.81**	**5**	*e*P		**Pn**	**02 32 49.5**	**-4.6**
LPAZ	**La Paz**	**11.43**	**135**	P		**Pn**	**02 33 15.7**	**-0.2**
	0.1nm,0.3s,baz=315,slow=5.7,SNR=1.7							
ROSC	**El Rosal**	**13.19**	**10**	P		**P**	**02 33 42.5**	**-0.5**
	0.8nm,0.3s,baz=198,slow=20,SNR=3.5							
ROSC	**El Rosal**	**13.19**	**10**	*e*P		**P**	**02 33 43.3**	**+0.3**
SDV	**Santo Domingo**	**18.01**	**19**	P		**P**	**02 34 35.5**	**-0.6**
	0.6nm,0.3s,baz=237,slow=12,SNR=2.5							
PTGA	**Pitinga**	**18.09**	**66**	P		**Pn**	**02 34 38.1**	**-0.4**
	0.2nm,0.3s,baz=238,slow=13,SNR=6.3							
TXAR	**Lajitas Array**	**45.62**	**326**	P		**P**	**02 38 43.4**	**+1.4**
	0.5nm,0.5s,baz=151,slow=8.8,SNR=5.5							
PDAR	**Pinedale Array**	**59.04**	**332**	P		**P**	**02 40 21.0**	**+0.1**
	0.4nm,0.8s,baz=124,slow=4.8,SNR=3.0							
NVAR	**Mina Array Bea**	**60.58**	**323**	P		**P**	**02 40 32.9**	**+1.4**
	0.7nm,0.8s,baz=138,slow=6.8,SNR=2.1							
ULM	**Lac du Bonnet**	**60.66**	**346**	P		**P**	**02 40 31.4**	**-0.1**
	3.7nm,0.6s,baz=163,slow=7.0,SNR=12							
DBIC	**Dimbokro**	**72.96**	**80**	P		**P**	**02 41 50.9**	**+0.8**
	1.5nm,0.6s,baz=231,slow=6.5,SNR=1.8							
KOWA	**Kowa**	**75.35**	**73**	P		**P**	**02 42 04.6**	**+0.7**
	0.8nm,0.5s,baz=284,slow=4.0,SNR=2.5							
YKA	**Yellowknife Ar**	**76.39**	**343**	P		**P**	**02 42 08.0**	**-0.9**
	0.2nm,0.4s,baz=140,slow=6.1,SNR=6.7							
TORD	**Torodi Ar. Bea**	**80.51**	**75**	P		**P**	**02 42 32.1**	**-0.3**
	0.7nm,0.7s,baz=262,slow=3.3,SNR=3.8							
ESDC	**Sonseca Array**	**82.04**	**48**	P		**P**	**02 42 42.2**	**+2.1**
	0.1nm,0.3s,baz=255,slow=4.7,SNR=2.7							
ZALV	**Zalesovo Beam**	**132.01**	**15**	PKP		**PKPdf**	**02 49 33.3**	**+1.2**
	0.4nm,0.5s,baz=264,slow=4.3,SNR=2.1							
MKAR	**Makanchi Array**	**137.53**	**22**	PKP		**PKPdf**	**02 49 43.7**	**+1.0**
	0.1nm,0.5s,baz=346,slow=3.1,SNR=1.6							
WRA	**Warramunga Arr**	**138.68**	**227**	PKP		**PKPdf**	**02 49 47.0**	**+1.4**
	0.2nm,0.5s,baz=133,slow=1.9,SNR=3.9							

*IDC **08** 02:40:55.6±1.3, 62.°47N×149.°53W, h62km±21km, mb3.5/6, mb1 3.5/9, mb1mx3.2/80, mbtmp3.6/9, MS3.2/1, Ms1 3.2/1, ms1mx2.6/44, Error ellipse: s-maj=38.6km s-min=9.2km az=112.0*
*ISCJB **08** 02:40:56.3±0.2, 62.°52N±0.°02×149.°70W±0.°05, h81km±3km, mb3.7/6, Error ellipse: s-maj=3.5km s-min=3.0km az=10.8*
*NEIC **08** 02:40:57.3±0.0, 62.°51N×149.°71W, h67km, ML3.4(AEIC), After AEIC.*

ISC 08 02:40:57.0±0.8, 62.°54N±0.°03×149.°66W±0.°03, h69km±7km, n78, σ1°939/96, mb3.7/6, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
HUR	**Hurricane**	**0.44**	**2**	P		**Pn**	**02 41 09.7**	**+0.5**
GHO	**Glory Hole Cre**	**0.85**	**156**	P		**Pn**	**02 41 13.5**	**-0.1**
GHO				S		**Sn**	**02 41 25.8**	**-0.1**
RND	**Reindeer**	**0.94**	**23**	P		**Pn**	**02 41 15.5**	**+0.7**
RND				*e*Sn		**Sn**	**02 41 28.7**	**+0.7**
TRF	**Thorofare Moun**	**0.95**	**343**	P		**Pn**	**02 41 15.9**	**+0.8**
TRF				S		**Sn**	**02 41 29.6**	**+1.2**
SML	**Sawmill**	**0.97**	**139**	S		**Sn**	**02 41 28.9**	**+0.5**
PMR	**Palmer**	**0.99**	**165**	P		**Pn**	**02 41 14.9**	**-0.3**
PMR				S		**Sn**	**02 41 28.7**	**-0.1**
SKT	**Skwentna**	**1.04**	**238**	P		**Pn**	**02 41 15.6**	**-0.4**
SKT				S		**Sn**	**02 41 29.9**	**-0.1**
KTH	**Kantishna Hill**	**1.17**	**331**	*e*Pn		**Pn**	**02 41 18.7**	**+1.1**
KTH				*e*Sn		**Sn**	**02 41 33.1**	**+0.1**
DHY	**Denali Highway**	**1.18**	**62**	P		**Pn**	**02 41 18.5**	**+0.6**
DHY				*e*Sn		**Sn**	**02 41 33.9**	**+0.4**
SUA	**Susitna One**	**1.20**	**206**	P		**Pn**	**02 41 18.0**	**-0.1**
SUA				*e*Sn		**Sn**	**02 41 34.2**	**+0.4**
PPLA	**Purkeypile**	**1.22**	**288**	P		**Pn**	**02 41 18.5**	**+0.1**
MCK	**McKinley**	**1.24**	**15**	P		**Pn**	**02 41 19.6**	**+1.1**
KNK	**Knik Glacier**	**1.27**	**153**	P		**Pn**	**02 41 19.3**	**+0.3**
SCM	**Sheep Creek Mo**	**1.31**	**122**	P		**Pn**	**02 41 19.8**	**+0.3**
SCM				*e*Sn		**Sn**	**02 41 38.5**	**+2.2**
FIB	**Fire Island**	**1.40**	**190**	P		**Pn**	**02 41 21.3**	**+0.7**
CAST	**Castle Rocks**	**1.41**	**310**	P		**Pn**	**02 41 21.1**	**+0.4**
CAST				*e*Sn		**Sn**	**02 41 38.3**	**-0.3**
RC01	**Rabbit Creek A**	**1.46**	**181**	P		**Pn**	**02 41 21.3**	**0.0**
STLK	**Strandline Lak**	**1.46**	**225**	P		**Pn**	**02 41 21.4**	**-0.1**
BPAW	**Bear Paw Mtn.**	**1.67**	**340**	P		**Pn**	**02 41 24.8**	**+0.5**
SPCP	**Crater Peak Br**	**1.74**	**224**	P		**Pn**	**02 41 25.3**	**0.0**
SPU	**Mount Spurr**	**1.77**	**221**	*e*Pn		**Pn**	**02 41 25.8**	**+0.2**
SPU				*e*Sn		**Sn**	**02 41 47.1**	**-0.2**
CKL	**Chakachamna La**	**1.85**	**224**	P		**Pn**	**02 41 27.1**	**+0.3**
SPWE	**Spurr West**	**1.87**	**228**	P		**Pn**	**02 41 27.7**	**+0.7**
PAX	**Paxson**	**1.98**	**76**	P		**Pn**	**02 41 29.8**	**+1.4**
PS10	**TAPS Pump St10**	**1.99**	**62**	P		**Pn**	**02 41 30.4**	**+1.9**
PS11	**TAPS Pump St11**	**2.01**	**102**	P		**Pn**	**02 41 30.7**	**+1.9**
KLU	**Klutina**	**2.06**	**119**	P		**Pn**	**02 41 29.8**	**+0.4**
KLU				*e*Sn		**Sn**	**02 41 55.5**	**+1.4**
GLI	**Glacier Island**	**2.07**	**143**	P		**Pn**	**02 41 29.4**	**-0.1**
GLI				*e*Sn		**Sn**	**02 41 53.8**	**-0.5**
JPK	**Jack Peak**	**2.08**	**134**	P		**Pn**	**02 41 29.7**	**-0.1**
HARP	**HAARP**	**2.10**	**92**	P		**Pn**	**02 41 31.8**	**+1.9**
HARP				*e*Sn		**Sn**	**02 41 55.8**	**+0.8**
HDA	**Harding Lake**	**2.23**	**32**	P		**Pn**	**02 41 32.8**	**+1.0**
HDA				*e*Sn		**Sn**	**02 41 58.7**	**+0.4**
CCB	**Clear Creek Bu**	**2.27**	**21**	P		**Pn**	**02 41 32.9**	**+0.7**
FID	**Port Fidalgo**	**2.35**	**138**	P		**Pn**	**02 41 33.1**	**-0.3**
PS08	**TAPS Pump Stn8**	**2.38**	**31**	P		**Pn**	**02 41 34.6**	**+0.9**
SEW	**Seward**	**2.48**	**177**	P		**Pn**	**02 41 35.0**	**+0.4**
COLA	**College**	**2.48**	**18**	P		**Pn**	**02 41 36.0**	**+1.0**
RIDG	**Independ'e Rid**	**2.50**	**59**	P		**Pn**	**02 41 37.5**	**+2.2**
MDM	**Murphy Dome**	**2.51**	**14**	P		**Pn**	**02 41 36.5**	**+1.1**
MLY	**Manley**	**2.54**	**350**	P		**Pn**	**02 41 36.7**	**+0.7**
IL1	**Eielson Array**	**2.56**	**28**	*e*Pn		**Pn**	**02 41 36.3**	**+0.2**
ILAR	**Eielson Array**	**2.56**	**28**	P		**Pn**	**02 41 36.7**	**+0.6**
	11nm,0.3s,baz=210,slow=14,SNR=530							
ILAR				S		**Sn**	**02 42 05.9**	**-0.2**
	24nm,0.3s,baz=214,slow=23,SNR=23							
ILB	**Eielson Array**	**2.56**	**28**	P		**Pn**	**02 41 37.0**	**+0.9**
ILB				*e*Sn		**Sn**	**02 42 05.9**	**-0.2**
RSO	**Redoubt South**	**2.56**	**217**	*e*Pn		**Pn**	**02 41 38.7**	**+2.3**
EYAK	**Cordova Ski Ar**	**2.74**	**135**	*e*Pn		**Pn**	**02 41 39.3**	**+0.7**
MENT	**Mentasta**	**2.77**	**79**	P		**Pn**	**02 41 40.4**	**+1.4**
DOT	**Dot Lake**	**2.78**	**64**	P		**Pn**	**02 41 40.7**	**+1.5**
BRLK	**Bradley Lake**	**2.85**	**193**	P		**Pn**	**02 41 40.1**	**0.0**
BMRM	**Bremner River**	**2.88**	**121**	P		**Pn**	**02 41 40.2**	**-0.4**
TT01	**Tatalina**	**2.95**	**280**	P		**Pn**	**02 41 41.3**	**-0.2**
HOM	**Homer**	**3.05**	**199**	*e*Sn		**Sn**	**02 42 25.7**	**+7.6**
SVW2	**Sparrevohn**	**3.16**	**245**	P		**Pn**	**02 41 44.1**	**-0.2**
RAGM	**Ragged Mountai**	**3.23**	**130**	*e*Pn		Pn	02 41 50.3	+5.0
BCA3	**Beaver Creek A**	**3.66**	**78**	P		**Pn**	**02 41 52.0**	**+0.9**
IM3	**Indian Mountai**	**3.89**	**335**	P		**Pn**	**02 41 54.9**	**+0.7**
ISLE	**Juniper Island**	**4.01**	**116**	P		**Pn**	**02 41 55.2**	**-0.8**
CDD	**Cape Douglas**	**4.12**	**210**	P		**Pn**	**02 41 58.0**	**+0.6**
FONW	**Fourpeaked Sta**	**4.27**	**211**	P		**Pn**	**02 42 00.2**	**+0.7**
PS05	**TAPS Pump Stn5**	**4.31**	**355**	P		**Pn**	**02 42 01.6**	**+1.7**
FYU	**Fort Yukon**	**4.47**	**23**	*e*Pn		**Pn**	**02 42 04.3**	**+2.2**
RKAV	**Rock Avalanche**	**4.58**	**116**	P		**Pn**	**02 42 04.6**	**+0.7**
DAWY	**Dawson**	**4.88**	**67**	P		**Pn**	**02 42 09.1**	**+1.3**
KDAK	**Kodiak Island**	**4.99**	**198**	P		**Pn**	**02 42 08.0**	**-1.3**
	0.9nm,0.3s,baz=40,slow=7.5,SNR=50							
KDAK				S		**Sn**	**02 43 03.1**	**-2.5**
	5.7nm,0.3s,baz=158,slow=21,SNR=15							
BM3	**Burnt Mountain**	**5.34**	**21**	P		**Pn**	**02 42 15.4**	**+1.3**
OHAK	**Old Harbor**	**5.64**	**200**	P		**Pn**	**02 42 16.2**	**-2.0**
YUK5	**Granite Creek**	**5.77**	**99**	P		**Pn**	**02 42 19.5**	**-0.6**
TOLK	**Toolik Lake Re**	**6.12**	**0**	*e*Pn		**Pn**	**02 42 28.4**	**+3.6**
INK	**Inuvik**	**8.85**	**42**	P		**Pn**	**02 43 03.4**	**+1.5**
	0.4nm,0.3s,baz=238,slow=13,SNR=32							
INK				S		**Sn**	**02 44 37.8**	**-2.0**
	0.1nm,0.3s,baz=285,slow=16,SNR=2.2							
INK				LR		LR	02 47 06.6	
	comp=Z,161nm,20.3s,baz=137,slow=42							
YKA	**Yellowknife Ar**	**16.06**	**75**	P		**Pn**	**02 44 35.7**	**-2.5**
	baz=283,slow=11,SNR=3.7							
YKB5	**Yellowknife Ar**	**16.06**	**75**	*e*Pn		**Pn**	**02 44 35.7**	**-2.5**
SEY	**Seymchan**	**25.78**	**297**	P		**P**	**02 46 20.7**	**-0.3**
	0.4nm,0.3s,baz=41,slow=19,SNR=1.8							
ARA0	**ARCESS Array S**	**48.16**	**2**	*e*P		**P**	**02 49 30.9**	**+1.3**
ARCES	**ARCESS Array B**	**48.16**	**2**	P		**P**	**02 49 30.9**	**+1.3**
	3.9nm,0.9s,baz=12,slow=9.2,SNR=2.5							
SONA0	**Songino Array**	**54.58**	**307**	*e*P		**P**	**02 50 18.9**	**+1.0**
SONM	**Songino Array**	**54.58**	**307**	P		**P**	**02 50 18.9**	**+1.0**
	0.6nm,0.8s,baz=52,slow=5.7,SNR=5.9							
BVAR	**Borovoye Array**	**60.54**	**333**	P		**P**	**02 50 59.4**	**-0.1**
	0.3nm,0.5s,baz=34,slow=11,SNR=2.8							
MK32	**Makanchi Array**	**63.41**	**323**	*e*P		**P**	**02 51 17.5**	**-1.4**
MKAR	**Makanchi Array**	**63.41**	**323**	P		**P**	**02 51 17.5**	**-1.4**
	0.4nm,0.6s,baz=44,slow=6.2,SNR=5.3							
AKTO	**Aktyubinsk**	**65.25**	**341**	P		**P**	**02 51 30.0**	**-0.8**
	0.4nm,0.3s,baz=18,slow=6.4,SNR=2.4							

*IDC **08** 02:41:16.1±1.8, 37.°51N×70.°98E, h0km, mb3.4/5, mb1 3.6/10, mb1mx3.4/72, mbtmp3.5/10, ML3.2/5, Error ellipse: s-maj=52.2km s-min=16.8km az=139.0*
*NNC **08** 02:41:20.8±2.4, 37.°54N×70.°88E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=19.2km s-min=18.4km az=44.0*
*ISCJB **08** 02:41:22.0±0.9, 37.°46N±0.°07×70.°79E±0.°07, h68km, mb3.4/6, Error ellipse: s-maj=10.9km s-min=7.2km az=157.3*

ISC 08 02:41:23.3±1.1, 37.°43N±0.°09×70.°87E±0.°07, h68km, n20, σ2°923/26, mb3.3/6, 6C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SFK	**Sufi-Kurgan**	**3.30**	**38**	⇓Pn		**Pn**	**02 42 14.1**	**+1.4**
	12nm,0.5s							
SFK				⇓Lg		Lg	02 42 59.5	
	103nm,1.0s							
MNAS	**Manas**	**5.20**	**13**	⇓Pn		**Pn**	**02 42 38.6**	**-0.1**
	5.6nm,0.6s							
MNAS				⇑Sn		**Sn**	**02 43 40.2**	**+2.8**
	9.2nm,0.6s							
MNAS				⇑Lg		Lg	02 44 01.2	
	14nm,0.7s							
KK31	**Karatay Array**	**5.67**	**357**	⇑Pn		**Pn**	**02 42 45.0**	**0.0**
	2.7nm,0.3s,baz=176,slow=13,SNR=178							
KK31				⇓Sn		**Sn**	**02 43 53.0**	**+4.3**
	5.0nm,0.6s,baz=178,slow=16,SNR=4.6							
KK31				⇓Lg		Lg	02 44 17.5	
	18nm,0.8s,baz=175,slow=28,SNR=5.0							
AAK	**Ala-Archa**	**5.89**	**27**	Pn		**Pn**	**02 42 46.9**	**-1.3**
	1.7nm,0.3s,baz=178,slow=3.7,SNR=24							
AAK				Sn		**Sn**	**02 43 53.0**	**-1.4**
	0.7nm,0.3s,baz=251,slow=19,SNR=3.9							
AAK	**Ala-Archa**	**5.89**	**27**	⇓Pn		**Pn**	**02 42 47.6**	**-0.6**
	2.0nm,0.3s							
AAK				⇓Lg		Lg	02 44 24.3	
	9.2nm,0.8s							
TKM2	**Tokmak 2**	**6.57**	**32**	⇑Pn		**Pn**	**02 42 56.3**	**-1.1**
	2.4nm,0.5s							
TKM2				⇑Lg		Lg	02 44 45.2	
	6.5nm,0.9s							

GEYT	**Alibeck**	**10.12**	**277**	Pn		**Pn**	**02 43 43.9**	**-2.0**
	0.6nm,0.3s,baz=104,slow=9.6,SNR=6.3							
GEYT				Sn		**Sn**	**02 45 37.1**	**-0.6**
	0.4nm,0.3s,baz=108,slow=17,SNR=2.9							
MKAR	**Makanchi Array**	**12.61**	**39**	Pn		**Pn**	**02 44 15.4**	**-4.3**
	0.1nm,0.3s,baz=227,slow=14,SNR=7.1							
AB31	**Akbulak array**	**14.22**	**330**	⇑P		**Pn**	**02 44 38.9**	**-2.3**
	0.3nm,0.3s,baz=154,slow=12,SNR=21							
AB31				⇓S		**Sn**	**02 47 16.5**	**-0.9**
	1.1nm,0.5s,baz=149,slow=22,SNR=5.3							
KURBB	**Kurchatov Arra**	**14.28**	**20**	Pn		**Pn**	**02 44 37.2**	**-4.7**
	0.1nm,0.3s,baz=215,slow=13,SNR=6.0							
BVAR	**Borovoye Array**	**15.60**	**359**	Pn		**Pn**	**02 44 57.5**	**-1.4**
	0.2nm,0.3s,baz=160,slow=7.9,SNR=4.8							
AKTO	**Aktyubinsk**	**15.93**	**329**	Pn		**P**	**02 45 06.5**	**+1.1**
	0.2nm,0.3s,baz=140,slow=8.2,SNR=15							
AKTO				Sn		**Sn**	**02 47 57.5**	**-1.2**
	0.1nm,0.3s,baz=37,slow=20,SNR=3.3							
AKTO	**Aktyubinsk**	**15.93**	**329**	⇓P		**P**	**02 45 05.9**	**+0.4**
	6.7nm,1.0s							
AKTO				⇓S		**Sn**	**02 48 00.4**	**+1.7**
	3.0nm,0.8s							
ZALV	**Zalesovo Beam**	**19.12**	**26**	P		**P**	**02 45 37.8**	**-2.7**
	0.3nm,0.3s,baz=225,slow=9.6,SNR=4.8							
SONM	**Songino Array**	**27.90**	**57**	P		**P**	**02 47 07.4**	**+0.6**
	0.3nm,0.7s,baz=242,slow=6.1,SNR=2.6							
HFS	**Hagfors**	**42.27**	**321**	P		P	02 49 16.0	+6.3
	2.4nm,0.9s,baz=82,slow=12,SNR=3.1							
TORD	**Torodi Ar. Bea**	**65.64**	**268**	P		**P**	**02 52 02.6**	**+2.0**
	0.3nm,0.6s,baz=39,slow=5.3,SNR=6.8							
INK	**Inuvik**	**73.00**	**9**	P		**P**	**02 52 47.6**	**+2.4**
	0.6nm,0.4s,baz=334,slow=5.6,SNR=4.6							
ILAR	**Eielson Array**	**73.91**	**16**	P		**P**	**02 52 51.0**	**+0.4**
	0.3nm,0.9s,baz=299,slow=3.7,SNR=3.3							
YKA	**Yellowknife Ar**	**80.32**	**3**	P		**P**	**02 53 28

	baz=350							
WDLH					*e*S	Sn	02 42 45.7	+1.7
	baz=350							
LAY	**Lan-yu**	**1.03**	**132**		*e*P	Pn	02 42 31.4	-0.4
	baz=132							
LAY					*e*S	Sn	02 42 46.7	+1.1
	baz=132							
WJS	**Zhushan**	**1.08**		**0**	*e*P	Pb	02 42 34.6	+1.6
	baz=344							
WJS					*e*S	Sn	02 42 49.9	+3.0
	baz=344							
EGFH	**Guangfu**	**1.13**	**35**		*e*P	Pb	02 42 34.7	+0.9
	baz=35							
EGFH					*e*S	Sn	02 42 50.4	+2.3
	baz=35							
WNT	**Mingjian**	**1.14**	**358**		*e*P	Pb	02 42 34.5	+0.6
	baz=358							
WNT					*e*S	Sb	02 42 50.5	+2.1
	baz=358							
SMLT	**Sun Moon Lake**	**1.16**		**8**	*i* P	Pb	02 42 34.9	+0.6
	baz=15							
SMLT					S	Sb	02 42 51.8	+2.9
	baz=15							
TYC	**Yuchr**	**1.17**		**6**	*i* P	Pb	02 42 35.7	+1.3
	baz=6.0							
TYC					*e*S	Sb	02 42 52.5	+3.3
	baz=6.0							
ESL	**Shilin**	**1.26**	**31**		*e*P	Pb	02 42 36.8	+0.9
	baz=38							
ESL					*e*S	Sb	02 42 53.1	+1.5
	baz=38							
OWD	**Renai**	**1.28**	**19**		P	Pb	02 42 36.8	+0.4
	baz=4.0							
OWD					*e*S	Sb	02 42 54.8	+2.1
	baz=4.0							
DPDB	**Guoxing**	**1.31**		**8**	*e*P	Pb	02 42 37.5	+0.7
	baz=8.0							
DPDB					*e*S	Sb	02 42 54.8	+1.5
	baz=8.0							
WHF	**Hehuan Shan**	**1.49**	**19**		*e*P	Pb	02 42 40.3	+0.1
	baz=4.0							
WHF					*e*S	Sb	02 43 00.5	+1.7
	baz=4.0							
TWT	**Tachien**	**1.57**	**15**		*e*P	Pb	02 42 41.5	+0.1
	baz=8.0							
TWT					*e*S	Sb	02 43 01.6	+0.8
	baz=8.0							
TWQ1	**Liyutan**	**1.61**		**1**	*e*P	Pb	02 42 41.5	-0.4
	baz=2.0							
TWQ1					*e*S	Sb	02 43 03.2	+1.4
	baz=2.0							
NNSH	**Datong**	**1.79**	**19**		*e*P	Pb	02 42 44.5	-0.6
	baz=19							
NNSH					*e*S	Sb	02 43 06.7	-0.5
	baz=19							
NNS	**Nan Shan**	**1.80**	**19**		*e*P	Pb	02 42 44.8	-0.4
	baz=19							
NNS					*e*S	Sb	02 43 07.3	-0.1
	baz=19							
ENA	**Nanau**	**1.93**	**29**		*e*P	Pb	02 42 46.1	-1.2
	baz=29							
ENA					*e*S	Sb	02 43 10.0	-0.9
	baz=29							
ENTT	**Nioudou**	**2.05**	**22**		*e*P	Pb	02 42 48.9	-0.5
	baz=5.0							
TIPB	**Shuangxi**	**2.45**	**24**		*e*P	Pn	02 42 52.7	+1.3
	baz=37							

*IDC **08** 02:51:30.6$_S$0.4, 18°.40N×72°.04W, h0^{km}, mb4.4/27, mb1 4.6/32, mb1mx4.5/53, mbtmp4.5/32, ML4.0/3, MS3.8/18, Ms1 3.8/18, ms1mx3.6/54, Error ellipse: s-maj=13.7km s-min=11.1km az=57.0*

*ISCJB **08** 02:51:31.3$_S$0.6, 18°.31N$_L$0°.02×72°.07W$_L$0°.02, h11^{km}$_S$3^{km}, mb4.7/201, MS3.9/17, Error ellipse: s-maj=3.7km s-min=2.3km az=23.3*

*MOS **08** 02:51:31.3$_S$1.2, 18°.36N×72°.09W, h10^{km}, mb5.0/52, Error ellipse: s-maj=6.9km s-min=5.7km az=89.2*

*NEIC **08** 02:51:32.4$_S$0.8, 18°.35N×72°.04W, h7^{km}$_S$5^{km}, mb4.7/159, MW4.5, Error ellipse: s-maj=4.2km s-min=2.8km az=208.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{15}Nm; M_{rr}6.06; $M_{\theta\theta}$-4.49; $M_{\phi\phi}$-1.57; $M_{r\theta}$-0.80; $M_{r\phi}$3.22; $M_{\theta\phi}$-3.89; Best double couple: M_o7.50000×10^{15} NP1: ϕ_s280.00000°, δ44.00000°, λ51.00000°. NP2: ϕ_s148.00000°, δ57.00000°, λ121.00000°. Principal axes: T 8.0300, Plg63.0000°, Azm112.0000°; N -1.2700, Plg25.0000°, Azm310.0000°; P -6.7600, Plg7.0000°, Azm217.0000°;*

NEIC Felt [V] at Thiotte; [IV] at Delmas and Kenscoff; [III] at Croix des Bouquets, Petionville and Port-au-Prince. Also felt at Anse-a-Pitres, Carrefour, Cayes Jacmel, Grand Goave, Leogane, Petit Goave, Port-de-Paix, Thomazeau and Thomonde. Felt [II] at Santo Domingo, Dominican Republic. Also felt at Jimani and Pedernales.

*JSN **08** 02:51:36.0$_S$3.9, 19°.68N×72°.53W, h0^{km}$_S$99^{km}, MD5.1*

ISC 08 02:51:32.7±1.0, 18°.30N±0°.04×72°.11W±0°.03, h14^{km}±6^{km}, n666, σ1$ 50/680, mb4.7/205, MS3.8/17, 13C-15D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NQWLB	**Fermate**	**0.28**	**315**	*e*Pg	**Pg**	**02 51 37.2**	**-1.4**
NQWLB				*e*Sg	**Sg**	**02 51 42.3**	**-0.3**
LGNH	**LØogne**	**0.52**	**294**	*e*Pg	**Pg**	**02 51 42.6**	**-0.3**
LGNH				*e*Sg	**Sb**	**02 51 50.8**	**-0.1**
SDDR	**Presa de Saban**	**1.04**	**49**	*e*Pg	**Pb**	**02 51 48.0**	**-4.5**
SDDR				*e*Sg	**Sb**	**02 52 01.6**	**-4.4**
BANI	**BANI**	**1.67**	**86**	*e*Pn	**Pn**	**02 52 00.6**	**-1.0**
BANI				*e*Sn	**Sn**	**02 52 21.4**	**-1.6**
SDD	**Santo Domingo**	**2.09**	**85**	*e*Pn	**Pn**	**02 52 06.6**	**-0.8**
SDD				*e*Sn	**Sn**	**02 52 32.5**	**-0.7**
GTBY	**Guantanamo Bay**	**3.27**	**300**	*e*Pn	**Pn**	**02 52 22.8**	**-0.8**
GTBY				*e*Sn	**Sn**	**02 52 57.2**	**-5.0**
GRTK	**Grand Turk**	**3.33**	**16**	*e*Pn	**Pn**	**02 52 25.1**	**+0.7**
CMJ	**Castle Mountai**	**4.05**	**268**	*i* P	**Pb**	**02 52 40.3**	**-3.7**
GWJ	**Greenwich**	**4.39**	**268**	‖ *i*P	**Pn**	**02 52 40.1**	**+0.9**
HOJ	**Hope**	**4.42**	**267**	‖ *i*P	**Pn**	**02 52 40.8**	**+1.4**
STH	**Stony Hill**	**4.47**	**268**	‖ *i*P	**Pn**	**02 52 41.0**	**+0.8**
STH				*i* S	**Sn**	**02 53 31.0**	**-1.0**
AGP	**Aguadilla**	**4.72**	**88**	*e*Pn	**Pn**	**02 52 47.5**	**+4.0**
AGP				*e*Sn	**Sn**	**02 53 40.5**	**+2.3**
MPR	**Mayaguez**	**4.72**	**90**	*e*Pn	**Pn**	**02 52 44.8**	**+1.2**
BBJ	**Bamboo Saint A**	**4.90**	**272**	‖ *i*P	**Pn**	**02 52 46.7**	**+0.6**
MTDJ	**Mount Denham**	**5.15**	**270**	*e*Pn	**Pn**	**02 52 50.0**	**+0.4**
MTDJ				*e*Sn	**Sn**	**02 53 43.8**	**-5.2**
MCJ	**Malvern**	**5.32**	**267**	‖ *i*P	**Pn**	**02 52 53.5**	**+1.7**
MCJ				*i* S	**Sn**	**02 53 52.7**	**-0.3**
SJG	**San Juan**	**5.67**	**91**	Pn	**Pn**	**02 52 57.4**	**+0.8**
	12nm,0.3s,baz=287,slow=11,SNR=20						
SJG				Sn	**Sn**	**02 54 05.4**	**+3.8**
	14nm,0.3s,baz=62,slow=19,SNR=6.2						
SJG	**San Juan**	**5.67**	**91**	*e*Pn	**Pn**	**02 52 57.0**	**+0.4**
SJG				*e*Sn	**Sn**	**02 54 04.2**	**+2.6**
SJG	**San Juan**	**5.67**	**91**	*e*P	**Pn**	**02 52 57.0**	**+0.4**
SJG				*e*		02 54 04.2	
SJG	**San Juan**	**5.67**	**91**	*e*P	**Pn**	**02 52 56.1**	**-0.5**
CBYP	**Canovanas**	**5.94**	**89**	*e*Pn	**Pn**	**02 52 59.9**	**-0.5**
CBYP				*e*Sn	**Sn**	**02 54 09.7**	**+1.3**
HUMP	**Col San Antoni**	**5.95**	**91**	*e*Pn	**Pn**	**02 53 01.2**	**+0.7**
HUMP				*e*Sn	**Sn**	**02 54 06.3**	**-2.2**
MTP	**Monte Pirata**	**6.24**	**91**	*e*Pn	**Pn**	**02 53 05.5**	**+1.1**
MTP				*e*Sn	**Sn**	**02 54 17.6**	**+2.0**
SABA	**Saba**	**8.47**	**93**	*e*Pn	**Pn**	**02 53 35.2**	**+0.2**
FSCY	**Frank Sound, G**	**8.65**	**278**	*e*Pn	**Pn**	**02 53 36.7**	**-0.9**
WBCY	**West Bay, Gran**	**8.86**	**278**	*e*Pn	**Pn**	**02 53 40.3**	**-0.1**
SDV	**Santo Domingo**	**9.46**	**171**	Pn	**Pn**	**02 53 50.9**	**+2.0**
	5.3nm,0.3s,baz=357,slow=4.4,SNR=25						
SDV				Sn	**Sn**	**02 55 31.1**	**-4.2**
	2.1nm,0.3s,baz=340,slow=18,SNR=3.8						
SDV				LR	LR	02 57 45.1	
	comp=Z,636nm,20.0s,baz=68,slow=39						
SDV	**Santo Domingo**	**9.46**	**171**	*e*P	**Pn**	**02 53 49.9**	**+1.0**
GDHS	**Morne Mazeau,**	**10.09**	**100**	*e*Pn	**Pn**	**02 53 57.3**	**0.0**
PCRV	**Puerto La Cruz**	**10.85**	**137**	Pn	**Pn**	**02 54 09.7**	**+2.0**
	12nm,0.3s,baz=297,slow=3.3,SNR=33						
PCRV				Sn	**Sn**	**02 56 02.4**	**-6.6**
	1.7nm,0.3s,baz=114,slow=20,SNR=5.8						
PAMC	**Pamplona, Colo**	**10.91**	**183**	*e*P	**Pn**	**02 54 11.2**	**+2.3**
ZARC	**Zaragoza, Cauc**	**11.07**	**194**	*e*P	**Pn**	**02 54 12.5**	**+1.8**
TRMF	**Trois Ilets**	**11.25**	**108**	*e*P	**Pn**	**02 54 11.4**	**-1.8**
ZAM	**Aeronautique**	**11.26**	**108**	*e*P	**Pn**	**02 54 11.7**	**-1.6**
SVB	**Belmont**	**11.58**	**114**	*e*Pn	**Pn**	**02 54 18.2**	**+0.4**
BARC	**Barichara**	**11.68**	**185**	*e*P	**Pn**	**02 54 21.2**	**+1.8**
BCIP	**Isla Barro Col**	**11.77**	**221**	*e*Pn	**Pn**	**02 54 20.2**	**-0.1**
BCIP				*e*Sn	**Sn**	**02 56 26.8**	**-4.9**
GRGR	**Grenville**	**11.80**	**120**	*e*Pn	**Pn**	**02 54 21.6**	**+0.8**
GRGR				*e*Sn	**Sn**	**02 56 30.4**	**-2.1**
PTBC	**PUERTO BERRIO,**	**11.91**	**191**	*e*P	**Pn**	**02 54 25.2**	**+2.9**
RUSC	**La Rusia**	**12.37**	**185**	*e*Pn	**Pn**	**02 54 31.5**	**+2.6**
RUSC	**La Rusia**	**12.37**	**185**	*e*P	**Pn**	**02 54 31.1**	**+2.2**
HELC	**Santa Helena**	**12.49**	**196**	*e*Pn	**Pn**	**02 54 33.7**	**+3.3**
HELC	**Santa Helena**	**12.49**	**196**	*e*P	**Pn**	**02 54 32.5**	**+2.0**
NORC	**Norcasia**	**12.94**	**192**	*e*P	**Pn**	**02 54 39.8**	**+3.4**
ROSC	**El Rosal**	**13.55**	**189**	Pn	**Pn**	**02 54 47.7**	**+2.7**
	0.5nm,0.3s,baz=86,slow=19,SNR=2.7						
ROSC				LR	LR	03 00 04.9	
	comp=Z,182nm,20.2s,baz=346,slow=38						
ROSC	**El Rosal**	**13.55**	**189**	*e*Pn	**P**	**02 54 51.9**	**-2.3**
CHIC	**Chingaza**	**13.68**	**187**	*e*P	**P**	**02 54 52.4**	**-3.2**
RREF	**El Recreo**	**13.69**	**194**	*e*P	**P**	**02 54 51.7**	**-4.2**
PLMC	**San Jos˜ del**	**13.92**	**198**	*e*P	**P**	**02 54 55.7**	**-2.2**
657A	**Interlachen**	**14.34**	**323**	P	**Pn**	**02 54 54.5**	**-0.8**
	baz=139						
656A	**Willston**	**14.56**	**321**	P	**Pn**	**02 54 57.4**	**-1.0**
	baz=137						
PRAC	**Prado**	**14.75**	**191**	*e*Pn	**P**	**02 55 04.8**	**-2.3**
JTS	**JuntasAbangare**	**14.77**	**239**	Pn	**Pn**	**02 55 03.0**	**+1.7**
	0.8nm,0.3s,baz=11,slow=17,SNR=1.8						
JTS	**JuntasAbangare**	**14.77**	**239**	*e*Pn	**Pn**	**02 55 03.0**	**+1.7**
	67nm,1.4s						
JTS	**JuntasAbangare**	**14.77**	**239**	*e*P	**Pn**	**02 55 03.0**	**+1.7**
JTS				pmax	pmax		
	comp=Z,67nm,1.4s						
SJAC	**San Juan de Ar**	**15.04**	**187**	*e*P	**Pn**	**02 55 05.7**	**+0.6**
351A	**Pinckard**	**17.78**	**319**	P	**Pn**	**02 55 40.0**	**+0.1**
	baz=133						
HODGE	**Hodges**	**18.27**	**332**	*e*Pn	**Pn**	**02 55 39.4**	**-6.5**
	comp=Z,11nm,1.1s						
KMSC	**Kings Mountain**	**18.67**	**336**	P	**P**	**02 55 49.4**	**-1.0**
	baz=151						
KMSC	**Kings Mountain**	**18.67**	**336**	*e*P	**P**	**02 55 50.6**	**+0.2**
	comp=Z,15nm,1.0s						
NCAT	**North Carolina**	**18.96**	**341**	*e*P	**P**	**02 55 50.3**	**-3.3**
	comp=Z,29nm,1.2s						
150A	**Eclectic**	**18.96**	**321**	P	**Pn**	**02 55 54.6**	**+0.3**
	baz=135						
OTAV	**Otavalo**	**19.00**	**200**	*e*P	**Pn**	**02 55 58.8**	**+3.5**
	comp=Z,31nm,1.3s						
OTAV	**Otavalo**	**19.00**	**200**	*e*P	**Pn**	**02 55 58.8**	**+3.5**
OTAV				pmax	pmax		
	comp=Z,31nm,1.3s						
249A	**Camden**	**19.21**	**318**	P	**Pn**	**02 55 57.1**	**-0.2**
	baz=132						
348A	**Jackson**	**19.36**	**315**	P	**Pn**	**02 55 59.3**	**+0.2**
	baz=129						
Z50A	**Ashland**	**19.37**	**323**	P	**P**	**02 55 58.1**	**-0.1**
	baz=137						
Z49A	**Columbiana**	**19.68**	**322**	P	**Pn**	**02 56 02.5**	**-0.5**
	baz=135						
Y50A	**Piedmont**	**19.74**	**325**	P	**Pn**	**02 56 04.3**	**+0.7**
	baz=138						
LRAL	**Lakeview Retre**	**19.85**	**321**	P	**P**	**02 56 03.3**	**0.0**
	baz=134						
LRAL	**Lakeview Retre**	**19.85**	**321**	*e*P	**Pn**	**02 56 06.2**	**+1.3**
	comp=Z,24nm,1.3s						
148A	**Greensboro**	**19.94**	**319**	P	**Pn**	**02 56 05.7**	**-0.3**
	baz=132						
IP05	**Hopewell Churc**	**20.08**	**347**	*e*P	Pn	02 56 07.5	-0.1
	comp=Z,26nm,1.1s						
Y49A	**Blount Mountai**	**20.09**	**323**	P	Pn	02 56 07.8	0.0
	baz=137						
VWCC	**Virginia Weste**	**20.10**	**341**	*e*P	**P**	**02 56 02.1**	**-4.0**
TKL	**Tuckaleechee C**	**20.14**	**331**	P	Pn	02 56 08.9	+0.4
	comp=Z,5.6nm,1.0s,baz=162,slow=13,SNR=3.5						
TKL				LR	LR	03 05 50.0	
	comp=Z,180nm,18.1s,baz=109,slow=43						
TKL	**Tuckaleechee C**	**20.14**	**331**	*e*P	Pn	02 56 08.9	+0.5
	comp=Z,11nm,0.9s						
BLA	**Blacksburg**	**20.21**	**340**	P	Pn	02 56 08.9	-0.3
	baz=156						
BLA	**Blacksburg**	**20.21**	**340**	*e*P	**P**	**02 56 07.4**	**+0.2**
	comp=Z,38nm,0.9s						
BLA	**Blacksburg**	**20.21**	**340**	*e*P	**P**	**02 56 07.4**	**+0.2**
BLA				pmax	pmax		
	comp=Z,38nm,0.9s						
IP07	**Quail**	**20.22**	**346**	*e*P	**P**	**02 56 07.4**	**0.0**
	comp=Z,37nm,1.3s						
IP01	**Cuckoo**	**20.23**	**347**	*e*P	Pn	02 56 10.0	+0.6
	comp=Z,24nm,0.9s						
SPRD	**Spring Road, M**	**20.29**	**347**	*e*P	Pn	02 56 09.7	-0.4
	comp=Z,21nm,0.9s						
IP03	**Louisa**	**20.32**	**346**	*e*P	Pn	02 56 11.6	+1.2
	comp=Z,23nm,1.0s						
CVRD	**Centerville Ro**	**20.32**	**347**	*e*P	Pn	02 56 11.9	+1.5
	comp=Z,20nm,0.9s						
CBN	**Corbin Frederi**	**20.36**	**348**	P	Pn	02 56 10.4	-0.5
	baz=165						
147A	**Livingston**	**20.40**	**318**	P	Pn	02 56 11.9	+0.5
	baz=131						
IP04	**Greensprings**	**20.40**	**346**	*e*P	Pn	02 56 12.8	+1.3
	comp=Z,15nm,0.9s						
Z48A	**Northport**	**20.42**	**320**	P	Pn	02 56 11.2	-0.5
	baz=133						
X49A	**Woodville**	**20.52**	**325**	P	**P**	**02 56 11.5**	**+0.8**
	baz=138						
Y48A	**Jasper**	**20.57**	**322**	P	**P**	**02 56 11.7**	**+0.6**
	baz=135						
Z47A	**Carrollton**	**20.62**	**319**	P	Pn	02 56 12.9	-1.1
	baz=132						
TZTN	**Tazewell**	**20.79**	**333**	P	Pn	02 56 14.8	-1.2
	baz=148						
TZTN	**Tazewell**	**20.79**	**333**	*e*P	Pn	02 56 18.3	+2.4
	comp=Z,36nm,1.1s						
X48A	**Hartselle**	**20.88**	**323**	P	Pn	02 56 16.6	-0.5
	baz=136						
146A	**Union**	**20.89**	**316**	P	Pn	02 56 16.5	-0.6
	baz=129						
Y47A	**UCPARC, Winfie**	**20.96**	**321**	P	**P**	**02 56 15.6**	**+0.2**
	baz=134						
Z46A	**Louisville**	**21.16**	**318**	P	**P**	**02 56 18.3**	**+0.8**
	baz=130						
W48A	**Pulaski**	**21.32**	**325**	P	**P**	**02 56 20.5**	**+1.2**
	baz=138						
344A	**Westbrook Farm**	**21.33**	**311**	P	**P**	**02 56 20.9**	**+1.5**
	baz=123						
X47A	**Russelville**	**21.40**	**322**	P	**P**	**02 56 20.0**	**-0.1**
	baz=135,SNR=5.8						
SDMD	**Soldier's Deli**	**21.43**	**350**	*e*P	**P**	**02 56 25.3**	**+4.8**
	comp=Z,9.3nm,0.9s						
145A	**Houston Renfro**	**21.44**	**315**	P	**P**	**02 56 21.5**	**+0.9**
	baz=127						
Y46A	**Houston**	**21.56**	**319**	P	**P**	**02 56 22.2**	**+0.4**
	baz=132,SNR=13						
VBMS	**Vicksburg**	**21.61**	**313**	*e*P	**P**	**02 56 27.1**	**+4.7**
	comp=Z,46nm,0.9s						
244A	**Avery, Jackson**	**21.63**	**313**	P	**P**	**02 56 23.7**	**+1.1**
	baz=125						
V48A	**Smith Brothers**	**21.71**	**326**	P	**P**	**02 56 24.9**	**+1.4**
	baz=139						
W47A	**Westpoint**	**21.77**	**324**	P	**P**	**02 56 24.5**	**+0.4**
	baz=137						
PLAL	**Pickwick Lake**	**21.85**	**323**	*e*P	**P**	**02 56 25.5**	**+0.5**
MVL	**Millersville**	**21.93**	**351**	*e*P	**P**	**02 56 29.3**	**+3.5**
	comp=Z,20nm,1.0s						
W46A	**Michie**	**22.14**	**322**	P	**P**	**02 56 28.4**	**+0.4**
	baz=135						
V47A	**Nunnelly**	**22.16**	**325**	P	**P**	**02 56 28.4**	**+0.2**
	baz=138						
U48A	**Cassie Pea, Po**	**22.16**	**328**	P	**P**	**02 56 30.3**	**+2.1**
	baz=141						
X45A	**UM Field Stati**	**22.25**	**320**	P	**P**	**02 56 29.8**	**+0.5**
	baz=132						
MCWV	**Mont Chateau**	**22.32**	**344**	P	**P**	**02 56 30.6**	**+0.7**
	baz=160						
OXF	**Oxford**	**22.32**	**320**	P	**P**	**02 56 30.6**	**+0.5**
	baz=132						
OXF	**Oxford**	**22.32**	**320**	*e*P	**P**	**02 56 32.3**	**+2.3**
	comp=Z,62nm,1.3s						
OXF	**Oxford**	**22.32**	**320**	*e*P	**P**	**02 56 32.3**	**+2.3**
OXF				pmax	pmax		
	comp=Z,62nm,1.3s						
PTGA	**Pitinga**	**22.37**	**146**	P	**P**	**02 56 31.8**	**+1.2**
	comp=Z,39nm,0.9s,baz=339,slow=11,SNR=37						
PTGA				LR	LR	03 06 17.3	
	comp=Z,120nm,19.1s,baz=337,slow=40						
PTGA	**Pitinga**	**22.37**	**146**	*e*P	**P**	**02 56 32.4**	**+1.8**
	comp=Z,45nm,0.9s						
V46A	**Holladay**	**22.46**	**324**	P	**P**	**02 56 32.1**	**+0.6**
	baz=137						
U47A	**Clarksville**	**22.49**	**327**	P	**P**	**02 56 33.0**	**+1.2**
	baz=139						
143A	**Socs Landing,**	**22.51**	**313**	P	**P**	**02 56 32.5**	**+0.5**
	baz=125						
WVT	**Waverly**	**22.55**	**325**	P	**P**	**02 56 33.2**	**+0.8**
	baz=138						
WVT	**Waverly**	**22.55**	**325**	*e*P	**P**	**02 56 33.9**	**+1.5**
	comp=Z,12nm,0.9s						
WVT	**Waverly**	**22.55**	**325**	*e*P	**P**	**02 56 33.9**	**+1.5**
WVT				pmax	pmax		
	comp=Z,12nm,0.9s						
T48A	**Bowling Green**	**22.56**	**329**	P	**P**	**02 56 33.1**	**+0.6**
	baz=142						
O56A	**Blue Knob Stat**	**22.59**	**347**	P	**P**	**02 56 34.2**	**+1.2**
	baz=164						
W45A	**Hickory Valley**	**22.62**	**321**	P	**P**	**02 56 34.4**	**+1.2**
	baz=133						
242A	**Grayson**	**22.68**	**311**	P	**P**	**02 56 35.5**	**+1.7**
	baz=122						
Z43A	**Armstrong Fami**	**22.69**	**315**	P	**P**	**02 56 34.2**	**+0.3**
	baz=126						
N59A	**State Game Lan**	**22.76**	**353**	P	**P**	**02 56 35.1**	**+0.5**
	baz=171						
N59A	**State Game Lan**	**22.76**	**353**	*e*P	**P**	**02 56 38.1**	**+3.4**
	comp=Z,31nm,1.1s						
SSPA	**Standing Stone**	**22.81**	**349**	P	**P**	**02 56 36.9**	**+1.7**
	baz=166						
T47A	**Sharon Grove**	**22.82**	**328**	P	**P**	**02 56 36.9**	**+1.6**
	baz=141						
S48A	**Wiedeman Farm,**	**22.83**	**330**	P	**P**	**02 56 37.1**	**+1.7**
	baz=144						
V45A	**Humboldt**	**22.90**	**323**	P	**P**	**02 56 37.9**	**+1.8**
	baz=135						
U46A	**Springville**	**22.91**	**325**	P	**P**	**02 56 37.4**	**+1.2**
	baz=137						
341A	**Kurthwood**	**23.05**	**308**	P	**P**	**02 56 39.2**	**+1.5**
	baz=119						
U45A	**Rockin P Farm,**	**23.22**	**324**	P	**P**	**02 56 40.9**	**+1.5**
	baz=136						
T46A	**Princeton**	**23.26**	**327**	P	**P**	**02 56 41.2**	**+1.3**
	baz=139						
R48A	**Northridge Ran**	**23.35**	**332**	P	**P**	**02 56 41.5**	**+0.8**
	baz=145						
WCI	**Wyandotte Cave**	**23.40**	**331**	P	**P**	**02 56 42.3**	**+1.0**
	baz=144						
Y42A	**Garnett, Star**	**23.43**	**315**	P	**P**	**02 56 42.8**	**+1.3**
	baz=126						
R47A	**Wooly Knot Far**	**23.57**	**331**	P	**P**	**02 56 45.2**	**+2.3**
	baz=144						
S46A	**Don Dixon Farm**	**23.66**	**328**	P	**P**	**02 56 44.2**	**+0.4**
	baz=140						
Z41A	**Richland Creek**	**23.79**	**313**	P	**P**	**02 56 47.1**	**+2.0**
	baz=124						
Y41A	**Eaglette Beard**	**24.01**	**314**	P	**P**	**02 56 48.9**	**+1.7**
	baz=125						
M54A	**Oil Creek Stat**	**24.02**	**346**	P	**P**	**02 56 48.9**	**+1.7**
	baz=162						
Q47A	**Bedord North L**	**24.04**	**332**	P	**P**	**02 56 50.5**	**+3.1**
	baz=145						
U43A	**Rector**	**24.18**	**322**	P	**P**	**02 56 49.5**	**+0.8**
	baz=133						
WLAR	**White Oak Lake**	**24.24**	**313**	*e*P	**P**	**02 56 51.8**	**+2.5**
	comp=Z,37nm,0.9s						
NATX	**Nacogdoches**	**24.37**	**308**	P	**P**	**02 56 51.3**	**+0.8**
	baz=118						
V42A	**Cord**	**24.39**	**319**	P	**P**	**02 56 51.8**	**+1.1**
	baz=130						
R45A	**Skylar, Fairfi**	**24.41**	**328**	P	**P**	**02 56 52.1**	**+1.2**
	baz=140						
SIUC	**Southern Illin**	**24.47**	**326**	*e*P	**P**	**02 56 52.7**	**+1.4**
	comp=Z,18nm,0.7s						
S44A	**Carbondale**	**24.47**	**326**	P	**P**	**02 56 51.5**	**+0.2**
	baz=137						
PBMO	**Poplar Bluff**	**24.47**	**322**	*e*P	**P**	**02 56 52.1**	**+0.7**
	comp=Z,938nm,0.8s						
X40A	**Basin Creek Fa**	**24.51**	**315**	P	**P**	**02 56 52.5**	**+0.7**
	baz=126						
W41B	**Gary Mavity, V**	**24.54**	**317**	P	**P**	**02 56 53.1**	**+1.1**
	baz=128						
Y40A	**Okoloma**	**24.54**	**314**	P	**P**	**02 56 53.9**	**+1.9**
	baz=124						
T43A	**Greenville**	**24.60**	**323**	P	**P**	**02 56 53.8**	**+1.2**
	baz=134						
WHAR	**Wooly Hollow**	**24.63**	**317**	*e*P	**P**	**02 56 54.6**	**+1.7**
	comp=Z,17nm,1.2s						
U42A	**Revenden**	**24.66**	**321**	P	**P**	**02 56 53.8**	**+0.7**
	baz=132,SNR=8.8						
X301	**Greenbrier Sit**	**24.68**	**317**	*e*P	**P**	**02 56 56.0**	**+2.7**
	comp=Z,19nm,1.0s						
R44A	**Waltonville**	**24.79**	**327**	P	**P**	**02 56 55.3**	**+1.0**
	baz=138						
Q45A	**Warren Harvey,**	**24.82**	**329**	P	**P**	**02 56 55.3**	**+0.9**
	baz=141						
S43A	**Fulton Ridge,**	**24.83**	**324**	P	**P**	**02 56 55.6**	**+1.0**
	baz=136						
V41A	**Mountainview**	**24.86**	**318**	P	**P**	**02 56 55.6**	**+0.7**
	baz=129						
P46A	**Rosedale**	**24.95**	**332**	P	**P**	**02 56 56.7**	**+1.1**
	baz=144						
T42A	**Van Buren**	**25.03**	**322**	P	**P**	**02 56 57.0**	**+0.5**
	baz=133,SNR=5.7						
MIAR	**Mount Ida**	**25.04**	**314**	P	**P**	**02 56 57.9**	**+1.3**
	baz=125						
U41A	**Viola**	**25.07**	**320**	P	**P**	**02 56 57.3**	**+0.5**

S40A **Lebanon** 26.24 321 P P 02 57 07.7 +0.3
baz=132,SNR=10
HHAR **Hobbs** 26.30 317 *e*P P 02 57 09.7 +1.7
comp=Z,19nm,1.2s
LONY **Lake Ozonia** 26.33 356 P P 02 57 09.7 +1.6
baz=175
T39A **Clever** 26.40 319 P P 02 57 09.5 +0.6
baz=129,SNR=5.7
P42A **Winchester** 26.44 327 P P 02 57 09.7 +0.4
baz=138
Q41A **Truxton** 26.45 325 P P 02 57 09.9 +0.6
baz=136
R40A **Maddies Statio** 26.57 323 P P 02 57 11.0 +0.6
baz=133
WHTX **Lake Whitney,** 26.61 306 P P 02 57 12.2 +1.4
baz=115
WHTX **Lake Whitney,** 26.61 306 *e*P P 02 57 12.2 +1.4
comp=Z,16nm,0.8s
S39A **Bolivar** 26.80 320 P P 02 57 13.2 +0.8
baz=130
P41A **Barry, Barry** 26.88 326 P P 02 57 13.8 +0.6
baz=137
833A **Chaparral WMA,** 26.91 297 P P 02 57 14.3 +0.7
baz=106
Q40A **Laux Farm, Aux** 26.95 324 P P 02 57 14.2 +0.4
baz=134
T38A **Diamond** 26.98 318 P P 02 57 15.5 +1.3
baz=128
R39A **Chumby, Stover** 27.04 322 P P 02 57 15.2 +0.6
baz=132
SADO **Sadowa** 27.04 349 LR LR 03 07 02.4
comp=Z,214nm,19.2s,baz=152,slow=35
S38A **Stockton** 27.11 320 P P 02 57 16.5 +1.2
baz=129
P40A **Paris** 27.31 325 P P 02 57 17.6 +0.6
baz=135
TUL1 **Leonard** 27.31 315 P P 02 57 17.6 +0.5
baz=124
TUL1 **Leonard** 27.31 315 *e*P P 02 57 18.2 +1.1
comp=Z,26nm,0.9s
R38A **Fenwick Farm,** 27.47 321 P P 02 57 18.6 +0.2
baz=130
Q39A **Willow Grove F** 27.49 323 P P 02 57 19.5 +0.8
baz=133
O40A **La Belle** 27.64 326 P P 02 57 18.9 -1.0
baz=136
OK022 **N3560 Road, Pr** 27.70 313 *e*P P 02 57 21.0 +0.4
OK021 **N3530 Road, Sp** 27.78 313 *e*P P 02 57 23.6 +2.3
comp=Z,18nm,0.8s
Q38A **Cooks Store, C** 27.80 322 P P 02 57 21.6 +0.2
baz=132
JCT **Junction City** 27.90 301 P P 02 57 22.8 +0.3
baz=109
P38A **Dawn** 28.20 323 P P 02 57 25.2 +0.2
baz=133
SAML **Samuel** 28.47 161 *e*P P 02 57 27.8 +0.2
comp=Z,19nm,0.9s
SAML **Samuel** 28.47 161 *e*P P 02 57 27.8 +0.2
SAML pmax pmax
comp=Z,19nm,0.9s
P37A **Lathrop** 28.64 322 P P 02 57 29.3 +0.4
baz=131
J42A **Columbus** 28.79 334 P P 02 57 30.9 +0.7
baz=145
N38A **Joes South For** 28.84 325 P P 02 57 31.3 +0.6
baz=135
JFWS **Jewell Farm** 28.95 332 P P 02 57 32.2 +0.5
baz=142
L39A **Vinton** 29.17 329 P P 02 57 35.7 +2.1
baz=138
P35A **Duane Minner,** 29.59 321 P P 02 57 38.8 +1.3
baz=129
R34A **Isabella, Hill** 29.62 317 P P 02 57 38.4 +0.7
baz=125
Q34A **Chapman** 29.79 319 P P 02 57 41.3 +2.1
baz=126
K38A **Parkersburg** 29.94 329 P P 02 57 40.9 +0.4
baz=138
P34A **Walnut Farm, R** 30.10 320 P P 02 57 43.6 +1.7
baz=128
M35A **Neola** 30.66 324 P P 02 57 47.1 +0.4
baz=132
N34A **Lincoln** 30.71 322 P P 02 57 48.6 +1.4
baz=130
LTX **Lajitas** 30.80 297 *e*P P 02 57 48.8 +0.5
LTX *e*PcP PcP 03 00 46.7 +1.1
LTX **Lajitas** 30.80 297 *e*P P 02 57 48.8 +0.5
LTX *e* 03 00 46.7
TXAR **Lajitas Array** 30.80 297 P P 02 57 48.8 +0.5
comp=Z,1.7nm,0.9s,baz=115,slow=8.4,SNR=9.0
TXAR PcP PcP 03 00 46.7 +1.1
comp=Z,2.8nm,0.7s,baz=138,slow=4.7,SNR=18
TX31 **Lajitas Ar. Si** 30.80 297 *e*P P 02 57 49.4 +1.1
TX31 *e*PcP PcP 03 00 46.5 +0.9
H39A **Augusta** 30.81 333 P P 02 57 49.0 +0.9
baz=142
E42A **Champion** 30.95 339 P P 02 57 51.0 +1.7
baz=150
AMTX **Amarillo** 31.02 308 P P 02 57 50.6 +0.4
baz=114
AMTX **Amarillo** 31.02 308 *e*P P 02 57 51.2 +1.0
comp=Z,13nm,1.0s
G39A **Holcombe** 31.25 334 P P 02 57 52.6 +0.7
baz=143
MSTX **Muleshoe** 31.49 306 P P 02 57 54.6 +0.2
baz=112,SNR=6.9
MSTX **Muleshoe** 31.49 306 *e*P P 02 57 55.0 +0.6
comp=Z,10nm,0.8s
MSTX *e*PcP PcP 03 00 48.3 +0.9
CBKS **Cedar Bluff** 31.53 316 P P 02 57 54.9 +0.4
baz=122
CBKS **Cedar Bluff** 31.53 316 *e*P P 02 57 55.7 +1.1
comp=Z,23nm,1.0s
CBKS **Cedar Bluff** 31.53 316 *e*P P 02 57 55.7 +1.1
CBKS pmax pmax
comp=Z,23nm,1.0s
M33A **Taylor Creek F** 31.58 323 P P 02 57 56.3 +1.3
baz=130
E40A **Wakefield** 31.68 336 P P 02 57 57.3 +1.5
baz=146
E39A **Mellen** 31.88 335 P P 02 57 59.0 +1.5
baz=145
SPMN **Marine on St.** 31.91 332 P P 02 57 58.4 +0.7
baz=140
K33A **Hardington** 32.14 324 P P 02 58 00.8 +0.9
baz=131
L32A **Elgin** 32.32 322 P P 02 58 03.0 +1.5
baz=129
H35A **Sunnyside Ranc** 32.46 329 P P 02 58 02.8 +0.2
baz=137
ECSD **EROS Data Cent** 32.69 326 P P 02 58 04.2 -0.5
baz=133
ECSD **EROS Data Cent** 32.69 326 *e*P P 02 58 04.3 -0.3
comp=Z,28nm,1.9s
F36A **Milaca** 32.72 332 P P 02 58 04.9 0.0
baz=140
MNTX **Cornudas Mount** 32.83 300 P P 02 58 06.6 +0.5
baz=106,SNR=13
MNTX **Cornudas Mount** 32.83 300 *e*P P 02 58 07.0 +0.9
comp=Z,48nm,1.9s
E36A **McGregor** 33.11 333 P P 02 58 09.3 +1.0
baz=141
J32A **Parkston** 33.11 325 P P 02 58 08.5 +0.1
baz=131
K31A **O'Neill** 33.14 323 P P 02 58 08.3 -0.4
baz=129,SNR=6.2
D37A **Cotton** 33.27 334 P P 02 58 10.5 +0.8
baz=143
H33A **Prehn Over Nor** 33.41 327 P P 02 58 11.5 +0.5
baz=134
G33A **Ortonville** 33.61 328 P P 02 58 13.0 +0.4
baz=135
C37A **Embarrass** 33.63 335 P P 02 58 13.6 +0.8
baz=144
H32A **Carlson Farm,** 33.65 326 P P 02 58 13.5 +0.5
baz=133
E35A **Pequot Lakes** 33.65 332 P P 02 58 13.6 +0.6
baz=139
C36A **Pine Crest Far** 33.91 335 P P 02 58 14.9 -0.4
baz=143
T25A **Trinidad** 33.97 310 P P 02 58 14.8 -1.4
baz=115,SNR=5.4
T25A **Trinidad** 33.97 310 *e*P P 02 58 17.6 +1.4
comp=Z,33nm,1.6s
F33A **5 Mile Ranch,** 34.00 329 P P 02 58 16.0 0.0
baz=136
MHTCO **State Highway** 34.17 310 *e*P P 02 58 19.5 +1.6
comp=Z,6.3nm,1.1s

G32A **Webster** 34.19 327 P P 02 58 17.4 -0.3
baz=134
C35A **Jirik Farms, M** 34.34 334 P P 02 58 19.2 +0.2
baz=141
BNM **Barren Site** 34.56 304 *e*P P 02 58 22.9 +1.6
LPAZ **La Paz** 34.59 173 P P 02 58 23.7 +1.7
comp=Z,3.6nm,0.7s,baz=358,slow=4.2,SNR=8.6
LPAZ LR LR 03 15 24.5
comp=Z,109nm,18.5s,baz=348,slow=41
LPAZ **La Paz** 34.59 173 *e*P P 02 58 23.8 +1.7
comp=Z,8.0nm,1.0s
LPAZ **La Paz** 34.59 173 *e*P P 02 58 23.8 +1.7
LPAZ pmax pmax
comp=Z,8.0nm,1.0s
LPM **Los Pinos Moun** 34.61 304 *e*P P 02 58 23.2 +1.5
ANMO **Albuquerque** 34.68 305 P P 02 58 23.3 +1.0
baz=110
ANMO **Albuquerque** 34.68 305 *e*P P 02 58 24.0 +1.7
comp=Z,5.2nm,1.0s
ANMO **Albuquerque** 34.68 305 *e*P P 02 58 23.8 +1.5
ANMO pmax pmax
comp=Z,8.0nm,1.3s
C34A **RKJ Ranch, Bem** 34.70 333 P P 02 58 23.3 +1.2
baz=140
B35A **Bob, Littlefor** 34.76 334 P P 02 58 23.0 +0.4
baz=142
F31A **Hecla** 34.99 328 P P 02 58 25.4 +0.7
baz=133
SDCO **Great Sand Dun** 35.01 310 P P 02 58 26.2 +0.9
baz=114
SDCO **Great Sand Dun** 35.01 310 *e*P P 02 58 26.5 +1.2
comp=Z,4.9nm,1.0s
121A **Cookes Peak, D** 35.02 301 P P 02 58 26.0 +0.7
baz=105
121A **Cookes Peak, D** 35.02 301 *e*P P 02 58 25.7 +0.4
comp=Z,5.3nm,0.8s
LAZ **Ladron** 35.04 304 *e*P P 02 58 27.2 +1.8
B34A **Aery, Baudette** 35.24 334 P P 02 58 26.9 +0.2
baz=141
Q24A **Divide** 35.28 313 P P 02 58 27.7 +0.1
baz=116
D32A **Dogwood Acres,** 35.28 330 P P 02 58 27.4 +0.4
baz=136
E31A **Nome** 35.29 329 P P 02 58 27.7 +0.5
baz=134
B33A **Robert and Kas** 35.47 333 P P 02 58 29.3 +0.6
baz=139
D31A **Mcclaflin, Tow** 35.56 329 P P 02 58 30.2 +0.7
baz=135
C32A **Crookston** 35.56 331 P P 02 58 31.3 +1.8
baz=138
AGMN **Agassiz Nation** 35.61 332 P P 02 58 30.7 +0.8
baz=139
AGMN **Agassiz Nation** 35.61 332 *e*P P 02 58 32.4 +2.5
comp=Z,11nm,1.3s
SLBS **Sierra La Lagu** 35.65 285 *e*P P 02 58 33.8 +3.1
comp=Z,12nm,0.9s
A33A **Warroad** 35.90 334 P P 02 58 32.3 0.0
baz=140
ISCO **Idaho Springs** 35.97 314 P P 02 58 33.9 +0.3
baz=117
ISCO **Idaho Springs** 35.97 314 *e*P P 02 58 34.7 +1.2
comp=Z,7.6nm,1.3s
ISCO **Idaho Springs** 35.97 314 *e*P P 02 58 34.7 +1.2
ISCO pmax pmax
comp=Z,8.0nm,1.3s
S22A **4UR Ranch, Cre** 35.98 310 P P 02 58 32.6 -0.9
baz=113
S22A **4UR Ranch, Cre** 35.98 310 *e*P P 02 58 34.9 +1.3
comp=Z,4.6nm,1.1s
S22A *e*PcP PcP 03 01 01.7 +1.5
319A **Douglas** 35.98 298 *e*P P 02 58 35.9 +2.4
comp=Z,17nm,0.8s
B32A **Ashes, Strandq** 35.98 332 P P 02 58 33.3 +0.2
baz=138
C31A **Landman Farms,** 36.09 330 P P 02 58 34.1 0.0
baz=136,SNR=6.9
B31A **Greenbush Farm** 36.51 331 P P 02 58 38.3 +0.8
baz=136
SMCO **Snowmass** 36.65 312 *e*P P 02 58 40.5 +1.0
comp=Z,15nm,1.5s
SMCO *e*PcP PcP 03 01 04.4 +2.0
SCHQ **Schefferville** 36.69 5 P P 02 58 38.0 -1.1
comp=Z,3.3nm,0.8s,baz=188,slow=13,SNR=4.6
SCHQ PcP PcP 03 01 01.6 0.0
comp=Z,3.1nm,0.9s,baz=7.6,slow=15,SNR=3.5
SCHQ LR LR 03 13 01.7
comp=Z,225nm,19.2s,baz=148,slow=35
SCHQ **Schefferville** 36.69 5 *e*P P 02 58 38.0 -1.1
comp=Z,7.4nm,1.0s
SCHQ *e*PcP PcP 03 01 01.6 0.0
N23A **Red Feather La** 36.70 315 P P 02 58 40.1 +0.4
baz=118
HSIG 36.99 294 *e*P P 02 58 43.6 +1.6
comp=Z,23nm,1.2s
MVCO **Mesa Verde** 37.01 308 P P 02 58 42.8 +0.5
baz=110
MDND **Maddock** 37.03 329 P P 02 58 42.6 +0.5
baz=133
MDND **Maddock** 37.03 329 *e*P P 02 58 44.4 +2.3
comp=Z,24nm,1.1s
ULM **Lac du Bonnet** 37.11 335 P P 02 58 41.7 -1.0
comp=Z,6.8nm,0.9s,baz=147,slow=9.4,SNR=12
ULM **Lac du Bonnet** 37.11 335 *e*P P 02 58 42.2 -0.5
comp=Z,10nm,0.9s
ULM **Lac du Bonnet** 37.11 335 *e*P P 02 58 42.2 -0.5
ULM pmax pmax
comp=Z,10.0nm,0.9s
MNMC **Minye Minye** 37.28 176 *e*P P 02 58 44.0 -0.7
comp=Z,73nm,2.0s
X18A **Snowflake** 37.29 303 *e*P P 02 58 46.5 +1.8
comp=Z,9.4nm,1.1s
TUC **Tucson** 37.43 299 P P 02 58 47.0 +1.2
baz=102
TUC **Tucson** 37.43 299 *e*P P 02 58 47.6 +1.8
comp=Z,4.7nm,1.0s
TUC **Tucson** 37.43 299 *e*P P 02 58 47.6 +1.8
TUC pmax pmax
comp=Z,5.0nm,1.0s
PB11 **IPOC Station P** 37.90 176 *e*P P 02 58 49.6 -0.2
comp=Z,27nm,1.0s
RWWY **Rawlins** 37.91 316 *e*P P 02 58 51.1 +1.2
comp=Z,33nm,1.8s
K22A **Casper** 37.92 317 P P 02 58 50.2 +0.3
baz=119
K22A **Casper** 37.92 317 *e*P P 02 58 50.6 +0.8
comp=Z,6.2nm,0.7s
O20A **White River Ci** 37.94 313 P P 02 58 51.8 +1.6
baz=114
X16A **Lo Mia Camp, P** 38.45 303 *e*P P 02 58 56.8 +2.3
comp=Z,6.6nm,1.1s
WUAZ **Wupatki** 38.69 304 P P 02 58 57.8 +1.3
baz=106
WUAZ **Wupatki** 38.69 304 *e*P P 02 58 58.2 +1.7
comp=Z,7.5nm,0.9s
P18A **Preston Nutter** 39.16 311 *e*P P 02 59 02.3 +1.7
comp=Z,6.6nm,1.2s
PB01 **IPOC Station P** 39.18 176 *e*P P 02 59 00.6 +0.1
comp=Z,15nm,1.0s
GCAZ **Grand Canyon** 39.42 305 *e*P P 02 59 02.2 -0.5
U15A **North Rim** 39.65 305 *e*P P 02 59 06.8 +2.1
comp=Z,7.8nm,0.9s
DGMT **Dagmar** 39.77 326 P P 02 59 05.9 +0.8
baz=128
PD31 **Pinedale Array** 39.95 316 *e*P P 02 59 07.3 +0.3
PD31 *e*PcP PcP 03 01 12.4 +0.1
PDAR **Pinedale Array** 39.95 316 P P 02 59 07.3 +0.3
comp=Z,1.7nm,0.6s,baz=116,slow=9.2,SNR=26
PDAR PcP PcP 03 01 12.1 -0.2
comp=Z,2.5nm,0.7s,baz=108,slow=5.1,SNR=12
PDAR **Pinedale Array** 39.95 316 *e*P P 02 59 06.4 -0.6
PDAR *e*PcP PcP 03 01 12.0 -0.3
BW06 **Boulder Array** 39.95 316 P P 02 59 07.0 -0.1
baz=116
BW06 **Boulder Array** 39.95 316 *e*P P 02 59 07.1 +0.1
comp=Z,32nm,1.9s
MTPU **Mount Pierson** 40.05 308 *e*P P 02 59 09.9 +1.9
comp=Z,4.9nm,0.9s
KNB **Kanab** 40.23 306 *e*P P 02 59 11.3 +2.0
comp=Z,25nm,1.8s
KNB **Kanab** 40.23 306 *e*P P 02 59 11.3 +2.0
KNB pmax pmax
comp=Z,25nm,1.8s
W13A **Hualapai Mount** 40.57 303 *e*P P 02 59 14.2 +2.0
comp=Z,6.9nm,1.0s
NLU **North Lily Min** 40.59 311 *e*P P 02 59 13.7 +1.3
comp=Z,18nm,1.8s

RLMT **Red Lodge** 40.85 319 P P 02 59 14.3 0.0
baz=119,SNR=6.2
RLMT **Red Lodge** 40.85 319 *e*P P 02 59 14.8 +0.5
comp=Z,6.3nm,0.9s
LOHW **Long Hollow** 41.01 316 *e*P P 02 59 16.6 +0.9
comp=Z,7.8nm,0.8s
SNOW **Snow King Moun** 41.05 316 *e*P P 02 59 17.6 +1.5
REDW **Red Top Meadow** 41.07 316 *e*P P 02 59 17.1 +0.9
comp=Z,17nm,0.9s
MOOW **Moose Ponds** 41.16 317 *e*P P 02 59 17.6 +0.6
comp=Z,10.0nm,0.8s
TPAW **Teton Pass** 41.19 316 *e*P P 02 59 17.6 +0.3
comp=Z,15nm,1.1s
DUG **Dugway, Tooele** 41.21 311 P P 02 59 17.5 +0.2
baz=110
DUG **Dugway, Tooele** 41.21 311 *e*P P 02 59 18.7 +1.4
comp=Z,6.0nm,1.1s
DUG **Dugway, Tooele** 41.21 311 *e*P P 02 59 18.7 +1.4
DUG pmax pmax
comp=Z,6.0nm,1.1s
FXWY **Fox Creek** 41.30 316 *e*P P 02 59 18.5 +0.3
comp=Z,6.8nm,0.8s
H17A **Grant Village** 41.34 318 P P 02 59 19.2 +0.7
baz=116
IMW **Indian Meadow** 41.35 317 *e*P P 02 59 19.2 +0.6
comp=Z,5.5nm,0.8s
IRM **Iron Mountain** 41.39 301 P P 02 59 19.7 +1.0
baz=101
BC3 **Big Chuckawall** 41.54 300 P P 02 59 20.8 +0.7
baz=100
YHH **Holmes Hill** 41.69 318 *e*P P 02 59 23.0 +1.6
comp=Z,2.9nm,0.9s
YHH *e*PcP PcP 03 01 19.6 +1.6
YHB **Horse Butte** 41.89 318 *e*P P 02 59 26.4 +3.4
comp=Z,6.9nm,1.0s
SHPR **Sheep Range** 41.91 305 *e*P P 02 59 25.5 +2.4
comp=Z,10nm,1.0s
GMRC **Granite Mounta** 41.93 302 P P 02 59 24.5 +1.3
baz=102
QLMT **Earthquake Lak** 42.08 318 *e*P P 02 59 26.4 +2.0
MONP2 **Monument Peak** 42.21 299 P P 02 59 25.7 -0.1
baz=99
HEC **Hector,Ludlow** 42.48 302 P P 02 59 28.6 +0.9
baz=101
BOZ **Bozeman (W)** 42.54 319 P P 02 59 29.4 +1.2
baz=117
BOZ **Bozeman (W)** 42.54 319 *e*P P 02 59 28.8 +0.6
comp=Z,3.7nm,0.8s
BOZ **Bozeman (W)** 42.54 319 *e*P P 02 59 28.8 +0.6
BOZ pmax pmax
comp=Z,4.0nm,0.8s
EGMT **Eagleton** 42.58 323 P P 02 59 29.8 +1.4
baz=121
EGMT **Eagleton** 42.58 323 *e*P P 02 59 29.6 +1.3
comp=Z,6.3nm,0.8s
R11A **Troy Canyon, C** 42.70 307 P P 02 59 30.9 +1.3
baz=105
R11A **Troy Canyon, C** 42.70 307 *e*P P 02 59 31.3 +1.7
comp=Z,4.0nm,1.0s
R11A *e*PcP PcP 03 01 22.9 +1.6
FFC **Flin Flon** 42.94 335 *e*P P 02 59 32.1 +1.1
comp=Z,5.3nm,1.0s
FFC **Flin Flon** 42.94 335 *e*P P 02 59 32.1 +1.1
FFC pmax pmax
comp=Z,5.0nm,1.0s
GSC **Goldstone, Bar** 42.95 302 P P 02 59 32.7 +1.1
baz=101
MCMT **McKenzie Canyo** 42.99 317 *e*P P 02 59 33.5 +1.6
DLMT **Dillon** 43.05 318 *e*P P 02 59 33.5 +1.2
comp=Z,5.0nm,0.9s
FURC **Furnace Creek,** 43.23 304 P P 02 59 35.2 +1.5
baz=102
FCC **Fort Churchill** 43.49 344 *e*P P 02 59 34.7 -0.7
comp=Z,5.8nm,0.8s
FCC **Fort Churchill** 43.49 344 *e*P P 02 59 34.7 -0.7
FCC pmax pmax
comp=Z,6.0nm,0.8s
HLID **Hailey** 43.52 315 P P 02 59 36.7 +0.6
baz=112,SNR=6.6
HLID **Hailey** 43.52 315 *e*P P 02 59 37.0 +0.8
comp=Z,32nm,2.0s
MPMC **Manual Prospec** 43.65 303 P P 02 59 37.8 +0.6
baz=102
LRMC **Laurel Mtn Rad** 43.69 302 P P 02 59 38.4 +0.8
baz=101
DAC **Darwin (Calif)** 43.77 304 *e*P P 02 59 40.3 +2.0
comp=Z,5.0nm,1.0s
DAC **Darwin (Calif)** 43.77 304 *e*P P 02 59 40.3 +2.0
DAC pmax pmax
comp=Z,5.0nm,1.0s
EDW2 **Edwards Air Fo** 43.83 302 P P 02 59 40.0 +1.3
baz=100
CWC **Cottonwood Cre** 44.19 304 P P 02 59 43.0 +1.4
baz=101
ISA **Isabella, Lake** 44.36 303 P P 02 59 44.4 +1.5
baz=100
MFID **Camas Ranch** 44.43 314 *e*P P 02 59 44.2 +0.8
comp=Z,4.6nm,0.9s
ARVC **Arvin** 44.55 302 P P 02 59 44.9 +0.6
baz=100
NV11 **Mina Array Sit** 44.68 306 *e*P P 02 59 47.3 +1.8
comp=Z,3.6nm,2.0s
NV01 **Mina Array Sit** 44.79 306 *e*P P 02 59 47.3 +0.9
NV01 *e*PcP PcP 03 01 29.7 +1.3
NVAR **Mina Array Bea** 44.79 306 P P 02 59 47.8 +1.3
comp=Z,2.0nm,0.7s,baz=96,slow=7.6,SNR=8.0
NVAR PcP PcP 03 01 29.1 +0.7
comp=Z,3.3nm,0.7s,baz=133,slow=4.1,SNR=11
NVAR LR LR 03 20 02.5
comp=Z,109nm,20.6s,baz=288,slow=38
VES **Vestal, Richgr** 44.88 303 P P 02 59 47.9 +1.0
baz=100
JTMT **Jette** 45.13 320 *e*P P 02 59 49.8 +0.9
comp=Z,6.9nm,1.0s
FIGC **Figueroa Mtn.** 45.43 301 *e*P P 02 59 51.7 +0.3
YERR **Yerington** 45.63 307 *e*P P 02 59 55.0 +1.9
comp=Z,11nm,0.9s
BMO **Blue Mountains** 45.93 315 *e*P P 02 59 55.2 0.0
comp=Z,5.8nm,1.4s
BMO **Blue Mountains** 45.93 315 *e*P P 02 59 55.2 0.0
BMO pmax pmax
comp=Z,6.0nm,1.4s
WVOR **Wild Horse Val** 46.08 312 *e*P P 02 59 57.6 +1.1
comp=Z,7.6nm,1.0s
WVOR **Wild Horse Val** 46.08 312 *e*P P 02 59 57.6 +1.1
WVOR pmax pmax
comp=Z,8.0nm,1.0s
J08A **Circle Bar Ran** 46.24 313 *e*P P 02 59 58.5 +0.8
comp=Z,8.4nm,1.0s
F10A **Beach Ranch, E** 46.27 317 *e*P P 02 59 57.8 -0.1
comp=Z,3.8nm,0.9s
CPUP **Villa Florida** 46.63 162 P P 03 00 00.4 -0.3
comp=Z,6.5nm,0.9s,baz=357,slow=7.8,SNR=12
CPUP LR LR 03 20 21.3
comp=Z,111nm,18.6s,baz=348,slow=37
CPUP **Villa Florida** 46.63 162 *e*P P 02 59 59.9 -0.8
comp=Z,22nm,1.4s
LCO **Las Campanas** 47.05 178 *e*P P 03 00 05.0 +0.7
comp=Z,37nm,1.0s
LCO **Las Campanas** 47.05 178 *e*P P 03 00 05.0 +0.7
LCO pmax pmax
comp=Z,37nm,1.0s
NEW **Newport** 47.08 320 P P 03 00 04.1 0.0
baz=113,SNR=14
NEW **Newport** 47.08 320 *e*P P 03 00 04.5 +0.4
comp=Z,13nm,0.9s
NEW **Newport** 47.08 320 *e*P P 03 00 04.5 +0.4
NEW pmax pmax
comp=Z,13nm,0.9s
MOD **Modoc Plateau** 47.12 311 *e*P P 03 00 05.2 +0.5
comp=Z,21nm,1.8s
G08A **Pilot Rock** 47.18 315 *e*P P 03 00 05.5 +0.4
comp=Z,6.1nm,0.9s
EDM **Edmonton** 47.24 327 *e*P P 03 00 05.5 +0.2
comp=Z,21nm,1.1s
EDM **Edmonton** 47.24 327 *e*P P 03 00 05.5 +0.2
EDM pmax pmax
comp=Z,21nm,1.1s
C09A **Chrisman Ranch** 47.62 319 *e*P P 03 00 09.0 +0.7
comp=Z,6.5nm,0.8s
E08A **Dider Farm, El** 47.65 317 *e*P P 03 00 08.9 +0.4
comp=Z,4.9nm,0.7s
D08A **Wollman Farm,** 47.76 318 *e*P P 03 00 10.0 +0.6
comp=Z,6.0nm,0.9s
J05D **Fort Rock, OR** 48.15 312 P P 03 00 12.9 +0.3
baz=105
E07A **Sunnyside** 48.19 317 *e*P P 03 00 13.7 +0.9

comp=Z,5.4nm,0.9s
M04C Macdoel 48.21 310 P P 03 00 14.6 +1.5
baz=104
G06A Carlson Farm, 48.28 315 eP P 03 00 14.9 +1.4
comp=Z,31nm,1.9s
B08A Colville Reser 48.48 319 eP P 03 00 14.9 -0.1
comp=Z,14nm,0.8s
J04D Umpqua Nationa 48.75 312 P P 03 00 17.4 0.0
baz=104
YBH Yreka Blue Hor 48.83 310 P P 03 00 16.8 -1.1
comp=Z,2.8nm,0.7s,baz=61,slow=6.6,SNR=7.1
LTY Liberty 48.95 317 eP P 03 00 19.4 +0.7
comp=Z,5.0nm,0.8s
I04A Tendick Farm, 49.10 313 P P 03 00 19.1 -0.8
baz=105
H04A Detroit Lake 49.18 314 eP P 03 00 21.4 +1.0
comp=Z,15nm,0.8s
HUMO Hull Mountain 49.20 311 eP P 03 00 20.6 -0.1
comp=Z,5.4nm,0.9s
C06D Leavenworth 49.31 318 P P 03 00 22.7 +1.3
baz=110
LON Longmire 49.52 316 eP P 03 00 23.8 +0.7
comp=Z,4.1nm,0.8s
LON Longmire 49.52 316 eP P 03 00 23.8 +0.7
LON pmax pmax
comp=Z,4.0nm,0.8s
I03D Drain, OR 49.74 312 P P 03 00 24.7 +0.1
baz=104
D05A Enumclaw 49.77 317 eP P 03 00 27.0 +2.1
comp=Z,9.4nm,0.9s
G03D McMinnville, O 50.06 314 P P 03 00 28.0 +0.9
baz=105
B05A Bryant 50.18 318 P P 03 00 27.0 -0.9
baz=109
LLLB Lillooet 50.84 321 eP P 03 00 35.0 +2.0
comp=Z,6.3nm,1.0s
YKA Yellowknife Ar 53.01 337 P P 03 00 48.4 -0.5
comp=Z,7.4nm,0.9s,baz=122,slow=7.0,SNR=52
YKA LR LR 03 23 25.1
comp=Z,18nm,18.9s,baz=0.0,slow=36
YKB5 Yellowknife Ar 53.01 337 eP P 03 00 48.4 -0.5
YKW3 Yellowknife Ar 53.06 337 eP P 03 00 48.0 -1.2
comp=Z,9.5nm,0.9s
BORG Borgarnes 57.35 23 LR LR 03 24 22.3
comp=Z,249nm,18.8s,baz=132,slow=34
SUMG Summit 57.60 11 i P P 03 01 23.6 +1.3
comp=Z,17nm,1.0s
SUMG Summit 57.60 11 eP P 03 01 23.7 +1.3
comp=Z,29nm,1.2s
SUMG Summit 57.60 11 i P P 03 01 23.6 +1.3
SUMG pmax pmax
comp=Z,17nm,1.0s
RES Resolute Bay 57.75 353 eP P 03 01 24.2 +1.4
comp=Z,4.2nm,0.8s
RES Resolute Bay 57.75 353 eP P 03 01 24.2 +1.4
RES pmax pmax
comp=Z,4.0nm,0.8s
RPN Rapa Nui 57.81 220 LR LR 03 20 25.1
comp=Z,62nm,20.0s,baz=56,slow=30
DLBC Dease Lake 57.94 328 eP P 03 01 26.0 +1.5
comp=Z,10nm,0.8s
PFVI Vila Bisbo 58.07 57 eP P 03 01 28.6 +2.9
MESJ Messejana 58.56 56 eP P 03 01 30.1 +1.0
PMTG Montargil 58.57 55 eP P 03 01 32.2 +3.0
PGAV Gavieira, Arco 58.65 52 eP P 03 01 30.4 +0.6
EVO Evora 58.73 56 eP P 03 01 33.4 +3.1
PLCA Paso Flores 58.74 179 P P 03 01 30.9 +0.7
comp=Z,19nm,0.8s,baz=20,slow=8.0,SNR=51
PLCA LR LR 03 30 35.6
comp=Z,55nm,19.6s,baz=56,slow=40
PLCA Paso Flores 58.74 179 eP P 03 01 31.0 +0.7
comp=Z,27nm,0.9s
PLCA Paso Flores 58.74 179 eP P 03 01 31.0 +0.7
PLCA pmax pmax
comp=Z,27nm,0.9s
PBDV Barranco-do-Ve 58.78 57 eP P 03 01 31.8 +1.1
PVIS Viseu 58.88 53 eP P 03 01 32.3 +0.9
PVAQ Vaqueiros 58.95 57 eP P 03 01 33.0 +1.1
POLO Lamas de Olo 58.98 52 eP P 03 01 32.9 +0.8
PVRL Vila Real 59.03 52 eP P 03 01 35.0 +2.6
PESTR Estremoz 59.06 55 eP P 03 01 33.6 +1.0
MTE Manteigas 59.13 53 eP P 03 01 33.3 +0.1
PCBR Castelo Branco 59.17 54 eP P 03 01 34.0 +0.7
comp=Z,18nm,1.0s
PMRV Marv??o 59.23 55 eP P 03 01 34.3 +0.5
comp=Z,18nm,1.1s
MVO Moncorvo 59.55 53 eP P 03 01 38.4 +2.4
PAB San Pablo 61.58 54 eP P 03 01 50.4 +0.4
comp=Z,9.8nm,1.0s
PAB San Pablo 61.58 54 eP P 03 01 50.4 +0.4
PAB pmax pmax
comp=Z,10.0nm,1.0s
ESDC Sonseca Array 61.88 54 P P 03 01 51.8 -0.1
comp=Z,8.0nm,1.0s,baz=277,slow=7.0,SNR=19
ESDC LR LR 03 24 31.4
comp=Z,199nm,19.7s,baz=310,slow=32
ES19 SONSECA Array 61.93 54 eP P 03 01 52.4 +0.2
INK Inuvik 62.70 338 LR LR 03 29 05.0
comp=Z,102nm,19.5s,baz=120,slow=36
INK Inuvik 62.70 338 eP P 03 01 56.3 -0.5
comp=Z,8.4nm,1.2s
INK Inuvik 62.70 338 eP P 03 01 56.3 -0.5
INK pmax pmax
comp=Z,8.0nm,1.2s
EKA Eskdalemuir Ar 63.19 37 P P 03 02 00.3 0.0
comp=Z,2.3nm,0.7s,baz=267,slow=7.0,SNR=4.1
DAWY Dawson 63.79 333 eP P 03 02 04.5 +0.3
comp=Z,4.1nm,1.0s
SJPF Ste Jean 63.88 50 eP P 03 02 08.7 +3.6
SJPF pmax pmax
comp=Z,19nm,1.0s
GRR Gorron 64.14 45 eP P 03 02 06.3 -0.4
GRR pmax pmax
comp=Z,97nm,1.6s
FLN La Foliniere 64.40 44 eP P 03 02 08.7 +0.3
FLN pmax pmax
comp=Z,27nm,1.2s
MFF Saint Martin d 64.61 47 eP P 03 02 09.5 -0.3
MFF pmax pmax
comp=Z,11nm,0.8s
LDF La Druitiere 64.64 44 eP P 03 02 09.8 -0.1
LDF pmax pmax
comp=Z,56nm,1.6s
EGAK Eagle 64.69 334 eP P 03 02 10.7 +0.7
comp=Z,8.3nm,1.1s
EPF Esparros 65.02 50 eP P 03 02 15.3 +2.6
EPF pmax pmax
comp=Z,14nm,1.0s
KOWA Kowa 65.11 82 P P 03 02 12.8 -0.8
comp=Z,5.1nm,0.9s,baz=280,slow=8.7,SNR=8.6
KOWA Kowa 65.11 82 eP P 03 02 13.1 -0.5
CHRN Cochrane 65.24 180 eP P 03 02 15.8 +2.1
comp=Z,8.6nm,0.9s
MENT Mentasta 65.50 332 eP P 03 02 16.4 +1.0
comp=Z,5.2nm,0.8s
BMRM Bremner River 65.68 329 eP P 03 02 18.1 +1.6
comp=Z,11nm,0.9s
DOT Dot Lake 65.76 332 eP P 03 02 18.0 +1.0
comp=Z,40nm,1.6s
RIDG Independ'e Rid 66.11 332 eP P 03 02 20.4 +1.1
comp=Z,8.4nm,0.9s
CAF Calviac 66.19 48 eP P 03 02 20.7 +0.5
CAF pmax pmax
comp=Z,16nm,1.0s
TIC Toumodi 66.22 91 eP P 03 02 19.0 -1.8
DIV Divide 66.26 329 eP P 03 02 21.6 +1.3
comp=Z,8.6nm,0.7s
PAX Paxson 66.30 331 eP P 03 02 21.8 +1.2
comp=Z,5.3nm,0.9s
LIC Lamto 66.33 91 eP P 03 02 20.0 -1.5
comp=Z,31nm,1.2s
DBIC Dimbokro 66.37 91 P P 03 02 20.5 -1.2
comp=Z,4.9nm,0.9s,baz=256,slow=5.2,SNR=5.4
DBIC Dimbokro 66.37 91 eP P 03 02 20.5 -1.2
comp=Z,53nm,1.9s
DBIC Dimbokro 66.37 91 eP P 03 02 20.5 -1.2
DBIC pmax pmax
comp=Z,53nm,1.9s
KIC Kosan Boka 66.57 91 eP P 03 02 21.6 -1.4
comp=Z,62nm,1.6s
FYU Fort Yukon 66.65 335 eP P 03 02 23.7 +1.1
comp=Z,14nm,1.2s
BGF Bois d'Agland 66.67 47 eP P 03 02 22.4 -0.8
BGF pmax pmax
comp=Z,13nm,1.0s
IL1 Eielson Array 67.11 333 eP P 03 02 25.0 -0.7
ILAR Eielson Array 67.12 333 P P 03 02 25.1 -0.6
comp=Z,1.8nm,0.9s,baz=102,slow=5.0,SNR=19
ILB Eielson Array 67.12 333 eP P 03 02 26.7 +1.0
COLA College 67.54 333 eP P 03 02 27.5 -0.8
COLA pmax pmax
comp=Z,6.0nm,1.5s
MDM Murphy Dome 67.70 333 eP P 03 02 30.2 +0.8
comp=Z,6.1nm,1.1s
GIVF Givet 67.85 43 eP P 03 02 29.2 -1.3
GIVF pmax pmax
comp=Z,55nm,1.6s
RND Reindeer 67.87 332 eP P 03 02 31.3 +0.8
comp=Z,11nm,0.9s
RND Reindeer 67.87 332 eP P 03 02 31.3 +0.8
RND pmax pmax
comp=Z,11nm,0.9s
MCK McKinley 67.92 332 eP P 03 02 33.4 +2.6
comp=Z,10nm,1.3s
MCK McKinley 67.92 332 eP P 03 02 33.4 +2.6
MCK pmax pmax
comp=Z,10.0nm,1.3s
VIVF Saint-Julien-l 68.05 48 eP P 03 02 33.0 +1.0
VIVF pmax pmax
comp=Z,16nm,1.0s
TRF Thorofare Moun 68.52 332 eP P 03 02 35.3 +0.6
comp=Z,6.3nm,0.9s
TOLK Toolik Lake Re 68.53 337 P P 03 02 34.6 0.0
baz=95
TOLK Toolik Lake Re 68.53 337 eP P 03 02 34.9 +0.3
comp=Z,5.2nm,0.9s
COLD Coldfoot 68.67 336 eP P 03 02 36.5 +1.2
comp=Z,5.9nm,1.2s
MLY Manley 68.77 333 eP P 03 02 36.2 +0.1
comp=Z,3.3nm,0.9s
KTH Kantishna Hill 68.80 332 eP P 03 02 36.8 +0.4
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 68.85 332 eP P 03 02 36.6 +0.1
comp=Z,5.8nm,0.8s
CAST Castle Rocks 69.32 332 eP P 03 02 38.7 -0.9
comp=Z,9.7nm,1.5s
LPL La Plagne 69.44 47 eP P 03 02 40.8 -0.1
LPG La Plagne 69.46 47 eP P 03 02 41.1 +0.1
LPG pmax pmax
comp=Z,18nm,1.4s
ECH Echery 69.49 45 eP P 03 02 43.1 +2.2
comp=Z,13nm,1.0s
ECH Echery 69.49 45 eP P 03 02 43.1 +2.2
ECH pmax pmax
comp=Z,13nm,1.0s
CDF Champ du Feu 69.56 44 eP P 03 02 43.1 +1.7
CDF pmax pmax
comp=Z,23nm,1.5s
IM3 Indian Mountai 70.05 334 eP P 03 02 43.7 -0.2
SLE Schleitheim 70.43 45 P P 03 02 48.8 +2.1
TOA1 Torodi Ar. Sit 70.81 82 eP P 03 02 47.5 -2.0
TOA0 Torodi Ar. Sit 70.81 82 eP P 03 02 47.8 -1.7
TORD Torodi Ar. Bea 70.81 82 P P 03 02 47.5 -2.0
comp=Z,2.0nm,0.9s,baz=294,slow=5.7,SNR=10.0
NB200 NORSAR Array S 70.95 31 eP P 03 02 51.5 +1.8
NOA NORSAR Array B 70.95 31 P P 03 02 51.5 +1.8
comp=Z,3.7nm,1.0s,baz=277,slow=6.2,SNR=3.7
SVW2 Sparrevohn 71.02 329 eP P 03 02 49.7 -0.3
comp=Z,4.9nm,0.8s
DAVA Damuels 71.42 45 i pP P 03 02 53.4 +0.5
comp=Z,13nm,1.2s
FUORN Ofenpass-Fuorn 71.76 46 eP P 03 02 55.8 +0.8
comp=Z,25nm,1.3s
RETA Reutte 71.99 45 i P P 03 02 56.5 +0.3
comp=Z,13nm,1.1s
FETA Feichten 72.03 46 i pP P 03 02 57.2 +0.7
comp=Z,9.5nm,0.9s
MOTA Moosalm 72.23 45 i P P 03 02 58.0 +0.3
comp=Z,7.2nm,0.9s
HFS Hagfors 72.25 32 P P 03 02 57.8 +0.4
comp=Z,3.1nm,0.9s,baz=221,slow=15,SNR=2.9
WATA Walderalm 72.55 45 eP P 03 02 60.0 +0.3
comp=Z,1.0nm,0.2s
WTTA Wattenberg 72.61 45 i pP P 03 03 01.5 +1.5
comp=Z,6.7nm,1.1s
NKC Novy Kostel 72.72 42 eP P 03 03 01.2 +0.8
NKC Novy Kostel 72.72 42 eP P 03 03 01.2 +0.8
KEST Kesra 72.77 57 P P 03 02 59.6 -1.4
comp=Z,8.7nm,0.8s,baz=286,slow=1.5,SNR=5.6
KEST LR LR 03 29 53.5
comp=Z,253nm,20.4s,baz=296,slow=32
KEST Kesra 72.77 57 eP P 03 02 59.6 -1.4
comp=Z,45nm,1.4s
CLL Collm 72.92 41 eP P 03 03 04.0 +2.5
comp=Z,7.0nm,1.0s
CLL e 03 03 09.0
CLL Collm 72.92 41 eP P 03 03 04.0 +2.5
CLL e 03 03 09.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
WET Wettzell 73.15 43 P P 03 03 05.4 +2.4
WET pmax pmax
comp=Z,56nm,1.1s
ABTA Abfaltersbach 73.28 46 i P P 03 03 03.9 0.0
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 73.57 41 eP P 03 03 05.7 +0.3
BRG e 03 03 07.6
BRG pmax pmax
comp=Z,11nm,1.0s
KHC Kasperske Hory 73.61 43 eP P 03 03 06.2 +0.5
KHC Kasperske Hory 73.61 43 eP P 03 03 05.5 -0.2
comp=Z,5.8nm,1.1s
KHC Kasperske Hory 73.61 43 eP P 03 03 05.5 -0.2
KHC pmax pmax
comp=Z,6.0nm,1.1s
GEC2 GERESS Array S 73.73 43 eP P 03 03 07.3 +0.8
comp=Z,11nm,1.0s
GEC2 GERESS Array S 73.73 43 eP P 03 03 07.3 +0.8
GEC2 pmax pmax
comp=Z,11nm,1.0s
GERES GERESS Array B 73.73 43 P P 03 03 06.5 -0.1
comp=Z,7.5nm,0.9s,baz=278,slow=3.9,SNR=30
GEA0 GERESS Array S 73.73 43 eP P 03 03 06.3 -0.2
KBA Koelnbreinsper 73.78 45 P P 03 03 08.7 +1.7
KBA pmax pmax
comp=Z,112nm,1.4s
KBA Koelnbreinsper 73.78 45 eP P 03 03 07.1 +0.1
comp=Z,8.8nm,1.1s
PVCC Panska Ves 74.02 42 eP P 03 03 08.9 +0.9
PVCC Panska Ves 74.02 42 eP P 03 03 08.9 +0.9
MYKA Terra Mystica 74.06 46 i P P 03 03 08.6 +0.1
comp=Z,11nm,1.5s
PRU Pruhonice 74.09 42 eP P 03 03 08.6 +0.2
PRU Pruhonice 74.09 42 eP P 03 03 08.6 +0.2
MOA Molln 74.27 44 i P P 03 03 09.6 0.0
comp=Z,15nm,1.4s
TRI Trieste 74.31 47 eP P 03 03 12.2 +2.4
comp=Z,13nm,1.1s
TRI Trieste 74.31 47 eP P 03 03 12.2 +2.4
TRI pmax pmax
comp=Z,13nm,1.1s
OBKA Obir 74.70 46 epP P 03 03 13.0 +0.8
comp=Z,6.8nm,0.9s
UPC Upice 74.93 41 eP P 03 03 16.5 +3.2
UPC Upice 74.93 41 eP P 03 03 16.5 +3.2
SOKA Soboth 75.00 45 i P P 03 03 13.1 -0.8
comp=Z,4.3nm,0.9s
DPC Dobruska-Polom 75.15 41 eP P 03 03 15.1 +0.4
DPC Dobruska-Polom 75.15 41 eP P 03 03 15.1 +0.4
ARSA Arzberg 75.22 45 i P P 03 03 15.2 +0.1
comp=Z,7.4nm,1.0s
CONA Conrad Observa 75.31 44 i P P 03 03 15.8 +0.1
comp=Z,6.3nm,1.1s
ARA0 ARCESS Array S 75.65 21 eP P 03 03 17.1 -0.1
ARCES ARCESS Array B 75.65 21 P P 03 03 17.1 -0.1
comp=Z,4.8nm,0.9s,baz=266,slow=3.6,SNR=6.2
SOP Sopron 75.82 44 P P 03 03 21.2 +2.7
SOP pmax pmax
comp=Z,119nm,2.7s
MORC Moravsky Berou 76.04 42 P P 03 03 22.5 +2.7
MORC pmax pmax
comp=Z,329nm,0.8s
SMOL Smolenice 76.22 43 P P 03 03 24.6 +3.8
OKC Ostrava-Krasne 76.41 42 eP P 03 03 12.9 -8.9
VYHS Vyhne 77.14 43 eP P 03 03 26.3 +0.3
OJC Ojcow 77.36 41 eP P 03 03 28.1 +0.9
comp=Z,12nm,0.9s
OJC Ojcow 77.36 41 eP P 03 03 28.1 +0.9
OJC pmax pmax
comp=Z,12nm,0.9s
NIE Niedzica 77.86 42 eP P 03 03 34.4 +4.3
NIE Niedzica 77.86 42 eP P 03 03 34.4 +4.3
GAMB Gambell 77.92 333 eP P 03 03 31.6 +1.7
comp=Z,22nm,2.0s
FIA0 FINESS Array S 77.96 29 eP P 03 03 30.1 -0.1
FIA0 FINESS Array S 77.96 29 eP P 03 03 30.2 -0.1
FINES FINESS Array B 77.96 29 P P 03 03 30.1 -0.1
comp=Z,6.0nm,1.0s,baz=243,slow=3.4,SNR=6.8
PSZ Piszkesteto 77.96 43 eP P 03 03 32.4 +1.7
comp=Z,23nm,1.7s
PSZ Piszkesteto 77.96 43 eP P 03 03 32.4 +1.7
PSZ pmax pmax
comp=Z,23nm,1.7s
STHS Stebnicka Huta 78.46 42 eP P 03 03 35.1 +1.8
CRVS Cervenica-Dubn 78.73 42 eP P 03 03 36.7 +1.9
DIVS Divibare 78.97 47 eP P 03 03 36.0 -0.3
comp=Z,6.9nm,1.0s
VSU Vasula 79.12 32 eP P 03 03 38.0 +1.3
VSU pmax pmax
comp=Z,53nm,1.2s
KWP Kalwaria Pacla 79.33 41 P P 03 03 42.4 +4.3
BZS Buzias 79.69 45 i P P 03 03 40.2 +0.1
JOF Joensuu 79.83 27 P P 03 03 43.1 +2.6
JOF pmax pmax
comp=Z,25nm,2.7s
DRGR 80.10 44 i P P 03 03 42.5 +0.1
DRGR 80.10 44 P P 03 03 43.7 +1.3
ARCR ARCALIA 81.10 43 i P P 03 03 52.1 +4.4
BUR08 Bucovina Ar. S 81.48 43 eP P 03 03 51.4 +1.5
BUR04 Bucovina Ar. S 81.50 43 eP P 03 03 51.1 +1.2
BURAR Bucovina Array 81.50 43 i P P 03 03 50.5 +0.6
VTS Vitosha 81.64 48 i P P 03 03 51.3 +0.5
VOIR 82.06 45 i P P 03 03 53.0 +0.1
DOPR Dopca 82.12 44 i P P 03 03 54.0 +0.9
GIRR Girov 82.54 43 i P P 03 03 55.9 +0.6
MLR Muntele Rosu 82.64 45 P P 03 03 57.0 +1.0
comp=Z,2.2nm,0.6s,baz=330,slow=3.4,SNR=26
MLR Muntele Rosu 82.64 45 i P P 03 03 56.9 +0.9
MLR Muntele Rosu 82.64 45 eP P 03 03 57.3 +1.3
comp=Z,20nm,1.0s
KIEV Kiev 82.98 39 eP P 03 03 56.6 -0.8
KIEV pmax pmax
comp=Z,33nm,3.1s
AKASG Malin Array Be 82.99 39 P P 03 03 57.1 -0.3
comp=Z,0.9nm,0.7s,baz=273,slow=4.0,SNR=6.6
AKASG Malin Array Be 82.99 39 i P P 03 03 56.7 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 82.99 39 eP P 03 03 57.1 -0.3
AKBB Malin Array Si 82.99 39 eP P 03 03 57.2 -0.3
PLOR Plostina 82.99 44 i P P 03 03 58.1 +0.4
VRI Vrincioaia 83.04 44 i P P 03 03 59.2 +1.3
SORM Soroca 83.33 42 i P P 03 03 59.1 -0.2
IDI Anoyia 85.14 55 P P 03 04 07.6 -1.3
comp=Z,5.5nm,0.9s,baz=298,slow=8.7,SNR=6.9
IDI LR LR 03 38 01.6
comp=Z,68nm,18.5s,baz=296,slow=33
IDI Anoyia 85.14 55 i P P 03 04 07.9 -1.0
IDI Anoyia 85.14 55 eP P 03 04 09.6 +0.7
comp=Z,6.6nm,0.8s
OBN Obninsk 85.38 33 eP P 03 04 09.6 +0.1
OBN S S 03 14 33.0 -7.0
OBN pmax pmax
comp=Z,20nm,1.5s
OBN MLR MLR
comp=Z,294nm,15.0s
KARP Karpathos 86.80 54 eP P 03 04 16.9 -0.2
comp=Z,8.6nm,0.9s
VSR Storozhevoye 88.52 36 eP P 03 04 24.6 -0.3
VSR pmax pmax
comp=Z,17nm,1.2s
TIXI Tiksi 89.14 353 eP P 03 04 27.3 -0.1
TIXI pmax pmax
comp=Z,6.0nm,0.8s
BR231 Keskin MP Arra 89.36 48 eP P 03 04 31.3 +2.1
BR101 Keskin Array S 90.01 48 eP P 03 04 32.4 0.0
BR131 Keskin Array S 90.01 48 eP P 03 04 32.5 +0.2
BRTR Keskin Array B 90.01 48 P P 03 04 32.4 0.0
comp=Z,2.2nm,0.9s,baz=294,slow=2.5,SNR=10
SEY Seymchan 91.86 341 i P P 03 04 40.8 +0.5
KBZ Khabaz 94.37 41 P P 03 04 53.6 +1.4
comp=Z,1.9nm,0.8s,baz=214,slow=3.1,SNR=3.7
NEY Neytrino 94.50 42 eP P 03 04 54.1 +1.0
NEY pmax pmax
comp=Z,1.0nm,1.1s
ARU Arti 94.85 25 d iP P 03 04 55.8 +1.6
ARU 03 08 44.8
ARU S SKSac 03 15 28.4 -0.9
ARU pmax pmax
comp=Z,7.0nm,1.2s
SONA0 Songino Array 114.16 1 ePKiKP PKiKP 03 10 10.7 -1.4
SONM Songino Array 114.16 1 PKP PKPdf 03 10 10.7 -1.4
comp=Z,0.3nm,0.8s,baz=22,slow=1.6,SNR=2.5
KSH Kashi 115.22 27 ePKP PKPdf 03 10 15.1 +0.8
HHC Hu-ho-hao-te 121.06 357 eP PKPdf 03 10 26.1 +0.6
GTA Gaotai 122.10 7 ePKP PKPdf 03 10 28.5 +1.0
LZH Lanzhou 125.78 4 ePKP PKPdf 03 10 36.5 +1.8
LZH pPKP pPKPdf 03 10 38.2 -1.4
LZH sPKP 03 10 39.0
CD2 Chengdu 130.91 5 PKP PKPdf 03 10 44.0 -0.5
CMAR Chiang Mai Arr 142.43 14 PKhKP PKPpre 03 11 01.1
comp=Z,1.0nm,0.3s,baz=321,slow=4.1,SNR=5.9
STKA Stephens Creek 146.76 239 PKPbc PKPdf 03 11 13.2 +0.1
comp=Z,3.1nm,0.8s,baz=141,slow=4.3,SNR=3.2
WR1 Warramunga Arr 154.96 262 ePKPdf PKPdf 03 11 25.8 -0.3
WR1 ePKPbc PKPbc 03 11 34.4 -0.5
WRA Warramunga Arr 154.96 262 PKP PKPdf 03 11 25.8 -0.3
comp=Z,2.2nm,0.8s,baz=91,slow=1.3,SNR=16
WRA PKPbc PKPbc 03 11 34.4 -0.5
comp=Z,2.0nm,0.7s,baz=85,slow=2.7,SNR=16
AS31 Alice Springs 155.15 253 ePKPdf PKPdf 03 11 24.8 -1.5
AS31 ePKPbc PKPbc 03 11 34.3
AS31 ePKPab PKPab 03 11 50.6 -0.4
ASAR Alice Springs 155.15 253 PKP PKPdf 03 11 24.8 -1.5
comp=Z,0.9nm,0.8s,baz=117,slow=1.6,SNR=10
ASAR PKPbc PKPbc 03 11 34.3
comp=Z,1.2nm,0.6s,baz=111,slow=2.0,SNR=10
ASAR PKPab PKPab 03 11 50.6 -0.4
comp=Z,1.9nm,0.9s,baz=108,slow=3.5,SNR=7.0

*NEIC **08** 02:52:35.4±0.0, 16°.61N×96°.26W, h60km, MD4.0(MEX), After MEX.*

MEX 08 02:52:35.4±0.5, 16°.61N×96°.26W, h60km±6km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.64**	**315**	*eP*		Pn	02 52 47.5	-1.7
VHO				*i* S		Sn	02 52 57.6	-1.7
VHO	**Vista Hermosa**	**0.64**	**315**	*eP*		Pn	02 52 47.5	-1.7
VHO				*i* S		Sn	02 52 57.6	-1.7
HUIG	**Huatulco**	**0.85**	**170**	*eP*		Pn	02 52 50.5	-1.1
HUIG				*i* S		Sn	02 53 01.5	-2.0
HUIG	**Huatulco**	**0.85**	**170**	*eP*		Pn	02 52 50.5	-1.1
HUIG				*i* S		Sn	02 53 01.5	-2.0
PANG	**Puerto Angel**	**0.96**	**192**	*i* P		Pn	02 52 50.9	-2.1
PANG				*i* S		Sn	02 53 04.4	-1.5
PNIG	**Pinotepa**	**1.81**	**263**	*eP*		Pn	02 53 02.6	-1.6
PNIG				*i* S		Sn	02 53 23.7	-2.5
PNIG	**Pinotepa**	**1.81**	**263**	*eP*		Pn	02 53 02.6	-1.6
PNIG				*i* S		Sn	02 53 23.7	-2.5
TPIG	**Tehuac#an**	**2.08**	**330**	*i* P		Pn	02 53 06.3	-1.8
TPIG				*i* S		Sn	02 53 31.4	-1.7
TPIG	**Tehuac#an**	**2.08**	**330**	*i* P		Pn	02 53 06.3	-1.8
TPIG				*i* S		Sn	02 53 31.4	-1.7
TLIG	**Tlapa**	**2.40**	**294**	*eP*		Pn	02 53 12.1	-0.4
TLIG				*eS*		Sn	02 53 39.2	-1.6
TLIG	**Tlapa**	**2.40**	**294**	*eP*		Pn	02 53 12.1	-0.4
TLIG				*eS*		Sn	02 53 39.2	-1.6
TGIG		**3.01**	**86**	*i* P		Pn	02 53 19.9	-0.8
TGIG				*i* S		Sn	02 53 54.6	-1.1
TGIG		**3.01**	**86**	*i* P		Pn	02 53 19.9	-0.8
TGIG				*i* S		Sn	02 53 54.6	-1.1
PCIG		**3.06**	**107**	*i* P		Pn	02 53 20.4	-0.9
PCIG				*i* S		Sn	02 53 54.9	-1.8
PCIG		**3.06**	**107**	*i* P		Pn	02 53 20.4	-0.9
PCIG				*i* S		Sn	02 53 54.9	-1.8
ACX	**Acapulco**	**3.46**	**275**	*eP*		Pn	02 53 26.8	0.0
ACX	**Acapulco**	**3.46**	**275**	*eP*		Pn	02 53 26.8	0.0
CCIG	**Comitan**	**3.97**	**94**	*i* P		Pn	02 53 32.7	-1.2
CCIG				*i* S		Sn	02 54 17.9	-1.4
CCIG	**Comitan**	**3.97**	**94**	*i* P		Pn	02 53 32.7	-1.2
CCIG				*i* S		Sn	02 54 17.9	-1.4

CNRM ***08*** *02:53:10.4, 36°.64N×11°.02W, h30km, MD3.4*
ISCJB ***08*** *02:53:12.4±0.7, 36°.72N±0°.03×10°.97W±0°.04, h10km, Error ellipse: s-maj=5.3km s-min=4.3km az=154.1*
SFS ***08*** *02:53:12.0, 36°.64N×11°.00W, h0km, ML3.1*
IGIL ***08*** *02:53:13.6, 36°.49N×11°.18W, h20km, ML2.8*
MDD ***08*** *02:53:13.1±1.2, 36°.64N×11°.05W, h0km, mbLg3.1/25, Error ellipse: s-maj=10.6km s-min=8.1km az=61.0, PRXIMO*
INMG ***08*** *02:53:14.1±0.8, 36°.49N×11°.21W, h25km, ML2.8, Error ellipse: s-maj=3.2km s-min=2.2km az=80.0*
CSEM ***08*** *02:53:15.4±0.2, 36°.70N×10°.95W, h20km, ML3.6/13, Error ellipse: s-maj=4.6km s-min=3.4km az=57.0*

ISC 08 02:53:10.1±2.0, 36°58N±0°.06×11°10W±0°.09, h10km, n158, σ2s02/286, 8C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.90**	**72**	⇑*i*Pn	**Pb**	**02 53 44.7**	**-0.2**
PFVI				*e*Sn	**Sn**	**02 54 07.0**	**+0.3**
PFVI				A	A	02 54 08.0	
	36nm,0.2s						
PFVI	**Vila Bisbo**	**1.90**	**72**	⇑P	**Pb**	**02 53 44.7**	**-0.2**
	87nm,0.1s,SNR=18						
PFVI				S	**Sn**	**02 54 07.2**	**+0.5**
	75nm,0.1s,SNR=7.8						
PFVI	**Vila Bisbo**	**1.90**	**72**	P	**Pb**	**02 53 44.7**	**-0.2**
	87nm,0.1s,SNR=18						
PFVI				*e*Sn	**Sn**	**02 54 07.0**	**+0.3**
	36nm,0.2s						
MORF	**Marmelete**	**2.09**	**69**	*e*P	**Pb**	**02 53 47.4**	**-0.8**
MORF				*e*S	**Sn**	**02 54 11.9**	**+0.6**
MORF				AML	AML	02 54 13.8	
	comp=N,68nm,0.4s						
MORF	**Marmelete**	**2.09**	**69**	⇑*i*Pn	**Pb**	**02 53 47.4**	**-0.8**
MORF				*e*Sn	**Sn**	**02 54 12.5**	**+1.1**
MORF				A	A	02 54 17.6	
	comp=N,32nm,0.2s						
MORF	**Marmelete**	**2.09**	**69**	P	**Pb**	**02 53 47.4**	**-0.8**
MORF				S	**Sn**	**02 54 11.9**	**+0.6**
	comp=N,68nm,0.4s						
MORF	**Marmelete**	**2.09**	**69**	P	**Pb**	**02 53 47.4**	**-0.8**
MORF				S	**Sn**	**02 54 11.9**	**+0.6**
	comp=N,68nm,0.4s						
MORF				*e*Sn	**Sn**	**02 54 12.5**	**+1.1**
	comp=N,32nm,0.2s						
PTEO	**Sao Teotonio**	**2.13**	**62**	*e*Pn	**Pb**	**02 53 48.0**	**-0.8**
PTEO				*e*Sn	**Sn**	**02 54 13.6**	**+1.4**
PTEO				A	A	02 54 19.3	
	comp=N,33nm,0.5s						
PTEO	**Sao Teotonio**	**2.13**	**62**	P	**Pb**	**02 53 48.0**	**-0.8**
PTEO				S	**Sn**	**02 54 13.6**	**+1.4**
	comp=N,16nm,0.5s						
PTEO	**Sao Teotonio**	**2.13**	**62**	P	**Pb**	**02 53 48.0**	**-0.8**
PTEO				S	**Sn**	**02 54 13.6**	**+1.4**
	comp=N,16nm,0.5s						
PNCL	**Nicolau / Gran**	**2.56**	**52**	⇑*i*Pn	**Pn**	**02 53 53.9**	**+2.3**
PNCL				*e*Sn	**Sn**	**02 54 23.7**	**+0.9**
PNCL				A	A	02 54 26.9	
	comp=N,38nm,0.7s						
PNCL	**Nicolau / Gran**	**2.56**	**52**	⇑*i*Pn	**Pn**	**02 53 53.9**	**+2.3**
PNCL				*e*Sn	**Sn**	**02 54 23.7**	**+0.9**
	comp=N,38nm,0.7s						
MESJ	**Messejana**	**2.62**	**60**	*e*P	**Pn**	**02 53 54.7**	**+2.2**
MESJ				*e*S	**Sn**	**02 54 24.9**	**+0.5**
MESJ				AML	AML	02 54 26.5	
	comp=N,14nm,0.3s						
MESJ	**Messejana**	**2.62**	**60**	*e*Pn	**Pn**	**02 53 54.7**	**+2.2**
MESJ				*e*Sn	**Sn**	**02 54 25.2**	**+0.9**
MESJ				A	A	02 54 33.4	
	comp=N,17nm,0.5s						
MESJ	**Messejana**	**2.62**	**60**	P	**Pn**	**02 53 54.7**	**+2.2**
MESJ				S	**Sn**	**02 54 24.9**	**+0.5**
	comp=N,14nm,0.3s						
MESJ	**Messejana**	**2.62**	**60**	P	**Pn**	**02 53 54.7**	**+2.2**
MESJ				S	**Sn**	**02 54 24.9**	**+0.5**
	comp=N,14nm,0.3s						
MESJ				*e*Sn	**Sn**	**02 54 25.2**	**+0.9**
	comp=N,17nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.62**	**74**	⇑*e*Pn	**Pn**	**02 53 54.9**	**+2.4**
PBDV				*e*Sn	**Sn**	**02 54 25.1**	**+0.6**
PBDV				A	A	02 54 36.5	
	comp=N,8.9nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.62**	**74**	P	**Pn**	**02 53 54.9**	**+2.4**
PBDV				S	**Sn**	**02 54 25.1**	**+0.6**
	comp=N,8.9nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.62**	**74**	P	**Pn**	**02 53 54.9**	**+2.4**
PBDV				S	**Sn**	**02 54 25.1**	**+0.6**
	comp=N,8.9nm,0.3s						
LIS	**Lisbon**	**2.64**	**35**	*e*S	**Sn**	**02 54 25.5**	**+0.8**
LIS				AML	AML	02 54 27.4	
	comp=N,59nm,0.5s						
LIS	**Lisbon**	**2.64**	**35**	S	**Sn**	**02 54 25.5**	**+0.8**
	comp=N,59nm,0.5s						
PMST	**Lisbon--Monsan**	**2.64**	**35**	*e*Pn	**Pn**	**02 53 55.3**	**+2.6**
PMST				*e*Sn	**Sn**	**02 54 25.5**	**+0.7**
PMST				A	A	02 54 28.6	
	comp=N,26nm,0.2s						
PMST	**Lisbon--Monsan**	**2.64**	**35**	*e*Pn	**Pn**	**02 53 55.3**	**+2.6**
PMST				*e*Sn	**Sn**	**02 54 25.5**	**+0.7**
	comp=N,26nm,0.2s						
PCVE	**Castro Verde**	**2.66**	**66**	*e*Pn	**Pn**	**02 53 55.4**	**+2.3**
PCVE				*e*Sn	**Sn**	**02 54 26.7**	**+1.3**
PCVE				A	A	02 54 31.9	
	comp=N,9.0nm,0.4s						
PCVE	**Castro Verde**	**2.66**	**66**	P	**Pn**	**02 53 55.4**	**+2.3**
PCVE				S	**Sn**	**02 54 26.7**	**+1.3**
	comp=N,9.0nm,0.4s						
PCVE	**Castro Verde**	**2.66**	**66**	P	**Pn**	**02 53 55.4**	**+2.3**
PCVE				S	**Sn**	**02 54 26.7**	**+1.3**
	comp=N,9.0nm,0.4s						
PMAFR	**Mafra**	**2.78**	**31**	*e*Pn	**Pn**	**02 53 56.5**	**+1.9**
PMAFR				*e*Sn	**Sn**	**02 54 28.8**	**+0.6**
PMAFR				A	A	02 54 29.7	
	comp=N,72nm,0.2s						
PMAFR	**Mafra**	**2.78**	**31**	P	**Pn**	**02 53 56.5**	**+1.9**
	comp=N,1.8nm,0.1s,SNR=14						
PMAFR				S	**Sn**	**02 54 28.5**	**+0.3**
	comp=N,88nm,0.2s,SNR=5.9						
PMAFR	**Mafra**	**2.78**	**31**	P	**Pn**	**02 53 56.5**	**+1.9**
	comp=N,1.8nm,0.1s,SNR=14						
PMAFR				S	**Sn**	**02 54 28.5**	**+0.3**
	comp=N,88nm,0.2s,SNR=5.9						
PMAFR				*e*Sn	**Sn**	**02 54 28.8**	**+0.6**
	comp=N,72nm,0.2s						
PVAQ	**Vaqueiros**	**2.83**	**72**	*e*Pn	**Pn**	**02 53 57.7**	**+2.4**
PVAQ				*e*Sn	**Sn**	**02 54 29.9**	**+0.4**
PVAQ				A	A	02 54 43.0	
	comp=N,16nm,0.7s						
PVAQ	**Vaqueiros**	**2.83**	**72**	P	**Pn**	**02 53 57.7**	**+2.4**
PVAQ				S	**Sn**	**02 54 29.9**	**+0.4**
	comp=N,16nm,0.7s						
PVAQ	**Vaqueiros**	**2.83**	**72**	P	**Pn**	**02 53 57.7**	**+2.4**
PVAQ				S	**Sn**	**02 54 29.9**	**+0.4**
	comp=N,16nm,0.7s						
PBEJ	**Beja**	**2.96**	**60**	*e*Pn	**Pn**	**02 53 59.1**	**+2.0**
PBEJ				*e*Sn	**Sn**	**02 54 33.2**	**+0.6**
PBEJ				A	A	02 54 36.0	
	comp=N,13nm,0.2s						
PBEJ	**Beja**	**2.96**	**60**	P	**Pn**	**02 53 59.1**	**+2.0**
PBEJ				S	**Sn**	**02 54 33.2**	**+0.6**
	comp=N,6.7nm,0.2s						
PBEJ	**Beja**	**2.96**	**60**	P	**Pn**	**02 53 59.1**	**+2.0**
PBEJ				S	**Sn**	**02 54 33.2**	**+0.6**
	comp=N,6.7nm,0.2s						
EGRO	**El Granado**	**3.04**	**71**	P	**Pn**	**02 54 00.6**	**+2.3**
	comp=N,3.2nm,0.1s,SNR=61						
EGRO				S	**Sn**	**02 54 35.6**	**+0.8**
	comp=N,14nm,0.2s,SNR=6.2						
EGRO	**El Granado**	**3.04**	**71**	P	**Pn**	**02 54 00.6**	**+2.3**
	comp=N,3.2nm,0.1s,SNR=61						
EGRO				S	**Sn**	**02 54 35.6**	**+0.8**
	comp=N,14nm,0.2s,SNR=6.2						
EVO	**Evora**	**3.13**	**51**	*e*Pn	**Pn**	**02 54 01.7**	**+2.2**
EVO				*e*Sn	**Sn**	**02 54 37.7**	**+0.7**
EVO				A	A	02 54 38.7	
	comp=N,40nm,0.1s						
EVO	**Evora**	**3.13**	**51**	P	**Pn**	**02 54 01.4**	**+1.9**
EVO				S	**Sn**	**02 54 37.0**	**0.0**
EVO	**Evora**	**3.13**	**51**	P	**Pn**	**02 54 01.4**	**+1.9**
EVO	**Evora**	**3.13**	**51**	*e*Pn	**Pn**	**02 54 01.7**	**+2.2**
EVO				S	**Sn**	**02 54 37.0**	**0.0**
EVO				*e*Sn	**Sn**	**02 54 37.7**	**+0.7**
	comp=N,40nm,0.1s						
ALMR	**Almeirim**	**3.26**	**37**	*e*P	**Pn**	**02 54 03.7**	**+2.5**
ALMR				*e*S	**Sn**	**02 54 40.1**	**+0.1**
ALMR				AML	AML	02 54 42.4	
	comp=N,42nm,0.2s						
ALMR	**Almeirim**	**3.26**	**37**	*e*P	**Pn**	**02 54 03.7**	**+2.5**
ALMR				*e*S	**Sn**	**02 54 40.1**	**+0.1**
ALMR	**Almeirim**	**3.26**	**37**	P	**Pn**	**02 54 03.7**	**+2.5**
ALMR				S	**Sn**	**02 54 40.1**	**+0.1**
	comp=N,21nm,0.2s						
ALMR	**Almeirim**	**3.26**	**37**	P	**Pn**	**02 54 03.7**	**+2.5**
ALMR				S	**Sn**	**02 54 40.1**	**+0.1**
	comp=N,21nm,0.2s						
PMTG	**Montargil**	**3.37**	**42**	*e*Pn	**Pn**	**02 54 04.5**	**+1.7**
PMTG				*e*Sn	**Sn**	**02 54 42.6**	**-0.2**
PMTG				A	A	02 54 44.6	
	comp=N,13nm,0.2s						
PMTG	**Montargil**	**3.37**	**42**	*e*Pn	**Pn**	**02 54 04.5**	**+1.7**
PMTG				*e*Sn	**Sn**	**02 54 42.6**	**-0.2**
	comp=N,13nm,0.2s						
PESTR	**Estremoz**	**3.60**	**50**	*e*Pn	**Pn**	**02 54 08.2**	**+2.2**
PESTR				*e*Sn	**Sn**	**02 54 48.6**	**+0.1**
PESTR				A	A	02 54 51.0	
	comp=N,6.7nm,0.7s						
PESTR	**Estremoz**	**3.60**	**50**	*e*Pn	**Pn**	**02 54 08.2**	**+2.2**
PESTR				*e*Sn	**Sn**	**02 54 48.6**	**+0.1**
	comp=N,6.7nm,0.7s						
PBAR	**Barrancos**	**3.60**	**63**	*e*Pn	**Pn**	**02 54 08.4**	**+2.4**
PBAR				*e*Sn	**Sn**	**02 54 48.7**	**+0.1**
PBAR				A	A	02 54 53.6	
	comp=N,17nm,0.2s						
PBAR	**Barrancos**	**3.60**	**63**	P	**Pn**	**02 54 08.4**	**+2.4**
PBAR				S	**Sn**	**02 54 48.7**	**+0.1**
	comp=N,17nm,0.2s						
PBAR	**Barrancos**	**3.60**	**63**	P	**Pn**	**02 54 08.4**	**+2.4**
PBAR				S	**Sn**	**02 54 48.7**	**+0.1**
	comp=N,17nm,0.2s						
PTOM	**Tomar**	**3.70**	**34**	*e*Pn	**Pn**	**02 54 10.3**	**+2.9**
PTOM				*e*Sn	**Sn**	**02 54 51.5**	**+0.5**
PTOM				A	A	02 54 53.6	
	comp=N,21nm,0.1s						
PTOM	**Tomar**	**3.70**	**34**	P	**Pn**	**02 54 10.3**	**+2.9**
PTOM				S	**Sn**	**02 54 51.5**	**+0.5**
	comp=N,11nm,0.1s						
PTOM	**Tomar**	**3.70**	**34**	P	**Pn**	**02 54 10.3**	**+2.9**
PTOM				S	**Sn**	**02 54 51.5**	**+0.5**
	comp=N,11nm,0.1s						
EMIN	**Mina Concepcio**	**3.73**	**70**	P	**Pn**	**02 54 09.6**	**+1.9**
	comp=N,2.9nm,0.1s,SNR=48						
EMIN				S	**Sn**	**02 54 51.9**	**+0.2**
	comp=N,10nm,0.3s,SNR=6.9						
EMIN	**Mina Concepcio**	**3.73**	**70**	P	**Pn**	**02 54 09.6**	**+1.9**
	comp=N,2.9nm,0.1s,SNR=48						
EMIN				S	**Sn**	**02 54 51.9**	**+0.2**
	comp=N,10nm,0.3s,SNR=6.9						
EBAD	**Badajoz**	**3.90**	**55**	P	**Pn**	**02 54 12.0**	**+1.9**
	comp=N,5.0nm,0.1s,SNR=45						
EBAD				S	**Sn**	**02 54 55.8**	**-0.2**
	comp=N,21nm,0.2s,SNR=8.0						
EBAD	**Badajoz**	**3.90**	**55**	P	**Pn**	**02 54 12.0**	**+1.9**
	comp=N,5.0nm,0.1s,SNR=45						
EBAD				S	**Sn**	**02 54 55.8**	**-0.2**
	comp=N,21nm,0.2s,SNR=8.0						
PCAS	**Casmilo, Conde**	**4.03**	**30**	*e*Pn	**Pn**	**02 54 13.8**	**+2.0**
PCAS				*e*Sn	**Sn**	**02 54 59.5**	**+0.4**
PCAS				A	A	02 55 02.6	
	comp=N,9.8nm,0.2s						
PCAS	**Casmilo, Conde**	**4.03**	**30**	*e*Pn	**Pn**	**02 54 13.8**	**+2.0**
PCAS				*e*Sn	**Sn**	**02 54 59.5**	**+0.4**
	comp=N,9.8nm,0.2s						
PMRV	**Marv??o**	**4.08**	**45**	*e*Pn	**Pn**	**02 54 14.4**	**+1.8**
PMRV				*e*Sn	**Sn**	**02 55 00.4**	**-0.1**
PMRV				A	A	02 55 02.6	
	comp=N,13nm,0.2s						
PMRV	**Marv??o**	**4.08**	**45**	P	**Pn**	**02 54 14.4**	**+1.8**
PMRV				S	**Sn**	**02 55 00.4**	**-0.1**
	comp=N,13nm,0.2s						
PMRV	**Marv??o**	**4.08**	**45**	P	**Pn**	**02 54 14.4**	**+1.8**
PMRV				S	**Sn**	**02 55 00.4**	**-0.1**
	comp=N,13nm,0.2s						
COI	**Coimbra**	**4.19**	**29**	S	**Sn**	**02 55 03.5**	**+0.4**
	comp=N,10nm,0.2s						
COI	**Coimbra**	**4.19**	**29**	S	**Sn**	**02 55 03.5**	**+0.4**
	comp=N,10nm,0.2s						
ESPR	**Espera**	**4.22**	**84**	⇑P	**Pn**	**02 54 16.5**	**+2.0**
	comp=N,16nm,0.1s,SNR=18						
ESPR				S	**Sn**	**02 55 03.4**	**-0.4**
	comp=N,22nm,0.3s						
ESPR	**Espera**	**4.22**	**84**	P	**Pn**	**02 54 16.5**	**+2.0**
	comp=N,16nm,0.1s,SNR=18						
ESPR				S	**Sn**	**02 55 03.4**	**-0.4**
	comp=N,22nm,0.3s						
PCBR	**Castelo Branco**	**4.33**	**40**	*e*Pn	**Pn**	**02 54 18.3**	**+2.3**
PCBR				*e*Sn	**Sn**	**02 55 06.0**	**-0.5**
PCBR				A	A	02 55 08.8	
	comp=N,9.1nm,0.4s						
PCBR	**Castelo Branco**	**4.33**	**40**	P	**Pn**	**02 54 18.3**	**+2.3**
PCBR				S	**Sn**	**02 55 06.0**	**-0.5**
	comp=N,4.6nm,0.4s						
PCBR	**Castelo Branco**	**4.33**	**40**	P	**Pn**	**02 54 18.3**	**+2.3**
PCBR				S	**Sn**	**02 55 06.0**	**-0.5**
	comp=N,4.6nm,0.4s						
EJIF	**Jimena Fronter**	**4.54**	**90**	⇑P	**Pn**	**02 54 21.3**	**+2.5**
	comp=N,3.4nm,0.2s,SNR=18						
EJIF	**Jimena Fronter**	**4.54**	**90**	P	**Pn**	**02 54 21.3**	**+2.5**
	comp=N,3.4nm,0.2s,SNR=18						
MTE	**Manteigas**	**4.73**	**35**	*e*Pn	**Pn**	**02 54 23.4**	**+1.9**
MTE				*e*Sn	**Sn**	**02 55 15.7**	**-0.7**
MTE				A	A	02 55 19.3	
	comp=N,9.0nm,0.6s						
MTE	**Manteigas**	**4.73**	**35**	P	**Pn**	**02 54 23.4**	**+1.9**
MTE				S	**Sn**	**02 55 15.7**	**-0.7**
	comp=N,4.5nm,0.6s						
MTE	**Manteigas**	**4.73**	**35**	P	**Pn**	**02 54 23.4**	**+1.9**
MTE				S	**Sn**	**02 55 15.7**	**-0.7**
	comp=N,4.5nm,0.6s						
ECAB	**El Cabril**	**4.77**	**70**	P	**Pn**	**02 54 24.0**	**+2.0**
	comp=N,3.3nm,0.2s,SNR=18						
ECAB				S	**Sn**	**02 55 16.1**	**-1.2**
	comp=N,8.8nm,0.3s,SNR=10						
ECAB	**El Cabril**	**4.77**	**70**	P	**Pn**	**02 54 24.0**	**+2.0**
	comp=N,3.3nm,0.2s,SNR=18						
ECAB				S	**Sn**	**02 55 16.1**	**-1.2**
	comp=N,8.8nm,0.3s,SNR=10						
PVIS	**Viseu**	**4.83**	**30**	*e*Pn	**Pn**	**02 54 24.8**	**+1.9**
PVIS				*e*Sn	**Sn**	**02 55 17.9**	**-1.1**
PVIS				A	A	02 55 19.3	
	comp=N,12nm,0.3s						
PVIS	**Viseu**	**4.83**	**30**	P	**Pn**	**02 54 24.8**	**+1.9**
PVIS				S	**Sn**	**02 55 17.9**	**-1.1**
	comp=N,6.1nm,0.3s						
PVIS	**Viseu**	**4.83**	**30**	P	**Pn**	**02 54 24.8**	**+1.9**
PVIS				S	**Sn**	**02 55 17.9**	**-1.1**
	comp=N,6.1nm,0.3s						
PTO	**Porto**	**4.95**	**22**	*e*Sn	**Sn**	**02 55 20.8**	**-1.1**
PTO				A	A	02 55 23.6	
	comp=N,22nm,0.1s						
PTO	**Porto**	**4.95**	**22**	S	**Sn**	**02 55 20.8**	**-1.1**
	comp=N,11nm,0.1s						
PTO	**Porto**	**4.95**	**22**	S	**Sn**	**02 55 20.8**	**-1.1**
	comp=N,11nm,0.1s						
EPLA	**Plasencia**	**5.26**	**47**	S	**Sn**	**02 55 27.9**	**-1.6**
	comp=N,6.9nm,0.1s,SNR=4.0						
EPLA	**Plasencia**	**5.26**	**47**	S	**Sn**	**02 55 27.9**	**-1.6**
	comp=N,6.9nm,0.1s,SNR=4.0						
CIA	**Chichaoua**	**5.36**	**158**	*i*P	**Pn**	**02 54 28.0**	**-2.2**
CIA				*i*S	**Sn**	**02 55 26.0**	**-6.0**
PVRL	**Vila Real**	**5.38**	**28**	*e*Sn	**Sn**	**02 55 31.0**	**-1.5**
PVRL				A	A	02 55 33.0	
	comp=N,9.4nm,0.2s						
PVRL	**Vila Real**	**5.38**	**28**	S	**Sn**	**02 55 31.0**	**-1.5**
	comp=N,4.7nm,0.2s						
PVRL	**Vila Real**	**5.38**	**28**	S	**Sn**	**02 55 31.0**	**-1.5**
	comp=N,4.7nm,0.2s						
EADA	**Adamuz**	**5.43**	**71**	P	**Pn**	**02 54 33.1**	**+2.0**
	comp=N,8.3nm,0.2s,SNR=44						
EADA				S	**Sn**	**02 55 32.6**	**-1.1**
	comp=N,5.3nm,0.3s,SNR=4.7						
EADA	**Adamuz**	**5.43**	**71**	P	**Pn**	**02 54 33.1**	**+2.0**
	comp=N,8.3nm,0.2s,SNR=44						
EADA				S	**Sn**	**02 55 32.6**	**-1.1**
	comp=N,5.3nm,0.3s,SNR=4.7						
POLO	**Lamas de Olo**	**5.44**	**27**	*e*Pn	**Pn**	**02 54 32.9**	**+1.6**
POLO				*e*Sn	**Sn**	**02 55 32.5**	**-1.5**
POLO				A	A	02 55 35.6	
	comp=N,3.7nm,0.6s						
POLO	**Lamas de Olo**	**5.44**	**27**	*e*Pn	**Pn**	**02 54 32.9**	**+1.6**
POLO				*e*Sn	**Sn**	**02 55 32.5**	**-1.5**
	comp=N,3.7nm,0.6s						
PMPS	**Porto Santo**	**5.56**	**232**	*e*Pn	**Pn**	**02 54 27.7**	**-5.1**
PMPS				*e*Sn	Sn	02 55 20.9	-16
PMPS	**Porto Santo**	**5.56**	**232**	P	Pn	02 54 27.7	-5.1
PMPS				S	Sn	02 55 20.9	-16
MVO	**Moncorvo**	**5.57**	**33**	*e*Pn	**Pn**	**02 54 34.7**	**+1.6**
MVO				*e*Sn	**Sn**	**02 55 35.8**	**-1.5**
MVO				A	A	02 55 37.8	
	comp=N,8.7nm,0.4s						
MVO	**Moncorvo**	**5.57**	**33**	P	**Pn**	**02 54 34.7**	**+1.6**
	comp=N,0.3nm,0.1s,SNR=6.5						
MVO				S	**Sn**	**02 55 34.9**	**-2.3**
	comp=N,5.3nm,0.1s,SNR=10.0						
MVO	**Moncorvo**	**5.57**	**33**	P	**Pn**	**02 54 34.7**	**+1.6**
	comp=N,0.3nm,0.1s,SNR=6.5						
MVO				S	**Sn**	**02 55 34.9**	**-2.3**
	comp=N,5.3nm,0.1s,SNR=10.0						
MVO				*e*Sn	**Sn**	**02 55 35.8**	**-1.5**
	comp=N,8.7nm,0.4s						
EGOR	**Sierra Gorda,**	**5.63**	**82**	P	**Pn**	**02 54 36.3**	**+2.3**
	comp=N,0.0nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**02 55 37.7**	**-1.1**
	comp=N,1.4nm,0.4s,SNR=7.9						
EGOR	**Sierra Gorda,**	**5.63**	**82**	P	**Pn**	**02 54 36.3**	**+2.3**
	SNR=7.9						
EGOR				S	**Sn**	**02 55 37.7**	**-1.1**
	comp=N,1.4nm,0.4s,SNR=7.9						
PCAB	**Cabril**	**5.65**	**24**	*e*Sn	**Sn**	**02 55 36.9**	**-2.3**
PCAB	**Cabril**	**5.65**	**24**	S	**Sn**	**02 55 36.9**	**-2.3**
PCAB	**Cabril**	**5.65**	**24**	S	**Sn**	**02 55 36.9**	**-2.3**
ELOB	**Lobios**	**5.79**	**23**	P	**Pn**	**02 54 37.7**	**+1.7**
	comp=N,0.1nm,0.1s,SNR=6.7						
ELOB				S	**Sn**	**02 55 40.1**	**-2.4**
	comp=N,8.3nm,0.2s,SNR=13						
ELOB	**Lobios**	**5.79**	**23**	P	**Pn**	**02 54 37.7**	**+1.7**
	comp=N,0.1nm,0.1s,SNR=6.7						
ELOB				S	**Sn**	**02 55 40.1**	**-2.4**
	comp=N,8.3nm,0.2s,SNR=13						
PGAV	**Gavieira, Arco**	**5.81**	**21**	*e*Pn	**Pn**	**02 54 38.3**	**+1.9**
PGAV				*e*Sn	**Sn**	**02 55 41.0**	**-2.2**
PGAV				A	A	02 55 46.2	
	comp=N,5.9nm,0.2s						
PGAV	**Gavieira, Arco**	**5.81**	**21**	*e*Pn	**Pn**	**02 54 38.3**	**+1.9**
PGAV				*e*Sn	**Sn**	**02 55 41.0**	**-2.2**
	comp=N,5.9nm,0.2s						
TZC	**Tazercounte**	**5.83**	**138**	*i*P	**Pn**	**02 54 34.0**	**-2.8**
TZC				*i*S	**Sn**	**02 55 37.0**	**-6.9**
OUK	**Oukaimeden**	**5.99**	**152**	*i*P	**Pn**	**02 54 38.0**	**-1.1**
OUK				*i*S	**Sn**	**02 55 41.0**	**-6.9**
ELGU	**Los Guajares,**	**6.01**	**85**	P	**Pn**	**02 54 41.6**	**+2.5**
	comp=N,0.9nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**02 55 46.9**	**-1.1**
	comp=N,3.2nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**6.01**	**85**	P	**Pn**	**02 54 41.6**	**+2.5**
	comp=N,0.9nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**02 55 46.9**	**-1.1**
	comp=N,3.2nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**6.09**	**59**	P	**Pn**	**02 54 41.9**	**+1.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**02 55 47.5**	**-2.6**
	comp=N,1.7nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**6.09**	**59**	P	**Pn**	**02 54 41.9**	**+1.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**02 55 47.5**	**-2.6**
	comp=N,1.7nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**6.17**	**82**	P	**Pn**	**02 54 43.8**	**+2.4**
	comp=N,0.4nm,0.1s,SNR=8.5						
EQUE				S	**Sn**	**02 55 49.4**	**-2.6**
	comp=N,0.1nm,0.0s,SNR=7.9						
EQUE	**Quentar**	**6.17**	**82**	P	**Pn**	**02 54 43.8**	**+2.4**
	comp=N,0.4nm,0.1s,SNR=8.5						
EQUE				S	**Sn**	**02 55 49.4**	**-2.6**
	comp=N,0.1nm,0.0s,SNR=7.9						
PBRG	**Braganca**	**6.22**	**32**	*e*Pn	**Pn**	**02 54 44.0**	**+2.0**
PBRG				*e*Sn	**Sn**	**02 55 50.7**	**-2.5**
PBRG				A	A	02 55 53.8	
	comp=N,5.7nm,0.3s						
PBRG	**Braganca**	**6.22**	**32**	P	**Pn**	**02 54 44.0**	**+2.0**
PBRG				S	**Sn**	**02 55 50.7**	**-2.5**
	comp=N,2.8nm,0.3s						
PBRG	**Braganca**	**6.22**	**32**	P	**Pn**	**02 54 44.0**	**+2.0**
PBRG				S	**Sn**	**02 55 50.7**	**-2.5**
	comp=N,2.8nm,0.3s						
ECAL	**Calabor**	**6.33**	**31**	P	**Pn**	**02 54 45.1**	**+1.5**
	comp=N,0.2nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**02 55 54.2**	**-1.8**
	comp=N,12nm,0.3s,SNR=10.0						
ECAL	**Calabor**	**6.33**	**31**	P	**Pn**	**02 54 45.1**	**+1.5**
	comp=N,0.2nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**02 55 54.2**	**-1.8**
	comp=N,12nm,0.3s,SNR=10.0						
ESDC	**Sonseca Array**	**6.42**	**59**	P	**Pn**	**02 54 46.4**	**+1.7**
	comp=N,4.6nm,0.1s,baz=244,slow=13,SNR=51

comp=N,0.7nm,0.3s,SNR=7.9
EMUR La Murta 7.97 78 P **Pn** **02 55 08.3 +2.3**
comp=N,0.0nm,0.1s,SNR=4.0
EMUR La Murta 7.97 78 P **Pn** **02 55 08.3 +2.3**
SNR=4.0
EARI Arriondas 8.10 32 P **Pn** **02 55 09.2 +1.5**
comp=N,0.0nm,0.1s,SNR=7.9
EARI S **Sn** **02 56 35.9 -3.4**
comp=N,1.5nm,0.3s,SNR=7.9
EARI Arriondas 8.10 32 P **Pn** **02 55 09.2 +1.5**
SNR=7.9
EARI S **Sn** **02 56 35.9 -3.4**
comp=N,1.5nm,0.3s,SNR=7.9
ETOR Torete 8.24 56 P **Pn** **02 55 11.6 +1.8**
comp=N,0.1nm,0.2s,SNR=9.1
ETOR S **Sn** **02 56 39.4 -3.6**
comp=N,1.3nm,0.2s,SNR=7.9
ETOR Torete 8.24 56 P **Pn** **02 55 11.6 +1.8**
comp=N,0.1nm,0.2s,SNR=9.1
ETOR S **Sn** **02 56 39.4 -3.6**
comp=N,1.3nm,0.2s,SNR=7.9
ELAN Lanestosa 8.88 39 S **Sn** **02 56 54.4 -4.1**
comp=N,0.9nm,0.2s,SNR=7.9
ELAN Lanestosa 8.88 39 S **Sn** **02 56 54.4 -4.1**
comp=N,0.9nm,0.2s,SNR=7.9
EMOS Mosqueruela 9.15 62 P **Pn** **02 55 24.3 +2.0**
comp=N,0.0nm,0.1s,SNR=4.0
EMOS S **Sn** **02 57 01.2 -4.2**
comp=N,1.7nm,0.4s,SNR=7.9
EMOS Mosqueruela 9.15 62 P **Pn** **02 55 24.3 +2.0**
SNR=4.0
EMOS S **Sn** **02 57 01.2 -4.2**
comp=N,1.7nm,0.4s,SNR=7.9
IELO Elcoad 9.84 47 P **Pn** **02 55 33.1 +1.4**
comp=N,0.1nm,0.1s,SNR=7.9
IELO Elcoad 9.84 47 P **Pn** **02 55 33.1 +1.4**
comp=N,0.1nm,0.1s,SNR=7.9
ATE Arette 10.30 48 P **Pn** **02 55 41.2 +3.3**
comp=N,0.1nm,0.2s,SNR=7.9
ATE S **Sn** **02 57 28.7 -4.7**
comp=N,0.4nm,0.2s,SNR=7.9
ATE Arette 10.30 48 P **Pn** **02 55 41.2 +3.3**
comp=N,0.1nm,0.2s,SNR=7.9
ATE S **Sn** **02 57 28.7 -4.7**
comp=N,0.4nm,0.2s,SNR=7.9

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*IDC **08** 03:04:43.2±8.4, 36°.25N×70°.86E, h172^{km}±73^{km}, mb3.0/3, mb1 3.0/7, mb1mx2.7/70, mbtmp3.4/7, Error ellipse: s-maj=74.3km s-min=42.1km az=48.0*
*ISCJB **08** 03:04:44.3±1.1, 36°.46N±0°.09×70°.9E±0°.2, h188^{km}, mb3.1/2, Error ellipse: s-maj=19.4km s-min=11.3km az=15.6*
*NNC **08** 03:04:49.6±3.6, 37°.12N×70°.36E, h0^{km}, mb3.5, mpv3.1, Error ellipse: s-maj=26.9km s-min=23.9km az=0.0*

ISC 08 03:04:45.3±1.5, 36°.6N±0°.1×70°.8E±0°.2, h188^{km}, n10, σ1§95/14, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.06**	**31**	⇓Pn	**Pn**	**03 05 49.3**	**+1.7**
	3.1nm,0.3s						
SFK				⇑Sn	**Sn**	**03 06 36.9**	**+0.4**
	8.5nm,0.3s						
MNAS	**Manas**	**6.06**	**12**	⇑Pn	**Pn**	**03 06 14.1**	**+0.7**
	0.8nm,0.6s						
MNAS				⇑Sn	**Sn**	**03 07 19.7**	**-3.1**
	7.8nm,0.4s						
KK31	**Karatay Array**	**6.53**	**358**	⇓Pn	**Pn**	**03 06 20.5**	**+1.2**
	0.5nm,0.3s,baz=186,slow=12,SNR=26						
KK31				⇓Sn	**Sn**	**03 07 30.4**	**-3.2**
	3.6nm,0.5s,baz=190,slow=22,SNR=13						
AAK	**Ala-Archa**	**6.71**	**24**	P	**Pn**	**03 06 22.4**	**+0.6**
	0.3nm,0.3s,baz=218,slow=18,SNR=3.3						
AAK				S	**Sn**	**03 07 36.9**	**-1.1**
	0.4nm,0.3s,baz=180,slow=23,SNR=5.7						
MKAR	**Makanchi Array**	**13.35**	**36**	P	**P**	**03 07 50.1**	**-0.4**
	0.1nm,0.3s,baz=214,slow=8.6,SNR=4.3						
BVAR	**Borovoye Array**	**16.46**	**359**	P	**Pn**	**03 08 28.4**	**+2.8**
	0.1nm,0.3s,baz=174,slow=2.9,SNR=1.9						
AKTO	**Aktyubinsk**	**16.63**	**330**	P	**Pn**	**03 08 29.0**	**+1.4**
	0.3nm,0.3s,baz=152,slow=12,SNR=2.3						
ZALV	**Zalesovo Beam**	**19.93**	**25**	P	**P**	**03 09 03.5**	**+0.9**
	0.7nm,0.5s,baz=222,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**82.18**	**122**	P	**P**	**03 16 43.8**	**-1.7**
	0.2nm,0.5s,baz=323,slow=4.8,SNR=6.0						
ASAR	**Alice Springs**	**84.44**	**125**	P	**P**	**03 16 55.7**	**-1.2**
	0.2nm,0.4s,baz=305,slow=4.9,SNR=1.7						

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*IDC **08** 03:16:49.3±2.1, 52°.90N×162°.23W, h0^{km}, mb3.2/5, mb1 3.5/7, mb1mx3.2/74, mbtmp3.3/7, ML3.1/2, Error ellipse: s-maj=38.1km s-min=33.6km az=18.0*
*ISCJB **08** 03:16:50.0±0.8, 52°.79N±0°.07×162°.21W±0°.09, h20^{km}, mb3.1/4, Error ellipse: s-maj=10.4km s-min=6.8km az=25.9*
*NEIC **08** 03:16:51.4±0.0, 52°.83N×162°.13W, h42^{km}, ML3.1(AEIC), After AEIC.*

ISC 08 03:16:51.6±1.1, 52°.87N±0°.09×162°.07W±0°.06, h20^{km}, n22, σ1§66/26, mb3.2/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISLZ	**Isanotski Laza**	**2.10**	**333**	P	**Pn**	**03 17 25.1**	**-0.5**
DRIA	**Deer Island**	**2.10**	**357**	P	**Pn**	**03 17 25.2**	**-0.5**
FALS	**False Pass**	**2.14**	**339**	P	**Pn**	**03 17 25.9**	**-0.3**
FALS				S	**Sn**	**03 17 52.9**	**+0.8**
SSLS	**Shishaldin Sou**	**2.17**	**329**	P	**Pn**	**03 17 26.4**	**-0.2**
SSLS				S	**Sn**	**03 17 53.6**	**+0.6**
WESE	**West Dahl East**	**2.19**	**318**	P	**Pn**	**03 17 26.3**	**-0.6**
DT1	**Dutton Round H**	**2.25**	**357**	P	**Pn**	**03 17 27.1**	**-0.4**
SSLW	**Shishaldin Wes**	**2.26**	**328**	P	**Pn**	**03 17 27.6**	**-0.2**
SSLW				S	**Sn**	**03 17 55.9**	**+0.8**
WESN	**West Dahl Nort**	**2.26**	**320**	P	**Pn**	**03 17 27.6**	**-0.2**
PS4A	**Pavlof South-4**	**2.48**	**3**	P	**Pn**	**03 17 31.7**	**+0.9**
AKSA	**Akutan Strait**	**2.51**	**302**	P	**Pn**	**03 17 30.4**	**-0.8**
AKSA				S	**Sn**	**03 17 58.9**	**-2.3**
AHB	**Akutan Harbor**	**2.56**	**301**	P	**Pn**	**03 17 31.1**	**-0.8**
SDPT	**Sand Point**	**2.66**	**20**	P	**Pn**	**03 17 33.6**	**+0.4**
UNV	**Unalaska Valle**	**2.83**	**292**	P	**Pn**	**03 17 34.1**	**-1.4**
MREP	**Makushin Rep't**	**2.96**	**290**	P	**Pn**	**03 17 36.3**	**-1.1**
MSW	**Makushin Switc**	**3.01**	**292**	P	**Pn**	**03 17 37.3**	**-0.7**
KDAK	**Kodiak Island**	**7.31**	**44**	Pn	**Pn**	**03 18 36.5**	**-0.5**
	0.6nm,0.3s,baz=231,slow=3.3,SNR=38						
KDAK				Sn	**Sn**	**03 19 54.2**	**-5.2**
	0.6nm,0.3s,baz=40,slow=16,SNR=2.3						
ILAR	**Eielson Array**	**14.23**	**27**	Pn	**Pn**	**03 20 08.5**	**-3.2**
	0.1nm,0.3s,baz=220,slow=8.3,SNR=3.2						
INK	**Inuvik**	**20.57**	**30**	P	Pn	03 21 30.8	-0.1
	0.4nm,0.3s,baz=207,slow=10,SNR=5.5						
YKA	**Yellowknife Ar**	**26.54**	**50**	P	**P**	**03 22 30.7**	**+3.2**
	0.1nm,0.4s,baz=281,slow=10.0,SNR=4.3						
PDAR	**Pinedale Array**	**35.93**	**85**	P	**P**	**03 23 51.7**	**+1.1**
	0.2nm,0.7s,baz=341,slow=5.0,SNR=1.9						
TXAR	**Lajitas Array**	**48.32**	**95**	P	**P**	**03 25 32.3**	**+0.7**
	0.3nm,0.6s,baz=301,slow=5.7,SNR=3.8						
MKAR	**Makanchi Array**	**66.57**	**318**	P	**P**	**03 27 40.2**	**+0.3**
	0.1nm,0.6s,baz=54,slow=5.9,SNR=2.2						

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*ISK **08** 03:23:09.4, 36°.78N×29°.14E, h7^{km}, ML2.5/6*
*DDA **08** 03:23:09.7, 36°.75N×29°.19E, h6^{km}, Ml2.3*
*CSEM **08** 03:23:10.2±0.3, 36°.77N×29°.20E, h2^{km}, ML2.3, Error ellipse: s-maj=7.2km s-min=5.9km az=35.0*

ISC 08 03:23:09.6±1.2, 36°.77N±0°.03×29°.25E±0°.03, h2^{km}±11^{km}, n27, σ1§25/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.19**	**223**	PG	**Pg**	**03 23 12.5**	**-0.7**
FETY				SG	**Sg**	**03 23 15.8**	**+0.1**
FETY	**Fethiye**	**0.19**	**223**	P	**Pg**	**03 23 12.5**	**-0.7**
FETY				S	**Sg**	**03 23 15.3**	**-0.4**
TURN	**Turunc**	**0.53**	**281**	PG	**Pn**	**03 23 24.0**	**-0.1**
TURN	**Turunc**	**0.53**	**281**	*i* P	**Pn**	**03 23 24.6**	**+0.4**
TURN				*i* S	**Sb**	**03 23 35.2**	**+5.6**
TURN	**Turunc**	**0.53**	**281**	*e*Pg	**Pn**	**03 23 24.0**	**-0.1**
GOLH	**Golhisar**	**0.53**	**29**	*i* P	**Pg**	**03 23 20.0**	**+0.3**
GOLH				*i* S	**Sb**	**03 23 29.9**	**+0.1**
GOLH	**Golhisar**	**0.53**	**29**	P	**Pg**	**03 23 20.0**	**+0.3**
GOLH				S	**Sb**	**03 23 29.9**	**+0.1**
ELL	**Elmali**	**0.53**	**93**	PG	**Pb**	**03 23 21.9**	**+0.1**
ELL	**Elmali**	**0.53**	**93**	*e*Pg	**Pb**	**03 23 21.9**	**+0.1**
AKAS	**Kas**	**0.61**	**152**	PG	**Pb**	**03 23 22.9**	**-0.2**
AKAS	**Kas**	**0.61**	**152**	*i* P	**Pb**	**03 23 22.6**	**-0.5**
AKAS				*i* S	**Sn**	**03 23 35.4**	**-0.6**
AKAS	**Kas**	**0.61**	**152**	P	**Pb**	**03 23 22.6**	**-0.5**
AKAS	**Kas**	**0.61**	**152**	*e*Pg	**Pb**	**03 23 22.9**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.74**	**339**	*i* P	**Pb**	**03 23 24.3**	**-1.0**
TAVA				*i* S	**Sb**	**03 23 34.6**	**-1.3**
TAVA	**DENIZLI_Tavas**	**0.74**	**339**	P	**Pb**	**03 23 24.3**	**-1.0**
TAVA				S	**Sb**	**03 23 34.6**	**-1.3**
YER	**Yerkesik**	**0.85**	**295**	PG	**Pg**	**03 23 24.5**	**-1.4**
YER	**Yerkesik**	**0.85**	**295**	*e*Pg	**Pg**	**03 23 24.5**	**-1.4**
KORT	**Korkueli**	**0.91**	**75**	PG	**Pb**	**03 23 28.7**	**+0.4**
KORT	**Korkueli**	**0.91**	**75**	*e*Pg	**Pb**	**03 23 28.7**	**+0.4**
AYDN	**Tasoluk**	**1.41**	**309**	*i* P	**Pg**	**03 23 36.7**	**+0.2**
AYDN				*i* S	**Sn**	**03 23 55.1**	**-0.4**
AYDN	**Tasoluk**	**1.41**	**309**	P	**Pg**	**03 23 36.7**	**+0.2**
AYDN				S	**Sn**	**03 23 55.1**	**-0.4**
BDRM	**Kayabasi**	**1.47**	**282**	*i* P	**Pg**	**03 23 39.5**	**+1.7**
BDRM				*i* S	**Sg**	**03 23 57.8**	**+0.9**
BDRM	**Kayabasi**	**1.47**	**282**	P	**Pg**	**03 23 39.5**	**+1.7**
BDRM				S	**Sg**	**03 23 57.8**	**+0.9**
BODT	**Bodrum**	**1.58**	**281**	PN	**Pn**	**03 23 37.4**	**-1.2**
BODT	**Bodrum**	**1.58**	**281**	*e*Pn	**Pn**	**03 23 37.4**	**-1.2**
KHAL	**Karahalli**	**1.60**	**7**	*i* P	**Pn**	**03 23 39.3**	**+0.2**
KHAL	**Karahalli**	**1.60**	**7**	P	**Pn**	**03 23 39.3**	**+0.2**

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*NIED **08** 03:23:00, 38°.50N×141°.80E, h50^{km}, Mw4.8 Best double couple: M$_0$1.71000×10^{16} NP1:ϕ_s207.00000°, δ21.00000°, λ91.00000°. NP2:ϕ_s26.00000°, δ69.00000°, λ90.00000°.*
*BJI **08** 03:23:25.2, 38°.34N×142°.04E, h57^{km}, mb5.0/62, mB5.1/42, Ms4.4/32, Ms7 4.2/31*
*ISCJB **08** 03:23:27.8±0.3, 38°.56N±0°.02×141°.71E±0°.02, h58^{km}±2^{km}, mb4.9/286, MS4.1/27, Error ellipse: s-maj=3.7km s-min=2.5km az=136.2*
*MOS **08** 03:23:28.2±0.8, 38°.82N×141°.68E, h53^{km}, mb5.2/103, MS4.1/9, Error ellipse: s-maj=5.5km s-min=3.6km az=103.0*
*JMA **08** 03:23:28.0±0.1, 38°.53N×141°.82E, h50^{km}±1^{km}, M4.8*
JMA Felt III J1.
*IDC **08** 03:23:28.1±1.7, 38°.51N×141°.68E, h51^{km}±14^{km}, mb4.5/41, mb1 4.6/44, mb1mx4.6/62, mbtmp4.8/44, ML4.2/3, MS3.9/24, Ms1 3.9/24, ms1mx3.7/64, Error ellipse: s-maj=11.4km s-min=10.2km az=134.0*
*GCMT **08** 03:23:30.0±0.4, 38°.61N×141°.92E, h50^{km}±2^{km}, MW4.9/67, Moment Tensor Solution. s31,c37; s67,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M$_r$2.39±.18; M$_{\theta\theta}$-0.53±.12; M$_{\phi\phi}$-1.86±.11; M$_{r\theta}$0.79±.09; M$_{\theta\phi}$-0.87±.10; M$_{\phi r}$1.27±.09; Best double couple: M$_0$2.77600×10^{16} NP1:ϕ_s29.00000°, δ61.00000°, λ93.00000°. NP2: ϕ_s204.00000°, δ29.00000°, λ85.00000°. Principal axes: T 2.8290, Plg74.0000°, Azm306.0000°; N -0.1060, Plg2.0000°, Azm208.0000°; P -2.7230, Plg16.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 03:23:30.0±0.4, 38°.57N×141°.65E, h64^{km}±4^{km}, mb4.8/169 Error ellipse: s-maj=4.0km s-min=2.7km az=144.0*
NEIC Recorded [3 JMA] in Iwate and Miyagi.

ISC 08 03:23:28.4±0.4, 38°.57N±0°.03×141°.84E±0°.04, h56^{km}±2^{km}, h56^{km}:pP-P, n654, σ1§42/723, mb4.9/291, MS4.3/28, 42C-31D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.40**	**253**	P	**Pn**	**03 23 37.8**	**-1.2**
JIO				S	**Sn**	**03 23 44.6**	**-2.0**
OFUJ	**Ofunato**	**0.52**	**345**	P	**Pn**	**03 23 40.0**	**-0.3**
OFUJ				S	**Sn**	**03 23 48.5**	**-0.4**
JMK	**Ichinoseki**	**0.61**	**308**	P	**Pn**	**03 23 41.0**	**-0.3**
JMK				S	**Sn**	**03 23 50.2**	**-0.6**
JOU	**Okura**	**0.95**	**258**	P	**Pn**	**03 23 44.6**	**-1.0**
JOU				*e*S	**Sn**	**03 23 56.8**	**-1.5**
JOM	**Ohasama**	**0.99**	**335**	P	**Pn**	**03 23 46.3**	**+0.1**
JOM				S	**Sn**	**03 23 59.7**	**+0.3**
JMM	**Marumori**	**1.09**	**230**	P	**Pn**	**03 23 45.8**	**-1.6**
JMM				S	**Sn**	**03 23 59.1**	**-2.4**
JYK	**Kaneyama**	**1.21**	**287**	P	**Pn**	**03 23 48.7**	**-0.3**
JYK				*e*S	**Sn**	**03 24 03.9**	**-0.5**
JRG	**Rokugo**	**1.25**	**312**	P	**Pn**	**03 23 49.4**	**-0.2**
JFK	**Kawauchi**	**1.43**	**213**	P	**Pn**	**03 23 50.5**	**-1.5**
JFK				S	**Sn**	**03 24 07.1**	**-2.7**
JYS	**Shirataka**	**1.44**	**256**	P	**Pn**	**03 23 51.5**	**-0.7**
JFT	**Otama**	**1.59**	**229**	P	**Pn**	**03 23 53.2**	**-1.0**
MJAR	**Matsushiro Arr**	**3.53**	**236**	P	**Pn**	**03 24 21.3**	**+0.6**
	17nm,0.3s,baz=40,slow=11,SNR=202						
MJAR				LR	LR	03 25 55.2	
	comp=Z,2μm,21.1s,baz=40,slow=44						
MAJO	**Matsushiro**	**3.53**	**236**	*e*Pn	**Pn**	**03 24 21.5**	**+0.8**
MAJO	**Matsushiro**	**3.53**	**236**	*d* iP	**Pn**	**03 24 21.3**	**+0.6**
MAT	**Matsushiro**	**3.53**	**236**	P	**Pn**	**03 24 21.4**	**+0.7**
MAT				*e*S	**Sn**	**03 25 01.5**	**+0.3**
MJB9	**Matsu-Tunnel**	**3.53**	**236**	*e*Pn	**Pn**	**03 24 21.5**	**+0.8**
ERM	**Erimo**	**3.58**	**16**	*e*Pn	**Pn**	**03 24 21.4**	**+0.1**
ERM				*e*Sn	**Sn**	**03 25 02.9**	**+0.5**
ERM	**Erimo**	**3.58**	**16**	⇓*e*P	**Pn**	**03 24 21.9**	**+0.5**
ERM				pmax	pmax		
	comp=Z,88nm,1.0s						
INU	**Inuyama**	**5.03**	**232**	*e*Pn	**Pn**	**03 24 42.8**	**+1.5**
INU				*e*Sn	**Sn**	**03 25 41.1**	**+3.1**
ASAJ	**Asahikawa**	**5.57**	**6**	P	**Pn**	**03 24 48.8**	**+0.2**
	comp=Z,15nm,0.3s,baz=224,slow=8.8,SNR=53						
ASAJ				S	**Sn**	**03 25 53.2**	**+2.0**
	comp=Z,14nm,0.3s,baz=47,slow=4.5,SNR=4.2						
JHJ	**Hachijo jima 2**	**5.69**	**198**	P	**Pn**	**03 24 49.0**	**-1.4**
	comp=Z,22nm,0.3s,baz=252,slow=20,SNR=6.1						
JHJ				S	**Sn**	**03 25 49.2**	**-5.2**
	comp=Z,36nm,0.3s,baz=49,slow=19,SNR=3.2						
JHJ				LR	LR	03 27 05.4	
	comp=Z,611nm,22.0s,baz=14,slow=39						
JHJ2	**Mitsune**	**5.69**	**197**	*e*Pn	**Pn**	**03 24 48.8**	**-1.6**
JHJ2				*e*Sn	**Sn**	**03 25 53.5**	**-0.8**
GLVR	**Golovnino**	**5.86**	**27**	*e*P	**Pn**	**03 24 51.6**	**-1.0**
GLVR				*i* S	**Sn**	**03 25 54.6**	**-3.7**
GRPR	**Tuman**	**6.17**	**27**	*e*P	**Pn**	**03 24 56.3**	**-0.5**
GRPR				*i* S	**Sn**	**03 26 01.5**	**-4.5**
LAGR	**Lagunnoye**	**6.23**	**27**	*e*P	**Pn**	**03 24 58.1**	**+0.5**
LAGR				*i* S	**Sn**	**03 26 03.7**	**-3.7**
YUK	**Yuzh-Kuril'sk**	**6.24**	**28**	*e*P	**Pn**	**03 24 56.4**	**-1.4**
YUK				*i* S	**Sn**	**03 26 03.1**	**-4.6**
YUK				pmax	pmax		
	comp=Z,342nm,0.4s						
YUK				pmax	pmax		
	comp=N,127nm,0.2s						
YUK				pmax	pmax		
	comp=E,153nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
SHO	**Shikotan**	**6.49**	**34**	*d* iP	**Pn**	**03 24 58.3**	**-2.9**
SHO				*i* S	**Sn**	**03 26 06.5**	**-7.4**
SHO				pmax	pmax		
	comp=Z,114nm,0.4s						
SHO				pmax	pmax		
	comp=E,45nm,0.3s						
SHO				pmax	pmax		
	comp=N,52nm,0.5s						
SHO				smax	smax		
	comp=N,100nm,0.4s						
SHO				smax	smax		
	comp=E,477nm,0.3s						
TEY	**Ternei**	**7.55**	**330**	*e*P	**Pn**	**03 25 19.0**	**+3.3**
TEY				pmax	pmax		
	comp=N,110nm,1.1s						
TEY				pmax	pmax		
	comp=E,55nm,1.1s						
TEY				pmax	pmax		
	comp=Z,86nm,1.0s						
KUR	**Kuril'sk**	**8.03**	**32**	*c* iP	**Pn**	**03 25 22.1**	**-0.2**
KUR				*i* S	**Sn**	**03 26 47.1**	**-4.4**
KUR				pmax	pmax		
	comp=Z,101nm,0.4s						
KUR				pmax	pmax		
	comp=N,35nm,0.3s						
KUR				pmax	pmax		
	comp=E,21nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.40**	**4**	*e*Pn	**Pn**	**03 25 27.1**	**-0.3**
YSS				*e*Sn	**Sn**	**03 27 00.3**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.40**	**4**	⇑*e*P	**Pn**	**03 25 27.2**	**-0.2**
YSS				*e*S	**Sn**	**03 27 00.3**	**-0.4**
YSS				pmax	pmax		
	comp=Z,60nm,0.7s						
YSS				pmax	pmax		
	comp=N,50nm,1.2s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
VLA	**Vladivostok**	**8.80**	**304**	*d* iP	**Pn**	**03 25 33.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**9.29**	**310**	P	**Pn**	**03 25 40.3**	**+0.7**
	comp=Z,4.4nm,0.3s,baz=127,slow=13,SNR=69						
USRK				LR	LR	03 29 06.8	
	comp=Z,767nm,20.6s,baz=106,slow=37						
JNU	**Nakatsue**	**10.43**	**242**	P	**Pn**	**03 25 56.4**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=60,slow=4.0,SNR=22						
JNU				LR	LR	03 30 16.1	
	comp=Z,970nm,20.9s,baz=55,slow=40						
MDJ	**Mudanjiang**	**10.97**	**307**	P	**Pn**	**03 26 05.0**	**+2.4**
MDJ				pmax	pmax		
	comp=Z,50nm,1.3s						
MDJ	**Mudanjiang**	**10.97**	**307**	*e*Pn	**Pn**	**03 26 05.5**	**+2.9**
KSRS	**Korea Array**	**11.04**	**269**	P	**Pn**	**03 26 06.2**	**+2.7**
	comp=Z,1.3nm,0.3s,baz=82,slow=14,SNR=26						
KSRS				LR	LR	03 29 59.4	
	comp=Z,599nm,21.6s,baz=70,slow=36						
KS01	**Wonju Array Si**	**11.06**	**269**	*e*Pn	**Pn**	**03 26 05.9**	**+2.1**
KS15	**Wonju Array Si**	**11.07**	**268**	*e*Pn	**Pn**	**03 26 07.1**	**+3.2**
KSAR	**Wonju Array Be**	**11.07**	**268**	P	**Pn**	**03 26 06.2**	**+2.3**
KSAR	**Wonju Array Be**	**11.07**	**268**	P	**Pn**	**03 26 06.2**	**+2.3**
TJN	**Taejon**	**11.71**	**264**	⇑*e*P	**Pn**	**03 26 15.8**	**+3.1**
GRNR	**Gornyy**	**12.78**	**344**	*e*P	**Pn**	**03 26 29.0**	**+1.8**
KLR	**Kul'dur**	**12.89**	**329**	P	**Pn**	**03 26 27.5**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=151,slow=12,SNR=9.3						
KLR				LR	LR	03 31 23.8	
	comp=Z,73nm,19.6s,baz=148,slow=37						
KLR	**Kul'dur**	**12.89**	**329**	⇓*e*P	**Pn**	**03 26 27.2**	**-1.4**
CN2	**Changchun**	**13.40**	**298**	*e*P	**Pn**	**03 26 36.4**	**+0.7**
CN2				*e*pP	P	03 26 46.0	+2.6
CN2				*e*S	**Sn**	**03 29 02.2**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
NKL	**Nikolayevsk**	**14.60**	**357**	*e*P	**Pn**	**03 26 49.5**	**-2.1**
NKL				pmax	pmax		
	comp=Z,22nm,1.0s						
DL2	**Dalian**	**15.78**	**278**	P	**P**	**03 27 09.2**	**-0.6**
DL2				sP	**pP**	**03 27 23.1**	**+1.1**
DL2				S	**Sn**	**03 30 02.6**	**+1.9**
DL2				pmax	pmax		
	comp=Z,120nm,1.0s						
DL2				pmax	pmax		
	comp=Z,170nm,6.5s						
DL2				LR	LR		
	comp=Z,660nm,19.2s						
DL2				LR	LR		
	comp=Z,660nm,21.2s						
ZEA	**Zeya**	**18.17**	**331**	*e*P	**P**	**03 27 34.8**	**-1.3**
ZEA				pmax	pmax		
	comp=N,73nm,0.8s						
ZEA				pmax	pmax		
	comp=E,52nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,110nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,400nm,15.0s						
PEA0B	**Petropavlovsk-**	**18.20**	**32**	*e*P	**P**	**03 27 35.7**	**-0.7**
	comp=Z,34nm,1.0s						
PETK	**Petropavlovsk-**	**18.20**	**32**	P	**P**	**03 27 35.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=217,slow=10,SNR=3.9						
PETK				LR	LR	03 35 45.1	
	comp=Z,134nm,18.1s,baz=220,slow=40						
PETK	**Petropavlovsk-**	**18.20**	**32**	*e*P	**P**	**03 27 33.9**	**-2.6**
PEA1	**Petropavlovsk-**	**18.20**	**32**	*e*P	**P**	**03 27 35.5**	**-1.0**
PET	**Petropavlovsk**	**18.54**	**33**	*e*P	**Pn**	**03 27 42.6**	**+1.7**
PET				*e*S	**S**	**03 31 08.6**	**+0.2**
PET				pmax	pmax		
	comp=Z,15nm,0.7s						
PET				MLR	MLR		
	comp=Z,600nm,20.0s						
HIA	**Hailar**	**19.10**	**311**	*e*P	**P**	**03 27 44.4**	**-2.1**
	comp=Z,18nm,0.8s						
HIA	**Hailar**	**19.10**	**311**	*e*P	**P**	**03 27 44.4**	**-2.1**
HIA				pmax	pmax		
	comp=Z,18nm,0.8s						
TIA	**Tai'an**	**19.77**	**271**	P	**P**	**03 27 49.8**	**-4.0**
NJ2	**Nanjing**	**19.83**	**258**	*e*P	**P**	**03 27 53.5**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,24nm,0.7s						
BJI	**Beijing**	**19.90**	**282**	P	**P**	**03 27 54.0**	**-1.2**
BJI				pmax	pmax		
	comp=Z,21nm,1.2s						
BJT	**Baijiatuao**	**19.90**	**282**	*e*P	**P**	**03 27 54.4**	**-0.9**
	comp=Z,32nm,0.9s						
BJT	**Baijiatuao**	**19.90**	**282**	*e*P	**P**	**03 27 54.4**	**-0.9**
BJT				pmax	pmax		
	comp=Z,32nm,0.9s						
YOJ	**Yonaguni jima**	**21.29**	**234**	*e*P	**P**	**03 28 12.2**	**+1.9**
	comp=Z,430nm,1.9s						
YOJ	**Yonaguni jima**	**21.29**	**234**	*e*P	**P**	**03 28 12.2**	**+1.9**
YOJ				pmax	pmax		
	comp=Z,430nm,1.9s						
CLNS	**Chul'man**	**21.43**	**334**	*e*P	**P**	**03 28 10.4**	**-1.2**
CLNS				*e*		03 28 27.7	
CLNS				*e*S	**S**	**03 32 03.3**	**-2.9**
CLNS				*e*		03 32 14.4	
CLNS				*e*SS	Sn	03 32 22.4	+5.7
CLNS				pmax	pmax		
	comp=N,33nm,1.

WHN LR LR
comp=Z,1μm,26.2s
YAK Yakutsk 24.65 346 P **P** **03 28 41.8 -1.6**
comp=Z,36nm,0.5s,baz=186,slow=2.1,SNR=21
YAK LR LR 03 38 53.4
comp=Z,360nm,18.0s,baz=168,slow=38
YAK Yakutsk 24.65 346 *eP* **P** **03 28 42.4 -1.1**
comp=Z,127nm,1.0s
YAK Yakutsk 24.65 346 *eP* **P** **03 28 42.0 -1.4**
YAK *e**PP **pP** **03 28 54.5 -2.8**
YAK *e* 03 29 15.2
YAK *e* 03 32 18.6
YAK *eS* **S** **03 32 58.9 -1.9**
YAK *e*SS **sS** **03 33 23.2 -1.0**
YAK *e*SS **SnSn** **03 33 50.8 -0.2**
YAK *e* 03 39 39.2
YAK pmax pmax
comp=Z,79nm,0.9s
YAK pmax pmax
comp=N,30nm,1.0s
YAK pmax pmax
comp=E,12nm,1.0s
YAK pmax pmax
comp=Z,38nm,1.4s
YAK pmax pmax
comp=N,26nm,1.2s
YAK pmax pmax
comp=E,18nm,1.6s
YAK smax smax
comp=N,29nm,1.9s
YAK smax smax
comp=E,14nm,1.1s
GUMO Guam 25.03 173 LR LR 03 38 35.5
comp=E,51nm,21.3s,baz=65,slow=36
SEY Seymchan 25.22 11 P **P** **03 28 50.4 +1.8**
comp=E,54nm,1.0s,baz=202,slow=6.4,SNR=131
SEY Seymchan 25.22 11⇓ *iP* **P** **03 28 48.2 -0.4**
BOD Bodaibo 26.43 326⇑ *iP* **P** **03 28 59.4 -0.2**
BOD pmax pmax
comp=Z,46nm,0.8s
ULN Ulaanbaatar 26.80 302 *eP* **P** **03 29 03.4 +0.1**
comp=Z,13nm,0.9s
ULN Ulaanbaatar 26.80 302 *deP* **P** **03 29 04.0 +0.7**
ULN pmax pmax
comp=Z,22nm,1.2s
ULN Ulaanbaatar 26.80 302 P **P** **03 29 04.1 +0.7**
SNR=7.0
XAN Xi'an 26.83 270 P **P** **03 29 01.7 -1.8**
XAN pP pP 03 29 17.7 +0.3
XAN pmax pmax
comp=Z,22nm,0.7s
XAN pmax pmax
comp=Z,470nm,10.3s
SONA1 Songino Array 27.23 301 *eP* **P** **03 29 06.5 -0.7**
SONA0 Songino Array 27.24 301 *eP* **P** **03 29 06.4 -0.8**
SONA0 *e*PcP **PcP** **03 32 26.1 +0.2**
SONA0 *e*ScP **ScP** **03 36 02.5 +1.1**
SONM Songino Array 27.24 301 P **P** **03 29 06.4 -0.8**
comp=Z,5.8nm,0.7s,baz=98,slow=7.8,SNR=22
SONM PcP **PcP** **03 32 26.1 +0.2**
comp=Z,2.0nm,0.6s,baz=124,slow=2.9,SNR=4.9
SONM ScP **ScP** **03 36 02.5 +1.1**
comp=Z,1.3nm,1.1s,baz=176,slow=0.3,SNR=5.1
SONM LR LR 03 39 40.3
comp=Z,219nm,21.8s,baz=142,slow=36
ENH Enshi 27.83 263 *eP* **P** **03 29 11.7 -0.9**
comp=Z,128nm,0.8s
H11N2 WAKE ISLAND Hy 28.68 124 T T 03 59 52.4
baz=317,slow=75,SNR=3362
H11N1 WAKE ISLAND Hy 28.69 124 T T 03 59 53.1
baz=317,slow=75,SNR=5297
H11N3 WAKE ISLAND Hy 28.70 124 T T 03 59 51.0
baz=317,slow=75,SNR=4347
H11S1 WAKE ISLAND Hy 29.45 126 T T 04 00 32.8
baz=318,slow=76,SNR=648
H11S3 WAKE ISLAND Hy 29.45 126 T T 04 00 48.6
baz=318,slow=76,SNR=851
H11S2 WAKE ISLAND Hy 29.46 126 T T 04 00 50.5
baz=318,slow=76,SNR=632
TLY Talaya 29.60 309 *eP* **P** **03 29 28.4 +0.3**
comp=Z,15nm,1.0s
TLY Talaya 29.60 309 *eP* **P** **03 29 28.4 +0.3**
TLY pmax pmax
comp=Z,23nm,1.5s
TLY MLR MLR
comp=Z,477nm,18.0s
TLY Talaya 29.60 309 P **P** **03 29 28.3 +0.3**
SNR=7.8
ZAK Zakamensk 29.61 306 *eP* **P** **03 29 27.8 -0.4**
ZAK pmax pmax
comp=Z,13nm,1.2s
LZH Lanzhou 30.18 277 *eP* **P** **03 29 33.4 -0.1**
LZH pP pP 03 29 47.4 -0.1
LZH sP sP 03 29 54.5 +0.5
LZH PP **PnPn** **03 30 33.0 +0.3**
LZH PcP **PcP** **03 32 34.7 +1.3**
LZH *eS* **S** **03 34 27.4 -1.4**
LZH sS sS 03 34 48.0 -4.5
LZH pmax pmax
comp=Z,35nm,1.0s
LZH pmax pmax
comp=Z,310nm,6.1s
LZH LR LR
comp=Z,340nm,10.0s
LZH LR LR
comp=Z,370nm,10.2s
LZH LR LR
comp=Z,560nm,11.5s
MOY Mondy 31.23 308 *eP* **P** **03 29 42.4 -0.1**
GYA Guiyang 31.84 258⇓ *iP* **P** **03 29 47.1 -1.0**
GYA pP pP 03 30 04.8 +2.6
GYA sP sP 03 30 11.2 +2.5
GYA PP **PnPn** **03 30 57.4 +3.1**
GYA PcP **PcP** **03 32 41.0 +3.1**
GYA S **S** **03 34 55.5 +0.6**
GYA sS sS 03 35 20.8 +2.1
GYA ScP **ScP** **03 36 18.0 +1.5**
GYA SS **SnSn** **03 36 48.7 +1.7**
GYA pmax pmax
comp=Z,40nm,1.1s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,590nm,17.5s
GYA LR LR
comp=Z,560nm,18.0s
GYA LR LR
comp=Z,520nm,18.4s
CD2 Chengdu 32.04 268 *eP* **P** **03 29 49.5 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
GTA Gaotai 32.46 285⇑ P **P** **03 29 54.7 +1.2**
GTA pP pP 03 30 04.4 -3.2
GTA PcP **PcP** **03 32 40.4 +0.9**
GTA S **S** **03 35 03.4 -1.0**
GTA ScP **ScP** **03 36 19.6 +1.1**
GTA pmax pmax
comp=Z,15nm,1.0s
GTA pmax pmax
comp=Z,200nm,6.7s
GTA LR LR
comp=Z,380nm,17.6s
GTA LR LR
comp=Z,450nm,20.0s
GTA LR LR
comp=Z,640nm,19.5s
TIXI Tiksi 33.81 353 *eP* **P** **03 30 04.2 -0.5**
TIXI Tiksi 33.81 353⇑ *iP* **P** **03 30 03.8 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,0.5s
KMI Kunming 35.55 260 P **P** **03 30 19.6 -0.9**
KMI pP pP 03 30 32.5 -2.2
KMI sP sP 03 30 37.8 -3.4
KMI S **S** **03 35 52.8 +0.3**
KMI pmax pmax
comp=Z,22nm,1.3s
KMI pmax pmax
comp=Z,190nm,4.1s
KMI LR LR
comp=Z,230nm,16.8s
KMI LR LR
comp=Z,270nm,20.8s
KMI LR LR
comp=Z,240nm,19.3s

HVS Khovu-Aksy 35.73 307⇓ *eP* **P** **03 30 22.0 +0.4**
HVS pmax pmax
comp=Z,27nm,0.9s
MYLDM Lahad Datu 39.42 218 *eP* **P** **03 30 57.2 +4.2**
comp=Z,29nm,1.0s
DGZ Jazzator, Alta 39.78 304 *c iP* **P** **03 30 57.1 +1.2**
DGZ pmax pmax
comp=Z,53nm,0.8s
WMQ Urumqi 40.47 295 P **P** **03 31 02.1 +0.6**
WMQ pP sP 03 31 20.6 -1.8
WMQ sP pP 03 31 27.1 +11
WMQ pmax pmax
comp=Z,170nm,0.7s
WMQ LR LR
comp=Z,1μm,15.7s
WMQ LR LR
comp=Z,760nm,20.7s
WMQ LR LR
comp=Z,600nm,27.1s
ZAA0 Zalesovo Array 41.14 311 *eP* **P** **03 31 06.6 -0.2**
comp=Z,33nm,0.9s
ZAA1 Zalesovo Array 41.14 311 *eP* **P** **03 31 06.7 -0.2**
ZAA1 *e*PcP **PcP** **03 33 05.2 0.0**
ZAA1 *e*ScP **ScP** **03 36 50.6 +0.4**
ZALV Zalesovo Beam 41.14 311 P **P** **03 31 06.7 -0.2**
comp=Z,16nm,0.5s,baz=89,slow=7.0,SNR=92
ZALV PcP **PcP** **03 33 05.2 0.0**
comp=Z,11nm,0.8s,baz=91,slow=3.3,SNR=8.2
ZALV ScP **ScP** **03 36 50.6 +0.4**
comp=Z,0.4nm,0.3s,baz=71,slow=4.5,SNR=3.4
ZALV LR LR 03 48 58.2
comp=Z,246nm,18.9s,baz=249,slow=37
ZALV Zalesovo Beam 41.14 311 *eP* **P** **03 31 06.4 -0.5**
ZALV Zalesovo Beam 41.14 311 *eP* **P** **03 31 06.4 -0.5**
CMAI Chiengmai2 41.27 256 P **P** **03 31 11.4 +2.9**
comp=Z,147nm,0.8s,comp=Z,23μm
CHAI Chaiyaphum 41.58 248 P **P** **03 31 10.6 -0.2**
comp=Z,6.8nm,0.8s
CMMT Chiang Mai 42.01 254 P **P** **03 31 18.7 +4.3**
comp=Z,13nm,0.9s
CHTO Chiang Mai 42.01 254 P P 03 31 19.8 +5.4
comp=Z,88nm,0.7s
CHTO Chiang Mai 42.01 254 *eP* **P** **03 31 17.5 +3.1**
comp=Z,15nm,0.7s
CHTO Chiang Mai 42.01 254 *eP* **P** **03 31 17.5 +3.1**
CHTO pmax pmax
comp=Z,15nm,0.7s
NVS Novosibirsk 42.04 312 *eP* **P** **03 31 14.2 +0.1**
NVS *e* 03 33 07.5
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,33nm,1.4s
NVS pmax pmax
comp=Z,48nm,1.4s
MRSI Marisa 42.09 211 P **P** **03 31 15.2 +0.3**
comp=Z,13nm,1.2s
CM31 Chiang Mai Arr 42.23 254 *eP* **P** **03 31 16.0 -0.2**
CM31 *e*PcP **PcP** **03 33 09.8 +0.5**
CMAR Chiang Mai Arr 42.23 254 P **P** **03 31 16.0 -0.2**
comp=Z,1.4nm,0.4s,baz=45,slow=6.7,SNR=7.2
CMAR PcP **PcP** **03 33 09.8 +0.5**
comp=Z,3.6nm,0.7s,baz=69,slow=1.7,SNR=7.8
CMAR LR LR 03 50 09.8
comp=Z,49nm,19.8s,baz=2.0,slow=38
CMAR Chiang Mai Arr 42.23 254 *i* P **P** **03 31 16.7 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
LSA Lhasa 42.43 274 *eP* **P** **03 31 19.4 +1.2**
comp=Z,21nm,1.1s
LSA Lhasa 42.43 274 *eP* **P** **03 31 19.4 +1.2**
LSA pmax pmax
comp=Z,21nm,1.1s
SANI Sanana 42.99 204 P **P** **03 31 21.7 -0.6**
comp=Z,32nm,0.7s
MPSI Mapaga 43.06 213 P **P** **03 31 22.8 0.0**
comp=Z,6.4nm,0.7s
APSI Ampana 43.47 210 P **P** **03 31 25.5 -0.6**
comp=Z,34nm,0.8s
MK01 Makanchi Array 43.60 301 *eP* **P** **03 31 26.9 -0.1**
MK31 Makanchi Array 43.60 301 *eP* **P** **03 31 27.1 0.0**
MK31 Makanchi Array 43.60 301 *ceP* **P** **03 31 27.0 0.0**
MK31 pmax pmax
comp=Z,46nm,0.9s
MK32 Makanchi Array 43.60 301 *eP* **P** **03 31 27.0 0.0**
MK32 *e*PP **PcP** **03 33 13.3 -0.3**
MKAR Makanchi Array 43.60 301 P **P** **03 31 27.0 0.0**
comp=Z,29nm,0.8s,baz=86,slow=9.2,SNR=208
MKAR PcP **PcP** **03 33 13.3 -0.3**
comp=Z,3.8nm,0.8s,baz=83,slow=4.6,SNR=2.2
MKAR LR LR 03 49 36.0
comp=Z,152nm,20.2s,baz=308,slow=36
MKAR Makanchi Array 43.60 301 *eP* **P** **03 31 27.1 0.0**
comp=Z,184nm,0.8s
MKAR Makanchi Array 43.60 301 *eP* **P** **03 31 27.1 0.0**
MKAR pmax pmax
comp=Z,184nm,0.8s
UTHA Uthaitani 43.66 250 P **P** **03 31 28.0 +0.3**
comp=Z,4.6nm,0.8s
NLAI Namlea 43.78 202 P **P** **03 31 28.1 -0.5**
SHL Shillong 43.78 268 *eP* **P** **03 31 27.0 -1.9**
MAKZ Makanchi 43.81 301 *eP* **P** **03 31 28.7 0.0**
comp=Z,32nm,0.9s
MAKZ Makanchi 43.81 301 *i* P **P** **03 31 28.5 -0.2**
MAKZ pmax pmax
comp=Z,40nm,1.1s
SVW2 Sparrevohn 44.10 38 *eP* **P** **03 31 33.3 +2.5**
comp=Z,8.4nm,1.0s
SRDT SRDT 44.68 249 P **P** **03 31 37.0 +1.1**
comp=Z,22nm,1.2s
IM3 Indian Mountai 45.16 31 *eP* **P** **03 31 40.1 +1.0**
KURK Kurchatov 45.26 307 *eP* **P** **03 31 40.1 -0.1**
comp=Z,103nm,0.8s
KURK Kurchatov 45.26 307 *c iP* **P** **03 31 39.8 -0.3**
KURK pmax pmax
comp=Z,117nm,0.8s
KURK Kurchatov 45.26 307 P **P** **03 31 40.0 -0.1**
SNR=32
KURBB Kurchatov Arra 45.34 307 P **P** **03 31 40.7 0.0**
comp=Z,77nm,0.7s,baz=82,slow=8.1,SNR=512
KDAK Kodiak Island 45.74 43 *i* P **P** **03 31 44.6 +0.9**
CAST Castle Rocks 45.77 35 *eP* **P** **03 31 46.3 +2.3**
comp=Z,8.4nm,1.1s
SPU Mount Spurr 45.81 38 *eP* **P** **03 31 46.5 +2.1**
SPU *ep*P **pP** **03 31 59.7 +0.7**
TAPN Taplejung 46.19 273 *eP* **P** **03 31 48.3 +0.2**
comp=Z,69nm,1.1s
KTH Kantishna Hill 46.29 35 *eP* **P** **03 31 50.3 +2.1**
comp=Z,12nm,1.0s
PDGK Podgornoye 46.37 297 P **P** **03 31 48.7 -0.4**
PDGK pmax pmax
comp=Z,27nm,1.2s
MLY Manley 46.37 33 *eP* **P** **03 31 50.9 +2.2**
comp=Z,6.3nm,0.8s
SUA Susitna One 46.43 38 *eP* **P** **03 31 50.6 +1.3**
comp=Z,12nm,0.9s
MTKI Muara Teweh, K 46.49 219 P **P** **03 31 49.2 -0.9**
TRF Thorofare Moun 46.58 35 *eP* **P** **03 31 51.9 +1.4**
comp=Z,5.9nm,0.9s
ODAN Odare 46.67 272 *eP* **P** **03 31 51.8 0.0**
comp=Z,97nm,1.0s
RC01 Rabbit Creek A 46.94 38 *eP* **P** **03 31 54.2 +1.1**
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 46.95 28 *eP* **P** **03 31 55.2 +2.0**
comp=Z,10nm,0.8s
MCK McKinley 47.17 35 *eP* **P** **03 31 56.4 +1.4**
comp=Z,8.2nm,1.0s
MCK McKinley 47.17 35 *eP* **P** **03 31 56.4 +1.4**
MCK pmax pmax
comp=Z,8.0nm,1.0s
PMR Palmer 47.20 37 *eP* **P** **03 31 56.1 +1.0**
comp=Z,11nm,1.0s
PMR Palmer 47.20 37 *eP* **P** **03 31 56.1 +1.0**
PMR pmax pmax
comp=Z,11nm,1.0s
RND Reindeer 47.22 35 *eP* **P** **03 31 56.5 +1.1**
comp=Z,17nm,1.3s
RND Reindeer 47.22 35 *eP* **P** **03 31 56.5 +1.1**
RND pmax pmax
comp=Z,17nm,1.3s
JIRN Jiri 47.23 274 *eP* **P** **03 31 56.6 +0.2**
comp=Z,94nm,0.9s
RAMN Ramite 47.25 273 *eP* **P** **03 31 56.3 0.0**
comp=Z,199nm,0.9s
BNSI Bone 47.26 210 P **P** **03 31 55.4 -0.7**
GUN Gumba 47.36 274 *eP* **P** **03 31 57.4 +0.1**
comp=Z,145nm,0.8s
MDM Murphy Dome 47.44 33 *eP* **P** **03 31 58.7 +1.7**
comp=Z,29nm,1.5s
SML Sawmill 47.56 37 *eP* **P** **03 31 59.4 +1.4**
comp=Z,12nm,1.0s
SML Sawmill 47.56 37 *eP* **P** **03 31 59.4 +1.4**
SML pmax pmax
comp=Z,12nm,1.0s
COLA College 47.60 33⇑ *eP* **P** **03 31 59.6 +1.4**
COLA pmax pmax
comp=Z,4.0nm,0.6s
CCB Clear Creek Bu 47.63 33 *eP* **P** **03 31 59.7 +1.2**
comp=Z,6.5nm,1.2s
KKN Kakani 47.88 275 *eP* **P** **03 32 01.4 +0.2**
comp=Z,141nm,0.8s
PKI Pulchoki 47.88 274 *eP* **P** **03 32 01.0 -0.4**
comp=Z,48nm,0.8s
PKIN Phulchoki 47.89 274 *eP* **P** **03 32 01.4 +0.1**
comp=Z,52nm,0.7s
DHY Denali Highway 47.91 35 *eP* **P** **03 32 02.5 +1.6**
comp=Z,11nm,1.2s
KAPI Kappang 47.96 210 *eP* **P** **03 32 00.8 -0.8**
comp=Z,17nm,0.9s
KAPI Kappang 47.96 210 P **P** **03 32 01.4 -0.2**
SNR=5.1
HDA Harding Lake 48.01 34 *eP* **P** **03 32 02.4 +0.9**
comp=Z,41nm,1.9s
HDA *ep*P **pP** **03 32 16.6 +0.5**
IL1 Eielson Array 48.02 33 *eP* **P** **03 32 01.7 +0.2**
ILAR Eielson Array 48.02 33 P **P** **03 32 02.5 +0.9**
comp=Z,5.1nm,0.7s,baz=267,slow=6.1,SNR=55
ILB Eielson Array 48.02 33 *eP* **P** **03 32 02.5 +0.9**
SCM Sheep Creek Mo 48.03 37 *eP* **P** **03 32 03.3 +1.5**
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 48.03 37 *eP* **P** **03 32 03.3 +1.5**
SCM pmax pmax
comp=Z,16nm,0.9s
DMN Daman 48.10 275 *eP* **P** **03 32 03.0 0.0**
SKLT Songkhla 48.55 241 P **P** **03 32 05.9 -0.2**
comp=Z,40nm,1.0s
SURT Suratani 48.55 244 P **P** **03 32 05.9 -0.3**
comp=Z,13nm,1.0s
FYU Fort Yukon 48.61 31 *eP* **P** **03 32 08.8 +2.8**
comp=Z,47nm,1.8s
KLU Klutina 48.73 37 *eP* **P** **03 32 08.5 +1.4**
comp=Z,14nm,1.1s
DANN Dangsing 48.80 276 *eP* **P** **03 32 08.8 +0.4**
DIV Divide 48.85 38 *eP* **P** **03 32 10.3 +2.3**
comp=Z,15nm,1.0s
HARP HAARP 48.99 36 *eP* **P** **03 32 11.2 +2.2**
comp=Z,14nm,1.0s
KOLN Koldanda 49.20 276 *eP* **P** **03 32 11.4 0.0**
comp=Z,95nm,1.0s
TKM2 Tokmak 2 49.21 297 P **P** **03 32 12.0 +0.7**
SNR=38
DOT Dot Lake 49.34 34 *eP* **P** **03 32 12.3 +0.6**
NRN Naryn 49.41 295 P **P** **03 32 13.5 +0.6**
BMRM Bremner River 49.44 38 *eP* **P** **03 32 14.2 +1.7**
comp=Z,15nm,1.0s
BMRM *ep*P **sP** **03 32 34.9 +1.3**
PYUN Piuthan 49.52 276 *eP* **P** **03 32 14.0 +0.2**
comp=Z,222nm,1.1s
MENT Mentasta 49.58 35 *eP* **P** **03 32 15.0 +1.4**
comp=Z,7.4nm,1.0s
PKDT Phuket 49.62 244 P **P** **03 32 14.3 0.0**
comp=Z,34nm,0.9s
KZA Kyzart 49.73 296 P **P** **03 32 16.6 +1.1**
SNR=12
KBK Karagaybulak 49.75 297 P **P** **03 32 15.7 +0.5**
SNR=39
BVA0 Borovoye Array 49.80 311 *i* P **P** **03 32 14.9 -0.4**
BVA0 pmax pmax
comp=Z,15nm,0.8s
BVAR Borovoye Array 49.80 311 P **P** **03 32 15.1 -0.2**
comp=Z,11nm,0.7s,baz=75,slow=7.8,SNR=83
BVAR PcP **PcP** **03 33 35.8 +0.4**
comp=Z,12nm,0.7s,baz=68,slow=3.9,SNR=7.4
BVAR LR LR 03 54 16.7
comp=Z,253nm,18.1s,baz=327,slow=37
OTUK Ortayu 49.81 305 P **P** **03 32 15.3 -0.2**
OTUK pmax pmax
comp=Z,30nm,1.2s
BRVK Borovoye 49.85 311 *eP* **P** **03 32 15.8 +0.1**
comp=Z,19nm,0.9s
BRVK Borovoye 49.85 311 *c iP* **P** **03 32 15.6 -0.1**
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 49.85 311 P **P** **03 32 15.7 +0.1**
SNR=6.5
USP Ospenovka 49.86 298 P **P** **03 32 15.8 -0.2**
SNR=13
KULM Kulim 49.89 239 *eP* **P** **03 32 16.9 +0.5**
comp=Z,20nm,0.8s
FRU Bishkek 49.92 298 *eP* **P** **03 32 15.5 -0.9**
FRU *e* 03 32 32.5
AAK Ala-Archa 50.07 297 P **P** **03 32 17.9 +0.1**
SNR=9.2
AAK Ala-Archa 50.07 297 *eP* **P** **03 32 17.8 +0.1**
comp=Z,7.9nm,0.9s
AAK Ala-Archa 50.07 297⇑ *iP* **P** **03 32 17.7 0.0**
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 50.07 297 *i* P **P** **03 32 17.7 0.0**
SNR=12
KSH Kashi 50.10 293 P **P** **03 32 21.8 +3.8**
KSH pP sP 03 32 36.1 -3.0
KSH PcP **PcP** **03 33 39.7 +2.8**
KSH S **S** **03 39 27.8 +2.4**
KSH sS sS 03 39 54.8 +4.6
KSH SS **SS** **03 42 59.8 +1.0**
KSH pmax pmax
comp=Z,16nm,1.0s
KSH pmax pmax
comp=Z,310nm,8.0s
KSH LR LR
comp=Z,400nm,8.8s
KSH LR LR
comp=Z,470nm,10.6s
KSH LR LR
comp=Z,410nm,9.5s
UCH Uchtor 50.19 297 P **P** **03 32 16.8 -2.2**
SNR=7.2
IPM Ipoh 50.24 238 *eP* **P** **03 32 17.9 -1.1**
comp=Z,38nm,0.8s
EKS2 Erkin-Say 50.56 298 P **P** **03 32 21.5 +0.1**
SNR=5.3
SOEI Soe 50.80 203 P **P** **03 32 22.8 -0.5**
comp=Z,21nm,0.8s
SOEI Soe 50.80 203 *eP* **P** **03 32 22.8 -0.5**
comp=Z,29nm,1.0s
AML Almayashu 50.80 297 P **P** **03 32 24.2 +0.7**
SNR=26
MNAS Manas 51.50 298 *i* P **P** **03 32 28.7 +0.2**
MNAS pmax pmax
comp=Z,25nm,0.9s
SFK Sufi-Kurgan 51.69 295 P **P** **03 32 30.0 0.0**
SFK pmax pmax
comp=Z,17nm,0.8s
MTN Manton Dam 52.12 193 *eP* **P** **03 32 32.9 -0.1**
comp=Z,31nm,1.1s
COEN Coen 52.27 178 *eP* **P** **03 32 34.9 +0.7**
comp=Z,16nm,1.0s
COEN *ep*P **pP** **03 32 45.9 -3.1**
KK31 Karatay Array 52.66 299 *ceP* **P** **03 32 36.5 -0.4**
KK31 pmax pmax
comp=Z,17nm,0.8s
KKAR Karatay Array 52.66 299 *eP* **P** **03 32 36.6 -0.3**
KKAR Karatay Array 52.66 299 *eP* **P** **03 32 36.6 -0.3**
INK Inuvik 52.87 28 P **P** **03 32 39.3 +1.4**
comp=Z,5.5nm,0.5s,baz=298,slow=6.8,SNR=69
INK Inuvik 52.87 28 *eP* **P** **03 32 39.4 +1.4**
comp=Z,9.2nm,0.7s
INK Inuvik 52.87 28 *eP* **P** **03 32 39.4 +1.4**
INK pmax pmax
comp=Z,9.0nm,0.7s
HYT Haines Junctio 52.87 37 *eP* **P** **03 32 40.6 +2.3**
comp=Z,9.7nm,0.8s
PSI Prapat 52.88 239 P **P** **03 32 38.7 -0.2**
comp=Z,20nm,0.8s,baz=5.6,slow=5.3,SNR=18
PSI LR LR 03 56 19.9
comp=Z,113nm,18.5s,baz=33,slow=37
PSI Prapat 52.88 239 *eP* **P** **03 32 38.8 -0.1**
comp=Z,25nm,0.8s
PSI Prapat 52.88 239 *eP* **P** **03 32 38.8 -0.1**
PSI pmax pmax
comp=Z,25nm,0.8s
SVE Sverdlovsk 54.23 318⇓ *eP* **P** **03 32 48.6 +0.5**

SVE pmax pmax
comp=Z,65nm,0.9s
GSI Gunungsitoli 54.88 239 P **P** **03 32 53.5 +0.1**
comp=Z,95nm,1.1s
GSI Gunungsitoli 54.88 239 *eP* **P** **03 32 52.9 -0.5**
comp=Z,76nm,0.9s
MDSI Maura Dua 55.22 228 P **P** **03 32 55.0 -0.8**
comp=Z,31nm,1.1s
ARU Arti 55.44 318 *eP* **P** **03 32 57.0 +0.1**
comp=Z,60nm,1.1s
ARU Arti 55.44 318 *c i*P **P** **03 32 56.8 -0.1**
ARU *PP **pP** **03 33 13.8 +2.0**
ARU 03 33 51.5
ARU 03 34 56.7
ARU S **S** **03 40 37.9 +0.6**
ARU SS **SS** **03 44 18.4 -3.6**
ARU pmax pmax
comp=Z,53nm,1.0s
KBL Kabul 57.19 290 *eP* **P** **03 33 09.4 -0.6**
comp=Z,21nm,0.9s
KBL Kabul 57.19 290 *eP* **P** **03 33 09.4 -0.6**
KBL pmax pmax
comp=Z,21nm,0.9s
AB31 Akbulak array 57.21 310 *ceP* **P** **03 33 09.2 -0.4**
AB31 pmax pmax
comp=Z,22nm,0.7s
ABKAR Akbulak array 57.21 310 *eP* **P** **03 33 09.3 -0.3**
comp=Z,191nm,0.6s
AKTO Aktyubinsk 57.91 311 P **P** **03 33 13.7 -0.9**
comp=Z,15nm,0.7s,baz=66,slow=12,SNR=33
AKTO PcP **PcP** **03 34 04.9 -1.4**
comp=Z,10nm,0.8s,baz=69,slow=5.2,SNR=2.8
WRAB Tennant Creek 58.62 188 *eP* **P** **03 33 18.7 -1.0**
comp=Z,17nm,0.9s
WRAB Tennant Creek 58.62 188 *eP* **P** **03 33 18.7 -1.0**
WRAB pmax pmax
comp=Z,17nm,0.9s
WB2 Warramunga Arr 58.63 188 *eP* **P** **03 33 17.9 -1.9**
WR1 Warramunga Arr 58.63 188 *eP* **P** **03 33 18.8 -1.0**
comp=Z,13nm,0.8s
WRA Warramunga Arr 58.63 188 P **P** **03 33 18.8 -1.0**
comp=Z,15nm,0.8s,baz=6.8,slow=7.1,SNR=126
WRA Warramunga Arr 58.63 188 *i* P **P** **03 33 18.7 -1.1**
WRA pmax pmax
comp=Z,15nm,0.8s
SPA0 Spitsbergen Ar 59.08 349 *eP* **P** **03 33 23.9 +1.6**
SPITS Spitsbergen Ar 59.08 349 P **P** **03 33 23.9 +1.6**
comp=Z,9.6nm,0.9s,baz=36,slow=11,SNR=4.7
SPITS LR LR 04 01 20.2
comp=Z,249nm,18.1s,baz=185,slow=38
LVZ Lovozero 60.85 336⇑ *eP* **P** **03 33 34.2 -0.4**
LVZ pmax pmax
comp=Z,19nm,1.2s
RES Resolute Bay 61.03 15 *eP* **P** **03 33 35.4 -0.2**
comp=Z,16nm,0.9s
RES Resolute Bay 61.03 15 *eP* **P** **03 33 35.4 -0.2**
RES pmax pmax
comp=Z,16nm,0.9s
TMCR Tamitsa 61.56 331 *eP* **P** **03 33 39.2 -0.1**
TMCR pmax pmax
comp=Z,22nm,0.9s
YKW3 Yellowknife Ar 62.27 31 *eP* **P** **03 33 44.9 +0.8**
comp=Z,5.1nm,0.7s
YKA Yellowknife Ar 62.31 31 P **P** **03 33 45.0 +0.6**
comp=Z,5.8nm,0.8s,baz=302,slow=6.7,SNR=71
YKA LR LR 04 03 12.6
comp=Z,18nm,18.1s,baz=0.0,slow=38
YKA Yellowknife Ar 62.31 31 P **P** **03 33 45.0 +0.6**
YKA Yellowknife Ar 62.31 31 P **P** **03 33 45.0 +0.6**
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA MLR MLR
comp=Z,18nm,18.1s
YKB5 Yellowknife Ar 62.31 31 *eP* **P** **03 33 45.0 +0.6**
AS01 Alice Springs 62.35 188 *eP* **P** **03 33 44.5 -0.6**
AS31 Alice Springs 62.36 188 *eP* **P** **03 33 44.9 -0.3**
comp=Z,2.4nm,0.8s
ASAR Alice Springs 62.36 188 P **P** **03 33 44.6 -0.5**
comp=Z,5.8nm,0.8s,baz=11,slow=6.1,SNR=63
KLMR Klimovskoe 62.64 327 *eP* **P** **03 33 43.8 -2.8**
KLMR *e* 03 36 01.6
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 62.64 327 *eP* **P** **03 33 43.9 -2.7**
KLMR AMP 03 33 48.3
comp=Z,14nm,0.9s
KLMR *ePP **PP** **03 36 01.7 -2.7**
ARA0 ARCESS Array S 62.68 339 *eP* **P** **03 33 47.2 +0.4**
ARCES ARCESS Array B 62.68 339 P **P** **03 33 47.2 +0.4**
comp=Z,6.5nm,0.9s,baz=45,slow=7.0,SNR=10
GEYT Alibeck 63.39 298 P **P** **03 33 52.0 -0.1**
comp=Z,7.9nm,0.8s,baz=46,slow=4.3,SNR=17
GEYT LR LR 04 01 30.2
comp=Z,236nm,19.7s,baz=315,slow=36
TULEG Thule 63.53 8 *eP* **P** **03 33 51.7 -0.6**
comp=Z,26nm,0.8s
SGF Sodankyl 63.67 337 *eP* **P** **03 33 53.9 +0.6**
SGF pmax pmax
comp=Z,107nm,1.1s
JOF Joensuu 64.77 332 P **P** **03 34 01.3 +0.7**
LLLB Lillooet 64.91 44 *eP* **P** **03 34 03.5 +1.6**
comp=Z,5.8nm,0.9s
PGC Sidney 65.03 47 *eP* **P** **03 34 04.0 +1.4**
comp=Z,7.7nm,0.9s
OUL Oulu 65.34 335 P **P** **03 34 03.1 -1.2**
OUL pmax pmax
comp=Z,41nm,1.1s
NLWA Neilton Lookou 65.43 48 *eP* **P** **03 34 07.0 +1.8**
comp=Z,18nm,0.9s
MOS Moscow 66.22 323 *eP* **P** **03 34 14.7 +4.6**
MOS *e* 03 34 26.5
MOS *e* 03 36 44.2
MOS pmax pmax
comp=Z,36nm,0.8s
VRH Novokhopyorsk 66.67 318 *eP* **P** **03 34 11.7 -1.3**
VRH pmax pmax
comp=Z,20nm,0.6s
PUL Pulkovo 67.04 329⇑ *eP* **P** **03 34 16.5 +1.3**
PUL pmax pmax
comp=Z,39nm,0.7s
OBN Obninsk 67.07 323⇑ *eP* **P** **03 34 15.3 -0.2**
OBN *e*PP **pP** **03 34 31.9 +1.1**
OBN *e*SP **sP** **03 34 39.8 +2.7**
OBN 03 34 43.0
OBN 03 36 43.0
OBN pmax pmax
comp=Z,20nm,0.8s
OBN MLR MLR
comp=Z,220nm,11.0s
LPSR Galich'ya Gora 67.34 320 *eP* **P** **03 34 16.7 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
LTY Liberty 67.35 47 *eP* **P** **03 34 19.1 +1.5**
comp=Z,6.3nm,0.9s
B08A Colville Reser 67.51 46 *eP* **P** **03 34 19.8 +1.2**
comp=Z,4.9nm,0.9s
FIA1 FINESS Array S 67.61 332 *eP* **P** **03 34 18.6 -0.3**
FIA0 FINESS Array S 67.61 332 *eP* **P** **03 34 18.9 +0.1**
FIA0 *ePP **PP** **03 36 43.4 -4.4**
FIA0 FINESS Array S 67.61 332 *eP* **P** **03 34 19.0 +0.1**
FIA0 *e* 03 36 43.4
FINES FINESS Array B 67.61 332 P **P** **03 34 18.9 +0.1**
comp=Z,16nm,0.8s,baz=53,slow=7.6,SNR=30
FINES PP **PP** **03 36 43.4 -4.4**
comp=Z,5.4nm,0.8s,baz=58,slow=7.9,SNR=4.0
H04A Detroit Lake 67.85 50 *eP* **P** **03 34 22.6 +1.9**
comp=Z,8.8nm,0.9s
EDM Edmonton 67.93 39 *eP* **P** **03 34 22.2 +1.1**
comp=Z,13nm,0.9s
EDM Edmonton 67.93 39 *eP* **P** **03 34 22.2 +1.1**
EDM pmax pmax
comp=Z,13nm,0.9s
VSR Storozhevoye 68.00 319 *eP* **P** **03 34 20.7 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.7s
E07A Sunnyside 68.20 47 *eP* **P** **03 34 24.9 +2.1**
comp=Z,5.2nm,0.9s
C09A Chrisman Ranch 68.41 46 *eP* **P** **03 34 25.5 +1.4**
D08A Wollman Farm, 68.46 47 *eP* **P** **03 34 26.0 +1.5**
comp=Z,5.9nm,0.8s
F07A Phinny Hill Vi 68.53 48 *eP* **P** **03 34 27.1 +2.2**
comp=Z,9.2nm,0.9s
NEW Newport 68.79 45 *eP* **P** **03 34 28.1 +1.5**
comp=Z,7.4nm,0.9s
NEW Newport 68.79 45 *eP* **P** **03 34 28.1 +1.5**
NEW pmax pmax
comp=Z,7.0nm,0.9s
PINE Pine Mountain 69.09 50 *eP* **P** **03 34 31.1 +2.4**
comp=Z,13nm,0.9s
YBH Yreka Blue Hor 69.14 53 P **P** **03 34 31.2 +2.3**
comp=Z,3.2nm,0.8s,baz=255,slow=5.0,SNR=7.2
SUMG Summit 69.15 0⇑ *i*P **P** **03 34 29.7 +0.9**
comp=Z,21nm,0.7s
SUMG Summit 69.15 0 *eP* **P** **03 34 29.2 +0.4**
comp=Z,24nm,0.8s
SUMG Summit 69.15 0⇑ *i*P **P** **03 34 29.7 +0.9**
SUMG pmax pmax
comp=Z,21nm,0.7s
E09A Wood Farm, Sta 69.21 47 *eP* **P** **03 34 30.9 +1.8**
comp=Z,6.9nm,0.9s
VSU Vasula 69.30 329⇓ *eP* **P** **03 34 29.2 -0.2**
VSU pmax pmax
comp=Z,70nm,0.9s
GOF Gofitskoye 69.32 312⇑ *i*P **P** **03 34 29.7 -0.1**
GOF pmax pmax
comp=Z,111nm,1.3s
NCK Nalchik 69.87 310⇓ *i*P **P** **03 34 33.7 +0.4**
NCK pmax pmax
comp=Z,32nm,1.2s
WALA Waterton Lakes 70.07 43 *eP* **P** **03 34 36.1 +1.5**
comp=Z,8.4nm,0.9s
STKA Stephens Creek 70.09 180 P **P** **03 34 34.2 -0.3**
comp=Z,0.8nm,0.4s,baz=335,slow=14,SNR=2.9
STKA Stephens Creek 70.09 180 *eP* **P** **03 34 34.2 -0.3**
comp=Z,4.4nm,1.6s
KIV Kislovodsk 70.16 311 *eP* **P** **03 34 35.9 +0.8**
comp=Z,60nm,0.9s
KIV Kislovodsk 70.16 311 *eP* **P** **03 34 35.3 +0.2**
KIV pmax pmax
comp=Z,80nm,1.1s
KIV Kislovodsk 70.16 311 P **P** **03 34 35.2 0.0**
SNR=14
KIV Kislovodsk 70.16 311 *i* P **P** **03 34 35.7 +0.6**
SNR=5.9
KBZ Khabaz 70.16 310 P **P** **03 34 35.3 +0.4**
comp=Z,22nm,0.9s,baz=37,slow=3.5,SNR=33
TBLG Delisi 70.17 308 *eP* **P** **03 34 35.7 +0.6**
comp=Z,11nm,0.9s
TBLG Delisi 70.17 308 *eP* **P** **03 34 35.7 +0.6**
TBLG pmax pmax
comp=Z,11nm,0.9s
NEY Neytrino 70.54 310⇑ *eP* **P** **03 34 38.0 +0.4**
NEY pmax pmax
comp=Z,2.0nm,0.8s
BMO Blue Mountains 70.64 48 *eP* **P** **03 34 39.7 +1.7**
comp=Z,3.7nm,0.9s
BMO Blue Mountains 70.64 48 *eP* **P** **03 34 39.7 +1.7**
BMO pmax pmax
comp=Z,4.0nm,0.9s
JTMT Jette 70.65 44 *eP* **P** **03 34 40.0 +1.9**
comp=Z,10nm,0.9s
WSAR Wadi Sarin 70.80 285 P **P** **03 34 39.0 -0.2**
comp=Z,15nm,1.0s,baz=55,slow=4.7,SNR=6.6
J08A Circle Bar Ran 70.81 50 *eP* **P** **03 34 40.9 +1.7**
comp=Z,6.3nm,0.9s
BANOM Banah 71.04 288 P **P** **03 34 40.1 -0.6**
GNI Garni 71.06 306 P **P** **03 34 40.9 +0.1**
comp=Z,6.6nm,0.8s,baz=3.8,slow=15,SNR=3.7
GNI Garni 71.06 306⇑ *eP* **P** **03 34 40.6 -0.2**
GNI pmax pmax
comp=Z,57nm,1.2s
AKH Akhalkalaki 71.12 308 *eP* **P** **03 34 42.3 +1.2**
comp=Z,11nm,0.8s
AKH Akhalkalaki 71.12 308 *eP* **P** **03 34 42.3 +1.2**
AKH pmax pmax
comp=Z,11nm,0.8s
WVOR Wild Horse Val 71.25 50 *eP* **P** **03 34 42.8 +1.0**
comp=Z,2.7nm,0.9s
WVOR Wild Horse Val 71.25 50 *eP* **P** **03 34 42.8 +1.0**
WVOR pmax pmax
comp=Z,3.0nm,0.9s
IZAR Zarasai 71.29 327 *eP* **P** **03 34 42.3 +0.6**
IZAR IAmb IAmb 03 34 42.6
comp=Z,4.1nm,0.6s
IDID Didziasalis 71.37 327 *eP* **P** **03 34 42.8 +0.6**
IDID IAmb IAmb 03 34 43.9
comp=Z,8.1nm,0.9s
MSO Missoula 71.38 45 *eP* **P** **03 34 43.9 +1.3**
comp=Z,6.6nm,0.9s
ISAL Salakas 71.46 327 *eP* **P** **03 34 43.3 +0.6**
ISAL IAmb IAmb 03 34 44.6
comp=Z,18nm,0.9s
IIGN Ignalina 71.57 327 *eP* **P** **03 34 43.9 +0.6**
IIGN IAmb IAmb 03 34 45.2
comp=Z,12nm,1.0s
NACGM Naroch 71.63 327 *e* **P** **03 34 43.0 -0.7**
BEKR Beckworth 71.66 53 *eP* **P** **03 34 45.5 +1.0**
comp=Z,5.8nm,0.9s
UOSS Minazif 71.66 288 *eP* **P** **03 34 44.5 0.0**
comp=Z,12nm,1.0s
UOSS Minazif 71.66 288 P **P** **03 34 44.3 -0.2**
HATD Hatta, Dubai 71.78 287 *i* P **P** **03 34 46.1 +0.9**
SNR=5.4
SOHO SOHO 71.88 287 P **P** **03 34 45.3 -0.4**
ASHO Ashiyiah 71.92 287 P **P** **03 34 45.8 -0.2**
FFC Flin Flon 72.23 33 *eP* **P** **03 34 47.9 +0.6**
comp=Z,10nm,0.8s
FFC Flin Flon 72.23 33 *eP* **P** **03 34 47.9 +0.6**
FFC pmax pmax
comp=Z,10.0nm,0.8s
MFID Camas Ranch 72.35 48 *eP* **P** **03 34 50.1 +1.7**
comp=Z,4.4nm,0.9s
PAHR Pah Rah Range 72.37 53 *eP* **P** **03 34 50.2 +1.6**
comp=Z,27nm,1.8s
PAHR *epP **pP** **03 35 04.3 +0.2**
FCC Fort Churchill 72.48 27 *eP* **P** **03 34 49.0 +0.3**
comp=Z,11nm,0.9s
FCC Fort Churchill 72.48 27 *eP* **P** **03 34 49.0 +0.3**
FCC pmax pmax
comp=Z,11nm,0.9s
HRY Holter Researc 72.61 44 *eP* **P** **03 34 51.6 +1.7**
CMB Columbia Colle 72.70 55 *eP* **P** **03 34 52.2 +1.7**
comp=Z,17nm,1.6s
CMB *epP **PcP** **03 35 07.0 -0.7**
CMB Columbia Colle 72.70 55 *eP* **P** **03 34 52.2 +1.7**
CMB *e*PP **PcP** **03 35 07.0 -0.7**
CMB pmax pmax
comp=Z,17nm,1.6s
ANN Anapa 72.71 314 *eP* P 03 34 57.9 +7.6
ANN pmax pmax
comp=Z,50nm,0.9s
LRM Limekiln Ridge 72.81 45 *eP* **P** **03 34 52.9 +1.6**
HFS Hagfors 72.83 336 P **P** **03 34 50.8 +0.1**
comp=Z,20nm,0.7s,baz=61,slow=6.8,SNR=42
HFS LR LR 04 09 28.6
comp=Z,234nm,20.1s,baz=284,slow=38
NC204 NORSAR Array S 72.85 338 *eP* **P** **03 34 51.7 +0.7**
NB201 NORSAR Array S 72.87 337 *eP* **P** **03 34 50.6 -0.4**
YERR Yerington 72.88 54 *eP* **P** **03 34 53.5 +1.8**
comp=Z,7.8nm,1.0s
EGMT Eagleton 72.90 42 *eP* **P** **03 34 52.7 +1.1**
comp=Z,21nm,0.9s
NB2 NORSAR Subarra 72.90 337 P **P** **03 34 51.4 +0.2**
comp=Z,24nm,0.8s,baz=40,slow=6.2
NB2 NORSAR Subarra 72.90 337 P **P** **03 34 51.0 -0.2**
NB2 pmax pmax
comp=Z,21nm,0.8s
NB2 NORSAR Subarra 72.90 337 P **P** **03 34 51.4 +0.2**
baz=40,slow=6.2
NB200 NORSAR Array S 72.90 337 *eP* **P** **03 34 51.4 +0.2**
NOA NORSAR Array B 72.90 337 P **P** **03 34 51.4 +0.2**
comp=Z,23nm,0.9s,baz=39,slow=5.9,SNR=38
NOA LR LR 04 11 00.2
comp=Z,208nm,18.1s,baz=40,slow=39
NBO02 NORSAR Array S 73.00 337 *eP* **P** **03 34 51.4 -0.4**
DLMT Dillon 73.02 45 *eP* **P** **03 34 54.0 +1.6**
comp=Z,7.6nm,0.9s
NBO00 NORSAR Array S 73.04 337 *eP* **P** **03 34 52.6 +0.5**
HLID Hailey 73.08 48 *eP* **P** **03 34 54.6 +1.8**
comp=Z,3.7nm,0.9s
NAO01 NORSAR Array S 73.15 337 *eP* **P** **03 34 53.1 +0.4**
BMN Battle Mountai 73.28 51 *eP* **P** **03 34 56.2 +2.1**
comp=Z,4.7nm,0.8s
BMN Battle Mountai 73.28 51 *eP* **P** **03 34 56.2 +2.1**
BMN pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 73.29 322 P **P** **03 34 53.4 -0.3**
comp=Z,14nm,0.7s,baz=47,slow=6.0,SNR=79
AKASG PP **PP** **03 37 33.1 -3.8**
comp=Z,2.6nm,0.9s,baz=44,slow=8.6,SNR=5.5
AKASG LR LR 04 09 45.6
comp=Z,204nm,18.1s,baz=340,slow=38
AKBB Malin Array Si 73.29 322 *eP* **P** **03 34 53.5 -0.1**
comp=Z,23nm,0.8s
AKBB *ePP **PP** **03 37 33.1 -3.8**
AKBB Malin Array Si 73.29 322 *eP* **P** **03 34 53.5 -0.1**
AKBB *e* 03 37 33.1
AKBB pmax pmax
comp=Z,23nm,0.8s
KIEV Kiev 73.30 322 *eP* **P** **03 34 52.9 -0.8**
comp=Z,22nm,0.8s
KIEV Kiev 73.30 322⇓ *i*P **P** **03 34 53.1 -0.6**
KIEV pmax pmax
comp=Z,21nm,0.7s
KIEV Kiev 73.30 322 *i* P **P** **03 34 53.5 -0.2**
SNR=14
AK11 Malin Array Si 73.33 322 *eP* **P** **03 34 53.8 -0.1**
BOZ Bozeman (W) 73.41 45 *eP* **P** **03 34 56.0 +1.4**
comp=Z,8.1nm,1.0s
BOZ Bozeman (W) 73.41 45 *eP* **P** **03 34 56.0 +1.4**
BOZ pmax pmax
comp=Z,8.0nm,1.0s
NV01 Mina Array Sit 73.80 54 *eP* **P** **03 34 58.5 +1.4**
NVAR Mina Array Bea 73.80 54 P **P** **03 34 59.0 +1.8**
comp=Z,4.1nm,0.9s,baz=285,slow=6.1,SNR=13
YHB Horse Butte 74.17 45 *eP* **P** **03 35 01.2 +2.0**
comp=Z,6.1nm,0.8s
SFJD Kangerlussuaq 74.33 5 *eP* **P** **03 35 00.1 +0.7**
comp=Z,16nm,0.9s
SFJD Kangerlussuaq 74.33 5 *eP* **P** **03 35 00.1 +0.7**
SFJD pmax pmax
comp=Z,16nm,0.9s
YHH Holmes Hill 74.34 45 *eP* **P** **03 35 02.1 +1.8**
comp=Z,3.9nm,1.0s
YMR Madison River 74.35 45 *eP* **P** **03 35 02.4 +2.1**
comp=Z,7.0nm,1.1s
GCMT Greycliff 74.35 44 *eP* **P** **03 35 02.0 +1.9**
SIM Simferopol' 74.47 315 *d i*P **P** **03 35 01.1 +0.4**
SIM pmax pmax
comp=Z,26nm,0.8s
YFT Old Faithful 74.56 45 *eP* **P** **03 35 05.0 +3.5**
comp=Z,6.6nm,0.9s
YPP Pitchstone Pla 74.69 45 *eP* **P** **03 35 05.3 +2.9**
comp=Z,3.5nm,1.0s
H17A Grant Village 74.74 45 *eP* **P** **03 35 05.8 +3.2**
comp=Z,12nm,0.9s
IMW Indian Meadow 74.85 46 *eP* **P** **03 35 05.5 +2.2**
comp=Z,7.7nm,0.8s
FXWY Fox Creek 74.97 46 *eP* **P** **03 35 06.2 +2.3**
comp=Z,4.4nm,0.8s
RLMT Red Lodge 75.00 44 *eP* **P** **03 35 05.9 +1.9**
comp=Z,9.6nm,1.1s
MOOW Moose Ponds 75.06 46 *eP* **P** **03 35 06.7 +2.3**
comp=Z,5.4nm,0.9s
TPAW Teton Pass 75.10 46 *eP* **P** **03 35 06.5 +1.8**
comp=Z,5.3nm,0.8s
LOHW Long Hollow 75.22 46 *eP* **P** **03 35 07.5 +2.1**
comp=Z,2.5nm,0.9s
SNOW Snow King Moun 75.23 46 *eP* **P** **03 35 07.8 +2.4**
comp=Z,6.3nm,0.9s
REDW Red Top Meadow 75.24 46 *eP* **P** **03 35 07.6 +2.1**
comp=Z,7.0nm,1.0s
SORM Soroca 75.42 321⇓ *i*P **P** **03 35 05.5 -0.5**
SORM Soroca 75.42 321 P **P** **03 35 05.5 -0.5**
R11A Troy Canyon, C 75.55 52 *eP* **P** **03 35 08.7 +1.4**
comp=Z,6.9nm,1.3s
LAO LASA Array 75.59 41 *eP* **P** **03 35 08.9 +1.7**
comp=Z,17nm,0.9s
LAO *epP **pP** **03 35 24.2 +1.4**
RCWM Renegade Canyo 75.70 55 *eP* **P** **03 35 11.8 +3.7**
DUG Dugway, Tooele 76.10 50 *eP* **P** **03 35 12.0 +1.7**
comp=Z,5.9nm,0.9s
DUG Dugway, Tooele 76.10 50 *eP* **P** **03 35 12.0 +1.7**
DUG pmax pmax
comp=Z,6.0nm,0.9s
BORG Borgarnes 76.17 353 P **P** **03 35 11.4 +1.4**
comp=Z,38nm,1.0s,baz=87,slow=2.7,SNR=4.0
BORG Borgarnes 76.17 353 *eP* **P** **03 35 11.4 +1.4**
comp=Z,219nm,1.4s
LVV L'vov 76.34 324 *eP* **P** **03 35 12.1 +0.8**
TCUT Toone Canyon 76.34 48 *eP* **P** **03 35 13.8 +1.9**
comp=Z,13nm,0.9s
BW06 Boulder Array 76.35 46 *eP* **P** **03 35 12.8 +0.9**
comp=Z,5.0nm,0.8s
BW06 *ePcP **PcP** **03 35 23.9 +0.5**
PD31 Pinedale Array 76.35 46 *eP* **P** **03 35 12.7 +0.8**
PDAR Pinedale Array 76.35 46 P **P** **03 35 12.7 +0.8**
comp=Z,5.6nm,0.8s,baz=276,slow=1.7,SNR=45
PDAR Pinedale Array 76.35 46 *eP* **P** **03 35 12.3 +0.5**
NLU North Lily Min 76.69 49 *eP* **P** **03 35 15.9 +2.2**
comp=Z,4.6nm,0.9s
MPU Maple Canyon 76.91 49 *eP* **P** **03 35 17.2 +2.2**
comp=Z,9.4nm,1.0s
SHPR Sheep Range 76.95 54 *eP* **P** **03 35 17.6 +2.3**
comp=Z,3.0nm,1.0s
KWP Kalwaria Pacla 77.08 324 *eP* **P** **03 35 16.4 +0.9**
KWP Kalwaria Pacla 77.08 324 *eP* **P** **03 35 16.0 +0.5**
comp=Z,548nm,1.2s
KWP Kalwaria Pacla 77.08 324 *eP* **P** **03 35 16.4 +0.9**
GIRR Girov 77.14 321⇓ *i*P **P** **03 35 16.4 +0.5**
TLCR 77.16 318⇓ *i*P **P** **03 35 16.4 +0.4**
TLCR 77.16 318 P **P** **03 35 16.4 +0.4**
ILGA Ilgaz 77.18 313 *eP* **P** **03 35 18.0 +1.5**
comp=Z,25nm,0.8s
BUR08 Bucovina Ar. S 77.30 322 *eP* **P** **03 35 17.4 +0.5**
BUR04 Bucovina Ar. S 77.31 322 *eP* **P** **03 35 17.2 +0.3**
BURAR Bucovina Array 77.31 322⇑ *i*P **P** **03 35 17.2 +0.2**
BURAR Bucovina Array 77.31 322 P **P** **03 35 17.2 +0.2**
TESR Tescani 77.37 320⇓ *i*P **P** **03 35 16.8 -0.4**
CFR Carcaliu 77.52 318⇑ *i*P **P** **03 35 18.0 +0.1**
CFR Carcaliu 77.52 318 P **P** **03 35 18.1 +0.1**
ODBI Odobesti 77.68 319⇓ *i*P **P** **03 35 20.7 +1.8**
VRI Vrincioaia 77.77 320⇑ *i*P **P** **03 35 19.6 +0.1**
VRI Vrincioaia 77.77 320 P **P** **03 35 19.7 +0.2**
P17A Butcher Ranch, 77.79 49 *eP* **P** **03 35 21.8 +1.9**
comp=Z,9.5nm,0.8s
JOSR Joseni 77.80 321⇑ *i*P **P** **03 35 21.2 +1.6**
PLOR Plostina 77.82 320⇑ *i*P **P** **03 35 18.9 -0.9**
PLOR Plostina 77.82 320 P **P** **03 35 18.9 -0.9**
MTPU Mount Pierson 77.83 51 *eP* **P** **03 35 22.8 +2.4**
comp=Z,4.6nm,0.8s
TIRR Tirgusor 77.86 318⇓ *i*P **P** **03 35 19.9 0.0**
TIRR Tirgusor 77.86 318 *eP* **P** **03 35 19.5 -0.4**
comp=Z,9.3nm,1.0s
TIRR Tirgusor 77.86 318 P **P** **03 35 19.9 0.0**
STHS Stebnicka Huta 77.89 325 *eP* **P** **03 35 20.8 +0.7**
OJC Ojcow 77.95 326 *eP* **P** **03 35 21.4 +1.0**
OJC Ojcow 77.95 326 *eP* **P** **03 35 21.4 +1.0**
P18A Preston Nutter 77.98 49 *eP* **P** **03 35 23.3 +2.2**
comp=Z,14nm,1.4s
UZH Uzhgorod 77.98 324 *c i*P **P** **03 35 21.0 +0.5**
UZH *e* 03 35 32.4
UZH *i* 03 35 36.8
ULM Lac du Bonnet 78.03 34 P **P** **03 35 21.0 +0.2**
comp=Z,5.0nm,0.9s,baz=308,slow=7.1,SNR=7.4
BR101 Keskin Array S 78.08 312 *eP* **P** **03 35 21.6 +0.1**
BR101 *ePP **PP** **03 38 14.1 -3.7**
BR131 Keskin Array S 78.08 312 *eP* **P** **03 35 21.5 +0.1**
BRTR Keskin Array B 78.08 312 P **P** **03 35 21.6 0.0**
comp=Z,4.5nm,0.9s,baz=90,slow=4.9,SNR=23
BRTR PP **PP** **03 38 14.1 -3.7**
comp=Z,1.9nm,0.9s,baz=51,slow=6.5,SNR=4.8
ARCR ARCALIA 78.10 322⇓ *i*P **P** **03 35 22.5 +1.3**
SRU San Rafael Swe 78.15 49 *eP* **P** **03 35 23.5 +1.6**
comp=Z,10nm,0.8s
SRU San Rafael Swe 78.15 49 *eP* **P** **03 35 23.5 +1.6**
SRU pmax pmax
comp=Z,10.0nm,0.8s
CRVS Cervenica-Dubn 78.17 324 *eP* **P** **03 35 22.1 +0.5**
PGOR Pogoanele 78.30 319⇓ *i*P **P** **03 35 23.8 +1.5**
NIE Niedzica 78.32 325 *eP* **P** **03 35 23.6 +1.2**
NIE Niedzica 78.32 325 *eP* **P** **03 35 23.6 +1.2**
HAY Hayfield 78.36 56 *eP* **P** **03 35 23.1 +0.2**
HAY Hayfield 78.36 56 *eP* **P** **03 35 23.1 +0.2**
DOPR Dopca 78.38 320⇑ *i*P **P** **03 35 24.1 +1.3**
ISR Istrita 78.38 319⇓ *i*P **P** **03 35 23.9 +1.0**
ISR Istrita 78.38 319 P **P** **03 35 23.9 +1.0**
MLR Muntele Rosu 78.43 320 P **P** **03 35 23.2 -0.1**
comp=Z,1.2nm,0.9s,baz=60,slow=4.4,SNR=8.7
MLR Muntele Rosu 78.43 320⇑ *i*P **P** **03 35 23.5 +0.3**
MLR Muntele Rosu 78.43 320 *eP* **P** **03 35 23.1 -0.1**
comp=Z,7.7nm,1.0s
MLR Muntele Rosu 78.43 320 P **P** **03 35 23.5 +0.3**
RSSD Black Hills 78.46 42 *eP* **P** **03 35 24.5 +1.0**
comp=Z,7.4nm,1.0s
RSSD Black Hills 78.46 42 *eP* **P** **03 35 24.5 +1.0**
RSSD pmax pmax

comp=Z,7.0nm,1.0s
ANTO Ankara 78.49 312 *e*P **P** 03 35 24.1 +0.5
comp=Z,16nm,0.8s
ANTO Ankara 78.49 312 *e*P **P** 03 35 24.1 +0.5
ANTO pmax pmax
comp=Z,16nm,0.8s
BR231 Keskin MP Arra 78.51 312 *e*P **P** 03 35 24.6 +0.8
CJR Cluj-Napoca 78.73 322 ⇓*i*P **P** 03 35 25.8 +1.0
CJR Cluj-Napoca 78.73 322 P **P** 03 35 25.8 +1.0
U15A North Rim 78.80 52 *e*P **P** 03 35 27.7 +2.1
comp=Z,4.4nm,0.9s
O20A White River Ci 78.82 47 *e*P **P** 03 35 26.9 +1.3
comp=Z,6.9nm,0.9s
KECS Kecovo 78.92 325 *e*P **P** 03 35 24.9 -0.8
VOIR 78.92 320 ⇓*i*P **P** 03 35 26.2 +0.3
VOIR 78.92 320 P **P** 03 35 26.2 +0.3
OKC Ostrava-Krasne 78.95 327 *e*P **P** 03 35 26.3 +0.5
OKC Ostrava-Krasne 78.95 327 *e*P **P** 03 35 26.3 +0.5
KSP Ksiaz 78.97 328 *e*P **P** 03 35 26.8 +0.8
KSP Ksiaz 78.97 328 *e*P **P** 03 35 26.8 +0.8
DRGR 79.11 322 ⇓*i*P **P** 03 35 27.4 +0.5
DRGR 79.11 322 P **P** 03 35 27.4 +0.5
MORC Moravsky Berou 79.25 327 ⇓*i*P P 03 35 19.7 -7.9
MORC Moravsky Berou 79.25 327 *e*P **P** 03 35 27.6 0.0
comp=Z,80nm,1.0s
MORC Moravsky Berou 79.25 327 *e*P **P** 03 35 27.6 0.0
MORC pmax pmax
comp=Z,81nm,1.0s
DPC Dobruska-Polom 79.33 328 *e*P **P** 03 35 28.8 +0.8
DPC Dobruska-Polom 79.33 328 *e*P **P** 03 35 28.8 +0.8
UPC Upice 79.34 328 *e*P **P** 03 35 28.7 +0.7
UPC Upice 79.34 328 *e*P **P** 03 35 28.7 +0.7
PV09 Paradox Valley 79.37 49 *e*P **P** 03 35 30.5 +1.8
PV10 Paradox Valley 79.51 49 *e*P **P** 03 35 31.5 +2.0
PSZ Piszkesteto 79.60 325 ⇑*i*P **P** 03 35 30.3 +0.8
PSZ Piszkesteto 79.60 325 *e*P **P** 03 35 29.9 +0.4
comp=Z,19nm,1.0s
PSZ Piszkesteto 79.60 325 P **P** 03 35 30.3 +0.8
N23A Red Feather La 79.61 46 *e*P **P** 03 35 31.8 +1.8
comp=Z,10nm,1.1s
VYHS Vyhne 79.65 325 *e*P **P** 03 35 30.5 +0.8
VYHS *e*PP **PP** 03 38 28.8 -1.6
PV05 Paradox Valley 79.67 49 *e*P **P** 03 35 31.9 +1.6
BRG Berggiesshubel 79.90 329 *e*P **P** 03 35 31.3 +0.3
BRG pmax pmax
comp=Z,11nm,0.9s
PVCC Panska Ves 79.92 329 *e*P **P** 03 35 32.0 +0.9
PVCC Panska Ves 79.92 329 *e*P **P** 03 35 32.0 +0.9
CLL Collm 79.93 330 ⇑*i*P **P** 03 35 31.2 +0.1
comp=Z,29nm,1.0s
CLL Collm 79.93 330 *e*P **P** 03 35 31.2 +0.1
comp=Z,25nm,0.9s
CLL Collm 79.93 330 *e*P **P** 03 35 31.3 +0.1
CLL pmax pmax
comp=Z,25nm,0.9s
Y14A Wickenburg 79.94 55 *e*P **P** 03 35 33.2 +1.6
comp=Z,20nm,0.8s
PV01 Paradox Valley 79.94 49 *e*P **P** 03 35 33.4 +1.6
WUAZ Wupatki 79.95 52 *e*P **P** 03 35 33.9 +2.1
comp=Z,6.0nm,0.9s
VRAC Vranov 80.01 327 ⇑*i*P **P** 03 35 32.7 +1.0
VRAC Vranov 80.01 327 P **P** 03 35 32.7 +1.0
SMOL Smolenice 80.26 326 *e*P **P** 03 35 34.6 +1.6
GOPC GO Pecny, Ondr 80.30 328 *e*P **P** 03 35 33.6 +0.4
GOPC GO Pecny, Ondr 80.30 328 *e*P **P** 03 35 33.6 +0.4
PRU Pruhonice 80.35 329 *e*P **P** 03 35 33.8 +0.4
PRU Pruhonice 80.35 329 *e*P **P** 03 35 33.8 +0.4
RAYN Ar Rayn 80.39 292 *e*P **P** 03 35 34.0 -0.2
comp=Z,16nm,1.1s
SRO Srobarova 80.39 325 *e*P **P** 03 35 34.9 +1.2
BZS Buzias 80.48 322 ⇑*i*P **P** 03 35 34.2 0.0
BZS Buzias 80.48 322 P **P** 03 35 34.2 0.0
MVCO Mesa Verde 80.60 50 *e*P **P** 03 35 37.5 +2.1
comp=Z,6.2nm,1.0s
X16A Lo Mia Camp, P 80.62 53 *e*P **P** 03 35 37.5 +2.0
comp=Z,2.9nm,0.8s
ASF Jabal al Asfar 80.93 304 P **P** 03 35 37.4 +0.4
comp=Z,4.5nm,1.0s,baz=16,slow=7.4,SNR=5.5
NKC Novy Kostel 81.00 330 *e*P **P** 03 35 37.4 +0.5
NKC Novy Kostel 81.00 330 *e*P **P** 03 35 37.4 +0.5
S22A 4UR Ranch, Cre 81.23 48 *e*P **P** 03 35 40.8 +2.0
comp=Z,3.7nm,0.9s
SOP Sopron 81.27 326 P **P** 03 35 39.6 +1.2
MMAI Mount Meron Ar 81.35 305 P **P** 03 35 39.5 +0.4
comp=Z,9.4nm,0.8s,baz=40,slow=5.6,SNR=12
CONA Conrad Observa 81.38 327 *i*P **P** 03 35 40.0 +0.9
comp=Z,6.0nm,0.6s,SNR=8.8
KHC Kasperske Hory 81.41 329 *e*P **P** 03 35 39.5 +0.3
KHC *ex* x 03 36 13.5
KHC Kasperske Hory 81.41 329 *e*P **P** 03 35 39.6 +0.5
comp=Z,5.5nm,0.8s
KHC Kasperske Hory 81.41 329 *e*P **P** 03 35 39.7 +0.5
KHC pmax pmax
comp=Z,6.0nm,0.8s
GEC2 GERESS Array S 81.58 328 *e*P **P** 03 35 40.6 +0.5
comp=Z,12nm,1.2s
GEC2 GERESS Array S 81.58 328 *e*P **P** 03 35 40.6 +0.5
GEC2 pmax pmax
comp=Z,12nm,1.2s
GERES GERESS Array B 81.58 328 P **P** 03 35 40.2 +0.1
comp=Z,6.5nm,0.9s,baz=37,slow=5.5,SNR=36
GERES LR LR 04 16 30.3
comp=Z,455nm,21.7s,baz=320,slow=39
GEA0 GERESS Array S 81.59 326 *e*P **P** 03 35 40.1 -0.1
EKA Eskdalemuir Ar 81.79 341 P **P** 03 35 41.6 +0.6
comp=Z,3.5nm,0.7s,baz=28,slow=5.1,SNR=8.3
VTS Vitosha 81.87 319 ⇑*i*P **P** 03 35 42.7 +0.8
VTS Vitosha 81.87 319 *e*P **P** 03 35 42.1 +0.3
comp=Z,17nm,0.9s
VTS Vitosha 81.87 319 P **P** 03 35 42.7 +0.8
GRFO Grafenberg 81.91 330 *e*P **P** 03 35 42.9 +1.2
comp=Z,24nm,0.9s
GRFO Grafenberg 81.91 330 *e*P **P** 03 35 42.9 +1.2
GRFO pmax pmax
comp=Z,24nm,0.9s
ARSA Arzberg 82.05 326 *i*P **P** 03 35 43.0 +0.4
comp=Z,2.5nm,0.6s
MOA Molln 82.12 327 *i*P **P** 03 35 43.6 +0.7
comp=Z,3.0nm,0.7s
DIVS Divibare 82.38 322 *e*P **P** 03 35 43.5 -0.9
comp=Z,9.4nm,1.0s
ECSD EROS Data Cent 82.50 39 *e*P **P** 03 35 45.3 +0.3
comp=Z,8.0nm,1.0s
PERS Pernice 82.70 326 *i*P **P** 03 35 46.2 +0.2
SOKA Soboth 82.70 326 *i*P **P** 03 35 46.5 +0.4
comp=Z,14nm,0.9s,SNR=15
SRS Serrai 82.73 318 P **P** 03 35 46.6 +0.4
MHTCO State Highway 82.89 48 *e*P **P** 03 35 49.4 +2.0
comp=Z,6.6nm,1.2s
BEBN Eben Emael 83.05 334 ⇓P **P** 03 35 47.8 +0.3
OBKA Obir 83.05 326 *i*P **P** 03 35 48.2 +0.4
comp=Z,5.6nm,0.8s
MEM Membach 83.09 333 ⇑P **P** 03 35 47.4 -0.4
comp=Z,9.7nm,0.7s
KBA Koelnbreinsper 83.12 327 P **P** 03 35 49.3 +1.0
KBA Koelnbreinsper 83.12 327 *i*P **P** 03 35 48.9 +0.6
comp=Z,9.6nm,0.7s,SNR=10.0
VAY Valandovo 83.12 319 *i*P **P** 03 35 48.8 +0.6
BLY Banja Luka 83.22 324 ⇓*i*P **P** 03 35 49.2 +0.6
PLE Pljevlja 83.24 322 P **P** 03 35 50.2 +1.3
ANMO Albuquerque 83.34 50 *e*P **P** 03 35 51.6 +1.9
comp=Z,4.8nm,1.1s
ANMO Albuquerque 83.34 50 *e*P **P** 03 35 51.6 +1.9
ANMO pmax pmax
comp=Z,5.0nm,1.1s
MYKA Terra Mystica 83.34 327 *i*P **P** 03 35 49.1 -0.2
comp=Z,4.8nm,0.4s
BCLA Clavier 83.49 334 ⇑P **P** 03 35 49.9 -0.1
BOJS Bojanci 83.52 325 *i*P **P** 03 35 50.1 -0.1
WATA Walderalm 83.65 329 *i*P **P** 03 35 50.7 -0.2
comp=Z,2.1nm,0.4s
WTTA Wattenberg 83.68 328 *i*P **P** 03 35 51.3 +0.1
comp=Z,1.4nm,0.3s
ABTA Abfaltersbach 83.73 328 *i*P **P** 03 35 51.1 -0.2
SNR=5.0
JAVS Javornik 83.74 326 *i*P **P** 03 35 50.5 -0.9
KRUS Krusevo 83.77 319 *i*P **P** 03 35 52.1 +0.5
SCHQ Schefferville 83.77 16 P **P** 03 35 51.5 +0.2
comp=Z,7.3nm,0.9s,baz=350,slow=5.6,SNR=11
SCHQ Schefferville 83.77 16 *e*P **P** 03 35 52.0 +0.7
comp=Z,11nm,1.0s
MOTA Moosalm 83.83 329 *i*P **P** 03 35 52.2 +0.2
comp=Z,9.1nm,0.9s,SNR=11
RETA Reutte 83.86 329 *i*P **P** 03 35 52.5 +0.5
comp=Z,15nm,0.9s,SNR=13

PDG Podgorica 83.98 321 ⇓*i*P **P** 03 35 52.5 0.0
TTG Podgorica 83.98 321 *e*P **P** 03 35 52.7 +0.2
comp=Z,34nm,0.9s
TTG Podgorica 83.98 321 *e*P **P** 03 35 52.7 +0.2
TTG pmax pmax
comp=Z,34nm,0.9s
319A Douglas 83.98 54 *e*P **P** 03 35 54.5 +1.6
comp=Z,14nm,1.1s
DOU Dourbes 84.01 334 ⇓P **P** 03 35 52.5 -0.1
DOU ⇑AP **pP** 03 36 07.5 -0.8
UDBI Udbina 84.04 324 P **P** 03 35 52.3 -0.7
BFO Black Forest 84.13 331 *e*P **P** 03 35 53.5 +0.3
comp=Z,29nm,1.0s
BFO Black Forest 84.13 331 *i*P **P** 03 35 53.8 +0.6
FNA Florina 84.13 319 P **P** 03 35 54.1 +0.7
121A Cookes Peak, D 84.16 53 *e*P **P** 03 35 54.8 +0.9
comp=Z,6.4nm,0.9s
OHR Ohrid 84.18 319 *i*P **P** 03 35 53.9 +0.2
FETA Feichten 84.25 329 *i*P **P** 03 35 54.3 +0.2
comp=Z,11nm,0.9s,SNR=9.4
DAVA Damuels 84.37 329 *i*PcP **P** 03 35 55.1 +0.4
comp=Z,21nm,0.9s,SNR=10
STON Ston 84.40 322 P **P** 03 35 52.8 -1.9
NVLJ Novalja 84.42 325 P **P** 03 35 51.2 -3.5
CDF Champ du Feu 84.46 332 *e*P **P** 03 35 55.3 +0.3
CDF pmax pmax
comp=Z,23nm,1.0s
PMOR Pomariorio Ree 84.49 114 *e*T T 05 09 17.6
comp=Z,46nm,0.2s
ECH Echery 84.66 331 *e*P **P** 03 35 55.4 -0.5
comp=Z,21nm,0.9s
ECH Echery 84.66 331 *e*P **P** 03 35 55.4 -0.5
ECH pmax pmax
comp=Z,21nm,0.9s
KARP Karpathos 84.69 312 *e*P **P** 03 35 55.8 -0.6
comp=Z,9.8nm,1.0s
FUORN Ofenpass-Fuorn 84.76 329 *e*P **P** 03 35 57.2 +0.5
comp=Z,39nm,0.8s
PPT2 Papeete2 85.04 117 *e*LR LR 04 02 46.4
comp=Z,238nm,25.2s
PPT2 Papeete2 85.04 117 *e*T T 05 09 59.2
comp=Z,16nm,0.3s
PAE Paea 85.08 117 *e*T T 05 10 02.1
comp=Z,1.9nm,0.2s
SANT Santorini 85.09 313 *e*P **P** 03 35 55.0 -3.3
comp=Z,22nm,1.1s
HINF Hinteralfeld 85.11 331 *e*P **P** 03 35 57.2 -1.0
HINF pmax pmax
comp=Z,11nm,1.0s
TUE Stuetta 85.25 329 *e*P **P** 03 35 58.5 -0.7
comp=Z,20nm,1.0s
SENIN Lac Senin/Sane 86.14 330 *e*P **P** 03 36 03.8 +0.2
comp=Z,11nm,0.8s
IDI Anoyia 86.19 313 P **P** 03 36 02.4 -1.5
comp=Z,4.8nm,0.5s,baz=37,slow=8.8,SNR=14
IDI Anoyia 86.19 313 ⇑*i*P **P** 03 36 02.9 -1.0
IDI Anoyia 86.19 313 *e*P **P** 03 36 02.9 -1.0
comp=Z,28nm,1.6s
MNTX Cornudas Mount 86.21 52 *e*P **P** 03 36 05.1 +1.1
comp=Z,2.1nm,0.8s
TAOE Nuku Hiva Isla 86.22 104 *e*LR LR 04 03 31.0
comp=Z,178nm,24.8s
TAOE Nuku Hiva Isla 86.22 104 *e*T T 05 11 27.7
comp=Z,20nm,0.2s
FLN La Foliniere 86.84 336 *e*P **P** 03 36 07.8 +1.1
FLN pmax pmax
comp=Z,90nm,1.5s
LPL La Plagne 87.07 330 *e*P **P** 03 36 08.3 +0.1
LPL pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 87.08 330 *e*P **P** 03 36 08.5 +0.2
LPG pmax pmax
comp=Z,10.0nm,0.8s
AVF Avril sur Loir 87.26 333 *e*P **P** 03 36 08.2 -0.5
AVF pmax pmax
comp=Z,26nm,0.8s
GRR Gorron 87.29 336 *e*P **P** 03 36 08.4 -0.5
GRR pmax pmax
comp=Z,41nm,1.1s
WMOK Wichita Mounta 87.96 46 *e*P **P** 03 36 16.3 +3.9
comp=Z,4.1nm,0.8s
WMOK Wichita Mounta 87.96 46 *e*P **P** 03 36 16.3 +3.9
WMOK pmax pmax
comp=Z,4.0nm,0.8s
VIVF Saint-Julien-l 88.42 331 *e*P **P** 03 36 13.9 -0.5
VIVF pmax pmax
comp=Z,15nm,1.1s
HDIL Hopedale 88.43 36 *e*P **P** 03 36 12.1 -2.4
comp=Z,87nm,0.8s
MFF Saint Martin d 88.63 335 *e*P **P** 03 36 15.1 -0.2
MFF pmax pmax
comp=Z,21nm,1.0s
TX31 Lajitas Ar. Si 88.92 53 *e*P **P** 03 36 17.9 +0.8
LTX Lajitas 88.92 53 *e*P **P** 03 36 17.9 +0.8
LTX Lajitas 88.92 53 *e*P **P** 03 36 17.9 +0.8
TXAR Lajitas Array 88.92 53 P **P** 03 36 17.9 +0.8
comp=Z,2.7nm,0.7s,baz=292,slow=3.4,SNR=30
TBI Tubuai 89.03 121 *e*T T 05 14 57.7
comp=Z,64nm,0.3s
RJF Les Rejaudoux 89.19 333 *e*P **P** 03 36 17.6 -0.4
RJF pmax pmax
comp=Z,10.0nm,0.9s
CAF Calviac 89.32 333 *e*P **P** 03 36 18.6 0.0
CAF pmax pmax
comp=Z,14nm,1.0s
CCM Cathedral Cave 89.45 39 *e*P **P** 03 36 20.1 +0.8
comp=Z,9.0nm,0.9s
CCM Cathedral Cave 89.45 39 *e*P **P** 03 36 20.1 +0.8
CCM pmax pmax
comp=Z,9.0nm,0.9s
MIAR Mount Ida 90.96 43 *e*P **P** 03 36 27.5 +1.1
comp=Z,6.1nm,0.7s
MIAR Mount Ida 90.96 43 *e*P **P** 03 36 27.5 +1.1
MIAR pmax pmax
comp=Z,6.0nm,0.7s
ES19 SONSECA Array 96.01 334 *e*P **P** 03 36 49.7 +0.1
ESDC Sonseca Array 96.06 334 P **P** 03 36 49.6 -0.3
comp=Z,0.7nm,0.6s,baz=12,slow=4.5,SNR=7.5
ESDC LR LR 04 23 49.7
comp=Z,167nm,18.6s,baz=345,slow=38
TOA1 Torodi Ar. Sit 116.47 316 *e*PKPdf **PKPdf** 03 42 05.0 -1.5
TOA1 *e*PP **PP** 03 43 11.5 -1.3
TORD Torodi Ar. Bea 116.47 316 PKP **PKPdf** 03 42 05.0 -1.5
comp=Z,0.8nm,0.9s,baz=52,slow=1.4,SNR=6.8
TORD PP **PP** 03 43 11.5 -1.4
comp=Z,1.3nm,1.0s,baz=4.0,slow=3.5,SNR=4.1
KOWA Kowa 118.29 322 PKP **PKPdf** 03 42 09.2 -0.7
comp=Z,1.6nm,0.7s,baz=78,slow=3.4,SNR=6.7
MATP Matopo 120.44 267 PKP **PKPdf** 03 42 13.6 -0.4
comp=Z,2.9nm,0.7s,baz=88,slow=1.1,SNR=7.4
SDV Santo Domingo 123.93 40 PKP **PKPdf** 03 42 21.3 +0.2
comp=Z,6.2nm,0.7s,baz=339,slow=5.3,SNR=7.8
SDV Santo Domingo 123.93 40 *e*PKPdf **PKPdf** 03 42 20.9 -0.1
SDV *e*PKPdf **PKPdf** 03 42 21.3 +0.2
DBIC Dimbokro 125.39 318 PKP **PKPdf** 03 42 23.6 0.0
comp=Z,2.6nm,0.7s,baz=291,slow=4.6,SNR=3.9
PCRV Puerto La Cruz 125.57 33 PKP **PKPdf** 03 42 23.3 -0.7
comp=Z,9.9nm,1.0s,baz=336,slow=2.2,SNR=2.2
BOSA Boshof 127.17 261 PKP **PKPdf** 03 42 26.9 +0.3
comp=Z,2.0nm,0.9s,baz=8.1,slow=4.8,SNR=3.4
BOSA Boshof 127.17 261 PKIKP **PKPdf** 03 42 27.0 +0.3
BOSA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 142.32 197 PKhKP PKPpre 03 42 48.3
comp=Z,3.2nm,0.8s,baz=214,slow=11,SNR=7.1
LPAZ La Paz 145.61 58 PKPbc **PKPab** 03 43 02.1 0.0
comp=Z,12nm,0.9s,baz=353,slow=4.4,SNR=27
MNMC Minye Minye 146.57 64 *e*PKPdf **PKPab** 03 43 05.5 +0.1
LCO Las Campanas 151.45 80 *e*PKPbc **PKPbc** 03 43 17.5 +1.1
PLCA Paso Flores 155.04 105 PKPbc PKPdf 03 43 23.6 +8.7
comp=Z,1.9nm,0.9s,baz=302,slow=3.2,SNR=4.3
PLCA PKPab pPKPbc 03 43 42.0 +1.7
comp=Z,2.6nm,0.9s,baz=286,slow=4.9,SNR=5.8
CPUP Villa Florida 159.78 59 PKPab **PKPab** 03 44 00.7 +0.5
comp=Z,1.8nm,1.1s,baz=329,slow=5.9,SNR=2.2

*MOS **08** 03:35:31.5±0.7,54.18N×161.23E,h19km,mb4.2/1, Error ellipse: s-maj=10.4km s-min=4.8km az=77.7*
KRSC 08 03:35:30.2±1.1,54.16N×161.27E,h20km±23km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KII	**Karymskiy**	**1.08**	**264**		PN	Pb	03 35 50.2	0.0
KII					S	Sb	03 36 03.5	-0.5
KII	**Karymskiy**	**1.08**	**264**	*e*P	Pb	Pb	03 35 50.2	0.0
KII				*e*S	Sb	Sb	03 36 03.5	-0.5
KZV	**Kizimen**	**1.11**	**330**		PN	Pb	03 35 51.0	+0.1
KZV					S	Sb	03 36 04.0	-1.0
KZV	**Kizimen**	**1.11**	**330**	*e*P	Pb	Pb	03 35 51.0	+0.1
KZV				*e*S	Sb	Sb	03 36 04.0	-1.0
TUMD	**Tumrok D**	**1.17**	**335**	*e*P	Pn	Pb	03 35 51.1	-0.3
TUMD				*e*S	Sb	Sb	03 36 05.5	-0.8
SPN	**Mys Shipunski**	**1.30**	**216**		PN	Pb	03 35 53.6	-0.2
SPN					S	Sn	03 36 09.3	-0.6
SPN	**Mys Shipunski**	**1.30**	**216**	*e*P	Pb	Pb	03 35 53.6	-0.2
SPN				*e*S	Sn	Sb	03 36 09.3	-0.6
TUMR	**Tumrok**	**1.30**	**330**		PN	Pb	03 35 54.0	-0.1
TUMR					S	Sb	03 36 11.0	+0.6
TUMR	**Tumrok**	**1.30**	**330**	*e*P	Pb	Pb	03 35 54.0	-0.1
TUMR				*e*S	Sb	Sb	03 36 11.0	+0.6
NLC	**Nalytchevo**	**1.51**	**230**		PN	Pb	03 35 57.5	0.0
NLC					S	Sb	03 36 16.3	0.0
NLC	**Nalytchevo**	**1.51**	**230**	*e*P	Pb	Pb	03 35 57.5	0.0
NLC				*e*S	Sb	Sb	03 36 16.3	0.0
SDLR	**Sedlovina**	**1.67**	**239**		PN	Pb	03 36 00.0	-0.3
SDLR					S	Sb	03 36 20.8	-0.2
SDLR	**Sedlovina**	**1.67**	**239**	*e*P	Pb	Pb	03 36 00.0	-0.3
SDLR				*e*S	Sb	Sb	03 36 20.8	-0.2
KMNR	**Kamenistaya**	**1.71**	**340**		PN	Pb	03 36 01.0	0.0
KMNR	**Kamenistaya**	**1.71**	**340**	*e*P	Pb	Pb	03 36 01.0	0.0
SMAR	**Somma**	**1.72**	**240**		PN	Pb	03 36 00.9	-0.3
SMAR					S	Sb	03 36 22.0	-0.5
SMAR	**Somma**	**1.72**	**240**	*e*P	Pb	Pb	03 36 00.9	-0.3
SMAR				*e*S	Sb	Sb	03 36 22.0	-0.5
UGLR	**Uglovaya**	**1.74**	**238**		PN	Pb	03 36 01.3	-0.2
UGLR					S	Sb	03 36 23.1	+0.2
UGLR	**Uglovaya**	**1.74**	**238**	*e*P	Pb	Pb	03 36 01.3	-0.2
UGLR				*e*S	Sb	Sb	03 36 23.1	+0.2
AVH	**Avacha**	**1.75**	**240**		PN	Pb	03 36 01.7	0.0
AVH					S	Sb	03 36 23.4	+0.2
AVH	**Avacha**	**1.75**	**240**	*e*P	Pb	Pb	03 36 01.7	0.0
AVH				*e*S	Sb	Sb	03 36 23.4	+0.2
KRX	**Arik**	**1.75**	**244**		PN	Pb	03 36 01.3	-0.4
KRX					S	Sb	03 36 22.6	-0.7
KRX	**Arik**	**1.75**	**244**	*e*P	Pb	Pb	03 36 01.3	-0.4
KRX				*e*S	Sb	Sb	03 36 22.6	-0.7
KOK	**Koryaka**	**1.79**	**242**		PN	Pb	03 36 02.1	-0.2
KOK	**Koryaka**	**1.79**	**242**	*e*P	Pb	Pb	03 36 02.1	-0.2
BZMR	**Bezymyannaya**	**1.84**	**346**		PN	Pb	03 36 03.6	+0.4
BZMR	**Bezymyannaya**	**1.84**	**346**	*e*P	Pb	Pb	03 36 03.6	+0.4
BZWR	**Bezymyannyi-We**	**1.87**	**346**		PN	Pb	03 36 04.0	+0.3
BZWR	**Bezymyannyi-We**	**1.87**	**346**	*e*P	Pb	Pb	03 36 04.0	+0.3
DALK	**Dalny**	**1.88**	**234**		PN	Pb	03 36 02.8	-1.0
DALK					S	Sn	03 36 25.5	+1.3
DALK	**Dalny**	**1.88**	**234**	*e*P	Pb	Pb	03 36 02.8	-1.0
DALK				*e*S	Sn	Sb	03 36 25.5	+1.3
PET	**Petropavlovsk**	**1.93**	**235**	*e*PN	Pb	Pb	03 36 03.7	-0.9
PET				*e*S	Sb	Sb	03 36 27.1	-1.2
PET				smax	smax			
	comp=E,388nm,0.5s							
PET				smax	smax			
	comp=N,309nm,0.5s							
PET	**Petropavlovsk**	**1.93**	**235**	*e*P	Pb	Pb	03 36 03.6	-1.0
PET				*e*S	Sb	Sb	03 36 27.0	-1.3
LGNR	**Loginova**	**1.96**	**350**	PN	Pb	Pb	03 36 04.5	-0.8
LGNR	**Loginova**	**1.96**	**350**	*e*P	Pb	Pb	03 36 04.5	-0.8
GNL	**Ganaly**	**2.02**	**258**	PN	Pb	Pb	03 36 05.2	-1.1
GNL	**Ganaly**	**2.02**	**258**	*e*P	Pb	Pb	03 36 05.2	-1.1
KOZ	**Kozyrevsk**	**2.07**	**338**	PN	Pb	Pb	03 36 06.7	-0.3
KOZ	**Kozyrevsk**	**2.07**	**338**	*e*P	Pb	Pb	03 36 06.7	-0.3
KRSR	**Krestovskiy**	**2.10**	**349**	PN	Pb	Pb	03 36 06.2	-1.5
KRSR	**Krestovskiy**	**2.10**	**349**	*e*P	Pb	Pb	03 36 06.2	-1.5
KLY	**Klyuchi**	**2.19**	**351**	PN	Pn	Pb	03 36 06.5	+1.1
KLY	**Klyuchi**	**2.19**	**351**	*e*P	Pn	Pb	03 36 06.5	+1.1
KBTR	**Krutoberegovo**	**2.24**	**23**	PN	Pn	Pb	03 36 08.0	+1.9
KBTR	**Krutoberegovo**	**2.24**	**23**	*e*P	Pn	Pb	03 36 08.0	+1.9
KRMR	**Karymshinskiy**	**2.30**	**236**	PN	Pb	Pb	03 36 09.7	-1.3
KRMR					S	Sb	03 36 37.3	-1.6
KRMR	**Karymshinskiy**	**2.30**	**236**	*e*P	Pb	Pb	03 36 09.7	-1.3
KRMR				*e*S	Sb	Sb	03 36 37.3	-1.6
ESO	**Esso**	**2.31**	**321**	PN	Pn	Pb	03 36 08.0	+0.9
ESO	**Esso**	**2.31**	**321**	*e*P	Pn	Pb	03 36 08.0	+0.9
RUS	**Russkaya**	**2.39**	**225**	PN	Pb	Pb	03 36 10.4	-2.1
RUS					S	Sn	03 36 38.7	+1.8
RUS	**Russkaya**	**2.39**	**225**	*e*P	Pb	Pb	03 36 10.4	-2.1
RUS				*e*S	Sn	Sb	03 36 38.7	+1.8
BDR	**Baidarnaya**	**2.42**	**359**	PN	Pb	Pb	03 36 11.2	-1.8
BDR					S	Sb	03 36 40.2	-2.2
BDR	**Baidarnaya**	**2.42**	**359**	*e*P	Pb	Pb	03 36 11.2	-1.8
BDR				*e*S	Sb	Sb	03 36 40.2	-2.2
SMKR	**Semkarok**	**2.43**	**3**	PN	Pb	Pb	03 36 11.1	-2.2
SMKR					S	Sn	03 36 40.3	+2.2
SMKR	**Semkarok**	**2.43**	**3**	*e*P	Pb	Pb	03 36 11.1	-2.2
SMKR				*e*S	Sn	Sb	03 36 40.3	+2.2
MTVR	**Mutnovka**	**2.50**	**229**	PN	Pb	Pb	03 36 12.5	-1.9
MTVR					S	Sn	03 36 42.0	+2.2
MTVR	**Mutnovka**	**2.50**	**229**	*e*P	Pb	Pb	03 36 12.5	-1.9
MTVR				*e*S	Sn	Sb	03 36 42.0	+2.2
SRKR	**Sorokina**	**2.50**	**359**	PN	Pn	Pb	03 36 11.9	+2.1
SRKR					S	Sn	03 36 41.6	+1.8
SRKR	**Sorokina**	**2.50**	**359**	*e*P	Pn	Pb	03 36 11.9	+2.1
SRKR				*e*S	Sn	Sb	03 36 41.6	+1.8
ASAK	**Asacha**	**2.69**	**230**	PN	Pb	Pb	03 36 15.8	-1.9
ASAK					S	Sb	03 36 47.5	-2.9
ASAK	**Asacha**	**2.69**	**230**	*e*P	Pb	Pb	03 36 15.8	-1.9
ASAK				*e*S	Sb	Sb	03 36 47.5	-2.9
APC	**Apacha**	**2.75**	**245**	PN	Pb	Pb	03 36 15.9	-2.7
APC					S	Sn	03 36 48.4	+2.7
APC	**Apacha**	**2.75**	**245**	*e*P	Pb	Pb	03 36 15.9	-2.7
APC				*e*S	Sn	Sb	03 36 48.4	+2.7
BKI	**Bering**	**2.92**	**67**	*e*S	Sn	Sb	03 36 52.3	+2.3
KDTR	**Khodutka, Kamc**	**3.04**	**221**	*e*P	Pn	Pb	03 36 20.0	+2.8
KDTR				*e*S	Sn	Sb	03 36 54.8	+1.8
PAU	**Pauzhetka**	**3.82**	**227**	PN	Pb	Pb	03 36 32.6	-4.2
PAU	**Pauzhetka**	**3.82**	**227**	*e*P	Pb	Pb	03 36 32.6	-4.2

*ISK **08** 03:38:36.5, 38.68N×43.21E, h5km, ML2.0/4*
*ISCJB **08** 03:38:37.9±0.6, 38.69N±0.03×43.21E±0.04, h10km, Error ellipse: s-maj=5.2km s-min=4.5km az=136.9*
*CSEM **08** 03:38:37.7±0.3, 38.70N×43.21E, h10km, ML2.0, Error ellipse: s-maj=6.0km s-min=5.2km az=140.0*
*DDA **08** 03:38:37.7, 38.70N×43.26E, h7km, Ml2.5*
ISC 08 03:38:36.6±0.9, 38.68N±0.03×43.19E±0.03, h10km, n20, σ1§19/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**118**		PG	**Pg**	**03 38 42.4**	**+1.9**
VANB	**Van**	**0.18**	**118**	*e*Pg		**Pg**	**03 38 42.4**	**+1.9**
TVAN	**Van**	**0.23**	**131**	*i*P		**Pg**	**03 38 42.2**	**+0.8**
TVAN	**Van**	**0.23**	**131**	P		**Pg**	**03 38 42.2**	**+0.8**
ERCV	**ERCIS-VAN**	**0.36**	**19**	PG		**Pg**	**03 38 44.2**	**+0.3**
ERCV	**ERCIS-VAN**	**0.36**	**19**	*e*Pg		**Pg**	**03 38 44.2**	**+0.3**
GEVA	**Gevas**	**0.38**	**196**	*i*S		**Sg**	**03 38 44.9**	**-4.3**
GEVA				*i*S		**Sb**	**03 38 52.4**	**+0.8**
GEVA	**Gevas**	**0.38**	**196**	S		**Sb**	**03 38 52.4**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.39**	**290**	*i*P		**Pb**	**03 38 45.9**	**+0.2**
ADCV				*i*S		**Sb**	**03 38 52.9**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.39**	**290**	P		**Pb**	**03 38 45.9**	**+0.2**
ADCV				S		**Sb**	**03 38 52.

GURO	**Guroymak-BITLI**	**0.91 262**	*e*Pg	**Pb**	**03 38 55.1**	**+0.4**
CUKT	**Cukurca**	**1.47 167**	PN	**Pg**	**03 39 05.2**	**+0.4**
CUKT	**Cukurca**	**1.47 167**	*e*Pn	**Pg**	**03 39 05.2**	**+0.4**

IDC 08 03:47:05.9±1.6,7.19N×125.88E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/57,mbtmp3.4/4,Error ellipse: s-maj=170.5km s-min=22.9km az=69.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.22 163**		P	P	03 53 00.8	+0.2
	0.3nm,0.3s,baz=342,slow=9.2,SNR=7.3						
ASAR	**Alice Springs**	**31.65 166**		P	P	03 53 30.8	-0.3
	0.4nm,0.4s,baz=346,slow=6.9,SNR=5.8						
SONM	**Songino Array**	**43.77 341**		P	P	03 55 12.6	-0.8
	0.1nm,0.4s,baz=134,slow=6.2,SNR=2.0						
MKAR	**Makanchi Array**	**54.26 324**		P	P	03 56 34.3	+0.5
	0.1nm,0.5s,baz=118,slow=7.5,SNR=4.3						

WEL 08 03:47:28.3,39°S±1°×17°8E±°,h51km±2km,ML3.5/31,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHGZ	**Mahia Peninsul**	**0.09**	**7**	P	Pn	03 47 37.3	+1.0
MHGZ	**Mahia Peninsul**	**0.09**	**7**	S	Sn	03 47 44.2	+2.3
KNZ	**Kokohu**	**0.28 323**		P	Pn	03 47 37.5	+0.1
KNZ	**Kokohu**	**0.28 323**		S	Sn	03 47 44.2	+0.4
PRGZ	**Paritu Road**	**0.32 359**		P	Pn	03 47 38.1	+0.3
PRGZ	**Paritu Road**	**0.32 359**		S	Sn	03 47 45.3	+0.7
WHHZ	**Waihua**	**0.54 288**		P	Pn	03 47 40.5	+0.4
RIGZ	**Rimuhau**	**0.55 349**		P	Pn	03 47 40.5	+0.2
SNGZ	**Shannon Statio**	**0.63 317**		P	Pn	03 47 41.4	+0.1
SNGZ	**Shannon Statio**	**0.63 317**		S	Sn	03 47 50.5	-0.1
ARHZ	**Aropaoanui**	**0.70 268**		P	Pn	03 47 42.8	+0.8
ARHZ	**Aropaoanui**	**0.70 268**		S	Sn	03 47 53.5	+1.5
RAHZ	**Arahi**	**0.71 297**		P	Pn	03 47 42.5	+0.3
RAHZ	**Arahi**	**0.71 297**		S	Sn	03 47 52.2	-0.2
CKHZ	**Cape Kidnapper**	**0.75 237**		P	Pn	03 47 43.7	+0.9
CNGZ	**Carnagh Statio**	**0.80 18**		P	Pn	03 47 44.1	+0.7
TKGZ	**Te Karaka**	**0.81 358**		P	Pn	03 47 43.5	0.0
RAGZ	**Rawiri**	**0.84 333**		P	Pn	03 47 48.1	+4.1
NMHZ	**Naumai**	**0.86 280**		P	Pn	03 47 44.8	+0.5
NMHZ	**Naumai**	**0.86 280**		S	Sn	03 47 55.9	+0.1
MTHZ	**Maungataniwha**	**0.91 295**		P	Pn	03 47 44.9	0.0
MTHZ	**Maungataniwha**	**0.91 295**		S	Sn	03 47 56.4	-0.6
MCHZ	**McNeill Hill**	**0.95 258**		P	Pn	03 47 46.2	+0.8
RTZ	**Ruatahuna**	**0.95 311**		P	Pn	03 47 45.4	0.0
MWZ	**Matawai**	**0.95 342**		P	Pn	03 47 45.2	-0.3
KAHZ	**Kahuranaki**	**0.96 235**		P	Pn	03 47 46.2	+0.6
TWGZ	**Tauwhareparae**	**1.07**	**4**	P	Pn	03 47 47.3	+0.3
BKZ	**Black Stump Fm**	**1.09 274**		P	Pn	03 47 47.6	+0.3
PXZ	**Pawanui**	**1.12 225**		P	Pn	03 47 47.8	+0.2
KWHZ	**Kaweka Forest**	**1.15 261**		P	Pn	03 47 48.6	+0.4
URZ	**Urewera**	**1.16 328**		P	Pn	03 47 48.1	-0.1
MUGZ	**Murupara**	**1.16 311**		P	Pn	03 47 48.3	0.0
KRHZ	**Kereru**	**1.24 251**		P	Pn	03 47 49.6	+0.2
RUGZ	**Raukumara Rang**	**1.29 352**		P	Pn	03 47 50.9	+0.8
WPHZ	**Waipukurau**	**1.39 233**		P	Pn	03 47 51.6	+0.2
BHHZ	**Black Hill Sta**	**1.44 260**		P	Pn	03 47 52.4	+0.3
PNHZ	**Pukenui**	**1.47 242**		P	Pn	03 47 52.5	0.0
PNHZ	**Pukenui**	**1.47 242**		P	Pn	03 47 52.5	+0.1
HAZ	**Te Kaha**	**1.49 357**		P	Pn	03 47 53.1	+0.4
HSRZ	**Hossack Road**	**1.59 305**		P	Pn	03 47 54.2	+0.1
RITZ	**Rihia Road**	**1.60 279**		P	Pn	03 47 55.0	+0.7
MOVZ	**Moawhango**	**1.67 264**		P	Pn	03 47 56.0	+0.8
DVHZ	**Dannevirke**	**1.70 231**		P	Pn	03 47 55.4	-0.1
TSZ	**Takapari Road**	**1.70 241**		P	Pn	03 47 55.4	-0.2
TUVZ	**Tukino**	**1.74 269**		P	Pn	03 47 57.0	+0.8
WHVZ	**Whangaehu Hut**	**1.79 268**		P	Pn	03 47 57.5	+0.5
DRZ	**Dome Shelter**	**1.81 268**		P	Pn	03 47 58.6	+1.3
FWVZ	**Far West T-bar**	**1.82 269**		P	Pn	03 47 57.7	+0.4
BFZ	**Birch Farm**	**1.91 221**		P	Pn	03 47 57.9	-0.6
PRWZ	**Pori Road**	**1.97 228**		P	Pn	03 47 59.2	-0.1
POWZ	**Post Office Ro**	**2.00 234**		P	Pn	03 47 59.6	0.0
MRZ	**Mangatainoka R**	**2.27 231**		P	Pn	03 48 02.8	-0.6
HOWZ	**Holdsworth Sta**	**2.46 227**		P	Pn	03 48 04.8	-1.1
HIZ	**Hauiti**	**2.48 286**		P	Pn	03 48 06.5	+0.3
KIW	**Kapiti Island**	**2.80 234**		P	Pn	03 48 09.9	-0.8
PAWZ	**Paruwai Farm**	**2.85 221**		P	Pn	03 48 09.6	-1.7
CAW	**Cannon Point**	**2.85 228**		P	Pn	03 48 10.0	-1.3
MSWZ	**Moikau Station**	**2.96 222**		P	Pn	03 48 11.1	-1.7
PKE	**Pukeiti**	**3.03 270**		P	Pn	03 48 15.2	+1.3
AWAZ	**Awhitu Peninsu**	**3.36 309**		P	Pn	03 48 18.7	+0.4
TCW	**Tory Channel**	**3.39 234**		P	Pn	03 48 17.2	-1.5
QRZ	**Quartz Range**	**4.41 247**		P	Pn	03 48 30.6	-2.1
THZ	**Tophouse**	**4.56 235**		P	Pn	03 48 32.4	-2.4
CTZ	**Chatham Island**	**6.09 139**		P	Pn	03 48 57.6	+1.9

*IDC **08** 03:51:30.2±0.5,17.85S×167.28E,h0km,mb4.7/24, mb1 4.9/26,mb1mx4.8/42,mbtmp4.8/26,ML5.1/2,MS4.1/22, Ms1 4.1/22,ms1mx3.9/40,Error ellipse: s-maj=15.7km s-min=14.2km az=128.0*

*BJI **08** 03:51:31.7,17.54S×167.25E,h9km,mb5.1/40,mB5.3/27, Ms5.1/9,Ms7 4.8/9*

*ISCJB **08** 03:51:32.5±0.1,17.82S±0.04×167.12E±0.03,h20km, mb5.1/162,MS4.2/23,Error ellipse: s-maj=5.6km s-min=3.6km az=151.6*

*GCMT **08** 03:51:35.0±0.3,17.86S×167.02E,h25km,MW5.1/74, Moment Tensor Solution. s48,c61; s74,c99; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.68±.19; Mθθ=0.68±.13; Mφφ=3.35±.14; Mrθ=-3.27±.34; Mrφ=2.00±.10; Mθφ=1.39±.27; Best double couple: M0=4.93300×10^16^ NP1:φs=169.00000°,δ58.00000°,λ=-140.00000°. NP2: φs=55.00000°,δ57.00000°,λ=-40.00000°. Principal axes: T 4.1750, Plg0.0000°, Azm292.0000°; N 1.5110, Plg40.0000°, Azm202.0000°; P -5.6920, Plg50.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 03:51:35.0±2.2,17.90S×167.15E,h29km±15km, mb5.2/116 Error ellipse: s-maj=5.4km s-min=4.9km az=194.0*

*MOS **08** 03:51:36.2±1.0,17.64S×167.04E,h42km,mb5.3/42,Error ellipse: s-maj=9.4km s-min=8.2km az=117.4*

ISC 08 03:51:33.6±0.3,17.91S±0.05×167.15E±0.06,h20km,n420, σ1f30/415,mb5.2/160,MS4.1/23,15C-12D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.19 189**		Pn	**Pn**	**03 52 35.9**	**-0.6**
	27nm,0.3s,baz=38,slow=13,SNR=168						
DZM				Sn	**Sn**	**03 53 22.5**	**-2.5**
	38nm,0.3s,baz=329,slow=22,SNR=8.7						
DZM				LR	LR	03 54 08.1	
	comp=Z,5μm,20.5s,baz=7.0,slow=37						
DZM	**Mont Dzumac**	**4.19 189**		*e*Pn	**Pn**	**03 52 35.9**	**-0.6**
	105nm,0.3s						
DZM				*e*Sn	**Sn**	**03 53 22.8**	**-2.1**
	328nm,0.3s						
DZM				*e*LR	LR	03 53 27.4	
	5μm,24.6s						
DZM	**Mont Dzumac**	**4.19 189**		*e*Pn	**Pn**	**03 52 35.3**	**-1.2**
DZM				*e*Sn	**Sn**	**03 53 17.3**	**-7.6**
DZM				*e*Sg	**Sn**	**03 53 22.4**	**-2.5**
HNR	**Honiara**	**10.96 319**		Pn	**Pn**	**03 54 09.2**	**-0.2**
	61nm,0.3s,baz=330,slow=0.6,SNR=25						
HNR				Sn	**Sn**	**03 56 05.9**	**-5.5**
	8.7nm,0.3s,baz=36,slow=18,SNR=3.1						
HNR				LR	LR	03 57 27.5	
	comp=Z,667nm,19.2s,baz=160,slow=32						
HNR	**Honiara**	**10.96 319**		*e*P	**Pn**	**03 54 09.0**	**-0.3**
HNR	**Honiara**	**10.96 319**		*e*Pn	**Pn**	**03 54 09.4**	**+0.1**
HNR				*e*Sn	**Sn**	**03 56 08.0**	**-3.4**
HNR	**Honiara**	**10.96 319**		*e*P	**Pn**	**03 54 09.4**	**+0.1**
HNR				*e*		03 56 08.0	
EIDS	**Eidsvold**	**16.67 241**		P	**P**	**03 55 28.9**	**+0.5**
	baz=17						
ARMA	**Armidale**	**18.83 226**		P	**Pn**	**03 55 54.8**	**+1.9**
	baz=19						
RMQ	**Roma**	**19.03 240**		P	**Pn**	**03 55 57.8**	**+2.5**
	baz=19,SNR=6.0						
CTA	**Charters Tower**	**19.88 260**		P	**Pn**	**03 56 06.7**	**+1.2**
	32nm,1.0s,baz=83,slow=14,SNR=12						
CTA				S	**S**	**03 59 43.4**	**-3.5**
	1.1nm,0.3s,baz=333,slow=9.0,SNR=2.2						
CTA	**Charters Tower**	**19.88 260**		P	**Pn**	**03 56 06.2**	**+0.7**
	baz=20						
CTAO	**Charters Tower**	**19.88 260**		*e*P	**Pn**	**03 56 05.7**	**+0.2**
	92nm,1.3s						
CTAO	**Charters Tower**	**19.88 260**		*e*P	**Pn**	**03 56 05.7**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,92nm,1.3s						
AFI	**Afiamalu**	**20.65**	**82**	LR	LR	04 02 47.4	
	comp=Z,222nm,18.1s,baz=199,slow=33						
PMG	**Port Moresby**	**21.17 291**		P	**P**	**03 56 19.5**	**+1.7**
	comp=Z,5.5nm,0.3s,baz=129,slow=14,SNR=2.3						
PMG	**Port Moresby**	**21.17 291**		*e*P	**P**	**03 56 19.2**	**+1.4**
	comp=Z,34nm,1.0s						
PMG	**Port Moresby**	**21.17 291**		⇓*e*P	**P**	**03 56 20.2**	**+2.4**
MTSU	**Mount Surprise**	**21.71 266**		P	**P**	**03 56 26.6**	**+2.9**
	baz=22,SNR=19						
URZ	**Urewera**	**22.06 159**		P	**P**	**03 56 28.0**	**+0.8**
	comp=Z,8.9nm,0.7s,baz=343,slow=14,SNR=3.9						
URZ				LR	LR	04 04 33.4	
	comp=Z,410nm,18.2s,baz=3.5,slow=36						
BKZ	**Black Stump Fm**	**22.68 161**		*e*P	**P**	**03 56 35.3**	**+1.4**
	comp=Z,119nm,1.6s						
QLP	**Quilpie**	**22.87 244**		P	**P**	**03 56 37.3**	**+1.4**
	baz=23,SNR=20						
COEN	**Coen**	**23.38 276**		P	**P**	**03 56 42.8**	**+1.6**
	baz=24,SNR=6.0						
COEN	**Coen**	**23.38 276**		*e*P	**P**	**03 56 43.5**	**+2.3**
	comp=Z,22nm,0.9s						
CNB	**Canberra Magne**	**23.46 219**		P	**P**	**03 56 43.9**	**+2.0**
	baz=24						
CAN	**Canberra**	**23.68 219**		*e*P	**P**	**03 56 42.1**	**-2.0**
	comp=Z,68nm,1.3s						
CAN	**Canberra**	**23.68 219**		*e*P	**P**	**03 56 42.1**	**-2.0**
CAN				pmax	pmax		
	comp=Z,68nm,1.3s						
CMSA	**Cobar Meteorol**	**23.69 231**		P	**P**	**03 56 46.2**	**+2.1**
	baz=24,SNR=6.2						
BFZ	**Birch Farm**	**24.01 163**		*e*P	**P**	**03 56 48.8**	**+1.8**
	comp=Z,153nm,1.4s						
THZ	**Tophouse**	**24.28 169**		*e*P	**P**	**03 56 50.2**	**+0.6**
	comp=Z,52nm,0.8s						
KHZ	**Kahutara**	**25.02 169**		*e*P	**P**	**03 56 54.4**	**-1.8**
	comp=Z,34nm,0.9s						
LTZ	**Lake Taylor**	**25.17 171**		*e*P	**P**	**03 56 58.2**	**+0.5**
	comp=Z,291nm,1.9s						
FOZ	**Fox Glacier**	**25.64 176**		*e*P	**P**	**03 57 01.9**	**+0.1**
	comp=Z,75nm,1.2s						
RPZ	**Rata Peaks**	**25.93 174**		P	**P**	**03 57 05.1**	**+0.6**
	comp=Z,9.1nm,0.9s,baz=0.0,slow=5.1,SNR=2.7						
RPZ				LR	LR	04 06 53.7	
	comp=Z,495nm,18.9s,baz=352,slow=36						
PATS	**Pohnpei**	**26.09 340**		*e*P	**P**	**03 57 02.7**	**-3.5**
	comp=Z,229nm,1.2s						
STKA	**Stephens Creek**	**26.94 234**		P	**P**	**03 57 15.5**	**+1.7**
	comp=Z,6.6nm,0.6s,baz=63,slow=9.4,SNR=22						
STKA				LR	LR	04 07 04.3	
	comp=Z,458nm,20.1s,baz=58,slow=34						
STKA	**Stephens Creek**	**26.94 234**		P	**P**	**03 57 15.3**	**+1.5**
	baz=27,SNR=14						
STKA	**Stephens Creek**	**26.94 234**		*e*P	**P**	**03 57 15.3**	**+1.5**
	comp=Z,9.1nm,0.8s						
HTT	**Hallett**	**29.64 233**		P	**P**	**03 57 39.2**	**+1.3**
	baz=30,SNR=4.5						
WR1	**Warramunga Arr**	**31.08 261**		*e*P	**P**	**03 57 50.4**	**-0.3**
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**31.08 261**		P	**P**	**03 57 50.4**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=92,slow=9.1,SNR=42						
RAR	**Rarotonga**	**31.31 101**		LR	LR	04 07 49.9	
	comp=Z,134nm,21.8s,baz=254,slow=31						
AS01	**Alice Springs**	**31.52 254**		*e*P	**P**	**03 57 54.1**	**-0.5**
AS31	**Alice Springs**	**31.56 254**		*e*P	**P**	**03 57 54.9**	**-0.1**
	comp=Z,7.1nm,1.1s						
AS31				*e*PcP	**PcP**	**04 00 47.2**	**-0.3**
ASAR	**Alice Springs**	**31.56 254**		P	**P**	**03 57 54.5**	**-0.4**
	comp=Z,5.7nm,0.8s,baz=80,slow=8.7,SNR=37						
ASAR				PcP	**PcP**	**04 00 47.2**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=86,slow=3.0,SNR=4.1						
ASAR				LR	LR	04 10 17.2	
	comp=Z,674nm,18.4s,baz=90,slow=36						
BBOO	**Buckleboo**	**31.63 236**		P	**P**	**03 57 56.5**	**+1.1**
	baz=32,SNR=6.4						
BBOO	**Buckleboo**	**31.63 236**		*e*P	**P**	**03 57 56.6**	**+1.1**
	comp=Z,34nm,0.9s						
WRKA	**Warakurna**	**36.75 252**		P	**P**	**03 58 40.2**	**+0.2**
	baz=37,SNR=5.7						
KNRA	**Kununurra**	**36.78 268**		P	**P**	**03 58 40.1**	**-0.1**
	baz=37,SNR=10						
GUMO	**Guam**	**38.25 323**		LR	LR	04 12 39.0	
	comp=Z,309nm,21.9s,baz=128,slow=33						
FITZ	**Fitzroy Crossi**	**39.42 263**		P	**P**	**03 59 02.9**	**+0.4**
	comp=Z,14nm,0.8s,baz=270,slow=20,SNR=155						
TBI	**Tubuai**	**40.85 105**		*e*LR	LR	04 11 01.5	
	comp=Z,455nm,34.0s						
PPT2	**Papeete2**	**41.14**	**96**	*e*LR	LR	04 11 10.9	
	comp=Z,495nm,30.5s						
PPT	**Papeete**	**41.15**	**96**	LR	LR	04 14 21.0	
	comp=Z,76nm,19.4s,baz=292,slow=33						
KMBL	**Kambalda**	**42.98 243**		P	**P**	**03 59 31.8**	**+0.1**
	baz=43						
MBWA	**Marble Bar**	**44.68 258**		*e*P	**P**	**03 59 45.3**	**-0.2**
	comp=Z,20nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.08 241**		P	**P**	**04 00 04.2**	**-0.1**
	baz=47						
NWAO				P	**P**	**04 00 04.2**	**-0.1**
	baz=47						
NWAO	**Narrogin (SRO)**	**47.08 241**		*e*P	**P**	**04 00 04.2**	**-0.1**
	comp=Z,28nm,0.8s						
NWAO	**Narrogin (SRO)**	**47.08 241**		*e*P	**P**	**04 00 04.3**	**0.0**
NWAO				pmax	pmax		
	comp=Z,28nm,0.8s						
BLDU	**Ballidu**	**47.34 245**		P	**P**	**04 00 06.0**	**-0.4**
	baz=48						
RKGY	**Rocky Gully**	**47.48 239**		P	**P**	**04 00 07.5**	**+0.1**
	baz=48						
MORW	**Morawa**	**47.85 247**		P	**P**	**04 00 10.4**	**+0.1**
	baz=48						
MHA	**Mahukona**	**52.42**	**45**	*e*P	P	04 00 51.0	+6.0
MHA	**Mahukona**	**52.42**	**45**	*e*P	P	04 00 51.0	+6.0
JHJ	**Hachijo jima 2**	**57.09 333**		LR	LR	04 25 18.3	
	comp=Z,114nm,19.5s,baz=108,slow=36						
KSM	**Kuching**	**59.15 283**		*e*P	**P**	**04 01 34.0**	**+0.5**
	comp=Z,16nm,0.8s						
VNDA	**Vanda**	**59.69 181**		LR	LR	04 27 01.6	
	comp=Z,90nm,18.5s,baz=349,slow=36						
MJA0	**Matsu Arr-Jizo**	**60.66 333**		*e*P	**P**	**04 01 43.2**	**-0.2**
MJA0				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MJAR	**Matsushiro Arr**	**60.67 333**		P	**P**	**04 01 42.5**	**-1.0**
	comp=Z,7.1nm,1.1s,baz=168,slow=8.1,SNR=9.4						
MJAR				LR	LR	04 28 08.3	
	comp=Z,53nm,19.5s,baz=160,slow=36						
MAJO	**Matsushiro**	**60.68 333**		*e*P	**P**	**04 01 42.5**	**-1.0**
MAJO	**Matsushiro**	**60.68 333**		⇑*e*P	**P**	**04 01 42.3**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,16nm,1.4s						
JNU	**Nakatsue**	**61.45 326**		P	**P**	**04 01 48.8**	**0.0**
	comp=Z,8.2nm,0.7s,baz=161,slow=0.2,SNR=5.0						
JNU				LR	LR	04 27 20.3	
	comp=Z,85nm,18.7s,baz=122,slow=35						
JNU	**Nakatsue**	**61.45 326**		*e*P	**P**	**04 01 48.8**	**0.0**
	comp=Z,29nm,1.1s						
TJN	**Taejon**	**65.80 326**		⇑*e*P	**P**	**04 02 17.7**	**+0.2**
KSRS	**Korea Array**	**66.31 327**		P	**P**	**04 02 20.7**	**0.0**
	comp=Z,2.3nm,0.8s,baz=144,slow=7.3,SNR=8.6						
KSRS				LR	LR	04 31 59.2	
	comp=Z,59nm,18.0s,baz=309,slow=37						
KS15	**Wonju Array Si**	**66.32 327**		*e*P	**P**	**04 02 20.7**	**-0.1**
KSAR	**Wonju Array Be**	**66.32 327**		P	**P**	**04 02 20.7**	**-0.1**
KSAR	**Wonju Array Be**	**66.32 327**		P	**P**	**04 02 20.7**	**-0.1**
NJ2	**Nanjing**	**67.89 317**		*e*P	**P**	**04 02 33.8**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
YSS	**Yuzh-Sakhalins**	**68.20 342**		*e*P	**P**	**04 02 33.7**	**+1.2**
	comp=Z,25nm,1.1s						
YSS	**Yuzh-Sakhalins**	**68.20 342**		⇑*i*P	**P**	**04 02 33.7**	**+1.2**
YSS				*e*		04 02 49.8	
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
USRK	**Ussuriysk Ar.**	**69.67 334**		P	**P**	**04 02 41.7**	**0.0**
	comp=Z,8.6nm,0.9s,baz=57,slow=3.7,SNR=12						
PSI	**Prapat**	**70.25 280**		P	**P**	**04 02 45.5**	**-0.6**
	comp=Z,9.4nm,0.8s,baz=49,slow=6.2,SNR=6.3						
PSI	**Prapat**	**70.25 280**		*e*P	**P**	**04 02 45.6**	**-0.6**
	comp=Z,13nm,0.9s						
PSI	**Prapat**	**70.25 280**		*e*P	**P**	**04 02 45.6**	**-0.6**
PSI				pmax	pmax		
	comp=Z,13nm,0.9s						
PET	**Petropavlovsk**	**71.02 355**		⇓*e*P	**P**	**04 02 50.3**	**+0.6**
PET				pmax	pmax		
	comp=Z,74nm,2.5s						
MDJ	**Mudanjiang**	**71.03 333**		*e*P	**P**	**04 02 50.8**	**+0.7**
	comp=Z,20nm,1.0s						
SKNT	**Sakolnakorn**	**71.18 296**		P	**P**	**04 02 51.6**	**+0.1**
	comp=Z,17nm,1.0s						
PETK	**Petropavlovsk-**	**71.20 354**		P	**P**	**04 02 50.5**	**-0.3**
	comp=Z,12nm,0.9s,baz=131,slow=5.3,SNR=9.3						
PETK				LR	LR	04 26 15.5	
	comp=Z,204nm,21.8s,baz=159,slow=29						
PEA1	**Petropavlovsk-**	**71.20 354**		*e*P	**P**	**04 02 50.5**	**-0.3**
CN2	**Changchun**	**72.31 330**		*e*P	P	04 03 02.5	+4.7
CN2				*es*P	sP	04 03 09.5	+2.8
CN2				*e*S	**S**	**04 12 25.6**	**+5.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,13.0s						
NAYO	**Nakonayok**	**72.38 292**		P	**P**	**04 03 00.5**	**+1.8**
	comp=Z,13nm,0.9s						
CHAI	**Chaiyaphum**	**72.45 294**		P	**P**	**04 03 00.2**	**+1.0**
	comp=Z,6.4nm,0.8s						
ENH	**Enshi**	**73.31 310**		*e*P	**P**	**04 03 04.1**	**+0.1**
	comp=Z,27nm,1.0s						
GRNR	**Gornyy**	**73.53 340**		*e*P	**P**	**04 03 06.0**	**+1.2**
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
KLR	**Kul'dur**	**73.86 337**		⇑*e*P	**P**	**04 03 05.7**	**-1.1**
NKL	**Nikolayevsk**	**74.38 344**		*e*P	**P**	**04 03 10.0**	**+0.3**
NKL				pmax	pmax		
	comp=Z,22nm,1.0s						
UTHA	**Uthaitani**	**74.54 292**		P	**P**	**04 03 13.6**	**+2.1**
	comp=Z,3.5nm,1.3s						
BJI	**Beijing**	**74.67 322**		P	**P**	**04 03 11.9**	**+0.2**
BJI				pmax	pmax		
	comp=Z,23nm,1.0s						
NANT	**Nan**	**74.79 296**		P	**P**	**04 03 14.7**	**+1.8**
	comp=Z,7.9nm,1.1s						
XAN	**Xi'an**	**75.76 313**		P	**P**	**04 03 18.5**	**+0.2**
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
XAN				pmax	pmax		
	comp=Z,210nm,4.9s						
KMI	**Kunming**	**75.89 303**		P	**P**	**04 03 20.9**	**+1.5**
KMI				pP	pP	04 03 26.8	+0.8
KMI				sP	PcP	04 03 31.1	-0.8
KMI				pmax	pmax		
	comp=Z,39nm,1.1s						
KMI				pmax	pmax		
	comp=Z,210nm,4.6s						
CM01	**Chiang Mai Arr**	**76.13 295**		*e*P	**P**	**04 03 22.1**	**+1.6**
CM31	**Chiang Mai Arr**	**76.16 295**		*e*P	**P**	**04 03 22.7**	**+1.9**
CMAR	**Chiang Mai Arr**	**76.16 295**		P	**P**	**04 03 22.7**	**+1.9**
	comp=Z,13nm,0.8s,baz=129,slow=4.4,SNR=41						
CMMT	**Chiang Mai**	**76.30 295**		P	**P**	**04 03 21.7**	**+0.1**
	comp=Z,24nm,1.0s						
CHTO	**Chiang Mai**	**76.30 295**		P	**P**	**04 03 22.8**	**+1.3**
	comp=Z,106nm,1.1s						
CHTO	**Chiang Mai**	**76.30 295**		*e*P	**P**	**04 03 22.9**	**+1.3**
	comp=Z,14nm,0.8s						
CHTO	**Chiang Mai**	**76.30 295**		*e*P	**P**	**04 03 22.9**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s						
CMAI	**Chiengmai2**	**76.68 296**		P	**P**	**04 03 25.7**	**+1.8**
	comp=Z,146nm,1.1s						
CD2	**Chengdu**	**77.86 308**		*e*P	**P**	**04 03 32.0**	**+1.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC	**Hu-ho-hao-te**	**77.94 320**		*e*P	**P**	**04 03 34.0**	**+3.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,6.2s						
MA2	**Magadan**	**78.36 352**		⇑*e*P	**P**	**04 03 31.7**	**-0.5**
MAW	**Mawson**	**78.91 202**		LR	LR	04 33 08.5	
	comp=Z,176nm,21.9s,baz=68,slow=32						
ZEA	**Zeya**	**79.16 337**		*e*P	**P**	**04 03 36.8**	**+0.1**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH	**Lanzhou**	**80.38 313**		*e*P	**P**	**04 03 45.1**	**+1.1**
LZH				pP	pP	04 03 49.5	-1.1
LZH				sP	PcP	04 03 51.3	+0.3
LZH				*e*PP	**PP**	**04 06 50.3**	**+3.0**
LZH				*e*S	**S**	**04 13 52.1**	**+2.9**
LZH				sS	sS	04 13 59.0	-1.1
LZH				SS	**SS**	**04 19 02.0**	**+0.5**
LZH				pmax	pmax		
	comp=Z,32nm,1.4s						
LZH				pmax	pmax		
	comp=

PMR	Palmer	86.53	19	eP		P	04 04 13.9	-0.9		
PMR					pmax	pmax				
	comp=Z,18nm,1.1s									
GLI	Glacier Island	86.66	21	eP		P	04 04 14.7	-0.8		
	comp=Z,17nm,0.8s									
SBC	Santa Barbara	86.78	52	P		P	04 04 16.5	-0.1		
	baz=246									
CAST	Castle Rocks	87.06	17	eP		P	04 04 15.5	-1.8		
	comp=Z,30nm,0.8s									
BLG	Laguna Peak, P	87.13	53	P		P	04 04 18.9	+0.4		
	baz=246									
SCM	Sheep Creek Mo	87.28	20	eP		P	04 04 17.8	-0.8		
	comp=Z,18nm,0.8s									
SCM	Sheep Creek Mo	87.28	20	eP		P	04 04 17.8	-0.8		
SCM					pmax	pmax				
	comp=Z,18nm,0.8s									
DIV	Divide	87.28	21	eP		P	04 04 18.9	+0.3		
	comp=Z,14nm,1.0s									
N02D	Trinity Center	87.41	45	P		P	04 04 19.6	-0.1		
	baz=244									
KTH	Kantishna Hill	87.49	17	eP		P	04 04 17.8	-1.7		
	comp=Z,16nm,0.9s									
KLU	Klutina	87.50	21	eP		P	04 04 19.0	-0.6		
	comp=Z,18nm,1.2s									
M02C	Callahan	87.50	45	P		P	04 04 20.2	+0.1		
	baz=244									
TRF	Thorofare Moun	87.59	18	eP		P	04 04 18.7	-1.5		
	comp=Z,18nm,0.9s									
O03D	Paynes Creek	87.73	46	P		P	04 04 20.9	-0.4		
	baz=244									
AFDM	Forest Hills D	87.73	48	eP		P	04 04 21.4	+0.2		
	comp=Z,7.7nm,1.0s									
YBH	Yreka Blue Hor	87.74	45	P		P	04 04 20.2	-1.0		
	comp=Z,2.9nm,0.8s,baz=207,slow=5.0,SNR=5.7									
YBH					LR	LR	04 39 56.8			
	comp=Z,82nm,18.1s,baz=4.5,slow=33									
CMB	Columbia Colle	87.77	49	eP		P	04 04 21.2	-0.2		
	comp=Z,6.1nm,0.8s									
CMB	Columbia Colle	87.77	49	eP		P	04 04 21.2	-0.2		
CMB					pmax	pmax				
	comp=Z,6.0nm,0.8s									
BPAW	Bear Paw Mtn.	87.89	17	eP		P	04 04 20.2	-1.2		
	comp=Z,4.7nm,0.9s									
HUMO	Hull Mountain	87.97	44	eP		P	04 04 24.4	+2.2		
	comp=Z,23nm,1.6s									
RND	Reindeer	87.98	18	eP		P	04 04 20.8	-1.1		
	comp=Z,15nm,0.8s									
RND	Reindeer	87.98	18	eP		P	04 04 20.8	-1.1		
RND					pmax	pmax				
	comp=Z,15nm,0.8s									
ZAK	Zakamensk	88.08	325	eP		P	04 04 22.2	-0.5		
ZAK					pmax	pmax				
	comp=Z,6.0nm,1.2s									
DHY	Denali Highway	88.18	19	eP		P	04 04 22.3	-0.7		
MCK	McKinley	88.20	18	eP		P	04 04 21.5	-1.4		
	comp=Z,16nm,1.2s									
MCK	McKinley	88.20	18	eP		P	04 04 21.5	-1.4		
MCK					pmax	pmax				
	comp=Z,16nm,1.2s									
I03D	Drain, OR	88.20	43	P		P	04 04 23.5	+0.2		
	baz=243									
ISA	Isabella, Lake	88.20	52	P		P	04 04 23.5	-0.1		
	baz=246									
ISA	Isabella, Lake	88.20	52	eP		P	04 04 23.9	+0.3		
	comp=Z,19nm,1.6s									
ISA	Isabella, Lake	88.20	52	eP		P	04 04 23.9	+0.3		
ISA					pmax	pmax				
	comp=Z,19nm,1.6s									
EDW2	Edwards Air Fo	88.25	53	P		P	04 04 23.8	-0.1		
	baz=247									
BFSC	Mount Baldy Ra	88.26	53	P		P	04 04 23.9	-0.1		
	baz=247									
M04C	Macdoel	88.35	45	P		P	04 04 24.3	0.0		
	baz=244									
MURC	Murrieta	88.36	54	P		P	04 04 24.2	-0.2		
	baz=247									
BEKR	Beckworth	88.55	47	eP		P	04 04 26.6	+1.3		
	comp=Z,32nm,1.6s									
TLY	Talaya	88.56	326	eP		P	04 04 24.4	-0.4		
TLY					pmax	pmax				
	comp=Z,5.0nm,1.4s									
WAKR	Walker	88.64	49	eP		P	04 04 26.5	+0.7		
	comp=Z,46nm,1.8s									
IM3	Indian Mountai	88.65	15	eP		P	04 04 24.5	-0.4		
MLY	Manley	88.68	17	eP		P	04 04 24.1	-1.0		
	comp=Z,14nm,1.4s									
MONP2	Monument Peak	88.69	55	P		P	04 04 25.7	-0.5		
	baz=248									
LRMC	Laurel Mtn Rad	88.72	52	P		P	04 04 25.9	-0.3		
	baz=247									
CWC	Cottonwood Cre	88.80	51	P		P	04 04 26.3	-0.2		
	baz=247									
J04D	Umpqua Nationa	88.81	44	P		P	04 04 26.3	-0.1		
	baz=244									
I04A	Tendick Farm,	88.85	43	P		P	04 04 26.4	-0.1		
	baz=244									
G03D	McMinnville, O	88.94	41	P		P	04 04 26.8	0.0		
	baz=243									
PFO	Pinyon Flats O	88.94	54	P		P	04 04 26.8	-0.4		
	baz=248									
YERR	Yerington	88.98	48	eP		P	04 04 27.6	+0.3		
	comp=Z,32nm,1.7s									
MPMC	Manual Prospec	89.09	52	P		P	04 04 27.5	-0.4		
	baz=247									
DAC	Darwin (Calif)	89.10	51	eP		P	04 04 28.3	+0.3		
	comp=Z,17nm,1.4s									
DAC	Darwin (Calif)	89.10	51	eP		P	04 04 28.3	+0.3		
DAC					pmax	pmax				
	comp=Z,17nm,1.4s									
PAHR	Pah Rah Range	89.17	48	eP		P	04 04 28.6	+0.4		
	comp=Z,45nm,1.6s									
SWSC	Sam W. Stewart	89.20	55	P		P	04 04 28.3	0.0		
	baz=248									
CCB	Clear Creek Bu	89.21	18	eP		P	04 04 25.8	-1.8		
	comp=Z,10.0nm,0.9s									
HDA	Harding Lake	89.29	18	eP		P	04 04 27.0	-1.0		
	comp=Z,18nm,0.8s									
GSC	Goldstone, Bar	89.31	53	P		P	04 04 28.8	-0.1		
	baz=247									
GSC	Goldstone, Bar	89.31	53	eP		P	04 04 29.1	+0.2		
	comp=Z,16nm,1.3s									
GSC	Goldstone, Bar	89.31	53	eP		P	04 04 29.1	+0.2		
GSC					pmax	pmax				
	comp=Z,16nm,1.3s									
MDM	Murphy Dome	89.32	17	eP		P	04 04 26.5	-1.7		
	comp=Z,12nm,0.8s									
RYN	Ryan	89.35	49	eP		P	04 04 29.5	+0.4		
	comp=Z,16nm,1.3s									
E03A	Lebam	89.36	40	eP		P	04 04 29.8	+1.1		
	comp=Z,59nm,1.1s									
COLA	College	89.37	18	eP		P	04 04 27.0	-1.2		
	comp=Z,20nm,0.8s									
COLA	College	89.37	18	eP		P	04 04 27.0	-1.2		
COLA					pmax	pmax				
	comp=Z,20nm,0.8s									
H04A	Detroit Lake	89.39	42	eP		P	04 04 29.5	+0.6		
J05D	Fort Rock, OR	89.40	44	P		P	04 04 29.2	+0.1		
	baz=245,SNR=21									
NV01	Mina Array Sit	89.42	49	eP		P	04 04 29.3	-0.2		
NVAR	Mina Array Bea	89.42	49	P		P	04 04 29.1	-0.4		
	comp=Z,5.2nm,0.9s,baz=227,slow=8.1,SNR=21									
NVAR					LR	LR	04 37 29.1			
	comp=Z,187nm,19.7s,baz=355,slow=31									
BELC	Belle Mtn. Jos	89.44	54	P		P	04 04 29.4	-0.2		
	baz=248									
BELC	Belle Mtn. Jos	89.44	54	eP		P	04 04 29.9	+0.3		
MOD	Modoc Plateau	89.44	45	eP		P	04 04 29.8	+0.4		
	comp=Z,23nm,1.3s									
RIDG	Independ'e Rid	89.45	19	eP		P	04 04 27.9	-0.9		
	comp=Z,14nm,1.0s									
HEC	Hector,Ludlow	89.49	53	P		P	04 04 29.7	-0.1		
	baz=248									
NV11	Mina Array Sit	89.53	49	eP		P	04 04 30.3	+0.4		
	comp=Z,1.2nm,1.1s									
NLWA	Neilton Lookou	89.56	39	eP		P	04 04 30.7	+1.1		
	comp=Z,20nm,1.1s									
ILAR	Eielson Array	89.57	18	P		P	04 04 27.4	-1.8		
	comp=Z,11nm,0.7s,baz=237,slow=4.9,SNR=156									
ILAR					LR	LR	04 38 11.3			
	comp=Z,157nm,21.2s,baz=246,slow=31									
ILB	Eielson Array	89.57	18	eP		P	04 04 27.6	-1.8		
IL1	Eielson Array	89.57	18	eP		P	04 04 27.3	-2.0		
DOT	Dot Lake	89.64	20	eP		P	04 04 28.3	-1.3		
	comp=Z,22nm,1.0s									
BPO	Bald Peter	89.69	42	eP		P	04 04 33.1	+2.5		
FURC	Furnace Creek,	89.72	51	P		P	04 04 30.6	0.0		
	baz=247									

BC3	Big Chuckawall	89.73	54	P		P	04 04 30.9	0.0		
	baz=248									
I05D	Terrebonne, OR	89.78	43	P		P	04 04 31.1	+0.3		
	baz=244,SNR=9.0									
PINE	Pine Mountain	89.81	44	eP		P	04 04 31.9	+0.7		
	comp=Z,37nm,1.0s									
SHOC	Shoshone, Teco	89.94	52	P		P	04 04 31.8	0.0		
	baz=248									
GMRC	Granite Mounta	89.99	53	P		P	04 04 32.1	0.0		
	baz=248									
GLA	Glamis	90.00	55	P		P	04 04 32.2	+0.1		
	baz=249									
GLA	Glamis	90.00	55	eP		P	04 04 33.1	+1.0		
	comp=Z,39nm,1.4s									
GLA	Glamis	90.00	55	eP		P	04 04 33.1	+1.0		
GLA					pmax	pmax				
	comp=Z,39nm,1.4s									
HYT	Haines Junctio	90.07	24	eP		P	04 04 30.3	-1.5		
	comp=Z,12nm,1.0s									
IRM	Iron Mountain	90.16	54	P		P	04 04 32.7	0.0		
	baz=248									
G05D	Wamic, OR	90.19	42	P		P	04 04 32.7	+0.1		
	baz=244,SNR=7.1									
PGC	Sidney	90.38	38	eP		P	04 04 34.2	+0.8		
	comp=Z,31nm,1.0s									
SNAA	Sanae	90.38	183	P		P	04 04 33.1	-0.2		
	comp=Z,6.5nm,0.8s,baz=153,slow=2.3,SNR=3.2									
SNAA					LR	LR	04 43 18.2			
	comp=Z,146nm,18.9s,baz=20,slow=34									
SNAA	Sanae	90.38	183	eP		P	04 04 33.1	-0.2		
	comp=Z,13nm,1.0s									
SNAA	Sanae	90.38	183	⇓eP		P	04 04 36.9	+3.7		
Y12C	Blythe	90.49	55	P		P	04 04 34.2	-0.1		
	baz=249									
Y12C	Blythe	90.49	55	eP		P	04 04 35.0	+0.7		
	comp=Z,17nm,1.0s									
COLD	Coldfoot	90.51	15	eP		P	04 04 34.2	+0.6		
	comp=Z,9.9nm,0.9s									
LDFC	Landfair	90.52	53	eP		P	04 04 35.4	+0.8		
	comp=Z,35nm,1.1s									
LON	Longmire	90.53	41	eP		P	04 04 34.4	+0.2		
	comp=Z,9.3nm,0.9s									
LON	Longmire	90.53	41	eP		P	04 04 34.4	+0.2		
LON					pmax	pmax				
	comp=Z,9.0nm,0.9s									
D05A	Enumclaw	90.61	40	eP		P	04 04 35.8	+1.3		
	comp=Z,87nm,1.2s									
G06A	Carlson Farm,	90.62	42	eP		P	04 04 35.1	+0.4		
	comp=Z,26nm,1.2s									
LPIG	La Paz	90.64	65	LR		LR	04 38 13.7			
	comp=Z,148nm,18.8s,baz=4.0,slow=31									
113A	Mohawk Valley,	90.73	56	eP		P	04 04 36.2	+0.8		
	comp=Z,10nm,1.0s									
WVOR	Wild Horse Val	90.79	45	eP		P	04 04 36.2	+0.6		
	comp=Z,28nm,1.3s									
WVOR	Wild Horse Val	90.79	45	eP		P	04 04 36.2	+0.6		
WVOR					pmax	pmax				
	comp=Z,28nm,1.3s									
SLBS	Sierra La Lagu	90.82	65	eP		P	04 04 37.5	+1.3		
	comp=Z,27nm,1.1s									
A04D	Lummi Island	90.85	39	P		P	04 04 36.0	+0.4		
	baz=244									
I07A	Izee	90.88	44	eP		P	04 04 37.0	+1.0		
	comp=Z,20nm,1.0s									
BMN	Battle Mountai	90.98	48	eP		P	04 04 37.1	+0.5		
	comp=Z,16nm,1.0s									
BMN	Battle Mountai	90.98	48	eP		P	04 04 37.1	+0.5		
BMN					pmax	pmax				
	comp=Z,16nm,1.0s									
PDMCI	Parker Dam,Lak	90.98	54	P		P	04 04 36.3	-0.2		
	baz=249									
SHPR	Sheep Range	91.00	52	eP		P	04 04 37.1	+0.3		
	comp=Z,11nm,1.1s									
B05A	Bryant	91.02	39	P		P	04 04 36.5	+0.1		
	baz=244									
TRW	Toppenish Ridg	91.12	41	eP		P	04 04 37.9	+0.9		
214A	Organ Pipe Nat	91.20	57	P		P	04 04 37.3	-0.4		
	baz=250									
214A	Organ Pipe Nat	91.20	57	eP		P	04 04 37.2	-0.4		
	comp=Z,82nm,1.4s									
J08A	Circle Bar Ran	91.27	45	eP		P	04 04 37.9	0.0		
	comp=Z,18nm,0.9s									
EGAK	Eagle	91.34	20	eP		P	04 04 36.8	-0.7		
	comp=Z,12nm,0.9s									
F07A	Phinny Hill Vi	91.35	42	eP		P	04 04 38.8	+0.8		
	comp=Z,23nm,1.0s									
R11A	Troy Canyon, C	91.37	50	P		P	04 04 38.0	-0.5		
	baz=248									
R11A	Troy Canyon, C	91.37	50	eP		P	04 04 38.6	+0.1		
	comp=Z,3.7nm,1.1s									
DAWY	Dawson	91.45	21	eP		P	04 04 37.3	-0.7		
	comp=Z,9.8nm,1.1s									
LTY	Liberty	91.45	40	eP		P	04 04 38.7	+0.2		
	comp=Z,21nm,0.9s									
W13A	Hualapai Mount	91.46	54	eP		P	04 04 39.6	+0.5		
	comp=Z,10nm,1.0s									
B06A	Marblemount	91.49	39	eP		P	04 04 39.0	+0.4		
	comp=Z,16nm,0.9s									
C06D	Leavenworth	91.59	40	P		P	04 04 38.9	-0.2		
	baz=245									
E07A	Sunnyside	91.67	41	eP		P	04 04 40.2	+0.8		
	comp=Z,25nm,0.9s									
G08A	Pilot Rock	91.72	43	eP		P	04 04 40.2	+0.3		
	comp=Z,26nm,1.0s									
Y14A	Wickenburg	91.74	55	eP		P	04 04 40.5	+0.4		
	comp=Z,29nm,1.0s									
TOLK	Toolik Lake Re	91.75	15	P		P	04 04 39.2	-0.1		
	baz=221									
TOLK	Toolik Lake Re	91.75	15	eP		P	04 04 39.7	+0.3		
	comp=Z,17nm,1.6s									
E08A	Dider Farm, El	92.14	42	eP		P	04 04 42.5	+0.8		
	comp=Z,27nm,1.0s									
LLLB	Lillooet	92.17	37	eP		P	04 04 42.4	+0.6		
	comp=Z,17nm,0.9s									
MTLAZ	Mount Logan	92.43	53	eP		P	04 04 44.3	+0.7		
D08A	Wollman Farm,	92.46	41	eP		P	04 04 43.7	+0.6		
	comp=Z,14nm,1.0s									
BMO	Blue Mountains	92.62	44	eP		P	04 04 44.0	0.0		
	comp=Z,18nm,1.6s									
BMO	Blue Mountains	92.62	44	eP		P	04 04 44.1	0.0		
BMO					pmax	pmax				
	comp=Z,18nm,1.6s									
CCUT	Cedar City	92.72	51	eP		P	04 04 45.7	+0.9		
	comp=Z,7.1nm,1.2s									
B08A	Colville Reser	92.73	40	eP		P	04 04 44.5	+0.1		
	comp=Z,18nm,1.1s									
E09A	Wood Farm, Sta	92.73	42	eP		P	04 04 44.5	+0.2		
	comp=Z,6.1nm,0.8s									
KNB	Kanab	92.94	52	eP		P	04 04 46.5	+0.7		
	comp=Z,14nm,1.2s									
KNB	Kanab	92.94	52	eP		P	04 04 46.5	+0.7		
KNB					pmax	pmax				
	comp=Z,14nm,1.2s									
TUC	Tucson	92.94	57	P		P	04 04 45.3	-0.5		
	baz=251									
TUC	Tucson	92.94	57	eP		P	04 04 46.3	+0.5		
	comp=Z,8.9nm,1.0s									
TUC	Tucson	92.94	57	eP		P	04 04 46.3	+0.5		
TUC					pmax	pmax				
	comp=Z,9.0nm,1.0s									
TIXI	Tiksi	93.05	349	⇑iP		P	04 04 44.3	-0.9		
TIXI					pmax	pmax				
	comp=Z,11nm,1.7s									
MFID	Camas Ranch	93.07	45	eP		P	04 04 47.0	+0.8		
	comp=Z,8.9nm,1.2s									
F10A	Beach Ranch, E	93.11	43	eP		P	04 04 46.2	-0.1		
	comp=Z,22nm,1.4s									
X16A	Lo Mia Camp, P	93.12	55	eP		P	04 04 47.5	+0.8		
	comp=Z,10nm,1.0s									
U15A	North Rim	93.14	53	eP		P	04 04 47.6	+0.7		
	comp=Z,11nm,0.8s									
C09A	Chrisman Ranch	93.16	41	eP		P	04 04 46.6	+0.2		
	comp=Z,9.8nm,1.1s									
WUAZ	Wupatki	93.53	54	P		P	04 04 48.2	-0.4		
	baz=251									
WUAZ	Wupatki	93.53	54	eP		P	04 04 49.1	+0.6		
	comp=Z,9.0nm,0.8s									
MTPU	Mount Pierson	93.76	51	eP		P	04 04 50.9	+1.1		
	comp=Z,5.5nm,1.1s									
319A	Douglas	93.85	58	eP		P	04 04 50.9	+0.8		
	comp=Z,18nm,0.9s									
NEW	Newport	94.05	40	P		P	04 04 50.2	-0.2		
	baz=248									
NEW	Newport	94.05	40	eP		P	04 04 50.9	+0.4		
	comp=Z,4.7nm,1.1s									
NEW	Newport	94.05	40	eP		P	04 04 50.9	+0.4		
NEW					pmax	pmax				
	comp=Z,5.0nm,1.1s									

HLID	Hailey	94.08	46	P		P	04 04 50.4	-0.5		
	baz=249									
HLID	Hailey	94.08	46	eP		P	04 04 50.5	-0.4		
	comp=Z,5.5nm,1.3s									
WMQ	Urumqi	94.87	314	P		P	04 04 54.3	-0.1		
WMQ				pP		pP	04 05 00.2	-0.9		
WMQ				pmax		pmax				
	comp=Z,12nm,0.9s									
MSO	Missoula	95.54	43	P		P	04 04 57.3	-0.1		
	baz=250									
DLMT	Dillon	95.92	44	eP		P	04 04 59.5	+0.3		
	comp=Z,4.1nm,0.9s									
MVCO	Mesa Verde	96.27	53	P		P	04 05 00.8	-0.4		
	baz=252									
BOZ	Bozeman (W)	96.64	44	P		P	04 05 02.1	-0.4		
	baz=251									
DGZ	Jazzator, Alta	97.02	320	⇓iP		Pdif	04 05 04.4	+0.2		
DGZ					pmax	pmax				
	comp=Z,3.0nm,1.0s									
MNTX	Cornudas Mount	97.12	59	P		P	04 05 03.9	-1.0		
	baz=253									
BW06	Boulder Array	97.17	47	P		P	04 05 04.3	-0.8		
	baz=252									
PD31	Pinedale Array	97.18	47	eP		P	04 05 04.8	-0.4		
PDAR	Pinedale Array	97.18	47	P		P	04 05 04.8	-0.4		
	comp=Z,1.2nm,1.0s,baz=191,slow=4.3,SNR=6.5									
PDAR	Pinedale Array	97.18	47	eP		Pdif	04 05 05.1	-0.1		
ANMO	Albuquerque	97.19	56	P		P	04 05 04.1	-1.2		
	baz=253									
ANMO	Albuquerque	97.19	56	eP		P	04 05 05.1	-0.2		
	comp=Z,2.3nm,1.0s									
ANMO	Albuquerque	97.19	56	⇑eP		P	04 05 05.2	-0.1		
ANMO					pmax	pmax				
	comp=Z,2.0nm,0.9s									
O20A	White River Ci	97.33	50	P		P	04 05 05.0	-0.8		
	baz=253									
S22A	4UR Ranch, Cre	97.70	53	P		P	04 05 06.6	-1.1		
	baz=253									
TX31	Lajitas Ar. Si	97.88	62	eP		Pdif	04 05 08.6	+0.1		
LTX	Lajitas	97.88	62	eP		P	04 05 08.2	-0.2		
LTX	Lajitas	97.88	62	eP		P	04 05 08.3	-0.2		
TXAR	Lajitas Array	97.88	62	P		P	04 05 08.2	-0.2		
	comp=Z,1.5nm,0.9s,baz=229,slow=4.6,SNR=8.4									
TXAR	Lajitas Array	97.88	62	eP		Pdif	04 05 08.5	0.0		
TXAR					pmax	pmax				
	comp=Z,2.0nm,0.9s									
MK01	Makanchi Array	99.40	316	eP		Pdif	04 05 14.2	-0.5		
MK31	Makanchi Array	99.41	316	eP		Pdif	04 05 14.7	-0.1		
MK31	Makanchi Array	99.41	316	eP		Pdif	04 05 14.7	-0.1		
MK32	Makanchi Array	99.41	316	eP		Pdif	04 05 14.3	-0.5		
MK32				ePP		PP	04 09 16.1	-2.3		
MKAR	Makanchi Array	99.41	316	P		Pdif	04 05 14.3	-0.5		
	comp=Z,1.3nm,0.7s,baz=98,slow=6.0,SNR=13									
MKAR				PP		PP	04 09 16.1	-2.3		
	comp=Z,0.7nm,1.0s,baz=82,slow=10,SNR=3.8									
MKAR				PKKPbc		PKKPbc	04 21 36.4	-3.1		
	comp=Z,0.6nm,0.9s,baz=338,slow=1.6,SNR=3.8									
ZALV	Zalesovo Beam	99.88	324	P		Pdif	04 05 15.6	-1.0		
	comp=Z,0.4nm,0.3s,baz=92,slow=4.3,SNR=3.2									
ZAA1	Zalesovo Array	99.88	324	ePdif		Pdif	04 05 15.6	-1.0		
YKA	Yellowknife Ar	100.41	28	P		Pdif	04 05 18.3	-0.5		
	comp=Z,1.5nm,0.6s,baz=251,slow=4.3,SNR=30									
YKB5	Yellowknife Ar	100.41	28	ePdif		Pdif	04 05 18.3	-0.5		
KSH	Kashi	102.06	308	eP		Pdif	04 05 30.9	+4.0		
KURK	Kurchatov	102.74	319	ePKiKP		PKiKP	04 09 51.2	+1.1		
KURBB	Kurchatov Arra	102.77	319	PKiKP		PKiKP	04 09 51.2	+1.0		
	comp=Z,0.8nm,1.0s,baz=102,slow=3.9,SNR=3.5									
GEYT	Alibeck	115.64	304	PKP		PKPdf	04 10 15.1	+0.3		
	comp=Z,1.8nm,0.7s,baz=102,slow=11,SNR=3.6									
SDV	Santo Domingo	123.26	91	PKP		PKPdf	04 10 29.2	-1.1		
	comp=Z,6.2nm,0.9s,baz=315,slow=5.7,SNR=5.0									
ARA0	ARCESS Array S	123.28	345	ePKPdf		PKPdf	04 10 28.1	-0.3		
ARCES	ARCESS Array B	123.28	345	PKP		PKPdf	04 10 28.1	-0.4		
	comp=Z,3.5nm,0.9s,baz=64,slow=2.8,SNR=7.7									
ARCES	ARCESS Array B	123.28	345	ePKIKP		PKPdf	04 10 28.1	-0.4		
ARCES				pmax		pmax				
	comp=Z,3.0nm,0.9s									
SCHQ	Schefferville	124.98	35	PKP		PKPdf	04 10 30.8	-1.4		
	comp=Z,3.2nm,0.9s,baz=229,slow=4.7,SNR=3.8									
RAYN	Ar Rayn	125.44	286	ePKPdf		PKPdf	04 10 34.7	+0.7		
VRH	Novokhopyorsk	125.79	321	ePKIKP		PKPdf	04 10 32.6	-1.2		
VRH				pmax		pmax				
	comp=Z,10.0nm,0.9s									
GNI	Garni	125.98	307	PKP		PKPdf	04 10 35.7	+1.0		
	comp=Z,5.6nm,0.9s,baz=55,slow=16,SNR=4.0									
NCK	Nalchik	126.35	311	⇓iPKIKP		PKPdf	04 10 36.3	+1.1		
KIV	Kislovodsk	126.91	312	ePKIKP		PKPdf	04 10 36.6	+0.3		
KIV				pmax		pmax				
	comp=Z,13nm,1.1s									
LPSR	Galich'

WATA	**Walderalm**	**144.46**	**331**	*i* PKPdf	PKPbc	04 11 07.4	+0.1
	comp=Z,5.7nm,0.8s						
WTTA	**Wattenberg**	**144.49**	**331**	*i* PKPdf	PKPbc	04 11 07.8	+0.4
MOTA	**Moosalm**	**144.67**	**331**	*i* PKPdf	PKPbc	04 11 08.3	+0.3
	comp=Z,22nm,0.9s,SNR=13						
SNF	**Seneffe**	**144.71**	**341**	⇑PKP	PKPbc	04 11 08.0	+0.3
RETA	**Reutte**	**144.72**	**332**	*i* PKPdf	PKPbc	04 11 08.2	+0.2
	comp=Z,16nm,1.2s						
WLF	**Walferdange**	**144.82**	**338**	⇑PKP	**PKPdf**	**04 11 08.8**	**-0.2**
WLF	**Walferdange**	**144.82**	**338**	*e*PKPdf	**PKPdf**	**04 11 08.9**	**-0.2**
WLF	**Walferdange**	**144.82**	**338**	*e*PKIKP	**PKPdf**	**04 11 08.9**	**-0.2**
DOU	**Dourbes**	**144.97**	**340**	⇓PKP	PKPbc	04 11 08.5	-0.1
FETA	**Feichten**	**145.09**	**331**	*i* PKPdf	**PKPdf**	**04 11 09.8**	**0.0**
	comp=Z,52nm,1.0s,SNR=14						
BFO	**Black Forest**	**145.10**	**335**	*e*PKPbc	**PKPdf**	**04 11 09.6**	**-0.1**
BFO	**Black Forest**	**145.10**	**335**	*e*PKIKP	**PKPdf**	**04 11 09.6**	**-0.1**
DAVA	**Damuels**	**145.26**	**333**	*i* PKPdf	**PKPdf**	**04 11 10.2**	**0.0**
	comp=Z,56nm,1.1s,SNR=12						
FUORN	**Ofenpass-Fuorn**	**145.60**	**331**	*e*PKPdf	**PKPab**	**04 11 11.5**	**+0.1**
ECH	**Echery**	**145.65**	**336**	*e*PKPdf	**PKPbc**	**04 11 10.8**	**-0.1**
ECH	**Echery**	**145.65**	**336**	*e*PKIKP	**PKPbc**	**04 11 10.8**	**-0.1**
TUE	**Stuetta**	**146.12**	**332**	*e*PKPdf	**PKPab**	**04 11 13.2**	**-0.1**
SENIN	**Lac Senin/Sane**	**147.09**	**334**	*e*PKPdf	**PKPbc**	**04 11 15.5**	**0.0**
BNI	**Bardonecchia**	**148.40**	**333**	*e*PKPbc	**PKPbc**	**04 11 19.3**	**+0.3**
BNI	**Bardonecchia**	**148.40**	**333**	*e*PKP2	**PKPbc**	**04 11 19.3**	**+0.3**
SSB	**Saint Sauveur**	**149.09**	**336**	*e*PKPbc	**PKPbc**	**04 11 21.9**	**+1.3**
SSB	**Saint Sauveur**	**149.09**	**336**	*e*PKP2	**PKPbc**	**04 11 21.9**	**+1.3**
KEST	**Kesra**	**153.51**	**316**	PKPbc	**PKPbc**	**04 11 31.4**	**+0.2**
	comp=Z,5.9nm,0.8s,baz=305,slow=6.2,SNR=4.2						
ES19	**SONSECA Array**	**156.94**	**342**	*e*PKPab	**PKPab**	**04 11 58.3**	**+0.4**
ESDC	**Sonseca Array**	**156.99**	**342**	PKPab	**PKPab**	**04 11 58.4**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=15,slow=4.1,SNR=15						
TOA0	**Torodi Ar. Sit**	**165.21**	**253**	*e*PKPdf	**PKPdf**	**04 11 36.5**	**-1.0**
TOA0				*e*PKPdf	**PKPdf**	**04 11 36.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**165.21**	**253**	PKP	**PKPdf**	**04 11 36.2**	**-1.2**
	comp=Z,3.3nm,0.9s,baz=9.3,slow=0.9,SNR=16						
TORD				PKPab	**PKPab**	**04 12 34.2**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=99,slow=3.4,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**165.21**	**253**	*e*PKPdf	**PKPdf**	**04 11 36.2**	**-1.2**
TOA1				*e*PKPab	**PKPab**	**04 12 34.2**	**-0.6**
KOWA	**Kowa**	**170.86**	**249**	PKP	**PKPdf**	**04 11 40.8**	**-0.5**
KOWA	comp=Z,3.2nm,1.1s,baz=23,slow=1.2,SNR=3.7			PKPab	**PKPab**	**04 12 59.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=109,slow=6.4,SNR=3.2						
KOWA	**Kowa**	**170.86**	**249**	*e*PKPdf	**PKPdf**	**04 11 40.8**	**-0.5**
KOWA				*e*PKPdf	**PKPdf**	**04 11 41.4**	**0.0**
KOWA				*e*PKPab	**PKPab**	**04 12 59.8**	**0.0**

*IDC **08** 03:55:52.7±1.2,56.77S×24.791W,h0km,mb3.9/3, mb1 4.0/4,mb1mx3.7/34,mbtmp3.9/4,ML3.4/1,Error ellipse: s-maj=47.8km s-min=31.2km az=37.0*
*ISCJB **08** 03:55:53.6±0.9,56.9S±0.2×24.8W±0.5,h22km,mb3.8/3, Error ellipse: s-maj=41.8km s-min=11.8km az=152.8*
ISC 08 03:55:55.7±0.8,56.9S±0.2×25.0W±0.3,h22km,n11, σ0§69/12,mb3.7/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.53**	**159**	P	**Pn**	**03 59 32.3**	**-0.7**
VNA3	**Neumayer Olymp**	**15.77**	**162**	P	**Pn**	**03 59 35.0**	**-1.0**
VNA2	**Neumayer--Watz**	**15.93**	**159**	P	**Pn**	**03 59 37.8**	**-0.3**
	baz=320,slow=14						
SNAA	**Sanae**		**17.45**	**157**	P	**P**	**03 59 58.8**	**+0.4**
SNAA	**Sanae**		**17.45**	**157**	P	**Pn**	**03 59 57.9**	**+0.6**
	0.1nm,0.3s,baz=316,slow=14,SNR=7.0							
CPUP	**Villa Florida**		**38.31**	**309**	P	**P**	**04 03 14.6**	**+0.2**
	0.7nm,0.7s,baz=157,slow=10,SNR=2.4							
LPAZ	**La Paz**		**51.88**	**303**	P	**P**	**04 05 02.8**	**-0.2**
	1.6nm,0.5s,baz=159,slow=6.7,SNR=8.6							
TORD	**Torodi Ar. Bea**		**73.25**	**27**	P	**P**	**04 07 24.2**	**-0.7**
	0.5nm,0.6s,baz=196,slow=6.0,SNR=9.2							
YKA	**Yellowknife Ar**		**137.64**	**316**	PKP	**PKPdf**	**04 15 16.3**	**0.0**
	0.2nm,0.5s,baz=118,slow=1.9,SNR=4.0							
SONM	**Songino Array**		**149.57**	**86**	PKPbc	**PKPbc**	**04 15 43.6**	**+1.3**
	0.4nm,0.6s,baz=224,slow=2.4,SNR=3.7							
ILAR	**Eielson Array**		**151.61**	**310**	PKPbc	**PKPbc**	**04 15 46.7**	**+0.2**
	0.9nm,1.0s,baz=131,slow=2.1,SNR=6.0							
ILAR					PKPab	**PKPab**	**04 15 55.3**	**-0.1**
	3.1nm,1.1s,baz=134,slow=1.9,SNR=6.0							

*IDC **08** 04:10:06.6±4.7,23.44S×178.70W,h283km±42km,mb3.7/2, mb1 4.2/3,mb1mx3.4/40,mbtmp4.7/3,Error ellipse: s-maj=54.2km s-min=27.3km az=11.0*
ISC 08 04:10:07.4±1.5,23.5S±0.2×178.6W±0.3,h300km,n8, σ0§57/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.75**	**174**	P	**Pn**	**04 11 33.4**	**-0.3**
	140nm,0.3s,baz=278,slow=19,SNR=3.9						
RAO				S	S	04 12 31.8	-11
	244nm,0.3s,baz=270,slow=20,SNR=4.9						
ASAR	**Alice Springs**	**43.35**	**260**	P	**P**	**04 17 41.0**	**0.0**
	1.5nm,0.5s,baz=98,slow=7.3,SNR=19						
WRA	**Warramunga Arr**	**43.70**	**265**	P	**P**	**04 17 43.7**	**-0.1**
	3.4nm,0.3s,baz=102,slow=8.2,SNR=119						
HFS	**Hagfors**	**142.40**	**350**	PKP	**PKPdf**	**04 29 03.4**	**-0.6**
	1.3nm,0.4s,baz=38,slow=2.6,SNR=9.1						
AKASG	**Malin Array Be**	**145.32**	**329**	PKPbc	**PKPab**	**04 29 10.2**	**-0.1**
	0.8nm,0.4s,baz=44,slow=4.4,SNR=4.1						
BRTR	**Keskin Array B**	**148.35**	**308**	PKPbc	**PKPbc**	**04 29 18.8**	**0.0**
	0.2nm,0.6s,baz=76,slow=4.4,SNR=2.8						
MMAI	**Mount Meron Ar**	**148.69**	**295**	PKPbc	**PKPbc**	**04 29 20.3**	**+0.5**
	0.7nm,0.3s,baz=82,slow=3.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**169.68**	**182**	PKPab	**PKPab**	**04 30 56.2**	**+0.9**
	0.3nm,0.6s,baz=166,slow=5.7,SNR=2.8						

MAN 08 04:35:24,10.14N×123.23E,h1km,mb3.8,ML2.5,MS2.1, 1D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.75**	**76**	*e*P	Pg	04 35 38.7	+0.3
LLP				*i* S	Sb	04 35 50.5	0.0
TBP	**Tagbilaran**	**0.76**	**125**	*e*P	Pg	04 35 39.1	+0.4
GUIM	**Jordan**	**0.80**	**308**	*e*P	Pg	04 35 39.7	+0.4
GUIM				*e*S	Sb	04 35 51.3	-0.6
RCP	**Roxas**	**1.49**	**341**	⇓*e*P	Pg	04 35 53.6	+1.0
MSLP	**Maasin**	**1.60**	**90**	*e*P	Pb	04 35 54.3	-0.2
MSLP				*e*S	Sg	04 36 17.3	+1.7

*DDA **08** 04:42:44.8,39.78N×27.73E,h9km,Md2.0*
*ISCJB **08** 04:42:46.9±0.5,39.70N±0.03×27.69E±0.06,h12km,Error ellipse: s-maj=7.0km s-min=4.2km az=23.2*
*ISK **08** 04:42:46.9,39.68N×27.70E,h5km,ML2.6/4*
*CSEM **08** 04:42:47.3±0.2,39.68N×27.69E,h2km,ML2.6,Error ellipse: s-maj=6.7km s-min=4.6km az=113.0*
ISC 08 04:42:47.6±0.9,39.70N±0.03×27.66E±0.04,h12km,n20, σ1§18/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.05**	**321**	*i* P	**Pg**	**04 42 47.6**	**-2.4**
BALY				*i* S	**Sg**	**04 42 49.3**	**-2.5**
BALY	**Balya**	**0.05**	**321**	P	**Pg**	**04 42 47.6**	**-2.4**
BALY				S	**Sg**	**04 42 49.3**	**-2.5**
BALB	**Balikesir**	**0.18**	**109**	PG	**Pg**	**04 42 50.2**	**-1.4**
BALB	**Balikesir**	**0.18**	**109**	*e*Pg	**Pg**	**04 42 50.2**	**-1.4**
STEP	**BALIKESIR_Sava**	**0.33**	**172**	*i* P	**Pg**	**04 42 53.5**	**-0.7**
STEP				*i* S	**Sg**	**04 42 58.7**	**+0.1**
STEP	**BALIKESIR_Sava**	**0.33**	**172**	P	**Pg**	**04 42 53.5**	**-0.7**
STEP				S	**Sg**	**04 42 58.7**	**+0.1**
GONE	**Gonen-Balikesi**	**0.35**	**3**	PG	**Pg**	**04 42 54.5**	**-0.1**
GONE	**Gonen-Balikesi**	**0.35**	**3**	*e*Pg	**Pg**	**04 42 54.5**	**-0.1**
EDC	**Edincik**	**0.67**	**13**	PG	**Pb**	**04 43 01.4**	**+0.2**
EDC	**Edincik**	**0.67**	**13**	*e*Pg	**Pb**	**04 43 01.4**	**+0.2**
KRBG	**Karabiga-Canak**	**0.75**	**338**	PG	**Pg**	**04 43 02.2**	**+0.1**
KRBG	**Karabiga-Canak**	**0.75**	**338**	*e*Pg	**Pg**	**04 43 02.2**	**+0.1**
KCTX	**Karacabey (Bur**	**0.78**	**43**	PG	**Pg**	**04 43 01.8**	**-0.9**
KCTX				SG	**Sg**	**04 43 12.9**	**0.0**
KCTX	**Karacabey (Bur**	**0.78**	**43**	*e*Pg	**Pg**	**04 43 01.8**	**-0.9**
KCTX				*e*Sg	**Sg**	**04 43 12.9**	**0.0**
DKL	**Dikili**	**0.86**	**223**	PG	**Pg**	**04 43 03.5**	**-0.7**
DKL				SG	**Sb**	**04 43 16.4**	**+0.5**
DKL	**Dikili**	**0.86**	**223**	*e*Pg	**Pg**	**04 43 03.5**	**-0.7**
DKL				*e*Sg	**Sb**	**04 43 16.4**	**+0.5**
SIGR	**SIGRI**	**1.48**	**251**	PN	**Pb**	**04 43 15.5**	**+0.4**
SIGR	**SIGRI**	**1.48**	**251**	*e*Pn	**Pb**	**04 43 15.5**	**+0.4**
ALN	**Alexandroupoli**	**1.72**	**315**	PN	**Pn**	**04 43 18.5**	**+1.1**
ALN	**Alexandroupoli**	**1.72**	**315**	*e*Pn	**Pn**	**04 43 18.5**	**+1.1**

*IDC **08** 04:53:23.1±3.6,2.87S×139.23E,h0km,mb3.1/3, mb1 3.4/4,mb1mx3.3/41,mbtmp3.3/4,ML3.6/1,Error ellipse: s-maj=116.5km s-min=27.9km az=91.0*
*ISCJB **08** 04:53:27.9±1.0,2.9S±0.1×139.04E±0.08,h46km,mb3.2/2, Error ellipse: s-maj=18.5km s-min=6.8km az=144.6*
*DJA **08** 04:53:29.8±1.8,3.3S±18.3×13.9E±1.6,h10km,M3.8/2, MLv3.8/2*
ISC 08 04:53:29.8±1.2,3.0S±0.1×139.1E±0.1,h46km,n6,σ0§42/9, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.10**	**69**	P	**Pn**	**04 53 49.1**	**+0.4**
GENI				S	**Sn**	**04 54 02.9**	**+0.1**
JAY	**Jayapura**	**1.63**	**73**	P	**Pn**	**04 53 55.8**	**-0.3**
JAY				S	**Sn**	**04 54 15.7**	**-0.2**
WRA	**Warramunga Arr**	**17.49**	**195**	P	**Pn**	**04 57 30.1**	**-0.4**
	0.2nm,0.3s,baz=18,slow=12,SNR=11						
WRA				S	**Sn**	**05 00 44.1**	**-0.3**
	0.1nm,0.3s,baz=12,slow=22,SNR=3.4						
FITZ	**Fitzroy Crossi**	**20.02**	**220**	P	**P**	**04 57 59.1**	**+0.3**
	0.7nm,0.6s,baz=60,slow=8.1,SNR=2.5						
ASAR	**Alice Springs**	**21.17**	**193**	P	**P**	**04 58 12.0**	**+0.6**
	0.6nm,0.8s,baz=19,slow=9.9,SNR=5.0						
MKAR	**Makanchi Array**	**70.27**	**322**	P	**P**	**05 04 38.1**	**-0.3**
	0.2nm,0.4s,baz=111,slow=6.9,SNR=6.8						

IGQ 08 05:18:29.6±1.0,1°S±8°×8°2W±°,h6km,MLv4.2/3,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**0.53**	**96**	P	Pg	05 18 38.4	-1.6
ISPT				S	Sb	05 18 48.5	-0.9
IGUA	**Igualata**	**2.98**	**95**	P	Pn	05 19 17.4	-0.6
RIOE1	**Riobamba**	**3.02**	**100**	P	Pn	05 19 17.0	-1.4
BMAS	**Trigal station**	**3.14**	**95**	P	Pn	05 19 20.4	+0.4
CAMI	**Rancho Maria**	**3.14**	**80**	P	Pn	05 19 19.2	-0.9
POND	**Pondoa**	**3.16**	**94**	P	Pn	05 19 20.7	+0.4
RETU	**Refugio**	**3.17**	**94**	P	Pn	05 19 19.6	-0.9
BNAS	**Cotopaxi Volca**	**3.17**	**80**	P	Pn	05 19 21.7	+1.2
BPAT	**Tungurahua Vol**	**3.18**	**95**	P	Pn	05 19 20.6	-0.1
NAS2	**Nasa**	**3.19**	**80**	P	Pn	05 19 22.0	+1.3
BRUN	**Tungurahua Vol**	**3.20**	**94**	P	Pn	05 19 21.1	+0.3
BULB	**Ulba Tungurahu**	**3.20**	**94**	P	Pn	05 19 19.9	-1.0
BREF	**Cotopaxi Volca**	**3.21**	**80**	P	Pn	05 19 20.2	-1.0
YANA	**Yana**	**3.22**	**70**	P	Pn	05 19 21.0	-0.2
PISA	**Pisayambo**	**3.22**	**87**	P	Pn	05 19 21.6	+0.3
BVC2	**Cotopaxi Volca**	**3.24**	**80**	P	Pn	05 19 20.9	-0.7
VC1	**Cotopaxi 1**	**3.25**	**80**	P	Pn	05 19 22.2	+0.6
BTAM	**Cotopaxi Volca**	**3.25**	**81**	P	Pn	05 19 22.1	+0.4
PULU	**Pululahua**	**3.33**	**69**	P	Pn	05 19 22.0	-0.7
ANTI	**Antisana**	**3.52**	**78**	P	Pn	05 19 24.9	-0.6
COTA	**Cotacachi**	**3.61**	**65**	P	Pn	05 19 25.4	-1.2
IMBA	**Imbabura, San**	**3.71**	**67**	P	Pn	05 19 28.1	+0.1
URCU	**Urcuqui**	**3.73**	**64**	P	Pn	05 19 27.8	-0.3
LITE1	**Lita**	**3.80**	**59**	P	Pn	05 19 27.5	-1.5
YAHU	**Yahuarcocha**	**3.86**	**66**	P	Pn	05 19 30.2	+0.1

IDC 08 05:29:06.5±2.8,8.32S×133.28E,h0km,mb3.5/1, mb1 3.5/4,mb1mx3.3/46,mbtmp3.3/4,ML3.0/3,MS3.7/1, Ms1 3.7/1,ms1mx2.7/34,Error ellipse: s-maj=97.5km s-min=30.7km az=84.0,Arafura Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.60**	**175**	Pn	Pn	05 31 53.6	+0.1
	0.1nm,0.3s,baz=354,slow=13,SNR=8.2						
WRA				Sn	Sn	05 34 15.3	+11
	0.2nm,0.3s,baz=352,slow=24,SNR=7.5						
FITZ	**Fitzroy Crossi**	**12.24**	**217**	Pn	Pn	05 32 02.3	+0.1
	0.1nm,0.3s,baz=24,slow=10.0,SNR=2.5						
FITZ				Sn	Sn	05 34 30.1	+11
	baz=3.4,slow=17						
ASAR	**Alice Springs**	**15.27**	**178**	Pn	Pn	05 32 43.2	-0.3
	0.1nm,0.3s,baz=357,slow=11,SNR=5.1						
NWAO	**Narrogin (SRO)**	**28.64**	**209**	LR	LR	05 46 48.7	
	comp=Z,150nm,21.2s,baz=326,slow=37						
MKAR	**Makanchi Array**	**71.12**	**326**	P	P	05 40 26.9	0.0
	0.3nm,0.6s,baz=130,slow=5.8,SNR=4.9						

*ISCJB **08** 05:33:05.0±0.5,24.89N±0.03×122.44E±0.02,h9km±3km, Error ellipse: s-maj=5.3km s-min=3.1km az=19.9*
*TAP **08** 05:33:05.0,24.91N×122.41E,h16km,ML3.3,C*
*JMA **08** 05:33:05.2±0.1,24.82N×122.40E,h3km,M3.3*
ISC 08 05:33:05.2±1.1,24.87N±0.03×122.41E±0.02,h10km±10km, n38,σ0§37/64,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.41**	**219**	*e*P	**Pb**	**05 33 14.5**	**+0.1**
	baz=215						
EOS1				*e*S	**Sb**	**05 33 21.6**	**+1.0**
	baz=215						
TWB1	**Santiao Chiao**	**0.41**	**291**	P	**Pg**	**05 33 13.6**	**+0.4**
	baz=284						
TWB1				S	**Sg**	**05 33 19.5**	**+0.9**
	baz=284						
NTC	**Toucheng**	**0.53**	**269**	*e*P	**Pb**	**05 33 16.3**	**-0.2**
	baz=264						
TIPB	**Shuangxi**	**0.54**	**281**	P	**Pg**	**05 33 15.7**	**-0.1**
	baz=276						
TIPB				S	**Sg**	**05 33 23.4**	**+0.5**
	baz=276						
TWC	**Suao**	**0.57**	**244**	*e*P	**Pg**	**05 33 16.6**	**+0.3**
	baz=239						
TWC				*e*S	**Sb**	**05 33 24.8**	**-0.6**
	baz=239						
NWF	**Wu-fen Shan**	**0.61**	**290**	P	**Pb**	**05 33 17.7**	**-0.2**
	baz=285						
NWF				S	**Sb**	**05 33 26.2**	**-0.3**
	baz=285						
WFSB	**Wu-fen Shan**	**0.61**	**290**	*e*P	**Pb**	**05 33 17.6**	**-0.3**
	baz=285						
WFSB				*e*S	**Sb**	**05 33 26.1**	**-0.4**
	baz=285						
JYNG	**Yonagunijimaku**	**0.64**	**130**	P	**Pg**	**05 33 17.5**	**-0.1**
JYNG				*e*S	**Sg**	**05 33 25.5**	**-0.5**
YOJ	**Yonaguni jima**	**0.68**	**126**	P	**Pg**	**05 33 17.9**	**-0.4**
YOJ				*e*S	**Sg**	**05 33 27.0**	**-0.2**
ENAH	**Nanao**	**0.68**	**233**	*e*P	**Pb**	**05 33 19.0**	**-0.2**
	baz=237						
TWE	**Neicheng**	**0.69**	**258**	*e*P	**Pg**	**05 33 18.7**	**+0.1**
	baz=245						
TWE				*e*S	**Sb**	**05 33 28.4**	**-0.5**
	baz=245						
SLBB	**Yuanshan**	**0.71**	**261**	*e*P	**Pb**	**05 33 19.6**	**-0.1**
	baz=249						
SLBB				*e*S	**Sb**	**05 33 29.7**	**+0.1**
	baz=249						
NANB	**Nanao**	**0.74**	**234**	*e*P	**Pb**	**05 33 19.8**	**-0.4**
	baz=231						
NANB				*e*S	**Sb**	**05 33 30.2**	**-0.1**
	baz=231						
ENA	**Nanau**	**0.75**	**235**	*e*P	**Pb**	**05 33 20.0**	**-0.3**
	baz=231						
ENA				*e*S	**Sb**	**05 33 30.1**	**-0.5**
	baz=231						
YM07	**YM07**	**0.78**	**294**	*e*P	**Pg**	**05 33 19.4**	**-0.8**
	baz=290						
YM07				*e*S	**Sb**	**05 33 31.3**	**-0.2**
	baz=290						
ENTT	**Nioudou**	**0.80**	**254**	*e*P	**Pb**	**05 33 21.2**	**+0.1**
	baz=250						
ENTT				*e*S	**Sb**	**05 33 32.4**	**+0.4**
	baz=250						
YM10	**YM10**	**0.82**	**291**	*e*P	**Pg**	**05 33 21.0**	**-0.1**
	baz=288						
NWLT	**Wulai**	**0.83**	**264**	*e*P	**Pb**	**05 33 21.4**	**-0.3**
	baz=260						
NWLT				*e*S	**Sb**	**05 33 32.6**	**-0.3**
	baz=260						
TWY	**Chenhua**	**0.84**	**299**	*e*P	**Pg**	**05 33 21.4**	**0.0**
	baz=296						
TWY				*e*S	**Sb**	**05 33 33.5**	**+0.3**
	baz=296						
YM04	**YM04**	**0.84**	**290**	*e*P	**Pg**	**05 33 21.2**	**-0.3**
	baz=287						
YHNB	**Yeheng**	**0.96**	**259**	*e*P	**Pg**	**05 33 23.6**	**0.0**
	baz=266						
NACB	**Ninganchiao**	**1.01**	**227**	*e*P	**Pg**	**05 33 24.1**	**-0.6**
	baz=225						
NACB				*e*S	**Sb**	**05 33 38.0**	**-0.1**
	baz=225						
NNSB	**Datong**	**1.03**	**245**	*e*P	**Pg**	**05 33 24.8**	**-0.2**
	baz=230						
NNSB				*e*S	**Sb**	**05 33 38.7**	**-0.1**
	baz=230						
NNSH	**Datong**	**1.03**	**245**	*e*P	**Pg**	**05 33 24.9**	**-0.1**
	baz=231						
NNSH				*e*S	**Sb**	**05 33 38.6**	**-0.2**
	baz=231						
NNS	**Nan Shan**	**1.03**	**246**	*e*P	**Pb**	**05 33 25.2**	**-0.1**
	baz=243						
NNS				*e*S	**Sg**	**05 33 38.5**	**-0.1**
	baz=243						
TWD	**Chiawan**	**1.08**	**224**	*e*P	**Pb**	**05 33 25.9**	**0.0**
	baz=231						
WHF	**Hehuan Shan**	**1.27**	**236**	*e*P	**Pg**	**05 33 29.4**	**-0.2**
	baz=233						
WHF				*e*S	**Sg**	**05 33 45.9**	**-0.1**
	baz=233						
TWT	**Tachien**	**1.28**	**242**	*e*P	**Pg**	**05 33 29.8**	**0.0**
	baz=230						
TWT				*e*S	**Sn**	**05 33 47.3**	**+0.8**
	baz=230						
LIOB	**Emei**	**1.28**	**261**	*e*P	**Pn**	**05 33 28.7**	**-0.5**
	baz=258						
TDCB	**Techi**	**1.29**	**242**	*e*P	**Pn**	**05 33 29.4**	**0.0**
	baz=230						
TDCB				*e*S	**Sn**	**05 33 46.7**	**-0.1**
	baz=230						
IRIF	**Iriomote-Funau**	**1.31**	**113**	P	**Pg**	**05 33 30.2**	**-0.2**
OWD	**Renai**	**1.44**	**231**	*e*P	**Pb**	**05 33 31.9**	**-0.4**
	baz=229						
OWD				*e*S	**Sg**	**05 33 51.6**	**-0.1**
	baz=229						
HATJ	**Hateruma jima**	**1.51**	**122**	P	**Pb**	**05 33 33.5**	**+0.3**
TWQ1	**Liyutan**	**1.57**	**251**	*e*P	**Pb**	**05 33 34.0**	**-0.4**
	baz=264						
DPDB	**Guoxing**	**1.58**	**239**	*e*P	**Pb**	**05 33 34.4**	**-0.2**
	baz=236						
DPDB				*e*S	**Sb**	**05 33 55.2**	**+0.4**
	baz=236						
JIJ	**Ishigaki jima**	**1.66**	**107**	P	**Pn**	**05 33 34.8**	**+0.5**
SMLT	**Sun Moon Lake**	**1.69**	**235**	*e*P	**Pb**	**05 33 36.6**	**+0.3**
	baz=220						
TYC	**Yuchr**	**1.71**	**236**	*e*P	**Pb**	**05 33 36.5**	**-0.2**
	baz=234						
TYC				*e*S	**Sb**	**05 33 58.5**	**+0.3**
	baz=234						

*SOME **08** 06:18:13.2,44.47N×79.45E,h0km*
*ISCJB **08** 06:18:14.6±0.7,44.47N±0.03×79.67E±0.07,h10km,Error ellipse: s-maj=6.9km s-min=4.2km az=10.9*
*NNC **08** 06:18:15.7±0.9,44.39N×79.55E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=8.4km s-min=5.7km az=91.0*
ISC 08 06:18:12.2±0.9,44.53N±0.03×79.54E±0.04,h10km,n26, σ1§40/45,9C-7D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**0.76**	**351**	*e*P	**Pn**	**06 18 30.2**	**+1.1**
	30nm,0.1s						
KAPS				*e*S	**Sn**	**06 18 40.9**	**+0.2**
	29nm,0.1s						
TDK	**Taldyqorghan**	**0.93**	**301**	*e*P	**Pb**	**06 18 31.2**	**+0.8**
	6.7nm,0.1s						
TDK				*e*S	**Sb**	**06 18 44.1**	**+1.3**
	103nm,0.2s						
MNBS	**Baschi**	**0.93**	**241**	*e*P	**Pg**	**06 18 29.5**	**-0.6**
	81nm,0.2s						
MNBS				*e*S	**Sg**	**06 18 41.0**	**-1.3**
	127nm,0.3s						
PDGK	**Podgornoye**	**1.21**	**182**	⇑P	**Pn**	**06 18 35.5**	**+0.3**
	13nm,0.5s						
PDGK				⇑S	**Sn**	**06 18 50.9**	**-0.7**
	12nm,0.4s						
KPKS	**Kokpek**	**1.23**	**210**	*e*P	**Pg**	**06 18 36.2**	**+0.4**
	17nm,0.2s						
KPKS				*e*S	**Sn**	**06 18 51.8**	**-0.4**
	601nm,0.3s						
UZB	**Uzynbulak**	**1.44**	**195**	*e*P	**Pg**	**06 18 39.6**	**-0.1**
	35nm,0.2s						
UZB				*e*S	**Sg**	**06 18 57.7**	**-0.7**
	99nm,0.2s						
KURS	**Kuram**	**1.44**	**224**	*e*P	**Pg**	**06 18 39.4**	**-0.3**
	0.4nm,0.2s						
KURS				*e*S	**Sg**	**06 18 57.8**	**-0.6**
	46nm,0.5s						
SATY	**Saty**	**1.69**	**209**	*e*P	**Pg**	**06 18 43.9**	**-0.6**
	23nm,0.2s						
SATY				*e*S	**Sg**	**06 19 05.7**	**-0.7**
	236nm,0.2s						
CHKK	**Chushkaly**	**1.95**	**251**	*e*P	**Pg**	**06 18 48.6**	**-1.0**
	11nm,0.1s				

*IDC **08** 06:44:06.0±1.0,39°.86N×115°.81W,h0km,mb2.7/1, mb1 3.3/4,mb1mx3.1/67,mbtmp2.9/4,ML3.7/2,MS2.7/1, Ms1 2.7/1,ms1mx2.4/7,Error ellipse: s-maj=18.4km s-min=7.3km az=148.0*

*NEIC **08** 06:44:06.3±0.0,39°.92N×115°.66W,h14km,ML3.2(REN), After REN.*

NEIC Felt at Eureka.

ISC 08 06:44:05.2±0.9,39°.86N±0°.02×115°.66W±0°.02,h3km±8km, n94,σ2s18/91,Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BMN	**Battle Mountai**	**1.33**	**296**	*e*Pg		**Pn**	**06 44 30.5**	**-0.4**
BMN				*e*Sn		**Sn**	**06 44 48.3**	**-0.8**
R11A	**Troy Canyon, C**	**1.51**	**178**	*e*Pn		**Pn**	**06 44 33.2**	**0.0**
R11A				*e*Sn		**Sn**	**06 44 52.0**	**-1.4**
FSU	**Fish Springs**	**1.75**	**94**	*e*Pn		**Pb**	**06 44 39.3**	**+1.3**
DUG	**Dugway, Tooele**	**2.21**	**80**	*e*Pn		**Pb**	**06 44 45.3**	**-0.6**
DUG				*e*Sn		**Sg**	**06 45 17.5**	**+1.3**
BGU	**Big Grassy Mou**	**2.27**	**61**	*e*Pn		**Pb**	**06 44 46.0**	**-1.0**
BGU				*e*Sn		**Sg**	**06 45 16.8**	**-1.4**
IMU	**Iron Mountain**	**2.29**	**121**	*e*Pn		**Pb**	**06 44 48.9**	**+1.6**
NV11	**Mina Array Sit**	**2.41**	**235**	*e*Pn		**Pn**	**06 44 45.4**	**-0.2**
NV01	**Mina Array Sit**	**2.50**	**236**	*e*Pn		**Pn**	**06 44 45.3**	**-1.7**
NVAR	**Mina Array Bea**	**2.50**	**236**		Pn	**Pn**	**06 44 46.5**	**-0.5**
	baz=50,slow=12,SNR=51							
NVAR					Lg	Lg	06 45 19.7	
	baz=61,slow=29,SNR=11							
RYN	**Ryan**	**2.54**	**242**	*e*Pn		**Pn**	**06 44 47.0**	**-0.5**
RYN				*e*Sn		**Sn**	**06 45 19.6**	**+0.6**
FLU	**Fool Peak**	**2.73**	**99**	*e*Pn		**Pb**	**06 44 56.0**	**+1.1**
NLU	**North Lily Min**	**2.76**	**87**	*e*Pn		**Pb**	**06 44 56.7**	**+1.5**
TCRU	**Three Creeks R**	**2.79**	**116**	*e*Pn		**Pb**	**06 44 56.2**	**+0.5**
PAHR	**Pah Rah Range**	**2.88**	**268**	*e*Pn		**Pn**	**06 44 52.8**	**+0.8**
WCU	**Willow Creek**	**2.90**	**107**	*e*Pn		**Pb**	**06 44 59.0**	**+1.2**
YERR	**Yerington**	**2.91**	**254**	*e*Pn		**Pn**	**06 44 52.4**	**-0.2**
HVU	**Hansel Valley**	**2.91**	**48**	*e*Pn		**Pn**	**06 44 54.7**	**+2.2**
CCUT	**Cedar City**	**2.92**	**141**	*e*Pn		**Pb**	**06 44 57.8**	**-0.2**
MSU	**Marysvale**	**3.02**	**115**	*e*Pn		**Pb**	**06 45 00.2**	**+0.5**
SZCU	**Shurtz Canyon**	**3.02**	**138**	*e*Pn		**Pb**	**06 44 59.4**	**-0.4**
MPU	**Maple Canyon**	**3.10**	**86**	*e*Pn		**Pg**	**06 45 04.9**	**+0.3**
VCNR	**Virginia City**	**3.14**	**261**	*e*Pn		**Pn**	**06 44 56.0**	**+0.3**
SGU	**Sterling**	**3.17**	**101**	*e*Pn		**Pb**	**06 45 04.6**	**+2.2**
WAKR	**Walker**	**3.23**	**247**	*e*Pn		**Pn**	**06 44 56.5**	**-0.5**
MTPU	**Mount Pierson**	**3.26**	**123**	*e*Pn		**Pb**	**06 45 02.3**	**-1.6**
JLU	**Jordanelle**	**3.31**	**76**	*e*Pg		**Pg**	**06 45 09.9**	**+1.3**
SHPR	**Sheep Range**	**3.37**	**173**	*e*Pn		**Pn**	**06 44 59.4**	**+0.5**
LCMT	**Little Creek M**	**3.41**	**146**	*e*Pg		**Pg**	**06 45 10.4**	**-0.3**
LCMT				*e*Sg		**Sg**	**06 45 56.0**	**+1.1**
WVOR	**Wild Horse Val**	**3.42**	**320**	*e*Pn		**Pb**	**06 45 04.6**	**-1.9**
TCUT	**Toone Canyon**	**3.48**	**67**	*e*Pn		**Pb**	**06 45 05.2**	**-2.3**
MDPB	**Devils Postpil**	**3.48**	**231**	*e*Pn		**Pn**	**06 45 01.2**	**+0.8**
TMUT	**Trail Mountain**	**3.48**	**98**	*e*Pn		**Pb**	**06 45 05.5**	**-2.2**
PKCU	**Pink Cliffs**	**3.56**	**132**	*e*Pg		**Pg**	**06 45 14.0**	**+0.5**
PKCU				*e*Sg		**Sg**	**06 46 01.6**	**+2.1**
DBD	**Des Bee Dove**	**3.57**	**97**	*e*Sn		**Sb**	**06 45 50.6**	**-2.3**
KNB	**Kanab**	**3.60**	**141**	*e*Pn		**Pb**	**06 45 10.2**	**+0.6**
BEKR	**Beckworth**	**3.62**	**272**	*e*Pn		**Pn**	**06 45 03.4**	**+1.0**
BEI	**Bear River Ran**	**3.70**	**51**	*e*Pn		**Pn**	**06 45 06.3**	**+2.9**
P17A	**Butcher Ranch,**	**3.81**	**94**	*e*Pn		**Pb**	**06 45 10.2**	**-3.0**
HLID	**Hailey**	**3.82**	**14**	*e*Pn		**Pn**	**06 45 07.7**	**+2.6**
DAC	**Darwin (Calif)**	**3.89**	**204**	*e*Pg		**Pb**	**06 45 17.7**	**+3.2**
SRU	**San Rafael Swe**	**4.04**	**99**	*e*Pn		Pn	06 45 13.1	+5.0
MOD	**Modoc Plateau**	**4.07**	**302**	*e*Pn		**Pn**	**06 45 07.2**	**-1.3**
J08A	**Circle Bar Ran**	**4.09**	**330**	*e*Pn		**Pn**	**06 45 11.0**	**+2.3**
CMB	**Columbia Colle**	**4.11**	**245**	*e*Pn		**Pn**	**06 45 09.0**	**0.0**
CMB				*e*Sg		**Sb**	**06 46 10.3**	**+2.0**
P18A	**Preston Nutter**	**4.18**	**91**	*e*Pn		Pn	06 45 15.1	+5.0
RCWM	**Renegade Canyo**	**4.21**	**203**	*e*Pg		**Pg**	**06 45 25.5**	**-0.3**
AFDM	**Forest Hills D**	**4.22**	**259**	*e*Pn		**Pn**	**06 45 11.0**	**+0.6**
U15A	**North Rim**	**4.33**	**141**	*e*Pn		**Pn**	**06 45 16.3**	**+4.1**
AHID	**Auburn Hatcher**	**4.50**	**48**	*e*Pn		**Pn**	**06 45 17.9**	**+3.5**
ORV	**Oroville**	**4.52**	**268**	*e*Sg		**Sg**	**06 46 25.7**	**-4.6**
GSC	**Goldstone, Bar**	**4.64**	**192**	*e*Pg		**Pg**	**06 45 33.6**	**-0.5**
ISA	**Isabella, Lake**	**4.74**	**209**	*e*Pg		**Pb**	**06 45 32.7**	**+3.7**
ISA				*e*Sg		**Sg**	**06 46 35.6**	**-2.0**
LDFC	**Landfair**	**4.79**	**175**	*e*Pg		**Pg**	**06 45 35.8**	**-1.2**
W13A	**Hualapai Mount**	**4.95**	**163**	*e*Pg		Pb	06 45 38.0	+5.4
REDW	**Red Top Meadow**	**5.02**	**44**	*e*Pg		**Pb**	**06 45 33.4**	**-0.4**
TPAW	**Teton Pass**	**5.06**	**43**	*e*Pn		Pb	06 45 28.9	-5.6
FXWY	**Fox Creek**	**5.12**	**41**	*e*Pn		Pn	06 45 28.0	+5.0
BMO	**Blue Mountains**	**5.14**	**347**	*e*Pg		**Pg**	**06 45 41.2**	**-2.6**
BMO				*e*Sg		**Sg**	**06 46 53.8**	**+3.5**
SNOW	**Snow King Moun**	**5.14**	**44**	*e*Pg		**Pb**	**06 45 38.5**	**+2.6**
PV09	**Paradox Valley**	**5.25**	**103**	*e*Pn		**Pb**	**06 45 34.7**	**-3.1**
MOOW	**Moose Ponds**	**5.35**	**42**	*e*Pn		Pb	06 45 33.4	-6.0
PV10	**Paradox Valley**	**5.35**	**104**	*e*Pn		Pn	06 45 31.1	+4.9
IMW	**Indian Meadow**	**5.36**	**40**	*e*Pn		Pn	06 45 31.3	+5.0
PV05	**Paradox Valley**	**5.41**	**107**	*e*Pg		**Pg**	**06 45 49.1**	**+0.2**
BW06	**Boulder Array**	**5.43**	**56**	*e*Pn		**Pn**	**06 45 31.0**	**+3.7**
PD31	**Pinedale Array**	**5.43**	**56**	*e*Pn		Pn	06 45 32.2	+4.9
PDAR	**Pinedale Array**	**5.43**	**56**		Pn	Pn	06 45 32.0	+4.8
	0.6nm,0.3s,baz=219,slow=14,SNR=17							
PDAR					Lg	Lg	06 46 59.7	
	0.6nm,0.3s,baz=234,slow=27,SNR=6.2							
PDAR	**Pinedale Array**	**5.43**	**56**	*e*Pn		Pn	06 45 31.9	+4.6
PV04	**Paradox Valley**	**5.45**	**103**	*e*Pg		**Pb**	**06 45 45.5**	**+4.4**
PV04				*e*Sg		**Sg**	**06 46 57.1**	**-3.1**
WUAZ	**Wupatki**	**5.50**	**141**	*e*Pg		**Pg**	**06 45 49.2**	**-1.5**
PINE	**Pine Mountain**	**5.57**	**317**	*e*Pn		**Pn**	**06 45 33.4**	**+4.3**
CARC	**Carrizo Plain**	**5.63**	**218**	*e*Pn		**Pn**	**06 45 27.6**	**-2.2**
CARC				*e*Pg		Pb	06 45 49.2	+5.1
CARC				*e*Sn		**Sn**	**06 46 40.4**	**+5.4**
YBH	**Yreka Blue Hor**	**5.67**	**292**		Pn	**Pn**	**06 45 32.1**	**+1.6**
	0.1nm,0.3s,baz=131,slow=13,SNR=3.0							
YBH					Lg	Lg	06 47 01.0	
	0.2nm,0.3s,baz=203,slow=22,SNR=6.7							
O20A	**White River Ci**	**5.70**	**85**	*e*Sg		**Sg**	**06 47 12.2**	**+3.8**
PV01	**Paradox Valley**	**5.78**	**105**	*e*Pn		Pn	06 45 36.6	+4.6
YHB	**Horse Butte**	**5.90**	**33**	*e*Pg		**Pb**	**06 45 49.4**	**+0.6**
YMR	**Madison River**	**5.94**	**34**	*e*Pg		**Pb**	**06 45 52.9**	**+3.4**
G08A	**Pilot Rock**	**5.95**	**337**	*e*Pg		**Pb**	**06 45 53.1**	**+3.5**
DECC	**Green Verdugo**	**5.99**	**202**	*e*Sn		**Sn**	**06 46 43.9**	**+0.1**
CACC	**Caltech Cellar**	**6.04**	**200**	*e*Pg		**Pg**	**06 46 04.0**	**+3.0**
MVCO	**Mesa Verde**	**6.20**	**113**	*e*Pn		Pn	06 45 46.5	+8.7
STCC	**Santa Clara**	**6.22**	**208**	*e*Pg		**Pb**	**06 45 56.8**	**+2.6**
PFO	**Pinyon Flats O**	**6.27**	**186**	LR		LR	06 47 35.8	
	comp=Z,65nm,18.4s,baz=302,slow=34							
BREC	**Barre Substati**	**6.32**	**198**	*e*Pn		Pn	06 45 45.8	+6.6
BREC				*e*Sn		**Sb**	**06 47 10.4**	**-1.3**
BREC				*e*Sg		Sg	06 47 18.9	-9.2
X16A	**Lo Mia Camp, P**	**6.39**	**147**	*e*Pg		**Pg**	**06 46 06.8**	**-0.8**
BORC	**Borrego Spring**	**6.60**	**186**	*e*Pg		**Pg**	**06 46 11.2**	**-0.5**
W18A	**Petrified Fore**	**6.67**	**133**	*e*Pg		**Pg**	**06 46 12.6**	**-0.4**
SMCO	**Snowmass**	**6.75**	**93**	*e*Pg		**Pg**	**06 46 12.4**	**-2.1**
VGB	**Gordon Butte**	**6.80**	**328**	*e*Sn		**Sn**	**06 46 58.3**	**-5.4**
X18A	**Snowflake**	**7.00**	**138**	*e*Sg		**Sg**	**06 47 47.9**	**-2.1**
WESC	**Westside Schoo**	**7.08**	**181**	*e*Pn		**Pn**	**06 45 48.9**	**-0.8**
SDCO	**Great Sand Dun**	**8.21**	**102**	*e*Pn		Pn	06 46 12.4	+7.0
MHTCO	**State Highway**	**9.02**	**104**	*e*Pn		**Pn**	**06 46 17.3**	**+0.9**
YKA	**Yellowknife Ar**	**22.68**	**1**	P		**P**	**06 49 08.9**	**+1.5**
	0.2nm,0.7s,baz=182,slow=9.9,SNR=4.5							

IDC 08 06:49:02.4±1.7,2°.07N×127°.25E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/66,mbtmp3.7/5,Error ellipse: s-maj=165.7km s-min=19.3km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.95**	**163**	P		P	06 54 09.2	+0.6
	0.7nm,0.3s,baz=340,slow=10,SNR=24							
ASAR	**Alice Springs**	**26.39**	**166**	P		P	06 54 41.0	+0.3
	0.5nm,0.5s,baz=355,slow=8.3,SNR=11							
STKA	**Stephens Creek**	**36.40**	**159**	P		P	06 56 07.6	-1.1
	1.4nm,0.4s,baz=338,slow=7.4,SNR=7.5							
MKAR	**Makanchi Array**	**59.21**	**326**	P		P	06 59 06.1	+0.6
	0.2nm,0.4s,baz=119,slow=8.0,SNR=6.6							
KURBB	**Kurchatov Arra**	**63.41**	**328**	P		P	06 59 33.3	-0.5
	0.5nm,0.5s,baz=134,slow=5.3,SNR=4.9							

*BEO **08** 07:00:17.8±1.7,33°.32N×22°.86E,h115km,3km*

*IDC **08** 07:00:26.6±0.5,34°.84N×23°.86E,h0km,mb4.1/23, mb1 4.1/28,mb1mx4.0/64,mbtmp4.1/28,ML4.0/5,MS3.8/5, Ms1 3.8/5,ms1mx3.2/61,Error ellipse: s-maj=13.7km s-min=10.0km az=135.0*

*MOS **08** 07:00:28.3±1.7,34°.59N×23°.92E,h26km,mb4.5/22,Error ellipse: s-maj=7.6km s-min=3.9km az=79.0*

*ISCJB **08** 07:00:29.4±0.3,34°.60N±0°.02×24°.10E±0°.02,h33km±3km, mb4.3/44,MS3.7/2,Error ellipse: s-maj=3.7km s-min=2.5km az=39.6*

*HLW **08** 07:00:30.2,34°.85N×24°.27E,h32km±20km,Md3.9,Ml3.5*

*CSEM **08** 07:00:30.8±0.1,34°.62N×24°.03E,h30km,mb4.4/19,Mw4.3, Error ellipse: s-maj=4.4km s-min=2.8km az=38.0*

*NEIC **08** 07:00:31.4±0.0,34°.79N×23°.94E,h30km,mb4.5/23, MW4.3,ML4.0(THE),ML4.2(ATH),Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁵Nm; Mrr~3.25; Mθθ2.52; Mϕϕ0.73; Mrθ-1.32; Mθϕ-0.98; Mrϕ-0.68; Best double couple: M₀3.50000×10¹⁵ NP1:ϕ₁97.00000°, δ56.00000°,λ-108.00000°. NP2:ϕ₂308.00000°, δ38.00000°,λ-65.00000°. Principal axes: T 3.1000, Plg9.0000°, Azm200.0000°; N 0.6100, Plg15.0000°, Azm108.0000°; P -3.7100, Plg72.0000°, Azm320.0000°; After ATH.*

*ATH **08** 07:00:31.5,34°.79N×23°.94E,h30km,ML4.2/9 Error ellipse: s-maj=2.2km s-min=0.9km az=19.0*

*THE **08** 07:00:33.3,34°.83N×23°.97E,h14km,ML4.0/15,Error ellipse: s-maj=1.8km s-min=0.9km az=29.0*

*GII **08** 07:00:34.2±0.0,34°.37N×24°.72E,h1km,mb4.5/1,MD4.4/1*

*DDA **08** 07:01:17.0,34°.86N×25°.17E,h108km,Ml4.3*

ISC 08 07:00:30.9±0.6,34°.72N±0°.03×23°.93E±0°.02,h32km±3km, n478,σ2s27/546,mb4.3/44,22C-18D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.18**	**47**	P		**Pb**	**07 00 36.8**	**-0.3**
GVD				S		**Sb**	**07 00 41.3**	**0.0**
GVD				AML		AML	07 00 41.7	
GVD				AML		AML	07 00 42.0	
GVD	**Gavdhos**	**0.18**	**47**	*e*Pg		**Pb**	**07 00 36.8**	**-0.3**
GVD				*e*Sg		**Sb**	**07 00 39.5**	**-1.8**
GVD	**Gavdhos**	**0.18**	**47**	P		**Pb**	**07 00 37.0**	**-0.1**
GVD				S		**Sb**	**07 00 41.3**	**0.0**
GVD	**Gavdhos**	**0.18**	**47**	P		**Pb**	**07 00 36.8**	**-0.3**
GVD				S		**Sb**	**07 00 39.5**	**-1.8**
VAM	**Vamos**	**0.72**	**18**	P		**Pn**	**07 00 44.4**	**-0.5**
VAM				S		**Sn**	**07 00 55.1**	**+0.2**
VAM				AML		AML	07 00 59.1	
	comp=E,33706μm,1.2s							
VAM				AML		AML	07 01 01.6	
	comp=N,36916μm,0.6s							
VAM	**Vamos**	**0.72**	**18**	P		**Pn**	**07 00 44.4**	**-0.5**
VAM				S		**Sn**	**07 00 55.1**	**+0.2**
VAM	**Vamos**	**0.72**	**18**	P		**Pn**	**07 00 44.6**	**-0.3**
VAM				S		**Sn**	**07 00 54.7**	**-0.2**
VAM	**Vamos**	**0.72**	**18**	P		**Pn**	**07 00 44.4**	**-0.5**
VAM				S		**Sn**	**07 00 55.1**	**+0.2**
IMMV	**Iera Moni Meta**	**0.74**	**3**	P		**Pb**	**07 00 44.6**	**-0.7**
IMMV				S		**Sn**	**07 00 55.9**	**+0.5**
IMMV				AML		AML	07 01 01.0	
	comp=N,46967μm,0.4s							
IMMV				AML		AML	07 01 02.2	
	comp=E,61298μm,0.9s							
IMMV	**Iera Moni Meta**	**0.74**	**3**	P		**Pn**	**07 00 44.8**	**-0.4**
IMMV				S		**Sn**	**07 00 55.4**	**0.0**
IMMV	**Iera Moni Meta**	**0.74**	**3**	P		**Pb**	**07 00 44.7**	**-0.7**
IMMV				S		**Sn**	**07 00 55.0**	**-0.4**
SIVA	**Sivas**	**0.78**	**67**	P		**Pn**	**07 00 46.6**	**+0.9**
SIVA				S		**Sn**	**07 00 57.5**	**+1.1**
SIVA				AML		AML	07 01 01.6	
	comp=E,82010μm,0.8s							
SIVA				AML		AML	07 01 06.9	
SIVA	**Sivas**	**0.78**	**67**	P		**Pn**	**07 00 46.2**	**+0.5**
SIVA	**Sivas**	**0.78**	**67**	P		**Pn**	**07 00 46.2**	**+0.5**
SIVA				S		**Sn**	**07 00 57.4**	**+1.1**
SIVA	**Sivas**	**0.78**	**67**	P		**Pn**	**07 00 46.2**	**+0.5**
SIVA				S		**Sn**	**07 00 57.7**	**+1.3**
IDI	**Anoyia**	**0.97**	**54**	Pn		**Pb**	**07 00 48.6**	**-0.6**
	comp=E,272nm,0.3s,baz=243,slow=14,SNR=186							
IDI					Sn	**Sb**	**07 01 03.0**	**+1.1**
	comp=E,362nm,0.3s,baz=311,slow=20,SNR=21							
IDI					LR	LR	07 01 05.4	
	comp=E,184nm,19.0s,baz=298,slow=40							
IDI	**Anoyia**	**0.97**	**54**	*i* P		**Pb**	**07 00 48.6**	**-0.6**
IDI	**Anoyia**	**0.97**	**54**	S		**Sb**	**07 01 06.7**	**+4.9**
IDI	**Anoyia**	**0.97**	**54**	P		**Pb**	**07 00 48.6**	**-0.6**
IDI				S		**Sb**	**07 01 02.9**	**+1.1**
IDI				AML		AML	07 01 06.3	
	comp=E,13786μm,0.6s							
IDI				AML		AML	07 01 12.9	
	comp=N,12965μm,0.5s							
IDI	**Anoyia**	**0.97**	**54**	*e*Pn		**Pb**	**07 00 48.6**	**-0.6**
IDI				*e*Sn		**Sn**	**07 00 58.8**	**-2.4**
IDI	**Anoyia**	**0.97**	**54**	*e*Pn		**Pb**	**07 00 48.6**	**-0.6**
IDI				*e*Sn		**Sn**	**07 00 58.8**	**-2.4**
IDI				S		**Sb**	**07 01 02.4**	**+0.6**
IDI	**Anoyia**	**0.97**	**54**	P		**Pb**	**07 00 48.7**	**-0.6**
IDI				S		**Sb**	**07 01 02.4**	**+0.6**
IACM	**Heraklion**	**1.11**	**58**	P		**Pb**	**07 00 52.6**	**+1.2**
IACM				S		**Sb**	**07 01 06.2**	**+0.8**
IACM				AML		AML	07 01 19.0	
	comp=E,66967μm,0.8s							
IACM				AML		AML	07 01 25.7	
	comp=N,78066μm,0.7s							
IACM	**Heraklion**	**1.11**	**58**	P		**Pb**	**07 00 52.1**	**+0.7**
IACM				S		**Sb**	**07 01 06.3**	**+0.8**
IACM	**Heraklion**	**1.11**	**58**	P		**Pb**	**07 00 52.3**	**+0.9**
IACM				S		**Sb**	**07 01 06.4**	**+0.9**
ANKY	**Antikythira Is**	**1.26**	**336**	P		**Pb**	**07 00 55.6**	**+1.6**
ANKY	**Antikythira Is**	**1.26**	**336**	*e*Pn		**Pb**	**07 00 54.5**	**+0.5**
ANKY				*e*Sn		**Sb**	**07 01 10.8**	**+0.9**
ANKY	**Antikythira Is**	**1.26**	**336**	P		**Pb**	**07 00 54.5**	**+0.5**
ANKY				S		**Sb**	**07 01 10.8**	**+0.9**
ANKY	**Antikythira Is**	**1.26**	**336**	P		**Pb**	**07 00 54.5**	**+0.5**
ANKY				S		**Sb**	**07 01 10.8**	**+0.9**
LAST	**Lasithi**	**1.35**	**70**	P		**Pb**	**07 00 56.2**	**+0.6**
LAST				S		**Sb**	**07 01 13.7**	**+1.2**
LAST				AML		AML	07 01 20.4	
	comp=E,6945μm,0.6s							
LAST				AML		AML	07 01 26.1	
	comp=N,7027μm,0.6s							
LAST	**Lasithi**	**1.35**	**70**	P		**Pb**	**07 00 55.4**	**-0.2**
LAST	**Lasithi**	**1.35**	**70**	P		**Pb**	**07 00 55.4**	**-0.2**
LAST	**Lasithi**	**1.35**	**70**	P		**Pb**	**07 00 55.4**	**-0.2**
LAST				S		**Sb**	**07 01 13.9**	**+1.4**
NPS	**Neapolis**	**1.49**	**68**	P		**Pb**	**07 00 59.3**	**+1.4**
NPS	**Neapolis**	**1.49**	**68**	P		**Pb**	**07 00 58.2**	**+0.3**
NPS	**Neapolis**	**1.49**	**68**	P		**Pb**	**07 00 58.2**	**+0.3**
NPS	**Neapolis**	**1.49**	**68**	P		**Pb**	**07 00 58.4**	**+0.5**
NPS	**Neapolis**	**1.49**	**68**	P		**Pb**	**07 00 58.2**	**+0.3**
NPS				S		**Sb**	**07 01 16.3**	**-0.1**
KYTH	**Kithira**	**1.71**	**335**	P		**Pb**	**07 01 02.0**	**+0.4**
KYTH	**Kithira**	**1.71**	**335**	*e*Pn		**Pb**	**07 01 01.1**	**-0.5**
KYTH				*e*Sn		**Sb**	**07 01 20.4**	**-2.3**
KYTH	**Kithira**	**1.71**	**335**	P		**Pb**	**07 01 01.1**	**-0.5**
KYTH				S		**Sb**	**07 01 20.4**	**-2.3**
ZKR	**Zakros**	**1.92**	**77**	P		**Pb**	**07 01 04.6**	**-0.6**
ZKR	**Zakros**	**1.92**	**77**	*e*Pn		**Pb**	**07 01 04.1**	**-1.1**
ZKR				*e*Sn		**Sb**	**07 01 28.3**	**-0.5**
ZKR	**Zakros**	**1.92**	**77**	P		**Pb**	**07 01 04.2**	**-1.0**
ZKR	**Zakros**	**1.92**	**77**	P		**Pb**	**07 01 04.1**	**-1.1**
ZKR				S		**Sb**	**07 01 28.3**	**-0.5**
MHLO	**Agia Marina, M**	**2.01**	**11**	P		**Pb**	**07 01 05.7**	**-1.0**
MHLO	**Agia Marina, M**	**2.01**	**11**	P		**Pb**	**07 01 05.0**	**-1.7**
THR6	**Thira Island,**	**2.03**	**36**	*e*Pn		**Pb**	**07 01 04.7**	**-2.3**
THR6	**Thira Island,**	**2.03**	**36**	P		**Pb**	**07 01 04.7**	**-2.3**
THR6	**Thira Island,**	**2.03**	**36**	P		**Pb**	**07 01 04.7**	**-2.3**
THR5	**Thira Island,**	**2.05**	**34**	P		**Pn**	**07 01 04.7**	**+1.5**
THR5	**Thira Island,**	**2.05**	**34**	P		**Pn**	**07 01 04.7**	**+1.5**
MHLA	**Plaka, Milos I**	**2.06**	**11**	P		**Pb**	**07 01 06.4**	**-1.3**
MHLA	**Plaka, Milos I**	**2.06**	**11**	P		**Pb**	**07 01 05.8**	**-1.9**
SANT	**Santorini**	**2.07**	**37**	*i* P		**Pb**	**07 01 05.8**	**-2.0**
SANT	**Santorini**	**2.07**	**37**	P		**Pb**	**07 01 06.2**	**-1.6**
SANT	**Santorini**	**2.07**	**37**	*e*Pn		**Pn**	**07 01 04.3**	**+0.9**
SANT				*e*Sn		**Sn**	**07 01 27.5**	**-0.7**
SANT	**Santorini**	**2.07**	**37**	*e*Pn		**Pn**	**07 01 04.3**	**+0.9**
SANT	**Santorini**	**2.07**	**37**	P		**Pb**	**07 01 05.8**	**-2.0**
SANT				*e*Sn		**Sn**	**07 01 27.5**	**-0.7**
THR3	**Thira Island,**	**2.07**	**35**	*e*Pn		**Pn**	**07 01 04.9**	**+1.5**
THR3	**Thira Island,**	**2.07**	**35**	P		**Pn**	**07 01 04.9**	**+1.5**
THR3	**Thira Island,**	**2.07**	**35**	P		**Pn**	**07 01 04.9**	**+1.5**
THR8	**Santorini-Mono**	**2.11**	**36**	P		**Pn**	**07 01 05.3**	**+1.4**
THR8	**Santorini-Mono**	**2.11**	**36**	P		**Pn**	**07 01 05.3**	**+1.4**
CMBO	**Columbo, Santo**	**2.12**	**34**	P		**Pn**	**07 01 04.2**	**0.0**
CMBO	**Columbo, Santo**	**2.12**	**34**	P		**Pn**	**07 01 05.2**	**+1.0**
VLI	**Veliai**	**2.15**	**338**	P		**Pb**	**07 01 08.3**	**-0.9**
VLI	**Veliai**	**2.15**	**338**	*e*Pn		**Pb**	**07 01 06.8**	**-2.4**
VLI				*e*Sn		**Sb**	**07 01 33.3**	**-2.2**
VLI	**Veliai**	**2.15**	**338**	P		**Pb**	**07 01 06.8**	**-2.4**
VLI				S		**Sb**	**07 01 33.3**	**-2.2**
VLI	**Veliai**	**2.15**	**338**	P		**Pb**	**07 01 06.8**	**-2.4**
VLI				S		**Sb**	**07 01 33.3**	**-2.2**
DYR	**Agios Nikonas**	**2.42**	**328**	P		**Pb**	**07 01 11.4**	**-2.3**
DYR	**Agios Nikonas**	**2.42**	**328**	P		**Pb**	**07 01 10.9**	**-2.8**
APE	**Apeiranthos**	**2.68**	**29**	*i* P		**Pn**	**07 01 12.4**	**+0.5**
APE	**Apeiranthos**	**2.68**	**29**	P		**Pn**	**07 01 10.8**	**-1.1**
APE	**Apeiranthos**	**2.68**	**29**	*c* P		**Pn**	**07 01 12.3**	**+0.4**
APE	**Apeiranthos**	**2.68**	**29**	P		**Pn**	**07 01 12.4**	**+0.5**
KRND	**KRANIDI**	**2.74**	**347**	P		**Pn**	**07 01 14.2**	**+1.7**
KRND	**KRANIDI**	**2.74**	**347**	P		**Pn**	**07 01 14.5**	**+2.0**
KRND	**KRANIDI**	**2.74**	**347**	P		**Pn**	**07 01 14.6**	**+2.0**
KRND				S		**Sn**	**07 01 46.7**	**+2.2**
KARP	**Karpathos**	**2.78**	**72**	P		**Pn**	**07 01 15.3**	**+2.2**
KARP	**Karpathos**	**2.78**	**72**	*e*Pn		**Pn**	**07 01 15.4**	**+2.2**
KARP	**Karpathos**	**2.78**	**72**	*e*Pn		**Pn**	**07 01 15.4**	**+2.2**
KARP	**Karpathos**	**2.78**	**72**	P		**Pn**	**07 01 15.3**	**+2.2**
KARP				S		**Sb**	**07 01 49.1**	**-4.3**
PYL	**PYLOS**	**2.81**	**321**	P		**Pn**	**07 01 15.1**	**+1.6**
PYL				S		**Sn**	**07 01 47.1**	**+0.8**
PYL				AML		AML	07 02 20.4	
	comp=E,872μm,0.7s							
PYL				AML		AML	07 02 25.4	
	comp=N,1029μm,0.9s							
PYL	**PYLOS**	**2.81**	**321**	P		**Pn**	**07 01 15.6**	**+2.0**
PYL				S		**Sn**	**07 01 47.8**	**+1.4**
DID	**Didima**	**2.84**	**349**	P		**Pn**	**07 01 14.8**	**+0.7**
DID	**Didima**	**2.84**	**349**	P		**Pn**	**07 01 15.5**	**+1.5**
VLX	**Vlachokerasia**	**2.93**	**335**	P		**Pb**	**07 01 19.5**	**-3.0**
VLX	**Vlachokerasia**	**2.93**	**335**	P		**Pn**	**07 01 18.5**	**+3.1**
ITM	**Ithomi**	**2.95**	**327**	P		**Pn**	**07 01 17.2**	**+1.7**
ITM	**Ithomi**	**2.95**	**327**	P		**Pn**	**07 01 17

VTS **Vitosha** 7.88 356 *e*P Pn 07 02 25.0 +1.6
VTS *e*S Sn 07 03 52.6 +1.0
VAE Valguarnera 8.18 292 Pn Pn 07 02 31.4 +4.0
comp=Z,2.6nm,0.3s,baz=72,slow=18,SNR=2.4
VAE Sn Sn 07 03 55.6 -3.2
comp=Z,7.2nm,0.3s,baz=135,slow=16,SNR=3.5
KOT Kottamia 8.21 123 P Pn 07 02 25.6 -2.2
baz=125
KOT Kottamia 8.21 123 P Pn 07 02 25.6 -2.2
HSAF As Saff 8.22 126 P Pn 07 02 26.0 -1.9
baz=126
HSAF As Saff 8.22 126 P Pn 07 02 26.0 -1.9
MATE Matera 8.24 318 ⇓ *i*P Pn 07 02 28.7 +0.6
MATE Matera 8.24 318 S Sn 07 03 52.2 -7.8
MATE Matera 8.24 318 ⇓ *i*P Pn 07 02 28.7 +0.6
CUC Castrocucco 8.33 312 *e*Pn Pn 07 02 31.7 +2.2
CUC Castrocucco 8.33 312 *e*Pn Pn 07 02 31.7 +2.2
GLL Jalalah 8.35 126 P Pn 07 02 28.1 -1.6
baz=127
GLL Jalalah 8.35 126 P Pn 07 02 28.1 -1.6
HHAG Hagoal 8.38 122 P Pn 07 02 28.0 -2.2
baz=124
HHAG Hagoal 8.38 122 P Pn 07 02 28.0 -2.2
HFRF Wahat Farafira 8.43 152 P Pn 07 02 30.6 -0.2
baz=154
HFRF Wahat Farafira 8.43 152 P Pn 07 02 30.6 -0.2
PDG Podgorica 8.53 336 ⇑ *i*P Pn 07 02 32.0 -0.1
PDG Podgorica 8.53 336 S Sn 07 04 01.7 -5.4
PDG Podgorica 8.53 336 ⇑ *i*P Pn 07 02 32.0 -0.1
TTG Podgorica 8.53 336 *e*Pn Pn 07 02 31.3 -0.7
TTG Podgorica 8.53 336 *e*P Pn 07 02 31.3 -0.7
ZAPS Zavoj 8.61 354 *e*Pn Pn 07 02 36.4 +3.2
BR231 Keskin MP Arra 8.71 51 *e*Pn Pn 07 02 34.8 +0.1
BR231 Keskin MP Arra 8.71 51 *e*Pn Pn 07 02 34.8 +0.1
NBNS Bani Suef 8.73 132 P Pn 07 02 33.9 -1.1
baz=134
NBNS Bani Suef 8.73 132 P Pn 07 02 33.9 -1.1
ANTO Ankara 8.73 51 *e*Pn Pn 07 02 35.6 +0.6
ANTO Ankara 8.73 51 *e*P Pn 07 02 35.6 +0.6
ANTO Ankara 8.73 51 *e*P Pn 07 02 35.6 +0.6
RSH 9.05 112 P Pn 07 02 37.1 -2.2
baz=113
RSH 9.05 112 P Pn 07 02 37.1 -2.2
SJES Sjenica 9.07 341 *e*Pn Pn 07 02 39.9 +0.3
ZAGS Zajecar 9.18 352 *e*Pn Pn 07 02 41.8 +0.8
ZAGS Zajecar 9.18 352 *e*Pn Pn 07 02 41.8 +0.8
BR131 Keskin Array S 9.21 54 *e*Pn Pn 07 02 42.5 +0.8
BR131 Keskin Array S 9.21 54 *e*Pn Pn 07 02 42.5 +0.8
BRTR Keskin Array B 9.21 54 Pn Pn 07 02 43.0 +1.3
comp=Z,0.2nm,0.3s,baz=228,slow=14,SNR=16
BRTR Sn Sn 07 04 23.7 -0.7
comp=Z,0.1nm,0.3s,baz=217,slow=24,SNR=2.6
BRTR LR LR 07 07 00.0
comp=Z,363nm,20.4s,baz=278,slow=43
TAMRE El Minia 9.21 138 P Pn 07 02 40.8 -0.8
baz=139
BR101 Keskin Array S 9.22 54 *e*Pn Pn 07 02 43.0 +1.3
BR101 *e*Sn Sn 07 04 23.7 -0.6
BR101 Keskin Array S 9.22 54 *e*Pn Pn 07 02 43.0 +1.3
BR101 *e*Sn Sn 07 04 23.7 -0.6
IVAS Ivanjica 9.32 343 *e*Pn Pn 07 02 40.9 -2.1
OFRI 'Ofer 9.45 100 Pn Pn 07 02 41.0 -3.8
OFRI Sn Sn 07 04 22.8 -7.1
STON Ston 9.48 331 *e*Pn Pn 07 02 41.9 -3.2
STON Sn Sn 07 04 19.1 -11
GRUS Gruza 9.49 346 *e*Pn Pn 07 02 44.5 -0.8
KZIT Kziot 9.59 110 Pn Pn 07 02 43.2 -3.5
KZIT Kziot 9.59 110 Pn Pn 07 02 43.2 -3.5
KZIT Sn Sn 07 04 24.9 -8.5
SLTI Sal'it 9.60 102 Pn Pn 07 02 43.9 -3.0
SLTI Sal'it 9.60 102 Pn Pn 07 02 43.9 -3.0
SLTI Sn Sn 07 04 25.9 -7.8
MMA0B Mount Meron ar 9.69 97 Pn Pn 07 02 45.8 -2.4
MMA0B Mount Meron ar 9.69 97 Pn Pn 07 02 45.8 -2.4
MMAI Mount Meron Ar 9.69 97 Pn Pn 07 02 47.1 -1.0
comp=Z,5.1nm,0.3s,baz=297,slow=13,SNR=5.8
MMAI Sn Sn 07 04 29.1 -6.9
comp=Z,8.4nm,0.3s,baz=263,slow=23,SNR=6.4
AMAZ Amatzia 9.74 106 Pn Pn 07 02 46.6 -2.2
AMAZ Amatzia 9.74 106 Pn Pn 07 02 46.6 -2.2
AMAZ Sn Sn 07 04 29.2 -8.0
HNKL Nakhl 9.75 117 P Pn 07 02 47.2 -1.7
baz=118
HNKL Nakhl 9.75 117 P Pn 07 02 47.2 -1.7
BBLS Lazići 9.79 340 *e*Pn Pn 07 02 46.8 -2.6
DIVS Divibare 9.85 343 *e*Pn Pn 07 02 48.2 -2.1
DIVS Divibare 9.85 343 *e*Pn Pn 07 02 48.6 -1.7
MMLI Mount Malkishu 9.85 100 Pn Pn 07 02 47.8 -2.5
MMLI Mount Malkishu 9.85 100 Pn Pn 07 02 47.8 -2.5
MMLI Sn Sn 07 04 31.7 -8.2
KSDI Kefar Szold 9.86 96 Pn Pn 07 02 48.1 -2.3
KSDI Kefar Szold 9.86 96 Pn Pn 07 02 48.1 -2.3
KSDI Sn Sn 07 04 34.3 -5.7
YTIR Yattir 9.97 106 Pn Pn 07 02 49.1 -2.9
YTIR Yattir 9.97 106 Pn Pn 07 02 49.1 -2.9
HMDT Nahal Hemdat 9.99 101 Sn Sn 07 04 34.9 -8.3
DSI Dead Sea 10.10 105 Pn Pn 07 02 51.1 -2.6
DSI Dead Sea 10.10 105 Pn Pn 07 02 51.1 -2.6
DSI Sn Sn 07 04 38.1 -7.8
MZDA Masada 10.18 106 Pn Pn 07 02 51.7 -3.1
MZDA Masada 10.18 106 Pn Pn 07 02 51.7 -3.1
MZDA Sn Sn 07 04 40.1 -7.7
KRMI Paran Flat 10.21 114 Sn Sn 07 04 40.1 -8.5
PRNI Paran 10.31 112 Pn Pn 07 02 54.1 -2.5
PRNI Paran 10.31 112 Pn Pn 07 02 54.1 -2.5
PRNI Sn Sn 07 04 42.4 -8.7
TIRR Tirgusor 10.32 18 ⇓ *i*P Pn 07 03 03.7 +7.0
TIRR Tirgusor 10.32 18 *e*Pn Pn 07 02 56.4 -0.3
TIRR Tirgusor 10.32 18 *e*P Pn 07 02 56.4 -0.3
TIRR Tirgusor 10.32 18 *e*P Pn 07 02 56.4 -0.3
ZFRI Zfri 10.35 111 Pn Pn 07 02 54.4 -2.7
ZFRI Zfri 10.35 111 Pn Pn 07 02 54.4 -2.7
ZFRI Sn Sn 07 04 42.9 -9.1
HRFI Mount Harif 10.48 113 Pn Pn 07 02 55.4 -3.6
HRFI Mount Harif 10.48 113 Pn Pn 07 02 55.4 -3.6
HRFI Sn Sn 07 04 48.0 -7.4
MBRI Mt Berech 10.51 115 Pn Pn 07 02 55.8 -3.6
MBRI Mt Berech 10.51 115 Pn Pn 07 02 55.8 -3.6
MBRI Sn Sn 07 04 48.3 -7.8
EIL Elat 10.60 115 Pn Pn 07 03 03.1 +2.5
comp=Z,1.7nm,0.3s,baz=212,slow=4.6,SNR=20
EIL Sn Sn 07 04 54.9 -3.4
comp=Z,4.7nm,0.3s,baz=135,slow=4.6,SNR=8.1
EIL Elat 10.60 115 Pn Pn 07 02 57.8 -2.8
EIL *e*Sn Sn 07 04 54.9 -3.4
EIL Elat 10.60 115 Pn Pn 07 02 57.8 -2.8
EIL Sn Sn 07 04 50.6 -7.7
MLR Muntele Rosu 10.87 8 Pn Pn 07 03 06.5 +2.2
comp=Z,0.1nm,0.3s,baz=196,slow=16,SNR=2.7
MLR Muntele Rosu 10.87 8 ⇓ *i*P Pn 07 03 09.9 +5.6
MLR Muntele Rosu 10.87 8 *e*Pn Pn 07 03 06.9 +2.6
MLR Muntele Rosu 10.87 8 ⇓ P Pn 07 03 09.9 +5.6
MLR Muntele Rosu 10.87 8 *e*Pn Pn 07 03 06.9 +2.6
CFR Carcaliu 10.94 16 ⇓ *i*P Pn 07 03 13.6 +8.6
CFR Carcaliu 10.94 16 ⇓ P Pn 07 03 13.6 +8.6
BZS Buzias 11.03 351 ⇑ *i*P Pn 07 03 10.6 +4.2
BZS Buzias 11.03 351 ⇑ P Pn 07 03 10.6 +4.2
ASF Jabal al Asfar 11.13 100 Pn Pn 07 03 05.7 -2.2
comp=Z,0.3nm,0.3s,baz=301,slow=5.9,SNR=3.0
ASF Sn Sn 07 05 07.1 -4.1
comp=Z,1.3nm,0.3s,baz=75,slow=20,SNR=5.1
PLOR Plostina 11.31 10 ⇓ *i*P Pn 07 03 15.2 +4.9
PLOR Plostina 11.31 10 ⇓ P Pn 07 03 15.2 +4.9
VRI Vrincioaia 11.34 10 ⇓ *i*P Pn 07 03 19.7 +9.1
VRI Vrincioaia 11.34 10 ⇓ P Pn 07 03 19.7 +9.1
TESR Tescani 11.96 9 ⇓ *i*P Pn 07 03 24.2 +5.1
DRGR 12.10 356 ⇑ *i*P P 07 03 28.3 -5.1
DRGR 12.10 356 ⇑ P P 07 03 28.3 -5.1
BOJS Bojanci 12.65 331 *i* Pn Pn 07 03 28.7 +0.2
BOJS *i* Sn Sn 07 05 40.8 -7.3
BOJS Bojanci 12.65 331 Pn Pn 07 03 28.7 +0.2
BURAR Bucovina Array 12.92 4 ⇓ *i*P P 07 03 39.8 -2.8
BURAR Bucovina Array 12.92 4 ⇓ P P 07 03 39.8 -2.8
JAVS Javornik 13.45 329 *i* Pn Pn 07 03 38.0 -1.5
PERS Pernice 13.64 333 *i* Pn Pn 07 03 40.4 -1.8
SOKA Soboth 13.71 333 Pn Pn 07 03 44.9 +1.8
comp=Z,4.1nm,0.9s
SOKA Soboth 13.71 333 Pn Pn 07 03 44.9 +1.8
comp=Z,4.1nm,0.9s
OBKA Obir 13.75 332 *e*Pn P 07 03 53.0 +1.2
comp=Z,2.3nm,0.5s
SORM Soroca 13.81 12 ⇑ *i*P P 07 03 51.5 -0.8
SORM Soroca 13.81 12 P P 07 03 51.5 -0.8
UZH Uzhgorod 13.96 355 *e*P Pn 07 03 49.8 +3.5
ARSA Arzberg 14.03 336 *e*Pn P 07 03 53.6 -1.2
comp=Z,2.3nm,0.5s
MYKA Terra Mystica 14.22 330 *e*pP P 07 04 02.6 +5.7
comp=Z,1.9nm,0.4s
CONA Conrad Observa 14.51 338 Pn P 07 04 00.6 +0.4
comp=Z,2.5nm,0.7s
KBA Koelnbreinsper 14.70 330 P P 07 04 04.9 +2.5
comp=Z,7.2nm,0.6s
KBA Koelnbreinsper 14.70 330 *e*P P 07 04 04.9 +2.5
comp=Z,7.2nm,0.6s
ABTA Abfaltersbach 14.79 328 P P 07 04 04.8 +1.5
comp=Z,13nm,0.9s
ABTA Abfaltersbach 14.79 328 P P 07 04 04.8 +1.5
comp=Z,13nm,0.9s
MOA Molln 14.98 334 P P 07 04 07.7 +2.3
comp=Z,5.6nm,0.6s
MOA Molln 14.98 334 *e*P P 07 04 07.7 +2.3
comp=Z,5.6nm,0.6s
VRAC Vranov 15.55 342 Pn P 07 04 11.9 +0.2
comp=Z,0.4nm,0.3s,baz=163,slow=13,SNR=3.0
VRAC LR LR 07 10 45.5
comp=Z,366nm,20.8s,baz=303,slow=40
VRAC Vranov 15.55 342 ⇑ *i*P P 07 04 13.5 +1.8
WTTA Wattenberg 15.57 327 Pn P 07 04 18.5 +6.4
comp=Z,12nm,1.1s
WATA Walderalm 15.65 327 Pn P 07 04 12.0 -1.0
comp=Z,15nm,1.0s
WATA Walderalm 15.65 327 Pn P 07 04 12.0 -1.0
comp=Z,15nm,1.0s
OKC Ostrava-Krasne 15.70 346 *e*P P 07 04 22.4 +9.1
OKC Ostrava-Krasne 15.70 346 *e*P P 07 04 22.4 +9.1
MORC Moravsky Berou 15.77 345 ⇓ *i*P P 07 04 18.1 +4.0
MORC Moravsky Berou 15.77 345 ⇓ P P 07 04 18.1 +4.0
MORC Moravsky Berou 15.77 345 P P 07 04 18.1 +4.0
FETA Feichten 15.81 325 *e*Pn P 07 04 18.2 +3.5
comp=Z,11nm,1.1s
MOTA Moosalm 15.87 326 *e*Pn P 07 04 18.3 +2.8
comp=Z,4.0nm,0.6s
GEA0 GERESS Array S 16.02 335 *e*Pn Pn 07 04 13.8 +0.1
GEA0 GERESS Array S 16.02 335 *e*Pn Pn 07 04 13.8 +0.1
GEC2 GERESS Array S 16.02 335 *e*Pn Pn 07 04 13.6 -0.3
comp=Z,7.1nm,0.8s
GEC2 GERESS Array S 16.02 335 *e*P Pn 07 04 13.6 -0.3
GEC2 pmax pmax
comp=Z,7.0nm,0.8s
GEC2 GERESS Array S 16.02 335 *e*Pn Pn 07 04 13.6 -0.3
comp=Z,7.1nm,0.8s
GERES GERESS Array B 16.02 335 Pn P 07 04 16.7 -0.3
comp=Z,0.3nm,0.3s,baz=150,slow=14,SNR=13
TUE Stuetta 16.11 321 *e*Pn Pn 07 04 14.9 -0.2
comp=Z,9.7nm,0.9s
TUE Stuetta 16.11 321 *e*Pn Pn 07 04 14.9 -0.2
comp=Z,9.6nm,0.9s
RETA Reutte 16.13 326 *e*Pn P 07 04 21.9 +3.7
comp=Z,2.7nm,0.4s
KHC Kasperske Hory 16.31 335 *e*P P 07 04 21.5 +1.4
KHC *e*pP pP 07 04 28.0 -0.5
KHC Kasperske Hory 16.31 335 *e*Pn P 07 04 21.5 +1.4
comp=Z,5.8nm,1.1s
KHC Kasperske Hory 16.31 335 *e*P P 07 04 21.5 +1.4
KHC pmax pmax
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 16.31 335 *e*P P 07 04 21.5 +1.4
comp=Z,6.0nm,1.1s
DAVA Damuels 16.40 324 P P 07 04 23.6 +2.3
comp=Z,5.4nm,0.6s
DAVA Damuels 16.40 324 P P 07 04 23.6 +2.3
comp=Z,5.4nm,0.6s
AK11 Malin Array Si 16.40 12 *e*Pn Pn 07 04 15.8 -2.7
KIEV Kiev 16.43 12 *e*Pn Pn 07 04 19.3 +0.5
comp=Z,6.3nm,0.7s
KIEV Kiev 16.43 12 *i* P P 07 04 19.9 -1.4
KIEV Kiev 16.43 12 *e*Pn Pn 07 04 19.3 +0.5
comp=Z,6.3nm,0.7s
KIEV Kiev 16.43 12 *i* P P 07 04 19.9 -1.4
AKASG Malin Array Be 16.44 12 Pn Pn 07 04 16.9 -2.1
comp=Z,2.0nm,0.3s,baz=212,slow=10,SNR=15
AKASG Malin Array Be 16.44 12 *i* P Pn 07 04 19.8 +0.8
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 16.44 12 *e*Pn Pn 07 04 16.3 -2.7
comp=Z,6.6nm,0.8s
AKBB Malin Array Si 16.44 12 *e*P Pn 07 04 16.3 -2.7
AKBB pmax pmax
comp=Z,7.0nm,0.8s
WET Wettzell 16.57 334 P P 07 04 26.4 +3.4
WET pmax pmax
comp=Z,12nm,1.0s
WET Wettzell 16.57 334 P P 07 04 26.4 +3.4
comp=Z,12nm,1.0s
DPC Dobruska-Polom 16.59 343 *e*P P 07 04 27.8 +4.6
DPC Dobruska-Polom 16.59 343 *e*P P 07 04 27.8 +4.6
GOPC GO Pecny, Ondr 16.60 339 *e*P P 07 04 26.5 +3.1
GOPC GO Pecny, Ondr 16.60 339 *e*P P 07 04 26.5 +3.1
GOPC GO Pecny, Ondr 16.60 339 *e*P P 07 04 26.5 +3.1
NEY Neytrino 16.89 54 *i* P P 07 04 27.6 +0.9
NEY Neytrino 16.89 54 *i* P P 07 04 27.6 +0.9
KIV Kislovodsk 17.16 52 *e*P P 07 04 30.9 +1.2
comp=Z,14nm,0.7s
KIV Kislovodsk 17.16 52 *e*P P 07 04 29.9 +0.2
KIV pmax pmax
comp=Z,16nm,1.1s
KIV Kislovodsk 17.16 52 *e*P P 07 04 29.9 +0.2
comp=Z,16nm,1.1s
KVAR Kislovodsk Arr 17.17 52 P P 07 04 31.0 +1.2
baz=192,slow=20,SNR=4.3
KBZ Khabaz 17.20 53 P P 07 04 29.4 -0.6
comp=Z,0.3nm,0.3s,baz=227,slow=9.3,SNR=13
GNI Garni 17.38 66 LR LR 07 12 35.6
comp=Z,420nm,19.6s,baz=314,slow=42
GNI Garni 17.38 66 *e*P P 07 04 33.4 +1.1
comp=Z,75nm,1.9s
GNI Garni 17.38 66 *i* P Pn 07 04 30.1 -1.0
GNI Garni 17.38 66 *e*P P 07 04 33.3 +1.1
comp=Z,75nm,1.9s
NCK Nalchik 17.57 54 *i* P P 07 04 35.0 +0.9
NCK Nalchik 17.57 54 *i* P P 07 04 35.0 +0.9
GRFO Grafenberg 17.64 332 *e*Pn P 07 04 36.8 +2.0
comp=Z,52nm,1.5s
GRFO Grafenberg 17.64 332 *e*P P 07 04 36.8 +2.0
GRFO pmax pmax
comp=Z,52nm,1.5s
GRFO Grafenberg 17.64 332 *e*P P 07 04 36.8 +2.0
comp=Z,52nm,1.5s
BRG Berggiesshubel 17.70 339 *e*P P 07 04 42.6 +7.1
BRG pmax pmax
comp=Z,2.0nm,0.8s
GOF Gofitskoye 17.90 49 ⇑ *e*P P 07 04 46.3 +8.6
GOF pmax pmax
comp=Z,36nm,1.3s
CLL Collm 18.37 338 *e*P Pn 07 04 45.0 +2.0
CLL *e*pP pP 07 04 50.0 -1.2
CLL Collm 18.37 338 *e*P Pn 07 04 45.0 +2.0
CLL Collm 18.37 338 *e*P Pn 07 04 45.0 +2.0
SUW Suwalki 19.30 359 *e*P Pn 07 04 56.3 +2.1
comp=Z,31nm,0.8s
SUW Suwalki 19.30 359 *e*P Pn 07 04 56.3 +2.1
SUW pmax pmax
comp=Z,31nm,0.8s
KLNR Kaliningrad 20.06 354 *i* P Pn 07 05 02.4 -0.7
NACGN Nacogh 20.28 5 *e* P 07 05 03.0 -0.7
MEM Membach 20.55 326 ⇑ P Pn 07 05 10.3 +1.3
DOU Dourbes 20.88 323 ⇓ P Pn 07 05 12.0 -0.8
OBN Obninsk 22.21 19 ⇓ *e*P P 07 05 24.6 +0.3
OBN *e*'PP pP 07 05 33.4 +0.6
OBN PPP PPP 07 05 56.0
OBN *e* 07 09 23.5
OBN *e*S S 07 09 27.5 +0.6
OBN *e*SS SnSn 07 09 59.1 +4.1
OBN pmax pmax
comp=Z,5.0nm,0.9s
ESDC Sonseca Array 22.72 291 P P 07 05 30.6 +0.5
comp=Z,0.8nm,0.5s,baz=92,slow=10,SNR=6.0
HFS Hagfors 26.29 348 P P 07 06 02.3 -1.0
comp=Z,5.4nm,0.6s,baz=156,slow=11,SNR=20
FIA0 FINESS Array S 26.78 2 *e*P P 07 06 06.2 -1.4
FIA0 FINESS Array S 26.78 2 *e*P P 07 06 06.2 -1.4
FINES FINESS Array B 26.78 2 P P 07 06 06.2 -1.4
comp=Z,4.5nm,0.9s,baz=165,slow=12,SNR=6.1
NC405 NORSAR Array S 27.56 347 *e*P P 07 06 14.9 +0.3
NB2 NORSAR Subarra 27.58 347 P P 07 06 13.7 -1.2
comp=Z,1.3nm,0.6s,baz=156,slow=9.3
NB200 NORSAR Array S 27.58 347 *e*P P 07 06 13.5 -1.4
NOA NORSAR Array B 27.58 347 P P 07 06 13.5 -1.4
comp=Z,1.1nm,0.5s,baz=149,slow=9.6,SNR=7.1
NOA LR LR 07 18 26.1
comp=Z,178nm,20.0s,baz=305,slow=39
NOA NORSAR Array B 27.58 347 P P 07 06 13.5 -1.4
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA MLR MLR
comp=Z,178nm,20.0s
GEYT Alibeck 27.64 73 P P 07 06 21.2 +5.5
comp=Z,0.6nm,0.4s,baz=249,slow=7.3,SNR=2.4
EKA Eskdalemuir Ar 27.83 326 P P 07 06 16.9 -0.2
comp=Z,2.3nm,0.8s,baz=128,slow=8.3,SNR=3.8
EKA Eskdalemuir Ar 27.83 326 P P 07 06 16.9 -0.2
EKA pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 29.29 47 P P 07 06 30.1 -0.1
comp=Z,2.4nm,0.6s,baz=254,slow=3.2,SNR=6.0
TOA1 Torodi Ar. Sit 29.43 229 *e*P P 07 06 32.9 +1.2
TOA0 Torodi Ar. Sit 29.43 229 *e*P P 07 06 32.7 +1.0
comp=Z,4.8nm,0.6s
TORD Torodi Ar. Bea 29.43 229 P P 07 06 32.9 +1.2
comp=Z,4.4nm,0.6s,baz=37,slow=8.8,SNR=33
UOSS Minazif 29.54 100 *e*P P 07 06 33.6 +1.0
comp=Z,10nm,1.1s
AB08 Akbulak array 30.12 50 *e*P P 07 06 37.6 +0.1
AB08 Akbulak array 30.12 50 *e*P P 07 06 37.6 +0.1
AB09 Akbulak array 30.12 50 *e*P P 07 06 38.8 +1.3
AB04 Akbulak array 30.13 50 *e*P P 07 06 37.8 +0.2
AB03 Akbulak array 30.13 50 *e*P P 07 06 38.1 +0.5
AB01 Akbulak array 30.13 50 *e*P P 07 06 38.0 +0.4
AB31 Akbulak array 30.13 50 *e*P P 07 06 37.9 +0.3
AB31 Akbulak array 30.13 50 *e*P P 07 06 37.9 +0.3
ABKAR Akbulak array 30.13 50 *e*P P 07 06 37.7 0.0
comp=Z,16nm,0.6s
AB02 Akbulak array 30.14 50 *e*P P 07 06 37.8 +0.2
AB02 Akbulak array 30.14 50 *e*P P 07 06 37.8 +0.2
AB05 Akbulak array 30.14 50 *e*P P 07 06 38.2 +0.5
AB05 Akbulak array 30.14 50 *e*P P 07 06 38.2 +0.5
AB07 Akbulak array 30.14 50 *e*P P 07 06 37.9 +0.2
AB06 Akbulak array 30.15 50 *e*P P 07 06 38.3 +0.5
ARU Arti 32.01 37 *e*P P 07 06 54.9 +0.8
comp=Z,3.8nm,0.7s
ARU Arti 32.01 37 *e*P P 07 06 54.9 +0.8
ARU pmax pmax
comp=Z,4.0nm,0.7s
KOWA Kowa 32.24 238 P P 07 06 57.2 +0.7
comp=Z,0.8nm,0.4s,baz=76,slow=7.8,SNR=4.5
KOWA LR LR 07 20 34.8
comp=Z,176nm,18.4s,baz=12,slow=38
SVE Sverdlovsk 33.21 37 *e*P P 07 07 07.2 +2.6
ARA0 ARCESS Array S 34.88 1 *e*P P 07 07 17.8 -1.2
ARCES ARCESS Array B 34.88 1 P P 07 07 17.8 -1.2
comp=Z,3.2nm,0.9s,baz=177,slow=7.3,SNR=9.7
KKAR Karatay Array 36.80 63 *e*P P 07 07 36.4 +0.6
KKAR Karatay Array 36.80 63 *e*P P 07 07 36.4 +0.6
KKAR Karatay Array 36.80 63 *e*P P 07 07 36.4 +0.6
BRVK Borovoye 37.33 46 *ce*P P 07 07 41.0 +1.0
BRVK pmax pmax
comp=Z,10.0nm,0.6s
BVAR Borovoye Array 37.38 46 P P 07 07 41.0 +0.4
comp=Z,0.5nm,0.3s,baz=250,slow=7.1,SNR=4.2
BVAR Borovoye Array 37.38 46 P P 07 07 41.0 +0.4
BVAR pmax pmax
comp=Z,1.0nm,0.3s
DBIC Dimbokro 38.50 230 P P 07 07 51.2 +0.9
comp=Z,1.9nm,0.6s,baz=37,slow=12,SNR=2.6
DBIC Dimbokro 38.50 230 *e*P P 07 07 50.5 +0.1
comp=Z,19nm,1.4s
SFK Sufi-Kurgan 39.34 67 P P 07 08 00.1 +2.6
SFK pmax pmax
comp=Z,6.0nm,0.5s
AAK Ala-Archa 39.76 63 *e*P P 07 08 02.5 +1.7
comp=Z,4.7nm,0.8s
AAK Ala-Archa 39.76 63 *i* P P 07 08 02.7 +1.9
AAK pmax pmax
comp=Z,4.0nm,1.0s
NRN Naryn 41.02 65 P P 07 08 13.1 +1.6
NRN pmax pmax
comp=Z,7.0nm,1.0s
NRN Naryn 41.02 65 P P 07 08 13.1 +1.6
comp=Z,7.0nm,1.0s
KSH Kashi 41.30 68 *e*P P 07 08 11.7 -1.9
KSH sP pP 07 08 20.7 -2.2
KSH PcP **PcP** 07 10 11.8 0.0
KSH PcS **PcS** 07 14 00.4 -2.6
KSH S S 07 14 20.4 -5.5
KSH sS pS 07 14 33.6 -2.9
KURBB Kurchatov Arra 42.19 51 P P 07 08 20.4 0.0
comp=Z,4.1nm,0.7s,baz=278,slow=8.9,SNR=29
KURK Kurchatov 42.24 51 *e*P P 07 08 20.7 -0.2
KURK Kurchatov 42.24 51 *ce*P P 07 08 21.7 +0.8
KURK pmax pmax
comp=Z,13nm,0.7s
SPA0 Spitsbergen Ar 43.69 358 *e*P P 07 08 32.0 -0.3
SPITS Spitsbergen Ar 43.69 358 P P 07 08 32.0 -0.3
comp=Z,4.9nm,0.8s,baz=177,slow=14,SNR=4.4
SPITS Spitsbergen Ar 43.69 358 P P 07 08 32.0 -0.3
SPITS pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 44.65 56 *e*P P 07 08 40.5 +0.1
comp=Z,2.3nm,0.8s
MAKZ Makanchi 44.65 56 *e*P P 07 08 40.5 +0.1
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 44.86 56 *e*P P 07 08 42.1 0.0
MK31 Makanchi Array 44.86 56 *e*P P 07 08 42.1 0.0
MK32 Makanchi Array 44.86 56 *e*P P 07 08 42.3 +0.2
MKAR Makanchi Array 44.86 56 P P 07 08 42.3 +0.2
comp=Z,3.9nm,0.5s,baz=280,slow=6.5,SNR=40
MKAR Makanchi Array 44.86 56 *e*P P 07 08 42.1 0.0
comp=Z,39nm,0.6s
MK01 Makanchi Array 44.87 56 *e*P P 07 08 41.8 -0.4
NVS Novosibirsk 45.12 45 *e*P P 07 08 44.1 +0.1
NVS pmax pmax
comp=N,3.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,0.6s
NVS pmax pmax
comp=Z,11nm,0.6s
ZAA0 Zalesovo Array 46.04 46 *e*P P 07 08 50.7 -0.6
comp=Z,8.8nm,0.5s
ZAA1 Zalesovo Array 46.04 46 *e*P P 07 08 50.7 -0.6
ZALV Zalesovo Beam 46.04 46 P P 07 08 50.7 -0.6
comp=Z,3.8nm,0.6s,baz=264,slow=9.4,SNR=13
ZALV Zalesovo Beam 46.04 46 *e*P P 07 08 50.4 -0.9
WMQ Urumqi 49.10 59 P P 07 09 17.8 +2.5
WMQ sP sP 07 09 30.4 +1.8
TSUM Tsumeb 53.96 187 P P 07 09 52.4 +0.6
comp=Z,1.7nm,0.7s,baz=11,slow=10,SNR=3.7
MATP Matopo 55.01 175 P P 07 10 00.7 +1.3
comp=Z,1.0nm,0.8s,baz=142,slow=6.4,SNR=2.4
ZAK Zakamensk 57.79 48 *e*P P 07 10 23.4 +4.3
ZAK pmax pmax
comp=Z,3.0nm,1.1s
GTA Gaotai 59.06 61 *e*P P 07 10 32.9 +4.8
GTA pP sP 07 10 40.5 -1.0
GTA sP pP 07 10 43.6 +5.8
SONA0 Songino Array 60.55 50 *e*P P 07 10 38.5 +0.3
SONM Songino Array 60.55 50 P P 07 10 38.5 +0.3
comp=Z,1.1nm,0.5s,baz=278,slow=7.3,SNR=7.5
SONA1 Songino Array 60.55 50 *e*P P 07 10 38.5 +0.3
ULN Ulaanbaatar 60.95 50 *ce*P P 07 10 41.5 +0.5
ULN pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 61.94 20 *i* P P 07 10 47.8 +0.8
TIXI pmax pmax
comp=Z,10.0nm,2.4s
SCHQ Schefferville 62.87 319 P P 07 10 53.9 +0.4
comp=Z,2.2nm,0.9s,baz=70,slow=6.4,SNR=9.6
SCHQ Schefferville 62.87 319 *e*P P 07 10 54.0 +0.4
comp=Z,27nm,1.8s
BOSA Boshof 63.00 179 P P 07 10 56.1 +1.4
comp=Z,2.7nm,0.9s,baz=336,slow=10.0,SNR=3.1
LZH Lanzhou 63.30 63 *e*P P 07 10 58.2 +1.3
LZH pP pP 07 11 06.9 +0.2
LZH sP sP 07 11 10.5 +0.1
LZH *e*PP PP 07 13 18.3 +2.2
CD2 Chengdu 65.49 68 *e*P P 07 11 11.0 -0.2
HHC Hu-ho-hao-te 66.72 56 *e*P P 07 11 19.5 +0.5
INK Inuvik 75.91 352 P P 07 12 13.4 -0.4
comp=Z,0.7nm,0.6s,baz=350,slow=7.4,SNR=5.2
INK Inuvik 75.91 352 *e*P P 07 12 13.7 -0.2
comp=Z,18nm,1.8s

INK	**Inuvik**	**75.91**	**352**	*e*P		**P**	**07 12 13.7**	**-0.2**
INK				pmax	pmax				
	comp=Z,18nm,1.8s								
NJ2	**Nanjing**	**76.15**	**61**	*e*P		**P**	**07 12 17.2**	**+1.3**
YKA	**Yellowknife Ar**	**77.56**	**342**	P		**P**	**07 12 22.1**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=32,slow=5.2,SNR=6.3								
YKA	**Yellowknife Ar**	**77.56**	**342**	*i* P		**P**	**07 12 23.1**	**-0.1**
YKB5	**Yellowknife Ar**	**77.56**	**342**	*e*P		**P**	**07 12 21.1**	**-2.1**
IM3	**Indian Mountai**	**79.61**	**359**	*e*P		**P**	**07 12 35.6**	**+1.1**
ILAR	**Eielson Array**	**80.58**	**356**	P		**P**	**07 12 39.9**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=346,slow=3.8,SNR=5.3								
ILB	**Eielson Array**	**80.58**	**356**	*e*P		**P**	**07 12 39.9**	**+0.1**
YSS	**Yuzh-Sakhalins**	**81.90**	**37**⇑	*e*P		**P**	**07 12 48.4**	**+1.3**
YSS				pmax	pmax				
	comp=Z,26nm,2.5s								
DHY	**Denali Highway**	**82.29**	**356**	*e*P		**P**	**07 12 49.9**	**+0.8**
	comp=Z,23nm,1.9s								
SUA	**Susitna One**	**84.06**	**357**	*e*P		**P**	**07 12 59.1**	**+0.9**
	comp=Z,32nm,2.0s								
MHTCO	**State Highway**	**94.03**	**321**	*e*P		**P**	**07 13 48.1**	**+1.8**
	comp=Z,7.2nm,0.7s								

IDC 08 07:05:42.8±25.0, 17°93S±172°95W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/43, mbtmp4.1/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/41, Error ellipse: s-maj=476.1km s-min=164.9km az=72.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**22.04**	**201**	LR	LR	07 17 45.9	
	comp=Z,286nm,20.2s,baz=29,slow=33						
CTA	**Charters Tower**	**38.56**	**260**	P	P	07 13 08.2	+0.6
	0.9nm,0.3s,baz=95,slow=9.9,SNR=7.2						
STKA	**Stephens Creek**	**43.20**	**242**	P	P	07 13 45.9	+0.1
	1.9nm,1.1s,baz=74,slow=7.4,SNR=2.8						
WRA	**Warramunga Arr**	**49.73**	**259**	P	P	07 14 36.9	-0.4
	0.9nm,0.4s,baz=97,slow=7.5,SNR=27						
ASAR	**Alice Springs**	**49.78**	**254**	P	P	07 14 37.2	-0.4
	1.0nm,0.4s,baz=89,slow=7.6,SNR=18						

*ISCJB **08** 07:09:03.4±0.2, 40°77S±0°02×174°71E±0°03, h101km±2km, mb4.3/10, Error ellipse: s-maj=4.3km s-min=2.1km az=36.0*

*IDC **08** 07:09:04.7±1.8, 40°56S×174°65E, h78km±17km, mb4.0/7, mb1 4.1/9, mb1mx3.9/40, mbtmp4.3/9, MS3.6/2, Ms1 3.6/2, ms1mx3.0/29, Error ellipse: s-maj=19.8km s-min=13.3km az=152.0*

*WEL **08** 07:09:05.5, 41°S±1°×17°5E±°, h83km±2km*

*NEIC **08** 07:09:05.1±0.2, 40°73S×174°66E, h87km±2km, mb4.6/3, ML4.9(WEL), Error ellipse: s-maj=4.1km s-min=2.5km az=122.0*

NEIC Felt widely in the southern part of the North Island and in the northern part of the South Island.

ISC 08 07:09:05.6±0.6, 40°75S±0°03×174°67E±0°03, h91km±5km, n275, σ1§69/303, mb4.3/10, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.21**	**121**	Pn	**Pn**	**07 09 18.3**	**-0.4**
KIW	**Kapiti Island**	**0.21**	**121**	P	**Pn**	**07 09 18.3**	**-0.4**
KIW	**Kapiti Island**	**0.21**	**121**	S	**Sn**	**07 09 27.0**	**-1.5**
OGWZ	**Otaki Gorge**	**0.39**	**100**	Pn	**Pn**	**07 09 19.4**	**-0.2**
OGWZ	**Otaki Gorge**	**0.39**	**100**	P	**Pn**	**07 09 19.4**	**-0.2**
OGWZ	**Otaki Gorge**	**0.39**	**100**	S	**Sn**	**07 09 29.0**	**-1.0**
CAW	**Cannon Point**	**0.47**	**140**	Pn	**Pn**	**07 09 20.2**	**+0.1**
CAW	**Cannon Point**	**0.47**	**140**	P	**Pn**	**07 09 20.3**	**+0.1**
CAW	**Cannon Point**	**0.47**	**140**	S	**Sn**	**07 09 30.4**	**-0.7**
WEL	**Wellington**	**0.54**	**172**	Pn	**Pn**	**07 09 20.8**	**+0.1**
TCW	**Tory Channel**	**0.55**	**213**	Pn	**Pn**	**07 09 20.9**	**+0.2**
TCW				S	**Sn**	**07 09 31.0**	**-1.1**
TCW	**Tory Channel**	**0.55**	**213**	P	**Pn**	**07 09 20.9**	**+0.2**
TCW	**Tory Channel**	**0.55**	**213**	S	**Sn**	**07 09 31.2**	**-0.8**
SNZO	**South Karori**	**0.56**	**177**	*e*Pn	**Pn**	**07 09 20.9**	**+0.1**
SNZO				*e*Sn	**Sn**	**07 09 31.5**	**-0.7**
DUWZ	**D'Urville Isla**	**0.57**	**265**	Pn	**Pn**	**07 09 20.1**	**-0.8**
DUWZ	**D'Urville Isla**	**0.57**	**265**	P	**Pn**	**07 09 20.2**	**-0.8**
DUWZ	**D'Urville Isla**	**0.57**	**265**	S	**Sn**	**07 09 30.5**	**-1.9**
HOWZ	**Holdsworth Sta**	**0.66**	**103**	Pn	**Pn**	**07 09 21.5**	**-0.3**
HOWZ	**Holdsworth Sta**	**0.66**	**103**	P	**Pn**	**07 09 21.5**	**-0.3**
HOWZ	**Holdsworth Sta**	**0.66**	**103**	S	**Sn**	**07 09 32.5**	**-1.4**
BHW	**Baring Head**	**0.67**	**167**	Pn	**Pn**	**07 09 22.2**	**+0.2**
BHW	**Baring Head**	**0.67**	**167**	P	**Pn**	**07 09 22.2**	**+0.2**
MRZ	**Mangatainoka R**	**0.70**	**83**	Pn	**Pn**	**07 09 21.6**	**-0.6**
MRZ	**Mangatainoka R**	**0.70**	**83**	P	**Pn**	**07 09 21.6**	**-0.6**
MRZ	**Mangatainoka R**	**0.70**	**83**	S	**Sn**	**07 09 32.5**	**-2.0**
OHWZ	**Ohakea**	**0.74**	**42**	P	**Pn**	**07 09 22.2**	**-0.3**
MTW	**Mount Morrison**	**0.75**	**123**	Pn	**Pn**	**07 09 22.8**	**+0.1**
MTW	**Mount Morrison**	**0.75**	**123**	P	**Pn**	**07 09 22.8**	**+0.1**
MSWZ	**Moikau Station**	**0.80**	**147**	Pn	**Pn**	**07 09 23.5**	**+0.3**
MSWZ				S	**Sn**	**07 09 35.7**	**-0.6**
MSWZ	**Moikau Station**	**0.80**	**147**	P	**Pn**	**07 09 23.5**	**+0.3**
PAWZ	**Paruwai Farm**	**0.85**	**138**	Pn	**Pn**	**07 09 24.1**	**+0.3**
PAWZ	**Paruwai Farm**	**0.85**	**138**	P	**Pn**	**07 09 24.1**	**+0.3**
TUWZ	**Tuamarina**	**0.87**	**219**	Pn	**Pn**	**07 09 24.2**	**+0.3**
TUWZ	**Tuamarina**	**0.87**	**219**	P	**Pn**	**07 09 24.2**	**+0.3**
POWZ	**Post Office Ro**	**0.91**	**67**	Pn	**Pn**	**07 09 23.6**	**-0.7**
POWZ	**Post Office Ro**	**0.91**	**67**	P	**Pn**	**07 09 23.6**	**-0.7**
TIWZ	**Tintock**	**0.93**	**92**	Pn	**Pn**	**07 09 24.2**	**-0.3**
TIWZ	**Tintock**	**0.93**	**92**	P	**Pn**	**07 09 24.2**	**-0.3**
PLWZ	**Palliser**	**0.93**	**152**	Pn	**Pn**	**07 09 24.9**	**+0.3**
PLWZ	**Palliser**	**0.93**	**152**	P	**Pn**	**07 09 24.9**	**+0.3**
TMWZ	**Te Maipa**	**0.99**	**111**	Pn	**Pn**	**07 09 25.3**	**+0.1**
TMWZ	**Te Maipa**	**0.99**	**111**	P	**Pn**	**07 09 25.4**	**+0.1**
TRWZ	**Traveller**	**1.01**	**130**	Pn	**Pn**	**07 09 25.6**	**+0.2**
TRWZ	**Traveller**	**1.01**	**130**	P	**Pn**	**07 09 25.6**	**+0.2**
PRWZ	**Pori Road**	**1.01**	**79**	Pn	**Pn**	**07 09 25.1**	**-0.4**
PRWZ	**Pori Road**	**1.01**	**79**	P	**Pn**	**07 09 25.1**	**-0.4**
WAZ	**Wanganui**	**1.02**	**14**	Pn	**Pn**	**07 09 25.2**	**-0.5**
WAZ	**Wanganui**	**1.02**	**14**	P	**Pn**	**07 09 25.2**	**-0.5**
CMWZ	**Cape Campbell**	**1.05**	**199**	Pn	**Pn**	**07 09 27.1**	**+1.1**
CMWZ	**Cape Campbell**	**1.05**	**199**	P	**Pn**	**07 09 27.1**	**+1.1**
NNZ	**Nelson**	**1.08**	**244**	Pn	**Pn**	**07 09 25.9**	**-0.3**
NNZ	**Nelson**	**1.08**	**244**	P	**Pn**	**07 09 25.9**	**-0.3**
NNZ	**Nelson**	**1.08**	**244**	P	**Pn**	**07 09 25.9**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.13**	**212**	Pn	**Pn**	**07 09 27.3**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.13**	**212**	P	**Pn**	**07 09 27.3**	**+0.4**
CPWZ	**Castlepoint**	**1.18**	**98**	Pn	**Pn**	**07 09 27.6**	**+0.3**
CPWZ	**Castlepoint**	**1.18**	**98**	P	**Pn**	**07 09 27.7**	**+0.3**
BFZ	**Birch Farm**	**1.20**	**87**	*e*Pn	**Pn**	**07 09 27.2**	**-0.5**
BFZ				*e*Sn	**Sn**	**07 09 41.8**	**-2.5**
BFZ	**Birch Farm**	**1.20**	**87**	P	**Pn**	**07 09 27.2**	**-0.5**
TSZ	**Takapari Road**	**1.21**	**55**	Pn	**Pn**	**07 09 26.8**	**-1.0**
TSZ	**Takapari Road**	**1.21**	**55**	P	**Pn**	**07 09 26.8**	**-1.0**
TSZ	**Takapari Road**	**1.21**	**55**	P	**Pn**	**07 09 26.8**	**-1.0**
DVHZ	**Dannevirke**	**1.23**	**69**	Pn	**Pn**	**07 09 27.1**	**-1.0**
DVHZ	**Dannevirke**	**1.23**	**69**	P	**Pn**	**07 09 27.1**	**-1.0**
LREZ	**Lake Rotokare**	**1.30**	**351**	P	**Pn**	**07 09 28.7**	**-0.3**
LREZ	**Lake Rotokare**	**1.30**	**351**	P	**Pn**	**07 09 28.7**	**-0.3**
ANWZ	**Angora Road**	**1.41**	**79**	P	**Pn**	**07 09 29.5**	**-0.7**
PREZ	**Palmer Road**	**1.46**	**344**	Pn	**Pn**	**07 09 30.9**	**0.0**
PREZ	**Palmer Road**	**1.46**	**344**	P	**Pn**	**07 09 30.9**	**0.0**
NMEZ	**Namu Road**	**1.47**	**335**	Pn	**Pn**	**07 09 30.5**	**-0.4**
NMEZ	**Namu Road**	**1.47**	**335**	P	**Pn**	**07 09 30.5**	**-0.4**
MTVZ	**Mangateitei**	**1.50**	**25**	P	**Pn**	**07 09 31.0**	**-0.4**
WPHZ	**Waipukurau**	**1.52**	**64**	Pn	**Pn**	**07 09 30.6**	**-1.0**
WPHZ	**Waipukurau**	**1.52**	**64**	P	**Pn**	**07 09 30.7**	**-1.0**
KHEZ	**Kahui Hut**	**1.54**	**341**	Pn	**Pn**	**07 09 31.5**	**-0.5**
NEZ	**North Egmont**	**1.54**	**343**	Pn	**Pn**	**07 09 31.4**	**-0.6**
PKVZ	**Pokaka**	**1.55**	**20**	Pn	**Pn**	**07 09 31.1**	**-1.1**
PKVZ	**Pokaka**	**1.55**	**20**	P	**Pn**	**07 09 31.0**	**-1.1**
PRHZ	**Porangahau**	**1.58**	**73**	Pn	**Pn**	**07 09 31.4**	**-0.9**
PRHZ	**Porangahau**	**1.58**	**73**	P	**Pn**	**07 09 31.5**	**-0.9**
MOVZ	**Moawhango**	**1.58**	**32**	Pn	**Pn**	**07 09 31.2**	**-1.2**
MOVZ	**Moawhango**	**1.58**	**32**	P	**Pn**	**07 09 31.3**	**-1.2**
WNVZ	**Wahianoa**	**1.59**	**27**	Pn	**Pn**	**07 09 32.0**	**-0.7**
NWEZ	**Newall Road**	**1.60**	**337**	Pn	**Pn**	**07 09 32.2**	**-0.5**
DREZ	**Durham Road**	**1.60**	**347**	Pn	**Pn**	**07 09 32.3**	**-0.4**
DREZ	**Durham Road**	**1.60**	**347**	P	**Pn**	**07 09 32.3**	**-0.4**
TRVZ	**Turoa**	**1.60**	**25**	Pn	**Pn**	**07 09 32.3**	**-0.6**
TRVZ	**Turoa**	**1.60**	**25**	P	**Pn**	**07 09 32.3**	**-0.6**
QRZ	**Quartz Range**	**1.62**	**267**	*e*Pn	**Pn**	**07 09 32.2**	**-0.7**
QRZ				S	**Sn**	**07 09 52.7**	**-1.0**
QRZ	**Quartz Range**	**1.62**	**267**	P	**Pn**	**07 09 32.2**	**-0.7**
DRZ	**Dome Shelter**	**1.63**	**25**	Pn	**Pn**	**07 09 32.7**	**-0.6**
DRZ	**Dome Shelter**	**1.63**	**25**	P	**Pn**	**07 09 32.8**	**-0.5**
VRZ	**Vera Road**	**1.63**	**3**	Pn	**Pn**	**07 09 32.5**	**-0.5**
VRZ	**Vera Road**	**1.63**	**3**	P	**Pn**	**07 09 32.5**	**-0.5**
WHVZ	**Whangaehu Hut**	**1.63**	**26**	Pn	**Pn**	**07 09 32.5**	**-0.8**
WHVZ	**Whangaehu Hut**	**1.63**	**26**	P	**Pn**	**07 09 32.6**	**-0.7**
PKE	**Pukeiti**	**1.64**	**341**	Pn	**Pn**	**07 09 32.6**	**-0.7**
PKE	**Pukeiti**	**1.64**	**341**	P	**Pn**	**07 09 32.6**	**-0.7**
FWVZ	**Far West T-bar**	**1.64**	**25**	Pn	**Pn**	**07 09 32.5**	**-0.9**
FWVZ	**Far West T-bar**	**1.64**	**25**	P	**Pn**	**07 09 32.7**	**-0.8**
BHHZ	**Black Hill Sta**	**1.65**	**41**	Pn	**Pn**	**07 09 32.3**	**-1.1**
BHHZ	**Black Hill Sta**	**1.65**	**41**	P	**Pn**	**07 09 32.4**	**-1.1**
TUVZ	**Tukino**	**1.67**	**27**	Pn	**Pn**	**07 09 33.0**	**-0.6**
TUVZ	**Tukino**	**1.67**	**27**	P	**Pn**	**07 09 33.1**	**-0.6**
THZ	**Tophouse**	**1.67**	**232**	*e*Pn	**Pn**	**07 09 33.7**	**+0.1**
THZ				*e*Sn	**Sn**	**07 09 55.9**	**+1.1**
THZ	**Tophouse**	**1.67**	**232**	P	**Pn**	**07 09 33.7**	**+0.1**
COVZ	**Chateau Observ**	**1.69**	**24**	P	**Pn**	**07 09 33.0**	**-0.9**
MHEZ	**Mangahewa**	**1.69**	**351**	Pn	**Pn**	**07 09 33.9**	**0.0**
MHEZ	**Mangahewa**	**1.69**	**351**	P	**Pn**	**07 09 33.9**	**0.0**
KRHZ	**Kereru**	**1.71**	**50**	P	**Pn**	**07 09 32.8**	**-1.3**
NGZ	**Ngauruhoe**	**1.73**	**25**	P	**Pn**	**07 09 34.0**	**-0.5**
OTVZ	**Oturere**	**1.76**	**26**	Pn	**Pn**	**07 09 34.3**	**-0.6**
TWVZ	**Taurewa**	**1.78**	**20**	Pn	**Pn**	**07 09 33.8**	**-1.3**
TWVZ	**Taurewa**	**1.78**	**20**	P	**Pn**	**07 09 33.8**	**-1.3**
WTVZ	**West Tongariro**	**1.78**	**24**	Pn	**Pn**	**07 09 34.1**	**-1.0**
WTVZ	**West Tongariro**	**1.78**	**24**	P	**Pn**	**07 09 34.2**	**-1.0**
KRVZ	**Karewarewa**	**1.82**	**25**	P	**Pn**	**07 09 34.7**	**-0.9**
PXZ	**Pawanui**	**1.82**	**67**	Pn	**Pn**	**07 09 34.2**	**-1.3**
PXZ	**Pawanui**	**1.82**	**67**	P	**Pn**	**07 09 34.2**	**-1.3**
KHZ	**Kahutara**	**1.87**	**207**	*e*Pn	**Pn**	**07 09 36.5**	**+0.5**
KHZ				*e*Sn	**Sn**	**07 09 56.9**	**-2.3**
KHZ	**Kahutara**	**1.87**	**207**	P	**Pn**	**07 09 36.6**	**+0.5**
KWHZ	**Kaweka Forest**	**1.89**	**46**	P	**Pn**	**07 09 35.1**	**-1.4**
KAHZ	**Kahuranaki**	**1.94**	**61**	Pn	**Pn**	**07 09 35.8**	**-1.3**
KAHZ	**Kahuranaki**	**1.94**	**61**	Pn	**Pn**	**07 09 35.8**	**-1.3**
KAHZ	**Kahuranaki**	**1.94**	**61**	P	**Pn**	**07 09 35.8**	**-1.3**
KATZ	**Kakaramea**	**1.94**	**24**	Pn	**Pn**	**07 09 36.3**	**-1.0**
KATZ	**Kakaramea**	**1.94**	**24**	P	**Pn**	**07 09 36.2**	**-1.0**
RITZ	**Rihia Road**	**2.00**	**28**	Pn	**Pn**	**07 09 36.8**	**-1.0**
RITZ	**Rihia Road**	**2.00**	**28**	P	**Pn**	**07 09 36.9**	**-1.0**
MCHZ	**McNeill Hill**	**2.03**	**51**	Pn	**Pn**	**07 09 37.1**	**-1.2**
MCHZ	**McNeill Hill**	**2.03**	**51**	P	**Pn**	**07 09 37.1**	**-1.2**
RATZ	**Rangitukua**	**2.07**	**25**	Pn	**Pn**	**07 09 38.2**	**-0.5**
RATZ	**Rangitukua**	**2.07**	**25**	P	**Pn**	**07 09 38.2**	**-0.5**
BKZ	**Black Stump Fm**	**2.12**	**42**	*e*Pn	**Pn**	**07 09 37.8**	**-1.6**
BKZ				*e*Sn	**Sn**	**07 10 00.5**	**-4.7**
BKZ	**Black Stump Fm**	**2.12**	**42**	P	**Pn**	**07 09 37.8**	**-1.6**
CKHZ	**Cape Kidnapper**	**2.15**	**60**	Pn	**Pn**	**07 09 38.3**	**-1.4**
CKHZ	**Cape Kidnapper**	**2.15**	**60**	P	**Pn**	**07 09 38.5**	**-1.2**
HATZ	**Hinemaiaia**	**2.16**	**31**	Pn	**Pn**	**07 09 38.1**	**-1.8**
HATZ	**Hinemaiaia**	**2.16**	**31**	P	**Pn**	**07 09 38.2**	**-1.8**
WATZ	**Wairara**	**2.20**	**22**	Pn	**Pn**	**07 09 39.6**	**-0.9**
WATZ	**Wairara**	**2.20**	**22**	P	**Pn**	**07 09 39.7**	**-0.9**
HIZ	**Hauiti**	**2.24**	**4**	*e*Pn	**Pn**	**07 09 40.6**	**-0.4**
HIZ				*e*Sn	**Sn**	**07 10 05.0**	**-3.0**
HIZ	**Hauiti**	**2.24**	**4**	P	**Pn**	**07 09 40.6**	**-0.4**
ARHZ	**Aropaoanui**	**2.33**	**51**	Pn	**Pn**	**07 09 40.4**	**-1.7**
ARHZ	**Aropaoanui**	**2.33**	**51**	P	**Pn**	**07 09 40.4**	**-1.7**
NMHZ	**Naumai**	**2.33**	**46**	Pn	**Pn**	**07 09 40.9**	**-1.4**
NMHZ	**Naumai**	**2.33**	**46**	P	**Pn**	**07 09 40.9**	**-1.4**
MRHZ	**Matea Rd**	**2.34**	**36**	P	**Pn**	**07 09 40.4**	**-2.0**
DSZ	**Denniston Nort**	**2.38**	**244**	Pn	**Pn**	**07 09 42.1**	**-0.7**
DSZ	**Denniston Nort**	**2.38**	**244**	P	**Pn**	**07 09 42.1**	**-0.7**
KUTZ	**Kaahu Road**	**2.43**	**22**	P	**Pn**	**07 09 46.7**	**+3.1**
TLZ	**Tolley Road**	**2.51**	**16**	Pn	**Pn**	**07 09 43.2**	**-1.4**
TLZ	**Tolley Road**	**2.51**	**16**	P	**Pn**	**07 09 43.5**	**-1.2**
WPRZ	**Whakapapatarin**	**2.51**	**28**	P	**Pn**	**07 09 43.0**	**-1.6**
MTHZ	**Maungataniwha**	**2.53**	**42**	P	**Pn**	**07 09 43.0**	**-1.9**
ALRZ	**Allen Road**	**2.54**	**31**	Pn	**Pn**	**07 09 43.1**	**-1.9**
ALRZ	**Allen Road**	**2.54**	**31**	P	**Pn**	**07 09 43.1**	**-1.9**
WHHZ	**Waihua**	**2.59**	**51**	P	**Pn**	**07 09 43.8**	**-1.8**
RAHZ	**Arahi**	**2.61**	**46**	Pn	**Pn**	**07 09 43.9**	**-2.1**
RAHZ	**Arahi**	**2.61**	**46**	P	**Pn**	**07 09 43.9**	**-2.1**
PRRZ	**Plateau Road**	**2.62**	**31**	Pn	**Pn**	**07 09 44.1**	**-1.9**
PRRZ	**Plateau Road**	**2.62**	**31**	P	**Pn**	**07 09 44.1**	**-1.9**
GRRZ	**Galatos Road**	**2.65**	**25**	P	**Pn**	**07 09 45.0**	**-1.4**
GRRZ	**Galatos Road**	**2.65**	**25**	P	**Pn**	**07 09 45.0**	**-1.4**
HRRZ	**Handcock Road**	**2.67**	**28**	P	**Pn**	**07 09 45.4**	**-1.4**
LTZ	**Lake Taylor**	**2.71**	**221**	*e*Pn	**Pn**	**07 09 46.8**	**-0.4**
LTZ				*e*Sn	**Sn**	**07 10 18.4**	**-0.8**
LTZ	**Lake Taylor**	**2.71**	**221**	P	**Pn**	**07 09 46.8**	**-0.4**
HSRZ	**Hossack Road**	**2.73**	**27**	P	**Pn**	**07 09 46.1**	**-1.3**
RTZ	**Ruatahuna**	**2.78**	**41**	P	**Pn**	**07 09 45.9**	**-2.4**
MUGZ	**Murupara**	**2.79**	**36**	P	**Pn**	**07 09 45.6**	**-2.7**
RRRZ	**Republican Roa**	**2.80**	**31**	P	**Pn**	**07 09 46.6**	**-1.9**
SNGZ	**Shannon Statio**	**2.85**	**47**	P	**Pn**	**07 09 46.8**	**-2.3**
KNZ	**Kokohu**	**2.89**	**54**	P	**Pn**	**07 09 46.9**	**-2.7**
MHGZ	**Mahia Peninsul**	**2.96**	**58**	P	**Pn**	**07 09 48.3**	**-2.3**
KMRZ	**Kaimai**	**3.07**	**19**	P	**Pn**	**07 09 56.4**	**+4.3**
PRGZ	**Paritu Road**	**3.08**	**55**	P	**Pn**	**07 09 49.5**	**-2.7**
TOZ	**Tahuroa Road**	**3.08**	**12**	P	**Pn**	**07 09 51.1**	**-1.2**
RAGZ	**Rawiri**	**3.10**	**44**	P	**Pn**	**07 09 50.9**	**-1.6**
INZ	**Inchbonnie**	**3.11**	**230**	P	**Pn**	**07 09 51.9**	**-0.7**
URZ	**Urewera**	**3.13**	**38**	P	**Pn**	**07 09 49.7**	**-3.1**
	82nm,0.3s,baz=224,slow=6.0,SNR=178						
URZ				S	**Sn**	**07 10 25.2**	**-4.1**
	164nm,0.3s,baz=238,slow=13,SNR=13						
URZ	**Urewera**	**3.13**	**38**	*e*Pn	**Pn**	**07 09 49.7**	**-3.1**
URZ				*e*Sn	**Sn**	**07 10 25.2**	**-4.1**
URZ				*e*Sn	Sn	07 10 25.5	-3.7
URZ	**Urewera**	**3.13**	**38**	P	**Pn**	**07 09 49.7**	**-3.1**
RIGZ	**Rimuhau**	**3.14**	**50**	P	**Pn**	**07 09 50.5**	**-2.6**
EYCZ	**Eyrewell**	**3.17**	**212**	P	**Pn**	**07 09 50.7**	**-1.1**
CRLZ	**Canterbury Las**	**3.20**	**208**	*e*Pn	**Pn**	**07 09 52.6**	**-1.2**
CRLZ				*e*Sn	**Sn**	**07 10 29.5**	**-1.6**
CRLZ	**Canterbury Las**	**3.20**	**208**	P	**Pn**	**07 09 52.9**	**-1.0**
OXZ	**Oxford**	**3.23**	**216**	*e*Pn	**Pn**	**07 09 52.7**	**-1.5**
OXZ				*e*Sn	**Sn**	**07 10 29.7**	**-2.1**
OXZ	**Oxford**	**3.23**	**216**	P	**Pn**	**07 09 52.7**	**-1.5**
OPRZ	**Ohinepanea**	**3.25**	**27**	P	**Pn**	**07 09 52.3**	**-2.2**
TGRZ	**Tauranga**	**3.26**	**23**	P	**Pn**	**07 09 53.4**	**-1.3**
MWZ	**Matawai**	**3.27**	**43**	P	**Pn**	**07 09 52.1**	**-2.8**
MQZ	**McQueen's Vall**	**3.31**	**206**	*e*Pn	**Pn**	**07 09 53.5**	**-1.8**
MQZ				*e*Sn	**Sn**	**07 10 29.4**	**-4.2**
MQZ	**McQueen's Vall**	**3.31**	**206**	P	**Pn**	**07 09 53.5**	**-1.8**
TKGZ	**Te Karaka**	**3.37**	**48**	P	**Pn**	**07 09 53.3**	**-2.8**
CNGZ	**Carnagh Statio**	**3.55**	**52**	P	**Pn**	**07 09 55.7**	**-2.8**
RUGZ	**Raukumara Rang**	**3.63**	**41**	P	**Pn**	**07 09 56.5**	**-3.2**
TWGZ	**Tauwhareparae**	**3.63**	**46**	P	**Pn**	**07 09 57.1**	**-2.6**
KBAZ	**Karaka Road Bo**	**3.66**	**3**	P	**Pn**	**07 09 58.8**	**-0.2**
MKAZ	**Moumakai**	**3.66**	**6**	P	**Pn**	**07 09 59.1**	**-0.9**
AWAZ	**Awhitu Peninsu**	**3.68**	**360**	P	**Pn**	**07 09 59.8**	**-0.5**
WVZ	**Waitaha Valley**	**3.74**	**230**	P	**Pn**	**07 09 59.7**	**-1.4**
ETAZ	**East Tamaki Re**	**3.80**	**3**	P	**Pn**	**07 10 01.4**	**-0.5**
WTAZ	**Waiatarua**	**3.81**	**359**	P	**Pn**	**07 10 01.8**	**-0.3**
HAZ	**Te Kaha**	**3.85**	**40**	P	**Pn**	**07 09 58.7**	**-3.9**
PUZ	**Puketiti**	**3.86**	**47**	P	**Pn**	**07 09 59.4**	**-3.4**
EPAZ	**Eden Park BICE**	**3.87**	**1**	P	**Pn**	**07 10 02.9**	**0.0**
PKGZ	**Pakihiroa**	**3.90**	**44**	P	**Pn**	**07 10 00.4**	**-2.9**
HBAZ	**Herne Bay Bore**	**3.90**	**1**	P	**Pn**	**07 10 03.1**	**-0.1**
WIAZ	**Waiheke Island**	**3.97**	**5**	P	**Pn**	**07 10 03.4**	**-0.8**
RVAZ	**Riverhead Bore**	**3.98**	**359**	P	**Pn**	**07 10 03.8**	**-0.6**
RPZ	**Rata Peaks**	**4.00**	**221**	P	**Pn**	**07 10 03.5**	**-1.0**
	32nm,0.3s,baz=213,slow=0.8,SNR=140						
RPZ				S	**Sn**	**07 10 46.2**	**-4.1**
	164nm,0.3s,baz=306,slow=23,SNR=22						
RPZ	**Rata Peaks**	**4.00**	**221**	*e*Pn	**Pn**	**07 10 03.5**	**-1.0**
RPZ				*e*Sn	**Sn**	**07 10 48.3**	**-2.0**
RPZ	**Rata Peaks**	**4.00**	**221**	P	**Pn**	**07 10 02.7**	**-1.9**
KUZ	**Kuaotunu**	**4.08**	**12**	P	**Pn**	**07 10 04.3**	**-1.5**
WMGZ	**Waiomatatini S**	**4.13**	**46**	P	**Pn**	**07 10 03.1**	**-3.2**
ABAZ	**Army Bay**	**4.15**	**2**	P	**Pn**	**07 10 06.5**	**-0.1**
MXZ	**Matakaoa Point**	**4.26**	**43**	*e*Pn	**Pn**	**07 10 05.1**	**-3.0**
MXZ				*e*Sn	**Sn**	**07 10 54.5**	**-2.2**
MXZ	**Matakaoa Point**	**4.26**	**43**	P	**Pn**	**07 10 05.1**	**-3.0**
GRZ	**Great Barrier**	**4.54**	**8**	P	**Pn**	**07 10 10.8**	**-1.1**
FOZ	**Fox Glacier**	**4.55**	**231**	*e*Pn	**Pn**	**07 10 10.3**	**-1.8**
FOZ				*e*Sn	**Sn**	**07 11 01.1**	**-2.6**
FOZ	**Fox Glacier**	**4.55**	**231**	P	**Pn**	**07 10 10.1**	**-2.0**
WCZ	**Waipu Caves**	**4.81**	**357**	P	**Pn**	**07 10 14.9**	**-0.7**
LBZ	**Lake Benmore**	**4.91**	**221**	*e*Pn	**Pn**	**07 10 14.7**	**-2.4**
LBZ				*e*Sn	**Sn**	**07 11 09.5**	**-3.1**
LBZ	**Lake Benmore**	**4.91**	**221**	P	**Pn**	**07 10 14.6**	**-2.4**
ODZ	**Otahua Downs**	**5.21**	**213**	*e*Pn	**Pn**	**07 10 19.0**	**-2.0**
ODZ				*e*Sn	**Sn**	**07 11 14.7**	**-5.0**
ODZ	**Otahua Downs**	**5.21**	**213**	P	**Pn**	**07 10 19.0**	**-2.0**
JCZ	**Jackson Bay**	**5.47**	**231**	P	**Pn**	**07 10 22.0**	**-2.7**
OUZ	**Omahuta**	**5.59**	**351**	*e*Pn	**Pn**	**07 10 26.4**	**+0.2**
OUZ				*e*Sn	**Sn**	**07 11 27.4**	**-1.6**
OUZ	**Omahuta**	**5.59**	**351**	P	**Pn**	**07 10 26.0**	**-0.2**
WKZ	**Wanaka**	**5.82**	**224**	*e*Pn	**Pn**	**07 10 25.2**	**-4.1**
WKZ				*e*Sn	**Sn**	**07 11 31.2**	**-3.4**
WKZ	**Wanaka**	**5.82**	**224**	P	**Pn**	**07 10 25.3**	**-4.0**
HHSZ	**Highcliff Hill**	**5.93**	**209**	P	**Pn**	**07 10 29.5**	**-1.3**
EAZ	**Earnscleugh**	**5.96**	**219**	P	**Pn**	**07 10 28.6**	**-2.6**

ISCJB ***08*** *07:16:21.4±0.5,55.88S±0.08×26.6W±0.2,h35km, mb4.5/12,MS3.0/1,Error ellipse: s-maj=15.0km s-min=9.5km az=147.7*

NEIC ***08*** *07:16:27.3±1.3,56.37S×26.82W,h91km±11km,mb4.6/8, Error ellipse: s-maj=12.2km s-min=8.1km az=204.0*

ISC 08 07:16:23.3±0.6,55.9S±0.1×26.5W±0.1,h35km,n41, σ2s23/33,mb4.6/12,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.98**	**282**	*e*Pn	**Pn**	**07 17 52.1**	**+3.0**
VNA1	**Neumayer--Stat**	**16.78**	**159**	P	**Pn**	**07 20 15.5**	**+0.4**
VNA3	**Neumayer Olymp**	**17.00**	**161**	P	**Pn**	**07 20 17.6**	**-0.3**
VNA2	**Neumayer--Watz**	**17.18**	**159**	P	**P**	**07 20 20.8**	**-0.6**
	baz=316,slow=13						
SNAA	**Sanae**	**18.71**	**157**	P	**Pn**	**07 20 41.2**	**+2.2**
SNAA	**Sanae**	**18.71**	**157**	*e*P	**P**	**07 20 35.5**	**-2.9**
	14nm,0.7s						
CPUP	**Villa Florida**	**37.02**	**310**	P	**P**	**07 23 28.4**	**-1.1**
	4.5nm,1.0s,baz=157,slow=9.4,SNR=7.9						
CPUP				LR	LR	07 38 00.6	
	comp=Z,25nm,18.3s,baz=62,slow=35						
CPUP	**Villa Florida**	**37.02**	**310**	*e*P	**P**	**07 23 28.2**	**-1.3**
	6.8nm,1.2s						
CPUP				*e*		07 38 00.6	
BOSA	**Boshof**	**45.54**	**75**	P	**P**	**07 24 39.8**	**+0.3**
	2.8nm,0.9s,baz=222,slow=12,SNR=3.1						
VNDA	**Vanda**	**46.74**	**182**	P	P	07 24 41.8	-6.4
	2.2nm,0.7s,baz=169,slow=5.2,SNR=5.3						
VNDA	**Vanda**	**46.74**	**182**	*e*P	P	07 24 41.4	-6.8
H10S2	**ASCENSION HYDR**	**47.75**	**16**	T	T	08 17 54.8	
	baz=189,slow=74,SNR=55						
H10S3	**ASCENSION HYDR**	**47.75**	**16**	T	T	08 17 53.1	
	baz=189,slow=74,SNR=27						
H10S1	**ASCENSION HYDR**	**47.76**	**16**	T	T	08 17 54.6	
	baz=189,slow=74,SNR=25						
LBTB	**Lobatse**	**48.58**	**73**	P	**P**	**07 25 03.0**	**-0.3**
	3.7nm,0.7s,baz=212,slow=7.5,SNR=7.2						
LBTB	**Lobatse**	**48.58**	**73**	*e*P	**P**	**07 25 03.7**	**+0.5**
	6.6nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.87**	**16**	T	T	08 19 17.4	
	baz=189,slow=75,SNR=12						
H10N3	**ASCENSION HYDR**	**48.87**	**16**	T	T	08 19 16.5	
	baz=189,slow=75,SNR=22						
MNMC	**Minye Minye**	**48.87**	**301**	*e*P	**P**	**07 25 04.8**	**-0.9**
	15nm,0.7s						
H10N2	**ASCENSION HYDR**	**48.88**	**16**	T	T	08 19 20.2	
	baz=189,slow=75,SNR=21						
MATP	**Matopo**	**53.85**	**72**	P	**P**	**07 25 42.9**	**0.0**
	4.2nm,0.8s,baz=220,slow=8.8,SNR=11						
SAML	**Samuel**	**54.99**	**314**	*e*P	**P**	**07 25 49.8**	**-1.1**
	7.2nm,1.1s						
LSZ	**Lusaka**	**57.94**	**68**	*e*P	**P**	**07 26 12.9**	**+0.8**
	6.3nm,0.8s						
OTAV	**Otavalo**	**69.91**	**303**	*e*P	**P**	**07 27 31.2**	**0.0**
	23nm,1.6s						
PRAC	**Prado**	**71.35**	**308**	*e*P	**P**	**07 27 38.1**	**-1.3**
	8.6nm,0.9s						
TOA0	**Torodi Ar. Sit**	**72.73**	**29**	*e*P	**P**	**07 27 48.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**72.73**	**29**	P	**P**	**07 27 48.5**	**+0.9**
	1.5nm,0.8s,baz=198,slow=5.9,SNR=8.9						
TOA1	**Torodi Ar. Sit**	**72.74**	**29**	*e*P	**P**	**07 27 48.5**	**+0.9**
SDV	**Santo Domingo**	**74.19**	**314**	P	**P**	**07 27 55.2**	**-1.2**
	5.8nm,0.8s,baz=162,slow=6.4,SNR=6.4						
GCAZ	**Grand Canyon**	**116.71**	**295**	*e*PKPdf	**PKPdf**	**07 34 59.2**	**-4.2**
PTAM	**Tassajara Cree**	**120.69**	**289**	*e*PKPdf	**PKPdf**	**07 35 08.1**	**-2.7**
YKA	**Yellowknife Ar**	**136.33**	**318**	PKP	**PKPdf**	**07 35 37.0**	**-2.5**
	0.2nm,0.6s,baz=126,slow=2.5,SNR=8.7						
INK	**Inuvik**	**145.94**	**321**	*e*PKPdf	**PKPdf**	**07 35 55.4**	**-1.2**
SONA0	**Songino Array**	**150.32**	**86**	*e*PKPbc	**PKPdf**	**07 36 07.2**	**+2.5**
SONM	**Songino Array**	**150.32**	**86**	PKPbc	**PKPdf**	**07 36 07.2**	**+2.5**
	1.3nm,0.5s,baz=222,slow=3.1,SNR=6.5						
IL1	**Eielson Array**	**150.32**	**312**	*e*PKPbc	**PKPdf**	**07 36 06.3**	**+2.3**
ILAR	**Eielson Array**	**150.32**	**312**	PKPbc	**PKPdf**	**07 36 06.4**	**+2.5**
	1.4nm,0.8s,baz=147,slow=3.3,SNR=21						
ILB	**Eielson Array**	**150.32**	**312**	*e*PKPbc	**PKPdf**	**07 36 06.9**	**+2.9**
RND	**Reindeer**	**150.89**	**309**	*e*PKPbc	**PKPdf**	**07 36 08.8**	**+3.8**
TOLK	**Toolik Lake Re**	**151.83**	**319**	*e*PKPbc	**PKPdf**	**07 36 10.5**	**+4.3**
BPAW	**Bear Paw Mtn.**	**151.95**	**310**	*e*PKPbc	**PKPdf**	**07 36 10.5**	**+4.0**

IDC 08 07:17:46.3±28.0,4.69N×127.14E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.5/63,mbtmp3.9/4,Error ellipse: s-maj=470.8km s-min=96.2km az=152.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.70**	**184**	P	P	07 22 49.9	+0.2
	2.7nm,0.7s,baz=9.8,slow=10.0,SNR=6.2						
WRA	**Warramunga Arr**	**25.48**	**164**	P	P	07 23 16.4	-0.1
	3.0nm,0.6s,baz=344,slow=10,SNR=26						
ASAR	**Alice Springs**	**28.95**	**167**	P	P	07 23 47.3	-0.3
	0.2nm,0.5s,baz=346,slow=7.6,SNR=5.5						
STKA	**Stephens Creek**	**38.88**	**160**	P	P	07 25 13.8	+0.1
	1.6nm,0.7s,baz=344,slow=9.8,SNR=5.7						

MAN 08 07:18:58,12.43N×123.64E,h28km,mb4.3,ML3.1,MS2.8, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.07**	**194**	⇓*i*P	Pb	07 19 04.1	+1.2
MMPH				*i* S	Sb	07 19 05.7	-0.6
RCP	**Roxas**	**1.23**	**226**	⇑*e*P	Pn	07 19 18.8	-0.6
RCP				*e*S	Sb	07 19 36.3	+0.1

DJA 08 07:19:26.0±0.5,7.S±7.×10.6E±.,h27km±5km,M3.6/6, MLv3.6/6,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.11**	**120**	P	Pn	07 19 32.3	+0.3
CNJI	**Cibinong**	**0.75**	**118**	P	Pb	07 19 40.2	-0.3
CGJI	**Cibinong**	**0.83**	**294**	P	Pn	07 19 43.5	+1.5
SBJI	**Serang**	**0.89**	**338**	P	Pn	07 19 41.2	-1.5
LEM	**Lembang**	**1.16**	**84**	P	Pn	07 19 45.8	-0.8
LEM				S	Sb	07 20 02.6	+0.5
CISI	**Cisompet, Garu**	**1.47**	**114**	P	Pn	07 19 50.8	0.0
CISI				S	Sn	07 20 09.1	-0.2
JCJI	**Jatiwangi**	**1.85**	**76**	S	Sn	07 20 18.5	-0.1
CMJI	**Cimerak**	**2.14**	**113**	P	Pn	07 20 01.8	+1.9
KASI	**Kota Agung**	**2.41**	**306**	P	Pb	07 20 09.9	+1.2
MDSI	**Maura Dua**	**3.34**	**317**	P	Pb	07 20 22.1	-2.4

ISCJB ***08*** *07:25:44.8±1.0,49.95N±0.05×78.4E±0.1,h0km,Error ellipse: s-maj=11.6km s-min=7.1km az=162.3*

NNC ***08*** *07:25:44.0±2.4,49.92N×78.32E,h0km,mb3.0,mpv2.7, Error ellipse: s-maj=38.0km s-min=6.7km az=86.0, Suspected Mining explosion.*

IDC ***08*** *07:25:47.0±1.2,50.05N×78.7E,h0km,mb1 2.7/2, mb1mx2.7/66,mbtmp2.7/2,ML2.3/2,Error ellipse: s-maj=12.3km s-min=7.7km az=62.0*

ISC 08 07:25:46.2±1.2,50.02N±0.06×78.5E±0.1,h0km,n9, σ1s04/9,5C-2D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.60**	**360**	Pg	**Pb**	**07 25 58.3**	**-1.4**
	1.5nm,0.3s,baz=166,slow=19,SNR=79						
KURBB				Lg	Lg	07 26 06.9	
	3.2nm,0.3s,baz=169,slow=32,SNR=47						
KURK	**Kurchatov**	**0.70**	**5**	⇑P	**Pg**	**07 25 59.7**	**0.0**
	20nm,0.9s						
KURK				⇑S	**Sb**	**07 26 11.5**	**+0.1**
	42nm,0.7s						
MAKZ	**Makanchi**	**3.95**	**143**	⇓Pg	**Pb**	**07 26 55.2**	**-1.5**
	2.0nm,0.7s						
MAKZ				⇑Lg	Lg	07 27 46.0	
	10nm,0.6s						
MK31	**Makanchi Array**	**4.08**	**141**	⇓Pn	**Pn**	**07 26 50.2**	**+0.2**
	0.2nm,0.5s,baz=20,slow=47,SNR=7.4						
MK31				⇑Pg	**Pb**	**07 26 59.1**	**+0.1**
	1.2nm,0.5s,baz=318,slow=16,SNR=19						
MK31				⇑Lg	Lg	07 27 51.8	
	12nm,0.6s,baz=326,slow=26,SNR=22						
MKAR	**Makanchi Array**	**4.08**	**141**	Pn	**Pn**	**07 26 50.5**	**+0.5**
	0.2nm,0.3s,baz=324,slow=9.9,SNR=9.7						
MKAR				Lg	Lg	07 27 54.1	
	1.2nm,0.3s,baz=326,slow=28,SNR=18						
ZALV	**Zalesovo Beam**	**5.53**	**42**	Pn	**Pn**	**07 27 10.8**	**+1.1**
	0.6nm,0.3s,baz=232,slow=14,SNR=10						
ZALV				Lg	Lg	07 28 35.0	
	0.2nm,0.3s,baz=221,slow=26,SNR=3.3						
I46RU	**ZALESOVO INFRA**	**5.53**	**42**	*i*		07 59 40.0	
	baz=222,slow=332,SNR=1.3						
BVAR	**Borovoye Array**	**5.91**	**304**	Sn	**Sn**	**07 28 24.1**	**+0.8**
	0.2nm,0.3s,baz=112,slow=22,SNR=3.2						
BVAR				Lg	Lg	07 28 56.2	
	0.5nm,0.3s,baz=106,slow=26,SNR=4.8						
AAK	**Ala-Archa**	**7.89**	**202**	Lg	Lg	07 29 58.8	
	0.2nm,0.3s,baz=36,slow=23,SNR=4.4						

IDC ***08*** *07:26:42.9±0.6,34.82N×23.85E,h0km,mb4.0/22, mb1 4.1/27,mb1mx4.0/64,mbtmp4.0/27,ML3.9/5,MS3.9/3, Ms1 3.9/3,ms1mx3.1/56,Error ellipse: s-maj=15.4km s-min=10.8km az=159.0*

MOS ***08*** *07:26:43.9±1.4,34.66N×23.89E,h23km,mb4.2/9,Error ellipse: s-maj=10.6km s-min=6.1km az=76.0*

ISCJB ***08*** *07:26:46.7±0.4,34.64N±0.02×24.05E±0.03,h46km±3km, mb4.1/27,MS4.2/2,Error ellipse: s-maj=4.2km s-min=3.3km az=40.2*

CSEM ***08*** *07:26:46.9±0.2,34.63N×23.93E,h30km,mb4.3/14,Error ellipse: s-maj=5.2km s-min=3.5km az=32.0*

HLW ***08*** *07:26:47.5,34.81N×24.17E,h32km±20km,Md3.4,MI3.5*

NEIC ***08*** *07:26:48.4±0.0,34.82N×23.98E,h29km,mb4.1/11, ML3.8(THE),ML3.9(ATH),After ATH.*

ATH ***08*** *07:26:48.5,34.82N×23.98E,h29km±1km,ML3.9/10,Error ellipse: s-maj=2.9km s-min=1.3km az=23.0*

ISK ***08*** *07:26:48.4,34.88N×24.10E,h29km,ML3.9/9*

NIC ***08*** *07:26:50.4±0.1,34.90N×24.36E,h25km,mb5.0,ML4.5*

THE ***08*** *07:26:50.2,34.85N×23.99E,h16km±1km,ML3.8/8,Error ellipse: s-maj=2.1km s-min=1.2km az=213.0*

GII ***08*** *07:26:55.4±0.0,34.64N×24.79E,h30km,mb4.1/2, MD3.8/4*

DDA ***08*** *07:28:01.9,35.30N×26.07E,h70km,MI4.1*

ISC 08 07:26:46.5±0.8,34.62N±0.04×23.96E±0.03,h29km±5km, n307,σ2s06/371,mb4.2/27,12C-4D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.25**	**25**	PG	**Pb**	**07 26 53.4**	**+0.1**
GVD				SG	**Sb**	**07 26 57.3**	**-0.5**
GVD	**Gavdhos**	**0.25**	**25**	P	**Pb**	**07 26 53.0**	**-0.3**
GVD				S	**Sb**	**07 26 58.1**	**+0.2**
GVD				AML	AML	07 26 58.5	
GVD				AML	AML	07 26 59.2	
GVD	**Gavdhos**	**0.25**	**25**	*e*Pg	**Pb**	**07 26 53.4**	**+0.1**
GVD				S	**Sb**	**07 26 57.7**	**-0.1**
GVD	**Gavdhos**	**0.25**	**25**	P	**Pb**	**07 26 53.2**	**-0.1**
GVD				S	**Sb**	**07 26 56.5**	**-1.3**
SIVA	**Sivas**	**0.81**	**60**	P	**Pn**	**07 27 02.9**	**+0.9**
SIVA				S	**Sn**	**07 27 13.5**	**+0.6**
SIVA				AML	AML	07 27 22.1	
	comp=E,83065μm,0.5s						
SIVA				AML	AML	07 27 23.2	
	comp=N,73784μm,0.6s						
SIVA	**Sivas**	**0.81**	**60**	P	**Pn**	**07 27 02.6**	**+0.7**
SIVA				S	**Sn**	**07 27 13.4**	**+0.5**
SIVA	**Sivas**	**0.81**	**60**	P	**Pn**	**07 27 02.6**	**+0.7**
SIVA				S	**Sn**	**07 27 13.4**	**+0.5**
VAM	**Vamos**	**0.81**	**14**	P	**Pn**	**07 27 00.7**	**-1.4**
VAM				S	**Sn**	**07 27 10.1**	**-3.1**
VAM				AML	AML	07 27 17.8	
	comp=N,27647μm,0.5s						
VAM				AML	AML	07 27 17.8	
	comp=E,24808μm,0.5s						
VAM	**Vamos**	**0.81**	**14**	P	**Pn**	**07 27 00.9**	**-1.2**
VAM				S	**Sn**	**07 27 10.2**	**-2.9**
VAM	**Vamos**	**0.81**	**14**	P	**Pn**	**07 27 00.9**	**-1.2**
VAM				S	**Sn**	**07 27 10.6**	**-2.5**
IMMV	**Iera Moni Meta**	**0.84**	**1**	PG	**Pn**	**07 27 01.6**	**-0.9**
IMMV				SG	**Sn**	**07 27 10.4**	**-3.5**
IMMV	**Iera Moni Meta**	**0.84**	**1**	P	**Pn**	**07 27 00.8**	**-1.6**
IMMV				S	**Sn**	**07 27 12.4**	**-1.5**
IMMV				AML	AML	07 27 18.4	
	comp=E,30503μm,0.7s						
IMMV				AML	AML	07 27 19.5	
	comp=N,35238μm,0.3s						
IMMV	**Iera Moni Meta**	**0.84**	**1**	P	**Pn**	**07 27 01.2**	**-1.3**
IMMV	**Iera Moni Meta**	**0.84**	**1**	*e*Pg	**Pn**	**07 27 01.6**	**-0.9**
IMMV				S	**Sn**	**07 27 11.8**	**-2.1**
IMMV	**Iera Moni Meta**	**0.84**	**1**	P	**Pn**	**07 27 01.1**	**-1.4**
IMMV				S	**Sn**	**07 27 11.8**	**-2.1**
IDI	**Anoyia**	**1.02**	**48**	Pn	**Pn**	**07 27 04.9**	**0.0**
	comp=N,372nm,0.3s,baz=240,slow=16,SNR=254						
IDI				Sn	**Sb**	**07 27 20.9**	**+2.3**
	comp=N,472nm,0.3s,baz=45,slow=11,SNR=22						
IDI				LR	LR	07 27 21.8	
	comp=N,80nm,21.7s,baz=254,slow=40						
IDI	**Anoyia**	**1.02**	**48**	⇑*i*P	**Pn**	**07 27 05.0**	**+0.2**
IDI	**Anoyia**	**1.02**	**48**	P	**Pn**	**07 27 04.6**	**-0.3**
IDI				S	**Sb**	**07 27 20.2**	**+1.5**
IDI				AML	AML	07 27 28.3	
	comp=N,9493μm,0.6s						
IDI				AML	AML	07 27 28.4	
	comp=E,8372μm,0.8s						
IDI	**Anoyia**	**1.02**	**48**	*e*Pn	**Pn**	**07 27 05.1**	**+0.2**
IDI				*e*Sn	**Sn**	**07 27 19.5**	**+1.3**
IDI	**Anoyia**	**1.02**	**48**	P	**Pn**	**07 27 05.2**	**+0.3**
IDI				S	**Sn**	**07 27 19.3**	**+1.1**
IDI	**Anoyia**	**1.02**	**48**	P	**Pn**	**07 27 05.1**	**+0.2**
IDI				S	**Sn**	**07 27 17.7**	**-0.5**
IACM	**Heraklion**	**1.14**	**53**	P	**Pb**	**07 27 09.5**	**+1.8**
IACM				S	**Sb**	**07 27 25.1**	**+2.9**
IACM				AML	AML	07 27 33.3	
	comp=N,42557μm,0.8s						
IACM				AML	AML	07 27 35.4	
	comp=E,47205μm,0.5s						
IACM	**Heraklion**	**1.14**	**53**	P	**Pn**	**07 27 08.1**	**+1.5**
IACM				S	**Sn**	**07 27 22.3**	**+1.1**
IACM	**Heraklion**	**1.14**	**53**	P	**Pn**	**07 27 08.1**	**+1.5**
IACM				S	**Sn**	**07 27 22.3**	**+1.1**
ANKY	**Antikythira Is**	**1.36**	**337**	P	**Pb**	**07 27 12.0**	**+0.6**
ANKY				S	**Sn**	**07 27 26.5**	**-0.2**
ANKY				AML	AML	07 27 46.0	
	comp=E,4366μm,0.6s						
ANKY				AML	AML	07 27 47.7	
	comp=N,4530μm,1.0s						
ANKY	**Antikythira Is**	**1.36**	**337**	P	**Pn**	**07 27 11.1**	**+1.5**
ANKY				S	**Sn**	**07 27 26.4**	**-0.2**
ANKY	**Antikythira Is**	**1.36**	**337**	P	**Pn**	**07 27 11.1**	**+1.5**
ANKY				S	**Sn**	**07 27 26.4**	**-0.2**
LAST	**Lasithi**	**1.36**	**66**	P	**Pb**	**07 27 12.4**	**+0.9**
LAST				S	**Sb**	**07 27 31.1**	**+2.6**
LAST				AML	AML	07 27 43.4	
	comp=N,6045μm,0.6s						
LAST				AML	AML	07 27 47.7	
	comp=E,2983μm,0.6s						
LAST	**Lasithi**	**1.36**	**66**	P	**Pb**	**07 27 12.0**	**+0.5**
LAST				S	**Sb**	**07 27 30.1**	**+1.6**
LAST	**Lasithi**	**1.36**	**66**	P	**Pb**	**07 27 12.0**	**+0.5**
LAST				S	**Sb**	**07 27 30.1**	**+1.6**
NPS	**Neapolis**	**1.50**	**64**	P	**Pb**	**07 27 15.3**	**+1.5**
NPS				S	**Sb**	**07 27 32.9**	**+0.4**
NPS				AML	AML	07 27 50.9	
	comp=E,4624μm,0.6s						
NPS				AML	AML	07 27 56.0	
	comp=N,3585μm,0.9s						
NPS	**Neapolis**	**1.50**	**64**	P	**Pb**	**07 27 14.8**	**+1.0**
NPS				S	**Sb**	**07 27 32.9**	**+0.4**
NPS	**Neapolis**	**1.50**	**64**	P	**Pb**	**07 27 14.8**	**+1.0**
NPS				S	**Sb**	**07 27 32.9**	**+0.4**
KYTH	**Kithira**	**1.81**	**336**	P	**Pn**	**07 27 17.7**	**+1.9**
KYTH	**Kithira**	**1.81**	**336**	P	**Pn**	**07 27 17.1**	**+1.4**
ZKR	**Zakros**	**1.92**	**74**	PN	**Pn**	**07 27 18.7**	**+1.4**
ZKR	**Zakros**	**1.92**	**74**	P	**Pb**	**07 27 20.8**	**-0.1**
ZKR				S	**Sn**	**07 27 43.7**	**+3.2**
ZKR				AML	AML	07 27 59.0	
	comp=E,3289μm,0.7s						
ZKR				AML	AML	07 28 03.9	
	comp=N,1076μm,0.9s						
ZKR	**Zakros**	**1.92**	**74**	*e*Pn	**Pn**	**07 27 18.7**	**+1.4**
ZKR	**Zakros**	**1.92**	**74**	P	**Pn**	**07 27 20.4**	**+3.1**
ZKR				S	**Sb**	**07 27 43.8**	**-0.7**
ZKR	**Zakros**	**1.92**	**74**	P	**Pn**	**07 27 20.4**	**+3.1**
THR9	**Santorini-Faro**	**2.08**	**33**	P	**Pn**	**07 27 22.1**	**+2.7**
THR9	**Santorini-Faro**	**2.08**	**33**	P	**Pn**	**07 27 21.6**	**+2.2**
THR6	**Thira Island,**	**2.10**	**34**	P	**Pn**	**07 27 21.1**	**+1.4**
THR6	**Thira Island,**	**2.10**	**34**	P	**Pn**	**07 27 21.2**	**+1.5**
THR5	**Thira Island,**	**2.12**	**32**	P	**Pn**	**07 27 20.5**	**+0.4**
THR5	**Thira Island,**	**2.12**	**32**	P	**Pn**	**07 27 21.1**	**+1.0**
THT1	**Athinios (Pele**	**2.13**	**34**	P	**Pn**	**07 27 20.8**	**+0.6**
THT1	**Athinios (Pele**	**2.13**	**34**	P	**Pn**	**07 27 21.4**	**+1.2**
SANT	**Santorini**	**2.14**	**34**	⇓*i*P	**Pn**	**07 27 21.1**	**+0.8**
SANT	**Santorini**	**2.14**	**34**	*e*Pn	**Pn**	**07 27 21.1**	**+0.8**
SANT				*e*Sn	**Sn**	**07 27 46.9**	**+1.1**
SANT	**Santorini**	**2.14**	**34**	⇓*i*P	**Pn**	**07 27 21.1**	**+0.8**
SANT				*e*Sn	**Sn**	**07 27 46.9**	**+1.1**
THR3	**Thira Island,**	**2.14**	**33**	P	**Pn**	**07 27 21.0**	**+0.7**
THR3	**Thira Island,**	**2.14**	**33**	P	**Pn**	**07 27 21.5**	**+1.2**
THR8	**Santorini-Mono**	**2.17**	**34**	P	**Pn**	**07 27 21.2**	**+0.4**
THR8	**Santorini-Mono**	**2.17**	**34**	P	**Pn**	**07 27 21.9**	**+1.2**
VLI	**Veliai**	**2.26**	**339**	P	**Pn**	**07 27 24.0**	**+2.1**
VLI	**Veliai**	**2.26**	**339**	P	**Pn**	**07 27 23.8**	**+1.9**
DYR	**Agios Nikonas**	**2.52**	**329**	P	**Pn**	**07 27 28.7**	**+3.2**
DYR	**Agios Nikonas**	**2.52**	**329**	P	**Pn**	**07 27 28.1**	**+2.6**
APE	**Apeiranthos**	**2.76**	**27**	PN	**Pn**	**07 27 28.7**	**-0.2**
APE				SN	**Sn**	**07 27 57.3**	**-3.9**
APE	**Apeiranthos**	**2.76**	**27**	⇑*i*P	**Pn**	**07 27 28.7**	**-0.2**
APE	**Apeiranthos**	**2.76**	**27**	⇑P	**Pn**	**07 27 28.7**	**-0.2**
APE	**Apeiranthos**	**2.76**	**27**	⇑*i*P	**Pn**	**07 27 28.7**	**-0.2**
KARP	**Karpathos**	**2.79**	**70**	PN	**Pn**	**07 27 29.8**	**+0.6**
KARP	**Karpathos**	**2.79**	**70**	*e*Pn	**Pn**	**07 27 31.2**	**+2.1**
KARP				*e*Sn	**Sn**	**07 28 00.7**	**-1.1**
KARP	**Karpathos**	**2.79**	**70**	*e*Pn	**Pn**	**07 27 29.8**	**+0.6**
KARP				*e*Sn	**Sn**	**07 28 00.7**	**-1.1**
SLUM	**Salum**	**3.29**	**161**	P	**Pn**	**07 27 38.7**	**+2.6**
	baz=164						
SLUM				AMP		07 28 00.0	
	baz=164						
SLUM				S	**Sn**	**07 28 17.2**	**+3.0**
	baz=164						
SLUM	**Salum**	**3.29**	**161**	P	**Pn**	**07 27 38.7**	**+2.6**
SLUM				S	**Sn**	**07 28 17.2**	**+3.0**
BODT	**Bodrum**	**3.66**	**47**	PN	**Pn**	**07 27 41.1**	**0.0**
BODT	**Bodrum**	**3.66**	**47**	*e*Pn	**Pn**	**07 27 41.1**	**0.0**
GCAM	**G?zelcaml?**	**4.06**	**40**	PN	**Pn**	**07 27 46.8**	**+0.1**
GCAM	**G?zelcaml?**	**4.06**	**40**	*e*Pn	**Pn**	**07 27 46.8**	**+0.1**
URLA	**Izmir**	**4.30**	**29**	PN	**Pn**	**07 27 48.5**	**-1.5**
URLA	**Izmir**	**4.30**	**29**	*e*Pn	**Pn**	**07 27 48.5**	**-1.5**
YER	**Yerkesik**	**4.32**	**53**	PN	**Pn**	**07 27 51.2**	**+0.9**
YER	**Yerkesik**	**4.32**	**53**	*e*Pn	**Pn**	**07 27 51.2**	**+0.9**
AYDN	**Tasoluk**	**4.39**	**45**	*i* P	**Pn**	**07 27 53.0**	**+1.7**
AYDN				*i* S	**Sn**	**07 28 49.4**	**+7.9**
AYDN	**Tasoluk**	**4.39**	**45**	P	**Pn**	**07 27 53.0**	**+1.7**
TURN	**Turunc**	**4.40**	**58**	*i* P	**Pn**	**07 27 48.8**	**-2.5**
TURN				*i* S	**Sn**	**07 28 33.8**	**-7.7**
TURN	**Turunc**	**4.40**	**58**	P	**Pn**	**07 27 48.8**	**-2.5**
FETY	**Fethiye**	**4.63**	**63**	PN	**Pn**	**07 27 54.8**	**+0.2**
FETY	**Fethiye**	**4.63**	**63**	*e*Pn	**Pn**	**07 27 54.8**	**+0.2**
AKAS	**Kas**	**4.88**	**69**	*i* P	**Pn**	**07 27 58.2**	**+0.1**
AKAS				*i* S	**Sn**	**07 28 49.5**	**-4.2**
AKAS	**Kas**	**4.88**	**69**	P	**Pn**	**07 27 58.2**	**+0.1**
AKAS				S	**Sn**	**07 28 49.5**	**-4.2**
TAVA	**DENIZLI_Tavas**	**4.92**	**53**	*i* P	**Pn**	**07 28 00.5**	**+1.9**
TAVA				*i* S	**Sn**	**07 28 54.6**	**+0.1**
TAVA	**DENIZLI_Tavas**	**4.92**	**53**	P	**Pn**	**07 28 00.5**	**+1.9**
TAVA				S	**Sn**	**07 28 54.6**	**+0.1**
GOLH	**Golhisar**	**5.24**	**58**	*i* P	**Pn**	**07 28 03.9**	**+0.9**
GOLH				*i* S	**Sn**	**07 28 59.8**	**-2.7**
GOLH	**Golhisar**	**5.24**	**58**	P	**Pn**	**07 28 03.9**	**+0.9**
GOLH				S	**Sn**	**07 28 59.8**	**-2.7**
ELL	**Elmali**	**5.29**	**65**	PN	**Pn**	**07 28 05.4**	**+1.7**
ELL	**Elmali**	**5.29**	**65**	P	**Pn**	**07 28 03.6**	**-0.1**
ELL	**Elmali**	**5.29**	**65**	P	**Pn**	**07 28 03.6**	**-0.1**
ELL	**Elmali**	**5.29**	**65**	*e*Pn	**Pn**	**07 28 05.4**	**+1.7**
KULA	**Kula-Manisa**	**5.43**	**43**	PN	**Pn**	**07 28 05.9**	**+0.4**
KULA	**Kula-Manisa**	**5.43**	**43**	*e*Pn	**Pn**	**07 28 05.9**	**+0.4**
SWA2		**5.50**	**166**	P	**Pn**	**07 28 09.4**	**+2.8**
	baz=168						
KORT	**Korkueli**	**5.71**	**64**	PN	**Pn**	**07 28 11.0**	**+1.5**
KORT	**Korkueli**	**5.71**	**64**	*i* P	**Pn**	**07 28 12.1**	**+2.6**
KORT				*i* S	**Sn**	**07 29 15.2**	**+1.0**
KORT	**Korkueli**	**5.71**	**64**	*e*Pn	**Pn**	**07 28 11.0**	**+1.5**
KORT	**Korkueli**	**5.71**	**64**	P	**Pn**	**07 28 12.1**	**+2.6**
KORT				S	**Sn**	**07 29 15.2**	**+1.0**
BRDR	**BURDUR-Merkez**	**5.81**	**56**	*i* P	**Pn**

MMAI	**Mount Meron Ar**	**9.65**	**96**	Pn		**Pn**	07 29 04.2	+0.6	
	comp=N,6.2nm,0.3s,baz=311,slow=13,SNR=3.2								
MMAI				Sn		**Sn**	07 30 45.8	-5.2	
	comp=N,8.8nm,0.3s,baz=266,slow=23,SNR=6.4								
HNKL	**Nakhl**	**9.68**	**116**	P		**Pn**	07 29 04.8	+0.9	
	baz=117								
HNKL	**Nakhl**	**9.68**	**116**	P		**Pn**	07 29 04.8	+0.9	
AMAZ	**Amatzia**	**9.69**	**105**	Sn		**Sn**	07 30 45.0	-6.9	
MMLI	**Mount Malkishu**	**9.81**	**100**	Pn		**Pn**	07 29 04.9	-0.8	
MMLI	**Mount Malkishu**	**9.81**	**100**	Pn		**Pn**	07 29 04.9	-0.8	
MMLI				Sn		Sn	07 30 46.7	-8.2	
HMDT	**Nahal Hemdat**	**9.95**	**100**	Pn		**Pn**	07 29 07.2	-0.3	
HMDT	**Nahal Hemdat**	**9.95**	**100**	Pn		**Pn**	07 29 07.2	-0.3	
HMDT				Sn		**Sn**	07 30 50.9	-7.2	
DSI	**Dead Sea**	**10.05**	**104**	Pn		**Pn**	07 29 09.0	+0.1	
DSI	**Dead Sea**	**10.05**	**104**	Pn		**Pn**	07 29 09.0	+0.1	
DSI				Sn		**Sn**	07 30 54.0	-6.6	
MZDA	**Masada**	**10.13**	**106**	Pn		**Pn**	07 29 09.6	-0.3	
MZDA	**Masada**	**10.13**	**106**	Pn		**Pn**	07 29 09.6	-0.3	
MZDA				Sn		**Sn**	07 30 55.7	-6.8	
KRMI	**Paran Flat**	**10.15**	**113**	Pn		**Pn**	07 29 11.0	+0.7	
KRMI	**Paran Flat**	**10.15**	**113**	Pn		**Pn**	07 29 11.0	+0.7	
KRMI				Sn		**Sn**	07 30 56.4	-6.7	
PRNI	**Paran**	**10.25**	**111**	Pn		**Pn**	07 29 12.0	+0.3	
PRNI	**Paran**	**10.25**	**111**	Pn		**Pn**	07 29 12.0	+0.3	
HRFI	**Mount Harif**	**10.42**	**113**	Pn		**Pn**	07 29 14.5	+0.5	
HRFI	**Mount Harif**	**10.42**	**113**	Pn		**Pn**	07 29 14.5	+0.5	
HRFI				Sn		**Sn**	07 31 03.5	-6.3	
MBRI	**Mt Berech**	**10.45**	**114**	Pn		**Pn**	07 29 14.9	+0.5	
MBRI	**Mt Berech**	**10.45**	**114**	Pn		**Pn**	07 29 14.9	+0.5	
MBRI				Sn		**Sn**	07 31 04.7	-5.9	
EIL	**Elat**	**10.54**	**115**	Pn		**Pn**	07 29 18.7	+3.1	
	comp=N,0.3nm,0.3s,baz=225,slow=19,SNR=1.9								
EIL				Sn		**Sn**	07 31 15.2	+2.5	
	comp=N,5.5nm,0.3s,baz=162,slow=3.7,SNR=8.0								
EIL	**Elat**	**10.54**	**115**	Pn		**Pn**	07 29 16.0	+0.4	
EIL				eSn		**Sn**	07 31 15.2	+2.5	
EIL	**Elat**	**10.54**	**115**	Pn		**Pn**	07 29 16.0	+0.4	
EIL				Sn		**Sn**	07 31 06.4	-6.3	
VOIR		**10.84**	**4**	⇑P		Pn	07 29 25.0	+5.2	
VOIR		**10.84**	**4**	⇑P		Pn	07 29 25.0	+5.2	
MLR	**Muntele Rosu**	**10.97**	**7**	⇓P		Pn	07 29 33.3	+12	
MLR	**Muntele Rosu**	**10.97**	**7**	⇓P		Pn	07 29 33.3	+12	
FGSL	**Fruska Gora**	**11.00**	**344**	ePn		**Pn**	**07 29 20.3**	**-1.6**	
ASF	**Jabal al Asfar**	**11.09**	**99**	Pn		**Pn**	**07 29 23.9**	**+0.7**	
	comp=N,0.5nm,0.3s,baz=226,slow=10,SNR=4.0								
ASF				Sn		**Sn**	07 31 21.2	-5.0	
	comp=N,1.0nm,0.3s,baz=342,slow=20,SNR=4.0								
PLOR	**Plostina**	**11.41**	**10**	⇑*i*P		Pn	07 29 35.8	+8.3	
PLOR	**Plostina**	**11.41**	**10**	⇑P		Pn	07 29 35.8	+8.3	
OBKA	**Obir**	**13.85**	**332**	Pn		**Pn**	07 30 01.2	+0.3	
	comp=N,0.2nm,0.3s								
OBKA	**Obir**	**13.85**	**332**	e Pn		**Pn**	07 30 01.2	+0.3	
	comp=N,0.2nm,0.3s								
ARSA	**Arzberg**	**14.13**	**336**	Pn		**Pn**	07 30 07.4	+2.8	
	comp=N,2.3nm,0.3s								
ARSA	**Arzberg**	**14.13**	**336**	e Pn		**Pn**	07 30 07.4	+2.8	
	comp=N,2.3nm,0.3s								
MYKA	**Terra Mystica**	**14.32**	**330**	e Pn		**P**	07 30 18.0	+4.0	
	comp=N,0.7nm,0.4s								
KBA	**Koelnbreinsper**	**14.80**	**330**	Pn		**Pn**	07 30 16.2	+2.4	
	comp=N,0.5nm,0.3s								
KBA	**Koelnbreinsper**	**14.80**	**330**	e Pn		**Pn**	07 30 16.2	+2.4	
	comp=N,0.5nm,0.3s								
WATA	**Walderalm**	**15.75**	**327**	e Pn		**P**	07 30 32.5	+2.5	
	comp=N,2.8nm,0.4s								
FETA	**Feichten**	**15.90**	**325**	*i* Pn		**P**	07 30 34.0	+2.2	
	comp=N,4.1nm,0.6s								
MOTA	**Moosalm**	**15.97**	**327**	P		**P**	07 30 33.7	+1.2	
	comp=N,2.0nm,0.4s								
MOTA	**Moosalm**	**15.97**	**327**	*i* P		**P**	07 30 33.7	+1.2	
	comp=N,2.0nm,0.4s								
GEA0	**GERESS Array S**	**16.12**	**335**	ePn		**Pn**	07 30 32.8	+1.8	
GEA0	**GERESS Array S**	**16.12**	**335**	ePn		**Pn**	07 30 32.8	+1.8	
GEC2	**GERESS Array S**	**16.13**	**335**	ePn		**Pn**	07 30 30.3	-0.8	
	comp=N,10nm,1.4s								
GEC2	**GERESS Array S**	**16.13**	**335**	e P		**Pn**	07 30 30.3	-0.8	
GEC2				pmax		pmax			
	comp=Z,10.0nm,1.4s								
GEC2	**GERESS Array S**	**16.13**	**335**	e Pn		**Pn**	07 30 30.3	-0.8	
	comp=Z,10nm,1.4s								
GERES	**GERESS Array B**	**16.13**	**335**	Pn		**Pn**	07 30 29.3	-1.8	
	comp=Z,0.3nm,0.3s,baz=148,slow=11,SNR=2.7								
RETA	**Reutte**	**16.23**	**326**	e Pn		**P**	07 30 35.5	+0.2	
	comp=Z,2.0nm,0.2s								
KHC	**Kasperske Hory**	**16.41**	**335**	e P		**Pn**	07 30 32.0	-2.7	
KHC				ex		x	07 30 43.5		
KHC	**Kasperske Hory**	**16.41**	**335**	e Pn		**Pn**	07 30 34.0	-0.7	
	comp=Z,2.1nm,0.9s								
KHC	**Kasperske Hory**	**16.41**	**335**	e P		**Pn**	07 30 34.0	-0.7	
KHC				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KHC	**Kasperske Hory**	**16.41**	**335**	e Pn		**Pn**	07 30 34.0	-0.7	
	comp=Z,2.1nm,0.9s								
AK11	**Malin Array Si**	**16.50**	**12**	e Pn		**Pn**	07 30 36.0	+0.4	
AK11	**Malin Array Si**	**16.50**	**12**	e Pn		**Pn**	07 30 36.0	+0.4	
KIEV	**Kiev**	**16.52**	**12**	e Pn		**Pn**	07 30 38.0	+2.1	
	comp=Z,6.9nm,1.1s								
KIEV	**Kiev**	**16.52**	**12**	e P		**Pn**	07 30 38.1	+2.1	
KIEV				pmax		pmax			
	comp=Z,7.0nm,1.1s								
KIEV	**Kiev**	**16.52**	**12**	e P		**Pn**	07 30 38.1	+2.1	
	comp=Z,7.0nm,1.1s								
AKASG	**Malin Array Be**	**16.53**	**12**	Pn		**Pn**	07 30 35.9	-0.2	
	comp=Z,1.6nm,0.3s,baz=209,slow=9.9,SNR=12								
AKBB	**Malin Array Si**	**16.53**	**12**	e Pn		**P**	07 30 38.5	+0.1	
	comp=Z,7.7nm,1.1s								
AKBB	**Malin Array Si**	**16.53**	**12**	e P		**P**	07 30 38.5	+0.1	
AKBB				pmax		pmax			
	comp=Z,8.0nm,1.1s								
AKBB	**Malin Array Si**	**16.53**	**12**	e P		**P**	07 30 38.5	+0.1	
	comp=Z,8.0nm,1.1s								
KIV	**Kislovodsk**	**17.21**	**52**	e Pn		**Pn**	07 30 45.5	+0.7	
	comp=Z,11nm,0.9s								
KIV	**Kislovodsk**	**17.21**	**52**	e P		P	07 30 54.0	+7.9	
KIV				pmax		pmax			
	comp=Z,13nm,1.0s								
KIV	**Kislovodsk**	**17.21**	**52**	e Pn		**Pn**	07 30 45.5	+0.7	
	comp=Z,11nm,0.9s								
KVAR	**Kislovodsk Arr**	**17.21**	**52**	P		**Pn**	07 30 46.7	+1.8	
	baz=253,slow=3.3,SNR=3.4								
KBZ	**Khabaz**	**17.24**	**53**	P		**P**	07 30 47.7	+1.3	
	comp=Z,0.1nm,0.3s,baz=229,slow=13,SNR=5.4								
GNI	**Garni**	**17.40**	**65**	LR		LR	07 38 19.1		
	comp=Z,168nm,19.3s,baz=308,slow=40								
CLL	**Collm**	**18.48**	**338**	e P		**P**	07 31 00.6	+0.7	
	comp=Z,5.2nm,0.5s								
CLL	**Collm**	**18.48**	**338**	e P		**P**	07 31 00.6	+0.7	
CLL				pmax		pmax			
	comp=Z,5.0nm,0.5s								
CLL	**Collm**	**18.48**	**338**	e P		**P**	07 31 00.6	+0.7	
	comp=Z,5.2nm,0.5s								
ESDC	**Sonseca Array**	**22.78**	**291**	P		**P**	07 31 47.0	+0.3	
	comp=Z,0.7nm,0.5s,baz=77,slow=10,SNR=4.7								
HFS	**Hagfors**	**26.40**	**348**	P		**P**	07 32 18.6	-1.6	
	comp=Z,3.5nm,0.5s,baz=154,slow=11,SNR=19								
FIA0	**FINESS Array S**	**26.88**	**2**	e P		**P**	07 32 21.7	-2.8	
FIA0	**FINESS Array S**	**26.88**	**2**	e P		**P**	07 32 21.7	-2.8	
FINES	**FINESS Array B**	**26.88**	**2**	P		**P**	07 32 21.7	-2.8	
	comp=Z,1.0nm,0.6s,baz=166,slow=13,SNR=4.2								
NC605	**NORSAR Array S**	**27.41**	**347**	e P		**P**	07 32 29.9	+0.6	
NAO01	**NORSAR Array S**	**27.57**	**346**	e P		**P**	07 32 29.1	-1.6	
GEYT	**Alibeck**	**27.65**	**73**	P		**P**	07 32 33.9	+2.2	
	comp=Z,0.4nm,0.4s,baz=316,slow=6.0,SNR=2.5								
NB2	**NORSAR Subarra**	**27.69**	**347**	P		**P**	07 32 29.8	-2.0	
	comp=Z,1.5nm,0.5s,baz=153,slow=9.3								
NB200	**NORSAR Array S**	**27.69**	**347**	e P		**P**	07 32 30.2	-1.6	
NOA	**NORSAR Array B**	**27.69**	**347**	P		**P**	07 32 30.2	-1.6	
	comp=Z,0.6nm,0.5s,baz=260,slow=18,SNR=6.1								
EKA	**Eskdalemuir Ar**	**27.93**	**326**	P		**P**	07 32 33.0	-1.0	
	comp=Z,0.4nm,0.4s,baz=133,slow=7.2,SNR=3.1								
EKA	**Eskdalemuir Ar**	**27.93**	**326**	P		**P**	07 32 33.0	-1.0	
AKTO	**Aktyubinsk**	**29.34**	**47**	P		**P**	07 32 46.4	-0.3	
	comp=Z,0.8nm,0.5s,baz=254,slow=11,SNR=4.2								
TOA1	**Torodi Ar. Sit**	**29.39**	**229**	e P		**P**	07 32 48.5	+1.3	
TOA0	**Torodi Ar. Sit**	**29.39**	**229**	e P		**P**	07 32 48.9	+1.6	
TORD	**Torodi Ar. Bea**	**29.39**	**229**	P		**P**	07 32 48.5	+1.2	
	comp=Z,4.8nm,0.6s,baz=36,slow=8.8,SNR=31								
UOSS	**Minazif**	**29.49**	**100**	e P		**P**	07 32 46.2	-2.0	
	comp=Z,8.7nm,1.1s								
UOSS	**Minazif**	**29.49**	**100**	e P		**P**	07 32 46.2	-2.0	
	comp=Z,8.7nm,1.1s								
AB08	**Akbulak array**	**30.16**	**50**	e P		**P**	07 32 53.7	-0.2	
AB08	**Akbulak array**	**30.16**	**50**	e P		**P**	07 32 53.7	-0.2	
AB09	**Akbulak array**	**30.16**	**50**	e P		**P**	07 32 54.1	+0.2	
AB04	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 53.4	-0.6	
AB03	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 53.3	-0.7	
AB03	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 53.3	-0.7	
AB01	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.4	+0.4	
AB01	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.4	+0.4	
AB31	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.4	+0.4	
AB31	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.4	+0.4	
AB31	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.4	+0.4	
ABKAR	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.4	+0.3	
	comp=Z,24nm,1.3s								
ABKAR	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.3	+0.3	
	comp=Z,24nm,1.3s								
AB02	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.3	+0.3	
AB05	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.4	+0.3	
AB07	**Akbulak array**	**30.18**	**50**	e P		**P**	07 32 54.6	+0.5	
AB06	**Akbulak array**	**30.20**	**50**	e P		**P**	07 32 54.0	-0.2	
ARU	**Arti**	**32.08**	**36**	e P		**P**	07 33 10.4	-0.2	
	comp=Z,23nm,1.8s								
ARU	**Arti**	**32.08**	**36**	e P		**P**	07 33 10.5	-0.2	
ARU				pmax		pmax			
	comp=Z,23nm,1.8s								
KOWA	**Kowa**	**32.20**	**238**	P		**P**	07 33 13.5	+1.3	
	comp=Z,1.1nm,0.3s,baz=48,slow=14,SNR=3.8								
ARA0	**ARCESS Array S**	**34.98**	**1**	e P		**P**	07 33 34.5	-1.3	
ARCES	**ARCESS Array B**	**34.98**	**1**	P		**P**	07 33 34.5	-1.3	
	comp=Z,2.3nm,0.8s,baz=185,slow=9.5,SNR=7.4								
BVAR	**Borovoye Array**	**37.44**	**46**	P		**P**	07 33 56.9	0.0	
	comp=Z,0.4nm,0.4s,baz=230,slow=6.1,SNR=2.9								
DBIC	**Dimbokro**	**38.46**	**230**	P		**P**	07 34 07.1	+1.2	
	comp=Z,1.1nm,0.4s,baz=24,slow=7.1,SNR=4.2								
DBIC	**Dimbokro**	**38.46**	**230**	e P		**P**	07 34 08.2	+2.2	
	comp=Z,14nm,1.4s								
DBIC	**Dimbokro**	**38.46**	**230**	e P		**P**	07 34 08.2	+2.2	
DBIC				pmax		pmax			
	comp=Z,14nm,1.4s								
AAK	**Ala-Archa**	**39.78**	**63**	P		**P**	07 34 18.6	+1.6	
	comp=Z,1.1nm,0.5s,baz=212,slow=9.2,SNR=3.9								
KURBB	**Kurchatov Arra**	**42.23**	**51**	P		**P**	07 34 36.5	-0.3	
	comp=Z,1.5nm,0.4s,baz=273,slow=8.7,SNR=12								
KURK	**Kurchatov**	**42.29**	**50**	e P		**P**	07 34 36.5	-0.8	
KURK	**Kurchatov**	**42.29**	**50**	P		**P**	07 34 36.5	-0.8	
KURK				pmax		pmax			
	comp=Z,2.0nm,0.4s								
SPITS	**Spitsbergen Ar**	**43.79**	**358**	P		**P**	07 34 48.0	-1.1	
	comp=Z,3.2nm,0.7s,baz=163,slow=10,SNR=3.7								
SPITS	**Spitsbergen Ar**	**43.79**	**358**	P		**P**	07 34 48.0	-1.1	
SPITS				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MK31	**Makanchi Array**	**44.90**	**56**	e P		**P**	07 34 58.6	+0.2	
MK31	**Makanchi Array**	**44.90**	**56**	e P		**P**	07 34 58.6	+0.2	
MK32	**Makanchi Array**	**44.90**	**56**	e P		**P**	07 34 58.6	+0.2	
MKAR	**Makanchi Array**	**44.90**	**56**	P		**P**	07 34 58.6	+0.1	
	comp=Z,1.8nm,0.3s,baz=268,slow=7.8,SNR=70								
MKAR	**Makanchi Array**	**44.90**	**56**	e P		**P**	07 34 58.5	+0.1	
	comp=Z,35nm,0.3s								
MKAR	**Makanchi Array**	**44.90**	**56**	e P		**P**	07 34 58.5	+0.1	
MKAR				pmax		pmax			
	comp=Z,35nm,0.3s								
MK01	**Makanchi Array**	**44.91**	**56**	e P		**P**	07 34 58.5	0.0	
NVS	**Novosibirsk**	**45.17**	**45**	e P		**P**	07 35 00.4	0.0	
ZAA0	**Zalesovo Array**	**46.09**	**46**	e P		**P**	07 35 06.8	-0.9	
	comp=Z,12nm,1.0s								
ZAA1	**Zalesovo Array**	**46.09**	**46**	e P		**P**	07 35 06.9	-0.8	
ZALV	**Zalesovo Beam**	**46.09**	**46**	P		**P**	07 35 06.9	-0.8	
	comp=Z,2.1nm,0.4s,baz=269,slow=8.7,SNR=13								
ZALV	**Zalesovo Beam**	**46.09**	**46**	e P		**P**	07 35 06.7	-1.0	
ZALV	**Zalesovo Beam**	**46.09**	**46**	e P		**P**	07 35 06.7	-1.0	
WMQ	**Urumqi**	**49.13**	**59**	e P		**P**	07 35 33.3	+1.7	
MATP	**Matopo**	**54.91**	**175**	P		**P**	07 36 16.0	+1.3	
	comp=Z,0.6nm,0.5s,baz=22,slow=5.4,SNR=3.5								
SONA0	**Songino Array**	**60.59**	**50**	e P		**P**	07 36 54.8	+0.3	
SONM	**Songino Array**	**60.59**	**50**	P		**P**	07 36 54.8	+0.3	
	comp=Z,0.7nm,0.3s,baz=281,slow=8.1,SNR=5.0								
SONM				LR		LR	08 09 54.0		
	comp=Z,98nm,18.0s,baz=338,slow=43								
SCHQ	**Schefferville**	**62.96**	**319**	P		**P**	07 37 09.8	-0.3	
	comp=Z,1.2nm,0.4s,baz=70,slow=6.9,SNR=11								
LZH	**Lanzhou**	**63.32**	**63**	e P		**P**	07 37 14.9	+1.8	
LZH				pP		pP	07 37 25.0	+2.8	
LZH				sP		sP	07 37 28.7	+3.0	
LZH				e PP		**PP**	07 39 35.0	+2.7	
CD2	**Chengdu**	**65.51**	**68**	e P		**P**	07 37 26.5	-0.8	
HHC	**Hu-ho-hao-te**	**66.76**	**56**	e P		**P**	07 37 36.1	+0.8	
YKA	**Yellowknife Ar**	**77.66**	**342**	P		**P**	07 38 39.6	-0.2	
	comp=Z,0.5nm,0.6s,baz=32,slow=5.3,SNR=10								
ILAR	**Eielson Array**	**80.68**	**356**	P		**P**	07 38 56.2	-0.1	
	comp=Z,0.4nm,0.8s,baz=346,slow=3.5,SNR=4.5								
TXAR	**Lajitas Array**	**99.44**	**315**	LR		LR	08 25 36.0		
	comp=Z,13nm,18.9s,baz=0.0,slow=36								
WRA	**Warramunga Arr**	**117.51**	**96**	PKP		**PKPdf**	07 45 29.9	0.0	
	comp=Z,0.2nm,0.4s,baz=326,slow=1.8,SNR=5.3								
WR1	**Warramunga Arr**	**117.51**	**96**	e PKPdf		**PKPdf**	07 45 29.9	0.0	

IDC 08 07:35:45.6±3.4, 54°23N×87°34E, h0km, mb1 2.9/2, mb1mx2.8/68, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=28.3km s-min=17.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**260**	*i*		07 43 28.8	
	baz=81,slow=336,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.51**	**260**	Pg	Pn	07 36 12.3	-1.6
	3.0nm,0.3s,baz=80,slow=10,SNR=23						
ZALV				Lg	Lg	07 36 34.3	
	3.6nm,0.3s,baz=79,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.49**	**240**	Pn	Pn	07 37 22.0	-0.3
	0.1nm,0.3s,baz=55,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**8.11**	**205**	Pn	Pn	07 37 46.2	+1.6
	0.1nm,0.3s,baz=27,slow=13,SNR=3.5						
MKAR				Sn	Sn	07 39 18.2	+1.2
	0.1nm,0.3s,baz=22,slow=28,SNR=3.8						
MKAR				Lg	Lg	07 39 59.8	
	0.0nm,0.3s,baz=24,slow=28,SNR=2.2						

IDC 08 07:47:55.2±4.9, 11°91S×163°62E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/49, mbtmp3.8/4, MS3.5/2, Ms1 3.5/2, ms1mx2.8/43, Error ellipse: s-maj=124.5km s-min=50.9km az=113.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.39**	**222**	P	P	07 53 51.8	+0.3
	0.7nm,0.6s,baz=69,slow=8.6,SNR=2.6						
STKA				LR	LR	08 03 53.7	
	comp=Z,64nm,18.6s,baz=209,slow=34						
WRA	**Warramunga Arr**	**29.23**	**250**	P	P	07 53 59.2	+0.1
	0.8nm,0.7s,baz=82,slow=9.1,SNR=8.5						
ASAR	**Alice Springs**	**30.55**	**243**	P	P	07 54 10.5	-0.3
	0.7nm,0.6s,baz=65,slow=10,SNR=13						
NWAO	**Narrogin (SRO)**	**47.26**	**236**	LR	LR	08 16 26.1	
	comp=Z,77nm,18.8s,baz=342,slow=36						
MKAR	**Makanchi Array**	**92.73**	**317**	P	P	08 01 09.4	-0.1
	0.4nm,0.7s,baz=111,slow=4.7,SNR=2.9						

*ISCJB **08** 07:49:02.9±0.3, 29°17N±0°03×139°29E±0°04, h436km±2km, mb4.1/57, Error ellipse: s-maj=6.3km s-min=4.1km az=161.7*
*JMA **08** 07:49:02.6±0.2, 29°18N×139°52E, h455km±4km, M4.6*
*NEIC **08** 07:49:04.3±0.5, 29°17N×139°25E, h437km±5km, mb4.4/26, Error ellipse: s-maj=8.9km s-min=6.3km az=71.0*
*IDC **08** 07:49:05.1±0.5, 29°18N×139°15E, h445km±5km, mb3.7/38, mb1 3.8/44, mb1mx3.7/72, mbtmp4.5/44, Error ellipse: s-maj=9.9km s-min=6.1km az=88.0*

ISC 08 07:49:04.6±0.5, 29°19N±0°05×139°30E±0°06, h440km±4km, n136, σ1°67/175, mb4.1/57, 1C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.29**	**129**	P	**P**	**07 50 11.4**	**-1.8**
CBIJ				e S	**S**	**07 51 05.1**	**-3.7**
CBIJ	**Chichi jima**	**3.29**	**129**	e P	**P**	**07 50 11.4**	**-1.8**
CBIJ				e S	**S**	**07 51 05.4**	**-3.4**
JCJ	**Chichijima**	**3.29**	**129**	P	**P**	**07 50 11.4**	**-1.7**
	215nm,0.3s,baz=95,slow=1.4,SNR=66						
JCJ				S	**S**	**07 51 05.5**	**-3.3**
	1μm,0.3s,baz=143,slow=20,SNR=29						
JHHJ	**Haha-jima-NKT**	**3.60**	**134**	P	**P**	**07 50 14.0**	**-1.7**
JHHJ				S	**S**	**07 51 10.6**	**-2.8**
JHCJ	**Hachijojimakas**	**3.90**	**6**	P	**P**	**07 50 17.4**	**-0.7**
JHJ2	**Mitsune**	**3.94**	**6**	P	**P**	**07 50 18.2**	**-0.2**
JHJ2				e S	**S**	**07 51 15.9**	**-2.7**
JHJ2	**Mitsune**	**3.94**	**6**	e P	**P**	**07 50 18.2**	**-0.2**
JHJ2				e S	**S**	**07 51 16.7**	**-1.9**
JHJ	**Hachijo jima 2**	**3.94**	**6**	P	**P**	**07 50 18.2**	**-0.2**
	124nm,0.3s,baz=229,slow=20,SNR=18						
JHJ				S	**S**	**07 51 15.7**	**-3.0**
	121nm,0.3s,baz=266,slow=23,SNR=5.9						
BSO1	**Boso 1**	**5.63**	**14**	P	**P**	**07 50 33.6**	**-0.4**
BSO1				e S	**S**	**07 51 44.3**	**-3.0**
JIE	**Ise**	**5.64**	**338**	P	**P**	**07 50 36.1**	**+1.4**
JIE				e S	**S**	**07 51 48.2**	**-3.2**
JOD2	**Odawara 2**	**6.06**	**358**	P	**P**	**07 50 38.0**	**-1.0**
JOD2				e S	**S**	**07 51 51.1**	**-5.2**
INU	**Inuyama**	**6.44**	**343**	e P	**P**	**07 50 44.1**	**+1.2**
INU				e S	**S**	**07 52 02.0**	**-1.6**
JTO	**Tosashimizu**	**6.67**	**305**	P	**P**	**07 50 46.7**	**+1.1**
JRY	**Ryogami san**	**6.82**	**357**	P	**P**	**07 50 46.4**	**-0.7**
MJAR	**Matsushiro Arr**	**7.39**	**353**	P	**P**	**07 50 52.2**	**-1.0**
	5.1nm,0.3s,baz=169,slow=10,SNR=26						
MJAR				S	**S**	**07 52 16.5**	**-5.7**
	4.9nm,0.3s,baz=164,slow=16,SNR=6.5						
MAJO	**Matsushiro**	**7.39**	**353**	e P	**P**	**07 50 52.5**	**-0.7**
MAJO				e S	**S**	**07 52 17.4**	**-4.9**
MAT	**Matsushiro**	**7.39**	**353**	P	**P**	**07 50 52.7**	**-0.6**
MAT				S	**S**	**07 52 15.6**	**-6.6**
MJB9	**Matsu-Tunnel**	**7.40**	**353**	e P	**P**	**07 50 52.6**	**-0.7**
MJB9				e S	**S**	**07 52 17.4**	**-4.9**
JHS	**Saijyo**	**7.82**	**319**	P	**P**	**07 50 59.0**	**+1.1**
JNU	**Nakatsue**	**8.21**	**301**	P	**P**	**07 51 03.5**	**+1.3**
	7.7nm,0.3s,baz=135,slow=3.9,SNR=40						
JNU	**Nakatsue**	**8.21**	**301**	e P	**P**	**07 51 03.8**	**+1.6**
JSJ	**Shimokoshiki**	**8.64**	**289**	P	**P**	**07 51 07.5**	**+0.7**
JMK	**Ichinoseki**	**9.87**	**9**	P	**P**	**07 51 20.4**	**+0.3**
JTU	**Tsushima**	**9.96**	**305**	P	**P**	**07 51 22.0**	**+0.8**
JKE	**Kume jima 2**	**11.45**	**259**	P	**P**	**07 51 38.2**	**+0.7**
JOT	**Ohata**	**12.25**	**6**	P	**P**	**07 51 46.8**	**+0.7**
KSRS	**Korea Array**	**12.58**	**314**	P	**P**	**07 51 49.6**	**-0.2**
	2.9nm,0.3s,baz=127,slow=11,SNR=29						
KS15	**Wonju Array Si**	**12.60**	**314**	e P	**P**	**07 51 49.5**	**-0.5**

AS01	**Alice Springs**	**52.80**	**186**	*eP*	**P**	07 57 37.0	-0.4
AS31	**Alice Springs**	**52.80**	**186**	*eP*	**P**	07 57 37.5	-0.1
	4.0nm,0.4s						
ASAR	**Alice Springs**	**52.80**	**186**	P	**P**	07 57 37.1	-0.5
	3.6nm,0.5s,baz=5.4,slow=7.6,SNR=54						
ASAR				PcP	**PcP**	07 58 40.6	+0.7
	1.0nm,0.6s,baz=13,slow=3.8,SNR=5.3						
ASAR				ScP	**ScP**	08 01 53.6	-0.9
	0.3nm,0.5s,baz=1.8,slow=4.9,SNR=4.1						
AAK	**Ala-Archa**	**52.98**	**303**	*eP*	**P**	07 57 38.4	-0.4
	2.2nm,0.8s						
KDAK	**Kodiak Island**	**54.25**	**38**	P	**P**	07 57 48.0	+0.6
	2.4nm,0.4s,baz=0.0,slow=4.0,SNR=12						
KDAK				pP	**pP**	07 59 17.5	+1.6
	2.8nm,0.5s,baz=271,slow=5.8,SNR=2.4						
BVAR	**Borovoye Array**	**54.78**	**316**	P	**P**	07 57 50.7	-0.6
	4.1nm,0.6s,baz=94,slow=7.5,SNR=39						
BVAR				PcP	**PcP**	07 58 46.2	-1.1
	1.9nm,0.5s,baz=91,slow=4.0,SNR=5.7						
BVAR				ScP	**ScP**	08 02 01.8	-1.0
	0.4nm,0.5s,baz=90,slow=5.8,SNR=2.7						
BRVK	**Borovoye**	**54.84**	**316**	*eP*	**P**	07 57 51.0	-0.6
	5.8nm,0.9s						
MLY	**Manley**	**55.49**	**29**	*eP*	**P**	07 57 57.6	+1.5
	6.2nm,1.2s						
KKAR	**Karatay Array**	**55.80**	**304**	*eP*	**P**	07 57 58.1	-0.5
IL1	**Eielson Array**	**57.12**	**29**	*eP*	**P**	07 58 06.9	-0.4
ILAR	**Eielson Array**	**57.12**	**29**	P	**P**	07 58 07.3	-0.1
	1.8nm,1.0s,baz=243,slow=5.4,SNR=11						
ILAR				pP	**pP**	07 59 38.6	+1.4
	0.8nm,0.6s,baz=266,slow=6.9,SNR=6.5						
ILB	**Eielson Array**	**57.12**	**29**	*eP*	**P**	07 58 07.0	-0.3
MENT	**Mentasta**	**58.56**	**31**	*eP*	**P**	07 58 18.7	+1.5
	24nm,1.9s						
STKA	**Stephens Creek**	**60.77**	**178**	P	**P**	07 58 32.5	+0.2
	8.7nm,0.5s,baz=350,slow=6.7,SNR=41						
STKA	**Stephens Creek**	**60.77**	**178**	*eP*	**P**	07 58 32.6	+0.2
	1.9nm,0.8s						
ARU	**Arti**	**61.21**	**321**	*eP*	**P**	07 58 34.0	-1.0
	6.0nm,0.7s						
ABKAR	**Akbulak array**	**61.82**	**313**	*eP*	**P**	07 58 38.3	-0.8
	30nm,0.5s						
INK	**Inuvik**	**62.20**	**25**	P	**P**	07 58 41.8	+0.5
	1.4nm,0.3s,baz=287,slow=6.3,SNR=25						
INK				pP	**pP**	08 00 14.5	+1.4
	1.0nm,0.6s,baz=286,slow=6.0,SNR=2.9						
AKTO	**Aktyubinsk**	**62.76**	**315**	P	**P**	07 58 44.6	-0.7
	3.1nm,0.7s,baz=82,slow=14,SNR=12						
NWAO	**Narrogin (SRO)**	**65.22**	**200**	P	**P**	07 59 00.9	-0.3
	13nm,0.6s,baz=247,slow=6.4,SNR=11						
GEYT	**Alibeck**	**66.24**	**301**	P	**P**	07 59 07.6	-0.2
	1.6nm,0.6s,baz=0.0,slow=1.5,SNR=4.8						
SPITS	**Spitsbergen Ar**	**67.87**	**349**	P	**P**	07 59 17.3	+0.1
	9.0nm,0.9s,baz=51,slow=9.6,SNR=6.2						
ARCES	**ARCESS Array B**	**70.73**	**340**	P	**P**	07 59 34.5	0.0
	4.4nm,0.5s,baz=76,slow=8.5,SNR=51						
YKA	**Yellowknife Ar**	**71.51**	**28**	P	**P**	07 59 39.5	+0.3
	0.6nm,0.3s,baz=299,slow=5.9,SNR=16						
YKA				pP	**pP**	08 01 15.0	+0.9
	0.4nm,0.8s,baz=303,slow=6.5,SNR=4.3						
KBZ	**Khabaz**	**74.72**	**312**	P	**P**	07 59 58.0	-0.1
	5.2nm,0.8s,baz=104,slow=6.3,SNR=14						
FINES	**FINESS Array B**	**74.94**	**333**	P	**P**	07 59 58.4	-0.6
	3.2nm,0.5s,baz=62,slow=5.5,SNR=31						
RPZ	**Rata Peaks**	**78.17**	**157**	P	**P**	08 00 16.9	0.0
	11nm,0.8s,baz=71,slow=5.7,SNR=4.2						
J08A	**Circle Bar Ran**	**78.65**	**47**	*eP*	**P**	08 00 21.6	+1.6
	21nm,2.0s						
AKASG	**Malin Array Be**	**79.42**	**323**	P	**P**	08 00 22.8	-1.0
	1.7nm,0.5s,baz=49,slow=5.7,SNR=18						
AKBB	**Malin Array Si**	**79.42**	**323**	*eP*	**P**	08 00 23.0	-0.8
	35nm,2.0s						
KIEV	**Kiev**	**79.44**	**323**	*eP*	**P**	08 00 22.9	-0.9
	34nm,2.0s						
HFS	**Hagfors**	**80.49**	**336**	P	**P**	08 00 28.5	-0.7
	3.7nm,0.5s,baz=77,slow=5.3,SNR=13						
NB2	**NORSAR Subarra**	**80.72**	**337**	P	**P**	08 00 29.3	-1.1
	comp=Z,2.1nm,0.5s,baz=47,slow=5.1						
NOA	**NORSAR Array B**	**80.72**	**337**	P	**P**	08 00 29.8	-0.7
	comp=Z,2.3nm,0.5s,baz=53,slow=6.2,SNR=8.8						
NV01	**Mina Array Sit**	**81.20**	**51**	*eP*	**P**	08 00 34.4	+0.7
NVAR	**Mina Array Bea**	**81.20**	**51**	P	**P**	08 00 34.5	+0.9
	comp=Z,1.9nm,0.7s,baz=286,slow=5.8,SNR=14						
RAYN	**Ar Rayn**	**81.99**	**292**	*eP*	**P**	08 00 37.8	+0.1
	comp=Z,6.2nm,0.9s						
GCMT	**Greycliff**	**82.70**	**41**	*eP*	**P**	08 00 40.7	-0.4
BR131	**Keskin Array S**	**82.72**	**312**	*eP*	**P**	08 00 41.0	-0.4
BRTR	**Keskin Array B**	**82.72**	**312**	P	**P**	08 00 40.9	-0.4
	comp=Z,1.9nm,0.6s,baz=106,slow=3.7,SNR=11						
BR231	**Keskin MP Arra**	**83.22**	**312**	*eP*	**P**	08 00 41.5	-2.3
BUR08	**Bucovina Ar. S**	**83.34**	**322**	*eP*	**P**	08 00 43.8	-0.4
BREC	**Barre Substati**	**83.78**	**55**	*eP*	**P**	08 00 47.0	+0.5
PDAR	**Pinedale Array**	**84.49**	**44**	P	**P**	08 00 51.1	+0.9
	comp=Z,0.2nm,0.5s,baz=15,slow=2.3,SNR=3.9						
LCMT	**Little Creek M**	**85.36**	**50**	*ep*	pP	08 02 31.3	-2.1
MTLAZ	**Mount Logan**	**85.75**	**51**	*eP*	**P**	08 00 59.3	+2.8
GCAZ	**Grand Canyon**	**86.64**	**50**	*eP*	**P**	08 00 59.3	-1.5
GERES	**GERESS Array B**	**88.40**	**327**	P	**P**	08 01 07.5	-1.1
	comp=Z,0.5nm,0.5s,baz=39,slow=6.3,SNR=3.1						
TXAR	**Lajitas Array**	**96.35**	**51**	P	**P**	08 01 46.6	+1.1
	comp=Z,0.6nm,0.8s,baz=270,slow=1.3,SNR=4.8						
TXAR				pP	**pP**	08 03 28.1	+2.2
	comp=Z,0.6nm,0.7s,baz=304,slow=2.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**121.29**	**310**	PKP	**PKPdf**	08 07 06.3	-1.0
	comp=Z,0.5nm,0.5s,baz=61,slow=0.9,SNR=14						
KOWA	**Kowa**	**123.95**	**316**	PKP	**PKPdf**	08 07 11.9	-0.6
	comp=Z,1.1nm,0.4s,baz=345,slow=3.0,SNR=3.6						
PLCA	**Paso Flores**	**153.09**	**123**	PKPbc	**PKPbc**	08 08 11.0	-0.4
	comp=Z,1.1nm,0.6s,baz=258,slow=2.2,SNR=8.8						

*TRN **08** 08:01:36.0, 18°.20N×63°.82W, h83km, MD3.4*
*ISCJB **08** 08:01:36.3±0.8, 18°.21N±0°.07×63°.81W±0°.03, h94km±8km, Error ellipse: s-maj=12.9km s-min=3.3km az=19.3*
*NEIC **08** 08:01:37.5±0.0, 18°.11N×63°.81W, h83km, MD3.5(RSPR), After RSPR.*
*RSPR **08** 08:01:37.5, 18°.11N×63°.81W, h83km±2km, MD3.5/8*

ISC 08 08:01:36.7±1.5, **18°.25N**±0°.08×**63°.80W**±0°.04, **h92**km±10km, **n47,σ0°69/79, 30C-3D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.70**	**314**	*eP*	**Pn**	**08 01 53.9**	**+0.6**
ABV	**Anegada**	**0.70**	**314**	*eP*	**Pn**	**08 01 53.9**	**+0.6**
ABV				*eS*	**Sn**	**08 02 07.2**	**+1.5**
ABVI	**Anegada Island**	**0.70**	**314**	*eP*	**Pn**	**08 01 53.9**	**+0.6**
ABVI				*eS*	**Sn**	**08 02 07.2**	**+1.5**
SMRT	**St. Maarten**	**0.72**	**106**	*eP*	**Pn**	**08 01 53.1**	**-0.4**
SMRT	**St. Maarten**	**0.72**	**106**	*eP*	**Pn**	**08 01 53.1**	**-0.4**
SMRT				*eS*	**Sn**	**08 02 05.3**	**-0.8**
SMRT	**St. Maarten**	**0.72**	**106**	*iP*	**Pn**	**08 01 53.2**	**-0.4**
SMRT				*eS*	**Sn**	**08 02 05.3**	**-0.8**
TBVI	**Tortola**	**0.80**	**282**	*iP*	**Pn**	**08 01 53.8**	**-0.5**
TBVI				*eS*	**Sn**	**08 02 06.7**	**-0.8**
TBVI	**Tortola**	**0.80**	**282**	*iP*	**Pn**	**08 01 53.8**	**-0.5**
TBVI	**Tortola**	**0.80**	**282**	*iP*	**Pn**	**08 01 53.8**	**-0.5**
TBVI				*eS*	**Sn**	**08 02 06.7**	**-0.8**
SABA	**Saba**	**0.82**	**140**	*eP*	**Pn**	**08 01 55.6**	**+1.1**
SABA				*eS*	**Sn**	**08 02 07.9**	**0.0**
SABA	**Saba**	**0.82**	**140**	*eP*	**Pn**	**08 01 54.3**	**-0.3**
SABA				*eS*	**Sn**	**08 02 07.9**	**0.0**
SEUS	**St. Eustatius**	**1.08**	**134**	*eP*	**Pn**	**08 01 58.1**	**+0.7**
SEUS				*eS*	**Sn**	**08 02 13.5**	**+0.5**
SEUS	**St. Eustatius**	**1.08**	**134**	*eP*	**Pn**	**08 01 58.1**	**+0.7**
SEUS				*eS*	**Sn**	**08 02 13.5**	**+0.5**
CUPR	**Culebra, Puert**	**1.41**	**273**	*eP*	**Pn**	**08 02 01.0**	**-0.4**
CUPR	**Culebra, Puert**	**1.41**	**273**	*eP*	**Pn**	**08 02 01.0**	**-0.4**
CUPR				*eS*	**Sn**	**08 02 18.8**	**-1.3**
NEV	**Hard Times**	**1.61**	**133**	*eP*	**Pn**	**08 02 05.5**	**+1.5**
NEV				*eS*	**Sn**	**08 02 24.9**	**+0.3**
NEV	**Hard Times**	**1.61**	**133**	*eP*	**Pn**	**08 02 04.4**	**+0.4**
NEV				*eS*	**Sn**	**08 02 24.9**	**+0.3**
MTP	**Monte Pirata**	**1.67**	**265**	*eP*	**Pn**	**08 02 04.6**	**-0.1**
MTP	**Monte Pirata**	**1.67**	**265**	*eP*	**Pn**	**08 02 04.6**	**-0.1**
MTP				*eS*	**Sn**	**08 02 25.0**	**-1.1**
MTP	**Monte Pirata**	**1.67**	**265**	*eP*	**Pn**	**08 02 04.6**	**-0.1**
MTP				*eS*	**Sn**	**08 02 25.0**	**-1.1**
HUMP	**Col San Antoni**	**1.95**	**267**	*eP*	**Pn**	**08 02 10.1**	**+1.8**
HUMP				*eS*	**Sn**	**08 02 32.4**	**-0.1**
HUMP	**Col San Antoni**	**1.95**	**267**	*eP*	**Pn**	**08 02 08.3**	**-0.1**
HUMP	**Col San Antoni**	**1.95**	**267**	*eP*	**Pn**	**08 02 08.3**	**-0.1**
HUMP				*eS*	**Sn**	**08 02 32.4**	**-0.1**
HUMP	**Col San Antoni**	**1.95**	**267**	*eP*	**Pn**	**08 02 08.3**	**-0.1**
HUMP	**Col San Antoni**	**1.95**	**267**	*eP*	**Pn**	**08 02 10.1**	**+1.8**
HUMP				*eS*	**Sn**	**08 02 32.4**	**-0.1**
CBYP	**Canovanas**	**1.96**	**271**	*eP*	**Pn**	**08 02 08.2**	**-0.2**
CBYP				*eS*	**Sn**	**08 02 32.8**	**+0.2**
CBYP	**Canovanas**	**1.96**	**271**	*eP*	**Pn**	**08 02 08.5**	**+0.1**
CBYP	**Canovanas**	**1.96**	**271**	*eP*	**Pn**	**08 02 08.5**	**+0.1**
CBYP				*eS*	**Sn**	**08 02 31.9**	**-0.7**
CBYP	**Canovanas**	**1.96**	**271**	*eP*	**Pn**	**08 02 08.2**	**-0.2**
CBYP	**Canovanas**	**1.96**	**271**	*eP*	**Pn**	**08 02 08.5**	**+0.1**
CBYP				*eS*	**Sn**	**08 02 31.9**	**-0.7**
ANWB	**Willy Bob**	**2.00**	**106**	*eP*	**Pn**	**08 02 09.7**	**+0.8**
ANWB				*eS*	**Sn**	**08 02 31.9**	**-1.7**
ANWB	**Willy Bob**	**2.00**	**106**	*e*	**Pn**	**08 02 07.7**	**-1.3**
ANWB	**Willy Bob**	**2.00**	**106**	*eP*	**Pn**	**08 02 09.7**	**+0.8**
ANWB				*eS*	**Sn**	**08 02 33.4**	**-0.2**
MLYT	**Lee's Yard**	**2.16**	**134**	*eP*	**Pn**	**08 02 11.3**	**+0.2**
MLYT				*eS*	**Sn**	**08 02 37.2**	**-0.1**
BPA	**Boggy Peak**	**2.20**	**123**	*eP*	**Pn**	**08 02 11.8**	**+0.1**
BPA				*eS*	**Sn**	**08 02 37.3**	**-1.2**
BPA	**Boggy Peak**	**2.20**	**123**	*eP*	**Pn**	**08 02 11.8**	**+0.1**
BPA				*eS*	**Sn**	**08 02 38.0**	**-0.4**
SJG	**San Juan**	**2.24**	**267**	*eS*	**Sn**	**08 02 39.4**	**+0.2**
SJG	**San Juan**	**2.24**	**267**	*eS*	**Sn**	**08 02 39.4**	**+0.2**
CELP	**Cerrillos**	**2.65**	**267**	*eP*	**Pn**	**08 02 17.5**	**-0.1**
CELP				*eS*	**Sn**	**08 02 49.2**	**+0.2**
CELP	**Cerrillos**	**2.65**	**267**	*eP*	**Pn**	**08 02 17.5**	**-0.1**
CELP	**Cerrillos**	**2.65**	**267**	*eP*	**Pn**	**08 02 17.5**	**-0.1**
CELP				*eS*	**Sn**	**08 02 49.2**	**+0.2**
OBIP	**Obispado Ponce**	**2.68**	**266**	*eP*	**Pn**	**08 02 17.7**	**-0.3**
OBIP	**Obispado Ponce**	**2.68**	**266**	*eP*	**Pn**	**08 02 17.7**	**-0.3**
OBIP				*eS*	**Sn**	**08 02 49.4**	**-0.2**
OBIP	**Obispado Ponce**	**2.68**	**266**	*eP*	**Pn**	**08 02 17.7**	**-0.3**
OBIP				*eS*	**Sn**	**08 02 49.4**	**-0.2**
AOPR	**Arecibo Observ**	**2.81**	**272**	*eP*	**Pn**	**08 02 20.3**	**+0.6**
AOPR	**Arecibo Observ**	**2.81**	**272**	*eP*	**Pn**	**08 02 20.3**	**+0.6**
AOPR				*eS*	**Sn**	**08 02 53.2**	**+0.4**
AOPR	**Arecibo Observ**	**2.81**	**272**	*eP*	**Pn**	**08 02 20.3**	**+0.6**
AOPR				*eS*	**Sn**	**08 02 53.2**	**+0.4**

MAN 08 08:10:18, 9°.98N×123°.07E, h1km, mb4.5, ML3.3, MS3.1, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.65**	**165**	*i* P	Pg	08 10 30.4	-0.1
SNPH				*i* S	Sg	08 10 39.6	+0.7
GUIM	**Jordan**	**0.80**	**324**	*eP*	Pb	08 10 34.5	-0.2
GUIM				*eS*	Sb	08 10 46.7	+0.7
TBP	**Tagbilaran**	**0.83**	**110**	*eP*	Pg	08 10 34.3	+0.3
TBP				*i* S	Sn	08 10 50.2	+0.4
LLP	**Lapu-Lapu**	**0.95**	**69**	*iP*	Pb	08 10 37.0	-0.3
LLP				*i* S	Sn	08 10 51.6	-1.0
JAP	**San Jose, Anti**	**1.34**	**305**	*iP*	Pb	08 10 45.2	+1.3
DCPH	**Dipolog City**	**1.41**	**168**	*iP*	Pn	08 10 42.6	-2.3
DCPH				*eS*	Sg	08 11 00.8	-2.6
RCP	**Roxas**	**1.61**	**349**	*iP*	Pb	08 10 48.2	-0.3
RCP				*eS*	Sg	08 11 13.3	+3.6
MSLP	**Maasin**	**1.77**	**85**	*eP*	Pb	08 10 51.2	-0.1
OCLP	**Ormoc**	**1.85**	**55**	*eP*	Pg	08 10 54.2	+0.6
OCLP				*eS*	Sb	08 11 15.8	-0.7
BUKP	**Musuan**	**2.87**	**136**	*eP*	Pn	08 11 06.6	+1.6
BUKP				*eS*	Sn	08 11 35.3	-4.9
ENPP	**El Nido**	**3.78**	**289**	*eP*	Pn	08 11 17.9	+0.5

IDC 08 08:11:39.2±5.2, **16°.66S×173°.77W, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.6/45, mbtmp3.8/3, ML3.0/1, Error ellipse: s-maj=218.6km s-min=24.7km az=138.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.34**	**35**	Pn	Pn	08 12 31.4	-1.4
	1.6nm,0.3s,baz=253,slow=20,SNR=2.6						
AFI				Sn	Sn	08 13 13.7	+0.4
	3.1nm,0.3s,baz=222,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**49.22**	**258**	P	P	08 20 29.4	-0.4
	0.5nm,0.6s,baz=98,slow=7.0,SNR=12						
ASAR	**Alice Springs**	**49.39**	**253**	P	P	08 20 30.5	-0.6
	3.0nm,0.8s,baz=85,slow=8.5,SNR=30						
BRTR	**Keskin Array B**	**146.89**	**319**	PKPbc	PKPab	08 31 24.8	-0.6
	0.5nm,0.7s,baz=72,slow=4.7,SNR=2.8						

MAN 08 08:17:05, 11°.47N×124°.50E, h8km, mb4.6, ML3.5, MS3.3, 4C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.43**	**166**	*eP*	Pb	08 17 14.2	-0.7
OCLP				*eS*	Sb	08 17 20.8	-0.7
PLP	**Palo**	**0.56**	**123**	*iP*	Pb	08 17 17.1	+0.1
PLP				*i* S	Sb	08 17 25.8	+0.6
BESP	**Borongan**	**0.93**	**82**	*eP*	Pn	08 17 23.9	-0.4
BESP				*eS*	Sn	08 17 38.0	+0.2
LLP	**Lapu-Lapu**	**1.26**	**205**	*iP*	Pn	08 17 27.4	-1.6
LLP				*i* S	Sb	08 17 45.5	0.0
MSLP	**Maasin**	**1.37**	**165**	*eP*	Pb	08 17 31.0	+0.1
MSLP				*eS*	Sg	08 17 51.3	+2.1
RCP	**Roxas**	**1.73**	**273**	*iP*	Pn	08 17 36.0	+0.6
GUIM	**Jordan**	**2.06**	**246**	*eP*	Pn	08 17 40.9	+1.0
GUIM				*eS*	Sb	08 18 07.8	-0.6
JAP	**San Jose, Anti**	**2.61**	**254**	*iP*	Pb	08 17 51.1	-1.0
BUKP	**Musuan**	**3.61**	**171**	*eP*	Pn	08 18 03.6	+2.3
BUKP				*eS*	Sb	08 18 49.8	-3.4
PAGZ	**Pagadian**	**3.77**	**197**	*eP*	Pn	08 18 04.3	+0.9

*ISCJB **08** 08:20:18.2±0.5, 8°.42S±0°.05×123°.85E±0°.05, h200km, mb3.5/9, Error ellipse: s-maj=7.7km s-min=5.4km az=140.2*
*IDC **08** 08:20:18.9±1.7, 8°.08S×123°.90E, h172km±18km, mb3.4/9, mb1 3.5/11, mb1mx3.3/51, mbtmp3.9/11, Error ellipse: s-maj=34.0km s-min=15.2km az=58.0*
*DJA **08** 08:20:18.0±0.6, 8°.S±.5°×12°.4E±°, h189km±6km, M4.3/11, mB4.9/1, mb4.5/5, MLv4.3/11, Mw(mB)4.2/1*

ISC 08 08:20:19.9±0.6, **8°.44S**±0°.06×**123°.82E**±0°.07, **h200**km, **n23, σ2°36/32, mb3.6/9, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.38**	**161**	P	**Pn**	**08 20 51.4**	**-1.3**
SOEI				S	**Sn**	**08 21 15.8**	**-2.5**
MMRI	**Maumere**	**1.57**	**263**	P	**Pn**	**08 20 52.2**	**-2.1**
BATI	**Baumata**	**1.76**	**185**	P	**Pn**	**08 20 56.2**	**+0.2**
	102nm,0.3s,baz=31,slow=3.3,SNR=51						
BATI				S	**Sn**	**08 21 23.2**	**-1.1**
	48nm,0.3s,baz=90,slow=20,SNR=7.1						
BATI	**Baumata**	**1.76**	**185**	P	**Pn**	**08 20 55.0**	**-1.1**
BATI				S	**Sn**	**08 21 22.7**	**-1.6**
EDFI	**Ende, Flores**	**2.12**	**262**	P	**Pn**	**08 20 59.1**	**-0.7**
EDFI				S	**Sn**	**08 21 30.8**	**0.0**
BASI	**Baing, Sumba**	**3.65**	**241**	P	**Pn**	**08 21 16.4**	**-1.0**
BASI				S	**Sn**	**08 22 01.5**	**-1.0**
BSSI	**Bau Bau, Buton**	**4.01**	**304**	P	**Pn**	**08 21 20.2**	**-1.7**
WBSI	**Waikabubak, Su**	**4.53**	**254**	P	**Pn**	**08 21 27.1**	**-1.3**
BNSI	**Bone**	**5.45**	**317**	P	**Pn**	**08 21 38.8**	**-1.3**
PLAI	**Plampang**	**5.99**	**266**	P	**Pn**	**08 21 46.5**	**-0.5**
	57nm,0.5s,2µm0.4nm						
FITZ	**Fitzroy Crossi**	**9.76**	**170**	P	**Pn**	**08 22 36.6**	**+0.5**
	0.8nm,0.3s,baz=350,slow=10,SNR=28						
FITZ				S	**Sn**	**08 24 22.4**	**-2.9**
	2.6nm,0.3s,baz=336,slow=20,SNR=6.6						
PCJI	**Pacitan**	**12.51**	**270**	P	**Pn**	**08 23 11.1**	**-0.2**
WRA	**Warramunga Arr**	**15.31**	**139**	P	**P**	**08 23 45.8**	**-0.5**
	1.5nm,0.3s,baz=320,slow=13,SNR=86						
WRA				S	**S**	**08 26 27.9**	**-8.3**
	1.1nm,0.3s,baz=316,slow=24,SNR=5.6						
ASAR	**Alice Springs**	**17.96**	**149**	P	**Pn**	**08 24 19.4**	**+1.8**
	1.0nm,0.3s,baz=339,slow=8.5,SNR=5.7						
ASAR				S	**S**	**08 27 33.5**	**+2.4**
	0.2nm,0.3s,baz=322,slow=18,SNR=7.3						
ASAR				ScP	**ScP**	**08 32 01.2**	**+3.4**
	0.1nm,0.3s,baz=341,slow=1.5,SNR=4.5						
CTA	**Charters Tower**	**24.60**	**120**	P	**P**	**08 25 25.8**	**+3.9**
	1.6nm,0.5s,baz=303,slow=13,SNR=7.4						
STKA	**Stephens Creek**	**28.58**	**147**	P	**P**	**08 26 00.6**	**+3.2**
	1.6nm,0.8s,baz=315,slow=8.6,SNR=3.6						
MJAR	**Matsushiro Arr**	**46.74**	**16**	P	**P**	**08 28 26.0**	**-3.1**
	0.5nm,0.4s,baz=194,slow=9.4,SNR=4.1						
SONM	**Songino Array**	**58.12**	**346**	P	**P**	**08 29 52.2**	**-0.3**
	0.3nm,0.3s,baz=156,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**66.24**	**330**	P	**P**	**08 30 47.5**	**+1.1**
	0.4nm,0.4s,baz=130,slow=7.1,SNR=17						
PETK	**Petropavlovsk-**	**67.74**	**21**	P	**P**	**08 30 55.0**	**-0.7**
	2.7nm,0.7s,baz=214,slow=3.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**70.31**	**337**	P	**P**	**08 31 11.8**	**+0.3**
	0.5nm,0.4s,baz=160,slow=4.6,SNR=2.8						
KURBB	**Kurchatov Arra**	**70.67**	**331**	P	**P**	**08 31 14.1**	**+0.3**
	0.2nm,0.4s,baz=142,slow=5.7,SNR=3.7						
SEY	**Seymchan**	**74.47**	**13**	P	**P**	**08 31 36.9**	**+1.1**
	1.5nm,0.6s,baz=236,slow=11,SNR=14						

IDC 08 08:35:10.1±8.2, **19°.98N×95°.75E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.1/68, mbtmp3.3/4, Error ellipse: s-maj=705.5km s-min=21.8km az=59.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**28.92**	**341**	P	P	08 41 10.7	-0.1
	0.1nm,0.5s,baz=140,slow=8.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**33.48**	**340**	P	P	08 41 51.0	+0.1
	0.1nm,0.3s,baz=153,slow=8.7,SNR=3.9						
WRA	**Warramunga Arr**	**54.80**	**134**	P	P	08 44 42.4	+0.2
	0.4nm,0.6s,baz=318,slow=7.6,SNR=7.1						
ASAR	**Alice Springs**	**57.15**	**138**	P	P	08 44 58.6	-0.4
	0.2nm,0.5s,baz=316,slow=7.5,SNR=3.6						

MAN 08 08:42:30, 17°.98N×120°.67E, h48km, mb5.0, ML4.0, MS4.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.33**	**172**	*eP*	Pn	08 42 40.1	+0.8
ABRA				*eS*	Sn	08 42 48.8	+3.0
APYP	**Conner**	**0.56**	**101**	*eP*	Pn	08 42 43.1	+1.3
APYP				*eS*	Sn	08 42 53.8	+3.4
SGCP	**Mt. Cagua**	**1.34**	**78**	*eP*	Pn	08 42 53.6	+1.4
SGCP				*eS*	Sn	08 43 13.0	+4.1
CAUP	**Cauayan**	**1.51**	**133**	*eP*	Pn	08 42 55.7	+1.1
BOLP	**Bolinao**	**1.74**	**205**	*eP*	Pn	08 42 57.8	0.0
BOLP				*eS*	Sn	08 43 20.8	+2.0
BALP	**Baler**	**2.39**	**158**	*eP*	Pn	08 43 07.5	+0.9
BALP				*eS*	Sn	08 43 35.7	+1.0
PCPH	**Palayan**	**2.43**	**170**	*eP*	Pn	08 43 08.9	+1.6

MEX 08 09:02:38.8±0.9, **17°.01N×94°.57W, h153km**±16km, **MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.40**	**99**	*eP*	Pn	09 03 06.9	-0.8
TGIG				*eS*	Sn	09 03 27.1	-2.6
PCIG		**1.83**	**135**	*iP*	Pn	09 03 10.3	-1.9
PCIG				*i* S	Sn	09 03 36.7	-1.1
HUIG	**Huatulco**	**1.93**	**230**	*eP*	Pn	09 03 11.2	-2.0
HUIG				*i* S	Sn	09 03 38.1	-1.6
VHO	**Vista Hermosa**	**2.07**	**272**	*eP*	Pn	09 03 14.8	-0.4
VHO				*i* S	Sn	09 03 41.3	-1.8
CCIG	**Comitan**	**2.44**	**107**	*iP*	Pn	09

YUK					smax	smax				
	comp=E,19nm,0.4s									
LAGR	**Lagunnoye**	**5.42**	**8**	*e*P	**Pn**	**09 20 13.9**	**-1.8**
LAGR				*i* S	**Sn**	**09 21 12.0**	**-4.7**
MJAR	**Matsushiro Arr**	**5.63**	**250**	Pn	**Pn**	**09 20 17.3**	**-1.3**
	comp=E,1.6nm,0.3s,baz=51,slow=9.6,SNR=17									
MJAR				Sn	**Sn**	**09 21 20.3**	**-1.8**
	comp=E,0.8nm,0.3s,baz=77,slow=22,SNR=2.7									
MAJO	**Matsushiro**	**5.63**	**250**	*e*Pn	**Pn**	**09 20 17.6**	**-1.1**
MAJO				*e*Sn	**Sn**	**09 21 20.3**	**-1.8**
MAJO	**Matsushiro**	**5.63**	**250**	*e*P	**Pn**	**09 20 17.6**	**-1.1**
MAJO				*e*		09 21 20.3	
MAT	**Matsushiro**	**5.63**	**250**	P	**Pn**	**09 20 17.7**	**-1.0**
MAT				S	**Sn**	**09 21 19.3**	**-2.8**
MJB9	**Matsu-Tunnel**	**5.63**	**250**	*e*Pn	**Pn**	**09 20 17.6**	**-1.0**
ASAJ	**Asahikawa**	**5.66**	**344**	Pn	**Pn**	**09 20 18.5**	**-0.6**
	comp=E,1.5nm,0.3s,baz=218,slow=9.7,SNR=7.8									
ASAJ				Sn	**Sn**	**09 21 21.2**	**-1.6**
	comp=E,1.6nm,0.3s,baz=101,slow=18,SNR=6.0									
ASAJ	**Asahikawa**	**5.66**	**344**	*e*Pn	**Pn**	**09 20 20.2**	**+1.1**
ASAJ				*e*Sn	**Sn**	**09 21 21.2**	**-1.6**
KUR	**Kuril'sk**	**6.94**	**18**	*e*P	**Pn**	**09 20 34.2**	**-2.3**
KUR				*e*S	**Sn**	**09 21 48.1**	**-6.0**
KUR				smax	smax					
	comp=N,11nm,0.2s									
KUR				smax	smax					
	comp=E,43nm,0.2s									
INU	**Inuyama**	**7.04**	**244**	*e*Pn	**Pn**	**09 20 36.8**	**-1.2**
YSS	**Yuzh-Sakhalins**	**8.39**	**351**	P	**Pn**	**09 20 52.4**	**-4.1**
USRK	**Ussuriysk Ar.**	**11.05**	**304**	Pn	**Pn**	**09 21 34.6**	**+1.6**
	comp=E,0.2nm,0.3s,baz=105,slow=14,SNR=12									
MA2	**Magadan**	**21.25**	**8**	P	**P**	**09 23 42.1**	**+1.8**
	comp=E,1.0nm,0.3s,baz=195,slow=12,SNR=4.5									
SEY	**Seymchan**	**24.71**	**8**	P	**P**	**09 24 16.9**	**+1.9**
	comp=E,1.7nm,0.7s,baz=178,slow=8.4,SNR=15									
SEY	**Seymchan**	**24.71**	**8**	P	**P**	**09 24 17.0**	**+1.9**
SEY				pmax	pmax					
	comp=Z,2.0nm,0.6s									
YAK	**Yakutsk**	**25.14**	**343**	P	**P**	**09 24 19.4**	**+0.5**
	comp=Z,13nm,0.5s,baz=77,slow=2.4,SNR=4.6									
YAK	**Yakutsk**	**25.14**	**343**	*e*P	**P**	**09 24 19.4**	**+0.5**
	comp=Z,16nm,0.5s									
H11N2	**WAKE ISLAND Hy**	**26.90**	**128**	T	T	09 52 26.1	
	baz=324									
H11N1	**WAKE ISLAND Hy**	**26.91**	**128**	T	T	09 52 24.4	
	baz=324									
H11N3	**WAKE ISLAND Hy**	**26.92**	**128**	T	T	09 52 26.7	
	baz=324									
SONA0	**Songino Array**	**29.14**	**301**	*e*P	**P**	**09 24 57.4**	**+2.2**
SONM	**Songino Array**	**29.14**	**301**	P	**P**	**09 24 57.4**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=92,slow=3.5,SNR=3.0									
ZAA1	**Zalesovo Array**	**42.79**	**311**	*e*P	**P**	**09 26 52.5**	**+1.1**
ZAA1				*e*PcP	**PcP**	**09 28 41.9**	**-0.4**
ZALV	**Zalesovo Beam**	**42.79**	**311**	P	**P**	**09 26 52.5**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=83,slow=8.8,SNR=3.3									
ZALV				PcP	**PcP**	**09 28 41.9**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=96,slow=2.5,SNR=4.8									
ZALV				ScP	**ScP**	**09 32 32.1**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=96,slow=4.3,SNR=2.6									
MK32	**Makanchi Array**	**45.51**	**301**	*e*P	**P**	**09 27 14.0**	**+0.7**
MKAR	**Makanchi Array**	**45.51**	**301**	P	**P**	**09 27 14.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=86,slow=9.6,SNR=8.3									
ILAR	**Eielson Array**	**46.67**	**33**	ScP	**ScP**	**09 32 47.3**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=262,slow=3.7,SNR=4.7									
KURK	**Kurchatov**	**47.02**	**307**	*e*P	**P**	**09 27 26.5**	**+1.4**
KURK	**Kurchatov**	**47.02**	**307**	P	**P**	**09 27 26.5**	**+1.4**
KURK				pmax	pmax					
	comp=Z,1.0nm,0.5s									
KURBB	**Kurchatov Arra**	**47.09**	**307**	P	**P**	**09 27 26.5**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=81,slow=8.2,SNR=16									
BVAR	**Borovoye Array**	**51.43**	**312**	P	**P**	**09 27 60.0**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=64,slow=9.8,SNR=3.7									
BVAR	**Borovoye Array**	**51.43**	**312**	P	**P**	**09 28 00.0**	**+1.1**
BVAR				pmax	pmax					
	comp=Z,1.0nm,0.7s									
INK	**Inuvik**	**51.70**	**28**	P	**P**	**09 28 01.7**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=305,slow=5.5,SNR=5.8									
INK	**Inuvik**	**51.70**	**28**	*e*P	**P**	**09 28 01.7**	**+1.2**
	comp=Z,12nm,1.8s									
WR1	**Warramunga Arr**	**59.14**	**191**	*e*P	**P**	**09 28 52.0**	**-2.6**
WRA	**Warramunga Arr**	**59.14**	**191**	P	**P**	**09 28 52.0**	**-2.6**
	comp=Z,2.5nm,0.7s,baz=11,slow=7.5,SNR=12									
WRA	**Warramunga Arr**	**59.14**	**191**	*e*P	**P**	**09 28 52.5**	**-2.1**
WRA				pmax	pmax					
	comp=Z,2.0nm,0.7s									
YKA	**Yellowknife Ar**	**61.03**	**31**	P	**P**	**09 29 07.4**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=299,slow=6.5,SNR=7.6									
FIA0	**FINESS Array S**	**68.56**	**333**	*e*P	**P**	**09 29 56.9**	**+0.7**
FIA0	**FINESS Array S**	**68.56**	**333**	*e*P	**P**	**09 29 56.9**	**+0.7**
FINES	**FINESS Array B**	**68.56**	**333**	P	**P**	**09 29 56.9**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=44,slow=5.8,SNR=8.2									
KBZ	**Khabaz**	**71.81**	**312**	P	**P**	**09 30 15.9**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=66,slow=12,SNR=3.1									
NV01	**Mina Array Sit**	**71.87**	**55**	*e*P	**P**	**09 30 17.3**	**+0.2**
NVAR	**Mina Array Bea**	**71.87**	**55**	P	**P**	**09 30 17.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=290,slow=6.4,SNR=3.5									
AKASG	**Malin Array Be**	**74.58**	**323**	P	**P**	**09 30 33.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=45,slow=6.4,SNR=3.6									
AKASG	**Malin Array Be**	**74.58**	**323**	P	**P**	**09 30 33.0**	**+0.4**
AKASG				pmax	pmax					
	comp=Z,1.0nm,0.5s									
AKBB	**Malin Array Si**	**74.58**	**323**	*e*P	**P**	**09 30 33.0**	**+0.4**
	comp=Z,11nm,1.4s									
AKBB	**Malin Array Si**	**74.58**	**323**	*e*P	**P**	**09 30 33.0**	**+0.4**
AKBB				pmax	pmax					
	comp=Z,11nm,1.4s									
PD31	**Pinedale Array**	**74.61**	**47**	*e*P	**P**	**09 30 33.7**	**+0.5**
PDAR	**Pinedale Array**	**74.61**	**47**	P	**P**	**09 30 33.7**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=228,slow=2.3,SNR=4.2									
TXAR	**Lajitas Array**	**87.01**	**54**	P	**P**	**09 31 39.9**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=286,slow=3.4,SNR=3.7									

*IDC **08** 09:20:51.9±0.5, 18°.29N×119°.53E, h0km, mb4.2/30, mb1 4.3/32, mb1mx4.1/71, mbtmp4.2/32, ML4.3/2, MS3.4/8, Ms1 3.5/8, ms1mx3.2/60, Error ellipse: s-maj=16.5km s-min=11.2km az=70.0*

*ISCJB **08** 09:20:52.8±1.6, 18°.30N±0°.03×119°.50E±0°.05, h16km±12km, mb4.4/49, MS3.8/9, Error ellipse: s-maj=7.5km s-min=5.0km az=171.0*

*NEIC **08** 09:20:53.9±1.9, 18°.27N×119°.44E, h12km±12km, mb4.8/24, Error ellipse: s-maj=5.7km s-min=3.6km az=85.0*

*BJI **08** 09:20:55.4, 18°.41N×119°.12E, h10km, mb4.2/22, mB4.6/14, Ms4.4/13, Ms7 4.1/13*

ISC 08 09:20:53.8±2.6, 18°.30N±0°.05×119°.34E±0°.05, h11km±16km, n97, σ1s54/112, mb4.4/49, MS4.2/9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**3.20**	**148**	*e*P		**Pn**	**Pn**	**09 21 44.9**	**+0.9**
TGY	**Tagaytay City**	**4.45**	**160**	Pn		**Pn**	**Pn**	**09 22 01.2**	**0.0**
	69nm,0.3s,baz=41,slow=20,SNR=4.0								
TWG	**Pinlang**	**4.78**	**20**	*e*Pn		**Pn**	**Pn**	**09 22 05.2**	**-0.6**
TWG				*e*Sn		**Sn**	**Sn**	**09 22 59.2**	**-1.9**
TPUB	**Ta-pu**	**5.12**	**13**	*e*Pn		**Pn**	**Pn**	**09 22 09.9**	**-0.6**
YULB	**Yu-li**	**5.38**	**20**	*e*Pn		**Pn**	**Pn**	**09 22 14.7**	**+0.6**
SSLB	**Suanglung**	**5.66**	**15**	*e*Pn		**Pn**	**Pn**	**09 22 17.4**	**-0.5**
NACB	**Ninganchiao**	**6.21**	**19**	*e*Pn		**Pn**	**Pn**	**09 22 25.7**	**+0.3**
YHNB	**Yeheng**	**6.61**	**16**	*e*Pn		**Pn**	**Pn**	**09 22 32.3**	**+1.3**
GZH	**Guangzhou**	**7.36**	**311**	Pn		**Pn**	**Pn**	**09 22 41.5**	**+0.3**
GZH				Sn		**Sn**	**Sn**	**09 23 58.3**	**-6.5**
QIZ	**Qiongzhong**	**9.03**	**276**	P		**Pn**	**Pn**	**09 23 02.8**	**-1.4**
QIZ				S		**Sn**	**Sn**	**09 24 46.2**	**+0.1**
QIZ				LR		LR			
	comp=E,340nm,10.6s								
QIZ				LR		LR			
	comp=Z,320nm,8.4s								
QIZ	**Qiongzhong**	**9.03**	**276**	*e*Pn		**Pn**	**Pn**	**09 23 02.6**	**-1.7**
QIZ				*e*Sn		**Sn**	**Sn**	**09 24 39.8**	**-6.3**
DAV	**Davao City (W)**	**12.71**	**151**	LR		LR		09 30 09.8	
	comp=Z,189nm,19.6s,baz=301,slow=44								
NJ2	**Nanjing**	**13.70**	**358**	*e*P		**Pn**	**Pn**	**09 24 11.9**	**+3.9**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
KMI	**Kunming**	**16.85**	**297**	P		**P**	**P**	**09 24 52.1**	**0.0**
KMI				sP		sP	sP	09 24 56.2	-0.3
KMI				S		**Sn**	**Sn**	**09 27 58.0**	**+0.7**
KMI				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KMI				pmax		pmax			
	comp=Z,110nm,3.7s								
KMI				LR		LR			
	comp=N,280nm,13.6s								
KMI				LR		LR			
	comp=E,500nm,14.6s								
KMI				LR		LR			
	comp=Z,400nm,12.1s								
JNU	**Nakatsue**	**18.03**	**33**	LR		LR		09 31 12.6	
	comp=Z,94nm,20.6s,baz=304,slow=35								
XAN	**Xi'an**	**18.23**	**331**	P		P		09 25 16.9	+10
XAN	**Xi'an**	**18.23**	**331**	P		**Pn**		**09 25 05.8**	**-1.1**
XAN				pmax		pmax			
	comp=Z,12nm,1.5s								
CD2	**Chengdu**	**18.90**	**315**	*e*P		**Pn**		**09 25 15.0**	**-0.1**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,140nm,4.6s								
KSM	**Kuching**	**18.93**	**209**	*e*P		**Pn**		**09 25 16.2**	**+0.8**
	27nm,1.1s								
CMAR	**Chiang Mai Arr**	**19.36**	**274**	P		**Pn**		**09 25 21.4**	**+0.7**
	0.1nm,0.3s,baz=88,slow=9.1,SNR=10								
CMAR				PcP		**PcP**		**09 29 42.7**	**+0.9**
	0.1nm,0.3s,baz=208,slow=0.6,SNR=5.7								
CMAR				LR		LR		09 31 50.6	
	comp=Z,63nm,21.4s,baz=344,slow=34								
INCN	**Inchon**	**20.15**	**17**	*e*P		**P**		**09 25 28.6**	**+0.5**
	137nm,1.9s								
KS15	**Wonju Array Si**	**20.49**	**20**	*e*P		**P**		**09 25 31.4**	**-0.4**
KSAR	**Wonju Array Be**	**20.49**	**20**	P		**P**		**09 25 31.4**	**-0.4**
KSRS	**Korea Array**	**20.51**	**20**	P		**P**		**09 25 31.4**	**-0.6**
	1.9nm,0.7s,baz=207,slow=12,SNR=5.3								
KSRS				LR		LR		09 32 50.4	
	comp=Z,26nm,18.9s,baz=340,slow=35								
MYKOM	**Kota Tinggi**	**22.37**	**225**	*e*P		**P**		**09 25 53.1**	**+0.9**
	17nm,0.3s								
LZH	**Lanzhou**	**22.39**	**325**	*e*P		**P**		**09 25 53.3**	**+0.8**
LZH				pP		sP		09 25 56.2	-0.8
LZH				sP		pP		09 25 58.1	+2.5
LZH				pmax		pmax			
	comp=Z,27nm,1.2s								
LZH				pmax		pmax			
	comp=Z,130nm,5.8s								
LZH				LR		LR			
	comp=N,500nm,10.3s								
LZH				LR		LR			
	comp=E,440nm,10.0s								
LZH				LR		LR			
	comp=Z,560nm,10.7s								
HHC	**Hu-ho-hao-te**	**23.45**	**345**	*e*P		**P**		**09 26 04.1**	**+0.8**
HHC				S		**S**		**09 30 14.4**	**-2.3**
HHC				pmax		pmax			
	comp=Z,15nm,0.5s								
HHC				pmax		pmax			
	comp=Z,110nm,7.4s								
HHC				LR		LR			
	comp=N,400nm,8.7s								
HHC				LR		LR			
	comp=E,340nm,10.8s								
HHC				LR		LR			
	comp=Z,310nm,10.4s								
JHJ	**Hachijo jima 2**	**23.53**	**47**	P		**P**		**09 26 01.0**	**-3.1**
	176nm,0.5s,baz=252,slow=19,SNR=2.6								
FAKI	**Fak Fak**	**24.62**	**148**	*e*P		**P**		**09 26 13.5**	**-0.9**
	43nm,1.0s								
GUMO	**Guam**	**24.98**	**97**	LR		LR		09 34 30.7	
	comp=Z,53nm,20.8s,baz=284,slow=33								
PSI	**Prapat**	**25.25**	**235**	*e*P		**P**		**09 26 21.4**	**+1.1**
	13nm,1.0s								
BATI	**Baumata**	**28.65**	**171**	LR		LR		09 38 49.2	
	comp=Z,62nm,19.8s,baz=293,slow=38								
SONA0	**Songino Array**	**31.30**	**343**	*e*P		**P**		**09 27 14.9**	**+0.9**
SONA0				*e*PcP		**PcP**		**09 30 08.3**	**+0.2**
SONM	**Songino Array**	**31.30**	**343**	P		**P**		**09 27 14.9**	**+0.9**
	0.6nm,0.5s,baz=168,slow=11,SNR=5.8								
SONM				PcP		**PcP**		**09 30 08.3**	**+0.2**
	0.2nm,0.4s,baz=159,slow=4.5,SNR=3.5								
KLR	**Kul'dur**	**32.44**	**15**	P		**P**		**09 27 22.5**	**-1.4**
	0.1nm,0.4s,baz=220,slow=5.5,SNR=6.3								
WMQ	**Urumqi**	**36.80**	**321**	P		**P**		**09 28 03.7**	**+2.0**
WMQ				pP		sP		09 28 08.1	+1.7
WMQ				sP		pP		09 28 10.7	+5.6
WMQ				pmax		pmax			
	comp=Z,13nm,0.8s								
WMQ				LR		LR			
	comp=N,490nm,23.3s								
WMQ				LR		LR			
	comp=E,320nm,19.1s								
WMQ				LR		LR			
	comp=Z,310nm,26.5s								
PMG	**Port Moresby**	**38.88**	**133**	P		**P**		**09 28 18.1**	**-1.5**
	2.8nm,0.4s,baz=282,slow=19,SNR=2.5								
PALK	**Pallekele**	**39.16**	**259**	P		**P**		**09 28 22.0**	**0.0**
	4.0nm,0.6s,baz=115,slow=17,SNR=2.7								
PALK	**Pallekele**	**39.16**	**259**	*e*P		**P**		**09 28 22.0**	**0.0**
	35nm,1.4s								
WRAB	**Tennant Creek**	**40.75**	**158**	*e*P		**P**		**09 28 33.8**	**-1.3**
	33nm,1.9s								
WR1	**Warramunga Arr**	**40.76**	**158**	*e*P		**P**		**09 28 33.5**	**-1.5**
	5.7nm,0.8s								
WR1				*e*PcP		**PcP**		**09 30 36.0**	**-0.4**
WRA	**Warramunga Arr**	**40.76**	**158**	P		**P**		**09 28 33.5**	**-1.5**
	2.6nm,0.7s,baz=346,slow=8.9,SNR=60								
WRA				PcP		**PcP**		**09 30 36.0**	**-0.4**
	1.3nm,0.9s,baz=339,slow=3.5,SNR=5.6								
WB2	**Warramunga Ar**	**40.76**	**158**	*e*P		**P**		**09 28 34.2**	**-0.9**
MK01	**Makanchi Array**	**41.59**	**321**	*e*P		**P**		**09 28 42.7**	**+1.0**
MK31	**Makanchi Array**	**41.61**	**321**	*e*P		**P**		**09 28 43.4**	**+1.5**
MK32	**Makanchi Array**	**41.61**	**321**	*e*P		**P**		**09 28 43.8**	**+1.9**
MK32				*e*PcP		**PcP**		**09 30 38.7**	**-0.2**
MKAR	**Makanchi Array**	**41.61**	**321**	P		**P**		**09 28 43.8**	**+1.9**
	0.5nm,0.6s,baz=96,slow=9.7,SNR=6.4								
MKAR				PcP		**PcP**		**09 30 38.7**	**-0.1**
	0.5nm,0.6s,baz=95,slow=3.4,SNR=3.7								
MKAR	**Makanchi Array**	**41.61**	**321**	*e*P		**P**		**09 28 43.1**	**+1.3**
	8.2nm,0.8s								
MKAR				PcP		**PcP**		**09 30 38.7**	**-0.1**
KSH	**Kashi**	**42.94**	**309**	*e*P		**P**		**09 28 57.0**	**+4.0**
KSH				pP		sP		09 29 01.1	+3.4
KSH				PP		**PcP**		**09 30 40.1**	**-3.5**
KSH				S		**S**		**09 35 23.5**	**+5.3**
KSH				sS		sS		09 35 33.1	+9.4
KSH				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KSH				pmax		pmax			
	comp=Z,190nm,5.6s								
KSH				LR		LR			
	comp=N,260nm,8.3s								
KSH				LR		LR			
	comp=E,330nm,8.2s								
KSH				LR		LR			
	comp=Z,410nm,10.9s								
AS31	**Alice Springs**	**44.07**	**161**	*e*P		**P**		**09 29 01.4**	**-0.6**
	1.2nm,0.7s								
ASAR	**Alice Springs**	**44.07**	**161**	P		**P**		**09 29 01.4**	**-0.6**
	2.4nm,0.5s,baz=339,slow=6.9,SNR=43								
ASAR				PcP		**PcP**		**09 30 47.0**	**-0.4**
	0.4nm,0.4s,baz=340,slow=3.6,SNR=4.2								
AS01	**Alice Springs**	**44.08**	**161**	*e*P		**P**		**09 29 01.2**	**-0.9**
YAK	**Yakutsk**	**44.28**	**7**	P		**P**		**09 29 04.0**	**+0.8**
	11nm,0.5s,baz=158,slow=8.5,SNR=4.0								
YAK	**Yakutsk**	**44.28**	**7**	*e*P		**P**		**09 29 04.0**	**+0.8**
	15nm,0.6s								
ZALV	**Zalesovo Beam**	**44.40**	**331**	P		**P**		**09 29 04.0**	**-0.3**
	0.6nm,0.6s,baz=140,slow=6.0,SNR=2.7								
ZALV				PcP		**PP**		**09 30 46.8**	**-1.1**
	0.3nm,0.3s,baz=123,slow=3.4,SNR=3.1								
ZAA1	**Zalesovo Array**	**44.41**	**331**	*e*P		**P**		**09 29 04.0**	**-0.3**
ZAA1				*e*PcP		**PP**		**09 30 46.8**	**-1.1**
KURK	**Kurchatov**	**45.68**	**325**	*e*P		**P**		**09 29 15.5**	**+1.0**
	8.0nm,1.0s								
KURK				*e*P		**P**		**09 29 16.1**	**+1.5**
KURBB	**Kurchatov Arra**	**45.68**	**324**	P		**P**		**09 29 16.1**	**+1.5**
	3.0nm,0.7s,baz=121,slow=8.3,SNR=17								
CTAO	**Charters Tower**	**46.40**	**144**	*e*P		**P**		**09 29 19.4**	**-1.1**
	14nm,0.7s								
MA2	**Magadan**	**47.06**	**21**	P		**P**		**09 29 24.9**	**-0.4**
	0.9nm,0.3s,baz=189,slow=9.3,SNR=5.0								
KKAR	**Karatay Array**	**47.89**	**312**	*e*P		**P**		**09 29 33.0**	**+0.9**
SEY	**Seymchan**	**50.07**	**19**	P		**P**		**09 29 48.6**	**+0.3**
	0.9nm,0.6s,baz=258,slow=6.9,SNR=6.4								
BVAR	**Borovoye Array**	**51.27**	**324**	P		**P**		**09 29 58.8**	**+1.2**
	1.0nm,0.4s,baz=112,slow=9.5,SNR=9.4								
BVAR				PcP		**PcP**		**09 31 11.5**	**-1.2**
	0.6nm,0.6s,baz=123,slow=5.3,SNR=2.5								
BRVK	**Borovoye**	**51.35**	**324**	*e*P		**P**		**09 29 59.1**	**+0.9**
	3.6nm,0.9s								
BBOO	**Buckleboo**	**53.28**	**162**	*e*P		**P**		**09 30 12.9**	**+0.2**
	18nm,1.4s								
TIXI	**Tiksi**	**53.64**	**4**	P		**P**		**09 30 15.3**	**+0.4**
	1.3nm,0.2s,baz=124,slow=7.3,SNR=3.5								
STKA	**Stephens Creek**	**54.27**	**157**	P		**P**		**09 30 19.9**	**-0.1**
	2.1nm,0.5s,baz=342,slow=7.6,SNR=12								
STKA	**Stephens Creek**	**54.27**	**157**	*e*P		**P**		**09 30 19.9**	**-0.1**
	9.1nm,2.0s								
GEYT	**Alibeck**	**56.45**	**304**	P		**P**		**09 30 37.5**	**+1.7**
	4.8nm,0.9s,baz=119,slow=1.9,SNR=7.4								
ABKAR	**Akbulak array**	**56.45**	**317**	*e*P		**P**		**09 30 36.8**	**+1.2**
	41nm,0.6s								
AKTO	**Aktyubinsk**	**57.90**	**319**	P		**P**		**09 30 47.0**	**+1.2**
	5.6nm,0.9s,baz=98,slow=9.9,SNR=13								
AKTO				LR		LR		09 57 49.7	
	comp=Z,296nm,18.1s,baz=311,slow=38								
ARU	**Arti**	**58.86**	**325**	*e*P		**P**		**09 30 53.0**	**+0.7**
	12nm,0.5s								
KBZ	**Khabaz**	**67.89**	**310**	P		**P**		**09 31 53.6**	**+1.2**
	1.8nm,0.8s,baz=204,slow=3.3,SNR=3.7								
MDM	**Murphy Dome**	**74.61**	**26**	*e*P		**P**		**09 32 33.5**	**+0.6**
	8.7nm,1.1s								
SPA0	**Spitsbergen Ar**	**74.84**	**348**	*e*P		**P**		**09 32 34.9**	**+0.9**
SPITS	**Spitsbergen Ar**	**74.84**	**348**	P		**P**		**09 32 34.8**	**+0.9**
	9.9nm,1.0s,baz=98,slow=8.9,SNR=2.8								
AFI	**Afiamalu**	**75.06**	**110**	LR		LR		10 00 10.4	
	comp=Z,84nm,20.7s,baz=132,slow=32								
ILAR	**Eielson Array**	**75.21**	**26**	P		**P**		**09 32 34.8**	**-1.4**
	0.3nm,0.8s,baz=274,slow=3.5,SNR=3.9								
FIA0	**FINESS Array S**	**75.66**	**330**	*e*P		**P**		**09 32 39.0**	**+0.2**
FINES	**FINESS Array B**	**75.66**	**330**	P		**P**		**09 32 39.0**	**+0.2**
	1.9nm,0.6s,baz=45,slow=7.4,SNR=9.4								
AKASG	**Malin Array Be**	**76.14**	**319**	P		**P**		**09 32 41.2**	**-0.6**
	2.7nm,0.9s,baz=65,slow=5.7,SNR=7.4								
AKBB	**Malin Array Si**	**76.14**	**319**	*e*P		**P**		**09 32 41.2**	**-0.6**
	24nm,2.0s								
INK	**Inuvik**	**79.30**	**21**	P		**P**		**09 32 58.6**	**-0.4**
	1.0nm,0.9s,baz=319,slow=4.7,SNR=3.7								
INK	**Inuvik**	**79.30**	**21**	*e*P		**P**		**09 32 58.6**	**-0.4**
	19nm,1.9s								
BUR04	**Bucovina Ar. S**	**79.42**	**317**	*e*P		**P**		**09 33 00.6**	**+0.3**
MLR	**Muntele Rosu**	**79.50**	**314**	P		**P**		**09 32 59.7**	**-1.1**
	0.5nm,0.5s,baz=135,slow=2.9,SNR=2.9								
MLR	**Muntele Rosu**	**79.50**	**314**	*e*P		**P**		**09 32 59.7**	**-1.1**
	20nm,1.8s								
OPO	**Ambohidratompo**	**79.78**	**247**	P		**P**		**09 33 03.4**	**+0.7**
	2.6nm,1.0s,baz=90,slow=20,SNR=2.9								
HFS	**Hagfors**	**81.84**	**331**	P		**P**		**09 33 12.4**	**-0.4**
	2.1nm,0.9s,baz=127,slow=6.2,SNR=3.0								
NB200	**NORSAR Array S**	**82.60**	**332**	*e*P		**P**		**09 33 16.1**	**-0.8**
NOA	**NORSAR Array B**	**82.60**	**332**	P		**P**		**09 33 16.1**	**-0.8**
	2.1nm,1.0s,baz=76,slow=7.3,SNR=2.8								
KMBO	**Kilima Mbogo**	**82.84**	**266**	P		**P**		**09 33 20.4**	**+1.1**
	0.8nm,0.3s,baz=3.6,slow=2.8,SNR=3.7								
KMBO	**Kilima Mbogo**	**82.84**	**266**	*e*P		**P**		**09 33 20.4**	**+1.1**
	2.4nm,0.7s								
GEC2	**GERESS Array S**	**86.27**	**320**	*e*P		**P**		**09 33 36.0**	**+0.1**
	16nm,1.9s								
GERES	**GERESS Array B**	**86.27**	**320**	P		**P**		**09 33 36.0**	**+0.1**
	0.6nm,0.6s,baz=50,slow=3.1,SNR=3.8								
YKA	**Yellowknife Ar**	**89.03**	**22**	P		**P**		**09 33 48.9**	**+0.2**
	1.4nm,0.8s,baz=316,slow=4.6,SNR=24				

IDC ***08*** *09:39:17.9±1.1, 10°.35N×141°.26E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/54, mbtmp3.5/7, MS3.5/1, Ms1 3.5/1, ms1mx2.7/36, Error ellipse: s-maj=44.9km s-min=22.4km az=89.0*

ISCJB ***08*** *09:39:21.2±0.9, 10°.3N±0°.1×141°.1E±0°.3, h33km, mb3.5/7, MS3.5/1, Error ellipse: s-maj=42.1km s-min=18.2km az=1.6*

ISC 08 09:39:23.2±1.1, 10°.3N±0°.2×141°.2E±0°.3, h35km±5km, n11, σ1§43/7, mb3.5/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**25.95**	**69**	T	T	10 11 46.7	
	baz=254,slow=74,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**25.97**	**69**	T	T	10 11 46.2	
	baz=254,slow=74,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**25.97**	**69**	T	T	10 11 46.2	
	baz=254,slow=74,SNR=5.9						
WRA	**Warramunga Arr**	**30.82**	**193**	P	**P**	**09 45 35.3**	**-0.8**
	0.6nm,0.8s,baz=14,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**34.53**	**192**	P	**P**	**09 46 09.2**	**+0.7**
	0.2nm,0.5s,baz=21,slow=11,SNR=4.9						
PSI	**Prapat**	**42.63**	**263**	LR	LR	10 09 27.7	
	comp=Z,50nm,18.1s,baz=336,slow=42						
MKAR	**Makanchi Array**	**61.42**	**318**	P	**P**	**09 49 34.5**	**-1.6**
	0.3nm,0.8s,baz=120,slow=7.0,SNR=2.9						
KURBB	**Kurchatov Arra**	**64.86**	**321**	P	**P**	**09 50 00.4**	**+1.6**
	0.4nm,0.5s,baz=115,slow=6.1,SNR=5.1						
BVAR	**Borovoye Array**	**70.30**	**323**	P	**P**	**09 50 33.4**	**+0.2**
	0.6nm,0.6s,baz=106,slow=9.2,SNR=4.3						
ILAR	**Eielson Array**	**73.03**	**25**	P	**P**	**09 50 48.3**	**-1.0**
	0.2nm,0.8s,baz=242,slow=6.8,SNR=4.7						
YKA	**Yellowknife Ar**	**87.38**	**27**	P	**P**	**09 52 07.4**	**+0.8**
	0.2nm,0.5s,baz=289,slow=5.0,SNR=5.2						

ISK ***08*** *09:46:59.6, 38°.32N×38°.57E, h29km, ML1.8/3*

ISCJB ***08*** *09:47:00.5±0.6, 38°.26N±0°.03×38°.73E±0°.04, h7km±7km, Error ellipse: s-maj=5.6km s-min=4.9km az=149.2*

CSEM ***08*** *09:47:00.5±0.2, 38°.29N×38°.73E, h10km, ML1.8, Error ellipse: s-maj=3.5km s-min=3.4km az=177.0*

DDA ***08*** *09:47:00.4, 38°.27N×38°.74E, h7km, Ml2.5*

ISC 08 09:47:00.6±0.9, 38°.28N±0°.03×38°.72E±0°.03, h12km±7km, n16, σ0§36/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.23**	**278**	PG	**Pg**	**09 47 05.8**	**+0.2**
MALT				SG	**Sg**	**09 47 08.5**	**-0.5**
MALT	**Malatya**	**0.23**	**278**	*e*Pg	**Pg**	**09 47 05.8**	**+0.2**
MALT				*e*Sg	**Sg**	**09 47 08.5**	**-0.5**
ELZG	**Elazig**	**0.30**	**44**	*i* P	**Pg**	**09 47 06.7**	**-0.1**
ELZG				*i* S	**Sg**	**09 47 11.3**	**+0.3**
ELZG	**Elazig**	**0.30**	**44**	P	**Pg**	**09 47 06.7**	**-0.1**
ELZG				S	**Sg**	**09 47 11.3**	**+0.3**
AKCD	**Akcadag**	**0.63**	**272**	*i* P	**Pg**	**09 47 12.9**	**0.0**
AKCD				*i* S	**Sb**	**09 47 22.6**	**+0.2**
AKCD	**Akcadag**	**0.63**	**272**	P	**Pg**	**09 47 12.9**	**0.0**
AKCD				S	**Sb**	**09 47 22.6**	**+0.2**
PTK	**Pertek**	**0.81**	**41**	PG	**Pg**	**09 47 15.9**	**-0.3**
PTK				SG	**Sb**	**09 47 27.9**	**+0.3**
PTK	**Pertek**	**0.81**	**41**	*e*Pg	**Pg**	**09 47 15.9**	**-0.3**
PTK				*e*Sg	**Sb**	**09 47 27.9**	**+0.3**
URFA	**Urfa**	**0.84**	**175**	PG	**Pb**	**09 47 17.3**	**+0.1**
URFA				SG	**Sb**	**09 47 28.4**	**-0.1**
URFA	**Urfa**	**0.84**	**175**	*e*Pg	**Pb**	**09 47 17.3**	**+0.1**
URFA				*e*Sg	**Sb**	**09 47 28.4**	**-0.1**
HEKM	**Malatya_Hekimh**	**0.84**	**315**	*i* P	**Pg**	**09 47 16.4**	**-0.5**
HEKM				*i* S	**Sb**	**09 47 29.4**	**+0.7**
HEKM	**Malatya_Hekimh**	**0.84**	**315**	P	**Pg**	**09 47 16.4**	**-0.5**
HEKM				S	**Sb**	**09 47 29.4**	**+0.7**
KEMA	**Kemaliye**	**1.00**	**350**	*i* P	**Pg**	**09 47 19.5**	**-0.4**
KEMA				*i* S	**Sn**	**09 47 34.5**	**-0.2**
KEMA	**Kemaliye**	**1.00**	**350**	P	**Pg**	**09 47 19.5**	**-0.4**
KEMA				S	**Sn**	**09 47 34.5**	**-0.2**
MAZI	**Mazidag**	**1.59**	**120**	PN	**Pn**	**09 47 28.8**	**+0.1**
MAZI	**Mazidag**	**1.59**	**120**	*e*Pn	**Pn**	**09 47 28.8**	**+0.1**

ISK ***08*** *10:10:26.1, 38°.75N×43°.32E, h22km, ML2.1/3*

CSEM ***08*** *10:10:27.7±0.4, 38°.77N×43°.31E, h10km, ML2.1, Error ellipse: s-maj=8.6km s-min=8.0km az=52.0*

DDA ***08*** *10:10:29.1, 38°.63N×43°.21E, h7km, Ml2.6*

ISC 08 10:10:27.4±0.9, 38°.77N±0°.03×43°.32E±0°.04, h17km±9km, n14, σ0§81/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**162**	PG	**Pg**	**10 10 32.6**	**+0.5**
VANB				SG	**Sb**	**10 10 36.9**	**+1.1**
VANB	**Van**	**0.18**	**162**	*e*Pg	**Pg**	**10 10 32.6**	**+0.5**
VANB				*e*Sg	**Sb**	**10 10 36.9**	**+1.1**
TVAN	**Van**	**0.25**	**164**	*i* P	**Pg**	**10 10 33.1**	**-0.1**
TVAN				*i* S	**Sg**	**10 10 36.6**	**-0.5**
TVAN	**Van**	**0.25**	**164**	P	**Pg**	**10 10 33.1**	**-0.1**
TVAN				S	**Sg**	**10 10 36.6**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.46**	**275**	*i* P	**Pg**	**10 10 37.3**	**+0.4**
ADCV				*i* S	**Sb**	**10 10 45.1**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.46**	**275**	P	**Pg**	**10 10 37.3**	**+0.4**
ADCV				S	**Sb**	**10 10 45.1**	**+1.1**
CLDR	**Caldiran**	**0.60**	**51**	PG	**Pg**	**10 10 38.8**	**-0.6**
CLDR				SG	**Sg**	**10 10 47.9**	**+0.5**
CLDR	**Caldiran**	**0.60**	**51**	*e*Pg	**Pg**	**10 10 38.8**	**-0.6**
CLDR				*e*Sg	**Sg**	**10 10 47.9**	**+0.5**
TUTA	**Tutak**	**0.74**	**328**	*i* P	**Pn**	**10 10 44.0**	**+0.6**
TUTA	**Tutak**	**0.74**	**328**	P	**Pn**	**10 10 44.0**	**+0.6**
AGRB	**Hanur-Agry**	**0.84**	**343**	PG	**Pg**	**10 10 43.5**	**-0.4**
AGRB				SG	**Sb**	**10 10 56.1**	**+1.2**
AGRB	**Hanur-Agry**	**0.84**	**343**	*e*Pg	**Pg**	**10 10 43.5**	**-0.4**
AGRB				*e*Sg	**Sb**	**10 10 56.1**	**+1.2**
GURO	**Guroymak-BITLI**	**1.03**	**258**	PG	**Pb**	**10 10 45.6**	**-1.3**
GURO				SG	**Sb**	**10 10 59.9**	**-0.3**
GURO	**Guroymak-BITLI**	**1.03**	**258**	*e*Pg	**Pb**	**10 10 45.6**	**-1.3**
GURO				*e*Sg	**Sb**	**10 10 59.9**	**-0.3**

ISK ***08*** *10:24:50.8, 37°.78N×38°.25E, h7km, ML2.2/3*

ISCJB ***08*** *10:24:51.4±0.6, 37°.81N±0°.04×38°.26E±0°.05, h9km, Error ellipse: s-maj=5.9km s-min=5.1km az=152.3*

CSEM ***08*** *10:24:51.4±0.2, 37°.80N×38°.23E, h8km, ML2.2, Error ellipse: s-maj=6.0km s-min=3.2km az=56.0*

DDA ***08*** *10:24:51.8, 37°.81N×38°.19E, h7km, Ml2.5*

ISC 08 10:24:51.6±0.9, 37°.78N±0°.04×38°.23E±0°.04, h9km, n15, σ0§41/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.55**	**16**	PG	**Pg**	**10 25 02.0**	**-0.3**
MALT				SG	**Sg**	**10 25 09.9**	**+0.3**
MALT	**Malatya**	**0.55**	**16**	*e*Pg	**Pg**	**10 25 02.0**	**-0.3**
MALT				*e*Sg	**Sg**	**10 25 09.9**	**+0.3**
AKCD	**Akcadag**	**0.56**	**335**	*i* P	**Pg**	**10 25 02.0**	**-0.5**
AKCD	**Akcadag**	**0.56**	**335**	P	**Pg**	**10 25 02.0**	**-0.5**
URFA	**Urfa**	**0.58**	**126**	PG	**Pg**	**10 25 02.3**	**-0.5**
URFA				SG	**Sg**	**10 25 10.6**	**+0.1**
URFA	**Urfa**	**0.58**	**126**	*e*Pg	**Pg**	**10 25 02.3**	**-0.5**
URFA				*e*Sg	**Sg**	**10 25 10.6**	**+0.1**
SURC	**SANLIURFA_SURC**	**0.95**	**161**	*i* P	**Pb**	**10 25 10.7**	**+0.4**
SURC	**SANLIURFA_SURC**	**0.95**	**161**	P	**Pb**	**10 25 10.7**	**+0.4**
DARE	**Darende-Malaty**	**0.98**	**323**	PG	**Pg**	**10 25 10.2**	**-0.2**
DARE	**Darende-Malaty**	**0.98**	**323**	*e*Pg	**Pg**	**10 25 10.2**	**-0.2**
ELBS	**KAHRAMANMARAS1**	**1.02**	**302**	*i* P	**Pg**	**10 25 10.8**	**-0.4**
ELBS	**KAHRAMANMARAS1**	**1.02**	**302**	P	**Pg**	**10 25 10.8**	**-0.4**
HCB	**Kahramanmara˘**	**1.14**	**248**	*i* P	**Pb**	**10 25 13.3**	**-0.2**
HCB				*i* S	**Sb**	**10 25 29.0**	**+0.7**
PTK	**Pertek**	**1.44**	**39**	PN	**Pn**	**10 25 17.8**	**-0.2**
PTK	**Pertek**	**1.44**	**39**	*e*Pn	**Pn**	**10 25 17.8**	**-0.2**

IDC 08 10:27:54.5±951.0, 52°.54N×4°.95E, h0km, Error ellipse: s-maj=419.0km s-min=133.2km az=111.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.68**	**120**	*i*		11 06 40.0	
	baz=308,slow=319,SNR=0.7						
I43RU	**DUBNA INFRASON**	**19.04**	**64**	*i*		12 26 20.0	
	baz=275,slow=330,SNR=0.5						
I31KZ	**AKTYUBINSK INF**	**32.52**	**72**	*i*		13 51 20.0	
	baz=291,slow=330,SNR=0.8						

ISK ***08*** *10:38:54.6, 37°.80N×27°.61E, h5km, ML2.4/4*

ISCJB ***08*** *10:38:55.2±0.6, 37°.77N±0°.04×27°.60E±0°.04, h11km±6km, Error ellipse: s-maj=7.4km s-min=4.9km az=30.0*

DDA ***08*** *10:38:55.3, 37°.73N×27°.59E, h7km, Ml2.5*

CSEM ***08*** *10:38:55.0±0.2, 37°.76N×27°.62E, h12km, ML2.5, Error ellipse: s-maj=5.6km s-min=4.7km az=65.0*

ISC 08 10:38:54.6±1.2, 37°.74N±0°.05×27°.60E±0°.03, h17km±12km, n22, σ0§30/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.24**	**110**	*i* P	**Pb**	**10 39 00.9**	**+0.4**
AYDN				*i* S	**Sb**	**10 39 04.2**	**-0.3**
AYDN	**Tasoluk**	**0.24**	**110**	P	**Pb**	**10 39 00.9**	**+0.4**
AYDN				S	**Sb**	**10 39 04.2**	**-0.3**
GCAM	**G?zelcaml?**	**0.29**	**262**	PG	**Pb**	**10 39 01.3**	**-0.1**
GCAM				SG	**Sb**	**10 39 06.1**	**+0.1**
GCAM	**G?zelcaml?**	**0.29**	**262**	*i* P	**Pb**	**10 39 01.3**	**-0.1**
GCAM				*i* S	**Sb**	**10 39 05.9**	**-0.1**
GCAM	**G?zelcaml?**	**0.29**	**262**	P	**Pb**	**10 39 01.3**	**-0.1**
GCAM				S	**Sb**	**10 39 05.9**	**-0.1**
DGB	**˘zmir**	**0.65**	**299**	*i* P	**Pn**	**10 39 08.2**	**-0.8**
BDRM	**Kayabasi**	**0.69**	**190**	*i* P	**Pb**	**10 39 08.0**	**-0.2**
BDRM	**Kayabasi**	**0.69**	**190**	P	**Pb**	**10 39 08.0**	**-0.2**
BODT	**Bodrum**	**0.72**	**199**	PG	**Pn**	**10 39 09.8**	**-0.2**
BODT				SG	**Sn**	**10 39 21.2**	**+0.6**
BODT	**Bodrum**	**0.72**	**199**	*e*Pg	**Pn**	**10 39 09.8**	**-0.2**
BODT				*e*Sg	**Sn**	**10 39 21.2**	**+0.6**
ZEY	**˘zmir**	**1.00**	**300**	*i* P	**Pg**	**10 39 14.7**	**+0.7**
URLA	**Izmir**	**1.00**	**308**	PG	**Pn**	**10 39 13.8**	**-0.2**
URLA				SG	**Sg**	**10 39 27.3**	**0.0**
URLA	**Izmir**	**1.00**	**308**	*i* P	**Pn**	**10 39 13.8**	**-0.2**
URLA				*i* S	**Sb**	**10 39 26.5**	**0.0**
URLA	**Izmir**	**1.00**	**308**	P	**Pn**	**10 39 13.9**	**-0.1**
URLA				S	**Sb**	**10 39 26.5**	**0.0**
URLA				*e*Sg	**Sg**	**10 39 27.3**	**0.0**
KULA	**Kula-Manisa**	**1.14**	**47**	PN	**Pg**	**10 39 16.5**	**-0.2**
KULA	**Kula-Manisa**	**1.14**	**47**	*e*Pn	**Pg**	**10 39 16.5**	**-0.2**
AKHS	**Akhisar**	**1.15**	**8**	*i* P	**Pg**	**10 39 17.1**	**+0.2**
AKHS	**Akhisar**	**1.15**	**8**	P	**Pg**	**10 39 17.1**	**+0.2**
TURN	**Turunc**	**1.18**	**137**	PN	**Pb**	**10 39 16.5**	**-0.1**
TURN	**Turunc**	**1.18**	**137**	*e*Pn	**Pb**	**10 39 16.5**	**-0.1**
CHOS	**Chios island**	**1.38**	**298**	PN	**Pg**	**10 39 21.1**	**-0.1**
CHOS	**Chios island**	**1.38**	**298**	*e*Pn	**Pg**	**10 39 21.1**	**-0.1**

IDC ***08*** *10:54:39.0±1.0, 60°.44S×46°.31W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/28, mbtmp3.9/6, MS3.4/2, Ms1 3.4/2, ms1mx3.1/25, Error ellipse: s-maj=44.0km s-min=27.5km az=43.0*

ISCJB ***08*** *10:54:39.6±0.9, 60°.3S±0°.2×46°.3W±0°.4, h10km, mb3.8/5, MS3.3/2, Error ellipse: s-maj=36.6km s-min=16.8km az=141.2*

ISC 08 10:54:40.2±1.0, 60°.5S±0°.2×46°.4W±0°.2, h10km, n17, σ0§53/10, mb3.8/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.33**	**141**	P	Pn	10 59 20.9	+2.7
	0.9nm,0.5s,baz=301,slow=12,SNR=2.8						
PLCA	**Paso Flores**	**24.76**	**312**	P	**P**	**11 00 02.3**	**+0.5**
	1.8nm,0.8s,baz=182,slow=9.6,SNR=5.9						
PLCA				LR	LR	11 10 02.8	
	comp=Z,71nm,18.8s,baz=130,slow=7						
CPUP	**Villa Florida**	**34.95**	**343**	P	**P**	**11 01 31.9**	**-0.2**
	1.1nm,0.6s,baz=166,slow=12,SNR=3.8						
CPUP				LR	LR	11 17 32.5	
	comp=Z,62nm,19.7s,baz=52,slow=39						
H10S2	**ASCENSION HYDR**	**56.60**	**39**	T	T	12 05 53.0	
	baz=198,slow=74,SNR=4.6						
H10S3	**ASCENSION HYDR**	**56.60**	**38**	T	T	12 05 53.0	
	baz=198						
H10S1	**ASCENSION HYDR**	**56.62**	**39**	T	T	12 05 53.0	
	baz=198,slow=74,SNR=3.3						
H10N3	**ASCENSION HYDR**	**57.70**	**38**	T	T	12 07 16.4	
	baz=199,slow=75,SNR=5.9						
H10N1	**ASCENSION HYDR**	**57.70**	**38**	T	T	12 07 14.7	
	baz=199,slow=75,SNR=5.4						
H10N2	**ASCENSION HYDR**	**57.72**	**38**	T	T	12 07 16.9	
	baz=199,slow=75,SNR=5.0						
MATP	**Matopo**	**65.01**	**87**	P	**P**	**11 05 20.9**	**+0.5**
	1.6nm,0.9s,baz=213,slow=8.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**82.77**	**47**	P	**P**	**11 07 03.9**	**-0.2**
	0.6nm,0.8s,baz=195,slow=5.1,SNR=3.0						
ASAR	**Alice Springs**	**96.16**	**180**	P	**P**	**11 08 07.9**	**-0.3**
	0.3nm,0.8s,baz=169,slow=4.5,SNR=3.7						
WRA	**Warramunga Arr**	**99.86**	**181**	P	**Pdif**	**11 08 25.9**	**+1.1**
	0.1nm,0.4s,baz=181,slow=4.2,SNR=5.9						
ILAR	**Eielson Array**	**145.45**	**312**	PKPbc	**PKPab**	**11 14 16.9**	**-0.1**
	0.7nm,0.8s,baz=135,slow=1.7,SNR=4.6						
BVAR	**Borovoye Array**	**145.81**	**74**	PKPbc	**PKPbc**	**11 14 18.2**	**0.0**
	1.3nm,0.7s,baz=207,slow=2.9,SNR=6.6						
MKAR	**Makanchi Array**	**147.55**	**91**	PKPbc	**PKPbc**	**11 14 23.2**	**-0.3**
	0.2nm,0.4s,baz=230,slow=2.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**153.33**	**82**	PKPbc	**PKPbc**	**11 14 36.8**	**-0.3**
	0.2nm,0.3s,baz=222,slow=1.9,SNR=2.4						

ISCJB ***08*** *10:57:43.3±0.3, 61°.03N±0°.02×151°.01W±0°.03, h31km±2km, mb4.2/32, MS3.5/6, Error ellipse: s-maj=3.3km s-min=2.6km az=159.6*

NEIC ***08*** *10:57:43.2±0.0, 61°.01N×150°.92W, h10km, MW4.1, ML4.1(AEIC), Moment Tensor Solution. s67 Moment tensor: Scale 10¹⁵Nm; Mrr0.91; Mθθ0.56; Mϕϕ-1.46; Mrθ0.90; Mθϕ-0.04; Mϕr0.45; Best double couple: M₀1.60000×10¹⁵ NP1:ϕ₁34.00000°, δ67.00000°, λ130.00000°. NP2:ϕ₂149.00000°, δ45.00000°, λ34.00000°. Principal axes: T 1.6800, Plg51.0000°, Azm350.0000°; N -0.1100, Plg36.0000°, Azm196.0000°; P -1.5700, Plg13.0000°, Azm96.0000°; After AEIC.*

NEIC Felt [III] at Anchorage, Eagle River, Elmendorf AFB, Fort Richardson, Kenai, Sterling and Wasilla; [II] at Chugiak. Also felt at Cooper Landing, Girdwood, Palmer and Soldotna.

IDC ***08*** *10:57:47.1±2.1, 61°.23N×150°.96W, h50km±18km, mb3.9/29, mb1 4.0/32, mb1mx3.9/75, mbtmp4.1/32, ML3.7/3, MS3.5/9, Ms1 3.5/9, ms1mx3.2/72 Error ellipse: s-maj=16.8km s-min=10.2km az=24.0*

ISC 08 10:57:42.3±0.9, 60°.99N±0°.02×150°.92W±0°.02, h15km±6km, n143, σ1§69/165, mb4.3/32, MS3.4/6, 1D, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.40**	**64**	P	**Pb**	**10 57 52.5**	**+1.3**
FIB				S	**Sb**	**10 58 00.1**	**+3.0**
SUA	**Susitna One**	**0.48**	**10**	*e*Pg	**Pg**	**10 57 52.4**	**+0.5**
SPU	**Mount Spurr**	**0.58**	**289**	*e*Pg	**Pb**	**10 57 54.1**	**-0.2**
RC01	**Rabbit Creek A**	**0.58**	**80**	*e*Pg	**Pb**	**10 57 54.1**	**-0.2**
RC01				*e*Sg	**Sb**	**10 58 02.1**	**-0.3**
SLKM	**Skilak Lake**	**0.60**	**144**	P	**Pb**	**10 57 54.4**	**-0.1**
SPCP	**Crater Peak Br**	**0.66**	**295**	P	**Pb**	**10 57 55.6**	**0.0**
SPCP				S	**Sb**	**10 58 05.1**	**+0.4**
STLK	**Strandline Lak**	**0.67**	**319**	P	**Pg**	**10 57 55.6**	**+0.2**
CKL	**Chakachamna La**	**0.72**	**287**	P	**Pg**	**10 57 56.4**	**+0.1**
SPWE	**Spurr West**	**0.84**	**290**	P	**Pg**	**10 57 58.4**	**-0.2**
DFR	**Drift River**	**0.95**	**246**	P	**Pg**	**10 58 00.1**	**-0.6**
DFR				S	**Sb**	**10 58 13.0**	**-0.1**
RDJH	**Redoubt Jeurge**	**1.01**	**247**	P	**Pg**	**10 58 01.1**	**-0.7**
SKT	**Skwentna**	**1.03**	**344**	P	**Pg**	**10 58 01.5**	**-0.7**
SKT				S	**Sg**	**10 58 15.3**	**-0.4**
RSO	**Redoubt South**	**1.05**	**240**	*e*Pg	**Pg**	**10 58 01.8**	**-0.7**
RSO				*e*Sg	**Sg**	**10 58 15.5**	**-0.7**
PMR	**Palmer**	**1.05**	**54**	P	**Pg**	**10 58 00.7**	**-2.0**
PMR				S	**Sg**	**10 58 14.6**	**-1.8**
RDWB	**Redoubt West**	**1.07**	**243**	P	**Pg**	**10 58 02.0**	**-1.0**
RDWB				S	**Sg**	**10 58 15.9**	**-1.1**
SEW	**Seward**	**1.15**	**140**	*e*Pg	**Pg**	**10 58 03.1**	**-1.4**
SEW				*e*Sn	**Sg**	**10 58 18.2**	**-1.3**
BRLK	**Bradley Lake**	**1.23**	**179**	*e*Pn	**Pg**	**10 58 04.7**	**-1.4**
BRLK				*e*Sn	**Sb**	**10 58 20.9**	**-0.2**
GHO	**Glory Hole Cre**	**1.24**	**50**	P	**Pg**	**10 58 04.1**	**-2.1**
GHO				S	**Sg**	**10 58 20.4**	**-1.9**
KNK	**Knik Glacier**	**1.27**	**70**	P	**Pg**	**10 58 04.9**	**-1.8**
KNK				S	**Sg**	**10 58 21.9**	**-1.2**
HOM	**Homer**	**1.39**	**195**	*e*Pn	**Pg**	**10 58 07.9**	**-1.1**
IVE	**Iliamna Volcan**	**1.43**	**227**	P	**Pn**	**10 58 07.5**	**-0.3**
ILW	**Iliamna West**	**1.44**	**230**	P	**Pn**	**10 58 07.9**	**-0.2**
ILS	**Iliamna Low So**	**1.49**	**227**	P	**Pn**	**10 58 08.7**	**+0.1**
SML	**Sawmill**	**1.49**	**56**	*e*Pn	**Pn**	**10 58 08.5**	**-0.2**
SML				*e*Sn	**Sn**	**10 58 29.4**	**+1.5**
GLI	**Glacier Island**	**1.87**	**92**	*e*Pn	**Pn**	**10 58 13.8**	**0.0**
GLI				*e*Sn	**Sn**	**10 58 38.8**	**+1.5**
SCM	**Sheep Creek Mo**	**1.92**	**62**	*e*Pn	**Pn**	**10 58 16.0**	**+1.4**
PPLA	**Purkeypile**	**2.00**	**343**	*e*Pn	**Pn**	**10 58 16.5**	**+0.7**
AUW	**Augustine West**	**2.07**	**219**	P	**Pn**	**10 58 17.6**	**+1.1**
JPK	**Jack Peak**	**2.11**	**86**	P	**Pn**	**10 58 17.8**	**+0.7**
KLU	**Klutina**	**2.47**	**76**	*e*Pn	**Pn**	**10 58 23.1**	**+1.0**
CDD	**Cape Douglas**	**2.48**	**215**	P	**Pn**	**10 58 23.5**	**+1.2**
TRF	**Thorofare Moun**	**2.48**	**7**	*e*Pn	**Pn**	**10 58 23.5**	**+1.1**
CAST	**Castle Rocks**	**2.50**	**348**	*e*Pn	**Pn**	**10 58 23.0**	**+0.6**
DIV	**Divide**	**2.51**	**85**	*e*Pn	**Pn**	**10 58 23.5**	**+0.8**
KTH	**Kantishna Hill**	**2.57**	**0**	*e*Pn	**Pn**	**10 58 24.9**	**+1.4**
EYAK	**Cordova Ski Ar**	**2.58**	**98**	*e*Pn	**Pn**	**10 58 23.6**	**+0.1**
RND	**Reindeer**	**2.61**	**21**	*e*Pn	**Pn**	**10 58 25.8**	**+1.8**
DHY	**Denali Highway**	**2.68**	**37**	*e*Pn	**Pn**	**10 58 26.7**	**+1.7**
PS11	**TAPS Pump St11**	**2.83**	**65**	P	**Pn**	**10 58 28.8**	**+1.8**
MCK	**McKinley**	**2.90**	**18**	*e*Pn	**Pn**	**10 58 30.0**	**+2.0**
TT01	**Tatalina**	**3.08**	**311**	P	**Pn**	**10 58 31.0**	**+0.6**
BMRM	**Bremner River**	**3.08**	**88**	*e*Pn	**Pn**	**10 58 30.5**	**0.0**
HARP	**HAARP**	**3.09**	**60**	*e*Pn	**Pn**	**10 58 32.4**	**+1.8**
BPAW	**Bear Paw Mtn.**	**3.12**	**360**	*e*Pn	**Pn**	**10 58 31.6**	**+0.7**
RAGM	**Ragged Mountai**	**3.13**	**98**	*e*Pn	**Pn**	**10 58 30.9**	**-0.3**
PAX	**Paxson**	**3.25**	**50**	*e*Pn	**Pn**	**10 58 35.1**	**+2.2**
KDAK	**Kodiak Island**	**3.33**	**195**	P	**Pn**	**10 58 34.9**	**+1.0**
	11nm,0.3s,baz=49,slow=7.8,SNR=57						
KDAK				S	**Sb**	**10 59 23.2**	**+1.9**
	26nm,0.3s,baz=323,slow=20,SNR=3.3						
KDAK				LR	LR	11 00 15.9	
	comp=Z,702nm,19.9s,baz=55,slow=42						
KDAK	**Kodiak Island**	**3.33**	**195**	*e*Pn	**Pn**	**10 58 35.9**	**+2.0**
KDAK				S	**Sb**	**10 59 23.2**	**+1.9**
HDA	**Harding Lake**	**3.89**	**26**	*e*Pn	**Pn**	**10 58 43.8**	**+2.3**
CCB	**Clear Creek Bu**	**3.94**	**20**	*e*Pn	**Pn**	**10 58 43.2**	**+1.0**
RIDG	**Independ'e Rid**	**3.95**	**43**	*e*Pn	**Pn**	**10 58 45.1**	**+2.7**
MLY	**Manley**	**4.05**	**1**	*e*Pn	**Pn**	**10 58 44.6**	**+0.7**
COLA	**College**	**4.14**	**18**	*e*Pn	**Pn**	**10 58 46.3**	**+1.4**
DOT	**Dot Lake**	**4.16**	**47**	*e*Pn	**Pn**	**10 58 47.5**	**+2.1**
MDM	**Murphy Dome**	**4.17**	**16**	*e*Pn	**Pn**	**10 58 46.5**	**+1.1**
IL1	**Eielson Array**	**4.22**	**24**	*e*Pn	**Pn**	**10 58 46.7**	**+0.6**
ILAR	**Eielson Array**	**4.22**	**24**	P	**Pn**	**10 58 47.4**	**+1.3**
	6.7nm,0.3s,baz=210,slow=14,SNR=268						
ILAR				S	**Sn**	**10 59 37.0**	**+2.0**
	9.9nm,0.3s,baz=201,slow=17,SNR=4.5						
ILB	**Eielson Array**	**4.22**	**24**	*e*Pn	**Pn**	**10 58 47.4**	**+1.3**
IM3	**Indian Mountai**	**5.17**	**347**	*e*Pn	**Pn**	**10 58 59.5**	**+0.5**
EGAK	**Eagle**	**5.86**	**45**	*e*Pn	**Pn**	**10 59 10.3**	**+1.7**
FYU	**Fort Yukon**	**6.13**	**22**	*e*Pn	**Pn**	**10 59 14.8**	**+2.5**
DAWY	**Dawson**	**6.16**	**55**	*e*Pn	**Pn**	**10 59 14.2**	**+1.5**
COLD	**Coldfoot**	**6.27**	**3**	*e*Pn	**Pn**	**10 59 15.5**	**+1.3**
HYT	**Haines Junctio**	**6.55**	**86**	*e*Pn	**Pn**	**10 59 18.1**	**0.0**
TOLK	**Toolik Lake Re**	**7.70**	**4**	*e*Pn	**Pn**	**10 59 36.4**	**+2.5**
WHY	**Whitehorse**	**7.85**	**85**	*e*Pn	**Pn**	**10 59 36.3**	**+0.3**
GAMB	**Gambell**	**10.03**	**295**	*e*Pn	**Pn**	**11 00 07.1**	**+1.5**
INK	**Inuvik**	**10.42**	**38**	P	**Pn**	**11 00 11.8**	**+0.8**
	0.4nm,0.3s,baz=250,slow=13,SNR=17						
INK				S	**Sn**	**11 02 05.7**	**-1.7**
	baz=239,slow=18,SNR=1.8						
INK				LR	LR	11 04 27.9	
	comp=Z,199nm,18.7s,baz=186,slow=39						
**

HFS	**Hagfors**	**58.62**	**9**	P	**P**	**11 07 36.3**	**-1.8**
	comp=Z,1.9nm,0.4s,baz=56,slow=5.4,SNR=10							
HHC	**Hu-ho-hao-te**	**58.63**	**298**	*e*P	**P**	**11 07 40.3**	**+1.7**
ARU	**Arti**	**60.64**	**342**	*e*P	**P**	**11 07 50.3**	**-1.8**
	comp=Z,3.3nm,0.7s							
EKA	**Eskdalemuir Ar**	**61.25**	**20**	P	**P**	**11 07 55.1**	**-1.1**
	comp=Z,4.9nm,0.8s,baz=338,slow=5.4,SNR=5.3							
BVAR	**Borovoye Array**	**61.66**	**333**	P	**P**	**11 07 57.3**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=46,slow=8.5,SNR=7.4							
KURK	**Kurchatov**	**61.77**	**327**	P	**P**	**11 07 58.6**	**-1.3**
KURBB	**Kurchatov Arra**	**61.88**	**327**	P	**P**	**11 07 58.6**	**-2.0**
	comp=Z,1.5nm,0.5s,baz=30,slow=6.6,SNR=14							
MKAR	**Makanchi Array**	**64.28**	**322**	P	**P**	**11 08 14.7**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=27,slow=5.8,SNR=11							
GTA	**Gaotai**	**64.69**	**306**	⇓P	**P**	**11 08 18.9**	**-0.6**
GTA				pP	sP	11 08 23.5	-2.5	
GTA				sP	pP	11 08 26.0	+1.8	
WMQ	**Urumqi**	**65.24**	**317**	P	**P**	**11 08 26.1**	**+3.1**
LZH	**Lanzhou**	**65.90**	**301**	*e*P	**P**	**11 08 26.6**	**-0.9**
LZH				pP	pP	11 08 29.2	-3.0	
LZH				sP	sP	11 08 30.5	-3.4	
LZH				*e*PP	**PP**	**11 10 53.5**	**+1.5**
AKTO	**Aktyubinsk**	**66.51**	**340**	P	**P**	**11 08 29.0**	**-2.0**
	comp=Z,3.4nm,0.5s,baz=41,slow=8.1,SNR=14							
AKASG	**Malin Array Be**	**68.66**	**360**	P	**P**	**11 08 42.9**	**-1.6**
	comp=Z,2.9nm,0.5s,baz=2.3,slow=6.3,SNR=26							
BUR08	**Bucovina Ar. S**	**71.67**	**3**	*e*P	**P**	**11 09 02.5**	**-0.6**
KBZ	**Khabaz**	**75.03**	**350**	P	**P**	**11 09 22.2**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=8.0,slow=4.9,SNR=9.5							
GEYT	**Alibeck**	**78.61**	**337**	P	**P**	**11 09 41.4**	**-1.8**
	comp=Z,3.4nm,0.8s,baz=338,slow=3.5,SNR=6.8							
BRTR	**Keskin Array B**	**79.56**	**356**	P	**P**	**11 09 47.4**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=347,slow=5.1,SNR=5.1							
CMAR	**Chiang Mai Arr**	**83.37**	**296**	P	**P**	**11 10 08.5**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=27,slow=9.7,SNR=4.9							
MATP	**Matopo**	**139.47**	**1**	PKP	**PKPdf**	**11 17 08.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=319,slow=11,SNR=3.5							
BOSA	**Boshof**	**147.52**	**6**	PKPbc	**PKPdf**	**11 17 23.0**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=354,slow=4.5,SNR=10							

IDC ***08*** *11:15:57.7±1.3,34.59N×25.13E,h0km,mb3.6/2, mb1 3.6/8,mb1mx3.3/66,mbtmp3.5/8,ML3.5/6, Error ellipse: s-maj=20.9km s-min=10.2km az=65.0*
ISCJB ***08*** *11:16:00.9±1.0,34.67N±0.06×24.92E±0.03,h26km±5km, mb3.5/2, Error ellipse: s-maj=9.7km s-min=4.8km az=178.9*
CSEM ***08*** *11:16:01.6±0.2,34.74N×24.89E,h15km,ML3.2, Error ellipse: s-maj=4.4km s-min=2.0km az=177.0*
ATH ***08*** *11:16:01.5,34.77N×24.89E,h31km,ML3.4/9, Error ellipse: s-maj=2.0km s-min=0.8km az=2.0*
THE ***08*** *11:16:03.6,34.83N×24.91E,h9km±1km,ML3.2/9, Error ellipse: s-maj=2.0km s-min=0.7km az=355.0*

ISC 08 11:16:01.3±1.1, 34.71N±0.05×24.91E±0.02, h27km±8km, n73,σ1s23/102, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.31**	**345**	P	**Pb**	**11 16 09.5**	**+0.8**
SIVA				S	**Sb**	**11 16 13.8**	**+0.1**
SIVA				AML	AML	11 16 14.9	
	comp=E,41077μm,0.2s						
SIVA				AML	AML	11 16 18.5	
	comp=N,22697μm,0.6s						
SIVA	**Sivas**	**0.31**	**345**	P	**Pb**	**11 16 08.6**	**-0.1**
SIVA				S	**Sb**	**11 16 12.2**	**-1.5**
SIVA	**Sivas**	**0.31**	**345**	P	**Pb**	**11 16 08.6**	**-0.1**
SIVA				S	**Sb**	**11 16 12.2**	**-1.5**
IDI	**Anoyia**	**0.57**	**358**	Pg	**Pb**	**11 16 12.6**	**-0.3**
	comp=N,82nm,0.3s,baz=176,slow=14,SNR=226						
IDI				Lg	Lg	11 16 21.3	
	comp=N,204nm,0.3s,baz=336,slow=18,SNR=35						
IDI	**Anoyia**	**0.57**	**358**	P	**Pb**	**11 16 12.5**	**-0.3**
IDI				S	**Sb**	**11 16 20.4**	**-0.3**
IDI				AML	AML	11 16 22.8	
	comp=E,2962μm,0.3s						
IDI				AML	AML	11 16 24.6	
	comp=N,3626μm,0.4s						
IDI	**Anoyia**	**0.57**	**358**	P	**Pb**	**11 16 12.6**	**-0.3**
IDI				S	**Sb**	**11 16 20.6**	**-0.1**
IDI	**Anoyia**	**0.57**	**358**	P	**Pb**	**11 16 12.5**	**-0.3**
IDI				S	**Sb**	**11 16 19.9**	**-0.8**
IACM	**Heraklion**	**0.60**	**12**	P	**Pb**	**11 16 11.7**	**-1.6**
IACM				S	**Sb**	**11 16 22.4**	**+0.9**
IACM				AML	AML	11 16 31.3	
	comp=E,25893μm,0.4s						
IACM				AML	AML	11 16 33.6	
	comp=N,18926μm,0.4s						
IACM	**Heraklion**	**0.60**	**12**	P	**Pb**	**11 16 12.5**	**-0.8**
IACM				S	**Sb**	**11 16 22.1**	**+0.6**
LAST	**Lasithi**	**0.65**	**46**	P	**Pb**	**11 16 14.6**	**+0.5**
LAST				S	**Sb**	**11 16 23.3**	**+0.5**
LAST				AML	AML	11 16 25.8	
	comp=E,5221μm,0.6s						
LAST				AML	AML	11 16 27.2	
	comp=N,3951μm,0.5s						
LAST	**Lasithi**	**0.65**	**46**	P	**Pb**	**11 16 14.4**	**+0.3**
LAST				S	**Sb**	**11 16 23.2**	**+0.5**
LAST	**Lasithi**	**0.65**	**46**	P	**Pb**	**11 16 14.4**	**+0.3**
LAST				S	**Sb**	**11 16 23.2**	**+0.5**
GVD	**Gavdhos**	**0.69**	**281**	P	**Pb**	**11 16 14.2**	**-0.6**
GVD				S	**Sn**	**11 16 25.3**	**+0.1**
GVD				AML	AML	11 16 33.2	
	comp=N,8208μm,0.7s						
GVD				AML	AML	11 16 34.7	
	comp=E,7816μm,0.4s						
GVD	**Gavdhos**	**0.69**	**281**	P	**Pb**	**11 16 14.6**	**-0.2**
GVD				S	**Sn**	**11 16 25.1**	**-0.1**
GVD	**Gavdhos**	**0.69**	**281**	P	**Pn**	**11 16 16.6**	**+1.3**
GVD				S	**Sn**	**11 16 26.5**	**+1.3**
NPS	**Neapolis**	**0.79**	**46**	P	**Pn**	**11 16 17.1**	**+0.2**
NPS				S	**Sb**	**11 16 27.4**	**+0.5**
NPS				AML	AML	11 16 31.9	
	comp=E,3735μm,0.4s						
NPS				AML	AML	11 16 33.2	
	comp=N,4754μm,0.4s						
NPS	**Neapolis**	**0.79**	**46**	P	**Pn**	**11 16 17.0**	**+0.2**
NPS				S	**Sn**	**11 16 27.8**	**0.0**
NPS	**Neapolis**	**0.79**	**46**	P	**Pn**	**11 16 17.0**	**+0.2**
NPS				S	**Sn**	**11 16 27.7**	**0.0**
VAM	**Vamos**	**0.91**	**320**	P	**Pb**	**11 16 18.6**	**+0.1**
VAM				S	**Sn**	**11 16 31.1**	**+0.6**
VAM				AML	AML	11 16 34.0	
	comp=E,5655μm,0.4s						
VAM				AML	AML	11 16 36.0	
	comp=N,5055μm,0.3s						
VAM	**Vamos**	**0.91**	**320**	P	**Pb**	**11 16 18.4**	**0.0**
VAM				S	**Sb**	**11 16 30.5**	**+0.4**
VAM	**Vamos**	**0.91**	**320**	P	**Pb**	**11 16 18.5**	**+0.1**
VAM				S	**Sb**	**11 16 30.5**	**+0.4**
IMMV	**Iera Moni Meta**	**1.07**	**315**	P	**Pb**	**11 16 21.2**	**0.0**
IMMV				S	**Sn**	**11 16 36.1**	**+1.6**
IMMV				AML	AML	11 16 39.0	
	comp=E,4701μm,0.3s						
IMMV				AML	AML	11 16 41.5	
	comp=N,4108μm,0.4s						
IMMV	**Iera Moni Meta**	**1.07**	**315**	P	**Pb**	**11 16 21.1**	**0.0**
IMMV				S	**Sn**	**11 16 35.6**	**+1.1**
IMMV	**Iera Moni Meta**	**1.07**	**315**	P	**Pb**	**11 16 22.1**	**+1.0**
IMMV				S	**Sn**	**11 16 36.3**	**+1.8**
ZKR	**Zakros**	**1.14**	**69**	P	**Pb**	**11 16 23.8**	**+1.3**
ZKR				S	**Sb**	**11 16 38.4**	**+1.5**
ZKR				AML	AML	11 16 48.3	
	comp=N,990μm,0.8s						
ZKR				AML	AML	11 16 48.8	
	comp=E,2188μm,0.4s						
ZKR	**Zakros**	**1.14**	**69**	P	**Pb**	**11 16 23.4**	**+1.0**
ZKR				S	**Sb**	**11 16 38.6**	**+1.7**
ZKR	**Zakros**	**1.14**	**69**	P	**Pb**	**11 16 24.3**	**+1.9**
ZKR				S	**Sb**	**11 16 40.7**	**+3.8**
THR6	**Thira Island,**	**1.69**	**13**	P	**Pb**	**11 16 30.8**	**-0.8**
THR6	**Thira Island,**	**1.69**	**13**	P	**Pn**	**11 16 30.5**	**+1.5**
THT1	**Athinios (Pele**	**1.72**	**14**	P	**Pn**	**11 16 30.4**	**+0.9**
THT1	**Athinios (Pele**	**1.72**	**14**	P	**Pn**	**11 16 30.6**	**+1.1**
THR5	**Thira Island,**	**1.74**	**12**	P	**Pn**	**11 16 31.2**	**+1.5**
THR5	**Thira Island,**	**1.74**	**12**	P	**Pn**	**11 16 31.1**	**+1.4**
THR5	**Thira Island,**	**1.74**	**12**	P	**Pn**	**11 16 31.1**	**+1.4**
THR3	**Thira Island,**	**1.74**	**13**	P	**Pn**	**11 16 30.9**	**+1.2**
THR3	**Thira Island,**	**1.74**	**13**	P	**Pn**	**11 16 30.9**	**+1.2**
ANKY	**Antikythira Is**	**1.75**	**312**	P	**Pn**	**11 16 30.8**	**+1.0**
ANKY	**Antikythira Is**	**1.75**	**312**	P	**Pn**	**11 16 30.9**	**+1.0**
ANKY				S	**Sb**	**11 16 53.8**	**-0.5**
ANKY	**Antikythira Is**	**1.75**	**312**	P	**Pb**	**11 16 32.0**	**-0.7**
ANKY				S	**Sb**	**11 16 53.8**	**-0.5**
THR8	**Santorini-Mono**	**1.75**	**15**	P	**Pn**	**11 16 30.9**	**+1.0**
THR8	**Santorini-Mono**	**1.75**	**15**	P	**Pn**	**11 16 31.0**	**+1.0**
SAP3	**Santorini-Thir**	**1.75**	**11**	P	**Pn**	**11 16 30.9**	**+0.9**
THR2	**Thira island,**	**1.78**	**14**	P	**Pn**	**11 16 32.0**	**+1.6**
THR2	**Thira island,**	**1.78**	**14**	P	**Pn**	**11 16 31.8**	**+1.4**
THR2	**Thira island,**	**1.78**	**14**	P	**Pn**	**11 16 31.5**	**+1.1**
CMBO	**Columbo, Santo**	**1.80**	**13**	P	**Pn**	**11 16 30.7**	**+0.2**
CMBO	**Columbo, Santo**	**1.80**	**13**	P	**Pn**	**11 16 31.3**	**+0.7**
MHLO	**Agia Marina, M**	**2.02**	**348**	P	**Pn**	**11 16 35.3**	**+1.7**
MHLO	**Agia Marina, M**	**2.02**	**348**	P	**Pn**	**11 16 35.0**	**+1.4**
KARP	**Karpathos**	**2.02**	**65**	P	**Pb**	**11 16 36.4**	**-1.0**
KARP	**Karpathos**	**2.02**	**65**	P	**Pb**	**11 16 35.9**	**-1.5**
MHLA	**Plaka, Milos I**	**2.06**	**349**	P	**Pn**	**11 16 34.7**	**+0.4**
MHLA	**Plaka, Milos I**	**2.06**	**349**	P	**Pn**	**11 16 35.1**	**+0.8**
KYTH	**Kithira**	**2.17**	**316**	P	**Pn**	**11 16 37.1**	**+1.4**
APE	**Apeiranthos**	**2.40**	**12**	P	**Pn**	**11 16 38.4**	**-0.6**
APE	**Apeiranthos**	**2.40**	**12**	P	**Pn**	**11 16 39.4**	**+0.4**
VLI	**Veliai**	**2.56**	**322**	P	**Pn**	**11 16 41.2**	**+0.1**
VLI	**Veliai**	**2.56**	**322**	P	**Pn**	**11 16 41.8**	**+0.7**
ARG	**Arkhangelos**	**3.02**	**59**	P	**Pn**	**11 16 49.6**	**+2.2**
ARG	**Arkhangelos**	**3.02**	**59**	P	**Pn**	**11 16 49.5**	**+2.1**
SMG	**Samos**	**3.37**	**27**	P	**Pn**	**11 16 53.1**	**+0.9**
SMG	**Samos**	**3.37**	**27**	P	**Pn**	**11 16 53.5**	**+1.3**
ITM	**Ithomi**	**3.45**	**316**	P	**Pn**	**11 16 52.9**	**-0.4**
ITM	**Ithomi**	**3.45**	**316**	P	**Pn**	**11 16 54.0**	**+0.6**
BRTR	**Keskin Array B**	**8.57**	**52**	Pn	**Pn**	**11 18 02.6**	**-1.2**
	comp=E,0.1nm,0.3s,baz=224,slow=11,SNR=2.4						
MMAI	**Mount Meron Ar**	**8.89**	**98**	Pn	**Pn**	**11 18 06.0**	**-2.1**
	comp=E,3.3nm,0.3s,baz=264,slow=13,SNR=2.9						
MMAI				Sn	**Sn**	**11 19 42.8**	**-4.6**
	baz=280,slow=28,SNR=2.2						
EIL	**Elat**	**9.88**	**118**	Pn	**Pn**	**11 18 19.7**	**-1.9**
	comp=E,0.2nm,0.3s,baz=27,slow=2.3,SNR=2.6						
EIL				Sn	**Sn**	**11 20 07.8**	**-3.8**
	comp=E,0.4nm,0.3s,baz=243,slow=4.5,SNR=2.7						
AKASG	**Malin Array Be**	**16.28**	**10**	Pn	**Pn**	**11 19 48.1**	**+0.1**
	comp=E,0.3nm,0.3s,baz=201,slow=10,SNR=4.3						
GERES	**GERESS Array B**	**16.38**	**333**	Pn	**Pn**	**11 19 51.1**	**+1.7**
	comp=E,0.2nm,0.3s,baz=139,slow=15,SNR=3.3						
KBZ	**Khabaz**	**16.56**	**52**	Pn	**P**	**11 19 53.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=262,slow=13,SNR=3.0						
KHC	**Kasperske Hory**	**16.66**	**333**	*e*P	Pn	11 19 45.5	-7.4
KHC				*ex*	x	11 20 07.0	
TORD	**Torodi Ar. Bea**	**30.05**	**230**	P	**P**	**11 22 08.8**	**+0.5**
	comp=E,0.5nm,0.6s,baz=32,slow=8.4,SNR=10						
MKAR	**Makanchi Array**	**44.19**	**56**	P	**P**	**11 24 07.3**	**-0.6**
	comp=E,0.4nm,0.4s,baz=271,slow=8.5,SNR=11						

IDC ***08*** *11:21:33.5±1.2,55.96N×112.53E,h0km,mb3.5/8, mb1 3.7/11,mb1mx3.4/73,mbtmp3.6/11,ML2.5/3, Error ellipse: s-maj=23.3km s-min=18.7km az=158.0*
MOS ***08*** *11:21:34.5±1.5,56.11N×112.21E,h8km,mb4.1/5, Error ellipse: s-maj=12.0km s-min=9.1km az=71.9*
BYKL ***08*** *11:21:35.6±0.2,56.20N×112.13E,h22km±3km*

ISC 08 11:21:35.1±1.1, 56.16N±0.03×112.16E±0.02, h5km±8km, n62,σ3s09/101, mb3.7/5, 8C-6D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOA	**Uoyan**	**0.25**	**264**	⇓*i*Pg	**Pg**	**11 21 41.4**	**+1.5**
YOA				*e*		11 21 44.0	
YOA				*e*Sg	**Sg**	**11 21 46.5**	**+3.4**
YOA				*e*		11 21 49.4	
YOA				Pmax			
	9μm,0.3s						
YOA				max			
	27μm,0.4s						
YOA	**Uoyan**	**0.25**	**264**	⇓*i*PG	**Pg**	**11 21 41.4**	**+1.5**
YOA				*i*		11 21 46.5	
YOA				pmax	pmax		
	comp=Z,9μm,0.2s						
YOA				smax	smax		
	comp=N,27μm,0.4s						
KMO	**Kumora**	**0.61**	**243**	⇑*i*Pg	**Pg**	**11 21 47.2**	**+0.5**
KMO				*e*		11 21 53.1	
KMO				*e*Sg	**Sg**	**11 21 56.1**	**+1.5**
KMO				max			
	comp=N,466nm,0.2s						
KMO				Smax			
	comp=N,4μm,0.5s						
SVKR	**Severomuysk**	**0.78**	**93**	*e*PG	**Pg**	**11 21 50.8**	**+0.7**
SVKR				*e*		11 22 01.4	
SVKR				pmax	pmax		
	comp=Z,2μm,0.9s						
SVKR				smax	smax		
	comp=E,6μm,0.6s						
UKT	**Uakit**	**1.07**	**129**	⇑*i*Pg	**Pg**	**11 21 56.0**	**+0.5**
UKT				*e*Pb	**Pn**	**11 21 57.8**	**+1.1**
UKT				*e*Sg	**Sb**	**11 22 11.3**	**+1.0**
UKT				*e*Sb	**Sn**	**11 22 13.8**	**+1.8**
UKT				max			
	comp=E,504nm,0.4s						
UKT				max			
	comp=E,7μm,0.3s						
UKT	**Uakit**	**1.07**	**129**	⇑*i*PG	**Pg**	**11 21 56.0**	**+0.5**
UKT				*e*		11 22 10.9	
UKT				pmax	pmax		
	comp=Z,383nm,0.6s						
UKT				smax	smax		
	comp=E,7μm,0.5s						
YLYR	**Ulyunkhan**	**1.41**	**204**	⇓*i*Pg	**Pn**	**11 22 01.8**	**+0.4**
	comp=E,147nm,0.4s						
YLYR				⇓*i*Pg	**Pn**	**11 22 01.8**	**+0.4**
	comp=E,66nm,0.4s						
YLYR				⇑*i*Pg	**Pn**	**11 22 01.8**	**+0.4**
	comp=E,151nm,0.4s						
YLYR				*e*		11 22 03.6	
YLYR				*e*Sg	**Sg**	**11 22 21.7**	**+1.4**
YLYR				Pmax			
	comp=E,167nm,0.3s						
YLYR				Smax			
	comp=E,1μm,0.4s						
YLYR	**Ulyunkhan**	**1.41**	**204**	⇑*i*PG	**Pn**	**11 22 01.8**	**+0.4**
YLYR				*e*		11 22 21.1	
YLYR				pmax	pmax		
	comp=Z,192nm,0.2s						
YLYR				smax	smax		
	comp=E,2μm,0.4s						
NIZ	**Nizh Angarsk**	**1.52**	**256**	⇑*i*Pg	**Pn**	**11 22 03.1**	**+0.2**
NIZ				*e*		11 22 05.4	
NIZ				*e*Sg	**Sg**	**11 22 24.2**	**+0.2**
NIZ				Pmax			
	comp=E,202nm,0.4s						
NIZ				Smax			
	comp=E,1μm,0.4s						
NIZ	**Nizh Angarsk**	**1.52**	**256**	*e*PG	**Pn**	**11 22 03.1**	**+0.2**
NIZ				*e*		11 22 23.8	
NIZ				pmax	pmax		
	comp=Z,163nm,0.4s						
NIZ				smax	smax		
	comp=N,2μm,0.7s						
BOD	**Bodaibo**	**1.94**	**30**	*e*Pg	**Pb**	**11 22 09.5**	**-1.4**
BOD				*e*		11 22 15.2	
BOD				*e*Sn	**Sn**	**11 22 30.6**	**-2.9**
BOD				*e*Sg	**Sb**	**11 22 34.7**	**-0.7**
BOD				max			
	comp=N,130nm,0.7s						
BOD				Smax			
	comp=N,2μm,0.7s						
BOD	**Bodaibo**	**1.94**	**30**	*e*PN	**Pn**	**11 22 07.6**	**-1.1**
BOD				*e*		11 22 32.5	
BOD				pmax	pmax		
	comp=Z,105nm,0.3s						
BOD				smax	smax		
	comp=E,2μm,0.7s						
NLYR	**Nelyaty**	**2.00**	**79**	⇓*i*Pn	**Pn**	**11 22 09.6**	**0.0**
NLYR				*e*Pg	**Pb**	**11 22 11.3**	**-0.6**
NLYR				*e*Sg	**Sb**	**11 22 38.5**	**+1.4**
NLYR				Pmax			
	comp=E,202nm,0.5s						
NLYR				Smax			
	comp=E,1μm,1.1s						
NLYR	**Nelyaty**	**2.00**	**79**	*e*PN	**Pn**	**11 22 09.5**	**0.0**
NLYR				*e*		11 22 37.8	
NLYR				pmax	pmax		
	comp=Z,202nm,0.8s						
NLYR				smax	smax		
	comp=E,1μm,1.0s						
SYVR	**Suvo**	**2.80**	**207**	⇓*i*Pn	**Pn**	**11 22 20.5**	**0.0**
SYVR				*e*Pg	**Pb**	**11 22 25.7**	**+0.1**
SYVR				*e*Sg	**Sb**	**11 23 03.1**	**+3.0**
SYVR				*e*		11 23 05.8	
SYVR				Pmax			
	comp=E,69nm,0.6s						
SYVR				max			
	comp=E,307nm,0.4s						
SYVR	**Suvo**	**2.80**	**207**	*e*PN	**Pb**	**11 22 26.9**	**+1.3**
SYVR				*e*		11 23 03.0	
SYVR				pmax	pmax		
	comp=Z,44nm,0.5s						
SYVR				smax	smax		
	comp=E,300nm,0.4s						
CRS	**Chara**	**3.46**	**75**	*e*Pn	**Pn**	**11 22 29.8**	**+0.2**
CRS				*e*Pg	**Pb**	**11 22 37.7**	**+0.9**
CRS				*e*Sn	**Sn**	**11 23 08.0**	**-3.0**
CRS				*e*Sg	**Sb**	**11 23 23.1**	**+3.9**
CRS				Pmax			
	comp=E,104nm,1.0s						
CRS				Smax			
	comp=E,413nm,1.0s						
CRS	**Chara**	**3.46**	**75**	*e*PN	**Pn**	**11 22 30.0**	**+0.4**
CRS				*e*		11 22 39.7	
CRS				*e*		11 23 22.9	
CRS				pmax	pmax		
	comp=Z,105nm,0.8s						
CRS				smax	smax		
	comp=E,414nm,1.0s						
OGRR	**Ongureny**	**3.65**	**228**	⇑*i*Pn	**Pn**	**11 22 32.6**	**+0.5**
OGRR				*e*		11 22 35.6	
OGRR				*e*Pg	**Pb**	**11 22 41.1**	**+1.1**
OGRR				*e*Sg	**Sb**	**11 23 28.8**	**+4.3**
OGRR				Pmax			
	comp=E,31nm,0.8s						
OGRR				Smax			
	comp=E,168nm,0.8s						
OGRR	**Ongureny**	**3.65**	**228**	*e*PN	**Pn**	**11 22 32.7**	**+0.6**
OGRR				*e*		11 22 41.3	
OGRR				*e*		11 23 28.5	
OGRR				pmax	pmax		
	comp=Z,22nm,0.3s						
OGRR				smax	smax		
	comp=E,151nm,0.3s						
CIT	**Chita**	**4.23**	**168**	*e*	**Pg**	**11 22 59.6**	**+3.6**
CIT				*e*Sg	**Sg**	**11 23 48.4**	**-2.4**
CIT				Smax			
	comp=E,483nm,0.4s						
CIT	**Chita**	**4.23**	**168**	*e*PN	**Pb**	**11 22 52.9**	**+3.0**
CIT				*e*		11 23 47.8	
CIT				pmax	pmax		
	comp=Z,38nm,1.2s						
CIT				smax	smax		
	comp=E,483nm,0.5s						
KHNR	**Khani**	**4.39**	**77**	*e*Sn	**Sn**	**11 23 30.3**	**-3.6**
KHNR				*e*Sg	**Sb**	**11 23 51.4**	**+5.5**
ZRHB	**Zarechye**	**4.65**	**221**	*e*	**Pn**	**11 22 47.4**	**+1.5**
ZRHB				*e*Pg	**Pb**	**11 23 00.6**	**+3.5**
ZRHB				*e*Sg	**Sg**	**11 24 01.9**	**-2.5**
ZRHB				*e*		11 24 08.4	
ZRHB				Pmax			
	comp=E,71nm,0.7s						
ZRHB				max			
	comp=E,306nm,0.9s						
TRTB	**Turuntaevo**	**4.75**	**216**	*e*Pn	**Pn**	**11 22 47.4**	**+0.1**
TRTB				*e*		11 22 53.0	
TRTB				*e*Pg	**Pb**	**11 23 01.0**	**+2.2**
TRTB				*e*Sg	**Sg**	**11 24 03.0**	**-4.6**
TRTB				Pmax			
	comp=E,18nm,0.7s						
TRTB				Smax			
	comp=E,119nm,1.0s						
TUP	**Tupik**	**4.78**	**108**	⇑*i*Pn	**Pn**	**11 22 47.5**	**-0.2**
TUP				*e*		11 22 54.9	
TUP				*e*Sn	**Sn**	**11 23 39.7**	**-3.8**
TUP				*e*Sg	**Sg**	**11 24 05.0**	**-3.5**
TUP				max			
	comp=E,39nm,1.0s						
TUP				Smax			
	comp=E,408nm,0.9s						
TUP	**Tupik**	**4.78**	**108**	*e*PN	**Pn**	**11 22 47.3**	**-0.4**
TUP				*e*		11 23 01.2	
TUP				*e*		11 24 04.7	
TUP				pmax	pmax		
	comp=Z,35nm,0.5s						
TUP				smax	smax		
	comp=N,407nm,0.9s						
TRG	**Tyrgan**	**4.81**	**227**	*e*	**Pn**	**11 22 48.0**	**-0.1**
TRG				*e*		11 22 51.7	
TRG				*e*Pg	**Pb**	**11 23 00.9**	**+1.2**
TRG				*e*Sg	**Sg**	**11 24 04.2**	**-5.1**
TRG				Pmax			
	comp=N,17nm,0.7s						
TRG				Smax			
	comp=N,163nm,0.4s						
TRG	**Tyrgan**	**4.81**	**227**	*e*PN	**Pn**	**11 22 48.2**	**+0.1**
TRG				*e*		11 23 02.0	
TRG				*e*		11 24 02.5	
TRG				pmax	pmax		
	comp=Z,17nm,0.4s						
TRG				smax	smax		
	comp=E,163nm,0.4s						
UUDB	**Ulan-Yde**	**5.05**	**214**	*e*Pn	**Pn**	**11 22 50.4**	**-1.1**
UUDB				*e*Pg	**Pb**	**11 23 07.0**	**+3.1**
UUDB				*e*Sg	**Sg**	**11 24 13.3**	**-3.9**
UUDB				Pmax			
	comp=E,33nm,0.7s						
UUDB				Smax			
	comp=E,124nm,0.9s						
KAB	**Kabansk**	**5.24**	**220**	*e*Sg	**Sg**	**11 24 19.2**	**-4.0**
KAB				Smax			
	comp=E,311nm,1.0s						
STDB	**Stepnoy Dvoret**	**5.25**	**223**	*e*	**Sn**	**11 23 56.7**	**+1.7**
STDB				*e*Sg	**Sg**	**11 24 18.7**	**-4.9**
STDB				Smax			
	comp=E,269nm,1.0s						
YKLR	**Yuktali**	**5.29**	**81**	*e*Sg	**Sg**	**11 24 19.1**	**-5.8**
BGT	**Bolshoye Golou**	**5.72**	**227**	*e*Pn	**Pn**	**11 22 58.6**	**-2.1**
BGT				*e*		11 23 05.6	
BGT				*e*		11 23 16.7	
BGT				*e*Sg	**Sg**	**11 24 33.2**	**-5.6**
BGT				*e*		11 24 38.5	
BGT				max			
	comp=E,12nm,0.6s						
BGT				max			
	comp=E,81nm,0.7s						
LSTR	**Listvyanka**	**6.09**	**228**	*e*	**Pn**	**11 23 09.2**	**+3.5**
LSTR				Pg	**Pb**	**11 23 25.5**	**+3.9**
LSTR				*e*Sg	**Sg**	**11 24 44.4**	**-6.2**
LSTR				Pmax			

IENR				*e*Pg	**Pb**	**11 23 42.6**	**+4.1**		
IENR				*e*		11 24 54.3			
IENR				*e*Sg	**Sg**	**11 25 15.7**	**-6.7**		
ARS	**Arshan**	**7.13**	**238**	*e*	**Pn**	**11 23 22.4**	**+2.4**		
ARS				Pg	**Pb**	**11 23 43.9**	**+4.5**		
ARS				*e*		11 24 50.9			
ARS				*e*Sg	Sg	11 25 15.1	-8.8		
ARS				Pmax					
	comp=E,19nm,0.5s								
ARS				Smax					
	comp=E,192nm,0.8s								
ZAK	**Zakamensk**	**7.86**	**226**	*e*	**Pb**	**11 23 51.3**	**-0.4**		
ZAK				Sg	Sg	11 25 38.3	-8.9		
ZAK				max					
	comp=E,3.0nm,0.6s								
ZAK				Smax					
	comp=E,40nm,1.1s								
ZAK	**Zakamensk**	**7.86**	**226**	*e*PN	Pb	11 23 43.7	-8.0		
ZAK				pmax	pmax				
	comp=E,5.0nm,0.6s								
MOY	**Mondy**	**7.98**	**240**	*e*Pn	**Pn**	**11 23 32.6**	**+0.9**		
MOY				Pg	Pb	11 24 00.3	+6.5		
MOY				*e*		11 25 01.0			
MOY				*e*Sg	Sg	11 25 42.3	-8.8		
MOY				max					
	comp=Z,12nm,0.9s								
MOY				Smax					
	comp=Z,61nm,1.1s								
MOY	**Mondy**	**7.98**	**240**	*e*PG	Pb	11 24 00.2	+6.4		
MOY				pmax	pmax				
	comp=Z,12nm,0.7s								
ORL	**Orlik**	**8.07**	**248**	*e*	Pg	11 24 05.2	-4.4		
ORL				*e*Sn	**Sn**	**11 24 57.8**	**-6.8**		
ORL				*e*Sg	**Sg**	**11 25 46.0**	**-8.1**		
ORL				*e*		11 25 54.1			
ORL				max					
	comp=Z,54nm,1.1s								
SONM	**Songino Array**	**9.06**	**205**	Pn	**Pn**	**11 23 45.3**	**-1.2**		
	comp=Z,0.1nm,0.3s,baz=19,slow=16,SNR=5.1								
SONM				Lg	Lg	11 26 21.0			
	comp=Z,0.9nm,0.3s,baz=28,slow=26,SNR=9.9								
YAK	**Yakutsk**	**10.74**	**50**	Sn	Sn	11 25 58.6	-11		
	comp=Z,0.0nm,0.3s,baz=315,slow=20,SNR=4.6								
YAK				Lg	Lg	11 27 05.4			
	comp=Z,0.0nm,0.3s,baz=182,slow=23,SNR=5.6								
KLR	**Kul'dur**	**13.73**	**112**	Pn	Pn	11 24 45.4	-4.8		
	comp=Z,0.0nm,0.3s,baz=300,slow=16,SNR=2.3								
KLR				Lg	Lg	11 28 43.0			
	comp=Z,0.0nm,0.3s,baz=252,slow=10.0,SNR=6.2								
ZALV	**Zalesovo Beam**	**15.78**	**273**	Pn	**P**	**11 25 20.0**	**-1.7**		
	comp=Z,0.2nm,0.3s,baz=64,slow=11,SNR=2.4								
ZALV	**Zalesovo Beam**	**15.78**	**273**	P	**P**	**11 25 20.0**	**-1.7**		
TIXI	**Tiksi**	**17.08**	**18**	Pn	Pn	11 25 26.1	-8.1		
	comp=Z,0.7nm,0.3s,baz=240,slow=8.5,SNR=3.1								
KURK	**Kurchatov**	**20.57**	**269**	P	**P**	**11 26 14.9**	**+0.5**		
KURK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MA2	**Magadan**	**20.61**	**64**	P	**P**	**11 26 11.3**	**-3.5**		
	comp=Z,0.8nm,0.4s,baz=304,slow=6.7,SNR=4.2								
KURBB	**Kurchatov Arra**	**20.66**	**269**	P	**P**	**11 26 14.9**	**-0.5**		
	comp=Z,1.0nm,0.6s,baz=58,slow=11,SNR=4.0								
MKAR	**Makanchi Array**	**20.68**	**256**	P	**P**	**11 26 14.9**	**-0.8**		
	comp=Z,0.2nm,0.5s,baz=49,slow=11,SNR=4.4								
BVAR	**Borovoye Array**	**24.13**	**280**	P	**P**	**11 26 51.8**	**+0.2**		
	comp=Z,1.0nm,0.5s,baz=64,slow=12,SNR=5.5								
FINES	**FINESS Array B**	**41.82**	**314**	P	**P**	**11 29 28.1**	**+3.0**		
	comp=Z,1.2nm,0.7s,baz=90,slow=6.7,SNR=3.8								
AKASG	**Malin Array Be**	**46.89**	**300**	P	**P**	**11 30 09.0**	**+3.2**		
	comp=Z,0.3nm,0.4s,baz=45,slow=9.4,SNR=2.8								
AKASG	**Malin Array Be**	**46.89**	**300**	P	**P**	**11 30 09.0**	**+3.2**		
HFS	**Hagfors**	**47.44**	**318**	P	**P**	**11 30 11.1**	**+1.0**		
	comp=Z,1.3nm,0.5s,baz=51,slow=12,SNR=4.6								
NOA	**NORSAR Array B**	**47.75**	**320**	P	**P**	**11 30 14.0**	**+1.5**		
	comp=Z,1.1nm,0.7s,baz=42,slow=4.8,SNR=2.9								

RSNC 08 11:21:43.2±0.7, 11°24'N×72°87'W, h66km±15km, ML3.7, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URIC	**Uribia, Colomb**	**0.97**	**62**	*e*P	Pn	11 22 00.7	-0.5
URIC				*e*S	Sn	11 22 14.1	-0.4
URIC				*i*		11 22 15.9	
	comp=Z,2μm,0.3s						
CODC	**Agust`n Codaz**	**1.42**	**204**	*e*P	Pn	11 22 06.3	-0.7
CODC				*e*S	Sn	11 22 24.6	-0.3
CODC				*i*		11 22 27.6	
	comp=Z,874nm,0.2s						
SDV	**Santo Domingo**	**3.22**	**137**	*e*P	Pn	11 22 31.7	+0.1
SDV				*e*S	Sn	11 23 07.7	-1.1
SDV				*i*		11 23 11.6	
	comp=Z,310nm,0.6s						
MOTC	**Monteria, Cord**	**3.69**	**229**	*e*P	Pn	11 22 36.3	-1.4
MOTC				*e*S	Sn	11 23 18.7	-1.3
PAMC	**Pamplona, Colo**	**3.88**	**178**	*e*P	Pn	11 22 41.0	0.0
PAMC				*e*S	Sn	11 23 25.4	-0.1
BRRC	**Barranca, Sant**	**4.19**	**192**	*e*P	Pn	11 22 44.0	-0.7
BRRC				*e*S	Sn	11 23 31.9	-0.6
BRRC				*i*		11 23 43.0	
	comp=Z,115nm,0.2s						
ZARC	**Zaragoza, Cauc**	**4.21**	**208**	*e*P	Pn	11 22 44.8	-0.2
ZARC				*e*S	Sn	11 23 32.8	-0.1
ZARC				*i*		11 23 48.4	
	comp=Z,155nm,0.8s						
RUSC	**La Rusia**	**5.32**	**182**	*e*P	Pn	11 23 00.4	-0.2
RUSC				*i*		11 23 03.4	
	comp=Z,28nm,0.2s						
RUSC				*e*S	Sn	11 23 59.8	-1.1
NORC	**Norcasia**	**5.98**	**199**	*e*P	Pn	11 23 09.1	-0.1
YOTC	**Yotoco, Valle**	**7.99**	**206**	*e*P	Pn	11 23 37.1	+0.2
YOTC				*i*		11 23 40.0	
	comp=Z,5.6nm,0.6s						

JMA 08 11:28:14.4, 36°35'N×139°30'E, h8km±1km, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.14**	**59**	P	Pg	11 28 17.7	+0.2
JAG				S	Sg	11 28 19.8	+0.2
JKT	**Katashina**	**0.42**	**354**	P	Pg	11 28 22.7	+0.1
JRY	**Ryogami san**	**0.46**	**224**	S	Sg	11 28 29.6	+0.1

IDC 08 11:28:49.5±3.4, 35°41'N×139°91'E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.0/65, mbtmp3.2/3, MS2.2/1, Ms1 2.2/1, ms1mx2.1/21, Error ellipse: s-maj=111.5km s-min=29.9km az=63.0, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**1.78**	**310**	Pn	Pn	11 29 20.6	-1.0
	0.4nm,0.3s,baz=125,slow=11,SNR=4.8						
KLR	**Kul'dur**	**15.06**	**339**	LR	LR	11 37 20.9	
	comp=Z,9.6nm,21.1s,baz=358,slow=34						
ZALV	**Zalesovo Beam**	**42.13**	**314**	P		11 36 43.2	-0.1
	0.3nm,0.4s,baz=101,slow=7.5,SNR=2.4						
MKAR	**Makanchi Array**	**43.97**	**303**	P	P	11 36 58.6	+0.3
	0.1nm,0.5s,baz=79,slow=7.5,SNR=3.0						
WRA	**Warramunga Arr**	**55.30**	**186**	P	P	11 38 24.7	-0.2
	0.2nm,1.0s,baz=4.5,slow=9.0,SNR=3.0						

*ISCJB **08** 11:39:03.8±0.5, 63°15'N±0°02'×27°72'E±0°08, h0km, Error ellipse: s-maj=5.4km s-min=3.1km az=20.9*
*CSEM **08** 11:39:06.9, 63°18'N×27°64'E, h0km, ML1.7, Mining explosion. After HEL*
*HEL **08** 11:39:06.9±0.1, 63°18'N×27°64'E, h0km, ML1.7, Explosion*
*IDC **08** 11:39:07.2±1.8, 63°04'N×28°03'E, h0km, mb1 3.3/3, mb1mx2.9/62, mbtmp3.3/3, ML2.7/2, Error ellipse: s-maj=24.8km s-min=7.3km az=103.0*

ISC 08 11:39:07.1±0.9, 63°06'N±0°03'×27°58'E±0°04, h0km, n32, σ1$08/55, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUF	**Sumiainen**	**0.74**	**243**	Pg	**Pb**	**11 39 22.0**	**-0.8**
SUF				Sg	**Sb**	**11 39 33.0**	**-0.4**
SUF	**Sumiainen**	**0.74**	**243**	PG	**Pb**	**11 39 22.0**	**-0.8**
	baz=60						
SUF				SG	**Sb**	**11 39 33.0**	**-0.4**
KAF	**Kangasniemi**	**1.12**	**212**	Pg	**Pb**	**11 39 28.7**	**-0.5**
KAF				Sb	**Sn**	**11 39 45.6**	**-0.4**
KAF	**Kangasniemi**	**1.12**	**212**	PG	**Pb**	**11 39 28.8**	**-0.5**
KAF				MSG		11 39 44.5	
	comp=Z,4.4nm,0.2s						
KAF				SB	**Sn**	**11 39 45.6**	**-0.4**
KEF	**Keuruu**	**1.54**	**236**	Pn	**Pb**	**11 39 36.4**	**0.0**
KEF				Sn	**Sg**	**11 39 57.9**	**+1.4**
KEF	**Keuruu**	**1.54**	**236**	PN	**Pb**	**11 39 36.5**	**0.0**
	baz=46						
KEF				MSG		11 39 55.9	
	comp=Z,4.4nm,0.2s						
KEF				SN	**Sg**	**11 39 57.9**	**+1.4**
JOF	**Joensuu**	**1.71**	**93**	Pg	**Pn**	**11 39 37.4**	**-0.7**
JOF	**Joensuu**	**1.71**	**93**	PG	**Pn**	**11 39 37.4**	**-0.7**
	baz=278						
FIA0	**FINESS Array S**	**1.77**	**204**	Pg	**Pb**	**11 39 40.2**	**-0.1**
FIA0				Sg	**Sg**	**11 40 04.6**	**+0.8**
FIA0	**FINESS Array S**	**1.77**	**204**	PG	**Pb**	**11 39 40.2**	**-0.1**
FIA0				SG	**Sg**	**11 40 04.6**	**+0.8**
FINES	**FINESS Array B**	**1.77**	**204**	Pg	**Pb**	**11 39 40.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=25,slow=19,SNR=16						
FINES				Lg	Lg	11 40 04.8	
	comp=Z,3.0nm,0.3s,baz=26,slow=29,SNR=40						
OUF	**Merijarvi**	**1.83**	**317**	Pg	**Pn**	**11 39 40.0**	**+0.3**
OUF				Sg	**Sb**	**11 40 04.8**	**0.0**
OUF	**Merijarvi**	**1.83**	**317**	PG	**Pn**	**11 39 40.0**	**+0.3**
OUF				MSG		11 39 59.3	
	comp=Z,5.6nm,0.2s						
OUF				SG	**Sb**	**11 40 04.8**	**0.0**
OUL	**Oulu**	**2.17**	**341**	Pg	**Pn**	**11 39 43.4**	**-0.9**
OUL				Sg	**Sn**	**11 40 12.8**	**+0.9**
OUL	**Oulu**	**2.17**	**341**	PG	**Pn**	**11 39 43.5**	**-0.9**
	baz=153						
OUL				SG	**Sn**	**11 40 12.8**	**+0.9**
VAF	**Ylistaro**	**2.24**	**272**	Pg	**Pb**	**11 39 47.8**	**-0.5**
VAF				Sg	**Sg**	**11 40 18.5**	**-0.4**
VAF	**Ylistaro**	**2.24**	**272**	PG	**Pb**	**11 39 47.8**	**-0.5**
	baz=87						
VAF				MSG		11 40 14.0	
	comp=Z,6.4nm,0.2s						
VAF				SG	**Sg**	**11 40 18.6**	**-0.4**
VJF	**Virojoki**	**2.53**	**180**	Pg	**Pb**	**11 39 52.7**	**-0.6**
VJF				Sg	**Sb**	**11 40 25.9**	**+1.0**
VJF	**Virojoki**	**2.53**	**180**	PG	**Pb**	**11 39 52.8**	**-0.6**
	baz=356						
VJF				MSG		11 40 25.2	
	comp=Z,3.4nm,0.2s						
VJF				SG	**Sb**	**11 40 25.9**	**+1.0**
PVF	**Pernaja**	**2.65**	**199**	Pg	**Pb**	**11 39 54.7**	**-0.7**
PVF				Sg	**Sg**	**11 40 30.4**	**-1.8**
PVF	**Pernaja**	**2.65**	**199**	PG	**Pb**	**11 39 54.7**	**-0.7**
	baz=15						
PVF				MSG		11 40 28.8	
	comp=Z,3.2nm,0.2s						
PVF				SG	**Sg**	**11 40 30.4**	**-1.8**
MSF	**Maaselka**	**2.93**	**12**	Pb	**Pn**	**11 39 55.1**	**+0.1**
MSF				Sb	**Sn**	**11 40 31.4**	**+0.6**
MSF	**Maaselka**	**2.93**	**12**	PB	**Pn**	**11 39 55.1**	**+0.1**
	baz=197						
MSF				SB	**Sn**	**11 40 31.4**	**+0.6**
KU6	**Riekki**	**3.14**	**17**	Pb	**Pn**	**11 39 58.3**	**+0.5**
KU6				Sb	**Sn**	**11 40 37.1**	**+1.1**
KU6	**Riekki**	**3.14**	**17**	PB	**Pn**	**11 39 58.3**	**+0.5**
	baz=202						
KU6				MSG		11 40 35.5	
	comp=Z,1.6nm,0.2s						
KU6				SB	**Sn**	**11 40 37.1**	**+1.1**
TOF	**Tornio**	**3.34**	**337**	Pb	**Pn**	**11 40 02.2**	**+1.7**
TOF	**Tornio**	**3.34**	**337**	PB	**Pn**	**11 40 02.2**	**+1.7**
ERTU	**Ertsjaerv**	**4.20**	**329**	Pn	**Pn**	**11 40 13.7**	**+1.4**
ERTU	**Ertsjaerv**	**4.20**	**329**	PN	**Pn**	**11 40 13.8**	**+1.4**
	baz=145						
ARCES	**ARCESS Array B**	**6.56**	**354**	Pn	**Pn**	**11 40 43.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=170,slow=15,SNR=2.7						
ARCES				Sn	**Sn**	**11 41 55.5**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=173,slow=22,SNR=3.9						
HFS	**Hagfors**	**7.24**	**252**	Pn	**Pn**	**11 40 55.4**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=56,slow=14,SNR=2.5						
NOA	**NORSAR Array B**	**7.95**	**263**	Pn	**Pn**	**11 41 04.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=57,slow=15,SNR=2.6						

IDC 08 11:40:55.3±12.0, 25°26'S×177°42'W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/41, mbtmp3.7/3, ML5.2/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/41, Error ellipse: s-maj=235.5km s-min=36.0km az=70.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.01**	**186**	Pn	Pn	11 41 58.6	+0.7
	158nm,0.3s,baz=30,slow=20,SNR=3.5						
RAO				Sn	Sn	11 42 43.9	-1.7
	159nm,0.3s,baz=49,slow=19,SNR=3.4						
URZ	**Urewera**	**13.77**	**198**	LR	LR	11 48 36.0	
	comp=Z,120nm,20.2s,baz=100,slow=34						
STKA	**Stephens Creek**	**36.43**	**250**	P	P	11 48 02.5	+0.6
	1.1nm,0.6s,baz=106,slow=15,SNR=3.0						
ASAR	**Alice Springs**	**44.14**	**261**	P	P	11 49 05.7	-0.3
	0.3nm,0.4s,baz=91,slow=8.3,SNR=6.7						
WRA	**Warramunga Arr**	**44.67**	**267**	P	P	11 49 09.7	-0.5
	0.3nm,0.3s,baz=103,slow=8.1,SNR=22						
PLCA	**Paso Flores**	**85.63**	**133**	LR	LR	12 23 38.2	
	comp=Z,98nm,20.4s,baz=160,slow=30						

*IDC **08** 11:48:23.8±1.7, 37°67'N×142°39'E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.2/66, mbtmp3.2/6, ML2.6/1, Error ellipse: s-maj=43.3km s-min=22.4km az=65.0*
*ISCJB **08** 11:48:26.6±0.9, 37°58'N±0°07'×142°09'E±0°08, h24km, mb3.3/5, Error ellipse: s-maj=11.3km s-min=7.1km az=137.5*
*JMA **08** 11:48:27.5±0.2, 37°61'N×142°04'E, h30km±3km, M3.3*

ISC 08 11:48:28.1±1.3, 37°61'N±0°07'×141°93'E±0°09, h24km, n22, σ1$47/19, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.88**	**254**	S	**Sn**	**11 48 57.0**	**+0.1**
JMM	**Marumori**	**0.94**	**286**	P	**Pn**	**11 48 45.7**	**0.0**
JIO	**Ouri**	**0.96**	**332**	P	**Pn**	**11 48 45.4**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.04**	**241**	P	**Pb**	**11 48 47.1**	**-0.3**
ONAJ				*e*S	**Sn**	**11 49 01.2**	**+0.2**
JOU	**Okura**	**1.25**	**307**	P	**Pb**	**11 48 50.9**	**-0.1**
JFT	**Otama**	**1.27**	**266**	P	**Pb**	**11 48 51.6**	**+0.3**
JFT				*e*S	**Sb**	**11 49 08.3**	**+1.0**
JMK	**Ichinoseki**	**1.45**	**338**	P	**Pb**	**11 48 52.6**	**-1.8**
JYK	**Kaneyama**	**1.79**	**317**	P	**Pb**	**11 48 58.5**	**-1.8**
JOM	**Ohasama**	**1.92**	**345**	P	**Pn**	**11 48 59.5**	**+0.2**
MJAR	**Matsushiro Arr**	**3.16**	**251**	Pn	**Pb**	**11 49 20.2**	**-3.4**
	0.5nm,0.3s,baz=81,slow=17,SNR=6.8						
MJAR				Sn	**Sb**	**11 50 01.5**	**-0.2**
	1.3nm,0.3s,baz=72,slow=28,SNR=4.5						
MAT	**Matsushiro**	**3.16**	**251**	P	**Pb**	**11 49 20.7**	**-2.9**
MAT				S	Sn	11 49 33.4	-20
H11N2	**WAKE ISLAND Hy**	**28.10**	**122**	T	T	12 23 38.2	
	baz=315,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	12 23 38.2	
	baz=315,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**28.12**	**122**	T	T	12 23 39.6	
	baz=315,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.84**	**124**	T	T	12 24 30.3	
	baz=317,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**28.84**	**125**	T	T	12 24 32.1	
	baz=317,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**28.86**	**125**	T	T	12 24 32.0	
	baz=317,slow=76,SNR=50						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**11 56 16.1**	**+0.3**
	0.4nm,0.6s,baz=100,slow=3.5,SNR=2.6						
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**11 56 36.3**	**+1.5**
	0.2nm,0.6s,baz=76,slow=12,SNR=3.4						
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**11 56 51.0**	**+1.9**
	0.2nm,0.3s,baz=80,slow=8.2,SNR=3.5						
WRA	**Warramunga Arr**	**57.69**	**188**	P	**P**	**11 58 17.3**	**+0.5**
	0.2nm,0.6s,baz=5.8,slow=6.9,SNR=6.0						
ASAR	**Alice Springs**	**61.42**	**188**	P	**P**	**11 58 42.3**	**-0.1**
	0.2nm,0.7s,baz=0.0,slow=7.4,SNR=2.8						

*NIED **08** 11:53:00, 39°70N×143°60E, h17km, Mw4.3 Best double couple: M0 3.16000×10^15 NP1:φs186.00000°, δ23.00000°, λ62.00000°. NP2:φs36.00000°, δ70.00000°, λ101.00000°.*
*IDC **08** 11:53:02.6±0.6, 39°60N×143°42E, h0km, mb4.2/28, mb1 4.4/31, mb1mx4.2/66, mbtmp4.3/31, ML3.8/2, MS3.6/13, Ms1 3.6/13, ms1mx3.3/64, Error ellipse: s-maj=15.6km s-min=12.8km az=118.0*
*ISCJB **08** 11:53:03.3±0.9, 39°64N±0°03'×143°50E±0°03, h15km±6km, mb4.5/65, MS3.9/14, Error ellipse: s-maj=5.2km s-min=3.2km az=42.8*
*JMA **08** 11:53:04.0±0.2, 39°66N×143°58E, h36km, M4.5*
*BJI **08** 11:53:04.7, 39°67N×143°60E, h38km, mb4.7/56, mB5.0/38, Ms4.4/23, Ms7 4.2/23*
*MOS **08** 11:53:06.6±0.9, 39°77N×143°43E, h33km, mb4.8/33, Error ellipse: s-maj=8.0km s-min=4.8km az=98.7*
*NEIC **08** 11:53:07.3±1.3, 39°64N×143°40E, h29km±8km, mb4.7/17, Error ellipse: s-maj=5.5km s-min=3.6km az=121.0*

ISC 08 11:53:07.2±0.8, 39°67N±0°04'×143°50E±0°05, h30km±4km, n203, σ1$37/228, mb4.6/65, MS4.2/15, 12C-6D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.29**	**283**	P	**Pn**	**11 53 27.1**	**-2.0**
JTH				*e*S	**Sn**	**11 53 44.2**	**-1.2**
MIYJ	**Miyakonagasawa**	**1.30**	**266**	P	**Pn**	**11 53 27.4**	**-1.9**
MIYJ				*e*S	**Sn**	**11 53 44.4**	**-1.3**
JANG	**Nango**	**1.68**	**295**	P	**Pn**	**11 53 32.4**	**-2.1**
JANG				*e*S	**Sn**	**11 53 54.0**	**-1.0**
JOM	**Ohasama**	**1.72**	**264**	P	**Pn**	**11 53 33.9**	**-1.1**
JOM				*e*S	**Sn**	**11 53 55.4**	**-0.6**
JMK	**Ichinoseki**	**1.91**	**249**	P	**Pn**	**11 53 36.0**	**-1.6**
JMK				*e*S	**Sn**	**11 53 59.2**	**-1.4**
JIO	**Ouri**	**2.07**	**235**	P	**Pn**	**11 53 37.6**	**-2.2**
JIO				S	**Sn**	**11 54 02.4**	**-2.2**
JTM	**Tenmabayashi**	**2.17**	**302**	P	**Pn**	**11 53 40.1**	**-1.1**
ERM	**Erimo**	**2.36**	**354**	*e*Pn	**Pn**	**11 53 43.4**	**-0.4**
ERM				*e*Sn	**Sn**	**11 54 12.1**	**+0.4**
ERM	**Erimo**	**2.36**	**354**	*e*P	**Pn**	**11 53 43.4**	**-0.4**
ERM				*e*		11 54 12.1	
JOT	**Ohata**	**2.53**	**313**	P	**Pn**	**11 53 45.3**	**-0.9**
JYK	**Kaneyama**	**2.55**	**254**	P	**Pn**	**11 53 45.5**	**-1.0**
JNBK	**Urakawa-nobuka**	**2.67**	**348**	P	**Pn**	**11 53 47.9**	**-0.2**
JNBK				*e*S	**Sn**	**11 54 19.2**	**-0.2**
JCH	**Churui**	**2.94**	**358**	P	**Pn**	**11 53 50.6**	**-1.3**
JCH				*e*S	**Sn**	**11 54 24.7**	**-1.5**
JFT	**Otama**	**3.28**	**230**	P	**Pn**	**11 53 54.9**	**-1.6**
JFT				*e*S	**Sn**	**11 54 33.2**	**-1.3**
GLVR	**Golovnino**	**4.34**	**20**	*i*P	**Pn**	**11 54 09.8**	**-1.2**
GLVR				*i* S	**Sn**	**11 54 57.8**	**-2.7**
ASAJ	**Asahikawa**	**4.49**	**352**	P	**Pn**	**11 54 13.7**	**+0.5**
	3.4nm,0.3s,baz=166,slow=14,SNR=39						
ASAJ				Sn	**Sn**	**11 55 03.6**	**-0.8**
	4.6nm,0.3s,baz=170,slow=21,SNR=3.5						
ASAJ	**Asahikawa**	**4.49**	**352**	*e*Pn	**Pn**	**11 54 13.3**	**+0.1**
ASAJ				*e*Sn	**Sn**	**11 55 03.6**	**-0.8**
GRPR	**Tuman**	**4.64**	**21**	*e*P	**Pn**	**11 54 13.5**	**-1.7**
GRPR				*i* S	**Sn**	**11 55 04.6**	**-3.4**
LAGR	**Lagunnoye**	**4.70**	**21**	*e*P	**Pn**	**11 54 15.1**	**-0.9**
LAGR				*i* S	**Sn**	**11 55 05.7**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**4.71**	**21**	*d i*P	**Pn**	**11 54 15.7**	**-0.4**
YUK				*i* S	**Sn**	**11 55 06.6**	**-3.0**
YUK				pmax	pmax		
	comp=Z,140nm,0.2s						
YUK				pmax	pmax		
	comp=E,57nm,0.1s						
YUK				pmax	pmax		
	comp=N,79nm,0.2s						
YUK				smax	smax		
	comp=E,500nm,0.4s						
YUK				smax	smax		
	comp=N,311nm,0.3s						
SHO	**Shikotan**	**4.88**	**30**	*e*P	**Pn**	**11 54 15.8**	**-2.7**
SHO				*i* S	**Sn**	**11 55 08.8**	**-5.1**
SHO				pmax	pmax		
	comp=N,52nm,0.5s						
SHO				pmax	pmax		
	comp=Z,56nm,0.5s						
SHO				pmax	pmax		
	comp=E,34nm,0.4s						
SHO				smax	smax		
	comp=E,711nm,0.4s						
SHO				smax	smax		
	comp=N,514nm,0.3s						
MAJO	**Matsushiro**	**5.21**	**235**	*e*Pn	**Pn**	**11 54 23.0**	**-0.1**
MAJO	**Matsushiro**	**5.21**	**235**	*e*P	**Pn**	**11 54 23.0**	**-0.1**
MAT	**Matsushiro**	**5.21**	**235**	P	**Pn**	**11 54 22.8**	**-0.3**
MAT				S	**Sn**	**11 55 21.2**	**-1.0**
MJAR	**Matsushiro Arr**	**5.21**	**235**	Pn	**Pn**	**11 54 22.6**	**-0.4**
	comp=N,5.2nm,0.3s,baz=39,slow=12,SNR=108						
MJAR				LR	LR	11 56 35.3	
	comp=N,339nm,18.6s,baz=55,slow=42						
MJB9	**Matsu-Tunnel**	**5.21**	**235**	*e*Pn	**Pn**	**11 54 23.0**	**-0.1**
KUR	**Kuril'sk**	**6.43**	**29**	*e*P	**Pn**	**11 54 39.5**	**-0.2**
KUR				*e*S	**Sn**	**11 55 48.7**	**-3.4**
KUR				pmax	pmax		
	comp=E,22nm,0.6s						
KUR				pmax	pmax		
	comp=Z,51nm,0.6s						
KUR				smax	smax		
	comp=E,175nm,0.7s						
KUR				smax	smax		
	comp=N,76nm,0.4s						
INU	**Inuyama**	**6.72**	**232**	*e*Pn	**Pn**	**11 54 43.4**	**-0.4**
JHJ	**Hachijo jima 2**	**7.19**	**206**	Pn	**Pn**	**11 54 48.4**	**-1.9**
	comp=N,47nm,0.3s,baz=348,slow=7.2,SNR=4.2						
JHJ				Sn	Sn	11 56 01.6	-9.3
	comp=N,14nm,0.3s,baz=49,slow=14,SNR=3.8						
YSS	**Yuzh-Sakhalins**	**7.30**	**356**	*e*Pn	**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CN2				LR	LR		
	comp=Z,400nm,15.0s						
ZEA	Zeya	17.89	327	*e*P	Pn	11 57 09.4	-4.1
ZEA				pmax	pmax		
	comp=N,20nm,0.6s						
ZEA				pmax	pmax		
	comp=E,20nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,26nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,400nm,13.0s						
ZEA				MLR	MLR		
	comp=N,300nm,10.0s						
HIA	Hailar	19.41	307	*e*P	P	11 57 30.1	-0.7
	comp=N,14nm,0.7s						
HIA	Hailar	19.41	307	*e*P	P	11 57 30.1	-0.7
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
MA2	Magadan	20.45	11	P	P	11 57 41.7	-0.2
	comp=Z,20nm,0.7s,baz=196,slow=8.9,SNR=68						
MA2				LR	LR	12 06 32.4	
	comp=Z,85nm,18.4s,baz=129,slow=39						
MA2	Magadan	20.45	11	*ce*P	P	11 57 42.9	+0.9
TIA	Tai'an	21.06	269	P	P	11 57 46.3	-2.5
TIA				pmax	pmax		
	comp=Z,24nm,1.1s						
NJ2	Nanjing	21.33	257	*e*P	P	11 57 51.6	-0.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SEY	Seymchan	23.90	10	P	P	11 58 18.4	+0.4
	comp=Z,14nm,0.8s,baz=192,slow=7.6,SNR=35						
YAK	Yakutsk	23.93	344	P	P	11 58 16.7	-1.5
	comp=Z,18nm,0.7s,baz=156,slow=0.7,SNR=8.3						
YAK				LR	LR	12 08 13.1	
	comp=Z,109nm,19.8s,baz=349,slow=38						
YAK	Yakutsk	23.93	344	*e*P	P	11 58 16.8	-1.5
	comp=Z,29nm,0.8s						
YAK	Yakutsk	23.93	344	*e*P	P	11 58 15.5	-2.7
YAK				*e**PP	pP	11 58 24.9	-1.9
YAK				*e*PPP	PPP	11 58 58.2	
YAK				*e*		12 01 58.4	
YAK				*e*S	S	12 02 29.8	-2.7
YAK				*e**SS	sS	12 02 49.5	+2.8
YAK				*e*SS	SnSn	12 03 11.3	-2.0
YAK				*e*SSS	SSS	12 03 29.2	
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,109nm,3.3s						
YAK				pmax	pmax		
	comp=N,47nm,3.2s						
YAK				pmax	pmax		
	comp=E,98nm,3.4s						
YAK				smax	smax		
	comp=N,71nm,3.5s						
YAK				smax	smax		
	comp=E,136nm,3.3s						
HHC	Hu-ho-hao-te	24.33	283	*e*P	P	11 58 21.5	-0.9
HHC				S	S	12 02 34.0	-5.7
HHC				pmax	pmax		
	comp=E,16nm,0.6s						
HHC				pmax	pmax		
	comp=E,57nm,7.4s						
HHC				LR	LR		
	comp=E,360nm,9.5s						
HHC				LR	LR		
	comp=E,400nm,9.2s						
HHC				LR	LR		
	comp=E,380nm,12.7s						
GUMO	Guam	26.01	177	LR	LR	12 09 46.4	
	comp=E,47nm,18.9s,baz=40,slow=39						
BOD	Bodaibo	26.28	323	*e*P	P	11 58 38.0	-1.7
BOD				pmax	pmax		
	comp=Z,25nm,0.9s						
ULN	Ulaanbaatar	27.36	299	*e*P	P	11 58 49.8	+0.2
	comp=Z,14nm,1.1s						
ULN	Ulaanbaatar	27.36	299	*ce*P	P	11 58 49.9	+0.2
ULN				pmax	pmax		
	comp=Z,16nm,1.2s						
SONA1	Songino Array	27.80	299	*e*P	P	11 58 53.5	-0.1
SONA0	Songino Array	27.80	299	*e*P	P	11 58 53.7	+0.1
SONM	Songino Array	27.80	299	P	P	11 58 53.7	+0.1
	comp=Z,6.1nm,0.8s,baz=100,slow=9.2,SNR=32						
SONM				LR	LR	12 10 34.2	
	comp=Z,345nm,18.4s,baz=28,slow=38						
XAN	Xi'an	28.12	269	P	P	11 58 56.5	0.0
XAN				pP	pP	11 59 04.5	-0.7
XAN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,270nm,4.2s						
H11N2	WAKE ISLAND Hy	28.28	128	T	T	12 28 31.3	
	baz=322,slow=74,SNR=92						
H11N1	WAKE ISLAND Hy	28.29	128	T	T	12 28 31.8	
	baz=322,slow=74,SNR=48						
H11N3	WAKE ISLAND Hy	28.30	128	T	T	12 28 32.4	
	baz=322,SNR=54						
H11S1	WAKE ISLAND Hy	29.10	130	T	T	12 29 36.0	
	baz=321,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy	29.10	130	T	T	12 29 36.2	
	baz=321,slow=76,SNR=10						
H11S2	WAKE ISLAND Hy	29.11	130	T	T	12 29 37.3	
	baz=321,slow=76,SNR=9.8						
ENH	Enshi	29.26	262	*e*P	P	11 59 05.8	-0.9
	comp=Z,16nm,0.8s						
TLY	Talaya	29.95	307	*e*P	P	11 59 12.4	-0.2
	comp=Z,4.4nm,0.9s						
TLY	Talaya	29.95	307	*e*P	P	11 59 12.4	-0.2
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZAK	Zakamensk	30.03	304	*e*P	P	11 59 11.9	-1.5
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
LZH	Lanzhou	31.33	276	*e*P	P	11 59 25.0	-0.1
LZH				pP	sP	11 59 35.8	-1.6
LZH				sP	pP	11 59 40.6	+6.8
LZH				*e*PP	PnPn	12 00 27.5	-0.3
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,78nm,5.2s						
LZH				LR	LR		
	comp=Z,370nm,13.2s						
LZH				LR	LR		
	comp=Z,370nm,13.5s						
LZH				LR	LR		
	comp=Z,430nm,16.9s						
TIXI	Tiksi	32.90	352	LR	LR	12 15 10.7	
	comp=Z,112nm,18.2s,baz=280,slow=40						
CD2	Chengdu	33.37	267	*e*P	P	11 59 41.5	-1.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.0s						
GTA	Gaotai	33.44	284	⇓P	P	11 59 43.9	+0.4
GTA				pP	pP	11 59 49.3	-2.9
GTA				PcP	PcP	12 02 25.6	+1.3
GTA				S	S	12 05 03.7	+0.6
GTA				pmax	pmax		
	comp=Z,12nm,1.1s						
GTA				pmax	pmax		
	comp=Z,99nm,4.0s						
GTA				LR	LR		
	comp=Z,180nm,16.4s						
GTA				LR	LR		
	comp=Z,510nm,17.1s						
GTA				LR	LR		
	comp=Z,290nm,15.4s						
DAV	Davao City (W)	36.23	211	LR	LR	12 13 52.3	
	comp=Z,80nm,20.0s,baz=340,slow=35						
KMI	Kunming	37.02	259	P	P	12 00 14.1	-0.4
KMI				pP	sP	12 00 24.9	-2.0
KMI				pmax	pmax		
	comp=Z,12nm,1.2s						
KMI				pmax	pmax		
	comp=Z,230nm,3.4s						
KMI				LR	LR		
	comp=Z,630nm,14.3s						
KMI				LR	LR		
	comp=Z,650nm,16.3s						
KMI				LR	LR		
	comp=Z,220nm,14.7s						
WMQ	Urumqi	41.18	295	P	P	12 00 49.5	+0.6
WMQ				pP	sP	12 00 58.3	-3.1
WMQ				sP	pP	12 01 07.8	+10
WMQ				pmax	pmax		
	comp=Z,47nm,0.9s						
WMQ				LR	LR		
	comp=Z,280nm,20.3s						
WMQ				LR	LR		
	comp=Z,440nm,18.3s						
WMQ				LR	LR		
	comp=Z,290nm,11.1s						
ZAA0	Zalesovo Array	41.41	310	*e*P	P	12 00 50.4	-0.2
	comp=Z,4.7nm,0.7s						
ZAA1	Zalesovo Array	41.41	310	*e*P	P	12 00 50.4	-0.2
ZAA1				*e*PcP	PcP	12 02 47.7	-0.4
ZALV	Zalesovo Beam	41.41	310	P	P	12 00 50.4	-0.2
	comp=Z,5.0nm,0.6s,baz=86,slow=7.6,SNR=25						
ZALV				PcP	PcP	12 02 47.7	-0.4
	comp=Z,2.1nm,0.7s,baz=80,slow=2.4,SNR=4.2						
ZALV	Zalesovo Beam	41.41	310	*e*P	P	12 00 50.0	-0.6
ZALV				PcP	PcP	12 02 47.7	-0.4
ZALV	Zalesovo Beam	41.41	310	*e*P	P	12 00 50.0	-0.6
ZALV						12 02 47.7	
NVS	Novosibirsk	42.26	312	*e*P	P	12 00 54.6	-2.9
NVS				pmax	pmax		
	comp=Z,18nm,2.1s						
IM3	Indian Mountai	43.55	32	*e*P	P	12 01 09.7	+1.8
CM31	Chiang Mai Arr	43.77	254	*e*P	P	12 01 10.2	0.0
CMAR	Chiang Mai Arr	43.77	254	P	P	12 01 10.2	0.0
	comp=Z,1.3nm,0.7s,baz=48,slow=7.6,SNR=8.8						
CMAR				LR	LR	12 21 25.6	
	comp=Z,64nm,18.7s,baz=330,slow=39						
MK01	Makanchi Array	44.16	300	*e*P	P	12 01 12.6	-0.4
MK31	Makanchi Array	44.16	300	*e*P	P	12 01 12.7	-0.4
MK31	Makanchi Array	44.16	300	*e*P	P	12 01 12.7	-0.4
MK32	Makanchi Array	44.16	300	*e*P	P	12 01 12.8	-0.3
MKAR	Makanchi Array	44.16	300	P	P	12 01 12.8	-0.3
	comp=Z,6.8nm,0.8s,baz=82,slow=9.4,SNR=72						
MKAR				LR	LR	12 20 31.6	
	comp=Z,264nm,19.6s,baz=316,slow=37						
MKAR	Makanchi Array	44.16	300	*e*P	P	12 01 12.7	-0.3
	comp=Z,44nm,0.8s						
MKAR	Makanchi Array	44.16	300	*e*P	P	12 01 12.7	-0.3
MKAR				pmax	pmax		
	comp=Z,44nm,0.8s						
MAKZ	Makanchi	44.37	300	*e*P	P	12 01 13.9	-0.8
	comp=Z,8.8nm,0.9s						
MAKZ	Makanchi	44.37	300	*e*P	P	12 01 13.9	-0.8
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KURK	Kurchatov	45.65	306	*e*P	P	12 01 24.2	-0.5
	comp=Z,15nm,0.9s						
KURK				*e*P	P	12 01 25.2	+0.5
KURK	Kurchatov	45.65	306	*e*P	P	12 01 24.2	-0.5
KURK				pmax	pmax		
	comp=Z,15nm,0.9s						
KURBB	Kurchatov Arra	45.72	306	P	P	12 01 25.2	-0.1
	comp=Z,11nm,0.8s,baz=82,slow=8.1,SNR=96						
ILAR	Eielson Array	46.39	34	P	P	12 01 31.6	+1.1
	comp=Z,1.4nm,0.7s,baz=260,slow=6.6,SNR=22						
ILB	Eielson Array	46.39	34	*e*P	P	12 01 31.9	+1.5
IL1	Eielson Array	46.40	34	*e*P	P	12 01 31.8	+1.3
PDGK	Podgornoye	47.03	296	P	P	12 01 35.6	-0.3
PDGK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TAPN	Taplejung	47.42	273	*e*P	P	12 01 39.9	+0.5
ODAN	Odare	47.92	272	*e*P	P	12 01 43.2	+0.1
JIRN	Jiri	48.44	274	*e*P	P	12 01 47.2	-0.1
	comp=Z,19nm,0.6s						
RAMN	Ramite	48.48	273	*e*P	P	12 01 47.6	+0.1
	comp=Z,41nm,0.9s						
GUN	Gumba	48.56	274	*e*P	P	12 01 48.3	+0.1
	comp=Z,34nm,0.6s						
KKN	Kakani	49.08	275	*e*P	P	12 01 52.3	+0.3
	comp=Z,42nm,0.8s						
DMN	Daman	49.30	275	*e*P	P	12 01 53.1	-0.7
TKM2	Tokmak 2	49.86	297	P	P	12 01 58.3	+0.5
	SNR=29						
DANN	Dangsing	49.97	276	*e*P	P	12 01 59.3	+0.4
BVAR	Borovoye Array	50.05	311	P	P	12 01 58.9	+0.1
	comp=Z,5.6nm,0.7s,baz=70,slow=8.4,SNR=29						
BRVK	Borovoye	50.10	311	*e*P	P	12 01 59.3	+0.1
	comp=Z,7.7nm,0.9s						
BRVK	Borovoye	50.10	311	*ce*P	P	12 01 59.9	+0.7
BRVK				pmax	pmax		
	comp=Z,20nm,1.2s						
OTUK	Ortayu	50.25	305	P	P	12 02 00.4	0.0
OTUK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KOLN	Koldanda	50.38	276	*e*P	P	12 02 01.2	-0.7
KBK	Karagaybulak	50.40	297	P	P	12 02 02.1	+0.3
	SNR=17						
USP	Ospenovka	50.48	298	P	P	12 02 01.8	-0.6
	SNR=7.2						
PYUN	Piuthan	50.69	276	*e*P	P	12 02 04.6	+0.4
	comp=Z,38nm,0.9s						
AAK	Ala-Archa	50.72	297	*ce*P	P	12 02 04.3	+0.1
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH	Kashi	50.86	293	*e*P	P	12 02 09.1	+3.8
KSH				sP	sP	12 02 21.1	+3.2
KSH				PP	PP	12 04 06.2	+4.7
KSH				PcS	PcS	12 07 20.8	+1.5
KSH				S	S	12 09 21.9	+2.2
KSH				sS	sS	12 09 38.1	+3.5
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,250nm,5.9s						
KSH				LR	LR		
	comp=Z,370nm,10.9s						
KSH				LR	LR		
	comp=Z,370nm,9.1s						
KSH				LR	LR		
	comp=Z,400nm,9.1s						
EKS2	Erkin-Say	51.20	297	P	P	12 02 08.0	+0.2
	SNR=8.1						
INK	Inuvik	51.30	28	P	P	12 02 08.5	+0.6
	comp=Z,1.0nm,0.7s,baz=309,slow=6.9,SNR=9.0						
INK	Inuvik	51.30	28	*e*P	P	12 02 08.5	+0.6
	comp=Z,2.7nm,0.8s						
AML	Almayashu	51.45	297	P	P	12 02 10.5	+0.5
	SNR=10.0						
MNAS	Manas	52.14	298	P	P	12 02 14.9	+0.1
MNAS				pmax	pmax		
	comp=Z,12nm,0.8s						
SFK	Sufi-Kurgan	52.41	294	P	P	12 02 17.1	+0.1
SFK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KKAR	Karatay Array	53.25	299	*e*P	P	12 02 22.8	-0.1
KKAR	Karatay Array	53.25	299	*e*P	P	12 02 22.8	-0.1
SVE	Sverdlovsk	54.28	318	*e*P	P	12 02 30.9	+0.7
SVE				pmax	pmax		
	comp=Z,13nm,0.9s						
ARU	Arti	55.49	318	*e*P	P	12 02 39.0	+0.1
	comp=Z,14nm,1.0s						
ARU	Arti	55.49	318	P	P	12 02 38.8	-0.2
ABKAR	Akbulak array	57.51	309	*e*P	P	12 02 53.4	-0.1
	comp=Z,158nm,1.0s						
KBL	Kabul	58.02	290	*e*P	P	12 02 56.6	-0.9
	comp=Z,6.0nm,0.8s						
KBL	Kabul	58.02	290	*e*P	P	12 02 56.6	-0.9
KBL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKTO	Aktyubinsk	58.15	311	P	P	12 02 57.9	-0.1
	comp=Z,4.6nm,0.8s,baz=72,slow=13,SNR=14						
RES	Resolute Bay	59.64	15	*e*P	P	12 03 08.5	+0.7
	comp=Z,4.1nm,0.9s						
RES	Resolute Bay	59.64	15	*e*P	P	12 03 08.5	+0.7
RES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WR1	Warramunga Arr	59.91	190	*e*P	P	12 03 08.4	-1.9
	comp=Z,38nm,2.0s						
WRA	Warramunga Arr	59.91	190	P	P	12 03 08.4	-1.9
	comp=Z,1.9nm,0.8s,baz=7.8,slow=6.9,SNR=17						
YKA	Yellowknife Ar	60.71	31	P	P	12 03 16.4	+1.1
	comp=Z,0.4nm,0.7s,baz=301,slow=6.6,SNR=10						
ARA0	ARCESS Array S	62.11	339	*e*P	P	12 03 26.4	+1.7
ARCES	ARCESS Array B	62.11	339	P	P	12 03 26.4	+1.7
	comp=Z,2.5nm,0.7s,baz=36,slow=9.0,SNR=3.7						
AS01	Alice Springs	63.63	190	*e*P	P	12 03 34.4	-1.0
AS31	Alice Springs	63.64	190	*e*P	P	12 03 35.2	-0.2
	comp=Z,4.9nm,1.9s						
ASAR	Alice Springs	63.64	190	P	P	12 03 35.2	-0.2
	comp=Z,1.1nm,0.8s,baz=9.4,slow=6.7,SNR=14						
GEYT	Alibeck	64.00	299	P	P	12 03 37.2	-0.6
	comp=Z,2.6nm,0.9s,baz=10,slow=1.7,SNR=4.7						
FIA0	FINESS Array S	67.24	332	*e*P	P	12 03 58.5	+0.3
FIA0	FINESS Array S	67.24	332	*e*P	P	12 03 58.6	+0.3
FINES	FINESS Array B	67.24	332	P	P	12 03 58.5	+0.3
	comp=Z,4.8nm,0.7s,baz=46,slow=8.5,SNR=13						
KIV	Kislovodsk	70.42	311	*e*P	P	12 04 18.7	+0.2
	comp=Z,16nm,0.8s						
KIV	Kislovodsk	70.42	311	*e*P	P	12 04 19.2	+0.7
KIV				pmax	pmax		
	comp=Z,20nm,1.0s						
KBZ	Khabaz	70.43	311	P	P	12 04 19.2	+0.8
	comp=Z,6.8nm,0.9s,baz=90,slow=2.9,SNR=15						
NV01	Mina Array Sit	72.11	55	*e*P	P	12 04 30.2	+1.1
NVAR	Mina Array Bea	72.11	55	P	P	12 04 30.6	+1.5
	comp=Z,0.9nm,0.8s,baz=295,slow=6.3,SNR=4.5						
HFS	Hagfors	72.35	336	P	P	12 04 30.2	+0.5
	comp=Z,5.4nm,0.8s,baz=41,slow=2.7,SNR=10.0						
HFS				LR	LR	12 42 19.2	
	comp=Z,694nm,21.6s,baz=336,slow=41						
NB2	NORSAR Subarra	72.38	338	P	P	12 04 30.1	+0.1
	comp=Z,6.7nm,0.8s,baz=39,slow=6.2						
NB200	NORSAR Array S	72.38	338	*e*P	P	12 04 30.1	+0.1
NOA	NORSAR Array B	72.38	338	P	P	12 04 30.1	+0.1
	comp=Z,4.8nm,0.8s,baz=38,slow=6.0,SNR=11						
NBO02	NORSAR Array S	72.48	338	*e*P	P	12 04 30.6	+0.1
AKASG	Malin Array Be	73.21	323	P	P	12 04 34.4	-0.6
	comp=Z,2.7nm,0.7s,baz=45,slow=6.2,SNR=12						
AKBB	Malin Array Si	73.21	323	*e*P	P	12 04 34.5	-0.5
	comp=Z,30nm,2.0s						
AKBB	Malin Array Si	73.21	323	*e*P	P	12 04 34.5	-0.5
AKBB				pmax	pmax		
	comp=Z,30nm,2.0s						
KIEV	Kiev	73.22	323	*e*P	P	12 04 34.3	-0.7
	comp=Z,29nm,2.0s						
KIEV	Kiev	73.22	323	*ce*P	P	12 04 35.7	+0.6
KIEV				pmax	pmax		
	comp=Z,12nm,2.5s						
FRB	Frobisher Bay	73.83	14	P	P	12 04 38.6	+0.2
FRB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PD31	Pinedale Array	74.66	47	*e*P	P	12 04 44.8	+0.8
PDAR	Pinedale Array	74.66	47	P	P	12 04 44.8	+0.8
	comp=Z,0.4nm,0.6s,baz=225,slow=3.1,SNR=5.1						
SORM	Soroca	75.38	321	⇑*i*P	P	12 04 47.6	-0.1
MALT	Malatya	76.43	309	P	P	12 04 55.3	+1.3
MALT				pmax	pmax		
	comp=Z,11nm,1.3s						
KWP	Kalwaria Pacla	76.93	325	*e*P	P	12 04 57.6	+1.1
	comp=Z,486nm,1.8s						
KWP	Kalwaria Pacla	76.93	325	*e*P	P	12 04 57.6	+1.1
KWP				pmax	pmax		
	comp=Z,486nm,1.8s						
BUR04	Bucovina Ar. S	77.25	322	*e*P	P	12 04 59.1	+0.7
BURAR	Bucovina Array	77.25	322	⇑*i*P	P	12 04 59.3	+0.8
BR101	Keskin Array S	78.32	312	*e*P	P	12 05 04.7	0.0
BRTR	Keskin Array B	78.32	312	P	P	12 05 04.7	0.0
	comp=Z,1.1nm,0.8s,baz=132,slow=3.7,SNR=5.7						
VOIR		78.89	321	⇓*i*P	P	12 05 07.5	-0.1
DPC	Dobruska-Polom	79.08	329	*e*P	P	12 05 09.7	+1.2
DPC	Dobruska-Polom	79.08	329	*e*P	P	12 05 09.7	+1.2
ARR	Arges	79.15	321	⇑*i*P	P	12 05 11.1	+2.1
SGRR	Singureni	79.31	320	⇓*i*P	P	12 05 19.3	+10
CLL	Collm	79.61	331	*e*P	P	12 05 12.0	+0.7
CLL	Collm	79.61	331	*e*P	P	12 05 12.0	+0.7
GOPC	GO Pecny, Ondr	80.04	329	*e*P	P	12 05 15.4	+1.7
GOPC	GO Pecny, Ondr	80.04	329	*e*P	P	12 05 15.4	+1.7
KHC	Kasperske Hory	81.14	329	*e*P	P	12 05 20.5	+0.9
KHC				*e*pP	sP	12 05 31.7	-0.9
KHC	Kasperske Hory	81.14	329	*e*P	P	12 05 20.5	+0.9
KHC				*e*		12 05 31.7	
EKA	Eskdalemuir Ar	81.18	341	P	P	12 05 20.9	+1.2
	comp=Z,0.5nm,0.5s,baz=74,slow=6.0,SNR=2.9						
GEC2	GERESS Array S	81.32	329	*e*P	P	12 05 20.9	+0.2
	comp=Z,20nm,2.0s						
GEC2	GERESS Array S	81.32	329	*e*P	P	12 05 20.9	+0.2
GEC2				pmax	pmax		
	comp=Z,21nm,2.0s						
GERES	GERESS Array B	81.32	329	P	P	12 05 20.9	+0.2
	comp=Z,0.9nm,0.7s,baz=34,slow=5.0,SNR=5.7						
VTS	Vitosha	81.88	320	⇑*i*P	P	12 05 25.1	+1.3
MEM	Membach	82.67	334	⇓P	P	12 05 27.9	+0.3
KBA	Koelnbreinsper	82.88	328	P	P	12 05 29.4	+0.4
KBA				pmax	pmax		
	comp=Z,9.0nm,2.0s						
BCLA	Clavier	83.07	335	⇑P	P	12 05 33.0	+3.3
LTX	Lajitas	87.23	54	*e*P	P	12 05 51.8	+0.8
LTX	Lajitas	87.23	54	*e*P	P	12 05 51.8	+0.8
TXAR	Lajitas Array	87.23	54	P	P	12 05 51.8	+0.8
	comp=Z,0.2nm,0.6s,baz=312,slow=5.9,SNR=2.7						

NIED ***08*** *11:58:00, 39.°60N×143.°50E, h23km, Mw3.8 Best double couple: M₀4.87000×10¹⁴ NP1:φs190.00000°, δ30.00000°, λ70.00000°. NP2:φs33.00000°, δ62.00000°, λ101.00000°.*

IDC ***08*** *11:58:09.8±0.8, 39.°64N×143.°19E, h0km, mb3.7/15, mb1 3.8/16, mb1mx3.7/63, mbtmp3.7/16, ML3.2/1, Error ellipse: s-maj=20.7km s-min=17.3km az=98.0*

JMA ***08*** *11:58:11.6±0.3, 39.°64N×143.°50E, h40km, M3.7*

ISCJB ***08*** *11:58:12.5±1.7, 39.°65N±0.°04×143.°45E±0.°06, h33km±13km, mb3.8/15, Error ellipse: s-maj=8.8km s-min=4.5km az=33.2*

ISC 08 11:58:15.0±0.8**, 39.°66N**±0.°06×**143.°39E**±0.°10**, h35**km±4km**, n40,** σ1§**18**/43**, mb3.8**/15**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	1.20	284	P	Pn	11 58 33.7	-1.6
MIYJ	Miyakonagasawa	1.21	266	P	Pn	11 58 34.1	-1.3
MIYJ				*e*S	Sn	11 58 50.3	-0.3
OFUJ	Ofunato	1.45	247	P	Pn	11 58 37.3	-1.4
OFUJ				*e*S	Sn	11 58 55.9	-0.6
JANG	Nango	1.60	297	P	Pn	11 58 39.2	-1.6
JOM	Ohasama	1.63	264	P	Pn	11 58 40.4	-0.7
JOM				*e*S	Sn	11 59 01.5	+0.6
JMK	Ichinoseki	1.82	248	P	Pn	11 58 42.8	-1.0
JMK				*e*S	Sn	11 59 05.5	-0.1
JIO	Ouri	1.99	233	P	Pn	11 58 44.3	-1.8
JIO				*e*S	Sn	11 59 08.9	-0.9
JTM	Tenmabayashi	2.10	303	P	Pn	11 58 47.1	-0.5
JYK	Kaneyama	2.46	253	P	Pn	11 58 52.3	-0.3
JNBK	Urakawa-nobuka	2.66	350	P	Pn	11 58 54.9	-0.4
JNBK				*e*S	Sn	11 59 27.6	+1.4
JKB	Kayabe	2.85	322	P	Pn	11 58 58.1	+0.2
JKB				*e*S	Sn	11 59 31.9	+0.9
JCH	Churui	2.95	360	P	Pn	11 58 57.4	-1.9
JCH				*e*S	Sn	11 59 31.7	-1.7
ASAJ	Asahikawa	4.49	353	Pn	Pn	11 59 20.0	-0.4
	1.0nm,0.3s,baz=192,slow=14,SNR=7.2						
ASAJ				Sn	Sn	12 00 10.3	-1.1
	1.3nm,0.3s,baz=210,slow=16,SNR=4.0						
MAT	Matsushiro	5.13	234	P	Pn	11 59 29.8	+0.4
MAT				S	Sn	12 00 29.4	+2.0
MJAR	Matsushiro Arr	5.13	234	Pn	Pn	11 59 29.6	+0.2
	0.6nm,0.3s,baz=39,slow=12,SNR=9.0						
JHJ	Hachijo jima 2	7.15	205	Sn	Sn	12 01 05.7	-11
	15nm,0.3s,baz=25,slow=14,SNR=2.5						
USRK	Ussuriysk Ar.	9.62	302	Pn	Pn	12 00 32.9	+2.0
	0.2nm,0.3s,baz=93,slow=14,SNR=4.7						
KLR	Kul'dur	12.66	323	Pn	Pn	12 01 13.8	+1.4
	0.0nm,0.3s,baz=129,slow=14,SNR=2.2						
MA2	Magadan	20.47	11	P	P	12 02 49.6	+0.2
	5.5nm,0.7s,baz=192,slow=8.1,SNR=15						
SEY	Seymchan	23.92	10	P	P	12 03 25.1	-0.2
	3.2nm,0.8s,baz=196,slow=8.1,SNR=7.9						
SONM	Songino Array	27.73	299	P	P	12 04 00.1	0.0
	0.9nm,0.6s,baz=94,slow=7.6,SNR=4.0						
H11N2	WAKE ISLAND Hy	28.34	128	T	T	12 33 37.3	
	baz=326						
H11N1	WAKE ISLAND Hy	28.35	128	T	T	12 33 38.5	
	baz=326						
H11N3	WAKE ISLAND Hy	28.36	128	T	T	12 33 37.3	
	baz=326						
H11S1	WAKE ISLAND Hy	29.16	130	T	T	12 34 41.7	
	baz=322						
H11S3	WAKE ISLAND Hy	29.16	130	T	T	12 34 41.7	
	baz=322						
H11S2	WAKE ISLAND Hy	29.18	130	T	T	12 34 41.7	
	baz=322						
ZALV	Zalesovo Beam	41.35	310	P	P	12 05 55.5	-1.6
	1.1nm,0.6s,baz=86,slow=7.4,SNR=4.0						
MKAR	Makanchi Array	44.09	300	P	P	12 06 19.6	0.0
	1.2nm,0.8s,baz=83,slow=9.9,SNR=8.5						
KURBB	Kurchatov Arra	45.65	306	P	P	12 06 31.7	-0.1
	1.9nm,0.8s,baz=82,slow=8.1,SNR=12						
ILAR	Eielson Array	46.45	34	P	P	12 06 38.5	+0.5
	0.3nm,0.7s,baz=271,slow=5.2,SNR=4.3						

BVAR	**Borovoye Array**	**49.98**	**311**	P	**P**	**12 07 05.2**	**-0.1**
	1.2nm,0.7s,baz=92,slow=8.8,SNR=5.7						
INK	**Inuvik**	**51.34**	**28**	P	**P**	**12 07 16.4**	**+1.1**
	0.4nm,0.7s,baz=232,slow=0.6,SNR=2.2						
AKTO	**Aktyubinsk**	**58.09**	**311**	P	**P**	**12 08 02.3**	**-2.3**
	0.9nm,0.6s,baz=60,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**59.89**	**190**	P	**P**	**12 08 16.0**	**-1.3**
	0.5nm,0.9s,baz=6.0,slow=6.7,SNR=4.4						
ASAR	**Alice Springs**	**63.62**	**190**	P	**P**	**12 08 43.1**	**+0.8**
	0.2nm,0.7s,baz=19,slow=5.9,SNR=3.6						
NVAR	**Mina Array Bea**	**72.19**	**55**	P	**P**	**12 09 38.5**	**+2.0**
	0.1nm,0.3s,baz=273,slow=6.2,SNR=2.5						
NOA	**NORSAR Array B**	**72.35**	**338**	P	**P**	**12 09 37.4**	**+0.5**
	1.3nm,0.8s,baz=36,slow=13,SNR=2.9						
AKASG	**Malin Array Be**	**73.16**	**323**	P	**P**	**12 09 40.5**	**-1.3**
	0.4nm,0.5s,baz=46,slow=6.4,SNR=4.1						
BORG	**Borgarnes**	**75.23**	**353**	P	**P**	**12 09 53.2**	**-0.3**
	42nm,1.2s,baz=0.0,slow=0.0,SNR=2.4						

MAN 08 12:09:23.8±3.46N×125°.89E,h1km,mb4.3,ML3.1,MS2.8, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.55**	**120**	*e*P	Pg	12 09 32.0	-1.5
BIPH				*e*S	Sg	12 09 39.2	-1.3
BUTP	**Butuan**	**0.57**	**333**	*e*P	Pg	12 09 34.5	+0.6
BUTP				*e*S	Sb	12 09 44.5	+0.2
MSLP	**Maasin**	**1.95**	**329**	*e*P	Pb	12 09 59.1	-0.2
MSLP				*e*S	Sn	12 10 20.4	-1.9
BESP	**Borongan**	**3.15**	**352**	*e*P	Pn	12 10 15.3	+1.5
BESP				*e*S	Sn	12 10 54.4	+2.4
CNP	**Catarman**	**4.20**	**343**	*e*P	Pn	12 10 30.0	+1.8
CNP				*e*S	Sn	12 11 21.0	+3.0

IDC 08 12:21:20.6±3.4,51°.52N×96°.12E,h0km,mb1 3.0/2, mb1mx2.8/62,mbtmp3.0/2,ML2.6/2,Error ellipse: s-maj=62.6km s-min=21.9km az=12.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**7.28**	**294**	Pn	Pn	12 23 08.2	+0.1
	0.4nm,0.3s,baz=99,slow=11,SNR=4.9						
ZALV				Lg	Lg	12 24 57.0	
	0.8nm,0.3s,baz=108,slow=23,SNR=6.6						
SONM	**Songino Array**	**7.62**	**115**	Pg	Pb	12 23 39.1	+5.6
	0.3nm,0.3s,baz=302,slow=17,SNR=5.4						
SONM				Lg	Lg	12 25 23.1	
	0.7nm,0.3s,baz=301,slow=28,SNR=15						
MKAR	**Makanchi Array**	**10.21**	**248**	Pn	Pn	12 23 48.5	+0.2
	0.1nm,0.3s,baz=52,slow=16,SNR=4.5						
MKAR				Pg		12 24 29.9	
	0.1nm,0.3s,baz=62,slow=19,SNR=5.9						
MKAR				Lg	Lg	12 26 38.3	
	0.1nm,0.3s,baz=58,slow=27,SNR=3.8						
KURBB	**Kurchatov Arra**	**11.11**	**272**	Lg	Lg	12 27 09.1	
	0.0nm,0.3s,baz=80,slow=30,SNR=5.3						

MAN 08 12:24:50.9±3.88N×122°.94E,h19km,mb4.6,ML3.4,MS3.3, 2C-2D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.60**	**151**	*i*P	Pg	12 25 02.3	+0.2
SNPH				*i* S	Sg	12 25 11.3	+1.1
GUIM	**Jordan**	**0.82**	**335**	*e*P	Pn	12 25 07.2	+0.6
GUIM				*e*S	Sn	12 25 18.8	+0.5
LLP	**Lapu-Lapu**	**1.10**	**66**	*e*P	Pn	12 25 08.1	-2.3
LLP				*e*S	Sb	12 25 21.6	-2.8
JAP	**San Jose, Anti**	**1.31**	**312**	*e*P	Pg	12 25 18.3	+2.9
DCPH	**Dipolog City**	**1.35**	**163**	*e*P	Pb	12 25 14.3	-0.4
DCPH				*e*S	Sb	12 25 32.5	+1.0
RCP	**Roxas**	**1.69**	**353**	*e*P	Pb	12 25 21.1	+0.7
MSLP	**Maasin**	**1.91**	**82**	*e*P	Pn	12 25 22.2	+0.7
MSLP				*e*S	Sb	12 25 46.5	-1.1
OCLP	**Ormoc**	**2.01**	**54**	*e*P	Pn	12 25 24.1	+1.1

*IDC **08** 12:25:56.6±5.0,24°.29S×66°.52W,h143km±60km,mb3.8/2, mb1 3.7/4,mb1mx3.3/36,mbtmp4.1/4,Error ellipse: s-maj=86.9km s-min=29.8km az=97.0*
*ISCJB **08** 12:25:58.3±0.4,24°.26S±0°.04×67°.11W±0°.04,h200km, mb3.8/2,Error ellipse: s-maj=6.0km s-min=4.3km az=20.0*
*SJA **08** 12:25:58.0±0.7,24°.26S×67°.06W,h198km±11km,ML2.9, MW3.4*
*GUC **08** 12:26:00.3±0.4,24°.18S×67°.54W,h220km±8km,ML4.3*

ISC 08 12:25:59.0±0.9,24°.25S±0°.06×67°.08W±0°.04,h200km,n23, σ1ᵽ28/32,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.50**	**108**	*i* P	**Pn**	**12 26 32.8**	**-0.2**
SLA				IAML		12 26 34.0	
	comp=Z,47nm,0.6s						
AZAP	**Zapla**	**1.83**	**90**	*i* P	**Pn**	**12 26 35.6**	**-0.5**
AZAP				*i* S	**Sn**	**12 27 03.3**	**-1.6**
AZAP				IAML		12 27 05.5	
	comp=Z,39nm,0.7s						
HJA	**Humahuaca**	**1.85**	**56**	*i* P	**Pn**	**12 26 36.0**	**-0.4**
HJA				IAML		12 26 37.9	
	comp=Z,18nm,0.7s						
FSA	**Cafayete**	**2.10**	**152**	*i* P	**Pn**	**12 26 37.6**	**-1.2**
FSA				IAML		12 26 37.7	
	comp=Z,48nm,0.3s						
ASTB	**Santa Barbara**	**2.42**	**83**	*i* P	**Pn**	**12 26 41.4**	**-0.8**
GO02	**Mina Guanaco**	**2.46**	**248**	*e*P	**Pn**	**12 26 43.2**	**+0.4**
GO02				*e*S	**Sn**	**12 27 16.2**	**-0.6**
GO02				IAML		12 27 16.8	
	comp=E,707nm,0.4s						
PB06	**IPOC Station P**	**2.76**	**303**	*e*P	**Pn**	**12 26 46.5**	**+0.5**
PB06				*e*S	**Sn**	**12 27 20.8**	**-2.0**
PB06				IAML		12 27 23.2	
	comp=N,635nm,0.4s						
ALOL	**LOMAS DE OLMED**	**2.86**	**82**	*i* P	**Pn**	**12 26 46.4**	**-0.7**
AHML	**Horco Molle**	**2.97**	**148**	*i* P	**Pn**	**12 26 47.8**	**-0.6**
AHML				IAML		12 26 48.6	
	comp=Z,56nm,0.5s						
PB14	**IPOC Station P**	**3.06**	**262**	*i* P	**Pn**	**12 26 49.2**	**-0.4**
PB14	**IPOC Station P**	**3.06**	**262**	*e*P	**Pn**	**12 26 49.5**	**-0.1**
PB14				*e*S	**Sn**	**12 27 26.8**	**-2.3**
PB14				IAML		12 27 28.8	
	comp=E,226nm,0.5s						
ANCH	**Antofagasta**	**3.10**	**280**	*e*P	**Pn**	**12 26 50.6**	**+0.7**
ANCH				*e*S	**Sn**	**12 27 27.5**	**-2.1**
PB09	**IPOC Station P**	**3.16**	**320**	*e*P	**Pn**	**12 26 51.5**	**+0.8**
PB09				*e*S	**Sn**	**12 27 30.1**	**-1.0**
PB10	**IPOC Station P**	**3.27**	**282**	*i* P	**Pn**	**12 26 51.7**	**-0.2**
PB10	**IPOC Station P**	**3.27**	**282**	*e*P	**Pn**	**12 26 52.0**	**+0.1**
PB10				*e*S	**Sn**	**12 27 30.6**	**-2.6**
PB10				IAML		12 27 35.5	
	comp=E,888nm,0.8s						
PB04	**IPOC Station P**	**3.41**	**303**	*e*P	**Pn**	**12 26 53.7**	**-0.1**
PB04				*e*S	**Sn**	**12 27 33.7**	**-2.9**
PB04				IAML		12 27 35.1	
	comp=N,700nm,0.5s						
VCA	**Vinchina**	**4.58**	**193**	*i* P	**Pn**	**12 27 08.0**	**-0.2**
VCA				IAML		12 27 10.7	
	comp=Z,17nm,0.2s						
AGUA	**GUANDACOL**	**5.36**	**193**	*i* P	**Pn**	**12 27 17.8**	**-0.4**
LPAZ	**La Paz**	**7.99**	**353**	P	**Pn**	**12 27 52.9**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=144,slow=8.1,SNR=34						
LPAZ				S	**Sn**	**12 29 21.6**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=229,slow=20,SNR=1.6						
PLCA	**Paso Flores**	**16.69**	**189**	P	**Pn**	**12 29 42.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=35,slow=11,SNR=5.0						
KOWA	**Kowa**	**72.61**	**65**	P	**P**	**12 37 07.1**	**+2.1**
	comp=Z,1.9nm,0.5s,baz=225,slow=5.7,SNR=2.1						
TORD	**Torodi Ar. Bea**	**76.72**	**69**	P	**P**	**12 37 29.6**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=260,slow=5.3,SNR=16						
MKAR	**Makanchi Array**	**146.76**	**40**	PKPbc	**PKPab**	**12 45 20.1**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=298,slow=3.6,SNR=4.6						

*IDC **08** 12:37:16.6±1.9,4°.80N×123°.79E,h534km±23km,mb3.0/5, mb1 3.2/6,mb1mx2.7/59,mbtmp4.1/6,Error ellipse: s-maj=54.1km s-min=9.6km az=70.0*
*DJA **08** 12:37:22.7±1.0,4°.1E±6°×12°.4E±°,h459km±12km,M4.1/8, mb4.2/6,mB4.6/4,MLv4.2/8,Mw(mB)3.8/4*

ISC 08 12:37:14.0±0.8,4°.73N±0°.08×123°.7E±0°.1,h500km,n15, σ2ᵽ47/22,mb3.5/6,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.06**	**120**	P	**P**	**12 38 22.7**	**+3.2**
KMSI	**Cibinong**	**4.14**	**177**	P	**P**	**12 38 37.8**	**+4.2**
MRSI	**Marisa**	**4.60**	**203**	P	**P**	**12 38 39.6**	**+2.1**
MPSI	**Mapaga**	**5.82**	**221**	P	**P**	**12 38 51.5**	**+2.9**
LUWI	**Luwuk**	**5.82**	**190**	P	**P**	**12 38 51.0**	**+2.3**
	104nm,0.7s,4μm0.4nm						
APSI	**Ampana**	**5.99**	**201**	P	**P**	**12 38 52.3**	**+2.1**
	70nm,0.5s,1μm0.3nm						
APSI				S	**S**	**12 40 05.5**	**-3.3**
	70nm,0.5s,1μm0.3nm						
LBMI	**Labuha**	**6.53**	**145**	P	**P**	**12 38 58.2**	**+2.7**
	28nm,0.8s,0.5nm						
LBMI				S	**S**	**12 40 14.9**	**-3.6**
	28nm,0.8s,0.5nm						
SANI	**Sanana**	**7.10**	**162**	P	**P**	**12 39 01.6**	**+0.3**
	44nm,0.9s,2μm						
SANI				S	**S**	**12 40 25.7**	**-3.4**
	44nm,0.9s,2μm						
BATI	**Baumata**	**14.84**	**180**	P	**P**	**12 40 24.4**	**+1.7**
	3.3nm,0.3s,baz=22,slow=5.4,SNR=5.0						
WRA	**Warramunga Arr**	**26.64**	**157**	P	**P**	**12 42 13.0**	**+0.8**
	1.3nm,0.4s,baz=333,slow=10,SNR=37						
WRA				S	**S**	**12 46 09.9**	**-1.8**
	0.5nm,0.9s,baz=335,slow=16,SNR=4.5						
ASAR	**Alice Springs**	**29.92**	**161**	P	**P**	**12 42 42.4**	**+1.6**
	1.5nm,0.5s,baz=339,slow=7.0,SNR=47						
ASAR				S	**S**	**12 47 02.4**	**-0.3**
	0.2nm,0.6s,baz=327,slow=13,SNR=6.2						
ASAR				ScP	**ScP**	**12 48 20.5**	**-2.4**
	0.2nm,0.4s,baz=341,slow=3.0,SNR=6.6						
STKA	**Stephens Creek**	**40.18**	**156**	P	**P**	**12 44 08.3**	**+2.0**
	1.1nm,0.5s,baz=341,slow=10,SNR=4.3						
KLR	**Kul'dur**	**44.86**	**7**	P	**P**	**12 44 41.7**	**-1.2**
	0.1nm,0.5s,baz=202,slow=5.4,SNR=4.3						
SONM	**Songino Array**	**45.45**	**344**	P	**P**	**12 44 47.2**	**-0.5**
	0.9nm,0.8s,baz=160,slow=9.2,SNR=5.5						
MKAR	**Makanchi Array**	**55.05**	**326**	P	**P**	**12 45 57.8**	**-0.3**
	0.5nm,0.3s,baz=123,slow=7.2,SNR=16						
MKAR				PcP	**PcP**	**12 46 50.7**	**-1.4**
	0.3nm,0.7s,baz=108,slow=3.2,SNR=2.8						

DJA 08 12:42:53.9±1.0,2°.5S±5°.×14°.1E±°,h10km,M4.8/4,mB6.0/1, mb5.8/1,MLv4.3/4,Mw(mB)5.7/1,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.27**	**190**	P	Pg	12 42 59.8	+0.4
JAY				S	Sb	12 43 05.0	-0.5
GENI	**Genyem**	**0.67**	**240**	P	Pb	12 43 07.5	-0.3
GENI				S	Sb	12 43 16.9	-0.3
MMPI	**Merauke**	**6.19**	**183**	P	Pn	12 44 26.1	+0.7
RKPI	**Ransiki, Papua**	**6.61**	**276**	P	Pn	12 44 31.2	0.0

*ISK **08** 12:57:18.9,39°.19N×29°.01E,h11km,ML2.0/9*
*ISCJB **08** 12:57:19.4±0.5,39°.18N±0°.05×29°.04E±0°.04,h12km±5km, Error ellipse: s-maj=8.2km s-min=4.9km az=162.1*
*CSEM **08** 12:57:19.5±0.2,39°.17N×29°.03E,h11km±2km,ML2.0, Error ellipse: s-maj=5.8km s-min=4.1km az=168.0*
*DDA **08** 12:57:20.1,39°.12N×29°.08E,h7km,Ml2.0*

ISC 08 12:57:19.2±0.9,39°.15N±0°.03×29°.05E±0°.03,h14km±6km, n33,σ0ᵽ61/41,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.08**	**220**	PG	**Pg**	**12 57 22.3**	**0.0**
SIMA				SG	**Sg**	**12 57 24.5**	**+0.2**
SIMA	**Simav-Kutahya**	**0.08**	**220**	*e*Pg	**Pg**	**12 57 22.3**	**0.0**
SIMA				*e*Sg	**Sg**	**12 57 24.5**	**+0.2**
DEMI	**Demirci**	**0.28**	**249**	*i* P	**Pb**	**12 57 26.5**	**+0.5**
DEMI				*i* S	**Sb**	**12 57 30.4**	**-0.2**
DEMI	**Demirci**	**0.28**	**249**	P	**Pb**	**12 57 26.5**	**+0.5**
DEMI				S	**Sb**	**12 57 30.4**	**-0.2**
GDZ	**Gediz**	**0.34**	**99**	*i* P	**Pg**	**12 57 26.1**	**-0.2**
GDZ				*i* S	**Sg**	**12 57 31.0**	**-0.1**
GDZ	**Gediz**	**0.34**	**99**	P	**Pg**	**12 57 26.1**	**-0.2**
GDZ				S	**Sg**	**12 57 31.0**	**-0.1**
TVSB	**Tavsanli**	**0.44**	**46**	PG	**Pg**	**12 57 28.4**	**+0.3**
TVSB				SG	**Sg**	**12 57 34.3**	**+0.2**
TVSB	**Tavsanli**	**0.44**	**46**	*e*Pg	**Pg**	**12 57 28.4**	**+0.3**
TVSB				*e*Sg	**Sg**	**12 57 34.3**	**+0.2**
KULA	**Kula-Manisa**	**0.70**	**206**	PG	**Pg**	**12 57 32.9**	**+0.1**
KULA	**Kula-Manisa**	**0.70**	**206**	*e*Pg	**Pg**	**12 57 32.9**	**+0.1**
KHAL	**Karahalli**	**0.85**	**156**	*i* P	**Pn**	**12 57 36.7**	**-0.1**
KHAL	**Karahalli**	**0.85**	**156**	P	**Pn**	**12 57 36.7**	**-0.1**
BALB	**Balikesir**	**1.03**	**299**	PG	**Pb**	**12 57 38.8**	**0.0**
BALB	**Balikesir**	**1.03**	**299**	*e*Pg	**Pb**	**12 57 38.8**	**0.0**
IGD	**Bursa**	**1.12**	**6**	*i* P	**Sb**	**12 57 51.9**	**-2.9**
MDNY	**Mudanya-Bursa**	**1.23**	**354**	PN	**Pn**	**12 57 42.3**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.23**	**354**	*e*Pn	**Pn**	**12 57 42.3**	**+0.4**
KCTX	**Karacabey (Bur**	**1.24**	**335**	PN	**Pn**	**12 57 41.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.24**	**335**	*e*Pn	**Pn**	**12 57 41.9**	**-0.2**
BALY	**Balya**	**1.26**	**299**	*i* P	**Pg**	**12 57 43.6**	**+0.2**
BORA	**Eskisehir**	**1.31**	**56**	*i* P	**Pg**	**12 57 45.5**	**+1.1**
BORA	**Eskisehir**	**1.31**	**56**	P	**Pg**	**12 57 45.5**	**+1.1**
GONE	**Gonen-Balikesi**	**1.39**	**311**	PN	**Pn**	**12 57 43.7**	**-0.4**
GONE	**Gonen-Balikesi**	**1.39**	**311**	*e*Pn	**Pn**	**12 57 43.7**	**-0.4**
ARMT	**Armutlu**	**1.43**	**354**	PN	**Pn**	**12 57 44.9**	**+0.2**
ARMT	**Armutlu**	**1.43**	**354**	*e*Pn	**Pn**	**12 57 44.9**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.11**	**318**	PN	**Pn**	**12 57 54.4**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.11**	**318**	*e*Pn	**Pn**	**12 57 54.4**	**+0.3**
SART	**Tekirdag**	**2.11**	**318**	*i* P	**Pn**	**12 57 53.6**	**-0.5**
LPK	**Lapseki**	**2.15**	**306**	PN	**Pn**	**12 57 54.7**	**+0.1**
LPK	**Lapseki**	**2.15**	**306**	*e*Pn	**Pn**	**12 57 54.7**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.35**	**303**	PN	**Pn**	**12 57 57.8**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.35**	**303**	*e*Pn	**Pn**	**12 57 57.8**	**+0.5**

ISC 08 13:03:55.1±1.0,48°.70N±0°.04×21°.46E±0°.04,h10km,n10, σ0ᵽ79/14,1C-4D,Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRVS	**Cervenica-Dubn**	**0.21**	**359**	*e*PG	**Pg**	**13 03 58.7**	**-0.7**
CRVS				*e*SG	**Sg**	**13 04 03.0**	**+0.6**
KECS	**Kecovo**	**0.68**	**252**	*e*PG	**Pg**	**13 04 06.6**	**-1.7**
KECS				*e*SG	**Sg**	**13 04 16.6**	**-0.6**
KECS				*e*LG	Lg	13 04 23.0	
STHS	**Stebnicka Huta**	**0.74**	**349**	*e*PG	**Pg**	**13 04 09.5**	**+0.2**
STHS				*e*SG	**Sn**	**13 04 23.1**	**+0.2**
STHS				*e*LG	Lg	13 04 25.2	
PSZ	**Piszkesteto**	**1.30**	**234**	*i*P	**Pg**	**13 04 21.2**	**+1.1**
LANS	**Liptovska Anna**	**1.39**	**290**	*e*PN	**Pg**	**13 04 22.5**	**+0.7**
VYHS	**Vyhne**	**1.76**	**264**	*e*PN	**Pn**	**13 04 25.8**	**+0.2**
VYHS				*e*SN	**Sb**	**13 04 49.4**	**-0.1**
DRGR		**2.08**	**156**	*i*P	**Pg**	**13 04 35.7**	**+0.7**
BURAR	**Bucovina Array**	**2.73**	**112**	*i*P	**Pn**	**13 04 38.8**	**-0.3**
ARR	**Arges**	**3.97**	**146**	*i*P	**Pg**	**13 05 11.1**	**0.0**
VOIR		**4.08**	**142**	*i*P	**Pg**	**13 05 12.6**	**-0.5**

IDC 08 13:05:36.7±4.1,18°.05S×166°.92E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.6/46,mbtmp3.9/5,ML3.5/1,Error ellipse: s-maj=80.5km s-min=38.6km az=83.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.03**	**186**	Pn	Pn	13 06 38.4	-1.3
	3.2nm,0.3s,baz=0.0,slow=20,SNR=83						
DZM				Sn	Sn	13 07 24.1	-3.6
	5.5nm,0.3s,baz=142,slow=19,SNR=11						
STKA	**Stephens Creek**	**26.68**	**234**	P	P	13 11 18.7	+1.1
	2.3nm,0.6s,baz=81,slow=10,SNR=7.2						
WRA	**Warramunga Arr**	**30.83**	**261**	P	P	13 11 54.1	-0.6
	1.0nm,0.9s,baz=90,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**31.30**	**254**	P	P	13 11 58.5	-0.4
	0.7nm,0.4s,baz=80,slow=8.5,SNR=30						
CMAR	**Chiang Mai Arr**	**76.01**	**295**	P	P	13 17 26.6	+0.3
	0.7nm,0.8s,baz=131,slow=5.2,SNR=4.1						

*IDC **08** 13:08:39.9±0.7,29°.71S×179°.32W,h332km±8km,mb2.9/3, mb1 3.4/4,mb1mx3.0/39,mbtmp3.9/4,Error ellipse: s-maj=42.7km s-min=19.3km az=151.0*
*WEL **08** 13:08:46.3±1.0,30°.S±11°×17°.9W±2°.8,h259km±16km*

ISC 08 13:08:39.4±0.7,30°.17S±0°.09×178°.8W±0°.2,h350km,n55, σ1ᵽ76/57,mb3.1/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.17**	**40**	P	**Pn**	**13 09 26.3**	**+0.3**
GLKZ	**Green Lake**	**1.17**	**40**	S	**S**	**13 09 58.7**	**-4.5**
RIZ	**Raoul Island**	**1.18**	**39**	P	**Pn**	**13 09 26.9**	**+0.9**
RIZ	**Raoul Island**	**1.18**	**39**	S	**S**	**13 09 57.4**	**-5.9**
RAO	**Raoul Island**	**1.18**	**39**	P	**Pn**	**13 09 26.9**	**+0.9**
	142nm,0.3s,baz=283,slow=14,SNR=4.7						
RAO				S	**S**	**13 10 01.3**	**-2.0**
	baz=107,slow=19						
MXZ	**Matakaoa Point**	**7.76**	**197**	P	**Pn**	**13 10 33.0**	**+2.4**
HAZ	**Te Kaha**	**8.09**	**200**	P	**P**	**13 10 37.8**	**+0.3**
HAZ	**Te Kaha**	**8.09**	**200**	S	**S**	**13 12 08.0**	**-0.3**
PKGZ	**Pakihiroa**	**8.13**	**198**	P	**P**	**13 10 40.3**	**+2.3**
WCZ	**Waipu Caves**	**8.15**	**223**	P	**Pn**	**13 10 35.4**	**+0.1**
PUZ	**Puketiti**	**8.26**	**197**	P	**P**	**13 10 39.3**	**-0.1**
PUZ	**Puketiti**	**8.26**	**197**	S	**S**	**13 12 11.5**	**-0.6**
RUGZ	**Raukumara Rang**	**8.31**	**200**	P	**P**	**13 10 40.8**	**+0.7**
TWGZ	**Tauwhareparae**	**8.43**	**198**	P	**P**	**13 10 42.9**	**+1.6**
OPRZ	**Ohinepanea**	**8.58**	**206**	P	**P**	**13 10 44.3**	**+1.4**
CNGZ	**Carnagh Statio**	**8.66**	**196**	P	**P**	**13 10 45.1**	**+1.3**
MWZ	**Matawai**	**8.70**	**200**	P	**P**	**13 10 44.9**	**+0.5**
MWZ	**Matawai**	**8.70**	**200**	S	**S**	**13 12 22.1**	**+0.4**
TKGZ	**Te Karaka**	**8.71**	**198**	P	**Pn**	**13 10 42.6**	**+0.8**
URZ	**Urewera**	**8.76**	**202**	P	**P**	**13 10 45.9**	**+1.0**
	16nm,0.3s,baz=270,slow=3.1,SNR=53						
URZ				S	**S**	**13 12 21.8**	**-1.2**
	3.0nm,0.3s,baz=198,slow=20,SNR=7.8						
URZ	**Urewera**	**8.76**	**202**	P	**P**	**13 10 44.7**	**-0.2**
URZ	**Urewera**	**8.76**	**202**	S	**S**	**13 12 21.5**	**-1.4**
RIGZ	**Rimuhau**	**8.98**	**198**	P	**P**	**13 10 47.3**	**-0.2**
RRRZ	**Republican Roa**	**9.03**	**204**	P	**P**	**13 10 50.0**	**+2.0**
SNGZ	**Shannon Statio**	**9.17**	**199**	P	**P**	**13 10 50.1**	**+0.6**
SNGZ	**Shannon Statio**	**9.17**	**199**	S	**S**	**13 12 31.6**	**-0.4**
ALRZ	**Allen Road**	**9.29**	**204**	P	**P**	**13 10 52.8**	**+1.9**
HIZ	**Hauiti**	**9.85**	**211**	P	**P**	**13 11 00.9**	**+3.9**
MCHZ	**McNeill Hill**	**9.97**	**201**	P	**P**	**13 10 59.2**	**+0.8**
KWHZ	**Kaweka Forest**	**10.04**	**202**	P	**P**	**13 10 59.7**	**+0.4**
WTVZ	**West Tongariro**	**10.06**	**206**	P	**P**	**13 11 00.9**	**+1.5**
TWVZ	**Taurewa**	**10.08**	**207**	P	**P**	**13 11 01.7**	**+2.0**
FWVZ	**Far West T-bar**	**10.19**	**206**	P	**P**	**13 11 02.2**	**+1.1**
KAHZ	**Kahuranaki**	**10.24**	**199**	P	**P**	**13 11 02.4**	**+1.0**
MOVZ	**Moawhango**	**10.25**	**205**	P	**P**	**13 11 02.1**	**+0.5**
PKVZ	**Pokaka**	**10.30**	**206**	P	**P**	**13 11 02.5**	**+0.3**
VRZ	**Vera Road**	**10.40**	**209**	P	**P**	**13 11 05.2**	**+2.1**
PXZ	**Pawanui**	**10.46**	**199**	P	**P**	**13 11 04.1**	**+0.3**
PXZ	**Pawanui**	**10.46**	**199**	S	**S**	**13 12 57.1**	**-3.3**
PNHZ	**Pukenui**	**10.55**	**202**	P	**Pn**	**13 11 04.4**	**+0.5**
PNHZ	**Pukenui**	**10.55**	**202**	S	**S**	**13 12 59.3**	**-3.3**
PRHZ	**Porangahau**	**10.75**	**199**	P	**P**	**13 11 07.9**	**+0.9**
TSZ	**Takapari Road**	**10.76**	**202**	P	**Pn**	**13 11 06.2**	**-0.2**
WAZ	**Wanganui**	**10.84**	**206**	P	**P**	**13 11 09.4**	**+1.3**
DVHZ	**Dannevirke**	**10.92**	**201**	P	**P**	**13 11 09.5**	**+0.5**
ANWZ	**Angora Road**	**10.97**	**199**	P	**P**	**13 11 10.8**	**+1.3**
BFZ	**Birch Farm**	**11.24**	**200**	P	**P**	**13 11 14.1**	**+1.6**
ASAR	**Alice Springs**	**42.45**	**267**	P	**P**	**13 15 59.9**	**-1.6**
	0.2nm,0.5s,baz=105,slow=7.1,SNR=8.7						
ASAR				PcP	**PcP**	**13 17 47.6**	**+0.5**
	1.1nm,1.2s,baz=112,slow=3.4,SNR=4.5						
WRA	**Warramunga Arr**	**43.42**	**272**	P	**P**	**13 16 06.9**	**-2.2**
	0.6nm,0.3s,baz=108,slow=8.3,SNR=24						
NVAR	**Mina Array Bea**	**88.53**	**43**	P	**P**	**13 20 56.0**	**+2.8**
	0.2nm,0.7s,baz=235,slow=6.3,SNR=3.7						
ARCES	**ARCESS Array B**	**138.22**	**347**	PKhKP	PKPpre	13 27 14.9	
	1.8nm,0.8s,baz=90,slow=3.6,SNR=5.0						
ARCES				PKP	**PKiKP**	**13 27 25.0**	**+0.5**
	2.6nm,1.1s,baz=352,slow=1.8,SNR=4.7						
FINES	**FINESS Array B**	**144.70**	**340**	PKP	PKPbc	13 27 33.5	-0.4
	3.1nm,0.3s,baz=35,slow=3.5,SNR=42						
NOA	**NORSAR Array B**	**148.42**	**351**	PKPbc	**PKPbc**	**13 27 44.9**	**+0.5**
	1.5nm,0.9s,baz=14,slow=4.2,SNR=3.4		

	comp=E,3.0nm,0.7s						
SHO	**Shikotan**	**2.68**	**246**	*e*P	**Pn**	**13 17 47.6**	**+3.7**
SHO				AMB	AMB	13 17 49.4	
	comp=E,52nm,0.4s						
SHO				*i* S	**Sn**	**13 18 16.6**	**+1.4**
SHO				A	A	13 18 19.7	
	comp=E,27nm,0.2s						
SHO				A	A	13 18 19.7	
	comp=E,52nm,0.2s						
SHO	**Shikotan**	**2.68**	**246**	*i* PN	**Pn**	**13 17 47.6**	**+3.7**
SHO				pmax	pmax		
	comp=Z,52nm,0.4s						
SHO				pmax	pmax		
	comp=N,13nm,0.1s						
SHO				pmax	pmax		
	comp=E,44nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.26**	**254**	*e*P	**Pn**	**13 17 56.1**	**+4.2**
YUK				AMB	AMB	13 17 58.1	
	comp=E,35nm,0.4s						
YUK				*i* S	**Sn**	**13 18 32.3**	**+2.8**
YUK				A	A	13 18 35.7	
	comp=E,39nm,0.4s						
YUK				A	A	13 18 35.7	
	comp=E,25nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.26**	**254**	*i* PN	**Pn**	**13 17 56.1**	**+4.2**
YUK				pmax	pmax		
	comp=N,149nm,0.1s						
YUK				pmax	pmax		
	comp=E,39nm,0.1s						
YUK				pmax	pmax		
	comp=Z,351nm,0.1s						
LAGR	**Lagunnoye**	**3.31**	**255**	*i* P	**Pn**	13 17 57.1	+4.6
LAGR				*i* S	**Sn**	**13 18 33.1**	**+2.5**
LAGR	**Lagunnoye**	**3.31**	**255**	*i* PN	Pn	13 17 57.1	+4.6
GRPR	**Tuman**	**3.34**	**254**	*e*P	Pn	13 17 57.8	+4.8
GRPR				*i* S	**Sn**	**13 18 34.2**	**+2.9**
GRPR	**Tuman**	**3.34**	**254**	*i* PN	Pn	13 17 57.8	+4.8
GLVR	**Golovnino**	**3.60**	**251**	*i* P	Pn	13 18 01.1	+4.6
GLVR				*e*S	**Sn**	**13 18 40.1**	**+2.3**
GLVR	**Golovnino**	**3.60**	**251**	*i* PN	Pn	13 18 01.1	+4.6
NEM2	**Nemuro 2**	**3.62**	**244**	P	**Pn**	**13 18 00.4**	**+3.7**
NEM2				*e*S	**Sn**	**13 18 38.4**	**+0.3**
JRA	**Rausu**	**3.80**	**255**	P	Pn	13 18 03.7	+4.4
JNK	**Nakash**	**4.20**	**252**	P	**Pn**	**13 18 08.9**	**+4.2**
JAK	**Akkeshi**	**4.46**	**245**	P	**Pn**	**13 18 11.8**	**+3.4**
JAK				*e*S	**Sn**	**13 18 59.2**	**+0.2**
JTKR	**Abashiri--Toko**	**4.63**	**259**	P	**Pn**	**13 18 14.4**	**+3.7**
JAR	**Ashorobuto**	**4.95**	**252**	P	**Pn**	**13 18 19.3**	**+4.3**
JMP	**Maruseppu**	**5.00**	**261**	P	**Pn**	**13 18 19.9**	**+4.1**
JOB	**Onbets**	**5.07**	**248**	P	**Pn**	**13 18 20.3**	**+3.7**
JOB				*e*S	**Sn**	**13 19 14.5**	**+0.7**
HRK	**Horoka**	**5.32**	**255**	*e*P	**Pn**	**13 18 24.5**	**+4.3**
JSE	**Soyaes**	**5.41**	**272**	P	**Pn**	**13 18 24.6**	**+3.3**
JKK2	**Kamakawa 2**	**5.47**	**260**	P	**Pn**	**13 18 26.4**	**+4.3**
JCH	**Churui**	**5.51**	**246**	P	**Pn**	**13 18 25.9**	**+3.2**
JCH				*e*S	**Sn**	**13 19 23.7**	**-1.0**
JKA	**Kamikawa-asahi**	**5.51**	**263**	*e*P	**Pn**	**13 18 26.8**	**+4.0**
ASAJ	**Asahikawa**	**5.52**	**263**	P	**Pn**	**13 18 26.8**	**+4.0**
	comp=Z,4.4nm,0.3s,baz=82,slow=12,SNR=30						
ASAJ				S	**Sn**	**13 19 28.9**	**+4.1**
	comp=Z,1.0nm,0.3s,baz=131,slow=20,SNR=2.6						
ASAJ	**Asahikawa**	**5.52**	**263**	P	**Pn**	**13 18 26.8**	**+4.0**
YSS	**Yuzh-Sakhalins**	**5.54**	**293**	*e*P	**Pn**	**13 18 24.8**	**+1.6**
YSS				AMB	AMB	13 18 25.3	
	comp=Z,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.54**	**293**	⇓*e*PN	**Pn**	**13 18 24.8**	**+1.6**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
MYR	**Moyori**	**5.72**	**244**	*e*P	**Pn**	**13 18 29.1**	**+3.5**
MYR				*e*S	**Sn**	**13 19 29.1**	**-0.8**
JFR	**Furan**	**5.79**	**254**	P	**Pn**	**13 18 30.9**	**+4.3**
JAB	**Ashibetsu**	**5.93**	**258**	P	Pn	13 18 33.4	+4.9
JNBK	**Urakawa-nobuka**	**6.07**	**246**	P	**Pn**	**13 18 32.8**	**+2.5**
JBT2	**Biratori 2**	**6.10**	**251**	P	**Pn**	**13 18 33.9**	**+3.1**
JEW	**Eniwo**	**6.69**	**254**	P	**Pn**	**13 18 43.0**	**+4.1**
JNB	**Noboribetsu**	**7.12**	**252**	P	**Pn**	**13 18 47.3**	**+2.6**
JKB	**Kayabe**	**7.38**	**248**	P	**Pn**	**13 18 50.4**	**+2.1**
JKB				*e*S	**Sn**	**13 20 06.5**	**-4.1**
JYM2	**Yakumo 2**	**7.71**	**251**	P	**Pn**	**13 18 55.3**	**+2.4**
JSH	**Shimam**	**7.73**	**256**	P	**Pn**	**13 18 56.3**	**+3.2**
JANG	**Nango**	**7.91**	**237**	P	**Pn**	**13 18 57.0**	**+1.4**
JTH	**Tanohata**	**7.99**	**233**	P	**Pn**	**13 18 57.9**	**+1.2**
JOSM	**Okushiri--Mats**	**8.33**	**253**	P	**Pn**	**13 19 03.4**	**+2.0**
OFUJ	**Ofunato**	**8.69**	**230**	P	**Pn**	**13 19 08.5**	**+2.1**
JRG	**Rokugo**	**9.06**	**235**	P	**Pn**	**13 19 13.4**	**+2.0**
JRG				*e*S	**Sn**	**13 20 48.6**	**-3.3**
JIO	**Ouri**	**9.32**	**228**	P	**Pn**	**13 19 16.7**	**+1.8**
PETK	**Petropavlovsk-**	**9.46**	**29**	P	**Pn**	**13 19 21.0**	**+4.2**
	comp=Z,0.1nm,0.3s,baz=13,slow=10,SNR=4.7						
NKL	**Nikolayevsk**	**10.25**	**326**	*e*P	**Pn**	**13 19 27.2**	**-0.3**
NKL	**Nikolayevsk**	**10.25**	**326**	*e*PN	**Pn**	**13 19 27.2**	**-0.3**
MJAR	**Matsushiro Arr**	**12.42**	**231**	P	**Pn**	**13 19 58.6**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=26,slow=14,SNR=4.4						
USRK	**Ussuriysk Ar.**	**13.01**	**273**	P	**Pn**	**13 20 06.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=83,slow=12,SNR=4.4						
KLR	**Kul'dur**	**13.25**	**295**	P	**Pn**	**13 20 08.8**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=96,slow=14,SNR=1.9						
KSRS	**Korea Array**	**18.35**	**253**	P	**Pn**	**13 21 14.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=56,slow=7,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**28.77**	**146**	T	T	13 54 03.2	
	baz=335,slow=76,SNR=294						
H11N1	**WAKE ISLAND Hy**	**28.79**	**146**	T	T	13 54 04.4	
	baz=335,slow=76,SNR=174						
H11N3	**WAKE ISLAND Hy**	**28.79**	**146**	T	T	13 54 04.8	
	baz=335,slow=76,SNR=275						
H11S1	**WAKE ISLAND Hy**	**29.80**	**147**	T	T	13 55 15.2	
	baz=336,slow=76,SNR=425						
H11S3	**WAKE ISLAND Hy**	**29.81**	**147**	T	T	13 55 19.8	
	baz=336,slow=76,SNR=310						
H11S2	**WAKE ISLAND Hy**	**29.82**	**147**	T	T	13 55 16.5	
	baz=336,slow=76,SNR=348						
SONM	**Songino Array**	**30.03**	**291**	P	**P**	**13 23 04.6**	**-2.8**
	comp=Z,0.4nm,0.7s,baz=73,slow=8.3,SNR=3.6						
ILAR	**Eielson Array**	**39.16**	**37**	P	**P**	**13 24 27.3**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=275,slow=6.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**41.99**	**307**	P	**P**	**13 24 47.2**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=78,slow=8.2,SNR=2.8						
MKAR	**Makanchi Array**	**45.94**	**298**	P	**P**	**13 25 17.9**	**-3.0**
	comp=Z,0.3nm,0.4s,baz=82,slow=8.3,SNR=2.3						
MKAR				PcP	**PcP**	**13 26 56.3**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=38,slow=2.6,SNR=2.0						
KURK	**Kurchatov**	**46.64**	**304**	P	**P**	**13 25 23.9**	**-2.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**46.73**	**304**	P	**P**	**13 25 23.9**	**-3.1**
	comp=Z,0.9nm,0.5s,baz=72,slow=8.3,SNR=7.3						
CMAR	**Chiang Mai Arr**	**49.98**	**255**	P	**P**	**13 25 52.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=39,slow=8.5,SNR=4.6						
BVAR	**Borovoye Array**	**50.39**	**309**	P	**P**	**13 25 53.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=89,slow=8.8,SNR=3.4						
YKA	**Yellowknife Ar**	**53.51**	**35**	P	**P**	**13 26 19.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=292,slow=6.6,SNR=3.6						
WRA	**Warramunga Arr**	**66.25**	**196**	P	**P**	**13 27 48.6**	**+2.6**
	comp=Z,0.4nm,0.6s,baz=13,slow=6.7,SNR=8.0						
HFS	**Hagfors**	**69.34**	**338**	P	**P**	**13 28 01.3**	**-3.7**
	comp=Z,2.2nm,0.9s,baz=54,slow=7.3,SNR=3.3						
ASAR	**Alice Springs**	**69.96**	**196**	P	**P**	**13 28 12.8**	**+3.6**
	comp=Z,0.3nm,0.6s,baz=12,slow=6.7,SNR=11						
KBZ	**Khabaz**	**70.57**	**313**	P	**P**	**13 28 11.4**	**-1.4**
	comp=Z,2.5nm,0.9s,baz=22,slow=7.7,SNR=5.8						
AKASG	**Malin Array Be**	**71.83**	**325**	P	**P**	**13 28 17.0**	**-3.2**
	comp=Z,1.1nm,0.3s,baz=39,slow=6.4,SNR=5.8						
BRTR	**Keskin Array B**	**78.22**	**315**	P	**P**	**13 28 55.6**	**-2.0**
	comp=Z,0.8nm,0.7s,baz=79,slow=6.4,SNR=5.3						
GERES	**GERESS Array B**	**79.08**	**332**	P	**P**	**13 28 59.2**	**-2.8**
	comp=Z,0.7nm,0.5s,baz=38,slow=6.8,SNR=5.8						
TXAR	**Lajitas Array**	**80.11**	**58**	P	**P**	**13 29 10.0**	**+2.0**
	comp=Z,0.1nm,0.4s,baz=319,slow=4.0,SNR=3.5						

*SOME **08** 13:22:47.9, 44.60N× 82.00E, h0km*
*NNC **08** 13:22:50.7± 1.6, 44.63N× 82.01E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=26.7km s-min=5.4km az=114.0*
*ISCJB **08** 13:22:51.1± 1.4, 44.60N± 0.06× 82.3E± 0.1, h10km, Error ellipse: s-maj=14.8km s-min=5.1km az=31.8*

ISC 08 13:22:46.0±2.0,**44.58N**±0.07×**82.3E**±0.1,**h10**km,**n10,**
σ1§44/17,3C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**2.20**	**290**	*e*S	**Sg**	**13 23 55.0**	**-1.7**
	24nm,0.6s						
KAPS	**Kapalarasan**	**2.20**	**290**	*e*P	**Pb**	**13 23 26.7**	**+0.8**
	2.8nm,0.2s						
MK31	**Makanchi Array**	**2.21**	**360**	Pn	**Pg**	**13 23 28.1**	**-0.3**
	5.2nm,0.3s,baz=189,slow=14,SNR=407						
MK31				⇓Sn	**Sg**	**13 23 56.8**	**-0.3**
	4.4nm,0.3s,baz=179,slow=27,SNR=22						
MAKZ	**Makanchi**	**2.24**	**354**	⇑Pn	**Pg**	**13 23 27.7**	**-1.2**
MAKZ	3.1nm,0.3s						
	13nm,0.6s			⇓Sn	**Sg**	**13 23 57.0**	**-0.9**
PDGK	**Podgornoye**	**2.38**	**239**	⇑Pn	**Pb**	**13 23 29.7**	**+0.7**
	2.0nm,0.3s						
PDGK				⇑Lg	Lg	13 24 00.7	
	9.3nm,0.4s						
UZB	**Uzynbulak**	**2.77**	**240**	*e*P	**Pb**	**13 23 36.8**	**+1.2**
	8.3nm,0.2s						
UZB				*e*S	**Sg**	**13 24 12.1**	**-2.8**
	7.2nm,0.2s						
KPKS	**Kokpek**	**2.83**	**248**	*e*P	**Pb**	**13 23 37.1**	**+0.5**
	0.2nm,0.4s						
KPKS				*e*S	**Sb**	**13 24 12.7**	**+1.2**
	40nm,0.3s						
MNBS	**Baschi**	**2.84**	**261**	*e*P	**Pb**	**13 23 36.9**	**+0.1**
	6.3nm,0.2s						
MNBS				*e*S	**Sb**	**13 24 11.9**	**+0.3**
	30nm,0.3s						
SATY	**Saty**	**3.20**	**243**	*e*P	**Pb**	**13 23 43.0**	**+0.1**
	9.0nm,0.1s						
SATY				*e*S	**Sb**	**13 24 22.4**	**+0.4**
	11nm,0.2s						
CHKK	**Chushkaly**	**3.88**	**261**	*e*P	**Pb**	**13 23 55.9**	**+1.3**
	0.9nm,0.2s						
CHKK				*e*S	**Sb**	**13 24 44.8**	**+3.2**
	5.8nm,0.3s						

IDC 08 13:31:21.8±6.3,**17.09S**×**173.45W**,**h0**km,**mb4.0**/4,
mb1 4.2/4,**mb1mx3.7**/40,**mbtmp4.0**/4,**Error ellipse:**
s-maj=265.5km s-min=33.3km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.25**	**259**	P	P	13 38 44.1	+0.2
	5.0nm,0.7s,baz=92,slow=13,SNR=9.0						
WRA	**Warramunga Arr**	**49.43**	**258**	P	P	13 40 14.1	+0.1
	0.5nm,0.3s,baz=93,slow=7.8,SNR=60						
ASAR	**Alice Springs**	**49.56**	**253**	P	P	13 40 14.4	-0.5
	1.1nm,0.5s,baz=95,slow=8.3,SNR=52						
ILAR	**Eielson Array**	**84.10**	**11**	P	P	13 43 54.0	-0.1
	0.4nm,1.0s,baz=187,slow=4.5,SNR=2.7						

*ISCJB **08** 13:40:55.4± 0.6, 26.94S± 0.03× 26.66E± 0.03, h9km± 4km, mb3.9/1, Error ellipse: s-maj=5.0km s-min=3.7km az=40.0*
*EAF **08** 13:40:56.9± 1.7, 26.37S× 25.19E, h0km, 209km, MD4.1*
*IDC **08** 13:40:56.8± 1.8, 26.90S× 26.62E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.5/50, mbtmp3.9/4, ML1.9/2, Error ellipse: s-maj=28.2km s-min=11.4km az=100.0*
*PRE **08** 13:40:56.2± 1.6, 26.92S× 26.70E, h2km, ML4.1*
*BUL **08** 13:40:57.2± 2.2, 26.31S× 24.83E, h0km± 865km, MD4.1*

ISC 08 13:40:56.3±0.9,**26.89S**±0.03×**26.71E**±0.03,**h13**km±6km,
n32,σ1§79/59,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOAB	**Moab Khotsong**	**0.13**	**139**	*e*P	**Pg**	**13 40 58.7**	**-1.0**
MOAB				*e*S	**Sg**	**13 41 00.8**	**-1.4**
MOAB				AML	AML	13 41 01.4	
	comp=Z,4μm,0.2s						
PRYS	**Parys**	**0.58**	**93**	*e*P	**Pg**	**13 41 07.3**	**-0.5**
PRYS				*e*S	**Sg**	**13 41 15.1**	**-0.4**
PRYS				AML	AML	13 41 15.9	
	comp=Z,1μm,0.3s						
WDLM	**Western Deep L**	**0.79**	**54**	*e*P	**Pg**	**13 41 11.6**	**-0.1**
WDLM				*e*S	**Sg**	**13 41 22.5**	**+0.4**
WDLM				AML	AML	13 41 31.6	
	comp=Z,1μm,0.3s						
KLOF	**Kloof**	**0.97**	**57**	*e*P	**Pg**	**13 41 14.8**	**-0.3**
KLOF				*e*S	**Sb**	**13 41 28.7**	**+0.7**
KLOF				AML	AML	13 41 32.5	
	comp=Z,4μm,0.2s						
KSR	**Koster**	**1.05**	**9**	*e*P	**Pn**	**13 41 17.0**	**+0.1**
KSR				*e*S	**Sn**	**13 41 31.4**	**-0.1**
KSR				AML	AML	13 41 35.1	
	comp=Z,649nm,0.3s						
SWZ	**Schweizer**	**1.26**	**256**	*e*P	**Pb**	**13 41 20.4**	**+0.4**
SWZ				*e*S	**Sg**	**13 41 37.9**	**+1.0**
SWZ				AML	AML	13 41 40.1	
	comp=Z,2μm,0.3s						
SLR	**Silverton**	**1.82**	**51**	*e*P	**Pb**	**13 41 30.5**	**+0.9**
SLR				*e*S	**Sg**	**13 41 54.4**	**-0.6**
SLR				AML	AML	13 41 55.2	
	comp=Z,1μm,0.4s						
LBTB	**Lobatse**	**2.12**	**332**	Pg	**Pb**	**13 41 35.4**	**+0.8**
	comp=Z,24nm,0.3s,baz=151,slow=15,SNR=380						
LBTB				Lg	Lg	13 42 03.3	
	comp=Z,234nm,0.3s,baz=55,slow=19,SNR=86						
LBTB	**Lobatse**	**2.12**	**332**	*e*P	**Pn**	**13 41 33.2**	**+1.7**
LBTB				*e*S	**Sb**	**13 42 00.1**	**-0.8**
LBTB				AML	AML	13 42 04.5	
	comp=Z,750nm,0.6s						
BOSA	**Boshof**	**2.14**	**216**	*i* P	**Pb**	**13 41 33.8**	**-1.2**
BOSA				*i* S	**Sb**	**13 42 03.4**	**+1.7**
BOSA	**Boshof**	**2.14**	**216**	Pg	**Pb**	**13 41 33.7**	**-1.4**
	comp=Z,24nm,0.3s,baz=37,slow=16,SNR=121						
BOSA				Lg	Lg	13 42 03.5	
	comp=Z,69nm,0.3s,baz=117,slow=14,SNR=20						
BOSA	**Boshof**	**2.14**	**216**	*e*P	**Pn**	**13 41 32.1**	**+0.2**
BOSA				*e*S	**Sn**	**13 42 00.1**	**+1.6**
BOSA				AML	AML	13 42 04.0	
	comp=Z,238nm,0.3s						
BOSA	**Boshof**	**2.14**	**216**	*i* P	**Pb**	**13 41 33.8**	**-1.2**
BOSA				*i* S	**Sb**	**13 42 03.4**	**+1.7**
HVD	**Gariep Dam**	**3.85**	**196**	*e*P	**Pn**	**13 41 56.5**	**+1.1**
HVD				*e*S	**Sn**	**13 42 40.8**	**+0.2**
HVD				AML	AML	13 43 08.2	
	comp=Z,70nm,0.4s						
KSD	**Kokstad**	**4.35**	**147**	*e*P	**Pn**	**13 42 04.3**	**+2.0**
KSD				*e*S	**Sn**	**13 42 54.1**	**+1.2**
KSD				AML	AML	13 43 20.1	
	comp=Z,26nm,0.3s						
MSNA	**Messina**	**5.44**	**34**	*e*P	**Pn**	**13 42 18.8**	**+1.6**
MSNA				*e*S	**Sn**	**13 43 18.5**	**-1.3**
MSNA				AML	AML	13 43 50.3	
	comp=Z,69nm,0.3s						
ARMS	**Ukamas**	**6.29**	**258**	*e*P	**Pn**	**13 42 30.4**	**+1.4**
ARMS				*e*S	**Sn**	**13 43 40.5**	**-0.3**
ARMS				AML	AML	13 44 15.4	
	comp=Z,38nm,0.3s						
MATP	**Matopo**	**6.64**	**15**	*i* P	**Pn**	**13 42 35.7**	**+1.9**
MATP				*i* S	**Sn**	**13 43 46.2**	**-3.3**
MATP	**Matopo**	**6.64**	**15**	Pn	**Pn**	**13 42 35.6**	**+1.9**
	comp=Z,1.9nm,0.3s,baz=190,slow=12,SNR=36						
MATP				Sn	**Sn**	**13 43 49.4**	**-0.1**
	comp=Z,2.8nm,0.3s,baz=149,slow=11,SNR=6.7						
MATP				Lg	Lg	13 44 20.7	
	comp=Z,7.3nm,0.3s,baz=104,slow=16,SNR=12						
MATP	**Matopo**	**6.64**	**15**	*i* P	**Pn**	**13 42 35.7**	**+1.9**
MATP				*i* S	**Sn**	**13 43 46.2**	**-3.3**
BLWY	**Bulawayo**	**6.94**	**15**	*i* P	**Pn**	**13 42 39.4**	**+1.5**
BLWY				*i* S	**Sn**	**13 43 55.1**	**-1.9**
BLWY	**Bulawayo**	**6.94**	**15**	*i* P	**Pn**	**13 42 39.4**	**+1.5**
BLWY				*i* S	**Sn**	**13 43 55.1**	**-1.9**
BUFB	**Buffelsbos**	**7.43**	**193**	*e*P	**Pn**	**13 42 45.2**	**+0.7**
BUFB				*e*S	**Sn**	**13 44 05.5**	**-3.1**
BUFB				AML	AML	13 44 51.8	
	comp=Z,7.4nm,0.6s						
KROM	**Kromhout**	**7.45**	**193**	*e*P	**Pn**	**13 42 45.4**	**+0.7**
KROM				*e*S	**Sn**	**13 44 06.5**	**-2.6**
KROM				AML	AML	13 44 47.8	
	comp=Z,2.1nm,0.4s						
SUR	**Sutherland**	**7.50**	**222**	Pn	**Pn**	**13 42 47.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=43,slow=12,SNR=32						
SUR				Sn	**Sn**	**13 44 09.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=352,slow=20,SNR=5.2						
SUR				Lg	Lg	13 44 45.8	
	comp=Z,0.6nm,0.3s,baz=328,slow=22,SNR=12						
SUR	**Sutherland**	**7.50**	**222**	*e*P	**Pn**	**13 42 47.4**	**+1.8**
SUR				AML	AML	13 44 53.9	
	comp=Z,153nm,0.7s						
CVNA	**Calvinia**	**7.60**	**231**	*e*P	**Pn**	**13 42 49.9**	**+3.0**
CVNA				*e*S	**Sn**	**13 44 10.9**	**-2.1**
CVNA				AML	AML	13 45 00.3	
	comp=Z,71nm,0.4s						
KOMG	**Komaggas**	**8.62**	**248**	*e*P	**Pn**	**13 43 02.6**	**+1.7**
KOMG				*e*S	**Sn**	**13 44 36.1**	**-1.9**
KOMG				AML	AML	13 45 30.4	
	comp=Z,28nm,0.5s						
TSUM	**Tsumeb**	**11.36**	**310**	Pn	**Pn**	**13 43 39.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=134,slow=15,SNR=2.3						
TSUM				Sn	**Sn**	**13 45 40.1**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=230,slow=19,SNR=4.7						
TSUM				Lg	Lg	13 46 49.5	
	comp=Z,0.4nm,0.3s,baz=253,slow=19,SNR=2.9						
LSZ	**Lusaka**	**11.64**	**7**	Pn	**Pn**	**13 43 43.2**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=194,slow=11,SNR=8.1						
LSZ				Sn	**Sn**	**13 45 48.2**	**-4.1**
	comp=Z,0.7nm,0.3s,baz=48,slow=10,SNR=6.0						
LSZ				Lg	Lg	13 46 54.4	
	comp=Z,0.7nm,0.3s,baz=258,slow=20,SNR=3.1						
TORD	**Torodi Ar. Bea**	**46.63**	**325**	P	**P**	**13 49 26.1**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=144,slow=6.5,SNR=9.5						
NVAR	**Mina Array Bea**	**148.55**	**300**	PKPbc	**PKPab**	**14 00 47.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=84,slow=3.7,SNR=4.1						

NNC 08 13:46:31.1±3.3,**36.98N**×**70.74E**,**h0**km,**mb3.7**,**mpv3.4,**
3C-6D,Error ellipse: s-maj=27.8km s-min=23.1km
az=131.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.73**	**35**	⇑Pn	Pn	13 47 30.7	+0.5
	4.4nm,0.6s						
SFK				⇓Sn	Sn	13 48 17.2	+2.3
	5.9nm,0.3s						
MNAS	**Manas**	**5.67**	**13**	⇑Pn	Pn	13 47 57.7	+0.9
	0.8nm,0.4s						
MNAS				⇑Sn	Sn	13 49 03.7	+1.0
	3.5nm,0.6s						
KK31	**Karatay Array**	**6.12**	**358**	Pn	Pn	13 48 04.1	+1.2
	1.4nm,0.4s,baz=177,slow=12,SNR=14						
KK31				⇓Sn	Sn	13 49 14.9	+1.3
	1.8nm,0.3s,baz=187,slow=24,SNR=12						
AAK	**Ala-Archa**	**6.35**	**26**	⇓Pn	Pn	13 48 05.2	-0.9
	1.7nm,0.3s						
AAK				⇓Sn	Sn	13 49 19.2	-0.2
	2.6nm,0.9s						
TKM2	**Tokmak 2**	**7.01**	**31**	⇓Pn	Pn	13 48 12.5	-2.7
	1.4nm,0.6s						
TKM2				⇓Sn	Sn	13 49 35.8	0.0
	1.0nm,0.6s						

*ISCJB **08** 13:58:44.9± 0.6, 24.87N± 0.05× 122.43E± 0.02, h9km± 5km, Error ellipse: s-maj=9.2km s-min=3.1km az=12.1*
*TAP **08** 13:58:44.4, 24.94N× 122.45E, h21km± 1km, ML2.6, C*
*JMA **08** 13:58:44.9± 0.2, 24.84N× 122.41E, h2km± 3km, M2.7*

ISC 08 13:58:44.6±1.2,**24.89N**±0.06×**122.43E**±0.03,**h12**km±11km,
n16,σ0§29/29,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.42**	**286**	P	**Pb**	**13 58 53.5**	**-0.3**
	baz=279						
TWB1				S	**Sb**	**13 58 59.8**	**-0.4**
	baz=279						
TIPB	**Shuangxi**	**0.55**	**278**	*e*P	**Pg**	**13 58 55.4**	**-0.1**
	baz=273						
TIPB				*e*S	**Sg**	**13 59 02.6**	**-0.2**
	baz=273						
TWC	**Suao**	**0.60**	**242**	P	**Pg**	**13 58 56.5**	**+0.2**
	baz=238						
TWC				S	**Sb**	**13 59 05.9**	**+0.5**
	baz=238						
NWF	**Wu-fen Shan**	**0.61**	**287**	P	**Pb**	**13 58 57.8**	**+0.5**
	baz=282						
NWF				S	**Sb**	**13 59 06.2**	**+0.3**
	baz=282						
JYNG	**Yonagunijimaku**	**0.64**	**133**	P	**Pg**	**13 58 57.2**	**+0.1**
JYNG				*e*S	**Sg**	**13 59 05.5**	**-0.1**
YOJ	**Yonaguni jima**	**0.68**	**129**	P	**Pb**	**13 58 58.2**	**-0.2**
YOJ				*e*S	**Sb**	**13 59 07.5**	**-0.2**
TWE	**Neicheng**	**0.71**	**256**	P	**Pg**	**13 58 58.6**	**+0.1**
	baz=252						
TWE				S	**Sb**	**13 59 08.7**	**0.0**
	baz=252						
ENA	**Nanau**	**0.78**	**234**	*e*P	**Pg**	**13 58 59.7**	**0.0**
	baz=231						
ENA				*e*S	**Sg**	**13 59 10.3**	**+0.4**
	baz=231						
ENTT	**Nioudou**	**0.82**	**252**	*e*P	**Pg**	**13 59 00.8**	**+0.3**
	baz=232						
ENTT				*e*S	**Sb**	**13 59 12.3**	**+0.4**
	baz=232						
NWLT	**Wulai**	**0.85**	**262**	*e*P	**Pg**	**13 59 01.0**	**0.0

WRA	Warramunga Arr	32.10	264	P		P	14 06 53.1	-0.9
	2.4nm,0.6s,baz=89,slow=8.4,SNR=63							
AS01	Alice Springs	32.30	257	*e*P		P	14 06 56.1	+0.3
ASAR	Alice Springs	32.34	257	P		P	14 06 56.1	0.0
	21nm,0.6s,baz=85,slow=8.7,SNR=338							
ASAR				LR	LR		14 18 53.3	
	comp=Z,106nm,18.4s,baz=96,slow=34							
PPT2	Papeete2	39.73	94	*e*LR	LR		14 19 21.9	
	145nm,26.5s							
GUMO	Guam	40.36	323	LR	LR		14 22 29.6	
	comp=Z,38nm,21.9s,baz=208,slow=33							
FITZ	Fitzroy Crossi	40.49	265	*e*P		P	14 08 06.3	+0.7
	17nm,1.5s							
BATI	Baumata	44.19	276	LR	LR		14 25 56.9	
	comp=Z,99nm,21.9s,baz=234,slow=35							
VNDA	Vanda	58.04	182	LR	LR		14 33 42.7	
	comp=Z,77nm,18.1s,baz=248,slow=34							
MJAR	Matsushiro Arr	62.75	333	P		P	14 10 51.0	-0.6
	0.6nm,0.4s,baz=162,slow=5.9,SNR=4.6							
MAJO	Matsushiro	62.75	333	*e*P		P	14 10 51.0	-0.6
ASAJ	Asahikawa	67.70	340	P		P	14 11 24.9	+1.4
	3.7nm,0.8s,baz=251,slow=4.4,SNR=5.3							
ASAJ	Asahikawa	67.70	340	*e*P		P	14 11 21.6	-1.9
	4.1nm,0.8s							
QSPA	South Pole Qui	70.44	180	*e*P		P	14 11 42.0	+1.5
	5.1nm,0.9s							
USRK	Ussuriysk Ar.	71.74	333	P		P	14 11 48.9	+0.5
	1.4nm,0.6s,baz=124,slow=9.0,SNR=3.7							
PETK	Petropavlovsk-	73.02	353	P		P	14 11 55.7	-0.1
	3.4nm,0.9s,baz=148,slow=8.5,SNR=3.3							
PETK				LR	LR		14 39 22.3	
	comp=Z,54nm,21.2s,baz=353,slow=32							
PEA1	Petropavlovsk-	73.02	353	*e*P		P	14 11 55.7	-0.1
CMAR	Chiang Mai Arr	78.01	295	P		P	14 12 26.2	+1.1
	0.7nm,0.4s,baz=131,slow=4.6,SNR=5.4							
SONA0	Songino Array	87.09	323	*e*P		P	14 13 12.3	+0.2
SONM	Songino Array	87.09	323	P		P	14 13 12.3	+0.2
	0.8nm,0.9s,baz=148,slow=6.8,SNR=5.8							
VTV	Victorville	88.65	53	*e*P		P	14 13 22.4	+2.7
NVAR	Mina Array Bea	89.58	49	P		P	14 13 24.5	+0.3
	0.3nm,0.6s,baz=236,slow=3.1,SNR=2.7							
ILAR	Eielson Array	90.80	18	P		P	14 13 27.5	-1.4
	0.6nm,0.9s,baz=238,slow=4.3,SNR=4.2							
MTLAZ	Mount Logan	92.45	52	*e*P		P	14 13 36.1	-1.6
YMP	Mirror Lake Pl	97.65	45	*e*P		P	14 14 00.8	-0.5
MKAR	Makanchi Array	101.50	316	P		Pdif	14 14 18.3	+0.2
	0.3nm,0.7s,baz=93,slow=5.4,SNR=4.2							
ARA0	ARCESS Array S	125.24	345	*e*PKPdf		PKPdf	14 19 25.2	-1.0
ARCES	ARCESS Array B	125.24	345	PKP		PKPdf	14 19 25.2	-1.0
	1.6nm,0.7s,baz=29,slow=2.1,SNR=5.4							
GERES	GERESS Array B	144.47	331	PKP		PKPdf	14 20 02.0	-0.5
	0.5nm,0.7s,baz=29,slow=2.2,SNR=3.3							
TORD	Torodi Ar. Bea	165.79	245	PKP		PKPdf	14 20 33.5	+1.7
	0.1nm,0.5s,baz=60,slow=1.6,SNR=2.8							
TORD				PKPab		PKPab	14 21 30.2	-1.1
	0.5nm,0.8s,baz=126,slow=2.0,SNR=2.9							
TOA1	Torodi Ar. Sit	165.79	245	*e*PKPdf		PKPdf	14 20 33.5	+1.7
TOA1				*e*PKPab		PKPab	14 21 30.2	-1.1

THE ***08*** *14:08:03.6,40˚.17N×24˚.01E,h10km±2km, ML1.8/7, Error ellipse: s-maj=2.8km s-min=0.6km az=305.0*
CSEM ***08*** *14:08:03.6±0.1,40˚.17N×24˚.01E,h10km, ML1.8, Error ellipse: s-maj=2.9km s-min=2.1km az=6.0*
ATH 08 14:08:04.2, 40˚.17N×24˚.01E, h11km±5km, ML1.7/12**, Error ellipse: s-maj=5.2km s-min=0.9km az=243.0, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.17**	**354**	P	Pg	14 08 07.0	-0.9
OUR				AML	AML	14 08 10.6	
	comp=E,2117μm,0.3s						
OUR				AML	AML	14 08 10.9	
	comp=N,1457μm,0.3s						
OUR	**Ouranopolis**	**0.17**	**354**	P	Pg	14 08 07.4	-0.5
OUR				S	Sg	14 08 10.2	-0.3
OUR	**Ouranopolis**	**0.17**	**354**	P	Pg	14 08 07.4	-0.5
OUR				S	Sg	14 08 10.2	-0.3
PAIG	**Paliouri**	**0.35**	**226**	P	Pg	14 08 10.1	-1.0
PAIG				S	Sg	14 08 15.1	-0.6
PAIG				AML	AML	14 08 16.0	
	comp=E,515μm,0.2s						
PAIG				AML	AML	14 08 17.6	
	comp=N,316μm,0.2s						
PAIG	**Paliouri**	**0.35**	**226**	P	Pg	14 08 09.7	-1.4
PAIG				S	Sg	14 08 14.6	-1.1
PAIG				AML	AML	14 08 16.0	
	comp=E,515μm,0.2s						
PAIG				AML	AML	14 08 17.6	
	comp=N,316μm,0.2s						
PAIG	**Paliouri**	**0.35**	**226**	P	Pg	14 08 10.3	-0.8
PAIG				S	Sg	14 08 15.3	-0.4
PAIG	**Paliouri**	**0.35**	**226**	P	Pg	14 08 10.3	-0.8
PAIG				S	Sg	14 08 15.4	-0.3
PLG	**Polygyros**	**0.48**	**296**	P	Pg	14 08 13.0	-0.5
PLG				S	Sg	14 08 19.8	0.0
PLG				AML	AML	14 08 20.2	
	comp=E,131μm,0.2s						
PLG				AML	AML	14 08 20.5	
	comp=N,176μm,0.3s						
PLG	**Polygyros**	**0.48**	**296**	P	Pg	14 08 12.6	-1.0
PLG				S	Sg	14 08 18.7	-1.1
PLG				AML	AML	14 08 20.2	
	comp=E,131μm,0.2s						
PLG				AML	AML	14 08 20.5	
	comp=N,176μm,0.3s						
PLG	**Polygyros**	**0.48**	**296**	P	Pg	14 08 13.0	-0.5
PLG				S	Sg	14 08 19.4	-0.4
PLG	**Polygyros**	**0.48**	**296**	P	Pg	14 08 12.8	-0.7
PLG				S	Sg	14 08 19.6	-0.2
HORT	**Hortiatis**	**0.81**	**302**	P	Pg	14 08 19.4	-0.5
HORT				S	Sg	14 08 30.6	-0.1
HORT				AML	AML	14 08 34.7	
	comp=N,70μm,0.2s						
HORT				AML	AML	14 08 35.2	
	comp=E,95μm,0.3s						
HORT	**Hortiatis**	**0.81**	**302**	P	Pg	14 08 18.8	-1.2
HORT				S	Sg	14 08 30.5	-0.1
HORT				AML	AML	14 08 31.3	
	comp=N,88μm,0.3s						
HORT				AML	AML	14 08 35.2	
	comp=E,95μm,0.3s						
HORT	**Hortiatis**	**0.81**	**302**	P	Pg	14 08 19.2	-0.7
HORT				S	Sg	14 08 30.7	+0.1
HORT	**Hortiatis**	**0.81**	**302**	P	Pg	14 08 19.1	-0.8
HORT				S	Sb	14 08 31.1	-0.4
SOH	**Sokhos**	**0.82**	**323**	P	Pg	14 08 19.4	-0.7
SOH				S	Sb	14 08 31.2	-0.4
SOH				AML	AML	14 08 34.4	
	comp=N,186μm,0.7s						
SOH				AML	AML	14 08 34.7	
	comp=E,178μm,0.3s						
SOH	**Sokhos**	**0.82**	**323**	P	Pg	14 08 19.4	-0.6
SOH				S	Sg	14 08 30.0	-0.8
SOH				AML	AML	14 08 34.4	
	comp=N,186μm,0.7s						
SOH				AML	AML	14 08 34.7	
	comp=E,178μm,0.3s						
SOH	**Sokhos**	**0.82**	**323**	P	Pg	14 08 19.6	-0.5
SOH				S	Sg	14 08 30.6	-0.2
SOH	**Sokhos**	**0.82**	**323**	P	Pg	14 08 19.6	-0.5
SOH				S	Sg	14 08 30.6	-0.2
KAVA	**Kavala**	**0.92**	**25**	P	Pg	14 08 20.9	-0.9
KAVA				S	Sg	14 08 33.2	-0.6
KAVA				AML	AML	14 08 34.8	
	comp=N,236μm,0.2s						
KAVA				AML	AML	14 08 34.9	
	comp=E,222μm,0.2s						
KAVA	**Kavala**	**0.92**	**25**	P	Pg	14 08 20.4	-1.4
KAVA				S	Sg	14 08 33.0	-0.7
KAVA				AML	AML	14 08 34.8	
	comp=N,236μm,0.2s						
KAVA				AML	AML	14 08 34.9	
	comp=E,222μm,0.2s						
KAVA	**Kavala**	**0.92**	**25**	P	Pg	14 08 21.1	-0.7
KAVA				S	Sg	14 08 33.5	-0.3
KAVA	**Kavala**	**0.92**	**25**	P	Pg	14 08 21.1	-0.7
KAVA				S	Sg	14 08 33.5	-0.3
LIA	**Limnos Island**	**0.94**	**106**	P	Pg	14 08 21.7	-0.7
LIA				S	Sg	14 08 34.6	0.0
LIA				AML	AML	14 08 36.4	
	comp=E,143μm,0.5s						
LIA				AML	AML	14 08 37.2	
	comp=N,109μm,0.6s						
LIA	**Limnos Island**	**0.94**	**106**	P	Pg	14 08 21.8	-0.5
LIA				S	Sg	14 08 34.8	+0.2
LIA	**Limnos Island**	**0.94**	**106**	P	Pg	14 08 21.3	-1.0
LIA				S	Sg	14 08 34.8	+0.2
SRS	**Serrai**	**1.00**	**342**	P	Pg	14 08 22.4	-1.1
SRS				S	Sg	14 08 36.4	-0.1
SRS				AML	AML	14 08 43.2	
	comp=E,54μm,0.5s						
SRS				AML	AML	14 08 43.6	
	comp=N,54μm,0.4s						
SRS	**Serrai**	**1.00**	**342**	P	Pb	14 08 23.6	0.0
SRS				S	Sg	14 08 35.8	-0.7
SRS				AML	AML	14 08 38.9	
	comp=E,65μm,0.6s						
SRS				AML	AML	14 08 43.6	
	comp=N,54μm,0.4s						
SRS	**Serrai**	**1.00**	**342**	P	Pg	14 08 22.7	-0.7
SRS				S	Sg	14 08 36.3	-0.2
SRS	**Serrai**	**1.00**	**342**	P	Pg	14 08 22.7	-0.7
LIT	**Litokhoron**	**1.16**	**267**	P	Pb	14 08 26.3	0.0
LIT	**Litokhoron**	**1.16**	**267**	P	Pg	14 08 26.6	0.0
LIT				S	Sg	14 08 41.8	+0.1
LIT	**Litokhoron**	**1.16**	**267**	P	Pn	14 08 26.4	0.0
LIT				S	Sg	14 08 42.0	+0.3
NVR	**Nevrokopi**	**1.19**	**355**	P	Pb	14 08 25.4	-1.3
NVR				AML	AML	14 08 44.3	
	comp=E,46μm,0.2s						
NVR				AML	AML	14 08 45.0	
	comp=N,38μm,0.5s						
NVR	**Nevrokopi**	**1.19**	**355**	P	Pb	14 08 26.0	-0.7
SMTH	**Samothraki Isl**	**1.21**	**75**	P	Pn	14 08 25.9	-1.1
SMTH				S	Sb	14 08 42.0	-0.6
SMTH				AML	AML	14 08 44.7	
	comp=E,50μm,0.6s						
SMTH				AML	AML	14 08 46.5	
	comp=N,45μm,0.3s						
SMTH	**Samothraki Isl**	**1.21**	**75**	P	Pn	14 08 26.4	-0.6
SMTH				S	Sb	14 08 42.7	+0.1
KNT	**Kendrikon**	**1.30**	**320**	P	Pg	14 08 29.3	+0.1
KNT				AML	AML	14 08 50.2	
	comp=E,39μm,0.3s						
KNT				AML	AML	14 08 51.4	
	comp=N,46μm,0.3s						
KNT	**Kendrikon**	**1.30**	**320**	P	Pg	14 08 29.0	-0.2
ALN	**Alexandroupoli**	**1.72**	**64**	P	Pg	14 08 37.3	+0.2
ALN				AML	AML	14 08 59.6	
	comp=E,24μm,1.1s						
ALN				AML	AML	14 09 02.0	
	comp=N,26μm,0.4s						
ALN	**Alexandroupoli**	**1.72**	**64**	P	Pg	14 08 36.8	-0.3
AGG	**Agios Georgios**	**1.73**	**229**	P	Pn	14 08 33.6	-0.6

ISCJB ***08*** *14:19:59.5±0.5,38˚.32N±0˚.03×38˚.96E±0˚.03, h5km±6km, Error ellipse: s-maj=4.7km s-min=4.4km az=173.1*
CSEM ***08*** *14:19:59.5±0.2,38˚.34N×38˚.97E, h8km, ML2.5, Error ellipse: s-maj=3.8km s-min=3.2km az=13.0*
DDA ***08*** *14:19:59.7,38˚.34N×38˚.94E, h7km, Ml2.5*
ISK ***08*** *14:19:59.4,38˚.33N×38˚.96E, h7km, ML1.5/5*
ISC 08 14:19:59.8±0.9, 38˚.33N±0˚.02×38˚.97E±0˚.03, h10km±8km, n22, σ0s49/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.16**	**3**	*i* P	**Pg**	**14 20 03.5**	**0.0**
ELZG				*i* S	**Sg**	**14 20 06.2**	**+0.1**
ELZG	**Elazig**	**0.16**	**3**	P	**Pg**	**14 20 03.5**	**0.0**
ELZG				S	**Sg**	**14 20 06.2**	**+0.1**
MALT	**Malatya**	**0.43**	**267**	PG	**Pg**	**14 20 08.0**	**-0.3**
MALT				SG	**Sg**	**14 20 14.3**	**+0.3**
MALT	**Malatya**	**0.43**	**267**	*e*Pg	**Pg**	**14 20 08.0**	**-0.3**
MALT				*e*Sg	**Sg**	**14 20 14.3**	**+0.3**
PTK	**Pertek**	**0.65**	**30**	PG	**Pg**	**14 20 12.5**	**+0.1**
PTK				SG	**Sb**	**14 20 21.9**	**-0.6**
PTK	**Pertek**	**0.65**	**30**	*e*Pg	**Pg**	**14 20 12.5**	**+0.1**
PTK				*e*Sg	**Sb**	**14 20 21.9**	**-0.6**
AKCD	**Akcadag**	**0.83**	**268**	*i* P	**Pg**	**14 20 15.1**	**-0.7**
AKCD				*i* S	**Sg**	**14 20 26.8**	**+0.2**
AKCD	**Akcadag**	**0.83**	**268**	P	**Pg**	**14 20 15.1**	**-0.7**
AKCD				S	**Sg**	**14 20 26.8**	**+0.2**
URFA	**Urfa**	**0.90**	**188**	PG	**Pg**	**14 20 16.9**	**-0.2**
URFA				SG	**Sb**	**14 20 29.9**	**+0.3**
URFA	**Urfa**	**0.90**	**188**	*e*Pg	**Pg**	**14 20 16.9**	**-0.2**
URFA				*e*Sg	**Sb**	**14 20 29.9**	**+0.3**
HEKM	**Malatya_Hekimh**	**0.96**	**305**	*i* P	**Pg**	**14 20 17.9**	**-0.5**
HEKM				*i* S	**Sb**	**14 20 31.6**	**-0.1**
HEKM	**Malatya_Hekimh**	**0.96**	**305**	P	**Pg**	**14 20 17.9**	**-0.5**
HEKM				S	**Sb**	**14 20 31.5**	**-0.1**
DYBB	**Diyarbakir**	**0.99**	**112**	PG	**Pb**	**14 20 19.1**	**0.0**
KEMA	**Kemaliye**	**1.01**	**338**	*i* P	**Pg**	**14 20 18.4**	**-0.7**
KEMA				*i* S	**Sg**	**14 20 32.4**	**+0.1**
KEMA	**Kemaliye**	**1.01**	**338**	P	**Pg**	**14 20 18.4**	**-0.7**
KEMA				S	**Sg**	**14 20 32.3**	**+0.1**
DIY	**Diyarbakir**	**1.08**	**114**	*e*Pg	**Pg**	**14 20 19.1**	**-1.5**
HANI	**Diyarbakir_Han**	**1.12**	**85**	*i* P	**Pb**	**14 20 21.3**	**0.0**
HANI				*i* S	**Sn**	**14 20 38.2**	**+1.0**
HANI	**Diyarbakir_Han**	**1.12**	**85**	P	**Pb**	**14 20 21.3**	**0.0**
HANI				S	**Sn**	**14 20 38.2**	**+1.0**
ILIC	**ilic-Erzincan**	**1.16**	**344**	PN	**Pb**	**14 20 21.9**	**-0.1**
ILIC	**ilic-Erzincan**	**1.16**	**344**	*e*Pn	**Pb**	**14 20 21.9**	**-0.1**
MAZI	**Mazidag**	**1.46**	**126**	PN	**Pb**	**14 20 26.9**	**-0.1**
MAZI	**Mazidag**	**1.46**	**126**	*e*Pn	**Pb**	**14 20 26.9**	**-0.1**

WEL ***08*** *14:45:08.4,36˚.5±8˚×17˚.9E±˚, h170km±13km*
NEIC ***08*** *14:45:09.9±0.0,35˚.86S×179˚.13E, h173km, mb4.3/3, ML4.6(WEL), After WEL.*
IDC ***08*** *14:45:10.3±3.6,35˚.57S×178˚.85E, h107km±30km, mb4.0/8, mb1 4.2/9, mb1mx3.9/38, mbtmp4.3/9, MS3.2/1, Ms1 3.2/1, ms1mx2.7/34, Error ellipse: s-maj=30.4km s-min=21.5km az=48.0*
ISCJB ***08*** *14:45:14.6±0.5,36˚.24S±0˚.03×178˚.80E±0˚.07, h170km, mb4.1/11, Error ellipse: s-maj=7.7km s-min=4.8km az=176.1*
ISC 08 14:45:14.9±0.9, 36˚.16S±0˚.07×178˚.80E±0˚.08, h170km, n193, σ1s77/180, mb4.2/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.45**	**196**	Pn	**Pn**	**14 45 43.7**	**-1.8**
MXZ				S	**Sn**	**14 46 08.4**	**-0.9**
MXZ	**Matakaoa Point**	**1.45**	**196**	S	**Sn**	**14 46 09.8**	**+0.5**
MXZ	**Matakaoa Point**	**1.45**	**196**	P	**Pn**	**14 45 43.7**	**-1.8**
WMGZ	**Waiomatatini S**	**1.68**	**190**	Pn	**Pn**	**14 45 47.3**	**-0.5**
WMGZ	**Waiomatatini S**	**1.68**	**190**	P	**Pn**	**14 45 47.3**	**-0.5**
WMGZ	**Waiomatatini S**	**1.68**	**190**	S	**Sn**	**14 46 15.5**	**+2.1**
HAZ	**Te Kaha**	**1.79**	**207**	P	**Pn**	**14 45 48.4**	**-0.6**
HAZ	**Te Kaha**	**1.79**	**207**	S	**Sn**	**14 46 18.4**	**+3.1**
PKGZ	**Pakihiroa**	**1.82**	**198**	S	**Sn**	**14 46 18.0**	**+2.0**
PKGZ	**Pakihiroa**	**1.82**	**198**	P	**Pn**	**14 45 48.9**	**-0.4**
WIZ	**White Island**	**1.88**	**223**	S	**Sn**	**14 46 17.8**	**+0.8**
WIZ	**White Island**	**1.88**	**223**	P	**Pn**	**14 45 49.9**	**+0.1**
PUZ	**Puketiti**	**1.96**	**193**	Pn	**Pn**	**14 45 50.2**	**-0.6**
PUZ				Sn	**Sn**	**14 46 19.9**	**+1.3**
TWGZ	**Tauwhareparae**	**2.12**	**198**	Pn	**Pn**	**14 45 52.5**	**-0.1**
TWGZ				Sn	**Sn**	**14 46 26.7**	**+4.8**
WHRZ	**Whale Island**	**2.23**	**220**	S	**Sn**	**14 46 28.7**	**+4.5**
WHRZ	**Whale Island**	**2.23**	**220**	P	**Pn**	**14 45 54.8**	**+0.9**
CNGZ	**Carnagh Statio**	**2.37**	**191**	Pn	**Pn**	**14 45 55.3**	**-0.1**
CNGZ	**Carnagh Statio**	**2.37**	**191**	P	**Pn**	**14 45 55.4**	**-0.1**
MWZ	**Matawai**	**2.40**	**205**	Pn	**Pn**	**14 45 55.8**	**+0.1**
MWZ	**Matawai**	**2.40**	**205**	P	**Pn**	**14 45 55.9**	**+0.1**
MWZ	**Matawai**	**2.40**	**205**	S	**Sn**	**14 46 31.0**	**+3.4**
TKGZ	**Te Karaka**	**2.40**	**198**	Pn	**Pn**	**14 45 55.5**	**-0.3**
TKGZ	**Te Karaka**	**2.40**	**198**	P	**Pn**	**14 45 55.5**	**-0.3**
TKGZ	**Te Karaka**	**2.40**	**198**	S	**Sn**	**14 46 31.2**	**+3.6**
OPRZ	**Ohinepanea**	**2.46**	**226**	Pn	**Pn**	**14 45 57.0**	**+0.5**
OPRZ	**Ohinepanea**	**2.46**	**226**	P	**Pn**	**14 45 57.2**	**+0.7**
MARZ	**Manawahe**	**2.49**	**222**	P	**Pn**	**14 45 57.8**	**+0.9**
URZ	**Urewera**	**2.49**	**212**	P	**Pn**	**14 45 56.7**	**-0.1**
	83nm,0.3s,baz=273,slow=4.9,SNR=308						
URZ				S	**Sn**	**14 46 32.1**	**+2.6**
	64nm,0.3s,baz=178,slow=18,SNR=4.5						
URZ	**Urewera**	**2.49**	**212**	P	**Pn**	**14 45 56.7**	**-0.1**
URZ	**Urewera**	**2.49**	**212**	S	**Sn**	**14 46 32.3**	**+2.8**
EDRZ	**Edgecumbe**	**2.55**	**220**	Pn	**Pn**	**14 45 58.3**	**+0.7**
EDRZ	**Edgecumbe**	**2.55**	**220**	P	**Pn**	**14 45 58.4**	**+0.7**
KUZ	**Kuaotunu**	**2.55**	**256**	P	**Pn**	**14 45 56.2**	**-1.4**
TGRZ	**Tauranga**	**2.57**	**232**	Pn	**Pn**	**14 45 58.6**	**+0.9**
TGRZ	**Tauranga**	**2.57**	**232**	P	**Pn**	**14 45 58.7**	**+0.9**
RAGZ	**Rawiri**	**2.58**	**205**	Pn	**Pn**	**14 45 58.3**	**+0.3**
RAGZ	**Rawiri**	**2.58**	**205**	P	**Pn**	**14 45 58.4**	**+0.4**
LIRZ	**Lichensteins R**	**2.67**	**226**	P	**Pn**	**14 46 00.2**	**+1.2**
RIGZ	**Rimuhau**	**2.67**	**198**	P	**Pn**	**14 45 58.7**	**-0.4**
GRZ	**Great Barrier**	**2.71**	**267**	P	**Pn**	**14 45 56.8**	**-2.6**
OMRZ	**Omania**	**2.75**	**224**	P	**Pn**	**14 46 01.4**	**+1.4**
KARZ	**Kaharoa**	**2.76**	**227**	P	**Pn**	**14 46 01.3**	**+1.2**
TARZ	**Mount Tarawera**	**2.76**	**221**	Pn	**Pn**	**14 46 01.8**	**+1.6**
TARZ	**Mount Tarawera**	**2.76**	**221**	P	**Pn**	**14 46 01.9**	**+1.6**
MUGZ	**Murupara**	**2.82**	**214**	P	**Pn**	**14 46 01.3**	**+0.4**
MUGZ	**Murupara**	**2.82**	**214**	S	**Sn**	**14 46 41.9**	**+5.2**
RRRZ	**Republican Roa**	**2.84**	**219**	Pn	**Pn**	**14 46 01.9**	**+0.8**
RRRZ	**Republican Roa**	**2.84**	**219**	P	**Pn**	**14 46 02.0**	**+0.9**
KMRZ	**Kaimai**	**2.84**	**233**	P	**Pn**	**14 46 02.3**	**+1.1**
RTZ	**Ruatahuna**	**2.85**	**210**	P	**Pn**	**14 46 01.2**	**0.0**
NGRZ	**Ngongotaha**	**2.85**	**226**	P	**Pn**	**14 46 02.8**	**+1.5**
PRGZ	**Paritu Road**	**2.85**	**195**	Pn	**Pn**	**14 46 01.1**	**-0.1**
PRGZ	**Paritu Road**	**2.85**	**195**	P	**Pn**	**14 46 00.7**	**-0.5**
HLRZ	**Highlands Stat**	**2.86**	**222**	P	**Pn**	**14 46 02.9**	**+1.5**
SNGZ	**Shannon Statio**	**2.86**	**204**	Pn	**Pn**	**14 46 01.5**	**+0.2**
SNGZ	**Shannon Statio**	**2.86**	**204**	P	**Pn**	**14 46 01.6**	**+0.2**
UTU	**Utuhina**	**2.90**	**225**	P	**Pn**	**14 46 04.0**	**+2.3**
HSRZ	**Hossack Road**	**2.96**	**223**	P	**Pn**	**14 46 04.2**	**+1.6**
KNZ	**Kokohu**	**2.99**	**197**	Pn	**Pn**	**14 46 02.0**	**-0.9**
KNZ	**Kokohu**	**2.99**	**197**	P	**Pn**	**14 46 02.0**	**-0.9**
HRRZ	**Handcock Road**	**3.00**	**221**	P	**Pn**	**14 46 04.5**	**+1.4**
PRRZ	**Plateau Road**	**3.02**	**219**	Pn	**Pn**	**14 46 03.8**	**+0.5**
PRRZ	**Plateau Road**	**3.02**	**219**	P	**Pn**	**14 46 03.9**	**+0.5**
WIAZ	**Waiheke Island**	**3.02**	**257**	P	**Pn**	**14 46 02.6**	**-0.7**
GRRZ	**Galatos Road**	**3.06**	**224**	P	**Pn**	**14 46 05.3**	**+1.4**
MHGZ	**Mahia Peninsul**	**3.07**	**193**	Pn	**Pn**	**14 46 03.5**	**-0.5**
MHGZ	**Mahia Peninsul**	**3.07**	**193**	P	**Pn**	**14 46 03.4**	**-0.5**
RAHZ	**Arahi**	**3.07**	**206**	P	**Pn**	**14 46 04.3**	**+0.4**
TOZ	**Tahuroa Road**	**3.07**	**238**	Pn	**Pn**	**14 46 04.6**	**+0.7**
TOZ	**Tahuroa Road**	**3.07**	**238**	P	**Pn**	**14 46 05.0**	**+1.1**
MKAZ	**Moumakai**	**3.07**	**251**	Pn	**Pn**	**14 46 03.7**	**-0.2**
MKAZ	**Moumakai**	**3.07**	**251**	P	**Pn**	**14 46 04.0**	**+0.1**
ALRZ	**Allen Road**	**3.09**	**219**	Pn	**Pn**	**14 46 05.0**	**+0.8**
ALRZ	**Allen Road**	**3.09**	**219**	P	**Pn**	**14 46 05.1**	**+0.8**
MTHZ	**Maungataniwha**	**3.10**	**210**	P	**Pn**	**14 46 05.0**	**+0.6**
WPRZ	**Whakapapatarin**	**3.16**	**221**	P	**Pn**	**14 46 06.3**	**+1.3**
WHHZ	**Waihua**	**3.17**	**203**	P	**Pn**	**14 46 05.7**	**+0.6**
ETAZ	**East Tamaki Re**	**3.22**	**255**	Pn	**Pn**	**14 46 05.7**	**0.0**
ETAZ	**East Tamaki Re**	**3.22**	**255**	P	**Pn**	**14 46 05.8**	**0.0**
ABAZ	**Army Bay**	**3.23**	**261**	P	**Pn**	**14 46 05.4**	**-0.5**
KBAZ	**Karaka Road Bo**	**3.28**	**252**	P	**Pn**	**14 46 07.2**	**+0.7**
NMHZ	**Naumai**	**3.33**	**208**	Pn	**Pn**	**14 46 08.0**	**+0.7**
NMHZ	**Naumai**	**3.33**	**208**	P	**Pn**	**14 46 07.9**	**+0.7**
HBAZ	**Herne Bay Bore**	**3.35**	**257**	P	**Pn**	**14 46 07.7**	**+0.4**
ARHZ	**Aropaoanui**	**3.41**	**204**	Pn	**Pn**	**14 46 08.5**	**+0.4**
RVAZ	**Riverhead Bore**	**3.46**	**259**	Pn	**Pn**	**14 46 08.8**	**+0.1**
WTAZ	**Waiatarua**	**3.49**	**256**	P	**Pn**	**14 46 09.9**	**+0.7**
BKZ	**Black Stump Fm**	**3.51**	**211**	*e*Pn	**Pn**	**14 46 09.1**	**-0.4**
BKZ	**Black Stump Fm**	**3.51**	**211**	P	**Pn**	**14 46 09.4**	**-0.2**
WCZ	**Waipu Caves**	**3.62**	**272**	Pn	**Pn**	**14 46 08.4**	**-2.4**
RITZ	**Rihia Road**	**3.66**	**219**	Pn	**Pn**	**14 46 12.0**	**+0.7**
MCHZ	**McNeill Hill**	**3.68**	**206**	Pn	**Pn**	**14 46 11.7**	**+0.2**
CKHZ	**Cape Kidnapper**	**3.75**	**201**	Pn	**Pn**	**14 46 12.6**	**+0.2**
KRVZ	**Karewarewa**	**3.85**	**220**	Pn	**Pn**	**14 46 14.8**	**+0.9**
OTVZ	**Oturere**	**3.89**	**219**	Pn	**Pn**	**14 46 14.8**	**+0.4**
WTVZ	**West Tongariro**	**3.90**	**220**	Pn	**Pn**	**14 46 15.2**	**+0.8**
HIZ	**Hauiti**	**3.92**	**232**	*e*Pn	**Pn**	**14 46 11.4**	**-3.2**
KAHZ	**Kahuranaki**	**3.93**	**202**	Pn	**Pn**	**14 46 14.6**	**-0.2**
TWVZ	**Taurewa**	**3.94**	**222**	Pn	**Pn**	**14 46 16.2**	**+1

1.2nm,0.4s,baz=239,slow=6.2,SNR=11
VNA3 Neumayer Olymp 72.72 177 P P 14 56 30.5 +6.6
VNA2 Neumayer--Watz 73.12 178 P P 14 56 33.2 +7.0
baz=178,slow=5.1
COCO West Island 76.48 265 *eP* **P 14 56 45.3 -1.0**
KSRS Korea Array 87.10 322 P P 14 57 42.4 +1.2
2.8nm,0.8s,baz=138,slow=6.2,SNR=7.2
KSAR Wonju Array Be 87.11 322 P P 14 57 42.4 +1.1
PETK Petropavlovsk- 90.78 347 P P 14 57 58.4 +0.3
4.1nm,0.6s,baz=115,slow=6.0,SNR=13
CMAR Chiang Mai Arr 92.84 291 P P 14 58 11.0 +2.4
0.5nm,0.5s,baz=142,slow=4.6,SNR=2.9
NVAR Mina Array Bea 94.25 45 P P 14 58 17.0 +2.1
0.3nm,0.6s,baz=222,slow=7.3,SNR=2.9
MKAR Makanchi Array 119.33 308 PKP **PKPdf 15 03 44.0 +0.3**
0.2nm,0.7s,baz=138,slow=1.3,SNR=5.2
BVAR Borovoye Array 128.50 313 PKP **PKPdf 15 04 01.8 +0.9**
0.4nm,0.6s,baz=46,slow=4.2,SNR=3.3
ARA0 ARCESS Array S 143.53 345 *e*PKPdf **PKPdf 15 04 27.8 -0.5**
ARCES ARCESS Array B 143.53 345 PKP **PKPdf 15 04 27.8 -0.5**
1.8nm,0.8s,baz=57,slow=3.3,SNR=9.7
FIA0 FINESS Array S 149.41 334 *e*PKPbc **PKPbc 15 04 43.5 +0.6**
FINES FINESS Array B 149.41 334 PKPbc **PKPbc 15 04 43.5 +0.6**
2.4nm,0.5s,baz=24,slow=5.9,SNR=24
BR101 Keskin Array S 152.40 288 *e*PKPbc **PKPbc 15 04 52.0 +1.1**
BRTR Keskin Array B 152.40 288 PKPbc **PKPbc 15 04 52.0 +1.1**
1.1nm,0.4s,baz=152,slow=3.8,SNR=9.4
NB200 NORSAR Array S 153.88 346 *e*PKPbc PKPbc 15 04 54.2 +1.0
NOA NORSAR Array B 153.88 346 PKPbc PKPbc 15 04 54.2 +1.0
0.4nm,0.4s,baz=51,slow=2.1,SNR=2.5
HFS Hagfors 154.16 343 PKPbc **PKPbc 15 04 54.2 +0.4**
0.7nm,0.5s,baz=24,slow=5.0,SNR=4.7
TORD Torodi Ar. Bea 156.94 187 PKP PKPdf 15 04 53.9 +3.3
0.8nm,0.9s,baz=155,slow=0.9,SNR=4.1
TORD PKPab PKPab 15 05 27.0 +5.8
0.9nm,0.5s,baz=176,slow=3.4,SNR=8.5

*GUC **08** 14:51:12.9±0.6,21°.25S×68°.85W,h146km±5km,ML3.5*
*ISCJB **08** 14:51:14.4±0.8,21°.24S±0°.05×68°.8W±0°.1,h134km±9km,*
mb3.3/2,Error ellipse: s-maj=21.2km s-min=7.6km az=0.8
*IDC **08** 14:51:14.9±8.8,21°.22S×68°.95W,h128km±62km,mb3.2/2,*
mb1 3.4/3,mb1mx3.2/31,mbtmp3.6/3,Error ellipse:
s-maj=77.3km s-min=56.6km az=42.0
ISC 08 14:51:15.2±1.1,21°.23S±0°.05×68°.8W±0°.1,h131km±10km,
n11,σ0s74/18,2C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.70**	**285**	*eP*		**Pn**		**14 51 35.1**	**-0.7**
PB01				*eS*		**Sn**		**14 51 52.3**	**+0.9**
PB01				IAML				14 51 53.3	
	comp=E,899nm,0.3s								
PB09	**IPOC Station P**	**0.72**	**218**	↑*iP*		**Pn**		**14 51 35.5**	**-0.6**
PB09				*eS*		**Sn**		**14 51 52.1**	**+0.2**
PB09				IAML				14 51 52.7	
	comp=N,4μm,0.3s								
PB02	**IPOC Station P**	**1.06**	**265**	↓*iP*		**Pn**		**14 51 39.0**	**+0.1**
PB02				*eS*		**Sn**		**14 51 57.9**	**+1.1**
PB02				IAML				14 51 59.5	
	comp=E,2μm,0.5s								
PB06	**IPOC Station P**	**1.65**	**207**	↑*iP*		**Pn**		**14 51 44.4**	**-0.9**
PB06				*eS*		**Sn**		**14 52 08.0**	**-0.3**
PB06				IAML				14 52 08.7	
	comp=N,348nm,0.2s								
PB11	**IPOC Station P**	**1.68**	**330**	↓*iP*		**Pn**		**14 51 45.0**	**-0.7**
PB11				*eS*		**Sn**		**14 52 09.3**	**+0.4**
PB04	**IPOC Station P**	**1.69**	**229**	*eP*		**Pn**		**14 51 46.0**	**+0.2**
PSGC	**Pisagua**	**2.06**	**322**	*eP*		**Pn**		**14 51 49.1**	**-1.0**
PSGC				*eS*		**Sn**		**14 52 16.5**	**-0.3**
PSGC				IAML				14 52 18.4	
	comp=E,178nm,0.4s								
LPAZ	**La Paz**	**4.95**	**7**	*eP*		**Pn**		**14 52 28.1**	**-0.1**
	comp=E,1.3nm,0.3s,baz=180,slow=8.1,SNR=18								
LPAZ				*eS*		**Sn**		**14 53 25.6**	**+0.6**
	comp=E,0.3nm,0.3s,baz=97,slow=16,SNR=2.6								
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P		**P**		**15 02 55.9**	**+1.0**
	comp=E,0.2nm,0.4s,baz=253,slow=5.5,SNR=4.1								
YKA	**Yellowknife Ar**	**90.98**	**341**	P		**P**		**15 04 03.6**	**-0.3**
	comp=E,0.2nm,0.5s,baz=135,slow=4.5,SNR=6.4								
MKAR	**Makanchi Array**	**145.34**	**36**	PKPbc		**PKPbc**		**15 10 36.9**	**-0.8**
	comp=E,0.9nm,1.0s,baz=328,slow=1.9,SNR=5.4								

*NIED **08** 15:06:00,38°.60N×144°.60E,h5km,Mw3.7 Best double*
couple: M₀4.54000×10¹⁴ NP1:φs45.00000°,δ31.00000°,
λ-44.00000°. NP2:φs174.00000°,δ69.00000°,
λ-114.00000°.
*IDC **08** 15:06:42.4±0.9,38°.49N×144°.84E,h0km,mb3.7/10,*
mb1 3.8/13,mb1mx3.6/71,mbtmp3.7/13,ML3.3/2,MS3.1/2,
Ms1 3.1/2,ms1mx2.5/69,Error ellipse: s-maj=24.0km
s-min=17.0km az=99.0
*ISCJB **08** 15:06:45.9±0.7,38°.68N±0°.04×144°.65E±0°.05,h29km,*
mb3.7/10,MS3.3/1,Error ellipse: s-maj=6.4km
s-min=5.0km az=155.9
*JMA **08** 15:06:46.7±0.2,38°.56N×144°.55E,h33km,M3.7*
ISC 08 15:06:47.3±0.9,38°.65N±0°.06×144°.71E±0°.07,h29km,n27,
σ1s24/42,mb3.7/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.41**	**281**	P		**Pn**		**15 07 24.0**	**-0.8**
OFUJ				S		**Sn**		**15 07 51.9**	**-1.4**
MIYJ	**Miyakonagasawa**	**2.43**	**293**	P		**Pn**		**15 07 24.2**	**-0.8**
MIYJ				S		**Sn**		**15 07 52.0**	**-1.8**
JMK	**Ichinoseki**	**2.75**	**277**	P		**Pn**		**15 07 28.6**	**-0.7**
JMK				S		**Sn**		**15 08 00.1**	**-1.4**
JOM	**Ohasama**	**2.79**	**288**	P		**Pn**		**15 07 29.5**	**-0.4**
JOM				*eS*		**Sn**		**15 08 01.4**	**-1.1**
JANG	**Nango**	**3.02**	**306**	P		**Pn**		**15 07 32.2**	**-0.8**
JOU	**Okura**	**3.19**	**266**	P		**Pn**		**15 07 34.5**	**-0.9**
JOU				S		**Sn**		**15 08 10.5**	**-2.0**
JRG	**Rokugo**	**3.26**	**285**	P		**Pn**		**15 07 36.7**	**+0.3**
JRG				*eS*		**Sn**		**15 08 14.1**	**-0.2**
JYK	**Kaneyama**	**3.41**	**276**	P		**Pn**		**15 07 39.1**	**+0.6**
JYK				*eS*		**Sn**		**15 08 17.2**	**-0.8**
JAH	**Hinai**	**3.51**	**297**	P		**Pn**		**15 07 40.1**	**+0.2**
JAH				S		**Sn**		**15 08 20.0**	**-0.4**
JTM	**Tenmabayashi**	**3.53**	**308**	P		**Pn**		**15 07 40.7**	**+0.6**
JTM				S		**Sn**		**15 08 19.3**	**-1.6**
JFT	**Otama**	**3.63**	**253**	P		**Pn**		**15 07 41.4**	**-0.1**
JFT				S		**Sn**		**15 08 21.7**	**-1.7**
JOT	**Ohata**	**3.92**	**315**	P		**Pn**		**15 07 46.7**	**+1.2**
JOT				S		**Sn**		**15 08 28.1**	**-2.4**
JCH	**Churui**	**4.09**	**346**	P		**Pn**		**15 07 47.3**	**-0.6**
JCH				S		**Sn**		**15 08 31.3**	**-3.5**
JKB	**Kayabe**	**4.29**	**320**	P		**Pn**		**15 07 51.7**	**+1.2**
JKB				S		**Sn**		**15 08 39.0**	**-0.6**
MJAR	**Matsushiro Arr**	**5.57**	**250**	Pn		**Pn**		**15 08 07.7**	**-0.5**
	0.7nm,0.3s,baz=55,slow=8.8,SNR=11								
MJAR				Sn		**Sn**		**15 09 11.9**	**+0.5**
	0.6nm,0.3s,baz=249,slow=28,SNR=3.2								
MJAR				LR		LR		15 10 42.1	
	comp=Z,72nm,19.3s,baz=325,slow=43								
ASAJ	**Asahikawa**	**5.69**	**344**	Pn		**Pn**		**15 08 09.2**	**-0.6**
	0.8nm,0.3s,baz=196,slow=11,SNR=18								
ASAJ				Sn		**Sn**		**15 09 12.9**	**-1.2**
	0.5nm,0.3s,baz=25,slow=19,SNR=4.3								
USRK	**Ussuriysk Ar.**	**11.04**	**304**	Pn		**Pn**		**15 09 23.1**	**0.0**
	0.0nm,0.3s,baz=103,slow=13,SNR=4.8								
SEY	**Seymchan**	**24.76**	**8**	P		**P**		**15 12 07.9**	**+1.8**
	1.4nm,0.6s,baz=203,slow=8.0,SNR=11								
YAK	**Yakutsk**	**25.17**	**343**	P		**P**		**15 12 10.8**	**+1.0**
	4.2nm,0.5s,baz=295,slow=1.7,SNR=4.1								
YAK				LR		LR		15 22 25.0	
	comp=Z,92nm,18.6s,baz=0.5,slow=37								
SONM	**Songino Array**	**29.13**	**301**	P		**P**		**15 12 47.3**	**+1.6**
	0.5nm,0.6s,baz=99,slow=9.2,SNR=2.7								
MKAR	**Makanchi Array**	**45.49**	**301**	P		**P**		**15 15 04.6**	**+0.8**
	0.5nm,0.8s,baz=83,slow=10,SNR=5.6								
ILAR	**Eielson Array**	**46.73**	**33**	P		**P**		**15 15 12.7**	**-0.6**
	0.4nm,0.9s,baz=270,slow=6.9,SNR=3.4								
KURBB	**Kurchatov Arra**	**47.09**	**307**	P		**P**		**15 15 16.5**	**+0.3**
	0.5nm,0.4s,baz=74,slow=8.3,SNR=3.3								
WRA	**Warramunga Arr**	**59.09**	**191**	P		**P**		**15 16 43.0**	**-1.8**
	1.3nm,0.8s,baz=13,slow=7.3,SNR=12								
YKA	**Yellowknife Ar**	**61.09**	**31**	P		**P**		**15 16 58.0**	**-0.1**
	0.2nm,0.7s,baz=299,slow=6.3,SNR=3.0								
ASAR	**Alice Springs**	**62.81**	**191**	P		**P**		**15 17 09.2**	**-1.0**
	0.5nm,0.8s,baz=11,slow=6.9,SNR=9.0								
FINES	**FINESS Array B**	**68.58**	**333**	P		**P**		**15 17 47.7**	**+0.7**
	1.6nm,0.9s,baz=37,slow=7.1,SNR=3.7								

IDC 08 15:16:28.8±4.7,6°.15N×126°.91E,h0km,mb3.2/3,
mb1 3.4/3,mb1mx3.2/57,mbtmp3.2/3,Error ellipse:
s-maj=428.0km s-min=27.9km az=66.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.94**	**164**	P		P	P	15 22 13.2	+1.1
	0.1nm,0.3s,baz=348,slow=10,SNR=7.8								
ASAR	**Alice Springs**	**30.41**	**167**	P		P	P	15 22 41.7	-1.3
	0.3nm,1.0s,baz=345,slow=7.0,SNR=4.7								
MKAR	**Makanchi Array**	**55.70**	**324**	P		P	P	15 26 07.0	-0.1
	0.2nm,0.5s,baz=120,slow=7.9,SNR=4.5								

IDC 08 15:20:27.2±1.5,6°.83S×155°.25E,h0km,mb3.5/4,
mb1 3.9/4,mb1mx3.4/44,mbtmp3.5/4,MS3.3/1,Ms1 3.3/1,
ms1mx2.6/27,Error ellipse: s-maj=62.2km
s-min=28.2km az=129.0,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11**	**235**	P		P	P	15 25 45.3	+0.3
	0.6nm,0.5s,baz=59,slow=9.4,SNR=20								
WRA				PcP		PcP	PcP	15 29 25.5	-1.0
	0.3nm,0.7s,baz=64,slow=2.7,SNR=6.0								
WRA				LR		LR	LR	15 34 30.3	
	comp=Z,65nm,19.9s,baz=175,slow=35								
ASAR	**Alice Springs**	**26.47**	**228**	P		P	P	15 26 05.9	-0.4
	0.2nm,0.4s,baz=58,slow=9.5,SNR=8.9								
ASAR				PcP		PcP	PcP	15 29 31.2	-0.5
	0.2nm,0.8s,baz=44,slow=2.9,SNR=4.0								
H11S3	**WAKE ISLAND Hy 27.58**	**24**		T		T	T	15 54 39.1	
	baz=198,slow=78,SNR=8.1								
H11S2	**WAKE ISLAND Hy 27.59**	**24**		T		T	T	15 54 35.2	
	baz=198,slow=78,SNR=5.6								
H11S1	**WAKE ISLAND Hy 27.60**	**24**		T		T	T	15 54 38.3	
	baz=198,slow=78,SNR=3.9								
CMAR	**Chiang Mai Arr**	**60.94**	**295**	P		P	P	15 30 43.1	+0.5
	0.7nm,0.7s,baz=120,slow=5.8,SNR=5.0								
ILAR	**Eielson Array**	**83.13**	**21**	P		P	P	15 32 54.8	+0.1
	0.5nm,0.9s,baz=234,slow=5.4,SNR=3.9								

MAN 08 15:24:34,9°.80N×122°.93E,h34km,mb3.8,ML2.5,MS2.0,
2D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.55**	**146**	↓*iP*		P	Pb	15 24 47.9	+2.5
SNPH				*iS*		Sn		15 24 55.9	+2.5
GUIM	**Jordan**	**0.89**	**338**	*eP*		Pb		15 24 51.8	+0.8
GUIM				*eS*		Sb		15 25 03.2	+0.6
LLP	**Lapu-Lapu**	**1.15**	**63**	*eP*		Pn		15 24 53.7	0.0
LLP				*eS*		Sb		15 25 10.2	+0.2
RCP	**Roxas**	**1.76**	**354**	↓*eP*		Pb		15 25 08.2	+2.5
MSLP	**Maasin**	**1.93**	**80**	*eP*		Pb		15 25 09.1	+0.5
MSLP				*eS*		Sb		15 25 33.8	+1.4

*IDC **08** 15:25:49.9±12.0,22°.06S×178°.83W,h454km±130km,*
mb3.1/4,mb1 3.3/5,mb1mx3.0/40,mbtmp4.1/5,Error
ellipse: s-maj=112.6km s-min=45.5km az=24.0
ISC 08 15:25:32.3±4.2,21°.05S±0°.3×177°.6W±0°.4,h365km,n37,
σ1s97/35,mb3.5/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WCZ	**Waipu Caves**	**16.50**	**204**	P		**Pn**		**15 29 08.0**	**+2.0**
WIAZ	**Waiheke Island**	**16.99**	**200**	P		**Pn**		**15 29 10.9**	**-0.8**
MTAZ	**Motutapu**	**17.06**	**201**	P		**Pn**		**15 29 11.5**	**-0.5**
WMGZ	**Waiomatatini S**	**17.15**	**191**	P		**Pn**		**15 29 14.6**	**+1.5**
HAZ	**Te Kaha**	**17.20**	**192**	P		**Pn**		**15 29 17.2**	**+3.5**
MKAZ	**Moumakai**	**17.27**	**200**	P		**Pn**		**15 29 14.2**	**-0.3**
KBAZ	**Karaka Road Bo**	**17.35**	**200**	P		**Pn**		**15 29 13.4**	**-2.0**
AWAZ	**Awhitu Peninsu**	**17.40**	**201**	P		**Pn**		**15 29 13.5**	**-2.5**
PUZ	**Puketiti**	**17.42**	**191**	P		**Pn**		**15 29 17.9**	**+1.7**
TWGZ	**Tauwhareparae**	**17.57**	**192**	P		**Pn**		**15 29 18.4**	**+0.3**
TOZ	**Tahuroa Road**	**17.74**	**198**	P		**Pn**		**15 29 16.4**	**-3.6**
MWZ	**Matawai**	**17.81**	**193**	P		**Pn**		**15 29 18.7**	**-2.2**
URZ	**Urewera**	**17.83**	**194**	P		**Pn**		**15 29 16.8**	**-4.2**
	1.4nm,0.3s,baz=261,slow=4.8,SNR=6.7								
URZ	**Urewera**	**17.83**	**194**	P		**Pn**		**15 29 18.5**	**-2.4**
RAHZ	**Arahi**	**18.46**	**193**	P		**P**		**15 29 25.6**	**+2.3**
HIZ	**Hauiti**	**18.66**	**199**	P		**P**		**15 29 27.0**	**+1.2**
NMHZ	**Naumai**	**18.70**	**194**	P		**P**		**15 29 27.1**	**+1.2**
BKZ	**Black Stump Fm**	**18.84**	**194**	P		**P**		**15 29 26.7**	**-0.6**
FWVZ	**Far West T-bar**	**19.15**	**196**	P		**P**		**15 29 34.1**	**+3.3**
BHHZ	**Black Hill Sta**	**19.25**	**195**	P		**P**		**15 29 30.5**	**-1.1**
VRZ	**Vera Road**	**19.25**	**198**	P		**P**		**15 29 34.4**	**+2.8**
KRHZ	**Kereru**	**19.32**	**194**	P		**P**		**15 29 31.9**	**-0.5**
BFZ	**Birch Farm**	**20.34**	**194**	P		**P**		**15 29 43.5**	**+1.2**
MRZ	**Mangatainoka R**	**20.47**	**195**	P		**P**		**15 29 44.0**	**+0.5**
QRZ	**Quartz Range**	**21.50**	**201**	P		**P**		**15 29 52.4**	**-0.3**
NNZ	**Nelson**	**21.59**	**199**	P		**P**		**15 29 53.6**	**+0.1**
THZ	**Tophouse**	**22.23**	**199**	P		**P**		**15 29 59.1**	**-0.4**
CTZ	**Chatham Island**	**22.72**	**178**	P		**P**		**15 30 05.4**	**+1.6**
LTZ	**Lake Taylor**	**23.35**	**199**	P		**P**		**15 30 09.2**	**-0.4**
JCZ	**Jackson Bay**	**25.67**	**203**	P		**P**		**15 30 27.4**	**-3.0**
WHZ	**Wether Hill Ro**	**27.54**	**202**	P		**P**		**15 30 46.8**	**-0.1**
CTA	**Charters Tower**	**33.81**	**265**	P		**P**		**15 31 44.0**	**+2.2**
	1.3nm,0.4s,baz=81,slow=10.0,SNR=4.9								
STKA	**Stephens Creek**	**37.92**	**245**	P		**P**		**15 32 14.7**	**-1.5**
	1.1nm,0.4s,baz=93,slow=10,SNR=7.9								
ASAR	**Alice Springs**	**44.77**	**257**	P		**P**		**15 33 11.1**	**-0.3**
	1.2nm,0.7s,baz=88,slow=8.3,SNR=23								
WRA	**Warramunga Arr**	**44.90**	**262**	P		**P**		**15 33 12.3**	**-0.1**
	0.8nm,0.3s,baz=96,slow=8.4,SNR=118								
HFS	**Hagfors**	**140.05**	**351**	PKhKP		PKPpre		15 44 23.3	
	1.3nm,0.7s,baz=43,slow=2.6,SNR=4.4								
AKASG	**Malin Array Be**	**143.60**	**331**	PKP		PKPdf		15 44 32.3	+8.3
	0.1nm,0.3s,baz=42,slow=3.9,SNR=4.6								

*MAN **08** 15:30:21,13°.55N×120°.32E,h4km,mb5.7,ML4.8,MS5.1*
*BJI **08** 15:30:22.2,13°.17N×120°.61E,h41km,mb4.7/66,mB5.2/49,*
Ms4.6/64,Ms7 4.5/56
*MOS **08** 15:30:24.5±0.9,13°.59N×120°.65E,h39km,mb5.3/65,*
MS4.4/5,Error ellipse: s-maj=8.6km s-min=4.5km
az=116.2
*IDC **08** 15:30:26.7±1.0,13°.60N×120°.61E,h42km±9km,mb4.4/37,*
mb1 4.5/37,mb1mx4.4/62,mbtmp4.6/37,MS4.2/35,
Ms1 4.2/35,ms1mx4.1/57,Error ellipse: s-maj=14.2km
s-min=8.4km az=67.0
*ISCJB **08** 15:30:26.0±0.3,13°.61N±0°.01×120°.55E±0°.02,h48km±3km,*
mb5.0/183,MS4.2/51,Error ellipse: s-maj=3.6km
s-min=2.5km az=170.7
*NEIC **08** 15:30:27.2±0.4,13°.59N×120°.56E,h50km±4km,mb5.1/96,*
Error ellipse: s-maj=3.9km s-min=2.7km az=90.0
NEIC Felt [IV PIVS] at Looc, Lubang Island. Felt [III PIVS] at
Puerto Galera and [II PIVS] at Naujan, Mindoro. Felt [III
PIVS] at Mandaluyong City, Manila, Muntinlupa City and
Quezon City, [II PIVS] at Makati and [I PIVS] at Lucban,
Luzon. Also felt at Calapan and Olongapo.
*GCMT **08** 15:30:27.2±0.2,13°.70N×120°.50E,h12km±1km,MW5.0/75,*
Moment Tensor Solution. s22,c33; s75,c127; Duration:
0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.87±.16;
Mθθ1.99±.10; Mφφ-0.12±.11; Mrθ1.72±.32; Mrφ1.58±.07;
Mθφ-2.02±.40; Best double couple: M₀3.50700×10¹⁶
NP1:φs278.00000°,δ65.00000°,λ-47.00000°. NP2:
φs32.00000°,δ48.00000°,λ-146.00000°. Principal axes:
T 2.9380, Plg10.0000°, Azm339.0000°; N 1.1370,
Plg38.0000°, Azm77.0000°; P -4.0770, Plg50.0000°,
Azm236.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
*DJA **08** 15:30:28.4±0.7,14°.N±4°.×12°.0E±°,h49km±6km,M5.0/58,*
mb5.0/58,mB5.5/35,Mw(mB)5.0/35
ISC 08 15:30:27.5±0.5,13°.55N±0°.02×120°.50E±0°.03,h45km±4km,
n491,σ1s71/509,mb5.1/191,MS4.3/52,31C-17D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.44**	**96**	↓*eP*		**Pn**		**15 30 33.5**	**-4.2**
PGP				*iS*		**Sn**		**15 30 42.0**	**-3.1**
TGY	**Tagaytay City**	**0.69**	**38**	P		**Pn**		**15 30 38.6**	**-2.4**
	3μm,0.3s,baz=245,slow=2.9,SNR=298								
TGY				S		**Sn**		**15 30 49.3**	**-1.5**
	11μm,0.3s,baz=311,slow=20,SNR=38								
TGY	**Tagaytay City**	**0.69**	**38**	↑*iP*		**Pn**		**15 30 38.4**	**-2.6**
TGY				*iS*		**Sn**		**15 30 46.0**	**-4.8**
LQP	**Lukban**	**1.15**	**61**	↑*eP*		**Pn**		**15 30 46.0**	**-1.4**
SJMP	**San Jose**	**1.24**	**151**	*eP*		**Pn**		**15 30 48.0**	**-0.3**
SJMP				*eS*		**Sn**		**15 31 06.7**	**+2.8**
BOAC	**Boac**	**1.31**	**94**	*eP*		**Pn**		**15 30 48.3**	**-1.0**
BOAC				*eS*		**Sn**		**15 31 08.9**	**+3.4**
BUSP	**Coron**	**1.57**	**191**	*eP*		**Pn**		**15 30 50.6**	**-2.2**
BUSP				*eS*		**Sn**		**15 31 10.2**	**-1.8**
OTRP	**Odiongan**	**1.89**	**128**	*eP*		**Pn**		**15 30 58.1**	**+0.8**
OTRP				*eS*		**Sn**		**15 31 26.1**	**+6.1**
GQP	**Guinayangan**	**1.92**	**79**	↓*eP*		**Pn**		**15 30 58.1**	**+0.4**
PCPH	**Palayan**	**2.08**	**16**	↑*eP*		**Pn**		**15 30 57.3**	**-2.6**
PCPH				*eS*		**Sn**		**15 31 25.1**	**+0.5**
SCZP	**Santa Cruz**	**2.29**	**346**	*eP*		**Pn**		**15 30 59.1**	**-3.6**
SCZP				*eS*		**Sn**		**15 31 36.1**	**+6.5**
ENPP	**El Nido**	**2.56**	**204**	*eP*		**Pn**		**15 31 03.6**	**-2.9**
ENPP				*eS*		**Sn**		**15 31 34.0**	**-2.4**
KALP	**Kalibo**	**2.58**	**136**	↓*eP*		**Pn**		**15 31 07.4**	**+0.6**
KALP				*eS*		**Sn**		**15 31 43.9**	**+6.9**
RCP	**Roxas**	**2.95**	**132**	↑*eP*		**Pn**		**15 31 12.7**	**+0.8**
JAP	**San Jose, Anti**	**3.12**	**153**	↓*iP*		**Pn**		**15 31 14.2**	**0.0**
JAP				*eS*		**Sn**		**15 31 47.9**	**-2.4**
MMPH	**Masbate**	**3.27**	**111**	↑*iP*		Pn		15 31 20.1	+4.0
MMPH				*iS*		**Sn**		**15 31 47.6**	**-6.2**
PVCP	**Virac**	**3.55**	**89**	*eP*		**Pn**		**15 31 20.5**	**+0.4**
GUIM	**Jordan**	**3.55**	**145**	*eP*		**Pn**		**15 31 20.7**	**+0.6**
GUIM				*eS*		**Sn**		**15 32 02.1**	**+1.2**
CAUP	**Cauayan**	**3.60**	**21**	*eP*		**Pn**		**15 31 20.3**	**-0.6**
CAUP				*eS*		Sn		15 32 15.8	+14
PPR	**Puerto Princes**	**4.13**	**205**	↓*iP*		**Pn**		**15 31 26.2**	**-1.9**
PPR				*iS*		**Sn**		**15 32 13.2**	**-2.1**
CNP	**Catarman**	**4.18**	**104**	*eP*		**Pn**		15 31 34.5	+5.7
LLP	**Lapu-Lapu**	**4.67**	**133**	*eP*		**Pn**		**15 31 36.3**	**+0.8**
LLP				*eS*		Sn		15 32 42.1	+14
OCLP	**Ormoc**	**4.72**	**121**	*eP*		**Pn**		15 31 43.5	+7.3
SNPH	**Sibulan**	**4.97**	**147**	*eP*		**Pn**		**15 31 40.1**	**+0.5**
PLP	**Palo**	**4.97**	**118**	↑*eP*		**Pn**		**15 31 41.8**	**+2.1**
BESP	**Borongan**	**5.19**	**111**	*eP*		Pn		15 31 48.0	+5.3
MSLP	**Maasin**	**5.45**	**128**	*eP*		**Pn**		**15 31 48.4**	**+2.2**
PAGZ	**Pagadian**	**6.33**	**153**	*eP*		**Pn**		**15 32 00.2**	**+1.8**
BUKP	**Musuan**	**7.20**	**141**	*eP*		Pn		15 32 15.2	+4.9
DAV	**Davao City (W)**	**8.15**	**142**	LR		LR		15 35 57.2	
	comp=Z,3μm,21.8s,baz=201,slow=41								
MYLDM	**Lahad Datu**	**8.55**	**194**	*e*Pn		**Pn**		**15 32 29.7**	**+0.9**
KKM	**Kota Kinabalu**	**8.57**	**210**	*e*Pn		**Pn**		**15 32 30.4**	**+1.3**
KKM				*e*Sn		Sn		15 33 54.6	-10
TWG	**Pinlang**	**9.23**	**3**	*e*Pn		**Pn**		**15 32 38.2**	**+0.1**
TPUB	**Ta-pu**	**9.70**	**1**	*e*Pn		**Pn**		**15 32 42.7**	**-1.8**
YULB	**Yu-li**	**9.82**	**4**	*e*Pn		**Pn**		**15 32 45.1**	**-1.0**
SSLB	**Suanglung**	**10.19**	**2**	*e*Pn		**Pn**		**15 32 49.2**	**-2.1**
YHNB	**Yeheng**	**11.09**	**4**	*e*Pn		**Pn**		**15 33 03.9**	**+0.3**
QZH	**Quanzhou**	**11.47**	**351**	*eP*		**Pn**		**15 33 11.0**	**+2.3**
QZH				LR		LR			
	comp=N,2μm,14.0s								
QZH				LR		LR			
	comp=E,1μm,12.6s								
QZH				LR		LR			
	comp=Z,2μm,13.5s								
QIZ	**Qiongzhong**	**11.59**	**299**	P		**Pn**		**15 33 10.4**	**0.0**
QIZ				S		**Sn**		**15 35 19.6**	**+1.1**
QIZ				pmax		pmax			
	comp=Z,30nm,1.8s								
QIZ				LR		LR			
	comp=N,230nm,9.6s								
QIZ				LR		LR			
	comp=E,1μm,12.8s								
QIZ				LR		LR			
	comp=Z,1μm,12.6s								
QIZ	**Qiongzhong**	**11.

54nm,1.1s
BNDI Bandanaira 20.24 152 P Pn 15 35 01.3 +0.1
586nm,1.1s,8µm
KMI Kunming 20.30 307 P Pn 15 35 01.5 -0.7
KMI pP pP 15 35 09.2 -1.6
KMI sP sP 15 35 14.0 -2.5
KMI PP **PnPn** **15 35 22.9 +4.8**
KMI S **S** **15 38 43.4 -2.0**
KMI sS sS 15 38 57.0 -5.8
KMI SS **SnSn** **15 39 12.2 +6.8**
KMI pmax pmax
comp=Z,14nm,1.8s
KMI pmax pmax
comp=Z,230nm,3.4s
KMI LR LR
comp=N,630nm,14.3s
KMI LR LR
comp=E,650nm,16.3s
KMI LR LR
comp=Z,650nm,17.7s
PHET Kaeng Krachan 20.33 271 P Pn 15 35 02.2 -0.2
17nm,1.0s
UTHA Uthaitani 20.48 278 P Pn 15 35 03.5 -0.6
8.3nm,1.1s,76nm
SKLT Songkhla 20.55 254 P **P** **15 35 03.5 +1.1**
70nm,1.5s,793nm
SRDT SRDT 20.77 275 P Pn 15 35 07.1 -0.5
38nm,0.9s,1µm
TRTT Trang 21.22 257 P **P** **15 35 10.3 +0.7**
17nm,1.6s,320nm
KULM Kulim 21.22 249 *e*P **P** **15 35 09.9 +0.2**
70nm,1.4s
IPM Ipoh 21.23 247 *e*P **P** **15 35 10.2 +0.5**
33nm,1.0s
CM01 Chiang Mai Arr 21.26 286 *e*P **P** **15 35 11.3 +1.2**
CM31 Chiang Mai Arr 21.29 286 *e*P **P** **15 35 11.8 +1.5**
CM31 Chiang Mai Arr 21.29 286 P **P** **15 35 10.8 +0.5**
CMAR Chiang Mai Arr 21.29 286 P **P** **15 35 11.4 +1.0**
21nm,0.8s,baz=94,slow=8.8,SNR=96
CMAR LR LR 15 43 06.1
comp=Z,227nm,18.2s,baz=76,slow=36
CMAR Chiang Mai Arr 21.29 286*ce*P **P** **15 35 11.5 +1.2**
CMAR pmax pmax
comp=Z,21nm,0.8s
CMMT Chiang Mai 21.34 287 P **P** **15 35 10.5 -0.5**
comp=Z,19nm,1.1s
CHTO Chiang Mai 21.35 287 P **P** **15 35 11.5 +0.5**
comp=Z,86nm,1.1s
CHTO Chiang Mai 21.35 287 *e*P **P** **15 35 12.0 +1.0**
comp=Z,22nm,1.1s
CHTO Chiang Mai 21.35 287 *e*P **P** **15 35 12.0 +1.0**
CHTO pmax pmax
comp=Z,22nm,1.1s
CHTO Chiang Mai 21.35 287 P **P** **15 35 10.6 -0.4**
SNR=9.9
CMAI Chiengmai2 21.49 290 P **P** **15 35 13.6 +0.9**
comp=Z,544nm,1.2s
JNU Nakatsue 21.66 24 P **P** **15 35 15.3 +1.2**
comp=Z,15nm,1.0s,baz=44,slow=6.1,SNR=4.3
JNU LR LR 15 44 21.3
comp=Z,314nm,20.2s,baz=246,slow=39
JNU Nakatsue 21.66 24 *e*P **P** **15 35 15.4 +1.2**
comp=Z,37nm,1.1s
SURT Suratani 21.77 260 P P 15 35 21.8 +6.3
comp=Z,18nm,1.4s
ABJI Asem Bagus 22.10 197 P **P** **15 35 21.4 +2.4**
comp=Z,53nm,1.1s
MMRI Maumere 22.11 175 P **P** **15 35 20.8 +1.7**
comp=Z,230nm,0.9s,comp=Z,3µm
MMRI Maumere 22.11 175 *e*P **P** **15 35 19.5 +0.4**
comp=Z,300nm,1.2s
SRBI Singaraja 22.13 194 P **P** **15 35 20.5 +1.2**
comp=Z,90nm,0.9s,comp=Z,1µm
BLJI Banyuglugur 22.24 198 P **P** **15 35 23.1 +2.6**
comp=Z,99nm,0.9s,comp=Z,1µm
PLAI Plampang 22.40 187 P **P** **15 35 23.5 +1.3**
comp=Z,500nm,1.1s,comp=Z,5µm
TIA Tai'an 22.77 353 P **P** **15 35 25.3 -0.7**
TIA S **S** **15 39 37.6 +5.9**
TIA pmax pmax
comp=Z,12nm,1.7s
TIA LR LR
comp=Z,720nm,15.5s
TIA LR LR
comp=Z,410nm,28.4s
TIA LR LR
comp=Z,980nm,12.8s
JAGI Jajag, Banyuwa 22.77 196 P **P** **15 35 28.0 +1.8**
comp=Z,167nm,1.7s,comp=Z,3µm
JAGI Jajag, Banyuwa 22.77 196 *e*P **P** **15 35 27.0 +0.8**
comp=Z,241nm,1.3s
GMJI Gumukmas 22.79 198 P **P** **15 35 27.7 +1.4**
XAN Xi'an 22.95 335 P **P** **15 35 26.2 -1.8**
XAN pP pP 15 35 36.0 -3.0
XAN S **S** **15 39 40.8 +5.9**
XAN pmax pmax
comp=Z,38nm,1.5s
XAN pmax pmax
comp=Z,390nm,2.8s
XAN LR LR
comp=Z,1µm,15.2s
XAN LR LR
comp=Z,410nm,12.0s
XAN LR LR
comp=Z,1µm,17.7s
WBSI Waikabubak, Su 23.07 183 P **P** **15 35 29.6 +0.3**
comp=Z,153nm,1.0s,comp=Z,2µm
PWJI Pagerwojo 23.11 202 P **P** **15 35 32.8 +3.2**
CD2 Chengdu 23.16 321 ⇑P **P** **15 35 29.8 -0.3**
CD2 pP sP 15 35 44.7 -2.2
CD2 S **S** **15 39 37.5 -0.9**
CD2 pmax pmax
comp=Z,490nm,4.0s
CD2 LR LR
comp=Z,1µm,16.9s
CD2 LR LR
comp=Z,1µm,14.0s
CD2 LR LR
comp=Z,1µm,16.9s
BKNI Bangkinang 23.33 237 *e*P **P** **15 35 31.6 -0.3**
comp=Z,180nm,1.3s
SOEI Soe 23.45 171 P **P** **15 35 33.4 +0.3**
SOEI Soe 23.45 171 *e*P **P** **15 35 32.7 -0.4**
comp=Z,217nm,1.0s
PCJI Pacitan 23.51 204 P **P** **15 35 34.0 +0.5**
BASI Baing, Sumba 23.62 180 P **P** **15 35 33.4 -1.1**
GUMO Guam 23.68 87 LR LR 15 44 51.6
comp=Z,261nm,20.5s,baz=259,slow=37
BATI Baumata 23.81 172 P **P** **15 35 37.3 +0.9**
comp=Z,446nm,0.7s,baz=307,slow=4.2,SNR=104
BATI LR LR 15 45 19.4
comp=Z,584nm,21.2s,baz=354,slow=37
BATI Baumata 23.81 172 P **P** **15 35 36.9 +0.5**
comp=Z,332nm,0.8s,comp=Z,3µm
PSI Prapat 23.85 245 P **P** **15 35 37.3 +0.4**
comp=Z,10.0nm,0.6s,baz=43,slow=8.2,SNR=11
PSI LR LR 15 46 52.7
comp=Z,271nm,18.7s,baz=98,slow=41
PSI Prapat 23.85 245 *e*P **P** **15 35 36.5 -0.4**
comp=Z,119nm,1.8s
PSI Prapat 23.85 245 *e*P **P** **15 35 36.5 -0.4**
PSI pmax pmax
comp=Z,119nm,1.8s
SAUI Saumlaki 23.93 153 P **P** **15 35 37.8 +0.3**
comp=Z,507nm,1.2s,comp=Z,5µm
SAUI Saumlaki 23.93 153 *e*P **P** **15 35 37.3 -0.2**
comp=Z,394nm,0.8s
LEM Lembang 23.95 213 P **P** **15 35 41.0 +3.2**
comp=Z,28nm,0.9s,baz=284,slow=19,SNR=5.2
LEM LR LR 15 47 18.7
comp=Z,454nm,18.1s,baz=1.5,slow=42
MDSI Maura Dua 24.16 223 P **P** **15 35 39.1 -0.5**
MNSI Mandailing Nat 24.29 240 P **P** **15 35 41.4 +0.6**
comp=Z,28nm,1.3s
CISI Cisompet, Garu 24.46 212 *e*P **P** **15 35 42.3 -0.1**
comp=Z,74nm,1.0s
KCSI Kotacane, Aceh 24.56 248 P **P** **15 35 42.9 -0.4**
MASI Maura Aman, Be 24.57 229 P **P** **15 35 45.0 +1.6**
comp=Z,164nm,0.9s,comp=Z,3µm
LWLI Liwa 24.64 223 P **P** **15 35 44.4 +0.3**
comp=Z,144nm,1.1s
KSAR Wonju Array Be 24.69 14 P **P** **15 35 44.0 -0.2**
KSAR Wonju Array Be 24.69 14 P **P** **15 35 44.0 -0.2**
KSRS Korea Array 24.71 14 P **P** **15 35 44.0 -0.4**
comp=Z,6.6nm,1.0s,baz=197,slow=11,SNR=8.6
KSRS LR LR 15 47 21.3
comp=Z,893nm,18.3s,baz=200,slow=41

KS01 Wonju Array Si 24.72 14 *e*P **P** **15 35 42.1 -2.4**
KASI Kota Agung 24.73 221 P **P** **15 35 45.3 +0.5**
comp=Z,124nm,1.2s
MNAI Manna 24.90 226 *e*P **P** **15 35 45.0 -1.4**
comp=Z,391nm,1.2s
GENI Genyem 25.26 128 P **P** **15 35 51.8 +2.2**
comp=Z,121nm,1.0s
DL2 Dalian 25.27 2 P **P** **15 35 54.8 +5.3**
DL2 pmax pmax
comp=Z,35nm,1.0s
DL2 pmax pmax
comp=Z,280nm,5.2s
DL2 LR LR
comp=Z,870nm,17.6s
DL2 LR LR
comp=Z,920nm,16.3s
DL2 LR LR
comp=Z,730nm,15.2s
GSI Gunungsitoli 25.75 244 *e*P **P** **15 35 53.3 -0.8**
comp=Z,26nm,0.8s
JHJ Hachijo jima 2 26.23 39 LR LR 15 45 45.0
comp=Z,476nm,19.2s,baz=252,slow=35
INU Inuyama 26.32 32 *e*P **P** **15 35 59.2 +0.2**
comp=Z,30nm,1.2s
BJT Baijiatuao 26.64 353 *e*P **P** **15 36 01.1 -0.7**
comp=Z,71nm,1.3s
BJT Baijiatuao 26.64 353 *e*P **P** **15 36 01.1 -0.7**
BJT pmax pmax
comp=Z,71nm,1.3s
BJI Beijing 26.66 353 P **P** **15 36 00.8 -1.2**
BJI S **S** **15 40 37.9 +3.9**
BJI pmax pmax
comp=Z,51nm,1.2s
BJI LR LR
comp=Z,590nm,13.0s
BJI LR LR
comp=Z,1µm,28.7s
BJI LR LR
comp=Z,730nm,20.8s
LZH Lanzhou 26.97 329 *e*P **P** **15 36 05.6 +0.5**
LZH pP pP 15 36 15.3 -1.8
LZH sP sP 15 36 19.1 -3.5
LZH PP **PnPn** **15 36 52.5 +3.4**
LZH PcP **PcP** **15 39 25.5 -0.6**
LZH *e*S **S** **15 40 37.5 -2.0**
LZH SS **SnSn** **15 41 54.0 +5.6**
LZH pmax pmax
comp=Z,100nm,1.5s
LZH pmax pmax
comp=Z,330nm,7.2s
LZH LR LR
comp=Z,870nm,12.2s
LZH LR LR
comp=Z,880nm,11.9s
LZH LR LR
comp=Z,1µm,14.3s
MAJO Matsushiro 27.86 32 *e*P **P** **15 36 11.1 -1.7**
comp=Z,14nm,1.3s
MAJO Matsushiro 27.86 32 *e*P **P** **15 36 11.1 -1.7**
MAJO pmax pmax
comp=Z,14nm,1.3s
MJAR Matsushiro Arr 27.86 32 P **P** **15 36 11.8 -1.0**
comp=Z,1.5nm,0.8s,baz=212,slow=8.0,SNR=5.1
MJB9 Matsu-Tunnel 27.86 32 *e*P **P** **15 36 11.0 -1.9**
comp=Z,14nm,1.3s
MTN Manton Dam 28.26 158 *e*P **P** **15 36 15.5 -1.1**
comp=Z,27nm,0.8s
HHC Hu-ho-hao-te 28.30 346 *e*P **P** **15 36 16.7 -0.1**
HHC S **S** **15 40 59.7 -0.4**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,69nm,6.2s
HHC LR LR
comp=Z,770nm,16.3s
HHC LR LR
comp=Z,430nm,16.7s
HHC LR LR
comp=Z,760nm,14.8s
SHL Shillong 29.43 298 *e*P P 15 36 35.0 +7.9
CN2 Changchun 30.44 7 *e*P **P** **15 36 37.3 +1.6**
CN2 *es*P sP 15 36 50.9 -2.3
CN2 *e*S **S** **15 41 34.5 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,600nm,17.0s
LSA Lhasa 31.54 305 *e*P **P** **15 36 45.5 -0.6**
comp=Z,13nm,1.2s
LSA Lhasa 31.54 305 *e*P **P** **15 36 45.5 -0.6**
LSA pmax pmax
comp=Z,13nm,1.2s
GTA Gaotai 31.56 328 ⇓P **P** **15 36 46.2 +0.4**
GTA pP pP 15 36 54.6 -3.3
GTA sP sP 15 36 58.3 -5.0
GTA PcP **PcP** **15 39 35.0 -2.6**
GTA S **S** **15 41 53.2 +1.7**
GTA sS sS 15 42 09.4 -2.4
GTA pmax pmax
comp=Z,7.0nm,1.7s
GTA pmax pmax
comp=Z,200nm,4.5s
GTA LR LR
comp=Z,480nm,21.9s
GTA LR LR
comp=Z,640nm,22.8s
GTA LR LR
comp=Z,1µm,21.4s
FITZ Fitzroy Crossi 31.86 171 P **P** **15 36 48.0 -0.4**
comp=Z,47nm,1.0s,baz=354,slow=8.0,SNR=37
FITZ Fitzroy Crossi 31.86 171 *e*P **P** **15 36 47.7 -0.6**
MDJ Mudanjiang 31.92 12 *e*P **P** **15 36 48.1 -0.6**
comp=Z,35nm,1.5s
USRK Ussuriysk Ar. 32.09 16 P **P** **15 36 49.7 -0.5**
comp=Z,2.1nm,0.9s,baz=217,slow=7.0,SNR=2.7
USRK LR LR 15 51 05.5
comp=Z,424nm,18.1s,baz=209,slow=39
TAPN Taplejung 33.53 299 *e*P **P** **15 37 03.2 -0.2**
comp=Z,22nm,0.6s
ODAN Odare 33.66 298 *e*P **P** **15 37 04.3 -0.2**
comp=Z,100nm,0.8s
RAMN Ramite 34.37 298 *e*P **P** **15 37 10.8 +0.2**
comp=Z,64nm,0.7s
MBWA Marble Bar 34.50 181 *e*P **P** **15 37 11.3 -0.1**
comp=Z,34nm,0.8s
JIRN Jiri 34.91 299 *e*P **P** **15 37 15.2 -0.2**
comp=Z,110nm,0.6s
PMG Port Moresby 34.93 129 P **P** **15 37 15.9 +0.6**
comp=Z,9.4nm,0.9s,baz=354,slow=10,SNR=6.9
PMG Port Moresby 34.93 129 *e*P **P** **15 37 13.5 -1.7**
comp=Z,24nm,1.3s
PMG Port Moresby 34.93 129 *e*P **P** **15 37 13.5 -1.7**
PMG pmax pmax
comp=Z,24nm,1.3s
GUN Gumba 35.25 299 *e*P **P** **15 37 17.9 -0.4**
comp=Z,77nm,0.5s
COEN Coen 35.37 140 *e*P **P** **15 37 16.9 -2.2**
comp=Z,11nm,1.0s
PKI Pulchoki 35.55 299 *e*P **P** **15 37 19.9 -1.0**
comp=Z,29nm,0.5s
PKIN Phulchoki 35.57 299 *e*P **P** **15 37 21.0 +0.1**
comp=Z,37nm,0.6s
HIA Hailar 35.62 359 *e*P **P** **15 37 18.4 -2.4**
comp=Z,53nm,2.0s
HIA Hailar 35.62 359 *e*P **P** **15 37 18.4 -2.4**
HIA pmax pmax
comp=Z,53nm,2.0s
KKN Kakani 35.72 299 *e*P **P** **15 37 21.3 -0.9**
comp=Z,30nm,0.6s
DMN Daman 35.82 299 *e*P **P** **15 37 22.4 -0.7**
comp=Z,30nm,0.5s
ASAJ Asahikawa 35.85 28 P **P** **15 37 23.0 +0.2**
comp=Z,5.1nm,1.1s,baz=229,slow=9.3,SNR=3.4
ASAJ Asahikawa 35.85 28 *e*P **P** **15 37 21.5 -1.3**
comp=Z,7.1nm,0.9s
WRAB Tennant Creek 35.96 157 *e*P **P** **15 37 23.4 -0.6**
comp=Z,130nm,0.8s
WRAB Tennant Creek 35.96 157 *e*P **P** **15 37 23.4 -0.6**
WRAB pmax pmax
comp=Z,130nm,0.8s
WR1 Warramunga Arr 35.96 157 *e*P **P** **15 37 23.1 -0.9**
comp=Z,147nm,0.8s
WR1 *e*S **S** **15 42 58.2 -1.4**
WRA Warramunga Arr 35.96 157 P **P** **15 37 23.1 -0.9**
comp=Z,107nm,0.8s,baz=336,slow=9.4,SNR=211
WRA S **S** **15 42 58.2 -1.4**
comp=Z,4.5nm,1.1s,baz=325,slow=15,SNR=6.9
ULN Ulaanbaatar 36.00 345 *e*P **P** **15 37 23.1 -1.2**
comp=Z,96nm,1.4s
ULN Ulaanbaatar 36.00 345*ce*P **P** **15 37 23.6 -0.6**
ULN pmax pmax
comp=Z,70nm,1.2s
ULN Ulaanbaatar 36.00 345 P **P** **15 37 23.2 -1.1**
SNR=33
SONA0 Songino Array 36.15 344 *e*P **P** **15 37 24.8 -0.6**
SONM Songino Array 36.15 344 P **P** **15 37 24.8 -0.6**
comp=Z,19nm,0.7s,baz=164,slow=9.9,SNR=77
SONM LR LR 15 53 54.1
comp=Z,393nm,18.2s,baz=132,slow=39
SONA1 Songino Array 36.15 344 *e*P **P** **15 37 24.4 -1.2**
KOLN Koldanda 37.15 298 *e*P **P** **15 37 33.6 -0.8**
comp=Z,41nm,0.8s
DANN Dangsing 37.17 299 *e*P **P** **15 37 33.9 -0.8**
PYUN Piuthan 37.76 299 *e*P **P** **15 37 39.0 -0.6**
comp=Z,130nm,0.9s
YSS Yuzh-Sakhalins 38.17 25 *e*P **P** **15 37 43.8 +1.4**
comp=Z,36nm,1.6s
YSS Yuzh-Sakhalins 38.17 25⇑*e*P **P** **15 37 45.4 +3.0**
YSS *e* 15 38 00.5
YSS pmax pmax
comp=Z,10.0nm,1.1s
CIT Chita 38.78 353 *e*P **P** **15 37 47.0 -0.6**
CIT *e* 15 38 03.0
CIT pmax pmax
comp=Z,118nm,1.4s
AS31 Alice Springs 39.24 160 *e*P **P** **15 37 51.5 -0.3**
comp=Z,20nm,0.8s
AS31 *e*S **S** **15 43 52.1 +2.8**
ASAR Alice Springs 39.24 160 P **P** **15 37 51.5 -0.3**
comp=Z,53nm,0.7s,baz=340,slow=8.0,SNR=532
ASAR LR LR 15 56 26.5
comp=Z,121nm,18.2s,baz=328,slow=40
AS01 Alice Springs 39.26 160 *e*P **P** **15 37 51.7 -0.2**
GRNR Gornyy 39.31 16 *e*P **P** **15 37 51.6 -0.4**
GRNR pmax pmax
comp=Z,18nm,1.0s
ZAK Zakamensk 39.33 343 *e*P **P** **15 37 50.8 -1.4**
ZAK pmax pmax
comp=Z,23nm,1.3s
TLY Talaya 40.39 344 *e*P **P** **15 38 00.1 -0.9**
comp=Z,30nm,1.2s
TLY Talaya 40.39 344 *e*P **P** **15 37 59.9 -1.1**
TLY pmax pmax
comp=Z,44nm,1.6s
TLY MLR MLR
comp=Z,244nm,14.0s
TLY Talaya 40.39 344 P **P** **15 38 00.4 -0.6**
SNR=23
ZEA Zeya 40.45 6 *e*P **P** **15 38 00.5 -0.8**
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=Z,600nm,15.0s
ZEA MLR MLR
comp=E,400nm,12.0s
ZEA MLR MLR
comp=N,300nm,11.0s
HYB Hyderabad 40.55 281 *i* P **P** **15 38 04.0 +1.2**
IRK Irkutsk 40.73 345 *e*P **P** **15 38 03.1 -0.7**
IRK *e*S **S** **15 44 15.2 +4.2**
IRK pmax pmax
comp=Z,98nm,1.3s
MOY Mondy 41.14 342 *e*P **P** **15 38 06.8 -0.5**
MOY pmax pmax
comp=Z,71nm,1.6s
WMQ Urumqi 41.21 323 P **P** **15 38 08.0 +0.1**
WMQ pP sP 15 38 22.0 -3.6
WMQ pmax pmax
comp=Z,51nm,1.1s
WMQ pmax pmax
comp=Z,750nm,4.3s
WMQ LR LR
comp=Z,1µm,18.1s
WMQ LR LR
comp=Z,920nm,22.9s
WMQ LR LR
comp=Z,1µm,22.9s
TYV Tymovskoe 41.33 21 *e*P **P** **15 38 08.9 +0.2**
TYV *e*S **S** **15 44 19.4 -0.4**
TYV pmax pmax
comp=Z,4.0nm,1.2s
TYV pmax pmax
comp=Z,600nm,5.3s
TYV smax smax
comp=E,500nm,5.9s
CTAO Charters Tower 41.94 142 *e*P **P** **15 38 14.0 -0.1**
comp=E,20nm,1.1s
CTAO Charters Tower 41.94 142 *e*P **P** **15 38 14.0 -0.1**
CTAO pmax pmax
comp=Z,20nm,1.1s
NKL Nikolayevsk 42.64 18 *e*P **P** **15 38 17.0 -2.3**
NKL pmax pmax
comp=Z,21nm,1.0s
NKL MLR MLR
comp=N,450nm,14.0s
NKL MLR MLR
comp=Z,500nm,14.0s
HVS Khovu-Aksy 43.30 336 *i* P **P** **15 38 24.6 -0.3**
BOD Bodaibo 44.45 355 *e*P P 15 38 24.7 -9.2
BOD pmax pmax
comp=Z,16nm,1.6s
MK01 Makanchi Array 46.02 324 *e*P **P** **15 38 46.1 -0.4**
MK31 Makanchi Array 46.04 324 *e*P **P** **15 38 46.0 -0.7**
MK31 Makanchi Array 46.04 324*ce*P **P** **15 38 46.2 -0.5**
MK31 pmax pmax
comp=Z,38nm,1.2s
MK32 Makanchi Array 46.04 324 *e*P **P** **15 38 46.6 0.0**
MKAR Makanchi Array 46.04 324 P **P** **15 38 46.6 0.0**
comp=Z,8.4nm,0.7s,baz=126,slow=9.1,SNR=33
MKAR Makanchi Array 46.04 324 *e*P **P** **15 38 46.1 -0.5**
comp=Z,569nm,2.0s
MKAR Makanchi Array 46.04 324*ce*P **P** **15 38 46.5 -0.2**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 46.23 324 *e*P **P** **15 38 47.9 -0.2**
comp=Z,86nm,1.6s
MAKZ Makanchi 46.23 324 *i* P **P** **15 38 48.0 -0.2**
MAKZ pmax pmax
comp=Z,45nm,1.3s
MAKZ smax smax
comp=E,500nm,5.9s
NWAO Narrogin (SRO) 46.32 184 *e*P **P** **15 38 48.7 -0.2**
comp=E,41nm,0.9s
NWAO Narrogin (SRO) 46.32 184 *e*P **P** **15 38 48.7 -0.2**
NWAO pmax pmax
comp=Z,41nm,0.9s
PRZ Przheval'sk 46.34 317 P **P** **15 38 49.7 +0.4**
KSH Kashi 46.85 312 P **P** **15 38 55.2 +1.9**
KSH sP sP 15 39 07.9 -3.3
KSH PcS **PcS** **15 44 20.4 -0.4**
KSH S **S** **15 45 42.5 +1.5**
KSH SS **SS** **15 49 02.6 -5.4**
KSH pmax pmax
comp=Z,18nm,0.9s
KSH pmax pmax
comp=Z,280nm,4.7s
KSH LR LR
comp=Z,200nm,11.9s
KSH LR LR
comp=Z,420nm,10.7s
KSH LR LR
comp=Z,340nm,13.9s
KDJ Kajisay 47.01 316 P **P** **15 38 54.7 +0.2**
KDJ pmax pmax
comp=Z,55nm,1.6s
NRN Naryn 47.54 314 P **P** **15 38 59.2 +0.3**
NRN pmax pmax
comp=Z,51nm,1.3s
KZA Kyzart 48.31 315 P **P** **15 39 05.9 +1.0**
SNR=18
TKM2 Tokmak 2 48.40 316 P **P** **15 39 05.8 +0.5**
SNR=14
BBOO Buckleboo 48.44 162 *e*P **P** **15 39 04.8 -0.7**
comp=Z,31nm,0.9s
KBK Karagaybulak 48.73 316 P **P** **15 39 08.6 +0.7**
SNR=22
EIDS Eidsvold 48.83 142 *e*P **P** **15 39 07.5 -1.1**

YAK **Yakutsk** 48.85 6 *e*P P 15 39 07.1 -1.1
comp=Z,12nn,0.8s
YAK **Yakutsk** 48.85 6 *e*P P 15 39 07.7 -0.5
YAK *e* 15 40 29.6
YAK *e* 15 41 00.3
YAK *e*PPP PPP 15 41 48.6
YAK *e*S S 15 46 09.9 +1.6
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=Z,176nm,4.1s
YAK pmax pmax
comp=N,118nm,4.4s
YAK pmax pmax
comp=E,150nm,4.3s
YAK smax smax
comp=N,158nm,5.1s
YAK smax smax
comp=E,193nm,4.6s
YAK MLR MLR
comp=Z,349nm,16.0s
YAK MLR MLR
comp=N,306nm,16.0s
YAK MLR MLR
comp=E,170nm,15.0s
UCH **Uchtor** 48.87 315 P P 15 39 10.3 +1.0
SNR=30
CHMS **Chumysh** 49.00 316 P P 15 39 09.9 +0.2
SNR=11
AAK **Ala-Archa** 49.04 315 P P 15 39 10.9 +0.7
SNR=16
AAK **Ala-Archa** 49.04 315 *e*P P 15 39 10.2 0.0
comp=E,22nn,1.0s
AAK **Ala-Archa** 49.04 315 *i* P P 15 39 11.3 +1.1
AAK pmax pmax
comp=Z,20nn,1.0s
AAK **Ala-Archa** 49.04 315 P P 15 39 09.5 -0.7
SNR=17
ZAA0 **Zalesovo Array** 49.10 333 *e*P P 15 39 09.2 -1.0
comp=Z,94nn,1.9s
ZALV **Zalesovo Beam** 49.10 333 P P 15 39 09.3 -0.9
comp=Z,3.2nn,0.5s,baz=124,slow=6.7,SNR=17
ZALV LR LR 16 01 23.5
comp=Z,445nn,18.1s,baz=76,slow=38
ZALV **Zalesovo Beam** 49.10 333 *e*P P 15 39 08.7 -1.6
ZALV **Zalesovo Beam** 49.10 333 *e*P P 15 39 08.7 -1.6
ZAA1 **Zalesovo Array** 49.10 333 *e*P P 15 39 09.3 -1.0
PETK **Petropavlovsk-** 49.25 29 P P 15 39 10.8 -0.6
comp=Z,3.5nm,0.7s,baz=218,slow=5.6,SNR=2.6
PETK LR LR 16 02 47.1
comp=Z,151nm,18.8s,baz=262,slow=40
PEA1 **Petropavlovsk-** 49.25 29 *e*P P 15 39 10.8 -0.6
USP **Ospenovka** 49.27 316 P P 15 39 12.5 +0.6
SNR=16
AML **Almayashu** 49.40 314 P P 15 39 14.1 +0.8
SNR=26
STKA **Stephens Creek** 49.49 156 P P 15 39 13.1 -0.4
comp=Z,5.6nm,0.7s,baz=327,slow=8.9,SNR=12
STKA PP PP 15 41 08.8 +0.6
comp=Z,6.0nm,0.9s,baz=334,slow=14,SNR=3.9
STKA LR LR 16 02 35.1
comp=Z,90nm,19.4s,baz=348,slow=39
STKA **Stephens Creek** 49.49 156 *e*P P 15 39 12.5 -1.0
comp=Z,2.8nm,0.8s
STKA PP PP 15 41 08.8 +0.6
STKA **Stephens Creek** 49.49 156 *e*P P 15 39 12.5 -1.0
STKA 15 41 08.8
STKA pmax pmax
comp=Z,3.0nm,0.8s
EKS2 **Erkin-Say** 49.54 315 P P 15 39 15.0 +1.1
SNR=21
KURBB **Kurchatov Arra** 50.20 326 P P 15 39 18.6 -0.1
comp=Z,22nn,0.9s,baz=124,slow=7.9,SNR=71
KURK **Kurchatov** 50.21 326 *e*P P 15 39 18.4 -0.3
comp=Z,288nn,1.6s
KURK **Kurchatov** 50.21 326 *ce*P P 15 39 18.8 +0.1
KURK pmax pmax
comp=Z,593nn,1.7s
KURK **Kurchatov** 50.21 326 P P 15 39 18.4 -0.3
SNR=56
MNAS **Manas** 50.35 314 *i* P P 15 39 19.5 -0.7
MNAS pmax pmax
comp=Z,38nn,1.0s
NVS **Novosibirsk** 50.39 333 *e*P P 15 39 19.6 -0.4
NVS pmax pmax
comp=N,29nn,1.5s
NVS pmax pmax
comp=E,32nn,1.5s
NVS pmax pmax
comp=Z,49nn,1.5s
KBL **Kabul** 50.83 304 *e*P P 15 39 23.4 -0.6
comp=Z,12nn,0.9s
KBL **Kabul** 50.83 304 *e*P P 15 39 23.4 -0.6
KBL pmax pmax
comp=Z,12nn,0.9s
MA2 **Magadan** 51.10 19 *ce*P P 15 39 28.2 +2.9
KK31 **Karatay Array** 51.94 315 *ce*P P 15 39 31.8 -0.1
KK31 pmax pmax
comp=Z,25nn,0.8s
KKAR **Karatay Array** 51.94 315 *e*P P 15 39 31.6 -0.3
KKAR **Karatay Array** 51.94 315 *e*P P 15 39 31.6 -0.3
BVA0 **Borovoye Array** 55.79 326 *i* P P 15 39 59.0 -0.8
BVA0 pmax pmax
comp=Z,68nn,1.1s
BVAR **Borovoye Array** 55.79 326 P P 15 39 59.7 -0.1
comp=Z,16nn,0.6s,baz=108,slow=8.3,SNR=25
BVAR LR LR 16 03 09.3
comp=Z,346nn,19.5s,baz=282,slow=35
BRVK **Borovoye** 55.86 326 *e*P P 15 40 00.3 -0.1
comp=Z,192nn,1.4s
BRVK **Borovoye** 55.86 326 *ce*P P 15 40 00.4 +0.1
BRVK pmax pmax
comp=Z,414nn,1.7s
BRVK **Borovoye** 55.86 326 P P 15 40 00.4 +0.1
SNR=44
DZM **Mont Dzumac** 57.29 128 LR LR 16 05 46.3
comp=Z,64nn,20.5s,baz=305,slow=37
TIXI **Tiksi** 58.29 3 *e*P P 15 40 14.5 -2.6
comp=Z,9.2nn,1.1s
TIXI **Tiksi** 58.29 3 *e*P P 15 40 17.8 +0.6
TIXI pmax pmax
comp=Z,12nn,1.7s
WSAR **Wadi Sarin** 59.13 289 LR LR 16 07 34.6
comp=Z,81nn,22.0s,baz=99,slow=38
GEYT **Alibeck** 60.07 306 P P 15 40 31.1 +0.9
comp=Z,28nn,0.9s,baz=114,slow=3.6,SNR=36
GEYT LR LR 16 10 24.2
comp=Z,272nn,19.6s,baz=330,slow=40
AB31 **Akbulak array** 60.72 319 *ce*P P 15 40 33.8 -0.5
AB31 pmax pmax
comp=Z,12nn,0.7s
ABKAR **Akbulak array** 60.72 319 *e*P P 15 40 33.3 -1.0
comp=Z,170nn,1.1s
AKTO **Aktyubinsk** 62.21 320 P P 15 40 43.8 -0.6
comp=Z,7.0nn,0.7s,baz=100,slow=10.0,SNR=16
AKTO LR LR 16 09 41.9
comp=Z,424nn,20.2s,baz=87,slow=38
AKTO **Aktyubinsk** 62.21 320 *i* P P 15 40 44.1 -0.3
AKTO pmax pmax
comp=Z,15nn,0.7s
SVE **Sverdlovsk** 62.43 328 *c i*P P 15 40 45.5 -0.2
SVE pmax pmax
comp=Z,112nn,1.4s
ARU **Arti** 63.40 327 P P 15 40 51.1 -1.2
comp=Z,14nn,0.7s,baz=89,slow=3.3,SNR=24
ARU **Arti** 63.40 327 *e*P P 15 40 51.0 -1.2
comp=Z,93nn,1.6s
ARU **Arti** 63.40 327 *d i*P P 15 40 51.3 -0.9
ARU 15 41 29.1
ARU S S 15 49 18.9 -2.6
ARU pmax pmax
comp=Z,57nn,1.7s
MSVF **Nonsavu** 64.73 117 *e*P P 15 41 00.6 -1.0
comp=Z,2.9nn,0.7s
MSVF **Nonsavu** 64.73 117 *e*P P 15 41 00.6 -1.0
MSVF pmax pmax
comp=Z,3.0nm,0.7s
GAMB **Gambell** 68.17 26 *e*P P 15 41 23.2 +0.5
comp=Z,16nn,1.2s
MRIV **Mauritius Mete** 70.48 243 *e*P P 15 41 36.7 -1.2
comp=Z,106nn,1.5s
TBLG **Delisi** 70.53 310 *e*P P 15 41 37.7 -0.1
comp=Z,16nn,1.1s
TBLG **Delisi** 70.53 310 *e*P P 15 41 37.7 -0.1
TBLG pmax pmax
comp=Z,17nn,1.1s
GNI **Garni** 70.56 308 P P 15 41 39.4 +1.2
comp=Z,14nn,0.9s,baz=150,slow=6.0,SNR=7.2
GNI LR LR 16 19 01.5
comp=Z,198nn,18.2s,baz=343,slow=41
GNI **Garni** 70.56 308 *e*P P 15 41 37.9 -0.3
comp=Z,39nn,1.2s
GNI **Garni** 70.56 308 *e*P P 15 41 37.9 -0.3
GNI pmax pmax
comp=Z,39nn,1.2s
FALS **False Pass** 71.02 36 *e*P P 15 41 40.7 +0.2
comp=Z,134nn,1.3s
RAYN **Ar Rayn** 71.13 290 *e*P P 15 41 41.6 -0.2
comp=Z,25nn,0.9s
RAYN **Ar Rayn** 71.13 290 P P 15 41 42.0 +0.2
RAYN pmax pmax
comp=Z,25nn,0.9s
NCK **Nalchik** 71.34 312 *i* P P 15 41 43.0 +0.3
NCK pmax pmax
comp=Z,5.0nm,1.0s
AKH **Akhalkalaki** 71.47 309⇑ *i*P P 15 41 44.8 +1.1
AKH **Akhalkalaki** 71.47 309 *e*P P 15 41 44.0 +0.3
comp=Z,23nn,1.2s
AKH **Akhalkalaki** 71.47 309 *e*P P 15 41 44.0 +0.3
AKH pmax pmax
comp=Z,23nn,1.2s
KBZ **Khabaz** 71.84 312 P P 15 41 45.6 0.0
comp=Z,9.6nn,1.1s,baz=77,slow=5.1,SNR=9.8
KBZ LR LR 16 19 05.7
comp=Z,254nn,18.1s,baz=332,slow=41
KVAR **Kislovodsk Arr** 71.98 312 P P 15 41 47.0 +0.3
comp=Z,30nn,1.2s,baz=226,slow=4.0,SNR=7.0
NEY **Neytrino** 71.98 311 *i* P P 15 41 46.9 +0.1
KIV **Kislovodsk** 71.98 312 *e*P P 15 41 45.0 -1.6
comp=Z,33nn,1.3s
KIV **Kislovodsk** 71.98 312 *e*P P 15 41 48.5 +1.8
KIV pmax pmax
comp=Z,22nn,1.0s
KIV MLR MLR
comp=Z,318nn,18.0s
AFI **Afiamalu** 72.40 109 LR LR 16 07 11.0
comp=Z,84nn,20.0s,baz=290,slow=30
AFI **Afiamalu** 72.40 109 *e*P P 15 41 47.7 -1.8
comp=Z,97nn,1.4s
AFI **Afiamalu** 72.40 109 *e*P P 15 41 47.7 -1.8
AFI pmax pmax
comp=Z,97nn,1.4s
HIZ **Hauiti** 72.53 138 *e*P P 15 41 54.1 +4.3
comp=Z,239nn,1.5s
VRH **Novokhopyorsk** 72.54 320 *e*P P 15 41 51.9 +2.2
VRH pmax pmax
comp=Z,30nn,0.9s
RPZ **Rata Peaks** 73.28 144 *e*P P 15 41 54.9 +0.8
comp=Z,134nn,1.9s
KLMR **Klimovskoe** 73.88 330 *e*P P 15 41 54.4 -3.0
KLMR pmax pmax
comp=Z,54nn,1.5s
KLMR **Klimovskoe** 73.88 330 *e*P P 15 41 54.5 -3.0
KLMR AMP 15 42 00.7
comp=Z,54nn,1.5s
KLMR *e*PP PP 15 44 36.6 -5.8
BKZ **Black Stump Fm** 73.95 138 *e*P P 15 41 57.5 -0.7
comp=Z,167nn,2.0s
VSR **Storozhevoye** 74.15 320 *e*P P 15 42 00.8 +1.6
VSR pmax pmax
comp=Z,30nn,1.3s
LPSR **Galich'ya Gora** 74.25 321 *e*P P 15 41 59.5 -0.2
LPSR pmax pmax
comp=Z,10.0nm,0.8s
TMCR **Tamitsa** 74.62 333 *e*P P 15 42 03.8 +2.2
TMCR pmax pmax
comp=Z,45nn,1.3s
MOS **Moscow** 74.92 324 *e*P P 15 42 04.3 +0.8
MOS *e* 15 42 14.8
SVW2 **Sparrevohn** 75.31 30 *e*P P 15 42 04.3 -1.4
comp=Z,33nn,1.8s
OBN **Obninsk** 75.55 324 P P 15 42 06.2 -0.9
comp=Z,10nn,0.4s,baz=108,slow=4.8,SNR=6.1
OBN **Obninsk** 75.55 324 *e*P P 15 42 05.4 -1.7
comp=Z,62nn,1.4s
OBN **Obninsk** 75.55 324⇓ *e*P P 15 42 06.1 -1.0
OBN *e*PPP PPP 15 46 42.4
OBN *e* 15 52 19.5
OBN pmax pmax
comp=Z,53nn,1.7s
ANN **Anapa** 75.70 313 *e*P P 15 42 10.1 +1.9
ANN pmax pmax
comp=Z,48nn,1.5s
IM3 **Indian Mountai** 76.00 25 *e*P P 15 42 08.4 -1.2
APA **Apatity** 76.47 337 *e*P P 15 42 24.5 +12
APA *e* 15 45 10.0
APA pmax pmax
comp=Z,8.0nm,1.0s
CAST **Castle Rocks** 76.84 27 *e*P P 15 42 13.5 -0.9
comp=Z,83nn,1.8s
SPU **Mount Spurr** 77.02 30 *e*P P 15 42 13.6 -1.9
KDAK **Kodiak Island** 77.02 33 *i* P P 15 42 15.8 +0.4
BPAW **Bear Paw Mtn.** 77.28 27 *e*P P 15 42 16.0 -0.9
comp=Z,71nn,1.8s
MLY **Manley** 77.31 26 *e*P P 15 42 16.4 -0.6
comp=Z,38nn,1.8s
COLD **Coldfoot** 77.34 24 *e*P P 15 42 17.1 0.0
comp=Z,6.0nm,1.1s
SUA **Susitna One** 77.62 29 *e*P P 15 42 17.5 -1.5
comp=Z,10nn,0.8s
SIM **Simferopol'** 78.03 314 *e*P P 15 42 25.3 +3.9
SIM pmax pmax
comp=Z,20nn,1.1s
MCK **McKinley** 78.21 27 *e*P P 15 42 21.1 -1.0
comp=Z,9.8nn,0.8s
MCK **McKinley** 78.21 27 *e*P P 15 42 21.1 -1.0
MCK pmax pmax
comp=Z,10.0nm,0.8s
RND **Reindeer** 78.29 27 *e*P P 15 42 20.9 -1.6
comp=Z,49nn,1.7s
RND **Reindeer** 78.29 27 *e*P P 15 42 20.9 -1.6
RND pmax pmax
comp=Z,49nn,1.7s
MDM **Murphy Dome** 78.37 26 *e*P P 15 42 21.9 -1.0
comp=Z,13nn,1.3s
PMR **Palmer** 78.37 29 *e*P P 15 42 20.6 -2.3
comp=Z,15nn,1.2s
PMR **Palmer** 78.37 29 *e*P P 15 42 20.6 -2.3
PMR pmax pmax
comp=Z,15nn,1.2s
MMAI **Mount Meron Ar** 78.69 301 P P 15 42 27.4 +1.9
comp=Z,7.1nm,0.9s,baz=72,slow=8.1,SNR=5.3
MMAI LR LR 16 21 21.8
comp=Z,97nn,19.2s,baz=15,slow=39
SML **Sawmill** 78.72 29 *e*P P 15 42 23.5 -1.5
comp=Z,40nn,1.5s
SML **Sawmill** 78.72 29 *e*P P 15 42 23.5 -1.5
SML pmax pmax
comp=Z,40nn,1.5s
ILAR **Eielson Array** 78.97 26 P P 15 42 24.2 -2.0
comp=Z,1.0nm,0.8s,baz=262,slow=4.5,SNR=10
ILB **Eielson Array** 78.97 26 *e*P P 15 42 24.6 -1.5
IL1 **Eielson Array** 78.97 26 *e*P P 15 42 24.1 -2.0
DHY **Denali Highway** 78.99 28 *e*P P 15 42 27.0 +0.4
comp=Z,4.2nn,0.7s
ABPO **Abohimpanom** 79.08 247 *i* P P 15 42 29.7 +1.9
BR101 **Keskin Array S** 79.09 308 *e*P P 15 42 27.2 -0.4
BR131 **Keskin Array S** 79.09 308 *e*P P 15 42 27.2 -0.3
BR131 **Keskin Array S** 79.09 308 P P 15 42 27.3 -0.3
BRTR **Keskin Array B** 79.09 308 P P 15 42 27.2 -0.3
comp=Z,2.8nm,0.9s,baz=122,slow=6.0,SNR=14
BRTR LR LR 16 22 22.0
comp=Z,103nn,19.6s,baz=332,slow=39
BRTR **Keskin Array B** 79.09 308 *ce*P P 15 42 29.1 +1.5
BRTR pmax pmax
comp=Z,3.0nm,0.9s
ARA0 **ARCESS Array S** 79.15 339 *e*P P 15 42 25.9 -1.2
ARCES **ARCESS Array B** 79.15 339 P P 15 42 25.9 -1.2
comp=Z,4.0nm,0.7s,baz=90,slow=4.9,SNR=9.2
EIL **Elat** 79.61 298 P P 15 42 37.9 +7.5
comp=Z,21nn,1.0s,baz=130,slow=2.7,SNR=9.4
SPA0 **Spitsbergen Ar** 79.70 348 *e*P P 15 42 29.7 -0.3
SPITS **Spitsbergen Ar** 79.70 348 P P 15 42 30.3 +0.4
comp=Z,12nn,0.9s,baz=39,slow=5.4,SNR=4.4
SPITS LR LR 16 20 47.6
comp=Z,275nn,20.8s,baz=355,slow=38
BR231 **Keskin MP Arra** 79.73 309 *e*P P 15 42 29.8 -1.2
PAX **Paxson** 79.87 28 *e*P P 15 42 30.6 -0.6
comp=Z,9.6nn,1.4s
PAX **Paxson** 79.87 28 *e*P P 15 42 30.6 -0.6
PAX pmax pmax
comp=Z,10.0nm,1.4s
RIDG **Independ'e Rid** 80.01 27 *e*P P 15 42 30.8 -1.2
comp=Z,18nn,1.1s
CSS **Mathiatis** 80.08 304 *e*P P 15 42 31.6 -1.3
comp=Z,6.3nn,0.9s
FIA1 **FINESS Array S** 80.32 331 *e*P P 15 42 32.3 -1.2
FIA0 **FINESS Array S** 80.32 331 *e*P P 15 42 32.0 -1.5
FIA0 **FINESS Array S** 80.32 331 *e*P P 15 42 32.0 -1.5
FINES **FINESS Array B** 80.32 331 P P 15 42 32.0 -1.5
comp=Z,3.0nm,0.5s,baz=60,slow=6.0,SNR=21
FINES **FINESS Array B** 80.32 331 *i* P P 15 42 33.2 -0.3
FINES pmax pmax
comp=Z,3.0nm,0.5s
DOT **Dot Lake** 80.37 27 *e*P P 15 42 32.4 -1.4
comp=Z,15nn,1.0s
AKASG **Malin Array Be** 80.45 320 P P 15 42 33.0 -1.5
comp=Z,11nn,1.1s,baz=66,slow=5.8,SNR=23
AKASG **Malin Array Be** 80.45 320 *ce*P P 15 42 36.0 +1.5
AKASG pmax pmax
comp=Z,11nn,1.1s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB **Malin Array Si** 80.45 320 *e*P P 15 42 32.9 -1.6
comp=Z,18nn,1.2s
AKBB **Malin Array Si** 80.45 320 *e*P P 15 42 32.9 -1.6
AKBB pmax pmax
comp=Z,18nn,1.2s
KIEV **Kiev** 80.46 320 *e*P P 15 42 32.4 -2.1
comp=Z,18nn,1.2s
KIEV **Kiev** 80.46 320 *i* P P 15 42 35.2 +0.7
KIEV pmax pmax
comp=Z,9.0nm,1.1s
AK11 **Malin Array Si** 80.49 320 *e*P P 15 42 32.6 -2.1
VSU **Vasula** 80.53 328 *ce*P P 15 42 34.9 +0.2
VSU pmax pmax
comp=Z,156nm,1.2s
IDID **Didziasalis** 81.11 325 *e*P P 15 42 37.2 -0.7
IDID IAmb IAmb 15 42 40.7
comp=Z,35nn,0.3s
NACGM **Naroch** 81.16 324 *e* P 15 42 40.0 +1.8
IZAR **Zarasai** 81.30 325 *e*P P 15 42 38.2 -0.7
IZAR IAmb IAmb 15 42 44.1
comp=Z,10nn,0.7s
KIS **Kishinev** 81.36 316 *e*P P 15 42 40.0 +0.6
KIS **Kishinev** 81.36 316 *e*P P 15 42 40.0 +0.6
EGAK **Eagle** 81.38 25 *e*P P 15 42 37.8 -1.3
comp=Z,5.1nm,0.7s
IIGN **Ignalina** 81.39 325 *e*P P 15 42 38.7 -0.7
IIGN IAmb IAmb 15 42 43.1
comp=Z,6.6nm,1.1s
ISAL **Salakas** 81.40 325 *e*P P 15 42 38.7 -0.7
ISAL IAmb IAmb 15 42 43.0
comp=Z,9.6nm,1.1s
SORM **Soroca** 81.47 317⇓ *i*P P 15 42 38.9 -1.0
CFR **Carcaliu** 82.17 314⇓ *i*P P 15 42 43.5 -0.3
CFR **Carcaliu** 82.17 314 P P 15 42 43.4 -0.3
DAWY **Dawson** 82.30 26 *e*P P 15 42 42.5 -1.6
comp=Z,10.0nm,1.2s
TESR **Tescani** 82.92 316⇑ *i*P P 15 42 47.2 -0.4
VRI **Vrincioaia** 83.00 315⇓ *i*P P 15 42 48.6 +0.5
VRI **Vrincioaia** 83.00 315 P P 15 42 50.3 +2.2
PLOR **Plostina** 83.06 315⇓ *i*P P 15 42 48.8 +0.4
PLOR **Plostina** 83.06 315 P P 15 42 48.8 +0.4
INK **Inuvik** 83.30 21 *e*P P 15 42 47.3 -1.8
comp=Z,32nn,1.7s
INK **Inuvik** 83.30 21 *e*P P 15 42 47.3 -1.8
INK pmax pmax
comp=Z,32nn,1.7s
MLR **Muntele Rosu** 83.62 315 P P 15 42 51.3 -0.1
comp=Z,1.5nn,0.5s,baz=11,slow=4.4,SNR=7.7
MLR LR LR 16 23 53.9
comp=Z,137nn,19.9s,baz=7.0,slow=38
MLR **Muntele Rosu** 83.62 315⇑ *i*P P 15 42 51.7 +0.3
MLR **Muntele Rosu** 83.62 315 *e*P P 15 42 51.5 +0.1
comp=Z,21nn,1.2s
MLR **Muntele Rosu** 83.62 315 *e*P P 15 42 51.5 +0.1
MLR pmax pmax
comp=Z,31nn,1.2s
BURAR **Bucovina Array** 83.64 317⇑ *i*P P 15 42 51.6 +0.1
BURAR **Bucovina Array** 83.64 317 P P 15 42 51.5 +0.1
BUR04 **Bucovina Ar. S** 83.64 317 *e*P P 15 42 50.6 -0.8
BUR08 **Bucovina Ar. S** 83.64 317 *e*P P 15 42 50.4 -1.1
KMBO **Kilima Mbogo** 83.70 267 P P 15 42 53.5 +0.9
comp=Z,0.7nm,0.3s,baz=58,slow=9.2,SNR=3.2
KMBO LR LR 16 19 44.2
comp=Z,66nn,18.1s,baz=86,slow=35
KMBO **Kilima Mbogo** 83.70 267 *e*P P 15 42 52.3 -0.3
comp=Z,28nn,0.2s
KMBO **Kilima Mbogo** 83.70 267 *e*P P 15 42 52.3 -0.3
KMBO pmax pmax
comp=Z,28nn,0.2s
DOPR **Dopca** 83.89 316⇓ *i*P P 15 42 52.7 0.0
LVV **L'vov** 83.89 320 *e*P P 15 42 54.7 +2.2
VOIR 84.25 315⇑ *i*P P 15 42 54.6 0.0
VOIR 84.25 315 P P 15 42 54.5 0.0
ARR **Arges** 84.55 315⇓ *i*P P 15 42 56.5 +0.4
KWP **Kalwaria Pacla** 84.77 320 *e*P P 15 42 56.9 -0.1
KWP **Kalwaria Pacla** 84.77 320 *e*P P 15 42 56.1 -0.9
comp=Z,529nn,1.3s
KWP **Kalwaria Pacla** 84.77 320 *e*P P 15 42 56.9 -0.1
KARP **Karpathos** 84.92 305 *e*P P 15 42 58.0 -0.1
comp=Z,50nn,1.1s
CJR **Cluj-Napoca** 84.92 317⇑ *i*P P 15 42 58.1 +0.2
CJR **Cluj-Napoca** 84.92 317 P P 15 42 58.1 +0.2
UZH **Uzhgorod** 85.29 319 *e*P P 15 42 58.4 -1.2
UZH *e* 15 43 15.2
WHY **Whitehorse** 85.31 29 *e*P P 15 43 00.1 +0.5
comp=Z,26nn,1.4s
BEL **Belsk** 85.37 322 *e*P P 15 43 03.0 +3.1
BEL **Belsk** 85.37 322 *e*P P 15 43 03.0 +3.1
DRGR 85.49 317⇓ *i*P P 15 43 00.8 0.0
DRGR 85.49 317 P P 15 43 00.8 0.0
STHS **Stebnicka Huta** 85.75 320 *e*P P 15 43 03.3 +1.4
CRVS **Cervenica-Dubn** 85.75 319 *e*P P 15 43 02.6 +0.7
SANT **Santorini** 86.07 306 *e*P P 15 43 04.0 +0.2
comp=Z,191nn,1.4s
VTS **Vitosha** 86.23 313⇓ *i*P P 15 43 04.4 -0.2
VTS **Vitosha** 86.23 313 *e*P P 15 43 03.4 -1.2
comp=Z,52nn,1.7s
VTS **Vitosha** 86.23 313 *e*P P 15 43 03.4 -1.2
VTS pmax pmax
comp=Z,52nn,1.7s
SIRR **Siria** 86.33 317⇑ *i*P P 15 43 04.9 0.0
NIE **Niedzica** 86.34 320 *e*P P 15 43 05.3 +0.4
NIE **Niedzica** 86.34 320 *e*P P 15 43 05.3 +0.4
OJC **Ojcow** 86.42 321 *e*P P 15 43 04.1 -1.1
comp=Z,48nn,1.3s
OJC **Ojcow** 86.42 321 *e*P P 15 43 04.1 -1.1
OJC pmax pmax
comp=Z,48nn,1.3s
KECS **Kecovo** 86.49 319 *e*P P 15 43 06.0 +0.4
HFS **Hagfors** 86.51 331 P P 15 43 03.5 -1.9
comp=Z,2.5nn,0.5s,baz=122,slow=1.9,SNR=8.1
BZS **Buzias** 86.54 316⇓ *i*P P 15 43 05.5 -0.3
IDI **Anoyia** 86.78 305 LR LR 16 28 01.4
comp=Z,149nn,18.7s,baz=308,slow=40
LANS **Liptovska Anna** 86.94 320 *e*P P 15 43 10.1 +2.3
PSZ **Piszkesteto** 87.03 319 *e*P P 15 43 07.0 -1.3
comp=Z,12nn,1.1s
PSZ **Piszkesteto** 87.03 319 *e*P P 15 43 07.0 -1.3
PSZ pmax pmax
comp=Z,12nn,1.1s
NC405 **NORSAR Array S** 87.05 333 *e*P P 15 43 05.6 -2.5
NB2 **NORSAR Subarra** 87.30 333 P P 15 43 07.6 -1.7
comp=Z,7.9nm,0.9s,baz=69,slow=4.8
NB200 **NORSAR Array S** 87.30 333 *e*P P 15 43 07.4 -1.9
NOA **NORSAR Array B** 87.30 333 P P 15 43 07.4 -1.9
comp=Z,4.1nm,0.7s,baz=68,slow=4.7,SNR=9.3
NOA LR LR 16 25 13.7
comp=Z,448nn,18.7s,baz=50,slow=38
VYHS **Vyhne** 87.53 319 *e*P P 15 43 11.8 +1.1
MORC **Moravsky Berou** 87.94 321⇑ *i*P P 15 43 12.2 -0.4
MORC **Moravsky Berou** 87.94 321 *e*P P 15 43 10.7 -1.9
comp=Z,130nn,1.6s
MORC **Moravsky Berou** 87.94 321 *e*P P 15 43 10.7 -1.9
MORC pmax pmax
comp=Z,130nn,1.6s
DIVS **Divibare** 88.07 315 *e*P P 15 43 13.9 +0.5
DPC **Dobruska-Polom** 88.50 322 *e*P P 15 43 15.8 +0.5
DPC **Dobruska-Polom** 88.50 322 *e*P P 15 43 15.8 +0.5
VRAC **Vranov** 88.68 321 P P 15 43 15.4 -0.7
comp=Z,3.3nm,0.6s,baz=67,slow=6.1,SNR=2.8
RES **Resolute Bay** 89.21 9 *e*P P 15 43 16.6 -1.4
comp=Z,20nn,1.9s

RES	**Resolute Bay**	**89.21**	**9**	*e*P	**P**	**15 43 16.6**	**-1.4**
RES				pmax	pmax		
	comp=Z,20nm,1.9s						
BRG	**Berggiesshubel**	**89.74**	**323**	*e*P	**P**	**15 43 20.5**	**-0.5**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CLL	**Collm**	**90.13**	**323**	*e*(P)	**P**	**15 43 25.0**	**+2.2**
	comp=Z,9.0nm,1.2s						
CLL	**Collm**	**90.13**	**323**	*e*P	**P**	**15 43 25.0**	**+2.2**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
SOKA	**Soboth**	**90.56**	**318**	*i* PP	PP	15 47 03.4	+3.5
	comp=Z,5.6nm,1.3s						
KHC	**Kasperske Hory**	**90.60**	**321**	*e*P	**P**	**15 43 25.6**	**+0.5**
KHC	**Kasperske Hory**	**90.60**	**321**	*e*P	**P**	**15 43 25.6**	**+0.5**
GEC2	**GERESS Array S**	**90.62**	**321**	*e*P	**P**	**15 43 23.8**	**-1.5**
	comp=Z,34nm,1.8s						
GEC2	**GERESS Array S**	**90.62**	**321**	*e*P	**P**	**15 43 23.8**	**-1.5**
GEC2				pmax	pmax		
	comp=Z,34nm,1.8s						
GERES	**GERESS Array B**	**90.62**	**321**	P	**P**	**15 43 25.0**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=58,slow=5.0,SNR=12						
GERES	**GERESS Array B**	**90.62**	**321**	P	**P**	**15 43 25.0**	**-0.3**
GEA0	**GERESS Array S**	**90.63**	**321**	*e*P	**P**	**15 43 23.7**	**-1.6**
MOA	**Molln**	**90.63**	**320**	*i* P	**P**	**15 43 25.0**	**-0.2**
	comp=Z,22nm,1.7s						
MAW	**Mawson**	**90.89**	**199**	LR	LR	16 26 11.1	
	comp=Z,76nm,18.0s,baz=54,slow=37						
OBKA	**Obir**	**90.93**	**318**	P	**P**	**15 43 23.6**	**-3.1**
	comp=Z,6.8nm,1.3s						
VISS	**Visnje**	**90.99**	**318**	*e*P	**P**	**15 43 26.4**	**-0.5**
JAVS	**Javornik**	**91.47**	**318**	*e*P	**P**	**15 43 29.6**	**+0.4**
KBA	**Koelnbreinsper**	**91.50**	**319**	P	**P**	**15 43 27.4**	**-2.1**
	comp=Z,6.5nm,1.1s						
ABTA	**Abfaltersbach**	**92.15**	**319**	*i* pP	**P**	**15 43 34.2**	**+1.8**
	comp=Z,15nm,1.7s						
WTTA	**Wattenberg**	**92.50**	**320**	*i* pP	**P**	**15 43 36.8**	**+2.6**
	comp=Z,24nm,1.6s						
WTTA				*i* PP	**PP**	**15 47 18.6**	**+3.2**
WATA	**Walderalm**	**92.51**	**320**	P	**P**	**15 43 33.6**	**-0.5**
	comp=Z,18nm,1.2s						
MOTA	**Moosalm**	**92.81**	**320**	*i* PcP	**P**	**15 43 35.4**	**-0.1**
	comp=Z,12nm,1.0s						
RETA	**Reutte**	**92.96**	**320**	pP	**P**	**15 43 39.5**	**+3.4**
	comp=Z,6.4nm,0.8s						
YKA	**Yellowknife Ar**	**92.98**	**22**	P	**P**	**15 43 35.1**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=308,slow=4.2,SNR=18						
YKA				LR	LR	16 29 15.7	
	comp=Z,9.7nm,18.9s,baz=0.0,slow=38						
YKA	**Yellowknife Ar**	**92.98**	**22**	*i* P	**P**	**15 43 35.4**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FETA	**Feichten**	**93.17**	**320**	P	**P**	**15 43 35.4**	**-1.8**
	comp=Z,23nm,1.3s						
FETA				*i* PP	**PP**	**15 47 23.4**	**+2.8**
	comp=Z,12nm,1.6s						
VNDA	**Vanda**	**93.92**	**172**	LR	LR	16 27 44.2	
	comp=Z,58nm,18.4s,baz=311,slow=37						
BORG	**Borgarnes**	**96.76**	**345**	LR	LR	16 29 58.8	
	comp=Z,300nm,20.8s,baz=90,slow=37						
KEST	**Kesra**	**98.64**	**310**	LR	LR	16 35 36.7	
	comp=Z,158nm,19.0s,baz=310,slow=40						
YBH	**Yreka Blue Hor**	**100.00**	**43**	LR	LR	16 25 45.1	
	comp=Z,78nm,18.4s,baz=358,slow=33						
TXAR	**Lajitas Array**	**119.71**	**44**	PKP	**PKPdf**	**15 49 14.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=339,slow=1.3,SNR=3.8						
TXAR	**Lajitas Array**	**119.71**	**44**	PKIKP	**PKPdf**	**15 49 14.0**	**+0.6**
PLCA	**Paso Flores**	**151.24**	**162**	PKPbc	**PKPbc**	**15 50 16.8**	**+0.5**
	comp=Z,7.5nm,1.2s,baz=117,slow=4.3,SNR=3.1						
PLCA	**Paso Flores**	**151.24**	**162**	*e*PKPbc	**PKPab**	**15 50 20.6**	**-3.7**
PLCA	**Paso Flores**	**151.24**	**162**	*e*PKIKP	**PKPab**	**15 50 20.6**	**-3.7**

ISCJB ***08*** *15:43:56.8±0.3,51.56N±0.06×95.85E±0.04,h10km, mb4.0/15,Error ellipse: s-maj=8.3km s-min=3.6km az=3.1*
MOS ***08*** *15:43:56.8±1.0,51.62N×95.89E,h10km,mb4.1/9,Error ellipse: s-maj=12.7km s-min=9.2km az=170.0*
IDC ***08*** *15:43:56.6±0.9,51.63N×96.16E,h0km, mb3.8/8, mb1 3.7/12,mb1mx3.5/69,mbtmp3.7/12,ML2.8/4,Error ellipse: s-maj=23.0km s-min=13.2km az=13.0*
ASRS ***08*** *15:43:57.1±0.5,51.72N×95.92E,h15km,Ms3.2/2*
NEIC ***08*** *15:43:58.4±0.4,51.60N×95.81E,h10km,mb4.3/11,Error ellipse: s-maj=10.3km s-min=5.2km az=187.0*

ISC 08 15:43:58.1±0.5,51.76N±0.06×95.85E±0.03,h10km,n93,
σ1§96/101,mb4.0/14,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.87**	**267**	*e*Pg	**Pg**	**15 44 13.8**	**-1.1**
KZLR				*e*Sg	**Sg**	**15 44 26.0**	**-0.3**
ORL	**Orlik**	**2.56**	**71**	*e*PN	**Pb**	**15 44 40.7**	**-3.5**
ORL				*e*		15 45 12.8	
ORL				pmax	pmax		
	comp=Z,90nm,0.4s						
ORL				smax	smax		
	comp=N,296nm,0.6s						
CERR	**Cheremushki**	**2.94**	**294**	*e*Pn	**Pn**	**15 44 46.8**	**+2.0**
CERR				*e*Pg	**Pb**	**15 44 50.6**	**0.0**
CERR				*e*Sg	**Sg**	**15 45 30.6**	**-1.8**
MOY	**Mondy**	**3.20**	**90**	*e*PN	**Pn**	**15 44 49.1**	**+0.5**
MOY				*e*		15 45 34.3	
MOY				pmax	pmax		
	comp=Z,75nm,0.7s						
MOY				smax	smax		
	comp=E,268nm,0.8s						
ARS	**Arshan**	**4.08**	**85**	*e*PN	**Pb**	**15 45 09.5**	**-0.5**
ARS				*e*		15 46 00.5	
ARS				pmax	pmax		
	comp=Z,31nm,0.5s						
ARS				smax	smax		
	comp=E,632nm,1.2s						
TLY	**Talaya**	**4.84**	**88**	*e*Pn	Pn	15 45 15.2	+4.1
TLY				*e*Sg	**Sb**	**15 46 22.6**	**+1.3**
TLY	**Talaya**	**4.84**	**88**	*e*PN	**Pb**	**15 45 22.9**	**-0.2**
TLY				*e*		15 46 24.8	
TLY				pmax	pmax		
	comp=Z,17nm,0.4s						
ZAK	**Zakamensk**	**4.88**	**103**	*e*PN	**Pb**	**15 45 22.2**	**-1.6**
ZAK				*e*		15 46 25.5	
ZAK				pmax	pmax		
	comp=Z,28nm,0.8s						
ZAK				smax	smax		
	comp=N,148nm,1.2s						
TASR	**Tashtagol**	**5.00**	**285**	*e*Pn	**Pn**	**15 45 14.1**	**+0.9**
TASR				*e*Pg	**Pb**	**15 45 28.0**	**+2.3**
TASR				*e*Sg	**Sg**	**15 46 33.3**	**-5.3**
IRK	**Irkutsk**	**5.22**	**81**	*e*PN	**Pb**	**15 45 28.6**	**-0.9**
IRK				*e*		15 46 34.3	
IRK				pmax	pmax		
	comp=Z,43nm,0.2s						
IRK				smax	smax		
	comp=N,381nm,1.5s						
ARTR	**Artybash**	**5.32**	**274**	*e*Pn	**Pn**	**15 45 21.3**	**+3.7**
ARTR				*e*Pg	**Pg**	**15 45 35.6**	**-4.4**
ARTR				*e*Sg	**Sg**	**15 46 45.1**	**-3.7**
AKAR	**Aktash**	**5.39**	**258**	*e*Pn	**Pn**	**15 45 21.2**	**+2.5**
AKAR				*e*Pg	**Pb**	**15 45 35.5**	**+3.1**
AKAR				*e*Sg	**Sb**	**15 46 43.7**	**+6.5**
ELT	**Eltsovka**	**6.06**	**288**	*e*Pn	**Pn**	**15 45 31.4**	**+3.7**
ELT				*e*Pg	**Pb**	**15 45 46.1**	**+2.4**
ELT				*e*Sg	**Sg**	**15 47 07.7**	**-4.9**
TRG	**Tyrgan**	**6.52**	**77**	*e*PN	**Pn**	**15 45 35.8**	**+1.7**
TRG				*e*		15 45 55.7	
TRG				*e*		15 47 17.1	
TRG				pmax	pmax		
	comp=Z,10.0nm,0.4s						
TRG				smax	smax		
	comp=N,85nm,1.1s						
ZAA0	**Zalesovo Array**	**7.03**	**292**	*e*Pn	**Pn**	**15 45 43.8**	**+2.7**
ZALV	**Zalesovo Beam**	**7.03**	**292**	Pn	**Pn**	**15 45 42.3**	**+1.3**
	comp=N,0.6nm,0.3s,baz=102,slow=13,SNR=7.9						
ZALV				Lg	Lg	15 47 35.1	
	comp=N,1.6nm,0.3s,baz=101,slow=26,SNR=7.1						
ZALV	**Zalesovo Beam**	**7.03**	**292**	*e*Pn	**Pn**	**15 45 41.9**	**+0.8**
ZALV				*e*Sg	Sg	15 47 34.7	-8.9
ZAA1	**Zalesovo Array**	**7.03**	**293**	*e*Pn	**Pn**	**15 45 42.3**	**+1.3**
ZAA1				eLg	Lg	15 47 35.1	
OGRR	**Ongureny**	**7.38**	**71**	*e*P	**Pn**	**15 45 46.6**	**+0.7**
OGRR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONA1	**Songino Array**	**7.87**	**116**	*e*Pn	**Pn**	**15 45 53.0**	**+0.3**
SONA1				*e*Sg	Sb	15 47 56.7	+8.3
SONM	**Songino Array**	**7.87**	**116**	Pg	**Pb**	**15 46 15.7**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=304,slow=18,SNR=11						
SONM				Lg	Lg	15 48 00.7	
	comp=Z,0.8nm,0.3s,baz=293,slow=29,SNR=9.9						
NVS	**Novosibirsk**	**8.16**	**297**	*e*Pg	Pg	15 46 28.2	-6.1
NVS				*e*Sg	Sg	15 48 11.5	-8.4
ULN	**Ulaanbaatar**	**8.22**	**114**	*e*Pn	**Pn**	**15 45 58.7**	**+1.1**
ULN				*e*Sg	Sb	15 48 02.8	+4.2
ULN	**Ulaanbaatar**	**8.22**	**114**	*e*P	**Pn**	**15 45 58.7**	**+1.1**
MK31	**Makanchi Array**	**10.15**	**246**	*e*Pn	**Pn**	**15 46 26.8**	**+2.9**
MK31	**Makanchi Array**	**10.15**	**246**	*e*P	**Pn**	**15 46 26.8**	**+2.9**
MK32	**Makanchi Array**	**10.15**	**246**	*e*Pn	**Pn**	**15 46 25.5**	**+1.6**
MK32				*e*		15 47 05.3	
MK32				eLg	Lg	15 49 08.5	
MKAR	**Makanchi Array**	**10.15**	**246**	Pn	**Pn**	**15 46 25.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=55,slow=15,SNR=7.5						
MKAR				Pg		15 47 05.3	
	comp=Z,0.2nm,0.3s,baz=71,slow=16,SNR=6.9						
MKAR				Lg	Lg	15 49 08.5	
	comp=Z,0.2nm,0.3s,baz=45,slow=27,SNR=4.0						
MKAR	**Makanchi Array**	**10.15**	**246**	*e*Pn	**Pn**	**15 46 26.8**	**+2.9**
MKAR				Pg		15 47 05.3	
MKAR				Lg	Lg	15 49 08.5	
MKAR	**Makanchi Array**	**10.15**	**246**	*e*P	**Pn**	**15 46 26.8**	**+2.9**
MK01	**Makanchi Array**	**10.16**	**246**	*e*Pn	**Pn**	**15 46 25.1**	**+1.1**
MAKZ	**Makanchi**	**10.33**	**247**	*e*Pn	**Pn**	**15 46 26.9**	**+0.7**
MAKZ	**Makanchi**	**10.33**	**247**	*e*P	**Pn**	**15 46 26.9**	**+0.7**
KURK	**Kurchatov**	**10.86**	**271**	*e*Pn	**Pn**	**15 46 31.8**	**-1.7**
KURK				eLg	Lg	15 49 37.8	
KURK	**Kurchatov**	**10.86**	**271**	P	**Pn**	**15 46 36.7**	**+3.2**
KURBB	**Kurchatov Arra**	**10.93**	**271**	Pn	**Pn**	**15 46 36.7**	**+2.2**
	comp=Z,0.0nm,0.3s,baz=77,slow=14,SNR=4.4						
KURBB				Lg	Lg	15 49 37.8	
	comp=Z,0.1nm,0.3s,baz=326,slow=20,SNR=5.8						
HIA	**Hailar**	**15.38**	**90**	*e*Pn	**Pn**	**15 47 35.8**	**+0.7**
	comp=Z,13nm,0.5s						
HIA	**Hailar**	**15.38**	**90**	*e*P	**Pn**	**15 47 35.8**	**+0.7**
HIA				pmax	pmax		
	comp=Z,13nm,0.5s						
BVAR	**Borovoye Array**	**15.57**	**285**	Pn	**Pn**	**15 47 39.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=71,slow=13,SNR=3.8						
BRVK	**Borovoye**	**15.63**	**285**	*e*Pn	**Pn**	**15 47 36.2**	**-2.1**
	comp=Z,6.3nm,1.0s						
BRVK	**Borovoye**	**15.63**	**285**	*e*P	**Pn**	**15 47 36.2**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KK05	**Karatay Array**	**19.11**	**253**	*e*P	**P**	**15 48 18.7**	**-2.3**
KK06	**Karatay Array**	**19.12**	**253**	*e*P	**P**	**15 48 19.1**	**-2.0**
KK04	**Karatay Array**	**19.13**	**252**	*e*P	**P**	**15 48 20.2**	**-1.0**
KK02	**Karatay Array**	**19.13**	**253**	*e*P	**P**	**15 48 20.2**	**-1.0**
KK31	**Karatay Array**	**19.13**	**253**	*e*P	**P**	**15 48 20.3**	**-0.9**
KK31	**Karatay Array**	**19.13**	**253**	*e*P	**P**	**15 48 20.3**	**-0.9**
KKAR	**Karatay Array**	**19.13**	**253**	*e*P	**P**	**15 48 20.2**	**-1.0**
KKAR	**Karatay Array**	**19.13**	**253**	*e*P	**P**	**15 48 20.2**	**-1.0**
KK01	**Karatay Array**	**19.13**	**253**	*e*P	**P**	**15 48 20.0**	**-1.2**
KK03	**Karatay Array**	**19.13**	**253**	*e*P	**P**	**15 48 18.8**	**-2.4**
KK08	**Karatay Array**	**19.14**	**253**	*e*P	**P**	**15 48 19.6**	**-1.8**
KK07	**Karatay Array**	**19.14**	**253**	*e*P	**P**	**15 48 19.7**	**-1.6**
YAK	**Yakutsk**	**20.89**	**47**	*e*P	Pn	15 48 40.7	-1.9
	comp=Z,5.8nm,0.5s						
YAK	**Yakutsk**	**20.89**	**47**	*e*P	Pn	15 48 40.7	-1.9
YAK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ARU	**Arti**	**22.17**	**297**	P	**P**	**15 48 56.8**	**+2.8**
	comp=Z,1.5nm,0.4s,baz=100,slow=8.8,SNR=4.1						
ARU	**Arti**	**22.17**	**297**	*e*P	**P**	**15 48 55.6**	**+1.7**
	comp=Z,4.4nm,0.9s						
LSA	**Lhasa**	**22.31**	**191**	*e*P	**P**	**15 48 54.8**	**-1.4**
	comp=Z,6.9nm,1.6s						
LSA	**Lhasa**	**22.31**	**191**	*e*P	**P**	**15 48 54.8**	**-1.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.6s						
AB06	**Akbulak array**	**22.81**	**278**	*e*P	**P**	**15 49 01.3**	**+0.4**
AB05	**Akbulak array**	**22.83**	**278**	*e*P	**P**	**15 49 01.9**	**+0.9**
AB07	**Akbulak array**	**22.83**	**278**	*e*P	**P**	**15 49 01.7**	**+0.6**
AB02	**Akbulak array**	**22.83**	**278**	*e*P	**P**	**15 49 01.3**	**+0.2**
AB01	**Akbulak array**	**22.83**	**278**	*e*P	**P**	**15 49 01.6**	**+0.5**
AB31	**Akbulak array**	**22.83**	**278**	*e*P	**P**	**15 49 01.3**	**+0.2**
AB31	**Akbulak array**	**22.83**	**278**	*e*P	**P**	**15 49 01.3**	**+0.2**
ABKAR	**Akbulak array**	**22.83**	**278**	*e*P	**P**	**15 49 01.3**	**+0.2**
	comp=Z,14nm,1.0s						
AB03	**Akbulak array**	**22.83**	**278**	*e*P	**P**	**15 49 01.5**	**+0.4**
AB04	**Akbulak array**	**22.84**	**278**	*e*P	**P**	**15 49 01.6**	**+0.5**
AB09	**Akbulak array**	**22.84**	**278**	*e*P	**P**	**15 49 02.0**	**+0.8**
AB08	**Akbulak array**	**22.85**	**278**	*e*P	**P**	**15 49 01.9**	**+0.6**
MDJ	**Mudanjiang**	**23.44**	**94**	*e*P	**P**	**15 49 05.7**	**-1.7**
	comp=Z,28nm,1.8s						
AKTO	**Aktyubinsk**	**23.63**	**282**	P	**P**	**15 49 10.8**	**+1.6**
	comp=Z,3.0nm,0.7s,baz=72,slow=13,SNR=5.7						
ENH	**Enshi**	**23.73**	**150**	*e*P	**P**	**15 49 09.2**	**-1.1**
	comp=Z,33nm,2.0s						
TIXI	**Tiksi**	**24.75**	**24**	P	**P**	**15 49 20.1**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=255,slow=9.1,SNR=5.7						
TIXI	**Tiksi**	**24.75**	**24**	*e*P	**P**	**15 49 18.3**	**-1.1**
	comp=Z,14nm,1.7s						
FIA0	**FINESS Array S**	**37.79**	**313**	*e*P	**P**	**15 51 15.0**	**+1.0**
FIA0	**FINESS Array S**	**37.79**	**313**	*e*P	**P**	**15 51 15.0**	**+1.0**
FINES	**FINESS Array B**	**37.79**	**313**	P	**P**	**15 51 15.0**	**+1.0**
	comp=Z,2.8nm,1.0s,baz=82,slow=10,SNR=4.6						
FINES	**FINESS Array B**	**37.79**	**313**	P	**P**	**15 51 15.0**	**+1.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**40.41**	**296**	P	**P**	**15 51 37.2**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=56,slow=9.1,SNR=3.0						
AKBB	**Malin Array Si**	**40.41**	**296**	*e*P	**P**	**15 51 37.2**	**+1.1**
	comp=Z,7.1nm,1.5s						
AKBB	**Malin Array Si**	**40.41**	**296**	*e*P	**P**	**15 51 37.2**	**+1.1**
AKBB				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BR101	**Keskin Array S**	**43.77**	**279**	*e*P	**P**	**15 52 05.4**	**+1.5**
BR131	**Keskin Array S**	**43.77**	**279**	*e*P	**P**	**15 52 04.9**	**+1.1**
BRTR	**Keskin Array B**	**43.77**	**279**	P	**P**	**15 52 05.4**	**+1.6**
	comp=Z,1.5nm,0.9s,baz=69,slow=7.9,SNR=7.6						
BRTR	**Keskin Array B**	**43.77**	**279**	P	**P**	**15 52 05.4**	**+1.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BR231	**Keskin MP Arra**	**44.23**	**280**	*e*P	**P**	**15 52 06.0**	**-1.4**
BUR08	**Bucovina Ar. S**	**44.24**	**294**	*e*P	**P**	**15 52 09.4**	**+1.9**
BUR04	**Bucovina Ar. S**	**44.25**	**294**	*e*P	**P**	**15 52 08.5**	**+1.0**
WR1	**Warramunga Arr**	**78.93**	**143**	*e*P	**P**	**15 56 00.8**	**-0.9**
	comp=Z,1nm,1.5s						
WRA	**Warramunga Arr**	**78.93**	**143**	P	**P**	**15 56 00.8**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=345,slow=6.2,SNR=3.7						
ASAR	**Alice Springs**	**82.18**	**145**	P	**P**	**15 56 18.0**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=332,slow=5.2,SNR=6.2						

ISCJB ***08*** *16:16:27.7±0.4,25.02N±0.02×121.71E±0.02, h132km±2km,Error ellipse: s-maj=3.9km s-min=2.4km az=152.1*
JMA ***08*** *16:16:27.3±0.1,24.98N×121.66E,h132km±1km,M3.0*
TAP ***08*** *16:16:27.8,25.01N×121.74E,h134km,ML3.8,B*

ISC 08 16:16:27.8±1.4,25.04N±0.04×121.69E±0.03,h133km±6km,
n105,σ0§52/200,3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWF	**Wu-fen Shan**	**0.09**	**69**	P	**Pn**	**16 16 46.1**	**+0.2**
	baz=34						
NWF				*i* S	**Sn**	**16 16 59.7**	**+0.1**
	baz=34						
WFSB	**Wu-fen Shan**	**0.09**	**69**	P	**Pn**	**16 16 46.0**	**+0.2**
	baz=34						
WFSB				S	**Sn**	**16 16 59.3**	**-0.1**
	baz=34						
TWA	**Mucha**	**0.12**	**239**	P	**Pn**	**16 16 46.0**	**+0.1**
	baz=254						
TWA				*i* S	**Sn**	**16 16 59.3**	**-0.3**
	baz=254						
TIPB	**Shuangxi**	**0.14**	**120**	P	**Pn**	**16 16 45.3**	**-0.7**
	baz=133						
TIPB				S	**Sn**	**16 16 58.4**	**-1.2**
	baz=133						
YM10	**YM10**	**0.17**	**314**	P	**Pn**	**16 16 46.1**	**0.0**
	baz=312						
YM10				*e*S	**Sn**	**16 16 59.2**	**-0.6**
	baz=312						
TAP	**Taipei**	**0.17**	**270**	P	**Pn**	**16 16 46.0**	**0.0**
	baz=270						
TAP				*i* S	**Sn**	**16 16 59.6**	**0.0**
	baz=270						
YM08	**YM08**	**0.17**	**328**	*e*P	**Pn**	**16 16 46.1**	**+0.1**
	baz=312						
YM08				*e*S	**Sn**	**16 16 59.8**	**-0.1**
	baz=312						
YM04	**YM04**	**0.18**	**309**	P	**Pn**	**16 16 46.0**	**0.0**
	baz=304						
YM04				*e*S	**Sn**	**16 16 59.7**	**-0.1**
	baz=304						
YM03	**YM03**	**0.20**	**315**	*e*P	**Pn**	**16 16 46.2**	**0.0**
	baz=309						
YM03				*e*S	**Sn**	**16 16 59.5**	**-0.5**
	baz=309						
TATO	**Taipei**	**0.20**	**251**	*e*P	**Pn**	**16 16 46.0**	**0.0**
	baz=248						
TATO				*e*S	**Sn**	**16 16 59.4**	**-0.4**
	baz=248						
NTC	**Toucheng**	**0.22**	**146**	P	**Pn**	**16 16 46.3**	**+0.2**
	baz=150						
NTC				S	**Sn**	**16 16 59.6**	**-0.3**
	baz=150						
TWY	**Chenhua**	**0.25**	**340**	P	**Pn**	**16 16 46.4**	**+0.2**
	baz=327						
TWY				S	**Sn**	**16 17 00.2**	**+0.1**
	baz=327						
NTST	**Danshui**	**0.25**	**299**	P	**Pn**	**16 16 46.3**	**+0.2**
	baz=286						
NTST				S	**Sn**	**16 17 00.2**	**+0.2**
	baz=286						
TWS1	**Kuangyinshan**	**0.26**	**284**	P	**Pn**	**16 16 46.4**	**+0.2**
	baz=284						
TWS1				S	**Sn**	**16 17 00.3**	**+0.2**
	baz=284						
TWB1	**Santiao Chiao**	**0.27**	**97**	P	**Pn**	**16 16 46.3**	**+0.1**
	baz=94						
TWB1				*i* S	**Sn**	**16 17 00.9**	**+0.8**
	baz=94						
ILA	**Ilan**	**0.28**	**170**	P	**Pn**	**16 16 46.6**	**+0.3**
	baz=179						
ILA				S	**Sn**	**16 17 00.6**	**+0.4**
	baz=179						
SLBB	**Yuanshan**	**0.29**	**190**	*e*P	**Pn**	**16 16 46.4**	**0.0**
	baz=210						
SLBB				*e*S	**Sn**	**16 17 00.1**	**-0.3**
	baz=210						
NWLT	**Wulai**	**0.31**	**213**	*i* P	**Pn**	**16 16 46.1**	**-0.4**
	baz=213						
NWLT				S	**Sn**	**16 16 59.2**	**-1.3**
	baz=213						
TWE	**Neicheng**	**0.32**	**184**	*i* P	**Pn**	**16 16 46.5**	**+0.1**
	baz=200						
TWE				S	**Sn**	**16 17 00.2**	**-0.3**
	baz=200						
ENTT	**Nioudou**	**0.41**	**196**	P	**Pn**	**16 16 46.9**	**0.0**
	baz=208						
ENTT				S	**Sn**	**16 17 00.7**	**-0.6**
	baz=208						
TWC	**Suao**	**0.45**	**162**	*i* P	**Pn**	**16 16 47.7**	**+0.7**
	baz=157						
TWC				*e*S	**Sn**	**16 17 02.4**	**+0.9**
	baz=157						
NCU	**National Centr**	**0.46**	**261**	P	**Pn**	**16 16 47.4**	**+0.3**
	baz=262						
NCU				S	**Sn**	**16 17 01.8**	**+0.2**
	baz=262						
NCUH	**Zhongli**	**0.47**	**261**	*e*P	**Pn**	**16 16 47.2**	**+0.2**
	baz=262						
NCUH				S	**Sn**	**16 17 01.5**	**-0.1**
	baz=262						
YHNB	**Yeheng**	**0.47**	**218**	*e*P	**Pn**	**16 16 47.0**	**-0.2**
	baz=217						
YHNB				*e*S	**Sn**	**16 17 00.6**	**-1.2**
	baz=217						
ENA	**Nanau**	**0.61**	**176**	P	**Pn**	**16 16 47.9**	**0.0**
	baz=190						
ENA				*e*S	**Sn**	**16 17 04.0**	**+0.9**
	baz=190						
NANB	**Nanao**	**0.61**	**175**	*e*P	**Pn**	**16 16 47.9**	**-0.1**
	baz=190						
NANB				*e*S	**Sn**	**16 17 03.6**	**+0.5**
	baz=190						
EOS1	**EOS1**	**0.63**	**141**	*e*P	**Pn**	**16 16 48.5**	**+0.5**
	baz=140						
EOS1				*e*S	**Sn**	**16 17 03.7**	**+0.5**
	baz=140						
NNS	**Nan Shan**	**0.67**	**206**	P	**Pn**	**16 16 48.5**	**+0.1**
	baz=210						
NNS				S	**Sn**	**16 17 03.9**	**-0.2**
	baz=210						
NNSH	**Datong**	**0.67**	**205**	*e*P	**Pn**	**16 16 48.6**	**+0.1**
	baz=210						
NNSH				*e*S	**Sn**	**16 17 03.3**	**-0.9**
	baz=210						
NNSB	**Datong**	**0.67**	**205**	*e*P	**Pn**	**16 16 48.7**	**+0.2**
	baz=209						
NNSB				S	**Sn**	**16 17 03.5**	**-0.6**
	baz=209						
SBCB	**Hsinchu**	**0.69**	**249**	*e*P	**Pn**	**16 16 48.8**	**+0.3**
	baz=257						
SBCB				*e*S	**Sn**	**16 17 04.5**	**+0.5**
	baz=257						
HSN	**Hsinchu**	**0.70**	**250**	*i* P	**Pn**	**16 16 48.5**	**0.0**
	baz=254						
HSN				*i* S	**Sn**	**16 17 03.9**	**-0.2**
	baz=254						
LIOB	**Emei**	**0.73**	**238⇓**	*i* P	**Pn**	**16 16 49.0**	**+0.2**
	baz=236						
LIOB				*i* S	**Sn**	**16 17 04.8**	**+0.2**
	baz=236						
NSTT	**Nanjuang**	**0.75**	**237⇓**	*i* P	**Pn**	**16 16 49.0**	**+0.1**
	baz=237						
NST

	baz=221								
YOJ	**Yonaguni jima**	**1.33**	**115**	*e*P		**Pn**	**16 16 54.4**	**+0.1**
	baz=122								
YOJ				*e*S		**Sn**	**16 17 14.4**	**0.0**
	baz=122								
YOJ	**Yonaguni jima**	**1.33**	**115**	P		**Pn**	**16 16 54.1**	**-0.2**
SMLT	**Sun Moon Lake**	**1.36**	**212**	*e*P		**Pn**	**16 16 55.0**	**+0.2**
	baz=221								
SMLT				S		**Sn**	**16 17 15.0**	**-0.2**
	baz=221								
TYC	**Yuchr**	**1.36**	**214**	*i* P		**Pn**	**16 16 55.0**	**+0.3**
	baz=222								
TYC				S		**Sn**	**16 17 15.2**	**+0.1**
	baz=222								
EGFH	**Guangfu**	**1.39**	**190**	*e*P		**Pn**	**16 16 54.1**	**-0.9**
	baz=195								
WCHH	**Zhanghua**	**1.41**	**227**	*e*P		**Pn**	**16 16 55.4**	**+0.2**
	baz=222								
SSLB	**Suanglung**	**1.42**	**208**	*e*P		**Pn**	**16 16 55.5**	**+0.1**
	baz=218								
SSLB				*e*S		**Sn**	**16 17 16.2**	**0.0**
	baz=218								
WNT	**Mingjian**	**1.48**	**219**	*i* P		**Pn**	**16 16 56.5**	**+0.6**
	baz=220								
WNT				*i* S		**Sn**	**16 17 17.6**	**+0.3**
	baz=220								
WJS	**Zhushan**	**1.50**	**216**	P		**Pn**	**16 16 56.6**	**+0.4**
	baz=218								
WJS				*e*S		**Sn**	**16 17 17.8**	**+0.1**
	baz=218								
HGSD	**Ruisui**	**1.56**	**189**	*e*P		**Pn**	**16 16 57.5**	**+0.7**
	baz=198								
HGSD				*e*S		**Sn**	**16 17 19.4**	**+0.4**
	baz=198								
EHY	**Hungye**	**1.56**	**193**	*e*P		**Pn**	**16 16 57.3**	**+0.4**
	baz=195								
EHY				*e*S		**Sn**	**16 17 17.5**	**-1.5**
	baz=195								
RLNB	**Erlin**	**1.67**	**227**	*e*P		**Pn**	**16 16 58.6**	**+0.5**
	baz=222								
YULB	**Yu-li**	**1.68**	**192**	*e*P		**Pn**	**16 16 57.2**	**-1.1**
	baz=185								
YUS	**Yu-Shan**	**1.69**	**204**	*e*S		**Sn**	**16 17 22.9**	**+0.6**
	baz=213								
WGK	**Gukeng**	**1.70**	**218**	P		**Pn**	**16 16 58.9**	**+0.5**
	baz=219								
WGK				S		**Sn**	**16 17 22.2**	**+0.5**
	baz=219								
CHN5	**Tsauling**	**1.71**	**213**	*e*P		**Pn**	**16 16 59.4**	**+0.7**
	baz=220								
CHN5				*e*S		**Sn**	**16 17 22.4**	**+0.3**
	baz=220								
WDLH	**Douliu**	**1.71**	**218**	P		**Pn**	**16 16 58.8**	**+0.2**
	baz=219								
WDLH				*e*S		**Sn**	**16 17 22.1**	**+0.2**
	baz=219								
ALS	**Alishan**	**1.73**	**208**	P		**Pn**	**16 16 59.2**	**+0.2**
	baz=210								
ALS				*e*S		**Sn**	**16 17 22.8**	**0.0**
	baz=210								
WTCT	**Ta-ch'eng**	**1.74**	**228**	*e*P		**Pn**	**16 16 58.8**	**0.0**
	baz=223								
WTCT				*e*S		**Sn**	**16 17 22.9**	**+0.4**
	baz=223								
FULB	**Fuli**	**1.87**	**191**	*e*P		**Pn**	**16 17 00.8**	**+0.3**
	baz=194								
FULB				*e*S		**Sn**	**16 17 25.6**	**+0.2**
	baz=194								
CHY	**Chiayi**	**1.92**	**217**	*e*P		**Pn**	**16 17 01.3**	**+0.2**
	baz=218								
CHY				*e*S		**Sn**	**16 17 26.4**	**-0.1**
	baz=218								
MATB	**Ma-tsu**	**1.93**	**305**	*e*P		**Pn**	**16 17 00.6**	**-0.5**
	baz=302								
MATB				*e*S		**Sn**	**16 17 26.1**	**-0.4**
	baz=302								
WSF	**Szhu**	**1.94**	**224**	*e*P		**Pn**	**16 17 01.2**	**0.0**
	baz=224								
WSF				*e*S		**Sn**	**16 17 27.3**	**+0.6**
	baz=224								
ELDTW	**Lidau**	**1.94**	**199**	*e*P		**Pn**	**16 17 01.8**	**+0.4**
	baz=194								
ELDTW				*e*S		**Sn**	**16 17 27.4**	**+0.3**
	baz=194								
CHKT	**Chengkung**	**1.96**	**189**	*e*P		**Pn**	**16 17 00.8**	**-0.6**
	baz=182								
CHN4	**Tsaushan**	**1.96**	**211**	*i* P		**Pn**	**16 17 01.6**	**+0.1**
	baz=213								
CHN4				*e*S		**Sn**	**16 17 27.2**	**0.0**
	baz=213								
IRIF	**Iriomote-Funau**	**1.98**	**110**	P		**Pn**	**16 17 01.1**	**-0.6**
IRIF				S		**Sn**	**16 17 26.6**	**-1.1**
TPUB	**Ta-pu**	**1.99**	**209**	*e*P		**Pn**	**16 17 01.9**	**+0.1**
	baz=211								
TPUB				*e*S		**Sn**	**16 17 27.7**	**-0.2**
	baz=211								
WLGB	**Puzi**	**2.01**	**220**	*e*P		**Pn**	**16 17 02.4**	**+0.3**
	baz=220								
VWUC	**VWUC**	**2.04**	**269**	*e*P		**Pn**	**16 17 01.9**	**-0.4**
	baz=268								
VWUC				*e*S		**Sn**	**16 17 28.2**	**-0.7**
	baz=268								
WTP	**Ta-pu**	**2.04**	**209**	P		**Pn**	**16 17 02.5**	**0.0**
	baz=210								
WTP				*e*S		**Sn**	**16 17 28.9**	**-0.2**
	baz=210								
STYT	**Tauyuan**	**2.06**	**205**	P		**Pn**	**16 17 02.9**	**+0.1**
	baz=212								
STYT				*e*S		**Sn**	**16 17 28.9**	**-0.5**
	baz=212								
TWK	**Hsinying**	**2.08**	**212**	*e*P		**Pn**	**16 17 03.0**	**0.0**
	baz=214								
TWK				*e*S		**Sn**	**16 17 29.2**	**-0.7**
	baz=214								
CHN1	**Nanshi**	**2.13**	**210**	P		**Pn**	**16 17 03.7**	**+0.1**
	baz=212								
CHN1				S		**Sn**	**16 17 30.6**	**-0.4**
	baz=212								
HATJ	**Hateruma jima**	**2.16**	**117**	P		**Pn**	**16 17 03.9**	**0.0**
HATJ				S		**Sn**	**16 17 31.8**	**+0.3**
SGST	**Jiashian**	**2.20**	**208**	P		**Pn**	**16 17 04.7**	**+0.2**
	baz=214								
SGST				S		**Sn**	**16 17 32.6**	**+0.1**
	baz=214								
SLGT	**Liugui**	**2.25**	**205**	*e*P		**Pn**	**16 17 05.5**	**+0.4**
	baz=207								
SLGT				*e*S		**Sn**	**16 17 33.5**	**-0.2**
	baz=207								
JKRS	**Kuro-shima**	**2.25**	**110**	P		**Pn**	**16 17 05.2**	**+0.1**
JKRS				S		**Sn**	**16 17 33.6**	**-0.1**
TWG	**Pinlang**	**2.28**	**195**	*e*P		**Pn**	**16 17 05.9**	**+0.4**
	baz=189								
TWG				*e*S		**Sn**	**16 17 33.9**	**-0.4**
	baz=189								
JIJ	**Ishigaki jima**	**2.33**	**106**	P		**Pn**	**16 17 05.8**	**-0.2**
JIJ				*e*S		**Sn**	**16 17 33.9**	**-1.4**
JISG	**Ishigakijimahi**	**2.42**	**100**	P		**Pn**	**16 17 07.3**	**+0.1**
JISG				S		**Sn**	**16 17 37.4**	**0.0**
PNG	**Penghu**	**2.44**	**233**	*e*P		**Pn**	**16 17 07.0**	**-0.5**
	baz=228								
PHUB	**P'eng-hu**	**2.46**	**232**	*e*P		**Pn**	**16 17 07.3**	**-0.4**
	baz=226								
PHUB				*e*S		**Sn**	**16 17 37.5**	**-0.8**
	baz=226								
SSD	**Sandimen**	**2.48**	**203**	*e*P		**Pn**	**16 17 08.3**	**+0.3**
	baz=204								
SSD				*e*S		**Sn**	**16 17 38.3**	**-0.5**
	baz=204								
ECL	**Taimali**	**2.52**	**196**	*e*P		**Pn**	**16 17 09.5**	**+1.0**
	baz=191								
ECL				*e*S		**Sn**	**16 17 38.9**	**-0.8**
	baz=191								
MASBT	**Mashibuluo**	**2.60**	**202**	*e*P		**Pn**	**16 17 09.8**	**+0.3**
	baz=212								
MASBT				*e*S		**Sn**	**16 17 40.9**	**-0.7**
	baz=212								
WSSB	**Gushan**	**2.72**	**209**	P		**Pn**	**16 17 11.4**	**+0.4**
	baz=211								
WSSB				*e*S		**Sn**	**16 17 46.2**	**+1.9**
	baz=211								
SSPT	**Xinbi**	**2.75**	**202**	*e*P		**Pn**	**16 17 11.4**	**+0.1**
	baz=193								
EAST	**Anshuo**	**2.76**	**196**	*e*P		**Pn**	**16 17 11.9**	**+0.4**
	baz=198								
EAST				*e*S		**Sn**	**16 17 44.6**	**-0.5**
	baz=198								
JTJ	**Tarama**	**2.76**	**98**	P		**Pn**	**16 17 11.9**	**+0.4**
JTJ				S		**Sn**	**16 17 44.9**	**-0.2**
SCZT	**Fangliau**	**2.83**	**201**	*e*P		**Pn**	**16 17 12.2**	**-0.2**
	baz=202								
SCZT				*e*S		**Sn**	**16 17 45.5**	**-1.2**
	baz=202								
JIRB	**Irabujima**	**3.17**	**93**	P		**Pn**	**16 17 17.4**	**+0.7**
JIRB				S		**Sn**	**16 17 53.9**	**-0.5**
JIKM	**Ikemajima**	**3.23**	**91**	P		**Pn**	**16 17 18.7**	**+1.2**
JIKM				S		**Sn**	**16 17 56.2**	**+0.3**
JMJ	**Miyako jima 2**	**3.28**	**93**	P		**Pn**	**16 17 18.8**	**+0.7**
JMJ				S		**Sn**	**16 17 56.4**	**-0.6**
JOGS	**Gusukube**	**3.38**	**94**	P		**Pn**	**16 17 20.5**	**+1.0**
JOGS				S		**Sn**	**16 17 59.7**	**+0.2**

ISK ***08*** *16:28:36.4, 39˚.45N×32˚.99E, h5km, ML2.8/4*
ISCJB ***08*** *16:28:37.7±0.6, 39˚.43N±0˚.03×32˚.93E±0.05, h9km, Error ellipse: s-maj=5.6km s-min=3.7km az=167.5*
CSEM ***08*** *16:28:37.7±0.2, 39˚.45N×33˚.02E, h2km, ML2.8, Error ellipse: s-maj=6.8km s-min=4.6km az=69.0*
DDA ***08*** *16:28:37.9, 39˚.44N×33˚.00E, h7km, Ml2.7*

ISC 08 16:28:38.4±1.0, 39˚44N±0˚02×33˚01E±0˚03, h9km, n20, σ1§01/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFSR	**Af˙ar-Bala (A**	**0.05**	**86**	PG		**Pg**	**16 28 37.8**	**-2.6**
AFSR	**Af˙ar-Bala (A**	**0.05**	**86**	*e*Pg		**Pg**	**16 28 37.8**	**-2.6**
BBAL	**Bala**	**0.13**	**41**	*i* P		**Pg**	**16 28 41.6**	**+0.1**
BBAL				*i* S		**Sg**	**16 28 43.6**	**-0.1**
BBAL	**Bala**	**0.13**	**41**	P		**Pg**	**16 28 41.6**	**+0.1**
BBAL				S		**Sg**	**16 28 43.6**	**-0.1**
KKUL	**Konya-Kulu**	**0.28**	**195**	*i* P		**Pg**	**16 28 43.5**	**-0.5**
KKUL				*i* S		**Sg**	**16 28 48.1**	**+0.3**
KKUL	**Konya-Kulu**	**0.28**	**195**	P		**Pg**	**16 28 43.5**	**-0.5**
KKUL				S		**Sg**	**16 28 48.1**	**+0.3**
ANTO	**Ankara**	**0.46**	**339**	PG		**Pg**	**16 28 46.9**	**-0.4**
ANTO				SG		**Sg**	**16 28 53.2**	**-0.2**
ANTO	**Ankara**	**0.46**	**339**	*e*Pg		**Pg**	**16 28 46.9**	**-0.4**
ANTO				*e*Sg		**Sg**	**16 28 53.2**	**-0.2**
LOD	**Lodumlu**	**0.48**	**337**	PG		**Pg**	**16 28 46.3**	**-1.5**
LOD				SG		**Sg**	**16 28 54.5**	**+0.3**
LOD	**Lodumlu**	**0.48**	**337**	*e*Pg		**Pg**	**16 28 46.3**	**-1.5**
LOD				*e*Sg		**Sg**	**16 28 54.5**	**+0.3**
SERE	**Sereflikochisa**	**0.66**	**139**	PG		**Pg**	**16 28 50.2**	**-0.9**
SERE				SG		**Sb**	**16 29 01.2**	**-0.2**
SERE	**Sereflikochisa**	**0.66**	**139**	*e*Pg		**Pg**	**16 28 50.2**	**-0.9**
SERE				*e*Sg		**Sb**	**16 29 01.2**	**-0.2**
CHBY	**Cihanbeyli**	**0.86**	**186**	PG		**Pg**	**16 28 54.5**	**-0.5**
CHBY	**Cihanbeyli**	**0.86**	**186**	*e*Pg		**Pg**	**16 28 54.5**	**-0.5**
CDAG	**Cicekdag**	**1.07**	**80**	*i* P		**Pg**	**16 28 57.2**	**-1.7**
CDAG				*i* S		**Sn**	**16 29 15.8**	**+1.1**
CDAG	**Cicekdag**	**1.07**	**80**	P		**Pg**	**16 28 57.2**	**-1.7**
CDAG				S		**Sn**	**16 29 15.8**	**+1.1**
CORM	**Corum**	**1.45**	**59**	PN		**Pn**	**16 29 04.8**	**-0.1**
CORM				SN		**Sg**	**16 29 26.2**	**+1.2**
CORM	**Corum**	**1.45**	**59**	*e*Pn		**Pn**	**16 29 04.8**	**-0.1**
CORM				*e*Sn		**Sg**	**16 29 26.2**	**+1.2**
YOZ	**Yozgat**	**1.80**	**83**	PN		**Pn**	**16 29 10.1**	**+0.4**
YOZ				SN		**Sb**	**16 29 34.8**	**+0.5**
YOZ	**Yozgat**	**1.80**	**83**	*e*Pn		**Pn**	**16 29 10.1**	**+0.4**
YOZ				*e*Sn		**Sb**	**16 29 34.8**	**+0.5**

IDC 08 16:31:14.9±904.0, 53˚93N×5˚70E, h0km, Error ellipse: s-maj=347.9km s-min=139.2km az=130.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.14**	**132**	*i*			17 14 30.0	
	baz=320,slow=327,SNR=2.3							
I43RU	**DUBNA INFRASON**	**8.06**	**68**	*i*			18 28 00.0	
	baz=273,slow=322,SNR=0.5							
I48TN	**KESRA INFRASON**	**18.30**	**171**	*i*			18 26 54.6	
	baz=349,slow=310,SNR=2.1							

SJA 08 16:32:02.5±0.7, 31˚33S×68˚26W, h103km±4km, ML3.4, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.19**	**270**	*i* P		Pn	16 32 17.3	+0.3
ZON	**Zonda**	**0.42**	**239**	*i* P		Pn	16 32 18.8	+0.7
ZON				*i* S		Sn	16 32 30.7	+0.9
AMOG	**MOGNA**	**0.44**	**332**	*i* P		Pn	16 32 18.9	+0.6
RTCV	**Cerro Valdivia**	**0.58**	**205**	*i* P		Pn	16 32 20.2	+1.0
RTCV				*i* S		Sn	16 32 32.7	+0.9
RTLS	**Leoncito**	**1.00**	**242**	*i* P		Pn	16 32 24.9	+1.4
RTLS				IAML			16 32 25.0	
	comp=Z,759nm,0.1s							
RTLS				*i* S		Sn	16 32 41.3	+2.1
ACAN	**Cantantal**	**1.31**	**136**	*i* P		Pn	16 32 28.0	+1.4
ACAN				*i* S		Sn	16 32 46.2	+1.3
AUSP	**Uspallata**	**1.31**	**227**	*i* P		Pn	16 32 28.0	+1.1
AUSP				*i* S		Sn	16 32 47.3	+1.9
ASAL	**Salagasta**	**1.35**	**201**	*i* P		Pn	16 32 28.4	+1.3
ASAL				*i* S		Sn	16 32 47.0	+1.2
AAGR	**Agrelo**	**1.81**	**195**	*i* P		Pn	16 32 33.9	+0.9
MRA	**San Martin**	**2.42**	**117**	*i* P		Pn	16 32 41.5	+0.8
MRA				IAML			16 33 11.5	
	comp=Z,134nm,0.5s							

NIED ***08*** *16:41:00, 38˚.70N×142˚.50E, h41km, Mw4.1 Best double couple: M₀1.76000×10¹⁵ NP1:φ₀21.00000°, δ21.00000°, λ78.00000°. NP2:φ₀214.00000°, δ70.00000°, λ94.00000°.*
BJI ***08*** *16:41:32.0, 38˚.82N×142˚.70E, h42km, mb4.5/27, mB5.0/21, Ms4.5/6, Ms7 4.2/5*
JMA ***08*** *16:41:34.5±0.1, 38˚.69N×142˚.48E, h39km±2km, M4.3*
JMA Felt III J1.
ISCJB ***08*** *16:41:35.0±0.6, 38˚.73N±0˚.03×142˚.43E±0˚.05, h52km±4km, mb4.5/57, MS3.6/2, Error ellipse: s-maj=6.8km s-min=3.8km az=26.8*
IDC ***08*** *16:41:37.2±2.0, 38˚.67N×142˚.41E, h58km±18km, mb3.8/22, mb1 3.9/28, mb1mx3.8/71, mbtmp4.1/28, ML3.6/6, MS2.8/5, Ms1 2.8/5, ms1mx2.7/67, Error ellipse: s-maj=15.8km s-min=12.5km az=110.0*
NEIC ***08*** *16:41:37.1±0.7, 38˚.79N×142˚.33E, h52km±6km, mb4.7/27, Error ellipse: s-maj=8.1km s-min=5.0km az=130.0*
NEIC Recorded [3 JMA] in Miyagi.

ISC 08 16:41:36.3±1.2, 38˚75N±0˚04×142˚42E±0˚07, h43km±10km, n124, σ1§91/134, mb4.6/57, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.67**	**300**	P		**Pn**	**16 41 48.7**	**-0.7**
OFUJ				S		**Sn**	**16 41 58.5**	**-0.4**
JIO	**Ouri**	**0.88**	**251**	P		**Pn**	**16 41 50.9**	**-1.4**
JIO				S		**Sn**	**16 42 02.4**	**-1.6**
JMK	**Ichinoseki**	**0.95**	**283**	P		**Pn**	**16 41 52.7**	**-0.6**
JMK				S		**Sn**	**16 42 05.8**	**+0.1**
JOM	**Ohasama**	**1.14**	**310**	P		**Pn**	**16 41 55.7**	**0.0**
JOM				S		**Sn**	**16 42 11.2**	**+1.0**
JTH	**Tanohata**	**1.27**	**340**	P		**Pn**	**16 41 56.7**	**-0.8**
JTH				*e*S		**Sn**	**16 42 14.0**	**+0.7**
JOU	**Okura**	**1.42**	**255**	P		**Pn**	**16 41 59.1**	**-0.6**
JOU				S		**Sn**	**16 42 17.3**	**0.0**
JRG	**Rokugo**	**1.53**	**296**	P		**Pn**	**16 42 01.3**	**+0.1**
JRG				*e*S		**Sn**	**16 42 21.5**	**+1.6**
JMM	**Marumori**	**1.55**	**236**	P		**Pn**	**16 41 59.8**	**-1.6**
JMM				S		**Sn**	**16 42 19.1**	**-1.2**
JYK	**Kaneyama**	**1.61**	**277**	P		**Pn**	**16 42 02.2**	**-0.1**
JYK				*e*S		**Sn**	**16 42 22.7**	**+0.8**
JANG	**Nango**	**1.77**	**337**	P		**Pn**	**16 42 03.8**	**-0.6**
JANG				*e*S		**Sn**	**16 42 26.9**	**+1.2**
JFK	**Kawauchi**	**1.84**	**222**	S		**Sn**	**16 42 25.2**	**-2.2**
ERM	**Erimo**	**3.31**	**10**	*e*Pn		**Pn**	**16 42 24.8**	**-0.8**
ERM				*e*Sn		**Sn**	**16 43 01.9**	**-1.8**
MJAR	**Matsushiro Arr**	**4.00**	**238**	P		**Pn**	**16 42 36.5**	**+1.5**
	5.5nm,0.3s,baz=45,slow=10,SNR=46							
MJAR				S		**Sn**	**16 43 28.4**	**+7.8**
	4.2nm,0.3s,baz=93,slow=24,SNR=5.3							
MJAR				LR		LR	16 44 14.3	
	comp=Z,112nm,19.1s,baz=75,slow=40							
MAJO	**Matsushiro**	**4.00**	**238**	*e*Pn		**Pn**	**16 42 35.7**	**+0.7**
MAJO				*e*Sn		**Sn**	**16 43 28.4**	**+7.7**
MAT	**Matsushiro**	**4.00**	**238**	P		**Pn**	**16 42 36.5**	**+1.4**
MAT				S		**Sn**	**16 43 23.7**	**+3.0**
MJB9	**Matsu-Tunnel**	**4.00**	**238**	*e*Pn		**Pn**	**16 42 35.9**	**+0.8**
ASAJ	**Asahikawa**	**5.37**	**1**	P		**Pn**	**16 42 53.9**	**+0.1**
	1.7nm,0.3s,baz=190,slow=18,SNR=19							
ASAJ				S		**Sn**	**16 43 54.2**	**-0.1**
	1.2nm,0.3s,baz=182,slow=17,SNR=3.5							
ASAJ	**Asahikawa**	**5.37**	**1**	*e*Pn		**Pn**	**16 42 53.2**	**-0.6**
ASAJ				S		**Sn**	**16 43 54.2**	**-0.1**
INU	**Inuyama**	**5.49**	**234**	*e*Pn		**Pn**	**16 42 56.9**	**+1.4**
JHJ2	**Mitsune**	**6.00**	**201**	*e*Pn		**Pn**	**16 43 03.8**	**+1.3**
JHJ2				*e*Sn		Sn	16 44 01.1	-8.9
JHJ	**Hachijo jima 2**	**6.01**	**202**	P		**Pn**	**16 43 01.4**	**-1.2**
	21nm,0.3s,baz=352,slow=23,SNR=3.7							
JHJ				S		**Sn**	**16 44 02.1**	**-7.9**
	24nm,0.3s,baz=270,slow=20,SNR=4.5							
JHJ				LR		LR	16 45 48.0	
	comp=Z,124nm,18.4s,baz=116,slow=42							
YSS	**Yuzh-Sakhalins**	**8.21**	**2**	*e*Pn		**Pn**	**16 43 32.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**9.53**	**308**	P		**Pn**	**16 43 52.0**	**+1.1**
	0.9nm,0.3s,baz=114,slow=16,SNR=28							
JNU	**Nakatsue**	**10.90**	**243**	P		**Pn**	**16 44 10.3**	**+0.6**
	0.3nm,0.3s,baz=60,slow=18,SNR=3.1							
JNU	**Nakatsue**	**10.90**	**243**	*e*Pn		**Pn**	**16 44 08.9**	**-0.9**
MDJ	**Mudanjiang**	**11.23**	**306**	P		**Pn**	**16 44 18.2**	**+4.0**
MDJ				pmax		pmax		
	comp=Z,19nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,250nm,7.8s							
MDJ	**Mudanjiang**	**11.23**	**306**	*e*Pn		**Pn**	**16 44 18.0**	**+3.8**
KSRS	**Korea Array**	**11.49**	**268**	P		**Pn**	**16 44 20.6**	**+2.9**
	0.3nm,0.3s,baz=79,slow=14,SNR=9.0							
KSRS				LR		LR	16 48 46.5	
	comp=Z,85nm,18.2s,baz=332,slow=37							
KS01	**Wonju Array Si**	**11.51**	**268**	*e*Pn		**Pn**	**16 44 16.7**	**-1.3**
KS15	**Wonju Array Si**	**11.53**	**268**	*e*Pn		**Pn**	**16 44 17.5**	**-0.7**
KSAR	**Wonju Array Be**	**11.53**	**268**	P		**Pn**	**16 44 20.6**	**+2.5**
KLR	**Kul'dur**	**12.98**	**327**	P		**Pn**	**16 44 36.8**	**-1.2**
	0.0nm,0.3s,baz=143,slow=12,SNR=6.4							
KLR				LR		LR	16 49 19.3	
	comp=Z,11nm,19.9s,baz=140,slow=35							
NJ2	**Nanjing**	**20.30**	**258**	*e*P		**P**	**16 46 07.3**	**-1.2**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
MA2	**Magadan**	**21.52**	**12**	P		**P**	**16 46 21.1**	**-0.3**
	3.6nm,0.9s,baz=194,slow=11,SNR=9.9							
SSLB	**Suanglung**	**23.56**	**237**	*e*P		**P**	**16 46 41.4**	**-1.5**
	71nm,1.8s							
YULB	**Yu-li**	**23.61**	**236**	*e*P		**P**	**16 46 43.2**	**-0.2**
	104nm,2.0s							
HHC	**Hu-ho-hao-te**	**23.74**	**285**	*e*P		**P**	**16 46 42.6**	**-2.0**
HHC				pmax		pmax		
	comp=Z,8.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,84nm,7.4s							
TPUB	**Ta-pu**	**24.11**	**237**	*e*P		**P**	**16 46 48.4**	**+0.4**
	94nm,1.4s							
YAK	**Yakutsk**	**24.59**	**346**	P		**P**	**16 46 51.0**	**-1.0**
	6.2nm,0.5s,baz=208,slow=1.9,SNR=6.4							
YAK	**Yakutsk**	**24.59**	**346**	*e*P		**P**	**16 46 50.2**	**-1.8**
	13nm,0.6s							
SEY	**Seymchan**	**24.96**	**11**	P		**P**	**16 46 57.2**	**+1.9**
	4.0nm,0.9s,baz=191,slow=8.3,SNR=19							
GUMO	**Guam**	**25.15**	**174**	LR		LR	16 54 50.3	
	comp=Z,27nm,21.6s,baz=6.0,slow=32							
XAN	**Xi'an**	**27.27**	**271**	P		**P**	**16 47 22.8**	**+6.2**
SONA1	**Songino Array**	**27.53**	**301**	*e*P		**P**	**16 47 18.2**	**-0.7**
SONA0	**Songino Array**	**27.54**	**301**	*e*P		**P**	**16 47 18.8**	**-0.1**
SONM	**Songino Array**	**27.54**	**301**	P		**P**	**16 47 18.8**	**-0.1**
	1.1nm,0.6s,baz=95,slow=8.2,SNR=7.4							
ENH	**Enshi**	**28.30**	**263**	*e*P		**P**	**16 47 26.2**	**+0.3**
	13nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.41**	**125**	T		T	17 17 49.3	
	baz=317,slow=75,SNR=773							
H11N1	**WAKE ISLAND Hy**	**28.42**	**125**	T		T	17 17 49.6	
	baz=317,slow=75,SNR=671							
H11N3	**WAKE ISLAND Hy**	**28.43**	**125**	T		T	17 17 58.0	
	baz=317,slow=75,SNR=530							
H11S1	**WAKE ISLAND Hy**	**29.19**	**127**	T		T	17 18 53.8	
	baz=318,slow=76,SNR=148							
H11S3	**WAKE ISLAND Hy**	**29.19**	**127**	T		T	17 18 48.4	
	baz=318,slow=76,SNR=267							
H11S2	**WAKE ISLAND Hy**	**29.20**	**127**	T		T	17 18 48.7	
	baz=318,slow=76,SNR=117							
LZH	**Lanzhou**	**30.60**	**277**	*e*P		**P**	**16 47 45.5**	**-0.8**
LZH				pP		pP	16 47 57.9	0.0
LZH				sP		sP	16 48 03.2	+0.1
LZH				*e*PP		**PnPn**	**16 48 46.0**	**-0.6**
LZH				pmax		pmax		
	comp=Z,23nm,1.0s							
LZH				pmax		pmax		
	comp=Z,92nm,5.2s							
LZH				LR		LR		
	comp=N,380nm,12.8s							
LZH				LR		LR		
	comp=E,390nm,13.2s							
LZH				LR		LR		
	comp=Z,440nm,16.5s							
CD2	**Chengdu**	**32.49**	**268**	*e*P		**P**	**16 48 02.0**	**-0.9**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,140nm,5.0s							
GTA	**Gaotai**	**32.85**	**285**	*e*P		**P**	**16 48 06.0**	**0.0**
GTA				pP		pP	16 48 17.9	+0.2
GTA				sP		sP	16 48 23.3	+0.4
DAV	**Davao City (W)**	**35.01**	**210**	*e*P		**P**	**16 48 27.5**	**+2.8**
	418nm,0.4

BRVK	**Borovoye** 3.2nm,0.8s	50.08	311	*e*P	P		16 50 25.6	-0.9
AAK	**Ala-Archa** 13nm,2.0s	50.39	297	*e*P	P		16 50 28.6	-0.7
KSH	**Kashi**	50.45	293	*e*P	P		16 50 33.1	+3.3
INK	**Inuvik** 11nm,1.6s	52.51	28	*e*P	P		16 50 44.1	-0.5
KKAR	**Karatay Array**	52.97	299	*e*P	P		16 50 47.0	-1.4
BESE	**Bessie Mountai** 110nm,2.0s	54.35	40	*e*P	P		16 50 58.0	-0.4
ARU	**Arti** 2.2nm,0.5s,baz=264,slow=7.6,SNR=4.8	55.61	318	P	P		16 51 06.3	-1.1
ARU	**Arti** 6.1nm,0.9s	55.61	318	*e*P	P		16 51 06.6	-0.8
ABKAR	**Akbulak array** 29nm,0.4s	57.45	310	*e*P	P		16 51 19.6	-1.0
AKTO	**Aktyubinsk** 1.5nm,0.7s,baz=62,slow=7.9,SNR=4.8	58.13	311	P	P		16 51 24.3	-1.0
WR1	**Warramunga Arr** 5.2nm,0.8s	58.87	189	*e*P	P		16 51 28.6	-2.1
WRA	**Warramunga Arr** 5.6nm,0.7s,baz=7.8,slow=7.0,SNR=65	58.87	189	P	P		16 51 28.6	-2.1
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=294,slow=6.0,SNR=5.0	61.93	31	P	P		16 51 50.8	-0.4
AS31	**Alice Springs** 1.3nm,1.3s	62.59	189	*e*P	P		16 51 54.2	-1.8
ASAR	**Alice Springs** 0.3nm,0.6s,baz=13,slow=5.8,SNR=7.8	62.59	189	P	P		16 51 54.4	-1.6
GEYT	**Alibeck** 0.8nm,0.6s,baz=69,slow=4.8,SNR=2.7	63.71	299	P	P		16 52 02.6	-0.9
ALST	**Alston**	66.14	49	*e*P	P		16 52 19.2	+0.2
WPW	**White Pass**	66.70	48	*e*P	P		16 52 20.4	-2.3
FIA0	**FINESS Array S**	67.67	332	*e*P	P		16 52 28.0	-0.5
FINES	**FINESS Array B** 2.9nm,1.0s,baz=290,slow=5.7,SNR=3.5	67.67	332	P	P		16 52 28.0	-0.5
HFS	**Hagfors** 3.3nm,1.0s,baz=54,slow=7.3,SNR=2.6	72.85	336	P	P		16 53 01.5	+1.3
NB200	**NORSAR Array S**	72.91	337	*e*P	P		16 53 03.8	+3.1
NOA	**NORSAR Array B** 1.4nm,0.9s,baz=37,slow=6.0,SNR=2.5	72.91	337	P	P		16 53 03.8	+3.1
NV01	**Mina Array Sit**	73.34	54	*e*P	P		16 53 03.5	-0.3
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=289,slow=7.0,SNR=4.0	73.34	54	P	P		16 53 04.2	+0.4
AKASG	**Malin Array Be** 0.2nm,0.4s,baz=45,slow=6.2,SNR=4.4	73.43	322	P	P		16 53 03.2	-0.6
PAGB	**Antelope Grade** 45nm,1.9s	73.67	57	*e*P	P		16 53 09.7	+4.2
SYP	**Santa Ynez Pea**	74.56	58	*e*P	P		16 53 11.4	+0.5
PD31	**Pinedale Array**	75.91	46	*e*P	P		16 53 17.7	-0.9
PDAR	**Pinedale Array** 0.9nm,0.6s,baz=255,slow=2.9,SNR=7.4	75.91	46	P	P		16 53 18.1	-0.5
BUR04	**Bucovina Ar. S**	77.46	322	*e*P	P		16 53 26.6	-0.5
KARP	**Karpathos** 7.2nm,1.1s	84.91	312	*e*P	P		16 54 04.3	-2.5
GLMI	**Grayling** 142nm,0.5s	86.64	31	*e*P	P		16 54 15.8	+0.6
LTX	**Lajitas**	88.45	53	*e*P	P		16 54 23.9	-0.4
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=295,slow=3.2,SNR=6.5	88.45	53	P	P		16 54 23.9	-0.4
MVL	**Millersville** 16nm,1.0s	93.97	29	*e*P	P		16 54 51.1	+1.5
MNMC	**Minye Minye**	146.09	64	*e*PKPdf	PKPab		17 01 12.5	-0.5

WEL 08 17:29:39.0, 40°S±1°×17°6E±°, h45km±2km, ML3.6/49, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNHZ	**Pukenui**	0.05	186	P	Pn	17 29 46.1	-0.1
PNHZ	**Pukenui**	0.05	186	S	Sn	17 29 51.7	+0.6
KRHZ	**Kereru**	0.26	30	P	Pn	17 29 47.4	+0.1
KRHZ	**Kereru**	0.26	30	S	Sn	17 29 53.8	+0.7
WPHZ	**Waipukurau**	0.27	138	P	Pn	17 29 48.3	+0.9
WPHZ	**Waipukurau**	0.27	138	S	Sn	17 29 55.6	+2.2
TSZ	**Takapari Road**	0.27	224	P	Pn	17 29 47.3	-0.2
TSZ	**Takapari Road**	0.27	224	S	Sn	17 29 53.5	+0.1
BHHZ	**Black Hill Sta**	0.39	344	P	Pn	17 29 48.5	-0.2
BHHZ	**Black Hill Sta**	0.39	344	S	Sn	17 29 55.6	0.0
DVHZ	**Dannevirke**	0.43	184	P	Pn	17 29 49.6	+0.4
DVHZ	**Dannevirke**	0.43	184	S	Sn	17 29 57.7	+1.3
KWHZ	**Kaweka Forest**	0.47	21	P	Pn	17 29 50.0	+0.3
KWHZ	**Kaweka Forest**	0.47	21	S	Sn	17 29 58.5	+1.2
PRHZ	**Porangahau**	0.52	141	P	Pn	17 29 51.1	+0.9
KAHZ	**Kahuranaki**	0.52	82	P	Pn	17 29 51.5	+1.2
PXZ	**Pawanui**	0.53	108	P	Pn	17 29 50.5	+0.2
MCHZ	**McNeill Hill**	0.57	42	P	Pn	17 29 52.2	+1.4
MOVZ	**Moawhango**	0.58	322	P	Pn	17 29 50.8	-0.2
POWZ	**Post Office Ro**	0.62	212	P	Pn	17 29 51.9	+0.4
ANWZ	**Angora Road**	0.63	161	P	Pn	17 29 52.4	+0.8
CKHZ	**Cape Kidnapper**	0.70	73	P	Pn	17 29 53.7	+1.2
PRWZ	**Pori Road**	0.71	195	P	Pn	17 29 53.6	+0.9
BKZ	**Black Stump Fm**	0.73	18	P	Pn	17 29 53.6	+0.5
TUVZ	**Tukino**	0.73	324	P	Pn	17 29 53.6	+0.5
MTVZ	**Mangateitei**	0.74	310	P	Pn	17 29 53.6	+0.4
WHVZ	**Whangaehu Hut**	0.75	320	P	Pn	17 29 53.8	+0.3
TRVZ	**Turoa**	0.76	318	P	Pn	17 29 53.9	+0.3
OHWZ	**Ohakea**	0.76	243	P	Pn	17 29 54.5	+1.1
DRZ	**Dome Shelter**	0.77	320	P	Pn	17 29 54.1	+0.3
FWVZ	**Far West T-bar**	0.79	320	P	Pn	17 29 54.2	+0.2
BFZ	**Birch Farm**	0.82	278	P	Pn	17 29 54.3	+0.2
NGZ	**Ngauruhoe**	0.83	326	P	Pn	17 29 54.9	+0.4
COVZ	**Chateau Observ**	0.84	322	P	Pn	17 29 54.8	+0.3
ARHZ	**Aropaoanui**	0.86	46	P	Pn	17 29 55.8	+1.1
PKVZ	**Pokaka**	0.88	311	P	Pn	17 29 55.3	+0.3
PKVZ	**Pokaka**	0.88	311	P	Pn	17 29 55.3	+0.3
KRVZ	**Karewarewa**	0.89	330	P	Pn	17 29 55.5	+0.3
KRVZ	**Karewarewa**	0.89	330	P	Pn	17 29 55.5	+0.3
WTVZ	**West Tongariro**	0.89	327	P	Pn	17 29 55.5	+0.3
NMHZ	**Naumai**	0.90	31	P	Pn	17 29 56.3	+1.0
RITZ	**Rihia Road**	0.93	343	P	Pn	17 29 56.2	+0.6
MRZ	**Mangatainoka R**	0.93	211	P	Pn	17 29 55.7	+0.1
TIWZ	**Tintock**	0.94	195	P	Pn	17 29 56.2	+0.4
WAZ	**Wanganui**	0.95	276	P	Pn	17 29 57.0	+1.1
KATZ	**Kakaramea**	0.97	336	P	Pn	17 29 56.7	+0.4
HATZ	**Hinemaiaia**	0.98	355	P	Pn	17 29 56.8	+0.5
TWVZ	**Taurewa**	0.99	323	P	Pn	17 29 56.6	0.0
CPWZ	**Castlepoint**	1.04	180	P	Pn	17 29 58.7	+1.5
MRHZ	**Matea Rd**	1.04	9	P	Pn	17 29 57.7	+0.5
RATZ	**Rangitukua**	1.05	341	P	Pn	17 29 57.9	+0.5
WHHZ	**Waihua**	1.12	46	P	Pn	17 29 59.4	+1.2
MTHZ	**Maungataniwha**	1.12	26	P	Pn	17 29 58.9	+0.5
HOWZ	**Holdsworth Sta**	1.16	207	P	Pn	17 29 58.5	-0.3
RAHZ	**Arahi**	1.17	36	P	Pn	17 29 59.4	+0.4
WATZ	**Wairara**	1.21	342	P	Pn	17 29 59.6	+0.1
OGWZ	**Otaki Gorge**	1.24	219	P	Pn	17 29 59.8	-0.1
TMWZ	**Te Maipa**	1.26	191	P	Pn	17 30 00.0	-0.2
ALRZ	**Allen Road**	1.31	5	P	Pn	17 30 00.8	0.0
VRZ	**Vera Road**	1.34	303	P	Pn	17 30 01.3	0.0
PRRZ	**Plateau Road**	1.37	6	P	Pn	17 30 01.7	0.0
RTZ	**Ruatahuna**	1.39	26	P	Pn	17 30 02.5	+0.5
SNGZ	**Shannon Statio**	1.40	39	P	Pn	17 30 02.2	+0.2
MTW	**Mount Morrison**	1.40	202	P	Pn	17 30 01.3	-0.7
KIW	**Kapiti Island**	1.40	224	P	Pn	17 30 01.8	-0.3
KUTZ	**Kaahu Road**	1.41	348	P	Pn	17 30 01.8	-0.3
LREZ	**Lake Rotokare**	1.45	286	P	Pn	17 30 04.1	+1.4
MUGZ	**Murupara**	1.45	18	P	Pn	17 30 02.8	0.0
HRRZ	**Handcock Road**	1.47	2	P	Pn	17 30 03.5	+0.4
MHGZ	**Mahia Peninsul**	1.50	62	P	Pn	17 30 03.6	+0.2
CAW	**Cannon Point**	1.52	215	P	Pn	17 30 02.9	-0.8
CAW	**Cannon Point**	1.52	215	P	Pn	17 30 03.0	-0.6
GRRZ	**Galatos Road**	1.52	357	P	Pn	17 30 04.1	+0.4
RRRZ	**Republican Roa**	1.54	9	P	Pn	17 30 03.9	-0.2
HSRZ	**Hossack Road**	1.55	1	P	Pn	17 30 04.3	+0.1
TRWZ	**Traveller**	1.58	194	P	Pn	17 30 04.1	-0.4
PAWZ	**Paruwai Farm**	1.63	201	P	Pn	17 30 04.2	-1.0
TARZ	**Mount Tarawera**	1.64	8	P	Pn	17 30 05.7	+0.2
MHEZ	**Mangahewa**	1.66	298	P	Pn	17 30 07.0	+1.5
PREZ	**Palmer Road**	1.67	288	P	Pn	17 30 07.7	+1.9
RIGZ	**Rimuhau**	1.67	47	P	Pn	17 30 05.9	0.0
HIZ	**Hauiti**	1.71	322	P	Pn	17 30 06.1	-0.2
MSWZ	**Moikau Station**	1.71	205	P	Pn	17 30 08.5	+2.2
URZ	**Urewera**	1.75	24	P	Pn	17 30 06.2	-0.7
MWZ	**Matawai**	1.84	34	P	Pn	17 30 07.7	-0.5
PKE	**Pukeiti**	1.84	291	P	Pn	17 30 09.5	+1.4
BHW	**Baring Head**	1.85	213	P	Pn	17 30 06.7	-1.4
PLWZ	**Palliser**	1.85	203	P	Pn	17 30 06.7	-1.5
TKGZ	**Te Karaka**	1.91	42	P	Pn	17 30 08.8	-0.3
TCW	**Tory Channel**	1.99	227	P	Pn	17 30 08.9	-1.3
TWGZ	**Tauwhareparae**	2.18	40	P	Pn	17 30 13.5	+0.7
RUGZ	**Raukumara Rang**	2.22	32	P	Pn	17 30 13.2	-0.2
TUWZ	**Tuamarina**	2.33	227	P	Pn	17 30 13.3	-1.4
HAZ	**Te Kaha**	2.44	31	P	Pn	17 30 15.6	-0.7
NNZ	**Nelson**	2.54	237	P	Pn	17 30 18.4	+0.7
BSWZ	**Blackbirch Sta**	2.56	223	P	Pn	17 30 16.4	-1.6
BSWZ	**Blackbirch Sta**	2.56	223	P	Pn	17 30 16.5	-1.4
QRZ	**Quartz Range**	2.97	250	P	Pn	17 30 21.9	-1.7
KHZ	**Kahutara**	3.25	217	P	Pn	17 30 25.1	-2.2
LTZ	**Lake Taylor**	4.16	224	P	Pn	17 30 38.9	-1.0
CTZ	**Chatham Island**	6.61	128	P	Pn	17 31 13.6	+0.1

*ISCJB **08** 17:42:59.4±0.8, 10°.9S±0°.1×78°.1W±0°.1, h54km, mb3.9/7, MS3.5/3, Error ellipse: s-maj=22.1km s-min=8.0km az=141.2*

*IDC **08** 17:43:01.3±0.7, 10°.87S×77°.97W, h55km±5km, mb3.6/9, mb1 3.9/9, mb1mx3.7/34, mbtmp3.9/9, MS3.4/6, Ms1 3.4/6, ms1mx3.2/35, Error ellipse: s-maj=29.5km s-min=5.9km az=50.0*

ISC 08 17:43:00.9±0.7, 11°.06S±0°.09×78°.1W±0°.1, h54km, n19, σ1s38/23, mb3.9/8, MS3.6/3, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	1.57	126	P	Pn	17 43 26.8	+0.3
NNA	47nm,0.3s,baz=319,slow=13,SNR=47			S	Sn	17 43 46.2	+0.4
NNA	218nm,0.3s,baz=289,slow=18,SNR=16			LR	LR	17 44 21.2	
ATAH	comp=Z,164nm,20.3s,baz=11,slow=51 **Atahualpa**	3.91	356	P	Pn	17 43 60.0	+1.2
ATAH	6.4nm,0.3s,baz=194,slow=9.1,SNR=50			S	Sn	17 44 47.0	+3.4
ATAH	30nm,0.3s,baz=66,slow=18,SNR=11			LR	LR	17 45 39.5	
LPAZ	comp=Z,263nm,20.1s,baz=181,slow=42 **La Paz**	11.03	119	P	Pn	17 45 38.9	+2.3
LPAZ	0.1nm,0.3s,baz=305,slow=12,SNR=2.6			LR	LR	17 50 38.3	
ROSC	comp=Z,97nm,20.4s,baz=54,slow=42 **El Rosal**	16.25	14	LR	LR	17 53 18.6	
PTGA	comp=Z,117nm,20.3s,baz=288,slow=38 **Pitinga**	20.77	62	P	P	17 47 36.4	-1.2
SDV	2.0nm,0.3s,baz=244,slow=14,SNR=3.5 **Santo Domingo**	21.18	21	P	P	17 47 40.0	-2.1
SDV	3.0nm,0.5s,baz=240,slow=10,SNR=2.7			LR	LR	17 56 57.4	
PCRV	comp=Z,149nm,20.9s,baz=240,slow=40 **Puerto La Cruz**	25.01	33	LR	LR	17 59 18.3	
PLCA	comp=Z,234nm,21.9s,baz=294,slow=39 **Paso Flores**	30.31	169	P	P	17 49 08.9	+1.7
RPN	2.0nm,0.7s,baz=337,slow=7.7,SNR=4.6 **Rapa Nui**	33.40	237	LR	LR	17 59 15.4	
TXAR	comp=Z,122nm,19.6s,baz=306,slow=29 **Lajitas Array**	47.11	329	P	P	17 51 27.8	0.0
TXAR	0.3nm,0.6s,baz=139,slow=9.7,SNR=3.9			pP	pP	17 51 43.1	+1.0
PDAR	1.1nm,0.8s,baz=152,slow=9.4,SNR=7.2 **Pinedale Array**	60.79	334	P	P	17 53 06.8	-0.9
PDAR	0.3nm,0.6s,baz=152,slow=4.0,SNR=3.1			pP	pP	17 53 22.2	-0.3
NVAR	0.4nm,0.7s,baz=119,slow=9.4,SNR=2.1 **Mina Array Bea**	61.88	325	P	P	17 53 16.1	+1.0
NVAR	1.2nm,0.7s,baz=139,slow=6.3,SNR=12			pP	pP	17 53 30.9	+0.9
ULM	0.9nm,0.8s,baz=141,slow=6.4,SNR=2.8 **Lac du Bonnet**	62.99	347	P	P	17 53 20.4	-1.5
ULM	3.5nm,0.8s,baz=148,slow=7.1,SNR=6.2			pP	pP	17 53 35.4	-1.4
ASAR	2.2nm,0.8s,baz=167,slow=9.2,SNR=2.8 **Alice Springs**	133.38	222	PKP	PKPdf	18 02 12.1	+0.2
ZALV	0.4nm,0.7s,baz=129,slow=2.4,SNR=8.5 **Zalesovo Beam**	135.11	14	PKP	PKPdf	18 02 13.4	-0.7
WRA	0.3nm,0.3s,baz=353,slow=3.5,SNR=3.3 **Warramunga Arr**	135.60	226	PKP	PKPdf	18 02 16.3	+0.2
KSRS	1.2nm,0.8s,baz=131,slow=2.0,SNR=11 **Korea Array**	144.80	323	PKP	PKPab	18 02 31.0	-0.2
	3.5nm,0.7s,baz=52,slow=3.6,SNR=8.7						

TRN 08 18:03:17.2, 17°.72N×61°.56W, h21km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	0.23	258	*e*P	Pb	18 03 24.3	+1.2
ANWB				*e*S	Sb	18 03 29.4	+2.1
BPA	**Boggy Peak**	0.73	203	*e*P	Pn	18 03 33.5	+1.1
BPA				*e*S	Sn	18 03 45.2	+2.3
NEV	**Hard Times**	1.13	239	*e*P	Pb	18 03 39.2	+1.2
NEV				*e*S	Sn	18 03 55.2	+2.5
MLYT	**Lee's Yard**	1.16	212	*e*P	Pb	18 03 40.1	+1.5
MLYT				*e*S	Sn	18 03 57.1	+3.5
SKI	**Saint Kitts**	1.19	252	*e*P	Pb	18 03 39.6	+0.4
SKI				*e*S	Sn	18 03 58.0	+3.6

*IDC **08** 18:13:51.0±0.9, 39°.78N×71°.08E, h0km, mb3.8/11, mb1 3.9/18, mb1mx3.6/72, mbtmp3.7/18, ML3.3/7, MS4.0/3, Ms1 4.0/3, ms1mx3.2/62, Error ellipse: s-maj=17.4km s-min=10.2km az=151.0*

*NNC **08** 18:13:53.1±1.9, 39°.71N×71°.02E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=17.5km s-min=7.9km az=21.0*

*NEIC **08** 18:13:53.1±0.6, 39°.86N×70°.94E, h10km, mb4.0/1, Error ellipse: s-maj=10.3km s-min=9.0km az=175.0*

*KRNET **08** 18:13:55.7±0.1, 40°.05N×71°.15E, h0km, mb3.9*

*SOME **08** 18:13:56.0, 40°.07N×71°.20E, h0km*

ISC 08 18:13:52.5±1.4, 39°.95N±0°.04×71°.17E±0°.03, h5km±8km, n74, σ2s89/106, mb3.9/12, MS4.1/3, 40C-20D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 8.7nm,0.1s	1.80	87	⇑P*n*	Pg	18 14 28.6	+1.7
SFK	63nm,0.2s			⇑S*n*	Sg	18 14 53.3	+3.1
SFK	**Sufi-Kurgan** baz=90	1.80	87	⇑*i*P	Pg	18 14 28.2	+1.3
SFK	baz=90			⇑*i*S	Sg	18 14 53.5	+3.3
ARK	**Arkit** baz=20	1.94	18	⇑*i*P	Pb	18 14 30.0	+1.6
ARK	baz=20			⇑*i*S	Sb	18 14 53.9	+1.0
ARSB	**Arslanbob** baz=47	1.94	45	⇓*i*P	Pg	18 14 30.7	+0.9
ARSB	baz=47			⇓*i*S	Sg	18 14 55.5	+0.5
TAS	**Tashkent** 163nm,0.2s	1.98	314	⇓P*n*	Pg	18 14 31.0	+0.5
TAS	530nm,0.3s			⇓S*n*	Sb	18 14 56.4	+2.3
TAS	**Tashkent** baz=13	1.98	314	⇑*i*P	Pg	18 14 30.6	+0.1
TAS	baz=13			⇑*i*S	Sb	18 14 56.0	+1.9
IUG	**Iuzhnay** 629nm,0.3s	2.35	339	*e*P	Pg	18 14 38.1	+0.5
IUG	875nm,0.3s			*e*S	Sg	18 15 08.6	+0.5
TOKL	**Toktogul** baz=34	2.37	32	⇓*i*P	Pb	18 14 36.8	+1.2
TOKL	baz=34			⇓*i*S	Sb	18 15 05.8	+0.6
CHM	**Chimkent** 328nm,0.2s	2.64	334	*e*P	Pg	18 14 43.8	+0.7
CHM	532nm,0.4s			*e*S	Sg	18 15 18.4	+1.1
MNAS	**Manas** 74nm,0.7s	2.73	21	⇑P*n*	Pg	18 14 45.4	+0.7
MNAS	71nm,0.3s			⇓S*n*	Sg	18 15 20.4	+0.4
MNAS	**Manas** baz=22	2.73	21	⇑*i*P	Pb	18 14 40.1	-1.7
MNAS	baz=22			⇑*i*S	Sb	18 15 15.8	+0.3
AML	**Almayashu** SNR=24	2.90	40	P	Pb	18 14 44.2	-0.6
AML	**Almayashu** baz=42	2.90	40	⇑*i*P	Pb	18 14 42.8	-2.0
AML	baz=42			⇑*i*S	Sb	18 15 19.5	-1.2
DZA	**Taraz** 99nm,0.4s	2.94	2	*e*P	Pg	18 14 49.4	+0.7
DZA	411nm,0.4s			*e*S	Sg	18 15 27.7	+0.9
KK31	**Karatay Array** 1.2nm,0.2s,baz=170,slow=12,SNR=950	3.19	351	⇑P*n*	Pn	18 14 46.3	+3.0
KK31	28nm,0.4s,baz=171,slow=17,SNR=51			⇑P*g*	Pg	18 14 52.8	-0.7
KK31	72nm,0.4s,baz=172,slow=33,SNR=17			⇑S*n*	Sb	18 15 31.0	+2.4
KKAR	**Karatay Array**	3.19	351	*e*P*n*	Pn	18 14 45.6	+2.4
EKS2	**Erkin-Say** SNR=48	3.34	35	P	Pb	18 14 50.4	-2.0
EKS2	**Erkin-Say** baz=36	3.34	35	⇑*i*P	Pb	18 14 49.9	-2.4
EKS2	baz=36			⇑*i*S	Sb	18 15 30.5	-2.9
UCH	**Uchtor** SNR=16	3.40	47	P	Pb	18 14 50.7	-2.8
UCH	**Uchtor** baz=48	3.40	47	⇑*i*P	Pb	18 14 50.4	-3.1
UCH	baz=48			⇑*i*S	Sb	18 15 32.1	-3.2
AAK	**Ala-Archa** 6.7nm,0.3s,baz=198,slow=6.7,SNR=61	3.67	42	P*n*	Pb	18 14 54.3	-3.6
AAK	12nm,0.3s,baz=204,slow=8.7,SNR=28			P*g*	Pg	18 15 03.1	+0.3
AAK	12nm,0.3s,baz=171,slow=22,SNR=9.2			L*g*	Lg	18 15 51.5	
AAK	**Ala-Archa** 7.4nm,0.3s	3.67	42	⇑P*n*	Pn	18 14 54.0	+4.0
AAK	50nm,0.6s			⇓L*g*	Lg	18 15 55.8	
AAK	**Ala-Archa** SNR=30	3.67	42	P	Pb	18 14 54.2	-3.6
AAK	**Ala-Archa**	3.67	42	*e*P*n*	Pn	18 14 54.0	+4.0
AAK				P*g*	Pg	18 15 03.1	+0.3
AAK				L*g*	Lg	18 15 51.5	
AAK	**Ala-Archa** baz=43	3.67	42	⇑*i*P	Pb	18 14 54.3	-3.6
AAK	baz=43			⇑*i*S	Sn	18 15 38.5	+4.7
KZA	**Kyzart** SNR=17	3.75	54	P	Pb	18 14 55.6	-3.7
KZA	**Kyzart** baz=55	3.75	54	⇑*e*P	Pb	18 14 55.5	-3.9
KZA	baz=55			⇑*i*S	Sb	18 15 41.4	-3.8
FRU1	**Bishkek** baz=42	3.87	41	⇑*i*P	Pn	18 14 57.2	+4.6
FRU1	baz=42			⇑*i*S	Sn	18 15 43.1	+4.7
KBK	**Karagaybulak** SNR=45	3.92	45	P	Pb	18 14 58.4	-3.8
KBK	**Karagaybulak** baz=46	3.92	45	⇓*i*P	Pb	18 14 58.3	-3.9
KBK	baz=46			⇓*i*S	Sn	18 15 45.0	+4.9
NRN	**Naryn** baz=68	3.96	67	⇑*i*P	Pn	18 14 56.9	+2.7
NRN	baz=68			⇑*i*S	Sn	18 15 45.7	+4.6
CHMS	**Chumysh** SNR=14	4.06	40	P	Pn	18 14 59.7	+4.4
CHMS	**Chumysh** baz=41	4.06	40	⇑*i*P	Pn	18 14 59.8	+4.5
CHMS	baz=41			⇑*i*S	Sn	18 15 47.6	+4.3
USP	**Ospenovka** SNR=28	4.15	36	P	Pn	18 15 00.2	+3.8
USP	**Ospenovka** baz=37	4.15	36	⇓*i*P	Pn	18 15 00.3	+3.8
USP	baz=37			⇓*i*S	Sn	18 15 49.9	+4.5
BOOM	**Boomskoye usch** baz=54	4.40	53	⇓*e*P	Pb	18 15 06.2	-4.2
BOOM	baz=54			⇓*i*S	Sn	18 15 55.7	+3.9
TKM2	**Tokmak 2** 30nm,0.6s	4.46	47	⇓P*n*	Pn	18 15 05.0	+4.1
TKM2	24nm,0.6s			⇓L*g*	Lg	18 16 24.0	
TKM2	**Tokmak 2** SNR=78	4.46	47	P	Pn	18 15 05.1	+4.2
TKM2	**Tokmak 2** baz=48	4.46	47	⇑*i*P	Pn	18 15 05.1	+4.2
TKM2	baz=48			⇑*i*S	Sn	18 15 57.8	+4.5
ULHL	**Ulahol** SNR=11	4.47	58	P	Pn	18 15 05.5	+4.5
ULHL	**Ulahol** baz=59	4.47	58	⇑*i*P	Pn	18 15 04.9	+3.9
ULHL	baz=59			⇑*i*S	Sn	18 15 57.5	+4.0
KST	**Kastek** 2.5nm,0.4s	4.74	48	*e*P	Pg	18 15 22.5	-0.8
KST	41nm,0.5s			*e*S	Sg	18 16 24.4	-0.3
KDJ	**Kajisay** baz=64	5.04	63	⇑*e*P	Pn	18 15 13.1	+4.2
KDJ	baz=64			⇑*i*S	Sn	18 16 11.7	+4.1
MTBS	**Maitube** 3.6nm,0.3s	5.07	50	*e*P	Pg	18 15 27.5	-2.0
MTBS	29nm,0.5s			*e*S	Sg	18 16 33.6	-1.5
TNSS	**Tian-Shan** 10nm,0.4s	5.32	53	*e*P	Pg	18 15 33.0	-1.4
TNSS	30nm,0.6s			*e*S	Sg	18 16 42.7	-0.7
MDOK	**Medeo** 9.0nm,0.6s	5.45	52	⇑P*n*	Pn	18 15 18.8	+4.3
MDOK	21nm,0.8s			⇓L*g*	Lg	18 16 54.1	
KUU	**Kurty** 4.2nm,0.5s	5.51	43	*e*P	Pg	18 15 35.1	-2.9
KUU	25nm,0.5s			*e*S	Sg	18 16 47.0	-2.4
PDGK	**Podgornoye** 1.2nm,0.6s	7.09	59	⇓P*n*	Pn	18 15 40.0	+3.1
PDGK	12nm,0.8s			⇑L*g*	Lg	18 17 43.4	
OTUK	**Ortayu** 1.4nm,0.5s	8.33	5	⇓P*n*	Pn	18 15 56.3	+2.4
OTUK	20nm,0.7s			⇑L*g*	Lg	18 18 25.6	
GEYT	**Alibeck** 0.3nm,0.3s,baz=92,slow=10,SNR=4.9	10.37	263	P*n*	Pn	18 16 19.6	-2.2
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=235,slow=15,SNR=16	10.59	46	P*n*	Pn	18 16 27.6	+2.8
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=214,slow=12,SNR=6.8	11.86	23	P*n*	Pn	18 16 41.5	-0.5
KURBB	0.2nm,0.3s,baz=208,slow=28,SNR=6.8			L*g*	Lg	18 20 12.7	
KURK	**Kurchatov**	11.96	23	P*n*	Pn	18 16 41.5	-2.0
KURK				L*g*	Lg	18 20 12.7	
AB31	**Akbulak array** 0.4nm,0.3s,baz=130,slow=14,SNR

1.8nm,0.3s,baz=104,slow=12,SNR=15
GERES GERESS Array B 41.12 302 LR LR 18 40 20.2
comp=Z,341nm,18.2s,baz=327,slow=39
NOA NORSAR Array B 41.75 321 P **P** **18 21 41.6 -0.7**
0.7nm,0.5s,baz=92,slow=8.2,SNR=2.7
ESDC Sonseca Array 56.02 296 LR LR 18 48 18.9
comp=Z,68nm,21.9s,baz=5.0,slow=37
TORD Torodi Ar. Bea 65.97 267 P **P** **18 24 38.5 -1.5**
1.0nm,0.6s,baz=54,slow=5.6,SNR=8.4
KOWA Kowa 69.54 272 P **P** **18 25 01.8 -0.8**
1.0nm,0.5s,baz=52,slow=8.4,SNR=4.0
YKA Yellowknife Ar 77.80 3 P **P** **18 25 50.5 +0.2**
0.2nm,0.6s,baz=351,slow=5.8,SNR=5.3
WRA Warramunga Arr 83.71 122 P **P** **18 26 21.8 -0.7**
0.4nm,0.7s,baz=326,slow=4.7,SNR=8.4
WRAB Tennant Creek 83.71 122 P **P** **18 26 22.8 +0.3**
0.5nm,0.5s
ASAR Alice Springs 86.13 125 P **P** **18 26 34.5 -0.1**
0.3nm,0.6s,baz=324,slow=5.1,SNR=8.3

*NIED **08** 18:20:00,29.˚80N×142.˚60E,h5km,Mw4.6 Best double couple: M₀8.91000×10¹⁵ NP1:ϕs184.00000°,δ15.00000°, λ108.00000°. NP2:ϕs346.00000°,δ76.00000°,λ85.00000°.*
*IDC **08** 18:20:38.8±0.5,29.˚70N×142.˚25E,h0km,mb4.3/26, mb1 4.4/30,mb1mx4.2/72,mbtmp4.3/30,ML3.5/5,MS3.5/5, Ms1 3.5/5,ms1mx3.1/63,Error ellipse: s-maj=16.4km s-min=12.0km az=87.0*
*JMA **08** 18:20:40.1±0.3,29.82N×142.˚61E,h50km,M4.5*
*MOS **08** 18:20:41.8±1.0,29.˚70N×142.˚26E,h33km,mb4.7/33,Error ellipse: s-maj=12.5km s-min=6.0km az=109.1*
*ISCJB **08** 18:20:42.1±0.3,29.˚75N±0.˚02×142.˚20E±0.˚06,h35km, mb4.4/44,MS3.3/1,Error ellipse: s-maj=.8.1km s-min=3.1km az=169.0*
*NEIC **08** 18:20:42.7±1.6,29.˚68N×142.˚25E,h26km±11km,mb4.7/16, Error ellipse: s-maj=6.5km s-min=4.5km az=89.0*
ISC 08 18:20:43.8±0.4,29.˚78N±0.˚04×142.˚33E±0.˚08,h35km,n115, σ1ş54/123,mb4.5/44,1D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.68**	**183**	P	**Pn**	**18 21 23.5**	**-1.0**
CBIJ				*e*S	**Sn**	**18 21 54.6**	**-1.1**
CBIJ	**Chichi jima**	**2.68**	**183**	*e*Pn	**Pn**	**18 21 22.9**	**-1.5**
CBIJ				Sn	**Sn**	**18 21 53.1**	**-2.6**
JCJ	**Chichijima**	**2.68**	**183**	Pn	**Pn**	**18 21 22.9**	**-1.5**
	9.3nm,0.3s,baz=270,slow=20,SNR=6.6						
JCJ				Sn	**Sn**	**18 21 53.1**	**-2.6**
	84nm,0.3s,baz=294,slow=20,SNR=9.3						
JHHJ	**Haha-jima-NKT**	**3.14**	**182**	*e*S	**Sn**	**18 22 05.8**	**-1.3**
JHJ2	**Mitsune**	**3.95**	**328**	P	**Pn**	**18 21 41.0**	**-0.9**
JHJ	**Hachijo jima 2**	**3.97**	**327**	LR	LR	18 23 20.5	
	comp=Z,987nm,18.2s,baz=105,slow=40						
BSO4	**Boso 4**	**5.46**	**343**	*e*S	**Sn**	**18 23 03.8**	**-0.3**
JOD2	**Odawara 2**	**6.11**	**334**	P	**Pn**	**18 22 11.9**	**+0.3**
JHMK	**Hamakita**	**6.34**	**324**	P	**Pn**	**18 22 15.0**	**+0.4**
JHU	**Hanno**	**6.57**	**338**	P	**Pn**	**18 22 17.6**	**-0.4**
JHU				*e*S	**Sn**	**18 23 28.3**	**-3.4**
JYT	**Yasato**	**6.67**	**345**	*e*S	**Sn**	**18 23 31.3**	**-2.8**
JNY	**Yasuok**	**6.72**	**327**	P	**Pn**	**18 22 20.8**	**+0.8**
JRY	**Ryogami san**	**6.85**	**336**	P	**Pn**	**18 22 21.8**	**0.0**
JRY				*e*S	**Sn**	**18 23 37.9**	**-0.7**
JHO	**Hitachi**	**6.97**	**348**	P	**Pn**	**18 22 22.2**	**-1.2**
JAG	**Ashikaga**	**7.05**	**341**	P	**Pn**	**18 22 23.3**	**-1.2**
INU	**Inuyama**	**7.13**	**322**	*e*Pn	**Pn**	**18 22 25.9**	**+0.3**
MJAR	**Matsushiro Arr**	**7.57**	**334**	Pn	**Pn**	**18 22 31.8**	**+0.1**
	4.0nm,0.3s,baz=160,slow=11,SNR=82						
MJAR				Sn	**Sn**	**18 23 57.0**	**+0.7**
	1.3nm,0.3s,baz=231,slow=30,SNR=5.0						
MJAR				LR	LR	18 25 40.3	
	comp=Z,303nm,18.1s,baz=165,slow=40						
MAJO	**Matsushiro**	**7.57**	**334**	*e*Pn	**Pn**	**18 22 31.8**	**0.0**
MAJO				*e*Sn	**Sn**	**18 23 57.0**	**+0.7**
MAJO	**Matsushiro**	**7.57**	**334**	*e*P	**Pn**	**18 22 31.8**	**0.0**
MAT	**Matsushiro**	**7.57**	**334**	P	**Pn**	**18 22 31.8**	**+0.1**
MAT				S	**Sn**	**18 23 53.4**	**-2.9**
MJB9	**Matsu-Tunnel**	**7.58**	**334**	*e*Pn	**Pn**	**18 22 32.3**	**+0.5**
JFK	**Kawauchi**	**7.66**	**351**	*e*S	**Sn**	**18 23 51.2**	**-7.3**
JMK	**Ichinoseki**	**9.19**	**355**	P	**Pn**	**18 22 52.1**	**-1.8**
JMK				*e*S	**Sn**	**18 24 28.3**	**-7.8**
JNU	**Nakatsue**	**10.33**	**292**	LR	LR	18 27 00.8	
	comp=Z,370nm,18.4s,baz=118,slow=37						
KSRS	**Korea Array**	**14.22**	**306**	Pn	**Pn**	**18 24 03.6**	**+0.9**
	0.1nm,0.3s,baz=109,slow=14,SNR=6.5						
KSRS				LR	LR	18 29 16.2	
	comp=Z,133nm,18.6s,baz=138,slow=36						
KS15	**Wonju Array Si**	**14.24**	**306**	*e*Pn	**Pn**	**18 24 03.6**	**+0.6**
KSAR	**Wonju Array Be**	**14.24**	**306**	Pn	**Pn**	**18 24 03.6**	**+0.6**
KSAR	**Wonju Array Be**	**14.24**	**306**	P	**Pn**	**18 24 03.6**	**+0.6**
ASAJ	**Asahikawa**	**14.31**	**1**	Pn	**Pn**	**18 24 02.5**	**-1.3**
	0.4nm,0.3s,baz=218,slow=17,SNR=6.5						
ASAJ				Sn	**Sn**	**18 26 36.6**	**-4.6**
	0.3nm,0.3s,baz=60,slow=31,SNR=5.7						
USRK	**Ussuriysk Ar.**	**16.57**	**333**	Pn	**Pn**	**18 24 31.5**	**-1.9**
	0.2nm,0.3s,baz=167,slow=9.4,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**17.15**	**1**	*e*Pn	**P**	**18 24 42.1**	**+0.1**
	16nm,1.0s						
YSS	**Yuzh-Sakhalins**	**17.15**	**1**	*i*P	**P**	**18 24 41.9**	**0.0**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS				MLR	MLR		
	comp=Z,300nm,12.0s						
MDJ	**Mudanjiang**	**17.91**	**329**	*e*Pn	**P**	**18 24 51.0**	**+0.6**
	comp=Z,14nm,1.0s						
SSLB	**Suanglung**	**19.98**	**258**	*e*P	**P**	**18 25 13.5**	**+0.2**
	comp=Z,42nm,1.1s						
KLR	**Kul'dur**	**21.03**	**340**	P	**P**	**18 25 23.3**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=134,slow=11,SNR=14						
GRNR	**Gornyy**	**21.43**	**350**	*e*P	**P**	**18 25 31.4**	**+2.7**
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
NKL	**Nikolayevsk**	**23.38**	**357**	*e*P	**P**	**18 25 50.0**	**+0.9**
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
HIA	**Hailar**	**25.95**	**325**	*e*P	**P**	**18 26 14.0**	**+1.2**
	comp=Z,24nm,1.2s						
HIA	**Hailar**	**25.95**	**325**	*e*P	**P**	**18 26 14.0**	**+1.2**
HIA				pmax	pmax		
	comp=Z,24nm,1.2s						
ZEA	**Zeya**	**26.34**	**340**	*e*P	**P**	**18 26 16.8**	**+0.5**
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,26nm,1.0s						
DAV	**Davao City (W)**	**27.54**	**218**	LR	LR	18 35 49.6	
	comp=Z,90nm,21.0s,baz=338,slow=33						
MA2	**Magadan**	**30.34**	**9**	P	**P**	**18 26 51.5**	**-0.3**
	comp=Z,0.8nm,0.2s,baz=292,slow=19,SNR=2.6						
ULN	**Ulaanbaatar**	**32.51**	**314**	*e*P	**P**	**18 27 11.7**	**+0.3**
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**32.51**	**314**	*e*P	**P**	**18 27 11.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,11nm,0.9s						
SONA1	**Songino Array**	**32.92**	**313**	*e*P	**P**	**18 27 14.8**	**0.0**
SONA0	**Songino Array**	**32.92**	**313**	*e*P	**P**	**18 27 15.6**	**+0.7**
SONM	**Songino Array**	**32.92**	**313**	P	**P**	**18 27 15.6**	**+0.7**
	comp=Z,5.3nm,0.8s,baz=114,slow=8.3,SNR=23						
SEY	**Seymchan**	**33.80**	**8**	P	**P**	**18 27 23.8**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=210,slow=8.2,SNR=6.8						
BOD	**Bodaibo**	**34.21**	**333**	*e*P	**P**	**18 27 25.8**	**0.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ZAK	**Zakamensk**	**35.72**	**316**	*e*P	**P**	**18 27 39.1**	**0.0**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
CHTO	**Chiang Mai**	**40.81**	**265**	*e*P	**P**	**18 28 20.7**	**-1.4**
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**40.81**	**265**	*e*P	**P**	**18 28 20.7**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.95**	**264**	P	**P**	**18 28 21.9**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=71,slow=5.4,SNR=7.1						
CMAR	**Chiang Mai Arr**	**40.95**	**264**	P	**P**	**18 28 22.0**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TIXI	**Tiksi**	**42.56**	**354**	*e*P	**P**	**18 28 35.9**	**+0.1**
	comp=Z,4.4nm,1.1s						
TIXI	**Tiksi**	**42.56**	**354**	*e*P	**P**	**18 28 35.9**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAA1	**Zalesovo Array**	**47.57**	**318**	*e*P	**P**	**18 29 15.5**	**-0.3**
ZALV	**Zalesovo Beam**	**47.57**	**318**	P	**P**	**18 29 15.5**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=104,slow=6.1,SNR=4.0						
MK32	**Makanchi Array**	**48.90**	**308**	*e*P	**P**	**18 29 25.1**	**-1.1**
MKAR	**Makanchi Array**	**48.90**	**308**	P	**P**	**18 29 25.1**	**-1.1**
	comp=Z,4.2nm,0.7s,baz=113,slow=3.2,SNR=7.5						
PSI	**Prapat**	**49.09**	**245**	P	**P**	**18 29 26.3**	**-1.9**
	comp=Z,5.1nm,0.6s,baz=116,slow=6.4,SNR=4.2						
PSI	**Prapat**	**49.09**	**245**	*e*P	**P**	**18 29 26.3**	**-1.9**
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**50.02**	**190**	*e*P	**P**	**18 29 34.3**	**-0.6**
	comp=Z,6.3nm,0.8s						
WRAB	**Tennant Creek**	**50.02**	**190**	*e*P	**P**	**18 29 34.3**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WR1	**Warramunga Arr**	**50.03**	**190**	*e*P	**P**	**18 29 34.1**	**-0.9**
	comp=Z,6.9nm,0.8s						
WRA	**Warramunga Arr**	**50.03**	**190**	P	**P**	**18 29 34.1**	**-0.9**
	comp=Z,5.2nm,0.6s,baz=8.5,slow=7.9,SNR=110						
KURK	**Kurchatov**	**51.22**	**313**	*e*P	**P**	**18 29 44.8**	**+1.1**
KURK	**Kurchatov**	**51.22**	**313**	P	**P**	**18 29 44.8**	**+1.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURBB	**Kurchatov Arra**	**51.28**	**313**	P	**P**	**18 29 44.8**	**+0.6**
	comp=Z,8.9nm,0.7s,baz=90,slow=7.3,SNR=22						
KDAK	**Kodiak Island**	**52.16**	**38**	P	**P**	**18 29 50.9**	**+0.3**
	comp=Z,8.2nm,1.0s,baz=301,slow=5.9,SNR=5.3						
AS01	**Alice Springs**	**53.75**	**190**	*e*P	**P**	**18 30 01.9**	**-0.8**
AS31	**Alice Springs**	**53.75**	**190**	*e*P	**P**	**18 30 02.2**	**-0.6**
	comp=Z,2.1nm,1.4s						
ASAR	**Alice Springs**	**53.76**	**190**	P	**P**	**18 30 01.8**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=5.8,slow=5.9,SNR=39						
ASAR				PcP	**PcP**	**18 31 09.7**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=6.7,slow=3.4,SNR=4.1						
AAK	**Ala-Archa**	**54.86**	**303**	P	**P**	**18 30 10.9**	**0.0**
	comp=Z,2.1nm,0.7s,baz=94,slow=13,SNR=2.4						
IL1	**Eielson Array**	**55.31**	**29**	*e*P	**P**	**18 30 14.1**	**+0.5**
ILAR	**Eielson Array**	**55.31**	**29**	P	**P**	**18 30 14.4**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=249,slow=5.3,SNR=10						
ILB	**Eielson Array**	**55.31**	**29**	*e*P	**P**	**18 30 14.4**	**+0.9**
BVAR	**Borovoye Array**	**56.17**	**316**	P	**P**	**18 30 20.2**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=80,slow=8.6,SNR=9.0						
KKAR	**Karatay Array**	**57.64**	**305**	*e*P	**P**	**18 30 31.6**	**+1.0**
KKAR	**Karatay Array**	**57.64**	**305**	*e*P	**P**	**18 30 31.6**	**+1.0**
INK	**Inuvik**	**60.55**	**25**	P	**P**	**18 30 51.4**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=346,slow=4.6,SNR=4.6						
INK	**Inuvik**	**60.55**	**25**	*e*P	**P**	**18 30 51.4**	**+1.2**
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**61.33**	**181**	P	**P**	**18 30 55.1**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=20,slow=12,SNR=4.6						
AKTO	**Aktyubinsk**	**64.21**	**315**	P	**P**	**18 31 16.9**	**+1.8**
	comp=Z,3.3nm,0.8s,baz=89,slow=2.6,SNR=3.6						
GEYT	**Alibek**	**68.17**	**302**	P	**P**	**18 31 41.7**	**+1.0**
	comp=Z,7.0nm,0.9s,baz=46,slow=4.3,SNR=11						
YKA	**Yellowknife Ar**	**69.73**	**29**	P	**P**	**18 31 50.2**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=292,slow=5.7,SNR=8.1						
FIA0	**FINESS Array S**	**75.60**	**334**	*e*P	**P**	**18 32 25.9**	**+1.2**
FIA0	**FINESS Array S**	**75.60**	**334**	*e*P	**P**	**18 32 25.9**	**+1.2**
FINES	**FINESS Array B**	**75.60**	**334**	P	**P**	**18 32 25.9**	**+1.2**
	comp=Z,6.9nm,1.1s,baz=46,slow=6.6,SNR=3.6						
KBZ	**Khabaz**	**76.28**	**313**	P	**P**	**18 32 29.9**	**+0.9**
	comp=Z,6.5nm,0.9s,baz=93,slow=4.2,SNR=10						
J08A	**Circle Bar Ran**	**76.31**	**48**	*e*P	**P**	**18 32 30.0**	**+0.7**
	comp=Z,14nm,1.4s						
KIV	**Kislovodsk**	**76.31**	**313**	*e*P	**P**	**18 32 30.8**	**+1.5**
	comp=Z,10nm,0.8s						
KIV	**Kislovodsk**	**76.31**	**313**	*e*P	**P**	**18 32 30.5**	**+1.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
JBNB	**Ben Lomond Mou**	**76.69**	**55**	*e*P	**P**	**18 32 32.8**	**+1.3**
GNI	**Garni**	**76.74**	**309**	P	**P**	**18 32 33.1**	**+1.2**
	comp=Z,3.2nm,0.8s,baz=210,slow=20,SNR=2.8						
AKASG	**Malin Array Be**	**80.53**	**324**	P	**P**	**18 32 51.9**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=46,slow=5.7,SNR=10						
AKASG	**Malin Array Be**	**80.53**	**324**	P	**P**	**18 32 51.9**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKBB	**Malin Array Si**	**80.53**	**324**	*e*P	**P**	**18 32 51.9**	**-0.4**
	comp=Z,5.4nm,0.9s						
AKBB	**Malin Array Si**	**80.53**	**324**	*e*P	**P**	**18 32 51.9**	**-0.4**
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AK11	**Malin Array Si**	**80.58**	**324**	*e*P	**P**	**18 32 52.7**	**+0.1**
NB2	**NORSAR Subarra**	**81.17**	**338**	P	**P**	**18 32 56.0**	**+0.4**
	comp=Z,5.3nm,0.9s,baz=43,slow=5.9						
NB200	**NORSAR Array S**	**81.17**	**338**	*e*P	**P**	**18 32 56.2**	**+0.6**
NOA	**NORSAR Array B**	**81.17**	**338**	P	**P**	**18 32 56.2**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=45,slow=5.0,SNR=4.0						
SUW	**Suwalki**	**81.43**	**329**	*e*P	**P**	**18 32 57.3**	**+0.3**
	comp=Z,32nm,0.9s						
SUW	**Suwalki**	**81.43**	**329**	*e*P	**P**	**18 32 57.3**	**+0.3**
SUW				pmax	pmax		
	comp=Z,32nm,0.9s						
BR101	**Keskin Array S**	**84.28**	**313**	*e*P	**P**	**18 33 13.1**	**+0.8**
BR131	**Keskin Array S**	**84.28**	**313**	*e*P	**P**	**18 33 13.2**	**+0.8**
BRTR	**Keskin Array B**	**84.28**	**313**	P	**P**	**18 33 13.1**	**+0.8**
	comp=Z,5.4nm,0.8s,baz=99,slow=3.9,SNR=16						
BR231	**Keskin MP Arra**	**84.76**	**313**	*e*P	**P**	**18 33 13.8**	**-0.9**
TX31	**Lajitas Ar. Si**	**93.90**	**53**	*e*P	**P**	**18 33 59.7**	**+1.5**
LTX	**Lajitas**	**93.90**	**53**	*e*P	**P**	**18 33 59.4**	**+1.2**
LTX	**Lajitas**	**93.90**	**53**	*e*P	**P**	**18 33 59.4**	**+1.2**
TXAR	**Lajitas Array**	**93.90**	**53**	P	**P**	**18 33 59.4**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=323,slow=3.9,SNR=8.2						
LPAZ	**La Paz**	**149.03**	**71**	PKPbc	**PKPbc**	**18 40 31.1**	**+1.5**
	comp=Z,2.0nm,0.9s,baz=219,slow=6.5,SNR=4.0						
PLCA	**Paso Flores**	**151.17**	**121**	PKPbc	**PKPbc**	**18 40 34.5**	**+1.1**
	comp=Z,2.5nm,0.9s,baz=180,slow=6.1,SNR=3.9						

*ISN **08** 18:21:35.4±1.3,32.˚80N×46.˚86E,h0km±4km,ML4.8*
*TEH **08** 18:21:36.8,32.˚87N×46.˚95E,h15km,ML4.8*
*IDC **08** 18:21:36.0±0.4,32.˚92N×46.˚93E,h0km,mb4.7/40, mb1 4.8/50,mb1mx4.7/71,mbtmp4.7/50,ML4.0/9,MS4.2/33, Ms1 4.2/33,ms1mx4.1/59,Error ellipse: s-maj=11.1km s-min=8.7km az=4.0*
*BJI **08** 18:21:36.3,32.˚90N×47.˚00E,h10km,mb4.8/53,mB5.2/42, Ms4.9/32,Ms7 4.6/31*
*ISCJB **08** 18:21:36.4±0.5,32.˚80N±0.˚02×46.˚94E±0.˚01,h12km±3km, mb5.0/216,MS4.3/32,Error ellipse: s-maj=2.8km s-min=1.8km az=16.7*
*DSN **08** 18:21:37.9±1.1,32.˚86N×47.˚05E,h10km,Error ellipse: s-maj=40.3km s-min=2.8km az=58.0*
*THR **08** 18:21:37.6±1.2,32.˚89N×46.˚92E,h14km±9km,ML4.6*
*GCMT **08** 18:21:38.5±0.2,32.˚79N×46.˚73E,h16km,MW5.0/84, Moment Tensor Solution. s38,c48; s84,c138; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.58±.17; Mθθ-2.79±.12; Mϕϕ-0.78±.10; Mrθ1.70±.32; Mrϕ1.70±.08; Mθϕ-1.41±.37; Best double couple: M₀4.28500×10¹⁶ NP1:ϕs125.00000°,δ61.00000°,λ95.00000°. NP2: ϕs294.00000°,δ30.00000°,λ81.00000°. Principal axes: T 4.2100, Plg74.0000°, Azm49.0000°; N 0.1550, Plg5.0000°, Azm302.0000°; P -4.3590, Plg15.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **08** 18:21:38.6±0.1,32.˚85N×46.˚97E,h15km,mb5.1/99,Ms4.3 Error ellipse: s-maj=3.5km s-min=2.2km az=18.0*
*NEIC **08** 18:21:38.5±0.0,32.˚87N×46.˚96E,h18km,mb5.1/109, ML4.6(THR),MN4.8(TEH),After THR.*
*GII **08** 18:21:38.1±0.8,32.˚90N×47.˚01E,h10km*
*MOS **08** 18:21:39.4±1.2,32.˚96N×46.˚97E,h29km,mb5.1/81, MS4.1/15,Error ellipse: s-maj=5.0km s-min=3.0km az=110.6*
*OMAN **08** 18:21:43.8±99.0,32.˚71N×47.˚10E,h34km±6km,Error ellipse: s-maj=29.4km s-min=2.1km az=242.0*
ISC 08 18:21:40.4±0.5,32.˚81N±0.˚03×46.˚97E±0.˚03,h27km±3km, n919,σ1ş38/980,mb5.0/244,MS4.4/34,48C-55D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.02**	**46**	*e*Pg	**Pn**	**18 21 56.8**	**-2.1**
IKFM				*e*Sg	**Sn**	**18 22 13.0**	**+0.6**
IKFM				*e*AMB	AMB	18 22 16.9	
	comp=Z,99nm,0.4s						
IKFM	**Kafar-mosalman**	**1.02**	**46**	*e*Pg	**Pn**	**18 21 56.8**	**-2.1**
IKFM				*e*Sg	**Sn**	**18 22 13.0**	**+0.6**
IKOM	**Komasi**	**1.43**	**18**	*e*Sg	**Sb**	**18 22 23.5**	**-0.9**
IKOM				*e*Pg	**Pn**	**18 22 04.7**	**0.0**
IKOM				*e*AMB	AMB	18 22 29.6	
	comp=Z,44µm,0.3s						
IGHG	**Ghaleghazi**	**1.55**	**348**	*e*AMB	AMB	18 22 36.6	
	comp=Z,91µm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.70**	**114**	*e*Pn	**Pb**	**18 22 09.7**	**-1.3**
SHGR				*e*Sg	**Sb**	**18 22 33.4**	**+1.4**
SHGR	**Shooshtar-Gavs**	**1.70**	**114**	*e*Pg	**Pb**	**18 22 10.1**	**-0.9**
SHGR				*e*Sg	**Sb**	**18 22 33.4**	**+1.4**
SHGR				AML	AML	18 22 43.3	
	comp=E,4µm,0.4s						
IVIS	**Veis**	**1.71**	**357**	*e*AMB	AMB	18 22 39.0	
	comp=Z,9µm,0.2s						
IVIS				*e*Pn	**Pn**	**18 22 08.4**	**-0.1**
NSR	**Nassriya**	**1.93**	**202**	*e*Pn	**Pn**	**18 22 09.4**	**-2.0**
	SNR=39						
NSR				*e*Sn	**Sn**	**18 22 33.1**	**-1.6**
	SNR=39						
IDHR	**Dehrash**	**1.94**	**346**	*e*Pn	**Pn**	**18 22 11.5**	**-0.3**
IDHR				*e*AMB	AMB	18 22 42.7	
	comp=Z,12µm,0.2s						
IDHR	**Dehrash**	**1.94**	**346**	*e*Pn	**Pn**	**18 22 11.5**	**-0.3**
ILIN	**Lien**	**2.10**	**360**	*e*Pn	**Pn**	**18 22 14.2**	**+0.2**
ILIN				*e*AMB	AMB	18 22 47.9	
	comp=Z,25µm,0.4s						
ILIN	**Lien**	**2.10**	**360**	*e*Pn	**Pn**	**18 22 14.2**	**+0.2**
BHD	**Baghdad**	**2.22**	**283**	*e*Pn	**Pn**	**18 22 13.0**	**-2.4**
	SNR=39						
BHD				*i* Sn	**Sn**	**18 22 40.0**	**-1.9**
	SNR=39						
SNGE	**Sanandaj**	**2.30**	**8**	*e*Pn	**Pn**	**18 22 16.8**	**+0.1**
SNGE	**Sanandaj**	**2.30**	**8**	*e*Pg	**Pn**	**18 22 17.1**	**+0.5**
SNGE				AML	AML	18 22 59.3	
	comp=N,3µm,0.5s						
SNGE				AML	AML	18 22 59.4	
	comp=E,5µm,0.6s						
KHMZ	**Khomeyn**	**2.67**	**69**	*e*Pn	**Pn**	**18 22 22.8**	**+1.0**
KHMZ				*e*Sg	**Sb**	**18 23 02.0**	**+1.9**
KHMZ	**Khomeyn**	**2.67**	**69**	*e*Pn	**Pn**	**18 22 22.8**	**+1.0**
KHMZ				*e*Sg	**Sb**	**18 23 02.0**	**+1.9**
ASAO	**Ashtian**	**3.08**	**55**	*e*Pn	**Pn**	**18 22 28.4**	**+0.9**
ASAO	**Ashtian**	**3.08**	**55**	*e*Pn	**Pn**	**18 22 28.4**	**+0.9**
IPIR	**Pirpir**	**3.31**	**91**	*e*Pn	**Pn**	**18 22 32.3**	**+1.6**
IPIR				*e*AMB	AMB	18 23 19.8	
	comp=Z,13µm,0.2s						
IPIR	**Pirpir**	**3.31**	**91**	*e*Pn	**Pn**	**18 22 32.3**	**+1.6**
IRAZ	**Razeghan**	**3.57**	**43**	*e*Pn	**Pn**	**18 22 35.4**	**+1.3**
IRAZ				*e*AMB	AMB	18 23 49.1	
	comp=Z,30µm,0.4s						
IRAZ	**Razeghan**	**3.57**	**43**	*e*Pn	**Pn**	**18 22 35.4**	**+1.3**
QAM	**Ghamsar**	**3.86**	**75**	*e*Pn	**Pn**	**18 22 39.6**	**+1.4**
QAM				*e*AMB	AMB	18 23 35.1	
	comp=Z,12µm,0.2s						
IKLH	**Kolahrood**	**3.90**	**81**	*e*Pn	**Pn**	**18 22 39.8**	**+1.0**
IKLH				*e*AMB	AMB	18 23 59.2	
	comp=Z,17µm,0.5s						
IKLH	**Kolahrood**	**3.90**	**81**	*e*Pn	**Pn**	**18 22 39.8**	**+1.0**
GHVR	**GHOM**	**3.97**	**64**	*e*Pn	**Pn**	**18 22 39.8**	**+0.2**
GHVR	**GHOM**	**3.97**	**64**	*e*Pn	**Pn**	**18 22 39.9**	**+0.2**
ZNJK	**Zanjan**	**4.10**	**20**	*e*Pn	**Pn**	**18 22 42.4**	**+0.9**
ZNJK	**Zanjan**	**4.10**	**20**	*e*Pn	**Pn**	**18 22 42.2**	**+0.8**
IGAR	**Gharneh**	**4.30**	**94**	*e*Pn	**Pn**	**18 22 45.1**	**+0.9**
IGAR				*e*AMB	AMB	18 22 52.8	
	comp=Z,7µm,0.1s						
IGZV	**Ghazvin**	**4.46**	**36**	*e*Pn	**Pn**	**18 22 46.2**	**-0.2**
IGZV				*e*AMB	AMB	18 23 06.7	
	comp=Z,6µm,0.2s						
IGZV	**Ghazvin**	**4.46**	**36**	*e*Pn	**Pn**	**18 22 46.2**	**-0.2**
THKV	**Tehran--Karaj**	**4.48**	**45**	*e*Pn	**Pn**	**18 22 46.9**	**+0.3**
THKV	**Tehran--Karaj**	**4.48**	**45**	*e*Pn	**Pn**	**18 22 46.9**	**+0.3**
IZEF	**Zefreh**	**4.51**	**87**	*e*Pn	**Pn**	**18 22 48.6**	**+1.4**
IZEF				*e*AMB	AMB	18 24 21.0	
	comp=Z,4µm,0.5s						
IZEF	**Zefreh**	**4.51**	**87**	*e*Pn	**Pn**	**18 22 48.6**	**+1.4**
IVRN	**Varamin**	**4.52**	**60**	*e*Pn	**

ASF LR LR 18 27 53.3
comp=Z,1µm,18.4s,baz=38,slow=44
SENK Senkaya-Erzuru 8.57 336 *e*P **Pn** **18 23 46.6 +3.7**
PTK Pertek 8.64 317 *e*P **Pn** **18 23 42.9 -0.8**
ZKTA Zakatala 8.81 358 P **Pn** **18 23 44.3 -1.7**
ZKTA Zakatala 8.81 358 P **Pn** **18 23 44.3 -1.7**
MALT Malatya 8.86 311 *e*P Pn 18 23 54.4 +7.7
MALT Malatya 8.86 311 P **Pn** **18 23 46.6 -0.1**
MALT pmax pmax
comp=Z,104nm,0.6s
MALT Malatya 8.86 311 P **Pn** **18 23 46.6 -0.1**
comp=Z,104nm,0.6s
MRVT Maraveh tapeh 8.89 55 *e*Pn **Pn** **18 23 48.1 +1.0**
MRVT Maraveh tapeh 8.89 55 *e*Pn **Pn** **18 23 48.1 +1.0**
AKH Akhalkalaki 9.02 343⇑*i*P **Pn** **18 23 51.9 +3.0**
AKH Akhalkalaki 9.02 343 *e*Pn **Pn** **18 23 47.3 -1.6**
AKH Akhalkalaki 9.02 343 *e*P **Pn** **18 23 47.3 -1.6**
AKH Akhalkalaki 9.02 343 *e*P **Pn** **18 23 47.3 -1.6**
TBLG Delisi 9.08 349 *e*Pn **Pn** **18 23 50.3 +0.7**
TBLG Delisi 9.08 349 *e*P **Pn** **18 23 50.3 +0.7**
TBLG Delisi 9.08 349 *e*P **Pn** **18 23 50.3 +0.7**
BAYT Ayd¯–ntepe-Bay 9.34 326 *e*P **Pn** **18 23 55.2 +1.8**
RAYN Ar Rayn 9.35 188 *e*Pn **Pn** **18 23 50.0 -3.4**
RAYN Ar Rayn 9.35 188 *e*Pn **Pn** **18 23 50.0 -3.4**
ILIC ilic-Erzincan 9.49 317 *e*P **Pn** **18 23 59.9 +4.6**
KSDI Kefar Szold 9.51 275 Pn **Pn** **18 23 54.9 -0.6**
HMDT Nahal Hemdat 9.68 270 Pn **Pn** **18 23 56.9 -0.9**
MMA0B Mount Meron ar 9.72 274 Pn **Pn** **18 23 58.0 -0.6**
MMAI Mount Meron Ar 9.72 274 Pn **Pn** **18 23 56.6 -1.9**
comp=Z,0.9nm,0.3s,baz=93,slow=13,SNR=6.5
MMAI Lg Lg 18 26 43.0
comp=Z,8.1nm,0.3s,baz=108,slow=23,SNR=3.1
MMAI LR LR 18 28 42.5
comp=Z,975nm,21.9s,baz=80,slow=44
MMLI Mount Malkishu 9.75 271 Pn **Pn** **18 23 58.1 -0.7**
DSI Dead Sea 9.90 266 Pn **Pn** **18 23 59.8 -1.1**
BLGI Bet Lehem HaGe 9.92 273 Pn **Pn** **18 24 00.0 -1.1**
MZDA Masada 9.96 264 Pn **Pn** **18 24 01.4 -0.3**
SLTI Sal'it 10.09 270 Pn **Pn** **18 24 04.4 +1.0**
OFRI 'Ofer 10.10 272 Pn **Pn** **18 24 03.0 -0.6**
KOZT Kozan 10.24 300 *e*P Pn 18 24 18.6 +13
GROC Groznyy 10.41 355 *e*P Pn 18 24 12.6 +4.7
GROC pmax pmax
comp=Z,63nm,1.1s
GEYT Alibeck 10.43 58 Pn **Pn** **18 24 08.4 +0.2**
comp=Z,0.5nm,0.3s,baz=256,slow=4.4,SNR=31
SHME Shamm 10.45 128 P **Pn** **18 24 08.4 -0.1**
SNR=17
SHME S **Sn** **18 26 02.8 -2.0**
SHME Shamm 10.45 128 *i*P **Pn** **18 24 07.6 -0.9**
SNR=17
PRNI Paran 10.49 260 Pn **Pn** **18 24 07.6 -1.5**
HRFI Mount Harif 10.56 258 Pn **Pn** **18 24 09.0 -1.0**
BANOM Banah 10.64 128 P **Pn** **18 24 10.3 -0.8**
SNR=90
BANOM S **Sn** **18 26 09.5 0.0**
BANOM Banah 10.64 128 P **Pn** **18 24 10.3 -0.8**
SNR=90
BANOM S **Sn** **18 26 09.5 0.0**
BANOM Banah 10.64 128 *i*P **Pn** **18 24 09.6 -1.5**
SNR=60
EIL Elat 10.75 256 Pn **Pn** **18 24 12.5 0.0**
comp=Z,2.2nm,0.3s,baz=33,slow=4.4,SNR=15
EIL Lg Lg 18 27 22.7
comp=Z,5.4nm,0.3s,baz=360,slow=9.1,SNR=4.5
EIL LR LR 18 29 27.2
comp=Z,2µm,18.5s,baz=72,slow=44
EIL Elat 10.75 256 Pn **Pn** **18 24 11.7 -0.9**
BNN Bunyan 10.85 307 *e*P Pn 18 24 30.1 +16
KZIT Kziot 10.86 263 Pn **Pn** **18 24 15.1 +1.1**
NAZ Nazwa, Dubai 10.89 133 P **Pn** **18 24 15.4 +0.9**
SNR=10
NAZ S **Sn** **18 26 14.3 -1.2**
NAZ Nazwa, Dubai 10.89 133 P **Pn** **18 24 15.4 +0.9**
SNR=10
NAZ S **Sn** **18 26 14.3 -1.2**
NAZ Nazwa, Dubai 10.89 133 *i*P **Pn** **18 24 14.1 -0.4**
SNR=20
MSFE Esma-Masafi 10.94 130 P **Pn** **18 24 14.4 -0.8**
SNR=7.5
MSFE Esma-Masafi 10.94 130 *i*P **Pn** **18 24 14.4 -0.8**
SNR=27
NEY Neytrino 10.94 343*d*iP **Pn** **18 24 18.9 +3.6**
NCK Nalchik 10.99 347 *i*P **Pn** **18 24 19.4 +3.6**
MDH Madha 11.07 130 *i*P **Pn** **18 24 16.4 -0.5**
SNR=21
UOSS Minazif 11.26 132 *e*Pn **Pn** **18 24 18.4 -1.2**
UOSS Minazif 11.26 132 *e*Pn **Pn** **18 24 18.4 -1.2**
UOSS Minazif 11.26 132 *i*P **Pn** **18 24 18.9 -0.7**
SNR=17
HATD Hatta, Dubai 11.30 132 P **Pn** **18 24 19.2 -0.9**
SNR=9.4
HATD S **Sn** **18 26 24.2 -1.4**
HATD Hatta, Dubai 11.30 132 P **Pn** **18 24 19.2 -0.9**
SNR=9.4
HATD S **Sn** **18 26 24.2 -1.4**
HATD Hatta, Dubai 11.30 132 *i*P **Pn** **18 24 20.0 -0.2**
SNR=27
KBZ Khabaz 11.36 345 Pn **Pn** **18 24 21.6 +0.9**
comp=Z,0.3nm,0.3s,baz=155,slow=10,SNR=22
KBZ LR LR 18 29 30.1
comp=Z,1µm,20.8s,baz=154,slow=42
ASHO Ashiyiah 11.36 133 P **Pn** **18 24 20.9 -0.1**
SNR=25
ASHO Ashiyiah 11.36 133 P **Pn** **18 24 20.9 -0.1**
SNR=25
ASHO Ashiyiah 11.36 133 *i*P **Pn** **18 24 19.6 -1.4**
SNR=30
CSS Mathiatis 11.54 284 *e*Pn **Pn** **18 24 25.0 +1.7**
CSS Mathiatis 11.54 284 *e*Pn **Pn** **18 24 25.0 +1.7**
CSS Mathiatis 11.54 284 Pn **Pn** **18 24 23.9 +0.6**
KVAR Kislovodsk Arr 11.62 345 Pn **Pn** **18 24 25.5 +1.0**
baz=205,slow=3.1,SNR=22
KVAR LR LR 18 28 19.1
comp=Z,384nm,19.8s,baz=141,slow=35
KIV Kislovodsk 11.62 344 *e*Pn **Pn** **18 24 25.5 +1.1**
KIV Kislovodsk 11.62 344 *e*P **Pn** **18 24 27.5 +3.1**
KIV *e*S **Sn** **18 26 35.5 +2.2**
KIV pmax pmax
comp=Z,40nm,1.0s
KIV MLR MLR
comp=Z,253nm,10.0s
KIV Kislovodsk 11.62 344 *e*Pn **Pn** **18 24 25.5 +1.1**
KIV *e*S **Sn** **18 26 35.5 +2.2**
comp=Z,253nm,10.0s
KIV Kislovodsk 11.62 344 *i*P **Pn** **18 24 23.7 -0.7**
SNR=13
ALNE Al Ain 11.65 136 *i*P **Pn** **18 24 23.8 -1.1**
SNR=24
SOHO SOHO 12.06 133 *i*P **Pn** **18 24 30.0 -0.5**
SNR=20
SOC Sochi 12.16 334 *e*P **Pn** **18 24 33.1 +1.3**
SOC *e*S **Sn** **18 26 45.9 -0.6**
SOC pmax pmax
comp=Z,67nm,1.2s
SOC MLR MLR
comp=Z,2µm,13.0s
SOC Sochi 12.16 334 *e*P **Pn** **18 24 33.1 +1.3**
comp=Z,2µm,13.0s
SOC *e*S **Sn** **18 26 45.9 -0.6**
GOF Gofitskoye 12.60 347⇑*e*P **Pn** **18 24 34.1 -3.7**
GOF pmax pmax
comp=Z,45nm,1.5s
BR101 Keskin Array S 12.77 306 *e*Pn **Pn** **18 24 40.9 +0.6**
BR101 Keskin Array S 12.77 306 *e*Pn **Pn** **18 24 40.8 +0.6**
BR131 Keskin Array S 12.77 306 *e*Pn **Pn** **18 24 40.4 +0.2**
BR131 Keskin Array S 12.77 306 *e*Pn **Pn** **18 24 40.4 +0.2**
BRTR Keskin Array B 12.77 306 Pn **Pn** **18 24 40.9 +0.6**
comp=Z,0.2nm,0.3s,baz=124,slow=12,SNR=28
BRTR LR LR 18 29 40.0
comp=Z,223nm,19.6s,baz=102,slow=38
ILGA Ilgaz 13.40 312 *e*Pn **Pn** **18 24 48.7 -0.3**
ILGA Ilgaz 13.40 312 *e*Pn **Pn** **18 24 48.7 -0.3**
ANTO Ankara 13.41 306 *e*Pn **Pn** **18 24 51.0 +2.0**
ANTO Ankara 13.41 306 *e*P **Pn** **18 24 51.0 +2.0**
ANTO Ankara 13.41 306 *e*P **Pn** **18 24 51.0 +2.0**
BR231 Keskin MP Arra 13.41 306 *e*Pn Pn 18 24 42.1 -6.9
BR231 *e*Pn P 18 24 49.5 -8.7
BR231 Keskin MP Arra 13.41 306 *e*Pn **Pn** **18 24 49.5 +0.5**
BSY Bisya 13.50 135 P **Pn** **18 24 50.7 +0.4**
SNR=14
BSYO Bisya 13.54 135 P **Pn** **18 24 50.7 0.0**
SNR=14
SMDO Samad 13.79 132 P **Pn** **18 24 56.0 +1.8**
SNR=9.5
SMDO Samad 13.79 132 P **Pn** **18 24 56.0 +1.8**
SNR=9.5
WSAR Wadi Sarin 14.03 130 Pn **Pn** **18 24 55.2 -2.2**
comp=Z,2.4nm,0.3s,baz=313,slow=10,SNR=38
WSAR Sn **Sn** **18 27 28.9 -3.3**
comp=Z,3.2nm,0.3s,baz=166,slow=21,SNR=12
WSAR LR LR 18 31 17.7
comp=Z,1µm,21.9s,baz=332,slow=41
ANN Anapa 14.08 331 *e*P **Pn** **18 25 00.1 +2.2**
ANN *e*S **Sn** **18 27 38.2 +5.1**
ANN pmax pmax
comp=Z,42nm,1.4s
ANN MLR MLR
comp=E,692nm,12.0s
ANN MLR MLR
comp=Z,2µm,12.0s
ANN MLR MLR
comp=N,1µm,12.0s
ISP Isparta 14.32 295 *e*Pn **Pn** **18 25 02.4 +0.9**
ISP Isparta 14.32 295 *e*P **Pn** **18 25 02.4 +0.9**
ISP Isparta 14.32 295 *e*Pn **Pn** **18 25 02.3 +0.9**
WBK Wadi Bani Khal 14.69 131 P **Pn** **18 25 07.5 +1.0**
SNR=8.0
SIM Simferopol' 15.69 324 *e*P **P** **18 25 21.5 -1.8**
SIM pmax pmax
comp=Z,37nm,1.2s
SIM MLR MLR
comp=Z,370nm,13.6s
SIM Simferopol' 15.69 324 *e*P **P** **18 25 21.5 -1.8**
comp=Z,370nm,13.6s
ARG Arkhangelos 15.90 288 P **P** **18 25 25.3 -0.3**
ARG pmax pmax
comp=Z,41nm,1.1s
ARG Arkhangelos 15.90 288 P **P** **18 25 25.3 -0.3**
comp=Z,41nm,1.1s
KARP Karpathos 16.62 285 *e*Pn **Pn** **18 25 32.3 +0.9**
comp=Z,17nm,0.7s
KARP Karpathos 16.62 285 *e*Pn **Pn** **18 25 32.3 +0.9**
comp=Z,17nm,0.7s
SANT Santorini 18.06 287⇓*i*P **P** **18 25 50.2 +0.6**
SANT Santorini 18.06 287 *e*P **P** **18 25 49.5 -0.1**
comp=Z,50nm,0.7s
SANT Santorini 18.06 287 *e*P **P** **18 25 49.5 -0.1**
comp=Z,50nm,0.7s
APE Apeiranthos 18.07 290⇓*i*P **P** **18 25 50.3 +0.5**
APE Apeiranthos 18.07 290 *i*P **P** **18 25 53.8 +4.0**
APE Apeiranthos 18.07 290⇓*i*P **P** **18 25 50.3 +0.5**
PSN Preselentsi 18.27 312 *e*P **P** **18 25 52.6 +0.7**
DAMY Dhamar 18.31 188 *e*Pn **P** **18 25 52.9 +0.1**
comp=Z,30nm,1.0s
KBL Kabul 18.45 79 *e*P **Pn** **18 25 54.9 +0.5**
comp=Z,45nm,1.3s
KBL Kabul 18.45 79 *e*P **Pn** **18 25 54.9 +0.5**
KBL pmax pmax
comp=Z,45nm,1.3s
KBL Kabul 18.45 79 *e*P **Pn** **18 25 54.9 +0.5**
comp=Z,45nm,1.3s
IDI Anoyia 18.46 284 P **P** **18 25 53.3 -0.8**
comp=Z,4.7nm,0.3s,baz=80,slow=10,SNR=38
IDI Anoyia 18.46 284⇑*i*P **Pn** **18 25 55.3 +1.0**
IDI Anoyia 18.46 284 *e*P **Pn** **18 25 55.0 +0.7**
comp=Z,60nm,0.9s
IDI Anoyia 18.46 284 *e*P **Pn** **18 25 55.0 +0.7**
comp=Z,60nm,0.9s
TIRR Tirgusor 18.54 314⇑*i*P **Pn** **18 25 55.4 +0.4**
TIRR Tirgusor 18.54 314 *e*P **Pn** **18 25 56.2 +1.2**
comp=Z,128nm,1.8s
TIRR Tirgusor 18.54 314 *e*P **Pn** **18 25 56.2 +1.2**
TIRR pmax pmax
comp=Z,128nm,1.8s
TIRR Tirgusor 18.54 314 *e*P **Pn** **18 25 56.2 +1.2**
comp=Z,128nm,1.8s
PRD Provadia 18.54 310 *e*P **Pn** **18 25 56.9 +1.8**
ALN Alexandroupoli 18.56 302 P **Pn** **18 25 56.1 +0.8**
ALN pmax pmax
comp=Z,29nm,1.1s
ALN Alexandroupoli 18.56 302 P **Pn** **18 25 56.1 +0.8**
comp=Z,29nm,1.1s
TLCR 18.70 317⇓*i*P **Pn** **18 25 57.3 +0.2**
TLCR 18.70 317⇓*i*P **Pn** **18 25 57.3 +0.2**
VRH Novokhopyorsk 18.78 350 *e*P **P** **18 25 55.9 -1.4**
VRH pmax pmax
comp=Z,50nm,0.7s
VRH Novokhopyorsk 18.78 350 *e*P **P** **18 25 55.9 -1.4**
comp=Z,50nm,0.7s
HARR Harsova 18.95 314⇓*i*P **Pn** **18 26 00.0 -0.1**
HARR Harsova 18.95 314⇓*i*P **Pn** **18 26 00.0 -0.1**
AB31 Akbulak array 19.08 27 *i*P **P** **18 25 59.4 -1.2**
AB31 pmax pmax
comp=Z,31nm,0.8s
AB31 Akbulak array 19.08 27 *i*P **P** **18 25 59.4 -1.2**
comp=Z,31nm,0.8s
ABKAR Akbulak array 19.08 27 *e*P **P** **18 25 59.3 -1.3**
comp=Z,288nm,0.8s
ABKAR Akbulak array 19.08 27 *e*P **P** **18 25 59.3 -1.3**
comp=Z,288nm,0.8s
CFR Carcaliu 19.09 316⇓*i*P **P** **18 26 01.1 +0.3**
CFR Carcaliu 19.09 316 P **P** **18 26 00.8 0.0**
CFR pmax pmax
comp=Z,21nm,0.7s
CFR Carcaliu 19.09 316 P **P** **18 26 00.8 0.0**
comp=Z,21nm,0.7s
KDZ Kurdzhali 19.26 303 *e*P **Pn** **18 26 04.1 +0.3**
VSR Storozhevoye 19.26 345 *e*P **P** **18 26 01.1 -1.5**
VSR pmax pmax
comp=Z,60nm,1.0s
VSR Storozhevoye 19.26 345 *e*P **P** **18 26 01.1 -1.5**
comp=Z,60nm,1.0s
DIM Dimitrovgrad 19.32 305 *e*P **P** **18 26 02.4 -0.9**
AKTK Aktyubinsk 19.41 22 P **P** **18 26 03.0 -1.3**
comp=Z,34nm,0.7s
AKTO Aktyubinsk 19.41 22 P **P** **18 26 02.9 -1.4**
comp=Z,2.0nm,0.3s,baz=202,slow=12,SNR=25
AKTO LR LR 18 35 45.2
comp=Z,878nm,19.8s,baz=202,slow=44
AKTO Aktyubinsk 19.41 22 P **P** **18 26 03.0 -1.3**
AKTO pmax pmax
comp=Z,34nm,0.7s
VORR Voronezh 19.68 346 P **Pn** **18 26 09.0 +0.3**
VORR pmax pmax
comp=Z,250nm,0.6s
VORR Voronezh 19.68 346 P **Pn** **18 26 09.0 +0.3**
comp=Z,250nm,0.6s
RZN Rozhen 19.76 303 *e*P **P** **18 26 07.0 -1.4**
LEOM Leova 19.78 319⇑*i*P **P** **18 26 08.8 +0.5**
LEOM Leova 19.78 319⇑*i*P **P** **18 26 08.8 +0.5**
KIS Kishinev 19.80 321 *e*P **P** **18 26 07.0 -1.5**
comp=Z,200nm,2.0s
KIS Kishinev 19.80 321 *e*P **P** **18 26 07.0 -1.5**
KIS *e* 18 29 50.0
KIS pmax pmax
comp=Z,170nm,2.0s
KIS Kishinev 19.80 321 *e*P **P** **18 26 07.0 -1.5**
comp=Z,170nm,2.0s
SGRR Singureni 19.93 311⇓*i*P **P** **18 26 10.1 +0.1**
SGRR Singureni 19.93 311⇓*i*P **P** **18 26 10.1 +0.1**
ISR Istrita 20.02 314⇑*i*P **P** **18 26 11.5 +0.5**
ISR Istrita 20.02 314 P Pn 18 26 14.6 +1.7
ISR Istrita 20.02 314⇑*i*P **P** **18 26 11.5 +0.5**
ODBI Odobesti 20.05 316⇑*i*P Pn 18 26 12.3 -0.9
ODBI Odobesti 20.05 316⇑*i*P Pn 18 26 12.3 -0.9
CHM Chimkent 20.25 56 *e*P **P** **18 26 12.4 -1.1**
comp=Z,368nm,1.0s
CHM *e*S **S** **18 29 57.4 -2.0**
CHM LR LR 18 35 02.1
comp=Z,341nm,12.7s
VRI Vrincioaia 20.30 316⇓*i*P **P** **18 26 13.4 -0.6**
VRI Vrincioaia 20.30 316 P Pn 18 26 15.4 -0.7
VRI Vrincioaia 20.30 316 P Pn 18 26 15.4 -0.7
PLOR Plostina 20.34 316⇑*i*P **P** **18 26 14.2 -0.3**
PLOR Plostina 20.34 316 P **P** **18 26 14.2 -0.3**
PLOR Plostina 20.34 316 P **P** **18 26 14.2 -0.3**
SRS Serrai 20.39 301 P **P** **18 26 15.5 +0.4**
SRS pmax pmax
comp=Z,35nm,1.3s
SRS Serrai 20.39 301 P **P** **18 26 15.5 +0.4**
comp=Z,35nm,1.3s
PGB Panagyurishte 20.44 305 *e*P **P** **18 26 14.8 -0.9**
SOH Sokhos 20.48 300 P **P** **18 26 17.0 +0.9**
SOH pmax pmax
comp=Z,28nm,1.1s
SOH Sokhos 20.48 300 P **P** **18 26 17.0 +0.9**
comp=Z,28nm,1.1s
IUG Iuzhnay 20.49 56 *e*P **P** **18 26 16.6 +0.4**
comp=Z,306nm,0.8s
IUG LR LR 18 35 04.6
comp=Z,614nm,11.5s
MLR Muntele Rosu 20.57 314 P **P** **18 26 16.8 -0.3**
comp=Z,12nm,1.2s,baz=38,slow=2.8,SNR=18
MLR Muntele Rosu 20.57 314⇓*i*P **P** **18 26 17.5 +0.4**
MLR Muntele Rosu 20.57 314 *e*P Pn 18 26 18.2 -1.2
comp=Z,65nm,1.0s
LPSR Galich'ya Gora 20.62 346 *e*P **P** **18 26 14.5 -2.9**
LPSR pmax pmax
comp=Z,130nm,0.6s
BRLS Boroldaу 20.66 54 *e*P **P** **18 26 14.3 -3.7**
comp=Z,13nm,1.0s
TESR Tescani 20.70 317⇓*i*P **P** **18 26 17.9 -0.5**
TESR Tescani 20.70 317⇓*i*P **P** **18 26 17.9 -0.5**
HUMR Humele 20.70 311⇓*i*P **P** **18 26 18.0 -0.4**
HUMR Humele 20.70 311⇓*i*P **P** **18 26 18.0 -0.4**
THE Thessaloniki 20.72 299 P **P** **18 26 19.2 +0.6**
THE pmax pmax
comp=Z,122nm,1.1s
THE Thessaloniki 20.72 299 P **P** **18 26 19.2 +0.6**
comp=Z,122nm,1.1s
SORM Soroca 20.77 323⇑*i*P **P** **18 26 16.1 -3.0**
LIT Litokhoron 20.95 297 P **P** **18 26 22.3 +1.2**
LIT pmax pmax
comp=Z,113nm,0.9s
LIT Litokhoron 20.95 297 P **P** **18 26 22.3 +1.2**
comp=Z,113nm,0.9s
KKB Krupnik 20.98 302 *e*P **P** **18 26 20.7 -0.7**
MTUR Matau 20.98 313⇑*i*P **P** **18 26 21.5 0.0**
MTUR Matau 20.98 313⇑*i*P **P** **18 26 21.5 0.0**
VOIR 21.09 313⇓*i*P **P** **18 26 22.1 -0.5**
VOIR 21.09 313 P **P** **18 26 21.9 -0.7**
VOIR pmax pmax
comp=Z,169nm,1.2s
VOIR 21.09 313 P **P** **18 26 21.9 -0.7**
comp=Z,169nm,1.2s
VTS Vitosha 21.12 304⇓*i*P **P** **18 26 23.3 +0.2**
VTS Vitosha 21.12 304 *e*P **P** **18 26 21.9 -1.2**
comp=Z,14nm,0.9s
VTS Vitosha 21.12 304 *e*P **P** **18 26 21.9 -1.2**
VTS pmax pmax
comp=Z,14nm,0.9s
VTS Vitosha 21.12 304 *e*P **P** **18 26 21.9 -1.2**
comp=Z,14nm,0.9s
VTS Vitosha 21.12 304 *e*P **P** **18 26 19.9 -3.2**
DOPR Dopca 21.15 315⇑*i*P **P** **18 26 22.8 -0.4**
DOPR Dopca 21.15 315⇑*i*P **P** **18 26 22.8 -0.4**
KK31 Karatay Array 21.15 54 P **P** **18 26 21.6 -1.7**
KK31 pmax pmax
comp=Z,34nm,0.9s
KK31 Karatay Array 21.15 54 P **P** **18 26 21.6 -1.7**
comp=Z,34nm,0.9s
KKAR Karatay Array 21.15 54 *e*P **P** **18 26 21.9 -1.4**
KKAR Karatay Array 21.15 54 *e*P **P** **18 26 21.9 -1.4**
KKAR Karatay Array 21.15 54 *e*P **P** **18 26 21.9 -1.4**
GRG Griva 21.22 300 P **P** **18 26 24.3 +0.3**
GRG pmax pmax
comp=Z,67nm,0.7s
GRG Griva 21.22 300 P **P** **18 26 24.3 +0.3**
comp=Z,67nm,0.7s
ARR Arges 21.31 313⇓*i*P **P** **18 26 24.7 -0.3**
ARR Arges 21.31 313⇓*i*P **P** **18 26 24.7 -0.3**
PRAR RASCA 21.42 319⇓*i*P **P** **18 26 25.8 -0.4**
PRAR RASCA 21.42 319⇓*i*P **P** **18 26 25.8 -0.4**
ATD Arta Tunnel 21.52 191 LR LR 18 35 26.0
comp=Z,683nm,20.6s,baz=1,0,slow=38
DZA Taraz 21.64 55 *e*P **P** **18 26 29.7 +1.1**
comp=Z,414nm,0.8s
MDB Medias 21.84 314⇓*i*P **P** **18 26 30.3 -0.3**
MDB Medias 21.84 314⇓*i*P **P** **18 26 30.3 -0.3**
LOT Lotru 21.89 312⇑*i*P **P** **18 26 31.1 -0.2**
LOT Lotru 21.89 312⇑*i*P **P** **18 26 31.1 -0.2**
SRE Strehaia 21.91 310⇑*i*P **P** **18 26 31.3 0.0**
SRE Strehaia 21.91 310 P **P** **18 26 31.3 0.0**
SRE Strehaia 21.91 310 P **P** **18 26 31.3 0.0**
FNA Florina 21.93 299 P **P** **18 26 32.4 +0.7**
FNA pmax pmax
comp=Z,68nm,0.6s
FNA Florina 21.93 299 P **P** **18 26 32.4 +0.7**
comp=Z,68nm,0.6s
BURAR Bucovina Array 22.13 318⇓*i*P **P** **18 26 34.9 +1.0**
BURAR Bucovina Array 22.13 318 P **P** **18 26 34.8 +0.9**
BURAR Bucovina Array 22.13 318⇓*i*P **P** **18 26 34.9 +1.0**
BUR04 Bucovina Ar. S 22.14 318 *e*P **P** **18 26 32.0 -1.9**
BUR04 Bucovina Ar. S 22.14 318 *e*P **P** **18 26 32.0 -1.9**
AKASG Malin Array Be 22.14 329 P **P** **18 26 31.3 -2.5**
comp=Z,7.2nm,0.6s,baz=132,slow=12,SNR=47
AKASG S **S** **18 30 29.9 -6.3**
comp=Z,1.5nm,0.7s,baz=134,slow=21,SNR=7.3
AKBB Malin Array Si 22.14 329 *e*P **P** **18 26 30.8 -3.0**
comp=Z,30nm,0.8s
AKBB Malin Array Si 22.14 329 *e*P **P** **18 26 30.8 -3.0**
AKBB pmax pmax
comp=Z,30nm,0.8s
AKBB Malin Array Si 22.14 329 *e*P **P** **18 26 30.8 -3.0**
comp=Z,30nm,0.8s
KIEV Kiev 22.14 329 *e*P **P** **18 26 30.4 -3.4**
comp=Z,28nm,0.7s
KIEV Kiev 22.14 329*d*iP **P** **18 26 31.5 -2.3**
KIEV Kiev 22.14 329 *i*P **P** **18 26 31.5 -2.3**
AK11 Malin Array Si 22.15 329 *e*P **P** **18 26 31.2 -2.7**
BUR08 Bucovina Ar. S 22.16 318 *e*P **P** **18 26 32.6 -1.6**
BUR08 Bucovina Ar. S 22.16 318 *e*P **P** **18 26 32.6 -1.6**
ZAGS Zajecar 22.22 307 *e*P **P** **18 26 33.4 -1.3**
MNAS Manas 22.34 57 P **P** **18 26 35.6 -0.5**
MNAS pmax pmax
comp=Z,17nm,1.2s
MNAS Manas 22.34 57 P **P** **18 26 35.6 -0.5**
comp=Z,17nm,1.2s
ARCR ARCALIA 22.34 316⇓*i*P **P** **18 26 36.2 +0.2**
ARCR ARCALIA 22.34 316⇓*i*P **P** **18 26 36.2 +0.2**
SFK Sufi-Kurgan 22.48 64 P **P** **18 26 37.9 +0.1**
SFK pmax pmax
comp=Z,82nm,1.1s
SFK Sufi-Kurgan 22.48 64 P **P** **18 26 37.9 +0.1**
comp=Z,82nm,1.1s
CJR Cluj-Napoca 22.59 315⇓*i*P **P** **18 26 39.2 +0.4**
CJR Cluj-Napoca 22.59 315 P **P** **18 26 39.1 +0.3**
CJR Cluj-Napoca 22.59 315 P **P** **18 26 39.1 +0.3**
KUBS Kucevo 22.81 308 *e*P **P** **18 26 38.8 -2.2**
AML Almayashu 23.08 59 P **P** **18 26 45.4 +1.1**
SNR=21
BMR Baia Mare 23.14 317⇑*i*P **P** **18 26 44.6 +0.2**
BMR Baia Mare 23.14 317⇑*i*P **P** **18 26 44.6 +0.2**
DRGR 23.17 314⇑*i*P **P** **18 26 43.3 -1.4**
DRGR 23.17 314⇑*i*P **P** **18 26 43.3 -1.4**
TIR Tirane 23.17 299⇓*i*P **P** **18 26 44.5 -0.3**
TIR Tirane 23.17 299 *e*P **P** **18 26 44.5 -0.2**
comp=Z,77nm,0.9s
TIR Tirane 23.17 299 *e*P **P** **18 26 44.6 -0.2**
TIR pmax pmax
comp=Z,77nm,0.9s
TIR Tirane 23.17 299 *e*P **P** **18 26 44.5 -0.2**
comp=Z,77nm,0.9s
GRUS Gruza 23.27 306 *e*P **P** **18 26 44.4 -1.3**
EKS2 Erkin-Say 23.29 57 P **P** **18 26 46.3 +0.3**
SNR=11
BZS Buzias 23.32 311⇓*i*P **P** **18 26 45.7 -0.5**
BZS Buzias 23.32 311⇓*i*P **P** **18 26 45.7 -0.5**
OBN Obninsk 23.47 345 P **P** **18 26 47.1 -0.4**
comp=Z,14nm,0.3s,baz=147,slow=2.3,SNR=16
OBN S **S** **18 30 56.3 -2.8**
comp=Z,16nm,0.6s,baz=194,slow=23,SNR=8.2
OBN LR LR 18 37 13.2
comp=Z,984nm,20.7s,baz=158,slow=40
OBN Obninsk 23.47 345 *e*P **P** **18 26 46.5 -0.9**
OBN S **S** **18 30 56.3 -2.8**
OBN Obninsk 23.47 345⇑*e*P **P** **18 26 46.7 -0.8**
OBN *e* 18 26 55.0
OBN *e* 18 27 00.5
OBN *SP sP 18 27 16.0 +17
OBN *i*S **S** **18 30 58.0 -1.1**
OBN *e* 18 31 07.3
OBN pmax pmax
comp=Z,99nm,1.2s
OBN MLR MLR
comp=Z,882nm,19.0s
BANR Banloc 23.54 310⇓*i*P **P** **18 26 48.5 +0.2**
BANR Banloc 23.54 310⇓*i*P **P** **18 26 48.5 +0.2**
IVAS Ivanjica 23.56 305 *e*P **P** **18 26 47.7 -0.9**
SIRR Siria 23.57 312⇓*i*P **P** **18 26 49.2 +0.5**
SIRR Siria 23.57 312⇓*i*P **P** **18 26 49.2 +0.5**
UCH Uchtor 23.70 59 P **P** **18 26 52.3 +1.9**

SNR=14
AAK Ala-Archa 23.79 58 P P 18 26 52.0 +1.0
comp=Z,2.4nm,0.5s,baz=247,slow=11,SNR=7.8
AAK Lg Lg 18 34 12.2
comp=Z,1.6nm,0.8s,baz=288,slow=5.0,SNR=4.0
AAK LR LR 18 37 42.9
comp=Z,951nm,21.1s,baz=258,slow=41
AAK Ala-Archa 23.79 58 *eP* **P 18 26 51.1 +0.2**
comp=Z,18nm,1.1s
AAK *e*ScP **ScP 18 34 12.2 +1.8**
AAK Ala-Archa 23.79 58*ce*P **P 18 26 52.9 +1.9**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 23.79 58 *e*P **P 18 26 51.1 +0.2**
comp=Z,18nm,1.1s
AAK *e*ScP **ScP 18 34 12.2 +1.8**
MOS Moscow 23.83 347 *e*P **P 18 26 49.7 -1.3**
MOS *e* 18 27 17.9
MOS *e*S **S 18 31 03.7 -1.3**
MOS pmax pmax
comp=E,34nm,0.7s
MOS pmax pmax
comp=Z,127nm,1.5s
DIVS Divibare 23.84 306 *e*P **P 18 26 50.8 -0.5**
comp=Z,18nm,1.0s
DIVS Divibare 23.84 306 *e*P **P 18 26 50.8 -0.5**
comp=Z,18nm,1.0s
DRME Dracevica, Mon 23.86 301 *e*P **P 18 26 50.8 -0.6**
PDG Podgorica 23.87 302 ǁ*i*P **P 18 26 51.3 -0.2**
PDG Podgorica 23.87 302 ǁ*e*P **P 18 26 52.3 +0.8**
TTG Podgorica 23.87 302 *e*P **P 18 26 51.5 0.0**
comp=Z,22nm,0.7s
TTG Podgorica 23.87 302 *e*P **P 18 26 51.5 0.0**
TTG pmax pmax
comp=Z,22nm,0.7s
TTG Podgorica 23.87 302 *e*P **P 18 26 51.5 0.0**
comp=Z,22nm,0.7s
FRU Bishkek 23.93 57 *e*P **P 18 26 52.0 -0.1**
FRU *e* 18 27 18.0
FRU pmax pmax
comp=Z,70nm,2.0s
FRU Bishkek 23.93 57 *e*P **P 18 26 52.0 -0.1**
comp=Z,70nm,2.0s
TRPA Tarpa 23.93 317ǁ*e*P **P 18 26 51.9 -0.1**
FRU1 Bishkek 23.93 57 P **P 18 26 51.5 -0.7**
FRU1 pmax pmax
comp=Z,42nm,1.4s
FRU1 Bishkek 23.93 57 P **P 18 26 51.5 -0.7**
comp=Z,42nm,1.4s
USP Ospenovka 23.96 56 P **P 18 26 56.4 +3.9**
SNR=8.8
LVV L'vov 24.05 322 *e*P **P 18 26 52.1 -1.0**
LVV *e* 18 27 25.5
LVV *e*S **S 18 31 06.1 -2.5**
LVV MLR MLR
comp=Z,200nm,10.0s
LVV MLR MLR
comp=E,200nm,12.0s
KBK Karagaybulak 24.12 58 P **P 18 26 55.0 +0.9**
SNR=22
BBLS Lazići 24.16 305 *e*P **P 18 26 54.4 +0.1**
KZA Kyzart 24.19 59 P **P 18 26 55.6 +0.6**
SNR=12
BTLS Baital 24.23 52 *e*P **P 18 26 53.7 -1.1**
comp=E,216nm,0.9s
KSH Kashi 24.29 66 P **P 18 26 52.0 -3.6**
KSH pP pP 18 26 55.1 -8.4
KSH sP sP 18 26 58.8 -8.1
KSH PP **PnPn 18 27 24.1 -1.8**
KSH S **S 18 31 04.1 -8.9**
KSH sS pS 18 31 10.7 -11
KSH SS **SnSn 18 31 54.0 -2.5**
KSH pmax pmax
comp=E,17nm,0.8s
KSH pmax pmax
comp=E,560nm,7.4s
KSH LR LR
comp=E,910nm,9.6s
KSH LR LR
comp=E,2μm,12.5s
KSH LR LR
comp=E,1μm,13.1s
TEKS Tekeris 24.30 307 *e*P **P 18 26 53.7 -1.8**
UZH Uzhgorod 24.33 318*de*P **P 18 26 56.6 +0.9**
UZH *e* 18 27 08.2
UZH *e*S **S 18 31 13.4 +0.3**
HCY Herceg Novi 24.42 301 *e*P **P 18 26 54.7 -1.9**
NRN Naryn 24.61 61 P **P 18 26 59.2 +0.5**
NRN pmax pmax
comp=Z,39nm,0.8s
KWP Kalwaria Pacla 24.64 320 *e*P **P 18 26 59.2 +0.7**
KWP Kalwaria Pacla 24.64 320 *e*P **P 18 26 58.3 -0.2**
comp=Z,567nm,0.6s
KWP Kalwaria Pacla 24.64 320 *e*P **P 18 26 58.3 -0.2**
KWP pmax pmax
comp=Z,567nm,0.6s
KWP Kalwaria Pacla 24.64 320 *e*P **P 18 26 58.3 -0.2**
comp=Z,567nm,0.6s
TKM2 Tokmak 2 24.65 58 P **P 18 26 59.1 +0.2**
SNR=34
BMNS Besmoynak 24.75 57 *e*P **P 18 27 01.2 +1.4**
comp=Z,293nm,0.6s
CRVS Cervenica-Dubn 24.94 318 *e*P **P 18 27 00.5 -0.8**
ARU Arti 24.95 15 P **P 18 27 01.3 +0.1**
comp=Z,20nm,0.8s,baz=203,slow=7.2,SNR=26
ARU LR LR 18 40 04.5
comp=Z,664nm,21.1s,slow=45
ARU Arti 24.95 15 *e*P **P 18 27 01.1 -0.1**
comp=Z,42nm,1.0s
ARU Arti 24.95 15*d i*P **P 18 27 01.5 +0.3**
ARU S **S 18 31 22.7 -0.2**
ARU pmax pmax
comp=Z,59nm,1.2s
ARU Arti 24.95 15 *e*P **P 18 27 01.1 -0.1**
comp=Z,42nm,1.0s
TIP Timpagrande 25.18 293ǁ*i*P **P 18 27 04.0 +0.4**
TIP Timpagrande 25.18 293 *e*P **P 18 27 03.8 +0.2**
comp=Z,146nm,1.7s
TIP Timpagrande 25.18 293 *e*P **P 18 27 03.8 +0.2**
comp=Z,146nm,1.7s
KECS Kecovo 25.30 316 *e*P **P 18 27 04.0 -0.5**
STHS Stebnicka Huta 25.33 319 *e*P **P 18 27 05.6 +0.8**
PSZ Piszkesteto 25.39 314⇑*i*P **P 18 27 05.8 +0.4**
PSZ Piszkesteto 25.39 314ǁ*ex* **P 18 27 05.1 -0.3**
PSZ Piszkesteto 25.39 314 *e*P **P 18 27 05.5 +0.1**
comp=Z,41nm,1.0s
PSZ Piszkesteto 25.39 314 *e*P **P 18 27 05.5 +0.1**
PSZ pmax pmax
comp=Z,41nm,1.0s
PSZ Piszkesteto 25.39 314 *e*P **P 18 27 05.5 +0.1**
comp=Z,41nm,1.0s
MATE Matera 25.39 297ǁ*i*P **P 18 27 05.8 +0.4**
KUU Kurty 25.42 56 *e*P **P 18 27 07.1 +1.4**
comp=Z,68nm,1.0s
KUU LR LR 18 37 55.5
comp=Z,356nm,10.3s
KDJ Kajisay 25.61 60 *e*P **P 18 27 08.5 +0.9**
comp=Z,39nm,1.1s
KDJ Kajisay 25.61 60 P **P 18 27 08.5 +0.9**
KDJ pmax pmax
comp=Z,39nm,1.1s
KDJ Kajisay 25.61 60 *e*P **P 18 27 08.5 +0.9**
comp=Z,39nm,1.1s
AAA Alma-Ata 25.65 57 *e*P **P 18 27 09.3 +1.5**
comp=Z,174nm,1.0s
AAA LR LR 18 39 21.3
comp=Z,873nm,9.7s
BUD Budapest 25.73 313ǁ*e*S **P 18 27 09.0 +0.6**
BUD Budapest 25.73 313 P **P 18 27 10.4 +2.0**
BUD pmax pmax
comp=Z,83nm,0.8s
MDOK Medeo 25.74 58 *e*P **P 18 27 07.5 -1.2**
comp=Z,134nm,1.2s
MDOK LR LR 18 39 02.0
comp=Z,843nm,9.7s
CEL Celeste 25.79 291 *e*P **P 18 27 10.2 +1.0**
comp=Z,64nm,0.6s
CEL Celeste 25.79 291 *e*P **P 18 27 10.2 +1.0**
comp=Z,64nm,0.6s
SVE Sverdlovsk 25.80 17⇑*e*P **P 18 27 09.3 +0.4**
SVE pmax pmax
comp=Z,27nm,1.0s
NIE Niedzica 25.86 318 *e*P **P 18 27 09.2 -0.4**
NIE Niedzica 25.86 318 *e*P **P 18 27 09.2 -0.4**
BLY Banja Luka 25.95 306ǁ*i*P **P 18 27 10.7 +0.3**
BLY Banja Luka 25.95 306⇑*e*P **P 18 27 10.2 -0.2**
comp=Z,20nm,1.0s
BLY Banja Luka 25.95 306 *e*P **P 18 27 10.2 -0.2**
CUC Castrocucco 25.99 295 *e*P **P 18 27 12.4 +1.5**
comp=Z,33nm,0.5s
CUC Castrocucco 25.99 295 *e*P **P 18 27 12.4 +1.5**
comp=Z,33nm,0.5s
TARG Taragay, Kyrgy 25.99 61 *e*P **P 18 27 12.2 +0.8**
comp=Z,22nm,0.8s
TARG Taragay, Kyrgy 25.99 61 *e*P **P 18 27 12.2 +0.8**
comp=Z,22nm,0.8s
CSKK Cs˙ákato 26.15 312ǁ*ex* **P 18 27 12.8 +0.6**
LANS Liptovska Anna 26.20 317 *e*P **P 18 27 12.3 -0.5**
BRVK Borovoye 26.26 33*ce*P **P 18 27 12.6 -0.6**
BRVK pmax pmax
comp=Z,103nm,1.2s
BRVK Borovoye 26.26 33 P **P 18 27 14.4 +1.2**
SNR=15
NACGM Naroch 26.27 333 *e* P 18 27 22.0 +8.8
VYHS Vyhne 26.27 315 *e*P **P 18 27 14.0 +0.6**
BVA0 Borovoye Array 26.29 33 *i* P **P 18 27 12.4 -1.0**
BVA0 pmax pmax
comp=Z,31nm,1.2s
BVAR Borovoye Array 26.29 33 P **P 18 27 12.0 -1.4**
comp=Z,18nm,0.9s,baz=225,slow=7.1,SNR=36
BVAR PcP **PcP 18 30 40.6 +1.5**
comp=Z,9.9nm,0.7s,baz=270,slow=1.4,SNR=10
BVAR LR LR 18 40 04.3
comp=Z,1μm,18.7s,baz=234,slow=42
SRO Srobarova 26.30 313 *e*P **P 18 27 15.4 +1.8**
OJC Ojcow 26.55 319 *e*P **P 18 27 14.9 -0.9**
OJC Ojcow 26.55 319 *e*P **P 18 27 14.9 -0.9**
comp=Z,54nm,1.1s
OJC Ojcow 26.55 319 *e*P **P 18 27 14.9 -0.9**
IDID Didziasalis 26.59 334 *e*P **P 18 27 14.9 -1.2**
IDID IAmb IAmb 18 27 17.4
comp=Z,12nm,0.9s
SATY Saty 26.68 58 *e*P **P 18 27 16.8 -0.4**
comp=Z,754nm,1.2s
SATY LR LR 18 38 17.3
comp=Z,770nm,9.1s
BEHE Becsehely 26.77 309ǁ*e*ScP **P 18 27 16.6 -1.2**
BEHE Becsehely 26.77 309 *e*P **P 18 27 17.5 -0.3**
IIGN Ignalina 26.81 333 *e*P **P 18 27 16.8 -1.3**
IIGN IAmb IAmb 18 27 19.6
comp=Z,22nm,0.7s
VAE Valguarnera 26.95 289 P **P 18 27 17.9 -1.7**
comp=Z,9.8nm,0.7s,baz=167,slow=14,SNR=2.2
KPKS Kokpek 26.97 58 *e*P **P 18 27 19.3 -0.5**
comp=Z,53nm,1.0s
ISAL Salakas 27.02 334 *e*P **P 18 27 18.6 -1.3**
ISAL IAmb IAmb 18 27 21.4
comp=Z,31nm,1.0s
IZAR Zarasai 27.11 334 *e*P **P 18 27 19.4 -1.3**
IZAR IAmb IAmb 18 27 22.3
comp=Z,30nm,0.9s
SUW Suwalki 27.11 329 *e*P **P 18 27 19.6 -1.1**
SUW Suwalki 27.11 329 *e*P **P 18 27 18.3 -2.4**
comp=Z,74nm,0.9s
SUW Suwalki 27.11 329 *e*P **P 18 27 19.6 -1.1**
SUW Suwalki 27.11 329 *e*P **P 18 27 19.6 -1.1**
SMOL Smolenice 27.13 314 *e*P **P 18 27 22.6 +1.5**
UZB Uzynbulak 27.14 58 *e*P **P 18 27 20.2 -1.2**
UZB LR LR 18 37 59.8
comp=Z,546nm,10.3s
TDK Taldyqorghan 27.15 54 *e*P **P 18 27 21.5 +0.2**
comp=Z,122nm,1.1s
MODS Modra-Piesok 27.16 314 *e*P **P 18 27 21.1 -0.3**
ZST Bratislava 27.20 313 *e*P **P 18 27 22.1 +0.4**
OKC Ostrava-Krasne 27.29 317 *e*P **P 18 27 22.1 -0.3**
OKC *e*pP **sP 18 27 32.6 -1.1**
OKC Ostrava-Krasne 27.29 317 *e*P **P 18 27 22.1 -0.3**
OKC *e* 18 27 32.6
OKC Ostrava-Krasne 27.29 317 P **P 18 27 22.1 -0.3**
SOP Sopron 27.34 312ǁ*e*ScP **P 18 27 23.3 +0.4**
SOP Sopron 27.34 312ǁ*e*P **P 18 27 23.3 +0.4**
CRES Cresnjev 27.43 308 *e*P **P 18 27 22.9 -0.9**
BOJS Bojanci 27.48 307 *i* P **P 18 27 24.5 +0.3**
BOJS Bojanci 27.48 307 P **P 18 27 24.5 +0.3**
MORC Moravsky Berou 27.61 317ǁ*i*P **P 18 27 25.6 +0.2**
MORC Moravsky Berou 27.61 317 *e*P **P 18 27 24.2 -1.2**
comp=Z,150nm,1.4s
MORC Moravsky Berou 27.61 317 *e*P **P 18 27 24.2 -1.2**
MORC pmax pmax
comp=Z,150nm,1.4s
MORC Moravsky Berou 27.61 317 *e*P **P 18 27 24.2 -1.2**
comp=Z,150nm,1.4s
ARSA Arzberg 27.84 310 *i* P **P 18 27 27.8 +0.3**
comp=Z,6.3nm,1.1s
CONA Conrad Observa 27.87 312 P **P 18 27 28.6 +0.8**
comp=Z,5.5nm,0.7s,SNR=5.6
CONA Conrad Observa 27.87 312 *i* P **P 18 27 28.6 +0.8**
comp=Z,5.5nm,0.7s,SNR=5.6
CLTB Caltabellotta 27.90 289 *e*P **P 18 27 27.3 -0.9**
comp=Z,160nm,1.9s
CLTB Caltabellotta 27.90 289 *e*P **P 18 27 27.3 -0.9**
comp=Z,160nm,1.9s
PERS Pernice 27.90 309 *i* P **P 18 27 28.9 +0.8**
PERS Pernice 27.90 309 *i* P **P 18 27 28.9 +0.8**
VRAC Vranov 27.96 315 P **P 18 27 26.6 -1.9**
comp=Z,9.0nm,1.1s,baz=104,slow=9.4,SNR=8.3
VRAC Vranov 27.96 315ǁ*i*P **P 18 27 29.3 +0.8**
SOKA Soboth 27.97 309 P **P 18 27 29.8 +1.1**
comp=Z,3.7nm,0.9s
SOKA Soboth 27.97 309 *e*P **P 18 27 29.8 +1.1**
comp=Z,3.7nm,0.9s
SOKA *i* PcP **PcP 18 30 44.9 +1.6**
comp=Z,2.4nm,0.5s
OBKA Obir 28.24 309 P **P 18 27 31.7 +0.6**
comp=Z,5.2nm,0.6s
OBKA Obir 28.24 309 *i* P **P 18 27 31.7 +0.6**
comp=Z,5.2nm,0.6s
JAVS Javornik 28.39 307 *i* P **P 18 27 31.8 -0.6**
JAVS Javornik 28.39 307 *i* P **P 18 27 31.8 -0.6**
KLMR Klimovskoe 28.47 352 *e*P **P 18 27 29.0 -3.9**
KLMR pmax pmax
comp=Z,45nm,1.1s
KLMR Klimovskoe 28.47 352 *e*P **P 18 27 29.0 -3.9**
KLMR AMP 18 27 34.3
comp=Z,45nm,1.1s
TRI Trieste 28.54 307 *e*P **P 18 27 32.5 -1.1**
comp=Z,10nm,0.9s
TRI Trieste 28.54 307 *e*P **P 18 27 32.6 -1.1**
TRI pmax pmax
comp=Z,10.0nm,0.9s
DPC Dobruska-Polom 28.57 317 *e*P **P 18 27 32.7 -1.2**
DPC Dobruska-Polom 28.57 317 *e*P **P 18 27 32.7 -1.2**
DPC Dobruska-Polom 28.57 317 P **P 18 27 32.7 -1.2**
KSP Ksiaz 28.81 318 *e*P **P 18 27 35.0 -1.0**
KSP Ksiaz 28.81 318 *e*P **P 18 27 35.0 -1.0**
UPC Upice 28.82 317 *e*P **P 18 27 35.7 -0.4**
UPC Upice 28.82 317 *e*P **P 18 27 35.7 -0.4**
KLNR Kaliningrad 28.82 327 *e*P **P 18 27 37.1 +1.1**
MOA Molln 28.84 311 P **P 18 27 35.4 -1.0**
comp=Z,6.2nm,0.6s,SNR=5.6
MOA Molln 28.84 311 *i* P **P 18 27 35.4 -1.0**
comp=Z,6.2nm,0.6s,SNR=5.6
VSU Vasula 29.06 338*ce*P **P 18 27 38.5 +0.4**
VSU pmax pmax
comp=Z,101nm,0.6s
PUL Pulkovo 29.14 343*ce*P **P 18 27 40.0 +1.2**
PUL pmax pmax
comp=Z,72nm,0.7s
KBA Koelnbreinsper 29.20 309 P **P 18 27 39.1 -0.6**
comp=Z,10nm,0.5s,SNR=7.6
KBA Koelnbreinsper 29.20 309 *e*P **P 18 27 39.1 -0.6**
comp=Z,10nm,0.5s,SNR=7.6
KURBB Kurchatov Arra 29.21 43 P **P 18 27 38.7 -0.9**
comp=Z,12nm,0.8s,baz=248,slow=9.3,SNR=28
KURBB PcP **PcP 18 30 47.3 +1.0**
comp=Z,3.5nm,0.8s,baz=232,slow=3.0,SNR=5.0
KURK Kurchatov 29.31 43 *e*P **P 18 27 38.7 -1.7**
KURK *e*PcP **PcP 18 30 47.3 +0.8**
KURK Kurchatov 29.31 43*ce*P **P 18 27 42.6 +2.2**
KURK pmax pmax
comp=Z,47nm,0.7s
KURK Kurchatov 29.31 43 P **P 18 27 42.7 +2.3**
SNR=7.4
KURK Kurchatov 29.31 43 *e*P **P 18 27 38.7 -1.7**
PRU Pruhonice 29.46 315 *e*P **P 18 27 42.0 +0.2**
PRU *ex* x 18 27 54.5
PRU Pruhonice 29.46 315 *e*P **P 18 27 42.0 +0.2**
PRU *e* 18 27 54.5
GEA0 GERESS Array S 29.54 313 *e*P **P 18 27 41.4 -1.2**
GEA0 GERESS Array S 29.54 313 *e*P **P 18 27 41.4 -1.2**
GEC2 GERESS Array S 29.54 313 *e*P **P 18 27 42.5 -0.1**
comp=Z,13nm,1.4s
GEC2 GERESS Array S 29.54 313 *e*P **P 18 27 42.5 -0.1**
GEC2 pmax pmax
comp=Z,13nm,1.4s
GERES GERESS Array B 29.54 313 P **P 18 27 40.5 -2.2**
comp=Z,1.2nm,0.4s,baz=113,slow=8.4,SNR=19
GERES PcP **PcP 18 30 47.8 +0.6**
comp=Z,1.7nm,0.7s,baz=108,slow=3.0,SNR=5.3
PVCC Panska Ves 29.66 316 *e*P **P 18 27 43.6 +0.1**
PVCC Panska Ves 29.66 316 *e*P **P 18 27 43.6 +0.1**
PVCC Panska Ves 29.66 316 P **P 18 27 43.6 +0.1**
KHC Kasperske Hory 29.72 313 *e*P **P 18 27 43.8 -0.3**
KHC *ex* x 18 27 53.7
KHC Kasperske Hory 29.72 313 *e*P **P 18 27 44.2 +0.1**
comp=Z,11nm,1.8s
KHC Kasperske Hory 29.72 313 *e*P **P 18 27 43.8 -0.3**
KHC *e* 18 27 53.7
MAKZ Makanchi 30.03 52 *e*P **P 18 27 47.5 +0.5**
comp=Z,5.0nm,0.9s
MAKZ Makanchi 30.03 52 *e*P **P 18 27 47.5 +0.5**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 30.03 52 *e*P **P 18 27 47.5 +0.5**
comp=Z,5.0nm,0.9s
SEM Semipalatinsk 30.13 44 *e*P **P 18 27 48.4 +0.4**
comp=Z,139nm,1.0s
SEM *e*S **S 18 32 45.4 +0.2**
WET Wettzell 30.15 313 P **P 18 27 51.4 +3.4**
BRG Berggiesshubel 30.16 317 *e*P **P 18 27 48.1 +0.1**
BRG pmax pmax
comp=Z,9.0nm,1.1s
MK01 Makanchi Array 30.24 52 *e*P **P 18 27 48.4 -0.4**
MK01 Makanchi Array 30.24 52 *e*P **P 18 27 48.4 -0.4**
MK31 Makanchi Array 30.24 52 *e*P **P 18 27 48.5 -0.3**
MK31 Makanchi Array 30.24 52*ce*P **P 18 27 48.1 -0.7**
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MK31 Makanchi Array 30.24 52 *e*P **P 18 27 48.5 -0.3**
MK32 Makanchi Array 30.24 52 *e*P **P 18 27 48.4 -0.4**
MK32 *e*ScP **ScP 18 34 32.1 +2.7**
MK32 Makanchi Array 30.24 52 *e*P **P 18 27 48.4 -0.4**
MK32 *e*ScP **ScP 18 34 32.2 +2.7**
MKAR Makanchi Array 30.24 52 P **P 18 27 48.4 -0.3**
comp=Z,7.5nm,0.6s,baz=255,slow=9.3,SNR=30
MKAR ScP **ScP 18 34 32.1 +2.7**
comp=Z,1.6nm,1.0s,baz=251,slow=3.7,SNR=4.0
MKAR LR LR 18 41 50.4
comp=Z,756nm,18.2s,baz=252,slow=40
MKAR Makanchi Array 30.24 52 *e*P **P 18 27 48.5 -0.3**
comp=Z,62nm,0.6s
MKAR ScP **ScP 18 34 32.1 +2.7**
MKAR Makanchi Array 30.24 52 *e*P **P 18 27 48.5 -0.3**
MKAR 18 34 32.2
MKAR pmax pmax
comp=Z,62nm,0.6s
MKAR Makanchi Array 30.24 52 *e*P **P 18 27 48.5 -0.3**
comp=Z,62nm,0.6s
MKAR ScP **ScP 18 34 32.2 +2.7**
WTTA Wattenberg 30.37 309 P **P 18 27 50.3 +0.2**
comp=Z,9.8nm,0.5s
WTTA Wattenberg 30.37 309 *i* P **P 18 27 50.3 +0.2**
comp=Z,9.8nm,0.5s
WATA Walderalm 30.43 309 P **P 18 27 50.0 -0.6**
comp=Z,12nm,0.4s
WATA Walderalm 30.43 309 *i* P **P 18 27 50.0 -0.6**
comp=Z,12nm,0.4s
MOTA Moosalm 30.74 309 *i* P **P 18 27 52.4 -0.9**
comp=Z,19nm,0.6s
NKC Novy Kostel 30.80 315 *e*P **P 18 27 52.4 -1.3**
NKC Novy Kostel 30.80 315 *e*P **P 18 27 52.4 -1.3**
FUR Furstenfeldbru 30.85 310 P **P 18 27 54.1 -0.1**
FUR pmax pmax
comp=Z,108nm,0.8s
CLL Collm 30.88 317⇑*i*P **P 18 27 53.3 -1.0**
comp=Z,20nm,1.4s
CLL *i* 18 28 05.0
CLL *i* 18 28 39.2
CLL Collm 30.88 317 *e*P **P 18 27 53.5 -0.8**
comp=Z,8.1nm,0.8s
CLL Collm 30.88 317 *e*P **P 18 27 53.5 -0.8**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 30.88 317 *e*P **P 18 27 53.5 -0.8**
comp=Z,8.1nm,0.8s
FETA Feichten 30.90 308 P **P 18 27 55.2 +0.4**
comp=Z,26nm,1.1s
FETA Feichten 30.90 308 *i* P **P 18 27 55.2 +0.4**
comp=Z,26nm,1.1s
FETA *i* PcP **PcP 18 30 52.5 +1.6**
comp=Z,4.8nm,0.7s
VSL Villasalto 30.91 293 *e*P **P 18 27 55.8 +1.0**
comp=Z,33nm,0.6s
VSL Villasalto 30.91 293 *e*P **P 18 27 55.8 +1.0**
comp=Z,33nm,0.6s
RETA Reutte 31.00 309 *i* P **P 18 27 53.6 -2.0**
comp=Z,12nm,0.5s
KEST Kesra 31.10 286 P **P 18 27 55.4 -1.2**
comp=Z,6.3nm,0.6s,baz=50,slow=3.3,SNR=13
KEST Kesra 31.10 286 *e*P **P 18 27 56.5 -0.1**
comp=Z,12nm,0.8s
KEST Kesra 31.10 286 *e*P **P 18 27 56.5 -0.1**
comp=Z,12nm,0.8s
PYUN Piuthan 31.31 89 *e*P **P 18 27 58.5 -0.1**
GRF Grafenberg Arr 31.35 313 P **P 18 27 58.2 -0.4**
GRF pmax pmax
comp=Z,22nm,0.9s
GRFO Grafenberg 31.36 313 *e*P **P 18 27 58.4 -0.2**
comp=Z,22nm,1.0s
GRFO Grafenberg 31.36 313 *e*P **P 18 27 58.4 -0.2**
GRFO pmax pmax
comp=Z,22nm,1.0s
GRFO Grafenberg 31.36 313 *e*P **P 18 27 58.3 -0.2**
comp=Z,22nm,1.0s
DAVA Damuels 31.53 308 *i* P **P 18 27 59.8 -0.5**
comp=Z,39nm,0.5s,SNR=8.8
BSD Bornholm Skovb 31.63 324 *i* P **P 18 28 00.5 -0.3**
comp=Z,35nm,1.0s
BSD Bornholm Skovb 31.63 324 *i* P **P 18 28 00.5 -0.3**
BSD pmax pmax
comp=Z,35nm,1.0s
BSD Bornholm Skovb 31.63 324 *e*P **P 18 27 59.0 -1.9**
FIA0 FINESS Array S 31.68 341 *e*P **P 18 27 59.3 -1.9**
FIA0 *e*PcP **PcP 18 30 53.0 +0.5**
FIA0 FINESS Array S 31.68 341 *e*P **P 18 27 59.3 -1.9**
FIA0 *e* 18 30 53.0
FIA1 FINESS Array S 31.68 341 *e*P **P 18 27 59.1 -2.1**
comp=Z,36nm,1.0s
FINES FINESS Array B 31.68 341 P **P 18 27 59.3 -1.9**
comp=Z,11nm,0.5s,baz=145,slow=8.5,SNR=44
FINES PcP **PcP 18 30 53.0 +0.5**
comp=Z,3.2nm,0.7s,baz=122,slow=5.2,SNR=3.1
FINES LR LR 18 40 43.4
comp=Z,374nm,19.4s,baz=195,slow=36
JOF Joensuu 31.72 346 P **P 18 28 01.6 0.0**
JOF pmax pmax
comp=Z,79nm,0.9s
TMCR Tamitsa 31.86 353 *e*P **P 18 28 01.8 -1.0**
TMCR pmax pmax
comp=Z,50nm,0.9s
DANN Dangsing 31.88 88 *e*P **P 18 28 04.4 +0.6**
KOLN Koldanda 31.92 89 *e*P **P 18 28 03.5 -0.5**
RGN Rugen 32.14 323 *e*P **P 18 28 06.3 +1.0**
comp=Z,72nm,0.7s
HYB Hyderabad 32.29 111 *i* P P 18 28 13.0 +5.9
ABSA Djebel Ababsia 32.56 287 P **P 18 28 11.2 +1.8**
ABSA Djebel Ababsia 32.56 287 P **P 18 28 11.2 +1.8**
CMAH Djebel Manchou 32.57 288 P **P 18 28 12.6 +3.1**
CMAH Djebel Manchou 32.57 288 P **P 18 28 12.6 +3.1**
GKN Gorkha 32.72 88 *e*P **P 18 28 10.9 -0.1**
BFO Black Forest 32.80 310*ce*P **P 18 28 14.1 +2.9**
CAEH 'Ain El Ouahch 33.01 288 P **P 18 28 16.2 +2.9**
CAEH 'Ain El Ouahch 33.01 288 P **P 18 28 16.2 +2.9**
SENIN Lac Senin/Sane 33.08 306 *e*P **P 18 28 13.8 -0.1**
comp=Z,19nm,0.8s
SENIN Lac Senin/Sane 33.08 306 *e*P **P 18 28 13.8 -0.1**
comp=Z,19nm,0.8s
LLD Lille Linde 33.08 323 *i* P **P 18 28 15.6 +2.1**
LLD Lille Linde 33.08 323 *e*P **P 18 28 15.6 +2.1**
COP Copenhagen 33.14 324 *i* P **P 18 28 15.7 +1.7**
COP Copenhagen 33.14 324 *i* P **P 18 28 15.7 +1.7**
DMN Daman 33.24 89 *i* P **P 18 28 15.2 -0.4**
comp=Z,56nm,0.8s
BNI Bardonecchia 33.31 303 *e*P **P 18 28 15.3 -0.6**

comp=Z,52nm,0.8s
BNI Bardonecchia 33.31 303 *e*P **P** **18 28 15.3 -0.6**
BNI pmax pmax
comp=Z,52nm,0.8s
KKN Kakani 33.33 88 *e*P **P** **18 28 15.9 -0.5**
comp=Z,46nm,0.7s
CTEI Djebel Teioual 33.44 287 P **P** **18 28 19.9 +2.7**
CTEI Djebel Teioual 33.44 287 P **P** **18 28 19.9 +2.7**
WMQ Urumqi 33.48 59 P **P** **18 28 19.9 +2.7**
WMQ pP pP 18 28 26.0 +0.6
WMQ sP sP 18 28 30.5 +1.8
WMQ pmax pmax
comp=Z,36nm,1.7s
WMQ pmax pmax
comp=Z,690nm,7.5s
WMQ LR LR
comp=Z,780nm,17.3s
WMQ LR LR
comp=Z,1μm,25.9s
WMQ LR LR
comp=Z,1μm,23.1s
PKIN Phulchoki 33.49 89 *e*P **P** **18 28 18.0 +0.1**
comp=Z,50nm,0.7s
PKI Pulchoki 33.51 89 *e*P **P** **18 28 17.3 -0.7**
comp=Z,40nm,0.6s
NVS Novosibirsk 33.63 38 *e*P **P** **18 28 18.1 -0.2**
NVS *e* 18 30 58.8
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,11nm,1.3s
NVS pmax pmax
comp=Z,29nm,1.3s
GUN Gumba 33.80 88 *e*P **P** **18 28 20.3 -0.3**
comp=Z,63nm,0.6s
DFRA Djebel Bou Aff 33.81 288 P **P** **18 28 23.3 +2.9**
DFRA Djebel Bou Aff 33.81 288 P **P** **18 28 23.3 +2.9**
ZAA0 Zalesovo Array 34.10 40 *e*P **P** **18 28 21.6 -0.9**
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 34.10 40 P **P** **18 28 21.4 -1.1**
comp=Z,8.3nm,0.3s,baz=257,slow=9.9,SNR=55
ZALV LR LR 18 43 05.3
comp=Z,231nm,19.7s,baz=250,slow=38
ZALV Zalesovo Beam 34.10 40 *e*P **P** **18 28 21.1 -1.4**
ZALV Zalesovo Beam 34.10 40 *e*P **P** **18 28 21.1 -1.4**
ZAA1 Zalesovo Array 34.10 40 *e*P **P** **18 28 21.4 -1.1**
JIRN Jiri 34.14 88 *e*P **P** **18 28 23.3 -0.3**
comp=Z,50nm,0.4s
CKHR Kef el Ahmar 34.17 287 P **P** **18 28 25.0 +1.5**
CKHR Kef el Ahmar 34.17 287 P **P** **18 28 25.0 +1.5**
WLF Walferdange 34.51 311 ⇑P **P** **18 28 27.4 +1.4**
RAMN Ramite 34.71 89 *e*P **P** **18 28 27.5 -0.9**
comp=Z,56nm,0.7s
KMBO Kilima Mbogo 34.98 197 LR LR 18 42 31.5
comp=Z,455nm,20.3s,baz=83,slow=36
KMBO Kilima Mbogo 34.98 197 *ce*P P 18 28 36.2 +5.5
KMBO pmax pmax
comp=Z,1.0nm,0.3s
HFS Hagfors 34.99 331 P **P** **18 28 28.4 -1.7**
comp=Z,40nm,0.6s,baz=126,slow=9.3,SNR=86
HFS LR LR 18 45 07.4
comp=Z,655nm,18.2s,baz=322,slow=40
MUD Monsted U'grnd 35.12 324 *i* P **P** **18 28 30.4 -0.8**
comp=Z,64nm,1.0s
MUD *i* 18 28 31.3
MUD Monsted U'grnd 35.12 324 *i* P **P** **18 28 31.3 +0.1**
ODAN Odare 35.41 89 *e*P **P** **18 28 34.3 -0.1**
comp=Z,19nm,0.6s
TAPN Taplejung 35.52 88 *e*P **P** **18 28 34.9 -0.5**
comp=Z,51nm,0.8s
DOU Dourbes 35.59 312 ⇑P **P** **18 28 33.8 -1.6**
APA Apatity 35.69 351 ⇓*i*P **P** **18 28 36.0 0.0**
APA pmax pmax
comp=Z,6.0nm,1.0s
LVZ Lovozero 35.85 352 *e*P **P** **18 28 39.4 +1.9**
comp=Z,183nm,2.0s
LVZ Lovozero 35.85 352 *ce*P **P** **18 28 39.9 +2.4**
LVZ pmax pmax
comp=Z,26nm,0.7s
OSL Oslo 36.11 330 *e*P **P** **18 28 39.5 -0.1**
OSL IAmb IAmb 18 28 40.4
comp=Z,43nm,0.7s
NC602 NORSAR Array S 36.21 331 *e*P **P** **18 28 39.7 -0.8**
NC602 NORSAR Array S 36.21 331 *e*P **P** **18 28 38.1 -2.4**
NC602 IAmb IAmb 18 28 40.1
comp=Z,59nm,0.6s
HOMB Homborsund 36.26 326 *e*P **P** **18 28 37.9 -3.1**
HOMB IAmb IAmb 18 28 38.6
comp=Z,51nm,1.4s
NC405 NORSAR Array S 36.35 332 *e*P **P** **18 28 38.8 -3.0**
KONO Kongsberg 36.44 329 *e*P **P** **18 28 41.3 -1.2**
comp=Z,24nm,1.0s
KONO Kongsberg 36.44 329 *e*P **P** **18 28 41.3 -1.2**
KONO pmax pmax
comp=Z,24nm,1.0s
KONO Kongsberg 36.44 329 *e*P **P** **18 28 41.5 -1.1**
KONO IAmb IAmb 18 28 41.6
comp=Z,8.0nm,0.8s
NB201 NORSAR Array S 36.48 331 *e*P **P** **18 28 39.6 -3.3**
NB201 IAmb IAmb 18 28 41.5
comp=Z,753nm,2.3s
NB2 NORSAR Subarra 36.51 331 P **P** **18 28 40.7 -2.5**
comp=Z,11nm,0.7s,baz=124,slow=9.3
NB2 NORSAR Subarra 36.51 331 P **P** **18 28 40.6 -2.6**
NB2 pmax pmax
comp=Z,10.0nm,0.7s
NB2 NORSAR Subarra 36.51 331 P **P** **18 28 40.7 -2.5**
comp=Z,11nm,0.7s,baz=124,slow=9.3
NB2 P **P** **18 28 40.7 -2.5**
baz=124,slow=9.3
NB200 NORSAR Array S 36.51 331 *e*P **P** **18 28 41.0 -2.2**
NOA NORSAR Array B 36.51 331 P **P** **18 28 41.0 -2.2**
comp=Z,9.4nm,0.7s,baz=125,slow=8.7,SNR=27
NOA LR LR 18 43 23.2
comp=Z,84nm,20.6s,baz=125,slow=36
NOA NORSAR Array B 36.51 331 P **P** **18 28 41.0 -2.2**
NOA pmax pmax
comp=Z,9.0nm,0.7s
NOA MLR MLR
comp=Z,84nm,20.6s
NAO01 NORSAR Array S 36.53 331 *e*P **P** **18 28 42.9 -0.5**
NAO01 NORSAR Array S 36.53 331 *e*P **P** **18 28 41.2 -2.1**
NAO01 IAmb IAmb 18 28 44.1
comp=Z,69nm,1.2s
NC303 NORSAR Array S 36.55 332 *e*P **P** **18 28 41.0 -2.5**
NC303 IAmb IAmb 18 28 50.2
comp=Z,3μm,3.6s
NBO02 NORSAR Array S 36.66 331 *e*P **P** **18 28 42.8 -1.7**
NBO00 NORSAR Array S 36.68 331 *e*P **P** **18 28 42.8 -1.8**
NBO00 NORSAR Array S 36.68 331 *e*P **P** **18 28 42.2 -2.4**
NBO00 IAmb IAmb 18 28 46.2
comp=Z,98nm,1.5s
NC204 NORSAR Array S 36.83 332 *e*P **P** **18 28 44.9 -1.0**
NC204 NORSAR Array S 36.83 332 *e*P **P** **18 28 43.4 -2.5**
NC204 IAmb IAmb 18 28 45.2
comp=Z,2μm,3.3s
LSA Lhasa 37.70 83 *e*P **P** **18 28 54.6 +0.5**
comp=Z,12nm,0.9s
LSA Lhasa 37.70 83 *e*P **P** **18 28 54.7 +0.5**
LSA pmax pmax
comp=Z,12nm,0.9s
LSA Lhasa 37.70 83 *e*P **P** **18 28 54.7 +0.5**
comp=Z,12nm,0.9s
BLS5 Blasjo 37.74 327 *e*P **P** **18 28 52.7 -0.9**
BLS5 IAmb IAmb 18 28 53.1
comp=Z,34nm,1.2s
TAM Tamanrasset 37.79 265 *e*P **P** **18 28 56.9 +2.3**
comp=Z,24nm,1.5s
TAM Tamanrasset 37.79 265 *e*P **P** **18 28 56.9 +2.3**
TAM pmax pmax
comp=Z,24nm,1.5s
STAV Stavanger 37.87 326 *e*P **P** **18 28 55.0 +0.3**
STAV IAmb IAmb 18 28 56.0
comp=Z,23nm,0.8s
ODD1 Odda 37.88 328 *e*P **P** **18 28 52.7 -2.2**
ODD1 IAmb IAmb 18 28 54.5
comp=Z,45nm,1.1s
DOMB Dombas 37.92 332 *e*P **P** **18 28 54.5 -0.7**
DOMB IAmb IAmb 18 28 55.4
comp=Z,5.3nm,0.7s
HEF Hetta 38.07 346 *e*P **P** **18 28 55.4 -0.9**
KMY Karmoy 38.20 326 *e*P **P** **18 28 57.3 -0.1**
KMY IAmb IAmb 18 28 59.8
comp=Z,121nm,1.3s
NSS Namsos 38.32 336 *e*P **P** **18 28 57.0 -1.4**
NSS IAmb IAmb 18 28 59.7
comp=Z,49nm,0.7s
HVS Khovu-Aksy 38.52 47 *i* P **P** **18 29 01.0 +0.7**
MOR8 Moi Rana 38.62 340 *e*P **P** **18 28 59.5 -1.4**
MOR8 IAmb IAmb 18 29 01.8
comp=Z,51nm,0.8s
KEV Kevo 38.64 349 *e*P **P** **18 29 01.7 +0.7**
comp=Z,226nm,2.0s
KEV Kevo 38.64 349 *e*P **P** **18 29 01.7 +0.7**
KEV pmax pmax
comp=Z,226nm,2.0s
BER Bergen 38.67 328 *e*P **P** **18 28 58.8 -2.6**
BER IAmb IAmb 18 28 59.4
comp=Z,153nm,1.4s
ARA0 ARCESS Array S 38.69 348 *e*P **P** **18 28 59.8 -1.7**
ARA0 *e*PcP **PcP** **18 31 13.2 +0.3**
ARCES ARCESS Array B 38.69 348 P **P** **18 28 59.8 -1.7**
comp=Z,4.1nm,0.3s,baz=161,slow=8.6,SNR=135
ARCES PcP **PcP** **18 31 13.2 +0.3**
comp=Z,7.7nm,0.7s,baz=169,slow=2.0,SNR=4.4
ARCES LR LR 18 46 49.4
comp=Z,492nm,20.0s,baz=238,slow=39
ARCES ARCESS Array B 38.69 348 *e*P **P** **18 29 01.7 +0.2**
ARCES PcP **PcP** **18 31 13.2 +0.3**
ARCES ARCESS Array B 38.69 348 *e*P **P** **18 29 01.7 +0.2**
ARCES 18 31 13.2
ARE0 ARCESS Array S 38.69 348 *e*P **P** **18 29 01.4 -0.1**
ARE0 IAmb IAmb 18 29 02.9
comp=Z,22nm,0.5s
ASK Askoy 38.78 328 *e*P **P** **18 29 01.3 -1.0**
ASK IAmb IAmb 18 29 02.5
comp=Z,155nm,1.5s
MOL Molde 38.81 332 *e*P **P** **18 29 00.2 -2.3**
MOL IAmb IAmb 18 29 01.0
comp=Z,12nm,0.8s
KIF Kilpisjarvi 39.15 345 *e*P **P** **18 29 03.3 -2.0**
STOK Stokkvaagen 39.16 339 *e*P **P** **18 29 04.1 -1.3**
STOK IAmb IAmb 18 29 04.7
comp=Z,30nm,0.7s
KONS Konsvik 39.24 339 *e*P **P** **18 29 05.1 -0.9**
KONS IAmb IAmb 18 29 05.7
comp=Z,62nm,1.3s
STEI Steigen 39.65 342 *e*P **P** **18 29 09.3 -0.1**
STEI IAmb IAmb 18 29 10.5
comp=Z,52nm,1.0s
HAMF Hammerfest 39.97 348 *e*P **P** **18 29 12.4 +0.3**
HAMF IAmb IAmb 18 29 13.6
comp=Z,20nm,0.9s
TRO Tromso 40.06 345 *e*P **P** **18 29 11.2 -1.6**
TRO IAmb IAmb 18 29 13.8
comp=Z,60nm,1.0s
MONM Monmouth 40.50 313 *e*P **P** **18 29 14.9 -1.8**
MCH1 Michaelchurch 40.64 313 IAmb IAmb 18 29 17.2
comp=Z,37nm,1.1s
MCH1 *e*P **P** **18 29 17.2 -0.7**
ES19 SONSECA Array 41.13 295 *e*P **P** **18 29 22.9 +0.7**
ES19 SONSECA Array 41.13 295 *e*P **P** **18 29 22.9 +0.7**
KESW Keswick, Cumbr 41.14 317 *e*P **P** **18 29 20.9 -1.1**
KESW IAmb IAmb 18 29 23.6
comp=Z,258nm,1.8s
ESY Stoneypath 41.14 319 *e*P **P** **18 29 20.4 -1.5**
ESDC Sonseca Array 41.19 295 P **P** **18 29 21.4 -1.3**
comp=Z,3.0nm,0.5s,baz=76,slow=8.5,SNR=19
ESLA Sonseca Array 41.19 295 *e*P **P** **18 29 22.9 +0.2**
comp=Z,63nm,1.9s
ESLA Sonseca Array 41.19 295 *e*P **P** **18 29 22.9 +0.2**
comp=Z,63nm,1.9s
EKA Eskdalemuir Ar 41.32 318 P **P** **18 29 22.1 -1.3**
comp=Z,6.3nm,0.5s,baz=103,slow=8.0,SNR=19
EKA PcP **PcP** **18 31 22.6 +1.1**
comp=Z,4.0nm,0.8s,baz=119,slow=2.9,SNR=3.8
ESK Eskdalemuir 41.34 318 *e*P **P** **18 29 22.2 -1.4**
EDI Edinburgh 41.45 319 *e*P **P** **18 29 23.8 -0.7**
MME1 Meikle Cairn 41.66 321 *e*P **P** **18 29 24.2 -2.0**
MCD Coleburn Disti 41.88 322 *e*P **P** **18 29 25.8 -2.1**
EAB Aberfoyle 42.14 319 *e*P **P** **18 29 29.8 -0.3**
GTA Gaotai 42.69 66 ⇓P **P** **18 29 35.1 +0.1**
GTA pP pP 18 29 39.3 -3.9
GTA sP sP 18 29 41.8 -4.7
GTA S **S** **18 35 58.2 +1.3**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,140nm,4.3s
GTA LR LR
comp=Z,450nm,17.1s
GTA LR LR
comp=Z,560nm,19.0s
GTA LR LR
comp=Z,500nm,19.0s
PBRG Braganca 43.05 298 *e*P **P** **18 29 38.5 +0.7**
comp=Z,26nm,2.0s
MOY Mondy 43.11 48 *e*P **P** **18 29 41.4 +3.1**
MOY pmax pmax
comp=Z,25nm,1.5s
PBAR Barrancos 43.78 293 *e*P **P** **18 29 43.4 -0.3**
comp=Z,63nm,1.6s
PBAR Barrancos 43.78 293 *e*P **P** **18 29 43.4 -0.3**
comp=Z,63nm,1.6s
MTE Manteigas 43.82 296 *e*P **P** **18 29 45.6 +1.5**
MTE Manteigas 43.82 296 *e*P **P** **18 29 45.6 +1.5**
PVRL Vila Real 43.83 297 *e*P **P** **18 29 44.9 +0.7**
comp=Z,22nm,1.4s
PMRV Marv??o 43.85 295 *e*P **P** **18 29 44.6 +0.4**
PMRV Marv??o 43.85 295 *e*P **P** **18 29 44.6 +0.4**
PCBR Castelo Branco 43.85 295 *e*P **P** **18 29 44.5 +0.3**
comp=Z,29nm,1.9s
PCBR Castelo Branco 43.85 295 *e*P **P** **18 29 44.5 +0.3**
comp=Z,29nm,1.9s
POLO Lamas de Olo 43.88 298 *e*P **P** **18 29 46.0 +1.4**
POLO Lamas de Olo 43.88 298 *e*P **P** **18 29 46.0 +1.4**
PESTR Estremoz 44.09 294 *e*P **P** **18 29 47.1 +0.9**
PESTR Estremoz 44.09 294 *e*P **P** **18 29 47.1 +0.9**
PGAV Gavieira, Arco 44.16 298 *e*P **P** **18 29 46.7 -0.1**
PGAV Gavieira, Arco 44.16 298 *e*P **P** **18 29 46.7 -0.1**
PBEJ Beja 44.45 293 *e*P **P** **18 29 49.5 +0.4**
comp=Z,28nm,1.7s
PBEJ Beja 44.45 293 *e*P **P** **18 29 49.5 +0.4**
comp=Z,28nm,1.7s
PVAQ Vaqueiros 44.45 292 *e*P **P** **18 29 49.6 +0.5**
PVAQ Vaqueiros 44.45 292 *e*P **P** **18 29 49.6 +0.5**
EVO Evora 44.47 294 *e*P **P** **18 29 52.3 +3.1**
ZAK Zakamensk 44.49 49 *e*P **P** **18 29 51.1 +1.7**
ZAK *e* 18 31 30.5
ZAK pmax pmax
comp=Z,7.0nm,1.4s
ZAK pmax pmax
comp=Z,4.0nm,1.0s
PMTG Montargil 44.54 294 *e*P **P** **18 29 51.4 +1.6**
PMTG Montargil 44.54 294 *e*P **P** **18 29 51.4 +1.6**
PCAS Casmilo, Conde 44.59 296 *e*P **P** **18 29 51.2 +1.0**
PCAS Casmilo, Conde 44.59 296 *e*P **P** **18 29 51.2 +1.0**
PTOM Tomar 44.59 295 *e*P **P** **18 29 50.8 +0.6**
PTOM Tomar 44.59 295 *e*P **P** **18 29 50.8 +0.6**
MESJ Messejana 44.76 293 *e*P **P** **18 29 53.2 +1.7**
MESJ Messejana 44.76 293 *e*P **P** **18 29 53.2 +1.7**
PNCL Nicolau / Gran 44.95 293 *e*P **P** **18 29 54.4 +1.4**
PNCL Nicolau / Gran 44.95 293 *e*P **P** **18 29 54.4 +1.4**
IRK Irkutsk 45.17 47 *e*P **P** **18 29 54.8 +0.2**
IRK pmax pmax
comp=Z,53nm,2.3s
PMAFR Mafra 45.37 294 *e*P **P** **18 29 55.3 -1.1**
PMAFR Mafra 45.37 294 *e*P **P** **18 29 55.3 -1.1**
TOA1 Torodi Ar. Sit 45.64 255 *e*P **P** **18 29 58.3 -0.4**
TOA0 Torodi Ar. Sit 45.64 255 *e*P **P** **18 29 58.7 -0.1**
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 45.64 255 P **P** **18 29 58.3 -0.4**
comp=Z,7.2nm,0.5s,baz=72,slow=6.7,SNR=70
TORD LR LR 18 51 23.5
comp=Z,437nm,18.1s,baz=55,slow=39
LZH Lanzhou 46.45 69 *e*P **P** **18 30 04.5 -0.6**
LZH pP pP 18 30 07.6 -5.8
LZH sP sP 18 30 09.3 -7.3
LZH PP **PP** **18 31 52.4 -2.0**
LZH *e*S **S** **18 36 50.6 -1.0**
LZH SS **ScS** **18 40 07.0 +8.3**
LZH pmax pmax
comp=Z,41nm,1.0s
LZH pmax pmax
comp=Z,210nm,4.8s
LZH LR LR
comp=Z,470nm,12.2s
LZH LR LR
comp=Z,560nm,13.5s
LZH LR LR
comp=Z,980nm,18.0s
SONA0 Songino Array 46.60 53 *e*P **P** **18 30 06.8 +0.7**
SONA0 *e*PcP **PcP** **18 31 40.1 +0.3**
SONM Songino Array 46.60 53 P **P** **18 30 06.8 +0.7**
comp=Z,1.4nm,0.6s,baz=273,slow=9.2,SNR=6.5
SONM PcP **PcP** **18 31 40.1 +0.3**
comp=Z,2.4nm,0.6s,baz=245,slow=4.1,SNR=8.1
SONM LR LR 18 50 48.2
comp=Z,310nm,21.9s,baz=296,slow=38
SONA1 Songino Array 46.60 53 *e*P **P** **18 30 06.9 +0.8**
ULN Ulaanbaatar 47.04 53 *e*P **P** **18 30 12.2 +2.6**
comp=Z,19nm,1.3s
ULN Ulaanbaatar 47.04 53 *ce*P **P** **18 30 12.1 +2.5**
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 47.04 53 P **P** **18 30 12.2 +2.6**
SNR=7.2
SPA0 Spitsbergen Ar 47.38 352 *e*P **P** **18 30 11.6 0.0**
SPA0 Spitsbergen Ar 47.38 352 *e*P **P** **18 30 12.5 +0.9**
SPA0 IAmb IAmb 18 30 13.7
comp=Z,54nm,1.2s
SPITS Spitsbergen Ar 47.38 352 P **P** **18 30 11.9 +0.3**
comp=Z,8.9nm,0.6s,baz=122,slow=7.0,SNR=20
CD2 Chengdu 47.77 76 *e*P **P** **18 30 15.0 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CHTO Chiang Mai 48.38 93 P **P** **18 30 21.6 +1.5**
comp=Z,56nm,1.2s
CHTO Chiang Mai 48.38 93 *e*P **P** **18 30 20.6 +0.5**
comp=Z,15nm,1.1s
CHTO Chiang Mai 48.38 93 *e*P **P** **18 30 20.6 +0.5**
CHTO pmax pmax
comp=Z,15nm,1.1s
CMMT Chiang Mai 48.38 93 P **P** **18 30 20.5 +0.3**
comp=Z,16nm,1.0s
CM31 Chiang Mai Arr 48.54 94 *e*P **P** **18 30 22.4 +1.1**
CMAR Chiang Mai Arr 48.54 94 P **P** **18 30 20.9 -0.5**
comp=Z,6.5nm,1.0s,baz=299,slow=8.0,SNR=23
CMAR PcP **PcP** **18 31 48.5 +1.4**
comp=Z,4.4nm,0.7s,baz=292,slow=4.9,SNR=8.8
CMAR PP **PP** **18 32 16.9 +2.6**
comp=Z,2.4nm,0.9s,baz=297,slow=11,SNR=4.4
CMAR LR LR 18 54 46.7
comp=Z,167nm,18.1s,baz=325,slow=41
CMAR Chiang Mai Arr 48.54 94 *ce*P **P** **18 30 22.6 +1.2**
CMAR pmax pmax
comp=Z,7.0nm,1.0s
CM01 Chiang Mai Arr 48.57 94 *e*P **P** **18 30 21.9 +0.3**
KMI Kunming 48.92 84 P **P** **18 30 24.6 +0.1**
KMI sP sP 18 30 36.8 +0.7
KMI S **S** **18 37 23.4 -3.7**
KMI pmax pmax
comp=Z,18nm,1.2s
KMI pmax pmax
comp=Z,180nm,4.5s
KMI LR LR
comp=Z,430nm,21.5s
KMI LR LR
comp=Z,230nm,20.5s
KMI LR LR
comp=Z,290nm,17.6s
KOWA Kowa 49.64 261 P **P** **18 30 29.6 -0.2**
comp=Z,33nm,0.5s,baz=59,slow=8.2,SNR=62
KOWA Kowa 49.64 261 *e*P **P** **18 30 29.4 -0.4**
comp=Z,39nm,0.6s
NANT Nan 49.86 92 P **P** **18 30 33.0 +1.5**
comp=Z,6.7nm,1.1s,comp=Z,66nm
UTHA Uthaitani 50.35 97 P **P** **18 30 37.0 +1.8**
comp=Z,4.3nm,0.8s
PHIT Phitsanulok 50.37 94 P **P** **18 30 37.7 +2.3**
comp=Z,15nm,1.1s
BOD Bodaibo 50.84 39 *e*P **P** **18 30 36.6 -1.8**
BOD pmax pmax
comp=Z,32nm,1.7s
XAN Xi'an 51.00 71 P **P** **18 30 38.8 -1.2**
XAN S **S** **18 37 55.5 -0.1**
XAN SS **SS** **18 41 30.1 -0.4**
XAN pmax pmax
comp=Z,19nm,1.1s
XAN pmax pmax
comp=Z,320nm,6.2s
XAN LR LR
comp=Z,570nm,12.0s
XAN LR LR
comp=Z,410nm,9.0s
XAN LR LR
comp=Z,700nm,16.7s
LSZ Lusaka 51.08 204 *e*P **P** **18 30 42.4 +1.7**
comp=Z,16nm,1.6s
LSZ Lusaka 51.08 204 *e*P **P** **18 30 42.4 +1.7**
LSZ pmax pmax
comp=Z,16nm,1.6s
OPO Ambohidratompo 51.09 180 LR LR 18 51 48.7
comp=Z,514nm,22.0s,baz=72,slow=35
HHC Hu-ho-hao-te 51.28 61 *e*P **P** **18 30 42.1 0.0**
HHC S **S** **18 37 58.3 -1.2**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,95nm,7.4s
HHC LR LR
comp=Z,390nm,14.8s
HHC LR LR
comp=Z,310nm,9.4s
HHC LR LR
comp=Z,120nm,9.9s
GYA Guiyang 51.69 81 ⇑*i*P **P** **18 30 45.5 +0.1**
GYA PP **PP** **18 32 44.4 +1.4**
GYA ScP **ScP** **18 35 55.0 +1.4**
GYA S **S** **18 38 05.8 +0.4**
GYA SS **SS** **18 41 39.7 -2.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=Z,490nm,18.5s
GYA LR LR
comp=Z,460nm,18.8s
GYA LR LR
comp=Z,520nm,18.4s
PHET Kaeng Krachan 51.85 100 P **P** **18 30 48.0 +1.5**
comp=Z,14nm,0.8s,comp=Z,147nm
SCO Scoresbysund 52.43 337 *i* P **P** **18 30 51.5 +1.5**
SCO Scoresbysund 52.43 337 *i* P **P** **18 30 51.5 +1.5**
NAYO Nakonayok 52.54 97 P **P** **18 30 53.1 +1.5**
comp=Z,74nm,0.8s,comp=Z,4μm
ENH Enshi 52.65 75 *e*P **P** **18 30 53.1 +0.7**
comp=Z,8.2nm,0.8s
ENH Enshi 52.65 75 *e*P **P** **18 30 53.1 +0.7**
comp=Z,8.2nm,0.8s
SRAK Srakaew 53.29 97 P **P** 18 31 02.2 +5.0
comp=Z,65nm,1.1s,comp=Z,612nm
SKNT Sakolnakorn 53.47 93 P **P** **18 30 58.9 +0.4**
comp=Z,9.6nm,1.0s
MLSI Meulaboh, Aceh 54.13 111 P **P** **18 31 03.9 +0.6**
KIC Kosan Boka 54.69 253 *e*P **P** **18 31 07.1 -0.3**
comp=Z,30nm,1.0s
TIC Toumodi 54.75 253 *e*P **P** **18 31 07.6 -0.3**
LIC Lamto 55.00 253 *e*P **P** **18 31 09.2 -0.4**
comp=Z,30nm,0.5s
HIA Hailar 55.19 50 *e*P **P** **18 31 10.8 +0.2**
comp=Z,11nm,0.8s
HIA Hailar 55.19 50 *i* P **P** **18 31 11.3 +0.7**
HIA pmax pmax
comp=Z,13nm,1.2s
TPTI 55.35 111 P **P** **18 31 13.3 +1.1**
comp=Z,30nm,0.8s
KCSI Kotacane, Aceh 55.66 110 P **P** **18 31 15.0 +0.6**
MATP Matopo 55.80 201 P **P** **18 31 16.5 +1.1**
comp=Z,3.0nm,0.5s,baz=357,slow=9.9,SNR=6.7
TIXI Tiksi 56.69 22 *e*P **P** **18 31 21.1 +0.2**
comp=Z,23nm,1.7s
TIXI Tiksi 56.69 22 *ce*P **P** **18 31 21.6 +0.7**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
GSI Gunungsitoli 56.87 113 *e*P **P** **18 31 23.8 +0.8**
comp=Z,41nm,1.1s
KULM Kulim 56.90 107 *e*P **P** **18 31 23.9 +0.6**
comp=Z,29nm,1.0s
PSI Prapat 57.01 110 P **P** **18 31 24.4 +0.2**
comp=Z,9.3nm,0.5s,baz=312,slow=8.1,SNR=4.4
PSI Prapat 57.01 110 *e*P **P** **18 31 24.4 +0.2**
comp=Z,35nm,1.4s
IPM Ipoh 57.68 107 *e*P **P** **18 31 27.9 -0.9**

comp=Z,29nm,1.0s
SUMG Summit 57.69 339 *i* P **P 18 31 29.4 +0.9**
comp=Z,16nm,0.9s
SUMG Summit 57.69 339 *e*P **P 18 31 27.1 -1.4**
comp=Z,22nm,1.1s
SUMG Summit 57.69 339 *e*P **P 18 31 27.1 -1.4**
SUMG pmax pmax
comp=Z,23nm,1.1s
YAK Yakutsk 58.27 33 *e*P **P 18 31 31.7 -0.5**
YAK *e**PP **sP 18 31 43.3 -0.5**
YAK *e* 18 32 19.6
YAK *e* 18 33 45.8
YAK *e*S **S 18 39 29.3 -3.0**
YAK *e**SS **sS 18 39 48.2 +2.1**
YAK *e* 18 41 17.0
YAK *e*SS **SS 18 43 17.6 -6.1**
YAK pmax pmax
comp=Z,11nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,137nm,4.3s
YAK pmax pmax
comp=N,61nm,4.3s
YAK pmax pmax
comp=E,120nm,4.3s
YAK smax smax
comp=N,101nm,4.5s
YAK smax smax
comp=E,63nm,4.3s
ZEA Zeya 58.78 43 *e*P **P 18 31 34.6 -1.3**
ZEA pmax pmax
comp=Z,17nm,1.0s
NJ2 Nanjing 59.53 69 *e*P **P 18 31 40.6 -0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
BKNI Bangkinang 60.19 111 P **P 18 31 46.7 +0.5**
comp=Z,59nm,0.5s
CN2 Changchun 60.41 55 *e*P **P 18 31 47.8 +0.5**
CN2 *e*sP pP 18 31 54.8 -1.0
CN2 *e*S **S 18 39 59.4 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
PDSI Padang 60.50 113 P **P 18 31 49.2 +0.9**
comp=Z,16nm,0.9s
LBTB Lobatse 61.01 202 *e*P **P 18 31 52.0 +0.5**
comp=Z,10nm,1.1s
LBTB Lobatse 61.01 202 *e*P **P 18 31 52.1 +0.5**
LBTB pmax pmax
comp=Z,10.0nm,1.1s
MYKOM Kota Tinggi 61.54 108 *e*P **P 18 31 54.1 -1.3**
comp=Z,12nm,0.9s
KULLO Kullorsuaq 62.33 343 *i* P **P 18 32 00.1 +0.3**
KULLO Kullorsuaq 62.33 343 *i* P **P 18 32 00.1 +0.3**
TPRI Tanjung Pinang 62.60 108 P **P 18 32 02.2 -0.3**
KLR Kul'dur 62.78 47 P **P 18 32 01.8 -1.4**
comp=Z,0.5nm,1.1s,baz=282,slow=8.1,SNR=8.3
KLR Kul'dur 62.78 47 *i* P **P 18 32 03.8 +0.6**
SFJD Kangerlussuaq 63.12 334 *i* P **P 18 32 05.7 +0.6**
SFJD Kangerlussuaq 63.12 334 *i* P **P 18 32 05.7 +0.6**
KS01 Wonju Array Si 64.38 61 *e*P **P 18 32 13.2 -0.8**
KS15 Wonju Array Si 64.39 61 *e*P **P 18 32 12.5 -1.5**
KSAR Wonju Array Be 64.39 61 P **P 18 32 12.5 -1.5**
KSAR Wonju Array Be 64.39 61 P **P 18 32 12.5 -1.5**
KSRS Korea Array 64.41 61 P **P 18 32 12.5 -1.6**
comp=Z,5.7nm,0.6s,baz=286,slow=6.5,SNR=23
KSRS LR LR 19 04 46.5
comp=Z,184nm,18.1s,baz=312,slow=40
BOSA Boshof 64.47 201 P **P 18 32 14.8 +0.1**
comp=Z,4.7nm,0.8s,baz=4.6,slow=4.7,SNR=8.4
USRK Ussuriysk Ar. 64.71 52 P **P 18 32 14.9 -1.1**
comp=Z,4.9nm,0.7s,baz=279,slow=6.0,SNR=10
USRK LR LR 19 02 34.7
comp=Z,258nm,19.6s,baz=284,slow=38
NKL Nikolayevsk 66.57 41 *e*P **P 18 32 26.8 -1.0**
NKL pmax pmax
comp=Z,24nm,0.9s
SEY Seymchan 67.84 28*ce*P **P 18 32 35.5 -0.2**
JNU Nakatsue 68.39 64 LR LR 19 06 12.4
comp=Z,216nm,18.9s,baz=301,slow=39
TYV Tymovskoe 68.64 43 *e*P **P 18 32 40.2 -0.7**
TYV pmax pmax
comp=Z,10.0nm,0.8s
TYV pmax pmax
comp=Z,300nm,6.5s
MA2 Magadan 68.78 32*ce*P **P 18 32 42.6 +0.9**
KKM Kota Kinabalu 69.32 96 *e*P **P 18 32 47.7 +1.8**
comp=Z,24nm,0.9s
RES Resolute Bay 69.89 350 *e*P **P 18 32 48.1 -0.1**
comp=Z,4.1nm,0.9s
RES Resolute Bay 69.89 350 *e*P **P 18 32 48.1 -0.1**
RES pmax pmax
comp=Z,4.0nm,0.9s
YSS Yuzh-Sakhalins 70.44 46 *e*P **P 18 32 51.1 -1.1**
comp=Z,19nm,1.2s
YSS Yuzh-Sakhalins 70.44 46 *i*P **P 18 32 53.4 +1.2**
YSS *e* 18 33 03.0
YSS *e* 18 33 11.9
YSS pmax pmax
comp=Z,10.0nm,0.9s
ASAJ Asahikawa 71.66 49 P **P 18 32 58.3 -1.3**
comp=Z,2.6nm,0.7s,baz=293,slow=13,SNR=3.6
ASAJ Asahikawa 71.66 49 *e*P **P 18 32 59.3 -0.3**
comp=Z,5.1nm,1.0s
MAJO Matsushiro 72.24 58 *e*P **P 18 33 02.5 -0.7**
MAJO Matsushiro 72.24 58 *e*P **P 18 33 02.5 -0.7**
MJAR Matsushiro Arr 72.24 58 P **P 18 33 02.5 -0.8**
comp=Z,1.7nm,0.7s,baz=236,slow=27,SNR=5.7
MJAR LR LR 19 08 18.0
comp=Z,146nm,19.1s,baz=310,slow=39
JHJ Hachijo jima 2 75.02 60 LR LR 19 09 43.1
comp=Z,256nm,18.3s,baz=198,slow=38
SCHQ Schefferville 75.92 327 P **P 18 33 23.9 -0.5**
comp=Z,21nm,0.7s,baz=53,slow=6.5,SNR=16
SCHQ Schefferville 75.92 327 *e*P **P 18 33 24.2 -0.2**
comp=Z,24nm,0.8s
DAV Davao City (W) 76.64 90 LR LR 19 12 13.9
comp=Z,160nm,19.5s,baz=325,slow=40
TOLK Toolik Lake Re 78.11 6 P **P 18 33 36.2 -0.3**
baz=346
TOLK Toolik Lake Re 78.11 6 *e*P **P 18 33 36.0 -0.5**
comp=Z,28nm,0.7s
GAMB Gambell 78.98 16 *e*P **P 18 33 41.7 +0.4**
comp=Z,4.7nm,0.8s
INK Inuvik 79.19 0 P **P 18 33 42.0 -0.4**
comp=Z,3.6nm,0.8s,baz=334,slow=7.7,SNR=6.6
INK Inuvik 79.19 0 *e*P **P 18 33 42.2 -0.1**
comp=Z,16nm,1.5s
INK Inuvik 79.19 0 *e*P **P 18 33 42.3 -0.1**
INK pmax pmax
comp=Z,16nm,1.5s
COLD Coldfoot 79.42 7 *e*P **P 18 33 43.4 -0.3**
comp=Z,7.6nm,0.9s
IM3 Indian Mountai 80.23 8 *e*P **P 18 33 47.0 -1.0**
MLY Manley 81.50 8 *e*P **P 18 33 55.5 +0.5**
comp=Z,10nm,0.7s
PQI Presque Isle 81.60 321 *e*P **P 18 33 57.3 +1.6**
comp=Z,15nm,0.8s
MDM Murphy Dome 81.83 6 *e*P **P 18 33 55.4 -1.2**
comp=Z,15nm,1.0s
COLA College 81.95 6 *e*P **P 18 33 56.4 -0.8**
comp=Z,13nm,0.7s
COLA College 81.95 6 *e*P **P 18 33 56.4 -0.8**
COLA pmax pmax
comp=Z,13nm,0.7s
IL1 Eielson Array 82.13 6 *e*P **P 18 33 56.9 -1.3**
ILAR Eielson Array 82.13 6 P **P 18 33 56.5 -1.7**
comp=Z,4.0nm,0.7s,baz=334,slow=4.4,SNR=34
ILB Eielson Array 82.13 6 *e*P **P 18 33 57.1 -1.1**
CCB Clear Creek Bu 82.17 6 *e*P **P 18 33 57.8 -0.7**
comp=Z,29nm,2.0s
BPAW Bear Paw Mtn. 82.38 8 *e*P **P 18 33 58.8 -0.8**
comp=Z,12nm,0.8s
HDA Harding Lake 82.48 6 *e*P **P 18 34 00.5 +0.4**
comp=Z,30nm,1.1s
EGAK Eagle 82.53 4 *e*P **P 18 34 00.8 +0.5**
comp=Z,9.7nm,0.8s
CAST Castle Rocks 82.90 9 *e*P **P 18 34 01.4 -0.9**
comp=Z,20nm,0.9s
KTH Kantishna Hill 82.91 8 *e*P **P 18 34 02.0 -0.4**
comp=Z,12nm,0.7s
MCK McKinley 82.96 7 *e*P **P 18 34 02.6 0.0**
comp=Z,27nm,1.4s
MCK McKinley 82.96 7 *e*P **P 18 34 02.6 0.0**
MCK pmax pmax
comp=Z,27nm,1.4s
TRF Thorofare Moun 83.08 8 *e*P **P 18 34 04.2 +0.8**
comp=Z,46nm,1.9s
FCC Fort Churchill 83.17 341 *e*P **P 18 34 04.7 +1.0**
comp=Z,9.6nm,1.1s
FCC Fort Churchill 83.17 341 *e*P **P 18 34 04.7 +1.0**
FCC pmax pmax
comp=Z,10.0nm,1.1s
RND Reindeer 83.28 7 *e*P **P 18 34 03.8 -0.5**
comp=Z,9.4nm,1.0s
RND Reindeer 83.28 7 *e*P **P 18 34 03.8 -0.5**
RND pmax pmax
comp=Z,9.0nm,1.0s
DAWY Dawson 83.32 3 *e*P **P 18 34 05.0 +0.5**
comp=Z,31nm,1.7s
RIDG Independ'e Rid 83.32 5 *e*P **P 18 34 04.5 0.0**
comp=Z,10nm,0.9s
PPLA Purkeypile 83.39 9 *e*P **P 18 34 04.8 -0.2**
comp=Z,47nm,1.6s
DOT Dot Lake 83.47 5 *e*P **P 18 34 06.0 +0.8**
comp=Z,42nm,0.9s
DHY Denali Highway 83.75 7 *e*P **P 18 34 06.8 -0.1**
comp=Z,8.6nm,1.1s
YKW3 Yellowknife Ar 83.81 352 *e*P **P 18 34 07.0 +0.1**
comp=Z,5.5nm,1.1s
YKA Yellowknife Ar 83.87 352 P **P 18 34 05.3 -1.9**
comp=Z,2.7nm,0.8s,baz=15,slow=5.3,SNR=31
MENT Mentasta 84.20 5 *e*P **P 18 34 09.7 +0.7**
comp=Z,13nm,0.8s
HARP HAARP 84.61 6 *e*P **P 18 34 11.8 +0.7**
comp=Z,36nm,1.2s
SML Sawmill 84.90 7 *e*P **P 18 34 12.9 +0.3**
comp=Z,20nm,0.8s
SML Sawmill 84.90 7 *e*P **P 18 34 12.9 +0.3**
SML pmax pmax
comp=Z,20nm,0.8s
SUA Susitna One 84.96 8 *e*P **P 18 34 12.5 -0.4**
comp=Z,16nm,0.7s
SCM Sheep Creek Mo 84.98 7 *e*P **P 18 34 14.4 +1.4**
comp=Z,15nm,1.0s
SCM Sheep Creek Mo 84.98 7 *e*P **P 18 34 14.4 +1.4**
SCM pmax pmax
comp=Z,15nm,1.0s
LBNH Lisbon 85.27 321 *e*P **P 18 34 15.1 +0.4**
comp=Z,72nm,1.6s
LBNH Lisbon 85.27 321 *e*P **P 18 34 15.1 +0.4**
LBNH pmax pmax
comp=Z,72nm,1.6s
RC01 Rabbit Creek A 85.44 8 *e*P **P 18 34 16.0 +0.8**
comp=Z,12nm,0.7s
KLU Klutina 85.45 6 *e*P **P 18 34 16.5 +1.2**
comp=Z,23nm,0.9s
DIV Divide 85.82 6 *e*P **P 18 34 18.2 +1.0**
comp=Z,16nm,0.8s
HYT Haines Junctio 86.63 2 *e*P **P 18 34 22.3 +1.1**
comp=Z,45nm,1.7s
KDAK Kodiak Island 88.26 10 P **P 18 34 29.7 +0.7**
comp=Z,8.5nm,0.7s,baz=54,slow=2.0,SNR=7.4
KDAK Kodiak Island 88.26 10 *e*P **P 18 34 29.7 +0.7**
comp=Z,179nm,1.9s
KDAK Kodiak Island 88.26 10*ce*P **P 18 34 30.3 +1.4**
FFC Flin Flon 88.81 343 *e*P **P 18 34 30.6 -1.0**
comp=Z,5.8nm,0.7s
FFC Flin Flon 88.81 343 *e*P **P 18 34 30.6 -1.0**
FFC pmax pmax
comp=Z,6.0nm,0.7s
DLBC Dease Lake 89.06 358 *e*P **P 18 34 34.6 +1.8**
comp=Z,33nm,1.5s
GUMO Guam 89.23 74 LR LR 19 16 40.2
comp=Z,54nm,20.8s,baz=314,slow=37
FITZ Fitzroy Crossi 90.53 111 P **P 18 34 40.4 +0.2**
comp=Z,4.1nm,0.9s,baz=328,slow=4.2,SNR=5.8
FITZ Fitzroy Crossi 90.53 111 *e*P **P 18 34 40.4 +0.2**
comp=Z,24nm,1.6s
ULM Lac du Bonnet 90.99 337 P **P 18 34 41.4 -0.5**
comp=Z,2.3nm,0.5s,baz=66,slow=4.0,SNR=7.0
ULM LR LR 19 16 09.6
comp=Z,232nm,19.4s,baz=60,slow=36
M54A Oil Creek Stat 91.22 323 P **P 18 34 43.4 +0.2**
baz=42
M54A Oil Creek Stat 91.22 323 *e*P **P 18 34 43.7 +0.5**
comp=Z,26nm,0.9s
C37A Embarrass 91.84 334 P **P 18 34 45.2 -0.8**
baz=33
A33A Warroad 91.96 336 P **P 18 34 46.4 0.0**
baz=31
COWI Conover 92.00 331 *e*P **P 18 34 47.0 +0.3**
comp=Z,65nm,1.6s
E39A Mellen 92.34 332 P **P 18 34 48.3 +0.1**
baz=35
G40A Rib Lake 93.11 331 P **P 18 34 52.0 +0.2**
baz=35
G39A Holcombe 93.48 332 P **P 18 34 53.7 +0.2**
baz=34
ACSO Alum Creek Sta 93.84 324 P **P 18 34 55.4 +0.1**
baz=40
F36A Milaca 93.91 334 P **P 18 34 55.7 +0.2**
baz=32
TKL Tuckaleechee C 97.73 321 P **P 18 35 12.3 -0.8**
comp=Z,6.8nm,0.7s,baz=77,slow=3.0,SNR=4.8
TKL Tuckaleechee C 97.73 321 *e*P **P 18 35 12.3 -0.8**
comp=Z,15nm,1.0s
WRA Warramunga Arr 98.42 108 P **P 18 35 15.6 -0.8**
comp=Z,1.2nm,0.8s,baz=317,slow=4.1,SNR=10
WRA PP **PP 18 39 19.7 +2.6**
comp=Z,0.7nm,0.8s,baz=303,slow=8.3,SNR=4.7
WRA PKKPbc **PKKPbc 18 51 47.0 +1.0**
comp=Z,0.4nm,0.7s,baz=127,slow=2.7,SNR=5.5
WRA Warramunga Arr 98.42 108*ce*P Pdif 18 35 16.6 +0.2
WRA pmax pmax
comp=Z,1.0nm,0.7s
WR1 Warramunga Arr 98.43 108 *e*P **P 18 35 15.6 -0.8**
comp=Z,31nm,2.0s
WR1 *e*PP **PP 18 39 19.7 +2.6**
WR1 *e*PKKPbc **PKKPbc 18 51 47.0 +1.0**
ASAR Alice Springs 100.02 112 P **Pdif 18 35 21.8 -1.6**
comp=Z,0.9nm,0.9s,baz=304,slow=4.7,SNR=9.5
ASAR PP **PP 18 39 30.6 +1.4**
comp=Z,1.0nm,0.9s,baz=308,slow=8.1,SNR=5.2
ASAR PKiKP **PKiKP 18 39 51.4 0.0**
comp=Z,0.4nm,0.7s,baz=345,slow=2.0,SNR=4.4
ASAR PKKPbc **PKKPbc 18 51 43.4 +1.8**
comp=Z,0.2nm,0.5s,baz=117,slow=3.7,SNR=7.4
AS31 Alice Springs 100.02 112 *e*Pdif **Pdif 18 35 21.8 -1.6**
AS31 *e*PP **PP 18 39 30.6 +1.4**
AS31 *e*PKKPbc **PKKPbc 18 51 43.4 +1.8**
NVAR Mina Array Bea 107.81 348 PKiKP **PKiKP 18 40 06.3 +0.7**
comp=Z,0.6nm,0.7s,baz=126,slow=0.7,SNR=4.8
TXAR Lajitas Array 112.21 332 PKiKP **PKiKP 18 40 14.3 +0.3**
comp=Z,0.2nm,0.6s,baz=60,slow=3.5,SNR=3.5
QSPA South Pole Qui 122.65 180 *e*PKPdf **PKPdf 18 40 33.1 +0.5**

*ISCJB **08** 18:22:14.8±0.5, 33.0°N±0.1°×39.50°W±0.08, h8km, mb4.3/28, MS3.8/14, Error ellipse: s-maj=16.5km s-min=9.3km az=171.5*
*IDC **08** 18:22:15.2±0.7, 33.09°N×39.52°W, h0km, mb4.1/17, mb1 4.2/17, mb1mx3.9/70, mbtmp4.1/17, MS3.8/14, Ms1 3.8/14, ms1mx3.6/60, Error ellipse: s-maj=23.1km s-min=16.2km az=159.0*
*NEIC **08** 18:22:16.8±0.4, 33.02°N×39.45°W, h10km, mb4.7/12, Error ellipse: s-maj=11.4km s-min=6.3km az=169.0*
*CSEM **08** 18:22:16.8, 33.02°N×39.45°W, h10km, mb4.7/12, After NEIC*
ISC 08 18:22:16.4±0.7, **33.0°N**±0.1°×**39.5°W**±0.1, **h8**km, **n58, s115/44, mb4.4/28, MS3.9/14, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBTS	**Babate**	**27.71**	**126**	LR	LR	18 36 30.8	
	comp=Z,278nm,20.0s,baz=354,slow=31						
SJG	**San Juan**	**28.18**	**245**	LR	LR	18 39 40.8	
	comp=Z,57nm,19.0s,baz=92,slow=37						
SCHQ	**Schefferville**	**29.06**	**327**	LR	LR	18 39 41.0	
	comp=Z,122nm,18.5s,baz=115,slow=36						
TKL	**Tuckaleechee C**	**36.45**	**287**	LR	LR	18 42 02.4	
	comp=Z,237nm,20.0s,baz=68,slow=33						
KOWA	**Kowa**	**37.08**	**111**	P	**P**	**18 29 27.4 +0.1**	
	1.4nm,0.6s,baz=331,slow=10,SNR=3.1						
SDV	**Santo Domingo**	**37.49**	**237**	P	**P**	**18 29 30.4 -0.6**	
	7.2nm,1.0s,baz=16,slow=5.0,SNR=3.9						
SDV				LR	LR	18 41 48.2	
	comp=Z,57nm,21.1s,baz=84,slow=31						
PTGA	**Pitinga**	**38.75**	**214**	LR	LR	18 43 12.0	
	comp=Z,134nm,18.5s,baz=24,slow=32						
NB200	**NORSAR Array S**	**42.86**	**34**	*e*P	**P**	**18 30 13.6 -1.3**	
NOA	**NORSAR Array B**	**42.86**	**34**	P	**P**	**18 30 13.6 -1.3**	
	3.2nm,0.8s,baz=255,slow=8.6,SNR=3.2						
FCC	**Fort Churchill**	**44.24**	**322**	*e*P	**P**	**18 30 27.1 +1.2**	
	9.2nm,1.1s						
ULM	**Lac du Bonnet**	**44.42**	**310**	LR	LR	18 47 12.9	
	comp=Z,290nm,20.7s,baz=74,slow=34						
H10N2	**ASCENSION HYDR**	**47.07**	**145**	T	T	19 20 50.8	
	baz=331,slow=75,SNR=616						
H10N3	**ASCENSION HYDR**	**47.08**	**145**	T	T	19 20 51.1	
	baz=331,slow=75,SNR=883						
H10N1	**ASCENSION HYDR**	**47.09**	**145**	T	T	19 20 52.2	
	baz=331,slow=75,SNR=934						
H10S1	**ASCENSION HYDR**	**47.97**	**146**	T	T	19 21 57.2	
	baz=331,slow=75,SNR=148						
H10S3	**ASCENSION HYDR**	**47.97**	**146**	T	T	19 21 57.5	
	baz=331,slow=75,SNR=161						
H10S2	**ASCENSION HYDR**	**47.98**	**146**	T	T	19 21 58.5	
	baz=331,slow=75,SNR=170						
RES	**Resolute Bay**	**49.48**	**343**	*e*P	**P**	**18 31 07.5 +0.7**	
	11nm,1.4s						
FIA0	**FINESS Array S**	**49.99**	**35**	*e*P	**P**	**18 31 11.2 +0.4**	
FINES	**FINESS Array B**	**49.99**	**35**	P	**P**	**18 31 11.2 +0.4**	
	4.1nm,0.7s,baz=264,slow=5.6,SNR=3.3						
MSTX	**Muleshoe**	**52.03**	**290**	*e*P	**P**	**18 31 26.2 -0.5**	
	21nm,0.7s						
MSTX	**Muleshoe**	**52.03**	**290**	*e*P	**P**	**18 31 26.2 -0.5**	
	21nm,0.7s						
AKASG	**Malin Array Be**	**52.20**	**49**	P	**P**	**18 31 27.2 -0.3**	
	1.5nm,0.8s,baz=275,slow=6.0,SNR=5.3						
ISCO	**Idaho Springs**	**52.59**	**297**	*e*P	**P**	**18 31 31.4 +0.4**	
	9.5nm,1.4s						
LTX	**Lajitas**	**54.30**	**284**	*e*P	**P**	**18 31 43.6 +0.2**	
TXAR	**Lajitas Array**	**54.30**	**284**	P	**P**	**18 31 43.6 +0.2**	
	0.7nm,0.8s,baz=89,slow=7.8,SNR=4.8						
TXAR				LR	LR	18 55 17.8	
	comp=Z,95nm,18.1s,baz=0.0,slow=37						
YKA	**Yellowknife Ar**	**54.52**	**327**	P	**P**	**18 31 43.7 -0.7**	
	0.4nm,0.5s,baz=84,slow=7.4,SNR=8.4						
YKA				PcP	**PcP**	**18 32 47.3 -0.3**	
	0.2nm,0.5s,baz=85,slow=4.5,SNR=4.2						
YKA				LR	LR	18 53 24.8	
	comp=Z,23nm,21.0s,baz=0.0,slow=34						
PDAR	**Pinedale Array**	**54.72**	**302**	LR	LR	18 56 53.2	
	comp=Z,145nm,18.1s,baz=33,slow=38						
YMR	**Madison River**	**55.23**	**305**	*e*P	**P**	**18 31 50.9 +0.7**	
	15nm,1.2s						
YHB	**Horse Butte**	**55.37**	**305**	*e*P	**P**	**18 31 52.5 +1.3**	
	10.0nm,1.3s						
LPAZ	**La Paz**	**56.18**	**214**	P	**P**	**18 31 58.2 +0.6**	
	0.6nm,0.4s,baz=34,slow=10,SNR=3.0						
LPAZ				LR	LR	18 54 12.0	
	comp=Z,69nm,20.8s,baz=50,slow=34						
BR101	**Keskin Array S**	**57.74**	**61**	*e*P	**P**	**18 32 08.4 +0.3**	
BRTR	**Keskin Array B**	**57.74**	**61**	P	**P**	**18 32 08.4 +0.3**	
	0.8nm,0.8s,baz=295,slow=4.1,SNR=3.2						
INK	**Inuvik**	**61.22**	**335**	P	**P**	**18 32 30.6 -0.7**	
	4.9nm,1.1s,baz=64,slow=7.0,SNR=5.7						
INK	**Inuvik**	**61.22**	**335**	*e*P	**P**	**18 32 32.0 +0.7**	
	25nm,1.4s						
NV01	**Mina Array Sit**	**62.39**	**300**	*e*P	**P**	**18 32 39.4 -0.6**	
NVAR	**Mina Array Bea**	**62.39**	**300**	P	**P**	**18 32 39.5 -0.6**	
	0.9nm,0.7s,baz=72,slow=6.3,SNR=4.5						
NVAR				LR	LR	19 00 13.6	
	comp=Z,214nm,19.2s,baz=277,slow=37						
DAC	**Darwin (Calif)**	**62.67**	**297**	*e*P	**P**	**18 32 41.7 -0.2**	
	3.6nm,0.9s						
PAHR	**Pah Rah Range**	**62.70**	**301**	*e*P	**P**	**18 32 41.5 -0.5**	
	9.1nm,1.4s						
DEVC	**Devers**	**62.80**	**294**	*e*P	**P**	**18 32 43.3 +0.7**	
MDPB	**Devils Postpil**	**63.26**	**299**	*e*P	**P**	**18 32 45.1 -0.8**	
YBH	**Yreka Blue Hor**	**64.30**	**304**	LR	LR	19 02 35.0	
	comp=Z,100nm,18.9s,baz=18,slow=38						
GHS	**Gilroy Hot Spr**	**65.20**	**299**	*e*P	**P**	**18 32 54.1 -4.3**	
GSGM	**Seigler Mounta**	**65.41**	**302**	*e*P	**P**	**18 32 55.6 -4.0**	
ILAR	**Eielson Array**	**67.52**	**334**	P	**P**	**18 33 12.3 -0.4**	
	0.7nm,0.9s,baz=67,slow=3.6,SNR=6.9						
ILAR				LR	LR	19 00 49.7	
	comp=Z,93nm,20.4s,baz=20,slow=34						
DHY	**Denali Highway**	**68.57**	**332**	*e*P	**P**	**18 33 21.0 +1.5**	
	8.6nm,1.1s						
AKTO	**Aktyubinsk**	**69.68**	**43**	P	**P**	**18 33 26.4 -0.1**	
	1.0nm,0.4s,baz=302,slow=5.8,SNR=3.7						
PMR	**Palmer**	**70.05**	**331**	*e*P	**P**	**18 33 28.8 +0.3**	
	12nm,1.0s						
H09W1	**TRISTAN DA CUN**	**74.22**	**158**	T	T	19 54 48.8	
	SNR=4.6						
BVAR	**Borovoye Array**	**74.92**	**36**	P	**P**	**18 33 58.5 +0.8**	
	1.9nm,0.8s,baz=282,slow=2.8,SNR=7.8						
KURK	**Kurchatov**	**80.36**	**35**	*e*P	**P**	**18 34 29.0 +1.0**	
KURBB	**Kurchatov Arra**	**80.38**	**35**	P	**P**	**18 34 29.0 +0.8**	
	2.0nm,0.4s,baz=315,slow=5.1,SNR=14						
ZAA1	**Zalesovo Array**	**80.91**	**30**	*e*P	**P**	**18 34 31.5 +0.5**	
ZAA0	**Zalesovo Array**	**80.91**	**30**	*e*P	**P**	**18 34 31.6 +0.6**	
	8.2nm,1.3s						
ZALV	**Zalesovo Beam**	**80.91**	**30**	P	**P**	**18 34 31.5 +0.5**	
	1.7nm,0.8s,baz=289,slow=9.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**80.91**	**30**	*e*P	**P**	**18 34 31.2 +0.2**	
MK32	**Makanchi Array**	**84.81**	**36**	*e*P	**P**	**18 34 50.8 -0.6**	
MKAR	**Makanchi Array**	**84.81**	**36**	P	**P**	**18 34 50.8 -0.6**	
	2.0nm,1.0s,baz=324,slow=7.1,SNR=4.9						

*THE **08** 18:25:25.9, 38.68°N×21.31°E, h8km±1km, ML2.8/11, Error ellipse: s-maj=1.8km s-min=0.7km az=100.0*
*ATH **08** 18:25:25.6, 38.70°N×21.30°E, h18km±1km, ML2.7/18, Error ellipse: s-maj=1.3km s-min=0.7km az=156.0*
*CSEM **08** 18:25:26.2±0.2, 38.68°N×21.30°E, h10km, ML2.7, Error ellipse: s-maj=4.0km s-min=2.7km az=70.0*
ISC 08 18:25:26.3±0.8, **38.68N**±0.01°×**21.31E**±0.02, **h17**km±5km, **n127, σ1°08/177, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDO	**Prodromos**	**0.12**	**230**	P	**Pg**	**18 25 30.0**	**-0.1**
PDO	**Prodromos**	**0.12**	**230**	P	**Pg**	**18 25 29.8**	**-0.3**
PVO	**Paravola**	**0.18**	**109**	P	**Pg**	**18 25 30.4**	**-0.5**
PVO				S	**Sg**	**18 25 34.3**	**+0.3**
PVO				AML	AML	18 25 34.6	
	comp=N,21429μm,0.3s						
PVO				AML	AML	18 25 34.7	
	comp=E,37260μm,0.3s						
PVO	**Paravola**	**0.18**	**109**	P	**Pg**	**18 25 30.4**	**-0.5**
PVO				S	**Sg**	**18 25 33.4**	**-0.6**
PVO	**Paravola**	**0.18**	**109**	P	**Pg**	**18 25 30.4**	**-0.5**
PVO				S	**Sg**	**18 25 33.4**	**-0.6**
EVR	**Evrytania**	**0.46**	**59**	P	**Pg**	**18 25 33.8**	**-1.8**
EVR				S	**Sg**	**18 25 41.5**	**-0.4**
EVR				AML	AML	18 25 42.5	
	comp=E,3421μm,0.6s						
EVR				AML	AML	18 25 42.8	
	comp=N,3336μm,0.4s						
EVR	**Evrytania**	**0.46**	**59**	P	**Pg**	**18 25 34.3**	**-1.4**
EVR				S	**Sg**	**18 25 41.5**	**-0.4**
EVR	**Evrytania**	**0.46**	**59**	P	**Pg**	**18 25 34.2**	**-1.4**
EVR				S	**Sb**	**18 25 42.3**	**-0.3**
EFP	**Efpalio**	**0.53**	**118**	P	**Pg**	**18 25 35.6**	**-1.3**
EFP				S	**Sg**	**18 25 43.9**	**-0.2**
EFP				AML	AML	18 25 46.9	
	comp=E,2253μm,0.2s						
EFP				AML	AML	18 25 49.2	
	comp=N,2426μm,0.5s						
EFP	**Efpalio**	**0.53**	**118**	P	**Pg**	**18 25 36.0**	**-0.9**
EFP				S	**Sg**	**18 25 43.6**	**-0.5**
EFP	**Efpalio**	**0.53**	**118**	P	**Pg**	**18 25 36.0**	**-0.9**
EFP				S	**Sg**	**18 25 43.6**	**-0.5**
UPR	**University Cam**	**0.55**	**136**	P	**Pg**	**18 25 36.4**	**-0.7**
UPR				S	**Sb**	**18 25 45.6**	**+0.7**
UPR	**University Cam**	**0.55**	**136**	P	**Pg**	**18 25 36.6**	**-0.5**
UPR				S	**Sb**	**18 25 45.2**	**+0.3**
RLS	**Riolos of Patr**	**0.63**	**168**	P	**Pg**	**18 25 38.2**	**-0.6**
RLS				S	**Sn**	**18 25 49.7**	**-0.3**
RLS				AML	AML	18 25 52.5	
	comp=E,884μm,0.3s						
RLS				AML	AML	18 25 53.2	
	comp=N,558μm,0.3s						
RLS	**Riolos of Patr**	**0.63**	**168**	P	**Pg**	**18 25 38.3**	**-0.4**
RLS				S	**Sb**	**18 25 48.6**	**+1.3**

RLS	**Riolos of Patr**	**0.63**	**168**	P	**Pg**	**18 25 38.3**	**-0.4**
SERG	**Sergoula**	**0.65**	**114**	P	**Pg**	**18 25 37.4**	**-1.6**
SERG				S	**Sb**	**18 25 48.8**	**+1.0**
SERG				AML	AML	18 25 49.3	
	comp=N,1714µm,0.3s						
SERG				AML	AML	18 25 49.8	
	comp=E,1390µm,0.3s						
SERG	**Sergoula**	**0.65**	**114**	P	**Pg**	**18 25 37.9**	**-1.1**
SERG				S	**Sb**	**18 25 47.9**	**+0.1**
SERG	**Sergoula**	**0.65**	**114**	P	**Pg**	**18 25 37.9**	**-1.1**
SERG				S	**Sb**	**18 25 47.9**	**+0.1**
TRIZ	**Trizonia**	**0.68**	**117**	P	**Pg**	**18 25 37.6**	**-1.9**
TRIZ				S	**Sn**	**18 25 51.1**	**-0.1**
TRIZ	**Trizonia**	**0.68**	**117**	P	**Pg**	**18 25 38.3**	**-1.3**
TRIZ				S	**Sb**	**18 25 49.9**	**+1.2**
LAKA	**Lakka**	**0.69**	**129**	P	**Pg**	**18 25 39.2**	**-0.5**
LAKA				S	**Sb**	**18 25 49.2**	**+0.2**
LAKA				AML	AML	18 25 52.2	
	comp=N,570µm,0.4s						
LAKA				AML	AML	18 25 52.3	
	comp=E,503µm,0.4s						
LAKA	**Lakka**	**0.69**	**129**	P	**Pg**	**18 25 39.2**	**-0.5**
LAKA				S	**Sb**	**18 25 49.1**	**+0.2**
KALE	**Kalithea**	**0.71**	**113**	P	**Pg**	**18 25 38.7**	**-1.6**
KALE				S	**Sb**	**18 25 50.9**	**+1.0**
KALE				AML	AML	18 25 53.8	
	comp=E,736µm,0.3s						
KALE				AML	AML	18 25 55.7	
	comp=N,1174µm,0.6s						
KALE	**Kalithea**	**0.71**	**113**	P	**Pg**	**18 25 39.2**	**-1.1**
KALE				S	**Sb**	**18 25 50.4**	**+0.6**
KALE	**Kalithea**	**0.71**	**113**	P	**Pg**	**18 25 39.1**	**-1.2**
VLS	**Valsamata**	**0.75**	**229**	P	**Pg**	**18 25 38.7**	**-2.3**
VLS				S	**Sb**	**18 25 51.7**	**+0.9**
VLS				AML	AML	18 25 58.0	
	comp=N,1046µm,0.6s						
VLS				AML	AML	18 26 00.4	
	comp=E,699µm,0.5s						
VLS	**Valsamata**	**0.75**	**229**	P	**Pg**	**18 25 39.5**	**-1.5**
VLS				S	**Sb**	**18 25 51.4**	**+0.6**
VLS	**Valsamata**	**0.75**	**229**	P	**Pg**	**18 25 39.5**	**-1.5**
VLS				S	**Sb**	**18 25 51.6**	**+0.8**
DRO	**Drossia**	**0.79**	**156**	P	**Pg**	**18 25 39.9**	**-1.8**
DRO				AML	AML	18 25 55.7	
	comp=E,5412µm,0.7s						
DRO				S	**Sn**	**18 25 55.8**	**+1.8**
DRO				AML	AML	18 25 56.7	
	comp=N,3755µm,0.5s						
DRO	**Drossia**	**0.79**	**156**	P	**Pg**	**18 25 40.6**	**-1.2**
DRO				S	**Sb**	**18 25 52.5**	**+0.5**
DRO	**Drossia**	**0.79**	**156**	P	**Pg**	**18 25 40.5**	**-1.2**
DRO				S	**Sb**	**18 25 52.5**	**+0.5**
AGG	**Agios Georgios**	**0.87**	**66**	P	**Pg**	**18 25 41.7**	**-1.5**
AGG				S	**Sn**	**18 25 56.1**	**+0.1**
AGG				AML	AML	18 25 56.9	
	comp=N,2708µm,0.3s						
AGG				AML	AML	18 25 56.9	
	comp=E,2050µm,0.4s						
AGG	**Agios Georgios**	**0.87**	**66**	P	**Pg**	**18 25 42.0**	**-1.2**
AGG				S	**Sb**	**18 25 55.3**	**+1.0**
AGG	**Agios Georgios**	**0.87**	**66**	P	**Pg**	**18 25 41.8**	**-1.5**
AGG				S	**Sb**	**18 25 55.4**	**+1.1**
KLV	**Kalavryta, Ach**	**0.92**	**133**	P	**Pg**	**18 25 41.4**	**-2.7**
KLV				S	**Sn**	**18 25 57.9**	**+0.7**
KLV	**Kalavryta, Ach**	**0.92**	**133**	P	**Pg**	**18 25 42.4**	**-1.7**
KLV				S	**Sb**	**18 25 57.2**	**+1.5**
KLV	**Kalavryta, Ach**	**0.92**	**133**	P	**Pg**	**18 25 42.4**	**-1.7**
DSF	**Desfina**	**0.99**	**105**	P	**Pg**	**18 25 41.4**	**-4.2**
DSF	**Desfina**	**0.99**	**105**	P	**Pg**	**18 25 43.0**	**-2.6**
JAN	**Janina**	**1.04**	**340**	P	**Pg**	**18 25 45.5**	**-0.9**
JAN				S	**Sn**	**18 26 00.6**	**+0.4**
JAN				AML	AML	18 26 05.1	
	comp=E,1048µm,0.5s						
JAN				AML	AML	18 26 05.9	
	comp=N,588µm,0.4s						
JAN	**Janina**	**1.04**	**340**	P	**Pg**	**18 25 45.3**	**-1.1**
JAN				S	**Sb**	**18 25 59.9**	**+0.7**
THL	**Klokotos Trika**	**1.04**	**32**	P	**Pg**	**18 25 44.5**	**-2.0**
THL				S	**Sb**	**18 26 00.3**	**+1.1**
THL				AML	AML	18 26 01.3	
	comp=E,538µm,0.5s						
THL				AML	AML	18 26 05.1	
	comp=N,522µm,0.7s						
THL	**Klokotos Trika**	**1.04**	**32**	P	**Pg**	**18 25 44.8**	**-1.7**
THL				S	**Sb**	**18 25 59.9**	**+0.7**
THL	**Klokotos Trika**	**1.04**	**32**	P	**Pg**	**18 25 44.8**	**-1.7**
THL				S	**Sn**	**18 26 00.5**	**+0.3**
AXAR	**Agios Charalam**	**1.06**	**85**	P	**Pn**	**18 25 46.7**	**+0.4**
AXAR				S	**Sb**	**18 26 01.0**	**+1.2**
AXAR				AML	AML	18 26 04.7	
	comp=E,1637µm,0.3s						
AXAR				AML	AML	18 26 09.0	
	comp=N,1387µm,0.5s						
AXAR	**Agios Charalam**	**1.06**	**85**	P	**Pg**	**18 25 46.3**	**-0.6**
AXAR				S	**Sb**	**18 26 00.8**	**+1.0**
GUR	**Goura**	**1.10**	**132**	P	**Pg**	**18 25 45.0**	**-2.6**
GUR	**Goura**	**1.10**	**132**	P	**Pg**	**18 25 46.0**	**-1.6**
GUR				S	**Sn**	**18 26 02.8**	**+1.0**
GUR	**Goura**	**1.10**	**132**	P	**Pg**	**18 25 46.0**	**-1.6**
GUR				S	**Sn**	**18 26 02.8**	**+1.0**
IGT	**Igoumenitsa**	**1.14**	**319**	P	**Pb**	**18 25 47.1**	**-0.4**
IGT				S	**Sn**	**18 26 03.8**	**+1.1**
IGT				AML	AML	18 26 07.2	
	comp=E,436µm,0.9s						
IGT				AML	AML	18 26 12.4	
	comp=N,392µm,0.4s						
IGT	**Igoumenitsa**	**1.14**	**319**	P	**Pb**	**18 25 47.1**	**-0.4**
IGT				S	**Sn**	**18 26 03.2**	**+0.5**
IGT	**Igoumenitsa**	**1.14**	**319**	P	**Pb**	**18 25 46.9**	**-0.6**
IGT				S	**Sn**	**18 26 04.6**	**+1.9**
AMT	**Artemida-Makis**	**1.19**	**164**	P	**Pb**	**18 25 47.2**	**-1.1**
AMT	**Artemida-Makis**	**1.19**	**164**	P	**Pb**	**18 25 47.9**	**-0.4**
AMT				S	**Sg**	**18 26 04.4**	**-0.3**
AMT	**Artemida-Makis**	**1.19**	**164**	P	**Pb**	**18 25 47.6**	**-0.7**
AMT				S	**Sg**	**18 26 04.4**	**-0.3**
THAL	**Thalero**	**1.25**	**120**	P	**Pg**	**18 25 50.5**	**+0.2**
THAL	**Thalero**	**1.25**	**120**	P	**Pg**	**18 25 50.0**	**-0.3**
SGD	**Sagiada**	**1.25**	**319**	P	**Pn**	**18 25 49.0**	**+0.1**
SGD	**Sagiada**	**1.25**	**319**	P	**Pn**	**18 25 49.0**	**+0.1**
SGD	**Sagiada**	**1.25**	**319**	P	**Pn**	**18 25 49.2**	**+0.3**
KPRO	**Kipourio**	**1.28**	**2**	P	**Pn**	**18 25 49.8**	**+0.5**
KPRO				AML	AML	18 26 12.9	
	comp=E,546µm,0.6s						
KPRO				AML	AML	18 26 16.7	
	comp=N,539µm,0.6s						
KPRO	**Kipourio**	**1.28**	**2**	P	**Pn**	**18 25 49.6**	**+0.2**
KPRO	**Kipourio**	**1.28**	**2**	P	**Pn**	**18 25 49.6**	**+0.2**
PROD	**Prodromos**	**1.32**	**108**	P	**Pn**	**18 25 49.5**	**-0.4**
PROD	**Prodromos**	**1.32**	**108**	P	**Pn**	**18 25 50.1**	**+0.2**
LKR	**Lokris**	**1.33**	**91**	P	**Pn**	**18 25 49.1**	**-0.9**
LKR				AML	AML	18 26 09.5	
	comp=N,195µm,0.4s						
LKR				AML	AML	18 26 10.2	
	comp=E,211µm,0.3s						
LKR	**Lokris**	**1.33**	**91**	P	**Pn**	**18 25 49.9**	**-0.1**
TRIP	**Tripoli**	**1.38**	**146**	P	**Pn**	**18 25 49.6**	**-1.1**
TRIP	**Tripoli**	**1.38**	**146**	P	**Pn**	**18 25 50.8**	**0.0**
MES3	**Kyparissia**	**1.46**	**168**	P	**Pb**	**18 25 53.3**	**+0.4**
MES3	**Kyparissia**	**1.46**	**168**	P	**Pb**	**18 25 53.4**	**+0.5**
LTK	**Loutraki**	**1.46**	**116**	P	**Pn**	**18 25 51.9**	**+0.1**
LTK	**Loutraki**	**1.46**	**116**	P	**Pn**	**18 25 52.7**	**+0.9**
LTK	**Loutraki**	**1.46**	**116**	P	**Pn**	**18 25 52.6**	**+0.8**
FYTO	**Fytoko, Volos**	**1.47**	**60**	P	**Pn**	**18 25 52.5**	**+0.5**
FYTO	**Fytoko, Volos**	**1.47**	**60**	P	**Pn**	**18 25 52.8**	**+0.9**
LOUT	**Loutraki**	**1.48**	**117**	P	**Pg**	**18 25 54.3**	**-0.5**
LOUT	**Loutraki**	**1.48**	**117**	P	**Pg**	**18 25 54.2**	**-0.8**
VIL2	**Platees**	**1.61**	**106**	P	**Pg**	**18 25 56.5**	**-0.8**
NEO	**Neokhori**	**1.62**	**67**	P	**Pg**	**18 25 57.0**	**-0.5**
NEO	**Neokhori**	**1.62**	**67**	P	**Pb**	**18 25 56.2**	**+0.5**
XOR	**Xorichti**	**1.62**	**64**	P	**Pn**	**18 25 54.0**	**-0.1**
XOR				AML	AML	18 26 22.8	
	comp=N,447µm,0.5s						
XOR				AML	AML	18 26 24.4	
	comp=E,262µm,0.7s						
XOR	**Xorichti**	**1.62**	**64**	P	**Pn**	**18 25 54.7**	**+0.6**
VILL	**Villia**	**1.66**	**107**	P	**Pb**	**18 25 56.3**	**-0.1**
KZN	**Kozani**	**1.67**	**12**	P	**Pn**	**18 25 53.7**	**-1.1**
KZN	**Kozani**	**1.67**	**12**	P	**Pn**	**18 25 54.8**	**+0.1**
LIT	**Litokhoron**	**1.69**	**33**	P	**Pn**	**18 25 55.9**	**+0.9**
LIT				S	**Sg**	**18 26 21.0**	**+0.1**
LIT	**Litokhoron**	**1.69**	**33**	P	**Pn**	**18 25 56.1**	**+1.1**
LIT				S	**Sg**	**18 26 19.8**	**-1.0**
NEST	**Nestorio**	**1.75**	**354**	P	**Pg**	**18 25 58.7**	**-1.1**
NEST	**Nestorio**	**1.75**	**354**	P	**Pb**	**18 25 57.9**	**0.0**
SKIA	**Skiathos**	**1.75**	**73**	P	**Pn**	**18 25 56.3**	**+0.4**
SKIA	**Skiathos**	**1.75**	**73**	P	**Pn**	**18 25 56.8**	**+0.9**
PYL	**PYLOS**	**1.81**	**169**	P	**Pb**	**18 25 58.8**	**-0.2**
PYL	**PYLOS**	**1.81**	**169**	P	**Pb**	**18 25 58.6**	**-0.4**
DID	**Didima**	**1.92**	**127**	P	**Pb**	**18 26 00.7**	**-0.2**
DID	**Didima**	**1.92**	**127**	P	**Pb**	**18 26 00.3**	**-0.5**
KRND	**KRANIDI**	**1.95**	**131**	P	**Pb**	**18 26 01.7**	**+0.5**
KRND				AML	AML	18 26 31.3	
	comp=N,376µm,0.7s						
KRND				AML	AML	18 26 34.4	
	comp=E,549µm,0.8s						
KRND	**KRANIDI**	**1.95**	**131**	P	**Pb**	**18 26 01.0**	**-0.3**
ATHU	**Athens Univers**	**2.08**	**109**	P	**Pb**	**18 26 03.2**	**-0.3**
ATHU	**Athens Univers**	**2.08**	**109**	P	**Pb**	**18 26 02.6**	**-0.9**
EREA	**Eretria**	**2.08**	**96**	P	**Pn**	**18 26 02.2**	**+1.8**
EREA	**Eretria**	**2.08**	**96**	P	**Pn**	**18 26 02.1**	**+1.8**
DYR	**Agios Nikonas**	**2.08**	**157**	P	**Pb**	**18 26 03.9**	**+0.4**
DYR	**Agios Nikonas**	**2.08**	**157**	P	**Pb**	**18 26 03.1**	**-0.4**
FNA	**Florina**	**2.10**	**1**	P	**Pb**	**18 26 03.8**	**-0.2**
FNA	**Florina**	**2.10**	**1**	P	**Pb**	**18 26 02.9**	**-1.1**
VLY	**Voula,Athens**	**2.13**	**112**	P	**Pn**	**18 26 02.0**	**+1.0**
VLY	**Voula,Athens**	**2.13**	**112**	P	**Pn**	**18 26 02.4**	**+1.4**
PAIG	**Paliouri**	**2.23**	**55**	P	**Pn**	**18 26 02.0**	**-0.3**
PAIG	**Paliouri**	**2.23**	**55**	P	**Pn**	**18 26 03.0**	**+0.7**
VLI	**Veliai**	**2.35**	**146**	P	**Pb**	**18 26 07.0**	**-1.0**
VLI	**Veliai**	**2.35**	**146**	P	**Pb**	**18 26 06.5**	**-1.6**
HORT	**Hortiatis**	**2.37**	**35**	P	**Pn**	**18 26 04.4**	**0.0**
HORT	**Hortiatis**	**2.37**	**35**	P	**Pn**	**18 26 05.1**	**+0.7**
PLG	**Polygyros**	**2.37**	**44**	P	**Pn**	**18 26 04.8**	**+0.4**
PLG	**Polygyros**	**2.37**	**44**	P	**Pn**	**18 26 05.3**	**+0.9**
GRG	**Griva**	**2.43**	**20**	P	**Pn**	**18 26 05.8**	**+0.6**
GRG	**Griva**	**2.43**	**20**	P	**Pn**	**18 26 06.2**	**+1.0**
OHR	**Ohrid**	**2.46**	**351**	*e*Pn	**Pg**	**18 26 11.9**	**-1.6**
SOH	**Sokhos**	**2.66**	**36**	P	**Pn**	**18 26 09.0**	**+0.6**
SOH	**Sokhos**	**2.66**	**36**	P	**Pn**	**18 26 09.5**	**+1.1**
SOH				S	**Sn**	**18 26 42.4**	**+2.2**
KRUS	**Krusevo**	**2.69**	**359**	*i* Pn	**Pb**	**18 26 14.2**	**+0.3**
KNT	**Kendrikon**	**2.77**	**26**	P	**Pn**	**18 26 12.7**	**+2.9**
KNT	**Kendrikon**	**2.77**	**26**	P	**Pn**	**18 26 12.0**	**+2.2**
SRS	**Serrai**	**3.00**	**35**	P	**Pn**	**18 26 12.6**	**-0.5**
SRS	**Serrai**	**3.00**	**35**	P	**Pn**	**18 26 13.6**	**+0.5**

*CSEM **08** 18:26:21.7±0.1, 44°.48N×6°.71E, h2km, ML3.7/22, Error ellipse: s-maj=2.2km s-min=2.0km az=47.0*
*LDG **08** 18:26:21.8±0.1, 44°.48N×6°.66E, h2km, Md3.4/3, Ml3.4/29, Error ellipse: s-maj=1.4km s-min=1.3km az=60.0*
*ROM **08** 18:26:21.6±0.3, 44°.48N×6°.76E, h7km±2km, Md2.7/9, Ml2.9/11, Error ellipse: s-maj=3.2km s-min=1.7km az=63.0*
*ISCJB **08** 18:26:21.1±0.2, 44°.47N±0°.01×6°.71E±0°.02, h9km±2km, Error ellipse: s-maj=2.2km s-min=1.9km az=162.0*
*GEN **08** 18:26:21.8, 44°.48N×6°.70E, h10km, ML2.8*
*STR **08** 18:26:22.9±0.1, 44°.48N±0°.01×6°.72E±0°.01, h5km, MLv3.3/25*

ISC 08 18:26:21.2±0.9, **44°.49N**±0°.01×**6°.70E**±0°.01, **h20**km±3km, **n159**, σ**2s04**/259, **1C**, **France**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.24**	**12**	*e*Pg	**Pg**		**18 26 27.2**	**+0.1**
	SNR=1.0							
MBDF				*e*Sg	**Sg**		**18 26 30.9**	**-0.2**
	2µm,0.3s							
MBDF	**Montbardon**	**0.24**	**12**	*e*Pg	**Pg**		**18 26 27.2**	**+0.1**
	SNR=1.0							
MBDF				*e*Sg	**Sg**		**18 26 30.9**	**-0.2**
	1µm,0.3s							
PZZ	**Stroppo**	**0.30**	**87**	Pg	**Pg**		**18 26 27.3**	**-0.6**
PZZ				Sg	**Sg**		**18 26 31.6**	**-0.9**
	4µm,0.2s							
OG22	**Abries**	**0.37**	**28**	Pg	**Pg**		**18 26 29.7**	**+0.4**
OG22				Sg	**Sg**		**18 26 35.2**	**+0.5**
OG22	**Abries**	**0.37**	**28**	Pg	**Pg**		**18 26 29.7**	**+0.4**
DOI	**San Damiano**	**0.39**	**88**	Pg	**Pg**		**18 26 29.9**	**+0.4**
DOI				Sg	**Sg**		**18 26 35.7**	**+0.6**
	1µm,0.2s							
DOI	**San Damiano**	**0.39**	**88**	Pg	**Pg**		**18 26 29.9**	**+0.4**
DOI				Sg	**Sg**		**18 26 35.7**	**+0.6**
	1µm,0.2s							
RRL	**Rocca Remolon**	**0.43**	**8**	P	**Pg**		**18 26 29.8**	**-0.5**
RRL				S	**Sg**		**18 26 36.2**	**-0.3**
OG25	**Le Caire**	**0.47**	**255**	Pg	**Pg**		**18 26 31.3**	**+0.5**
OG25				Sg	**Sb**		**18 26 38.4**	**+1.0**
OG25	**Le Caire**	**0.47**	**255**	Pg	**Pg**		**18 26 31.4**	**+0.5**
STV	**Sant Anna di V**	**0.51**	**119**	P	**Pg**		**18 26 31.1**	**-0.5**
STV				Sg	**Sg**		**18 26 37.7**	**-0.9**
	542nm,0.2s							
STV	**Sant Anna di V**	**0.51**	**119**	*i*Pg	**Pg**		**18 26 31.1**	**-0.5**
STV				Sg	**Sg**		**18 26 37.7**	**-0.9**
	542nm,0.2s							
BHB	**Bricherasio**	**0.53**	**49**	P	**Pg**		**18 26 32.4**	**+0.4**
BHB				S	**Sg**		**18 26 39.4**	**+0.2**
BHB	**Bricherasio**	**0.53**	**49**	Pg	**Pg**		**18 26 32.6**	**+0.6**
BHB				Sg	**Sg**		**18 26 39.5**	**+0.2**
	736nm,0.5s							
BNI	**Bardonecchia**	**0.56**	**358**	Pg	**Pg**		**18 26 33.0**	**+0.4**
BNI				Sg	**Sg**		**18 26 41.0**	**+0.8**
	155nm,0.3s							
BNI	**Bardonecchia**	**0.56**	**358**	Pg	**Pg**		**18 26 33.0**	**+0.4**
BNI				Sg	**Sg**		**18 26 41.0**	**+0.8**
	155nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.72**	**306**	*e*Pg	**Pg**		**18 26 35.7**	**+0.2**
	SNR=1.0							
ORIF				*e*Sg	**Sg**		**18 26 44.9**	**-0.3**
	417nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.72**	**306**	*e*Pg	**Pg**		**18 26 35.7**	**+0.2**
	SNR=1.0							
ORIF				*e*Sg	**Sg**		**18 26 44.9**	**-0.3**
	208nm,0.2s							
LUCF	**Luceram**	**0.76**	**142**	Pg	**Pg**		**18 26 36.3**	**+0.2**
LUCF				Sg	**Sg**		**18 26 46.7**	**+0.5**
LUCF	**Luceram**	**0.76**	**142**	Pg	**Pg**		**18 26 36.3**	**+0.2**
RSP	**Reno Superiore**	**0.77**	**31**	P	**Pg**		**18 26 37.1**	**+0.7**
RSP				S	**Sg**		**18 26 47.0**	**+0.3**
RSP				Sg	**Sb**		**18 26 47.7**	**+1.6**
	364nm,0.2s							
RSP	**Reno Superiore**	**0.77**	**31**	Pg	**Pg**		**18 26 37.1**	**+0.7**
RSP				Sg	**Sb**		**18 26 47.7**	**+1.6**
	364nm,0.2s							
SBF	**Sospel**	**0.82**	**140**	*e*Pg	**Pb**		**18 26 37.5**	**+0.7**
	SNR=1.0							
SBF				*e*Sg	**Sg**		**18 26 48.1**	**-0.1**
	336nm,0.2s,SNR=1.0							
SBF	**Sospel**	**0.82**	**140**	*e*Pg	**Pb**		**18 26 37.5**	**+0.7**
	SNR=1.0							
SBF				*e*Sg	**Sg**		**18 26 48.1**	**-0.1**
	168nm,0.2s,SNR=1.0							
REVF	**Revere**	**0.89**	**147**	Pg	**Pb**		**18 26 39.0**	**+1.0**
REVF				Sg	**Sn**		**18 26 52.3**	**+1.2**
REVF	**Revere**	**0.89**	**147**	Pg	**Pb**		**18 26 39.0**	**+1.0**
FRF	**La Foret Royal**	**0.93**	**182**	*e*Pg	**Pb**		**18 26 39.5**	**+0.8**
	SNR=1.0							
FRF				*e*Sg	**Sb**		**18 26 50.6**	**0.0**
	609nm,0.2s,SNR=1.0							
FRF				*e*Sn	**Sn**		**18 26 53.0**	**+1.0**
FRF	**La Foret Royal**	**0.93**	**182**	*e*Pg	**Pb**		**18 26 39.5**	**+0.8**
	SNR=1.0							
FRF				*e*Sg	**Sb**		**18 26 50.6**	**0.0**
	304nm,0.2s,SNR=1.0							
FRF				*e*Sn	**Sn**		**18 26 53.0**	**+1.0**
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*Pn	**Pg**		**18 26 40.6**	**+0.7**
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*P	**Pn**		**18 26 41.3**	**+1.7**
	SNR=1.0							
SMRF				*e*Sg	**Sb**		**18 26 51.7**	**+0.2**
	350nm,0.3s,SNR=1.0							
SMRF				*e*Sn	**Sn**		**18 26 53.7**	**+1.0**
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*Pn	**Pg**		**18 26 40.6**	**+0.7**
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*P	**Pn**		**18 26 41.3**	**+1.7**
	SNR=1.0							
SMRF				*e*Sg	**Sb**		**18 26 51.7**	**+0.2**
	175nm,0.3s,SNR=1.0							
SMRF				*e*Sn	**Sn**		**18 26 53.7**	**+1.0**
NEGI	**Seborga**	**0.97**	**131**	Pg	**Pb**		**18 26 39.5**	**+0.2**
NEGI				Sg	**Sb**		**18 26 52.6**	**+0.9**
	433nm,0.4s							
NEGI	**Seborga**	**0.97**	**131**	Pg	**Pb**		**18 26 39.5**	**+0.2**
NEGI				Sg	**Sb**		**18 26 52.6**	**+0.9**
	433nm,0.4s							
LPG	**La Plagne**	**1.01**	**2**	*e*Pg	**Pb**		**18 26 41.3**	**+1.1**
LPG	**La Plagne**	**1.01**	**2**	*e*Pn	**Pn**		**18 26 41.9**	**+1.4**
	SNR=1.0							
LPG				*e*Sg	**Sb**		**18 26 54.7**	**+1.6**
	219nm,0.3s,SNR=1.0							
LPG	**La Plagne**	**1.01**	**2**	*e*Pg	**Pb**		**18 26 41.3**	**+1.1**
LPG	**La Plagne**	**1.01**	**2**	*e*Pn	**Pn**		**18 26 41.9**	**+1.4**
	SNR=1.0							
LPG				*e*Sg	**Sb**		**18 26 54.7**	**+1.6**
	109nm,0.3s,SNR=1.0							
LSD	**Lago del Serru**	**1.02**	**17**	Pg	**Pb**		**18 26 41.1**	**+0.8**
LSD				Sg	**Sb**		**18 26 55.0**	**+1.7**
	150nm,0.3s							
LSD	**Lago del Serru**	**1.02**	**17**	Pg	**Pb**		**18 26 41.1**	**+0.8**
LSD				Sg	**Sb**		**18 26 55.0**	**+1.7**
	150nm,0.3s							
LPL	**La Plagne**	**1.02**	**1**	*e*Pg	**Pb**		**18 26 41.6**	**+1.2**
	SNR=1.0							
LPL				*e*Sg	**Sb**		**18 26 55.1**	**+1.5**
	164nm,0.4s							
LPL	**La Plagne**	**1.02**	**1**	*e*Pg	**Pb**		**18 26 41.6**	**+1.2**
	SNR=1.0							
LPL				*e*Sg	**Sb**		**18 26 55.1**	**+1.5**
	82nm,0.4s							
IMI	**Imperia**	**1.03**	**124**	Pg	**Pb**		**18 26 41.7**	**+1.2**
IMI	**Imperia**	**1.03**	**124**	Pg	**Pb**		**18 26 41.7**	**+1.2**
RORO	**Rocca Rossa**	**1.05**	**111**	Pg	**Pb**		**18 26 40.6**	**-0.1**
RORO				Sg	**Sb**		**18 26 54.3**	**+0.2**
	325nm,0.6s							
RORO	**Rocca Rossa**	**1.05**	**111**	Pg	**Pb**		**18 26 40.6**	**-0.1**
RORO				Sg	**Sb**		**18 26 54.3**	**+0.2**
	325nm,0.6s							
LMR	**La Mourre**	**1.17**	**187**	*e*Pg	**Pb**		**18 26 43.7**	**+1.0**
LMR	**La Mourre**	**1.17**	**187**	*e*P	**Pg**		**18 26 44.8**	**+1.0**
	SNR=1.0							
LMR				*e*Sg	**Sb**		**18 26 58.2**	**+0.9**
	274nm,0.2s,SNR=1.0							
LMR	**La Mourre**	**1.17**	**187**	*e*Pg	**Pb**		**18 26 43.7**	**+1.0**
LMR	**La Mourre**	**1.17**	**187**	*e*P	**Pg**		**18 26 44.8**	**+1.0**
	SNR=1.0							
LMR				*e*Sg	**Sb**		**18 26 58.2**	**+0.9**
	137nm,0.2s,SNR=1.0							
QLNO	**Quiliano**	**1.19**	**97**	Pg	**Pn**		**18 26 43.3**	**+0.5**
QLNO				Sg	**Sb**		**18 26 58.9**	**+0.8**
	164nm,0.3s							
QLNO	**Quiliano**	**1.19**	**97**	Pg	**Pn**		**18 26 43.3**	**+0.5**
QLNO				Sg	**Sb**		**18 26 58.9**	**+0.8**
	164nm,0.3s							
LEPF	**PUYLOUBIER**	**1.21**	**217**	Pn	**Pg**		**18 26 45.6**	**+1.0**
LEPF				Sg	**Sg**		**18 27 02.7**	**+2.3**
LEPF	**PUYLOUBIER**	**1.21**	**217**	Pn	**Pg**		**18 26 45.6**	**+1.0**
PCP	**Piancastagn**	**1.32**	**87**	Pg	**Pn**		**18 26 45.4**	**+0.8**
PCP				Sg	**Sn**		**18 27 03.2**	**+1.5**
	188nm,0.5s							
PCP	**Piancastagn**	**1.32**	**87**	Pg	**Pn**		**18 26 45.4**	**+0.8**
PCP				Sg	**Sn**		**18 27 03.2**	**+1.5**
	188nm,0.5s							
VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*Pg	**Pb**		**18 26 49.4**	**+1.1**
	SNR=1.0							
VIVF				*e*Sn	**Sn**		**18 27 06.8**	**+0.9**
VIVF				*e*Sg	**Sb**		**18 27 08.7**	**+1.9**
	99nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*Pg	**Pb**		**18 26 49.4**	**+1.1**
	SNR=1.0							
VIVF				*e*Sn	**Sn**		**18 27 06.8**	**+0.9**
VIVF				*e*Sg	**Sb**		**18 27 08.7**	**+1.9**
	49nm,0.2s,SNR=1.0							
SSB	**Saint Sauveur**	**1.73**	**298**	Pn	**Pn**		**18 26 52.4**	**+2.2**
SSB	**Saint Sauveur**	**1.73**	**298**	Pg	**Pg**		**18 26 55.2**	**+0.8**
SSB				Sg	**Sg**		**18 27 19.5**	**+2.6**
OG01	**Vacheresse**	**1.84**	**360**	Pn	**Pn**		**18 26 54.1**	**+2.4**
OG01	**Vacheresse**	**1.84**	**360**	Pg	**Pg**		**18 26 58.4**	**+1.8**
OG01				Sg	**Sg**		**18 27 23.7**	**+3.2**
OG01	**Vacheresse**	**1.84**	**360**	Pn	**Pn**		**18 26 54.2**	**+2.4**
OG01	**Vacheresse**	**1.84**	**360**	Pg	**Pg**		**18 26 58.4**	**+1.8**
LASF	**Ste Croix**	**2.08**	**260**

SSF	**Saint Saulge**	**3.41**	**320**	*eP*		**Pn**	**18 27 16.5**	**+3.3**
	SNR=1.0								
SSF				*eSg*		**Sg**	**18 28 08.2**	**-2.4**
	18nm,0.5s,SNR=1.0								
LOR	**Lormes**	**3.41**	**325**	*eP*		**Pn**	**18 27 16.8**	**+3.5**
	baz=153,SNR=1.0								
LOR				*eSn*		**Sn**	**18 27 52.6**	**-0.6**
	22nm,0.4s,baz=153								
LOR				*eSg*		**Sg**	**18 28 08.7**	**-2.1**
	27nm,0.3s,SNR=1.0								
LOR	**Lormes**	**3.41**	**325**	*eP*		**Pn**	**18 27 16.8**	**+3.5**
	SNR=1.0								
LOR				*eSg*		**Sg**	**18 28 08.7**	**-2.1**
	14nm,0.3s,SNR=1.0								
MTLF	**Montolieu**	**3.44**	**252**	*eP*		**Pn**	**18 27 16.0**	**+2.3**
	SNR=1.0								
MTLF				*eSn*		**Sn**	**18 27 52.7**	**-1.1**
	6.6nm,0.2s								
MTLF	**Montolieu**	**3.44**	**252**	*eP*		**Pn**	**18 27 16.0**	**+2.3**
	SNR=1.0								
FELD	**Feldberg im Sc**	**3.50**	**14**	Pn		**Pn**	**18 27 16.8**	**+2.1**
FELD	**Feldberg im Sc**	**3.50**	**14**	Pn		**Pn**	**18 27 16.9**	**+2.1**
HAU	**Haudompre**	**3.52**	**356**	*eP*		**Pn**	**18 27 18.0**	**+3.1**
	SNR=1.0								
HAU				*eSn*		**Sn**	**18 27 56.2**	**+0.2**
	54nm,0.3s,SNR=1.0								
HAU	**Haudompre**	**3.52**	**356**	*eP*		**Pn**	**18 27 18.0**	**+3.1**
	SNR=1.0								
HAU				*eSn*		**Sn**	**18 27 56.2**	**+0.2**
	27nm,0.3s,SNR=1.0								
DAVA	**Damuels**	**3.57**	**37**	Pn		**Pb**	**18 27 22.2**	**-1.6**
	4.1nm,0.5s,SNR=4.2								
DAVA	**Damuels**	**3.57**	**37**	*e*Pn		**Pb**	**18 27 22.2**	**-1.6**
	4.1nm,0.5s,SNR=4.2								
TCF	**Toulx Ste Croi**	**3.64**	**301**	*eP*		**Pn**	**18 27 19.8**	**+3.4**
	SNR=1.0								
TCF				*eSn*		**Sn**	**18 27 58.3**	**-0.5**
TCF				*eSg*		**Sg**	**18 28 15.6**	**-2.4**
	38nm,0.7s,SNR=1.0								
TCF	**Toulx Ste Croi**	**3.64**	**301**	*eP*		**Pn**	**18 27 19.8**	**+3.4**
	SNR=1.0								
TCF				*eSg*		**Sg**	**18 28 15.6**	**-2.4**
	19nm,0.7s,SNR=1.0								
THEF	**They Montfort**	**3.77**	**353**	Pn		**Pn**	**18 27 20.3**	**+2.1**
THEF	**They Montfort**	**3.77**	**353**	Pn		**Pn**	**18 27 20.3**	**+2.1**
RJF	**Les Rejaudoux**	**3.77**	**284**	*eP*		**Pn**	**18 27 21.5**	**+3.2**
	SNR=1.0								
RJF	**Les Rejaudoux**	**3.77**	**284**	*eP*		**Pn**	**18 27 21.5**	**+3.2**
	SNR=1.0								
FETA	**Feichten**	**3.79**	**47**	Pn		**Pb**	**18 27 24.6**	**-2.8**
	1.3nm,0.3s								
FETA	**Feichten**	**3.79**	**47**	*e*Pn		**Pb**	**18 27 24.6**	**-2.8**
	1.3nm,0.3s								
SFTF	**Sexfontaines**	**3.89**	**343**	*eP*		**Pn**	**18 27 23.9**	**+4.0**
	baz=145								
SFTF				*eSn*		**Sn**	**18 28 04.0**	**-0.9**
SFTF				*eSg*		**Sg**	**18 28 23.8**	**-2.2**
	21nm,0.3s								
SFTF	**Sexfontaines**	**3.89**	**343**	*eP*		**Pn**	**18 27 23.9**	**+4.0**
SFTF				*eSg*		**Sg**	**18 28 23.8**	**-2.2**
	10nm,0.3s								
SPAK	**Spaichingen-Ko**	**3.89**	**21**	Pn		**Pn**	**18 27 21.8**	**+1.9**
SPAK	**Spaichingen-Ko**	**3.89**	**21**	Pn		**Pn**	**18 27 21.9**	**+1.9**
CDF	**Champ du Feu**	**3.94**	**6**	*eP*		**Pn**	**18 27 23.0**	**+2.3**
	SNR=1.0								
CDF				*eSn*		**Sn**	**18 28 05.8**	**-0.6**
	7.3nm,0.2s,SNR=1.0								
CDF	**Champ du Feu**	**3.94**	**6**	*eP*		**Pn**	**18 27 23.0**	**+2.3**
	SNR=1.0								
CDF				*eSn*		**Sn**	**18 28 05.8**	**-0.6**
	3.7nm,0.2s,SNR=1.0								
HYF	**Humbligny**	**3.97**	**316**	*eP*		**Pn**	**18 27 24.0**	**+3.0**
HYF				*eSg*		**Sg**	**18 28 26.4**	**-2.2**
HYF	**Humbligny**	**3.97**	**316**	*eP*		**Pn**	**18 27 24.0**	**+3.0**
HYF				*eSg*		**Sg**	**18 28 26.4**	**-2.2**
PAGF	**Fort de Pagny**	**4.12**	**351**	*eP*		**Pn**	**18 27 27.0**	**+4.0**
	baz=169								
PAGF				*eSn*		**Sn**	**18 28 10.3**	**-0.3**
	6.4nm,0.4s								
PAGF	**Fort de Pagny**	**4.12**	**351**	*eP*		**Pn**	**18 27 27.0**	**+4.0**
PAGF				*eSn*		**Sn**	**18 28 10.3**	**-0.3**
	3.2nm,0.4s								
RETA	**Reutte**	**4.12**	**42**	Pn		Pn	18 27 29.2	+6.1
	1.4nm,0.1s								
RETA	**Reutte**	**4.12**	**42**	*e*Pn		Pn	18 27 29.2	+6.1
	1.4nm,0.1s								
MEZF	**Maizieres J'vi**	**4.17**	**345**	*eP*		**Pn**	**18 27 27.7**	**+4.0**
	baz=169,SNR=1.0								
MEZF				*eSn*		**Sn**	**18 28 10.9**	**-0.9**
	SNR=1.0								
MEZF				*eSg*		**Sg**	**18 28 32.5**	**-2.5**
	23nm,0.4s,SNR=1.0								
MEZF	**Maizieres J'vi**	**4.17**	**345**	*eP*		**Pn**	**18 27 27.7**	**+4.0**
	SNR=1.0								
MEZF				*eSg*		**Sg**	**18 28 32.5**	**-2.5**
	12nm,0.4s,SNR=1.0								
MOTA	**Moosalm**	**4.19**	**46**	Pn		**Pn**	**18 27 28.9**	**+4.7**
	2.3nm,0.1s,SNR=7.8								
MOTA	**Moosalm**	**4.19**	**46**	*e*Pn		**Pn**	**18 27 28.9**	**+4.7**
	2.3nm,0.1s,SNR=7.8								
LFF	**La Frestale**	**4.27**	**278**	*eP*		**Pn**	**18 27 28.6**	**+3.5**
	SNR=1.0								
LFF				*eSn*		**Sn**	**18 28 12.9**	**-1.5**
LFF				*eSg*		**Sg**	**18 28 35.5**	**-2.8**
	11nm,0.3s								
LFF	**La Frestale**	**4.27**	**278**	*eP*		**Pn**	**18 27 28.6**	**+3.5**
	SNR=1.0								
LFF				*eSg*		**Sg**	**18 28 35.5**	**-2.8**
	5.5nm,0.3s								
WTTA	**Wattenberg**	**4.42**	**49**	Pn		Pb	18 27 34.4	-3.9
	3.7nm,0.3s								
WTTA	**Wattenberg**	**4.42**	**49**	*e*Pn		Pb	18 27 34.4	-3.9
	3.7nm,0.3s								
WATA	**Walderalm**	**4.43**	**48**	Pn		Pb	18 27 34.5	-4.0
	3.1nm,0.2s,SNR=5.3								
WATA	**Walderalm**	**4.43**	**48**	*e*Pn		Pb	18 27 34.5	-4.0
	3.1nm,0.2s,SNR=5.3								
ABTA	**Abfaltersbach**	**4.66**	**59**	Pn		**Pn**	**18 27 35.1**	**+4.6**
	1.6nm,0.2s								
ABTA	**Abfaltersbach**	**4.66**	**59**	*i* Pn		**Pn**	**18 27 35.1**	**+4.6**
	1.6nm,0.2s								
EPF	**Esparros**	**4.83**	**255**	*eP*		**Pn**	**18 27 36.6**	**+3.7**
EPF				*eSn*		**Sn**	**18 28 26.1**	**-2.2**
EPF				*eSg*		**Sg**	**18 28 52.4**	**-3.9**
	6.3nm,0.3s								
EPF	**Esparros**	**4.83**	**255**	*eP*		**Pn**	**18 27 36.6**	**+3.7**
MFF	**Saint Martin d**	**5.25**	**296**	*eP*		**Pn**	**18 27 42.2**	**+3.6**
	SNR=1.0								
MFF	**Saint Martin d**	**5.25**	**296**	*eP*		**Pn**	**18 27 42.2**	**+3.6**
	SNR=1.0								
CADS	**Cadrg**	**5.25**	**68**	*i* Sn		**Sn**	**18 28 40.2**	**+1.6**
SKDS	**Skadanscina**	**5.29**	**76**	*i* Pn		**Pn**	**18 27 40.3**	**+1.2**
SKDS				*i* Sn		**Sn**	**18 28 40.2**	**+0.7**
JAVS	**Javornik**	**5.39**	**72**	*i* Pn		Pn	18 27 45.8	+5.2
JAVS				*i* Sn		**Sn**	**18 28 44.8**	**+2.7**
GIVF	**Givet**	**5.76**	**348**	*eP*		**Pn**	**18 27 49.3**	**+3.8**
	SNR=1.0								
GIVF	**Givet**	**5.76**	**348**	*eP*		**Pn**	**18 27 49.3**	**+3.8**
	SNR=1.0								
BAIF	**Baives**	**5.82**	**344**	*eP*		**Pn**	**18 27 49.8**	**+3.4**
	SNR=1.0								
BAIF				*eSn*		**Sn**	**18 28 51.4**	**-1.1**
	6.3nm,0.3s,SNR=1.0								
BAIF	**Baives**	**5.82**	**344**	*eP*		**Pn**	**18 27 49.8**	**+3.4**
	SNR=1.0								
SJPF	**Ste Jean**	**5.90**	**259**	*eP*		**Pn**	**18 27 49.9**	**+2.4**
	SNR=1.0								
SJPF	**Ste Jean**	**5.90**	**259**	*eP*		**Pn**	**18 27 49.9**	**+2.4**
	SNR=1.0								
LDF	**La Druitiere**	**6.24**	**313**	*eP*		**Pn**	**18 27 55.7**	**+3.5**
	SNR=1.0								
LDF	**La Druitiere**	**6.24**	**313**	*eP*		**Pn**	**18 27 55.7**	**+3.5**
	SNR=1.0								
GRR	**Gorron**	**6.52**	**309**	*eP*		**Pn**	**18 27 59.2**	**+3.3**
	SNR=1.0								
GRR	**Gorron**	**6.52**	**309**	*eP*		**Pn**	**18 27 59.2**	**+3.3**
	SNR=1.0								
FLN	**La Foliniere**	**6.53**	**313**	*eP*		**Pn**	**18 28 00.2**	**+4.0**
	baz=135,SNR=1.0								
FLN	**La Foliniere**	**6.53**	**313**	*eP*		**Pn**	**18 28 00.2**	**+4.0**
	SNR=1.0								

*CSEM **08** 18:40:58.8±0.3, 38°.87N×43°.77E, h19km, ML2.5, Error ellipse: s-maj=9.0km s-min=4.1km az=125.0*
*ISK **08** 18:40:58.9, 38°.85N×43°.74E, h15km, ML2.5/4*

*ISCJB **08** 18:40:59.3±1.2, 38°.85N±0°.05×43°.79E±0°.09, h21km±10km, Error ellipse: s-maj=12.0km s-min=6.9km az=20.5*
*DDA **08** 18:41:00.0, 38°.87N×43°.64E, h7km, Ml2.4*
ISC 08 18:40:59.1±1.3, **38°.89N**±0°.03×**43°.72E**±0°.04, **h12**km±11km, **n18**, σ0.9**38**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLDR	**Caldiran**	**0.30**	**31**	PG		**Pb**	**18 41 05.9**	**-0.6**
CLDR				SG		**Sb**	**18 41 11.4**	**-0.1**
CLDR	**Caldiran**	**0.30**	**31**	*i* P		**Pg**	**18 41 05.5**	**+0.2**
CLDR				*i* S		**Sb**	**18 41 12.5**	**+1.0**
CLDR	**Caldiran**	**0.30**	**31**	P		**Pg**	**18 41 05.4**	**+0.2**
CLDR	**Caldiran**	**0.30**	**31**	*e*Pg		**Pb**	**18 41 05.9**	**-0.6**
CLDR				*e*Sg		**Sb**	**18 41 11.4**	**-0.1**
CLDR				S		**Sb**	**18 41 12.5**	**+1.0**
ERCV	**ERCIS-VAN**	**0.33**	**294**	PG		**Pb**	**18 41 06.7**	**-0.3**
ERCV				SG		**Sb**	**18 41 12.5**	**+0.2**
ERCV	**ERCIS-VAN**	**0.33**	**294**	*e*Pg		**Pb**	**18 41 06.7**	**-0.3**
ERCV				*e*Sg		**Sb**	**18 41 12.5**	**+0.2**
VANB	**Van**	**0.39**	**222**	PG		**Pb**	**18 41 07.9**	**-0.1**
VANB	**Van**	**0.39**	**222**	*e*Pg		**Pb**	**18 41 07.9**	**-0.1**
TVAN	**Van**	**0.43**	**215**	*i* P		**Pg**	**18 41 07.8**	**+0.1**
TVAN				*i* S		**Sb**	**18 41 15.4**	**0.0**
TVAN	**Van**	**0.43**	**215**	P		**Pg**	**18 41 07.8**	**+0.1**
TVAN				S		**Sb**	**18 41 15.4**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.78**	**265**	*i* P		**Pb**	**18 41 14.4**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.78**	**265**	P		**Pb**	**18 41 14.4**	**-0.3**
TUTA	**Tutak**	**0.87**	**306**	*i* P		**Pg**	**18 41 15.8**	**-0.2**
TUTA	**Tutak**	**0.87**	**306**	P		**Pg**	**18 41 15.8**	**-0.2**
AGRB	**Hanur-Agry**	**0.89**	**321**	PG		**Pb**	**18 41 16.9**	**+0.3**
AGRB				SG		**Sn**	**18 41 30.6**	**0.0**
AGRB	**Hanur-Agry**	**0.89**	**321**	*e*Pg		**Pb**	**18 41 16.9**	**+0.3**
AGRB				*e*Sg		**Sn**	**18 41 30.6**	**0.0**
GURO	**Guroymak-BITLI**	**1.36**	**256**	PN		**Pn**	**18 41 23.9**	**-0.2**
GURO				SN		**Sn**	**18 41 42.5**	**+0.3**
GURO	**Guroymak-BITLI**	**1.36**	**256**	*e*Pn		**Pn**	**18 41 23.9**	**-0.2**
GURO				*e*Sn		**Sn**	**18 41 42.5**	**+0.3**

*NIED **08** 18:42:00, 36°.80N×141°.70E, h23km, Mw4.0 Best double couple: M0 1.02000×10^15 NP1:φs210.00000°, δ22.00000°, λ91.00000°. NP2:φs30.00000°, δ68.00000°, λ90.00000°.*
*ISCJB **08** 18:42:48.7±0.5, 36°.71N±0°.05×141°.85E±0°.05, h33km, mb4.0/29, Error ellipse: s-maj=7.2km s-min=4.9km az=144.8*
*JMA **08** 18:42:49.5±0.3, 36°.75N×141°.73E, h51km±4km, M3.9*
*IDC **08** 18:42:51.4±2.1, 36°.66N×141°.71E, h41km±19km, mb3.7/22, mb1 3.8/27, mb1mx3.7/70, mbtmp3.9/27, ML3.3/5, Error ellipse: s-maj=16.8km s-min=13.4km az=107.0*
*NEIC **08** 18:42:56.9±1.7, 37°.05N×141°.25E, h51km±9km, mb4.4/8, Error ellipse: s-maj=17.6km s-min=15.7km az=54.0*
ISC 08 18:42:51.3±0.6, **36°.78N**±0°.06×**141°.67E**±0°.06, **h33**km, **n67**, σ1.9**48**/66, **mb4.0**/29, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.77**	**295**	P		**Pn**	**18 43 04.8**	**-1.1**
JFK	**Kawauchi**	**0.86**	**313**	P		**Pn**	**18 43 06.0**	**-1.2**
JHO	**Hitachi**	**0.90**	**259**	P		**Pn**	**18 43 06.2**	**-1.5**
JHO				*e*S		**Sn**	**18 43 19.8**	**+0.2**
JMM	**Marumori**	**1.29**	**327**	P		**Pn**	**18 43 12.2**	**-0.8**
JFT	**Otama**	**1.29**	**305**	P		**Pn**	**18 43 12.9**	**-0.2**
JIO	**Ouri**	**1.69**	**351**	P		**Pn**	**18 43 17.5**	**-1.0**
JIO				*e*S		**Sn**	**18 43 38.3**	**-0.6**
JFY	**Yanaizu**	**1.69**	**292**	P		**Pn**	**18 43 19.5**	**+0.9**
JOU	**Okura**	**1.77**	**333**	P		**Pn**	**18 43 20.0**	**+0.3**
JAG	**Ashikaga**	**1.82**	**259**	P		**Pn**	**18 43 20.0**	**-0.3**
JYS	**Shirataka**	**1.92**	**319**	P		**Pn**	**18 43 22.6**	**+0.9**
JKT	**Katashina**	**1.95**	**270**	P		**Pn**	**18 43 22.3**	**+0.2**
MJAR	**Matsushiro Arr**	**2.80**	**266**	P		**Pn**	**18 43 34.1**	**+0.3**
	18nm,0.3s,baz=90,slow=15,SNR=141							
MJAR				S		**Sb**	**18 44 10.6**	**-3.9**
	10nm,0.3s,baz=103,slow=20,SNR=7.7							
MAJO	**Matsushiro**	**2.80**	**266**	*e*Pn		**Pn**	**18 43 35.3**	**+1.5**
MAT	**Matsushiro**	**2.80**	**266**	P		**Pn**	**18 43 35.1**	**+1.3**
MAT				S		**Sn**	**18 44 07.9**	**+1.5**
MJB9	**Matsu-Tunnel**	**2.80**	**266**	*e*Pn		**Pn**	**18 43 35.3**	**+1.5**
JHJ	**Hachijo jima 2**	**3.97**	**204**	P		**Pn**	**18 43 48.2**	**-1.7**
	15nm,0.3s,baz=32,slow=15,SNR=3.6							
INU	**Inuyama**	**4.04**	**251**	*e*Pn		**Pn**	**18 43 53.4**	**+2.7**
ASAJ	**Asahikawa**	**7.36**	**5**	P		**Pn**	**18 44 36.2**	**-0.1**
	0.7nm,0.3s,baz=231,slow=13,SNR=9.0							
ASAJ				S		**Sn**	**18 45 55.0**	**-3.7**
	0.4nm,0.3s,baz=131,slow=20,SNR=2.3							
ASAJ	**Asahikawa**	**7.36**	**5**	*e*Pn		**Pn**	**18 44 37.4**	**+1.0**
JCJ	**Chichijima**	**9.67**	**177**	S		Sn	18 46 44.6	-11
	2.0nm,0.3s,baz=195,slow=20,SNR=2.6							
USRK	**Ussuriysk Ar.**	**10.45**	**318**	P		**Pn**	**18 45 21.9**	**+3.2**
	0.3nm,0.3s,baz=130,slow=14,SNR=12							
KSRS	**Korea Array**	**11.00**	**278**	P		**Pn**	**18 45 28.7**	**+2.4**
	0.1nm,0.3s,baz=88,slow=13,SNR=2.8							
MA2	**Magadan**	**23.55**	**12**	P		**P**	**18 47 57.9**	**-0.6**
	0.8nm,0.3s,baz=183,slow=3.7,SNR=7.6							
YAK	**Yakutsk**	**26.36**	**347**	P		**P**	**18 48 24.2**	**+0.1**
	6.8nm,0.6s,baz=184,slow=3.3,SNR=6.4							
SEY	**Seymchan**	**27.00**	**11**	P		**P**	**18 48 30.0**	**+0.2**
	2.1nm,0.8s,baz=218,slow=9.5,SNR=12							
ENH	**Enshi**	**27.52**	**266**	*e*P		**P**	**18 48 34.4**	**-0.5**
	8.1nm,0.5s							
ULN	**Ulaanbaatar**	**27.67**	**305**	*e*P		**P**	**18 48 36.3**	**+0.1**
	2.5nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**27.84**	**121**	T		T	19 17 54.6	
	baz=313,slow=75,SNR=29							
H11N1	**WAKE ISLAND Hy**	**27.85**	**121**	T		T	19 17 57.9	
	baz=313,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**27.86**	**121**	T		T	19 17 55.3	
	baz=313,slow=75,SNR=17							
SONA1	**Songino Array**	**28.09**	**304**	*e*P		**P**	**18 48 40.1**	**+0.1**
SONM	**Songino Array**	**28.10**	**304**	P		**P**	**18 48 39.3**	**-0.7**
	3.0nm,0.7s,baz=111,slow=7.7,SNR=15							
H11S1	**WAKE ISLAND Hy**	**28.55**	**123**	T		T	19 18 50.2	
	baz=314,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**28.55**	**123**	T		T	19 18 49.9	
	baz=314,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**28.57**	**123**	T		T	19 18 52.2	
	baz=314,slow=76,SNR=12							
CMAR	**Chiang Mai Arr**	**41.64**	**256**	P		**P**	**18 50 35.7**	**-1.0**
	0.5nm,0.5s,baz=45,slow=5.2,SNR=4.5							
ZAA0	**Zalesovo Array**	**42.24**	**313**	*e*P		**P**	**18 50 41.8**	**+0.7**
	2.6nm,0.8s							
ZALV	**Zalesovo Beam**	**42.24**	**313**	P		**P**	**18 50 40.6**	**-0.5**
	1.7nm,0.6s,baz=98,slow=6.7,SNR=9.3							
ZALV				PcP		**PcP**	**18 52 34.0**	**-0.6**
	0.8nm,0.5s,baz=97,slow=4.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**42.24**	**313**	*e*P		**P**	**18 50 41.3**	**+0.2**
MK01	**Makanchi Array**	**44.42**	**302**	*e*P		**P**	**18 50 58.9**	**0.0**
MK31	**Makanchi Array**	**44.43**	**302**	*e*P		**P**	**18 50 59.2**	**+0.3**
MKAR	**Makanchi Array**	**44.43**	**302**	P		**P**	**18 50 58.6**	**-0.4**
	1.7nm,0.8s,baz=90,slow=9.5,SNR=19							
MKAR	**Makanchi Array**	**44.43**	**302**	*e*P		**P**	**18 50 59.2**	**+0.3**
	9.5nm,0.8s							
MAKZ	**Makanchi**	**44.64**	**302**	*e*P		**P**	**18 51 00.7**	**+0.1**
	8.7nm,1.8s							
KURK	**Kurchatov**	**46.25**	**308**	*e*P		**P**	**18 51 12.9**	**-0.3**
	5.0nm,1.0s							
KURBB	**Kurchatov Arra**	**46.32**	**308**	P		**P**	**18 51 13.1**	**-0.7**
	1.7nm,0.6s,baz=85,slow=8.1,SNR=8.3							
ILAR	**Eielson Array**	**49.59**	**32**	P		**P**	**18 51 38.7**	**-0.2**
	0.7nm,1.0s,baz=256,slow=5.9,SNR=4.7							
BVAR	**Borovoye Array**	**50.89**	**313**	P		**P**	**18 51 48.2**	**-0.7**
	0.5nm,0.5s,baz=68,slow=8.3,SNR=3.3							
BVAR				PcP		**PcP**	**18 53 04.9**	**-0.2**
	0.7nm,0.5s,baz=100,slow=4.4,SNR=4.4							
WRA	**Warramunga Arr**	**56.84**	**188**	P		**P**	**18 52 30.1**	**-2.5**
	0.5nm,0.4s,baz=6.7,slow=7.1,SNR=14							
ABKAR	**Akbulak array**	**58.26**	**310**	*e*P		**P**	**18 52 42.0**	**-0.4**
	16nm,0.6s							
AKTO	**Aktyubinsk**	**59.00**	**312**	P		**P**	**18 52 47.6**	**0.0**
	0.5nm,0.5s,baz=82,slow=16,SNR=2.7							
ASAR	**Alice Springs**	**60.57**	**188**	P		**P**	**18 52 56.8**	**-1.8**
	0.8nm,0.9s,baz=10,slow=7.7,SNR=8.4							
YKA	**Yellowknife Ar**	**63.92**	**30**	P		**P**	**18 53 20.2**	**-0.3**
	0.1nm,0.6s,baz=304,slow=6.4,SNR=4.4							
NEWO	**Newport DOGAMI**	**68.00**	**50**	*e*P		**P**	**18 53 50.1**	**+3.1**
FINES	**FINESS Array B**	**69.13**	**332**	P		**P**	**18 53 53.9**	**0.0**
	1.7nm,0.7s,baz=85,slow=2.1,SNR=3.4							
KBZ	**Khabaz**	**71.22**	**311**	P		**P**	**18 54 08.0**	**+1.0**
	1.6nm,0.8s,baz=254,slow=2.2,SNR=4.6							
NOA	**NORSAR Array B**	**74.50**	**337**	P		**P**	**18 54 25.4**	**-0.8**
	1.5nm,0.8s,baz=39,slow=5.6,SNR=4.0							
AKASG	**Malin Array Be**	**74.62**	**322**	P		**P**	**18 54 26.6**	**-0.5**
	1.6nm,0.5s,baz=50,slow=6.2,SNR=11							
NVAR	**Mina Array Bea**	**74.97**	**53**	P		**P**	**18 54 29.7**	**+0.2**
	0.8nm,0.7s,baz=282,slow=5.5,SNR=5.7							
STCC	**Santa Clara**	**76.77**	**57**	*e*P		**P**	**18 54 43.5**	**+3.9**
PDAR	**Pinedale Array**	**77.69**	**46**	P		**P**	**18 54 45.2**	**+0.2**
	0.3nm,0.7s,baz=269,slow=4.5,SNR=2.9							
RVR	**Riverside**	**78.17**	**56**	*e*P		**P**	**18 54 51.0**	**+3.5**
BRTR	**Keskin Array B**	**79.17**	**312**	P		**P**	**18 54 53.9**	**+0.8**
	0.6nm,0.8s,baz=108,slow=4.0,SNR=4.3							
CLL	**Collm**	**81.42**	**330**	*e*P			**18 55 05.0**	**+0.3**
GERES	**GERESS Array B**	**83.03**	**328**	P		**P**	**18 55 12.8**	**-0.6**
	0.5nm,0.5s,baz=38,slow=6.8,SNR=4.7							
LPM	**Los Pinos Moun**	**84.90**	**51**	*e*S		**S**	**19 05 53.2**	**+3.4**
CCM	**Cathedral Cave**	**90.92**	**39**	*e*P		P	18 55 58.4	+6.5
	14nm,0.5s							

*ISCJB **08** 18:43:42.8±0.6, 36°.96N±0°.03×28°.86E±0°.03, h4km±6km, Error ellipse: s-maj=5.9km s-min=4.1km az=25.6*
*CSEM **08** 18:43:42.9±0.2, 36°.97N×28°.87E, h5km, ML2.4, Error ellipse: s-maj=4.6km s-min=3.3km az=34.0*
*DDA **08** 18:43:42.6, 36°.96N×28°.87E, h7km, Ml2.7*
*ISK **08** 18:43:42.9, 36°.90N×28°.84E, h11km, ML2.4/6*
ISC 08 18:43:43.0±1.1, **36°.99N**±0°.03×**28°.89E**±0°.02, **h7**km±9km, **n28**, σ1.9**33**/43, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TURN	**Turunc**	**0.25**	**244**	PG		**Pb**	**18 43 53.2**	**+3.3**
TURN				SG		Sg	18 44 00.6	+9.2
TURN	**Turunc**	**0.25**	**244**	*i* P		**Pb**	**18 43 53.1**	**+3.3**
TURN				*i* S		Sg	18 44 02.4	+11
FETY	**Fethiye**	**0.39**	**156**	PG		**Pg**	**18 43 49.9**	**-0.6**
FETY				SG		**Sg**	**18 43 55.1**	**-0.4**
FETY	**Fethiye**	**0.39**	**156**	*e*Pg		**Pg**	**18 43 49.9**	**-0.6**
FETY				*e*Sg		**Sg**	**18 43 55.1**	**-0.4**
TAVA	**DENIZLI_Tavas**	**0.48**	**3**	*i* P		**Pg**	**18 43 52.2**	**-0.1**
TAVA				*i* S		**Sg**	**18 43 59.9**	**+1.3**
TAVA	**DENIZLI_Tavas**	**0.48**	**3**	P		**Pg**	**18 43 52.2**	**-0.1**
TAVA				S		**Sg**	**18 43 59.9**	**+1.3**
YER	**Yerkesik**	**0.50**	**287**	PG		**Pb**	**18 43 53.4**	**-0.9**
YER				SG		**Sb**	**18 44 00.3**	**-1.6**
YER	**Yerkesik**	**0.50**	**287**	*e*Pg		**Pb**	**18 43 53.4**	**-0.9**
YER				*e*Sg		**Sb**	**18 44 00.3**	**-1.6**
GOLH	**Golhisar**	**0.59**	**65**	*i* P		**Pg**	**18 43 53.1**	**-1.4**
GOLH				*i* S		**Sg**	**18 44 03.7**	**+1.4**
GOLH	**Golhisar**	**0.59**	**65**	P		**Pg**	**18 43 53.1**	**-1.4**
GOLH				S		**Sg**	**18 44 03.7**	**+1.4**
ELL	**Elmali**	**0.85**	**106**	PG		**Pb**	**18 44 00.3**	**0.0**
ELL				SG		**Sn**	**18 44 13.1**	**-1.3**
ELL	**Elmali**	**0.85**	**106**	*e*Pg		**Pb**	**18 44 00.3**	**0.0**
ELL				*e*Sg		**Sn**	**18 44 13.1**	**-1.3**
AKAS	**Kas**	**0.95**	**142**	PG		**Pb**	**18 44 00.9**	**-1.0**
AKAS	**Kas**	**0.95**	**142**	*i* P		**Pb**	**18 44 00.7**	**-1.2**
AKAS			

OWD				*e*S		**Sn**	18 50 47.2	-0.4
	baz=262							
TWT	**Tachien**	**1.23**	**278**	*e*P		**Pn**	18 50 32.6	+0.6
	baz=267							
EHY	**Hungye**	**1.23**	**242**	*e*P		**Pn**	18 50 31.6	-0.3
	baz=252							
EHY				*e*S		**Sn**	18 50 46.5	-1.0
	baz=252							
YM10	**YM10**	**1.37**	**321**	*e*P		**Pn**	18 50 33.2	-0.6
	baz=319							
JKRS	**Kuro-shima**	**1.38**	**84**	P		**Pn**	18 50 34.3	+0.5
JKRS				*e*S		**Sn**	18 50 51.5	+0.4
FULB	**Fuli**	**1.43**	**232**	*e*P		**Pn**	18 50 34.5	-0.1
	baz=231							
FULB				*e*S		**Sn**	18 50 52.8	+0.4
	baz=231							
CHKT	**Chengkung**	**1.44**	**227**	*e*S		**Sn**	18 50 51.0	-1.6
	baz=226							
DPDB	**Guoxing**	**1.45**	**268**	*e*P		**Pn**	18 50 35.3	+0.4
	baz=266							
SSLB	**Suanglung**	**1.46**	**258**	*e*P		**Pn**	18 50 35.6	+0.6
	baz=257							
LIOB	**Emei**	**1.47**	**292**	*e*P		**Pn**	18 50 36.4	+1.2
	baz=290							
LIOB				*e*S		**Sn**	18 50 54.4	+1.0
	baz=290							
NSTT	**Nanjuang**	**1.48**	**292**	P		**Pn**	18 50 36.0	+0.7
	baz=289							
NSTT				*e*S		**Sn**	18 50 54.4	+0.9
	baz=289							
SMLT	**Sun Moon Lake**	**1.49**	**262**	*e*P		**Pn**	18 50 36.3	+0.8
	baz=260							
SMLT				*e*S		**Sn**	18 50 54.0	0.0
	baz=260							
JIJ	**Ishigaki jima**	**1.52**	**79**	P		**Pn**	18 50 35.4	-0.4
JIJ				S		**Sn**	18 50 53.5	-1.0
TYC	**Yuchr**	**1.52**	**263**	*e*P		**Pn**	18 50 36.4	+0.6
	baz=261							
YUS	**Yu-Shan**	**1.55**	**248**	*e*P		**Pn**	18 50 37.2	+0.6
	baz=246							
YUS				*e*S		**Sn**	18 50 55.9	-0.1
	baz=246							
TWQ1	**Liyutan**	**1.61**	**280**	*e*P		**Pn**	18 50 38.4	+1.4
	baz=278							
ELDTW	**Lidau**	**1.64**	**237**	*e*P		**Pn**	18 50 37.2	-0.3
	baz=236							
ELDTW				*e*S		**Sn**	18 50 56.5	-1.1
	baz=236							
WJS	**Zhushan**	**1.65**	**261**	*e*P		**Pn**	18 50 39.3	+1.7
	baz=259							
ALS	**Alishan**	**1.67**	**250**	*e*P		**Pn**	18 50 38.9	+0.8
	baz=248							
TWH	**Lutao**	**1.67**	**215**	*e*P		**Pn**	18 50 37.6	-0.3
	baz=214							
TWH				*e*S		**Sn**	18 50 56.0	-2.3
	baz=214							
TCU	**Taichung**	**1.68**	**272**	*e*P		**Pn**	18 50 39.5	+1.5
	baz=271							
WNT	**Mingjian**	**1.68**	**263**	*e*P		**Pn**	18 50 39.6	+1.6
	baz=261							
WNT				*e*S		**Sn**	18 51 01.2	+2.6
	baz=261							
JISG	**Ishigakijimahi**	**1.71**	**73**	P		**Pn**	18 50 38.2	-0.3
JISG				S		**Sn**	18 50 58.2	-1.2
CHN5	**Tsauling**	**1.75**	**254**	*e*P		**Pn**	18 50 40.3	+1.3
	baz=253							
CHN5				*e*S		**Sn**	18 51 02.0	+1.6
	baz=253							
TWGBT	**Beinan**	**1.82**	**226**	*e*P		**Pn**	18 50 39.8	-0.2
	baz=236							
TWGBT				*e*S		**Sn**	18 51 00.8	-1.3
	baz=236							
TWG	**Pinlang**	**1.83**	**227**	*e*P		**Pn**	18 50 39.9	-0.2
	baz=236							
TWG				*e*S		**Sn**	18 51 01.3	-0.9
	baz=236							
WGK	**Gukeng**	**1.83**	**258**	*e*P		**Pn**	18 50 41.6	+1.5
	baz=256							
WDLH	**Douliu**	**1.85**	**258**	*e*P		**Pn**	18 50 42.0	+1.7
	baz=256							
STYT	**Tauyuan**	**1.85**	**240**	*e*P		**Pn**	18 50 41.3	+0.8
	baz=233							
STYT				*e*S		**Sn**	18 51 03.7	+0.7
	baz=233							
WTP	**Ta-pu**	**1.93**	**245**	*e*P		**Pn**	18 50 43.0	+1.4
	baz=243							
CHN1	**Nanshi**	**2.03**	**244**	*e*P		**Pn**	18 50 44.6	+1.8
	baz=244							
CHN1				*e*S		**Sn**	18 51 10.4	+3.2
	baz=244							
SLGT	**Liugui**	**2.03**	**238**	*e*P		**Pn**	18 50 44.5	+1.7
	baz=229							
SGST	**Jiashian**	**2.03**	**241**	*e*P		**Pn**	18 50 44.5	+1.6
	baz=240							
SGST				*e*S		**Sn**	18 51 10.4	+3.1
	baz=240							
ECL	**Taimali**	**2.06**	**224**	*e*S		**Sn**	18 51 06.5	-1.5
	baz=233							
JTJ	**Tarama**	**2.07**	**74**	P		**Pn**	18 50 43.8	+0.4
JTJ				S		**Sn**	18 51 08.2	-0.1
SSD	**Sandimen**	**2.18**	**233**	*e*P		**Pn**	18 50 46.0	+1.1
	baz=225							

IDC ***08*** *19:54:21.3±1.3, 38.82N×21.17E, h0km, mb3.5/5, mb1 3.4/8, mb1mx3.2/56, mbtmp3.4/8, ML2.6/3, Error ellipse: s-maj=26.8km s-min=18.6km az=102.0*
THE ***08*** *18:54:24.4, 38.69N×21.32E, h16km±1km, ML3.4/10, Error ellipse: s-maj=1.4km s-min=0.7km az=72.0*
CSEM ***08*** *18:54:24.6±0.1, 38.70N×21.31E, h2km, ML3.4, Error ellipse: s-maj=3.3km s-min=2.2km az=71.0*
ATH ***08*** *18:54:24.3, 38.70N×21.32E, h16km±1km, ML3.4/24, Error ellipse: s-maj=1.0km s-min=0.6km az=200.0*

ISC 08 18:54:24.3±0.8, 38.70N±0.01×21.32E±0.02, h16km±5km, n199, σ1$68/251, mb3.5/5, 12C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PDO	**Prodromos**	**0.15**	**227**	P		**Pg**	**18 54 28.2**	**0.0**
PDO				S		**Sg**	**18 54 30.1**	**-0.7**
PDO	**Prodromos**	**0.15**	**227**	P		**Pg**	**18 54 28.2**	**0.0**
PDO				S		**Sg**	**18 54 30.6**	**-0.2**
PVO	**Paravola**	**0.18**	**117**	P		**Pg**	**18 54 28.8**	**+0.1**
PVO				AML	AML		18 54 33.1	
PVO				AML	AML		18 54 33.1	
	comp=N,71187μm,0.4s							
PVO				S		**Sb**	**18 54 33.5**	**+1.0**
PVO	**Paravola**	**0.18**	**117**	P		**Pg**	**18 54 28.7**	**+0.1**
PVO	**Paravola**	**0.18**	**117**	P		**Pg**	**18 54 28.7**	**+0.1**
EVR	**Evrytania**	**0.44**	**60**	P		**Pg**	**18 54 32.0**	**-1.1**
EVR				S		**Sg**	**18 54 39.1**	**0.0**
EVR				AML	AML		18 54 40.9	
	comp=E,13637μm,1.0s							
EVR				AML	AML		18 54 43.2	
	comp=N,15177μm,1.0s							
EVR	**Evrytania**	**0.44**	**60**	P		**Pg**	**18 54 32.5**	**-0.6**
EVR				S		**Sg**	**18 54 39.3**	**+0.1**
EVR	**Evrytania**	**0.44**	**60**	P		**Pg**	**18 54 32.5**	**-0.6**
EVR				S		**Sb**	**18 54 40.9**	**+0.8**
DSL	**Palaion Diasel**	**0.47**	**338**	P		**Pg**	**18 54 33.8**	**0.0**
DSL				S		**Sb**	**18 54 42.3**	**+1.3**
DSL				AML	AML		18 54 43.3	
	comp=E,19498μm,0.4s							
DSL				AML	AML		18 54 45.2	
	comp=N,21504μm,0.3s							
DSL	**Palaion Diasel**	**0.47**	**338**	P		**Pg**	**18 54 33.7**	**0.0**
DSL				S		**Sb**	**18 54 41.3**	**+0.3**
DSL	**Palaion Diasel**	**0.47**	**338**	P		**Pg**	**18 54 33.7**	**0.0**
DSL				S		**Sb**	**18 54 41.5**	**+0.5**
ANX	**Ano Chora**	**0.48**	**102**	P		**Pg**	**18 54 33.1**	**-0.8**
ANX				AML	AML		18 54 43.2	
	comp=E,14466μm,0.4s							
ANX				AML	AML		18 54 44.5	
	comp=N,11267μm,0.4s							
ANX	**Ano Chora**	**0.48**	**102**	P		**Pg**	**18 54 33.5**	**-0.4**
ANX				S		**Sb**	**18 54 41.3**	**0.0**
ANX	**Ano Chora**	**0.48**	**102**	P		**Pg**	**18 54 33.3**	**-0.6**
ANX				S		**Sb**	**18 54 41.3**	**0.0**
EFP	**Efpalio**	**0.53**	**120**	P		**Pg**	**18 54 34.0**	**-0.8**
EFP				S		**Sb**	**18 54 43.7**	**+1.0**
EFP				AML	AML		18 54 45.9	
	comp=N,13370μm,0.3s							
EFP				AML	AML		18 54 48.0	
	comp=E,13430μm,0.4s							
EFP	**Efpalio**	**0.53**	**120**	P		**Pg**	**18 54 34.4**	**-0.4**
EFP				S		**Sb**	**18 54 43.1**	**+0.4**
EFP	**Efpalio**	**0.53**	**120**	P		**Pg**	**18 54 34.4**	**-0.4**
EFP				S		**Sb**	**18 54 43.2**	**+0.5**
UPR	**University Cam**	**0.55**	**138**	P		**Pn**	**18 54 36.9**	**-0.6**
UPR	**University Cam**	**0.55**	**138**	P		**Pg**	**18 54 34.6**	**-0.6**
UPR	**University Cam**	**0.55**	**138**	P		**Pg**	**18 54 34.6**	**-0.6**
SERG	**Sergoula**	**0.64**	**116**	P		**Pg**	**18 54 35.6**	**-1.3**
SERG				AML	AML		18 54 47.7	
	comp=N,8507μm,0.3s							
SERG				AML	AML		18 54 48.1	
	comp=E,6975μm,0.3s							
SERG	**Sergoula**	**0.64**	**116**	P		**Pg**	**18 54 36.2**	**-0.7**
SERG	**Sergoula**	**0.64**	**116**	P		**Pg**	**18 54 36.2**	**-0.7**
RLS	**Riolos of Patr**	**0.65**	**170**	P		**Pg**	**18 54 36.3**	**-0.7**
RLS				S		**Sb**	**18 54 47.6**	**+1.5**
RLS				AML	AML		18 54 50.4	
	comp=E,5086μm,0.4s							
RLS				AML	AML		18 54 53.8	
	comp=N,4045μm,0.5s							
RLS	**Riolos of Patr**	**0.65**	**170**	P		**Pg**	**18 54 36.6**	**-0.4**
RLS				S		**Sb**	**18 54 46.9**	**+0.8**
RLS	**Riolos of Patr**	**0.65**	**170**	P		**Pg**	**18 54 36.6**	**-0.4**
TRIZ	**Trizonia**	**0.68**	**119**	P		**Pg**	**18 54 36.7**	**-0.8**
TRIZ				S		**Sg**	**18 54 45.0**	**-1.5**
TRIZ	**Trizonia**	**0.68**	**119**	P		**Pg**	**18 54 37.0**	**-0.5**
TRIZ				S		**Sg**	**18 54 46.0**	**-0.5**
LAKA	**Lakka**	**0.69**	**131**	P		**Pg**	**18 54 37.5**	**-0.2**
LAKA				S		**Sg**	**18 54 45.8**	**-1.1**
LAKA				AML	AML		18 54 50.7	
	comp=E,3942μm,0.4s							
LAKA				AML	AML		18 54 56.0	
	comp=N,2530μm,0.5s							
LAKA	**Lakka**	**0.69**	**131**	P		**Pg**	**18 54 37.6**	**-0.2**
LAKA				S		**Sg**	**18 54 46.6**	**-0.3**
KALE	**Kalithea**	**0.71**	**115**	P		**Pg**	**18 54 37.5**	**-0.7**
KALE				AML	AML		18 54 53.8	
	comp=N,6149μm,0.6s							
KALE				AML	AML		18 54 55.6	
	comp=E,3174μm,0.5s							
KALE	**Kalithea**	**0.71**	**115**	P		**Pg**	**18 54 37.8**	**-0.4**
KALE	**Kalithea**	**0.71**	**115**	P		**Pg**	**18 54 37.5**	**-0.7**
KFL	**Anninata**	**0.72**	**216**	P		**Pg**	**18 54 38.2**	**-0.2**
KFL				S		**Sb**	**18 54 49.2**	**+1.0**
KFL	**Anninata**	**0.72**	**216**	P		**Pg**	**18 54 38.2**	**-0.2**
KFL				S		**Sb**	**18 54 49.2**	**+1.0**
VLS	**Valsamata**	**0.78**	**228**	P		**Pg**	**18 54 36.7**	**-2.7**
VLS				S		**Sb**	**18 54 50.5**	**+0.8**
VLS				AML	AML		18 54 55.8	
	comp=N,8884μm,0.6s							
VLS				AML	AML		18 54 58.8	
	comp=E,5893μm,0.4s							
VLS	**Valsamata**	**0.78**	**228**	P		**Pg**	**18 54 37.9**	**-1.5**
VLS				S		**Sb**	**18 54 50.1**	**+0.4**
VLS	**Valsamata**	**0.78**	**228**	P		**Pg**	**18 54 37.9**	**-1.5**
VLS				S		**Sb**	**18 54 50.1**	**+0.4**
VTN	**Vitineika**	**0.79**	**188**	P		**Pg**	**18 54 40.0**	**+0.4**
VTN	**Vitineika**	**0.79**	**188**	P		**Pb**	**18 54 39.7**	**+0.1**
DRO	**Drossia**	**0.81**	**158**	P		**Pb**	**18 54 39.7**	**-0.2**
DRO				S		**Sn**	**18 54 52.0**	**-0.7**
DRO				AML	AML		18 54 53.8	
	comp=E,28777μm,0.5s							
DRO				AML	AML		18 54 55.2	
	comp=N,22549μm,0.5s							
DRO	**Drossia**	**0.81**	**158**	P		**Pb**	**18 54 39.8**	**-0.2**
DRO				S		**Sb**	**18 54 50.7**	**+0.1**
DRO	**Drossia**	**0.81**	**158**	P		**Pb**	**18 54 39.3**	**-0.6**
DRO				S		**Sb**	**18 54 50.7**	**+0.1**
AGG	**Agios Georgios**	**0.85**	**67**	P		**Pb**	**18 54 39.7**	**-1.1**
AGG				AML	AML		18 54 55.4	
	comp=E,13370μm,0.9s							
AGG				AML	AML		18 54 55.4	
	comp=N,10217μm,0.6s							
AGG	**Agios Georgios**	**0.85**	**67**	P		**Pb**	**18 54 40.3**	**-0.4**
AGG				S		**Sn**	**18 54 53.3**	**-0.6**
AGG	**Agios Georgios**	**0.85**	**67**	P		**Pb**	**18 54 40.3**	**-0.4**
AGG				S		**Sn**	**18 54 53.3**	**-0.6**
KLV	**Kalavryta, Ach**	**0.92**	**135**	P		**Pb**	**18 54 40.7**	**-1.3**
KLV				S		**Sn**	**18 54 56.8**	**+1.1**
KLV				AML	AML		18 55 06.0	
	comp=E,2759μm,0.9s							
KLV				AML	AML		18 55 08.3	
	comp=N,2140μm,0.7s							
KLV	**Kalavryta, Ach**	**0.92**	**135**	P		**Pb**	**18 54 41.5**	**-0.5**
KLV				S		**Sn**	**18 54 55.8**	**+0.1**
KLV	**Kalavryta, Ach**	**0.92**	**135**	P		**Pb**	**18 54 41.5**	**-0.5**
KLV				S		**Sn**	**18 54 55.8**	**+0.1**
DSF	**Desfina**	**0.99**	**106**	P		**Pn**	**18 54 44.0**	**+0.4**
DSF	**Desfina**	**0.99**	**106**	P		**Pg**	**18 54 43.5**	**+0.1**
DSF	**Desfina**	**0.99**	**106**	P		**Pb**	**18 54 42.7**	**-0.4**
THL	**Klokotos Trika**	**1.02**	**32**	P		**Pn**	**18 54 44.0**	**0.0**
THL				S		**Sn**	**18 54 57.8**	**-0.2**
THL				AML	AML		18 55 02.9	
	comp=E,2418μm,0.7s							
THL				AML	AML		18 55 03.9	
	comp=N,1793μm,0.6s							
THL	**Klokotos Trika**	**1.02**	**32**	P		**Pb**	**18 54 43.8**	**+0.2**
THL				S		**Sb**	**18 54 56.9**	**+0.2**
THL	**Klokotos Trika**	**1.02**	**32**	P		**Pb**	**18 54 43.4**	**-0.2**
THL				S		**Sb**	**18 54 56.9**	**+0.2**
JAN	**Janina**	**1.02**	**339**	P		**Pn**	**18 54 44.0**	**0.0**
JAN				S		**Sb**	**18 54 56.4**	**-0.6**
JAN				AML	AML		18 55 03.4	
	comp=E,5550μm,0.5s							
JAN				AML	AML		18 55 04.7	
	comp=N,3398μm,0.6s							
JAN	**Janina**	**1.02**	**339**	P		**Pb**	**18 54 43.9**	**+0.2**
JAN				S		**Sb**	**18 54 57.1**	**+0.1**
JAN	**Janina**	**1.02**	**339**	P		**Pn**	**18 54 44.1**	**0.0**
JAN				S		**Sn**	**18 54 57.9**	**-0.3**
AXAR	**Agios Charalam**	**1.05**	**86**	P		**Pg**	**18 54 44.8**	**+0.2**
AXAR				S		**Sn**	**18 54 59.4**	**+0.7**
AXAR				AML	AML		18 55 01.9	
	comp=E,5914μm,0.4s							
AXAR				AML	AML		18 55 04.9	
	comp=N,5480μm,0.4s							
AXAR	**Agios Charalam**	**1.05**	**86**	P		**Pn**	**18 54 44.5**	**+0.1**
AXAR				S		**Sn**	**18 54 59.1**	**+0.4**
GUR	**Goura**	**1.11**	**133**	P		**Pb**	**18 54 43.1**	**-2.0**
GUR				AML	AML		18 55 03.4	
	comp=N,6944μm,0.6s							
GUR				AML	AML		18 55 05.0	
	comp=E,5066μm,0.4s							
GUR	**Goura**	**1.11**	**133**	P		**Pb**	**18 54 44.2**	**-0.9**
AMT	**Artemida-Makis**	**1.20**	**165**	P		**Pn**	**18 54 45.6**	**-0.9**
AMT				AML	AML		18 55 10.6	
	comp=E,5494μm,0.6s							
AMT				AML	AML		18 55 11.7	
	comp=N,7081μm,1.0s							
AMT	**Artemida-Makis**	**1.20**	**165**	P		**Pn**	**18 54 46.3**	**-0.2**
KPRO	**Kipourio**	**1.25**	**1**	P		**Pg**	**18 54 48.4**	**-0.1**
KPRO				AML	AML		18 55 11.7	
	comp=E,3782μm,0.5s							
KPRO				AML	AML		18 55 12.9	
	comp=N,3859μm,1.2s							
KPRO	**Kipourio**	**1.25**	**1**	P		**Pg**	**18 54 48.2**	**-0.3**
LKR	**Lokris**	**1.31**	**92**	P		**Pg**	**18 54 50.0**	**+0.4**
LKR	**Lokris**	**1.31**	**92**	P		**Pg**	**18 54 49.6**	**0.0**
PROD	**Prodromos**	**1.31**	**109**	P		**Pg**	**18 54 51.1**	**+1.5**
PROD				AML	AML		18 55 13.4	
	comp=E,2151μm,0.9s							
PROD				AML	AML		18 55 14.5	
	comp=N,1495μm,0.5s							
PROD	**Prodromos**	**1.31**	**109**	P		**Pg**	**18 54 50.1**	**+0.5**
TRIP	**Tripoli**	**1.39**	**147**	P		**Pb**	**18 54 49.8**	**-0.1**
TRIP				S		**Sg**	**18 55 11.6**	**+2.5**
TRIP				AML	AML		18 55 13.0	
	comp=E,2979μm,0.7s							
TRIP				AML	AML		18 55 16.0	
	comp=N,2031μm,0.7s							
TRIP	**Tripoli**	**1.39**	**147**	P		**Pb**	**18 54 50.2**	**+0.3**
TRIP				S		**Sg**	**18 55 10.6**	**+1.5**
LTK	**Loutraki**	**1.46**	**117**	P		**Pg**	**18 54 53.7**	**+1.3**
LTK				AML	AML		18 55 16.0	
	comp=E,1458μm,1.0s							
LTK				AML	AML		18 55 17.1	
	comp=N,1510μm,1.1s							
LTK	**Loutraki**	**1.46**	**117**	P		**Pg**	**18 54 52.7**	**+0.4**
MES3	**Kyparissia**	**1.47**	**169**	P		**Pb**	**18 54 51.3**	**0.0**
MES3	**Kyparissia**	**1.47**	**169**	P		**Pb**	**18 54 51.7**	**+0.4**
SMIA	**Simia**	**1.49**	**82**	P		**Pn**	**18 54 50.1**	**-0.3**
SMIA	**Simia**	**1.49**	**82**	P		**Pb**	**18 54 51.2**	**-0.3**
ITM	**Ithomi**	**1.59**	**162**	P		**Pb**	**18 54 53.1**	**-0.2**
ITM				AML	AML		18 55 29.1	
	comp=E,1897μm,0.8s							
ITM				AML	AML		18 55 36.3	
	comp=N,1540μm,0.6s							
ITM	**Ithomi**	**1.59**	**162**	P		**Pb**	**18 54 53.5**	**+0.2**
NEO	**Neokhori**	**1.60**	**67**	P		**Pn**	**18 54 52.8**	**+0.8**
NEO	**Neokhori**	**1.60**	**67**	P		**Pb**	**18 54 53.4**	**-0.1**
XOR	**Xorichti**	**1.60**	**65**	P		**Pg**	**18 54 55.0**	**-0.1**
XOR	**Xorichti**	**1.60**	**65**	P		**Pg**	**18 54 54.5**	**-0.6**
VIL2	**Platees**	**1.60**	**107**	P		**Pb**	**18 54 54.1**	**+0.5**
VIL2				S		**Sg**	**18 55 17.8**	**+1.8**
KZN	**Kozani**	**1.64**	**12**	P		**Pg**	**18 54 55.7**	**-0.1**
KZN	**Kozani**	**1.64**	**12**	P		**Pg**	**18 54 55.2**	**-0.7**
VILL	**Villia**	**1.65**	**108**	P		**Pb**	**18 54 54.4**	**0.0**
VILL				S		**Sg**	**18 55 17.4**	**-0.1**
LIT	**Litokhoron**	**1.67**	**33**	P		**Pg**	**18 54 55.9**	**-0.4**
LIT				S		**Sg**	**18 55 18.4**	**+0.4**
LIT				AML	AML		18 55 20.8	
	comp=E,1531μm,0.7s							
LIT				AML	AML		18 55 22.2	
	comp=N,1417μm,0.8s							
LIT	**Litokhoron**	**1.67**	**33**	P		**Pb**	**18 54 55.4**	**+0.8**
LIT				S		**Sg**	**18 55 17.9**	**-0.1**
NEST	**Nestorio**	**1.73**	**353**	P		**Pg**	**18 54 58.1**	**+0.6**
NEST	**Nestorio**	**1.73**	**353**	P		**Pg**	**18 54 56.9**	**-0.6**
SKIA	**Skiathos**	**1.74**	**74**	P		**Pn**	**18 54 54.8**	**+1.0**
SKIA	**Skiathos**	**1.74**	**74**	P		**Pb**	**18 54 55.4**	**-0.4**
PYL	**PYLOS**	**1.83**	**169**	P		**Pb**	**18 54 58.5**	**+1.1**
PYL	**PYLOS**	**1.83**	**169**	P		**Pb**	**18 54 57.9**	**+0.5**
MES2	**Methoni**	**1.90**	**171**	P		**Pg**	**18 54 59.8**	**-0.8**
MES2	**Methoni**	**1.90**	**171**	P		**Pb**	**18 54 59.0**	**+0.5**
DID	**Didima**	**1.92**	**128**	P		**Pb**	**18 54 59.0**	**0.0**
DID	**Didima**	**1.92**	**128**	P		**Pb**	**18 54 58.8**	**-0.2**
KRND	**KRANIDI**	**1.95**	**132**	P		**Pb**	**18 54 59.8**	**+0.3**
KRND	**KRANIDI**	**1.95**	**132**	P		**Pb**	**18 54 59.4**	**-0.1**
ATH	**Athens Observa**	**2.02**	**110**	P		**Pn**	**18 54 59.3**	**+1.6**
ATH	**Athens Observa**	**2.02**	**110**	P		**Pb**	**18 54 59.6**	**-1.0**
FNA	**Florina**	**2.08**	**1**	P		**Pb**	**18 55 02.9**	**+1.2**
FNA	**Florina**	**2.08**	**1**	P		**Pb**	**18 55 01.8**	**0.0**
DYR	**Agios Nikonas**	**2.09**	**157**	P		**Pb**	**18 55 02.2**	**+0.3**
DYR	**Agios Nikonas**	**2.09**	**157**	P		**Pb**	**18 55 01.6**	**-0.3**
PTL	**Penteli**	**2.10**	**107**	P		**Pn**	**18 55 00.4**	**+1.5**
PTL	**Penteli**	**2.10**	**107**	P		**Pb**	**18 55 00.7**	**-1.3**
VLY	**Voula,Athens**	**2.12**	**113**	P		**Pn**	**18 55 00.5**	**+1.4**
VLY	**Voula,Athens**	**2.12**	**113**	P		**Pb**	**18 55 00.9**	**-1.5**
PAIG	**Paliouri**	**2.20**	**55**	P		**Pn**	**18 55 00.4**	**+0.2**
PAIG	**Paliouri**	**2.20**	**55**	P		**Pn**	**18 55 01.5**	**+1.3**
BIA	**Bitola**	**2.32**	**0**	*i* Pn		**Pg**	**18 55 08.7**	**0.0**
BIA				*i* Sn		**Sg**	**18 55 42.9**	**+4.1**
HORT	**Hortiatis**	**2.34**	**35**	P		**Pn**	**18 55 03.4**	**+1.2**
HORT	**Hortiatis**	**2.34**	**35**	P		**Pn**	**18 55 03.9**	**+1.7**
PLG	**Polygyros**	**2.34**	**44**	P		**Pn**	**18 55 02.2**	**0.0**
PLG	**Polygyros**	**2.34**	**44**	P		**Pn**	**18 55 03.3**	**+1.1**
VLI	**Veliai**	**2.35**	**147**	P		**Pb**	**18 55 05.9**	**-0.4**
VLI	**Veliai**	**2.35**	**147**	P		**Pb**	**18 55 05.3**	**-1.0**
GRG	**Griva**	**2.40**	**20**	P		**Pb**	**18 55 06.5**	**-0.7**
GRG	**Griva**	**2.40**	**20**	P		**Pb**	**18 55 05.9**	**-1.3**
OHR	**Ohrid**	**2.44**	**351**	*i* Pn		**Pg**	**18 55 09.8**	**-1.4**
OHR				*i* Sn		**Sg**	**18 55 48.8**	**+5.9**
OUR	**Ouranopolis**	**2.63**	**51**	P		**Pn**	**18 55 06.5**	**+0.5**
OUR	**Ouranopolis**	**2.63**	**51**	P		**Pn**	**18 55 07.5**	**+1.5**
SOH	**Sokhos**	**2.64**	**36**	P		**Pn**	**18 55 07.3**	**+1.1**
SOH	**Sokhos**	**2.64**	**36**	P		**Pn**	**18 55 08.0**	**+1.8**
KRUS	**Krusevo**	**2.67**	**359**	*i* Pn		**Pb**	**18 55 13.0**	**+1.3**
KRUS				*i* Sn		**Sg**	**18 55 50.7**	**+0.7**
KNT	**Kendrikon**	**2.74**	**26**	P		**Pn**	**18 55 10.2**	**+2.5**
KNT	**Kendrikon**	**2.74**	**26**	P		**Pn**	**18 55 10.1**	**+2.5**
KYTH	**Kithira**	**2.79**	**150**	P		**Pb**	**18 55 12.4**	**-1.4**
VAY	**Valandovo**	**2.79**	**20**	*i* Pn		**Pb**	**18 55 12.1**	**-1.6**
VAY				*i* Sn		**Sb**	**18 55 46.4**	**-1.3**
SRS	**Serrai**	**2.98**	**35**	P		**Pn**	**18 55 13.1**	**+2.1**
SRS	**Serrai**	**2.98**	**35**	P		**Pn**	**18 55 13.2**	**+2.3**
LIA	**Limnos Island**	**3.23**	**67**	P		**Pn**	**18 55 15.2**	**+0.9**
LIA	**Limnos Island**	**3.23**	**67**	P		**Pn**	**18 55 16.1**	**+1.8**
ANKY	**Antikythira Is**	**3.24**	**150**	P		**Pb**	**18 55 18.2**	**-3.1**
ANKY	**Antikythira Is**	**3.24**	**150**	P		**Pn**	**18 55 17.7**	**+3.3**
SKO	**Skopje**	**3.27**	**2**	*e*Pn		**Pn**	**18 55 17.9**	**+2.9**
NVR	**Nevrokopi**	**3.29**	**36**	P		**Pn**	**18 55 17.9**	**+2.6**
NVR	**Nevrokopi**	**3.29**	**36**	P		**Pn**	**18 55 17.8**	**+2.6**
KAVA	**Kavala**	**3.36**	**46**	P		**Pn**	**18 55 16.9**	**+0.7**
KAVA	**Kavala**	**3.36**	**46**	P		**Pn**	**18 55 17.8**	**+1.6**
MMB	**Musomiste**	**3.43**	**32**	*e*P		**Pn**	**18 55 19.9**	**+2.8**
KKB	**Krupnik**	**3.44**	**23**	*e*P		**Pb**	**18 55 21.8**	**-3.0**
TIP	**Timpagrande**	**3.59**	**279**	⇓*i*P		**Pn**	**18 55 19.8**	**+0.4**
TIP	**Timpagrande**	**3.59**	**279**	⇓*i

ellipse: s-maj=4.3km s-min=2.4km az=10.0
*PRU **08** 19:19:25.0,50˙06N×18˙44E,h0km*
*WAR **08** 19:19:25.8,50˙05N×18˙59E,h1km,Mw3.1*
*IDC **08** 19:19:25.1±0.6,50˙03N×18˙41E,h0km,mb3.7/7,*
mb1 3.6/13,mb1mx3.4/65,mbtmp3.5/13,ML3.0/5,Error
ellipse: s-maj=12.8km s-min=6.4km az=159.0

ISC 08 19:19:23.9±0.5,50˙12N±0˙02×18˙47E±0˙01,h0km,n154,
σ1§47/237,mb3.7/7,7C-22D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.18**	**257**	*e*Pg	**Pg**	**19 19 29.6**	**+2.3**
RAC				*e*Sg	**Sg**	**19 19 33.5**	**+3.8**
OKC	**Ostrava-Krasne**	**0.35**	**216**	*e*Pg	**Pg**	**19 19 31.4**	**+0.7**
OKC				*e*Sg	**Sg**	**19 19 33.6**	**-1.6**
OKC	**Ostrava-Krasne**	**0.35**	**216**	‖ *i*Pg	**Pg**	**19 19 31.3**	**+0.7**
OKC				*e*SG	**Sg**	**19 19 35.2**	**0.0**
	comp=Z,816nm,0.6s						
OKC	**Ostrava-Krasne**	**0.35**	**216**	Pg	**Pg**	**19 19 31.3**	**+0.7**
OKC				Sg	**Sg**	**19 19 35.2**	**0.0**
	816nm,0.6s						
CHZP	**Chorzow**	**0.38**	**63**	*e*Pg	**Pb**	**19 19 33.2**	**-0.3**
CHZP				*e*Sg	**Sb**	**19 19 39.2**	**-0.8**
CHZP	**Chorzow**	**0.38**	**63**	*e*Pg	**Pb**	**19 19 33.2**	**-0.3**
CHZP				*e*Sg	**Sb**	**19 19 39.2**	**-0.8**
MORC	**Moravsky Berou**	**0.69**	**240**	*e*Pg	**Pg**	**19 19 37.6**	**+0.5**
MORC				*e*Sg	**Sg**	**19 19 47.0**	**+1.0**
MORC	**Moravsky Berou**	**0.69**	**240**	‖ *i*P	**Pg**	**19 19 37.6**	**+0.5**
MORC				S	**Sg**	**19 19 47.5**	**+1.4**
MORC	**Moravsky Berou**	**0.69**	**240**	*e*Pg	**Pg**	**19 19 37.5**	**+0.4**
MORC				*e*Sg	**Sg**	**19 19 46.2**	**+0.1**
	619nm,0.6s						
MORC				S	**Sg**	**19 19 47.5**	**+1.4**
OJC	**Ojcow**	**0.86**	**83**	*e*Pg	**Pb**	**19 19 40.9**	**-0.9**
OJC				*e*Sg	**Sb**	**19 19 53.2**	**-0.7**
OJC	**Ojcow**	**0.86**	**83**	*e*Pg	**Pb**	**19 19 40.9**	**-0.9**
OJC				*e*Sg	**Sb**	**19 19 54.2**	**+0.3**
OJC	**Ojcow**	**0.86**	**83**	*e*Pg	**Pb**	**19 19 40.9**	**-0.9**
OJC				*e*Sg	**Sb**	**19 19 53.2**	**-0.7**
OJC	**Ojcow**	**0.86**	**83**	*e*Pg	**Pb**	**19 19 40.9**	**-0.9**
OJC				*e*Sg	**Sb**	**19 19 53.2**	**-0.7**
LANS	**Liptovska Anna**	**1.17**	**146**	*e*PG	**Pg**	**19 19 46.2**	**-0.2**
LANS				*e*SG	**Sg**	**19 20 01.6**	**+0.1**
NIE	**Niedzica**	**1.38**	**120**	*e*Pg	**Pg**	**19 19 50.1**	**-0.3**
NIE				*e*Sg	**Sb**	**19 20 09.1**	**+0.2**
NIE	**Niedzica**	**1.38**	**120**	*e*Pg	**Pg**	**19 19 50.1**	**-0.3**
NIE				*e*Sg	**Sb**	**19 20 09.1**	**+0.2**
NIE	**Niedzica**	**1.38**	**120**	*e*Pg	**Pg**	**19 19 50.1**	**-0.3**
NIE				*e*Sg	**Sb**	**19 20 09.1**	**+0.2**
DPC	**Dobruska-Polom**	**1.39**	**280**	*e*Pg	**Pb**	**19 19 51.0**	**+0.1**
DPC				*e*Sg	**Sn**	**19 20 10.0**	**+0.1**
DPC	**Dobruska-Polom**	**1.39**	**280**	‖ *i*PG	**Pb**	**19 19 50.9**	**+0.1**
DPC				*e*SG	**Sn**	**19 20 10.2**	**+0.4**
	comp=Z,348nm,0.6s						
DPC	**Dobruska-Polom**	**1.39**	**280**	Pg	**Pb**	**19 19 51.0**	**+0.1**
DPC				Sg	**Sn**	**19 20 10.0**	**+0.1**
VRAC	**Vranov**	**1.46**	**237**	Pg	**Pn**	**19 19 51.4**	**-0.2**
	14nm,0.3s,baz=62,slow=15,SNR=162						
VRAC				Lg	Lg	19 20 11.4	
	39nm,0.3s,baz=148,slow=20,SNR=22						
VRAC	**Vranov**	**1.46**	**237**	‖ *i*P	**Pn**	**19 19 51.2**	**-0.4**
VRAC	**Vranov**	**1.46**	**237**	‖ *i*P	**Pn**	**19 19 51.2**	**-0.4**
VRAC				*e*Sg	**Sg**	**19 20 10.4**	**-0.5**
	308nm,1.1s						
VRAC				S	**Sb**	**19 20 11.2**	**0.0**
KSP	**Ksiaz**	**1.56**	**298**	*e*Pn	**Pb**	**19 19 53.2**	**-0.5**
KSP				*e*Pg	**Pg**	**19 19 55.4**	**+1.5**
KSP				*e*Sg	**Sg**	**19 20 16.4**	**+2.3**
KSP	**Ksiaz**	**1.56**	**298**	*e*Pn	**Pb**	**19 19 53.2**	**-0.5**
KSP				*e*Pg	**Pg**	**19 19 56.0**	**+2.1**
KSP				*e*Sg	**Sg**	**19 20 17.3**	**+3.1**
KSP	**Ksiaz**	**1.56**	**298**	*e*Pn	**Pb**	**19 19 53.2**	**-0.5**
KSP				*e*Pg	**Pg**	**19 19 55.4**	**+1.5**
KSP				*e*Sg	**Sg**	**19 20 16.4**	**+2.3**
KSP	**Ksiaz**	**1.56**	**298**	*e*Pn	**Pb**	**19 19 53.2**	**-0.5**
UPC	**Upice**	**1.62**	**285**	‖ *e*PG	**Pb**	**19 19 54.1**	**-0.6**
UPC				*e*SG	**Sg**	**19 20 17.5**	**+1.6**
	comp=Z,124nm,0.5s						
UPC	**Upice**	**1.62**	**285**	Pg	**Pb**	**19 19 54.1**	**-0.6**
UPC				Sg	**Sg**	**19 20 17.5**	**+1.6**
	124nm,0.5s						
VYHS	**Vyhne**	**1.65**	**171**	*e*PG	**Pn**	**19 19 52.9**	**-1.3**
VYHS				*e*LG	Lg	19 20 21.8	
KRUC	**Moravsky**	**1.72**	**233**	*e*Pg	**Pn**	**19 19 55.4**	**+0.3**
KRUC				*e*Sg	**Sn**	**19 20 17.8**	**+0.1**
	200nm,0.6s						
SMOL	**Smolenice**	**1.75**	**203**	*e*PN	**Pn**	**19 19 54.6**	**-0.9**
SMOL				*e*SG	**Sn**	**19 20 17.5**	**-1.0**
MODS	**Modra-Piesok**	**1.92**	**204**	*e*PN	**Pn**	**19 19 56.1**	**-1.7**
STHS	**Stebnicka Huta**	**1.94**	**110**	*e*PN	**Pn**	**19 19 58.3**	**+0.2**
STHS				*e*PG	**Pg**	**19 20 01.4**	**+0.4**
STHS				*e*SG	**Sg**	**19 20 27.9**	**+1.8**
STHS				eLG	Lg	19 20 30.2	
TREC	**Trest**	**2.10**	**248**	‖ *e*PG	**Pb**	**19 20 02.5**	**-0.4**
TREC				*e*SG	**Sb**	**19 20 30.4**	**+0.8**
	comp=Z,85nm,0.5s						
TREC	**Trest**	**2.10**	**248**	Pg	**Pb**	**19 20 02.5**	**-0.4**
TREC				Sg	**Sb**	**19 20 30.4**	**+0.8**
	85nm,0.5s						
KECS	**Kecovo**	**2.11**	**140**	*e*PN	**Pn**	**19 20 00.0**	**-0.5**
KECS				*e*		19 20 06.3	
KECS	**Kecovo**	**2.11**	**140**	*e*SG	**Sb**	**19 20 28.9**	**-0.8**
KECS				eLG	Lg	19 20 30.0	
BEL	**Belsk**	**2.26**	**40**	*e*Pn	**Pb**	**19 20 04.7**	**-0.8**
BEL				*e*Pg	Pg	19 20 12.1	+5.0
BEL				*e*Sg	Sg	19 20 52.6	+16
BEL	**Belsk**	**2.26**	**40**	*e*Pn	**Pb**	**19 20 04.7**	**-0.8**
BEL				*e*Pg	Pg	19 20 12.1	+5.0
BEL				*e*Sg	Sg	19 20 52.6	+16
BEL	**Belsk**	**2.26**	**40**	*e*Pn	**Pb**	**19 20 04.7**	**-0.8**
CRVS	**Cervenica-Dubn**	**2.30**	**121**	*e*PN	**Pn**	**19 20 03.1**	**-0.1**
CRVS				*e*PG	**Pb**	**19 20 06.6**	**+0.2**
GOPC	**GO Pecny, Ondr**	**2.38**	**266**	‖ *e*PN	**Pn**	**19 20 03.3**	**-0.9**
GOPC				*e*PG	**Pb**	**19 20 07.0**	**-0.7**
GOPC				*e*SG	**Sg**	**19 20 39.6**	**-0.8**
	comp=Z,61nm,0.6s						
GOPC	**GO Pecny, Ondr**	**2.38**	**266**	Pn	**Pn**	**19 20 03.3**	**-0.9**
GOPC				Sg	**Sg**	**19 20 39.6**	**-0.8**
	61nm,0.6s						
PSZ	**Piszkesteto**	**2.40**	**156**	‖ *i*P	**Pn**	**19 20 04.3**	**-0.2**
PSZ	**Piszkesteto**	**2.40**	**156**	*e*Pn	**Pn**	**19 20 04.0**	**-0.5**
PSZ	**Piszkesteto**	**2.40**	**156**	*e*Pn	**Pn**	**19 20 04.0**	**-0.5**
PSZ	**Piszkesteto**	**2.40**	**156**	‖ *i*P	**Pn**	**19 20 04.3**	**-0.2**
PVCC	**Panska Ves**	**2.53**	**281**	‖ *e*PN	**Pn**	**19 20 06.0**	**-0.2**
PVCC				*e*PG	**Pg**	**19 20 11.3**	**-1.1**
PVCC				*e*SG	**Sg**	**19 20 45.8**	**+0.6**
	comp=Z,218nm,0.7s						
PVCC	**Panska Ves**	**2.53**	**281**	Pn	**Pn**	**19 20 06.0**	**-0.2**
PRU	**Pruhonice**	**2.53**	**268**	‖ *e*PN	**Pn**	**19 20 05.6**	**-0.7**
PRU				*e*PG	**Pb**	**19 20 10.5**	**+0.3**
PRU				*e*SG	**Sg**	**19 20 44.6**	**-0.6**
	comp=Z,67nm,0.8s						
PRU	**Pruhonice**	**2.53**	**268**	Pn	**Pn**	**19 20 05.6**	**-0.7**
SOP	**Sopron**	**2.75**	**208**	*e*Pn	**Pn**	**19 20 09.0**	**-0.2**
SOP	**Sopron**	**2.75**	**208**	*e*Pn	**Pn**	**19 20 09.0**	**-0.2**
CSKK	**Cs˙‡kako**	**2.77**	**183**	*e*Pn	**Pn**	**19 20 09.5**	**0.0**
CSKK	**Cs˙‡kako**	**2.77**	**183**	*e*Pn	**Pn**	**19 20 09.5**	**0.0**
CONA	**Conrad Observa**	**2.79**	**219**	Pn	**Pn**	**19 20 09.2**	**-0.6**
	4.2nm,0.5s,SNR=12						
CONA				Sg	**Sg**	**19 20 51.7**	**-1.7**
	34nm,0.6s						
CONA	**Conrad Observa**	**2.79**	**219**	*e*Pn	**Pn**	**19 20 09.2**	**-0.6**
	4.2nm,0.5s,SNR=12						
CONA				Sg	**Sg**	**19 20 51.7**	**-1.7**
	34nm,0.6s						
KWP	**Kalwaria Pacla**	**2.79**	**99**	*e*Pn	**Pn**	**19 20 11.8**	**+2.0**
KWP				*e*Pg	**Pg**	**19 20 18.5**	**+1.1**
KWP				*e*Sg	Sg	19 21 02.9	+9.5
KWP	**Kalwaria Pacla**	**2.79**	**99**	*e*Pn	**Pn**	**19 20 11.8**	**+2.0**
KWP				*e*Pg	**Pg**	**19 20 18.5**	**+1.1**
KWP				*e*Sg	Sg	19 21 02.9	+9.5
KWP	**Kalwaria Pacla**	**2.79**	**99**	*e*Pn	**Pn**	**19 20 11.8**	**+2.0**
UZH	**Uzhgorod**	**2.91**	**119**	*e*Pn	**Pn**	**19 20 12.9**	**+1.4**
ONO	**Onokovtsy**	**2.92**	**119**	*e*Pn	**Pn**	**19 20 11.7**	**+0.1**
STZU	**Stuzhytsa**	**2.92**	**111**	‖ *e*Pn	**Pn**	**19 20 11.8**	**+0.1**
BRG	**Berggiesshubel**	**2.98**	**286**	*e*Pg	**Pg**	**19 20 19.9**	**-1.2**
BRG				*e*SG	**Sg**	**19 21 01.1**	**+1.4**
BRG	**Berggiesshubel**	**2.98**	**286**	Pg	**Pg**	**19 20 19.9**	**-1.2**
BRG				Sg	**Sg**	**19 21 01.1**	**+1.4**
MUKU	**Mukachevo**	**3.23**	**120**	*e*Pn	**Pn**	**19 20 16.9**	**+1.1**
KHC	**Kasperske Hory**	**3.33**	**255**	‖ *e*PN	**Pn**	**19 20 16.8**	**-0.5**
KHC				*e*PG	**Pb**	**19 20 25.5**	**+1.7**
KHC				*e*SG	**Sg**	**19 21 08.7**	**-2.1**
	comp=Z,82nm,0.6s						
KHC	**Kasperske Hory**	**3.33**	**255**	Pn	**Pn**	**19 20 16.8**	**-0.5**
BERU	**Beregovo**	**3.33**	**123**	*e*Pn	**Pn**	**19 20 17.7**	**+0.4**
TRPA	**Tarpa**	**3.34**	**125**	*e*Pn	**Pn**	**19 20 17.1**	**-0.2**
TRPA	**Tarpa**	**3.34**	**125**	*e*Pn	**Pn**	**19 20 17.1**	**-0.2**
FBE	**Freiberg**	**3.36**	**286**	*e*Pn	**Pn**	**19 20 18.1**	**+0.5**
FBE				*e*Pg	**Pg**	**19 20 26.8**	**-1.4**
FBE	**Freiberg**	**3.36**	**286**	Pn	**Pn**	**19 20 18.1**	**+0.5**
GEC2	**GERESS Array S**	**3.36**	**249**	*e*Pn	**Pn**	**19 20 17.8**	**+0.1**
GEC2				*e*Pg	**Pb**	**19 20 25.0**	**+0.6**
GEC2	**GERESS Array S**	**3.36**	**249**	Pn	**Pn**	**19 20 17.8**	**+0.1**
GEC2	**GERESS Array S**	**3.36**	**249**	Pg	**Pb**	**19 20 25.0**	**+0.6**
GERES	**GERESS Array B**	**3.36**	**249**	Pn	**Pn**	**19 20 17.9**	**+0.2**
	0.7nm,0.3s,baz=61,slow=13,SNR=17						
GERES				Pg	**Pb**	**19 20 25.0**	**+0.6**
	2.3nm,0.3s,baz=66,slow=22,SNR=24						
GERES				Sn	**Sb**	**19 21 02.7**	**-3.1**
	2.8nm,0.3s,baz=76,slow=28,SNR=8.0						
GERES				Lg	Lg	19 21 11.4	
	7.0nm,0.3s,baz=67,slow=29,SNR=9.6						
ARSA	**Arzberg**	**3.47**	**215**	Pn	**Pn**	**19 20 19.2**	**0.0**
	3.6nm,0.4s,SNR=8.0						
ARSA				Sg	**Sg**	**19 21 18.8**	**+3.4**
	18nm,0.7s						
ARSA	**Arzberg**	**3.47**	**215**	*i* Pn	**Pn**	**19 20 19.2**	**0.0**
	3.6nm,0.4s,SNR=8.0						
ARSA				Sg	**Sg**	**19 21 18.8**	**+3.4**
	18nm,0.7s						
BRIU	**Brid**	**3.48**	**119**	*e*Pn	**Pn**	**19 20 19.8**	**+0.5**
MOA	**Molln**	**3.58**	**232**	Pn	**Pn**	**19 20 20.2**	**-0.5**
	0.7nm,0.2s						
MOA				Sn	**Sn**	**19 21 05.7**	**+2.0**
	27nm,0.5s						
MOA	**Molln**	**3.58**	**232**	*i* Pn	**Pn**	**19 20 20.2**	**-0.5**
	0.7nm,0.2s						
MOA				*i* Sn	**Sn**	**19 21 05.7**	**+2.0**
	27nm,0.5s						
TRSU	**Trosnyk**	**3.58**	**123**	*e*Pn	**Pn**	**19 20 20.5**	**-0.2**
LVV	**L'vov**	**3.61**	**93**	*e*Pn	**Pn**	**19 20 22.1**	**+1.1**
KORU	**Korolevo**	**3.64**	**121**	*i* Pn	**Pn**	**19 20 21.4**	**-0.1**
MORS	**Morshin**	**3.67**	**104**	*e*Pn	**Pn**	**19 20 23.2**	**+1.3**
CLL	**Collm**	**3.67**	**291**	*e*Pg	**Pg**	**19 20 33.4**	**-0.8**
CLL				*e*Sg	**Sg**	**19 21 23.3**	**+1.6**
CLL	**Collm**	**3.67**	**291**	*e*Pg	**Pg**	**19 20 36.0**	**+1.8**
CLL				*e*Sg	**Sg**	**19 21 24.0**	**+2.3**
	comp=Z,75nm,0.9s						
CLL	**Collm**	**3.67**	**291**	Pg	**Pg**	**19 20 33.4**	**-0.8**
CLL				Sg	**Sg**	**19 21 23.3**	**+1.6**
MEZ	**Mezhgor'ye**	**3.67**	**114**	*e*Pn	**Pn**	**19 20 23.3**	**+1.3**
WET	**Wettzell**	**3.76**	**257**	*e*Pg	**Pb**	**19 20 32.9**	**+1.7**
WET				*e*Sg	**Sg**	**19 21 23.5**	**-1.2**
WET	**Wettzell**	**3.76**	**257**	Pg	**Pb**	**19 20 32.9**	**+1.7**
WET				Sg	**Sg**	**19 21 23.5**	**-1.2**
BEHE	**Becsehely**	**3.83**	**198**	*e*Pn	**Pn**	**19 20 24.8**	**+0.7**
BEHE	**Becsehely**	**3.83**	**198**	*e*Pn	**Pn**	**19 20 24.8**	**+0.7**
NKC	**Novy Kostel**	**3.87**	**274**	‖ *e*PN	**Pn**	**19 20 25.1**	**+0.4**
NKC				*e*PG	**Pb**	**19 20 35.0**	**+2.0**
NKC				*e*SG	**Sg**	**19 21 27.1**	**-1.1**
	comp=Z,74nm,0.7s						
NKC	**Novy Kostel**	**3.87**	**274**	Pn	**Pn**	**19 20 25.1**	**+0.4**
NKC				Sg	**Sg**	**19 21 27.1**	**-1.1**
	comp=Z,74nm,0.7s						
WERD	**Werda**	**3.96**	**277**	*e*Pg	**Pg**	**19 20 37.4**	**-2.4**
WERD				*e*Sg	**Sg**	**19 21 30.2**	**-1.0**
WERD	**Werda**	**3.96**	**277**	Pg	**Pg**	**19 20 37.4**	**-2.4**
WERD				Sg	**Sg**	**19 21 30.2**	**-1.0**
ROTZ	**Rotzenmuhle**	**4.06**	**267**	*e*Pg	**Pg**	**19 20 40.0**	**-1.7**
ROTZ				*e*Sg	**Sg**	**19 21 34.0**	**-0.2**
ROTZ	**Rotzenmuhle**	**4.06**	**267**	Pg	**Pg**	**19 20 40.0**	**-1.7**
ROTZ				Sg	**Sg**	**19 21 34.0**	**-0.2**
MANZ	**Manzenberg**	**4.10**	**271**	*e*Pg	**Pg**	**19 20 40.5**	**-2.0**
MANZ	**Manzenberg**	**4.10**	**271**	Pg	**Pg**	**19 20 40.5**	**-2.0**
BMR	**Baia Mare**	**4.13**	**125**	‖ *i*P	**Pn**	**19 20 27.7**	**-0.5**
BMR	**Baia Mare**	**4.13**	**125**	‖ *i*P	**Pn**	**19 20 27.7**	**-0.5**
SOKA	**Soboth**	**4.14**	**215**	Sg	**Sg**	**19 21 39.7**	**+2.9**
	comp=Z,5.5nm,0.6s						
SOKA	**Soboth**	**4.14**	**215**	Sg	**Sg**	**19 21 39.7**	**+2.9**
	comp=Z,5.5nm,0.6s						
RAKU	**Rahkiv**	**4.29**	**117**	*e*Pn	**Pn**	**19 20 30.6**	**+0.1**
DRGR		**4.37**	**138**	‖ *i*P	**Pn**	**19 20 31.5**	**-0.1**
DRGR		**4.37**	**138**	‖ *i*P	**Pn**	**19 20 31.5**	**-0.1**
DRGR				S	**Sn**	**19 21 19.1**	**-4.1**
NSLU	**Nyzhne Selyshc**	**4.38**	**114**	*i* Pn	Pn	19 20 24.0	-7.6
SIRR	**Siria**	**4.41**	**150**	‖ *i*P	**Pn**	**19 20 31.9**	**-0.2**
SIRR	**Siria**	**4.41**	**150**	‖ *i*P	**Pn**	**19 20 31.9**	**-0.2**
MOX	**Moxa**	**4.41**	**279**	*e*Pg	**Pg**	**19 20 46.8**	**-1.7**
MOX	**Moxa**	**4.41**	**279**	Pg	**Pg**	**19 20 46.8**	**-1.7**
OBKA	**Obir**	**4.46**	**217**	Pn	**Pn**	**19 20 33.1**	**+0.2**
	comp=Z,2.5nm,0.3s,SNR=5.4						
OBKA				Sg	**Sg**	**19 21 49.4**	**+2.2**
	comp=Z,13nm,0.8s						
OBKA	**Obir**	**4.46**	**217**	*i* Pn	**Pn**	**19 20 33.1**	**+0.2**
	comp=Z,2.5nm,0.3s,SNR=5.4						
OBKA				Sg	**Sg**	**19 21 49.4**	**+2.2**
	comp=Z,13nm,0.8s						
KBA	**Koelnbreinsper**	**4.56**	**230**	Sg	**Sg**	**19 21 51.6**	**+1.2**
	comp=Z,19nm,0.6s						
KBA	**Koelnbreinsper**	**4.56**	**230**	*i* Sg	**Sg**	**19 21 51.6**	**+1.2**
	comp=Z,19nm,0.6s						
MYKA	**Terra Mystica**	**4.75**	**224**	Sg	**Sg**	**19 21 58.3**	**+1.9**
	comp=Z,7.7nm,0.6s						
MYKA	**Terra Mystica**	**4.75**	**224**	Sg	**Sg**	**19 21 58.3**	**+1.9**
	comp=Z,7.7nm,0.6s						
CJR	**Cluj-Napoca**	**4.83**	**133**	‖ *i*P	**Pn**	**19 20 37.9**	**0.0**
CJR	**Cluj-Napoca**	**4.83**	**133**	‖ *i*P	**Pn**	**19 20 37.9**	**0.0**
BZS	**Buzias**	**4.98**	**154**	‖ *i*P	**Pn**	**19 20 39.8**	**-0.2**
BZS	**Buzias**	**4.98**	**154**	‖ *i*P	**Pn**	**19 20 39.8**	**-0.2**
BURAR	**Bucovina Array**	**5.11**	**117**	‖ *i*P	**Pn**	**19 20 42.1**	**+0.2**
BURAR	**Bucovina Array**	**5.11**	**117**	‖ *i*P	**Pn**	**19 20 42.1**	**+0.2**
ABTA	**Abfaltersbach**	**5.21**	**232**	Pg	**Pg**	**19 21 00.5**	**-3.2**
	comp=Z,4.3nm,0.5s						
ABTA				Sg	**Sg**	**19 22 14.4**	**+3.3**
	comp=Z,11nm,0.7s						
ABTA	**Abfaltersbach**	**5.21**	**232**	Pg	**Pg**	**19 21 00.5**	**-3.2**
	comp=Z,4.3nm,0.5s						
ABTA				*i* Sg	**Sg**	**19 22 14.4**	**+3.3**
	comp=Z,11nm,0.7s						
WATA	**Walderalm**	**5.34**	**241**	Sg	**Sg**	**19 22 19.7**	**+4.2**
	comp=Z,22nm,0.6s						
WATA	**Walderalm**	**5.34**	**241**	*i* Sg	**Sg**	**19 22 19.7**	**+4.2**
	comp=Z,22nm,0.6s						
WTTA	**Wattenberg**	**5.35**	**240**	Sg	**Sg**	**19 22 16.6**	**+0.9**
	comp=Z,19nm,0.6s						
WTTA	**Wattenberg**	**5.35**	**240**	*i* Sg	**Sg**	**19 22 16.6**	**+0.9**
	comp=Z,19nm,0.6s						
BSD	**Bornholm Skovb**	**5.45**	**338**	*i* P	**Pn**	**19 20 45.6**	**-0.7**
BSD				*i* S	**Sn**	**19 21 47.1**	**-2.5**
BSD	**Bornholm Skovb**	**5.45**	**338**	*i* P	**Pn**	**19 20 45.6**	**-0.7**
MOTA	**Moosalm**	**5.61**	**243**	*i* Pn	**Pb**	**19 21 06.1**	**+3.4**
	comp=Z,4.0nm,0.5s						
MOTA				Sg	**Sg**	**19 22 23.5**	**-0.4**
	comp=Z,60nm,1.0s						
FETA	**Feichten**	**6.00**	**242**	*e*Pn	**Pg**	**19 21 14.8**	**-4.1**
	comp=Z,3.5nm,0.6s						
FETA				*i* Sg	**Sg**	**19 22 40.5**	**+4.0**
	comp=Z,13nm,0.7s						
DAVA	**Damuels**	**6.35**	**247**	Pn	**Pn**	**19 20 59.4**	**+0.5**
	comp=Z,5.2nm,0.7s						
DAVA				Sg	**Sg**	**19 22 50.8**	**+3.0**
	comp=Z,28nm,0.8s						
DAVA	**Damuels**	**6.35**	**247**	*e*Pn	**Pn**	**19 20 59.4**	**+0.5**
	comp=Z,5.2nm,0.7s						
DAVA				*i* Sg	**Sg**	**19 22 50.8**	**+3.0**
	comp=Z,28nm,0.8s						
VOIR		**6.45**	**134**	‖ *i*P	**Pn**	**19 21 00.4**	**+0.2**
VOIR		**6.45**	**134**	‖ *i*P	**Pn**	**19 21 00.4**	**+0.2**
MLR	**Muntele Rosu**	**6.84**	**130**	Pn	**Pn**	**19 21 08.3**	**+2.7**
	baz=298,slow=10.0,SNR=3.5						
AKASG	**Malin Array Be**	**6.90**	**81**	Pn	**Pn**	**19 21 04.4**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=264,slow=13,SNR=6.9						
AKASG				Sn	**Sn**	**19 22 22.2**	**-3.3**
	comp=Z,0.7nm,0.3s,baz=260,slow=24,SNR=5.0						
AKASG				Lg	Lg	19 23 05.0	
	comp=Z,0.7nm,0.3s,baz=271,slow=24,SNR=4.2						
HFS	**Hagfors**		**10.39**	**347**	Sn	**Sn**	**19 23 48.1**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=160,slow=23,SNR=2.7						
NOA	**NORSAR Array B**	**11.67**	**342**	Pn	**Pn**	**19 22 09.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**12.12**	**18**	Pn	**Pn**	**19 22 15.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=193,slow=11,SNR=11						
BRTR	**Keskin Array B**	**14.92**	**128**	Pn	**Pn**	**19 22 58.9**	**+2.7**
	comp=Z,0.0nm,0.3s,baz=341,slow=7.6,SNR=2.7						
ARU	**Arti**	**24.51**	**60**	P	**P**	**19 24 45.3**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=266,slow=9.4,SNR=4.4						
AKTO	**Aktyubinsk**	**25.08**	**74**	P	**P**	**19 24 50.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=342,slow=5.3,SNR=3.7						
BVAR	**Borovoye Array**	**31.82**	**64**	P	**P**	**19 25 51.8**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=320,slow=4.3,SNR=6.4						
KURBB	**Kurchatov Arra**	**37.39**	**65**	P	**P**	**19 26 40.7**	**+2.6**
	comp=Z,0.5nm,0.8s,baz=296,slow=9.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**39.35**	**206**	P	**P**	**19 26 54.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=28,slow=8.3,SNR=3.3						
YKA	**Yellowknife Ar**	**61.72**	**337**	P	**P**	**19 29 43.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=25,slow=6.5,SNR=6.2						
BOSA	**Boshof**	**78.62**	**174**	P	**P**	**19 31 27.0**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=326,slow=4.6,SNR=3.6						

IDC 08 19:19:32.0±3.2,51˙81N×96˙27E,h0km,mb1 2.6/2,
mb1mx2.4/72,mbtmp2.6/2,ML2.2/2,Error ellipse:
s-maj=59.5km s-min=20.9km az=18.0,Southwestern
Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**7.26**	**292**	Pg	Pb	19 21 42.9	+4.1
	0.2nm,0.3s,baz=112,slow=12,SNR=4.6						
ZALV				Lg	Lg	19 23 13.3	
	0.5nm,0.3s,baz=113,slow=23,SNR=13						
SONM	**Songino Array**	**7.66**	**117**	Pg	Pb	19 21 50.0	+4.3
	0.2nm,0.3s,baz=301,slow=18,SNR=5.9						
SONM				Lg	Lg	19 23 36.5	
	0.5nm,0.3s,baz=302,slow=31,SNR=19						
MKAR	**Makanchi Array**	**10.41**	**247**	Pn	Pn	19 22 02.9	+0.4
	0.0nm,0.3s,baz=63,slow=9.9,SNR=3.1						
MKAR				Pg		19 22 45.9	
	0.1nm,0.3s,baz=54,slow=12,SNR=4.0						
MKAR				Lg	Lg	19 24 56.0	
	0.1nm,0.3s,baz=59,slow=30,SNR=3.9						
KURBB	**Kurchatov Arra**	**11.19**	**271**	Pn	Pn	19 22 12.7	-0.4
	0.0nm,0.3s,baz=76,slow=16,SNR=3.0						
KURBB				Lg	Lg	19 25 17.9	
	0.0nm,0.3s,baz=77,slow=34,SNR=3.3						

*IDC **08** 19:21:41.9±3.2,40˙34S×176˙58E,h0km,mb4.2/3,*
mb1 4.3/5,mb1mx3.9/37,mbtmp4.1/5,ML3.6/2,MS3.1/3,
*Ms1 3.1/3,ms1mx2.

TWVZ	Taurewa	1.32	328	Pn	Pn	19 22 11.6	+0.4
TWVZ	Taurewa	1.32	328	P	Pn	19 22 11.6	+0.4
CAW	Cannon Point	1.33	226	Pn	Pn	19 22 11.1	-0.1
CAW	Cannon Point	1.33	226	P	Pn	19 22 11.1	-0.1
MRHZ	Matea Rd	1.36	3	P	Pn	19 22 12.0	+0.3
PAWZ	Paruwai Farm	1.37	210	Pn	Pn	19 22 11.6	-0.3
PAWZ	Paruwai Farm	1.37	210	P	Pn	19 22 11.6	-0.3
PAWZ	Paruwai Farm	1.37	210	P	Pn	19 22 11.7	-0.3
RATZ	Rangitukua	1.39	342	Pn	Pn	19 22 13.0	+0.9
RATZ	Rangitukua	1.39	342	P	Pn	19 22 13.2	+1.0
MTHZ	Maungataniwha	1.39	17	P	Pn	19 22 12.1	0.0
RAHZ	Arahi	1.40	25	P	Pn	19 22 12.0	-0.2
MSWZ	Moikau Station	1.48	214	Pn	Pn	19 22 12.7	-0.5
MSWZ	Moikau Station	1.48	214	P	Pn	19 22 12.7	-0.5
WHTZ	Whakaora	1.55	349	P	Pn	19 22 16.8	+2.5
WATZ	Wairara	1.55	342	Pn	Pn	19 22 15.1	+0.7
WATZ	Wairara	1.55	342	P	Pn	19 22 15.0	+0.7
KNZ	Kokohu	1.56	42	Pn	Pn	19 22 13.7	-0.6
KNZ	Kokohu	1.56	42	P	Pn	19 22 13.8	-0.6
MHGZ	Mahia Peninsul	1.60	50	Pn	Pn	19 22 14.5	-0.4
MHGZ	Mahia Peninsul	1.60	50	P	Pn	19 22 14.5	-0.4
PLWZ	Palliser	1.60	210	Pn	Pn	19 22 14.2	-0.8
PLWZ	Palliser	1.60	210	P	Pn	19 22 14.2	-0.8
SNGZ	Shannon Statio	1.61	29	Pn	Pn	19 22 14.7	-0.3
SNGZ	Shannon Statio	1.61	29	P	Pn	19 22 14.8	-0.3
WEL	Wellington	1.61	227	Pn	Pn	19 22 14.8	-0.4
VRZ	Vera Road	1.62	311	Pn	Pn	19 22 15.9	+0.7
VRZ	Vera Road	1.62	311	P	Pn	19 22 16.1	+0.9
ALRZ	Allen Road	1.63	0	Pn	Pn	19 22 15.0	-0.3
ALRZ	Allen Road	1.63	0	P	Pn	19 22 15.1	-0.3
BHW	Baring Head	1.65	222	Pn	Pn	19 22 14.8	-0.8
BHW	Baring Head	1.65	222	P	Pn	19 22 14.8	-0.8
RTZ	Ruatahuna	1.65	18	P	Pn	19 22 15.7	0.0
LREZ	Lake Rotokare	1.66	296	P	Pn	19 22 18.2	+2.5
WPRZ	Whakapapatarin	1.68	355	P	Pn	19 22 15.8	-0.2
PRRZ	Plateau Road	1.69	2	Pn	Pn	19 22 16.1	-0.1
PRRZ	Plateau Road	1.69	2	P	Pn	19 22 16.1	-0.1
PRGZ	Paritu Road	1.74	44	Pn	Pn	19 22 16.4	-0.6
PRGZ	Paritu Road	1.74	44	P	Pn	19 22 16.4	-0.6
KUTZ	Kaahu Road	1.75	347	P	Pn	19 22 17.3	+0.3
MUGZ	Murupara	1.75	11	P	Pn	19 22 16.5	-0.4
HRRZ	Handcock Road	1.80	359	Pn	Pn	19 22 17.8	+0.1
HRRZ	Handcock Road	1.80	359	P	Pn	19 22 17.8	+0.1
GRRZ	Galatos Road	1.85	355	P	Pn	19 22 18.6	+0.2
RIGZ	Rimuhau	1.85	37	P	Pn	19 22 17.6	-0.8
RRRZ	Republican Roa	1.85	4	Pn	Pn	19 22 17.9	-0.6
RRRZ	Republican Roa	1.85	4	P	Pn	19 22 18.0	-0.5
TCW	Tory Channel	1.87	236	Pn	Pn	19 22 18.2	-0.4
TCW	Tory Channel	1.87	236	P	Pn	19 22 18.2	-0.4
HSRZ	Hossack Road	1.88	356	P	Pn	19 22 18.7	-0.1
PREZ	Palmer Road	1.88	296	Pn	Pn	19 22 20.9	+2.1
PREZ	Palmer Road	1.88	296	P	Pn	19 22 20.8	+2.1
RAGZ	Rawiri	1.89	27	Pn	Pn	19 22 18.4	-0.6
RAGZ	Rawiri	1.89	27	P	Pn	19 22 18.4	-0.6
MHEZ	Mangahewa	1.91	305	P	Pn	19 22 25.0	+5.8
DREZ	Durham Road	1.93	301	P	Pn	19 22 22.6	+3.2
HLRZ	Highlands Stat	1.94	0	P	Pn	19 22 23.1	+3.5
DUWZ	D'Urville Isla	1.94	251	Pn	Pn	19 22 20.1	+0.5
DUWZ	D'Urville Isla	1.94	251	P	Pn	19 22 20.4	+0.8
NEZ	North Egmont	1.96	297	Pn	Pn	19 22 21.9	+2.1
TARZ	Mount Tarawera	1.96	4	Pn	Pn	19 22 19.7	-0.2
TARZ	Mount Tarawera	1.96	4	P	Pn	19 22 19.8	-0.2
TLZ	Tolley Road	1.96	341	P	Pn	19 22 22.7	+2.8
KHEZ	Kahui Hut	2.00	296	Pn	Pn	19 22 22.6	+2.1
URZ	Urewera	2.02	18	Pn	Pn	19 22 19.5	-1.2
	18nm,0.3s,baz=225,slow=7.0,SNR=48						
URZ				Sn	Sn	19 22 43.2	-1.5
	83nm,0.3s,baz=288,slow=20,SNR=14						
URZ				LR	LR	19 22 57.0	
	comp=Z,96nm,21.3s,baz=230,slow=36						
URZ	Urewera	2.02	18	P	Pn	19 22 19.6	-1.2
HIZ	Hauiti	2.03	325	Pn	Pn	19 22 21.1	+0.2
HIZ	Hauiti	2.03	325	P	Pn	19 22 21.8	+1.0
NMEZ	Namu Road	2.04	292	Pn	Pn	19 22 23.0	+1.9
NMEZ	Namu Road	2.04	292	P	Pn	19 22 23.0	+1.9
PKE	Pukeiti	2.07	298	Pn	Pn	19 22 23.5	+2.2
PKE	Pukeiti	2.07	298	P	Pn	19 22 23.6	+2.2
MWZ	Matawai	2.07	27	Pn	Pn	19 22 20.3	-1.2
MWZ	Matawai	2.07	27	P	Pn	19 22 20.3	-1.2
NGNZ	Ngongotaha	2.09	357	P	Pn	19 22 28.4	+6.7
TKGZ	Te Karaka	2.11	34	Pn	Pn	19 22 20.8	-1.0
TKGZ	Te Karaka	2.11	34	P	Pn	19 22 20.9	-1.0
TUWZ	Tuamarina	2.20	235	Pn	Pn	19 22 21.9	-1.2
TUWZ	Tuamarina	2.20	235	P	Pn	19 22 21.9	-1.2
CMWZ	Cape Campbell	2.24	225	P	Pn	19 22 23.3	-0.3
CNGZ	Carnagh Statio	2.24	41	Pn	Pn	19 22 22.7	-1.0
CNGZ	Carnagh Statio	2.24	41	P	Pn	19 22 22.7	-1.0
TWGZ	Tauwhareparae	2.38	33	Pn	Pn	19 22 24.7	-1.1
TWGZ	Tauwhareparae	2.38	33	P	Pn	19 22 24.7	-1.1
WHRZ	Whale Island	2.38	12	P	Pn	19 22 25.6	-0.1
BSWZ	Blackbirch Sta	2.41	230	Pn	Pn	19 22 24.9	-1.1
BSWZ	Blackbirch Sta	2.41	230	P	Pn	19 22 24.9	-1.1
RUGZ	Raukumara Rang	2.46	26	P	Pn	19 22 25.7	-1.1
NNZ	Nelson	2.47	245	Pn	Pn	19 22 26.5	-0.4
NNZ	Nelson	2.47	245	P	Pn	19 22 26.4	-0.5
TOZ	Tahuroa Road	2.54	345	Pn	Pn	19 22 27.7	-0.1
TOZ	Tahuroa Road	2.54	345	P	Pn	19 22 27.9	+0.1
PUZ	Puketiti	2.59	36	Pn	Pn	19 22 26.8	-1.8
PUZ	Puketiti	2.59	36	P	Pn	19 22 26.9	-1.7
PKGZ	Pakihiroa	2.67	31	P	Pn	19 22 28.9	-0.8
HAZ	Te Kaha	2.68	25	P	Pn	19 22 28.0	-1.7
HAZ	Te Kaha	2.68	25	P	Pn	19 22 28.8	-1.0
WMGZ	Waiomatatini S	2.87	35	Pn	Pn	19 22 30.8	-1.5
WMGZ	Waiomatatini S	2.87	35	P	Pn	19 22 30.9	-1.4
QRZ	Quartz Range	2.97	256	Pn	Pn	19 22 33.0	-0.8
QRZ	Quartz Range	2.97	256	P	Pn	19 22 32.9	-0.8
THZ	Tophouse	3.03	238	Pn	Pn	19 22 33.6	-1.1
THZ	Tophouse	3.03	238	P	Pn	19 22 33.6	-1.1
MXZ	Matakaoa Point	3.04	31	P	Pn	19 22 34.2	-0.5
KHZ	Kahutara	3.06	223	Pn	Pn	19 22 32.9	-2.1
KHZ	Kahutara	3.06	223	P	Pn	19 22 32.9	-2.1
MKAZ	Moumakai	3.22	343	Pn	Pn	19 22 37.5	+0.3
MKAZ	Moumakai	3.22	343	P	Pn	19 22 37.6	+0.5
AWAZ	Awhitu Peninsu	3.39	336	P	Pn	19 22 40.8	+1.2
WIAZ	Waiheke Island	3.52	344	P	Pn	19 22 41.7	+0.4
WTAZ	Waiatarua	3.53	336	P	Pn	19 22 43.4	+1.9
DSZ	Denniston Nort	3.76	244	Pn	Pn	19 22 43.6	-1.1
DSZ	Denniston Nort	3.76	244	P	Pn	19 22 43.6	-1.1
LTZ	Lake Taylor	4.00	228	Pn	Pn	19 22 45.7	-2.3
LTZ	Lake Taylor	4.00	228	P	Pn	19 22 45.7	-2.3
MQZ	McQueen's Vall	4.46	217	Pn	Pn	19 22 51.5	-2.6
MQZ	McQueen's Vall	4.46	217	P	Pn	19 22 51.7	-2.4
INZ	Inchbonnie	4.46	234	P	Pn	19 22 52.3	-1.9
OXZ	Oxford	4.49	224	Pn	Pn	19 22 51.3	-3.3
OXZ	Oxford	4.49	224	P	Pn	19 22 51.5	-3.0
WCZ	Waipu Caves	4.53	339	P	Pn	19 22 56.1	+1.0
WCZ	Waipu Caves	4.53	339	P	Pn	19 22 56.1	+1.0
WVZ	Waitaha Valley	5.09	234	Pn	Pn	19 23 00.4	-2.4
WVZ	Waitaha Valley	5.09	234	P	Pn	19 23 02.2	-0.5
RPZ	Rata Peaks	5.28	226	Pn	Pn	19 23 03.7	-1.8
	2.5nm,0.3s,baz=26,slow=0.7,SNR=13						
RPZ				Sn	Sn	19 23 59.9	-5.1
	11nm,0.3s,baz=302,slow=21,SNR=31						
RPZ	Rata Peaks	5.28	226	P	Pn	19 23 03.9	-1.5
FOZ	Fox Glacier	5.90	233	Pn	Pn	19 23 11.7	-2.3
FOZ	Fox Glacier	5.90	233	P	Pn	19 23 11.6	-2.3
LBZ	Lake Benmore	6.19	225	Pn	Pn	19 23 15.5	-2.5
LBZ	Lake Benmore	6.19	225	P	Pn	19 23 15.6	-2.4
CTZ	Chatham Island	6.33	126	Pn	Pn	19 23 20.3	+0.3
CTZ	Chatham Island	6.33	126	P	Pn	19 23 20.2	+0.3
JCZ	Jackson Bay	6.82	233	Pn	Pn	19 23 24.6	-2.1
DZM	Mont Dzumac	19.92	332	LR	LR	19 33 32.5	
	comp=Z,105nm,19.4s,baz=172,slow=35						
STKA	Stephens Creek	29.15	276	P	P	19 27 47.6	+1.5
	1.3nm,0.6s,baz=104,slow=12,SNR=3.5						
ASAR	Alice Springs	39.20	282	P	P	19 29 13.2	0.0
	2.3nm,0.6s,baz=135,slow=9.5,SNR=73						
PMG	Port Moresby	40.15	312	LR	LR	19 45 56.2	
	comp=Z,65nm,18.6s,baz=158,slow=36						
WRAB	Tennant Creek	41.10	287	*eP*	P	19 29 28.5	-0.4
	4.1nm,0.6s						
WRA	Warramunga Arr	41.10	287	P	P	19 29 28.7	-0.2
	3.7nm,0.5s,baz=126,slow=8.1,SNR=108						
ARCES	ARCESS Array B	146.82	342	PKPbc	PKPdf	19 41 24.1	+0.6
	1.9nm,0.7s,baz=43,slow=5.5,SNR=6.1						

MAN 08 19:32:25, 9.80N×122.97E, h34km, mb4.3, ML3.1, MS2.8, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	Sibulan	0.53	149	*iP*	Pn	19 32 37.5	+1.4
SNPH				*i* S	Sn	19 32 46.5	+2.5
GUIM	Jordan	0.90	336	*eP*	Pb	19 32 43.1	+0.9
GUIM				*eS*	Sn	19 32 53.5	+0.4
MSLP	Maasin	1.90	80	*eP*	Pn	19 32 55.8	+0.9
MSLP				*eS*	Sn	19 33 19.1	+1.4

IDC 08 19:32:39.6±51.0, 16.02S×174.49W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/39, mbtmpg3.8/3, Error ellipse: s-maj=977.6km s-min=184.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	42.82	240	P	P	19 40 39.6	+0.1
	0.5nm,0.5s,baz=97,slow=16,SNR=2.9						
WRA	Warramunga Arr	48.69	257	P	P	19 41 25.8	-0.3
	0.3nm,0.5s,baz=94,slow=7.3,SNR=9.7						
ASAR	Alice Springs	48.92	252	P	P	19 41 27.9	-0.1
	2.3nm,0.6s,baz=88,slow=8.2,SNR=76						

*ISCJB **08** 19:38:57.5±0.3, 40.43N±0.02×28.02E±0.02, h3km±4km, Error ellipse: s-maj=3.7km s-min=2.6km az=160.2*
*CSEM **08** 19:38:57.9±0.1, 40.42N×28.02E, h8km, ML2.5, Error ellipse: s-maj=2.0km s-min=1.6km az=153.0*
*DDA **08** 19:38:57.1, 40.42N×27.98E, h7km, Ml2.5*
*ISK **08** 19:38:57.4, 40.42N×28.02E, h5km, ML2.5/18*
ISC 08 19:38:57.8±0.8, 40.42N±0.02×28.01E±0.02, h12km±6km, n58, σ0°44/87, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDC	Edincik	0.14	237	PG	Pg	19 39 01.2	0.0
EDC				SG	Sg	19 39 03.5	-0.1
EDC	Edincik	0.14	237	*e*Pg	Pg	19 39 01.2	0.0
EDC				*e*Sg	Sg	19 39 03.5	-0.1
KCTX	Karacabey (Bur	0.30	121	PG	Pg	19 39 03.5	-0.5
KCTX				SG	Sg	19 39 08.2	0.0
KCTX	Karacabey (Bur	0.30	121	*e*Pg	Pg	19 39 03.5	-0.5
KCTX				*e*Sg	Sg	19 39 08.2	0.0
GONE	Gonen-Balikesi	0.45	214	PG	Pg	19 39 06.7	0.0
GONE	Gonen-Balikesi	0.45	214	*e*Pg	Pg	19 39 06.7	0.0
SBT3	Marmara-Eregli	0.46	356	PG	Pg	19 39 06.9	0.0
SBT3	Marmara-Eregli	0.46	356	*e*Pg	Pg	19 39 06.9	0.0
KRBG	Karabiga-Canak	0.55	267	PG	Pg	19 39 08.5	0.0
KRBG	Karabiga-Canak	0.55	267	*e*Pg	Pg	19 39 08.5	0.0
ARMT	Armutlu	0.66	77	PG	Pb	19 39 11.0	-0.3
ARMT				SG	Sb	19 39 20.0	-0.5
ARMT	Armutlu	0.66	77	*e*Pg	Pb	19 39 11.0	-0.3
ARMT				*e*Sg	Sb	19 39 20.0	-0.5
MDNY	Mudanya-Bursa	0.67	94	PG	Pg	19 39 10.7	-0.1
MDNY				SG	Sb	19 39 20.4	-0.1
MDNY	Mudanya-Bursa	0.67	94	*e*Pg	Pg	19 39 10.7	-0.1
MDNY				*e*Sg	Sb	19 39 20.4	-0.1
SART	Tekirdag	0.69	293	*i* P	Pg	19 39 10.1	-1.2
SART				*i* S	Sg	19 39 20.1	-0.2
SART	Tekirdag	0.69	293	P	Pg	19 39 10.1	-1.2
SART				S	Sg	19 39 20.1	-0.2
RKY	Sarkoy-Tekirda	0.69	293	PG	Pg	19 39 11.0	-0.2
RKY				SG	Sb	19 39 21.2	-0.1
RKY	Sarkoy-Tekirda	0.69	293	*e*Pg	Pg	19 39 11.0	-0.2
RKY				*e*Sg	Sb	19 39 21.2	-0.1
BALY	Balya	0.74	204	*i* P	Pg	19 39 11.1	-1.1
BALY				*i* S	Sg	19 39 21.7	-0.3
BALY	Balya	0.74	204	P	Pg	19 39 11.1	-1.1
BALY				S	Sg	19 39 21.7	-0.3
BALB	Balikesir	0.79	188	PG	Pg	19 39 12.6	-0.4
BALB	Balikesir	0.79	188	*e*Pg	Pg	19 39 12.6	-0.4
SLVT	Silivri	0.82	10	PG	Pb	19 39 13.7	-0.3
SLVT				SG	Sb	19 39 25.4	+0.3
SLVT	Silivri	0.82	10	*e*Pg	Pb	19 39 13.7	-0.3
SLVT				*e*Sg	Sb	19 39 25.4	+0.3
CTKS	Kestenelik-??a	0.90	24	PG	Pb	19 39 15.0	-0.3
CTKS	Kestenelik-??a	0.90	24	*e*Pg	Pb	19 39 15.0	-0.3
IGD	Bursa	0.92	99	*i* P	Pg	19 39 15.1	-0.5
BUY	Buyukada	0.94	62	PG	Pb	19 39 15.8	-0.3
BUY				SG	Sb	19 39 29.3	+0.8
BUY	Buyukada	0.94	62	*i* P	Pb	19 39 15.9	-0.3
BUY				*i* S	Sb	19 39 29.4	+0.8
BUY	Buyukada	0.94	62	P	Pb	19 39 15.9	-0.2
BUY				S	Sb	19 39 29.4	+0.8
BGKT	Bogazkoy	0.95	37	PG	Pb	19 39 16.4	+0.1
BGKT	Bogazkoy	0.95	37	*e*Pg	Pb	19 39 16.4	+0.1
LPK	Lapseki	0.96	268	PG	Pb	19 39 16.3	-0.1
LPK	Lapseki	0.96	268	*e*Pg	Pb	19 39 16.3	-0.1
ISK	Istanbul-Kandi	1.02	51	PG	Pg	19 39 17.2	-0.3
ISK	Istanbul-Kandi	1.02	51	*e*Pg	Pg	19 39 17.2	-0.3
KAVV	Kandilli-Istan	1.02	51	PG	Pb	19 39 17.3	-0.1
KAVV				SG	Sb	19 39 31.4	+0.6
KAVV	Kandilli-Istan	1.02	51	*e*Pg	Pb	19 39 17.3	-0.1
KAVV				*e*Sg	Sb	19 39 31.4	+0.6
STEP	BALIKESIR_Sava	1.07	192	*i* P	Pb	19 39 18.5	+0.3
STEP				*i* S	Sb	19 39 32.9	+0.8
STEP	BALIKESIR_Sava	1.07	192	P	Pb	19 39 18.5	+0.3
STEP				S	Sb	19 39 32.9	+0.8
CTYL	Yalikoy Yolu	1.07	11	PG	Pb	19 39 18.2	-0.1
CTYL	Yalikoy Yolu	1.07	11	*e*Pg	Pb	19 39 18.2	-0.1
KESN	Edirne-Kesan	1.09	292	*i* P	Pn	19 39 19.9	+0.6
KESN	Edirne-Kesan	1.09	292	P	Pn	19 39 19.9	+0.6
KLYT	Kilyos	1.14	43	PN	Pn	19 39 19.8	+0.2
KLYT				SN	Sb	19 39 34.9	+0.7
KLYT	Kilyos	1.14	43	*e*Pn	Pn	19 39 19.8	+0.2
KLYT				*e*Sn	Sb	19 39 34.9	+0.7
ERIK	Erikli-Kesan	1.17	283	PN	Pn	19 39 20.4	+0.4
ERIK	Erikli-Kesan	1.17	283	*e*Pn	Pn	19 39 20.4	+0.4
GELI	Tayfur-Gelibol	1.18	269	PN	Pb	19 39 20.1	+0.1
GELI	Tayfur-Gelibol	1.18	269	*e*Pn	Pb	19 39 20.1	+0.1
TVSB	Tavsanli	1.48	131	PN	Pb	19 39 24.9	-0.3
TVSB	Tavsanli	1.48	131	*e*Pn	Pb	19 39 24.9	-0.3
DEMI	Demirci	1.48	158	*i* P	Pb	19 39 25.4	+0.1
DEMI	Demirci	1.48	158	P	Pb	19 39 25.4	+0.1
ALN	Alexandroupoli	1.57	288	PN	Pb	19 39 26.5	-0.3
ALN				SN	Sg	19 39 48.1	-0.3
ALN	Alexandroupoli	1.57	288	*e*Pn	Pb	19 39 26.5	-0.3
ALN				*e*Sn	Sg	19 39 48.1	-0.3
GADA	Gvkgeada	1.63	263	PN	Pb	19 39 27.8	-0.1
GADA				SN	Sg	19 39 49.8	-0.6
GADA	Gvkgeada	1.63	263	*e*Pn	Pb	19 39 27.8	-0.1
GADA				*e*Sn	Sg	19 39 49.8	-0.6

*IDC **08** 19:39:25.0±1.2, 38.72N×21.22E, h0km, mb3.8/7, mb1 3.7/10, mb1mx3.4/58, mbtmpg3.6/10, ML2.7/3, Error ellipse: s-maj=24.5km s-min=18.5km az=86.0*
*CSEM **08** 19:39:27.9±0.1, 38.68N×21.25E, h5km, ML3.2, Error ellipse: s-maj=3.5km s-min=2.2km az=55.0*
*ATH **08** 19:39:27.9, 38.69N×21.27E, h21km±1km, ML3.2/31, Error ellipse: s-maj=1.5km s-min=0.9km az=196.0*
*THE **08** 19:39:27.9, 38.68N×21.28E, h2km±1km, ML3.3/15, Error ellipse: s-maj=1.5km s-min=0.4km az=168.0*
*ISCJB **08** 19:39:28.1±0.3, 38.68N±0.02×21.21E±0.02, h19km±3km, mb3.8/7, Error ellipse: s-maj=3.4km s-min=2.3km az=145.9*
ISC 08 19:39:28.0±0.8, 38.67N±0.01×21.28E±0.02, h16km±5km, n160, σ1°37/220, mb3.7/7, 11C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDO	Prodromos	0.10	224	P	Pg	19 39 32.3	+0.8
PDO	Prodromos	0.10	224	P	Pg	19 39 32.2	+0.8
PVO	Paravola	0.20	106	P	Pg	19 39 32.0	-0.8
PVO				S	Sg	19 39 36.7	+0.7
PVO				AML	AML	19 39 37.2	
	comp=E,58221μm,0.5s						
PVO				AML	AML	19 39 37.6	
	comp=N,29160μm,0.6s						
PVO	Paravola	0.20	106	P	Pg	19 39 32.7	-0.1
PVO				S	Sg	19 39 34.7	-1.3
PVO	Paravola	0.20	106	P	Pg	19 39 32.7	-0.1
PVO				S	Sg	19 39 34.7	-1.3
DSL	Palaion Diasel	0.48	343	P	Pg	19 39 36.7	-1.0
DSL				S	Sb	19 39 46.0	+1.0
DSL				AML	AML	19 39 47.0	
	comp=N,17448μm,0.3s						
DSL				AML	AML	19 39 47.2	
	comp=E,24341μm,0.4s						
DSL	Palaion Diasel	0.48	343	P	Pg	19 39 37.1	-0.5
DSL				S	Sb	19 39 44.7	-0.3
DSL	Palaion Diasel	0.48	343	P	Pg	19 39 37.1	-0.5
DSL				S	Sb	19 39 44.7	-0.3
EVR	Evrytania	0.48	60	P	Pg	19 39 36.2	-1.5
EVR				S	Sg	19 39 44.6	+0.4
EVR				AML	AML	19 39 45.9	
	comp=N,7293μm,0.6s						
EVR				AML	AML	19 39 49.0	
	comp=E,5980μm,1.0s						
EVR	Evrytania	0.48	60	P	Pg	19 39 37.0	-0.7
EVR				S	Sg	19 39 44.6	+0.4
EVR	Evrytania	0.48	60	P	Pg	19 39 36.7	-1.0
EVR				S	Sg	19 39 44.6	+0.4
ANX	Ano Chora	0.51	99	P	Pg	19 39 37.2	-1.0
ANX				AML	AML	19 39 50.6	
	comp=N,7193μm,0.6s						
ANX				AML	AML	19 39 50.8	
	comp=E,10897μm,0.6s						
ANX	Ano Chora	0.51	99	P	Pg	19 39 37.8	-0.4
ANX				S	Sg	19 39 45.8	+0.7
ANX	Ano Chora	0.51	99	P	Pg	19 39 37.5	-0.7
ANX				S	Sg	19 39 45.8	+0.7
EFP	Efpalio	0.55	116	P	Pg	19 39 38.0	-0.9
EFP				S	Sg	19 39 47.0	+0.7
EFP				AML	AML	19 39 50.2	
	comp=N,5009μm,0.4s						
EFP				AML	AML	19 39 54.4	
	comp=E,4742μm,0.5s						
EFP	Efpalio	0.55	116	P	Pg	19 39 38.6	-0.3
EFP				S	Sg	19 39 46.2	-0.1
EFP	Efpalio	0.55	116	P	Pg	19 39 38.4	-0.5
EFP				S	Sg	19 39 46.2	-0.1
UPR	University Cam	0.56	134	P	Pn	19 39 41.2	0.0
UPR				S	Sn	19 39 49.4	-0.8
UPR	University Cam	0.56	134	P	Pg	19 39 38.6	-0.4
UPR				S	Sg	19 39 46.3	-0.2
UPR	University Cam	0.56	134	P	Pg	19 39 38.3	-0.4
UPR				S	Sg	19 39 46.3	-0.2
RLS	Riolos of Patr	0.63	166	P	Pg	19 39 40.0	-0.4
RLS				S	Sb	19 39 51.0	+1.8
RLS				AML	AML	19 39 53.3	
	comp=E,3960μm,0.3s						
RLS				AML	AML	19 39 54.0	
	comp=N,4736μm,0.4s						
RLS	Riolos of Patr	0.63	166	P	Pg	19 39 40.3	-0.1
RLS				S	Sg	19 39 49.4	+0.6
RLS	Riolos of Patr	0.63	166	P	Pg	19 39 40.3	-0.1
RLS				S	Sg	19 39 49.4	+0.6
SERG	Sergoula	0.67	113	P	Pg	19 39 38.6	-2.4
SERG				S	Sn	19 39 52.9	0.0
SERG				AML	AML	19 39 54.9	
	comp=N,3552μm,0.6s						
SERG				AML	AML	19 39 55.1	
	comp=E,3920μm,0.6s						
SERG	Sergoula	0.67	113	P	Pg	19 39 40.2	-0.8
SERG				S	Sb	19 39 51.9	+1.7
SERG	Sergoula	0.67	113	P	Pg	19 39 40.2	-0.8
KFL	Anninata	0.68	214	P	Pg	19 39 41.3	0.0
KFL	Anninata	0.68	214	P	Pg	19 39 41.3	0.0
TRIZ	Trizonia	0.70	116	P	Pb	19 39 39.5	-2.3
TRIZ				S	Sn	19 39 53.6	0.0
TRIZ	Trizonia	0.70	116	P	Pb	19 39 40.6	-1.1
TRIZ				S	Sb	19 39 52.7	+1.6
LAKA	Lakka	0.70	128	P	Pb	19 39 41.9	+0.1
LAKA				S	Sn	19 39 54.1	+0.4
LAKA	Lakka	0.70	128	P	Pb	19 39 41.9	+0.1
LAKA				S	Sn	19 39 53.1	-0.7
VLS	Valsamata	0.73	228	P	Pb	19 39 41.4	-0.9
VLS				S	Sn	19 39 53.6	-0.9
VLS				AML	AML	19 40 00.2	
	comp=E,3979μm,0.2s						
VLS				AML	AML	19 40 00.5	
	comp=N,6190μm,0.3s						
VLS	Valsamata	0.73	228	P	Pb	19 39 41.8	-0.5
VLS				S

AMT				S	Sg	19 40 07.9	+1.4	
SGD	**Sagiada**	**1.24**	**320**	P	Pb	19 39 51.2	+0.2	
SGD	**Sagiada**	**1.24**	**320**	P	Pb	19 39 51.2	+0.2	
THAL	**Thalero**	**1.26**	**120**	P	Pg	19 39 54.5	+2.2	
THAL				AML	AML	19 40 20.5		
	comp=N,2143μm,0.5s							
THAL				AML	AML	19 40 23.6		
	comp=Z,1533μm,0.5s							
THAL	**Thalero**	**1.26**	**120**	P	Pb	19 39 51.8	+0.4	
THAL	**Thalero**	**1.26**	**120**	P	Pb	19 39 51.8	+0.4	
KPRO	**Kipourio**	**1.28**	**3**	P	Pb	19 39 51.8	0.0	
KPRO	**Kipourio**	**1.28**	**3**	P	Pb	19 39 51.8	0.0	
PROD	**Prodromos**	**1.34**	**107**	P	Pg	19 39 53.8	0.0	
PROD				AML	AML	19 40 17.1		
	comp=E,1424μm,0.8s							
PROD				AML	AML	19 40 17.1		
	comp=N,1124μm,0.7s							
PROD	**Prodromos**	**1.34**	**107**	P	Pb	19 39 53.7	+1.0	
LKR	**Lokris**	**1.35**	**90**	P	Pn	19 39 52.1	-0.1	
LKR				AML	AML	19 40 12.0		
	comp=E,425μm,0.7s							
LKR				AML	AML	19 40 14.7		
	comp=N,758μm,0.4s							
LKR	**Lokris**	**1.35**	**90**	P	Pn	19 39 52.8	+0.6	
LKR	**Lokris**	**1.35**	**90**	P	Pn	19 39 52.5	+0.3	
TRIP	**Tripoli**	**1.39**	**145**	P	Pn	19 39 52.1	-0.7	
TRIP	**Tripoli**	**1.39**	**145**	P	Pn	19 39 53.2	+0.5	
LTK	**Loutraki**	**1.48**	**115**	P	Pb	19 39 55.5	+0.4	
LTK	**Loutraki**	**1.48**	**115**	P	Pb	19 39 55.5	+0.4	
FYTO	**Fytoko, Volos**	**1.49**	**60**	P	Pn	19 39 54.6	+0.5	
FYTO				S	Sg	19 40 16.6	+0.6	
FYTO				AML	AML	19 40 19.5		
	comp=N,1344μm,0.6s							
FYTO				AML	AML	19 40 20.9		
	comp=E,515μm,0.9s							
FYTO	**Fytoko, Volos**	**1.49**	**60**	P	Pb	19 39 55.1	-0.2	
FYTO				S	Sg	19 40 16.2	+0.2	
SMIA	**Simia**	**1.52**	**82**	AML	AML	19 40 24.4		
	comp=E,1464μm,0.8s							
SMIA				AML	AML	19 40 29.8		
	comp=Z,728μm,0.8s							
ITM	**Ithomi**	**1.58**	**161**	P	Pn	19 39 56.3	+1.0	
ITM				AML	AML	19 40 25.2		
	comp=E,2001μm,0.8s							
ITM				AML	AML	19 40 26.5		
	comp=N,1318μm,0.5s							
ITM	**Ithomi**	**1.58**	**161**	P	Pb	19 39 56.7	-0.1	
ITM				S	Sb	19 40 17.3	+0.8	
ITM	**Ithomi**	**1.58**	**161**	P	Pn	19 39 56.2	+0.9	
ITM				S	Sb	19 40 17.3	+0.8	
VIL2	**Platees**	**1.63**	**106**	P	Pb	19 39 58.8	+1.1	
VIL2				AML	AML	19 40 30.6		
	comp=E,971μm,0.6s							
VIL2				AML	AML	19 40 31.4		
	comp=N,1294μm,1.0s							
XOR	**Xorichti**	**1.65**	**65**	P	Pn	19 39 57.1	+0.8	
XOR	**Xorichti**	**1.65**	**65**	P	Pn	19 39 57.1	+0.8	
KZN	**Kozani**	**1.68**	**13**	P	Pb	19 39 58.4	-0.1	
KZN				AML	AML	19 40 26.2		
	comp=N,710μm,0.6s							
KZN				AML	AML	19 40 27.5		
	comp=E,1493μm,0.6s							
KZN	**Kozani**	**1.68**	**13**	P	Pb	19 39 58.2	-0.3	
KZN	**Kozani**	**1.68**	**13**	P	Pb	19 39 58.2	-0.3	
VILL	**Villia**	**1.68**	**107**	P	Pb	19 39 58.4	-0.1	
VILL	**Villia**	**1.68**	**107**	P	Pb	19 39 58.4	-0.1	
LIT	**Litokhoron**	**1.71**	**33**	P	Pn	19 39 58.1	+1.0	
LIT				S	Sb	19 40 20.8	+0.5	
LIT	**Litokhoron**	**1.71**	**33**	P	Pn	19 39 58.1	+1.0	
LIT				S	Sb	19 40 20.8	+0.5	
SKIA	**Skiathos**	**1.78**	**73**	P	Pn	19 39 58.8	+0.7	
SKIA				AML	AML	19 40 33.5		
	comp=E,365μm,0.4s							
SKIA				AML	AML	19 40 38.2		
	comp=N,402μm,0.7s							
SKIA	**Skiathos**	**1.78**	**73**	P	Pn	19 39 59.2	+1.1	
DID	**Didima**	**1.94**	**126**	P	Pb	19 40 03.4	+0.5	
DID				AML	AML	19 40 33.9		
	comp=E,1182μm,0.5s							
DID				AML	AML	19 40 37.6		
	comp=N,674μm,0.6s							
DID	**Didima**	**1.94**	**126**	P	Pb	19 40 02.7	-0.2	
ATHU	**Athens Univers**	**2.10**	**109**	P	Pb	19 40 04.7	-0.9	
ATHU				AML	AML	19 40 33.9		
	comp=N,246μm,0.5s							
ATHU				AML	AML	19 40 39.7		
	comp=E,94μm,0.8s							
ATHU	**Athens Univers**	**2.10**	**109**	P	Pb	19 40 04.5	-1.1	
FNA	**Florina**	**2.11**	**2**	P	Pn	19 40 02.7	0.0	
FNA	**Florina**	**2.11**	**2**	P	Pn	19 40 02.7	0.0	
PTL	**Penteli**	**2.13**	**106**	P	Pn	19 40 04.3	+1.4	
PTL				S	Sb	19 40 32.7	+0.3	
PTL				AML	AML	19 40 35.5		
	comp=E,517μm,0.8s							
PTL				AML	AML	19 40 35.8		
	comp=N,356μm,0.7s							
PTL	**Penteli**	**2.13**	**106**	P	Pn	19 40 04.5	+1.6	
PTL				S	Sb	19 40 32.1	-0.3	
VLY	**Voula,Athens**	**2.15**	**112**	P	Pb	19 40 05.9	-0.5	
VLY				AML	AML	19 40 44.2		
	comp=E,449μm,0.5s							
VLY				AML	AML	19 40 45.4		
	comp=N,540μm,0.9s							
VLY	**Voula,Athens**	**2.15**	**112**	P	Pb	19 40 05.4	-1.0	
BIA	**Bitola**	**2.34**	**1**	*i* Pn	Pg	19 40 12.5	-0.4	
VLI	**Veliai**	**2.35**	**145**	P	Pb	19 40 09.6	-0.4	
VLI				AML	AML	19 40 49.5		
	comp=N,536μm,0.6s							
VLI				AML	AML	19 40 50.0		
	comp=E,450μm,0.6s							
VLI	**Veliai**	**2.35**	**145**	P	Pb	19 40 08.8	-1.2	
OHR	**Ohrid**	**2.46**	**352**	*e*Pn	Pb	19 40 13.0	+1.1	
KRUS	**Krusevo**	**2.69**	**360**	*i* Pn	Pb	19 40 14.4	-1.4	
VAY	**Valandovo**	**2.83**	**20**	*e*Pn	Pb	19 40 18.2	+0.2	
TIR	**Tirane**	**2.88**	**338**	⇑*i*P	Pn	19 40 13.7	+0.5	
TIR	**Tirane**	**2.88**	**338**	⇑*i*P	Pn	19 40 13.7	+0.5	
TIP	**Timpagrande**	**3.56**	**280**	⇑*i*P	Pn	19 40 23.5	+0.9	
TIP	**Timpagrande**	**3.56**	**280**	⇑*i*P	Pn	19 40 23.5	+0.9	
TIP				S	Sn	19 41 03.0	-1.4	
APE	**Apeiranthos**	**3.73**	**114**	⇑*i*P	Pb	19 40 30.1	-3.4	
APE	**Apeiranthos**	**3.73**	**114**	⇑*i*P	Pb	19 40 30.1	-3.4	
MATE	**Matera**	**4.04**	**301**	⇑*i*P	Pn	19 40 29.9	+0.8	
MATE	**Matera**	**4.04**	**301**	⇑*i*P	Pn	19 40 29.9	+0.8	
PDG	**Podgorica**	**4.06**	**338**	⇑*i*P	Pn	19 40 30.2	+0.9	
PDG	**Podgorica**	**4.06**	**338**	*e*Pn	Pn	19 40 30.3	+0.9	
PDG				S	Sn	19 41 19.1	+2.6	
BARS	**Barje**	**4.16**	**5**	*e*Pn	Pn	19 40 32.4	+1.6	
VTS	**Vitosha**	**4.18**	**20**	⇓*i*P	Pn	19 40 33.9	+2.7	
VTS	**Vitosha**	**4.18**	**20**	⇓*i*P	Pn	19 40 33.9	+2.7	
VTS				S	Sn	19 41 24.9	+5.1	
IDI	**Anoyia**	**4.45**	**138**	Pn	Pn	19 40 36.2	+1.4	
	comp=E,0.3nm,0.3s,baz=252,slow=20,SNR=5.4							
IDI				Sn	Sn	19 41 28.4	+2.1	
	comp=E,1.3nm,0.3s,baz=286,slow=19,SNR=3.2							
IVAS	**Ivanjica**	**4.97**	**351**	*e*Pn	Pn	19 40 43.3	+1.3	
STON	**Ston**	**5.00**	**328**	*e*Pn	Pn	19 40 39.9	-2.3	
ZAGS	**Zajecar**	**5.18**	**8**	*e*Pn	Pn	19 40 48.5	+3.6	
GRUS	**Gruza**	**5.23**	**356**	*e*Pn	Pn	19 40 46.2	+0.7	
BBLS	**Lazići**	**5.38**	**345**	*e*Pn	Pn	19 40 47.0	-0.6	
BBLS				*e*Sn	Sn	19 41 49.3	+0.2	
DIVS	**Divibare**	**5.51**	**350**	*e*Pn	Pn	19 40 49.2	-0.2	
HAPS	**Han Pijesak,BI**	**5.68**	**343**	*e*Pn	Pn	19 40 51.2	-0.6	
TEKS	**Tekeris**	**6.01**	**348**	*e*Pn	Pn	19 40 55.2	-1.1	
BZS	**Buzias**	**6.94**	**2**	⇑*i*P	Pn	19 41 11.3	+2.3	
BZS	**Buzias**	**6.94**	**2**	⇑*i*P	Pn	19 41 11.3	+2.3	
ARR	**Arges**	**7.14**	**19**	⇓*i*P	Pn	19 41 15.4	+3.6	
ARR	**Arges**	**7.14**	**19**	⇓*i*P	Pn	19 41 15.4	+3.6	
UDBI	**Udbina**	**7.16**	**327**	*e*Pn	Pn	19 41 13.2	+1.1	
UDBI				Sn	Sn	19 42 29.5	-3.5	
UDBI	**Udbina**	**7.16**	**327**	*e*Pn	Pn	19 41 13.1	+1.1	
VOIR		**7.32**	**21**	⇓*i*P	Pn	19 41 17.3	+3.1	
VOIR		**7.32**	**21**	⇓*i*P	Pn	19 41 17.3	+3.1	
NVLJ	**Novalja**	**7.59**	**323**	*e*Pn	Pn	19 41 17.5	-0.4	
NVLJ				Sn	Sn	19 42 36.8	-6.7	
MLR	**Muntele Rosu**	**7.64**	**25**	Pn	Pn	19 41 20.4	+1.7	
	comp=E,0.0nm,0.3s,baz=163,slow=14,SNR=5.2							
PLOR	**Plostina**	**8.20**	**27**	⇓*i*P	Pn	19 41 30.5	+4.2	
VRI	**Vrincioaia**	**8.24**	**28**	⇓*i*P	Pn	19 41 31.0	+4.1	
CEY	**Cerknica**	**8.70**	**326**	*e*Pn	Pn	19 41 32.6	-0.5	
BRTR	**Keskin Array B**	**9.66**	**80**	Pn	Pn	19 41 48.5	+2.2	
	comp=E,0.1nm,0.3s,baz=243,slow=9.5,SNR=3.1							
HFS	**Hagfors**	**22.01**	**350**	P	P	19 44 19.7	-1.6	
	comp=E,1.8nm,0.8s,baz=173,slow=14,SNR=6.8							
FINES	**FINESS Array B**	**22.99**	**6**	P	P	19 44 29.6	-2.1	
	comp=E,3.2nm,0.8s,baz=169,slow=11,SNR=6.1							
NOA	**NORSAR Array B**	**23.26**	**348**	P	P	19 44 32.8	-1.7	
	comp=E,1.3nm,0.8s,baz=151,slow=7.5,SNR=3.2							
TORD	**Torodi Ar. Bea**	**30.79**	**220**	P	P	19 45 42.9	-0.1	
	comp=E,0.3nm,0.4s,baz=38,slow=9.0,SNR=4.7							
ARCES	**ARCESS Array B**	**31.01**	**3**	P	P	19 45 44.0	-0.4	
	comp=E,3.7nm,1.1s,baz=197,slow=9.5,SNR=5.7							
MKAR	**Makanchi Array**	**44.54**	**59**	P	P	19 47 37.6	-1.2	
	comp=E,0.8nm,0.7s,baz=278,slow=7.6,SNR=12							
ZALV	**Zalesovo Beam**	**44.92**	**49**	P	P	19 47 40.6	-1.1	
	comp=E,1.8nm,0.4s,baz=270,slow=8.6,SNR=11							

*SJA **08** 19:43:56.3±0.5, 35.88S×70.30W, h86km±82km, ML3.1, MW3.5*
*ISCJB **08** 19:44:03.4±1.0, 34.79S±0.05×71.74W±0.07, h44km±13km, Error ellipse: s-maj=9.7km s-min=8.1km az=15.3*
*GUC **08** 19:44:03.2±0.5, 34.81S×71.73W, h49km±3km, ML3.7*

ISC 08 19:44:04.5±1.0, 34.74S±0.04×71.67W±0.05, h26km±11km, **n14**, σ1**s28**/23, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.34**	**218**	*e*P	**Pb**	**19 44 11.9**	**-0.4**
GO05				*e*S	**Sb**	**19 44 18.2**	**+0.6**
CHPI	**Pichilemu**	**0.44**	**322**	*e*P	**Pb**	**19 44 13.1**	**-0.7**
CHPI				*e*S	**Sb**	**19 44 21.0**	**+0.9**
NICH	**Los Niches**	**0.45**	**126**	*e*P	**Pb**	**19 44 13.6**	**-0.4**
NICH				*e*S	**Sb**	**19 44 21.5**	**+1.1**
RCDM	**Rinconada Maip**	**1.44**	**30**	*e*P	**Pn**	**19 44 28.0**	**-0.9**
RCDM				*e*S	**Sn**	**19 44 47.5**	**+0.5**
ANTU	**Antumapu**	**1.45**	**37**	*e*P	**Pn**	**19 44 28.5**	**-0.6**
ANTU				*e*S	**Sn**	**19 44 47.0**	**-0.4**
ANTU				IAML		19 44 50.0	
	comp=E,2μm,0.2s						
LMEL	**Las Melosas**	**1.50**	**54**	*e*P	**Pn**	**19 44 28.9**	**-1.1**
LMEL				*e*S	**Sn**	**19 44 48.9**	**+0.1**
LMEL				IAML		19 44 51.8	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**1.64**	**36**	*e*P	**Pn**	**19 44 30.9**	**-0.8**
CLCH				*e*S	**Sn**	**19 44 52.0**	**0.0**
CLCH				IAML		19 44 54.8	
	comp=E,1μm,0.4s						
COCH	**Cobquecura**	**1.66**	**213**	*i* P	**Pn**	**19 44 30.1**	**-1.9**
COCH				*i* S	**Sn**	**19 44 55.1**	**+2.6**
PEL	**Peldehue**	**1.79**	**28**	*e*P	**Pn**	**19 44 32.6**	**-1.2**
PEL				*e*S	**Sn**	**19 44 57.7**	**+2.0**
FCH	**Farellones**	**1.81**	**40**	*e*P	**Pn**	**19 44 33.8**	**-0.6**
FCH				*e*S	**Sn**	**19 44 57.3**	**+0.5**
FCH				IAML		19 45 01.9	
	comp=N,820nm,0.2s						
CCHI	**Chillan**	**1.89**	**190**	*i* P	Pn	19 44 24.4	-11
AUSP	**Uspallata**	**3.15**	**38**	*i* P	**Pn**	**19 44 54.0**	**+1.3**
RTLS	**Leoncito**	**3.54**	**35**	*i* P	**Pn**	**19 44 59.3**	**+1.2**
RTLS				IAML		19 45 18.0	
	comp=Z,24nm,0.4s						
RTCV	**Cerro Valdivia**	**3.89**	**43**	*i* P	**Pn**	**19 45 00.4**	**-2.2**

*IDC **08** 19:51:29.6±1.3, 11.11N×92.59E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.3/63, mbtmp3.4/7, ML3.5/1, Error ellipse: s-maj=51.2km s-min=19.7km az=55.0*
*ISCJB **08** 19:51:31.6±1.1, 11.2N±0.1×92.7E±0.2, h26km, mb3.3/6, Error ellipse: s-maj=26.6km s-min=17.0km az=148.6*

ISC 08 19:51:33.5±1.4, 11.1N±0.2×92.6E±0.2, h26km, **n10**, σ0**s67**/**7**, **mb3.5**/6, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.54**	**39**	Pn	**Pn**	**19 53 49.5**	**+0.3**
	0.1nm,0.3s,baz=226,slow=14,SNR=4.4						
H08S3	**Diego Garcia H**	**27.33**	**228**	T	T	20 25 53.2	
	baz=46,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**27.34**	**228**	T	T	20 25 53.6	
	baz=46,slow=76,SNR=33						
H08S1	**Diego Garcia H**	**27.35**	**228**	T	T	20 25 54.6	
	baz=46,slow=76,SNR=36						
MKAR	**Makanchi Array**	**36.62**	**348**	P	**P**	**19 58 37.1**	**-0.6**
	0.1nm,0.5s,baz=179,slow=8.0,SNR=3.7						
GEYT	**Alibeck**	**40.80**	**317**	P	**P**	**19 59 13.3**	**+0.4**
	0.5nm,0.6s,baz=101,slow=7.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**41.05**	**346**	P	**P**	**19 59 15.0**	**+0.3**
	0.2nm,0.6s,baz=140,slow=7.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**43.17**	**353**	P	**P**	**19 59 30.9**	**-1.0**
	0.7nm,0.6s,baz=170,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**51.39**	**127**	P	**P**	**20 00 36.4**	**-0.1**
	0.8nm,0.6s,baz=301,slow=10.0,SNR=8.5						
ASAR	**Alice Springs**	**53.16**	**131**	P	**P**	**20 00 49.8**	**+0.1**
	0.5nm,0.8s,baz=304,slow=6.8,SNR=7.1						

*ISCJB **08** 19:54:39.6±0.5, 46.08N±0.06×142.4E±0.1, h333km, mb2.7/4, Error ellipse: s-maj=11.5km s-min=6.9km az=149.7*
*IDC **08** 19:54:40.6±1.1, 45.99N×142.33E, h344km±18km, mb2.6/4, mb1 2.9/7, mb1mx2.7/63, mbtmp3.5/7, Error ellipse: s-maj=28.3km s-min=17.6km az=158.0*
*JMA **08** 19:54:40.4±0.1, 45.97N×142.49E, h341km, M3.2*

ISC 08 19:54:39.9±0.8, 45.93N±0.08×142.36E±0.09, h333km, **n25**, σ1**s43**/30, **mb2.8**/4, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**0.99**	**171**	P	**Pn**	**19 55 24.9**	**+1.0**
JSE				*e*S	**S**	**19 56 00.7**	**+1.8**
JRR	**Rishiri**	**1.08**	**223**	P	**Pn**	**19 55 26.2**	**+2.0**
JSS	**Shosan**	**1.57**	**193**	P	**Pn**	**19 55 28.7**	**+1.8**
ASAJ	**Asahikawa**	**1.82**	**175**	P	**Pn**	**19 55 30.4**	**+1.8**
	5.4nm,0.3s,baz=360,slow=4.3,SNR=72						
ASAJ	**Asahikawa**	**1.82**	**175**	P	**Pn**	**19 55 30.0**	**+1.5**
JMP	**Maruseppu**	**2.05**	**159**	P	**Pn**	**19 55 31.5**	**+1.3**
JMP				*e*S	**S**	**19 56 11.8**	**+1.4**
JKK2	**Kamakawa 2**	**2.08**	**172**	P	**Pn**	**19 55 32.1**	**+1.8**
JTKR	**Abashiri--Toko**	**2.25**	**150**	P	**Pn**	**19 55 33.2**	**+1.6**
JTKR				*e*S	**S**	**19 56 14.5**	**+1.5**
JAR	**Ashorobuto**	**2.82**	**159**	P	**Pn**	**19 55 38.1**	**+1.6**
JAR				*e*S	**S**	**19 56 23.7**	**+1.9**
JEW	**Eniwo**	**3.16**	**192**	P	**Pn**	**19 55 42.0**	**+2.4**
JAK	**Akkeshi**	**3.38**	**149**	*e*S	**S**	**19 56 29.9**	**-1.4**
JCH	**Churui**	**3.40**	**167**	P	**Pn**	**19 55 41.8**	**-0.1**
JCH				*e*S	**S**	**19 56 29.5**	**-2.1**
NEM2	**Nemuro 2**	**3.52**	**136**	P	**Pn**	**19 55 43.8**	**+0.7**
JKB	**Kayabe**	**4.16**	**194**	P	**Pn**	**19 55 50.2**	**+0.6**
JOSM	**Okushiri--Mats**	**4.38**	**209**	P	**Pn**	**19 55 53.3**	**+1.3**
JOT	**Ohata**	**4.65**	**192**	P	**Pn**	**19 55 55.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**7.54**	**260**	P	**Pn**	**19 56 29.2**	**+0.9**
	0.6nm,0.3s,baz=69,slow=11,SNR=7.1						
KLR	**Kul'dur**	**7.89**	**299**	P	**Pn**	**19 56 33.5**	**+1.1**
	0.0nm,0.3s,baz=112,slow=9.6,SNR=7.7						
MAT	**Matsushiro**	**9.89**	**200**	P	**P**	**19 56 58.1**	**-0.8**
MJAR	**Matsushiro Arr**	**9.89**	**200**	P	**P**	**19 56 58.2**	**-0.7**
	0.7nm,0.3s,baz=8.2,slow=12,SNR=15						
SEY	**Seymchan**	**17.96**	**15**	P	**P**	**19 58 26.6**	**-0.4**
	0.4nm,0.3s,baz=199,slow=7.2,SNR=24						
SONM	**Songino Array**	**24.52**	**288**	P	**P**	**19 59 29.2**	**-0.9**
	0.6nm,0.6s,baz=67,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**40.57**	**294**	P	**P**	**20 01 47.3**	**-0.5**
	0.2nm,0.6s,baz=58,slow=7.6,SNR=4.1						
KURBB	**Kurchatov Arra**	**41.57**	**301**	P	**P**	**20 01 54.9**	**-0.8**
	0.2nm,0.3s,baz=64,slow=8.6,SNR=4.9						
ILAR	**Eielson Array**	**41.78**	**37**	P	**P**	**20 01 56.8**	**-0.6**
	0.5nm,0.8s,baz=275,slow=8.8,SNR=6.7						

*MAN **08** 20:03:11, 13.51N×120.20E, h5km, mb5.9, ML4.9, MS5.3*
*MOS **08** 20:03:13.5±1.0, 13.64N×120.61E, h30km, mb5.5/83, MS4.5/21, Error ellipse: s-maj=6.9km s-min=3.9km az=113.1*
*ISCJB **08** 20:03:14.6±0.1, 13.66N±0.01×120.47E±0.02, h33km, mb5.3/249, MS4.4/61, Error ellipse: s-maj=2.6km s-min=1.9km az=161.0*
*IDC **08** 20:03:14.7±2.1, 13.60N×120.60E, h29km±15km, mb4.8/51, mb1 4.8/51, mb1mx4.8/66, mbtmp5.0/51, MS4.4/44, Ms1 4.4/44, ms1mx4.2/67, Error ellipse: s-maj=10.6km s-min=7.9km az=86.0*
*DJA **08** 20:03:16.6±0.8, 14.N±5.×12.0E±., h47km±6km, M5.2/58, mb5.4/58, mB5.6/52, MLv5.7/1, Mw(mB)5.1/52*
*NEIC **08** 20:03:17.2±0.4, 13.57N×120.52E, h49km±3km, mb5.3/114, Error ellipse: s-maj=3.4km s-min=2.4km az=90.0*

NEIC Felt [IV PIVS] at Looc and Lubang, Lubang Island. Felt [III PIVS] at Puerto Galera and [II PIVS] at Calapan and Naujan, Mindoro. Felt [III PIVS] at Manila, Muntinlupa City and Quezon City and [I PIVS] at Lucban, Luzon.
*GCMT **08** 20:03:17.2±0.2, 13.69N×120.43E, h14km, MW5.1/82, Moment Tensor Solution. s45,c73; s82,c152; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.10±.20; Mθθ=4.34±.13; Mθφ=-0.24±.14; Mrθ=1.65±.27; Mφφ=2.17±.08; Mrφ=-1.29±.34; Best double couple: Mo5.18500×10^16 NP1:φ=271.00000°, δ56.00000°, λ-60.00000°. NP2: φs45.00000°, δ44.00000°, λ-126.00000°. Principal axes: T 5.3300, Plg7.0000°, Azm340.0000°; N -0.2890, Plg24.0000°, Azm73.0000°; P -5.0400, Plg65.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **08** 20:03:18.5, 13.75N×120.52E, h66km, mb5.0/71, mB5.3/46, Ms4.8/70, Ms7 4.6/65*

ISC 08 20:03:13.8±0.5, 13.59N±0.02×120.39E±0.02, h18km±2km, **n657**, σ1**s76**/719, **mb5.4**/262, **MS4.5**/61, **47C-24D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.20**	**316**	*e*P	**Pg**	**20 03 17.0**	**-1.8**
LUBP				*e*S	**Sg**	**20 03 19.8**	**-2.3**
PGP	**Puerto Galera**	**0.56**	**99**	⇑*e*P	**Pg**	**20 03 23.5**	**-1.4**
PGP				*i* S	**Sb**	**20 03 33.4**	**+0.7**
TGY	**Tagaytay City**	**0.74**	**46**	Pn	**Pg**	**20 03 27.5**	**-0.8**
	3μm,0.3s,baz=241,slow=5.9,SNR=566						
TGY	**Tagaytay City**	**0.74**	**46**	⇑*i*P	**Pb**	**20 03 28.9**	**+0.7**
TGY				*i* S	**Sg**	**20 03 37.5**	**-0.6**
LQP	**Lukban**	**1.23**	**65**	⇑*e*P	**Pg**	**20 03 34.0**	**-2.3**
SJMP	**San Jose**	**1.33**	**148**	*e*P	**Pb**	**20 03 37.7**	**-0.5**
SJMP				*e*S	**Sg**	**20 03 57.5**	**+0.7**
BOAC	**Boac**	**1.42**	**95**	*e*P	**Pn**	**20 03 39.0**	**+0.2**
BOAC				*e*S	**Sb**	**20 03 59.2**	**+1.6**
OTRP	**Odiongan**	**2.00**	**127**	*e*P	**Pn**	**20 03 47.7**	**+0.9**
OTRP				*e*S	**Sb**	**20 04 14.4**	**0.0**
GQP	**Guinayangan**	**2.02**	**81**	⇑*e*P	**Pn**	**20 03 48.1**	**+1.0**
GQP				*e*S	**Sg**	**20 04 18.8**	**-0.3**
AUQP	**San Andres**	**2.24**	**97**	*e*P	**Pb**	**20 03 54.7**	**+0.9**
AUQP				*e*S	**Sg**	**20 04 29.8**	**+3.8**
BALP	**Baler**	**2.43**	**28**	*e*P	**Pn**	**20 03 53.7**	**+1.0**
BALP				*e*S	**Sb**	**20 04 28.4**	**+1.8**
ENPP	**El Nido**	**2.55**	**202**	*e*P	**Pn**	**20 03 53.4**	**-0.9**
ENPP				*e*S	**Sn**	**20 04 22.4**	**-2.5**
RCP	**Roxas**	**3.06**	**131**	⇑*e*P	**Pn**	**20 04 02.4**	**+1.1**
JAP	**San Jose, Anti**	**3.21**	**152**	⇓*i*P	**Pn**	**20 04 04.0**	**+0.6**
MMPH	**Masbate**	**3.38**	**111**	⇓*e*P	**Pb**	**20 04 14.2**	**+0.9**
MMPH				*i* S	**Sn**	**20 04 47.4**	**+1.9**
CAUP	**Cauayan**	**3.61**	**22**	*e*P	**Pn**	**20 04 09.9**	**+0.9**
CAUP				*e*S	**Sn**	**20 04 56.7**	**+5.6**
GUIM	**Jordan**	**3.65**	**144**	*e*P	**Pn**	**20 04 11.1**	**+1.6**
GUIM				*e*S	**Sn**	**20 04 55.1**	**+3.0**
PVCP	**Virac**	**3.66**	**89**	*e*P	**Pn**	**20 04 13.4**	**+3.8**
PPR	**Puerto Princes**	**4.12**	**203**	⇓*e*P	**Pn**	**20 04 15.1**	**-0.8**
PPR				*e*S	**Sn**	**20 05 02.2**	**-1.6**
LLP	**Lapu-Lapu**	**4.78**	**133**	⇓*e*P	**Pn**	**20 04 27.3**	**+2.3**
LLP				*e*S	**Sn**	**20 05 24.8**	**+4.8**
PLP	**Palo**	**5.09**	**118**	⇑*e*P	**Pn**	**20 04 31.4**	**+2.1**
MSLP	**Maasin**	**5.56**	**128**	*e*P	**Pn**	**20 04 38.5**	**+2.7**
PAGZ	**Pagadian**	**6.42**	**152**	*e*P	**Pn**	**20 04 50.6**	**+3.0**
KKM	**Kota Kinabalu**	**8.55**	**209**	*e*Pn	**Pn**	**20 05 19.4**	**+2.5**
MYLDM	**Lahad Datu**	**8.56**	**193**	*e*Pn	**Pn**	**20 05 19.6**	**+2.6**
TWG	**Pinlang**	**9.20**	**4**	*e*Pn	**Pn**	**20 05 28.4**	**+2.7**
TPUB	**Ta-pu**	**9.66**	**1**	*e*Pn	**Pn**	**20 05 33.6**	**+1.5**
YULB	**Yu-li**	**9.79**	**5**	*e*Pn	**Pn**	**20 05 35.8**	**+2.0**
SSLB	**Suanglung**	**10.16**	**3**	*e*Pn	**Pn**	**20 05 41.3**	**+2.4**
**N

SNR=12
NAYO Nakonayok 18.52 275 P **Pn** **20 07 32.6 +2.9**
comp=Z,100nm,1.6s,comp=Z,8μm
AAI Ambon 18.83 155 P **Pn** **20 07 36.5 +3.1**
comp=Z,169nm,0.8s,comp=Z,3μm
AAI Ambon 18.83 155 P **Pn** **20 07 33.6 +0.2**
AAI pmax pmax
comp=Z,170nm,0.8s
MSAI Masohi 18.84 153 P **Pn** **20 07 37.3 +3.8**
comp=Z,94nm,1.0s,comp=Z,1μm
BBSI Bau Bau 19.08 173 P **Pn** **20 07 41.1 +4.7**
comp=Z,20nm,1.0s,comp=Z,657nm
ENH Enshi 19.42 331 *e*P **Pn** **20 07 40.8 +0.3**
comp=Z,134nm,0.8s
PHIT Phitsanulok 19.59 283 P **Pn** **20 07 43.6 +1.1**
comp=Z,37nm,1.0s,comp=Z,298nm
NANT Nan 19.60 288 P **Pn** **20 07 43.0 +0.3**
comp=Z,20nm,1.1s,comp=Z,163nm
MYKOM Kota Tinggi 20.13 236 *e*P Pn 20 07 49.6 +0.7
comp=Z,251nm,1.4s
TPRI Tanjung Pinang 20.13 233 P Pn 20 07 50.1 +1.1
comp=Z,105nm,1.3s,comp=Z,2μm
FAKI Fak Fak 20.19 144 P **P** **20 07 48.1 +0.4**
comp=Z,203nm,0.9s,comp=Z,2μm
FAKI Fak Fak 20.19 144 *e*P Pn 20 07 49.0 -0.7
comp=Z,174nm,0.9s
KMI Kunming 20.19 307 P Pn 20 07 51.4 +1.5
KMI S Sn 20 11 35.6 -1.5
KMI pmax pmax
comp=Z,36nm,1.9s
KMI pmax pmax
comp=Z,630nm,6.8s
KMI LR LR
comp=Z,1μm,22.3s
KMI LR LR
comp=Z,1μm,22.9s
KMI LR LR
comp=Z,1μm,17.3s
PHET Kaeng Krachan 20.22 270 P Pn 20 07 50.9 +0.9
comp=Z,52nm,0.9s,comp=Z,393nm
BNDI Bandanaira 20.32 152 P Pn 20 07 51.7 +0.5
comp=Z,2μm,1.3s,comp=Z,16μm
UTHA Uthaitani 20.36 278 P Pn 20 07 52.2 +0.5
comp=Z,25nm,1.0s,comp=Z,172nm
SKLT Songkhla 20.46 254 P Pn 20 07 52.2 -0.6
comp=Z,241nm,1.2s
LAMP Lampang 20.54 287 P Pn 20 07 54.3 +0.6
comp=Z,17nm,0.7s,comp=Z,142nm
SRDT SRDT 20.65 275 P Pn 20 07 54.3 -0.8
comp=Z,65nm,1.4s
DSRI Dabo 21.00 229 P Pn 20 07 57.6 -1.5
comp=Z,541nm,1.4s,comp=Z,7μm
PPBI Pangkal Pinang 21.09 223 P **P** **20 07 58.0 +0.5**
comp=Z,0.4nm,0.9s
TRTT Trang 21.12 256 P **P** **20 07 59.3 +1.5**
comp=Z,59nm,1.1s,comp=Z,666nm
KULM Kulim 21.13 249 *e*P **P** **20 08 00.2 +2.2**
comp=Z,270nm,1.6s
IPM Ipoh 21.14 246 *e*P **P** **20 07 59.5 +1.5**
comp=Z,90nm,0.8s
CM01 Chiang Mai Arr 21.15 286 *e*P **P** **20 08 00.7 +2.5**
CM31 Chiang Mai Arr 21.17 286 *e*P **P** **20 08 01.2 +2.9**
CM31 Chiang Mai Arr 21.17 286 P **P** **20 08 00.9 +2.5**
CMAR Chiang Mai Arr 21.17 286 P **P** **20 08 00.6 +2.3**
comp=Z,57nm,0.8s,baz=96,slow=8.8,SNR=301
CMAR PcP **PcP** **20 12 04.6 +0.6**
comp=Z,1.5nm,0.7s,baz=119,slow=1.1,SNR=6.2
CMAR ScP **ScP** **20 15 39.5 -0.7**
comp=Z,2.7nm,1.0s,baz=78,slow=1.1,SNR=9.1
CMAR Chiang Mai Arr 21.17 286*ce*P **P** **20 08 01.2 +2.9**
CMAR pmax pmax
comp=Z,60nm,0.8s
CMMT Chiang Mai 21.23 287 P **P** **20 08 00.0 +1.0**
comp=Z,42nm,1.4s,comp=Z,642nm
CHTO Chiang Mai 21.23 287 P **P** **20 08 01.1 +2.0**
comp=Z,189nm,1.4s,comp=Z,3μm
CHTO Chiang Mai 21.23 287 *e*P **P** **20 08 01.0 +2.0**
comp=Z,41nm,1.1s
CHTO Chiang Mai 21.23 287 *e*P **P** **20 08 01.0 +2.0**
CHTO pmax pmax
comp=Z,41nm,1.1s
CHTO Chiang Mai 21.23 287 P **P** **20 08 00.7 +1.7**
SNR=16
CMAI Chiengmai2 21.38 290 P **P** **20 08 03.5 +2.7**
comp=Z,809nm,1.4s
KMMI Kalianget 21.48 198 P **P** **20 08 05.6 +4.0**
comp=Z,383nm,0.8s,comp=Z,3μm
KMPI Kaimana, Papua 21.64 141 P **P** **20 08 06.0 +2.6**
comp=Z,616nm,0.9s,comp=Z,6μm
SURT Suratani 21.67 260 P **P** **20 08 05.0 +1.3**
comp=Z,44nm,1.7s,comp=Z,606nm
JNU Nakatsue 21.67 24 P **P** **20 08 03.6 0.0**
comp=Z,35nm,1.0s,baz=188,slow=2.8,SNR=8.0
JNU LR LR 20 17 59.2
comp=Z,214nm,18.3s,baz=232,slow=41
JNU Nakatsue 21.67 24 *e*P **P** **20 08 04.7 +1.0**
comp=Z,47nm,1.0s
GRJI Gresik 21.83 202 P **P** **20 08 09.7 +4.3**
comp=Z,219nm,0.8s,comp=Z,1μm
TBJI Tambak Boyo 21.98 203 P **P** **20 08 10.2 +3.2**
comp=Z,191nm,0.9s
ABJI Asem Bagus 22.11 196 P **P** **20 08 11.2 +2.8**
comp=Z,209nm,1.2s,comp=Z,2μm
SRBI Singaraja 22.14 194 P **P** **20 08 11.6 +2.9**
comp=Z,160nm,0.8s,comp=Z,2μm
MMRI Maumere 22.16 175 P **P** **20 08 10.6 +1.7**
comp=Z,416nm,1.2s,comp=Z,6μm
MMRI Maumere 22.16 175 *e*P **P** **20 08 09.3 +0.4**
comp=Z,929nm,1.5s
EDFI Ende, Flores 22.23 177 P **P** **20 08 13.0 +3.2**
comp=Z,605nm,1.2s,comp=Z,12μm
BLJI Banyuglugur 22.24 198 P **P** **20 08 12.4 +2.5**
comp=Z,271nm,1.0s,comp=Z,2μm
PLAI Plampang 22.42 187 P **P** **20 08 13.9 +2.1**
comp=Z,1μm,1.0s,comp=Z,10μm
JMBI JAMBI 22.46 229 P **P** **20 08 16.3 +4.1**
comp=Z,424nm,1.0s,comp=Z,8μm
PMBI Palembang 22.57 224 P **P** **20 08 16.4 +3.0**
DNP Denpasar 22.71 193 P **P** **20 08 18.6 +3.8**
comp=Z,862nm,0.9s,comp=Z,10μm
TIA Tai'an 22.72 353 P **P** **20 08 14.6 -0.2**
TIA S **S** **20 12 20.4 -2.1**
TIA pmax pmax
comp=Z,28nm,1.2s
TIA pmax pmax
comp=Z,260nm,2.9s
TIA LR LR
comp=Z,1μm,15.7s
TIA LR LR
comp=Z,830nm,20.6s
TIA LR LR
comp=Z,1μm,15.7s
SMRI Semarang 22.76 206 P **P** **20 08 18.5 +3.1**
SMRI Semarang 22.76 206 *e*P **P** **20 08 16.3 +0.9**
comp=Z,633nm,1.7s
JAGI Jajag, Banyuwa 22.77 196 P **P** **20 08 18.0 +2.5**
comp=Z,292nm,1.3s,comp=Z,5μm
JAGI Jajag, Banyuwa 22.77 196 *e*P **P** **20 08 17.1 +1.5**
comp=Z,392nm,1.2s
IGBI Denpasar 22.86 193 P **P** **20 08 20.5 +4.1**
comp=Z,630nm,0.8s,comp=Z,8μm
XAN Xi'an 22.87 335 P **P** **20 08 15.9 -0.5**
XAN pP sP 20 08 34.7 +11
XAN S **S** **20 12 21.4 -3.9**
XAN pmax pmax
comp=Z,96nm,1.0s
XAN LR LR
comp=Z,2μm,17.7s
XAN LR LR
comp=Z,1μm,11.8s
XAN LR LR
comp=Z,2μm,17.2s
CD2 Chengdu 23.06 321 ⇓P **P** **20 08 19.3 +0.9**
CD2 pP sP 20 08 36.4 +10
CD2 sP pP 20 08 46.3 +23
CD2 PcP **PcP** **20 12 05.3 -2.3**
CD2 S **S** **20 12 28.2 -0.5**
CD2 pmax pmax
comp=Z,1μm,3.3s
CD2 LR LR
comp=Z,2μm,13.7s
CD2 LR LR
comp=Z,2μm,12.7s
CD2 LR LR
comp=Z,2μm,15.5s
WBSI Waikabubak, Su 23.10 183 P **P** **20 08 19.6 +0.6**
comp=Z,296nm,0.9s,comp=Z,3μm

BKNI Bangkinang 23.26 237 P **P** **20 08 21.9 +1.4**
comp=Z,197nm,1.5s,comp=Z,2μm
BKNI Bangkinang 23.26 237 *e*P **P** **20 08 21.2 +0.7**
comp=Z,221nm,1.1s
PCJI Pacitan 23.50 203 P **P** **20 08 25.8 +2.9**
comp=Z,383nm,1.0s,comp=Z,6μm
SOEI Soe 23.51 170 P **P** **20 08 24.6 +1.5**
comp=Z,365nm,0.9s,comp=Z,3μm
SOEI Soe 23.51 170 *e*P **P** **20 08 23.2 +0.1**
comp=Z,299nm,0.9s
BASI Baing, Sumba 23.66 180 P **P** **20 08 24.9 +0.5**
comp=Z,256nm,0.9s,comp=Z,3μm
PSI Prapat 23.77 245 P **P** **20 08 26.2 +0.4**
comp=Z,45nm,0.7s,baz=40,slow=5.3,SNR=32
PSI LR LR 20 18 11.9
comp=Z,581nm,20.6s,baz=90,slow=37
PSI Prapat 23.77 245 *e*P **P** **20 08 26.1 +0.4**
comp=Z,73nm,0.8s
TSI Tuntungan 23.77 247 P **P** **20 08 27.7 +2.1**
comp=Z,347nm,0.8s,comp=Z,3μm
GUMO Guam 23.79 87 LR LR 20 17 42.1
comp=Z,514nm,20.3s,baz=256,slow=37
BATI Baumata 23.86 172 P **P** **20 08 25.9 -0.6**
comp=Z,768nm,0.6s,baz=295,slow=2.0,SNR=313
BATI LR LR 20 18 09.1
comp=Z,1μm,20.7s,baz=356,slow=38
BATI Baumata 23.86 172 P **P** **20 08 26.9 +0.4**
comp=Z,682nm,0.7s,comp=Z,6μm
LEM Lembang 23.92 213 P **P** **20 08 27.7 +0.5**
comp=Z,45nm,0.7s,baz=323,slow=10,SNR=11
LEM LR LR 20 18 36.9
comp=Z,893nm,19.6s,baz=35,slow=38
KLI Kotabumi 23.96 221 P **P** **20 08 27.4 +0.1**
KLI pmax pmax
comp=Z,123nm,0.8s
SAUI Saumlaki 24.01 153 *e*P **P** **20 08 27.8 -0.1**
comp=Z,728nm,0.8s
MNSI Mandailing Nat 24.21 240 P **P** **20 08 30.5 +0.8**
comp=Z,105nm,1.0s,comp=Z,976nm
CISI Cisompet, Garu 24.44 211 P **P** **20 08 35.0 +3.2**
CISI Cisompet, Garu 24.44 211 *e*P **P** **20 08 31.0 -0.8**
comp=Z,135nm,0.8s
PDSI Padang 24.45 235 P **P** **20 08 32.6 +0.7**
comp=Z,64nm,0.7s,comp=Z,6μm
KS15 Wonju Array Si 24.68 14 *e*P **P** **20 08 32.7 -1.0**
KSAR Wonju Array Be 24.68 14 P **P** **20 08 32.7 -1.0**
KSAR Wonju Array Be 24.68 14 P **P** **20 08 32.7 -1.0**
KSRS Korea Array 24.70 14 P **P** **20 08 32.7 -1.2**
comp=Z,5.6nm,0.9s,baz=196,slow=11,SNR=10
KSRS LR LR 20 20 10.8
comp=Z,1μm,18.2s,baz=202,slow=41
KS01 Wonju Array Si 24.71 14 *e*P **P** **20 08 33.8 -0.2**
MNAI Manna 24.85 225 *e*P **P** **20 08 37.1 +1.5**
comp=Z,723nm,1.1s
TIY Taiyuan 25.05 345 *e*P **P** **20 08 37.6 +0.4**
TIY S **S** **20 12 56.9 -3.9**
TIY pmax pmax
comp=Z,180nm,5.7s
TIY LR LR
comp=Z,1μm,14.9s
TIY LR LR
comp=Z,2μm,23.4s
TIY LR LR
comp=Z,1μm,16.8s
DL2 Dalian 25.24 2 P **P** **20 08 38.3 -0.5**
DL2 S **S** **20 13 00.7 -2.9**
DL2 pmax pmax
comp=Z,57nm,0.9s
DL2 LR LR
comp=Z,940nm,17.3s
DL2 LR LR
comp=Z,1μm,16.5s
DL2 LR LR
comp=Z,1μm,16.4s
GSI Gunungsitoli 25.66 244 *e*P **P** **20 08 41.8 -1.1**
comp=Z,134nm,0.6s
JHJ Hachijo jima 2 26.27 39 LR LR 20 18 35.1
comp=Z,725nm,19.1s,baz=268,slow=35
INU Inuyama 26.35 32 *e*P **P** **20 08 50.2 +1.3**
comp=Z,53nm,1.2s
BJT Baijiatuao 26.59 353 *e*P **P** **20 08 51.0 +0.1**
comp=Z,126nm,1.2s
BJT Baijiatuao 26.59 353 *e*P **P** **20 08 51.1 +0.1**
BJT pmax pmax
comp=Z,126nm,1.2s
BJI Beijing 26.61 353 P **P** **20 08 51.0 -0.2**
BJI S **S** **20 13 20.3 -4.9**
BJI pmax pmax
comp=Z,85nm,1.1s
BJI LR LR
comp=Z,980nm,20.8s
BJI LR LR
comp=Z,2μm,26.5s
BJI LR LR
comp=Z,970nm,22.7s
LZH Lanzhou 26.88 329 ⇑P **P** **20 08 54.2 +0.2**
LZH pP sP 20 09 12.4 +11
LZH sP pP 20 09 22.5 +23
LZH PP **PnPn** **20 09 44.3 +8.3**
LZH PcP **PcP** **20 12 13.9 -2.3**
LZH *e*S **S** **20 13 24.2 -5.8**
LZH sS sS 20 13 55.4 +16
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,350nm,4.6s
LZH LR LR
comp=Z,2μm,12.5s
LZH LR LR
comp=Z,1μm,11.6s
LZH LR LR
comp=Z,2μm,15.3s
MAJO Matsushiro 27.88 32 *e*P **P** **20 09 00.4 -2.3**
MAJO Matsushiro 27.88 32 *e*P **P** **20 09 00.4 -2.3**
MAT Matsushiro 27.88 32 P **P** **20 08 59.0 -3.7**
MAT S **S** **20 13 48.8 +3.3**
MJAR Matsushiro Arr 27.88 32 P **P** **20 09 00.4 -2.4**
comp=Z,8.4nm,1.2s,baz=203,slow=8.8,SNR=8.6
MJAR LR LR 20 19 43.8
comp=Z,391nm,20.7s,baz=140,slow=36
HHC Hu-ho-hao-te 28.23 346 *e*P **P** **20 09 06.7 +0.8**
HHC S **S** **20 13 46.8 -4.3**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,160nm,6.2s
HHC LR LR
comp=Z,1μm,15.9s
HHC LR LR
comp=Z,860nm,14.1s
HHC LR LR
comp=Z,1μm,16.7s
MTN Manton Dam 28.34 157 *e*P **P** **20 09 05.4 -1.5**
comp=Z,59nm,0.8s
SHL Shillong 29.31 298 ⇓*i*P **P** **20 09 15.0 -0.8**
comp=Z,10.0nm,0.6s
SHL *e*S **S** **20 14 08.0 -0.5**
MSHR Mys Shultsa 30.35 16 *i*P **P** **20 09 22.9 -1.6**
CN2 Changchun 30.42 7 *e*P **P** **20 09 23.3 -1.8**
CN2 *e*SP sP 20 09 50.2 +17
CN2 *e*S **S** **20 14 18.6 -6.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,500nm,17.0s
VLA Vladivostok 31.05 16 *i*P **P** **20 09 28.9 -1.8**
LSA Lhasa 31.43 305 *e*P **P** **20 09 36.1 +1.3**
comp=Z,11nm,0.7s
LSA Lhasa 31.43 305 *e*P **P** **20 09 36.1 +1.3**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 31.43 305 P **P** **20 09 35.8 +1.0**
GTA Gaotai 31.47 329 ⇑P **P** **20 09 35.2 +0.5**
GTA S **S** **20 14 38.8 -3.3**
GTA pmax pmax
comp=Z,13nm,1.1s
GTA pmax pmax
comp=Z,270nm,6.4s
GTA LR LR
comp=Z,1μm,20.4s

GTA LR LR
comp=Z,1μm,19.5s
GTA LR LR
comp=Z,2μm,20.9s
MDJ Mudanjiang 31.90 12 *e*P **P** **20 09 37.8 -0.5**
comp=Z,44nm,1.4s
FITZ Fitzroy Crossi 31.91 171 P **P** **20 09 38.0 -0.5**
comp=Z,58nm,0.9s,baz=0.5,slow=8.4,SNR=55
FITZ Fitzroy Crossi 31.91 171 *e*P **P** **20 09 38.0 -0.5**
comp=Z,81nm,1.0s
USRK Ussuriysk Ar. 32.08 16 P **P** **20 09 38.9 -0.9**
comp=Z,5.7nm,0.8s,baz=196,slow=7.4,SNR=11
USRK LR LR 20 24 13.6
comp=Z,604nm,18.3s,baz=195,slow=39
USRK PKKP **PKKPdf** **20 35 00.5 +5.8**
comp=Z,1.8nm,0.8s,baz=42,slow=8.4,SNR=4.3
TAPN Taplejung 33.42 299 *e*P **P** **20 09 52.9 +0.8**
comp=Z,84nm,1.0s
ODAN Odare 33.55 298 *e*P **P** **20 09 53.8 +0.7**
comp=Z,155nm,0.8s
RAMN Ramite 34.25 298 *e*P **P** **20 10 00.3 +1.0**
comp=Z,130nm,0.8s
MBWA Marble Bar 34.54 181 *e*P **P** **20 10 01.2 -0.2**
comp=Z,54nm,0.8s
COCO West Island 34.66 223 *i*P **P** **20 10 04.1 +1.5**
JIRN Jiri 34.80 299 *e*P **P** **20 10 05.1 +0.9**
comp=Z,204nm,0.7s
PMG Port Moresby 35.04 129 P **P** **20 10 04.0 -1.8**
comp=Z,33nm,0.9s,baz=307,slow=9.5,SNR=14
PMG Port Moresby 35.04 129 *e*P **P** **20 10 04.1 -1.8**
comp=Z,34nm,0.9s
PMG Port Moresby 35.04 129*ce*P **P** **20 10 04.5 -1.4**
PMG pmax pmax
comp=Z,153nm,1.0s
GUN Gumba 35.13 299 *e*P **P** **20 10 07.9 +0.9**
comp=Z,174nm,0.7s
PKI Pulchoki 35.44 299 *e*P **P** **20 10 09.9 +0.3**
comp=Z,102nm,0.7s
PKIN Phulchoki 35.45 299 *e*P **P** **20 10 10.9 +1.2**
COEN Coen 35.47 140 *e*P **P** **20 10 07.4 -2.2**
comp=Z,18nm,0.8s
HIA Hailar 35.58 359 *e*P **P** **20 10 09.4 -0.8**
comp=Z,50nm,1.5s
HIA Hailar 35.58 359 *i*P **P** **20 10 09.6 -0.6**
KKN Kakani 35.61 299 *e*P **P** **20 10 11.4 +0.4**
comp=Z,88nm,0.8s
DMN Daman 35.71 299 *e*P **P** **20 10 12.3 +0.4**
comp=Z,149nm,0.9s
ASAJ Asahikawa 35.87 28 P **P** **20 10 11.5 -1.2**
comp=Z,4.4nm,0.8s,baz=262,slow=14,SNR=2.8
ASAJ Asahikawa 35.87 28 *e*P **P** **20 10 12.5 -0.2**
comp=Z,13nm,1.0s
ULN Ulaanbaatar 35.93 345 *e*P **P** **20 10 13.6 +0.3**
comp=Z,116nm,1.1s
ULN Ulaanbaatar 35.93 345*ce*P **P** **20 10 13.7 +0.3**
ULN pmax pmax
comp=Z,140nm,1.2s
ULN Ulaanbaatar 35.93 345 P **P** **20 10 13.6 +0.3**
SNR=70
WRAB Tennant Creek 36.03 157 *e*P **P** **20 10 13.1 -1.2**
comp=Z,287nm,0.8s
WRAB Tennant Creek 36.03 157*ce*P **P** **20 10 13.4 -0.9**
WRAB pmax pmax
comp=Z,790nm,0.8s
WR1 Warramunga Arr 36.04 157 *e*P **P** **20 10 12.8 -1.6**
comp=Z,345nm,0.7s
WR1 *e*S **S** **20 15 48.1 -4.7**
WRA Warramunga Arr 36.04 157 P **P** **20 10 12.8 -1.6**
comp=Z,257nm,0.7s,baz=336,slow=9.6,SNR=339
WRA S **S** **20 15 48.1 -4.7**
comp=Z,13nm,1.1s,baz=330,slow=16,SNR=11
WRA LR LR 20 27 45.9
comp=Z,288nm,21.4s,baz=340,slow=41
WRA Warramunga Arr 36.04 157 P **P** **20 10 12.8 -1.6**
WRA S **S** **20 15 48.1 -4.7**
WRA pmax pmax
comp=Z,227nm,0.7s
WRA smax smax
comp=N,13nm,1.1s
WRA MLR MLR
comp=Z,289nm,21.5s
WB2 Warramunga Arr 36.04 157 *e*P **P** **20 10 12.2 -2.3**
SONA0 Songino Array 36.08 344 *e*P **P** **20 10 14.8 +0.2**
SONA0 *e*ScP **ScP** **20 16 24.3 -1.9**
SONM Songino Array 36.08 344 P **P** **20 10 14.8 +0.2**
comp=Z,57nm,0.9s,baz=161,slow=9.3,SNR=133
SONM ScP **ScP** **20 16 24.3 -1.9**
comp=Z,1.8nm,0.9s,baz=153,slow=6.6,SNR=4.9
SONM LR LR 20 27 25.6
comp=Z,740nm,18.1s,baz=147,slow=40
SONA1 Songino Array 36.09 344 *e*P **P** **20 10 14.6 -0.1**
RABL Rabaul 36.15 117 *e*P **P** **20 10 15.6 +0.1**
comp=Z,40nm,0.8s
GKN Gorkha 36.22 299 *e*P **P** **20 10 16.2 +0.1**
KLR Kul'dur 36.75 12 P **P** **20 10 19.3 -0.8**
comp=Z,1.5nm,1.0s,baz=234,slow=7.6,SNR=35
KLR LR LR 20 27 47.0
comp=Z,82nm,18.6s,baz=186,slow=40
KOLN Koldanda 37.04 298 *e*P **P** **20 10 23.7 +0.5**
comp=Z,115nm,0.8s
DANN Dangsing 37.05 299 *e*P **P** **20 10 24.1 +0.7**
PYUN Piuthan 37.64 299 *e*P **P** **20 10 29.1 +0.8**
comp=Z,330nm,0.8s
YSS Yuzh-Sakhalins 38.18 25 *e*P **P** **20 10 31.4 -0.8**
comp=Z,48nm,1.5s
YSS Yuzh-Sakhalins 38.18 25⇑*e*P **P** **20 10 36.0 +3.7**
YSS *e* 20 10 46.0
YSS *e*S **S** **20 16 26.8 +2.0**
YSS *e*SS **SnSn** **20 18 58.0 -11**
YSS *e*SSS SSS 20 19 38.0
YSS pmax pmax
comp=Z,10.0nm,1.4s
YSS pmax pmax
comp=N,10.0nm,1.2s
CIT Chita 38.73 353 *e*P **P** **20 10 36.6 -0.3**
CIT *e* 20 10 50.2
CIT pmax pmax
comp=Z,229nm,1.4s
ZAK Zakamensk 39.26 343 *e*P **P** **20 10 40.9 -0.5**
ZAK *e* 20 16 34.5
ZAK pmax pmax
comp=Z,46nm,1.2s
GRNR Gornyy 39.30 16 *e*P **P** **20 10 40.3 -1.4**
GRNR pmax pmax
comp=Z,26nm,1.0s
AS31 Alice Springs 39.32 160 *e*P **P** **20 10 41.4 -0.7**
comp=Z,40nm,0.8s
ASAR Alice Springs 39.32 160 P **P** **20 10 41.4 -0.8**
comp=Z,103nm,0.7s,baz=336,slow=7.2,SNR=818
ASAR S **S** **20 16 40.0 -2.5**
comp=Z,5.2nm,1.1s,baz=347,slow=22,SNR=8.8
AS01 Alice Springs 39.33 160 *e*P **P** **20 10 41.4 -0.9**
PALK Pallekele 39.49 265 P **P** **20 10 44.8 +1.0**
comp=Z,16nm,0.9s,baz=116,slow=6.0,SNR=5.1
PALK PcP **PcP** **20 12 52.5 +1.0**
comp=Z,9.8nm,0.8s,baz=272,slow=0.4,SNR=5.1
PALK Pallekele 39.49 265 *i*P **P** **20 10 46.0 +2.2**
PALK Pallekele 39.49 265 P **P** **20 10 44.7 +0.8**
TLY Talaya 40.32 344 *e*P **P** **20 10 50.3 +0.2**
comp=Z,83nm,1.2s
TLY Talaya 40.32 344 *e*P **P** **20 10 50.5 +0.4**
TLY *e*S **S** **20 16 57.1 +0.1**
TLY *e*SS **SS** **20 19 54.1 -1.7**
TLY *e*SSS SSS 20 20 26.3
TLY pmax pmax
comp=Z,117nm,1.6s
TLY MLR MLR
comp=Z,546nm,18.0s
TLY Talaya 40.32 344 P **P** **20 10 50.5 +0.4**
SNR=52
ZEA Zeya 40.42 6 *e*P **P** **20 10 51.4 +0.5**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
ZEA MLR MLR
comp=E,400nm,12.0s
ZEA MLR MLR
comp=N,800nm,14.0s
HYB Hyderabad 40.44 281 *i*P **P** **20 10 53.5 +1.9**
HYB *e*PcP **PcP** **20 12 55.0 +0.5**
IRK Irkutsk 40.67 345 *e*P **P** **20 10 53.7 +0.7**
IRK *e*S **S** **20 16 59.0 -3.1**
IRK pmax pmax
comp=Z,194nm,1.4s
MOY Mondy 41.07 342 *e*P **P** **20 10 56.9 +0.4**

MOY pmax pmax
comp=Z,134nm,1.6s
WMQ Urumqi 41.11 324 P **P** **20 10 59.2 +2.3**
WMQ pP sP 20 11 12.4 +7.7
WMQ PP **PnPn** **20 12 37.0 +0.7**
WMQ S **S** **20 17 08.7 -0.5**
WMQ pmax pmax
comp=Z,160nm,1.1s
WMQ pmax pmax
comp=Z,2μm,4.9s
WMQ LR LR
comp=Z,4μm,22.9s
WMQ LR LR
comp=Z,2μm,24.3s
WMQ LR LR
comp=Z,2μm,19.9s
CTAO Charters Tower 42.04 142 *e*P **P** **20 11 04.1 -0.6**
comp=Z,48nm,1.2s
CTAO Charters Tower 42.04 142 *e*P **P** **20 11 04.1 -0.6**
CTAO pmax pmax
comp=Z,49nm,1.2s
HVS Khovu-Aksy 43.23 336 *i* P **P** **20 11 13.7 -0.3**
HVS pmax pmax
comp=Z,95nm,1.0s
BOD Bodaibo 44.41 355 *e*P **P** **20 11 22.2 -1.1**
BOD pmax pmax
comp=Z,23nm,1.7s
WAKE Wake Island 44.63 76 *e*P **P** **20 11 23.7 -2.0**
comp=Z,363nm,0.8s
ZSN Zaisan 44.88 326 *e*P **P** **20 11 29.1 +1.8**
comp=Z,94nm,1.1s
PDGK Podgornoye 45.90 318 P **P** **20 11 36.7 +1.1**
PDGK pmax pmax
comp=Z,107nm,1.0s
MK32 Makanchi Array 45.94 324 *e*P **P** **20 11 35.7 -0.1**
MK32 *e*ScP **ScP** **20 17 02.9 -2.0**
MKAR Makanchi Array 45.94 324 P **P** **20 11 35.7 -0.1**
comp=Z,4.1nm,0.8s,baz=128,slow=8.6,SNR=3.9
MKAR ScP **ScP** **20 17 02.9 -2.0**
comp=Z,5.3nm,1.2s,baz=123,slow=4.5,SNR=4.5
MKAR LR LR 20 32 17.6
comp=Z,612nm,18.7s,baz=104,slow=38
UZB Uzynbulak 46.12 318 *i* P **P** **20 11 38.3 +1.0**
comp=Z,906nm,0.9s
NWAO Narrogin (SRO) 46.35 184 P **P** **20 11 38.3 -0.7**
comp=Z,55nm,0.8s,baz=241,slow=7.4,SNR=37
NWAO LR LR 20 34 12.0
comp=Z,230nm,19.1s,slow=40
SATY Saty 46.48 317 *e*P **P** **20 11 40.8 +0.7**
comp=Z,1μm,1.1s
SATY *e*S **S** **20 18 29.0 +1.3**
KSH Kashi 46.75 312 P **P** **20 11 45.1 +2.8**
KSH pP sP 20 12 04.6 +14
KSH PcP **PcP** **20 13 17.2 +1.6**
KSH PcS **PcS** **20 17 10.6 0.0**
KSH S **S** **20 18 29.4 -2.2**
KSH ScS **ScS** **20 21 29.5 -7.2**
KSH pmax pmax
comp=Z,30nm,0.8s
KSH pmax pmax
comp=Z,480nm,8.5s
KSH LR LR
comp=Z,410nm,9.6s
KSH LR LR
comp=Z,370nm,8.5s
KSH LR LR
comp=Z,380nm,9.8s
KDJ Kajisay 46.90 316 *e*P **P** **20 11 45.3 +1.7**
comp=Z,45nm,0.8s
KDJ Kajisay 46.90 316 P **P** **20 11 45.6 +2.0**
KDJ pmax pmax
comp=Z,45nm,0.8s
TDK Taldyqorghan 47.36 320 *e*P **P** **20 11 48.0 +1.1**
comp=Z,1μm,0.9s
MDOK Medeo 47.42 317 *e*P **P** **20 11 48.8 +1.2**
comp=Z,214nm,0.8s
NRN Naryn 47.44 314 P **P** **20 11 49.6 +1.7**
NRN pmax pmax
comp=Z,569nm,2.7s
AAA Alma-Ata 47.53 317 *e*P **P** **20 11 49.2 +0.9**
comp=Z,455nm,0.9s
ULHL Ulahol 47.59 316 P **P** **20 11 51.0 +2.0**
SNR=7.4
KUU Kurty 48.20 318 *i* P **P** **20 11 54.4 +1.0**
comp=Z,1μm,0.9s
KUU *e*S **S** **20 18 53.3 +1.4**
KZA Kyzart 48.20 315 P **P** **20 11 56.2 +2.2**
SNR=20
TKM2 Tokmak 2 48.29 316 P **P** **20 11 55.8 +1.4**
SNR=15
BMNS Besmoynak 48.32 316 *e*P **P** **20 11 54.8 +0.3**
comp=Z,256nm,0.9s
BMNS *e*S **S** **20 18 54.0 0.0**
BBOO Buckleboo 48.51 162 *e*P **P** **20 11 54.5 -1.3**
comp=Z,69nm,0.9s
KBK Karagaybulak 48.63 316 P **P** **20 11 58.7 +1.8**
SNR=23
SFK Sufi-Kurgan 48.71 312 P **P** **20 11 59.1 +1.5**
SFK pmax pmax
comp=Z,46nm,1.0s
UCH Uchtor 48.77 315 P **P** **20 12 00.6 +2.2**
SNR=29
YAK Yakutsk 48.83 6 P **P** **20 11 55.9 -1.9**
comp=Z,6.7nm,0.4s,baz=163,slow=1.3,SNR=11
YAK Yakutsk 48.83 6 *e*P **P** **20 11 55.6 -2.3**
YAK *e**PP **sP** **20 12 04.7 -1.1**
YAK *e* 20 13 19.2
YAK *e* 20 13 53.7
YAK *e*PPP PPP 20 14 44.6
YAK *e*S **S** **20 18 55.3 -4.8**
YAK *e* 20 21 43.7
YAK *e*SSS SSS 20 23 41.4
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,93nm,4.1s
YAK pmax pmax
comp=N,157nm,4.4s
YAK pmax pmax
comp=E,98nm,4.6s
YAK smax smax
comp=N,125nm,5.1s
YAK smax smax
comp=E,103nm,4.7s
CHMS Chumysh 48.90 316 P **P** **20 11 59.8 +1.0**
SNR=20
FRU Bishkek 48.92 316 *e*P **P** **20 11 59.0 0.0**
FRU pmax pmax
comp=Z,70nm,1.6s
AAK Ala-Archa 48.93 315 P **P** **20 11 59.8 +0.5**
comp=Z,18nm,0.7s,baz=108,slow=9.2,SNR=14
AAK Ala-Archa 48.93 315 P **P** **20 12 00.7 +1.4**
SNR=11
AAK Ala-Archa 48.93 315 *i* P **P** **20 12 01.0 +1.8**
AAK pmax pmax
comp=Z,34nm,1.0s
AAK Ala-Archa 48.93 315 P **P** **20 11 59.2 0.0**
SNR=16
AAK Ala-Archa 48.93 315 *i* P **P** **20 12 00.7 +1.4**
SNR=8.7
EIDS Eidsvold 48.93 142 *e*P **P** **20 11 57.8 -1.4**
comp=Z,28nm,1.0s
ZAA0 Zalesovo Array 49.02 333 *e*P **P** **20 11 58.6 -0.9**
comp=Z,94nm,1.4s
ZALV Zalesovo Beam 49.02 333 P **P** **20 11 58.6 -0.9**
comp=Z,16nm,0.8s,baz=126,slow=6.4,SNR=44
ZALV S **S** **20 19 02.7 -0.4**
comp=Z,0.5nm,0.6s,baz=150,slow=14,SNR=3.7
ZALV LR LR 20 33 33.1
comp=Z,590nm,19.4s,baz=74,slow=37
ZALV Zalesovo Beam 49.02 333 *e*P **P** **20 11 58.3 -1.2**
ZALV S **S** **20 19 02.7 -0.4**
ZAA1 Zalesovo Array 49.02 333 *e*P **P** **20 11 58.6 -0.9**
ZAA1 *e*S **S** **20 19 02.7 -0.4**
SEM Semipalatinsk 49.08 327 *i* P **P** **20 11 59.8 -0.5**
comp=Z,260nm,1.2s
USP Ospenovka 49.17 316 P **P** **20 12 02.2 +1.3**
SNR=27
PETK Petropavlovsk- 49.27 29 P **P** **20 12 00.6 -0.8**
comp=Z,5.0nm,0.7s,baz=202,slow=3.2,SNR=6.9
PETK LR LR 20 35 36.1
comp=Z,223nm,18.6s,baz=253,slow=40
PEA1 Petropavlovsk- 49.27 29 *e*P **P** **20 12 00.6 -0.8**
AML Almayashu 49.30 314 P **P** **20 12 04.3 +2.0**
SNR=17
EKS2 Erkin-Say 49.43 315 P **P** **20 12 04.2 +1.2**
SNR=14
STKA Stephens Creek 49.57 156 P **P** **20 12 02.4 -1.6**
comp=Z,12nm,0.7s,baz=335,slow=7.3,SNR=28
STKA LR LR 20 36 01.6
comp=Z,146nm,18.3s,baz=335,slow=40
STKA Stephens Creek 49.57 156 *e*P **P** **20 12 03.0 -1.0**
comp=Z,5.2nm,1.1s
STKA Stephens Creek 49.57 156 *e*P **P** **20 12 03.0 -1.0**
STKA pmax pmax
comp=Z,5.0nm,1.1s
KURBB Kurchatov Arra 50.11 326 P **P** **20 12 08.4 +0.5**
comp=Z,96nm,1.2s,baz=126,slow=6.1,SNR=192
KURBB S **S** **20 19 19.9 +1.4**
comp=Z,1.0nm,1.1s,baz=134,slow=12,SNR=7.2
KURK Kurchatov 50.11 327*ce*P **P** **20 12 08.6 +0.8**
KURK pmax pmax
comp=Z,1μm,1.7s
KURK Kurchatov 50.11 327 P **P** **20 12 08.7 +0.8**
SNR=76
BTLS Baital 50.17 318 *e*P **P** **20 12 08.9 +0.5**
comp=Z,416nm,0.7s
NVS Novosibirsk 50.30 333 *e*P **P** **20 12 08.8 -0.4**
NVS *e*S **S** **20 19 21.1 +0.1**
NVS pmax pmax
comp=N,70nm,1.6s
NVS pmax pmax
comp=E,61nm,1.6s
NVS pmax pmax
comp=Z,116nm,1.6s
NVS smax smax
comp=N,26nm,2.2s
NVS smax smax
comp=E,31nm,2.2s
KBL Kabul 50.72 304 *e*P **P** **20 12 13.8 +0.8**
comp=E,22nm,0.9s
KBL Kabul 50.72 304 *e*P **P** **20 12 13.8 +0.8**
KBL pmax pmax
comp=Z,22nm,0.9s
MA2 Magadan 51.10 19*ce*P **P** **20 12 14.9 -0.3**
DZA Taraz 51.20 315 *e*P **P** **20 12 17.2 +0.9**
comp=Z,522nm,0.8s
IUG Iuzhnay 51.87 313 *i* P **P** **20 12 22.2 +0.8**
comp=Z,856nm,0.9s
BRLS Borolday 52.28 314 *e*P **P** **20 12 25.2 +0.8**
comp=Z,15nm,0.9s
BRZS Berezniki 53.08 323 *e*P **P** **20 12 30.6 +0.5**
comp=Z,113nm,1.0s
BRZS *e*S **S** **20 20 00.1 +0.6**
SEY Seymchan 54.21 17 *i* P **P** **20 12 37.1 -1.0**
BVAR Borovoye Array 55.69 326 P **P** **20 12 49.6 +0.5**
comp=Z,29nm,0.7s,baz=116,slow=10,SNR=146
BVAR S **S** **20 20 36.8 +2.2**
comp=Z,6.4nm,1.3s,baz=102,slow=14,SNR=7.1
BVAR LR LR 20 38 17.2
comp=Z,446nm,19.2s,baz=102,slow=38
BRVK Borovoye 55.77 326 *e*P **P** **20 12 50.3 +0.7**
comp=Z,148nm,1.0s
BRVK Borovoye 55.77 326 *e*P **P** **20 12 50.3 +0.7**
BRVK pmax pmax
comp=Z,148nm,1.0s
BRVK Borovoye 55.77 326 P **P** **20 12 50.0 +0.4**
SNR=85
DZM Mont Dzumac 57.41 128 P **P** **20 12 59.3 -2.5**
comp=Z,12nm,0.8s,baz=313,slow=9.3,SNR=8.0
DZM LR LR 20 38 57.5
comp=Z,150nm,18.6s,baz=282,slow=37
TIXI Tiksi 58.26 3 *e*P **P** **20 13 05.0 -1.9**
comp=Z,11nm,0.9s
TIXI Tiksi 58.26 3*ce*P **P** **20 13 05.4 -1.5**
TIXI pmax pmax
comp=Z,20nm,1.7s
WSAR Wadi Sarin 59.02 289 P **P** **20 13 12.7 -0.3**
comp=Z,11nm,0.8s,baz=151,slow=4.8,SNR=14
WSAR LR LR 20 42 04.8
comp=Z,115nm,18.1s,baz=103,slow=39
ASHT Ashkhabad 59.75 306 P **P** **20 13 19.8 +1.9**
ASHT pmax pmax
comp=Z,131nm,0.9s
GEYT Alibeck 59.96 306 P **P** **20 13 20.8 +1.4**
comp=Z,28nm,0.7s,baz=141,slow=5.0,SNR=58
GEYT PcP **PcP** **20 14 06.2 +0.7**
comp=Z,17nm,1.0s,baz=68,slow=0.8,SNR=3.9
GEYT LR LR 20 43 12.4
comp=Z,315nm,19.9s,baz=335,slow=40
ABKAR Akbulak array 60.62 319 *e*P **P** **20 13 24.1 +0.5**
comp=Z,184nm,0.7s
BANOM Banah 61.04 292 P **P** **20 13 27.4 +0.4**
ASHO Ashiyiah 61.31 291 P **P** **20 13 28.3 -0.5**
ALNE Al Ain 61.62 290 *i* P **P** **20 13 30.1 -0.8**
SNR=8.1
AKTO Aktyubinsk 62.10 320 P **P** **20 13 33.9 +0.2**
comp=Z,17nm,0.7s,baz=94,slow=8.2,SNR=36
AKTO LR LR 20 42 20.6
comp=Z,927nm,20.1s,baz=103,slow=38
SHAO Shalim 62.21 283 *i* P **P** **20 13 35.2 +0.3**
SNR=7.1
SVE Sverdlovsk 62.33 328*c* iP **P** **20 13 35.6 +0.5**
SVE *e*S **S** **20 22 01.7 +1.1**
SVE pmax pmax
comp=Z,275nm,1.8s
ARU Arti 63.31 327 P **P** **20 13 41.3 -0.3**
comp=Z,35nm,0.7s,baz=109,slow=2.5,SNR=50
ARU Arti 63.31 327 *e*P **P** **20 13 41.0 -0.5**
comp=Z,145nm,1.4s
ARU Arti 63.31 327*d* iP **P** **20 13 41.1 -0.5**
ARU 20 14 20.3
ARU 20 15 58.7
ARU S **S** **20 22 14.5 +1.7**
ARU pmax pmax
comp=Z,106nm,1.7s
LKRN Lenkeran, Azer 67.33 306 P **P** **20 14 06.7 -1.3**
GAMB Gambell 68.18 26 *e*P **P** **20 14 13.2 +0.4**
comp=Z,23nm,1.2s
SEKA Sheki 68.57 309 P **P** **20 14 14.3 -1.5**
MNGR Mingechevir, A 68.65 309 P **P** **20 14 15.0 -1.2**
ZKTA Zakatala 69.00 310 P **P** **20 14 17.1 -1.4**
GANJ Ganja 69.23 309 P **P** **20 14 18.5 -1.4**
GROC Groznyy 69.62 311 *e*P **P** **20 14 24.7 +2.5**
GROC *e* 20 14 47.8
GROC pmax pmax
comp=Z,58nm,1.5s
NAX Nakhchivan 69.89 307 P **P** **20 14 22.6 -1.5**
MRIV Mauritius Mete 70.41 242 *e*P **P** **20 14 27.1 -0.3**
comp=Z,71nm,0.8s
TBLG Delisi 70.42 310 *e*P **P** **20 14 28.0 +0.8**
comp=Z,22nm,1.0s
TBLG Delisi 70.42 310 *e*P **P** **20 14 28.0 +0.8**
TBLG pmax pmax
comp=Z,22nm,1.0s
GNI Garni 70.45 308 P **P** **20 14 28.6 +1.1**
comp=Z,8.3nm,0.7s,baz=278,slow=0.9,SNR=5.9
GNI LR LR 20 48 46.8
comp=Z,273nm,20.6s,baz=15,slow=39
GNI Garni 70.45 308*ce*P **P** **20 14 29.9 +2.3**
GNI pmax pmax
comp=Z,232nm,1.7s
GNI Garni 70.45 308 P **P** **20 14 29.5 +2.0**
SNR=10
GNI Garni 70.45 308 *i* P **P** **20 14 28.8 +1.2**
SNR=5.9
RAYN Ar Rayn 71.01 290 *e*P **P** **20 14 31.6 +0.4**
comp=Z,47nm,0.8s
RAYN Ar Rayn 71.01 290 P **P** **20 14 31.6 +0.4**
NCK Nalchik 71.23 312 *i* P **P** **20 14 31.3 -0.8**
NCK pmax pmax
comp=Z,10.0nm,1.0s
AKH Akhalkalaki 71.36 309 *e*P **P** **20 14 34.2 +1.1**
comp=Z,75nm,1.6s
AKH Akhalkalaki 71.36 309 *e*P **P** **20 14 34.2 +1.1**
AKH pmax pmax
comp=Z,75nm,1.6s
GOF Gofitskoye 71.60 313i*e*P **P** **20 14 37.0 +2.7**
GOF pmax pmax
comp=Z,33nm,1.7s
KBZ Khabaz 71.73 312 P **P** **20 14 34.5 -0.5**
comp=Z,9.1nm,0.9s,baz=101,slow=1.3,SNR=11
KBZ LR LR 20 51 01.3
comp=Z,304nm,19.2s,baz=42,slow=40
KVAR Kislovodsk Arr 71.87 312 P **P** **20 14 36.4 +0.3**
comp=Z,23nm,0.9s,baz=255,slow=3.6,SNR=21
NEY Neytrino 71.87 311 *i* P **P** **20 14 36.6 +0.4**
NEY pmax pmax
comp=Z,6.0nm,1.2s
KIV Kislovodsk 71.88 312 *e*P **P** **20 14 36.9 +0.8**
comp=Z,32nm,0.9s
KIV Kislovodsk 71.88 312 *e*P **P** **20 14 37.1 +1.0**
KIV pmax pmax
comp=Z,40nm,1.0s
KIV Kislovodsk 71.88 312 P **P** **20 14 36.8 +0.8**
SNR=9.5
KIV Kislovodsk 71.88 312 *i* P **P** **20 14 36.3 +0.2**
SNR=14
VRH Novokhopyorsk 72.44 320 *e*P **P** **20 14 38.3 -0.8**
VRH pmax pmax
comp=Z,40nm,1.3s
AFI Afiamalu 72.51 109 LR LR 20 44 18.4
comp=Z,121nm,19.0s,baz=290,slow=34
LBZ Lake Benmore 73.30 145 *e*P **P** **20 14 43.4 -0.9**
comp=Z,47nm,1.3s
RPZ Rata Peaks 73.37 144 *e*P **P** **20 14 43.2 -1.6**
comp=Z,27nm,1.0s
KLMR Klimovskoe 73.79 330 *e*P **P** **20 14 44.9 -2.0**
KLMR *e* 20 17 29.9
KLMR pmax pmax
comp=Z,119nm,1.4s
KLMR Klimovskoe 73.79 330 *e*P **P** **20 14 45.0 -2.0**
KLMR AMP 20 14 51.3
comp=Z,119nm,1.4s
KLMR *e*PP **PP** **20 17 30.0 -1.4**
VORR Voronezh 74.01 320 *e*P **P** **20 14 48.0 -0.4**
VORR pmax pmax
comp=Z,250nm,1.4s
VSR Storozhevoye 74.05 320 *e*P **P** **20 14 47.2 -1.4**
VSR pmax pmax
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 74.15 321 *e*P **P** **20 14 48.6 -0.6**
LPSR pmax pmax
comp=Z,40nm,0.9s
TMCR Tamitsa 74.54 333 *e*P **P** **20 14 50.1 -1.1**
TMCR pmax pmax
comp=Z,40nm,0.9s
MOS Moscow 74.82 324 *e*P **P** **20 14 52.3 -0.7**
MOS pmax pmax
comp=Z,125nm,1.5s
SVW2 Sparrevohn 75.33 30 *e*P **P** **20 14 56.3 +0.3**
comp=Z,24nm,1.4s
ATD Arta Tunnel 75.41 279 P **P** **20 14 58.1 +0.8**
comp=Z,18nm,0.8s,baz=74,slow=3.0,SNR=9.4
ATD Arta Tunnel 75.41 279 *e*P **P** **20 14 58.7 +1.5**
comp=Z,22nm,0.9s
OBN Obninsk 75.45 324 P **P** **20 14 56.3 -0.3**
comp=Z,22nm,0.6s,baz=117,slow=2.1,SNR=11
OBN Obninsk 75.45 324 *e*P **P** **20 14 55.3 -1.3**
comp=Z,112nm,1.3s
OBN Obninsk 75.45 324i *i*P **P** **20 14 56.2 -0.5**
OBN 20 15 08.0
OBN *e* 20 17 49.9
OBN S **S** **20 24 40.0 +4.0**
OBN *e*SS **SS** **20 29 21.0 -5.2**
OBN pmax pmax
comp=Z,109nm,1.7s
OBN MLR MLR
comp=Z,615nm,23.0s
ANN Anapa 75.59 313 *e*P **P** **20 15 00.1 +2.4**
ANN *e*S **S** **20 24 46.3 +8.4**
ANN pmax pmax
comp=Z,55nm,1.3s
IM3 Indian Mountai 76.01 25 *e*P **P** **20 14 59.4 -0.3**
APA Apatity 76.39 337i *i*P **P** **20 15 00.8 -1.0**
APA *i* 21 17 51.0
APA *i* PPP PPP 21 19 43.0
APA pmax pmax
comp=Z,21nm,1.0s
APA MLR MLR
comp=Z,2μm,14.0s
PPLA Purkeypile 76.85 28 *e*P **P** **20 15 04.6 -0.1**
comp=Z,30nm,1.3s
CAST Castle Rocks 76.86 27 *e*P **P** **20 15 04.6 0.0**
comp=Z,43nm,0.9s
SPU Mount Spurr 77.04 30 *e*P **P** **20 15 04.5 -1.1**
KDAK Kodiak Island 77.05 33 *i* P **P** **20 15 07.5 +1.8**
BPAW Bear Paw Mtn. 77.29 27 *e*P **P** **20 15 06.9 -0.1**
comp=Z,36nm,1.0s
MLY Manley 77.32 26 *e*P **P** **20 15 07.2 0.0**
comp=Z,38nm,1.3s
COLD Coldfoot 77.35 24 *e*P **P** **20 15 07.3 0.0**
comp=Z,15nm,1.1s
KTH Kantishna Hill 77.36 27 *e*P **P** **20 15 07.2 -0.3**
comp=Z,18nm,1.2s
ASF Jabal al Asfar 77.46 300 P **P** **20 15 09.6 +0.9**
comp=Z,11nm,1.0s,baz=85,slow=3.7,SNR=11
TOLK Toolik Lake Re 77.47 22 *e*P **P** **20 15 07.6 -0.3**
comp=Z,8.5nm,0.8s
JOF Joensuu 77.60 332 P **P** **20 15 08.6 -0.1**
JOF pmax pmax
comp=Z,47nm,1.1s
SUA Susitna One 77.64 29 *e*P **P** **20 15 08.3 -0.9**
comp=Z,33nm,1.0s
TRF Thorofare Moun 77.66 27 *e*P **P** **20 15 08.8 -0.5**
comp=Z,88nm,1.8s
SIM Simferopol' 77.92 314*de*P **P** **20 15 11.0 +0.1**
SIM pmax pmax
comp=Z,42nm,0.9s
MCK McKinley 78.23 27 *e*P **P** **20 15 11.2 -1.0**
comp=Z,31nm,0.8s
MCK McKinley 78.23 27 *e*P **P** **20 15 11.3 -1.0**
MCK pmax pmax
comp=Z,31nm,0.8s
MSF Maaselka 78.26 335 P **P** **20 15 15.2 +2.9**
MSF pmax pmax
comp=Z,85nm,0.8s
RND Reindeer 78.30 27 *e*P **P** **20 15 11.6 -1.1**
comp=Z,66nm,1.5s
RND Reindeer 78.30 27 *e*P **P** **20 15 11.6 -1.1**
RND pmax pmax
comp=Z,66nm,1.5s
MDM Murphy Dome 78.39 26 *e*P **P** **20 15 12.3 -0.8**
comp=Z,19nm,0.9s
PMR Palmer 78.39 29 *e*P **P** **20 15 11.9 -1.2**
comp=Z,24nm,1.0s
PMR Palmer 78.39 29 *e*P **P** **20 15 11.9 -1.2**
PMR pmax pmax
comp=Z,24nm,1.0s
SEW Seward 78.42 31 *e*P **P** **20 15 11.2 -2.1**
comp=Z,26nm,0.9s
MMAI Mount Meron Ar 78.58 301 P **P** **20 15 15.6 +0.7**
comp=Z,1.8nm,0.5s,baz=71,slow=11,SNR=5.7
CCB Clear Creek Bu 78.61 26 *e*P **P** **20 15 13.0 -1.2**
comp=Z,17nm,1.3s
SML Sawmill 78.75 29 *e*P **P** **20 15 14.2 -1.0**
comp=Z,46nm,1.1s
SML Sawmill 78.75 29 *e*P **P** **20 15 14.2 -1.0**
SML pmax pmax
comp=Z,46nm,1.1s
OPO Ambohidratompo 78.89 248 P **P** **20 15 16.4 -0.5**
comp=Z,27nm,1.0s,baz=61,slow=11,SNR=18
IL1 Eielson Array 78.98 26 *e*P **P** **20 15 14.0 -2.3**
ILAR Eielson Array 78.98 26 P **P** **20 15 13.6 -2.8**
comp=Z,1.9nm,0.8s,baz=280,slow=3.9,SNR=16
ILB Eielson Array 78.98 26 *e*P **P** **20 15 14.1 -2.2**
BR101 Keskin Array S 78.98 308 *e*P **P** **20 15 16.9 -0.2**
BR101 *e*PP **PP** **20 18 18.9 +3.1**
BR131 Keskin Array S 78.98 308 *e*P **P** **20 15 16.6 -0.4**
BRTR Keskin Array B 78.98 308 P **P** **20 15 16.9 -0.2**
comp=Z,4.6nm,0.8s,baz=116,slow=5.6,SNR=16
BRTR PP **PP** **20 18 18.9 +3.1**
comp=Z,2.3nm,0.8s,baz=92,slow=6.4,SNR=5.8
BRTR LR LR 20 54 10.2
comp=Z,146nm,20.7s,baz=6.0,slow=39
BRTR Keskin Array B 78.98 308 *i* P **P** **20 15 19.8 +2.7**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
ABPO Ambohimpanom 79.00 247 *e*P **P** **20 15 17.4 -0.1**
comp=Z,49nm,1.1s
ABPO Ambohimpanom 79.00 247 *e*P **P** **20 15 17.4 -0.1**
ABPO pmax pmax
comp=Z,49nm,1.1s
HDA Harding Lake 79.01 26 *e*P **P** **20 15 14.8 -1.7**
comp=Z,17nm,1.1s
DHY Denali Highway 79.01 28 *e*P **P** **20 15 15.3 -1.4**
comp=Z,7.6nm,0.9s
SGF Sodankyl 79.04 337 P **P** **20 15 20.3 +3.7**
SGF pmax pmax
comp=Z,206nm,1.9s
ARA0 ARCESS Array S 79.08 339 *e*P **P** **20 15 16.0 -0.8**
ARCES ARCESS Array B 79.08 339 P **P** **20 15 16.0 -0.8**
comp=Z,6.8nm,0.7s,baz=76,slow=6.4,SNR=13
ARCES LR LR 20 54 23.2

comp=Z,561nm,18.0s,baz=245,slow=39
SCM Sheep Creek Mo 79.21 29 *e*P **P 20 15 16.9 -0.9**
comp=Z,58nm,1.3s
SCM Sheep Creek Mo 79.21 29 *e*P **P 20 15 16.9 -0.9**
SCM pmax pmax
comp=Z,58nm,1.3s
FYU Fort Yukon 79.38 24 *e*P **P 20 15 18.8 +0.3**
comp=Z,45nm,1.5s
ANTO Ankara 79.60 309 *e*P **P 20 15 20.1 -0.3**
comp=Z,63nm,1.7s
ANTO Ankara 79.60 309 *e*P **P 20 15 20.1 -0.3**
ANTO pmax pmax
comp=Z,63nm,1.7s
ANTO Ankara 79.60 309 P **P 20 15 22.7 +2.3**
SNR=6.0
BR231 Keskin MP Arra 79.62 309 *e*P **P 20 15 17.4 -3.1**
SPITS Spitsbergen Ar 79.64 348 P **P 20 15 18.6 -1.1**
comp=Z,13nm,0.9s,baz=110,slow=12,SNR=5.9
SPITS LR LR 20 53 38.2
comp=Z,338nm,21.3s,baz=150,slow=38
OUL Oulu 79.67 335 P **P 20 15 19.2 -0.9**
OUL pmax pmax
comp=Z,39nm,1.3s
PAX Paxson 79.89 28 *e*P **P 20 15 20.4 -1.1**
comp=Z,18nm,1.2s
PAX Paxson 79.89 28 *e*P **P 20 15 20.4 -1.1**
PAX pmax pmax
comp=Z,18nm,1.2s
CSS Mathiatis 79.97 304 *e*P **P 20 15 22.8 +0.4**
comp=Z,13nm,1.1s
CSS Mathiatis 79.97 304 P P 20 15 30.0 +7.6
SUF Sumiainen 79.97 332 P **P 20 15 24.6 +2.8**
SUF pmax pmax
comp=Z,39nm,1.2s
CASY Casey 79.98 184 *e*P **P 20 15 20.7 -0.8**
comp=Z,40nm,0.9s
RIDG Independ'e Rid 80.03 27 *e*P **P 20 15 21.1 -1.1**
comp=Z,38nm,1.0s
FIA1 FINESS Array S 80.23 331 *e*P **P 20 15 22.3 -0.9**
FIA0 FINESS Array S 80.23 331 *e*P **P 20 15 22.0 -1.2**
FIA0 FINESS Array S 80.23 331 *e*P **P 20 15 22.0 -1.2**
FINES FINESS Array B 80.23 331 P **P 20 15 22.0 -1.2**
comp=Z,8.1nm,0.7s,baz=74,slow=6.8,SNR=20
FINES LR LR 20 55 14.7
comp=Z,458nm,19.2s,baz=292,slow=39
AKASG Malin Array Be 80.35 320 P **P 20 15 22.9 -1.1**
comp=Z,7.8nm,0.9s,baz=68,slow=5.1,SNR=34
AKASG PP **PP 20 18 31.2 +4.5**
comp=Z,1.6nm,0.8s,baz=66,slow=8.2,SNR=6.2
AKASG LR LR 20 55 33.6
comp=Z,167nm,18.0s,baz=310,slow=39
AKASG Malin Array Be 80.35 320*ce*P **P 20 15 22.8 -1.2**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 80.35 320 *e*P **P 20 15 23.3 -0.7**
comp=Z,38nm,1.3s
AKBB Malin Array Si 80.35 320 *e*P **P 20 15 23.3 -0.7**
AKBB pmax pmax
comp=Z,38nm,1.3s
KIEV Kiev 80.36 320 *e*P **P 20 15 23.3 -0.8**
comp=Z,40nm,1.3s
KIEV Kiev 80.36 320 *i* P **P 20 15 22.2 -1.9**
KIEV pmax pmax
comp=Z,19nm,1.2s
KIEV Kiev 80.36 320 *i* P **P 20 15 23.4 -0.7**
SNR=14
DOT Dot Lake 80.39 27 *e*P **P 20 15 23.6 -0.5**
comp=Z,54nm,1.2s
AK11 Malin Array Si 80.39 320 *e*P **P 20 15 23.4 -0.9**
VSU Vasula 80.44 328*ce*P **P 20 15 24.0 -0.3**
VSU pmax pmax
comp=Z,364nm,1.7s
IDID Didziasalis 81.02 325 *e*P **P 20 15 26.7 -0.8**
IDID IAmb IAmb 20 15 28.2
comp=Z,14nm,0.8s
NACGM Naroch 81.07 324 *e* **P 20 15 26.0 -1.8**
IZAR Zarasai 81.21 325 *e*P **P 20 15 27.8 -0.8**
IZAR IAmb IAmb 20 15 33.5
comp=Z,24nm,1.0s
KIS Kishinev 81.26 316 *e*P **P 20 15 29.0 0.0**
KIS Kishinev 81.26 316 *e*P **P 20 15 29.0 0.0**
KIS *e* 20 15 37.0
IIGN Ignalina 81.30 325 *e*P **P 20 15 28.2 -0.8**
IIGN IAmb IAmb 20 15 29.6
comp=Z,12nm,0.9s
ISAL Salakas 81.31 325 *e*P **P 20 15 28.3 -0.8**
ISAL IAmb IAmb 20 15 36.5
comp=Z,7.9nm,0.7s
SORM Soroca 81.36 317⇑ *i*P **P 20 15 28.9 -0.6**
SORM Soroca 81.36 317 P **P 20 15 28.8 -0.7**
EGAK Eagle 81.39 25 *e*P **P 20 15 28.8 -0.5**
comp=Z,11nm,0.8s
TLCR 81.59 314⇑ *i*P **P 20 15 30.9 +0.1**
CFR Carcaliu 82.07 314⇑ *i*P **P 20 15 33.2 -0.1**
CFR Carcaliu 82.07 314 P **P 20 15 33.6 +0.3**
HARR Harsova 82.31 314⇑ *i*P **P 20 15 34.7 +0.2**
DAWY Dawson 82.31 26 *e*P **P 20 15 34.1 -0.2**
comp=Z,22nm,1.2s
HORU Horodok 82.40 319 P **P 20 15 33.9 -1.1**
PETR Petresti 82.58 315⇑ *i*P **P 20 15 36.5 +0.5**
ODBI Odobesti 82.69 315⇓ *i*P **P 20 15 37.1 +0.5**
TESR Tescani 82.82 316⇓ *i*P **P 20 15 36.9 -0.3**
VRI Vrincioaia 82.90 315⇓ *i*P **P 20 15 38.3 +0.6**
PRAR RASCA 82.92 317⇑ *i*P **P 20 15 37.5 -0.2**
PLOR Plostina 82.95 315⇑ *i*P **P 20 15 38.4 +0.4**
PLOR Plostina 82.95 315 P **P 20 15 38.4 +0.4**
INK Inuvik 83.31 21 P **P 20 15 37.9 -1.4**
comp=Z,12nm,0.9s,baz=291,slow=5.8,SNR=22
INK Inuvik 83.31 21 *e*P **P 20 15 38.1 -1.1**
comp=Z,20nm,1.0s
INK Inuvik 83.31 21 *e*P **P 20 15 38.1 -1.1**
INK pmax pmax
comp=Z,20nm,1.0s
SUW Suwalki 83.31 324 *e*P **P 20 15 38.7 -0.9**
SUW Suwalki 83.31 324 *e*P **P 20 15 38.6 -0.9**
comp=Z,80nm,1.1s
SUW Suwalki 83.31 324 *e*P **P 20 15 38.7 -0.9**
SULR 83.48 314⇓ *i*P **P 20 15 40.8 +0.2**
MLR Muntele Rosu 83.51 315 P **P 20 15 40.7 -0.3**
comp=Z,3.5nm,0.9s,baz=68,slow=1.4,SNR=28
MLR LR LR 20 55 30.3
comp=Z,138nm,20.5s,baz=29,slow=38
MLR Muntele Rosu 83.51 315⇓ *i*P **P 20 15 41.4 +0.4**
MLR Muntele Rosu 83.51 315 *e*P **P 20 15 41.3 +0.3**
comp=Z,119nm,1.6s
MLR Muntele Rosu 83.51 315 *e*P **P 20 15 41.3 +0.3**
MLR pmax pmax
comp=Z,119nm,1.6s
BURAR Bucovina Array 83.53 317⇓ *i*P **P 20 15 41.4 +0.4**
BURAR Bucovina Array 83.53 317 P **P 20 15 41.3 +0.3**
BUR04 Bucovina Ar. S 83.54 317 *e*P **P 20 15 41.0 -0.1**
BUR08 Bucovina Ar. S 83.54 317 *e*P **P 20 15 41.2 +0.2**
KMBO Kilima Mbogo 83.59 267 P **P 20 15 42.8 +0.6**
comp=Z,12nm,0.9s,baz=51,slow=7.4,SNR=27
KMBO Kilima Mbogo 83.59 267 *e*P **P 20 15 43.1 +1.0**
comp=Z,23nm,1.1s
KMBO Kilima Mbogo 83.59 267*ce*P **P 20 15 43.5 +1.4**
KMBO pmax pmax
comp=Z,12nm,0.9s
KMBO Kilima Mbogo 83.59 267 P **P 20 15 43.6 +1.5**
SNR=11
KMBO Kilima Mbogo 83.59 267 *i* P **P 20 15 43.6 +1.5**
SNR=16
DOPR Dopca 83.79 316⇓ *i*P **P 20 15 42.2 -0.1**
LVV L'vov 83.79 320 *e*P **P 20 15 42.1 -0.1**
HYT Haines Junctio 84.05 29 *e*P **P 20 15 45.8 +2.3**
comp=Z,35nm,1.4s
VOIR 84.14 315⇓ *i*P **P 20 15 43.8 -0.3**
VOIR 84.14 315 P **P 20 15 45.6 +1.5**
VOIR pmax pmax
comp=Z,12nm,1.5s
MTUR Matau 84.18 315⇓ *i*P **P 20 15 43.8 -0.6**
ARCR ARCALIA 84.23 317⇓ *i*P **P 20 15 44.7 +0.2**
HUMR Humele 84.40 314⇑ *i*P **P 20 15 45.1 -0.3**
ARR Arges 84.44 315⇓ *i*P **P 20 15 45.8 +0.1**
ALN Alexandroupoli 84.47 311 P **P 20 15 46.0 +0.2**
ALN pmax pmax
comp=Z,14nm,1.5s
SMG Samos 84.58 307 P **P 20 15 45.0 -1.5**
NISR Nisiros 84.60 306 *e*P **P 20 15 45.9 -0.6**
NISR Nisiros 84.60 306 P **P 20 15 45.9 -0.6**
BMR Baia Mare 84.65 318⇑ *i*P **P 20 15 47.4 +0.8**
KWP Kalwaria Pacla 84.67 320 *e*P **P 20 15 46.8 +0.2**
KWP Kalwaria Pacla 84.67 320 *e*P **P 20 15 47.0 +0.3**
comp=Z,1μm,1.3s
KWP Kalwaria Pacla 84.67 320 *e*P **P 20 15 47.0 +0.3**
KWP pmax pmax
comp=Z,1μm,1.3s
RDO Rodhopi 84.78 311 *e*P **P 20 15 46.4 -1.0**
RDO Rodhopi 84.78 311 P **P 20 15 46.4 -1.0**
KARP Karpathos 84.81 305 *e*P **P 20 15 47.8 +0.1**
comp=Z,84nm,1.2s
KARP Karpathos 84.81 305 P **P 20 15 44.6 -3.1**
CJR Cluj-Napoca 84.82 317⇑ *i*P **P 20 15 48.5 +0.9**
CJR Cluj-Napoca 84.82 317 P **P 20 15 48.4 +0.9**
KLNR Kaliningrad 84.84 325 *i* P **P 20 15 46.4 -0.9**
KLNR pmax pmax
comp=Z,82nm,1.2s
TRSU Trosnyk 84.90 318 P **P 20 15 48.8 +1.0**
LOT Lotru 85.01 315⇓ *i*P **P 20 15 48.8 +0.2**
UZH Uzhgorod 85.19 319*d i*P **P 20 15 49.8 +0.6**
UZH *e* 20 16 07.0
UZH *eS* **S 20 26 15.2 -3.3**
UZH *e*SSS SSS 20 35 21.8
BEL Belsk 85.27 322 *e*P **P 20 15 50.0 +0.4**
BEL Belsk 85.27 322 *e*P **P 20 15 50.0 +0.4**
WHY Whitehorse 85.33 29 *e*P **P 20 15 50.7 +0.8**
comp=Z,21nm,1.0s
DRGR 85.39 317⇑ *i*P **P 20 15 50.7 +0.3**
SKAG Skagway 85.51 30 *e*P **P 20 15 51.8 +1.2**
comp=Z,50nm,1.4s
KAVA Kavala 85.57 311 *e*P **P 20 15 50.6 -0.7**
KAVA Kavala 85.57 311 P **P 20 15 50.6 -0.7**
RAR Rarotonga 85.64 113 LR LR 20 52 14.8
comp=Z,78nm,20.5s,baz=251,slow=34
STHS Stebnicka Huta 85.65 320 *e*P **P 20 15 52.7 +1.1**
CRVS Cervenica-Dubn 85.65 319 *e*P **P 20 15 52.4 +0.8**
MMB Musomiste 86.00 312 *e*P **P 20 15 52.2 -1.3**
VTS Vitosha 86.12 313⇑ *i*P **P 20 15 54.3 +0.1**
VTS Vitosha 86.12 313 *e*P **P 20 15 54.0 -0.2**
comp=Z,103nm,1.7s
VTS Vitosha 86.12 313 *e*P **P 20 15 54.0 -0.2**
VTS pmax pmax
comp=Z,103nm,1.7s
VTS Vitosha 86.12 313 *e*P **P 20 15 53.7 -0.5**
VTS Vitosha 86.12 313 P **P 20 15 56.1 +1.9**
SIRR Siria 86.23 317⇑ *i*P **P 20 15 54.8 +0.3**
LAST Lasithi 86.24 305 P **P 20 15 52.9 -2.0**
NIE Niedzica 86.24 320 *e*P **P 20 15 55.0 +0.5**
NIE Niedzica 86.24 320 *e*P **P 20 15 55.0 +0.5**
OJC Ojcow 86.32 321 *e*P **P 20 15 54.9 0.0**
OJC Ojcow 86.32 321 *e*P **P 20 15 54.9 0.0**
comp=Z,77nm,1.1s
OJC Ojcow 86.32 321 *e*P **P 20 15 54.9 0.0**
KECS Kecovo 86.39 319 *e*P **P 20 15 55.8 +0.6**
KKB Krupnik 86.39 312 *e*P **P 20 15 54.1 -1.3**
HFS Hagfors 86.43 331 P **P 20 15 54.0 -1.2**
comp=Z,27nm,1.1s,baz=70,slow=4.7,SNR=7.8
HFS LR LR 20 58 47.9
comp=Z,644nm,20.2s,baz=350,slow=38
HFS Hagfors 86.43 331 P **P 20 15 54.0 -1.2**
HFS pmax pmax
comp=Z,27nm,1.1s
HFS MLR MLR
comp=Z,644nm,20.2s
BZS Buzias 86.43 316⇑ *i*P **P 20 15 55.3 -0.2**
IDI Anoyia 86.67 305 P **P 20 15 56.0 -1.0**
comp=Z,20nm,1.0s,baz=315,slow=4.9,SNR=6.0
IDI LR LR 21 00 59.0
comp=Z,116nm,18.4s,baz=332,slow=40
IDI Anoyia 86.67 305⇑ *i*P **P 20 15 55.4 -1.6**
IDI Anoyia 86.67 305 *e*P **P 20 15 56.0 -1.0**
comp=Z,27nm,1.0s
KNT Kendrikon 86.71 311 P **P 20 15 55.6 -1.4**
MHLO Agia Marina, M 86.71 307 P **P 20 15 54.5 -2.5**
LANS Liptovska Anna 86.84 320 *e*P **P 20 15 58.3 +0.8**
VAY Valandovo 86.91 312 *i* P **P 20 15 57.1 -0.8**
GKP Gorka Klasztor 86.92 324 *e*P **P 20 16 00.2 +2.6**
GKP Gorka Klasztor 86.92 324 *e*P **P 20 16 00.2 +2.6**
PSZ Piszkesteto 86.93 319⇑ *i*P **P 20 15 58.2 +0.2**
PSZ Piszkesteto 86.93 319 *e*P **P 20 15 57.9 0.0**
comp=Z,63nm,1.5s
PSZ Piszkesteto 86.93 319 *e*P **P 20 15 57.9 0.0**
PSZ pmax pmax
comp=Z,63nm,1.5s
NC405 NORSAR Array S 86.97 333 *e*P **P 20 15 56.0 -1.8**
NC303 NORSAR Array S 87.08 333 *e*P **P 20 15 57.4 -0.9**
NB2 NORSAR Subarra 87.22 333 P **P 20 15 57.7 -1.4**
comp=Z,51nm,1.1s,baz=70,slow=5.1
NB2 NORSAR Subarra 87.22 333 P **P 20 15 58.9 -0.2**
NB2 pmax pmax
comp=Z,49nm,1.2s
NB2 NORSAR Subarra 87.22 333 P **P 20 15 57.7 -1.4**
baz=70,slow=5.1
NB200 NORSAR Array S 87.22 333 *e*P **P 20 15 57.7 -1.4**
NB200 *e*PP **PP 20 19 22.9 +0.3**
NOA NORSAR Array B 87.22 333 P **P 20 15 57.7 -1.4**
comp=Z,16nm,0.9s,baz=68,slow=4.7,SNR=30
NOA PP **PP 20 19 22.9 +0.3**
comp=Z,2.3nm,1.0s,baz=73,slow=8.7,SNR=3.4
NOA LR LR 20 57 54.3
comp=Z,409nm,20.2s,baz=70,slow=38
NC204 NORSAR Array S 87.33 333 *e*P **P 20 15 58.6 -1.0**
NBO02 NORSAR Array S 87.38 333 *e*P **P 20 15 58.8 -1.0**
VYHS Vyhne 87.43 319 *e*P **P 20 16 00.2 -0.1**
OKC Ostrava-Krasne 87.45 321 *e*P **P 20 15 57.6 -2.8**
OKC *e*PCP **PcP 20 16 00.6 -1.8**
OKC Ostrava-Krasne 87.45 321 *e*P **P 20 15 57.6 -2.8**
SKO Skopje 87.55 312 *i* P **P 20 16 01.4 +0.4**
MORC Moravsky Berou 87.84 321 *e*P **P 20 16 02.6 +0.3**
comp=Z,127nm,1.3s
MORC Moravsky Berou 87.84 321 *e*P **P 20 16 02.6 +0.3**
MORC pmax pmax
comp=Z,127nm,1.3s
KRUS Krusevo 87.85 312 *i* P **P 20 16 02.2 -0.4**
DIVS Divibare 87.97 315 *e*P **P 20 16 02.9 -0.2**
comp=Z,20nm,1.3s
KSP Ksiaz 88.26 322 *e*P **P 20 16 04.6 +0.4**
KSP Ksiaz 88.26 322 *e*P **P 20 16 04.6 +0.4**
DPC Dobruska-Polom 88.40 322 *e*P **P 20 16 04.8 -0.2**
DPC *e*PCP **pP 20 16 08.2 -2.8**
DPC Dobruska-Polom 88.40 322 *e*P **P 20 16 04.8 -0.2**
UPC Upice 88.54 322 *e*P **P 20 16 05.6 +0.1**
UPC Upice 88.54 322 *e*P **P 20 16 05.6 +0.1**
PLE Pljevlja 88.61 314 P **P 20 16 07.0 +0.8**
PDG Podgorica 88.97 313⇓ *i*P **P 20 16 07.1 -0.6**
TTG Podgorica 88.97 313 *e*P **P 20 16 06.8 -0.9**
comp=Z,21nm,1.0s
TTG Podgorica 88.97 313 *e*P **P 20 16 06.8 -0.9**
TTG pmax pmax
comp=Z,21nm,1.0s
RES Resolute Bay 89.19 9 LR LR 21 02 43.9
comp=Z,101nm,18.1s,baz=344,slow=40
RES Resolute Bay 89.19 9 *e*P **P 20 16 07.2 -0.8**
comp=Z,10nm,0.5s
RES Resolute Bay 89.19 9 *e*P **P 20 16 07.3 -0.8**
RES pmax pmax
comp=Z,10.0nm,0.5s
PVCC Panska Ves 89.39 322 *e*P **P 20 16 09.6 0.0**
PVCC Panska Ves 89.39 322 *e*P **P 20 16 09.6 0.0**
GOPC GO Pecny, Ondr 89.48 321 *e*P **P 20 16 09.9 -0.1**
GOPC *ex* x 20 16 13.6
GOPC GO Pecny, Ondr 89.48 321 *e*P **P 20 16 09.9 -0.1**
CONA Conrad Observa 89.50 319 *e*PcP **P 20 16 10.1 -0.1**
comp=Z,13nm,1.8s
PRU Pruhonice 89.60 322 *e*P **P 20 16 10.3 -0.2**
PRU *e*PCP **PcP 20 16 13.2 +1.3**
PRU Pruhonice 89.60 322 *e*P **P 20 16 10.3 -0.2**
BRG Berggiesshubel 89.64 323 *i* P **P 20 16 10.6 -0.1**
BRG *e* 20 19 43.5
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,30nm,1.9s
BLY Banja Luka 89.68 316⇓ *i*P P 20 16 05.8 -5.2
ARSA Arzberg 89.94 319 *i* PcP **P 20 16 12.1 -0.2**
comp=Z,6.8nm,0.9s
CLL Collm 90.04 323 *i* P **P 20 16 11.8 -0.7**
comp=Z,10.0nm,1.0s
CLL *i* 20 16 14.7
comp=Z,28nm,1.5s
CLL *e*PP **PP 20 19 44.0 -1.3**
CLL *e* 20 19 49.0
CLL Collm 90.04 323 *e*P **P 20 16 12.0 -0.5**
comp=Z,20nm,1.3s
CLL Collm 90.04 323 *e*P **P 20 16 12.0 -0.5**
CLL pmax pmax
comp=Z,20nm,1.3s
PERS Pernice 90.42 318 *e*P **P 20 16 14.3 -0.2**
SOKA Soboth 90.46 318 *i* P **P 20 16 13.3 -1.4**
comp=Z,12nm,1.0s
KHC Kasperske Hory 90.50 321 *e*P **P 20 16 14.5 -0.3**
KHC *e*PCP **pP 20 16 17.9 -2.9**
KHC Kasperske Hory 90.50 321 *e*P **P 20 16 14.0 -0.8**
comp=Z,11nm,1.6s
KHC Kasperske Hory 90.50 321 *e*P **P 20 16 14.5 -0.3**
GEC2 GERESS Array S 90.53 321 *e*P **P 20 16 15.1 +0.1**
comp=Z,29nm,1.3s
GEC2 GERESS Array S 90.53 321 *e*P **P 20 16 15.1 +0.1**
GEC2 pmax pmax
comp=Z,29nm,1.3s
GERES GERESS Array B 90.53 321 P **P 20 16 14.9 -0.1**
comp=Z,3.7nm,0.8s,baz=69,slow=4.9,SNR=31
GERES PP **PP 20 19 53.3 +3.9**
comp=Z,1.0nm,0.8s,baz=77,slow=5.8,SNR=4.1
GERES LR LR 20 57 51.8
comp=Z,502nm,19.9s,baz=20,slow=36
GEA0 GERESS Array S 90.53 321 *e*P **P 20 16 14.6 -0.5**
MOA Molln 90.53 320 *i* PcP **P 20 16 15.3 +0.3**
comp=Z,27nm,1.0s,SNR=15
BOJS Bojanci 90.72 317 *e*P **P 20 16 16.0 +0.1**
OBKA Obir 90.83 318 *i* PcP **P 20 16 16.2 -0.3**
comp=Z,27nm,2.1s
VISS Visnje 90.89 318 *i* P **P 20 16 16.4 -0.3**
MAW Mawson 90.89 199 LR LR 20 57 29.8
comp=Z,93nm,18.9s,baz=62,slow=36
WET Wettzell 90.92 321 P **P 20 16 17.7 +1.0**
WET pmax pmax
comp=Z,15nm,1.4s
JAVS Javornik 91.36 318 *i* P **P 20 16 18.3 -0.7**
KBA Koelnbreinsper 91.39 319 P **P 20 16 20.1 +0.9**
KBA pmax pmax
comp=Z,14nm,1.1s
GRF Grafenberg Arr 91.71 322 P **P 20 16 24.0 +3.6**
GRF pmax pmax
comp=Z,44nm,1.5s
ABTA Abfaltersbach 92.05 319 *i* PcP **P 20 16 21.2 -0.9**
comp=Z,24nm,1.2s
WTTA Wattenberg 92.40 320 *i* PcP **P 20 16 23.5 -0.3**
comp=Z,31nm,1.0s,SNR=11
WATA Walderalm 92.41 320 *i* PcP **P 20 16 23.2 -0.7**
comp=Z,21nm,1.0s
MOTA Moosalm 92.71 320 *i* PcP **P 20 16 24.6 -0.6**
comp=Z,29nm,1.0s,SNR=17
RETA Reutte 92.86 320 *i* PcP **P 20 16 25.3 -0.5**
comp=Z,15nm,1.1s
YKW3 Yellowknife Ar 92.95 22 *e*P **P 20 16 24.9 -0.8**
comp=Z,16nm,1.5s
YKA Yellowknife Ar 92.99 22 P **P 20 16 24.3 -1.6**
comp=Z,1.3nm,0.6s,baz=311,slow=4.4,SNR=22
YKA PKKP **PKKPdf 20 33 33.6 -1.3**
comp=Z,0.3nm,0.5s,baz=130,slow=3.1,SNR=8.4
YKA LR LR 21 04 27.0
comp=Z,10nm,18.0s,baz=0.0,slow=40
YKA Yellowknife Ar 92.99 22*ce*P **P 20 16 25.2 -0.8**
YKA pmax pmax
comp=Z,2.0nm,0.8s
FETA Feichten 93.07 320 *i* PcP **P 20 16 26.1 -0.8**
comp=Z,47nm,1.2s,SNR=16
AQU L'Aquila 93.09 315 *e*P **P 20 16 26.8 -0.2**
comp=Z,18nm,0.8s
AQU L'Aquila 93.09 315 *e*P **P 20 16 26.8 -0.2**
AQU pmax pmax
comp=Z,18nm,0.8s
DAVA Damuels 93.49 320 *i* P **P 20 16 27.3 -1.6**
comp=Z,26nm,1.8s
FUORN Ofenpass-Fuorn 93.52 320 *e*P **P 20 16 29.3 +0.1**
comp=Z,52nm,1.3s
VNDA Vanda 93.98 172 P **P 20 16 28.8 -1.3**
comp=Z,1.7nm,0.7s,baz=343,slow=5.3,SNR=7.0
VNDA LR LR 21 01 29.9
comp=Z,70nm,18.0s,baz=318,slow=37
BFO Black Forest 94.00 322 *i* P **P 20 16 34.4 +3.4**
TUE Stuetta 94.16 320 *e*P **P 20 16 31.0 -1.0**
comp=Z,52nm,1.7s
BEBN Eben Emael 94.45 325⇑ P **P 20 16 31.4 -1.5**
WLF Walferdange 94.70 324⇑ P **P 20 16 33.4 -0.7**
comp=Z,17nm,1.3s
BCLA Clavier 94.83 324⇑ P **P 20 16 33.1 -1.6**
comp=Z,12nm,1.4s
BCLA ⇑AP sP 20 16 53.7 +11
DOU Dourbes 95.39 324⇑ P **P 20 16 35.4 -1.8**
SENIN Lac Senin/Sane 95.49 320 *e*P **P 20 16 37.5 -0.6**
comp=Z,31nm,1.6s
LSZ Lusaka 95.58 256 *e*P **P 20 16 39.3 +0.4**
comp=Z,11nm,1.1s
LSZ Lusaka 95.58 256 *e*P **P 20 16 39.3 +0.4**
LSZ pmax pmax
comp=Z,11nm,1.1s
MATP Matopo 96.38 251 P **P 20 16 41.4 -1.1**
comp=Z,3.3nm,0.9s,baz=78,slow=3.3,SNR=6.8
MATP LR LR 20 56 02.2
comp=Z,107nm,18.5s,baz=35,slow=33
EKA Eskdalemuir Ar 96.63 331 LR LR 21 03 55.3
comp=Z,407nm,19.4s,baz=45,slow=38
BORG Borgarnes 96.69 344 LR LR 21 06 30.2
comp=Z,310nm,18.1s,baz=31,slow=39
KEST Kesra 98.53 310 LR LR 21 09 40.9
comp=Z,194nm,18.4s,baz=328,slow=40
YBH Yreka Blue Hor 100.05 43 LR LR 20 53 11.5
comp=Z,119nm,21.7s,baz=328,slow=30
BOSA Boshof 100.82 243 P **Pdif 20 17 01.3 -0.9**
comp=Z,1.7nm,0.8s,baz=74,slow=5.4,SNR=3.2
NVAR Mina Array Bea 104.61 44 PKKP **PKKPdf 20 33 18.6 +4.5**
comp=Z,0.5nm,0.6s,baz=120,slow=5.3,SNR=3.6
ESDC Sonseca Array 105.96 318 PP PP 20 21 49.2 +1.5
comp=Z,2.3nm,1.0s,baz=52,slow=8.0,SNR=5.1
PDAR Pinedale Array 107.63 36 PKKP **PKKPdf 20 33 06.7 -1.8**
comp=Z,1.8nm,0.8s,baz=116,slow=3.4,SNR=3.9
TORD Torodi Ar. Bea 113.70 291 PKiKP **PKiKP 20 21 51.3 -1.0**
comp=Z,0.6nm,0.7s,baz=38,slow=2.1,SNR=4.9
TORD PP **PP 20 22 46.3 +1.7**
comp=Z,2.2nm,1.0s,baz=65,slow=5.9,SNR=4.6
TORD PKKPbc **PKKPbc 20 32 36.2 +1.2**
comp=Z,0.8nm,1.0s,baz=312,slow=3.5,SNR=4.0
TOA1 Torodi Ar. Sit 113.70 291 *e*PKiKP **PKiKP 20 21 51.3 -1.0**
TOA1 *e*PP **PP 20 22 46.3 +1.7**
TOA1 *e*PKKPbc **PKKPbc 20 32 36.2 +1.2**
KOWA Kowa 118.30 295 PKP **PKPdf 20 21 60.0 -1.2**
comp=Z,1.3nm,0.6s,baz=297,slow=2.3,SNR=3.2
O56A Blue Knob Stat 123.60 17 *e*PKPdf **PKPdf 20 22 09.9 -0.9**
SPRD Spring Road, M 125.87 18 *e*PKPpre PKPpre 20 22 01.6
IP05 Hopewell Churc 126.09 18 *e*PKPpre PKPpre 20 22 02.6
BG3 Lake Jocassee 126.86 24 *e*PKPpre PKPpre 20 22 05.3
PAULI Pauline 127.44 23 *e*PKPpre PKPpre 20 22 04.6
CHRN Cochrane 144.73 165 *e*PKPdf PKPbc 20 22 48.8 +0.2
PLCA Paso Flores 151.31 163 PKPbc **PKPbc 20 23 06.0 -0.8**
comp=Z,12nm,1.0s,baz=195,slow=3.6,SNR=11
PLCA Paso Flores 151.31 163 *e*PKPbc **PKPbc 20 23 06.3 -0.4**
PLCA Paso Flores 151.31 163 *e*PKiKP **PKPbc 20 23 06.4 -0.4**
SDV Santo Domingo 155.13 27 PKPbc PKPbc 20 23 17.0
comp=Z,4.0nm,0.8s,baz=269,slow=11,SNR=4.3
SDV PKPab **PKPab 20 23 30.1 -1.5**
comp=Z,3.4nm,0.8s,baz=347,slow=8.0,SNR=3.7
CPUP Villa Florida 167.15 189 *e*PKPab **PKPab 20 24 23.0 -0.4**
CPUP Villa Florida 167.15 189 *e*PKP2 **PKPab 20 24 23.0 -0.4**

*ISCJB **08** 20:03:24.5±0.9, 13°.2S±0°.1×75°.2W±0°.1, h96km, mb3.5/4, Error ellipse: s-maj=24.1km s-min=9.2km az=39.5*
*IDC **08** 20:03:26.2±1.7, 13°.15S×75°.24W, h105km±16km, mb3.4/4, mb1 3.5/6, mb1mx3.3/37, mbtmp3.7/6, Error ellipse: s-maj=30.2km s-min=16.9km az=45.0*

ISC 08 20:03:25.6±0.9, 13°.2S±0°.2×75°.2W±0°.1, h96km, n9, σ1§10/10, mb3.5/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NNA	**Nana**	**1.98**	**307**	P		**Pn**	**20 03 58.1**	**+0.3**
	34nm,0.3s,baz=124,slow=14,SNR=36							
NNA				S		**Sn**	**20 04 23.1**	**+0.8**
	185nm,0.3s,baz=160,slow=15,SNR=25							
ATAH	**Atahualpa**	**6.77**	**332**	P		**Pn**	**20 05 04.0**	**+1.1**
	0.9nm,0.3s,baz=149,slow=16,SNR=3.6							
LPAZ	**La Paz**	**7.52**	**115**	P		**Pn**	**20 05 14.6**	**+1.4**
	0.5nm,0.3s,baz=310,slow=11,SNR=6.3							
SDV	**Santo Domingo**	**22.40**	**12**	P		**P**	**20 08 16.8**	**+0.2**
	2.8nm,0.4s,baz=197,slow=18,SNR=3.2							
PLCA	**Paso Flores**	**27.75**	**172**	P		**P**	**20 09 05.5**	**+0.3**
	1.9nm,1.0s,baz=360,slow=10,SNR=2.9							
TORD	**Torodi Ar. Bea**	**80.59**	**74**	P		**P**	**20 15 26.7**	**-1.5**
	0.3nm,0.5s,baz=268,slow=4.3,SNR=3.4							
YKA	**Yellowknife Ar**	**81.44**	**343**	P		**P**	**20 15 30.2**	**-1.4**
	0.2nm,0.6s,baz=148,slow=6.0,SNR=3.2							
WRA	**Warramunga Arr**	**136.07**	**222**	PKP		**PKPdf**	**20 22 36.6**	**+0.1**

0.3nm,0.7s,baz=137,slow=1.9,SNR=6.0
SONM Songino Array 145.43 358 PKPbc **PKPab 20 22 52.7 -0.4**
1.0nm,0.7s,baz=338,slow=3.3,SNR=6.4

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*IDC **08** 20:05:56.5±6.4, 38°.36N×90°.42E, h0km, mb2.9/1, mb1 3.5/6, mb1mx3.3/72, mbtmp3.5/6, ML3.3/4, Error ellipse: s-maj=80.3km s-min=45.8km az=178.0*
*BJI **08** 20:05:59.4, 38°.41N×90°.24E, h10km, ML3.9/11, Ms3.5/2, Ms7 3.5/1*
*ISCJB **08** 20:06:00.1±1.0, 38°.89N±0°.09×90°.26E±0°.09, h10km, Error ellipse: s-maj=13.0km s-min=9.0km az=23.7*

ISC 08 20:06:02.1±1.3, 38°.8N±0°.1×90°.45E±0°.09, h10km, n12, σ1s76/11, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**5.46**	**339**	Pn	**Pn**	**20 07 25.0**	**+1.4**
WMQ				Sn	**Sn**	**20 08 28.4**	**+2.0**
WMQ				Sg	**Sg**	**20 08 55.1**	**-2.2**
GTA	**Gaotai**	**7.31**	**82**	*e*Pn	**Pn**	**20 07 51.2**	**+2.1**
MKAR	**Makanchi Array**	**10.01**	**326**	Pn	Pn	20 08 23.3	-2.7
	1.2nm,0.3s,baz=143,slow=14,SNR=40						
MKAR				Sn	**Sn**	**20 10 16.9**	**-1.4**
	0.6nm,0.3s,baz=148,slow=23,SNR=4.4						
MKAR				Lg	Lg	20 11 16.0	
	0.3nm,0.3s,baz=144,slow=30,SNR=3.5						
LZH	**Lanzhou**	**10.98**	**100**	*e*P	**Pn**	**20 08 37.2**	**-2.2**
LZH				*e*PP	**PnPn**	**20 08 46.5**	**-0.5**
LZH				LR	LR		
	comp=N,210nm,10.0s						
LZH				LR	LR		
	comp=E,220nm,10.2s						
LZH				LR	LR		
	comp=Z,260nm,12.5s						
KSH	**Kashi**	**11.27**	**278**	P	**Pn**	**20 08 44.0**	**+0.7**
TKM2	**Tokmak 2**	**11.99**	**295**	P	Pn	20 08 50.1	-3.1
	SNR=15						
KBK	**Karagaybulak**	**12.39**	**293**	P	Pn	20 08 56.1	-2.5
	SNR=7.4						
AAK	**Ala-Archa**	**12.71**	**293**	Pn	Pn	20 09 01.0	-2.0
	0.4nm,0.3s,baz=94,slow=7.8,SNR=6.3						
KURBB	**Kurchatov Arra**	**14.55**	**328**	Pn	Pn	20 09 24.4	-3.5
	0.1nm,0.3s,baz=137,slow=12,SNR=6.0						
SONM	**Songino Array**	**14.70**	**47**	Pn	**Pn**	**20 09 30.3**	**+0.1**
	baz=233,slow=12,SNR=3.6						
ZALV	**Zalesovo Beam**	**15.62**	**348**	Pn	**Pn**	**20 09 41.4**	**-1.3**
	0.1nm,0.3s,baz=169,slow=12,SNR=2.3						
BVAR	**Borovoye Array**	**19.86**	**322**	P	**P**	**20 10 33.1**	**0.0**
	0.3nm,0.4s,baz=129,slow=12,SNR=4.4						

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*ISCJB **08** 20:07:32.5±0.8, 36°.22N×0°.08×71°.2E±0°.1, h188km, mb3.6/6, Error ellipse: s-maj=15.0km s-min=8.1km az=39.3*
*IDC **08** 20:07:34.1±3.1, 36°.32N×71°.24E, h194km±28km, mb3.3/7, mb1 3.3/11, mb1mx3.0/66, mbtmp3.8/11, Error ellipse: s-maj=24.6km s-min=17.5km az=14.0*
*NNC **08** 20:07:40.3±4.1, 37°.00N×70°.87E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=33.2km s-min=27.7km az=143.0*

ISC 08 20:07:34.4±1.1, 36°.40N±0°.10×71°.1E±0°.1, h188km, n21, σ1s91/27, mb3.6/6, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.06**	**27**	⇑Pn	**Pn**	**20 08 39.3**	**+2.5**
	4.9nm,0.3s						
SFK				⇓Sn	**Sn**	**20 09 24.7**	**-1.0**
	123nm,0.5s						
AML	**Almayashu**	**6.06**	**18**	P	**Pn**	**20 09 04.2**	**+1.6**
	SNR=73						
MNAS	**Manas**	**6.17**	**10**	⇑Pn	**Pn**	**20 09 05.7**	**+1.8**
	4.7nm,0.5s						
MNAS				⇓Sn	**Sn**	**20 10 10.9**	**-3.6**
	19nm,0.6s						
UCH	**Uchtor**	**6.38**	**23**	P	**Pn**	**20 09 08.4**	**+1.5**
	SNR=15						
EKS2	**Erkin-Say**	**6.58**	**17**	P	**Pn**	**20 09 11.1**	**+1.9**
	SNR=17						
KK31	**Karatay Array**	**6.71**	**356**	⇓Pn	**Pn**	**20 09 12.2**	**+1.5**
	1.6nm,0.3s,baz=174,slow=12						
KK31				⇓Sn	**Sn**	**20 10 23.8**	**-3.2**
	11nm,0.3s,baz=174,slow=22						
AAK	**Ala-Archa**	**6.75**	**22**	P	**Pn**	**20 09 13.6**	**+2.2**
	2.1nm,0.3s,baz=179,slow=6.2,SNR=27						
AAK				S	**Sn**	**20 10 25.7**	**-2.4**
	1.8nm,0.3s,baz=325,slow=22,SNR=20						
AAK	**Ala-Archa**	**6.75**	**22**	Pn	**Pn**	**20 09 13.0**	**+1.6**
	2.4nm,0.3s						
AAK				Sn	**Sn**	**20 10 26.1**	**-2.0**
	9.0nm,0.5s						
AAK	**Ala-Archa**	**6.75**	**22**	P	**Pn**	**20 09 13.4**	**+2.0**
	SNR=6.5						
USP	**Ospenovka**	**7.33**	**20**	P	**Pn**	**20 09 21.4**	**+2.5**
	SNR=5.2						
TKM2	**Tokmak 2**	**7.37**	**27**	⇑Pn	**Pn**	**20 09 20.6**	**+1.1**
	6.1nm,0.6s						
TKM2				⇓Sn	**Sn**	**20 10 44.5**	**+1.7**
	9.5nm,1.1s						
GEYT	**Alibeck**	**10.50**	**282**	P	**Pn**	**20 10 01.9**	**+1.6**
	0.3nm,0.3s,baz=73,slow=11,SNR=5.9						
KURBB	**Kurchatov Arra**	**15.19**	**18**	P	**Pn**	**20 10 58.4**	**-0.8**
	0.1nm,0.3s,baz=206,slow=10,SNR=3.5						
AKTO	**Aktyubinsk**	**16.92**	**330**	P	**Pn**	**20 11 20.8**	**+0.7**
	0.3nm,0.3s,baz=137,slow=12,SNR=5.0						
ZALV	**Zalesovo Beam**	**19.96**	**24**	P	**P**	**20 11 52.8**	**+0.8**
	0.9nm,0.4s,baz=211,slow=12,SNR=4.8						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**20 14 31.2**	**+0.5**
	2.2nm,1.0s,baz=101,slow=9.9,SNR=4.4						
ARCES	**ARCESS Array B**	**41.28**	**338**	P	**P**	**20 15 01.4**	**+0.6**
	3.5nm,1.0s,baz=104,slow=7.6,SNR=4.1						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**20 15 26.6**	**-0.4**
	0.3nm,0.4s,baz=102,slow=7.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.82**	**269**	P	**P**	**20 17 58.5**	**-1.4**
	0.6nm,0.5s,baz=41,slow=5.9,SNR=6.2						
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**20 19 31.1**	**-1.6**
	0.5nm,0.5s,baz=326,slow=4.9,SNR=14						
ASAR	**Alice Springs**	**84.11**	**125**	P	**P**	**20 19 43.0**	**-1.3**
	0.6nm,0.6s,baz=307,slow=5.0,SNR=7.3						

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*MOS **08** 20:14:32.4±0.8, 50°.32N×156°.76E, h34km, mb4.2/1, Error ellipse: s-maj=26.6km s-min=6.4km az=79.0*

KRSC 08 20:14:31.9±1.3, 50°.42N×156°.98E, h30km±17km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.61**	**296**	*e*PN	Pb	20 14 43.9	-0.2
SKR				*e*S	Sb	20 14 52.8	+0.3
SKR				pmax	pmax		
	comp=Z,211nm,0.3s						
SKR				smax	smax		
	comp=E,6μm,0.3s						
SKR				smax	smax		
	comp=N,4μm,0.6s						
SKR	**Severo-Kuril's**	**0.61**	**296**	*e*P	Pb	20 14 43.8	-0.3
SKR				*e*S	Sb	20 14 52.4	-0.1
PAU	**Pauzhetka**	**1.05**	**354**	PN	Pb	20 14 51.7	+0.1
PAU				S	Sb	20 15 06.3	+1.3
PAU	**Pauzhetka**	**1.05**	**354**	*e*P	Pb	20 14 51.7	+0.1
PAU				*e*S	Sb	20 15 06.3	+1.3
KDTR	**Khodutka, Kamc**	**1.55**	**26**	*e*P	Pn	20 14 58.6	+1.1
KDTR				*e*S	Sb	20 15 18.4	-0.8
ASAK	**Asacha**	**2.05**	**16**	PN	Pb	20 15 06.9	-1.6
ASAK	**Asacha**	**2.05**	**16**	*e*P	Pb	20 15 06.9	-1.6
MTVR	**Mutnovka**	**2.20**	**20**	PN	Pn	20 15 08.4	+1.9
MTVR				S	Sn	20 15 34.9	+2.2
MTVR	**Mutnovka**	**2.20**	**20**	*e*P	Pn	20 15 08.4	+1.9
MTVR				*e*S	Sn	20 15 34.9	+2.2
RUS	**Russkaya**	**2.23**	**25**	PN	Pn	20 15 08.6	+1.8
RUS				S	Sn	20 15 34.9	+1.6
RUS	**Russkaya**	**2.23**	**25**	*e*P	Pn	20 15 08.6	+1.8
RUS				*e*S	Sn	20 15 34.9	+1.6
APC	**Apacha**	**2.51**	**2**	PN	Pb	20 15 14.2	-2.1
APC	**Apacha**	**2.51**	**2**	*e*P	Pb	20 15 14.2	-2.1
KRMR	**Karymshinskiy**	**2.52**	**16**	PN	Pb	20 15 14.5	-1.9
KRMR				S	Sb	20 15 45.4	-1.5
KRMR	**Karymshinskiy**	**2.52**	**16**	*e*P	Pb	20 15 14.5	-1.9
KRMR				*e*S	Sb	20 15 45.4	-1.5
PET	**Petropavlovsk**	**2.81**	**21**	PN	Pn	20 15 17.4	+2.7
PET				S	Sn	20 15 50.9	+3.4
PET	**Petropavlovsk**	**2.81**	**21**	P	Pn	20 15 17.4	+2.7
PET				*e*S	Sn	20 15 50.9	+3.4
DALK	**Dalny**	**2.84**	**22**	PN	Pn	20 15 18.0	+2.9
DALK	**Dalny**	**2.84**	**22**	*e*P	Pn	20 15 18.0	+2.9
DALK				*e*S	Sn	20 15 50.8	+2.6
UGLR	**Uglovaya**	**3.02**	**22**	PN	Pb	20 15 22.1	-2.9
UGLR	**Uglovaya**	**3.02**	**22**	*e*P	Pb	20 15 22.1	-2.9
AVH	**Avacha**	**3.05**	**20**	PN	Pb	20 15 22.0	-3.5
AVH	**Avacha**	**3.05**	**20**	*e*P	Pb	20 15 22.0	-3.5
KOK	**Koryaka**	**3.05**	**19**	PN	Pb	20 15 22.4	-3.2
KOK	**Koryaka**	**3.05**	**19**	P	Pb	20 15 22.4	-3.2
SMAR	**Somma**	**3.06**	**21**	PN	Pn	20 15 21.7	+3.3
SMAR	**Somma**	**3.06**	**21**	*e*P	Pn	20 15 21.7	+3.3
SDLR	**Sedlovina**	**3.10**	**22**	PN	Pn	20 15 21.9	+3.1
SDLR				S	Sn	20 15 59.2	+4.4
SDLR	**Sedlovina**	**3.10**	**22**	*e*P	Pn	20 15 21.9	+3.1
SDLR				*e*S	Sn	20 15 59.2	+4.4
SPN	**Mys Shipunski**	**3.28**	**34**	*e*S	Sn	20 16 03.7	+4.6
GNL	**Ganaly**	**3.33**	**10**	PN	Pn	20 15 25.0	+3.0
GNL	**Ganaly**	**3.33**	**10**	*e*P	Pn	20 15 25.0	+3.0
TYV	**Tymovskoe**	**9.12**	**278**	*e*PN	Pn	20 16 43.3	+2.0

JMA 08 20:17:54.0±0.1, 36°.40N×137°.61E, h25km±1km, M0.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.30**	**234**	*e*S	Sb	20 18 05.2	-0.6
JNG	**Nsakai**	**0.40**	**89**	*e*S	Sb	20 18 08.2	-0.2
MAT	**Matsushiro**	**0.50**	**73**	P	Sb	20 18 11.2	0.0
MAT	**Matsushiro**	**0.50**	**73**	*e*S	Sb	20 18 11.2	0.0

MEX 08 20:18:30.1±0.3, 17°.09N×101°.52W, h16km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.52**	**6**	*i* P	Pg	20 18 38.7	-1.7
ZIIG				*e*S	Sg	20 18 45.2	-2.1
CAIG	**El Cayaco**	**1.20**	**92**	*e*P	Pn	20 18 48.4	-3.8
CAIG				*i* S	Sb	20 19 02.8	-5.0
ARIG	**Puente Sto Nin**	**1.63**	**43**	*e*P	Pn	20 18 54.5	-3.7
ARIG				*i* S	Sn	20 19 13.9	-5.0
MEIG	**Mezcala**	**2.00**	**65**	*e*P	Pn	20 18 60.0	-3.4
MEIG				*i* S	Sn	20 19 22.9	-5.1
MMIG	**Aquila**	**2.11**	**305**	*i* P	Pn	20 19 02.0	-2.8
MMIG				*i* S	Sn	20 19 25.5	-5.1

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*ISCJB **08** 20:20:22.6±0.6, 43°.14N±0°.03×13°.43E±0°.06, h27km±8km, Error ellipse: s-maj=7.9km s-min=4.4km az=3.3*
*ROM **08** 20:20:22.5±0.1, 43°.14N×13°.44E, h20km±1km, Md2.2/13, Ml2.1/11, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0*
*CSEM **08** 20:20:22.4±0.1, 43°.13N×13°.44E, h20km, ML2.6/8, Error ellipse: s-maj=2.7km s-min=1.9km az=91.0*

ISC 08 20:20:20.8±0.9, 43°.14N±0°.02×13°.55E±0°.03, h17km±7km, n27, σ0s88/46, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.23**	**155**	Pg	**Pb**	**20 20 29.0**	**+2.5**
	397nm,0.5s						
OFFI	**Offida**	**0.23**	**155**	Pg	**Pg**	**20 20 29.0**	**+2.5**
	397nm,0.5s						
GUMA	**Gualdo di Mace**	**0.29**	**106**	Pg	**Pg**	**20 20 26.5**	**-0.6**
GUMA				Sg	**Sg**	**20 20 29.6**	**-1.8**
	454nm,0.2s						
CING	**Cingoli**	**0.35**	**312**	Pg	**Pb**	**20 20 29.0**	**+0.5**
CING				Sg	**Sb**	**20 20 34.3**	**+0.5**
	70nm,0.2s						
CING	**Cingoli**	**0.35**	**312**	Pg	**Pb**	**20 20 29.0**	**+0.5**
CING				Sg	**Sb**	**20 20 34.3**	**+0.5**
	70nm,0.2s						
AOI	**Ancona**	**0.41**	**5**	Pg	**Pn**	**20 20 31.2**	**-0.7**
AOI				Sg	**Sn**	**20 20 38.8**	**-0.3**
	97nm,0.2s						
AOI	**Ancona**	**0.41**	**5**	Pg	**Pn**	**20 20 31.2**	**-0.7**
AOI				Sg	**Sn**	**20 20 38.8**	**-0.3**
	97nm,0.2s						
NRCA	**Norcia**	**0.45**	**226**	Pg	**Pb**	**20 20 30.4**	**+0.2**
NRCA				Sg	**Sb**	**20 20 36.8**	**+0.2**
	560nm,0.2s						
NRCA	**Norcia**	**0.45**	**226**	Pg	**Pb**	**20 20 30.4**	**+0.2**
NRCA				Sg	**Sb**	**20 20 36.8**	**+0.2**
	560nm,0.2s						
SNTG	**Esanatoglia**	**0.46**	**284**	Pg	**Pg**	**20 20 30.4**	**+0.3**
SNTG				Sg	**Sg**	**20 20 36.8**	**+0.4**
	99nm,0.2s						
SNTG	**Esanatoglia**	**0.46**	**284**	Pg	**Pg**	**20 20 30.4**	**+0.3**
SNTG				Sg	**Sg**	**20 20 36.8**	**+0.4**
	99nm,0.2s						
CESI	**CESI - Serrava**	**0.49**	**254**	Pg	**Pg**	**20 20 31.0**	**+0.3**
CESI				Sg	**Sg**	**20 20 38.0**	**+0.6**
	31nm,0.3s						
CESI	**CESI - Serrava**	**0.49**	**254**	Pg	**Pg**	**20 20 31.0**	**+0.3**
CESI				Sg	**Sg**	**20 20 38.0**	**+0.6**
	31nm,0.3s						
SMA1	**SAN MARTINO**	**0.54**	**197**	Pg	**Pb**	**20 20 32.5**	**+0.7**
SMA1				Sg	**Sn**	**20 20 40.9**	**-1.5**
	135nm,0.3s						
SMA1	**SAN MARTINO**	**0.54**	**197**	Pg	**Pb**	**20 20 32.5**	**+0.7**
SMA1				Sg	**Sn**	**20 20 40.9**	**-1.5**
	135nm,0.3s						
ARVD	**Arcevia**	**0.57**	**309**	Pg	**Pb**	**20 20 32.7**	**+0.4**
ARVD	**Arcevia**	**0.57**	**309**	Pg	**Pb**	**20 20 32.7**	**+0.4**
CAMP	**Campotosto**	**0.62**	**190**	Pg	**Pn**	**20 20 34.0**	**-0.8**
CAMP				Sg	**Sn**	**20 20 43.6**	**-0.8**
	67nm,0.5s						
CAMP	**Campotosto**	**0.62**	**190**	Pg	**Pn**	**20 20 34.0**	**-0.8**
CAMP				Sg	**Sn**	**20 20 43.6**	**-0.8**
	67nm,0.5s						
LNSS	**Leonessa**	**0.66**	**215**	Pg	**Pb**	**20 20 34.2**	**+0.3**
LNSS				Sg	**Sb**	**20 20 43.3**	**+0.6**
	112nm,0.3s						
LNSS	**Leonessa**	**0.66**	**215**	Pg	**Pb**	**20 20 34.2**	**+0.3**
LNSS				Sg	**Sb**	**20 20 43.3**	**+0.6**
	112nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.67**	**274**	Pg	**Pg**	**20 20 34.1**	**+0.1**
ATCC	**AVT- Casa Cast**	**0.67**	**274**	Pg	**Pg**	**20 20 34.1**	**+0.1**
FRON	**Frontone**	**0.71**	**302**	Pg	**Pg**	**20 20 35.1**	**+0.4**
	42nm,0.8s						
FRON	**Frontone**	**0.71**	**302**	Pg	**Pg**	**20 20 35.1**	**+0.4**
	42nm,0.8s						
NVLJ	**Novalja**	**1.71**	**33**	*e*Pn	**Pb**	**20 20 52.1**	**+0.4**
NVLJ				Sn	**Sb**	**20 21 14.1**	**+1.2**
NVLJ	**Novalja**	**1.71**	**33**	*e*Pn	**Pb**	**20 20 52.0**	**+0.4**
NVLJ				Sn	**Sb**	**20 21 14.0**	**+1.2**

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*IDC **08** 20:22:14.5±0.6, 38°.47N×144°.88E, h0km, mb4.0/22, mb1 4.2/27, mb1mx4.0/70, mbtmp4.1/27, ML4.2/3, MS3.9/4, Ms1 3.9/4, ms1mx3.1/76, Error ellipse: s-maj=16.6km s-min=12.4km az=101.0*
*NEIC **08** 20:22:17.1±2.4, 38°.48N×144°.87E, h17km±14km, mb4.6/8, Error ellipse: s-maj=6.8km s-min=4.7km az=130.0*
*MOS **08** 20:22:17.3±1.6, 38°.62N×144°.91E, h33km, mb4.2/18, Error ellipse: s-maj=12.0km s-min=6.1km az=91.5*
*JMA **08** 20:22:18.8±0.1, 38°.58N×144°.58E, h36km, M4.5*
*ISCJB **08** 20:22:19.6±0.3, 38°.63N±0°.03×144°.61E±0°.03, h43km, mb4.1/29, MS4.2/3, Error ellipse: s-maj=4.5km s-min=3.4km az=175.3*

ISC 08 20:22:20.9±0.6, 38°.64N±0°.05×144°.76E±0°.06, h43km, n111, σ2s37/132, mb4.1/29, MS4.1/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.45**	**281**	P	**Pn**	**20 22 56.1**	**-2.3**
OFUJ				*e*S	**Sn**	**20 23 24.0**	**-3.2**
MIYJ	**Miyakonagasawa**	**2.47**	**293**	P	**Pn**	**20 22 56.5**	**-2.2**
MIYJ				*e*S	**Sn**	**20 23 24.6**	**-3.0**
JTH	**Tanohata**	**2.59**	**301**	P	**Pn**	**20 22 58.3**	**-2.1**
JTH				*e*S	**Sn**	**20 23 28.2**	**-2.4**
JMK	**Ichinoseki**	**2.78**	**277**	P	**Pn**	**20 23 01.0**	**-2.0**
JMK				*e*S	**Sn**	**20 23 32.0**	**-3.3**
JOM	**Ohasama**	**2.83**	**288**	P	**Pn**	**20 23 01.8**	**-1.7**
JOM				*e*S	**Sn**	**20 23 33.4**	**-2.9**
JANG	**Nango**	**3.05**	**306**	P	**Pn**	**20 23 04.4**	**-2.2**
JANG				*e*S	**Sn**	**20 23 39.8**	**-2.0**
JOU	**Okura**	**3.23**	**266**	P	**Pn**	**20 23 06.9**	**-2.2**
JOU				*e*S	**Sn**	**20 23 43.0**	**-3.3**
JRG	**Rokugo**	**3.30**	**284**	P	**Pn**	**20 23 08.7**	**-1.4**
JRG				*e*S	**Sn**	**20 23 46.5**	**-1.6**
JYK	**Kaneyama**	**3.45**	**276**	P	**Pn**	**20 23 10.5**	**-1.6**
JYK				*e*S	**Sn**	**20 23 48.9**	**-2.9**
JAH	**Hinai**	**3.55**	**297**	P	**Pn**	**20 23 12.2**	**-1.3**
JAH				*e*S	**Sn**	**20 23 52.8**	**-1.3**
JTM	**Tenmabayashi**	**3.56**	**308**	P	**Pn**	**20 23 12.0**	**-1.6**
JTM				*e*S	**Sn**	**20 23 52.1**	**-2.4**
ERM	**Erimo**	**3.58**	**341**	*e*Pn	**Pn**	**20 23 13.1**	**-0.8**
ERM	**Erimo**	**3.58**	**341**	*e*P	**Pn**	**20 23 13.1**	**-0.8**
JFT	**Otama**	**3.67**	**254**	P	**Pn**	**20 23 12.8**	**-2.3**
JFT				*e*S	**Sn**	**20 23 53.5**	**-3.6**
JNBK	**Urakawa-nobuka**	**3.94**	**338**	P	**Pn**	**20 23 17.3**	**-1.6**
JNBK				S	**Sn**	**20 24 01.8**	**-2.0**
JOT	**Ohata**	**3.95**	**315**	P	**Pn**	**20 23 18.3**	**-0.7**
JOT				*e*S	**Sn**	**20 24 00.8**	**-3.2**
JCH	**Churui**	**4.11**	**345**	P	**Pn**	**20 23 59.2**	**-2.4**
JKB	**Kayabe**	**4.32**	**320**	P	**Pn**	**20 23 23.8**	**-0.2**
NEM2	**Nemuro 2**	**4.78**	**9**	P	**Pn**	**20 23 26.6**	**-3.7**
GLVR	**Golovnino**	**5.12**	**6**	*e*P	**Pn**	**20 23 31.9**	**-3.1**
GLVR				*e*S	**Sn**	**20 24 27.8**	**-5.0**
JOSM	**Okushiri--Mats**	**5.30**	**312**	P	**Pn**	**20 23 36.7**	**-0.8**
JRY	**Ryogami san**	**5.36**	**242**	P	**Pn**	**20 23 35.1**	**-3.2**
JRY				S	**Sn**	**20 24 32.3**	**-6.4**
JTKR	**Abashiri--Toko**	**5.36**	**353**	P	**Pn**	**20 23 36.0**	**-2.3**
GRPR	**Tuman**	**5.40**	**8**	*e*P	**Pn**	**20 23 35.3**	**-3.5**
GRPR				*e*S	**Sn**	**20 24 33.4**	**-6.3**
SHO	**Shikotan**	**5.45**	**16**	*e*P	**Pn**	**20 23 35.0**	**-4.5**
SHO				*e*S	**Sn**	**20 24 34.4**	**-6.5**
SHO				pmax	pmax		
	comp=N,6.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,5.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,41nm,0.2s						
SHO				smax	smax		
	comp=N,37nm,0.2s						
SHO				smax	smax		
	comp=E,201nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.45**	**8**	P	**Pn**	**20 23 36.4**	**-3.1**
YUK				*e*S	**Sn**	**20 24 35.8**	**-5.1**
YUK				pmax	pmax		
	comp=E,62nm,0.2s						
YUK				pmax	pmax		
	comp=Z,34nm,0.2s						
YUK				smax	smax		
	comp=N,287nm,0.2s						
YUK				smax	smax		
	comp=E,167nm,0.2s						
LAGR	**Lagunnoye**	**5.46**	**8**	*e*P	**Pn**	**20 23 36.7**	**-3.0**
LAGR				*e*S	**Sn**	**20 24 35.3**	**-5.9**
MJAR	**Matsushiro Arr**	**5.61**	**250**	Pn	**Pn**	**20 23 39.1**	**-2.7**
	comp=E,5.8nm,0.3s,baz=82,slow=23,SNR=66						
MJAR				Sn	**Sn**	**20 24 42.1**	**-2.9**
	comp=E,3.3nm,0.3s,baz=106,slow=12,SNR=4.2						
MAJO	**Matsushiro**	**5.61**	**250**	*e*Pn	**Pn**	**20 23 40.8**	**-1.0**
MAJO				*e*Sn	**Sn**	**20 24 42.1**	**-2.9**
MAJO	**Matsushiro**	**5.61**	**250**	*e*P	**Pn**	**20 23 40.8**	**-1.0**
MAJO				*e*		20 24 42.1	
MAT	**Matsushiro**	**5.61**	**250**	P	**Pn**	**20 23 40.5**	**-1.3**
MAT				S	**Sn**	**20 24 36.6**	**-8.4**
MJB9	**Matsu-Tunnel**	**5.61**	**250**	*e*Pn	**Pn**	**20 23 40.8**	**-1.0**
ASAJ	**Asahikawa**	**5.71**	**344**	Pn	**Pn**	**20 23 41.6**	**-1.5**
	comp=E,4.9nm,0.3s,baz=181,slow=14,SNR=59						
ASAJ				Sn	**Sn**	**20 24 43.3**	**-3.9**
	comp=E,3.7nm,0.3s,baz=28,slow=26,SNR=3.5						
JHJ	**Hachijo jima 2**	**6.83**	**218**	Pn	**Pn**	**20 23 54.3**	**-4.3**
	comp=E,19nm,0.3s,baz=80,slow=17,SNR=3.4						
JHJ				Sn	Sn	20 25 05.2	-10
	comp=E,24nm,0.3s,baz=75,slow=19,SNR=3.9						
KUR	**Kuril'sk**	**6.98**	**18**	*e*P	**Pn**	**20 23 57.4**	**-3.1**
KUR				*e*S	**Sn**	**20 25 11.6**	**-6.9**
KUR				pmax	pmax		
	comp=Z,22nm,0.3s						
KUR				smax	smax		
	comp=N,82nm,0.2s						
KUR				smax	smax		
	comp=E,28nm,0.3s						
USRK	**Ussuriysk Ar.**	**11.08**	**304**	Pn	**Pn**	**20 24 56.9**	**+0.3**
	comp=E,0.5nm,0.3s,baz=99,slow=14,SNR=10.0						
JNU	**Nakatsue**	**12.53**	**248**	LR	LR	20 29 56.1	
	comp=E,165nm,18.0s,baz=297,slow=37						
KLR	**Kul'dur**	**14.12**	**323**	Pn	**Pn**	**20 25 39.9**	**+1.8**
	comp=E,0.0nm,0.3s,baz=153,slow=15,SNR=3.6						
PETK	**Petropavlovsk-**	**17.00**	**27**	P	**P**	**20 26 16.6**	**-0.2**
	comp=E,0.1nm,0.3s,baz=198,slow=8.5,SNR=3.6						
PEA1	**Petropavlovsk-**	**17.00**	**27**	*e*Pn	**P**	**20 26 16.6**	**-0.2**
MA2	**Magadan**	**21.30**	**8**	P	**P**	**20 27 04.1**	**+0.5**
	comp=E,1.6nm,0.3s,baz=198,slow=12,SNR=4.8						
SEY	**Seymchan**	**24.76**	**8**	P	**P**	**20 27 39.1**	**+1.0**
	comp=E,3.2nm,0.5s,baz=178,slow=9.0,SNR=33						
YAK	**Yakutsk**	**25.19**	**343**	P	**P**	**20 27 42.3**	**+0.3**
	comp=E,14nm,0.6s,baz=18,slow=0.7,SNR=10						
YAK	**Yakutsk**	**25.19**	**343**	*e*P	**P**	**20 27 42.6**	**+0.6**
	comp=E,18nm,0.7s						
YAK	**Yakutsk**	**25.19**	**343**	*e*P	**P**	**20 27 42.1**	**+0.1**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0n

comp=Z,3.7nm,0.7s,baz=13,slow=7.2,SNR=32
FITZ Fitzroy Crossi 59.22 201 P **P** **20 32 17.0 -0.8**
comp=Z,3.9nm,0.9s,baz=117,slow=7.0,SNR=4.0
AKTO Aktyubinsk 59.56 312 P **P** **20 32 20.6 +0.7**
comp=Z,1.5nm,0.8s,baz=69,slow=12,SNR=5.4
YKA Yellowknife Ar 61.07 31 P **P** **20 32 29.8 -0.2**
comp=Z,0.4nm,0.6s,baz=298,slow=6.4,SNR=6.5
AS31 Alice Springs 62.81 191 *e*P **P** **20 32 40.9 -1.2**
comp=Z,1.0nm,1.0s
ASAR Alice Springs 62.81 191 P **P** **20 32 40.9 -1.2**
comp=Z,1.3nm,0.7s,baz=14,slow=7.3,SNR=19
FIA0 FINESS Array S 68.60 333 *e*P **P** **20 33 19.8 +0.8**
FIA0 FINESS Array S 68.60 333 *e*P **P** **20 33 19.8 +0.8**
FINES FINESS Array B 68.60 333 P **P** **20 33 19.8 +0.8**
comp=Z,4.1nm,0.7s,baz=43,slow=8.6,SNR=12
STKA Stephens Creek 70.22 183 P **P** **20 33 28.0 -1.2**
comp=Z,0.7nm,0.7s,baz=315,slow=5.7,SNR=3.0
STKA Stephens Creek 70.22 183 P **P** **20 33 28.0 -1.2**
STKA pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 71.84 312 P **P** **20 33 40.5 +1.5**
comp=Z,2.5nm,0.8s,baz=61,slow=5.2,SNR=6.3
NV01 Mina Array Sit 71.90 55 *e*P **P** **20 33 40.6 +0.8**
NVAR Mina Array Bea 71.90 55 P **P** **20 33 40.6 +0.8**
comp=Z,1.0nm,0.9s,baz=284,slow=6.0,SNR=4.8
MWC Mount Wilson 74.51 59 *e*P **P** **20 33 55.1 -0.2**
MWC Mount Wilson 74.51 59 *e*P **P** **20 33 55.1 -0.2**
AKASG Malin Array Be 74.62 323 P **P** **20 33 56.0 +0.7**
comp=Z,0.7nm,0.5s,baz=45,slow=6.1,SNR=7.1
AKBB Malin Array Si 74.62 323 *e*P **P** **20 33 56.0 +0.7**
comp=Z,5.5nm,1.2s
AKBB Malin Array Si 74.62 323 *e*P **P** **20 33 56.0 +0.7**
AKBB pmax pmax
comp=Z,6.0nm,1.2s
PD31 Pinedale Array 74.64 47 *e*P **P** **20 33 56.2 +0.2**
PDAR Pinedale Array 74.64 47 P **P** **20 33 56.2 +0.2**
comp=Z,0.6nm,0.6s,baz=267,slow=3.2,SNR=5.0
PSRC Puddingstone R 74.76 59 *e*P **P** **20 33 54.4 -2.0**
PSRC *e*PcP **P** **20 33 57.8 +1.3**
ULM Lac du Bonnet 76.68 35 LR LR 21 14 28.1
comp=Z,88nm,18.3s,baz=26,slow=41
WESC Westside Schoo 76.94 59 *e*P **P** **20 34 08.8 -0.2**
CLL Collm 80.98 332 *i* P **P** **20 34 31.2 +0.5**
RAYN Ar Rayn 82.46 294 *e*P **P** **20 34 40.1 +1.0**
comp=Z,10.0nm,1.5s
GERES GERESS Array B 82.70 330 P **P** **20 34 40.3 +0.3**
comp=Z,0.3nm,0.7s,baz=19,slow=4.5,SNR=3.7
TKL Tuckaleechee C 93.52 38 LR LR 21 23 38.7
comp=Z,115nm,18.5s,baz=358,slow=39

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*ISN **08** 20:33:01.7±0.9, 32.79N×46.94E, h0km±5km, ML3.3*
*CSEM **08** 20:33:03.3±0.3, 32.80N×46.82E, h2km, ML3.3, Error ellipse: s-maj=9.5km s-min=8.0km az=163.0*

TEH 08 20:33:02.9, 32.85N×46.97E, h8km, ML3.3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.00**	**47**	*e*Pg	Pn	20 33 23.6	+0.4
IKFM				*e*AMB	AMB	20 33 25.2	
	comp=Z,99nm,0.1s						
IKFM				*e*Sg	Sn	20 33 37.8	+0.3
IKOM	**Komasi**	**1.40**	**19**	*e*Pn	Pg	20 33 31.7	+1.9
IKOM				*e*AMB	AMB	20 33 55.0	
	comp=Z,8μm,0.2s						
IGHG	**Ghaleghazi**	**1.52**	**347**	*e*Pn	Pg	20 33 33.0	+1.0
IGHG				*e*AMB	AMB	20 34 04.6	
	comp=Z,8μm,0.3s						
IVIS	**Veis**	**1.68**	**357**	*e*Pn	Pg	20 33 35.3	+0.2
IVIS				*e*Sg	Sg	20 33 59.2	+2.3
IVIS				*e*AMB	AMB	20 34 02.5	
	comp=Z,4μm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.72**	**115**	*e*Sg	Sg	20 34 01.9	+3.8
IDHR	**Dehrash**	**1.91**	**346**	*e*Pn	Pb	20 33 38.2	+0.1
IDHR				*e*AMB	AMB	20 34 10.1	
	comp=Z,5μm,0.2s						
NSR	**Nassriya**	**1.96**	**201**	*e*Pn	Pn	20 33 36.2	-0.2
	SNR=3.0						
NSR				*i* Sn	Sn	20 33 59.1	-2.1
	SNR=3.0						
ILIN	**Lien**	**2.07**	**360**	*e*Pn	Pb	20 33 40.6	-0.2
ILIN				*e*AMB	AMB	20 34 14.8	
	comp=Z,2μm,0.4s						
BHD	**Baghdad**	**2.21**	**282**	*e*Pn	Pn	20 33 40.0	+0.1
	SNR=3.0						
BHD				*i* Sn	Sn	20 34 08.0	+0.6
	SNR=3.0						
SNGE	**Sanandaj**	**2.26**	**8**	*e*Pn	Pb	20 33 43.8	-0.3
SNGE				*e*Sg	Sg	20 34 16.0	+0.4
KHMZ	**Khomeyn**	**2.66**	**70**	*e*Pn	Pb	20 33 49.1	-1.8
ASAO	**Ashtian**	**3.06**	**56**	*e*Pn	Pn	20 33 54.8	+3.0
IPIR	**Pirpir**	**3.31**	**92**	*e*Pn	Pn	20 33 58.2	+2.9
IPIR				*e*AMB	AMB	20 34 49.8	
	comp=Z,360nm,0.3s						
IRAZ	**Razeghan**	**3.54**	**43**	*e*AMB	AMB	20 34 04.3	
	comp=Z,441nm,0.1s						
IRAZ				*e*Pn	Pb	20 34 02.3	-3.6
QAM	**Ghamsar**	**3.85**	**75**	*e*AMB	AMB	20 34 59.8	
	comp=Z,724nm,0.2s						
QAM				*e*Pn	Pn	20 34 06.2	+3.5
IZEF	**Zefreh**	**4.51**	**88**	*e*Pn	Pn	20 34 14.6	+2.8
IZEF				*e*AMB	AMB	20 34 17.4	
	comp=Z,112nm,0.1s						
IRAM	**Rameshen**	**4.70**	**101**	*e*Pn	Pn	20 34 16.6	+2.3
IRAM				*e*AMB	AMB	20 35 18.2	
	comp=Z,102nm,0.2s						

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*IDC **08** 20:36:55.8±0.6, 2.87S×129.46E, h0km, mb4.3/15, mb1 4.4/18, mb1mx4.2/57, mbtmp4.3/18, ML4.6/3, MS3.6/2, Ms1 3.7/2, ms1mx3.0/53, Error ellipse: s-maj=23.4km s-min=12.7km az=69.0*
*BJI **08** 20:36:55.5, 3.18S×129.49E, h22km, mb4.4/5, mB5.1/5, Ms4.7/1, Ms7 4.4/1*
*ISCJB **08** 20:36:58.2±0.2, 2.92S±0.03×129.42E±0.03, h28km, mb4.4/26, MS3.5/1, Error ellipse: s-maj=4.8km s-min=4.1km az=146.4*
*DJA **08** 20:36:59.9±0.6, 3°S±2'×12°9E±°, h14km±5km, M4.7/15, mb5.0/10, mB5.1/7, MLv4.7/15, Mw(mB)4.5/7*
*NEIC **08** 20:37:00.4±2.0, 2.93S×129.46E, h30km±15km, mb4.5/17, Error ellipse: s-maj=8.4km s-min=4.9km az=49.0*

ISC 08 20:37:00.3±0.4, 2.91S±0.04×129.46E±0.05, h28km, n92, σ1s58/96, mb4.5/26, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.68**	**231**	P	**Pb**	**20 37 12.9**	**-0.7**
MSAI				S	**Sn**	**20 37 27.1**	**+3.3**
AAI	**Ambon**	**1.48**	**239**	P	**Pn**	**20 37 26.3**	**+1.3**
BNDI	**Bandanaira**	**1.66**	**164**	P	**Pb**	**20 37 31.9**	**+1.7**
BNDI				S	**Sb**	**20 37 54.6**	**+3.9**
NLAI	**Namlea**	**2.38**	**262**	P	**Pn**	**20 37 38.2**	**+0.8**
SWI	**Sorong**	**2.72**	**42**	P	**Pn**	**20 37 42.2**	**+0.1**
SWI				S	**Sn**	**20 38 14.4**	**+0.4**
FAKI	**Fak Fak**	**2.79**	**90**	P	**Pn**	**20 37 44.0**	**+0.9**
FAKI	**Fak Fak**	**2.79**	**90**	*e*Pn	**Pn**	**20 37 43.7**	**+0.6**
LBMI	**Labuha**	**2.99**	**319**	P	**Pn**	**20 37 44.9**	**-0.9**
SANI	**Sanana**	**3.57**	**284**	P	**Pn**	**20 37 52.2**	**-1.6**
KMPI	**Kaimana, Papua**	**4.30**	**100**	P	**Pn**	**20 38 04.6**	**+0.7**
RKPI	**Ransiki, Papua**	**4.92**	**74**	P	**Pn**	**20 38 14.4**	**+2.0**
SAUI	**Saumlaki**	**5.36**	**160**	P	**Pn**	**20 38 22.8**	**+4.3**
KMSI	**Cibinong**	**6.48**	**302**	P	**Pn**	**20 38 31.6**	**-2.2**
	124nm,0.5s,2μm						
LUWI	**Luwuk**	**6.94**	**285**	P	Pb	20 38 51.8	-8.3
LUWI	**Luwuk**	**6.94**	**285**	*e*Pn	**Pn**	**20 38 38.1**	**-2.0**
BBSI	**Bau Bau**	**7.33**	**249**	P	**Pn**	**20 38 46.5**	**+1.0**
SGSI	**Sangihe**	**7.64**	**329**	P	**Pn**	**20 38 50.1**	**+0.3**
APSI	**Ampana**	**8.05**	**284**	P	**Pn**	**20 38 54.9**	**-0.6**
MRSI	**Marisa**	**8.23**	**294**	P	**Pn**	**20 38 57.4**	**-0.5**
SOEI	**Soe**	**8.53**	**217**	P	**Pn**	**20 39 04.6**	**+2.4**
SOEI	**Soe**	**8.53**	**217**	*e*Pn	**Pn**	**20 39 03.9**	**+1.8**
MMRI	**Maumere**	**9.16**	**231**	P	Pn	20 39 22.6	+12
MMRI	**Maumere**	**9.16**	**231**	*e*Pn	**Pn**	**20 39 10.2**	**-0.5**
BATI	**Baumata**	**9.25**	**218**	Pn	**Pn**	**20 39 13.0**	**+1.0**
	1.0nm,0.3s,baz=336,slow=2.2,SNR=1.9						
BATI				LR	LR	20 42 52.7	
	comp=Z,441nm,21.7s,baz=72,slow=38						
BATI	**Baumata**	**9.25**	**218**	P	**Pn**	**20 39 14.0**	**+2.0**
BNSI	**Bone**	**9.45**	**261**	P	**Pn**	**20 39 15.8**	**+1.2**
BSSI	**Bau Bau, Buton**	**9.50**	**250**	P	Pn	20 39 21.1	+5.8
MTN	**Manton Dam**	**10.01**	**171**	*e*Pn	**Pn**	**20 39 22.4**	**+0.1**
MPSI	**Mapaga**	**10.09**	**289**	P	**Pn**	**20 39 24.0**	**+0.6**
MYLDM	**Lahad Datu**	**13.58**	**306**	*e*Pn	**Pn**	**20 40 12.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**15.55**	**194**	Pn	**Pn**	**20 40 37.6**	**-0.1**
	2.6nm,0.3s,baz=26,slow=8.7,SNR=18						
FITZ	**Fitzroy Crossi**	**15.55**	**194**	*e*Pn	**Pn**	**20 40 38.1**	**+0.3**
	9.1nm,0.4s						
COEN	**Coen**	**17.43**	**130**	*e*Pn	**Pn**	**20 41 02.5**	**+0.8**
	29nm,1.3s						
WRAB	**Tennant Creek**	**17.58**	**165**	*e*Pn	**Pn**	**20 41 02.3**	**-1.1**
	15nm,0.6s						
WR1	**Warramunga Arr**	**17.59**	**165**	*e*Pn	**Pn**	**20 41 01.3**	**-2.2**
	13nm,0.7s						
WR1				*e*Sn	**Sn**	**20 44 12.2**	**-6.5**
WRA	**Warramunga Arr**	**17.59**	**165**	P	**Pn**	**20 41 01.3**	**-2.2**
	3.0nm,0.3s,baz=340,slow=12,SNR=54						
WRA				S	**Sn**	**20 44 12.2**	**-6.5**
	0.4nm,0.3s,baz=352,slow=24,SNR=4.5						
KSM	**Kuching**	**19.63**	**283**	*e*P	**P**	**20 41 27.1**	**+0.2**
	22nm,1.3s						
AS31	**Alice Springs**	**21.07**	**169**	*e*P	**P**	**20 41 42.5**	**-0.1**
	16nm,0.7s						
ASAR	**Alice Springs**	**21.08**	**169**	P	**P**	**20 41 42.1**	**-0.4**
	42nm,0.6s,baz=349,slow=9.8,SNR=450						
ASAR				S	**S**	**20 45 31.6**	**-4.3**
	7.5nm,1.0s,baz=348,slow=19,SNR=9.7						
AS01	**Alice Springs**	**21.08**	**168**	*e*P	**P**	**20 41 42.0**	**-0.6**
CTA	**Charters Tower**	**23.67**	**137**	P	**P**	**20 42 09.1**	**-0.6**
	5.2nm,1.1s,baz=270,slow=5.1,SNR=2.7						
IPM	**Ipoh**	**29.34**	**284**	*e*P	**P**	**20 43 01.9**	**+0.8**
	11nm,0.6s						
BBOO	**Buckleboo**	**30.38**	**169**	*e*P	**P**	**20 43 09.2**	**-0.8**
	40nm,1.8s						
STKA	**Stephens Creek**	**31.00**	**160**	P	**P**	**20 43 15.1**	**-0.4**
	1.4nm,0.4s,baz=330,slow=11,SNR=8.2						
PSI	**Prapat**	**31.05**	**280**	P	**P**	**20 43 15.3**	**-1.0**
	8.3nm,0.5s,baz=94,slow=7.1,SNR=6.9						
PSI	**Prapat**	**31.05**	**280**	*e*P	**P**	**20 43 15.6**	**-0.6**
	11nm,0.7s						
CM01	**Chiang Mai Arr**	**36.76**	**306**	*e*P	**P**	**20 44 05.9**	**+0.2**
CM31	**Chiang Mai Arr**	**36.79**	**306**	*e*P	**P**	**20 44 06.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**36.79**	**306**	P	**P**	**20 44 06.5**	**+0.5**
	1.6nm,0.8s,baz=147,slow=7.1,SNR=11						
CMAR				LR	LR	21 00 11.5	
	comp=Z,86nm,20.4s,baz=36,slow=38						
CHTO	**Chiang Mai**	**36.98**	**307**	*e*P	**P**	**20 44 08.1**	**+0.6**
	5.5nm,0.9s						
HHC	**Hu-ho-hao-te**	**46.52**	**341**	*e*P	**P**	**20 45 27.1**	**+1.7**
HHC				S	**S**	**20 52 13.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,6.3s						
USRK	**Ussuriysk Ar.**	**46.95**	**2**	P	**P**	**20 45 27.7**	**-0.9**
	0.7nm,0.5s,baz=204,slow=6.8,SNR=3.5						
LSA	**Lhasa**	**48.93**	**314**	*e*P	**P**	**20 45 45.1**	**+0.4**
	3.5nm,0.8s						
GTA	**Gaotai**	**50.17**	**330**	*e*P	**P**	**20 45 53.3**	**-0.3**
GTA				pP	pP	20 46 01.3	-0.9
GTA				sP	sP	20 46 05.5	0.0
TAPN	**Taplejung**	**50.23**	**310**	*e*P	**P**	**20 45 53.9**	**-0.6**
	11nm,0.8s						
RAMN	**Ramite**	**50.89**	**309**	*e*P	**P**	**20 45 59.2**	**-0.3**
	23nm,0.6s						
JIRN	**Jiri**	**51.56**	**309**	*e*P	**P**	**20 46 03.9**	**-0.7**
	17nm,0.8s						
GUN	**Gumba**	**51.92**	**309**	*e*P	**P**	**20 46 06.6**	**-0.7**
	12nm,0.6s						
PKI	**Pulchoki**	**52.12**	**309**	*e*P	**P**	**20 46 08.0**	**-0.8**
PKIN	**Phulchoki**	**52.13**	**309**	*e*P	**P**	**20 46 08.3**	**-0.5**
	5.2nm,0.7s						
KKN	**Kakani**	**52.33**	**309**	*e*P	**P**	**20 46 09.2**	**-0.9**
	9.6nm,0.8s						
DMN	**Daman**	**52.38**	**308**	*e*P	**P**	**20 46 09.8**	**-0.8**
	20nm,1.1s						
DANN	**Dangsing**	**53.77**	**309**	*e*P	**P**	**20 46 20.5**	**-0.4**
PYUN	**Piuthan**	**54.26**	**308**	*e*P	**P**	**20 46 23.8**	**-0.6**
SONA0	**Songino Array**	**54.42**	**341**	*e*P	**P**	**20 46 25.0**	**0.0**
SONM	**Songino Array**	**54.42**	**341**	P	**P**	**20 46 25.0**	**0.0**
	0.4nm,0.7s,baz=151,slow=9.9,SNR=3.2						
RPZ	**Rata Peaks**	**54.81**	**144**	P	**P**	**20 46 28.5**	**+0.7**
	5.2nm,0.5s,baz=301,slow=3.0,SNR=5.0						
PETK	**Petropavlovsk-**	**60.65**	**19**	P	**P**	**20 47 09.9**	**+1.2**
	4.6nm,0.8s,baz=157,slow=3.4,SNR=8.0						
PEA1	**Petropavlovsk-**	**60.65**	**19**	*e*P	**P**	**20 47 09.9**	**+1.2**
MK01	**Makanchi Array**	**64.52**	**326**	*e*P	**P**	**20 47 34.0**	**-0.7**
MK31	**Makanchi Array**	**64.54**	**326**	*e*P	**P**	**20 47 34.5**	**-0.3**
MK32	**Makanchi Array**	**64.54**	**326**	*e*P	**P**	**20 47 34.3**	**-0.6**
MKAR	**Makanchi Array**	**64.54**	**326**	P	**P**	**20 47 34.3**	**-0.6**
	1.8nm,0.7s,baz=119,slow=8.5,SNR=23						
MKAR	**Makanchi Array**	**64.54**	**326**	*e*P	**P**	**20 47 34.5**	**-0.3**
	9.5nm,0.8s						
MAKZ	**Makanchi**	**64.72**	**326**	*e*P	**P**	**20 47 35.4**	**-0.7**
	1.8nm,0.8s						
YAK	**Yakutsk**	**64.76**	**0**	*e*P	**P**	**20 47 36.1**	**+0.2**
	16nm,0.9s						
ZAA0	**Zalesovo Array**	**67.71**	**333**	*e*P	**P**	**20 47 54.1**	**-0.8**
	3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**67.71**	**333**	P	**P**	**20 47 53.9**	**-1.1**
	1.6nm,0.5s,baz=103,slow=5.6,SNR=10						
ZALV	**Zalesovo Beam**	**67.71**	**333**	*e*P	**P**	**20 47 53.6**	**-1.3**
ZAA1	**Zalesovo Array**	**67.71**	**333**	*e*P	**P**	**20 47 53.9**	**-1.1**
KURBB	**Kurchatov Arra**	**68.77**	**328**	P	**P**	**20 48 01.1**	**-0.6**
	2.1nm,0.6s,baz=126,slow=5.7,SNR=14						
KURK	**Kurchatov**	**68.78**	**328**	*e*P	**P**	**20 48 01.3**	**-0.4**
BVAR	**Borovoye Array**	**74.34**	**327**	P	**P**	**20 48 35.1**	**-0.1**
	1.6nm,0.9s,baz=134,slow=6.2,SNR=5.4						
ABKAR	**Akbulak array**	**79.00**	**321**	*e*P	**P**	**20 49 01.4**	**-0.2**
	22nm,0.6s						
OPO	**Ambohidratompo**	**81.76**	**252**	P	**P**	**20 49 17.2**	**-0.2**
	3.5nm,0.6s,baz=76,slow=17,SNR=19						
RAYN	**Ar Rayn**	**85.61**	**294**	*e*P	**P**	**20 49 37.2**	**+0.3**
	4.3nm,0.9s						
ILAR	**Eielson Array**	**89.90**	**25**	P	**P**	**20 49 54.8**	**-1.7**
	0.4nm,0.9s,baz=284,slow=3.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**127.39**	**284**	PKP	**PKPdf**	**20 56 03.4**	**-0.2**
	0.9nm,0.9s,baz=131,slow=3.4,SNR=3.9						
TOA1	**Torodi Ar. Sit**	**127.39**	**284**	*e*PKPdf	**PKPdf**	**20 56 03.4**	**-0.2**
PLCA	**Paso Flores**	**132.87**	**159**	PKP	**PKPdf**	**20 56 15.3**	**+1.9**
	1.3nm,0.7s,baz=287,slow=3.4,SNR=5.5						
CPUP	**Villa Florida**	**150.20**	**168**	PKPbc	**PKPbc**	**20 56 50.0**	**+0.5**
	2.8nm,0.6s,baz=162,slow=1.9,SNR=9.5						
CPUP	**Villa Florida**	**150.20**	**168**	*e*PKPbc	**PKPbc**	**20 56 50.3**	**+0.9**

IDC 08 20:43:20.2±28.0, 16.43S×174.77W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.6/52, mbtmp4.1/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/39, Error ellipse: s-maj=550.9km s-min=148.4km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**25.58**	**283**	LR	LR	20 56 43.7	
	comp=Z,119nm,18.2s,baz=158,slow=31						
STKA	**Stephens Creek**	**42.38**	**241**	P	P	20 51 17.1	+0.5
	1.0nm,0.4s,baz=93,slow=10.0,SNR=7.6						
WRA	**Warramunga Arr**	**48.33**	**258**	P	P	20 52 02.8	-1.2
	0.6nm,0.6s,baz=97,slow=7.1,SNR=20						
ASAR	**Alice Springs**	**48.54**	**253**	P	P	20 52 05.4	-0.2
	6.1nm,0.6s,baz=88,slow=8.1,SNR=111						
FITZ	**Fitzroy Crossi**	**56.71**	**259**	P	P	20 53 06.6	+0.5
	2.5nm,0.9s,baz=52,slow=5.7,SNR=3.7						

IDC 08 20:56:17.8±13.0, 55.96S×27.97W, h141km±118km, mb3.4/1, mb1 3.5/2, mb1mx3.2/31, mbtmp3.9/2, ML3.9/1, Error ellipse: s-maj=83.5km s-min=48.3km az=102.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.00**	**156**	P	P	21 00 28.2	0.0
	0.3nm,0.3s,baz=303,slow=9.3,SNR=12						
TORD	**Torodi Ar. Bea**	**73.20**	**30**	P	P	21 07 33.1	0.0
	0.5nm,0.5s,baz=202,slow=6.4,SNR=5.3						
ILAR	**Eielson Array**	**149.73**	**312**	PKPbc	PKPbc	21 15 48.9	-0.4
	0.7nm,0.6s,baz=102,slow=2.3,SNR=7.4						
SONM	**Songino Array**	**151.16**	**87**	PKPbc	PKPbc	21 15 53.2	-0.2
	1.0nm,0.5s,baz=217,slow=4.0,SNR=8.4						

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*NIED **08** 20:59:00, 38.60N×144.60E, h5km, Mw4.2 Best double couple: M0 2.34000×10^15 NP1:φs 22.00000°, δ 28.00000°, λ -79.00000°. NP2:φs 190.00000°, δ 63.00000°, λ -95.00000°.*
*BJI **08** 20:59:26.9, 38.68N×144.91E, h5km, mb4.4/19, mB5.1/12, Ms4.6/2, Ms7 4.4/3*

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*IDC **08** 20:59:28.1±0.6, 38.50N×144.82E, h0km, mb4.2/29, mb1 4.4/33, mb1mx4.2/71, mbtmp4.2/33, ML3.6/4, MS3.3/6, Ms1 3.3/6, ms1mx3.0/64, Error ellipse: s-maj=14.7km s-min=12.5km az=123.0*
*NEIC **08** 20:59:31.3±2.1, 38.52N×144.77E, h19km±12km, mb4.7/18, Error ellipse: s-maj=6.1km s-min=4.2km az=135.0*
*MOS **08** 20:59:31.6±1.4, 38.64N×144.78E, h33km, mb4.6/30, Error ellipse: s-maj=10.0km s-min=5.0km az=97.9*
*JMA **08** 20:59:32.0±0.2, 38.59N×144.61E, h45km, M4.5*

ISC 08 20:59:33.0±1.0, 38.70N±0.04×144.73E±0.06, h29km±6km, n162, σ1s79/194, mb4.4/55, MS3.6/5, 11C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.42**	**280**	P	**Pn**	**21 00 09.4**	**-1.2**
OFUJ				S	**Sn**	**21 00 37.2**	**-2.0**
MIYJ	**Miyakonagasawa**	**2.42**	**292**	P	**Pn**	**21 00 09.7**	**-1.0**
MIYJ				*e*S	**Sn**	**21 00 37.4**	**-2.0**
JMK	**Ichinoseki**	**2.75**	**276**	P	**Pn**	**21 00 14.3**	**-0.9**
JMK				*e*S	**Sn**	**21 00 45.5**	**-1.9**
JOM	**Ohasama**	**2.78**	**287**	P	**Pn**	**21 00 14.8**	**-0.8**
JOM				S	**Sn**	**21 00 46.7**	**-1.5**
JANG	**Nango**	**2.99**	**305**	P	**Pn**	**21 00 17.7**	**-0.8**
JANG				*e*S	**Sn**	**21 00 52.1**	**-1.4**
JYK	**Kaneyama**	**3.42**	**275**	P	**Pn**	**21 00 23.8**	**-0.6**
JYK				S	**Sn**	**21 01 03.0**	**-0.9**
ERM	**Erimo**	**3.52**	**341**	*e*Pn	**Pn**	**21 00 26.4**	**+0.7**
ERM	**Erimo**	**3.52**	**341**	*e*P	**Pn**	**21 00 26.5**	**+0.7**
JFT	**Otama**	**3.66**	**253**	P	**Pn**	**21 00 26.2**	**-1.5**
JFT				*e*S	**Sn**	**21 01 06.7**	**-3.1**
JNBK	**Urakawa-nobuka**	**3.88**	**338**	P	**Pn**	**21 00 30.8**	**+0.1**
JNBK				*e*S	**Sn**	**21 01 14.0**	**-1.3**
JOT	**Ohata**	**3.89**	**315**	P	**Pn**	**21 00 31.2**	**+0.3**
JOT				S	**Sn**	**21 01 14.2**	**-1.4**
JCH	**Churui**	**4.05**	**346**	P	**Pn**	**21 00 32.0**	**-1.0**
JCH				*e*S	**Sn**	**21 01 17.6**	**-1.8**
JKB	**Kayabe**	**4.26**	**320**	P	**Pn**	**21 00 36.4**	**+0.5**
JKB				*e*S	**Sn**	**21 01 22.5**	**-2.1**
NEM2	**Nemuro 2**	**4.72**	**9**	P	**Pn**	**21 00 39.9**	**-2.4**
NEM2				*e*S	**Sn**	**21 01 31.6**	**-4.5**
BSO1	**Boso 1**	**5.04**	**218**	P	**Pn**	**21 00 42.0**	**-4.1**
BSO1				*e*S	**Sn**	**21 01 36.3**	**-6.8**
GLVR	**Golovnino**	**5.07**	**7**	*e*P	**Pn**	**21 00 44.9**	**-2.2**
GLVR				*e*S	**Sn**	**21 01 42.1**	**-2.5**
JOSM	**Okushiri--Mats**	**5.24**	**312**	P	**Pn**	**21 00 50.2**	**+0.8**
JOSM				*e*S	**Sn**	**21 01 46.9**	**-2.0**
JTKR	**Abashiri--Toko**	**5.30**	**354**	P	**Pn**	**21 00 49.5**	**-0.7**
JTKR				*e*S	**Sn**	**21 01 47.2**	**-3.1**
GRPR	**Tuman**	**5.35**	**8**	*e*P	**Pn**	**21 00 48.3**	**-2.6**
GRPR				*e*S	**Sn**	**21 01 48.2**	**-3.3**
JRY	**Ryogami san**	**5.36**	**242**	P	**Pn**	**21 00 48.5**	**-2.5**
JRY				*e*S	**Sn**	**21 01 43.9**	**-7.9**
YUK	**Yuzh-Kuril'sk**	**5.40**	**9**	*e*P	**Pn**	**21 00 50.0**	**-1.6**
YUK				*e*S	**Sn**	**21 01 51.4**	**-1.3**
YUK				pmax	pmax		
	comp=Z,158nm,0.4s						
YUK				pmax	pmax		
	comp=E,42nm,0.1s						
YUK				pmax	pmax		
	comp=N,78nm,0.3s						
YUK				smax	smax		
	comp=N,374nm,0.4s						
YUK				smax	smax		
	comp=E,185nm,0.4s						
SHO	**Shikotan**	**5.41**	**16**	*e*P	Pn	21 00 48.0	-3.6
SHO				*e*S	**Sn**	**21 01 49.5**	**-3.3**
SHO				pmax	pmax		
	comp=Z,163nm,0.4s						
SHO				pmax	pmax		
	comp=N,65nm,0.5s						
SHO				pmax	pmax		
	comp=E,74nm,0.4s						
SHO				smax	smax		
	comp=N,266nm,0.5s						
SHO				smax	smax		
	comp=E,356nm,0.5s						
LAGR	**Lagunnoye**	**5.41**	**8**	*i* P	**Pn**	**21 00 50.0**	**-1.7**
LAGR				*e*S	**Sn**	**21 01 51.3**	**-1.7**
MJAR	**Matsushiro Arr**	**5.60**	**249**	Pn	**Pn**	**21 00 53.4**	**-1.0**
	comp=E,4.3nm,0.3s,baz=50,slow=9.5,SNR=58						
MJAR				Sn	**Sn**	**21 01 56.2**	**-1.6**
	comp=E,4.8nm,0.3s,baz=248,slow=25,SNR=5.7						
MAJO	**Matsushiro**	**5.60**	**249**	*e*Pn	**Pn**	**21 00 53.2**	**-1.2**
MAJO				*e*Sn	**Sn**	**21 01 56.2**	**-1.6**
MAJO	**Matsushiro**	**5.60**	**249**	*e*P	**Pn**	**21 00 53.2**	**-1.2**
MAJO				*e*		21 01 56.3	
MAT	**Matsushiro**	**5.60**	**249**	P	**Pn**	**21 00 53.5**	**-0.9**
MAT				S	**Sn**	**21 01 57.0**	**-0.9**
**

HHC				S	S	21 09 22.3	-2.2	
HHC				pmax	pmax			
	comp=N,12nm,0.9s							
HHC				pmax	pmax			
	comp=N,200nm,4.7s							
HHC				LR	LR			
	comp=N,280nm,10.1s							
HHC				LR	LR			
	comp=N,340nm,11.0s							
HHC				LR	LR			
	comp=N,440nm,9.8s							
BOD	**Bodaibo**	**27.63**	**324**	*e*P	**P**	**21 05 18.3**	**+0.5**	
BOD				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SONA0	**Songino Array**	**29.11**	**301**	*e*P	**P**	**21 05 32.1**	**+0.8**	
SONM	**Songino Array**	**29.11**	**301**	P	**P**	**21 05 32.1**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=97,slow=9.6,SNR=5.7							
ENH	**Enshi**	**30.09**	**265**	*e*P	**P**	**21 05 40.2**	**+0.1**	
	comp=Z,18nm,1.3s							
TIXI	**Tiksi**	**34.00**	**351**	P	**P**	**21 06 13.8**	**0.0**	
	comp=Z,4.4nm,0.6s,baz=46,slow=0.4,SNR=5.5							
TIXI	**Tiksi**	**34.00**	**351**	*e*P	**P**	**21 06 14.3**	**+0.6**	
	comp=Z,5.0nm,0.8s							
TIXI	**Tiksi**	**34.00**	**351**	*ce*P	**P**	**21 06 14.4**	**+0.6**	
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
GTA	**Gaotai**	**34.61**	**286**	*e*P	**P**	**21 06 21.4**	**+1.7**	
GTA				pP	pP	21 06 25.1	-3.0	
GTA				sP	sP	21 06 27.8	-3.8	
DAV	**Davao City (W)**	**35.92**	**214**	LR	LR	21 19 10.3		
	comp=Z,53nm,21.2s,baz=329,slow=33							
ZAA1	**Zalesovo Array**	**42.76**	**311**	*e*P	**P**	**21 07 27.4**	**-0.2**	
ZAA1				*e*PcP	**PcP**	**21 09 19.0**	**+0.4**	
ZALV	**Zalesovo Beam**	**42.76**	**311**	P	**P**	**21 07 27.4**	**-0.2**	
	comp=Z,1.1nm,0.6s,baz=97,slow=7.8,SNR=6.3							
ZALV				PcP	**PcP**	**21 09 19.0**	**+0.4**	
	comp=Z,2.2nm,0.4s,baz=94,slow=3.4,SNR=11							
ZALV	**Zalesovo Beam**	**42.76**	**311**	*e*P	**P**	**21 07 28.0**	**+0.4**	
ZALV				*e*PcP	**PcP**	**21 09 18.6**	**0.0**	
ZALV	**Zalesovo Beam**	**42.76**	**311**	*e*P	**P**	**21 07 28.0**	**+0.4**	
ZALV				*e*		21 09 18.7		
KDAK	**Kodiak Island**	**44.10**	**43**	P	**P**	**21 07 37.7**	**-0.6**	
	baz=326,slow=7.2							
KDAK	**Kodiak Island**	**44.10**	**43**	*i* P	**P**	**21 07 38.2**	**-0.2**	
CMAR	**Chiang Mai Arr**	**44.45**	**256**	P	**P**	**21 07 41.7**	**+0.1**	
	comp=Z,0.6nm,0.7s,baz=41,slow=7.6,SNR=8.2							
MK01	**Makanchi Array**	**45.47**	**301**	*e*P	**P**	**21 07 50.2**	**+0.7**	
MK31	**Makanchi Array**	**45.48**	**301**	*e*P	**P**	**21 07 50.5**	**+1.0**	
MK31	**Makanchi Array**	**45.48**	**301**	*e*P	**P**	**21 07 50.6**	**+1.0**	
MK32	**Makanchi Array**	**45.48**	**301**	*e*P	**P**	**21 07 50.3**	**+0.8**	
MK32				*e*PcP	**PcP**	**21 09 28.2**	**+0.1**	
MKAR	**Makanchi Array**	**45.48**	**301**	P	**P**	**21 07 50.3**	**+0.8**	
	comp=Z,2.6nm,0.7s,baz=82,slow=9.9,SNR=11							
MKAR				PcP	**PcP**	**21 09 28.2**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=72,slow=5.4,SNR=3.4							
MKAR	**Makanchi Array**	**45.48**	**301**	*e*P	**P**	**21 07 50.5**	**+1.0**	
	comp=Z,19nm,0.8s							
MKAR				PcP	**PcP**	**21 09 28.2**	**+0.1**	
MKAR	**Makanchi Array**	**45.48**	**301**	*i* P	**P**	**21 07 50.2**	**+0.7**	
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MAKZ	**Makanchi**	**45.68**	**301**	*e*P	**P**	**21 07 51.9**	**+0.7**	
	comp=Z,3.5nm,1.0s							
MAKZ	**Makanchi**	**45.68**	**301**	*e*P	**P**	**21 07 51.9**	**+0.7**	
MAKZ				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MDM	**Murphy Dome**	**46.10**	**33**	*e*P	**P**	**21 07 55.4**	**+1.1**	
	comp=Z,5.7nm,1.0s							
ILAR	**Eielson Array**	**46.68**	**33**	P	**P**	**21 07 58.9**	**+0.2**	
	comp=Z,1.7nm,0.8s,baz=263,slow=6.7,SNR=18							
ILB	**Eielson Array**	**46.68**	**33**	*e*P	**P**	**21 07 58.9**	**+0.2**	
KURK	**Kurchatov**	**46.99**	**307**	*e*P	**P**	**21 08 01.9**	**+0.6**	
	comp=Z,5.5nm,0.8s							
KURK	**Kurchatov**	**46.99**	**307**	*ce*P	**P**	**21 08 02.2**	**+0.9**	
KURK				pmax	pmax			
	comp=Z,19nm,0.8s							
KURBB	**Kurchatov Arra**	**47.06**	**307**	P	**P**	**21 08 02.4**	**+0.5**	
	comp=Z,4.6nm,0.6s,baz=81,slow=8.1,SNR=35							
PDGK	**Podgornoye**	**48.32**	**297**	P	**P**	**21 08 11.1**	**-0.9**	
PDGK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
TAPN	**Taplejung**	**48.44**	**274**	*e*P	**P**	**21 08 14.4**	**+1.2**	
ODAN	**Odare**	**48.92**	**274**	*e*P	**P**	**21 08 18.0**	**+1.1**	
JIRN	**Jiri**	**49.47**	**276**	*e*P	**P**	**21 08 22.2**	**+0.9**	
RAMN	**Ramite**	**49.49**	**274**	*e*P	**P**	**21 08 22.0**	**+0.7**	
	comp=Z,37nm,0.9s							
GUN	**Gumba**	**49.59**	**276**	*e*P	**P**	**21 08 23.0**	**+0.8**	
	comp=Z,40nm,1.0s							
TARG	**Taragay, Kyrgy**	**50.02**	**296**	*e*P	**P**	**21 08 26.3**	**+1.0**	
	comp=Z,5.0nm,0.8s							
KKN	**Kakani**	**50.12**	**276**	*e*P	**P**	**21 08 26.8**	**+0.8**	
	comp=Z,27nm,1.0s							
PKI	**Pulchoki**	**50.12**	**276**	*e*P	**P**	**21 08 26.6**	**+0.4**	
PKIN	**Phulchoki**	**50.13**	**276**	*e*P	**P**	**21 08 27.2**	**+1.1**	
	comp=Z,9.8nm,0.7s							
DMN	**Daman**	**50.34**	**276**	*e*P	**P**	**21 08 29.2**	**+1.5**	
	comp=Z,9.4nm,0.8s							
DANN	**Dangsing**	**51.03**	**278**	*e*P	**P**	**21 08 34.6**	**+1.6**	
BVAR	**Borovoye Array**	**51.40**	**312**	P	**P**	**21 08 35.5**	**+0.5**	
	comp=Z,2.3nm,0.8s,baz=83,slow=7.0,SNR=12							
BVAR				PcP	**PcP**	**21 09 50.1**	**+0.8**	
	comp=Z,1.7nm,0.7s,baz=62,slow=3.4,SNR=4.2							
KOLN	**Koldanda**	**51.43**	**277**	*e*P	**P**	**21 08 36.8**	**+0.9**	
	comp=Z,20nm,0.9s							
BRVK	**Borovoye**	**51.45**	**312**	*ce*P	**P**	**21 08 37.5**	**+2.1**	
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
OTUK	**Ortayu**	**51.58**	**306**	P	**P**	**21 08 37.6**	**+1.1**	
OTUK				pmax	pmax			
	comp=Z,6.0nm,1.6s							
PYUN	**Piuthan**	**51.75**	**278**	*e*P	**P**	**21 08 39.1**	**+0.9**	
	comp=Z,37nm,0.8s							
BATI	**Baumata**	**52.47**	**206**	LR	LR	21 32 22.3		
	comp=Z,53nm,19.6s,baz=308,slow=38							
MNAS	**Manas**	**53.43**	**299**	P	**P**	**21 08 51.2**	**+0.7**	
MNAS				pmax	pmax			
	comp=Z,6.0nm,0.8s							
SFK	**Sufi-Kurgan**	**53.69**	**296**	P	**P**	**21 08 53.3**	**+0.9**	
SFK				pmax	pmax			
	comp=Z,5.0nm,2.1s							
KKAR	**Karatay Array**	**54.56**	**300**	*e*P	**P**	**21 08 58.9**	**+0.4**	
KKAR	**Karatay Array**	**54.56**	**300**	*e*P	**P**	**21 08 58.9**	**+0.4**	
ARU	**Arti**	**56.85**	**319**	*e*P	**P**	**21 09 15.2**	**+0.5**	
	comp=Z,7.2nm,0.8s							
ARU	**Arti**	**56.85**	**319**	*c i*P	**P**	**21 09 15.8**	**+1.1**	
ARU						21 10 07.7		
ARU				S	**S**	**21 17 10.2**	**+4.1**	
ARU				pmax	pmax			
	comp=Z,24nm,2.5s							
ABKAR	**Akbulak array**	**58.87**	**310**	*e*P	**P**	**21 09 29.9**	**+1.0**	
	comp=Z,24nm,0.7s							
WRAB	**Tennant Creek**	**59.13**	**191**	*ce*P	**P**	**21 09 29.5**	**-1.5**	
WRAB				pmax	pmax			
	comp=Z,16nm,1.2s							
WR1	**Warramunga Arr**	**59.14**	**191**	*e*P	**P**	**21 09 28.6**	**-2.5**	
	comp=Z,6.7nm,0.8s							
WRA	**Warramunga Arr**	**59.14**	**191**	P	**P**	**21 09 28.6**	**-2.5**	
	comp=Z,5.5nm,0.7s,baz=12,slow=7.3,SNR=52							
FITZ	**Fitzroy Crossi**	**59.27**	**201**	P	**P**	**21 09 30.7**	**-1.2**	
	comp=Z,3.4nm,0.8s,baz=344,slow=8.5,SNR=3.7							
AKTO	**Aktyubinsk**	**59.51**	**312**	P	**P**	**21 09 33.8**	**+0.4**	
	comp=Z,2.7nm,0.9s,baz=70,slow=12,SNR=8.0							
RES	**Resolute Bay**	**60.32**	**15**	*e*P	**P**	**21 09 39.3**	**+0.8**	
	comp=Z,23nm,2.0s							
RES	**Resolute Bay**	**60.32**	**15**	*e*P	**P**	**21 09 39.3**	**+0.8**	
RES				pmax	pmax			
	comp=Z,23nm,2.0s							
YKA	**Yellowknife Ar**	**61.04**	**31**	P	**P**	**21 09 43.5**	**-0.1**	
	comp=Z,0.7nm,0.6s,baz=301,slow=6.5,SNR=12							
YKA				LR	LR	21 40 13.9		
	comp=Z,6.2nm,18.5s,baz=0.0,slow=40							
YKA	**Yellowknife Ar**	**61.04**	**31**	*ce*P	**P**	**21 09 43.9**	**+0.3**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AS01	**Alice Springs**	**62.85**	**191**	*e*P	**P**	**21 09 54.4**	**-1.9**	
AS31	**Alice Springs**	**62.86**	**191**	*e*P	**P**	**21 09 54.5**	**-1.8**	
	comp=Z,0.9nm,0.6s							
ASAR	**Alice Springs**	**62.86**	**191**	P	**P**	**21 09 54.5**	**-1.7**	
	comp=Z,2.2nm,0.7s,baz=11,slow=6.6,SNR=28							
GEYT	**Alibeck**	**65.31**	**300**	P	**P**	**21 10 13.2**	**+0.8**	
	comp=Z,2.2nm,0.7s,baz=65,slow=3.9,SNR=5.6							
OBN	**Obninsk**	**68.31**	**324**	*e*P	**P**	**21 10 30.5**	**-0.6**	
OBN				*e**PP	**sP**	**21 10 43.7**	**+0.2**	
OBN				*e*		21 10 58.2		
OBN				*e*S	**S**	**21 19 26.7**	**-3.2**	
OBN				pmax	pmax			
	comp=Z,5.0nm,1.1s							
OBN				MLR	MLR			
	comp=Z,250nm,13.0s							
FIA0	**FINESS Array S**	**68.54**	**333**	*e*P	**P**	**21 10 33.4**	**+0.9**	
FIA0	**FINESS Array S**	**68.54**	**333**	*e*P	**P**	**21 10 33.4**	**+0.9**	
FINES	**FINESS Array B**	**68.54**	**333**	P	**P**	**21 10 33.4**	**+0.9**	
	comp=Z,5.8nm,0.7s,baz=42,slow=6.2,SNR=19							
FFC	**Flin Flon**	**70.87**	**34**	*e*P	**P**	**21 10 47.0**	**0.0**	
	comp=Z,5.3nm,1.1s							
FFC	**Flin Flon**	**70.87**	**34**	*e*P	**P**	**21 10 47.0**	**0.0**	
FFC				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KIV	**Kislovodsk**	**71.77**	**312**	*e*P	**P**	**21 10 55.1**	**+2.3**	
	comp=Z,10nm,0.9s							
KIV	**Kislovodsk**	**71.77**	**312**	*e*P	**P**	**21 10 55.1**	**+2.3**	
KIV				pmax	pmax			
	comp=Z,13nm,1.0s							
KBZ	**Khabaz**	**71.78**	**312**	P	**P**	**21 10 54.3**	**+1.6**	
	comp=Z,5.2nm,0.9s,baz=68,slow=3.2,SNR=16							
NV01	**Mina Array Sit**	**71.89**	**55**	*e*P	**P**	**21 10 54.2**	**+0.5**	
NVAR	**Mina Array Bea**	**71.89**	**55**	P	**P**	**21 10 54.2**	**+0.5**	
	comp=Z,2.0nm,0.8s,baz=282,slow=6.3,SNR=12							
GNI	**Garni**	**72.79**	**308**	*ce*P	**P**	**21 11 01.7**	**+2.7**	
GNI				pmax	pmax			
	comp=Z,17nm,1.2s							
HFS	**Hagfors**	**73.62**	**337**	P	**P**	**21 11 04.5**	**+1.1**	
	comp=Z,4.5nm,1.0s,baz=14,slow=8.0,SNR=3.3							
NB200	**NORSAR Array S**	**73.64**	**338**	*e*P	**P**	**21 11 04.6**	**+1.1**	
NOA	**NORSAR Array B**	**73.64**	**338**	P	**P**	**21 11 04.6**	**+1.1**	
	comp=Z,1.4nm,0.8s,baz=50,slow=5.2,SNR=2.7							
FRB	**Frobisher Bay**	**74.53**	**15**	P	**P**	**21 11 08.0**	**-0.5**	
	comp=Z,1.3nm,0.4s,baz=138,slow=7.2,SNR=5.1							
AKASG	**Malin Array Be**	**74.55**	**323**	P	**P**	**21 11 08.9**	**0.0**	
	comp=Z,1.3nm,0.5s,baz=46,slow=6.0,SNR=14							
AKASG	**Malin Array Be**	**74.55**	**323**	*ce*P	**P**	**21 11 10.6**	**+1.7**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKBB	**Malin Array Si**	**74.55**	**323**	*e*P	**P**	**21 11 08.9**	**0.0**	
	comp=Z,29nm,2.0s							
AKBB	**Malin Array Si**	**74.55**	**323**	*e*P	**P**	**21 11 08.9**	**0.0**	
AKBB				pmax	pmax			
	comp=Z,29nm,2.0s							
KIEV	**Kiev**	**74.57**	**323**	*i* P	**P**	**21 11 07.5**	**-1.5**	
KIEV				pmax	pmax			
	comp=Z,4.0nm,1.1s							
PD31	**Pinedale Array**	**74.62**	**47**	*e*P	**P**	**21 11 10.1**	**+0.3**	
PDAR	**Pinedale Array**	**74.62**	**47**	P	**P**	**21 11 10.1**	**+0.3**	
	comp=Z,1.0nm,0.6s,baz=270,slow=2.7,SNR=6.8							
BELC	**Belle Mtn. Jos**	**76.01**	**58**	*e*P	P	21 11 13.5	-4.3	
PV10	**Paradox Valley**	**77.70**	**51**	*e*P	**P**	**21 11 28.8**	**+1.4**	
BR101	**Keskin Array S**	**79.67**	**313**	*e*P	**P**	**21 11 38.7**	**+0.6**	
BRTR	**Keskin Array B**	**79.67**	**313**	P	**P**	**21 11 38.7**	**+0.6**	
	comp=Z,0.7nm,0.7s,baz=54,slow=6.3,SNR=3.7							
CLL	**Collm**	**80.92**	**332**	*e*P	**P**	**21 11 44.0**	**-0.4**	
	comp=Z,8.0nm,1.1s							
CLL	**Collm**	**80.92**	**332**	*e*P	**P**	**21 11 44.0**	**-0.4**	
CLL				pmax	pmax			
	comp=Z,8.0nm,1.1s							
RAYN	**Ar Rayn**	**82.41**	**294**	*e*P	**P**	**21 11 53.4**	**+0.5**	
	comp=Z,2.1nm,0.8s							
KHC	**Kasperske Hory**	**82.45**	**330**	*e*P	**P**	**21 11 53.0**	**+0.4**	
KHC	**Kasperske Hory**	**82.45**	**330**	*e*P	**P**	**21 11 53.0**	**+0.4**	
GERES	**GERESS Array B**	**82.64**	**330**	P	**P**	**21 11 54.2**	**+0.6**	
	comp=Z,0.6nm,0.6s,baz=32,slow=5.2,SNR=7.3							
MMAI	**Mount Meron Ar**	**83.10**	**307**	P	**P**	**21 11 57.5**	**+1.3**	
	comp=Z,2.5nm,0.8s,baz=17,slow=6.5,SNR=3.3							
LTX	**Lajitas**	**87.03**	**54**	*e*P	**P**	**21 12 17.1**	**+1.0**	
LTX	**Lajitas**	**87.03**	**54**	*e*P	**P**	**21 12 17.1**	**+1.0**	
TXAR	**Lajitas Array**	**87.03**	**54**	P	**P**	**21 12 17.1**	**+1.0**	
	comp=Z,1.4nm,0.8s,baz=310,slow=4.7,SNR=4.0							
ZAIG	**Zacatecas**	**92.25**	**58**	*e*P	**P**	**21 12 40.8**	**-0.1**	
	comp=Z,0.0nm,0.9s							
TOA1	**Torodi Ar. Sit**	**117.92**	**318**	*e*PKPdf	**PKPdf**	**21 18 16.3**	**-1.1**	
TORD	**Torodi Ar. Bea**	**117.92**	**318**	PKP	**PKPdf**	**21 18 16.3**	**-1.1**	
	comp=Z,0.2nm,0.4s,baz=34,slow=2.2,SNR=4.0							

NIED ***08*** *21:07:00.24˚80N×122˚40E,h8km,Mw4.1 Best double couple: M₀1.53000×10¹⁵ NP1:φ₀267.00000°,δ46.00000°, λ-72.00000°. NP2:φ₀62.00000°,δ47.00000°, λ-108.00000°.*
TAP ***08*** *21:07:46.8,24˚95N×122˚48E,h16km,ML3.9,C*
ISCJB ***08*** *21:07:47.4±0.4,24˚95N±0˚02×122˚46E±0˚02,h8km±2km, mb3.6/14,Error ellipse: s-maj=3.7km s-min=2.4km az=2.6*
JMA ***08*** *21:07:48.0±0.1,24˚83N×122˚40E,h0km,M3.7*
IDC ***08*** *21:08:07.8±4.4,25˚26N×122˚19E,h167km±43km, mb3.3/14,mb1 3.4/15,mb1mx3.3/65,mbtmp3.8/15,MS3.3/1, Ms1 3.3/1,ms1mx2.8/27,Error ellipse: s-maj=18.9km s-min=14.6km az=75.0*

ISC 08 21:07:47.9±1.1,24.92N±0.03×122.43E±0.02,h7km±8km, n84,σ0.87/115,mb3.8/14,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**283**	*i* P	**Pb**	**21 07 56.4**	**-1.1**
	baz=277						
TWB1				*i* S	**Sb**	**21 08 03.2**	**-0.8**
	baz=277						
EGS		**0.46**	**261**	P	**Pb**	**21 07 57.6**	**-0.7**
	baz=257						
EGS				S	**Sb**	**21 08 05.2**	**-0.2**
	baz=257						
NTC	**Toucheng**	**0.55**	**264**	P	**Pb**	**21 07 59.2**	**-0.6**
	baz=260						
NTC				S	**Sb**	**21 08 08.6**	**+0.7**
	baz=260						
TIPB	**Shuangxi**	**0.55**	**276**	P	**Pg**	**21 07 58.7**	**+0.2**
	baz=272						
TIPB				*e*S	**Sb**	**21 08 06.6**	**-1.4**
	baz=272						
NWF	**Wu-fen Shan**	**0.61**	**285**	P	**Pb**	**21 08 00.5**	**-0.5**
	baz=280						
NWF				S	**Sb**	**21 08 10.0**	**+0.2**
	baz=280						
TWC	**Suao**	**0.61**	**240**	P	**Pg**	**21 07 59.6**	**0.0**
	baz=238						
TWC				S	**Sb**	**21 08 09.0**	**-0.7**
	baz=238						
ILA	**Ilan**	**0.64**	**256**	P	**Pb**	**21 08 00.9**	**-0.5**
	baz=254						
JYNG	**Yonaguni jimaku**	**0.66**	**135**	P	**Pg**	**21 08 00.6**	**+0.1**
JYNG				S	**Sg**	**21 08 09.8**	**+0.7**
YOJ	**Yonaguni jima**	**0.70**	**131**	P	**Pg**	**21 08 01.1**	**-0.1**
YOJ				*e*S	**Sg**	**21 08 10.2**	**-0.1**
TWE	**Neicheng**	**0.72**	**254**	P	**Pg**	**21 08 02.1**	**+0.4**
	baz=252						
TWE				S	**Sb**	**21 08 12.9**	**0.0**
	baz=252						
ENAH	**Nanao**	**0.73**	**231**	P	**Pg**	**21 08 02.0**	**+0.1**
	baz=230						
ENAH				S	**Sg**	**21 08 12.3**	**+0.8**
	baz=230						
ENA	**Nanau**	**0.79**	**232**	P	**Pg**	**21 08 02.9**	**-0.3**
	baz=232						
ENA				S	**Sb**	**21 08 14.7**	**-0.3**
	baz=232						
YM10	**YM10**	**0.82**	**287**	P	**Pb**	**21 08 03.9**	**-0.7**
	baz=284						
ENTT	**Nioudou**	**0.83**	**251**	P	**Pg**	**21 08 04.1**	**+0.2**
	baz=234						
ENTT				S	**Sb**	**21 08 16.5**	**+0.3**
	baz=234						
TWY	**Chenhua**	**0.83**	**296**	*e*P	**Pb**	**21 08 04.1**	**-0.6**
	baz=291						
TWY				S	**Sb**	**21 08 16.8**	**+0.6**
	baz=291						
YM04	**YM04**	**0.84**	**286**	P	**Pg**	**21 08 03.8**	**-0.3**
	baz=283						
TAP	**Taipei**	**0.85**	**278**	P	**Pb**	**21 08 04.5**	**-0.4**
	baz=276						
YM03	**YM03**	**0.85**	**288**	P	**Pg**	**21 08 04.1**	**-0.1**
	baz=285						
NWLT	**Wulai**	**0.85**	**261**	P	**Pg**	**21 08 04.1**	**-0.2**
	baz=258						
NWLT				S	**Sb**	**21 08 16.6**	**-0.2**
	baz=258						
NTST	**Danshui**	**0.92**	**286**	P	**Pg**	**21 08 05.3**	**-0.3**
	baz=283						
TWS1	**Kuangyinshan**	**0.94**	**281**	P	**Pb**	**21 08 05.9**	**-0.5**
	baz=278						
TWS1				*e*S	**Sb**	**21 08 19.5**	**+0.4**
	baz=278						
NNSH	**Datong**	**1.07**	**243**	P	**Pg**	**21 08 08.0**	**-0.4**
	baz=242						
NNSH				*e*S	**Sg**	**21 08 22.4**	**+0.1**
	baz=242						
NNS	**Nan Shan**	**1.07**	**244**	P	**Pg**	**21 08 08.0**	**-0.4**
	baz=242						
NNS				*e*S	**Sg**	**21 08 22.5**	**+0.1**
	baz=242						
TWD	**Chiawan**	**1.13**	**223**	P	**Pg**	**21 08 08.9**	**-0.6**
	baz=233						
ENLB	**Shoufeng**	**1.26**	**217**	*e*P	**Pg**	**21 08 11.3**	**-0.7**
	baz=198						
ENLB				*e*S	**Sb**	**21 08 29.1**	**+0.7**
	baz=198						
WHF	**Hehuan Shan**	**1.31**	**234**	*e*P	**Pg**	**21 08 12.2**	**-0.9**
	baz=233						
WHF				*e*S	**Sg**	**21 08 30.3**	**+0.2**
	baz=233						
LIOB	**Emei**	**1.31**	**258**	*e*P	**Pn**	**21 08 11.7**	**-1.1**
	baz=257						
IRIF	**Iriomote-Funau**	**1.32**	**116**	P	**Pg**	**21 08 13.3**	**+0.2**
IRIF				S	**Sg**	**21 08 30.2**	**0.0**
TWT	**Tachien**	**1.32**	**240**	*e*P	**Pb**	**21 08 13.2**	**0.0**
	baz=239						
TWT				*e*S	**Sn**	**21 08 31.0**	**+0.1**
	baz=239						
ESL	**Shilin**	**1.43**	**220**	*e*P	**Pn**	**21 08 13.5**	**-0.8**
	baz=219						
OWD	**Renai**	**1.49**	**230**	*e*P	**Pn**	**21 08 14.4**	**-0.9**
	baz=210						
HATJ	**Hateruma jima**	**1.52**	**124**	P	**Pb**	**21 08 16.5**	**+0.1**
HATJ				S	**Sb**	**21 08 36.2**	**+0.4**
NMLH	**Miaoli**	**1.54**	**256**	*e*P	**Pn**	**21 08 15.6**	**-0.2**
	baz=269						
EGFH	**Guangfu**	**1.54**	**217**	*e*P	**Pn**	**21 08 14.7**	**-1.2**
	baz=199						
JKRS	**Kuro-shima**	**1.59**	**115**	P	**Pb**	**21 08 17.6**	**0.0**
NSY	**Sanyi**	**1.60**	**252**	*e*P	**Pn**	**21 08 17.1**	**+0.5**
	baz=249						
NSY				*e*S	**Sb**	**21 08 38.8**	**+0.5**
	baz=249						
TWQ1	**Liyutan**	**1.61**	**250**	*e*P	**Pn**	**21 08 16.8**	**0.0**
	baz=263						
DPDB	**Guoxing**	**1.63**	**238**	*e*P	**Pn**	**21 08 16.8**	**-0.3**
	baz=237						
JIJ	**Ishigaki jima**	**1.65**	**109**	P	**Pb**	**21 08 18.8**	**+0.1**
EHY	**Hungye**	**1.73**	**216**	*e*P	**Pn**	**21 08 17.7**	**-0.8**
	baz=215						
SMLT	**Sun Moon Lake**	**1.73**	**234**	*e*P	**Pn**	**21 08 19.2**	**+0.6**
	baz=232						
SMLT				*e*S	**Sb**	**21 08 42.0**	**-0.1**
	baz=232						
JISG	**Ishigakijimahi**	**1.74**	**100**	P	**Pb**	**21 08 19.7**	**-0.5**
TYC	**Yuchr**	**1.75**	**235**	*e*P	**Pb**	**21 08 20.1**	**-0.3**
	baz=216						
TCU	**Taichung**	**1.77**	**245**	*e*P	**Pn**	**21 08 19.8**	**+0.8**
	baz=243						
TWF1	**Yuli**	**1.87**	**214**	*e*P	**Pn**	**21 08 18.6**	**-1.8**
	baz=213						
WJS	**Zhushan**	**1.90**	**235**	*e*P	**Pb**	**21 08 22.2**	**-0.7**
	baz=215						
WJS				*e*S	**Sb**	**21 08 47.8**	**+1.0**
	baz=215						
WNT	**Mingjian**	**1.90**	**237**	*e*P	**Pn**	**21 08 20.7**	**0.0**
	baz=253						
WNT				*e*S	**Sb**	**21 08 47.2**	**+0.3**
	baz=253						
YUS	**Yu-Shan**	**1.96**	**224**	*e*P	**Pn**	**21 08 22.8**	**+0.8**
	baz=206						
FULB	**Fuli**	**2.00**	**212**	*e*P	**Pn**	**21 08 21.3**	**-0.9**
	baz=196						
ALS	**Alishan**	**2.04**	**227**	*e*P	**Pn**	**21 08 22.8**	**-0.2**
	baz=209						
ALS				*e*S	**Sn**	**21 08 49.6**	**+0.7**
	baz=209						
CHN5	**Tsauling**	**2.07**	**231**	*e*P	**Pn**	**21 08 24.3**	**+1.1**
	baz=212						
CHN5				*e*S	**Sb**	**21 08 51.1**	**-0.8**
	baz=212						
JTJ	**Tarama**	**2.08**	**97**	P	**Pb**	**21 08 25.0**	**-1.0**
WDLH	**Douliu**	**2.12**	**235**	*e*P	**Pn**	**21 08 24.9**	**+1.2**
	baz=251						
WDLH				*e*S	**Sb**	**21 08 52.9**	**-0.2**
	baz=251						
ELDTW	**Lidau**	**2.15**	**217**	*e*P	**Pn**	**21 08 23.7**	**-0.6**
	baz=202						
CHN2	**Minshiung**	**2.26**	**233**	*e*S	**Sb**	**21 08 55.9**	**-1.2**
	baz=248						
STYT	**Tauyan**	**2.32**	**222**	*e*P	**Pn**	**21 08 26.4**	**-0.2**
	baz=206						
STYT				*e*S	**Sn**	**21 08 56.5**	**+1.0**
	baz=206						
WTP	**Ta-pu**	**2.35**	**225**	*e*P	**Pn**	**21 08 27.6**	**+0.6**
	baz=208						
WTP				*e*S	**Sn**	**21 08 57.7**	**+1.5**
	baz=208						
TWH	**Lutao**	**2.36**	**202**	*e*P	**Pn**	**21 08 26.1**	**-1.0**
	baz=200						
WSF	**Szhu**	**2.38**

ISC 08 21:09:16.1±0.6, 4.72S±0.08×154.13E±0.09, h100km, n36, σ0.870/31, mb4.2/22, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.43**	**129**	P	**Pn**	**21 11 02.1**	**+0.2**
	22nm,0.3s,baz=203,slow=3.3,SNR=4.0						
HNR				LR	LR	21 14 12.1	
	comp=Z,284nm,18.6s,baz=316,slow=40						
PMG	**Port Moresby**	**8.34**	**236**	P	**Pn**	**21 11 13.1**	**-1.2**
	3.3nm,0.3s,baz=16,slow=8.3,SNR=5.5						
PMG				S	**Sn**	**21 12 48.4**	**+1.6**
	3.9nm,0.3s,baz=108,slow=20,SNR=8.6						
PMG				LR	LR	21 14 15.0	
	comp=Z,135nm,21.4s,baz=58,slow=36						
CTA	**Charters Tower**	**17.09**	**206**	P	**P**	**21 13 09.8**	**+0.6**
	0.4nm,0.3s,baz=35,slow=14,SNR=9.0						
CTAO	**Charters Tower**	**17.09**	**206**	*eP*n	**Pn**	**21 13 08.6**	**-0.4**
	35nm,0.8s						
GUMO	**Guam**	**20.38**	**333**	LR	LR	21 22 02.2	
	comp=Z,47nm,19.5s,baz=111,slow=38						
DZM	**Mont Dzumac**	**20.97**	**146**	P	**P**	**21 13 51.8**	**+0.3**
	5.2nm,0.8s,baz=330,slow=20,SNR=6.1						
WRAB	**Tennant Creek**	**24.49**	**230**	*eP*	**P**	**21 14 27.1**	**+0.9**
	11nm,0.4s						
WRA	**Warramunga Arr**	**24.50**	**230**	P	**P**	**21 14 27.0**	**+0.7**
	13nm,0.8s,baz=55,slow=9.9,SNR=110						
H11S3	**WAKE ISLAND Hy**	**26.18**	**28**	T	T	21 41 55.4	
	baz=205,slow=77,SNR=39						
H11S2	**WAKE ISLAND Hy**	**26.18**	**28**	T	T	21 41 46.5	
	baz=205,slow=77,SNR=35						
H11S1	**WAKE ISLAND Hy**	**26.20**	**28**	T	T	21 41 47.3	
	baz=205,slow=77,SNR=28						
ASAR	**Alice Springs**	**27.12**	**224**	P	**P**	**21 14 50.5**	**+0.6**
	2.9nm,0.7s,baz=57,slow=9.1,SNR=29						
STKA	**Stephens Creek**	**29.46**	**202**	P	**P**	**21 15 09.9**	**-0.8**
	1.9nm,0.5s,baz=22,slow=8.8,SNR=13						
FITZ	**Fitzroy Crossi**	**30.86**	**242**	P	**P**	**21 15 22.9**	**-0.3**
	8.0nm,0.5s,baz=52,slow=8.0,SNR=32						
MBWA	**Marble Bar**	**37.16**	**241**	*eP*	**P**	**21 16 17.0**	**-0.6**
	53nm,1.0s						
JNU	**Nakatsue**	**43.61**	**331**	P	**P**	**21 17 09.7**	**-1.0**
	12nm,0.8s,baz=261,slow=0.9,SNR=4.8						
KSM	**Kuching**	**44.21**	**277**	*eP*	**P**	**21 17 15.9**	**+0.2**
	2.3nm,0.6s						
CISI	**Cisompet, Garu**	**46.12**	**264**	*eP*	**P**	**21 17 30.4**	**-0.6**
	79nm,0.6s						
ENH	**Enshi**	**55.08**	**312**	P	**P**	**21 18 38.5**	**+0.5**
PETK	**Petropavlovsk-**	**57.69**	**3**	P	**P**	**21 18 56.6**	**+0.5**
	2.0nm,0.7s,baz=156,slow=6.7,SNR=6.3						
CMAR	**Chiang Mai Arr**	**59.05**	**295**	P	**P**	**21 19 07.2**	**+1.0**
	1.5nm,0.7s,baz=112,slow=5.0,SNR=12						
CHTO	**Chiang Mai**	**59.15**	**295**	P	**P**	**21 19 06.9**	**0.0**
	0.4nm,0.5s						
SONM	**Songino Array**	**66.97**	**327**	P	**P**	**21 19 59.2**	**+0.9**
	2.0nm,0.5s,baz=146,slow=5.9,SNR=18						
LSA	**Lhasa**	**69.29**	**304**	P	**P**	**21 20 13.5**	**-0.1**
	0.9nm,0.5s						
KDAK	**Kodiak Island**	**75.51**	**26**	LR	LR	21 51 59.2	
	comp=Z,37nm,19.7s,baz=356,slow=34						
MCK	**McKinley**	**80.28**	**22**	*eP*	**P**	**21 21 14.9**	**-0.8**
	4.1nm,0.9s						
MKAR	**Makanchi Array**	**81.14**	**319**	P	**P**	**21 21 21.2**	**+0.5**
	0.8nm,0.5s,baz=94,slow=7.6,SNR=28						
ILAR	**Eielson Array**	**81.59**	**22**	P	**P**	**21 21 22.5**	**-0.1**
	1.0nm,0.7s,baz=246,slow=5.1,SNR=16						
ZALV	**Zalesovo Beam**	**81.82**	**326**	P	**P**	**21 21 23.8**	**-0.3**
	1.2nm,0.6s,baz=121,slow=5.1,SNR=5.9						
KURK	**Kurchatov**	**84.52**	**322**	P	**P**	**21 21 38.3**	**+0.3**
KURBB	**Kurchatov Arra**	**84.56**	**322**	P	**P**	**21 21 38.3**	**+0.1**
	0.9nm,0.8s,baz=108,slow=4.0,SNR=10						
BVAR	**Borovoye Array**	**89.97**	**323**	P	**P**	**21 22 03.3**	**-1.0**
	1.4nm,0.7s,baz=106,slow=6.0,SNR=11						
NVAR	**Mina Array Bea**	**90.99**	**52**	P	**P**	**21 22 10.2**	**+0.6**
	0.4nm,0.5s,baz=242,slow=5.0,SNR=4.5						
PFO	**Pinyon Flats O**	**92.09**	**57**	LR	LR	21 56 20.0	
	comp=Z,124nm,19.4s,baz=360,slow=31						
YKA	**Yellowknife Ar**	**94.77**	**28**	P	**P**	**21 22 25.9**	**-0.1**
	0.5nm,0.6s,baz=269,slow=4.7,SNR=14						
TORD	**Torodi Ar. Bea**	**151.54**	**289**	PKPbc	**PKPbc**	**21 28 59.1**	**-0.6**
	2.1nm,0.8s,baz=72,slow=2.4,SNR=6.9						

*ISK **08** 21:12:24.1,38.75N×43.59E,h5km,ML3.1/11*
*ISCJB **08** 21:12:25.2±0.6,38.73N±0.03×43.61E±0.05,h5km±5km, Error ellipse: s-maj=6.4km s-min=4.6km az=13.6*
*CSEM **08** 21:12:25.2±0.2,38.73N×43.61E,h2km,ML3.1, Error ellipse: s-maj=5.1km s-min=3.5km az=106.0*
*DDA **08** 21:12:25.0,38.73N×43.53E,h7km,Ml3.2*

ISC 08 21:12:25.2±1.2, 38.73N±0.02×43.63E±0.03, h4km±10km, n40, σ0.975/55, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.23**	**234**	PG	**Pg**	**21 12 30.6**	**+0.9**
VANB	**Van**	**0.23**	**234**	*e*Pg	**Pg**	**21 12 30.6**	**+0.9**
TVAN	**Van**	**0.26**	**221**	*i* P	**Pg**	**21 12 29.9**	**-0.4**
TVAN	**Van**	**0.26**	**221**	P	**Pg**	**21 12 29.9**	**-0.4**
ERCV	**ERCIS-VAN**	**0.37**	**322**	PG	**Pg**	**21 12 32.0**	**-0.4**
ERCV				SG	**Sg**	**21 12 37.8**	**+0.6**
ERCV	**ERCIS-VAN**	**0.37**	**322**	*e*Pg	**Pg**	**21 12 32.0**	**-0.4**
ERCV				*e*Sg	**Sg**	**21 12 37.8**	**+0.6**
CLDR	**Caldiran**	**0.47**	**29**	PG	**Pg**	**21 12 34.3**	**0.0**
CLDR				SG	**Sb**	**21 12 42.3**	**-1.4**
CLDR	**Caldiran**	**0.47**	**29**	*i* P	**Pg**	**21 12 34.1**	**-0.2**
CLDR				*i* S	**Sb**	**21 12 42.7**	**-0.9**
CLDR	**Caldiran**	**0.47**	**29**	P	**Pg**	**21 12 34.1**	**-0.2**
CLDR	**Caldiran**	**0.47**	**29**	*e*Pg	**Pg**	**21 12 34.3**	**0.0**
CLDR				*e*Sg	**Sb**	**21 12 42.3**	**-1.4**
GEVA	**Gevas**	**0.61**	**227**	*i* P	**Pg**	**21 12 35.6**	**-1.3**
GEVA				*i* S	**Sn**	**21 12 50.6**	**-0.5**
GEVA	**Gevas**	**0.61**	**227**	P	**Pg**	**21 12 35.6**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.71**	**277**	*i* P	**Pg**	**21 12 39.2**	**+0.4**
ADCV				*i* S	**Sb**	**21 12 50.1**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.71**	**277**	P	**Pg**	**21 12 39.2**	**+0.4**
ADCV				S	**Sb**	**21 12 50.1**	**-0.3**
BASK	**Baskale_VAN**	**0.74**	**156**	*i* P	**Pb**	**21 12 40.5**	**-0.3**
BASK				*i* S	**Sn**	**21 12 55.7**	**+1.3**
BASK	**Baskale_VAN**	**0.74**	**156**	P	**Pb**	**21 12 40.5**	**-0.3**
DYDN	**Diyadin**	**0.81**	**3**	*i* P	**Pg**	**21 12 41.1**	**+0.2**
DYDN				*i* S	**Sg**	**21 12 52.3**	**+0.9**
DYDN	**Diyadin**	**0.81**	**3**	P	**Pg**	**21 12 41.1**	**+0.2**
DYDN				S	**Sg**	**21 12 52.3**	**+0.9**
TUTA	**Tutak**	**0.92**	**317**	*i* P	**Pg**	**21 12 41.9**	**-1.0**
TUTA				*i* S	**Sg**	**21 12 54.3**	**-0.6**
TUTA	**Tutak**	**0.92**	**317**	P	**Pg**	**21 12 41.9**	**-1.0**
TUTA				S	**Sg**	**21 12 54.3**	**-0.6**
AGRB	**Hanur-Agry**	**0.98**	**330**	PG	**Pg**	**21 12 43.0**	**-1.0**
AGRB	**Hanur-Agry**	**0.98**	**330**	*e*Pg	**Pg**	**21 12 43.0**	**-1.0**
GURO	**Guroymak-BITLI**	**1.26**	**262**	PN	**Pg**	**21 12 48.6**	**-0.8**
GURO	**Guroymak-BITLI**	**1.26**	**262**	*e*Pn	**Pg**	**21 12 48.6**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.34**	**21**	PN	**Pb**	**21 12 51.2**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.34**	**21**	*e*Pn	**Pb**	**21 12 51.2**	**+0.3**
EATA	**Eleskirt**	**1.43**	**322**	*i* P	**Pn**	**21 12 52.0**	**-0.3**
EATA				*i* S	**Sn**	**21 13 12.8**	**+1.0**
EATA	**Eleskirt**	**1.43**	**322**	P	**Pn**	**21 12 52.0**	**-0.3**
EATA				S	**Sn**	**21 13 12.8**	**+1.0**
CUKT	**Cukurca**	**1.48**	**181**	PN	**Pn**	**21 12 53.1**	**+0.4**
CUKT	**Cukurca**	**1.48**	**181**	*e*Pn	**Pn**	**21 12 53.1**	**+0.4**
SIRT	**Sirnak**	**1.54**	**218**	PN	**Pb**	**21 12 54.2**	**-0.2**
SIRT	**Sirnak**	**1.54**	**218**	*e*Pn	**Pb**	**21 12 54.2**	**-0.2**
KARS	**Kars**	**1.94**	**348**	PN	**Pn**	**21 12 58.7**	**-0.4**
KARS	**Kars**	**1.94**	**348**	*e*Pn	**Pn**	**21 12 58.7**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.08**	**332**	PN	**Pn**	**21 13 01.6**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.08**	**332**	*e*Pn	**Pn**	**21 13 01.6**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**3.17**	**303**	PN	**Pn**	**21 13 16.6**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**3.17**	**303**	*e*Pn	**Pn**	**21 13 16.6**	**+0.6**
PTK	**Pertek**	**3.31**	**274**	PN	**Pn**	**21 13 19.0**	**+1.0**
PTK	**Pertek**	**3.31**	**274**	*e*Pn	**Pn**	**21 13 19.0**	**+1.0**

*IDC **08** 21:34:08.7±3.9,37.27N×74.72E,h0km, mb3.8/2, mb1 3.5/6, mb1mx3.3/68, mbtmp3.5/6, ML3.1/4, Error ellipse: s-maj=61.8km s-min=33.0km az=0.0*
*BJI **08** 21:34:11.5,37.69N×74.51E,h11km,mb3.5/2,ML3.7/2*
*NNC **08** 21:34:11.3±8.1,37.77N×75.19E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=66.0km s-min=55.3km az=43.0*

ISC 08 21:34:13.2±1.6, 37.7N±0.1×74.6E±0.1, h10km, n13, σ2.989/16, 2C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.09**	**31**	Pg	Pn	21 34 41.2	-7.1
KSH					Sg	Sn	21 35 01.7	-13
KSH					smax	smax		
	comp=N,550nm,0.9s							
KSH					smax	smax		
	comp=E,540nm,0.8s							
SFK	**Sufi-Kurgan**	**2.43**	**340**	⇓Pn	**Pb**	**21 34 54.2**	**-2.9**
	39nm,0.4s							
SFK				⇓Sn	**Sg**	**21 35 28.2**	**-3.2**
	50nm,0.3s							
MNAS	**Manas**	**5.01**	**342**	⇑Pn	**Pn**	**21 35 28.3**	**-0.3**
	4.0nm,0.4s							
MNAS				⇓Sn	**Sn**	**21 36 30.9**	**+4.3**
	8.7nm,1.0s							
TKM2	**Tokmak 2**	**5.24**	**8**	⇑Pn	**Pn**	**21 35 34.0**	**+2.2**
	4.5nm,0.6s							
TKM2				⇓Sn	**Sn**	**21 36 32.6**	**+0.3**
	8.4nm,0.7s							
KK31	**Karatay Array**	**6.20**	**331**	⇓Pn	**Pn**	**21 35 43.9**	**-0.9**
	2.4nm,0.5s,baz=136,slow=13							
KK31				⇓Sn	**Sn**	**21 37 02.8**	**+7.1**
	4.1nm,0.7s,baz=137,slow=26							
MKAR	**Makanchi Array**	**10.70**	**30**	Pn	**Pn**	**21 36 47.6**	**+1.2**
	0.1nm,0.3s,baz=211,slow=17,SNR=4.0							
WMQ	**Urumqi**	**11.64**	**54**	*e*P	**Pn**	**21 37 01.8**	**+2.4**
BVAR	**Borovoye Array**	**15.57**	**351**	Pn	**P**	**21 37 54.6**	**-2.3**
	0.3nm,0.3s,baz=156,slow=11,SNR=7.9							
AKTO	**Aktyubinsk**	**17.36**	**322**	P	**P**	**21 38 18.2**	**+1.4**
	0.1nm,0.3s,baz=130,slow=14,SNR=5.3							
ZALV	**Zalesovo Beam**	**17.68**	**20**	P	**P**	**21 38 21.2**	**+0.9**
	0.1nm,0.3s,baz=206,slow=16,SNR=2.6							
GTA	**Gaotai**	**19.78**	**77**	*e*P	**P**	**21 38 42.9**	**-0.7**
GTA				pP	pP	21 38 46.1	-0.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array**	**25.27**	**56**	P	**P**	**21 39 39.2**	**-0.4**
	0.6nm,0.7s,baz=258,slow=7.2,SNR=3.9							
HFS	**Hagfors**	**43.90**	**321**	P	**P**	**21 42 19.3**	**-0.3**
	3.6nm,0.9s,baz=83,slow=12,SNR=3.3							

IDC 08 21:36:21.8±1.5, 2.00N×124.61E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/55, mbtmp3.5/4, Error ellipse: s-maj=218.4km s-min=20.7km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.80**	**157**	P	P	21 41 36.6	0.0
	1.4nm,0.7s,baz=334,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**27.07**	**161**	P	P	21 42 06.8	+0.5
	0.2nm,0.3s,baz=343,slow=6.9,SNR=5.0						
MKAR	**Makanchi Array**	**57.80**	**327**	P	P	21 46 15.3	+0.3
	0.2nm,0.3s,baz=121,slow=7.0,SNR=13						
MKAR				PcP	PcP	21 47 05.7	-2.1
	0.5nm,0.6s,baz=117,slow=3.0,SNR=5.7						
KURBB	**Kurchatov Arra**	**62.08**	**329**	P	P	21 46 44.7	+0.4
	0.3nm,0.5s,baz=127,slow=6.0,SNR=3.1						

*SJA **08** 21:40:19.7±0.5, 33.98S×73.16W, h6km±12km, ML3.7, MW3.7*
*GUC **08** 21:40:22.5±0.5, 33.89S×72.55W, h33km±3km, ML3.6*

ISC 08 21:40:17.5±2.3, 33.86S±0.05×72.84W±0.10, h4km±12km, n12, σ1.976/24, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.88**	**128**	*e*P	**Pb**	**21 40 35.3**	**0.0**
CHPI				*e*S	**Sg**	**21 40 44.6**	**-1.2**
PEL	**Peldehue**	**1.94**	**69**	*e*P	**Pn**	**21 40 51.8**	**+0.5**
PEL				*e*S	**Sn**	**21 41 14.4**	**-1.6**
CLCH	**Cerro Calan**	**1.98**	**77**	*e*P	**Pn**	**21 40 52.7**	**+0.9**
CLCH				*e*S	**Sn**	**21 41 15.4**	**-1.7**
CLCH				IAML		21 41 30.7	
	comp=N,1μm,0.7s						
FCH	**Farellones**	**2.19**	**77**	*e*P	**Pn**	**21 40 56.1**	**+1.1**
FCH				*e*S	**Sn**	**21 41 20.6**	**-2.1**
FCH				IAML		21 41 29.6	
	comp=N,580nm,0.5s						
LMEL	**Las Melosas**	**2.19**	**91**	*e*P	**Pn**	**21 40 55.6**	**+0.7**
LMEL				*e*S	**Sn**	**21 41 20.8**	**-1.8**
LMEL				IAML		21 41 30.4	
	comp=N,946nm,1.0s						
CCHI	**Chillan**	**2.81**	**167**	*i* P	**Pb**	**21 41 07.2**	**-1.1**
CCHI				*i* S	**Sg**	**21 41 50.2**	**+2.3**
AUSP	**Uspallata**	**3.33**	**62**	*i* P	**Pg**	**21 41 19.8**	**-1.5**
AUSP				*i* S	**Sg**	**21 42 03.0**	**-1.4**
ARCO	**CERRO ARCO**	**3.42**	**74**	*i* P	**Pb**	**21 41 19.1**	**+0.3**
ARCO				IAML		21 41 23.8	
	comp=Z,139nm,0.5s						
ARCO				*i* S	**Sg**	**21 42 06.4**	**-1.2**
AAGR	**Agrelo**	**3.44**	**78**	*i* P	**Pb**	**21 41 19.0**	**-0.1**
AAGR				*i* S	**Sg**	**21 42 12.5**	**+4.4**
ASAL	**Salagasta**	**3.59**	**71**	*i* P	**Pb**	**21 41 22.3**	**+0.7**
ASAL				*i* S	**Sg**	**21 42 11.6**	**-1.2**
RTLS	**Leoncito**	**3.62**	**56**	*i* P	**Pb**	**21 41 24.6**	**+2.3**
RTLS				*i* S	**Sg**	**21 42 13.8**	**-0.1**
RTLS				IAML		21 42 20.2	
	comp=Z,100nm,0.6s						
RFA	**San Rafael**	**3.73**	**105**	*i* P	**Pb**	**21 41 24.6**	**+0.5**
RFA				*i* S	**Sb**	**21 42 12.2**	**+2.5**
RFA				IAML		21 42 18.3	
	comp=Z,78nm,0.7s						

*DDA **08** 21:42:48.8,38.76N×43.58E,h7km,Ml2.9*
*ISK **08** 21:42:48.6,38.73N×43.53E,h8km,ML3.0/5*
*CSEM **08** 21:42:48.8±0.2,38.74N×43.56E,h10km,ML3.0, Error ellipse: s-maj=4.8km s-min=3.3km az=94.0*
*ISCJB **08** 21:42:49.3±0.5,38.74N±0.02×43.56E±0.04,h11km±4km, Error ellipse: s-maj=5.2km s-min=3.6km az=1.4*

ISC 08 21:42:49.8±0.9, 38.74N±0.02×43.56E±0.02, h14km±7km, n39, σ1.937/68, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.20**	**222**	PG	**Pg**	**21 42 54.6**	**+0.2**
VANB	**Van**	**0.20**	**222**	*e*Pg	**Pg**	**21 42 54.6**	**+0.2**
TVAN	**Van**	**0.24**	**209**	*i* P	**Pg**	**21 42 54.4**	**-0.8**
TVAN				*i* S	**Sg**	**21 42 59.4**	**+0.6**
TVAN	**Van**	**0.24**	**209**	P	**Pg**	**21 42 54.4**	**-0.8**
TVAN				S	**Sg**	**21 42 59.4**	**+0.6**
ERCV	**ERCIS-VAN**	**0.33**	**328**	PG	**Pg**	**21 42 55.1**	**-1.5**
ERCV				SG	**Sb**	**21 43 01.4**	**-1.3**
ERCV	**ERCIS-VAN**	**0.33**	**328**	*e*Pg	**Pg**	**21 42 55.1**	**-1.5**
ERCV				*e*Sg	**Sb**	**21 43 01.4**	**-1.3**
CLDR	**Caldiran**	**0.49**	**35**	PG	**Pg**	**21 42 58.9**	**-0.6**
CLDR				SG	**Sb**	**21 43 06.8**	**-0.7**
CLDR	**Caldiran**	**0.49**	**35**	*i* P	**Pg**	**21 42 58.0**	**-1.5**
CLDR				*i* S	**Sb**	**21 43 07.1**	**-0.4**
CLDR	**Caldiran**	**0.49**	**35**	P	**Pg**	**21 42 58.0**	**-1.5**
CLDR	**Caldiran**	**0.49**	**35**	*e*Pg	**Pg**	**21 42 58.9**	**-0.6**
CLDR				*e*Sg	**Sb**	**21 43 06.8**	**-0.7**
CLDR				S	**Sb**	**21 43 07.1**	**-0.4**
GEVA	**Gevas**	**0.58**	**223**	*i* P	**Pg**	**21 42 59.8**	**-1.4**
GEVA				*i* S	**Sb**	**21 43 09.3**	**-0.7**
GEVA	**Gevas**	**0.58**	**223**	P	**Pg**	**21 42 59.8**	**-1.4**
GEVA				S	**Sb**	**21 43 09.3**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.66**	**276**	*i* P	**Pg**	**21 43 01.2**	**-1.4**
ADCV				*i* S	**Sb**	**21 43 11.8**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.66**	**276**	P	**Pg**	**21 43 01.2**	**-1.4**
ADCV				S	**Sb**	**21 43 11.8**	**-0.4**
BASK	**Baskale_VAN**	**0.77**	**153**	*i* P	**Pg**	**21 43 02.5**	**-2.3**
BASK				*i* S	**Sb**	**21 43 14.9**	**-0.7**
BASK	**Baskale_VAN**	**0.77**	**153**	P	**Pg**	**21 43 02.5**	**-2.3**
BASK				S	**Sb**	**21 43 14.9**	**-0.7**
DYDN	**Diyadin**	**0.81**	**7**	*i* P	**Pg**	**21 43 04.1**	**-1.4**
DYDN				*i* S	**Sb**	**21 43 17.6**	**+0.9**
DYDN	**Diyadin**	**0.81**	**7**	P	**Pg**	**21 43 04.1**	**-1.4**
DYDN				S	**Sb**	**21 43 17.5**	**+0.9**
TUTA	**Tutak**	**0.88**	**319**	*i* P	**Pg**	**21 43 04.8**	**-2.0**
TUTA				*i* S	**Sb**	**21 43 18.1**	**-0.6**
TUTA	**Tutak**	**0.88**	**319**	P	**Pg**	**21 43 04.8**	**-2.0**
TUTA				S	**Sb**	**21 43 18.1**	**-0.6**
AGRB	**Hanur-Agry**	**0.94**	**332**	PG	**Pg**	**21 43 06.7**	**-1.3**
AGRB				SG	**Sb**	**21 43 20.4**	**-0.1**
AGRB	**Hanur-Agry**	**0.94**	**332**	*e*Pg	**Pg**	**21 43 06.7**	**-1.3**
AGRB				*e*Sg	**Sb**	**21 43 20.4**	**-0.1**
HAKT	**HAKKARI**	**1.19**	**174**	*i* P	**Pg**	**21 43 10.4**	**-2.3**
HAKT				*i* S	**Sn**	**21 43 30.3**	**+2.0**
HAKT	**HAKKARI**	**1.19**	**174**	P	**Pg**	**21 43 10.4**	**-2.3**
HAKT				S	**Sn**	**21 43 30.3**	**+2.0**
IGDI	**IGDIR**	**1.20**	**20**	*i* P	**Pb**	**21 43 11.6**	**-0.7**
IGDI				*i* S	**Sn**	**21 43 31.5**	**+3.3**
GURO	**Guroymak-BITLI**	**1.21**	**261**	PN	**Pb**	**21 43 11.0**	**-1.6**
GURO				SN	**Sb**	**21 43 28.3**	**+0.2**
GURO	**Guroymak-BITLI**	**1.21**	**261**	*e*Pn	**Pb**	**21 43 11.0**	**-1.6**
GURO				*e*Sn	**Sb**	**21 43 28.3**	**+0.2**
YOVA	**Hakkari_Y¨…kse**	**1.29**	**153**	*i* P	**Pb**	**21 43 13.2**	**-0.7**
YOVA				*i* S	**Sn**	**21 43 34.8**	**+4.0**
YOVA	**Hakkari_Y¨…kse**	**1.29**	**153**	P	**Pb**	**21 43 13.2**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.35**	**23**	PN	**Pg**	**21 43 14.9**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.35**	**23**	*e*Pn	**Pg**	**21 43 14.9**	**-0.8**
SRTM	**Siirt_Merkez**	**1.49**	**240**	*i* P	**Pb**	**21 43 17.0**	**-0.3**
SRTM				*i* S	**Sg**	**21 43 40.3**	**+2.6**
SRTM	**Siirt_Merkez**	**1.49**	**240**	P	**Pb**	**21 43 17.0**	**-0.3**
CUKT	**Cukurca**	**1.49**	**178**	PN	**Pn**	**21 43 15.7**	**-0.6**
CUKT	**Cukurca**	**1.49**	**178**	*i* P	**Pn**	**21 43 16.3**	**0.0**
CUKT				*i* S	**Sg**	**21 43 39.2**	**+1.3**
CUKT	**Cukurca**	**1.49**	**178**	*e*Pn	**Pn**	**21 43 15.7**	**-0.6**
CUKT	**Cukurca**	**1.49**	**178**	P	**Pn**	**21 43 16.3**	**0.0**
CUKT				S	**Sg**	**21 43 39.2**	**+1.3**
SIRT	**Sirnak**	**1.52**	**216**	PN	**Pn**	**21 43 16.6**	**-0.1**
SIRT	**Sirnak**	**1.52**	**216**	*e*Pn	**Pn**	**21 43 16.6**	**-0.1**

IDC 08 22:04:50.4±7.9, 0.99N×122.12E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.3/58, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=147.6km s-min=114.4km az=95.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.28**	**170**	P	Pn	22 09 18.2	+0.4
	0.1nm,0.3s,baz=334,slow=8.6,SNR=3.4						
WRA	**Warramunga Arr**	**24.00**	**151**	P	P	22 10 06.2	-0.9
	0.3nm,0.3s,baz=325,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**27.05**	**156**	P	P	22 10 34.1	-0.6
	0.8nm,0.4s,baz=344,slow=14,SNR=11						
STKA	**Stephens Creek**	**37.53**	**152**	P	P	22 12 07.2	+0.8
	0.7nm,0.4s,baz=348,slow=14,SNR=5.4						

IDC 08 22:20:44.6±1.3, 14.72N×143.48E, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.2/65, mbtmp3.4/4, Error ellipse: s-maj=41.4km s-min=23.7km az=100.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.75**	**130**	Pn	Pn	22 21 16.7	+0.4
	61nm,0.3s,baz=308,slow=5.2,SNR=27						
GUMO				Sn	Sn	22 21 28.4	-11
	337nm,0.3s,baz=141,slow=24,SNR=16						
WRA	**Warramunga Arr**	**35.59**	**195**	P	P	22 27 44.0	-0.1
	0.5nm,0.7s,baz=20,slow=9.4,SNR=5.0						
ASAR	**Alice Springs**	**39.28**	**194**	P	P	22 28 15.0	-0.3
	0.2nm,0.3s,baz=26,slow=12,SNR=4.6						
ILAR	**Eielson Array**	**68.14**	**26**	P	P	22 31 46.4	0.0
	0.2nm,0.5s,baz=245,slow=6.0,SNR=5.1						
YKA	**Yellowknife Ar**	**82.48**	**27**	P	P	22 33 08.8	-0.1
	0.2nm,0.5s,baz=285,slow=5.5,SNR=4.1						

*IDC **08** 22:30:26.6±5.8, 31.61S×179.68E, h458km±62km, mb3.5/3, mb1 3.7/4, mb1mx3.3/37, mbtmp4.4/4, Error ellipse: s-maj=72.2km s-min=27.3km az=16.0*

ISC 08 22:30:25.6±1.5, 31.55S±0.1×179.8E±0.3, h451km, n9, σ1.933/11, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.05**	**197**	P	**P**	**22 32 12.6**	**+1.9**
	5.9nm,0.3s,baz=278,slow=3.9,SNR=15						
URZ				S	**S**	**22 33 34.5**	**-2.4**
	4.3nm,0.3s,baz=61,slow=23,SNR=14						
STKA	**Stephens

LNIG				*e*S	Sb	22 39 31.6	-4.1
ZAIG	**Zacatecas**	**2.52**	**232**	*i* P	Pn	22 39 39.5	-3.8
ZAIG				*i* S	Sn	22 40 10.1	-3.5
HPIG		**5.38**	**300**	*i* P	Pn	22 40 19.3	-3.2
HPIG				*i* S	Sn	22 41 21.8	-2.2

BJI ***08*** *22:48:53.6, 25′.23N×97′.63E, h6km, mb3.7/1, ML3.9/7, Ms3.6/3, Ms7 3.4/2*

IDC ***08*** *22:48:53.0±2.8, 25′.22N×97′.60E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/72, mbtmp3.5/4, ML3.8/1, MS4.5/1, Ms1 4.5/1, ms1mx3.5/57, Error ellipse: s-maj=93.1km s-min=21.1km az=87.0*

ISC 08 22:48:54.5±0.8, 25′.41N±0′.07×97′.47E±0′.07, h10km, n25, σ1§54/24, mb3.6/3, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.78**	**92**	Pg	**Pb**	**22 50 17.9**	**-0.7**
KMI				Sg	**Sb**	**22 51 19.0**	**+2.7**
KMI				smax	smax		
	comp=N,220nm,0.9s						
KMI				smax	smax		
	comp=E,170nm,0.9s						
KMI				LR	LR		
	comp=N,2μm,6.6s						
KMI				LR	LR		
	comp=E,610nm,6.2s						
KMI				LR	LR		
	comp=Z,520nm,8.3s						
CMAI	**Chiengmai2**	**5.64**	**165**	P	**Pb**	**22 50 34.4**	**+1.2**
	580nm,0.9s						
CHTO	**Chiang Mai**	**6.70**	**168**	P	**Pb**	**22 50 51.6**	**+0.4**
	85nm,1.0s,2μm						
CMMT	**Chiang Mai**	**6.70**	**168**	P	**Pb**	**22 50 50.4**	**-0.8**
	19nm,1.0s,376nm						
CMAR	**Chiang Mai Arr**	**7.05**	**169**	Pn	**Pn**	**22 50 34.9**	**-3.0**
	0.5nm,0.3s,baz=346,slow=13,SNR=10						
CMAR				Pg	**Pb**	**22 50 58.0**	**+0.9**
	0.5nm,0.3s,baz=343,slow=17,SNR=6.3						
CMAR				Lg	Lg	22 52 27.5	
	1.9nm,0.3s,baz=225,slow=20,SNR=8.9						
LAMP	**Lampang**	**7.14**	**163**	P	**Pb**	**22 51 02.9**	**+4.3**
PHIT	**Phitsanulok**	**8.62**	**161**	P	Pg	22 51 31.5	-8.2
TAPN	**Taplejung**	**8.96**	**285**	*e*P	**Pn**	**22 51 05.3**	**+0.9**
	10.0nm,0.4s						
ODAN	**Odare**	**9.17**	**281**	*e*P	**Pn**	**22 51 08.0**	**+0.8**
	21nm,0.5s						
RAMN	**Ramite**	**9.88**	**281**	*e*P	**Pn**	**22 51 17.3**	**+0.4**
	13nm,0.6s						
JIRN	**Jiri**	**10.35**	**285**	*e*P	**Pn**	**22 51 24.2**	**+0.8**
	14nm,0.3s						
GUN	**Gumba**	**10.66**	**286**	*e*P	**Pn**	**22 51 28.4**	**+0.7**
	13nm,0.5s						
PKI	**Pulchoki**	**11.02**	**284**	*e*P	**Pn**	**22 51 32.7**	**+0.2**
	6.9nm,0.4s						
PKIN	**Phulchoki**	**11.03**	**284**	*e*P	**Pn**	**22 51 33.3**	**+0.7**
	8.8nm,0.4s						
KKN	**Kakani**	**11.16**	**285**	*e*P	**Pn**	**22 51 35.0**	**+0.6**
DMN	**Daman**	**11.29**	**284**	*e*P	**Pn**	**22 51 37.3**	**+1.1**
GKN	**Gorkha**	**11.76**	**286**	*e*P	**Pn**	**22 51 43.0**	**+0.4**
KOLN	**Koldanda**	**12.63**	**284**	*e*P	**Pn**	**22 51 54.7**	**+0.2**
PYUN	**Piuthan**	**13.21**	**285**	*e*P	**Pn**	**22 52 02.0**	**-0.5**
	5.0nm,0.4s						
GTA	**Gaotai**	**14.10**	**7**	*e*P	**P**	**22 52 22.6**	**+0.3**
GTA				pP	Pn	22 52 27.6	+13
GTA				sP		22 52 30.2	
WMQ	**Urumqi**	**20.03**	**339**	*e*P	Pn	22 53 30.8	+1.4
SONM	**Songino Array**	**23.47**	**15**	P	**P**	**22 54 05.3**	**+0.9**
	1.3nm,0.7s,baz=197,slow=10.0,SNR=6.5						
OBN	**Obninsk**	**52.99**	**321**	LR	LR	23 23 07.8	
	comp=Z,461nm,21.1s,baz=238,slow=39						
WRA	**Warramunga Arr**	**57.59**	**138**	P	**P**	**22 58 44.7**	**-0.2**
	0.5nm,0.9s,baz=328,slow=7.2,SNR=3.5						
ASAR	**Alice Springs**	**60.21**	**141**	P	**P**	**22 59 00.7**	**-2.3**
	0.3nm,0.7s,baz=329,slow=6.9,SNR=3.2						

NNC ***08*** *22:50:05.5±3.2, 39′.54N×81′.60E, h0km, mb6.1, mpv5.8, Error ellipse: s-maj=30.0km s-min=17.8km az=132.0*

ISCJB ***08*** *22:50:06.4±0.3, 39′.36N±0′.01×81′.34E±0′.01, h36km±2km, mb5.7/397, MS5.5/254, Error ellipse: s-maj=2.2km s-min=1.6km az=29.6*

BJI ***08*** *22:50:06.6, 39′.45N×81′.35E, h30km, mb5.8/70, mB6.0/58, ML6.1/10, Ms5.9/80, Ms7 5.6/74*

IDC ***08*** *22:50:07.9±1.5, 39′.36N×81′.38E, h35km±11km, mb5.3/61, mb1 5.3/67, mb1mx5.3/71, mbtmp5.5/67, ML5.2/7, MS5.3/68, Ms1 5.4/68, ms1mx5.3/71, Error ellipse: s-maj=7.9km s-min=5.9km az=3.0*

MOS ***08*** *22:50:07.6±1.0, 39′.44N×81′.35E, h47km, mb5.9/139, MS5.5/90, Error ellipse: s-maj=5.0km s-min=2.8km az=132.3*

GCMT ***08*** *22:50:08.4±0.1, 39′.49N×81′.47E, h44km, MW5.9/139, Moment Tensor Solution. s134,c242; s139,c387; Duration: ≥≈1 Moment tensor: Scale 10^{17}Nm; M_{rr}5.88±.07; $M_{\theta\theta}$-6.71±.06; $M_{\phi\phi}$0.83±.06; $M_{r\theta}$-1.95±.07; $M_{\theta\phi}$2.73±.05; $M_{\phi r}$-2.31±.06; Best double couple: M_o7.52700×10^{17} NP1:ϕ_s264.00000°, δ55.00000°, λ58.00000°. NP2:ϕ_s132.00000°, δ46.00000°, λ128.00000°. Principal axes: T 7.3560, Plg63.0000°, Azm117.0000°; N 0.3440, Plg26.0000°, Azm284.0000°; P -7.6970, Plg5.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***08*** *22:50:08.4±0.1, 39′.38N×81′.31E, h38km, mb5.8/175, ME5.6, MS5.6/154, MW5.8, MW5.9 Error ellipse: s-maj=3.0km s-min=2.2km az=195.0, Moment Tensor Solution. s55 Moment tensor: Scale 10^{17}Nm; M_{rr}6.27; $M_{\theta\theta}$-6.01; $M_{\phi\phi}$-0.26; $M_{r\theta}$-2.18; $M_{\theta\phi}$1.78; $M_{\phi r}$-1.50; Best double couple: M_o6.90000×10^{17} NP1:ϕ_s122.00000°, δ40.00000°, λ116.00000°. NP2:ϕ_s270.00000°, δ55.00000°, λ70.00000°. Principal axes: T 7.0800, Plg72.0000°, Azm128.0000°; N -0.3400, Plg16.0000°, Azm281.0000°; P -6.7400, Plg8.0000°, Azm14.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s139.00000°, δ52.00000°, λ117.00000°. NP2:ϕ_s280.00000°, δ45.00000°, λ60.00000°. Principal axes: T Plg69.0000°, Azm111.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm211.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Aksu.

NEIC ***08*** *22:50:26.7±0.0, 40′.46N×81′.14E, h40km, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}6.51; $M_{\theta\theta}$-5.43; $M_{\phi\phi}$-1.08; $M_{r\theta}$-6.25; $M_{\theta\phi}$3.56; $M_{\phi r}$-0.83; Best double couple: M_o9.40000×10^{17} NP1:ϕ_s276.00000°, δ67.00000°, λ69.00000°. NP2:ϕ_s140.00000°, δ31.00000°, λ130.00000°. Principal axes: T 9.6400, Plg62.0000°, Azm154.0000°; N -0.4300, Plg19.0000°, Azm285.0000°; P -9.2100, Plg19.0000°, Azm22.0000°;*

ISC 08 22:50:07.3±0.4, 39′.41N±0′.02×81′.26E±0′.02, h33km±1km, h33km:pP-P, n1851, σ1§72/1924, mb5.8/456, MS5.6/261, 165C-38D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**3.75**	**326**	P	**Pn**	**22 51 06.6**	**+3.5**
KSH	**Kashi**	**4.09**	**273**	Pn	**Pb**	**22 51 15.7**	**-3.0**
KSH				Sn	**Sb**	**22 52 04.2**	**-3.6**
KSH				smax	smax		
	comp=N,41μm,0.6s						
KSH				smax	smax		
	comp=E,24μm,0.8s						
KSH	**Kashi**	**4.09**	**273**	Pn	**Pb**	**22 51 15.7**	**-3.0**
KSH				Sn	**Sb**	**22 52 04.2**	**-3.6**
KDJ	**Kajisay**	**4.12**	**313**	P	**Pn**	**22 51 12.0**	**+3.9**
PDGK	**Podgornoye**	**4.13**	**342**	⇓Pn	**Pn**	**22 51 11.5**	**+3.3**
	1μm,0.6s						
PDGK				⇑Lg	Lg	22 52 19.2	
	31μm,0.7s						
PDGK	**Podgornoye**	**4.13**	**342**	P	**Pn**	**22 51 11.5**	**+3.3**
PDGK				pmax	pmax		
	comp=Z,1μm,0.6s						
ULHL	**Ulahol**	**4.74**	**308**	P	**Pn**	**22 51 20.3**	**+3.6**
	SNR=774						
KNDC	**Almaty**	**4.99**	**321**	⇓Pn	**Pn**	**22 51 23.5**	**+3.5**
	comp=Z,652nm,0.4s						
KNDC				⇑Lg	Lg	22 52 45.2	
	comp=Z,20μm,0.8s						
AAA	**Alma-Ata**	**5.01**	**321**	*e*P	Pb	22 51 41.2	+6.9
AAA				pmax	pmax		
	comp=Z,5μm,0.4s						
KZA	**Kyzart**	**5.28**	**302**	P	**Pn**	**22 51 27.7**	**+3.4**
	SNR=61						
TKM2	**Tokmak 2**	**5.53**	**311**	⇑Pn	**Pn**	**22 51 31.1**	**+3.6**
	comp=Z,215nm,0.5s						
TKM2				⇓Lg	Lg	22 53 07.5	
	comp=Z,4μm,0.8s						
TKM2	**Tokmak 2**	**5.53**	**311**	P	**Pn**	**22 51 30.8**	**+3.3**
	SNR=950						
TKM2	**Tokmak 2**	**5.53**	**311**	P	**Pn**	**22 51 31.7**	**+4.3**
TKM2				pmax	pmax		
	comp=Z,215nm,0.5s						
KBK	**Karagaybulak**	**5.77**	**306**	P	**Pn**	**22 51 34.6**	**+3.9**
	SNR=387						
UCH	**Uchtor**	**5.84**	**301**	P	**Pn**	**22 51 34.7**	**+2.7**
	SNR=190						
SFK	**Sufi-Kurgan**	**6.01**	**278**	⇑Pn	**Pn**	**22 51 38.0**	**+3.9**
	comp=Z,106nm,0.3s						
SFK				⇓Lg	Lg	22 53 24.8	
	comp=Z,6μm,0.6s						
SFK	**Sufi-Kurgan**	**6.01**	**278**	P	**Pn**	**22 51 38.3**	**+4.2**
SFK				pmax	pmax		
	comp=Z,106nm,0.3s						
AAK	**Ala-Archa**	**6.04**	**304**	Pn	**Pn**	**22 51 38.4**	**+3.9**
	comp=Z,32nm,0.3s,baz=118,slow=10,SNR=200						
AAK				Lg	Lg	22 53 21.2	
	comp=Z,74nm,0.3s,baz=329,slow=6.7,SNR=3.6						
AAK	**Ala-Archa**	**6.04**	**304**	⇑Pn	**Pn**	**22 51 38.8**	**+4.3**
	comp=Z,217nm,0.8s						
AAK				⇑Lg	Lg	22 53 24.0	
	comp=Z,10μm,1.1s						
AAK	**Ala-Archa**	**6.04**	**304**	P	**Pn**	**22 51 38.1**	**+3.5**
	SNR=280						
AAK	**Ala-Archa**	**6.04**	**304**	*e*Pn	**Pn**	**22 51 38.2**	**+3.7**
AAK	**Ala-Archa**	**6.04**	**304**	*e*P	**Pn**	**22 51 38.2**	**+3.7**
AAK	**Ala-Archa**	**6.04**	**304**	P	**Pn**	**22 51 38.6**	**+4.1**
	SNR=162						
AAK	**Ala-Archa**	**6.04**	**304**	*i* P	**Pn**	**22 51 38.4**	**+3.9**
	SNR=360						
FRU1	**Bishkek**	**6.05**	**306**	P	**Pn**	**22 51 38.0**	**+3.5**
FRU	**Bishkek**	**6.07**	**306**	*ke*P	**Pn**	**22 51 38.0**	**+3.3**
FRU				pmax	pmax		
	comp=Z,6μm,3.0s						
CHMS	**Chumysh**	**6.08**	**308**	P	**Pn**	**22 51 38.8**	**+4.0**
	SNR=34						
AML	**Almayashu**	**6.35**	**298**	P	**Pn**	**22 51 42.1**	**+3.1**
	SNR=43						
USP	**Ospenovka**	**6.38**	**309**	P	**Pn**	**22 51 42.9**	**+3.9**
	SNR=42						
EKS2	**Erkin-Say**	**6.52**	**302**	P	**Pn**	**22 51 45.2**	**+4.2**
	SNR=267						
WMQ	**Urumqi**	**6.53**	**46**	Pn	**Pn**	**22 51 42.8**	**+1.7**
WMQ				Sn	**Sn**	**22 52 51.6**	**-2.8**
WMQ				smax	smax		
	comp=Z,19μm,1.7s						
WMQ				smax	smax		
	comp=Z,35μm,1.9s						
WMQ				LR	LR		
	comp=Z,84μm,27.5s						
WMQ				LR	LR		
	comp=Z,60μm,22.9s						
WMQ				LR	LR		
	comp=Z,100μm,20.7s						
MNAS	**Manas**	**7.30**	**298**	⇑Pn	**Pn**	**22 51 55.0**	**+3.2**
	comp=Z,202nm,0.9s						
MNAS				⇑Lg	Lg	22 54 03.1	
	comp=Z,1μm,1.0s						
MNAS	**Manas**	**7.30**	**298**	P	**Pn**	**22 51 55.0**	**+3.2**
MNAS				pmax	pmax		
	comp=Z,202nm,0.9s						
MK01	**Makanchi Array**	**7.39**	**6**	*e*Pn	**Pn**	**22 51 52.5**	**-0.4**
MAKZ	**Makanchi**	**7.41**	**4**	⇓Pn	**Pn**	**22 51 55.0**	**+1.9**
	comp=Z,4μm,0.7s						
MAKZ				⇓Sn	**Sn**	**22 53 12.8**	**-3.2**
	comp=Z,5μm,0.9s						
MAKZ	**Makanchi**	**7.41**	**4**	*e*Pn	**Pn**	**22 51 54.8**	**+1.7**
MAKZ	**Makanchi**	**7.41**	**4**	*e*P	**Pn**	**22 51 54.8**	**+1.7**
MK31	**Makanchi Array**	**7.42**	**6**	⇑Pn	**Pn**	**22 51 55.4**	**+2.2**
	comp=Z,2μm,0.6s						
MK31				⇓Sn	**Sn**	**22 53 14.0**	**-2.2**
	comp=Z,3μm,0.6s						
MK31	**Makanchi Array**	**7.42**	**6**	*e*Pn	**Pn**	**22 51 54.7**	**+1.5**
MK31	**Makanchi Array**	**7.42**	**6**	*e*P	**Pn**	**22 51 54.7**	**+1.5**
MKAR	**Makanchi Array**	**7.42**	**6**	Pn	**Pn**	**22 51 54.5**	**+1.3**
	comp=Z,264nm,0.3s,baz=185,slow=12,SNR=5173						
MKAR				Sn	**Sn**	**22 53 15.2**	**-0.9**
	comp=Z,525nm,0.3s,baz=186,slow=24,SNR=13						
MKAR				LR	LR	22 55 33.3	
	comp=Z,50μm,20.0s,baz=185,slow=44						
MKAR				P3KPbc		23 29 23.0	
	comp=Z,0.0nm,0.3s,baz=327,slow=2.4,SNR=6.1						
MKAR	**Makanchi Array**	**7.42**	**6**	*i* P	**Pn**	**22 51 54.5**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,3μm,0.7s						
DHRM	**DHARAMSHALA**	**8.20**	**211**	*e*P	**Pn**	**22 52 06.1**	**+1.9**
DHRM				*e*S	**Sn**	**22 53 33.8**	**-2.0**
CHCP	**Chirah Chowk**	**8.62**	**231**	P	**Pn**	**22 52 11.8**	**+2.0**
KK31	**Karatay Array**	**8.89**	**298**	⇑Pn	**Pn**	**22 52 15.7**	**+2.2**
	comp=Z,60nm,0.9s,baz=113,slow=12						
KK31				⇑Lg	Lg	22 54 52.5	
	comp=Z,950nm,1.0s,baz=116,slow=25						
KK31	**Karatay Array**	**8.89**	**298**	P	**Pn**	**22 52 15.7**	**+2.2**
KK31				pmax	pmax		
	comp=Z,60nm,0.9s						
KKAR	**Karatay Array**	**8.89**	**298**	*e*Pn	**Pn**	**22 52 15.4**	**+1.9**
KKAR	**Karatay Array**	**8.89**	**298**	*e*P	**Pn**	**22 52 15.4**	**+1.9**
SMLA	**Simla**	**8.91**	**203**	*e*P	**Pn**	**22 52 14.8**	**+1.1**
SMLA				*e*S	**Sn**	**22 53 50.5**	**-2.5**
TAS	**Tashkent**	**9.34**	**286**	P	Pn	22 52 24.4	+4.8
TAS				pmax	pmax		
	comp=Z,469nm,0.8s						
CEP	**Cherat**	**9.36**	**236**	P	**Pn**	**22 52 21.1**	**+1.2**
CEP				S	**Sn**	**22 54 00.0**	**-4.1**
DDI	**Dehra Dun**	**9.44**	**197**	*e*P	**Pn**	**22 52 22.5**	**+1.5**
DDI				*e*S	**Sn**	**22 54 03.9**	**-2.2**
THW	**Thamme Wali**	**10.14**	**232**	P	**Pn**	**22 52 30.6**	**0.0**
SARP	**Sargodha**	**10.22**	**226**	P	**Pn**	**22 52 31.2**	**-0.5**
KBL	**Kabul**	**10.91**	**247**	*e*Pn	**Pn**	**22 52 41.9**	**+0.6**
KBL	**Kabul**	**10.91**	**247**	*e*P	**Pn**	**22 52 41.9**	**+0.6**
OTUK	**Ortayu**	**10.92**	**327**	⇑Pn	**Pn**	**22 52 42.6**	**+1.4**
	comp=Z,298nm,0.8s						
OTUK				⇓Lg	Lg	22 55 57.5	
	comp=Z,4μm,1.3s						
OTUK	**Ortayu**	**10.92**	**327**	P	**Pn**	**22 52 42.6**	**+1.4**
OTUK				pmax	pmax		
	comp=Z,299nm,0.8s						
KURBB	**Kurchatov Arra**	**11.37**	**351**	Pn	**Pn**	**22 52 47.3**	**0.0**
	comp=Z,4.9nm,0.3s,baz=174,slow=12,SNR=376						
KURBB				Sn	Sn	22 55 03.5	+10
	comp=Z,8.6nm,0.3s,baz=170,slow=17,SNR=4.7						
KURBB				P3KPbc		23 29 31.8	
	comp=Z,0.1nm,0.3s,baz=318,slow=3.8,SNR=6.0						
KURBB	**Kurchatov Arra**	**11.37**	**351**	⇓Pn	**Pn**	**22 52 47.3**	**0.0**
	comp=Z,483nm,0.9s						
KURBB				⇓Sn	**Sn**	**22 54 58.4**	**+5.3**
	comp=Z,1μm,0.6s						
KURBB				⇓Lg	Lg	22 56 04.1	
	comp=Z,3μm,0.8s						
PYUN	**Piuthan**	**11.37**	**172**	*e*P	**Pn**	**22 52 46.4**	**-1.3**
	comp=Z,1μm,0.6s						
KURK	**Kurchatov**	**11.46**	**352**	⇓Pn	**Pn**	**22 52 49.0**	**+0.6**
	comp=Z,712nm,0.9s						
KURK				⇓Lg	Lg	22 56 08.0	
	comp=Z,3μm,1.1s						
KURK	**Kurchatov**	**11.46**	**352**	*e*Pn	**Pn**	**22 52 46.6**	**-1.8**
KURK				Sn	**Sn**	**22 55 03.5**	**+8.3**
KURK	**Kurchatov**	**11.46**	**352**	*ce*P	**Pn**	**22 52 47.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2μm,0.8s						
KURK	**Kurchatov**	**11.46**	**352**	P	**Pn**	**22 52 47.9**	**-0.5**
	SNR=264						
GKN	**Gorkha**	**11.72**	**165**	*e*P	**Pn**	**22 52 53.2**	**+0.8**
KOLN	**Koldanda**	**11.77**	**170**	*e*P	**Pn**	**22 52 52.5**	**-0.6**
KKN	**Kakani**	**12.06**	**163**	*e*P	**Pn**	**22 52 58.0**	**+0.9**
	comp=Z,410nm,0.6s						
GUN	**Gumba**	**12.10**	**160**	*e*P	**Pn**	**22 52 58.8**	**+1.1**
	comp=Z,2μm,0.8s						
DMN	**Daman**	**12.20**	**164**	*e*P	**Pn**	**22 52 59.8**	**+0.8**
PKIN	**Phulchoki**	**12.30**	**162**	*e*P	**Pn**	**22 53 00.9**	**+0.6**
	comp=Z,786nm,0.7s						
PKI	**Pulchoki**	**12.30**	**162**	*e*P	**Pn**	**22 53 01.3**	**+0.8**
	comp=Z,965nm,0.7s						
JIRN	**Jiri**	**12.42**	**159**	*e*P	**Pn**	**22 53 03.3**	**+1.2**
	comp=Z,3μm,1.0s						
LSA	**Lhasa**	**12.65**	**137**	P	Pn	22 53 09.9	+4.5
LSA				pP		22 53 19.9	
LSA				S	**Sn**	**22 55 31.8**	**+6.5**
LSA				pmax	pmax		
	comp=Z,360nm,1.3s						
LSA				LR	LR		
	comp=Z,29μm,24.0s						
LSA	**Lhasa**	**12.65**	**137**	*e*Pn	**Pn**	**22 53 07.6**	**+2.2**
	comp=Z,685nm,1.4s						
LSA	**Lhasa**	**12.65**	**137**	*e*P	**Pn**	**22 53 07.6**	**+2.2**
LSA				pmax	pmax		
	comp=Z,685nm,1.4s						
TAPN	**Taplejung**	**13.18**	**154**	*e*P	**Pn**	**22 53 12.3**	**-0.1**
	comp=Z,718nm,1.0s						
RAMN	**Ramite**	**13.20**	**159**	*e*P	**Pn**	**22 53 12.1**	**-0.6**
	comp=Z,2μm,1.0s						
ODAN	**Odare**	**13.53**	**156**	*e*P	**Pn**	**22 53 16.5**	**-0.6**
	comp=Z,2μm,1.1s						
GTA	**Gaotai**	**14.35**	**84**	⇑P	**Pn**	**22 53 25.3**	**-2.9**
GTA				pP	P	22 53 33.4	-1.4
GTA				sP		22 53 37.5	
GTA				S	**Sn**	**22 56 01.2**	**-5.0**
GTA				pmax	pmax		
	comp=Z,120nm,1.6s						
GTA				pmax	pmax		
	comp=Z,940nm,5.9s						
GTA				LR	LR		
	comp=Z,20μm,17.1s						
GTA				LR	LR		
	comp=Z,28μm,15.9s						
GTA				LR	LR		
	comp=Z,28μm,18.1s						
HVS	**Khovu-Aksy**	**14.61**	**33**	*d* iP	**Pn**	**22 53 31.2**	**-0.4**
ZAA0	**Zalesovo Array**	**14.74**	**8**	*e*Pn	**Pn**	**22 53 30.9**	**-2.4**
ZALV	**Zalesovo Beam**	**14.74**	**8**	Pn	**Pn**	**22 53 31.9**	**-1.4**
	comp=Z,21nm,0.3s,baz=191,slow=13,SNR=1187						
ZALV				Sn	**Sn**	**22 56 08.5**	**-6.8**
	comp=Z,14nm,0.3s,baz=190,slow=23,SNR=5.0						
ZALV				LR	LR	23 00 07.7	
	comp=Z,19μm,20.5s,baz=190,slow=41						
ZALV				P3KPbc		23 29 16.1	
	comp=Z,0.1nm,0.3s,baz=0.0,slow=1.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**14.74**	**8**	*e*Pn	**Pn**	**22 53 29.4**	**-3.9**
ZALV				Sn	**Sn**	**22 56 08.5**	**-6.8**
NVS	**Novosibirsk**	**15.49**	**4**	*e*P	**Pn**	**22 53 42.0**	**-1.2**
BVAR	**Borovoye Array**	**15.53**	**335**	Pn	**Pn**	**22 53 42.8**	**-0.9**
	comp=Z,11nm,0.3s,baz=142,slow=14,SNR=363						
BVAR				Sn	**Sn**	**22 56 39.8**	**+5.3**
	comp=Z,3.5nm,0.3s,baz=133,slow=34,SNR=2.4						
BVAR				Lg	Lg	22 58 17.3	
	comp=Z,7.8nm,0.3s,baz=139,slow=21,SNR=3.4						
BVAR				LR	LR	23 00 20.0	
	comp=Z,33μm,20.8s,baz=146,slow=39						
BRVK	**Borovoye**	**15.59**	**335**	*e*Pn	**Pn**	**22 53 44.8**	**+0.3**
	comp=Z,3μm,0.8s						
BRVK	**Borovoye**	**15.59**	**335**	*ce*P	**Pn**	**22 53 43.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,584nm,0.8s						
BRVK	**Borovoye**	**15.59**	**335**	P	**Pn**	**22 53 43.8**	**-0.7**
	SNR=717						
BOK	**Bokaro**	**16.06**	**165**	*e*P	**Pn**	**22 53 49.1**	**-1.5**
BOK				IAmb	IAmb	22 53 56.5	
	comp=Z,2μm,1.5s						
SHL	**Shillong**	**16.44**	**144**	*e*P	**Pn**	**22 53 53.3**	**-2.3**
SHL				*i* S	**Sn**	**22 57 00.0**	**+2.8**
BHPL	**Bhopal**	**16.45**	**193**	*ex*	**Pn**	**22 53 51.2**	**-4.4**
BHPL				IAmb	IAmb	22 53 56.4	
	comp=Z,190nm,0.9s						
ABKAR	**Akbulak array**	**18.09**	**310**	*e*Pn	**Pn**	**22 54 16.2**	**+0.3**
	comp=Z,2μm,0.6s						
GEYT	**Ailbeck**	**18.13**	**273**	P	**Pn**	**22 54 16.7**	**+0.3**
	comp=Z,3.5nm,0.3s,baz=95,slow=9.7,SNR=48						
GEYT				S	**Sn**	**22 57 30.9**	**-6.9**
	comp=Z,9.1nm,0.3s,baz=84,slow=14,SNR=5.4						
GEYT				LR	LR	23 03 27.8	
	comp=Z,9μm,19.6s,baz=85,slow=44						
GEYT				P3KPbc		23 29 04.4	
	comp=Z,0.1nm,0.3s,baz=270,slow=4.0,SNR=9.2						
LZH	**Lanzhou**	**18.16**	**93**	⇑P	**Pn**	**22 54 16.1**	**-0.9**
LZH				pP	pP	22 54 24.8	-1.0
LZH				sP	sP	22 54 29.3	-0.7
LZH				PP	**PnPn**	**22 54 31.5**	**+3.1**
LZH				S	**Sn**	**22 57 34.2**	**-4.5**
LZH				sS	S	22 57 47.0	+3.6
LZH				SS	**SnSn**	**22 57 57.3**	**+5.0**
LZH				pmax	pmax		
	comp=Z,1μm,1.3s						
LZH				pmax	pmax		
	comp=Z,6μm,4.6s						
LZH				LR	LR		
	comp=Z,12μm,14.0s						
LZH				LR	LR		
	comp=Z,16μm,12.2s						
LZH				LR	LR		
	comp=Z,25μm,17.1s						
NGP	**Nagpur**	**18.30**	**187**	*e*P	**P**	**22 54 19.2**	**+0.6**
NGP				*ex*	x	22 57 23.5	
MOY	**Mondy**	**18.40**	**42**	*e*P	**P**	**22 54 19.5**	**-0.1**
MOY				*e*		22 57 43.6	
MOY				pmax	pmax		
	comp=Z,759nm,3.1s						
BHJ	**Bhuj**	**18.88**	**215**	*e*P	**P**	**22 54 24.2**	**-0.7**
BHJ				IAmb	IAmb	22 54 32.0	
	comp=Z,194nm,0.5s						
ZAK	**Zakamensk**	**19.00**	**48**	*e*P	**Pn**	**22 54 27.5**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,248nm,1.5s						
AKTO	**Aktyubinsk**	**19.72**	**312**	P	**P**	**22 54 34.8**	**+0.9**
	comp=Z,7.6nm,0.3s,baz=97,slow=13,SNR=125						
AKTO				S	**S**	**22 58 10.7**	**-3.6**
	comp=Z,1.9nm,0.3s,baz=63,slow=17,SNR=1.7						
AKTO				Lg	Lg	23 00 50.3	
	comp=Z,1.1nm,0.3s,baz=291,slow=14,SNR=2.8						
AKTO				LR	LR	23 02 54.5	
	comp=Z,20μm,20.5s,baz=122,slow=39						
AKTO				P3KPbc		23 28 53.8	
	comp=Z,0.1nm,0.3s,baz=127,slow=0.3,SNR=4.4

RPR IVMs_BB IVMs_BB 23 03 04.3
comp=Z,8µm,23.7s
SRSP Sriramsagar 20.57 188 *e*P **P** **22 54 42.3 -1.0**
SRSP IAmb IAmb 22 54 45.7
comp=Z,480nm,0.9s
SRSP *e* 22 58 18.5
SRSP *e*S **S** **22 58 26.6 -5.0**
SRSP IVMs_BB IVMs_BB 23 03 01.8
comp=Z,8µm,20.1s
KLRI Killari 21.65 192 *e*P **P** **22 54 54.9 -0.1**
KLRI IAmb IAmb 22 54 58.9
comp=Z,443nm,0.8s
KLRI *e*S **S** **22 58 48.7 -4.3**
KLRI IVMs_BB IVMs_BB 23 03 42.9
comp=Z,15µm,17.9s
VIS Vishakhapatnam 21.69 175 *e*P **P** **22 54 54.8 -0.6**
VIS IAmb IAmb 22 54 57.3
comp=Z,1µm,1.8s
BOM Bombay 21.71 202 *ex* P 22 55 06.8 +11
BOM *ex* Sn 22 59 07.6 +3.5
POO Poona 21.78 199 *e*P **P** **22 54 57.5 +1.2**
POO IAmb IAmb 22 55 01.8
comp=Z,334nm,0.7s
POO IAMs_20 IAMs_20 23 03 50.2
comp=Z,30µm,19.9s
BTO Baotou 22.03 78 *e*P **P** **22 54 58.4 -0.6**
BTO pmax pmax
comp=Z,130nm,0.7s
HYBB Hyderabad (bro 22.04 187 *e*P **P** **22 54 59.0 -0.2**
HYBB IAmb IAmb 22 55 01.1
comp=Z,325nm,1.0s
HYBB *e*S **S** **22 58 53.7 -6.8**
HYBB IVMsBB 23 03 35.7
comp=Z,6µm,12.4s
HYB Hyderabad 22.04 187 *i* P **P** **22 54 59.5 +0.3**
comp=Z,380nm,1.0s
HYB *e*S **S** **22 58 56.0 -4.6**
HYB LR LR
comp=Z,31nm,24.0s
HYB Hyderabad 22.04 187 *e*P **P** **22 54 57.8 -1.4**
HYB IAmb IAmb 22 55 00.1
SVE Sverdlovsk 22.06 329*c i*P **P** **22 55 00.6 +1.6**
SVE *e*S **S** **22 58 57.5 -2.7**
SVE pmax pmax
comp=Z,2µm,10.7s
SVE pmax pmax
comp=Z,923nm,1.1s
SVE MLR MLR
comp=Z,23µm,18.0s
PVM Polavaram 22.09 179 *e*P **P** **22 54 59.3 -0.3**
PVM IAmb IAmb 22 55 02.8
comp=Z,509nm,1.0s
PVM *e*S **S** **22 58 58.6 -2.6**
PVM IVMs_BB IVMs_BB 23 04 04.0
comp=Z,9µm,17.8s
ARU Arti 22.66 326 P **P** **22 55 06.2 +0.7**
comp=Z,193nm,0.9s,baz=115,slow=6.5,SNR=155
ARU S **S** **22 59 09.5 -1.6**
comp=Z,60nm,0.9s,baz=39,slow=14,SNR=2.9
ARU Lg Lg 23 02 09.3
comp=Z,39nm,0.8s,baz=102,slow=20,SNR=2.4
ARU LR LR 23 04 55.9
comp=Z,27µm,19.1s,baz=130,slow=39
ARU P3KPbc 23 28 42.6
comp=Z,2.8nm,0.8s,baz=324,slow=9.9,SNR=5.1
ARU Arti 22.66 326 *e*P **P** **22 55 05.6 +0.2**
comp=Z,528nm,0.9s
ARU S **S** **22 59 09.5 -1.6**
ARU LR LR
comp=Z,18µm,21.0s
ARU Arti 22.66 326*d i*P **P** **22 55 06.4 +1.0**
ARU 22 55 21.1
ARU S **S** **22 59 11.1 -0.1**
ARU pmax pmax
comp=Z,520nm,1.2s
ARU MLR MLR
comp=Z,24µm,18.0s
XAN Xi'an 22.77 95 P **P** **22 55 05.9 -1.0**
XAN pP pP 22 55 15.3 -0.4
XAN PP **PnPn** **22 55 35.2 +3.8**
XAN S **S** **22 59 12.1 -1.5**
XAN SS **SnSn** **22 59 54.5 +9.3**
XAN pmax pmax
comp=Z,430nm,1.0s
XAN pmax pmax
comp=Z,2µm,3.7s
XAN LR LR
comp=Z,14µm,15.7s
XAN LR LR
comp=Z,14µm,15.5s
XAN LR LR
comp=Z,17µm,21.6s
NJS Nagarjunasagar 22.84 185 *e*P **P** **22 55 07.1 -0.5**
NJS IAmb IAmb 22 55 11.3
comp=Z,374nm,1.1s
NJS *e*S **S** **22 59 09.7 -5.1**
NJS IVMs_BB IVMs_BB 23 04 23.7
comp=Z,8µm,24.6s
KMI Kunming 23.01 122 P **P** **22 55 09.1 -0.5**
KMI pP pP 22 55 16.6 -1.9
KMI sP sP 22 55 20.2 -2.5
KMI PP **PnPn** **22 55 41.2 +6.3**
KMI S **S** **22 59 18.3 +0.2**
KMI sS sS 22 59 29.9 -3.8
KMI pmax pmax
comp=Z,440nm,1.5s
KMI pmax pmax
comp=Z,5µm,6.2s
KMI LR LR
comp=Z,6µm,13.5s
KMI LR LR
comp=Z,7µm,14.4s
KMI LR LR
comp=Z,11µm,22.9s
HHC Hu-ho-hao-te 23.16 77 *e*P **P** **22 55 11.0 0.0**
HHC sP sP 22 55 26.7 +2.6
HHC PP **PnPn** **22 55 40.4 +3.6**
HHC S **S** **22 59 19.3 -1.1**
HHC pmax pmax
comp=Z,380nm,1.5s
HHC pmax pmax
comp=Z,1µm,6.2s
HHC LR LR
comp=Z,17µm,13.5s
HHC LR LR
comp=Z,16µm,11.2s
HHC LR LR
comp=Z,13µm,10.4s
SRLM Srisailam 23.32 186 *e*P **P** **22 55 12.2 -0.3**
SRLM IAmb IAmb 22 55 14.1
comp=Z,778nm,1.3s
SRLM *e*S **S** **22 59 17.6 -5.3**
SRLM IVMs_BB IVMs_BB 23 04 48.5
comp=Z,8µm,22.7s
ADKI Addanki 23.51 183 *e*P **P** **22 55 14.1 -0.2**
ADKI IAmb IAmb 22 55 16.4
comp=Z,836nm,1.7s
ADKI *e*S **S** **22 59 21.2 -4.7**
ADKI IVMs_BB IVMs_BB 23 04 57.0
comp=Z,9µm,16.4s
TIY Taiyuan 24.38 84 *e*P **P** **22 55 22.6 +0.1**
TIY S **S** **22 59 37.4 -2.5**
TIY ScS **ScS** **23 06 24.1 -0.7**
TIY pmax pmax
comp=Z,630nm,0.7s
TIY LR LR
comp=Z,13µm,9.6s
TIY LR LR
comp=Z,4µm,7.8s
TIY LR LR
comp=Z,13µm,25.5s
URV Uravakonda 24.62 189 *e*P **P** **22 55 23.9 -0.8**
URV IAmb IAmb 22 55 27.3
comp=Z,384nm,1.2s
URV *e*S **S** **22 59 39.3 -4.7**
URV IVMs_BB IVMs_BB 23 05 26.1
comp=Z,9µm,15.8s
GOA Goa 24.71 197 *e*P **P** **22 55 25.6 +0.1**
GOA IAmb IAmb 22 55 29.5
comp=Z,383nm,0.9s
CMAI Chiengmai2 24.73 137 P **P** **22 55 27.2 +1.3**
comp=Z,3µm,1.3s,comp=Z,123µm
ENH Enshi 24.82 103 *e*P **P** **22 55 26.4 -0.1**
comp=Z,7.7nm,0.3s
ENH LR LR
comp=Z,10µm,22.0s
GYA Guiyang 24.83 114⇑ *i*P **P** **22 55 27.1 +0.4**
GYA pP sP 22 55 37.4 -2.9
GYA PP **PnPn** **22 56 04.0 +4.2**
GYA PcP **PcP** **22 59 04.8 +2.4**
GYA S **S** **22 59 45.4 -2.1**
GYA SS **SnSn** **23 00 41.2 +5.1**
GYA ScP **ScP** **23 02 39.6 +0.9**
GYA pmax pmax
comp=Z,810nm,1.1s
GYA pmax pmax
comp=Z,3µm,6.9s
BANOM Banah 24.85 245 P **P** **22 55 29.5 +2.7**
BANOM Banah 24.85 245 *i* P **P** **22 55 28.5 +1.7**
SNR=15
SHME Shamm 24.88 245 *i* P **P** **22 55 30.1 +3.0**
SNR=17
WSAR Wadi Sarin 25.07 237 P **P** **22 55 31.1 +2.3**
comp=Z,124nm,0.6s,baz=85,slow=6.6,SNR=237
WSAR S **S** **22 59 51.4 +0.4**
comp=Z,14nm,0.9s,baz=51,slow=11,SNR=1.3
WSAR LR LR 23 07 58.2
comp=Z,6µm,21.7s,baz=70,slow=43
LKRN Lenkeran, Azer 25.16 279 P **P** **22 55 29.9 +0.5**
BIDO Bidbid 25.20 238 P **P** **22 55 33.8 +3.9**
SNR=13
MDH Madha 25.25 244 *i* P **P** **22 55 31.3 +0.9**
SNR=21
MSFE Esma-Masafi 25.30 244 *i* P **P** **22 55 33.2 +2.3**
SNR=24
UOSS Minazif 25.54 243 *e*P **P** **22 55 34.5 +1.5**
comp=Z,193nm,0.8s
UOSS Minazif 25.54 243 P **P** **22 55 33.7 +0.7**
UOSS Minazif 25.54 243 *i* P **P** **22 55 34.0 +1.0**
SNR=26
UMQ Umm Al-Quwin 25.55 245 *i* P **P** **22 55 36.2 +3.1**
SNR=7.6
MAK Makhachkala 25.55 289 *e*P **P** **22 55 32.5 -0.4**
MAK *e* 22 56 12.0
MAK *e*S **S** **23 00 00.0 +1.7**
MAK *e*SS **SnSn** **23 00 56.1 +3.1**
MAK pmax pmax
comp=Z,234nm,1.3s
MAK MLR MLR
comp=Z,6µm,11.0s
CHTO Chiang Mai 25.60 138 P **P** **22 55 33.5 -0.1**
comp=Z,2µm,0.9s,comp=Z,24µm
CHTO Chiang Mai 25.60 138 PFAKE 22 55 50.0 +16
CHTO LR LR
comp=Z,7µm,21.0s
CHTO Chiang Mai 25.60 138 P **P** **22 55 33.2 -0.4**
SNR=56
CIT Chita 25.60 50 *e*P P 22 55 48.6 +15
CIT *e* 22 55 58.3
CIT *e* 22 56 21.6
CIT *e* 22 59 58.3
CIT pmax pmax
comp=Z,824nm,1.4s
CMMT Chiang Mai 25.60 138 P **P** **22 55 32.4 -1.2**
comp=Z,353nm,0.9s,comp=Z,5µm
SKHT Srikalahasti 25.61 183 *e*P **P** **22 55 33.7 +0.1**
SKHT IAmb IAmb 22 55 39.3
comp=Z,163nm,0.8s
SKHT *e*S **S** **22 59 55.5 -4.1**
SKHT IVMs_BB IVMs_BB 23 06 12.5
comp=Z,8µm,18.3s
PAYA Payao 25.64 136 P **P** **22 55 37.1 +3.2**
comp=Z,241nm,1.0s,comp=Z,3µm
HATD Hatta, Dubai 25.66 243 P **P** **22 55 36.4 +2.3**
SNR=17
HATD Hatta, Dubai 25.66 243 *i* P **P** **22 55 35.6 +1.5**
SNR=41
HOQ Hoqain 25.69 239 P **P** **22 55 38.0 +3.5**
SNR=18
ASHO Ashiyiah 25.81 243 P **P** **22 55 38.6 +3.1**
SNR=69
ASHO Ashiyiah 25.81 243 *i* P **P** **22 55 38.0 +2.5**
SNR=143
SOHO SOHO 25.84 241 *i* P **P** **22 55 36.9 +1.1**
SNR=37
NAZ Nazwa, Dubai 25.89 244 P **P** **22 55 39.4 +3.3**
SNR=10
NAZ Nazwa, Dubai 25.89 244 *i* P **P** **22 55 39.0 +2.8**
SNR=20
CM31 Chiang Mai Arr 25.90 139 *e*P **P** **22 55 36.6 +0.3**
CM31 Chiang Mai Arr 25.90 139 P **P** **22 55 36.2 -0.1**
CMAR Chiang Mai Arr 25.90 139 P **P** **22 55 36.0 -0.2**
comp=Z,385nm,0.9s,baz=319,slow=8.7,SNR=201
CMAR PcP **PcP** **22 59 05.2 +0.4**
comp=Z,32nm,0.8s,baz=303,slow=3.2,SNR=6.7
CMAR S **S** **23 00 03.4 -0.8**
comp=Z,5.3nm,0.6s,baz=315,slow=11,SNR=3.2
CMAR ScP **ScP** **23 02 39.5 -2.1**
comp=Z,10nm,1.1s,baz=325,slow=4.4,SNR=5.5
CMAR PKiKP **PKiKP** **23 06 44.0 -0.5**
comp=Z,2.5nm,0.6s,baz=286,slow=1.7,SNR=9.2
CMAR LR LR 23 07 44.0
comp=Z,5µm,19.8s,baz=328,slow=41
CM01 Chiang Mai Arr 25.94 139 *e*P **P** **22 55 35.5 -1.1**
SEKA Sheki 25.94 285 P **P** **22 55 36.3 -0.3**
JMDO Jabal Madar 26.02 236 P **P** **22 55 42.1 +4.7**
SNR=14
MNGR Mingechevir, A 26.09 284 P **P** **22 55 38.3 +0.5**
LAMP Lampang 26.20 137 P **P** **22 55 39.5 +0.5**
comp=Z,264nm,0.9s,comp=Z,2µm
MDRS Chennai 26.25 182 *e*P **P** **22 55 39.7 +0.2**
MDRS IAmb IAmb 22 55 55.6
comp=Z,93nm,0.8s
ZKTA Zakatala 26.32 286 P **P** **22 55 40.4 +0.4**
ARQ Araqi 26.39 240 P **P** **22 55 47.4 +6.6**
SNR=28
ALNE Al Ain 26.43 242 *i* P **P** **22 55 42.6 +1.5**
SNR=81
GANJ Ganja 26.68 284 P **P** **22 55 43.6 +0.4**
BJT Baijiatuau 26.76 77 *e*P **P** **22 55 43.9 0.0**
comp=Z,129nm,1.1s
BJT LR LR
comp=Z,42µm,20.0s
BJT Baijiatuau 26.76 77 *e*P **P** **22 55 43.9 0.0**
BJT pmax pmax
comp=Z,129nm,1.1s
BJT MLR MLR
comp=Z,42µm,20.0s
BJI Beijing 26.76 77 P **P** **22 55 43.9 0.0**
BJI S **S** **23 00 16.6 -0.9**
BJI LR LR
comp=Z,7µm,13.7s
GROC Groznyy 26.78 290 *e*P **P** **22 55 45.9 +1.8**
GROC *e* 22 56 27.0
GROC *e*S **S** **23 00 19.5 +1.7**
GROC pmax pmax
comp=Z,180nm,1.2s
NAX Nakhchivan 27.57 281 P **P** **22 55 51.6 +0.3**
TBLG Delisi 27.71 287 *e*P **P** **22 55 54.1 +1.6**
TBLG Delisi 27.71 287 *e*P **P** **22 55 54.1 +1.6**
comp=Z,63nm,1.0s
TBLG Delisi 27.71 287 *e*P **P** **22 55 54.1 +1.6**
TBLG pmax pmax
comp=Z,63nm,1.0s
PHIT Phitsanulok 27.72 138 P **P** **22 55 54.1 +1.4**
comp=Z,139nm,1.1s,comp=Z,1µm
GNI Garni 27.95 283 P **P** **22 55 57.0 +2.2**
comp=Z,24nm,0.7s,baz=344,slow=5.3,SNR=43
GNI LR LR 23 09 08.8
comp=Z,4µm,21.8s,baz=74,slow=41
GNI Garni 27.95 283 *e*P **P** **22 55 57.7 +2.9**
comp=Z,196nm,1.1s
GNI LR LR
comp=Z,5µm,22.0s
GNI Garni 27.95 283*ce*P **P** **22 55 57.8 +2.9**
GNI pmax pmax
comp=Z,126nm,0.8s
GNI Garni 27.95 283 P **P** **22 55 57.6 +2.9**
SNR=12
GNI Garni 27.95 283 *i* P **P** **22 55 56.3 +1.4**
SNR=35
BOD Bodaibo 28.01 38 *e*P **P** **22 55 55.7 +0.8**
BOD pmax pmax
comp=Z,159nm,1.2s
DGPR DIGLIPUR 28.09 155 *e*P **P** **22 55 54.2 -1.8**
NCK Nalchik 28.36 291*d i*P **P** **22 55 57.5 -0.7**
TASB TASBURUN-IGDIR 28.36 283 *e*P **P** **22 56 00.3 +1.9**
WHN Wuhan 28.39 98⇑⇑ P **P** **22 55 59.0 +0.4**
WHN S **S** **23 00 43.8 +0.4**
WHN pmax pmax
comp=Z,3µm,4.5s
WHN LR LR
comp=Z,18µm,8.4s
WHN LR LR
comp=Z,34µm,22.0s
WHN LR LR
comp=Z,28µm,17.2s
TIA Tai'an 28.40 85 P **P** **22 56 00.0 +1.4**
TIA pmax pmax
comp=Z,98nm,1.3s
TIA pmax pmax
comp=Z,1µm,4.4s
TIA LR LR
comp=Z,6µm,18.1s
TIA LR LR
comp=Z,7µm,20.1s
TIA LR LR
comp=Z,14µm,20.8s
IGDI IGDIR 28.50 283 *i* P **P** **22 56 00.1 +0.5**
UTHA Uthaitani 28.61 141 P **P** **22 56 01.7 +1.1**
comp=Z,129nm,1.1s,comp=Z,1µm
GOF Gofitskoye 28.66 294⇑ *i*P **P** **22 56 02.4 +1.5**
GOF pmax pmax
comp=Z,156nm,1.3s
AKH Akhalkalaki 28.68 286⇑ *i*P **P** **22 56 04.5 +3.2**
AKH Akhalkalaki 28.68 286 *e*P **P** **22 56 04.3 +3.0**
comp=Z,52nm,0.9s
AKH Akhalkalaki 28.68 286 *e*P **P** **22 56 04.3 +3.0**
AKH pmax pmax
comp=Z,52nm,0.9s
EAK Akyaka 28.71 285 *i* P **P** **22 56 02.9 +1.4**
CLDR Caldiran 28.78 282 *e*P **P** **22 56 06.4 +4.2**
CLDR Caldiran 28.78 282 *i* P **P** **22 56 02.5 +0.3**
KBZ Khabaz 28.84 291 P **P** **22 56 03.6 +1.1**
comp=Z,16nm,1.0s,baz=138,slow=5.0,SNR=27
KBZ LR LR 23 10 28.2
comp=Z,4µm,18.1s,baz=87,slow=42
KBZ P3KPbc 23 28 15.1
comp=Z,1.8nm,0.9s,baz=329,slow=3.0,SNR=5.4
YOVA Hakkari_Y¨…kse 28.86 278 *i* P **P** **22 56 05.2 +2.2**
HIA Hailar 28.95 57 *e*P **P** **22 56 04.2 +0.8**
comp=Z,109nm,1.1s
HIA LR LR
comp=Z,24µm,19.0s
HIA Hailar 28.95 57*c i*P **P** **22 56 03.3 -0.2**
HIA pmax pmax
comp=Z,33nm,0.8s
KVAR Kislovodsk Arr 28.97 292 P **P** **22 56 05.4 +1.6**
comp=Z,30nm,0.9s,baz=223,slow=4.1,SNR=24
KVAR LR LR 23 09 49.4
comp=Z,5µm,22.0s,baz=56,slow=41
KVAR P3KPbc 23 28 14.0
comp=Z,4.4nm,0.8s,baz=300,slow=2.3,SNR=5.1
KIV Kislovodsk 28.98 292 *e*P **P** **22 56 05.2 +1.4**
comp=Z,116nm,0.9s
KIV LR LR
comp=Z,4µm,20.0s
KIV Kislovodsk 28.98 292 *e*P **P** **22 56 05.2 +1.4**
KIV *e* 22 59 12.8
KIV *e*S **S** **23 00 55.1 +2.5**
KIV pmax pmax
comp=Z,47nm,1.1s
KIV MLR MLR
comp=Z,4µm,15.0s
KIV Kislovodsk 28.98 292 P **P** **22 56 04.7 +0.8**
SNR=8.6
KIV Kislovodsk 28.98 292 *i* P **P** **22 56 05.4 +1.5**
SNR=16
NEY Neytrino 29.02 290*c i*P **P** **22 56 06.6 +2.3**
KARS Kars 29.12 285 *e*P **P** **22 56 08.8 +3.7**
EPOS Posof 29.23 287 *i* P **P** **22 56 06.5 +0.4**
VANB Van 29.30 281 *e*P **P** **22 56 08.8 +2.0**
HAKT HAKKARI 29.32 278 *i* P **P** **22 56 07.3 +0.3**
AGRB Hanur-Agry 29.38 283 *e*P **P** **22 56 11.2 +3.6**
PBA Port Blair 29.46 157 *e*P P 22 56 07.8 -0.4
PBA IAmb IAmb 22 56 10.4
comp=Z,213nm,0.3s
CUKT Cukurca 29.48 278 *e*P **P** **22 56 09.9 +1.5**
CUKT Cukurca 29.48 278 *i* P **P** **22 56 08.7 +0.3**
SRDT SRDT 29.50 143 P **P** **22 56 08.5 0.0**
comp=Z,242nm,1.3s,comp=Z,5µm
TUTA Tutak 29.56 282 *i* P **P** **22 56 10.6 +1.4**
GEVA Gevas 29.62 280 *i* P **P** **22 56 09.5 -0.2**
SENK Senkaya-Erzuru 29.67 285 *e*P **P** **22 56 13.4 +3.2**
EATA Eleskirt 29.70 283 *i* P **P** **22 56 12.4 +1.9**
KHON Khomkaen 29.71 135 P **P** **22 56 11.0 +0.6**
comp=Z,118nm,1.0s,comp=Z,1µm
VRH Novokhopyorsk 29.84 306 *e*P **P** **22 56 12.1 +0.8**
VRH *e**SP sP 22 56 24.1 -0.7
VRH pmax pmax
comp=Z,190nm,1.5s
VRH MLR MLR
comp=Z,10µm,20.0s
SKNT Sakolnakorn 29.85 132 P **P** **22 56 10.9 -0.8**
comp=Z,194nm,1.0s,comp=Z,3µm
ARTV Artvin 29.88 286 *i* P **P** **22 56 11.4 -0.6**
DAGI Agillar 29.91 286 *i* P **P** **22 56 12.1 -0.1**
DBOC Borcka 30.05 287 *i* P **P** **22 56 15.3 +2.0**
DDEM Demirkent 30.06 286 *i* P **P** **22 56 14.7 +1.2**
DBAD Bademkaya 30.08 286 *i* P **P** **22 56 15.3 +1.6**
HOMI Horasan 30.11 284 *i* P **P** **22 56 15.6 +1.5**
EKAR Karacoban 30.16 282 *i* P **P** **22 56 16.2 +1.8**
NRIK Noril'sk 30.18 4 P **P** **22 56 15.9 +1.9**
comp=Z,25nm,0.8s,baz=151,slow=0.6
SIRT Sirnak 30.30 279 *e*P **P** **22 56 18.1 +2.5**
SIRN S¨–rnak 30.32 279 *i* P **P** **22 56 17.6 +1.8**
GURO Guroymak-BITLI 30.34 281 *e*P **P** **22 56 19.3 +3.3**
SRTM Siirt_Merkez 30.57 280 *i* P **P** **22 56 18.6 +0.6**
NAYO Nakonayok 30.60 139 P **P** **22 56 18.9 +0.7**
comp=Z,166nm,0.9s
SHAO Shalim 30.79 234 *i* P **P** **22 56 21.1 +1.2**
SNR=8.5
BNGL BINGOL 30.92 282 *i* P **P** **22 56 23.8 +2.6**
PHET Kaeng Krachan 30.99 143 P **P** **22 56 23.1 +1.4**
comp=Z,106nm,1.0s,comp=Z,906nm
TRD Trivandrum 31.01 188 *e*P **P** **22 56 23.0 +1.1**
BTMN Batman 31.09 280 *i* P **P** **22 56 22.8 +0.3**
DL2 Dalian 31.13 78⇑ *i*P **P** **22 56 22.4 -0.3**
DL2 S **S** **23 01 24.0 -2.1**
DL2 pmax pmax
comp=Z,110nm,0.9s
DL2 pmax pmax
comp=Z,1µm,5.8s
DL2 LR LR
comp=Z,11µm,20.6s
DL2 LR LR
comp=Z,16µm,19.2s
DL2 LR LR
comp=Z,25µm,21.7s
SOC Sochi 31.16 291 *e*P **P** **22 56 24.0 +1.0**
SOC *e**PP **sP** **22 56 33.7 -2.9**
SOC *e* 22 57 24.7
SOC *e* 22 59 22.7
SOC *e*S **S** **23 01 25.6 -1.0**
SOC pmax pmax
comp=Z,71nm,1.1s
SOC MLR MLR
comp=Z,4µm,17.0s
KOPT Kop Dagi 31.17 284 *i* P **P** **22 56 24.0 +0.6**
NJ2 Nanjing 31.22 92 *e*P **P** **22 56 24.8 +1.2**
NJ2 pP **sP** **22 56 33.3 -3.9**
NJ2 S **S** **23 01 26.7 -1.0**
NJ2 sS **sS** **23 01 41.5 -2.1**
NJ2 pmax pmax
comp=Z,57nm,0.8s
NJ2 pmax pmax
comp=Z,2µm,3.6s
NJ2 LR LR
comp=Z,4µm,11.4s
NJ2 LR LR
comp=Z,6µm,15.7s
NJ2 LR LR
comp=Z,7µm,19.0s
SRAK Srakaew 31.23 138 P **P** **22 56 27.2 +3.4**
comp=Z,826nm,0.9s,comp=Z,7um
BAYB BAYBURT 31.30 285 *i* P **P** **22 56 26.4 +1.9**
BAYT Ayd¨–ntepe-Bay 31.36 285 *e*P **P** **22 56 28.1 +3.1**
VSR Storozhevoye 31.44 306 *e*P **P** **22 56 26.1 +0.7**
VSR *e**SP sP 22 56 38.3 -0.7
VSR pmax pmax
comp=Z,90nm,0.6s
VSR MLR MLR
comp=Z,14µm,22.0s
VORR Voronezh 31.46 307⇓ *i*P **P** **22 56 26.0 +0.5**
VORR pmax pmax
comp=Z,300nm,1.2s
MACK Trabzon 31.53 286 *i* P **P** **22 56 29.3 +2.9**

MARD Mardin 31.63 279 *i* P P 22 56 27.7 +0.4
GZH Guangzhou 31.68 111 P P 22 56 26.5 -1.3
GZH S S 23 01 33.8 -1.3
GZH LR LR
comp=Z,5μm,8.3s
GZH LR LR
comp=Z,7μm,8.2s
LPSR Galich'ya Gora 31.74 309 *e*P P 22 56 28.4 +0.4
LPSR *e**SP sP 22 56 40.8 -0.8
LPSR pmax pmax
comp=Z,60nm,0.7s
EUZM Uzumlu 31.84 284 *i* P P 22 56 31.7 +2.6
MAZI Mazidag 31.84 280 *e*P P 22 56 31.8 +2.6
DYBB Diyarbakir 31.94 281 *e*P P 22 56 33.2 +3.2
QIZ Qiongzhong 31.95 121 P P 22 56 30.7 +0.5
QIZ S S 23 01 41.3 +1.9
QIZ ScS ScS 23 06 57.3 -2.2
QIZ pmax pmax
comp=Z,170nm,1.0s
QIZ LR LR
comp=Z,6μm,20.1s
QIZ LR LR
comp=Z,6μm,21.6s
QIZ LR LR
comp=Z,12μm,18.6s
QIZ Qiongzhong 31.95 121 *e*P P 22 56 30.5 +0.3
comp=Z,1μm,1.6s
QIZ LR LR
comp=Z,2μm,21.0s
DIYA Diyarbakir 31.96 281 *i* P P 22 56 32.4 +2.2
PALK Pallekele 32.00 181 LR LR 23 10 29.9
comp=Z,11μm,21.8s,baz=294,slow=38
PALK Pallekele 32.00 181 *i* P P 22 56 32.2 +1.6
PALK Pallekele 32.00 181 P P 22 56 31.6 +1.0
SNR=8.2
PALK Pallekele 32.00 181 *i* P P 22 56 31.0 +0.4
SNR=22
KELT Kelkit 32.07 285 *i* P P 22 56 33.3 +2.0
TNCL Tunceli-Merkez 32.09 283 *i* P P 22 56 33.6 +2.2
PTK Pertek 32.26 283 *e*P P 22 56 36.1 +3.1
ESPY Espiye-Giresun 32.31 287 *e*P P 22 56 35.6 +2.5
MCO Taipa Grande 32.44 113 P P 22 56 36.0 +1.6
REFA Refahiye_ERZ¯ 32.61 284 *i* P P 22 56 37.3 +1.3
GRSN GIRESUNGRSN 32.65 287 *i* P P 22 56 35.3 -0.8
ANN Anapa 32.65 294 *e*P P 22 56 36.6 +0.5
ANN *e*PPP PPP 22 58 03.3
ANN *e*S S 23 01 49.4 -0.4
ANN *e*SS SnSn 23 03 51.3 +5.3
ANN pmax pmax
comp=N,36nm,1.0s
ANN pmax pmax
comp=E,47nm,1.0s
ANN pmax pmax
comp=Z,176nm,1.0s
ANN MLR MLR
comp=N,9μm,20.0s
ANN MLR MLR
comp=Z,8μm,20.0s
ANN MLR MLR
comp=E,6μm,20.0s
ELZG Elazig 32.67 282 *i* P P 22 56 39.1 +2.5
ILIC ilic-Erzincan 32.75 284 *e*P P 22 56 40.5 +3.4
HKC Hong Kong Obse 32.77 112 ⇑P P 22 56 39.0 +1.7
KEMA Kemaliye 32.85 284 *i* P P 22 56 40.8 +2.8
SUSE Susehri 32.85 285 *i* P P 22 56 38.1 0.0
ORDU Ordu-Boztepe 32.94 287 *i* P P 22 56 49.0 +10
MOS Moscow 33.01 314 *e*P P 22 56 39.0 0.0
MOS *e* 22 56 51.7
MOS *e* 22 57 48.3
MOS *e*S S 23 01 51.4 -3.7
MOS *e*SS SnSn 23 03 56.3 +1.9
MOS pmax pmax
comp=Z,256nm,1.1s
MOS pmax pmax
comp=E,124nm,0.7s
MOS smax smax
comp=N,2μm,4.0s
MOS smax smax
comp=E,3μm,4.0s
MOS MLR MLR
comp=N,4μm,19.0s
MOS MLR MLR
comp=E,10μm,19.0s
MOS MLR MLR
comp=Z,13μm,19.0s
CN2 Changchun 33.03 68 *e*P P 22 56 39.5 +0.1
CN2 *e*sP sP 22 56 50.1 -3.0
CN2 *e*S S 23 01 53.2 -2.6
CN2 pmax pmax
comp=Z,60nm,1.0s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,11μm,15.0s
CN2 LR LR
comp=Z,5μm,15.0s
CN2 LR LR
comp=Z,4μm,18.0s
URFA Urfa 33.08 280 *e*P P 22 56 41.6 +1.5
MALT Malatya 33.14 282 *e*P P 22 56 43.9 +3.3
MALT Malatya 33.14 282 P P 22 56 43.5 +2.9
MALT pmax pmax
comp=Z,249nm,1.2s
CLNS Chul'man 33.23 44 *e*P P 22 56 41.9 +0.8
CLNS *e**PP sP 22 56 56.2 +1.5
CLNS *e* 22 57 52.0
CLNS *e* 22 59 24.7
CLNS *e*S S 23 01 56.3 -2.5
CLNS *e*SS SnSn 23 03 59.7 -0.3
CLNS pmax pmax
comp=Z,66nm,0.6s
CLNS pmax pmax
comp=E,37nm,0.8s
CLNS pmax pmax
comp=N,26nm,0.9s
CLNS pmax pmax
comp=Z,36nm,0.9s
CLNS pmax pmax
comp=E,33nm,0.9s
CLNS pmax pmax
comp=N,18nm,0.7s
CLNS smax smax
comp=N,671nm,11.3s
CLNS smax smax
comp=E,991nm,12.5s
CLNS MLR MLR
comp=Z,23μm,18.0s
CLNS MLR MLR
comp=E,21μm,20.0s
CLNS MLR MLR
comp=N,5μm,15.0s
CUZAR Zara_SIVAS 33.24 285 *i* P P 22 56 43.5 +2.0
HEKM Malatya_Hekimh 33.35 283 *i* P P 22 56 43.5 +1.1
SURC SANLIURFA_SURC 33.41 279 *i* P P 22 56 42.9 0.0
SSE Sheshan 33.43 92⇑ *i*P P 22 56 44.7 +1.7
SSE S S 23 02 02.7 +0.6
SSE sS sS 23 02 20.1 +2.1
SSE pmax pmax
comp=N,150nm,0.8s
SSE pmax pmax
comp=N,1μm,3.8s
SSE LR LR
comp=N,3μm,15.2s
KLMR Klimovskoe 33.45 324 *e*P P 22 56 42.7 -0.1
KLMR *e* 22 57 54.6
KLMR *e*S S 23 02 02.6 +0.7
KLMR pmax pmax
comp=Z,355nm,1.3s
KLMR MLR MLR
comp=Z,2μm,9.0s
KLMR Klimovskoe 33.45 324 *e*P P 22 56 42.8 -0.1
KLMR AMP 22 57 01.1
comp=Z,355nm,1.3s
KLMR *e*PP PnPn 22 57 54.7 +0.4
KLMR *e*S S 23 02 02.6 +0.7
KLMR *e*S S 23 02 02.6 +0.7
KLMR LQ LQ 23 07 48.9
KLMR LQ LQ 23 07 48.9
KLMR LR LR 23 09 42.0
KLMR AMP 23 11 08.3
comp=Z,2μm,9.1s
RSDY Resadiye-TOKAT 33.46 286 *e*P P 22 56 44.3 +1.1
OBN Obninsk 33.49 313 *e*P P 22 56 44.1 +0.9
comp=Z,103nm,0.6s
OBN LR LR
comp=Z,11μm,21.0s
OBN Obninsk 33.49 313 *c* *i*P P 22 56 44.0 +0.8
OBN *i* *PP sP 22 56 56.1 -0.8
OBN 22 59 21.0
OBN *i* S S 23 02 00.2 -2.4
OBN pmax pmax
comp=Z,130nm,1.2s
OBN MLR MLR
comp=Z,12μm,21.0s
AKCD Akcadag 33.53 282 *i* P P 22 56 44.9 +0.9
CUKAN kangal_SIVAS 33.61 284 *i* P P 22 56 43.2 -1.5
SCER sogukcermik 33.73 285 *i* P P 22 56 47.2 +1.5
DARE Darende-Malaty 33.79 283 *e*P P 22 56 47.6 +1.4
SVSK Karacayir 33.81 285 *e*P P 22 56 49.4 +3.2
ERBA Erbaa 33.82 287 *i* P P 22 56 47.0 +0.6
CUGUR Gurin_S¯VAS 33.91 283 *i* P P 22 56 45.5 -1.8
TOKT Tokat 34.06 286 *e*P P 22 56 50.9 +2.4
ZEA Zeya 34.06 50 *e*P P 22 56 49.7 +1.4
ZEA *e*PPP PPP 22 58 25.0
ZEA *e*S S 23 02 08.0 -3.6
ZEA *e*SSS SSS 23 04 42.0
ZEA pmax pmax
comp=Z,81nm,1.0s
ZEA pmax pmax
comp=Z,800nm,7.0s
ZEA smax smax
comp=E,2μm,12.0s
ZEA smax smax
comp=N,2μm,7.0s
ZEA MLR MLR
comp=Z,9μm,12.0s
ZEA MLR MLR
comp=E,7μm,15.0s
SAMS Samsun-Alacam 34.09 288 *i* P P 22 56 49.9 +1.2
RAYN Ar Rayn 34.11 253 *e*P P 22 56 50.3 +1.2
comp=E,180nm,0.9s
RAYN LR LR
comp=Z,16μm,22.0s
TOKA Tokat 34.11 286 *i* P P 22 56 50.5 +1.6
ELBS KAHRAMANMARAS 34.12 282 *i* P P 22 56 50.7 +1.6
SURT Suratani 34.15 148 P P 22 56 49.2 -0.1
comp=Z,136nm,0.8s,comp=Z,2μm
CUALT Altinyayla-SIV 34.15 284 *i* P P 22 56 51.3 +1.9
KVT Kavak 34.26 288 *e*P P 22 56 52.7 +2.5
GAZ Gaziantep 34.39 281 *e*P P 22 56 54.2 +2.8
QZH Quanzhou 34.47 103⇑ *i*P P 22 56 52.5 +0.4
QZH S S 23 02 16.0 -2.4
QZH pmax pmax
comp=Z,70nm,0.9s
QZH pmax pmax
comp=Z,1μm,4.8s
QZH LR LR
comp=Z,5μm,19.9s
CUSAR Sarkisla-SIVAS 34.50 285 *i* P P 22 56 53.9 +1.5
HAVZ Havza 34.50 288 *i* P P 22 56 53.4 +1.1
KMRS Kahramanmaras 34.53 281 *e*P P 22 56 55.4 +2.9
HCB Kahramanmara¯ 34.57 281 *i* P P 22 56 52.4 -0.5
KUZU Kuzuini 34.62 280 *i* P P 22 56 54.7 +1.4
SNOP Sinop 34.68 289 *e*P P 22 56 54.2 +0.4
SINO SINOP_Merkez 34.69 289 *i* P P 22 56 53.9 +0.1
DIKM Dikmen 34.72 289 *e*P P 22 56 56.2 +2.1
ANDN Andirin 34.93 282 *i* P P 22 56 56.2 +0.1
PKDT Phuket 34.93 149 P P 22 56 55.5 -0.6
comp=Z,324nm,0.9s,comp=Z,3μm
BNN Bunyan 34.95 284 *e*P P 22 56 57.7 +1.4
SIM Simferopol' 34.98 295 *c* *i*P P 22 56 58.0 +1.7
SIM *i* S S 23 02 26.3 +0.5
SIM pmax pmax
comp=Z,243nm,0.4s
SAIM ADANA 35.01 282 *i* P P 22 56 58.5 +1.7
BOYT Boyabat 35.03 289 *i* P P 22 56 57.6 +0.8
YOZ Yozgat 35.13 285 *e*P P 22 56 59.4 +1.5
COAL Corum-Alaca 35.23 287 *i* P P 22 57 00.1 +1.4
CTAK Corum_Osmancik 35.28 287 *i* P P 22 57 00.9 +1.7
INCN Inchon 35.31 78 *e*P P 22 56 59.6 +0.4
comp=Z,1μm,1.8s
INCN LR LR
comp=Z,26μm,21.0s
INCN Inchon 35.31 78 P P 22 57 00.1 +0.9
SNR=11
TMCR Tamitsa 35.34 329 *e*P P 22 56 59.3 +0.2
TMCR pmax pmax
comp=Z,229nm,0.7s
KOZT Kozan 35.35 282 *e*P P 22 57 02.2 +2.6
CORM Corum 35.51 287 *e*P P 22 57 02.6 +1.5
YAHY KAYSERI_Yahyal 35.52 283 *i* P P 22 57 02.5 +1.3
TRTT Trang 35.53 147 P P 22 57 00.4 -0.9
comp=Z,118nm,1.2s,comp=Z,1μm
CEYT Ceyhan 35.55 281 *e*P P 22 57 04.4 +3.1
BZK Bozkurt 35.57 290 *e*P P 22 57 03.6 +2.2
YAYL Yayladag 35.59 279 *e*P P 22 57 04.1 +2.3
YAYL Yayladag 35.59 279 *i* P P 22 57 01.4 -0.5
AKO Adana 35.65 282 *i* P P 22 57 01.9 -0.2
YURE YUREGIR 35.70 281 *e*P P 22 57 06.2 +3.6
YURE YUREGIR 35.70 281 *i* P P 22 57 05.6 +3.0
AVNS Nevsehir-Avano 35.71 284 *i* P P 22 57 04.3 +1.5
CDAG Cicekdag 35.85 286 *i* P P 22 57 04.3 +0.4
MDJ Mudanjiang 35.86 66 P P 22 57 03.6 -0.3
MDJ S S 23 02 35.8 -3.6
MDJ pmax pmax
comp=Z,130nm,1.8s
MDJ pmax pmax
comp=Z,1μm,4.4s
MDJ LR LR
comp=Z,7μm,13.2s
MDJ LR LR
comp=Z,10μm,16.6s
MDJ LR LR
comp=Z,13μm,16.4s
MDJ Mudanjiang 35.86 66 *e*P P 22 57 04.7 +0.8
comp=Z,187nm,1.3s
MDJ LR LR
comp=Z,7μm,19.0s
ILGA Ilgaz 35.98 288 *i* P P 22 57 06.9 +1.7
ILGA Ilgaz 35.98 288 *e*P P 22 57 07.7 +2.4
comp=Z,180nm,0.8s
KARA Karaisali 36.00 282 *e*P P 22 57 08.0 +2.8
CANT Cankiri 36.16 288 *e*P P 22 57 08.9 +2.3
TJN Taejon 36.21 80 *c* P P 22 57 06.9 0.0
KS01 Wonju Array Si 36.26 78 *e*P P 22 57 06.5 -0.9
KS15 Wonju Array Si 36.27 78 *e*P P 22 57 07.5 0.0
KSAR Wonju Array Be 36.27 78 P P 22 57 07.2 -0.2
KSAR PcP PcP 22 59 31.9 0.0
KSAR ScP ScP 23 03 13.1 -2.7
KSAR Wonju Array Be 36.27 78 P P 22 57 07.2 -0.2
KSAR 22 59 32.0
DED Mersin 36.29 281 *i* P P 22 57 09.4 +1.7
KSRS Korea Array 36.29 78 P P 22 57 07.2 -0.4
comp=Z,50nm,0.8s,baz=286,slow=9.1,SNR=94
KSRS PcP PcP 22 59 31.9 -0.1
comp=Z,13nm,0.8s,baz=301,slow=1.6,SNR=5.2
KSRS ScP ScP 23 03 13.1 -2.8
comp=Z,9.0nm,1.0s,baz=283,slow=4.5,SNR=5.4
KSRS LR LR 23 14 09.6
comp=Z,16μm,20.2s,baz=288,slow=40
HWQ Hawqa 36.33 276 *e*P P 22 57 10.4 +2.3
BR131 Keskin Array S 36.37 286 *e*P P 22 57 09.6 +1.1
BR131 Keskin Array S 36.37 286 P P 22 57 10.1 +1.7
BRTR Keskin Array B 36.37 286 P P 22 57 10.1 +1.6
comp=Z,150nm,0.6s,baz=96,slow=8.4,SNR=944
BRTR PKiKP PKiKP 23 06 51.4 +0.1
comp=Z,1.0nm,0.8s,baz=48,slow=1.8,SNR=3.6
BRTR LR LR 23 13 43.5
comp=Z,2μm,21.8s,baz=69,slow=39
BRTR P3KPbc 23 27 43.5
comp=Z,0.5nm,0.8s,baz=236,slow=5.6,SNR=4.6
ASF Jabal al Asfar 36.41 273 P P 22 57 11.4 +2.6
comp=Z,14nm,0.9s,baz=22,slow=4.7,SNR=26
ASF S S 23 02 51.0 +2.8
comp=Z,2.6nm,0.8s,baz=264,slow=10,SNR=2.0
ASF LR LR 23 15 33.4
comp=Z,4μm,19.0s,baz=29,slow=42
KURC Kurucasile-Bar 36.52 290 *e*P P 22 57 09.9 +0.4
SKLT Songkhla 36.52 146 P P 22 57 08.6 -1.1
comp=Z,330nm,1.1s,comp=Z,4μm
AKSY AKSARAY - Alti 36.57 284 *i* P P 22 57 11.7 +1.6
SERE Sereflikochisa 36.63 285 *e*P P 22 57 11.3 +0.6
TATO Taipei 36.65 101 PFAKE 22 57 20.0 +9.2
TATO LR LR
comp=Z,8μm,20.0s
KERG Konya-Eregli 36.66 282 *i* P P 22 57 10.4 -0.6
BHL Bhannes 36.69 276 *e*P P 22 57 13.2 +1.9
YHNB Yeheng 36.73 101 *e*P P 22 57 12.9 +1.2
comp=Z,127nm,1.0s
YHNB LR LR
comp=Z,7μm,21.0s
BBAL Bala 36.80 286 *i* P P 22 57 14.3 +2.2
KLR Kul'dur 36.81 58 S S 23 02 48.7 -5.1
comp=Z,0.3nm,0.9s,baz=261,slow=17,SNR=2.1
KLR PKiKP PKiKP 23 06 50.0 -1.2
comp=Z,0.2nm,0.7s,baz=323,slow=3.5,SNR=4.0
KLR LR LR 23 14 14.4
comp=Z,2μm,18.3s,baz=272,slow=39
DQRL Deir Qamar 36.83 276 *e*P P 22 57 14.5 +2.1
SHBL Chebaa 36.84 275 *e*P P 22 57 15.0 +2.5
AFSR Af¯ar-Bala (A 36.86 286 *e*P P 22 57 13.6 +1.0
YAK Yakutsk 36.87 36 S S 23 02 44.5 -10
comp=Z,9.1nm,0.3s,baz=267,slow=17,SNR=3.2
YAK LR LR 23 13 48.6
comp=Z,22μm,18.8s,baz=268,slow=38
YAK Yakutsk 36.87 36 *e*P P 22 57 12.3 +0.1
comp=Z,211nm,0.9s
YAK S S 23 02 44.5 -10
YAK LR LR
comp=Z,20μm,20.0s
YAK Yakutsk 36.87 36 *e*P P 22 57 12.1 -0.1
YAK *e**PP sP 22 57 28.2 +2.3
YAK *e* 22 58 35.4
YAK *e*PPP PPP 22 58 54.6
YAK *e* 22 59 31.8
YAK *e*S S 23 02 52.8 -1.5
YAK *e*SS SnSn 23 05 22.8 -4.8
YAK pmax pmax
comp=Z,194nm,1.0s
YAK pmax pmax
comp=E,96nm,1.5s
YAK pmax pmax
comp=N,38nm,1.3s
YAK pmax pmax
comp=Z,322nm,1.4s
YAK pmax pmax
comp=E,423nm,1.8s
YAK pmax pmax
comp=N,125nm,1.5s
YAK smax smax
comp=N,766nm,2.4s
YAK smax smax
comp=E,865nm,3.3s
YAK MLR MLR
comp=Z,23μm,19.0s
YAK MLR MLR
comp=E,13μm,20.0s
YAK MLR MLR
comp=N,14μm,20.0s
LHMI Lhok Sumawe 36.87 153 P P 22 57 12.6 -0.1
comp=N,1μm,1.2s,comp=N,17μm
LHMI Lhok Sumawe 36.87 153 *e*P P 22 57 13.1 +0.4
comp=N,831nm,0.8s
SULT Sultanhani-AKS 36.88 284 *e*P P 22 57 15.7 +2.9
SSLB Suanglung 36.90 103 *e*P P 22 57 14.9 +1.9
comp=N,188nm,1.1s
TPUB Ta-pu 36.94 104 *e*P P 22 57 14.6 +1.3
comp=N,63nm,0.9s
KIZK Mersin 36.94 281 *e*P P 22 57 15.0 +1.8
KIZK Mersin 36.94 281 *i* P P 22 57 13.9 +0.7
ANTO Ankara 36.96 287 *e*P P 22 57 15.6 +2.2
ANTO Ankara 36.96 287 PFAKE 22 57 30.0 +17
ANTO LR LR
comp=Z,2μm,20.0s
ANTO Ankara 36.96 287 P P 22 57 15.6 +2.2
ANTO pmax pmax
comp=Z,128nm,1.2s
ANTO Ankara 36.96 287 P P 22 57 15.6 +2.2
SNR=22
LOD Lodumlu 36.97 287 *e*P P 22 57 14.9 +1.4
BR231 Keskin MP Arra 36.98 287 *e*P P 22 57 15.9 +2.3
NACB Ninganchiao 37.17 102 *e*P P 22 57 17.0 +1.7
comp=Z,154nm,1.0s
MMAI Mount Meron Ar 37.23 275 P P 22 57 18.4 +2.7
comp=Z,5.1nm,0.4s,baz=68,slow=9.1,SNR=37
MMAI PcP PcP 22 59 36.5 +1.4
comp=Z,43nm,0.8s,baz=59,slow=5.0,SNR=14
MMAI LR LR 23 16 07.5
comp=Z,2μm,19.1s,baz=75,slow=42
EREN Erenkoy 37.24 279 *e*P P 22 57 17.7 +1.9
YULB Yu-li 37.38 103 *e*P P 22 57 18.4 +1.2
comp=Z,133nm,1.1s
AKKU Akkuyu-Mersin 37.50 280 *e*P P 22 57 19.8 +1.9
PHNC Paralimni 37.53 278 P P 22 57 19.2 +1.0
TWG Pinlang 37.54 104 *e*P P 22 57 20.5 +2.1
comp=Z,1μm,0.9s
MLSI Meulaboh, Aceh 37.58 155 P P 22 57 15.8 -3.0
comp=Z,215nm,1.1s,comp=Z,3μm
PUL Pulkovo 37.59 320 *c* *e*P P 22 57 20.2 +1.9
PUL pmax pmax
comp=Z,197nm,0.8s
USRK Ussuriysk Ar. 37.63 66 P P 22 57 19.5 +0.6
comp=Z,18nm,0.7s,baz=267,slow=8.6,SNR=29
USRK S S 23 03 06.3 0.0
comp=Z,1.4nm,0.6s,baz=257,slow=13,SNR=2.7
USRK LR LR 23 15 11.1
comp=Z,5μm,18.1s,baz=268,slow=40
AKASG Malin Array Be 37.71 305 P P 22 57 20.0 +0.5
comp=Z,3.5nm,0.4s,baz=72,slow=8.2,SNR=64
AKASG PcP PcP 22 59 36.2 +0.1
comp=Z,18nm,0.7s,baz=73,slow=4.1,SNR=6.6
AKASG LR LR 23 15 45.4
comp=Z,9μm,21.3s,baz=85,slow=41
AKASG Malin Array Be 37.71 305 P P 22 57 20.0 +0.5
AKASG 22 59 36.2
AKASG pmax pmax
comp=Z,12nm,0.5s
AKASG MLR MLR
comp=Z,9μm,21.3s
AKBB Malin Array Si 37.71 305 *e*P P 22 57 20.0 +0.5
comp=Z,87nm,0.9s
AKBB Malin Array Si 37.71 305 *e*P P 22 57 20.0 +0.5
AKBB pmax pmax
comp=Z,87nm,0.9s
KIEV Kiev 37.72 305 *e*P P 22 57 19.9 +0.3
comp=Z,84nm,0.9s
KIEV LR LR
comp=Z,13μm,22.0s
KIEV Kiev 37.72 305 *c* *i*P P 22 57 19.7 +0.1
KIEV pmax pmax
comp=Z,33nm,1.1s
KIEV Kiev 37.72 305 *i* P P 22 57 19.7 +0.1
SNR=24
AK11 Malin Array Si 37.75 305 *e*P P 22 57 20.0 +0.1
VLA Vladivostok 37.77 68 *i* P P 22 57 21.3 +1.2
VLA pmax pmax
comp=Z,68nm,1.0s
JOF Joensuu 37.78 325 P P 22 57 21.1 +1.2
JOF pmax pmax
comp=Z,140nm,1.1s
LFK Lefkose 37.82 279 *e*P P 22 57 22.2 +1.5
TEKE Tekeli-Mersin 37.84 281 *e*P P 22 57 23.3 +1.5
MDUB Mudurnu 37.98 288 *e*P P 22 57 23.2 +1.1
SVRH Sivrihisar-ESK 38.02 286 *e*P P 22 57 24.3 +1.9
CSS Mathiatis 38.09 279 *e*P P 22 57 22.6 -0.3
CSS Mathiatis 38.09 279 *e*P P 22 57 24.1 +1.1
comp=Z,10nm,0.8s
CSS LR LR
comp=Z,523nm,22.0s
CSS Mathiatis 38.09 279 P P 22 57 27.9 +5.0
MAMC Mammari 38.10 279 P P 22 57 24.4 +1.4
LVZ Lovozero 38.12 334 *e*P P 22 57 23.5 +0.6
comp=Z,229nm,0.9s
LVZ LR LR
comp=Z,10μm,21.0s
LVZ Lovozero 38.12 334 *c* *e*P P 22 57 24.2 +1.4
LVZ pmax pmax
comp=Z,357nm,1.2s
KULM Kulim 38.23 148 PFAKE 22 57 40.0 +16
KULM LR LR
comp=Z,2μm,20.0s
KIS Kishinev 38.35 299 *i* P P 22 57 24.0 -1.0
comp=Z,200nm,1.5s
KIS Kishinev 38.35 299 *i* PPP PPP 22 59 09.0
KIS *i* S S 23 03 15.0 -2.2
KIS *e*SS SnSn 23 05 52.0 -12
KIS *e*SSS SSS 23 06 25.0
KIS *e*LR LR 23 13 12.0
comp=Z,7μm,20.0s
KIS Kishinev 38.35 299 *e*P P 22 57 24.0 -1.0
KIS *i* 22 57 37.0
KIS *i* 22 57 45.0
KIS *i* S S 23 03 15.0 -2.2
KIS *e*SS SnSn 23 05 52.0 -12
KIS *e*SSS SSS 23 06 25.0

KIS pmax pmax
comp=Z,180nm,1.5s
KIS MLR MLR
comp=Z,7µm,20.0s
LEF Lefka 38.37 279 *eP* **P 22 57 27.1 +1.8**
APA Apatity 38.42 333⇑ *iP* **P 22 57 25.2 -0.1**
APA *i* 22 59 19.0
APA *i* S **S 23 03 14.0 -3.8**
APA pmax pmax
comp=Z,44nm,0.9s
MICGM Minsk 38.45 311⇓ *eP* **P 22 57 27.0 +1.3**
MICGM PM 22 57 28.0
comp=Z,0.2nm,1.0s
MICGM *e*PP **PP 22 58 54.0 +0.2**
MICGM *e*S **S 23 03 18.0 -0.5**
MICGM *e*SS **SnSn 23 06 07.0 +1.1**
MICGM *e*SSS SSS 23 06 27.0
MICGM *e*ScS **ScS 23 07 35.0 +1.5**
MICGM *e*LQ LQ 23 10 08.0
MICGM *e*LR LR 23 11 52.0
MICGM LRM MLR 23 14 04.0
comp=E,15nm,18.0s
MICGM LRM MLR 23 14 12.0
comp=Z,18nm,18.0s
MNK Minsk 38.45 311⇓ *eP* **P 22 57 27.0 +1.3**
MNK *e* 22 58 54.0
MNK *e*S **S 23 03 18.0 -0.5**
MNK *e*SS **SnSn 23 06 07.0 +1.1**
MNK *e*SSS SSS 23 06 27.0
MNK *e* 23 07 35.0
MNK pmax pmax
comp=Z,170nm,1.0s
MNK MLR MLR
comp=E,15µm,18.0s
MNK MLR MLR
comp=Z,18µm,18.0s
GULT Gulveren 38.49 288 *eP* **P 22 57 28.2 +1.8**
SZAC Souni 38.51 279 P **P 22 57 28.4 +1.9**
SORM Soroca 38.51 301⇑ *iP* **P 22 57 26.8 +0.5**
SORM Soroca 38.51 301 P **P 22 57 26.9 +0.6**
ALFC Alefka 38.58 279 P **P 22 57 28.2 +1.1**
TLCR 38.65 296⇑ *iP* **P 22 57 28.9 +1.4**
KCSI Kotacane, Aceh 38.74 153 P **P 22 57 24.9 -3.7**
comp=Z,109nm,1.0s,comp=Z,1µm
TPTI 38.78 154 P **P 22 57 26.6 -2.3**
comp=Z,212nm,1.1s,comp=Z,3µm
LEOM Leova 38.82 298⇓ *iP* **P 22 57 30.4 +1.5**
PPCY Paphos 38.87 279 P **P 22 57 30.9 +1.4**
EFOR EFORIE 38.99 294⇑ *iP* **P 22 57 32.9 +2.6**
SHUT Suhut-Afyon 39.00 285 *eP* **P 22 57 32.6 +1.9**
SUTC Sutluce-Ispart 39.00 284 *eP* **P 22 57 32.3 +1.6**
GIUM Giurgiulesti 39.01 297⇑ *iP* **P 22 57 32.4 +1.9**
TSI Tuntungan 39.05 152 P **P 22 57 31.7 +0.6**
TIRR Tirgusor 39.07 295⇑ *iP* **P 22 57 32.5 +1.5**
TIRR Tirgusor 39.07 295 *eP* **P 22 57 32.5 +1.5**
comp=Z,92nm,1.2s
TIRR Tirgusor 39.07 295 *eP* **P 22 57 32.5 +1.5**
TIRR pmax pmax
comp=Z,92nm,1.2s
NACGM Naroch 39.09 312 *eP* **P 22 57 31.0 0.0**
NACGM *e*PP **PnPn 22 59 06.0 +2.5**
NACGM *e*PPP PPP 22 59 34.0
NACGM *e*S **S 23 03 24.0 -4.1**
NACGM *e*SS **SS 23 06 08.0 -13**
NACGM *e*SSS SSS 23 06 54.0
NACGM *e*LQ LQ 23 11 14.0
NACGM *e*LR LR 23 13 18.0
NACGM LRM MLR 23 14 28.0
comp=Z,21nm,22.0s
IPM Ipoh 39.11 148 *eP* **P 22 57 30.6 -1.1**
comp=Z,216nm,0.9s
IDID Didziasalis 39.12 312 *eP* **P 22 57 32.5 +1.2**
IDID IAmb IAmb 22 57 34.1
comp=Z,35nm,0.8s
CFR Carcaliu 39.12 296⇑ *iP* **P 22 57 33.1 +1.7**
ISP Isparta 39.25 284 *eP* **P 22 57 34.6 +1.8**
ISP Isparta 39.25 284⇓ *iP* **P 22 57 34.9 +2.1**
ISP Isparta 39.25 284 *eP* **P 22 57 34.5 +1.8**
comp=Z,474nm,2.0s
ISP LR LR
comp=Z,2µm,19.0s
ISP Isparta 39.25 284 *eP* **P 22 57 34.5 +1.8**
ISP pmax pmax
comp=Z,474nm,2.0s
ISP MLR MLR
comp=Z,2µm,19.0s
VSU Vasula 39.26 317 *ce*P **P 22 57 33.6 +1.2**
VSU pmax pmax
comp=Z,426nm,1.0s
HARR Harsova 39.36 296⇓ *iP* **P 22 57 34.1 +0.7**
PSN Preselentsi 39.39 294 *eP* **P 22 57 35.9 +2.2**
IZAR Zarasai 39.40 313 *eP* **P 22 57 34.9 +1.3**
IZAR IAmb IAmb 22 57 36.6
comp=Z,67nm,0.7s
IIGN Ignalina 39.41 313 *eP* **P 22 57 35.1 +1.3**
IIGN IAmb IAmb 22 57 36.8
comp=Z,38nm,0.7s
ISAL Salakas 39.47 313 *eP* **P 22 57 35.5 +1.3**
ISAL IAmb IAmb 22 57 37.2
comp=Z,52nm,0.8s
PETR Petresti 39.64 297⇑ *iP* **P 22 57 38.1 +2.3**
HORU Horodok 39.65 303 P **P 22 57 36.3 +0.5**
GRNR Gornyy 39.69 55 *eP* **P 22 57 37.4 +1.2**
GRNR *i* 23 03 38.0
GRNR pmax pmax
comp=Z,84nm,1.0s
ODBI Odobesti 39.76 297⇓ *iP* **P 22 57 39.9 +3.2**
PSI Prapat 39.83 152 P **P 22 57 37.3 -0.4**
comp=Z,225nm,0.9s,baz=301,slow=7.9,SNR=114
PSI PcP **PcP 22 59 44.1 +0.7**
comp=Z,68nm,0.8s,baz=313,slow=4.2,SNR=6.2
PSI S **S 23 03 32.9 -7.3**
comp=Z,2.6nm,0.3s,baz=354,slow=10,SNR=4.1
PSI LR LR 23 16 23.9
comp=Z,5µm,21.4s,baz=330,slow=40
PSI Prapat 39.83 152 *eP* **P 22 57 36.5 -1.3**
comp=Z,271nm,0.9s
PSI PcP **PcP 22 59 44.1 +0.7**
PSI S **S 23 03 32.9 -7.3**
GRER 39.88 297⇓ *iP* **P 22 57 40.6 +2.8**
TESR Tescani 39.90 299⇑ *iP* **P 22 57 39.1 +1.1**
FIA1 FINESS Array S 39.91 322 *eP* **P 22 57 38.7 +1.0**
FINES FINESS Array B 39.91 322 P **P 22 57 38.6 +0.9**
comp=Z,18nm,0.6s,baz=96,slow=8.6,SNR=91
FINES LR LR 23 15 14.5
comp=Z,17µm,19.6s,baz=96,slow=38
VRI Vrincioaia 39.96 298⇑ *iP* **P 22 57 40.2 +1.7**
VRI Vrincioaia 39.96 298 P **P 22 57 40.5 +2.0**
PGOR Pogoanele 39.97 296⇓ *iP* **P 22 57 41.3 +2.8**
PLOR Plostina 40.02 298⇓ *iP* **P 22 57 41.3 +2.3**
PLOR Plostina 40.02 298 P **P 22 57 41.3 +2.3**
PRAR RASCA 40.04 300⇓ *iP* **P 22 57 40.4 +1.3**
PRD Provadia 40.05 293 *eP* **P 22 57 41.1 +1.9**
SUF Sumiainen 40.06 324 P **P 22 57 40.2 +1.2**
SUF pmax pmax
comp=Z,120nm,1.0s
TIXI Tiksi 40.07 21 *eP* **P 22 57 38.8 -0.3**
comp=Z,60nm,0.8s
TIXI LR LR
comp=Z,10µm,21.0s
TIXI Tiksi 40.07 21 *ce*P **P 22 57 39.5 +0.5**
TIXI pmax pmax
comp=Z,63nm,1.7s
JNU Nakatsue 40.09 83 P **P 22 57 40.2 +0.5**
comp=Z,153nm,1.0s,baz=318,slow=3.9,SNR=34
JNU LR LR 23 16 19.8
comp=Z,3µm,18.7s,baz=297,slow=39
JNU Nakatsue 40.09 83 *eP* **P 22 57 39.9 +0.2**
comp=Z,499nm,1.4s
ISR Istrita 40.24 297⇑ *iP* **P 22 57 43.9 +3.1**
ISR Istrita 40.24 297 P **P 22 57 43.8 +3.0**
KSL Kastellorizon 40.52 282 P **P 22 57 42.7 -0.5**
KSL Kastellorizon 40.52 282 P **P 22 57 42.7 -0.5**
SULR 40.53 296⇓ *iP* **P 22 57 45.7 +2.6**
MLR Muntele Rosu 40.57 297 P **P 22 57 46.0 +2.4**
comp=Z,13nm,0.7s,baz=5.1,slow=4.5,SNR=112
MLR LR LR 23 17 30.2
comp=Z,3µm,20.8s,baz=80,slow=40
MLR Muntele Rosu 40.57 297⇑ *iP* **P 22 57 46.2 +2.5**
MLR Muntele Rosu 40.57 297 *eP* **P 22 57 46.1 +2.4**
comp=Z,161nm,0.9s
MLR Muntele Rosu 40.57 297 *eP* **P 22 57 46.1 +2.4**
MLR pmax pmax
comp=Z,161nm,0.9s

OUL Oulu 40.59 328 P **P 22 57 43.2 -0.2**
BURAR Bucovina Array 40.67 301⇑ *iP* **P 22 57 46.0 +1.5**
BURAR Bucovina Array 40.67 301 P **P 22 57 45.9 +1.5**
BUR04 Bucovina Ar. S 40.68 301 *eP* **P 22 57 44.8 +0.2**
BUR08 Bucovina Ar. S 40.68 301 *eP* **P 22 57 45.8 +1.2**
DAMY Dhamar 40.70 243 *eP* **P 22 57 47.8 +2.6**
comp=Z,135nm,0.8s
FETY Fethiye 40.73 283 P **P 22 57 45.6 +0.7**
FETY Fethiye 40.73 283 P **P 22 57 45.6 +0.7**
GSI Gunungsitoli 40.75 155 P **P 22 57 45.1 -0.1**
comp=Z,912nm,1.0s,comp=Z,9µm
GSI Gunungsitoli 40.75 155 *eP* **P 22 57 45.6 +0.4**
comp=Z,618nm,0.8s
JMB Yambol 40.82 293 *eP* **P 22 57 47.8 +2.2**
SGRR Singureni 40.83 295⇓ *iP* **P 22 57 47.9 +2.3**
DOPR Dopca 40.86 298⇑ *iP* **P 22 57 48.3 +2.4**
SGF Sodankyl 40.89 331 P **P 22 57 47.2 +1.4**
SGF pmax pmax
comp=Z,217nm,1.2s
JOW Kunigami 40.90 93 *eP* **P 22 57 45.1 -1.3**
comp=Z,150nm,0.8s
SZH Strazhica 41.08 294 *eP* **P 22 57 49.1 +1.4**
LVV L'vov 41.12 304 *eP* **P 22 57 49.0 +1.1**
LVV *e* 22 59 27.7
LVV *i* S **S 23 03 59.1 +0.5**
LVV MLR MLR
comp=N,1µm,19.0s
LVV MLR MLR
comp=E,6µm,19.0s
LVV MLR MLR
comp=Z,6µm,19.0s
YER Yerkesik 41.16 284 P **P 22 57 51.0 +2.5**
YER Yerkesik 41.16 284 P **P 22 57 51.0 +2.5**
YER Yerkesik 41.16 284 P **P 22 57 51.0 +2.5**
VOIR 41.20 297⇑ *iP* **P 22 57 50.4 +1.6**
VOIR 41.20 297 P **P 22 57 50.3 +1.5**
SUW Suwalki 41.22 311 *eP* **P 22 57 49.3 +0.6**
SUW LMZ LR 23 15 46.6
comp=Z,9µm,22.7s
SUW Suwalki 41.22 311 *eP* **P 22 57 49.3 +0.6**
comp=Z,290nm,1.4s
SUW Suwalki 41.22 311 *eP* **P 22 57 49.3 +0.6**
SUW MLR MLR
comp=Z,9µm,22.7s
MTUR Matau 41.24 297⇓ *iP* **P 22 57 51.4 +2.3**
ARCR ARCALIA 41.35 300⇑ *iP* **P 22 57 52.6 +2.7**
KEV Kevo 41.38 335 *eP* **P 22 57 51.0 +1.3**
comp=Z,132nm,0.8s
KEV LR LR
comp=Z,7µm,21.0s
KEV Kevo 41.38 335 *eP* **P 22 57 51.1 +1.3**
KEV pmax pmax
comp=Z,132nm,0.8s
KEV MLR MLR
comp=Z,7µm,21.0s
ZIMR 41.39 295⇓ *iP* **P 22 57 52.3 +2.1**
GOLR 41.39 296⇓ *iP* **P 22 57 52.8 +2.5**
HUMR Humele 41.45 296⇑ *iP* **P 22 57 52.6 +1.8**
ARR Arges 41.50 297⇑ *iP* **P 22 57 53.5 +2.2**
ARG Arkhangelos 41.60 283 P **P 22 57 50.0 -2.1**
ARG Arkhangelos 41.60 283 P **P 22 57 50.0 -2.1**
ARG Arkhangelos 41.60 283 P **P 22 57 50.0 -2.1**
ENEZ Enez 41.60 290 P **P 22 57 56.2 +4.2**
ALN Alexandroupoli 41.63 290 P **P 22 57 53.3 +1.0**
ALN Alexandroupoli 41.63 290 P **P 22 57 53.3 +1.0**
ALN Alexandroupoli 41.63 290 P **P 22 57 53.3 +1.0**
EZN Ezine 41.74 289 P **P 22 57 55.6 +2.4**
EZN Ezine 41.74 289 P **P 22 57 55.6 +2.4**
EZN Ezine 41.74 289 P **P 22 57 55.6 +2.4**
BMR Baia Mare 41.81 301⇑ *iP* **P 22 57 56.3 +2.6**
ARCES ARCESS Array B 41.82 334 P **P 22 57 54.6 +1.2**
comp=Z,124nm,0.6s,baz=97,slow=8.7,SNR=488
ARCES PcP **PcP 22 59 50.0 +1.1**
comp=Z,69nm,0.8s,baz=104,slow=5.1,SNR=5.7
ARCES LR LR 23 16 52.0
comp=Z,6µm,19.7s,baz=104,slow=38
ARE0 ARCESS Array S 41.82 334 *eP* **P 22 57 54.7 +1.2**
comp=Z,172nm,0.8s
ARE0 ARCESS Array S 41.82 334 *eP* **P 22 57 54.7 +1.2**
ARE0 IAmb IAmb 22 57 56.1
comp=Z,111nm,0.6s
BODT Bodrum 41.91 284 P **P 22 57 55.4 +0.7**
BODT Bodrum 41.91 284 P **P 22 57 55.4 +0.7**
MNSI Mandailing Nat 41.92 152 P **P 22 57 54.1 -0.7**
comp=Z,646nm,0.9s,comp=Z,5µm
RDO Rodhopi 41.93 291 P **P 22 57 56.3 +1.6**
RDO Rodhopi 41.93 291 P **P 22 57 56.3 +1.6**
CJR Cluj-Napoca 41.93 300⇑ *iP* **P 22 57 57.0 +2.3**
PRK Paraskevi 41.96 288 P **P 22 57 55.7 +0.7**
PRK Paraskevi 41.96 288 P **P 22 57 55.7 +0.7**
PRK Paraskevi 41.96 288 P **P 22 57 55.7 +0.7**
KWP Kalwaria Pacla 41.99 304 *eP* **P 22 57 56.9 +1.7**
KWP LMZ LR 23 16 46.2
comp=Z,13µm,24.3s
KWP Kalwaria Pacla 41.99 304 *eP* **P 22 57 56.8 +1.6**
comp=Z,2µm,1.3s
KWP Kalwaria Pacla 41.99 304 *eP* **P 22 57 56.9 +1.7**
KWP MLR MLR
comp=Z,13µm,24.3s
SMG Samos 42.05 286 P **P 22 57 57.1 +1.4**
SMG Samos 42.05 286 P **P 22 57 57.1 +1.4**
LOT Lotru 42.08 298⇓ *iP* **P 22 57 58.0 +2.0**
NKL Nikolayevsk 42.09 51 *i* P **P 22 57 56.0 +0.2**
NKL *e* 22 58 10.0
NKL *i* S **S 23 04 11.0 -1.8**
NKL *e* 23 04 36.0
NKL pmax pmax
comp=Z,1µm,8.0s
NKL pmax pmax
comp=N,50nm,0.8s
NKL pmax pmax
comp=E,75nm,0.8s
NKL pmax pmax
comp=Z,550nm,0.8s
NKL smax smax
comp=N,2µm,12.0s
NKL smax smax
comp=E,2µm,12.0s
SMTH Samothraki Isl 42.13 290 P **P 22 57 57.7 +1.3**
SMTH Samothraki Isl 42.13 290 P **P 22 57 57.7 +1.3**
HEF Hetta 42.18 332 *eP* **P 22 57 57.3 +0.9**
PBSI Pulau Batu 42.26 154 P **P 22 57 58.0 +0.4**
SIGR SIGRI 42.28 288 P **P 22 57 58.3 +0.7**
SIGR SIGRI 42.28 288 P **P 22 57 58.3 +0.7**
TRPA Tarpa 42.36 302⇑ *eP* **P 22 57 59.7 +1.6**
RZN Rozhen 42.37 292 *eP* **P 22 58 00.2 +1.7**
CHOS Chios island 42.40 287 P **P 22 57 59.8 +1.1**
CHOS Chios island 42.40 287 P **P 22 57 59.8 +1.1**
UZH Uzhgorod 42.43 303 *eP* **P 22 58 00.1 +1.4**
UZH *e* 22 58 16.7
UZH *e*S **S 23 04 18.1 +0.1**
UZH *e*SS **SS 23 07 28.9 +1.4**
DRGR 42.51 300⇑ *iP* **P 22 58 01.4 +1.9**
PGB Panagyurishte 42.52 293 *eP* **P 22 58 01.6 +2.0**
KARP Karpathos 42.57 282 *eP* **P 22 58 00.3 +0.2**
comp=Z,97nm,0.7s
KARP Karpathos 42.57 282 P **P 22 57 59.6 -0.5**
KAVA Kavala 42.71 291 P **P 22 58 03.8 +2.7**
KAVA Kavala 42.71 291 P **P 22 58 03.8 +2.7**
HAMF Hammerfest 42.72 335 *eP* **P 22 58 02.5 +1.7**
HAMF IAmb IAmb 22 58 03.5
comp=Z,159nm,0.9s
MYKOM Kota Tinggi 42.73 146 *eP* **P 22 58 01.7 +0.2**
comp=Z,170nm,0.9s
BEL Belsk 42.88 307 *eP* **P 22 58 03.6 +1.3**
BEL LMZ LR 23 16 56.2
comp=Z,9µm,22.7s
BEL Belsk 42.88 307 *eP* **P 22 58 03.6 +1.3**
BEL MLR MLR
comp=Z,9µm,22.7s
BKNI Bangkinang 42.90 150 P **P 22 58 02.7 -0.1**
comp=Z,714nm,0.9s,comp=Z,8µm
BKNI Bangkinang 42.90 150 *eP* **P 22 58 02.4 -0.5**
comp=Z,521nm,0.9s
KLNR Kaliningrad 42.91 312 *i* P **P 22 58 03.1 +0.7**
KLNR pmax pmax
comp=Z,243nm,1.0s
CRVS Cervenica-Dubn 42.92 303 *eP* **P 22 58 05.0 +2.3**
CRVS *e* 22 58 15.8
CRVS Cervenica-Dubn 42.92 303 *eP* **P 22 58 05.0 +2.3**
CRVS *e* 22 58 15.8
STHS Stebnicka Huta 42.97 304 *eP* **P 22 58 04.1 +1.0**
STHS *e* 22 58 19.1

STHS pmax pmax
comp=Z,27nm,0.9s
STHS Stebnicka Huta 42.97 304 *eP* **P 22 58 04.1 +1.0**
STHS *e* 22 58 19.1
TGY Tagaytay City 42.98 115 P **P 22 58 05.4 +1.9**
comp=Z,277nm,0.4s,baz=183,slow=4.0,SNR=26
TGY LR LR 23 18 41.9
comp=Z,4µm,21.5s,baz=312,slow=40
NVR Nevrokopi 43.08 292 P **P 22 58 05.4 +1.3**
NVR Nevrokopi 43.08 292 P **P 22 58 05.4 +1.3**
VTS Vitosha 43.19 294⇑ *iP* **P 22 58 07.3 +2.2**
VTS Vitosha 43.19 294 *eP* **P 22 58 05.6 +0.5**
comp=Z,293nm,1.9s
VTS Vitosha 43.19 294 *eP* **P 22 58 05.6 +0.5**
VTS pmax pmax
comp=Z,293nm,1.9s
VTS Vitosha 43.19 294 *eP* **P 22 58 06.6 +1.5**
VTS Vitosha 43.19 294 P **P 22 58 07.6 +2.5**
APE Apeiranthos 43.24 285⇑ *iP* **P 22 58 07.0 +1.5**
APE Apeiranthos 43.24 285 P **P 22 58 06.2 +0.7**
APE Apeiranthos 43.24 285 *i* P **P 22 58 06.5 +1.0**
APE pmax pmax
comp=Z,107nm,0.9s
APE Apeiranthos 43.24 285 P **P 22 58 06.2 +0.7**
KIF Kilpisjarvi 43.32 333 *eP* **P 22 58 07.0 +1.4**
SIRR Siria 43.33 299⇑ *iP* **P 22 58 08.3 +2.2**
SRS Serrai 43.34 292 P **P 22 58 08.4 +2.2**
SRS Serrai 43.34 292 P **P 22 58 08.4 +2.2**
SRS Serrai 43.34 292 P **P 22 58 08.4 +2.2**
LQP Lukban 43.40 114⇑ *eP* **P 22 58 08.6 +1.5**
ZKR Zakros 43.45 282 P **P 22 58 08.5 +1.4**
ZKR Zakros 43.45 282 P **P 22 58 08.5 +1.4**
KKB Krupnik 43.48 293 *eP* **P 22 58 08.7 +1.4**
BZS Buzias 43.51 298⇑ *iP* **P 22 58 09.4 +1.9**
THR2 Thira island, 43.54 284 P **P 22 58 07.5 -0.3**
THR2 Thira island, 43.54 284 P **P 22 58 07.5 -0.3**
SANT Santorini 43.55 284 *eP* **P 22 58 07.5 -0.5**
comp=Z,80nm,0.7s
SANT LR LR
comp=Z,1µm,22.0s
NIE Niedzica 43.58 304 *eP* **P 22 58 10.1 +2.1**
NIE LMZ LR 23 18 14.1
comp=Z,7µm,23.9s
NIE Niedzica 43.58 304 *eP* **P 22 58 10.1 +2.1**
NIE MLR MLR
comp=Z,7µm,23.9s
THR3 Thira Island, 43.58 284 P **P 22 58 09.3 +1.2**
THR3 Thira Island, 43.58 284 P **P 22 58 09.3 +1.2**
TYV Tymovskoe 43.60 54 *eP* **P 22 58 09.1 +1.0**
TYV *e*S **S 23 04 40.5 +5.4**
TYV pmax pmax
comp=Z,1µm,4.1s
TYV pmax pmax
comp=Z,44nm,0.7s
TYV smax smax
comp=E,2µm,9.3s
THR6 Thira Island, 43.60 284 P **P 22 58 08.3 0.0**
THR6 Thira Island, 43.60 284 P **P 22 58 08.3 0.0**
THR5 Thira Island, 43.61 284 P **P 22 58 09.1 +0.7**
KECS Kecovo 43.64 303 *eP* **P 22 58 10.4 +1.9**
KECS *e* 22 58 23.1
KECS pmax pmax
comp=Z,146nm,2.1s
KECS Kecovo 43.64 303 *eP* **P 22 58 10.4 +1.9**
KECS *e* 22 58 23.1
PAIG Paliouri 43.65 290 P **P 22 58 09.3 +0.7**
PAIG Paliouri 43.65 290 P **P 22 58 09.3 +0.7**
PAIG Paliouri 43.65 290 P **P 22 58 09.3 +0.7**
PLG Polygyros 43.67 291 P **P 22 58 07.1 -1.8**
PLG Polygyros 43.67 291 P **P 22 58 07.1 -1.8**
PLG Polygyros 43.67 291 P **P 22 58 07.1 -1.8**
SISI Saibi 43.72 154 P **P 22 58 09.4 0.0**
comp=Z,512nm,1.1s,comp=Z,6µm
OJC Ojcow 43.75 305 *eP* **P 22 58 10.3 +1.0**
OJC LMZ LR 23 17 38.1
comp=Z,9µm,23.5s
OJC Ojcow 43.75 305 *eP* **P 22 58 10.2 +0.8**
comp=Z,110nm,1.1s
OJC Ojcow 43.75 305 *eP* **P 22 58 10.3 +1.0**
OJC MLR MLR
comp=Z,9µm,23.5s
TPRI Tanjung Pinang 43.81 145 P **P 22 58 10.0 -0.1**
comp=Z,288nm,0.8s,comp=Z,34µm
PDSI Padang 43.82 152 P **P 22 58 09.0 -1.3**
comp=Z,615nm,1.0s,comp=Z,6µm
KNT Kendrikon 43.83 292 P **P 22 58 11.5 +1.4**
KNT Kendrikon 43.83 292 P **P 22 58 11.5 +1.4**
KNT Kendrikon 43.83 292 P **P 22 58 11.5 +1.4**
NPS Neapolis 43.85 283 P **P 22 58 09.7 -0.7**
NPS Neapolis 43.85 283 P **P 22 58 09.7 -0.7**
NPS Neapolis 43.85 283 P **P 22 58 09.7 -0.7**
INU Inuyama 43.90 77 *eP* **P 22 58 10.2 -0.6**
comp=Z,125nm,0.9s
INU *e*PP **PcP 22 59 56.7 +0.2**
ATD Arta Tunnel 43.90 241 P **P 22 58 12.9 +1.9**
comp=Z,43nm,0.9s,baz=26,slow=6.7,SNR=23
ATD LR LR 23 19 02.7
comp=Z,2µm,20.2s,baz=48,slow=40
ATD Arta Tunnel 43.90 241 *eP* **P 22 58 13.5 +2.5**
comp=Z,102nm,0.8s
THE Thessaloniki 43.94 291 P **P 22 58 12.8 +1.8**
THE pmax pmax
comp=Z,48nm,1.0s
LAST Lasithi 43.99 283 P **P 22 58 11.1 -0.5**
LAST Lasithi 43.99 283 P **P 22 58 11.1 -0.5**
VAY Valandovo 44.01 292 P **P 22 58 14.5 +2.9**
VAY Valandovo 44.01 292 P **P 22 58 14.5 +2.9**
VAY Valandovo 44.01 292 P **P 22 58 14.5 +2.9**
VAY Valandovo 44.01 292 *i* P **P 22 58 13.1 +1.5**
TRO Tromso 44.09 334 *eP* **P 22 58 13.1 +1.3**
TRO IAmb IAmb 22 58 14.2
comp=Z,43nm,0.9s
TRO *e*SS SS 23 08 04.0 +4.7
PTL Penteli 44.14 287 P **P 22 58 13.6 +0.9**
PTL Penteli 44.14 287 P **P 22 58 13.6 +0.9**
PSZ Piszkesteto 44.14 302⇑ *iP* **P 22 58 14.1 +1.5**
PSZ Piszkesteto 44.14 302⇑ *eP* **P 22 58 13.8 +1.2**
PSZ Piszkesteto 44.14 302 *eP* **P 22 58 14.1 +1.5**
comp=Z,70nm,1.2s
PSZ LR LR
comp=Z,8µm,21.0s
PSZ Piszkesteto 44.14 302 *eP* **P 22 58 14.1 +1.5**
PSZ pmax pmax
comp=Z,69nm,1.2s
PSZ MLR MLR
comp=Z,8µm,21.0s
LANS Liptovska Anna 44.16 304 *eP* **P 22 58 14.6 +1.9**
LANS *e* 22 58 27.8
LANS Liptovska Anna 44.16 304 *eP* **P 22 58 14.6 +1.9**
LANS *e* 22 58 27.8
XOR Xorichti 44.18 289 P **P 22 58 14.0 +1.0**
XOR Xorichti 44.18 289 P **P 22 58 14.0 +1.0**
VLY Voula,Athens 44.26 287 P **P 22 58 13.6 0.0**
VLY Voula,Athens 44.26 287 P **P 22 58 13.6 0.0**
SMIA Simia 44.33 289 P **P 22 58 16.4 +2.2**
MJB9 Matsu-Tunnel 44.34 75 *eP* **P 22 58 13.9 -0.5**
comp=Z,95nm,0.9s
MAJO Matsushiro 44.35 75 *eP* **P 22 58 13.7 -0.6**
comp=Z,91nm,0.8s
MAJO LR LR
comp=Z,2µm,19.0s
MAJO Matsushiro 44.35 75 *i* P **P 22 58 13.9 -0.4**
MAJO pmax pmax
comp=Z,91nm,0.9s
MAT Matsushiro 44.35 75 P **P 22 58 14.0 -0.3**
MAT S **S 23 04 43.0 -3.4**
MJAR Matsushiro Arr 44.35 75 P **P 22 58 14.1 -0.2**
comp=Z,45nm,0.8s,baz=291,slow=9.9,SNR=60
MJAR PcP **PP 22 59 58.3 +0.4**
comp=Z,17nm,0.8s,baz=271,slow=4.0,SNR=6.3
MJAR LR LR 23 19 43.5
comp=Z,2µm,18.2s,baz=290,slow=40
IDI Anoyia 44.38 283 P **P 22 58 14.9 +0.3**
comp=Z,45nm,0.5s,baz=23,slow=14,SNR=72
IDI S **S 23 04 40.0 -7.1**
comp=Z,4.7nm,0.8s,baz=348,slow=9.3,SNR=1.5
IDI Anoyia 44.38 283⇓ *iP* **P 22 58 15.6 +0.9**
IDI Anoyia 44.38 283 *eP* **P 22 58 15.0 +0.3**
comp=Z,70nm,0.7s
IDI S **S 23 04 40.0 -7.1**
YSS Yuzh-Sakhalins 44.45 59 *eP* **P 22 58 15.5 +0.5**
comp=Z,621nm,1.9s
YSS LR LR
comp=Z,3µm,22.0s

YSS **Yuzh-Sakhalins** 44.45 59 α *i*P **P** 22 58 15.2 +0.3
YSS *e**SP **sP** 22 58 31.0 +2.3
YSS *e* 22 59 56.0
YSS *e*S **S** 23 04 41.4 -6.1
YSS *e* 23 04 51.8
YSS *e* 23 08 05.0
YSS pmax pmax
comp=Z,80nm,1.2s
YSS pmax pmax
comp=E,50nm,0.8s
YSS pmax pmax
comp=Z,600nm,10.9s
YSS pmax pmax
comp=E,400nm,10.4s
YSS smax smax
comp=N,2μm,10.2s
YSS MLR MLR
comp=Z,10μm,16.0s
YSS MLR MLR
comp=N,4μm,13.0s
YSS MLR MLR
comp=E,6μm,14.0s
LIT Litokhoron 44.45 291 P **P** 22 58 13.8 -1.4
LIT Litokhoron 44.45 291 P **P** 22 58 13.8 -1.4
LIT Litokhoron 44.45 291 P **P** 22 58 13.8 -1.4
BEO Beograd 44.50 298 P **P** 22 58 18.0 +2.6
VILL Villia 44.51 288 P **P** 22 58 15.4 -0.2
SIVA Sivas 44.55 283 P **P** 22 58 16.2 +0.3
SIVA Sivas 44.55 283 P **P** 22 58 16.2 +0.3
LKR Lokris 44.57 288 P **P** 22 58 17.0 +1.0
LKR Lokris 44.57 288 P **P** 22 58 17.0 +1.0
SKO Skopje 44.62 293 *i* P **P** 22 58 18.2 +1.7
VYHS Vyhne 44.71 303 *e*P **P** 22 58 18.7 +1.6
VYHS *e* 22 58 31.2
VYHS pmax pmax
comp=Z,60nm,1.5s
VYHS Vyhne 44.71 303 *e*P **P** 22 58 18.7 +1.6
VYHS *e* 22 58 31.2
DID Didima 44.79 287 P **P** 22 58 17.8 -0.1
DID Didima 44.79 287 P **P** 22 58 17.8 -0.1
LTK Loutraki 44.81 288 P **P** 22 58 17.6 -0.4
LTK Loutraki 44.81 288 P **P** 22 58 17.6 -0.4
BUD Budapest 44.81 302⇑ *e*P **P** 22 58 19.3 +1.4
BUD Budapest 44.81 302 P **P** 22 58 20.0 +2.1
BUD pmax pmax
comp=Z,78nm,1.1s
GKP Gorka Klasztor 44.81 310 *e*P **P** 22 58 19.3 +1.5
GKP LMZ LR 23 18 14.2
comp=Z,9μm,20.0s
GKP Gorka Klasztor 44.81 310 *e*P **P** 22 58 19.3 +1.5
GKP MLR MLR
comp=Z,9μm,20.0s
LOUT Loutraki 44.82 288 P **P** 22 58 18.4 +0.3
VAM Vamos 44.86 284 P **P** 22 58 19.9 +1.5
VAM Vamos 44.86 284 P **P** 22 58 19.9 +1.5
VAM Vamos 44.86 284 P **P** 22 58 19.9 +1.5
OKC Ostrava-Krasne 44.87 305⇑ *e*P **P** 22 58 19.7 +1.4
OKC *e*pP sP 22 58 31.9 -0.2
OKC *e*S **S** 23 04 54.6 +1.0
OKC AMS AMS 23 18 20.0
comp=Z,6μm,16.5s
OKC Ostrava-Krasne 44.87 305 *e*P **P** 22 58 19.7 +1.4
OKC *e* 22 58 31.9
OKC *e*S **S** 23 04 54.6 +1.0
OKC MLR MLR
comp=Z,6μm,16.5s
KRND KRANIDI 44.90 287 P **P** 22 58 19.6 +0.9
AGG Agios Georgios 44.93 289 *e*P **P** 22 58 20.0 +1.0
comp=Z,215nm,0.8s
AGG Agios Georgios 44.93 289 *e*P **P** 22 58 20.0 +1.0
AGG pmax pmax
comp=Z,215nm,0.8s
AGG Agios Georgios 44.93 289 P **P** 22 58 18.4 -0.6
KRUS Krusevo 44.94 293 *i* P **P** 22 58 20.5 +1.3
THL Klokotos Trika 44.98 290 P **P** 22 58 20.1 +0.8
DSF Desfina 45.00 288 P **P** 22 58 19.2 -0.4
DSF Desfina 45.00 288 P **P** 22 58 19.2 -0.4
BIA Bitola 45.00 292 *i* P **P** 22 58 21.1 +1.5
IMMV Iera Moni Meta 45.00 284 P **P** 22 58 21.5 +1.9
DIVS Divibare 45.02 297 *e*P **P** 22 58 21.1 +1.4
comp=Z,125nm,0.8s
FNA Florina 45.04 292 P **P** 22 58 20.3 +0.4
FNA Florina 45.04 292 P **P** 22 58 20.3 +0.4
FNA Florina 45.04 292 P **P** 22 58 20.3 +0.4
ASAJ Asahikawa 45.07 63 P **P** 22 58 19.9 0.0
comp=Z,65nm,0.7s,baz=284,slow=8.1,SNR=68
ASAJ LR LR 23 18 44.5
comp=Z,14nm,18.6s,baz=285,slow=38
ASAJ Asahikawa 45.07 63 *e*P **P** 22 58 19.9 0.0
comp=Z,70nm,0.6s
ASAJ Asahikawa 45.07 63 P **P** 22 58 20.0 0.0
ASAJ pmax pmax
comp=Z,65nm,0.7s
GVD Gavdhos 45.16 283 P **P** 22 58 21.6 +0.7
GVD Gavdhos 45.16 283 P **P** 22 58 21.6 +0.7
SRO Srobarova 45.20 302 *e*P **P** 22 58 22.8 +1.8
SRO *e* 22 58 32.9
SRO Srobarova 45.20 302 *e*P **P** 22 58 22.8 +1.8
SRO *e* 22 58 32.9
STEI Steigen 45.22 331 *e*P **P** 22 58 21.8 +1.1
STEI IAmb IAmb 22 58 23.1
comp=Z,59nm,0.9s
MORC Moravsky Berou 45.26 305⇑ *i*P **P** 22 58 23.2 +1.7
MORC Moravsky Berou 45.26 305 *e*P **P** 22 58 22.8 +1.3
comp=Z,147nm,0.9s
MORC Moravsky Berou 45.26 305 *e*P **P** 22 58 22.8 +1.3
MORC pmax pmax
comp=Z,147nm,0.9s
KALE Kalithea 45.29 288 P **P** 22 58 20.9 -1.0
KALE Kalithea 45.29 288 P **P** 22 58 20.9 -1.0
GUR Goura 45.30 288 P **P** 22 58 21.2 -0.8
GUR Goura 45.30 288 P **P** 22 58 21.2 -0.8
VLI Veliai 45.31 286 P **P** 22 58 19.6 -2.4
VLI Veliai 45.31 286 P **P** 22 58 19.6 -2.4
KPRO Kipourio 45.32 291 P **P** 22 58 22.3 +0.2
SERG Sergoula 45.34 288 P **P** 22 58 22.1 -0.2
CSKK Cs ‡kako 45.34 302⇑ *e*P **P** 22 58 23.6 +1.5
EVR Evrytania 45.35 289 P **P** 22 58 23.3 +0.9
EVR Evrytania 45.35 289 P **P** 22 58 23.3 +0.9
OHR Ohrid 45.35 292 *i* P **P** 22 58 22.6 +0.3
ANKY Antikythira Is 45.36 285 P **P** 22 58 23.3 +0.9
ANKY Antikythira Is 45.36 285 P **P** 22 58 23.3 +0.9
ANX Ano Chora 45.38 289 P **P** 22 58 23.1 +0.5
KYTH Kithira 45.39 285 P **P** 22 58 21.1 -1.6
KYTH Kithira 45.39 285 P **P** 22 58 21.1 -1.6
KLV Kalavryta, Ach 45.40 288 P **P** 22 58 21.7 -1.1
KLV Kalavryta, Ach 45.40 288 P **P** 22 58 21.7 -1.1
MOR8 Moi Rana 45.44 328 *e*P **P** 22 58 23.1 +0.5
MOR8 IAmb IAmb 22 58 23.9
comp=Z,101nm,1.0s
IVA Berane 45.45 295⇑ *i*P **P** 22 58 24.7 +1.6
EFP Efpalio 45.45 289 P **P** 22 58 22.7 -0.3
PVY Plav 45.48 295⇑ *i*P **P** 22 58 24.9 +1.5
SMOL Smolenice 45.61 303 *e*P **P** 22 58 26.0 +1.7
SMOL *e* 22 58 37.5
SMOL Smolenice 45.61 303 *e*P **P** 22 58 26.0 +1.7
SMOL *e* 22 58 37.5
PLE Pljevlja 45.66 296⇑ *i*P **P** 22 58 26.7 +1.9
KOME Kolasin 45.72 295⇑ *i*P **P** 22 58 27.0 +1.8
JMBI JAMBI 45.72 148 P **P** 22 58 26.0 +0.6
comp=Z,2μm,1.0s,comp=Z,19μm
KKM Kota Kinabalu 45.77 127 *e*P **P** 22 58 26.9 +1.0
comp=Z,552nm,1.0s
KKM LR LR
comp=Z,1μm,20.0s
DSL Palaion Diasel 45.79 290 P **P** 22 58 26.1 +0.3
DSL Palaion Diasel 45.79 290 P **P** 22 58 26.1 +0.3
KSP Ksiaz 45.83 307 *e*P **P** 22 58 27.4 +1.5
KSP LMZ LR 23 17 56.5
comp=Z,8μm,26.6s
KSP Ksiaz 45.83 307 *e*P **P** 22 58 27.4 +1.5
KSP MLR MLR
comp=Z,8μm,26.6s
LOF Lofoten 45.87 331 *e*P **P** 22 58 26.8 +0.8
LOF IAmb IAmb 22 58 27.7
comp=Z,123nm,1.0s
BSD Bornholm Skovb 45.88 313 *i* P **P** 22 58 26.2 0.0
comp=Z,69nm,1.0s
BSD Bornholm Skovb 45.88 313 *i* P **P** 22 58 26.2 0.0
BSD pmax pmax
comp=Z,69nm,1.0s
ITM Ithomi 45.88 287 P **P** 22 58 25.7 -0.9
ITM Ithomi 45.88 287 P **P** 22 58 25.7 -0.9

DPC Dobruska-Polom 45.91 306⇑ *i*P **P** 22 58 28.4 +1.8
DPC *e*pP **sP** 22 58 36.6 -3.8
DPC AMS AMS 23 18 40.0
comp=Z,9μm,18.1s
DPC Dobruska-Polom 45.91 306⇑ *i*P **P** 22 58 28.4 +1.8
DPC *e* 22 58 36.6
DPC MLR MLR
comp=Z,9μm,18.1s
AMT Artemida-Makis 45.92 287 P **P** 22 58 25.9 -0.9
HFS Hagfors 45.94 320 P **P** 22 58 27.4 +0.8
comp=Z,54nm,0.7s,baz=99,slow=9.2,SNR=99
HFS LR LR 23 18 52.3
comp=Z,16μm,21.1s,baz=86,slow=38
TIR Tirane 45.94 293 PFAKE 22 58 40.0 +13
TIR LR LR
comp=Z,3μm,21.0s
VRAC Vranov 45.97 305 P **P** 22 58 28.8 +1.7
baz=78,slow=11
VRAC Vranov 45.97 305⇑ *i*P **P** 22 58 28.9 +1.9
KONS Konsvik 45.98 329 *e*P **P** 22 58 27.7 +0.9
KONS IAmb IAmb 22 58 29.0
comp=Z,91nm,1.2s
STOK Stokkvaagen 46.02 329 *e*P **P** 22 58 27.6 +0.5
STOK IAmb IAmb 22 58 28.2
comp=Z,30nm,0.8s
JAP San Jose, Anti 46.02 117⇑ *e*P **P** 22 58 29.6 +1.8
PDG Podgorica 46.03 295⇑ *i*P **P** 22 58 29.1 +1.5
TTG Podgorica 46.03 295⇑ *i*P **P** 22 58 28.8 +1.2
TTG Podgorica 46.03 295 *e*P **P** 22 58 29.1 +1.5
comp=Z,153nm,0.8s
TTG Podgorica 46.03 295 *e*P **P** 22 58 29.1 +1.5
TTG pmax pmax
comp=Z,153nm,0.8s
UPC Upice 46.07 306⇑ *e*P **P** 22 58 29.6 +1.8
UPC *e*pP **sP** 22 58 40.2 -1.5
UPC AMS AMS 23 18 50.0
comp=Z,8μm,20.5s
UPC Upice 46.07 306 *e*P **P** 22 58 29.6 +1.8
UPC *e* 22 58 40.2
UPC MLR MLR
comp=Z,8μm,20.5s
ERM Erimo 46.08 66 *e*P **P** 22 58 27.9 -0.2
comp=Z,86nm,0.7s
ERM LR LR
comp=Z,7μm,20.0s
ERM Erimo 46.08 66 *ce*P **P** 22 58 29.2 +1.2
ERM pmax pmax
comp=Z,93nm,0.7s
NKY Niksic 46.09 295⇑ *i*P **P** 22 58 29.5 +1.3
KSM Kuching 46.12 138 *e*P **P** 22 58 29.2 +0.7
comp=Z,238nm,0.9s
KSM LR LR
comp=Z,2μm,20.0s
PYL PYLOS 46.13 287 P **P** 22 58 26.8 -1.6
PYL PYLOS 46.13 287 P **P** 22 58 26.8 -1.6
NKME Niksic 46.14 295 *e*P **P** 22 58 30.0 +1.5
DRME Dracevica, Mon 46.15 294⇑ *i*P **P** 22 58 30.0 +1.4
VTN Vitineika 46.16 288 P **P** 22 58 29.0 +0.3
ULC Ulcinj 46.18 294⇑ *i*P **P** 22 58 29.7 +0.9
IGT Igoumenitsa 46.21 291 P **P** 22 58 30.6 +1.5
IGT Igoumenitsa 46.21 291 P **P** 22 58 30.6 +1.5
IGT Igoumenitsa 46.21 291 P **P** 22 58 30.6 +1.5
CEME Cevo 46.23 295⇑ *i*P **P** 22 58 30.3 +1.0
SGD Sagiada 46.25 291 P **P** 22 58 29.0 -0.4
BUM Brajici-Budva 46.32 295⇑ *i*P **P** 22 58 31.2 +1.2
SBUM Sibu 46.33 135 *e*P **P** 22 58 31.3 +1.1
comp=Z,257nm,0.9s
SOP Sopron 46.38 302⇑ *e*P **P** 22 58 31.6 +1.3
SOP Sopron 46.38 302 P **P** 22 58 31.6 +1.3
SOP pmax pmax
comp=Z,43nm,1.4s
NSS Namsos 46.48 326 *e*P **P** 22 58 31.3 +0.6
NSS IAmb IAmb 22 58 32.3
comp=Z,14nm,0.9s
HSPB Hornsund (broa 46.53 343 *e*P P 22 58 26.5 -4.5
HSPB *e*S **S** 23 05 19.5 +2.7
HSPB MLR MLR
comp=Z,16μm,24.6s
MASI Maura Aman, Be 46.54 150 P **P** 22 58 31.1 -0.8
comp=Z,533nm,1.0s,comp=Z,5μm
BEHE Becsehely 46.56 301⇑ *e*P **P** 22 58 33.2 +1.5
HCY Herceg Novi 46.56 295⇑ *i*P **P** 22 58 32.9 +1.1
SPA0 Spitsbergen Ar 46.64 345 *e*P **P** 22 58 35.0 +3.1
SPA0 IAmb IAmb 22 58 36.1
comp=Z,42nm,1.2s
SPA0 *e*SS SS 23 08 45.3 +0.9
SPITS Spitsbergen Ar 46.64 345 P **P** 22 58 33.9 +1.9
comp=Z,13nm,0.6s,baz=118,slow=7.0,SNR=9.3
SPITS LR LR 23 22 18.1
comp=Z,7μm,20.1s,baz=140,slow=41
TREC Trest 46.68 305⇑ *e*P **P** 22 58 30.4 -2.2
TREC AMS AMS 23 19 00.0
comp=Z,7μm,21.6s
TREC Trest 46.68 305 *e*P **P** 22 58 30.4 -2.2
TREC MLR MLR
comp=Z,7μm,21.6s
BLY Banja Luka 46.76 298⇑ *i*P **P** 22 58 34.6 +1.3
BLY Banja Luka 46.76 298 *e*P **P** 22 58 34.3 +1.0
comp=Z,50nm,1.0s
CONA Conrad Observa 46.77 303 *i* P **P** 22 58 35.2 +1.7
comp=Z,44nm,0.9s,SNR=21
NC405 NORSAR Array S 46.82 321 *e*P **P** 22 58 33.7 +0.1
RGN Rugen 46.88 312 *e*P **P** 22 58 36.0 +2.0
comp=Z,512nm,1.4s
JHJ Hachijo jima 2 46.90 79 LR LR 23 20 27.6
comp=Z,8μm,20.0s,baz=303,slow=39
NC602 NORSAR Array S 46.95 321 *e*P **P** 22 58 35.2 +0.7
NC602 NORSAR Array S 46.95 321 *e*P **P** 22 58 35.4 +0.9
NC602 IAmb IAmb 22 58 36.5
comp=Z,699nm,0.7s
PVCC Panska Ves 46.96 307⇑ *i*P **P** 22 58 36.5 +1.7
PVCC Panska Ves 46.96 307⇑ *i*P **P** 22 58 36.5 +1.7
GOPC GO Pecny, Ondr 46.97 306⇑ *e*P **P** 22 58 36.4 +1.5
GOPC *e*S **S** 23 05 23.3 -0.6
GOPC AMS AMS 23 19 10.0
comp=Z,9μm,20.7s
GOPC GO Pecny, Ondr 46.97 306 *e*P **P** 22 58 36.4 +1.5
GOPC *e*S **S** 23 05 23.3 -0.6
GOPC MLR MLR
comp=Z,9μm,20.7s
MA2 Magadan 46.97 41 P **P** 22 58 35.6 +0.9
comp=Z,90nm,0.6s,baz=292,slow=8.7,SNR=91
MA2 Magadan 46.97 41 *ce*P **P** 22 58 35.4 +0.6
NC303 NORSAR Array S 46.98 322 *e*P **P** 22 58 36.0 +1.3
NC303 NORSAR Array S 46.98 322 *e*P **P** 22 58 35.8 +1.1
NC303 IAmb IAmb 22 58 37.2
comp=Z,200nm,1.2s
STON Ston 46.98 296 P **P** 22 58 34.6 -0.4
NC605 NORSAR Array S 47.01 321 *e*P **P** 22 58 35.6 +0.6
NB201 NORSAR Array S 47.03 321 *e*P **P** 22 58 35.3 0.0
NB201 NORSAR Array S 47.03 321 *e*P **P** 22 58 35.2 0.0
NB201 IAmb IAmb 22 58 35.3
comp=Z,122nm,1.3s
NB2 NORSAR Subarra 47.07 321 P **P** 22 58 36.2 +0.7
comp=Z,63nm,0.7s,baz=84,slow=7.9
NB2 NORSAR Subarra 47.07 321 P **P** 22 58 36.3 +0.7
NB2 pmax pmax
comp=Z,53nm,0.7s
NB2 NORSAR Subarra 47.07 321 P **P** 22 58 36.2 +0.7
baz=84,slow=7.9
NOA NORSAR Array B 47.07 321 P **P** 22 58 36.2 +0.7
comp=Z,47nm,0.6s,baz=84,slow=7.8,SNR=156
NOA LR LR 23 19 36.0
comp=Z,15μm,19.7s,baz=85,slow=38
PRU Pruhonice 47.11 306⇑ *i*P **P** 22 58 37.4 +1.5
PRU *e*pP sP 22 58 49.0 -0.8
PRU *e*S **S** 23 05 26.9 +1.1
PRU AMS AMS 23 19 30.0
comp=Z,9μm,21.1s
PRU Pruhonice 47.11 306⇑ *i*P **P** 22 58 37.4 +1.5
PRU *e* 22 58 49.0
ARSA Arzberg 47.17 302 *i* P **P** 22 58 37.7 +1.1
comp=Z,15nm,0.8s,SNR=8.0
COP Copenhagen 47.19 314⇑ *i*P **P** 22 58 38.2 +1.8
comp=Z,111nm,0.7s
COP Copenhagen 47.19 314⇑ *i*P **P** 22 58 38.2 +1.8
COP pmax pmax
comp=Z,110nm,0.7s
NBO02 NORSAR Array S 47.24 321 *e*P **P** 22 58 37.5 +0.7
NAO01 NORSAR Array S 47.25 321 *e*P **P** 22 58 37.3 +0.4
NAO01 NORSAR Array S 47.25 321 *e*P **P** 22 58 37.4 +0.4
NAO01 IAmb IAmb 22 58 37.8
comp=Z,56nm,0.8s
NC204 NORSAR Array S 47.26 322 *e*P **P** 22 58 37.9 +0.8

NC204 NORSAR Array S 47.26 322 *e*P **P** 22 58 37.8 +0.7
NC204 IAmb IAmb 22 58 39.2
comp=Z,116nm,0.6s
PPBI Pangkal Pinang 47.26 145 P **P** 22 58 37.3 -0.2
comp=Z,1.1nm,0.8s
BRG Berggiesshubel 47.27 307⇑ *i*P **P** 22 58 38.5 +1.3
BRG *i* 22 58 54.5
BRG *i* 23 00 04.0
BRG pmax pmax
comp=Z,73nm,1.3s
BRG MLR MLR
comp=N,4μm,22.7s
BRG MLR MLR
comp=Z,10μm,23.5s
NBO00 NORSAR Array S 47.28 321 *e*P **P** 22 58 38.0 +0.8
NBO00 NORSAR Array S 47.28 321 *e*P **P** 22 58 37.7 +0.5
NBO00 IAmb IAmb 22 58 38.1
comp=Z,139nm,1.3s
DGAR Diego Garcia 47.30 192 PFAKE 22 58 50.0 +12
DGAR LR LR
comp=Z,8μm,21.0s
TBLU Trondheim 47.31 324 *e*P **P** 22 58 36.7 -0.6
TBLU IAmb IAmb 22 58 37.8
comp=Z,119nm,1.3s
YUK Yuzh-Kuril'sk 47.34 62 *e*P P 22 58 28.6 -9.2
YUK *e*SS SS 23 08 45.2 -11
YUK pmax pmax
comp=Z,1μm,4.7s
YUK pmax pmax
comp=Z,582nm,1.4s
YUK MLR MLR
comp=Z,4μm,14.0s
YUK MLR MLR
comp=N,1μm,17.0s
YUK MLR MLR
comp=E,4μm,14.0s
PMBI Palembang 47.36 147 P **P** 22 58 39.3 +1.1
comp=E,1μm,1.0s,comp=E,11μm
LLD Lille Linde 47.37 314 *i* P **P** 22 58 39.1 +1.3
comp=E,133nm,0.7s
LLD Lille Linde 47.37 314 *i* P **P** 22 58 39.1 +1.3
LLD pmax pmax
comp=Z,130nm,0.7s
SEY Seymchan 47.39 36 P **P** 22 58 38.8 +0.8
comp=Z,68nm,0.8s,baz=271,slow=7.6,SNR=144
SEY LR LR 23 20 09.2
comp=Z,8μm,20.1s,baz=284,slow=38
GROS Grobnik 47.40 301 *i* P **P** 22 58 39.4 +1.0
GROS Grobnik 47.40 301 P **P** 22 58 39.4 +1.0
OSL Oslo 47.44 320 *e*P **P** 22 58 39.0 +0.7
OSL IAmb IAmb 22 58 40.3
comp=Z,67nm,0.7s
PERS Pernice 47.61 301 *i* P **P** 22 58 41.1 +1.1
PERS Pernice 47.61 301 *i* P **P** 22 58 41.1 +1.1
SOKA Soboth 47.65 302 *i* P **P** 22 58 41.7 +1.3
comp=Z,50nm,1.0s,SNR=14
OZLJ Ozalj 47.67 300 P **P** 22 58 41.6 +1.3
KBS Kingsbay 47.68 346 PFAKE 22 58 50.0 +10
KBS LR LR
comp=Z,5μm,22.0s
KBS Kingsbay 47.68 346 *e*P **P** 22 58 40.0 0.0
KBS IAmb IAmb 22 58 41.2
comp=Z,37nm,1.5s
CLL Collm 47.75 308⇑ *i*P **P** 22 58 41.7 +0.9
comp=Z,101nm,1.3s
CLL *e*pP **sP** 22 58 52.0 -2.7
CLL *i* sP **pP** 22 58 56.6 +5.8
CLL *e*S **S** 23 05 32.0 -2.8
CLL *e*(SP) 23 05 43.0
CLL *e*SS **SS** 23 09 06.0 +3.0
CLL *e*SSS SSS 23 10 06.0
CLL LmH 23 21 00.0
comp=N,2μm,19.3s
CLL LmH 23 21 00.0
comp=E,4μm,22.0s
CLL LmV 23 22 00.0
comp=Z,6μm,20.1s
CLL Collm 47.75 308 *e*P **P** 22 58 41.8 +0.9
comp=Z,121nm,1.3s
CLL Collm 47.75 308⇑ *i*P **P** 22 58 41.7 +0.9
CLL *i* 22 58 56.6
CLL *e*S **S** 23 05 32.0 -2.8
CLL pmax pmax
comp=Z,101nm,1.3s
CLL MLR MLR
comp=Z,6μm,20.1s
UDBI Udbina 47.80 299 P **P** 22 58 42.5 +1.0
MOA Molln 47.83 303 *i* P **P** 22 58 42.9 +1.3
comp=Z,20nm,0.8s,SNR=7.9
BOJS Bojanci 47.85 300 *e*P **P** 22 58 43.0 +1.3
BOJS Bojanci 47.85 300 *e*P **P** 22 58 43.0 +1.3
PDKS Podkum 47.85 301 *e*P **P** 22 58 43.3 +1.4
PDKS Podkum 47.85 301 *e*P **P** 22 58 43.3 +1.4
MYLDM Lahad Datu 47.86 126 *e*P **P** 22 58 44.2 +2.0
comp=Z,583nm,1.0s
STKI Sintang 47.92 137 P **P** 22 58 42.2 -0.4
GEC2 GERESS Array S 47.92 305 *e*P **P** 22 58 44.0 +1.6
comp=Z,67nm,0.9s
GEC2 GERESS Array S 47.92 305 *e*P **P** 22 58 44.0 +1.6
GEC2 pmax pmax
comp=Z,67nm,0.9s
GERES GERESS Array B 47.92 305 P **P** 22 58 44.0 +1.6
comp=Z,31nm,0.8s,baz=75,slow=7.2,SNR=199
GERES LR LR 23 21 39.9
comp=Z,7μm,21.8s,baz=78,slow=39
GEA0 GERESS Array S 47.93 305 *e*P **P** 22 58 43.0 +0.6
KHC Kasperske Hory 47.93 305⇑ *i*P **P** 22 58 43.9 +1.5
KHC *e*pP **sP** 22 58 54.7 -1.6
KHC *ex* x 22 59 20.0
KHC *e*S **S** 23 05 36.8 -0.8
KHC AMS AMS 23 20 50.0
comp=Z,5μm,20.0s
KHC Kasperske Hory 47.93 305 *e*P **P** 22 58 43.8 +1.4
comp=Z,13nm,0.9s
KHC Kasperske Hory 47.93 305⇑ *i*P **P** 22 58 43.9 +1.5
KHC *e* 22 58 54.7
KHC *e*S **S** 23 05 36.8 -0.8
KHC MLR MLR
comp=Z,5μm,20.0s
MNAI Manna 47.93 150 *e*P **P** 22 58 40.9 -1.8
comp=Z,396nm,0.7s
DOMB Dombas 47.98 323 *e*P **P** 22 58 43.7 +1.1
DOMB IAmb IAmb 22 58 44.7
comp=Z,66nm,0.6s
DOMB IAMs_20 IAMs_20 23 19 47.8
comp=Z,19μm,19.2s
OBKA Obir 48.02 301 *i* P **P** 22 58 44.5 +1.3
comp=Z,24nm,0.8s
VISS Visnje 48.04 300 *e*P **P** 22 58 44.6 +1.4
VISS Visnje 48.04 300 *e*P **P** 22 58 44.6 +1.4
KONO Kongsberg 48.05 320 *e*P **P** 22 58 44.0 +0.9
comp=Z,112nm,1.2s
KONO Kongsberg 48.05 320 *ce*P **P** 22 58 44.6 +1.5
KONO pmax pmax
comp=Z,439nm,1.2s
KONO Kongsberg 48.05 320 *e*P **P** 22 58 44.0 +0.9
KONO IAmb IAmb 22 58 45.5
comp=Z,131nm,1.4s
KUR Kuril'sk 48.34 60 *e*P **P** 22 58 45.5 0.0
KUR *e* 23 00 41.8
KUR *e*S **S** 23 05 43.5 +0.2
KUR *e* 23 08 37.0
KUR pmax pmax
comp=Z,217nm,1.4s
KUR MLR MLR
comp=Z,1μm,11.0s
KUR MLR MLR
comp=N,2μm,13.0s
KUR MLR MLR
comp=E,1μm,12.0s
NKC Novy Kostel 48.35 307⇑ *e*P **P** 22 58 47.0 +1.4
NKC *e*pP **sP** 22 58 56.5 -3.0
NKC AMS AMS 23 20 00.0
comp=E,10μm,22.4s
NKC Novy Kostel 48.35 307 *e*P **P** 22 58 47.0 +1.4
NKC *e* 22 58 56.5
NKC MLR MLR
comp=Z,10μm,22.4s
NVLJ Novalja 48.39 299 P **P** 22 58 46.3 +0.4
MATE Matera 48.43 293⇑ *i*P **P** 22 58 47.5 +1.3
JAVS Javornik 48.53 301 *e*P **P** 22 58 47.6 +0.5
JAVS Javornik 48.53 301 *e*P **P** 22 58 47.6 +0.5
MDSI Maura Dua 48.53 149 P **P** 22 58 45.1 -2.2
comp=Z,69nm,1.3s,comp=Z,1μm
MYKA Terra Mystica 48.59 302 *i* P **P** 22 58 48.4 +0.9

comp=Z,7.1nm,0.6s
MOL Molde 48.62 324 *e*P **P 22 58 47.9 +0.5**
MOL IAmb IAmb 22 58 49.1
comp=Z,68nm,0.7s
FURI Furi 48.64 243 *e*P **P 22 58 52.1 +3.5**
comp=Z,80nm,0.8s
CADS Cadrg 48.64 301 *e*P **P 22 58 48.3 +0.4**
CADS Cadrg 48.64 301 *e*P **P 22 58 48.3 +0.4**
KBA Koelnbreinsper 48.65 302 P **P 22 58 48.9 +0.8**
KBA pmax pmax
comp=Z,53nm,1.1s
KBA Koelnbreinsper 48.65 302 *i*P **P 22 58 49.2 +1.0**
comp=Z,17nm,0.6s,SNR=8.9
SKDS Skadanscina 48.66 300 *i*P **P 22 58 49.0 +0.9**
SKDS Skadanscina 48.66 300 *i*P **P 22 58 49.0 +0.9**
MOX Moxa 48.76 307 P **P 22 58 50.0 +1.3**
MOX pmax pmax
comp=Z,41nm,1.4s
TRI Trieste 48.78 301 *e*P **P 22 58 50.0 +1.1**
comp=Z,85nm,0.8s
TRI Trieste 48.78 301 *e*P **P 22 58 50.0 +1.1**
TRI pmax pmax
comp=Z,85nm,0.8s
MUD Monsted U'grnd 48.83 315⇑ *i*P **P 22 58 50.8 +1.7**
comp=Z,80nm,0.9s
MUD Monsted U'grnd 48.83 315⇑ *i*P **P 22 58 50.8 +1.7**
MUD pmax pmax
comp=Z,80nm,0.9s
HOMB Homborsund 48.84 318 *e*P **P 22 58 50.1 +1.0**
HOMB IAmb IAmb 22 58 51.3
comp=Z,42nm,0.7s
TIP Timpagrande 48.92 291⇑ *i*P **P 22 58 51.5 +1.3**
TIP Timpagrande 48.92 291 *e*P **P 22 58 51.1 +0.9**
comp=Z,232nm,1.3s
TIP LR LR
comp=Z,2µm,22.0s
TIP Timpagrande 48.92 291 P **P 22 58 52.2 +2.0**
AKN Aaknes 48.93 323 *e*P **P 22 58 50.9 +1.1**
AKN IAmb IAmb 22 58 51.3
comp=Z,26nm,0.7s
LWLI Liwa 48.97 149 P **P 22 58 48.8 -1.9**
comp=Z,564nm,0.8s,comp=Z,6µm
GRB1 Grafenberg Arr 49.07 306 P **P 22 58 53.1 +1.9**
GRB1 pmax pmax
comp=Z,128nm,0.9s
GRF Grafenberg Arr 49.26 306 P **P 22 58 54.5 +1.9**
GRFO Grafenberg 49.26 306 *e*P **P 22 58 54.5 +1.9**
comp=Z,110nm,0.8s
GRFO Grafenberg 49.26 306 *e*P **P 22 58 54.5 +1.9**
GRFO pmax pmax
comp=Z,110nm,0.8s
GRC1 Grafenberg Arr 49.27 305 P **P 22 58 54.5 +1.8**
ABTA Abfaltersbach 49.29 302 *i*P **P 22 58 53.1 +0.2**
comp=Z,16nm,0.9s
CUC Castrocucco 49.30 293 *e*P **P 22 58 54.5 +1.5**
comp=Z,181nm,0.7s
CUC LR LR
comp=Z,3µm,20.0s
HYA Hoyanger 49.47 322 *e*P **P 22 58 55.5 +1.5**
HYA IAmb IAmb 22 58 56.6
comp=Z,26nm,0.8s
HYA *e*S **S 23 05 56.0 -2.8**
ODD1 Odda 49.48 320 *e*P **P 22 58 55.8 +1.6**
ODD1 IAmb IAmb 22 58 56.9
comp=Z,83nm,1.3s
SNART Snartemo 49.49 318 *e*P **P 22 58 55.5 +1.3**
SNART IAmb IAmb 22 58 55.9
comp=Z,28nm,0.6s
KASI Kota Agung 49.60 149 P **P 22 58 53.7 -1.8**
comp=Z,396nm,1.0s,comp=Z,3µm
BLS5 Blasjo 49.66 320 *e*P **P 22 58 56.6 +1.1**
BLS5 IAmb IAmb 22 58 58.2
comp=Z,34nm,0.8s
BLS5 IAMs_20 IAMs_20 23 20 48.9
comp=Z,12µm,18.1s
WTTA Wattenberg 49.70 303 *i*P **P 22 58 57.1 +0.9**
comp=Z,36nm,1.0s,SNR=13
WATA Walderalm 49.72 303 *i*P **P 22 58 57.1 +0.8**
comp=Z,16nm,0.6s,SNR=13
BLSI Bandar Lampung 49.76 148 P **P 22 58 55.3 -1.4**
comp=Z,249nm,0.8s
CEL Celeste 49.90 291 *e*P **P 22 58 59.1 +1.5**
comp=Z,139nm,0.9s
CEL LR LR
comp=Z,1µm,19.0s
FOO Floro 49.94 323 *e*P **P 22 58 58.0 +0.6**
FOO IAmb IAmb 22 58 59.7
comp=Z,51nm,1.2s
MOTA Moosalm 50.02 303 *i*P **P 22 58 59.4 +0.7**
comp=Z,38nm,0.7s,SNR=38
BER Bergen 50.03 321 *e*P **P 22 58 59.1 +0.9**
BER *e* 22 59 00.9
ASK Askoy 50.08 321 *e*P **P 22 58 59.7 +1.1**
ASK IAmb IAmb 22 59 01.1
comp=Z,54nm,0.7s
AQU L'Aquila 50.14 297 *e*P **P 22 59 01.1 +1.6**
comp=Z,128nm,0.8s
AQU LR LR
comp=Z,5µm,20.0s
AQU L'Aquila 50.14 297 *e*P **P 22 59 01.1 +1.6**
AQU pmax pmax
comp=Z,128nm,0.8s
AQU MLR MLR
comp=Z,5µm,20.0s
STAV Stavanger 50.14 319 *e*P **P 22 59 00.3 +1.2**
STAV IAmb IAmb 22 59 01.3
comp=Z,126nm,1.3s
RETA Reutte 50.20 304 *i*P **P 22 59 01.0 +1.2**
comp=Z,66nm,0.7s,SNR=24
FETA Feichten 50.37 303 *i*P **P 22 59 01.9 +0.7**
comp=Z,19nm,0.7s,SNR=14
PBKI Pangkalan Bun 50.38 139 P **P 22 59 01.8 +0.4**
MTKI Muara Teweh, K 50.61 134 P **P 22 59 03.8 +0.6**
comp=Z,357nm,1.0s
FUORN Ofenpass-Fuorn 50.80 303 *e*P **P 22 59 05.1 +0.5**
comp=Z,61nm,0.6s
STU Stuttgart 50.80 306 *e*P **P 22 59 05.4 +1.1**
comp=Z,111nm,1.2s
STU Stuttgart 50.80 306 *e*P **P 22 59 05.4 +1.1**
STU pmax pmax
comp=Z,111nm,1.2s
DAVA Damuels 50.83 304 *i*P **P 22 59 05.6 +0.9**
comp=Z,61nm,1.0s,SNR=19
CGJI Cibinong 51.07 148 P **P 22 59 02.7 -3.9**
DAV Davao City (W) 51.14 117 LR LR 23 22 33.4
comp=Z,3µm,18.5s,baz=320,slow=38
DAV Davao City (W) 51.14 117 PFAKE 22 59 20.0 +13
DAV LR LR
comp=Z,2µm,19.0s
DAV Davao City (W) 51.14 117 P **P 22 59 09.9 +2.7**
SNR=7.3
BUG Bochum--Univer 51.18 309 P **P 22 59 08.7 +1.7**
BUG pmax pmax
comp=Z,54nm,1.6s
VAE Valguarnera 51.28 290 P **P 22 59 10.2 +2.1**
comp=Z,15nm,0.6s,baz=198,slow=9.6,SNR=9.6
VAE LR LR 23 25 04.9
comp=Z,2µm,20.8s,baz=66,slow=41
WTSB Winterswijk 51.30 310 *i*P **P 22 59 09.3 +1.3**
comp=Z,63nm,0.6s
TUE Stuetta 51.45 303 *e*P **P 22 59 09.8 +0.4**
comp=Z,61nm,0.7s
TUE LR LR
comp=Z,10µm,22.0s
BFO Black Forest 51.49 305 *e*P **P 22 59 10.1 +0.6**
comp=Z,45nm,0.8s
BFO LR LR
comp=Z,5µm,20.0s
BFO Black Forest 51.49 305 *i*P **P 22 59 10.4 +1.0**
SMKI Samarinda 51.52 131 P **P 22 59 10.2 +0.2**
comp=Z,385nm,1.2s,comp=Z,5µm
JCJ Chichijima 51.53 84 LR LR 23 24 38.5
comp=Z,2µm,19.2s,baz=290,slow=40
VLC Villacollemand 51.56 300 *e*P **P 22 59 11.7 +1.6**
comp=Z,150nm,0.8s
VLC LR LR
comp=Z,6µm,20.0s
SLE Schleitheim 51.57 305 P **P 22 59 11.0 +0.9**
SLE pmax pmax
comp=Z,55nm,1.3s
WDD Wied Dalam 51.89 288 PFAKE 22 59 30.0 +17
WDD LR LR
comp=Z,1µm,22.0s
BKB Balikpapan 52.00 132 P **P 22 59 12.2 -1.4**
JCJI Jatiwangi 52.06 145 P **P 22 59 15.0 +1.0**
LEM Lembang 52.08 146 P **P 22 59 12.2 -2.1**
comp=Z,14nm,0.4s,baz=288,slow=20,SNR=3.4
LEM LR LR 23 25 54.4
comp=Z,3µm,18.7s,baz=310,slow=41
CLTB Caltabellotta 52.11 291 *e*P **P 22 59 15.8 +1.5**
comp=Z,36nm,0.6s
CLTB LR LR
comp=Z,2µm,20.0s
PEA0B Petropavlovsk- 52.12 48 *e*P **P 22 59 15.2 +1.2**
comp=Z,374nm,1.6s
PETK Petropavlovsk- 52.12 48 P **P 22 59 14.7 +0.6**
comp=Z,38nm,0.8s,baz=281,slow=3.7,SNR=51
PETK LR LR 23 24 11.5
comp=Z,6µm,18.1s,baz=289,slow=39
PETK Petropavlovsk- 52.12 48 *e*P **P 22 59 14.8 +0.7**
PETK Petropavlovsk- 52.12 48 *e*P **P 22 59 14.8 +0.7**
CDF Champ du Feu 52.12 306 P **P 22 59 14.2 -0.1**
HGN Heimansgroeve 52.19 309 *i*P **P 22 59 15.5 +1.0**
comp=Z,59nm,1.1s
HGN *e*S S 23 06 47.5 +11
MEM Membach 52.19 309⇑P **P 22 59 14.4 -0.3**
comp=Z,38nm,1.0s
MEM ⇓AP **sP 22 59 26.2 -2.3**
MEM ⇑XP pP 22 59 31.2 +6.6
ECH Echery 52.26 306 *e*P **P 22 59 15.6 +0.4**
comp=Z,54nm,1.0s
ECH LR LR
comp=Z,5µm,20.0s
ECH Echery 52.26 306 *e*P **P 22 59 15.6 +0.4**
ECH pmax pmax
comp=Z,54nm,1.0s
ECH MLR MLR
comp=Z,5µm,20.0s
BILL Bilibino 52.32 28 *i*P **P 22 59 15.8 +0.5**
BILL *i* 23 00 23.2
BILL *i*S **S 23 06 32.1 -6.0**
BILL *i*SS **SS 23 10 19.9 +4.5**
BILL pmax pmax
comp=Z,21nm,1.0s
BILL MLR MLR
comp=Z,13µm,19.0s
BEBN Eben Emael 52.33 309⇑P **P 22 59 16.9 +1.3**
MOF Molkenrain 52.40 305 P **P 22 59 17.6 +1.2**
WLF Walferdange 52.41 308⇓P **P 22 59 17.8 +1.6**
comp=Z,65nm,1.0s
WLF ⇓AP sP 22 59 29.5 -0.7
WLF Walferdange 52.41 308 *e*P **P 22 59 17.9 +1.6**
comp=Z,72nm,0.9s
WLF LR LR
comp=Z,7µm,21.0s
WLF Walferdange 52.41 308 *e*P **P 22 59 17.9 +1.6**
WLF pmax pmax
comp=Z,72nm,0.9s
WLF MLR MLR
comp=Z,7µm,21.0s
MPSI Mapaga 52.50 128 P **P 22 59 19.2 +1.9**
comp=Z,337nm,1.1s,comp=Z,4µm
HINF Hinteralfeld 52.59 305 *e*P **P 22 59 17.6 -0.1**
HINF pmax pmax
comp=Z,43nm,0.5s
BCLA Clavier 52.68 309⇑P **P 22 59 18.9 +0.7**
comp=Z,32nm,1.2s
PET Petropavlovsk 52.69 48 *e*P **P 22 59 17.7 -0.6**
comp=Z,56nm,0.8s
PET LR LR
comp=Z,7µm,22.0s
PET Petropavlovsk 52.69 48 *e*P **P 22 59 17.6 -0.6**
PET *e**SP sP 22 59 34.2 +2.0
PET *e* 23 00 27.6
PET *e*S **S 23 06 39.3 -4.3**
PET pmax pmax
comp=Z,80nm,0.7s
PET pmax pmax
comp=Z,700nm,15.2s
PET MLR MLR
comp=Z,7µm,18.0s
SENIN Lac Senin/Sane 52.81 303 *e*P **P 22 59 20.0 +0.5**
comp=Z,34nm,0.6s
HAU Haudompre 52.84 306 *e*P **P 22 59 19.4 -0.1**
HAU pmax pmax
comp=Z,101nm,1.3s
PGF Pioggiola 53.10 298 *e*P **P 22 59 21.5 -0.1**
PGF pmax pmax
comp=Z,78nm,1.1s
UCC Uccle 53.12 309 *e*P **P 22 59 22.9 +1.4**
comp=Z,66nm,1.5s
UCC Uccle 53.12 309 *e*P **P 22 59 22.9 +1.4**
UCC pmax pmax
comp=Z,66nm,1.5s
DOU Dourbes 53.21 309⇑P **P 22 59 22.6 +0.4**
comp=Z,37nm,1.0s
DOU ⇑AP **sP 22 59 32.7 -3.5**
SNF Seneffe 53.26 309⇑P **P 22 59 23.4 +0.8**
KBKI Kotabaru 53.27 135 P **P 22 59 23.6 +0.7**
COCO West Island 53.35 161 *e*P **P 22 59 25.3 +1.8**
comp=Z,500nm,0.9s
COCO West Island 53.35 161 *i*P **P 22 59 24.8 +1.4**
BAIF Baives 53.46 309 *e*P **P 22 59 24.4 +0.4**
BAIF pmax pmax
comp=Z,58nm,0.9s
LPG La Plagne 53.48 303 *e*P **P 22 59 24.9 +0.3**
LPG pmax pmax
comp=Z,79nm,0.7s
LPL La Plagne 53.49 303 *e*P **P 22 59 24.9 +0.3**
LPL pmax pmax
comp=Z,100nm,0.7s
CABF La Chapelle 53.51 304 *e*P **P 22 59 24.2 -0.3**
CABF pmax pmax
comp=Z,51nm,1.0s
SMRI Semarang 53.54 143 P **P 22 59 26.1 +1.1**
comp=Z,718nm,0.8s,comp=Z,9µm
SMRI Semarang 53.54 143 *e*P **P 22 59 25.7 +0.8**
comp=Z,525nm,0.8s
MRSI Marisa 53.65 126 P **P 22 59 25.1 -0.7**
comp=Z,226nm,1.0s,comp=Z,3µm
BNI Bardonecchia 53.70 302 *e*P **P 22 59 27.1 +1.1**
comp=Z,248nm,1.5s
BNI LR LR
comp=Z,5µm,21.0s
BNI Bardonecchia 53.70 302 *e*P **P 22 59 27.1 +1.1**
BNI pmax pmax
comp=Z,248nm,1.5s
BNI MLR MLR
comp=Z,5µm,21.0s
TBJI Tambak Boyo 54.01 141 P **P 22 59 28.0 -0.3**
comp=Z,510nm,1.1s,comp=Z,5µm
VSL Villasalto 54.06 295 *e*P **P 22 59 29.1 +0.6**
comp=Z,172nm,1.7s
VSL LR LR
comp=Z,2µm,20.0s
DAG Danmarks Havn 54.22 344 *i*P **P 22 59 29.4 +0.2**
comp=Z,100nm,1.3s
DAG Danmarks Havn 54.22 344 *i*P **P 22 59 29.4 +0.2**
DAG pmax pmax
comp=Z,100nm,1.3s
ORIF Oris-en-Rattie 54.27 302 *e*P **P 22 59 30.3 +0.2**
ORIF pmax pmax
comp=Z,40nm,0.6s
GRJI Gresik 54.40 141 P **P 22 59 30.5 -0.7**
APSI Ampana 54.55 127 P **P 22 59 30.8 -1.5**
comp=Z,318nm,0.9s,comp=Z,3µm
WACR West Acre 54.65 313⇑ *e*P **P 22 59 33.7 +1.1**
KMSI Cibinong 54.87 124 P **P 22 59 36.9 +2.2**
comp=Z,341nm,0.9s
MLA1 Latheron 54.87 320 *e*P **P 22 59 33.9 -0.2**
LMK Market Rasen 54.93 314⇑ *e*P **P 22 59 34.8 +0.2**
LMK IAmb IAmb 22 59 35.6
comp=Z,346nm,1.2s
SSB Saint Sauveur 55.01 303 *e*P **P 22 59 36.2 +0.8**
comp=Z,33nm,0.6s
SSB LR LR
comp=Z,4µm,19.0s
SSB Saint Sauveur 55.01 303 *e*P **P 22 59 36.2 +0.8**
SSB pmax pmax
comp=Z,33nm,0.6s
SSB MLR MLR
comp=Z,4µm,19.0s
MCD Coleburn Disti 55.06 319⇑ *e*P **P 22 59 36.4 +0.8**
BIGH Upper Bighouse 55.08 320⇑ *e*P **P 22 59 36.6 +1.0**
BIGH IAmb IAmb 22 59 37.5
comp=Z,164nm,0.9s
VIVF Saint-Julien-l 55.09 302 *e*P **P 22 59 35.9 -0.1**
VIVF pmax pmax
comp=Z,45nm,0.8s
TTSI Tana Toraja 55.14 131 P **P 22 59 38.6 +2.0**
comp=Z,435nm,1.2s,comp=Z,5µm
KMMI Kalianget 55.26 139 P **P 22 59 38.7 +1.3**
comp=Z,272nm,0.9s,comp=Z,4µm
EDU Dundee 55.30 318⇑ *e*P **P 22 59 37.8 +0.5**
ESY Stoneypath 55.31 317⇑ *e*P **P 22 59 38.0 +0.7**
EDMD Edmundbyers 55.34 316⇑ *e*P **P 22 59 38.1 +0.5**
LUWI Luwuk 55.35 126 P **P 22 59 39.0 +0.9**
comp=Z,353nm,1.1s,comp=Z,8µm
LUWI Luwuk 55.35 126 *e*P **P 22 59 37.1 -1.0**
comp=Z,272nm,1.0s
HPK Haverah Park 55.47 315⇑ *e*P **P 22 59 39.6 +1.0**
HPK IAmb IAmb 22 59 40.2
comp=Z,101nm,0.8s
EDI Edinburgh 55.61 317⇑ *e*P **P 22 59 39.9 +0.4**
BLJI Banyuglugur 55.67 140 P **P 22 59 39.8 -0.5**
MDO Dochfour 55.67 319⇑ *e*P **P 22 59 40.5 +0.5**
KEST Kesra 55.71 291 P **P 22 59 41.7 +1.0**
comp=Z,19nm,0.7s,baz=329,slow=2.5,SNR=19
KEST LR LR 23 28 44.0
comp=Z,2µm,19.9s,baz=356,slow=42
KEST Kesra 55.71 291 *e*P **P 22 59 41.8 +1.1**
comp=Z,43nm,0.8s
LBWR Ladybower, Pea 55.73 314⇑ *e*P **P 22 59 41.2 +0.8**
EKA Eskdalemuir Ar 55.80 317 P **P 22 59 41.7 +0.8**
comp=Z,57nm,0.8s,baz=94,slow=11,SNR=65
EKA LR LR 23 25 21.6
comp=Z,6µm,20.5s,baz=55,slow=38
EKA Eskdalemuir Ar 55.80 317 P **P 22 59 41.7 +0.8**
EKA pmax pmax
comp=Z,57nm,0.9s
EKA MLR MLR
comp=Z,6µm,20.5s
ESK Eskdalemuir 55.84 317⇑ *e*P **P 22 59 40.8 -0.4**
ESK IAmb IAmb 22 59 42.2
comp=Z,75nm,0.9s
BHH Howats Hill 55.92 316⇑ *e*P **P 22 59 42.5 +0.7**
ABJI Asem Bagus 56.03 139 P **P 22 59 43.3 +0.4**
GMJI Gumukmas 56.05 141 P **P 22 59 42.9 -0.2**
comp=Z,171nm,1.2s,comp=Z,3µm
KESW Keswick, Cumbr 56.05 316⇑ *e*P **P 22 59 43.1 +0.4**
KESW IAmb IAmb 22 59 45.6
comp=Z,203nm,1.3s
TCF Toulx Ste Croi 56.11 305 *e*P **P 22 59 43.3 0.0**
TCF pmax pmax
comp=Z,99nm,1.0s
KAC Achnashellach 56.12 320⇑ *i*P **P 22 59 43.7 +0.5**
WOL Wolverton 56.23 312⇑ *e*P **P 22 59 44.8 +0.9**
WOL IAmb IAmb 22 59 45.8
comp=Z,308nm,1.2s
KSB Sheil Bridge 56.29 319⇑ *e*P **P 22 59 44.8 +0.5**
PGBU Glenifferbraes 56.33 317⇑ *e*P **P 22 59 45.6 +1.0**
PGBU IAmb IAmb 22 59 46.7
comp=Z,79nm,0.8s
SSW Stow on the Wo 56.34 312⇑ *e*P **P 22 59 46.0 +1.3**
KPL Plockton 56.36 319⇑ *e*P **P 22 59 45.4 +0.5**
BNSI Bone 56.40 131 P **P 22 59 45.6 0.0**
comp=Z,84nm,1.9s,comp=Z,2µm
SWN1 Swindon 56.48 312⇑ *e*P **P 22 59 46.2 +0.4**
JAGI Jajag, Banyuwa 56.57 140 P **P 22 59 45.0 -1.8**
comp=Z,303nm,1.0s,comp=Z,3µm
JAGI Jajag, Banyuwa 56.57 140 *e*P **P 22 59 45.5 -1.3**
comp=Z,240nm,0.9s
STRD Stroud 56.59 312⇑ *e*P **P 22 59 47.1 +0.5**
STRD IAmb IAmb 22 59 48.0
comp=Z,116nm,0.8s
KAPI Kappang 56.69 132 *e*P **P 22 59 47.1 -0.6**
comp=Z,147nm,1.1s
KAPI LR LR
comp=Z,2µm,22.0s
KAPI Kappang 56.69 132 P **P 22 59 47.5 -0.2**
SNR=11
CMAH Djebel Manchou 56.70 292 P **P 22 59 48.0 +0.3**
HLM1 Long Mynd 56.71 313⇑ *e*P **P 22 59 48.4 +1.0**
HLM1 IAmb IAmb 22 59 49.3
comp=Z,48nm,0.9s
FOEL Foel Wylfa 56.74 314⇑ *e*P **P 22 59 47.3 -0.4**
FOEL IAmb IAmb 22 59 48.7
comp=Z,94nm,0.9s
CAF Calviac 56.76 303 *e*P **P 22 59 48.2 +0.3**
CAF pmax pmax
comp=Z,55nm,0.9s
SRBI Singaraja 56.77 139 P **P 22 59 48.1 -0.1**
comp=Z,362nm,1.0s,comp=Z,4µm
FLN La Foliniere 56.79 308 P **P 22 59 47.3 -0.7**
GAL1 Galloway 56.81 316⇑ *e*P **P 22 59 48.9 +0.9**
ABSA Djebel Ababsia 56.81 292 P **P 22 59 49.4 +0.9**
OLDB Oldbury-Upon-S 56.86 312 *e*P **P 22 59 49.1 +0.7**
OLDB IAmb IAmb 22 59 50.0
comp=Z,142nm,1.1s
MONM Monmouth 56.93 313⇑ *e*P **P 22 59 49.9 +0.9**
MONM IAmb IAmb 22 59 50.1
comp=Z,149nm,0.9s
TNTI Ternate 56.94 121 *e*P **P 22 59 50.5 +1.0**
comp=Z,931nm,1.0s
IOMK Kirk Michael 56.96 316⇑ *e*P **P 22 59 50.0 +0.8**
MCH1 Michaelchurch 56.98 313⇑ *e*P **P 22 59 50.0 +0.7**
MCH1 IAmb IAmb 22 59 51.1
comp=Z,170nm,0.8s
KMBO Kilima Mbogo 56.99 236 P **P 22 59 51.1 +0.9**
comp=Z,18nm,0.9s,baz=33,slow=10,SNR=39
KMBO LR LR 23 26 04.2
comp=Z,3µm,19.5s,baz=36,slow=38
KMBO Kilima Mbogo 56.99 236 *e*P **P 22 59 51.1 +0.9**
comp=Z,55nm,1.3s
KMBO LR LR
comp=Z,3µm,20.0s
KMBO Kilima Mbogo 56.99 236 P **P 22 59 51.2 +1.1**
SNR=14
KMBO Kilima Mbogo 56.99 236 *i*P **P 22 59 50.4 +0.2**
SNR=26
WPM1 Penmaenmawr 56.99 314⇑ *i*P **P 22 59 50.2 +0.8**
HGH Gray Hill 57.01 312⇑ *i*P **P 22 59 50.4 +0.8**
CAEH 'Ain El Ouahch 57.03 293 P **P 22 59 49.8 -0.2**
WIM Isle of Man 57.07 316⇑ *i*P **P 22 59 51.0 +1.1**
GMK Mull of Kintyr 57.09 317⇑ *e*P **P 22 59 50.8 +0.8**
GRR Gorron 57.17 308 *e*P **P 22 59 50.2 -0.5**
GRR pmax pmax
comp=Z,104nm,0.8s
DNP Denpasar 57.28 139 P **P 22 59 51.2 -0.6**
MTLF Montolieu 57.32 302 *e*P **P 22 59 51.9 0.0**
MTLF pmax pmax
comp=Z,29nm,0.7s
IGBI Denpasar 57.37 139 P **P 22 59 50.5 -1.9**
comp=Z,918nm,0.9s,comp=Z,8µm
NAI Nairobi 57.39 236 *e*P **P 22 59 54.7 +1.7**
comp=Z,49nm,0.8s
NAI Nairobi 57.39 236 *e*P **P 22 59 54.7 +1.7**
NAI pmax pmax
comp=Z,49nm,0.8s
CASM Ain Smara 57.53 292 P **P 22 59 53.6 +0.1**
LPW Lampeter 57.54 313⇑ *e*P **P 22 59 54.0 +0.8**
LPW IAmb IAmb 22 59 55.8
comp=Z,133nm,1.0s
SCO Scoresbysund 57.58 337 *i*P **P 22 59 55.3 +2.0**
SCO Scoresbysund 57.58 337 *e*P **P 22 59 55.0 +1.8**
comp=Z,113nm,1.5s
SCO Scoresbysund 57.58 337 *i*P **P 22 59 55.3 +2.0**
CTEI Djebel Teioual 57.68 292 P **P 22 59 55.4 +0.7**
GMM Mts of Mourne 57.72 316⇑ *e*P **P 22 59 55.1 +0.6**
DFRA Djebel Bou Aff 57.84 293 P **P 22 59 56.5 +0.7**
BSSI Bau Bau, Buton 58.03 132 P **P 22 59 57.1 -0.1**
LBMI Labuha 58.08 122 P **P 22 59 58.0 +0.5**
comp=Z,417nm,0.9s,comp=Z,4µm
SANI Sanana 58.16 124 P **P 22 59 58.0 -0.1**
comp=Z,409nm,1.3s,comp=Z,6µm
HTL Hartland 58.24 312⇑ *e*P **P 22 59 58.9 +0.7**
SET Setif 58.34 293 P **P 23 00 02.0 +2.7**
CKHR Kef el Ahmar 58.34 293 P **P 23 00 00.2 +0.9**
BBSI Bau Bau 58.72 130 P **P 23 00 02.6 +0.6**
comp=Z,39nm,2.2s,comp=Z,684nm
PLAI Plampang 58.74 137 P **P 23 00 00.9 -1.2**
comp=Z,116nm,0.9s,comp=Z,2µm
QUIF Quistinic 58.77 308 *e*P **P 23 00 01.6 -0.3**
QUIF pmax pmax
comp=Z,46nm,0.7s
CCA1 Carnmenellis 59.01 312 *e*P **P 23 00 04.4 +0.8**
SJPF Ste Jean 59.68 303 P **P 23 00 08.8 +0.4**
SJPF pmax pmax
comp=Z,51nm,0.9s
NLAI Namlea 59.78 124 P **P 23 00 10.5 +1.2**
BORG Borgarnes 60.08 331 P **P 23 00 13.4 +2.7**
comp=Z,26nm,1.0s,baz=66,slow=6.5,SNR=5.1
BORG LR LR 23 26 38.8
comp=Z,4µm,18.0s,baz=58,slow=36
BORG Borgarnes 60.08 331 P **P 23 00 13.4 +2.7**
BORG LR LR
comp=Z,3µm,21.0s

WBSI Waikabubak, Su 60.29 135 P **P** **23 00 11.6 -1.2**
comp=Z,397nm,1.1s,comp=Z,5µm
SWI Sorong 60.76 119 P **P** **23 00 16.4 +0.4**
AAI Ambon 60.82 123 P **P** **23 00 17.1 +0.6**
SUMG Summit 60.84 343 ⇑*i*P **P** **23 00 17.5 +1.2**
comp=Z,59nm,0.9s
SUMG Summit 60.84 343 *e*P **P** **23 00 17.4 +1.1**
comp=Z,286nm,1.6s
SUMG Summit 60.84 343 ⇑*i*P **P** **23 00 17.5 +1.2**
SUMG pmax pmax
comp=Z,59nm,0.9s
MBAR Mbarara 60.93 242 *e*P **P** **23 00 17.0 -0.4**
comp=Z,104nm,0.8s
MBAR Mbarara 60.93 242 *e*P **P** **23 00 17.0 -0.4**
MBAR pmax pmax
comp=Z,104nm,0.8s
MSAI Masohi 61.04 122 P **P** **23 00 18.5 +0.5**
VAL Valentia 61.05 315 *i* S **S** **23 08 37.1 +3.3**
MMRI Maumere 61.05 132 P **P** **23 00 16.4 -1.6**
MMRI Maumere 61.05 132 *e*P **P** **23 00 16.0 -2.0**
comp=Z,318nm,1.0s
GUMO Guam 61.15 96 P **P** **23 00 17.9 -0.8**
comp=Z,113nm,0.8s,baz=210,slow=8.1,SNR=4.4
GUMO LR LR 23 27 19.1
comp=Z,2µm,20.8s,baz=302,slow=36
GUMO Guam 61.15 96 P **P** **23 00 17.9 -0.8**
GUMO LR LR
comp=Z,2µm,20.0s
GUMO Guam 61.15 96 P **P** **23 00 17.9 -0.8**
GUMO pmax pmax
comp=Z,161nm,0.9s
GUMO MLR MLR
comp=Z,2µm,20.8s
BASI Baing, Sumba 61.41 135 P **P** **23 00 19.2 -1.2**
CART Cartagena 62.16 297 *e*P **P** **23 00 26.4 +1.1**
comp=Z,91nm,0.8s
GAMB Gambell 62.25 29 *e*P **P** **23 00 26.3 +1.0**
comp=Z,135nm,1.5s
BNDI Bandanaira 62.56 123 P **P** **23 00 28.5 +0.3**
GUD Guadarrama 62.78 301 P **P** **23 00 30.1 +0.6**
TULEG Thule 62.78 352 *e*P **P** **23 00 28.3 -0.5**
comp=Z,35nm,0.8s
FAKI Fak Fak 62.93 119 P **P** **23 00 30.6 -0.1**
FAKI Fak Fak 62.93 119 *e*P **P** **23 00 30.4 -0.3**
comp=Z,485nm,0.8s
KULLO Kullorsuaq 62.99 349 ⇑*i*P **P** **23 00 30.9 +0.7**
comp=Z,69nm,0.9s
KULLO Kullorsuaq 62.99 349 ⇑*i*P **P** **23 00 30.9 +0.7**
KULLO pmax pmax
comp=Z,69nm,0.9s
KULLO MLR MLR
comp=Z,8µm,22.0s
ES19 SONSECA Array 63.08 300 *e*P **P** **23 00 32.1 +0.6**
SOEI Soe 63.13 131 P **P** **23 00 31.6 -0.5**
SOEI Soe 63.13 131 *e*P **P** **23 00 30.8 -1.3**
comp=Z,263nm,0.8s
ESDC Sonseca Array 63.13 300 P **P** **23 00 32.6 +0.8**
comp=Z,35nm,0.7s,baz=57,slow=6.6,SNR=228
ESDC PKPPKP **P'P'df** **23 29 32.3 -3.3**
comp=Z,4.1nm,1.0s,baz=269,slow=2.2,SNR=8.4
ESDC LR LR 23 30 48.8
comp=Z,2µm,21.0s,baz=50,slow=39
ESLA Sonseca Array 63.13 300 *e*P **P** **23 00 32.7 +0.9**
comp=Z,38nm,0.8s
BATI Baumata 63.14 132 P **P** **23 00 31.6 -0.4**
comp=Z,155nm,0.7s,baz=183,slow=2.8,SNR=50
BATI Baumata 63.14 132 P **P** **23 00 31.9 -0.1**
MRIV Mauritius Mete 63.42 205 *e*P **P** **23 00 32.6 -1.1**
PAB San Pablo 63.46 300 *e*P **P** **23 00 34.7 +0.7**
comp=Z,35nm,0.8s
PAB LR LR
comp=Z,5µm,22.0s
PAB San Pablo 63.46 300 *e*P **P** **23 00 34.7 +0.7**
PAB pmax pmax
comp=Z,35nm,0.8s
PAB MLR MLR
comp=Z,5µm,22.0s
PBRG Braganca 63.89 304 *e*P **P** **23 00 37.7 +1.0**
comp=Z,54nm,2.0s
MVO Moncorvo 64.40 303 *e*P **P** **23 00 41.3 +1.2**
comp=Z,126nm,1.1s
KMPI Kaimana, Papua 64.46 119 P **P** **23 00 42.6 +1.9**
PCAB Cabril 64.76 304 *e*P **P** **23 00 43.8 +1.4**
PCAB *e*pP sP 23 00 58.3 +1.8
PGAV Gavieira, Arco 64.78 304 *e*P **P** **23 00 44.1 +1.4**
comp=Z,115nm,1.4s
PGAV *e*pP sP 23 00 57.2 +0.4
PGAV Gavieira, Arco 64.78 304 *e*LR LR 23 21 34.0
comp=Z,2µm,20.0s
PGAV *e*LR LR 23 22 37.7
comp=Z,2µm,20.0s
POLO Lamas de Olo 64.78 304 *e*P **P** **23 00 43.8 +1.1**
comp=Z,32nm,1.3s
PVRL Vila Real 64.78 304 *e*P **P** **23 00 43.7 +1.1**
comp=Z,32nm,1.9s
MTE Manteigas 65.13 303 *e*P **P** **23 00 46.3 +1.4**
comp=Z,70nm,0.9s
MTE Manteigas 65.13 303 *e*LR LR 23 21 56.1
comp=Z,2µm,18.0s
MTE Manteigas 65.13 303 PFAKE 23 01 00.0 +15
MTE LR LR
comp=Z,4µm,20.0s
TAM Tamanrasset 65.18 280 *e*P **P** **23 00 46.1 +0.5**
comp=Z,33nm,0.8s
TAM LR LR
comp=Z,979nm,21.0s
TAM Tamanrasset 65.18 280 *e*P **P** **23 00 46.1 +0.5**
TAM pmax pmax
comp=Z,33nm,0.8s
TAM MLR MLR
comp=Z,979nm,21.0s
PVIS Viseu 65.19 303 *e*P **P** **23 00 46.5 +1.2**
comp=Z,49nm,1.2s
PVIS *e*pP sP 23 00 59.1 -0.3
PCBR Castelo Branco 65.38 302 *e*P **P** **23 00 47.5 +1.1**
comp=Z,31nm,2.1s
PTO Porto 65.43 304 *e*P **P** **23 00 48.4 +1.7**
PMRV Marv??o 65.53 302 *e*P **P** **23 00 48.6 +1.1**
comp=Z,116nm,1.1s
PMRV Marv??o 65.53 302 *e*LR LR 23 21 42.3
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 65.85 18 P **P** **23 00 49.7 +0.7**
baz=319
TOLK Toolik Lake Re 65.85 18 *e*P **P** **23 00 49.7 +0.7**
comp=Z,126nm,0.8s
OPO Ambohidratompo 65.89 216 P **P** **23 00 51.1 +1.1**
comp=Z,50nm,1.0s,baz=40,slow=7.4,SNR=30
OPO LR LR 23 27 31.8
comp=Z,2µm,20.6s,baz=26,slow=34
PCAS Casmilo, Conde 65.93 303 *e*P **P** **23 00 51.4 +1.4**
comp=Z,84nm,1.8s
PBAR Barrancos 65.96 300 *e*P **P** **23 00 51.4 +1.2**
comp=Z,151nm,1.3s
PESTR Estremoz 65.96 301 *e*P **P** **23 00 51.2 +1.0**
comp=Z,54nm,2.1s
PESTR Estremoz 65.96 301 *e*P **P** **23 00 51.4 +1.1**
comp=Z,18nm,0.9s
SAUI Saumlaki 66.08 124 P **P** **23 00 52.0 +0.8**
SAUI Saumlaki 66.08 124 *e*P **P** **23 00 52.2 +1.0**
comp=Z,3µm,1.0s
PTOM Tomar 66.10 302 *e*P **P** **23 00 52.4 +1.3**
comp=Z,87nm,1.4s
ILULI Ilulissat 66.15 343 ⇑*i*P **P** **23 00 51.7 +0.8**
comp=Z,120nm,0.9s
ILULI Ilulissat 66.15 343 *e*P **P** **23 00 51.7 +0.8**
comp=Z,112nm,0.8s
ILULI Ilulissat 66.15 343 *e*P **P** **23 00 51.7 +0.8**
ILULI pmax pmax
comp=Z,112nm,0.8s
RES Resolute Bay 66.16 359 P **P** **23 00 51.5 +0.6**
comp=Z,12nm,0.8s,baz=22,slow=9.2,SNR=25
RES PKPPKP P'P'df 23 29 15.4 -16
comp=Z,2.1nm,1.1s,baz=200,slow=6.1,SNR=3.4
RES LR LR 23 31 37.9
comp=Z,2µm,21.0s,baz=0.5,slow=38
RES Resolute Bay 66.16 359 *e*P **P** **23 00 51.2 +0.3**
comp=Z,17nm,0.8s
RES P'P' 23 29 15.4
ABPO Ambohimpanom 66.26 215 *e*P **P** **23 00 53.1 +0.7**
comp=Z,38nm,0.8s
ABPO LR LR
comp=Z,971nm,19.0s
ABPO Ambohimpanom 66.26 215 *e*P **P** **23 00 53.1 +0.7**
ABPO pmax pmax
comp=Z,38nm,0.8s
ABPO MLR MLR
comp=Z,971nm,19.0s

PMTG Montargil 66.27 302 *e*P **P** **23 00 53.4 +1.2**
comp=Z,94nm,2.1s
PMTG *e*pP sP 23 01 07.8 +1.5
EVO Evora 66.42 301 *e*P **P** **23 00 54.3 +1.1**
ALMR Almeirim 66.46 302 *e*P **P** **23 00 54.3 +0.9**
ALMR AMb AMB 23 00 55.8
comp=Z,125nm,0.9s
ALMR Almeirim 66.46 302 *e*P **P** **23 00 54.3 +0.9**
comp=Z,125nm,0.9s
ALMR Almeirim 66.46 302 *e*P **P** **23 00 54.3 +0.9**
PBEJ Beja 66.59 301 *e*P **P** **23 00 55.3 +1.0**
comp=Z,50nm,1.9s
IM3 Indian Mountai 66.73 21 *e*P **P** **23 00 53.9 -0.8**
COLD Coldfoot 66.76 19 *e*P **P** **23 00 55.8 +0.9**
comp=Z,96nm,1.0s
PVAQ Vaqueiros 66.83 300 *e*P **P** **23 00 56.8 +1.0**
comp=Z,143nm,1.2s
PVAQ Vaqueiros 66.83 300 *e*LR LR 23 22 34.9
comp=Z,3µm,22.0s
PCVE Castro Verde 66.92 300 *e*P **P** **23 00 57.6 +1.2**
MESJ Messejana 66.93 301 *e*P **P** **23 00 57.3 +0.9**
MESJ AMb AMB 23 00 58.9
comp=Z,53nm,0.7s
MESJ Messejana 66.93 301 *e*P **P** **23 00 57.7 +1.3**
comp=Z,62nm,3.1s
MESJ *e*pP sP 23 01 12.6 +2.1
MESJ Messejana 66.93 301 *e*P **P** **23 00 57.3 +0.9**
PNCL Nicolau / Gran 66.99 301 *e*P **P** **23 00 58.0 +1.2**
comp=Z,66nm,2.1s
PMAFR Mafra 67.03 302 *e*P **P** **23 00 58.5 +1.4**
comp=Z,132nm,0.9s
PBDV Barranco-do-Ve 67.06 300 *e*P **P** **23 00 58.7 +1.4**
comp=Z,140nm,1.0s
LIS Lisbon 67.07 302 *e*P **P** **23 00 58.2 +0.9**
LIS AMb AMB 23 01 00.0
comp=Z,83nm,0.7s
LIS Lisbon 67.07 302 *e*P **P** **23 00 58.2 +0.9**
PMST Lisbon--Monsan 67.08 302 *e*P **P** **23 00 58.9 +1.5**
comp=Z,125nm,2.0s
PTEO Sao Teotonio 67.42 301 *e*P **P** **23 01 00.6 +1.1**
comp=Z,65nm,2.0s
MORF Marmelete 67.50 300 *e*P **P** **23 01 01.0 +0.8**
MORF Marmelete 67.50 300 *e*P **P** **23 01 01.7 +1.5**
comp=Z,38nm,2.4s
MORF Marmelete 67.50 300 *e*P P 23 01 10.0 +10
PFVI Vila Bisbo 67.72 300 *e*P **P** **23 01 03.1 +1.7**
comp=Z,95nm,1.1s
PFVI Vila Bisbo 67.72 300 *e*P **P** **23 01 03.1 +1.7**
comp=Z,50nm,0.8s
SFJD Kangerlussuaq 67.78 342 ⇑*i*P **P** **23 01 01.7 +0.4**
comp=Z,63nm,0.9s
SFJD Kangerlussuaq 67.78 342 *e*P **P** **23 01 01.7 +0.4**
comp=Z,66nm,0.8s
SFJD LR LR
comp=Z,3µm,20.0s
SFJD Kangerlussuaq 67.78 342 *e*P **P** **23 01 01.7 +0.4**
SFJD pmax pmax
comp=Z,67nm,0.8s
SFJD MLR MLR
comp=Z,3µm,20.0s
RTC Rabat Centre 68.10 296 PFAKE 23 01 20.0 +16
RTC LR LR
comp=Z,6µm,21.0s
GENI Genyem 68.21 113 P **P** **23 01 04.7 0.0**
MLY Manley 68.28 21 *e*P **P** **23 01 05.4 +0.8**
comp=Z,52nm,0.8s
FYU Fort Yukon 68.52 18 *e*P **P** **23 01 07.4 +1.5**
comp=Z,216nm,1.4s
JAY Jayapura 68.54 112 P **P** **23 01 06.5 -0.4**
BPAW Bear Paw Mtn. 68.91 22 *e*P **P** **23 01 09.2 +0.7**
comp=Z,78nm,0.7s
MDM Muhly Dome 69.02 20 *e*P **P** **23 01 09.8 +0.6**
comp=Z,51nm,0.7s
CAST Castle Rocks 69.10 23 *e*P **P** **23 01 10.7 +1.1**
comp=Z,118nm,0.7s
COLA College 69.19 20 *e*P **P** **23 01 11.3 +1.2**
comp=Z,161nm,0.4s
COLA LR LR
comp=Z,2µm,20.0s
COLA College 69.19 20 *e*P **P** **23 01 11.3 +1.2**
COLA pmax pmax
comp=Z,161nm,0.4s
COLA MLR MLR
comp=Z,2µm,20.0s
KTH Kantishna Hill 69.35 22 *e*P **P** **23 01 12.0 +0.8**
comp=Z,137nm,1.0s
CCB Clear Creek Bu 69.38 20 *e*P **P** **23 01 11.4 +0.1**
comp=Z,41nm,0.9s
PPLA Purkeypile 69.46 23 *e*P **P** **23 01 13.0 +1.0**
comp=Z,98nm,0.6s
INK Inuvik 69.48 13 P **P** **23 01 12.6 +0.7**
comp=Z,29nm,0.8s,baz=350,slow=7.3,SNR=62
INK PKP2ab 23 29 14.6
comp=Z,3.5nm,1.1s,baz=128,slow=6.6,SNR=5.5
INK LR LR 23 33 41.6
comp=Z,1µm,22.0s,baz=298,slow=38
INK Inuvik 69.48 13 *e*P **P** **23 01 12.3 +0.4**
comp=Z,93nm,1.3s
INK P'P'ab P'P'ab 23 29 14.6 -11
INK Inuvik 69.48 13 *e*P **P** **23 01 12.3 +0.4**
INK pmax pmax
comp=Z,93nm,1.3s
IL1 Eielson Array 69.53 20 *e*P **P** **23 01 11.4 -0.8**
ILAR Eielson Array 69.53 20 P **P** **23 01 12.0 -0.2**
comp=Z,45nm,0.7s,baz=314,slow=4.8,SNR=293
ILAR PKP2bc 23 29 13.3
comp=Z,1.2nm,0.9s,baz=190,slow=1.4,SNR=4.9
ILAR LR LR 23 36 05.3
comp=Z,2µm,18.8s,baz=339,slow=40
ILB Eielson Array 69.53 20 *e*P **P** **23 01 12.2 0.0**
TRF Thorofare Moun 69.61 22 *e*P **P** **23 01 13.5 +0.5**
comp=Z,37nm,0.8s
MTN Manton Dam 69.68 127 *e*P **P** **23 01 13.3 -0.5**
comp=Z,111nm,0.8s
SVW2 Sparrevohn 69.70 26 *e*P **P** **23 01 15.2 +1.8**
comp=Z,124nm,1.4s
MCK McKinley 69.78 21 *e*P **P** **23 01 14.0 +0.2**
comp=Z,44nm,1.0s
MCK McKinley 69.78 21 *e*P **P** **23 01 14.0 +0.2**
MCK pmax pmax
comp=Z,44nm,1.0s
HDA Harding Lake 69.80 20 *e*P **P** **23 01 13.7 -0.2**
comp=Z,39nm,0.8s
RND Reindeer 70.06 22 *e*P **P** **23 01 15.6 0.0**
comp=Z,43nm,1.0s
RND Reindeer 70.06 22 *e*P **P** **23 01 15.6 0.0**
RND pmax pmax
comp=Z,43nm,1.0s
MBWA Marble Bar 70.17 142 *e*P **P** **23 01 16.4 -0.3**
comp=Z,246nm,0.9s
MBWA LR LR
comp=Z,1µm,20.0s
MBWA Marble Bar 70.17 142 P **P** **23 01 17.5 +0.8**
SNR=9.6
DHY Denali Highway 70.73 21 *e*P **P** **23 01 20.2 +0.3**
comp=Z,132nm,0.7s
SPU Mount Spurr 70.80 24 *e*P **P** **23 01 20.6 +0.4**
NRS Narsarsuaq 70.81 336 *i* P **P** **23 01 20.6 +0.5**
NRS Narsarsuaq 70.81 336 *e*P **P** **23 01 20.0 -0.1**
comp=Z,52nm,0.9s
NRS Narsarsuaq 70.81 336 *i* P **P** **23 01 20.6 +0.5**
RIDG Independ'e Rid 70.89 20 *e*P **P** **23 01 20.4 -0.3**
comp=Z,124nm,0.8s
EGAK Eagle 70.96 18 PFAKE 23 01 30.0 +9.0
EGAK LR LR
comp=Z,3µm,22.0s
SUA Susitna One 71.00 24 *e*P **P** **23 01 21.7 +0.3**
comp=Z,67nm,0.8s
DOT Dot Lake 71.17 20 *e*P **P** **23 01 22.5 +0.2**
comp=Z,106nm,0.8s
PAX Paxson 71.34 21 *e*P **P** **23 01 21.5 -2.0**
comp=Z,60nm,0.7s
PAX Paxson 71.34 21 *e*P **P** **23 01 21.5 -2.0**
PAX pmax pmax
comp=Z,60nm,0.7s
PMR Palmer 71.39 23 *e*P **P** **23 01 23.6 0.0**
comp=Z,44nm,0.8s
PMR Palmer 71.39 23 *e*P **P** **23 01 23.6 0.0**
PMR pmax pmax
comp=Z,44nm,0.8s
SML Sawmill 71.46 22 *e*P **P** **23 01 24.6 +0.6**
comp=Z,192nm,0.7s
SML Sawmill 71.46 22 *e*P **P** **23 01 24.7 +0.6**
SML pmax pmax
comp=Z,192nm,0.7s
RC01 Rabbit Creek A 71.59 23 *e*P **P** **23 01 25.4 +0.5**
comp=Z,83nm,0.8s

SCM Sheep Creek Mo 71.73 22 *e*P **P** **23 01 26.4 +0.6**
comp=Z,235nm,0.7s
SCM Sheep Creek Mo 71.73 22 *e*P **P** **23 01 26.4 +0.6**
SCM pmax pmax
comp=Z,235nm,0.7s
MENT Mentasta 71.84 20 *e*P **P** **23 01 27.3 +0.9**
comp=Z,28nm,0.8s
HARP HAARP 71.89 21 *e*P **P** **23 01 27.9 +1.3**
comp=Z,740nm,1.6s
DAWY Dawson 71.97 18 *e*P **P** **23 01 27.5 +0.3**
CHGN Chignik 72.12 30 *e*P **P** **23 01 27.8 -0.3**
comp=Z,27nm,0.7s
BRLK Bradley Lake 72.25 25 *e*P **P** **23 01 29.2 +0.3**
comp=Z,71nm,0.7s
KLU Klutina 72.41 22 *e*P **P** **23 01 31.1 +1.2**
comp=Z,37nm,0.7s
SEW Seward 72.45 24 *e*P **P** **23 01 30.8 +0.8**
comp=Z,70nm,0.8s
GLI Glacier Island 72.56 23 *e*P **P** **23 01 31.5 +0.8**
comp=Z,72nm,0.8s
DIV Divide 72.75 22 *e*P **P** **23 01 32.9 +1.1**
comp=Z,54nm,0.8s
KDAK Kodiak Island 73.20 27 P **P** **23 01 35.4 +0.9**
comp=Z,97nm,0.7s,baz=309,slow=3.8,SNR=55
KDAK LR LR 23 37 53.3
comp=Z,5µm,18.1s,baz=322,slow=39
KDAK Kodiak Island 73.20 27 *e*P **P** **23 01 35.5 +1.1**
comp=Z,96nm,0.6s
KDAK LR LR
comp=Z,2µm,19.0s
KDAK Kodiak Island 73.20 27 *i* P **P** **23 01 35.1 +0.7**
BMRM Bremner River 73.21 21 *e*P **P** **23 01 35.9 +1.3**
comp=Z,57nm,0.8s
EYAK Cordova Ski Ar 73.22 22 *e*P **P** **23 01 36.5 +1.9**
comp=Z,57nm,0.7s
OHAK Old Harbor 73.37 28 *e*P **P** **23 01 36.8 +1.3**
comp=Z,108nm,0.8s
LSZ Lusaka 73.52 234 *e*P **P** **23 01 37.5 +0.5**
LSZ LR LR
comp=Z,2µm,22.0s
LSZ Lusaka 73.52 234 *e*P **P** **23 01 37.5 +0.5**
LSZ MLR MLR
comp=Z,2µm,22.0s
LSZ Lusaka 73.52 234 P **P** **23 01 37.6 +0.5**
SNR=12
RAGM Ragged Mountai 73.67 22 *e*P **P** **23 01 39.0 +1.8**
comp=Z,71nm,0.8s
TOA0 Torodi Ar. Sit 73.76 274 *e*P **P** **23 01 38.4 -0.1**
TORD Torodi Ar. Bea 73.76 274 P **P** **23 01 38.2 -0.3**
comp=Z,89nm,0.8s,baz=45,slow=5.2,SNR=447
TORD S **SKiKP** **23 11 03.4 -2.0**
comp=Z,3.8nm,1.0s,baz=52,slow=9.3,SNR=7.3
TORD PKPPKP **P'P'df** **23 29 16.6 +1.5**
comp=Z,1.3nm,0.9s,baz=276,slow=0.2,SNR=5.6
TORD LR LR 23 38 42.8
comp=Z,2µm,18.2s,baz=75,slow=40
FRB Frobisher Bay 74.42 347 P **P** **23 01 41.8 +0.3**
comp=Z,12nm,0.4s,baz=203,slow=6.2,SNR=35
FRB LR LR 23 39 07.5
comp=Z,4µm,19.1s,baz=202,slow=40
PMPS Porto Santo 75.09 301 *e*P **P** **23 01 47.4 +1.5**
comp=Z,122nm,1.1s
HYT Haines Junctio 75.21 18 *e*P **P** **23 01 46.7 +0.3**
PMAR Madeira 75.68 301 *e*P **P** **23 01 50.8 +1.2**
comp=Z,175nm,1.1s
PMOZ Porto Moniz, M 75.81 301 *e*LR LR 23 26 38.5
comp=Z,934nm,20.0s
WHY Whitehorse 75.98 17 *e*P **P** **23 01 51.1 +0.3**
SKAG Skagway 76.94 18 *e*P **P** **23 01 57.1 +1.1**
comp=Z,73nm,0.7s
WRA Warramunga Arr 77.09 130 P **P** **23 01 57.1 -0.3**
comp=Z,225nm,0.9s,baz=330,slow=5.8,SNR=455
WRA PKKPbc **PKKPbc** **23 21 04.8 +0.6**
comp=Z,2.0nm,0.8s,baz=140,slow=2.1,SNR=8.7
WRA PKPPKP **P'P'df** **23 28 57.9 -6.3**
comp=Z,0.9nm,0.9s,baz=176,slow=1.4,SNR=4.9
WRA LR LR 23 40 45.3
comp=Z,606nm,21.7s,baz=300,slow=40
WRAB Tennant Creek 77.09 129 *e*P **P** **23 01 57.4 0.0**
comp=Z,450nm,1.1s
WRAB LR LR
comp=Z,933nm,21.0s
WRAB Tennant Creek 77.09 129 *e*P **P** **23 01 57.4 0.0**
WRAB pmax pmax
comp=Z,450nm,1.1s
WRAB MLR MLR
comp=Z,933nm,21.0s
MATP Matopo 77.27 230 P **P** **23 01 59.0 +0.5**
comp=Z,140nm,0.8s,baz=29,slow=8.2,SNR=222
MATP LR LR 23 37 14.7
comp=Z,1µm,20.3s,baz=40,slow=37
KOWA Kowa 77.34 278 P **P** **23 01 59.5 +0.5**
comp=Z,58nm,0.7s,baz=42,slow=8.1,SNR=156
KOWA PKKPbc **PKKPbc** **23 21 04.5 +2.2**
comp=Z,3.7nm,0.8s,baz=50,slow=1.1,SNR=11
KOWA LR LR 23 41 45.0
comp=Z,1µm,20.1s,baz=47,slow=40
KOWA Kowa 77.34 278 *e*P **P** **23 01 59.2 +0.2**
comp=Z,109nm,1.1s
KOWA PKKPbc **PKKPbc** **23 21 04.5 +2.2**
YKA Yellowknife Ar 77.64 7 P **P** **23 01 59.6 -0.2**
comp=Z,52nm,0.7s,baz=341,slow=5.4,SNR=498
YKA PKKPbc **PKKPbc** **23 21 00.9 -1.3**
comp=Z,1.6nm,0.7s,baz=157,slow=2.5,SNR=20
YKA PKPPKP P'P'df 23 29 00.0 -11
comp=Z,0.8nm,0.8s,baz=148,slow=2.5,SNR=8.0
YKA LR LR 23 40 50.3
comp=Z,86nm,18.6s,baz=0.0,slow=39
YKA Yellowknife Ar 77.64 7 *i* P **P** **23 01 59.5 -0.4**
YKA pmax pmax
comp=Z,52nm,0.7s
BESE Bessie Mountai 77.83 18 *e*P **P** **23 02 03.4 +2.3**
PMG Port Moresby 77.91 113 P **P** **23 02 02.2 +0.1**
comp=Z,179nm,0.8s,baz=297,slow=4.7,SNR=69
PMG LR LR 23 38 35.0
comp=Z,486nm,21.4s,baz=304,slow=37
PMG Port Moresby 77.91 113 *e*P **P** **23 02 02.4 +0.3**
comp=Z,235nm,0.9s
PMG LR LR
comp=Z,671nm,22.0s
PMG Port Moresby 77.91 113 *e*P **P** **23 02 02.4 +0.3**
PMG pmax pmax
comp=Z,235nm,0.9s
PMG MLR MLR
comp=Z,671nm,22.0s
CMLA Cha da Macela 77.97 309 PFAKE 23 02 10.0 +7.8
CMLA LR LR
comp=Z,3µm,19.0s
COEN Coen 78.32 119 *e*P **P** **23 02 04.1 -0.2**
SIT Sitka 79.06 19 *e*P **P** **23 02 08.6 +0.8**
SIT Sitka 79.06 19 *e*P **P** **23 02 08.6 +0.8**
NWAO Narrogin (SRO) 79.33 150 *e*P **P** **23 02 09.1 -0.3**
NWAO LR LR
comp=Z,1µm,19.0s
NWAO Narrogin (SRO) 79.33 150 *e*P **P** **23 02 09.1 -0.3**
NWAO MLR MLR
comp=Z,1µm,19.0s
NWAO Narrogin (SRO) 79.33 150 P **P** **23 02 09.6 +0.1**
SNR=8.7
AS31 Alice Springs 79.71 132 *e*P **P** **23 02 11.7 -0.2**
ASAR Alice Springs 79.71 132 P **P** **23 02 11.3 -0.5**
comp=Z,149nm,0.9s,baz=324,slow=5.4,SNR=435
ASAR S **S** **23 12 19.2 +7.1**
comp=Z,0.8nm,0.8s,baz=202,slow=32,SNR=4.0
ASAR PKKPbc **PKKPbc** **23 20 59.3 +0.6**
comp=Z,2.7nm,0.7s,baz=137,slow=6.5,SNR=19
ASAR PKPPKP **P'P'df** **23 28 56.1 -3.1**
comp=Z,0.9nm,0.9s,baz=113,slow=2.5,SNR=4.0
ASAR LR LR 23 42 47.6
comp=Z,347nm,19.4s,baz=318,slow=40
AS01 Alice Springs 79.74 132 *e*P **P** **23 02 09.5 -2.4**
WRAK Wrangell Islan 80.38 18 *e*P **P** **23 02 16.4 +1.5**
comp=Z,76nm,0.8s
WRAK LR LR
comp=Z,2µm,20.0s
MIDW Midway 80.64 61 PFAKE 23 02 30.0 +13
MIDW LR LR
comp=Z,2µm,20.0s
FCC Fort Churchill 82.11 358 *e*P **P** **23 02 23.9 -0.2**
FCC Fort Churchill 82.11 358 *e*P **P** **23 02 23.9 -0.2**
SCHQ Schefferville 82.22 342 P **P** **23 02 24.6 -0.2**
comp=Z,28nm,0.7s,baz=25,slow=4.4,SNR=29
SCHQ PKKPbc **PKKPbc** **23 20 51.2 -0.8**
comp=Z,8.5nm,0.8s,baz=140,slow=0.6,SNR=9.3
SCHQ LR LR 23 43 37.4
comp=Z,3µm,21.1s,baz=24,slow=39
LBTB Lobatse 82.50 229 *e*P **P** **23 02 27.3 +0.6**

LBTB **Lobatse** 82.50 229 eP P 23 02 27.3 +0.6
DBIC **Dimbokro** 82.81 273 P P 23 02 28.9 +0.4
comp=Z,95nm,0.8s,baz=29,slow=7.2
DBIC PKKPbc **PKKPbc** 23 20 51.2 +1.1
baz=186,slow=3.8
DBIC LR LR 23 45 06.6
comp=Z,1μm,18.1s,baz=30,slow=40
DBIC **Dimbokro** 82.81 273 P P 23 02 29.0 +0.4
DBIC pmax pmax
comp=Z,95nm,0.8s
DBIC MLR MLR
comp=Z,1μm,18.1s
KIC **Kosan Boka** 82.92 272 eP P 23 02 28.5 -0.6
comp=Z,254nm,0.9s
KIC **Kosan Boka** 82.92 272 ePKIKP **PKKPbc** 23 20 51.6 +1.7
comp=Z,8.9nm,0.7s
TIC **Toumodi** 82.96 273 eP P 23 02 28.6 -0.7
TIC **Toumodi** 82.96 273 ePKIKP **PKKPbc** 23 20 51.2 +1.3
LIC **Lamto** 83.22 272 eP P 23 02 30.1 -0.6
comp=Z,295nm,0.9s
LIC **Lamto** 83.22 272 ePKIKP **PKKPbc** 23 20 51.8 +2.6
comp=Z,43nm,1.5s
TSUM **Tsumeb** 83.23 239 PFAKE 23 02 40.0 +9.4
TSUM LR LR
comp=Z,2μm,20.0s
CTA **Charters Tower** 84.73 121 LR LR 23 42 22.3
comp=Z,600nm,21.6s,baz=303,slow=37
CTAO **Charters Tower** 84.73 121 eP P 23 02 38.1 0.0
CTAO LR LR
comp=Z,1μm,20.0s
CTAO **Charters Tower** 84.73 121 eP P 23 02 38.1 0.0
CTAO MLR MLR
comp=Z,1μm,20.0s
BBB **Bella Bella** 85.26 18 P P 23 02 41.8 +1.4
comp=Z,18nm,0.9s,baz=6.3,slow=9.2,SNR=2.8
BBB LR LR 23 45 38.2
comp=Z,894nm,18.9s,baz=326,slow=39
BOSA **Boshof** 85.44 227 P P 23 02 41.6 0.0
comp=Z,38nm,0.8s,baz=31,slow=4.4,SNR=50
BOSA PKKPbc **PKKPbc** 23 20 46.5 +0.8
comp=Z,2.8nm,0.8s,baz=177,slow=6.6,SNR=4.6
BOSA **Boshof** 85.44 227 eP P 23 02 41.8 +0.2
FFC **Flin Flon** 86.19 2 eP P 23 02 44.5 -0.5
FFC LR LR
comp=Z,2μm,19.0s
FFC **Flin Flon** 86.19 2 eP P 23 02 44.5 -0.5
FFC MLR MLR
comp=Z,2μm,19.0s
BBTS **Babate** 86.71 286 P P 23 02 48.8 +0.6
comp=Z,102nm,0.9s,baz=101,slow=1.4,SNR=19
BBTS LR LR 23 47 18.3
comp=Z,666nm,19.5s,baz=36,slow=40
EDM **Edmonton** 86.88 9 eP P 23 02 48.1 -0.4
EDM **Edmonton** 86.88 9 eP P 23 02 48.1 -0.4
HNR **Honiara** 87.31 104 LR LR 23 42 15.0
comp=Z,517nm,21.9s,baz=317,slow=36
HNR **Honiara** 87.31 104 PFAKE 23 03 00.0 +9.0
HNR LR LR
comp=Z,800nm,19.0s
BBOO **Buckleboo** 87.99 136 eP P 23 02 52.5 -1.4
LLLB **Lilloet** 88.08 15 eP P 23 02 55.1 +0.8
PAF **Port-aux-Franc** 88.92 187 PFAKE 23 03 10.0 +12
PAF LR LR
comp=Z,5μm,20.0s
PGC **Sidney** 89.62 16 eP P 23 03 02.9 +1.4
A04D **Lummi Island** 89.71 16 P P 23 03 02.8 +0.9
baz=342,SNR=9.1
PQI **Presque Isle** 90.00 339 eP P 23 03 04.8 +1.4
B06A **Marblemount** 90.15 15 eP P 23 03 04.2 +0.3
B05A **Bryant** 90.27 15 P P 23 03 05.0 +0.5
baz=342,SNR=17
STKA **Stephens Creek** 90.35 132 P P 23 03 03.5 -1.5
comp=Z,54nm,0.9s,baz=325,slow=6.2,SNR=98
STKA PKKP **PKKPdf** 23 20 32.1 +1.8
comp=Z,2.3nm,0.8s,baz=320,slow=1.8,SNR=6.8
STKA LR LR 23 47 34.1
comp=Z,1μm,21.9s,baz=310,slow=38
STKA **Stephens Creek** 90.35 132 eP P 23 03 03.7 -1.3
ULM **Lac du Bonnet** 90.68 358 P P 23 03 05.7 -0.7
comp=Z,24nm,0.7s,baz=0.1,slow=5.6,SNR=48
ULM PKKP **PKKPdf** 23 20 29.9 +3.4
comp=Z,6.3nm,0.8s,baz=148,slow=1.4,SNR=12
ULM LR LR 23 46 40.9
comp=Z,3μm,21.9s,baz=6.5,slow=37
B08A **Colville Reser** 90.72 14 eP P 23 03 07.0 +0.4
NLWA **Neilton Lookou** 90.72 17 eP P 23 03 08.4 +1.7
NLWA LR LR
comp=Z,2μm,22.0s
SUR **Sutherland** 90.79 227 PFAKE 23 03 20.0 +13
SUR LR LR
comp=Z,3μm,21.0s
C06D **Leavenworth** 90.84 15 P P 23 03 07.5 +0.3
baz=343,SNR=13
WALA **Waterton Lakes** 90.89 10 eP P 23 03 07.6 0.0
NEW **Newport** 91.19 12 P P 23 03 09.3 +0.5
comp=Z,46nm,0.8s,baz=334,slow=4.9,SNR=82
NEW **Newport** 91.19 12 P P 23 03 08.9 0.0
baz=346,SNR=53
NEW **Newport** 91.19 12 eP P 23 03 09.2 +0.3
NEW LR LR
comp=Z,1μm,20.0s
NEW **Newport** 91.19 12 eP P 23 03 09.2 +0.3
NEW MLR MLR
comp=Z,1μm,20.0s
D05A **Enumclaw** 91.32 16 eP P 23 03 11.0 +1.5
C09A **Chrisman Ranch** 91.44 13 eP P 23 03 10.6 +0.6
LTY **Liberty** 91.52 15 eP P 23 03 10.9 +0.4
EIDS **Eidsvold** 91.59 122 eP P 23 03 10.7 -0.2
E03A **Lebam** 91.59 17 eP P 23 03 12.5 +1.8
PKME **Peaks-Kenny Pk** 91.64 340 P P 23 03 11.8 +0.8
baz=22
PKME **Peaks-Kenny Pk** 91.64 340 PFAKE 23 03 20.0 +9.0
PKME LR LR
comp=Z,3μm,22.0s
SACV **Santiago Islan** 91.71 291 PFAKE 23 03 20.0 +8.2
SACV LR LR
comp=Z,871nm,21.0s
LON **Longmire** 91.78 16 eP P 23 03 12.1 +0.4
LON **Longmire** 91.78 16 eP P 23 03 12.1 +0.4
A33A **Warroad** 91.98 358 P P 23 03 11.1 -1.4
baz=2.5
A31A **Linda, St. Vin** 92.03 359 P P 23 03 11.9 -0.8
baz=1.2
A32A **Rocking H Ranc** 92.03 359 P P 23 03 12.1 -0.6
baz=1.7
TRQ **Mont Tremblant** 92.04 343 eP P 23 03 13.8 +0.9
JTMT **Jette** 92.12 10 eP P 23 03 13.8 +0.4
F04D **Rainier, OR** 92.15 17 P P 23 03 14.4 +1.1
baz=341
F03A **Seaside** 92.17 17 eP P 23 03 15.4 +2.0
E07A **Sunnyside** 92.35 14 eP P 23 03 15.2 +0.9
DGMT **Dagmar** 92.36 4 P P 23 03 14.5 +0.2
baz=356,SNR=12
DGMT **Dagmar** 92.36 4 eP P 23 03 14.9 +0.6
comp=Z,67nm,0.8s
DGMT LR LR
comp=Z,2μm,19.0s
EGMT **Eagleton** 92.39 7 P P 23 03 14.1 -0.4
baz=352,SNR=18
EGMT **Eagleton** 92.39 7 eP P 23 03 14.8 +0.2
EGMT LR LR
comp=Z,2μm,21.0s
B34A **Aery, Baudette** 92.41 357 P P 23 03 14.1 -0.3
baz=3.1
B35A **Bob, Littlefor** 92.49 357 P P 23 03 14.3 -0.5
baz=3.8
B31A **Greenbush Farm** 92.54 359 P P 23 03 14.5 -0.6
baz=0.8,SNR=11
B32A **Ashes, Strandq** 92.55 359 P P 23 03 14.4 -0.7
baz=1.7,SNR=10
E08A **Dider Farm, El** 92.57 14 eP P 23 03 16.3 +1.1
AGMN **Agassiz Nation** 92.63 358 P P 23 03 14.9 -0.6
baz=2.2,SNR=21
AGMN **Agassiz Nation** 92.63 358 PFAKE 23 03 30.0 +15
AGMN LR LR
comp=Z,3μm,20.0s
C40A **Isle Royale Na** 92.64 354 P P 23 03 15.3 -0.2
baz=7.4
B33A **Robert and Kas** 92.65 358 P P 23 03 14.7 -0.9
baz=2.4
ALFO **Alfred** 92.67 343 P P 23 03 16.3 +0.6
baz=18,SNR=24
E09A **Wood Farm, Sta** 92.71 13 eP P 23 03 16.4 +0.5
EYMN **Ely** 92.78 355 P P 23 03 15.9 -0.3
baz=5.6,SNR=14
EYMN **Ely** 92.78 355 eP P 23 03 16.5 +0.3
EYMN LR LR
comp=Z,5μm,22.0s
C39A **Grand Marais** 92.81 354 P P 23 03 16.1 -0.2
baz=6.6
G03D **McMinnville, O** 92.92 17 P P 23 03 18.4 +1.6
baz=341
F07A **Phinny Hill Vi** 92.97 15 eP P 23 03 20.0 +2.9
C38A **Sawbill Land.** 93.00 355 P P 23 03 16.7 -0.5
baz=5.7
C37A **Embarrass** 93.04 356 P P 23 03 17.0 -0.4
baz=5.0,SNR=9.3
C36A **Pine Crest Far** 93.05 356 P P 23 03 17.0 -0.4
baz=4.5,SNR=7.2
MSO **Missoula** 93.07 10 P P 23 03 17.3 -0.4
baz=348,SNR=6.9
MSO **Missoula** 93.07 10 eP P 23 03 17.7 0.0
MDND **Maddock** 93.12 1 P P 23 03 17.4 -0.3
baz=350,SNR=8.0
MDND **Maddock** 93.12 1 eP P 23 03 18.2 +0.5
C32A **Crookston** 93.12 359 P P 23 03 17.0 -0.7
baz=1.7
FRNY **Flat Rock** 93.13 342 eP P 23 03 18.5 +0.7
C35A **Jirik Farms, M** 93.16 357 P P 23 03 16.8 -1.2
baz=3.6
C33A **Trail** 93.17 358 P P 23 03 17.5 -0.5
baz=2.3,SNR=11
C31A **Landman Farms,** 93.17 359 P P 23 03 17.4 -0.6
baz=0.7,SNR=33
C34A **RKJ Ranch, Bem** 93.25 357 P P 23 03 17.5 -0.8
baz=2.9
LBNH **Lisbon** 93.28 341 P P 23 03 19.5 +0.9
baz=20,SNR=9.9
LBNH **Lisbon** 93.28 341 eP P 23 03 20.1 +1.5
LBNH **Lisbon** 93.28 341 eP P 23 03 20.1 +1.5
G05D **Wamic, OR** 93.32 16 P P 23 03 19.0 +0.3
baz=343
F10A **Beach Ranch, E** 93.39 13 eP P 23 03 19.6 +0.4
D41A **Chassel** 93.43 353 P P 23 03 19.0 -0.2
baz=7.8
HRY **Holter Researc** 93.46 9 eP P 23 03 20.0 +0.4
G06A **Carlson Farm,** 93.46 15 eP P 23 03 20.6 +1.1
LONY **Lake Ozonia** 93.56 343 P P 23 03 20.1 +0.3
baz=18,SNR=12
LONY **Lake Ozonia** 93.56 343 eP P 23 03 20.8 +0.9
LONY LR LR
comp=Z,5μm,22.0s
E44A **Grand Marais A** 93.58 351 P P 23 03 20.1 +0.2
baz=9.8
D37A **Cotton** 93.63 356 P P 23 03 19.5 -0.6
baz=4.8
JOHN **Johnston Islan** 93.63 65 PFAKE 23 03 30.0 +9.4
JOHN LR LR
comp=Z,156nm,20.0s
D36A **Goodland** 93.65 356 P P 23 03 19.3 -0.9
baz=4.3
H04A **Detroit Lake** 93.66 17 eP P 23 03 21.1 +0.8
PLVO **Plevna** 93.70 345 eP P 23 03 21.5 +1.0
G08A **Pilot Rock** 93.74 14 eP P 23 03 21.5 +0.6
E45A **Wooded Hills,** 93.75 351 P P 23 03 20.6 -0.1
baz=10
D35A **Rerer** 93.79 357 P P 23 03 20.4 -0.4
baz=3.6
D33A **AnnSam, Waubun** 93.79 358 P P 23 03 20.5 -0.4
baz=2.2,SNR=9.6
D32A **Dogwood Acres,** 93.82 359 P P 23 03 20.2 -0.8
baz=1.3
D34A **Park Rapids** 93.83 358 P P 23 03 20.5 -0.5
baz=2.7
D31A **Mcclaflin, Tow** 93.92 359 P P 23 03 20.9 -0.6
baz=0.8
E43A **Lone Tree Farm** 93.95 352 P P 23 03 21.0 -0.6
baz=9.0
E42A **Champion** 93.99 353 P P 23 03 21.3 -0.5
baz=8.3,SNR=6.3
LAO **LASA Array** 94.02 5 P P 23 03 22.5 +0.5
baz=354,SNR=17
LAO **LASA Array** 94.02 5 eP P 23 03 22.4 +0.5
LAO LR LR
comp=Z,2μm,20.0s
E41A **Kenton** 94.06 353 P P 23 03 21.3 -0.8
baz=7.5,SNR=5.9
NCB **Newcomb** 94.09 343 eP P 23 03 23.3 +0.9
E38A **The Farm, Brul** 94.12 355 P P 23 03 21.3 -1.1
baz=5.5,SNR=5.5
E40A **Wakefield** 94.16 354 P P 23 03 22.4 -0.1
baz=6.8,SNR=6.5
I05D **Terrebonne, OR** 94.17 16 P P 23 03 23.3 +0.6
baz=343
LRM **Limekiln Ridge** 94.26 10 eP P 23 03 23.3 0.0
F46A **Mainaw City C** 94.27 350 P P 23 03 22.9 -0.2
baz=11
E39A **Mellen** 94.28 354 P P 23 03 22.7 -0.4
baz=6.3,SNR=12
F44A **Big Bay de Noc** 94.28 351 P P 23 03 22.4 -0.7
baz=9.5
DELO **Deloro Mine** 94.31 345 P P 23 03 24.1 +0.9
baz=16,SNR=9.7
E36A **McGregor** 94.31 356 P P 23 03 23.1 -0.2
baz=4.2,SNR=8.0
E35A **Pequot Lakes** 94.32 357 P P 23 03 22.7 -0.6
baz=3.3,SNR=12
SADO **Sadowa** 94.36 346 P P 23 03 23.7 +0.2
comp=Z,9.4nm,0.7s,baz=37,slow=4.5,SNR=4.8
E32A **Braaten, Kindr** 94.36 359 P P 23 03 23.1 -0.4
baz=1.3
E34A **Wadena** 94.40 358 P P 23 03 23.1 -0.5
baz=2.7
E31A **Nome** 94.41 359 P P 23 03 23.3 -0.4
baz=0.6,SNR=9.6
E33A **Westby DABS, E** 94.43 358 P P 23 03 23.6 -0.2
baz=2.1
COWI **Conover** 94.43 353 PFAKE 23 03 40.0 +16
COWI LR LR
comp=Z,5μm,22.0s
F45A **CMU Biological** 94.46 351 P P 23 03 23.8 -0.2
baz=10
I04A **Tendick Farm,** 94.46 17 P P 23 03 23.9 -0.2
baz=342
BMO **Blue Mountains** 94.47 13 eP P 23 03 23.9 -0.2
BMO LR LR
comp=Z,2μm,19.0s
BMO **Blue Mountains** 94.47 13 eP P 23 03 23.9 -0.2
BMO MLR MLR
comp=Z,2μm,19.0s
F43A **Flat Rock, Esc** 94.50 352 P P 23 03 23.7 -0.4
baz=8.9,SNR=10
ACCN **Adirondack Com** 94.52 342 eP P 23 03 25.5 +1.2
BOZ **Bozeman (W)** 94.58 9 P P 23 03 24.6 -0.2
baz=350,SNR=28
BOZ **Bozeman (W)** 94.58 9 eP P 23 03 24.8 +0.1
BOZ LR LR
comp=Z,3μm,19.0s
BOZ **Bozeman (W)** 94.58 9 eP P 23 03 24.8 +0.1
BOZ MLR MLR
comp=Z,3μm,19.0s
F42A **Maple Grove Fa** 94.68 353 P P 23 03 24.5 -0.5
baz=8.2
F40A **Park Falls** 94.70 354 P P 23 03 24.4 -0.7
baz=6.6
F39A **Loretta** 94.76 355 P P 23 03 25.0 -0.3
baz=6.0,SNR=8.5
PINE **Pine Mountain** 94.78 16 eP P 23 03 27.3 +1.5
F38A **Pierce - Schro** 94.79 355 P P 23 03 25.5 0.0
baz=5.3,SNR=10.0
F41A **Three Lakes** 94.79 353 P P 23 03 25.4 -0.1
baz=7.4,SNR=7.5
I07A **Izee** 94.80 15 eP P 23 03 27.3 +1.6
HRV **Adam Dziewonsk** 94.81 340 P P 23 03 25.5 -0.1
baz=21
F36A **Milaca** 94.98 356 P P 23 03 25.8 -0.5
baz=4.0,SNR=16
F35A **Swanville** 95.03 357 P P 23 03 26.4 -0.2
baz=3.2
J04D **Umpqua Nationa** 95.05 17 P P 23 03 27.0 0.0
baz=342
F37A **Hinrichs Farm,** 95.07 356 P P 23 03 26.7 -0.1
baz=4.7,SNR=5.2
F33A **5 Mile Ranch,** 95.10 358 P P 23 03 26.6 -0.3
baz=1.9
F31A **Hecla** 95.11 360 P P 23 03 26.4 -0.6
baz=0.3,SNR=5.5
F34A **Alexandria** 95.12 358 P P 23 03 26.3 -0.7
baz=2.7
G43A **Wallace** 95.13 352 P P 23 03 26.8 -0.2
baz=8.5
TRY **Troy** 95.13 342 eP P 23 03 28.2 +1.1
MCMT **McKenzie Canyo** 95.18 10 eP P 23 03 28.1 +0.4
GLMI **Grayling** 95.19 350 P P 23 03 26.7 -0.6
baz=11
GLMI **Grayling** 95.19 350 eP P 23 03 29.1 +1.7
GLMI LR LR
comp=Z,2μm,19.0s
J05D **Fort Rock, OR** 95.20 16 P P 23 03 28.5 +0.8
baz=343
G42A **Mountain** 95.22 353 P P 23 03 27.3 -0.1
baz=8.0
QUA2 **Belchertown** 95.23 341 eP P 23 03 29.2 +1.7
RLMT **Red Lodge** 95.32 7 P P 23 03 27.4 -0.7
baz=352
RLMT **Red Lodge** 95.32 7 eP P 23 03 28.1 0.0
RLMT LR LR
comp=Z,3μm,19.0s
G41A **Antigo** 95.32 353 P P 23 03 27.0 -1.0
baz=7.4
G40A **Rib Lake** 95.35 354 P P 23 03 27.7 -0.3
baz=6.6,SNR=12
QLMT **Earthquake Lak** 95.36 9 eP P 23 03 28.9 +0.5
G39A **Holcombe** 95.41 355 P P 23 03 27.5 -0.8
baz=5.8,SNR=7.0
HUMO **Hull Mountain** 95.46 18 eP P 23 03 30.3 +1.7
YHH **Holmes Hill** 95.47 9 eP P 23 03 29.5 +0.5
YNR **Norris Junctio** 95.57 9 eP P 23 03 31.4 +2.0
G38A **Ridgeland** 95.57 355 P P 23 03 28.2 -0.8
baz=5.3,SNR=7.6
SPMN **Marine on St.** 95.58 356 P P 23 03 28.6 -0.5
baz=4.6
YMR **Madison River** 95.58 9 eP P 23 03 31.3 +1.9
G36A **St. Michael** 95.61 356 P P 23 03 28.9 -0.3
baz=3.8
G35A **Watkins** 95.66 357 P P 23 03 29.0 -0.4
baz=3.3
G34A **Benson** 95.68 358 P P 23 03 29.4 -0.2
baz=2.4
J08A **Circle Bar Ran** 95.70 14 eP P 23 03 30.6 +0.8
G32A **Webster** 95.71 359 P P 23 03 29.1 -0.6
baz=0.9
K04D **Chiloquin, OR** 95.72 17 P P 23 03 30.3 +0.3
baz=342
L02D **Cave Junction,** 95.73 18 P P 23 03 30.1 +0.2
baz=341
G31A **Conde** 95.74 360 P P 23 03 29.7 -0.1
baz=0.4
LKWY **Lake** 95.75 8 eP P 23 03 31.5 +1.3
comp=Z,38nm,0.7s
LKWY LR LR
comp=Z,6μm,19.0s
LKWY **Lake** 95.75 8 eP P 23 03 31.5 +1.3
LKWY pmax pmax
comp=Z,38nm,0.7s
LKWY MLR MLR
comp=Z,6μm,19.0s
G33A **Ortonville** 95.75 358 P P 23 03 29.3 -0.6
baz=1.8
YFT **Old Faithful** 95.81 9 eP P 23 03 33.1 +2.6
H17A **Grant Village** 95.89 8 P P 23 03 32.3 +1.5
baz=351,SNR=13
H17A **Grant Village** 95.89 8 eP P 23 03 33.0 +2.1
H43A **Windswept, Lux** 95.92 352 P P 23 03 30.3 -0.3
baz=8.5
H41A **Junction City** 95.95 353 P P 23 03 30.3 -0.5
baz=7.0
YPP **Pitchstone Pla** 95.99 9 eP P 23 03 33.2 +1.8
H40A **Chili** 96.01 354 P P 23 03 31.1 +0.1
baz=6.4,SNR=9.1
H39A **Augusta** 96.02 355 P P 23 03 31.0 -0.1
baz=5.8,SNR=5.8
MMNY **Mt. Morris Dam** 96.08 345 eP P 23 03 32.2 +0.8
H38A **Maiden Rock** 96.09 355 P P 23 03 31.1 -0.3
baz=5.0,SNR=5.6
MFID **Camas Ranch** 96.12 12 eP P 23 03 33.5 +1.7
BINY **Binghamton** 96.18 343 P P 23 03 31.2 -0.7
baz=17
BINY **Binghamton** 96.18 343 eP P 23 03 32.7 +0.8
BINY LR LR
comp=Z,7μm,22.0s
H35A **Sunnyside Ranc** 96.20 357 P P 23 03 32.2 +0.3
baz=3.0,SNR=8.6
HLID **Hailey** 96.20 11 P P 23 03 31.9 -0.3
baz=348
HLID **Hailey** 96.20 11 eP P 23 03 32.2 0.0
HLID LR LR
comp=Z,2μm,20.0s
H37A **Dierke Farm, C** 96.22 356 P P 23 03 31.8 -0.2
baz=4.5,SNR=8.4
H34A **Spellman Lake,** 96.26 358 P P 23 03 31.4 -0.8
baz=2.3
H33A **Prehn Over Nor** 96.27 359 P P 23 03 31.4 -0.8
baz=1.5,SNR=6.7
H36A **Jessenland, He** 96.28 357 P P 23 03 32.7 +0.4
baz=3.7,SNR=7.8
IMW **Indian Meadow** 96.34 9 eP P 23 03 34.2 +1.3
YBH **Yreka Blue Hor** 96.34 18 P P 23 03 33.3 +0.6
comp=Z,3.3nm,0.7s,baz=223,slow=1.8,SNR=9.6
YBH LR LR 23 49 37.9
comp=Z,3μm,21.7s,baz=338,slow=37
YBH **Yreka Blue Hor** 96.34 18 eP P 23 03 33.5 +0.7
YBH **Yreka Blue Hor** 96.34 18 eP P 23 03 33.5 +0.7
H32A **Carlson Farm,** 96.46 359 P P 23 03 32.3 -0.8
baz=1.0,SNR=19
H31A **Wolsey** 96.49 360 P P 23 03 32.3 -1.0
baz=0.2
M04C **Macdoel** 96.50 17 P P 23 03 34.0 +0.5
baz=342
MOOW **Moose Ponds** 96.51 9 eP P 23 03 34.3 +0.6
I41A **Arkdale** 96.52 354 P P 23 03 33.0 -0.4
baz=6.8,SNR=5.6
SUSD **Miller** 96.53 0 P P 23 03 33.1 -0.4
baz=360
I43A **Langenfeld Bro** 96.53 352 P P 23 03 33.2 -0.2
baz=8.2
WVOR **Wild Horse Val** 96.56 15 eP P 23 03 34.6 +0.8
WVOR LR LR
comp=Z,1μm,20.0s
WVOR **Wild Horse Val** 96.56 15 eP P 23 03 34.6 +0.8
WVOR MLR MLR
comp=Z,1μm,20.0s
FXWY **Fox Creek** 96.59 9 eP P 23 03 35.0 +1.0
I42A **Draeger Farm,** 96.60 353 P P 23 03 32.6 -1.1
baz=7.6
M02C **Callahan** 96.63 18 P P 23 03 34.9 +0.9
baz=341
RSSD **Black Hills** 96.71 4 P P 23 03 34.7 +0.2
baz=356
RSSD **Black Hills** 96.71 4 eP P 23 03 34.8 +0.3
RSSD **Black Hills** 96.71 4 eP P 23 03 34.8 +0.3
MOD **Modoc Plateau** 96.72 16 eP P 23 03 35.4 +0.9
I38A **Scanlan Farm,** 96.73 355 P P 23 03 34.2 -0.2
baz=4.9,SNR=5.5
TPAW **Teton Pass** 96.74 9 eP P 23 03 37.0 +2.2
I40A **Norwalk** 96.75 354 P P 23 03 34.4 -0.1
baz=6.3,SNR=6.8
I37A **Lemond, Waseca** 96.81 356 P P 23 03 33.9 -0.8
baz=4.1
PAL **Palisades** 96.82 341 P P 23 03 34.9 +0.1
baz=19
I36A **Fitzsimmons Fa** 96.84 357 P P 23 03 34.3 -0.6
baz=3.6
I39A **Houston** 96.86 355 P P 23 03 34.4 -0.5
baz=5.6,SNR=7.6
REDW **Red Top Meadow** 96.88 9 eP P 23 03 37.4 +2.1
I34A **Hadley** 96.89 358 P P 23 03 34.6 -0.5
baz=2.2
I33A **Coleman** 96.90 359 P P 23 03 34.7 -0.5
baz=1.5
I32A **Karley and Nic** 96.93 359 P P 23 03 34.6 -0.7
baz=1.0
I31A **Royce, Wessing** 96.94 360 P P 23 03 34.6 -0.7
baz=0.1
I35A **Creekview Farm** 97.04 357 P P 23 03 35.1 -0.6
baz=2.9
J43A **Natural Harves** 97.06 352 P P 23 03 35.0 -0.9
baz=8.0
N02D **Trinity Center** 97.06 18 P Pdif 23 03 37.0 +0.9
baz=342
ERPA **Erie** 97.08 346 P P 23 03 35.9 -0.1
baz=14
CAN **Canberra** 97.12 130 PFAKE 23 03 50.0 +14
CAN LR LR
comp=Z,1μm,20.0s
J42A **Columbus** 97.19 353 P P 23 03 36.0 -0.4
baz=7.4
ECSD **EROS Data Cent** 97.21 358 P P 23 03 36.4 -0.2
baz=1.6,SNR=24
ECSD **EROS Data Cent** 97.21 358 eP P 23 03 36.9 +0.4

ECSD LR LR
comp=Z,3µm,20.0s
J41A Loganville 97.22 354 P **P** **23 03 36.4 -0.2**
baz=6.8,SNR=5.7
J40A Soldiers Grove 97.25 354 P **P** **23 03 36.0 -0.7**
baz=6.2,SNR=5.2
N59A State Game Lan 97.35 343 P **P** **23 03 36.6 -0.7**
baz=18
J39A Decorah 97.39 355 P **P** **23 03 36.6 -0.7**
baz=5.4,SNR=8.5
AHID Auburn Hatcher 97.44 9 *e*P Pdif 23 03 39.4 +1.5
AHID LR LR
comp=Z,3µm,19.0s
J38A Wedel Dairy, R 97.45 355 P **P** **23 03 36.7 -0.9**
baz=4.8
WDC Whiskeytown Da 97.48 18 *e*P Pdif 23 03 39.3 +1.5
WDC Whiskeytown Da 97.48 18 *e*P Pdif 23 03 39.3 +1.5
AAM Ann Arbor 97.52 349 PFAKE 23 03 50.0 +12
AAM LR LR
comp=Z,3µm,20.0s
J37A Redenius Farm, 97.52 356 P **P** **23 03 37.6 -0.4**
baz=4.0
J35A Milford 97.54 357 P **P** **23 03 37.9 -0.1**
baz=2.7
J36A Seneca 1, Swea 97.54 357 P **P** **23 03 37.8 -0.2**
baz=3.4
J32A Parkston 97.59 359 P **P** **23 03 37.6 -0.7**
baz=0.7
M54A Oil Creek Stat 97.61 346 P **P** **23 03 37.7 -0.7**
baz=15
M54A Oil Creek Stat 97.61 346 *e*P **P** **23 03 38.5 +0.1**
BW06 Boulder Array 97.61 8 P **P** **23 03 38.3 -0.4**
baz=352
BW06 Boulder Array 97.61 8 *e*P **P** **23 03 38.0 -0.7**
BW06 LR LR
comp=Z,2µm,19.0s
PD31 Pinedale Array 97.61 8 *e*P **P** **23 03 38.5 -0.2**
PDAR Pinedale Array 97.61 8 P **P** **23 03 38.4 -0.3**
comp=Z,4.7nm,0.7s,baz=29,slow=3.0,SNR=42
PDAR PKKP **PKKPbc** **23 20 13.2 -1.0**
comp=Z,3.1nm,0.8s,baz=149,slow=3.5,SNR=18
PDAR PKPPKP **P'P'df** **23 28 28.2 -6.0**
comp=Z,1.0nm,0.9s,baz=112,slow=1.6,SNR=5.0
PDAR LR LR 23 53 35.8
comp=Z,1µm,19.3s,baz=1.0,slow=39
PDAR Pinedale Array 97.61 8 *e*P **P** **23 03 38.0 -0.7**
PDAR PKKP **PKKPbc** **23 20 13.2 -1.0**
PDAR P'P' 23 28 28.2
J33A Davis 97.64 359 P **P** **23 03 37.8 -0.7**
baz=1.4
J34A George 97.65 358 P **P** **23 03 38.0 -0.5**
baz=2.1
J31A Geddes 97.68 360 P **P** **23 03 38.1 -0.5**
baz=360
SHEL Horse Pasture 97.69 256 PFAKE 23 03 50.0 +11
SHEL LR LR
comp=Z,736nm,21.0s
JFWS Jewell Farm 97.69 354 P **P** **23 03 38.3 -0.4**
baz=6.6,SNR=8.7
JFWS Jewell Farm 97.69 354 *e*P **P** **23 03 38.8 +0.1**
JFWS LR LR
comp=Z,5µm,21.0s
JFWS Jewell Farm 97.69 354 *e*P **P** **23 03 38.8 +0.1**
JFWS MLR MLR
comp=Z,5µm,21.0s
K43A Burlington 97.72 352 P **P** **23 03 38.6 -0.2**
baz=8.1
K42A Prairie Point, 97.75 353 P **P** **23 03 38.4 -0.5**
baz=7.3
O03D Paynes Creek 97.92 18 P **P** **23 03 40.2 +0.3**
baz=342
K40A Colesburg 97.98 354 P **P** **23 03 39.0 -1.0**
baz=5.9
K41A Shullsburg 98.00 354 P **P** **23 03 39.4 -0.7**
baz=6.5
K22A Casper 98.01 6 P **P** **23 03 39.3 -1.0**
baz=354
K22A Casper 98.01 6 *e*P Pdif 23 03 41.1 +0.7
K39A Oelwein 98.03 355 P **P** **23 03 39.1 -1.1**
baz=5.3,SNR=5.4
K37A Belmond 98.07 356 P **P** **23 03 39.7 -0.7**
baz=3.9
SSPA Standing Stone 98.09 344 P **P** **23 03 40.0 -0.5**
baz=16
K38A Parkersburg 98.14 356 P **P** **23 03 40.1 -0.7**
baz=4.6
K35A Storm Lake 98.19 357 P **P** **23 03 40.3 -0.6**
baz=2.7
HVU Hansel Valley 98.19 11 *e*P Pdif 23 03 41.9 +0.7
HVU Hansel Valley 98.19 11 *e*P Pdif 23 03 41.9 +0.7
N54A Moraine State 98.20 346 P **P** **23 03 41.1 0.0**
baz=14
K36A Gilmore City 98.24 357 P **P** **23 03 40.8 -0.4**
baz=3.3
K34A Le Mars 98.25 358 P **P** **23 03 41.0 -0.2**
baz=2.0
L43A Garden Prairie 98.28 353 P **P** **23 03 40.6 -0.7**
baz=7.8
K31A O'Neill 98.34 0 P **P** **23 03 41.4 -0.3**
baz=360
K33A Hardington 98.35 359 P **P** **23 03 41.3 -0.4**
baz=1.3
HWUT Hardware Ranch 98.52 10 *e*P **P** **23 03 43.3 +0.6**
L42A Oliver, Polo 98.55 353 P **P** **23 03 42.2 -0.4**
baz=7.0
L41A Preston 98.55 354 P **P** **23 03 42.2 -0.3**
baz=6.4
O56A Blue Knob Stat 98.58 345 P **P** **23 03 42.9 0.0**
baz=16
L39A Vinton 98.61 355 P **P** **23 03 42.4 -0.4**
baz=5.2
L40A Anamosa 98.62 354 P **P** **23 03 42.8 -0.1**
baz=5.8
ORV Oroville 98.70 18 *e*P Pdif 23 03 46.4 +3.1
ORV Oroville 98.70 18 *e*P Pdif 23 03 46.4 +3.1
L37A Phoenix Point, 98.72 356 P **P** **23 03 43.1 -0.2**
baz=3.9
BMN Battle Mountai 98.76 14 *e*P Pdif 23 03 44.7 +0.9
comp=Z,5.0nm,1.1s
BMN Battle Mountai 98.76 14 *e*P Pdif 23 03 44.7 +0.9
BMN pmax pmax
comp=Z,5.0nm,1.1s
M46A Old House Fiel 98.77 351 P **P** **23 03 42.9 -0.6**
baz=9.6
L36A Harm Buss Farm 98.78 357 P **P** **23 03 43.2 -0.4**
baz=3.1
SCIA State Center 98.91 356 PFAKE 23 04 00.0 +16
SCIA LR LR
comp=Z,6µm,22.0s
L34A Svendsen Farm, 98.97 358 P **P** **23 03 44.1 -0.4**
baz=1.8
M44A Midewin, Midew 98.99 352 P P 23 03 44.5 -0.1
baz=8.3
TCUT Toone Canyon 99.02 10 *e*P **Pdif** **23 03 46.1 +1.1**
M43A Waltham Townsh 99.04 353 P **Pdif** **23 03 44.4 -0.3**
baz=7.6
M39A Webster 99.27 355 P **Pdif** **23 03 45.2 -0.6**
baz=5.1
M40A Post Highland 99.29 354 P **Pdif** **23 03 45.5 -0.4**
baz=5.6
N46A Monticello 99.33 351 P **Pdif** **23 03 45.9 -0.2**
baz=9.3
VCNR Virginia City 99.36 16 *e*P **Pdif** **23 03 50.0 +3.4**
M33A Taylor Creek F 99.38 359 P **Pdif** **23 03 46.1 -0.3**
baz=1.2
M38A Pleasantville 99.39 356 P **Pdif** **23 03 46.1 -0.2**
baz=4.3,SNR=7.1
MCWV Mont Chateau 99.43 345 P **Pdif** **23 03 46.7 +0.2**
baz=15
PHWY Pilot Hill 99.43 5 *e*P **Pdif** **23 03 47.6 +0.6**
ACSO Alum Creek Sta 99.44 348 PFAKE 23 04 00.0 +13
ACSO LR LR
comp=Z,2µm,20.0s
M37A Trindle Farm, 99.45 356 P **Pdif** **23 03 46.4 -0.2**
baz=3.6
M35A Neola 99.45 358 P **Pdif** **23 03 46.2 -0.5**
baz=2.4
N45A Kentland 99.47 351 P **Pdif** **23 03 46.6 -0.1**
baz=8.7
JLU Jordanelle 99.52 10 *e*P **Pdif** **23 03 49.1 +1.9**
N43A Stutzman Famil 99.55 353 P **Pdif** **23 03 47.1 0.0**
baz=7.4
BGNE Belgrade 99.56 360 P **Pdif** **23 03 47.0 -0.2**
baz=0.4
N44A Piper City 99.59 352 P **Pdif** **23 03 47.2 0.0**
baz=8.2
DUG Dugway, Tooele 99.73 11 P **Pdif** **23 03 48.7 +0.6**
baz=349
DUG Dugway, Tooele 99.73 11 PFAKE 23 04 00.0 +12
DUG LR LR
comp=Z,1µm,22.0s
N42A Yates City 99.74 353 P **Pdif** **23 03 48.0 +0.1**
baz=6.8
N40A Mertquake, Sal 99.82 354 P **Pdif** **23 03 47.7 -0.5**
baz=5.6
N39A Derby Farms, D 99.89 355 P **Pdif** **23 03 48.2 -0.4**
baz=4.8
O47A Sheridan 99.90 350 P **Pdif** **23 03 48.3 -0.3**
baz=9.8
HDIL Hopedale 99.94 353 P **Pdif** **23 03 48.9 +0.1**
baz=7.4
HDIL Hopedale 99.94 353 PFAKE 23 04 00.0 +11
HDIL LR LR
comp=Z,3µm,21.0s
OGNE Ogallala 99.97 3 PFAKE 23 04 00.0 +11
OGNE LR LR
comp=Z,2µm,20.0s
N38A Joes South For 100.02 356 P **Pdif** **23 03 48.6 -0.5**
baz=4.3
N35A Tabor 100.06 358 P **Pdif** **23 03 49.3 0.0**
baz=2.4
N36A Muff Farm, Cla 100.08 357 P **Pdif** **23 03 49.5 +0.1**
baz=2.9
O45A Potomac 100.08 351 P **Pdif** **23 03 49.8 +0.3**
baz=8.6
N37A Lee Faris, Mou 100.10 357 P **Pdif** **23 03 49.1 -0.4**
baz=3.5
DZM Mont Dzumac 100.13 110 *e*LR LR 23 36 34.3
comp=Z,2µm,27.2s
O43A Sugar Creek Fa 100.21 353 P **Pdif** **23 03 49.8 -0.2**
baz=7.3
CBN Corbin Frederi 100.31 343 PFAKE 23 04 00.0 +10
CBN LR LR
comp=Z,5µm,22.0s
O20A White River Ci 100.36 7 P **Pdif** **23 03 51.0 +0.1**
baz=352
NVAR Mina Array Bea 100.48 16 P **Pdif** **23 03 52.6 +1.1**
comp=Z,2.3nm,0.8s,baz=6.7,slow=4.8,SNR=11
NVAR PKiKP **PKiKP** **23 08 17.3 -0.7**
comp=Z,3.4nm,0.7s,baz=286,slow=1.0,SNR=7.2
NVAR PKKP **PKKPbc** **23 20 07.5 +1.4**
comp=Z,2.3nm,0.7s,baz=176,slow=5.0,SNR=15
O39A Kirksville 100.51 355 P **Pdif** **23 03 51.0 -0.4**
baz=4.8
O41A Passleys Farm, 100.53 354 P **Pdif** **23 03 51.0 -0.4**
baz=6.1
O40A La Belle 100.60 355 P **Pdif** **23 03 51.2 -0.5**
baz=5.3
P46A Rosedale 100.64 351 P **Pdif** **23 03 51.7 -0.2**
baz=9.0
P47A Martinsville 100.65 350 P **Pdif** **23 03 52.0 +0.1**
baz=9.7
O37A Wolven Farm, M 100.69 356 P **Pdif** **23 03 52.2 +0.1**
baz=3.6
O38A Galt 100.70 356 P **Pdif** **23 03 52.0 -0.1**
baz=4.1
P45A Graceland, Par 100.80 351 P **Pdif** **23 03 52.3 -0.3**
baz=8.6
P43A Skaggs, Pawnee 100.87 353 P **Pdif** **23 03 52.9 0.0**
baz=7.2
O33A Hebron 100.88 359 P **Pdif** **23 03 52.6 -0.4**
baz=0.9
ISCO Idaho Springs 100.92 5 P **Pdif** **23 03 53.6 0.0**
baz=355
ISCO Idaho Springs 100.92 5 PFAKE 23 04 10.0 +16
ISCO LR LR
comp=Z,2µm,20.0s
P44A Sand Creek, Wi 100.95 352 P **Pdif** **23 03 53.2 -0.1**
baz=7.9
P41A Barry, Barry 100.98 354 P **Pdif** **23 03 53.0 -0.4**
baz=6.0
P42A Winchester 101.00 353 P **Pdif** **23 03 53.4 -0.1**
baz=6.6
R11A Troy Canyon, C 101.08 13 P **Pdif** **23 03 54.0 -0.2**
baz=347
R11A Troy Canyon, C 101.08 13 *e*Pdif **Pdif** **23 03 55.2 +1.1**
comp=Z,2.7nm,0.8s
P38A Dawn 101.20 356 P **Pdif** **23 03 54.4 0.0**
baz=4.1
P40A Paris 101.20 355 P **Pdif** **23 03 54.1 -0.3**
baz=5.2
Q47A Bedord North L 101.22 350 P **Pdif** **23 03 54.5 0.0**
baz=9.6
P37A Lathrop 101.28 357 P **Pdif** **23 03 54.7 0.0**
baz=3.4
P36A Good Intent, A 101.28 357 P **Pdif** **23 03 55.0 +0.2**
baz=2.7
P39B Salisbury 101.29 355 P **Pdif** **23 03 54.9 +0.1**
baz=4.7
P35A Duane Minner, 101.40 358 P **Pdif** **23 03 55.5 +0.2**
baz=2.1
P34A Walnut Farm, R 101.40 358 P **Pdif** **23 03 55.6 +0.3**
baz=1.5
TAU Tasmania Unive 101.42 137 PFAKE 23 04 10.0 +15
TAU LR LR
comp=Z,2µm,21.0s
Q45A Warren Harvey, 101.47 352 P **Pdif** **23 03 55.7 +0.1**
baz=8.3
Q44A Meyer Farm, Va 101.55 352 P **Pdif** **23 03 56.1 +0.1**
baz=7.6
Q43A New Douglas 101.58 353 P **Pdif** **23 03 56.4 +0.2**
baz=7.1
Q42A Golden Eagle 101.69 353 P **Pdif** **23 03 56.6 0.0**
baz=6.4
Q41A Truxton 101.71 354 P **Pdif** **23 03 56.8 +0.2**
baz=5.9
Q40A Laux Farm, Aux 101.73 355 P **Pdif** **23 03 56.9 +0.1**
baz=5.2
Q39A Willow Grove F 101.74 355 P **Pdif** **23 03 57.1 +0.3**
baz=4.5
Q24A Divide 101.78 5 P **Pdif** **23 03 57.6 +0.1**
baz=355
KSU1 Kansas State U 101.84 358 P **Pdif** **23 03 57.4 +0.2**
baz=1.6
KSU1 Kansas State U 101.84 358 PFAKE 23 04 10.0 +13
KSU1 LR LR
comp=Z,3µm,22.0s
R47A Wooly Knot Far 101.86 350 P **Pdif** **23 03 57.4 0.0**
baz=9.6
Q38A Cooks Store, C 101.86 356 P **Pdif** **23 03 57.3 -0.1**
baz=4.0
KSCO Kaye Shedlock' 101.87 3 P **Pdif** **23 03 57.6 0.0**
baz=357
BBSR BB Station 101.90 331 PFAKE 23 04 10.0 +12
BBSR LR LR
comp=Z,2µm,22.0s
BLA Blacksburg 101.91 345 PFAKE 23 04 10.0 +12
BLA LR LR
comp=Z,2µm,21.0s
CBKS Cedar Bluff 102.14 1 PFAKE 23 04 10.0 +11
CBKS LR LR
comp=Z,2µm,21.0s
R44A Waltonville 102.21 352 P **Pdif** **23 03 59.0 +0.1**
baz=7.6
R43A Red Bud 102.27 353 P **Pdif** **23 03 59.5 +0.3**
baz=6.9
R41A Rosebud 102.37 354 P **Pdif** **23 04 00.0 +0.4**
baz=5.8
S48A Wiedeman Farm, 102.42 350 P **Pdif** **23 04 00.0 +0.1**
baz=10.0
R40A Maddies Statio 102.44 355 P **Pdif** **23 04 00.2 +0.2**
baz=5.1
R39A Chumby, Stover 102.47 355 P **Pdif** **23 04 00.2 +0.1**
baz=4.5
R36A Gordon, Harris 102.58 357 P **Pdif** **23 04 00.8 +0.1**
baz=2.5
R35A Emporia Munici 102.61 358 P **Pdif** **23 04 00.5 -0.2**
baz=2.0
R38A Fenwick Farm, 102.65 356 P **Pdif** **23 04 00.1 -0.8**
baz=3.8
S22A 4UR Ranch, Cre 102.86 7 P **Pdif** **23 04 02.4 +0.2**
baz=354
MPMC Manual Prospec 102.94 15 P **Pdif** **23 04 02.7 +0.3**
baz=345
SDCO Great Sand Dun 102.97 5 P **Pdif** **23 04 02.9 +0.2**
baz=355
SDCO Great Sand Dun 102.97 5 *e*Pdif **Pdif** **23 04 03.3 +0.6**
SDCO LR LR
comp=Z,2µm,20.0s
T48A Bowling Green 103.01 350 P **Pdif** **23 04 02.7 +0.2**
baz=9.7
S41A Jillco Farms, 103.11 354 P **Pdif** **23 04 03.1 +0.1**
baz=5.5
S39A Bolivar 103.11 356 P **Pdif** **23 04 03.0 +0.1**
baz=4.2
TZTN Tazewell 103.13 347 P **Pdif** **23 04 03.3 +0.2**
baz=12
S40A Lebanon 103.15 355 P **Pdif** **23 04 03.4 +0.2**
baz=4.9
S38A Stockton 103.20 356 P **Pdif** **23 04 03.4 0.0**
baz=3.8
MVCO Mesa Verde 103.22 8 PFAKE 23 04 20.0 +16
MVCO LR LR
comp=Z,2µm,20.0s
CNNC Cliffs of the 103.26 343 PFAKE 23 04 20.0 +16
CNNC LR LR
comp=Z,4µm,22.0s
T43A Greenville 103.48 353 P **Pdif** **23 04 05.1 +0.5**
baz=6.7
PKM Mcpherson Peak 103.55 18 P **Pdif** **23 04 05.0 -0.2**
baz=343
T40A Mansfield 103.60 355 P **Pdif** **23 04 05.5 +0.3**
baz=4.9
T42A Van Buren 103.61 354 P **Pdif** **23 04 05.6 +0.4**
baz=6.0
T25A Trinidad 103.64 5 P **Pdif** **23 04 05.4 -0.3**
baz=356
U47A Clarksville 103.78 351 P **Pdif** **23 04 06.4 +0.4**
baz=9.0
GSC Goldstone, Bar 103.81 15 P **Pdif** **23 04 06.0 -0.2**
baz=346
T38A Diamond 103.82 356 P **Pdif** **23 04 06.3 +0.2**
baz=3.5
TUQ Turquoise Moun 103.85 14 P **Pdif** **23 04 06.3 -0.2**
baz=346
TKL Tuckaleechee C 104.03 347 Pdiff **Pdif** **23 04 07.6 +0.5**
comp=Z,4.8nm,0.8s,baz=25,slow=7.4,SNR=3.3
KMSC Kings Mountain 104.09 345 P **Pdif** **23 04 07.0 -0.3**
baz=14
WVT Waverly 104.16 351 P **Pdif** **23 04 07.7 0.0**
baz=8.6
U42A Revenden 104.29 354 P **Pdif** **23 04 07.9 -0.3**
baz=5.9
U41A Viola 104.35 354 P **Pdif** **23 04 08.6 +0.1**
baz=5.4
U40A Yellville 104.41 355 P **Pdif** **23 04 08.9 +0.1**
baz=4.7
V47A Nunnelly 104.42 351 P **Pdif** **23 04 08.9 +0.1**
baz=8.9
U39A Green Forest 104.42 356 P **Pdif** **23 04 09.0 +0.2**
baz=4.2
V46A Holladay 104.52 351 P **Pdif** **23 04 09.3 +0.1**
baz=8.4
WUAZ Wupatki 104.53 11 P **Pdif** **23 04 09.6 0.0**
baz=350
WUAZ Wupatki 104.53 11 PFAKE 23 04 20.0 +10
WUAZ LR LR
comp=Z,2µm,21.0s
BBRC Big Bear Solar 104.79 16 P **Pdif** **23 04 12.8 +2.0**
baz=346
V41A Mountainview 104.93 354 P **Pdif** **23 04 11.1 0.0**
baz=5.2
IRM Iron Mountain 105.24 14 P **Pdif** **23 04 13.1 +0.6**
baz=347
PDMCI Parker Dam,Lak 105.28 13 P **Pdif** **23 04 13.5 +0.9**
baz=348
MURC Murrieta 105.37 16 P **PKiKP** **23 08 26.9 +0.1**
baz=345
PFO Pinyon Flats O 105.51 15 PFAKE 23 08 40.0
PFO LR LR
comp=Z,3µm,22.0s
W40A Ferguson Farm, 105.58 355 P **Pdif** **23 04 13.9 -0.1**
baz=4.5
ANMO Albuquerque 105.67 7 *e*Pdif **Pdif** **23 04 16.6 +1.9**
comp=Z,2.2nm,0.8s
ANMO LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 105.67 7 *e*P **Pdif** **23 04 16.6 +1.9**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO MLR MLR
comp=Z,2µm,20.0s
NHSC New Hope 105.82 344 PFAKE 23 08 40.0
NHSC LR LR
comp=Z,3µm,22.0s
GOGA Godfrey 106.17 347 PFAKE 23 08 40.0
GOGA LR LR
comp=Z,4µm,22.0s
MONP2 Monument Peak 106.21 15 P **Pdif** **23 04 18.9 +1.7**
baz=346
WMOK Wichita Mounta 106.22 0 PFAKE 23 08 40.0
WMOK LR LR
comp=Z,2µm,22.0s
MIAR Mount Ida 106.26 356 P **Pdif** **23 04 16.7 -0.3**
baz=4.1
MIAR Mount Ida 106.26 356 PFAKE 23 08 40.0
MIAR LR LR
comp=Z,6µm,22.0s
Y45A Yeager Farm, C 106.59 352 P **Pdif** **23 04 17.4 -1.1**
baz=7.4
CASY Casey 107.75 168 PFAKE 23 08 40.0
CASY LR LR
comp=Z,478nm,21.0s
TUC Tucson 107.77 11 *e*PKP **PKiKP** **23 08 31.7 +0.4**
TUC LR LR
comp=Z,2µm,20.0s
BRAL Brewton 108.94 349 PFAKE 23 08 50.0
BRAL LR LR
comp=Z,3µm,20.0s
MNTX Cornudas Mount 108.98 6 PFAKE 23 08 50.0
MNTX LR LR
comp=Z,2µm,21.0s
NATX Nacogdoches 109.09 356 PFAKE 23 08 50.0
NATX LR LR
comp=Z,3µm,22.0s
JCT Junction City 110.46 1 PFAKE 23 08 50.0
JCT LR LR
comp=Z,3µm,20.0s
TXAR Lajitas Array 111.45 5 PKiKP **PKiKP** **23 08 38.4 0.0**
comp=Z,1.2nm,0.5s,baz=190,slow=3.8,SNR=4.3
TXAR PKKPbc **PKKPbc** **23 19 28.2 -4.1**
comp=Z,0.9nm,0.6s,baz=134,slow=5.2,SNR=3.5
SYO Syowa Base 112.42 195 *e*PKiKP **PKiKP** **23 08 37.2 -1.4**
KVTX Kingsville 113.38 359 PFAKE 23 08 50.0
KVTX LR LR
comp=Z,2µm,20.0s
ANWB Willy Bob 113.54 321 PFAKE 23 08 50.0
ANWB LR LR
comp=Z,2µm,19.0s
GRTK Grand Turk 114.12 332 PFAKE 23 09 00.0 +17
GRTK LR LR
comp=Z,2µm,22.0s
SJG San Juan 115.17 326 PFAKE 23 09 00.0 +14
SJG LR LR
comp=Z,1µm,20.0s
FDF Fort de France 115.73 319 PFAKE 23 09 00.0 +13
FDF LR LR
comp=Z,2µm,21.0s
BBGH Gun Hill 116.24 317 PFAKE 23 09 00.0 +12
BBGH LR LR
comp=Z,6µm,21.0s
SDDR Presa de Saban 116.49 331 PFAKE 23 09 00.0 +12
SDDR LR LR
comp=Z,2µm,20.0s
SNZO South Karori 116.80 123 PFAKE 23 09 00.0 +12
SNZO LR LR
comp=Z,1µm,20.0s
GTBY Guantanamo Bay 116.97 335 PFAKE 23 09 00.0 +11
GTBY LR LR
comp=Z,2µm,22.0s
GRGR Grenville 118.18 318 PFAKE 23 09 00.0 +8.5
GRGR LR LR
comp=Z,2µm,19.0s
MTDJ Mount Denham 119.33 337 PFAKE 23 09 10.0 +16
MTDJ LR LR
comp=Z,2µm,19.0s
NVL N'lazarevskaya 120.42 201 *e*PKIKP **PKPdf** **23 08 55.3 +1.3**
NVL pmax pmax
comp=Z,67nm,1.2s
CMIG Matias Romero 123.68 356 PKP **PKPdf** **23 09 01.4 -0.5**
comp=Z,15nm,0.8s,baz=356,slow=3.6,SNR=30
CMIG PKKPbc **PKKPbc** **23 18 48.7 +0.3**
comp=Z,4.1nm,0.8s,baz=334,slow=2.7,SNR=7.0
SNAA Sanae 125.08 203 P **PKPdf** **23 09 03.2 +0.2**
SNAA Sanae 125.08 203 PKP **PKPdf** **23 09 03.2 +0.2**
comp=Z,30nm,0.9s,baz=115,slow=2.3,SNR=29
SDV Santo Domingo 125.32 325 PKP **PKPdf** **23 09 05.1 -0.4**
comp=Z,54nm,0.8s,baz=25,slow=2.0,SNR=52
SDV Santo Domingo 125.32 325 *e*PKPdf **PKPdf** **23 09 05.0 -0.5**
SDV LR LR
comp=Z,890nm,21.0s

SDV	**Santo Domingo**	**125.32**	**325**	*e*P		**PKPdf**	**23 09 04.9**	**-0.5**
VNDA	**Vanda**	**126.13**	**165**	PKP		**PKPdf**	**23 09 04.7**	**-0.1**
	comp=Z,17nm,0.9s,baz=284,slow=4.7,SNR=25							
VNA2	**Neumayer--Watz**	**126.24**	**204**	P		**PKPdf**	**23 09 05.8**	**+0.6**
	baz=44,slow=3.9							
VNA1	**Neumayer--Stat**	**126.44**	**204**	P		**PKPdf**	**23 09 06.2**	**+0.7**
VNA3	**Neumayer Olymp**	**127.04**	**204**	P		**PKPdf**	**23 09 07.1**	**+0.4**
SBA	**Scott Base**	**127.24**	**165**	PFAKE			23 09 20.0	+13
SBA				LR	LR			
	comp=Z,1µm,21.0s							
MOTC	**Monteria, Cord**	**127.49**	**331**	*e*P		**PKPdf**	**23 09 08.6**	**-0.8**
PAMC	**Pamplona, Colo**	**127.60**	**327**	*e*P		**PKPdf**	**23 09 09.1**	**-1.1**
ZARC	**Zaragoza, Cauc**	**128.35**	**329**	*e*P		**PKPdf**	**23 09 10.9**	**-0.1**
BCIP	**Isla Barro Col**	**128.58**	**336**	PFAKE			23 09 20.0	+8.6
BCIP				LR	LR			
	comp=Z,2µm,22.0s							
JTS	**JuntasAbangare**	**128.92**	**342**	PKP		**PKPdf**	**23 09 10.7**	**-1.3**
	comp=Z,7.6nm,0.7s,baz=15,slow=20,SNR=3.4							
JTS	**JuntasAbangare**	**128.92**	**342**	PKP		**PKPdf**	**23 09 10.7**	**-1.3**
JTS				LR	LR			
	comp=Z,2µm,22.0s							
PTBC	**PUERTO BERRIO**	**129.06**	**328**	*e*P		**PKPdf**	**23 09 11.6**	**-0.8**
RUSC	**La Rusia**	**129.06**	**326**	*e*P		**PKPdf**	**23 09 12.7**	**-0.3**
HELC	**Santa Helena**	**129.80**	**329**	*e*P		**PKPdf**	**23 09 14.4**	**+0.2**
NORC	**Norcasia**	**130.11**	**328**	*e*P		**PKPdf**	**23 09 14.9**	**+0.4**
CHIC	**Chingaza**	**130.47**	**326**	*e*P		**PKPdf**	**23 09 15.7**	**+0.2**
ROSC	**El Rosal**	**130.53**	**327**	PKP		**PKPdf**	**23 09 17.6**	**+2.0**
	comp=Z,54nm,0.8s,baz=120,slow=6.5,SNR=24							
ROSC	**El Rosal**	**130.53**	**327**	*e*P		**PKPdf**	**23 09 16.8**	**+1.1**
GUYC	**Guyana, Colomb**	**130.63**	**329**	*e*P		**PKPdf**	**23 09 16.8**	**+0.9**
PMOR	**Pomariorio Ree**	**130.72**	**75**	*e*PKIKP		**PKPdf**	**23 09 17.0**	**+1.7**
	comp=Z,58nm,0.9s							
RREF	**El Recreo**	**130.90**	**328**	*e*P		**PKPdf**	**23 09 15.4**	**-1.2**
VILC	**Villavicencio,**	**130.92**	**326**	*e*P		**PKPdf**	**23 09 13.3**	**-2.8**
PPT	**Papeete**	**131.03**	**79**	PKP		**PKPdf**	**23 09 18.2**	**+2.3**
	comp=Z,51nm,0.8s,baz=305,slow=3.5,SNR=7.4							
PPT2	**Papeete2**	**131.04**	**79**	*e*PKIKP		**PKPdf**	**23 09 17.9**	**+1.9**
	comp=Z,58nm,1.0s							
PPT2	**Papeete2**	**131.04**	**79**	*e*PP		PP	23 11 23.8	-9.4
	comp=Z,346nm,27.8s							
PPT2	**Papeete2**	**131.04**	**79**	*e*SS		SS	23 29 01.4	-1.1
	comp=Z,1µm,28.5s							
PPT2	**Papeete2**	**131.04**	**79**	*e*LR		LR	23 50 43.4	
	comp=Z,2µm,28.2s							
VAH	**Vaihoa**	**131.06**	**75**	*e*PKIKP		**PKPdf**	**23 09 18.2**	**+2.3**
	comp=Z,28nm,0.9s							
PAE	**Paea**	**131.08**	**79**	*e*PKIKP		**PKPdf**	**23 09 17.5**	**+1.6**
	comp=Z,4.7nm,0.7s							
TIAR	**Tiarei**	**131.20**	**78**	*e*PKIKP		**PKPdf**	**23 09 19.4**	**+3.2**
	comp=Z,10nm,0.8s							
TVO	**Taravao**	**131.40**	**79**	*e*PKIKP		**PKPdf**	**23 09 18.4**	**+1.8**
	comp=Z,14nm,0.8s							
PRAC	**Prado**	**131.79**	**327**	*e*P		**PKPdf**	**23 09 17.6**	**0.0**
TAOE	**Nuku Hiva Isla**	**132.14**	**62**	*e*LR		LR	23 51 26.8	
	comp=Z,1µm,23.0s							
YOTC	**Yotoco, Valle**	**132.14**	**329**	*e*P		**PKPdf**	**23 09 17.9**	**-0.5**
HORQ	**Saladito**	**132.70**	**329**	*e*P		**PKPdf**	**23 09 18.4**	**-1.2**
MARP	**Paez Belalcaza**	**133.02**	**328**	*e*P		**PKPdf**	**23 09 20.1**	**-0.1**
POPC	**Popayan, Colom**	**133.58**	**329**	*e*P		**PKPdf**	**23 09 20.9**	**-0.3**
PCON	**Cinco Dias**	**133.66**	**328**	*e*P		**PKPdf**	**23 09 23.4**	**+1.6**
SOTA	**Rioblanco**	**133.92**	**328**	*e*P		**PKPdf**	**23 09 23.9**	**+1.7**
FLOC	**Florencia**	**134.03**	**327**	*e*P		**PKPdf**	**23 09 22.5**	**+0.7**
SPB	**Sao Paulo**	**134.10**	**274**	*e*PKPdf		**PKPdf**	**23 09 22.6**	**+1.1**
SPB				LR	LR			
	comp=Z,2µm,22.0s							
TBI	**Tubuai**	**134.43**	**85**	*e*SS		SS	23 29 43.0	-0.6
	comp=Z,841nm,32.2s							
TBI	**Tubuai**	**134.43**	**85**	*e*LR		LR	23 52 32.6	
	comp=Z,2µm,27.2s							
CMBC	**Cumbal**	**135.50**	**329**	*e*P		**PKPdf**	**23 09 26.8**	**+1.7**
SAML	**Samuel**	**136.09**	**304**	PFAKE			23 09 40.0	+14
SAML				LR	LR			
	comp=Z,1µm,21.0s							
OTAV	**Otavalo**	**136.39**	**330**	*e*PKPdf		**PKPdf**	**23 09 27.7**	**+1.0**
OTAV				LR	LR			
	comp=Z,1µm,22.0s							
OTAV	**Otavalo**	**136.39**	**330**	*e*P		**PKPdf**	**23 09 27.2**	**+0.5**
PAYG	**Puerto Ayora**	**140.68**	**347**	PFAKE			23 09 50.0	+16
PAYG				LR	LR			
	comp=Z,2µm,20.0s							
ATAH	**Atahualpa**	**143.02**	**325**	PKP		PKPbc	23 09 37.7	+2.2
	comp=Z,34nm,0.8s,baz=346,slow=1.7							
CPUP	**Villa Florida**	**143.16**	**278**	PKhKP		PKPpre	23 09 34.4	
	comp=Z,25nm,0.8s,baz=76,slow=2.1,SNR=46							
LPAZ	**La Paz**	**144.74**	**302**	PKP		**PKPab**	**23 09 40.2**	**-0.4**
	comp=Z,43nm,0.8s,baz=32,slow=3.5,SNR=103							
RKT	**Rikitea**	**145.30**	**73**	*e*PKIKP		**PKPdf**	**23 09 42.7**	**+0.9**
	comp=Z,268nm,1.0s							
RKT	**Rikitea**	**145.30**	**73**	*e*SS		SS	23 31 55.2	+4.3
	comp=Z,1µm,32.8s							
NNA	**Nana**	**146.49**	**319**	PKPbc		**PKPdf**	**23 09 45.4**	**+1.3**
	comp=Z,119nm,0.8s,baz=313,slow=4.8,SNR=16							
NNA	**Nana**	**146.49**	**319**	*e*PKPdf		**PKPdf**	**23 09 44.9**	**+0.8**
NNA				LR	LR			
	comp=Z,722nm,21.0s							
PMSA	**Palmer Station**	**147.60**	**207**	PFAKE			23 10 00.0	+11
PMSA				LR	LR			
	comp=Z,1µm,21.0s							
EFI	**East Falkland**	**149.39**	**233**	*e*PKPdf		**PKPdf**	**23 09 48.8**	**+1.1**
EFI				*e*PKPbc		**PKPbc**	**23 09 52.7**	**+0.6**
EFI				LR	LR			
	comp=Z,844nm,19.0s							
EFI	**East Falkland**	**149.39**	**233**	*e*PKHKP		PKPpre	23 09 48.8	
EFI				*e*			23 09 52.7	
EFI				MLR	MLR			
	comp=Z,844nm,19.0s							
TRQA	**Tornquist**	**151.41**	**261**	*e*PKPdf		**PKPdf**	**23 09 52.2**	**+0.8**
TRQA				*e*PKPbc		**PKPbc**	**23 09 58.0**	**+0.5**
TRQA				LR	LR			
	comp=Z,1µm,22.0s							
LCO	**Las Campanas**	**154.69**	**286**	*e*PKPdf		**PKPdf**	**23 09 57.8**	**+1.0**
LCO				*e*PKPbc		**pPKPdf**	**23 10 05.9**	**-1.7**
LCO				LR	LR			
	comp=Z,882nm,20.0s							
PLCA	**Paso Flores**	**158.42**	**257**	PKP		**PKPdf**	**23 10 01.3**	**+0.3**
	comp=Z,16nm,1.1s,baz=182,slow=4.0,SNR=12							
PLCA				PKPab		**PKPab**	**23 10 36.4**	**+0.6**
	comp=Z,32nm,0.9s,baz=132,slow=4.8,SNR=16							

JMA 08 23:01:58.4±0.2, 38°60N×144°54E, h35km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.29**	**283**	P	Pn	23 02 35.1	+1.4
OFUJ				*e*S	Sn	23 03 02.7	+2.0
MIYJ	**Miyakonagasawa**	**2.33**	**296**	P	Pn	23 02 35.7	+1.5
MIYJ				*e*S	Sn	23 03 03.3	+1.7
JTH	**Tanohata**	**2.47**	**304**	P	Pn	23 02 37.8	+1.7
JTH				*e*S	Sn	23 03 07.3	+2.2
JMK	**Ichinoseki**	**2.62**	**279**	*e*S	Sn	23 03 11.0	+2.3
JOM	**Ohasama**	**2.67**	**290**	P	Pn	23 02 40.9	+1.9
JOM				*e*S	Sn	23 03 12.6	+2.5
JYK	**Kaneyama**	**3.28**	**277**	P	Pn	23 02 50.1	+2.8
JYK				S	Sn	23 03 29.0	+3.8
JFT	**Otama**	**3.49**	**253**	*e*S	Sn	23 03 32.4	+2.1
JOT	**Ohata**	**3.86**	**317**	P	Pn	23 02 58.0	+2.7
JOT				*e*S	Sn	23 03 40.0	+0.6
JNBK	**Urakawa-nobuka**	**3.92**	**340**	P	Pn	23 02 57.2	+1.1
JNBK				*e*S	Sn	23 03 39.8	-1.0
JCH	**Churui**	**4.11**	**348**	P	Pn	23 02 58.1	-0.6
JCH				*e*S	Sn	23 03 43.1	-2.4
NEM2	**Nemuro 2**	**4.85**	**10**	P	Pn	23 03 06.0	-2.8
NEM2				*e*S	Sn	23 03 57.5	-6.1
JRY	**Ryogami san**	**5.18**	**242**	P	Pn	23 03 14.4	+0.9
JRY				*e*S	Sn	23 04 11.1	-0.9
JTKR	**Abashiri--Toko**	**5.39**	**355**	P	Pn	23 03 15.6	-0.6
JTKR				*e*S	Sn	23 04 14.1	-2.8

*CSEM **08** 23:04:27.0, 46°31N×14°55E, h0km, ML0.3, After LJU*
LJU 08 23:04:27.0, 46°31N×14°55E, h11km, ML0.3, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOZS	**Mozjanca**	**0.08**	**260**	↑*i*Pg	Pg	23 04 29.8	+0.2
MOZS				*i* Sg	Sg	23 04 31.4	0.0
	comp=Z,15nm,0.1s						
MOZS	**Mozjanca**	**0.08**	**260**	↑*i*Pg	Pg	23 04 29.8	+0.3
MOZS				*i* Sg	Sg	23 04 31.4	0.0
	comp=Z,15nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.23**	**153**	*i* Sg	Sg	23 04 35.6	+0.4
	comp=Z,4.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.23**	**153**	*i* Sg	Sg	23 04 35.6	+0.5
	comp=Z,4.0nm,0.1s						
CRNS	**Crni Vrh**	**0.30**	**222**	*i* Pg	Pg	23 04 33.5	+0.3
CRNS				*i* Sg	Sg	23 04 37.9	+0.6
	comp=Z,1.0nm,0.2s						
CRNS	**Crni Vrh**	**0.30**	**222**	*i* Pg	Pg	23 04 33.5	+0.3
CRNS				*i* Sg	Sg	23 04 37.9	+0.6
	comp=Z,1.0nm,0.2s						
GBAS	**Gorenja Brezov**	**0.38**	**192**	*i* Pg	Pg	23 04 34.9	+0.3
GBAS				*i* Sg	Sg	23 04 40.0	+0.3
GBAS	**Gorenja Brezov**	**0.38**	**192**	*i* Pg	Pg	23 04 34.8	+0.2
GBAS				*i* Sg	Sg	23 04 40.0	+0.4
GORS	**Gorjuse**	**0.39**	**272**	*i* Pg	Pg	23 04 34.6	-0.1
GORS				*i* Sg	Sg	23 04 40.3	+0.5
GORS	**Gorjuse**	**0.39**	**272**	*i* Pg	Pg	23 04 34.6	-0.1
GORS				*i* Sg	Sg	23 04 40.3	+0.4
PERS	**Pernice**	**0.51**	**50**	*i* Pg	Pg	23 04 37.0	-0.1
PERS	**Pernice**	**0.51**	**50**	*i* Pg	Pg	23 04 37.0	0.0

*ISK **08** 23:16:58.7, 38°74N×43°54E, h5km, ML2.8/6*
*DDA **08** 23:16:59.0, 38°76N×43°60E, h7km, Ml2.7*
*ISCJB **08** 23:16:59.8±0.5, 38°75N±0°02×43°59E±0°04, h6km±4km, Error ellipse: s-maj=5.4km s-min=3.5km az=7.3*
*CSEM **08** 23:16:59.5±0.2, 38°73N×43°58E, h5km, ML2.8, Error ellipse: s-maj=5.4km s-min=3.7km az=98.0*
ISC 08 23:16:59.9±0.9, 38°76N±0°02×43°55E±0°03, h13km±7km, n40, σ0s94/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**219**	PG	**Pb**	**23 17 05.3**	**-0.3**
VANB	**Van**	**0.20**	**219**	*e*Pg	**Pb**	**23 17 05.3**	**-0.3**
TVAN	**Van**	**0.25**	**207**	*i* P	**Pg**	**23 17 05.1**	**-0.3**
TVAN				*i* S	**Sb**	**23 17 10.3**	**-0.5**
TVAN	**Van**	**0.25**	**207**	P	**Pg**	**23 17 05.1**	**-0.3**
TVAN				S	**Sb**	**23 17 10.3**	**-0.5**
ERCV	**ERCIS-VAN**	**0.31**	**328**	PG	**Pg**	**23 17 06.1**	**-0.3**
ERCV				SG	**Sg**	**23 17 11.7**	**+0.8**
ERCV	**ERCIS-VAN**	**0.31**	**328**	*e*Pg	**Pg**	**23 17 06.1**	**-0.3**
ERCV				*e*Sg	**Sg**	**23 17 11.7**	**+0.8**
CLDR	**Caldiran**	**0.48**	**36**	PG	**Pg**	**23 17 09.2**	**-0.3**
CLDR				SG	**Sb**	**23 17 17.8**	**+0.4**
CLDR	**Caldiran**	**0.48**	**36**	*i* P	**Pg**	**23 17 08.7**	**-0.8**
CLDR				*i* S	**Sb**	**23 17 18.0**	**+0.6**
CLDR	**Caldiran**	**0.48**	**36**	P	**Pg**	**23 17 08.7**	**-0.8**
CLDR	**Caldiran**	**0.48**	**36**	*e*Pg	**Pg**	**23 17 09.2**	**-0.3**
CLDR				*e*Sg	**Sb**	**23 17 17.8**	**+0.4**
CLDR				S	**Sb**	**23 17 18.0**	**+0.6**
GEVA	**Gevas**	**0.59**	**221**	*i* P	**Pg**	**23 17 10.3**	**-1.2**
GEVA				*i* S	**Sb**	**23 17 20.7**	**+0.3**
GEVA	**Gevas**	**0.59**	**221**	P	**Pg**	**23 17 10.3**	**-1.2**
GEVA				S	**Sb**	**23 17 20.7**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.65**	**275**	*i* P	**Pg**	**23 17 11.8**	**-0.8**
ADCV				*i* S	**Sb**	**23 17 22.5**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.65**	**275**	P	**Pg**	**23 17 11.9**	**-0.8**
ADCV				S	**Sb**	**23 17 22.5**	**+0.3**
BASK	**Baskale_VAN**	**0.79**	**153**	*i* P	**Pg**	**23 17 13.3**	**-1.9**
BASK	**Baskale_VAN**	**0.79**	**153**	P	**Pg**	**23 17 13.3**	**-1.9**
DYDN	**Diyadin**	**0.80**	**8**	*i* P	**Pg**	**23 17 15.2**	**-0.1**
DYDN				*i* S	**Sn**	**23 17 28.8**	**0.0**
DYDN	**Diyadin**	**0.80**	**8**	P	**Pg**	**23 17 15.2**	**-0.1**
DYDN				S	**Sn**	**23 17 28.8**	**0.0**
TUTA	**Tutak**	**0.87**	**319**	*i* P	**Pg**	**23 17 15.5**	**-1.2**
TUTA				*i* S	**Sg**	**23 17 28.0**	**-0.1**
TUTA	**Tutak**	**0.87**	**319**	P	**Pg**	**23 17 15.5**	**-1.2**
TUTA				S	**Sg**	**23 17 28.0**	**-0.1**
AGRB	**Hanur-Agry**	**0.93**	**332**	PG	**Pg**	**23 17 17.5**	**-0.4**
AGRB				SG	**Sn**	**23 17 31.9**	**-0.2**
AGRB	**Hanur-Agry**	**0.93**	**332**	*e*Pg	**Pg**	**23 17 17.5**	**-0.4**
AGRB				*e*Sg	**Sn**	**23 17 31.9**	**-0.2**
HAKT	**HAKKARI**	**1.20**	**174**	*i* P	**Pn**	**23 17 22.2**	**-0.4**
HAKT				*i* S	**Sn**	**23 17 42.0**	**+3.2**
HAKT	**HAKKARI**	**1.20**	**174**	P	**Pn**	**23 17 22.2**	**-0.4**
HAKT				S	**Sn**	**23 17 42.0**	**+3.2**
GURO	**Guroymak-BITLI**	**1.21**	**261**	PN	**Pn**	**23 17 21.3**	**-1.3**
GURO	**Guroymak-BITLI**	**1.21**	**261**	*e*Pn	**Pn**	**23 17 21.3**	**-1.3**
EKAR	**Karacoban**	**1.26**	**294**	*i* P	**Pb**	**23 17 24.1**	**+0.4**
EKAR				*i* S	**Sg**	**23 17 42.4**	**+1.6**
EKAR	**Karacoban**	**1.26**	**294**	P	**Pb**	**23 17 24.1**	**+0.4**
EKAR				S	**Sg**	**23 17 42.4**	**+1.6**
TASB	**TASBURUN-IGDIR**	**1.34**	**23**	PN	**Pg**	**23 17 25.4**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.34**	**23**	*e*Pn	**Pg**	**23 17 25.4**	**-0.2**
SRTM	**Siirt_Merkez**	**1.49**	**240**	*i* P	**Pb**	**23 17 27.4**	**-0.1**
SRTM				*i* S	**Sg**	**23 17 49.3**	**+1.3**
SRTM	**Siirt_Merkez**	**1.49**	**240**	P	**Pb**	**23 17 27.4**	**-0.1**
SRTM				S	**Sg**	**23 17 49.3**	**+1.3**
CUKT	**Cukurca**	**1.51**	**178**	PN	**Pb**	**23 17 27.3**	**-0.4**
CUKT				SN	**Sg**	**23 17 48.8**	**+0.4**
CUKT	**Cukurca**	**1.51**	**178**	*i* P	**Pn**	**23 17 26.4**	**-0.3**
CUKT	**Cukurca**	**1.51**	**178**	P	**Pn**	**23 17 26.4**	**-0.3**
CUKT	**Cukurca**	**1.51**	**178**	*e*Pn	**Pb**	**23 17 27.3**	**-0.4**
CUKT				*e*Sn	**Sg**	**23 17 48.8**	**+0.4**
SIRT	**Sirnak**	**1.53**	**215**	PN	**Pb**	**23 17 28.2**	**+0.1**
SIRT	**Sirnak**	**1.53**	**215**	*e*Pn	**Pb**	**23 17 28.2**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.03**	**333**	PN	**Pb**	**23 17 35.8**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.03**	**333**	*e*Pn	**Pb**	**23 17 35.8**	**-0.9**

*ISCJB **08** 23:33:14.5±0.5, 50°25N±0°04×18°70E±0°03, h0km, Error ellipse: s-maj=5.5km s-min=2.7km az=11.0*
*CSEM **08** 23:33:14.9±0.4, 50°30N×18°77E, h1km, Error ellipse: s-maj=9.0km s-min=3.8km az=8.0*
*PRU **08** 23:33:15.9, 50°29N×18°75E, h0km*
*WAR **08** 23:33:16.2, 50°27N×18°83E, h1km, Mw2.6*
ISC 08 23:33:15.7±0.8, 50°20N±0°05×18°74E±0°02, h0km, n27, σ0s51/48, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.19**	**60**	*e*Pg	**Pg**	**23 33 18.6**	**-0.7**
CHZP				*e*Sg	**Sg**	**23 33 21.5**	**-0.2**
CHZP	**Chorzow**	**0.19**	**60**	*e*Pg	**Pg**	**23 33 18.6**	**-0.7**
CHZP				*e*Sg	**Sg**	**23 33 21.5**	**-0.2**
OKC	**Ostrava-Krasne**	**0.53**	**227**	*e*PG	**Pb**	**23 33 27.7**	**0.0**
OKC				*e*SG	**Sb**	**23 33 36.3**	**+0.4**
	comp=Z,15nm,0.4s						
OKC	**Ostrava-Krasne**	**0.53**	**227**	Pg	**Pb**	**23 33 27.7**	**0.0**
OKC				Sg	**Sb**	**23 33 36.3**	**+0.4**
	15nm,0.4s						
OJC	**Ojcow**	**0.68**	**88**	*e*Pg	**Pg**	**23 33 28.1**	**-0.6**
OJC				*e*Sg	**Sg**	**23 33 38.3**	**+0.8**
OJC	**Ojcow**	**0.68**	**88**	*e*Pg	**Pg**	**23 33 28.1**	**-0.6**
OJC				*e*Sg	**Sg**	**23 33 38.3**	**+0.8**
OJC	**Ojcow**	**0.68**	**88**	*e*Pg	**Pg**	**23 33 28.1**	**-0.6**
OJC				*e*Sg	**Sg**	**23 33 38.3**	**+0.8**
MORC	**Moravsky Berou**	**0.88**	**242**	*e*Pg	**Pb**	**23 33 33.9**	**+0.1**
MORC				*e*Sg	**Sb**	**23 33 47.0**	**+0.9**
LANS	**Liptovska Anna**	**1.15**	**155**	*e*Pg	**Pn**	**23 33 39.0**	**-0.1**
LANS				*e*Sg	**Sn**	**23 33 55.0**	**-0.5**
LANS	**Liptovska Anna**	**1.15**	**155**	*e*PG	**Pn**	**23 33 39.0**	**-0.1**
LANS				*e*SG	**Sn**	**23 33 55.0**	**-0.5**
NIE	**Niedzica**	**1.28**	**127**	*e*Pg	**Pn**	**23 33 40.5**	**-0.1**
NIE				*e*Sg	**Sn**	**23 33 59.7**	**+1.1**
NIE	**Niedzica**	**1.28**	**127**	*e*Pg	**Pb**	**23 33 40.5**	**-0.1**
NIE				*e*Sg	**Sn**	**23 33 59.7**	**+1.1**
NIE	**Niedzica**	**1.28**	**127**	*e*Pg	**Pb**	**23 33 40.5**	**-0.1**
NIE				*e*Sg	**Sn**	**23 33 59.7**	**+1.1**
DPC	**Dobruska-Polom**	**1.56**	**277**	*e*PG	**Pn**	**23 33 44.7**	**0.0**
DPC				*e*SG	**Sg**	**23 34 05.5**	**-0.2**
	comp=Z,11nm,0.4s						
DPC	**Dobruska-Polom**	**1.56**	**277**	Pg	**Pn**	**23 33 44.7**	**0.0**
DPC				Sg	**Sg**	**23 34 05.5**	**-0.2**
	11nm,0.4s						
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pg**	**23 33 48.0**	**0.0**
KSP				*e*Sg	**Sg**	**23 34 10.4**	**+0.5**
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pg**	**23 33 48.0**	**0.0**
KSP				*e*Sg	**Sg**	**23 34 10.4**	**+0.5**
VYHS	**Vyhne**	**1.71**	**178**	*e*Pg	**Pb**	**23 33 47.7**	**-0.2**
VYHS				*e*Sn	**Sn**	**23 34 09.0**	**-0.2**
VYHS	**Vyhne**	**1.71**	**178**	*e*PG	**Pb**	**23 33 47.7**	**-0.2**
VYHS				*e*SN	**Sn**	**23 34 09.0**	**-0.2**
VYHS				*e*LG	Lg	23 34 16.9	
UPC	**Upice**	**1.77**	**281**	*e*SG	**Sg**	**23 34 12.4**	**-0.2**
UPC	**Upice**	**1.77**	**281**	Sg	**Sg**	**23 34 12.4**	**-0.2**
STHS	**Stebnicka Huta**	**1.80**	**115**	*e*Pg	**Pb**	**23 33 49.4**	**-0.1**
STHS	**Stebnicka Huta**	**1.80**	**115**	*e*PG	**Pb**	**23 33 49.4**	**-0.1**
STHS				*e*LG	Lg	23 34 25.1	
PRU	**Pruhonice**	**2.71**	**267**	*e*SG	**Sg**	**23 34 42.4**	**-0.3**
PRU	**Pruhonice**	**2.71**	**267**	Sg	**Sg**	**23 34 42.4**	**-0.3**

KHC	**Kasperske Hory**	**3.52**	**254**	*e*PN		**Pn**	**23 34 11.0**	**-0.6**
KHC				*e*PG		**Pg**	**23 34 23.5**	**+0.4**
KHC				*e*SG		**Sg**	**23 35 07.8**	**-0.8**
KHC	**Kasperske Hory**	**3.52**	**254**	Pn		**Pn**	**23 34 11.0**	**-0.6**

*SOME **08** 23:34:15.3, 43°75N×81°97E, h0km*
*NNC **08** 23:34:16.0±2.3, 43°90N×82°07E, h1km±12km, mb3.6, mpv3.2, Error ellipse: s-maj=21.8km s-min=9.1km az=124.0*
ISC 08 23:34:14.9±1.9, 43°79N±0°07×82°01E±0°09, h10km, n18, σ1s64/31, 11C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.89**	**257**	⇓Pn	**Pb**	**23 34 49.7**	**+0.1**
	9.5nm,0.3s						
PDGK				⇑Sn	**Sg**	**23 35 17.8**	**+2.1**
	112nm,0.4s						
KAPS	**Kapalarasan**	**2.41**	**309**	*e*P	**Pb**	**23 34 59.5**	**+1.0**
	4.0nm,0.2s						
KAPS				*e*S	**Sg**	**23 35 32.1**	**-0.3**
	55nm,0.3s						
MNBS	**Baschi**	**2.62**	**277**	*e*P	**Pg**	**23 35 04.1**	**-1.1**
	5.2nm,0.3s						
MNBS				*e*S	**Sg**	**23 35 39.2**	**0.0**
	64nm,0.5s						
SATY	**Saty**	**2.73**	**256**	*e*P	**Pb**	**23 35 04.2**	**+0.3**
	4.5nm,0.3s						
SATY				*e*S	**Sg**	**23 35 39.3**	**-3.2**
	59nm,0.4s						
KURS	**Kuram**	**2.81**	**265**	*e*P	**Pg**	**23 35 08.1**	**-0.5**
	0.9nm,0.3s						
KURS				*e*S	**Sg**	**23 35 46.4**	**+1.4**
	19nm,0.4s						
MK31	**Makanchi Array**	**3.01**	**4**	⇑Pg	**Pg**	**23 35 11.8**	**-0.7**
	3.1nm,0.3s,baz=182,slow=15						
MK31				⇑Lg	Lg	23 35 47.5	
	68nm,0.6s,baz=184,slow=26						
MAKZ	**Makanchi**	**3.01**	**360**	⇑Pg	**Pb**	**23 35 07.8**	**-0.8**
	7.5nm,0.5s						
MAKZ				⇓Lg	Lg	23 35 52.1	
	36nm,1.1s						
ARXS	**Arharly**	**3.05**	**279**	*e*P	**Pg**	**23 35 11.7**	**-1.6**
	5.3nm,0.6s						
ARXS				*e*S	**Sg**	**23 35 53.2**	**+0.4**
	41nm,0.5s						
KOTS	**Kotyrbulak**	**3.61**	**263**	*e*P	**Pg**	**23 35 23.6**	**-0.4**
KOTS				*e*S	**Sg**	**23 36 12.7**	**+2.0**
CHKK	**Chushkaly**	**3.64**	**273**	*e*P	**Pg**	**23 35 22.9**	**-1.6**
	10nm,0.5s						
CHKK				*e*S	**Sg**	**23 36 11.5**	**-0.1**
	45nm,0.6s						
MDOK	**Medeo**	**3.67**	**262**	Pn	**Pn**	**23 35 13.8**	**+2.0**
	2.3nm,0.6s						
MDOK				Lg	Lg	23 36 12.3	
	17nm,0.6s						
TNSS	**Tian-Shan**	**3.77**	**260**	*e*P	**Pg**	**23 35 25.5**	**-1.5**
	4.3nm,1.4s						
TNSS				*e*S	**Sg**	**23 36 16.7**	**+0.9**
	31nm,0.5s						
IZV	**Izvestkoviy**	**4.01**	**261**	*e*P	**Pg**	**23 35 29.1**	**-2.6**
	3.2nm,0.7s						
IZV				*e*S	**Sg**	**23 36 23.0**	**-0.5**
	19nm,0.7s						
DGS	**Dege

MASBT	baz=221			*i* S	**Sb**	00 04 57.3	-0.9	
ECL	**Taimali**	baz=221	**0.22**	**127** ⇓ *i* P	**Pb**	00 04 55.0	0.0	
ECL		baz=122		S	**Sb**	00 04 59.2	+0.1	
SGLT	**Jiouru**	baz=122	**0.26**	**269** ⇑ P	**Pb**	00 04 55.7	+0.2	
SGLT		baz=270		*e*S	**Sb**	00 05 01.0	+1.0	
SLGT	**Liugui**	baz=270	**0.28**	**337** ⇑ P	**Pb**	00 04 55.6	-0.3	
SLGT		baz=347		*i* S	**Sb**	00 05 00.6	-0.1	
TWG	**Pinlang**	baz=347	**0.30**	**72** ⇓ *i* P	**Pb**	00 04 56.4	+0.3	
TWG		baz=74		*i* S	**Sn**	00 05 01.8	-1.3	
TWGBT	**Beinan**	baz=74	**0.30**	**73** ⇓ *i* P	**Pb**	00 04 56.4	+0.3	
TWGBT		baz=74		S	**Sb**	00 05 01.8	+0.7	
SSPT	**Xinbi**	baz=209	**0.31**	**217** ⇑ *i* P	**Pb**	00 04 56.0	-0.2	
SSPT		baz=209		S	**Sb**	00 05 01.6	+0.5	
TWM1	**Shoushan**	baz=293	**0.33**	**286** ⇑ *i* P	**Pb**	00 04 57.2	+0.6	
TWM1		baz=293		*e*S	**Sn**	00 05 03.7	-0.3	
TTN	**Taitung**	baz=79	**0.35**	**86** ⇓ P	**Pn**	00 04 57.9	-0.4	
TTN		baz=79		*e*S	**Sn**	00 05 04.6	+0.2	
EAST	**Anshuo**	baz=159	**0.35**	**168** ⇓ *i* P	**Pb**	00 04 56.8	-0.2	
EAST		baz=159		*i* S	**Sb**	00 05 02.3	-0.1	
SCZT	**Fangliau**	baz=200	**0.38**	**201** ⇑ *i* P	**Pb**	00 04 56.9	-0.5	
SCZT		baz=200		*i* S	**Sb**	00 05 02.5	-0.5	
TAW	**Tawu**	baz=154	**0.39**	**162** ⇓ *i* P	**Pb**	00 04 57.4	-0.1	
TAW		baz=154		S	**Sb**	00 05 03.3	+0.1	
SGST	**Jiashian**	baz=342	**0.39**	**334** ⇑ *i* P	**Pb**	00 04 57.8	+0.2	
SGST		baz=342		*e*S	**Sb**	00 05 04.1	+0.8	
STYT	**Tauyuan**	baz=3.0	**0.43**	**359** ⇓ P	**Pb**	00 04 58.1	-0.1	
STYT		baz=3.0		*e*S	**Sb**	00 05 05.2	+0.8	
KAU	**Kaohsiung**	baz=248	**0.45**	**249** *e*P	**Pn**	00 04 59.7	0.0	
KAU		baz=248		*e*S	**Sn**	00 05 08.2	+1.3	
WSSB	**Gushan**	baz=270	**0.47**	**259** ⇓ *i* P	**Pn**	00 04 59.9	-0.1	
WSSB		baz=270		S	**Sn**	00 05 08.6	+1.1	
CHN1	**Nanshi**	baz=347	**0.50**	**334** ⇓ P	**Pb**	00 04 59.7	+0.4	
CHN1		baz=347		*e*S	**Sn**	00 05 08.2	0.0	
CHN3	**Shinhua**	baz=315	**0.51**	**313** *e*P	**Pn**	00 05 00.7	+0.2	
CHN3		baz=315		*e*S	**Sn**	00 05 09.9	+1.6	
ELDTW	**Lidau**	baz=30	**0.51**	**27** ⇑ *e*P	**Pb**	00 04 59.5	-0.1	
ELDTW		baz=30		S	**Sn**	00 05 07.5	-1.1	
WLCH	**Liuqiu**	baz=216	**0.52**	**224** *e*P	**Pn**	00 05 01.4	+0.8	
WLCH		baz=216		*e*S	**Sn**	00 05 11.6	+3.0	
WTP	**Ta-pu**	baz=348	**0.53**	**345** ⇓ P	**Pb**	00 04 60.0	+0.1	
WTP		baz=348		*e*S	**Sn**	00 05 09.1	0.0	
TWP	**Hsiaoliuchiu**	baz=222	**0.54**	**224** *e*P	**Pn**	00 05 01.5	+0.7	
TWP		baz=222		*e*S	**Sn**	00 05 11.5	+2.6	
TPUB	**Ta-pu**	baz=350	**0.58**	**347** *e*P	**Pb**	00 05 00.5	-0.1	
TPUB		baz=350		*e*S	**Sn**	00 05 09.3	-0.8	
TAI1	**Yung-k'ang**	baz=304	**0.58**	**302** *e*P	**Pb**	00 05 00.6	0.0	
TAI1		baz=304		*e*S	**Sn**	00 05 10.7	+0.5	
CHN4	**Tsaushan**	baz=348	**0.64**	**345** *e*P	**Pb**	00 05 01.6	0.0	
CHN4		baz=348		*e*S	**Sn**	00 05 12.1	+0.5	
TWH	**Lutao**	baz=94	**0.66**	**92** ⇑ *i* P	**Pb**	00 05 01.9	0.0	
TWH		baz=94		*e*S	**Sn**	00 05 11.4	-0.5	
CHKT	**Chengkung**	baz=68	**0.66**	**56** *e*P	**Pn**	00 05 02.3	-0.3	
CHKT		baz=68		*e*S	**Sn**	00 05 12.5	+0.4	
FULB	**Fuli**	baz=47	**0.67**	**46** *e*P	**Pn**	00 05 02.7	-0.1	
FULB		baz=47		*e*S	**Sn**	00 05 12.9	+0.5	
SCLT	**Jiali**	baz=312	**0.69**	**310** *e*P	**Pb**	00 05 02.6	+0.2	
SCLT		baz=312		*e*S	**Sn**	00 05 13.4	+0.7	
HEN	**Hengchun**	baz=179	**0.72**	**182** *e*P	**Pn**	00 05 03.6	+0.2	
HEN		baz=179		*e*S	**Sn**	00 05 14.6	+1.1	
YUS	**Yu-Shan**	baz=23	**0.78**	**13** *e*P	**Pb**	00 05 04.1	-0.1	
YUS		baz=23		*e*S	**Sn**	00 05 16.0	+0.4	
ALS	**Alishan**	baz=11	**0.78**	**3** *e*P	**Pn**	00 05 04.4	0.0	
ALS		baz=11		*e*S	**Sn**	00 05 15.7	+0.3	
TWK1	**Hengchun**	baz=175	**0.78**	**177** ⇓ *i* P	**Pn**	00 05 04.4	+0.2	
TWK1		baz=175		*e*S	**Sn**	00 05 15.9	+0.9	
TWKBT	**Hengchun**	baz=175	**0.79**	**177** ⇓ *e*P	**Pn**	00 05 04.4	+0.1	
TWKBT		baz=175		*e*S	**Sn**	00 05 15.7	+0.5	
CHN8	**Yiju**	baz=323	**0.80**	**320** *e*P	**Pb**	00 05 03.7	-0.6	
CHN8		baz=323		*e*S	**Sn**	00 05 16.3	+0.8	
YULB	**Yu-li**	baz=38	**0.82**	**36** *e*P	**Pb**	00 05 04.5	-0.1	
YULB		baz=38		*e*S	**Sn**	00 05 15.5	-0.6	
CHY	**Chiayi**	baz=340	**0.83**	**338** *e*P	**Pb**	00 05 04.6	-0.1	
CHY		baz=340		*e*S	**Sn**	00 05 16.8	+0.7	
TSEB	**Hengchuen, Pin**	baz=184	**0.83**	**172** *e*P	**Pn**	00 05 05.0	+0.1	
TSEB		baz=184		S	**Sn**	00 05 18.0	+1.7	
WLGB	**Puzi**	baz=332	**0.86**	**330** ⇓ P	**Pb**	00 05 05.0	-0.3	
WLGB		baz=332		S	**Sn**	00 05 17.8	+0.9	
CHN5	**Tsauling**	baz=356	**0.87**	**355** *e*P	**Pn**	00 05 05.4	-0.1	
CHN5		baz=356		*e*S	**Sn**	00 05 18.7	+1.4	
EHY	**Hungye**	baz=35	**0.93**	**33** *e*P	**Pb**	00 05 06.3	-0.1	
EHY		baz=35		*e*S	**Sn**	00 05 18.8	+0.2	
HGSD	**Ruisui**	baz=31	**0.97**	**38** *e*P	**Pb**	00 05 07.5	+0.4	
HGSD		baz=31		*e*S	**Sn**	00 05 21.2	+1.5	
WGK	**Gukeng**	baz=351	**0.97**	**349** *e*P	**Pn**	00 05 06.8	0.0	
WGK		baz=351		*e*S	**Sn**	00 05 21.3	+1.6	
WDLH	**Douliu**	baz=347	**0.98**	**348** *e*P	**Pn**	00 05 06.6	-0.3	
LAY	**Lan-yu**	baz=132	**1.00**	**133** *e*P	**Pn**	00 05 06.2	-1.0	
LAY		baz=132		*e*S	**Sn**	00 05 20.6	+0.1	
WSF	**Szhu**	baz=333	**1.03**	**331** P	**Pn**	00 05 07.3	-0.3	
WSF		baz=333		*e*S	**Sb**	00 05 21.6	+0.2	
SSLB	**Suanglung**	baz=11	**1.07**	**9** *e*P	**Pb**	00 05 08.5	-0.3	
SSLB		baz=11		*e*S	**Sb**	00 05 23.3	+0.9	
WJS	**Zhushan**	baz=342	**1.09**	**358** *e*P	**Pb**	00 05 09.2	+0.1	
EGFH	**Guangfu**	baz=34	**1.11**	**33** *e*P	**Pb**	00 05 09.7	+0.1	
EGFH		baz=34		*e*S	**Sb**	00 05 24.5	+0.8	
WNT	**Mingjian**	baz=342	**1.15**	**356** *e*P	**Pn**	00 05 09.3	+0.1	
WNT		baz=342		*e*S	**Sb**	00 05 25.4	+0.8	
SMLT	**Sun Moon Lake**	baz=8.0	**1.16**	**6** ⇓ *e*P	**Pb**	00 05 09.9	-0.4	
SMLT		baz=8.0		*e*S	**Sb**	00 05 26.7	+1.7	
TYC	**Yuchr**	baz=6.0	**1.17**	**4** *e*P	**Pb**	00 05 10.1	-0.5	
TYC		baz=6.0		*e*S	**Sb**	00 05 27.2	+1.9	
WTCT	**Ta-ch'eng**	baz=325	**1.21**	**338** *e*P	**Pn**	00 05 09.6	-0.6	
WTCT		baz=325		*e*S	**Sb**	00 05 27.1	+0.5	
RLNB	**Erlin**	baz=329	**1.22**	**342** *e*P	**Pn**	00 05 10.5	+0.3	
RLNB		baz=329		*e*S	**Sb**	00 05 26.8	+0.2	
ESL	**Shilin**	baz=32	**1.24**	**29** *e*P	**Pb**	00 05 11.7	0.0	
ESL		baz=32		*e*S	**Sb**	00 05 28.5	+1.2	
OWD	**Renai**	baz=4.0	**1.28**	**17** *e*P	**Pb**	00 05 12.4	0.0	
OWD		baz=4.0		*e*S	**Sb**	00 05 30.4	+1.9	
DPDB	**Guoxing**	baz=6.0	**1.31**	**6** *e*P	**Pn**	00 05 12.0	+0.5	
PHUB	**P'eng-hu**	baz=306	**1.35**	**306** ⇓ *i* P	**Pn**	00 05 10.5	-1.5	
PHUB		baz=306		*e*S	**Sn**	00 05 26.7	-2.3	
WCHH	**Zhanghua**	baz=353	**1.36**	**352** *e*P	**Pn**	00 05 12.2	+0.1	
WCHH		baz=353		*e*S	**Sb**	00 05 30.6	-0.1	
CHGB	**Renai**	baz=358	**1.38**	**16** *e*P	**Pb**	00 05 13.6	-0.5	
PNG	**Penghu**	baz=307	**1.39**	**307** *e*P	**Pn**	00 05 11.4	-1.2	
ENLB	**Shoufeng**	baz=35	**1.40**	**33** *e*P	**Pb**	00 05 13.7	-0.7	
ENLB		baz=35		*e*S	**Sb**	00 05 33.8	+2.0	
TCU	**Taichung**	baz=345	**1.41**	**357** *e*P	**Pb**	00 05 14.4	-0.3	
TCU		baz=345		*e*S	**Sb**	00 05 31.9	-0.4	
HWA	**Hwalien**	baz=31	**1.46**	**32** *e*P	**Pb**	00 05 14.8	-0.7	
WHF	**Hehuan Shan**	baz=17	**1.48**	**18** *e*P	**Pb**	00 05 16.1	+0.1	
TWD	**Chiawan**	baz=32	**1.54**	**29** *e*P	**Pb**	00 05 15.8	-1.2	
TWD		baz=32		*e*S	**Sb**	00 05 36.6	+0.5	
TDCB	**Techi**	baz=12	**1.56**	**13** *e*P	**Pn**	00 05 15.7	+0.7	
TWQ1	**Liyutan**	baz=1.0	**1.61**	**0** *e*P	**Pn**	00 05 16.2	+0.6	
TWQ1		baz=1.0		*e*S	**Sb**	00 05 37.9	-0.1	
NACB	**Ninganchiao**	baz=40	**1.63**	**28** *e*P	**Pn**	00 05 16.6	+0.7	
NSY	**Sanyi**	baz=345	**1.68**	**360** *e*P	**Pn**	00 05 17.6	+1.0	
NSY		baz=345		*e*S	**Sb**	00 05 40.2	+0.3	
PTSB	**Yuanli**	baz=357	**1.71**	**358** *e*P	**Pn**	00 05 18.0	+1.0	
NNSB	**Datong**	baz=1.0	**1.78**	**18** *e*P	**Pb**	00 05 19.5	-1.6	
NNSH	**Datong**		**1.78**	**18** *e*P	**Pb**	00 05 19.8	-1.3	
NNS	**Nan Shan**	baz=21	**1.79**	**18** *e*P	**Pb**	00 05 20.2	-1.0	
NNS		baz=21		*e*S	**Sb**	00 05 43.6	+0.4	
NSTT	**Nanjuang**	baz=349	**1.91**	**6** *e*P	**Pn**	00 05 20.4	+0.7	
ENA	**Nanau**	baz=27	**1.91**	**28** *e*P	**Pn**	00 05 21.0	+1.2	
NANB	**Nanao**	baz=31	**1.92**	**28** *e*P	**Pn**	00 05 20.7	+0.9	
NANB		baz=31		*e*S	**Sb**	00 05 44.9	-1.8	
LIOB	**Emei**	baz=349	**1.92**	**7** *e*P	**Pn**	00 05 20.6	+0.7	
ENAH	**Nanao**	baz=28	**1.96**	**29** *e*P	**Pn**	00 05 22.0	+1.5	
YHNB	**Yeheng**	baz=358	**2.01**	**16** *e*P	**Pn**	00 05 22.4	+1.2	
ENTT	**Nioudou**	baz=38	**2.04**	**21** *e*P	**Pb**	00 05 23.7	-1.7	
ENTT		baz=38		*e*S	**Sb**	00 05 50.1	-0.2	
TWC	**Suao**	baz=27	**2.12**	**28** ⇑ *e*P	**Pb**	00 05 24.5	-2.2	
NWLT	**Wulai**	baz=359	**2.15**	**18** *e*P	**Pb**	00 05 25.2	-2.0	
TWE	**Neicheng**	baz=37	**2.15**	**22** *e*P	**Pb**	00 05 26.1	-1.0	
EOS1	**EOS1**	baz=47	**2.20**	**34** *e*P	**Pb**	00 05 26.8	-1.2	
NTC	**Toucheng**	baz=37	**2.33**	**24** *e*P	**Pb**	00 05 28.6	-1.6	
TATO	**Taipei**	baz=358	**2.33**	**16** *e*P	**Pn**	00 05 27.1	+1.5	
TIPB	**Shuangxi**	baz=36	**2.43**	**23** *e*P	**Pn**	00 05 28.4	+1.5	
YM04	**YM04**	baz=305	**2.51**	**16** *e*P	**Pn**	00 05 29.7	+1.6	
TWB1	**Santiao Chiao**	baz=26	**2.53**	**26** *e*P	**Pn**	00 05 30.6	+2.3	
VWUC	**VWUC**	baz=330	**2.55**	**332** *e*P	**Pn**	00 05 27.7	-0.9	
YM07	**YM07**	baz=1.0	**2.56**	**18** *e*P	**Pn**	00 05 30.4	+1.7	
JYNG	**Yonagunijimaku**		**2.63**	**49** P	**Pn**	00 05 32.2	+2.5	
JYNG				S	**Sb**	00 06 05.3	-2.0	
YOJ	**Yonaguni jima**	baz=48	**2.69**	**50** *e*P	**Pn**	00 05 32.1	+1.7	
YOJ	**Yonaguni jima**		**2.69**	**50** P	**Pn**	00 05 32.6	+2.2	
YOJ				S	**Sb**	00 06 06.8	-2.0	
KNM	**Kinmen**	baz=305	**2.72**	**309** *e*P	**Pn**	00 05 31.6	+0.7	
KNMB	**Chin-men Tao**	baz=307	**2.78**	**309** *e*P	**Pn**	00 05 30.6	-1.1	
HATJ	**Hateruma jima**		**3.09**	**64** P	**Pn**	00 05 37.6	+1.7	
HATJ				S	**Sn**	00 06 14.1	+2.1	
MATB	**Ma-tsu**	baz=346	**3.49**	**348** *e*P	**Pn**	00 05 41.0	-0.5	
JIJ	**Ishigaki jima**		**3.50**	**62** P	**Pn**	00 05 42.6	+1.0	
JIJ				S	**Sn**	00 06 23.5	+1.4	
VDOS	**Pratas Island**	baz=239	**4.26**	**242** *e*P	**Pn**	00 05 52.0	0.0	
MKAR	**Makanchi Array**	0.4nm,0.6s,baz=113,slow=9.6,SNR=6.1	**39.13**	**317** P	**P**	00 12 14.9	+0.8	
ZALV	**Zalesovo Beam**	0.5nm,0.3s,baz=124,slow=7.8,SNR=3.2	**41.26**	**328** P	**P**	00 12 33.3	+1.7	
WRA	**Warramunga Arr**	0.4nm,0.6s,baz=342,slow=8.5,SNR=4.3	**44.43**	**162** P	**P**	00 12 55.4	-2.3	
ASAR	**Alice Springs**	0.2nm,0.4s,baz=356,slow=14,SNR=5.7	**47.85**	**164** P	**P**	00 13 24.1	-0.5	
BVAR	**Borovoye Array**	0.4nm,0.5s,baz=99,slow=4.5,SNR=3.8	**48.56**	**322** P	**P**	00 13 30.4	+0.6	
YKA	**Yellowknife Ar**	0.1nm,0.4s,baz=309,slow=4.8,SNR=5.4	**84.45**	**23** P	**P**	00 17 18.1	-0.8	

KRSC 09 00:11:05.3±0.6, 55.34N×162.47E, h34km±19km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.89**	**13**	*i* P	Pb	00 11 22.3	0.0
KBTR				*e*S	Sb	00 11 35.2	+1.3
KZV	**Kizimen**	**1.27**	**261**	*e*P	Pb	00 11 28.0	-0.7
KZV				*e*S	Sn	00 11 43.4	+0.8
BZMR	**Bezymyannaya**	**1.27**	**299**	*e*P	Pb	00 11 28.0	-0.8
BZWR	**Bezymyannyi-We**	**1.28**	**300**	*e*P	Pb	00 11 28.3	-0.7
TUMR	**Tumrok**	**1.33**	**268**	*e*P	Pb	00 11 29.3	-0.4
TUMR				*e*S	Sb	00 11 47.2	+0.7
KMNR	**Kamenistaya**	**1.34**	**289**	*e*P	Pb	00 11 29.3	-0.5
KMNR				*e*S	Sb	00 11 46.8	+0.1
SMKR	**Semkarok**	**1.37**	**336**	*e*P	Pb	00 11 29.4	-0.9
SMKR				*e*S	Sb	00 11 46.9	-0.6
KLY	**Klyuchi**	**1.42**	**314**	*e*P	Pn	00 11 28.4	-0.2
KLY				*e*S	Sn	00 11 45.0	-1.0
BDR	**Baidarnaya**	**1.42**	**331**	*e*P	Pb	00 11 30.5	-0.7
SRKR	**Sorokina**	**1.51**	**331**	*e*P	Pb	00 11 31.3	-1.4
SRKR				*e*S	Sb	00 11 50.0	-1.5
KOZ	**Kozyrevsk**	**1.64**	**297**	*e*P	Pb	00 11 34.1	-0.7
KOZ				*e*S	Sb	00 11 54.3	-0.8
BKI	**Bering**	**2.01**	**92**	*e*P	Pb	00 11 39.7	-1.4
BKI				*e*S	Sb	00 12 03.3	-2.3
KII	**Karymskiy**	**2.19**	**235**	*e*P	Pb	00 11 42.1	-2.1
KII				*e*S	Sn	00 12 08.0	+2.8
ESO	**Esso**	**2.22**	**287**	*e*P	Pn	00 11 41.7	+2.1
SPN	**Mys Shipunski**	**2.67**	**214**	*e*P	Pb	00 11 49.4	-2.9
SPN				*e*S	Sn	00 12 19.1	+2.2
NLC	**Nalytchevo**	**2.84**	**221**	*e*P	Pb	00 11 51.8	-3.5
NLC				*e*S	Sb	00 12 25.5	-4.1
SDLR	**Sedlovina**	**2.95**	**227**	*e*P	Pn	00 11 52.7	+3.0
SDLR				*e*S	Sn	00 12 27.5	+3.5
KRX	**Arik**	**2.99**	**230**	*e*P	Pn	00 11 53.7	+3.3
SMAR	**Somma**	**2.99**	**227**	*e*P	Pn	00 11 53.5	+3.0
AVH	**Avacha**	**3.02**	**228**	*e*P	Pb	00 11 54.7	-3.6
UGLR	**Uglovaya**	**3.02**	**227**	*e*P	Pn	00 11 54.3	+3.5
GNL	**Ganaly**	**3.11**	**240**	*e*P	Pn	00 11 54.9	+2.9
DALK	**Dalny**	**3.18**	**225**	*e*P	Pn	00 11 55.9	+3.1
DALK				*e*S	Sn	00 12 32.8	+3.3
PET	**Petropavlovsk**	**3.23**	**226**	*e*P	Pb	00 11 57.8	-4.0
PET				*e*S	Sn	00 12 34.9	+4.2
KRMR	**Karymshinskiy**	**3.59**	**227**	*e*P	Pb	00 12 03.5	-4.4
KRMR				*e*S	Sn	00 12 44.3	+4.8
RUS	**Russkaya**	**3.74**	**220**	*e*P	Pn	00 12 05.2	+4.7
RUS				*e*S	Sn	00 12 48.2	+5.0
MTVR	**Mutnovka**	**3.83**	**223**	*e*P	Pn	00 12 06.5	+4.7
MTVR				*e*S	Sn	00 12 51.6	+6.0
APC	**Apacha**	**3.95**	**234**	*e*P	Pn	00 12 06.9	+3.5
APC				*e*S	Sb	00 12 55.7	-5.7
ASAK	**Asacha**	**4.01**	**224**	*e*P	Pn	00 12 08.4	+4.1
KDTR	**Khodutka, Kamc**	**4.40**	**218**	*e*P	Pn	00 12 14.4	+4.8

IDC 09 00:12:06.4±2.0, 7.84S×146.53E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.3/41, mbtmp3.4/3, ML2.7/1, Error ellipse: s-maj=40.3km s-min=16.9km az=70.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.68**	**158**	Pg	Pn	00 12 36.7	-0.4
	8.7nm,0.3s,baz=336,slow=7.4,SNR=12						
PMG				Lg	Lg	00 12 59.8	
	16nm,0.3s,baz=336,slow=20,SNR=24						
WRA	**Warramunga Arr**	**16.86**	**223**	Pn	Pn	00 16 03.8	-0.3
	0.0nm,0.3s,baz=49,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**19.86**	**216**	P	P	00 16 39.4	+0.2
	baz=54,slow=9.6,SNR=5.0						
ILAR	**Eielson Array**	**87.34**	**23**	P	P	00 24 55.0	0.0
	0.5nm,0.9s,baz=238,slow=5.0,SNR=3.4						

CSEM ***09*** *00:22:35.7±0.2, 67.81N×20.26E, h2km, ML2.5, Error ellipse: s-maj=4.6km s-min=4.0km az=59.0, Mining explosion.*

UPP ***09*** *00:22:36.1, 67.84N×20.20E, h0km, ML2.5, Mining explosion.*

HEL 09 00:22:36.7±0.1, 67.84N×20.19E, h0km, ML1.6, ML2.5(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**25**	P	Pg	00 22 38.8	-0.4
KUA				S	Sg	00 22 40.7	-0.2
KUA	**Kurravaara**	**0.13**	**25**	P	Pg	00 22 38.8	-0.4
KUA				S	Sg	00 22 40.7	-0.3
KUA	**Kurravaara**	**0.13**	**25**	*i* P	Pg	00 22 38.9	-0.4
KUA				*i* S	Sg	00 22 40.7	-0.3
RATU	**Laukkuluspa**	**0.23**	**267**	P	Pg	00 22 40.7	-0.3
RATU	**Laukkuluspa**	**0.23**	**267**	P	Pg	00 22 40.7	-0.3
RATU	**Laukkuluspa**	**0.23**	**267**	*i* P	Pg	00 22 40.7	-0.3
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	00 22 44.6	-0.5
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	00 22 44.6	-0.4
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 22 44.6	-0.4
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 22 49.5	-0.8
LANU				S	Sg	00 22 59.0	-0.6
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 22 49.5	-0.8
LANU	**Lannavaara**	**0.71**	**72**	*e*P	Pg	00 22 49.4	-0.9
LANU				*e*S	Sg	00 22 59.0	-0.5
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 22 49.8	-0.9
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 22 49.8	-0.9
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	00 22 49.8	-0.9
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 22 51.0	-0.8
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 22 51.0	-0.8
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 22 51.0	-0.8
KIF	**Kilpisjarvi**	**1.20**	**11**	Pb	Pg	00 22 59.1	-0.5
KIF				S	Sg	00 23 14.9	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*PB	Pg	00 22 59.1	-0.5
KIF				MSG		00 23 14.3	
	comp=Z,6.1nm,0.2s						
KIF				*e*S	Sg	00 23 14.9	-0.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 23 01.5	-1.8
PAJU				S	Sg	00 23 19.9	-1.5
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 23 01.5	-1.8
PAJU				S	Sg	00 23 19.9	-1.4
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	00 23 01.5	-1.8
PAJU				*e*S	Sg	00 23 19.9	-1.4
HEF	**Hetta**	**1.42**	**65**	P	Pn	00 23 02.0	-1.8
HEF				Sb	Sg	00 23 21.0	-1.4
HEF	**Hetta**	**1.42**	**65**	*e*P	Pn	00 23 02.1	-1.7
HEF				MSG		00 23 19.7	
	comp=Z,6.5nm,0.2s						
HEF				*e*SB	Sg	00 23 21.0	-1.4
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	00 23 03.6	-1.3
ERTU				Sn	Sg	00 23 24.1	-0.9
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	00 23 03.6	-1.3
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	Pn	00 23 03.7	-1.2
	baz=331						
ERTU				*e*SN	Sg	00 23 24.1	-0.8
KALU	**Kalix**	**2.35**	**146**	Pb	Pn	00 23 16.9	+0.5
KALU				Sb	Sb	00 23 47.8	-1.4
KALU	**Kalix**	**2.35**	**146**	*e*PB	Pn	00 23 16.9	+0.5
KALU				*e*SB	Sb	00 23 47.9	-1.4
TOF	**Tornio**	**2.40**	**135**	Pb	Pn	00 23 18.0	+0.9
TOF				Sg	Sb	00 23 50.6	-0.2
TOF	**Tornio**	**2.40**	**135**	*e*PB	Pn	00 23 18.0	+0.9
TOF				MSG		00 23 46.6	
	comp=Z,2.0nm,0.2s						
TOF				*e*SG	Sb	00 23 50.6	-0.2
SGF	**Sodankyl**	**2.46**	**96**	Pb	Pn	00 23 19.1	+1.2
SGF				Sg	Sb	00 23 52.1	-0.3
SGF	**Sodankyl**	**2.46**	**96**	*e*PB	Pn	00 23 19.1	+1.2
SGF				*e*SG	Sb	00 23 52.1	-0.3
ARE0	**ARCESS Array S**	**2.59**	**46**	P	Pn	00 23 20.4	+0.6
ARE0				Sb	Sn	00 23 53.7	+1.8
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	Pn	00 23 20.4	+0.6
ARE0				*e*SB	Sn	00 23 53.7	+1.8

NEIC ***09*** *00:28:41.0±0.4, 8.46N×93.65E, h10km, mb4.3/9, Error ellipse: s-maj=12.1km s-min=8.4km az=46.0*

ISCJB ***09*** *00:28:41.0±0.5, 8.44N±0.07×93.72E±0.08, h22km, mb4.0/24, Error ellipse: s-maj=12.9km s-min=7.5km*

az=142.7
*IDC **09** 00:28:49.2±5.1,8.61N×93.85E,h75km±45km,mb3.6/15, mb1 3.7/16,mb1mx3.4/65,mbtmp3.9/16,ML4.4/1,Error ellipse: s-maj=33.5km s-min=18.6km az=56.0*
ISC 09 00:28:43.0±0.6,8.44N±0.10×93.70E±0.10,h22km,n44, σ0§86/43,mb4.1/24,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.58**	**114**	*e*Pn	**Pn**	**00 30 31.7**	**-0.5**
	14nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.19**	**27**	P	**Pn**	**00 31 23.7**	**+2.0**
	0.9nm,0.3s,baz=217,slow=14,SNR=8.5						
ODAN	**Odare**	**19.27**	**343**	*e*P	**Pn**	**00 33 07.5**	**-0.1**
	7.7nm,0.4s						
RAMN	**Ramite**	**19.60**	**341**	*e*P	**Pn**	**00 33 11.6**	**0.0**
	15nm,0.5s						
TAPN	**Taplejung**	**19.64**	**344**	*e*P	**P**	**00 33 11.0**	**+0.3**
	41nm,0.9s						
JIRN	**Jiri**	**20.39**	**341**	*e*P	**P**	**00 33 19.6**	**+0.7**
PKI	**Pulchoki**	**20.58**	**339**	*e*P	**P**	**00 33 21.4**	**+0.5**
PKIN	**Phulchoki**	**20.59**	**339**	*e*P	**P**	**00 33 21.3**	**+0.4**
DMN	**Daman**	**20.73**	**338**	*e*P	**P**	**00 33 22.9**	**+0.5**
	15nm,0.8s						
GUN	**Gumba**	**20.73**	**340**	*e*P	**P**	**00 33 22.9**	**+0.4**
	27nm,0.7s						
KKN	**Kakani**	**20.83**	**339**	*e*P	**P**	**00 33 23.7**	**+0.3**
	16nm,0.7s						
GKN	**Gorkha**	**21.26**	**337**	*e*P	**P**	**00 33 28.5**	**+0.5**
	0.7nm,0.3s						
LSA	**Lhasa**	**21.29**	**354**	*e*P	**P**	**00 33 28.0**	**-0.6**
	5.8nm,0.4s						
KOLN	**Koldanda**	**21.46**	**335**	*e*P	**P**	**00 33 30.7**	**+0.4**
	19nm,0.9s						
DANN	**Dangsing**	**21.91**	**336**	*e*P	**P**	**00 33 35.3**	**+0.1**
PYUN	**Piuthan**	**22.01**	**334**	*e*P	**P**	**00 33 36.9**	**+0.7**
KKM	**Kota Kinabalu**	**22.46**	**95**	P	**P**	**00 33 41.8**	**+0.8**
	14nm,0.9s						
DGAR	**Diego Garcia**	**26.39**	**234**	P	**P**	**00 34 17.7**	**-0.3**
	15nm,0.7s						
H08S3	**Diego Garcia H**	**26.49**	**234**	T	T	01 01 13.5	
	baz=53						
H08S2	**Diego Garcia H**	**26.49**	**233**	T	T	01 01 19.0	
	baz=53						
H08S1	**Diego Garcia H**	**26.51**	**234**	T	T	01 01 10.5	
	baz=53						
MKAR	**Makanchi Array**	**39.45**	**348**	P	**P**	**00 36 10.4**	**-1.1**
	0.6nm,0.6s,baz=169,slow=8.8,SNR=9.8						
KKAR	**Karatay Array**	**40.06**	**333**	*e*P	**P**	**00 36 16.1**	**-0.6**
	1.3nm,0.8s						
SONM	**Songino Array**	**40.71**	**13**	PcP	**PcP**	**00 38 23.9**	**+0.4**
	0.4nm,0.4s,baz=180,slow=2.3,SNR=2.7						
GEYT	**Alibeck**	**43.49**	**318**	P	**P**	**00 36 46.3**	**+1.4**
	5.5nm,0.7s,baz=143,slow=7.6,SNR=18						
TLY	**Talaya**	**43.88**	**9**	P	**P**	**00 36 47.5**	**-0.3**
	1.9nm,0.4s						
KURBB	**Kurchatov Arra**	**43.90**	**346**	P	**P**	**00 36 47.1**	**-0.8**
	1.6nm,0.9s,baz=161,slow=7.3,SNR=12						
KURBB				PcP	**PcP**	**00 38 33.2**	**-0.5**
	0.4nm,0.7s,baz=154,slow=2.8,SNR=4.4						
KURK	**Kurchatov**	**43.96**	**346**	P	**P**	**00 36 47.1**	**-1.3**
KURK				PcP	**PcP**	**00 38 33.2**	**-0.7**
ZALV	**Zalesovo Beam**	**45.94**	**353**	P	**P**	**00 37 03.8**	**-0.3**
	5.6nm,0.8s,baz=176,slow=8.7,SNR=28						
BVAR	**Borovoye Array**	**48.32**	**341**	P	**P**	**00 37 21.2**	**-1.5**
	0.3nm,0.4s,baz=157,slow=7.8,SNR=4.3						
RAYN	**Ar Rayn**	**48.46**	**294**	*e*P	**P**	**00 37 25.9**	**+1.6**
	5.1nm,0.9s						
WRA	**Warramunga Arr**	**48.95**	**126**	P	**P**	**00 37 27.1**	**-1.0**
	0.2nm,0.5s,baz=308,slow=8.4,SNR=3.4						
WRAB	**Tennant Creek**	**48.95**	**126**	P	**P**	**00 37 28.1**	**0.0**
	1.6nm,1.0s						
ABKAR	**Akbulak array**	**49.53**	**331**	*e*P	**P**	**00 37 31.8**	**-0.2**
	0.6nm,0.4s						
ASAR	**Alice Springs**	**50.61**	**130**	P	**P**	**00 37 41.3**	**+0.6**
	0.2nm,0.4s,baz=220,slow=38,SNR=1.8						
BRTR	**Keskin Array B**	**61.73**	**311**	P	**P**	**00 38 58.8**	**-1.3**
	0.9nm,0.8s,baz=129,slow=7.6,SNR=7.6						
MATP	**Matopo**	**70.20**	**245**	P	**P**	**00 39 56.8**	**+1.8**
	1.0nm,0.6s,baz=89,slow=7.3,SNR=4.7						
FINES	**FINESS Array B**	**72.01**	**332**	P	**P**	**00 40 04.0**	**-0.9**
	1.3nm,0.7s,baz=98,slow=5.8,SNR=4.4						
ARCES	**ARCESS Array B**	**74.59**	**340**	P	**P**	**00 40 19.5**	**-0.5**
	5.4nm,1.1s,baz=104,slow=7.5,SNR=3.3						
HFS	**Hagfors**	**77.75**	**330**	P	**P**	**00 40 37.6**	**-0.6**
	2.4nm,0.7s,baz=104,slow=4.6,SNR=8.7						
NOA	**NORSAR Array B**	**79.03**	**331**	P	**P**	**00 40 44.2**	**-1.1**
	0.9nm,0.7s,baz=94,slow=5.4,SNR=3.3						
EKA	**Eskdalemuir Ar**	**87.01**	**325**	P	**P**	**00 41 25.6**	**-1.1**
	0.9nm,0.7s,baz=103,slow=5.2,SNR=3.2						
MCK	**McKinley**	**94.12**	**23**	P	**P**	**00 42 00.1**	**+0.4**
	1.2nm,0.6s						
ILAR	**Eielson Array**	**94.39**	**22**	P	**P**	**00 42 00.6**	**-0.3**
	0.2nm,0.8s,baz=300,slow=4.1,SNR=3.3						

*ISCJB **09** 00:35:07.6±1.2,36.25N±0.04×141.04E±0.08, h15km±10km,mb3.5/3,Error ellipse: s-maj=11.1km s-min=6.5km az=16.5*
*JMA **09** 00:35:07.9±0.1,36.20N×141.04E,h40km±1km,M3.1*
*IDC **09** 00:35:13.5±4.9,35.83N×140.39E,h0km,mb3.6/3, mb1 3.6/3,mb1mx3.2/63,mbtmp3.6/3,Error ellipse: s-maj=142.4km s-min=49.4km az=10.0*
ISC 09 00:35:07.8±1.9,36.27N±0.06×141.03E±0.08,h9km±10km, n18,σ1§93/16,mb3.8/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.51**	**313**	P	**Pg**	**00 35 19.2**	**+1.6**
CHOJ	**Chosi**	**0.58**	**194**	*e*S	**Sb**	**00 35 26.0**	**-2.4**
JYT	**Yasato**	**0.67**	**267**	P	**Pg**	**00 35 21.2**	**+0.4**
JYT				S	**Sg**	**00 35 30.2**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.85**	**348**	P	**Pg**	**00 35 24.1**	**-0.1**
ONAJ				*e*S	**Sg**	**00 35 35.3**	**-0.1**
JFK	**Kawauchi**	**1.11**	**354**	P	**Pb**	**00 35 27.3**	**-1.8**
JAG	**Ashikaga**	**1.28**	**278**	P	**Pn**	**00 35 30.2**	**-1.7**
JAG				*e*S	**Sb**	**00 35 46.3**	**-2.3**
JFT	**Otama**	**1.37**	**336**	P	**Pn**	**00 35 32.7**	**-0.4**
JFT				S	**Sn**	**00 35 49.8**	**-1.6**
MJAR	**Matsushiro Arr**	**2.29**	**278**	Pn	**Pn**	**00 35 45.5**	**-0.3**
	6.4nm,0.3s,baz=111,slow=7.7,SNR=31						
MJAR				Sn	**Sn**	**00 36 13.5**	**-0.7**
	2.5nm,0.3s,baz=320,slow=28,SNR=5.2						
MAT	**Matsushiro**	**2.29**	**278**	P	**Pn**	**00 35 45.3**	**-0.5**
MAT				S	**Sn**	**00 36 14.0**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**28.04**	**119**	T	T	01 10 04.6	
	baz=311,slow=75,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**28.04**	**119**	T	T	01 10 12.1	
	baz=311,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**28.05**	**119**	T	T	01 10 14.2	
	baz=311,slow=75,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**28.72**	**121**	T	T	01 11 03.4	
	baz=314,slow=75,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**28.72**	**121**	T	T	01 11 04.6	
	baz=314,slow=75,SNR=9.0						
H11S2	**WAKE ISLAND Hy**	**28.73**	**121**	T	T	01 11 02.9	
	baz=314,slow=75,SNR=8.2						
ZALV	**Zalesovo Beam**	**42.21**	**313**	P	P	00 43 07.4	+6.6
	1.0nm,0.6s,baz=88,slow=6.6,SNR=5.9						
MKAR	**Makanchi Array**	**44.27**	**303**	P	P	00 43 24.4	+6.8
	0.2nm,0.7s,baz=84,slow=9.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**46.23**	**309**	P	**P**	**00 43 37.7**	**+4.6**
	0.8nm,0.7s,baz=84,slow=8.1,SNR=7.7						

*ISCJB **09** 00:37:00.8±0.8,37.21N±0.04×141.48E±0.09,h60km±6km, mb3.7/6,Error ellipse: s-maj=12.2km s-min=5.6km az=11.0*
*IDC **09** 00:37:01.8±4.2,37.17N×141.68E,h64km±35km,mb3.5/5, mb1 3.6/8,mb1mx3.2/64,mbtmp3.8/8,ML3.0/3,Error ellipse: s-maj=35.7km s-min=16.5km az=67.0*
*JMA **09** 00:37:02.9±0.1,37.27N×141.34E,h57km±1km,M3.9*
JMA Felt II J1.
ISC 09 00:37:00.9±1.4,37.21N±0.04×141.57E±0.08,h47km±13km, n27,σ1§51/33,mb3.9/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.58**	**286**	P	**Pn**	**00 37 13.4**	**+0.4**
JFK				S	**Sn**	**00 37 20.7**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.63**	**260**	P	**Pn**	**00 37 14.3**	**+0.7**
ONAJ				S	**Sn**	**00 37 22.4**	**-0.4**
JMM	**Marumori**	**0.90**	**317**	P	**Pn**	**00 37 17.5**	**+0.3**
JMM				S	**Sn**	**00 37 28.2**	**-0.9**
JHO	**Hitachi**	**1.00**	**234**	P	**Pn**	**00 37 19.2**	**+0.6**
JHO				S	**Sn**	**00 37 31.2**	**-0.4**
JFT	**Otama**	**1.03**	**288**	P	**Pn**	**00 37 19.5**	**+0.5**
JFT				S	**Sn**	**00 37 31.1**	**-1.2**
JIO	**Ouri**	**1.25**	**352**	P	**Pn**	**00 37 23.4**	**+1.4**
JIO				S	**Sn**	**00 37 38.0**	**+0.3**
JOU	**Okura**	**1.36**	**328**	P	**Pn**	**00 37 23.8**	**+0.3**
JFY	**Yanaizu**	**1.50**	**278**	P	**Pn**	**00 37 25.4**	**0.0**
JFY				*e*S	**Sn**	**00 37 42.0**	**-1.8**
JYS	**Shirataka**	**1.56**	**311**	P	**Pn**	**00 37 26.6**	**+0.3**
JYS				*e*S	**Sn**	**00 37 44.6**	**-0.7**
JMK	**Ichinoseki**	**1.76**	**351**	P	**Pn**	**00 37 30.1**	**+1.2**
JMK				S	**Sn**	**00 37 50.5**	**+0.3**
JNS	**Sasagawa**	**1.89**	**289**	P	**Pn**	**00 37 30.3**	**-0.4**
MJAR	**Matsushiro Arr**	**2.78**	**257**	P	**Pn**	**00 37 44.7**	**+1.7**
	1.8nm,0.3s,baz=76,slow=17,SNR=7.2						
MJAR				S	**Sn**	**00 38 18.5**	**+3.3**
	3.0nm,0.3s,baz=67,slow=28,SNR=4.5						
MAT	**Matsushiro**	**2.78**	**257**	P	**Pn**	**00 37 44.3**	**+1.4**
MAT				*e*S	**Sn**	**00 38 18.3**	**+3.1**
JHJ	**Hachijo jima 2**	**4.34**	**200**	P	**Pn**	**00 38 03.7**	**-0.6**
	20nm,0.3s,baz=28,slow=17,SNR=3.0						
JHJ				S	**Sn**	**00 38 53.9**	**+0.3**
	18nm,0.3s,baz=57,slow=18,SNR=2.6						
USRK	**Ussuriysk Ar.**	**10.08**	**317**	P	**Pn**	**00 39 26.6**	**+3.7**
	0.2nm,0.3s,baz=144,slow=12,SNR=6.4						
SONM	**Songino Array**	**27.79**	**304**	P	**P**	**00 42 45.5**	**0.0**
	0.7nm,0.6s,baz=90,slow=7.2,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	01 13 08.5	
	SNR=25						
H11N1	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	01 12 57.5	
	baz=200,slow=74,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	01 12 34.7	
	baz=313,slow=74,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	01 14 08.7	
	SNR=19						
H11S3	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	01 13 31.6	
	baz=314,slow=74,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	01 13 32.8	
	baz=255,slow=74,SNR=20						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**00 44 45.9**	**-0.5**
	1.9nm,0.7s,baz=90,slow=7.2,SNR=8.2						
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**00 45 03.7**	**-1.0**
	0.1nm,0.4s,baz=84,slow=9.8,SNR=4.3						
KURBB	**Kurchatov Arra**	**45.99**	**308**	P	**P**	**00 45 18.5**	**-0.8**
	1.3nm,0.6s,baz=82,slow=7.8,SNR=18						
BVAR	**Borovoye Array**	**50.55**	**312**	P	**P**	**00 45 50.9**	**-3.5**
	0.8nm,0.5s,baz=98,slow=9.8,SNR=4.8						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**00 46 44.1**	**+0.5**
	0.4nm,0.4s,baz=4.0,slow=7.3,SNR=2.7						

MAN 09 00:40:21,12.40N×123.66E,h12km,mb4.3,ML3.1,MS2.8, 2C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.05**	**215**	*i*P	Pg	00 40 23.6	+0.3
MMPH				*i* S	Sg	00 40 25.6	+0.6
CNP	**Catarman**	**0.99**	**84**	*e*P	Pb	00 40 39.8	-0.3
CNP				*e*S	Sn	00 40 54.4	-0.3
RCP	**Roxas**	**1.22**	**227**	*e*P	Pn	00 40 43.3	-0.6
RCP				*e*S	Sg	00 41 00.7	+0.3
PVCP	**Virac**	**1.28**	**22**	*e*P	Pn	00 40 44.7	0.0
PVCP				*e*S	Sn	00 41 02.0	+0.1
OCLP	**Ormoc**	**1.64**	**145**	*e*P	Pn	00 40 49.3	-0.4
OCLP				*e*S	Sg	00 41 13.7	+0.1
PLP	**Palo**	**1.79**	**133**	*e*P	Pn	00 40 51.3	-0.4
PLP				*e*S	Sn	00 41 15.0	+0.7
BESP	**Borongan**	**1.92**	**114**	*e*P	Pb	00 40 55.9	-0.1
BESP				*e*S	Sb	00 41 20.5	+0.6
GUIM	**Jordan**	**2.05**	**211**	*e*P	Pn	00 40 56.2	+0.8
JAP	**San Jose, Anti**	**2.35**	**226**	*e*P	Pb	00 41 02.8	-0.5
SJMP	**San Jose**	**2.48**	**272**	*e*P	Pn	00 41 01.2	0.0

*ISCJB **09** 00:43:35.7±0.4,34.67S±0.03×73.09W±0.05,h33km, mb4.3/27,Error ellipse: s-maj=6.5km s-min=4.5km az=10.0*
*IDC **09** 00:43:35.5±0.8,34.70S×72.46W,h0km,mb4.4/11, mb1 4.4/12,mb1mx4.3/31,mbtmp4.4/12,ML3.7/1,MS3.9/2, Ms1 3.9/2,ms1mx3.3/33,Error ellipse: s-maj=33.8km s-min=20.1km az=72.0*
*GUC **09** 00:43:36.6±0.5,34.73S×72.78W,h39km±3km,ML4.3*
*NEIC **09** 00:43:36.0±0.0,34.73S×72.78W,h39km,mb4.3/11, ML4.3(GUC),After GUC.*
NEIC Felt [II] at Constitucion, Pencahue and Talca.
ISC 09 00:43:33.4±0.8,34.70S±0.03×72.87W±0.05,h3km±5km, n73,σ2§37/92,mb4.5/27,4C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.78**	**67**	*i*P	**Pb**	**00 43 50.3**	**+0.6**
CHPI				*i* S	**Sb**	**00 44 00.6**	**-0.1**
GO05	**HualaæØ**	**0.83**	**112**	*i*P	**Pb**	**00 43 50.9**	**+0.3**
GO05				*i* S	**Sg**	**00 43 59.5**	**-0.8**
GO05				IAML		00 44 02.0	
	comp=N,14μm,0.2s						
NICH	**Los Niches**	**1.38**	**103**	*i*P	**Pb**	**00 43 59.9**	**-0.1**
NICH				*i* S	**Sn**	**00 44 16.5**	**-2.0**
COCH	**Cobquecura**	**1.43**	**177**	*i* P	**Pg**	**00 44 01.4**	**+0.6**
COCH				*i* S	**Sb**	**00 44 17.8**	**-1.5**
COCH	**Cobquecura**	**1.43**	**177**	*i*P	**Pg**	**00 44 00.8**	**0.0**
COCH				*i* S	**Sb**	**00 44 17.8**	**-1.5**
CCHI	**Chillan**	**2.00**	**161**	*i* P	**Pb**	**00 44 10.5**	**-0.1**
CCHI				*i* S	**Sg**	**00 44 36.6**	**-1.2**
CCHI	**Chillan**	**2.00**	**161**	*e*P	**Pb**	**00 44 08.8**	**-1.7**
CCHI				*i* S	**Sb**	**00 44 33.6**	**-2.3**
CCHI				IAML		00 44 45.0	
	comp=N,5μm,0.6s						
CCSP	**San Pedro de C**	**2.15**	**185**	IAML		00 44 48.5	
	comp=N,1μm,0.5s						
ANTU	**Antumapu**	**2.17**	**59**	IAML		00 44 46.9	
	comp=N,5μm,0.6s						
CLCH	**Cerro Calan**	**2.34**	**57**	*i*P	**Pn**	**00 44 13.8**	**+1.0**
CLCH				*i* S	**Sn**	**00 44 42.6**	**+0.5**
CLCH				IAML		00 44 58.1	
	comp=E,5μm,0.7s						
LMEL	**Las Melosas**	**2.37**	**70**	*e*P	**Pn**	**00 44 14.2**	**+0.8**
LMEL				IAML		00 44 50.8	
	comp=N,4μm,0.9s						
PEL	**Peldehue**	**2.39**	**50**	*i*P	**Pn**	**00 44 14.9**	**+1.3**
PEL				IAML		00 44 54.6	
	comp=N,781nm,0.5s						
FCH	**Farellones**	**2.55**	**58**	*e*P	**Pn**	**00 44 17.1**	**+1.2**
FCH				IAML		00 44 57.1	
	comp=E,2μm,0.2s						
RFA	**San Rafael**	**3.63**	**92**	*i* P	**Pn**	**00 44 32.5**	**+1.9**
RFA				*i* S	**Sg**	**00 45 28.3**	**-1.7**
RFA				IAML		00 45 33.5	
	comp=Z,577nm,0.8s						
AAGR	**Agrelo**	**3.73**	**66**	*i* P	**Pb**	**00 44 36.2**	**-3.9**
AAGR				*i* S	**Sg**	**00 45 36.1**	**+2.9**
ARCO	**CERRO ARCO**	**3.77**	**62**	*i* P	**Pb**	**00 44 37.0**	**-3.8**
ARCO				IAML		00 44 46.4	
	comp=Z,511nm,0.5s						
ARCO				*i* S	**Sg**	**00 45 33.0**	**-1.6**
AVIZ	**Vizcacheras**	**3.82**	**72**	*i* P	**Pb**	**00 44 42.2**	**+0.7**
AVIZ				*i* S	**Sg**	**00 45 34.0**	**-2.1**
AUSP	**Uspallata**	**3.82**	**51**	*i* P	**Pn**	**00 44 36.7**	**+3.2**
AUSP				*i* S	**Sg**	**00 45 36.9**	**+0.7**
ASAL	**Salagasta**	**3.97**	**59**	*i* P	**Pn**	**00 44 39.0**	**+3.6**
ASAL				*i* S	**Sg**	**00 45 38.5**	**-2.6**
RTLS	**Leoncito**	**4.17**	**47**	*i* P	**Pn**	**00 44 41.6**	**+3.3**
RTLS				*i* S	**Sg**	**00 45 51.0**	**+3.7**
RTLS				IAML		00 45 53.9	
	comp=Z,377nm,0.7s						
RTCV	**Cerro Valdivia**	**4.60**	**53**	*i* P	**Pn**	**00 44 46.9**	**+2.9**
RTCV				*i* S	**Sg**	**00 45 56.8**	**-4.5**
ZON	**Zonda**	**4.72**	**49**	*i* P	**Pn**	**00 44 49.8**	**+4.1**
ZON				*i* S	**Sg**	**00 46 04.5**	**-0.6**
RTLL	**Cerro Villicun**	**5.00**	**49**	*i* P	**Pn**	**00 44 51.4**	**+1.9**
RTLL				*i* S	**Sb**	**00 46 02.8**	**+0.7**
AMOG	**MOGNA**	**5.26**	**46**	*i* P	**Pn**	**00 44 55.3**	**+2.2**
ACAN	**Cantantal**	**5.33**	**65**	*i* P	**Pn**	**00 44 56.3**	**+2.3**
LCO	**Las Campanas**	**5.97**	**19**	*e*Pn	**Pn**	**00 45 03.7**	**+0.8**
	comp=Z,34nm,0.7s						
LCO				*e*Sn	**Sn**	**00 46 10.1**	**-1.9**
PLCA	**Paso Flores**	**6.29**	**164**	Pn	**Pn**	**00 45 09.4**	**+2.2**
PLCA				Lg	Lg	00 46 43.5	
	baz=338,slow=19,SNR=1.6						
AGUA	**GUANDACOL**	**6.39**	**37**	*i* P	**Pn**	**00 45 11.3**	**+2.6**
MRA	**San Martin**	**6.39**	**71**	*i* P	**Pn**	**00 45 10.2**	**+1.5**
MRA				IAML		00 47 01.3	
	comp=Z,89nm,0.7s						
APLL	**PUNTA DE LOS L**	**6.87**	**53**	*i* P	**Pn**	**00 45 15.3**	**+0.2**
APLL				*i* S	**Sb**	**00 46 47.8**	**-8.1**
APLL				IAML		00 47 10.2	
	comp=Z,49nm,0.7s						
VCA	**Vinchina**	**7.15**	**35**	*i* P	**Pn**	**00 45 21.3**	**+2.2**
CYA	**Choya**	**8.68**	**46**	*i* P	**Pn**	**00 45 37.9**	**-2.0**
CYA				IAML		00 45 38.3	
	comp=Z,29nm,0.4s						
CYA				*i* S	**Sn**	**00 47 26.2**	**+7.8**
TRQA	**Tornquist**	**9.40**	**114**	*e*Pn	**Pn**	**00 45 48.2**	**-1.7**
	comp=Z,10nm,0.8s						
AHML	**Horco Molle**	**10.21**	**41**	*i* P	**Pn**	**00 45 58.3**	**-2.7**
AHML				IAML		00 46 11.5	
	comp=Z,7.2nm,0.6s						
FSA	**Cafayete**	**10.42**	**37**	*i* P	**Pn**	**00 46 01.9**	**-2.1**
CPUP	**Villa Florida**	**15.77**	**62**	Pn	**Pn**	**00 47 17.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=237,slow=18,SNR=3.0						
CPUP				Sn	**S**	**00 50 29.9**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=2.6						
CPUP				LR	LR	00 54 27.4	
	comp=Z,342nm,18.3s,baz=254,slow=42						
LPAZ	**La Paz**	**18.82**	**14**	P	**Pn**	**00 47 58.7**	**+3.2**
	comp=Z,0.6nm,0.3s,baz=184,slow=7.8,SNR=20						
SIV	**San Ignacio**	**21.43**	**33**	LR	LR	00 58 10.6	
	comp=Z,424nm,18.5s,baz=188,slow=41						
NNA	**Nana**	**22.90**	**350**	P	**P**	**00 48 37.1**	**-1.5**
	comp=Z,4.8nm,0.4s						
SPB	**Sao Paulo**	**24.76**	**70**	*e*P	**P**	**00 48 54.7**	**-1.7**
	comp=Z,25nm,1.1s						
SAML	**Samuel**	**27.13**	**21**	P	**P**	**00 49 15.1**	**-2.8**
	comp=Z,0.8nm,0.7s						
OTAV	**Otavalo**	**35.15**	**350**	P	**P**	**00 50 26.9**	**-2.1**
	comp=Z,0.5nm,0.4s						
PTGA	**Pitinga**	**35.88**	**22**	P	**P**	**00 50 36.2**	**+1.3**
	comp=Z,6.1nm,0.5s,baz=211,slow=10.0,SNR=10						
ROSC	**El Rosal**	**39.35**	**358**	P	P	00 51 11.2	+6.6
	comp=Z,5.8nm,0.5s,baz=221,slow=22,SNR=4.6						
SDV	**Santo Domingo**	**43.40**	**3**	P	**P**	**00 51 39.6**	**+1.9**
	comp=Z,3.8nm,0.7s,baz=186,slow=18,SNR=4.8						
SNAA	**Sanae**	**51.20**	**158**	P	**P**	**00 52 39.6**	**+1.9**
	comp=Z,9.4nm,1.1s,baz=272,slow=7.3,SNR=3.6						
TEIG	**Tepich**	**56.55**	**343**	P	**P**	**00 53 15.5**	**-1.8**
	comp=Z,0.1nm,0.4s						
ACSO	**Alum Creek Sta**	**75.15**	**352**	P	**P**	**00 55 14.1**	**-2.7**
	comp=Z,5.7nm,0.8s						
LIC	**Lamto**	**75.65**	**72**	*e*P	P	00 55 25.4	+5.1
	comp=Z,33nm,1.4s						
TIC	**Toumodi**	**75.91**	**72**	*e*P	**P**	**00 55 22.6**	**+0.7**
KIC	**Kosan Boka**	**75.96**	**72**	*e*P	**P**	**00 55 23.0**	**+0.9**
	comp=Z,16nm,0.8s						
DBIC	**Dimbokro**	**76.06**	**72**	P	**P**	**00 55 23.7**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=205,slow=5.5,SNR=7.7						
SDCO	**Great Sand Dun**	**78.19**	**334**	P	**P**	**00 55 31.9**	**-2.6**
	comp=Z,0.9nm,0.8s						
PV10	**Paradox Valley**	**80.07**	**332**	P	**P**	**00 55 43.1**	**-1.6**
	comp=Z,70nm,0.9s						
BOSA	**Boshof**	**80.35**	**118**	P	**P**	**00 55 46.8**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=223,slow=7.5,SNR=5.4						
ECSD	**EROS Data Cent**	**81.01**	**343**	*e*P	**P**	**00 55 47.7**	**-1.6**
	comp=Z,4.6nm,0.9s						
KOWA	**Kowa**	**81.56**	**66**	P	**P**	**00 55 53.8**	**+1.0**
	comp=Z,4.9nm,0.8s,baz=226,slow=8.2,SNR=13						
RSSD	**Black Hills**	**83.42**	**338**	P	**P**	**00 56 00.4**	**-1.8**
	comp=Z,0.9nm,0.7s						
HWUT	**Hardware Ranch**	**83.84**	**332**	P	**P**	**00 56 00.6**	**-3.8**
	comp=Z,3.8nm,0.9s						
NVAR	**Mina Array Bea**	**84.07**	**326**	P	P	00 56 09.8	+4.1
	comp=Z,0.9nm,0.8s,baz=156,slow=6.0,SNR=5.9						
PDAR	**Pinedale Array**	**84.08**	**334**	P	P	00 56 09.6	+3.9
	comp=Z,0.5nm,0.7s,baz=134,slow=5.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**85.10**	**70**	P	**P**	**00 56 12.2**	**+1.1**
	comp=Z,4.5nm,0.8s,baz=260,slow=3.9,SNR=24						
HLID	**Hailey**	**86.61**	**331**	P	**P**	**00 56 16.4**	**-1.8**
	comp=Z,1.0nm,0.8s						
ULM	**Lac du Bonnet**	**87.00**	**345**	P	**P**	**00 56 21.2**	**+1.6**
	comp=Z,3.9nm,1.0s,baz=156,slow=8.9,SNR=4.1						
MATP	**Matopo**	**87.46**	**113**	P	**P**	**00 56 23.8**	**+

CUGUR	**Gurin_S˜VAS**	**0.59**	**122**	P	**Pg**	**01 08 11.3**	**+0.2**
CUGUR				S	**Sb**	**01 08 20.5**	**-0.3**
BNN	**Bunyan**	**0.64**	**253**	PG	**Pg**	**01 08 11.3**	**-0.7**
BNN				SG	**Sg**	**01 08 20.3**	**-0.1**
BNN	**Bunyan**	**0.64**	**253**	*e*Pg	**Pg**	**01 08 11.3**	**-0.7**
BNN				*e*Sg	**Sg**	**01 08 20.3**	**-0.1**
CUKAN	**kangal_SIVAS**	**0.70**	**67**	*i* P	**Pg**	**01 08 12.1**	**-1.1**
CUKAN				*i* S	**Sg**	**01 08 23.0**	**+0.6**
CUKAN	**kangal_SIVAS**	**0.70**	**67**	P	**Pg**	**01 08 12.1**	**-1.1**
CUKAN				S	**Sg**	**01 08 23.0**	**+0.6**
DARE	**Darende-Malaty**	**0.81**	**125**	PG	**Pb**	**01 08 16.0**	**0.0**
DARE				SG	**Sb**	**01 08 27.5**	**+0.4**
DARE	**Darende-Malaty**	**0.81**	**125**	*e*Pg	**Pb**	**01 08 16.0**	**0.0**
DARE				*e*Sg	**Sb**	**01 08 27.5**	**+0.4**
SVSK	**Karacayir**	**0.92**	**18**	PG	**Pb**	**01 08 17.9**	**+0.2**
SVSK				SG	**Sn**	**01 08 31.1**	**-1.0**
SVSK	**Karacayir**	**0.92**	**18**	*e*Pg	**Pb**	**01 08 17.9**	**+0.2**
SVSK				*e*Sg	**Sn**	**01 08 31.1**	**-1.0**
HEKM	**Malatya_Hekimh**	**1.05**	**98**	*i* P	**Pg**	**01 08 15.3**	**-4.4**
HEKM				*i* S	**Sb**	**01 08 34.3**	**+0.4**
SAIM	**ADANA**	**1.15**	**202**	*i* P	**Pb**	**01 08 21.7**	**+0.1**
SAIM				*i* S	**Sn**	**01 08 38.6**	**+0.8**
SAIM	**ADANA**	**1.15**	**202**	P	**Pb**	**01 08 21.7**	**+0.1**
SAIM				S	**Sn**	**01 08 38.6**	**+0.8**
YOZ	**Yozgat**	**1.18**	**301**	PN	**Pn**	**01 08 22.0**	**-0.5**
YOZ				SN	**Sn**	**01 08 38.6**	**-0.2**
YOZ	**Yozgat**	**1.18**	**301**	*e*Pn	**Pn**	**01 08 22.0**	**-0.5**
YOZ				*e*Sn	**Sn**	**01 08 38.6**	**-0.2**
AKCD	**Akcadag**	**1.25**	**126**	*i* P	**Pg**	**01 08 23.9**	**+0.2**
AKCD				*i* S	**Sn**	**01 08 42.2**	**+1.6**
AKCD	**Akcadag**	**1.25**	**126**	P	**Pg**	**01 08 23.9**	**+0.2**
AKCD				S	**Sn**	**01 08 42.2**	**+1.6**
TOKT	**Tokat**	**1.28**	**357**	PN	**Pg**	**01 08 24.1**	**-0.1**
TOKT				SN	**Sn**	**01 08 42.5**	**+1.4**
TOKT	**Tokat**	**1.28**	**357**	*e*Pn	**Pg**	**01 08 24.1**	**-0.1**
TOKT				*e*Sn	**Sn**	**01 08 42.5**	**+1.4**
YAHY	**KAYSERI_Yahyal**	**1.37**	**227**	*i* P	**Pn**	**01 08 24.4**	**-0.6**
YAHY				*i* S	**Sn**	**01 08 43.9**	**+0.5**
YAHY	**KAYSERI_Yahyal**	**1.37**	**227**	P	**Pn**	**01 08 24.4**	**-0.6**
YAHY				S	**Sn**	**01 08 43.9**	**+0.5**
KEMA	**Kemaliye**	**1.47**	**80**	*i* P	**Pn**	**01 08 25.9**	**-0.4**
KEMA				*i* S	**Sb**	**01 08 46.6**	**+0.7**
KEMA	**Kemaliye**	**1.47**	**80**	P	**Pn**	**01 08 25.9**	**-0.4**
KEMA				S	**Sb**	**01 08 46.6**	**+0.7**

*ISCJB **09** 01:08:33.5±0.3, 42°.86N±0°.02×111°.24W±0°.03, h0km, Error ellipse: s-maj=3.1km s-min=2.7km az=9.7*
*NEIC **09** 01:08:34.9±0.3, 42°.89N×111°.17W, h0km, ML2.8, Error ellipse: s-maj=5.0km s-min=4.5km az=90.0, Suspected Mining explosion.*
NEIC 27 km [17 miles] NW of Afton.
*IDC **09** 01:08:35.6±1.5, 43°.00N×111°.32W, h0km, mb1 3.6/2, mb1mx3.2/61, mbtmp3.3/2, ML2.1/2, Error ellipse: s-maj=24.4km s-min=9.0km az=169.0*

ISC 09 01:08:34.2±0.6, 42°.87N±0°.02×111°.11W±0°.02, h0km, n28, σ26/26/66, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.10**	**176**	*e*Pg	**Pg**	**01 08 37.8**	**+1.6**
AHID				*e*Sg	**Sg**	**01 08 40.2**	**+2.7**
BW06	**Boulder Array**	**1.15**	**95**	*e*Pg	**Pb**	**01 08 57.7**	**+0.6**
BW06				*e*Sg	**Sn**	**01 09 14.2**	**-0.1**
PDAR	**Pinedale Array**	**1.15**	**95**	Pn	**Pb**	**01 08 57.7**	**+0.6**
	11nm,0.3s,baz=275,slow=15,SNR=100						
PDAR				Pg	Pn	01 09 03.3	+5.5
	26nm,0.3s,baz=267,slow=15,SNR=32						
PDAR				Lg	Lg	01 09 16.2	
	29nm,0.3s,baz=280,slow=22,SNR=6.1						
HWUT	**Hardware Ranch**	**1.31**	**195**	*e*Pg	**Pg**	**01 08 59.0**	**-0.3**
HWUT				*e*Sn	**Sn**	**01 09 19.1**	**+0.9**
H17A	**Grant Village**	**1.57**	**14**	*e*Pn	**Pn**	**01 09 03.2**	**-0.5**
H17A				*e*Sn	**Sn**	**01 09 24.2**	**-0.7**
LKWY	**Lake**	**1.77**	**17**	*e*Pn	**Pn**	**01 09 06.7**	**+0.3**
LKWY				*e*Pg	**Pg**	**01 09 09.8**	**+1.7**
LKWY				*e*Sn	**Sb**	**01 09 30.8**	**+0.2**
HLID	**Hailey**	**2.51**	**287**	*e*Pn	**Pn**	**01 09 16.2**	**-0.3**
HLID				*e*Sn	**Sn**	**01 09 46.9**	**-1.0**
HLID				*e*Sg	**Sb**	**01 09 52.7**	**+0.9**
RLMT	**Red Lodge**	**2.62**	**30**	*e*Pn	**Pn**	**01 09 18.2**	**+0.2**
RLMT				*e*Pb	**Pb**	**01 09 23.6**	**+1.5**
RLMT				*e*Pg	**Pg**	**01 09 25.3**	**+0.9**
RLMT				*e*Sn	**Sn**	**01 09 51.9**	**+1.3**
RLMT				*e*Sg	**Sg**	**01 09 58.0**	**-0.2**
BOZ	**Bozeman (W)**	**2.75**	**352**	*e*Pn	**Pn**	**01 09 21.1**	**+1.3**
BOZ				*e*Sn	**Sn**	**01 09 55.0**	**+1.2**
DUG	**Dugway, Tooele**	**2.96**	**206**	*e*Pn	**Pn**	**01 09 22.5**	**-0.2**
DUG				*e*Sg	**Sg**	**01 10 09.0**	**-0.4**
K22A	**Casper**	**3.38**	**92**	*e*Pn	**Pn**	**01 09 29.6**	**+1.2**
K22A				*e*Sn	**Sn**	**01 10 11.9**	**+2.4**
O20A	**White River Ci**	**3.48**	**141**	*e*Pn	**Pn**	**01 09 32.9**	**+3.1**
O20A				*e*Sn	**Sn**	**01 10 14.1**	**+2.2**
MFID	**Camas Ranch**	**3.50**	**281**	*e*Pn	**Pn**	**01 09 29.9**	**0.0**
MFID				*e*Sn	**Sn**	**01 10 09.8**	**-2.2**
MFID				*e*Sb	**Sb**	**01 10 18.2**	**-1.9**
MFID				*e*Sg	**Sg**	**01 10 23.7**	**-2.8**
PV04	**Paradox Valley**	**4.78**	**159**	*e*Pn	**Pn**	**01 09 48.6**	**+1.0**
PV04				*e*Pg	**Pg**	**01 10 03.2**	**-2.6**
PV04				*e*Sn	**Sn**	**01 10 44.3**	**+0.5**
PV04				*e*Sg	**Sg**	**01 11 04.4**	**-3.3**
BMO	**Blue Mountains**	**4.90**	**296**	*e*Pn	**Pn**	**01 09 48.9**	**-0.3**
BMO				*e*Pg	**Pb**	**01 10 03.7**	**+2.8**
BMO				*e*Sg	**Sg**	**01 11 06.0**	**-5.5**
PV01	**Paradox Valley**	**5.11**	**157**	*e*Pn	**Pn**	**01 09 53.5**	**+1.3**
PV01				*e*Pg	**Pg**	**01 10 09.8**	**-2.4**
PV01				*e*Sg	**Sg**	**01 11 13.8**	**-4.6**
ISCO	**Idaho Springs**	**5.15**	**125**	*e*Pg	**Pg**	**01 10 10.6**	**-2.3**
ISCO				*e*Sg	**Sg**	**01 11 16.3**	**-3.4**
LAO	**LASA Array**	**5.17**	**41**	*e*Pn	**Pn**	**01 09 53.2**	**+0.4**
LAO				*e*Pg	**Pg**	**01 10 10.8**	**-2.3**
LAO				*e*Sg	**Sg**	**01 11 17.1**	**-3.0**
BMN	**Battle Mountai**	**5.19**	**244**	*e*Pn	**Pn**	**01 09 54.0**	**+0.8**
BMN				*e*Pg	**Pg**	**01 10 10.3**	**-3.3**
EGMT	**Eagleton**	**5.24**	**10**	*e*Pn	**Pn**	**01 09 55.4**	**+1.5**
EGMT				*e*Pg	**Pg**	**01 10 12.4**	**-2.2**
EGMT				*e*Sg	**Sb**	**01 11 14.4**	**+4.1**
RSSD	**Black Hills**	**5.30**	**74**	*e*Pn	**Pn**	**01 09 56.3**	**+1.5**
RSSD				*e*Pb	**Pb**	**01 10 08.7**	**+0.9**
RSSD				*e*Pg	**Pg**	**01 10 15.2**	**-0.5**
RSSD				*e*Sg	**Sg**	**01 11 19.8**	**-4.5**
WVOR	**Wild Horse Val**	**5.57**	**268**	*e*Pn	**Pn**	01 10 06.9	-5.5
WVOR				*e*Sn	**Sn**	**01 11 01.4**	**-1.8**
MVCO	**Mesa Verde**	**6.00**	**160**	*e*Pn	**Pn**	**01 10 05.0**	**+0.5**
MVCO				*e*Pg	**Pg**	**01 10 28.0**	**-1.2**
MVCO				*e*Sg	**Sg**	**01 11 45.4**	**-1.5**
NEW	**Newport**	**6.85**	**324**	Lg	Lg	01 12 01.6	
	0.4nm,0.3s,baz=253,slow=19,SNR=3.4						
MOD	**Modoc Plateau**	**6.88**	**265**	*e*Pn	**Pn**	**01 10 15.4**	**-1.0**
MOD				*e*Sg	**Sb**	**01 12 04.2**	**+6.9**
NVAR	**Mina Array Bea**	**7.04**	**233**	Pn	**Pn**	**01 10 21.1**	**+2.3**
	baz=59,slow=11,SNR=3.5						
NVAR				Pg	**Pb**	**01 10 37.6**	**+0.1**
	baz=73,slow=10,SNR=4.2						
NVAR				Lg	Lg	01 12 13.0	
	baz=54,slow=28,SNR=2.9						
DGMT	**Dagmar**	**7.40**	**38**	*e*Pg	**Pg**	**01 10 52.4**	**-3.6**
ULM	**Lac du Bonnet**	**12.81**	**50**	Pn	**Pn**	**01 11 34.5**	**-2.9**
	0.1nm,0.3s,baz=241,slow=13,SNR=2.7						

*ISK **09** 01:33:10.9, 38°.85N×31°.29E, h14km, ML2.3/4*
*ISCJB **09** 01:33:12.3±0.7, 38°.97N±0°.02×31°.15E±0°.05, h4km±6km, Error ellipse: s-maj=6.2km s-min=3.6km az=10.7*
*CSEM **09** 01:33:12.3±0.3, 38°.96N×31°.14E, h2km, ML2.8, Error ellipse: s-maj=7.3km s-min=4.9km az=103.0*
*DDA **09** 01:33:12.1, 38°.99N×31°.09E, h7km, Ml2.8*

ISC 09 01:33:11.0±1.1, 38°.97N±0°.02×31°.25E±0°.04, h14km±8km, n23, σ0°53/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.34**	**223**	*i* P	**Pb**	**01 33 18.6**	**-0.3**
BOLV				*i* S	**Sg**	**01 33 22.3**	**-0.6**
BOLV	**Bolvadin**	**0.34**	**223**	P	**Pb**	**01 33 18.6**	**-0.3**
BOLV				S	**Sg**	**01 33 22.3**	**-0.6**
SVRH	**Sivrihisar-ESK**	**0.52**	**24**	PG	**Pn**	**01 33 23.7**	**-0.3**
SVRH				SG	**Sn**	**01 33 32.5**	**-0.2**
SVRH	**Sivrihisar-ESK**	**0.52**	**24**	*e*Pg	**Pn**	**01 33 23.7**	**-0.3**
SVRH				*e*Sg	**Sn**	**01 33 32.5**	**-0.2**
ESKT	**Eskisehir**	**0.63**	**331**	*i* P	**Pg**	**01 33 23.2**	**-0.1**
ESKT				*i* S	**Sg**	**01 33 31.7**	**-0.1**
SEYT	**Eskypehyr**	**0.63**	**331**	P	**Pg**	**01 33 23.2**	**-0.1**
SEYT				S	**Sg**	**01 33 31.7**	**0.0**
SHUT	**Suhut-Afyon**	**0.69**	**233**	PG	**Pg**	**01 33 24.4**	**0.0**
SHUT				SG	**Sg**	**01 33 33.5**	**0.0**
SHUT	**Suhut-Afyon**	**0.69**	**233**	*e*Pg	**Pg**	**01 33 24.4**	**0.0**
SHUT				*e*Sg	**Sg**	**01 33 33.5**	**0.0**
DOGA	**KONYA_Doganhis**	**0.92**	**159**	*i* P	**Pn**	**01 33 29.7**	**+0.1**
DOGA				*i* S	**Sn**	**01 33 42.3**	**-0.4**
DOGA	**KONYA_Doganhis**	**0.92**	**159**	P	**Pn**	**01 33 29.7**	**+0.1**
DOGA				S	**Sn**	**01 33 42.3**	**-0.4**
BAGO	**Egridir - ISPA**	**1.04**	**200**	*i* P	**Pn**	**01 33 32.3**	**+1.1**
BAGO				*i* S	**Sn**	**01 33 46.0**	**+0.4**
BORA	**Eskisehir**	**1.10**	**326**	*i* P	**Pg**	**01 33 32.6**	**+0.5**
BORA				*i* S	**Sb**	**01 33 45.6**	**-0.4**
BORA	**Eskisehir**	**1.10**	**326**	P	**Pg**	**01 33 32.7**	**+0.5**
BORA				S	**Sb**	**01 33 45.6**	**-0.4**
KZIL	**AFYON_Kizioren**	**1.12**	**231**	*i* P	**Pg**	**01 33 32.9**	**+0.3**
KZIL				*i* S	**Sn**	**01 33 47.8**	**+0.2**
KZIL	**AFYON_Kizioren**	**1.12**	**231**	P	**Pg**	**01 33 32.9**	**+0.3**
KZIL				S	**Sn**	**01 33 47.8**	**+0.2**
GDZ	**Gediz**	**1.38**	**275**	*i* P	**Pn**	**01 33 35.9**	**0.0**
GDZ				*i* S	**Sn**	**01 33 52.9**	**-1.2**
GDZ	**Gediz**	**1.38**	**275**	P	**Pn**	**01 33 35.9**	**0.0**
GDZ				S	**Sn**	**01 33 52.9**	**-1.2**
TVSB	**Tavsanli**	**1.47**	**290**	PN	**Pb**	**01 33 38.1**	**0.0**
TVSB	**Tavsanli**	**1.47**	**290**	*e*Pn	**Pb**	**01 33 38.1**	**0.0**
KHAL	**Karahalli**	**1.50**	**247**	*i* P	**Pg**	**01 33 40.0**	**+0.2**
KHAL				*i* S	**Sb**	**01 33 57.8**	**+0.2**
KHAL	**Karahalli**	**1.50**	**247**	P	**Pg**	**01 33 40.0**	**+0.2**
KHAL				S	**Sb**	**01 33 57.8**	**+0.2**
GULT	**Gulveren**	**1.57**	**339**	PN	**Pg**	**01 33 41.2**	**+0.1**
GULT				SN	**Sg**	**01 34 02.9**	**+1.4**
GULT	**Gulveren**	**1.57**	**339**	*e*Pn	**Pg**	**01 33 41.2**	**+0.1**
GULT				*e*Sn	**Sg**	**01 34 02.9**	**+1.4**

IDC 09 01:33:34.2±1.9, 19°.91S×134°.00E, h0km, mb3.4/1, mb1 3.8/2, mb1mx3.4/39, mbtmp3.7/2, ML4.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/25, Error ellipse: s-maj=10.8km s-min=3.7km az=95.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**0.32**	**95**	Pg	Pg	01 33 41.2	+0.8
	62nm,0.3s,baz=268,slow=20,SNR=887						
WRA				Lg	Lg	01 33 44.5	
	106nm,0.3s,baz=275,slow=30,SNR=100						
ASAR	**Alice Springs**	**3.74**	**181**	Pn	Pn	01 34 36.6	+3.4
	5.5nm,0.3s,baz=5.3,slow=14,SNR=117						
ASAR				Pg	Pg	01 34 46.8	+0.9
	2.3nm,0.3s,baz=6.2,slow=17,SNR=15						
ASAR				Sn	Sn	01 35 20.7	+2.6
	4.8nm,0.3s,baz=4.3,slow=28,SNR=9.6						
ASAR				Lg	Lg	01 35 29.6	
	5.6nm,0.3s,baz=3.4,slow=31,SNR=11						
ASAR				LR	LR	01 35 46.3	
	comp=Z,165nm,21.3s,baz=161,slow=35						
STKA	**Stephens Creek**	**13.73**	**152**	Pn	Pn	01 36 48.1	-2.1
	0.5nm,0.3s,baz=324,slow=14,SNR=7.5						
STKA				Sn	Sn	01 39 14.6	-9.0
	0.2nm,0.3s,baz=336,slow=10.0,SNR=2.9						
MKAR	**Makanchi Array**	**81.11**	**327**	P	P	01 45 50.9	-0.5
	0.3nm,0.7s,baz=141,slow=6.4,SNR=3.6						

*CSEM **09** 01:34:44.7, 37°.80N×21°.27E, h32km, ML2.0/8, After ATH*

ATH 09 01:34:44.7, 37°.80N×21°.27E, h32km±1km, ML2.0/8, Error ellipse: s-maj=1.5km s-min=0.8km az=336.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.14**	**333**	P	Pb	01 34 50.4	-0.1
VTN				S	Sn	01 34 54.0	-0.3
VTN	**Vitineika**	**0.14**	**333**	P	Pb	01 34 50.5	0.0
VTN				S	Sb	01 34 54.5	0.0
RLS	**Riolos of Patr**	**0.31**	**31**	P	Pb	01 34 52.1	-0.3
RLS				S	Sn	01 34 58.4	0.0
RLS				AML	AML	01 34 59.6	
	comp=N,372μm,0.3s						
RLS				AML	AML	01 34 59.6	
	comp=E,280μm,0.2s						
RLS	**Riolos of Patr**	**0.31**	**31**	P	Pb	01 34 52.3	-0.1
RLS				S	Sn	01 34 58.0	-0.2
DRO	**Drossia**	**0.39**	**66**	P	Pn	01 34 54.0	-0.1
DRO	**Drossia**	**0.39**	**66**	P	Pb	01 34 53.8	+0.3
AMT	**Artemida-Makis**	**0.44**	**126**	P	Pb	01 34 54.5	+0.2
AMT				S	Sn	01 35 02.5	+0.8
AMT				AML	AML	01 35 05.4	
	comp=N,221μm,0.4s						
AMT				AML	AML	01 35 07.2	
	comp=E,204μm,0.4s						
AMT	**Artemida-Makis**	**0.44**	**126**	P	Pb	01 34 54.5	+0.2
AMT				S	Sn	01 35 02.1	+0.3
VLS	**Valsamata**	**0.66**	**306**	P	Pb	01 34 57.8	0.0
VLS				S	Sn	01 35 08.7	+1.6
VLS				AML	AML	01 35 11.8	
	comp=E,196μm,0.2s						
VLS				AML	AML	01 35 13.4	
	comp=N,193μm,0.3s						
VLS	**Valsamata**	**0.66**	**306**	P	Pn	01 34 58.0	+0.2
VLS				S	Sn	01 35 08.3	+1.2
LAKA	**Lakka**	**0.72**	**52**	P	Pb	01 34 59.7	+0.9
LAKA				S	Sn	01 35 09.4	+0.7
LAKA	**Lakka**	**0.72**	**52**	P	Pb	01 34 59.5	+0.7
LAKA				S	Sn	01 35 09.6	+0.9
LAKA	**Lakka**	**0.72**	**52**	P	Pb	01 34 59.5	+0.7
KLV	**Kalavryta, Ach**	**0.74**	**70**	P	Pb	01 34 59.3	+0.1
KLV				AML	AML	01 35 09.4	
	comp=N,73μm,0.1s						
KLV				AML	AML	01 35 10.1	
	comp=E,68μm,0.1s						
KLV	**Kalavryta, Ach**	**0.74**	**70**	P	Pb	01 34 59.5	+0.2
KLV	**Kalavryta, Ach**	**0.74**	**70**	P	Pb	01 34 59.5	+0.2
EFP	**Efpalio**	**0.81**	**38**	P	Pn	01 35 00.1	+0.2
EFP	**Efpalio**	**0.81**	**38**	P	Pb	01 35 00.4	+0.1
EFP	**Efpalio**	**0.81**	**38**	P	Pb	01 35 00.4	+0.1
ITM	**Ithomi**	**0.81**	**139**	P	Pb	01 35 01.0	+0.7
ITM				S	Sb	01 35 13.2	+2.2
ITM	**Ithomi**	**0.81**	**139**	P	Pb	01 35 00.9	+0.6
ITM				S	Sb	01 35 12.8	+1.9
ITM	**Ithomi**	**0.81**	**139**	P	Pb	01 35 00.9	+0.6
TRIP	**Tripoli**	**0.84**	**108**	P	Pb	01 35 01.9	+1.0
TRIP				S	Sb	01 35 12.5	+0.6
TRIP				AML	AML	01 35 26.1	
	comp=E,72μm,0.8s						
TRIP				AML	AML	01 35 28.4	
	comp=N,53μm,0.9s						
TRIP	**Tripoli**	**0.84**	**108**	P	Pb	01 35 01.6	+0.7
TRIP				S	Sb	01 35 12.9	+1.0
PYL	**PYLOS**	**0.97**	**157**	P	Pb	01 35 03.5	+0.4
PYL				S	Sn	01 35 15.2	+0.2
PYL	**PYLOS**	**0.97**	**157**	P	Pb	01 35 03.4	+0.3
PYL				S	Sb	01 35 16.1	+0.5
PYL	**PYLOS**	**0.97**	**157**	P	Pb	01 35 03.4	+0.3

*CSEM **09** 01:34:53.3±0.2, 38°.15N×22°.65E, h10km, ML1.6, Error ellipse: s-maj=4.4km s-min=3.5km az=36.0*
*THE **09** 01:34:54.1, 38°.16N×22°.69E, h11km±1km, ML1.6/12, Error ellipse: s-maj=1.7km s-min=0.4km az=223.0*

ATH 09 01:34:53.9, 38°.16N×22°.70E, h14km±4km, ML1.7/8, Error ellipse: s-maj=4.6km s-min=1.1km az=191.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.13**	**194**	P	Pg	01 34 57.1	-0.2
THAL	**Thalero**	**0.13**	**194**	P	Pg	01 34 57.2	-0.1
THAL				S	Sg	01 34 59.0	-0.6
THAL	**Thalero**	**0.13**	**194**	P	Pg	01 34 57.3	0.0
THAL				S	Sg	01 34 59.0	-0.6
PROD	**Prodromos**	**0.18**	**58**	AML	AML	01 35 01.9	
	comp=E,2698μm,0.2s						
PROD				AML	AML	01 35 02.1	
	comp=N,1633μm,0.2s						
PROD	**Prodromos**	**0.18**	**58**	P	Pg	01 34 58.0	-0.1
PROD				S	Sb	01 35 01.9	-0.7
PROD				AML	AML	01 35 01.9	
	comp=E,2698μm,0.2s						
PROD				AML	AML	01 35 02.1	
	comp=N,1633μm,0.2s						
PROD	**Prodromos**	**0.18**	**58**	P	Pg	01 34 58.1	-0.1
PROD				S	Sg	01 35 01.5	+0.4
LTK	**Loutraki**	**0.25**	**123**	P	Pg	01 34 58.8	-0.4
LTK				AML	AML	01 35 03.6	
	comp=E,166μm,0.2s						
LTK				AML	AML	01 35 04.0	
	comp=N,180μm,0.2s						
LTK				S	Sb	01 35 04.8	+0.3
LTK	**Loutraki**	**0.25**	**123**	P	Pg	01 34 59.0	-0.3
LTK				S	Sg	01 35 03.4	+0.5
LTK	**Loutraki**	**0.25**	**123**	P	Pg	01 34 58.9	-0.4
LTK				S	Sg	01 35 03.4	+0.5
LOUT	**Loutraki**	**0.28**	**129**	P	Pg	01 34 58.6	-1.1
LOUT	**Loutraki**	**0.28**	**129**	P	Pg	01 34 59.4	-0.3
LOUT				S	Sg	01 35 04.4	+0.8
LOUT	**Loutraki**	**0.28**	**129**	P	Pg	01 34 59.4	-0.3
LOUT				S	Sg	01 35 04.4	+0.8
DSF	**Desfina**	**0.28**	**331**	P	Pg	01 34 59.7	-0.1
DSF				AML	AML	01 35 04.6	
	comp=E,354μm,0.2s						
DSF				S	Sg	01 35 04.7	+0.7
DSF				AML	AML	01 35 06.4	
	comp=N,560μm,0.1s						
DSF	**Desfina**	**0.28**	**331**	P	Pg	01 34 59.8	-0.1
DSF				S	Sg	01 35 04.4	+0.5
DSF	**Desfina**	**0.28**	**331**	P	Pg	01 34 59.8	-0.1
DSF				S	Sg	01 35 04.4	+0.5
GUR	**Goura**	**0.36**	**232**	P	Pg	01 35 00.6	-0.6
GUR	**Goura**	**0.36**	**232**	P	Pg	01 35 01.2	-0.1
GUR				AML	AML	01 35 06.8	
	comp=N,448μm,0.2s						
GUR				S	Sg	01 35 06.8	+0.6
GUR				AML	AML	01 35 07.3	
	comp=E,441μm,0.2s						
GUR	**Goura**	**0.36**	**232**	P	Pg	01 35 01.1	-0.1
GUR				S	Sg	01 35 06.3	+0.1
GUR	**Goura**	**0.36**	**232**	P	Pg	01 35 01.1	-0.1
GUR	**Goura**	**0.36**	**232**	P	Pg	01 35 01.1	-0.1
GUR				S	Sg	01 35 06.3	+0.1
VIL2	**Platees**	**0.45**	**83**	P	Pg	01 35 03.2	+0.4
VIL2				S	Sb	01 35 11.2	+0.9
VIL2				AML	AML	01 35 13.6	
	comp=E,84μm,0.2s						
VIL2				AML	AML	01 35 14.0	
	comp=N,148μm,0.4s						
VILL	**Villia**	**0.48**	**90**	P	Pg	01 35 03.3	-0.1
VILL				S	Sg	01 35 10.7	-0.5
VILL	**Villia**	**0.48**	**90**	P	Pg	01 35 03.3	-0.1
VILL				S	Sb	01 35 10.8	-0.4
KALE	**Kalithea**	**0.50**	**298**	P	Pg	01 35 03.9	+0.1
KALE	**Kalithea**	**0.50**	**298**	P	Pg	01 35 03.1	-0.6
KALE				S	Sb	01 35 11.4	-0.3
KALE	**Kalithea**	**0.50**	**298**	P	Pg	01 35 03.1	-0.6
KALE	**Kalithea**	**0.50**	**298**	P	Pg	01 35 02.7	-1.0
KALE				S	Sb	01 35 11.4	-0.3
TRIZ	**Trizonia**	**0.54**	**293**	P	Pg	01 35 01.9	-2.5
TRIZ	**Trizonia**	**0.54**	**293**	P	Pg	01 35 01.7	-2.7
TRIZ	**Trizonia**	**0.54**	**293**	P	Pg	01 35 01.7	-2.7
LKR	**Lokris**	**0.54**	**26**	AML	AML	01 35 15.4	
	comp=N,182μm,0.2s						
LKR				AML	AML	01 35 16.6	
	comp=E,244μm,0.2s						
LKR	**Lokris**	**0.54**	**26**	P	Pg	01 35 02.9	-1.6
LKR				S	Sb	01 35 13.6	+0.8
LKR				AML	AML	01 35 15.4	
	comp=N,182μm,0.2s						
LKR				AML	AML	01 35 16.6	
	comp=E,244μm,0.2s						
LKR	**Lokris**	**0.54**	**26**	P	Pg	01 35 03.7	-0.8
LKR				S	Sb	01 35 12.4	-0.5
LKR	**Lokris**	**0.54**	**26**	P	Pg	01 35 03.7	-0.8
LKR				S	Sb	01 35 12.4	-0.5
SERG	**Sergoula**	**0.57**	**297**	P	Pg	01 35 01.2	-3.7
SERG	**Sergoula**	**0.57**	**297**	P	Pg	01 35 01.6	-3.4
SERG	**Sergoula**	**0.57**	**297**	P	Pg	01 35 01.6	-3.4
AXAR	**Agios Charalam**	**0.60**	**357**	AML	AML	01 35 18.2	
	comp=E,334μm,0.3s						
AXAR				AML	AML	01 35 19.0	
	comp=N,356μm,0.3s						
AXAR	**Agios Charalam**	**0.60**	**357**	P	Pb	01 35 06.5	+0.2
AXAR				S	Sg	01 35 14.1	+0.3
AXAR				AML	AML	01 35 18.2	
	comp=E,334μm,0.3s						
AXAR				AML	AML	01 35 19.0	
	comp=N,356μm,0.3s						
AXAR	**Agios Charalam**	**0.60**	**357**	P	Pg	01 35 06.0	+0.3
AXAR				S	Sg	01 35 14.1	+0.3
DID	**Didima**	**0.78**	**147**	P	Pb	01 35 09.6	+0.3
DID				S	Sb	01 35 20.7	+1.0
DID				AML	AML	01 35

PSI Sn **Sn** **01 41 11.2 -6.8**
IPM Ipoh 7.85 5 *e*Pn **Pn** **01 40 29.0 +2.1**
LEM Lembang 7.98 116 Pn **Pn** **01 40 28.4 -0.4**
7.0nm,0.3s,baz=86,slow=8.3,SNR=3.8
LEM LR LR 01 44 16.7
comp=Z,376nm,18.8s,baz=222,slow=44
CISI Cisompet, Garu 8.48 119 *e*Pn **Pn** **01 40 34.3 -1.4**
CISI *e*Sn **Sn** **01 42 02.3 -8.8**
KULM Kulim 8.63 2 *e*Pn **Pn** **01 40 36.3 -1.3**
16nm,0.8s
SRAK Srakaew 17.37 5 P **P** **01 42 36.5 0.0**
60nm,0.7s,718nm
KKM Kota Kinabalu 18.39 59 *e*P **P** **01 42 47.7 -0.1**
13nm,0.6s
UTHA Uthaitani 18.86 357 P **Pn** **01 42 55.3 +1.9**
2.9nm,0.8s
CHAI Chaiyaphum 19.24 5 P **Pn** **01 42 58.6 +0.6**
5.8nm,0.9s
KAPI Kappang 19.39 95 *e*P **P** **01 42 58.0 -0.7**
65nm,1.2s
MYLDM Lahad Datu 20.01 65 *e*P **Pn** **01 43 08.9 +1.6**
71nm,1.1s
PHIT Phitsanulok 20.45 0 P Pn 01 43 13.4 +1.0
25nm,0.9s
CM01 Chiang Mai Arr 21.72 356 *e*P **P** **01 43 23.2 -0.7**
CM31 Chiang Mai Arr 21.76 356 *e*P **P** **01 43 23.6 -0.7**
CMAR Chiang Mai Arr 21.76 356 P **P** **01 43 23.2 -1.2**
10.0nm,0.8s,baz=186,slow=10,SNR=30
CMAR PcP **PcP** **01 47 26.5 +1.7**
1.1nm,0.5s,baz=188,slow=1.8,SNR=4.6
CHTO Chiang Mai 22.11 356 *e*P **P** **01 43 26.4 -1.8**
9.9nm,1.0s
CMAI Chiengmai2 23.22 357 P **P** **01 43 41.4 +1.4**
QIZ Qiongzhong 24.16 22 P **P** **01 43 49.3 +0.5**
QIZ S **S** **01 48 11.1 +4.9**
QIZ LR LR
comp=N,330nm,12.9s
QIZ LR LR
comp=Z,380nm,11.8s
SOEI Soe 24.55 106 *e*P **P** **01 43 52.8 +0.1**
17nm,0.6s
H08S2 Diego Garcia H 28.06 260 T T 02 13 37.9
baz=82
H08S3 Diego Garcia H 28.07 260 T T 02 13 39.3
baz=82
H08S1 Diego Carcia H 28.08 260 T T 02 13 44.9
baz=82
KMI Kunming 28.44 5 P P 01 44 33.6 +5.9
FAKI Fak Fak 31.83 90 *e*P **P** **01 44 57.7 0.0**
22nm,1.1s
ODAN Odare 32.59 338 *e*P **P** **01 45 06.4 +2.0**
TAPN Taplejung 32.92 339 *e*P **P** **01 45 09.6 +2.2**
73nm,1.1s
RAMN Ramite 32.97 337 *e*P **P** **01 45 10.1 +2.3**
JIRN Jiri 33.77 337 *e*P **P** **01 45 16.8 +2.0**
H01W3 Cape Leeuwin H 33.84 159 T T 02 20 49.7
baz=336,slow=76
H01W2 Cape Leeuwin H 33.85 159 T T 02 20 50.7
baz=336,slow=76
H01W1 Cape Leeuwin H 33.85 159 T T 02 20 51.1
baz=336,slow=76
PKI Pulchoki 34.00 336 *e*P **P** **01 45 18.1 +1.3**
PKIN Phulchoki 34.01 336 *e*P **P** **01 45 18.3 +1.5**
LSA Lhasa 34.07 346 *e*P **P** **01 45 17.6 0.0**
8.3nm,0.6s
GUN Gumba 34.11 337 *e*P **P** **01 45 19.7 +1.9**
8.7nm,0.4s
DMN Daman 34.16 335 *e*P **P** **01 45 19.7 +1.6**
KKN Kakani 34.25 336 *e*P **P** **01 45 20.5 +1.7**
CD2 Chengdu 34.27 5 *e*P **P** **01 45 20.5 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
ENH Enshi 34.59 14 *e*P **P** **01 45 20.8 -0.8**
26nm,1.1s
GKN Gorkha 34.70 335 *e*P **P** **01 45 24.1 +1.4**
KOLN Koldanda 34.95 333 *e*P **P** **01 45 26.6 +1.7**
16nm,0.7s
DANN Dangsing 35.38 334 *e*P **P** **01 45 30.2 +1.5**
5.5nm,1.0s
PYUN Piuthan 35.50 333 *e*P **P** **01 45 31.2 +1.5**
WRA Warramunga Arr 36.98 119 P **P** **01 45 41.6 -0.7**
3.3nm,0.4s,baz=309,slow=9.0,SNR=45
WRA PcP **PcP** **01 48 07.7 +4.3**
14nm,0.5s,baz=289,slow=2.6,SNR=29
WRA S **S** **01 51 25.6 -1.6**
1.7nm,0.8s,baz=295,slow=16,SNR=8.6
WRA LR LR 02 02 36.4
comp=Z,149nm,21.8s,baz=210,slow=39
WRAB Tennant Creek 36.99 119 *e*P **P** **01 45 41.6 -0.7**
6.4nm,0.4s
WB2 Warramunga Arr 36.99 119 *e*P **P** **01 45 41.5 -0.8**
XAN Xi'an 38.10 12 P **P** **01 45 51.1 -0.4**
XAN pP sP 01 46 03.4 +4.3
XAN S **S** **01 51 47.2 +3.5**
XAN pmax pmax
comp=Z,38nm,0.7s
XAN pmax pmax
comp=Z,160nm,3.5s
XAN LR LR
comp=N,260nm,9.0s
XAN LR LR
comp=E,430nm,9.4s
XAN LR LR
comp=Z,500nm,13.7s
AS31 Alice Springs 38.15 125 *e*P **P** **01 45 52.2 +0.1**
5.5nm,0.4s
ASAR Alice Springs 38.15 125 P **P** **01 45 52.2 +0.1**
9.0nm,0.4s,baz=299,slow=7.9,SNR=44
ASAR PcP **PcP** **01 48 07.4 +0.5**
ASAR 0.7nm,0.6s,baz=303,slow=1.9,SNR=2.3 S **S** **01 51 45.6 +0.8**
0.8nm,0.7s,baz=295,slow=14,SNR=6.7
ASAR LR LR 02 03 16.2
comp=Z,155nm,21.4s,baz=298,slow=39
AS01 Alice Springs 38.18 125 *e*P **P** **01 45 51.9 -0.5**
NJ2 Nanjing 39.38 25 *e*P **P** **01 46 03.9 +1.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
LZH Lanzhou 39.41 4 *e*P **P** **01 46 02.5 -0.1**
LZH pP sP 01 46 13.4 +3.2
LZH sP pP 01 46 18.1 +10
LZH *e*PP **PnPn** **01 47 38.6 +2.5**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.9s
LZH LR LR
comp=N,380nm,13.2s
LZH LR LR
comp=E,400nm,13.6s
LZH LR LR
comp=Z,450nm,17.2s
GTA Gaotai 42.60 359 ⇑P **P** **01 46 29.2 +0.4**
GTA pP sP 01 46 37.4 +1.0
GTA sP pP 01 46 41.5 +7.2
GTA S **S** **01 52 48.8 -2.2**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,5.9s
GTA LR LR
comp=N,340nm,19.0s
GTA LR LR
comp=E,230nm,20.0s
GTA LR LR
comp=Z,350nm,19.5s
BBOO Buckleboo 44.40 135 *e*P **P** **01 46 43.3 0.0**
3.3nm,0.8s
HHC Hu-ho-hao-te 45.21 12 *e*P **P** **01 46 50.8 +1.1**
HHC pP pP 01 46 55.4 +0.2
HHC sP sP 01 46 57.9 +0.5
HHC S **S** **01 53 31.6 +2.6**
HHC sS sS 01 53 39.1 +1.1
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,230nm,5.5s
HHC LR LR
comp=N,280nm,12.1s
HHC LR LR
comp=E,350nm,14.1s
HHC LR LR
comp=Z,150nm,16.0s
JNU Nakatsue 46.39 36 P **P** **01 46 58.2 -0.9**
20nm,1.0s,baz=225,slow=8.2,SNR=4.3
CTAO Charters Tower 47.68 114 *e*P **P** **01 47 09.1 -0.3**
28nm,0.7s
STKA Stephens Creek 47.96 131 P **P** **01 47 11.9 +0.5**
3.1nm,0.6s,baz=311,slow=8.2,SNR=7.7
STKA LR LR 02 08 32.4
comp=Z,111nm,21.5s,baz=289,slow=38
STKA Stephens Creek 47.96 131 *e*P **P** **01 47 12.5 +1.1**
1.5nm,0.8s
KSAR Wonju Array Be 48.00 30 P **P** **01 47 11.9 +0.4**
KSRS Korea Array 48.03 30 P **P** **01 47 11.9 +0.2**
22nm,1.2s,baz=221,slow=8.0,SNR=11
KS01 Wonju Array Si 48.04 30 *e*P **P** **01 47 11.7 -0.1**
KSH Kashi 48.24 335 P **P** **01 47 13.1 -0.5**
KSH pP pP 01 47 18.1 -1.0
KSH PcS **PcS** **01 52 33.1 -3.4**
KSH S **S** **01 54 10.0 -2.6**
KSH ScS **ScS** **01 57 01.2 -5.0**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,280nm,5.3s
KSH LR LR
comp=N,290nm,10.0s
KSH LR LR
comp=E,400nm,8.4s
KSH LR LR
comp=Z,410nm,8.0s
WMQ Urumqi 48.37 348 P **P** **01 47 15.9 +1.5**
WMQ pP sP 01 47 25.0 +3.0
WMQ pmax pmax
comp=Z,40nm,1.1s
WMQ pmax pmax
comp=Z,730nm,6.3s
WSAR Wadi Sarin 48.54 305 LR LR 02 06 01.8
comp=Z,144nm,20.0s,baz=162,slow=34
TKM2 Tokmak 2 51.25 337 P **P** **01 47 37.9 +1.4**
SNR=11
SONM Songino Array 51.29 5 P **P** **01 47 38.0 +1.3**
20nm,0.7s,baz=189,slow=9.5,SNR=100
SONM PcP **PcP** **01 48 51.8 +0.3**
2.2nm,0.6s,baz=180,slow=4.3,SNR=1.4
KBK Karagaybulak 51.29 336 P **P** **01 47 38.8 +2.0**
SNR=7.3
SONA1 Songino Array 51.30 5 *e*P **P** **01 47 37.9 +1.2**
AML Almayashu 51.38 335 P **P** **01 47 39.2 +1.5**
SNR=5.7
ULN Ulaanbaatar 51.38 6 *e*P **P** **01 47 38.6 +1.2**
22nm,1.0s
AAK Ala-Archa 51.46 336 *e*P **P** **01 47 39.0 +0.9**
4.6nm,0.9s
EKS2 Erkin-Say 51.78 335 P **P** **01 47 42.3 +1.9**
SNR=11
USP Ospenovka 51.98 336 P **P** **01 47 43.0 +1.3**
SNR=8.8
CN2 Changchun 52.11 23 *e*P **P** **01 47 41.8 -0.9**
CN2 *e*S **S** **01 55 10.5 +4.4**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,22.0s
CN2 LR LR
comp=E,300nm,22.0s
CN2 LR LR
comp=Z,200nm,24.0s
MK01 Makanchi Array 52.44 344 *e*P **P** **01 47 45.8 +0.7**
MK31 Makanchi Array 52.46 344 *e*P **P** **01 47 45.9 +0.6**
MKAR Makanchi Array 52.46 344 P **P** **01 47 46.2 +0.9**
11nm,0.7s,baz=148,slow=8.1,SNR=119
MKAR Makanchi Array 52.46 344 *e*P **P** **01 47 45.9 +0.6**
71nm,0.8s
MAKZ Makanchi 52.56 344 *e*P **P** **01 47 46.7 +0.7**
7.1nm,0.9s
MAJO Matsushiro 53.13 38 *e*P **P** **01 47 50.3 -0.1**
MJAR Matsushiro Arr 53.13 38 P **P** **01 47 49.4 -1.0**
1.6nm,0.5s,baz=215,slow=8.3,SNR=7.5
KKAR Karatay Array 53.56 333 *e*P **P** **01 47 54.1 +0.7**
OPO Arnbohidratompo 54.12 250 LR LR 02 06 25.8
comp=Z,142nm,21.7s,baz=84,slow=31
TLY Talaya 54.94 2 *e*P **P** **01 48 05.0 +1.7**
9.5nm,1.3s
USRK Ussuriysk Ar. 55.21 27 P **P** **01 48 05.7 +0.3**
24nm,0.8s,baz=221,slow=6.2,SNR=37
GEYT Alibeck 56.75 321 P **P** **01 48 17.2 +0.6**
3.8nm,1.0s,baz=145,slow=5.3,SNR=9.8
KURBB Kurchatov Arra 56.98 344 P **P** **01 48 18.5 +0.6**
8.2nm,0.9s,baz=160,slow=6.8,SNR=43
KURK Kurchatov 57.04 344 *e*P **P** **01 48 19.1 +0.8**
19nm,0.9s
ZAA0 Zalesovo Array 58.60 349 *e*P **P** **01 48 29.7 +0.5**
ZALV Zalesovo Beam 58.60 349 P **P** **01 48 29.6 +0.4**
27nm,1.0s,baz=163,slow=5.4,SNR=60
ZALV Zalesovo Beam 58.60 349 *e*P **P** **01 48 29.3 +0.1**
RAYN Ar Rayn 59.74 300 *e*P **P** **01 48 37.3 -0.5**
1.5nm,0.8s
ASAJ Asahikawa 60.55 34 P **P** **01 48 42.9 0.0**
2.5nm,0.4s,baz=196,slow=7.4,SNR=2.4
BVAR Borovoye Array 61.61 340 P **P** **01 48 49.8 -0.1**
3.5nm,0.7s,baz=142,slow=7.3,SNR=21
BRVK Borovoye 61.68 340 *e*P **P** **01 48 50.4 +0.1**
4.1nm,0.8s
YSS Yuzh-Sakhalins 62.47 31 *e*P **P** **01 48 55.6 -0.2**
8.3nm,0.3s
ABKAR Akbulak array 63.03 332 *e*P **P** **01 48 59.8 +0.2**
73nm,0.7s
AKTO Aktyubinsk 64.75 332 P **P** **01 49 10.2 -0.7**
1.5nm,0.5s,baz=108,slow=6.6,SNR=5.1
GNI Garni 66.78 316 *e*P **P** **01 49 23.0 -1.4**
42nm,1.1s
ARU Arti 68.63 337 *e*P **P** **01 49 35.3 -0.1**
7.8nm,1.2s
MAW Mawson 69.03 194 LR LR 02 12 13.4
comp=Z,91nm,19.3s,baz=40,slow=29
KBZ Khabaz 69.60 319 P **P** **01 49 42.4 +0.7**
2.0nm,0.8s,baz=125,slow=7.0,SNR=6.3
KIV Kislovodsk 69.84 319 *e*P **P** **01 49 43.4 +0.1**
2.2nm,0.6s
MMAI Mount Meron Ar 71.16 306 P **P** **01 49 52.2 +0.6**
0.7nm,0.5s,baz=103,slow=6.2,SNR=1.6
MATP Matopo 71.84 250 P **P** **01 49 57.5 +1.5**
1.3nm,0.7s,baz=126,slow=6.3,SNR=2.5
MATP LR LR 02 17 51.9
comp=Z,64nm,18.8s,baz=4.0,slow=33
LSZ Lusaka 71.93 255 *e*P **P** **01 49 54.8 -1.8**
PETK Petropavlovsk- 73.86 32 P **P** **01 50 06.3 -0.9**
3.8nm,1.0s,baz=304,slow=2.9,SNR=3.6
BRTR Keskin Array B 74.53 313 P **P** **01 50 11.7 0.0**
1.4nm,0.8s,baz=139,slow=8.2,SNR=11
BR231 Keskin MP Arra 75.20 313 *e*P **P** **01 50 12.6 -2.8**
KLMR Klimovskoe 79.24 334 *e*P **P** **01 50 35.8 -1.6**
KLMR AMP 01 50 38.6
comp=Z,18nm,1.5s
AKASG Malin Array Be 80.81 322 P **P** **01 50 45.8 -0.4**
comp=Z,0.6nm,0.7s,baz=91,slow=3.7,SNR=4.4
FINES FINESS Array B 85.51 332 P **P** **01 51 10.9 +0.7**
comp=Z,2.9nm,0.9s,baz=97,slow=7.7,SNR=3.7
VYHS Vyhne 86.92 319 *e*P **P** **01 51 18.3 +0.8**
ARCES ARCESS Array B 87.90 340 P **P** **01 51 22.2 +0.4**
comp=Z,4.4nm,0.9s,baz=107,slow=5.8,SNR=4.4
MORC Moravsky Berou 87.94 320 *e*P **P** **01 51 21.8 -0.6**
comp=Z,7.7nm,0.9s
DPC Dobruska-Polom 88.79 320 *e*pP pP 01 51 40.5 +8.2
GEA0 GERESS Array S 90.33 319 *e*P **P** **01 51 35.3 +1.5**
GERES GERESS Array B 90.34 319 P **P** **01 51 34.9 +1.1**
comp=Z,0.5nm,0.7s,baz=90,slow=2.9,SNR=5.7
HFS Hagfors 91.26 330 P **P** **01 51 38.1 +0.4**
comp=Z,6.9nm,1.0s,baz=67,slow=4.8,SNR=4.0
YKA Yellowknife Ar 115.59 17 PKP **PKPdf** **01 57 13.8 -0.5**
comp=Z,0.2nm,0.7s,baz=316,slow=2.9,SNR=3.8
NEW Newport 124.96 30 P **PKPdf** **01 57 32.9 0.0**
baz=312
J04D Umpqua Nationa 125.32 37 P **PKPdf** **01 57 33.8 -0.1**
baz=304
O03D Paynes Creek 127.14 40 P **PKPdf** **01 57 36.7 -0.6**
baz=303
NVAR Mina Array Bea 130.43 40 PKP **PKPdf** **01 57 44.5 +0.7**
comp=Z,0.4nm,0.6s,baz=286,slow=1.6,SNR=4.6
PDAR Pinedale Array 132.60 30 PKP **PKPdf** **01 57 48.1 +0.3**
comp=Z,0.2nm,0.5s,baz=278,slow=1.4,SNR=1.8
EDW2 Edwards Air Fo 132.61 44 P **PKPdf** **01 57 46.7 -1.2**
baz=303
DUG Dugway, Tooele 132.67 35 P **PKPdf** **01 57 47.0 -0.9**
baz=312
RSSD Black Hills 134.07 24 *e*PKPdf **PKPdf** **01 57 50.0 -0.6**
F38A Pierce - Schro 136.28 12 P **PKPdf** **01 57 53.7 -0.7**
baz=342
F40A Park Falls 136.66 11 P **PKPdf** **01 57 54.6 -0.4**
baz=345
G43A Wallace 137.71 8 P **PKPdf** **01 57 57.9 +1.0**
baz=348
S39A Bolivar 143.63 18 P **PKPdf** **01 58 07.3 -0.7**
baz=337
Q45A Warren Harvey, 143.82 11 P **PKPdf** **01 58 07.5 -0.6**
baz=346
Q46A CEJHS Indians, 143.85 10 P **PKPdf** **01 58 07.1 -1.1**
baz=347
WMOK Wichita Mounta 144.10 27 P **PKPab** **01 58 06.2 -0.1**
baz=326,SNR=7.0
WMOK Wichita Mounta 144.10 27 *e*PKPdf **PKPab** **01 58 06.5 +0.2**
S41A Jillco Farms, 144.20 17 P PKPbc 01 58 07.3 +0.3
baz=339
R44A Waltonville 144.25 13 P PKPbc 01 58 07.7 +0.6
baz=344
TUL1 Leonard 144.36 23 P PKPbc 01 58 07.5 0.0
baz=332
T40A Mansfield 144.38 18 P PKPbc 01 58 08.2 +0.6
baz=338
T41A Mountain View 144.70 17 P **PKPab** **01 58 08.2 -0.3**
baz=339
S44A Carbondale 144.74 13 P **PKPab** **01 58 08.3 -0.3**
baz=343
U39A Green Forest 144.78 20 P **PKPab** **01 58 08.1 -0.6**
baz=336,SNR=7.6
WCI Wyandotte Cave 144.80 9 P **PKPab** **01 58 08.6 -0.1**
baz=348
WCI Wyandotte Cave 144.80 9 *e*PKPdf **PKPab** **01 58 08.7 -0.1**
T42A Van Buren 144.91 16 P **PKPab** **01 58 08.8 -0.4**
baz=340,SNR=11
U40A Yellville 145.00 19 P **PKPab** **01 58 08.9 -0.7**
baz=337,SNR=9.9
T43A Greenville 145.07 15 P **PKPbc** **01 58 08.6 -1.1**
baz=341
S46A Don Dixon Farm 145.08 11 P **PKPbc** **01 58 09.2 -0.6**
baz=346
V39A Pettigrew 145.21 20 P **PKPbc** **01 58 09.5 -0.9**
baz=335,SNR=17
T44A Benton 145.24 14 P **PKPbc** **01 58 09.7 -0.6**
baz=342
U41A Viola 145.31 18 P **PKPbc** **01 58 10.2 -0.3**
baz=338,SNR=7.5
ABTX Abilene, Hawle 145.40 31 P **PKPbc** **01 58 10.8 -0.2**
baz=323
S48A Wiedeman Farm, 145.40 9 P **PKPbc** **01 58 10.6 -0.2**
baz=349,SNR=7.9
U42A Revenden 145.50 17 P **PKPbc** **01 58 10.8 -0.3**
baz=339,SNR=12
V40A Witts Springs 145.52 19 P **PKPdf** **01 58 10.7 -0.6**
baz=336,SNR=9.2
TXAR Lajitas Array 145.56 39 PKPbc **PKPab** **01 58 12.7 +0.7**
comp=Z,10nm,0.7s,baz=286,slow=1.8,SNR=27
T46A Princeton 145.66 12 P **PKPdf** **01 58 11.5 +0.1**
baz=345,SNR=5.8
U43A Rector 145.71 16 P **PKPdf** **01 58 11.0 -0.5**
baz=341
W39A Magazine 145.74 21 P **PKPdf** **01 58 11.6 0.0**
baz=334
V41A Mountainview 145.75 18 P **PKPdf** **01 58 11.6 -0.1**
baz=337,SNR=12
U44A Portageville 145.77 14 P **PKPdf** **01 58 11.5 -0.2**
baz=342
T47A Sharon Grove 145.87 11 P **PKPdf** **01 58 12.0 +0.2**
baz=347
T48A Bowling Green 145.88 10 P **PKPbc** **01 58 12.1 -0.2**
baz=348,SNR=7.0
V42A Cord 145.96 17 P **PKPdf** **01 58 12.1 +0.1**
baz=339,SNR=6.9
W40A Ferguson Farm, 145.99 20 P **PKPdf** **01 58 12.3 +0.3**
baz=336
X39A Fountain Ranch 146.24 22 P **PKPbc** **01 58 13.6 0.0**
baz=333
W41B Gary Mavity, V 146.28 19 P **PKPbc** **01 58 14.0 +0.4**
baz=337
U47A Clarksville 146.37 11 P **PKPbc** **01 58 14.2 +0.3**
baz=346
MIAR Mount Ida 146.40 21 P **PKPbc** **01 58 14.2 +0.2**
baz=334
MIAR Mount Ida 146.40 21 *e*PKPbc **PKPbc** **01 58 13.8 -0.2**
U48A Cassie Pea, Po 146.44 10 P **PKPbc** **01 58 13.8 -0.2**
baz=348
WVT Waverly 146.56 12 P **PKPbc** **01 58 14.1 -0.4**
baz=345
X40A Basin Creek Fa 146.72 20 P **PKPbc** **01 58 14.6 -0.3**
baz=336
V46A Holladay 146.81 13 P **PKPbc** **01 58 14.8 -0.3**
baz=344
TZTN Tazewell 146.82 6 P **PKPbc** **01 58 15.0 -0.2**
baz=353
X41A Kaden, Bauxite 146.82 20 P **PKPbc** **01 58 15.6 +0.4**
baz=336
V47A Nunnelly 146.91 12 P **PKPbc** **01 58 15.8 +0.3**
baz=346
JCT Junction City 147.00 33 P **PKPbc** **01 58 16.5 +0.6**
baz=321
JCT Junction City 147.00 33 *e*PKPbc **PKPbc** **01 58 16.0 +0.1**
V48A Smith Brothers 147.13 11 P **PKPbc** **01 58 15.9 -0.2**
baz=347
W45A Hickory Valley 147.18 15 P **PKPbc** **01 58 15.8 -0.4**
baz=342
W46A Michie 147.39 13 P **PKPbc** **01 58 16.2 -0.6**
baz=344
W47A Westpoint 147.45 12 P **PKPbc** **01 58 16.5 -0.5**
baz=345
Z40A Long Farm, Mag 147.62 22 P **PKPbc** **01 58 17.1 -0.3**
baz=334
TKL Tuckaleechee C 147.67 6 PKPbc **PKPbc** **01 58 17.1 -0.4**
comp=Z,3.4nm,0.6s,baz=30,slow=6.2,SNR=5.9
W48A Pulaski 147.70 11 P **PKPbc** **01 58 17.0 -0.7**
baz=346
X45A UM Field Stati 147.82 15 P **PKPbc** **01 58 17.4 -0.6**
baz=342
X46A Booneville 147.90 14 P **PKPbc** **01 58 17.8 -0.4**
baz=343
X47A Russelville 148.10 13 P **PKPbc** **01 58 19.7 +1.0**
baz=344
Z42A Norrel Spur, H 148.12 20 P **PKPbc** **01 58 19.3 +0.4**
baz=336
CNNC Cliffs of the 148.27 357 P **PKPbc** **01 58 19.2 +0.1**
baz=3.3
Y45A Yeager Farm, C 148.31 16 P **PKPbc** **01 58 19.3 0.0**
baz=341
X48A Hartselle 148.34 12 P **PKPbc** **01 58 18.7 -0.7**
baz=346
KMSC Kings Mountain 148.37 3 P **PKPbc** **01 58 19.2 -0.3**
baz=357
X49A Woodville 148.42 11 P **PKPbc** **01 58 19.3 -0.3**
baz=347
Y46A Houston 148.47 15 P **PKPbc** **01 58 19.4 -0.3**
baz=342
Y47A UCPARC, Winfie 148.69 13 P **PKPbc** **01 58 19.6 -0.8**
baz=344
Y48A Jasper 148.83 12 P **PKPbc** **01 58 20.0 -0.7**
baz=345
Y49A Blount Mountai 149.04 11 P **PKPbc** **01 58 20.9 -0.3**
baz=347
Z46A Louisville 149.10 15 P **PKPbc** **01 58 21.1 -0.3**
baz=342
Y50A Piedmont 149.13 10 P **PKPbc** **01 58 20.8 -0.6**
baz=348
Z48A Northport 149.27 13 P **PKPbc** **01 58 21.3 -0.5**
baz=344
Z47A Carrollton 149.32 14 P **PKPbc** **01 58 21.6 -0.3**
baz=343
146A Union 149.60 16 P **PKPbc** **01 58 22.9 +0.3**
baz=341
Z49A Columbiana 149.66 12 P **PKPbc** **01 58 22.3 -0.5**
baz=346
244A Avery, Jackson 149.67 19 P **PKPbc** **01 58 22.2 -0.6**
baz=338
Z50A Ashland 149.72 10 P **PKPbc** **01 58 22.5 -0.5**
baz=348
GOGA Godfrey 149.92 6 P **PKPbc** **01 58 23.5 0.0**
baz=352
148A Greensboro 149.96 13 P **PKPbc** **01 58 23.3 -0.2**
baz=344
149A Jones 150.18 12 P **PKPbc** **01 58 24.0 -0.1**
baz=346
150A Eclectic 150.33 11 P **PKPbc** **01 58 24.3 -0.2**
baz=347
151A Opelika 150.53 10 P **PKPbc** **01 58 24.9 0.0**
baz=348
346A Big Creek Wild 150.65 17 P **PKPbc** **01 58 25.0 -0.2**
baz=340
249A Camden 150.71 13 P **PKPbc** **01 58 25.5 +0.1**

baz=345
250A Grady 150.89 12 P **PKPbc** 01 58 26.2 +0.4
baz=346
347A Saraland 150.90 16 P **PKPbc** 01 58 26.4 +0.6
baz=342
251A Midway 150.94 10 P **PKPbc** 01 58 26.3 +0.4
baz=348
350A Dozier 151.42 12 P **PKPbc** 01 58 27.6 +0.6
baz=346
351A Pinckard 151.70 11 P **PKPbc** 01 58 28.2 +0.5
baz=347
TIGA Tifton 151.86 7 P **PKPbc** 01 58 28.6 +0.6
baz=352

*ISCJB **09** 01:43:16.7±0.8, 17°.96S±0'.06×70°.3W±0'.1, h120km±6km, mb3.9/5, Error ellipse: s-maj=17.5km s-min=8.5km az=15.5*

*GUC **09** 01:43:18.2±0.5, 18°.04S×70°.32W, h108km±4km, ML4.1*

*IDC **09** 01:43:18.9±7.3, 18°.03S×69°.98W, h123km±46km, mb3.8/5, mb1 3.8/6, mb1mx3.5/35, mbtmp4.1/6, Error ellipse: s-maj=75.7km s-min=29.3km az=23.0*

ISC 09 01:43:17.4±1.1, 17°.94S±0'.06×70°.3W±0'.1, h111km±9km, n12, σ0893/19, mb3.9/5, 3C-3D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**0.68**	**185**	⇑*i* P	**Pn**	**01 43 35.6**	**-0.2**
PB12				*e*S	**Sn**	**01 43 49.1**	**-0.5**
PB12				IAML		01 43 50.2	
	comp=E,12μm,0.2s						
MNMC	**Minye Minye**	**1.35**	**152**	⇑*i* P	**Pn**	**01 43 43.3**	**+0.5**
MNMC				*e*S	**Sn**	**01 44 02.2**	**+0.3**
MNMC				IAML		01 44 05.0	
	comp=E,4μm,0.2s						
PSGC	**Pisagua**	**1.66**	**175**	⇓*i* P	**Pn**	**01 43 46.4**	**+0.2**
PSGC				*e*S	**Sn**	**01 44 08.1**	**-0.1**
PB11	**IPOC Station P**	**1.90**	**163**	⇑*i* P	**Pn**	**01 43 49.8**	**+0.4**
PB11				*e*S	**Sn**	**01 44 13.8**	**+0.1**
PB11				IAML		01 44 15.6	
	comp=N,2μm,0.3s						
PB08	**IPOC Station P**	**2.43**	**155**	⇓*i* P	**Pn**	**01 43 57.8**	**+1.5**
PB08				*e*S	**Sn**	**01 44 27.0**	**+0.9**
PB08				IAML		01 44 29.4	
	comp=E,581nm,0.2s						
LPAZ	**La Paz**	**2.62**	**52**	P	**Pn**	**01 43 59.3**	**+0.3**
	comp=E,20nm,0.3s,baz=214,slow=14,SNR=439						
LPAZ				S	**Sn**	**01 44 30.4**	**-0.3**
	comp=E,0.7nm,0.3s,baz=214,slow=14,SNR=4.8						
PB01	**IPOC Station P**	**3.18**	**167**	⇓*i* P	**Pn**	**01 44 05.9**	**+0.1**
PB01				*e*S	**Sn**	**01 44 41.6**	**-1.6**
PB01				IAML		01 44 43.2	
	comp=E,288nm,0.2s						
DBIC	**Dimbokro**	**69.01**	**75**	P	**P**	**01 54 10.0**	**-1.5**
	comp=E,2.5nm,0.6s,baz=232,slow=7.3,SNR=5.8						
ULM	**Lac du Bonnet**	**71.55**	**343**	P	**P**	**01 54 27.4**	**+1.2**
	comp=E,1.3nm,0.3s,baz=153,slow=8.8,SNR=8.6						
KOWA	**Kowa**	**72.83**	**68**	P	**P**	**01 54 33.8**	**-0.7**
	comp=E,1.2nm,0.6s,baz=241,slow=3.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**77.41**	**72**	P	**P**	**01 54 59.8**	**-1.1**
	comp=E,1.6nm,0.8s,baz=250,slow=5.0,SNR=26						
YKA	**Yellowknife Ar**	**87.42**	**341**	P	**P**	**01 55 52.8**	**+0.9**
	comp=E,0.2nm,0.5s,baz=134,slow=4.7,SNR=6.1						

SJA 09 01:45:54.1±0.4, 31°.48S×68°.81W, h104km±4km, ML3.0, MW4.1, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.13**	**122**	*i* P	Pn	01 46 09.3	+0.6
ZON				*i* S	Sn	01 46 20.6	+0.9
RTLL	**Cerro Villicun**	**0.32**	**62**	*i* P	Pn	01 46 09.6	+0.3
RTLL				*i* S	Sn	01 46 21.6	+0.9
RTCV	**Cerro Valdivia**	**0.45**	**149**	*i* P	Pn	01 46 10.8	+0.8
RTLS	**Leoncito**	**0.53**	**232**	*i* P	Pn	01 46 12.1	+1.2
RTLS				IAML		01 46 12.2	
	comp=Z,353nm,0.2s						
AMOG	**MOGNA**	**0.60**	**27**	*i* P	Pn	01 46 12.0	+0.8
AUSP	**Uspallata**	**0.89**	**213**	*i* P	Pn	01 46 15.2	+1.1
AUSP				*i* S	Sn	01 46 30.8	+1.8

DJA 09 01:48:27.2±1.2, 8°.S±7°×10°.8E±°, h21km±6km, M3.7/7, MLv3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.54**	**357**	P	Pn	01 48 39.1	-0.7
CISI				S	Sn	01 48 47.6	-0.6
CNJI	**Cibinong**	**1.05**	**318**	P	Pb	01 48 46.3	-0.5
CNJI				S	Sb	01 49 00.3	+0.2
LEM	**Lembang**	**1.28**	**350**	P	Pb	01 48 50.6	-0.2
SKJI	**Sukabumi**	**1.67**	**310**	P	Pn	01 48 56.0	+0.7

*MOS **09** 02:00:58.9±1.0, 13°.87N×120°.70E, h195km, mb4.6/32, Error ellipse: s-maj=11.5km s-min=5.7km az=116.8*

*ISCJB **09** 02:00:59.2±0.2, 13°.89N±0'.02×120°.78E±0'.03, h195km±2km, mb4.3/97, Error ellipse: s-maj=5.1km s-min=3.1km az=172.1*

*IDC **09** 02:00:59.8±0.5, 13°.83N×120°.72E, h190km±4km, mb4.1/44, mb1 4.1/44, mb1mx4.0/66, mbtmp4.5/44, MS3.5/1, Ms1 3.5/1, ms1mx2.7/61, Error ellipse: s-maj=9.8km s-min=6.7km az=65.0*

*MAN **09** 02:01:00, 13°.91N×120°.55E, h170km, mb5.4, ML4.4, MS4.6*

*NEIC **09** 02:01:00.2±0.5, 13°.85N×120°.75E, h194km±4km, mb4.6/36, Error ellipse: s-maj=5.1km s-min=3.2km az=74.0*

*BJI **09** 02:01:00.5, 13°.83N×120°.76E, h209km, mb4.5/33, mB4.9/23*

*DJA **09** 02:01:03.7±1.2, 14°.N±7°×12°.1E±°, h228km±10km, M4.7/30, mb4.7/30, mB5.3/6, Mw(mB)4.7/6*

ISC 09 02:01:00.3±0.4, 13°.88N±0'.03×120°.66E±0'.04, h193km±3km, h194km: pP-P, n298, σ1°.38/341, mb4.5/97, 23C-14D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.35**	**50**	P	**Pn**	**02 01 25.3**	**-0.9**
	2μm,0.3s,baz=196,slow=4.0,SNR=448						
TGY				S	**Sn**	**02 01 52.6**	**+6.3**
	908nm,0.3s,baz=222,slow=20,SNR=3.9						
TGY	**Tagaytay City**	**0.35**	**50**	⇑*i* P	**Pn**	**02 01 25.5**	**-0.7**
TGY				*i* S	Sn	02 01 33.8	-12
LUBP	**Lubang**	**0.43**	**250**	*e*P	**Pn**	**02 01 24.4**	**-2.0**
LUBP				*e*S	**Sn**	**02 01 42.5**	**-3.9**
PGP	**Puerto Galera**	**0.47**	**143**	⇑*e*P	**Pn**	**02 01 24.7**	**-1.9**
PGP				*i* S	**Sn**	**02 01 43.2**	**-3.7**
LQP	**Lukban**	**0.88**	**75**	⇑*e*P	**Pn**	**02 01 27.3**	**-1.5**
BOAC	**Boac**	**1.22**	**110**	*e*P	**Pn**	**02 01 30.3**	**-0.7**
BOAC				*e*S	**Sn**	**02 01 53.9**	**-0.9**
SJMP	**San Jose**	**1.48**	**162**	*e*P	**Pn**	**02 01 32.2**	**-1.1**
SJMP				*e*S	**Sn**	**02 01 55.8**	**-3.1**
PCPH	**Palayan**	**1.72**	**14**	⇑*e*P	**Pn**	**02 01 33.9**	**-1.6**
PCPH				*e*S	Sn	02 01 39.4	-24
GQP	**Guinayangan**	**1.73**	**89**	⇓*i* P	**Pn**	**02 01 35.6**	**0.0**
GQP				*i* S	**Sn**	**02 02 02.3**	**-0.6**
BUSP	**Coron**	**1.92**	**194**	*e*P	**Pn**	**02 01 36.7**	**-0.8**
BUSP				*e*S	**Sn**	**02 02 04.6**	**-1.9**
OTRP	**Odiongan**	**2.01**	**139**	*e*P	**Pn**	**02 01 37.5**	**-1.0**
OTRP				*e*S	**Sn**	**02 02 05.2**	**-2.9**
SCZP	**Santa Cruz**	**2.02**	**339**	*e*P	**Pn**	**02 01 36.8**	**-1.7**
SCZP				*e*S	**Sn**	**02 02 04.0**	**-4.4**
AUQP	**San Andres**	**2.03**	**106**	*e*P	**Pn**	**02 01 40.1**	**+1.4**
AUQP				*e*S	**Sn**	**02 02 12.0**	**+3.5**
BALP	**Baler**	**2.05**	**25**	*e*P	**Pn**	**02 01 38.4**	**-0.5**
BALP				*e*S	**Sn**	**02 02 07.9**	**-1.1**
BOLP	**Bolinao**	**2.59**	**344**	*e*P	**Pn**	**02 01 43.0**	**-1.8**
BOLP				*e*S	**Sn**	**02 02 16.4**	**-3.2**
ENPP	**El Nido**	**2.92**	**205**	*e*P	**Pn**	**02 01 48.8**	**+0.1**
ENPP				*e*S	**Sn**	**02 02 24.5**	**-2.0**
RCP	**Roxas**	**3.07**	**138**	⇓*i* P	**Pn**	**02 01 51.2**	**+0.6**
CAUP	**Cauayan**	**3.25**	**20**	*e*P	**Pn**	**02 01 49.1**	**-3.4**
JAP	**San Jose, Anti**	**3.36**	**158**	⇑*e*P	**Pn**	**02 01 55.0**	**+1.0**
GUIM	**Jordan**	**3.74**	**150**	*e*P	**Pn**	**02 01 59.7**	**+1.0**
ABRA	**Dolores**	**3.75**	**1**	*e*P	**Pn**	**02 01 57.4**	**-1.3**
APYP	**Conner**	**4.00**	**8**	*e*P	**Pn**	**02 02 01.4**	**-0.4**
PPR	**Puerto Princes**	**4.50**	**205**	⇓*i* P	**Pn**	**02 02 09.1**	**+0.9**
PLP	**Palo**	**5.00**	**122**	⇓*i* P	**Pn**	**02 02 15.5**	**+0.9**
MYLDM	**Lahad Datu**	**8.90**	**194**	*e*Pn	**Pn**	**02 03 09.5**	**+4.0**
TPUB	**Ta-pu**	**9.37**	**360**	*e*Pn	**Pn**	**02 03 11.4**	**-0.1**
YULB	**Yu-li**	**9.48**	**4**	*e*Pn	**Pn**	**02 03 12.7**	**-0.2**
SSLB	**Suanglung**	**9.86**	**2**	*e*Pn	**Pn**	**02 03 17.1**	**-0.8**
MRSI	**Marisa**	**13.38**	**174**	P	**Pn**	**02 04 03.2**	**+0.3**
MPSI	**Mapaga**	**13.48**	**183**	P	**Pn**	**02 04 04.2**	**+0.1**
SBUM	**Sibu**	**14.09**	**217**	*e*Pn	**P**	**02 04 15.6**	**+1.9**
SGKI	**Sangatta, Kali**	**14.63**	**192**	P	**P**	**02 04 21.7**	**+2.0**
APSI	**Ampana**	**14.73**	**176**	P	**P**	**02 04 22.9**	**+2.2**
LUWI	**Luwuk**	**14.97**	**172**	P	**P**	**02 04 24.8**	**+1.4**
LUWI	**Luwuk**	**14.97**	**172**	*e*Pn	**Pn**	**02 04 21.8**	**-0.8**
	29nm,0.7s						
MTKI	**Muara Teweh, K**	**15.80**	**202**	P	**Pn**	**02 04 36.2**	**+3.6**
SANI	**Sanana**	**16.68**	**161**	P	**P**	**02 04 41.5**	**-0.8**
TTSI	**Tana Toraja**	**16.84**	**183**	P	**Pn**	**02 04 46.1**	**+1.0**
KBKI	**Kotabaru**	**17.64**	**195**	P	**Pn**	**02 04 54.8**	**+0.2**
SRAK	**Srakaew**	**18.07**	**273**	P	**P**	**02 04 54.3**	**-3.2**
GYA	**Guiyang**	**18.12**	**316**	⇑*i* P	**Pn**	**02 05 03.1**	**+2.8**
GYA				sP	sP	02 06 00.2	+5.6
GYA				S	**S**	**02 08 14.4**	**-1.4**
GYA				PcP	**PcP**	**02 09 24.8**	**+1.9**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
CHAI	**Chaiyaphum**	**18.16**	**279**	P	**Pn**	**02 05 00.7**	**0.0**
	20nm,0.8s,167nm						
NJ2	**Nanjing**	**18.16**	**355**	*e*P	**Pn**	**02 05 00.5**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,32nm,0.7s						
BNSI	**Bone**	**18.17**	**182**	P	**P**	**02 04 55.3**	**-3.3**
NAYO	**Nakonayok**	**18.77**	**274**	P	**Pn**	**02 05 08.7**	**+0.9**
	8.6nm,1.2s,762nm						
KAPI	**Kappang**	**18.79**	**183**	*e*P	**P**	**02 05 06.1**	**+0.8**
	18nm,0.6s						
KAPI	**Kappang**	**18.79**	**183**	*e*P	**P**	**02 05 06.1**	**+0.8**
KAPI				pmax	pmax		
	comp=Z,18nm,0.6s						
AAI	**Ambon**	**18.99**	**156**	P	**P**	**02 05 07.2**	**-0.2**
ENH	**Enshi**	**19.30**	**330**	*e*P	**P**	**02 05 11.3**	**+0.6**
	comp=Z,12nm,0.9s						
NANT	**Nan**	**19.77**	**287**	P	**Pn**	**02 05 19.2**	**-0.5**
	comp=Z,11nm,0.8s						
PHIT	**Phitsanulok**	**19.78**	**282**	P	**Pn**	**02 05 18.7**	**-1.2**
	comp=Z,11nm,0.8s						
BSSI	**Bau Bau, Buton**	**19.89**	**181**	P	**P**	**02 05 17.4**	**+0.2**
KMI	**Kunming**	**20.23**	**306**	P	**P**	**02 05 21.7**	**+0.7**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
FAKI	**Fak Fak**	**20.26**	**145**	*e*P	**P**	**02 05 20.3**	**-0.9**
	comp=Z,12nm,0.7s						
UTHA	**Uthaitani**	**20.59**	**277**	P	**P**	**02 05 27.4**	**+2.8**
	comp=Z,4.5nm,0.6s,comp=Z,86nm						
LAMP	**Lampang**	**20.71**	**286**	P	**P**	**02 05 28.6**	**+2.7**
	comp=Z,7.3nm,0.9s						
JNU	**Nakatsue**	**21.30**	**24**	LR	LR	02 13 40.2	
	comp=Z,131nm,21.3s,baz=298,slow=36						
CM01	**Chiang Mai Arr**	**21.32**	**285**	*e*P	**P**	**02 05 33.6**	**+1.2**
CM31	**Chiang Mai Arr**	**21.34**	**285**	*e*P	**P**	**02 05 34.8**	**+2.2**
CMAR	**Chiang Mai Arr**	**21.34**	**285**	P	**P**	**02 05 34.7**	**+2.1**
	comp=Z,13nm,1.0s,baz=96,slow=7.8,SNR=53						
CHTO	**Chiang Mai**	**21.40**	**286**	P	**P**	**02 05 35.2**	**+2.0**
	comp=Z,47nm,1.2s						
CHTO	**Chiang Mai**	**21.40**	**286**	*e*P	**P**	**02 05 34.0**	**+0.9**
	comp=Z,8.1nm,1.0s						
CHTO	**Chiang Mai**	**21.40**	**286**	*e*P	**P**	**02 05 34.1**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TRTT	**Trang**	**21.44**	**256**	P	**P**	**02 05 34.8**	**+1.1**
	comp=Z,11nm,1.1s,comp=Z,326nm						
IPM	**Ipoh**	**21.50**	**246**	*e*P	**P**	**02 05 34.4**	**+0.2**
	comp=Z,8.6nm,0.4s						
CMAI	**Chiengmai2**	**21.53**	**289**	P	**P**	**02 05 36.2**	**+1.5**
	comp=Z,221nm,0.9s,comp=Z,6μm						
KMPI	**Kaimana, Papua**	**21.71**	**142**	P	**P**	**02 05 33.9**	**-2.4**
KMMI	**Kalianget**	**21.83**	**198**	P	**P**	**02 05 39.4**	**+1.9**
TBJI	**Tambak Boyo**	**22.35**	**204**	P	**P**	**02 05 44.6**	**+2.1**
ABJI	**Asem Bagus**	**22.46**	**197**	P	**P**	**02 05 45.2**	**+1.7**
BLJI	**Banyuglugur**	**22.60**	**198**	P	**P**	**02 05 46.2**	**+1.4**
XAN	**Xi'an**	**22.72**	**334**	P	**P**	**02 05 47.0**	**+1.2**
XAN				pP	pP	02 06 27.4	+7.0
XAN				S	**S**	**02 09 40.8**	**+1.2**
XAN				pmax	pmax		
	comp=Z,12nm,0.6s						
XAN				pmax	pmax		
	comp=Z,350nm,8.4s						
XAN				LR	LR		
	comp=Z,320nm,7.1s						
XAN				LR	LR		
	comp=Z,360nm,16.7s						
XAN				LR	LR		
	comp=Z,270nm,10.8s						
PLAI	**Plampang**	**22.74**	**187**	P	**P**	**02 05 46.8**	**+0.7**
CD2	**Chengdu**	**23.00**	**320**	*e*P	**P**	**02 05 49.6**	**+1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.4s						
DNP	**Denpasar**	**23.05**	**194**	P	**P**	**02 05 50.6**	**+1.7**
JAGI	**Jajag, Banyuwa**	**23.13**	**197**	P	**P**	**02 05 50.1**	**+0.6**
JAGI	**Jajag, Banyuwa**	**23.13**	**197**	*e*P	**P**	**02 05 51.0**	**+1.4**
	comp=Z,52nm,0.9s						
GMJI	**Gumukmas**	**23.15**	**198**	P	**P**	**02 05 51.1**	**+1.4**
WBSI	**Waikabubak, Su**	**23.40**	**183**	P	**P**	**02 05 49.1**	**-3.0**
BKNI	**Bangkinang**	**23.64**	**237**	P	**P**	**02 05 54.7**	**+0.5**
BASI	**Baing, Sumba**	**23.94**	**180**	P	**P**	**02 05 56.4**	**-0.6**
BATI	**Baumata**	**24.11**	**173**	P	**P**	**02 05 57.7**	**-0.9**
	comp=Z,55nm,0.8s,baz=4.0,slow=5.8,SNR=12						
BATI	**Baumata**	**24.11**	**173**	P	**P**	**02 05 57.4**	**-1.2**
PSI	**Prapat**	**24.13**	**245**	P	**P**	**02 05 59.6**	**+0.7**
	comp=Z,32nm,0.9s,baz=51,slow=3.9,SNR=14						
PSI	**Prapat**	**24.13**	**245**	*e*P	**P**	**02 05 59.9**	**+1.0**
	comp=Z,31nm,0.9s						
PSI	**Prapat**	**24.13**	**245**	*e*P	**P**	**02 05 59.9**	**+1.0**
PSI				pmax	pmax		
	comp=Z,31nm,0.9s						
LEM	**Lembang**	**24.31**	**213**	P	**P**	**02 06 00.7**	**+0.2**
	comp=Z,20nm,0.4s,baz=15,slow=13,SNR=4.0						
KSAR	**Wonju Array Be**	**24.33**	**14**	P	**P**	**02 06 01.3**	**+1.0**
KSAR	**Wonju Array Be**	**24.33**	**14**	P	**P**	**02 06 01.3**	**+1.0**
KSRS	**Korea Array**	**24.35**	**14**	P	**P**	**02 06 01.3**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=203,slow=11,SNR=4.1						
MDSI	**Maura Dua**	**24.50**	**223**	P	**P**	**02 06 02.9**	**+0.8**
MNSI	**Mandailing Nat**	**24.58**	**240**	P	**P**	**02 06 03.7**	**+0.9**
CMJI	**Cimerak**	**24.70**	**210**	P	**P**	**02 06 05.5**	**+1.6**
CISI	**Cisompet, Garu**	**24.82**	**212**	P	**P**	**02 06 04.7**	**-0.3**
CISI	**Cisompet, Garu**	**24.82**	**212**	*e*P	**P**	**02 06 05.3**	**+0.3**
	comp=Z,69nm,0.8s						
KCSI	**Kotacane, Aceh**	**24.83**	**248**	P	**P**	**02 06 04.1**	**-1.0**
PDSI	**Padang**	**24.83**	**235**	P	**P**	**02 06 07.0**	**+1.9**
GSI	**Gunungsitoli**	**26.03**	**243**	P	**P**	**02 06 14.4**	**-1.5**
GSI	**Gunungsitoli**	**26.03**	**243**	*e*P	**P**	**02 06 15.5**	**-0.4**
	comp=Z,60nm,1.2s						
SISI	**Saibi**	**26.18**	**236**	P	**P**	**02 06 16.1**	**-1.1**
LZH	**Lanzhou**	**26.77**	**329**	*e*P	**P**	**02 06 24.5**	**+2.0**
LZH				pP	pP	02 07 07.0	+5.3
LZH				sP	PP	02 07 31.6	+4.6
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,93nm,5.4s						
HHC	**Hu-ho-hao-te**	**28.02**	**345**	*e*P	**P**	**02 06 32.9**	**-0.6**
HHC				pP	pP	02 07 14.2	+1.3
HHC				sP	sP	02 07 38.2	+2.9
HHC				S	**S**	**02 11 01.3**	**-2.2**
HHC				sS	sS	02 12 14.5	+0.7
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,85nm,6.1s						
HHC				LR	LR		
	comp=Z,140nm,8.0s						
HHC				LR	LR		
	comp=Z,340nm,9.0s						
HHC				LR	LR		
	comp=Z,140nm,9.9s						
SHL	**Shillong**	**29.41**	**298**	*e*P	**P**	**02 06 44.0**	**-2.1**
GTA	**Gaotai**	**31.37**	**328**	⇓*e*P	**P**	**02 07 04.6**	**+1.6**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**31.73**	**16**	P	**P**	**02 07 06.1**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=214,slow=7.1,SNR=5.9						
USRK				PcP	**PcP**	**02 09 51.8**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=201,slow=2.8,SNR=3.6						
ODAN	**Odare**	**33.65**	**298**	*e*P	**P**	**02 07 24.0**	**+0.8**
	comp=Z,57nm,0.9s						
RAMN	**Ramite**	**34.35**	**298**	*e*P	**P**	**02 07 30.2**	**+1.0**
	comp=Z,30nm,0.9s						
MBWA	**Marble Bar**	**34.83**	**182**	*e*P	**P**	**02 07 31.7**	**-1.4**
	comp=Z,67nm,0.5s						
JIRN	**Jiri**	**34.89**	**299**	*e*P	**P**	**02 07 34.9**	**+0.9**
	comp=Z,20nm,0.3s						
PMG	**Port Moresby**	**35.02**	**130**	P	**P**	**02 07 34.2**	**-0.6**
	comp=Z,20nm,0.8s,baz=319,slow=11,SNR=10						
PMG	**Port Moresby**	**35.02**	**130**	*e*P	**P**	**02 07 34.0**	**-0.8**
	comp=Z,19nm,0.8s						
PMG	**Port Moresby**	**35.02**	**130**	*ce*P	**P**	**02 07 34.4**	**-0.4**
PMG				pmax	pmax		
	comp=Z,95nm,0.9s						
GUN	**Gumba**	**35.23**	**299**	*e*P	**P**	**02 07 37.6**	**+0.8**
	comp=Z,44nm,0.7s						
HIA	**Hailar**	**35.29**	**359**	*e*P	**P**	**02 07 38.6**	**+1.9**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAJ	**Asahikawa**	**35.49**	**28**	P	**P**	**02 07 38.4**	**0.0**
	comp=Z,1.8nm,0.4s,baz=288,slow=20,SNR=3.5						
ASAJ				PcP	**PcP**	**02 10 03.0**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=292,slow=10,SNR=4.3						
COEN	**Coen**	**35.52**	**140**	*e*P	**P**	**02 07 38.2**	**-0.9**
	comp=Z,11nm,0.8s						
PKI	**Pulchoki**	**35.53**	**298**	*e*P	**P**	**02 07 39.7**	**+0.2**
PKIN	**Phulchoki**	**35.55**	**298**	*e*P	**P**	**02 07 39.7**	**+0.2**
KKN	**Kakani**	**35.70**	**298**	*e*P	**P**	**02 07 41.1**	**+0.3**
ULN	**Ulaanbaatar**	**35.73**	**344**	*ce*P	**P**	**02 07 41.7**	**+1.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,2.5s						
DMN	**Daman**	**35.80**	**298**	*e*P	**P**	**02 07 42.2**	**+0.5**
SONM	**Songino Array**	**35.88**	**344**	P	**P**	**02 07 42.4**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=160,slow=9.7,SNR=12						
SONM				PcP	**PcP**	**02 10 04.6**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=153,slow=1.3,SNR=2.6						
SONA1	**Songino Array**	**35.88**	**344**	*e*P	**P**	**02 07 42.1**	**+0.2**
WRAB	**Tennant Creek**	**36.20**	**158**	*e*P	**P**	**02 07 43.2**	**-1.5**
	comp=Z,9.8nm,0.4s						
WRAB	**Tennant Creek**	**36.20**	**158**	*ce*P	**P**	**02 07 43.2**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.3s						
WRA	**Warramunga Arr**	**36.20**	**158**	P	**P**	**02 07 43.4**	**-1.4**
	comp=Z,8.1nm,0.3s,baz=333,slow=9.7,SNR=137						
WRA				PcP	**PcP**	**02 10 05.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=12,slow=3.8,SNR=4.8						
WRA				S	**S**	**02 13 04.7**	**-5.9**
	comp=Z,1.4nm,0.5s,baz=332,slow=14,SNR=7.2						
WB2	**Warramunga Arr**	**36.21**	**158**	*e*P	**P**	**02 07 43.8**	**-1.0**
WB2				*ep*P	**pP**	**02 08 28.7**	**+3.4**
KLR	**Kul'dur**	**36.41**	**12**	P	**P**	**02 07 46.5**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=247,slow=9.2,SNR=14						
KLR				PcP	**PcP**	**02 10 05.9**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=209,slow=3.8,SNR=6.1						
KLR	**Kul'dur**	**36.41**	**12**	⇓*i* P	**P**	**02 07 46.3**	**+0.1**
KOLN	**Koldanda**	**37.14**	**298**	*e*P	**P**	**02 07 53.2**	**+0.3**
DANN	**Dangsing**	**37.15**	**299**	*e*P	**P**	**02 07 53.0**	**-0.1**
PYUN	**Piuthan**	**37.74**	**298**	*e*P	**P**	**02 07 58.6**	**+0.6**
	comp=Z,46nm,1.0s						
AS31	**Alice Springs**	**39.50**	**161**	*e*P	**P**	**02 08 11.7**	**-0.6**
	comp=Z,15nm,0.3s						
ASAR	**Alice Springs**	**39.50**	**161**	P	**P**	**02 08 11.6**	**-0.8**
	comp=Z,20nm,0.4s,baz=335,slow=6.6,SNR=233						
ASAR				PcP	**PcP**	**02 10 15.7**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=344,slow=3.3,SNR=7.5						
ASAR				S	**S**	**02 13 55.9**	**-4.3**
	comp=Z,2.3nm,1.0s,baz=340,slow=16,SNR=15						
AS01	**Alice Springs**	**39.51**	**161**	*e*P	**P**	**02 08 11.3**	**-1.1**
AS01				*e*PcP	**PcP**	**02 10 15.4**	**-0.7**
HYB	**Hyderabad**	**40.64**	**281**	*i* P	**P**	**02 08 25.0**	**+3.1**
WMQ	**Urumqi**	**41.04**	**323**	*e*P	**P**	**02 08 26.6**	**+1.8**
CTAO	**Charters Tower**	**42.11**	**143**	*e*P	**P**	**02 08 34.5**	**+0.8**
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**42.11**	**143**	*e*P	**P**	**02 08 34.5**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s						
MK01	**Makanchi Array**	**45.85**	**324**	*e*P	**P**	**02 09 04.0**	**+0.8**
PDGK	**Podgornoye**	**45.86**	**318**	*i* P	**P**	**02 09 03.3**	**-0.1**
PDGK				pmax	pmax		
	comp=Z,12nm,0.8s						
MK31	**Makanchi Array**	**45.87**	**324**	*e*P	**P**	**02 09 04.3**	**+1.0**
MK31	**Makanchi Array**	**45.87**	**324**	*i* P	**P**	**02 09 02.6**	**-0.7**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR	**Makanchi Array**	**45.87**	**324**	P	**P**	**02 09 04.2**	**+1.0**
	comp=Z,8.4nm,0.8s,baz=129,slow=8.8,SNR=74						
MKAR				PcP	**PcP**	**02 10 37.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=124,slow=4.4,SNR=6.2						
MKAR				ScP	**ScP**	**02 14 11.6**	**-0.3**
	comp=Z,1.4nm,0.9s

comp=Z,2.0nm,0.7s
MA2 Magadan 50.74 19 P **P 02 09 40.6 +0.3**
comp=Z,2.6nm,0.4s,baz=217,slow=9.6,SNR=5.7
MA2 Magadan 50.74 19 *ce*P **P 02 09 41.4 +1.1**
KBL Kabul 50.78 303 *eP* **P 02 09 42.3 +1.0**
comp=Z,9.6nm,0.8s
KBL Kabul 50.78 303 *eP* **P 02 09 42.3 +1.0**
KBL pmax pmax
comp=Z,10.0nm,0.8s
KK31 Karatay Array 51.82 314 *i* P **P 02 09 49.1 +0.4**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 51.82 314 *eP* **P 02 09 49.5 +0.8**
comp=Z,6.3nm,0.8s
KKAR Karatay Array 51.82 314 *eP* **P 02 09 49.5 +0.8**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
SEY Seymchan 53.85 17 P **P 02 10 03.9 +0.8**
comp=Z,5.4nm,0.7s,baz=226,slow=5.5,SNR=31
SEY Seymchan 53.85 17 *ce*P **P 02 10 04.7 +1.6**
BVAR Borovoye Array 55.60 326 P **P 02 10 16.3 +0.5**
comp=Z,2.8nm,0.7s,baz=117,slow=8.8,SNR=22
BVAR PcP **PcP 02 11 13.0 -0.1**
comp=Z,2.3nm,0.7s,baz=122,slow=5.2,SNR=7.0
BRVK Borovoye 55.68 326 *eP* **P 02 10 17.0 +0.6**
comp=Z,16nm,1.0s
BRVK Borovoye 55.68 326 *ce*P **P 02 10 16.2 -0.2**
BRVK pmax pmax
comp=Z,12nm,1.0s
DZM Mont Dzumac 57.37 128 P **P 02 10 28.2 -0.7**
comp=Z,13nm,0.7s,baz=294,slow=10.0,SNR=18
DZM Mont Dzumac 57.37 128 *eP* **P 02 10 28.6 -0.2**
comp=Z,12nm,0.7s
WSAR Wadi Sarin 59.17 289 P **P 02 10 41.3 -0.1**
comp=Z,2.3nm,0.6s,baz=95,slow=7.7,SNR=5.0
GEYT Alibeck 60.00 306 P **P 02 10 48.0 +1.1**
comp=Z,6.9nm,0.8s,baz=129,slow=4.0,SNR=20
GEYT pP **PcP 02 11 30.9 0.0**
comp=Z,1.5nm,0.7s,baz=96,slow=4.5,SNR=2.2
AB31 Akbulak array 60.57 319 *i* P **P 02 10 50.1 -0.3**
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 60.57 319 *eP* **P 02 10 50.5 +0.1**
comp=Z,9.2nm,0.8s
AKTO Aktyubinsk 62.05 320 P **P 02 11 00.2 -0.1**
comp=Z,6.2nm,0.8s,baz=90,slow=6.9,SNR=22
AKTO Aktyubinsk 62.05 320 *i* P **P 02 10 59.5 -0.8**
AKTO pmax pmax
comp=Z,7.0nm,0.9s
SVE Sverdlovsk 62.23 327 *eP* **P 02 11 01.6 +0.2**
SVE pmax pmax
comp=Z,16nm,0.9s
ARU Arti 63.21 327 P **P 02 11 07.7 -0.2**
comp=Z,5.3nm,0.5s,baz=98,slow=3.9,SNR=14
ARU pP **pP 02 11 53.4 +0.7**
comp=Z,1.4nm,0.3s,baz=108,slow=12,SNR=2.5
ARU Arti 63.21 327 *eP* **P 02 11 07.1 -0.7**
comp=Z,6.5nm,0.6s
ARU pP **pP 02 11 53.4 +0.7**
ARU Arti 63.21 327 *c i* P **P 02 11 07.2 -0.7**
ARU *PP **pP 02 11 53.7 +1.0**
ARU 02 13 24.6
ARU S **S 02 19 24.5 +0.7**
ARU SS **SS 02 23 30.0 -3.4**
ARU pmax pmax
comp=Z,10.0nm,1.0s
GAMB Gambell 67.81 26 *eP* **P 02 11 38.5 +1.4**
GNI Garni 70.48 308 *eP* **P 02 11 53.8 -0.5**
comp=Z,35nm,0.9s
GNI Garni 70.48 308 *eP* **P 02 11 53.8 -0.5**
GNI pmax pmax
comp=Z,35nm,0.9s
RAYN Ar Rayn 71.16 290 *eP* **P 02 11 58.5 0.0**
comp=Z,22nm,1.0s
RAYN Ar Rayn 71.16 290 *eP* **P 02 11 58.5 0.0**
RAYN pmax pmax
comp=Z,22nm,1.0s
AKH Akhalkalaki 71.38 309 ⇑ *i* P **P 02 12 00.9 +1.2**
AKH Akhalkalaki 71.38 309 *eP* **P 02 12 01.3 +1.6**
AKH Akhalkalaki 71.38 309 *eP* **P 02 12 01.3 +1.6**
KBZ Khabaz 71.74 312 P **P 02 12 01.9 +0.5**
comp=Z,3.1nm,0.9s,baz=93,slow=7.1,SNR=6.7
KBZ Khabaz 71.74 312 P **P 02 12 02.0 +0.5**
KVAR Kislovodsk Arr 71.88 312 P **P 02 12 04.4 +1.9**
comp=Z,7.2nm,0.8s,baz=197,slow=2.6,SNR=8.7
KIV Kislovodsk 71.88 312 *eP* **P 02 12 02.6 +0.1**
comp=Z,10nm,0.7s
KIV Kislovodsk 71.88 312 *eP* **P 02 12 03.2 +0.7**
KIV pmax pmax
comp=Z,13nm,1.0s
VRH Novokhopyorsk 72.39 320 *eP* **P 02 12 04.6 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 73.68 330 *eP* **P 02 12 09.4 -3.2**
KLMR pmax pmax
comp=Z,7.0nm,0.7s
KLMR Klimovskoe 73.68 330 *eP* **P 02 12 09.4 -3.2**
KLMR AMP 02 12 12.6
comp=Z,7.0nm,0.7s
VSR Storozhevoye 74.00 320 *eP* **P 02 12 13.8 -0.9**
VSR pmax pmax
comp=Z,9.0nm,0.7s
LPSR Galich'ya Gora 74.09 321 *eP* **P 02 12 14.3 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 75.37 324 P **P 02 12 21.7 -0.7**
comp=Z,4.1nm,0.4s,baz=180,slow=20,SNR=3.4
OBN Obninsk 75.37 324 *i* P **P 02 12 20.7 -1.7**
OBN pmax pmax
comp=Z,6.0nm,0.9s
CAST Castle Rocks 76.48 28 *eP* **P 02 12 29.7 +1.0**
BPAW Bear Paw Mtn. 76.91 27 *eP* **P 02 12 31.4 +0.4**
comp=Z,2.6nm,0.9s
ASF Jabal al Asfar 77.54 300 P **P 02 12 35.8 +0.5**
comp=Z,4.4nm,0.8s,baz=100,slow=3.7,SNR=8.2
MCK McKinley 77.85 27 *eP* **P 02 12 35.6 -0.6**
comp=Z,12nm,0.7s
MCK McKinley 77.85 27 *eP* **P 02 12 35.6 -0.6**
MCK pmax pmax
comp=Z,12nm,0.7s
COLA College 78.18 26 *eP* **P 02 12 37.9 -0.1**
comp=Z,5.5nm,0.8s
COLA College 78.18 26 *eP* **P 02 12 37.9 -0.1**
COLA pmax pmax
comp=Z,5.0nm,0.8s
ILAR Eielson Array 78.61 26 P **P 02 12 39.2 -1.1**
comp=Z,1.1nm,0.7s,baz=260,slow=3.8,SNR=12
MMAI Mount Meron Ar 78.66 301 P **P 02 12 41.5 +0.1**
comp=Z,4.0nm,0.8s,baz=84,slow=4.5,SNR=5.4
ARCES ARCESS Array B 78.90 339 P **P 02 12 41.9 0.0**
comp=Z,3.8nm,0.7s,baz=83,slow=6.9,SNR=17
BRTR Keskin Array B 79.01 308 P **P 02 12 43.3 +0.1**
comp=Z,1.5nm,0.8s,baz=116,slow=5.6,SNR=12
SPITS Spitsbergen Ar 79.41 348 P **P 02 12 44.2 -0.3**
comp=Z,9.1nm,0.8s,baz=30,slow=3.8,SNR=9.1
CSS Mathiatis 80.03 304 *eP* **P 02 12 48.8 +0.1**
comp=Z,2.0nm,0.8s
FINES FINESS Array B 80.11 331 P **P 02 12 48.0 -0.5**
comp=Z,1.6nm,0.7s,baz=31,slow=8.9,SNR=5.5
AKASG Malin Array Be 80.30 320 P **P 02 12 48.4 -1.3**
comp=Z,1.0nm,0.7s,baz=67,slow=5.6,SNR=6.8
KIEV Kiev 80.31 320 *eP* **P 02 12 48.4 -1.4**
comp=Z,2.5nm,0.7s
KIEV Kiev 80.31 320 *eP* **P 02 12 48.4 -1.4**
KIEV pmax pmax
comp=Z,3.0nm,0.7s
VSU Vasula 80.34 328 *ce*P **P 02 12 49.9 +0.1**
VSU pmax pmax
comp=Z,170nm,2.5s
SORM Soroca 81.33 317 ⇑ *i* P **P 02 12 54.8 -0.4**
CFR Carcaliu 82.05 314 ⇓ *i* P **P 02 12 58.9 -0.2**
TESR Tescani 82.79 316 ⇓ *i* P **P 02 13 02.4 -0.5**
VRI Vrincioaia 82.88 315 ⇓ *i* P **P 02 13 04.1 +0.7**
PLOR Plostina 82.94 315 ⇓ *i* P **P 02 13 04.2 +0.5**
INK Inuvik 82.94 21 *eP* **P 02 13 02.8 -0.4**
comp=Z,7.9nm,1.0s
INK Inuvik 82.94 21 *eP* **P 02 13 02.8 -0.4**
INK pmax pmax
comp=Z,8.0nm,1.0s
MLR Muntele Rosu 83.50 315 P **P 02 13 06.3 -0.4**
comp=Z,1.2nm,0.8s,baz=165,slow=13,SNR=5.4
MLR Muntele Rosu 83.50 315 ⇓ *i* P **P 02 13 06.9 +0.2**
BURAR Bucovina Array 83.50 317 ⇓ *i* P **P 02 13 07.1 +0.4**
KMBO Kilima Mbogo 83.87 267 P **P 02 13 10.0 +0.6**
comp=Z,2.0nm,0.8s,baz=34,slow=7.3,SNR=5.9
KMBO Kilima Mbogo 83.87 267 *eP* **P 02 13 10.3 +1.0**
comp=Z,2.6nm,0.8s
KMBO Kilima Mbogo 83.87 267 *eP* **P 02 13 10.3 +1.0**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
VOIR 84.12 315 ⇑ *i* P **P 02 13 09.2 -0.6**
ARR Arges 84.42 315 ⇓ *i* P **P 02 13 11.5 +0.2**
BMR Baia Mare 84.62 318 ⇑ *i* P **P 02 13 12.7 +0.6**
CJR Cluj-Napoca 84.79 317 ⇓ *i* P **P 02 13 13.8 +0.7**
DRGR 85.36 317 ⇓ *i* P **P 02 13 15.6 -0.4**
STHS Stebnicka Huta 85.60 320 *eP* **P 02 13 18.6 +1.6**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 85.60 320 *eP* **P 02 13 18.6 +1.6**
CRVS Cervenica-Dubn 85.60 319 *eP* **P 02 13 17.7 +0.6**
CRVS Cervenica-Dubn 85.60 319 *eP* **P 02 13 17.7 +0.6**
VTS Vitosha 86.12 313 ⇑ *i* P **P 02 13 19.9 0.0**
NIE Niedzica 86.19 320 *eP* **P 02 13 21.0 +1.0**
NIE Niedzica 86.19 320 *eP* **P 02 13 21.0 +1.0**
OJC Ojcow 86.27 321 *eP* **P 02 13 20.7 +0.4**
OJC Ojcow 86.27 321 *eP* **P 02 13 20.7 +0.4**
HFS Hagfors 86.30 331 P **P 02 13 19.3 -0.9**
comp=Z,4.1nm,0.6s,baz=103,slow=3.3,SNR=14
KECS Kecovo 86.34 319 *eP* **P 02 13 20.4 -0.3**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 86.34 319 *eP* **P 02 13 20.4 -0.3**
IDI Anoyia 86.72 305 P **P 02 13 22.2 -0.7**
comp=Z,2.9nm,0.8s,baz=111,slow=14,SNR=4.7
PSZ Piszkesteto 86.89 319 ⇑ *i* P **P 02 13 23.3 -0.1**
NB2 NORSAR Subarra 87.08 333 P **P 02 13 22.6 -1.4**
comp=Z,4.5nm,0.8s,baz=68,slow=4.6
NB2 NORSAR Subarra 87.08 333 P **P 02 13 22.6 -1.4**
baz=68,slow=4.6
NOA NORSAR Array B 87.08 333 P **P 02 13 22.9 -1.1**
comp=Z,3.4nm,0.7s,baz=68,slow=4.5,SNR=8.6
NOA NORSAR Array B 87.08 333 P **P 02 13 23.0 -1.1**
MORC Moravsky Berou 87.79 321 ⇓ *i* P **P 02 13 28.1 +0.5**
MORC Moravsky Berou 87.79 321 *eP* **P 02 13 27.2 -0.5**
comp=Z,7.0nm,0.6s
MORC Moravsky Berou 87.79 321 *eP* **P 02 13 27.2 -0.5**
MORC pmax pmax
comp=Z,7.0nm,0.6s
DPC Dobruska-Polom 88.34 322 *eP* **P 02 13 30.6 +0.4**
DPC Dobruska-Polom 88.34 322 *eP* **P 02 13 30.6 +0.4**
RES Resolute Bay 88.86 9 *eP* **P 02 13 31.7 -0.4**
comp=Z,5.5nm,0.9s
RES Resolute Bay 88.86 9 *eP* **P 02 13 31.7 -0.4**
RES pmax pmax
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 90.44 321 *eP* **P 02 13 37.8 -2.2**
KHC Kasperske Hory 90.44 321 *eP* **P 02 13 37.8 -2.2**
GERES GERESS Array B 90.47 321 P **P 02 13 39.2 -1.1**
comp=Z,1.0nm,0.8s,baz=66,slow=3.3,SNR=7.5
YKA Yellowknife Ar 92.62 22 P **P 02 13 49.9 +0.1**
comp=Z,2.7nm,0.8s,baz=307,slow=4.4,SNR=45
YKA pP **pP 02 14 36.9 -0.8**
comp=Z,0.6nm,0.9s,baz=311,slow=4.4,SNR=2.2
YKA PKKP **PKKPdf 02 30 59.1 -0.8**
comp=Z,0.6nm,0.6s,baz=125,slow=2.5,SNR=13
VNDA Vanda 94.23 172 P **P 02 13 56.5 -0.2**
comp=Z,1.7nm,0.5s,baz=312,slow=6.0,SNR=4.7
LSZ Lusaka 95.91 256 *eP* **P 02 14 05.8 -0.1**
comp=Z,2.7nm,0.9s
LSZ Lusaka 95.91 256 *eP* **P 02 14 05.8 -0.1**
LSZ pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 107.24 36 PKKPbc PKKPbc 02 30 20.5 -1.4
comp=Z,0.2nm,0.6s,baz=123,slow=3.3,SNR=3.1
PDAR PKKPab PKKPab 02 30 35.3 -2.8
comp=Z,0.1nm,0.3s,baz=126,slow=7.5,SNR=4.0
TORD Torodi Ar. Bea 113.85 291 PKiKP **PKiKP 02 19 15.8 -1.2**
comp=Z,0.4nm,0.9s,baz=46,slow=1.8,SNR=7.7
TORD PKKPbc **PKKPbc 02 30 00.6 +1.1**
comp=Z,0.6nm,1.0s,baz=301,slow=2.9,SNR=4.5
TORD PKKPab **PKKPab 02 30 07.2 -0.5**
comp=Z,2.0nm,0.9s,baz=260,slow=4.2,SNR=8.7
VNA2 Neumayer--Watz 114.96 197 PKP PKPdf 02 19 15.3 -2.3
VNA3 Neumayer Olymp 115.40 196 PKP **PKPdf 02 19 18.3 -0.1**
TXAR Lajitas Array 119.37 44 PKP **PKPdf 02 19 27.7 +0.2**
comp=Z,1.0nm,0.6s,baz=281,slow=2.0,SNR=4.0
DBIC Dimbokro 122.20 287 PKP **PKPdf 02 19 32.4 -0.7**
comp=Z,4.4nm,1.1s,baz=45,slow=5.7,SNR=2.2
TKL Tuckaleechee C 125.57 24 PKP **PKPdf 02 19 39.0 -0.1**
comp=Z,4.9nm,0.8s,baz=214,slow=3.6,SNR=6.5
TKL Tuckaleechee C 125.57 24 PKiKP **PKPdf 02 19 39.0 -0.1**
JTS JuntasAbangare 145.04 48 PKPbc **PKPbc 02 20 13.8 -1.6**
comp=Z,5.5nm,0.7s,baz=81,slow=13,SNR=3.3
PLCA Paso Flores 151.51 162 PKPbc **PKPbc 02 20 32.2 +0.4**
comp=Z,5.2nm,0.5s,baz=244,slow=3.3,SNR=12
SDV Santo Domingo 154.76 27 PKPbc **PKPbc 02 20 39.5 -0.3**
comp=Z,5.1nm,0.6s,baz=260,slow=5.0,SNR=5.5
CPUP Villa Florida 167.47 188 PKPab **PKPab 02 21 49.6 -0.5**
comp=Z,1.1nm,0.7s,baz=172,slow=7.1,SNR=3.4
LPAZ La Paz 171.18 107 PKPab **PKPab 02 22 08.9 +0.9**
comp=Z,3.2nm,0.8s,baz=229,slow=1.0,SNR=8.1

*IDC **09** 02:03:26.2±0.7, 8°.61S×80°.48W, h0km, mb4.1/15, mb1 4.3/19, mb1mx4.2/41, mbtmp4.1/19, ML3.4/4, MS4.2/10, Ms1 4.2/10, ms1mx3.9/41, Error ellipse: s-maj=16.4km s-min=12.8km az=44.0*
*ISCJB **09** 02:03:30.0±0.3, 8°.53S±0°.04×80°.31W±0°.05, h33km, mb4.6/44, MS4.4/8, Error ellipse: s-maj=8.2km s-min=4.7km az=146.8*
*NEIC **09** 02:03:32.3±0.7, 8°.54S×80°.29W, h37km±6km, mb4.8/33, Error ellipse: s-maj=7.9km s-min=4.2km az=60.0*
NEIC Felt at Chiclayo and Trujillo.
ISC 09 02:03:31.9±0.5, 8°.53S±0°.06×80°.28W±0°.08, h35km, n112, σ1°03/98, mb4.7/44, MS4.3/8, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.33**	**53**	Pn		**Pn**	**Pn**	**02 04 10.8**	**+2.6**
	7.0nm,0.3s,baz=259,slow=13,SNR=50								
ATAH				Lg		Lg	Lg	02 04 49.3	
	50nm,0.3s,baz=105,slow=15,SNR=3.9								
NNA	**Nana**	**4.82**	**136**	Pn		**Pn**	**Pn**	**02 04 41.9**	**-0.2**
	5.1nm,0.3s,baz=315,slow=10,SNR=9.9								
NNA				Sn		**Sn**	**Sn**	**02 05 37.8**	**+1.0**
	24nm,0.3s,baz=282,slow=23,SNR=7.7								
NNA				Lg		Lg	Lg	02 06 05.6	
	16nm,0.3s,baz=154,slow=23,SNR=5.1								
NNA	**Nana**	**4.82**	**136**	*e*Pn		**Pn**	**Pn**	**02 04 40.8**	**-1.3**
NNA				*e*Sn		**Sn**	**Sn**	**02 05 37.0**	**+0.2**
NNA				Lg		Lg	Lg	02 06 05.6	
OTAV	**Otavalo**	**8.90**	**12**	*e*Pn		**Pn**	**Pn**	**02 05 38.5**	**-0.1**
CMBC	**Cumbal**	**9.72**	**15**	*e*P		**Pn**	**Pn**	**02 05 49.5**	**-0.3**
GCUF	**Volcan Galeras**	**10.13**	**17**	*e*P		**Pn**	**Pn**	**02 05 54.9**	**-0.5**
SOTA	**Rioblanco**	**11.21**	**19**	*e*P		**Pn**	**Pn**	**02 06 08.8**	**-1.5**
PCON	**Cinco Dias**	**11.46**	**20**	*e*P		**Pn**	**Pn**	**02 06 16.1**	**+2.4**
PAYG	**Puerto Ayora**	**12.66**	**308**	*e*Pn		**Pn**	**Pn**	**02 06 29.9**	**+0.3**
PRAC	**Prado**	**13.30**	**24**	*e*Pn		**Pn**	**Pn**	**02 06 37.4**	**-1.1**
SJAC	**San Juan de Ar**	**13.32**	**29**	*e*P		**P**	**P**	**02 06 46.0**	**-1.9**
LPAZ	**La Paz**	**14.14**	**124**	Pn		**Pn**	**Pn**	**02 06 51.4**	**+0.9**
	0.1nm,0.3s,baz=319,slow=13,SNR=5.5								
LPAZ	**La Paz**	**14.14**	**124**	*e*Pn		**Pn**	**Pn**	**02 06 50.9**	**+0.5**
RREF	**El Recreo**	**14.22**	**20**	*e*P		**P**	**P**	**02 06 56.0**	**-2.5**
ROSC	**El Rosal**	**14.55**	**24**	LR		LR	LR	02 12 08.1	
	comp=Z,314nm,21.7s,baz=202,slow=36								
PB11	**IPOC Station P**	**15.18**	**138**	*e*Pn		**P**	**P**	**02 07 07.0**	**-1.7**
	25nm,0.9s								
HELC	**Santa Helena**	**15.38**	**18**	*e*Pn		**Pn**	**Pn**	**02 07 07.9**	**+1.1**
	94nm,1.1s								
HELC	**Santa Helena**	**15.38**	**18**	*e*P		**P**	**P**	**02 07 11.3**	**+0.2**
RUSC	**La Rusia**	**16.03**	**27**	*e*Pn		**Pn**	**Pn**	**02 07 15.3**	**0.0**
	28nm,1.0s								
ZARC	**Zaragoza, Cauc**	**16.81**	**19**	*e*P		**P**	**P**	**02 07 25.9**	**-0.7**
SAML	**Samuel**	**16.90**	**93**	*e*Pn		**Pn**	**Pn**	**02 07 25.7**	**-0.2**
	22nm,0.9s								
BCIP	**Isla Barro Col**	**17.59**	**1**	*e*Pn		**Pn**	**Pn**	**02 07 34.3**	**-0.1**
OCAC	**Ocana**	**18.05**	**23**	*e*P		**P**	**P**	**02 07 41.2**	**+0.7**
JTS	**JuntasAbangare**	**19.27**	**346**	LR		LR	LR	02 14 23.1	
	comp=Z,497nm,18.8s,baz=214,slow=34								
JTS	**JuntasAbangare**	**19.27**	**346**	*e*P		**P**	**P**	**02 07 53.1**	**-0.7**
	20nm,1.1s								
SDV	**Santo Domingo**	**19.79**	**29**	P		**Pn**	**Pn**	**02 08 00.5**	**-0.9**
	0.3nm,0.3s,baz=212,slow=11,SNR=14								
SDV				LR		LR	LR	02 16 24.8	
	comp=Z,1μm,19.0s,baz=208,slow=39								
SDV	**Santo Domingo**	**19.79**	**29**	*e*P		**Pn**	**Pn**	**02 08 00.6**	**-0.7**
	66nm,1.2s								
PTGA	**Pitinga**	**21.66**	**70**	P		**P**	**P**	**02 08 19.6**	**-0.2**
	7.6nm,0.6s,baz=249,slow=12,SNR=12								
PTGA				LR		LR	LR	02 17 40.4	
	comp=Z,1μm,18.2s,baz=302,slow=39								
LCO	**Las Campanas**	**22.27**	**157**	*e*P		**P**	**P**	**02 08 27.1**	**+0.6**
	12nm,1.0s								
PCRV	**Puerto La Cruz**	**24.25**	**40**	P		**P**	**P**	**02 08 47.8**	**+1.9**
	11nm,0.7s,baz=190,slow=14,SNR=3.6								
CPUP	**Villa Florida**	**28.07**	**132**	P		**P**	**P**	**02 09 20.6**	**+0.2**
	1.2nm,0.7s,baz=296,slow=12,SNR=4.4								
CPUP				LR		LR	LR	02 22 02.2	
	comp=Z,417nm,18.5s,baz=322,slow=40								
SJG	**San Juan**	**29.93**	**28**	LR		LR	LR	02 23 02.0	
	comp=Z,581nm,20.7s,baz=196,slow=39								
GDHS	**Morne Mazeau,**	**30.71**	**37**	*e*P		**P**	**P**	**02 09 44.5**	**+0.6**
	133nm,1.1s								
RPN	**Rapa Nui**	**33.13**	**232**	LR		LR	LR	02 19 35.6	
	comp=Z,593nm,20.8s,baz=64,slow=29								
PLCA	**Paso Flores**	**33.21**	**166**	P		**P**	**P**	**02 10 05.8**	**+0.1**
	2.1nm,0.9s,baz=300,slow=7.7,SNR=2.7								
TRQA	**Tornquist**	**33.72**	**153**	*e*P		**P**	**P**	**02 10 08.1**	**-2.0**
	2.2nm,0.8s								
SPB	**Sao Paulo**	**34.82**	**119**	*e*P		**P**	**P**	**02 10 20.4**	**+0.7**
	21nm,0.9s								
TXAR	**Lajitas Array**	**43.88**	**330**	P		**P**	**P**	**02 11 36.3**	**+1.0**
	0.9nm,0.5s,baz=143,slow=7.9,SNR=3.6								
ABTX	**Abilene, Hawle**	**44.90**	**337**	*e*P		**P**	**P**	**02 11 42.9**	**-0.4**
	24nm,1.3s								
MSTX	**Muleshoe**	**47.35**	**334**	*e*P		**P**	**P**	**02 12 03.0**	**+0.2**
	28nm,1.4s								
CCM	**Cathedral Cave**	**47.47**	**348**	*e*P		**P**	**P**	**02 12 02.0**	**-1.4**
	20nm,1.1s								
ANMO	**Albuquerque**	**49.83**	**332**	*e*P		**P**	**P**	**02 12 23.0**	**+1.2**
	7.2nm,1.3s								
SDCO	**Great Sand Dun**	**51.72**	**335**	*e*P		**P**	**P**	**02 12 37.1**	**+0.9**
	9.3nm,1.1s								
MVCO	**Mesa Verde**	**52.62**	**332**	*e*P		**P**	**P**	**02 12 43.8**	**+0.9**
	9.4nm,1.2s								
RKT	**Rikitea**	**54.28**	**248**	*e*LR		LR	LR	02 28 40.0	
	488nm,29.8s								
RKT	**Rikitea**	**54.28**	**248**	*e*T		T	T	03 11 02.6	
	1.9nm,0.3s								
RWWY	**Rawlins**	**55.75**	**336**	*e*P		**P**	**P**	**02 13 05.8**	**+0.2**
	22nm,1.3s								
DUG	**Dugway, Tooele**	**57.05**	**331**	*e*P		**P**	**P**	**02 13 15.1**	**+0.4**
	29nm,1.8s								
HWUT	**Hardware Ranch**	**57.56**	**333**	*e*P		**P**	**P**	**02 13 18.2**	**-0.2**
	14nm,1.1s								
PDAR	**Pinedale Array**	**57.62**	**335**	P		**P**	**P**	**02 13 18.1**	**-0.7**
	0.5nm,0.6s,baz=131,slow=12,SNR=8.6								
PDAR	**Pinedale Array**	**57.62**	**335**	*e*P		**P**	**P**	**02 13 17.8**	**-1.0**
PKLM	**Kerr Lake**	**58.01**	**322**	*e*P		**P**	**P**	**02 13 24.7**	**+3.2**
HVU	**Hansel Valley**	**58.26**	**332**	*e*P		**P**	**P**	**02 13 23.4**	**+0.1**
	4.6nm,1.0s								
NVAR	**Mina Array Bea**	**58.62**	**325**	P		**P**	**P**	**02 13 26.1**	**+0.2**
	1.0nm,1.0s,baz=134,slow=6.4,SNR=4.1								
IMW	**Indian Meadow**	**59.12**	**335**	*e*P		**P**	**P**	**02 13 29.2**	**-0.2**
	5.5nm,1.1s								
TAOE	**Nuku Hiva Isla**	**59.12**	**265**	*e*LR		LR	LR	02 30 52.1	
	253nm,22.4s								
ULM	**Lac du Bonnet**	**60.09**	**349**	P		**P**	**P**	**02 13 36.0**	**+0.4**
	2.2nm,0.9s,baz=182,slow=10,SNR=3.4								
HLID	**Hailey**	**60.40**	**332**	*e*P		**P**	**P**	**02 13 38.4**	**+0.3**
	6.1nm,1.0s								
BOZ	**Bozeman (W)**	**60.79**	**335**	*e*P		**P**	**P**	**02 13 41.9**	**+1.3**
	6.1nm,1.1s								
MFID	**Camas Ranch**	**60.96**	**331**	*e*P		**P**	**P**	**02 13 42.2**	**+0.4**
	18nm,1.4s								
ORV	**Oroville**	**61.21**	**324**	*e*P		**P**	**P**	**02 13 45.0**	**+1.6**
	24nm,1.6s								
MOD	**Modoc Plateau**	**62.14**	**327**	*e*P		**P**	**P**	**02 13 50.8**	**+1.0**
	18nm,1.5s								
F10A	**Beach Ranch, E**	**63.54**	**332**	*e*P		**P**	**P**	**02 13 59.7**	**+0.7**
	43nm,2.0s								
G08A	**Pilot Rock**	**63.86**	**331**	*e*P		**P**	**P**	**02 14 01.8**	**+0.7**
	18nm,1.5s								
SCHQ	**Schefferville**	**64.13**	**9**	P		**P**	**P**	**02 14 02.0**	**-0.6**
	2.3nm,0.8s,baz=225,slow=12,SNR=3.1								
WALA	**Waterton Lakes**	**64.49**	**336**	*e*P		**P**	**P**	**02 14 05.3**	**+0.1**
	13nm,1.2s								
ASCN	**Ascension**	**65.17**	**95**	*e*P		**P**	**P**	**02 14 10.6**	**+0.4**
BBTS	**Babate**	**67.27**	**70**	LR		LR	LR	02 43 09.6	
	comp=Z,184nm,19.6s,baz=296,slow=35								
TBI	**Tubuai**	**67.59**	**248**	*e*LR		LR	LR	02 34 49.0	
	577nm,33.5s								
EDM	**Edmonton**	**67.63**	**339**	*e*P		**P**	**P**	**02 14 25.2**	**0.0**
	25nm,1.4s								
PPT2	**Papeete2**	**67.80**	**255**	*e*LR		LR	LR	02 34 56.3	
	392nm,26.0s								
FCC	**Fort Churchill**	**67.99**	**352**	*e*P		**P**	**P**	**02 14 26.2**	**-1.0**
	2.6nm,0.7s								
YKA	**Yellowknife Ar**	**75.60**	**344**	P		**P**	**P**	**02 15 12.0**	**-0.9**
	0.2nm,0.6s,baz=143,slow=5.7,SNR=3.5								
LIC	**Lamto**	**76.44**	**81**	*e*PKP1		**P**	**P**	**02 15 21.5**	**+2.7**
	57nm,1.6s								
TIC	**Toumodi**	**76.52**	**81**	*e*PKP1		**P**	**P**	**02 15 20.8**	**+1.6**
DBIC	**Dimbokro**	**76.69**	**81**	P		**P**	**P**	**02 15 19.8**	**-0.4**
	5.1nm,0.8s,baz=235,slow=5.5,SNR=6.1								
DBIC				LR		LR	LR	02 48 05.3	
	comp=Z,193nm,18.4s,baz=292,slow=35								
KIC	**Kosan Boka**	**76.75**	**81**	*e*PKP1		**P**	**P**	**02 15 22.0**	**+1.5**
	47nm,1.4s								
SNAA	**Sanae**	**78.00**	**162**	*e*P		**P**	**P**	**02 15 26.2**	**-0.3**
KOWA	**Kowa**	**79.00**	**73**	P		**P**	**P**	**02 15 33.9**	**+1.0**
	2.3nm,0.8s,baz=269,slow=6.1,SNR=17								
KOWA	**Kowa**	**79.00**	**73**	*e*P		**P**	**P**	**02 15 33.1**	**+0.1**
	25nm,1.3s								
TOA0	**Torodi Ar. Sit**	**84.19**	**76**	*e*P		**P**	**P**	**02 16 01.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**84.19**	**76**	P		**P**	**P**	**02 16 00.9**	**+0.5**
	4.8nm,0.8s,baz=270,slow=4.5,SNR=26								
TORD				LR		LR	LR	02 54 13.8	
	comp=Z,129nm,18.9s,baz=325,slow=36								
ESDC	**Sonseca Array**	**85.02**	**49**	P		**P**	**P**	**02 16 03.2**	**-1.0**
	0.8nm,0.7s,baz=275,slow=4.2,SNR=5.7								
ES19	**SONSECA Array**	**85.07**	**49**	*e*P		**P**	**P**	**02 16 04.8**	**+0.3**
INK	**Inuvik**	**85.23**	**343**	*e*P		**P**	**P**	**02 16 03.6**	**-0.9**
	7.8nm,1.2s								
PAX	**Paxson**	**86.65**	**335**	*e*P		**P**	**P**	**02 16 11.6**	**-0.1**

mb1 4.0/6,mb1mx3.5/61,mbtmp3.9/6,Error ellipse: s-maj=184.6km s-min=25.3km az=69.0

MAN ***09*** *02:22:05.9′.96N×126°.30E,h26km,mb4.4,ML3.3,MS3.0*

ISC 09 02:22:00.0±1.7,**9°.95N**±0°.04×**126°.46E**±0°.07,**h9**km±10km, **n17**,σ1=**38**/23,**mb3.7**/6,**2C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.97**	**260**	*e*P	**Pg**	**02 22 18.5**	**-0.1**
SCPH				*e*S	**Sg**	**02 22 29.5**	**-1.8**
BUTP	**Butuan**	**1.28**	**220**	*e*P	**Pn**	**02 22 23.6**	**-0.4**
BUTP				*e*S	**Sb**	**02 22 41.4**	**+0.6**
MSLP	**Maasin**	**1.59**	**277**	*e*P	**Pb**	**02 22 29.9**	**+0.4**
MSLP				*e*S	**Sn**	**02 22 48.3**	**-0.6**
BIPH	**Bislig**	**1.76**	**183**	*e*P	**Pg**	**02 22 34.2**	**+0.5**
BIPH				*e*S	Sn	02 22 43.8	-9.3
PLP	**Palo**	**1.89**	**310**	*e*P	**Pb**	**02 22 33.7**	**-1.0**
PLP				*i* S	**Sn**	**02 22 56.4**	**-0.1**
BESP	**Borongan**	**1.92**	**329**	*e*P	**Pg**	**02 22 36.3**	**-0.6**
BESP				*e*S	**Sg**	**02 23 03.5**	**+1.6**
OCLP	**Ormoc**	**2.12**	**301**	*e*P	**Pb**	**02 22 38.7**	**0.0**
BUKP	**Musuan**	**2.48**	**214**	*e*P	**Pb**	**02 22 43.8**	**-1.0**
BUKP				*e*S	**Sn**	**02 23 13.2**	**+2.2**
CNP	**Catarman**	**3.10**	**325**	*e*P	**Pn**	**02 22 51.2**	**+2.1**
PAGZ	**Pagadian**	**3.69**	**236**	*e*P	**Pn**	**02 22 59.7**	**+2.5**
RCP	**Roxas**	**3.98**	**294**	*e*P	**Pn**	**02 23 03.5**	**+2.3**
ASAR	**Alice Springs**	**34.19**	**168**	P	**P**	**02 28 46.5**	**+0.5**
	0.2nm,0.4s,baz=348,slow=6.0,SNR=3.1						
MKAR	**Makanchi Array**	**52.39**	**323**	P	**P**	**02 31 11.8**	**-0.9**
	0.3nm,0.5s,baz=117,slow=7.7,SNR=7.4						
ZALV	**Zalesovo Beam**	**54.99**	**331**	P	**P**	**02 31 31.1**	**-0.5**
	0.4nm,0.4s,baz=120,slow=8.5,SNR=2.1						
KURBB	**Kurchatov Arra**	**56.44**	**325**	P	**P**	**02 31 40.7**	**-1.4**
	0.4nm,0.6s,baz=123,slow=7.0,SNR=8.2						
ARCES	**ARCESS Array B**	**84.56**	**340**	P	**P**	**02 34 32.1**	**-1.2**
	7.2nm,1.1s,baz=58,slow=6.8,SNR=3.2						
FINES	**FINESS Array B**	**86.26**	**332**	P	**P**	**02 34 40.6**	**-1.3**
	1.3nm,0.5s,baz=89,slow=5.8,SNR=8.0						

NIED ***09*** *02:24:00,35°.60N×142°.40E,h5km,Mw5.2 Best double couple: M07.33000×10^16 NP1:φ=204.00000°,δ43.00000°, λ106.00000°. NP2:φ=2.00000°,δ49.00000°,λ75.00000°.*

JMA ***09*** *02:24:29.7±0.4,35°.56N×142°.41E,h47km,M5.3*

IDC ***09*** *02:24:29.4±0.6,35°.52N×142°.22E,h0km,mb3.9/20, mb1 4.0/27,mb1mx3.9/69,mbtmp3.9/27,ML3.1/7,MS4.6/23, Ms1 4.6/23,ms1mx4.4/65,Error ellipse: s-maj=15.7km s-min=12.3km az=127.0*

ISCJB ***09*** *02:24:32.1±0.4,35°.64N±0°.03×142°.18E±0°.04,h23km, mb4.2/41,MS5.1/40,Error ellipse: s-maj=5.4km s-min=4.4km az=138.9*

MOS ***09*** *02:24:33.2±1.8,35°.60N×142°.28E,h34km,mb4.5/21,Error ellipse: s-maj=9.8km s-min=6.3km az=108.8*

NEIC ***09*** *02:24:36.8±1.0,35°.85N×142°.11E,h35km,mb4.5/10,Error ellipse: s-maj=19.9km s-min=9.4km az=159.0*

GCMT ***09*** *02:24:36.8±0.2,35°.52N×142°.59E,h12km,MW5.2/121, Moment Tensor Solution. s69,c103; s121,c218; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.77±.02; Mθθ-0.18±.01; Mφφ-0.59±.01; Mrθ0.06±.04; Mθφ-0.19±.01; Mrφ0.51±.04; Best double couple: M0 0.88700×10^17 NP1:φs14.00000°,δ63.00000°, λ84.00000°. NP2:φs207.00000°,δ28.00000°,λ102.00000°. Principal axes: T 0.9440, Plg72.0000°, Azm270.0000°; N -0.1130, Plg6.0000°, Azm16.0000°; P -0.8310, Plg18.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***09*** *02:24:37.3,36°.55N×141°.87E,h13km,mb4.5/25,mB5.2/30, Ms5.2/36,Ms7 5.2/20*

ISC 09 02:24:35.0±0.5,**35°.79N**±0°.05×**142°.14E**±0°.05,**h23**km,**n149**, σ2=**48**/121,**mb4.2**/41,**MS5.1**/45,**2D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.04**	**265**	P	**Pb**	**02 24 51.1**	**-3.3**
CHOJ				*e*S	**Sb**	**02 25 06.9**	**-0.7**
BSO1	**Boso 1**	**1.48**	**220**	P	Pn	02 24 54.1	-5.6
JFK	**Kawauchi**	**1.87**	**327**	P	**Pn**	**02 25 04.0**	**-1.6**
JFK				*e*S	**Sb**	**02 25 29.8**	**-1.7**
JFT	**Otama**	**2.25**	**320**	P	**Pn**	**02 25 10.3**	**-0.5**
JFT				S	**Sb**	**02 25 40.2**	**-2.2**
JAG	**Ashikaga**	**2.26**	**287**	P	**Pn**	**02 25 11.5**	**+0.5**
JOD2	**Odawara 2**	**2.54**	**259**	P	**Pn**	**02 25 12.5**	**-2.4**
JRY	**Ryogami san**	**2.64**	**276**	P	**Pn**	**02 25 16.0**	**-0.2**
JNS	**Sasagawa**	**3.03**	**313**	S	**Sb**	**02 26 02.1**	**-2.8**
JMK	**Ichinoseki**	**3.24**	**347**	*e*S	**Sn**	**02 26 04.7**	**+2.5**
MJAR	**Matsushiro Arr**	**3.27**	**284**	Pn	**Pn**	**02 25 23.7**	**-1.1**
	1.1nm,0.3s,baz=109,slow=7.8,SNR=10						
MJAR				LR	LR	02 27 01.8	
	comp=Z,15μm,21.4s,baz=115,slow=45						
MAJO	**Matsushiro**	**3.27**	**284**	*e*Pn	**Pn**	**02 25 21.8**	**-3.1**
MAJO	**Matsushiro**	**3.27**	**284**	*i* P	**Pb**	**02 25 28.0**	**-4.3**
MAT	**Matsushiro**	**3.27**	**284**	P	**Pn**	**02 25 23.3**	**-1.5**
MAT				*e*S	**Sn**	**02 26 02.1**	**-0.9**
MJB9	**Matsu-Tunnel**	**3.27**	**284**	*e*Pn	**Pn**	**02 25 23.4**	**-1.4**
JHJ	**Hachijo jima 2**	**3.30**	**217**	Pn	Pn	02 25 20.8	-4.5
	12nm,0.3s,baz=47,slow=19,SNR=2.4						
JHJ				Sn	**Sn**	**02 25 59.9**	**-3.9**
	41nm,0.3s,baz=47,slow=19,SNR=4.3						
ERM	**Erimo**	**6.26**	**7**	*e*Pn	**Pn**	**02 26 05.8**	**-0.2**
ERM	**Erimo**	**6.26**	**7**	*i* P	**Pn**	**02 26 05.7**	**-0.2**
ASAJ	**Asahikawa**	**8.32**	**2**	Pn	**Pn**	**02 26 36.0**	**+1.8**
	0.8nm,0.3s,baz=242,slow=18,SNR=5.0						
ASAJ				Sn	**Sn**	**02 28 07.4**	**0.0**
	1.2nm,0.3s,baz=47,slow=19,SNR=2.9						
ASAJ	**Asahikawa**	**8.32**	**2**	*e*Pn	**Pn**	**02 26 32.8**	**-1.4**
ASAJ				Sn	**Sn**	**02 28 07.4**	**0.0**
CBIJ	**Chichi jima**	**8.67**	**180**	Pn	Pn	02 26 32.4	-6.7
CBIJ				Sn	Sn	02 28 00.9	-15
JCJ	**Chichijima**	**8.67**	**180**	Pn	Pn	02 26 32.4	-6.7
	baz=299,slow=19						
JCJ				Sn	Sn	02 28 00.9	-15
	baz=288,slow=19						
YUK	**Yuzh-Kuril'sk**	**8.71**	**18**	*e*P	**Pn**	**02 26 40.5**	**+0.9**
YUK				*i* S	**Sn**	**02 28 14.0**	**-3.0**
YUK				pmax	pmax		
	comp=Z,117nm,0.2s						
YUK				pmax	pmax		
	comp=Z,430nm,5.2s						
YUK				MLR	MLR		
	comp=Z,6μm,15.0s						
YUK				MLR	MLR		
	comp=N,8μm,13.0s						
YUK				MLR	MLR		
	comp=E,1μm,14.0s						
JNU	**Nakatsue**	**9.67**	**257**	Pn	**Pn**	**02 26 50.2**	**-2.5**
	comp=E,0.2nm,0.3s,baz=285,slow=12,SNR=2.1						
TEY	**Ternei**	**10.15**	**337**	*e*P	Pn	02 27 07.0	+7.8
TEY				MLR	MLR		
	comp=N,13μm,15.0s						
TEY				MLR	MLR		
	comp=E,9μm,15.0s						
TEY				MLR	MLR		
	comp=Z,9μm,16.0s						
YSS	**Yuzh-Sakhalins**	**11.16**	**2**	*e*Pn	**Pn**	**02 27 11.1**	**-1.9**
	comp=Z,53nm,1.1s						
YSS	**Yuzh-Sakhalins**	**11.16**	**2**	*e*P	**Pn**	**02 27 10.2**	**-2.9**
USRK	**Ussuriysk Ar.**	**11.44**	**320**	Pn	**Pn**	**02 27 15.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=111,slow=14,SNR=3.1						
KSRS	**Korea Array**	**11.54**	**282**	Pn	**Pn**	**02 27 17.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=95,slow=14,SNR=2.8						
KSRS				LR	LR	02 32 03.5	
	comp=Z,2μm,18.2s,baz=98,slow=39						
KSAR	**Wonju Array Be**	**11.57**	**282**	Pn	**Pn**	**02 27 17.9**	**-0.9**
KSAR	**Wonju Array Be**	**11.57**	**282**	P	**Pn**	**02 27 17.9**	**-0.9**
MDJ	**Mudanjiang**	**13.01**	**316**	P	**Pn**	**02 27 34.9**	**-3.5**
MDJ				pP	P	02 27 41.8	-6.8
MDJ				sP		02 27 47.2	
MDJ				S	Sn	02 29 47.1	-15
MDJ				sS		02 29 58.8	
MDJ				ScP	**ScP**	**02 36 50.9**	**+8.4**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,90nm,4.2s						
MDJ				LR	LR		
	comp=Z,12μm,12.3s						
MDJ				LR	LR		
	comp=Z,17μm,15.1s						
TYV	**Tymovskoe**	**15.07**	**1**	*e*P	**Pn**	**02 28 07.3**	**+1.0**
TYV				*e*		02 30 55.2	
TYV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TYV				pmax	pmax		
	comp=Z,400nm,5.3s						
CN2	**Changchun**	**15.10**	**307**	*e*P	**Pn**	**02 28 04.7**	**-2.1**
CN2				*e*S	Sn	02 30 40.4	-13
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,6μm,16.0s						
CN2				LR	LR		
	comp=Z,10μm,15.0s						
KLR	**Kul'dur**	**15.44**	**334**	Pn	**Pn**	**02 28 11.4**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=217,slow=20,SNR=2.3						
GRNR	**Gornyy**	**15.53**	**346**	*e*P	P	02 28 24.0	+7.4
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
DL2	**Dalian**	**16.60**	**287**	P	**P**	**02 28 31.1**	**+2.6**
DL2				*e*S	**Sn**	**02 31 27.8**	**-2.0**
DL2				SS	**SnSn**	**02 31 49.8**	**+7.0**
SKR	**Severo-Kuril's**	**17.99**	**30**	*e*P	**Pn**	**02 28 40.6**	**-2.7**
SKR				MLR	MLR		
	comp=Z,5μm,16.0s						
SKR				MLR	MLR		
	comp=Z,5μm,16.0s						
NJ2	**Nanjing**	**19.67**	**266**	*e*P	**Pn**	**02 29 05.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
NJ2				LR	LR		
	comp=Z,4μm,14.1s						
NJ2				LR	LR		
	comp=Z,7μm,15.9s						
PETK	**Petropavlovsk-**	**20.49**	**28**	P	Pn	02 29 12.6	-0.8
	comp=Z,1.5nm,0.7s,baz=201,slow=7.7,SNR=3.8						
PETK				LR	LR	02 39 02.0	
	comp=Z,2μm,18.9s,baz=216,slow=42						
ZEA	**Zeya**	**20.75**	**334**	*e*P	Pn	02 29 15.4	-1.0
ZEA				*e*		02 29 41.0	
ZEA				*e*S	Sn	02 33 20.0	+10
ZEA				pmax	pmax		
	comp=N,29nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,36nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,800nm,10.0s						
ZEA				pmax	pmax		
	comp=Z,1μm,11.0s						
ZEA				pmax	pmax		
	comp=E,500nm,12.0s						
ZEA				pmax	pmax		
	comp=N,800nm,11.0s						
ZEA				MLR	MLR		
	comp=Z,12μm,14.0s						
ZEA				MLR	MLR		
	comp=E,6μm,12.0s						
ZEA				MLR	MLR		
	comp=N,10μm,14.0s						
PET	**Petropavlovsk**	**20.79**	**29**	*e*P	Pn	02 29 25.9	+9.0
PET				*e*S	**S**	**02 33 07.8**	**+2.6**
PET				pmax	pmax		
	comp=Z,1μm,16.3s						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
HIA	**Hailar**	**21.20**	**316**	*i* P	**P**	**02 29 21.6**	**+2.8**
HIA				pmax	pmax		
	comp=Z,17nm,1.7s						
QZH	**Quanzhou**	**22.96**	**248**	*e*P	P	02 29 45.1	+7.3
QZH				S	**S**	**02 33 47.5**	**+0.8**
QZH				LR	LR		
	comp=Z,5μm,14.3s						
WHN	**Wuhan**	**23.80**	**265**	↓P	P	02 29 57.0	+11
WHN				S	**S**	**02 34 07.7**	**+7.2**
CLNS	**Chul'man**	**24.05**	**336**	*e*P	P	02 30 01.2	+13
CLNS				*e**PP	sP	02 30 11.0	+13
CLNS				*e*		02 30 24.9	
CLNS				*e*PPP	PPP	02 30 35.7	
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,15nm,1.0s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.7s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,6μm,14.0s						
CLNS				MLR	MLR		
	comp=Z,8μm,15.0s						
CLNS				MLR	MLR		
	comp=E,3μm,13.0s						
HHC	**Hu-ho-hao-te**	**24.44**	**291**	*e*P	**P**	**02 29 50.2**	**-1.9**
HHC				pP	pP	02 29 54.4	-4.6
HHC				S	S	02 33 58.2	-13
HHC				pmax	pmax		
	comp=E,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=E,150nm,6.2s						
HHC				LR	LR		
	comp=E,5μm,13.7s						
HHC				LR	LR		
	comp=E,5μm,12.6s						
MA2	**Magadan**	**24.45**	**11**	P	**P**	**02 29 51.8**	**-0.1**
	comp=E,1.8nm,0.3s,baz=213,slow=10,SNR=5.3						
MA2	**Magadan**	**24.45**	**11**	*i* P	**P**	**02 29 50.6**	**-1.3**
BTO	**Baotou**	**25.61**	**291**	*e*P	**P**	**02 30 07.1**	**+4.4**
H11N2	**WAKE ISLAND Hy**	**27.02**	**120**	T	T	02 58 18.2	
	baz=311,slow=75,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**27.03**	**120**	T	T	02 58 14.9	
	baz=311,slow=75,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**27.04**	**120**	T	T	02 58 23.6	
	baz=311,slow=75,SNR=4.0						
XAN	**Xi'an**	**27.22**	**276**	P	**P**	**02 30 20.1**	**+2.8**
XAN				pP	sP	02 30 27.9	+0.9
XAN				PP	**PnPn**	**02 31 03.0**	**+2.0**
XAN				pmax	pmax		
	comp=E,14nm,1.4s						
XAN				pmax	pmax		
	comp=E,440nm,6.4s						
XAN				LR	LR		
	comp=E,3μm,14.5s						
YAK	**Yakutsk**	**27.41**	**347**	*e*P	P	02 30 29.1	+11
YAK				*e**PP	sP	02 30 37.8	+10
YAK				*e*		02 31 19.1	
YAK				*e*SS	SS	02 36 19.8	-33
YAK				pmax	pmax		
	comp=Z,22nm,1.4s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,117nm,2.5s						
YAK				pmax	pmax		
	comp=N,71nm,2.7s						
YAK				pmax	pmax		
	comp=E,51nm,3.0s						
YAK				MLR	MLR		
	comp=Z,11μm,17.0s						
YAK				MLR	MLR		
	comp=N,13μm,18.0s						
YAK				MLR	MLR		
	comp=E,5μm,17.0s						
H11S1	**WAKE ISLAND Hy**	**27.70**	**122**	T	T	02 59 09.7	
	baz=314,slow=76,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**27.70**	**122**	T	T	02 59 10.4	
	baz=314,slow=76,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**27.72**	**122**	T	T	02 59 08.7	
	baz=314,slow=76,SNR=5.6						
SEY	**Seymchan**	**27.90**	**10**	P	**P**	**02 30 22.6**	**-0.4**
	comp=E,1.3nm,0.7s,baz=203,slow=8.5,SNR=8.4						
SEY	**Seymchan**	**27.90**	**10**	P	**P**	**02 30 22.6**	**-0.4**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GZH	**Guangzhou**	**27.98**	**251**	P	**P**	**02 30 25.1**	**+1.1**
GZH				S	**S**	**02 35 04.3**	**-2.6**
ULN	**Ulaanbaatar**	**28.54**	**306**	*e*P	**P**	**02 30 30.1**	**+1.1**
	comp=Z,17nm,1.4s						
ULN	**Ulaanbaatar**	**28.54**	**306**	*i* P	**P**	**02 30 29.9**	**+0.9**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.5s						
BOD	**Bodaibo**	**28.89**	**329**	*e*P	**P**	**02 30 30.9**	**-0.9**
BOD				pmax	pmax		
	comp=Z,18nm,1.6s						
SONA1	**Songino Array**	**28.97**	**306**	*e*P	**P**	**02 30 33.5**	**+0.7**
SONM	**Songino Array**	**28.97**	**306**	P	**P**	**02 30 33.6**	**+0.8**
	comp=Z,3.7nm,1.1s,baz=98,slow=10,SNR=9.4						
SONM				LR	LR	02 41 27.1	
	comp=Z,2μm,21.9s,baz=106,slow=35						
SONM	**Songino Array**	**28.97**	**306**	*e*P	P	02 30 37.5	+4.7
SONM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LZH	**Lanzhou**	**30.87**	**282**	*e*P	**P**	**02 30 52.6**	**+2.8**
LZH				pP	sP	02 31 02.3	+2.7
LZH				sP	pP	02 31 06.5	+10
LZH				PP	**PnPn**	**02 31 54.0**	**+3.6**
LZH				*e*S	**S**	**02 35 49.0**	**-3.6**
LZH				sS	sS	02 36 05.0	+1.0
LZH				SS	**ScP**	**02 37 27.1**	**-0.5**
LZH				pmax	pmax		
	comp=Z,57nm,1.5s						
LZH				pmax	pmax		
	comp=Z,470nm,7.2s						
LZH				LR	LR		
	comp=Z,5μm,13.0s						
ZAK	**Zakamensk**	**31.50**	**310**	*e*P	**P**	**02 30 55.1**	**0.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
TLY	**Talaya**	**31.59**	**312**	*e*P	**P**	**02 30 55.9**	**+0.1**
	comp=Z,3.7nm,0.8s						
TLY	**Talaya**	**31.59**	**312**	*e*P	P	02 31 00.4	+4.6
TLY				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TLY				MLR	MLR		
	comp=Z,4μm,10.0s						
CD2	**Chengdu**	**32.28**	**272**	*e*P	**P**	**02 31 04.0**	**+1.9**
QIZ	**Qiongzhong**	**32.98**	**248**	P	P	02 31 17.7	+9.4
QIZ				S	**S**	**02 36 29.9**	**+4.5**
QIZ				pmax	pmax		
	comp=Z,14nm,1.5s						
QIZ				LR	LR		
	comp=Z,3μm,13.9s						
QIZ				LR	LR		
	comp=Z,4μm,14.1s						
GTA	**Gaotai**	**33.50**	**289**	↓P	**P**	**02 31 13.3**	**+0.5**
GTA				pP	pP	02 31 19.7	0.0
GTA				sP	sP	02 31 22.9	+0.3
GTA				S	**S**	**02 36 25.7**	**-7.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,220nm,5.0s						
GTA				LR	LR		
	comp=Z,3μm,14.7s						
GTA				LR	LR		
	comp=Z,3μm,14.3s						
KMI	**Kunming**	**35.38**	**264**	P	P	02 31 37.8	+8.5
KMI				pP	sP	02 31 45.8	+6.7
KMI				PP	**PP**	**02 32 55.8**	**+6.1**
KMI				S	**S**	**02 37 07.2**	**+4.4**
KMI				sS	sS	02 37 20.4	+6.1
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
KMI				pmax	pmax		
	comp=Z,170nm,5.2s						
KMI				LR	LR		
	comp=Z,3μm,14.7s						
CMAR	**Chiang Mai Arr**	**41.77**	**257**	P	**P**	**02 32 20.3**	**-2.4**
	comp=Z,2.1nm,0.3s,baz=54,slow=9.1,SNR=2.0						
WMQ	**Urumqi**	**41.93**	**298**	P	**P**	**02 32 27.6**	**+3.7**
WMQ				pP	sP	02 32 35.9	+2.1
WMQ				sP	pP	02 32 39.3	+8.4
WMQ				LR	LR		
	comp=Z,2μm,20.3s						
WMQ				LR	LR		
	comp=Z,2μm,14.7s						
ZAA0	**Zalesovo Array**	**43.18**	**313**	*e*P	**P**	**02 32 35.2**	**+1.4**
	comp=Z,26nm,1.9s						
ZALV	**Zalesovo Beam**	**43.18**	**313**	P	**P**	**02 32 32.5**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=97,slow=6.3,SNR=6.7						
ZALV	**Zalesovo Beam**	**43.18**	**313**	*e*P	**P**	**02 32 33.2**	**-0.6**
ZALV	**Zalesovo Beam**	**43.18**	**313**	*e*P	**P**	**02 32 33.2**	**-0.6**
SHL	**Shillong**	**43.99**	**271**	*e*P	**P**	**02 32 40.0**	**-0.9**
SHL				*e*S	S	02 39 22.0	+10
NVS	**Novosibirsk**	**44.12**	**315**	*e*P	**P**	**02 32 41.6**	**+0.3**
PMG	**Port Moresby**	**45.20**	**173**	LR	LR	02 56 49.4	
	comp=Z,397nm,18.6s,baz=330,slow=43						
MK01	**Makanchi Array**	**45.27**	**303**	*e*P	**P**	**02 32 51.0**	**+0.2**
MK31	**Makanchi Array**	**45.28**	**303**	*e*P	**P**	**02 32 53.2**	**+2.5**
MK31	**Makanchi Array**	**45.28**	**303**	*e*P	**P**	**02 32 53.3**	**+2.5**
MKAR	**Makanchi Array**	**45.28**	**303**	P	**P**	**02 32 49.0**	**-1.7**
	comp=Z,0.9nm,0.9s,baz=84,slow=10,SNR=4.2						
MKAR				LR	LR	02 52 45.7	
	comp=Z,1μm,18.6s,baz=80,slow=37						
MKAR	**Makanchi Array**	**45.28**	**303**	*e*P	**P**	**02 32 52.1**	**+1.4**
	comp=Z,28nm,0.9s						
MKAR	**Makanchi Array**	**45.28**	**303**	*i* P	**P**	**02 32 55.0**	**+4.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAKZ	**Makanchi**	**45.49**	**303**	*e*P	**P**	**02 32 54.5**	**+2.1**
	comp=Z,10.0nm,1.1s						
MAKZ	**Makanchi**	**45.49**	**303**	*e*P	**P**	**02 32 54.5**	**+2.1**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KURK	**Kurchatov**	**47.16**	**309**	*e*P	**P**	**02 33 05.9**	**+0.5**
	comp=Z,28nm,1.4s						
KURK	**Kurchatov**	**47.16**	**309**	*i* P	**P**	**02 33 08.6**	**+3.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURBB	**Kurchatov Arra**	**47.23**	**309**	P	**P**	**02 33 04.3**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=84,slow=7.6,SNR=6.7						
KDAK	**Kodiak Island**	**47.64**	**41**	P	**P**	**02 33 08.4**	**-0.6**
	comp=Z,7.5nm,0.8s,baz=181,slow=5.5,SNR=4.1						
KDAK	**Kodiak Island**	**47.64**	**41**	*i* P	**P**	**02 33 09.8**	**+0.8**
ILAR	**Eielson Array**	**50.23**	**32**	P	**P**	**02 33 27.7**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=267,slow=5.7,SNR=6.8						
ILAR	**Eielson Array**	**50.23**	**32**	*e*P	**P**	**02 33 31.6**	**+2.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KSH	**Kashi**	**51.45**	**295**	*e*P	P	02 33 47.5	+8.9
KSH				S	**S**	**02 41 00.3**	**+2.9**
KSH				sS	sS	02 41 16.0	+6.8
KSH				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,230nm,10.8s						
KSH				LR	LR		
	comp=Z,1μm,14.8s						
KSH				LR	LR		
	comp=Z,740nm,10.5s						
AAK	**Ala-Archa**	**51.60**	**299**	*e*P	**P**	**02 33 40.3**	**+0.6**
	comp=Z,3.3nm,1.0s						
AAK	**Ala-Archa**	**51.60**	**299**	*e*P	**P**	**02 33 40.3**	**+0.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	**Borovoye Array**	**51.84**	**313**	P	**P**	**02 33 42.7**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=93,slow=7.7,SNR=2.6						
BVAR				LR	LR	02 55 14.3	
	comp=Z,973nm,20.7s,baz=72,slow=35						
BRVK	**Borovoye**	**51.90**	**313**	*e*P	**P**	**02 33 42.2**	**+0.6**
	comp=Z,2.3nm,0.6s						
BRVK	**Borovoye**	**51.90**	**313**	*i* P	**P**	**02 33 43.0**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.8s						

	comp=Z,1µm,27.2s						
DZM	**Mont Dzumac**	**61.98**	**154**	*e*LR	LR	02 54 05.9	
	comp=Z,2µm,19.9s						
YKA	**Yellowknife Ar**	**64.59**	**30**	P	**P**	**02 35 08.3**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=294,slow=5.5,SNR=4.4						
YKA	**Yellowknife Ar**	**64.59**	**30**	*e*P	**P**	**02 35 10.6**	**+0.5**
GEYT	**Alibeck**	**64.95**	**300**	LR	LR	03 04 41.2	
	comp=Z,322nm,18.4s,baz=50,slow=37						
STKA	**Stephens Creek**	**67.32**	**180**	LR	LR	03 11 51.6	
	comp=Z,524nm,18.1s,baz=20,slow=42						
MAK	**Makhachkala**	**69.68**	**309**	*e*P	**P**	**02 35 45.2**	**+2.5**
MAK				*e*S	**S**	**02 44 51.0**	**+1.0**
MAK				pmax	pmax		
	comp=Z,81nm,0.9s						
MAK				MLR	MLR		
	comp=Z,5µm,15.0s						
YBH	**Yreka Blue Hor**	**70.64**	**52**	LR	LR	03 07 22.5	
	comp=Z,261nm,18.1s,baz=314,slow=36						
KBZ	**Khabaz**	**72.15**	**311**	P	**P**	**02 35 56.9**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=22,slow=5.4,SNR=2.3						
KIV	**Kislovodsk**	**72.16**	**312**	*e*P	**P**	**02 35 57.7**	**-0.3**
	comp=Z,3.7nm,0.6s						
KIV	**Kislovodsk**	**72.16**	**312**	*e*P	**P**	**02 35 58.1**	**+0.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,2µm,18.0s						
GNI	**Garni**	**72.92**	**307**	LR	LR	03 09 35.3	
	comp=Z,721nm,21.6s,baz=44,slow=37						
NVAR	**Mina Array Bea**	**75.26**	**53**	P	**P**	**02 36 16.0**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=306,slow=6.2,SNR=3.5						
AKASG	**Malin Array Be**	**75.64**	**323**	P	**P**	**02 36 18.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=52,slow=7.5,SNR=2.8						
PDAR	**Pinedale Array**	**78.12**	**46**	P	**P**	**02 36 31.9**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=269,slow=3.6,SNR=3.1						
PDAR				LR	LR	03 12 15.7	
	comp=Z,300nm,18.5s,baz=348,slow=37						
BRTR	**Keskin Array B**	**80.11**	**312**	P	**P**	**02 36 44.6**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=126,slow=2.1,SNR=4.6						
BRTR				LR	LR	03 15 54.1	
	comp=Z,379nm,18.8s,baz=39,slow=38						
BR231	**Keskin MP Arra**	**80.56**	**313**	*e*P	**P**	**02 36 46.8**	**+1.1**
MLR	**Muntele Rosu**	**80.71**	**320**	LR	LR	03 18 31.6	
	comp=Z,262nm,18.1s,baz=32,slow=40						
OKC	**Ostrava-Krasne**	**81.40**	**327**	AMS	AMS	03 16 50.0	
	comp=Z,4µm,11.2s						
DPC	**Dobruska-Polom**	**81.82**	**328**	AMS	AMS	03 18 50.0	
	comp=Z,4µm,11.1s						
UPC	**Upice**	**81.83**	**329**	AMS	AMS	03 21 50.0	
	comp=Z,4µm,11.4s						
ASF	**Jabal al Asfar**	**82.69**	**304**	LR	LR	03 18 18.2	
	comp=Z,329nm,18.4s,baz=13,slow=39						
GOPC	**GO Pecny, Ondr**	**82.80**	**329**	AMS	AMS	03 19 20.0	
	comp=Z,3µm,12.8s						
PRU	**Pruhonice**	**82.84**	**329**	AMS	AMS	03 19 10.0	
	comp=Z,3µm,17.5s						
TREC	**Trest**	**82.97**	**328**	AMS	AMS	03 19 30.0	
	comp=Z,3µm,11.1s						
RPZ	**Rata Peaks**	**83.39**	**159**	LR	LR	03 14 30.9	
	comp=Z,416nm,18.0s,baz=341,slow=36						
NKC	**Novy Kostel**	**83.52**	**330**	AMS	AMS	03 19 10.0	
	comp=Z,5µm,11.6s						
PPT2	**Papeete2**	**83.57**	**117**	*e*LR	LR	03 02 51.8	
	comp=Z,1µm,30.2s,baz=305						
KHC	**Kasperske Hory**	**83.90**	**329**	AMS	AMS	03 20 00.0	
	comp=Z,4µm,11.1s						
TAOE	**Nuku Hiva Isla**	**85.30**	**104**	*e*S	**S**	**02 47 43.8**	**+3.7**
	comp=Z,149nm,24.2s						
TAOE	**Nuku Hiva Isla**	**85.30**	**104**	*e*LR	LR	03 03 47.0	
	comp=Z,1µm,31.6s						
TBI	**Tubuai**	**87.39**	**121**	*e*LR	LR	03 05 01.8	
	comp=Z,847nm,28.2s,baz=313						
IDI	**Anoyia**	**88.26**	**313**	LR	LR	03 22 08.0	
	comp=Z,462nm,18.1s,baz=51,slow=39						
LPIG	**La Paz**	**89.29**	**61**	LR	LR	03 19 58.6	
	comp=Z,340nm,18.1s,baz=330,slow=37						
ATD	**Arta Tunnel**	**90.74**	**285**	LR	LR	03 19 42.1	
	comp=Z,149nm,21.8s,baz=48,slow=36						
TKL	**Tuckaleechee C**	**97.05**	**36**	LR	LR	03 26 40.3	
	comp=Z,105nm,19.5s,baz=348,slow=38						
RKT	**Rikitea**	**97.74**	**113**	*e*LR	LR	03 09 32.7	
	comp=Z,625nm,26.8s,baz=304						

*SCB **09** 02:35:04.2±0.1, 17.°90S×65.°05W, h28km, MlI4.3/3, Error ellipse: s-maj=4.0km s-min=3.0km az=32.0*
*ISCJB **09** 02:35:05.8±0.6, 17.°81S±0.°05×64.°84W±0.°06, h10km, mb3.6/5, MS4.6/1, Error ellipse: s-maj=9.4km s-min=6.3km az=139.4*
*IDC **09** 02:35:05.7±0.9, 17.°85S×65.°10W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.8/41, mbtmp3.7/8, ML3.7/3, MS4.6/1, Ms1 4.6/1, ms1mx3.3/40, Error ellipse: s-maj=26.0km s-min=15.3km az=38.0*

ISC 09 02:35:08.2±0.8, **17.°88S**±0.°06×**65.°01W**±0.°06, **h10**km, **n17, σ1⁰38/18, mb3.7/5, 7C-1D, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBOE	**La Paz, Chanca**	**3.03**	**290**	↑*i*Pn	**Pn**	**02 35 56.9**	**+0.2**
BBOJ	**La Paz, Jacaqu**	**3.17**	**286**	↑*i*Pn	**Pn**	**02 35 58.9**	**+0.3**
BBOJ				↑↑*i*Sn	**Sn**	**02 36 38.0**	**+1.3**
	345nm,0.8s						
LPAZ	**La Paz**	**3.38**	**297**	Pn	**Pn**	**02 36 01.1**	**-0.4**
	3.3nm,0.3s,baz=116,slow=10,SNR=36						
LPAZ				Pg	Pb	02 36 05.7	-2.8
	33nm,0.3s,baz=111,slow=16,SNR=115						
LPAZ				Lg	Lg	02 36 48.8	
	75nm,0.3s,baz=38,slow=21,SNR=10.0						
LPAZ	**La Paz**	**3.38**	**297**	↑*i*Pn	**Pn**	**02 36 01.4**	**-0.2**
MOCB	**Mochara**	**3.41**	**190**	*e*Pn	**Pn**	**02 36 02.2**	**+0.3**
MOCB				*e*Sn	**Sn**	**02 36 43.6**	**+1.0**
	350nm,0.6s						
BBOB	**La Paz, Bander**	**3.45**	**300**	↑*i*Pn	**Pn**	**02 36 02.4**	**-0.1**
BBOB				↑↑*i*Sn	**Sn**	**02 36 45.3**	**+1.6**
	505nm,0.6s						
BBOD	**La Paz, Gloria**	**3.64**	**289**	↑*i*Pn	**Pn**	**02 36 05.9**	**+0.7**
SIV	**San Ignacio**	**4.21**	**64**	↓*i*Pn	**Pn**	**02 36 13.8**	**+1.2**
CPUP	**Villa Florida**	**11.02**	**141**	Pn	**Pn**	**02 37 45.5**	**-0.4**
	0.2nm,0.3s,baz=282,slow=8.7,SNR=3.6						
CPUP				Lg	Lg	02 40 59.3	
	0.2nm,0.3s,baz=233,slow=20,SNR=2.4						
PTGA	**Pitinga**	**17.75**	**17**	Pn	**Pn**	**02 39 14.0**	**-1.6**
	0.5nm,0.3s,baz=304,slow=22,SNR=2.3						
PTGA				Lg	Lg	02 44 31.1	
	0.1nm,0.3s,baz=136,slow=21,SNR=4.3						
PLCA	**Paso Flores**	**23.27**	**191**	P	**P**	**02 40 14.9**	**-1.1**
	3.1nm,0.8s,baz=42,slow=13,SNR=5.2						
TXAR	**Lajitas Array**	**59.96**	**321**	LR	LR	03 15 06.0	
	comp=Z,431nm,18.6s,baz=0.0,slow=40						
TORD	**Torodi Ar. Bea**	**72.67**	**70**	P	**P**	**02 46 35.8**	**-0.9**
	1.5nm,0.9s,baz=256,slow=5.3,SNR=5.0						
PDAR	**Pinedale Array**	**72.94**	**327**	P	**P**	**02 46 36.9**	**-1.2**
	0.2nm,0.6s,baz=110,slow=7.8,SNR=2.6						
NVAR	**Mina Array Bea**	**75.03**	**319**	P	**P**	**02 46 49.9**	**-0.6**
	0.2nm,0.4s,baz=126,slow=4.6,SNR=2.5						
YKA	**Yellowknife Ar**	**89.06**	**339**	P	P	02 48 00.7	-2.4
	0.2nm,0.4s,baz=128,slow=4.8,SNR=3.6						
SONM	**Songino Array**	**149.30**	**11**	PKPbc	**PKPdf**	**02 54 56.9**	**+3.7**
	0.6nm,0.6s,baz=5.7,slow=1.4,SNR=2.4						

*IDC **09** 02:35:10.9±0.8, 5.°52S×77.°27W, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.8/42, mbtmp3.8/10, ML2.3/2, MS3.7/5, Ms1 3.8/5, ms1mx3.4/44, Error ellipse: s-maj=26.6km s-min=17.2km az=102.0*
*ISCJB **09** 02:35:12.7±0.5, 5.°53S±0.°04×77.°13W±0.°10, h22km, mb3.7/7, MS4.3/1, Error ellipse: s-maj=14.5km s-min=5.1km az=14.0*

ISC 09 02:35:14.5±0.7, **5.°57S**±0.°07×**77.°2W**±0.°1, **h22**km, **n29, σ1⁰86/27, mb3.5/7, 1C, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**1.94**	**217**	Pn	**Pn**	**02 35 45.5**	**-1.0**
	46nm,0.3s,baz=1.9,slow=8.6,SNR=77						
ATAH				Sn	**Sb**	**02 36 12.0**	**-1.2**
	50nm,0.3s,baz=90,slow=18,SNR=6.3						
ATAH				LR	LR	02 36 26.6	
	comp=Z,288nm,20.3s,baz=43,slow=39						
OTAV	**Otavalo**	**5.90**	**348**	*e*P	**Pn**	**02 36 43.4**	**+2.3**
NNA	**Nana**	**6.38**	**177**	Pn	**Pn**	**02 36 47.7**	**+0.3**
	4.6nm,0.3s,baz=354,slow=11,SNR=16						
NNA				Sn	**Sn**	**02 38 02.2**	**+2.5**
	6.8nm,0.3s,baz=231,slow=6.5,SNR=3.7						
NNA				LR	LR	02 39 18.8	
	comp=Z,333nm,18.5s,baz=352,slow=38						
CMBC	**Cumbal**	**6.50**	**355**	*e*P	**Pn**	**02 36 54.0**	**+4.7**
GCUF	**Volcan Galeras**	**6.75**	**359**	*e*P	Pn	02 36 58.0	+5.1
FLOC	**Florencia**	**7.28**	**13**	*e*P	**Pn**	**02 36 58.0**	**-1.7**
SOTA	**Rioblanco**	**7.68**	**5**	*e*P	**Pn**	**02 37 04.0**	**-1.6**
PCON	**Cinco Dias**	**7.89**	**6**	*e*P	**Pn**	**02 37 12.0**	**+3.4**
BETC	**Betania**	**8.39**	**12**	*e*P	**Pn**	**02 37 15.3**	**+0.3**
HORQ	**Saladito**	**9.02**	**4**	*e*P	**Pn**	**02 37 26.6**	**+2.8**
YOTC	**Yotoco, Valle**	**9.53**	**5**	*e*P	**Pn**	**02 37 30.6**	**-0.1**
VILC	**Villavicencio,**	**10.25**	**20**	*e*P	**Pn**	**02 37 41.2**	**+0.7**
RREF	**El Recreo**	**10.57**	**10**	*e*P	**Pn**	**02 37 48.5**	**+3.1**
ROSC	**El Rosal**	**10.74**		Pn	**Pn**	**02 37 46.1**	**-1.5**
	0.3nm,0.3s,baz=158,slow=14,SNR=2.6						
ROSC				Lg	Lg	02 40 57.0	
	1.0nm,0.3s,baz=180,slow=23,SNR=4.1						
LPAZ	**La Paz**	**13.89**	**141**	LR	LR	02 44 44.8	
	comp=Z,346nm,18.2s,baz=324,slow=41						
SDV	**Santo Domingo**	**15.80**	**25**	Pn	**Pn**	**02 38 54.3**	**-1.7**
	0.2nm,0.3s,baz=191,slow=19,SNR=2.5						
SDV				Lg	Lg	02 43 34.5	
	1.8nm,0.3s,baz=90,slow=20,SNR=3.0						
SDV				LR	LR	02 46 25.9	
	comp=Z,145nm,20.1s,baz=249,slow=43						
PTGA	**Pitinga**	**17.89**	**75**	LR	LR	02 47 09.5	
	comp=Z,225nm,18.1s,baz=260,slow=40						
PDAR	**Pinedale Array**	**56.35**	**332**	P	**P**	**02 44 54.9**	**+0.6**
	0.4nm,0.7s,baz=125,slow=7.8,SNR=3.8						
ULM	**Lac du Bonnet**	**57.89**	**346**	P	**P**	**02 45 04.8**	**+0.1**
	3.0nm,1.0s,baz=175,slow=15,SNR=3.9						
NVAR	**Mina Array Bea**	**58.02**	**323**	P	**P**	**02 45 05.6**	**-0.5**
	0.3nm,0.6s,baz=130,slow=7.8,SNR=3.7						
BBB	**Bella Bella**	**71.90**	**330**	LR	LR	03 21 36.6	
	comp=Z,160nm,18.4s,baz=280,slow=39						
YKA	**Yellowknife Ar**	**73.63**	**343**	P	**P**	**02 46 44.7**	**-1.3**
	0.3nm,0.6s,baz=141,slow=5.5,SNR=6.0						
KOWA	**Kowa**	**75.26**	**74**	P	**P**	**02 46 56.6**	**+0.1**
	0.9nm,0.5s,baz=248,slow=7.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**80.53**	**76**	P	**P**	**02 47 26.4**	**+0.6**
	0.4nm,0.4s,baz=273,slow=5.4,SNR=2.7						
ILAR	**Eielson Array**	**86.50**	**336**	P	**P**	**02 47 54.4**	**-1.0**
	0.2nm,0.7s,baz=131,slow=4.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**129.61**	**14**	PKP	**PKPdf**	**02 54 21.2**	**-0.5**
	0.3nm,0.3s,baz=1.9,slow=4.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**130.73**	**20**	PKP	**PKPdf**	**02 54 23.4**	**-0.6**
	0.4nm,0.6s,baz=316,slow=2.4,SNR=6.0						
MKAR	**Makanchi Array**	**135.29**	**20**	PKP	**PKPdf**	**02 54 32.4**	**-0.5**
	0.4nm,0.8s,baz=300,slow=3.2,SNR=3.6						
WRA	**Warramunga Arr**	**139.92**	**230**	PKP	**PKPdf**	**02 54 43.3**	**+1.2**
	0.3nm,0.7s,baz=121,slow=1.6,SNR=3.9						

*ISCJB **09** 02:43:19.6±0.5, 33.°00S±0.°05×179.°9E±0.°1, h250km, mb3.7/3, Error ellipse: s-maj=16.6km s-min=4.9km az=16.3*
*IDC **09** 02:43:19.7±5.5, 33.°06S×179.°79E, h251km±45km, mb3.6/3, mb1 3.8/4, mb1mx3.4/39, mbtmp4.3/4, Error ellipse: s-maj=54.6km s-min=26.8km az=39.0*
*WEL **09** 02:43:21.5±0.5, 33.°5±6.°×18.°0E±1.°5, h12km, ML5.0/25*

ISC 09 02:43:19.4±0.8, **33.°03S**±0.°07×**180.°0E**±0.°1, **h250**km, **n54, σ1⁰94/54, mb3.7/3, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.17**	**26**	P	**Pn**	**02 44 24.3**	**-1.0**
GLKZ	**Green Lake**	**4.17**	**26**	S	**S**	**02 45 16.3**	**-1.4**
MXZ	**Matakaoa Point**	**4.72**	**196**	P	**Pn**	**02 44 35.6**	**+3.9**
MXZ	**Matakaoa Point**	**4.72**	**196**	S	**S**	**02 45 27.9**	**-1.4**
WMGZ	**Waiomatatini S**	**4.94**	**194**	P	**Pn**	**02 44 37.4**	**+3.0**
WMGZ	**Waiomatatini S**	**4.94**	**194**	S	**S**	**02 45 33.9**	**-0.3**
HAZ	**Te Kaha**	**5.04**	**200**	P	**Pn**	**02 44 37.0**	**+1.4**
HAZ	**Te Kaha**	**5.04**	**200**	S	**S**	**02 45 34.7**	**-1.7**
KUZ	**Kuaotunu**	**5.08**	**222**	P	**Pn**	**02 44 39.5**	**+3.3**
PKGZ	**Pakihiroa**	**5.08**	**197**	P	**Pn**	**02 44 39.7**	**+3.5**
PUZ	**Puketiti**	**5.22**	**195**	P	**Pn**	**02 44 39.6**	**+1.8**
PUZ	**Puketiti**	**5.22**	**195**	S	**S**	**02 45 38.8**	**-1.6**
RUGZ	**Raukumara Rang**	**5.26**	**200**	P	**Pn**	**02 44 40.4**	**+2.0**
TWGZ	**Tauwhareparae**	**5.38**	**197**	P	**Pn**	**02 44 41.9**	**+2.0**
TWGZ	**Tauwhareparae**	**5.38**	**197**	S	**S**	**02 45 44.1**	**-0.1**
OPRZ	**Ohinepanea**	**5.55**	**209**	P	**Pn**	**02 44 44.5**	**+2.6**
MARZ	**Manawahe**	**5.62**	**207**	P	**Pn**	**02 44 46.4**	**+3.6**
CNGZ	**Carnagh Statio**	**5.63**	**194**	P	**Pn**	**02 44 44.9**	**+2.1**
MWZ	**Matawai**	**5.65**	**200**	P	**Pn**	**02 44 44.5**	**+1.4**
MWZ	**Matawai**	**5.65**	**200**	S	**S**	**02 45 48.8**	**-1.3**
TKGZ	**Te Karaka**	**5.66**	**197**	P	**Pn**	**02 44 44.1**	**+0.8**
TKGZ	**Te Karaka**	**5.66**	**197**	S	**S**	**02 45 48.4**	**-1.9**
URZ	**Urewera**	**5.71**	**203**	P	**Pn**	**02 44 44.6**	**+0.7**
	9.8nm,0.3s,baz=60,slow=8.1,SNR=32						
URZ				S	**S**	**02 45 48.9**	**-2.4**
	13nm,0.3s,baz=124,slow=21,SNR=11						
URZ	**Urewera**	**5.71**	**203**	P	**Pn**	**02 44 45.3**	**+1.5**
TOZ	**Tahuroa Road**	**5.94**	**217**	P	**Pn**	**02 44 49.3**	**+2.6**
RIGZ	**Rimuhau**	**5.94**	**197**	S	**S**	**02 45 54.5**	**-2.1**
RIGZ	**Rimuhau**	**5.94**	**197**	P	**Pn**	**02 44 47.8**	**+1.0**
MUGZ	**Murupara**	**6.02**	**205**	P	**Pn**	**02 44 50.0**	**+2.3**
RTZ	**Ruatahuna**	**6.08**	**203**	P	**Pn**	**02 44 49.7**	**+1.2**
PRGZ	**Paritu Road**	**6.12**	**195**	P	**Pn**	**02 44 51.3**	**+2.4**
SNGZ	**Shannon Statio**	**6.12**	**200**	P	**Pn**	**02 44 49.6**	**+0.6**
SNGZ	**Shannon Statio**	**6.12**	**200**	S	**S**	**02 45 58.6**	**-2.2**
RAHZ	**Arahi**	**6.32**	**201**	P	**Pn**	**02 44 52.0**	**+0.5**
MHGZ	**Mahia Peninsul**	**6.33**	**195**	P	**Pn**	**02 44 52.8**	**+1.1**
MTHZ	**Maungataniwha**	**6.34**	**205**	P	**Pn**	**02 44 52.5**	**+0.7**
TLZ	**Tolley Road**	**6.39**	**213**	P	Pn	02 44 56.4	+3.9
WHHZ	**Waihua**	**6.42**	**199**	P	**Pn**	**02 44 53.7**	**+0.9**
WATZ	**Wairara**	**6.62**	**210**	P	**Pn**	**02 44 58.2**	**+2.9**
HATZ	**Hinemaiaia**	**6.63**	**207**	P	**Pn**	**02 44 56.7**	**+1.3**
ARHZ	**Aropaoanui**	**6.67**	**200**	P	**Pn**	**02 44 56.9**	**+1.1**
BKZ	**Black Stump Fm**	**6.74**	**204**	P	**Pn**	**02 44 57.1**	**+0.4**
HIZ	**Hauiti**	**6.86**	**216**	P	**Pn**	**02 45 01.7**	**+3.4**
MCHZ	**McNeill Hill**	**6.92**	**201**	P	**Pn**	**02 45 00.6**	**+1.5**
KWHZ	**Kaweka Forest**	**6.99**	**203**	P	**Pn**	**02 45 00.5**	**+0.5**
WTVZ	**West Tongariro**	**7.03**	**209**	P	**Pn**	**02 45 01.6**	**+1.2**
KAHZ	**Kahuranaki**	**7.19**	**199**	P	**Pn**	**02 45 01.9**	**-0.6**
RPZ	**Rata Peaks**	**12.74**	**211**	P	**Pn**	**02 46 08.6**	**-3.4**
	1.9nm,0.3s,baz=19,slow=7.4,SNR=12						
RPZ				S	S	02 48 20.3	-13
	2.2nm,0.3s,baz=288,slow=20,SNR=6.8						
CTA	**Charters Tower**	**32.64**	**285**	P	**P**	**02 49 27.8**	**-0.4**
	1.0nm,0.5s,baz=122,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**41.32**	**271**	P	**P**	**02 50 40.2**	**-0.9**
	1.1nm,0.3s,baz=110,slow=7.4,SNR=16						
WRA	**Warramunga Arr**	**42.55**	**276**	P	**P**	**02 50 49.8**	**-1.2**
	1.1nm,0.3s,baz=117,slow=7.8,SNR=28						
VNA3	**Neumayer Olymp**	**75.80**	**177**	P	**P**	**02 54 39.0**	**+1.5**
VNA2	**Neumayer--Watz**	**76.21**	**178**	P	**P**	**02 54 41.5**	**+1.7**
	baz=188,slow=5.1						
FINES	**FINESS Array B**	**146.95**	**337**	PKPbc	**PKPdf**	**03 02 30.4**	**+1.1**
	2.0nm,0.9s,baz=41,slow=4.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**160.15**	**185**	PKPab	**PKPab**	**03 03 30.8**	**+0.2**
	0.2nm,0.5s,baz=180,slow=4.2,SNR=3.1						

*NEIC **09** 02:52:31.9±0.0, 60.°01N×153.°01W, h1km, ML3.2(AEIC), After AEIC.*
NEIC Felt at Soldotna.
*ISCJB **09** 02:52:32.3±0.3, 60.°01N±0.°02×153.°05W±0.°06, h10km, mb3.4/3, Error ellipse: s-maj=4.3km s-min=2.4km az=23.1*
*IDC **09** 02:52:36.6±1.5, 59.°77N×152.°82W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.3/67, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=26.6km s-min=18.3km az=104.0*

ISC 09 02:52:32.6±0.7, **59.°97N**±0.°02×**153.°13W**±0.°03, **h10**km, **n54, σ1⁰50/67, mb3.5/3, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.04**	**117**	P	**Pg**	**02 52 33.3**	**-1.3**
IVE	**Iliamna Volcan**	**0.07**	**54**	P	**Pg**	**02 52 33.3**	**-1.6**
IVE				S	**Sg**	**02 52 34.1**	**-2.5**
ILW	**Iliamna West**	**0.09**	**359**	P	**Pg**	**02 52 34.3**	**-0.9**
RDWB	**Redoubt West**	**0.54**	**16**	P	**Pg**	**02 52 41.9**	**-1.1**
RDWB				S	**Sg**	**02 52 48.6**	**-1.5**
PDB	**Pedro Bay**	**0.57**	**251**	P	**Pb**	**02 52 43.5**	**-1.1**
AUNW	**Augustine NWes**	**0.62**	**196**	P	**Pb**	**02 52 45.6**	**+0.1**
AUE	**Augustine Isla**	**0.63**	**191**	P	**Pb**	**02 52 45.2**	**-0.4**
AUW	**Augustine West**	**0.63**	**196**	P	**Pb**	**02 52 45.7**	**+0.1**
RDJH	**Redoubt Jeurge**	**0.64**	**15**	P	**Pg**	**02 52 43.7**	**-1.3**
RDJH				S	**Sg**	**02 52 51.9**	**-1.5**
AUI	**Augustine Isla**	**0.66**	**193**	P	**Pb**	**02 52 45.8**	**-0.3**
DFR	**Drift River**	**0.66**	**20**	P	**Pg**	**02 52 44.0**	**-1.4**
DFR				S	**Sg**	**02 52 52.3**	**-1.6**
HOM	**Homer**	**0.82**	**112**	P	**Pg**	**02 52 47.5**	**-0.8**
HOM				S	**Sg**	**02 52 59.0**	**0.0**
CDD	**Cape Douglas**	**1.08**	**194**	P	**Pg**	**02 52 52.7**	**-0.6**
BRLK	**Bradley Lake**	**1.15**	**100**	P	**Pb**	**02 52 52.2**	**-2.4**
BRLK				S	**Sb**	**02 53 06.8**	**-2.8**
FONW	**Fourpeaked Sta**	**1.21**	**200**	P	**Pn**	**02 52 55.1**	**-0.5**
CKL	**Chakachamna La**	**1.29**	**17**	P	**Pn**	**02 52 54.8**	**-1.9**
SPWE	**Spurr West**	**1.33**	**12**	P	**Pn**	**02 52 56.0**	**-1.4**
SPCP	**Crater Peak Br**	**1.38**	**20**	P	**Pn**	**02 52 56.5**	**-1.6**
KATP	**Katmai Pasha**	**1.52**	**205**	P	**Pb**	**02 53 00.2**	**-0.6**
KAPH				S	**Sg**	**02 53 20.4**	**-0.9**
SLKM	**Skilak Lake**	**1.55**	**69**	P	**Pn**	**02 52 58.4**	**-1.8**
SVW2	**Sparrevohn**	**1.65**	**314**	P	**Pb**	**02 53 02.7**	**-0.4**
STLK	**Strandline Lak**	**1.66**	**22**	P	**Pn**	**02 53 00.8**	**-1.0**
KARR	**Katmai Rainbow**	**1.69**	**209**	P	**Pb**	**02 53 03.2**	**-0.5**
SEW	**Seward**	**1.85**	**84**	P	**Pn**	**02 53 03.5**	**-0.8**
SUA	**Susitna One**	**1.90**	**37**	P	**Pn**	**02 53 04.6**	**-0.6**
RC01	**Rabbit Creek A**	**2.02**	**55**	P	**Pn**	**02 53 05.7**	**-0.9**
KABU	**Katmai Buttres**	**2.04**	**214**	P	**Pb**	**02 53 08.8**	**-0.9**
KELA	**Mount Kelaz**	**2.04**	**222**	P	**Pn**	**02 53 07.8**	**+0.8**
SKT	**Skwentna**	**2.16**	**21**	P	**Pn**	**02 53 09.5**	**+0.9**
KDAK	**Kodiak Island**	**2.22**	**172**	P	**Pb**	**02 53 10.8**	**-1.9**
PMR	**Palmer**	**2.55**	**49**	*e*Pn	**Pn**	**02 53 13.8**	**-0.1**
PMR				*e*Sn	**Sn**	**02 53 42.9**	**-1.9**
KNK	**Knik Glacier**	**2.71**	**56**	P	**Pn**	**02 53 17.1**	**+0.8**
GHO	**Glory Hole Cre**	**2.74**	**47**	P	**Pn**	**02 53 17.8**	**+1.2**
OHAK	**Old Harbor**	**2.76**	**182**	P	**Pn**	**02 53 18.9**	**+2.1**
PPLA	**Purkeypile**	**2.97**	**8**	*e*Pg	**Pb**	**02 53 24.1**	**-1.5**
PPLA				*e*Sg	**Sg**	**02 54 05.5**	**-2.4**
SML	**Sawmill**	**2.98**	**50**	P	**Pn**	**02 53 20.9**	**+1.0**
SML				S	**Sn**	**02 53 57.6**	**+1.9**
TT01	**Tatalina**	**3.25**	**336**	P	**Pn**	**02 53 24.2**	**+0.6**
SCM	**Sheep Creek Mo**	**3.39**	**54**	P	**Pn**	**02 53 26.2**	**+0.6**
KTH	**Kantishna Hill**	**3.74**	**15**	*e*Pn	**Pn**	**02 53 32.0**	**+1.7**
TRF	**Thorofare Moun**	**3.74**	**20**	P	**Pn**	**02 53 32.4**	**+1.9**
DIV	**Divide**	**3.82**	**69**	*e*Pn	**Pn**	**02 53 32.4**	**+1.0**
DIV				*e*Sn	**Sn**	**02 54 15.5**	**-0.8**
DHY	**Denali Highway**	**4.16**	**39**	P	**Pn**	**02 53 37.9**	**+1.7**
BPAW	**Bear Paw Mtn.**	**4.26**	**13**	*e*Pn	**Pn**	**02 53 38.0**	**+0.6**
BPAW				*e*Pg	**Pb**	**02 53 49.3**	**+1.8**
MCK	**McKinley**	**4.26**	**26**	*e*Pn	**Pn**	**02 53 39.8**	**+2.3**
BMRM	**Bremner River**	**4.34**	**73**	*e*Pn	**Pn**	**02 53 38.4**	**-0.1**
BMRM				*e*Pg	**Pb**	**02 53 51.0**	**+2.2**
BMRM				*e*Sg	**Sb**	**02 54 43.8**	**+2.6**
PAX	**Paxson**	**4.75**	**47**	*e*Pn	**Pn**	**02 53 45.6**	**+1.4**
COLA	**College**	**5.49**	**24**	*e*Pn	**Pn**	**02 53 53.7**	**-0.6**
	27nm,1.3s						
ILAR	**Eielson Array**	**5.62**	**28**	Pn	**Pn**	**02 53 57.7**	**+1.6**
	0

ORL				*e*			03 05 13.6	
ORL				pmax	pmax			
	comp=Z,95nm,0.3s							
ORL				smax	smax			
	comp=N,386nm,0.9s							
CERR	**Cheremushki**	**2.92**	**290**	*e*PN	**Pn**		**03 04 49.2**	**+0.7**
MOY	**Mondy**	**3.15**	**93**	*e*PN	**Pn**		**03 04 53.6**	**+1.9**
MOY				*e*			03 05 34.6	
MOY				pmax	pmax			
	comp=Z,84nm,0.6s							
MOY				smax	smax			
	comp=N,329nm,0.6s							
MINR	**Mina**	**3.16**	**341**	*e*PN	**Pn**		**03 04 54.7**	**+3.0**
TEL	**Teeli**	**3.70**	**258**	*e*PN	**Pn**		**03 04 58.9**	**-0.3**
LUZB	**Luzhba, Kemero**	**4.61**	**295**	*e*PN	**Pn**		**03 05 12.9**	**+1.2**
TLY	**Talaya**	**4.79**	**90**	*e*PN	Pn		03 05 23.9	+10
TLY				*e*			03 06 24.5	
TLY				pmax	pmax			
	comp=Z,13nm,0.4s							
ZAK	**Zakamensk**	**4.87**	**106**	*e*PN	Pn		03 05 23.1	+7.8
ZAK				*e*			03 06 26.1	
ZAK				pmax	pmax			
	comp=Z,29nm,0.6s							
ZAK				smax	smax			
	comp=N,117nm,0.7s							
TASR	**Tashtagol**	**5.01**	**283**	*e*PN	**Pn**		**03 05 18.4**	**+1.2**
CUR	**Chagan-Uzun**	**5.12**	**252**	*e*PN	**Pn**		**03 05 20.4**	**+1.6**
IRK	**Irkutsk**	**5.15**	**83**	*e*PN	Pn		03 05 29.5	+10
IRK				*e*			03 06 34.8	
IRK				pmax	pmax			
	comp=Z,204nm,0.2s							
IRK				smax	smax			
	comp=N,489nm,0.8s							
ULGR	**Ulagan, Altay**	**5.17**	**259**	*e*PN	Pn		03 05 23.2	+3.7
AKAR	**Aktash**	**5.48**	**256**	*e*PN	**Pn**		**03 05 25.3**	**+1.6**
CHBI	**Chibit, Altay**	**5.55**	**256**	*e*PN	**Pn**		**03 05 25.5**	**+0.9**
TRG	**Tyrgan**	**6.44**	**78**	*e*PN	Pn		03 05 34.5	-2.2
TRG				*e*			03 05 53.7	
TRG				*e*			03 07 14.6	
TRG				pmax	pmax			
	comp=Z,12nm,0.7s							
TRG				smax	smax			
	comp=N,160nm,1.4s							
ZAA0	**Zalesovo Array**	**7.02**	**291**	⇑Pn	**Pn**		**03 05 46.0**	**+1.3**
	comp=N,2.3nm,0.8s							
ZAA0				⇑Lg	Lg		03 07 40.4	
	comp=N,19nm,0.7s							
ZALV	**Zalesovo Beam**	**7.02**	**291**	Pn	**Pn**		**03 05 45.9**	**+1.2**
	comp=N,0.8nm,0.3s,baz=98,slow=12,SNR=9.4							
ZALV				Sn	**Sn**		**03 07 09.2**	**+4.7**
	comp=N,1.2nm,0.3s,baz=97,slow=23,SNR=4.4							
ZALV				Lg	Lg		03 07 41.0	
	comp=N,2.4nm,0.3s,baz=120,slow=25,SNR=12							
OGRR	**Ongureny**	**7.28**	**72**	*e*P	Pn		03 05 46.3	-2.0
OGRR				pmax	pmax			
	comp=Z,14nm,0.9s							
SONM	**Songino Array**	**7.89**	**117**	Pg	Pb		03 06 16.8	-2.1
	comp=Z,0.7nm,0.3s,baz=309,slow=18,SNR=8.9							
SONM				Lg	Lg		03 08 00.6	
	comp=Z,1.8nm,0.3s,baz=302,slow=30,SNR=10.0							
NVS	**Novosibirsk**	**8.14**	**296**	*e*P	Pb		03 06 14.0	-8.9
NVS				*e*S	Sn		03 07 41.5	+10
MK31	**Makanchi Array**	**10.27**	**245**	⇓Pn	**Pn**		**03 06 28.9**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=58,slow=15,SNR=6.2							
MK31				⇓Lg	Lg		03 09 21.3	
	comp=Z,16nm,1.0s,baz=49,slow=29,SNR=6.4							
MK31	**Makanchi Array**	**10.27**	**245**	P	**Pn**		**03 06 28.9**	**-0.4**
MK31				pmax	pmax			
	comp=Z,9.0nm,0.6s							
MKAR	**Makanchi Array**	**10.27**	**245**	Pn	**Pn**		**03 06 29.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=70,slow=11,SNR=6.3							
MKAR				Lg	Lg		03 09 21.2	
	comp=Z,0.5nm,0.3s,baz=59,slow=31,SNR=4.1							
MKAR	**Makanchi Array**	**10.27**	**245**	*e*P	**Pn**		**03 06 31.5**	**+2.2**
MAKZ	**Makanchi**	**10.44**	**246**	⇑Lg	Lg		03 09 29.1	
	comp=Z,16nm,1.0s							
KURK	**Kurchatov**	**10.91**	**270**	⇑Pn	**Pn**		**03 06 39.4**	**+1.4**
	comp=Z,5.5nm,1.5s							
KURK				⇑Lg	Lg		03 09 46.3	
	comp=Z,16nm,0.8s							
KURK	**Kurchatov**	**10.91**	**270**	*i* P	**Pn**		**03 06 39.8**	**+1.9**
KURBB	**Kurchatov Arra**	**10.98**	**270**	Pn	**Pn**		**03 06 39.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=71,slow=15,SNR=6.3							
KURBB				Lg	Lg		03 09 43.2	
	comp=Z,0.1nm,0.3s,baz=79,slow=34,SNR=8.3							
KURBB	**Kurchatov Arra**	**10.98**	**270**	⇓Pn	**Pn**		**03 06 41.4**	**+2.4**
	comp=Z,1.8nm,0.8s							
KURBB				⇑Lg	Lg		03 09 47.3	
	comp=Z,39nm,1.1s							
BOD	**Bodaibo**	**11.95**	**53**	*e*P	Pn		03 06 49.4	-2.7
HIA	**Hailar**	**15.33**	**91**	*e*P	**Pn**		**03 07 42.1**	**+3.9**
BVAR	**Borovoye Array**	**15.59**	**284**	Pn	**Pn**		**03 07 40.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=78,slow=14,SNR=4.3							
BRVK	**Borovoye**	**15.64**	**284**	*i* P	**Pn**		**03 07 43.3**	**+1.0**
ARU	**Arti**	**22.14**	**297**	*d* P	**P**		**03 08 58.1**	**+0.6**
ARU				S	**S**		**03 13 02.2**	**+1.0**
ARU				pmax	pmax			
	comp=Z,16nm,2.5s							
AKTO	**Aktyubinsk**	**23.65**	**282**	P	**P**		**03 09 12.3**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=89,slow=12,SNR=14							
FINES	**FINESS Array B**	**37.72**	**312**	P	**P**		**03 11 16.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=66,slow=11,SNR=3.9							
FINES	**FINESS Array B**	**37.72**	**312**	*e*P	**P**		**03 11 18.9**	**+1.7**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**43.80**	**279**	P	**P**		**03 12 07.5**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=46,slow=5.8,SNR=3.7							
BRTR	**Keskin Array B**	**43.80**	**279**	*e*P	**P**		**03 12 07.9**	**+0.1**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
HFS	**Hagfors**	**43.82**	**314**	P	**P**		**03 12 06.6**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=37,slow=9.8,SNR=2.6							
NOA	**NORSAR Array B**	**44.47**	**316**	P	**P**		**03 12 12.0**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=60,slow=7.6,SNR=2.9							
NOA	**NORSAR Array B**	**44.47**	**316**	P	**P**		**03 12 12.0**	**-0.9**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**53.97**	**28**	P	**P**		**03 13 25.0**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=324,slow=4.5,SNR=4.4							
ILAR	**Eielson Array**	**53.97**	**28**	P	**P**		**03 13 25.0**	**-0.4**
WRA	**Warramunga Arr**	**79.02**	**143**	P	**P**		**03 16 04.0**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=341,slow=6.2,SNR=3.6							
ASAR	**Alice Springs**	**82.28**	**145**	P	P		03 16 20.5	-2.9
	comp=Z,0.4nm,0.6s,baz=324,slow=4.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**82.37**	**281**	P	**P**		**03 16 22.1**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=30,slow=4.5,SNR=4.1							

IDC 09 03:04:11.2±45.0, 15°08'S×172°38'W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/51, mbtmp4.1/3, Error ellipse: s-maj=874.4km s-min=190.9km az=78.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**45.05**	**240**	P		P	03 12 28.8	-0.3
	1.2nm,0.4s,baz=90,slow=9.1,SNR=3.2							
WRA	**Warramunga Arr**	**50.88**	**256**	P		P	03 13 14.5	+0.1
	0.3nm,0.4s,baz=91,slow=6.9,SNR=10							
ASAR	**Alice Springs**	**51.15**	**252**	P		P	03 13 16.3	-0.2
	5.2nm,0.5s,baz=89,slow=8.3,SNR=68							

*ISCJB **09** 03:15:52.3±0.6, 49°18S±0°08×127°6E±0°2, h10km, mb4.7/13, MS3.9/9, Error ellipse: s-maj=22.1km s-min=10.8km az=8.7*

*IDC **09** 03:15:53.0±0.7, 49°21S×127°41E, h0km, mb4.4/7, mb1 4.6/7, mb1mx4.2/40, mbtmp4.4/7, MS3.9/10, Ms1 3.9/10, ms1mx3.6/40, Error ellipse: s-maj=44.4km s-min=18.3km az=100.0*

*NEIC **09** 03:15:54.2±0.5, 49°17S×127°50E, h10km, mb4.4/6, Error ellipse: s-maj=21.6km s-min=10.3km az=100.0*

ISC 09 03:15:54.3±0.6, 49°17S±0°09×127°5E±0°2, h10km, n46, σ1♀16/33, mb4.5/13, MS3.9/9, 1C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**17.33**	**320**	T		T	03 37 54.2	
	baz=148,slow=75,SNR=53							
H01W2	**Cape Leeuwin H**	**17.33**	**320**	T		T	03 37 53.0	
	baz=148,slow=60,SNR=60							
H01W3	**Cape Leeuwin H**	**17.35**	**320**	T		T	03 37 54.5	
	baz=148,slow=75,SNR=44							
BBOO	**Buckleboo**	**17.55**	**25**	*e*Pn		**Pn**	**03 19 57.6**	**-1.4**
	17nm,0.8s							
NWAO	**Narrogin (SRO)**	**17.95**	**331**	LR		LR	03 25 19.6	
	comp=Z,301nm,19.2s,baz=350,slow=32							
STKA	**Stephens Creek**	**20.27**	**37**	P		**P**	**03 20 31.9**	**+2.0**
	8.5nm,0.8s,baz=200,slow=11,SNR=16							
STKA				LR		LR	03 27 13.8	
	comp=Z,477nm,19.4s,baz=187,slow=34							
STKA	**Stephens Creek**	**20.27**	**37**	*e*P		**P**	**03 20 32.2**	**+2.3**
	2.0nm,0.8s							
ASAR	**Alice Springs**	**25.95**	**14**	P		**P**	**03 21 27.0**	**+0.1**
	23nm,0.8s,baz=187,slow=9.3,SNR=152							
ASAR				LR		LR	03 31 04.3	
	comp=Z,237nm,18.6s,baz=24,slow=35							
ASAR	**Alice Springs**	**25.95**	**14**	P		**P**	**03 21 27.0**	**+0.1**
AS31	**Alice Springs**	**25.95**	**14**	*e*P		**P**	**03 21 27.2**	**+0.3**
	7.1nm,0.6s							
AS01	**Alice Springs**	**25.96**	**14**	*e*P		**P**	**03 21 26.6**	**-0.3**
WRA	**Warramunga Arr**	**29.67**	**13**	P		**P**	**03 21 59.6**	**-0.6**
	6.1nm,0.9s,baz=193,slow=8.6,SNR=29							
WB2	**Warramunga Arr**	**29.67**	**13**	*e*P		**P**	**03 21 59.9**	**-0.3**
WRAB	**Tennant Creek**	**29.68**	**13**	*e*P		**P**	**03 21 60.0**	**-0.3**
	6.7nm,0.8s							
RPZ	**Rata Peaks**	**30.18**	**96**	LR		LR	03 31 02.3	
	comp=Z,411nm,19.5s,baz=358,slow=30							
VNDA	**Vanda**	**31.32**	**166**	P		**P**	**03 22 14.0**	**-0.3**
	3.3nm,0.9s,baz=318,slow=7.8,SNR=6.7							
VNDA	**Vanda**	**31.32**	**166**	*e*P		**P**	**03 22 14.0**	**-0.3**
	53nm,1.9s							
MAW	**Mawson**	**36.42**	**216**	LR		LR	03 36 17.0	
	comp=Z,220nm,19.4s,baz=62,slow=34							
COEN	**Coen**	**37.41**	**26**	*e*P		**P**	**03 23 05.2**	**-2.3**
	5.8nm,1.0s							
MXZ	**Matakaoa Point**	**38.04**	**92**	*e*P		**P**	**03 23 11.9**	**-0.8**
	189nm,1.3s							
DZM	**Mont Dzumac**	**40.94**	**63**	LR		LR	03 37 23.1	
	comp=Z,219nm,19.5s,baz=210,slow=32							
PMG	**Port Moresby**	**42.91**	**29**	LR		LR	03 41 02.9	
	comp=Z,130nm,18.1s,baz=198,slow=35							
HNR	**Honiara**	**47.99**	**45**	LR		LR	03 42 25.3	
	comp=Z,146nm,21.6s,baz=142,slow=33							
SNAA	**Sanae**	**54.46**	**197**	P		**P**	**03 25 20.6**	**-0.8**
	3.4nm,0.8s,baz=176,slow=16,SNR=4.7							
SNAA	**Sanae**	**54.46**	**197**	*e*P		**P**	**03 25 19.9**	**-1.5**
MYLDM	**Lahad Datu**	**54.69**	**349**	*e*P		**P**	**03 25 24.0**	**+0.4**
	56nm,1.2s							
KKM	**Kota Kinabalu**	**55.86**	**346**	*e*P		**P**	**03 25 31.0**	**-1.1**
	8.0nm,0.6s							
AFI	**Afiamalu**	**60.54**	**77**	LR		LR	03 48 29.4	
	comp=Z,49nm,18.1s,baz=260,slow=32							
CMAR	**Chiang Mai Arr**	**71.95**	**331**	P		**P**	**03 27 19.0**	**+1.2**
	1.0nm,0.4s,baz=184,slow=5.4,SNR=5.6							
CMAR				LR		LR	03 58 35.4	
	comp=Z,28nm,20.6s,baz=195,slow=36							
HOPE	**Hope Point**	**76.04**	**190**	*e*P		**P**	**03 27 41.4**	**0.0**
	133nm,1.4s							
MJAR	**Matsushiro Arr**	**85.86**	**9**	P		**P**	**03 28 34.3**	**+0.5**
	0.4nm,0.3s,baz=188,slow=6.4,SNR=2.9							
HHC	**Hu-ho-hao-te**	**90.73**	**348**	*e*P		**P**	**03 28 56.7**	**-0.3**
HHC	**Hu-ho-hao-te**	**90.73**	**348**	S		**S**	**03 39 51.7**	**-1.2**
GTA	**Gaotai**	**91.53**	**339**	⇑P		P	03 29 10.0	+9.2
GTA				pP		sP	03 29 14.1	+8.8
GTA				sP		pP	03 29 16.5	+12
WMQ	**Urumqi**	**98.95**	**332**	*e*P		Pdif	03 29 34.8	+0.3
TORD	**Torodi Ar. Bea**	**122.99**	**250**	PKP		**PKPdf**	**03 34 50.9**	**-0.2**
	0.4nm,0.9s,baz=96,slow=0.6,SNR=2.5							
NVAR	**Mina Array Bea**	**132.71**	**77**	PKP		**PKPdf**	**03 35 11.8**	**+2.6**
	0.1nm,0.3s,baz=216,slow=4.5,SNR=2.8							
YKA	**Yellowknife Ar**	**144.17**	**45**	PKP		PKPbc	03 35 28.0	+0.8
	2.3nm,1.1s,baz=268,slow=3.7,SNR=15							
ESDC	**Sonseca Array**	**144.60**	**273**	PKP		**PKPdf**	**03 35 31.5**	**+0.8**
	0.2nm,0.5s,baz=114,slow=2.2,SNR=3.4							
RSSD	**Black Hills**	**144.83**	**78**	*e*PKPdf		**PKPdf**	**03 35 31.4**	**+0.4**
TUL1	**Leonard**	**145.94**	**96**	*e*PKPbc		**PKPbc**	**03 35 34.3**	**+0.7**
DGMT	**Dagmar**	**146.50**	**71**	*e*PKPbc		**PKPbc**	**03 35 36.1**	**+1.1**
RES	**Resolute Bay**	**148.88**	**20**	*e*PKPbc		**PKPdf**	**03 35 38.5**	**+1.9**
FFC	**Flin Flon**	**149.53**	**60**	*e*PKPbc		**PKPbc**	**03 35 41.3**	**-1.5**
EKA	**Eskdalemuir Ar**	**149.71**	**301**	PKPbc		**PKPbc**	**03 35 43.1**	**-0.2**
	1.5nm,0.8s,baz=139,slow=1.6,SNR=3.5							
ULM	**Lac du Bonnet**	**152.22**	**71**	PKPbc		**PKPbc**	**03 35 49.5**	**+0.2**
	0.9nm,0.6s,baz=333,slow=2.3,SNR=2.7							

MEX 09 03:19:54.2±0.3, 18°27N×103°61W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMIG	**Aquila**	**0.25**	**85**	*e*P		Pg	03 19 58.9	-0.3
MMIG				*i* S		Sg	03 20 02.6	+0.2
EZ5V		**1.21**	**0**	*e*P		Pg	03 20 14.2	-3.2
EZ5V				*e*S		Sg	03 20 29.6	-3.4
CJM	**Chamela**	**1.83**	**312**	*i* P		Pn	03 20 22.8	-3.5
CJM				*e*S		Sn	03 20 45.6	-4.3
ZIIG	**Zihuatanejo**	**2.15**	**107**	*e*P		Pn	03 20 27.4	-3.3
ZIIG				*i* S		Sn	03 20 53.9	-3.7

*IDC **09** 03:24:32.0±8.1, 22°03N×143°61E, h218km±51km, mb3.3/9, mb1 3.4/10, mb1mx3.0/66, mbtmp3.9/10, Error ellipse: s-maj=77.5km s-min=35.4km az=180.0*

ISC 09 03:24:29.3±1.6, 21°8N±0°2×143°6E±0°3, h200km, n10, σ0♀92/12, mb3.7/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**5.39**	**347**	P		**Pn**	**03 25 49.0**	**+0.4**
JCJ				S		**Sn**	**03 26 50.5**	**-0.8**
KSRS	**Korea Array**	**20.63**	**322**	P		**P**	**03 28 55.2**	**+1.9**
	0.7nm,0.5s,baz=149,slow=8.8,SNR=3.4							
SONM	**Songino Array**	**39.47**	**320**	P		**P**	**03 31 40.3**	**0.0**
	0.3nm,0.5s,baz=143,slow=5.7,SNR=3.1							
ZALV	**Zalesovo Beam**	**54.33**	**322**	P		**P**	**03 33 34.0**	**-0.9**
	0.8nm,0.3s,baz=107,slow=7.7,SNR=2.9							
MKAR	**Makanchi Array**	**54.87**	**313**	P		**P**	**03 33 39.0**	**-0.1**
	0.2nm,0.5s,baz=90,slow=9.1,SNR=5.0							
MKAR				PcP		**PcP**	**03 34 38.5**	**-0.1**
	0.2nm,0.5s,baz=113,slow=2.0,SNR=3.9							
KURBB	**Kurchatov Arra**	**57.67**	**317**	P		**P**	**03 33 58.3**	**-0.4**
	2.0nm,0.4s,baz=93,slow=7.5,SNR=35							
BVAR	**Borovoye Array**	**62.80**	**319**	P		**P**	**03 34 33.3**	**-0.2**
	2.0nm,0.4s,baz=95,slow=7.7,SNR=16							
YKA	**Yellowknife Ar**	**76.16**	**28**	P		**P**	**03 35 55.6**	**+0.6**
	0.4nm,0.8s,baz=285,slow=3.8,SNR=3.9							
ARCES	**ARCESS Array B**	**78.91**	**342**	P		**P**	**03 36 09.9**	**-0.2**
	1.8nm,0.7s,baz=61,slow=7.3,SNR=4.2							
FINES	**FINESS Array B**	**83.21**	**335**	P		**P**	**03 36 31.6**	**-1.3**
	0.4nm,0.4s,baz=72,slow=6.0,SNR=4.3							

*NIED **09** 03:38:00, 39°60N×143°70E, h23km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φ♭207.00000°, δ29.00000°, λ89.00000°. NP2:φ♭28.00000°, δ61.00000°, λ91.00000°.*

*JMA **09** 03:38:31.4±0.2, 39°64N×143°67E, h34km, M4.3*

*IDC **09** 03:38:31.1±0.7, 39°66N×143°42E, h0km, mb4.0/21, mb1 4.2/24, mb1mx4.0/66, mbtmp4.0/24, ML3.6/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/63, Error ellipse: s-maj=17.8km s-min=15.0km az=125.0*

*ISCJB **09** 03:38:32.5±1.5, 39°67N±0°04×143°51E±0°06, h22km±10km, mb4.1/33, MS3.5/1, Error ellipse: s-maj=8.8km s-min=4.6km az=34.1*

*NEIC **09** 03:38:36.6±0.8, 39°65N×143°39E, h40km±6km, mb4.3/11, Error ellipse: s-maj=10.1km s-min=5.6km az=117.0*

ISC 09 03:38:32.5±2.6, 39°63N±0°05×143°53E±0°06, h12km±15km, n85, σ1♀50/88, mb4.2/33, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTH	**Tanohata**	**1.32**	**284**	P		**Pn**	**03 38 55.4**	**-1.4**
JTH				*e*S		**Sg**	**03 39 13.4**	**-1.7**
MIYJ	**Miyakonagasawa**	**1.32**	**268**	P		**Pn**	**03 38 56.1**	**-0.8**
OFUJ	**Ofunato**	**1.54**	**250**	P		**Pn**	**03 38 58.9**	**-1.0**
OFUJ				S		**Sn**	**03 39 17.9**	**-2.0**
JANG	**Nango**	**1.72**	**296**	P		**Pn**	**03 39 00.9**	**-1.4**
JOM	**Ohasama**	**1.74**	**266**	P		**Pn**	**03 39 02.2**	**-0.4**
JOM				*e*S		**Sn**	**03 39 24.1**	**-0.6**
JMK	**Ichinoseki**	**1.92**	**250**	P		**Pn**	**03 39 04.4**	**-0.6**
JMK				S		**Sn**	**03 39 27.2**	**-1.9**
JIO	**Ouri**	**2.06**	**236**	P		**Pn**	**03 39 05.9**	**-1.2**
JTM	**Tenmabayashi**	**2.21**	**302**	P		**Pn**	**03 39 08.7**	**-0.4**
ERM	**Erimo**	**2.40**	**353**	*e*Pn		**Pn**	**03 39 11.7**	**0.0**
JYK	**Kaneyama**	**2.56**	**255**	P		**Pn**	**03 39 13.8**	**-0.1**
JOT	**Ohata**	**2.58**	**314**	P		**Pn**	**03 39 13.5**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.71**	**348**	P		**Pn**	**03 39 16.3**	**+0.3**
JKB	**Kayabe**	**2.95**	**321**	P		**Pn**	**03 39 18.0**	**-1.2**
JCH	**Churui**	**2.98**	**358**	P		**Pn**	**03 39 19.1**	**-0.6**
JCH				*e*S		**Sn**	**03 39 52.8**	**-2.6**
ASAJ	**Asahikawa**	**4.54**	**351**	Pn		**Pn**	**03 39 41.6**	**+0.5**
	3.2nm,0.3s,baz=197,slow=15,SNR=23							
ASAJ				Sn		**Sn**	**03 40 32.1**	**-1.6**
	3.0nm,0.3s,baz=208,slow=33,SNR=4.4							
MJAR	**Matsushiro Arr**	**5.21**	**235**	Pn		**Pn**	**03 39 51.1**	**+0.8**
	2.8nm,0.3s,baz=39,slow=12,SNR=59							
MAJO	**Matsushiro**	**5.21**	**235**	*e*Pn		**Pn**	**03 39 51.4**	**+1.1**
MAT	**Matsushiro**	**5.21**	**235**	P		**Pn**	**03 39 51.2**	**+0.9**
MAT				*e*S		**Sn**	**03 40 52.0**	**+1.7**
MJB9	**Matsu-Tunnel**	**5.21**	**235**	*e*Pn		**Pn**	**03 39 51.6**	**+1.3**
INU	**Inuyama**	**6.71**	**232**	*e*Pn		**Pn**	**03 40 11.5**	**+0.6**
JHJ	**Hachijo jima 2**	**7.17**	**206**	Sn		**Sn**	**03 41 33.0**	**-5.5**
	22nm,0.3s,baz=72,slow=20,SNR=2.8							
USRK	**Ussuriysk Ar.**	**9.74**	**302**	Pn		**Pn**	**03 40 54.5**	**+2.1**
	0.5nm,0.3s,baz=97,slow=14,SNR=10.0							
JNU	**Nakatsue**	**12.08**	**241**	LR		LR	03 46 21.7	
	comp=Z,123nm,19.9s,baz=5.0,slow=39							
KSRS	**Korea Array**	**12.41**	**265**	Pn		**Pn**	**03 41 30.4**	**+1.4**
	0.2nm,0.3s,baz=90,slow=14,SNR=4.2							
KSAR	**Wonju Array Be**	**12.45**	**265**	Pn		**Pn**	**03 41 30.4**	**+0.9**
KLR	**Kul'dur**	**12.75**	**323**	Pn		**Pn**	**03 41 34.6**	**+1.0**
	0.0nm,0.3s,baz=136,slow=13,SNR=4.7							
MA2	**Magadan**	**20.48**	**11**	P		Pn	03 43 10.7	-1.6
	7.8nm,0.6s,baz=197,slow=8.1,SNR=16							
NJ2	**Nanjing**	**21.34**	**257**	*e*P		**P**	**03 43 21.9**	**+2.4**
YHNB	**Yeheng**	**23.88**	**238**	*e*P		**P**	**03 43 43.9**	**-2.2**
	82nm,1.3s							
SEY	**Seymchan**	**23.94**	**10**	P		**P**	**03 43 46.0**	**-0.2**
	6.0nm,0.8s,baz=198,slow=7.2,SNR=32							
HHC	**Hu-ho-hao-te**	**24.36**	**283**	*e*P		**P**	**03 43 51.1**	**+0.5**
HHC				pP		pP	03 44 00.3	+6.2
HHC				sP		sP	03 44 04.4	+8.8
HHC				S		**S**	**03 48 10.8**	**+1.0**
HHC				sS		sS	03 48 26.1	+10
YULB	**Yu-li**	**24.82**	**236**	*e*P		**P**	**03 43 51.8**	**-3.0**
	12nm,0.9s							
ULN	**Ulaanbaatar**	**27.40**	**300**	*e*P		**P**	**03 44 17.3**	**-0.7**
	3.6nm,0.9s							
SONA1	**Songino Array**	**27.83**	**299**	*e*P		**P**	**03 44 21.8**	**-0.1**
SONM	**Songino Array**	**27.84**	**299**	P		**P**	**03 44 21.6**	**-0.3**
	2.8nm,0.7s,baz=95,slow=8.4,SNR=16							
SONM				LR		LR	03 55 08.8	
	comp=Z,128nm,20.6s,baz=360,slow=36							
H11N2	**WAKE ISLAND Hy**	**28.23**	**128**	T		T	04 14 03.9	
	baz=318,slow=75,SNR=45							
H11N1	**WAKE ISLAND Hy**	**28.24**	**128**	T		T	04 14 02.8	
	baz=318,slow=75,SNR=32							
H11N3	**WAKE ISLAND Hy**	**28.25**	**128**	T		T	04 14 06.2	
	baz=318,slow=75,SNR=32							
H11S1	**WAKE ISLAND Hy**	**29.05**	**130**	T		T	04 15 08.6	
	baz=322,slow=74,SNR=7.8							
H11S3	**WAKE ISLAND Hy**	**29.06**	**130**	T		T	04 15 07.8	
	baz=124,slow=74,SNR=5.5							
H11S2	**WAKE ISLAND Hy**	**29.07**	**130**	T		T	04 15 08.4	
	SNR=6.1							
ENH	**Enshi**	**29.28**	**262**	*e*P		**P**	**03 44 33.9**	**-0.8**
	9.9nm,0.8s							
GTA	**Gaotai**	**33.47**	**284**	⇑P		**P**	**03 45 12.6**	**+0.9**
GTA				pP		pP	03 45 21.3	+6.0
GTA				sP		sP	03 45 25.3	+8.6
KMI	**Kunming**	**37.03**	**259**	P		**P**	**03 45 44.8**	**+2.2**
WMQ	**Urumqi**	**41.21**	**295**	P		**P**	**03 46 18.1**	**+0.9**
WMQ				pP		pP	03 46 30.1	+9.3
ZAA0	**Zalesovo Array**	**41.45**	**310**	*e*P		**P**	**03 46 18.9**	**-0.1**
	2.7nm,0.6s							
ZALV	**Zalesovo Beam**	**41.45**	**310**	P	

MPSI	**Mapaga**	**3.72**	**270**	P	**Pn**	**03 46 12.7 +2.6**
MPSI				S	**Sn**	**03 46 55.9 +0.1**
LBMI	**Labuha**	**4.01**	**104**	P	Pn	03 46 17.1 +3.5
LBMI				S	**Sn**	**03 47 06.2 +4.0**
NLAI	**Namlea**	**4.99**	**136**	P	**Pn**	**03 46 29.1 +3.1**
NLAI				S	**Sn**	**03 47 25.7 +1.1**
WRA	**Warramunga Arr**	**22.75**	**153**	P	**P**	**03 49 56.0 -0.9**
	1.1nm,0.5s,baz=331,slow=10,SNR=16					
ASAR	**Alice Springs**	**25.89**	**158**	P	**P**	**03 50 24.9 -0.5**
	0.3nm,0.3s,baz=334,slow=8.3,SNR=3.7					
ASAR				PcP	**PcP**	**03 53 47.7 -1.4**
	0.5nm,0.4s,baz=347,slow=2.3,SNR=4.6					
SONM	**Songino Array**	**49.60**	**345**	P	P	03 53 42.2 -0.6
	0.5nm,0.6s,baz=160,slow=8.9,SNR=2.6					
MKAR	**Makanchi Array**	**58.64**	**328**	P	**P**	**03 54 46.7 -1.3**
	0.6nm,0.3s,baz=125,slow=8.8,SNR=20					
ZALV	**Zalesovo Beam**	**62.25**	**335**	P	**P**	**03 55 09.9 -2.3**
	0.3nm,0.3s,baz=129,slow=7.4,SNR=2.8					
KURBB	**Kurchatov Arra**	**62.97**	**330**	P	**P**	**03 55 15.5 -1.5**
	0.4nm,0.4s,baz=141,slow=6.1,SNR=4.7					
TORD	**Torodi Ar. Bea**	**120.91**	**285**	PKP	**PKPdf**	**04 03 38.6 -2.7**
	0.2nm,0.4s,baz=62,slow=1.7,SNR=4.5					

*ISCJB **09** 04:00:33.7±1.0,23°.8N±0°.2×93°.6E±0°.2, h35km, mb3.5/4, Error ellipse: s-maj=40.7km s-min=8.9km az=138.9*
*IDC **09** 04:00:40.8±4.6,23°.95N×94°.17E, h73km±41km, mb3.5/3, mb1 3.8/4, mb1mx3.1/69, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=69.5km s-min=18.7km az=69.0*

ISC 09 04:00:36.2±2.3, 23°.8N±0°.2×93°.6E±0°.5, h35km, n6, σ1s76/6, mb3.9/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.36**	**318**	*e*Pn	Pn	04 01 12.0	-0.7
SHL				*e*Sn	Sn	04 01 38.0	-2.6
CMAR	**Chiang Mai Arr**	**7.28**	**136**	P	**Pn**	**04 02 21.3 +1.2**
	0.6nm,0.3s,baz=315,slow=14,SNR=5.5					
MKAR	**Makanchi Array**	**24.68**	**341**	P	**P**	**04 05 55.0 +1.2**
	0.1nm,0.5s,baz=146,slow=9.6,SNR=2.7					
SONM	**Songino Array**	**26.05**	**20**	P	**P**	**04 06 04.9 -1.5**
	0.3nm,0.6s,baz=218,slow=9.1,SNR=2.1					
SONM				pP	**sP**	**04 06 21.6 +1.0**
	1.4nm,1.0s,baz=197,slow=8.5,SNR=3.2					
WRA	**Warramunga Arr**	**58.87**	**134**	P	**P**	**04 10 30.4 -1.4**
	1.5nm,0.6s,baz=324,slow=7.3,SNR=31					
ASAR	**Alice Springs**	**61.28**	**137**	P	**P**	**04 10 47.3 -1.1**
	1.3nm,0.5s,baz=320,slow=6.9,SNR=18					

JMA 09 04:01:05.8±0.1, 38°.26N×144°.50E, h32km, M4.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.36**	**291**	P	Pn	04 01 43.8	+1.5
MIYJ	**Miyakonagasawa**	**2.47**	**303**	P	Pn	04 01 45.3	+1.5
MIYJ				S	Sn	04 02 14.7	+1.8
JIO	**Ouri**	**2.48**	**275**	P	Pn	04 01 45.6	+1.6
JIO				S	Sn	04 02 14.9	+1.7
JTH	**Tanohata**	**2.65**	**310**	*e*S	Sn	04 02 19.1	+1.8
JMK	**Ichinoseki**	**2.66**	**286**	P	Pn	04 01 48.4	+2.0
JMK				S	Sn	04 02 19.5	+1.9
JOM	**Ohasama**	**2.78**	**297**	P	Pn	04 01 50.0	+1.9
JOM				*e*S	Sn	04 02 22.5	+1.9
JMM	**Marumori**	**2.95**	**263**	*e*S	Sn	04 02 26.7	+1.9
JKZ	**Kuzumaki**	**3.01**	**306**	S	Sn	04 02 27.9	+1.7
JANG	**Nango**	**3.13**	**313**	P	Pn	04 01 55.0	+2.1
JANG				*e*S	Sn	04 02 31.2	+2.0
JFT	**Otama**	**3.38**	**259**	S	Sn	04 02 37.3	+2.0
JYS	**Shirataka**	**3.49**	**271**	S	Sn	04 02 40.2	+2.1
JAH	**Hinai**	**3.57**	**304**	S	Sn	04 02 42.2	+2.3
JOT	**Ohata**	**4.10**	**321**	P	Pn	04 02 08.3	+2.1
JCH	**Churui**	**4.43**	**349**	*e*S	Sn	04 02 59.8	-1.5
JKB	**Kayabe**	**4.50**	**325**	S	Sn	04 03 05.0	+2.2
JRY	**Ryogami san**	**5.00**	**245**	P	Pn	04 02 19.3	+0.6
JRY				*e*S	Sn	04 03 13.4	-2.0
NEM2	**Nemuro 2**	**5.19**	**10**	P	Pn	04 02 16.9	-4.2
NEM2				S	Sn	04 03 13.9	-5.9

*ISCJB **09** 04:13:55.7±0.6, 32°.39N±0°.03×115°.41W±0°.03, h13km±4km, Error ellipse: s-maj=4.9km s-min=4.3km az=28.1*
*ECX **09** 04:13:57.0±0.6, 32°.39N×115°.40W, h5km, MD2.6, ML2.8*

ISC 09 04:13:54.7±1.0, 32°.39N±0°.03×115°.39W±0°.03, h18km±4km, n26, σ0s80/36, 5C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.08**	**71**	*e*P	**Pg**	**04 13 58.8**	**+0.6**
CPBX				*e*S	**Sg**	**04 14 00.4**	**-0.1**
CPBX				⇑*e*		04 14 02.6	
CPBX				IAML		04 14 02.6	
	comp=N,9μm,0.1s						
WESC	**Westside Schoo**	**0.47**	**322**	⇑*e*P	**Pn**	**04 14 05.7**	**-0.9**
YUH	**Yuha Desert**	**0.52**	**300**	⇓*i*P	**Pb**	**04 14 05.7**	**+0.4**
COK	**Cook Ranch**	**0.54**	**328**	⇑*i*P	**Pn**	**04 14 07.0**	**-0.5**
RMX	**La Rumorosa**	**0.62**	**290**	*e*P	**Pg**	**04 14 06.6**	**-0.5**
RMX				IAML		04 14 17.0	
	comp=N,534nm,0.2s						
RMX				⇑*e*		04 14 17.0	
SWSC	**Sam W. Stewart**	**0.65**	**328**	P	**Pn**	**04 14 08.3**	**-0.7**
	baz=154,SNR=14						
SWSC				S	**Sb**	**04 14 17.2**	**+0.9**
	baz=154						
IKP	**In-Ko-Pah, Jac**	**0.66**	**293**	P	**Pb**	**04 14 08.3**	**+0.5**
	baz=119,SNR=15						
IKP				S	**Sg**	**04 14 16.7**	**0.0**
	baz=119						
IKP	**In-Ko-Pah, Jac**	**0.66**	**293**	*e*P	**Pb**	**04 14 08.3**	**+0.5**
GLA	**Glamis**	**0.81**	**36**	P	**Pn**	**04 14 11.5**	**+0.2**
	baz=216,SNR=15						
GLA				S	**Sn**	**04 14 22.6**	**-0.3**
	baz=216						
ECBX	**El Chinero**	**0.96**	**163**	*e*P	**Pn**	**04 14 14.2**	**+0.9**
ECBX				*e*S	**Sn**	**04 14 27.1**	**+0.6**
MONP2	**Monument Peak**	**1.00**	**300**	P	**Pn**	**04 14 14.4**	**+0.2**
	baz=124,SNR=15						
MONP2				S	**Sb**	**04 14 27.0**	**+0.3**
	baz=124						
CBX	**Cerro Bola**	**1.08**	**266**	*e*P	**Pg**	**04 14 15.9**	**+0.2**
CBX				*e*S	**Sb**	**04 14 29.3**	**+0.5**
TJIG	**Tijuana**	**1.09**	**272**	*e*P	**Pg**	**04 14 15.6**	**-0.2**
BAR	**Barrett**	**1.12**	**285**	*e*P	**Pg**	**04 14 16.3**	**-0.1**
ZAX	**El Zacaton**	**1.15**	**221**	*e*P	**Pg**	**04 14 16.4**	**-0.7**
ZAX				⇓*e*		04 14 32.3	
ZAX				IAML		04 14 32.3	
	comp=N,276nm,0.3s						
ZAX				IAML		04 14 32.4	
	comp=E,198nm,0.4s						
ZAX				⇑*e*		04 14 32.4	
BC3	**Big Chuckawall**	**1.26**	**358**	P	**Pb**	**04 14 17.9**	**-0.1**
	baz=180,SNR=23						
ECNX	**Esteban Cantu**	**1.26**	**235**	*e*P	**Pg**	**04 14 18.6**	**-0.5**
PBX	**Punta Banda**	**1.31**	**241**	*e*P	**Pg**	**04 14 19.1**	**-0.8**
SDRC	**San Diego Road**	**1.35**	**285**	*e*P	**Pg**	**04 14 20.3**	**-0.6**
PFO	**Pinyon Flats O**	**1.51**	**324**	P	**Pn**	**04 14 21.3**	**+0.2**
	baz=146,SNR=7.2						
PFO				S	**Sn**	**04 14 39.5**	**-0.9**
	baz=146						
109C	**Camp Elliot, M**	**1.53**	**289**	Pb	**Pb**	**04 14 23.1**	**+0.5**
	baz=111						
109C				Sb	**Sb**	**04 14 42.4**	**+0.8**
	baz=111						
Y12C	**Blythe**	**1.54**	**28**	Pb	**Pg**	**04 14 24.8**	**+0.4**
	baz=209						
IRM	**Iron Mountain**	**1.77**	**7**	Pb	**Pg**	**04 14 28.5**	**-0.3**
	baz=188						
MURC	**Murrieta**	**1.94**	**309**	Pb	**Pb**	**04 14 30.2**	**+0.6**
	baz=130						
MURC				Sb	**Sg**	**04 14 55.9**	**-1.3**
	baz=130						
214A	**Organ Pipe Nat**	**2.23**	**101**	S	**Sb**	**04 14 59.5**	**-2.3**
	baz=280						
BBRC	**Big Bear Solar**	**2.26**	**326**	Sb	**Sb**	**04 15 04.9**	**+1.9**
	baz=147						

*CSEM **09** 04:18:44.9±0.2, 40°.58N×35°.04E, h2km, ML2.6, Error ellipse: s-maj=5.0km s-min=3.8km az=119.0*
*DDA **09** 04:18:44.9, 40°.57N×35°.07E, h7km, Ml2.6*
*ISK **09** 04:18:44.7, 40°.56N×35°.03E, h2km, ML2.8/5*

*ISCJB **09** 04:18:45.3±0.5, 40°.57N±0°.02×35°.03E±0°.04, h6km±5km, Error ellipse: s-maj=4.9km s-min=3.8km az=13.2*

ISC 09 04:18:45.4±1.0, 40°.57N±0°.02×35°.05E±0°.02, h7km±9km, n32, σ1s01/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTAK	**Corum_Osmancik**	**0.21**	**292**	*i*P	**Pg**	**04 18 49.8**	**+0.1**
CTAK				*i*S	**Sg**	**04 18 54.0**	**+1.3**
CTAK	**Corum_Osmancik**	**0.21**	**292**	P	**Pg**	**04 18 49.8**	**+0.1**
CTAK				S	**Sg**	**04 18 54.0**	**+1.3**
COAL	**Corum-Alaca**	**0.32**	**189**	*i*P	**Pg**	**04 18 51.5**	**-0.2**
COAL				*i*S	**Sg**	**04 18 55.8**	**-0.1**
COAL	**Corum-Alaca**	**0.32**	**189**	P	**Pg**	**04 18 51.5**	**-0.2**
COAL				S	**Sg**	**04 18 55.8**	**-0.1**
CORM	**Corum**	**0.51**	**219**	PG	**Pg**	**04 18 54.2**	**-1.0**
CORM				SG	**Sb**	**04 19 02.8**	**-1.5**
CORM	**Corum**	**0.51**	**219**	*e*Pg	**Pg**	**04 18 54.2**	**-1.0**
CORM				*e*Sg	**Sb**	**04 19 02.8**	**-1.5**
HAVZ	**Havza**	**0.71**	**45**	*i*P	**Pg**	**04 18 59.4**	**+0.2**
HAVZ				*i*S	**Sb**	**04 19 10.4**	**+0.1**
HAVZ	**Havza**	**0.71**	**45**	P	**Pg**	**04 18 59.4**	**+0.2**
HAVZ				S	**Sb**	**04 19 10.4**	**+0.1**
BOYT	**Boyabat**	**0.86**	**353**	*i*P	**Pg**	**04 18 59.5**	**-2.4**
BOYT	**Boyabat**	**0.86**	**353**	P	**Pg**	**04 18 59.5**	**-2.4**
YOZ	**Yozgat**	**0.95**	**167**	PG	**Pg**	**04 19 03.6**	**-0.1**
YOZ				SG	**Sb**	**04 19 17.5**	**+0.3**
YOZ	**Yozgat**	**0.95**	**167**	*e*Pg	**Pg**	**04 19 03.6**	**-0.1**
YOZ				*e*Sg	**Sb**	**04 19 17.5**	**+0.3**
CDAG	**Cicekdag**	**1.08**	**209**	*i*P	**Pg**	**04 19 05.2**	**-1.0**
CDAG				*i*S	**Sg**	**04 19 18.8**	**-1.3**
CDAG	**Cicekdag**	**1.08**	**209**	P	**Pg**	**04 19 05.2**	**-1.0**
CDAG				S	**Sg**	**04 19 18.8**	**-1.3**
DIKM	**Dikmen**	**1.09**	**8**	PN	**Pb**	**04 19 06.9**	**+0.3**
DIKM				SN	**Sn**	**04 19 22.6**	**+0.1**
DIKM	**Dikmen**	**1.09**	**8**	*e*Pn	**Pb**	**04 19 06.9**	**+0.3**
DIKM				*e*Sn	**Sn**	**04 19 22.6**	**+0.1**
TOKA	**Tokat**	**1.12**	**102**	*i*P	**Pg**	**04 19 05.2**	**-1.7**
TOKA				*i*S	**Sb**	**04 19 22.7**	**+0.8**
TOKA	**Tokat**	**1.12**	**102**	P	**Pg**	**04 19 05.2**	**-1.7**
TOKA				S	**Sb**	**04 19 22.7**	**+0.8**
TOKT	**Tokat**	**1.17**	**102**	PN	**Pb**	**04 19 07.9**	**-0.1**
TOKT				SN	**Sn**	**04 19 24.9**	**+0.5**
TOKT	**Tokat**	**1.17**	**102**	*e*Pn	**Pb**	**04 19 07.9**	**-0.1**
TOKT				*e*Sn	**Sn**	**04 19 24.9**	**+0.5**
SAMS	**Samsun-Alacam**	**1.17**	**47**	*i*P	**Pg**	**04 19 07.5**	**-0.4**
SAMS				*i*S	**Sg**	**04 19 22.8**	**-0.2**
SAMS	**Samsun-Alacam**	**1.17**	**47**	P	**Pg**	**04 19 07.5**	**-0.4**
SAMS				S	**Sg**	**04 19 22.8**	**-0.2**
ERBA	**Erbaa**	**1.30**	**85**	*i*P	**Pg**	**04 19 08.7**	**-1.7**
ERBA	**Erbaa**	**1.30**	**85**	P	**Pg**	**04 19 08.7**	**-1.7**
CUSAR	**Sarkisla-SIVAS**	**1.47**	**141**	*i*P	**Pn**	**04 19 12.3**	**-0.1**
CUSAR				*i*S	**Sn**	**04 19 34.3**	**+2.2**
CUSAR	**Sarkisla-SIVAS**	**1.47**	**141**	P	**Pn**	**04 19 12.4**	**-0.1**
CUSAR				S	**Sn**	**04 19 34.3**	**+2.2**
BZK	**Bozkurt**	**1.60**	**331**	PN	**Pg**	**04 19 15.4**	**-0.7**
BZK	**Bozkurt**	**1.60**	**331**	*e*Pn	**Pg**	**04 19 15.4**	**-0.7**
SVSK	**Karacayir**	**1.63**	**113**	PN	**Pb**	**04 19 15.9**	**+0.2**
SVSK				SN	**Sg**	**04 19 37.9**	**+0.2**
SVSK	**Karacayir**	**1.63**	**113**	*e*Pn	**Pb**	**04 19 15.9**	**+0.2**
SVSK				*e*Sn	**Sg**	**04 19 37.9**	**+0.2**
AFSR	**Af˙ar-Bala (A**	**1.89**	**234**	PN	**Pn**	**04 19 18.6**	**+0.4**
AFSR	**Af˙ar-Bala (A**	**1.89**	**234**	*e*Pn	**Pn**	**04 19 18.6**	**+0.4**

IDC 09 04:20:12.1±1.2, 35°.89N×143°.69E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/63, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=32.9km s-min=24.3km az=80.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.48**	**280**	Pn	Pn	04 21 20.3	-1.0
	0.5nm,0.3s,baz=94,slow=13,SNR=7.1						
MKAR	**Makanchi Array**	**46.28**	**303**	P	P	04 28 38.1	-1.3
	0.5nm,0.8s,baz=72,slow=9.3,SNR=4.1						
KURBB	**Kurchatov Arra**	**48.15**	**309**	P	P	04 28 55.4	+1.7
	0.4nm,0.4s,baz=85,slow=8.1,SNR=4.6						
ILAR	**Eielson Array**	**49.49**	**32**	P	P	04 29 03.5	-0.3
	0.4nm,0.9s,baz=265,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**56.22**	**191**	P	P	04 29 53.8	-0.3
	1.3nm,0.7s,baz=7.2,slow=7.4,SNR=10						
ASAR	**Alice Springs**	**59.95**	**190**	P	P	04 30 20.4	+0.2
	0.2nm,0.3s,baz=23,slow=6.8,SNR=4.7						

*IDC **09** 04:53:51.3±0.8, 0°.76S×133°.97E, h0km, mb4.1/8, mb1 4.3/9, mb1mx3.9/46, mbtmp4.1/9, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/49, Error ellipse: s-maj=40.2km s-min=16.2km az=69.0*
*DJA **09** 04:53:51.0±2.1, 1°.S±9°×13°.4E±1°.3, h16km±6km, M4.3/4, MLv4.3/4*
*ISCJB **09** 04:53:53.9±0.5, 0°.78S±0°.06×133°.99E±0°.10, h32km, mb4.2/12, MS3.4/1, Error ellipse: s-maj=14.9km s-min=7.7km az=159.6*
*NEIC **09** 04:53:56.3±0.4, 0°.81S×133°.98E, h35km, mb4.0/5, Error ellipse: s-maj=15.7km s-min=7.6km az=71.0*

ISC 09 04:53:55.8±0.8, 0°.75S±0°.08×134°.0E±0°.1, h32km, n24, σ0s94/23, mb4.2/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.77**	**168**	P	**Pn**	**04 54 09.4**	**-1.1**
RKPI				S	**Sb**	**04 54 22.1**	**+1.0**
SWI	**Sorong**	**2.76**	**268**	P	**Pn**	**04 54 36.7**	**-1.1**
FAKI	**Fak Fak**	**2.79**	**219**	P	**Pn**	**04 54 39.0**	**+0.8**
FAKI	**Fak Fak**	**2.79**	**219**	*e*Pn	**Pn**	**04 54 38.1**	**-0.1**
DAV	**Davao City (W)**	**11.45**	**313**	LR	LR	05 00 48.0	
	comp=Z,72nm,20.7s,baz=352,slow=36						
COEN	**Coen**	**15.95**	**146**	*e*P	**Pn**	**04 57 37.6**	**-0.4**
	14nm,1.2s						
WRAB	**Tennant Creek**	**19.07**	**179**	*e*P	**P**	**04 58 14.2**	**-1.5**
	3.0nm,0.6s						
WRA	**Warramunga Arr**	**19.08**	**179**	P	**P**	**04 58 14.7**	**-1.1**
	0.7nm,0.3s,baz=358,slow=12,SNR=19						
FITZ	**Fitzroy Crossi**	**19.10**	**205**	Pn	**P**	**04 58 14.6**	**-1.5**
	baz=24,slow=12						
FITZ				Sn	Sn	05 01 38.6	-12
	baz=170,slow=18						
CTA	**Charters Tower**	**22.65**	**149**	P	**P**	**04 58 54.6**	**+0.2**
	3.1nm,0.7s,baz=322,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**22.78**	**180**	P	**P**	**04 58 55.0**	**-0.8**
	3.1nm,0.6s,baz=4.8,slow=11,SNR=19						
STKA	**Stephens Creek**	**31.78**	**168**	LR	LR	05 15 04.7	
	comp=Z,77nm,18.7s,baz=215,slow=40						
CMAR	**Chiang Mai Arr**	**39.40**	**301**	P	**P**	**05 01 23.6**	**+0.5**
	2.1nm,0.3s,baz=118,slow=6.7,SNR=16						
MKAR	**Makanchi Array**	**65.41**	**324**	P	**P**	**05 04 36.1**	**+0.6**
	2.6nm,0.6s,baz=115,slow=7.9,SNR=33						
ZALV	**Zalesovo Beam**	**67.93**	**331**	P	**P**	**05 04 50.9**	**-0.4**
	0.4nm,0.3s,baz=123,slow=5.3,SNR=2.9						
KURK	**Kurchatov**	**69.45**	**326**	*e*P	**P**	**05 05 01.0**	**+0.1**
	15nm,0.6s						
KURBB	**Kurchatov Arra**	**69.46**	**326**	P	**P**	**05 05 01.3**	**+0.4**
	3.1nm,0.9s,baz=122,slow=5.6,SNR=22						
BVAR	**Borovoye Array**	**75.05**	**326**	P	**P**	**05 05 34.6**	**+0.3**
	1.5nm,0.7s,baz=107,slow=7.7,SNR=9.1						
BRVK	**Borovoye**	**75.12**	**326**	*e*P	**P**	**05 05 34.8**	**0.0**
	4.4nm,0.6s						
ABKAR	**Akbulak array**	**80.21**	**320**	*e*P	**P**	**05 06 02.6**	**-0.5**
	0.6nm,0.6s						
ILAR	**Eielson Array**	**86.03**	**25**	P	**P**	**05 06 32.5**	**-0.4**
	1.6nm,1.2s,baz=263,slow=5.7,SNR=4.3						
RAYN	**Ar Rayn**	**88.93**	**293**	*e*P	**P**	**05 06 47.8**	**-0.1**
	1.6nm,0.7s						
CPUP	**Villa Florida**	**150.94**	**159**	PKPbc	**PKPbc**	**05 13 47.5**	**+1.4**
	2.9nm,0.8s,baz=240,slow=3.1,SNR=8.6						
LPAZ	**La Paz**	**152.35**	**129**	PKPbc	**PKPbc**	**05 13 52.2**	**+1.8**
	1.5nm,0.8s,baz=279,slow=2.8,SNR=4.4						

*NEIC **09** 05:25:48.7±0.0, 60°.02N×153°.07W, h1km, ML3.1(AEIC), After AEIC.*
*ISCJB **09** 05:25:49.1±0.3, 60°.01N±0°.02×153°.04W±0°.07, h10km, mb3.4/2, Error ellipse: s-maj=4.9km s-min=2.6km az=17.9*
*IDC **09** 05:25:55.6±2.4, 59°.75N×153°.04W, h35km±27km, mb3.3/2, mb1 3.5/4, mb1mx3.0/73, mbtmp3.3/4, ML2.8/2, MS2.3/1, Ms1 2.2/1, ms1mx2.2/35, Error ellipse: s-maj=30.9km s-min=12.8km az=98.0*

ISC 09 05:25:49.3±0.7, 60°.00N±0°.02×152°.98W±0°.03, h10km, n35, σ1s45/43, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IVE	**Iliamna Volcan**	**0.03**	**320**	P	**Pg**	**05 25 49.9**	**-1.4**
ILS	**Iliamna Low So**	**0.06**	**229**	P	**Pg**	**05 25 49.9**	**-1.6**
ILW	**Iliamna West**	**0.10**	**310**	P	**Pg**	**05 25 50.9**	**-1.1**
RDWB	**Redoubt West**	**0.50**	**8**	P	**Pg**	**05 25 58.2**	**-0.8**
RDWB				S	**Sg**	**05 26 05.3**	**-0.4**
RDJH	**Redoubt Jeurge**	**0.60**	**8**	P	**Pg**	**05 26 00.4**	**-0.6**
RDJH				S	**Sb**	**05 26 08.8**	**-1.8**
DFR	**Drift River**	**0.62**	**14**	P	**Pg**	**05 26 00.6**	**-0.6**
DFR				S	**Sb**	**05 26 09.2**	**-1.8**
AUNW	**Augustine NWes**	**0.67**	**202**	P	**Pb**	**05 26 02.2**	**-0.8**
AUW	**Augustine Isla**	**0.68**	**202**	P	**Pb**	**05 26 02.4**	**-0.7**
AUI	**Augustine Isla**	**0.70**	**199**	P	**Pb**	**05 26 02.7**	**-0.9**
HOM	**Homer**	**0.76**	**116**	P	**Pb**	**05 26 04.5**	**0.0**
HOM				S	**Sn**	**05 26 15.6**	**-1.8**
BRLK	**Bradley Lake**	**1.08**	**101**	P	**Pg**	**05 26 09.0**	**-1.0**
BRLK				S	**Sb**	**05 26 23.6**	**-0.7**
CDD	**Cape Douglas**	**1.12**	**198**	P	**Pb**	**05 26 09.5**	**-1.2**
CKL	**Chakachamna La**	**1.25**	**14**	P	**Pn**	**05 26 11.7**	**-1.2**
FOSS	**Fourpeaked Sta**	**1.25**	**197**	P	**Pn**	**05 26 11.7**	**-1.2**
FONW	**Fourpeaked Sta**	**1.26**	**203**	P	**Pn**	**05 26 11.7**	**-1.3**
SPWE	**Spurr West**	**1.30**	**9**	P	**Pn**	**05 26 12.7**	**-0.9**
SPCP	**Crater Peak Br**	**1.34**	**17**	P	**Pb**	**05 26 13.4**	**-1.1**
SPCP				S	**Sg**	**05 26 31.4**	**-0.9**
SLKM	**Skilak Lake**	**1.47**	**68**	P	**Pn**	**05 26 15.3**	**-0.5**
KAPH	**Katmai Pasha**	**1.57**	**207**	P	**Pn**	**05 26 17.0**	**-0.3**
KAPH				S	**Sn**	**05 26 37.0**	**-0.6**
STLK	**Strandline Lak**	**1.61**	**20**	P	**Pn**	**05 26 17.1**	**-0.7**
SVW2	**Sparrevohn**	**1.69**	**312**	P	**Pb**	**05 26 18.8**	**-1.8**
KARR	**Katmai Rainbow**	**1.74**	**211**	P	**Pb**	**05 26 20.1**	**-1.3**
FIB	**Fire Island**	**1.82**	**48**	P	**Pb**	**05 26 21.5**	**-0.4**
SUA	**Susitna One**	**1.84**	**36**	P	**Pb**	**05 26 21.5**	**-1.5**
KABU	**Katmai Buttres**	**2.10**	**215**	P	**Pn**	**05 26 24.7**	**+0.2**
KABU				S	**Sb**	**05 26 53.5**	**0.0**
KELA	**Mount Kelaz**	**2.11**	**223**	P	**Pn**	**05 26 25.1**	**+0.4**
SKT	**Skwentna**	**2.11**	**19**	P	**Pb**	**05 26 26.6**	**-1.0**
KDAK	**Kodiak Island**	**2.23**	**175**	Pn	**Pb**	**05 26 27.4**	**-2.1**
	12nm,0.3s,baz=2.6,slow=13,SNR=161						
KDAK				Lg	Lg	05 26 58.9	
	13nm,0.3s,baz=184,slow=18,SNR=8.8						
KNK	**Knik Glacier**	**2.64**	**55**	P	**Pb**	**05 26 34.0**	**-2.6**
GHO	**Glory Hole Cre**	**2.67**	**46**	P	**Pb**	**05 26 34.8**	**-2.4**
TT01	**Tatalina**	**3.27**	**335**	P	**Pn**	**05 26 41.4**	**+0.9**
ILAR	**Eielson Array**	**5.57**	**28**	Pn	**Pn**	**05 27 15.1**	**+3.0**
	0.3nm,0.3s,baz=216,slow=13,SNR=18						
YKA	**Yellowknife Ar**	**18.44**	**66**	P	**Pn**	**05 30 07.4**	**+2.7**
	0.0nm,0.3s,baz=276,slow=11,SNR=7.9						
YKA				LR	LR	05 37 56.5	
	comp=Z,8.3nm,18.9s,baz=0.0,slow=39						
PDAR	**Pinedale Array**	**31.38**	**104**	P	**P**	**05 32 12.1**	**+1.8**
	0.2nm,0.6s,baz=335,slow=8.0,SNR=3.3						
SONM	**Songino Array**	**54.80**	**306**	P	**P**	**05 35 21.9**	**+2.8**
	0.8nm,0.9s,baz=52,slow=9.3,SNR=3.3						

*ISCJB **09** 05:25:53.9±0.5, 24°.86N±0°.04×122°.43E±0°.02, h3km±3km, mb3.7/2, Error ellipse: s-maj=6.2km s-min=3.1km az=13.1*
*JMA **09** 05:25:54.6±0.1, 24°.85N×122°.43E, h25km±5km, M2.7*
*TAP **09** 05:25:55.4, 24°.84N×122°.31E, h6km, ML3.3, D*

ISC 09 05:25:53.6±1.2, 24°.87N±0°.05×122°.47E±0°.03, h7km±10km, n32, σ0s55/55, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.46**	**288**	⇑*i*P	**Pg**	**05 26 02.7**	**+0.3**
	baz=300						
TWB1				S	**Sg**	**05 26 08.1**	**-0.3**
	baz=300						
NTC	**Toucheng**	**0.58**	**269**	*e*P	**Pg**	**05 26 05.0**	**+0.3**
	baz=272						
NTC				*e*S	**Sg**	**05 26 12.0**	**-0.2**
	baz=272						
TIPB	**Shuangxi**	**0.59**	**280**	P	**Pg**	**05 26 04.7**	**-0.2**
	baz=286						
TIPB				*e*S	**Sg**	**05 26 12.3**	**-0.4**
	baz=286						
JYNG	**Yonagunijimaku**	**0.60**	**134**	P	**Pb**	**05 26 06.4**	**0.0**
JYNG				*e*S	**Sb**	**05 26 15.2**	**+0.1**
TWC	**Suao**	**0.62**	**245**	P	**Pg**	**05 26 05.5**	**0.0**

CHN1	**Nanshi**	**2.44**	**227**	*e*P		**Pn**	**05 26 35.3**	**+1.4**
	baz=224							
CHN1				*e*S		**Sn**	**05 27 04.4**	**+0.5**
	baz=224							
WRA	**Warramunga Arr**	**46.02**	**164**	P		P	05 34 23.1	+5.2
	0.6nm,0.5s,baz=345,slow=8.7,SNR=6.5							
ASAR	**Alice Springs**	**49.51**	**166**	P		P	05 34 52.4	+7.5
	0.2nm,0.3s,baz=348,slow=8.5,SNR=4.0							

NEIC ***09*** *05:26:42.7±0.0,60.02N×153.06W,h1km,ML3.4(AEIC), After AEIC.*

ISCJB ***09*** *05:26:43.1±0.3,60.01N±0.03×152.98W±0.07,h10km, mb3.5/5,Error ellipse: s-maj=5.6km s-min=3.2km az=21.8*

IDC ***09*** *05:26:49.8±1.9,59.85N×152.43W,h46km±22km,mb3.4/5, mb1 3.6/9,mb1mx3.2/75,mbtmp3.6/9,ML3.2/4,Error ellipse: s-maj=21.4km s-min=16.2km az=109.0*

ISC 09 05:26:43.9±0.7,60.00N±0.03×153.02W±0.04,h10km,n29, σ1§85/34,mb3.6/5,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.02**	**13**	P		**Pg**	**05 26 43.9**	**-2.0**
ILS	**Iliamna Low So**	**0.05**	**208**	P		**Pg**	**05 26 43.9**	**-2.1**
ILW	**Iliamna West**	**0.08**	**317**	P		**Pg**	**05 26 44.8**	**-1.6**
RDWB	**Redoubt West**	**0.50**	**11**	P		**Pg**	**05 26 52.6**	**-1.0**
RDWB				S		**Sg**	**05 26 59.4**	**-0.8**
DFR	**Drift River**	**0.62**	**16**	P		**Pg**	**05 26 54.6**	**-1.3**
DFR				S		**Sb**	**05 27 03.2**	**-2.4**
AUE	**Augustine Isla**	**0.67**	**196**	P		**Pg**	**05 26 56.0**	**-0.7**
AUJK	**Augustine Jueg**	**0.68**	**197**	P		**Pb**	**05 26 56.6**	**-1.2**
HOM	**Homer**	**0.78**	**116**	P		**Pg**	**05 26 58.1**	**-0.7**
MCNL	**McNeil River**	**1.05**	**220**	P		**Pg**	**05 27 02.4**	**-1.7**
BRLK	**Bradley Lake**	**1.10**	**101**	P		**Pb**	**05 27 03.3**	**-1.7**
BRLK				S		**Sg**	**05 27 17.9**	**-1.5**
CDD	**Cape Douglas**	**1.12**	**197**	P		**Pb**	**05 27 03.9**	**-1.4**
FONW	**Fourpeaked Sta**	**1.25**	**202**	P		**Pn**	**05 27 06.0**	**-1.6**
CKT	**Bend**	**1.27**	**18**	P		**Pn**	**05 27 05.9**	**-1.8**
SPU	**Mount Spurr**	**1.28**	**22**	P		**Pn**	**05 27 05.9**	**-1.9**
SLKM	**Skilak Lake**	**1.49**	**69**	P		**Pn**	**05 27 09.5**	**-1.2**
KAPH	**Katmai Pasha**	**1.56**	**206**	P		**Pn**	**05 27 10.9**	**-0.8**
SVW2	**Sparrevohn**	**1.68**	**312**	P		**Pg**	**05 27 13.8**	**-2.2**
SUA	**Susitna One**	**1.85**	**36**	P		**Pb**	**05 27 15.7**	**-2.0**
RC01	**Rabbit Creek A**	**1.96**	**55**	P		**Pn**	**05 27 16.7**	**-0.4**
KABU	**Katmai Buttres**	**2.09**	**215**	P		**Pn**	**05 27 19.1**	**+0.1**
KABU				S		**Sb**	**05 27 47.1**	**-0.8**
KDAK	**Kodiak Island**	**2.24**	**174**	P		**Pb**	**05 27 22.1**	**-2.2**
	18nm,0.3s,baz=7.4,slow=14,SNR=12							
KDAK				S		**Sb**	**05 27 52.3**	**+0.3**
	20nm,0.3s,baz=190,slow=19,SNR=6.2							
ILAR	**Eielson Array**	**5.57**	**28**	P		**Pn**	**05 28 09.5**	**+2.8**
	0.6nm,0.3s,baz=213,slow=14,SNR=6.5							
ILAR				S		**Sn**	**05 29 13.8**	**+3.0**
	0.3nm,0.3s,baz=214,slow=18,SNR=3.0							
INK	**Inuvik**	**11.85**	**37**	P		**Pn**	**05 29 34.9**	**+2.3**
	0.1nm,0.3s,baz=241,slow=15,SNR=4.2							
YKA	**Yellowknife Ar**	**18.46**	**66**	P		**Pn**	**05 30 59.1**	**-0.3**
	0.1nm,0.3s,baz=277,slow=11,SNR=12							
RES	**Resolute Bay**	**25.31**	**32**	P		**P**	**05 32 11.2**	**+1.2**
	1.6nm,1.2s,baz=273,slow=16,SNR=3.6							
SEY	**Seymchan**	**25.58**	**300**	P		**P**	**05 32 16.5**	**+3.9**
	0.3nm,0.2s,baz=71,slow=6.1,SNR=3.1							
PDAR	**Pinedale Array**	**31.41**	**104**	P		**P**	**05 33 03.5**	**-1.6**
	0.3nm,0.8s,baz=329,slow=6.8,SNR=2.0							
SONM	**Songino Array**	**54.78**	**306**	P		P	05 36 17.7	+4.2
	0.8nm,0.7s,baz=57,slow=5.2,SNR=4.0							
BVAR	**Borovoye Array**	**62.06**	**332**	P		**P**	**05 37 06.5**	**+2.4**
	0.6nm,0.7s,baz=28,slow=6.5,SNR=3.8							

JMA 09 05:31:41.0,37.04N×140.52E,h7km±1km,M1.2,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.23**	**74**	P		Pg	05 31 45.9	+0.3
ONAJ				*e*S		Sg	05 31 49.4	+0.7
JHO	**Hitachi**	**0.43**	**175**	S		Sg	05 31 55.4	+0.4
JFK	**Kawauchi**	**0.43**	**41**	P		Pg	05 31 49.5	+0.1
JFT	**Otama**	**0.50**	**343**	*e*S		Sg	05 31 58.2	+1.0

NIED ***09*** *05:31:00,36.80N×142.20E,h20km,Mw4.7 Best double couple: M₀1.26000×10¹⁶ NP1:φ₁=205.00000°,δ1.00000°, λ90.00000°. NP2:φ₂=25.00000°,δ69.00000°,λ90.00000°.*

IDC ***09*** *05:31:44.1±0.4,36.70N×142.13E,h0km,mb4.6/41, mb1 4.7/46,mb1mx4.6/68,mbtmp4.6/46,ML4.9/3,MS4.0/29, Ms1 4.0/29,ms1mx3.8/67,Error ellipse: s-maj=12.3km s-min=10.5km az=104.0*

ISCJB ***09*** *05:31:46.8±0.7,36.77N±0.02×142.10E±0.02,h23km±5km, mb4.8/235,MS4.2/36,Error ellipse: s-maj=4.3km s-min=2.8km az=158.4*

BJI ***09*** *05:31:46.0,36.83N×142.07E,h23km,mb5.0/62,mB5.1/47, Ms4.6/53,Ms7 4.4/52*

JMA ***09*** *05:31:46.9±0.2,36.75N×142.20E,h35km,M4.7*

JMA Felt I J1.

NEIC ***09*** *05:31:48.8±1.0,36.75N×142.11E,h27km±6km,mb4.9/158, Error ellipse: s-maj=3.5km s-min=2.3km az=146.0*

NEIC Recorded [1 JMA] in Fukushima, Miyagi and Yamagata.

MOS ***09*** *05:31:49.8±0.9,37.14N×142.04E,h33km,mb5.0/89,Error ellipse: s-maj=6.0km s-min=4.2km az=103.8*

ISC 09 05:31:48.8±0.5,36.83N±0.03×142.13E±0.04,h29km±3km, h29km:pP-P,n526,σ1§48/546,mb4.8/235,MS4.2/37, 34C-6D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.10**	**285**	P		**Pn**	**05 32 07.3**	**-1.0**
JFK	**Kawauchi**	**1.14**	**298**	P		**Pn**	**05 32 07.8**	**-1.0**
JHO	**Hitachi**	**1.27**	**260**	P		**Pn**	**05 32 09.5**	**-1.1**
JHO				*e*S		**Sn**	**05 32 26.4**	**-0.3**
JMM	**Marumori**	**1.48**	**315**	P		**Pn**	**05 32 13.4**	**-0.1**
JMM				*e*S		**Sb**	**05 32 33.2**	**-0.9**
JFT	**Otama**	**1.58**	**296**	P		**Pn**	**05 32 15.3**	**+0.3**
JIO	**Ouri**	**1.73**	**339**	P		**Pn**	**05 32 17.0**	**0.0**
JOU	**Okura**	**1.92**	**323**	P		**Pn**	**05 32 20.2**	**+0.6**
JAG	**Ashikaga**	**2.19**	**260**	P		**Pn**	**05 32 23.0**	**-0.2**
JAG				*e*S		**Sn**	**05 32 50.1**	**+0.7**
JMK	**Ichinoseki**	**2.23**	**342**	P		**Pn**	**05 32 24.5**	**+0.7**
BSO1	**Boso 1**	**2.37**	**204**	P		**Pn**	**05 32 23.7**	**-1.5**
BSO1				*e*S		**Sn**	**05 32 51.7**	**-1.3**
JNS	**Sasagawa**	**2.45**	**295**	P		**Pn**	**05 32 27.4**	**+0.6**
JYK	**Kaneyama**	**2.51**	**327**	P		**Pn**	**05 32 28.6**	**+1.0**
JOM	**Ohasama**	**2.72**	**346**	P		**Pn**	**05 32 30.9**	**+0.4**
JOM				*e*S		**Sn**	**05 33 04.4**	**+2.0**
JRY	**Ryogami san**	**2.73**	**254**	P		**Pn**	**05 32 30.3**	**-0.3**
JRY				*e*S		**Sn**	**05 33 02.1**	**-0.6**
MJAR	**Matsushiro Arr**	**3.16**	**266**	Pn		**Pn**	**05 32 37.7**	**+1.0**
	109nm,0.3s,baz=93,slow=13,SNR=509							
MJAR				Sn		**Sn**	**05 33 16.5**	**+3.1**
	23nm,0.3s,baz=85,slow=15,SNR=6.8							
MJAR				LR		LR	05 34 06.4	
	comp=Z,3μm,18.4s,baz=120,slow=46							
MAJO	**Matsushiro**	**3.16**	**266**	*e*Pn		**Pn**	**05 32 38.1**	**+1.4**
MAJO	**Matsushiro**	**3.16**	**266**	*c i*P		**Pn**	**05 32 38.0**	**+1.4**
MAT	**Matsushiro**	**3.16**	**266**	P		**Pn**	**05 32 37.8**	**+1.1**
MAT				*e*S		**Sb**	**05 33 17.6**	**-4.8**
MJB9	**Matsu-Tunnel**	**3.17**	**266**	*e*Pn		**Pn**	**05 32 38.2**	**+1.5**
JHJ	**Hachijo jima 2**	**4.17**	**208**	Pn		**Pn**	**05 32 48.8**	**-1.7**
	151nm,0.3s,baz=68,slow=19,SNR=2.8							
JHJ				Sn		**Sn**	**05 33 33.5**	**-4.8**
	268nm,0.3s,baz=41,slow=23,SNR=8.5							
INU	**Inuyama**	**4.39**	**252**	*e*Pn		**Pn**	**05 32 55.2**	**+1.6**
ERM	**Erimo**	**5.24**	**8**	*e*Pn		**Pn**	**05 33 04.3**	**-0.8**
ERM	**Erimo**	**5.24**	**8**	*ce*P		**Pn**	**05 33 04.2**	**-0.9**
ERM				pmax		pmax		
	comp=Z,57nm,0.7s							
ASAJ	**Asahikawa**	**7.29**	**3**	Pn		**Pn**	**05 33 32.6**	**-0.6**
	comp=Z,21nm,0.3s,baz=224,slow=10,SNR=54							
ASAJ				Sn		**Sn**	**05 34 51.4**	**-3.6**
	baz=319,slow=20,SNR=1.9							
YUK	**Yuzh-Kuril'sk**	**7.74**	**20**	*e*P		**Pn**	**05 33 37.8**	**-1.6**
YUK				*e*S		**Sn**	**05 34 59.7**	**-6.3**
YUK				pmax		pmax		
	comp=Z,175nm,0.3s							
YUK				pmax		pmax		
	comp=N,132nm,0.4s							
YUK				pmax		pmax		
	comp=E,159nm,0.8s							
YUK				MLR		MLR		
	comp=N,743nm,14.0s							
YUK				MLR		MLR		
	comp=E,498nm,14.0s							
YUK				MLR		MLR		
	comp=Z,592nm,14.0s							
SHO	**Shikotan**	**7.89**	**26**	*e*P		**Pn**	**05 33 39.5**	**-2.0**
SHO				*e*S		**Sn**	**05 35 01.9**	**-7.9**
SHO				pmax		pmax		
	comp=Z,75nm,0.7s							
SHO				pmax		pmax		
	comp=E,36nm,0.5s							
SHO				pmax		pmax		
	comp=N,13nm,0.4s							
TEY	**Ternei**	**9.20**	**335**	*e*P		Pn	05 34 06.0	+6.6
TEY				pmax		pmax		
	comp=N,17nm,0.7s							
TEY				pmax		pmax		
	comp=Z,17nm,0.5s							
TEY				MLR		MLR		
	comp=N,2μm,15.0s							
TEY				MLR		MLR		
	comp=Z,2μm,15.0s							
KUR	**Kuril'sk**	**9.44**	**26**	*e*P		**Pn**	**05 34 02.8**	**0.0**
KUR				*e*S		**Sn**	**05 35 42.3**	**-5.6**
KUR				pmax		pmax		
	comp=N,38nm,0.7s							
KUR				pmax		pmax		
	comp=Z,44nm,0.7s							
KUR				pmax		pmax		
	comp=E,51nm,0.1s							
KUR				MLR		MLR		
	comp=E,398nm,14.0s							
KUR				MLR		MLR		
	comp=Z,562nm,14.0s							
CBIJ	**Chichi jima**	**9.71**	**180**	*e*Pn		**Pn**	**05 34 03.9**	**-2.6**
CBIJ				Sn		Sn	05 35 42.3	-12
JCJ	**Chichijima**	**9.71**	**180**	Pn		**Pn**	**05 34 03.0**	**-3.6**
	comp=Z,17nm,0.3s,baz=273,slow=22,SNR=8.0							
JCJ				Sn		Sn	05 35 42.3	-12
	comp=Z,36nm,0.3s,baz=216,slow=23,SNR=6.1							
JCJ				LR		LR	05 39 40.4	
	comp=Z,118nm,19.9s,baz=355,slow=50							
JNU	**Nakatsue**	**9.94**	**251**	Pn		**Pn**	**05 34 10.5**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=52,slow=3.2,SNR=9.8							
JNU				LR		LR	05 38 10.9	
	comp=Z,508nm,19.0s,baz=92,slow=39							
JNU	**Nakatsue**	**9.94**	**251**	*e*Pn		**Pn**	**05 34 11.0**	**+1.2**
VLA	**Vladivostok**	**10.06**	**312**	*i* P		**Pn**	**05 34 11.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**10.12**	**2**	*e*Pn		**Pn**	**05 34 12.4**	**+0.3**
YSS	**Yuzh-Sakhalins**	**10.12**	**2**	*e*P		**Pn**	**05 34 11.7**	**-0.4**
YSS				*e*S		**Sn**	**05 36 01.3**	**-3.3**
YSS				pmax		pmax		
	comp=Z,60nm,0.7s							
YSS				MLR		MLR		
	comp=Z,500nm,14.0s							
YSS				MLR		MLR		
	comp=N,400nm,15.0s							
USRK	**Ussuriysk Ar.**	**10.66**	**317**	Pn		**Pn**	**05 34 19.7**	**+0.3**
	comp=N,0.7nm,0.3s,baz=126,slow=15,SNR=14							
USRK				LR		LR	05 38 20.5	
	comp=N,2μm,18.2s,baz=113,slow=37							
KSRS	**Korea Array**	**11.36**	**277**	Pn		**Pn**	**05 34 33.1**	**+4.1**
	comp=N,0.7nm,0.3s,baz=85,slow=13,SNR=15							
KSRS				LR		LR	05 38 45.9	
	comp=N,1μm,18.9s,baz=82,slow=37							
KS01	**Wonju Array Si**	**11.38**	**278**	*e*Pn		Pn	05 34 36.9	+7.6
KS15	**Wonju Array Si**	**11.39**	**277**	*e*Pn		Pn	05 34 38.0	+8.5
KSAR	**Wonju Array Be**	**11.39**	**277**	Pn		**Pn**	**05 34 33.1**	**+3.6**
KSAR	**Wonju Array Be**	**11.39**	**277**	P		**Pn**	**05 34 33.1**	**+3.6**
MDJ	**Mudanjiang**	**12.27**	**313**	P		**Pn**	**05 34 42.6**	**+1.1**
MDJ				pP		P	05 34 51.2	-2.3
MDJ				sP			05 34 56.6	
MDJ				pmax		pmax		
	comp=N,9.0nm,1.8s							
MDJ				pmax		pmax		
	comp=N,230nm,5.2s							
MDJ				LR		LR		
	comp=N,1μm,14.8s							
MDJ				LR		LR		
	comp=N,710nm,18.8s							
MDJ				LR		LR		
	comp=N,2μm,15.6s							
MDJ	**Mudanjiang**	**12.27**	**313**	*e*Pn		**Pn**	**05 34 43.9**	**+2.4**
TYV	**Tymovskoe**	**14.03**	**1**	*e*P		**Pn**	**05 35 01.9**	**-3.6**
TYV				*e*S		**Sn**	**05 37 32.6**	**-7.5**
TYV				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TYV				smax		smax		
	comp=N,3.0nm,0.7s							
TYV				MLR		MLR		
	comp=Z,1μm,16.0s							
CN2	**Changchun**	**14.49**	**304**	*e*P		**Pn**	**05 35 11.3**	**-0.5**
CN2				*e*S		**Sn**	**05 37 52.7**	**+1.3**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.1s							
CN2				pmax		pmax		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=Z,700nm,18.0s							
CN2				LR		LR		
	comp=Z,1μm,18.0s							
CN2				LR		LR		
	comp=Z,900nm,17.0s							
KLR	**Kul'dur**	**14.51**	**332**	Pn		**Pn**	**05 35 12.2**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=130,slow=14,SNR=8.2							
KLR				LR		LR	05 40 45.4	
	comp=Z,96nm,18.6s,baz=128,slow=37							
KLR	**Kul'dur**	**14.51**	**332**	*e*P		**Pn**	**05 35 09.7**	**-2.4**
GRNR	**Gornyy**	**14.52**	**345**	*e*P		**P**	**05 35 19.5**	**+1.0**
GRNR				pmax		pmax		
	comp=Z,34nm,1.0s							
NKL	**Nikolayevsk**	**16.35**	**357**	*e*P		**Pn**	**05 35 32.2**	**-3.8**
NKL				pmax		pmax		
	comp=N,5.0nm,0.9s							
NKL				pmax		pmax		
	comp=Z,19nm,0.9s							
NKL				MLR		MLR		
	comp=E,400nm,15.0s							
NKL				MLR		MLR		
	comp=Z,800nm,15.0s							
PEA0B	**Petropavlovsk-**	**19.58**	**29**	*e*P		**Pn**	**05 36 15.4**	**-0.3**
	comp=Z,20nm,0.9s							
PETK	**Petropavlovsk-**	**19.58**	**29**	P		**Pn**	**05 36 15.3**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=197,slow=9.4,SNR=20							
PETK				LR		LR	05 44 27.2	
	comp=Z,230nm,18.9s,baz=212,slow=39							
PETK	**Petropavlovsk-**	**19.58**	**29**	*e*P		**P**	**05 36 14.9**	**+0.6**
NJ2	**Nanjing**	**19.76**	**263**	*e*P		**Pn**	**05 36 18.5**	**+0.4**
NJ2				pmax		pmax		
	comp=Z,22nm,0.7s							
NJ2				LR		LR		
	comp=Z,410nm,10.0s							
NJ2				LR		LR		
	comp=Z,1μm,12.7s							
NJ2				LR		LR		
	comp=Z,1μm,14.1s							
ZEA	**Zeya**	**19.81**	**333**	*e*P		**P**	**05 36 17.1**	**+0.3**
ZEA				pmax		pmax		
	comp=N,22nm,0.9s							
ZEA				pmax		pmax		
	comp=Z,38nm,0.9s							
ZEA				MLR		MLR		
	comp=Z,1μm,15.0s							
ZEA				MLR		MLR		
	comp=E,500nm,13.0s							
ZEA				MLR		MLR		
	comp=N,900nm,14.0s							
PET	**Petropavlovsk**	**19.89**	**30**	*e*P		**Pn**	**05 36 19.7**	**+0.2**
PET				pmax		pmax		
	comp=Z,33nm,1.7s							
TIA	**Tai'an**	**20.09**	**276**	P		**P**	**05 36 19.4**	**-0.7**
TIA				pmax		pmax		
	comp=Z,11nm,0.8s							
TIA				LR		LR		
	comp=Z,520nm,13.0s							
TIA				LR		LR		
	comp=Z,770nm,13.7s							
TIA				LR		LR		
	comp=Z,1μm,12.7s							
HIA	**Hailar**	**20.45**	**314**	*e*P		Pn	05 36 24.8	-1.3
	comp=Z,31nm,1.1s							
HIA	**Hailar**	**20.45**	**314**	*e*P		Pn	05 36 24.8	-1.3
HIA				pmax		pmax		
	comp=Z,31nm,1.1s							
BJI	**Beijing**	**20.56**	**287**	P		**P**	**05 36 24.6**	**-0.4**
BJI				pmax		pmax		
	comp=Z,20nm,0.6s							
BJT	**Baijiatuao**	**20.56**	**287**	*e*P		**P**	**05 36 24.6**	**-0.5**
	comp=Z,17nm,0.9s							
BJT	**Baijiatuao**	**20.56**	**287**	*e*P		**P**	**05 36 24.6**	**-0.5**
BJT				pmax		pmax		
	comp=Z,17nm,0.9s							
NACB	**Ninganchiao**	**21.67**	**240**	*e*P		**P**	**05 36 35.5**	**-1.7**
	comp=Z,22nm,0.8s							
SSLB	**Suanglung**	**22.37**	**240**	*e*P		**P**	**05 36 43.9**	**-0.8**
	comp=Z,78nm,1.6s							
TWG	**Pinlang**	**22.92**	**238**	*e*P		**P**	**05 36 49.4**	**-1.1**
	comp=Z,84nm,0.7s							
CLNS	**Chul'man**	**23.10**	**335**	*e*P		**P**	**05 36 48.3**	**-3.8**
CLNS				pmax		pmax		
	comp=Z,24nm,1.0s							
CLNS				pmax		pmax		
	comp=N,11nm,0.9s							
CLNS				pmax		pmax		
	comp=E,6.0nm,0.8s							
CLNS				MLR		MLR		
	comp=N,616nm,11.0s							
CLNS				MLR		MLR		
	comp=Z,689nm,13.0s							
CLNS				MLR		MLR		
	comp=E,403nm,11.0s							
GUMO	**Guam**	**23.28**	**173**	LR		LR	05 44 56.6	
	comp=E,90nm,21.6s,baz=16,slow=34							
MA2	**Magadan**	**23.44**	**11**	P		**P**	**05 36 55.4**	**0.0**
	comp=E,21nm,0.7s,baz=200,slow=7.9,SNR=39							
MA2				LR		LR	05 47 59.1	
	comp=E,109nm,18.2s,baz=180,slow=41							
MA2	**Magadan**	**23.44**	**11**	*ce*P		**P**	**05 36 55.6**	**+0.2**
WHN	**Wuhan**	**23.90**	**263**	P		**P**	**05 36 58.5**	**-1.6**
WHN				LR		LR		
	comp=E,1μm,12.6s							
WHN				LR		LR		
	comp=E,1μm,5.5s							
WHN				LR		LR		
	comp=E,2μm,12.8s							
HHC	**Hu-ho-hao-te**	**24.08**	**289**	*e*P		**P**	**05 37 00.8**	**-1.0**
HHC				pP		pP	05 37 07.8	-2.3
HHC				sP		sP	05 37 11.4	-2.3
HHC				S		**S**	**05 41 13.3**	**-4.2**
HHC				sS		pS	05 41 24.9	-1.4
HHC				pmax		pmax		
	comp=E,14nm,1.0s							
HHC				pmax		pmax		
	comp=E,58nm,4.4s							
HHC				LR		LR		
	comp=E,560nm,13.9s							
HHC				LR		LR		
	comp=E,330nm,12.3s							
HHC				LR		LR		
	comp=E,210nm,14.8s							
CIT	**Chita**	**25.22**	**316**	*e*P		**P**	**05 37 13.5**	**+1.5**
CIT				*e*			05 37 22.7	
CIT				*e*			05 37 28.9	
CIT				*e*			05 37 48.2	
CIT				pmax		pmax		
	comp=Z,177nm,1.4s							
YAK	**Yakutsk**	**26.39**	**347**	P		**P**	**05 37 22.6**	**+0.2**
	comp=Z,67nm,0.7s,baz=189,slow=1.5,SNR=22							
YAK				LR		LR	05 48 02.1	
	comp=Z,211nm,18.3s,baz=102,slow=37							
YAK	**Yakutsk**	**26.39**	**347**	*e*P		**P**	**05 37 23.1**	**+0.7**
	comp=Z,92nm,0.8s							
YAK	**Yakutsk**	**26.39**	**347**	*e*P		**P**	**05 37 22.5**	**+0.1**
YAK				*e**PP		**sP**	**05 37 32.6**	**-1.7**
YAK				*e*S		**S**	**05 41 53.1**	**-0.6**
YAK				*e**SS		**sS**	**05 42 13.8**	**+6.2**
YAK				*e*SS		**SnSn**	**05 42 49.5**	**-6.0**
YAK				pmax		pmax		
	comp=Z,66nm,0.8s							
YAK				pmax		pmax		
	comp=E,11nm,1.2s							
YAK				pmax		pmax		
	comp=N,25nm,1.0s							
YAK				pmax		pmax		
	comp=Z,72nm,1.3s							
YAK				pmax		pmax		
	comp=N,66nm,1.6s							
YAK				pmax		pmax		
	comp=E,37nm,1.5s							
YAK				smax		smax		
	comp=N,94nm,3.5s							
YAK				smax		smax		
	comp=E,164nm,3.8s							
YAK				MLR		MLR		
	comp=Z,918nm,17.0s							
YAK				MLR		MLR		
	comp=N,918nm,16.0s							
YAK				MLR		MLR		
	comp=E,244nm,15.0s							
SEY	**Seymchan**	**26.88**	**10**	P		**P**	**05 37 28.0**	**+1.2**
	comp=E,17nm,0.8s,baz=188,slow=6.6,SNR=53							
SEY				LR		LR	05 50 04.7	
	comp=E,328nm,18.4s,baz=338,slow=41							
SEY	**Seymchan**	**26.88**	**10**	*ce*P		**P**	**05 37 29.1**	**+2.3**
XAN	**Xi'an**	**27.12**	**274**	P		**P**	**05 37 29.3**	**-0.1**
XAN				pP		sP	05 37 41.0	-0.3
XAN				S		**S**	**05 42 05.7**	**-0.2**
XAN				pmax		pmax		
	comp=E,33nm,0.4s							
XAN				pmax		pmax		
	comp=E,250nm,3.8s							
XAN				LR		LR		
	comp=E,490nm,13.7s							
XAN				LR		LR		
	comp=E,420nm,17.7s							
XAN				LR		LR		
	comp=E,380nm,19.9s							
H11N2	**WAKE ISLAND Hy**	**27.55**	**121**	T		T	06 06 16.1	
	baz=313,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hy**	**27.56**	**121**	T		T	06 06 16.6	
	baz=313,slow=75,SNR=55							
H11N3	**WAKE ISLAND Hy**	**27.57**	**121**	T		T	06 06 17.8	
	baz=313,slow=75,SNR=40							
ENH	**Enshi**	**27.89**	**266**	*e*P		**P**	**05 37 36.2**	**0.0**
	comp=E,82nm,0.8s							
ULN	**Ulaanbaatar**	**27.94**	**304**	*e*P		**P**	**05 37 37.1**	**+0.4**
	comp=E,21nm,0.9s							
ULN	**Ulaanbaatar**	**27.94**	**304**	*ce*P		**P**	**05 37 37.6**	**+0.9**
ULN				pmax		pmax		
	comp=Z,32nm,1.2s							
BOD	**Bodaibo**	**28.00**	**328**	*e*P		**P**	**05 37 36.9**	**0.0**
BOD				pmax		pmax		
	comp=Z,30nm,1.0s							
H11S1	**WAKE ISLAND Hy**	**28.27**	**124**	T		T	06 07 08.1	
	baz=316,slow=74							
H11S3	**WAKE ISLAND Hy**	**28.27**	**124**	T		T	06 07 14.5	
	baz=316,slow=74							
H11S2	**WAKE ISLAND Hy**	**28.29**	**124**	T		T	06 07 07.2	
	baz=316							
SONA1	**Songino Array**	**28.37**	**304**	*e*P		**P**	**05 37 41.3**	**+0.8**
SONM	**Songino Array**	**28.37**	**304**	P		**P**	**05 37 41.2**	**+0.7**
	comp=Z,30nm,0.8s,baz=106,slow=9.0,SNR=122							
LZH	**Lanzhou**	**30.66**	**280**	*e*P		**P**	**05 38 01.2

GYA sS sS 05 43 36.0 +3.2
GYA ScP **ScP** **05 44 43.3 +0.4**
GYA SS **SnSn** **05 45 08.0 +1.0**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,650nm,17.6s
GYA LR LR
comp=Z,530nm,17.8s
GYA LR LR
comp=Z,590nm,18.0s
CD2 Chengdu 32.25 271 *e*P **P** **05 38 14.0 -0.8**
CD2 pP pP 05 38 21.7 -1.6
CD2 sP sP 05 38 25.2 -1.6
CD2 S **S** **05 43 26.0 -0.4**
CD2 sS sS 05 43 39.3 -1.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,710nm,12.9s
CD2 LR LR
comp=Z,1μm,16.4s
CD2 LR LR
comp=Z,950nm,16.9s
MOY Mondy 32.51 310 *e*P **P** **05 38 17.8 +0.9**
MOY pmax pmax
comp=Z,15nm,1.2s
GTA Gaotai 33.17 288 ⇓P **P** **05 38 23.5 +0.6**
GTA pP sP 05 38 33.0 -1.9
GTA sP pP 05 38 36.9 +5.5
GTA PcP **PcP** **05 41 06.3 +1.0**
GTA S **S** **05 43 39.9 -0.9**
GTA sS sS 05 43 56.0 +1.3
GTA pmax pmax
comp=Z,19nm,0.8s
GTA pmax pmax
comp=Z,220nm,4.0s
GTA LR LR
comp=Z,550nm,16.2s
GTA LR LR
comp=Z,460nm,17.6s
GTA LR LR
comp=Z,390nm,17.6s
QIZ Qiongzhong 33.37 247 P **P** **05 38 26.2 +1.5**
QIZ S **S** **05 43 47.1 +3.2**
QIZ pmax pmax
comp=Z,330nm,2.7s
QIZ LR LR
comp=Z,390nm,16.3s
QIZ LR LR
comp=Z,340nm,9.2s
QIZ LR LR
comp=Z,290nm,12.0s
QIZ Qiongzhong 33.37 247 *e*P **P** **05 38 25.4 +0.7**
comp=Z,111nm,1.5s
KMI Kunming 35.50 262 P **P** **05 38 42.9 -0.4**
KMI pmax pmax
comp=Z,24nm,0.8s
KMI LR LR
comp=Z,360nm,12.0s
KMI LR LR
comp=Z,250nm,9.3s
KMI LR LR
comp=Z,410nm,19.6s
MYLDM Lahad Datu 38.22 220 *e*P **P** **05 39 06.8 +0.6**
comp=Z,30nm,1.1s
GAMB Gambell 38.59 31 *e*P **P** **05 39 09.8 +1.0**
comp=Z,14nm,1.9s
DGZ Jazzator, Alta 40.97 306*c i*P **P** **05 39 30.6 +1.6**
DGZ pmax pmax
comp=Z,29nm,0.8s
WMQ Urumqi 41.44 297 P **P** **05 39 33.9 +1.0**
WMQ pP pP 05 39 42.1 +0.6
WMQ pmax pmax
comp=Z,25nm,0.9s
WMQ pmax pmax
comp=Z,580nm,5.7s
WMQ LR LR
comp=Z,530nm,18.3s
WMQ LR LR
comp=Z,420nm,19.3s
WMQ LR LR
comp=Z,500nm,25.3s
CHTO Chiang Mai 41.80 257 *e*P **P** **05 39 36.4 +0.4**
comp=Z,7.8nm,0.8s
CHTO Chiang Mai 41.80 257 *e*P **P** **05 39 36.4 +0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 42.00 256 P **P** **05 39 36.1 -1.5**
comp=Z,1.7nm,0.4s,baz=48,slow=7.7,SNR=8.7
CMAR LR LR 05 59 21.3
comp=Z,239nm,18.4s,baz=40,slow=40
CMAR Chiang Mai Arr 42.00 256 *i*P **P** **05 39 38.2 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
ZAA0 Zalesovo Array 42.47 313 *e*P **P** **05 39 42.0 +0.9**
comp=Z,20nm,1.0s
ZALV Zalesovo Beam 42.47 313 P **P** **05 39 41.9 +0.8**
comp=Z,14nm,0.8s,baz=89,slow=6.5,SNR=51
ZALV PcP **PcP** **05 41 33.5 0.0**
comp=Z,4.3nm,0.7s,baz=88,slow=3.3,SNR=3.6
LSA Lhasa 42.80 276 *e*P **P** **05 39 46.0 +1.4**
comp=Z,10nm,0.8s
LSA Lhasa 42.80 276 *e*P **P** **05 39 46.0 +1.4**
LSA pmax pmax
comp=Z,10.0nm,0.8s
CHGN Chignik 43.71 44 *e*P **P** **05 39 49.2 -1.8**
comp=Z,72nm,1.8s
MK01 Makanchi Array 44.71 302 *e*P **P** **05 39 59.7 +0.5**
MK31 Makanchi Array 44.71 302 *e*P **P** **05 39 59.7 +0.5**
MK31 Makanchi Array 44.71 302*ce*P **P** **05 39 59.3 +0.1**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 44.71 302 P **P** **05 39 59.7 +0.5**
comp=Z,8.9nm,0.6s,baz=87,slow=9.7,SNR=109
MKAR LR LR 05 58 38.1
comp=Z,238nm,21.3s,baz=14,slow=36
MKAR Makanchi Array 44.71 302 *e*P **P** **05 39 60.0 +0.7**
comp=Z,67nm,0.6s
MAKZ Makanchi 44.92 302 *e*P **P** **05 40 01.6 +0.7**
comp=Z,11nm,0.8s
MAKZ Makanchi 44.92 302 *e*P **P** **05 40 01.6 +0.7**
MAKZ pmax pmax
comp=Z,11nm,0.8s
SVW2 Sparrevohn 45.34 37 *e*P **P** **05 40 05.6 +1.7**
comp=Z,11nm,0.9s
PMG Port Moresby 46.23 173 LR LR 06 01 04.3
comp=Z,47nm,19.7s,baz=144,slow=38
KURK Kurchatov 46.51 308 *e*P **P** **05 40 13.9 +0.6**
comp=Z,38nm,0.8s
KURK Kurchatov 46.51 308*ce*P **P** **05 40 12.3 -1.0**
KURK pmax pmax
comp=Z,26nm,1.0s
OHAK Old Harbor 46.52 43 *e*P **P** **05 40 13.4 +0.1**
comp=Z,91nm,1.7s
TAPN Taplejung 46.53 275 *e*P **P** **05 40 14.7 +0.6**
comp=Z,21nm,0.6s
IM3 Indian Mountai 46.53 30 *e*P **P** **05 40 14.3 +1.0**
KURBB Kurchatov Arra 46.58 308 P **P** **05 40 14.4 +0.6**
comp=Z,19nm,0.7s,baz=82,slow=7.8,SNR=112
KDAK Kodiak Island 46.87 42 *e*P **P** **05 40 16.2 +0.2**
comp=Z,35nm,1.0s
KDAK Kodiak Island 46.87 42 *i*P **P** **05 40 16.1 +0.1**
ODAN Odare 47.00 274 *e*P **P** **05 40 18.0 +0.2**
PPLA Purkeypile 47.01 35 *e*P **P** **05 40 18.1 +0.8**
comp=Z,49nm,1.7s
SPU Mount Spurr 47.05 37 *e*P **P** **05 40 18.1 +0.6**
CAST Castle Rocks 47.07 34 *e*P **P** **05 40 19.5 +1.9**
comp=Z,8.8nm,0.9s
PDGK Podgornoye 47.37 298 *i*P **P** **05 40 20.3 -0.1**
PDGK pmax pmax
comp=Z,19nm,0.9s
BPAW Bear Paw Mtn. 47.58 33 *e*P **P** **05 40 22.8 +1.3**
comp=Z,34nm,2.0s
RAMN Ramite 47.59 275 *e*P **P** **05 40 22.7 +0.3**
comp=Z,77nm,0.9s
KTH Kantishna Hill 47.59 34 *e*P **P** **05 40 23.3 +1.6**
comp=Z,13nm,0.9s
JIRN Jiri 47.60 276 *e*P **P** **05 40 23.4 +0.7**
comp=Z,92nm,0.8s
SUA Susitna One 47.68 37 *e*P **P** **05 40 22.9 +0.4**
comp=Z,13nm,1.0s

MLY Manley 47.72 32 *e*P **P** **05 40 24.1 +1.4**
comp=Z,14nm,0.9s
GUN Gumba 47.74 276 *e*P **P** **05 40 24.1 +0.4**
TRF Thorofare Moun 47.88 34 *e*P **P** **05 40 24.7 +0.6**
comp=Z,63nm,2.0s
PKI Pulchoki 48.27 276 *e*P **P** **05 40 27.9 +0.2**
comp=Z,31nm,0.8s
KKN Kakani 48.27 276 *e*P **P** **05 40 28.1 +0.4**
comp=Z,60nm,0.6s
PKIN Phulchoki 48.27 276 *e*P **P** **05 40 27.8 +0.1**
TOLK Toolik Lake Re 48.39 27 *e*P **P** **05 40 29.2 +1.5**
comp=Z,10nm,0.9s
PMR Palmer 48.45 37 *e*P **P** **05 40 28.7 +0.5**
comp=Z,29nm,1.4s
PMR Palmer 48.45 37 *e*P **P** **05 40 28.7 +0.5**
PMR pmax pmax
comp=Z,29nm,1.4s
MCK McKinley 48.48 34 *e*P **P** **05 40 29.4 +0.9**
comp=Z,8.4nm,0.9s
MCK McKinley 48.48 34 *e*P **P** **05 40 29.4 +0.9**
MCK pmax pmax
comp=Z,8.0nm,0.9s
DMN Daman 48.49 276 *e*P **P** **05 40 29.3 -0.1**
RND Reindeer 48.52 34 *e*P **P** **05 40 29.5 +0.6**
comp=Z,9.9nm,0.9s
RND Reindeer 48.52 34 *e*P **P** **05 40 29.5 +0.6**
RND pmax pmax
comp=Z,10.0nm,0.9s
MDM Murphy Dome 48.78 32 *e*P **P** **05 40 32.4 +1.6**
comp=Z,24nm,1.0s
SML Sawmill 48.82 36 *e*P **P** **05 40 32.0 +0.9**
comp=Z,19nm,1.0s
SML Sawmill 48.82 36 *e*P **P** **05 40 32.0 +0.9**
SML pmax pmax
comp=Z,19nm,1.0s
COLA College 48.94 32 *e*P **P** **05 40 33.0 +1.1**
comp=Z,6.8nm,0.7s
COLA College 48.94 32 *e*P **P** **05 40 33.1 +1.1**
COLA pmax pmax
comp=Z,7.0nm,0.7s
CCB Clear Creek Bu 48.97 32 *e*P **P** **05 40 33.4 +1.3**
comp=Z,8.3nm,1.3s
HNR Honiara 48.97 156 LR LR 05 59 45.9
comp=Z,116nm,20.6s,baz=347,slow=34
DHY Denali Highway 49.20 35 *e*P **P** **05 40 35.3 +1.1**
comp=Z,49nm,2.0s
KULM Kulim 49.21 241 *e*P **P** **05 40 35.6 +0.9**
comp=Z,9.0nm,0.9s
DANN Dangsing 49.24 278 *e*P **P** **05 40 36.2 +1.0**
comp=Z,6.7nm,0.9s
SCM Sheep Creek Mo 49.29 36 *e*P **P** **05 40 35.9 +1.1**
comp=Z,90nm,1.9s
SCM Sheep Creek Mo 49.29 36 *e*P **P** **05 40 35.9 +1.1**
SCM pmax pmax
comp=Z,90nm,1.9s
HDA Harding Lake 49.34 33 *e*P **P** **05 40 35.5 +0.5**
comp=Z,7.9nm,0.8s
ILAR Eielson Array 49.36 32 P **P** **05 40 35.5 +0.3**
comp=Z,6.8nm,0.7s,baz=260,slow=6.0,SNR=90
ILB Eielson Array 49.36 32 *e*P **P** **05 40 35.8 +0.6**
IL1 Eielson Array 49.36 32 *e*P **P** **05 40 35.6 +0.4**
IPM Ipoh 49.53 239 *e*P **P** **05 40 37.4 +0.3**
comp=Z,13nm,1.1s
KOLN Koldanda 49.62 277 *e*P **P** **05 40 38.3 +0.3**
comp=Z,11nm,0.4s
PYUN Piuthan 49.96 278 *e*P **P** **05 40 41.2 +0.6**
comp=Z,109nm,0.9s
KLU Klutina 49.99 37 *e*P **P** **05 40 41.2 +1.1**
comp=Z,17nm,1.2s
FYU Fort Yukon 50.00 30 *e*P **P** **05 40 40.9 +0.9**
comp=Z,22nm,0.8s
EYAK Cordova Ski Ar 50.16 38 *e*P **P** **05 40 42.6 +1.3**
comp=Z,128nm,1.8s
TKM2 Tokmak 2 50.23 299 P **P** **05 40 43.8 +1.4**
SNR=18
TKM2 Tokmak 2 50.23 299 *i*P **P** **05 40 43.2 +0.8**
TKM2 pmax pmax
comp=Z,14nm,0.6s
HARP HAARP 50.27 35 *e*P **P** **05 40 43.6 +1.4**
comp=Z,175nm,2.0s
RIDG Independ'e Rid 50.30 34 *e*P **P** **05 40 42.3 -0.1**
comp=Z,22nm,1.4s
MTN Manton Dam 50.48 194 *e*P **P** **05 40 44.6 +0.4**
comp=Z,14nm,0.8s
DOT Dot Lake 50.66 34 *e*P **P** **05 40 45.6 +0.5**
comp=Z,111nm,2.0s
BMRM Bremner River 50.67 37 *e*P **P** **05 40 46.4 +1.1**
comp=Z,25nm,1.1s
KZA Kyzart 50.72 298 P **P** **05 40 48.2 +1.8**
SNR=7.3
KBK Karagaybulak 50.76 299 P **P** **05 40 47.4 +1.0**
SNR=12
MENT Mentasta 50.88 35 *e*P **P** **05 40 48.3 +1.5**
comp=Z,17nm,1.2s
USP Ospenovka 50.90 299 P **P** **05 40 48.1 +0.8**
SNR=7.8
OTUK Ortayu 51.01 306 P **P** **05 40 47.9 -0.1**
OTUK pmax pmax
comp=Z,22nm,0.8s
KSH Kashi 51.01 294 P **P** **05 40 52.5 +4.3**
KSH sP sP 05 41 02.7 +2.3
KSH S **S** **05 48 08.1 +4.4**
KSH sS sS 05 48 21.1 +3.0
KSH ScS **ScS** **05 50 38.1 +1.1**
KSH pmax pmax
comp=Z,66nm,2.2s
KSH pmax pmax
comp=Z,290nm,9.2s
KSH LR LR
comp=Z,220nm,8.8s
KSH LR LR
comp=Z,420nm,8.5s
KSH LR LR
comp=Z,400nm,8.2s
AAK Ala-Archa 51.09 299 P **P** **05 40 49.6 +0.8**
SNR=5.1
AAK Ala-Archa 51.09 299 *e*P **P** **05 40 49.6 +0.8**
comp=Z,5.2nm,0.6s
AAK Ala-Archa 51.09 299 *e*P **P** **05 40 48.1 -0.7**
AAK pmax pmax
comp=Z,4.0nm,1.0s
BVA0 Borovoye Array 51.13 313 P **P** **05 40 48.5 -0.3**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 51.13 313 P **P** **05 40 49.0 +0.2**
comp=Z,3.0nm,0.6s,baz=76,slow=7.5,SNR=24
BVAR Borovoye Array 51.13 313 P **P** **05 40 49.0 +0.2**
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 51.19 313 *e*P **P** **05 40 50.6 +1.4**
comp=Z,6.5nm,0.6s
BRVK Borovoye 51.19 313*ce*P **P** **05 40 49.7 +0.5**
BRVK pmax pmax
comp=Z,53nm,2.5s
EKS2 Erkin-Say 51.58 299 P **P** **05 40 53.2 +0.7**
SNR=6.7
EGAK Eagle 51.81 32 *e*P **P** **05 40 54.3 +0.7**
comp=Z,22nm,1.6s
AML Almayashu 51.81 298 P **P** **05 40 55.9 +1.4**
SNR=20
PSI Prapat 52.19 240 P **P** **05 40 56.6 -0.7**
comp=Z,4.1nm,0.4s,baz=22,slow=9.0,SNR=3.9
MNAS Manas 52.53 299 *i*P **P** **05 41 00.5 +0.9**
MNAS pmax pmax
comp=Z,13nm,0.7s
SFK Sufi-Kurgan 52.64 296 P **P** **05 41 01.2 +0.7**
DAWY Dawson 52.66 33 *e*P **P** **05 41 01.1 +1.1**
comp=Z,8.0nm,1.3s
KK31 Karatay Array 53.72 300*ce*P **P** **05 41 08.0 -0.2**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 53.72 300 *e*P **P** **05 41 08.8 +0.6**
KKAR Karatay Array 53.72 300 *e*P **P** **05 41 08.8 +0.6**
LEM Lembang 54.12 224 P **P** **05 41 10.1 -1.4**
comp=Z,12nm,0.4s,baz=16,slow=16,SNR=2.5
GSI Gunungsitoli 54.19 240 *e*P **P** **05 41 12.4 +0.6**
comp=Z,28nm,0.7s
INK Inuvik 54.31 27 *e*P **P** **05 41 13.1 +1.1**
comp=Z,8.6nm,0.8s
INK Inuvik 54.31 27 *e*P **P** **05 41 13.1 +1.1**
INK pmax pmax
comp=Z,9.0nm,0.8s
SVE Sverdlovsk 55.68 319⇑ *i*P **P** **05 41 23.6 +1.5**
SVE pmax pmax
comp=Z,26nm,1.0s
FITZ Fitzroy Crossi 56.81 199 *e*P **P** **05 41 30.2 -0.3**
ARU Arti 56.89 319 *e*P **P** **05 41 31.6 +0.9**
comp=Z,37nm,1.2s
ARU Arti 56.89 319*c i*P **P** **05 41 31.2 +0.5**
ARU 05 42 25.7
ARU S **S** **05 49 22.5 +0.1**
ARU SS **SS** **05 53 03.2 -7.0**
ARU pmax pmax
comp=Z,32nm,1.2s
WRAB Tennant Creek 56.93 189*ce*P P 05 41 40.4 +9.0
WRAB pmax pmax
comp=Z,38nm,1.7s
WRA Warramunga Arr 56.95 189 P **P** **05 41 29.6 -1.9**
comp=Z,2.6nm,0.4s,baz=6.0,slow=6.9,SNR=56
WRA LR LR 06 06 15.5
comp=Z,32nm,18.9s,baz=195,slow=36
KBL Kabul 58.02 291 *e*P **P** **05 41 39.4 +0.1**
comp=Z,19nm,1.0s
KBL Kabul 58.02 291 *e*P **P** **05 41 39.4 +0.1**
KBL pmax pmax
comp=Z,19nm,1.0s
DLBC Dease Lake 58.43 38 *e*P **P** **05 41 43.7 +2.1**
comp=Z,42nm,1.6s
AB31 Akbulak array 58.51 310*ce*P **P** **05 41 42.2 0.0**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 58.51 310 *e*P **P** **05 41 42.5 +0.3**
comp=Z,94nm,0.6s
HYB Hyderabad 58.77 269 *i*P **P** **05 41 44.5 0.0**
AKTO Aktyubinsk 59.23 312 P **P** **05 41 47.5 +0.2**
comp=Z,6.1nm,0.8s,baz=74,slow=9.9,SNR=11
AS01 Alice Springs 60.66 189 *e*P **P** **05 41 56.1 -1.2**
AS31 Alice Springs 60.67 189 *e*P **P** **05 41 57.3 -0.1**
comp=Z,2.4nm,0.4s
ASAR Alice Springs 60.67 189 P **P** **05 41 55.9 -1.4**
comp=Z,3.6nm,0.8s,baz=10,slow=6.9,SNR=37
POO Poona 61.95 273 *e*P **P** **05 42 06.0 -0.3**
RES Resolute Bay 62.65 15 P **P** **05 42 10.7 +0.7**
comp=Z,2.8nm,0.7s,baz=315,slow=7.1,SNR=11
RES Resolute Bay 62.65 15 *e*P **P** **05 42 10.8 +0.7**
comp=Z,6.1nm,0.8s
RES Resolute Bay 62.65 15 *e*P **P** **05 42 10.8 +0.7**
RES pmax pmax
comp=Z,6.0nm,0.8s
PALK Pallekele 62.88 258 *i*P **P** **05 42 14.5 +1.9**
DZM Mont Dzumac 62.92 155 P **P** **05 42 13.1 +0.5**
comp=Z,10nm,0.9s,baz=130,slow=2.1,SNR=4.8
DZM LR LR 06 06 59.2
comp=Z,156nm,20.8s,baz=20,slow=34
DZM Mont Dzumac 62.92 155 *e*LR LR 06 01 09.3
comp=Z,234nm,21.4s
YKA Yellowknife Ar 63.69 30 P **P** **05 42 17.3 +0.1**
comp=Z,1.6nm,0.6s,baz=301,slow=6.3,SNR=40
KLMR Klimovskoe 64.23 328 *e*P **P** **05 42 19.9 -0.8**
KLMR pmax pmax
comp=Z,18nm,1.3s
KLMR Klimovskoe 64.23 328 *e*P **P** **05 42 19.9 -0.8**
KLMR AMP 05 42 32.7
comp=Z,18nm,1.3s
ARCES ARCESS Array B 64.39 340 P **P** **05 42 22.7 +1.1**
comp=Z,1.2nm,0.5s,baz=32,slow=7.1,SNR=9.0
ARCES ARCESS Array B 64.39 340 *e*P **P** **05 42 24.0 +2.4**
ARCES ARCESS Array B 64.39 340 *e*P **P** **05 42 24.0 +2.4**
GEYT Alibeck 64.43 299 P **P** **05 42 22.9 +0.4**
comp=Z,5.0nm,0.6s,baz=29,slow=3.7,SNR=9.3
TULEG Thule 65.22 8 *e*P **P** **05 42 27.0 +0.1**
comp=Z,6.4nm,0.7s
NLWA Neilton Lookou 66.43 48 *e*P **P** **05 42 37.3 +2.0**
comp=Z,19nm,1.3s
AFI Afiamalu 66.57 130 LR LR 06 07 08.4
comp=Z,67nm,19.3s,baz=311,slow=32
LON Longmire 67.97 48 *e*P **P** **05 42 45.3 +0.2**
comp=Z,4.7nm,1.0s
LON Longmire 67.97 48 *e*P **P** **05 42 45.3 +0.2**
LON pmax pmax
comp=Z,5.0nm,1.0s
STKA Stephens Creek 68.35 180 P **P** **05 42 46.3 -1.1**
comp=Z,1.7nm,0.7s,baz=334,slow=14,SNR=3.7
LTY Liberty 68.38 47 *e*P **P** **05 42 47.4 -0.2**
comp=Z,24nm,2.0s
OBN Obninsk 68.60 324 *i*P **P** **05 42 48.0 -0.7**
OBN *i* 05 42 57.6
OBN *i* 05 43 16.8
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,404nm,16.0s
H04A Detroit Lake 68.80 50 *e*P **P** **05 42 51.4 +1.1**
comp=Z,20nm,1.3s
LPSR Galich'ya Gora 68.82 320 *e*P **P** **05 42 49.4 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
FIA1 FINESS Array S 69.26 333 *e*P **P** **05 42 53.5 +0.8**
FINES FINESS Array B 69.26 333 P **P** **05 42 53.4 +0.6**
comp=Z,7.9nm,0.7s,baz=61,slow=9.0,SNR=18
VSR Storozhevoye 69.46 319 *e*P **P** **05 42 53.8 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
BBOO Buckleboo 69.52 185 *e*P **P** **05 42 53.5 -1.0**
comp=Z,21nm,1.4s
KHMM Horse Mountain 69.81 54 *e*P **P** **05 42 58.8 +2.1**
comp=Z,27nm,1.6s
NEW Newport 69.87 44 P **P** **05 42 57.3 +0.5**
comp=Z,1.4nm,0.7s,baz=284,slow=12,SNR=2.8
YBH Yreka Blue Hor 70.01 52 P **P** **05 42 58.5 +0.6**
comp=Z,0.7nm,0.6s,baz=297,slow=6.8,SNR=3.8
PINE Pine Mountain 70.03 50 *e*P **P** **05 42 59.9 +1.8**
comp=Z,26nm,1.3s
E09A Wood Farm, Sta 70.24 46 *e*P **P** **05 42 59.2 +0.1**
comp=Z,12nm,1.3s
GOF Gofitskoye 70.65 312⇑ *e*P **P** **05 43 01.5 -0.1**
GOF pmax pmax
comp=Z,44nm,1.3s
SUMG Summit 70.89 0 *i*P **P** **05 43 03.3 +0.3**
comp=Z,4.6nm,0.8s
SUMG Summit 70.89 0 *i*P **P** **05 43 03.3 +0.3**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
VSU Vasula 70.92 330*ce*P **P** **05 43 02.7 -0.2**
VSU pmax pmax
comp=Z,49nm,1.2s
KBZ Khabaz 71.47 311 P **P** **05 43 07.0 +0.5**
comp=Z,11nm,0.8s,baz=63,slow=3.5,SNR=25
KIV Kislovodsk 71.47 311 *e*P **P** **05 43 07.4 +0.7**
comp=Z,24nm,0.8s
KIV Kislovodsk 71.47 311 *e*P **P** **05 43 07.6 +0.9**
KIV pmax pmax
comp=Z,34nm,1.1s
KIV MLR MLR
comp=Z,274nm,18.0s
KIV Kislovodsk 71.47 311 *i*P **P** **05 43 08.8 +2.1**
SNR=7.9
KIV Kislovodsk 71.47 311 *i*P **P** **05 43 08.8 +2.1**
SNR=7.9
WSAR Wadi Sarin 71.47 285 P **P** **05 43 06.9 0.0**
comp=Z,5.4nm,0.8s,baz=72,slow=7.7,SNR=5.0
WSAR LR LR 06 18 52.2
comp=Z,97nm,19.1s,baz=60,slow=40
BMO Blue Mountains 71.64 47 *e*P **P** **05 43 08.8 +1.1**
comp=Z,5.0nm,1.0s
BMO Blue Mountains 71.64 47 *e*P **P** **05 43 08.9 +1.1**
BMO pmax pmax
comp=Z,5.0nm,1.0s
JTMT Jette 71.75 44 *e*P **P** **05 43 09.5 +1.1**
comp=Z,10.0nm,1.4s
J08A Circle Bar Ran 71.77 49 *e*P **P** **05 43 10.0 +1.4**
comp=Z,9.7nm,1.2s
NEY Neytrino 71.84 311 *i*P **P** **05 43 09.6 +0.6**
NEY pmax pmax
comp=Z,1.0nm,0.8s
ORV Oroville 71.96 54 *e*P **P** **05 43 10.0 +0.4**
comp=Z,5.3nm,1.3s
ORV Oroville 71.96 54 *e*P **P** **05 43 10.0 +0.4**
ORV pmax pmax
comp=Z,5.0nm,1.3s
WVOR Wild Horse Val 72.19 50 *e*P **P** **05 43 11.2 +0.1**
comp=Z,16nm,1.8s
WVOR Wild Horse Val 72.19 50 *e*P **P** **05 43 11.2 +0.1**
WVOR pmax pmax
comp=Z,16nm,1.8s
MSFE Esma-Masafi 72.22 289 P **P** **05 43 12.3 +0.9**
MSFE Esma-Masafi 72.22 289 P **P** **05 43 12.3 +0.9**
GNI Garni 72.28 307 P **P** **05 43 11.6 -0.1**
comp=Z,5.6nm,0.7s,baz=59,slow=17,SNR=3.1
GNI LR LR 06 19 28.9
comp=Z,103nm,18.2s,baz=16,slow=40
GNI Garni 72.28 307 *i*P **P** **05 43 12.5 +0.7**
GNI pmax pmax
comp=Z,17nm,0.9s

AKH	**Akhalkalaki**	**72.38**	**309**	⇑*i*P	**P**	**05 43 14.3**	**+2.0**
UOSS	**Minazif**	**72.41**	**288**	*e*P	**P**	**05 43 13.1**	**+0.5**
	comp=Z,24nm,1.3s						
UOSS	**Minazif**	**72.41**	**288**	P	**P**	**05 43 12.6**	**+0.1**
UOSS	**Minazif**	**72.41**	**288**	P	**P**	**05 43 12.6**	**+0.1**
BEKR	**Beckworth**	**72.52**	**53**	*e*P	**P**	**05 43 13.7**	**+0.5**
	comp=Z,4.2nm,0.9s						
HATD	**Hatta, Dubai**	**72.53**	**288**	*i* P	**P**	**05 43 13.9**	**+0.6**
	SNR=6.9						
HATD	**Hatta, Dubai**	**72.53**	**288**	*i* P	**P**	**05 43 13.9**	**+0.6**
	SNR=6.9						
SOHO	**SOHO**	**72.60**	**287**	*i* P	**P**	**05 43 14.2**	**+0.6**
	SNR=6.7						
SOHO	**SOHO**	**72.60**	**287**	*i* P	**P**	**05 43 14.2**	**+0.6**
	SNR=6.7						
NACGM	**Naroch**	**73.21**	**327**	*e*	P	05 43 34.0	+17
ALNE	**Al Ain**	**73.24**	**288**	P	**P**	**05 43 18.1**	**+0.6**
ALNE	**Al Ain**	**73.24**	**288**	P	**P**	**05 43 18.1**	**+0.6**
MFID	**Camas Ranch**	**73.33**	**48**	*e*P	**P**	**05 43 19.1**	**+1.2**
	comp=Z,7.0nm,1.2s						
SOC	**Sochi**	**73.46**	**312**	*e*P	**P**	**05 43 17.8**	**-0.6**
SOC				*e*		05 46 07.6	
SOC				*e*PPP	PPP	05 47 41.5	
SOC				*e*S	**S**	**05 52 42.0**	**-3.9**
SOC				*e*		05 53 17.2	
SOC				*e*SS	**SS**	**05 57 27.8**	**-0.1**
SOC				pmax	pmax		
	comp=Z,21nm,0.7s						
CMB	**Columbia Colle**	**73.52**	**55**	*e*P	**P**	**05 43 19.6**	**+0.6**
	comp=Z,5.2nm,1.0s						
CMB	**Columbia Colle**	**73.52**	**55**	*e*P	**P**	**05 43 19.6**	**+0.6**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FFC	**Flin Flon**	**73.56**	**33**	*e*P	**P**	**05 43 19.3**	**+0.4**
	comp=Z,8.8nm,1.0s						
FFC	**Flin Flon**	**73.56**	**33**	*e*P	**P**	**05 43 19.3**	**+0.4**
FFC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HRY	**Holter Researc**	**73.71**	**44**	*e*P	**P**	**05 43 20.5**	**+0.5**
WAKR	**Walker**	**73.88**	**54**	*e*P	**P**	**05 43 22.4**	**+1.1**
	comp=Z,16nm,1.9s						
LRM	**Limekiln Ridge**	**73.89**	**45**	*e*P	**P**	**05 43 22.4**	**+1.1**
FCC	**Fort Churchill**	**73.92**	**27**	*e*P	**P**	**05 43 21.2**	**+0.4**
	comp=Z,14nm,1.3s						
FCC	**Fort Churchill**	**73.92**	**27**	*e*P	**P**	**05 43 21.2**	**+0.4**
FCC				pmax	pmax		
	comp=Z,14nm,1.3s						
EGMT	**Eagleton**	**74.04**	**42**	*e*P	**P**	**05 43 22.7**	**+0.8**
	comp=Z,6.7nm,0.8s						
DLMT	**Dillon**	**74.08**	**45**	*e*P	**P**	**05 43 23.6**	**+1.3**
	comp=Z,11nm,1.0s						
HLID	**Hailey**	**74.09**	**47**	*e*P	**P**	**05 43 23.6**	**+1.3**
	comp=Z,5.5nm,1.2s						
BMN	**Battle Mountai**	**74.19**	**51**	*e*P	**P**	**05 43 24.2**	**+1.2**
	comp=Z,9.0nm,1.3s						
BMN	**Battle Mountai**	**74.19**	**51**	*e*P	**P**	**05 43 24.2**	**+1.2**
BMN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NC405	**NORSAR Array S**	**74.38**	**337**	*e*P	**P**	**05 43 23.5**	**0.0**
KVN	**Kaiserville**	**74.43**	**53**	*e*P	**P**	**05 43 25.6**	**+1.2**
	comp=Z,6.1nm,1.2s						
KVN	**Kaiserville**	**74.43**	**53**	*e*P	**P**	**05 43 25.6**	**+1.2**
KVN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BOZ	**Bozeman (W)**	**74.49**	**44**	*e*P	**P**	**05 43 25.4**	**+0.8**
	comp=Z,8.1nm,1.0s						
BOZ	**Bozeman (W)**	**74.49**	**44**	*e*P	**P**	**05 43 25.4**	**+0.8**
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HFS	**Hagfors**	**74.50**	**336**	P	**P**	**05 43 24.5**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=45,slow=2.2,SNR=15						
NC204	**NORSAR Array S**	**74.54**	**338**	*e*P	**P**	**05 43 25.4**	**+0.8**
NB201	**NORSAR Array S**	**74.56**	**338**	*e*P	**P**	**05 43 24.5**	**-0.1**
NB2	**NORSAR Subarra**	**74.59**	**338**	P	**P**	**05 43 25.4**	**+0.6**
	comp=Z,7.6nm,0.7s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.59**	**338**	P	**P**	**05 43 25.0**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=43,slow=5.4,SNR=7.0						
NOA	**NORSAR Array B**	**74.59**	**338**	P	**P**	**05 43 25.0**	**+0.2**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NV01	**Mina Array Sit**	**74.65**	**53**	*e*P	**P**	**05 43 26.6**	**+0.8**
NVAR	**Mina Array Bea**	**74.65**	**53**	P	**P**	**05 43 26.2**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=294,slow=5.9,SNR=17						
NV11	**Mina Array Sit**	**74.74**	**53**	*e*P	**P**	**05 43 27.2**	**+1.0**
	comp=Z,0.9nm,1.8s						
AKASG	**Malin Array Be**	**74.81**	**323**	P	**P**	**05 43 26.4**	**+0.3**
	comp=Z,7.4nm,0.6s,baz=47,slow=6.1,SNR=61						
AKASG				PP	**PP**	**05 46 07.0**	**-6.1**
	comp=Z,0.4nm,0.3s,baz=48,slow=11,SNR=6.3						
AKASG				LR	LR	06 21 42.5	
	comp=Z,151nm,18.1s,baz=15,slow=40						
AKASG	**Malin Array Be**	**74.81**	**323**	P	**P**	**05 43 26.5**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AKBB	**Malin Array Si**	**74.81**	**323**	*e*P	**P**	**05 43 26.5**	**+0.4**
	comp=Z,12nm,0.8s						
AKBB	**Malin Array Si**	**74.81**	**323**	*e*P	**P**	**05 43 26.5**	**+0.4**
AKBB				pmax	pmax		
	comp=Z,12nm,0.8s						
KIEV	**Kiev**	**74.82**	**323**	*e*P	**P**	**05 43 26.5**	**+0.2**
	comp=Z,12nm,0.8s						
KIEV	**Kiev**	**74.82**	**323**	*i* P	**P**	**05 43 25.3**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIEV	**Kiev**	**74.82**	**323**	*i* P	**P**	**05 43 26.4**	**+0.2**
	SNR=9.7						
KIEV	**Kiev**	**74.82**	**323**	*i* P	**P**	**05 43 26.4**	**+0.2**
	SNR=9.7						
AK11	**Malin Array Si**	**74.85**	**323**	*e*P	**P**	**05 43 26.8**	**+0.4**
YHB	**Horse Butte**	**75.24**	**45**	*e*P	**P**	**05 43 30.0**	**+0.9**
	comp=Z,7.6nm,1.0s						
YHH	**Holmes Hill**	**75.41**	**45**	*e*P	**P**	**05 43 31.5**	**+1.3**
	comp=Z,12nm,1.6s						
YMR	**Madison River**	**75.42**	**45**	*e*P	**P**	**05 43 32.0**	**+1.9**
	comp=Z,14nm,1.3s						
GCMT	**Greycliff**	**75.46**	**43**	*e*P	**P**	**05 43 31.3**	**+1.1**
YFT	**Old Faithful**	**75.63**	**45**	*e*P	**P**	**05 43 33.8**	**+2.4**
	comp=Z,5.3nm,0.6s						
LKWY	**Lake**	**75.81**	**45**	*e*P	**P**	**05 43 34.5**	**+2.1**
	comp=Z,5.4nm,0.9s						
LKWY	**Lake**	**75.81**	**45**	*e*P	**P**	**05 43 34.5**	**+2.1**
LKWY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
H17A	**Grant Village**	**75.81**	**45**	*e*P	**P**	**05 43 34.8**	**+2.4**
	comp=Z,16nm,1.0s						
IMW	**Indian Meadow**	**75.91**	**45**	*e*P	**P**	**05 43 34.5**	**+1.5**
	comp=Z,12nm,1.3s						
SBC	**Santa Barbara**	**76.00**	**57**	*e*P	**P**	**05 43 34.1**	**+0.8**
FXWY	**Fox Creek**	**76.02**	**46**	*e*P	**P**	**05 43 35.4**	**+1.8**
	comp=Z,5.6nm,1.1s						
RLMT	**Red Lodge**	**76.09**	**44**	*e*P	**P**	**05 43 35.3**	**+1.4**
	comp=Z,11nm,1.4s						
MOOW	**Moose Ponds**	**76.11**	**46**	*e*P	**P**	**05 43 35.8**	**+1.7**
	comp=Z,7.3nm,1.2s						
HVU	**Hansel Valley**	**76.12**	**48**	*e*P	**P**	**05 43 35.1**	**+1.0**
	comp=Z,9.4nm,1.3s						
HVU	**Hansel Valley**	**76.12**	**48**	*e*P	**P**	**05 43 35.1**	**+1.0**
HVU				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ISA	**Isabella, Lake**	**76.13**	**56**	*e*P	**P**	**05 43 34.1**	**0.0**
	comp=Z,3.7nm,1.1s						
ISA	**Isabella, Lake**	**76.13**	**56**	*e*P	**P**	**05 43 34.2**	**0.0**
ISA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TPAW	**Teton Pass**	**76.15**	**46**	*e*P	**P**	**05 43 35.6**	**+1.2**
	comp=Z,5.9nm,1.0s						
LOHW	**Long Hollow**	**76.27**	**46**	*e*P	**P**	**05 43 36.4**	**+1.4**
	comp=Z,15nm,1.9s						
R11A	**Troy Canyon, C**	**76.43**	**52**	*e*P	**P**	**05 43 37.1**	**+1.1**
	comp=Z,6.1nm,1.3s						
BGU	**Big Grassy Mou**	**76.48**	**49**	*e*P	**P**	**05 43 37.1**	**+1.0**
	comp=Z,14nm,1.9s						
LAO	**LASA Array**	**76.75**	**41**	*e*P	**P**	**05 43 38.8**	**+1.3**
	comp=Z,13nm,1.0s						
SORM	**Soroca**	**76.91**	**321**	⇑*i*P	**P**	**05 43 38.5**	**+0.3**
DUG	**Dugway, Tooele**	**77.05**	**49**	*e*P	**P**	**05 43 40.8**	**+1.4**
	comp=Z,5.5nm,0.9s						
DUG	**Dugway, Tooele**	**77.05**	**49**	*e*P	**P**	**05 43 40.8**	**+1.4**
DUG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BW06	**Boulder Array**	**77.40**	**46**	*e*P	**P**	**05 43 41.7**	**+0.3**
	comp=Z,2.9nm,0.8s						
PD31	**Pinedale Array**	**77.40**	**46**	*e*P	**P**	**05 43 42.0**	**+0.7**
PDAR	**Pinedale Array**	**77.40**	**46**	P	**P**	**05 43 42.1**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=263,slow=1.8,SNR=28						
PDAR	**Pinedale Array**	**77.40**	**46**	*e*P	**P**	**05 43 41.6**	**+0.2**
JLU	**Jordanelle**	**77.63**	**48**	*e*P	**P**	**05 43 45.2**	**+2.5**
	comp=Z,20nm,1.8s						
NLU	**North Lily Min**	**77.65**	**49**	*e*P	**P**	**05 43 44.1**	**+1.3**
	comp=Z,7.2nm,1.1s						
SHPR	**Sheep Range**	**77.80**	**54**	*e*P	**P**	**05 43 44.2**	**+0.5**
	comp=Z,4.6nm,1.2s						
MPU	**Maple Canyon**	**77.88**	**49**	*e*P	**P**	**05 43 44.5**	**+0.5**
	comp=Z,5.2nm,0.9s						
SNO	**Snow College**	**78.37**	**49**	*e*P	**P**	**05 43 50.6**	**+3.7**
ELU	**Electric Lake**	**78.37**	**49**	*e*P	**P**	**05 43 49.1**	**+2.1**
MSU	**Marysvale**	**78.47**	**50**	*e*P	**P**	**05 43 49.1**	**+1.7**
MSU	**Marysvale**	**78.47**	**50**	*e*P	**P**	**05 43 49.1**	**+1.7**
ILGA	**Ilgaz**	**78.53**	**313**	*e*P	**P**	**05 43 49.0**	**+1.3**
	comp=Z,13nm,0.7s						
TMUT	**Trail Mountain**	**78.58**	**49**	*e*P	**P**	**05 43 47.7**	**-0.4**
	comp=Z,175nm,0.4s						
KWP	**Kalwaria Pacla**	**78.62**	**325**	*e*P	**P**	**05 43 49.4**	**+1.6**
KWP	**Kalwaria Pacla**	**78.62**	**325**	*e*P	**P**	**05 43 49.1**	**+1.4**
	comp=Z,334nm,1.1s						
KWP	**Kalwaria Pacla**	**78.62**	**325**	*e*P	**P**	**05 43 49.2**	**+1.4**
KWP				pmax	pmax		
	comp=Z,334nm,1.1s						
LCMT	**Little Creek M**	**78.72**	**52**	*e*P	**P**	**05 43 49.8**	**+1.1**
	comp=Z,7.1nm,1.1s						
MTPU	**Mount Pierson**	**78.76**	**51**	*e*P	**P**	**05 43 50.1**	**+0.9**
	comp=Z,13nm,1.7s						
P17A	**Butcher Ranch,**	**78.76**	**49**	*e*P	**P**	**05 43 49.9**	**+1.0**
	comp=Z,30nm,0.8s						
BUR08	**Bucovina Ar. S**	**78.81**	**322**	*e*P	**P**	**05 43 50.1**	**+1.1**
BUR04	**Bucovina Ar. S**	**78.82**	**322**	*e*P	**P**	**05 43 49.8**	**+0.8**
BURAR	**Bucovina Array**	**78.82**	**322**	⇑*i*P	**P**	**05 43 50.2**	**+1.2**
Q16A	**Castle Valley**	**78.84**	**50**	*e*P	**P**	**05 43 50.5**	**+1.1**
	comp=Z,38nm,1.0s						
TESR	**Tescani**	**78.85**	**321**	⇑*i*P	**P**	**05 43 49.4**	**+0.3**
P18A	**Preston Nutter**	**78.96**	**49**	*e*P	**P**	**05 43 51.5**	**+1.3**
	comp=Z,13nm,0.8s						
CFR	**Carcaliu**	**78.97**	**319**	⇑*i*P	**P**	**05 43 50.2**	**+0.5**
KNB	**Kanab**	**78.98**	**52**	*e*P	**P**	**05 43 50.8**	**+0.6**
	comp=Z,7.7nm,1.2s						
KNB	**Kanab**	**78.98**	**52**	*e*P	**P**	**05 43 50.8**	**+0.6**
KNB				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SRU	**San Rafael Swe**	**79.11**	**49**	*e*P	**P**	**05 43 52.0**	**+1.2**
	comp=Z,12nm,0.8s						
SRU	**San Rafael Swe**	**79.11**	**49**	*e*P	**P**	**05 43 52.1**	**+1.2**
SRU				pmax	pmax		
	comp=Z,12nm,0.8s						
IRM	**Iron Mountain**	**79.22**	**55**	*e*P	**P**	**05 43 51.6**	**+0.2**
VRI	**Vrincioaia**	**79.25**	**320**	⇑*i*P	**P**	**05 43 52.7**	**+1.4**
PLOR	**Plostina**	**79.30**	**320**	⇓*i*P	**P**	**05 43 53.3**	**+1.7**
ULM	**Lac du Bonnet**	**79.36**	**34**	P	**P**	**05 43 52.6**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=332,slow=5.6,SNR=3.1						
BR131	**Keskin Array S**	**79.41**	**312**	*e*P	**P**	**05 43 53.3**	**+0.9**
BRTR	**Keskin Array B**	**79.41**	**312**	P	**P**	**05 43 53.3**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=105,slow=4.2,SNR=20						
BRTR	**Keskin Array B**	**79.41**	**312**	*ce*P	**P**	**05 43 53.7**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STHS	**Stebnicka Huta**	**79.45**	**325**	*e*P	**P**	**05 43 53.7**	**+1.4**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STHS	**Stebnicka Huta**	**79.45**	**325**	*e*P	**P**	**05 43 53.7**	**+1.4**
OJC	**Ojcow**	**79.52**	**326**	*e*P	**P**	**05 43 53.5**	**+0.8**
OJC	**Ojcow**	**79.52**	**326**	*e*P	**P**	**05 43 52.8**	**+0.1**
	comp=Z,21nm,1.1s						
OJC	**Ojcow**	**79.52**	**326**	*e*P	**P**	**05 43 53.5**	**+0.8**
RAR	**Rarotonga**	**79.58**	**126**	LR	LR	06 13 58.2	
	comp=Z,130nm,21.2s,baz=266,slow=32						
RSSD	**Black Hills**	**79.60**	**42**	*e*P	**P**	**05 43 54.2**	**+0.7**
	comp=Z,4.7nm,1.0s						
RSSD	**Black Hills**	**79.60**	**42**	*e*P	**P**	**05 43 54.2**	**+0.7**
RSSD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCR	**ARCALIA**	**79.61**	**322**	⇑*i*P	**P**	**05 43 55.2**	**+2.0**
CRVS	**Cervenica-Dubn**	**79.72**	**325**	*e*P	**P**	**05 43 55.0**	**+1.2**
CRVS	**Cervenica-Dubn**	**79.72**	**325**	*e*P	**P**	**05 43 55.0**	**+1.2**
BR231	**Keskin MP Arra**	**79.85**	**312**	*e*P	**P**	**05 43 53.5**	**-1.3**
DOPR	**Dopca**	**79.86**	**321**	⇓*i*P	**P**	**05 43 56.8**	**+2.2**
NIE	**Niedzica**	**79.88**	**326**	*e*P	**P**	**05 43 56.0**	**+1.3**
NIE	**Niedzica**	**79.88**	**326**	*e*P	**P**	**05 43 56.0**	**+1.3**
MLR	**Muntele Rosu**	**79.91**	**320**	LR	LR	06 22 30.7	
	comp=Z,99nm,18.0s,baz=344,slow=38						
PV09	**Paradox Valley**	**80.34**	**49**	*e*P	**P**	**05 43 59.0**	**+1.3**
VOIR		**80.40**	**321**	⇓*i*P	**P**	**05 43 59.1**	**+1.5**
LANS	**Liptovska Anna**	**80.45**	**326**	*e*P	**P**	**05 43 59.3**	**+1.6**
LANS	**Liptovska Anna**	**80.45**	**326**	*e*P	**P**	**05 43 59.3**	**+1.6**
PV10	**Paradox Valley**	**80.48**	**49**	*e*P	**P**	**05 43 59.4**	**+1.1**
PV04	**Paradox Valley**	**80.55**	**49**	*e*P	**P**	**05 43 59.2**	**+0.5**
KSP	**Ksiaz**	**80.57**	**329**	*e*P	**P**	**05 43 59.9**	**+1.6**
KSP	**Ksiaz**	**80.57**	**329**	*e*P	**P**	**05 43 59.9**	**+1.6**
PV05	**Paradox Valley**	**80.63**	**49**	*e*P	**P**	**05 44 00.6**	**+1.4**
ARR	**Arges**	**80.66**	**321**	⇓*i*P	**P**	**05 44 01.2**	**+2.2**
N23A	**Red Feather La**	**80.67**	**45**	*e*P	**P**	**05 43 59.5**	**+0.1**
	comp=Z,20nm,1.4s						
WUAZ	**Wupatki**	**80.83**	**52**	*e*P	**P**	**05 44 00.2**	**0.0**
	comp=Z,5.6nm,1.0s						
MORC	**Moravsky Berou**	**80.84**	**327**	⇑*i*P	**P**	**05 44 00.8**	**+1.0**
MORC	**Moravsky Berou**	**80.84**	**327**	*e*P	**P**	**05 44 00.8**	**+1.0**
	comp=Z,45nm,1.1s						
MORC	**Moravsky Berou**	**80.84**	**327**	*e*P	**P**	**05 44 00.8**	**+1.0**
MORC				pmax	pmax		
	comp=Z,45nm,1.1s						
PV01	**Paradox Valley**	**80.91**	**49**	*e*P	**P**	**05 44 00.5**	**-0.3**
DPC	**Dobruska-Polom**	**80.93**	**328**	*e*P	**P**	**05 44 01.8**	**+1.5**
DPC				*e*pP	**sP**	**05 44 11.7**	**-1.1**
DPC	**Dobruska-Polom**	**80.93**	**328**	*e*P	**P**	**05 44 01.8**	**+1.5**
DPC				*e*		05 44 11.7	
PSZ	**Piszkesteto**	**81.15**	**325**	⇑*i*P	**P**	**05 44 02.9**	**+1.4**
PSZ	**Piszkesteto**	**81.15**	**325**	*e*P	**P**	**05 44 03.0**	**+1.4**
	comp=Z,20nm,1.2s						
PSZ	**Piszkesteto**	**81.15**	**325**	*e*P	**P**	**05 44 03.0**	**+1.4**
PSZ				pmax	pmax		
	comp=Z,20nm,1.2s						
SMCO	**Snowmass**	**81.19**	**47**	*e*P	**P**	**05 44 03.1**	**+0.8**
	comp=Z,6.8nm,1.1s						
VYHS	**Vyhne**	**81.21**	**326**	*e*P	**P**	**05 44 02.9**	**+1.1**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
VYHS	**Vyhne**	**81.21**	**326**	*e*P	**P**	**05 44 02.9**	**+1.1**
RAYN	**Ar Rayn**	**81.26**	**293**	*e*P	**P**	**05 44 02.9**	**+0.4**
	comp=Z,9.1nm,1.0s						
URZ	**Urewera**	**81.41**	**153**	LR	LR	06 15 00.1	
	comp=Z,87nm,20.4s,baz=3.5,slow=32						
X16A	**Lo Mia Camp, P**	**81.48**	**53**	*e*P	**P**	**05 44 04.9**	**+1.2**
	comp=Z,5.7nm,1.0s						
BRG	**Berggiesshubel**	**81.52**	**330**	*e*P	**P**	**05 44 04.0**	**+0.7**
	comp=Z,10nm,1.2s						
BRG	**Berggiesshubel**	**81.52**	**330**	*e*P	**P**	**05 44 04.0**	**+0.7**
BRG				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PVCC	**Panska Ves**	**81.53**	**329**	*e*P	**P**	**05 44 04.9**	**+1.5**
PVCC	**Panska Ves**	**81.53**	**329**	*e*P	**P**	**05 44 04.9**	**+1.5**
MVCO	**Mesa Verde**	**81.55**	**50**	*e*P	**P**	**05 44 05.2**	**+1.1**
	comp=Z,17nm,1.5s						
CLL	**Collm**	**81.55**	**331**	*e*P	**P**	**05 44 04.2**	**+0.8**
	comp=Z,8.1nm,0.9s						
CLL	**Collm**	**81.55**	**331**	*e*P	**P**	**05 44 04.3**	**+0.8**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ISCO	**Idaho Springs**	**81.58**	**46**	*e*P	**P**	**05 44 05.6**	**+1.3**
	comp=Z,3.5nm,1.1s						
ISCO	**Idaho Springs**	**81.58**	**46**	*e*P	**P**	**05 44 05.6**	**+1.3**
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
VRAC	**Vranov**	**81.60**	**327**	LR	LR	06 23 51.2	
	comp=Z,182nm,19.2s,baz=356,slow=38						
VRAC	**Vranov**	**81.60**	**327**	⇑*i*P	**P**	**05 44 05.3**	**+1.5**
GOPC	**GO Pecny, Ondr**	**81.91**	**329**	*e*P	**P**	**05 44 06.5**	**+1.1**
GOPC				*e*pP	**sP**	**05 44 16.7**	**-1.3**
GOPC	**GO Pecny, Ondr**	**81.91**	**329**	*e*P	**P**	**05 44 06.5**	**+1.1**
GOPC				*e*		05 44 16.7	
PRU	**Pruhonice**	**81.95**	**329**	*e*P	**P**	**05 44 06.8**	**+1.2**
PRU				*e*pP	**sP**	**05 44 17.0**	**-1.2**
PRU	**Pruhonice**	**81.95**	**329**	*e*P	**P**	**05 44 06.8**	**+1.2**
PRU				*e*		05 44 17.0	
BZS	**Buzias**	**81.99**	**322**	⇓*i*P	**P**	**05 44 06.2**	**+0.3**
TREC	**Trest**	**82.08**	**328**	*e*P	**P**	**05 44 07.6**	**+1.2**
TREC	**Trest**	**82.08**	**328**	*e*P	**P**	**05 44 07.6**	**+1.2**
ASF	**Jabal al Asfar**	**82.09**	**304**	P	**P**	**05 44 08.1**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=64,slow=5.8,SNR=2.5						
S22A	**4UR Ranch, Cre**	**82.21**	**48**	*e*P	**P**	**05 44 08.7**	**+1.0**
	comp=Z,4.3nm,0.9s						
MMAI	**Mount Meron Ar**	**82.55**	**306**	P	**P**	**05 44 10.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=44,slow=6.4,SNR=4.0						
MMAI				LR	LR	06 24 57.8	
	comp=Z,145nm,18.5s,baz=305,slow=39						
NKC	**Novy Kostel**	**82.61**	**330**	*e*P	**P**	**05 44 07.1**	**-2.0**
NKC	**Novy Kostel**	**82.61**	**330**	*e*P	**P**	**05 44 07.1**	**-2.0**
KHC	**Kasperske Hory**	**83.01**	**329**	*e*P	**P**	**05 44 12.3**	**+1.0**
KHC				*e*pP	**sP**	**05 44 22.4**	**-1.4**
KHC	**Kasperske Hory**	**83.01**	**329**	*e*P	**P**	**05 44 11.0**	**-0.2**
	comp=Z,3.4nm,0.9s						
KHC	**Kasperske Hory**	**83.01**	**329**	*e*P	**P**	**05 44 12.3**	**+1.0**
KHC				*e*		05 44 22.4	
GEC2	**GERESS Array S**	**83.18**	**329**	*e*P	**P**	**05 44 12.6**	**+0.4**
	comp=Z,4.7nm,0.8s						
GEC2	**GERESS Array S**	**83.18**	**329**	*e*P	**P**	**05 44 12.6**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GERES	**GERESS Array B**	**83.18**	**329**	P	**P**	**05 44 12.8**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=35,slow=4.9,SNR=21						
GERES				LR	LR	06 23 26.1	
	comp=Z,264nm,18.6s,baz=350,slow=37						
GEA0	**GERESS Array S**	**83.19**	**329**	*e*P	**P**	**05 44 13.0**	**+0.7**
TUC	**Tucson**	**83.23**	**55**	*e*P	**P**	**05 44 13.8**	**+1.0**
	comp=Z,11nm,1.7s						
TUC	**Tucson**	**83.23**	**55**	*e*P	**P**	**05 44 13.8**	**+1.0**
TUC				pmax	pmax		
	comp=Z,11nm,1.7s						
BFZ	**Birch Farm**	**83.25**	**155**	*e*P	**P**	**05 44 12.1**	**-0.2**
	comp=Z,193nm,1.8s						
VTS	**Vitosha**	**83.34**	**319**	⇑*i*P	**P**	**05 44 14.2**	**+0.9**
VTS	**Vitosha**	**83.34**	**319**	*e*P	**P**	**05 44 14.1**	**+0.9**
	comp=Z,7.2nm,0.7s						
VTS	**Vitosha**	**83.34**	**319**	*e*P	**P**	**05 44 14.1**	**+0.9**
VTS				pmax	pmax		
	comp=Z,7.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**83.51**	**341**	P	**P**	**05 44 13.5**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=16,slow=3.7,SNR=4.6						
ECSD	**EROS Data Cent**	**83.72**	**39**	*e*P	**P**	**05 44 15.2**	**+0.2**
	comp=Z,6.0nm,0.9s						
DIVS	**Divibare**	**83.89**	**322**	*e*P	**P**	**05 44 16.1**	**+0.2**
	comp=Z,13nm,1.2s						
MHTCO	**State Highway**	**83.90**	**48**	*e*P	**P**	**05 44 17.5**	**+1.2**
	comp=Z,22nm,1.7s						
PPT	**Papeete**	**84.03**	**117**	LR	LR	06 17 10.6	
	comp=Z,158nm,19.7s,baz=303,slow=32						
PPT2	**Papeete2**	**84.05**	**117**	*e*LR	LR	06 10 36.3	
	comp=Z,116nm,23.2s						
T25A	**Trinidad**	**84.06**	**47**	*e*P	**P**	**05 44 18.2**	**+1.2**
	comp=Z,7.2nm,0.8s						
ANMO	**Albuquerque**	**84.28**	**50**	*e*P	**P**	**05 44 19.5**	**+1.2**
	comp=Z,5.7nm,1.0s						
ANMO	**Albuquerque**	**84.28**	**50**	*ce*P	**P**	**05 44 20.0**	**+1.8**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LBZ	**Lake Benmore**	**84.75**	**160**	*e*P	**P**	**05 44 19.6**	**-0.2**
	comp=Z,91nm,1.8s						
SCHQ	**Schefferville**	**85.37**	**16**	P	**P**	**05 44 23.4**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=328,slow=3.1,SNR=5.1						
SCHQ	**Schefferville**	**85.37**	**16**	*e*P	**P**	**05 44 23.5**	**+0.4**
	comp=Z,34nm,1.8s						
PDG	**Podgorica**	**85.48**	**321**	⇑*i*P	**P**	**05 44 24.1**	**+0.3**
TTG	**Podgorica**	**85.48**	**321**	*e*P	**P**	**05 44 23.7**	**-0.1**
	comp=Z,89nm,1.7s						
TTG	**Podgorica**	**85.48**	**321**	*e*P	**P**	**05 44 23.7**	**-0.1**
TTG				pmax	pmax		
	comp=Z,89nm,1.7s						
TAOE	**Nuku Hiva Isla**	**85.57**	**104**	*e*LR	LR	06 11 26.8	
	comp=Z,215nm,23.3s						
BFO	**Black Forest**	**85.76**	**331**	*e*P	**P**	**05 44 25.5**	**+0.3**
	comp=Z,19nm,1.1s						
BFO	**Black Forest**	**85.76**	**331**	*ce*P	**P**	**05 44 26.2**	**+1.0**
KARP	**Karpathos**	**86.03**	**312**	*e*P	**P**	**05 44 27.4**	**+0.7**
	comp=Z,4.4nm,0.8s						
ECH	**Echery**	**86.30**	**332**	*e*P	**P**	**05 44 28.3**	**+0.5**
	comp=Z,9.7nm,1.0s						
ECH	**Echery**	**86.30**	**332**	*e*P	**P**	**05 44 28.3**	**+0.5**
ECH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**86.36**	**329**	*e*P	**P**	**05 44 29.7**	**+1.2**
	comp=Z,16nm,1.3s						
IDI	**Anoyia**	**87.54**	**313**	P	**P**	**05 44 34.6**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=50,slow=13,SNR=2.9						
TBI	**Tubuai**	**87.93**	**121**	*e*T	T	07 21 27.6	
	comp=Z,5.6nm,0.3s						
TIP	**Timpagrande**	**89.16**	**321**	*e*P	**P**	**05 44 42.2**	**+0.4**
	comp=Z,44nm,1.5s						
TX31	**Lajitas Ar. Si**	**89.79**	**53**	*e*P	**P**	**05 44 45.5**	**+0.6**
TXAR	**Lajitas Array**	**89.79**	**53**	P	**P**	**05 44 45.3**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=278,slow=3.4,SNR=7.0						
SFIN	**Lafayette**	**90.87**	**35**	*e*P	**P**	**05 44 50.6**	**+1.0**
	comp=Z,23nm,1.3s						
MIAR	**Mount Ida**	**92.08**	**43**	*e*P	**P**	**05 44 56.0**	**+0.6**
	comp=Z,8.6nm,0.9s						
MIAR	**Mount Ida**	**92.08**	**43**	*e*P	**P**	**05 44 56.0**	**+0.6**
MIAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WHAR	**Wooly Hollow**	**92.21**	**42**	*e*P	**P**	**05 44 56.7**	**+0.7**
	comp=Z,9.1nm,0.8s						
PQI	**Presque Isle**	**92.58**	**20**	*e*P	**P**	**05 44 57.8**	**+0.4**
	comp=Z,73nm,1.5s						
M54A	**Oil Creek Stat**	**93.16**	**30**	*e*P	**P**	**05 45 01.1**	**+0.8**
	comp=Z,46nm,1.4s						
KEST	**Kesra**	**95.53**	**323**	LR	LR	06 33 33.8	
	comp=Z,171nm,18.4s,baz=290,slow=39						
ESDC	**Sonseca Array**	**97.72**	**334**	P	**P**	**05 45 20.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=31,slow=4.0,SNR=3.2						
TOA0	**Torodi Ar. Sit**	**117.88**	**315**	*e*PKPdf	**PKPdf**	**05 50 32.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**117.88**	**315**	PKP	**PKPdf**	**05 50 32.3**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=51,slow=1.4,SNR=4.8						
TORD				PP	**PP**	**05 51 46.3**	**+0.2**
	comp=Z,2.4nm,1.1s,baz=21,slow=5.7,SNR=5.4						
KOWA	**Kowa**	**119.79**	**322**	PKP	**PKPdf**	**05 50 36.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=45,slow=4.3,SNR=2.8						
KOWA	**Kowa**	**119.79**	**322**	*e*PKPdf	**PKPdf**	**05 50 36.5**	**-0.2**
MATP	**Matopo**	**120.58**	**266**	PKP	**PKPdf**	**05 50 37.1**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=45,slow=2.9,SNR=2.6						
SDV	**Santo Domingo**	**125.11**	**41**	PKP	**PKPdf**	**05 50 47.0**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=7.9,slow=7.5,SNR=4.4						
LPAZ	**La Paz**	**146.30**	**61**	PKPbc	**PKPbc**	**05 51 27.9**	**0.0**
	comp=Z,4.9nm,0.7s,baz=312,slow=3.3,SNR=14						
MNMC	**Minye Minye**	**147.11**	**66**	*e*PKPbc	**PKPbc**	**05 51 30.5**	**+0.8**
PB11	**IPOC Station P**	**147.45**	**67**	*e*PKPdf	**PKPdf**	**05 51 28.9**	**+0.9**
PB01	**IPOC Station P**	**148.35**	**69**	*e*PKPbc	**PKPbc**	**05 51 33.2**	**+0.4**
PB04	**IPOC Station P**	**148.60**	**72**	*e*PKPbc	**PKPbc**	**05 51 34.1**	**+0.6**
LCO	**Las Campanas**	**151.46**	**84**	*e*PKPbc	**PKPbc**	**05 51 40.6**	**+0.2**
GO09	**Cerro Castillo**	**151.64**	**132**	*e*PKPbc	**PKPbc**	**05 51 40.7**	**+1.0**
GO05	**HualaæØ**	**152.44**	**96**	*e*PKPbc	**PKPbc**	**05 51 41.9**	**-0.3**
SPB	**Sao Paulo**	**164.44**	**35**	*e*PKPdf	**PKPdf**	**05 51 50.9**	**+1.0**

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*IDC **09** 05:38:53.0±1.7, 21°.60S×179°.16W, h566km±19km, mb3.5/15, mb1 3.7/17, mb1mx3.5/42, mbtmp4.4/17, Error ellipse: s-maj=17.2km s-min=11.9km az=139.0*

*ISCJB **09** 05:38:53.8±0.4, 21°.71S±0°.05×179°.08W±0°.09, h602km, mb4.0/15, Error ellipse: s-maj=11.0km s-min=6.1km az=16.5*

ISC 09 05:38:54.9±0.5, **21°.65S**±0°.09×**179°.08W**±0°.09, **h602**km, **n52**, σ**1^s.81**/52, **mb3.7**/15, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**7.65**	**172**	P	**P**	**05 40 48.4**	**-2.4**
AFI	**Afiamalu**	**10.38**	**43**	P	**P**	**05 41 15.0**	**-2.7**
	3.7nm,0.3s,baz=225,slow=8.6,SNR=3.7						
AFI				S	**S**	**05 43 09.8**	**-4.9**
	2.6nm,0.3s,baz=36,slow=19,SNR=3.6						
DZM	**Mont Dzumac**	**13.45**	**266**	P	**P**	**05 41 47.0**	**-1.4**
	2.0nm,0.3s,baz=74,slow=17,SNR=12						
OUZ	**Omahuta**	**14.96**	**204**	P	**P**	**05 42 03.6**	**+1.1**
HAZ	**Te Kaha**	**16.28**	**189**	P	**P**	**05 42 13.2**	**-1.3**
AWAZ	**Awhitu Peninsu**	**16.30**	**198**	P	**P**	**05 42 15.7**	**+1.0**
PKGZ	**Pakihiroa**	**16.37**	**188**	P	**P**	**05 42 13.5**	**-1.9**
RUGZ	**Raukumara Rang**	**16.50**	**189**	P	**P**	**05 42 14.8**	**-1.9**
TGRZ	**Tauranga**	**16.52**	**193**	P	**P**	**05 42 17.9**	**+1.1**
PUZ	**Puketiti**	**16.52**	**187**	P	**P**	**05 42 15.7**	**-1.1**
OPRZ	**Ohinepanea**	**16.57**	**192**	P	**P**	**05 42 18.2**	**+1.0**
TWGZ	**Tauwhareparae**	**16.66**	**188**	P	**P**	**05 42 18.0**	**-0.1**
TWGZ	**Tauwhareparae**	**16.66**	**188**	S	S	05 44 37.5	-26
KMRZ	**Kaimai**	**16.70**	**194**	P	**P**	**05 42 19.7**	**+1.2**
URZ	**Urewera**	**16.87**	**190**	P	**P**	**05 42 17.7**	**-2.3**
	6.9nm,0.3s,baz=226,slow=2.7,SNR=28						
URZ	**Urewera**	**16.87**	**190**	P	**P**	**05 42 17.7**	**-2.3**
MWZ	**Matawai**	**16.88**	**189**	P	**P**	**05 42 18.2**	**-1.9**
TKGZ	**Te Karaka**	**16.94**	**188**	P	**P**	**05 42 19.7**	**-0.8**
TKGZ	**Te Karaka**	**16.94**	**188**	S	S	05 44 41.5	-26
MUGZ	**Murupara**	**17.14**	**191**	P	**P**	**05 42 20.5**	**-2.0**
RIGZ	**Rimuhau**	**17.21**	**188**	P	**P**	**05 42 22.6**	**-0.5**

TLZ	Tolley Road	17.25 194	P	P	05 42 25.4	+1.8
SNGZ	Shannon Statio	17.35 189	P	P	05 42 22.8	-1.5
MTHZ	Maungataniwha	17.50 191	P	P	05 42 24.2	-1.5
RAHZ	Arahi	17.52 190	P	P	05 42 23.9	-2.0
NMHZ	Naumai	17.74 191	P	P	05 42 26.3	-1.7
KRHZ	Kereru	18.35 191	P	P	05 42 31.4	-2.0
RPZ	Rata Peaks	23.48 198	P	P	05 43 17.7	-1.7
	4.8nm,0.6s,baz=16,slow=7.4,SNR=5.1					
PMG	Port Moresby	34.64 285	P	P	05 44 55.9	-0.1
	13nm,0.7s,baz=90,slow=5.1,SNR=5.3					
STKA	Stephens Creek	36.39 245	P	P	05 45 10.5	+0.3
	7.0nm,0.6s,baz=86,slow=12,SNR=13					
ASAR	Alice Springs	43.28 258	P	P	05 46 05.0	-0.3
	12nm,0.6s,baz=93,slow=7.9,SNR=86					
ASAR			ScP	ScP	05 50 39.0	+3.9
	0.8nm,0.8s,baz=98,slow=4.8,SNR=4.1					
ASAR			S	S	05 51 48.1	-2.3
	0.2nm,0.3s,baz=90,slow=17,SNR=5.3					
WRA	Warramunga Arr	43.45 263	P	P	05 46 05.8	-0.8
	9.6nm,0.5s,baz=95,slow=7.8,SNR=236					
WRA			S	S	05 51 48.6	-4.2
	0.6nm,0.9s,baz=100,slow=14,SNR=5.3					
VNDA	Vanda	56.68 185	P	P	05 47 43.8	+2.0
	0.9nm,0.5s,baz=25,slow=7.9,SNR=4.5					
MJAR	Matsushiro Arr	70.55 325	P	P	05 49 10.6	0.0
	0.4nm,0.3s,baz=120,slow=7.2,SNR=3.0					
PETK	Petropavlovsk-	77.13 346	P	P	05 49 48.0	+0.7
	2.2nm,0.7s,baz=128,slow=9.3,SNR=6.3					
YBH	Yreka Blue Hor	81.82 39	P	P	05 50 13.5	+1.2
	2.1nm,0.8s,baz=230,slow=5.4,SNR=7.8					
NVAR	Mina Array Bea	82.55 44	P	P	05 50 17.9	+1.7
	1.5nm,0.7s,baz=222,slow=9.1,SNR=13					
SEY	Seymchan	87.27 347	P	P	05 50 38.1	0.0
	0.7nm,0.3s,baz=86,slow=15,SNR=5.7					
TXAR	Lajitas Array	88.52 58	P	P	05 50 46.6	+1.6
	0.9nm,0.8s,baz=211,slow=6.8,SNR=3.0					
ILAR	Eielson Array	89.66 13	P	P	05 50 49.5	+0.2
	0.4nm,0.4s,baz=225,slow=5.1,SNR=8.6					
PDAR	Pinedale Array	90.49 44	P	P	05 50 55.5	+1.6
	0.7nm,0.3s,baz=49,slow=18,SNR=16					
SONM	Songino Array	95.96 319	P	P	05 51 19.1	+0.5
	0.4nm,0.9s,baz=114,slow=3.6,SNR=2.2					
BVAR	Borovoye Array	119.30 320	PKP	PKPdf	05 56 36.7	+0.2
	1.0nm,0.5s,baz=68,slow=2.9,SNR=3.8					
GEYT	Alibeck	128.54 302	PKP	PKPdf	05 56 57.0	+2.2
	1.1nm,0.4s,baz=72,slow=4.7,SNR=2.0					
ARCES	ARCESS Array B	129.86 349	PKP	PKPdf	05 56 56.9	+0.7
	3.5nm,0.9s,baz=33,slow=3.3,SNR=4.4					
FINES	FINESS Array B	136.58 343	PKP	PKPdf	05 57 10.4	+1.4
	2.8nm,1.0s,baz=324,slow=6.9,SNR=2.6					
KMBO	Kilima Mbogo	137.91 242	PKhKP	PKPpre	05 56 58.0	
	1.6nm,0.3s,baz=284,slow=2.7,SNR=4.4					
KMBO			PKP	PKPdf	05 57 13.4	+0.1
	1.7nm,0.4s,baz=280,slow=3.5,SNR=4.0					
HFS	Hagfors	140.50 350	PKhKP	PKPpre	05 57 10.3	
	4.1nm,0.8s,baz=95,slow=7.7,SNR=5.8					
AKASG	Malin Array Be	143.51 330	PKP	PKPab	05 57 20.5	-0.2
	0.8nm,0.4s,baz=43,slow=4.4,SNR=12					
EKA	Eskdalemuir Ar	146.23 4	PKPbc	PKPbc	05 57 29.8	+1.2
	2.0nm,0.7s,baz=9.9,slow=4.5,SNR=3.4					
BRTR	Keskin Array B	146.84 310	PKPbc	PKPbc	05 57 31.5	+0.5
	0.6nm,0.7s,baz=134,slow=5.3,SNR=4.0					
GERES	GERESS Array B	151.01 342	PKPbc	PKPbc	05 57 41.7	+0.9
	0.4nm,0.4s,baz=80,slow=1.5,SNR=5.6					

MEX 09 05:42:18.1±0.6, 18°12N×103°28W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	Aquila	0.18	338	*i* P	Pg	05 42 21.1	-0.6
MMIG				*i* S	Sg	05 42 23.8	-0.3
EZ5V		1.39	347	*e*P	Pn	05 42 41.2	-3.1
EZ5V				*e*S	Sg	05 42 58.7	-4.0
ZIIG	Zihuatanejo	1.80	106	*i* P	Pn	05 42 45.6	-4.2
ZIIG				*i* S	Sn	05 43 07.8	-5.2
CJM	Chamela	2.16	310	*i* P	Pn	05 42 51.5	-3.4
CJM				*e*S	Sn	05 43 18.2	-3.8

JMA 09 06:10:38.5±0.2, 39°64N×143°61E, h28km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	Tanohata	1.38	283	P	Pn	06 11 02.1	+0.2
JTH				*e*S	Sn	06 11 19.6	+0.4
MIYJ	Miyakonagasawa	1.38	268	P	Pn	06 11 02.6	+0.7
OFUJ	Ofunato	1.60	250	P	Pn	06 11 05.7	+0.7
JANG	Nango	1.77	295	P	Pn	06 11 07.6	+0.4
JOM	Ohasama	1.80	265	P	Pn	06 11 09.0	+1.3
JOM				*e*S	Sn	06 11 31.1	+1.5
JMK	Ichinoseki	1.98	250	P	Pn	06 11 11.2	+1.1
JIO	Ouri	2.12	237	P	Pn	06 11 12.8	+0.7
JTM	Tenmabayashi	2.26	301	P	Pn	06 11 15.5	+1.5
JTM				*e*S	Sn	06 11 42.5	+1.6
JRG	Rokugo	2.31	265	P	Pn	06 11 16.4	+1.7
JAH	Hinai	2.35	284	P	Pn	06 11 16.8	+1.6
JAH				*e*S	Sn	06 11 45.6	+2.4
JOT	Ohata	2.62	313	P	Pb	06 11 22.0	-2.7
JOU	Okura	2.62	242	P	Pn	06 11 20.5	+1.5
JOU				*e*S	Sn	06 11 50.8	+0.8
JYK	Kaneyama	2.62	255	P	Pn	06 11 20.5	+1.5
JNBK	Urakawa-nobuka	2.72	346	P	Pn	06 11 21.9	+1.6
JNBK				*e*S	Sn	06 11 54.2	+2.0
JCH	Churui	2.98	356	P	Pn	06 11 24.9	+1.1
JFT	Otama	3.33	231	P	Pn	06 11 30.2	+1.5
JFT				*e*S	Sn	06 12 08.7	+1.4

*IDC **09** 06:12:20.3±2.0, 21°74S×171°91E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/40, mbtmp4.0/5, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/40, Error ellipse: s-maj=104.7km s-min=34.5km az=167.0*
*NEIC **09** 06:12:22.2±0.6, 21°63S×171°80E, h10km, mb4.5/8, Error ellipse: s-maj=18.8km s-min=11.9km az=163.0*
*ISCJB **09** 06:12:24.3±0.7, 21°6S±0°1×171°70E±0°09, h33km, mb4.5/13, MS3.3/2, Error ellipse: s-maj=20.3km s-min=11.8km az=167.3*

ISC 09 06:12:26.1±0.7, 21°7S±0°2×171°89E±0°08, h35km, n25, σ1°46/26, mb4.3/13, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	5.07	265	Pn	Pn	06 13 40.0	+0.3
	1.1nm,0.3s,baz=132,slow=18,SNR=24						
DZM				Sn	Sn	06 14 39.6	+2.4
	4.3nm,0.3s,baz=188,slow=21,SNR=8.9						
DZM	Mont Dzumac	5.07	265	*e*Pn	Pn	06 13 40.1	+0.3
DZM				*e*Sn	Sn	06 14 40.3	+3.1
RPZ	Rata Peaks	21.98	182	LR	LR	06 24 40.1	
	comp=Z,123nm,18.3s,baz=18,slow=34						
LBZ	Lake Benmore	22.68	183	*e*P	P	06 17 25.9	+1.5
	5.9nm,1.0s						
CAN	Canberra	24.20	231	*e*P	P	06 17 37.9	-1.5
	8.9nm,1.0s						
KNTN	Kanton	24.65	43	*e*P	P	06 17 44.6	+1.1
	42nm,0.8s						
STKA	Stephens Creek	28.80	243	P	P	06 18 20.4	-0.5
	0.9nm,0.6s,baz=85,slow=11,SNR=2.9						
STKA				LR	LR	06 30 04.1	
	comp=Z,61nm,18.3s,baz=220,slow=37						
AS01	Alice Springs	35.00	259	*e*P	P	06 19 14.3	-1.1
AS31	Alice Springs	35.04	259	*e*P	P	06 19 14.2	-1.6
	1.0nm,0.8s						
ASAR	Alice Springs	35.04	259	P	P	06 19 14.2	-1.6
	1.9nm,0.8s,baz=91,slow=9.4,SNR=16						
WB2	Warramunga Arr	35.08	266	*e*P	P	06 19 14.5	-1.6
WRAB	Tennant Creek	35.08	266	*e*P	P	06 19 15.7	-0.4
	6.0nm,1.0s						
WR1	Warramunga Arr	35.09	266	*e*P	P	06 19 14.6	-1.6
	3.6nm,1.0s						
WRA	Warramunga Arr	35.09	266	P	P	06 19 14.6	-1.7
	0.8nm,0.4s,baz=96,slow=8.6,SNR=19						
FITZ	Fitzroy Crossi	43.52	266	P	P	06 20 26.9	+0.4
	2.2nm,0.5s,baz=110,slow=11,SNR=2.6						
TAOE	Nuku Hiva Isla	47.80	82	*e*P	P	06 21 02.5	+1.9
	26nm,0.8s						
COCO	West Island	71.84	264	*e*P	P	06 23 44.8	-1.1
	84nm,0.8s						
CM01	Chiang Mai Arr	81.73	293	*e*P	P	06 24 39.2	-2.3
PMSA	Palmer Station	83.76	159	*e*P	P	06 24 50.8	-0.5
	50nm,1.1s						
ARA0	ARCESS Array S	128.05	346	*e*PKPdf	PKPdf	06 31 28.1	+0.5
ARCES	ARCESS Array B	128.05	346	PKP	PKPdf	06 31 28.2	+0.5
	2.4nm,0.9s,baz=17,slow=0.9,SNR=3.2						
AGG	Agios Georgios	148.76	310	*e*PKPdf	PKPdf	06 32 06.9	+0.7
TUE	Stuetta	151.49	334	*e*PKPdf	PKPdf	06 32 11.2	+0.7
TORD	Torodi Ar. Bea	167.37	229	PKP	PKPdf	06 32 28.5	-0.8
	0.6nm,0.9s,baz=158,slow=1.4,SNR=2.5						
TOA1	Torodi Ar. Sit	167.38	229	*e*PKPdf	PKPdf	06 32 28.5	-0.8

*ISCJB **09** 06:13:57.7±0.9, 46°28N±0°04×141°88E±0°07, h14km, Error ellipse: s-maj=7.0km s-min=5.4km az=177.7*
*MOS **09** 06:13:57.5±0.8, 46°27N×141°66E, h11km, mb3.9/1, Error ellipse: s-maj=59.3km s-min=20.6km az=77.8*
MOS Felt (II) at Gornozavodsk.
*SKHL **09** 06:14:01.0±0.6, 46°44N×141°86E, h10km, mb4.1/5*
SKHL Felt (II) at Gornozavodsk.

ISC 09 06:13:59.3±1.1, 46°26N±0°05×141°93E±0°09, h14km, n11, σ2°34/14, 2C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	Yuzh-Sakhalins	0.90	39	*e*Pg	Pg	06 14 16.6	0.0
YSS				AMB	AMB	06 14 20.5	
	50nm,0.4s						
YSS				*e*Sg	Sb	06 14 28.2	-0.2
YSS				A	A	06 14 29.5	
	900nm,0.3s						
YSS				A	A	06 14 29.5	
	640nm,0.3s						
YSS	Yuzh-Sakhalins	0.90	39	*e*PN	Pb	06 14 16.6	0.0
YSS				*e*		06 14 28.5	
YSS				smax	smax		
	comp=N,1μm,0.3s						
YSS				smax	smax		
	comp=E,600nm,0.4s						
UGL	Uglegorsk	2.82	2	*e*Pg	Pg	06 14 52.6	-0.7
UGL				AMB	AMB	06 14 58.4	
	comp=E,40nm,0.6s						
UGL				*e*Sb	Sb	06 15 18.9	-4.8
UGL				A	A	06 15 20.3	
	comp=E,30nm,0.4s						
UGL				*e*Sg	Sg	06 15 30.9	+1.1
UGL				A	A	06 15 32.6	
	comp=E,40nm,0.5s						
UGL				A	A	06 15 32.6	
	comp=E,70nm,0.5s						
UGL	Uglegorsk	2.82	2	*e*PN	Pn	06 14 43.7	-0.2
UGL				*e*S	Sn	06 15 17.2	-0.4
UGL				smax	smax		
	comp=N,4.0nm,0.5s						
ERM	Erimo	4.34	168	↑*e*PN	Pn	06 15 06.2	+1.4
TYV	Tymovskoe	4.63	6	*e*Pg	Pg	06 15 27.7	-0.2
TYV				*e*Sg	Sg	06 16 31.2	+3.4
TYV				A	A	06 16 35.7	
	comp=N,46nm,0.4s						
TYV	Tymovskoe	4.63	6	*e*PN	Pn	06 15 10.4	+1.7
GRNR	Gornyy	5.80	323	*e*Sg	Sg	06 17 09.5	+4.1
GRNR				A	A	06 17 10.6	
	comp=N,20nm,0.5s						
NKL	Nikolayevsk	6.94	354	*e*Pg	Pg	06 16 15.5	+3.4
NKL				AMB	AMB	06 16 16.6	
	comp=N,20nm,1.0s						
NKL				*e*Sg	Sg	06 17 49.0	+7.2
NKL				A	A	06 17 50.0	
	comp=N,8.0nm,0.9s						
EKMR	Ekimchan	8.96	323	*e*Sg	Sg	06 18 56.5	+10
EKMR				A	A	06 18 58.0	
	comp=N,5.0nm,0.8s						
TJN	Taejon	14.72	233	↑*e*P	Pn	06 17 25.3	-1.6

*ISK **09** 06:14:16.2, 39°07N×43°70E, h5km, ML3.7/14*
*CSEM **09** 06:14:17.4±0.1, 39°06N×43°73E, h2km, ML3.9, Error ellipse: s-maj=4.2km s-min=2.9km az=147.0*
*DDA **09** 06:14:17.1, 39°09N×43°73E, h7km, Ml3.9*

ISC 09 06:14:17.3±1.1, 39°05N±0°02×43°73E±0°02, h3km±10km, n55, σ1°93/78, 4C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	Caldiran	0.17	56	PG	Pg	06 14 20.7	-0.1
CLDR				SG	Sg	06 14 23.4	+0.3
CLDR	Caldiran	0.17	56	*i* P	Pg	06 14 20.2	-0.5
CLDR				*i* S	Sg	06 14 23.8	+0.7
CLDR	Caldiran	0.17	56	P	Pg	06 14 20.2	-0.5
CLDR	Caldiran	0.17	56	*e*Pg	Pg	06 14 20.7	-0.1
CLDR				*e*Sg	Sg	06 14 23.4	+0.3
ERCV	ERCIS-VAN	0.31	265	PG	Pg	06 14 22.6	-0.7
ERCV	ERCIS-VAN	0.31	265	*e*Pg	Pg	06 14 22.6	-0.7
DYDN	Diyadin	0.50	356	*i* P	Pg	06 14 26.8	-0.1
DYDN				*i* S	Sb	06 14 35.4	-1.2
DYDN	Diyadin	0.50	356	P	Pg	06 14 26.8	-0.1
DYDN				S	Sb	06 14 35.4	-1.2
VANB	Van	0.53	211	PG	Pb	06 14 28.6	-0.7
VANB				SG	Sb	06 14 38.6	+1.3
VANB	Van	0.53	211	*e*Pg	Pb	06 14 28.6	-0.7
VANB				*e*Sg	Sb	06 14 38.6	+1.3
TVAN	Van	0.58	206	*i* P	Pg	06 14 28.7	+0.3
TVAN				*i* S	Sb	06 14 38.9	0.0
TVAN	Van	0.58	206	P	Pg	06 14 28.7	+0.3
TVAN				S	Sb	06 14 38.9	0.0
AGRB	Hanur-Agry	0.78	313	PG	Pg	06 14 31.9	-0.4
AGRB				SG	Sb	06 14 43.3	-1.4
AGRB	Hanur-Agry	0.78	313	*e*Pg	Pg	06 14 31.9	-0.4
AGRB				*e*Sg	Sb	06 14 43.3	-1.4
TUTA	Tutak	0.80	297	*i* P	Pg	06 14 32.1	-0.5
TUTA				*i* S	Sg	06 14 43.3	+0.3
TUTA	Tutak	0.80	297	P	Pg	06 14 32.1	-0.5
TUTA				S	Sg	06 14 43.3	+0.3
ADCV	BITLIS_Adilcev	0.82	253	*i* P	Pg	06 14 32.4	-0.7
ADCV				*i* S	Sb	06 14 45.5	-0.4
ADCV	BITLIS_Adilcev	0.82	253	P	Pg	06 14 32.3	-0.7
ADCV				S	Sb	06 14 45.5	-0.4
GEVA	Gevas	0.90	216	*i* P	Pg	06 14 33.7	-0.9
GEVA				*i* S	Sb	06 14 48.7	+0.4
GEVA	Gevas	0.90	216	P	Pg	06 14 33.7	-0.9
GEVA				S	Sb	06 14 48.7	+0.4
TASB	TASBURUN-IGDIR	1.01	23	PG	Pb	06 14 36.8	-0.8
TASB	TASBURUN-IGDIR	1.01	23	*e*Pg	Pb	06 14 36.8	-0.8
BASK	Baskale_VAN	1.02	168	*i* P	Pg	06 14 34.7	-2.1
BASK				*i* S	Sn	06 14 53.2	-0.4
HYR	Heyderabad	1.10	52	↓P	Pg	06 14 38.1	-0.3
GURO	Guroymak-BITLI	1.42	250	PN	Pn	06 14 43.3	-0.8
GURO				SN	Sn	06 15 03.9	+0.5
GURO	Guroymak-BITLI	1.42	250	*e*Pn	Pn	06 14 43.3	-0.8
GURO				*e*Sn	Sn	06 15 03.9	+0.5
SBZ	Shahbuz	1.46	76	↓P	Pg	06 14 44.0	-0.7
SBZ				↓S	Sg	06 15 07.9	+3.8
KARS	Kars	1.66	343	PN	Pb	06 14 47.5	-1.1
KARS	Kars	1.66	343	*e*Pn	Pb	06 14 47.5	-1.1
ORD	Ordubad	1.77	93	↑P	Pn	06 14 48.9	0.0
ORD				↓S	Sg	06 15 14.7	+0.6
CUKT	Cukurca	1.80	183	PN	Pb	06 14 50.1	-0.9
CUKT	Cukurca	1.80	183	*e*Pn	Pb	06 14 50.1	-0.9
SENK	Senkaya-Erzuru	1.85	325	PN	Pb	06 14 50.4	-1.5
SENK	Senkaya-Erzuru	1.85	325	*e*Pn	Pb	06 14 50.4	-1.5
SIRT	Sirnak	1.85	214	PN	Pb	06 14 50.9	-0.9
SIRT	Sirnak	1.85	214	*e*Pn	Pb	06 14 50.9	-0.9
BGD	Bogdanovka	2.22	357	P	Pg	06 14 59.9	+0.1
GDB	GEDABAY	2.28	42	↓P	Pb	06 14 57.5	-1.8
AKH	Akhalkalaki	2.37	356	P	Pg	06 15 01.7	-1.0
AKH				S	Sg	06 15 46.0	+13
QZX	Qazax, Azerbai	2.37	32	↓P	Pn	06 14 58.1	+1.0
TBLG	Delisi	2.79	16	P	Pb	06 15 08.3	+0.5
TBLG				S	Sg	06 15 48.9	+2.0
MAZI	Mazidag	3.03	240	PN	Pn	06 15 07.3	+1.0
MAZI	Mazidag	3.03	240	*e*Pn	Pn	06 15 07.3	+1.0
BAYT	Ayd˘–ntepe-Bay	3.08	297	PN	Pn	06 15 07.6	+0.6
BAYT	Ayd˘–ntepe-Bay	3.08	297	*e*Pn	Pn	06 15 07.6	+0.6
PTK	Pertek	3.39	269	PN	Pn	06 15 12.3	+1.0
PTK	Pertek	3.39	269	*e*Pn	Pn	06 15 12.3	+1.0
ONI	Oni	3.55	357	P	Pb	06 15 22.1	+1.4
LRK	Lerik	3.62	95	↓P	Pn	06 15 13.5	-1.0
ASTR	Astara	3.98	95	↑P	Pn	06 15 18.2	-1.0
XNQ	Khinaliq	3.99	56	↑P	Pn	06 15 19.9	+0.3
URFA	Urfa	4.18	249	PN	Pn	06 15 24.3	+2.2
URFA	Urfa	4.18	249	*e*Pn	Pn	06 15 24.3	+2.2
GBS	Qobustan	4.28	68	↓P	Pn	06 15 23.6	+0.2
ATGJ	Altiaghaj	4.39	64	↑P	Pn	06 15 25.6	+0.6

*SOME **09** 06:31:37.6, 44°32N×83°35E, h5km*
*NNC **09** 06:31:44.3±3.8, 44°37N×82°96E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=43.8km s-min=14.8km az=119.0*

ISC 09 06:31:42.6±3.5, 44°4N±0°1×83°1E±0°2, h17km, n7, σ2°22/11, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	Ketmen	2.21	245	*e*P	Pb	06 32 21.1	-1.0
	13nm,0.3s						
KTMS				*e*S	Sg	06 32 52.7	-0.8
	26nm,0.4s						
MK31	Makanchi Array	2.45	347	↑Pn	Pb	06 32 26.4	+0.3
	1.4nm,0.3s,baz=157,slow=16,SNR=5.5						
MK31				↓Lg	Lg	06 33 01.2	
	2.6nm,0.4s,baz=152,slow=31,SNR=8.1						
MAKZ	Makanchi	2.52	342	↓Pn	Pb	06 32 26.8	-0.7
	2.6nm,0.5s						
MAKZ				↑Lg	Lg	06 33 04.6	
	3.7nm,0.5s						
PDGK	Podgornoye	2.83	249	↑Pg	Pb	06 32 32.9	+0.3
	1.2nm,0.4s						
PDGK				↓Lg	Lg	06 33 12.8	
	6.7nm,0.5s						
UZB	Uzynbulak	3.21	248	*e*P	Pb	06 32 39.2	-0.1
	1.4nm,0.4s						
UZB				*e*S	Sg	06 33 23.2	-2.5
	2.8nm,0.4s						
KPKS	Kokpek	3.33	255	*e*P	Pb	06 32 40.6	-0.6
	1.8nm,0.7s						
KPKS				*e*S	Sb	06 33 25.6	+4.2
	22nm,0.4s						
CHKK	Chushkaly	4.43	265	*e*P	Pb	06 33 01.5	+1.5
	2.5nm,0.2s						
CHKK				*e*S	Sg	06 34 01.7	-3.2
	3.8nm,0.3s						

MEX 09 06:37:03.6±0.7, 18°18N×103°34W, h5km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	Aquila	0.11	358	*i* P	Pg	06 37 05.0	-1.0
MMIG				*i* S	Sg	06 37 07.7	+0.2
EZ5V		1.32	349	*i* P	Pg	06 37 25.7	-3.2
EZ5V				*i* S	Sg	06 37 42.1	-4.0
ZIIG	Zihuatanejo	1.87	107	*e*P	Pn	06 37 33.2	-3.1
ZIIG				*i* S	Sn	06 37 55.5	-4.8
CJM	Chamela	2.08	309	*i* P	Pn	06 37 36.3	-2.9
CJM				*i* S	Sn	06 38 01.1	-4.4

*ISK **09** 06:41:39.4, 39°02N×43°79E, h12km, ML2.5/5*
*ISCJB **09** 06:41:40.6±0.9, 39°06N±0°05×43°75E±0°07, h10km±6km, Error ellipse: s-maj=11.3km s-min=5.7km az=41.1*
*DDA **09** 06:41:40.1, 39°00N×43°80E, h7km, Ml2.7*
*CSEM **09** 06:41:40.2±0.3, 39°05N×43°78E, h12km, ML2.5, Error ellipse: s-maj=6.5km s-min=4.5km az=128.0*

ISC 09 06:41:39.3±1.0, 39°02N±0°04×43°79E±0°04, h15km±7km, n15, σ0°60/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	Caldiran	0.16	40	PG	Pg	06 41 43.5	-0.2
CLDR				SG	Sg	06 41 46.5	0.0
CLDR	Caldiran	0.16	40	*i* P	Pg	06 41 43.4	-0.3
CLDR				*i* S	Sb	06 41 47.2	-0.2
CLDR	Caldiran	0.16	40	*e*Pg	Pg	06 41 43.5	-0.2
CLDR				*e*Sg	Sg	06 41 46.5	0.0
CLDR				S	Sb	06 41 47.2	-0.2
ERCV	ERCIS-VAN	0.35	270	PG	Pg	06 41 46.8	+0.2
ERCV				SG	Sb	06 41 52.4	-0.3
ERCV	ERCIS-VAN	0.35	270	*e*Pg	Pg	06 41 46.8	+0.2
ERCV				*e*Sg	Sb	06 41 52.4	-0.3
VANB	Van	0.53	216	PG	Pb	06 41 51.3	+1.0
VANB				SG	Sn	06 41 59.9	-1.1
VANB	Van	0.53	216	*e*Pg	Pb	06 41 51.3	+1.0
VANB				*e*Sg	Sn	06 41 59.9	-1.1
DYDN	Diyadin	0.53	352	*i* P	Pb	06 41 50.7	+0.2
DYDN				*i* S	Sb	06 41 58.8	+0.8
DYDN	Diyadin	0.53	352	P	Pb	06 41 50.7	+0.2
DYDN				S	Sb	06 41 58.8	+0.8
AGRB	Hanur-Agry	0.83	312	PG	Pg	06 41 55.7	+0.2
AGRB	Hanur-Agry	0.83	312	*e*Pg	Pg	06 41 55.7	+0.2
TUTA	Tutak	0.84	297	*i* P	Pn	06 41 57.1	+0.3
TUTA				*i* S	Sb	06 42 06.2	-0.9
TUTA	Tutak	0.84	297	P	Pn	06 41 57.2	+0.3
TUTA				S	Sb	06 42 06.2	-0.9
GURO	Guroymak-BITLI	1.45	252	PN	Pb	06 42 06.1	+0.1
GURO	Guroymak-BITLI	1.45	252	*e*Pn	Pb	06 42 06.1	+0.1

MEX 09 06:44:43.8±0.4, 18°10N×103°27W, h7km±4km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	Aquila	0.20	340	*i* P	Pg	06 44 47.6	-0.2
MMIG				*i* S	Sg	06 44 50.4	-0.2
EZ5V		1.41	347	*e*P	Pn	06 45 06.2	-3.9
EZ5V				*e*S	Sb	06 45 24.9	-3.9
ZIIG	Zihuatanejo	1.79	106	*e*P	Pn	06 45 11.6	-3.5
ZIIG				*e*S	Sn	06 45 33.4	-4.6
CJM	Chamela	2.18	310	*i* P	Pn	06 45 17.4	-3.0
CJM				*e*S	Sn	06 45 43.1	-4.5

MEX 09 06:59:38.5±0.8, 18°16N×103°31W, h5km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	Aquila	0.13	344	*i* P	Pg	06 59 40.4	-

waves, cutoff=50s.

*ISCJB **09** 07:09:52.3±1.0, 19°.12S±0°.02×169°.53E±0°.02, h33km±9km, mb6.0/357, MS6.6/619 Error ellipse: s-maj=4.2km s-min=2.7km az=14.2*

*NEIC **09** 07:09:54.0±0.0, 18°.81S×169°.63E, h11km Best double couple: NP1:ϕ=131.00000°, δ=62.00000°, λ=-101.00000°. NP2:ϕ=334.00000°, δ=30.00000°, λ=-70.00000°. Principal axes: T 1.2800, Plg16.0000°, Azm229.0000°; N -0.1700, Plg9.0000°, Azm136.0000°; P -1.1100, Plg70.0000°, Azm16.0000°;*

ISC 09 07:09:53.3±0.5, 19°.22S±0°.03×169°.75E±0°.03, h34km±1km, h35km: pP-P, n2238, σ1°.54/2067, mb6.0/365, MS6.7/645, 43C-67D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.20**	**227**	Pn	**Pn**	**07 10 53.9**	**-1.2**
	58nm,0.3s,baz=94,slow=9.2,SNR=811						
DZM				Sn	**Sn**	**07 11 45.0**	**+2.1**
	348nm,0.3s,baz=314,slow=21,SNR=8.2						
DZM				LR	LR	07 12 28.0	
	comp=Z,1681μm,20.2s,baz=40,slow=38						
DZM	**Mont Dzumac**	**4.20**	**227**	*e*Pn	**Pn**	**07 10 54.5**	**-0.6**
	874nm,0.2s						
DZM				*e*Sn	**Sn**	**07 11 38.4**	**-4.6**
	4μm,0.3s						
DZM				*e*LR	LR	07 11 48.3	
	3489μm,25.9s						
DZM	**Mont Dzumac**	**4.20**	**227**	*e*Pn	**Pn**	**07 10 54.0**	**-1.1**
DZM				*e*Sn	**Sn**	**07 11 44.2**	**+1.2**
NFK	**Norfolk Island**	**9.91**	**189**	P	**Pn**	**07 12 15.4**	**+2.0**
	baz=10,SNR=15						
HNR	**Honiara**	**13.59**	**314**	Pn	**Pn**	**07 13 04.2**	**+0.3**
	14nm,0.3s,baz=171,slow=3.2,SNR=2.5						
HNR				LR	LR	07 17 35.6	
	comp=Z,108μm,18.4s,baz=152,slow=35						
HNR	**Honiara**	**13.59**	**314**	*e*P	**Pn**	**07 13 04.0**	**+0.1**
HNR				*e*S	**Sn**	**07 15 39.0**	**+5.2**
HNR	**Honiara**	**13.59**	**314**	*e*Pn	**Pn**	**07 13 03.5**	**-0.3**
FUNA	**Funafuti**	**14.04**	**42**	*e*Pn	**Pn**	**07 13 08.2**	**-1.6**
RAO	**Raoul Island**	**15.03**	**134**	Pn	**P**	**07 13 26.8**	**-1.5**
	baz=72,slow=20						
RAO	**Raoul Island**	**15.03**	**134**	*e*Pn	**Pn**	**07 13 24.9**	**+1.7**
	10μm,1.5s						
RAO	**Raoul Island**	**15.03**	**134**	*e*P	**Pn**	**07 13 24.9**	**+1.7**
RAO				pmax	pmax		
	comp=Z,10μm,1.5s						
LHI	**Lord Howe Isla**	**15.58**	**216**	P	**P**	**07 13 34.9**	**+0.5**
	baz=16,SNR=3.8						
LHI	**Lord Howe Isla**	**15.58**	**216**	*e*Pn	**P**	**07 13 34.5**	**+0.1**
	comp=Z,2μm,1.5s						
OUZ	**Omahuta**	**16.29**	**169**	*e*Pn	**P**	**07 13 42.3**	**+0.1**
	comp=Z,4μm,1.9s						
EIDS	**Eidsvold**	**18.32**	**247**	P	**Pn**	**07 14 06.7**	**+1.8**
	baz=18,SNR=45						
EIDS	**Eidsvold**	**18.32**	**247**	*e*P	**Pn**	**07 14 06.7**	**+1.8**
	comp=Z,3μm,1.9s						
AFI	**Afiamalu**	**18.47**	**76**	P	**P**	**07 14 06.4**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=303,slow=8.1,SNR=18						
AFI				LR	LR	07 19 57.1	
	comp=Z,343μm,21.6s,baz=253,slow=33						
AFI	**Afiamalu**	**18.47**	**76**	*e*P	**Pn**	**07 14 07.0**	**+0.1**
	comp=Z,809nm,1.1s						
AFI	**Afiamalu**	**18.47**	**76**	*e*P	**Pn**	**07 14 07.0**	**+0.1**
AFI				pmax	pmax		
	comp=Z,809nm,1.1s						
HIZ	**Hauiti**	**19.73**	**168**	*e*P	**Pn**	**07 14 22.9**	**+1.1**
	comp=Z,4μm,1.7s						
MXZ	**Matakaoa Point**	**19.74**	**160**	*e*P	**Pn**	**07 14 24.1**	**+2.2**
	comp=Z,1μm,1.5s						
ARMA	**Armidale**	**19.84**	**232**	P	**Pn**	**07 14 23.7**	**+0.5**
	baz=20,SNR=50						
ARMA	**Armidale**	**19.84**	**232**	*e*P	**Pn**	**07 14 23.8**	**+0.5**
	comp=Z,2μm,1.4s						
RUGZ	**Raukumara Rang**	**19.91**	**161**	P	**Pn**	**07 14 25.7**	**+1.6**
PKGZ	**Pakihiroa**	**19.96**	**160**	P	**Pn**	**07 14 27.2**	**+2.6**
URZ	**Urewera**	**20.02**	**163**	P	Pn	07 14 25.6	+0.4
	comp=Z,61nm,1.0s,baz=2.6,slow=4.1,SNR=16						
URZ				LR	LR	07 20 54.1	
	comp=Z,79nm,21.3s,baz=348,slow=33						
URZ	**Urewera**	**20.02**	**163**	*e*P	Pn	07 14 26.0	+0.8
	comp=Z,4μm,1.8s						
TWVZ	**Taurewa**	**20.38**	**167**	P	Pn	07 14 31.0	+1.5
KRVZ	**Karewarewa**	**20.45**	**167**	P	Pn	07 14 31.5	+1.2
WTVZ	**West Tongariro**	**20.46**	**167**	P	Pn	07 14 32.0	+1.6
NGZ	**Ngauruhoe**	**20.52**	**167**	P	Pn	07 14 32.3	+1.1
COVZ	**Chateau Observ**	**20.53**	**167**	P	Pn	07 14 35.8	+4.6
SNGZ	**Shannon Statio**	**20.57**	**163**	P	Pn	07 14 32.1	+0.5
SNGZ	**Shannon Statio**	**20.57**	**163**	P	Pn	07 14 32.9	+1.3
FWVZ	**Far West T-bar**	**20.58**	**167**	P	Pn	07 14 33.3	+1.3
TUVZ	**Tukino**	**20.62**	**167**	P	Pn	07 14 35.2	+2.9
WHVZ	**Whangaehu Hut**	**20.62**	**167**	P	Pn	07 14 35.7	+3.3
TRVZ	**Turoa**	**20.62**	**167**	P	Pn	07 14 33.2	+0.7
RAHZ	**Arahi**	**20.63**	**164**	P	Pn	07 14 33.1	+0.8
RMQ	**Roma**	**20.63**	**246**	P	Pn	07 14 32.2	-0.3
	baz=21,SNR=134						
TARA	**Tarawa**	**20.69**	**9**	*e*P	**P**	**07 14 31.6**	**+0.9**
	comp=Z,5μm,1.3s						
TARA				LR	LR		
	comp=Z,152μm,22.0s						
BKZ	**Black Stump Fm**	**20.71**	**165**	*e*P	Pn	07 14 33.5	+0.1
	comp=Z,2μm,1.8s						
BKZ				LR	LR		
	comp=Z,80μm,20.0s						
BKZ	**Black Stump Fm**	**20.71**	**165**	P	Pn	07 14 33.4	+0.1
NMHZ	**Naumai**	**20.73**	**164**	P	Pn	07 14 35.1	+1.6
MOVZ	**Moawhango**	**20.77**	**167**	P	Pn	07 14 35.1	+1.0
KNZ	**Kokohu**	**20.89**	**162**	P	Pn	07 14 35.6	+0.3
BHHZ	**Black Hill Sta**	**20.92**	**166**	P	Pn	07 14 36.1	+0.4
KWHZ	**Kaweka Forest**	**20.94**	**165**	P	Pn	07 14 37.0	+1.0
WAZ	**Wanganui**	**20.95**	**169**	P	Pn	07 14 42.8	+6.7
MCHZ	**McNeill Hill**	**21.03**	**165**	P	P	07 14 42.7	+8.5
MHGZ	**Mahia Peninsul**	**21.08**	**162**	P	P	07 14 42.9	+8.1
KRHZ	**Kereru**	**21.14**	**166**	P	**P**	**07 14 38.9**	**+3.5**
PNHZ	**Pukenui**	**21.36**	**166**	P	**P**	**07 14 40.6**	**+2.9**
KAHZ	**Kahuranaki**	**21.40**	**165**	P	**P**	**07 14 40.5**	**+2.3**
PXZ	**Pawanui**	**21.62**	**165**	P	P	07 14 47.9	+7.4
MGCD	**Mangrove Creek**	**21.71**	**226**	P	**P**	**07 14 44.6**	**+2.9**
	baz=22,SNR=18						
DVHZ	**Dannevirke**	**21.72**	**167**	P	**P**	**07 14 43.4**	**+1.8**
PRHZ	**Porangahau**	**21.79**	**166**	P	**P**	**07 14 44.2**	**+1.9**
ANWZ	**Angora Road**	**21.94**	**166**	P	**P**	**07 14 46.2**	**+2.3**
MRZ	**Mangatainoka R**	**21.94**	**168**	P	**P**	**07 14 45.5**	**+1.6**
KIW	**Kapiti Island**	**22.02**	**170**	P	**P**	**07 14 47.3**	**+2.6**
OGWZ	**Otaki Gorge**	**22.02**	**169**	P	**P**	**07 14 47.0**	**+2.2**
RIV	**Riverview**	**22.04**	**225**	P	**P**	**07 14 48.1**	**+2.9**
	baz=22,SNR=10						
BFZ	**Birch Farm**	**22.10**	**167**	*e*P	**P**	**07 14 46.3**	**+0.6**
	comp=Z,614nm,1.1s						
BFZ				LR	LR		
	comp=Z,68μm,19.0s						
BFZ	**Birch Farm**	**22.10**	**167**	P	**P**	**07 14 46.8**	**+1.1**
CTA	**Charters Tower**	**22.14**	**264**	P	**P**	**07 14 47.0**	**+0.7**
	comp=Z,42nm,0.6s,baz=82,slow=13,SNR=33						
CTA				LR	LR	07 22 17.8	
	comp=Z,148μm,21.0s,baz=80,slow=34						
CTAO	**Charters Tower**	**22.14**	**264**	*e*P	**P**	**07 14 47.0**	**+0.7**
	comp=Z,2μm,1.7s						
CTAO				LR	LR		
	comp=Z,171μm,22.0s						
CTAO	**Charters Tower**	**22.14**	**264**	*e*P	**P**	**07 14 47.0**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,2μm,1.7s						
CTAO				MLR	MLR		
	comp=Z,171μm,22.0s						
HOWZ	**Holdsworth Sta**	**22.16**	**168**	P	**P**	**07 14 47.5**	**+1.2**
MTW	**Mount Morrison**	**22.41**	**169**	P	**P**	**07 14 50.6**	**+1.6**
SNZO	**South Karori**	**22.42**	**170**	*e*P	**P**	**07 14 51.6**	**+2.6**
	comp=Z,3μm,2.0s						
SNZO				LR	LR		
	comp=Z,96μm,18.0s						
MSWZ	**Moikau Station**	**22.61**	**169**	P	**P**	**07 14 52.4**	**+1.2**
THZ	**Tophouse**	**22.63**	**174**	*e*P	**P**	**07 14 53.7**	**+2.3**
	comp=Z,2μm,1.7s						
THZ				LR	LR		
	comp=Z,125μm,21.0s						
TRWZ	**Traveller**	**22.68**	**168**	P	**P**	**07 14 55.5**	**+3.7**
RABL	**Rabaul**	**22.76**	**309**	*e*P	**P**	**07 14 49.5**	**-3.5**
	comp=Z,788nm,1.0s						
RABL				LR	LR		
	comp=Z,52μm,18.0s						
KHZ	**Kahutara**	**23.34**	**173**	*e*P	**P**	**07 14 59.2**	**+0.7**
	comp=Z,2μm,1.9s						
KHZ				LR	LR		
	comp=Z,156μm,21.0s						
LTZ	**Lake Taylor**	**23.58**	**175**	*e*P	**P**	**07 15 02.9**	**+1.9**
	comp=Z,1μm,1.2s						
LTZ				LR	LR		
	comp=Z,149μm,22.0s						
PMG	**Port Moresby**	**23.94**	**291**	P	**P**	**07 15 04.0**	**-0.6**
	comp=Z,369nm,1.0s,baz=106,slow=5.3,SNR=72						
PMG				LR	LR	07 23 12.7	
	comp=Z,88μm,19.1s,baz=131,slow=34						
PMG	**Port Moresby**	**23.94**	**291**	*e*P	**P**	**07 15 04.3**	**-0.2**
	comp=Z,4μm,1.6s						
PMG	**Port Moresby**	**23.94**	**291**	⇑*i*P	**P**	**07 15 04.6**	**0.0**
PMG				*i* *PP	**pP**	**07 15 12.7**	**-1.4**
PMG				pmax	pmax		
	comp=Z,10μm,1.6s						
PMG				MLR	MLR		
	comp=Z,346μm,12.0s						
OXZ	**Oxford**	**24.11**	**176**	*e*P	**P**	**07 15 06.9**	**+1.0**
	comp=Z,645nm,0.9s						
OXZ				LR	LR		
	comp=Z,92μm,22.0s						
MTSU	**Mount Surprise**	**24.11**	**268**	P	**P**	**07 15 05.7**	**-0.5**
	baz=24,SNR=117						
CNB	**Canberra Magne**	**24.12**	**224**	P	**P**	**07 15 07.2**	**+1.1**
	baz=24,SNR=65						
YNG	**Young**	**24.20**	**227**	P	**P**	**07 15 08.4**	**+1.6**
	baz=24,SNR=63						
FOZ	**Fox Glacier**	**24.24**	**180**	*e*P	**P**	**07 15 09.0**	**+2.0**
	comp=Z,651nm,0.9s						
FOZ				LR	LR		
	comp=Z,214μm,20.0s						
CAN	**Canberra**	**24.36**	**225**	*e*P	**P**	**07 15 09.1**	**+0.7**
	comp=Z,834nm,1.3s						
CAN				LR	LR		
	comp=Z,280μm,22.0s						
CAN	**Canberra**	**24.36**	**225**	*e*P	**P**	**07 15 09.1**	**+0.7**
CAN				pmax	pmax		
	comp=Z,834nm,1.3s						
CAN				MLR	MLR		
	comp=Z,280μm,22.0s						
CRLZ	**Canterbury Las**	**24.40**	**175**	*e*P	**P**	**07 15 09.9**	**+1.4**
	comp=Z,528nm,1.1s						
CRLZ				LR	LR		
	comp=Z,90μm,22.0s						
KNTN	**Kanton**	**24.41**	**50**	*e*P	**P**	**07 15 09.5**	**+0.7**
	comp=Z,698nm,1.4s						
KNTN				LR	LR		
	comp=Z,128μm,20.0s						
RPZ	**Rata Peaks**	**24.44**	**178**	P	**P**	**07 15 10.3**	**+1.4**
	comp=Z,170nm,1.0s,baz=351,slow=3.5,SNR=29						
RPZ				LR	LR	07 24 02.1	
	comp=Z,245μm,20.5s,baz=350,slow=35						
RPZ	**Rata Peaks**	**24.44**	**178**	*e*P	**P**	**07 15 10.4**	**+1.4**
	comp=Z,847nm,1.2s						
MQZ	**McQueen's Vall**	**24.53**	**175**	*e*P	**P**	**07 15 10.1**	**+0.4**
	comp=Z,579nm,1.3s						
MQZ				LR	LR		
	comp=Z,88μm,21.0s						
QLP	**Quilpie**	**24.59**	**248**	P	**P**	**07 15 10.2**	**-0.2**
	baz=25,SNR=123						
CMSA	**Cobar Meteorol**	**24.89**	**236**	P	**P**	**07 15 13.6**	**+0.4**
	baz=25,SNR=58						
LBZ	**Lake Benmore**	**25.09**	**179**	*e*P	**P**	**07 15 15.8**	**+1.0**
	comp=Z,755nm,1.5s						
LBZ				LR	LR		
	comp=Z,207μm,21.0s						
MILA	**Mila**	**25.31**	**221**	P	**P**	**07 15 18.0**	**+1.0**
	baz=26,SNR=18						
WKZ	**Wanaka**	**25.54**	**181**	*e*P	**P**	**07 15 20.8**	**+1.9**
	comp=Z,1μm,1.5s						
WKZ				LR	LR		
	comp=Z,285μm,20.0s						
ODZ	**Otahua Downs**	**25.76**	**179**	*e*P	**P**	**07 15 21.9**	**+1.1**
	comp=Z,1μm,1.8s						
ODZ				LR	LR		
	comp=Z,164μm,19.0s						
COEN	**Coen**	**25.98**	**278**	P	**P**	**07 15 22.7**	**-0.5**
	baz=26,SNR=56						
COEN	**Coen**	**25.98**	**278**	*e*P	**P**	**07 15 22.8**	**-0.5**
	comp=Z,659nm,1.2s						
COEN				LR	LR		
	comp=Z,132μm,22.0s						
MLZ	**Mavora Lakes**	**26.11**	**183**	*e*P	**P**	**07 15 25.6**	**+1.5**
	comp=Z,638nm,1.4s						
MLZ				LR	LR		
	comp=Z,32μm,19.0s						
DCZ	**Deep Cove**	**26.26**	**184**	*e*P	**P**	**07 15 26.8**	**+1.4**
	comp=Z,655nm,1.3s						
DCZ				LR	LR		
	comp=Z,80μm,20.0s						
WHZ	**Wether Hill Ro**	**26.64**	**183**	*e*P	**P**	**07 15 29.9**	**+1.1**
	comp=Z,531nm,1.5s						
WHZ				LR	LR		
	comp=Z,77μm,20.0s						
PYZ	**Puysegur Point**	**26.99**	**185**	PFAKE		07 15 40.0	+8.1
PYZ				LR	LR		
	comp=Z,96μm,21.0s						
TOO	**Toolangi**	**27.96**	**224**	P	**P**	**07 15 42.4**	**+1.5**
	baz=28,SNR=8.5						
TOO	**Toolangi**	**27.96**	**224**	P	**P**	**07 15 45.2**	**+4.3**
TOO				pmax	pmax		
	comp=Z,269nm,1.8s						
PATS	**Pohnpei**	**28.24**	**335**	P	**P**	**07 15 42.7**	**-0.7**
	baz=28,SNR=4.9						
PATS	**Pohnpei**	**28.24**	**335**	*e*P	**P**	**07 15 42.4**	**-1.1**
	comp=Z,1μm,1.6s						
STKA	**Stephens Creek**	**28.26**	**238**	P	**P**	**07 15 43.7**	**+0.2**
	comp=Z,42nm,0.9s,baz=67,slow=8.1,SNR=40						
STKA				LR	LR	07 26 34.8	
	comp=Z,185μm,19.8s,baz=61,slow=36						
STKA	**Stephens Creek**	**28.26**	**238**	P	**P**	**07 15 43.8**	**+0.3**
	baz=28,SNR=36						
STKA	**Stephens Creek**	**28.26**	**238**	*e*P	**P**	**07 15 43.2**	**-0.3**
	comp=Z,137nm,1.4s						
STKA	**Stephens Creek**	**28.26**	**238**	*e*P	**P**	**07 15 43.2**	**-0.3**
STKA				pmax	pmax		
	comp=Z,137nm,1.4s						
QIS	**Mount Isa**	**28.36**	**262**	P	**P**	**07 15 44.5**	**0.0**
	baz=28,SNR=11						
RAR	**Rarotonga**	**28.65**	**99**	P	**P**	**07 15 47.8**	**+0.7**
	comp=Z,24nm,1.0s,baz=273,slow=9.8,SNR=4.3						
RAR				LR	LR	07 24 54.5	
	comp=Z,42μm,20.5s,baz=270,slow=32						
RAR	**Rarotonga**	**28.65**	**99**	*e*P	**P**	**07 15 48.0**	**+0.9**
	comp=Z,304nm,1.5s						
RAR	**Rarotonga**	**28.65**	**99**	*e*P	**P**	**07 15 48.0**	**+0.9**
RAR				pmax	pmax		
	comp=Z,304nm,1.5s						
MOO	**Moorlands**	**30.00**	**215**	P	**P**	**07 16 00.4**	**+1.5**
	baz=30,SNR=20						
ARPS	**Mount Arapiles**	**30.05**	**229**	P	**P**	**07 16 00.2**	**+0.8**
	baz=30,SNR=19						
TAU	**Tasmania Unive**	**30.26**	**214**	*e*P	**P**	**07 16 01.8**	**+0.7**
	comp=Z,418nm,1.6s						
TAU				LR	LR		
	comp=Z,275μm,22.0s						
TAU	**Tasmania Unive**	**30.26**	**214**	*e*P	**P**	**07 16 01.8**	**+0.7**
TAU				pmax	pmax		
	comp=Z,418nm,1.6s						
TAU				MLR	MLR		
	comp=Z,275μm,22.0s						
MMPI	**Merauke**	**30.40**	**287**	P	**P**	**07 16 03.0**	**+0.4**
HTT	**Hallett**	**30.91**	**237**	P	**P**	**07 16 07.3**	**+0.3**
	baz=31,SNR=25						
JAY	**Jayapura**	**32.91**	**297**	P	**P**	**07 16 22.7**	**-2.0**
JAY	**Jayapura**	**32.91**	**297**	P	**P**	**07 16 25.7**	**+1.0**
JAY				pmax	pmax		
	comp=Z,2μm,2.1s						
BBOO	**Buckleboo**	**33.01**	**239**	P	**P**	**07 16 25.0**	**-0.5**
	baz=33,SNR=31						
BBOO	**Buckleboo**	**33.01**	**239**	*e*P	**P**	**07 16 25.5**	**+0.1**
	comp=Z,545nm,1.4s						
BBOO				LR	LR		
	comp=Z,173μm,22.0s						
WC3	**Warramunga Arr**	**33.30**	**263**	*e*P	**P**	**07 16 26.7**	**-1.5**
	comp=Z,862nm,1.9s						
GENI	**Genyem**	**33.32**	**296**	P	**P**	**07 16 26.5**	**-1.8**
WRAB	**Tennant Creek**	**33.32**	**263**	*e*P	**P**	**07 16 26.6**	**-1.8**
	comp=Z,932nm,1.9s						
WRAB				LR	LR		
	comp=Z,97μm,18.0s						
WRAB	**Tennant Creek**	**33.32**	**263**	*e*P	**P**	**07 16 26.6**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,932nm,1.9s						
WRAB				MLR	MLR		
	comp=Z,97μm,18.0s						
WRA	**Warramunga Arr**	**33.33**	**263**	P	**P**	**07 16 26.3**	**-2.2**
	comp=Z,20nm,0.7s,baz=94,slow=8.4,SNR=58						
WRA				PcP	**PcP**	**07 19 10.2**	**+0.2**
	comp=Z,19nm,0.9s,baz=87,slow=8.1,SNR=3.7						
WRA				PKiKP	**PKiKP**	**07 26 34.6**	**-1.1**
	comp=Z,3.1nm,1.1s,baz=44,slow=0.7,SNR=3.9						
WRA				LR	LR	07 29 40.1	
	comp=Z,76μm,20.1s,baz=95,slow=36						
WRA				P3KPbc		07 47 42.9	
	comp=Z,4.3nm,1.1s,baz=282,slow=3.2,SNR=8.9						
AS01	**Alice Springs**	**33.56**	**256**	*e*P	**P**	**07 16 28.9**	**-1.4**
AS31	**Alice Springs**	**33.60**	**256**	*e*P	**P**	**07 16 29.6**	**-1.2**
	comp=Z,113nm,0.7s						
AS31				LR	LR		
	comp=Z,3μm,19.0s						
ASAR	**Alice Springs**	**33.60**	**256**	P	**P**	**07 16 29.3**	**-1.5**
	comp=Z,123nm,0.5s,baz=84,slow=9.0,SNR=594						
ASAR				PcP	**PcP**	**07 19 11.7**	**+0.9**
	comp=Z,18nm,1.0s,baz=85,slow=3.1,SNR=3.4						
ASAR				PKiKP	**PKiKP**	**07 26 34.6**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=98,slow=2.8,SNR=3.2						
ASAR				LR	LR	07 29 46.6	
	comp=Z,203μm,20.2s,baz=94,slow=36						
ASAR				P3KPbc		07 47 42.3	
	comp=Z,1.5nm,1.0s,baz=290,slow=2.7,SNR=4.9						
MCQ	**Macquarie Isla**	**36.17**	**191**	PFAKE		07 17 00.0	+7.6
MCQ				LR	LR		
	comp=Z,137μm,20.0s						
MTN	**Manton Dam**	**37.59**	**274**	P	**P**	**07 17 03.8**	**-1.3**
	baz=38,SNR=117						
MTN	**Manton Dam**	**37.59**	**274**	*e*P	**P**	**07 17 04.2**	**-0.9**
	comp=Z,605nm,1.1s						
MTN				LR	LR		
	comp=Z,82μm,18.0s						
H11S2	**WAKE ISLAND Hy**	**37.60**	**355**	T	T	07 57 04.6	
	baz=172,slow=76,SNR=367						
H11S3	**WAKE ISLAND Hy**	**37.60**	**355**	T	T	07 56 56.5	
	baz=172,slow=76,SNR=202						
H11S1	**WAKE ISLAND Hy**	**37.62**	**355**	T	T	07 57 07.5	
	baz=172,slow=76,SNR=190						
TBI	**Tubuai**	**38.14**	**104**	*e*S	**S**	**07 22 55.9**	**-4.9**
	comp=Z,28μm,29.8s						
TBI				*e*LQ	LQ	07 25 48.8	
	comp=Z,260μm,30.5s						
TBI				*e*LR	LR	07 27 26.6	
	comp=Z,136μm,30.8s,baz=263						
KMPI	**Kaimana, Papua**	**38.44**	**289**	P	**P**	**07 17 10.7**	**-1.5**
XMAS	**Kiritimati**	**38.54**	**60**	PFAKE		07 17 30.0	+17
XMAS				LR	LR		
	comp=Z,134μm,22.0s						
PAE	**Paea**	**38.55**	**94**	*e*P	**P**	**07 17 14.0**	**+0.9**
	comp=Z,92nm,1.4s						
PPT2	**Papeete2**	**38.57**	**94**	*e*P	**P**	**07 17 14.7**	**+1.4**
	comp=Z,410nm,1.4s						
PPT2				*e*S	**S**	**07 23 04.3**	**-3.2**
	comp=Z,43μm,27.0s						
PPT2				*e*LQ	LQ	07 26 02.0	
	comp=Z,315μm,31.5s						
PPT2				*e*LR	LR	07 27 40.8	
	comp=Z,268μm,29.5s,baz=260						
PPT	**Papeete**	**38.57**	**94**	P	**P**	**07 17 14.1**	**+0.8**
	comp=Z,213nm,1.1s,baz=226,slow=2.1,SNR=23						
PPT				LR	LR	07 31 43.8	
	comp=Z,24μm,18.1s,baz=258,slow=34						
PPTF	**Pamatai, Papee**	**38.58**	**94**	*e*P	**P**	**07 17 14.4**	**+1.0**
	comp=Z,602nm,1.2s						
PPTF				LR	LR		
	comp=Z,40μm,21.0s						
WRKA	**Warakurna**	**38.72**	**254**	P	**P**	**07 17 13.3**	**-1.3**
	baz=39,SNR=180						
TIAR	**Tiarei**	**38.79**	**94**	*e*P	**P**	**07 17 16.3**	**+1.2**
	comp=Z,139nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**38.80**	**356**	T	T	07 58 32.2	
	baz=175,slow=77,SNR=148						
H11N3	**WAKE ISLAND Hy**	**38.80**	**356**	T	T	07 58 21.6	
	baz=175,slow=77,SNR=77						
H11N2	**WAKE ISLAND Hy**	**38.81**	**356**	T	T	07 58 23.2	
	baz=175,slow=77,SNR=128						
TVO	**Taravao**	**38.84**	**95**	*e*P	**P**	**07 17 16.8**	**+1.1**
	comp=Z,83nm,1.4s						
SAUI	**Saumlaki**	**38.91**	**281**	P	**P**	**07 17 15.3**	**-0.9**
RKPI	**Ransiki, Papua**	**39.02**	**293**	P	**P**	**07 17 18.1**	**+1.0**
KNRA	**Kununurra**	**39.20**	**269**	P	**P**	**07 17 16.9**	**-1.6**
	baz=39,SNR=35						
FAKI	**Fak Fak**	**40.07**	**289**	P	**P**	**07 17 24.1**	**-1.8**
FAKI	**Fak Fak**	**40.07**	**289**	*e*P	**P**	**07 17 24.0**	**-1.8**
	comp=Z,321nm,0.9s						
FAKI				LR	LR		
	comp=Z,51μm,20.0s						
PMOR	**Pomariorio Ree**	**40.63**	**91**	*e*P	**P**	**07 17 31.8**	**+1.4**
	comp=Z,2μm,1.3s						
GUMO	**Guam**	**40.79**	**321**	P	**P**	**07 17 29.7**	**-2.0**
	comp=Z,42nm,0.5s,baz=180,slow=20,SNR=2.9						
GUMO				LR	LR	07 33 56.5	
	comp=Z,14μm,18.1s,baz=127,slow=36						
VAH	**Vaihoa**	**40.83**	**91**	*e*P	**P**	**07 17 33.1**	**+1.0**
	comp=Z,931nm,1.3s						
JOHN	**Johnston Islan**	**41.13**	**31**	PFAKE		07 17 50.0	+16
JOHN				LR	LR		
	comp=Z,65μm,21.0s						
BNDI	**Bandanaira**	**41.51**	**285**	P	**P**	**07 17 36.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**41.72**	**264**	P	**P**	**07 17 38.7**	**-0.7**
	baz=42,SNR=140						
FITZ	**Fitzroy Crossi**	**41.72**	**264**	*e*P	**P**	**07 17 39.0**	**-0.5**
SWI	**Sorong**	**41.89**	**291**	P	**P**	**07 17 38.5**	**-2.3**
SWI	**Sorong**	**41.89**	**291**	P	**P**	**07 17 40.0**	**-0.8**
SWI				pmax	pmax		
	comp=Z,462nm,1.1s						
MSAI	**Masohi**	**42.87**	**286**	P	**P**	**07 17 49.0**	**+0.1**
AAI	**Ambon**	**43.40**	**286**	P	**P**	**07 17 52.9**	**-0.2**
AAI	**Ambon**	**43.40**	**286**	P	**P**	**07 17 54.3**	**+1.2**
AAI				pmax	pmax		
	comp=Z,234nm,1.4s						
NLAI	**Namlea**	**44.58**	**285**	P	**P**	**07 18 01.7**	**-0.9**
KMBL	**Kambalda**

KMSI **Cibinong** 49.02 288 P **P** 07 18 37.8 +0.5
BLDU **Ballidu** 49.03 246 P **P** 07 18 36.1 -1.2
baz=49,SNR=37
SGSI **Sangihe** 49.09 293 P **P** 07 18 38.5 +0.7
LUWI **Luwuk** 49.42 286 P **P** 07 18 38.3 -2.1
LUWI **Luwuk** 49.42 286 *e*P **P** 07 18 40.1 -0.3
comp=Z,359nm,1.0s
MUN **Mundaring** 49.48 244 P **P** 07 18 40.2 -0.5
baz=50,SNR=13
TAOE **Nuku Hiva Isla** 49.53 85 *e*S **S** 07 25 45.1 -2.3
comp=Z,52µm,26.4s
TAOE *e*LR LR 07 32 50.3
comp=Z,70µm,29.3s
TAOE **Nuku Hiva Isla** 49.53 85 *e*P **P** 07 18 42.6 +1.3
comp=Z,324nm,1.0s
TAOE LR LR
comp=Z,23µm,22.0s
WBSI **Waikabubak, Su** 49.54 274 P **P** 07 18 39.9 -1.5
BSSI **Bau Bau, Buton** 49.61 278 P **P** 07 18 40.5 -1.4
MORW **Morawa** 49.62 248 P **P** 07 18 41.2 -0.6
baz=50,SNR=22
APSI **Ampana** 50.50 285 P **P** 07 18 48.2 -0.4
BNSI **Bone** 50.58 280 P **P** 07 18 48.0 -1.2
KEKH **Kekaha** 50.69 38 *e*P **P** 07 18 50.4 +0.6
comp=Z,2µm,1.5s
KAPI **Kappang** 50.69 279 *e*P **P** 07 18 49.5 -0.5
comp=Z,263nm,1.1s
KAPI LR LR
comp=Z,18µm,21.0s
KAPI **Kappang** 50.69 279 P **P** 07 18 49.0 -1.0
SNR=22
DAV **Davao City (W)** 50.75 297 P **P** 07 18 50.5 0.0
comp=Z,284nm,0.4s,baz=48,slow=3.8,SNR=4.1
DAV **Davao City (W)** 50.75 297⇓ *e*P **P** 07 18 49.1 -1.4
DAV **Davao City (W)** 50.75 297 *e*P **P** 07 18 50.5 0.0
comp=Z,872nm,1.1s
DAV LR LR
comp=Z,9µm,19.0s
DAV **Davao City (W)** 50.75 297 P **P** 07 18 50.9 +0.4
SNR=13
MRSI **Marisa** 50.81 287 P **P** 07 18 48.9 -2.0
HON **Honolulu** 51.19 40 PFAKE 07 19 10.0 +16
HON LR LR
comp=Z,83µm,20.0s
KIP **Kipapa** 51.26 40 *e*P **P** 07 18 55.1 +1.1
comp=Z,388nm,1.3s
KIP LR LR
comp=Z,86µm,20.0s
KIP **Kipapa** 51.26 40 *ce*P **P** 07 18 56.3 +2.2
KIP pmax pmax
comp=Z,1µm,1.2s
KIP MLR MLR
comp=Z,300µm,17.0s
PLAI **Plampang** 51.30 274 P **P** 07 18 53.7 -1.0
TTSI **Tana Toraja** 51.34 282 P **P** 07 18 54.1 -0.8
MLOA **Mauna Loa Obse** 51.38 43 *e*P **P** 07 18 56.9 +1.4
comp=Z,256nm,1.0s
RKT **Rikitea** 51.44 105 *e*P **P** 07 18 56.0 +0.4
comp=Z,92nm,1.1s
RKT *e*S **S** 07 26 09.1 -4.4
comp=Z,44µm,28.5s
RKT *e*SS **SS** 07 29 44.7 -5.0
comp=Z,12µm,28.5s
RKT *e*LQ LQ 07 31 25.7
comp=Z,27µm,27.8s
RKT *e*LR LR 07 33 34.7
comp=Z,87µm,30.8s,baz=263
OPA **Opana** 51.46 39 *e*P **P** 07 18 57.0 +1.4
comp=Z,1µm,1.5s
OPA **Opana** 51.46 39 *e*P **P** 07 18 57.0 +1.4
OPA pmax pmax
comp=Z,1µm,1.5s
UWE **Uwekahuna** 51.48 44 PFAKE 07 19 10.0 +14
UWE LR LR
comp=Z,59µm,22.0s
POHA **Pohakuloa** 51.57 43 *e*P **P** 07 18 57.6 +0.9
comp=Z,2µm,1.9s
POHA LR LR
comp=Z,52µm,20.0s
BUKP **Musuan** 51.61 297 *e*P **P** 07 18 56.6 -0.4
HPAH **Hawaii Prepara** 51.66 43 *e*P **P** 07 18 57.8 +0.6
comp=Z,2µm,1.7s
HPAH LR LR
comp=Z,59µm,21.0s
GIRL **Giralia** 51.72 256 P **P** 07 18 58.8 +1.1
baz=52,SNR=12
BUTP **Butuan** 51.73 299 *e*P **P** 07 18 54.2 -3.6
HLK **Haleakala** 51.84 42 PFAKE 07 19 10.0 +11
HLK LR LR
comp=Z,56µm,21.0s
MPSI **Mapaga** 52.60 286 P **P** 07 19 03.1 -1.2
MSLP **Maasin** 52.99 300 *e*P **P** 07 19 06.2 -0.9
PAGZ **Pagadian** 53.02 296 *e*P **P** 07 19 08.4 +1.0
CBIJ **Chichi jima** 53.24 329 *e*P **P** 07 19 07.9 -0.8
comp=Z,594nm,1.0s
JCJ **Chichijima** 53.24 329 P **P** 07 19 08.6 -0.1
comp=Z,191nm,0.9s,baz=186,slow=3.9,SNR=6.5
JCJ LR LR 07 39 42.2
comp=Z,8µm,20.6s,baz=142,slow=34
BESP **Borongan** 53.34 301 *e*P **P** 07 19 08.2 -1.4
PLP **Palo** 53.46 301⇓ *e*P **P** 07 19 08.3 -2.3
OCLP **Ormoc** 53.70 300 *e*P **P** 07 19 09.9 -2.4
DNP **Denpasar** 53.77 273 P **P** 07 19 12.4 -0.5
IGBI **Denpasar** 53.79 273 P **P** 07 19 12.0 -1.0
LLP **Lapu-Lapu** 53.83 299⇓ *e*P **P** 07 19 14.1 +0.8
SRBI **Singaraja** 53.94 274 P **P** 07 19 12.4 -1.8
SGKI **Sangatta, Kali** 54.35 284 P **P** 07 19 16.5 -0.7
CNP **Catarman** 54.47 302 *e*P **P** 07 19 17.7 -0.3
KBKI **Kotabaru** 54.64 280 P **P** 07 19 19.0 -0.2
BKB **Balikpapan** 54.72 283 P **P** 07 19 20.6 +0.8
SMKI **Samarinda** 54.74 284 P **P** 07 19 19.0 -1.0
JAGI **Jajag, Banyuwa** 54.83 273 P **P** 07 19 19.5 -1.2
JAGI **Jajag, Banyuwa** 54.83 273 *e*P **P** 07 19 19.1 -1.6
comp=Z,389nm,1.1s
JAGI LR LR
comp=Z,36µm,21.0s
ABJI **Asem Bagus** 54.95 274 P **P** 07 19 21.0 -0.5
KMMI **Kalianget** 55.44 275 P **P** 07 19 25.2 +0.2
RCP **Roxas** 55.51 300⇓ *e*P **P** 07 19 24.8 -0.6
GMJI **Gumukmas** 55.55 273 P **P** 07 19 24.0 -1.9
BLJI **Banyuglugur** 55.57 274 P **P** 07 19 24.7 -1.3
MYLDM **Lahad Datu** 55.96 290 ⇑P **P** 07 19 31.3 +2.5
MYLDM **Lahad Datu** 55.96 290 *e*P **P** 07 19 30.0 +1.2
comp=Z,372nm,1.3s
TSM **Tawau** 56.12 289 ⇓P **P** 07 19 31.6 +1.6
AUQP **San Andres** 56.53 301 *e*P **P** 07 19 33.2 +0.5
MTKI **Muara Teweh, K** 56.69 282 P **P** 07 19 32.8 -1.2
GRJI **Gresik** 56.88 274 P **P** 07 19 33.6 -1.7
PWJI **Pagerwojo** 57.18 273 P **P** 07 19 36.2 -1.2
BOAC **Boac** 57.21 301 *e*P **P** 07 19 35.2 -2.4
SDKM **Sandakan** 57.33 290 ⇓P **P** 07 19 39.2 +0.7
SJMP **San Jose** 57.33 299 *e*P **P** 07 19 35.5 -3.0
TBJI **Tambak Boyo** 57.51 274 P **P** 07 19 39.6 -0.2
PCJI **Pacitan** 57.72 272 P **P** 07 19 41.2 -0.1
BUSP **Coron** 57.85 298 *e*P **P** 07 19 41.6 -0.5
ENPP **El Nido** 58.08 297 *e*P **P** 07 19 42.2 -1.5
BATP **Bataraza** 58.27 294 *e*P **P** 07 19 44.2 -0.9
TGY **Tagaytay City** 58.37 301 P **P** 07 19 45.0 -0.8
comp=Z,149nm,0.2s,baz=298,slow=4.0,SNR=8.3
KKM **Kota Kinabalu** 58.38 290 ⇓P **P** 07 19 49.7 +3.7
KKM **Kota Kinabalu** 58.38 290 *e*P **P** 07 19 46.9 +0.9
comp=Z,372nm,1.4s
KKM LR LR
comp=Z,11µm,22.0s
UGM **Wanagama** 58.42 272 P **P** 07 19 46.9 +0.7
UGM **Wanagama** 58.42 272 *e*P **P** 07 19 46.8 +0.6
comp=Z,417nm,0.9s
UGM LR LR
comp=Z,31µm,20.0s
VNDA **Vanda** 58.46 182 P **P** 07 19 46.1 +0.7
comp=Z,83nm,1.1s,baz=358,slow=7.0,SNR=34
VNDA LR LR 07 41 07.0
comp=Z,28µm,21.7s,baz=16,slow=32
VNDA **Vanda** 58.46 182 *e*P **P** 07 19 46.3 +0.8
comp=Z,261nm,1.2s
VNDA **Vanda** 58.46 182 *e*P **P** 07 19 46.3 +0.8
VNDA pmax pmax
comp=Z,261nm,1.2s
SBA **Scott Base** 58.69 181 *e*P **P** 07 19 48.3 +1.3
comp=Z,1µm,1.1s
SBA **Scott Base** 58.69 181 *e*P **P** 07 19 48.3 +1.3
SBA pmax pmax
comp=Z,1µm,1.1s
LUBP **Lubang** 58.73 300 *e*P P 07 19 37.2 -11
SMRI **Semarang** 58.76 273 P **P** 07 19 47.7 -0.9

BALP **Baler** 58.76 303 *e*P **P** 07 19 44.1 -4.3
PBKI **Pangkalan Bun** 59.04 279 P **P** 07 19 50.4 -0.1
CAUP **Cauayan** 59.25 304 *e*P **P** 07 19 52.3 +0.5
JHJ2 **Mitsune** 59.38 331 PFAKE 07 20 00.0 +7.6
JHJ2 LR LR
comp=Z,14µm,22.0s
JHJ **Hachijo jima 2** 59.40 331 LR LR 07 44 37.8
comp=Z,4µm,19.1s,baz=150,slow=35
SGCP **Mt. Cagua** 59.83 306 *e*P **P** 07 19 52.1 -3.7
SCZP **Santa Cruz** 60.11 302 *e*P **P** 07 19 59.6 +1.8
STKI **Sintang** 60.23 282 P **P** 07 19 59.0 +0.3
APYP **Conner** 60.23 305 *e*P **P** 07 19 55.0 -3.5
CASY **Casey** 60.33 204 *e*P **P** 07 19 58.2 -0.3
comp=Z,457nm,1.5s
CASY LR LR
comp=Z,56µm,21.0s
CMJI **Cimerak** 60.42 272 P **P** 07 19 57.8 -2.2
BOLP **Bolinao** 60.44 303 *e*P **P** 07 20 00.0 0.0
SBUM **Sibu** 60.47 284 ⇓P **P** 07 20 04.4 +4.1
SBUM **Sibu** 60.47 284 *e*P **P** 07 19 59.7 -0.6
comp=Z,228nm,1.7s
ABRA **Dolores** 60.52 304 *e*P **P** 07 19 59.6 -1.0
JCJI **Jatiwangi** 60.98 273 P **P** 07 20 03.8 0.0
CISI **Cisompet, Garu** 61.09 272 P **P** 07 20 02.4 -2.2
CISI **Cisompet, Garu** 61.09 272 *e*P **P** 07 20 03.7 -0.9
comp=Z,696nm,1.3s
CISI LR LR
comp=Z,29µm,22.0s
LEM **Lembang** 61.49 273 P **P** 07 20 07.7 +0.2
comp=Z,189nm,0.8s,baz=55,slow=4.2,SNR=10
LEM LR LR 07 46 35.8
comp=Z,29µm,21.6s,baz=118,slow=36
LEM **Lembang** 61.49 273 P **P** 07 20 06.7 -0.8
LEM **Lembang** 61.49 273 P **P** 07 20 07.7 +0.2
LEM pmax pmax
comp=Z,343nm,0.9s
LEM MLR MLR
comp=Z,29µm,21.6s
KSM **Kuching** 61.84 282 ⇓P **P** 07 20 09.4 -0.2
KSM **Kuching** 61.84 282 *e*P **P** 07 20 09.0 -0.6
comp=Z,118nm,1.1s
KSM LR LR
comp=Z,14µm,21.0s
SKJI **Sukabumi** 62.44 272 P **P** 07 20 13.2 -0.5
INU **Inuyama** 62.53 330 *e*P **P** 07 20 13.5 -0.3
comp=Z,392nm,1.3s
INU LR LR
comp=Z,13µm,21.0s
TNG **Tangerang** 62.61 273 P **P** 07 20 13.9 -0.9
MJAR **Matsushiro Arr** 62.97 332 P **P** 07 20 15.6 -1.1
comp=Z,104nm,1.0s,baz=167,slow=7.2,SNR=72
MJAR LR LR 07 42 40.2
comp=Z,6µm,22.0s,baz=120,slow=31
MJAR PKPPKP **P'P'df** 07 49 10.8 -3.0
comp=Z,0.6nm,0.3s,baz=79,slow=7.7,SNR=4.0
MAJO **Matsushiro** 62.97 332 *e*P **P** 07 20 15.7 -1.0
comp=Z,292nm,1.2s
MAJO LR LR
comp=Z,11µm,22.0s
MAJO **Matsushiro** 62.97 332 *e*P **P** 07 20 15.7 -1.0
MAJO pmax pmax
comp=Z,292nm,1.2s
MAJO MLR MLR
comp=Z,11µm,22.0s
MAT **Matsushiro** 62.97 332 P **P** 07 20 15.1 -1.6
MAT S **S** 07 28 52.6 +8.0
MJB9 **Matsu-Tunnel** 62.97 332 *e*P **P** 07 20 15.7 -1.0
comp=Z,297nm,1.2s
MJB9 LR LR
comp=Z,12µm,22.0s
SBJI **Serang** 63.12 273 P **P** 07 20 16.9 -1.3
TWG **Pinlang** 63.29 309 *e*P **P** 07 20 20.4 +1.3
comp=Z,1µm,1.5s
TWG LR LR
comp=Z,40µm,21.0s
CGJI **Cibinong** 63.38 272 P **P** 07 20 18.0 -1.9
YULB **Yu-li** 63.47 310 *e*P **P** 07 20 19.1 -1.2
comp=Z,147nm,1.3s
YULB LR LR
comp=Z,8µm,21.0s
NACB **Ninganchiao** 63.74 311 *e*P **P** 07 20 20.8 -1.2
comp=Z,595nm,1.5s
NACB LR LR
comp=Z,10µm,21.0s
TPUB **Ta-pu** 63.91 309 *e*P **P** 07 20 22.7 -0.5
comp=Z,375nm,1.2s
TPUB LR LR
comp=Z,9µm,20.0s
JNU **Nakatsue** 63.94 324 P **P** 07 20 22.8 -0.5
comp=Z,44nm,0.9s,baz=46,slow=3.4,SNR=17
JNU LR LR 07 45 51.9
comp=Z,4µm,18.8s,baz=126,slow=34
JNU **Nakatsue** 63.94 324 *e*P **P** 07 20 22.6 -0.6
comp=Z,339nm,1.4s
SSLB **Suanglung** 63.96 310 *e*P **P** 07 20 22.2 -1.4
comp=Z,130nm,1.0s
SSLB LR LR
comp=Z,10µm,20.0s
BLSI **Bandar Lampung** 64.19 273 P **P** 07 20 23.2 -2.1
YHNB **Yeheng** 64.20 311 *e*P **P** 07 20 24.6 -0.5
comp=Z,649nm,1.2s
YHNB LR LR
comp=Z,13µm,21.0s
TATO **Taipei** 64.31 311 *e*P **P** 07 20 25.4 -0.4
comp=Z,754nm,1.4s
TATO LR LR
comp=Z,16µm,20.0s
PPBI **Pangkal Pinang** 64.41 277 P **P** 07 20 26.9 +0.2
KLI **Kotabumi** 64.72 274 P **P** 07 20 25.1 -3.6
KASI **Kota Agung** 64.85 273 P **P** 07 20 27.5 -2.1
LWLI **Liwa** 65.42 273 P **P** 07 20 31.2 -2.2
PMBI **Palembang** 65.43 276 P **P** 07 20 33.6 +0.2
MDSI **Maura Dua** 65.48 274 P **P** 07 20 31.3 -2.4
ERM **Erimo** 65.71 339 *e*P **P** 07 20 34.3 -0.1
comp=Z,85nm,0.9s
ERM LR LR
comp=Z,15µm,20.0s
ERM **Erimo** 65.71 339⇓ *i*P **P** 07 20 34.6 +0.2
ERM pmax pmax
comp=Z,52nm,0.7s
ERM MLR MLR
comp=Z,11µm,17.0s
QZH **Quanzhou** 66.38 309⇓ *i*P **P** 07 20 38.9 -0.2
QZH S **S** 07 29 29.6 +2.6
QZH pmax pmax
comp=Z,170nm,1.9s
QZH pmax pmax
comp=Z,7µm,7.2s
QZH LR LR
comp=Z,7µm,19.1s
DSRI **Dabo** 66.45 278 P **P** 07 20 40.2 +0.3
YUK **Yuzh-Kuril'sk** 66.64 341 *e*P P 07 20 34.6 -5.8
YUK pmax pmax
comp=Z,571nm,1.3s
YUK pmax pmax
comp=Z,6µm,4.0s
MNAI **Manna** 66.67 274 P **P** 07 20 40.5 -0.9
MNAI **Manna** 66.67 274 PFAKE 07 20 50.0 +8.6
MNAI LR LR
comp=Z,17µm,20.0s
JMBI **JAMBI** 66.93 277 P **P** 07 20 41.8 -1.2
TPRI **Tanjung Pinang** 67.00 280 P **P** 07 20 43.4 0.0
KUR **Kuril'sk** 67.17 343 *de*P **P** 07 20 43.3 -0.4
KUR *e* 07 30 19.0
KUR pmax pmax
comp=Z,1µm,1.8s
KUR pmax pmax
comp=E,80nm,1.1s
KUR pmax pmax
comp=N,551nm,1.8s
KUR pmax pmax
comp=Z,9µm,5.2s
KUR MLR MLR
comp=Z,8µm,17.0s
KUR MLR MLR
comp=N,8µm,15.0s
KUR MLR MLR
comp=E,2µm,13.0s
MASI **Maura Aman, Be** 67.75 275 P **P** 07 20 47.6 -0.6
ASAJ **Asahikawa** 67.76 339 P **P** 07 20 48.2 +0.7
comp=E,205nm,0.9s,baz=211,slow=8.4,SNR=98
ASAJ LR LR 07 44 10.5
comp=E,44nm,21.9s,baz=162,slow=30
ASAJ **Asahikawa** 67.76 339 *e*P **P** 07 20 48.4 +0.9
comp=E,330nm,1.0s
MYKOM **Kota Tinggi** 67.94 280 ⇓P **P** 07 20 50.8 +1.5

MYKOM **Kota Tinggi** 67.94 280 *e*P **P** 07 20 49.1 -0.2
comp=E,88nm,1.2s
MYKOM LR LR
comp=Z,36µm,22.0s
HKC **Hong Kong Obse** 68.21 305 ⇑P **P** 07 20 55.0 +4.2
TJN **Taejon** 68.28 324⇓ *i*P **P** 07 20 52.5 +1.5
SSE **Sheshan** 68.39 316 P **P** 07 20 52.6 +0.8
SSE sP **pP** 07 21 01.4 -0.8
SSE S **S** 07 29 53.1 +2.1
SSE pmax pmax
comp=Z,39nm,0.7s
SSE pmax pmax
comp=Z,3µm,4.9s
KGM **Kluang** 68.52 280 ⇓P **P** 07 20 53.1 +0.1
MCO **Taipa Grande** 68.59 304 P **P** 07 20 57.0 +3.8
RGRI **Rengat** 68.60 277 P **P** 07 20 51.3 -2.2
KSRS **Korea Array** 68.77 325 P **P** 07 20 54.7 +0.7
comp=Z,13nm,0.9s,baz=141,slow=6.7,SNR=12
KSRS PKPPKP **P'P'df** 07 49 04.3 -0.5
comp=Z,7.7nm,1.3s,baz=344,slow=4.0,SNR=3.1
KSAR **Wonju Array Be** 68.78 325 P **P** 07 20 54.7 +0.6
KSAR P'P' 07 49 04.3
KSAR **Wonju Array Be** 68.78 325 P **P** 07 20 54.7 +0.6
KS01 **Wonju Array Si** 68.80 325 *e*P **P** 07 20 53.7 -0.5
GZH **Guangzhou** 69.28 305⇓ *i*P **P** 07 20 58.3 +0.8
GZH PcP **PcP** 07 21 22.0 +1.0
GZH PP **PP** 07 23 34.3 +3.3
GZH S **S** 07 30 01.9 +0.1
GZH ScS **SKSac** 07 30 52.3 -3.1
GZH LR LR
comp=Z,6µm,18.6s
GZH LR LR
comp=Z,9µm,19.0s
INCN **Inchon** 69.49 325 *e*P **P** 07 20 58.4 -0.1
comp=Z,474nm,1.5s
INCN LR LR
comp=Z,8µm,20.0s
INCN **Inchon** 69.49 325 P **P** 07 20 57.9 -0.6
SNR=9.7
QIZ **Qiongzhong** 69.99 299 P **P** 07 21 03.2 +1.2
QIZ PcP **PcP** 07 21 24.1 0.0
QIZ PP **PP** 07 23 37.9 +0.6
QIZ S **S** 07 30 10.4 0.0
QIZ SS **SS** 07 34 35.6 -4.9
QIZ pmax pmax
comp=Z,3µm,4.1s
QIZ LR LR
comp=Z,13µm,32.4s
QIZ **Qiongzhong** 69.99 299 PFAKE 07 21 10.0 +8.0
QIZ LR LR
comp=Z,7µm,20.0s
BKNI **Bangkinang** 70.05 278 P **P** 07 21 01.9 -0.6
BKNI **Bangkinang** 70.05 278 *e*P **P** 07 21 01.4 -1.1
comp=Z,459nm,1.2s
BKNI LR LR
comp=Z,20µm,19.0s
COCO **West Island** 70.12 264 PFAKE 07 21 10.0 +7.1
COCO LR LR
comp=Z,43µm,21.0s
PDSI **Padang** 70.16 276 P **P** 07 21 01.6 -1.6
YSS **Yuzh-Sakhalins** 70.22 341 *e*P **P** 07 21 03.3 +0.5
comp=Z,2µm,1.8s
YSS LR LR
comp=Z,8µm,20.0s
YSS **Yuzh-Sakhalins** 70.22 341 κ *i*P **P** 07 21 03.8 +1.1
YSS *e* 07 21 12.5
YSS *e**SP **sP** 07 21 19.4 +2.3
YSS *e*S **S** 07 30 16.1 +4.1
YSS *e*PS **PnS** 07 30 40.0 -2.3
YSS pmax pmax
comp=Z,290nm,1.0s
YSS pmax pmax
comp=Z,8µm,4.0s
NJ2 **Nanjing** 70.53 316 *e*P **P** 07 21 04.1 -0.9
NJ2 pP **pP** 07 21 15.2 -0.3
NJ2 S **S** 07 30 16.8 +0.6
NJ2 sS **pS** 07 30 29.4 +0.2
NJ2 SKS **SKSac** 07 31 02.7 -1.8
NJ2 SS **SS** 07 34 50.3 +1.8
NJ2 pmax pmax
comp=Z,120nm,1.6s
NJ2 pmax pmax
comp=Z,7µm,7.4s
NJ2 LR LR
comp=Z,8µm,20.1s
NJ2 LR LR
comp=Z,6µm,17.9s
NJ2 LR LR
comp=Z,12µm,21.4s
SKR **Severo-Kuril's** 70.63 351 *e*P **P** 07 21 06.8 +1.7
SKR pmax pmax
comp=Z,8µm,5.9s
SKR pmax pmax
comp=Z,259nm,1.6s
SKR MLR MLR
comp=Z,6µm,20.0s
SKR MLR MLR
comp=Z,7µm,16.0s
TEY **Ternei** 70.72 336 *e*P **P** 07 21 06.0 +0.2
TEY *e*S **SKiKP** 07 30 50.0 +3.5
TEY pmax pmax
comp=N,1µm,4.0s
TEY pmax pmax
comp=E,700nm,4.0s
TEY pmax pmax
comp=Z,4µm,4.0s
VLA **Vladivostok** 71.14 332 *c i*P **P** 07 21 08.8 +0.4
VLA pmax pmax
comp=Z,113nm,1.3s
SISI **Saibi** 71.31 275 P **P** 07 21 07.6 -2.6
IPM **Ipoh** 71.55 282 ⇓P **P** 07 21 13.3 +1.7
IPM **Ipoh** 71.55 282 *e*P **P** 07 21 11.1 -0.6
comp=Z,246nm,1.6s
IPM LR LR
comp=Z,29µm,22.0s
MNSI **Mandailing Nat** 71.58 278 P **P** 07 21 10.2 -1.6
SMY **Shemya** 71.75 3 PFAKE 07 21 20.0 +8.1
SMY LR LR
comp=Z,32µm,22.0s
USRK **Ussuriysk Ar.** 71.95 332 P **P** 07 21 13.3 0.0
comp=Z,15nm,0.8s,baz=132,slow=5.7,SNR=25
USRK LR LR 07 49 52.0
comp=Z,6µm,20.3s,baz=129,slow=34
KULM **Kulim** 72.20 282 ⇓P **P** 07 21 17.3 +1.8
KULM **Kulim** 72.20 282 *e*P **P** 07 21 14.9 -0.6
comp=Z,200nm,1.4s
KULM LR LR
comp=Z,30µm,22.0s
PBSI **Pulau Batu** 72.50 276 P **P** 07 21 14.9 -2.4
PET **Petropavlovsk** 72.58 353 *e*P **P** 07 21 16.4 -0.4
comp=Z,363nm,1.4s
PET LR LR
comp=Z,36µm,22.0s
PET **Petropavlovsk** 72.58 353 *de*P **P** 07 21 16.1 -0.8
PET *i* S **S** 07 30 36.7 -2.3
PET *e*PS **PnS** 07 31 09.4 -3.9
PET pmax pmax
comp=Z,6µm,10.7s
PET pmax pmax
comp=Z,6µm,11.3s
PET pmax pmax
comp=Z,201nm,1.4s
PET smax smax
comp=E,11µm,17.6s
PET smax smax
comp=N,7µm,16.3s
PET smax smax
comp=E,8µm,14.3s
WHN **Wuhan** 72.70 312 ⇑P **P** 07 21 17.9 -0.2
WHN S **S** 07 30 43.9 +2.6
WHN LR LR
comp=E,12µm,15.4s
WHN LR LR
comp=E,7µm,18.1s
WHN LR LR
comp=E,26µm,21.7s
PEA0B **Petropavlovsk-** 72.78 352 *e*P **P** 07 21 18.8 +0.7
comp=E,2µm,1.9s
PEA0B LR LR
comp=Z,40µm,22.0s
PETK **Petropavlovsk-** 72.78 352 P **P** 07 21 18.5 +0.4
comp=Z,67nm,1.0s,baz=120,slow=5.8,SNR=56
PETK LR LR 07 47 28.4
comp=Z,34µm,21.8s,baz=157,slow=31
PETK **Petropavlovsk-** 72.78 352 *e*P **P** 07 21 18.1 0.0

PETK Petropavlovsk- 72.78 352 eP P 07 21 18.1 0.0
PSI Prapat 72.90 279 P P 07 21 19.4 -0.4
comp=Z,28nm,0.9s,baz=153,slow=4.1,SNR=20
PSI LR LR 07 55 48.7
comp=Z,23µm,19.5s,baz=133,slow=38
PSI Prapat 72.90 279 eP P 07 21 18.0 -1.8
comp=Z,136nm,1.2s
PSI Prapat 72.90 279 eP P 07 21 18.0 -1.8
PSI pmax pmax
comp=Z,137nm,1.2s
SKLT Songkhla 72.94 284 P P 07 21 20.0 +0.1
comp=Z,107nm,1.4s,comp=Z,4µm
DL2 Dalian 73.30 323 P P 07 21 20.4 -1.0
DL2 S SKiKP 07 30 51.5 +0.9
DL2 SS SS 07 35 32.2 +1.6
DL2 pmax pmax
comp=Z,250nm,0.9s
DL2 pmax pmax
comp=Z,8µm,7.0s
DL2 LR LR
comp=Z,4µm,25.5s
DL2 LR LR
comp=Z,10µm,22.5s
DL2 LR LR
comp=Z,17µm,24.6s
MDJ Mudanjiang 73.34 331 P P 07 21 20.0 -1.6
MDJ pP pP 07 21 29.9 -2.2
MDJ sP sP 07 21 34.0 -2.0
MDJ S SKiKP 07 30 50.9 +0.4
MDJ pmax pmax
comp=Z,7µm,4.6s
MDJ LR LR
comp=Z,9µm,27.1s
MDJ LR LR
comp=Z,9µm,23.9s
MDJ LR LR
comp=Z,20µm,34.2s
MDJ Mudanjiang 73.34 331 eP P 07 21 21.7 +0.1
comp=Z,801nm,1.8s
MDJ LR LR
comp=Z,12µm,20.0s
TSI Tuntungan 73.48 280 P P 07 21 20.4 -2.7
GSI Gunungsitoli 73.63 277 P P 07 21 22.1 -1.9
GSI Gunungsitoli 73.63 277 eP P 07 21 22.9 -1.2
comp=Z,291nm,1.3s
GSI LR LR
comp=Z,42µm,22.0s
RPN Rapa Nui 73.66 113 P P 07 21 25.7 +1.8
comp=Z,304nm,1.2s,baz=282,slow=5.1,SNR=8.7
RPN LR LR 07 47 50.0
comp=Z,11µm,20.3s,baz=262,slow=31
RPN Rapa Nui 73.66 113 eP P 07 21 24.1 +0.1
comp=Z,2µm,1.7s
RPN Rapa Nui 73.66 113 eP P 07 21 24.1 +0.1
RPN pmax pmax
comp=Z,2µm,1.7s
TYV Tymovskoe 73.74 343 eP P 07 21 24.9 +1.1
TYV eS S 07 30 54.5 +2.2
TYV pmax pmax
comp=Z,109nm,1.2s
TYV pmax pmax
comp=Z,4µm,4.0s
TYV smax smax
comp=N,2µm,9.5s
SKNT Sakolnakorn 73.97 295 P P 07 21 24.5 -1.4
comp=N,105nm,1.4s,comp=N,3µm
TRTT Trang 74.04 284 P P 07 21 27.0 +0.6
comp=N,46nm,1.7s,comp=N,2µm
KCSI Kotacane, Aceh 74.23 279 P P 07 21 25.0 -2.5
TIA Tai'an 74.25 318 P P 07 21 26.4 -0.7
TIA pP pP 07 21 37.5 -0.2
TIA S S 07 30 59.5 +0.8
TIA SKS SKSac 07 31 26.3 -6.1
TIA pmax pmax
comp=N,30nm,1.0s
TIA pmax pmax
comp=N,7µm,7.5s
TIA LR LR
comp=N,8µm,26.9s
SRAK Srakaew 74.39 291 P P 07 21 28.0 -0.3
comp=N,92nm,1.7s,comp=N,2µm
TPTI 74.69 279 P P 07 21 27.2 -2.9
KHON Khomkaen 74.69 294 P P 07 21 31.5 +1.5
comp=N,47nm,1.3s,comp=N,2µm
CN2 Changchun 74.70 328 eP P 07 21 28.5 -1.0
CN2 epP pP 07 21 38.3 -1.8
CN2 eS S 07 31 09.4 +6.1
CN2 SS SS 07 35 53.4 +1.6
CN2 LR LR
comp=N,8µm,24.0s
CN2 LR LR
comp=N,10µm,24.0s
CN2 LR LR
comp=N,7µm,25.0s
SURT Suratani 75.28 285 P P 07 21 35.4 +1.8
comp=N,147nm,1.6s,comp=N,2µm
PKDT Phuket 75.30 284 P P 07 21 44.0 +10
UNV Unalaska Valle 75.59 14 eP P 07 21 36.0 +1.6
comp=N,221nm,1.3s
UNV LR LR
comp=Z,46µm,20.0s
LHMI Lhok Sumawe 75.61 281 P P 07 21 33.2 -2.2
LHMI Lhok Sumawe 75.61 281 PFAKE 07 21 50.0 +15
LHMI LR LR
comp=Z,27µm,22.0s
GRNR Gornyy 75.61 339 ‖ iP P 07 21 36.0 +1.4
GRNR pmax pmax
comp=N,320nm,1.3s
GRNR pmax pmax
comp=Z,640nm,1.3s
MLSI Meulaboh, Aceh 75.77 280 P P 07 21 33.2 -3.2
AKUT Akutan 76.03 15 PFAKE 07 21 50.0 +13
AKUT LR LR
comp=Z,35µm,20.0s
ENH Enshi 76.03 309 eP P 07 21 37.0 -0.6
comp=Z,322nm,1.5s
ENH LR LR
comp=Z,8µm,21.0s
KLR Kul'dur 76.06 335 P P 07 21 37.5 +0.3
comp=Z,8.7nm,1.2s,baz=143,slow=5.3,SNR=62
KLR Kul'dur 76.06 335 ‖ iP P 07 21 37.9 +0.7
GYA Guiyang 76.21 305 ‖ iP P 07 21 37.9 -0.9
GYA pP pP 07 21 49.8 +0.5
GYA PP PP 07 24 33.0 +2.6
GYA S S 07 31 20.7 -0.4
GYA sS sS 07 31 36.4 -2.1
GYA SKS SKSac 07 31 43.2 -4.5
GYA SS SS 07 36 17.0 +1.4
GYA pmax pmax
comp=Z,90nm,1.0s
GYA pmax pmax
comp=Z,5µm,10.9s
GYA LR LR
comp=Z,10µm,24.3s
NKL Nikolayevsk 76.34 342 i P P 07 21 40.0 +1.3
NKL i S S 07 31 37.0 +16
NKL e 07 36 16.0
NKL pmax pmax
comp=N,110nm,1.4s
NKL pmax pmax
comp=E,32nm,1.4s
NKL pmax pmax
comp=Z,1µm,1.4s
NKL pmax pmax
comp=N,4µm,8.0s
NKL pmax pmax
comp=E,2µm,8.0s
NKL pmax pmax
comp=Z,14µm,7.0s
SRDT SRDT 77.11 290 P P 07 21 44.4 +0.5
comp=Z,218nm,0.9s,comp=Z,7µm
PHIT Phitsanulok 77.14 293 P P 07 21 44.6 +0.6
comp=Z,100nm,1.1s,comp=Z,989nm
BJT Baijiatuau 77.22 321 eP P 07 21 44.0 0.0
comp=Z,152nm,1.0s
BJT LR LR
comp=Z,10µm,21.0s
BJT Baijiatuau 77.22 321 eP P 07 21 44.0 0.0
BJT pmax pmax
comp=Z,152nm,1.0s
BJT MLR MLR
comp=Z,10µm,21.0s
BJI Beijing 77.23 321 P P 07 21 43.9 -0.1
BJI PP PP 07 24 39.7 +1.1
BJI S S 07 31 29.7 -1.7
BJI pmax pmax
comp=Z,52nm,1.0s
BJI LR LR
comp=Z,7µm,28.9s
FALS False Bass 77.26 16 PFAKE 07 22 00.0 +16
FALS LR LR
comp=Z,38µm,20.0s
NANT Nan 77.57 295 P P 07 21 46.8 +0.4
comp=Z,39nm,1.1s,comp=Z,402nm
SPIA Saint Paul Isl 77.93 11 eP P 07 21 47.2 -0.4
comp=Z,1µm,1.8s
TIY Taiyuan 78.15 317 eP P 07 21 49.2 -0.2
TIY S S 07 31 46.3 +4.6
TIY ScS SKKSac 07 32 03.2 +0.9
TIY pmax pmax
comp=Z,130nm,1.5s
TIY pmax pmax
comp=Z,7µm,7.0s
TIY LR LR
comp=Z,5µm,20.2s
XAN Xi'an 78.46 312 P P 07 21 50.8 -0.3
XAN pP pP 07 22 01.0 -0.7
XAN PP PP 07 24 50.0 +0.9
XAN S S 07 31 47.4 +2.4
XAN SKS SKSac 07 31 56.8 -6.8
XAN SS SS 07 36 52.4 +3.2
XAN pmax pmax
comp=Z,160nm,1.5s
XAN pmax pmax
comp=Z,7µm,7.0s
XAN LR LR
comp=Z,9µm,20.6s
XAN LR LR
comp=Z,6µm,21.6s
XAN LR LR
comp=Z,9µm,21.6s
SDPT Sand Point 78.47 17 PFAKE 07 22 00.0 +9.4
SDPT LR LR
comp=Z,25µm,20.0s
MAW Mawson 78.63 202 P P 07 21 52.4 +0.9
comp=Z,177nm,1.1s,baz=128,slow=5.8,SNR=8.5
MAW LR LR 07 52 08.7
comp=Z,79µm,21.3s,baz=94,slow=32
MAW Mawson 78.63 202 P P 07 21 52.6 +1.2
baz=79,SNR=9.3
MAW Mawson 78.63 202 eP P 07 21 52.4 +0.9
comp=Z,98nm,1.1s
KMI Kunming 78.68 302 P P 07 21 53.0 +0.3
KMI pP pP 07 22 03.3 0.0
KMI sP sP 07 22 08.0 +0.8
KMI S S 07 31 47.0 -1.1
KMI sS SKKSac 07 32 08.2 +1.1
KMI SS SS 07 36 50.3 -2.8
KMI pmax pmax
comp=Z,100nm,1.2s
KMI pmax pmax
comp=Z,4µm,4.3s
KMI LR LR
comp=Z,10µm,30.0s
CM01 Chiang Mai Arr 78.91 294 eP P 07 21 53.6 -0.2
CM31 Chiang Mai Arr 78.94 294 eP P 07 21 54.7 +0.7
CMAR Chiang Mai Arr 78.94 294 P P 07 21 54.4 +0.4
comp=Z,39nm,1.1s,baz=130,slow=4.1,SNR=71
CMAR PKKPbc PKKPbc 07 40 48.4 +1.3
comp=Z,1.2nm,0.5s,baz=308,slow=4.4,SNR=6.2
CMAR PKPPKP P'P'df 07 48 48.8 -1.5
comp=Z,0.7nm,0.3s,baz=294,slow=2.9,SNR=7.2
CMAR Chiang Mai Arr 78.94 294 P P 07 21 54.4 +0.4
CMAR pmax pmax
comp=Z,25nm,0.9s
CMMT Chiang Mai 79.08 294 P P 07 21 54.0 -0.8
comp=Z,148nm,1.3s,comp=Z,5µm
CHTO Chiang Mai 79.08 294 P P 07 21 55.1 +0.3
comp=Z,659nm,1.4s,comp=Z,24µm
CHTO Chiang Mai 79.08 294 eP P 07 21 54.6 -0.2
comp=Z,452nm,1.7s
CHTO LR LR
comp=Z,11µm,22.0s
CHTO Chiang Mai 79.08 294 eP P 07 21 54.6 -0.2
CHTO pmax pmax
comp=Z,452nm,1.7s
CHTO MLR MLR
comp=Z,11µm,22.0s
CHTO Chiang Mai 79.08 294 P P 07 21 54.7 -0.1
SNR=97
CMAI Chiengmai2 79.46 295 P P 07 21 57.3 +0.2
comp=Z,1µm,1.4s,comp=Z,38µm
CHGN Chignik 79.88 17 eP P 07 21 57.9 -0.3
comp=Z,233nm,1.4s
CHGN LR LR
comp=Z,24µm,20.0s
MA2 Magadan 80.04 350 P P 07 21 58.2 -0.9
comp=Z,94nm,1.0s,baz=160,slow=7.0,SNR=81
MA2 Magadan 80.04 350 ‖ iP P 07 21 59.5 +0.5
HHC Hu-ho-hao-te 80.52 319 eP P 07 22 01.6 -0.7
HHC pP pP 07 22 11.9 -1.0
HHC S S 07 32 04.5 -2.3
HHC SKS SKSac 07 32 12.2 -5.8
HHC sS SKKSac 07 32 21.4 +1.2
HHC LR LR
comp=Z,6µm,21.8s
HHC LR LR
comp=Z,5µm,20.6s
HHC LR LR
comp=Z,13µm,22.8s
CD2 Chengdu 80.61 307 ‖ P P 07 22 02.8 -0.1
CD2 pP pP 07 22 14.1 +0.6
CD2 sP sP 07 22 18.6 +1.2
CD2 S S 07 32 07.7 -0.3
CD2 SKS SKSac 07 32 16.9 -2.0
CD2 sS ScS 07 32 27.0 -0.3
CD2 SS SS 07 37 21.6 0.0
CD2 pmax pmax
comp=Z,190nm,1.0s
CD2 pmax pmax
comp=Z,9µm,5.6s
CD2 LR LR
comp=Z,14µm,25.8s
CD2 LR LR
comp=Z,18µm,25.8s
CD2 LR LR
comp=Z,18µm,25.3s
ZEA Zeya 81.34 336 deP P 07 22 06.5 +0.4
ZEA e 07 32 26.0
ZEA pmax pmax
comp=E,190nm,1.8s
ZEA pmax pmax
comp=Z,730nm,1.6s
ZEA pmax pmax
comp=N,480nm,1.8s
ZEA pmax pmax
comp=E,2µm,7.0s
ZEA pmax pmax
comp=Z,10µm,7.0s
HIA Hailar 81.34 329 eP P 07 22 06.3 0.0
comp=Z,330nm,1.9s
HIA LR LR
comp=Z,8µm,22.0s
HIA Hailar 81.34 329 eP P 07 22 06.3 0.0
HIA pmax pmax
comp=Z,330nm,1.9s
HIA MLR MLR
comp=Z,8µm,22.0s
PAF Port-aux-Franc 81.65 221 eP P 07 22 08.5 +0.4
comp=Z,1µm,1.3s
PAF LR LR
comp=Z,25µm,22.0s
PAF Port-aux-Franc 81.65 221 eP P 07 22 08.5 +0.4
PAF pmax pmax
comp=Z,1µm,1.3s
PAF MLR MLR
comp=Z,25µm,22.0s
PBA Port Blair 81.81 285 eP P 07 22 09.5 0.0
PBA IAmb IAmb 07 22 20.4
comp=Z,388nm,1.4s
OHAK Old Harbor 82.18 19 eP P 07 22 11.2 +0.8
comp=Z,297nm,1.2s
DGPR DIGLIPUR 82.20 287 eP P 07 22 11.0 -0.6
KDAK Kodiak Island 82.86 19 P P 07 22 14.6 +0.6
comp=Z,49nm,1.1s,baz=179,slow=1.9,SNR=8.0
KDAK Kodiak Island 82.86 19 eP P 07 22 14.4 +0.4
comp=Z,393nm,1.6s
KDAK LR LR
comp=Z,39µm,20.0s
KDAK Kodiak Island 82.86 19 ceP P 07 22 16.0 +2.0
SEY Seymchan 83.02 352 P P 07 22 14.6 -0.1
comp=Z,217nm,1.2s,baz=161,slow=4.7,SNR=164
SEY Seymchan 83.02 352 ceP P 07 22 15.1 +0.4
LZH Lanzhou 83.08 312 ‖ P P 07 22 16.5 +0.6
LZH pP pP 07 22 27.0 +0.4
LZH sP sP 07 22 31.0 +0.5
LZH PP PP 07 25 29.0 +1.5
LZH eS S 07 32 33.0 -0.4
LZH sS sS 07 32 50.3 -0.8
LZH SS SS 07 37 58.0 -0.4
LZH pmax pmax
comp=Z,470nm,1.5s
LZH pmax pmax
comp=Z,9µm,8.9s
LZH LR LR
comp=Z,6µm,17.5s
LZH LR LR
comp=Z,4µm,17.4s
LZH LR LR
comp=Z,9µm,19.3s
GAMB Gambell 83.99 8 eP P 07 22 19.9 +0.3
comp=Z,164nm,1.2s
GAMB LR LR
comp=Z,22µm,21.0s
CLNS Chul'man 84.56 337 eP P 07 22 23.1 +0.2
CLNS e 07 22 31.2
CLNS e 07 25 38.3
CLNS ePPP PPP 07 27 29.4
CLNS eS S 07 32 43.0 -4.2
CLNS e 07 33 36.4
CLNS pmax pmax
comp=Z,125nm,1.1s
CLNS pmax pmax
comp=N,64nm,1.2s
CLNS pmax pmax
comp=E,16nm,1.1s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=N,38nm,1.1s
CLNS pmax pmax
comp=Z,32nm,1.3s
CLNS smax smax
comp=N,3µm,11.7s
CLNS smax smax
comp=E,7µm,12.7s
CLNS MLR MLR
comp=N,3µm,11.0s
CLNS MLR MLR
comp=Z,5µm,17.0s
HOM Homer 84.67 19 eP P 07 22 23.8 +0.6
comp=Z,370nm,1.0s
HOM LR LR
comp=Z,47µm,21.0s
SVW2 Sparrevohn 84.75 16 eP P 07 22 23.9 +0.2
comp=Z,537nm,1.9s
SVW2 LR LR
comp=Z,26µm,20.0s
BRLK Bradley Lake 84.98 19 eP P 07 22 24.8 -0.1
comp=Z,107nm,1.0s
BRLK LR LR
comp=Z,38µm,22.0s
SYO Syowa Base 85.08 196 ‖ eP P 07 22 21.8 -3.6
SYO Syowa Base 85.08 196 ‖ iX P 07 22 24.2 -1.2
SYO Syowa Base 85.08 196 ‖ iP pP 07 22 34.1 -2.0
MCCM Marconi Confer 85.10 47 eP P 07 22 27.0 +1.0
comp=Z,432nm,2.0s
MCCM LR LR
comp=Z,27µm,20.0s
SNCC San Nicolas Is 85.25 53 P P 07 22 28.2 +1.4
baz=244
SNCC San Nicolas Is 85.25 53 eP P 07 22 28.3 +1.4
comp=Z,178nm,1.4s
SNCC LR LR
comp=Z,37µm,22.0s
KCPM Cahto Peak 85.38 45 eP P 07 22 28.8 +1.3
comp=Z,203nm,1.2s
KCPM LR LR
comp=Z,39µm,19.0s
HOPS Hopland Field 85.38 46 eP P 07 22 28.6 +1.3
comp=Z,243nm,1.5s
HOPS LR LR
comp=Z,34µm,22.0s
SAO San Andreas Ge 85.45 49 eP P 07 22 28.0 +0.3
comp=Z,124nm,1.3s
SAO LR LR
comp=Z,60µm,22.0s
SAO San Andreas Ge 85.45 49 eP P 07 22 28.0 +0.3
SAO pmax pmax
comp=Z,124nm,1.3s
SAO MLR MLR
comp=Z,60µm,22.0s
GDXM Geysers 85.48 46 eP P 07 22 28.8 +0.9
comp=Z,167nm,1.6s
GDXM LR LR
comp=Z,31µm,19.0s
SCZ2 Santa Cruz Isl 85.50 52 P P 07 22 29.1 +1.0
baz=243
RDG13 Poverty Ridge 85.55 48 eP P 07 22 29.5 +1.1
comp=Z,321nm,1.5s
RDG13 LR LR
comp=Z,66µm,21.0s
KMRM Mail Ridge 85.56 45 eP P 07 22 29.6 +1.3
comp=Z,312nm,1.5s
KMRM LR LR
comp=Z,55µm,21.0s
JCC Jacoby Creek, 85.64 44 eP P 07 22 29.4 +0.9
comp=Z,157nm,1.4s
JCC LR LR
comp=Z,50µm,21.0s
SBC Santa Barbara 85.64 51 P P 07 22 30.1 +1.4
baz=243
PMPB Monarch Peak 85.66 49 eP P 07 22 30.4 +1.5
comp=Z,291nm,1.5s
PMPB LR LR
comp=Z,53µm,20.0s
SEW Seward 85.69 19 eP P 07 22 27.6 -0.7
comp=Z,63nm,1.4s
SEW LR LR
comp=Z,14µm,18.0s
PKM Mcpherson Peak 85.77 51 P P 07 22 30.8 +1.2
baz=243,SNR=15
SPU Mount Spurr 85.78 17 eP P 07 22 28.6 -0.2
SMMC Simmler 85.83 51 P P 07 22 31.2 +1.5
baz=243,SNR=11
PAGB Antelope Grade 85.83 50 eP P 07 22 30.6 +0.9
comp=Z,159nm,1.4s
PAGB LR LR
comp=Z,46µm,21.0s
KHMM Horse Mountain 85.86 44 eP P 07 22 31.3 +1.4
comp=Z,181nm,1.3s
KHMM LR LR
comp=Z,57µm,22.0s
SCI2 San Clemente I 85.87 53 P P 07 22 30.4 +0.5
baz=244
BLG Laguna Peak, P 85.98 52 P P 07 22 31.2 +0.8
baz=244
CIT Chita 86.13 329 eP P 07 22 30.9 +0.1
CIT pmax pmax
comp=Z,623nm,4.1s
CIS Catalina Islan 86.15 53 P P 07 22 31.8 +0.5
baz=244
MID Middleton Isla 86.18 21 PFAKE 07 22 40.0 +9.3
MID LR LR
comp=Z,16µm,21.0s
KBO Bosley Butte 86.21 43 eP P 07 22 32.4 +1.0
comp=Z,413nm,1.8s
KBO LR LR
comp=Z,61µm,22.0s
FMP Fort Macarthur 86.38 53 P P 07 22 33.2 +0.8
baz=244
RC01 Rabbit Creek A 86.39 18 eP P 07 22 30.9 -0.8
comp=Z,86nm,1.3s
RC01 LR LR
comp=Z,37µm,21.0s
SUA Susitna One 86.39 18 eP P 07 22 31.4 -0.5
comp=Z,59nm,1.0s
SUA LR LR
comp=Z,32µm,19.0s
OSI Osito Audit: C 86.45 52 P P 07 22 33.8 +0.9
baz=244
OSI Osito Audit: C 86.45 52 eP P 07 22 33.7 +0.9
comp=Z,533nm,2.0s
OSI LR LR
comp=Z,30µm,20.0s
KEBM Edson Butte 86.47 42 eP P 07 22 33.5 +0.7
comp=Z,303nm,1.7s
KEBM LR LR
comp=Z,45µm,20.0s

WDC **Whiskeytown Da** 86.51 45 *e*P P 07 22 34.2 +1.3
comp=Z,376nm,1.8s
WDC LR LR
comp=Z,67µm,22.0s
WDC **Whiskeytown Da** 86.51 45 *e*P P 07 22 34.2 +1.3
WDC pmax pmax
comp=Z,377nm,1.8s
WDC MLR MLR
comp=Z,67µm,22.0s
L02D **Cave Junction,** 86.58 43 P P 07 22 34.5 +1.2
baz=240
DECC **Green Verdugo** 86.58 52 P P 07 22 34.1 +0.7
baz=244
N02D **Trinity Center** 86.59 45 P P 07 22 34.9 +1.6
baz=241,SNR=40
ARVC **Arvin** 86.60 51 P P 07 22 34.5 +1.1
baz=244,SNR=12
ARVC S S 07 33 11.9 +3.7
baz=244
PASC **Pasadena Art C** 86.66 52 *e*P P 07 22 34.5 +0.7
comp=Z,83nm,1.3s
PASC LR LR
comp=Z,38µm,21.0s
M02C **Callahan** 86.69 44 P P 07 22 35.3 +1.5
baz=241,SNR=46
ORV **Oroville** 86.72 46 *e*P P 07 22 34.3 +0.3
comp=Z,372nm,1.8s
ORV LR LR
comp=Z,24µm,22.0s
ORV **Oroville** 86.72 46 *e*P P 07 22 34.3 +0.3
ORV pmax pmax
comp=Z,372nm,1.8s
ORV MLR MLR
comp=Z,24µm,22.0s
VES **Vestal, Richgr** 86.73 50 P P 07 22 34.6 +0.6
baz=244,SNR=5.7
MWC **Mount Wilson** 86.78 52 *e*P P 07 22 35.1 +0.5
comp=Z,195nm,1.5s
MWC LR LR
comp=Z,40µm,21.0s
MWC **Mount Wilson** 86.78 52 *e*P P 07 22 35.1 +0.5
MWC pmax pmax
comp=Z,195nm,1.5s
MWC MLR MLR
comp=Z,40µm,21.0s
CMB **Columbia Colle** 86.79 48 *e*P P 07 22 34.9 +0.5
comp=Z,95nm,1.4s
CMB LR LR
comp=Z,63µm,22.0s
CMB **Columbia Colle** 86.79 48 *e*P P 07 22 34.9 +0.5
CMB pmax pmax
comp=Z,95nm,1.4s
CMB MLR MLR
comp=Z,63µm,22.0s
AFDM **Forest Hills D** 86.80 47 *e*P P 07 22 35.0 +0.6
comp=Z,112nm,1.2s
AFDM LR LR
comp=Z,24µm,19.0s
RCTC **Rector, Farmer** 86.82 50 P P 07 22 34.9 +0.4
baz=244
O03D **Paynes Creek** 86.87 45 P P 07 22 35.5 +0.8
baz=242,SNR=46
109C **Camp Elliot, M** 86.92 54 P P 07 22 35.8 +0.7
baz=245
YBH **Yreka Blue Hor** 86.95 44 P P 07 22 36.4 +1.2
comp=Z,27nm,1.2s,baz=181,slow=4.4,SNR=30
YBH PKKP **PKKPdf** 07 40 24.2 +0.2
comp=Z,0.6nm,0.8s,baz=222,slow=15,SNR=1.9
YBH LR LR 07 52 56.9
comp=Z,57µm,21.7s,baz=238,slow=30
YBH **Yreka Blue Hor** 86.95 44 *e*P P 07 22 36.1 +0.9
comp=Z,282nm,1.7s
YBH PKKP **PKKPdf** 07 40 24.1 +0.2
YBH **Yreka Blue Hor** 86.95 44 *e*P P 07 22 36.1 +0.9
YBH pmax pmax
comp=Z,282nm,1.7s
PMR **Palmer** 86.96 18 *e*P P 07 22 33.9 -0.7
comp=Z,252nm,2.0s
PMR LR LR
comp=Z,34µm,20.0s
PMR **Palmer** 86.96 18 *e*P P 07 22 33.9 -0.7
PMR pmax pmax
comp=Z,252nm,2.0s
PMR MLR MLR
comp=Z,34µm,20.0s
YAK **Yakutsk** 87.00 342 P P 07 22 34.9 +0.2
comp=Z,143nm,0.9s,baz=60,slow=1.2,SNR=40
YAK **Yakutsk** 87.00 342 *e*P P 07 22 34.5 -0.2
comp=Z,539nm,1.0s
YAK LR LR
comp=Z,15µm,19.0s
YAK **Yakutsk** 87.00 342 *d i*P P 07 22 34.1 -0.6
YAK *e* 07 22 39.9
YAK *e**PP **pP** 07 22 45.0 -0.4
YAK *e* 07 25 57.1
YAK *e*S **SKSac** 07 32 57.4 -1.5
YAK *e*SS **SS** 07 38 53.1 -1.6
YAK pmax pmax
comp=Z,353nm,1.4s
YAK pmax pmax
comp=E,54nm,1.5s
YAK pmax pmax
comp=N,78nm,1.5s
YAK pmax pmax
comp=N,1µm,4.1s
YAK pmax pmax
comp=E,553nm,5.1s
YAK smax smax
comp=N,2µm,10.1s
YAK smax smax
comp=E,2µm,11.8s
YAK MLR MLR
comp=E,5µm,20.0s
YAK MLR MLR
comp=N,13µm,20.0s
GLI **Glacier Island** 87.04 20 PFAKE 07 22 50.0 +15
GLI LR LR
comp=Z,21µm,21.0s
BILL **Bilibino** 87.05 359 *d i*P P 07 22 33.6 -1.3
BILL *i* 07 22 42.9
BILL *i* S **SKSac** 07 32 59.2 +0.1
BILL pmax pmax
comp=Z,251nm,1.2s
BILL MLR MLR
comp=Z,7µm,18.0s
BFSC **Mount Baldy Ra** 87.08 52 P P 07 22 36.4 +0.4
baz=245,SNR=17
ISA **Isabella, Lake** 87.10 51 P P 07 22 36.8 +0.9
baz=244,SNR=40
ISA **Isabella, Lake** 87.10 51 *e*P P 07 22 37.0 +1.0
comp=Z,186nm,1.4s
ISA LR LR
comp=Z,36µm,22.0s
ISA **Isabella, Lake** 87.10 51 *e*P P 07 22 37.0 +1.0
ISA pmax pmax
comp=Z,187nm,1.4s
ISA MLR MLR
comp=Z,36µm,22.0s
EDW2 **Edwards Air Fo** 87.11 52 P P 07 22 37.0 +1.0
baz=244,SNR=38
ULN **Ulaanbaatar** 87.14 323 *e*P P 07 22 35.6 -0.4
comp=Z,280nm,1.2s
ULN LR LR
comp=Z,6µm,21.0s
ULN **Ulaanbaatar** 87.14 323 *d i*P P 07 22 35.9 -0.1
ULN pmax pmax
comp=Z,156nm,1.2s
ULN MLR MLR
comp=Z,6µm,18.0s
ULN **Ulaanbaatar** 87.14 323 P P 07 22 35.3 -0.7
SNR=170
PPLA **Purkeypile** 87.14 16 PFAKE 07 22 50.0 +14
PPLA LR LR
comp=Z,27µm,21.0s
MURC **Murrieta** 87.16 53 P P 07 22 37.1 +0.9
baz=245,SNR=8.1
BAR **Barrett** 87.17 54 *e*P P 07 22 36.8 +0.4
comp=Z,210nm,1.9s
BAR LR LR
comp=Z,22µm,22.0s
EYAK **Cordova Ski Ar** 87.22 20 *e*P P 07 22 37.2 +1.4
comp=Z,65nm,1.2s
EYAK LR LR
comp=Z,27µm,20.0s
HUMO **Hull Mountain** 87.22 43 *e*P P 07 22 37.3 +1.0
comp=Z,184nm,1.5s
HUMO LR LR
comp=Z,76µm,22.0s
SML **Sawmill** 87.37 19 *e*P P 07 22 37.8 +1.2
comp=Z,87nm,1.3s
SML LR LR
comp=Z,28µm,22.0s
SML **Sawmill** 87.37 19 *e*P P 07 22 37.8 +1.2
SML pmax pmax
comp=Z,87nm,1.3s
SML MLR MLR
comp=Z,28µm,22.0s
RUBR **Rubicon Trail** 87.41 47 *e*P P 07 22 38.6 +0.9
comp=Z,596nm,2.0s
RUBR LR LR
comp=Z,26µm,19.0s
MONP2 **Monument Peak** 87.45 54 P P 07 22 39.0 +1.1
baz=245,SNR=23
RAGM **Ragged Mountai** 87.45 21 PFAKE 07 22 50.0 +13
RAGM LR LR
comp=Z,31µm,19.0s
GTA **Gaotai** 87.47 313 P P 07 22 37.6 -0.1
GTA pP pP 07 22 48.4 -0.1
GTA sP sP 07 22 52.2 -0.1
GTA SKS **SKSac** 07 33 01.6 -1.6
GTA S **S** 07 33 15.8 -0.8
GTA sS sS 07 33 33.6 -0.8
GTA SS **SS** 07 39 07.6 +4.8
GTA pmax pmax
comp=Z,32nm,1.5s
GTA pmax pmax
comp=Z,2µm,5.9s
GTA LR LR
comp=Z,7µm,20.9s
GTA LR LR
comp=Z,6µm,22.8s
GTA LR LR
comp=Z,9µm,22.3s
SONM **Songino Array** 87.50 323 P P 07 22 37.2 -0.4
comp=Z,32nm,0.8s,baz=146,slow=2.5,SNR=97
SONM PKKP **PKKPdf** 07 40 24.6 +1.3
comp=Z,3.9nm,1.2s,baz=225,slow=1.8,SNR=6.0
SONM PKPPKP **P'P'df** 07 48 34.9 +3.0
comp=Z,1.2nm,1.0s,baz=298,slow=2.1,SNR=4.8
SONM LR LR 08 01 20.5
comp=Z,4µm,19.8s,baz=133,slow=35
SONA1 **Songino Array** 87.50 323 *e*P P 07 22 37.2 -0.5
MDPB **Devils Postpil** 87.53 49 *e*P P 07 22 39.0 +0.7
comp=Z,176nm,1.5s
MDPB LR LR
comp=Z,66µm,22.0s
M04C **Macdoel** 87.55 44 P P 07 22 39.0 +0.9
baz=242,SNR=16
IKP **In-Ko-Pah, Jac** 87.59 54 P P 07 22 39.6 +1.2
baz=246,SNR=17
CAST **Castle Rocks** 87.60 16 *e*P P 07 22 36.3 -1.4
comp=Z,44nm,1.0s
CAST LR LR
comp=Z,24µm,22.0s
LRMC **Laurel Mtn Rad** 87.60 51 P P 07 22 39.2 +0.8
baz=244,SNR=24
DIB **Dawson Inlet,** 87.61 31 PFAKE 07 22 50.0 +12
DIB LR LR
comp=Z,39µm,22.0s
BBRC **Big Bear Solar** 87.64 53 P P 07 22 39.3 +0.5
baz=245
BEKR **Beckworth** 87.65 46 *e*P P 07 22 39.5 +0.9
comp=Z,160nm,1.5s
BEKR LR LR
comp=Z,31µm,22.0s
DIV **Divide** 87.65 20 *e*P P 07 22 38.1 +0.1
comp=Z,67nm,1.2s
DIV LR LR
comp=Z,28µm,22.0s
WAKR **Walker** 87.67 48 *e*P P 07 22 39.7 +0.9
comp=Z,238nm,1.5s
WAKR LR LR
comp=Z,85µm,21.0s
SCM **Sheep Creek Mo** 87.69 19 *e*P P 07 22 38.4 +0.2
comp=Z,63nm,1.1s
SCM LR LR
comp=Z,11µm,18.0s
SCM **Sheep Creek Mo** 87.69 19 *e*P P 07 22 38.4 +0.2
SCM pmax pmax
comp=Z,63nm,1.1s
SCM MLR MLR
comp=Z,11µm,18.0s
MLAC **Mammoth, Mammo** 87.70 49 P P 07 22 40.3 +1.2
baz=244,SNR=11
PFO **Pinyon Flats O** 87.72 53 P P 07 22 40.1 +1.0
baz=245,SNR=16
PFO **Pinyon Flats O** 87.72 53 *e*P P 07 22 39.8 +0.7
comp=Z,115nm,1.4s
PFO LR LR
comp=Z,43µm,22.0s
PFO **Pinyon Flats O** 87.72 53 *e*P P 07 22 39.8 +0.7
PFO pmax pmax
comp=Z,115nm,1.4s
PFO MLR MLR
comp=Z,43µm,22.0s
CWC **Cottonwood Cre** 87.72 50 P P 07 22 39.8 +0.7
baz=244
XPFO **Piæon Flat** 87.72 53 *e*P P 07 22 39.9 +0.8
comp=Z,123nm,1.4s
XPFO LR LR
comp=Z,45µm,22.0s
SHL **Shillong** 87.77 298 *e*P P 07 22 38.0 -1.6
SHL *e*S **SKSac** 07 33 05.5 -0.2
SHL IAMs_20 IAMs_20 07 53 38.6
comp=Z,11µm,22.3s
RRX **Edison Barstow** 87.85 52 P P 07 22 40.2 +0.7
baz=245
KLU **Klutina** 87.87 20 *e*P P 07 22 39.4 +0.3
comp=Z,69nm,1.3s
KLU LR LR
comp=Z,16µm,20.0s
VCNR **Virginia City** 87.87 47 *e*P P 07 22 40.7 +0.9
comp=Z,156nm,1.8s
VCNR LR LR
comp=Z,29µm,22.0s
TIN **Tinemaha, Big** 87.88 50 P P 07 22 41.0 +1.2
baz=244,SNR=6.3
BMRM **Bremner River** 87.91 20 *e*P P 07 22 38.1 -1.1
comp=Z,106nm,1.4s
BMRM LR LR
comp=Z,27µm,22.0s
SWSC **Sam W. Stewart** 87.95 54 P P 07 22 41.1 +1.1
baz=246,SNR=19
COR **Corvallis** 87.97 41 PFAKE 07 22 50.0 +10
COR LR LR
comp=Z,50µm,21.0s
MPMC **Manual Prospec** 87.99 51 P P 07 22 41.4 +1.0
baz=245,SNR=24
K04D **Chiloquin, OR** 88.00 43 P P 07 22 41.2 +1.0
baz=242
DAC **Darwin (Calif)** 88.01 51 *e*P P 07 22 41.4 +0.9
comp=Z,155nm,1.5s
DAC LR LR
comp=Z,45µm,22.0s
DAC **Darwin (Calif)** 88.01 51 *e*P P 07 22 41.4 +0.9
DAC pmax pmax
comp=Z,155nm,1.5s
DAC MLR MLR
comp=Z,45µm,22.0s
KTH **Kantishna Hill** 88.02 16 *e*P P 07 22 38.8 -1.0
comp=Z,33nm,1.1s
KTH LR LR
comp=Z,29µm,20.0s
YERR **Yerington** 88.02 48 *e*P P 07 22 41.3 +0.8
comp=Z,279nm,1.9s
YERR LR LR
comp=Z,44µm,22.0s
J04D **Umpqua Nationa** 88.07 43 P P 07 22 41.6 +1.0
baz=241,SNR=8.1
TRF **Thorofare Moun** 88.11 17 *e*P P 07 22 39.6 -0.7
comp=Z,37nm,0.9s
TRF LR LR
comp=Z,21µm,22.0s
I04A **Tendick Farm,** 88.14 42 P P 07 22 41.4 +0.6
baz=241,SNR=11
GSC **Goldstone, Bar** 88.17 52 P P 07 22 41.8 +0.7
baz=245,SNR=16
GSC **Goldstone, Bar** 88.17 52 *e*P P 07 22 42.0 +0.9
comp=Z,94nm,1.4s
GSC LR LR
comp=Z,30µm,20.0s
GSC **Goldstone, Bar** 88.17 52 *e*P P 07 22 42.0 +0.9
GSC pmax pmax
comp=Z,94nm,1.4s
GSC MLR MLR
comp=Z,30µm,20.0s
BELC **Belle Mtn. Jos** 88.23 53 P P 07 22 42.5 +1.0
baz=246,SNR=30
PAHR **Pah Rah Range** 88.24 47 *e*P P 07 22 42.5 +1.1
comp=Z,186nm,1.5s
PAHR LR LR
comp=Z,26µm,22.0s
G03D **McMinnville, O** 88.30 41 P P 07 22 42.3 +0.9
baz=241
HEC **Hector,Ludlow** 88.32 52 P P 07 22 42.6 +0.8
baz=245,SNR=12
RYN **Ryan** 88.36 48 *e*P P 07 22 42.8 +0.7
comp=Z,237nm,1.7s
RYN LR LR
comp=Z,65µm,21.0s
NV01 **Mina Array Sit** 88.43 48 *e*P P 07 22 42.9 +0.4
NVAR **Mina Array Bea** 88.43 48 P P 07 22 43.9 +1.4
comp=Z,16nm,1.0s,baz=229,slow=5.9,SNR=64
NVAR PKPPKP **P'P'df** 07 48 32.1 +0.7
comp=Z,0.4nm,0.7s,baz=143,slow=2.8,SNR=3.9
NVAR LR LR 07 53 48.1
comp=Z,75µm,21.9s,baz=98,slow=30
BPAW **Bear Paw Mtn.** 88.44 16 *e*P P 07 22 41.9 +0.3
comp=Z,26nm,1.2s
BPAW LR LR
comp=Z,28µm,20.0s
RND **Reindeer** 88.47 17 *e*P P 07 22 40.9 -1.0
comp=Z,57nm,1.0s
RND LR LR
comp=Z,36µm,20.0s
RND **Reindeer** 88.47 17 *e*P P 07 22 40.9 -1.0
RND pmax pmax
comp=Z,57nm,1.0s
RND MLR MLR
comp=Z,36µm,20.0s
F03A **Seaside** 88.48 40 PFAKE 07 22 50.0 +7.8
F03A LR LR
comp=Z,36µm,19.0s
GRAC **Grapevine Rang** 88.48 50 P P 07 22 43.8 +1.3
baz=245,SNR=17
BC3 **Big Chuckawall** 88.50 54 P P 07 22 44.1 +1.3
baz=246,SNR=14
NV11 **Mina Array Sit** 88.54 48 *e*P P 07 22 43.8 +0.9
comp=Z,28nm,2.0s
NV11 LR LR
comp=Z,6µm,22.0s
SRIG **Santa Rosalia** 88.55 61 PFAKE 07 22 50.0 +7.0
SRIG LR LR
comp=Z,40µm,22.0s
YKU2 **Yakutat** 88.60 23 PFAKE 07 22 50.0 +7.6
YKU2 LR LR
comp=Z,24µm,20.0s
MOD **Modoc Plateau** 88.62 45 *e*P P 07 22 44.2 +1.0
comp=Z,153nm,1.5s
MOD LR LR
comp=Z,39µm,20.0s
FURC **Furnace Creek,** 88.62 51 P P 07 22 44.2 +1.1
baz=245,SNR=27
DHY **Denali Highway** 88.64 18 *e*P P 07 22 42.0 -0.8
comp=Z,191nm,1.9s
DHY LR LR
comp=Z,33µm,20.0s
J05D **Fort Rock, OR** 88.65 43 P P 07 22 44.5 +1.2
baz=242,SNR=39
CRAG **Craig** 88.68 29 PFAKE 07 22 50.0 +7.1
CRAG LR LR
comp=Z,37µm,20.0s
MCK **McKinley** 88.70 17 *e*P P 07 22 42.5 -0.4
comp=Z,63nm,1.1s
MCK LR LR
comp=Z,37µm,20.0s
MCK **McKinley** 88.70 17 *e*P P 07 22 42.5 -0.4
MCK pmax pmax
comp=Z,63nm,1.1s
MCK MLR MLR
comp=Z,37µm,20.0s
SIT **Sitka** 88.71 27 PFAKE 07 22 50.0 +7.0
SIT LR LR
comp=Z,43µm,20.0s
H04A **Detroit Lake** 88.71 41 *e*P P 07 22 43.5 0.0
comp=Z,493nm,2.0s
H04A LR LR
comp=Z,53µm,21.0s
GLA **Glamis** 88.73 54 P P 07 22 45.3 +1.5
baz=246,SNR=16
GLA **Glamis** 88.73 54 *e*P P 07 22 44.6 +0.8
comp=Z,216nm,1.6s
GLA LR LR
comp=Z,20µm,21.0s
GLA **Glamis** 88.73 54 *e*P P 07 22 44.6 +0.8
GLA pmax pmax
comp=Z,217nm,1.6s
GLA MLR MLR
comp=Z,20µm,21.0s
E03A **Lebam** 88.78 39 *e*P P 07 22 44.7 +1.1
comp=Z,186nm,1.3s
E03A LR LR
comp=Z,44µm,22.0s
HARP **HAARP** 88.80 19 *e*P P 07 22 43.7 +0.4
comp=Z,206nm,1.7s
HARP LR LR
comp=Z,16µm,21.0s
GMRC **Granite Mounta** 88.81 53 P P 07 22 45.1 +0.8
baz=246
SHOC **Shoshone, Teco** 88.81 51 P P 07 22 45.0 +0.9
baz=245,SNR=22
KVN **Kaiserville** 88.84 48 *e*P P 07 22 45.1 +0.7
comp=Z,158nm,1.6s
KVN LR LR
comp=Z,49µm,20.0s
KVN **Kaiserville** 88.84 48 *e*P P 07 22 45.1 +0.7
KVN pmax pmax
comp=Z,158nm,1.6s
KVN MLR MLR
comp=Z,49µm,20.0s
TUQ **Turquoise Moun** 88.88 52 P P 07 22 45.2 +0.7
baz=246
F04D **Rainier, OR** 88.89 40 P P 07 22 45.3 +1.2
baz=241
NVL **N'lazarevskaya** 88.93 187 *e*P P 07 22 43.6 -0.4
NVL *e*S **SKSac** 07 33 16.0 +5.2
NVL *e**SS **ScS** 07 33 35.5 +1.0
NVL pmax pmax
comp=Z,315nm,1.5s
IRM **Iron Mountain** 88.94 53 P P 07 22 46.1 +1.3
baz=246,SNR=33
LPIG **La Paz** 88.97 64 P P 07 22 47.1 +2.0
comp=Z,74nm,0.9s,baz=202,slow=1.4,SNR=6.0
LPIG LR LR 07 53 36.5
comp=Z,59µm,21.1s,baz=248,slow=30
NLWA **Neilton Lookou** 89.02 39 *e*P P 07 22 45.6 +0.8
comp=Z,151nm,1.4s
NLWA LR LR
comp=Z,36µm,21.0s
PINE **Pine Mountain** 89.08 43 *e*P P 07 22 46.4 +1.0
comp=Z,179nm,1.3s
PINE LR LR
comp=Z,69µm,21.0s
I05D **Terrebonne, OR** 89.08 42 P P 07 22 46.1 +0.9
baz=242,SNR=13
PAX **Paxson** 89.12 19 *e*P P 07 22 45.2 +0.2
comp=Z,79nm,1.6s
PAX LR LR
comp=Z,17µm,20.0s
PAX **Paxson** 89.12 19 *e*P P 07 22 45.2 +0.2
PAX pmax pmax
comp=Z,79nm,1.6s
PAX MLR MLR
comp=Z,17µm,20.0s
SLBS **Sierra La Lagu** 89.13 65 *e*P P 07 22 46.6 +0.7
comp=Z,499nm,1.7s
SLBS LR LR
comp=Z,56µm,21.0s
SNAA **Sanae** 89.20 182 P P 07 22 45.0 -0.4
SNAA **Sanae** 89.20 182 P P 07 22 44.7 -0.7
comp=Z,47nm,1.1s,baz=192,slow=4.6,SNR=23
SNAA LR LR 07 59 48.8
comp=Z,23µm,21.8s,baz=167,slow=34
SNAA **Sanae** 89.20 182 *e*P P 07 22 44.6 -0.7
comp=Z,206nm,1.2s
SNAA **Sanae** 89.20 182 *d i*P P 07 22 44.8 -0.6
BBB **Bella Bella** 89.20 33 PFAKE 07 23 00.0 +15
BBB LR LR
comp=Z,25µm,20.0s
Y12C **Blythe** 89.25 54 P P 07 22 47.7 +1.6
baz=246,SNR=19

Y12C Blythe 89.25 54 eP P 07 22 47.2 +1.1
comp=Z,193nm,1.6s
Y12C LR LR
comp=Z,25µm,21.0s
MLY Manley 89.25 16 eP P 07 22 45.3 -0.2
comp=Z,85nm,1.8s
MLY LR LR
comp=Z,20µm,22.0s
IM3 Indian Mountai 89.30 14 eP P 07 22 46.0 +0.4
LDFC Landfair 89.34 52 eP P 07 22 48.3 +1.6
comp=Z,216nm,1.3s
LDFC LR LR
comp=Z,33µm,21.0s
113A Mohawk Valley, 89.44 55 eP P 07 22 48.0 +0.9
comp=Z,226nm,1.8s
113A LR LR
comp=Z,21µm,21.0s
G05D Wamic, OR 89.52 41 P P 07 22 48.1 +0.9
baz=242,SNR=7.9
BOD Bodaibo 89.53 334 eP P 07 22 45.9 -1.0
BOD pmax pmax
comp=Z,336nm,1.8s
NEE2 Needles Airpor 89.58 53 P P 07 22 48.8 +1.1
baz=246,SNR=6.2
WRAK Wrangell Islan 89.61 28 PFAKE 07 23 00.0 +13
WRAK LR LR
comp=Z,38µm,21.0s
MENT Mentasta 89.64 19 eP P 07 22 47.7 +0.4
comp=Z,43nm,1.2s
MENT LR LR
comp=Z,21µm,21.0s
GNW Green Mountain 89.72 39 eP P 07 22 49.2 +1.2
CCB Clear Creek Bu 89.72 17 eP P 07 22 46.4 -1.2
comp=Z,85nm,1.5s
CCB LR LR
comp=Z,32µm,20.0s
PDMCI Parker Dam,Lak 89.76 53 P P 07 22 49.8 +1.3
baz=247,SNR=22
VNA3 Neumayer Olymp 89.77 180 P P 07 22 47.7 -0.3
HDA Harding Lake 89.78 17 eP P 07 22 47.5 -0.4
comp=Z,241nm,1.7s
HDA LR LR
comp=Z,41µm,22.0s
MDM Murphy Dome 89.85 17 eP P 07 22 47.0 -1.2
comp=Z,82nm,1.4s
MDM LR LR
comp=Z,22µm,19.0s
BESE Bessie Mountai 89.87 26 PFAKE 07 23 00.0 +11
BESE LR LR
comp=Z,47µm,22.0s
214A Organ Pipe Nat 89.87 56 P P 07 22 50.3 +1.1
baz=247
214A Organ Pipe Nat 89.87 56 eP P 07 22 51.0 +1.8
comp=Z,711nm,1.6s
SHPR Sheep Range 89.88 51 eP P 07 22 49.8 +0.6
comp=Z,222nm,1.8s
SHPR LR LR
comp=Z,37µm,22.0s
COLA College 89.89 17 eP P 07 22 47.4 -0.9
comp=Z,61nm,1.1s
COLA LR LR
comp=Z,26µm,20.0s
COLA College 89.89 17 eP P 07 22 47.4 -0.9
COLA pmax pmax
comp=Z,61nm,1.1s
COLA MLR MLR
comp=Z,26µm,20.0s
RIDG Independ'e Rid 89.89 18 eP P 07 22 48.0 -0.5
comp=Z,156nm,1.6s
RIDG LR LR
comp=Z,22µm,22.0s
PGC Sidney 89.89 38 eP P 07 22 50.1 +1.4
comp=Z,199nm,1.5s
PGC LR LR
comp=Z,37µm,20.0s
LSA Lhasa 89.93 301 P P 07 22 49.3 -0.8
LSA pP PcP 07 22 55.0 +3.7
LSA pmax pmax
comp=Z,19nm,1.2s
LSA pmax pmax
comp=Z,850nm,4.4s
LSA LR LR
comp=Z,9µm,23.6s
LSA Lhasa 89.93 301 eP P 07 22 49.2 -0.8
comp=Z,35nm,0.8s
LSA LR LR
comp=Z,4µm,22.0s
LSA Lhasa 89.93 301 eP P 07 22 49.2 -0.8
LSA pmax pmax
comp=Z,35nm,0.8s
LSA MLR MLR
comp=Z,4µm,22.0s
LSA Lhasa 89.93 301 i P P 07 22 49.7 -0.3
SNR=8.1
LSA Lhasa 89.93 301 i P P 07 22 49.7 -0.3
SNR=8.1
LON Longmire 89.94 40 eP P 07 22 48.8 -0.3
comp=Z,122nm,1.4s
LON LR LR
comp=Z,36µm,22.0s
LON Longmire 89.94 40 eP P 07 22 48.8 -0.3
LON pmax pmax
comp=Z,122nm,1.4s
LON MLR MLR
comp=Z,36µm,22.0s
G06A Carlson Farm, 89.94 41 eP P 07 22 50.0 +0.8
comp=Z,173nm,1.5s
G06A LR LR
comp=Z,46µm,21.0s
WVOR Wild Horse Val 89.96 45 eP P 07 22 49.8 +0.3
comp=Z,321nm,1.4s
WVOR LR LR
comp=Z,44µm,21.0s
WVOR Wild Horse Val 89.96 45 eP P 07 22 49.8 +0.3
WVOR pmax pmax
comp=Z,321nm,1.4s
WVOR MLR MLR
comp=Z,44µm,21.0s
D05A Enumclaw 90.04 39 eP P 07 22 50.9 +1.4
comp=Z,417nm,1.4s
D05A LR LR
comp=Z,26µm,19.0s
BMN Battle Mountai 90.05 47 eP P 07 22 50.8 +0.8
comp=Z,107nm,1.4s
BMN LR LR
comp=Z,22µm,21.0s
BMN Battle Mountai 90.05 47 eP P 07 22 50.8 +0.8
BMN pmax pmax
comp=Z,107nm,1.4s
BMN MLR MLR
comp=Z,22µm,21.0s
DOT Dot Lake 90.06 19 eP P 07 22 48.7 -0.5
comp=Z,174nm,1.5s
DOT LR LR
comp=Z,45µm,20.0s
VNA2 Neumayer--Watz 90.07 181 P P 07 22 49.3 -0.1
baz=150,slow=5.0
IL1 Eielson Array 90.07 17 eP P 07 22 48.0 -1.3
ILAR Eielson Array 90.07 17 P P 07 22 47.9 -1.3
comp=Z,7.3nm,0.7s,baz=234,slow=5.1,SNR=39
PKPPKP P'P'df 07 48 24.4 -1.2
comp=Z,1.0nm,1.1s,baz=354,slow=1.8,SNR=4.3
ILAR LR 07 57 37.3
comp=Z,34µm,20.5s,baz=232,slow=32
ILB Eielson Array 90.07 17 eP P 07 22 48.0 -1.3
I07A Izee 90.13 43 eP P 07 22 51.1 +0.9
comp=Z,53nm,1.1s
I07A LR LR
comp=Z,56µm,20.0s
SKAG Skagway 90.23 25 eP P 07 22 51.0 +0.9
comp=Z,55nm,1.0s
SKAG LR LR
comp=Z,41µm,20.0s
HSIG 90.25 59 eP P 07 22 52.0 +1.1
comp=Z,155nm,1.4s
HSIG LR LR
comp=Z,36µm,21.0s
W13A Hualapai Mount 90.27 53 eP P 07 22 51.9 +0.7
comp=Z,81nm,1.3s
W13A LR LR
comp=Z,35µm,22.0s
HYT Haines Junctio 90.29 23 eP P 07 22 50.4 -0.2
comp=Z,32nm,1.1s
R11A Troy Canyon, C 90.33 49 P P 07 22 51.7 +0.4
baz=246,SNR=15
R11A Troy Canyon, C 90.33 49 eP P 07 22 52.1 +0.8
comp=Z,75nm,1.6s
R11A LR LR
comp=Z,40µm,22.0s
VNA1 Neumayer--Stat 90.36 181 P P 07 22 50.5 -0.2
A04D Lummi Island 90.36 38 P P 07 22 52.4 +1.5
baz=241,SNR=26
J08A Circle Bar Ran 90.48 44 eP P 07 22 52.6 +0.8
comp=Z,102nm,1.1s
J08A LR LR
comp=Z,58µm,18.0s
Y14A Wickenburg 90.48 54 eP P 07 22 52.8 +0.8
comp=Z,242nm,1.3s
Y14A LR LR
comp=Z,101µm,21.0s
B05A Bryant 90.49 38 P P 07 22 52.6 +1.0
baz=241,SNR=18
ZAK Zakamensk 90.57 324 eP P 07 22 50.0 -2.0
ZAK e 07 33 23.5
ZAK pmax pmax
comp=Z,109nm,1.6s
F07A Phinny Hill Vi 90.69 41 eP P 07 22 53.9 +1.3
comp=Z,115nm,1.3s
F07A LR LR
comp=Z,45µm,19.0s
LTY Liberty 90.86 40 eP P 07 22 54.5 +1.0
comp=Z,77nm,1.1s
LTY LR LR
comp=Z,32µm,21.0s
B06A Marblemount 90.97 38 eP P 07 22 55.0 +1.2
comp=Z,62nm,1.1s
B06A LR LR
comp=Z,35µm,21.0s
IRK Irkutsk 90.97 326 eP P 07 22 52.9 -0.9
IRK pmax pmax
comp=Z,314nm,2.7s
TLY Talaya 91.02 325 eP P 07 22 53.4 -0.7
comp=Z,193nm,1.5s
TLY LR LR
comp=Z,8µm,21.0s
TLY Talaya 91.02 325 d iP P 07 22 53.2 -0.8
TLY pmax pmax
comp=Z,134nm,1.5s
TLY MLR MLR
comp=Z,3µm,14.0s
TLY Talaya 91.02 325 P P 07 22 53.3 -0.7
SNR=80
G08A Pilot Rock 91.02 42 eP P 07 22 55.1 +0.8
comp=Z,149nm,1.4s
G08A LR LR
comp=Z,57µm,21.0s
E07A Sunnyside 91.04 41 eP P 07 22 54.7 +0.5
comp=Z,82nm,1.0s
E07A LR LR
comp=Z,31µm,22.0s
C06D Leavenworth 91.04 39 P P 07 22 54.7 +0.5
baz=242
COLD Coldfoot 91.14 15 eP P 07 22 54.2 0.0
comp=Z,38nm,1.0s
COLD LR LR
comp=Z,27µm,20.0s
WHY Whitehorse 91.17 24 eP P 07 22 54.1 -0.5
comp=Z,56nm,1.3s
WHY LR LR
comp=Z,43µm,20.0s
GO09 Cerro Castillo 91.33 146 eP P 07 22 57.6 +2.0
comp=Z,436nm,1.7s
GO09 LR LR
comp=Z,8µm,22.0s
PALK Pallekele 91.47 277 eP P 07 22 56.9 -0.1
comp=Z,360nm,1.9s
PALK LR LR
comp=Z,25µm,22.0s
PALK Pallekele 91.47 277 eP P 07 22 56.9 -0.1
PALK pmax pmax
comp=Z,360nm,1.9s
PALK MLR MLR
comp=Z,25µm,22.0s
PALK Pallekele 91.47 277 P P 07 22 55.5 -1.4
SNR=7.0
PALK Pallekele 91.47 277 i P P 07 22 57.5 +0.5
SNR=7.6
PALK Pallekele 91.47 277 i P P 07 22 57.5 +0.5
SNR=7.6
E08A Dider Farm, El 91.50 41 eP P 07 22 56.9 +0.6
comp=Z,294nm,1.8s
E08A LR LR
comp=Z,38µm,19.0s
LCMT Little Creek M 91.50 51 eP P 07 22 57.6 +0.9
comp=Z,99nm,1.3s
LCMT LR LR
comp=Z,36µm,22.0s
TUC Tucson 91.59 56 P P 07 22 58.3 +1.1
baz=248
TUC Tucson 91.59 56 eP P 07 22 58.8 +1.6
comp=Z,90nm,1.3s
TUC LR LR
comp=Z,18µm,20.0s
TUC Tucson 91.59 56 eP P 07 22 58.8 +1.6
TUC pmax pmax
comp=Z,90nm,1.3s
TUC MLR MLR
comp=Z,18µm,20.0s
CCUT Cedar City 91.62 51 eP P 07 22 59.1 +1.7
comp=Z,108nm,1.4s
CCUT LR LR
comp=Z,45µm,22.0s
LLLB Lillooet 91.74 36 eP P 07 22 58.0 +0.7
comp=Z,66nm,1.2s
LLLB LR LR
comp=Z,36µm,22.0s
EGAK Eagle 91.75 19 eP P 07 22 56.8 -0.2
comp=Z,43nm,1.0s
EGAK LR LR
comp=Z,23µm,20.0s
DLBC Dease Lake 91.81 27 eP P 07 22 57.8 +0.2
comp=Z,104nm,1.3s
DLBC LR LR
comp=Z,53µm,22.0s
KNB Kanab 91.81 51 eP P 07 22 59.9 +1.7
comp=Z,158nm,1.4s
KNB LR LR
comp=Z,33µm,22.0s
KNB Kanab 91.81 51 eP P 07 22 59.9 +1.7
KNB pmax pmax
comp=Z,158nm,1.4s
KNB MLR MLR
comp=Z,33µm,22.0s
DAWY Dawson 91.81 20 eP P 07 22 57.1 -0.3
comp=Z,18nm,0.9s
DAWY LR LR
comp=Z,24µm,22.0s
D08A Wollman Farm, 91.83 40 eP P 07 22 58.6 +0.7
comp=Z,58nm,1.1s
D08A LR LR
comp=Z,27µm,20.0s
SZCU Shurtz Canyon 91.84 51 eP P 07 22 59.6 +1.2
comp=Z,216nm,1.7s
SZCU LR LR
comp=Z,40µm,22.0s
X16A Lo Mia Camp, P 91.86 54 eP P 07 22 59.5 +0.9
comp=Z,61nm,1.1s
X16A LR LR
comp=Z,24µm,21.0s
FYU Fort Yukon 91.88 16 PFAKE 07 23 10.0 +12
FYU LR LR
comp=Z,23µm,20.0s
BMO Blue Mountains 91.89 43 eP P 07 22 58.4 +0.1
comp=Z,117nm,1.8s
BMO LR LR
comp=Z,71µm,22.0s
BMO Blue Mountains 91.89 43 eP P 07 22 58.4 +0.1
BMO pmax pmax
comp=Z,117nm,1.8s
BMO MLR MLR
comp=Z,71µm,22.0s
TAPN Taplejung 91.90 298 eP P 07 22 58.3 -0.7
U15A North Rim 91.98 52 eP P 07 23 00.2 +1.0
comp=Z,188nm,1.5s
ODAN Odare 92.00 298 eP P 07 22 58.3 -1.1
comp=Z,453nm,1.7s
E09A Wood Farm, Sta 92.07 41 eP P 07 22 59.0 0.0
comp=Z,63nm,1.3s
E09A LR LR
comp=Z,34µm,18.0s
B08A Colville Reser 92.17 39 eP P 07 22 59.4 0.0
comp=Z,66nm,1.4s
B08A LR LR
comp=Z,25µm,22.0s
BOK Bokaro 92.22 294 eP P 07 22 59.2 -1.0
BOK IAmb IAmb 07 23 09.6
comp=Z,994nm,2.8s
BOK IAMs_20 IAMs_20 07 48 22.2
comp=Z,5µm,25.1s
MFID Camas Ranch 92.25 45 eP P 07 23 00.0 0.0
comp=Z,110nm,1.8s
MFID LR LR
comp=Z,49µm,21.0s
WUAZ Wupatki 92.33 53 P P 07 23 01.8 +1.2
baz=248
WUAZ Wupatki 92.33 53 eP P 07 23 02.3 +1.6
comp=Z,81nm,1.1s
WUAZ LR LR
comp=Z,32µm,22.0s
PKCU Pink Cliffs 92.35 51 eP P 07 23 01.9 +1.0
comp=Z,401nm,2.0s
PKCU LR LR
comp=Z,35µm,22.0s
TOLK Toolik Lake Re 92.41 14 P P 07 23 00.2 +0.1
baz=218
TOLK Toolik Lake Re 92.41 14 eP P 07 23 00.2 +0.1
comp=Z,106nm,1.7s
TOLK LR LR
comp=Z,31µm,20.0s
F10A Beach Ranch, E 92.42 42 eP P 07 23 00.9 +0.2
comp=Z,195nm,1.9s
F10A LR LR
comp=Z,40µm,21.0s
319A Douglas 92.45 58 eP P 07 23 02.8 +1.5
comp=Z,106nm,1.1s
319A LR LR
comp=Z,19µm,20.0s
VIS Vishakhapatnam 92.45 288 i P P 07 23 00.9 -0.5
VIS i x x 07 23 04.1
VIS IAmb IAmb 07 23 09.1
MOY Mondy 92.45 324 eP P 07 22 59.6 -1.2
MOY pmax pmax
comp=Z,424nm,3.5s
C09A Chrisman Ranch 92.56 40 eP P 07 23 01.7 +0.5
comp=Z,46nm,1.4s
C09A LR LR
comp=Z,27µm,19.0s
MTPU Mount Pierson 92.67 51 eP P 07 23 03.7 +1.3
comp=Z,54nm,1.2s
MTPU LR LR
comp=Z,46µm,21.0s
RAMN Ramite 92.69 297 eP P 07 23 01.8 -0.8
comp=Z,178nm,1.3s
TCRU Three Creeks R 92.69 50 eP P 07 23 03.7 +1.3
comp=Z,60nm,1.4s
TCRU LR LR
comp=Z,48µm,21.0s
MSU Marysvale 92.85 50 eP P 07 23 04.7 +1.6
MSU Marysvale 92.85 50 eP P 07 23 04.7 +1.6
DUG Dugway, Tooele 93.04 48 P P 07 23 04.3 +0.5
baz=248
DUG Dugway, Tooele 93.04 48 eP P 07 23 05.0 +1.2
comp=Z,30nm,1.3s
DUG LR LR
comp=Z,62µm,22.0s
DUG Dugway, Tooele 93.04 48 eP P 07 23 05.0 +1.2
DUG pmax pmax
comp=Z,30nm,1.3s
DUG MLR MLR
comp=Z,62µm,22.0s
X18A Snowflake 93.05 55 eP P 07 23 04.3 +0.3
comp=Z,68nm,1.3s
X18A LR LR
comp=Z,22µm,21.0s
BGU Big Grassy Mou 93.16 48 eP P 07 23 03.8 -0.6
comp=Z,37nm,1.6s
BGU LR LR
comp=Z,32µm,19.0s
HLID Hailey 93.25 45 P P 07 23 05.6 +0.9
baz=247
HLID Hailey 93.25 45 eP P 07 23 05.1 +0.3
comp=Z,63nm,1.8s
HLID LR LR
comp=Z,44µm,20.0s
JIRN Jiri 93.28 298 eP P 07 23 04.6 -0.9
comp=Z,244nm,1.4s
W18A Petrified Fore 93.43 54 P P 07 23 06.6 +0.8
baz=249
W18A Petrified Fore 93.43 54 eP P 07 23 05.8 +0.1
comp=Z,76nm,1.3s
W18A LR LR
comp=Z,17µm,20.0s
NEW Newport 93.45 40 P P 07 23 05.9 +0.6
baz=245
NEW Newport 93.45 40 eP P 07 23 04.9 -0.5
comp=Z,35nm,1.5s
NEW LR LR
comp=Z,21µm,19.0s
NEW Newport 93.45 40 eP P 07 23 04.9 -0.5
NEW pmax pmax
comp=Z,35nm,1.5s
NEW MLR MLR
comp=Z,21µm,19.0s
NLU North Lily Min 93.47 49 eP P 07 23 07.0 +1.1
comp=Z,75nm,1.8s
NLU LR LR
comp=Z,49µm,21.0s
GUN Gumba 93.62 298 eP P 07 23 05.9 -1.1
HVU Hansel Valley 93.67 47 eP P 07 23 08.1 +1.4
comp=Z,93nm,1.6s
HVU LR LR
comp=Z,14µm,20.0s
HVU Hansel Valley 93.67 47 eP P 07 23 08.1 +1.4
HVU pmax pmax
comp=Z,93nm,1.6s
HVU MLR MLR
comp=Z,14µm,20.0s
Q16A Castle Valley 93.73 50 eP P 07 23 07.8 +0.7
comp=Z,130nm,1.8s
Q16A LR LR
comp=Z,35µm,22.0s
MDRS Chennai 93.76 282 eP P 07 23 06.8 -0.7
MDRS IAmb IAmb 07 23 19.6
comp=Z,58nm,1.2s
MDRS IAMs_20 IAMs_20 07 56 48.4
comp=Z,37µm,37.8s
MPU Maple Canyon 93.81 49 eP P 07 23 08.3 +0.9
comp=Z,35nm,1.3s
MPU LR LR
comp=Z,48µm,21.0s
PVM Polavaram 93.84 287 eP P 07 23 06.8 -1.0
PVM IAmb IAmb 07 23 15.4
comp=Z,141nm,1.6s
PVM eSKSac **SKSac** 07 33 42.1 +1.6
PVM IVMs_BB IVMs_BB 08 03 23.6
comp=Z,3µm,26.4s
TMUT Trail Mountain 93.85 50 eP P 07 23 08.7 +0.9
comp=Z,44nm,1.5s
TMUT LR LR
comp=Z,28µm,21.0s
HPIG 93.89 63 eP P 07 23 09.5 +1.4
comp=Z,60nm,1.6s
HPIG LR LR
comp=Z,42µm,22.0s
PKI Pulchoki 93.90 298 eP P 07 23 07.0 -1.3
PKIN Phulchoki 93.91 298 eP P 07 23 07.0 -1.3
comp=Z,281nm,1.6s
CTU Camp Tracy 93.97 48 eP P 07 23 08.1 -0.1
comp=Z,44nm,1.5s
CTU LR LR
comp=Z,49µm,21.0s
CRZF Crozet Islands 93.98 218 PFAKE 07 23 20.0 +12
CRZF LR LR
comp=Z,16µm,20.0s
121A Cookes Peak, D 94.04 57 P P 07 23 09.7 +1.0
baz=250
121A Cookes Peak, D 94.04 57 eP P 07 23 10.2 +1.5
comp=Z,93nm,1.5s
KKN Kakani 94.08 298 eP P 07 23 07.9 -1.1
JLU Jordanelle 94.15 48 eP P 07 23 09.7 +0.6
comp=Z,57nm,1.6s
JLU LR LR
comp=Z,59µm,21.0s
DMN Daman 94.16 298 eP P 07 23 08.4 -1.0
comp=Z,404nm,1.5s
P17A Butcher Ranch, 94.25 50 eP P 07 23 10.0 +0.6
comp=Z,24nm,1.3s
P17A LR LR
comp=Z,35µm,22.0s
SRU San Rafael Swe 94.27 50 eP P 07 23 10.1 +0.5
comp=Z,48nm,1.3s
SRU LR LR
comp=Z,42µm,21.0s
SRU San Rafael Swe 94.27 50 eP P 07 23 10.1 +0.5

SRU pmax pmax
comp=Z,48nm,1.3s
SRU MLR MLR
comp=Z,42µm,21.0s
TCUT Toone Canyon 94.37 48 *e*P **P 07 23 10.0 -0.1**
TCUT comp=Z,84nm,1.3s LR LR
comp=Z,66µm,21.0s
DGAR Diego Garcia 94.42 261 PFAKE 07 23 20.0 +9.4
DGAR LR LR
comp=Z,55µm,21.0s
SKHT Srikalahasti 94.47 283 *e*P **P 07 23 10.4 -0.3**
SKHT IAmb IAmb 07 23 22.8
comp=Z,144nm,1.5s
SKHT *e*SKSac **SKSac 07 33 46.8 +2.8**
SKHT IVMs_BB IVMs_BB 07 57 15.9
comp=Z,7µm,35.7s
P18A Preston Nutter 94.66 50 *e*P **P 07 23 11.9 +0.4**
P18A comp=Z,28nm,1.4s LR LR
comp=Z,47µm,22.0s
MCMT McKenzie Canyo 94.78 44 *e*P **P 07 23 12.9 +1.0**
EPT El Paso 94.81 58 *e*P **P 07 23 12.8 +0.7**
comp=Z,70nm,1.3s
EPT LR LR
comp=Z,30µm,21.0s
MSO Missoula 94.84 42 P **P 07 23 09.4 -2.5**
baz=247
ADKI Addanki 94.89 285 *e*P **P 07 23 12.1 -0.5**
ADKI IAmb IAmb 07 23 20.8
comp=Z,126nm,1.5s
ADKI *e*SKSac **SKSac 07 33 49.2 +3.0**
ADKI IVMs_BB IVMs_BB 08 01 56.6
comp=Z,7µm,26.7s
PV05 Paradox Valley 94.95 52 *e*P **P 07 23 13.3 +0.5**
JTMT Jette 94.98 41 *e*P **P 07 23 12.5 -0.1**
comp=Z,15nm,1.4s
JTMT LR LR
comp=Z,28µm,21.0s
PV09 Paradox Valley 95.07 51 *e*P **P 07 23 14.7 +1.3**
MVCO Mesa Verde 95.10 52 P **P 07 23 12.4 -1.0**
baz=250
MVCO Mesa Verde 95.10 52 *e*P **P 07 23 13.9 +0.5**
comp=Z,112nm,2.3s
MVCO LR LR
comp=Z,31µm,22.0s
PV10 Paradox Valley 95.10 51 *e*P **P 07 23 15.1 +1.6**
DLMT Dillon 95.14 44 *e*P **P 07 23 14.4 +1.0**
comp=Z,23nm,1.1s
DLMT LR LR
comp=Z,68µm,21.0s
LAZ Ladron 95.18 56 *e*P **P 07 23 14.9 +1.0**
AHID Auburn Hatcher 95.19 47 *e*P **P 07 23 14.4 +0.7**
comp=Z,24nm,1.4s
AHID LR LR
comp=Z,21µm,22.0s
ZAIG Zacatecas 95.20 68 *e*P **P 07 23 16.2 +1.9**
comp=Z,116nm,2.0s
ZAIG LR LR
comp=Z,27µm,22.0s
PV04 Paradox Valley 95.20 51 *e*P **P 07 23 14.2 +0.3**
Y22D IRIS PASSCAL I 95.25 56 P **P 07 23 14.7 +0.6**
baz=250
Y22D IRIS PASSCAL I 95.25 56 *e*P **P 07 23 14.3 +0.2**
comp=Z,56nm,1.1s
Y22D LR LR
comp=Z,20µm,22.0s
Y22E IRIS PASSCAL I 95.25 56 P **P 07 23 14.7 +0.6**
baz=250
PV01 Paradox Valley 95.36 52 *e*P **P 07 23 14.7 0.0**
TRD Trivandrum 95.37 277 *e*P **P 07 23 13.6 -1.3**
LRM Limekiln Ridge 95.41 43 *e*P **P 07 23 14.6 -0.1**
MOIG Morelia 95.45 71 PFAKE 07 23 30.0 +15
MOIG LR LR
comp=Z,24µm,19.0s
KOLN Koldanda 95.48 297 *e*P **P 07 23 13.8 -1.6**
BNM Barren Site 95.50 56 *e*P **P 07 23 15.7 +0.3**
DANN Dangsing 95.53 298 *e*P **P 07 23 14.3 -1.4**
LPM Los Pinos Moun 95.55 56 *e*P **P 07 23 16.7 +1.2**
TPAW Teton Pass 95.55 46 *e*P **P 07 23 15.4 0.0**
comp=Z,17nm,1.2s
TPAW LR LR
comp=Z,29µm,22.0s
FXWY Fox Creek 95.56 46 *e*P **P 07 23 16.3 +0.9**
comp=Z,18nm,1.4s
REDW Red Top Meadow 95.57 46 *e*P **P 07 23 16.5 +1.0**
comp=Z,51nm,1.4s
REDW LR LR
comp=Z,25µm,21.0s
SNOW Snow King Moun 95.68 46 *e*P **P 07 23 15.4 -0.5**
comp=Z,88nm,2.0s
SNOW LR LR
comp=Z,28µm,22.0s
MNTX Cornudas Mount 95.69 59 P **P 07 23 15.5 -0.5**
baz=251
MNTX Cornudas Mount 95.69 59 *e*P **P 07 23 16.3 +0.3**
comp=Z,88nm,1.7s
MNTX LR LR
comp=Z,27µm,21.0s
IMW Indian Meadow 95.71 46 *e*P **P 07 23 16.2 +0.1**
comp=Z,60nm,1.8s
QLMT Earthquake Lak 95.72 45 *e*P **P 07 23 17.5 +1.5**
NJS Nagarjunasagar 95.72 285 *e*P **P 07 23 15.5 -0.9**
NJS IAmb IAmb 07 23 27.9
comp=Z,210nm,1.5s
NJS *e*SKSac **SKSac 07 33 52.9 +2.2**
NJS IVMs_BB IVMs_BB 08 02 36.4
comp=Z,5µm,28.5s
WALA Waterton Lakes 95.72 40 PFAKE 07 23 30.0 +14
WALA LR LR
comp=Z,34µm,19.0s
MOOW Moose Ponds 95.78 46 *e*P **P 07 23 17.2 +0.8**
comp=Z,36nm,1.8s
MOOW LR LR
comp=Z,34µm,21.0s
LOHW Long Hollow 95.83 46 *e*P **P 07 23 17.5 +0.9**
comp=Z,39nm,1.6s
LOHW LR LR
comp=Z,31µm,22.0s
YHB Horse Butte 95.84 45 *e*P **P 07 23 17.5 +0.9**
comp=Z,21nm,1.2s
YHB LR LR
comp=Z,42µm,21.0s
BOZ Bozeman (W) 95.86 44 P **P 07 23 17.2 +0.5**
baz=249
BOZ Bozeman (W) 95.86 44 *e*P **P 07 23 17.7 +1.1**
comp=Z,22nm,1.3s
BOZ LR LR
comp=Z,69µm,22.0s
BOZ Bozeman (W) 95.86 44 *e*P **P 07 23 17.7 +1.1**
BOZ pmax pmax
comp=Z,23nm,1.3s
BOZ MLR MLR
comp=Z,69µm,22.0s
ANMO Albuquerque 95.89 55 P **P 07 23 16.8 -0.3**
baz=251
ANMO Albuquerque 95.89 55 *e*P **P 07 23 17.1 0.0**
comp=Z,42nm,1.6s
ANMO LR LR
comp=Z,17µm,21.0s
ANMO Albuquerque 95.89 55*c i*P **P 07 23 17.4 +0.3**
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO MLR MLR
comp=Z,18µm,16.0s
YPP Pitchstone Pla 95.93 45 *e*P **P 07 23 18.1 +0.9**
comp=Z,16nm,1.4s
YPP LR LR
comp=Z,49µm,22.0s
SRLM Srisailam 95.96 285 *e*P **P 07 23 16.7 -0.9**
SRLM IAmb IAmb 07 23 26.2
comp=Z,138nm,1.2s
SRLM *e*SKSac **SKSac 07 33 54.2 +2.2**
SRLM IVMs_BB IVMs_BB 08 02 38.3
comp=Z,6µm,25.6s
YMR Madison River 95.97 45 *e*P **P 07 23 17.3 +0.1**
comp=Z,39nm,1.4s
YMR LR LR
comp=Z,43µm,22.0s
YFT Old Faithful 95.97 45 *e*P **P 07 23 17.2 -0.1**
comp=Z,42nm,1.7s
YFT LR LR
comp=Z,51µm,22.0s
YHH Holmes Hill 96.09 45 *e*P **P 07 23 18.3 +0.5**
YHH *epP* **PcP 07 23 22.9 +4.9**
YHH LR LR
comp=Z,49µm,22.0s

PYUN Piuthan 96.09 297 *e*P **P 07 23 16.2 -2.0**
comp=Z,95nm,1.1s
H17A Grant Village 96.13 45 P **P 07 23 19.3 +1.3**
baz=249
H17A Grant Village 96.13 45 *e*P **P 07 23 18.4 +0.4**
comp=Z,45nm,1.8s
H17A LR LR
comp=Z,53µm,22.0s
HRY Holter Researc 96.14 43 *e*P **P 07 23 18.2 +0.4**
YNR Norris Junctio 96.17 45 *e*P **P 07 23 20.1 +1.9**
comp=Z,24nm,1.4s
YNR LR LR
comp=Z,48µm,22.0s
BW06 Boulder Array 96.25 47 P **P 07 23 18.4 -0.2**
baz=250
BW06 Boulder Array 96.25 47 *e*P **P 07 23 19.1 +0.5**
comp=Z,46nm,1.9s
BW06 LR LR
comp=Z,18µm,19.0s
PD31 Pinedale Array 96.25 47 *e*P **P 07 23 18.5 -0.1**
PDAR Pinedale Array 96.25 47 P **P 07 23 18.8 +0.2**
comp=Z,3.8nm,1.1s,baz=202,slow=1.6,SNR=8.7
PDAR PP PP 07 27 03.4 -9.1
comp=Z,2.7nm,1.1s,baz=148,slow=5.3,SNR=4.3
PDAR PKKP **PKKPbc 07 40 06.3 +0.3**
comp=Z,2.5nm,1.1s,baz=105,slow=3.5,SNR=5.9
PDAR Pinedale Array 96.25 47 *e*P **P 07 23 17.8 -0.8**
PDAR PP PP 07 27 03.4 -9.1
PDAR PKKP **PKKPbc 07 40 06.3 +0.3**
O20A White River Ci 96.28 50 P **P 07 23 18.6 -0.2**
baz=250
O20A White River Ci 96.28 50 *e*P **P 07 23 20.1 +1.4**
comp=Z,78nm,1.8s
O20A LR LR
comp=Z,54µm,21.0s
LKWY Lake 96.31 45 *e*P **P 07 23 21.0 +2.2**
comp=Z,31nm,1.5s
LKWY LR LR
comp=Z,44µm,20.0s
LKWY Lake 96.31 45 *e*P **P 07 23 21.0 +2.2**
LKWY pmax pmax
comp=Z,31nm,1.5s
LKWY MLR MLR
comp=Z,44µm,20.0s
TX31 Lajitas Ar. Si 96.33 61 *e*P **P 07 23 20.0 +0.9**
TXAR Lajitas Array 96.33 61 P **P 07 23 20.5 +1.4**
comp=Z,5.0nm,0.8s,baz=240,slow=4.2,SNR=22
TXAR PP **PP 07 27 14.3 +1.0**
comp=Z,0.6nm,0.8s,baz=338,slow=6.8,SNR=2.7
TXAR PKKP **PKKPdf 07 40 08.6 +1.9**
comp=Z,4.6nm,1.0s,baz=69,slow=5.9,SNR=5.5
TXAR LR LR 07 58 16.3
comp=Z,38µm,20.8s,baz=0.0,slow=30
HVS Khovu-Aksy 96.35 322 *e*P **P 07 23 18.8 +0.2**
HVS MLR MLR
comp=Z,11µm,18.0s
INK Inuvik 96.38 18 P **P 07 23 17.8 -0.4**
comp=Z,18nm,1.2s,baz=239,slow=4.7,SNR=18
INK LR LR 08 01 13.7
comp=Z,19µm,21.1s,baz=228,slow=32
INK Inuvik 96.38 18 *e*P **P 07 23 17.6 -0.6**
comp=Z,54nm,1.3s
JRQG Juriquilla Cam 96.43 70 *e*P **P 07 23 21.1 +1.3**
comp=Z,42nm,0.9s
JRQG LR LR
comp=Z,43µm,22.0s
RPR Rampur 96.45 288 IAmb IAmb 07 23 18.8
comp=Z,88nm,0.5s
RPR *e*P **P 07 23 19.2 -0.5**
RPR *e*SKSac **SKSac 07 33 56.2 +1.8**
RPR IVMs_BB IVMs_BB 08 04 55.2
comp=Z,4µm,25.0s
S22A 4UR Ranch, Cre 96.53 52 P **P 07 23 20.3 +0.3**
baz=251
S22A 4UR Ranch, Cre 96.53 52 *e*P **P 07 23 20.4 +0.4**
comp=Z,29nm,1.4s
S22A LR LR
comp=Z,30µm,20.0s
HYB Hyderabad 96.67 286 *i* P **P 07 23 20.0 -0.8**
HYB *e*PP **PP 07 27 20.0 +4.1**
HYB *e*SKS **SKSac 07 33 56.0 +0.3**
HYB *e*ScS **S 07 34 38.0 -2.3**
HYB *e*SP **SP 07 36 00.0 -0.7**
HYB *e*SS **SS 07 41 16.0 +0.2**
HYB *e* 07 41 36.0
HYB LR LR
comp=Z,22nm,26.0s
HYB Hyderabad 96.67 286 *e*P **P 07 23 18.6 -2.2**
HYB IAmb IAmb 07 23 30.4
comp=Z,3µm,4.7s
HYBB Hyderabad (bro 96.67 286 *e*P **P 07 23 19.4 -1.4**
HYBB IAmb IAmb 07 23 31.8
comp=Z,140nm,1.7s
HYBB *e*SKSac **SKSac 07 33 57.9 +2.2**
HYBB IVMs_BB IVMs_BB 08 03 08.4
comp=Z,4µm,26.2s
SMCO Snowmass 96.89 51 *e*P **P 07 23 22.1 +0.3**
comp=Z,20nm,1.4s
SMCO LR LR
comp=Z,30µm,22.0s
URV Uravakonda 97.10 283 *e*P **P 07 23 21.8 -0.9**
URV IAmb IAmb 07 23 34.2
comp=Z,71nm,1.2s
URV *e*SKSac **SKSac 07 33 58.8 +0.8**
URV IVMs_BB IVMs_BB 07 58 03.9
comp=Z,6µm,48.8s
UNM Universidad Na 97.14 72 PFAKE 07 23 30.0 +6.7
UNM LR LR
comp=Z,37µm,22.0s
RLMT Red Lodge 97.26 45 P Pdif 07 23 25.2 +2.1
baz=250
RLMT Red Lodge 97.26 45 PFAKE 07 23 30.0 +6.9
RLMT LR LR
comp=Z,73µm,22.0s
NGP Nagpur 97.36 290 *e*P **P 07 23 22.5 -1.3**
NGP IAmb IAmb 07 23 27.8
comp=Z,69nm,1.6s
NGP *ex* x 07 34 01.6
NGP *ex* x 08 08 43.8
comp=Z,13µm,19.4s
SDCO Great Sand Dun 97.53 53 P **P 07 23 23.3 -1.2**
baz=252
SDCO Great Sand Dun 97.53 53 *e*P Pdif 07 23 25.0 +0.4
comp=Z,27nm,2.0s
SDCO LR LR
comp=Z,27µm,21.0s
RWWY Rawlins 97.53 49 PFAKE 07 23 40.0 +15
RWWY LR LR
comp=Z,34µm,22.0s
WMQ Urumqi 97.54 314 P **P 07 23 23.3 -0.9**
WMQ pP pP 07 23 31.8 -3.2
WMQ sP sP 07 23 39.1 +0.3
WMQ SKS **SKSac 07 34 02.6 +3.4**
WMQ S **S 07 34 41.8 -5.0**
WMQ pmax pmax
comp=Z,200nm,1.5s
WMQ LR LR
comp=Z,22µm,26.1s
WMQ LR LR
comp=Z,18µm,28.3s
WMQ LR LR
comp=Z,17µm,26.1s
EDM Edmonton 97.63 36 PFAKE 07 23 40.0 +16
EDM LR LR
comp=Z,37µm,22.0s
EGMT Eagleton 97.92 42 P Pdif 07 23 25.9 0.0
baz=250
EGMT Eagleton 97.92 42 PFAKE 07 23 40.0 +14
EGMT LR LR
comp=Z,22µm,19.0s
MHTCO State Highway 97.95 54 PFAKE 07 23 40.0 +14
MHTCO LR LR
comp=Z,22µm,22.0s
EFI East Falkland 97.99 152 PFAKE 07 23 40.0 +14
EFI LR LR
comp=Z,7µm,20.0s
ISCO Idaho Springs 98.08 51 P **P 07 23 26.8 -0.2**
baz=252
ISCO Idaho Springs 98.08 51 PFAKE 07 23 40.0 +13
ISCO LR LR
comp=Z,17µm,20.0s
T25A Trinidad 98.16 54 Pdiff **P 07 23 26.6 -0.8**
baz=252
T25A Trinidad 98.16 54 PFAKE 07 23 40.0 +13
T25A LR LR
comp=Z,22µm,22.0s

Q24A Divide 98.17 52 Pdiff Pdif 07 23 27.8 +0.3
baz=252
Q24A Divide 98.17 52 *e*P Pdif 07 23 27.9 +0.4
comp=Z,53nm,2.0s
Q24A LR LR
comp=Z,21µm,22.0s
N23A Red Feather La 98.19 50 Pdiff Pdif 07 23 28.3 +0.9
baz=252
N23A Red Feather La 98.19 50 PFAKE 07 23 40.0 +13
N23A LR LR
comp=Z,77µm,22.0s
PLCA Paso Flores 98.22 138 P Pdif 07 23 28.6 +1.1
comp=Z,12nm,1.1s,baz=230,slow=5.8,SNR=7.6
PLCA PP **PP 07 27 26.5 -0.2**
comp=Z,5.6nm,1.2s,baz=267,slow=7.5,SNR=4.0
PLCA PKKP **PKKPbc 07 40 00.2 +0.3**
comp=Z,2.9nm,1.0s,baz=40,slow=8.9,SNR=3.0
PLCA LR LR 08 00 11.7
comp=Z,3µm,21.2s,baz=248,slow=31
PLCA Paso Flores 98.22 138 *e*P Pdif 07 23 28.3 +0.7
comp=Z,91nm,1.4s
PLCA PP **PP 07 27 26.4 -0.2**
PLCA PKKP **PKKPbc 07 40 00.2 +0.3**
K22A Casper 98.32 48 Pdiff **P 07 23 27.7 -0.2**
baz=252
K22A Casper 98.32 48 *e*P **P 07 23 27.0 -0.9**
comp=Z,22nm,1.4s
K22A LR LR
comp=Z,18µm,19.0s
MSTX Muleshoe 98.48 57 Pdiff Pdif 07 23 28.8 +0.1
baz=253
MSTX Muleshoe 98.48 57 *e*P Pdif 07 23 28.9 +0.2
comp=Z,38nm,1.3s
MSTX LR LR
comp=Z,23µm,20.0s
LNIG Linares 98.56 67 *e*P Pdif 07 23 29.1 0.0
comp=Z,12nm,1.0s
LNIG LR LR
comp=Z,38µm,21.0s
KLRI Killari 98.65 286 *e*P **P 07 23 28.0 -1.7**
KLRI IAmb IAmb 07 23 39.6
comp=Z,140nm,1.9s
KLRI *e*SKSac **SKSac 07 34 06.6 +0.8**
KLRI IVMs_BB IVMs_BB 08 04 14.0
comp=Z,6µm,24.2s
PHWY Pilot Hill 98.66 49 PFAKE 07 23 40.0 +10
PHWY LR LR
comp=Z,59µm,21.0s
PAYG Puerto Ayora 99.19 94 PFAKE 07 23 40.0 +7.8
PAYG LR LR
comp=Z,18µm,22.0s
BHPL Bhopal 99.42 291 *e*P **Pdif 07 23 32.8 -0.3**
BHPL IAmb IAmb 07 23 43.3
comp=Z,136nm,2.1s
DGZ Jazzator, Alta 99.61 319*c i*P **Pdif 07 23 33.3 -0.1**
833A Chaparral WMA, 99.61 63 Pdiff **Pdif 07 23 34.0 +0.3**
baz=253
AMTX Amarillo 99.61 56 Pdiff **Pdif 07 23 33.8 +0.1**
baz=253
AMTX Amarillo 99.61 56 *e*Pdif **Pdif 07 23 34.5 +0.8**
comp=Z,23nm,1.3s
AMTX LR LR
comp=Z,13µm,19.0s
LVIG Laguna Verde 99.75 72 PFAKE 07 23 50.0 +16
LVIG LR LR
comp=Z,36µm,21.0s
LAO LASA Array 99.77 44 Pdiff **Pdif 07 23 34.7 +0.6**
baz=253
LAO LASA Array 99.77 44 PFAKE 07 23 50.0 +16
LAO LR LR
comp=Z,51µm,20.0s
JCT Junction City 99.88 61 Pdiff **Pdif 07 23 34.6 -0.3**
baz=254
JCT Junction City 99.88 61 PFAKE 07 23 50.0 +15
JCT LR LR
comp=Z,42µm,22.0s
KSCO Kaye Shedlock' 100.06 52 Pdiff **Pdif 07 23 35.2 -0.5**
baz=254
KSCO Kaye Shedlock' 100.06 52 PFAKE 07 23 50.0 +14
KSCO LR LR
comp=Z,26µm,22.0s
GOA Goa 100.42 283 *e*P **Pdif 07 23 36.1 -1.5**
GO05 HualaæØ 100.43 133 PFAKE 07 23 50.0 +13
GO05 LR LR
comp=Z,7µm,19.0s
YKA Yellowknife Ar 100.43 27 P **Pdif 07 23 37.5 +1.0**
comp=Z,5.3nm,0.8s,baz=253,slow=4.6,SNR=57
YKA PP **PP 07 27 42.7 -0.9**
comp=Z,3.4nm,1.1s,baz=250,slow=7.3,SNR=4.8
YKA PKKPbc PKKPbc 07 39 36.7 -18
comp=Z,0.5nm,0.9s,baz=16,slow=2.8,SNR=4.6
YKW3 Yellowknife Ar 100.45 27 *e*Pdif **Pdif 07 23 36.3 -0.3**
YKW3 LR LR
comp=Z,33µm,20.0s
RSSD Black Hills 100.49 47 Pdiff **Pdif 07 23 37.5 0.0**
baz=254
RSSD Black Hills 100.49 47 *e*Pdif **Pdif 07 23 37.6 0.0**
RSSD LR LR
comp=Z,21µm,21.0s
RSSD Black Hills 100.49 47 *e*P **Pdif 07 23 37.6 0.0**
RSSD MLR MLR
comp=Z,21µm,21.0s
ZSN Zaisan 100.56 317 *e*P **Pdif 07 23 38.1 +0.7**
ZSN *i* PP **PP 07 27 45.8 +0.8**
ZSN *i* S **SKSac 07 34 14.5 +0.6**
ZSN *e*SS **SS 07 42 11.6 +2.6**
ABTX Abilene, Hawle 100.61 59 Pdiff **Pdif 07 23 38.2 +0.1**
baz=254
ABTX Abilene, Hawle 100.61 59 *e*Pdif **Pdif 07 23 38.9 +0.8**
comp=Z,35nm,1.3s
ABTX LR LR
comp=Z,20µm,20.0s
KVTX Kingsville 100.67 65 PFAKE 07 23 50.0 +12
KVTX LR LR
comp=Z,19µm,21.0s
DDI Dehra Dun 100.87 298 *e*P **Pdif 07 23 38.4 -1.0**
OGNE Ogallala 101.03 50 Pdiff **Pdif 07 23 39.3 -0.6**
baz=254
OGNE Ogallala 101.03 50 PFAKE 07 23 50.0 +10
OGNE LR LR
comp=Z,37µm,22.0s
POO Poona 101.28 286 *e*P **Pdif 07 23 40.6 -0.8**
POO IAmb IAmb 07 23 52.1
comp=Z,389nm,2.8s
DGMT Dagmar 101.60 43 Pdiff **Pdif 07 23 41.9 -0.2**
baz=254
DGMT Dagmar 101.60 43 PFAKE 07 23 50.0 +7.9
DGMT LR LR
comp=Z,21µm,19.0s
435B Jarrell 101.80 61 Pdiff **Pdif 07 23 43.3 -0.1**
baz=255
SMLA Simla 101.82 299 *e*P **Pdif 07 23 42.5 -1.0**
SMLA IAmb IAmb 07 23 51.1
comp=Z,33nm,1.2s
WMOK Wichita Mounta 101.86 57 Pdiff **Pdif 07 23 43.2 -0.5**
baz=255
WMOK Wichita Mounta 101.86 57 PFAKE 07 24 00.0 +16
WMOK LR LR
comp=Z,26µm,20.0s
MK01 Makanchi Array 102.05 315 *e*Pdif **Pdif 07 23 43.6 -0.5**
MK31 Makanchi Array 102.06 315 *e*Pdif **Pdif 07 23 44.2 0.0**
MK31 Makanchi Array 102.06 315 *e*P **Pdif 07 23 44.2 0.0**
MKAR Makanchi Array 102.06 315 P **Pdif 07 23 44.9 +0.6**
comp=Z,5.5nm,0.6s,baz=98,slow=6.4,SNR=22
MKAR PP **PP 07 27 57.6 +1.2**
comp=Z,13nm,1.3s,baz=107,slow=4.1,SNR=5.1
MKAR PKKPbc **PKKPbc 07 39 48.0 -1.4**
comp=Z,1.1nm,0.9s,baz=329,slow=2.5,SNR=3.2
MKAR PKKP **PKKPdf 07 39 58.5 +1.8**
comp=Z,1.6nm,0.9s,baz=302,slow=2.3,SNR=4.3
MKAR PKPPKP **P'P'df 07 48 07.8 +2.5**
comp=Z,0.6nm,0.9s,baz=298,slow=3.1,SNR=4.0
MKAR Makanchi Array 102.06 315 *e*Pdif **Pdif 07 23 44.1 -0.1**
MKAR PP **PP 07 27 57.6 +1.2**
MKAR PKKPbc **PKKPbc 07 39 48.0 -1.4**
MKAR PKKP **PKKPdf 07 39 58.5 +1.8**
MKAR P'P' 07 48 07.8
MKAR Makanchi Array 102.06 315 *e*P **Pdif 07 23 44.1 -0.1**
MKAR 07 27 57.6
CBKS Cedar Bluff 102.18 53 Pdiff **Pdif 07 23 44.5 -0.4**
baz=255
CBKS Cedar Bluff 102.18 53 PFAKE 07 24 00.0 +15
CBKS LR LR
comp=Z,20µm,22.0s
WHTX Lake Whitney, 102.22 60 Pdiff **Pdif 07 23 44.8 -0.5**
baz=255

WHTX **Lake Whitney,** 102.22 60 PFAKE 07 24 00.0 +15
WHTX LR LR
comp=Z,43µm,21.0s
MAKZ **Makanchi** 102.28 315 *e*Pdif **Pdif** **07 23 44.9 -0.3**
MAKZ LR LR
comp=Z,7µm,22.0s
MAKZ **Makanchi** 102.28 315 *e*P **Pdif** **07 23 44.9 -0.3**
MAKZ MLR MLR
comp=Z,7µm,22.0s
PEL **Peldehue** 102.30 132 PFAKE 07 24 00.0 +14
PEL LR LR
comp=Z,1µm,18.0s
BOM **Bombay** 102.32 286 *e*P **Pdif** **07 23 59.0 +13**
BOM AMb AMB 07 24 07.2
comp=Z,139nm,10.3s
BOM *e*S SKSac 07 34 41.6 +18
BOM IAMs_20 IAMs_20 08 11 35.9
comp=Z,15µm,28.8s
ZAA0 **Zalesovo Array** 102.39 323 *e*Pdif **Pdif** **07 23 44.6 -0.9**
ZAA0 LR LR
comp=Z,4µm,22.0s
ZALV **Zalesovo Beam** 102.39 323 P **Pdif** **07 23 45.2 -0.2**
comp=Z,4.0nm,0.8s,baz=106,slow=3.2,SNR=15
ZALV PP **PP** **07 28 02.3 +3.7**
comp=Z,1.4nm,0.6s,baz=113,slow=3.3,SNR=3.2
ZALV PKKPbc **PKKPbc** **07 39 44.7 -4.0**
comp=Z,1.4nm,0.8s,baz=302,slow=3.2,SNR=4.4
ZALV **Zalesovo Beam** 102.39 323 *e*Pdif **Pdif** **07 23 44.3 -1.2**
ZALV PP **PP** **07 28 02.3 +3.7**
ZALV PKKPbc **PKKPbc** **07 39 44.7 -4.0**
ZALV **Zalesovo Beam** 102.39 323 *e*P **Pdif** **07 23 44.3 -1.2**
ZALV 07 28 02.3
DHRM **DHARAMSHALA** 102.83 300 *e*P **Pdif** **07 23 47.6 -0.7**
UZB **Uzynbulak** 103.40 311 *i* Pdif **Pdif** **07 23 48.8 -1.6**
UZB *i* PP **PP** **07 28 04.3 -2.4**
UZB *e*S **SKSac** **07 34 25.9 -2.1**
UZB LR LR 08 11 04.5
comp=Z,778nm,16.4s
HOPE **Hope Point** 103.41 165 PFAKE 07 24 00.0 +10
HOPE LR LR
comp=Z,18µm,22.0s
NVS **Novosibirsk** 103.52 324 *i* P **Pdif** **07 23 49.7 -0.7**
OK020 **N3440 Road, Me** 103.58 57 PFAKE 07 24 00.0 +8.8
OK020 LR LR
comp=Z,21µm,20.0s
OK021 **N3530 Road, Sp** 103.72 57 PFAKE 07 24 00.0 +8.2
OK021 LR LR
comp=Z,21µm,20.0s
KPKS **Kokpek** 103.72 311 *e*Pdif **Pdif** **07 23 50.4 -1.3**
KPKS *i* PP **PP** **07 28 06.5 -2.5**
KPKS *e*S **SKSac** **07 34 27.4 -1.9**
OK022 **N3560 Road, Pr** 103.74 57 PFAKE 07 24 00.0 +8.1
OK022 LR LR
comp=Z,24µm,20.0s
SATY **Saty** 103.82 311 *i* Pdif **Pdif** **07 23 52.1 -0.2**
SATY *i* PP **PP** **07 28 08.8 -1.0**
SATY *e*S **SKSac** **07 34 29.2 -0.7**
SATY *e*PS **PS** **07 37 20.4 -0.8**
K31A **O'Neill** 103.83 49 Pdiff **Pdif** **07 23 52.5 +0.3**
baz=257
R34A **Isabella, Hill** 103.94 54 Pdiff **Pdif** **07 23 52.2 -0.6**
baz=257
RER **Riviere de l'E** 103.97 241 PFAKE 07 24 00.0 +6.6
RER LR LR
comp=Z,51µm,20.0s
BGNE **Belgrade** 103.99 51 Pdiff **Pdif** **07 23 53.2 +0.2**
baz=257
BGNE **Belgrade** 103.99 51 PFAKE 07 24 00.0 +7.1
BGNE LR LR
comp=Z,39µm,22.0s
J31A **Geddes** 103.99 49 Pdiff **Pdif** **07 23 51.3 -1.6**
baz=257
O33A **Hebron** 104.10 52 Pdiff **Pdif** **07 23 52.0 -1.4**
baz=257
SUSD **Miller** 104.10 48 Pdiff **Pdif** **07 23 53.3 -0.1**
baz=257
L32A **Elgin** 104.23 50 Pdiff **Pdif** **07 23 52.6 -1.4**
baz=257
SEM **Semipalatinsk** 104.25 319 *e*Pdif **Pdif** **07 23 53.1 -1.0**
SEM *i* PP **PKiKP** **07 28 10.4 -0.3**
SEM *e*SKSac **SKSac** **07 34 30.1 -1.6**
SEM LR LR 08 03 38.7
comp=Z,4µm,23.0s
I31A **Royce, Wessing** 104.31 48 Pdiff **Pdif** **07 23 53.1 -1.1**
baz=257
Q34A **Chapman** 104.32 53 Pdiff **Pdif** **07 23 54.0 -0.4**
baz=257
N33A **J Bar K, Exete** 104.35 52 Pdiff **Pdif** **07 23 54.6 0.0**
baz=257
K32A **Verdigre** 104.40 50 Pdiff **Pdif** **07 23 54.0 -0.8**
baz=257
MDND **Maddock** 104.42 44 Pdiff **Pdif** **07 23 55.1 +0.4**
baz=257
MDND **Maddock** 104.42 44 PFAKE 07 24 10.0 +15
MDND LR LR
comp=Z,46µm,21.0s
H31A **Wolsey** 104.45 48 Pdiff **Pdif** **07 23 54.6 -0.3**
baz=257
NATX **Nacogdoches** 104.47 61 Pdiff **Pdif** **07 23 54.9 -0.3**
baz=256
NATX **Nacogdoches** 104.47 61 PFAKE 07 24 10.0 +15
NATX LR LR
comp=Z,34µm,19.0s
FFC **Flin Flon** 104.48 37 PFAKE 07 24 10.0 +15
FFC LR LR
comp=Z,37µm,21.0s
LCO **Las Campanas** 104.49 128 PFAKE 07 24 10.0 +14
LCO LR LR
comp=Z,6µm,20.0s
TUL1 **Leonard** 104.52 57 Pdiff **Pdif** **07 23 55.4 0.0**
baz=257
TUL1 **Leonard** 104.52 57 PFAKE 07 24 10.0 +15
TUL1 LR LR
comp=Z,24µm,20.0s
P34A **Walnut Farm, R** 104.55 53 Pdiff **Pdif** **07 23 55.3 -0.2**
baz=257
KSU1 **Kansas State U** 104.61 53 Pdiff **Pdif** **07 23 55.1 -0.6**
baz=257
KSU1 **Kansas State U** 104.61 53 PFAKE 07 24 10.0 +14
KSU1 LR LR
comp=Z,21µm,19.0s
J32A **Parkston** 104.65 49 Pdiff **Pdif** **07 23 53.8 -2.0**
baz=258
M33A **Taylor Creek F** 104.72 51 Pdiff **Pdif** **07 23 55.6 -0.6**
baz=257
R35A **Emporia Munici** 104.75 54 Pdiff **Pdif** **07 23 55.1 -1.2**
baz=257
O34A **Beatrice** 104.79 52 Pdiff **Pdif** **07 23 55.9 -0.6**
baz=257
G31A **Conde** 104.80 47 Pdiff **Pdif** **07 23 57.3 +1.0**
baz=258
L33A **Hoskins** 104.80 50 Pdiff **Pdif** **07 23 56.3 -0.2**
baz=258
MDOK **Medeo** 104.81 311 *i* Pdif **Pdif** **07 23 55.3 -1.4**
MDOK *i* PP **PP** **07 28 14.8 -2.4**
MDOK *e*SKS 07 35 20.3
MDOK *e*PS **PS** **07 37 29.3 -2.3**
MDOK *e*SS **SS** **07 43 05.9 -2.4**
MDOK LR LR 08 07 01.9
comp=Z,3µm,24.4s
F31A **Hecla** 104.90 46 Pdiff **Pdif** **07 23 55.2 -1.6**
baz=258
AAA **Alma-Ata** 104.92 311 *e*Pdif **Pdif** **07 23 55.4 -1.7**
AAA *i* PP **PKiKP** **07 28 14.8 +2.8**
AAA *e*SKSac **SKSac** **07 34 32.7 -2.1**
AAA LR LR 08 07 08.9
comp=Z,2µm,22.4s
AAA **Alma-Ata** 104.92 311 *e*P **Pdif** **07 24 07.3 +10**
AAA *e*S **SKSac** **07 34 41.3 +6.5**
AAA pmax pmax
comp=Z,1µm,8.8s
AAA smax smax
comp=E,3µm,8.5s
Q35A **Mercer Eighty,** 104.99 54 Pdiff **Pdif** **07 23 55.2 -2.2**
baz=257
I32A **Karley and Nic** 105.06 48 Pdiff **Pdif** **07 23 56.2 -1.4**
baz=258
N34A **Lincoln** 105.08 52 Pdiff **Pdif** **07 23 56.1 -1.6**
baz=258
K33A **Hardington** 105.09 50 Pdiff **Pdif** **07 23 56.6 -1.1**
baz=258
TRQA **Tornquist** 105.14 140 *e*PKPdf **PKiKP** **07 28 12.4 -0.2**
TRQA LR LR
comp=Z,8µm,19.0s
P35A **Duane Minner,** 105.15 53 Pdiff **Pdif** **07 23 57.0 -1.1**
baz=258
M34A **Aspy Farms, Fr** 105.16 51 Pdiff **Pdif** **07 23 57.5 -0.6**
baz=258
H32A **Carlson Farm,** 105.18 48 Pdiff **Pdif** **07 23 56.4 -1.7**
baz=258
J33A **Davis** 105.26 49 Pdiff **Pdif** **07 23 55.7 -2.8**
baz=258
240A **Hunter Patters** 105.28 61 Pdiff **Pdif** **07 23 59.3 +0.4**
baz=257
R36A **Gordon, Harris** 105.28 54 Pdiff **Pdif** **07 23 57.3 -1.4**
baz=258
G32A **Webster** 105.29 47 Pdiff **Pdif** **07 23 56.5 -2.1**
baz=258
E31A **Nome** 105.29 46 Pdiff **Pdif** **07 23 58.0 -0.6**
baz=258
KURK **Kurchatov** 105.34 319 *e*Pdif **Pdif** **07 23 58.1 -0.5**
KURK PKiKP **PKiKP** **07 28 11.3 -1.1**
KURK PKKPbc **PKKPbc** **07 39 39.5 -0.2**
KURK LR LR
comp=Z,9µm,21.0s
KURK **Kurchatov** 105.34 319 P **Pdif** **07 23 59.0 +0.4**
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURBB **Kurchatov Arra** 105.37 319 Pdiff **Pdif** **07 23 59.0 +0.2**
comp=Z,1.8nm,0.8s,baz=117,slow=3.6,SNR=7.8
KURBB PKiKP **PKiKP** **07 28 11.3 -1.2**
comp=Z,2.3nm,0.8s,baz=104,slow=1.3,SNR=5.9
KURBB PKKPbc **PKKPbc** **07 39 39.5 -0.1**
comp=Z,2.3nm,1.0s,baz=284,slow=4.0,SNR=6.4
O35A **Humboldt** 105.39 52 Pdiff **Pdif** **07 23 58.2 -1.0**
baz=258
L34A **Svendsen Farm,** 105.41 51 Pdiff **Pdif** **07 23 58.0 -1.2**
baz=258
441A **DeRidder** 105.46 62 Pdiff **Pdif** **07 23 59.8 +0.2**
baz=257
KUU **Kurty** 105.47 312 *e*Pdif **Pdif** **07 23 58.5 -0.9**
KUU *i* PP **PP** **07 28 20.0 -1.8**
KUU *e*SKSac **SKSac** **07 34 35.9 -1.2**
D31A **Mcclaflin, Tow** 105.50 45 Pdiff **Pdif** **07 23 57.6 -1.9**
baz=259
I33A **Coleman** 105.53 48 Pdiff **Pdif** **07 23 59.2 -0.5**
baz=258
X39A **Fountain Ranch** 105.55 58 Pdiff **Pdif** **07 23 59.0 -1.0**
baz=257
140A **Cam and Jess,** 105.57 60 Pdiff **Pdif** **07 23 58.5 -1.6**
baz=257
ECSD **EROS Data Cent** 105.60 49 Pdiff **Pdif** **07 23 59.6 -0.4**
baz=258
ECSD **EROS Data Cent** 105.60 49 *e*Pdif **PKiKP** **07 28 15.8 +2.6**
ECSD LR LR
comp=Z,44µm,22.0s
C31A **Landman Farms,** 105.64 44 Pdiff **Pdif** **07 24 00.1 +0.1**
baz=259
F32A **Veblen** 105.67 46 Pdiff **Pdif** **07 23 59.2 -1.1**
baz=259
H33A **Prehn Over Nor** 105.70 48 Pdiff **Pdif** **07 23 59.4 -1.1**
baz=259
N35A **Tabor** 105.72 52 Pdiff **Pdif** **07 24 00.1 -0.5**
baz=258
K34A **Le Mars** 105.76 50 Pdiff **Pdif** **07 24 00.4 -0.4**
baz=258
P36A **Good Intent, A** 105.79 53 Pdiff **Pdif** **07 24 00.2 -0.7**
baz=258
BMNS **Besmoynak** 105.79 311 *e*Pdif **Pdif** **07 24 00.2 -0.9**
BMNS *i* PP **PP** **07 28 22.5 -1.9**
BMNS *e*SKSac **SKSac** **07 34 37.8 -1.1**
M35A **Neola** 105.80 51 Pdiff **Pdif** **07 23 59.0 -2.0**
baz=258
B31A **Greenbush Farm** 105.82 44 Pdiff **Pdif** **07 23 59.7 -1.1**
baz=259
Z40A **Long Farm, Mag** 105.85 60 Pdiff **Pdif** **07 24 00.8 -0.5**
baz=257
542A **Morse** 105.85 63 Pdiff **Pdif** **07 23 59.7 -1.7**
baz=257
E32A **Braaten, Kindr** 105.85 46 Pdiff **Pdif** **07 24 00.5 -0.5**
baz=259
T38A **Diamond** 105.95 56 Pdiff **Pdif** **07 24 00.5 -1.2**
baz=258
W39A **Magazine** 105.96 58 Pdiff **Pdif** **07 23 59.8 -2.0**
baz=258
241A **Mo Tay, Goldon** 105.97 61 Pdiff **Pdif** **07 24 00.0 -1.9**
baz=257
J34A **George** 105.98 49 Pdiff **Pdif** **07 24 01.2 -0.5**
baz=259
MIAR **Mount Ida** 105.99 59 Pdiff **Pdif** **07 23 58.8 -3.1**
baz=258
MIAR **Mount Ida** 105.99 59 PFAKE 07 28 30.0
MIAR LR LR
comp=Z,27µm,20.0s
D32A **Dogwood Acres,** 105.99 45 Pdiff **Pdif** **07 23 59.9 -1.7**
baz=259
G33A **Ortonville** 106.01 47 Pdiff **Pdif** **07 23 59.9 -1.9**
baz=259
L35A **Bielow Farm, R** 106.04 50 Pdiff **Pdif** **07 24 00.0 -2.0**
baz=259
HHAR **Hobbs** 106.07 57 PFAKE 07 28 30.0
HHAR LR LR
comp=Z,21µm,19.0s
O36A **Bolckow** 106.07 53 Pdiff **Pdif** **07 23 59.2 -3.0**
baz=258
442A **Mamou** 106.08 63 Pdiff **Pdif** **07 24 00.2 -2.2**
baz=257
141A **Papa Simpson,** 106.11 61 Pdiff **Pdif** **07 24 02.6 0.0**
baz=257
MYIG **MØrida** 106.11 73 PFAKE 07 28 30.0
MYIG LR LR
comp=Z,14µm,20.0s
Y40A **Okolona** 106.11 59 Pdiff **Pdif** **07 24 00.8 -1.7**
baz=258
WLAR **White Oak Lake** 106.18 59 PFAKE 07 28 30.0
WLAR LR LR
comp=Z,44µm,19.0s
I34A **Hadley** 106.19 48 Pdiff **Pdif** **07 24 02.3 -0.4**
baz=259
Q37A **Longview Farm,** 106.21 54 Pdiff **Pdif** **07 24 02.7 -0.1**
baz=258
V39A **Pettigrew** 106.21 57 Pdiff **Pdif** **07 24 00.2 -2.8**
baz=258
N36A **Muff Farm, Cla** 106.21 52 Pdiff **Pdif** **07 24 01.0 -1.8**
baz=259
A31A **Linda, St. Vin** 106.22 43 Pdiff **Pdif** **07 24 03.0 +0.4**
baz=260
F33A **5 Mile Ranch,** 106.24 47 Pdiff **Pdif** **07 23 58.5 -4.3**
baz=259
342A **Flagon Creek P** 106.32 62 Pdiff **Pdif** **07 24 01.4 -2.0**
baz=257
Z41A **Richland Creek** 106.34 60 Pdiff **Pdif** **07 24 02.2 -1.3**
baz=258
S38A **Stockton** 106.37 55 Pdiff **Pdif** **07 23 59.5 -4.1**
baz=258
H34A **Spellman Lake,** 106.37 48 Pdiff **Pdif** **07 24 00.8 -2.7**
baz=259
K35A **Storm Lake** 106.39 50 Pdiff **Pdif** **07 24 00.0 -3.5**
baz=259
543A **St. Martinvill** 106.43 63 Pdiff **Pdif** **07 24 01.4 -2.6**
baz=257
P37A **Lathrop** 106.43 53 Pdiff **Pdif** **07 24 00.7 -3.1**
baz=259
C32A **Crookston** 106.45 45 Pdiff **Pdif** **07 24 00.6 -3.0**
baz=260
U39A **Green Forest** 106.45 57 Pdiff **Pdif** **07 24 04.1 +0.1**
baz=258
M36A **Felix, Anita** 106.46 51 Pdiff **Pdif** **07 24 00.1 -3.8**
baz=259
R38A **Fenwick Farm,** 106.49 55 Pdiff **Pdif** **07 24 03.5 -0.6**
baz=258
J35A **Milford** 106.53 49 Pdiff **Pdif** **07 24 00.3 -3.9**
baz=259
W40A **Ferguson Farm,** 106.53 58 Pdiff **Pdif** **07 24 02.8 -1.5**
baz=258
W40A **Ferguson Farm,** 106.53 58 PFAKE 07 28 30.0
W40A LR LR
comp=Z,28µm,21.0s
AAK **Ala-Archa** 106.54 310 PKiKP **PKiKP** **07 28 13.2 -2.0**
comp=Z,1.0nm,0.6s,baz=29,slow=19,SNR=2.5
AAK **Ala-Archa** 106.54 310 PKiKP **PKiKP** **07 28 13.2 -2.0**
AAK LR LR
comp=Z,8µm,21.0s
B32A **Ashes, Strandq** 106.55 44 Pdiff **Pdif** **07 24 00.9 -3.2**
baz=260
E33A **Westby DABS, E** 106.56 46 Pdiff **Pdif** **07 24 03.6 -0.6**
baz=260
X40A **Basin Creek Fa** 106.57 59 Pdiff **Pdif** **07 24 05.0 +0.4**
baz=258
G34A **Benson** 106.58 47 Pdiff **Pdif** **07 24 03.4 -0.9**
baz=260
242A **Grayson** 106.61 61 Pdiff **Pdif** **07 24 03.7 -1.0**
baz=258
Y41A **Eaglette Beard** 106.62 59 Pdiff **Pdif** **07 24 03.3 -1.5**
baz=258
443A **Delano Plantat** 106.64 63 Pdiff **Pdif** **07 24 04.4 -0.5**
baz=257
T39A **Clever** 106.66 56 Pdiff **Pdif** **07 24 03.8 -1.1**
baz=258
A32A **Rocking H Ranc** 106.67 43 Pdiff **Pdif** **07 24 03.8 -0.8**
baz=260
L36A **Harm Buss Farm** 106.68 51 Pdiff **Pdif** **07 24 03.2 -1.7**
baz=259
O37A **Wolven Farm, M** 106.69 53 Pdiff **Pdif** **07 24 04.6 -0.3**
baz=259
N37A **Lee Faris, Mou** 106.76 52 Pdiff **Pdif** **07 24 03.5 -1.7**
baz=259
D33A **AnnSam, Waubun** 106.78 45 Pdiff **Pdif** **07 24 05.0 -0.2**
baz=260
I35A **Creekview Farm** 106.78 49 Pdiff **Pdif** **07 24 05.8 +0.5**
baz=260
X41A **Kaden, Bauxite** 106.83 59 Pdiff **Pdif** **07 24 06.1 +0.4**
baz=258
S39A **Bolivar** 106.84 55 Pdiff **Pdif** **07 24 06.1 +0.5**
baz=259
V40A **Witts Springs** 106.85 57 Pdiff **Pdif** **07 24 03.4 -2.4**
baz=258
Q38A **Cooks Store, C** 106.86 54 Pdiff **Pdif** **07 24 04.2 -1.5**
baz=259
142A **Monroe** 106.89 61 Pdiff **Pdif** **07 24 04.2 -1.7**
baz=258
C33A **Trail** 106.94 45 Pdiff **Pdif** **07 24 05.3 -0.5**
baz=260
K36A **Gilmore City** 106.94 50 Pdiff **Pdif** **07 24 04.1 -1.9**
baz=260
U40A **Yellville** 106.94 57 Pdiff **Pdif** **07 24 06.9 +0.7**
baz=258
F34A **Alexandria** 106.94 47 Pdiff **Pdif** **07 24 03.6 -2.3**
baz=260
AGMN **Agassiz Nation** 106.97 44 Pdiff **Pdif** **07 24 05.4 -0.6**
baz=260
AGMN **Agassiz Nation** 106.97 44 PFAKE 07 28 30.0
AGMN LR LR
comp=Z,43µm,21.0s
M37A **Trindle Farm,** 107.00 51 Pdiff **Pdif** **07 24 05.4 -0.8**
baz=259
544A **White Castle** 107.02 63 Pdiff **Pdif** **07 24 07.1 +0.5**
baz=258
UALR **University of** 107.03 59 PFAKE 07 28 30.0
UALR LR LR
comp=Z,23µm,21.0s
Z42A **Norrel Spur, H** 107.04 60 Pdiff **Pdif** **07 24 05.2 -1.4**
baz=258
H35A **Sunnyside Ranc** 107.04 48 Pdiff **Pdif** **07 24 05.0 -1.4**
baz=260
P38A **Dawn** 107.05 53 Pdiff **Pdif** **07 24 06.6 0.0**
baz=259
X301 **Greenbrier Sit** 107.08 58 PFAKE 07 28 30.0
X301 LR LR
comp=Z,36µm,20.0s
E34A **Wadena** 107.13 46 Pdiff **Pdif** **07 24 05.4 -1.3**
baz=260
243A **Waterproof** 107.13 62 Pdiff **Pdif** **07 24 04.7 -2.3**
baz=258
J36A **Seneca 1, Swea** 107.14 49 Pdiff **Pdif** **07 24 05.7 -1.2**
baz=260
B33A **Robert and Kas** 107.15 44 Pdiff **Pdif** **07 24 08.0 +1.2**
baz=260
WHAR **Wooly Hollow** 107.18 58 PFAKE 07 28 30.0
WHAR LR LR
comp=Z,34µm,20.0s
R39A **Chumby, Stover** 107.18 55 Pdiff **Pdif** **07 24 05.8 -1.4**
baz=259
W41B **Gary Mavity, V** 107.19 58 Pdiff **Pdif** **07 24 06.1 -1.2**
baz=258
O38A **Galt** 107.19 53 Pdiff **Pdif** **07 24 06.3 -0.9**
baz=259
D34A **Park Rapids** 107.21 45 Pdiff **Pdif** **07 24 04.3 -2.8**
baz=260
TEIG **Tepich** 107.25 74 PFAKE 07 28 30.0
TEIG LR LR
comp=Z,20µm,20.0s
Y42A **Garnett, Star** 107.29 60 Pdiff **Pdif** **07 24 06.8 -1.0**
baz=258
ULM **Lac du Bonnet** 107.29 42 PKiKP **PKiKP** **07 28 14.1 -2.0**
comp=Z,3.2nm,0.8s,baz=318,slow=3.1,SNR=4.7
ULM PKKP **PKKPdf** **07 39 47.7 +0.8**
comp=Z,3.3nm,0.9s,baz=326,slow=8.0,SNR=3.3
ULM **Lac du Bonnet** 107.29 42 PKiKP **PKiKP** **07 28 14.1 -2.0**
ULM PKKP **PKKPdf** **07 39 47.8 +0.8**
ULM LR LR
comp=Z,19µm,19.0s
BTLS **Baital** 107.30 312 *e*Pdif **Pdif** **07 24 06.8 -0.7**
BTLS *i* PP **PP** **07 28 33.6 -1.7**
CCAR **Cane Creek** 107.32 59 PFAKE 07 28 30.0
CCAR LR LR
comp=Z,41µm,20.0s
L37A **Phoenix Point,** 107.35 51 Pdiff **Pdif** **07 24 06.3 -1.5**
baz=260
T40A **Mansfield** 107.36 56 Pdiff **Pdif** **07 24 06.6 -1.4**
baz=259
143A **Socs Landing,** 107.37 61 Pdiff **Pdif** **07 24 08.4 +0.3**
baz=258
Q39A **Willow Grove F** 107.37 54 Pdiff **Pdif** **07 24 09.4 +1.4**
baz=259
G35A **Watkins** 107.38 47 Pdiff **Pdif** **07 24 08.4 +0.5**
baz=260
V41A **Mountainview** 107.38 58 Pdiff **Pdif** **07 24 08.7 +0.5**
baz=259
A33A **Warroad** 107.39 44 Pdiff **Pdif** **07 24 08.9 +1.1**
baz=261
F35A **Swanville** 107.42 47 Pdiff **Pdif** **07 24 09.0 +0.9**
baz=260
NNA **Nana** 107.44 110 PFAKE 07 28 30.0
NNA LR LR
comp=Z,8µm,20.0s
PB10 **IPOC Station P** 107.45 123 PFAKE 07 28 30.0
PB10 LR LR
comp=Z,8µm,22.0s
S40A **Lebanon** 107.46 56 Pdiff **Pdif** **07 24 07.9 -0.5**
baz=259
C34A **RKJ Ranch, Bem** 107.49 45 Pdiff **Pdif** **07 24 08.1 -0.2**
baz=261
N38A **Joes South For** 107.50 52 Pdiff **Pdif** **07 24 07.1 -1.4**
baz=260
I36A **Fitzsimmons Fa** 107.50 49 Pdiff **Pdif** **07 24 07.9 -0.6**
baz=260
K37A **Belmond** 107.55 50 Pdiff **Pdif** **07 24 08.2 -0.5**
baz=260
X42A **Stuttgart** 107.56 59 Pdiff **Pdif** **07 24 09.0 +0.1**
baz=259
545A **Edgard** 107.58 64 Pdiff **Pdif** **07 24 09.1 0.0**
baz=258
Z43A **Armstrong Fami** 107.60 60 Pdiff **Pdif** **07 24 10.2 +1.1**
baz=258
P39B **Salisbury** 107.62 54 Pdiff **Pdif** **07 24 08.9 -0.2**
baz=260
M38A **Pleasantville** 107.64 52 Pdiff **Pdif** **07 24 08.9 -0.2**
baz=260
E35A **Pequot Lakes** 107.66 46 Pdiff **Pdif** **07 24 09.6 +0.5**
baz=261
H36A **Jessenland, He** 107.66 48 Pdiff **Pdif** **07 24 07.6 -1.5**
baz=260
JTS **JuntasAbangare** 107.66 85 PFAKE 07 28 30.0
JTS LR LR
comp=Z,32µm,21.0s
344A **Westbrook Farm** 107.67 62 Pdiff **Pdif** **07 24 10.3 +0.9**
baz=258
U41A **Viola** 107.68 57 Pdiff **Pdif** **07 24 08.7 -0.7**
baz=259
J37A **Redenius Farm,** 107.71 50 Pdiff **Pdif** **07 24 09.3 -0.1**
baz=260
SCIA **State Center** 107.71 51 Pdiff **Pdif** **07 24 07.7 -1.7**
baz=260
SCIA **State Center** 107.71 51 PFAKE 07 28 30.0
SCIA LR LR
comp=Z,23µm,18.0s
R40A **Maddies Statio** 107.77 55 Pdiff **Pdif** **07 24 07.6 -2.1**
baz=259
W42A **Bald Knob** 107.79 58 Pdiff **Pdif** **07 24 10.5 +0.6**
baz=259
B34A **Aery, Baudette** 107.80 44 Pdiff **Pdif** **07 24 07.9 -1.7**
baz=261
244A **Avery, Jackson** 107.83 62 Pdiff **Pdif** **07 24 09.9 -0.2**
baz=258
445A **Amite** 107.85 63 Pdiff **Pdif** **07 24 08.6 -1.7**
baz=258
G36A **St. Michael** 107.89 48 Pdiff **Pdif** **07 24 09.6 -0.5**
baz=261
O39A **Kirksville** 107.92 53 Pdiff **Pdif** **07 24 10.4 0.0**
baz=260

T41A	**Mountain View**	**107.93**	**56**	Pdiff	**Pdif**	**07 24 10.2**	**-0.3**	
	baz=259							
I37A	**Lemond, Waseca**	**107.94**	**49**	Pdiff	**Pdif**	**07 24 10.2**	**-0.2**	
	baz=261							
L38A	**Oak Wood Farm,**	**107.94**	**51**	Pdiff	**Pdif**	**07 24 09.4**	**-1.0**	
	baz=260							
D35A	**Remer**	**107.98**	**46**	Pdiff	**Pdif**	**07 24 10.8**	**+0.3**	
	baz=261							
V42A	**Cord**	**108.00**	**58**	Pdiff	**Pdif**	**07 24 09.1**	**-1.7**	
	baz=259							
VBMS	**Vicksburg**	**108.00**	**61**	Pdiff	**Pdif**	**07 24 11.1**	**+0.2**	
	baz=258							
VBMS	**Vicksburg**	**108.00**	**61**	PFAKE		07 28 30.0		
VBMS				LR	LR			
	comp=Z,28µm,19.0s							
Y43A	**Makayla and Ka**	**108.00**	**60**	Pdiff	**Pdif**	**07 24 10.9**	**0.0**	
	baz=259							
646A	**Port Sulphur**	**108.04**	**64**	Pdiff	**Pdif**	**07 24 11.7**	**+0.5**	
	baz=258							
S41A	**Jillco Farms,**	**108.05**	**56**	Pdiff	**Pdif**	**07 24 11.0**	**0.0**	
	baz=260							
Q40A	**Laux Farm, Aux**	**108.05**	**54**	Pdiff	**Pdif**	**07 24 10.7**	**-0.3**	
	baz=260							
N39A	**Derby Farms, D**	**108.06**	**52**	Pdiff	**Pdif**	**07 24 10.9**	**-0.1**	
	baz=260							
C35A	**Jirik Farms, M**	**108.12**	**45**	Pdiff	**Pdif**	**07 24 11.0**	**-0.1**	
	baz=261							
F36A	**Milaca**	**108.15**	**47**	Pdiff	**Pdif**	**07 24 11.1**	**-0.2**	
	baz=261							
X43A	**Marvell**	**108.16**	**59**	Pdiff	**Pdif**	**07 24 09.9**	**-1.7**	
	baz=259							
K38A	**Parkersburg**	**108.16**	**50**	Pdiff	**Pdif**	**07 24 11.6**	**+0.2**	
	baz=260							
144A	**Alexander Plac**	**108.16**	**61**	Pdiff	**Pdif**	**07 24 10.9**	**-0.7**	
	baz=259							
P40A	**Paris**	**108.16**	**54**	Pdiff	**Pdif**	**07 24 11.4**	**-0.1**	
	baz=260							
U42A	**Revenden**	**108.22**	**57**	Pdiff	**Pdif**	**07 24 11.5**	**-0.3**	
	baz=259							
345A	**Thompson Farm,**	**108.22**	**62**	Pdiff	**Pdif**	**07 24 12.0**	**+0.1**	
	baz=258							
546A	**Slidell**	**108.27**	**64**	Pdiff	**Pdif**	**07 24 12.8**	**+0.6**	
	baz=258							
Z44A	**Pea Ridge, Bel**	**108.28**	**60**	Pdiff	**Pdif**	**07 24 12.4**	**+0.2**	
	baz=259							
H37A	**Dierke Farm, C**	**108.37**	**48**	Pdiff	**Pdif**	**07 24 13.6**	**+1.3**	
	baz=261							
PB04	**IPOC Station P**	**108.37**	**122**	PFAKE		07 28 30.0		
PB04				LR	LR			
	comp=Z,5µm,19.0s							
HDC	**Heredia**	**108.37**	**86**	PFAKE		07 28 30.0		
HDC				LR	LR			
	comp=Z,22µm,21.0s							
B35A	**Bob, Littlefor**	**108.39**	**44**	Pdiff	**Pdif**	**07 24 13.6**	**+1.3**	
	baz=262							
O40A	**La Belle**	**108.40**	**53**	Pdiff	**Pdif**	**07 24 13.3**	**+0.8**	
	baz=260							
M39A	**Webster**	**108.41**	**52**	Pdiff	**Pdif**	**07 24 10.6**	**-1.9**	
	baz=260							
W43A	**Forest City**	**108.41**	**58**	Pdiff	**Pdif**	**07 24 10.9**	**-1.8**	
	baz=259							
E36A	**McGregor**	**108.43**	**46**	Pdiff	**Pdif**	**07 24 12.1**	**-0.4**	
	baz=262							
T42A	**Van Buren**	**108.46**	**56**	Pdiff	**Pdif**	**07 24 13.0**	**+0.1**	
	baz=260							
R41A	**Rosebud**	**108.46**	**55**	Pdiff	**Pdif**	**07 24 12.5**	**-0.4**	
	baz=260							
245A	**Little AP, Sta**	**108.48**	**62**	Pdiff	**Pdif**	**07 24 14.5**	**+1.4**	
	baz=259							
J38A	**Wedel Dairy, R**	**108.48**	**50**	Pdiff	**Pdif**	**07 24 13.1**	**+0.3**	
	baz=261							
CCM	**Cathedral Cave**	**108.52**	**55**	Pdiff	**Pdif**	**07 24 11.9**	**-1.2**	
	baz=260							
CCM	**Cathedral Cave**	**108.52**	**55**	PFAKE		07 28 30.0		
CCM				LR	LR			
	comp=Z,24µm,21.0s							
SPMN	**Marine on St.**	**108.55**	**48**	Pdiff	**Pdif**	**07 24 12.6**	**-0.5**	
	baz=261							
SPMN	**Marine on St.**	**108.55**	**48**	PFAKE		07 28 30.0		
SPMN				LR	LR			
	comp=Z,22µm,21.0s							
145A	**Houston Renfro**	**108.57**	**61**	Pdiff	**Pdif**	**07 24 13.2**	**-0.3**	
	baz=259							
D36A	**Goodland**	**108.59**	**46**	Pdiff	**Pdif**	**07 24 12.2**	**-1.1**	
	baz=262							
Y44A	**Strider, Charl**	**108.60**	**60**	Pdiff	**Pdif**	**07 24 13.0**	**-0.6**	
	baz=259							
L39A	**Vinton**	**108.64**	**51**	Pdiff	**Pdif**	**07 24 13.0**	**-0.5**	
	baz=261							
V43A	**Jonesboro**	**108.67**	**58**	Pdiff	**Pdif**	**07 24 14.6**	**+0.8**	
	baz=260							
446A	**Poplarville**	**108.68**	**63**	Pdiff	**Pdif**	**07 24 13.1**	**-0.8**	
	baz=258							
Q41A	**Truxton**	**108.69**	**54**	Pdiff	**Pdif**	**07 24 14.1**	**+0.3**	
	baz=260							
I38A	**Scanlan Farm,**	**108.70**	**49**	Pdiff	**Pdif**	**07 24 12.2**	**-1.6**	
	baz=261							
346A	**Big Creek Wild**	**108.71**	**62**	Pdiff	**Pdif**	**07 24 12.9**	**-1.2**	
	baz=259							
N40A	**Mertquake, Sal**	**108.75**	**52**	Pdiff	**Pdif**	**07 24 13.5**	**-0.6**	
	baz=261							
F37A	**Hinrichs Farm,**	**108.75**	**47**	Pdiff	**Pdif**	**07 24 11.5**	**-2.5**	
	baz=262							
K39A	**Oelwein**	**108.81**	**50**	Pdiff	**Pdif**	**07 24 15.7**	**+1.4**	
	baz=261							
S42A	**Caledonia**	**108.82**	**56**	Pdiff	**Pdif**	**07 24 15.1**	**+0.6**	
	baz=260							
H38A	**Maiden Rock**	**108.83**	**48**	Pdiff	**Pdif**	**07 24 14.4**	**+0.1**	
	baz=262							
M40A	**Post Highland**	**108.88**	**52**	Pdiff	**Pdif**	**07 24 13.0**	**-1.7**	
	baz=261							
U43A	**Rector**	**108.88**	**57**	Pdiff	**Pdif**	**07 24 12.2**	**-2.5**	
	baz=260							
C36A	**Pine Crest Far**	**108.89**	**45**	Pdiff	**Pdif**	**07 24 12.2**	**-2.3**	
	baz=262							
Z45A	**Winona**	**108.91**	**60**	Pdiff	**Pdif**	**07 24 14.8**	**-0.1**	
	baz=259							
R42A	**Luebbering**	**108.91**	**55**	Pdiff	**Pdif**	**07 24 15.9**	**+1.1**	
	baz=260							
PBMO	**Poplar Bluff**	**108.94**	**57**	PFAKE		07 28 30.0		
PBMO				LR	LR			
	comp=Z,23µm,20.0s							
P41A	**Barry, Barry**	**108.94**	**54**	Pdiff	**Pdif**	**07 24 14.9**	**-0.1**	
	baz=261							
BRZS	**Berezniki**	**108.97**	**317**	*e*Pdif	**Pdif**	**07 24 13.5**	**-1.3**	
BRZS				*i* PP	**PP**	**07 28 45.2**	**-2.1**	
E37A	**Wrenshall**	**109.02**	**46**	Pdiff	**Pdif**	**07 24 13.5**	**-1.7**	
	baz=262							
MET	**Memphis--Engin**	**109.04**	**59**	PFAKE		07 28 30.0		
MET				LR	LR			
	comp=Z,23µm,20.0s							
J39A	**Decorah**	**109.04**	**50**	Pdiff	**Pdif**	**07 24 14.0**	**-1.3**	
	baz=261							
D37A	**Cotton**	**109.09**	**46**	Pdiff	**Pdif**	**07 24 13.3**	**-2.1**	
	baz=262							
T43A	**Greenville**	**109.10**	**56**	Pdiff	**Pdif**	**07 24 13.4**	**-2.3**	
	baz=260							
Y45A	**Yeager Farm, C**	**109.12**	**60**	Pdiff	**Pdif**	**07 24 16.5**	**+0.6**	
	baz=259							
W44A	**Shelby Farms P**	**109.14**	**59**	Pdiff	**Pdif**	**07 24 17.0**	**+1.1**	
	baz=260							
FVM	**French Village**	**109.15**	**56**	PFAKE		07 28 30.0		
FVM				LR	LR			
	comp=Z,18µm,18.0s							
O41A	**Passleys Farm,**	**109.15**	**53**	Pdiff	**Pdif**	**07 24 18.3**	**+2.5**	
	baz=261							
V44A	**Blytheville**	**109.19**	**58**	Pdiff	**Pdif**	**07 24 16.1**	**0.0**	
	baz=260							
L40A	**Anamosa**	**109.20**	**51**	Pdiff	**Pdif**	**07 24 15.6**	**-0.4**	
	baz=261							
G38A	**Ridgeland**	**109.20**	**48**	Pdiff	**Pdif**	**07 24 14.8**	**-1.2**	
	baz=262							
KBL	**Kabul**	**109.25**	**301**	PFAKE		07 28 30.0		
KBL				LR	LR			
	comp=Z,5µm,21.0s							
I39A	**Houston**	**109.25**	**49**	Pdiff	**Pdif**	**07 24 16.5**	**+0.3**	
	baz=262							
N41A	**Harden Midland**	**109.26**	**53**	Pdiff	**Pdif**	**07 24 16.0**	**-0.4**	
	baz=261							
447A	**Lucedale**	**109.28**	**63**	Pdiff	**Pdif**	**07 24 17.8**	**+1.1**	
	baz=259							
F38A	**Pierce - Schro**	**109.30**	**47**	Pdiff	**Pdif**	**07 24 18.0**	**+1.6**	
	baz=262							
C37A	**Embarrass**	**109.33**	**45**	Pdiff	**Pdif**	**07 24 16.1**	**-0.4**	
	baz=263							
X45A	**UM Field Stati**	**109.35**	**59**	Pdiff	**Pdif**	**07 24 17.6**	**+0.8**	
	baz=260							
OXF	**Oxford**	**109.35**	**59**	Pdiff	**Pdif**	**07 24 18.7**	**+1.8**	
	baz=260							
OXF	**Oxford**	**109.35**	**59**	PFAKE		07 28 30.0		
OXF				LR	LR			
	comp=Z,38µm,20.0s							
S43A	**Fulton Ridge,**	**109.35**	**56**	Pdiff	**Pdif**	**07 24 18.7**	**+1.8**	
	baz=260							
K40A	**Colesburg**	**109.36**	**50**	Pdiff	**Pdif**	**07 24 17.1**	**+0.4**	
	baz=262							
SLM	**Saint Louis**	**109.40**	**55**	PFAKE		07 28 30.0		
SLM				LR	LR			
	comp=Z,21µm,19.0s							
FCC	**Fort Churchill**	**109.40**	**33**	*e*PKPdf	**PKiKP**	**07 28 17.7**	**-2.0**	
FCC				LR	LR			
	comp=Z,24µm,19.0s							
PVMO	**Portageville**	**109.45**	**57**	PFAKE		07 28 30.0		
PVMO				LR	LR			
	comp=Z,25µm,21.0s							
P42A	**Winchester**	**109.47**	**54**	Pdiff	**Pdif**	**07 24 18.3**	**+1.0**	
	baz=261							
347A	**Saraland**	**109.49**	**63**	Pdiff	**Pdif**	**07 24 18.4**	**+0.9**	
	baz=259							
Z46A	**Louisville**	**109.49**	**61**	Pdiff	**Pdif**	**07 24 17.4**	**-0.1**	
	baz=260							
KKAR	**Karatay Array**	**109.51**	**310**	*e*PKPdf	**PKiKP**	**07 28 19.0**	**-1.5**	
H39A	**Augusta**	**109.54**	**48**	Pdiff	**Pdif**	**07 24 18.4**	**+0.9**	
	baz=262							
PB01	**IPOC Station P**	**109.55**	**122**	PFAKE		07 28 30.0		
PB01				LR	LR			
	comp=Z,5µm,18.0s							
247A	**Quitman**	**109.56**	**62**	Pdiff	**Pdif**	**07 24 18.0**	**+0.2**	
	baz=259							
R43A	**Red Bud**	**109.58**	**55**	Pdiff	**Pdif**	**07 24 18.3**	**+0.5**	
	baz=261							
M41A	**Milan**	**109.60**	**52**	Pdiff	**Pdif**	**07 24 19.2**	**+1.4**	
	baz=262							
E38A	**The Farm, Brul**	**109.61**	**46**	Pdiff	**Pdif**	**07 24 17.3**	**-0.4**	
	baz=263							
W45A	**Hickory Valley**	**109.65**	**59**	Pdiff	**Pdif**	**07 24 18.2**	**0.0**	
	baz=260							
T44A	**Benton**	**109.65**	**57**	Pdiff	**Pdif**	**07 24 18.6**	**+0.5**	
	baz=260							
Y46A	**Houston**	**109.69**	**60**	Pdiff	**Pdif**	**07 24 16.0**	**-2.4**	
	baz=260							
G39A	**Holcombe**	**109.70**	**48**	Pdiff	**Pdif**	**07 24 17.4**	**-0.8**	
	baz=262							
U44B	**Burton Farm, H**	**109.72**	**57**	Pdiff	**Pdif**	**07 24 17.4**	**-1.0**	
	baz=260							
L41A	**Preston**	**109.73**	**51**	Pdiff	**Pdif**	**07 24 18.8**	**+0.4**	
	baz=262							
J40A	**Soldiers Grove**	**109.75**	**50**	Pdiff	**Pdif**	**07 24 17.9**	**-0.6**	
	baz=262							
O42A	**Bath**	**109.77**	**53**	Pdiff	**Pdif**	**07 24 18.9**	**+0.3**	
	baz=261							
RES	**Resolute Bay**	**109.81**	**16**	PKKPbc	PKKPbc	07 39 28.0	+1.8	
	comp=Z,3.9nm,1.1s,baz=95,slow=2.4,SNR=5.5							
RES	**Resolute Bay**	**109.81**	**16**	PKKPbc	PKKPbc	07 39 28.0	+1.8	
RES				LR	LR			
	comp=Z,13µm,20.0s							
EYMN	**Ely**	**109.81**	**45**	Pdiff	**Pdif**	**07 24 18.0**	**-0.7**	
	baz=263							
EYMN	**Ely**	**109.81**	**45**	PFAKE		07 28 30.0		
EYMN				LR	LR			
	comp=Z,56µm,22.0s							
Q43A	**New Douglas**	**109.86**	**55**	Pdiff	**Pdif**	**07 24 19.7**	**+0.6**	
	baz=261							
N42A	**Yates City**	**109.90**	**53**	Pdiff	**Pdif**	**07 24 19.4**	**+0.3**	
	baz=262							
I40A	**Norwalk**	**109.90**	**49**	Pdiff	**Pdif**	**07 24 18.9**	**-0.2**	
	baz=262							
V45A	**Humboldt**	**109.93**	**58**	Pdiff	**Pdif**	**07 24 18.5**	**-0.9**	
	baz=260							
C38A	**Sawbill Land.**	**109.94**	**45**	Pdiff	**Pdif**	**07 24 19.8**	**+0.6**	
	baz=263							
K41A	**Shullsburg**	**109.95**	**51**	Pdiff	**Pdif**	**07 24 19.8**	**+0.4**	
	baz=262							
147A	**Livingston**	**109.95**	**61**	Pdiff	**Pdif**	**07 24 19.8**	**+0.2**	
	baz=260							
F39A	**Loretta**	**109.96**	**47**	Pdiff	**Pdif**	**07 24 18.8**	**-0.6**	
	baz=263							
448A	**Bay Minette**	**109.97**	**63**	Pdiff	**Pdif**	**07 24 19.8**	**+0.1**	
	baz=259							
S44A	**Carbondale**	**110.01**	**56**	Pdiff	**Pdif**	**07 24 19.4**	**-0.4**	
	baz=261							
X46A	**Booneville**	**110.03**	**59**	Pdiff	**Pdif**	**07 24 21.3**	**+1.4**	
	baz=260							
348A	**Jackson**	**110.03**	**63**	Pdiff	**Pdif**	**07 24 19.4**	**-0.6**	
	baz=259							
JFWS	**Jewell Farm**	**110.04**	**50**	Pdiff	**Pdif**	**07 24 20.7**	**+0.9**	
	baz=262							
JFWS	**Jewell Farm**	**110.04**	**50**	PFAKE		07 28 30.0		
JFWS				LR	LR			
	comp=Z,52µm,22.0s							
SIUC	**Southern Illin**	**110.05**	**56**	PFAKE		07 28 30.0		
SIUC				LR	LR			
	comp=Z,30µm,18.0s							
PB11	**IPOC Station P**	**110.06**	**120**	PFAKE		07 28 30.0		
PB11				LR	LR			
	comp=Z,6µm,20.0s							
CHM	**Chimkent**	**110.06**	**309**	*e*Pdif	**Pdif**	**07 24 16.5**	**-3.4**	
CHM				*i* PP	**PP**	**07 28 51.3**	**-4.2**	
CHM				*e*PS	**PS**	**07 38 22.6**	**-2.5**	
CHM				*e*SS	SS	07 44 17.0	-2.3	
P43A	**Skaggs, Pawnee**	**110.11**	**54**	Pdiff	**Pdif**	**07 24 19.1**	**-1.1**	
	baz=262							
H40A	**Chili**	**110.16**	**49**	Pdiff	**Pdif**	**07 24 20.4**	**+0.1**	
	baz=263							
U45A	**Rockin P Farm,**	**110.19**	**57**	Pdiff	**Pdif**	**07 24 19.7**	**-0.8**	
	baz=261							
M42A	**Sheffield**	**110.19**	**52**	Pdiff	**Pdif**	**07 24 19.6**	**-0.8**	
	baz=262							
E39A	**Mellen**	**110.26**	**47**	Pdiff	**Pdif**	**07 24 20.8**	**+0.2**	
	baz=263							
J41A	**Loganville**	**110.27**	**50**	Pdiff	**Pdif**	**07 24 20.4**	**-0.4**	
	baz=263							
248A	**Dixon Mills**	**110.29**	**62**	Pdiff	**Pdif**	**07 24 19.2**	**-1.9**	
	baz=260							
W46A	**Michie**	**110.29**	**59**	Pdiff	**Pdif**	**07 24 20.2**	**-0.9**	
	baz=260							
L42A	**Oliver, Polo**	**110.34**	**51**	Pdiff	**Pdif**	**07 24 19.2**	**-1.9**	
	baz=262							
O43A	**Sugar Creek Fa**	**110.36**	**53**	Pdiff	**Pdif**	**07 24 18.3**	**-3.0**	
	baz=262							
G40A	**Rib Lake**	**110.38**	**48**	Pdiff	**Pdif**	**07 24 16.8**	**-4.4**	
	baz=263							
Q44A	**Meyer Farm, Va**	**110.39**	**55**	Pdiff	**Pdif**	**07 24 19.4**	**-2.0**	
	baz=262							
T45A	**Paducah**	**110.39**	**57**	Pdiff	**Pdif**	**07 24 20.1**	**-1.3**	
	baz=261							
HDIL	**Hopedale**	**110.42**	**53**	Pdiff	**Pdif**	**07 24 21.4**	**-0.1**	
	baz=262							
HDIL	**Hopedale**	**110.42**	**53**	PFAKE		07 28 30.0		
HDIL				LR	LR			
	comp=Z,27µm,20.0s							
MNMC	**Minye Minye**	**110.42**	**120**	PFAKE		07 28 40.0		
MNMC				LR	LR			
	comp=Z,7µm,19.0s							
I41A	**Arkdale**	**110.46**	**49**	Pdiff	**Pdif**	**07 24 22.8**	**+1.2**	
	baz=263							
449A	**Pace**	**110.49**	**64**	Pdiff	**Pdif**	**07 24 21.6**	**-0.5**	
	baz=259							
F40A	**Park Falls**	**110.51**	**47**	Pdiff	**Pdif**	**07 24 20.3**	**-1.5**	
	baz=263							
PLAL	**Pickwick Lake**	**110.51**	**59**	PFAKE		07 28 30.0		
PLAL				LR	LR			
	comp=Z,34µm,20.0s							
Y47A	**UCPARC, Winfie**	**110.52**	**60**	Pdiff	**Pdif**	**07 24 21.6**	**-0.5**	
	baz=260							
148A	**Greensboro**	**110.53**	**62**	Pdiff	**Pdif**	**07 24 22.3**	**+0.1**	
	baz=260							
S45A	**Carrier Mills**	**110.54**	**56**	Pdiff	**Pdif**	**07 24 21.1**	**-0.9**	
	baz=261							
N43A	**Stutzman Famil**	**110.56**	**53**	Pdiff	**Pdif**	**07 24 21.2**	**-0.9**	
	baz=262							
V46A	**Holladay**	**110.61**	**58**	Pdiff	**Pdif**	**07 24 22.4**	**0.0**	
	baz=261							
X47A	**Russelville**	**110.61**	**60**	Pdiff	**Pdif**	**07 24 21.8**	**-0.7**	
	baz=260							
349A	**Repton**	**110.62**	**63**	Pdiff	**Pdif**	**07 24 22.3**	**-0.3**	
	baz=260							
OTAV	**Otavalo**	**110.62**	**97**	*e*PKPdf	**PKiKP**	**07 28 24.6**	**+0.5**	
OTAV				LR	LR			
	comp=Z,12µm,21.0s							
U46A	**Springville**	**110.65**	**58**	Pdiff	**Pdif**	**07 24 20.9**	**-1.8**	
	baz=261							
Z48A	**Northport**	**110.67**	**61**	Pdiff	**Pdif**	**07 24 22.5**	**-0.2**	
	baz=260							
K42A	**Prairie Point,**	**110.68**	**51**	Pdiff	**Pdif**	**07 24 19.6**	**-3.0**	
	baz=263							
H41A	**Junction City**	**110.68**	**49**	Pdiff	**Pdif**	**07 24 20.6**	**-1.9**	
	baz=263							
BRAL	**Brewton**	**110.70**	**63**	PFAKE		07 28 40.0		
BRAL				LR	LR			
	comp=Z,25µm,20.0s							
BVAR	**Borovoye Array**	**110.71**	**320**	Pdiff	**Pdif**	**07 24 22.4**	**-0.1**	
	comp=Z,0.4nm,0.5s,baz=74,slow=13,SNR=3.6							
BVAR				PKiKP	**PKiKP**	**07 28 23.0**	**+0.6**	
	comp=Z,1.3nm,0.5s,baz=141,slow=0.9,SNR=9.4							
C39A	**Grand Marais**	**110.71**	**45**	Pdiff	**Pdif**	**07 24 22.2**	**-0.4**	
	baz=264							
E40A	**Wakefield**	**110.72**	**47**	Pdiff	**Pdif**	**07 24 21.7**	**-1.0**	
	baz=264							
P44A	**Sand Creek, Wi**	**110.77**	**54**	Pdiff	**Pdif**	**07 24 22.7**	**-0.4**	
	baz=262							
BRVK	**Borovoye**	**110.78**	**320**	PFAKE		07 28 30.0		
BRVK				LR	LR			
	comp=Z,9µm,22.0s							
BRVK	**Borovoye**	**110.78**	**320**	*i*PKiKP	**PKiKP**	**07 28 22.4**	**-0.1**	
BRVK				pmax	pmax			
	comp=Z,19nm,1.2s							
249A	**Camden**	**110.79**	**62**	Pdiff	**Pdif**	**07 24 22.4**	**-0.9**	
	baz=260							
M43A	**Waltham Townsh**	**110.79**	**52**	Pdiff	**Pdif**	**07 24 22.7**	**-0.4**	
	baz=262							
R45A	**Skylar, Fairfi**	**110.86**	**55**	Pdiff	**Pdif**	**07 24 24.2**	**+0.7**	
	baz=262							
WVT	**Waverly**	**110.89**	**58**	Pdiff	**Pdif**	**07 24 22.8**	**-0.9**	
	baz=261							
WVT	**Waverly**	**110.89**	**58**	PFAKE		07 28 40.0		
WVT				LR	LR			
	comp=Z,17µm,22.0s							
J42A	**Columbus**	**110.91**	**50**	Pdiff	**Pdif**	**07 24 23.0**	**-0.6**	
	baz=263							
TUMC	**Tumaco**	**110.91**	**96**	PFAKE		07 28 40.0		
TUMC				LR	LR			
	comp=Z,12µm,21.0s							
W47A	**Westpoint**	**110.95**	**59**	Pdiff	**Pdif**	**07 24 24.2**	**+0.2**	
	baz=261							
O44A	**Mansfield**	**110.98**	**53**	Pdiff	**Pdif**	**07 24 24.0**	**0.0**	
	baz=262							
T46A	**Princeton**	**110.98**	**57**	Pdiff	**Pdif**	**07 24 25.1**	**+1.0**	
	baz=262							
L43A	**Garden Prairie**	**111.04**	**51**	Pdiff	**Pdif**	**07 24 22.6**	**-1.7**	
	baz=263							
Q45A	**Warren Harvey,**	**111.05**	**55**	Pdiff	**Pdif**	**07 24 22.6**	**-1.7**	
	baz=262							
OLIL	**Olney**	**111.07**	**55**	PFAKE		07 28 40.0		
OLIL				LR	LR			
	comp=Z,23µm,22.0s							
LRAL	**Lakeview Retre**	**111.07**	**61**	Pdiff	**Pdif**	**07 24 22.2**	**-2.4**	
	baz=260							
LRAL	**Lakeview Retre**	**111.07**	**61**	PFAKE		07 28 40.0		
LRAL				LR	LR			
	comp=Z,27µm,21.0s							
Y48A	**Jasper**	**111.08**	**60**	Pdiff	**Pdif**	**07 24 21.7**	**-2.9**	
	baz=261							
G41A	**Antigo**	**111.08**	**48**	Pdiff	**Pdif**	**07 24 22.1**	**-2.2**	
	baz=264							
V47A	**Nunnelly**	**111.10**	**58**	Pdiff	**Pdif**	**07 24 25.3**	**+0.7**	
	baz=261							
I42A	**Draeger Farm,**	**111.12**	**49**	Pdiff	**Pdif**	**07 24 24.7**	**+0.1**	
	baz=264							
149A	**Jones**	**111.17**	**62**	Pdiff	**Pdif**	**07 24 25.5**	**+0.5**	
	baz=260							
F41A	**Three Lakes**	**111.19**	**47**	Pdiff	**Pdif**	**07 24 23.4**	**-1.5**	
	baz=264							
COWI	**Conover**	**111.21**	**47**	PFAKE		07 28 40.0		
COWI				LR	LR			
	comp=Z,31µm,20.0s							
S46A	**Don Dixon Farm**	**111.22**	**56**	Pdiff	**Pdif**	**07 24 24.2**	**-0.9**	
	baz=262							
X48A	**Hartselle**	**111.27**	**60**	Pdiff	**Pdif**	**07 24 27.0**	**+1.6**	
	baz=261							
USIN	**University of**	**111.30**	**56**	PFAKE		07 28 40.0		
USIN				LR	LR			
	comp=Z,36µm,18.0s							
N44A	**Piper City**	**111.32**	**53**	Pdiff	**Pdif**	**07 24 26.4**	**+0.9**	
	baz=263							
350A	**Dozier**	**111.35**	**63**	Pdiff	**Pdif**	**07 24 25.2**	**-0.7**	
	baz=260							
E41A	**Kenton**	**111.37**	**47**	Pdiff	**Pdif**	**07 24 26.5**	**+0.9**	
	baz=264							
U47A	**Clarksville**	**111.38**	**58**	Pdiff	**Pdif**	**07 24 26.5**	**+0.7**	
	baz=262							
C40A	**Isle Royale Na**	**111.38**	**45**	Pdiff	**Pdif**	**07 24 26.5**	**+0.9**	
	baz=265							
K43A	**Burlington**	**111.41**	**51**	Pdiff	**Pdif**	**07 24 26.3**	**+0.4**	
	baz=263							
J43A	**Natural Harves**	**111.42**	**50**	Pdiff	**Pdif**	**07 24 25.9**	**0.0**	
	baz=264							
P45A	**Graceland, Par**	**111.45**	**54**	Pdiff	**Pdif**	**07 24 25.3**	**-0.8**	
	baz=262							
R46A	**Gibson Southern**	**111.45**	**56**	Pdiff	**Pdif**	**07 24 24.7**	**-1.5**	
	baz=262							
M44A	**Midewin, Midew**	**111.46**	**52**	Pdiff	**Pdif**	**07 24 26.6**	**+0.5**	
	baz=263							
W48A	**Pulaski**	**111.46**	**59**	Pdiff	**Pdif**	**07 24 24.0**	**-2.2**	
	baz=261							
Z49A	**Columbiana**	**111.48**	**61**	Pdiff	**Pdif**	**07 24 25.4**	**-1.0**	
	baz=261							
250A	**Grady**	**111.50**	**62**	Pdiff	**Pdif**	**07 24 26.1**	**-0.4**	
	baz=260							
O45A	**Potomac**	**111.56**	**53**	Pdiff	**Pdif**	**07 24 24.9**	**-1.7**	
	baz=263							
T47A	**Sharon Grove**	**111.60**	**57**	Pdiff	**Pdif**	**07 24 27.2**	**+0.3**	
	baz=262							
G42A	**Mountain**	**111.62**	**48**	Pdiff	**Pdif**	**07 24 28.3**

Y50A	**Piedmont**	**112.25**	**60**	PKiKP	**PKiKP**	**07 28 26.5**	**+0.5**	
	baz=261							
BLO	**Bloomington**	**112.35**	**55**	PFAKE		07 28 40.0		
BLO				LR	LR			
	comp=Z,26μm,20.0s							
151A	**Opelika**	**112.38**	**62**	PKiKP	**PKiKP**	**07 28 25.4**	**-0.8**	
	baz=261							
N46A	**Monticello**	**112.39**	**53**	PKiKP	**PKiKP**	**07 28 25.5**	**-0.5**	
	baz=264							
WCI	**Wyandotte Cave**	**112.41**	**56**	PKiKP	**PKiKP**	**07 28 26.4**	**+0.3**	
	baz=263							
WCI	**Wyandotte Cave**	**112.41**	**56**	PFAKE		07 28 40.0		
WCI				LR	LR			
	comp=Z,26μm,18.0s							
X50A	**Fort Payne**	**112.41**	**60**	PKiKP	**PKiKP**	**07 28 26.7**	**+0.4**	
	baz=262							
P47A	**Martinsville**	**112.58**	**54**	PKiKP	**PKiKP**	**07 28 26.2**	**-0.2**	
	baz=263							
E43A	**Lone Tree Farm**	**112.72**	**47**	PKiKP	**PKiKP**	**07 28 26.7**	**+0.3**	
	baz=266							
M46A	**Old House Fiel**	**112.73**	**52**	PKiKP	**PKiKP**	**07 28 25.3**	**-1.3**	
	baz=264							
O47A	**Sheridan**	**112.74**	**54**	PKiKP	**PKiKP**	**07 28 27.0**	**+0.4**	
	baz=264							
553A	**Crawfordville**	**112.75**	**65**	PKiKP	**PKiKP**	**07 28 27.6**	**+0.6**	
	baz=260							
R48A	**Northridge Ran**	**112.76**	**56**	PKiKP	**PKiKP**	**07 28 25.3**	**-1.4**	
	baz=263							
453A	**Whigham**	**112.96**	**64**	PKiKP	**PKiKP**	**07 28 28.1**	**+0.8**	
	baz=261							
LPAZ	**La Paz**	**113.03**	**118**	PKiKP	**PKiKP**	**07 28 28.2**	**-0.5**	
	comp=Z,3.9nm,1.1s,baz=209,slow=4.3,SNR=4.9							
LPAZ				PP	**PP**	**07 29 15.9**	**-1.6**	
	comp=Z,20nm,1.2s,baz=295,slow=4.5,SNR=6.2							
LPAZ				PKKPbc	**PKKPbc**	**07 39 13.5**	**-1.3**	
	comp=Z,1.3nm,0.7s,baz=37,slow=5.1,SNR=2.7							
F44A	**Big Bay de Noc**	**113.08**	**47**	PKiKP	**PKiKP**	**07 28 26.2**	**-0.9**	
	baz=266							
554A	**Perry**	**113.38**	**65**	PKiKP	**PKiKP**	**07 28 26.8**	**-1.4**	
	baz=261							
E44A	**Grand Marais A**	**113.47**	**47**	PKiKP	**PKiKP**	**07 28 28.4**	**+0.6**	
	baz=267							
454A	**Quitman**	**113.52**	**64**	PKiKP	**PKiKP**	**07 28 28.8**	**+0.4**	
	baz=261							
655A	**Horseshoe Beac**	**113.65**	**66**	PKiKP	**PKiKP**	**07 28 29.3**	**+0.6**	
	baz=261							
TIGA	**Tifton**	**113.67**	**63**	PKiKP	**PKiKP**	**07 28 28.4**	**-0.3**	
	baz=261							
TIGA	**Tifton**	**113.67**	**63**	PFAKE		07 28 40.0		
TIGA				LR	LR			
	comp=Z,16μm,20.0s							
F45A	**CMU Biological**	**113.70**	**48**	PKiKP	**PKiKP**	**07 28 29.4**	**+1.1**	
	baz=266							
FLOC	**Florencia**	**113.71**	**97**	*e*P	**PKKPbc**	**07 39 08.6**	**-3.0**	
FLOC				*e*P	**PKKPbc**	**07 39 11.3**	**-0.3**	
FLOC				*e*P	**PKKPbc**	**07 39 14.0**	**+2.4**	
E45A	**Wooded Hills,**	**113.97**	**47**	PKiKP	**PKiKP**	**07 28 27.9**	**-0.9**	
	baz=267							
555A	**McAlpin**	**114.00**	**65**	PKiKP	**PKiKP**	**07 28 29.5**	**+0.1**	
	baz=261							
455A	**Stateville**	**114.04**	**64**	PKiKP	PKPdf	07 28 28.7	-0.7	
	baz=261							
GOGA	**Godfrey**	**114.05**	**61**	PKiKP	PKPdf	07 28 29.3	0.0	
	baz=262							
GOGA	**Godfrey**	**114.05**	**61**	PFAKE		07 28 40.0	+11	
GOGA				LR	LR			
	comp=Z,30μm,20.0s							
TKL	**Tuckaleechee C**	**114.09**	**59**	PKP	PKPdf	07 28 28.9	-0.5	
	comp=Z,8.7nm,0.9s,baz=192,slow=8.7,SNR=6.3							
TKL	**Tuckaleechee C**	**114.09**	**59**	PKP	PKPdf	07 28 28.9	-0.5	
TKL				LR	LR			
	comp=Z,28μm,20.0s							
F46A	**Macinaw City C**	**114.23**	**48**	PKiKP	**PKiKP**	**07 28 29.6**	**+0.3**	
	baz=267							
656A	**Willston**	**114.25**	**66**	PKiKP	**PKiKP**	**07 28 31.5**	**+1.7**	
	baz=261							
GLMI	**Grayling**	**114.28**	**49**	PKiKP	PKPdf	07 28 29.4	-0.1	
	baz=267							
GLMI	**Grayling**	**114.28**	**49**	PFAKE		07 28 40.0	+11	
GLMI				LR	LR			
	comp=Z,27μm,18.0s							
857A	**Zephyrhills**	**114.33**	**67**	PKiKP	**PKiKP**	**07 28 30.6**	**+0.6**	
	baz=261							
TZTN	**Tazewell**	**114.38**	**58**	PKiKP	**PKiKP**	**07 28 30.5**	**+0.6**	
	baz=264							
TZTN	**Tazewell**	**114.38**	**58**	PFAKE		07 28 40.0	+10	
TZTN				LR	LR			
	comp=Z,17μm,20.0s							
556A	**Lake Butler**	**114.46**	**65**	PKiKP	**PKiKP**	**07 28 32.6**	**+2.4**	
	baz=261							
757A	**Oxford**	**114.58**	**66**	PKiKP	**PKiKP**	**07 28 31.4**	**+0.9**	
	baz=261							
BG3	**Lake Jocassee**	**114.69**	**60**	PFAKE		07 28 40.0	+9.4	
BG3				LR	LR			
	comp=Z,36μm,20.0s							
AAM	**Ann Arbor**	**114.81**	**52**	PKiKP	**PKiKP**	**07 28 31.8**	**+1.2**	
	baz=266							
AAM	**Ann Arbor**	**114.81**	**52**	PFAKE		07 28 40.0	+9.4	
AAM				LR	LR			
	comp=Z,26μm,20.0s							
657A	**Interlachen**	**114.86**	**66**	PKiKP	**PKiKP**	**07 28 32.1**	**+1.1**	
	baz=261							
456A	**Hilliard**	**114.89**	**64**	PKiKP	PKPdf	07 28 29.7	-1.3	
	baz=262							
DWPF	**Disney Wildern**	**115.00**	**67**	PKiKP	**PKiKP**	**07 28 32.2**	**+0.8**	
	baz=261							
DWPF	**Disney Wildern**	**115.00**	**67**	PFAKE		07 28 40.0	+8.7	
DWPF				LR	LR			
	comp=Z,17μm,20.0s							
557A	**Orange Park**	**115.04**	**65**	PKiKP	**PKPdf**	**07 28 29.7**	**-1.6**	
	baz=262							
858A	**St. Cloud**	**115.08**	**67**	PKiKP	**PKPdf**	**07 28 31.1**	**-0.4**	
	baz=261							
PRAC	**Prado**	**115.15**	**95**	PFAKE		07 28 40.0	+7.9	
PRAC				LR	LR			
	comp=Z,9μm,20.0s							
HODGE	**Hodges**	**115.16**	**61**	PFAKE		07 28 40.0	+8.5	
HODGE				LR	LR			
	comp=Z,27μm,19.0s							
ACSO	**Alum Creek Sta**	**115.17**	**54**	PKiKP	**PKPdf**	**07 28 30.2**	**-1.1**	
	baz=266							
ACSO	**Alum Creek Sta**	**115.17**	**54**	*e*PKPdf	**PKPdf**	**07 28 29.9**	**-1.5**	
ACSO				LR	LR			
	comp=Z,19μm,20.0s							
457A	**Yulee**	**115.28**	**65**	PKiKP	**PKPdf**	**07 28 31.1**	**-0.7**	
	baz=262							
758A	**Lake Helen**	**115.34**	**66**	PKiKP	**PKiKP**	**07 28 32.1**	**+0.1**	
	baz=261							
HELC	**Santa Helena**	**115.34**	**92**	*e*PKPdf	**PKPdf**	**07 28 32.5**	**-0.4**	
HELC				LR	LR			
	comp=Z,12μm,18.0s							
HELC	**Santa Helena**	**115.34**	**92**	*e*P	PKKPdf	07 39 19.4	-12	
658A	**Bunnell**	**115.36**	**66**	PKiKP	**PKPdf**	**07 28 31.8**	**-0.1**	
	baz=262							
859A	**Kempfer Cattle**	**115.46**	**67**	PKiKP	**PKiKP**	**07 28 32.3**	**+0.1**	
	baz=261							
CPUP	**Villa Florida**	**115.66**	**133**	PKP	**PKPdf**	**07 28 33.0**	**+0.2**	
	comp=Z,3.1nm,1.0s,baz=233,slow=3.0,SNR=4.9							
CPUP				PP	**PP**	**07 29 31.7**	**-3.1**	
	comp=Z,5.1nm,1.1s,baz=254,slow=6.7,SNR=5.0							
CPUP				PKKPbc	**PKKPbc**	**07 39 04.2**	**-1.1**	
	comp=Z,3.0nm,1.1s,baz=37,slow=11,SNR=3.6							
CPUP	**Villa Florida**	**115.66**	**133**	*e*PKPdf	**PKPdf**	**07 28 32.0**	**-0.8**	
CPUP				PP	**PP**	**07 29 31.7**	**-3.1**	
CPUP				PKKPbc	**PKKPbc**	**07 39 04.2**	**-1.1**	
CPUP	**Villa Florida**	**115.66**	**133**	*e*PKiKP	**PKPdf**	**07 28 32.0**	**-0.8**	
TULEG	**Thule**	**115.70**	**13**	*e*PKPdf	**PKPdf**	**07 28 30.3**	**-1.0**	
TULEG				LR	LR			
	comp=Z,15μm,21.0s							
JSC	**Jenkinsville**	**115.98**	**61**	PFAKE		07 28 50.0	+17	
JSC				LR	LR			
	comp=Z,30μm,21.0s							
KMSC	**Kings Mountain**	**116.02**	**60**	PKiKP	**PKiKP**	**07 28 33.4**	**+0.3**	
	baz=264							
KMSC	**Kings Mountain**	**116.02**	**60**	*e*PKPdf	**PKPdf**	**07 28 32.7**	**-0.4**	
KMSC				LR	LR			
	comp=Z,38μm,20.0s							
ROSC	**El Rosal**	**116.05**	**94**	PKP	**PKPdf**	**07 28 34.9**	**+0.6**	
	comp=Z,1.6nm,0.3s,baz=210,slow=20,SNR=3.0							
ROSC	**El Rosal**	**116.05**	**94**	PKP	**PKPdf**	**07 28 34.9**	**+0.6**	
ROSC				LR	LR			
	comp=Z,7μm,22.0s							
WSAR	**Wadi Sarin**	**116.20**	**287**	PKP	**PKPdf**	**07 28 34.3**	**+0.4**	
	comp=Z,14nm,1.2s,baz=27,slow=2.3,SNR=5.2							
WSAR				PKKPbc	**PKKPbc**	**07 39 03.2**	**-0.1**	
	comp=Z,8.0nm,1.1s,baz=293,slow=5.6,SNR=4.0							
SVE	**Sverdlovsk**	**116.33**	**325**	*i* PKiKP	**PKPdf**	**07 28 32.9**	**-0.1**	
SVE				*e*		07 39 25.8		
SVE				*e*		07 45 45.8		
SVE				pmax	pmax			
	comp=Z,34nm,1.8s							
CHIC	**Chingaza**	**116.54**	**94**	*e*P	**PKKPdf**	**07 39 32.8**	**+4.0**	
MTDJ	**Mount Denham**	**116.65**	**79**	PFAKE		07 28 50.0	+15	
MTDJ				LR	LR			
	comp=Z,18μm,22.0s							
NHSC	**New Hope**	**116.75**	**62**	PKiKP	**PKPdf**	**07 28 33.6**	**-1.0**	
	baz=264							
NHSC	**New Hope**	**116.75**	**62**	PFAKE		07 28 50.0	+15	
NHSC				LR	LR			
	comp=Z,26μm,22.0s							
BLA	**Blacksburg**	**116.94**	**57**	PKiKP	**PKiKP**	**07 28 35.4**	**+0.5**	
	baz=266							
BLA	**Blacksburg**	**116.94**	**57**	*e*PKPdf	**PKPdf**	**07 28 35.0**	**+0.1**	
BLA				LR	LR			
	comp=Z,21μm,20.0s							
BLA	**Blacksburg**	**116.94**	**57**	*e*PKiKP	**PKPdf**	**07 28 35.0**	**+0.1**	
BLA				MLR	MLR			
	comp=Z,21μm,20.0s							
ABKAR	**Akbulak array**	**117.20**	**316**	*e*PKPdf	**PKPdf**	**07 28 34.6**	**-0.3**	
ABKAR				LR	LR			
	comp=Z,3μm,22.0s							
BRRC	**Barranca, Sant**	**117.34**	**92**	*e*P	**PKKPdf**	**07 39 31.0**	**+4.2**	
ALLY	**Alegheny Colle**	**117.39**	**52**	PFAKE		07 28 50.0	+14	
ALLY				LR	LR			
	comp=Z,24μm,21.0s							
N54A	**Moraine State**	**117.49**	**53**	PKiKP	**PKiKP**	**07 28 36.5**	**+0.6**	
	baz=268							
N54A	**Moraine State**	**117.49**	**53**	*e*PKPdf	**PKPdf**	**07 28 35.1**	**-0.7**	
N54A				LR	LR			
	comp=Z,31μm,21.0s							
ARU	**Arti**	**117.51**	**324**	PKP	**PKPdf**	**07 28 34.2**	**-1.1**	
	comp=Z,5.8nm,0.5s,baz=93,slow=3.4,SNR=12							
ARU				PKKPbc	**PKKPab**	**07 39 00.2**	**-0.1**	
	comp=Z,1.1nm,0.3s,baz=291,slow=8.6,SNR=2.0							
ARU	**Arti**	**117.51**	**324**	*e*PKPdf	**PKPdf**	**07 28 34.6**	**-0.7**	
ARU				PKKPbc	**PKKPab**	**07 39 00.2**	**-0.1**	
ARU				LR	LR			
	comp=Z,10μm,21.0s							
ARU	**Arti**	**117.51**	**324**	*i* PKiKP	**PKPdf**	**07 28 35.3**	**0.0**	
ARU						07 29 48.3		
ARU				PPP	PPP	07 32 18.7		
ARU						07 35 44.7		
ARU				SP	SP	07 39 25.5	-2.1	
ARU				PS	**PS**	**07 39 35.8**	**+3.2**	
ARU				SS	**SS**	**07 45 55.1**	**-1.4**	
ARU				MLR	MLR			
	comp=Z,11μm,25.0s							
ERPA	**Erie**	**117.53**	**52**	PKiKP	**PKiKP**	**07 28 37.1**	**+1.3**	
	baz=269							
ERPA	**Erie**	**117.53**	**52**	PFAKE		07 28 50.0	+14	
ERPA				LR	LR			
	comp=Z,29μm,21.0s							
MCWV	**Mont Chateau**	**117.54**	**55**	PKiKP	**PKiKP**	**07 28 37.5**	**+1.5**	
	baz=267							
MCWV	**Mont Chateau**	**117.54**	**55**	PFAKE		07 28 50.0	+14	
MCWV				LR	LR			
	comp=Z,28μm,18.0s							
RUSC	**La Rusia**	**117.55**	**93**	*e*PKPdf	**PKPdf**	**07 28 37.1**	**-0.2**	
RUSC				LR	LR			
	comp=Z,2μm,20.0s							
M54A	**Oil Creek Stat**	**117.75**	**53**	PKiKP	**PKiKP**	**07 28 37.3**	**+0.9**	
	baz=268							
M54A	**Oil Creek Stat**	**117.75**	**53**	*e*PKPdf	**PKPdf**	**07 28 36.2**	**-0.1**	
M54A				LR	LR			
	comp=Z,27μm,22.0s							
SADO	**Sadowa**	**118.17**	**49**	*e*PKPdf	**PKPdf**	**07 28 36.9**	**0.0**	
SADO				LR	LR			
	comp=Z,36μm,22.0s							
SOHO	**SOHO**	**118.25**	**288**	*i* PKPdf	**PKPdf**	**07 28 36.4**	**-1.3**	
	SNR=40							
SOHO	**SOHO**	**118.25**	**288**	*i* P	**PKPdf**	**07 28 36.4**	**-1.3**	
	SNR=40							
AKTO	**Aktyubinsk**	**118.38**	**318**	PKP	**PKPdf**	**07 28 35.9**	**-1.3**	
	comp=Z,5.2nm,0.8s,baz=92,slow=3.7,SNR=12							
AKTO				PKKPbc	**PKKPbc**	**07 38 52.9**	**-3.3**	
	comp=Z,3.4nm,1.1s,baz=157,slow=4.0,SNR=3.7							
GEYT	**Alibeck**	**118.41**	**303**	PKP	**PKPdf**	**07 28 37.8**	**0.0**	
	comp=Z,16nm,1.0s,baz=288,slow=1.4,SNR=15							
GEYT				PKKPbc	**PKKPab**	**07 38 56.7**	**-0.4**	
	comp=Z,1.9nm,0.3s,baz=261,slow=9.6,SNR=5.4							
O56A	**Blue Knob Stat**	**118.55**	**54**	PKiKP	**PKiKP**	**07 28 38.2**	**+0.2**	
	baz=268							
O56A	**Blue Knob Stat**	**118.55**	**54**	PFAKE		07 28 50.0	+12	
O56A				LR	LR			
	comp=Z,24μm,20.0s							
UOSS	**Minazif**	**118.68**	**288**	*e*PKPdf	**PKPdf**	**07 28 36.9**	**-1.7**	
UOSS				LR	LR			
	comp=Z,9μm,22.0s							
UOSS	**Minazif**	**118.68**	**288**	*i* PKPdf	**PKPdf**	**07 28 37.1**	**-1.4**	
	SNR=6.4							
UOSS	**Minazif**	**118.68**	**288**	*i* P	**PKPdf**	**07 28 37.1**	**-1.4**	
	SNR=6.4							
HATD	**Hatta, Dubai**	**118.73**	**288**	*i* PKPdf	**PKPdf**	**07 28 37.6**	**-1.1**	
	SNR=12							
HATD	**Hatta, Dubai**	**118.73**	**288**	*i* P	**PKPdf**	**07 28 37.6**	**-1.1**	
	SNR=12							
ASHO	**Ashiyiah**	**118.77**	**288**	P	**PKPdf**	**07 28 37.8**	**-1.0**	
	SNR=10							
ASHO	**Ashiyiah**	**118.77**	**288**	*i* PKPdf	**PKPdf**	**07 28 37.7**	**-1.1**	
	SNR=9.8							
ASHO	**Ashiyiah**	**118.77**	**288**	*i* P	**PKPdf**	**07 28 37.7**	**-1.1**	
	SNR=9.8							
CNNC	**Cliffs of the**	**118.83**	**60**	PKiKP	**PKPdf**	**07 28 36.9**	**-1.6**	
	baz=266							
CNNC	**Cliffs of the**	**118.83**	**60**	PFAKE		07 28 50.0	+11	
CNNC				LR	LR			
	comp=Z,39μm,20.0s							
IP07	**Quail**	**118.88**	**57**	PFAKE		07 28 50.0	+11	
IP07				LR	LR			
	comp=Z,20μm,21.0s							
IP03	**Louisa**	**118.89**	**57**	*e*PKPdf	**PKPdf**	**07 28 37.2**	**-1.3**	
IP03				LR	LR			
	comp=Z,18μm,21.0s							
ALNE	**Al Ain**	**118.95**	**287**	*i* PKPdf	**PKPdf**	**07 28 38.2**	**-0.9**	
	SNR=6.3							
ALNE	**Al Ain**	**118.95**	**287**	*i* P	**PKPdf**	**07 28 38.2**	**-0.9**	
	SNR=6.3							
IP01	**Cuckoo**	**118.97**	**57**	*e*PKPdf	**PKPdf**	**07 28 38.0**	**-0.7**	
IP01				LR	LR			
	comp=Z,19μm,21.0s							
SPRD	**Spring Road, M**	**119.00**	**57**	*e*PKPdf	**PKPdf**	**07 28 37.0**	**-1.8**	
SSPA	**Standing Stone**	**119.07**	**54**	PKiKP	**PKiKP**	**07 28 40.1**	**+1.2**	
	baz=269							
SSPA	**Standing Stone**	**119.07**	**54**	*e*PKPdf	**PKPdf**	**07 28 37.8**	**-1.0**	
SSPA				LR	LR			
	comp=Z,24μm,18.0s							
MMNY	**Mt. Morris Dam**	**119.08**	**51**	PFAKE		07 28 50.0	+11	
MMNY				LR	LR			
	comp=Z,27μm,20.0s							
IP05	**Hopewell Churc**	**119.09**	**57**	*e*PKPdf	**PKPdf**	**07 28 38.0**	**-0.9**	
IP05				LR	LR			
	comp=Z,19μm,20.0s							
NAZ	**Nazwa, Dubai**	**119.17**	**288**	*i* PKPdf	**PKPdf**	**07 28 37.6**	**-1.9**	
	SNR=7.7							
NAZ	**Nazwa, Dubai**	**119.17**	**288**	*i* P	**PKPdf**	**07 28 37.6**	**-1.9**	
	SNR=7.7							
GTBY	**Guantanamo Bay**	**119.25**	**77**	PFAKE		07 28 50.0	+10	
GTBY				LR	LR			
	comp=Z,16μm,19.0s							
KBS	**Kingsbay**	**119.36**	**355**	PFAKE		07 28 50.0	+12	
KBS				LR	LR			
	comp=Z,7μm,20.0s							
CBN	**Corbin Frederi**	**119.41**	**56**	PKiKP	**PKPdf**	**07 28 38.3**	**-1.2**	
	baz=268							
CBN	**Corbin Frederi**	**119.41**	**56**	*e*PKPdf	**PKPdf**	**07 28 39.5**	**0.0**	
CBN				LR	LR			
	comp=Z,21μm,20.0s							
SPA0	**Spitsbergen Ar**	**119.63**	**354**	*e*PKPdf	**PKPdf**	**07 28 39.1**	**+0.2**	
SPITS	**Spitsbergen Ar**	**119.63**	**354**	PKP	**PKPdf**	**07 28 38.4**	**-0.5**	
	comp=Z,13nm,0.8s,baz=10,slow=5.2,SNR=4.9							
PLVO	**Plevna**	**119.63**	**49**	PFAKE		07 28 50.0	+10	
PLVO				LR	LR			
	comp=Z,52μm,21.0s							
SDMD	**Soldier's Deli**	**119.85**	**55**	*e*PKPdf	**PKPdf**	**07 28 40.5**	**+0.1**	
SDMD				LR	LR			
	comp=Z,17μm,21.0s							
PAGS	**Pennsylvania G**	**119.96**	**54**	PFAKE		07 28 50.0	+9.5	
PAGS				LR	LR			
	comp=Z,27μm,20.0s							
MVL	**Millersville**	**120.24**	**54**	*e*PKPdf	**PKPdf**	**07 28 41.5**	**+0.4**	
MVL				LR	LR			
	comp=Z,24μm,19.0s							
BINY	**Binghamton**	**120.50**	**52**	PKiKP	**PKPdf**	**07 28 41.0**	**-0.6**	
	baz=271							
BINY	**Binghamton**	**120.50**	**52**	*e*PKPdf	**PKPdf**	**07 28 41.0**	**-0.6**	
BINY				LR	LR			
	comp=Z,33μm,22.0s							
N59A	**State Game Lan**	**120.68**	**53**	PKiKP	**PKPdf**	**07 28 40.7**	**-1.2**	
	baz=271							
N59A	**State Game Lan**	**120.68**	**53**	*e*PKPdf	**PKPdf**	**07 28 42.3**	**+0.3**	
N59A				LR	LR			
	comp=Z,29μm,22.0s							
SUR	**Sutherland**	**120.69**	**211**	PFAKE		07 28 50.0	+7.4	
SUR				LR	LR			
	comp=Z,21μm,22.0s							
SDV	**Santo Domingo**	**120.78**	**91**	PKP	**PKPdf**	**07 28 41.9**	**-1.2**	
	comp=Z,21nm,1.1s,baz=280,slow=17,SNR=9.5							
SDV	**Santo Domingo**	**120.78**	**91**	*e*PKPdf	**PKPdf**	**07 28 42.6**	**-0.5**	
SDV				LR	LR			
	comp=Z,11μm,22.0s							
SAML	**Samuel**	**120.81**	**113**	*e*PKPdf	**PKPdf**	**07 28 42.5**	**-0.5**	
SAML				LR	LR			
	comp=Z,4μm,21.0s							
PSUB	**Penn St. - Bra**	**120.93**	**54**	*e*PKPdf	**PKPdf**	**07 28 41.7**	**-0.7**	
PSUB				LR	LR			
	comp=Z,28μm,19.0s							
LUPA	**Lehigh Univers**	**120.99**	**54**	PFAKE		07 28 50.0	+7.5	
LUPA				LR	LR			
	comp=Z,3μm,21.0s							
BOSA	**Boshof**	**121.36**	**217**	PKP	**PKPdf**	**07 28 43.9**	**+0.1**	
	comp=Z,6.6nm,0.9s,baz=173,slow=2.4,SNR=6.3							
ODNJ	**Ogdensburg**	**121.56**	**53**	*e*PKPdf	**PKPdf**	**07 28 43.2**	**-0.3**	
ODNJ				LR	LR			
	comp=Z,23μm,18.0s							
BRNJ	**Basking Ridge**	**121.60**	**54**	*e*PKPdf	**PKPdf**	**07 28 44.2**	**+0.6**	
BRNJ				LR	LR			
	comp=Z,31μm,21.0s							
NCB	**Newcomb**	**121.72**	**50**	*e*PKPdf	**PKPdf**	**07 28 43.1**	**-0.8**	
NCB				LR	LR			
	comp=Z,28μm,19.0s							
CPNY	**Central Park**	**122.06**	**53**	PFAKE		07 29 00.0	+15	
CPNY				LR	LR			
	comp=Z,33μm,21.0s							
PAL	**Palisades**	**122.09**	**53**	PKiKP	**PKPdf**	**07 28 43.1**	**-1.5**	
	baz=272							
PAL	**Palisades**	**122.09**	**53**	PFAKE		07 29 00.0	+15	
PAL				LR	LR			
	comp=Z,33μm,22.0s							
FRNY	**Flat Rock**	**122.12**	**49**	PFAKE		07 29 00.0	+15	
FRNY				LR	LR			
	comp=Z,67μm,21.0s							
ACCN	**Adirondack Com**	**122.16**	**50**	PFAKE		07 29 00.0	+15	
ACCN				LR	LR			
	comp=Z,33μm,20.0s							
TRY	**Troy**	**122.20**	**51**	*e*PKPdf	**PKPdf**	**07 28 44.6**	**-0.1**	
SDDR	**Presa de Saban**	**122.60**	**79**	*e*PKPdf	**PKPdf**	**07 28 46.2**	**-0.1**	
SDDR				LR	LR			
	comp=Z,49μm,20.0s							
VT1	**Waterbury**	**122.75**	**49**	*e*PKPdf	**PKPdf**	**07 28 46.1**	**+0.3**	
YLE	**Yale**	**122.81**	**53**	PFAKE		07 29 00.0	+14	
YLE				LR	LR			
	comp=Z,31μm,22.0s							
HNH	**Hanover**	**123.14**	**50**	*e*PKPdf	**PKPdf**	**07 28 47.6**	**+1.1**	
GRTK	**Grand Turk**	**123.19**	**76**	PFAKE		07 29 00.0	+13	
GRTK				LR	LR			
	comp=Z,15μm,18.0s							
LBNH	**Lisbon**	**123.35**	**49**	PKiKP	**PKPdf**	**07 28 45.5**	**-1.5**	
	baz=276							
LBNH	**Lisbon**	**123.35**	**49**	PFAKE		07 29 00.0	+13	
LBNH				LR	LR			
	comp=Z,52μm,22.0s							
HRV	**Adam Dziewonsk**	**123.77**	**51**	PKiKP	**PKPdf**	**07 28 47.5**	**-0.3**	
	baz=275							
HRV	**Adam Dziewonsk**	**123.77**	**51**	PFAKE		07 29 00.0	+12	
HRV				LR	LR			
	comp=Z,34μm,20.0s							
SDD	**Santo Domingo**	**123.78**	**80**	PFAKE		07 29 00.0	+12	
SDD				LR	LR			
	comp=Z,30μm,21.0s							
LVZ	**Lovozero**	**123.80**	**341**	*e*PKPdf	**PKPdf**	**07 28 48.2**	**+1.1**	
LVZ				LR	LR			
	comp=Z,9μm,20.0s							
LVZ	**Lovozero**	**123.80**	**341**	*e*PKiKP	**PKPdf**	**07 28 48.2**	**+1.1**	
LBTB	**Lobatse**	**123.87**	**220**	*e*PKPdf	**PKPdf**	**07 28 48.9**	**+0.1**	
LBTB	**Lobatse**	**123.87**	**220**	*e*PKiKP	**PKPdf**	**07 28 48.9**	**+0.1**	
BCX	**Boston College**	**124.06**	**51**	*e*PKPdf	**PKPdf**	**07 28 47.7**	**-0.7**	
SPB	**Sao Paulo**	**124.08**	**138**	*e*PKPdf	**PKPdf**	**07 28 49.5**	**+0.5**	
SPB				LR	LR			
	comp=Z,10μm,20.0s							
ILULI	**Ilulissat**	**124.12**	**16**	*i* P	**PKPdf**	**07 28 46.9**	**-0.7**	
	comp=Z,25nm,0.9s							
ILULI	**Ilulissat**	**124.12**	**16**	*e*PKPdf	**PKPdf**	**07 28 46.8**	**-0.8**	
ILULI				LR	LR			
	comp=Z,25μm,22.0s							
ILULI	**Ilulissat**	**124.12**	**16**	*e*PKiKP	**PKPdf**	**07 28 46.8**	**-0.8**	
ILULI				MLR	MLR			
	comp=Z,25μm,22.0s							
SUMG	**Summit**	**124.26**	**10**	*i* P	**PKPdf**	**07 28 48.8**

AGP Aguadilla 126.36 81 PFAKE 07 29 10.0 +17
AGP LR LR
comp=Z,32µm,22.0s
SJG San Juan 127.23 82 PFAKE 07 29 10.0 +15
SJG LR LR
comp=Z,18µm,22.0s
PTGA Pitinga 127.36 106 *e*PKPdf **PKPdf 07 28 55.2 -0.3**
PTGA LR LR
comp=Z,12µm,22.0s
HUMP Col San Antoni 127.51 82 *e*PKPdf **PKPdf 07 28 55.4 -0.2**
HUMP LR LR
comp=Z,20µm,22.0s
GROC Groznyy 127.53 310 *i* PKIKP **PKPdf 07 28 54.3 -0.7**
GROC *e* 07 30 52.4
GROC *e* 07 35 58.6
GROC *e* 07 36 06.3
GROC *e*PS **PS 07 40 53.5 -8.7**
GROC pmax pmax
comp=Z,91nm,1.1s
CBYP Canovanas 127.53 81 PFAKE 07 29 10.0 +14
CBYP LR LR
comp=Z,18µm,22.0s
DAMY Dhamar 127.68 274 *e*PKPdf **PKPdf 07 28 58.1 +1.7**
DAMY LR LR
comp=Z,37µm,22.0s
MTP Monte Pirata 127.78 82 *e*PKPdf **PKPdf 07 28 56.4 +0.2**
MTP LR LR
comp=Z,16µm,19.0s
RAYN Ar Rayn 128.17 285 *e*PKPdf **PKPdf 07 28 57.0 +0.2**
RAYN LR LR
comp=Z,19µm,20.0s
SCO Scoresbysund 128.26 5 *i* P **PKPdf 07 28 55.7 +0.2**
comp=Z,27nm,1.2s
SCO Scoresbysund 128.26 5 *e*PKPdf **PKPdf 07 28 55.6 +0.1**
SCO LR LR
comp=Z,16µm,20.0s
SCO Scoresbysund 128.26 5 *e*PKIKP **PKPdf 07 28 55.6 +0.1**
SCO MLR MLR
comp=Z,16µm,20.0s
VRH Novokhopyorsk 128.36 321 *e*PKIKP **PKPdf 07 28 55.2 -1.1**
VRH pmax pmax
comp=Z,30nm,1.0s
VRH MLR MLR
comp=Z,8µm,26.0s
ATD Arta Tunnel 128.40 270 PKP **PKPdf 07 28 59.4 +1.9**
comp=Z,5.7nm,0.5s,baz=87,slow=5.0,SNR=4.9
ATD Arta Tunnel 128.40 270 PKP **PKPdf 07 28 59.4 +1.9**
ATD LR LR
comp=Z,35µm,20.0s
TBLG Delisi 128.52 308 *e*P **PKPdf 07 28 57.1 +0.2**
TBLG Delisi 128.52 308 *e*PKPdf **PKPdf 07 28 57.1 +0.2**
TBLG Delisi 128.52 308 *e*PKIKP **PKPdf 07 28 57.2 +0.2**
GNI Garni 128.74 306 PKP **PKPdf 07 28 58.3 +0.8**
comp=Z,13nm,0.7s,baz=174,slow=3.4,SNR=8.7
GNI Garni 128.74 306 *e*PKPdf **PKPdf 07 28 58.4 +0.8**
GNI LR LR
comp=Z,7µm,22.0s
GNI Garni 128.74 306*d* *i*PKIKP **PKPdf 07 28 58.7 +1.1**
GNI pmax pmax
comp=Z,152nm,1.2s
GNI Garni 128.74 306 P **PKPdf 07 28 57.3 -0.3**
SNR=12
GNI Garni 128.74 306 *i* PKPdf **PKPdf 07 28 57.7 +0.1**
SNR=6.4
GNI Garni 128.74 306 *i* P **PKPdf 07 28 57.7 +0.1**
SNR=6.4
MOS Moscow 128.93 327 *i* PKIKP **PKPdf 07 28 58.2 +1.0**
MOS *e* 07 31 13.8
MOS *e*PPP PPP 07 33 57.5
MOS pmax pmax
comp=Z,59nm,0.9s
LSZ Lusaka 128.95 230 PKP **PKPdf 07 28 58.9 +0.2**
comp=Z,4.1nm,0.6s,baz=132,slow=1.4,SNR=14
LSZ Lusaka 128.95 230 *e*PKPdf **PKPdf 07 28 59.1 +0.4**
LSZ LR LR
comp=Z,34µm,21.0s
LSZ Lusaka 128.95 230 *e*PKIKP **PKPdf 07 28 59.1 +0.4**
LSZ MLR MLR
comp=Z,34µm,21.0s
LSZ Lusaka 128.95 230 P **PKPdf 07 28 58.5 -0.2**
SNR=19
ABVI Anegada Island 129.03 81 PFAKE 07 29 10.0 +11
ABVI LR LR
comp=Z,14µm,21.0s
NCK Nalchik 129.06 311⇑ *i*PKIKP **PKPdf 07 28 58.0 +0.1**
NCK *i* 07 28 59.6
GOF Gofitskoye 129.14 313⇑⇑ *e*PKIKP **PKPdf 07 28 57.8 -0.2**
GOF pmax pmax
comp=Z,60nm,1.3s
KMBO Kilima Mbogo 129.19 252 PKP **PKPdf 07 28 59.6 +0.2**
comp=Z,12nm,1.1s,baz=94,slow=2.5,SNR=17
KMBO PP **PP 07 31 09.3 +1.6**
comp=Z,2.2nm,0.8s,baz=105,slow=5.4,SNR=3.5
KMBO Kilima Mbogo 129.19 252 *e*PKPdf **PKPdf 07 29 00.1 +0.8**
KMBO PP **PP 07 31 09.3 +1.6**
KMBO LR LR
comp=Z,36µm,21.0s
KMBO Kilima Mbogo 129.19 252*c* *i*PKIKP **PKPdf 07 29 00.2 +0.8**
KMBO pmax pmax
comp=Z,12nm,1.1s
KMBO Kilima Mbogo 129.19 252 P **PKPdf 07 28 59.7 +0.4**
SNR=29
KMBO Kilima Mbogo 129.19 252 *i* PKPdf **PKPdf 07 28 59.6 +0.2**
SNR=13
KMBO Kilima Mbogo 129.19 252 *i* P **PKPdf 07 28 59.6 +0.2**
SNR=13
CLDR Caldiran 129.49 305 *e*P **PKPdf 07 28 59.5 +0.3**
AKH Akhalkalaki 129.50 308 *e*P **PKPdf 07 28 59.3 +0.3**
AKH Akhalkalaki 129.50 308⇑ *i*P **PKPdf 07 29 00.5 +1.5**
AKH Akhalkalaki 129.50 308 *e*PKPdf **PKPdf 07 28 59.8 +0.8**
AKH LR LR
comp=Z,8µm,21.0s
AKH Akhalkalaki 129.50 308 *e*PKIKP **PKPdf 07 28 59.8 +0.8**
AKH MLR MLR
comp=Z,8µm,21.0s
LPSR Galich'ya Gora 129.50 323 *e*PKIKP **PKPdf 07 28 58.4 0.0**
LPSR pmax pmax
comp=Z,60nm,1.1s
KBZ Khabaz 129.51 311 PKP **PKPdf 07 28 58.5 -0.2**
comp=Z,5.8nm,1.1s,baz=74,slow=3.3,SNR=8.8
NAI Nairobi 129.52 252 PFAKE 07 29 10.0 +10
NAI LR LR
comp=Z,28µm,21.0s
KVAR Kislovodsk Arr 129.61 312 PKP **PKPdf 07 28 58.4 -0.6**
comp=Z,26nm,1.1s,baz=315,slow=4.0,SNR=14
KVAR PP **PP 07 31 10.9 +1.1**
comp=Z,14nm,1.1s,baz=53,slow=12,SNR=2.5
KIV Kislovodsk 129.62 312 *e*PKPdf **PKPdf 07 28 59.0 -0.1**
KIV LR LR
comp=Z,8µm,20.0s
KIV Kislovodsk 129.62 312 *i* PKIKP **PKPdf 07 28 58.5 -0.6**
KIV *e* 07 31 07.6
KIV *e*PS **PS 07 41 17.9 -2.7**
KIV *e*SS SS 07 48 28.8 -1.9
KIV *e*SSS SSS 07 53 15.6
KIV pmax pmax
comp=Z,35nm,1.1s
KIV Kislovodsk 129.62 312 P **PKPdf 07 28 58.4 -0.7**
SNR=23
KIV Kislovodsk 129.62 312 *i* PKPdf **PKPdf 07 28 58.6 -0.5**
SNR=22
KIV Kislovodsk 129.62 312 *i* P **PKPdf 07 28 58.6 -0.5**
SNR=22
NEY Neytrino 129.73 311⇑ *i*PKIKP **PKPdf 07 29 00.2 +0.8**
BBSR BB Station 129.74 64 PFAKE 07 29 10.0 +11
BBSR LR LR
comp=Z,10µm,21.0s
OBN Obninsk 129.75 327 PKP **PKPdf 07 28 58.3 -0.5**
comp=Z,15nm,0.4s,baz=52,slow=7.9,SNR=7.1
OBN Obninsk 129.75 327 *e*PKPdf **PKPdf 07 28 58.0 -0.7**
OBN LR LR
comp=Z,7µm,20.0s
OBN Obninsk 129.75 327*c* *i*PKIKP **PKPdf 07 28 58.7 -0.1**
OBN *i* 07 31 15.0
OBN pmax pmax
comp=Z,35nm,1.4s
SABA Saba 129.86 83 PFAKE 07 29 10.0 +10
SABA LR LR
comp=Z,17µm,22.0s
VSR Storozhevoye 129.87 322 *e*PKIKP **PKPdf 07 28 57.8 -1.4**
VSR pmax pmax
comp=Z,30nm,1.3s
VSR MLR MLR
comp=Z,11µm,24.0s
KARS Kars 129.93 307 *e*P **PKPdf 07 28 59.8 0.0**

VANB Van 129.97 305 *e*P **PKPdf 07 29 02.3 +2.4**
SEUS St. Eustatius 130.08 83 PFAKE 07 29 10.0 +9.5
SEUS LR LR
comp=Z,18µm,22.0s
SMRT St. Maarten 130.09 82 PFAKE 07 29 10.0 +9.4
SMRT LR LR
comp=Z,11µm,20.0s
AGRB Hanur-Agry 130.15 306 *e*P **PKPdf 07 28 59.8 -0.5**
GRGR Grenville 130.15 90 PFAKE 07 29 10.0 +9.2
GRGR LR LR
comp=Z,9µm,21.0s
SENK Senkaya-Erzuru 130.48 307 *e*P **PKPdf 07 29 01.9 +0.9**
FIA1 FINESS Array S 130.75 338 *e*PKPdf **PKPdf 07 28 60.0 -0.5**
FINES FINESS Array B 130.75 338 PKP **PKPdf 07 29 00.3 -0.2**
comp=Z,6.4nm,0.9s,baz=38,slow=9.6,SNR=8.3
FINES FINESS Array B 130.75 338 PKIKP **PKPdf 07 29 00.3 -0.2**
FINES pmax pmax
comp=Z,7.0nm,1.0s
SVB Belmont 130.81 89 PFAKE 07 29 10.0 +8.0
SVB LR LR
comp=Z,10µm,20.0s
SIRT Sirnak 130.84 303 *e*P **PKPdf 07 28 59.8 -1.8**
EKAR Karacoban 130.90 306 *i* P **PKPdf 07 29 03.1 +1.3**
GDHS Morne Mazeau, 130.99 85 *e*PKPdf **PKPdf 07 28 59.6 -2.8**
GDHS LR LR
comp=Z,13µm,21.0s
GURO Guroymak-BITLI 131.03 305 *e*P **PKPdf 07 29 01.2 -0.8**
SRTM Siirt_Merkez 131.19 304 *i* P **PKPdf 07 29 02.5 +0.2**
ANWB Willy Bob 131.23 83 PFAKE 07 29 10.0 +7.3
ANWB LR LR
comp=Z,9µm,21.0s
FDF Fort de France 131.25 87 *e*PKPdf **PKPdf 07 29 03.2 +0.3**
FDF LR LR
comp=Z,10µm,20.0s
FDF Fort de France 131.25 87 *e*PKIKP **PKPdf 07 29 03.2 +0.3**
FDF MLR MLR
comp=Z,10µm,20.0s
NRS Narsarsuaq 131.36 22 PFAKE 07 29 10.0 +8.3
NRS LR LR
comp=Z,30µm,20.0s
FURI Furi 131.59 265 PFAKE 07 29 20.0 +16
FURI LR LR
comp=Z,26µm,20.0s
BNGL BINGOL 131.65 305 *i* P **PKPdf 07 29 05.4 +2.1**
SOC Sochi 131.80 312 *e*P **Pdif 07 25 49.6 -6.9**
SOC *i* 07 29 02.9
SOC *e* 07 31 23.0
SOC *e*PPP PPP 07 34 17.2
SOC *e*PS **PS 07 41 32.0 -7.2**
SOC *e*SS SS 07 49 26.8 +30
SOC pmax pmax
comp=Z,22nm,0.7s
BAYB BAYBURT 132.11 307 *i* P **PKPdf 07 29 06.1 +2.0**
BAYT Ayd¨¯ntepe-Bay 132.17 307 *e*P **PKPdf 07 29 03.4 -0.7**
HANI Diyarbakir_Han 132.31 305 *i* P **PKPdf 07 29 07.0 +2.6**
KTUT Trabzon 132.34 308 *e*P **PKPdf 07 29 06.0 +1.8**
BBGH Gun Hill 132.38 90 PFAKE 07 29 20.0 +15
BBGH LR LR
comp=Z,19µm,22.0s
MAZI Mazidag 132.41 303 *e*P **PKPdf 07 29 04.2 -0.4**
VSU Vasula 132.47 335*ce* PKIKP **PKPdf 07 29 05.5 +1.7**
VSU pmax pmax
comp=Z,193nm,2.5s
DYBB Diyarbakir 132.59 304 *e*P **PKPdf 07 29 05.6 +0.8**
KELT Kelkit 132.88 307 *i* P **PKPdf 07 29 07.1 +1.5**
PTK Pertek 133.01 306 *e*P **PKPdf 07 29 07.9 +2.1**
TSUM Tsumeb 133.05 217 PKP **PKPdf 07 29 07.5 +1.1**
comp=Z,6.7nm,1.0s,baz=205,slow=1.4,SNR=6.7
TSUM Tsumeb 133.05 217 *e*PKPdf **PKPdf 07 29 05.7 -0.7**
TSUM LR LR
comp=Z,30µm,22.0s
ANN Anapa 133.06 314*c* *i*PKIKP **PKPdf 07 29 05.4 0.0**
ANN *i* 07 31 27.1
ANN *e*SS SS 07 49 11.5 -0.8
ANN *e*SSS SSS 07 54 09.9
ANN pmax pmax
comp=Z,102nm,2.3s
KEMA Kemaliye 133.63 306 *i* P **PKPdf 07 29 08.9 +2.1**
URFA Urfa 133.70 304 *e*P **PKPdf 07 29 03.4 -3.6**
MALT Malatya 133.86 305 *e*P **PKPdf 07 29 06.7 -0.6**
BORG Borgarnes 133.90 7 PFAKE 07 29 20.0 +14
BORG LR LR
comp=Z,6µm,20.0s
HEKM Malatya_Hekimh 134.12 306 *i* P **PKPdf 07 29 13.3 +5.4**
RSDY Resadiye-TOKAT 134.28 308 *e*P **PKPdf 07 29 06.0 -1.9**
MICM Minsk 134.38 330 *e*PKP **PKPdf 07 29 09.0 +1.4**
MICGM *e*PP PP 07 31 50.0 +10
MICGM *e*SKP 07 32 45.0
MICGM *e*PPP PPP 07 34 38.0
MICGM *e*PS **PS 07 42 08.0 +7.3**
MICGM *e*SS SS 07 49 48.0 +21
MICGM *e*SSS SSS 07 53 52.0
MICGM *e*LQ LQ 08 06 30.0
MICGM *e*LR LR 08 18 48.0
MICGM LRM MLR 08 24 20.0
comp=Z,19nm,24.0s
MICGM LRM MLR 08 24 20.0
comp=N,9.8nm,24.0s
MICGM LRM MLR 08 24 24.0
comp=Z,13nm,26.0s
MICGM LRM MLR 08 24 58.0
comp=E,13nm,22.0s
MNK Minsk 134.38 330 *e*PKIKP **PKPdf 07 29 09.0 +1.4**
MNK *e* 07 31 50.0
MNK *e*PPP PPP 07 34 38.0
IZAR Zarasai 134.38 332 *e*P PKPdf 07 29 17.7 +10
IZAR IAmb IAmb 07 29 26.1
comp=Z,13nm,0.7s
IDID Didziasalis 134.43 331 *e*P PKPdf 07 29 17.7 +10
IDID IAmb IAmb 07 29 26.1
comp=Z,17nm,1.0s
DARE Darende-Malaty 134.54 306 *e*P **PKPdf 07 29 06.7 -1.8**
ISAL Salakas 134.55 332 *e*P PKPdf 07 29 18.0 +10
ISAL IAmb IAmb 07 29 27.5
comp=Z,23nm,1.1s
SVSK Karacayir 134.63 307 *e*P **PKPdf 07 29 07.5 -1.0**
IIGN Ignalina 134.64 332 *e*P PKPdf 07 29 18.8 +11
IIGN IAmb IAmb 07 29 25.7
comp=Z,17nm,0.8s
NACGM Naroch 134.66 331 *e*PKP **PKPdf 07 29 08.0 -0.1**
NACGM *e*PP **PP 07 31 42.0 +0.7**
NACGM *e*SKP 07 32 34.0
NACGM *e*PKS **PKSdf 07 32 45.0 +0.9**
NACGM *e*PPP PPP 07 34 40.0
NACGM *e*SKS **SKSdf 07 36 20.0 +3.5**
NACGM *e*SKKS **SKKSac 07 38 32.0 -2.2**
NACGM *e*SKKKS 07 39 12.0
NACGM *e*SS **SS 07 49 36.0 +5.5**
NACGM *e*SSS SSS 07 54 08.0
NACGM *e*LR LR 08 17 08.0
NACGM LRM MLR 08 24 00.0
comp=Z,18nm,27.0s
NACGM *e*LQ LQ 08 35 38.0
TOKT Tokat 134.87 308 *e*P **PKPdf 07 29 07.8 -1.2**
GAZ Gaziantep 135.01 304 *e*P **PKPdf 07 29 13.0 +3.6**
KVT Kavak 135.06 309 *e*P **PKPdf 07 29 09.3 0.0**
KMRS Kahramanmaras 135.19 304 *e*P **PKPdf 07 29 08.6 -1.1**
HCB Kahramanmara¨ 135.22 304 *i* P **PKPdf 07 29 10.7 +1.0**
MBAR Mbarara 135.22 249 PKP **PKPdf 07 29 10.9 +0.3**
comp=Z,2.3nm,0.2s,baz=148,slow=3.1,SNR=8.7
MBAR Mbarara 135.22 249 *e*PKPdf **PKPdf 07 29 08.9 -1.7**
MBAR LR LR
comp=Z,625nm,21.0s
MBAR Mbarara 135.22 249 *e*PKIKP **PKPdf 07 29 08.9 -1.7**
MBAR MLR MLR
comp=Z,625nm,21.0s
SIM Simferopol' 135.25 315 *e*PKIKP **PKPdf 07 29 11.0 +1.5**
SIM *e* 07 31 47.0
SIM pmax pmax
comp=Z,400nm,8.5s
SNOP Sinop 135.41 311 *e*P **PKPdf 07 29 10.0 +0.1**
DIKM Dikmen 135.48 310 *e*P **PKPdf 07 29 07.8 -2.3**
NB2 NORSAR Subarra 135.55 345 PKPdf **PKPdf 07 29 09.7 0.0**
comp=Z,105nm,2.0s,baz=31,slow=1.9
NB2 NORSAR Subarra 135.55 345 PKPdf **PKPdf 07 29 09.7 0.0**
baz=31,slow=1.9
NOA NORSAR Array B 135.55 345 PKP **PKPdf 07 29 10.6 +1.0**
comp=Z,2.2nm,0.7s,baz=28,slow=2.1,SNR=5.6
NOA PP PP 07 31 38.3 -8.4
comp=Z,2.9nm,0.9s,baz=36,slow=6.5,SNR=2.8
ANDN Andirin 135.61 304 *i* P **PKPdf 07 29 12.2 +1.7**
HFS Hagfors 135.69 343 PKP **PKPdf 07 29 09.4 -0.5**
comp=Z,5.6nm,0.9s,baz=75,slow=11,SNR=5.0

BNN Bunyan 135.73 306 *e*P **PKPdf 07 29 08.6 -2.2**
AKASG Malin Array Be 135.76 325 PKP **PKPdf 07 29 10.3 0.0**
comp=Z,2.2nm,0.6s,baz=59,slow=2.2,SNR=14
AKASG PP **PP 07 31 48.3 -0.2**
comp=Z,1.1nm,0.6s,baz=48,slow=6.8,SNR=4.2
AKBB Malin Array Si 135.76 325 *e*PKPdf **PKPdf 07 29 09.8 -0.4**
AKBB LR LR
comp=Z,9µm,21.0s
AKBB Malin Array Si 135.76 325 *e*PKIKP **PKPdf 07 29 09.9 -0.4**
AKBB MLR MLR
comp=Z,9µm,21.0s
KIEV Kiev 135.77 325 *e*PKPdf **PKPdf 07 29 09.8 -0.5**
KIEV LR LR
comp=Z,9µm,22.0s
KIEV Kiev 135.77 325 *e*PKIKP **PKPdf 07 29 09.8 -0.5**
KIEV MLR MLR
comp=Z,9µm,22.0s
AK11 Malin Array Si 135.80 325 *e*PKPpre PKPpre 07 29 03.0
AK11 *e*PKPdf **PKPdf 07 29 09.7 -0.7**
ASF Jabal al Asfar 135.93 297 PKP **PKPdf 07 29 11.4 +0.1**
comp=Z,15nm,1.1s,baz=94,slow=1.7,SNR=9.1
ASF PP **PP 07 31 51.6 +1.0**
comp=Z,6.3nm,1.1s,baz=37,slow=2.9,SNR=3.5
YOZ Yozgat 135.95 308 *e*P **PKPdf 07 29 10.8 -0.4**
KOZT Kozan 136.03 304 *e*P **PKPdf 07 29 08.2 -3.0**
COAL Corum-Alaca 136.05 308 *i* P **PKPdf 07 29 12.3 +1.0**
YAYL Yayladag 136.08 302 *e*P **PKPdf 07 29 10.8 -0.7**
CEYT Ceyhan 136.19 304 *e*P **PKPdf 07 29 10.0 -1.5**
YAHY KAYSERI_Yahyal 136.27 305 *i* P **PKPdf 07 29 13.7 +1.9**
BZK Bozkurt 136.29 311 *e*P **PKPdf 07 29 12.2 +0.7**
CORM Corum 136.33 308 *e*P **PKPdf 07 29 09.3 -2.6**
HWQ Hawqa 136.48 300 *e*P **PKPdf 07 29 11.4 -0.9**
KRTS Karatas 136.56 303 *e*P **PKPdf 07 29 12.6 +0.4**
KARA Karaisali 136.68 304 *e*P **PKPdf 07 29 09.7 -2.8**
ILGA Ilgaz 136.76 310 *e*PKPdf **PKPdf 07 29 11.2 -1.6**
ILGA LR LR
comp=Z,13µm,21.0s
SHBL Chebaa 136.77 298 *e*P **PKPdf 07 29 12.7 -0.2**
BHL Bhannes 136.77 299 *e*P **PKPdf 07 29 11.8 -1.1**
SUW Suwalki 136.85 332 PFAKE 07 29 20.0 +7.8
SUW LR LR
comp=Z,10µm,21.0s
CANT Cankiri 136.96 309 *e*P **PKPdf 07 29 12.2 -0.7**
GULA Gulagac 137.08 306 *e*P **PKPdf 07 29 12.9 -0.4**
MMAI Mount Meron Ar 137.09 298 PKP **PKPdf 07 29 14.0 +0.6**
comp=Z,19nm,0.8s,baz=163,slow=0.9,SNR=11
KONO Kongsberg 137.16 345 PFAKE 07 29 20.0 +7.4
KONO LR LR
comp=Z,9µm,20.0s
BRTR Keskin Array B 137.18 308 PKhKP PKPpre 07 29 07.4
comp=Z,1.6nm,0.8s,baz=95,slow=1.5,SNR=8.4
BRTR PKP **PKiKP 07 29 15.2 -0.2**
comp=Z,6.2nm,0.9s,baz=116,slow=2.9,SNR=14
BRTR PP **PP 07 31 57.7 -0.6**
comp=Z,10.0nm,1.1s,baz=48,slow=2.1,SNR=5.2
KURC Kurucasile-Bar 137.22 311 *e*P PKPdf 07 29 26.2 +13
SERE Serefikochisa 137.44 307 *e*P PKPpre 07 29 10.8
KIZK Mersin 137.56 303 *e*P PKPpre 07 29 08.9
SULT Sultanhani-AKS 137.66 306 *e*P PKPpre 07 29 09.3
AFSR Af¨ar-Bala (A 137.68 308 *e*P PKPpre 07 29 08.2
KLNR Kaliningrad 137.74 334⇑ *i*PKIKP **PKPdf 07 29 14.0 +0.2**
KLNR *i* 07 29 16.8
SILI Silifke-Mersin 137.75 303 *e*P **PKPdf 07 29 11.1 -3.3**
ANTO Ankara 137.77 309 *e*P **PKPdf 07 29 16.5 +2.0**
ANTO Ankara 137.77 309 *e*PKPdf **PKPdf 07 29 13.2 -1.3**
ANTO LR LR
comp=Z,11µm,21.0s
ANTO Ankara 137.77 309 *e*PKIKP **PKPdf 07 29 13.2 -1.3**
ANTO MLR MLR
comp=Z,11µm,21.0s
ANTO Ankara 137.77 309 P **PKPdf 07 29 13.8 -0.7**
SNR=17
EIL Elat 137.79 293 PKP **PKPdf 07 29 16.6 +1.9**
comp=Z,6.2nm,0.9s,baz=45,slow=11,SNR=3.0
LOD Lodumlu 137.79 309 *e*P **PKPdf 07 29 08.9 -5.6**
BR231 Keskin MP Arra 137.79 309 *e*PKPpre PKPpre 07 29 03.0
BR231 *e*PKPdf **PKPdf 07 29 14.3 -0.3**
BR231 *e*PKPdf **PKiKP 07 29 15.4 -1.1**
KIS Kishinev 137.80 320 *e*PKP **PKPdf 07 29 14.0 -0.2**
KIS Kishinev 137.80 320 *i* PP PP 07 32 03.0 +1.6
comp=Z,4µm,12.0s
KIS *i* SKP 07 32 30.0
KIS LRM MLR 08 34 56.0
comp=Z,8µm,20.0s
KIS Kishinev 137.80 320 *e*PKIKP **PKPdf 07 29 14.0 -0.2**
KIS *i* 07 32 03.0
CHBY Cihanbeyli 138.04 307 *e*P PKPpre 07 29 08.9
AKKU Akkuyu-Mersin 138.09 303 *e*P **PKPdf 07 29 14.1 -1.0**
TEVE Tevekalti-Mers 138.12 303 *e*P **PKPdf 07 29 12.9 -2.3**
TEKE Tekeli-Mersin 138.44 303 *e*P **PKPdf 07 29 15.9 +0.2**
CSS Mathiatis 138.50 301 *e*PKPdf **PKPdf 07 29 14.1 -1.8**
CSS LR LR
comp=Z,5µm,21.0s
CSS Mathiatis 138.50 301 P **PKPdf 07 29 15.3 -0.6**
SVRH Sivrihisar-ESK 138.83 308 *e*P PKPpre 07 29 10.7
LVV L'vov 139.03 326 *e*PKIKP **PKPdf 07 29 16.8 +0.4**
LVV *e* 07 32 13.8
LVV MLR MLR
comp=N,4µm,23.0s
LVV MLR MLR
comp=Z,7µm,23.0s
LVV MLR MLR
comp=E,4µm,22.0s
CFR Carcaliu 139.05 318⇑ *i*P **PKPdf 07 29 15.1 -1.4**
CFR Carcaliu 139.05 318⇑⇑ *i*PKIKP **PKPdf 07 29 15.1 -1.4**
TIRR Tirgusor 139.18 317 PFAKE 07 29 30.0 +13
TIRR LR LR
comp=Z,12µm,20.0s
VRI Vrincioaia 139.60 320⇑ *i*P **PKPdf 07 29 14.7 -2.9**
VRI Vrincioaia 139.60 320⇑⇑ *i*PKIKP **PKPdf 07 29 14.7 -2.9**
BUR08 Bucovina Ar. S 139.61 323 *e*PKPpre PKPpre 07 29 13.3
BURAR Bucovina Array 139.61 323|| *i*P PKPpre 07 29 11.8
BURAR Bucovina Array 139.61 323|| *i*PKIKP PKPpre 07 29 11.8
BUR04 Bucovina Ar. S 139.62 323 *e*PKPpre PKPpre 07 29 13.0
PLOR Plostina 139.66 320⇑ *i*P **PKPdf 07 29 19.1 +1.4**
PLOR Plostina 139.66 320⇑⇑ *i*PKIKP **PKPdf 07 29 19.1 +1.4**
PSN Preselentsi 139.66 316 *e*P **PKPdf 07 29 15.9 -1.8**
KWP Kalwaria Pacla 139.84 327 *e*PKPdf **PKPdf 07 29 20.2 +2.3**
KWP LMZ LR 08 26 27.9
comp=Z,12µm,27.6s
KWP Kalwaria Pacla 139.84 327 PFAKE 07 29 30.0 +12
KWP LR LR
comp=Z,100µm,22.0s
KWP Kalwaria Pacla 139.84 327 *e*PKIKP **PKPdf 07 29 20.2 +2.3**
GKP Gorka Klasztor 139.92 334 *e*PKPdf **PKPdf 07 29 20.5 +2.7**
GKP LMZ LR 08 22 41.9
comp=Z,19µm,27.5s
GKP Gorka Klasztor 139.92 334 *e*PKIKP **PKPdf 07 29 20.5 +2.7**
ISP Isparta 140.04 306 PFAKE 07 29 30.0 +11
ISP LR LR
comp=Z,8µm,22.0s
MLR Muntele Rosu 140.27 319 PKP **PKPdf 07 29 18.5 -0.4**
comp=Z,1.5nm,0.7s,baz=1.9,slow=2.5,SNR=8.4
MLR Muntele Rosu 140.27 319⇑ *i*P PKPpre 07 29 13.3
MLR Muntele Rosu 140.27 319 *e*PKPdf **PKPdf 07 29 17.5 -1.4**
MLR LR LR
comp=Z,14µm,22.0s
DOPR Dopca 140.37 320⇑ *i*P PKPpre 07 29 12.6
PRD Provadia 140.38 316 *e*P **PKPdf 07 29 17.9 -1.1**
RGN Rugen 140.41 339 PFAKE 07 29 30.0 +11
RGN LR LR
comp=Z,11µm,20.0s
UZH Uzhgorod 140.65 326 *e*PKIKP **PKPdf 07 29 15.5 -3.8**
UZH *e* 07 32 21.5
UZH *e* 07 36 18.0
UZH *e*SS SS 07 50 46.5 +4.6
STHS Stebnicka Huta 140.72 327 *e*PKIKP PKPpre 07 29 14.5
STHS Stebnicka Huta 140.72 327 *e*PKP PKPpre 07 29 14.5
TRPA Tarpa 140.82 325 *e*PKPdf **PKPdf 07 29 21.0 +1.4**
VOIR 140.84 320|| *i*P **PKPdf 07 29 17.8 -2.1**
VOIR 140.84 320|| *i*PKIKP **PKPdf 07 29 17.8 -2.1**
OJC Ojcow 140.92 329 *e*PKPdf **PKPdf 07 29 20.4 +0.6**
OJC *e*PP **PP 07 32 20.5 +0.2**
OJC LMZ LR 08 28 59.9
comp=Z,13µm,24.5s
OJC Ojcow 140.92 329 *e*PKPdf **PKPdf 07 29 19.1 -0.7**
OJC Ojcow 140.92 329 *e*PKIKP **PKPdf 07 29 19.1 -0.7**
CRVS Cervenica-Dubn 140.93 327 *e*PKIKP PKPpre 07 29 15.1
CRVS *e* 07 32 28.8
CRVS Cervenica-Dubn 140.93 327 *e*PKP PKPpre 07 29 15.0
CRVS *e*PP PP 07 32 28.8 +8.3
ARR Arges 141.13 320⇑ *i*P PKPpre 07 29 17.0
NIE Niedzica 141.19 328 *e*PKPdf **PKPdf 07 29 21.0 +0.7**

NIE LMZ LR 08 32 42.8
comp=Z,9µm,22.3s
NIE Niedzica 141.19 328 *e*PKIKP **PKPdf 07 29 21.0 +0.7**
NIE MLR MLR
comp=Z,9µm,22.3s
JMB Yambol 141.24 315 *e*P PKPpre 07 29 14.7
SZH Strazhica 141.32 316 *e*P **PKPdf 07 29 21.2 +0.5**
FETY Fethiye 141.47 305 P **PKPdf 07 29 21.2 0.0**
DRGR 141.49 323 ⇓*i*P PKPpre 07 29 16.1
DRGR 141.49 323 ⇓PKIKP PKPpre 07 29 16.1
KECS Kecovo 141.69 327 *e*PKHKP PKPpre 07 29 15.0
KECS Kecovo 141.69 327 *e*PKP PKPpre 07 29 15.0
KECS *e* 07 29 25.2
LANS Liptovska Anna 141.78 328 *e*PKIKP PKPpre 07 29 18.1
LANS *e* 07 29 25.4
LANS Liptovska Anna 141.78 328 *e*PKP PKPpre 07 29 18.1
LANS *e* 07 29 25.4
OKC Ostrava-Krasne 141.96 330 *e*PKP PKPpre 07 29 17.9
OKC *ep*PKP **PKiKP 07 29 27.8 +3.2**
OKC *e*PP **PP 07 32 34.1 +7.4**
OKC AMS AMS 08 33 10.0
comp=Z,8µm,23.9s
OKC Ostrava-Krasne 141.96 330 *e*PKIKP PKPpre 07 29 17.9
OKC *e* 07 29 27.8
OKC *e* 07 32 34.1
OKC MLR MLR
comp=Z,8µm,23.9s
KSP Ksiaz 142.10 333 *e*PKPdf PKPpre 07 29 17.3
KSP LMZ LR 08 23 07.3
comp=Z,19µm,29.6s
KSP Ksiaz 142.10 333 *e*PKIKP PKPpre 07 29 17.3
MORC Moravsky Berou 142.29 330 ⇓*i*P PKPpre 07 29 17.9
MORC Moravsky Berou 142.29 330 *e*PKPpre PKPpre 07 29 18.0
MORC LR LR
comp=Z,49µm,22.0s
MORC Moravsky Berou 142.29 330 *e*PKIKP PKPpre 07 29 18.0
MORC MLR MLR
comp=Z,49µm,22.0s
PSZ Piszkesteto 142.36 326 ⇓*i*P **PKPdf 07 29 19.6 -2.9**
PSZ Piszkesteto 142.36 326 *e*PKPdf PKPpre 07 29 17.8
PSZ Piszkesteto 142.36 326 *e*PKPpre PKPpre 07 29 19.0
PSZ LR LR
comp=Z,12µm,20.0s
PSZ Piszkesteto 142.36 326 ⇓PKIKP **PKPdf 07 29 19.6 -2.9**
SIRR Siria 142.39 323 ⇑*i*P PKPpre 07 29 18.5
DPC Dobruska-Polom 142.44 332 *e*PKP PKPpre 07 29 18.1
DPC *e*PP **PP 07 32 32.5 +3.0**
DPC *ex* x 07 42 52.2
DPC AMS AMS 08 33 00.0
comp=Z,12µm,23.8s
DPC Dobruska-Polom 142.44 332 *e*PKIKP PKPpre 07 29 18.1
DPC *e* 07 32 32.5
DPC MLR MLR
comp=Z,12µm,23.8s
UPC Upice 142.46 332 *e*PKP PKPpre 07 29 18.4
UPC *ep*PKP **PKiKP 07 29 26.5 +0.9**
UPC *ex* x 07 42 38.2
UPC AMS AMS 08 29 30.0
comp=Z,18µm,24.5s
UPC Upice 142.46 332 *e*PKIKP PKPpre 07 29 18.4
UPC *e* 07 29 26.5
UPC MLR MLR
comp=Z,18µm,24.5s
VYHS Vyhne 142.53 328 *e*PKHKP PKPpre 07 29 17.0
VYHS MLR MLR
comp=Z,8µm,22.9s
VYHS Vyhne 142.53 328 *e*PKP PKPpre 07 29 17.0
VYHS *e* 07 29 29.6
VYHS *e*L L 07 33 55.1
PLD Plovdiv 142.65 315 *e*P PKPpre 07 29 18.3
BZS Buzias 142.78 322 ⇑*i*P PKPpre 07 29 20.3
BZS Buzias 142.78 322 ⇑PKIKP PKPpre 07 29 20.3
PGB Panagyurishte 142.80 316 *e*P PKPpre 07 29 18.6
RZN Rozhen 142.83 315 *e*P PKPpre 07 29 18.4
SMG Samos 142.86 308 P PKPpre 07 29 18.5
VRAC Vranov 143.06 331 PKhKP PKPpre 07 29 19.4
comp=Z,9.0nm,0.9s,baz=82,slow=4.2,SNR=6.1
VRAC PP **PP 07 32 38.5 +5.2**
comp=Z,3.9nm,0.4s,baz=47,slow=6.3,SNR=3.5
VRAC Vranov 143.06 331 ⇓*i*P PKPpre 07 29 19.4
BRG Berggiesshubel 143.06 334 *i* PKP PKPpre 07 29 19.6
comp=Z,56nm,1.9s
BRG *i* 07 29 27.5
comp=Z,145nm,1.7s
BRG *i* PP **PP 07 32 34.5 +1.3**
comp=Z,124nm,2.1s
BRG SS SS 07 51 28.0 +19
BRG Berggiesshubel 143.06 334 *i* PKIKP PKPab 07 29 19.6 +0.7
BRG *i* 07 29 27.5
BRG *i* 07 32 34.5
BRG pmax pmax
comp=Z,56nm,1.9s
BRG MLR MLR
comp=N,7µm,23.3s
BRG MLR MLR
comp=E,5µm,19.7s
BRG MLR MLR
comp=Z,9µm,26.1s
BUD Budapest 143.09 326 *e*PKPdf PKPpre 07 29 18.9
CLL Collm 143.10 336 *e*PKPpre PKPpre 07 29 19.0
CLL *e*PKPdf **PKPdf 07 29 24.0 +0.4**
CLL *e*PKiKP **PKiKP 07 29 26.0 -0.9**
CLL *i* sPKPdf pPKPdf 07 29 29.7 -5.0
CLL *e*PP **PP 07 32 35.0 +1.6**
CLL *e*PPP PPP 07 35 44.0
CLL *e*PSKS 07 42 48.0
CLL *e*PPPrev 07 44 06.0
CLL *e*PPS PPS 07 45 06.0
CLL *e* 07 46 06.0
CLL *e* 07 47 06.0
CLL *e*SS SS 07 51 30.0 +20
CLL *e*PSS PSS 07 51 48.0
CLL *e* 07 53 30.0
CLL *e*SSS SSS 07 56 54.0
CLL *e* 08 01 54.0
CLL Collm 143.10 336 *e*PKPpre PKPbc 07 29 20.3 -0.2
CLL LR LR
comp=Z,8µm,20.0s
CLL Collm 143.10 336 *e*PKIKP PKPbc 07 29 20.3 -0.2
CLL MLR MLR
comp=Z,8µm,20.0s
CHOS Chios island 143.21 309 P PKPab 07 29 19.3 -0.7
KARP Karpathos 143.27 304 *e*PKPpre PKPpre 07 29 20.0
KARP LR LR
comp=Z,4µm,22.0s
MODS Modra-Piesok 143.38 329 *e*PKIKP PKPbc 07 29 21.6 +0.2
MODS *e* 07 29 28.6
MODS *e* 07 32 44.3
MODS Modra-Piesok 143.38 329 *e*PKP PKPbc 07 29 21.6 +0.2
MODS *e* 07 29 28.6
MODS *e*PP PP 07 32 44.3 +9.0
VTS Vitosha 143.40 317 ⇑*i*P PKPbc 07 29 21.8 -0.1
VTS Vitosha 143.40 317 *e*PKPpre PKPbc 07 29 21.8 -0.1
VTS LR LR
comp=Z,12µm,22.0s
VTS Vitosha 143.40 317 PKIKP PKPbc 07 29 21.8 -0.1
VTS Vitosha 143.40 317 *e*P PKPab 07 29 20.3 -0.5
VTS Vitosha 143.40 317 P PKPbc 07 29 22.4 +0.5
GOPC GO Pecny, Ondr 143.43 333 *e*PKP PKPbc 07 29 21.3 -0.2
GOPC AMS AMS 08 29 20.0
comp=Z,11µm,23.2s
GOPC GO Pecny, Ondr 143.43 333 *e*PKIKP PKPbc 07 29 21.3 -0.2
GOPC MLR MLR
comp=Z,11µm,23.2s
PRU Pruhonice 143.48 333 *e*PKP PKPab 07 29 21.1 +0.5
PRU *ep*PKP **PKiKP 07 29 28.9 +1.2**
PRU *ex* x 07 32 46.6
PRU AMS AMS 08 36 00.0
comp=Z,11µm,20.0s
PRU Pruhonice 143.48 333 *e*PKIKP PKPab 07 29 21.1 +0.5
PRU *e* 07 29 28.9
PRU MLR MLR
comp=Z,11µm,20.0s
MMB Musomiste 143.53 315 *e*P PKPab 07 29 18.6 -2.6
EKA Eskdalemuir Ar 143.55 353 PKhKP PKPpre 07 29 21.0
comp=Z,4.9nm,0.7s,baz=2.1,slow=2.3,SNR=8.1
NVR Nevrokopi 143.55 315 P PKPab 07 29 18.7 -2.6
CSKK Cs˙‡kako 143.56 327 *e*PKPdf PKPbc 07 29 22.3 +0.3
ESK Eskdalemuir 143.57 353 *e*P PKPab 07 29 20.5 -0.3
ESK IAMs_20 IAMs_20 08 36 58.9
comp=Z,13µm,21.5s
TREC Trest 143.58 331 *e*PKP PKPbc 07 29 22.0 0.0
TREC *ep*PKP pPKPdf 07 29 32.3 -3.3
TREC *e*PP PP 07 32 46.0 +10
TREC AMS AMS 08 30 30.0
comp=Z,14µm,24.7s
TREC Trest 143.58 331 *e*PKIKP PKPbc 07 29 22.0 0.0
TREC *e* 07 29 32.3
TREC *e* 07 32 46.0
TREC MLR MLR
comp=Z,14µm,24.7s
KKB Krupnik 143.83 316 *e*P PKPab 07 29 22.1 -0.2
SRS Serrai 143.84 315 P PKPab 07 29 20.9 -1.4
APE Apeiranthos 144.06 307 ⇑PKIKP **PKPdf 07 29 26.8 +1.0**
APE *i* 07 29 33.4
APE Apeiranthos 144.06 307 P **PKPab 07 29 20.8 -2.5**
MORH M˙‡r˙gy, Hung 144.09 325 *e*PKPdf **PKPab 07 29 22.8 -0.3**
ZKR Zakros 144.13 304 P **PKPab 07 29 22.7 -0.9**
SOH Sokhos 144.13 314 P **PKPab 07 29 21.8 -1.7**
NKC Novy Kostel 144.16 335 *e*PKP PKPbc 07 29 23.8 +0.1
NKC *ep*PKP **PKiKP 07 29 32.4 +3.3**
NKC AMS AMS 08 34 40.0
comp=Z,10µm,24.1s
NKC Novy Kostel 144.16 335 *e*PKIKP PKPbc 07 29 23.8 +0.1
NKC *e* 07 29 32.4
NKC MLR MLR
comp=Z,10µm,24.1s
SOP Sopron 144.21 329 *e*PKPdf **PKPab 07 29 23.4 -0.1**
PLG Polygyros 144.27 313 P **PKPab 07 29 22.7 -1.3**
KNT Kendrikon 144.29 315 P **PKPab 07 29 22.7 -1.3**
SANT Santorini 144.34 306 ⇑*i*P **PKPab 07 29 23.6 -0.8**
SANT Santorini 144.34 306 *e*PKPdf **PKPab 07 29 23.5 -0.8**
SANT LR LR
comp=Z,7µm,22.0s
CONA Conrad Observa 144.38 329 *e*PKPdf PKPbc 07 29 25.0 +0.5
comp=Z,190nm,1.3s,SNR=30
HORT Hortiatis 144.41 314 P **PKPab 07 29 23.1 -1.5**
VAY Valandovo 144.43 315 P **PKPab 07 29 23.3 -1.2**
VAY Valandovo 144.43 315 *i* P **PKPab 07 29 23.6 -0.9**
KARY Karystos 144.52 309 P **PKPab 07 29 22.7 -2.3**
RCBR Riachuelo 144.53 132 *e*PKPdf **PKPab 07 29 25.8 +0.1**
RCBR LR LR
comp=Z,12µm,20.0s
KHC Kasperske Hory 144.54 333 *e*PKP **PKPab 07 29 24.5 -0.2**
KHC *ep*PKP **PKiKP 07 29 33.6 +3.6**
KHC AMS AMS 08 49 30.0
comp=Z,11µm,21.0s
KHC Kasperske Hory 144.54 333 *e*PKPdf **PKPab 07 29 24.5 -0.2**
KHC LR LR
comp=Z,4µm,21.0s
KHC Kasperske Hory 144.54 333 *e*PKIKP **PKPab 07 29 24.5 -0.2**
KHC MLR MLR
comp=Z,4µm,21.0s
NPS Neapolis 144.56 304 P **PKPab 07 29 24.4 -0.9**
DIVS Divibare 144.60 321 *e*PKPdf **PKPab 07 29 25.1 -0.1**
DIVS LR LR
comp=Z,8µm,22.0s
WTSB Winterswijk 144.69 342 *e*PKPdf **PKPab 07 29 24.2 -0.9**
comp=Z,5µm,4.3s
HPK Haverah Park 144.70 351 *e*P **PKPab 07 29 23.2 -1.9**
HPK IAMs_20 IAMs_20 08 31 18.8
comp=Z,10µm,21.6s
LAST Lasithi 144.70 304 P **PKPab 07 29 24.7 -1.1**
GEC2 GERESS Array S 144.70 332 *e*PKPdf **PKPab 07 29 25.5 +0.1**
GEC2 LR LR
comp=Z,14µm,22.0s
GEC2 GERESS Array S 144.70 332 *e*PKIKP PKPbc 07 29 25.5 -0.1
GEC2 MLR MLR
comp=Z,14µm,22.0s
GERES GERESS Array B 144.70 332 PKP **PKPab 07 29 25.4 -0.1**
comp=Z,25nm,0.9s,baz=46,slow=3.9,SNR=93
GEA0 GERESS Array S 144.71 332 *e*PKPdf **PKPab 07 29 25.0 -0.4**
GRG Griva 144.71 315 P **PKPab 07 29 23.6 -2.0**
SHEL Horse Pasture 144.76 188 *e*PKPdf **PKPdf 07 29 27.2 -0.4**
SHEL LR LR
comp=Z,22µm,22.0s
SHEL Horse Pasture 144.76 188 *e*PKIKP **PKPdf 07 29 27.3 -0.4**
SHEL MLR MLR
comp=Z,22µm,22.0s
SKO Skopje 144.85 317 P **PKPab 07 29 25.6 -0.5**
SKO Skopje 144.85 317 *i* P PKPbc 07 29 26.2 +0.1
XOR Xorichti 144.88 312 P **PKPab 07 29 24.2 -2.1**
BEHE Becsehely 144.92 327 *e*PKPbc **PKPab 07 29 26.1 -0.1**
PTL Penteli 144.94 310 P **PKPab 07 29 24.7 -1.9**
ARSA Arzberg 145.01 329 *e*PKPdf **PKPbc 07 29 26.4 -0.1**
comp=Z,244nm,1.4s,SNR=40
MHLO Agia Marina, M 145.04 307 P **PKPbc 07 29 25.5 -1.4**
FYTO Fytoko, Volos 145.04 312 P **PKPbc 07 29 24.4 -2.4**
LIT Litokhoron 145.05 314 P **PKPbc 07 29 24.5 -2.4**
VLY Voula,Athens 145.06 309 P **PKPbc 07 29 24.5 -2.4**
ATH Athens Observa 145.07 310 P **PKPbc 07 29 24.7 -2.2**
SMIA Simia 145.07 311 P **PKPbc 07 29 25.0 -2.0**
GRF Grafenberg Arr 145.08 335 PKIKP **PKPab 07 29 26.8 +0.1**
GRFO Grafenberg 145.08 335 *e*PKPbc **PKPbc 07 29 26.4 -0.2**
GRFO LR LR
comp=Z,16µm,21.0s
GRFO Grafenberg 145.08 335 *e*PKIKP **PKPbc 07 29 26.4 -0.2**
GRFO MLR MLR
comp=Z,16µm,21.0s
IDI Anoyia 145.12 305 PKPbc **PKPbc 07 29 26.5 -0.8**
comp=Z,272nm,1.1s,baz=50,slow=6.0,SNR=32
IDI Anoyia 145.12 305 ⇓*i*P **PKPbc 07 29 27.0 -0.3**
IDI Anoyia 145.12 305 *e*PKPbc **PKPbc 07 29 26.4 -0.8**
IDI LR LR
comp=Z,8µm,21.0s
MOA Molln 145.18 331 *i* PKPdf **PKPab 07 29 27.2 +0.1**
SNR=78
KOGS Kog 145.20 327 *e*PKPdf **PKPbc 07 29 26.3 -0.8**
LBWR Ladybower, Pea 145.25 351 *e*P **PKPbc 07 29 26.1 -0.9**
LBWR IAMs_20 IAMs_20 08 35 13.1
comp=Z,10µm,18.6s
SIVA Sivas 145.27 304 P **PKPbc 07 29 27.3 -0.4**
KRUS Krusevo 145.28 316 *i* P **PKPbc 07 29 27.2 -0.4**
VILL Villia 145.29 310 P **PKPbc 07 29 25.2 -2.5**
LKR Lokris 145.32 311 P **PKPbc 07 29 25.5 -2.2**
IVA Berane 145.34 320 ⇓*i*PKP **PKPbc 07 29 27.0 -0.8**
PLE Pljevlja 145.40 321 ⇓*i*PKP **PKPbc 07 29 27.1 -0.9**
BIA Bitola 145.40 316 *i* P **PKPbc 07 29 27.7 -0.3**
KZN Kozani 145.44 314 P **PKPdf 07 29 25.6 -2.6**
PVY Plav 145.46 319 ⇓*i*PKP **PKPdf 07 29 27.1 -1.1**
FNA Florina 145.48 315 PKIKP **PKPdf 07 29 27.5 -0.7**
FNA Florina 145.48 315 P **PKPdf 07 29 26.2 -2.0**
WACR West Acre 145.51 348 *e*P **PKPdf 07 29 27.1 -0.6**
WACR IAMs_20 IAMs_20 08 35 27.7
comp=Z,14µm,21.6s
KOME Kolasin 145.59 320 ⇓*i*PKP **PKPdf 07 29 27.8 -0.6**
LTK Loutraki 145.60 310 P **PKPdf 07 29 26.1 -2.3**
WPS Cemaes, Angles 145.60 354 *e*P **PKPdf 07 29 27.4 -0.5**
DID Didima 145.60 309 P **PKPdf 07 29 26.4 -2.1**
LOUT Loutraki 145.61 310 P **PKPdf 07 29 26.7 -1.7**
THL Klokotos Trika 145.62 313 P **PKPdf 07 29 25.9 -2.5**
VAM Vamos 145.62 305 P **PKPdf 07 29 28.3 -0.2**
AGG Agios Georgios 145.63 312 *e*PKPdf **PKPdf 07 29 27.6 -0.9**
AGG LR LR
comp=Z,27µm,22.0s
AGG Agios Georgios 145.63 312 *e*PKIKP **PKPdf 07 29 27.6 -0.9**
AGG MLR MLR
comp=Z,27µm,22.0s
AGG Agios Georgios 145.63 312 P **PKPdf 07 29 26.2 -2.3**
SOKA Soboth 145.65 329 *i* PKPab **PKPdf 07 29 28.2 -0.1**
comp=Z,396nm,1.2s,SNR=65
WPM1 Penmaenmawr 145.68 353 *e*P **PKPdf 07 29 27.5 -0.6**
OHR Ohrid 145.70 316 *i* P **PKPdf 07 29 28.5 -0.1**
WLF1 Llynfaes 145.70 354 *e*P **PKPbc 07 29 28.3 -0.1**
WLF1 IAMs_20 IAMs_20 08 38 02.3
comp=Z,24µm,21.0s
KRND KRANIDI 145.71 309 P **PKPdf 07 29 26.6 -2.0**
DSF Desfina 145.75 311 P **PKPdf 07 29 26.6 -2.1**
IMMV Iera Moni Meta 145.77 305 P **PKPdf 07 29 28.3 -0.5**
THAL Thalero 145.81 310 P **PKPdf 07 29 26.2 -2.6**
BLY Banja Luka 145.81 324 ⇓*i*P **PKPab 07 29 29.8 +0.3**
BLY Banja Luka 145.81 324 *e*PKPdf **PKPdf 07 29 28.4 -0.2**
BLY LR LR
comp=Z,7µm,20.0s
YLL Llanberis 145.82 353 *e*P **PKPdf 07 29 27.6 -0.6**
NEST Nestorio 145.88 315 P **PKPdf 07 29 27.8 -1.1**
KPRO Kipourio 145.88 314 P **PKPdf 07 29 27.2 -1.7**
GVD Gavdhos 145.89 304 P **PKPdf 07 29 28.3 -0.7**
DSB Dublin 145.91 356 *e*PKPdf **PKPdf 07 29 28.2 -0.2**
DSB LR LR
comp=Z,11µm,20.0s
NKY Niksic 145.93 320 ⇓*i*PKP **PKPdf 07 29 28.7 -0.3**
FOEL Foel Wylfa 145.95 352 *e*P **PKPdf 07 29 27.9 -0.7**
FOEL IAMs_20 IAMs_20 08 40 21.7
comp=Z,14µm,20.5s
NKME Niksic 145.98 320 ⇓*i*PKP **PKPdf 07 29 29.0 0.0**
PDG Podgorica 145.98 319 ⇓*i*P **PKPbc 07 29 29.6 -0.1**
TTG Podgorica 145.98 319 ⇓*i*PKP **PKPdf 07 29 29.0 +0.2**
TTG Podgorica 145.98 319 *e*PKPdf **PKPdf 07 29 29.1 +0.2**
TTG LR LR
comp=Z,8µm,21.0s
TTG Podgorica 145.98 319 *e*PKP2 **PKPdf 07 29 29.1 +0.2**
TTG MLR MLR
comp=Z,8µm,21.0s
HGN Heimansgroeve 146.01 342 *e*PKPdf **PKPdf 07 29 28.8 +0.1**
comp=Z,9µm,4.0s
OBKA Obir 146.01 329 *i* PKPab **PKPdf 07 29 28.9 -0.1**
comp=Z,144nm,1.1s,SNR=22
KALE Kalithea 146.04 311 P **PKPdf 07 29 27.6 -1.6**
EVR Evrytania 146.05 312 P **PKPdf 07 29 28.6 -0.7**
BEBN Eben Emael 146.06 342 ⇓PKP **PKPbc 07 29 29.4 -0.2**
GUR Goura 146.08 310 P **PKPdf 07 29 28.3 -1.1**
SERG Sergoula 146.09 311 P **PKPdf 07 29 28.4 -0.9**
ANX Ano Chora 146.11 312 P **PKPdf 07 29 29.0 -0.4**
CEME Cevo 146.12 320 ⇓*i*PKP **PKPdf 07 29 29.3 0.0**
MEM Membach 146.12 341 ⇓PKP **PKPdf 07 29 29.3 +0.4**
VLI Veliai 146.12 308 P **PKPdf 07 29 28.6 -0.7**
BRY Bratogost 146.15 321 ⇓*i*PKP **PKPdf 07 29 29.2 -0.2**
ANKY Antikythira Is 146.16 306 P **PKPdf 07 29 29.5 +0.1**
DRME Dracevica, Mon 146.16 319 ⇓*i*PKP **PKPdf 07 29 29.7 +0.5**
KBA Koelnbreinsper 146.17 331 PKP2 **PKPdf 07 29 29.1 -0.2**
KBA Koelnbreinsper 146.17 331 *i* PKPbc **PKPdf 07 29 29.1 -0.2**
comp=Z,64nm,1.3s,SNR=19
KBA *i* PP PP 07 33 00.1 +8.0
comp=Z,106nm,1.4s
KLV Kalavryta, Ach 146.18 311 P **PKPdf 07 29 29.2 -0.3**
TIR Tirane 146.18 317 ⇑*i*P **PKPab 07 29 30.8 -0.2**
TIR Tirane 146.18 317 *e*PKPdf **PKPbc 07 29 29.9 -0.4**
TIR LR LR
comp=Z,14µm,22.0s
TIR Tirane 146.18 317 *e*PKP2 **PKPbc 07 29 29.9 -0.4**
TIR MLR MLR
comp=Z,14µm,22.0s
EFP Efpalio 146.19 311 P **PKPdf 07 29 29.8 +0.4**
KYTH Kithira 146.21 307 P **PKPdf 07 29 29.5 0.0**
ULC Ulcinj 146.25 319 ⇓*i*PKP **PKPbc 07 29 30.0 -0.5**
BUM Brajici-Budva 146.28 319 ⇓*i*PKP **PKPdf 07 29 30.0 +0.5**
HLM1 Long Mynd 146.28 352 *e*P **PKPdf 07 29 29.4 +0.2**
HLM1 IAMs_20 IAMs_20 08 34 02.9
comp=Z,11µm,22.8s
VLX Vlachokerasia 146.28 309 P **PKPdf 07 29 29.5 -0.2**
LJU Ljubljana 146.35 328 *e*PKPdf **PKPbc 07 29 30.2 -0.5**
LJU *e* 07 31 22.4
MYKA Terra Mystica 146.36 330 *i* PKPbc **PKPdf 07 29 29.2 -0.3**
comp=Z,399nm,1.8s,SNR=22
MYKA *i* PP **PP 07 32 54.6 +1.5**
comp=Z,70nm,1.9s
JAN Janina 146.37 314 P **PKPdf 07 29 29.6 -0.1**
PVO Paravola 146.38 312 P **PKPdf 07 29 29.6 -0.1**
UCC Uccle 146.43 343 ⇓PKP **PKPbc 07 29 30.1 -0.6**
UCC Uccle 146.43 343 *e*PKPdf **PKPdf 07 29 29.9 +0.5**
UCC LR LR
comp=Z,12µm,20.0s
UCC Uccle 146.43 343 *e*PKP2 **PKPdf 07 29 29.9 +0.5**
UCC MLR MLR
comp=Z,12µm,20.0s
HCY Herceg Novi 146.44 320 ⇓*i*PKP **PKPdf 07 29 30.2 +0.5**
BCLA Clavier 146.50 342 ⇑PKP **PKPbc 07 29 30.7 -0.2**
DRO Drossia 146.53 311 P **PKPbc 07 29 31.2 -0.3**
CADS Cadrg 146.60 329 *e*PKPdf **PKPdf 07 29 30.1 +0.2**
STU Stuttgart 146.60 336 *e*PKPdf **PKPbc 07 29 31.7 +0.4**
STU LR LR
comp=Z,10µm,20.0s
STU Stuttgart 146.60 336 *e*PKP2 **PKPbc 07 29 31.7 +0.4**
STU MLR MLR
comp=Z,10µm,20.0s
RLS Riolos of Patr 146.66 311 P **PKPbc 07 29 31.5 -0.3**
RLS Riolos of Patr 146.66 311 P **PKPbc 07 29 31.5 -0.3**
ITM Ithomi 146.69 309 P **PKPdf 07 29 30.9 +0.6**
ITM Ithomi 146.69 309 P **PKPdf 07 29 30.9 +0.6**
AMT Artemida-Makis 146.71 310 P **PKPdf 07 29 30.1 -0.2**
SNF Seneffe 146.71 343 ⇑PKP **PKPbc 07 29 32.1 +0.5**
WATA Walderalm 146.78 333 *i* PKPab **PKPbc 07 29 31.5 -0.6**
comp=Z,37nm,0.8s,SNR=11
MCH1 Michaelchurch 146.80 352 *e*P **PKPdf 07 29 30.6 +0.7**
MCH1 IAMs_20 IAMs_20 08 28 45.4
comp=Z,14µm,23.2s
ABTA Abfaltersbach 146.80 331 *i* PKPdf **PKPdf 07 29 28.7 -1.6**
comp=Z,99nm,1.1s,SNR=31
IWEX Carrickbyrne, 146.81 356 *e*P **PKPbc 07 29 32.0 +0.2**
WTTA Wattenberg 146.81 332 *i* PKPbc **PKPdf 07 29 30.6 +0.1**
comp=Z,76nm,1.1s,SNR=15
SGD Sagiada 146.81 314 P **PKPdf 07 29 30.1 -0.3**
LPW Lampeter 146.82 353 *e*P **PKPdf 07 29 29.5 -0.5**
LPW IAMs_20 IAMs_20 08 38 49.2
comp=Z,11µm,19.1s
STRD Stroud 146.90 351 *e*P **PKPbc 07 29 31.8 -0.3**
STRD IAMs_20 IAMs_20 08 32 38.6
comp=Z,13µm,22.6s
WLF Walferdange 146.91 340 ⇑PKP **PKPbc 07 29 32.4 +0.2**
WLF Walferdange 146.91 340 *e*PKPdf **PKPdf 07 29 30.5 +0.3**
WLF LR LR
comp=Z,13µm,21.0s
WLF Walferdange 146.91 340 *e*PKP2 **PKPdf 07 29 30.5 +0.3**
WLF MLR MLR
comp=Z,13µm,21.0s
VTN Vitineika 146.92 311 P **PKPdf 07 29 30.1 -0.5**
MONM Monmouth 146.93 352 *e*P **PKPbc 07 29 31.4 -0.7**
MONM IAMs_20 IAMs_20 08 34 31.9
comp=Z,15µm,23.2s
PYL PYLOS 146.94 309 P **PKPdf 07 29 30.7 0.0**
PYL PYLOS 146.94 309 P **PKPdf 07 29 30.7 0.0**
TRI Trieste 146.96 328 *e*PKPdf **PKPdf 07 29 30.8 +0.4**
TRI LR LR
comp=Z,9µm,22.0s
TRI Trieste 146.96 328 *e*PKP2 **PKPdf 07 29 30.8 +0.4**
TRI MLR MLR
comp=Z,9µm,22.0s
MOTA Moosalm 146.97 333 *i* PKPbc **PKPbc 07 29 31.7 -0.9**
comp=Z,250nm,1.1s,SNR=42
DOU Dourbes 147.00 342 ⇓PKP **PKPbc 07 29 31.9 -0.4**
RETA Reutte 147.01 333 *i* PKPbc **PKPbc 07 29 32.2 -0.4**
comp=Z,267nm,1.7s,SNR=20
SWN1 Swindon 147.10 350 *e*P **PKPbc 07 29 32.0 -0.6**
SWN1 IAMs_20 IAMs_20 08 32 59.7
comp=Z,17µm,23.7s
KFL Anninata 147.12 311 P **PKPbc 07 29 32.1 -1.1**
HGH Gray Hill 147.13 351 *e*P **PKPdf 07 29 30.7 +0.1**
WOL Wolverton 147.19 350 *e*P **PKPbc 07 29 32.5 -0.4**
VLS Valsamata 147.23 312 P **PKPdf 07 29 30.6 -0.6**
VLS Valsamata 147.23 312 PKIKP **PKPdf 07 29 30.6 -0.6**
VLS Valsamata 147.23 312 P **PKPdf 07 29 30.6 -0.6**
BATH Bath 147.25 351 *e*P **PKPbc 07 29 32.2 -0.8**
BATH IAMs_20 IAMs_20 08 38 12.9
comp=Z,15µm,20.5s
BFO Black Forest 147.29 337 *e*PKPbc **PKPbc 07 29 32.8 -0.5**
BFO LR LR
comp=Z,11µm,20.0s
BFO Black Forest 147.29 337 *e*PKP2 **PKPbc 07 29 32.8 -0.5**
BFO MLR MLR
comp=Z,11µm,20.0s
HMNX Herstmonceux 147.33 348 *e*P **PKPbc 07 29 33.0 -0.3**
HMNX IAMs_20 IAMs_20 08 40 46.3
comp=Z,15µm,20.1s
VAL Valentia 147.35 360 *e*P **PKPab 07 29 35.4 +0.2**
VAL *e*SS SS 07 52 07.8 +10
FETA Feichten 147.39 333 *i* PKPdf **PKPdf 07 29 30.6 -0.8**
comp=Z,306nm,1.2s,SNR=26
DAVA Damuels 147.54 334 *i* PKPbc **PKPbc 07 29 33.7 -0.6**
comp=Z,294nm,1.4s,SNR=22
ECH Echery 147.82 338 *e*PKPbc **PKPbc 07 29 34.2 -0.6**
ECH LR LR
comp=Z,10µm,20.0s
ECH Echery 147.82 338 *e*PKP2 **PKPbc 07 29 34.2 -0.6**
ECH MLR MLR
comp=Z,10µm,20.0s
FUORN Ofenpass-Fuorn 147.90 333 *e*PKPbc **PKPbc 07 29 35.0 -0.4**
FUORN LR LR
comp=Z,12µm,21.0s
HTL Hartland 147.97 353 *e*P **PKPdf 07 29 32.6 +0.7**
HTL IAMs_20 IAMs_20 08 30 17.2
comp=Z,8µm,23.3s
TUE Stuetta 148.41 334 *e*PKPbc **PKPbc 07 29 36.1 -0.6**
TUE LR LR
comp=Z,12µm,20.0s
DYA Yadsworthy 148.45 352 *e*P **PKPdf 07 29 30.8 -2.0**
DYA IAMs_20 IAMs_20 08 28 12.8
comp=Z,14µm,25.4s
MATE Matera 148.56 319 ⇓*i*P **PKPbc 07 29 36.8 -0.1**
CCA1 Carnmenellis 148.85 354 *e*P **PKPdf 07 29 34.8 +1.4**

CCA1				IAMs_20	IAMs_20	08 33 27.6		
	comp=Z,11µm,23.2s							
SENIN	**Lac Senin/Sane**	**149.32**	**336**	*e*PKPbc	**PKPbc**	**07 29 38.1**	**-0.9**	
SENIN				LR	LR			
	comp=Z,12µm,20.0s							
TIP	**Timpagrande**	**149.35**	**316**	⇓ *i*P	**PKPbc**	**07 29 39.5**	**+0.4**	
TIP	**Timpagrande**	**149.35**	**316**	*e*PKPdf	**PKPdf**	**07 29 35.3**	**+0.6**	
TIP				*e*PKPbc	**PKPbc**	**07 29 39.4**	**+0.4**	
TIP				LR	LR			
	comp=Z,13µm,21.0s							
TIP	**Timpagrande**	**149.35**	**316**	P	**PKPdf**	**07 29 32.4**	**-2.3**	
AQU	**L'Aquila**	**149.46**	**324**	*e*PKPbc	**PKPbc**	**07 29 39.1**	**-0.1**	
AQU				LR	LR			
	comp=Z,17µm,22.0s							
AQU	**L'Aquila**	**149.46**	**324**	*e*PKP2	**PKPbc**	**07 29 39.1**	**-0.1**	
AQU				MLR	MLR			
	comp=Z,17µm,22.0s							
CUC	**Castrocucco**	**149.50**	**318**	*e*PKPbc	**PKPbc**	**07 29 37.6**	**-1.8**	
CUC				LR	LR			
	comp=Z,10µm,22.0s							
VLC	**Villacollemand**	**149.73**	**330**	PFAKE		07 29 50.0	+4.9	
VLC				LR	LR			
	comp=Z,12µm,21.0s							
CEL	**Celeste**	**150.41**	**315**	*e*PKPbc	**PKPbc**	**07 29 41.9**	**+0.2**	
CEL				LR	LR			
	comp=Z,16µm,22.0s							
BNI	**Bardonecchia**	**150.65**	**335**	*e*PKPbc	**PKPbc**	**07 29 42.1**	**0.0**	
BNI				LR	LR			
	comp=Z,14µm,20.0s							
BNI	**Bardonecchia**	**150.65**	**335**	*e*PKIKP	**PKPbc**	**07 29 42.1**	**0.0**	
BNI				MLR	MLR			
	comp=Z,14µm,20.0s							
SSB	**Saint Sauveur**	**151.26**	**338**	*e*PKPbc	**PKPbc**	**07 29 42.5**	**-0.9**	
SSB				LR	LR			
	comp=Z,14µm,19.0s							
SSB	**Saint Sauveur**	**151.26**	**338**	*e*PKIKP	**PKPbc**	**07 29 42.5**	**-0.9**	
SSB				MLR	MLR			
	comp=Z,14µm,19.0s							
MON	**Monaco**	**151.41**	**333**	*e*PKPdf	**PKPdf**	**07 29 38.8**	**+1.1**	
VAE	**Valguarnera**	**151.82**	**315**	PKPbc	**PKPbc**	**07 29 45.6**	**+0.6**	
	comp=Z,18nm,0.8s,baz=7.9,slow=10,SNR=3.4							
CLTB	**Caltabellotta**	**152.55**	**317**	*e*PKPbc	**PKPbc**	**07 29 44.7**	**-2.0**	
CLTB				LR	LR			
	comp=Z,6µm,20.0s							
WDD	**Wied Dalam**	**152.61**	**312**	PFAKE		07 29 50.0	+3.3	
WDD				LR	LR			
	comp=Z,13µm,21.0s							
ASCN	**Ascension**	**152.71**	**171**	PFAKE		07 29 50.0	+2.4	
ASCN				LR	LR			
	comp=Z,18µm,22.0s							
H07S1	**FLORES T-PHASE**	**52.97**	**38**	*e*PKPdf	**PKPdf**	**07 29 39.6**	**-0.6**	
VSL	**Villasalto**	**153.64**	**324**	*e*PKPbc	**PKPbc**	**07 29 48.6**	**-0.3**	
VSL				LR	LR			
	comp=Z,13µm,21.0s							
PCED	**Cedros**	**154.90**	**36**	*e*PKPdf	**PKPdf**	**07 29 42.5**	**-0.4**	
PGRA	**Graciosa**	**155.00**	**34**	*e*PKPdf	**PKPdf**	**07 29 43.2**	**+0.2**	
ROSA	**Rosais**	**155.08**	**35**	*e*PKPdf	**PKPdf**	**07 29 42.5**	**-0.7**	
ROSA	**Rosais**	**155.08**	**35**	PFAKE		07 29 50.0	+6.8	
ROSA				LR	LR			
	comp=Z,23µm,22.0s							
PCAN	**Candelaria**	**155.13**	**36**	*e*PKPdf	**PKPdf**	**07 29 43.1**	**-0.1**	
PICO	**Pico**	**155.14**	**36**	*e*PKPdf	**PKPdf**	**07 29 42.6**	**-0.7**	
PMAN	**Manadas**	**155.23**	**35**	*e*PKPdf	**PKPdf**	**07 29 42.9**	**-0.4**	
KEST	**Kesra**	**156.14**	**318**	PKPbc	PKPdf	07 29 53.6	+8.8	
	comp=Z,9.9nm,1.0s,baz=165,slow=4.6,SNR=4.3							
KEST				PKPab	**PKPab**	**07 30 11.9**	**-0.6**	
	comp=Z,42nm,1.2s,baz=40,slow=1.2,SNR=5.8							
KEST	**Kesra**	**156.14**	**318**	PKPbc	PKPdf	07 29 53.6	+8.8	
KEST				PKPab	**PKPab**	**07 30 11.9**	**-0.6**	
KEST				LR	LR			
	comp=Z,23µm,21.0s							
CMAH	**Djebel Manchou**	**156.74**	**322**	P	**PKPab**	**07 30 15.6**	**+0.7**	
ABSA	**Djebel Ababsia**	**156.94**	**321**	P	**PKPab**	**07 30 19.8**	**+3.9**	
PSET	**Sete Cidades**	**157.08**	**33**	*e*PKPdf	**PKPdf**	**07 29 45.8**	**0.0**	
PDA	**Ponta Delgada**	**157.16**	**33**	*e*PKPdf	**PKPdf**	**07 29 45.0**	**-0.9**	
CMLA	**Cha da Macela**	**157.22**	**33**	*e*PKPdf	**PKPdf**	**07 29 45.3**	**-0.7**	
CMLA	**Cha da Macela**	**157.22**	**33**	PFAKE		07 30 00.0	+14	
CMLA				LR	LR			
	comp=Z,28µm,22.0s							
PGAV	**Gavieira, Arco**	**157.27**	**356**	*e*PKPab	**PKPab**	**07 30 16.1**	**-0.9**	
PGAV	**Gavieira, Arco**	**157.27**	**356**	*e*PP	PP	07 34 00.3	+5.5	
PGAV	**Gavieira, Arco**	**157.27**	**356**	*e*SS	SS	07 53 54.8	+8.0	
PGAV	**Gavieira, Arco**	**157.27**	**356**	*e*LQ	LQ	08 14 00.0		
PGAV				*e*LR	LR	08 23 52.9		
	comp=Z,13µm,18.0s							
PBRG	**Braganca**	**157.29**	**353**	*e*PKPab	**PKPab**	**07 30 18.0**	**+1.0**	
CKFL	**Kef-Lekhel**	**157.30**	**322**	P	**PKPab**	**07 30 23.6**	**+6.2**	
BART	**Pico Bartolome**	**157.39**	**32**	*e*PKPdf	**PKPdf**	**07 29 45.2**	**-1.1**	
PCAB	**Cabril**	**157.50**	**356**	*e*PKPdf	**PKPdf**	**07 29 46.0**	**-0.3**	
PCAB	**Cabril**	**157.50**	**356**	*e*PKPab	**PKPab**	**07 30 18.8**	**+0.9**	
PCAB	**Cabril**	**157.50**	**356**	*e*PP	PP	07 33 59.0	+3.0	
CASM	**Ain Smara**	**157.53**	**322**	P	**PKPab**	**07 30 22.7**	**+4.4**	
DFRA	**Djebel Bou Aff**	**157.67**	**324**	P	**PKPab**	**07 30 25.2**	**+6.2**	
CTEI	**Djebel Teioual**	**157.72**	**322**	P	**PKPab**	**07 30 24.1**	**+4.9**	
POLO	**Lamas de Olo**	**157.82**	**355**	*e*PKPab	**PKPab**	**07 30 19.9**	**+0.5**	
POLO	**Lamas de Olo**	**157.82**	**355**	*e*PP	PP	07 33 58.9	+1.1	
POLO	**Lamas de Olo**	**157.82**	**355**	*e*SS	SS	07 53 43.3	-9.4	
POLO	**Lamas de Olo**	**157.82**	**355**	*e*LQ	LQ	08 13 59.7		
POLO	**Lamas de Olo**	**157.82**	**355**	*e*LR	LR	08 24 27.3		
	comp=Z,5µm,20.0s							
PVRL	**Vila Real**	**157.91**	**355**	*e*PKPdf	**PKPdf**	**07 29 46.8**	**0.0**	
PVRL	**Vila Real**	**157.91**	**355**	*e*PKPab	**PKPab**	**07 30 19.8**	**+0.1**	
PVRL	**Vila Real**	**157.91**	**355**	*e*PP	PP	07 34 00.8	+2.5	
MVO	**Moncorvo**	**157.96**	**354**	*e*PKPab	**PKPab**	**07 30 19.9**	**0.0**	
MVO	**Moncorvo**	**157.96**	**354**	*e*PP	PP	07 33 59.5	+0.9	
MVO	**Moncorvo**	**157.96**	**354**	*e*LQ	LQ	08 14 46.7		
MVO				*e*LR	LR	08 24 02.3		
	comp=Z,15µm,20.0s							
PSMA	**Santa Maria**	**158.01**	**33**	*e*PKPdf	**PKPdf**	**07 29 46.3**	**-0.7**	
PSMN	**Pico do Norte,**	**158.04**	**33**	*e*PKPdf	**PKPdf**	**07 29 46.3**	**-0.7**	
SET	**Setif**	**158.19**	**324**	P	**PKPab**	**07 30 24.0**	**+2.8**	
CKHR	**Kef el Ahmar**	**158.26**	**324**	P	**PKPab**	**07 30 28.9**	**+7.3**	
PVIS	**Viseu**	**158.48**	**355**	*e*PKPab	**PKPab**	**07 30 22.0**	**-0.2**	
PVIS	**Viseu**	**158.48**	**355**	*e*PP	PP	07 33 59.6	-1.8	
MTE	**Manteigas**	**158.77**	**354**	*e*PKPab	**PKPab**	**07 30 24.4**	**+0.9**	
MTE	**Manteigas**	**158.77**	**354**	*e*PP	PP	07 34 04.1	+1.1	
MTE	**Manteigas**	**158.77**	**354**	*e*SS	SS	07 54 07.2	+4.5	
MTE	**Manteigas**	**158.77**	**354**	*e*LQ	LQ	08 14 22.0		
MTE	**Manteigas**	**158.77**	**354**	*e*LR	LR	08 24 55.5		
	comp=Z,14µm,18.0s							
MTE	**Manteigas**	**158.77**	**354**	PFAKE		07 30 00.0	+12	
MTE				LR	LR			
	comp=Z,17µm,22.0s							
ES19	**SONSECA Array**	**158.87**	**346**	*e*PKPab	**PKPab**	**07 30 22.3**	**-1.6**	
ESDC	**Sonseca Array**	**158.91**	**346**	PKPab	**PKPab**	**07 30 24.6**	**+0.5**	
	comp=Z,7.0nm,0.7s,baz=12,slow=3.3,SNR=13							
ESDC				PP	**PP**	**07 34 02.0**	**-1.8**	
	comp=Z,9.6nm,1.2s,baz=29,slow=5.7,SNR=6.2							
ESLA	**Sonseca Array**	**158.91**	**346**	*e*PKPab	**PKPab**	**07 30 24.0**	**-0.1**	
ESLA				LR	LR			
	comp=Z,14µm,19.0s							
PAB	**San Pablo**	**159.12**	**347**	*e*PKPab	**PKPab**	**07 30 26.4**	**+1.4**	
PAB				LR	LR			
	comp=Z,14µm,19.0s							
PAB	**San Pablo**	**159.12**	**347**	*e*PKP2	**PKPab**	**07 30 26.4**	**+1.4**	
PAB				MLR	MLR			
	comp=Z,14µm,19.0s							
PCAS	**Casmilo, Conde**	**159.19**	**356**	*e*PKPab	**PKPab**	**07 30 26.0**	**+0.8**	
PCAS	**Casmilo, Conde**	**159.19**	**356**	*e*PP	PP	07 34 06.6	+1.4	
PCAS	**Casmilo, Conde**	**159.19**	**356**	*e*LQ	LQ	08 14 34.7		
PCAS	**Casmilo, Conde**	**159.19**	**356**	*e*LR	LR	08 24 53.6		
	comp=Z,13µm,22.0s							
PCBR	**Castelo Branco**	**159.31**	**354**	*e*PKPdf	**PKPdf**	**07 29 48.4**	**0.0**	
PCBR	**Castelo Branco**	**159.31**	**354**	*e*PKPab	**PKPab**	**07 30 29.1**	**+3.4**	
PCBR	**Castelo Branco**	**159.31**	**354**	*e*PP	PP	07 34 07.9	+2.1	
PTOM	**Tomar**	**159.61**	**356**	*e*PKPab	**PKPab**	**07 30 27.3**	**+0.2**	
PTOM	**Tomar**	**159.61**	**356**	*e*PP	PP	07 34 09.0	+1.5	
PMRV	**Marv??o**	**159.71**	**354**	*e*PKPdf	**PKPdf**	**07 29 49.6**	**+0.6**	
PMRV	**Marv??o**	**159.71**	**354**	*e*PKPab	**PKPab**	**07 30 28.0**	**+0.5**	
PMRV	**Marv??o**	**159.71**	**354**	*e*PP	PP	07 34 09.2	+1.1	
PMRV	**Marv??o**	**159.71**	**354**	*e*SS	SS	07 54 16.9	+4.2	
PMRV	**Marv??o**	**159.71**	**354**	*e*LQ	LQ	08 14 47.6		
PMRV	**Marv??o**	**159.71**	**354**	*e*LR	LR	08 25 18.7		
	comp=Z,11µm,20.0s							
CART	**Cartagena**	**160.00**	**338**	PFAKE		07 30 00.0	+11	
CART				LR	LR			
	comp=Z,16µm,22.0s							
ALMR	**Almeirim**	**160.08**	**356**	*e*P	**PKPdf**	**07 29 48.3**	**-1.1**	
ALMR				AMS	AMS	08 56 01.3		
	comp=Z,13µm,16.0s							
ALMR	**Almeirim**	**160.08**	**356**	*e*P	**PKPdf**	**07 29 48.3**	**-1.1**	
ALMR	**Almeirim**	**160.08**	**356**	A	A	08 56 01.3		
	comp=Z,13µm,16.0s							
ALMR	**Almeirim**	**160.08**	**356**	*e*PKIKP	**PKPdf**	**07 29 48.3**	**-1.1**	
PMTG	**Montargil**	**160.15**	**355**	*e*PKPdf	**PKPdf**	**07 29 50.2**	**+0.8**	
PMTG	**Montargil**	**160.15**	**355**	*e*PKPab	**PKPab**	**07 30 31.0**	**+1.6**	
PMTG	**Montargil**	**160.15**	**355**	*e*PP	PP	07 34 12.2	+1.9	
PMTG	**Montargil**	**160.15**	**355**	*e*SS	SS	07 54 19.6	+2.5	
PMTG	**Montargil**	**160.15**	**355**	*e*LQ	LQ	08 15 05.0		
PMTG	**Montargil**	**160.15**	**355**	*e*LR	LR	08 25 20.0		
	comp=Z,13µm,20.0s							
PESTR	**Estremoz**	**160.29**	**354**	*e*PKPab	**PKPab**	**07 30 31.3**	**+1.3**	
PESTR	**Estremoz**	**160.29**	**354**	*e*PP	PP	07 34 11.8	+0.6	
PESTR	**Estremoz**	**160.29**	**354**	*e*SS	SS	07 54 32.0	+13	
PESTR	**Estremoz**	**160.29**	**354**	*e*LQ	LQ	08 15 28.9		
PESTR				*e*LR	LR	08 25 16.7		
	comp=Z,12µm,22.0s							
PESTR	**Estremoz**	**160.29**	**354**	*e*PKPab	**PKPab**	**07 30 29.9**	**-0.2**	
PMAFR	**Mafra**	**160.32**	**358**	*e*PKPab	**PKPab**	**07 30 32.9**	**+2.7**	
PMAFR	**Mafra**	**160.32**	**358**	*e*PP	PP	07 34 11.6	+0.3	
PMAFR	**Mafra**	**160.32**	**358**	*e*SS	SS	07 54 30.2	+11	
PMAFR	**Mafra**	**160.32**	**358**	*e*LQ	LQ	08 15 03.6		
PMAFR	**Mafra**	**160.32**	**358**	*e*LR	LR	08 25 26.6		
	comp=Z,12µm,18.0s							
PMST	**Lisbon--Monsan**	**160.53**	**357**	*e*PKPdf	**PKPdf**	**07 29 51.0**	**+1.1**	
PMST	**Lisbon--Monsan**	**160.53**	**357**	*e*PKPab	**PKPab**	**07 30 35.3**	**+4.2**	
LIS	**Lisbon**	**160.55**	**357**	*e*P	**PKPdf**	**07 29 48.7**	**-1.2**	
LIS				AMS	AMS	08 37 18.7		
	comp=Z,15µm,18.5s							
LIS	**Lisbon**	**160.55**	**357**	*e*PKIKP	**PKPdf**	**07 29 48.7**	**-1.2**	
EVO	**Evora**	**160.66**	**355**	*e*PKPdf	**PKPdf**	**07 29 48.8**	**-1.2**	
EVO	**Evora**	**160.66**	**355**	*e*PKPab	**PKPab**	**07 30 34.4**	**+2.8**	
EVO	**Evora**	**160.66**	**355**	*e*PP	PP	07 34 16.0	+2.9	
PBAR	**Barrancos**	**160.91**	**352**	*e*PKPdf	**PKPdf**	**07 29 48.2**	**-2.1**	
PBAR	**Barrancos**	**160.91**	**352**	*e*PKPab	**PKPab**	**07 30 33.3**	**+0.6**	
PBAR	**Barrancos**	**160.91**	**352**	*e*SS	SS	07 54 31.4	+6.2	
PBAR	**Barrancos**	**160.91**	**352**	*e*LQ	LQ	08 14 38.4		
PBAR	**Barrancos**	**160.91**	**352**	*e*LR	LR	08 25 56.3		
	comp=Z,33µm,20.0s							
PNCL	**Nicolau / Gran**	**161.12**	**356**	*e*PKPdf	**PKPdf**	**07 29 51.0**	**+0.5**	
PNCL	**Nicolau / Gran**	**161.12**	**356**	*e*PKPab	**PKPab**	**07 30 37.2**	**+3.6**	
PNCL	**Nicolau / Gran**	**161.12**	**356**	*e*PP	PP	07 34 18.7	+3.1	
PNCL	**Nicolau / Gran**	**161.12**	**356**	*e*SS	SS	07 54 25.5	-1.8	
PNCL	**Nicolau / Gran**	**161.12**	**356**	*e*LQ	LQ	08 14 50.5		
PNCL	**Nicolau / Gran**	**161.12**	**356**	*e*LR	LR	08 26 02.9		
	comp=Z,16µm,20.0s							
PBEJ	**Beja**	**161.15**	**354**	*e*PKPdf	**PKPdf**	**07 29 51.1**	**+0.5**	
PBEJ	**Beja**	**161.15**	**354**	*e*PKPab	**PKPab**	**07 30 33.7**	**-0.1**	
PBEJ	**Beja**	**161.15**	**354**	*e*PP	PP	07 34 19.4	+3.6	
MESJ	**Messejana**	**161.37**	**355**	*e*P	**PKPdf**	**07 29 49.8**	**-1.0**	
MESJ				AMS	AMS	08 40 05.4		
	comp=Z,15µm,19.2s							
MESJ	**Messejana**	**161.37**	**355**	*e*PKPab	**PKPab**	**07 30 35.0**	**+0.3**	
MESJ	**Messejana**	**161.37**	**355**	*e*PP	PP	07 34 19.4	+2.5	
MESJ	**Messejana**	**161.37**	**355**	*e*PKIKP	**PKPdf**	**07 29 49.8**	**-1.0**	
PCVE	**Castro Verde**	**161.56**	**354**	*e*PKPdf	**PKPdf**	**07 29 52.9**	**+1.9**	
PCVE	**Castro Verde**	**161.56**	**354**	*e*PKPab	**PKPab**	**07 30 36.3**	**+0.7**	
PCVE	**Castro Verde**	**161.56**	**354**	*e*PP	PP	07 34 20.8	+2.9	
PCVE	**Castro Verde**	**161.56**	**354**	*e*LQ	LQ	08 15 29.5		
PCVE				*e*LR	LR	08 25 06.8		
PTEO	**Sao Teotonio**	**161.70**	**356**	*e*PKPdf	**PKPdf**	**07 29 51.1**	**0.0**	
PTEO	**Sao Teotonio**	**161.70**	**356**	*e*PKPab	**PKPab**	**07 30 37.8**	**+1.6**	
PTEO	**Sao Teotonio**	**161.70**	**356**	*e*PP	PP	07 34 23.0	+4.4	
PVAQ	**Vaqueiros**	**161.75**	**354**	*e*PKPdf	**PKPdf**	**07 29 51.4**	**+0.2**	
PVAQ	**Vaqueiros**	**161.75**	**354**	*e*PKPab	**PKPab**	**07 30 37.4**	**+1.0**	
PVAQ	**Vaqueiros**	**161.75**	**354**	*e*PP	PP	07 34 20.8	+1.8	
PVAQ	**Vaqueiros**	**161.75**	**354**	*e*LQ	LQ	08 16 04.7		
PVAQ	**Vaqueiros**	**161.75**	**354**	*e*LR	LR	08 26 30.0		
	comp=Z,15µm,20.0s							
MORF	**Marmelete**	**161.93**	**356**	*e*P	**PKPdf**	**07 29 50.2**	**-1.2**	
MORF				AMS	AMS	08 37 29.9		
	comp=Z,13µm,19.7s							
MORF	**Marmelete**	**161.93**	**356**	*e*PKPdf	**PKPdf**	**07 29 55.1**	**+3.6**	
MORF	**Marmelete**	**161.93**	**356**	*e*PKPab	**PKPab**	**07 30 40.0**	**+2.7**	
MORF	**Marmelete**	**161.93**	**356**	*e*PP	PP	07 34 24.8	+4.8	
MORF	**Marmelete**	**161.93**	**356**	*e*LQ	LQ	08 15 48.8		
MORF				*e*LR	LR	08 25 20.0		
	comp=Z,13µm,20.0s							
MORF	**Marmelete**	**161.93**	**356**	*e*PKIKP	**PKPdf**	**07 29 50.2**	**-1.2**	
PBDV	**Barranco-do-Ve**	**161.93**	**354**	*e*PKPdf	**PKPdf**	**07 29 53.2**	**+1.8**	
PBDV	**Barranco-do-Ve**	**161.93**	**354**	*e*PKPab	**PKPab**	**07 30 40.7**	**+3.4**	
PBDV	**Barranco-do-Ve**	**161.93**	**354**	*e*PP	PP	07 34 24.2	+4.2	
PBDV	**Barranco-do-Ve**	**161.93**	**354**	*e*LQ	LQ	08 15 19.6		
PBDV	**Barranco-do-Ve**	**161.93**	**354**	*e*LR	LR	08 26 25.9		
	comp=Z,15µm,22.0s							
PFVI	**Vila Bisbo**	**162.11**	**356**	*e*PKPdf	**PKPdf**	**07 29 50.6**	**-1.0**	
PFVI	**Vila Bisbo**	**162.11**	**356**	*e*PKPab	**PKPab**	**07 30 40.0**	**+2.0**	
PFVI	**Vila Bisbo**	**162.11**	**356**	*e*PP	PP	07 34 23.9	+3.0	
PFVI	**Vila Bisbo**	**162.11**	**356**	*e*LQ	LQ	08 15 41.2		
PFVI				*e*LR	LR	08 25 06.8		
	comp=Z,13µm,22.0s							
TAM	**Tamanrasset**	**164.85**	**286**	*e*PKPdf	**PKPdf**	**07 29 54.8**	**0.0**	
TAM				*e*PKPab	**PKPab**	**07 30 50.2**	**-0.7**	
TAM				LR	LR			
	comp=Z,17µm,22.0s							
TAM	**Tamanrasset**	**164.85**	**286**	*e*PKIKP	**PKPdf**	**07 29 54.8**	**0.0**	
TAM				*e*		07 30 50.2		
TAM				MLR	MLR			
	comp=Z,17µm,22.0s							
RTC	**Rabat Centre**	**164.99**	**349**	PFAKE		07 30 10.0	+16	
RTC				LR	LR			
	comp=Z,53µm,21.0s							
PMOZ	**Porto Moniz, M**	**165.09**	**23**	*e*PKPdf	**PKPdf**	**07 29 55.8**	**+1.2**	
PMOZ	**Porto Moniz, M**	**165.09**	**23**	*e*PKPab	**PKPab**	**07 30 51.1**	**-0.3**	
PMOZ	**Porto Moniz, M**	**165.09**	**23**	*e*LR	LR	08 25 59.6		
	comp=Z,27µm,22.0s							
PMPS	**Porto Santo**	**165.19**	**20**	*e*PKPdf	**PKPdf**	**07 29 58.3**	**+3.8**	
PMPS	**Porto Santo**	**165.19**	**20**	*e*PKPab	**PKPab**	**07 30 49.8**	**-1.8**	
PMAR	**Madeira**	**165.29**	**23**	*e*PKPdf	**PKPdf**	**07 29 55.4**	**+0.5**	
PMAR	**Madeira**	**165.29**	**23**	*e*PKPab	**PKPab**	**07 30 52.2**	**-0.2**	
PMAR	**Madeira**	**165.29**	**23**	*e*PP	PP	07 34 29.9	+4.7	
FUL	**Funchal**	**165.36**	**23**	*e*PKPdf	**PKPdf**	**07 29 55.4**	**+0.7**	
FUL	**Funchal**	**165.36**	**23**	*e*PKPab	**PKPab**	**07 30 55.9**	**+3.5**	
LIC	**Lamto**	**166.12**	**202**	*e*PKP2	**PKPdf**	**07 29 54.2**	**-1.7**	
	comp=Z,336nm,2.3s							
KIC	**Kosan Boka**	**166.14**	**203**	*e*PKP2	**PKPdf**	**07 29 54.5**	**-1.4**	
	comp=Z,605nm,2.4s							
DBIC	**Dimbokro**	**166.46**	**204**	PKP	**PKPdf**	**07 29 55.0**	**-1.1**	
	comp=Z,8.9nm,1.1s,baz=208,slow=2.1,SNR=5.3							
DBIC				PKPab	**PKPab**	**07 30 58.3**	**+0.6**	
	comp=Z,42nm,1.1s,baz=133,slow=6.7,SNR=5.5							
DBIC				PP	**PP**	**07 34 41.5**	**-2.5**	
	comp=Z,11nm,1.1s,baz=84,slow=12,SNR=3.3							
DBIC	**Dimbokro**	**166.46**	**204**	*e*PKPdf	**PKPdf**	**07 29 54.6**	**-1.5**	
DBIC				*e*PKPab	**PKPab**	**07 30 59.5**	**+1.7**	
DBIC				PP	**PP**	**07 34 41.5**	**-2.5**	
DBIC	**Dimbokro**	**166.46**	**204**	*e*PKIKP	**PKPdf**	**07 29 54.6**	**-1.5**	
DBIC				*e*		07 30 59.5		
DBIC						07 34 41.5		
TIC	**Toumodi**	**166.50**	**203**	*e*PKP2	**PKPdf**	**07 29 53.0**	**-3.2**	
SACV	**Santiago Islan**	**166.55**	**106**	PFAKE		07 30 10.0	+14	
SACV				LR	LR			
	comp=Z,9µm,21.0s							
TOA0	**Torodi Ar. Sit**	**167.04**	**244**	*e*PKPdf	**PKPdf**	**07 29 55.5**	**-1.0**	
TOA0				*e*PKPab	**PKPab**	**07 31 00.7**	**+0.2**	
TORD	**Torodi Ar. Bea**	**167.04**	**244**	PKP	**PKPdf**	**07 29 55.4**	**-1.1**	
	comp=Z,30nm,1.1s,baz=350,slow=0.5,SNR=57							
TORD				PKPab	**PKPab**	**07 31 00.7**	**+0.2**	
	comp=Z,38nm,1.1s,baz=120,slow=3.5,SNR=5.4							
TORD				PP	**PP**	**07 34 45.8**	**-2.8**	
	comp=Z,8.6nm,1.2s,baz=102,slow=3.7,SNR=3.8							
KOWA	**Kowa**	**172.40**	**233**	PKP	**PKPdf**	**07 29 58.5**	**-1.2**	
	comp=Z,17nm,1.1s,baz=128,slow=0.8,SNR=22							
KOWA				PKPab	**PKPab**	**07 31 26.3**	**+2.1**	
	comp=Z,17nm,1.1s,baz=106,slow=6.3,SNR=2.4							
KOWA				PP	**PP**	**07 35 12.2**	**-3.0**	
	comp=Z,7.1nm,0.9s,baz=73,slow=4.5,SNR=3.3							
KOWA	**Kowa**	**172.40**	**233**	*e*PKPdf	**PKPdf**	**07 29 58.8**	**-0.8**	
KOWA				PKPab	**PKPab**	**07 31 26.3**	**+2.1**	
KOWA				PP	**PP**	**07 35 12.2**	**-3.0**	
BBTS	**Babate**	**172.47**	**126**	PKP	**PKPdf**	**07 30 00.4**	**+0.7**	
	comp=Z,9.5nm,0.3s,baz=357,slow=1.8,SNR=5.0							
BBTS				PKPab	**PKPab**	**07 31 25.6**	**+1.2**	
	comp=Z,100nm,1.1s,baz=199,slow=1.3,SNR=7.0							
BBTS				PP	**PP**	**07 35 16.2**	**+0.7**	
	comp=Z,27nm,1.0s,baz=215,slow=2.6,SNR=2.9							

IDC 09 07:11:39.6±1.8, 39°.15N×110°.62E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.4/77, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=38.1km s-min=25.6km az=91.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.21**	**342**	Pn	Pn	07 13 54.3	+0.6
	0.1nm,0.3s,baz=157,slow=13,SNR=19						
SONM				Sn	Sn	07 15 35.3	-2.7
	0.1nm,0.3s,baz=175,slow=24,SNR=2.3						
SONM				Lg	Lg	07 16 29.1	
	0.1nm,0.3s,baz=162,slow=29,SNR=4.0						
MKAR	**Makanchi Array**	**22.01**	**300**	P	P	07 16 35.0	-0.4
	3.4nm,1.0s,baz=97,slow=12,SNR=22						
CMAR	**Chiang Mai Arr**	**22.98**	**209**	P	P	07 16 45.3	-0.5
	2.1nm,0.3s,baz=22,slow=9.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**25.26**	**308**	P	P	07 17 08.1	+0.8
	0.8nm,0.8s,baz=104,slow=10,SNR=5.9						
YKA	**Yellowknife Ar**	**72.38**	**20**	P	P	07 23 07.0	0.0
	0.5nm,0.9s,baz=326,slow=6.0,SNR=7.2						

MEX 09 07:14:26.3±0.8, 18°.13N×103°.30W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.16**	**345**	*i* P	Pg	07 14 28.7	-0.9
MMIG				*i* S	Sg	07 14 31.5	-0.3
EZ5V		**1.37**	**348**	*e*P	Pn	07 14 49.1	-3.3
EZ5V				*e*S	Sg	07 15 07.0	-3.5
ZIIG	**Zihuatanejo**	**1.82**	**106**	*i* P	Pn	07 14 55.8	-2.5
ZIIG				*i* S	Sn	07 15 16.5	-5.3
CJM	**Chamela**	**2.14**	**310**	*i* P	Pn	07 14 59.4	-3.3
CJM				*e*S	Sn	07 15 25.6	-4.1

*NNC **09** 07:18:18.1±0.6, 50°.01N×78°.74E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=8.9km s-min=3.1km az=78.0, Suspected Mining explosion.*

*IDC

	2.5nm,0.8s						
WRA	**Warramunga Arr**	**33.18**	**263**	P	**P**	**07 29 53.9**	**-1.8**
	6.7nm,1.1s,baz=89,slow=8.6,SNR=6.9						
AS01	**Alice Springs**	**33.43**	**256**	*e*P	**P**	**07 29 57.0**	**-0.8**
AS31	**Alice Springs**	**33.47**	**256**	*e*P	**P**	**07 29 57.0**	**-1.2**
	2.6nm,0.8s						
ASAR	**Alice Springs**	**33.47**	**256**	P	**P**	**07 29 55.9**	**-2.3**
	2.8nm,0.5s,baz=81,slow=8.6,SNR=7.3						
FAKI	**Fak Fak**	**39.85**	**289**	*e*P	**P**	**07 30 53.3**	**+0.7**
	22nm,0.9s						
SOEI	**Soe**	**44.73**	**275**	*e*P	**P**	**07 31 32.8**	**+0.3**
	36nm,1.1s						
MBWA	**Marble Bar**	**46.69**	**259**	*e*P	**P**	**07 31 47.2**	**-0.6**
	41nm,1.1s						
NWAO	**Narrogin (SRO)**	**48.57**	**243**	*e*P	**P**	**07 32 01.6**	**-0.6**
	25nm,1.0s						
VNDA	**Vanda**	**58.62**	**182**	P	**P**	**07 33 14.5**	**-0.8**
	2.6nm,0.8s,baz=334,slow=2.9,SNR=3.8						
VNDA	**Vanda**	**58.62**	**182**	*e*P	**P**	**07 33 15.2**	**-0.1**
VNDA				*e*pP	**P**	**07 33 16.8**	**+1.5**
SBA	**Scott Base**	**58.84**	**181**	*e*P	**P**	**07 33 17.5**	**+0.7**
ASAJ	**Asahikawa**	**67.55**	**339**	P	**P**	**07 34 15.2**	**+0.3**
	10nm,0.7s,baz=245,slow=22,SNR=4.9						
ASAJ	**Asahikawa**	**67.55**	**339**	*e*P	**P**	**07 34 15.0**	**0.0**
	17nm,1.1s						
PETK	**Petropavlovsk-**	**72.60**	**353**	P	**P**	**07 34 46.2**	**+0.4**
	1.4nm,0.7s,baz=132,slow=8.2,SNR=3.0						
PEA1	**Petropavlovsk-**	**72.61**	**353**	*e*P	**P**	**07 34 46.2**	**+0.4**
KLR	**Kul'dur**	**75.84**	**336**	P	**P**	**07 35 05.1**	**+0.3**
	0.1nm,0.6s,baz=176,slow=7.4,SNR=3.9						
BJT	**Baijiatuau**	**76.99**	**321**	*e*P	**P**	**07 35 13.2**	**+1.7**
	8.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**78.72**	**294**	P	**P**	**07 35 21.5**	**-0.1**
	0.8nm,0.3s,baz=145,slow=3.3,SNR=3.0						
MA2	**Magadan**	**79.85**	**350**	P	**P**	**07 35 25.7**	**-1.2**
	3.9nm,0.6s,baz=158,slow=3.7,SNR=5.4						
OHAK	**Old Harbor**	**82.09**	**19**	*e*P	**P**	**07 35 39.4**	**+0.6**
	20nm,1.2s						
SEY	**Seymchan**	**82.84**	**352**	P	**P**	**07 35 41.5**	**-1.2**
	2.3nm,0.4s,baz=143,slow=20,SNR=7.7						
GAMB	**Gambell**	**83.85**	**8**	*e*P	**P**	**07 35 47.4**	**-0.4**
	5.2nm,1.0s						
SVW2	**Sparrevohn**	**84.65**	**16**	*e*P	**P**	**07 35 50.5**	**-1.5**
	3.3nm,0.8s						
KBO	**Bosley Butte**	**86.21**	**43**	*e*P	**P**	**07 36 01.4**	**+1.1**
	14nm,1.2s						
SUA	**Susitna One**	**86.29**	**18**	*e*P	**P**	**07 36 00.7**	**+0.4**
	0.9nm,0.5s						
SONA0	**Songino Array**	**87.27**	**323**	*e*P	**P**	**07 36 04.5**	**-1.0**
SONM	**Songino Array**	**87.27**	**323**	P	**P**	**07 36 04.5**	**-1.0**
	1.2nm,0.8s,baz=147,slow=2.9,SNR=3.5						
NVAR	**Mina Array Bea**	**88.45**	**48**	P	**P**	**07 36 12.1**	**+0.6**
	0.5nm,0.9s,baz=230,slow=7.0,SNR=2.8						
ILAR	**Eielson Array**	**89.97**	**17**	P	**P**	**07 36 16.6**	**-1.0**
	0.6nm,0.7s,baz=234,slow=5.6,SNR=6.7						
YKA	**Yellowknife Ar**	**100.37**	**27**	P	**Pdif**	**07 37 05.0**	**-0.1**
	0.2nm,0.8s,baz=264,slow=4.9,SNR=3.7						
YKA	**Yellowknife Ar**	**100.37**	**27**	P	**Pdif**	**07 37 05.0**	**-0.1**
SSPA	**Standing Stone**	**119.12**	**54**	*e*PKPdf	**PKPdf**	**07 42 07.8**	**-0.2**
PQI	**Presque Isle**	**125.77**	**46**	*e*PKPdf	**PKPdf**	**07 42 19.4**	**-1.0**
AKBB	**Malin Array Si**	**135.53**	**325**	*e*PKPdf	**PKPdf**	**07 42 40.2**	**+1.4**
KIEV	**Kiev**	**135.54**	**325**	*e*PKPdf	**PKPdf**	**07 42 40.0**	**+1.1**
CONA	**Conrad Observa**	**144.15**	**329**	*i* pPKPdf	**PKPdf**	**07 42 55.9**	**+1.2**
	9.4nm,1.3s						
DIVS	**Divibare**	**144.37**	**321**	*e*PKPdf	**PKPab**	**07 42 53.1**	**-0.1**
GERES	**GERESS Array B**	**144.48**	**332**	PKP	**PKPab**	**07 42 52.4**	**-1.1**
	2.5nm,0.9s,baz=5.7,slow=2.7,SNR=5.8						
ARSA	**Arzberg**	**144.79**	**329**	PKiKP	**PKiKP**	**07 42 58.6**	**-0.9**
	11nm,1.2s						
SOKA	**Soboth**	**145.43**	**329**	*i* sPKPbc	**PKPab**	**07 42 59.8**	**+2.7**
	19nm,1.2s						
KBA	**Koelnbreinsper**	**145.95**	**331**	sPKPab	**PKPab**	**07 43 02.8**	**+3.7**
	12nm,1.8s						
ABTA	**Abfaltersbach**	**146.58**	**331**	*i* sPKPbc	**PKPab**	**07 43 03.5**	**+2.1**
	16nm,1.3s						
MOTA	**Moosalm**	**146.75**	**333**	*e*sPKPab	**PKPab**	**07 43 05.3**	**+3.1**
	7.5nm,1.0s						
FETA	**Feichten**	**147.17**	**333**	*i* sPKPbc	**PKPab**	**07 43 04.6**	**+0.8**
	16nm,1.7s						
TORD	**Torodi Ar. Bea**	**166.95**	**245**	PKP	**PKPdf**	**07 43 23.5**	**-2.0**
	0.6nm,0.8s,baz=318,slow=1.3,SNR=2.3						
TOA1	**Torodi Ar. Sit**	**166.95**	**245**	*e*PKPdf	**PKPdf**	**07 43 23.5**	**-2.0**

*SKO **09** 07:32:29.1,41.88N×19.92E, h0km, M1.7, ML2.4*
*CSEM **09** 07:32:30.8±0.3, 41.81N×20.10E, h5km, ML2.3, Error ellipse: s-maj=7.3km s-min=4.1km az=48.0*
*TIR **09** 07:32:30.4, 42.08N×20.15E, h14km, ML2.5*
*ISCJB **09** 07:32:31.0±0.4, 41.83N±0.03×20.12E±0.04, h6km±5km, Error ellipse: s-maj=5.6km s-min=2.6km az=136.0*
*PDG **09** 07:32:31.1±0.1, 41.82N×20.10E, h12km, ML2.3/8, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*

ISC 09 07:32:31.4±0.9, 41.85N±0.03×20.12E±0.03, h11km±7km, n33, σ1s27/63, 12C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.25**	**319**	*i* Pg	**Pb**	**07 32 36.9**	**-1.2**
PUK				*i* SG	**Sg**	**07 32 41.8**	**+1.5**
PUK	**Puka**	**0.25**	**319**	*i* Pg	**Pb**	**07 32 36.9**	**-1.2**
PUK				*i* Sg	**Sg**	**07 32 41.8**	**+1.5**
PHP	**Peshkopia**	**0.30**	**125**	*i* PG	**Pg**	**07 32 36.8**	**-0.7**
PHP				*i* SG	**Sg**	**07 32 42.1**	**+0.6**
PHP	**Peshkopia**	**0.30**	**125**	*i* Pg	**Pg**	**07 32 36.8**	**-0.7**
PHP				*i* Sg	**Sg**	**07 32 42.1**	**+0.6**
TIR	**Tirane**	**0.54**	**200**	*i* PG	**Pg**	**07 32 41.3**	**-0.7**
TIR				*i* SG	**Sg**	**07 32 49.8**	**+0.7**
TIR	**Tirane**	**0.54**	**200**	*i* Pg	**Pg**	**07 32 41.3**	**-0.7**
TIR				*i* Sg	**Sg**	**07 32 49.8**	**+0.7**
	baz=204						
ULC	**Ulcinj**	**0.66**	**280**	⇑*i* Pg	**Pg**	**07 32 43.2**	**-1.0**
ULC				*e*Sg	**Sb**	**07 32 53.6**	**-0.5**
ULC	**Ulcinj**	**0.66**	**280**	⇑*i* Pg	**Pg**	**07 32 43.2**	**-1.0**
ULC				*e*Sg	**Sb**	**07 32 53.6**	**-0.5**
PVY	**Plav**	**0.75**	**351**	⇑*i* Pg	**Pb**	**07 32 45.7**	**-0.9**
PVY				*e*Sg	**Sn**	**07 32 57.9**	**-1.6**
PVY	**Plav**	**0.75**	**351**	⇑*i* Pg	**Pb**	**07 32 45.7**	**-0.9**
PVY				*e*Sg	**Sn**	**07 32 57.9**	**-1.6**
DRME	**Dracevica, Mon**	**0.77**	**296**	⇓*i* Pg	**Pg**	**07 32 45.5**	**-0.8**
DRME				*e*Sg	**Sn**	**07 32 58.0**	**-1.8**
DRME	**Dracevica, Mon**	**0.77**	**296**	⇓*i* Pg	**Pg**	**07 32 45.5**	**-0.8**
DRME				*e*Sg	**Sn**	**07 32 58.0**	**-1.8**
PDG	**Podgorica**	**0.86**	**312**	⇑*i* Pg	**Pg**	**07 32 47.1**	**-1.0**
PDG				*e*Sg	**Sn**	**07 33 01.1**	**-0.9**
TTG	**Podgorica**	**0.86**	**312**	⇑*i* Pg	**Pg**	**07 32 47.1**	**-1.0**
TTG				*e*Sg	**Sn**	**07 33 01.1**	**-0.9**
OHR	**Ohrid**	**0.90**	**145**	*i* Pg	**Pg**	**07 32 47.4**	**-1.5**
OHR				*i* Sg	**Sb**	**07 33 01.0**	**-0.1**
OHR				*e*Lg	Lg	07 33 01.7	
	comp=E,18nm,0.4s						
OHR				*e*Lg	Lg	07 33 01.8	
	comp=N,35nm,0.3s						
KRUS	**Krusevo**	**0.98**	**119**	*i* Pg	**Pg**	**07 32 48.8**	**-1.5**
KRUS				*i* Sg	**Sn**	**07 33 04.7**	**-0.3**
KRUS				*e*Lg	Lg	07 33 04.9	
	comp=N,8.5nm,0.3s						
KRUS				*e*Lg	Lg	07 33 05.0	
	comp=E,16nm,0.4s						
BUM	**Brajici-Budva**	**1.01**	**297**	*e*Pg	**Pb**	**07 32 50.3**	**-0.7**
BUM				*e*Sg	**Sn**	**07 33 06.3**	**+0.4**
BUM	**Brajici-Budva**	**1.01**	**297**	*e*Pg	**Pb**	**07 32 50.3**	**-0.7**
BEY	**Berane**	**1.03**	**351**	⇓*i* Pg	**Pn**	**07 32 50.8**	**-1.1**
BEY				*e*Sg	**Sn**	**07 33 07.1**	**+0.7**
IVA	**Berane**	**1.03**	**351**	⇓*i* Pg	**Pn**	**07 32 50.8**	**-1.1**
IVA				*e*Sg	**Sn**	**07 33 07.1**	**+0.7**
KOME	**Kolasin**	**1.09**	**336**	⇓*i* Pg	**Pn**	**07 32 51.9**	**-0.8**
KOME				*e*Sg	**Sn**	**07 33 09.5**	**+1.6**
KOME	**Kolasin**	**1.09**	**336**	⇓*i* Pg	**Pn**	**07 32 51.9**	**-0.8**
KOME				*e*Sg	**Sn**	**07 33 09.5**	**+1.6**
CEME	**Cevo**	**1.13**	**308**	⇑*i* Pg	**Pb**	**07 32 51.9**	**-1.1**
CEME				*e*Sg	**Sn**	**07 33 09.9**	**+1.2**
CEME	**Cevo**	**1.13**	**308**	⇑*i* Pg	**Pb**	**07 32 51.9**	**-1.1**
CEME				*e*Sg	**Sn**	**07 33 09.9**	**+1.2**
NKME	**Niksic**	**1.26**	**317**	⇑*i* Pg	**Pg**	**07 32 54.6**	**-1.0**
NKME				*e*Sg	**Sn**	**07 33 14.6**	**+2.7**
NKME	**Niksic**	**1.26**	**317**	⇑*i* Pg	**Pg**	**07 32 54.6**	**-1.0**
NKME				*e*Sg	**Sn**	**07 33 14.6**	**+2.7**
HCY	**Herceg Novi**	**1.34**	**297**	⇑*i* Pg	**Pb**	**07 32 55.7**	**-0.9**
HCY				*e*Sg	**Sg**	**07 33 17.4**	**+2.7**
HCY	**Herceg Novi**	**1.34**	**297**	⇑*i* Pg	**Pb**	**07 32 55.7**	**-0.9**
FNA	**Florina**	**1.43**	**138**	*i* PN	**Pn**	**07 32 56.7**	**-0.6**
FNA				*i* SN	**Sb**	**07 33 16.4**	**+0.1**
FNA	**Florina**	**1.43**	**138**	*i* Pn	**Pn**	**07 32 56.7**	**-0.6**
FNA				*i* Sn	**Sb**	**07 33 16.4**	**+0.1**
BRY	**Bratogost**	**1.57**	**312**	⇓*i* Pn	**Pg**	**07 33 00.1**	**-1.5**
BRY				*e*Sn	**Sg**	**07 33 22.9**	**+1.0**
BRY	**Bratogost**	**1.57**	**312**	⇓*i* Pn	**Pg**	**07 33 00.1**	**-1.5**
BRY				*e*Sn	**Sg**	**07 33 22.9**	**+1.0**
AKK2	**Akkuyu-Mersin**	**11.90**	**114**	*e*P	**Pn**	**07 35 24.0**	**+3.0**

*IDC **09** 07:32:42.0±4.7, 19.62S×170.29E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/41, mbtmp4.1/7, ML3.7/1, Error ellipse: s-maj=114.2km s-min=26.5km az=126.0*

ISC 09 07:32:42.4±3.4, 19.7S±0.4×170.5E±0.5, h10km, n7, σ1s21/8, mb4.0/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.41**	**237**	Pn	**Pn**	**07 33 49.7**	**+0.2**
	3.8nm,0.3s,baz=120,slow=20,SNR=3.3						
DZM				Sn	**Sn**	**07 34 41.5**	**+0.4**
	5.8nm,0.3s,baz=345,slow=20,SNR=2.8						
CTA	**Charters Tower**	**22.75**	**265**	P	**P**	**07 37 45.5**	**+0.5**
	2.9nm,0.8s,baz=68,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**28.57**	**239**	P	**P**	**07 38 37.8**	**-0.9**
	0.8nm,0.7s,baz=66,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**33.93**	**263**	P	**P**	**07 39 24.9**	**-1.1**
	0.5nm,0.6s,baz=90,slow=7.6,SNR=6.3						
ASAR	**Alice Springs**	**34.12**	**257**	P	**P**	**07 39 28.5**	**+0.8**
	6.3nm,0.7s,baz=84,slow=8.9,SNR=18						
MJAR	**Matsushiro Arr**	**63.72**	**331**	P	**P**	**07 43 13.1**	**-1.2**
	0.7nm,0.4s,baz=133,slow=8.4,SNR=3.0						
ASAJ	**Asahikawa**	**68.46**	**339**	P	**P**	**07 43 46.2**	**+1.7**
	1.3nm,0.3s,baz=226,slow=18,SNR=3.1						

*ISCJB **09** 07:36:38.9±0.3, 19.12S±0.05×169.23E±0.06, h10km, mb4.8/34, MS4.8/1, Error ellipse: s-maj=7.6km s-min=7.1km az=19.0*
*NEIC **09** 07:36:39.4±0.4, 19.05S×169.35E, h10km, mb4.9/18, Error ellipse: s-maj=10.0km s-min=8.5km az=91.0*
*BJI **09** 07:36:41.6, 19.10S×169.30E, h30km, mb4.9/15, mB4.8/1, Ms5.0/1, Ms7 4.8/1*
*IDC **09** 07:36:44.8±4.0, 19.17S×169.48E, h56km±34km, mb4.1/14, mb1 4.3/15, mb1mx4.1/39, mbtmp4.4/15, ML3.9/1, Error ellipse: s-maj=24.3km s-min=17.7km az=73.0*

ISC 09 07:36:39.7±0.5, 19.09S±0.07×169.35E±0.08, h10km, n77, σ1s41/81, mb4.9/34, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.02**	**222**	P	**Pn**	**07 37 42.8**	**+1.4**
	7.6nm,0.3s,baz=111,slow=15,SNR=25						
DZM				S	**Sn**	**07 38 32.0**	**+3.2**
	7.7nm,0.3s,baz=330,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**4.02**	**222**	*e*Pn	**Pn**	**07 37 42.4**	**+0.9**
	349nm,1.1s						
DZM				*e*Sn	**Sn**	**07 38 28.3**	**-0.5**
	25nm,0.2s						
DZM	**Mont Dzumac**	**4.02**	**222**	*e*Pn	**Pn**	**07 37 41.8**	**+0.3**
DZM				S	**Sn**	**07 38 32.0**	**+3.2**
OUZ	**Omahuta**	**16.50**	**168**	*e*Pn	**P**	**07 40 33.5**	**-0.4**
	44nm,1.1s						
EIDS	**Eidsvold**	**18.02**	**246**	*e*Pn	**Pn**	**07 40 49.5**	**-0.8**
	29nm,1.4s						
ARMA	**Armidale**	**19.62**	**232**	*e*P	**P**	**07 41 06.9**	**-1.6**
	54nm,1.4s						
URZ	**Urewera**	**20.26**	**162**	P	**P**	**07 41 15.1**	**-0.1**
	13nm,0.8s,baz=13,slow=12,SNR=4.4						
URZ	**Urewera**	**20.26**	**162**	*e*P	**P**	**07 41 15.6**	**+0.4**
	39nm,1.1s						
BKZ	**Black Stump Fm**	**20.94**	**164**	*e*P	**P**	**07 41 23.6**	**+0.9**
CTA	**Charters Tower**	**21.78**	**264**	P	**P**	**07 41 33.3**	**+1.4**
	2.6nm,0.8s,baz=230,slow=7.9,SNR=2.8						
PMG	**Port Moresby**	**23.54**	**291**	P	**P**	**07 41 51.5**	**+1.2**
	31nm,1.0s,baz=88,slow=5.1,SNR=7.5						
PMG	**Port Moresby**	**23.54**	**291**	*e*P	**P**	**07 41 50.1**	**-0.2**
	67nm,1.3s						
LTZ	**Lake Taylor**	**23.75**	**175**	*e*P	**P**	**07 41 52.0**	**-0.2**
	42nm,0.8s						
OXZ	**Oxford**	**24.27**	**175**	*e*P	**P**	**07 41 56.4**	**-0.6**
	34nm,0.8s						
FOZ	**Fox Glacier**	**24.37**	**179**	*e*P	**P**	**07 41 57.6**	**-0.3**
	48nm,1.0s						
RPZ	**Rata Peaks**	**24.59**	**177**	P	**P**	**07 41 60.0**	**0.0**
	17nm,0.9s,baz=118,slow=7.8,SNR=3.9						
STKA	**Stephens Creek**	**28.01**	**238**	P	**P**	**07 42 31.9**	**+0.9**
	5.6nm,0.8s,baz=58,slow=8.3,SNR=13						
STKA	**Stephens Creek**	**28.01**	**238**	*e*P	**P**	**07 42 32.1**	**+1.1**
	1.9nm,0.9s						
BBOO	**Buckleboo**	**32.75**	**239**	*e*P	**P**	**07 43 13.8**	**+0.8**
	9.4nm,0.8s						
WB2	**Warramunga Arr**	**32.96**	**263**	*e*P	**P**	**07 43 14.5**	**-0.4**
WRA	**Warramunga Arr**	**32.98**	**263**	P	**P**	**07 43 14.7**	**-0.3**
	5.1nm,1.0s,baz=81,slow=6.2,SNR=14						
WRA				PcP	**PcP**	**07 45 57.5**	**-1.6**
	2.9nm,0.9s,baz=86,slow=2.7,SNR=4.9						
AS01	**Alice Springs**	**33.22**	**256**	*e*P	**P**	**07 43 17.4**	**+0.3**
AS31	**Alice Springs**	**33.26**	**256**	*e*P	**P**	**07 43 17.7**	**+0.2**
	5.6nm,1.0s						
ASAR	**Alice Springs**	**33.26**	**256**	P	**P**	**07 43 17.8**	**+0.3**
	6.1nm,0.5s,baz=84,slow=8.9,SNR=48						
ASAR				PcP	**PcP**	**07 45 58.8**	**-1.1**
	0.9nm,0.9s,baz=118,slow=3.4,SNR=3.4						
MTN	**Manton Dam**	**37.21**	**274**	*e*P	**P**	**07 43 51.5**	**0.0**
	23nm,0.9s						
TIAR	**Tiarei**	**39.18**	**95**	*e*P	**P**	**07 44 11.0**	**+2.9**
	18nm,1.3s						
PMOR	**Pomariorio Ree**	**41.01**	**91**	*e*P	**P**	**07 44 26.4**	**+3.1**
	54nm,1.2s						
VAH	**Vaihoa**	**41.21**	**92**	*e*P	**P**	**07 44 27.6**	**+2.6**
	41nm,1.2s						
FITZ	**Fitzroy Crossi**	**41.36**	**264**	*e*P	**P**	**07 44 26.6**	**+0.4**
	30nm,0.9s						
MBWA	**Marble Bar**	**46.48**	**259**	*e*P	**P**	**07 45 07.9**	**+0.5**
	56nm,1.3s						
NWAO	**Narrogin (SRO)**	**48.37**	**243**	*e*P	**P**	**07 45 22.0**	**0.0**
	35nm,0.9s						
MYLDM	**Lahad Datu**	**55.56**	**291**	*e*P	**P**	**07 46 13.6**	**-2.2**
VNDA	**Vanda**	**58.58**	**182**	P	**P**	**07 46 33.7**	**-2.5**
	2.8nm,0.8s,baz=20,slow=6.7,SNR=6.4						
VNDA	**Vanda**	**58.58**	**182**	*e*P	**P**	**07 46 35.4**	**-0.8**
	7.3nm,1.1s						
JHJ2	**Mitune**	**59.08**	**331**	*e*P	**P**	**07 46 40.8**	**+0.5**
	942nm,1.3s						
MJAR	**Matsushiro Arr**	**62.67**	**332**	P	**P**	**07 47 03.8**	**-0.8**
	2.6nm,0.8s,baz=151,slow=7.8,SNR=4.6						
ASAJ	**Asahikawa**	**67.50**	**339**	P	**P**	**07 47 36.3**	**+0.5**
	10nm,0.8s,baz=226,slow=12,SNR=14						
ASAJ	**Asahikawa**	**67.50**	**339**	*e*P	**P**	**07 47 36.4**	**+0.5**
	14nm,1.0s						
YSS	**Yuzh-Sakhalins**	**69.98**	**341**	*e*P	**P**	**07 47 51.5**	**+0.3**
	23nm,1.1s						
NJ2	**Nanjing**	**70.18**	**316**	*e*P	**P**	**07 47 54.3**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
PETK	**Petropavlovsk-**	**72.60**	**353**	P	**P**	**07 48 06.5**	**-0.4**
	2.4nm,0.8s,baz=127,slow=9.4,SNR=4.5						
PETK	**Petropavlovsk-**	**72.60**	**353**	*e*P	**P**	**07 48 07.3**	**+0.3**
GYA	**Guiyang**	**75.82**	**305**	*e*P	**P**	**07 48 28.4**	**+1.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**78.09**	**312**	P	**P**	**07 48 42.1**	**+3.0**
XAN				pmax	pmax		
	comp=Z,15nm,1.4s						
CM01	**Chiang Mai Arr**	**78.51**	**294**	*e*P	**P**	**07 48 41.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**78.54**	**294**	P	**P**	**07 48 42.4**	**+0.5**
	1.0nm,0.4s,baz=132,slow=4.2,SNR=6.5						
CD2	**Chengdu**	**80.23**	**307**	*e*P	**P**	**07 48 50.5**	**-0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**82.71**	**312**	*e*P	**P**	**07 49 04.6**	**+0.6**
LZH				pP	PcP	07 49 17.0	+8.1
LZH				sP	**PP**	07 49 20.1	+12
LZH				*e*PP	**PP**	**07 52 17.5**	**+3.3**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,85nm,8.5s						
LZH				LR	LR		
	comp=N,280nm,17.5s						
LZH				LR	LR		
	comp=E,260nm,17.2s						
LZH				LR	LR		
	comp=Z,370nm,19.5s						
SYO	**Syowa Base**	**85.10**	**196**	⇑*e*P	**P**	**07 49 13.0**	**-2.5**
SEW	**Seward**	**85.70**	**19**	*e*P	**P**	**07 49 20.7**	**+2.3**
	15nm,1.2s						
BAKC	**Calstate**	**86.70**	**51**	*e*P	**P**	**07 49 25.3**	**+1.3**
GTA	**Gaotai**	**87.10**	**313**	*e*P	**P**	**07 49 26.4**	**+0.4**
GTA				pP	sP	07 49 31.5	+0.9
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SONM	**Songino Array**	**87.17**	**323**	P	**P**	**07 49 25.6**	**-0.6**
	1.7nm,0.8s,baz=152,slow=6.3,SNR=6.5						
SONA1	**Songino Array**	**87.17**	**323**	*e*P	**P**	**07 49 25.9**	**-0.2**
RCWM	**Renegade Canyo**	**88.04**	**51**	*e*P	**P**	**07 49 31.8**	**+1.3**
CCCA	**Chr Cany lake**	**88.06**	**51**	*e*P	**P**	**07 49 31.6**	**+1.0**
ILAR	**Eielson Array**	**90.06**	**17**	P	**P**	**07 49 37.7**	**-1.6**
	0.8nm,0.8s,baz=229,slow=6.5,SNR=5.7						
WMQ	**Urumqi**	**97.18**	**314**	*e*P	Pdif	07 50 14.1	+1.4
YKA	**Yellowknife Ar**	**100.49**	**27**	P	**Pdif**	**07 50 25.6**	**-1.3**
	0.4nm,0.8s,baz=262,slow=4.4,SNR=6.0						
MKAR	**Makanchi Array**	**101.71**	**316**	P	**Pdif**	**07 50 32.0**	**-0.8**
	0.3nm,0.7s,baz=108,slow=4.7,SNR=3.3						
CONA	**Conrad Observa**	**144.07**	**329**	*i* PKPdf	PKPbc	07 56 14.0	+0.3
	9.5nm,1.4s						
KHC	**Kasperske Hory**	**144.25**	**333**	*e*PKP	**PKPab**	**07 56 13.0**	**-0.8**
KHC	**Kasperske Hory**	**144.25**	**333**	*e*PKPdf	**PKPab**	**07 56 13.5**	**-0.3**
GERES	**GERESS Array B**	**144.41**	**332**	PKP	**PKPab**	**07 56 13.2**	**-1.3**
	1.3nm,0.6s,baz=46,slow=3.9,SNR=14						
GEA0	**GERESS Array S**	**144.42**	**332**	*e*PKPdf	**PKPab**	**07 56 13.3**	**-1.1**
ARSA	**Arzberg**	**144.71**	**329**	*i* PKPdf	PKPbc	07 56 15.4	-0.2
	12nm,1.4s						
IDI	**Anoyia**	**144.74**	**305**	PKP	**PKPab**	**07 56 15.1**	**-1.0**
	9.6nm,0.9s,baz=201,slow=8.6,SNR=5.1						
MOA	**Molln**	**144.88**	**330**	*i* PKPab	**PKPab**	**07 56 15.1**	**-1.0**
	15nm,1.0s						
AGG	**Agios Georgios**	**145.27**	**312**	*e*PKPbc	**PKPbc**	**07 56 15.4**	**-2.4**
SOKA	**Soboth**	**145.34**	**328**	*i* PKPbc	**PKPbc**	**07 56 16.2**	**-1.6**
	13nm,1.1s						
ABTA	**Abfaltersbach**	**146.50**	**331**	*i* PKPbc	**PKPdf**	**07 56 19.9**	**-0.1**
	11nm,1.1s						
MOTA	**Moosalm**	**146.69**	**333**	*i* PKPbc	**PKPdf**	**07 56 19.8**	**-0.6**
	8.3nm,1.0s						
BFO	**Black Forest**	**147.03**	**336**	*e*PKPdf	**PKPdf**	**07 56 19.1**	**-1.7**
DAVA	**Damuels**	**147.25**	**334**	*i* pPKPdf	**PKPbc**	**07 56 23.1**	**-0.5**
	9.3nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**147.61**	**333**	*e*PKPbc	**PKPbc**	**07 56 23.8**	**-0.9**
TOA0	**Torodi Ar. Sit**	**166.75**	**245**	*e*PKPdf	**PKPdf**	**07 56 44.5**	**-2.0**
TORD	**Torodi Ar. Bea**	**166.75**	**245**	PKP	**PKPdf**	**07 56 44.6**	**-1.9**
	1.3nm,1.0s,baz=1.7,slow=0.8,SNR=4.9						
TORD				PKPab	**PKPab**	**07 57 47.5**	**-1.8**
	1.7nm,1.2s,baz=74,slow=2.1,SNR=3.9						

MEX 09 07:52:26.3±1.0, 18.25N×103.30W, h5km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.06**	**313**	*i* P	Pg	07 52 26.5	-1.3
MMIG				*i* S	Sg	07 52 29.2	+0.4
EZ5V		**1.26**	**347**	*e*P	Pg	07 52 46.8	-3.7
EZ5V				*e*S	Sg	07 53 03.0	-3.8
ZIIG	**Zihuatanejo**	**1.86**	**110**	*e*P	Pn	07 52 55.7	-3.1
ZIIG				*i* S	Sn	07 53 18.2	-4.4
CJM	**Chamela**	**2.07**	**307**	*e*P	Pn	07

7.2nm,1.0s,baz=306,slow=17,SNR=2.0
CTA Charters Tower 22.30 264 P P 08 26 03.1 +0.8
2.9nm,0.8s,baz=83,slow=15,SNR=3.1
PMG Port Moresby 24.07 291 P P 08 26 18.5 -1.9
26nm,0.9s,baz=94,slow=4.9,SNR=9.7
PMG Port Moresby 24.07 291 *e*P P 08 26 19.6 -0.7
38nm,1.0s
PMG Port Moresby 24.07 291⇑ *i*P P 08 26 20.2 -0.2
PMG pmax pmax
comp=Z,316nm,2.5s
RPZ Rata Peaks 24.47 178 P P 08 26 25.7 +1.9
comp=Z,7.5nm,0.9s,baz=257,slow=14,SNR=2.1
STKA Stephens Creek 28.41 238 P P 08 26 59.6 +0.2
comp=Z,1.6nm,0.6s,baz=69,slow=8.0,SNR=7.9
STKA Stephens Creek 28.41 238 *e*P P 08 27 00.3 +0.9
comp=Z,0.7nm,0.9s
STKA Stephens Creek 28.41 238 *e*P P 08 27 00.3 +0.9
STKA pmax pmax
comp=Z,1.0nm,0.9s
WB2 Warramunga Arr 33.48 263 *e*P P 08 27 43.1 -1.2
WRAB Tennant Creek 33.48 263⇑ *i*P P 08 27 42.0 -2.3
WRAB *i* *PP **sP** 08 27 49.6 +0.9
WRAB *e* *SP **pP** 08 27 52.4 +5.0
WRAB pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 33.49 263 P P 08 27 42.6 -1.9
comp=Z,0.7nm,0.7s,baz=80,slow=6.0,SNR=8.7
WRA Warramunga Arr 33.49 263*e*P P 08 27 43.5 -0.9
AS01 Alice Springs 33.71 256 *e*P P 08 27 45.4 -1.0
AS31 Alice Springs 33.75 256 *e*P P 08 27 45.8 -1.0
comp=Z,4.3nm,0.4s
ASAR Alice Springs 33.75 256 P P 08 27 45.8 -1.0
comp=Z,6.2nm,0.5s,baz=83,slow=8.7,SNR=74
MTN Manton Dam 37.74 274 *e*P P 08 28 19.7 -1.4
comp=Z,22nm,0.8s
FITZ Fitzroy Crossi 41.88 264 P P 08 28 55.1 -0.3
comp=Z,6.8nm,0.8s,baz=102,slow=7.2,SNR=12
FITZ Fitzroy Crossi 41.88 264 *e*P P 08 28 55.1 -0.3
comp=Z,13nm,0.8s
KIP Kipapa 51.13 39⇑ *i*P P 08 30 08.1 +0.2
KIP pmax pmax
comp=Z,361nm,1.2s
VNDA Vanda 58.50 182 P P 08 31 01.9 +1.3
comp=Z,1.4nm,0.8s,baz=24,slow=4.4,SNR=3.7
MJAR Matsushiro Arr 63.01 332 P P 08 31 31.1 -0.7
comp=Z,9.8nm,0.9s,baz=165,slow=7.2,SNR=18
MAJO Matsushiro 63.01 332 *e*P P 08 31 31.0 -0.9
comp=Z,23nm,1.1s
MAJO Matsushiro 63.01 332⇑ *i*P P 08 31 31.6 -0.3
MAJO *i* *PP **sP** 08 31 38.4 +2.1
MAJO pmax pmax
comp=Z,12nm,0.9s
MAT Matsushiro 63.01 332 P P 08 31 31.0 -0.9
MJB9 Matsu-Tunnel 63.02 332 *e*P P 08 31 31.1 -0.8
comp=Z,24nm,1.1s
ASAJ Asahikawa 67.78 339 P P 08 32 03.7 +1.2
comp=Z,23nm,0.8s,baz=219,slow=9.9,SNR=28
ASAJ Asahikawa 67.78 339 *e*P P 08 32 03.8 +1.2
comp=Z,24nm,0.8s
YSS Yuzh-Sakhalins 70.25 341 *e*P P 08 32 18.9 +1.1
comp=Z,31nm,1.0s
YSS Yuzh-Sakhalins 70.25 341 *i*P P 08 32 19.3 +1.5
YSS pmax pmax
comp=Z,28nm,1.0s
NJ2 Nanjing 70.62 316 *e*P P 08 32 20.1 -0.3
NJ2 pmax pmax
comp=Z,15nm,0.5s
USRK Ussuriysk Ar. 71.99 332 P P 08 32 28.1 -0.4
comp=Z,2.1nm,0.8s,baz=100,slow=3.4,SNR=3.4
PETK Petropavlovsk- 72.77 352 P P 08 32 32.8 -0.2
comp=Z,2.1nm,0.8s,baz=129,slow=4.0,SNR=3.7
TYV Tymovskoe 73.76 342 *e*P P 08 32 31.5 -7.3
TYV pmax pmax
comp=Z,3.0nm,1.3s
TYV MLR MLR
comp=E,1μm,14.0s
CN2 Changchun 74.75 328 *e*P P 08 32 44.9 +0.1
CN2 pmax pmax
comp=E,10.0nm,1.0s
GRNR Gornyy 75.64 339 *e*P P 08 32 52.2 +2.5
GRNR pmax pmax
comp=Z,84nm,1.0s
KLR Kul'dur 76.09 335 P P 08 32 52.9 +0.5
comp=Z,0.4nm,0.8s,baz=133,slow=2.7,SNR=14
KLR Kul'dur 76.09 335⇑ *i*P P 08 32 52.5 +0.2
KLR *i* *PP **sP** 08 33 00.1 +3.3
KLR *i* *SP **PcP** 08 33 02.7 -1.8
KLR *i* 08 35 43.3
GYA Guiyang 76.32 305 *e*P P 08 32 56.0 +1.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
NKL Nikolayevsk 76.36 342 *e*P P 08 32 54.5 +0.8
NKL pmax pmax
comp=N,15nm,0.9s
NKL pmax pmax
comp=Z,33nm,0.9s
KMI Kunming 78.79 302 P P 08 33 09.3 +1.0
KMI pmax pmax
comp=Z,14nm,0.5s
CM01 Chiang Mai Arr 79.04 294 *e*P P 08 33 10.0 +0.5
CMAR Chiang Mai Arr 79.06 294 P P 08 33 09.6 0.0
comp=Z,1.0nm,0.4s,baz=131,slow=4.0,SNR=6.8
CMAR Chiang Mai Arr 79.06 294*e*P P 08 33 10.6 +0.9
CMAR pmax pmax
comp=Z,1.0nm,0.4s
MA2 Magadan 80.03 350 P P 08 33 13.4 -0.6
comp=Z,7.2nm,1.0s,baz=152,slow=6.6,SNR=9.2
MA2 Magadan 80.03 350⇑ *i*P P 08 33 14.0 0.0
MA2 *i* *PP **PcP** 08 33 21.4 0.0
HHC Hu-ho-hao-te 80.60 319 *e*P P 08 33 16.8 -0.8
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,370nm,5.6s
CD2 Chengdu 80.71 307 *e*P P 08 33 18.0 -0.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.6s
ZEA Zeya 81.37 336 *e*P P 08 33 21.9 +0.6
ZEA pmax pmax
comp=Z,18nm,1.4s
SEY Seymchan 83.01 352 P P 08 33 29.7 +0.1
comp=Z,5.8nm,1.1s,baz=160,slow=4.8,SNR=19
SEY Seymchan 83.01 352⇑ *i*P P 08 33 30.3 +0.6
LZH Lanzhou 83.17 312 *e*P P 08 33 31.0 -0.4
LZH pP PcP 08 33 38.0 +2.1
LZH sP sP 08 33 41.2 +5.3
LZH *e*PP **PP 08 36 46.5 +3.6**
LZH pmax pmax
comp=Z,23nm,1.4s
LZH pmax pmax
comp=Z,95nm,8.6s
LZH LR LR
comp=Z,340nm,17.1s
LZH LR LR
comp=Z,320nm,17.4s
LZH LR LR
comp=Z,380nm,19.3s
GAMB Gambell 83.94 8 *e*P P 08 33 34.3 0.0
comp=Z,5.7nm,1.0s
PAGB Antelope Grade 85.70 50 *e*P P 08 33 43.0 -1.0
comp=Z,4.1nm,0.8s
YAK Yakutsk 87.02 342 P P 08 33 49.7 -0.1
comp=Z,14nm,0.4s,baz=52,slow=2.0,SNR=7.3
YAK Yakutsk 87.02 342 *e*P P 08 33 50.1 +0.3
comp=Z,9.3nm,0.8s
YAK Yakutsk 87.02 342 *e*P P 08 33 49.2 -0.6
YAK pmax pmax
comp=Z,36nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.2s
ULN Ulaanbaatar 87.21 323 *e*P P 08 33 51.0 -0.3
comp=E,6.8nm,1.1s
ULN Ulaanbaatar 87.21 323*e*P P 08 33 51.6 +0.3
ULN pmax pmax
comp=Z,11nm,1.2s
GTA Gaotai 87.56 313 *e*P P 08 33 53.1 -0.1
GTA pP sP 08 34 01.5 +3.8
GTA sP pP 08 34 06.0 +9.5
GTA pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 87.57 323 P P 08 33 53.2 +0.2
comp=Z,4.5nm,1.1s,baz=141,slow=4.5,SNR=17
SONA1 Songino Array 87.57 323 *e*P P 08 33 52.8 -0.2
NVAR Mina Array Bea 88.30 48 P P 08 33 56.2 -0.7
comp=Z,0.1nm,0.3s,baz=299,slow=5.9,SNR=2.5
BOD Bodaibo 89.57 334 *e*P P 08 34 00.5 -1.5
BOD pmax pmax
comp=Z,8.0nm,1.7s
ILAR Eielson Array 90.00 17 P P 08 34 03.3 -0.7
comp=Z,1.0nm,1.1s,baz=211,slow=7.4,SNR=3.6
ZAK Zakamensk 90.63 324 *e*P P 08 34 04.0 -3.3
ZAK pmax pmax
comp=Z,4.0nm,1.5s
TLY Talaya 91.08 325⇑ *e*P P 08 34 09.6 +0.3
TLY pmax pmax
comp=Z,3.0nm,1.1s
Q16A Castle Valley 93.60 50 *e*P P 08 34 19.8 -1.7
comp=Z,15nm,0.9s
MOUT Mount Ogden 93.94 48 *e*P P 08 34 21.2 -1.9
TCUT Toone Canyon 94.24 48 *e*P P 08 34 21.1 -3.4
WMQ Urumqi 97.63 314 *e*P Pdif 08 34 40.4 +0.7
YKA Yellowknife Ar 100.34 27 P Pdif 08 34 52.6 +1.4
comp=Z,0.3nm,0.9s,baz=256,slow=4.7,SNR=5.3
MKAR Makanchi Array 102.15 315 P Pdif 08 35 00.0 +0.4
comp=Z,0.4nm,0.7s,baz=95,slow=6.7,SNR=4.8
MKAR Makanchi Array 102.15 315 *i*P Pdif 08 35 00.4 +0.8
KSH Kashi 104.91 307 *e*Pdif Pdif 08 35 11.2 -1.0
BRVK Borovoye 110.85 320⇑ *i*PKIKP PKiKP 08 39 38.4 +0.6
PKME Peaks-Kenny Pk 124.97 48 *e*PKPdif PKPdf 08 40 03.3 -1.8
GNI Garni 128.84 306⇑ *i*PKIKP PKPdf 08 40 13.1 +0.2
OBN Obninsk 129.80 327 *i*PKIKP PKPdf 08 40 12.5 -1.5
OBN pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 135.84 325⇑ *i*PKIKP PKPdf 08 40 25.5 0.0
CONA Conrad Observa 144.43 330 *i*PKPdf PKPdf 08 40 41.4 +0.1
comp=Z,7.5nm,1.5s
KHC Kasperske Hory 144.59 333 *e*PKP PKPpre 08 40 34.5
KHC Kasperske Hory 144.59 333 *e*PKHKP PKPpre 08 40 34.5
DIVS Divibare 144.67 321 *e*PKPdf PKPbc 08 40 41.0 +0.3
GERES GERESS Array B 144.75 333 PKP PKPbc 08 40 40.7 -0.1
comp=Z,1.7nm,0.8s,baz=46,slow=3.9,SNR=11
GEA0 GERESS Array S 144.75 332 *e*PKPdf PKPab 08 40 40.5 -0.1
ARSA Arzberg 145.07 329 *i* pPKPbc PKPdf 08 40 42.5 +0.2
comp=Z,2.5nm,0.6s
IDI Anoyia 145.23 305 PKPbc PKPbc 08 40 41.0 -1.7
comp=Z,6.1nm,0.8s,baz=288,slow=13,SNR=3.8
IDI Anoyia 145.23 305 *e*PKPbc PKPbc 08 40 42.3 -0.4
MOA Mollin 145.23 331 *i* pPKPbc PKPdf 08 40 43.0 +0.4
comp=Z,13nm,1.1s
SOKA Soboth 145.71 329 *i* pPKPbc PKPab 08 40 44.3 +0.1
comp=Z,13nm,1.2s
OBKA Obir 146.06 329 *i* PKPbc PKPdf 08 40 43.7 -0.5
comp=Z,15nm,1.4s
MYKA Terra Mystica 146.41 330 *i* PKPbc PKPdf 08 40 44.8 0.0
comp=Z,16nm,1.3s
ABTA Abfaltersbach 146.85 331 *i* PKPab PKPbc 08 40 46.9 -0.4
comp=Z,7.2nm,1.0s
FETA Feichten 147.43 333 *i* PKPbc PKPbc 08 40 47.7 -1.4
comp=Z,4.9nm,1.0s
FUORN Ofenpass-Fuorn 147.94 333 *e*PKPbc PKPbc 08 40 51.1 +0.6
TORD Torodi Ar. Bea 167.19 244 PKP PKPdf 08 41 12.1 +0.3
comp=Z,0.4nm,0.8s,baz=54,slow=7.4,SNR=2.5

*IDC **09** 08:24:46.5±2.8, 22.°68S×170.°53E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/42, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=106.9km s-min=30.2km az=157.0*
*NEIC **09** 08:24:49.7±0.8, 22.°29S×170.°30E, h10km, mb4.2/5, Error ellipse: s-maj=27.1km s-min=11.1km az=146.0*
*ISCJB **09** 08:24:51.0±0.8, 22.°5S±0.°1×170.°34E±0.°09, h33km, mb4.2/11, Error ellipse: s-maj=21.2km s-min=10.7km az=165.9*

ISC 09 08:24:53.0±0.9, 22.°4S±0.°2×170.°34E±0.°10, h33km, n20, σ1s0s99/22, mb3.9/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.62**	**274**	Pn	**Pn**	**08 25 46.8**	**-0.2**
	5.0nm,0.3s,baz=123,slow=14,SNR=15						
DZM				Sn	**Sn**	**08 26 29.3**	**+0.7**
	10nm,0.3s,baz=56,slow=18,SNR=4.2						
DZM	**Mont Dzumac**	**3.62**	**274**	*e*Pn	**Pn**	**08 25 47.1**	**+0.2**
DZM				*e*Sn	**Sn**	**08 26 29.3**	**+0.7**
LHI	**Lord Howe Isla**	**13.57**	**225**	*e*Pn	**Pn**	**08 28 03.2**	**+0.1**
STKA	**Stephens Creek**	**27.21**	**243**	*e*P	**P**	**08 30 34.0**	**0.0**
	1.4nm,1.1s						
AS31	**Alice Springs**	**33.50**	**261**	*e*P	**P**	**08 31 29.0**	**-0.7**
	0.8nm,0.8s						
ASAR	**Alice Springs**	**33.51**	**261**	P	**P**	**08 31 29.8**	**+0.1**
	0.8nm,0.7s,baz=95,slow=9.1,SNR=6.7						
WRAB	**Tennant Creek**	**33.60**	**267**	*e*P	**P**	**08 31 29.5**	**-1.1**
	10.0nm,0.8s						
WR1	**Warramunga Arr**	**33.61**	**267**	*e*P	**P**	**08 31 28.5**	**-2.1**
	3.4nm,1.2s						
WRA	**Warramunga Arr**	**33.61**	**267**	P	**P**	**08 31 28.5**	**-2.1**
	0.3nm,0.7s,baz=101,slow=8.5,SNR=3.1						
YOJ	**Yonaguni jima**	**65.42**	**313**	*e*P	**P**	**08 35 31.9**	**-0.9**
	313nm,1.5s						
SEY	**Seymchan**	**86.19**	**352**	P	**P**	**08 37 30.5**	**0.0**
	0.8nm,0.8s,baz=72,slow=20,SNR=4.0						
KEBM	**Edson Butte**	**88.42**	**42**	*e*P	**P**	**08 37 42.2**	**+0.3**
	25nm,1.1s						
SONA0	**Songino Array**	**90.32**	**323**	*e*P	**P**	**08 37 51.7**	**+1.0**
SONM	**Songino Array**	**90.32**	**323**	P	**P**	**08 37 51.7**	**+1.0**
	0.5nm,0.8s,baz=131,slow=6.5,SNR=2.7						
ILAR	**Eielson Array**	**92.90**	**17**	P	**P**	**08 38 00.5**	**-1.6**
	0.4nm,0.8s,baz=229,slow=4.1,SNR=3.9						
ILB	**Eielson Array**	**92.90**	**17**	*e*P	**P**	**08 38 02.1**	**0.0**
CLL	**Collm**	**146.17**	**334**	*e*PKPbc	**PKPab**	**08 44 31.0**	**+0.6**
EKA	**Eskdalemuir Ar**	**146.72**	**353**	PKPbc	**PKPdf**	**08 44 30.5**	**+1.0**
	1.2nm,0.5s,baz=344,slow=2.3,SNR=4.0						
GEC2	**GERESS Array S**	**147.71**	**331**	*e*PKPbc	**PKPbc**	**08 44 34.7**	**+0.4**
GERES	**GERESS Array B**	**147.71**	**331**	PKPbc	**PKPbc**	**08 44 34.7**	**+0.4**
	0.3nm,0.3s,baz=60,slow=3.9,SNR=3.3						

*IDC **09** 08:26:41.9±3.5, 6.°34S×108.°54E, h121km±49km, mb3.5/4, mb1 3.6/4, mb1mx3.1/64, mbtmp3.9/4, Error ellipse: s-maj=103.3km s-min=21.2km az=49.0*
*ISCJB **09** 08:26:42.6±0.7, 7.°3S±0.°2×107.°86E±0.°06, h149km±5km, mb3.7/4, Error ellipse: s-maj=26.2km s-min=6.9km az=16.9*
*DJA **09** 08:26:43.0±0.6, 7.°5±7.°1×107.°8E±.°, h144km±6km, M3.6/7, MLv3.6/7*

ISC 09 08:26:43.8±1.0, 7.°3S±0.°2×107.°87E±0.°07, h146km±7km, n14, σ0s67/18, mb3.6/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.28**	**190**	P	**Pn**	**08 27 03.5**	**-0.4**
CISI				S	**Sn**	**08 27 18.8**	**-0.3**
LEM	**Lembang**	**0.52**	**331**	P	**Pn**	**08 27 04.9**	**-0.1**
	82nm,0.3s,baz=30,slow=8.1,SNR=91						
LEM				S	**Sn**	**08 27 21.7**	**+0.7**
	17nm,0.3s,baz=301,slow=17,SNR=6.9						
LEM	**Lembang**	**0.52**	**331**	P	**Pn**	**08 27 05.1**	**+0.1**
CMJI	**Cimerak**	**0.76**	**131**	P	**Pn**	**08 27 05.8**	**-0.5**
SKJI	**Sukabumi**	**1.33**	**282**	S	**Sn**	**08 27 31.9**	**-0.3**
CGJI	**Cibinong**	**2.26**	**287**	P	**Pn**	**08 27 21.3**	**-0.5**
UGM	**Wanagama**	**2.71**	**104**	P	**Pn**	**08 27 26.9**	**-0.5**
UGM				S	**Sn**	**08 28 00.7**	**-0.2**
PCJI	**Pacitan**	**3.40**	**106**	P	**Pn**	**08 27 35.3**	**-0.9**
PCJI				S	**Sn**	**08 28 16.1**	**-0.7**
PWJI	**Pagerwojo**	**3.97**	**101**	P	**Pn**	**08 27 43.3**	**-0.3**
PWJI				S	**Sn**	**08 28 30.1**	**+0.1**
MDSI	**Maura Dua**	**4.60**	**307**	P	**Pn**	**08 27 50.8**	**-1.1**
WRA	**Warramunga Arr**	**28.59**	**119**	P	**P**	**08 32 26.0**	**-0.5**
	0.8nm,0.7s,baz=297,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**29.83**	**126**	P	**P**	**08 32 38.6**	**+1.1**
	0.7nm,0.7s,baz=306,slow=9.7,SNR=7.3						
STKA	**Stephens Creek**	**39.82**	**132**	P	**P**	**08 34 03.8**	**+0.7**
	2.0nm,0.5s,baz=305,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**58.44**	**340**	P	P	08 36 20.6	-3.8
	0.7nm,0.6s,baz=159,slow=8.2,SNR=6.2						

*IDC **09** 08:30:55.6±1.7, 31.°36N×56.°66E, h0km, mb3.3/4, mb1 3.5/9, mb1mx3.3/64, mbtmp3.5/9, ML3.3/5, Error ellipse: s-maj=30.4km s-min=24.0km az=115.0*
*CSEM **09** 08:30:56.8±0.2, 31.°49N×56.°72E, h2km, ML3.6, Error ellipse: s-maj=6.6km s-min=6.3km az=105.0*
*ISCJB **09** 08:30:57.1±0.5, 31.°51N±0.°05×56.°70E±0.°05, h10km, mb3.2/3, Error ellipse: s-maj=7.0km s-min=6.2km az=40.5*
*TEH **09** 08:30:57.6, 31.°50N×56.°72E, h5km, ML3.6*

ISC 09 08:30:57.4±0.8, 31.°47N±0.°05×56.°71E±0.°04, h10km, n32, σ1s22/33, mb3.2/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBAF	**Bafgh**	**0.98**	**277**	*e*Pg	**Pg**	**08 31 14.3**	**-2.0**
IBAF				*e*AMB	AMB	08 31 31.3	
	comp=Z,13μm,0.1s						
IBAF	**Bafgh**	**0.98**	**277**	*e*Pg	**Pg**	**08 31 14.3**	**-2.0**
TVBK	**TV Kerman**	**1.48**	**178**	*e*P	**Pn**	**08 31 25.2**	**+0.8**
TVBK	**TV Kerman**	**1.48**	**178**	*e*P	**Pn**	**08 31 25.2**	**+0.8**
KRBR	**Kerman**	**1.48**	**178**	*e*Pg	**Pb**	**08 31 25.6**	**+0.4**
CHMN	**Cheshme madani**	**1.75**	**156**	*e*P	**Pn**	**08 31 29.0**	**+0.8**
CHMN	**Cheshme madani**	**1.75**	**156**	*e*P	**Pn**	**08 31 29.0**	**+0.8**
IMEH	**Mehriz**	**1.79**	**268**	*e*Pn	**Pn**	**08 31 29.5**	**+0.9**
IMEH				*e*AMB	AMB	08 31 55.8	
	comp=N,10μm,0.2s						
IMEH	**Mehriz**	**1.79**	**268**	*e*Pn	**Pn**	**08 31 29.5**	**+0.9**
NGRK	**Negar Kerman**	**1.82**	**179**	*e*P	**Pn**	**08 31 30.1**	**+1.0**
NGRK	**Negar Kerman**	**1.82**	**179**	*e*P	**Pn**	**08 31 30.1**	**+1.0**
ICHK	**Chekchek**	**2.10**	**292**	*e*Pn	**Pn**	**08 31 34.1**	**+1.2**
ICHK				*e*AMB	AMB	08 32 07.8	
	comp=Z,6μm,0.3s						
ICHK	**Chekchek**	**2.10**	**292**	*e*Pn	**Pn**	**08 31 34.1**	**+1.2**
IKOO	**Kooshah**	**2.17**	**63**	*e*Pn	**Pn**	**08 31 33.9**	**0.0**
IKOO				*e*AMB	AMB	08 32 14.0	
	comp=Z,6μm,0.2s						
IKOO	**Kooshah**	**2.17**	**63**	*e*Pn	**Pn**	**08 31 33.9**	**0.0**
TABS	**Tabas**	**2.20**	**9**	*e*Pn	**Pn**	**08 31 34.7**	**+0.6**
TABS				*e*Sg	**Sb**	**08 32 05.1**	**+0.3**
ITEG	**Tejag**	**2.24**	**50**	*e*Pn	**Pn**	**08 31 34.0**	**-0.7**
ITEG				*e*AMB	AMB	08 32 13.4	
	comp=Z,7μm,0.2s						
ITEG	**Tejag**	**2.24**	**50**	*e*Pn	**Pn**	**08 31 34.0**	**-0.7**
IDAH	**Dahanechah**	**2.97**	**64**	*e*Pn	**Pn**	**08 31 45.8**	**+1.0**
IDAH				*e*AMB	AMB	08 32 38.7	
	comp=Z,2μm,0.4s						
IDAH	**Dahanechah**	**2.97**	**64**	*e*Pn	**Pn**	**08 31 45.8**	**+1.0**
NASN	**Na'in**	**3.56**	**293**	*e*Pn	**Pn**	**08 31 54.3**	**+1.2**
IRAM	**Rameseh**	**3.71**	**276**	*e*Pn	**Pn**	**08 31 56.1**	**+1.2**
IRAM				*e*AMB	AMB	08 32 14.0	
	comp=Z,279nm,0.2s						
IRAM	**Rameseh**	**3.71**	**276**	*e*Pn	**Pn**	**08 31 56.1**	**+1.2**
GEYT	**Alibeck**	**6.55**	**10**	Pn	**Pn**	**08 32 35.2**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=192,slow=13,SNR=14						
GEYT				Lg	Lg	08 34 28.1	
	comp=Z,0.6nm,0.3s,baz=111,slow=37,SNR=3.0						
WSAR	**Wadi Sarin**	**8.37**	**168**	Pn	**Pn**	**08 32 58.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=354,slow=10,SNR=3.1						
ASF	**Jabal al Asfar**	**16.86**	**278**	Pn	**Pn**	**08 34 50.9**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=53,slow=5.1,SNR=2.2						
AAK	**Ala-Archa**	**18.01**	**47**	P	**P**	**08 35 09.6**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=225,slow=13,SNR=2.4						
AKTO	**Aktyubinsk**	**18.98**	**3**	P	**Pn**	**08 35 19.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=174,slow=14,SNR=2.4						
BRTR	**Keskin Array B**	**20.45**	**300**	P	**P**	**08 35 36.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=119,slow=9.0,SNR=4.3						
BVAR	**Borovoye Array**	**23.72**	**21**	P	**P**	**08 36 12.2**	**+2.7**
	comp=Z,0.5nm,0.7s,baz=218,slow=9.0,SNR=2.1						
KURBB	**Kurchatov Arra**	**25.08**	**34**	P	**P**	**08 36 21.7**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=235,slow=9.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**30.17**	**34**	P	**P**	**08 37 07.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=233,slow=9.2,SNR=2.8						

ISC 09 08:31:36.8±11.0, 15.°96S×165.°79E, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.8/42, mbtmp4.2/5, ML4.0/1, Error ellipse: s-maj=205.1km s-min=33.5km az=57.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.11**	**174**	Pn	**Pn**	**08 33 08.9**	**+0.4**
	3.7nm,0.3s,baz=131,slow=20,SNR=24						
DZM				Sn	**Sn**	**08 34 19.9**	**+0.7**
	0.6nm,0.3s,baz=131,slow=19,SNR=4.4						
STKA	**Stephens Creek**	**27.11**	**230**	P	**P**	**08 37 21.1**	**-0.5**
	1.4nm,0.6s,baz=61,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	**30.16**	**258**	P	**P**	**08 37 49.0**	**+0.2**
	0.8nm,0.5s,baz=86,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**30.91**	**251**	P	**P**	**08 37 55.7**	**+0.1**
	1.5nm,0.3s,baz=82,slow=8.7,SNR=30						
FITZ	**Fitzroy Crossi**	**38.40**	**261**	P	**P**	**08 39 00.1**	**-0.2**
	2.3nm,0.4s,baz=84,slow=10,SNR=9.8						

ISC 09 08:35:28.5±1.8, 0.°75S×127.°41E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/58, mbtmp3.6/4, Error ellipse: s-maj=152.3km s-min=23.5km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.25**	**161**	P	**P**	**08 40 05.4**	**-0.2**
	0.9nm,0.6s,baz=340,slow=12,SNR=9.7						
ASAR	**Alice Springs**	**23.64**	**165**	P	**P**	**08 40 41.6**	**0.0**
	0.9nm,0.8s,baz=342,slow=9.5,SNR=9.7						
STKA	**Stephens Creek**	**33.74**	**158**	P	**P**	**08 42 11.9**	**0.0**
	2.2nm,1.0s,baz=334,slow=15,SNR=3.0						
MKAR	**Makanchi Array**	**61.62**	**326**	P	**P**	**08 45 48.0**	**0.0**
	0.3nm,0.4s,baz=136,slow=7.0,SNR=7.2						

ISC 09 08:41:56.0±7.1, 19.°15S×169.°39E, h47km±67km, mb3.7/4, mb1 3.9/5, mb1mx3.6/43, mbtmp4.0/5, ML3.5/1, Error ellipse: s-maj=131.1km s-min=50.2km az=133.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.01**	**223**	P	Pn	**08 42 54.9**	**-0.2**
	2.9nm,0.3s,baz=117,slow=15,SNR=10						
DZM				S	Sn	**08 43 41.4**	**+0.6**
	9.9nm,0.3s,baz=298,slow=24,SNR=8.8						
STKA	**Stephens Creek**	**28.01**	**238**	P	P	**08 47 42.4**	**-0.3**
	0.9nm,0.6s,baz=80,slow=8.4,SNR=4.5						
WRA	**Warramunga Arr**	**33.00**	**263**	P	P	**08 48 25.7**	**-1.2**
	0.5nm,0.6s,baz=89,slow=7.7,SNR=7.1						
ASAR	**Alice Springs**	**33.28**	**256**	P	P	**08 48 29.3**	**-0.1**
	5.1nm,0.6s,baz=84,slow=8.9,SNR=57						
FITZ	**Fitzroy Crossi**	**41.39**	**264**	P	P	**08 49 38.8**	**+0.8**
SONM	**Songino Array**	**87.23**	**323**	P	P	**08 54 37.6**	**+0.1**
	0.7nm,0.7s,baz=157,slow=7.8,SNR=3.9						

*ISCJB **09** 08:45:55.9±0.2, 19.°41N±0.°02×121.°65E±0.°04, h52km, mb4.7/73, MS4.3/2, Error ellipse: s-maj=6.0km s-min=2.8km az=5.4*
*NEIC **09** 08:45:56.7±0.6, 19.°30N×121.°64E, h51km±5km, mb4.8/54, Error ellipse: s-maj=6.1km s-min=4.1km az=101.0*
*BJI **09** 08:45:59.0, 19.62N×121.28E, h51km, mb4.5/19, mB5.0/5, Ms4.6/6, Ms7.4.4/6*
*IDC **09** 08:45:59.9±2.6, 19.°30N×121.°69E, h81km±25km, mb3.9/20, mb1 4.1/22, mb1mx3.8/70, mbtmp4.3/22, Error ellipse: s-maj=17.1km s-min=10.8km az=78.0*

ISC 09 08:45:57.3±0.4, 19.°42N±0.°03×121.°49E±0.°05, h52km, n140, σ1s81/149, mb4.8/71, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.28**	**155**	*e*P	**Pn**	**08 46 20.3**	**+1.4**
SGCP				*e*S	**Sn**	**08 46 37.0**	**+2.0**
APYP	**Conner**	**1.56**	**188**	*e*P	**Pn**	**08 46 23.6**	**+0.9**
APYP				*e*S	**Sn**	**08 46 43.5**	**+1.6**
ABRA	**Dolores**	**1.91**	**203**	*e*P	**Pn**	**08 46 28.2**	**+0.8**
ABRA				*e*S	**Sn**	**08 46 55.4**	**+5.1**
CAUP	**Cauayan**	**2.48**	**173**	*e*P	**Pn**	**08

TGY	**Tagaytay City**	5.31	186	P		**Pn**	08 47 17.1	+2.9	
	68nm,0.3s,baz=82,slow=7.1,SNR=5.2								
TGY				S		Sn	08 48 24.5	+10	
	76nm,0.3s,baz=51,slow=23,SNR=2.1								
TATO	**Taipei**	5.53	0	*e*Pn		**Pn**	08 47 20.8	+3.7	
GQP	**Guinayangan**	5.56	170⇓	*e*P		**Pn**	08 47 18.9	+1.4	
GQP				*e*S		**Sn**	08 48 12.4	-7.7	
QZH	**Quanzhou**	6.12	335⇓	*i* P		**Pn**	08 47 24.8	-0.3	
QZH				S		Sn	08 48 29.7	-4.1	
GZH	**Guangzhou**	8.42	297	P		**Pn**	08 47 55.6	-1.1	
GZH				S		**Sn**	08 49 23.8	-6.7	
QIZ	**Qiongzhong**	11.01	270	*e*Pn		**Pn**	08 48 31.6	-0.5	
QIZ				*e*Sn		**Sn**	08 50 29.5	-4.3	
NJ2	**Nanjing**	12.80	350	*e*P		**Pn**	08 48 57.4	+0.8	
NJ2				pmax	pmax				
	comp=Z,12nm,0.5s								
JNU	**Nakatsue**	16.02	30	P		**Pn**	08 49 40.3	+1.0	
	0.6nm,0.3s,baz=166,slow=4.5,SNR=12								
JNU	**Nakatsue**	16.02	30	*e*Pn		**P**	08 49 41.1	-0.8	
	45nm,1.0s								
KMI	**Kunming**	18.25	292	P		**Pn**	08 50 09.4	+2.3	
KMI				pmax	pmax				
	comp=Z,19nm,0.5s								
XAN	**Xi'an**	18.36	325	P		**Pn**	08 50 09.8	+1.6	
XAN				pP		pP	08 50 19.4	0.0	
KS15	**Wonju Array Si**	18.81	16	*e*P		**Pn**	08 50 13.1	-0.4	
KSAR	**Wonju Array Be**	18.81	16	P		**Pn**	08 50 13.2	-0.4	
KSRS	**Korea Array**	18.83	16	P		**P**	08 50 13.2	+0.4	
	0.7nm,0.3s,baz=195,slow=11,SNR=7.7								
CD2	**Chengdu**	19.68	309	*e*P		**P**	08 50 23.5	+1.3	
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,120nm,5.0s								
KSM	**Kuching**	20.93	213	*e*P		**P**	08 50 36.7	+0.9	
	17nm,0.6s								
INU	**Inuyama**	20.98	38	*e*P		**P**	08 50 36.8	+0.6	
	58nm,1.0s								
CHTO	**Chiang Mai**	21.31	272	*e*P		**P**	08 50 42.0	+2.1	
	8.7nm,1.2s								
CMAR	**Chiang Mai Arr**	21.34	271	P		**P**	08 50 42.9	+2.6	
	1.8nm,0.3s,baz=76,slow=8.6,SNR=6.4								
MAJO	**Matsushiro**	22.50	37	*e*P		**P**	08 50 52.6	0.0	
	13nm,0.8s								
MAT	**Matsushiro**	22.50	37	P		**P**	08 50 51.4	-1.2	
MJAR	**Matsushiro Arr**	22.50	37	P		**P**	08 50 52.8	+0.2	
	8.1nm,0.9s,baz=216,slow=9.4,SNR=15								
MJB9	**Matsu-Tunnel**	22.50	37	*e*P		**P**	08 50 50.9	-1.7	
	14nm,0.9s								
LZH	**Lanzhou**	22.73	321	*e*P		**P**	08 50 57.0	+1.9	
LZH				pP		pP	08 51 09.3	+2.2	
LZH				sP		sP	08 51 15.5	+1.9	
LZH				*e*PP		**PnPn**	08 51 27.6	+6.8	
LZH				pmax	pmax				
	comp=Z,23nm,1.0s								
LZH				pmax	pmax				
	comp=Z,79nm,4.7s								
LZH				LR	LR				
	comp=N,360nm,12.1s								
LZH				LR	LR				
	comp=E,370nm,12.5s								
LZH				LR	LR				
	comp=Z,430nm,15.4s								
HHC	**Hu-ho-hao-te**	22.99	340	*e*P		**P**	08 50 56.8	-0.9	
HHC				pP		pP	08 51 07.2	-2.5	
HHC				sP		sP	08 51 13.9	-2.3	
HHC				S		**S**	08 55 01.5	-2.8	
HHC				sS		Sn	08 55 20.6	-2.9	
HHC				pmax	pmax				
	comp=Z,13nm,1.0s								
HHC				pmax	pmax				
	comp=Z,580nm,5.2s								
HHC				LR	LR				
	comp=N,1μm,14.7s								
HHC				LR	LR				
	comp=E,880nm,16.2s								
HHC				LR	LR				
	comp=Z,1μm,16.8s								
FAKI	**Fak Fak**	24.59	153	*e*P		**P**	08 51 11.1	-1.6	
	19nm,1.1s								
BATI	**Baumata**	29.52	176	P		**P**	08 51 54.6	-2.4	
	40nm,0.5s,baz=338,slow=2.1,SNR=6.5								
ASAJ	**Asahikawa**	30.30	31	P		**P**	08 52 04.3	+0.7	
	2.3nm,0.3s,baz=317,slow=19,SNR=6.6								
ASAJ	**Asahikawa**	30.30	31	*e*P		**P**	08 52 04.2	+0.5	
	4.8nm,0.8s								
SONM	**Songino Array**	30.89	340	P		**P**	08 52 09.7	+0.8	
	0.9nm,0.5s,baz=159,slow=10,SNR=5.2								
SONA1	**Songino Array**	30.89	340	*e*P		**P**	08 52 10.9	+1.9	
MTN	**Manton Dam**	33.44	163	*e*P		**P**	08 52 29.0	-2.4	
	13nm,1.4s								
WMQ	**Urumqi**	37.27	318	P		**P**	08 53 05.9	+1.7	
MBWA	**Marble Bar**	40.36	183	*e*P		**P**	08 53 28.3	-1.8	
	19nm,0.8s								
WRAB	**Tennant Creek**	41.09	161	*e*P		**P**	08 53 34.1	-2.1	
	12nm,0.6s								
WRA	**Warramunga Arr**	41.10	161	P		**P**	08 53 33.8	-2.4	
	11nm,0.6s,baz=343,slow=9.0,SNR=99								
WB2	**Warramunga Arr**	41.10	161	*e*P		**P**	08 53 34.0	-2.3	
	12nm,0.6s								
MK01	**Makanchi Array**	42.02	320	*e*P		**P**	08 53 45.5	+1.8	
MK31	**Makanchi Array**	42.04	320	*e*P		**P**	08 53 45.6	+1.9	
MKAR	**Makanchi Array**	42.04	320	P		**P**	08 53 45.8	+2.0	
	1.8nm,0.9s,baz=114,slow=9.3,SNR=14								
MKAR				PcP		**PcP**	08 55 38.1	+0.1	
	0.8nm,0.6s,baz=85,slow=3.6,SNR=3.3								
MKAR	**Makanchi Array**	42.04	320	*e*P		**P**	08 53 45.9	+2.0	
	22nm,1.0s								
MKAR				PcP		**PcP**	08 55 38.1	+0.1	
H11S3	**WAKE ISLAND Hy**	42.67	84	T		T	09 39 16.7		
	baz=278,slow=75,SNR=16								
H11S1	**WAKE ISLAND Hy**	42.68	83	T		T	09 39 33.2		
	baz=278,slow=75,SNR=18								
H11S2	**WAKE ISLAND Hy**	42.69	84	T		T	09 39 31.8		
	baz=278,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hy**	42.69	82	T		T	09 39 34.3		
	baz=277,slow=75,SNR=91								
H11N2	**WAKE ISLAND Hy**	42.69	82	T		T	09 39 33.4		
	baz=277,slow=75,SNR=68								
H11N3	**WAKE ISLAND Hy**	42.70	82	T		T	09 39 34.4		
	baz=277,slow=75,SNR=54								
PEA0B	**Petropavlovsk-**	43.72	31	*e*P		**P**	08 53 58.2	+1.0	
	42nm,1.8s								
PETK	**Petropavlovsk-**	43.72	31	P		**P**	08 53 56.9	-0.4	
	2.2nm,0.6s,baz=213,slow=3.1,SNR=7.8								
PETK	**Petropavlovsk-**	43.72	31	*e*P		**P**	08 53 57.4	+0.1	
KSH	**Kashi**	43.86	307	*e*P		**P**	08 54 02.1	+3.4	
PET	**Petropavlovsk**	44.14	32	*e*P		**P**	08 54 00.9	+0.4	
	81nm,2.0s								
ZALV	**Zalesovo Beam**	44.43	330	P		**P**	08 54 03.9	+1.0	
	0.8nm,0.6s,baz=111,slow=8.1,SNR=4.2								
ZALV	**Zalesovo Beam**	44.43	330	*e*P		**P**	08 54 04.3	+1.4	
AS31	**Alice Springs**	44.50	164	*e*P		**P**	08 54 02.4	-1.4	
	4.9nm,0.6s								
ASAR	**Alice Springs**	44.50	164	P		**P**	08 54 02.3	-1.6	
	8.1nm,0.5s,baz=345,slow=6.8,SNR=172								
AS01	**Alice Springs**	44.52	164	*e*P		**P**	08 54 02.2	-1.7	
KURK	**Kurchatov**	45.98	323	P		**P**	08 54 16.7	+1.4	
KURBB	**Kurchatov Arra**	45.99	323	P		**P**	08 54 16.7	+1.4	
	1.4nm,0.7s,baz=120,slow=7.7,SNR=11								
KKAR	**Karatay Array**	48.68	311	*e*P		**P**	08 54 37.1	+0.7	
BVAR	**Borovoye Array**	51.58	323	P		**P**	08 55 01.0	+2.8	
	0.4nm,0.4s,baz=95,slow=7.2,SNR=3.5								
BVAR				PcP		**PcP**	08 56 11.5	0.0	
	1.4nm,0.6s,baz=145,slow=2.4,SNR=5.1								
NWAO	**Narrogin (SRO)**	52.21	185	*e*P		**P**	08 55 02.4	-0.6	
	27nm,0.8s								
BBOO	**Buckleboo**	53.77	165	*e*P		**P**	08 55 13.4	-1.1	
	22nm,0.8s								
STKA	**Stephens Creek**	54.53	159	P		**P**	08 55 18.2	-1.8	
	2.4nm,0.7s,baz=339,slow=7.1,SNR=8.0								
STKA	**Stephens Creek**	54.53	159	*e*P		**P**	08 55 18.4	-1.6	
	0.8nm,0.8s								
ABKAR	**Akbulak array**	57.02	317	*e*P		**P**	08 55 39.1	+1.3	
	16nm,0.4s								
ARU	**Arti**	59.11	325	P		**P**	08 55 53.0	+0.7	
	8.8nm,0.2s,baz=101,slow=5.2								
ARU	**Arti**	59.11	325	*e*P		**P**	08 55 53.4	+1.2	
	9.4nm,0.6s								
SVW2	**Sparrevohn**	69.80	31	*e*P		**P**	08 57 02.2	+0.2	
	27nm,1.7s								
IM3	**Indian Mountai**	70.32	26	*e*P		**P**	08 57 05.4	+0.3	
CAST	**Castle Rocks**	71.24	28	*e*P		**P**	08 57 11.0	+0.2	
	10.0nm,0.9s								
PPLA	**Purkeypile**	71.25	29	*e*P		**P**	08 57 11.2	+0.2	
	31nm,2.0s								

OHAK	**Old Harbor**	71.34	35	*e*P		**P**	08 57 10.6	-0.8	
	91nm,1.7s								
SPU	**Mount Spurr**	71.50	31	*e*P		**P**	08 57 12.2	-0.2	
KDAK	**Kodiak Island**	71.64	34	*e*P		**P**	08 57 12.6	-0.7	
	152nm,2.0s								
BPAW	**Bear Paw Mtn.**	71.65	28	*e*P		**P**	08 57 13.3	0.0	
	26nm,2.0s								
MLY	**Manley**	71.65	27	*e*P		**P**	08 57 13.7	+0.4	
	4.7nm,0.8s								
KTH	**Kantishna Hill**	71.75	28	*e*P		**P**	08 57 14.2	+0.3	
	11nm,1.3s								
TRF	**Thorofare Moun**	72.04	28	*e*P		**P**	08 57 15.8	0.0	
	41nm,1.8s								
SUA	**Susitna One**	72.09	30	*e*P		**P**	08 57 15.3	-0.8	
	13nm,1.0s								
BRLK	**Bradley Lake**	72.25	32	*e*P		**P**	08 57 15.7	-1.2	
	104nm,2.0s								
MCK	**McKinley**	72.60	28	*e*P		**P**	08 57 18.6	-0.3	
	7.9nm,1.1s								
RC01	**Rabbit Creek A**	72.62	31	*e*P		**P**	08 57 18.5	-0.6	
	37nm,1.9s								
RND	**Reindeer**	72.69	28	*e*P		**P**	08 57 18.4	-1.1	
	10nm,0.8s								
MDM	**Murphy Dome**	72.72	26	*e*P		**P**	08 57 19.6	-0.1	
	27nm,1.7s								
PMR	**Palmer**	72.84	30	*e*P		**P**	08 57 18.8	-1.5	
	16nm,1.3s								
SEW	**Seward**	72.92	32	*e*P		**P**	08 57 20.1	-0.7	
	40nm,1.4s								
CCB	**Clear Creek Bu**	72.95	27	*e*P		**P**	08 57 20.7	-0.3	
	20nm,2.0s								
SML	**Sawmill**	73.18	30	*e*P		**P**	08 57 21.8	-0.7	
	11nm,0.9s								
IL1	**Eielson Array**	73.32	27	*e*P		**P**	08 57 21.4	-1.8	
ILAR	**Eielson Array**	73.32	27	P		**P**	08 57 21.4	-1.8	
	1.2nm,0.6s,baz=269,slow=4.7,SNR=20								
ILB	**Eielson Array**	73.32	27	*e*P		**P**	08 57 21.4	-1.8	
HDA	**Harding Lake**	73.35	27	*e*P		**P**	08 57 22.1	-1.3	
	5.0nm,0.8s								
DHY	**Denali Highway**	73.40	28	*e*P		**P**	08 57 23.3	-0.6	
	45nm,2.0s								
SCM	**Sheep Creek Mo**	73.64	30	*e*P		**P**	08 57 25.0	-0.2	
	104nm,1.9s								
ARCES	**ARCESS Array B**	74.05	339	P		**P**	08 57 27.4	0.0	
	2.9nm,0.9s,baz=68,slow=9.8,SNR=3.3								
SPA0	**Spitsbergen Ar**	74.18	348	*e*P		**P**	08 57 28.2	+0.2	
SPITS	**Spitsbergen Ar**	74.18	348	P		**P**	08 57 27.9	-0.1	
	4.3nm,0.5s,baz=49,slow=5.6,SNR=11								
KLU	**Klutina**	74.37	30	*e*P		**P**	08 57 29.4	0.0	
	98nm,2.0s								
RIDG	**Independ'e Rid**	74.39	27	*e*P		**P**	08 57 28.5	-1.0	
	51nm,2.0s								
HARP	**HAARP**	74.53	29	*e*P		**P**	08 57 30.3	0.0	
	76nm,1.7s								
DOT	**Dot Lake**	74.75	27	*e*P		**P**	08 57 30.8	-0.7	
	9.9nm,0.8s								
BMRM	**Bremner River**	75.10	30	*e*P		**P**	08 57 33.0	-0.7	
	117nm,2.0s								
FIA1	**FINESS Array S**	75.69	330	*e*P		**P**	08 57 37.0	+0.1	
FINES	**FINESS Array B**	75.69	330	P		**P**	08 57 36.6	-0.4	
	2.3nm,0.8s,baz=72,slow=6.2,SNR=5.6								
EGAK	**Eagle**	75.71	26	*e*P		**P**	08 57 36.7	-0.3	
	5.5nm,0.7s								
AKASG	**Malin Array Be**	76.62	319	P		**P**	08 57 41.5	-0.9	
	0.2nm,0.3s,baz=61,slow=5.8,SNR=3.3								
DAWY	**Dawson**	76.64	27	*e*P		**P**	08 57 42.0	-0.4	
	6.5nm,0.8s								
HYT	**Haines Junctio**	78.48	29	*e*P		**P**	08 57 52.3	-0.5	
	80nm,2.0s								
WHY	**Whitehorse**	79.74	29	*e*P		**P**	08 57 59.9	+0.2	
	14nm,1.4s								
SKAG	**Skagway**	79.97	30	*e*P		**P**	08 58 01.6	+0.9	
	38nm,1.6s								
HFS	**Hagfors**	81.85	331	P		**P**	08 58 10.4	-0.4	
	2.2nm,0.8s,baz=74,slow=11,SNR=2.5								
RES	**Resolute Bay**	83.30	9	*e*P		**P**	08 58 17.8	-0.3	
	3.2nm,0.9s								
TULEG	**Thule**	84.05	2	*e*P		**P**	08 58 22.1	+0.2	
	14nm,1.8s								
CLL	**Collm**	86.02	323	*e*pP		pP	08 58 45.0	-2.2	
YKA	**Yellowknife Ar**	87.24	23	P		**P**	08 58 37.3	-0.6	
	3.4nm,0.6s,baz=309,slow=4.7,SNR=66								
NVAR	**Mina Array Bea**	99.70	44	P		**Pdif**	08 59 36.6	+0.5	
	0.4nm,0.7s,baz=298,slow=3.2,SNR=5.5								
TXAR	**Lajitas Array**	114.84	43	PKP		PKPdf	09 04 33.3	+0.3	
	0.3nm,0.6s,baz=190,slow=4.6,SNR=4.7								
WVT	**Waverly**	118.18	27	*e*PKPdf		**PKPdf**	09 04 37.7	-1.3	
SDV	**Santo Domingo**	149.44	24	PKPbc		**PKPbc**	09 05 40.8	-1.1	
	8.5nm,0.7s,baz=210,slow=20,SNR=11								
SDV	**Santo Domingo**	149.44	24	*e*PKPbc		**PKPbc**	09 05 41.2	-0.7	
RUSC	**La Rusia**	151.04	31	*e*PKPbc		**PKPbc**	09 05 45.7	-0.4	
ROSC	**El Rosal**	151.31	34	PKPbc		**PKPbc**	09 05 47.3	+0.7	
	4.2nm,0.6s,baz=82,slow=2.3,SNR=5.5								
PRAC	**Prado**	151.93	37	*e*PKPbc		**PKPbc**	09 05 47.1	-0.5	

*ISCJB **09** 08:46:34.8±0.5, 13°.21N±0°.08×50°.43E±0°.07, h15km, mb4.2/19, Error ellipse: s-maj=12.3km s-min=9.0km az=149.3*
*IDC **09** 08:46:34.3±0.9, 13°.19N×50°.45E, h0km, mb4.0/14, mb1 4.1/17, mb1mx3.8/70, mbtmp4.0/17, ML3.8/3, Error ellipse: s-maj=21.7km s-min=18.4km az=154.0*
*NEIC **09** 08:46:35.7±0.5, 13°.17N×50°.46E, h10km, mb4.8/5, Error ellipse: s-maj=10.7km s-min=8.0km az=171.0*
*CSEM **09** 08:46:35.7, 13°.17N×50°.46E, h10km, mb4.8/5, After NEIC*

ISC 09 08:46:36.4±0.8, 13°.2N±0°.1×50°.5E±0°.1, h15km, n40, σ0s87/37, mb4.2/19, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ATD	**Arta Tunnel**	7.61	259	Pn	**Pn**	08 48 26.9		0.0
	11nm,0.3s,baz=274,slow=4.3,SNR=24							
WSAR	**Wadi Sarin**	12.68	37	Pn	**Pn**	08 49 36.5		+0.2
	0.1nm,0.3s,baz=150,slow=16,SNR=2.9							
KMBO	**Kilima Mbogo**	19.31	224	P	**Pn**	08 51 02.4		0.0
	0.2nm,0.3s,baz=50,slow=10,SNR=4.8							
ASF	**Jabal al Asfar**	22.65	329	P	**P**	08 51 38.7		+1.5
	1.2nm,0.7s,baz=98,slow=5.6,SNR=3.6							
GEYT	**Alibeck**	25.60	14	P	**P**	08 52 05.3		+0.1
	3.4nm,0.7s,baz=204,slow=14,SNR=8.8							
H08N2	**Diego Garcia H**	28.12	132	T	T	09 21 45.5		
	baz=313,slow=76,SNR=16							
H08N3	**Diego Garcia H**	28.13	132	T	T	09 21 44.5		
	baz=313,slow=76,SNR=15							
H08N1	**Diego Garcia H**	28.15	132	T	T	09 21 47.2		
	baz=313,slow=76,SNR=15							
KIV	**Kislovodsk**	31.41	349	*e*P	**P**	08 52 56.3		-0.7
	9.4nm,1.1s							
AAK	**Ala-Archa**	35.99	31	P	**P**	08 53 38.3		+1.3
	2.2nm,0.9s,baz=266,slow=6.9,SNR=4.6							
ABKAR	**Akbulak array**	36.84	10	*e*P	**P**	08 53 43.8		-0.1
	24nm,1.1s							
ABKAR	**Akbulak array**	36.84	10	*e*P	**P**	08 53 43.8		-0.1
	24nm,1.1s							
AKBB	**Malin Array Si**	41.24	340	*e*P	**P**	08 54 20.7		-0.1
	8.7nm,1.1s							
AKASG	**Malin Array Be**	41.24	340	P	**P**	08 54 19.9		-0.9
	1.7nm,0.8s,baz=146,slow=7.1,SNR=15							
BVAR	**Borovoye Array**	42.83	18	P	**P**	08 54 33.3		-0.4
	0.8nm,0.8s,baz=226,slow=5.8,SNR=4.8							
MK32	**Makanchi Array**	42.87	32	*e*P	**P**	08 54 35.4		+1.3
MKAR	**Makanchi Array**	42.87	32	P	**P**	08 54 35.4		+1.3
	1.0nm,0.6s,baz=222,slow=10,SNR=6.4							
CM31	**Chiang Mai Arr**	46.84	77	*e*P	**P**	08 55 05.7		-0.6
CMAR	**Chiang Mai Arr**	46.84	77	P	**P**	08 55 05.7		-0.6
	0.6nm,0.3s,baz=287,slow=9.3,SNR=4.6							
TORD	**Torodi Ar. Bea**	47.42	276	P	**P**	08 55 11.0		+0.3
	0.6nm,0.7s,baz=98,slow=7.0,SNR=4.0							
TOA1	**Torodi Ar. Sit**	47.42	276	*e*P	**P**	08 55 11.0		+0.2
ZALV	**Zalesovo Beam**	48.87	26	P	**P**	08 55 20.1		-1.3
	1.7nm,0.8s,baz=251,slow=9.2,SNR=5.6							
ZALV	**Zalesovo Beam**	48.87	26	*e*P	**P**	08 55 19.6		-1.8
ZALV	**Zalesovo Beam**	48.87	26	*e*P	**P**	08 55 19.6		-1.8
ZAA1	**Zalesovo Array**	48.88	26	*e*P	**P**	08 55 20.1		-1.4
ZAA1	**Zalesovo Array**	48.88	26	*e*P	**P**	08 55 20.0		-1.4
FIA0	**FINESS Array S**	51.34	345	*e*P	**P**	08 55 39.2		-0.8
FIA0	**FINESS Array S**	51.34	345	*e*P	**P**	08 55 39.2		-0.8
FIA1	**FINESS Array S**	51.34	345	*e*P	**P**	08 55 40.1		+0.1
	82nm,1.8s							
FIA1	**FINESS Array S**	51.34	345	*e*P	**P**	08 55 40.1		+0.1
	82nm,1.8s							
FINES	**FINESS Array B**	51.34	345	P	**P**	08 55 39.2		-0.8
	3.3nm,0.8s,baz=140,slow=7.2,SNR=6.6							
HFS	**Hagfors**	54.10	338	P	**P**	08 55 59.8		-0.7
	4.4nm,0.9s,baz=100,slow=7.5,SNR=3.2							
SONA0	**Songino Array**	57.68	41	*e*P	**P**	08 56 27.0		+0.5
SONM	**Songino Array**	57.68	41	P	**P**	08 56 27.0		+0.5
	1.3nm,0.9s,baz=244,slow=6.3,SNR=7.3							
SONA1	**Songino Array**	57.69	41	*e*P	**P**	08 56 26.6		+0.1
SONA1	**Songino Array**	57.69	41	*e*P	**P**	08 56 26.6		+0.1
WR1	**Warramunga Arr**	88.80	111	*e*P	**P**	08 59 31.1		+0.7
	5.8nm,1.0s							
WRA	**Warramunga Arr**	88.80	111	P	**P**	08 59 31.1		+0.7
	1.4nm,1.0s,baz=296,slow=4.2,SNR=7.0							
ASAR	**Alice Springs**	89.33	114	P	**P**	08 59 33.0		+0.1
	0.8nm,0.7s,baz=288,slow=5.0,SNR=6.7							
AS01	**Alice Springs**	89.37	114	*e*P	**P**	08 59 32.7		-0.4

MEX 09 08:51:18.4±0.9, 18°.16N×103°.34W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MMIG	**Aquila**	0.13	356	*i* P	Pg	08 51 20.0		-1.0
MMIG				*e*S	Sg	08 51 22.7		-0.1
EZ5V		1.34	349	*e*P	Pn	08 51 40.5		-3.6
EZ5V				*e*S	Sg	08 51 58.0		-3.4
ZIIG	**Zihuatanejo**	1.86	107	*i* P	Pn	08 51 46.6		-4.4
ZIIG				*i* S	Sn	08 52 10.8		-4.1
CJM	**Chamela**	2.10	310	*i* P	Pn	08 51 51.3		-2.9
CJM				*i* S	Sn	08 52 15.7		-4.9

*CSEM **09** 08:55:50.6±0.3, 35°.90N×22°.42E, h2km, ML3.5, Error ellipse: s-maj=7.8km s-min=3.3km az=42.0*
*ATH **09** 08:55:50.1, 35°.90N×22°.41E, h8km±2km, ML3.5/10, Error ellipse: s-maj=2.8km s-min=0.8km az=48.0*
*IDC **09** 08:55:50.4±1.1, 36°.10N×22°.53E, h0km, mb3.6/11, mb1 3.7/14, mb1mx3.6/62, mbtmp3.6/14, ML3.4/3, Error ellipse: s-maj=23.3km s-min=13.8km az=24.0*
*THE **09** 08:55:51.0, 35°.91N×22°.46E, h0km±1km, ML3.5/10, Error ellipse: s-maj=1.7km s-min=0.6km az=220.0*

ISC 09 08:55:50.0±1.2, 35°.89N±0°.03×22°.43E±0°.03, h6km±8km, n64, σ1s26/98, mb3.8/11, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KYTH	**Kithira**	0.62	53	P	**Pg**	08 56 02.0		0.0
KYTH				S	**Sb**	08 56 11.0		-1.3
KYTH				AML	AML	08 56 11.6		
	comp=N,14187μm,0.4s							
KYTH				AML	AML	08 56 11.9		
	comp=E,6066μm,0.5s							
KYTH	**Kithira**	0.62	53	P	**Pg**	08 56 02.1		0.0
KYTH				S	**Sb**	08 56 11.1		-1.3
KYTH	**Kithira**	0.62	53	P	**Pg**	08 56 02.0		0.0
KYTH				S	**Sb**	08 56 10.9		-1.5
ANKY	**Antikythira Is**	0.71	92	P	**Pb**	08 56 04.4		-0.4
ANKY				AML	AML	08 56 15.8		
	comp=E,7752μm,0.6s							
ANKY				S	**Sn**	08 56 16.0		-1.8
ANKY				AML	AML	08 56 16.4		
	comp=N,13147μm,0.3s							
ANKY	**Antikythira Is**	0.71	92	P	**Pb**	08 56 04.1		-0.7
ANKY				S	**Sb**	08 56 14.0		-0.8
ANKY	**Antikythira Is**	0.71	92	P	**Pb**	08 56 04.0		-0.7

IGT	Igoumenitsa	3.99	336	*e*Pn	Pn	08 56 52.7	+0.9
FNA	Florina	4.95	351	*e*Pn	Pn	08 57 07.2	+2.2
SRS	Serrai	5.29	10	*e*Pn	Pn	08 57 12.1	+2.4
STON	Ston	7.87	334	*e*Pn	Pn	08 57 42.8	-2.2
STON				Sn	Sn	08 59 07.6	-6.7
ZAGS	Zajecar	7.91	359	*e*Pn	Pn	08 57 48.7	+3.2
DIVS	Divibare	8.40	348	*e*Pn	Pn	08 57 55.1	+2.7
TEKS	Tekeris	8.93	347	*e*Pn	Pn	08 58 00.2	+0.7
BRTR	Keskin Array B	9.66	63	Pn	Pn	08 58 15.0	+5.3
	comp=N,0.1nm,0.3s,baz=260,slow=14,SNR=3.2						
AKASG	Malin Array Be	15.59	16	Pn	Pn	08 59 27.5	-2.8
	comp=N,0.3nm,0.3s,baz=208,slow=11,SNR=2.7						
KBZ	Khabaz	17.54	57	P	P	08 59 55.6	-0.5
	comp=N,0.1nm,0.3s,baz=236,slow=7.3,SNR=3.2						
ESDC	Sonseca Array	21.17	288	P	P	09 00 36.7	+0.7
	comp=N,0.2nm,0.2s,baz=87,slow=12,SNR=3.6						
HFS	Hagfors	24.91	350	P	P	09 01 13.1	-0.4
	comp=N,1.8nm,0.8s,baz=177,slow=8.7,SNR=2.8						
FINES	FINESS Array B	25.68	4	P	P	09 01 19.4	-1.1
	comp=N,3.5nm,1.1s,baz=218,slow=8.8,SNR=2.9						
EKA	Eskdalemuir Ar	26.17	326	P	P	09 01 26.1	+1.1
	comp=N,1.4nm,0.6s,baz=124,slow=12,SNR=4.1						
TORD	Torodi Ar. Bea	29.35	225	P	P	09 01 56.2	+2.4
	comp=N,0.3nm,0.7s,baz=49,slow=8.7,SNR=2.6						
ARCES	ARCESS Array B	33.74	2	P	P	09 02 30.8	-1.1
	comp=N,1.3nm,0.8s,baz=197,slow=8.5,SNR=3.6						
BVAR	Borovoye Array	37.48	48	P	P	09 03 03.3	-0.9
	comp=N,0.2nm,0.4s,baz=280,slow=8.6,SNR=2.9						
KURBB	Kurchatov Arra	42.40	52	P	P	09 03 43.4	-1.8
	comp=N,0.4nm,0.6s,baz=277,slow=9.1,SNR=4.1						
MKAR	Makanchi Array	45.23	57	P	P	09 04 06.7	-1.3
	comp=N,1.1nm,0.5s,baz=273,slow=7.1,SNR=16						
ZALV	Zalesovo Beam	46.11	47	P	P	09 04 15.3	+0.5
	comp=N,0.4nm,0.3s,baz=264,slow=9.3,SNR=2.4						
YKA	Yellowknife Ar	76.05	341	P	P	09 07 40.0	+2.1
	comp=N,0.1nm,0.6s,baz=41,slow=5.8,SNR=2.9						

IDC ***09*** *09:02:25.2±9.0,30°19′S×177°81′W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/37, mbtmp3.5/2, Error ellipse: s-maj=384.5km s-min=58.9km az=155.0*

ISCJB ***09*** *09:03:10.2±0.8, 29°82′S±0°06′ 180°0W±0°1, h300km, mb2.7/2, Error ellipse: s-maj=17.0km s-min=6.9km az=13.7*

WEL ***09*** *09:03:14.6±0.9, 30°S±9°×18°0E±2°1, h194km±24km*

ISC 09 09:03:09.0±1.3**, 29°81S**±0°09**×179°9W**±0°2**, h300km, n36, σ2ŝ45/33, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	1.81	72	S	S	09 04 23.2	-7.2
RIZ	Raoul Island	1.81	72	P	Pn	09 03 55.9	+1.6
GLKZ	Green Lake	1.81	73	P	Pn	09 03 54.8	+0.5
GLKZ	Green Lake	1.81	73	S	S	09 04 23.8	-6.7
RAO	Raoul Island	1.82	73	LR	LR	09 03 00.1	
	comp=Z,2μm,20.5s,baz=48,slow=37						
GRZ	Great Barrier	7.51	210	P	Pn	09 04 58.3	+1.9
MXZ	Matakaoa Point	7.88	190	P	Pn	09 04 59.7	-1.2
ABAZ	Army Bay	8.08	212	P	Pn	09 05 05.0	+1.6
WIAZ	Waiheke Island	8.11	209	P	Pn	09 05 02.5	-1.3
WMGZ	Waiomatatini S	8.11	209	P	Pn	09 05 07.9	+4.1
HAZ	Te Kaha	8.16	193	P	Pn	09 05 07.8	+3.4
HAZ	Te Kaha	8.16	193	S	S	09 06 38.0	+0.1
PKGZ	Pakihiroa	8.23	191	P	Pn	09 05 09.7	+4.4
PKGZ	Pakihiroa	8.23	191	S	S	09 06 37.3	-2.5
RUGZ	Raukumara Rang	8.38	193	P	Pn	09 05 09.8	+2.6
PUZ	Puketiti	8.38	190	P	Pn	09 05 09.6	+2.5
PUZ	Puketiti	8.38	190	S	S	09 06 40.4	-2.7
TWGZ	Tauwhareparae	8.53	191	P	Pn	09 05 11.9	+2.9
TWGZ	Tauwhareparae	8.53	191	S	S	09 06 45.1	-1.4
MWZ	Matawai	8.77	193	P	Pn	09 05 15.1	+3.2
MWZ	Matawai	8.77	193	S	S	09 06 49.7	-2.1
URZ	Urewera	8.79	196	P	Pn	09 05 14.8	+2.8
URZ	Urewera	8.79	196	S	S	09 06 51.6	-0.6
CNGZ	Carnagh Statio	8.79	190	P	Pn	09 05 15.7	+3.5
TKGZ	Te Karaka	8.81	192	P	Pn	09 05 10.5	-1.8
TKGZ	Te Karaka	8.81	192	S	S	09 06 50.4	-2.2
MUGZ	Murupara	9.07	197	P	Pn	09 05 17.7	+2.1
RIGZ	Rimuhau	9.08	192	P	Pn	09 05 17.6	+1.8
SNGZ	Shannon Statio	9.24	194	P	Pn	09 05 20.4	+2.7
NMHZ	Naumai	9.65	195	P	Pn	09 05 24.9	+2.1
NMHZ	Naumai	9.65	195	S	S	09 07 10.7	-1.3
KAHZ	Kahuranaki	10.31	194	P	Pn	09 05 31.1	+0.3
PXZ	Pawanui	10.54	194	P	Pn	09 05 34.2	+0.7
ASAR	Alice Springs	41.49	267	P	P	09 10 27.8	+0.2
	0.2nm,0.5s,baz=88,slow=8.8,SNR=6.1						
WRA	Warramunga Arr	42.42	273	P	P	09 10 37.1	+2.1
	0.4nm,0.6s,baz=114,slow=7.1,SNR=6.3						
FINES	FINESS Array B	144.01	339	PKPbc	PKPab	09 22 02.7	-3.8
	2.7nm,1.0s,baz=64,slow=4.4,SNR=5.6						

IDC 09 09:07:09.2±2.1**, 0°43S**×**132°33E, h0**km**, mb3.6**/3**, mb1 3.7**/4**, mb1mx3.5**/48**, mbtmp3.5**/4**, ML3.2**/1**, Error ellipse: s-maj=137.1km s-min=22.1km az=76.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.50	174	P	P	09 11 38.3	+0.3
	0.1nm,0.3s,baz=354,slow=11,SNR=6.8						
ASAR	Alice Springs	23.15	176	P	P	09 12 17.4	0.0
	2.0nm,0.7s,baz=350,slow=9.4,SNR=26						
SONM	Songino Array	53.10	338	P	P	09 16 29.5	+0.9
	0.4nm,0.4s,baz=156,slow=7.6,SNR=3.3						
MKAR	Makanchi Array	64.16	324	P	P	09 17 44.8	-0.8
	0.2nm,0.6s,baz=122,slow=6.2,SNR=3.3						

ISCJB ***09*** *09:07:13.1±0.4, 19°15S±0°07×169°67E±0°07, h10km, mb4.3/17, Error ellipse: s-maj=11.7km s-min=7.3km az=137.2*

NEIC ***09*** *09:07:16.8±3.2, 19°21S×169°75E, h27km±23km, mb4.8/7, Error ellipse: s-maj=12.8km s-min=9.1km az=151.0*

IDC ***09*** *09:07:18.6±8.2, 19°17S×169°68E, h33km±60km, mb4.0/14, mb1 4.2/15, mb1mx4.0/38, mbtmp4.2/15, ML4.1/1, Error ellipse: s-maj=26.8km s-min=21.2km az=92.0*

ISC 09 09:07:14.7±0.5**, 19°22S**±0°08**×169°77E**±0°09**, h10**km**, n49, σ1ŝ43/53, mb4.2**/17**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.21	227	Pn	Pn	09 08 19.0	-0.1
	11nm,0.3s,baz=50,slow=19,SNR=18						
DZM				Sn	Sn	09 09 04.9	-3.5
	13nm,0.3s,baz=140,slow=19,SNR=5.7						
DZM	Mont Dzumac	4.21	227	*e*Pn	Pn	09 08 19.1	0.0
DZM				*e*Sn	Sn	09 09 11.1	+2.7
FUNA	Funafuti	14.02	42	*e*Pn	Pn	09 10 33.8	+0.2
RAO	Raoul Island	15.01	134	*e*Pn	Pn	09 10 48.0	+1.0
	2μm,0.5s						
LHI	Lord Howe Isla	15.59	216	*e*Pn	Pn	09 10 56.9	+2.2
	232nm,1.4s						
EIDS	Eidsvold	18.34	247	*e*Pn	Pn	09 11 27.2	-2.1
	30nm,1.6s						
MXZ	Matakaoa Point	19.74	160	*e*P	P	09 11 42.4	-2.2
	129nm,1.2s						
ARMA	Armidale	19.86	232	*e*P	P	09 11 43.8	-2.3
	71nm,2.0s						
CTA	Charters Tower	22.16	264	P	P	09 12 12.5	+1.5
	2.0nm,0.5s,baz=85,slow=13,SNR=4.5						
PMG	Port Moresby	23.96	291	P	P	09 12 32.2	+2.8
	8.2nm,0.8s,baz=133,slow=15,SNR=3.7						
RPZ	Rata Peaks	24.44	178	P	P	09 12 36.0	+2.3
	6.0nm,0.9s,baz=1.2,slow=14,SNR=2.4						
STKA	Stephens Creek	28.28	238	P	P	09 13 10.4	+2.0
	1.4nm,0.8s,baz=72,slow=12,SNR=2.1						
WB2	Warramunga Arr	33.34	263	*e*P	P	09 13 52.7	-0.6
WR1	Warramunga Arr	33.35	263	*e*P	P	09 13 51.5	-1.8
WR1				*e*PcP	PcP	09 16 34.7	-0.5
WRA	Warramunga Arr	33.35	263	P	P	09 13 51.5	-1.8
	0.5nm,0.5s,baz=83,slow=6.0,SNR=10						
WRA				PcP	PcP	09 16 34.7	-0.6
	0.7nm,0.8s,baz=94,slow=2.6,SNR=4.4						
AS01	Alice Springs	33.58	256	*e*P	P	09 13 54.2	-1.1
AS31	Alice Springs	33.62	256	*e*P	P	09 13 55.1	-0.5
	6.3nm,0.6s						
ASAR	Alice Springs	33.62	256	P	P	09 13 54.9	-0.7
	6.1nm,0.5s,baz=84,slow=8.8,SNR=60						
ASAR				PcP	PcP	09 16 35.3	-0.6
	0.8nm,0.8s,baz=98,slow=2.8,SNR=4.2						
FITZ	Fitzroy Crossi	41.74	264	P	P	09 15 04.1	-0.3
	3.1nm,0.6s,baz=83,slow=8.3,SNR=12						
FITZ	Fitzroy Crossi	41.74	264	*e*P	P	09 15 04.0	-0.4
	12nm,1.1s						
VNDA	Vanda	58.47	182	P	P	09 17 10.6	+0.2
	2.6nm,1.0s,baz=354,slow=7.8,SNR=3.5						
VNDA	Vanda	58.47	182	*e*P	P	09 17 10.4	0.0
SMRI	Semarang	58.78	273	*e*P	P	09 17 08.6	-5.0
	1μm,1.8s						
MJAR	Matsushiro Arr	62.97	332	P	P	09 17 40.5	-1.1
	3.6nm,0.9s,baz=168,slow=8.1,SNR=7.1						
MAJO	Matsushiro	62.98	332	*e*P	P	09 17 40.5	-1.1
ASAJ	Asahikawa	67.76	339	P	P	09 18 13.5	+1.0
	12nm,0.8s,baz=203,slow=7.5,SNR=15						
ASAJ	Asahikawa	67.76	339	*e*P	P	09 18 13.3	+0.8
	13nm,0.8s						
PETK	Petropavlovsk-	72.78	352	P	P	09 18 43.9	+0.9
	1.1nm,0.6s,baz=130,slow=6.4,SNR=4.3						
PEA1	Petropavlovsk-	72.79	352	*e*P	P	09 18 44.0	+0.9
CMAR	Chiang Mai Arr	78.96	294	P	P	09 19 19.4	+0.3
	0.7nm,0.4s,baz=130,slow=3.2,SNR=5.0						
OCR	O'Connell Ranc	85.46	49	*e*P	P	09 19 51.5	-1.3
SONA0	Songino Array	87.51	323	*e*P	P	09 20 02.6	-0.2
SONM	Songino Array	87.51	323	P	P	09 20 02.6	-0.2
	2.6nm,0.9s,baz=149,slow=5.7,SNR=9.9						
SONA1	Songino Array	87.51	323	*e*P	P	09 20 02.4	-0.4
NV01	Mina Array Sit	88.41	48	*e*P	P	09 20 07.8	+0.3
NVAR	Mina Array Bea	88.41	48	P	P	09 20 08.3	+0.8
	0.3nm,0.6s,baz=218,slow=11,SNR=3.6						
ILAR	Eielson Array	90.07	17	P	P	09 20 12.6	-1.7
	0.5nm,0.8s,baz=234,slow=4.9,SNR=5.7						
PANH	Panhandle Gap,	90.07	40	*e*P	P	09 20 18.0	+2.9
LNOR	Lincton Mounta	91.69	42	*e*P	P	09 20 20.4	-1.9
YKA	Yellowknife Ar	100.42	27	P	Pdif	09 21 02.4	+0.9
	0.4nm,0.8s,baz=255,slow=4.5,SNR=7.9						
MK32	Makanchi Array	102.08	315	*e*Pdif	Pdif	09 21 09.7	+0.3
MKAR	Makanchi Array	102.08	315	P	Pdif	09 21 09.7	+0.3
	0.4nm,0.6s,baz=108,slow=4.7,SNR=3.2						
ARA0	ARCESS Array S	125.18	345	*e*PKPdf	PKPdf	09 26 12.9	-2.0
ARCES	ARCESS Array B	125.18	345	PKP	PKPdf	09 26 12.9	-2.0
	1.5nm,0.7s,baz=72,slow=2.9,SNR=4.3						
KHC	Kasperske Hory	144.55	333	*e*PKP	PKPab	09 26 50.0	+0.1
GEC2	GERESS Array S	144.71	332	*e*PKPdf	PKPab	09 26 50.1	-0.5
GERES	GERESS Array B	144.71	332	PKP	PKPab	09 26 50.0	-0.6
	0.7nm,0.5s,baz=46,slow=3.9,SNR=7.0						
TORD	Torodi Ar. Bea	167.06	244	PKPab	PKPab	09 28 26.0	+0.3
	0.5nm,0.9s,baz=116,slow=3.4,SNR=2.3						
TOA1	Torodi Ar. Sit	167.06	244	*e*PKPab	PKPab	09 28 26.0	+0.3

ISCJB ***09*** *09:22:06.1±0.7, 37°32N±0°04×28°03E±0°05, h0km, Error ellipse: s-maj=6.5km s-min=5.4km az=21.5*

CSEM ***09*** *09:22:06.4±0.4, 37°34N×28°03E, h1km, ML2.3, Error ellipse: s-maj=10.2km s-min=7.3km az=22.0, Suspected Mining explosion.*

DDA ***09*** *09:22:06.5, 37°36N×28°04E, h7km, Md2.5, Suspected Mining explosion.*

ISK ***09*** *09:22:06.2, 37°30N×27°99E, h14km, ML2.3/4, Suspected Mining explosion.*

ISC 09 09:22:05.0±0.9**, 37°38N**±0°04×**27°89E**±0°04**, h0**km**, n14, σ0ŝ31/20, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	Tasoluk	0.28	358	*i* P	Pb	09 22 13.1	+0.1
AYDN				*i* S	Sb	09 22 18.5	+0.2
AYDN	Tasoluk	0.28	358	P	Pb	09 22 13.1	+0.1
AYDN				S	Sb	09 22 18.5	+0.2
BODT	Bodrum	0.56	236	PG	Pb	09 22 17.8	0.0
BODT				SG	Sb	09 22 27.0	+0.6
BODT	Bodrum	0.56	236	*e*Pg	Pb	09 22 17.8	0.0
BODT				*e*Sg	Sb	09 22 27.0	+0.6
GCAM	G?zelcaml?	0.61	301	PG	Pn	09 22 20.9	-0.1
GCAM				SG	Sn	09 22 31.3	-0.3
GCAM	G?zelcaml?	0.61	301	*i* P	Pn	09 22 20.9	-0.1
GCAM	G?zelcaml?	0.61	301	*e*Pg	Pn	09 22 20.9	-0.1
GCAM				*e*Sg	Sn	09 22 31.3	-0.3
TAVA	DENIZLI_Tavas	0.82	84	*i* P	Pg	09 22 20.3	-0.4
TAVA	DENIZLI_Tavas	0.82	84	P	Pg	09 22 20.3	-0.4
FETY	Fethiye	1.21	128	PN	Pg	09 22 27.9	-0.3
FETY	Fethiye	1.21	128	*e*Pn	Pg	09 22 27.9	-0.3
FETY	Fethiye	1.21	128	P	Pn	09 22 29.3	+0.1
KULA	Kula-Manisa	1.28	28	PN	Pn	09 22 30.6	+0.3
KULA	Kula-Manisa	1.28	28	*e*Pn	Pn	09 22 30.6	+0.3

IDC ***09*** *10:01:10.2±1.0, 1°01S×126°94E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/54, mbtmp4.0/7, Error ellipse: s-maj=56.7km s-min=19.4km az=70.0*

ISCJB ***09*** *10:01:13.3±0.3, 0°90S±0°03×126°83E±0°04, h34km, mb4.3/9, Error ellipse: s-maj=5.5km s-min=4.2km az=160.1*

NEIC ***09*** *10:01:13.9±0.5, 1°02S×126°53E, h35km, mb4.3/5, Error ellipse: s-maj=10.9km s-min=7.8km az=59.0*

DJA ***09*** *10:01:13.0±0.3, 1°S±3°×12°7E±°, h10km, M4.3/6, mB5.2/2, mb4.4/2, MLv4.2/6, Mw(mB)4.6/2*

ISC 09 10:01:15.0±0.5**, 0°96S**±0°04×**126°79E**±0°05**, h34**km**, n46, σ2ŝ10/52, mb4.2**/9**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.78	66	P	Pn	10 01 27.0	-2.6
LBMI				S	Sn	10 01 37.2	-2.8
SANI	Sanana	1.35	216	P	Pn	10 01 36.7	-0.7
SANI				S	Sb	10 01 56.6	-0.1
TNTI	Ternate	1.81	19	*e*Pn	Pn	10 01 43.3	-0.5
TNTI				*e*Sn	Sn	10 02 07.1	+1.6
NLAI	Namlea	2.29	172	P	Pn	10 01 50.1	-0.3
NLAI				S	Sn	10 02 18.0	+0.6
AAI	Ambon	3.06	153	P	Pn	10 02 02.2	+1.3
AAI				S	Sn	10 02 38.5	+2.2
KMSI	Cibinong	3.19	298	P	Pn	10 02 04.7	+1.9
MSAI	Masohi	3.19	138	P	Pn	10 02 05.3	+2.5
LUWI	Luwuk	4.02	269	P	Pn	10 02 13.9	-0.2
LUWI	Luwuk	4.02	269	*e*Pn	Pn	10 02 08.4	-5.7
SWI	Sorong	4.47	89	P	Pn	10 02 24.7	+4.3
BNDI	Bandanaira	4.72	139	P	Pn	10 02 25.3	+1.6
MRSI	Marisa	5.05	286	P	Pn	10 02 29.7	+1.3
	16nm,0.5s,665nm0.2nm						
KDI	Kendari	5.12	234	P	Pn	10 02 30.5	+1.1
APSI	Ampana	5.14	270	P	Pn	10 02 30.0	+0.4
FAKI	Fak Fak	5.79	110	P	Pn	10 02 39.0	+0.4
FAKI	Fak Fak	5.79	110	*e*Pn	Pn	10 02 39.1	+0.5
FAKI				*e*Sn	Sn	10 03 50.3	+6.4
MPSI	Mapaga	7.01	281	P	Pn	10 02 56.6	+4.3
DAV	Davao City (W)	8.06	351	*e*Pn	Pn	10 03 08.8	-1.0
MMRI	Maumere	8.88	211	*e*Pn	Pn	10 03 17.0	-3.9
MTN	Manton Dam	12.57	160	*e*Pn	Pn	10 04 11.8	+0.3
KKM	Kota Kinabalu	12.64	303	*e*Pn	Pn	10 04 06.7	-5.9
CISI	Cisompet, Garu	20.02	250	*e*P	P	10 05 41.1	-4.0
	97nm,1.3s						
WRAB	Tennant Creek	20.26	159	*e*P	P	10 05 46.2	-1.4
	17nm,1.4s						
WR1	Warramunga Arr	20.27	159	*e*P	P	10 05 46.4	-1.4
	6.6nm,0.8s						
WRA	Warramunga Arr	20.27	159	P	P	10 05 46.4	-1.4
	4.0nm,0.6s,baz=340,slow=12,SNR=60						
COEN	Coen	20.73	129	*e*P	P	10 05 53.7	+0.9
	53nm,1.4s						
AS31	Alice Springs	23.61	164	*e*P	P	10 06 22.4	-0.7
	1.6nm,0.6s						
ASAR	Alice Springs	23.61	164	P	P	10 06 22.1	-1.0
	5.1nm,1.0s,baz=346,slow=12,SNR=39						
AS01	Alice Springs	23.62	163	*e*P	P	10 06 21.9	-1.2
QIZ	Qiongzhong	25.91	321	*e*P	P	10 06 43.9	-0.2
	200nm,1.9s						
LHMI	Lhok Sumawe	30.43	282	*e*P	P	10 07 21.2	-3.4
	86nm,0.9s						
KMI	Kunming	34.85	320	P	P	10 08 02.8	-0.6
CD2	Chengdu	38.52	327	*e*P	P	10 08 32.5	-1.9
LZH	Lanzhou	42.60	332	*e*P	P	10 09 08.5	+0.3
LZH				pP	sP	10 09 22.0	-0.3
LZH				sP	pP	10 09 27.8	+10
LZH				*e*PP	PP	10 10 50.4	+3.0
HHC	Hu-ho-hao-te	43.86	343	*e*P	P	10 09 17.0	-1.2
HHC				pP	pP	10 09 29.3	+1.1
HHC				sP	sP	10 09 34.7	+2.4
HHC				S	S	10 15 45.2	-1.9
HHC				sS	sS	10 16 06.1	+2.4
SONA0	Songino Array	51.74	343	*e*P	P	10 10 22.1	+2.9
SONM	Songino Array	51.74	343	P	P	10 10 22.1	+2.9
	1.4nm,0.7s,baz=159,slow=8.2,SNR=6.6						
WMQ	Urumqi	56.62	327	*e*P	P	10 10 54.6	-0.1
PETK	Petropavlovsk-	59.74	21	P	P	10 11 16.6	+0.3
	2.5nm,0.9s,baz=178,slow=5.1,SNR=6.7						
PEA1	Petropavlovsk-	59.74	21	*e*P	P	10 11 16.6	+0.3
KSH	Kashi	61.43	317	*e*P	P	10 11 28.2	-0.1
MK32	Makanchi Array	61.45	327	*e*P	P	10 11 28.6	+0.5
MKAR	Makanchi Array	61.45	327	P	P	10 11 28.6	+0.5
	1.1nm,0.5s,baz=128,slow=8.2,SNR=9.6						
KURBB	Kurchatov Arra	65.72	329	P	P	10 11 56.0	-0.1
	1.8nm,0.9s,baz=126,slow=6.0,SNR=13						
KURK	Kurchatov	65.72	329	*e*P	P	10 11 56.0	-0.2
BVAR	Borovoye Array	71.28	328	P	P	10 12 33.6	+2.7
	0.3nm,0.4s,baz=125,slow=7.6,SNR=3.5						

MEX 09 10:07:06.5±0.4**, 18°32N×101°14W, h73**km±6**km, MD3.9, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.75	93	*e*P	Pn	10 07 21.0	-1.2
ARIG				*e*S	Sn	10 07 32.0	-1.9
ZIIG	Zihuatanejo	0.77	204	*e*P	Pn	10 07 21.0	-1.5
ZIIG				*e*S	Sn	10 07 32.4	-1.8
MEIG	Mezcala	1.50	105	*e*P	Pn	10 07 31.0	-0.6
MEIG				*i* S	Sn	10 07 48.6	-2.0
CAIG	El Cayaco	1.51	147	*e*P	Pn	10 07 30.2	-1.5
CAIG				*i* S	Sn	10 07 49.6	-1.2
PLIG	Platanillo	1.56	87	*e*P	Pn	10 07 31.6	-0.8
PLIG				*i* S	Sn	10 07 49.5	-2.5
MMIG	Aquila	2.10	270	*e*P	Pn	10 07 37.4	-2.1
MMIG				*i* S	Sn	10 08 03.1	-1.6
TLIG	Tlapa	2.56	107	*e*P	Pn	10 07 45.6	-0.3
TLIG				*i* S	Sn	10 08 14.3	-1.9
EZ5V		2.60	297	*i* P	Pn	10 07 44.9	-1.7
EZ5V				*i* S	Sn	10 08 15.4	-2.0
CJM	Chamela	3.88	288	*i* P	Pn	10 08 02.0	-1.7
CJM				*i* S	Sn	10 08 47.6	-0.5

CSEM ***09*** *10:18:30.8±0.2, 34°64N×23°97E, h20km, ML3.8, Error ellipse: s-maj=5.7km s-min=4.1km az=49.0*

HLW ***09*** *10:18:31.1, 34°73N×24°26E, h25km±19km, Md3.6, Ml3.3*

IDC ***09*** *10:18:31.4±2.1, 34°84N×23°85E, h34km±14km, mb3.7/13, mb1 3.7/16, mb1mx3.5/63, mbtmp3.8/16, ML3.7/3, Error ellipse: s-maj=24.4km s-min=16.6km az=157.0*

ATH ***09*** *10:18:32.4, 34°84N×24°00E, h30km±1km, ML3.8/8, Error ellipse: s-maj=2.5km s-min=1.1km az=203.0*

THE ***09*** *10:18:34.6, 34°90N×24°04E, h13km, ML3.6/13, Error ellipse: s-maj=1.0km s-min=0.5km az=215.0*

ISK ***09*** *10:18:35.8, 35°17N×24°47E, h5km, ML3.9/10*

DDA ***09*** *10:18:59.2, 34°80N×24°13E, h13km, Ml3.8*

ISC 09 10:18:30.5±0.8**, 34°69N**±0°03×**23°94E**±0°03**, h32**km±5**km, n178, σ1ŝ76/223, mb3.8**/13**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.19	40	PG	Pn	10 18 37.6	+0.3
GVD				*i* SG	Sb	10 18 41.8	+0.6
GVD	Gavdhos	0.19	40	P	Pb	10 18 36.2	-0.7
GVD				AML	AML	10 18 41.8	
GVD				S	Sb	10 18 42.6	+1.4
GVD				AML	AML	10 18 42.6	
GVD	Gavdhos	0.19	40	P	Pb	10 18 36.9	0.0
GVD				S	Sb	10 18 39.9	-1.3
GVD	Gavdhos	0.19	40	P	Pb	10 18 36.9	0.0
GVD				S	Sb	10 18 39.9	-1.3
VAM	Vamos	0.74	17	P	Pn	10 18 45.3	+0.4
VAM				S	Sb	10 18 52.9	-2.1
VAM				AML	AML	10 19 01.6	
	comp=N,18919μm,0.4s						
VAM				AML	AML	10 19 02.1	
	comp=E,10624μm,0.5s						
VAM	Vamos	0.74	17	P	Pb	10 18 44.4	-0.7
VAM				S	Sb	10 18 53.2	-1.7
VAM	Vamos	0.74	17	P	Pb	10 18 44.4	-0.7
VAM				S	Sb	10 18 53.2	-1.7
IMMV	Iera Moni Meta	0.77	3	PG	Pb	10 18 45.9	+0.5
IMMV	Iera Moni Meta	0.77	3	P	Pn	10 18 45.0	-0.1
IMMV				S	Sb	10 18 56.0	+0.4
IMMV				AML	AML	10 19 01.4	
	comp=N,23176μm,0.4s						
IMMV				AML	AML	10 19 02.8	
	comp=E,21257μm,0.5s						
IMMV	Iera Moni Meta	0.77	3	P	Pn	10 18 44.8	-0.4
IMMV				S	Sb	10 18 55.2	-0.4
IMMV	Iera Moni Meta	0.77	3	P	Pn	10 18 44.8	-0.4
IMMV				S	Sb	10 18 53.6	-2.0
SIVA	Sivas	0.79	66	P	Pb	10 18 46.

MHLA	Plaka, Milos I	2.08	11	P		Pn	10 19 05.5	+2.1	
MHLA	Plaka, Milos I	2.08	11	P		Pn	10 19 05.4	+2.1	
THR3	Thira Island,	2.09	34	P		Pn	10 19 05.4	+2.1	
THR3	Thira Island,	2.09	34	P		Pn	10 19 05.4	+2.1	
THR3	Thira Island,	2.09	34	P		Pn	10 19 05.4	+2.1	
THR8	Santorini-Mono	2.12	36	P		Pn	10 19 05.3	+1.5	
THR8	Santorini-Mono	2.12	36	P		Pn	10 19 05.6	+1.8	
THR8	Santorini-Mono	2.12	36	P		Pn	10 19 05.7	+1.9	
THR2	Thira island,	2.13	34	P		Pb	10 19 06.7	-1.9	
THR2	Thira island,	2.13	34	P		Pn	10 19 06.4	+2.4	
CMBO	Columbo, Santo	2.14	34	P		Pn	10 19 05.2	+1.1	
CMBO	Columbo, Santo	2.14	34	P		Pn	10 19 05.3	+1.3	
CMBO				S		Sn	10 19 31.4	+1.9	
CMBO	Columbo, Santo	2.14	34	P		Pn	10 19 05.3	+1.3	
CMBO				S		Sn	10 19 31.4	+1.9	
VLI	Veliai	2.18	338	P		Pb	10 19 07.6	-1.7	
VLI	Veliai	2.18	338	P		Pb	10 19 07.4	-1.9	
VLI	Veliai	2.18	338	P		Pb	10 19 07.9	-1.4	
ANAF	Anafi Island	2.23	42	P		Pn	10 19 06.8	+1.4	
ANAF				S		Sn	10 19 31.7	-0.2	
ANAF	Anafi Island	2.23	42	P		Pn	10 19 07.2	+1.8	
ANAF				S		Sn	10 19 32.5	+0.6	
IOSP	Ios island	2.30	28	P		Pn	10 19 06.8	+0.5	
IOSP				S		Sn	10 19 33.8	+0.2	
IOSP	comp=N,1239µm,0.2s			AML	AML		10 19 35.7		
IOSP	comp=E,951µm,0.3s			AML	AML		10 19 36.1		
IOSP	Ios island	2.30	28	P		Pn	10 19 07.6	+1.3	
IOSP				S		Sn	10 19 34.3	+0.7	
DYR	Agios Nikonas	2.44	328	P		Pb	10 19 12.1	-1.7	
DYR	Agios Nikonas	2.44	328	P		Pb	10 19 11.6	-2.2	
APE	Apeiranthos	2.70	28	PG		Pn	10 19 11.7	-0.1	
APE	Apeiranthos	2.70	28	PN		Pn	10 19 12.4	+0.6	
APE				SN		Sn	10 19 38.9	-4.5	
APE	Apeiranthos	2.70	28	P		Pn	10 19 12.8	+1.0	
APE	Apeiranthos	2.70	28	P		Pn	10 19 12.8	+1.0	
KARP	Karpathos	2.78	71	ePG		Pn	10 19 15.9	+3.0	
KARP	Karpathos	2.78	71	PN		Pn	10 19 15.5	+2.6	
KARP	Karpathos	2.78	71	P		Pn	10 19 14.9	+2.1	
KARP	Karpathos	2.78	71	P		Pn	10 19 15.4	+2.6	
KARP				S		Sn	10 19 48.8	+3.5	
KARP	Karpathos	2.78	71	P		Pn	10 19 15.4	+2.6	
KARP				S		Sn	10 19 48.8	+3.5	
DID	Didima	2.86	349	P		Pn	10 19 15.1	+1.1	
DID	Didima	2.86	349	P		Pn	10 19 15.4	+1.4	
DID	Didima	2.86	349	P		Pn	10 19 15.4	+1.4	
ITM	Ithomi	2.97	327	P		Pn	10 19 18.7	+3.2	
ITM	Ithomi	2.97	327	P		Pn	10 19 18.7	+3.2	
MES3	Kyparissia	3.14	325	P		Pn	10 19 20.6	+2.8	
MES3	Kyparissia	3.14	325	P		Pn	10 19 20.8	+3.0	
VLY	Voula,Athens	3.15	358	P		Pn	10 19 19.2	+1.2	
VLY	Voula,Athens	3.15	358	P		Pn	10 19 19.2	+1.2	
SLUM	Salum	3.37	161	P		Pn	10 19 20.9	-0.1	
SLUM	baz=165			S		Sn	10 19 59.3	-0.6	
SLUM	baz=165								
SLUM	Salum	3.37	161	P		Pn	10 19 20.9	-0.1	
SLUM				S		Sn	10 19 59.3	-0.6	
LTK	Loutraki	3.41	347	P		Pn	10 19 22.9	+1.3	
LTK	Loutraki	3.41	347	P		Pn	10 19 23.6	+2.0	
GUR	Goura	3.48	339	P		Pn	10 19 25.2	+2.6	
GUR	Goura	3.48	339	P		Pn	10 19 25.3	+2.7	
GUR	Goura	3.48	339	P		Pn	10 19 25.3	+2.7	
VILL	Villia	3.50	352	P		Pn	10 19 23.9	+1.1	
VILL	Villia	3.50	352	P		Pn	10 19 23.9	+1.1	
BODT	Bodrum	3.62	48	ePG		Pn	10 19 24.3	-0.1	
BODT	Bodrum	3.62	48	PN		Pn	10 19 25.3	+0.9	
KLV	Kalavryta, Ach	3.64	337	P		Pn	10 19 26.1	+1.3	
KLV	Kalavryta, Ach	3.64	337	P		Pn	10 19 26.9	+2.1	
BDRM	Kayabasi	3.70	49	*i* P		Pn	10 19 26.9	+1.3	
BDRM	Kayabasi	3.70	49	P		Pn	10 19 26.9	+1.3	
ARG	Arkhangelos	3.74	65	P		Pn	10 19 27.8	+1.8	
ARG	Arkhangelos	3.74	65	P		Pn	10 19 28.3	+2.2	
ARG	Arkhangelos	3.74	65	P		Pn	10 19 28.3	+2.2	
CHOS	Chios island	4.06	24	ePG		Pn	10 19 30.3	-0.2	
CHOS	Chios island	4.06	24	PN		Pn	10 19 31.6	+1.1	
EFP	Efpalio	4.07	337	P		Pn	10 19 34.5	+3.9	
EFP	Efpalio	4.07	337	P		Pn	10 19 34.2	+3.6	
URLA	Izmir	4.24	30	ePG		Pn	10 19 32.6	-0.3	
URLA	Izmir	4.24	30	PN		Pn	10 19 33.6	+0.7	
URLA	Izmir	4.24	30	*i* P		Pn	10 19 32.7	-0.2	
URLA	Izmir	4.24	30	P		Pn	10 19 32.7	-0.2	
YER	Yerkesik	4.29	54	ePG		Pn	10 19 35.2	+1.6	
YER	Yerkesik	4.29	54	PN		Pn	10 19 34.7	+1.1	
YER	Yerkesik	4.29	54	P		Pn	10 19 36.7	+3.1	
YER	Yerkesik	4.29	54	P		Pn	10 19 36.7	+3.1	
AYDN	Tasoluk	4.35	46	*i* P		Pn	10 19 35.5	+1.0	
AYDN	Tasoluk	4.35	46	P		Pn	10 19 35.5	+1.0	
TURN	Turunc	4.37	59	ePG		Pn	10 19 31.8	-2.9	
TURN	Turunc	4.37	59	PN		Pn	10 19 32.3	-2.4	
TURN	Turunc	4.37	59	*i* P		Pn	10 19 32.6	-2.2	
FETY	Fethiye	4.62	64	ePG		Pn	10 19 37.9	-0.2	
FETY	Fethiye	4.62	64	PN		Pn	10 19 38.8	+0.7	
FETY	Fethiye	4.62	64	P		Pn	10 19 38.8	+0.5	
AKAS	Kas	4.87	70	ePG		Pn	10 19 41.4	-0.4	
AKAS	Kas	4.87	70	PN		Pn	10 19 42.9	+1.1	
AKAS	Kas	4.87	70	*i* P		Pn	10 19 41.7	-0.1	
AKAS				*i* S		Sn	10 20 31.6	-5.5	
AKAS	Kas	4.87	70	P		Pn	10 19 41.7	-0.1	
TAVA	DENIZLI_Tavas	4.89	54	*i* P		Pn	10 19 43.8	+1.9	
TAVA	DENIZLI_Tavas	4.89	54	P		Pn	10 19 43.8	+1.9	
GOLH	Golhisar	5.22	59	*i* P		Pn	10 19 47.7	+1.2	
GOLH	Golhisar	5.22	59	P		Pn	10 19 47.7	+1.2	
ELL	Elmali	5.27	65	ePG		Pn	10 19 49.2	+2.0	
ELL	Elmali	5.27	65	PN		Pn	10 19 49.4	+2.2	
SWA2	baz=169	5.59	166	P		Pn	10 19 52.6	+1.1	
SWA2	baz=169			S		Sn	10 20 54.0	-0.5	
SWA2		5.59	166	P		Pn	10 19 52.6	+1.1	
SWA2				S		Sn	10 20 54.0	-0.5	
KORT	Korkueli	5.69	64	ePG		Pn	10 19 55.5	+2.5	
KORT	Korkueli	5.69	64	PN		Pn	10 19 55.9	+2.9	
KHAL	Karahalli	5.78	49	*i* P		Pn	10 19 57.0	+2.7	
KHAL	Karahalli	5.78	49	P		Pn	10 19 57.0	+2.7	
KZIL	AFYON_Kizioren	6.13	53	*i* P		Pn	10 20 00.7	+1.6	
KZIL	AFYON_Kizioren	6.13	53	P		Pn	10 20 00.7	+1.6	
SUTC	Sutluce-Ispart	6.36	62	ePG		Pn	10 20 04.4	+2.3	
SUTC	Sutluce-Ispart	6.36	62	PN		Pn	10 20 04.7	+2.6	
BAGO	Egridir - ISPA	6.43	57	*i* P		Pn	10 20 05.2	+2.0	
KEPZ	Antalya-Kepez	6.61	68	*i* P		Pn	10 20 06.9	+1.4	
KEPZ	Antalya-Kepez	6.61	68	P		Pn	10 20 06.9	+1.4	
DOGA	KONYA_Doganhis	7.10	59	*i* P		Pn	10 20 13.9	+1.5	
DOGA	KONYA_Doganhis	7.10	59	P		Pn	10 20 13.9	+1.5	
GULN	MERSIN_Gulnar	7.98	77	*i* P		Pn	10 20 23.6	-0.7	
GULN	MERSIN_Gulnar	7.98	77	P		Pn	10 20 23.6	-0.7	
GLL	Jalalah	8.33	126	P		Pn	10 20 28.8	-0.4	
GLL	baz=127 Jalalah	8.33	126	P		Pn	10 20 28.8	-0.4	
HHAG	Hagoal	8.37	122	P		Pn	10 20 28.4	-1.3	
HHAG	baz=123 Hagoal	8.37	122	P		Pn	10 20 28.4	-1.3	
NBNS	Bani Suef	8.71	132	P		Pn	10 20 33.8	-0.6	
NBNS	baz=133 Bani Suef	8.71	132	P		Pn	10 20 33.8	-0.6	
BRTR	Keskin Array B	9.22	54	Pn		Pn	10 20 43.1	+1.6	
STON	comp=E,0.1nm,0.3s,baz=226,slow=14,SNR=6.6 Ston	9.50	331	*e*Pn		Pn	10 20 41.0	-4.1	
STON				Sn		Sn	10 22 17.9	-13	
MMAI	Mount Meron Ar	9.68	97	Pn		Pn	10 20 48.0	+0.3	
MMAI	comp=E,2.3nm,0.3s,baz=293,slow=12,SNR=5.2			Sn		Sn	10 22 26.5	-8.9	
EIL	comp=E,1.3nm,0.3s,baz=267,slow=22,SNR=3.2 Elat	10.59	115	Pn		Pn	10 21 05.8	+5.8	
EIL	comp=E,0.9nm,0.3s,baz=318,slow=12,SNR=7.7			Sn		Sn	10 22 57.5	0.0	
GERES	comp=E,0.7nm,0.3s,baz=294,slow=20,SNR=4.8 GERESS Array B	16.05	335	Pn		P	10 22 17.1	+0.2	
KHC	comp=E,0.2nm,0.3s,baz=144,slow=12,SNR=6.3 Kasperske Hory	16.33	335	*e*P		P	10 22 23.5	+3.4	
AKASG	Malin Array Be	16.45	12	Pn		Pn	10 22 16.9	-2.0	
KBZ	comp=E,0.4nm,0.3s,baz=205,slow=12,SNR=2.5 Khabaz	17.21	53	P		P	10 22 31.5	+1.7	
ESDC	comp=E,0.1nm,0.3s,baz=221,slow=9.3,SNR=5.9 Sonseca Array	22.73	291	P		P	10 23 29.3	-0.6	
HFS	comp=E,0.6nm,0.5s,baz=90,slow=9.7,SNR=4.3 Hagfors	26.32	348	P		P	10 24 02.4	-0.7	
FINES	comp=E,1.0nm,0.3s,baz=156,slow=11,SNR=6.9 FINESS Array B	26.80	2	P		P	10 24 06.4	-1.1	
	comp=E,1.2nm,0.6s,baz=177,slow=7.6,SNR=3.5								
NOA	NORSAR Array B	27.61	347	P		P	10 24 14.2	-0.6	
AKTO	comp=E,1.1nm,0.8s,baz=154,slow=8.9,SNR=4.4 Aktyubinsk	29.30	47	P		P	10 24 29.7	-0.3	
TORD	comp=E,0.7nm,0.4s,baz=224,slow=6.5,SNR=4.0 Torodi Ar. Bea	29.43	229	P		P	10 24 32.8	+1.5	
ARCES	comp=E,2.4nm,0.6s,baz=38,slow=8.7,SNR=20 ARCESS Array B	34.91	1	P		P	10 25 17.2	-1.7	
BVAR	comp=E,2.5nm,1.0s,baz=174,slow=9.9,SNR=5.8 Bovoye Array	37.39	46	P		P	10 25 40.6	+0.2	
KURBB	comp=E,0.3nm,0.3s,baz=243,slow=6.3,SNR=2.9 Kurchatov Arra	42.19	51	P		P	10 26 20.5	+0.3	
MKAR	comp=E,1.3nm,0.6s,baz=276,slow=8.6,SNR=17 Makanchi Array	44.87	56	P		P	10 26 42.4	+0.5	
ZALV	comp=E,1.1nm,0.5s,baz=271,slow=8.2,SNR=24 Zalesovo Beam	46.05	46	P		P	10 26 50.6	-0.5	
SONM	comp=E,1.2nm,0.3s,baz=271,slow=9.5,SNR=5.9 Songino Array	60.56	50	P		P	10 28 38.6	+0.7	
YKA	comp=E,0.4nm,0.4s,baz=288,slow=6.2,SNR=3.6 Yellowknife Ar	77.58	342	P		P	10 30 23.5	+0.5	
	comp=E,0.1nm,0.4s,baz=29,slow=5.1,SNR=3.4								

*NEIC **09** 10:25:02.5±0.4, 17.70S×178.62W, h577km±4km, mb4.4/105, Error ellipse: s-maj=13.8km s-min=4.1km az=156.0*

*IDC **09** 10:25:03.2±1.7, 17.84S×178.50W, h590km±20km, mb4.0/17, mb1 4.2/19, mb1mx3.8/48, mbtmp4.9/19, Error ellipse: s-maj=29.3km s-min=10.5km az=152.0*

ISC 09 10:25:01.9±0.7, 17.9S±0.2×178.5W±0.1, h579km, n285, σ0.9s/294, mb4.5/117, 5C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
AFI	Afiamalu	7.59	59	P	P	10 26 56.8	0.0
	6.8nm,0.3s,baz=283,slow=0.3,SNR=12						
AFI	Afiamalu	7.59	59	*e*P	P	10 26 58.2	+1.5
AFI				*e*S	S	10 28 31.3	+0.5
DZM	Mont Dzumac	14.75	251	P	P	10 28 09.3	+0.9
	2.5nm,0.3s,baz=118,slow=22,SNR=26						
DZM	Mont Dzumac	14.75	251	*e*P	P	10 28 09.2	+0.7
EIDS	Eidsvold	29.19	250	*e*P	P	10 30 17.4	-0.5
	18nm,0.9s						
ARMA	Armidale	29.87	240	*e*P	P	10 30 25.2	+1.4
	13nm,0.9s						
CTA	Charters Tower	33.37	261	P	P	10 30 54.1	+0.5
	13nm,0.5s,baz=95,slow=9.8,SNR=15						
CTAO	Charters Tower	33.37	261	*e*P	P	10 30 54.3	+0.7
	25nm,0.9s						
PMG	Port Moresby	34.39	280	P	P	10 31 03.7	+1.6
	85nm,0.8s,baz=72,slow=7.1,SNR=24						
PMG	Port Moresby	34.39	280	*e*P	P	10 31 03.9	+1.7
	104nm,0.9s						
COEN	Coen	37.03	270	*e*P	P	10 31 25.3	+1.3
	69nm,0.9s						
STKA	Stephens Creek	38.56	241	P	P	10 31 37.3	+1.2
	30nm,1.0s,baz=88,slow=9.5,SNR=35						
STKA	Stephens Creek	38.56	241	*e*P	P	10 31 37.4	+1.2
	7.2nm,1.0s						
WB2	Warramunga Arr	44.55	260	*e*P	P	10 32 23.1	-0.4
WR1	Warramunga Arr	44.56	260	*e*P	P	10 32 23.1	-0.4
WR1				*e*S	S	10 38 15.3	-2.8
WRA	Warramunga Arr	44.56	260	P	P	10 32 23.1	-0.4
	17nm,0.7s,baz=94,slow=7.6,SNR=72						
WRA				S	S	10 38 15.3	-2.8
	1.7nm,1.1s,baz=102,slow=13,SNR=5.1						
AS01	Alice Springs	44.67	254	*e*P	P	10 32 24.0	-0.4
AS31	Alice Springs	44.71	254	*e*P	P	10 32 25.1	+0.3
	32nm,1.0s						
AS31				*e*S	S	10 38 19.5	-0.8
ASAR	Alice Springs	44.72	254	P	P	10 32 25.1	+0.3
	67nm,0.7s,baz=85,slow=8.6,SNR=326						
ASAR				S	S	10 38 18.0	-2.3
	2.7nm,0.9s,baz=92,slow=14,SNR=15						
SOEI	Soe	56.00	270	*e*P	P	10 33 48.9	+1.7
	42nm,0.9s						
MJAR	Matsushiro Arr	67.88	323	P	P	10 35 03.5	-0.1
	0.7nm,0.4s,baz=166,slow=5.6,SNR=4.3						
MAJO	Matsushiro	67.88	323	*e*P	P	10 35 03.5	-0.1
KSM	Kuching	72.61	277	*e*P	P	10 35 33.1	+1.1
	22nm,1.0s						
PETK	Petropavlovsk-	73.68	345	P	P	10 35 37.1	0.0
	11nm,0.8s,baz=128,slow=8.3,SNR=16						
PEA1	Petropavlovsk-	73.68	345	*e*P	P	10 35 37.1	0.0
SBC	Santa Barbara	76.37	47	P	P	10 35 53.4	+0.9
	baz=237						
SAO	San Andreas Ge	76.49	44	*e*P	P	10 35 54.0	+0.8
	15nm,0.9s						
PKM	Mcpherson Peak	76.54	46	P	P	10 35 54.9	+1.1
	baz=237						
PMPB	Monarch Peak	76.61	45	*e*P	P	10 35 55.0	+1.0
	13nm,0.9s						
SMMC	Simmler	76.65	46	P	P	10 35 55.1	+0.9
	baz=237						
RDG13	Poverty Ridge	76.67	43	*e*P	P	10 35 55.1	+0.8
	26nm,1.4s						
PAGB	Antelope Grade	76.71	45	*e*P	P	10 35 55.5	+1.1
	42nm,2.0s						
HOPS	Hopland Field	76.74	41	*e*P	P	10 35 54.2	-0.2
	21nm,1.3s						
GACM	Adobe Creek	76.80	41	*e*P	P	10 35 54.8	-0.1
KCPM	Cahto Peak	76.83	40	*e*P	P	10 35 56.4	+1.2
	16nm,1.2s						
KMRM	Mail Ridge	77.08	40	*e*P	P	10 35 57.6	+1.2
	24nm,0.9s						
ARVC	Arvin	77.35	46	P	P	10 35 58.3	+0.4
	baz=238						
109C	Camp Elliot, M	77.39	49	P	P	10 35 58.7	+0.5
	baz=239						
MWC	Mount Wilson	77.41	48	*e*P	P	10 35 59.1	+0.6
	9.3nm,0.6s						
KHMM	Horse Mountain	77.45	39	*e*P	P	10 35 60.0	+1.4
	17nm,1.2s						
VES	Vestal, Richgr	77.56	46	P	P	10 35 59.3	+0.3
	baz=237,SNR=8.3						
MURC	Murrieta	77.69	49	P	P	10 36 00.3	+0.5
	baz=239						
BFSC	Mount Baldy Ra	77.69	48	P	P	10 36 00.1	+0.2
	baz=238						
RCTC	Rector, Farmer	77.70	45	P	P	10 35 60.0	+0.2
	baz=237						
EDW2	Edwards Air Fo	77.80	47	P	P	10 36 00.9	+0.5
	baz=238,SNR=12						
ISA	Isabella, Lake	77.88	46	P	P	10 36 01.5	+0.7
	baz=238,SNR=19						
ISA	Isabella, Lake	77.88	46	*e*P	P	10 36 01.6	+0.7
	13nm,0.9s						
MONP2	Monument Peak	77.88	49	P	P	10 36 01.7	+0.6
	baz=240,SNR=10.0						
CMB	Columbia Colle	77.90	43	*e*P	P	10 36 01.6	+0.7
	13nm,1.1s						
IKP	In-Ko-Pah, Jac	77.99	50	P	P	10 36 02.5	+0.9
	baz=240,SNR=5.8						
WDC	Whiskeytown Da	78.00	40	*e*P	P	10 36 02.2	+0.9
	17nm,1.4s						
AFDM	Forest Hills D	78.04	42	*e*P	P	10 36 02.0	+0.4
	9.8nm,1.0s						
ORV	Oroville	78.05	42	*e*P	P	10 36 02.4	+0.8
	7.7nm,1.0s						
N02D	Trinity Center	78.14	40	P	P	10 36 03.2	+1.1
	baz=234,SNR=6.0						
MDJ	Mudanjiang	78.16	325	*e*P	P	10 36 04.0	+2.0
	8.4nm,0.9s						
PFO	Pinyon Flats O	78.22	49	P	P	10 36 03.3	+0.5
	baz=239						
O03D	Paynes Creek	78.29	41	P	P	10 36 03.2	+0.3
	baz=234,SNR=7.1						
M02C	Callahan	78.30	39	P	P	10 36 04.1	+1.1
	baz=234,SNR=8.5						
L02D	Cave Junction,	78.31	38	P	P	10 36 03.7	+0.8
	baz=233						
LRMC	Laurel Mtn Rad	78.33	47	P	P	10 36 03.8	+0.4
	baz=238,SNR=6.6						
SWSC	Sam W. Stewart	78.36	50	P	P	10 36 04.1	+0.7
	baz=240						
KDAK	Kodiak Island	78.44	14	P	P	10 36 03.4	+0.2
	11nm,0.8s,baz=211,slow=5.9,SNR=4.4						
KDAK	Kodiak Island	78.44	14	*e*P	P	10 36 03.9	+0.7
	227nm,2.0s						
MDPB	Devils Postpil	78.54	44	*e*P	P	10 36 05.1	+0.5
	15nm,1.0s						
CWC	Cottonwood Cre	78.57	46	P	P	10 36 05.0	+0.3
	baz=238						
YBH	Yreka Blue Hor	78.58	39	P	P	10 36 05.5	+1.0
	5.8nm,0.6s,baz=194,slow=2.7,SNR=33						
YBH	Yreka Blue Hor	78.58	39	*e*P	P	10 36 05.4	+1.0
	15nm,1.1s						
MLAC	Mammoth, Mammo	78.70	44	P	P	10 36 06.2	+0.8
	baz=237						
BELC	Belle Mtn. Jos	78.75	49	P	P	10 36 06.4	+0.8
	baz=240,SNR=5.4						
MPMC	Manual Prospec	78.77	46	P	P	10 36 06.1	+0.3
	baz=238,SNR=10						
WAKR	Walker	78.78	43	*e*P	P	10 36 06.6	+0.8
	14nm,0.9s						
DAC	Darwin (Calif)	78.81	46	*e*P	P	10 36 06.8	+0.8
	12nm,1.4s						
GSC	Goldstone, Bar	78.85	47	P	P	10 36 06.5	+0.5
	baz=239						
HEC	Hector,Ludlow	78.93	48	P	P	10 36 06.7	+0.2
	baz=239,SNR=5.4						
HUMO	Hull Mountain	78.96	38	*e*P	P	10 36 07.5	+1.1
	14nm,1.1s						
BC3	Big Chuckawall	78.97	49	P	P	10 36 07.7	+0.9
	baz=240						
VCNR	Virginia City	79.08	43	*e*P	P	10 36 08.0	+0.7
	10nm,1.1s						
GLA	Glamis	79.12	50	P	P	10 36 08.5	+1.0
	baz=240						
M04C	Macdoel	79.14	40	P	P	10 36 08.2	+0.7
	baz=234,SNR=6.3						
YERR	Yerington	79.18	43	*e*P	P	10 36 08.4	+0.6
	22nm,1.2s						
GMRC	Granite Mounta	79.39	48	P	P	10 36 09.4	+0.4
	baz=240						
FURC	Furnace Creek,	79.41	46	P	P	10 36 08.9	+0.1
	baz=239,SNR=5.2						
IRM	Iron Mountain	79.44	49	P	P	10 36 09.9	+0.8
	baz=240,SNR=7.6						
RYN	Ryan	79.45	44	*e*P	P	10 36 09.9	+0.6
	10nm,1.1s						
PAHR	Pah Rah Range	79.48	42	*e*P	P	10 36 10.0	+0.6
	11nm,1.1s						
NV01	Mina Array Sit	79.49	44	*e*P	P	10 36 08.8	-0.7
NVAR	Mina Array Bea	79.49	44	P	P	10 36 10.2	+0.6
	7.2nm,0.9s,baz=224,slow=9.1,SNR=56						
SHOC	Shoshone, Teco	79.53	47	P	P	10 36 09.7	+0.1
	baz=239,SNR=5.4						
TUQ	Turquoise Moun	79.53	47	P	P	10 36 10.1	+0.4
	baz=239						
NV11	Mina Array Sit	79.59	44	*e*P	P	10 36 10.5	+0.6
	1.1nm,1.1s						
K04D	Chiloquin, OR	79.69	39	P	P	10 36 11.0	+0.7
	baz=234						
Y12C	Blythe	79.69	50	P	P	10 36 11.1	+0.7
	baz=240						
113A	Mohawk Valley,	79.76	51	*e*P	P	10 36 12.1	+1.3
	15nm,1.4s						
J04D	Umpqua Nationa	79.84	38	P	P	10 36 11.9	+0.7
	baz=234,SNR=7.4						
I04A	Tendick Farm,	79.99	38	P	P	10 36 12.1	+0.2
	baz=234						
214A	Organ Pipe Nat	80.08	52	P	P	10 36 13.4	+0.9
	baz=242						
NEE2	Needles Airpor	80.12	49	P	P	10 36 13.8	+1.2
	baz=240						
MOD	Modoc Plateau	80.14	40	*e*P	P	10 36 13.3	+0.5
	16nm,1.0s						
PDMCI	Parker Dam,Lak	80.23	49	P	P	10 36 14.1	+0.8
	baz=241						
G03D	McMinnville, O	80.36	36	P	P	10 36 14.4	+0.8
	baz=233						
J05D	Fort Rock, OR	80.38	39	P	P	10 36 14.9	+0.9
	baz=234,SNR=19						
SHPR	Sheep Range	80.61	47	*e*P	P	10 36 16.3	+1.0
	5.5nm,1.0s						
H04A	Detroit Lake	80.65	37	*e*P	P	10 36 15.4	+0.2
	9.3nm,0.6s						
PINE	Pine Mountain	80.85	38	*e*P	P	10 36 17.4	+1.0
	26nm,1.0s						
I05D	Terrebonne, OR	80.94	38	P	P	10 36 17.4	+0.7
	baz=234						
R11A	Troy Canyon, C	81.26	45	P	P	10 36 18.9	+0.2
	baz=239,SNR=7.2						
R11A	Troy Canyon, C	81.26	45	*e*P	P	10 36 18.8	+0.2
	5.1nm,1.1s						
BMN	Battle Mountai	81.27	43	*e*P	P	10 36 19.3	+0.6
	13nm,0.9s						
WVOR	Wild Horse Val	81.47	40	*e*P	P	10 36 20.3	+0.7
	19nm,1.0s						
G05D	Wamic, OR	81.48	37	P	P	10 36 20.2	+0.7
	baz=234						
GAMB	Gambell	81.61	3	*e*P	P	10 36 19.9	+0.4
	13nm,1.2s						
SPU	Mount Spurr	81.64	13	*e*P	P	10 36 18.6	-1.2
TUC	Tucson	81.77	52	P	P	10 36 22.6	+1.3
	baz=243						
TUC	Tucson	81.77	52	*e*P	P	10 36 22.6	+1.3
	15nm,1.2s						
G06A	Carlson Farm,	81.87	37	*e*P	P	10 36 21.6	+0.1
	11nm,1.0s						
J08A

MPU	Maple Canyon 3.9nm,1.1s	84.75	45	eP	P	10 36 36.3	+0.2
HVU	Hansel Valley 21nm,1.9s	84.84	43	eP	P	10 36 36.9	+0.4
CTU	Camp Tracy 4.3nm,1.1s	84.99	45	eP	P	10 36 37.5	+0.3
SRU	San Rafael Swe 4.3nm,0.8s	85.08	46	eP	P	10 36 37.4	-0.3
TCUT	Toone Canyon 18nm,1.3s	85.42	44	eP	P	10 36 40.0	+0.6
Y22D	IRIS PASSCAL I baz=245	85.45	52	P	P	10 36 40.0	+0.4
NEW	Newport 5.0nm,0.9s,baz=236,slow=5.0,SNR=10	85.57	36	P	P	10 36 38.9	-0.8
NEW	Newport baz=237	85.57	36	P	P	10 36 39.2	-0.4
NEW	Newport 5.7nm,0.9s	85.57	36	eP	P	10 36 39.4	-0.2
HDA	Harding Lake 18nm,1.0s	85.59	13	eP	P	10 36 38.4	-0.9
DOT	Dot Lake 25nm,1.0s	85.60	15	eP	P	10 36 39.1	-0.3
CCB	Clear Creek Bu 18nm,1.2s	85.62	13	eP	P	10 36 38.2	-1.2
MNTX	Cornudas Mount baz=246	85.65	55	P	P	10 36 41.2	+0.8
MNTX	Cornudas Mount 17nm,1.9s	85.65	55	eP	P	10 36 41.1	+0.8
IM3	Indian Mountai	85.71	10	eP	P	10 36 39.3	-0.5
PV09	Paradox Valley	85.77	47	eP	P	10 36 41.9	+0.7
MDM	Murphy Dome 14nm,1.2s	85.80	12	eP	P	10 36 39.0	-1.3
COLA	College 31nm,1.4s	85.81	13	eP	P	10 36 39.5	-0.8
IL1	Eielson Array	85.92	13	eP	P	10 36 39.3	-1.5
ILAR	Eielson Array 2.8nm,0.4s,baz=220,slow=5.1,SNR=49	85.92	13	P	P	10 36 39.6	-1.2
ILB	Eielson Array	85.92	13	eP	P	10 36 39.7	-1.2
TX31	Lajitas Ar. Si	86.07	58	eP	P	10 36 43.9	+1.4
LTX	Lajitas	86.07	58	eP	P	10 36 43.9	+1.4
TXAR	Lajitas Array 7.4nm,0.8s,baz=223,slow=5.8,SNR=43	86.07	58	P	P	10 36 43.9	+1.4
ANMO	Albuquerque baz=245	86.17	52	P	P	10 36 43.2	+0.2
ANMO	Albuquerque 6.8nm,1.1s	86.17	52	eP	P	10 36 43.1	+0.2
MCMT	McKenzie Canyo	86.30	41	eP	P	10 36 44.0	+0.6
MSO	Missoula baz=240	86.64	38	P	P	10 36 45.0	+0.1
DLMT	Dillon 8.7nm,1.0s	86.72	40	eP	P	10 36 46.0	+0.7
REDW	Red Top Meadow 11nm,1.0s	86.85	42	eP	P	10 36 46.5	+0.4
FXWY	Fox Creek 7.7nm,1.0s	86.87	42	eP	P	10 36 46.9	+0.8
SNOW	Snow King Moun 15nm,1.1s	86.96	42	eP	P	10 36 47.4	+0.8
LRM	Limekiln Ridge	87.03	40	eP	P	10 36 47.2	+0.3
S22A	4UR Ranch, Cre baz=245	87.08	49	P	P	10 36 47.8	+0.5
S22A	4UR Ranch, Cre 4.8nm,1.1s	87.08	49	eP	P	10 36 48.0	+0.7
MOOW	Moose Ponds 3.4nm,0.9s	87.10	42	eP	P	10 36 47.9	+0.6
O20A	White River Ci baz=244	87.12	46	P	P	10 36 47.8	+0.5
QLMT	Earthquake Lak	87.18	41	eP	P	10 36 49.0	+1.4
YHB	Horse Butte 11nm,0.9s	87.29	41	eP	P	10 36 49.4	+1.3
YFT	Old Faithful 11nm,1.1s	87.38	42	eP	P	10 36 50.0	+1.5
YMR	Madison River 11nm,1.0s	87.40	41	eP	P	10 36 50.1	+1.5
BW06	Boulder Array baz=243	87.41	43	P	P	10 36 48.6	-0.1
BW06	Boulder Array 7.8nm,1.1s	87.41	43	eP	P	10 36 47.9	-0.8
PD31	Pinedale Array	87.42	43	eP	P	10 36 48.7	0.0
PDAR	Pinedale Array 5.0nm,0.8s,baz=218,slow=3.4,SNR=35	87.42	43	P	P	10 36 48.7	0.0
PDAR	Pinedale Array	87.42	43	eP	P	10 36 48.5	-0.2
BOZ	Bozeman (W) baz=241	87.43	40	P	P	10 36 49.1	+0.5
COLD	Coldfoot 10nm,1.1s	87.44	11	eP	P	10 36 48.0	+0.1
H17A	Grant Village baz=242	87.51	42	P	P	10 36 50.5	+1.3
H17A	Grant Village 10nm,1.0s	87.51	42	eP	P	10 36 51.1	+1.9
YHH	Holmes Hill 7.7nm,1.2s	87.53	41	eP	P	10 36 50.2	+0.9
LNIG	Linares 8.4nm,1.0s	87.90	63	eP	P	10 36 51.2	+0.1
SDCO	Great Sand Dun baz=246	88.03	49	P	P	10 36 51.8	0.0
RWWY	Rawlins 16nm,1.1s	88.50	45	eP	P	10 36 54.1	+0.3
MSTX	Muleshoe baz=248	88.56	54	P	P	10 36 54.1	0.0
MSTX	Muleshoe 8.6nm,1.0s	88.56	54	eP	P	10 36 54.4	+0.3
T25A	Trinidad baz=246	88.58	50	P	P	10 36 54.2	-0.1
RLMT	Red Lodge baz=243	88.68	41	P	P	10 36 54.3	-0.2
RLMT	Red Lodge	88.68	41	epP	pP	10 38 58.0	-2.1
TOLK	Toolik Lake Re baz=208	88.82	10	P	P	10 36 53.8	-0.6
N23A	Red Feather La baz=245	89.02	46	P	P	10 36 56.1	-0.2
N23A	Red Feather La 9.9nm,1.1s	89.02	46	eP	P	10 36 56.6	+0.2
833A	Chaparral WMA, baz=249	89.17	60	P	P	10 36 56.6	-0.3
K22A	Casper baz=245	89.37	45	P	P	10 36 57.9	+0.2
JCT	Junction City baz=249	89.61	58	P	P	10 36 58.9	-0.1
EGMT	Eagleton baz=243	89.71	39	P	P	10 36 59.0	-0.1
AMTX	Amarillo baz=248	89.74	53	P	P	10 36 59.4	-0.2
ABTX	Abilene, Hawle baz=249	90.50	56	P	P	10 37 03.0	-0.1
RSSD	Black Hills baz=247	91.63	44	P	P	10 37 07.7	-0.5
RSSD	Black Hills 6.3nm,1.0s	91.63	44	eP	P	10 37 08.2	0.0
INK	Inuvik 6.0nm,0.9s,baz=236,slow=4.7,SNR=13	91.92	15	P	P	10 37 07.8	-0.9
INK	Inuvik 10.0nm,1.1s	91.92	15	eP	P	10 37 07.6	-1.0
DGMT	Dagmar baz=247	93.25	40	P	P	10 37 15.5	+0.2
DGMT	Dagmar	93.25	40	epP	pP	10 39 20.3	-1.3
R34A	Isabella, Hill baz=251	94.28	51	P	P	10 37 20.2	-0.1
YKA	Yellowknife Ar 0.9nm,0.6s,baz=242,slow=4.4,SNR=14	94.38	25	P	P	10 37 19.3	-0.7
YKB5	Yellowknife Ar	94.38	25	eP	P	10 37 18.8	-1.2
Q34A	Chapman baz=251	94.72	51	P	P	10 37 22.3	+0.1
J40A	Soldiers Grove baz=256	100.49	48	P	Pdif	10 37 46.4	-1.5
R47A	Wooly Knot Far baz=257	102.38	54	P	Pdif	10 37 56.1	-0.3
Q47A	Bedord North L baz=257	102.60	53	P	Pdif	10 37 57.7	+0.4
C40A	Isle Royale Na baz=258	102.64	44	P	Pdif	10 37 57.2	-0.1
454A	Quitman baz=257	103.00	62	P	Pdif	10 37 57.8	-1.5
555A	McAlpin baz=257	103.42	62	P	Pdif	10 38 02.4	+1.2
F43A	Flat Rock, Esc baz=258	103.53	46	P	Pdif	10 38 01.7	+0.4
F45A	CMU Biological baz=260	104.64	46	P	Pdif	10 38 05.7	-0.5
MK32	Makanchi Array	109.09	314	ePKiKP	PKiKP	10 42 24.9	-1.6
MKAR	Makanchi Array 0.2nm,0.5s,baz=105,slow=0.8,SNR=7.5	109.09	314	PKiKP	PKiKP	10 42 24.9	-1.6
BVAR	Borovoye Array 0.7nm,0.4s,baz=50,slow=2.3,SNR=13	116.81	321	PKP	PKPdf	10 42 39.9	-1.1
ARA0	ARCESS Array S	126.32	350	ePKPdf	PKPdf	10 42 57.8	-1.1
ARCES	ARCESS Array B 4.9nm,1.0s,baz=45,slow=0.9,SNR=6.0	126.32	350	PKP	PKPdf	10 42 57.7	-1.1
SORM	Soroca	142.77	330	↓*iP*	PKPdf	10 43 26.1	-3.8
BUR08	Bucovina Ar. S	144.58	332	ePKPdf	PKPab	10 43 34.2	0.0
BUR04	Bucovina Ar. S	144.59	332	ePKPdf	PKPbc	10 43 33.7	+0.1
BR101	Keskin Array S	144.74	315	ePKPdf	PKPdf	10 43 33.6	-0.2
BR131	Keskin Array S	144.74	315	ePKPdf	PKPdf	10 43 34.1	+0.3
BRTR	Keskin Array B 3.1nm,1.0s,baz=145,slow=3.0,SNR=13	144.74	315	PKP	PKPdf	10 43 33.6	-0.2
VRI	Vrincioaia	145.15	329	↑*iP*	PKPbc	10 43 35.1	-0.1
BR231	Keskin MP Arra	145.26	315	ePKPdf	PKPdf	10 43 34.6	-0.1
HARR	Harsova	145.34	326	↓*iP*	PKPbc	10 43 35.4	-0.4
TLB	Topalu	145.35	326	↑*iP*	PKPbc	10 43 35.9	+0.1
CLL	Collm comp=Z,24nm,1.0s	145.46	347	↑*i*PKPbc	PKPbc	10 43 35.6	-0.3
CLL	Collm	145.46	347	ePKPdf	PKPbc	10 43 35.7	-0.3
BRG	Berggiesshubel comp=Z,25nm,1.3s	145.66	346	ePKP	PKPbc	10 43 36.8	+0.3
MORC	Moravsky Berou	145.70	341	↓*iP*	PKPdf	10 43 33.9	-1.2
MORC	Moravsky Berou	145.70	341	ePKPdf	PKPdf	10 43 33.8	-1.2
ISR	Istrita	145.77	328	↑*iP*	PKPbc	10 43 37.1	0.0
MLR	Muntele Rosu comp=Z,1.0nm,0.8s,baz=194,slow=4.0,SNR=3.9	145.81	329	PKPbc	PKPbc	10 43 36.8	-0.5
MLR	Muntele Rosu	145.81	329	ePKPdf	PKPdf	10 43 34.5	-1.0
MLR				ePKPbc	PKPbc	10 43 37.1	-0.1
MLR				ePKPab	PKPab	10 43 39.1	0.0
VOIR		146.28	330	↓*iP*	PKPbc	10 43 38.1	-0.4
DRGR		146.32	333	↓*iP*	PKPbc	10 43 38.6	0.0
SIRR	Siria	147.18	334	↑*iP*	PKPdf	10 43 30.5	-7.1
KHC	Kasperske Hory	147.37	345	ePKPdf	PKPdf	10 43 38.2	+0.4
KHC				ePKPbc	PKPbc	10 43 41.4	+0.1
KHC				ePKPab	PKPab	10 43 44.5	-0.6
GEC2	GERESS Array S	147.61	345	ePKPbc	PKPbc	10 43 41.7	-0.2
GEC2				ePKPab	PKPab	10 43 46.5	+0.3
GERES	GERESS Array B comp=Z,3.2nm,0.5s,baz=28,slow=3.5,SNR=24	147.61	345	PKPbc	PKPbc	10 43 41.8	-0.2
GEA0	GERESS Array S	147.62	345	ePKPbc	PKPbc	10 43 41.4	-0.5
CONA	Conrad Observa comp=Z,15nm,1.3s	147.86	342	*i* PKPbc	PKPbc	10 43 42.6	0.0
MOA	Molln comp=Z,10.0nm,1.3s	148.38	344	*i* PKPbc	PKPbc	10 43 43.5	-0.3
BFO	Black Forest	149.17	351	ePKPbc	PKPbc	10 43 45.3	-0.5
BFO				ePKPab	PKPab	10 43 52.4	-0.2
SOKA	Soboth comp=Z,8.7nm,1.0s	149.23	342	*i* PKPbc	PKPbc	10 43 44.7	-1.3
KBA	Koelnbreinsper comp=Z,9.3nm,1.1s	149.34	344	*i* PKPbc	PKPbc	10 43 46.0	-0.4
RETA	Reutte comp=Z,9.7nm,1.4s	149.55	348	*i* PKiKP	PKPbc	10 43 47.0	+0.2
WTTA	Wattenberg comp=Z,9.3nm,0.9s	149.58	346	*i* PKPbc	PKPbc	10 43 46.6	-0.3
MOTA	Moosalm comp=Z,4.6nm,0.6s	149.62	347	*i* PKiKP	PKPbc	10 43 47.0	0.0
DIVS	Divibare	149.62	333	ePKPbc	PKPbc	10 43 46.9	-0.1
DIVS				ePKPab	PKPab	10 43 55.9	+1.2
MYKA	Terra Mystica comp=Z,12nm,1.1s	149.67	343	*i* PKPbc	PKPbc	10 43 46.4	-0.6
ABTA	Abfaltersbach comp=Z,17nm,1.0s	149.85	345	*i* PKPbc	PKPbc	10 43 46.6	-0.9
DAVA	Damuels comp=Z,13nm,1.0s	149.92	349	*i* PKiKP	PKPbc	10 43 48.0	+0.2
FETA	Feichten comp=Z,8.1nm,0.9s	150.00	347	*i* PKPbc	PKPbc	10 43 47.6	-0.4
FUORN	Ofenpass-Fuorn	150.48	348	ePKPbc	PKPbc	10 43 49.0	-0.2
ES19	SONSECA Array	157.80	11	ePKPab	PKPab	10 44 29.4	-0.2
ESDC	Sonseca Array comp=Z,0.2nm,0.3s,baz=351,slow=3.6,SNR=4.8	157.81	11	PKPab	PKPab	10 44 28.8	-0.8

IDC 09 10:26:31.5±5.1, 7.35S×127.23E, h327km±57km, mb3.0/2, mb1 3.8/5, mb1mx3.1/54, mbtmp4.4/5, Error ellipse: s-maj=78.1km s-min=19.3km az=50.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata 85nm,0.3s,baz=67,slow=5.4,SNR=60	4.52	231	P	Pn	10 27 44.5	-0.3
BATI				S	S	10 28 44.5	+0.6
WRA	Warramunga Arr 17nm,0.3s,baz=136,slow=21,SNR=8.7	14.29	152	P	P	10 29 37.7	-1.9
WRA				S	S	10 32 15.5	-0.2
ASAR	Alice Springs 0.4nm,0.3s,baz=326,slow=20,SNR=11	17.44	159	P	P	10 30 14.5	+0.7
MKAR	Makanchi Array 3.5nm,0.3s,baz=335,slow=11,SNR=276	67.04	328	P	P	10 36 50.1	0.0
KURBB	Kurchatov Arra 0.3nm,0.4s,baz=124,slow=7.1,SNR=6.8	71.40	330	P	P	10 37 16.6	+0.1
BATI	Baumata 0.5nm,0.5s,baz=132,slow=5.2,SNR=8.4	71.40	330	P	P	10 37 16.6	+0.1

IDC 09 10:27:45.5±3.2, 14.08S×178.35W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/46, mbtmp3.9/4, Error ellipse: s-maj=184.0km s-min=30.2km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.7nm,0.7s,baz=93,slow=7.2,SNR=3.8	45.50	256	P	P	10 36 08.0	+0.9
ASAR	Alice Springs 3.3nm,0.6s,baz=88,slow=8.5,SNR=9.6	46.00	251	P	P	10 36 10.2	-0.8
ILAR	Eielson Array 0.7nm,0.9s,baz=224,slow=7.2,SNR=3.3	82.16	13	P	P	10 40 06.5	-1.3
PDAR	Pinedale Array 0.5nm,0.9s,baz=238,slow=5.2,SNR=3.7	84.55	44	P	P	10 40 22.1	+1.2

IDC 09 10:29:25.1±6.4, 49.09S×126.07E, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/41, mbtmp4.0/2, Error ellipse: s-maj=736.5km s-min=74.7km az=100.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs 2.8nm,0.5s,baz=187,slow=9.1,SNR=12	26.11	16	P	P	10 35 00.7	+0.1
WRA	Warramunga Arr 0.8nm,0.7s,baz=194,slow=10,SNR=3.3	29.82	16	P	P	10 35 33.7	-0.1
YKA	Yellowknife Ar 0.3nm,0.8s,baz=265,slow=3.4,SNR=5.6	144.77	45	PKP	PKPbc	10 49 01.8	+0.3

JMA 09 10:48:57.5, 36.67N×140.62E, h7km±1km, M3.6, 3C-3D Broadband fault plane solution: P waves. NP1: φs153.00000°, δ64.00000°, λ-105.00000°. NP2: φs5.00000°, δ29.00000°, λ-62.00000°. Principal axes: T Plg18.0000°, Azm254.0000°; N Plg14.0000°, Azm160.0000°; P Plg67.0000°, Azm35.0000°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.07	215	↓P	Pg	10 48 59.3	0.0
JHO				S	Sg	10 49 00.5	-0.2
ONAJ	Iwakimizuishiy	0.45	18	↑P	Pg	10 49 06.2	-0.1
ONAJ				S	Sg	10 49 12.5	+0.2
JYT	Yasato	0.56	218	↑P	Pg	10 49 08.1	-0.2
JYT				S	Sg	10 49 16.2	+0.6
JSB	Shiboa	0.64	298	↑P	Pg	10 49 10.1	+0.3
JSB				S	Sg	10 49 18.9	+0.8
JFK	Kawauchi	0.72	16	↓P	Pg	10 49 10.9	-0.6
JFK				S	Sg	10 49 20.5	-0.4
JFT	Otama	0.88	345	↓P	Pg	10 49 13.9	-0.5
JFT				S	Sg	10 49 25.6	-0.1
MAT	Matsushiro	1.95	267	P	Pn	10 49 31.1	+0.1
MAT				S	Sb	10 49 57.4	-0.4

*SJA **09** 10:53:38.1±0.6, 24.07S×67.18W, h194km±20km, ML2.6, MW3.1*
*ISCJB **09** 10:53:40.1±0.6, 24.16S±0.07×67.21W±0.04, h178km, Error ellipse: s-maj=9.5km s-min=5.7km az=7.9*
*GUC **09** 10:53:41.2±0.5, 24.14S×67.66W, h212km±13km, ML4.0*
ISC 09 10:53:39.8±1.4, 24.17S±0.07×67.17W±0.05, h178km, n14, σ1 9 05/22, 1C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	San Lorenzo	1.61	110	*i* P	Pn	10 54 13.8	+1.0
SLA	comp=Z,22nm,0.6s			IAML		10 54 14.3	
HJA	Humahuaca comp=Z,20nm,0.8s	1.88	60	*i* P	Pn	10 54 16.1	+0.3
HJA				IAML		10 54 18.2	
AZAP	Zapla	1.92	92	*i* P	Pn	10 54 16.6	+0.5
AZAP				IAML		10 54 17.0	
	comp=Z,50nm,0.3s						
GO02	Mina Guanaco	2.42	245	↑*iP*	Pn	10 54 22.6	+0.9
GO02				*i* S	Sn	10 54 54.8	+0.5
ASTB	Santa Barbara	2.49	85	*i* P	Pn	10 54 22.2	-0.3
PB06	IPOC Station P	2.65	303	↓*iP*	Pn	10 54 25.4	+1.1
PB06				*e*S	Sn	10 54 58.5	-0.4
PB06	comp=N,428nm,0.1s			IAML		10 55 01.2	
PB14	IPOC Station P	2.98	261	*i* P	Pn	10 54 28.6	+0.2
PB14				*i* S	Sn	10 55 05.4	-0.9
PB14	IPOC Station P	2.98	261	↓*iP*	Pn	10 54 28.8	+0.3
PB14				*i* S	Sn	10 55 04.4	-1.9
PB14	comp=E,202nm,0.4s			IAML		10 55 07.3	
ANCH	Antofagasta	3.01	279	↓*iP*	Pn	10 54 30.0	+1.6
ANCH				*e*S	Sn	10 55 05.5	-0.8
PB09	IPOC Station P	3.04	321	↓*iP*	Pn	10 54 30.4	+1.4
PB09				*e*S	Sn	10 55 08.1	+0.7
PB09	comp=N,265nm,0.2s			IAML		10 55 12.3	
PB10	IPOC Station P	3.17	281	↓*iP*	Pn	10 54 31.0	+0.6
PB10				*e*S	Sn	10 55 08.2	-1.7
PB10	comp=E,528nm,0.4s			IAML		10 55 13.7	
PB04	IPOC Station P	3.30	303	↓*iP*	Pn	10 54 32.9	+0.7
PB04				*i* S	Sn	10 55 11.3	-1.7
PB04	comp=E,268nm,0.1s			IAML		10 55 14.0	
PB07	IPOC Station P	3.49	314	↓*iP*	Pn	10 54 35.0	+0.4
PB02	IPOC Station P	3.80	318	↓*iP*	Pn	10 54 38.3	-0.1

STR 09 11:00:38.5±1.1, 49°N±5°×*°±*°, h5km, M1.9/3, MLv1.9/3, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WLS	Welschbruch	0.42	170	Pg	Pg	11 00 47.4	+0.8
ECH	Echery	0.61	186	Pg	Pg	11 00 50.2	0.0
ECH	Echery	0.61	186	Pg	Pg	11 00 49.1	-1.1
KIZ	Kirchzarten	0.98	153	Sg	Sg	11 01 10.4	+0.5

WEL 09 11:01:43.5, 38°S±16'×177°W±1'0, h33km, ML3.6/13, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	Waiomatatini S	1.71	263	P	Pn	11 02 11.8	+0.9
WMGZ	Waiomatatini S	1.71	263	S	Sn	11 02 33.4	+1.8
MXZ	Matakaoa Point	1.79	272	P	Pn	11 02 12.3	+0.3
MXZ	Matakaoa Point	1.79	272	S	Sn	11 02 32.8	-0.7
PUZ	Puketiti	1.87	256	P	Pn	11 02 14.1	+0.9
PKGZ	Pakihiroa	1.98	262	P	Pn	11 02 15.2	+0.5
CNGZ	Carnagh Statio	2.04	245	P	Pn	11 02 17.5	+2.0
TWGZ	Tauwhareparae	2.11	254	P	Pn	11 02 17.6	+1.1
TWGZ	Tauwhareparae	2.11	254	S	Sn	11 02 43.5	+2.0
HAZ	Te Kaha	2.20	266	P	Pn	11 02 18.7	+1.0
HAZ	Te Kaha	2.20	266	S	Sn	11 02 44.5	+0.7
TKGZ	Te Karaka	2.28	249	P	Pn	11 02 20.2	+1.4
TKGZ	Te Karaka	2.28	249	S	Sn	11 02 48.1	+2.3
RUGZ	Raukumara Rang	2.30	261	P	Pn	11 02 20.0	+0.7
RIGZ	Rimuhau	2.45	243	P	Pn	11 02 22.7	+1.6
RIGZ	Rimuhau	2.45	243	S	Sn	11 02 51.7	+1.8
PRGZ	Paritu Road	2.46	238	P	Pn	11 02 23.4	+2.0
MWZ	Matawai	2.49	253	P	Pn	11 02 22.4	+0.7
KNZ	Kokohu	2.65	238	P	Pn	11 02 25.6	+1.7
URZ	Urewera	2.79	256	P	Pn	11 02 27.4	+1.6
URZ	Urewera	2.79	256	S	Sn	11 02 58.8	+0.5
RTZ	Ruatahuna	2.98	250	P	Pn	11 02 30.4	+1.8
RTZ	Ruatahuna	2.98	250	S	Sn	11 03 05.0	+1.8

MEX 09 11:09:23.6±0.5, 18.11N×103.29W, h5km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	Aquila	0.19	344	*i* P	Pg	11 09 27.0	-0.4
MMIG				*i* S	Sg	11 09 29.7	-0.1
EZ5V		1.40	348	*e*P	Pn	11 09 46.1	-3.9
EZ5V				*e*S	Sg	11 10 04.7	-3.8
CJM	Chamela	2.16	310	*i* P	Pn	11 09 57.8	-2.5
CJM				*i* S	Sn	11 10 23.1	-4.3

IDC 09 11:13:14.3±5.6, 47.47N×35.01E, h0km, mb1 2.3/1, mb1mx2.3/51, mbtmp2.3/1, ML2.5/1, Error ellipse: s-maj=83.8km s-min=46.6km az=41.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	Malin Array Be 0.2nm,0.3s,baz=126,slow=17,SNR=2.8	4.99	313	Pn	Pn	11 14 29.6	-0.7
AKASG					Sn	11 15 27.1	-1.6
I43RU	DUBNA INFRASON 1.8nm,0.3s,baz=128,slow=29,SNR=4.1	9.37	8	*i*		12 12 10.0	
I31KZ	AKTYUBINSK INF baz=192,slow=328,SNR=0.6	15.40	70	*i*		12 55 10.0	
	baz=268,slow=314,SNR=0.6						

*ISCJB **09** 11:28:03.6±0.7, 29.32S±0.03×68.60W±0.04, h113km±8km, Error ellipse: s-maj=6.6km s-min=5.3km az=35.4*
*SJA **09** 11:28:03.9±0.9, 29.39S×68.49W, h108km±4km, ML2.9, MW3.1*
*GUC **09** 11:28:04.5±0.6, 29.32S×68.73W, h98km±9km, ML3.3*
ISC 09 11:28:04.1±1.4, 29.32S±0.04×68.62W±0.04, h112km±10km, n16, σ0 6 4/27, 2C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGUA	GUANDACOL	0.20	146	*e*P	Pn	11 28 19.9	0.0
AGUA				*e*S	Sn	11 28 30.8	-1.0
VCA	Vinchina	0.69	32	*e*P	Pn	11 28 23.6	+0.8
VCA				*e*S	Sn	11 28 37.0	+0.2
VCA	comp=Z,1μm,0.3s			IAML		11 28 38.6	
VCA	Vinchina	0.69	32	↓*iP*	Pn	11 28 23.6	+0.8
VCA				*i* S	Sn	11 28 37.0	+0.2
VCA	comp=E,2μm,0.3s			IAML		11 28 39.1	
AMOG	MOGNA	1.61	176	*e*P	Pn	11 28 32.4	-0.1
LCO	Las Campanas	1.85	279	↑*iP*	Pn	11 28 35.6	0.0
LCO				*i* S	Sn	11 28 58.8	-0.6
LCO	comp=E,408nm,0.4s			IAML		11 28 59.6	
GO04	Tololo Observa	2.08	245	↑*iP*	Pn	11 28 38.2	-0.2
GO04				*i* S	Sn	11 29 04.8	+0.2
GO04	comp=E,495nm,0.5s			IAML		11 29 07.0	
TLL	Tololo Astrono	2.08	246	↓*iP*	Pn	11 28 38.5	0.0
TLL				*e*S	Sn	11 29 04.5	-0.2
TLL	comp=E,198nm,0.3s			IAML		11 29 06.3	
GO03	Copiap	2.23	320	*e*P	Pn	11 28 40.2	0.0
GO03				*i* S	Sn	11 29 07.7	-0.2
GO03	comp=E,78nm,0.2s			IAML		11 29 11.1	
RTCV	Cerro Valdivia	2.53	178	*e*P	Pn	11 28 44.0	0.0
RTCV				*e*S	Sn	11 29 13.6	-1.2
RTLS	Leoncito	2.54	193	*e*P	Pn	11 28 44.9	+0.6
RTLS				*e*S	Sn	11 29 15.7	+0.5
RTLS	comp=Z,62nm,0.2s			IAML		11 29 16.7	
CYA	Choya	2.62	71	*e*P	Pn	11 28 45.8	+0.6
CYA				*e*S	Sn	11 29 15.2	-1.7
CYA	comp=Z,22nm,0.3s			IAML		11 29 20.1	
AUSP	Uspallata	2.97	193	*e*P	Pn	11 28 50.8	+0.8
AUSP				*e*S	Sn	11 29 25.6	+0.3
ASAL	Salagasta	3.26	183	*e*P	Pn	11 28 54.1	+0.4
ARCO	CERRO ARCO	3.52	184	*e*P	Pn	11 28 57.6	+0.4
ARCO	comp=Z,15nm,0.4s			IAML		11 29 45.8	
AHML	Horco Molle	3.85	50	*e*P	Pn	11 29 01.6	+0.1
AHML	comp=Z,8.7nm,0.5s			IAML		11 29 41.5	
FSA	Cafayete	3.96	37

Error ellipse: s-maj=5.0km s-min=4.6km az=19.1
*DDA **09** 11:39:36.7,38.91N×33.66E,h7km,Ml2.6*
*CSEM **09** 11:39:36.5±0.2,38.90N×33.57E,h5km,ML2.7,Error ellipse: s-maj=5.2km s-min=4.6km az=175.0*
*ISK **09** 11:39:36.1,38.91N×33.49E,h7km,ML2.7/7*
ISC 09 11:39:36.7±0.9,**38.91N**±0.02×**33.58E**±0.02,**h7**km±6km, **n24,**σ0**88**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERE	**Sereflikochisa**	**0.04**	**342**	PG	**Pg**	**11 39 38.3**	**0.0**
SERE	**Sereflikochisa**	**0.04**	**342**	*e*Pg	**Pg**	**11 39 38.3**	**0.0**
AKSY	**AKSARAY - Alti**	**0.29**	**151**	*i* P	**Pg**	**11 39 42.0**	**-0.5**
AKSY				*i* S	**Sg**	**11 39 47.0**	**+0.6**
AKSY	**AKSARAY - Alti**	**0.29**	**151**	P	**Pg**	**11 39 42.0**	**-0.5**
AKSY				S	**Sg**	**11 39 47.0**	**+0.6**
KKUL	**Konya-Kulu**	**0.58**	**297**	*i* P	**Pb**	**11 39 48.9**	**-0.3**
KKUL				*i* S	**Sb**	**11 39 58.7**	**+1.0**
KKUL	**Konya-Kulu**	**0.58**	**297**	P	**Pb**	**11 39 48.9**	**-0.3**
KKUL				S	**Sb**	**11 39 58.7**	**+1.0**
CHBY	**Cihanbeyli**	**0.63**	**239**	PG	**Pg**	**11 39 47.6**	**-1.2**
CHBY				SG	**Sg**	**11 39 55.9**	**-1.1**
CHBY	**Cihanbeyli**	**0.63**	**239**	*e*Pg	**Pg**	**11 39 47.6**	**-1.2**
CHBY				*e*Sg	**Sg**	**11 39 55.9**	**-1.1**
AFSR	**Afar-Bala (A**	**0.67**	**324**	PG	**Pg**	**11 39 48.7**	**-0.9**
AFSR				SG	**Sg**	**11 39 57.8**	**-0.5**
AFSR	**Afar-Bala (A**	**0.67**	**324**	*e*Pg	**Pg**	**11 39 48.7**	**-0.9**
AFSR				*e*Sg	**Sg**	**11 39 57.8**	**-0.5**
SULT	**Sultanhani-AKS**	**0.71**	**184**	PG	**Pb**	**11 39 50.8**	**-0.6**
SULT	**Sultanhani-AKS**	**0.71**	**184**	*e*Pg	**Pb**	**11 39 50.8**	**-0.6**
GULA	**Gulagac**	**0.76**	**137**	PG	**Pg**	**11 39 51.3**	**0.0**
GULA	**Gulagac**	**0.76**	**137**	*e*Pg	**Pg**	**11 39 51.3**	**0.0**
CDAG	**Cicekdag**	**0.94**	**40**	*i* P	**Pg**	**11 39 54.2**	**-0.6**
CDAG				*i* S	**Sb**	**11 40 08.8**	**+0.7**
CDAG	**Cicekdag**	**0.94**	**40**	P	**Pg**	**11 39 54.2**	**-0.6**
CDAG				S	**Sb**	**11 40 08.9**	**+0.7**
AVNS	**Nevsehir-Avano**	**0.99**	**95**	*i* P	**Pg**	**11 39 54.6**	**-1.2**
AVNS				*i* S	**Sn**	**11 40 11.4**	**-0.1**
AVNS	**Nevsehir-Avano**	**0.99**	**95**	P	**Pg**	**11 39 54.6**	**-1.2**
AVNS				S	**Sn**	**11 40 11.4**	**-0.1**
KDHN	**Kadinhani**	**1.21**	**252**	*i* P	**Pn**	**11 40 00.1**	**+0.1**
KDHN				*i* S	**Sn**	**11 40 19.0**	**+2.2**
KDHN	**Kadinhani**	**1.21**	**252**	P	**Pn**	**11 40 00.2**	**+0.1**
KDHN				S	**Sn**	**11 40 19.0**	**+2.2**
CORM	**Corum**	**1.51**	**32**	PN	**Pb**	**11 40 04.7**	**-0.3**
CORM	**Corum**	**1.51**	**32**	*e*Pn	**Pb**	**11 40 04.7**	**-0.3**
YOZ	**Yozgat**	**1.54**	**61**	PN	**Pb**	**11 40 05.2**	**-0.3**
YOZ	**Yozgat**	**1.54**	**61**	*e*Pn	**Pb**	**11 40 05.2**	**-0.3**

*ISCJB **09** 11:46:57.7±0.5,19.20S±0.08×169.56E±0.09,h10km, mb4.4/24,MS3.5/2,Error ellipse: s-maj=14.6km s-min=7.0km az=43.9*
*IDC **09** 11:46:57.5±1.5,19.19S×169.57E,h0km,mb4.1/9, mb1 4.3/10,mb1mx4.0/39,mbtmp4.1/10,ML3.5/1,MS3.4/5, Ms1 3.4/5,ms1mx3.0/41,Error ellipse: s-maj=52.0km s-min=20.0km az=139.0*
*BJI **09** 11:46:57.3,19.94S×170.18E,h35km,mb4.7/10,mB4.8/3, Ms5.1/3,Ms7 4.9/2*
*NEIC **09** 11:47:00.5±4.1,19.24S×169.57E,h21km±29km,mb4.5/12, Error ellipse: s-maj=13.5km s-min=9.2km az=147.0*
ISC 09 11:46:58.9±0.6,**19.23S**±0.09×**169.6E**±0.1,**h10**km,**n44,** σ1**9**39/43,**mb4.4**/23,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.11**	**226**	Pn	**Pn**	**11 48 02.7**	**+0.7**
	3.2nm,0.3s,baz=153,slow=20,SNR=44						
DZM				Sn	**Sn**	**11 48 51.4**	**+1.2**
	10nm,0.3s,baz=145,slow=23,SNR=7.0						
DZM				LR	LR	11 49 04.0	
	comp=Z,147nm,18.9s,baz=34,slow=31						
DZM	**Mont Dzumac**	**4.11**	**226**	*e*Pn	**Pn**	**11 48 02.6**	**+0.7**
DZM				*e*Sn	**Sn**	**11 48 51.9**	**+1.6**
HNR	**Honiara**	**13.53**	**315**	LR	LR	11 54 04.3	
	comp=Z,82nm,21.9s,baz=220,slow=32						
AFI	**Afiamalu**	**18.58**	**76**	LR	LR	11 56 47.4	
	comp=Z,292nm,18.5s,baz=257,slow=32						
TARA	**Tarawa**	**20.71**	**9**	*e*P	**P**	**11 51 40.2**	**+0.7**
	72nm,0.8s						
PMG	**Port Moresby**	**23.84**	**291**	*e*P	**P**	**11 52 12.3**	**-0.2**
	12nm,1.0s						
KNTN	**Kanton**	**24.49**	**50**	*e*P	**P**	**11 52 18.9**	**+0.3**
	52nm,1.0s						
STKA	**Stephens Creek**	**28.17**	**238**	LR	LR	12 03 23.6	
	comp=Z,91nm,18.6s,baz=25,slow=35						
RAR	**Rarotonga**	**28.75**	**99**	*e*P	**P**	**11 52 55.7**	**-1.2**
	9.2nm,0.8s						
TAU	**Tasmania Unive**	**30.19**	**214**	*e*P	**P**	**11 53 10.1**	**+0.7**
BBOO	**Buckleboo**	**32.91**	**239**	*e*P	**P**	**11 53 29.6**	**-3.9**
	2.2nm,0.8s						
WB2	**Warramunga Arr**	**33.22**	**263**	*e*P	**P**	**11 53 34.1**	**-2.3**
WRAB	**Tennant Creek**	**33.22**	**263**	*e*P	**P**	**11 53 34.8**	**-1.6**
	2.4nm,0.9s						
WR1	**Warramunga Arr**	**33.23**	**263**	*e*P	**P**	**11 53 35.1**	**-1.3**
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**33.23**	**263**	P	**P**	**11 53 35.1**	**-1.4**
	1.9nm,1.0s,baz=81,slow=6.2,SNR=9.4						
AS01	**Alice Springs**	**33.45**	**256**	*e*P	**P**	**11 53 37.8**	**-0.6**
AS31	**Alice Springs**	**33.49**	**256**	*e*P	**P**	**11 53 38.1**	**-0.7**
	2.0nm,0.8s						
ASAR	**Alice Springs**	**33.50**	**256**	P	**P**	**11 53 38.4**	**-0.4**
	4.9nm,0.7s,baz=84,slow=9.0,SNR=50						
ASAR				LR	LR	12 07 27.7	
	comp=Z,125nm,19.1s,baz=112,slow=37						
MTN	**Manton Dam**	**37.49**	**274**	*e*P	**P**	**11 54 12.3**	**-0.9**
	9.3nm,0.8s						
MJAR	**Matsushiro Arr**	**62.92**	**332**	P	**P**	**11 57 25.0**	**-0.6**
	3.5nm,1.1s,baz=156,slow=6.3,SNR=4.4						
MAJO	**Matsushiro**	**62.93**	**332**	*e*P	**P**	**11 57 25.0**	**-0.6**
ASAJ	**Asahikawa**	**67.73**	**339**	*e*P	**P**	**11 57 57.3**	**+0.8**
	7.3nm,0.9s						
NJ2	**Nanjing**	**70.47**	**316**	*e*P	**P**	**11 58 15.1**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
QSPA	**South Pole Qui**	**70.82**	**180**	*e*P	**P**	**11 58 16.1**	**+0.5**
	4.2nm,1.0s						
PETK	**Petropavlovsk-**	**72.78**	**352**	P	**P**	**11 58 28.4**	**+1.1**
	1.8nm,0.8s,baz=127,slow=9.4,SNR=4.0						
PEA1	**Petropavlovsk-**	**72.78**	**352**	*e*P	**P**	**11 58 28.4**	**+1.1**
KMI	**Kunming**	**78.59**	**302**	P	**P**	**11 59 02.5**	**+1.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**78.85**	**294**	P	**P**	**11 59 03.5**	**+0.7**
	0.6nm,0.3s,baz=126,slow=4.6,SNR=4.8						
HHC	**Hu-ho-hao-te**	**80.46**	**319**	*e*P	**P**	**11 59 11.6**	**+0.4**
HHC				S	**S**	**12 09 13.8**	**-4.0**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,58nm,4.9s						
HHC				LR	LR		
	comp=N,210nm,18.5s						
HHC				LR	LR		
	comp=E,830nm,18.5s						
CD2	**Chengdu**	**80.53**	**307**	*e*P	**P**	**11 59 12.0**	**+0.3**
LZH	**Lanzhou**	**83.01**	**312**	*e*P	**P**	**11 59 26.0**	**+1.2**
LZH				pP	PcP	11 59 37.6	+8.1
LZH				sP	sP	11 59 42.1	+13
LZH				*e*PP	**PP**	**12 02 39.2**	**+3.3**
LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
LZH				pmax	pmax		
	comp=Z,72nm,8.7s						
LZH				LR	LR		
	comp=N,250nm,17.5s						
LZH				LR	LR		
	comp=E,260nm,17.2s						
LZH				LR	LR		
	comp=Z,350nm,19.4s						
SEY	**Seymchan**	**83.02**	**352**	P	**P**	**11 59 23.9**	**-0.1**
	2.2nm,0.8s,baz=152,slow=6.5,SNR=13						
SONA0	**Songino Array**	**87.44**	**323**	*e*P	**P**	**11 59 46.8**	**+0.1**
SONM	**Songino Array**	**87.44**	**323**	P	**P**	**11 59 46.8**	**+0.1**
	1.7nm,0.9s,baz=144,slow=4.5,SNR=7.8						
SONA1	**Songino Array**	**87.44**	**323**	*e*P	**P**	**11 59 46.5**	**-0.2**
NV01	**Mina Array Sit**	**88.51**	**48**	*e*P	**P**	**11 59 52.9**	**+0.8**
NVAR	**Mina Array Bea**	**88.51**	**48**	P	**P**	**11 59 53.0**	**+0.9**
	0.1nm,0.5s,baz=224,slow=6.3,SNR=2.1						
ILAR	**Eielson Array**	**90.11**	**17**	P	**P**	**11 59 57.7**	**-1.1**
	0.9nm,1.1s,baz=208,slow=5.1,SNR=3.2						
ILB	**Eielson Array**	**90.11**	**17**	*e*P	**P**	**11 59 57.3**	**-1.5**
RLMT	**Red Lodge**	**97.34**	**45**	*e*P	Pdif	12 00 33.0	+0.2
	1.5nm,0.7s						
WMQ	**Urumqi**	**97.47**	**314**	P	Pdif	12 00 34.8	+1.6
YKA	**Yellowknife Ar**	**100.49**	**27**	P	**Pdif**	**12 00 46.5**	**+0.4**
	0.3nm,0.8s,baz=267,slow=5.2,SNR=4.5						
GEC2	**GERESS Array S**	**144.66**	**332**	*e*PKPdf	**PKPdf**	**12 06 36.3**	**+0.3**
GERES	**GERESS Array B**	**144.66**	**332**	PKP	**PKPab**	**12 06 33.9**	**-0.8**
	0.2nm,0.2s,baz=46,slow=3.9,SNR=4.4						

*ISCJB **09** 11:50:48.0±0.6,23.92N±0.04×122.66E±0.02,h26km±6km, Error ellipse: s-maj=6.0km s-min=3.5km az=169.7*
*TAP **09** 11:50:48.3,23.91N×122.55E,h13km±1km,ML2.7,D*
*JMA **09** 11:50:48.7±0.1,24.02N×122.63E,h36km,M2.2*
ISC 09 11:50:46.7±1.2,**23.94N**±0.04×**122.65E**±0.02,**h18**km±4km, **n27,**σ0**63**/46,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.58**	**28**	P	**Pn**	**11 50 59.3**	**-0.8**
JYNG				*e*S	**Sg**	**11 51 06.9**	**+0.7**
YOJ	**Yonaguni jima**	**0.62**	**32**	P	**Pn**	**11 51 00.2**	**-0.4**
YOJ				*e*S	**Sg**	**11 51 07.3**	**-0.1**
EOS1	**EOS1**	**0.77**	**322**	*e*P	**Pn**	**11 51 03.3**	**+0.6**
	baz=329						
EOS1				*e*S	**Sn**	**11 51 15.1**	**+1.3**
	baz=329						
NANB	**Nanao**	**0.95**	**301**	*e*P	**Pg**	**11 51 05.8**	**+0.5**
	baz=305						
TWC	**Suao**	**0.99**	**313**	*e*P	**Pg**	**11 51 06.3**	**+0.3**
	baz=318						
TWC				*e*S	**Sn**	**11 51 19.8**	**+0.5**
	baz=318						
NACB	**Ninganchiao**	**0.99**	**284**	*e*P	**Pg**	**11 51 05.9**	**-0.1**
	baz=286						
HATJ	**Hateruma jima**	**1.07**	**83**	P	**Pg**	**11 51 07.9**	**+0.5**
HATJ				*e*S	**Sg**	**11 51 22.2**	**+0.8**
IRIF	**Iriomote-Funau**	**1.07**	**68**	P	**Pg**	**11 51 07.3**	**-0.1**
IRIF				*e*S	**Sg**	**11 51 21.0**	**-0.5**
ESL	**Shilin**	**1.12**	**264**	*e*P	**Pb**	**11 51 07.6**	**0.0**
	baz=264						
EGFH	**Guangfu**	**1.15**	**257**	*e*P	**Pg**	**11 51 08.5**	**-0.4**
	baz=256						
TWE	**Neicheng**	**1.19**	**311**	*e*P	**Pg**	**11 51 09.6**	**-0.1**
	baz=315						
TWE				*e*S	**Sg**	**11 51 25.7**	**+0.3**
	baz=315						
ENTT	**Nioudou**	**1.21**	**306**	*e*P	**Pg**	**11 51 09.9**	**-0.3**
	baz=309						
ENTT				*e*S	**Sg**	**11 51 25.6**	**-0.5**
	baz=309						
NNS	**Nan Shan**	**1.27**	**294**	*e*P	**Pg**	**11 51 10.5**	**-0.7**
	baz=296						
TIPB	**Shuangxi**	**1.27**	**324**	*e*P	**Pg**	**11 51 10.4**	**-1.0**
	baz=328						
TIPB				*e*S	**Sg**	**11 51 28.7**	**+0.6**
	baz=328						
WHF	**Hehuan Shan**	**1.28**	**280**	*e*P	**Pg**	**11 51 10.8**	**-0.8**
	baz=281						
WHF				*e*S	**Sn**	**11 51 26.9**	**-0.1**
	baz=281						
EHY	**Hungye**	**1.29**	**251**	*e*P	**Pb**	**11 51 10.7**	**+0.3**
	baz=250						
EHY				*e*S	**Sb**	**11 51 27.2**	**+0.6**
	baz=250						
YULB	**Yu-li**	**1.35**	**247**	*e*P	**Pb**	**11 51 11.6**	**+0.1**
	baz=245						
YULB				*e*S	**Sb**	**11 51 28.5**	**0.0**
	baz=245						
TWF1	**Yuli**	**1.37**	**245**	*e*P	**Pb**	**11 51 11.9**	**+0.2**
	baz=243						
TWF1				*e*S	**Sb**	**11 51 29.2**	**+0.3**
	baz=243						
JIJ	**Ishigaki jima**	**1.43**	**72**	P	**Pb**	**11 51 12.8**	**-0.1**
JIJ				*e*S	**Sb**	**11 51 30.2**	**-0.6**
FULB	**Fuli**	**1.44**	**240**	*e*P	**Pb**	**11 51 13.3**	**+0.2**
	baz=238						
FULB				*e*S	**Sb**	**11 51 31.1**	**0.0**
	baz=238						
SMLT	**Sun Moon Lake**	**1.60**	**269**	*e*P	**Pb**	**11 51 15.5**	**-0.3**
	baz=268						
JISG	**Ishigakijimahi**	**1.65**	**67**	P	**Pn**	**11 51 15.3**	**+0.5**
JISG				*e*S	**Sb**	**11 51 36.3**	**-0.8**
ELDTW	**Lidau**	**1.67**	**244**	*e*P	**Pb**	**11 51 16.0**	**-1.0**
	baz=242						
TWG	**Pinlang**	**1.82**	**233**	*e*P	**Pb**	**11 51 18.8**	**-0.8**
	baz=231						
TWG				*e*S	**Sn**	**11 51 40.4**	**+0.6**
	baz=231						
CHN5	**Tsauling**	**1.83**	**260**	*e*P	**Pb**	**11 51 19.8**	**0.0**
	baz=259						
CHN5				*e*S	**Sn**	**11 51 40.5**	**+0.3**
	baz=259						
SGST	**Jiashian**	**2.08**	**246**	*e*P	**Pb**	**11 51 22.7**	**-1.2**
	baz=245						
CHN1	**Nanshi**	**2.08**	**249**	*e*P	**Pb**	**11 51 22.6**	**-1.4**
	baz=248						
CHN1				*e*S	**Sn**	**11 51 47.3**	**+1.0**
	baz=248						

IDC 09 11:52:13.4±1.3,**17.62S**×**167.21E**,**h0**km,**mb3.7**/5, **mb1 4.0**/6,**mb1mx3.7**/39,**mbtmp3.7**/6,**ML3.6/1,Error ellipse: s-maj=50.3km s-min=24.7km az=136.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.49**	**189**	Pn	Pn	11 53 21.2	-1.6
	2.7nm,0.3s,baz=81,slow=9.6,SNR=27						
DZM				Sn	Sn	11 54 09.4	-6.5
	6.5nm,0.3s,baz=160,slow=22,SNR=9.3						
STKA	**Stephens Creek**	**27.16**	**234**	P		11 58 00.2	+1.6
	1.5nm,0.6s,baz=59,slow=5.9,SNR=2.4						
WRA	**Warramunga Arr**	**31.18**	**260**	P	P	11 58 33.6	-0.9
	0.3nm,0.8s,baz=93,slow=9.5,SNR=2.9						
ASAR	**Alice Springs**	**31.69**	**253**	P	P	11 58 38.5	-0.5
	0.4nm,0.6s,baz=76,slow=8.3,SNR=9.3						
NVAR	**Mina Array Bea**	**89.19**	**49**	P	P	12 05 12.0	+0.5
	0.2nm,0.6s,baz=243,slow=8.0,SNR=2.5						
ILAR	**Eielson Array**	**89.28**	**18**	P	P	12 05 10.7	-0.3
	1.0nm,0.6s,baz=233,slow=5.5,SNR=18						

*ISK **09** 11:58:53.2,41.07N×30.58E,h25km,ML2.5/4*
*ISCJB **09** 11:58:58.8±0.6,40.89N±0.04×30.31E±0.05,h16km±13km, Error ellipse: s-maj=7.0km s-min=5.2km az=136.7*
*DDA **09** 11:58:58.8,40.88N×30.37E,h7km,Ml2.5*
*CSEM **09** 11:58:58.3±0.3,40.91N×30.32E,h10km,ML2.5,Error ellipse: s-maj=8.3km s-min=6.0km az=32.0*
ISC 09 11:58:59.0±0.9,**40.90N**±0.03×**30.34E**±0.03,**h16**km±7km, **n19,**σ1**3**36/31,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUV	**Serdivan-Sakar**	**0.16**	**184**	PG	**Pg**	**11 59 02.2**	**-0.9**
SAUV	**Serdivan-Sakar**	**0.16**	**184**	*e*Pg	**Pg**	**11 59 02.2**	**-0.9**
KAND	**Kocaeli-Kandir**	**0.23**	**330**	*i* P	**Pg**	**11 59 04.0**	**-0.1**
KAND				*i* S	**Sg**	**11 59 08.5**	**+0.9**
KAND	**Kocaeli-Kandir**	**0.23**	**330**	P	**Pg**	**11 59 04.0**	**-0.1**
KAND				S	**Sg**	**11 59 08.5**	**+0.9**
SAHE	**Sakarya_HENDEK**	**0.39**	**96**	*i* P	**Pg**	**11 59 05.7**	**-1.3**
SAHE				*i* S	**Sb**	**11 59 12.1**	**-1.3**
SAHE	**Sakarya_HENDEK**	**0.39**	**96**	P	**Pg**	**11 59 05.7**	**-1.3**
SAHE				S	**Sb**	**11 59 12.1**	**-1.3**
GEYV	**SAKARYA_Geyve**	**0.41**	**185**	*i* P	**Pg**	**11 59 06.8**	**-0.5**
GEYV				*i* S	**Sg**	**11 59 12.9**	**-0.1**
GEYV	**SAKARYA_Geyve**	**0.41**	**185**	P	**Pg**	**11 59 06.8**	**-0.5**
GEYV				S	**Sg**	**11 59 12.9**	**-0.1**
GULT	**Gulveren**	**0.48**	**164**	PG	**Pg**	**11 59 06.6**	**-2.0**
GULT				SG	**Sb**	**11 59 16.2**	**+0.1**
GULT	**Gulveren**	**0.48**	**164**	*e*Pg	**Pg**	**11 59 06.6**	**-2.0**
GULT				*e*Sg	**Sb**	**11 59 16.2**	**+0.1**
HRT	**Hereke**	**0.52**	**262**	PG	**Pg**	**11 59 08.5**	**-0.8**
HRT	**Hereke**	**0.52**	**262**	*e*Pg	**Pg**	**11 59 08.5**	**-0.8**
SILT	**Sile**	**0.59**	**296**	PG	**Pg**	**11 59 07.6**	**-3.0**
SILT				SG	**Sg**	**11 59 18.4**	**0.0**
SILT	**Sile**	**0.59**	**296**	*e*Pg	**Pg**	**11 59 07.6**	**-3.0**
SILT				*e*Sg	**Sg**	**11 59 18.4**	**0.0**
MDUB	**Mudurnu**	**0.78**	**123**	PG	Pg	11 59 08.7	-5.5
BORA	**Eskisehir**	**1.02**	**175**	*i* P	**Pn**	**11 59 19.4**	**+0.6**
BORA				*i* S	**Sn**	**11 59 34.6**	**+1.8**
BORA	**Eskisehir**	**1.02**	**175**	P	**Pn**	**11 59 19.4**	**+0.6**
BCAM	**Yenicaga**	**1.31**	**93**	*i* P	**Pg**	**11 59 23.1**	**-1.2**
BCAM				*i* S	**Sn**	**11 59 41.7**	**+1.7**
BCAM	**Yenicaga**	**1.31**	**93**	P	**Pg**	**11 59 23.1**	**-1.2**
BCAM				S	**Sn**	**11 59 41.7**	**+1.7**

KRSC 09 12:11:01.9±1.1,**49.36N**×**156.73E**,**h16**km±24km,**ML3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.38**	**344**	*e*P	Pn	12 11 25.7	-0.8
SKR				*e*S	Sn	12 11 44.2	-0.2
PAU	**Pauzhetka**	**2.11**	**1**	*e*P	Pn	12 11 37.8	+1.3
PAU				*e*S	Sb	12 12 04.7	-0.9
KDTR	**Khodutka, Kamc**	**2.59**	**19**	*e*P	Pb	12 11 45.8	-2.2
KDTR				*e*S	Sb	12 12 17.5	-2.1
ASAK	**Asacha**	**3.11**	**13**	*e*P	Pn	12 11 53.6	+3.2
RUS	**Russkaya**	**3.27**	**19**	*e*P	Pn	12 11 55.7	+3.2
RUS				*e*S	Sn	12 12 34.9	+3.8
UGLR	**Uglovaya**	**4.07**	**18**	*e*P	Pn	12 12 07.8	+4.3
AVH	**Avacha**	**4.11**	**17**	*e*P	Pn	12 12 08.1	+4.1
SMAR	**Somma**	**4.12**	**18**	*e*P	Pn	12 12 08.4	+4.1
SDLR	**Sedlovina**	**4.15**	**18**	*e*P	Pn	12 12 07.9	+3.3
SPN	**Mys Shipunski**	**4.27**	**28**	*e*P	Pn	12 12 10.5	+4.3
SPN				*e*S	Sn	12 12 59.6	+3.9

IDC 09 12:13:33.6±2.4,**1.82N**×**125.06E**,**h0**km,**mb3.3**/3, **mb1 3.5**/3,**mb1mx3.1**/60,**mbtmp3.3**/3,**Error ellipse: s-maj=301.9km s-min=25.4km az=64.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.46**	**158**	P	P	12 18 45.2	+0.2
	0.8nm,0.3s,baz=336,slow=9.8,SNR=28						
ASAR	**Alice Springs**	**26.75**	**162**	P	P	12 19 14.4	-0.9
	0.2nm,0.8s,baz=343,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**58.20**	**327**	P	P	12 23 30.3	+0.6
	0.1nm,0.3s,baz=129,slow=7.5,SNR=4.9						

*IDC **09** 12:17:32.4±3.0,35.97N×141.27E,h0km,mb3.1/3, mb1 3.2/4,mb1mx3.1/66,mbtmp3.1/4,ML2.8/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/22,Error ellipse: s-maj=88.9km s-min=30.2km az=57.0*
*ISCJB **09** 12:17:33.1±1.6,35.97N±0.06×141.3E±0.1,h17km±9km, mb3.3/3,Error ellipse: s-maj=13.7km s-min=9.3km az=3.3*
*JMA **09** 12:17:35.3±0.1,35.98N×141.12E,h20km±2km,M3.2*
ISC 09 12:17:32.5±2.8,**35.97N**±0.06×**141.3E**±0.1,**h2**km±15km, **n11,**σ1**9**03/14,**mb3.5**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.41**	**230**	P	**Pb**	**12 17 42.6**	**0.0**
CHOJ				*e*S	**Sb**	**12 17 48.0**	**-1.3**
JHO	**Hitachi**	**0.84**	**320**	P	**Pb**	**12 17 49.9**	**+0.1**
JHO				S	**Sg**	**12 18 00.1**	**+0.6**
JYT	**Yasato**	**0.89**	**287**	P	**Pg**	**12 17 50.1**	**+0.5**
JYT				S	**Sg**	**12 18 01.1**	**0.0**
ONAJ	**Iwakimizuishiy**	**1.18**	**342**	P	**Pb**	**12 17 54.8**	**-0.9**
MJAR	**Matsushiro Arr**	**2.52**	**284**	Pn	**Pn**	**12 18 14.1**	**-0.4**
	1.9nm,0.3s,baz=95,slow=9.4,SNR=27						
MJAR				Sn	**Sg**	**12 18 52.5**	**-0.9**
	2.7nm,0.3s,baz=280,slow=5.2,SNR=5.5						
MAT	**Matsushiro**	**2.52**	**284**	P	**Pn**	**12 18 14.4**	**-0.1**
MAT				*e*S	**Sn**	**12 18 46.3**	**+0.5**
JHJ	**Hachijo jima 2**	**3.09**	**203**	LR	LR	12 19 14.4	
	comp=Z,150nm,18.3s,baz=330,slow=33						
JNU	**Nakatsue**	**9.01**	**255**	LR	LR	12 23 42.7	
	comp=Z,78nm,19.8s,baz=302,slow=41						
MKAR	**Makanchi Array**	**44.57**	**303**	P	**P**	**12 25 48.1**	**+2.2**
	0.2nm,0.7s,baz=99,slow=7.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**46.55**	**309**	P	**P**	**12 26 00.2**	**-1.2**
	0.3nm,0.8s,baz=95,slow=7.8,SNR=4.8						
WRA	**Warramunga Arr**	**55.99**	**188**	P	**P**	**12 27 12.6**	**+0.1**
	0.4nm,0.7s,baz=6.1,slow=7.5,SNR=6.7						

*IDC **09** 12:26:49.8±1.2,36.74N×141.25E,h0km,mb3.4/6, mb1 3.6/7,mb1mx3.4/62,mbtmp3.4/7,ML2.7/1,MS2.7/1, Ms1 2.7/1,ms1mx2.2/45,Error ellipse: s-maj=27.4km s-min=23.0km az=63.0*
*JMA **09** 12:26:51.7,36.76N×141.26E,h29km±1km,M3.2*
*ISCJB **09** 12:26:52.8±0.8,36.78N±0.05×141.18E±0.09,h35km, mb3.5/6, Error ellipse: s-maj=10.1km s-min=6.5km az=8.5*
ISC 09 12:26:54.5±1.1,**36.83N**±0.06×**141.21E**±0.1,**h35**km,**n20,** σ2**9**04/19,**mb3.5**/6,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.43**	**310**	P	**Pn**	**12 27 01.8**	**-2.4**
ONAJ				S	**Sn**	**12 27 09.1**	**-1.8**
JHO	**Hitachi**	**0.56**	**247**	P	**Pn**	**12 27 03.0**	**-3.0**
JHO				S	**Sn**	**12 27 11.1**	**-2.9**
JFK	**Kawauchi**	**0.60**	**333**	P	**Pn**	**12 27 04.6**	**-2.0**
JFK				S	**Sn**	**12 27 13.7**	**-1.4**
JYT	**Yasato**	**1.02**	**234**	P	**Pn**	**12 27 09.7**	**-2.5**
JMM	**Marumori**	**1.09**	**342**	P	**Pn**	**12 27 12.0**	**-1.2**
JMM			

TVAN				*i* S		**Sb**	**12 39 21.7**	**-0.3**
TVAN	**Van**	**0.28**	**204**	P		**Pg**	**12 39 16.5**	**-1.0**
TVAN				S		**Sb**	**12 39 21.7**	**-0.3**
ERCV	**ERCIS-VAN**	**0.29**	**324**	PG		**Pg**	**12 39 16.3**	**-1.3**
ERCV	**ERCIS-VAN**	**0.29**	**324**	*e*Pg		**Pg**	**12 39 16.3**	**-1.3**
CLDR	**Caldiran**	**0.46**	**38**	PG		**Pg**	**12 39 19.6**	**-0.9**
CLDR				SG		**Sb**	**12 39 27.1**	**-0.3**
CLDR	**Caldiran**	**0.46**	**38**	*i* P		**Pg**	**12 39 19.3**	**-1.2**
CLDR				*i* S		**Sb**	**12 39 28.5**	**+1.1**
CLDR	**Caldiran**	**0.46**	**38**	P		**Pg**	**12 39 19.3**	**-1.2**
CLDR	**Caldiran**	**0.46**	**38**	*e*Pg		**Pg**	**12 39 19.6**	**-0.9**
CLDR				*e*Sg		**Sb**	**12 39 27.1**	**-0.3**
CLDR				S		**Sb**	**12 39 28.5**	**+1.1**
GEVA	**Gevas**	**0.61**	**220**	*i* P		**Pg**	**12 39 21.7**	**-1.6**
GEVA				*i* S		**Sb**	**12 39 31.7**	**+0.1**
GEVA	**Gevas**	**0.61**	**220**	P		**Pg**	**12 39 21.7**	**-1.6**
GEVA				S		**Sb**	**12 39 31.7**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.65**	**272**	*i* P		**Pb**	**12 39 23.2**	**-0.8**
ADCV				*i* S		**Sb**	**12 39 32.7**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.65**	**272**	P		**Pb**	**12 39 23.2**	**-0.8**
ADCV				S		**Sb**	**12 39 32.7**	**-0.1**
DYDN	**Diyadin**	**0.77**	**8**	*i* P		**Pb**	**12 39 25.8**	**-0.3**
DYDN				*i* S		**Sn**	**12 39 38.2**	**-0.3**
DYDN	**Diyadin**	**0.77**	**8**	P		**Pb**	**12 39 25.8**	**-0.3**
DYDN				S		**Sn**	**12 39 38.2**	**-0.3**
BASK	**Baskale_VAN**	**0.81**	**154**	*i* P		**Pg**	**12 39 24.1**	**-2.9**
BASK				*i* S		**Sb**	**12 39 38.0**	**+0.5**
BASK	**Baskale_VAN**	**0.81**	**154**	P		**Pg**	**12 39 24.1**	**-2.9**
BASK				S		**Sb**	**12 39 38.0**	**+0.5**
TUTA	**Tutak**	**0.84**	**317**	*i* P		**Pg**	**12 39 26.3**	**-1.3**
TUTA				*i* S		**Sb**	**12 39 38.4**	**-0.1**
TUTA	**Tutak**	**0.84**	**317**	P		**Pg**	**12 39 26.3**	**-1.3**
TUTA				S		**Sb**	**12 39 38.4**	**-0.1**
AGRB	**Hanur-Agry**	**0.90**	**331**	PG		**Pg**	**12 39 27.2**	**-1.6**
AGRB				SG		**Sb**	**12 39 40.2**	**0.0**
AGRB	**Hanur-Agry**	**0.90**	**331**	*e*Pg		**Pg**	**12 39 27.2**	**-1.6**
AGRB				*e*Sg		**Sb**	**12 39 40.2**	**0.0**
GURO	**Guroymak-BITLI**	**1.21**	**259**	PN		**Pg**	**12 39 32.4**	**-2.2**
GURO	**Guroymak-BITLI**	**1.21**	**259**	*e*Pn		**Pg**	**12 39 32.4**	**-2.2**
HAKT	**HAKKARI**	**1.23**	**174**	*i* P		**Pg**	**12 39 32.6**	**-2.3**
HAKT				*i* S		**Sn**	**12 39 52.4**	**+2.5**
HAKT	**HAKKARI**	**1.23**	**174**	P		**Pg**	**12 39 32.6**	**-2.3**
HAKT				S		**Sn**	**12 39 52.4**	**+2.5**
EKAR	**Karacoban**	**1.25**	**293**	*i* P		**Pn**	**12 39 34.8**	**+0.8**
EKAR				*i* S		**Sn**	**12 39 53.2**	**+2.7**
EKAR	**Karacoban**	**1.25**	**293**	P		**Pn**	**12 39 34.8**	**+0.8**
EKAR				S		**Sn**	**12 39 53.2**	**+2.7**
SRTM	**Siirt_Merkez**	**1.51**	**239**	*i* P		**Pg**	**12 39 38.6**	**-1.6**
SRTM				*i* S		**Sg**	**12 39 58.9**	**-1.0**
SRTM	**Siirt_Merkez**	**1.51**	**239**	P		**Pg**	**12 39 38.6**	**-1.6**
SRTM				S		**Sg**	**12 39 58.8**	**-1.0**
CUKT	**Cukurca**	**1.54**	**178**	PN		**Pb**	**12 39 39.2**	**+0.1**
CUKT	**Cukurca**	**1.54**	**178**	*e*Pn		**Pb**	**12 39 39.2**	**+0.1**

*ISCJB **09** 12:46:42.2±0.5, 18°.92N±0°.03×145°.31E±0°.04, h227km±5km, mb4.4/100, Error ellipse: s-maj=6.7km s-min=4.7km az=166.4*
*BJI **09** 12:46:42.4, 18°.90N×145°.40E, h224km, mb4.3/19, mB4.7/11*
*NEIC **09** 12:46:43.4±0.5, 18°.89N×145°.36E, h227km±5km, mb4.5/68, Error ellipse: s-maj=4.6km s-min=3.5km az=82.0*
*IDC **09** 12:46:44.4±0.6, 18°.93N×145°.36E, h239km±4km, mb3.9/31, mb1 4.0/34, mb1mx4.0/58, mbtmp4.5/34, Error ellipse: s-maj=11.1km s-min=6.6km az=83.0*

ISC 09 12:46:43.6±0.5, 18°.92N±0°.04×145°.41E±0°.08, h231km±3km, h231km:pP-P, n161, σ1s37/188, mb4.4/101, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.23**	**171**			*e*Pn	**Pn**	**12 47 25.8**	**-1.0**
SARN						*e*S	**S**	**12 48 00.2**	**-0.5**
GUMO	**Guam**	**5.33**	**186**	P		Pn	**Pn**	**12 48 04.4**	**+1.5**
	40nm,0.3s,baz=152,slow=4.6,SNR=14								
GUMO				S			**S**	**12 49 02.1**	**-3.8**
	22nm,0.3s,baz=273,slow=19,SNR=3.4								
GUMO	**Guam**	**5.33**	**186**	*e*Pn			**Pn**	**12 48 03.2**	**+0.3**
GUMO				*e*S			**S**	**12 49 05.6**	**-0.3**
JCJ	**Chichijima**	**8.66**	**341**	P			**Pn**	**12 48 44.0**	**-1.3**
JCJ				S			**S**	**12 50 16.4**	**-6.8**
	30nm,0.3s,baz=308,slow=19,SNR=5.8								
CBIJ	**Chichi jima**	**8.66**	**341**	*e*Pn			**Pn**	**12 48 43.9**	**-1.4**
CBIJ				*e*S			**S**	**12 50 17.1**	**-6.1**
JOW	**Kunigami**	**17.64**	**300**	*e*P			**Pn**	**12 50 35.1**	**-0.7**
	76nm,1.2s								
INU	**Inuyama**	**17.98**	**337**	*e*P			**P**	**12 50 38.0**	**+0.9**
	25nm,0.8s								
MJAR	**Matsushiro Arr**	**18.67**	**342**	P			**P**	**12 50 44.2**	**-0.3**
	1.8nm,0.3s,baz=170,slow=10,SNR=19								
MJAR				S			**S**	**12 54 03.7**	**-1.1**
	0.2nm,0.3s,baz=26,slow=21,SNR=4.1								
MAJO	**Matsushiro**	**18.67**	**342**	*e*P			**P**	**12 50 44.7**	**+0.1**
	23nm,0.6s								
MAT	**Matsushiro**	**18.67**	**342**	P			**P**	**12 50 44.7**	**+0.2**
MAT				*e*S			**S**	**12 54 05.2**	**+0.4**
MJB9	**Matsu-Tunnel**	**18.67**	**342**	*e*P			**P**	**12 50 45.1**	**+0.5**
	23nm,0.7s								
H11S3	**WAKE ISLAND Hy**	**20.16**	**88**	T			T	13 12 20.6	
	baz=275,slow=74,SNR=5.1								
H11S1	**WAKE ISLAND Hy**	**20.17**	**88**	T			T	13 12 31.4	
	baz=275,slow=74,SNR=7.5								
H11S2	**WAKE ISLAND Hy**	**20.17**	**88**	T			T	13 12 32.2	
	baz=275,slow=74,SNR=6.3								
H11N1	**WAKE ISLAND Hy**	**20.29**	**84**	T			T	13 12 39.3	
	baz=274								
H11N2	**WAKE ISLAND Hy**	**20.29**	**84**	T			T	13 12 41.2	
	baz=274,slow=74								
H11N3	**WAKE ISLAND Hy**	**20.30**	**84**	T			T	13 12 43.3	
	baz=274,slow=74								
TATO	**Taipei**	**22.98**	**289**	*e*P			**P**	**12 51 27.9**	**-0.2**
	329nm,1.4s								
YHNB	**Yeheng**	**23.03**	**289**	*e*P			**P**	**12 51 27.5**	**-1.2**
	201nm,1.7s								
ERM	**Erimo**	**23.10**	**356**	*e*P			**P**	**12 51 29.1**	**0.0**
	23nm,1.1s								
SSLB	**Suanglung**	**23.28**	**286**	*e*P			**P**	**12 51 29.9**	**-1.1**
	103nm,1.7s								
TPUB	**Ta-pu**	**23.52**	**285**	*e*P			**P**	**12 51 34.2**	**+1.1**
	78nm,1.5s								
RABL	**Rabaul**	**23.91**	**163**	*e*P			**P**	**12 51 35.7**	**-1.0**
	172nm,1.3s								
KSRS	**Korea Array**	**23.98**	**324**	P			**P**	**12 51 37.0**	**-0.2**
	2.2nm,0.5s,baz=142,slow=9.3,SNR=11								
KSRS				pP			**pP**	**12 52 20.7**	**+1.1**
	5.9nm,0.8s,baz=146,slow=9.4,SNR=3.8								
KS15	**Wonju Array Si**	**24.00**	**324**	*e*P			**P**	**12 51 33.0**	**-4.2**
KS01	**Wonju Array Si**	**24.01**	**324**	*e*P			**P**	**12 51 38.7**	**+1.3**
ASAJ	**Asahikawa**	**25.23**	**355**	P			**P**	**12 51 48.5**	**+0.1**
	6.4nm,0.5s,baz=227,slow=9.3,SNR=18								
ASAJ	**Asahikawa**	**25.23**	**355**	*e*P			**P**	**12 51 48.6**	**+0.2**
	6.7nm,0.5s								
NJ2	**Nanjing**	**27.22**	**304**	*e*P			**P**	**12 52 06.0**	**-0.3**
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**27.60**	**339**	pP			pP	12 52 56.1	+0.8
	4.3nm,0.8s,baz=147,slow=9.5,SNR=4.5								
YSS	**Yuzh-Sakhalins**	**28.05**	**356**	*e*P			**P**	**12 52 13.6**	**+0.2**
	8.9nm,0.4s								
PMG	**Port Moresby**	**28.20**	**176**	P			**P**	**12 52 13.9**	**-1.2**
	12nm,0.6s,baz=4.2,slow=8.1,SNR=9.9								
PMG	**Port Moresby**	**28.20**	**176**	*e*P			**P**	**12 52 14.3**	**-0.8**
	35nm,0.7s								
MDJ	**Mudanjiang**	**28.83**	**336**	P			**P**	**12 52 21.9**	**+1.5**
MDJ				pP			pP	12 53 06.7	+0.3
MDJ				S			**S**	**12 56 56.3**	**+3.4**
MDJ				sS			sS	12 58 16.7	+1.0
MDJ				ScP			**ScP**	**12 58 44.1**	**+0.9**
MDJ				ScS			**ScS**	**13 02 37.8**	**+0.6**
MDJ					pmax		pmax		
	comp=Z,4.0nm,0.6s								
MDJ					pmax		pmax		
	comp=Z,95nm,3.9s								
KLR	**Kul'dur**	**32.18**	**343**	P			**P**	**12 52 49.9**	**+0.1**
	0.3nm,0.5s,baz=164,slow=6.1,SNR=19								
KLR					PcP		**PcP**	**12 55 33.4**	**+0.8**
	0.2nm,0.6s,baz=184,slow=3.8,SNR=3.5								
COEN	**Coen**	**32.74**	**184**	*e*P			**P**	**12 52 55.1**	**+0.2**
	20nm,0.6s								
MTN	**Manton Dam**	**34.56**	**205**	*e*P			**P**	**12 53 10.9**	**+0.3**
	29nm,0.7s								
PETK	**Petropavlovsk-**	**35.44**	**13**	P			**P**	**12 53 18.9**	**+1.2**
	2.5nm,0.7s,baz=180,slow=6.8,SNR=4.9								
PEA1	**Petropavlovsk-**	**35.44**	**13**	*e*P			**P**	**12 53 18.9**	**+1.1**
HHC	**Hu-ho-hao-te**	**36.26**	**314**	*e*P			**P**	**12 53 28.0**	**+3.1**
HHC					pmax		pmax		
	comp=Z,11nm,1.0s								
HHC					pmax		pmax		
	comp=Z,97nm,4.4s								
SBUM	**Sibu**	**36.38**	**247**	*e*P			**P**	**12 53 26.3**	**+0.2**
	12nm,0.9s								
CTAO	**Charters Tower**	**38.77**	**179**	*e*P			**P**	**12 53 45.7**	**-0.4**
	8.0nm,0.6s								
CD2	**Chengdu**	**39.41**	**296**	*e*P			**P**	**12 53 51.0**	**-0.4**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2					pmax		pmax		
	comp=Z,140nm,5.2s								
KMI	**Kunming**	**39.92**	**287**	P			**P**	**12 53 56.3**	**+0.5**
KMI					pmax		pmax		
	comp=Z,4.0nm,0.5s								
WR1	**Warramunga Arr**	**40.12**	**196**	*e*P			**P**	**12 53 57.6**	**+0.4**
	85nm,0.6s								
WR1					ePcP		**PcP**	**12 55 56.3**	**-0.6**
WRA	**Warramunga Arr**	**40.12**	**196**	P			**P**	**12 53 57.6**	**+0.4**
	43nm,0.7s,baz=15,slow=8.9,SNR=194								
WRA					PcP		**PcP**	**12 55 56.3**	**-0.6**
	1.3nm,0.6s,baz=16,slow=3.4,SNR=2.4								
WRA					ScP		**ScP**	**12 59 21.9**	**-2.1**
	0.9nm,0.7s,baz=13,slow=4.3,SNR=6.1								
LZH	**Lanzhou**	**40.30**	**304**	*e*P			**P**	**12 53 59.1**	**+0.3**
LZH					pP		pP	12 54 46.5	-0.4
LZH					sP		sP	12 55 11.6	-1.5
LZH					PP		**PP**	**12 55 39.3**	**+2.7**
LZH					pmax		pmax		
	comp=Z,23nm,1.0s								
LZH					pmax		pmax		
	comp=Z,75nm,5.4s								
MA2	**Magadan**	**40.79**	**4**	P			**P**	**12 54 03.6**	**+1.4**
	2.3nm,0.5s,baz=186,slow=6.3,SNR=12								
MA2					pP		**pP**	**12 54 50.5**	**+0.1**
	2.4nm,0.6s,baz=192,slow=9.9,SNR=1.8								
ULN	**Ulaanbaatar**	**42.43**	**322**	*e*P			**P**	**12 54 15.0**	**-0.9**
	2.6nm,0.5s								
SONA0	**Songino Array**	**42.80**	**321**	*e*P			**P**	**12 54 18.8**	**0.0**
SONA0					epP		**pP**	**12 55 08.9**	**+1.4**
SONM	**Songino Array**	**42.80**	**321**	P			**P**	**12 54 18.8**	**0.0**
	1.9nm,0.5s,baz=136,slow=9.6,SNR=18								
SONM					pP		**pP**	**12 55 08.9**	**+1.4**
	2.7nm,0.9s,baz=132,slow=7.6,SNR=3.1								
SONM					ScP		**ScP**	**12 59 33.0**	**-1.5**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=4.0								
SONA1	**Songino Array**	**42.80**	**321**	*e*P			**P**	**12 54 18.1**	**-0.7**
AS01	**Alice Springs**	**43.78**	**195**	*e*P			**P**	**12 54 26.1**	**-0.6**
AS31	**Alice Springs**	**43.79**	**195**	*e*P			**P**	**12 54 27.0**	**+0.2**
	6.9nm,0.6s								
ASAR	**Alice Springs**	**43.79**	**195**	P			**P**	**12 54 27.1**	**+0.3**
	12nm,0.7s,baz=16,slow=7.6,SNR=243								
ASAR					ScP		**ScP**	**12 59 36.2**	**-2.4**
	0.9nm,0.9s,baz=27,slow=4.4,SNR=4.0								
CM01	**Chiang Mai Arr**	**43.91**	**277**	*e*P			**P**	**12 54 29.3**	**+1.4**
CM01					ePcP		**PcP**	**12 56 09.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**43.92**	**277**	P			**P**	**12 54 29.3**	**+1.3**
	4.1nm,0.7s,baz=67,slow=6.7,SNR=24								
CMAR					PcP		**PcP**	**12 56 09.4**	**-0.3**
	1.9nm,0.8s,baz=76,slow=2.3,SNR=5.8								
SEY	**Seymchan**	**44.24**	**5**	P			**P**	**12 54 30.8**	**+1.0**
	1.0nm,0.4s,baz=194,slow=12,SNR=16								
EIDS	**Eidsvold**	**44.37**	**173**	*e*P			**P**	**12 54 30.3**	**-1.0**
	37nm,1.9s								
YAK	**Yakutsk**	**44.46**	**349**	*e*P			**P**	**12 54 31.3**	**-0.2**
	19nm,0.8s								
DZM	**Mont Dzumac**	**45.64**	**152**	P			**P**	**12 54 41.8**	**+0.4**
	21nm,0.5s,baz=330,slow=7.1,SNR=45								
DZM	**Mont Dzumac**	**45.64**	**152**	*e*P			**P**	**12 54 41.8**	**+0.4**
	36nm,0.9s								
KULM	**Kulim**	**45.67**	**259**	*e*P			**P**	**12 54 42.7**	**+0.9**
	12nm,0.8s								
MBWA	**Marble Bar**	**47.10**	**214**	*e*P			**P**	**12 54 53.1**	**+0.4**
	13nm,0.8s								
PSI	**Prapat**	**48.19**	**256**	*e*P			**P**	**12 55 03.0**	**+1.6**
	11nm,1.0s								
STKA	**Stephens Creek**	**50.64**	**184**	P			**P**	**12 55 18.8**	**-0.5**
	4.4nm,0.4s,baz=43,slow=6.7,SNR=24								
STKA	**Stephens Creek**	**50.64**	**184**	*e*P			**P**	**12 55 18.8**	**-0.5**
	2.4nm,1.0s								
BBOO	**Buckleboo**	**52.21**	**190**	*e*P			**P**	**12 55 30.7**	**-0.3**
	14nm,0.8s								
GAMB	**Gambell**	**53.35**	**22**	*e*P			**P**	**12 55 39.8**	**+1.0**
	16nm,1.6s								
WMQ	**Urumqi**	**53.96**	**311**	P			**P**	**12 55 45.9**	**+2.1**
ZALV	**Zalesovo Beam**	**57.68**	**322**	P			**P**	**12 56 08.8**	**-1.0**
	1.9nm,0.6s,baz=108,slow=9.3,SNR=8.8								
ZALV					pP		**pP**	**12 57 03.0**	**+1.6**
	1.3nm,0.5s,baz=112,slow=8.0,SNR=3.0								
ZAA1	**Zalesovo Array**	**57.68**	**322**	*e*P			**P**	**12 56 08.8**	**-1.0**
ZAA1					epP		**pP**	**12 57 03.0**	**+1.6**
MK01	**Makanchi Array**	**58.11**	**314**	*e*P			**P**	**12 56 12.8**	**-0.2**
MK31	**Makanchi Array**	**58.12**	**314**	*e*P			**P**	**12 56 13.2**	**+0.1**
MK32	**Makanchi Array**	**58.12**	**314**	*e*P			**P**	**12 56 13.0**	**-0.1**
MK32					epP		**pP**	**12 57 06.7**	**+1.9**
MKAR	**Makanchi Array**	**58.12**	**314**	P			**P**	**12 56 13.0**	**-0.1**
	3.3nm,0.6s,baz=91,slow=8.3,SNR=49								
MKAR					pP		**pP**	**12 57 06.7**	**+1.9**
	1.8nm,0.6s,baz=92,slow=8.2,SNR=3.9								
MKAR	**Makanchi Array**	**58.12**	**314**	*e*P			**P**	**12 56 13.1**	**+0.1**
	21nm,0.6s								
MAKZ	**Makanchi**	**58.33**	**314**	*e*P			**P**	**12 56 14.6**	**+0.1**
	5.0nm,0.6s								
KDAK	**Kodiak Island**	**59.32**	**33**	P			**P**	**12 56 21.9**	**+0.8**
	5.0nm,0.6s,baz=265,slow=6.4,SNR=8.5								
KURK	**Kurchatov**	**60.93**	**318**	*e*P			**P**	**12 56 31.9**	**-0.2**
KURK					epP		**pP**	**12 57 26.8**	**+2.5**
KURBB	**Kurchatov Arra**	**60.98**	**318**	P			**P**	**12 56 31.9**	**-0.5**
	4.4nm,0.5s,baz=93,slow=7.5,SNR=105								
KURBB					pP		**pP**	**12 57 26.8**	**+2.2**
	4.4nm,0.8s,baz=93,slow=7.7,SNR=4.1								
CAST	**Castle Rocks**	**61.02**	**27**	*e*P			**P**	**12 56 33.6**	**+1.0**
	10nm,0.8s								
IM3	**Indian Mountai**	**61.13**	**24**	*e*P			**P**	**12 56 34.0**	**+0.8**
KDJ	**Kajisay**	**61.54**	**308**	*e*P			**P**	**12 56 37.5**	**+0.8**
	3.8nm,0.5s								
BPAW	**Bear Paw Mtn.**	**61.68**	**27**	*e*P			**P**	**12 56 37.8**	**+0.8**
	8nm,0.8s								
MLY	**Manley**	**62.04**	**26**	*e*P			**P**	**12 56 40.2**	**+0.8**
	5.7nm,0.6s								
KSH	**Kashi**	**62.52**	**305**	*e*P			**P**	**12 56 47.1**	**+4.0**
KSH					pmax		pmax		
	comp=Z,220nm,6.5s								
MDM	**Murphy Dome**	**63.05**	**26**	*e*P			**P**	**12 56 47.4**	**+1.4**
	6.0nm,0.6s								
TOLK	**Toolik Lake Re**	**63.49**	**22**	*e*P			**P**	**12 56 50.2**	**+1.3**
	7.6nm,0.5s								
IL1	**Eielson Array**	**63.57**	**26**	*e*P			**P**	**12 56 48.6**	**-0.7**
ILAR	**Eielson Array**	**63.57**	**26**	P			**P**	**12 56 48.6**	**-0.8**
	3.9nm,0.8s,baz=256,slow=5.0,SNR=56								
ILB	**Eielson Array**	**63.57**	**26**	*e*P			**P**	**12 56 48.6**	**-0.8**
RIDG	**Independ'e Rid**	**64.25**	**28**	*e*P			**P**	**12 56 54.2**	**+0.3**
	52nm,1.9s								
DOT	**Dot Lake**	**64.58**	**28**	*e*P			**P**	**12 56 55.7**	**-0.3**
	17nm,0.7s								
BKZ	**Black Stump Fm**	**64.69**	**154**	*e*P			**P**	**12 56 55.9**	**-1.1**
	44nm,1.5s								
BVAR	**Borovoye Array**	**66.13**	**320**	P			**P**	**12 57 05.7**	**-0.4**
	11nm,0.5s,baz=96,slow=7.5,SNR=98								
BVAR					pP		**pP**	**12 57 57.9**	**-1.3**
	4.2nm,0.6s,baz=95,slow=7.4,SNR=3.0								
KKAR	**Karatay Array**	**66.42**	**310**	*e*P			**P**	**12 57 08.6**	**+0.5**
KBL	**Kabul**	**68.53**	**300**	*e*P			**P**	**12 57 22.4**	**+0.7**
	17nm,1.4s								
INK	**Inuvik**	**69.28**	**23**	P			**P**	**12 57 25.7**	**+0.3**
	3.2nm,0.6s,baz=246,slow=4.6,SNR=11								
INK	**Inuvik**	**69.28**	**23**	*e*P			**P**	**12 57 25.6**	**+0.2**
	3.1nm,0.6s								
ABKAR	**Akbulak array**	**73.00**	**317**	*e*P			**P**	**12 57 47.3**	**-0.7**
	82nm,0.6s								
AKTO	**Aktyubinsk**	**74.02**	**318**	P			**P**	**12 57 53.3**	**-0.7**
	3.9nm,0.6s,baz=84,slow=7.3,SNR=20								
GEYT	**Alibeck**	**76.55**	**306**	P			**P**	**12 58 09.1**	**+0.4**
	2.4nm,0.7s,baz=46,slow=6.2,SNR=4.3								
YKW3	**Yellowknife Ar**	**77.90**	**28**	*e*P			**P**	**12 58 15.8**	**+0.2**
	3.7nm,0.6s								
YKA	**Yellowknife Ar**	**77.92**	**28**	P			**P**	**12 58 15.7**	**0.0**
	2.8nm,0.5s,baz=289,slow=5.4,SNR=57								
YKA					pP		**pP**	**12 59 12.1**	**+1.6**
	1.4nm,0.7s,baz=289,slow=5.5,SNR=4.3								
SPITS	**Spitsbergen Ar**	**78.91**	**351**	P			**P**	**12 58 20.9**	**0.0**
	2.1nm,0.4s,baz=23,slow=4.7,SNR=3.3								
LTY	**Liberty**	**78.94**	**44**	*e*P			**P**	**12 58 22.3**	**+0.6**
	4.8nm,0.5s								
YBH	**Yreka Blue Hor**	**79.02**	**50**	P			**P**	**12 58 23.4**	**+1.1**
	2.0nm,0.8s,baz=288,slow=3.2,SNR=8.9								
RES	**Resolute Bay**	**79.28**	**14**	*e*P			**P**	**12 58 23.5**	**+0.6**
	18nm,1.8s								
E07A	**Sunnyside**	**79.67**	**44**	*e*P			**P**	**12 58 26.9**	**+1.3**
PINE	**Pine Mountain**	**79.71**	**47**	*e*P			**P**	**12 58 27.3**	**+1.2**
	8.9nm,0.7s								
E09A	**Wood Farm, Sta**	**80.81**	**44**	*e*P			**P**	**12 58 32.7**	**+1.1**
	28nm,1.9s								
AFDM	**Forest Hills D**	**81.07**	**52**	*e*P			**P**	**12 58 33.8**	**+0.6**
	2.4nm,0.7s								
BEKR	**Beckworth**	**81.25**	**51**	*e*P			**P**	**12 58 35.1**	**+0.8**
	5.0nm,0.8s								
WVOR	**Wild Horse Val**	**81.72**	**48**	*e*P			**P**	**12 58 37.5**	**+0.8**
	3.8nm,1.0s								
CMB	**Columbia Colle**	**81.78**	**53**	*e*P			**P**	**12 58 38.0**	**+1.0**
	4.0nm,0.7s								
VCNR	**Virginia City**	**81.95**	**51**	*e*P			**P**	**12 58 39.0**	**+1.0**
	2.8nm,0.8s								
ARA0	**ARCESS Array S**	**82.20**	**342**	*e*P			**P**	**12 58 37.6**	**-0.9**
ARA0					epP		**pP**	**12 59 33.9**	**0.0**
ARCES	**ARCESS Array B**	**82.20**	**342**	P			**P**	**12 58 37.6**	**-0.9**
	3.3nm,0.6s,baz=78,slow=7.6,SNR=15								
ARCES					pP		**pP**	**12 59 33.9**	**0.0**
	3.0nm,0.8s,baz=41,slow=4.8,SNR=1.7								
YERR	**Yerington**	**82.35**	**52**	*e*P			**P**	**12 58 40.9**	**+0.8**
	3.3nm,0.6s								
WAKR	**Walker**	**82.35**	**52**	*e*P			**P**	**12 58 41.3**	**+1.2**
	4.1nm,0.7s								
TULEG	**Thule**	**82.53**	**8**	*e*P			**P**	**12 58 40.6**	**+0.5**
	7.4nm,0.6s								
RYN	**Ryan**	**82.99**	**52**	*e*P			**P**	**12 58 44.3**	**+1.0**
	3.9nm,0.7s								
NV01	**Mina Array Sit**	**83.22**	**52**	*e*P			**P**	**12 58 44.9**	**+0.3**
NVAR	**Mina Array Bea**	**83.22**	**52**	P			**P**	**12 58 45.4**	**+0.8**
	5.2nm,0.6s,baz=271,slow=5.6,SNR=64								
NV11	**Mina Array Sit**	**83.33**	**52**	*e*P			**P**	**12 58 45.8**	**+0.7**
	0.3nm,0.7s								
MFID	**Camas Ranch**	**83.36**	**46**	*e*P			**P**	**12 58 45.9**	**+0.8**
	4.1nm,0.8s								
HRY	**Holter Researc**	**84.83**	**42**	*e*P			**P**	**12 58 53.1**	**+0.7**
KBZ	**Khabaz**	**85.80**	**315**	P			**P**	**12 58 58.1**	**+1.0**
	1.8nm,0.8s,baz=124,slow=7.3,SNR=3.9								
QLMT	**Earthquake Lak**	**85.81**	**44**	*e*P			**P**	**12 58 58.7**	**+1.3**
YHB	**Horse Butte**	**85.99**	**44**	*e*P			**P**	**12 58 59.6**	**+1.3**
	16nm,1.6s								
HVU	**Hansel Valley**	**86.04**	**47**	*e*P			**P**	**12 58 59.4**	**+0.8**
	7.4nm,1.4s								
YMR	**Madison River**	**86.17**	**44**	*e*P			**P**	**12 59 00.9**	**+1.6**
	5.0nm,0.7s								
YHH	**Holmes Hill**	**86.20**	**44**	*e*P			**P**	**12 59 00.9**	**+1.5**
	8.8nm,1.5s								
**S

YURE				S	**Sg**	**13 12 57.9**	**+1.4**
YURE				*e*Sg	**Sg**	**13 12 58.6**	**+2.1**
AKO	**Adana**	**0.36**	**3**	*i* P	**Pb**	**13 12 54.9**	**-0.7**
AKO				*i* S	**Sb**	**13 13 02.7**	**+0.8**
KOZT	**Kozan**	**0.50**	**40**	PG	**Pg**	**13 12 56.7**	**+0.9**
KOZT				SG	**Sb**	**13 13 04.8**	**-0.9**
KOZT	**Kozan**	**0.50**	**40**	*e*Pg	**Pg**	**13 12 56.7**	**+0.9**
KOZT				*e*Sg	**Sb**	**13 13 04.8**	**-0.9**
DED	**Mersin**	**0.52**	**255**	*i* P	**Pn**	**13 12 59.3**	**-1.6**
DED				*i* S	**Sb**	**13 13 08.3**	**+1.9**
KRTS	**Karatas**	**0.53**	**184**	PG	**Pg**	**13 12 56.3**	**0.0**
KRTS				SG	**Sg**	**13 13 04.1**	**+0.9**
KRTS	**Karatas**	**0.53**	**184**	*e*Pg	**Pg**	**13 12 56.3**	**0.0**
KRTS				*e*Sg	**Sg**	**13 13 04.1**	**+0.9**

*SOME **09** 13:22:34.5, 39.°23N×72.°70E, h5km*
*KRNET **09** 13:22:36.0±0.1, 39.°24N×72.°75E, mb4.2*
*NNC **09** 13:22:37.2±3.4, 39.°22N×72.°84E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=31.3km s-min=13.2km az=147.0*
*IDC **09** 13:22:38.9±3.0, 39.°16N×72.°65E, h35km±24km, mb3.7/14, mb1 3.9/22, mb1mx3.6/70, mbtmp3.9/22, ML3.6/8, MS3.5/1, Ms1 3.7/1, ms1mx2.7/63, Error ellipse: s-maj=17.4km s-min=12.6km az=0.0*
*MOS **09** 13:22:41.2±1.9, 39.°39N×72.°66E, h58km, mb4.3/9, Error ellipse: s-maj=11.1km s-min=6.2km az=86.8*

ISC 09 13:22:34.3±1.4, **39.°28N**±0.°04×**72.°88E**±0.°03, **h3**km±9km, **n109**, σ**2.51**/149, **mb4.0**/19, **36C-23D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.88**	**33**	⇓P	**Pn**	**13 22 54.4**	**+0.6**
	155nm,0.5s						
SFK				⇑S	**Sn**	**13 23 09.4**	**+2.1**
	571nm,0.3s						
SFK	**Sufi-Kurgan**	**0.88**	**33**	P	**Pn**	**13 22 54.4**	**+0.6**
SFK				S	**Sn**	**13 23 09.4**	**+2.1**
SFK				pmax	pmax		
	comp=Z,155nm,0.5s						
SFK				smax	smax		
	comp=N,571nm,0.3s						
SFK	**Sufi-Kurgan**	**0.88**	**33**	⇓*i*P	**Pn**	**13 22 54.5**	**+0.7**
	baz=36						
SFK				⇓*i*S	**Sn**	**13 23 08.4**	**+1.1**
	baz=36						
ARSB	**Arslanbob**	**2.05**	**2**	⇓*i*P	**Pg**	**13 23 14.0**	**+0.4**
	baz=5.0						
ARSB				⇓*i*S	**Sg**	**13 23 42.3**	**+2.2**
	baz=5.0						
ARK	**Arkit**	**2.62**	**345**	⇑*e*P	**Pb**	**13 23 21.4**	**-0.5**
	baz=47						
ARK				⇑*i*S	**Sb**	**13 23 55.3**	**+0.8**
	baz=47						
TOKL	**Toktogul**	**2.66**	**360**	⇑*e*P	**Pb**	**13 23 22.2**	**-0.5**
	baz=2.0						
TOKL				⇑*e*S	**Sb**	**13 23 56.8**	**+1.0**
	baz=2.0						
AML	**Almayashu**	**2.92**	**12**	P	**Pb**	**13 23 27.3**	**+0.1**
	SNR=351						
AML	**Almayashu**	**2.92**	**12**	⇓*i*P	**Pb**	**13 23 27.2**	**0.0**
	baz=14						
AML				⇓*i*S	**Sb**	**13 24 04.2**	**+0.7**
	baz=14						
UCH	**Uchtor**	**3.20**	**22**	P	**Pb**	**13 23 31.9**	**-0.2**
	SNR=70						
UCH	**Uchtor**	**3.20**	**22**	⇓*i*P	**Pb**	**13 23 31.3**	**-0.7**
	baz=24						
UCH				⇓*i*S	**Sb**	**13 24 11.4**	**-0.2**
	baz=24						
NRN	**Naryn**	**3.21**	**47**	⇑*i*P	**Pb**	**13 23 31.6**	**-0.6**
	baz=47						
NRN				⇑*i*S	**Sb**	**13 24 11.8**	**-0.1**
	baz=47						
MNAS	**Manas**	**3.22**	**355**	⇓Pn	**Pb**	**13 23 30.5**	**-1.7**
	comp=N,74nm,0.3s						
MNAS				⇑Lg	Lg	13 24 20.3	
	comp=N,275nm,0.6s						
MNAS	**Manas**	**3.22**	**355**	PN	**Pb**	**13 23 30.5**	**-1.7**
MNAS				pmax	pmax		
	comp=Z,74nm,0.3s						
MNAS	**Manas**	**3.22**	**355**	⇓*i*P	**Pb**	**13 23 30.6**	**-1.7**
	baz=57						
MNAS				⇓*i*S	**Sb**	**13 24 10.1**	**-1.9**
	baz=57						
KZA	**Kyzart**	**3.33**	**32**	P	**Pb**	**13 23 33.9**	**-0.3**
	SNR=47						
KZA	**Kyzart**	**3.33**	**32**	⇑*e*P	**Pb**	**13 23 33.3**	**-0.9**
	baz=33						
KZA				⇑*i*S	**Sb**	**13 24 14.6**	**-0.7**
	baz=33						
TAS	**Tashkent**	**3.43**	**308**	⇑Pn	**Pb**	**13 23 33.8**	**-1.9**
	comp=Z,103nm,0.2s						
TAS				⇓Lg	Lg	13 24 24.5	
	comp=Z,1μm,0.7s						
TAS	**Tashkent**	**3.43**	**308**	PN	**Pb**	**13 23 33.8**	**-1.9**
TAS				pmax	pmax		
	comp=Z,103nm,0.2s						
TAS	**Tashkent**	**3.43**	**308**	⇑*i*P	**Pn**	**13 23 31.9**	**+3.2**
	baz=10.0						
TAS				⇑*i*S	**Sn**	**13 24 13.0**	**+3.1**
	baz=10.0						
EKS2	**Erkin-Say**	**3.45**	**11**	P	**Pb**	**13 23 34.7**	**-1.4**
	SNR=37						
EKS2	**Erkin-Say**	**3.45**	**11**	⇑*i*P	**Pb**	**13 23 34.2**	**-1.9**
	baz=12						
EKS2				⇑*i*S	**Sb**	**13 24 16.5**	**-2.0**
	baz=12						
AAK	**Ala-Archa**	**3.57**	**19**	Pn	**Pb**	**13 23 37.3**	**-1.0**
	comp=Z,18nm,0.3s,baz=171,slow=6.2,SNR=223						
AAK				Sn	**Sb**	**13 24 22.5**	**+0.4**
	comp=Z,14nm,0.3s,baz=351,slow=20,SNR=15						
AAK	**Ala-Archa**	**3.57**	**19**	⇑Pn	**Pb**	**13 23 37.1**	**-1.1**
	comp=Z,72nm,0.9s						
AAK				⇑Lg	Lg	13 24 30.0	
	comp=Z,211nm,0.8s						
AAK	**Ala-Archa**	**3.57**	**19**	P	**Pb**	**13 23 37.2**	**-1.0**
	SNR=30						
AAK	**Ala-Archa**	**3.57**	**19**	*d*PN	**Pb**	**13 23 36.8**	**-1.5**
AAK	**Ala-Archa**	**3.57**	**19**	*i* P	**Pb**	**13 23 36.2**	**-2.1**
	baz=21						
AAK				*i* S	**Sb**	**13 24 20.0**	**-2.1**
	baz=21						
KBK	**Karagaybulak**	**3.72**	**24**	P	**Pb**	**13 23 39.6**	**-1.2**
	SNR=31						
KBK	**Karagaybulak**	**3.72**	**24**	⇑*i*P	**Pb**	**13 23 38.3**	**-2.5**
	baz=25						
KBK				⇑*i*S	**Sb**	**13 24 23.6**	**-2.8**
	baz=25						
FRU	**Bishkek**	**3.79**	**20**	*e*PN	**Pb**	**13 23 40.0**	**-1.8**
FRU				*i* S	**Sb**	**13 24 29.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,80nm,1.4s						
FRU				pmax	pmax		
	comp=N,60nm,1.8s						
ULHL	**Ulahol**	**3.91**	**40**	P	**Pb**	**13 23 41.8**	**-2.2**
	SNR=20						
ULHL	**Ulahol**	**3.91**	**40**	⇑*i*P	**Pb**	**13 23 41.3**	**-2.8**
	baz=40						
ULHL				⇑*i*S	**Sb**	**13 24 28.9**	**-3.0**
	baz=40						
BOOM	**Boomskoye usch**	**3.96**	**35**	⇓*e*P	**Pn**	**13 23 39.9**	**+3.8**
	baz=36						
BOOM				⇓*e*S	**Sn**	**13 24 26.8**	**+3.6**
	baz=36						
CHMS	**Chumysh**	**3.98**	**20**	P	**Pb**	**13 23 42.5**	**-2.6**
	SNR=50						
CHMS	**Chumysh**	**3.98**	**20**	⇑*i*P	**Pb**	**13 23 41.7**	**-3.4**
	baz=21						
CHMS				⇑*i*S	**Sb**	**13 24 29.3**	**-4.3**
	baz=21						
USP	**Ospenovka**	**4.17**	**16**	⇑*i*P	**Pb**	**13 23 44.4**	**-4.0**
	baz=18						
USP				⇑*i*S	**Sb**	**13 24 33.9**	**-5.2**
	baz=18						
TKM2	**Tokmak 2**	**4.18**	**29**	⇑Pn	**Pb**	**13 23 45.3**	**-3.3**
	comp=N,39nm,1.1s						
TKM2				⇑Lg	Lg	13 24 51.6	
	comp=N,70nm,0.6s						
TKM2	**Tokmak 2**	**4.18**	**29**	P	**Pb**	**13 23 45.7**	**-2.9**
	SNR=10						
TKM2	**Tokmak 2**	**4.18**	**29**	PN	**Pb**	**13 23 45.3**	**-3.3**
TKM2				pmax	pmax		
	comp=Z,39nm,1.1s						
TKM2	**Tokmak 2**	**4.18**	**29**	⇑*i*P	**Pb**	**13 23 44.7**	**-3.9**
	baz=29						
TKM2				⇑*i*S	**Sb**	**13 24 35.0**	**-4.6**
	baz=29						
KK31	**Karatay Array**	**4.22**	**336**	⇓Pn	**Pn**	**13 23 42.8**	**+3.2**
	comp=Z,26nm,0.3s,baz=152,slow=15,SNR=356						
KK31				⇓Sn	**Sn**	**13 24 32.9**	**+3.5**
	comp=Z,267nm,0.8s,baz=144,slow=26,SNR=14						
KK31	**Karatay Array**	**4.22**	**336**	PN	**Pn**	**13 23 42.8**	**+3.2**
KK31				S	**Sn**	**13 24 32.9**	**+3.5**
KK31				pmax	pmax		
	comp=Z,27nm,0.4s						
KK31				smax	smax		
	comp=N,267nm,0.8s						
KDJ	**Kajisay**	**4.33**	**48**	⇓*i*P	**Pb**	**13 23 46.9**	**-4.4**
	baz=48						
KDJ				⇓*i*S	**Sb**	**13 24 39.1**	**-4.9**
	baz=48						
BRLS	**Borolday**	**4.40**	**329**	*e*P	**Pb**	**13 23 52.5**	**+0.3**
	comp=N,2.0nm,0.4s						
BRLS				*e*S	**Sb**	**13 24 48.2**	**+2.5**
	comp=N,91nm,0.4s						
KST	**Kastek**	**4.42**	**31**	*e*P	**Pg**	**13 23 59.5**	**+0.5**
	comp=N,29nm,0.8s						
KST				*e*S	**Sg**	**13 24 59.6**	**+3.3**
	comp=N,74nm,0.6s						
DGS	**Degeres**	**4.52**	**28**	*e*P	**Pg**	**13 24 00.5**	**-0.4**
	comp=N,56nm,0.8s						
DGS				*e*S	**Sg**	**13 25 02.0**	**+2.5**
	comp=N,106nm,1.1s						
MTBS	**Maitube**	**4.69**	**34**	*e*P	**Pg**	**13 24 04.0**	**-0.1**
	comp=N,27nm,0.6s						
MTBS				⇓*i*S	**Sg**	**13 25 07.8**	**+2.9**
	comp=N,43nm,0.6s						
IZV	**Izvestkovy**	**4.69**	**36**	*e*P	**Pg**	**13 24 03.2**	**-1.0**
	comp=N,48nm,0.5s						
IZV				*e*S	**Sg**	**13 25 06.6**	**+1.5**
	comp=N,94nm,0.6s						
TNSS	**Tian-Shan**	**4.85**	**38**	*e*P	**Pg**	**13 24 06.9**	**-0.4**
	comp=N,33nm,0.4s						
TNSS				*e*S	**Sg**	**13 25 13.6**	**+3.5**
	comp=N,74nm,0.7s						
AAA	**Alma-Ata**	**4.97**	**36**	*e*P	**Pg**	**13 24 07.7**	**-1.8**
	comp=N,42nm,0.2s						
AAA				*e*S	**Sg**	**13 25 15.8**	**+1.9**
	comp=N,226nm,0.7s						
MDOK	**Medeo**	**4.99**	**38**	Pn	**Pn**	**13 23 55.0**	**+4.6**
MDOK				Lg	Lg	13 25 17.0	
MDOK	**Medeo**	**4.99**	**38**	*e*P	**Pg**	**13 24 09.1**	**-0.9**
	comp=N,22nm,0.8s						
MDOK				*e*S	**Sg**	**13 25 16.9**	**+2.2**
	comp=N,65nm,0.7s						
KTBS	**Karatobe**	**5.27**	**32**	*e*P	**Pg**	**13 24 13.9**	**-1.4**
	comp=N,31nm,0.9s						
KTBS				*e*S	**Sg**	**13 25 24.9**	**+1.4**
	comp=N,142nm,0.9s						
CEP	**Cherat**	**5.50**	**188**	P	Pn	13 24 03.3	+6.0
CEP				S	**Sn**	**13 25 10.0**	**+8.9**
CHKK	**Chushkaly**	**5.51**	**33**	*e*P	**Pg**	**13 24 17.6**	**-2.3**
	comp=N,9.6nm,0.7s						
CHKK				*e*S	**Sg**	**13 25 32.1**	**+0.7**
	comp=N,69nm,0.9s						
CHCP	**Chirah Chowk**	**5.62**	**177**	P	Pn	13 24 05.0	+6.2
SATY	**Saty**	**5.62**	**46**	⇑*i*P	**Pg**	**13 24 22.2**	**+0.2**
	comp=N,34nm,0.7s						
SATY				⇑*i*S	**Sg**	**13 25 38.9**	**+3.9**
	comp=N,51nm,0.6s						
KURS	**Kuram**	**5.79**	**42**	*e*P	**Pg**	**13 24 23.6**	**-1.6**
	comp=N,10nm,0.6s						
KURS				*e*S	**Sg**	**13 25 41.4**	**+1.2**
	comp=N,17nm,1.6s						
UZB	**Uzynbulak**	**6.03**	**48**	*e*P	**Pg**	**13 24 28.8**	**-1.0**
	comp=N,10.0nm,0.4s						
UZB				*e*S	**Sg**	**13 25 50.5**	**+2.5**
	comp=N,16nm,0.7s						
KPKS	**Kokpek**	**6.05**	**44**	*e*P	**Pg**	**13 24 26.2**	**-3.9**
	comp=N,0.4nm,0.3s						
KPKS				*e*S	**Sg**	**13 25 45.9**	**-2.5**
	comp=N,49nm,0.7s						
ARXS	**Arharly**	**6.16**	**35**	*e*P	**Pg**	**13 24 29.5**	**-2.9**
	comp=N,4.6nm,0.3s						
ARXS				*e*S	**Sg**	**13 25 51.1**	**-1.1**
	comp=N,51nm,0.7s						
MNBS	**Baschi**	**6.33**	**39**	*e*P	**Pg**	**13 24 33.2**	**-2.3**
	comp=N,5.5nm,0.6s						
MNBS				*e*S	**Sg**	**13 25 57.4**	**-0.1**
	comp=N,41nm,0.5s						
THW	**Thamme Wali**	**6.53**	**188**	P	**Pn**	**13 24 15.2**	**+3.8**
SARP	**Sargodha**	**7.34**	**181**	P	**Pn**	**13 24 26.0**	**+3.6**
MKAR	**Makanchi Array**	**10.19**	**39**	Pn	Pn	13 25 07.0	+5.6
	comp=N,0.2nm,0.3s,baz=226,slow=13,SNR=11						
MKAR	**Makanchi Array**	**10.19**	**39**	P	Pn	13 25 07.0	+5.6
GEYT	**Alibeck**	**11.63**	**268**	Pn	**Pn**	**13 25 18.0**	**-3.3**
	comp=N,1.0nm,0.3s,baz=104,slow=7.2,SNR=6.7						
GEYT				Sn	**Sn**	**13 27 24.7**	**-7.0**
	comp=N,0.9nm,0.3s,baz=202,slow=17,SNR=3.7						
KURBB	**Kurchatov Arra**	**12.03**	**18**	Pn	**Pn**	**13 25 28.8**	**+2.3**
	comp=N,0.1nm,0.3s,baz=213,slow=12,SNR=5.2						
KURBB				Lg	Lg	13 29 06.4	
	comp=N,0.1nm,0.3s,baz=230,slow=30,SNR=7.0						
KURK	**Kurchatov**	**12.13**	**18**	⇑*i*P	**Pn**	**13 25 29.5**	**+1.5**
BVAR	**Borovoye Array**	**13.86**	**354**	Pn	**Pn**	**13 25 51.7**	**+0.1**
	comp=N,0.6nm,0.3s,baz=158,slow=11,SNR=10						
BVAR				Sn	**Sn**	**13 28 22.4**	**-3.5**
	comp=N,0.3nm,0.3s,baz=169,slow=23,SNR=7.6						
BRVK	**Borovoye**	**13.90**	**353**	⇑*i*P	**Pn**	**13 25 52.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,25nm,2.5s						
PYUN	**Piuthan**	**13.95**	**140**	*e*P	**Pn**	**13 25 52.3**	**-0.9**
KOLN	**Koldanda**	**14.53**	**139**	*e*P	**Pn**	**13 26 00.0**	**-1.1**
DGZ	**Jazzator, Alta**	**14.68**	**40**	⇓*i*P	**P**	**13 26 07.3**	**-2.1**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**15.32**	**322**	Pn	**Pn**	**13 26 09.9**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=132,slow=14,SNR=20						
AKTO				Sn	**Sn**	**13 28 52.4**	**-9.0**
	comp=Z,0.4nm,0.3s,baz=334,slow=23,SNR=5.4						
DMN	**Daman**	**15.46**	**135**	*e*P	**Pn**	**13 26 12.5**	**-1.0**
PKIN	**Phulchoki**	**15.64**	**134**	*e*P	**Pn**	**13 26 15.6**	**-0.4**
PKI	**Pulchoki**	**15.65**	**134**	*e*P	**Pn**	**13 26 16.4**	**+0.2**
GUN	**Gumba**	**15.66**	**132**	*e*P	**Pn**	**13 26 17.1**	**+0.8**
	comp=Z,8.8nm,0.4s						
JIRN	**Jiri**	**16.02**	**132**	*e*P	**Pn**	**13 26 21.2**	**+0.1**
ZALV	**Zalesovo Beam**	**16.77**	**25**	Pn	**P**	**13 26 33.4**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=210,slow=12,SNR=12						
RAMN	**Ramite**	**16.80**	**133**	*e*P	**Pn**	**13 26 31.6**	**+0.7**
ARU	**Arti**	**19.60**	**336**	P	**Pn**	**13 27 04.2**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=111,slow=6.9,SNR=5.9						
ARU	**Arti**	**19.60**	**336**	*c*P	**Pn**	**13 27 06.2**	**+1.4**
ARU				pmax	pmax		
	comp=Z,13nm,1.7s						
NEY	**Neytrino**	**22.95**	**290**	⇑*i*P	**P**	**13 27 39.9**	**0.0**
KIV	**Kislovodsk**	**22.99**	**292**	*e*P	**P**	**13 27 40.3**	**+0.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZAK	**Zakamensk**	**24.08**	**53**	*e*P	**P**	**13 27 52.9**	**+1.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
SONM	**Songino Array**	**25.59**	**59**	P	**P**	**13 28 07.2**	**+2.5**
	comp=Z,1.0nm,0.9s,baz=265,slow=10.0,SNR=6.9						
SONM	**Songino Array**	**25.59**	**59**	*e*P	**P**	**13 28 10.5**	**+5.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULN	**Ulaanbaatar**	**26.03**	**60**	⇓*i*P	**P**	**13 28 11.9**	**+3.1**
ULN				*i* *PP	sP	13 28 21.2	+11
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
OBN	**Obninsk**	**28.91**	**315**	*e*P	**P**	**13 28 35.6**	**+1.3**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BRTR	**Keskin Array B**	**30.12**	**284**	P	**P**	**13 28 45.8**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=109,slow=9.5,SNR=3.8						
BRTR	**Keskin Array B**	**30.12**	**284**	*e*P	**P**	**13 28 47.7**	**+2.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.65**	**125**	LR	LR	13 44 37.8	
	comp=Z,76nm,18.5s,baz=70,slow=43						
FINES	**FINESS Array B**	**36.08**	**323**	P	**P**	**13 29 36.9**	**0.0**
	comp=Z,0.9nm,0.3s,baz=117,slow=10.0,SNR=15						
ARCES	**ARCESS Array B**	**39.19**	**336**	P	**P**	**13 30 02.5**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=113,slow=9.6,SNR=28						
HFS	**Hagfors**	**41.85**	**320**	P	**P**	**13 30 24.9**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=105,slow=11,SNR=16						
GERES	**GERESS Array B**	**42.60**	**303**	P	**P**	**13 30 30.4**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=55,slow=8.5,SNR=3.2						
NB2	**NORSAR Subarra**	**43.11**	**321**	P	**P**	**13 30 34.7**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=90,slow=8.6						
NOA	**NORSAR Array B**	**43.11**	**321**	P	**P**	**13 30 34.0**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=93,slow=8.0,SNR=3.4						
NKL	**Nikolayevsk**	**47.16**	**50**	*e*P	**P**	**13 31 09.2**	**+1.5**
NKL				pmax	pmax		
	comp=Z,11nm,0.9s						
SEY	**Seymchan**	**51.29**	**35**	⇑*e*P	**P**	**13 31 43.1**	**+3.9**
TORD	**Torodi Ar. Bea**	**67.28**	**269**	P	**P**	**13 33 28.8**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=53,slow=5.6,SNR=25						
KOWA	**Kowa**	**70.90**	**273**	P	**P**	**13 33 51.8**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=39,slow=8.8,SNR=4.4						
ILAR	**Eielson Array**	**71.70**	**17**	P	**P**	**13 33 57.4**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=324,slow=5.9,SNR=8.8						
MATP	**Matopo**	**72.45**	**223**	P	**P**	**13 34 01.3**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=27,slow=8.7,SNR=5.5						
YKA	**Yellowknife Ar**	**78.40**	**4**	P	**P**	**13 34 36.2**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=349,slow=5.8,SNR=22						
WRA	**Warramunga Arr**	**82.23**	**123**	P	**P**	**13 34 56.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=324,slow=4.9,SNR=16						
WRA	**Warramunga Arr**	**82.23**	**123**	*e*P	**P**	**13 34 58.1**	**+1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**84.66**	**126**	P	**P**	**13 35 09.6**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=327,slow=5.6,SNR=4.2						

*IDC **09** 13:33:15.2±0.8, 5.°48S×151.°31E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/42, mbtmp3.9/11, MS3.3/4, Ms1 3.3/4, ms1mx2.9/44, Error ellipse: s-maj=36.1km s-min=18.8km az=105.0*
*ISCJB **09** 13:33:22.2±0.7, 5.°5S±0.°1×151.°1E±0.°2, h57km, mb3.8/11, MS3.5/3, Error ellipse: s-maj=25.0km s-min=8.7km az=30.4*

ISC 09 13:33:23.4±0.8, **5.°5S**±0.°1×**151.°2E**±0.°2, **h57**km, **n19**, σ**0.96**/19, **mb3.8**/11, **MS3.6**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.57**	**225**	Pn	**Pn**	**13 34 44.0**	**+0.3**
	5.2nm,0.3s,baz=32,slow=9.2,SNR=17						
PMG				Sn	**Sn**	**13 35 45.7**	**-0.7**
	9.9nm,0.3s,baz=155,slow=20,SNR=7.5						
PMG				LR	LR	13 36 41.0	
	comp=Z,88nm,20.9s,baz=358,slow=36						
CTA	**Charters Tower**	**15.30**	**198**	Pn	**Pn**	**13 36 57.1**	**+1.2**
	0.3nm,0.3s,baz=9.1,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**21.78**	**227**	P	**P**	**13 38 09.4**	**-1.3**
	1.2nm,0.5s,baz=53,slow=10.0,SNR=17						
WRA				PcP	**PcP**	**13 42 09.6**	**+0.1**
	0.9nm,0.6s,baz=49,slow=2.0,SNR=8.7						
DZM	**Mont Dzumac**	**22.17**	**140**	LR	LR	13 45 37.8	
	comp=Z,69nm,20.8s,baz=264,slow=34						
ASAR	**Alice Springs**	**24.57**	**221**	P	**P**	**13 38 37.8**	**-0.5**
	1.0nm,0.6s,baz=54,slow=9.0,SNR=22						
ASAR				PcP	**PcP**	**13 42 15.1**	**-0.2**
	0.2nm,0.5s,baz=43,slow=2.7,SNR=4.2						
JHJ	**Hachijo jima 2**	**39.86**	**345**	LR	LR	13 56 10.7	
	comp=Z,76nm,18.2s,baz=28,slow=34						
PETK	**Petropavlovsk-**	**58.61**	**5**	P	**P**	**13 43 13.0**	**-1.4**
	0.9nm,0.6s,baz=152,slow=6.8,SNR=8.8						
SONM	**Songino Array**	**66.02**	**329**	P	**P**	**13 44 06.2**	**+1.9**
	0.6nm,0.5s,baz=151,slow=6.0,SNR=5.4						
VNDA	**Vanda**	**72.24**	**178**	P	**P**	**13 44 42.0**	**-0.2**
	1.7nm,0.7s,baz=344,slow=3.1,SNR=9.7						
MKAR	**Makanchi Array**	**79.75**	**319**	P	**P**	**13 45 26.5**	**+1.0**
	0.1nm,0.4s,baz=92,slow=8.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**80.80**	**327**	P	**P**	**13 45 30.1**	**-0.8**
	0.6nm,0.6s,baz=140,slow=4.3,SNR=3.5						
KURBB	**Kurchatov Arra**	**83.31**	**322**	P	**P**	**13 45 44.8**	**+0.6**
	0.3nm,0.6s,baz=117,slow=3.6,SNR=5.6						
ILAR	**Eielson Array**	**83.39**	**22**	P	**P**	**13 45 42.9**	**-1.4**
	0.7nm,0.7s,baz=247,slow=5.2,SNR=10						
BVAR	**Borovoye Array**	**88.79**	**323**	P	**P**	**13 46 11.1**	**0.0**
	0.7nm,0.8s,baz=116,slow=3.4,SNR=3.9						
NVAR	**Mina Array Bea**	**93.78**	**52**	P	**P**	**13 46 35.9**	**+0.9**
	0.6nm,0.8s,baz=258,slow=6.3,SNR=4.4						
WSAR	**Wadi Sarin**	**94.44**	**293**	LR	LR	14 33 04.7	
	comp=Z,26nm,18.1s,baz=124,slow=38						
GERES	**GERESS Array B**	**123.74**	**328**	PKP	**PKPdf**	**13 52 15.0**	**-0.1**
	0.8nm,0.6s,baz=64,slow=3.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**148.93**	**286**	PKPbc	**PKPbc**	**13 53 06.0**	**0.0**
	6.9nm,0.7s,baz=73,slow=2.9,SNR=39						
KOWA	**Kowa**	**153.97**	**292**	PKPbc	**PKPbc**	**13 53 17.9**	**+0.2**
	3.6nm,0.5s,baz=35,slow=3.4,SNR=14						

MOS 09 13:59:17.1±2.1, **51.°68N**×**96.°30E**, **h10**km, **mb4.4**/1, **Error ellipse: s-maj=54.1km s-min=22.6km az=171.4, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**2.33**	**67**	*e*PN	Pb	13 59 57.6	-1.6
ORL				*e*		14 00 29.1	
ORL				pmax	pmax		
	comp=Z,118nm,0.5s						
ORL				smax	smax		
	comp=N,349nm,0.7s						
MOY	**Mondy**	**2.92**	**88**	*e*PN	Pb	14 00 08.6	-0.7
MOY

1.9nm,0.5s,baz=14,slow=8.7,SNR=40
MA2 Magadan 41.52 4 P **P** **14 14 39.3 +0.7**
4.2nm,0.6s,baz=188,slow=8.5,SNR=20
ASAR Alice Springs 43.08 195 P **P** **14 14 52.0 +0.4**
0.6nm,0.4s,baz=12,slow=7.3,SNR=43
SONM Songino Array 43.35 322 P **P** **14 14 54.1 +0.6**
1.2nm,0.5s,baz=129,slow=6.8,SNR=9.7
SONM PcP **PcP** **14 16 32.6 0.0**
1.1nm,0.8s,baz=143,slow=2.9,SNR=5.0
CMAR Chiang Mai Arr 43.98 278 P **P** **14 15 00.1 +1.3**
3.7nm,0.7s,baz=71,slow=7.0,SNR=20
SEY Seymchan 44.96 5 P **P** **14 15 06.1 +0.5**
1.3nm,0.6s,baz=185,slow=11,SNR=14
TAPN Taplejung 53.55 291 *eP* **P** **14 16 11.3 +0.8**
5.6nm,0.4s
ODAN Odare 53.87 290 *eP* **P** **14 16 12.9 +0.2**
9.6nm,0.5s
RAMN Ramite 54.56 290 *eP* **P** **14 16 18.1 +0.4**
JIRN Jiri 54.88 291 *eP* **P** **14 16 20.5 +0.5**
GUN Gumba 55.14 292 *eP* **P** **14 16 22.6 +0.8**
5.8nm,0.4s
PKI Pulchoki 55.58 291 *eP* **P** **14 16 25.0 +0.1**
4.6nm,0.4s
PKIN Phulchoki 55.59 291 *eP* **P** **14 16 25.1 +0.2**
9.0nm,0.7s
DMN Daman 55.85 291 *eP* **P** **14 16 26.6 -0.1**
6.7nm,0.5s
DANN Dangsing 56.98 292 *eP* **P** **14 16 35.1 +0.5**
KOLN Koldanda 57.17 292 *eP* **P** **14 16 35.5 -0.2**
PYUN Piuthan 57.68 292 *eP* **P** **14 16 40.0 +0.7**
ZALV Zalesovo Beam 58.23 323 P **P** **14 16 40.6 -1.6**
1.5nm,0.3s,baz=115,slow=7.2,SNR=10
ZALV PcP **PcP** **14 17 26.9 -0.9**
0.7nm,0.7s,baz=116,slow=3.8,SNR=2.6
MKAR Makanchi Array 58.59 314 P **P** **14 16 45.2 +0.3**
2.6nm,0.5s,baz=92,slow=7.9,SNR=75
MKAR PcP **PcP** **14 17 28.6 -0.9**
0.7nm,0.6s,baz=93,slow=4.9,SNR=4.1
KURBB Kurchatov Arra 61.49 318 P **P** **14 17 03.8 -0.3**
9.2nm,0.5s,baz=98,slow=6.4,SNR=199
ILAR Eielson Array 64.23 26 P **P** **14 17 20.7 -1.0**
0.9nm,0.5s,baz=246,slow=6.2,SNR=14
BVAR Borovoye Array 66.67 321 P **P** **14 17 37.2 -0.1**
8.2nm,0.7s,baz=103,slow=7.6,SNR=37
AKTO Aktyubinsk 74.54 318 P **P** **14 18 23.4 -0.6**
1.7nm,0.5s,baz=88,slow=11,SNR=7.1
YKA Yellowknife Ar 78.58 28 P **P** **14 18 45.9 -0.2**
0.8nm,0.5s,baz=287,slow=4.9,SNR=16
YBH Yreka Blue Hor 79.51 50 P **P** **14 18 52.7 +1.0**
1.4nm,0.7s,baz=11,slow=2.5,SNR=6.1
SPITS Spitsbergen Ar 79.61 351 P **P** **14 18 51.3 -0.2**
16nm,1.1s,baz=15,slow=6.0,SNR=3.3
ARCES ARCESS Array B 82.88 342 P **P** **14 19 07.7 -0.8**
2.8nm,0.7s,baz=84,slow=8.6,SNR=22
NVAR Mina Array Bea 83.69 52 P **P** **14 19 14.5 +1.1**
2.7nm,0.7s,baz=262,slow=6.2,SNR=20
KBZ Khabaz 86.28 315 P **P** **14 19 24.9 -0.7**
2.8nm,0.9s,baz=96,slow=12,SNR=5.0
FINES FINESS Array B 87.21 335 P **P** **14 19 27.8 -1.9**
0.8nm,0.3s,baz=75,slow=5.0,SNR=8.7
LPAZ La Paz 147.97 92 PKPbc **PKPbc** **14 26 28.9 +0.9**
1.6nm,0.6s,baz=294,slow=4.8,SNR=4.2
PTGA Pitinga 149.66 58 PKPbc **PKPbc** **14 26 31.4 0.0**
5.2nm,0.6s,baz=238,slow=4.7,SNR=9.2

IDC 09 14:12:56.2±11.0, **18°.65S×168°.90E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/46, mbtmp3.8/5, ML3.6/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/35, Error ellipse: s-maj=200.3km s-min=45.4km az=94.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.11**	**214**	Pn		Pn		14 13 58.9	-1.6
	4.1nm,0.3s,baz=131,slow=17,SNR=27								
DZM				Sn		Sn		14 14 49.7	+0.4
	6.1nm,0.3s,baz=167,slow=17,SNR=5.5								
DZM				LR		LR		14 15 28.4	
	comp=Z,200nm,20.3s,baz=70,slow=37								
STKA	**Stephens Creek**	**27.89**	**237**	P		P		14 18 47.7	-0.3
	1.4nm,0.7s,baz=79,slow=15,SNR=4.6								
STKA				LR		LR		14 28 11.6	
	comp=Z,59nm,21.7s,baz=23,slow=33								
WRA	**Warramunga Arr**	**32.61**	**262**	P		P		14 19 29.7	-0.3
	0.1nm,0.3s,baz=86,slow=8.4,SNR=5.1								
ASAR	**Alice Springs**	**32.96**	**255**	P		P		14 19 33.0	0.0
	1.1nm,0.6s,baz=82,slow=8.6,SNR=21								
ASAR				LR		LR		14 32 43.9	
	comp=Z,63nm,18.0s,baz=108,slow=36								
FITZ	**Fitzroy Crossi**	**40.98**	**264**	P		P		14 20 41.9	+0.7
	2.6nm,0.6s,baz=118,slow=9.2,SNR=8.7								

*ISCJB **09** 14:13:02.8±0.7, 40°.72N±0°.04×35°.71E±0°.05, h11km, Error ellipse: s-maj=6.4km s-min=4.7km az=29.7*
*CSEM **09** 14:13:02.8±0.2, 40°.70N×35°.70E, h10km, ML2.3, Error ellipse: s-maj=5.4km s-min=4.7km az=126.0*
*DDA **09** 14:13:02.8, 40°.66N×35°.73E, h7km, Ml2.3*
*ISK **09** 14:13:02.5, 40°.73N×35°.70E, h8km, ML2.6/5*
ISC 09 14:13:02.8±0.9, **40°.71N**±0°.03×**35°.70E**±0°.03, **h11km, n20, σ0$45/28, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAVZ	**Havza**	**0.36**	**2**	*i* P		**Pb**		**14 13 11.3**	**0.0**
HAVZ	**Havza**	**0.36**	**2**	P		**Pb**		**14 13 11.3**	**0.0**
CTAK	**Corum_Osmancik**	**0.69**	**265**	*i* P		**Pg**		**14 13 16.9**	**+0.6**
CTAK				*i* S		**Sb**		**14 13 26.7**	**0.0**
CTAK	**Corum_Osmancik**	**0.69**	**265**	P		**Pg**		**14 13 16.9**	**+0.6**
CTAK				S		**Sb**		**14 13 26.7**	**0.0**
COAL	**Corum-Alaca**	**0.71**	**230**	*i* P		**Pg**		**14 13 15.9**	**-0.7**
COAL				*i* S		**Sb**		**14 13 27.0**	**-0.1**
COAL	**Corum-Alaca**	**0.71**	**230**	P		**Pg**		**14 13 15.9**	**-0.7**
COAL				S		**Sb**		**14 13 27.0**	**-0.1**
ERBA	**Erbaa**	**0.80**	**92**	*i* P		**Pg**		**14 13 17.8**	**-0.6**
ERBA	**Erbaa**	**0.80**	**92**	P		**Pg**		**14 13 17.8**	**-0.6**
BOYT	**Boyabat**	**0.93**	**320**	*i* P		**Pg**		**14 13 20.1**	**-0.7**
BOYT	**Boyabat**	**0.93**	**320**	P		**Pg**		**14 13 20.1**	**-0.7**
CORM	**Corum**	**0.97**	**237**	PG		**Pg**		**14 13 21.1**	**-0.5**
CORM				SG		**Sn**		**14 13 36.1**	**-0.3**
CORM	**Corum**	**0.97**	**237**	*e*Pg		**Pg**		**14 13 21.1**	**-0.5**
CORM				*e*Sg		**Sn**		**14 13 36.1**	**-0.3**
DIKM	**Dikmen**	**0.99**	**341**	PG		**Pg**		**14 13 21.8**	**-0.2**
DIKM				SG		**Sb**		**14 13 35.8**	**+0.6**
DIKM	**Dikmen**	**0.99**	**341**	*e*Pg		**Pg**		**14 13 21.8**	**-0.2**
DIKM				*e*Sg		**Sb**		**14 13 35.8**	**+0.6**
YOZ	**Yozgat**	**1.11**	**195**	PN		**Pg**		**14 13 24.4**	**+0.2**
YOZ	**Yozgat**	**1.11**	**195**	*e*Pn		**Pg**		**14 13 24.4**	**+0.2**
SVSK	**Karacayir**	**1.27**	**128**	PN		**Pg**		**14 13 27.4**	**+0.1**
SVSK	**Karacayir**	**1.27**	**128**	*e*Pn		**Pg**		**14 13 27.4**	**+0.1**
SNOP	**Sinop**	**1.36**	**344**	PN		**Pn**		**14 13 28.1**	**+0.4**
SNOP	**Sinop**	**1.36**	**344**	*e*Pn		**Pn**		**14 13 28.1**	**+0.4**

*ISK **09** 14:16:13.1, 38°.44N×39°.44E, h5km, ML2.5/4*
*ISCJB **09** 14:16:14.8±0.8, 38°.47N±0°.04×39°.44E±0°.05, h13km±7km, Error ellipse: s-maj=7.9km s-min=5.2km az=40.9*
*DDA **09** 14:16:14.4, 38°.49N×39°.47E, h7km, Ml2.4*
*CSEM **09** 14:16:14.3±0.3, 38°.45N×39°.46E, h10km, ML2.4, Error ellipse: s-maj=5.9km s-min=5.4km az=3.0*
ISC 09 14:16:14.4±1.0, **38°.47N**±0°.03×**39°.45E**±0°.03, **h14km**±10km, **n18, σ0$81/32, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.36**	**274**	*i* P		**Pg**		**14 16 22.0**	**+0.2**
ELZG				*i* S		**Sb**		**14 16 27.9**	**-0.5**
ELZG	**Elazig**	**0.36**	**274**	P		**Pg**		**14 16 22.0**	**+0.2**
ELZG				S		**Sb**		**14 16 27.9**	**-0.5**
PTK	**Pertek**	**0.42**	**354**	PG		**Pg**		**14 16 23.1**	**+0.3**
PTK				SG		**Sb**		**14 16 30.6**	**+0.5**
PTK	**Pertek**	**0.42**	**354**	*e*Pg		**Pg**		**14 16 23.1**	**+0.3**
PTK				*e*Sg		**Sb**		**14 16 30.6**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.64**	**7**	*i* P		**Pg**		**14 16 26.2**	**-0.8**
TNCL				*i* S		**Sg**		**14 16 34.9**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.64**	**7**	P		**Pg**		**14 16 26.2**	**-0.8**
TNCL				S		**Sg**		**14 16 34.9**	**-0.6**
HANI	**Diyarbakir_Han**	**0.75**	**94**	*i* P		**Pg**		**14 16 29.1**	**+0.1**
HANI				*i* S		**Sb**		**14 16 39.6**	**+0.2**
HANI	**Diyarbakir_Han**	**0.75**	**94**	P		**Pg**		**14 16 29.1**	**+0.1**
HANI				S		**Sb**		**14 16 39.6**	**+0.2**
MALT	**Malatya**	**0.82**	**259**	PG		**Pg**		**14 16 29.9**	**-0.3**
MALT				SG		**Sb**		**14 16 41.9**	**+0.5**
MALT	**Malatya**	**0.82**	**259**	*e*Pg		**Pg**		**14 16 29.9**	**-0.3**
MALT				*e*Sg		**Sb**		**14 16 41.9**	**+0.5**
KEMA	**Kemaliye**	**1.09**	**317**	*i* P		**Pg**		**14 16 37.5**	**+2.1**
KEMA	**Kemaliye**	**1.09**	**317**	P		**Pg**		**14 16 37.5**	**+2.1**
URFA	**Urfa**	**1.14**	**206**	PN		**Pb**		**14 16 35.1**	**-0.9**
URFA				SN		**Sn**		**14 16 51.9**	**+0.3**
URFA	**Urfa**	**1.14**	**206**	*e*Pn		**Pb**		**14 16 35.1**	**-0.9**
URFA				*e*Sn		**Sn**		**14 16 51.9**	**+0.3**
AKCD	**Akcadag**	**1.21**	**262**	*i* P		**Pg**		**14 16 37.5**	**-0.2**
AKCD	**Akcadag**	**1.21**	**262**	P		**Pg**		**14 16 37.5**	**-0.2**
MAZI	**Mazidag**	**1.28**	**142**	PN		**Pn**		**14 16 37.9**	**-0.2**
MAZI				SN		**Sg**		**14 16 57.1**	**+1.3**
MAZI	**Mazidag**	**1.28**	**142**	*e*Pn		**Pn**		**14 16 37.9**	**-0.2**
MAZI				*e*Sn		**Sg**		**14 16 57.1**	**+1.3**

*ISCJB **09** 14:18:47.1±0.6, 22°.78S±0°.05×68°.95W±0°.09, h112km±7km, mb4.0/4, Error ellipse: s-maj=14.5km s-min=7.2km az=14.9*
*GUC **09** 14:18:47.1±0.4, 22°.81S×68°.95W, h104km±3km, ML4.1*
*IDC **09** 14:18:51.6±2.8, 22°.62S×68°.62W, h135km±24km, mb3.9/4, mb1 3.7/8, mb1mx3.5/43, mbtmp4.0/8, Error ellipse: s-maj=31.3km s-min=21.2km az=81.0*
ISC 09 14:18:47.9±0.8, **22°.78S**±0°.05×**68°.94W**±0°.09, **h107km**±8km, **n19, σ1$09/27, mb4.0/4, 4C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.59**	**277**	*i* P		**Pn**		**14 19 04.4**	**-0.8**
PB06				*e*S		**Sn**		**14 19 17.5**	**-0.8**
PB06				IAML				14 19 18.6	
	comp=N,9μm,0.1s								
PB09	**IPOC Station P**	**1.02**	**344**	↓ *e*P		**Pn**		**14 19 09.1**	**-0.2**
PB09				*e*S		**Sn**		**14 19 25.5**	**+0.2**
PB04	**IPOC Station P**	**1.20**	**291**	*e*P		**Pn**		**14 19 10.9**	**-0.3**
PB04				*e*S		**Sn**		**14 19 28.9**	**0.0**
PB07	**IPOC Station P**	**1.37**	**320**	*e*P		**Pn**		**14 19 13.0**	**-0.1**
PB07				*e*S		**Sn**		**14 19 31.9**	**-0.4**
PB07				IAML				14 19 36.1	
	comp=E,3μm,0.3s								
ANCH	**Antofagasta**	**1.62**	**236**	*e*P		**Pn**		**14 19 16.0**	**0.0**
ANCH				*e*S		**Sn**		**14 19 38.2**	**+0.8**
PB10	**IPOC Station P**	**1.66**	**244**	↑ *e*P		**Pn**		**14 19 15.7**	**-0.7**
PB10				*e*S		**Sn**		**14 19 37.3**	**-0.8**
PB10				IAML				14 19 45.2	
	comp=E,3μm,0.3s								
PB02	**IPOC Station P**	**1.70**	**328**	↑ *e*P		**Pn**		**14 19 16.9**	**-0.3**
PB02				*e*S		**Sn**		**14 19 40.1**	**+0.7**
PB02				IAML				14 19 42.3	
	comp=E,2μm,0.4s								
PB01	**IPOC Station P**	**1.80**	**344**	↑ *e*P		**Pn**		**14 19 17.9**	**-0.5**
PB01				*e*S		**Sn**		**14 19 41.3**	**-0.3**
PB01				IAML				14 19 43.0	
	comp=E,2μm,0.1s								
LPAZ	**La Paz**	**6.50**	**7**	P		**Pn**		**14 20 22.6**	**+0.9**
	comp=E,0.6nm,0.3s,baz=151,slow=1.3,SNR=11								
CPUP	**Villa Florida**	**11.14**	**111**	P		**Pn**		**14 21 24.4**	**+0.5**
	comp=E,0.1nm,0.3s,baz=269,slow=14,SNR=3.4								
PLCA	**Paso Flores**	**17.95**	**184**	P		**Pn**		**14 22 53.1**	**+2.5**
	comp=E,0.1nm,0.3s,baz=352,slow=15,SNR=2.7								
ATAH	**Atahualpa**	**18.02**	**328**	P		**Pn**		**14 22 54.9**	**+2.9**
	comp=E,0.5nm,0.3s,baz=153,slow=2.3,SNR=2.7								
PTGA	**Pitinga**	**23.59**	**23**	P		**P**		**14 23 47.3**	**-1.8**
	comp=E,3.2nm,0.4s,baz=204,slow=17,SNR=13								
TORD	**Torodi Ar. Bea**	**77.81**	**70**	P		**P**		**14 30 33.4**	**-0.6**
	comp=E,0.7nm,0.4s,baz=248,slow=5.1,SNR=11								
YKA	**Yellowknife Ar**	**92.38**	**341**	P		**P**		**14 31 45.6**	**-0.2**
	comp=E,0.4nm,0.8s,baz=141,slow=4.1,SNR=8.0								
EKA	**Eskdalemuir Ar**	**95.72**	**32**	P		**P**		**14 31 59.8**	**-1.6**
	comp=E,0.6nm,0.3s,baz=257,slow=6.5,SNR=3.9								
ASAR	**Alice Springs**	**128.77**	**207**	PKP		**PKPdf**		**14 37 43.4**	**-0.1**
	comp=E,0.3nm,0.7s,baz=132,slow=1.9,SNR=4.3								
WRA	**Warramunga Arr**	**131.84**	**210**	PKP		**PKPdf**		**14 37 50.2**	**+0.8**
	comp=E,0.9nm,1.1s,baz=154,slow=1.8,SNR=5.4								
MKAR	**Makanchi Array**	**146.68**	**37**	PKPbc		**PKPbc**		**14 38 16.1**	**-1.0**
	comp=E,0.3nm,0.6s,baz=2.1,slow=1.9,SNR=5.1								

*NIED **09** 14:19:00, 38°.60N×142°.10E, h20km, Mw3.5 Best double couple: Mo1.80000×10^14 NP1:φ=147.00000°, δ=26.00000°, λ=17.00000°. NP2:φ=42.00000°, δ=83.00000°, λ=115.00000°.*
*JMA **09** 14:19:33.9±0.1, 38°.64N×142°.12E, h41km±1km, M3.5*
*IDC **09** 14:19:37.0±2.9, 38°.82N×141°.87E, h48km±28km, mb3.3/5, mb1 3.3/7, mb1mx3.1/70, mbtmp3.4/7, ML3.0/2, Error ellipse: s-maj=36.3km s-min=21.0km az=97.0*
ISC 09 14:19:31.5±1.8, **38°.65N**±0°.04×**142°.06E**±0°.07, **h9km**±11km, **n24, σ1$21/25, mb3.5/5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.53**	**325**	P		**Pn**		**14 19 45.6**	**+0.4**
OFUJ				S		**Sn**		**14 19 53.6**	**-0.7**
JIO	**Ouri**	**0.59**	**251**	P		**Pn**		**14 19 46.3**	**+0.3**
JIO				S		**Sn**		**14 19 54.9**	**-0.8**
JMK	**Ichinoseki**	**0.72**	**295**	P		**Pn**		**14 19 48.4**	**+0.6**
JMK				S		**Sn**		**14 19 58.9**	**-0.1**
JOM	**Ohasama**	**1.02**	**324**	P		**Pn**		**14 19 52.5**	**+0.6**
JOM				S		**Sn**		**14 20 06.2**	**-0.1**
JOU	**Okura**	**1.13**	**256**	P		**Pg**		**14 19 54.3**	**+1.1**
JOU				*e*S		**Sn**		**14 20 09.4**	**+0.3**
JMM	**Marumori**	**1.27**	**232**	P		**Pg**		**14 19 55.5**	**-0.3**
JMM				S		**Sb**		**14 20 11.0**	**-0.8**
JTH	**Tanohata**	**1.30**	**353**	P		**Pg**		**14 19 56.1**	**-0.3**
JRG	**Rokugo**	**1.34**	**304**	P		**Pg**		**14 19 57.4**	**+0.2**
JYK	**Kaneyama**	**1.36**	**282**	P		**Pg**		**14 19 57.5**	**0.0**
JFK	**Kawauchi**	**1.58**	**217**	P		**Pg**		**14 20 00.7**	**-1.1**
JFK				S		**Sb**		**14 20 20.7**	**-0.3**
MJAR	**Matsushiro Arr**	**3.71**	**237**	P		**Pn**		**14 20 31.7**	**+2.8**
	0.8nm,0.3s,baz=38,slow=12,SNR=12								
ASAJ	**Asahikawa**	**5.48**	**4**	P		**Pn**		**14 20 53.2**	**0.0**
	0.5nm,0.3s,baz=205,slow=10.0,SNR=7.8								
ASAJ				S		**Sn**		**14 21 59.6**	**+3.3**
	0.4nm,0.3s,baz=319,slow=20,SNR=2.9								
USRK	**Ussuriysk Ar.**	**9.38**	**309**	P		Pn		14 21 52.4	+5.7
	0.1nm,0.3s,baz=105,slow=7.9,SNR=4.5								
SEY	**Seymchan**	**25.11**	**11**	P		**P**		**14 24 56.0**	**-0.2**
	0.9nm,0.8s,baz=206,slow=6.1,SNR=5.3								
H11N2	**WAKE ISLAND Hy**	**28.58**	**124**	T		T		14 55 51.4	
	baz=317,slow=75,SNR=23								
H11N1	**WAKE ISLAND Hy**	**28.59**	**124**	T		T		14 55 50.7	
	baz=317,slow=75,SNR=36								
H11N3	**WAKE ISLAND Hy**	**28.60**	**124**	T		T		14 55 56.0	
	baz=317,slow=75,SNR=26								
H11S1	**WAKE ISLAND Hy**	**29.35**	**126**	T		T		14 56 46.9	
	baz=318,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy**	**29.35**	**126**	T		T		14 56 43.4	
	baz=318,slow=76,SNR=21								
H11S2	**WAKE ISLAND Hy**	**29.37**	**126**	T		T		14 56 48.2	
	baz=318,slow=76,SNR=16								
ZALV	**Zalesovo Beam**	**41.23**	**311**	P		**P**		**14 27 15.0**	**-1.4**
	0.5nm,0.5s,baz=96,slow=4.8,SNR=2.8								
MKAR	**Makanchi Array**	**43.72**	**301**	P		**P**		**14 27 35.6**	**-1.2**
	0.4nm,0.7s,baz=87,slow=9.0,SNR=4.3								
KURBB	**Kurchatov Arra**	**45.43**	**307**	P		**P**		**14 27 48.7**	**-1.6**
	0.8nm,0.5s,baz=82,slow=8.3,SNR=11								
WRA	**Warramunga Arr**	**58.73**	**189**	P		**P**		**14 29 30.5**	**+0.9**
	0.3nm,0.9s,baz=6.2,slow=7.4,SNR=2.9								

*ISCJB **09** 14:29:08.0±0.3, 60°.08N±0°.02×152°.77W±0°.06, h120km±3km, mb3.4/4, Error ellipse: s-maj=5.7km s-min=3.4km az=29.2*
*IDC **09** 14:29:08.0±1.6, 60°.09N×153°.01W, h91km±19km, mb3.2/4, mb1 3.6/8, mb1mx3.2/84, mbtmp3.7/8, Error ellipse: s-maj=20.0km s-min=15.4km az=95.0*
*NEIC **09** 14:29:10.0±0.0, 60°.06N×152°.82W, h113km, ML3.2(AEIC), After AEIC.*
ISC 09 14:29:09.5±0.8, **60°.07N**±0°.03×**152°.80W**±0°.04, **h115km**±6km, **n81, σ1$17/93, mb3.4/4, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.12**	**245**	P		**Pn**		**14 29 24.9**	**-0.7**
ILW	**Iliamna West**	**0.17**	**267**	P		**Pn**		**14 29 25.0**	**-0.7**
ILS	**Iliamna Low So**	**0.17**	**231**	P		**Pn**		**14 29 24.9**	**-0.7**
RDWB	**Redoubt West**	**0.42**	**357**	P		**Pn**		**14 29 26.0**	**-0.7**
RDWB				S		**Sn**		**14 29 38.5**	**-1.1**
RDJH	**Redoubt Jeurge**	**0.53**	**360**	P		**Pn**		**14 29 26.6**	**-0.6**
RDJH				S		**Sn**		**14 29 40.0**	**-0.7**
DFR	**Drift River**	**0.53**	**6**	P		**Pn**		**14 29 26.6**	**-0.6**
DFR				S		**Sn**		**14 29 39.5**	**-1.1**
HOM	**Homer**	**0.71**	**125**	P		**Pn**		**14 29 28.8**	**+0.4**
PDB	**Pedro Bay**	**0.76**	**249**	P		**Pn**		**14 29 28.2**	**-0.6**
AUNW	**Augustine NWes**	**0.77**	**207**	P		**Pn**		**14 29 28.8**	**-0.2**
AUW	**Augustine West**	**0.78**	**206**	P		**Pn**		**14 29 28.9**	**-0.2**
AUI	**Augustine Isla**	**0.80**	**204**	P		**Pn**		**14 29 28.8**	**-0.4**
AUI				S		**Sn**		**14 29 43.2**	**-0.9**
BRLK	**Bradley Lake**	**1.01**	**107**	P		**Pn**		**14 29 31.1**	**-0.1**
BRLK				S		**Sn**		**14 29 47.2**	**-0.5**
CKL	**Chakachamna La**	**1.16**	**11**	P		**Pn**		**14 29 32.7**	**-0.2**
MCNL	**McNeil River**	**1.18**	**222**	P		**Pn**		**14 29 32.4**	**-0.6**
SPWE	**Spurr West**	**1.22**	**5**	P		**Pn**		**14 29 33.6**	**+0.1**
CDD	**Cape Douglas**	**1.22**	**201**	P		**Pn**		**14 29 32.8**	**-0.7**
SPCP	**Crater Peak Br**	**1.24**	**15**	P		**Pn**		**14 29 33.8**	**-0.1**
SPCP				S		**Sn**		**14 29 51.9**	**-0.4**
FOSS	**Fourpeaked Sta**	**1.35**	**200**	P		**Pn**		**14 29 34.3**	**-0.7**
SLKM	**Skilak Lake**	**1.36**	**70**	P		**Pn**		**14 29 34.7**	**-0.3**
FONW	**Fourpeaked Sta**	**1.36**	**205**	P		**Pn**		**14 29 34.7**	**-0.4**
VOGL	**Vogel Lake**	**1.50**	**50**	P		**Pn**		**14 29 37.7**	**+1.2**
STLK	**Strandline Lak**	**1.51**	**18**	P		**Pn**		**14 29 36.7**	**-0.1**
KAPH	**Katmai Pasha**	**1.68**	**209**	P		**Pn**		**14 29 38.6**	**-0.2**
SEW	**Seward**	**1.68**	**87**	P		**Pn**		**14 29 37.8**	**-0.9**
FIB	**Fire Island**	**1.70**	**48**	P		**Pn**		**14 29 39.6**	**+0.7**
SVW2	**Sparrevohn**	**1.72**	**308**	P		**Pn**		**14 29 38.2**	**-1.1**
SVW2				S		**Sn**		**14 29 59.9**	**-2.1**
SUA	**Susitna One**	**1.73**	**35**	P		**Pn**		**14 29 39.5**	**+0.1**
SUA				S		**Sn**		**14 30 02.6**	**+0.4**
RC01	**Rabbit Creek A**	**1.83**	**55**	P		**Pn**		**14 29 40.1**	**-0.4**
KARR	**Katmai Rainbow**	**1.85**	**213**	P		**Pn**		**14 29 40.8**	**-0.1**
SKT	**Skwentna**	**2.02**	**17**	P		**Pn**		**14 29 42.5**	**-0.4**
KABU	**Katmai Buttres**	**2.21**	**216**	P		**Pn**		**14 29 45.4**	**-0.1**
KELA	**Mount Kelaz**	**2.23**	**224**	P		**Pn**		**14 29 45.1**	**-0.5**
KDAK	**Kodiak Island**	**2.29**	**177**	P		**Pn**		**14 29 44.9**	**-1.5**
	17nm,0.3s,baz=2.7,slow=10,SNR=316								
KDAK				S		**Sn**		**14 30 12.7**	**-1.9**
	14nm,0.3s,baz=324,slow=23,SNR=13								
ANCK	**Angle Creek**	**2.33**	**218**	P		**Pn**		**14 29 46.8**	**-0.2**
PMR	**Palmer**	**2.36**	**48**	P		**Pn**		**14 29 46.1**	**-1.1**
PMR				S		**Sn**		**14 30 13.7**	**-2.4**
KNK	**Knik Glacier**	**2.52**	**56**	P		**Pn**		**14 29 48.2**	**-1.1**
GHO	**Glory Hole Cre**	**2.55**	**46**	P		**Pn**		**14 29 48.7**	**-1.1**
SML	**Sawmill**	**2.79**	**49**	P		**Pn**		**14 29 51.8**	**-1.1**
PPLA	**Purkeypile**	**2.85**	**6**	P		**Pn**		**14 29 54.1**	**+0.3**
OHAK	**Old Harbor**	**2.87**	**185**	P		**Pn**		**14 29 52.1**	**-1.7**
OHAK				S		**Sn**		**14 30 24.5**	**-3.5**
GLI	**Glacier Island**	**2.94**	**71**	P		**Pn**		**14 29 52.8**	**-2.0**
PLK3	**Peulik 3**	**2.99**	**219**	P		**Pn**		**14 29 55.6**	**+0.1**
SCM	**Sheep Creek Mo**	**3.20**	**54**	P		**Pn**		**14 29 57.4**	**-1.0**
JPK	**Jack Peak**	**3.22**	**69**	P		**Pn**		**14 29 56.9**	**-1.6**
TT01	**Tatalina**	**3.24**	**333**	P		**Pn**		**14 29 57.9**	**-0.9**
CAST	**Castle Rocks**	**3.38**	**5**	P		**Pn**		**14 30 00.1**	**-0.5**
TRF	**Thorofare Moun**	**3.60**	**18**	P		**Pn**		**14 30 02.8**	**-0.8**
KTH	**Kantishna Hill**	**3.61**	**13**	P		**Pn**		**14 30 02.9**	**-0.8**
KLU	**Klutina**	**3.66**	**64**	P		**Pn**		**14 30 03.2**	**-1.3**
RND	**Reindeer**	**3.84**	**28**	P		**Pn**		**14 30 05.9**	**-0.9**
DHY	**Denali Highway**	**3.98**	**38**	P		**Pn**		**14 30 08.0**	**-0.7**
MCK	**McKinley**	**4.11**	**25**	P		**Pn**		**14 30 09.5**	**-0.8**
BPAW	**Bear Paw Mtn.**	**4.14**	**11**	P		**Pn**		**14 30 09.3**	**-1.4**
BMRM	**Bremner River**	**4.15**	**74**	P		**Pn**		**14 30 09.3**	**-1.6**
ANNW	**Aniakchak Nort**	**4.21**	**225**	P		**Pn**		**14 30 12.0**	**+0.2**
HARP	**HAARP**	**4.38**	**54**	P		**Pn**		**14 30 13.2**	**-0.7**
PAX	**Paxson**	**4.56**	**47**	P		**P

*ISCJB **09** 14:39:11.2±0.5, 40.59N±0.02×33.93E±0.02, h1km±4km, mb3.6/2, Error ellipse: s-maj=3.5km s-min=2.6km az=157.7*
*CSEM **09** 14:39:11.7±0.1, 40.60N×33.92E, h2km, ML3.7, Error ellipse: s-maj=3.1km s-min=2.5km az=163.0*
*DDA **09** 14:39:11.2, 40.57N×33.95E, h16km, Ml3.7*

ISC 09 14:39:11.3±1.0, 40.58N±0.02×33.96E±0.02, h7km±8km, n129, σ1.917/153, 4C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	**Cankiri**	**0.26**	**275**	**Pg**	**Pg**	**14 39 16.7**	**+0.2**
ELDT	**Eldivan**	**0.42**	**257**	*i* P	**Pg**	**14 39 19.6**	**+0.2**
ELDT				*i* S	**Sb**	**14 39 26.5**	**-1.2**
ELDT	**Eldivan**	**0.42**	**257**	P	**Pg**	**14 39 19.6**	**+0.2**
ELDT				S	**Sb**	**14 39 26.5**	**-1.2**
TOS	**Tosya**	**0.45**	**6**	PG	**Pg**	**14 39 20.1**	**0.0**
TOS	**Tosya**	**0.45**	**6**	*e*Pg	**Pg**	**14 39 20.1**	**0.0**
ILGA	**Ilgaz**	**0.50**	**339**	*i* P	**Pg**	**14 39 21.0**	**-0.1**
ILGA	**Ilgaz**	**0.50**	**339**	P	**Pg**	**14 39 21.0**	**-0.1**
CTAK	**Corum_Osmancik**	**0.64**	**84**	*i* P	**Pb**	**14 39 24.3**	**-0.5**
CTAK				*i* S	**Sb**	**14 39 33.3**	**-0.7**
CTAK	**Corum_Osmancik**	**0.64**	**84**	P	**Pb**	**14 39 24.3**	**-0.5**
CTAK				S	**Sb**	**14 39 33.3**	**-0.7**
CORM	**Corum**	**0.65**	**128**	PG	**Pg**	**14 39 23.2**	**-0.7**
CORM	**Corum**	**0.65**	**128**	*e*Pg	**Pg**	**14 39 23.2**	**-0.7**
COAL	**Corum-Alaca**	**0.85**	**112**	*i* P	**Pg**	**14 39 27.9**	**+0.4**
COAL				*i* S	**Sg**	**14 39 39.6**	**+1.0**
COAL	**Corum-Alaca**	**0.85**	**112**	P	**Pg**	**14 39 28.0**	**+0.4**
COAL				S	**Sg**	**14 39 39.6**	**+1.0**
BRTR	**Keskin Array B**	**0.89**	**196**	**Pg**	**Pg**	**14 39 27.9**	**-0.5**
	57nm,0.3s,baz=15,slow=15,SNR=397						
BRTR				Lg	Lg	14 39 40.6	
	95nm,0.3s,baz=20,slow=26,SNR=29						
KAST	**KASTAMONU**	**0.91**	**359**	*i* P	**Pg**	**14 39 28.8**	**+0.1**
KAST	**KASTAMONU**	**0.91**	**359**	P	**Pg**	**14 39 28.8**	**+0.1**
CDAG	**Cicekdag**	**1.01**	**162**	*i* P	**Pg**	**14 39 30.4**	**-0.3**
CDAG				*i* S	**Sg**	**14 39 44.0**	**+0.2**
CDAG	**Cicekdag**	**1.01**	**162**	P	**Pg**	**14 39 30.4**	**-0.3**
CDAG				S	**Sg**	**14 39 44.0**	**+0.2**
BOYT	**Boyabat**	**1.10**	**40**	*i* P	**Pg**	**14 39 31.1**	**-1.3**
BOYT				*i* S	**Sg**	**14 39 46.2**	**-0.5**
BOYT	**Boyabat**	**1.10**	**40**	P	**Pg**	**14 39 31.1**	**-1.3**
BOYT				S	**Sg**	**14 39 46.2**	**-0.5**
CMDR	**Camlidere-ANKA**	**1.14**	**266**	*i* P	**Pg**	**14 39 32.8**	**-0.3**
CMDR	**Camlidere-ANKA**	**1.14**	**266**	P	**Pg**	**14 39 32.8**	**-0.3**
ANTO	**Ankara**	**1.14**	**232**	PN	**Pg**	**14 39 32.9**	**-0.3**
ANTO				SN	**Sn**	**14 39 49.8**	**+0.1**
ANTO	**Ankara**	**1.14**	**232**	*e*Pn	**Pg**	**14 39 32.9**	**-0.3**
ANTO				*e*Sn	**Sn**	**14 39 49.8**	**+0.1**
LOD	**Lodumlu**	**1.15**	**233**	PN	**Pg**	**14 39 33.3**	**0.0**
LOD				SN	**Sn**	**14 39 50.5**	**+0.6**
LOD	**Lodumlu**	**1.15**	**233**	*e*Pn	**Pg**	**14 39 33.3**	**0.0**
LOD				*e*Sn	**Sn**	**14 39 50.5**	**+0.6**
BBAL	**Bala**	**1.22**	**212**	*i* P	**Pn**	**14 39 36.2**	**+1.3**
BBAL	**Bala**	**1.22**	**212**	P	**Pn**	**14 39 36.2**	**+1.3**
AFSR	**Af¨ar-Bala (A**	**1.32**	**211**	PN	**Pn**	**14 39 35.9**	**-0.4**
AFSR				SN	**Sn**	**14 39 56.2**	**+2.0**
AFSR	**Af¨ar-Bala (A**	**1.32**	**211**	*e*Pn	**Pn**	**14 39 35.9**	**-0.4**
AFSR				*e*Sn	**Sn**	**14 39 56.2**	**+2.0**
BZK	**Bozkurt**	**1.38**	**1**	PN	**Pg**	**14 39 37.8**	**+0.1**
BZK	**Bozkurt**	**1.38**	**1**	*e*Pn	**Pg**	**14 39 37.8**	**+0.1**
YOZ	**Yozgat**	**1.41**	**132**	PN	**Pn**	**14 39 37.7**	**+0.2**
YOZ	**Yozgat**	**1.41**	**132**	*e*Pn	**Pn**	**14 39 37.7**	**+0.2**
HAVZ	**Havza**	**1.42**	**69**	*i* P	**Pn**	**14 39 38.0**	**+0.4**
HAVZ				*i* S	**Sg**	**14 39 58.9**	**+1.9**
HAVZ	**Havza**	**1.42**	**69**	P	**Pn**	**14 39 38.0**	**+0.4**
HAVZ				S	**Sg**	**14 39 58.9**	**+1.9**
DIKM	**Dikmen**	**1.45**	**42**	PN	**Pb**	**14 39 38.5**	**-0.1**
DIKM				SN	**Sg**	**14 39 59.1**	**+1.3**
DIKM	**Dikmen**	**1.45**	**42**	*e*Pn	**Pb**	**14 39 38.5**	**-0.1**
DIKM				*e*Sn	**Sg**	**14 39 59.1**	**+1.3**
BCAM	**Yenicaga**	**1.46**	**280**	*i* P	**Pn**	**14 39 38.2**	**0.0**
BCAM	**Yenicaga**	**1.46**	**280**	P	**Pn**	**14 39 38.2**	**0.0**
KKUL	**Konya-Kulu**	**1.62**	**210**	*i* P	**Pn**	**14 39 41.1**	**+0.7**
KKUL				*i* S	**Sn**	**14 40 02.1**	**+0.5**
KKUL	**Konya-Kulu**	**1.62**	**210**	P	**Pn**	**14 39 41.1**	**+0.7**
KKUL				S	**Sn**	**14 40 02.1**	**+0.5**
MASR	**Amasra-Bartin**	**1.63**	**317**	PN	**Pb**	**14 39 41.1**	**-0.5**
MASR	**Amasra-Bartin**	**1.63**	**317**	*e*Pn	**Pb**	**14 39 41.1**	**-0.5**
KVT	**Kavak**	**1.66**	**72**	PN	**Pb**	**14 39 41.9**	**-0.3**
KVT	**Kavak**	**1.66**	**72**	*e*Pn	**Pb**	**14 39 41.9**	**-0.3**
SERE	**Sereflikochisa**	**1.66**	**191**	PN	**Pb**	**14 39 42.4**	**+0.1**
SERE	**Sereflikochisa**	**1.66**	**191**	*e*Pn	**Pb**	**14 39 42.4**	**+0.1**
BTIN	**Bart¨–n**	**1.67**	**310**	*i* P	**Pn**	**14 39 41.4**	**+0.5**
BTIN	**Bart¨–n**	**1.67**	**310**	P	**Pn**	**14 39 41.4**	**+0.5**
SINO	**SINOP_Merkez**	**1.71**	**33**	*i* P	**Pg**	**14 39 43.9**	**-0.2**
SINO	**SINOP_Merkez**	**1.71**	**33**	P	**Pg**	**14 39 43.9**	**-0.2**
SNOP	**Sinop**	**1.71**	**33**	PN	**Pn**	**14 39 42.4**	**+0.8**
SNOP	**Sinop**	**1.71**	**33**	*e*Pn	**Pn**	**14 39 42.4**	**+0.8**
SAMS	**Samsun-Alacam**	**1.86**	**65**	*i* P	**Pb**	**14 39 45.6**	**+0.1**
SAMS				*i* S	**Sg**	**14 40 10.7**	**-0.2**
SAMS	**Samsun-Alacam**	**1.86**	**65**	P	**Pb**	**14 39 45.6**	**+0.1**
SAMS				S	**Sg**	**14 40 10.7**	**-0.2**
AVNS	**Nevsehir-Avano**	**1.90**	**159**	*i* P	**Pb**	**14 39 45.9**	**-0.5**
AVNS	**Nevsehir-Avano**	**1.90**	**159**	P	**Pb**	**14 39 45.9**	**-0.5**
AKSY	**AKSARAY - Alti**	**1.94**	**185**	*i* P	**Pb**	**14 39 46.8**	**-0.2**
AKSY	**AKSARAY - Alti**	**1.94**	**185**	P	**Pb**	**14 39 46.8**	**-0.2**
TOKA	**Tokat**	**1.94**	**97**	*i* P	**Pg**	**14 39 48.1**	**-0.3**
TOKA				*i* S	**Sb**	**14 40 11.6**	**+0.2**
TOKA	**Tokat**	**1.94**	**97**	P	**Pg**	**14 39 48.1**	**-0.3**
TOKA				S	**Sb**	**14 40 11.6**	**+0.2**
TOKT	**Tokat**	**1.99**	**97**	PN	**Pb**	**14 39 46.9**	**-0.9**
TOKT	**Tokat**	**1.99**	**97**	*e*Pn	**Pb**	**14 39 46.9**	**-0.9**
CUSAR	**Sarkisla-SIVAS**	**2.11**	**123**	*i* P	**Pb**	**14 39 49.0**	**-0.9**
CUSAR	**Sarkisla-SIVAS**	**2.11**	**123**	P	**Pb**	**14 39 49.0**	**-0.9**
MDUB	**Mudurnu**	**2.11**	**268**	PN	**Pn**	**14 39 47.9**	**+0.8**
MDUB	**Mudurnu**	**2.11**	**268**	*e*Pn	**Pn**	**14 39 47.9**	**+0.8**
ERBA	**Erbaa**	**2.13**	**86**	*i* P	**Pb**	**14 39 49.0**	**-1.2**
ERBA	**Erbaa**	**2.13**	**86**	P	**Pb**	**14 39 49.0**	**-1.2**
CHBY	**Cihanbeyli**	**2.16**	**203**	PN	**Pb**	**14 39 49.6**	**-1.2**
CHBY	**Cihanbeyli**	**2.16**	**203**	*e*Pn	**Pb**	**14 39 49.6**	**-1.2**
SVRH	**Sivrihisar-ESK**	**2.19**	**240**	PN	**Pn**	**14 39 49.4**	**+1.2**
SVRH	**Sivrihisar-ESK**	**2.19**	**240**	*e*Pn	**Pn**	**14 39 49.4**	**+1.2**
BNN	**Bunyan**	**2.26**	**139**	PN	**Pn**	**14 39 50.3**	**+1.1**
BNN	**Bunyan**	**2.26**	**139**	*e*Pn	**Pn**	**14 39 50.3**	**+1.1**
SULT	**Sultanhani-AKS**	**2.41**	**188**	PN	**Pn**	**14 39 52.6**	**+1.4**
SULT	**Sultanhani-AKS**	**2.41**	**188**	*e*Pn	**Pn**	**14 39 52.6**	**+1.4**
SVSK	**Karacayir**	**2.42**	**105**	PN	**Pn**	**14 39 52.3**	**+1.1**
SVSK	**Karacayir**	**2.42**	**105**	*e*Pn	**Pn**	**14 39 52.3**	**+1.1**
CUALT	**Altinyayla-SIV**	**2.52**	**120**	*i* P	**Pb**	**14 39 56.6**	**-0.3**
CUALT	**Altinyayla-SIV**	**2.52**	**120**	P	**Pb**	**14 39 56.6**	**-0.3**
NIG	**Nigde**	**2.52**	**168**	PN	**Pn**	**14 39 54.4**	**+1.5**
NIG	**Nigde**	**2.52**	**168**	*e*Pn	**Pn**	**14 39 54.4**	**+1.5**
SCER	**sogukcermik**	**2.53**	**106**	*i* P	**Pb**	**14 39 55.8**	**-1.3**
SCER	**sogukcermik**	**2.53**	**106**	P	**Pb**	**14 39 55.8**	**-1.3**
RSDY	**Resadiye-TOKAT**	**2.58**	**93**	PN	**Pn**	**14 39 54.6**	**+1.2**
RSDY	**Resadiye-TOKAT**	**2.58**	**93**	*e*Pn	**Pn**	**14 39 54.6**	**+1.2**
GULT	**Gulveren**	**2.63**	**268**	PN	**Pn**	**14 39 55.2**	**+1.0**
GULT	**Gulveren**	**2.63**	**268**	*e*Pn	**Pn**	**14 39 55.2**	**+1.0**
YAHY	**KAYSERI_Yahyal**	**2.71**	**156**	*i* P	**Pn**	**14 39 57.5**	**+2.1**
YAHY	**KAYSERI_Yahyal**	**2.71**	**156**	P	**Pn**	**14 39 57.5**	**+2.1**
SAUV	**Serdivan-Sakar**	**2.77**	**274**	PN	**Pn**	**14 39 57.3**	**+1.3**
SAUV	**Serdivan-Sakar**	**2.77**	**274**	*e*Pn	**Pn**	**14 39 57.3**	**+1.3**
CUKAN	**kangal_SIVAS**	**2.98**	**114**	*i* P	**Pn**	**14 40 01.0**	**+1.9**
CUKAN	**kangal_SIVAS**	**2.98**	**114**	P	**Pn**	**14 40 01.0**	**+1.9**
ORDU	**Ordu-Boztepe**	**2.99**	**81**	*i* P	**Pn**	**14 40 02.0**	**+2.9**
ORDU	**Ordu-Boztepe**	**2.99**	**81**	P	**Pn**	**14 40 02.0**	**+2.9**
SUSE	**Susehri**	**3.26**	**95**	*i* P	**Pn**	**14 40 04.6**	**+1.6**
SUSE	**Susehri**	**3.26**	**95**	P	**Pn**	**14 40 04.6**	**+1.6**
SHUT	**Suhut-Afyon**	**3.33**	**234**	PN	**Pn**	**14 40 05.5**	**+1.7**
SHUT	**Suhut-Afyon**	**3.33**	**234**	*e*Pn	**Pn**	**14 40 05.5**	**+1.7**
DARE	**Darende-Malaty**	**3.38**	**125**	PN	**Pn**	**14 40 06.6**	**+2.0**
DARE	**Darende-Malaty**	**3.38**	**125**	*e*Pn	**Pn**	**14 40 06.6**	**+2.0**
KOZT	**Kozan**	**3.42**	**154**	PN	**Pn**	**14 40 06.6**	**+1.5**
KOZT	**Kozan**	**3.42**	**154**	*e*Pn	**Pn**	**14 40 06.6**	**+1.5**
ESPY	**Espiye-Giresun**	**3.64**	**83**	PN	**Pn**	**14 40 09.5**	**+1.5**
ESPY	**Espiye-Giresun**	**3.64**	**83**	*e*Pn	**Pn**	**14 40 09.5**	**+1.5**
KMRS	**Kahramanmaras**	**3.83**	**142**	PN	**Pn**	**14 40 12.9**	**+2.2**
KMRS	**Kahramanmaras**	**3.83**	**142**	*e*Pn	**Pn**	**14 40 12.9**	**+2.2**
YURE	**YUREGIR**	**3.97**	**160**	PN	**Pn**	**14 40 15.0**	**+2.3**
YURE	**YUREGIR**	**3.97**	**160**	*e*Pn	**Pn**	**14 40 15.0**	**+2.3**
MALT	**Malatya**	**4.13**	**122**	PN	**Pn**	**14 40 17.1**	**+2.2**
MALT	**Malatya**	**4.13**	**122**	*e*Pn	**Pn**	**14 40 17.1**	**+2.2**
TIRR	**Tirgusor**	**5.64**	**315**	⇓*i*P	**Pn**	**14 40 33.5**	**-1.9**
TLB	**Topalu**	**5.92**	**314**	⇓*i*P	**Pn**	**14 40 39.1**	**-0.2**
CFR	**Carcaliu**	**6.27**	**319**	⇓*i*P	**Pn**	**14 40 43.3**	**-0.9**
ISR	**Istrita**	**7.09**	**312**	⇓*i*P	**Pn**	**14 40 56.6**	**+1.2**
KBZ	**Khabaz**	**7.35**	**62**	Pn	**Pn**	**14 41 01.3**	**+2.4**
	0.2nm,0.3s,baz=242,slow=12,SNR=4.4						
MMAI	**Mount Meron Ar**	**7.64**	**171**	Pn	**Pn**	**14 41 03.1**	**+0.1**
	0.6nm,0.3s,baz=354,slow=13,SNR=3.2						
MLR	**Muntele Rosu**	**7.65**	**313**	Pn	Pn	14 41 09.6	+6.5
	0.0nm,0.3s,baz=124,slow=15,SNR=2.8						
MLR	**Muntele Rosu**	**7.65**	**313**	⇑*i*P	**Pn**	**14 41 02.8**	**-0.4**
TESR	**Tescani**	**7.95**	**321**	⇑*i*P	**Pn**	**14 41 05.4**	**-1.9**
VOIR		**8.13**	**310**	⇑*i*P	Pn	14 41 14.9	+5.1
SORM	**Soroca**	**8.55**	**334**	⇓*i*P	**Pn**	**14 41 12.1**	**-3.3**
BURAR	**Bucovina Array**	**9.43**	**321**	⇑*i*P	**Pn**	**14 41 26.2**	**-1.3**
AKASG	**Malin Array Be**	**10.64**	**343**	Pn	**Pn**	**14 41 41.4**	**-2.7**
	0.7nm,0.3s,baz=157,slow=13,SNR=4.1						
TORD	**Torodi Ar. Bea**	**39.30**	**235**	P	**P**	**14 46 40.9**	**-0.1**
	1.1nm,0.6s,baz=34,slow=8.9,SNR=7.9						
YKA	**Yellowknife Ar**	**74.20**	**345**	P	**P**	**14 50 48.6**	**+0.3**
	0.4nm,0.6s,baz=32,slow=6.0,SNR=7.3						

*ISCJB **09** 14:43:52.3±0.5, 38.03N±0.05×75.4E±0.1, h135km, mb3.6/8, Error ellipse: s-maj=13.2km s-min=4.0km az=152.3*
*IDC **09** 14:43:54.0±6.2, 38.13N×75.36E, h83km±43km, mb3.5/7, mb1 3.5/13, mb1mx3.3/70, mbtmp3.7/13, ML3.3/6, Error ellipse: s-maj=50.5km s-min=25.3km az=12.0*
*NNC **09** 14:43:55.7±3.5, 38.46N×75.43E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=24.7km s-min=19.7km az=164.0*

ISC 09 14:43:56.4±0.9, 38.10N±0.08×75.52E±0.10, h135km, n36, σ3.924/38, mb3.6/8, 7C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.48**	**321**	⇓Pn	Pn	14 44 33.1	-3.7
	4.6nm,0.2s						
SFK				⇑Sn	**Sn**	**14 45 02.6**	**-5.2**
	148nm,0.4s						
KZA	**Kyzart**	**3.98**	**357**	P	**Pn**	**14 44 53.9**	**-2.5**
	SNR=35						
ULHL	**Ulahol**	**4.18**	**7**	P	**Pn**	**14 44 57.1**	**-1.7**
	SNR=12						
UCH	**Uchtor**	**4.20**	**350**	P	**Pn**	**14 44 56.9**	**-2.4**
	SNR=64						
AML	**Almayashu**	**4.27**	**341**	P	Pn	14 44 57.1	-3.1
	SNR=15						
KBK	**Karagaybulak**	**4.58**	**355**	P	**Pn**	**14 45 03.2**	**-0.9**
	SNR=9.8						
AAK	**Ala-Archa**	**4.60**	**351**	P	**Pn**	**14 45 01.8**	**-2.6**
	3.2nm,0.3s,baz=151,slow=7.5,SNR=60						
AAK				S	**Sn**	**14 45 52.8**	**-4.5**
	2.2nm,0.3s,baz=320,slow=18,SNR=5.9						
AAK	**Ala-Archa**	**4.60**	**351**	⇑Pn	**Pn**	**14 45 02.2**	**-2.2**
	5.0nm,0.5s						
AAK				⇑Sn	**Sn**	**14 45 52.5**	**-4.8**
	10nm,0.6s						
AAK				⇓Lg	Lg	14 46 11.3	
	8.0nm,0.7s						
AAK	**Ala-Archa**	**4.60**	**351**	P	**Pn**	**14 45 02.5**	**-1.9**
	SNR=19						
EKS2	**Erkin-Say**	**4.75**	**344**	P	**Pn**	**14 45 04.0**	**-2.3**
	SNR=7.0						
TKM2	**Tokmak 2**	**4.82**	**1**	⇓Pn	**Pn**	**14 45 05.5**	**-1.9**
	12nm,0.6s						
TKM2				⇑Sn	**Sn**	**14 46 00.1**	**-2.5**
	15nm,0.7s						
TKM2				⇑Lg	Lg	14 46 18.3	
	14nm,1.2s						
TKM2	**Tokmak 2**	**4.82**	**1**	P	**Pn**	**14 45 05.7**	**-1.6**
	SNR=39						
MNAS	**Manas**	**4.96**	**333**	⇓Pn	Pn	14 45 05.0	-4.1
	3.0nm,0.2s						
MNAS				⇓Sn	**Sn**	**14 46 00.1**	**-5.5**
	24nm,0.3s						
KK31	**Karatay Array**	**6.29**	**324**	⇑Pn	Pn	14 45 23.2	-3.6
	1.0nm,0.2s,baz=141,slow=13,SNR=18						
KK31				⇑Sn	**Sn**	**14 46 32.5**	**-4.9**
	4.4nm,0.4s,baz=134,slow=22,SNR=4.0						
MKAR	**Makanchi Array**	**10.03**	**28**	P	**Pn**	**14 46 14.8**	**-2.1**
	0.1nm,0.3s,baz=202,slow=13,SNR=5.5						
PYUN	**Piuthan**	**11.77**	**146**	*e*P	**Pn**	**14 46 36.1**	**-4.2**
	19nm,0.3s						
KOLN	**Koldanda**	**12.32**	**144**	*e*P	**Pn**	**14 46 43.8**	**-3.8**
	10nm,0.4s						
KURBB	**Kurchatov Arra**	**12.71**	**9**	P	**Pn**	**14 46 49.9**	**-2.3**
	0.0nm,0.3s,baz=197,slow=12,SNR=3.3						
DMN	**Daman**	**13.19**	**140**	*e*P	**Pn**	**14 46 55.6**	**-3.3**
	12nm,0.6s						
GUN	**Gumba**	**13.36**	**136**	*e*P	**Pn**	**14 46 57.5**	**-3.6**
	5.7nm,0.3s						
PKIN	**Phulchoki**	**13.37**	**139**	*e*P	**Pn**	**14 46 58.5**	**-2.6**
	5.8nm,0.3s						
PKI	**Pulchoki**	**13.38**	**139**	*e*P	**Pn**	**14 46 58.2**	**-3.1**
	4.2nm,0.2s						
JIRN	**Jiri**	**13.72**	**136**	*e*P	**Pn**	**14 47 02.1**	**-3.7**
	24nm,0.4s						
RAMN	**Ramite**	**14.51**	**137**	*e*P	**Pn**	**14 47 11.5**	**-4.1**
TAPN	**Taplejung**	**14.82**	**133**	*e*P	**Pn**	**14 47 16.0**	**-3.6**
	5.5nm,0.3s						
BVAR	**Borovoye Array**	**15.35**	**348**	P	**Pn**	**14 47 25.5**	**-0.2**
	0.4nm,0.3s,baz=149,slow=12,SNR=9.6						
ZALV	**Zalesovo Beam**	**17.09**	**19**	P	**P**	**14 47 46.5**	**0.0**
	0.7nm,0.3s,baz=206,slow=12,SNR=13						
AKTO	**Aktyubinsk**	**17.53**	**320**	P	**P**	**14 47 51.3**	**-0.1**
	0.2nm,0.3s,baz=120,slow=15,SNR=3.8						
ARU	**Arti**	**21.55**	**334**	P	**P**	**14 48 39.5**	**+4.8**
	1.2nm,0.4s,baz=112,slow=6.7,SNR=3.8						
SONM	**Songino Array**	**24.46**	**57**	P	**P**	**14 49 06.7**	**+3.9**
	0.5nm,0.6s,baz=255,slow=11,SNR=3.5						
AKASG	**Malin Array Be**	**34.83**	**306**	P	**P**	**14 50 35.4**	**+1.2**
	0.4nm,0.4s,baz=84,slow=5.9,SNR=4.0						
FINES	**FINESS Array B**	**38.25**	**324**	P	**P**	**14 51 05.2**	**+2.2**
	0.8nm,0.4s,baz=104,slow=8.0,SNR=5.8						
ARCES	**ARCESS Array B**	**41.11**	**336**	P	**P**	**14 51 28.8**	**+2.3**
	1.7nm,0.7s,baz=111,slow=8.9,SNR=5.8						
NOA	**NORSAR Array B**	**45.31**	**322**	P	**P**	**14 52 01.8**	**+1.4**
	0.9nm,0.7s,baz=91,slow=8.0,SNR=2.5						
SPITS	**Spitsbergen Ar**	**46.79**	**346**	P	**P**	**14 52 15.1**	**+3.3**
	5.6nm,1.1s,baz=92,slow=10,SNR=4.9						
YKA	**Yellowknife Ar**	**79.42**	**5**	P	**P**	**14 55 49.8**	**+2.7**
	0.3nm,0.4s,baz=347,slow=5.7,SNR=7.1						

SOME 09 14:44:14.1, 43.28N×78.65E, h10km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.29**	**219**	*e*P	Pg	14 44 19.4	-0.6
	20nm,0.1s						
SATY				*e*S	Sg	14 44 23.0	-0.8
	127nm,0.1s						
KURS	**Kuram**	**0.41**	**301**	*e*P	Pg	14 44 22.4	+0.3
	0.3nm,0.1s						
KURS				*e*S	Sg	14 44 28.4	+0.9
	4.7nm,0.3s						
MDOK	**Medeo**	**1.18**	**265**	*e*P	Pb	14 44 36.1	-0.5
	0.7nm,0.1s						
MDOK				*e*S	Sb	14 44 51.8	-0.2
	2.1nm,0.2s						
TNSS	**Tian-Shan**	**1.27**	**259**	*e*P	Pn	14 44 37.6	-0.7
	0.4nm,0.1s						
TNSS				*e*S	Sb	14 44 54.7	-0.2
	1.0nm,0.2s						
CHKK	**Chushkaly**	**1.34**	**296**	*e*P	Pn	14 44 38.6	-0.3
	0.5nm,0.1s						
CHKK				*e*S	Sb	14 44 56.2	-0.3
	4.1nm,0.2s						
KAPS	**Kapalarasan**	**2.06**	**14**	*e*P	Pb	14 44 51.9	+0.2
	0.2nm,0.2s						
KAPS				*e*S	Sg	14 45 19.1	-1.4
	0.9nm,0.2s						

JMA 09 15:10:24.8±0.1, 36.89N×141.21E, h48km±1km, M2.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**303**	P	Pn	15 10 34.5	-0.2
ONAJ				S	Sn	15 10 41.3	-0.5
JFK	**Kawauchi**	**0.55**	**331**	P	Pn	15 10 36.2	-0.4
JFK				S	Sn	15 10 44.1	-0.9
JHO	**Hitachi**	**0.58**	**242**	P	Pn	15 10 36.8	-0.2
JHO				S	Sn	15 10 45.5	-0.2
MAT	**Matsushiro**	**2.44**	**263**	P	Pn	15 11 04.3	+2.2
MAT				S	Sn	15 11 37.3	+6.6

*DJA **09** 15:19:14.4±2.0, 9.5±6.2×12.4±*, h32km±40km, M2.8/4, MLv2.8/4*
*IDC **09** 15:19:15.7±2.3, 7.19S×130.75E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.3/46, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=113.9km s-min=29.0km az=71.0*

ISC 09 15:19:02.7±2.0, 8.5S±0.1×124.8E±0.1, h24km, n5, σ4.903/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.38**	**202**	P	**Pb**	**15 19 31.6**	**+3.7**
SOEI				S	**Sb**	**15 19 45.8**	**+0.7**
BATI	**Baumata**	**2.05**	**213**	P	**Pn**	**15 19 36.2**	**+0.4**
BATI				S	**Sn**	**15 19 55.0**	**-5.7**
EDFI	**Ende, Flores**	**3.08**	**265**	P	**Pn**	**15 19 49.7**	**-0.3**
WRA	**Warramunga Arr**	**14.68**	**142**	Pn	**Pn**	**15 22 25.8**	**-3.2**
	0.1nm,0.3s,baz=349,slow=13,SNR=8.3						
WRA				Sn	Sn	15 24 52.7	-18
	0.1nm,0.3s,baz=343,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**17.45**	**151**	Pn	**P**	**15 23 08.6**	**+2.9**
	0.2nm,0.3s,baz=347,slow=11,SNR=18						

IDC 09 15:19:35.6±5.6, 19.03S×169.34E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/38, mbtmp3.9/4, ML3.5/1, MS3.6/9, Ms1 3.5/9, ms1mx3.3/40, Error ellipse: s-maj=136.8km s-min=35.5km az=119.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.06**	**221**	Pn	Pn	15 20 38.9	-0.2
	3.1nm,0.3s,baz=86,slow=11,SNR=100						
DZM				Sn	Sn	15 21 28.2	+0.7
	20nm,0.3s,baz=113,slow=22,SNR=6.5						
DZM				LR	LR	15 22 05.7	
	comp=Z,990nm,18.3s,baz=2.5,slow=37						
HNR	**Honiara**	**13.18**	**315**	LR	LR	15 27 20.1	
	comp=Z,104nm,19.9s,baz=153,slow=35						
AFI	**Afiamalu**	**18.81**	**77**	LR	LR	15 29 24.6	
	comp=Z,269nm,21.0s,baz=262,slow=31						
URZ	**Urewera**	**20.32**	**162**	LR	LR	15 29 59.0	
	comp=Z,122nm,19.2s,baz=345,slow=31						
STKA	**Stephens Creek**	**28.04**	**237**	LR	LR	15 36 11.9	
	comp=Z,119nm,20.0s,baz=24,slow=36						
WRA	**Warramunga Arr**	**32.97**	**263**	P	P	15 26 12.0	-0.5
	0.4nm,0.5s,baz=92,slow=8.3,SNR=3.5						
ASAR	**Alice Springs**	**33.27**	**256**	P	P	15 26 15.4	+0.4
	2.7nm,0.6s,baz=84,slow=8.8,SNR=29						
ASAR				LR	LR	15 38 40.9	
	comp=Z,107nm,21.7s,baz=94,slow=34						
GUMO	**Guam**	**40.40**	**322**	LR	LR	15 41 53.1	
	comp=Z,60nm,21.6s,baz=130,slow=33						
VNDA	**Vanda**	**58.64**	**182**	LR	LR	15 51 14.4	
	comp=Z,24nm,19.6s,baz=300,slow=32						
YBH	**Yreka Blue Hor**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.27**	**178**	*i* P	Pb	15 46 36.8	-1.6
MMPH				*i* S	Sb	15 46 38.7	-4.0
RCP	**Roxas**	**1.36**	**219**	*e*P	Pb	15 46 56.4	-0.4
OCLP	**Ormoc**	**1.85**	**148**	*e*P	Pn	15 47 02.6	+0.1
OCLP				*e*S	Sb	15 47 26.9	-0.9
GUIM	**Jordan**	**2.23**	**207**	*e*P	Pn	15 47 08.2	+0.4
GUIM				*e*S	Sn	15 47 36.0	+1.3

IDC 09 15:47:07.6±6.0, 19°13S×169°47E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/41, mbtmp3.7/4, ML3.3/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/37, Error ellipse: s-maj=146.8km s-min=36.2km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.08**	**224**	Pn	Pn	15 48 12.8	+1.4
	1.9nm,0.3s,baz=107,slow=10,SNR=93						
DZM				LR	LR	15 48 55.7	
	comp=Z,166nm,20.8s,baz=38,slow=26						
DZM				Sn	Sn	15 49 01.4	+1.4
	4.7nm,0.3s,baz=127,slow=23,SNR=8.1						
AFI	**Afiamalu**	**18.71**	**77**	LR	LR	15 57 33.0	
	comp=Z,44nm,19.4s,baz=262,slow=33						
PMG	**Port Moresby**	**23.66**	**291**	LR	LR	15 58 50.1	
	comp=Z,46nm,20.6s,baz=82,slow=30						
STKA	**Stephens Creek**	**28.09**	**238**	LR	LR	16 03 36.4	
	comp=Z,99nm,18.8s,baz=28,slow=35						
WRA	**Warramunga Arr**	**33.09**	**263**	P	P	15 53 44.3	-1.2
	0.2nm,0.8s,baz=102,slow=8.1,SNR=3.6						
ASAR	**Alice Springs**	**33.37**	**256**	P	P	15 53 48.1	+0.2
	1.8nm,0.5s,baz=82,slow=8.6,SNR=71						
ASAR				LR	LR	16 06 13.9	
	comp=Z,86nm,21.7s,baz=94,slow=34						
SONM	**Songino Array**	**87.26**	**323**	P	P	15 59 56.6	+0.4
	0.5nm,0.9s,baz=128,slow=3.6,SNR=3.6						
NVAR	**Mina Array Bea**	**88.56**	**48**	LR	LR	16 34 04.8	
	comp=Z,45nm,18.2s,baz=270,slow=32						

*ISK **09** 15:47:59.2, 37°46N×36°17E, h24km, ML2.4/2*
*CSEM **09** 15:48:00.8±0.4, 37°32N×36°19E, h2km, ML2.4, Error ellipse: s-maj=9.1km s-min=6.9km az=10.0*
*DDA **09** 15:48:00.3, 37°32N×36°19E, h7km, Ml2.6*
ISC 09 15:48:00.4±1.1, 37°33N±0°04×36°18E±0°02, h7km±14km, n16, σ0°67/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.28**	**28**	*i* P	**Pg**	**15 48 05.5**	**-0.5**
ANDN	**Andirin**	**0.28**	**28**	P	**Pg**	**15 48 05.5**	**-0.5**
KOZT	**Kozan**	**0.32**	**299**	PG	**Pg**	**15 48 06.2**	**-0.4**
KOZT				SG	**Sg**	**15 48 11.3**	**+0.4**
KOZT	**Kozan**	**0.32**	**299**	*e*Pg	**Pg**	**15 48 06.2**	**-0.4**
KOZT				*e*Sg	**Sg**	**15 48 11.3**	**+0.4**
CEYT	**Ceyhan**	**0.47**	**228**	PG	**Pb**	**15 48 10.7**	**-0.3**
CEYT				SG	**Sb**	**15 48 19.7**	**+1.6**
CEYT	**Ceyhan**	**0.47**	**228**	*e*Pg	**Pb**	**15 48 10.7**	**-0.3**
HCB	**Kahramanmara¯**	**0.58**	**88**	*i* P	**Pg**	**15 48 11.9**	**+0.3**
HCB				*i* S	**Sb**	**15 48 20.6**	**-0.8**
AKO	**Adana**	**0.60**	**283**	*i* P	**Pg**	**15 48 11.8**	**-0.1**
AKO				*i* S	**Sb**	**15 48 21.4**	**-0.6**
KMRS	**Kahramanmaras**	**0.60**	**73**	PG	**Pg**	**15 48 11.8**	**-0.1**
KMRS				SG	**Sg**	**15 48 19.9**	**+0.1**
KMRS	**Kahramanmaras**	**0.60**	**73**	*e*Pg	**Pg**	**15 48 11.8**	**-0.1**
KMRS				*e*Sg	**Sg**	**15 48 19.9**	**+0.1**
SAIM	**ADANA**	**0.65**	**353**	*i* P	**Pb**	**15 48 14.0**	**-0.2**
SAIM	**ADANA**	**0.65**	**353**	P	**Pb**	**15 48 14.0**	**-0.2**
KUZU	**Kuzuini**	**0.91**	**127**	*i* P	**Pg**	**15 48 17.3**	**-0.4**
KUZU				*i* S	**Sb**	**15 48 30.2**	**-0.5**
KUZU	**Kuzuini**	**0.91**	**127**	P	**Pg**	**15 48 17.3**	**-0.4**
KUZU				S	**Sb**	**15 48 30.2**	**-0.5**
AKCD	**Akcadag**	**1.69**	**54**	*i* P	**Pg**	**15 48 32.6**	**0.0**
AKCD				*i* S	**Sg**	**15 48 56.0**	**+1.5**
AKCD	**Akcadag**	**1.69**	**54**	P	**Pg**	**15 48 32.7**	**0.0**
AKCD				S	**Sg**	**15 48 56.0**	**+1.5**

*KRSC **09** 16:03:00.0±0.8, 52°79N×159°28E, h86km±7km, ML4.1, FELT [II-III] at Institute.*
*ISCJB **09** 16:03:01.6±0.5, 52°80N±0°04×159°25E±0°08, h84km±4km, Error ellipse: s-maj=9.5km s-min=3.9km az=34.3*
*MOS **09** 16:03:01.4±0.7, 52°79N×159°27E, h64km, mb4.2/1, Error ellipse: s-maj=13.8km s-min=5.4km az=84.5*
ISC 09 16:03:02.5±1.3, 52°81N±0°04×159°26E±0°04, h78km±6km, n64, σ0°90/101, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.37**	**8**	PN	**Pn**	**16 03 14.7**	**-0.3**
NLC				S	**Sn**	**16 03 24.6**	**+0.3**
NLC	**Nalytchevo**	**0.37**	**8**	*e*P	**Pn**	**16 03 14.7**	**-0.3**
NLC				*e*S	**Sn**	**16 03 24.6**	**+0.3**
DALK	**Dalny**	**0.38**	**307**	PN	**Pn**	**16 03 14.6**	**-0.5**
DALK				S	**Sn**	**16 03 24.3**	**-0.1**
DALK	**Dalny**	**0.38**	**307**	*i* P	**Pn**	**16 03 14.6**	**-0.5**
DALK				*e*S	**Sn**	**16 03 24.3**	**-0.1**
PET	**Petropavlovsk**	**0.43**	**301**	⇑*i*PN	**Pn**	**16 03 14.3**	**-1.1**
PET				*i* S	**Sn**	**16 03 24.7**	**-0.3**
PET				pmax	pmax		
	comp=Z,700nm,1.1s						
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=E,3μm,0.5s						
PET				smax	smax		
	comp=N,3μm,0.4s						
PET				smax	smax		
	comp=N,400nm,4.7s						
PET				smax	smax		
	comp=N,3μm,0.4s						
PET				smax	smax		
	comp=E,4μm,0.5s						
UGLR	**Uglovaya**	**0.48**	**327**	PN	**Pn**	**16 03 15.8**	**-0.3**
UGLR				S	**Sn**	**16 03 26.6**	**+0.5**
UGLR	**Uglovaya**	**0.48**	**327**	*e*P	**Pn**	**16 03 15.8**	**-0.3**
UGLR				*e*S	**Sn**	**16 03 26.6**	**+0.5**
SDLR	**Sedlovina**	**0.53**	**334**	PN	**Pn**	**16 03 15.9**	**-0.6**
SDLR				S	**Sn**	**16 03 27.0**	**+0.2**
SDLR	**Sedlovina**	**0.53**	**334**	*e*P	**Pn**	**16 03 15.9**	**-0.6**
SDLR				*e*S	**Sn**	**16 03 27.0**	**+0.2**
SMAR	**Somma**	**0.54**	**329**	PN	**Pn**	**16 03 16.0**	**-0.7**
SMAR				S	**Sn**	**16 03 27.3**	**+0.2**
SMAR	**Somma**	**0.54**	**329**	*e*P	**Pn**	**16 03 16.0**	**-0.7**
SMAR				*e*S	**Sn**	**16 03 27.3**	**+0.2**
SPN	**Mys Shipunski**	**0.55**	**57**	PN	**Pn**	**16 03 16.4**	**-0.1**
SPN				S	**Sn**	**16 03 27.8**	**+1.0**
SPN	**Mys Shipunski**	**0.55**	**57**	*i* P	**Pn**	**16 03 16.4**	**-0.1**
SPN				*i* S	**Sn**	**16 03 27.8**	**+1.0**
AVH	**Avacha**	**0.56**	**326**	PN	**Pn**	**16 03 16.3**	**-0.4**
AVH				S	**Sn**	**16 03 28.3**	**+1.1**
AVH	**Avacha**	**0.56**	**326**	*e*P	**Pn**	**16 03 16.3**	**-0.4**
AVH				*e*S	**Sn**	**16 03 28.3**	**+1.1**
KRER	**Koryakskii**	**0.59**	**328**	PN	**Pn**	**16 03 16.5**	**-0.6**
KRER	**Koryakskii**	**0.59**	**328**	*e*P	**Pn**	**16 03 16.5**	**-0.6**
RUS	**Russkaya**	**0.59**	**231**	PN	**Pn**	**16 03 16.5**	**-0.4**
RUS				S	**Sn**	**16 03 28.1**	**+0.6**
RUS	**Russkaya**	**0.59**	**231**	*e*P	**Pn**	**16 03 16.5**	**-0.4**
RUS				*e*S	**Sn**	**16 03 28.1**	**+0.6**
KOK	**Koryaka**	**0.62**	**322**	PN	**Pn**	**16 03 16.8**	**-0.5**
KOK	**Koryaka**	**0.62**	**322**	*e*P	**Pn**	**16 03 16.8**	**-0.5**
KRX	**Arik**	**0.67**	**327**	PN	**Pn**	**16 03 17.2**	**-0.6**
KRX				S	**Sn**	**16 03 28.9**	**-0.3**
KRX	**Arik**	**0.67**	**327**	*i* P	**Pn**	**16 03 17.2**	**-0.6**
KRX				*e*S	**Sn**	**16 03 28.9**	**-0.3**
KRMR	**Karymshinskiy**	**0.69**	**272**	PN	**Pn**	**16 03 16.7**	**-1.1**
KRMR				S	**Sn**	**16 03 28.8**	**-0.5**
KRMR	**Karymshinskiy**	**0.69**	**272**	*e*P	**Pn**	**16 03 16.7**	**-1.1**
KRMR				*e*S	**Sn**	**16 03 28.8**	**-0.5**
MTVR	**Mutnovka**	**0.73**	**244**	PN	**Pn**	**16 03 18.2**	**-0.3**
MTVR				S	**Sn**	**16 03 31.0**	**+0.6**
MTVR	**Mutnovka**	**0.73**	**244**	*e*P	**Pn**	**16 03 18.2**	**-0.3**
MTVR				*e*S	**Sn**	**16 03 31.0**	**+0.6**
ASAK	**Asacha**	**0.93**	**244**	PN	**Pn**	**16 03 20.8**	**+0.1**
ASAK				S	**Sn**	**16 03 35.3**	**+1.0**
ASAK	**Asacha**	**0.93**	**244**	*e*P	**Pn**	**16 03 20.8**	**+0.1**
ASAK				*e*S	**Sn**	**16 03 35.3**	**+1.0**
GNL	**Ganaly**	**1.19**	**319**	PN	**Pn**	**16 03 22.6**	**-1.3**
GNL	**Ganaly**	**1.19**	**319**	*e*P	**Pn**	**16 03 22.6**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.23**	**217**	*e*P	**Pn**	**16 03 23.9**	**-0.4**
KDTR				*e*S	**Sn**	**16 03 41.1**	**+0.4**
KII	**Karymskiy**	**1.24**	**5**	PN	**Pn**	**16 03 23.8**	**-0.6**
KII				S	**Sn**	**16 03 41.7**	**+0.8**
KII	**Karymskiy**	**1.24**	**5**	*e*P	**Pn**	**16 03 23.8**	**-0.6**
KII				*e*S	**Sn**	**16 03 41.7**	**+0.8**
APC	**Apacha**	**1.28**	**276**	PN	**Pn**	**16 03 24.1**	**-0.8**
APC				S	**Sn**	**16 03 41.8**	**+0.1**
APC	**Apacha**	**1.28**	**276**	*e*P	**Pn**	**16 03 24.1**	**-0.8**
APC				*e*S	**Sn**	**16 03 41.8**	**+0.1**
PAU	**Pauzhetka**	**2.02**	**229**	PN	**Pn**	**16 03 34.6**	**+0.1**
PAU	**Pauzhetka**	**2.02**	**229**	*e*P	**Pn**	**16 03 34.6**	**+0.1**
KZV	**Kizimen**	**2.39**	**14**	PN	**Pn**	**16 03 39.2**	**-0.5**
KZV	**Kizimen**	**2.39**	**14**	*e*P	**Pn**	**16 03 39.2**	**-0.5**
TUMR	**Tumrok**	**2.54**	**12**	PN	**Pn**	**16 03 41.9**	**+0.3**
TUMR				S	**Sn**	**16 04 11.9**	**+0.3**
TUMR	**Tumrok**	**2.54**	**12**	*e*P	**Pn**	**16 03 41.9**	**+0.3**
TUMR				*e*S	**Sn**	**16 04 11.9**	**+0.3**
SKR	**Severo-Kuril's**	**2.89**	**224**	PN	**Pn**	**16 03 45.9**	**-0.3**
SKR				S	**Sn**	**16 04 20.2**	**+0.3**
SKR	**Severo-Kuril's**	**2.89**	**224**	*e*P	**Pn**	**16 03 45.9**	**-0.3**
SKR				*e*S	**Sn**	**16 04 20.2**	**+0.3**
KMNR	**Kamenistaya**	**3.01**	**11**	PN	**Pn**	**16 03 48.7**	**+0.7**
KMNR	**Kamenistaya**	**3.01**	**11**	*e*P	**Pn**	**16 03 48.7**	**+0.7**
ESO	**Esso**	**3.14**	**354**	PN	**Pn**	**16 03 49.1**	**-0.6**
ESO	**Esso**	**3.14**	**354**	*e*P	**Pn**	**16 03 49.1**	**-0.6**
BZMR	**Bezymyannaya**	**3.22**	**12**	PN	**Pn**	**16 03 51.3**	**+0.5**
BZMR	**Bezymyannaya**	**3.22**	**12**	*e*P	**Pn**	**16 03 51.3**	**+0.5**
BZWR	**Bezymyannyi-We**	**3.25**	**12**	PN	**Pn**	**16 03 51.8**	**+0.6**
BZWR	**Bezymyannyi-We**	**3.25**	**12**	*e*P	**Pn**	**16 03 51.8**	**+0.6**
KLY	**Klyuchi**	**3.61**	**12**	PN	**Pn**	**16 03 57.2**	**+1.3**
KLY	**Klyuchi**	**3.61**	**12**	*e*P	**Pn**	**16 03 57.2**	**+1.3**
BDR	**Baidarnaya**	**3.94**	**16**	PN	**Pn**	**16 04 02.8**	**+2.3**
BDR	**Baidarnaya**	**3.94**	**16**	*e*P	**Pn**	**16 04 02.8**	**+2.3**
KBTR	**Krutoberegovo**	**3.99**	**30**	PN	**Pn**	**16 04 01.0**	**-0.2**
KBTR				S	**Sn**	**16 04 47.7**	**+1.0**
KBTR	**Krutoberegovo**	**3.99**	**30**	*e*P	**Pn**	**16 04 01.0**	**-0.2**
KBTR				*e*S	**Sn**	**16 04 47.7**	**+1.0**
SMKR	**Semkarok**	**4.00**	**18**	PN	**Pn**	**16 04 02.5**	**+1.2**
SMKR	**Semkarok**	**4.00**	**18**	*e*P	**Pn**	**16 04 02.5**	**+1.2**
SRKR	**Sorokina**	**4.01**	**15**	PN	**Pn**	**16 04 02.8**	**+1.3**
SRKR	**Sorokina**	**4.01**	**15**	*e*P	**Pn**	**16 04 02.8**	**+1.3**
BKI	**Bering**	**4.63**	**56**	PN	**Pn**	**16 04 08.9**	**-1.0**
BKI	**Bering**	**4.63**	**56**	*e*P	**Pn**	**16 04 08.9**	**-1.0**
BKI				*e*S	**Sn**	**16 04 57.2**	**-5.1**

*ISCJB **09** 16:12:39.9±0.3, 19°10S±0°03×69°47W±0°05, h105km±2km, mb4.5/30, Error ellipse: s-maj=7.5km s-min=4.7km az=176.4*
*GUC **09** 16:12:40.8±0.7, 19°11S×69°60W, h98km±3km, ML5.0*
*NEIC **09** 16:12:40.0±0.0, 19°08S×69°56W, h97km, mb4.5/16, ML4.6(ARE), ML5.0(GUC), After GUC.*
NEIC Felt [IV] at Codpa; [III] at Arica, Cuya and Putre; [II] at Camina, Pisagua and Poconchile. Also felt at Tacna, Peru.
*IDC **09** 16:12:41.3±0.5, 19°02S×69°31W, h100km±4km, mb4.2/16, mb1 4.3/18, mb1mx4.2/38, mbtmp4.6/18, MS3.2/5, Ms1 3.2/5, ms1mx3.0/38, Error ellipse: s-maj=16.9km s-min=13.1km az=56.0*
*SCB **09** 16:12:43.4±0.4, 18°87S×69°08W, h100km, Ml4.0/1, Error ellipse: s-maj=14.6km s-min=4.3km az=71.0*
ISC 09 16:12:40.6±0.4, 19°06S±0°03×69°48W±0°05, h96km±3km, n83, σ1°44/98, mb4.5/30, 12C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.13**	**235**	*e*Pn	**Pn**	**16 12 55.0**	**+0.6**
MNMC				*e*Sn	**Sn**	**16 13 05.7**	**+0.9**
MNMC	**Minye Minye**	**0.13**	**235**	⇓*i*P	**Pn**	**16 12 55.0**	**+0.6**
MNMC				*e*S	**Sn**	**16 13 05.4**	**+0.7**
MNMC				IAML		16 13 08.4	
	comp=E,115μm,0.6s						
PB11	**IPOC Station P**	**0.72**	**193**	*e*Pn	**Pn**	**16 12 58.2**	**+0.2**
PB11				*e*Sn	**Sn**	**16 13 10.9**	**-0.1**
PB11	**IPOC Station P**	**0.72**	**193**	⇑*i*P	**Pn**	**16 12 58.2**	**+0.2**
PB11				*e*S	**Sn**	**16 13 11.3**	**+0.3**
PB11				IAML		16 13 11.4	
	comp=N,107μm,0.7s						
PSGC	**Pisagua**	**0.81**	**228**	⇑*i*P	**Pn**	**16 12 58.5**	**-0.3**
PSGC				*e*S	**Sn**	**16 13 11.8**	**-0.6**
PSGC				IAML		16 13 12.8	
	comp=E,24μm,0.8s						
PB12	**IPOC Station P**	**0.91**	**299**	⇑*i*P	**Pn**	**16 12 59.9**	**0.0**
PB12				*e*S	**Sn**	**16 13 13.9**	**-0.5**
PB12				IAML		16 13 14.3	
	comp=N,212μm,0.3s						
ARCH	**Arica**	**0.95**	**306**	⇑*i*P	**Pn**	**16 13 00.6**	**+0.4**
ARCH				*i* S	**Sn**	**16 13 15.2**	**+0.3**
ARCH				IAML		16 13 16.2	
	comp=E,152μm,0.4s						
PB01	**IPOC Station P**	**1.98**	**180**	*e*Pn	**Pn**	**16 13 13.3**	**+0.5**
PB01				*e*Sn	**Sn**	**16 13 37.5**	**+0.1**
PB01	**IPOC Station P**	**1.98**	**180**	⇓*i*P	**Pn**	**16 13 13.1**	**+0.3**
PB01				*e*S	**Sn**	**16 13 36.8**	**-0.5**
PB01				IAML		16 13 39.6	
	comp=E,5μm,0.5s						
PB02	**IPOC Station P**	**2.29**	**190**	⇑*e*P	**Pn**	**16 13 16.8**	**-0.1**
PB02				*e*S	**Sn**	**16 13 44.0**	**-0.6**
BBOJ	**La Paz, Jacaqu**	**2.41**	**31**	⇑*i*Pn	**Pn**	**16 13 21.3**	**+2.4**
BBOJ				⇑*i*Sn	**Sn**	**16 13 49.3**	**+1.2**
	comp=E,438nm,0.7s						
BBOD	**La Paz, Gloria**	**2.55**	**19**	⇑*i*Pn	Pn	16 13 24.3	+3.5
BBOE	**La Paz, Chanca**	**2.65**	**33**	⇑*i*Pn	**Pn**	**16 13 24.3**	**+2.2**
PB07	**IPOC Station P**	**2.68**	**188**	⇓*e*P	**Pn**	**16 13 21.6**	**-0.6**
LPAZ	**La Paz**	**3.04**	**25**	P	Pn	16 13 31.1	+3.7
	comp=E,94nm,0.3s,baz=218,slow=6.8,SNR=1804						
LPAZ				LR	LR	16 14 46.3	
	comp=E,135nm,19.7s,baz=212,slow=42						
LPAZ	**La Paz**	**3.04**	**25**	⇑*i*Pn	Pn	16 13 31.1	+3.7
BBOB	**La Paz, Bander**	**3.17**	**24**	⇑*i*Pn	Pn	16 13 32.3	+3.2
ARE	**Arequipa**	**3.21**	**323**	⇑*i*P	**Pn**	**16 13 29.7**	**+0.3**
ARE				*e*S	Sn	16 13 58.0	-9.0
PB04	**IPOC Station P**	**3.32**	**191**	*e*Pn	**Pn**	**16 13 31.6**	**+0.8**
PB04				*e*Sn	**Sn**	**16 14 16.2**	**+6.8**
MOCB	**Mochara**	**4.22**	**122**	*e*Pn	Pn	16 13 47.6	+4.5
PB10	**IPOC Station P**	**4.55**	**193**	*e*Pn	**Pn**	**16 13 45.8**	**-1.4**
SIV	**San Ignacio**	**8.58**	**70**	LR	LR	16 17 57.6	
	comp=E,108nm,20.9s,baz=282,slow=38						
SIV	**San Ignacio**	**8.58**	**70**	*e*P	**Pn**	**16 14 40.8**	**-1.3**
NNA	**Nana**	**9.98**	**314**	P	Pn	**16 15 03.7**	**+2.4**
	comp=E,2.5nm,0.3s,baz=162,slow=14,SNR=2.8						
NNA				S	**Sn**	**16 16 48.0**	**-3.5**
	comp=E,3.2nm,0.3s,baz=30,slow=20,SNR=1.6						
NNA				LR	LR	16 18 47.6	
	comp=E,69nm,19.6s,baz=174,slow=36						
SAML	**Samuel**	**11.76**	**32**	*e*Pn	**Pn**	**16 15 21.7**	**-3.5**
CPUP	**Villa Florida**	**13.34**	**125**	P	**Pn**	**16 15 44.8**	**-1.4**
	comp=E,0.2nm,0.3s,baz=308,slow=13,SNR=6.5						
TRQA	**Torquist**	**20.03**	**162**	*e*P	**P**	**16 17 04.7**	**-1.3**
	comp=E,28nm,0.8s						
PTGA	**Pitinga**	**20.46**	**28**	P	**P**	**16 17 09.3**	**-1.5**
	comp=E,43nm,0.3s,baz=212,slow=18,SNR=76						
PTGA	**Pitinga**	**20.46**	**28**	*e*P	**P**	**16 17 09.0**	**-1.8**
	comp=E,31nm,0.5s						
OTAV	**Otavalo**	**21.10**	**334**	*e*P	**P**	**16 17 19.7**	**+1.7**
PLCA	**Paso Flores**	**21.62**	**182**	P	**P**	**16 17 22.6**	**-0.4**
	comp=E,24nm,0.9s,baz=24,slow=11,SNR=28						
PLCA	**Paso Flores**	**21.62**	**182**	*e*P	**P**	**16 17 23.6**	**+0.5**
	comp=E,36nm,0.9s						
YOTC	**Yotoco, Valle**	**23.87**	**343**	*e*P	**P**	**16 17 44.5**	**-1.1**
ROSC	**El Rosal**	**24.22**	**348**	LR	LR	16 28 38.4	
	comp=E,76nm,19.1s,baz=40,slow=40						
RREF	**El Recreo**	**24.50**	**346**	*e*P	**P**	**16 17 52.6**	**+0.8**
GUYC	**Guyana, Colomb**	**24.82**	**346**	*e*P	**P**	**16 17 53.0**	**-1.6**
RUSC	**La Rusia**	**25.04**	**352**	*e*P	**P**	**16 17 57.0**	**+0.4**
	comp=E,16nm,1.1s						
RUSC	**La Rusia**	**25.04**	**352**	*e*P	**P**	**16 17 55.0**	**-1.6**
BARC	**Barichara**	**25.75**	**352**	*e*P	**P**	**16 18 01.1**	**-1.6**
PTBC	**PUERTO BERRIO,**	**25.90**	**349**	*e*P	**P**	**16 18 00.8**	**-3.1**
ZARC	**Zaragoza, Cauc**	**26.91**	**348**	*e*P	**P**	**16 18 11.1**	**-1.8**
SDV	**Santo Domingo**	**27.79**	**358**	P	**P**	**16 18 20.3**	**-0.7**
	comp=E,4.3nm,0.4s,baz=205,slow=6.6,SNR=4.8						
SDV	**Santo Domingo**	**27.79**	**358**	*e*P	**P**	**16 18 18.4**	**-2.6**
RCBR	**Riachuelo**	**35.24**	**72**	P	**P**	**16 19 25.1**	**-1.2**
	comp=E,26nm,0.6s,baz=234,slow=6.3,SNR=4.0						
CMIG	**Matias Romero**	**43.75**	**324**	P	**P**	**16 20 36.5**	**-0.2**
	comp=E,3.7nm,0.7s,baz=113,slow=4.7,SNR=4.6						
TKL	**Tuckaleechee C**	**56.08**	**346**	P	**P**	**16 22 10.2**	**+0.4**
	comp=E,5.7nm,0.9s,baz=180,slow=8.1,SNR=3.4						
TXAR	**Lajitas Array**	**58.33**	**325**	P	**P**	**16 22 26.3**	**+0.4**
	comp=E,1.0nm,0.6s,baz=153,slow=6.6,SNR=8.1						
BBTS	**Babate**	**61.97**	**61**	P	**P**	**16 22 50.0**	**-0.9**
	comp=E,22nm,0.6s,baz=238,slow=0.9,SNR=3.3						
SNAA	**Sanae**	**64.75**	**161**	P	**P**	**16 23 08.9**	**+0.3**
	comp=E,3.2nm,0.6s,baz=266,slow=8.9,SNR=2.8						
SDCO	**Great Sand Dun**	**65.88**	**329**	*e*P	**P**	**16 23 17.7**	**+1.1**
	comp=E,5.1nm,0.9s						
LIC	**Lamto**	**68.25**	**75**	*e*P	**P**	**16 23 31.0**	**-0.7**
	comp=E,60nm,1.7s						
TIC	**Toumodi**	**68.42**	**75**	*e*P	**P**	**16 23 31.8**	**-1.0**
KIC	**Kosan Boka**	**68.56**	**75**	*e*P	**P**	**16 23 32.6**	**-1.1**
	comp=E,22nm,0.4s						
PFO	**Pinyon Flats O**	**68.92**	**319**	LR	LR	16 54 06.9	
	comp=E,90nm,18.3s,baz=338,slow=36						
SRU	**San Rafael Swe**	**69.44**	**327**	*e*P	**P**	**16 23 38.9**	**+0.1**
	comp=E,3.3nm,0.7s						
CCUT	**Cedar City**	**69.82**	**324**	*e*P	**P**	**16 23 42.7**	**+1.5**
	comp=E,5.4nm,0.8s						
MSU	**Marysvale**	**69.87**	**325**	*e*P	**P**	**16 23 43.0**	**+1.5**
QSPA	**South Pole Qui**	**71.12**	**180**	*e*P	**P**	**16 23 50.1**	**+1.5**
	comp=E,13nm,1.1s						
ISA	**Isabella, Lake**	**71.52**	**320**	*e*P	**P**	**16 23 52.7**	**+1.4**
	comp=E,20nm,1.8s						
R11A	**Troy Canyon, C**	**71.63**	**323**	*e*P	**P**	**16 23 53.6**	**+1.5**
	comp=E,12nm,2.0s						
PDAR	**Pinedale Array**	**71.73**	**330**	P	**P**	**16 23 52.6**	**-0.1**
	comp=E,0.5nm,0.7s,baz=108,slow=5.8,SNR=4.4						
PDAR				pP	**pP**	**16 24 17.5**	**+0.4**
	comp=E,0.7nm,0.6s,baz=118,slow=7.0,SNR=4.3						
HWUT	**Hardware Ranch**	**71.83**	**328**	*e*P	**P**	**16 23 54.2**	**+1.0**
	comp=E,3.2nm,0.7s						
KOWA	**Kowa**	**72.56**	**67**	P	**P**	**16 23 56.8**	**-1.1**
	comp=E,4.7nm,0.6s,baz=239,slow=8.4,SNR=10						
KOWA	**Kowa**	**72.56**	**67**	*e*P	**P**	**16 23 57.2**	**-0.7**
	comp=E,5.8nm,0.7s						
ULM	**Lac du Bonnet**	**72.84**	**343**	P	**P**	**16 23 58.4**	**-0.4**
	comp=E,2.2nm,0.5s,baz=144,slow=8.8,SNR=3.8						
ULM				pP	**pP**	**16 24 23.8**	**+0.5**
	comp=E,3.3nm,0.5s,baz=148,slow=5.8,SNR=3.6						
NVAR	**Mina Array Bea**	**73.25**	**322**	P	**P**	**16 24 03.6**	**+1.9**
	comp=E,44nm,1.0s,baz=136,slow=5.9,SNR=9.5						
NVAR				pP	**pP**	**16 24 27.2**	**+0.9**
	comp=E,0.7nm,0.7s,baz=117,slow=6.0,SNR=3.1						
IMW	**Indian Meadow**	**73.25**	**330**	*e*P	**P**	**16 24 02.7**	**+0.9**
	comp=E,8.4nm,1.4s						
YHH	**Holmes Hill**	**73.88**	**331**	*e*P	**P**	**16 24 05.2**	**-0.3**
	comp=E,5.5nm,1.1s						
HLID	**Hailey**	**74.70**	**328**	*e*P	**P**	**16 24 10.9**	**+0.9**
	comp=E,3.8nm,1.0s						
PAHR	**Pah Rah Range**	**74.72**	**322**	*e*P	**P**	**16 24 10.5**	**+0.2**
	comp=E,7.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.06**	**71**	P	**P**	**16 24 22.7**	**-1.2**
	comp=E,3.8nm,0.5s,baz=251,slow=5.4,SNR=20						
TORD				pP	**pP**	**16 24 49.1**	**+0.6**
	comp=E,2.8nm,0.6s,baz=254,slow=5.9,SNR=3.3						
VNDA	**Vanda**	**79.15**	**190**	P	**P**	**16 24 35.4**	**+1.0**
	comp=E,1.6nm,0.8s,baz=130,slow=5.2,SNR=2.8						
ESDC	**Sonseca Array**	**84.48**	**45**	P	**P**	**16 25 03.3**	**+0.3**
	comp=E,0.8nm,0.5s,baz=242,slow=5.7,SNR=5.1						
ESDC				pP	**pP**	**16 25 29.2**	**+1.2**
	comp=E,1.1nm,0.6s,baz=249,slow=4.7,SNR=3.0						
YKA	**Yellowknife Ar**	**88.72**	**341**	P	**P**	**16 25 23.5**	**+0.6**
	comp=E,5.1nm,0.5s,baz=134,slow=4.7,SNR=74			

0.5nm,0.3s,baz=70,slow=14,SNR=6.0
KLR Kul'dur 12.11 326 LR LR 16 42 58.0
comp=Z,8.1nm,18.9s,baz=303,slow=34
MA2 Magadan 20.67 12 P **P 16 40 37.7 +0.5**
0.5nm,0.3s,baz=186,slow=8.8,SNR=4.9
SEY Seymchan 24.11 11 P **P 16 41 13.2 +0.8**
1.6nm,0.9s,baz=186,slow=7.2,SNR=8.8
SONM Songino Array 26.91 300 P **P 16 41 37.9 -0.2**
0.3nm,0.5s,baz=98,slow=9.5,SNR=3.5
H11N2 WAKE ISLAND Hy 29.10 126 T T 17 12 30.6
baz=318,slow=75,SNR=230
H11N1 WAKE ISLAND Hy 29.11 126 T T 17 12 33.3
baz=318,slow=75,SNR=260
H11N3 WAKE ISLAND Hy 29.11 126 T T 17 12 29.0
baz=318,slow=75,SNR=201
H11S1 WAKE ISLAND Hy 29.89 128 T T 17 13 34.7
baz=320,slow=76,SNR=49
H11S3 WAKE ISLAND Hy 29.90 128 T T 17 13 33.4
baz=320,slow=76,SNR=56
H11S2 WAKE ISLAND Hy 29.91 128 T T 17 13 36.2
baz=320,slow=76,SNR=45
ZALV Zalesovo Beam 40.63 310 P **P 16 43 36.5 0.0**
1.5nm,0.4s,baz=95,slow=7.8,SNR=9.2
MKAR Makanchi Array 43.27 300 P **P 16 43 58.1 -0.2**
1.0nm,0.6s,baz=84,slow=9.3,SNR=13
KURBB Kurchatov Arra 44.89 306 P **P 16 44 10.8 -0.4**
1.5nm,0.4s,baz=81,slow=8.5,SNR=7.8
ILAR Eielson Array 46.98 34 P **P 16 44 26.0 -1.4**
0.1nm,0.5s,baz=266,slow=5.4,SNR=3.3
BVAR Borovoye Array 49.27 311 P **P 16 44 45.1 -0.2**
0.4nm,0.5s,baz=82,slow=5.1,SNR=3.8
WRA Warramunga Arr 59.73 189 P **P 16 46 01.9 +0.4**
0.1nm,0.5s,baz=5.7,slow=7.4,SNR=4.9
ASAR Alice Springs 63.46 188 P **P 16 46 26.1 -0.4**
0.2nm,0.6s,baz=8.9,slow=8.3,SNR=4.2
FINES FINESS Array B 66.77 332 P **P 16 46 46.6 -1.0**
2.1nm,0.8s,baz=228,slow=2.3,SNR=3.4
HFS Hagfors 71.94 336 P **P 16 47 19.6 0.0**
4.1nm,1.0s,baz=69,slow=7.9,SNR=5.1
AKASG Malin Array Be 72.59 322 P **P 16 47 23.1 -0.5**
0.3nm,0.4s,baz=43,slow=6.9,SNR=3.2

DJA 09 16:40:41.0±0.8, 2°S±8′×14°0E±°, h11km±4km, M4.8/4, mb5.5/2, MLv4.3/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.33**	**223**	P	Pb	16 40 49.2	+0.3
GENI				S	Sb	16 40 53.9	-0.3
JAY	**Jayapura**	**0.35**	**118**	P	Pb	16 40 49.6	+0.2
JAY				S	Sb	16 40 54.2	-0.8
MMPI	**Merauke**	**6.08**	**180**	P	Pn	16 42 11.8	+1.0
RKPI	**Ransiki, Papua**	**6.26**	**278**	P	Pn	16 42 13.0	-0.5

*JMA **09** 16:44:40.9±0.1, 22°.38N×121°.62E, h0km, M4.0*
*TAP **09** 16:44:41.5, 22°.17N×121°.38E, h19km, ML3.9, C*
ISC 09 16:44:41.1±0.9, 22°23N±0°.03×121°45E±0°.02, h14km±8km, n83, σ1°17/159, 2C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.22**	**153**	⇓P	**Pg**	**16 44 46.7**	**+0.8**
	baz=122						
LAY				eS	**Sg**	**16 44 50.5**	**+1.3**
	baz=122						
TWH	**Lutao**	**0.48**	**4**	⇑eP	**Pb**	**16 44 51.3**	**+0.1**
	baz=23						
TWH				eS	**Sb**	**16 44 59.2**	**+1.0**
	baz=23						
TAW	**Tawu**	**0.52**	**284**	⇓P	**Pg**	**16 44 51.0**	**-0.4**
	baz=294						
TAW				eS	**Sg**	**16 44 57.8**	**-0.6**
	baz=294						
EAST	**Anshuo**	**0.57**	**285**	⇓P	**Pg**	**16 44 51.9**	**-0.5**
	baz=295						
EAST				eS	**Sg**	**16 44 59.0**	**-1.0**
	baz=295						
ECL	**Taimali**	**0.58**	**309**	⇓eP	**Pg**	**16 44 52.3**	**-0.2**
	baz=319						
ECL				eS	**Sg**	**16 45 00.2**	**-0.1**
	baz=319						
TTN	**Taitung**	**0.59**	**332**	eP	**Pn**	**16 44 54.5**	**-0.5**
	baz=352						
TTN				eS	**Sn**	**16 45 04.2**	**-0.2**
	baz=352						
TSEB	**Hengchuen, Pin**	**0.60**	**237**	eP	**Pg**	**16 44 52.4**	**-0.5**
	baz=254						
TSEB				eS	**Sg**	**16 45 00.3**	**-0.7**
	baz=254						
HEN	**Hengchun**	**0.69**	**251**	⇓eP	**Pg**	**16 44 53.5**	**-1.1**
	baz=254						
HEN				eS	**Sg**	**16 45 01.9**	**-1.9**
	baz=254						
SCZT	**Fangliau**	**0.78**	**280**	⇓P	**Pg**	**16 44 55.0**	**-1.2**
	baz=287						
SCZT				eS	**Sg**	**16 45 05.2**	**-1.2**
	baz=287						
SSPT	**Xinbi**	**0.85**	**287**	eP	**Pg**	**16 44 56.9**	**-0.6**
	baz=294						
SSPT				eS	**Sg**	**16 45 07.3**	**-1.4**
	baz=294						
CHKT	**Chengkung**	**0.86**	**355**	⇑eP	**Pg**	**16 44 57.8**	**-0.1**
	baz=8.0						
CHKT				eS	**Sb**	**16 45 10.2**	**+0.9**
	baz=8.0						
SSD	**Sandimen**	**0.91**	**304**	eP	**Pg**	**16 44 57.8**	**-0.9**
	baz=311						
SSD				eS	**Sg**	**16 45 09.3**	**-1.3**
	baz=311						
FULB	**Fuli**	**0.97**	**352**	eP	**Pg**	**16 44 59.5**	**-0.4**
	baz=341						
FULB				eS	**Sb**	**16 45 14.0**	**+1.5**
	baz=341						
WLCH	**Liuqiu**	**0.99**	**277**	eP	**Pn**	**16 45 01.4**	**+0.8**
	baz=282						
SGLT	**Jiouru**	**1.01**	**299**	eP	**Pn**	**16 45 02.0**	**+1.2**
	baz=316						
TWP	**Hsiaoliuchiu**	**1.01**	**277**	eP	**Pn**	**16 45 01.5**	**+0.7**
	baz=282						
TWP				eS	**Sb**	**16 45 14.5**	**+1.0**
	baz=282						
ELDTW	**Lidau**	**1.03**	**338**	eP	**Pg**	**16 44 59.7**	**-1.3**
	baz=343						
ELDTW				eS	**Sg**	**16 45 13.1**	**-1.4**
	baz=343						
SLGT	**Liugui**	**1.06**	**316**	eP	**Pb**	**16 45 01.2**	**0.0**
	baz=326						
SLGT				eS	**Sb**	**16 45 15.6**	**+0.7**
	baz=326						
KAU	**Kaohsiung**	**1.10**	**288**	eP	**Pn**	**16 45 02.9**	**+0.8**
	baz=293						
TWM1	**Shoushan**	**1.11**	**302**	eP	**Pn**	**16 45 03.7**	**+1.4**
	baz=308						
TWF1	**Yuli**	**1.12**	**353**	eP	**Pg**	**16 45 01.3**	**-1.4**
	baz=344						
TWF1				eS	**Sg**	**16 45 17.2**	**-0.2**
	baz=344						
STYT	**Tauyuan**	**1.12**	**326**	eP	**Pg**	**16 45 01.6**	**-1.1**
	baz=340						
SGST	**Jiashian**	**1.16**	**317**	eP	**Pn**	**16 45 03.9**	**+1.0**
	baz=325						
SGST				eS	**Sn**	**16 45 19.1**	**+0.4**
	baz=325						
WSSB	**Gushan**	**1.17**	**291**	⇓eP	**Pn**	**16 45 03.6**	**+0.5**
	baz=296						
WSSB				eS	**Sn**	**16 45 20.8**	**+2.0**
	baz=296						
WTP	**Ta-pu**	**1.27**	**323**	eP	**Pb**	**16 45 05.2**	**+0.4**
	baz=340						
WTP				eS	**Sn**	**16 45 22.7**	**+1.4**
	baz=340						
CHN1	**Nanshi**	**1.27**	**318**	eP	**Pb**	**16 45 05.4**	**+0.5**
	baz=323						
CHN1				eS	**Sn**	**16 45 22.5**	**+1.1**
	baz=323						
EHY	**Hungye**	**1.27**	**355**	eP	**Pn**	**16 45 03.5**	**-0.9**
	baz=346						
EHY				eS	**Sb**	**16 45 21.9**	**+0.9**
	baz=346						
CHN3	**Shinhua**	**1.30**	**310**	eP	**Pg**	**16 45 06.1**	**-0.1**
	baz=315						
CHN3				eS	**Sn**	**16 45 25.4**	**+3.4**
	baz=315						
YUS	**Yu-Shan**	**1.33**	**340**	eP	**Pb**	**16 45 07.3**	**+1.2**
	baz=344						
ALS	**Alishan**	**1.40**	**335**	eP	**Pn**	**16 45 06.8**	**+0.3**
	baz=339						
ALS				eS	**Sn**	**16 45 26.7**	**+1.7**
	baz=339						
EGFH	**Guangfu**	**1.43**	**359**	eP	**Pn**	**16 45 06.8**	**+0.2**
	baz=348						
EGFH				eS	**Sn**	**16 45 26.6**	**+1.4**
	baz=348						
SCLT	**Jiali**	**1.49**	**309**	eP	**Pn**	**16 45 08.0**	**+0.6**
	baz=314						
SCLT				eS	**Sb**	**16 45 27.8**	**+0.5**
	baz=314						
CHN5	**Tsauling**	**1.53**	**333**	eP	**Pb**	**16 45 09.5**	**+0.2**
	baz=336						
CHN5				eS	**Sg**	**16 45 30.4**	**-0.1**
	baz=336						
CHN2	**Minshiung**	**1.57**	**326**	eP	**Pg**	**16 45 10.7**	**-0.6**
	baz=329						
CHN2				eS	**Sg**	**16 45 30.9**	**-0.8**
	baz=329						
CHY	**Chiayi**	**1.57**	**323**	eP	**Pb**	**16 45 09.7**	**-0.2**
	baz=327						
CHY				eS	**Sb**	**16 45 30.4**	**+0.7**
	baz=327						
ESL	**Shilin**	**1.57**	**360**	eP	**Pn**	**16 45 09.0**	**+0.4**
	baz=350						
ESL				eS	**Sn**	**16 45 27.8**	**-1.0**
	baz=350						
CHN8	**Yiju**	**1.59**	**314**	eP	**Pn**	**16 45 09.7**	**+0.9**
	baz=319						
CHN8				eS	**Sn**	**16 45 29.7**	**+0.6**
	baz=319						
WLGB	**Puzi**	**1.63**	**320**	eP	**Pn**	**16 45 09.2**	**-0.1**
	baz=323						
WLGB				eS	**Sb**	**16 45 31.4**	**+0.2**
	baz=323						
WGK	**Gukeng**	**1.66**	**331**	eP	**Pb**	**16 45 11.6**	**+0.2**
	baz=334						
WGK				eS	**Sg**	**16 45 33.7**	**-0.8**
	baz=334						
ENLB	**Shoufeng**	**1.67**	**5**	eP	**Pn**	**16 45 10.6**	**+0.7**
	baz=18						
ENLB				eS	**Sn**	**16 45 31.9**	**+0.8**
	baz=18						
WDLH	**Douliu**	**1.67**	**330**	eP	**Pb**	**16 45 11.3**	**-0.3**
	baz=333						
WDLH				eS	**Sb**	**16 45 33.7**	**+1.1**
	baz=333						
WJS	**Zhushan**	**1.71**	**337**	eP	**Pb**	**16 45 12.6**	**+0.2**
	baz=340						
WJS				eS	**Sg**	**16 45 35.6**	**-0.7**
	baz=340						
SMLT	**Sun Moon Lake**	**1.72**	**343**	eP	**Pb**	**16 45 12.1**	**-0.4**
	baz=346						
SMLT				eS	**Sb**	**16 45 34.9**	**+0.9**
	baz=346						
OWD	**Renai**	**1.73**	**352**	eP	**Pn**	**16 45 11.6**	**+0.7**
	baz=6.0						
OWD				eS	**Sn**	**16 45 34.6**	**+1.7**
	baz=6.0						
TYC	**Yuchr**	**1.75**	**342**	eP	**Pb**	**16 45 12.8**	**-0.2**
	baz=345						
TYC				eS	**Sb**	**16 45 35.1**	**+0.3**
	baz=345						
WNT	**Mingjian**	**1.78**	**337**	eP	**Pb**	**16 45 13.8**	**+0.2**
	baz=340						
WNT				eS	**Sb**	**16 45 36.5**	**+0.8**
	baz=340						
WSF	**Szhu**	**1.80**	**321**	eP	**Pn**	**16 45 12.4**	**+0.8**
	baz=325						
WSF				eS	**Sn**	**16 45 34.9**	**+0.6**
	baz=325						
TWD	**Chiawan**	**1.84**	**4**	eP	**Pn**	**16 45 12.5**	**+0.2**
	baz=355						
TWD				eS	**Sn**	**16 45 35.6**	**+0.2**
	baz=355						
DPDB	**Guoxing**	**1.85**	**345**	eP	**Pb**	**16 45 14.3**	**-0.5**
	baz=348						
DPDB				eS	**Sb**	**16 45 38.1**	**+0.2**
	baz=348						
WHF	**Hehuan Shan**	**1.91**	**355**	eP	**Pn**	**16 45 14.5**	**+0.9**
	baz=358						
WHF				eS	**Sn**	**16 45 38.5**	**+0.8**
	baz=358						
WDGT	**Dungji**	**1.94**	**302**	eP	**Pn**	**16 45 12.5**	**-1.1**
	baz=306						
WDGT				eS	**Sn**	**16 45 35.7**	**-2.1**
	baz=306						
TCU	**Taichung**	**2.03**	**340**	eP	**Pb**	**16 45 17.3**	**-0.5**
	baz=342						
TCU				eS	**Sb**	**16 45 42.6**	**-0.4**
	baz=342						
NNSH	**Datong**	**2.19**	**359**	eP	**Pn**	**16 45 18.8**	**+1.7**
	baz=1.0						
NNSH				eS	**Sb**	**16 45 46.8**	**-0.7**
	baz=1.0						
PNG	**Penghu**	**2.19**	**308**	eP	**Pn**	**16 45 16.2**	**-0.8**
	baz=311						
PNG				eS	**Sn**	**16 45 42.0**	**-2.0**
	baz=311						
TWQ1	**Liyutan**	**2.19**	**344**	eP	**Pb**	**16 45 19.9**	**-0.7**
	baz=346						
TWQ1				eS	**Sb**	**16 45 47.8**	**+0.2**
	baz=346						
NNS	**Nan Shan**	**2.20**	**358**	eP	**Pn**	**16 45 19.3**	**+2.0**
	baz=1.0						
NNS				eS	**Sb**	**16 45 47.8**	**0.0**
	baz=1.0						
ENA	**Nanau**	**2.20**	**7**	eP	**Pn**	**16 45 17.6**	**+0.3**
	baz=356						
ENA				eS	**Sn**	**16 45 45.5**	**+1.2**
	baz=356						
ENAH	**Nanao**	**2.23**	**9**	eP	**Pn**	**16 45 19.3**	**+1.7**
	baz=20						
ENAH				eS	**Sn**	**16 45 47.5**	**+2.5**
	baz=20						
NSY	**Sanyi**	**2.26**	**344**	eP	**Pb**	**16 45 20.9**	**-0.8**
	baz=346						
NSY				eS	**Sb**	**16 45 50.0**	**+0.4**
	baz=346						
PTSB	**Yuanli**	**2.31**	**343**	eP	**Pb**	**16 45 21.5**	**-1.0**
	baz=345						
PTSB				eS	**Sb**	**16 45 51.2**	**+0.4**
	baz=345						
NMLH	**Miaoli**	**2.37**	**345**	eP	**Pb**	**16 45 22.8**	**-0.8**
	baz=347						
NMLH				eS	**Sb**	**16 45 52.4**	**-0.3**
	baz=347						
TWC	**Suao**	**2.39**	**9**	eP	**Pn**	**16 45 21.7**	**+1.8**
	baz=358						
TWC				eS	**Sn**	**16 45 50.1**	**+1.1**
	baz=358						
ENTT	**Nioudou**	**2.40**	**3**	eP	**Pn**	**16 45 21.2**	**+1.2**
	baz=5.0						
ENTT				eS	**Sn**	**16 45 50.4**	**+1.3**
	baz=5.0						
NSTT	**Nanjuang**	**2.42**	**350**	eP	**Pb**	**16 45 22.8**	**-1.6**
	baz=337						
NSTT				eS	**Sn**	**16 45 52.8**	**+3.1**
	baz=337						
LIOB	**Emei**	**2.43**	**351**	eP	**Pn**	**16 45 22.3**	**+1.8**
	baz=337						
LIOB				eS	**Sb**	**16 45 53.3**	**-1.3**
	baz=337						
TWE	**Neicheng**	**2.48**	**5**	eP	**Pn**	**16 45 23.3**	**+2.2**
	baz=357						
TWE				eS	**Sn**	**16 45 53.5**	**+2.2**
	baz=357						
NWLT	**Wulai**	**2.53**	**1**	eP	**Pn**	**16 45 23.6**	**+1.8**
	baz=3.0						
NWLT				eS	**Sn**	**16 45 53.4**	**+0.9**
	baz=3.0						
YOJ	**Yonaguni jima**	**2.64**	**33**	P	**Pn**	**16 45 24.6**	**+1.3**
YOJ				S	**Sn**	**16 45 55.4**	**+0.2**
TIPB	**Shuangxi**	**2.75**	**7**	eP	**Pn**	**16 45 26.2**	**+1.4**
	baz=359						
TIPB				eS	**Sn**	**16 45 58.1**	**+0.3**
	baz=359						
TWB1	**Santiao Chiao**	**2.81**	**10**	eP	**Pn**	**16 45 27.9**	**+2.3**
	baz=22						
TWB1				eS	**Sn**	**16 46 01.7**	**+2.5**
	baz=22						
HATJ	**Hateruma jima**	**2.83**	**50**	P	**Pn**	**16 45 26.2**	**+0.3**
HATJ				S	**Sn**	**16 45 58.3**	**-1.5**
NWF	**Wu-fen Shan**	**2.84**	**6**	eP	**Pn**	**16 45 29.2**	**+3.0**
	baz=358						
NWF				eS	**Sn**	**16 46 02.1**	**+1.9**
	baz=358						
YM10	**YM10**	**2.91**	**2**	eP	**Pn**	**16 45 29.1**	**+2.1**
	baz=4.0						
YM10				eS	**Sn**	**16 46 04.6**	**+2.7**
	baz=4.0						
IRIF	**Iriomote-Funau**	**2.96**	**45**	P	**Pn**	**16 45 28.5**	**+0.8**
IRIF				S	**Sn**	**16 46 02.8**	**-0.3**
JKRS	**Kuro-shima**	**3.09**	**49**	P	**Pn**	**16 45 30.1**	**+0.7**
JKRS				S	**Sn**	**16 46 05.1**	**-1.1**
JIJ	**Ishigaki jima**	**3.26**	**49**	P	**Pn**	**16 45 32.0**	**+0.2**
JIJ				S	**Sn**	**16 46 08.1**	**-2.4**
KNM	**Kinmen**	**3.52**	**309**	eP	**Pn**	**16 45 35.2**	**-0.2**
	baz=309						
JISG	**Ishigakijimahi**	**3.52**	**48**	P	**Pn**	**16 45 35.3**	**-0.1**
JISG				eS	**Sn**	**16 46 15.0**	**-1.9**
JTJ	**Tarama**	**3.83**	**51**	P	**Pn**	**16 45 40.1**	**+0.4**
JTJ				eS	**Sn**	**16 46 22.7**	**-1.8**
JIRB	**Irabujima**	**4.29**	**52**	P	**Pn**	**16 45 46.3**	**+0.4**
JIRB				S	**Sn**	**16 46 34.5**	**-1.2**
JMJ	**Miyako jima 2**	**4.37**	**53**	P	**Pn**	**16 45 47.7**	**+0.7**
JMJ				S	**Sn**	**16 46 37.0**	**-0.7**
JIKM	**Ikemajima**	**4.40**	**52**	P	**Pn**	**16 45 48.1**	**+0.7**
JIKM				S	**Sn**	**16 46 37.6**	**-0.9**
JOGS	**Gusukube**	**4.42**	**55**	P	**Pn**	**16 45 48.1**	**+0.3**
JOGS				eS	**Sn**	**16 46 38.9**	**-0.2**

*MOS **09** 16:54:32.7±0.8, 49°.87N×156°.70E, h14km, mb4.2/1, Error ellipse: s-maj=38.5km s-min=5.9km az=80.0*
KRSC 09 16:54:32.7±1.2, 49°.90N×157°.00E, h16km±19km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.97**	**325**	PN	Pb	16 54 49.9	-1.1
SKR				S	Sb	16 55 02.4	-1.2
SKR	**Severo-Kuril's**	**0.97**	**325**	eP	Pb	16 54 49.9	-1.1
SKR				eS	Sb	16 55 02.4	-1.2
PAU	**Pauzhetka**	**1.58**	**356**	PN	Pb	16 55 00.8	-0.6
PAU				S	Sb	16 55 21.2	+0.2
PAU	**Pauzhetka**	**1.58**	**356**	eP	Pb	16 55 00.8	-0.6
PAU				eS	Sb	16 55 21.2	+0.2
KDTR	**Khodutka, Kamc**	**2.03**	**19**	eP	Pb	16 55 07.9	-1.2
KDTR				eS	Sb	16 55 33.5	-0.6
ASAK	**Asacha**	**2.55**	**12**	PN	Pb	16 55 16.1	-2.0
ASAK	**Asacha**	**2.55**	**12**	eP	Pb	16 55 16.1	-2.0
MTVR	**Mutnovka**	**2.69**	**16**	PN	Pb	16 55 18.1	-2.4
MTVR				S	Sb	16 55 50.8	-2.6
MTVR	**Mutnovka**	**2.69**	**16**	eP	Pb	16 55 18.1	-2.4
MTVR				eS	Sb	16 55 50.8	-2.6
RUS	**Russkaya**	**2.71**	**20**	PN	Pn	16 55 17.4	+1.9
RUS				S	Sn	16 55 50.3	+2.4
RUS	**Russkaya**	**2.71**	**20**	eP	Pn	16 55 17.4	+1.9
RUS				eS	Sn	16 55 50.3	+2.4
KRMR	**Karymshinskiy**	**3.02**	**13**	PN	Pn	16 55 22.2	+2.5
KRMR				S	Sn	16 55 58.6	+3.1
KRMR	**Karymshinskiy**	**3.02**	**13**	eP	Pn	16 55 22.2	+2.5
KRMR				eS	Sn	16 55 58.6	+3.1
APC	**Apacha**	**3.03**	**2**	PN	Pn	16 55 22.5	+2.6
APC	**Apacha**	**3.03**	**2**	eP	Pn	16 55 22.5	+2.6
PET	**Petropavlovsk**	**3.30**	**18**	ePN	Pn	16 55 26.6	+3.1
PET				eS	Sn	16 56 05.8	+3.5
PET				smax	smax		
	comp=N,2.0nm,0.6s						
PET	**Petropavlovsk**	**3.30**	**18**	eP	Pn	16 55 26.3	+2.8
PET				eS	Sn	16 56 05.5	+3.2
DALK	**Dalny**	**3.33**	**19**	PN	Pn	16 55 26.6	+2.7
DALK				S	Sb	16 56 07.5	-3.8
DALK	**Dalny**	**3.33**	**19**	eP	Pn	16 55 26.6	+2.7
DALK				eS	Sb	16 56 07.5	-3.8
UGLR	**Uglovaya**	**3.51**	**18**	PN	Pn	16 55 30.2	+3.7
UGLR	**Uglovaya**	**3.51**	**18**	eP	Pn	16 55 30.2	+3.7
AVH	**Avacha**	**3.54**	**17**	PN	Pb	16 55 31.2	-3.7
AVH	**Avacha**	**3.54**	**17**	eP	Pb	16 55 31.2	-3.7
SMAR	**Somma**	**3.55**	**18**	PN	Pb	16 55 31.3	-3.9
SMAR	**Somma**	**3.55**	**18**	eP	Pb	16 55 31.3	-3.9
SDLR	**Sedlovina**	**3.58**	**18**	PN	Pn	16 55 30.4	+2.8
SDLR	**Sedlovina**	**3.58**	**18**	eP	Pn	16 55 30.4	+2.8
KRX	**Arik**	**3.62**	**16**	PN	Pn	16 55 31.9	+3.8
KRX	**Arik**	**3.62**	**16**	eP	Pn	16 55 31.9	+3.8
SPN	**Mys Shipunski**	**3.72**	**29**	PN	Pn	16 55 33.0	+3.7
SPN	**Mys Shipunski**	**3.72**	**29**	eP	Pn	16 55 33.0	+3.7
SPN				eS	Sn	16 56 16.7	+3.9
GNL	**Ganaly**	**3.85**	**8**	PN	Pb	16 55 35.7	-4.5
GNL	**Ganaly**	**3.85**	**8**	eP	Pb	16 55 35.7	-4.5
KBTR	**Krutoberegovo**	**7.23**	**27**	PN	Pn	16 56 22.4	+4.9
KBTR	**Krutoberegovo**	**7.23**	**27**	eP	Pn	16 56 22.4	+4.9

*ISCJB **09** 17:16:02.4±1.0, 15°.0S±0°.3×177°.4W±0°.1, h372km, mb3.7/7, Error ellipse: s-maj=38.9km s-min=16.2km az=163.5*
*IDC **09** 17:16:02.7±2.3, 14°.87S×177°.46W, h355km±26km, mb3.4/7, mb1 3.7/8, mb1mx3.2/45, mbtmp4.2/8, Error ellipse: s-maj=45.8km s-min=16.1km az=147.0*
ISC 09 17:16:03.6±1.0, 15°.0S±0°.3×177°.4W±0°.1, h372km, n11, σ0°58/12, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.52**	**79**	P	**Pn**	**17 17 29.4**	**-0.7**
	11nm,0.3s,baz=84,slow=3.7,SNR=13						
WRA	**Warramunga Arr**	**46.21**	**257**	P	**P**	**17 23 52.5**	**-0.8**
	0.2nm,0.4s,baz=92,slow=6.8,SNR=5.5						
WRA				PcP	**PcP**	**17 25 22.6**	**+0.5**
	0.3nm,0.7s,baz=104,slow=3.0,SNR=4.4						
ASAR	**Alice Springs**	**46.59**	**252**	P	**P**	**17 23 56.5**	**+0.1**
	2.3nm,0.7s,baz=85,slow=8.0,SNR=60						
ASAR				PcP	**PcP**	**17 25 23.8**	**+0.2**
	1.8nm,1.2s,baz=99,slow=4.1,SNR=4.9						
PETK	**Petropavlovsk-**	**71.16**	**344**	P	**P**	**17 26 42.7**	**0.0**
	2.0nm,0.8s,baz=108,slow=8.2,SNR=4.3						
NVAR	**Mina Array Bea**	**76.65**	**44**	P	**P**	**17 27 15.6**	**+0.8**
	3.5nm,0.3s,baz=235,slow=8.0,SNR=4.8						
SEY	**Seymchan**	**81.20**	**347**	P	**P**	**17 27 38.1**	**-0.3**
	0.7nm,0.7s,baz=144,slow=7.7,SNR=6.7						
ILAR	**Eielson Array**	**82.86**	**13**	P	**P**	**17 27 46.5**	**-0.4**
	1.9nm,0.8s,baz=218,slow=5.5,SNR=15						
TXAR	**Lajitas Array**	**83.61**	**57**	P	**P**	**17 27 52.4**	**+0.7**
	0.8nm,0.8s,baz=202,slow=6.8,SNR=5.1						
BRTR	**Keskin Array B**	**143.38**	**318**	PKP	PKPbc	17 34 53.1	+0.2
	1.8nm,0.7s,baz=129,slow=1.8,SNR=10						
GERES	**GERESS Array B**	**145.06**	**347**	PKP	**PKPdf**	**17 34 57.1**	**-0.2**
	0.7nm,0.5s,baz=29,slow=3.0,SNR=5.9						
MMAI	**Mount Meron Ar**	**145.31**	**307**	PKPbc	**PKPab**	**17 35 00.0**	**+0.4**
	1.5nm,0.5s,baz=74,slow=5.2,SNR=5.7						

*NIED **09** 17:16:00, 39°.50N×143°.60E, h17km, Mw4.3 Best double couple: M0 3.55000×10^15 NP1:φ0=190.00000°, δ18.00000°, λ71.00000°. NP2:φ0=29.00000°, δ73.00000°, λ96.00000°.*
*ISCJB **09** 17:16:07.9±0.3, 39°.51N±0°.03×143°.37E±0°.04, h11km, mb4.4/66, Error ellipse: s-maj=4.9km s-min=3.2km az=43.8*
*JMA **09** 17:16:07.8±0.2, 39°.49N×143°.57E, h30km±5km, M4.4*
*IDC **09** 17:16:07.4±0.7, 39°.44N×143°.24E, h0km, mb4.0/23, mb1 4.1/25, mb1mx4.0/66, mbtmp4.0/25, ML2.9/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/68, Error ellipse: s-maj=16.4km s-min=14.4km az=137.0*
*BJI **09** 17:16:11.7, 39°.53N×143°.36E, h45km, mb4.4/39, mB4.8/26, Ms4.5/24, MS7 4.2/24*
*MOS **09** 17:16:12.6±1.1, 39°.63N×143°.24E, h41km, mb4.4/23, Error ellipse: s-maj=8.3km s-min=5.1km az=98.7*
*NEIC **09** 17:16:14.3±0.6, 39°.53N×143°.19E, h46km±5km, mb4.8/25, Error ellipse: s-maj=6.5km s-min=4.1km az=130.0*
ISC 09 17:16:09.3±0.4, 39°.50N±0°.04×143°.32E±0°.04, h11km, n184, σ2°01/203, mb4.5/66, 12C-6D, Off east coast of Honshu

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

ERM Erimo 2.51 357 *e*Pn **Pn** 17 16 51.8 +1.8
ERM Erimo 2.51 357⇑ *i*P **Pn** 17 16 50.2 +0.2
JOT Ohata 2.56 318 P **Pn** 17 16 51.1 +0.5
ASAJ Asahikawa 4.64 354 Pn **Pn** 17 17 19.9 +0.6
2.0nm,0.3s,baz=209,slow=12,SNR=38
ASAJ Sn **Sn** 17 18 16.4 +3.2
3.0nm,0.3s,baz=251,slow=31,SNR=5.8
ASAJ Asahikawa 4.64 354 *e*Pn **Pn** 17 17 19.3 0.0
ASAJ Sn **Sn** 17 18 16.4 +3.2
YUK Yuzh-Kuril'sk 4.91 22*c i*P **Pn** 17 17 22.4 -0.5
YUK *i* S **Sn** 17 18 14.7 -5.0
YUK pmax pmax
comp=Z,196nm,0.6s
YUK pmax pmax
comp=N,31nm,0.1s
YUK pmax pmax
comp=E,99nm,0.4s
YUK smax smax
comp=N,435nm,0.5s
YUK smax smax
comp=E,858nm,0.5s
MJA0 Matsu Arr-Jizo 4.98 235 *e*P **Pn** 17 17 26.3 +2.3
MJA0 pmax pmax
comp=Z,3.0nm,0.3s
MAJO Matsushiro 5.00 235 *e*Pn **Pn** 17 17 26.0 +1.7
MAJO Matsushiro 5.00 235*c i*P **Pn** 17 17 26.6 +2.3
MAT Matsushiro 5.00 235 P **Pn** 17 17 25.8 +1.5
MAT *e*S **Sn** 17 18 23.1 +1.0
MJAR Matsushiro Arr 5.00 235 Pn **Pn** 17 17 26.0 +1.8
comp=Z,3.0nm,0.3s,baz=36,slow=13,SNR=50
MJB9 Matsu-Tunnel 5.00 235 *e*Pn **Pn** 17 17 26.1 +1.9
SHO Shikotan 5.09 30*c i*P **Pn** 17 17 22.7 -2.8
SHO *i* S **Sn** 17 18 15.8 -8.4
SHO pmax pmax
comp=Z,61nm,0.5s
SHO pmax pmax
comp=N,39nm,0.4s
SHO pmax pmax
comp=E,25nm,0.3s
SHO smax smax
comp=N,116nm,0.4s
SHO smax smax
comp=E,426nm,0.4s
INU Inuyama 6.51 232 *e*Pn **Pn** 17 17 46.5 +1.6
KUR Kuril'sk 6.64 29*c i*P **Pn** 17 17 47.1 +0.4
KUR *i* S **Sn** 17 18 56.2 -6.2
KUR pmax pmax
comp=N,14nm,0.4s
KUR pmax pmax
comp=Z,40nm,0.4s
KUR pmax pmax
comp=E,20nm,0.3s
KUR smax smax
comp=N,186nm,0.4s
KUR smax smax
comp=E,78nm,0.5s
TEY Ternei 7.44 320 *e*P **Pn** 17 18 01.0 +3.3
TEY pmax pmax
comp=E,26nm,0.8s
TEY pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzh-Sakhalins 7.46 357 *e*Pn **Pn** 17 17 58.2 +0.3
YSS Yuzh-Sakhalins 7.46 357 *e*P **Pn** 17 17 59.4 +1.5
YSS *e*S **Sn** 17 19 22.1 -0.4
YSS MLR MLR
comp=Z,500nm,15.0s
YSS MLR MLR
comp=N,300nm,14.0s
YSS MLR MLR
comp=E,300nm,16.0s
USRK Ussuriysk Ar. 9.67 303 Pn **Pn** 17 18 30.7 +2.5
comp=E,0.3nm,0.3s,baz=99,slow=12,SNR=11
USRK LR LR 17 22 05.3
comp=E,468nm,21.1s,baz=112,slow=37
TYV Tymovskoe 11.37 358 *e*P **Pn** 17 18 52.4 +0.9
TYV *e* 17 20 58.2
TYV pmax pmax
comp=Z,4.0nm,0.8s
MDJ Mudanjiang 11.41 301 P **Pn** 17 18 53.6 +1.6
MDJ S **Sn** 17 20 57.6 -1.9
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,110nm,3.6s
MDJ LR LR
comp=Z,390nm,11.9s
MDJ LR LR
comp=Z,800nm,13.5s
MDJ LR LR
comp=Z,1μm,15.1s
MDJ Mudanjiang 11.41 301 *e*Pn **Pn** 17 18 53.7 +1.6
JNU Nakatsue 11.88 241 *e*Pn **Pn** 17 18 59.6 +1.0
KSRS Korea Array 12.24 265 Pn **Pn** 17 19 08.0 +4.5
comp=Z,0.2nm,0.3s,baz=88,slow=13,SNR=4.4
KSRS Korea Array 12.24 265 P **Pn** 17 19 08.0 +4.5
GRNR Gornyy 12.27 339 *e*P **Pn** 17 19 05.1 +1.3
GRNR pmax pmax
comp=Z,23nm,1.0s
KS15 Wonju Array Si 12.27 265 *e*Pn **Pn** 17 19 07.0 +3.1
KSAR Wonju Array Be 12.27 265 Pn **Pn** 17 19 08.0 +4.1
KSAR Wonju Array Be 12.27 265 P **Pn** 17 19 08.0 +4.1
KLR Kul'dur 12.76 323 Pn **Pn** 17 19 10.8 +0.3
comp=Z,0.0nm,0.3s,baz=130,slow=13,SNR=3.2
KLR LR LR 17 24 16.3
comp=Z,37nm,18.9s,baz=100,slow=38
KLR Kul'dur 12.76 323⇑ *i*P **Pn** 17 19 11.4 +0.9
NKL Nikolayevsk 13.77 353 *e*P **Pn** 17 19 23.8 -0.4
NKL pmax pmax
comp=Z,21nm,1.0s
PEA0B Petropavlovsk- 16.80 31 *e*Pn **P** 17 20 07.5 +1.0
comp=Z,59nm,1.8s
PETK Petropavlovsk- 16.80 31 Pn **P** 17 20 06.2 -0.3
comp=Z,0.1nm,0.3s,baz=201,slow=7.5,SNR=6.5
PETK Petropavlovsk- 16.80 31 *e*Pn **P** 17 20 06.6 +0.1
PETK Petropavlovsk- 16.80 31 *e*P **P** 17 20 06.6 +0.1
PEA1 Petropavlovsk- 16.80 31 *e*Pn **P** 17 20 06.2 -0.3
PET Petropavlovsk 17.13 33⇑ *e*P P 17 20 19.0 +8.9
PET pmax pmax
comp=Z,4.0nm,0.9s
ZEA Zeya 17.95 328 *e*P **Pn** 17 20 15.2 -3.5
ZEA pmax pmax
comp=Z,56nm,1.8s
ZEA MLR MLR
comp=Z,500nm,16.0s
ZEA MLR MLR
comp=N,300nm,14.0s
MA2 Magadan 20.64 11 P **P** 17 20 49.4 +0.9
comp=N,6.1nm,0.8s,baz=194,slow=8.7,SNR=22
MA2 Magadan 20.64 11⇑ *i*P **P** 17 20 48.9 +0.3
NJ2 Nanjing 21.16 257 *e*P **P** 17 20 55.7 +1.4
NJ2 pmax pmax
comp=N,10.0nm,0.5s
YAK Yakutsk 24.05 344 *e*P **P** 17 21 22.2 -1.9
YAK *e* 17 21 36.0
YAK *e*S **S** 17 25 36.0 -4.9
YAK *e**SS **sS** 17 25 51.7 +5.3
YAK pmax pmax
comp=Z,13nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,8.0nm,0.4s
YAK pmax pmax
comp=N,7.0nm,0.7s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK smax smax
comp=N,53nm,3.1s
YAK smax smax
comp=E,48nm,3.1s
SEY Seymchan 24.09 10 P **P** 17 21 24.5 0.0
comp=E,7.5nm,1.0s,baz=193,slow=7.6,SNR=35
SEY Seymchan 24.09 10⇑ *i*P **P** 17 21 25.6 +1.1
HHC Hu-ho-hao-te 24.24 283 *e*P **P** 17 21 23.4 -2.8
HHC S **S** 17 25 34.3 -10
HHC pmax pmax
comp=E,12nm,0.9s
HHC pmax pmax
comp=E,72nm,5.4s
HHC LR LR
comp=E,2μm,14.7s
HHC LR LR
comp=E,830nm,19.7s
HHC LR LR
comp=E,520nm,21.0s
YULB Yu-li 24.62 236 *e*P **P** 17 21 28.8 -0.9
comp=E,60nm,1.5s
TPUB Ta-pu 25.11 237 *e*P **P** 17 21 34.4 +0.2
comp=E,110nm,1.6s
GUMO Guam 25.85 177 *e*P **P** 17 21 42.3 +1.5
comp=E,402nm,1.6s
GUMO Guam 25.85 177 *e*P **P** 17 21 42.3 +1.5
GUMO pmax pmax
comp=Z,402nm,1.6s
BOD Bodaibo 26.33 324 *e*P **P** 17 21 44.2 -0.7
BOD pmax pmax
comp=Z,10.0nm,1.2s
ULN Ulaanbaatar 27.32 300 *e*P **P** 17 21 54.2 +0.1
comp=Z,10.0nm,1.2s
ULN Ulaanbaatar 27.32 300*c i*P **P** 17 21 54.6 +0.5
ULN pmax pmax
comp=Z,8.0nm,1.2s
SONA1 Songino Array 27.76 300 *e*P **P** 17 21 58.0 0.0
SONA0 Songino Array 27.76 300 *e*P **P** 17 21 58.6 +0.6
SONM Songino Array 27.76 300 P **P** 17 21 58.6 +0.6
comp=Z,2.5nm,0.9s,baz=109,slow=8.8,SNR=16
XAN Xi'an 27.98 270 P **P** 17 22 01.1 +1.1
XAN pP sP 17 22 12.1 +7.4
XAN pmax pmax
comp=Z,5.0nm,1.3s
H11N2 WAKE ISLAND Hy 28.29 127 T T 17 51 35.3
baz=322,slow=74
H11N1 WAKE ISLAND Hy 28.30 127 T T 17 51 31.5
baz=322,slow=74
H11N3 WAKE ISLAND Hy 28.30 127 T T 17 51 34.8
baz=322
H11S1 WAKE ISLAND Hy 29.10 129 T T 17 52 37.0
baz=321,slow=76,SNR=6.5
H11S3 WAKE ISLAND Hy 29.10 129 T T 17 52 41.4
baz=321,slow=76,SNR=4.6
H11S2 WAKE ISLAND Hy 29.11 129 T T 17 52 41.1
baz=321,slow=76
TLY Talaya 29.94 307 *e*P **P** 17 22 17.4 +0.2
comp=Z,4.7nm,0.6s
TLY Talaya 29.94 307 *e*P **P** 17 22 17.4 +0.2
TLY pmax pmax
comp=Z,5.0nm,0.6s
ZAK Zakamensk 30.01 305 *e*P **P** 17 22 17.3 -0.7
ZAK pmax pmax
comp=Z,5.0nm,1.4s
LZH Lanzhou 31.21 276 *e*P **P** 17 22 29.0 +0.2
LZH pP sP 17 22 40.7 +7.2
LZH sP pP 17 22 46.5 +14
LZH *ePP **PnPn** 17 23 32.1 +1.7
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,86nm,4.9s
LZH LR LR
comp=Z,370nm,13.0s
LZH LR LR
comp=Z,380nm,13.4s
LZH LR LR
comp=Z,430nm,16.5s
BILL Bilibino 31.24 16 *i* P **P** 17 22 30.3 +1.9
BILL *i* 17 22 44.4
BILL *i* 17 23 32.9
BILL *i* 17 25 24.0
BILL pmax pmax
comp=Z,2.0nm,1.2s
GYA Guiyang 33.16 258⇑ *i*P **P** 17 22 45.1 -0.8
GYA pP sP 17 22 58.9 +8.3
GYA PP **PP** 17 23 58.4 -2.4
GYA S **S** 17 28 01.0 -4.4
GYA sS sS 17 28 22.4 +11
GYA SS **SnSn** 17 30 03.6 -0.8
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=Z,550nm,17.4s
GYA LR LR
comp=Z,530nm,17.6s
GYA LR LR
comp=Z,490nm,18.0s
CD2 Chengdu 33.23 267 *e*P **P** 17 22 45.5 -0.9
CD2 pP sP 17 22 57.5 +6.4
CD2 sP pP 17 23 03.0 +13
CD2 S **S** 17 28 01.7 -4.6
CD2 sS sS 17 28 22.3 +10
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,870nm,11.4s
CD2 LR LR
comp=Z,1μm,14.9s
CD2 LR LR
comp=Z,630nm,12.9s
GTA Gaotai 33.35 284 *e*P **P** 17 22 48.4 +1.0
GTA pP sP 17 23 00.8 +8.6
GTA sP pP 17 23 05.4 +15
GTA S **S** 17 28 03.8 -4.3
GTA sS sS 17 28 22.4 +8.7
GTA SS **SnSn** 17 30 05.0 -3.7
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,7.8s
GTA LR LR
comp=Z,180nm,15.0s
GTA LR LR
comp=Z,570nm,14.0s
GTA LR LR
comp=Z,470nm,16.4s
UNV Unalaska Valle 36.49 50 *e*P **P** 17 23 15.7 +1.5
comp=Z,291nm,1.9s
KMI Kunming 36.85 259 P **P** 17 23 19.9 +2.0
KMI pmax pmax
comp=Z,7.0nm,0.5s
DGZ Jazzator, Alta 40.22 304*d i*P **P** 17 23 47.1 +1.3
DGZ pmax pmax
comp=Z,4.0nm,1.2s
MYLDM Lahad Datu 40.87 220 *e*P **P** 17 23 52.1 +0.8
comp=Z,37nm,1.7s
WMQ Urumqi 41.12 295 P **P** 17 23 55.4 +2.2
WMQ LR LR
comp=Z,610nm,22.9s
WMQ LR LR
comp=Z,520nm,33.1s
WMQ LR LR
comp=Z,340nm,20.5s
CHGN Chignik 41.16 46 *e*P **P** 17 23 53.0 -0.3
comp=Z,99nm,0.8s
ZAA0 Zalesovo Array 41.41 310 *e*P **P** 17 23 54.7 -0.7
comp=Z,5.7nm,1.2s
ZAA1 Zalesovo Array 41.41 310 *e*P **P** 17 23 55.0 -0.3
ZAA1 *ePcP **PcP** 17 25 53.4 +0.1
ZALV Zalesovo Beam 41.41 310 P **P** 17 23 55.0 -0.3
comp=Z,2.0nm,0.7s,baz=75,slow=8.5,SNR=11
ZALV PcP **PcP** 17 25 53.4 +0.1
comp=Z,0.9nm,0.6s,baz=94,slow=2.0,SNR=4.0
NVS Novosibirsk 42.27 312 *e*P **P** 17 23 58.9 -3.5
CM31 Chiang Mai Arr 43.59 254 *e*P **P** 17 24 12.8 -0.7
CMAR Chiang Mai Arr 43.59 254 P **P** 17 24 12.5 -1.1
comp=Z,0.3nm,0.7s,baz=42,slow=7.3,SNR=3.3
CMAR Chiang Mai Arr 43.59 254 *e*P P 17 24 20.7 +7.1
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CM01 Chiang Mai Arr 43.60 254 *e*P **P** 17 24 11.5 -2.1
MK01 Makanchi Array 44.12 300 *e*P **P** 17 24 17.5 0.0
MK31 Makanchi Array 44.12 300 *e*P **P** 17 24 17.5 -0.1
MK31 Makanchi Array 44.12 300 *e*P **P** 17 24 17.5 -0.1
MK32 Makanchi Array 44.12 300 *e*P **P** 17 24 18.1 +0.5
MKAR Makanchi Array 44.12 300 P **P** 17 24 18.1 +0.5
comp=Z,1.6nm,0.5s,baz=81,slow=9.2,SNR=21
MKAR Makanchi Array 44.12 300 *e*P **P** 17 24 17.5 0.0
comp=Z,140nm,0.6s
MAKZ Makanchi 44.33 300 *e*P **P** 17 24 18.8 -0.4
comp=Z,21nm,1.2s
MAKZ Makanchi 44.33 300 *e*P **P** 17 24 18.8 -0.4
MAKZ pmax pmax
comp=Z,21nm,1.2s
CAST Castle Rocks 44.34 36 *e*P **P** 17 24 22.3 +3.2
comp=Z,14nm,0.6s
KTH Kantishna Hill 44.87 35 *e*P **P** 17 24 24.7 +1.4
comp=Z,31nm,1.7s
SUA Susitna One 44.99 38 *e*P **P** 17 24 25.6 +1.2
comp=Z,6.3nm,0.6s
KURK Kurchatov 45.63 306 *e*P **P** 17 24 28.9 -0.6
comp=Z,11nm,1.0s
KURK Kurchatov 45.63 306*d i*P **P** 17 24 30.0 +0.5
KURK *i* *PP **sP** 17 24 37.4 +3.1
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 45.71 306 P **P** 17 24 30.1 0.0
comp=Z,2.5nm,0.4s,baz=80,slow=8.3,SNR=22
ILAR Eielson Array 46.61 34 P **P** 17 24 37.4 +0.4
comp=Z,1.1nm,0.7s,baz=264,slow=6.4,SNR=14
ILAR Eielson Array 46.61 34 *e*P **P** 17 24 38.8 +1.8
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILB Eielson Array 46.61 34 *e*P **P** 17 24 37.6 +0.6
TAPN Taplejung 47.29 273 *e*P **P** 17 24 43.8 +0.6
JIRN Jiri 48.31 274 *e*P **P** 17 24 51.8 +0.6
comp=Z,13nm,0.7s
RAMN Ramite 48.35 273 *e*P **P** 17 24 51.6 +0.3
comp=Z,36nm,1.0s
GUN Gumba 48.43 274 *e*P **P** 17 24 52.3 +0.2
comp=Z,12nm,0.5s
KKN Kakani 48.95 275 *e*P **P** 17 24 55.9 0.0
comp=Z,26nm,0.9s
PKI Pulchoki 48.96 274 *e*P **P** 17 24 56.0 -0.1
DMN Daman 49.18 275 *e*P **P** 17 24 57.8 +0.1
BVAR Borovoye Array 50.05 311 P **P** 17 25 03.5 -0.2
comp=Z,1.7nm,0.5s,baz=81,slow=8.9,SNR=13
BRVK Borovoye 50.10 311 *e*P **P** 17 25 02.7 -1.4
comp=Z,3.8nm,0.8s
BRVK Borovoye 50.10 311⇑ *i*P **P** 17 25 04.2 +0.1
BRVK pmax pmax
comp=Z,3.0nm,0.8s
OTUK Ortayu 50.23 305 P **P** 17 25 06.4 +1.3
OTUK pmax pmax
comp=Z,4.0nm,2.2s
KOLN Koldanda 50.26 276 *e*P **P** 17 25 06.2 +0.3
comp=Z,11nm,0.8s
PYUN Piuthan 50.56 276 *e*P **P** 17 25 08.6 +0.4
AAK Ala-Archa 50.67 297⇓ *e*P **P** 17 25 09.1 +0.4
AAK pmax pmax
comp=Z,2.0nm,1.0s
KSH Kashi 50.80 293 P **P** 17 25 13.1 +3.4
KSH sP sP 17 25 31.1 +17
KSH S **S** 17 32 24.1 -1.4
KSH sS sS 17 32 45.1 +14
KSH ScS **ScS** 17 34 53.7 -6.9
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH pmax pmax
comp=Z,170nm,6.5s
KSH LR LR
comp=Z,150nm,8.7s
KSH LR LR
comp=Z,280nm,6.2s
KSH LR LR
comp=Z,350nm,9.2s
INK Inuvik 51.51 28 P **P** 17 25 14.8 +0.4
comp=Z,1.0nm,0.8s,baz=354,slow=6.2,SNR=4.0
INK Inuvik 51.51 28 *e*P **P** 17 25 15.9 +1.5
comp=Z,27nm,1.9s
INK Inuvik 51.51 28 *e*P **P** 17 25 15.9 +1.5
INK pmax pmax
comp=Z,27nm,1.9s
MNAS Manas 52.09 298 P **P** 17 25 20.3 +0.9
MNAS pmax pmax
comp=Z,5.0nm,1.2s
SFK Sufi-Kurgan 52.35 294 P **P** 17 25 23.3 +1.8
KKAR Karatay Array 53.21 299 *e*P **P** 17 25 27.6 +0.1
KKAR Karatay Array 53.21 299 *e*P **P** 17 25 27.6 +0.1
SVE Sverdlovsk 54.31 318 *e*P P 17 25 23.6 -12
SVE pmax pmax
comp=Z,16nm,1.3s
ARU Arti 55.52 318 *e*P **P** 17 25 44.2 +0.1
comp=Z,18nm,1.4s
ARU Arti 55.52 318*d i*P **P** 17 25 44.4 +0.3
ARU 17 26 40.9
ARU 17 27 45.5
ARU S **S** 17 33 29.4 +0.4
ARU SS **SS** 17 37 12.1 -1.2
ARU pmax pmax
comp=Z,13nm,1.2s
ABKAR Akbulak array 57.51 310 *e*P **P** 17 25 58.0 -0.3
comp=Z,34nm,0.4s
KBL Kabul 57.95 290 *e*P **P** 17 26 01.2 -0.7
comp=Z,8.9nm,1.3s
KBL Kabul 57.95 290 *e*P **P** 17 26 01.2 -0.7
KBL pmax pmax
comp=Z,9.0nm,1.3s
AKTO Aktyubinsk 58.16 311 P **P** 17 26 02.9 0.0
comp=Z,1.4nm,0.7s,baz=79,slow=11,SNR=5.1
WR1 Warramunga Arr 59.73 190 *e*P **P** 17 26 12.7 -1.3
comp=Z,31nm,1.9s
WRA Warramunga Arr 59.73 190 P **P** 17 26 12.7 -1.3
comp=Z,9.9nm,0.8s,baz=7.4,slow=6.8,SNR=8.3
WRA Warramunga Arr 59.73 190 *e*P **P** 17 26 13.8 -0.2
WRA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 60.92 31 P **P** 17 26 21.3 -0.4
comp=Z,0.3nm,0.6s,baz=298,slow=6.8,SNR=4.9
YKA Yellowknife Ar 60.92 31 *e*P **P** 17 26 22.1 +0.4
AS01 Alice Springs 63.45 190 *e*P **P** 17 26 39.1 0.0
AS31 Alice Springs 63.45 190 *e*P **P** 17 26 38.5 -0.6
comp=Z,2.2nm,1.5s
ASAR Alice Springs 63.45 190 P **P** 17 26 39.1 0.0
comp=Z,0.4nm,0.7s,baz=8.9,slow=6.6,SNR=4.1
ASAR Alice Springs 63.45 190 *e*P P 17 26 45.7 +6.6
ASAR pmax pmax
comp=Z,1.0nm,0.8s
KRMB Red Mountain 67.03 55 *e*P **P** 17 27 04.5 +2.1
comp=Z,12nm,1.3s
FIA1 FINESS Array S 67.33 332 *e*P **P** 17 27 03.4 -0.3
FIA0 FINESS Array S 67.33 332 *e*P **P** 17 27 03.7 -0.1
FIA0 FINESS Array S 67.33 332 *e*P **P** 17 27 03.7 -0.1
FINES FINESS Array B 67.33 332 P **P** 17 27 03.7 -0.1
comp=Z,5.4nm,1.0s,baz=45,slow=8.4,SNR=6.3
FINES FINESS Array B 67.33 332 *e*P **P** 17 27 04.6 +0.8
FINES pmax pmax
comp=Z,5.0nm,1.0s
YBH Yreka Blue Hor 67.66 54 P **P** 17 27 07.1 +0.7
comp=Z,2.0nm,0.6s,baz=140,slow=7.8,SNR=4.3
VSR Storozhevoye 68.06 319⇓ *i*P **P** 17 27 09.1 +0.5
VSR pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 70.42 311 *e*P **P** 17 27 23.5 0.0
comp=Z,13nm,1.0s
KIV Kislovodsk 70.42 311 *e*P **P** 17 27 24.7 +1.2
KIV pmax pmax
comp=Z,15nm,1.1s
KBZ Khabaz 70.43 311 P **P** 17 27 22.0 -1.4
comp=Z,3.8nm,1.0s,baz=172,slow=14,SNR=4.5
KBZ Khabaz 70.43 311 P **P** 17 27 22.0 -1.4
KBZ pmax pmax
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 72.32 55 P **P** 17 27 37.0 +1.8
comp=Z,0.6nm,0.7s,baz=312,slow=6.9,SNR=4.8
HFS Hagfors 72.45 336 P **P** 17 27 35.4 +0.1
comp=Z,2.7nm,0.6s,baz=38,slow=7.3,SNR=6.5
NB2 NORSAR Subarra 72.48 338 P **P** 17 27 35.5 -0.1
comp=Z,1.3nm,0.7s,baz=37,slow=5.9
NB200 NORSAR Array S 72.48 338 *e*P **P** 17 27 35.8 +0.2
NOA NORSAR Array B 72.48 338 P **P** 17 27 35.8 +0.2
comp=Z,1.9nm,0.7s,baz=37,slow=6.0,SNR=3.8
AKASG Malin Array Be 73.25 323 P **P** 17 27 39.5 -0.8
comp=Z,1.0nm,0.7s,baz=43,slow=5.9,SNR=5.0
AKBB Malin Array Si 73.25 323 *e*P **P** 17 27 39.4 -0.9
comp=Z,20nm,1.6s
AKBB Malin Array Si 73.25 323 *e*P **P** 17 27 39.4 -0.9
AKBB pmax pmax
comp=Z,20nm,1.6s
KIEV Kiev 73.27 323 *e*P **P** 17 27 41.4 +1.1
KIEV *i* *PP **sP** 17 27 49.8 +4.6
KIEV pmax pmax
comp=Z,5.0nm,1.3s
PDAR Pinedale Array 74.88 47 P **P** 17 27 50.8 +0.6
comp=Z,0.3nm,0.6s,baz=279,slow=1.7,SNR=3.9
RVR Riverside 75.60 58 *e*P **P** 17 27 56.5 +2.3
RVR Riverside 75.60 58 *e*P **P** 17 27 56.5 +2.3
EKU East Kanab 76.78 53 *e*P **P** 17 28 03.4 +2.3
BR101 Keskin Array S 78.33 312 *e*P **P** 17 28 09.8 +0.1
BRTR Keskin Array B 78.33 312 P **P** 17 28 09.8 +0.1
comp=Z,1.0nm,1.1s,baz=35,slow=5.3,SNR=4.5
BRTR Keskin Array B 78.33 312 *e*P **P** 17 28 11.2 +1.5
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BR231 Keskin MP Arra 78.74 313 *e*P **P** 17 28 09.1 -2.8

GEC2	**GERESS Array S**	**81.39**	**329**	*e*P		**P**	**17 28 26.5**	**+0.5**
	comp=Z,17nm,1.8s								
GEC2	**GERESS Array S**	**81.39**	**329**	*e*P		**P**	**17 28 26.5**	**+0.5**
GEC2				pmax	pmax				
	comp=Z,17nm,1.8s								
GERES	**GERESS Array B**	**81.39**	**329**	P		**P**	**17 28 25.8**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=0.0,slow=1.4,SNR=3.8								
GERES	**GERESS Array B**	**81.39**	**329**	*e*P		**P**	**17 28 27.6**	**+1.6**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ANMO	**Albuquerque**	**81.86**	**51**	⇓*e*P		**P**	**17 28 30.1**	**+1.2**

*SOME **09** 17:22:05.7, 41˚.80N×87˚.32E, h0km*
*NNC **09** 17:22:50.4±2.4, 42˚.81N×86˚.04E, h0km, mb3.6, mpv3.1,*
Error ellipse: s-maj=23.5km s-min=15.4km az=87.0
ISC 09 17:22:46.1±2.2**, 42˚.5N**±0˚.1×**86˚.19E**±0˚.06**, h10**km**, n8,**
c2s70/13, 4C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.70**	**40**	Pg	**Pn**	**17 23 15.1**	**-0.8**
WMQ				Sg	**Sn**	**17 23 35.9**	**-1.9**
PDGK	**Podgornoye**	**4.98**	**282**	⇓Pn	**Pn**	**17 24 03.8**	**+2.8**
	2.2nm,0.7s						
PDGK				⇑Lg	Lg	17 25 24.7	
	7.6nm,0.5s						
ZSN	**Zaisan**	**5.02**	**350**	*e*S	**Sg**	**17 25 28.3**	**+1.3**
	4.5nm,0.4s						
ZSN	**Zaisan**	**5.02**	**350**	*e*P	**Pn**	**17 24 02.1**	**+0.7**
	1.1nm,0.2s						
MK31	**Makanchi Array**	**5.09**	**328**	⇑Pn	**Pn**	**17 24 04.1**	**+1.6**
	0.8nm,0.3s,baz=138,slow=14,SNR=48						
MK31				⇑Lg	Lg	17 25 20.9	
	14nm,0.6s,baz=138,slow=29,SNR=18						
MAKZ	**Makanchi**	**5.23**	**326**	⇓Pn	**Pn**	**17 24 06.3**	**+1.9**
	2.4nm,1.1s						
MAKZ				⇓Pg	**Pb**	**17 24 19.4**	**+1.8**
	8.1nm,1.1s						
MAKZ				⇑Sn	**Sn**	**17 25 04.8**	**+0.1**
	4.0nm,0.9s						
MAKZ				⇓Lg	Lg	17 25 26.8	
	6.7nm,0.6s						
KAPS	**Kapalarasan**	**5.66**	**302**	*e*P	**Pn**	**17 24 10.6**	**+0.4**
KAPS				*e*S	**Sg**	**17 25 42.6**	**-5.0**
MNBS	**Baschi**	**5.89**	**288**	*e*P	**Pn**	**17 24 15.1**	**+1.6**
	2.5nm,0.2s						
MNBS				*e*S	**Sg**	**17 25 50.5**	**-4.7**
	5.8nm,0.2s						

*NIED **09** 17:25:00, 36˚.70N×140˚.70E, h5km, Mw5.2 Best double couple: M0 6.52000×10^16 NP1:ϕs340.00000°, δ37.00000°, λ-87.00000°. NP2:ϕs155.00000°, δ53.00000°, λ-93.00000°.*
*BJI **09** 17:25:27.6, 36˚.61N×140˚.92E, h29km, mb5.0/59, mB5.1/65, Ms5.1/87, Ms7 4.7/80*
*IDC **09** 17:25:29.2±0.3, 36˚.75N×140˚.42E, h0km, mb5.1/49, mb1 5.1/51, mb1mx5.0/68, mbtmp5.1/51, ML4.6/2, MS4.4/53, Ms1 4.4/53, ms1mx4.3/67, Error ellipse: s-maj=10.9km s-min=7.5km az=90.0*
*JMA **09** 17:25:30.6, 36˚.72N×140˚.61E, h7km±1km, M5.4 Broadband fault plane solution: P waves. NP1: ϕs146.00000°, δ46.00000°, λ-86.00000°. NP2: ϕs320.00000°, δ44.00000°, λ-94.00000°. Principal axes: T Plg1.0000°, Azm233.0000°; N Plg3.0000°, Azm323.0000°; P Plg87.0000°, Azm125.0000°;*
*ISCJB **09** 17:25:31.0±0.4, 36˚.73N±0˚.02×140˚.47E±0˚.02, h21km±2km, mb5.3/459, MS4.5/67 Error ellipse: s-maj=2.7km s-min=2.0km az=153.0*
*MOS **09** 17:25:32.7±1.2, 36˚.82N×140˚.57E, h39km, mb5.6/163, MS4.5/38, Error ellipse: s-maj=5.8km s-min=3.8km az=96.7*
*NEIC **09** 17:25:33.2±0.9, 36˚.72N×140˚.39E, h27km±6km, mb5.4/297, Error ellipse: s-maj=2.7km s-min=1.9km az=135.0*
NEIC Felt [III] at Narita and [II] at Tokyo. Felt widely in eastern Honshu.
*GCMT **09** 17:25:33.2±0.2, 36˚.74N×140˚.54E, h12km, MW5.2/119, Moment Tensor Solution. s58,c78; s119,c191; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-7.33±.11; Mθθ2.17±.11; Mϕϕ5.16±.10; Mrθ0.48±.35; Mϕθ-2.45±.09; Mϕr1.41±.34; Best double couple: M0 7.07700×10^16 NP1:ϕs158.00000°, δ50.00000°, λ-80.00000°. NP2: ϕs323.00000°, δ41.00000°, λ-101.00000°. Principal axes: T 6.6070, Plg4.0000°, Azm241.0000°; N 0.9400, Plg7.0000°, Azm332.0000°; P -7.5470, Plg81.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 17:25:31.0±0.4**, 36.74N**±0˚.02×**140˚.58E**±0˚.02**, h15**km±2km**, h15km:pP-P, n1385, σ1°35/1484, mb5.4/468, MS4.5/69, 52C-76D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.13**	**183**	⇑P	**Pg**	**17 25 33.1**	**-1.6**
ONAJ	**Iwakimizuishiy**	**0.40**	**26**	⇑P	**Pg**	**17 25 38.6**	**-0.6**
JSB	**Shiboa**	**0.57**	**294**	⇓P	**Pb**	**17 25 43.0**	**+0.2**
JSB				S	**Sg**	**17 25 51.0**	**+1.0**
JYT	**Yasato**	**0.59**	**211**	⇑P	**Pg**	**17 25 41.9**	**-0.8**
JYT				*e*S	**Sg**	**17 25 50.0**	**-0.6**
JFK	**Kawauchi**	**0.67**	**21**	⇑P	**Pg**	**17 25 43.3**	**-0.9**
JFK				S	**Sg**	**17 25 52.6**	**-0.5**
JFT	**Otama**	**0.80**	**346**	⇑P	**Pg**	**17 25 46.4**	**-0.2**
JAG	**Ashikaga**	**0.96**	**251**	⇑P	**Pg**	**17 25 48.3**	**-1.2**
JFY	**Yanaizu**	**0.97**	**314**	⇓P	**Pg**	**17 25 49.2**	**-0.5**
JKT	**Katashina**	**1.07**	**272**	⇑P	**Pg**	**17 25 50.8**	**-0.8**
JHK	**Hiroka**	**1.35**	**293**	⇓P	**Pn**	**17 25 55.7**	**+0.4**
I30JP	**ISUMI INFRASON**	**1.44**	**189**	Pg	**Pn**	**17 25 56.0**	**-0.5**
	baz=10,slow=16,SNR=0.6						
JNS	**Sasagawa**	**1.47**	**317**	⇓P	**Pn**	**17 25 57.6**	**+0.6**
JRY	**Ryogami san**	**1.53**	**242**	⇓P	**Pn**	**17 25 57.5**	**-0.3**
JYS	**Shirataka**	**1.54**	**345**	⇓P	**Pn**	**17 25 59.0**	**+1.1**
JGK	**Kuni**	**1.57**	**264**	⇑P	**Pn**	**17 25 59.1**	**+0.8**
JIZZ	**Izumozaki**	**1.69**	**299**	P	**Pb**	**17 26 02.4**	**+0.6**
JOD2	**Odawara 2**	**1.90**	**220**	P	**Pn**	**17 26 03.3**	**+0.4**
MJAR	**Matsushiro Arr**	**1.91**	**265**	Pn	**Pn**	**17 26 04.4**	**+1.3**
	545nm,0.3s,baz=80,slow=15,SNR=1640						
MJAR				Sn	**Sn**	**17 26 29.6**	**+2.7**
	2μm,0.3s,baz=81,slow=19,SNR=22						
MJAR				LR	LR	17 26 29.8	
	comp=Z,6μm,20.3s,baz=95,slow=34						
MJAR	**Matsushiro Arr**	**1.91**	**265**	Pn	**Pn**	**17 26 04.4**	**+1.3**
MJAR				Sn	**Sn**	**17 26 29.6**	**+2.7**
MJAR	**Matsushiro Arr**	**1.91**	**265**	P	**Pn**	**17 26 04.4**	**+1.3**
MJAR						17 26 29.6	
MJAR				pmax	pmax		
	comp=Z,545nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,6μm,20.3s						
MAJO	**Matsushiro**	**1.92**	**265**	*e*Pn	**Pn**	**17 26 04.2**	**+1.1**
MAJO				*e*Sn	**Sn**	**17 26 28.7**	**+1.7**
MAJO	**Matsushiro**	**1.92**	**265**	*c i*P	**Pn**	**17 26 04.7**	**+1.6**
MAJO				*i* S	**Sn**	**17 26 28.9**	**+2.0**
MAT	**Matsushiro**	**1.92**	**265**	P	**Pn**	**17 26 04.4**	**+1.3**
MAT				S	**Sn**	**17 26 29.5**	**+2.6**
MAT	**Matsushiro**	**1.92**	**265**	P	**Pn**	**17 26 04.4**	**+1.3**
MJB9	**Matsu-Tunnel**	**1.92**	**265**	*e*Pn	**Pn**	**17 26 04.4**	**+1.3**
MJB9				*e*Sn	**Sn**	**17 26 29.4**	**+2.4**
JJN	**Nakama**	**1.97**	**281**	⇓P	**Pn**	**17 26 05.7**	**+1.9**
JYA	**Atsumi**	**1.98**	**340**	⇓P	**Pn**	**17 26 05.3**	**+1.4**
JAW	**Awa shima**	**2.01**	**329**	P	**Pn**	**17 26 05.3**	**+0.9**
JSD	**Sado**	**2.25**	**306**	P	**Pn**	**17 26 08.5**	**+0.8**
JIZS	**Izushimoda**	**2.44**	**215**	P	**Pn**	**17 26 10.4**	**+0.1**
SHZ3	**Shizuoka 3**	**2.54**	**230**	P	**Pn**	**17 26 13.1**	**+1.3**
JNY	**Yasuok**	**2.59**	**239**	P	**Pn**	**17 26 14.5**	**+2.0**
JGN	**Niukaw**	**2.68**	**260**	P	**Pn**	**17 26 15.9**	**+2.3**
JYZW	**Yoshizawa**	**2.89**	**234**	P	**Pn**	**17 26 18.5**	**+2.0**
INU	**Inuyama**	**3.20**	**245**	*e*Pn	**Pn**	**17 26 22.6**	**+1.8**
JHJ	**Hachijo jima 2**	**3.67**	**190**	Pn	**Pn**	**17 26 28.0**	**+0.8**
	comp=Z,144nm,0.3s,baz=259,slow=23,SNR=9.6						
JHJ				Sn	**Sn**	**17 27 11.6**	**+1.4**
	comp=Z,223nm,0.3s,baz=76,slow=23,SNR=6.0						
JHJ2	**Mitsune**	**3.67**	**190**	*e*Pn	**Pn**	**17 26 27.8**	**+0.6**
JHJ2				*e*Sn	**Sn**	**17 27 11.6**	**+1.4**
ERM	**Erimo**	**5.64**	**20**	*e*Pn	**Pn**	**17 26 53.9**	**-0.3**
ERM				*e*Sn	**Sn**	**17 27 58.1**	**-0.5**
ERM	**Erimo**	**5.64**	**20**	*ce*P	**Pn**	**17 26 55.1**	**+0.9**
ERM				pmax	pmax		
	comp=Z,211nm,1.2s						
ASAJ	**Asahikawa**	**7.53**	**11**	Pn	**Pn**	**17 27 20.4**	**+0.2**
	comp=Z,9.6nm,0.3s,baz=212,slow=12,SNR=94						
ASAJ				Sn	**Sn**	**17 28 46.6**	**+1.3**
	comp=Z,5.4nm,0.3s,baz=90,slow=20,SNR=3.6						
ASAJ	**Asahikawa**	**7.53**	**11**	*e*Pn	**Pn**	**17 27 20.1**	**-0.1**
ASAJ				*e*Sn	**Sn**	**17 28 45.5**	**+0.2**
GLVR	**Golovnino**	**7.95**	**27**	⇓*i*P	**Pn**	**17 27 26.3**	**+0.4**
GLVR				*i* S	**Sn**	**17 28 51.6**	**-3.9**
GRPR	**Tuman**	**8.26**	**27**	*e*P	**Pn**	**17 27 29.9**	**-0.3**
GRPR				*e*S	**Sn**	**17 28 59.0**	**-4.2**
LAGR	**Lagunnoye**	**8.32**	**27**	⇓*i*P	**Pn**	**17 27 31.2**	**+0.2**
LAGR				*i* S	**Sn**	**17 29 01.4**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**8.33**	**27**	*d i*P	**Pn**	**17 27 31.2**	**+0.1**
YUK				*i* S	**Sn**	**17 29 00.2**	**-4.6**
YUK				pmax	pmax		
	comp=E,96nm,0.6s						
YUK				pmax	pmax		
	comp=Z,229nm,0.6s						
YUK				pmax	pmax		
	comp=N,45nm,0.3s						
YUK				MLR	MLR		
	comp=Z,3μm,14.0s						
SHO	**Shikotan**	**8.57**	**32**	*c i*P	**Pn**	**17 27 33.5**	**-1.0**
SHO				*i* S	**Sn**	**17 29 03.7**	**-7.2**
SHO				pmax	pmax		
	comp=Z,159nm,0.7s						
SHO				pmax	pmax		
	comp=E,114nm,0.8s						
SHO				pmax	pmax		
	comp=N,83nm,0.6s						
JNU	**Nakatsue**	**8.74**	**248**	Pn	**Pn**	**17 27 39.7**	**+2.8**
	comp=N,1.4nm,0.3s,baz=49,slow=5.0,SNR=18						
JNU				LR	LR	17 31 15.7	
	comp=N,3μm,21.5s,baz=77,slow=40						
JNU	**Nakatsue**	**8.74**	**248**	*e*Pn	**Pn**	**17 27 38.6**	**+1.7**
TEY	**Ternei**	**8.82**	**341**	*e*P	Pn	17 27 44.1	+6.3
TEY				pmax	pmax		
	comp=N,3μm,6.0s						
TEY				pmax	pmax		
	comp=E,810nm,6.0s						
TEY				pmax	pmax		
	comp=Z,3μm,6.0s						
TEY				pmax	pmax		
	comp=N,165nm,1.1s						
TEY				pmax	pmax		
	comp=E,138nm,1.1s						
TEY				pmax	pmax		
	comp=Z,154nm,1.1s						
VLA	**Vladivostok**	**9.23**	**316**	*c i*P	**Pn**	**17 27 47.4**	**+4.0**
CBIJ	**Chichi jima**	**9.71**	**171**	*e*Pn	**Pn**	**17 27 46.5**	**-3.7**
CBIJ				*e*Sn	Sn	17 29 25.6	-13
CBIJ				Sn	Sn	17 29 32.4	-6.5
JCJ	**Chichijima**	**9.71**	**171**	Pn	**Pn**	**17 27 45.8**	**-4.3**
	baz=94,slow=15						
JCJ				Sn	**Sn**	**17 29 32.4**	**-6.5**
	comp=Z,30nm,0.3s,baz=44,slow=23,SNR=4.7						
USRK	**Ussuriysk Ar.**	**9.91**	**321**	Pn	Pn	17 27 57.9	+5.0
	comp=Z,1.9nm,0.3s,baz=128,slow=12,SNR=68						
USRK				LR	LR	17 31 12.3	
	comp=Z,1μm,20.2s,baz=131,slow=35						
KUR	**Kuril'sk**	**10.11**	**31**	*c i*P	**Pn**	**17 27 55.5**	**-0.1**
KUR				*i* S	**Sn**	**17 29 41.2**	**-7.5**
KUR				pmax	pmax		
	comp=Z,100nm,1.0s						
KUR				pmax	pmax		
	comp=E,46nm,0.7s						
KUR				pmax	pmax		
	comp=N,13nm,0.2s						
KUR				pmax	pmax		
	comp=Z,833nm,2.6s						
KUR				MLR	MLR		
	comp=Z,2μm,16.0s						
KSRS	**Korea Array**	**10.13**	**278**	Pn	Pn	17 28 00.7	+4.8
	comp=Z,0.9nm,0.3s,baz=100,slow=12,SNR=27						
KSRS				LR	LR	17 31 37.5	
	comp=Z,4μm,20.2s,baz=84,slow=37						
KS01	**Wonju Array Si**	**10.16**	**278**	*e*Pn	**Pn**	**17 27 56.6**	**+0.4**
KS15	**Wonju Array Si**	**10.17**	**278**	*e*Pn	**Pn**	**17 27 56.5**	**+0.1**
KSAR	**Wonju Array Be**	**10.17**	**278**	Pn	**Pn**	**17 28 00.7**	**+4.3**
KSAR	**Wonju Array Be**	**10.17**	**278**	P	**Pn**	**17 28 00.7**	**+4.3**
YSS	**Yuzh-Sakhalins**	**10.34**	**8**	*e*Pn	**Pn**	**17 27 57.6**	**-1.0**
YSS	**Yuzh-Sakhalins**	**10.34**	**8**	⇓*e*P	**Pn**	**17 27 58.8**	**+0.2**
YSS				*e*S	**Sn**	**17 29 51.2**	**-2.9**
YSS				pmax	pmax		
	comp=Z,600nm,3.0s						
YSS				pmax	pmax		
	comp=Z,120nm,1.1s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS				MLR	MLR		
	comp=N,1μm,12.0s						
YSS				MLR	MLR		
	comp=E,2μm,12.0s						
INCN	**Inchon**	**11.16**	**278**	*e*Pn	**Pn**	**17 28 13.1**	**+3.0**
MDJ	**Mudanjiang**	**11.46**	**317**	P	**Pn**	**17 28 16.7**	**+2.7**
MDJ				pP		17 28 22.2	
MDJ				sP		17 28 26.2	
MDJ				S	**Sn**	**17 30 24.2**	**+2.5**
MDJ				pmax	pmax		
	comp=E,92nm,1.4s						
MDJ				pmax	pmax		
	comp=E,2μm,5.2s						
MDJ				LR	LR		
	comp=E,3μm,13.5s						
MDJ				LR	LR		
	comp=E,3μm,11.6s						
MDJ				LR	LR		
	comp=E,4μm,15.9s						
MDJ	**Mudanjiang**	**11.46**	**317**	*e*Pn	**Pn**	**17 28 15.2**	**+1.2**
CN2	**Changchun**	**13.53**	**306**	*e*P	**Pn**	**17 28 45.6**	**+3.4**
CN2				*e*S	**Sn**	**17 31 14.6**	**+2.4**
CN2				pmax	pmax		
	comp=E,20nm,1.5s						
CN2				pmax	pmax		
	comp=E,200nm,5.0s						
CN2				LR	LR		
	comp=E,3μm,16.0s						
CN2				LR	LR		
	comp=E,2μm,16.0s						
CN2				LR	LR		
	comp=E,2μm,14.0s						
KLR	**Kul'dur**	**14.04**	**336**	Pn	**Pn**	**17 28 50.4**	**+1.1**
	comp=E,0.0nm,0.3s,baz=156,slow=9.7,SNR=13						
KLR				LR	LR	17 34 22.1	
	comp=E,174nm,18.2s,baz=150,slow=38						
KLR	**Kul'dur**	**14.04**	**336**	⇑*i*P	**Pn**	**17 28 51.5**	**+2.2**
TYV	**Tymovskoe**	**14.20**	**5**	*e*P	**Pn**	**17 28 49.3**	**-2.1**
TYV				*e*S	**Sn**	**17 31 24.5**	**-4.1**
TYV				pmax	pmax		
	comp=Z,36nm,1.0s						
TYV				pmax	pmax		
	comp=Z,600nm,3.2s						
TYV				smax	smax		
	comp=N,1μm,4.7s						
TYV				MLR	MLR		
	comp=Z,2μm,16.0s						
GRNR	**Gornyy**	**14.34**	**349**	*e*P	**Pn**	**17 28 51.8**	**-1.6**
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
JOW	**Kunigami**	**14.37**	**230**	*e*Pn	**Pn**	**17 28 57.6**	**+3.6**
DL2	**Dalian**	**15.13**	**284**	P	**P**	**17 29 07.9**	**-1.3**
DL2				S	**Sn**	**17 31 56.6**	**+5.2**
DL2				pmax	pmax		
	comp=Z,78nm,1.1s						
DL2				pmax	pmax		
	comp=Z,1μm,6.3s						
DL2				LR	LR		
	comp=Z,4μm,12.9s						
DL2				LR	LR		
	comp=Z,3μm,14.8s						
DL2				LR	LR		
	comp=Z,3μm,11.1s						
NKL	**Nikolayevsk**	**16.41**	**0**	*e*P	**Pn**	**17 29 16.5**	**-4.1**
NKL				pmax	pmax		
	comp=E,37nm,0.9s						
NKL				pmax	pmax		
	comp=Z,46nm,0.9s						
NKL				pmax	pmax		
	comp=Z,500nm,6.0s						
NKL				MLR	MLR		
	comp=N,2μm,16.0s						
NKL				MLR	MLR		
	comp=E,3μm,16.0s						
NKL				MLR	MLR		
	comp=Z,3μm,16.0s						
SSE	**Sheshan**	**17.04**	**256**	P	**Pn**	**17 29 28.1**	**-0.6**
SSE				S	**Sn**	**17 32 38.9**	**+1.0**
SSE				pmax	pmax		
	comp=Z,880nm,4.6s						
SSE				LR	LR		
	comp=Z,2μm,16.9s						
SSE				LR	LR		
	comp=Z,2μm,16.5s						
SKR	**Severo-Kuril's**	**17.85**	**34**	*e*P	**P**	**17 29 40.5**	**+1.3**
SKR				pmax	pmax		
	comp=Z,268nm,1.1s						
SKR				pmax	pmax		
	comp=Z,2μm,3.1s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
NJ2	**Nanjing**	**18.52**	**262**	*e*P	**P**	**17 29 45.3**	**-1.4**
NJ2				pP	**sP**	**17 29 51.0**	**-2.0**
NJ2				S	**Sn**	**17 33 14.6**	**+1.0**
NJ2				sS	**sS**	**17 33 24.4**	**0.0**
NJ2				pmax	pmax		
	comp=Z,26nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,1μm,4.3s						
NJ2				LR	LR		
	comp=Z,2μm,15.7s						
NJ2				LR	LR		
	comp=Z,4μm,20.1s						
NJ2				LR	LR		
	comp=Z,4μm,19.5s						
TIA	**Tai'an**	**18.86**	**275**	P	**P**	**17 29 50.4**	**-0.2**
TIA				pmax	pmax		
	comp=Z,790nm,8.0s						
TIA				LR	LR		
	comp=Z,1μm,12.3s						
TIA				LR	LR		
	comp=Z,2μm,12.3s						
TIA				LR	LR		
	comp=Z,3μm,12.9s						
ZEA	**Zeya**	**19.36**	**336**	*e*P	**P**	**17 29 52.6**	**-3.2**
ZEA				*i*		17 33 24.0	
ZEA				pmax	pmax		
	comp=N,65nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,71nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,3μm,16.0s						
ZEA				MLR	MLR		
	comp=E,3μm,12.0s						
ZEA				MLR	MLR		
	comp=N,2μm,14.0s						
BJI	**Beijing**	**19.39**	**287**	P	**P**	**17 29 55.3**	**-1.0**
BJI				S	**Sn**	**17 33 30.6**	**-4.1**
BJI				LR	LR		
	comp=N,3μm,15.5s						
BJI				LR	LR		
	comp=N,2μm,16.6s						
BJI				LR	LR		
	comp=N,2μm,29.4s						
BJT	**Baijiatuan**	**19.40**	**287**	*e*P	**P**	**17 29 54.5**	**-1.9**
BJT				*e*Pn	**Pn**	**17 29 55.2**	**-2.4**
BJT	**Baijiatuan**	**19.40**	**287**	*e*P	**P**	**17 29 54.5**	**-1.9**
HIA	**Hailar**	**19.64**	**316**	*e*P	**P**	**17 29 56.5**	**-2.5**
	comp=N,62nm,1.6s						
HIA	**Hailar**	**19.64**	**316**	⇓*i*P	**P**	**17 30 00.2**	**+1.2**
HIA				pmax	pmax		
	comp=Z,24nm,1.4s						
PEA0B	**Petropavlovsk-**	**20.28**	**31**	*e*P	**P**	**17 30 05.8**	**-0.1**
	comp=Z,118nm,1.2s						
PETK	**Petropavlovsk-**	**20.28**	**31**	P	**P**	**17 30 07.4**	**+1.5**
	comp=Z,34nm,1.0s,baz=219,slow=9.5,SNR=38						
PETK				PcP	**PcP**	**17 34 20.2**	**+1.1**
	comp=Z,4.9nm,0.9s,baz=242,slow=3.1,SNR=4.1						
PETK				LR	LR	17 37 32.2	
	comp=Z,2μm,21.3s,baz=223,slow=36						
PETK	**Petropavlovsk-**	**20.28**	**31**	*e*P	**P**	**17 30 07.1**	**+1.2**
PETK						17 34 20.2	
PEA1	**Petropavlovsk-**	**20.29**	**31**	*e*P	**P**	**17 30 07.4**	**+1.4**
PEA1				*e*PcP	**PcP**	**17 34 20.2**	**+1.1**
YHNB	**Yeheng**	**20.38**	**239**	*e*P	**P**	**17 30 06.1**	**-1.2**
	comp=Z,183nm,1.5s						
SARN	**Sarigan**	**20.48**	**166**	*e*P	**P**	**17 30 08.2**	**-0.2**
NACB	**Ninganchiao**	**20.56**	**238**	*e*P	**P**	**17 30 06.3**	**-2.9**
	comp=Z,53nm,1.2s						
PET	**Petropavlovsk**	**20.62**	**32**	*e*P	**P**	**17 30 09.3**	**-0.2**
	comp=Z,348nm,1.4s						
PET	**Petropavlovsk**	**20.62**	**32**	*e*P	**P**	**17 30 09.7**	**+0.1**
PET				*e*S	**S**	**17 33 52.6**	**-6.8**
PET				pmax	pmax		
	comp=Z,1μm,11.9s						
PET				pmax	pmax		
	comp=Z,190nm,1.3s						
PET				pmax	pmax		
	comp=Z,1μm,13.2s						
PET				MLR	MLR		
	comp=Z,2μm,19.0s						
PET				MLR	MLR		
	comp=Z,2μm,15.0s						
SSLB	**Suanglung**	**21.25**	**238**	*e*P	**P**	**17 30 14.1**	**-2.6**
	comp=Z,129nm,1.8s						
YULB	**Yu-li**	**21.29**	**237**	*e*P	**P**	**17 30 14.2**	**-2.8**
	comp=Z,69nm,1.5s						
TPUB	**Ta-pu**	**21.80**	**238**	*e*P	**P**	**17 30 19.8**	**-2.7**
	comp=Z,164nm,1.6s						
TWG	**Pinlang**	**21.83**	**236**	*e*P	**P**	**17 30 20.9**	**-1.9**
	comp=Z,290nm,1.1s						
WHN	**Wuhan**	**22.65**	**262**	⇓P	**P**	**17 30 30.3**	**-1.3**
WHN				S	**S**	**17 34 31.2**	**-7.9**
WHN				LR	LR		
	comp=Z,4μm,12.4s						
WHN				LR	LR		
	comp=Z,3μm,9.0s						
WHN				LR	LR		
	comp=Z,9μm,19.5s						
CLNS	**Chul'man**	**22.69**	**337**	*e*P	**P**	**17 30 29.9**	**-1.9**
CLNS				*e**PP	**sP**	**17 30 38.7**	**+0.6**
CLNS				*e*		17 34 22.8	
CLNS				*e*S	**S**	**17 34 36.2**	**-3.2**
CLNS				*e*SS	**SnSn**	**17 35 21.3**	**+12**
CLNS				pmax	pmax		
	comp=N,26nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,38nm,1.0s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,30nm,1.1s						
CLNS				pmax	pmax		
	comp=N,45nm,1.2s						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
CLNS				smax	smax		
	comp=N,229nm,8.7s						
CLNS				smax	smax		
	comp=E,231nm,8.9s						
CLNS				MLR	MLR		
	comp=E,2μm,12.0s						
CLNS				MLR	MLR		
	comp=N,2μm,16.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,15.0s						
HHC	**Hu-ho-hao-te**	**22.93**	**289**	*e*P	**P**	**17 30 32.6**	**-2.0**
HHC				pP	sP	17 30 39.6	-1.3
HHC				sP	pP	17 30 43.1	+4.1
HHC				S	**S**	**17 34 35.7**	**-8.5**
HHC				pmax	pmax		
	comp=Z,200nm,6.9s						
HHC				LR	LR		
	comp=Z,2μm,14.8s						
HHC				LR	LR		
	comp=Z,990nm,16.0s						
HHC				LR	LR		
	comp=Z,1μm,14.8s						
GUMO	**Guam**	**23.37**	**169**	P	**P**	**17 30 40.6**	**+1.6**
	comp=Z,162nm,1.0s,baz=191,slow=20,SNR=4.0						
GUMO	**Guam**	**23.37**	**169**	*e*P	**P**	**17 30 40.4**	**+1.4**
	comp=Z,298nm,1.1s						
GUMO	**Guam**	**23.37**	**169**	*e*P	**P**

CIT *e* 17 31 22.0
CIT *e* 17 31 36.6
CIT *e* 17 34 29.4
CIT pmax pmax
comp=Z,65nm,1.6s
XAN Xi'an 25.89 273 P **P** **17 31 01.3 -1.0**
XAN S **S** **17 35 30.5 -1.3**
XAN pmax pmax
comp=Z,20nm,0.9s
XAN pmax pmax
comp=Z,310nm,4.7s
XAN LR LR
comp=Z,2μm,13.5s
XAN LR LR
comp=Z,1μm,15.9s
XAN LR LR
comp=Z,2μm,15.2s
YAK Yakutsk 26.22 348 P **P** **17 31 04.1 -0.8**
comp=Z,37nm,0.6s,baz=20,slow=5.5,SNR=40
YAK LR LR 17 41 24.3
comp=Z,2μm,19.2s,baz=118,slow=36
YAK Yakutsk 26.22 348 *e*P **P** **17 31 03.7 -1.2**
comp=Z,165nm,1.2s
YAK Yakutsk 26.22 348 *e*P **P** **17 31 03.4 -1.5**
YAK *e*S **S** **17 35 35.8 -0.5**
YAK *e**SS sS 17 35 52.5 +8.6
YAK pmax pmax
comp=Z,164nm,1.4s
YAK pmax pmax
comp=N,59nm,1.3s
YAK pmax pmax
comp=E,36nm,1.5s
YAK pmax pmax
comp=Z,169nm,1.8s
YAK pmax pmax
comp=E,100nm,2.3s
YAK pmax pmax
comp=N,146nm,2.2s
YAK smax smax
comp=N,628nm,4.3s
YAK smax smax
comp=E,230nm,3.0s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,5μm,26.0s
YAK MLR MLR
comp=E,1μm,18.0s
ENH Enshi 26.64 265 *e*P **P** **17 31 07.6 -1.5**
comp=E,38nm,0.6s
ULN Ulaanbaatar 26.97 305 *e*P **P** **17 31 10.6 -1.4**
comp=E,47nm,1.2s
ULN *e*PcP **PcP** **17 34 31.8 -1.7**
ULN Ulaanbaatar 26.97 305⇑ *i*P **P** **17 31 11.1 -1.0**
ULN pmax pmax
comp=Z,46nm,1.2s
ULN Ulaanbaatar 26.97 305 P **P** **17 31 13.0 +0.9**
SNR=13
GZH Guangzhou 27.13 248 *e*P **P** **17 31 09.1 -4.4**
GZH S **S** **17 35 45.2 -6.2**
GZH LR LR
comp=Z,2μm,12.8s
GZH LR LR
comp=Z,1μm,12.2s
SEY Seymchan 27.21 12 P **P** **17 31 15.0 +1.1**
comp=Z,36nm,1.1s,baz=192,slow=6.8,SNR=56
SEY Seymchan 27.21 12⇑ *i*P **P** **17 31 14.8 +0.9**
SONA1 Songino Array 27.39 305 *e*P **P** **17 31 14.3 -1.6**
SONA1 *e*PcP **PcP** **17 34 35.0 +0.4**
SONA0 Songino Array 27.40 305 *e*P **P** **17 31 14.6 -1.3**
SONA0 *e*PcP **PcP** **17 34 35.7 +1.2**
SONM Songino Array 27.40 305 P **P** **17 31 14.6 -1.3**
comp=Z,18nm,0.6s,baz=106,slow=9.0,SNR=64
SONM PcP **PcP** **17 34 35.7 +1.2**
comp=Z,2.7nm,0.7s,baz=156,slow=1.3,SNR=5.9
SONM LR LR 17 42 13.8
comp=Z,788nm,20.1s,baz=104,slow=37
BOD Bodaibo 27.43 329 *e*P **P** **17 31 15.1 -0.8**
BOD pmax pmax
comp=Z,57nm,1.3s
TGY Tagaytay City 28.57 223 LR LR 17 43 52.6
comp=Z,159nm,18.7s,baz=52,slow=39
H11N2 WAKE ISLAND Hy 28.58 119 T T 18 01 12.0
baz=312,slow=75
H11N1 WAKE ISLAND Hy 28.59 119 T T 18 01 12.6
baz=312,slow=75,SNR=8870
H11N3 WAKE ISLAND Hy 28.60 119 T T 18 01 13.4
baz=312,slow=75,SNR=7016
H11S1 WAKE ISLAND Hy 29.27 121 T T 18 02 03.2
baz=314,slow=76
H11S3 WAKE ISLAND Hy 29.27 121 T T 18 02 00.4
baz=314,slow=76
H11S2 WAKE ISLAND Hy 29.29 121 T T 18 02 02.3
baz=314,slow=76
LZH Lanzhou 29.46 280 *e*P **P** **17 31 34.0 -0.4**
LZH pP sP 17 31 41.5 +0.5
LZH sP pP 17 31 44.6 +5.5
LZH PP **PnPn** **17 32 29.5 +1.1**
LZH PcP **PcP** **17 34 41.1 +1.2**
LZH S **S** **17 36 23.0 -5.2**
LZH pmax pmax
comp=Z,56nm,1.2s
LZH pmax pmax
comp=Z,240nm,5.4s
LZH LR LR
comp=Z,2μm,13.2s
LZH LR LR
comp=Z,3μm,14.0s
LZH LR LR
comp=Z,4μm,16.3s
IRK Irkutsk 29.80 313 *e*P **P** **17 31 36.7 -0.4**
IRK pmax pmax
comp=Z,20nm,1.4s
ZAK Zakamensk 29.93 309 *e*P **P** **17 31 36.8 -1.6**
ZAK *e* 17 32 44.5
ZAK pmax pmax
comp=Z,10.0nm,1.2s
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TLY Talaya 30.02 312 *e*P **P** **17 31 38.4 -0.7**
comp=Z,12nm,0.8s
TLY *e*PcP **PcP** **17 34 41.5 +0.7**
TLY Talaya 30.02 312 *e*P **P** **17 31 40.3 +1.2**
TLY *e*S **S** **17 36 41.2 +4.7**
TLY pmax pmax
comp=Z,17nm,1.0s
TLY MLR MLR
comp=Z,549nm,12.0s
TLY Talaya 30.02 312 P **P** **17 31 40.6 +1.6**
SNR=5.2
GYA Guiyang 30.51 260⇑ *i*P **P** **17 31 42.0 -1.7**
GYA pP sP 17 31 53.2 +2.9
GYA PcP **PcP** **17 34 45.0 +2.3**
GYA S **S** **17 36 44.8 0.0**
GYA sS sS 17 36 57.5 +5.0
GYA SS **ScP** **17 38 25.5 +0.9**
GYA pmax pmax
comp=Z,30nm,1.1s
GYA pmax pmax
comp=Z,140nm,5.4s
GYA LR LR
comp=Z,750nm,17.4s
GYA LR LR
comp=Z,680nm,17.6s
GYA LR LR
comp=Z,710nm,18.0s
CD2 Chengdu 31.00 270 *e*P **P** **17 31 48.0 0.0**
CD2 pP sP 17 31 55.5 +0.9
CD2 sP pP 17 31 58.8 +6.2
CD2 S **S** **17 36 51.5 -0.8**
CD2 sS sS 17 37 04.4 +4.4
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.0s
CD2 LR LR
comp=Z,3μm,16.9s
CD2 LR LR
comp=Z,2μm,18.4s
CD2 LR LR
comp=Z,2μm,15.4s
MOY Mondy 31.62 311 *e*P **P** **17 31 53.9 +0.6**
MOY pmax pmax
comp=Z,10.0nm,1.1s
GTA Gaotai 32.01 287 *e*P **P** **17 31 56.6 -0.3**
GTA pP sP 17 32 04.2 +0.8
GTA sP pP 17 32 06.9 +5.4
GTA PcP **PcP** **17 34 47.4 +0.9**
GTA S **S** **17 37 04.0 -4.1**
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,170nm,8.6s
GTA LR LR
comp=Z,1μm,15.0s
GTA LR LR
comp=Z,1μm,14.3s
GTA LR LR
comp=Z,680nm,16.4s
QIZ Qiongzhong 32.20 245 P **P** **17 32 00.9 +2.4**
QIZ S **S** **17 37 11.4 +0.4**
QIZ pmax pmax
comp=Z,40nm,1.6s
QIZ LR LR
comp=Z,1μm,14.3s
QIZ LR LR
comp=Z,1μm,14.3s
QIZ LR LR
comp=Z,910nm,13.8s
DAV Davao City (W) 32.55 209 LR LR 17 44 19.9
comp=Z,546nm,20.4s,baz=50,slow=35
DAV Davao City (W) 32.55 209 *e*P **P** **17 32 01.3 -0.3**
comp=Z,131nm,0.4s
KMI Kunming 34.25 261 P **P** **17 32 15.6 -1.1**
KMI pP sP 17 32 23.0 -0.3
KMI sP pP 17 32 25.9 +4.5
KMI PP **PP** **17 33 34.8 +0.5**
KMI S **S** **17 37 39.6 -3.7**
KMI SS **SnSn** **17 39 53.0 +0.8**
KMI pmax pmax
comp=Z,47nm,1.2s
KMI pmax pmax
comp=Z,280nm,4.2s
KMI LR LR
comp=Z,1μm,14.0s
KMI LR LR
comp=Z,2μm,20.8s
KMI LR LR
comp=Z,2μm,21.8s
BILL Bilibino 34.50 17*d* *i*P **P** **17 32 17.5 -0.6**
BILL *i* 17 32 29.7
BILL *i* 17 34 54.2
BILL *i* S S 17 37 35.7 -10
BILL pmax pmax
comp=Z,49nm,1.2s
BILL MLR MLR
comp=Z,599nm,17.0s
MYLDM Lahad Datu 37.36 218 *e*P **P** **17 32 42.7 -0.4**
comp=Z,59nm,1.1s
SKNT Sakolnakorn 37.81 249 P **P** **17 32 47.0 0.0**
comp=Z,12nm,1.3s
TNTI Ternate 37.82 202 *e*P **P** **17 32 45.6 -1.4**
comp=Z,150nm,1.5s
SWI Sorong 38.40 195 P **P** **17 32 50.6 -1.2**
KHON Khomkaen 39.08 249 P **P** **17 32 58.1 +0.5**
comp=Z,16nm,1.0s
LBMI Labuha 39.12 201 P **P** **17 32 56.3 -1.6**
KMSI Ubinong 39.13 207 P **P** **17 32 57.5 -0.5**
comp=Z,99nm,0.8s
GENI Genyem 39.13 181 P **P** **17 32 57.2 -0.8**
GAMB Gambell 39.32 31 *e*P **P** **17 33 00.1 +1.1**
comp=Z,56nm,2.0s
CMAI Chiengmai2 39.86 257 P **P** **17 33 04.7 +0.4**
comp=Z,149nm,1.8s
CHAI Chaiyaphum 39.98 249 P **P** **17 33 04.8 -0.3**
comp=Z,21nm,1.1s,comp=Z,198nm
MRSI Marisa 40.00 210 P **P** **17 33 05.2 0.0**
DGZ Jazzator, Alta 40.02 306*d* *i*P **P** **17 33 06.7 +1.4**
DGZ pmax pmax
comp=Z,54nm,1.0s
LAMP Lampang 40.20 254 P **P** **17 33 09.1 +2.1**
comp=Z,7.4nm,1.0s,comp=Z,91nm
FAKI Fak Fak 40.21 193 P **P** **17 33 05.9 -1.1**
FAKI Fak Fak 40.21 193 *e*P **P** **17 33 06.7 -0.3**
comp=Z,82nm,1.0s
WMQ Urumqi 40.38 297 P **P** **17 33 09.1 +0.9**
WMQ pP sP 17 33 20.5 +5.6
WMQ S **S** **17 39 14.4 -1.3**
WMQ SS **SS** **17 42 10.5 -4.0**
WMQ pmax pmax
comp=Z,70nm,0.9s
WMQ pmax pmax
comp=Z,560nm,4.1s
WMQ LR LR
comp=Z,4μm,24.7s
WMQ LR LR
comp=Z,2μm,24.7s
WMQ LR LR
comp=Z,2μm,18.9s
PHIT Phitsanulok 40.38 252 P **P** **17 33 10.4 +2.0**
comp=Z,11nm,1.2s
CMMT Chiang Mai 40.57 255 P **P** **17 33 09.2 -0.8**
comp=Z,17nm,1.6s
CHTO Chiang Mai 40.57 255 P **P** **17 33 10.2 +0.2**
comp=Z,110nm,1.1s
CHTO Chiang Mai 40.57 255 *e*P **P** **17 33 09.1 -0.9**
comp=Z,19nm,1.2s
CHTO Chiang Mai 40.57 255 *e*P **P** **17 33 09.1 -0.9**
CHTO pmax pmax
comp=Z,19nm,1.2s
CHTO Chiang Mai 40.57 255 P **P** **17 33 10.5 +0.5**
SNR=7.7
CM31 Chiang Mai Arr 40.77 255 *e*P **P** **17 33 10.4 -1.3**
CM31 *e*PcP **PcP** **17 35 13.0 +0.2**
CM31 Chiang Mai Arr 40.77 255 P **P** **17 33 13.7 +2.0**
SNR=5.4
CMAR Chiang Mai Arr 40.77 255 P **P** **17 33 11.8 +0.2**
comp=Z,3.5nm,0.9s,baz=49,slow=7.7,SNR=20
CMAR PcP **PcP** **17 35 14.4 +1.6**
comp=Z,2.5nm,0.7s,baz=25,slow=1.2,SNR=7.9
CMAR LR LR 17 52 04.0
comp=Z,1μm,18.8s,baz=62,slow=39
CMAR Chiang Mai Arr 40.77 255 P **P** **17 33 11.9 +0.2**
CMAR 17 35 14.4
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR MLR MLR
comp=Z,1μm,18.8s
CM01 Chiang Mai Arr 40.78 255 *e*P **P** **17 33 10.8 -1.0**
CM01 *e*PcP **PcP** **17 35 13.5 +0.7**
SANI Sanana 40.91 203 P **P** **17 33 11.7 -1.0**
LUWI Luwuk 41.07 208 P **P** **17 33 10.9 -3.2**
SRAK Srakaew 41.13 247 P **P** **17 33 11.6 -3.0**
comp=Z,69nm,1.1s,comp=Z,642nm
MSAI Masohi 41.33 198 P **P** **17 33 17.9 +1.7**
NAYO Nakonayok 41.47 248 P **P** **17 33 18.0 +0.6**
comp=Z,22nm,1.2s
LSA Lhasa 41.57 275 P **P** **17 33 19.4 +0.7**
LSA pmax pmax
comp=Z,19nm,1.5s
LSA Lhasa 41.57 275 *e*P **P** **17 33 19.0 +0.3**
comp=Z,30nm,1.1s
LSA Lhasa 41.57 275 *e*P **P** **17 33 19.0 +0.3**
LSA pmax pmax
comp=Z,30nm,1.1s
LSA Lhasa 41.57 275 P **P** **17 33 19.5 +0.7**
LSA Lhasa 41.57 275 P **P** **17 33 19.5 +0.7**
ZAA0 Zalesovo Array 41.62 313 *e*P **P** **17 33 17.7 -0.6**
comp=Z,29nm,0.6s
ZAA1 Zalesovo Array 41.62 313 *e*P **P** **17 33 17.9 -0.3**
ZAA1 *e*PcP **PcP** **17 35 15.2 +0.2**
ZALV Zalesovo Beam 41.62 313 P **P** **17 33 17.9 -0.3**
comp=Z,35nm,0.6s,baz=100,slow=7.0,SNR=94
ZALV PcP **PcP** **17 35 15.2 +0.2**
comp=Z,13nm,0.7s,baz=103,slow=2.1,SNR=8.9
ZALV LR LR 17 50 60.0
comp=Z,220nm,18.7s,baz=77,slow=37
ZALV Zalesovo Beam 41.62 313 *e*P **P** **17 33 17.0 -1.2**
ZALV PcP **PcP** **17 35 15.2 +0.2**
ZALV Zalesovo Beam 41.62 313 *e*P **P** **17 33 17.0 -1.2**
ZALV 17 35 15.2
NLAI Namlea 41.71 200 P **P** **17 33 19.8 +0.5**
comp=Z,69nm,0.9s,comp=Z,632nm
CHBT CHBT 41.74 245 P P 17 33 25.6 +6.0
comp=Z,4μm,0.7s,comp=Z,275μm
AAI Ambon 41.84 199 P **P** **17 33 20.6 +0.2**
comp=Z,249nm,0.8s,comp=Z,2μm
ZSN Zaisan 41.88 303 *i* P **P** **17 33 20.6 +0.1**
comp=Z,82nm,1.2s
UTHA Uthaitani 42.11 251 P **P** **17 33 23.5 +0.9**
comp=Z,5.4nm,1.2s,comp=Z,66nm
RABL Rabaul 42.13 163 *e*P **P** **17 33 22.8 0.0**
comp=Z,63nm,1.3s
BNDI Bandanaira 42.24 196 P **P** **17 33 22.9 -0.7**
comp=Z,693nm,1.0s
NVS Novosibirsk 42.56 314 *e*P **P** **17 33 25.9 0.0**
NVS *e* 17 35 17.6
NVS *e*S **S** **17 39 41.2 -6.5**
NVS pmax pmax
comp=E,29nm,1.2s
NVS pmax pmax
comp=Z,44nm,1.2s
NVS smax smax
comp=E,13nm,1.7s
SBUM Sibu 42.98 224 *e*P **P** **17 33 28.5 -1.2**
comp=E,22nm,1.3s
SDPT Sand Point 43.49 45 *e*P **P** **17 33 35.0 +1.7**
comp=E,145nm,1.3s
PHET Kaeng Krachan 43.63 248 P **P** **17 33 36.1 +1.1**
comp=E,11nm,1.0s,comp=E,152nm
MK01 Makanchi Array 43.70 302 *e*P **P** **17 33 34.1 -1.3**
MK31 Makanchi Array 43.71 302 *e*P **P** **17 33 34.6 -0.7**
MK31 Makanchi Array 43.71 302 *i* P **P** **17 33 35.2 -0.2**
MK31 pmax pmax
comp=Z,30nm,1.2s
MK32 Makanchi Array 43.71 302 *e*P **P** **17 33 35.6 +0.2**
MK32 *e*PP **PcP** **17 35 21.2 -0.9**
MKAR Makanchi Array 43.71 302 P **P** **17 33 35.6 +0.2**
comp=Z,12nm,0.8s,baz=86,slow=10,SNR=49
MKAR PcP **PcP** **17 35 21.2 -0.9**
comp=Z,4.8nm,0.8s,baz=83,slow=3.5,SNR=4.3
MKAR LR LR 17 51 44.9
comp=Z,869nm,21.0s,baz=84,slow=36
MKAR Makanchi Array 43.71 302 *e*P **P** **17 33 34.8 -0.6**
comp=Z,82nm,0.8s
MKAR PcP **PcP** **17 35 21.2 -0.9**
MKAR Makanchi Array 43.71 302 *e*P **P** **17 33 34.8 -0.6**
MKAR 17 35 21.3
MKAR pmax pmax
comp=Z,82nm,0.8s
MAKZ Makanchi 43.92 302 *e*P **P** **17 33 36.3 -0.7**
comp=Z,35nm,1.3s
MAKZ *e*PcP **PcP** **17 35 23.0 +0.1**
MAKZ Makanchi 43.92 302 *e*P **P** **17 33 36.3 -0.7**
MAKZ *e* 17 35 23.0
MAKZ pmax pmax
comp=Z,35nm,1.3s
MTKI Muara Teweh, K 44.43 218 P **P** **17 33 41.1 -0.3**
SEM Semipalatinsk 44.59 308 *i* P **P** **17 33 39.5 -3.1**
comp=Z,478nm,1.2s
SEM *e*S **S** **17 40 13.9 -4.0**
KSM Kuching 44.87 226 *e*P **P** **17 33 45.5 +0.6**
comp=Z,26nm,0.8s
BNSI Bone 45.17 209 P **P** **17 33 46.9 -0.4**
TAPN Taplejung 45.29 274 *e*P **P** **17 33 48.7 +0.1**
comp=Z,43nm,0.9s
SAUI Saumlaki 45.33 193 P **P** **17 33 49.2 +0.7**
comp=Z,271nm,1.3s,comp=Z,3μm
SAUI Saumlaki 45.33 193 *e*P **P** **17 33 49.5 +1.0**
comp=Z,544nm,1.4s
SAUI *e*PcP **PcP** **17 35 29.2 +1.2**
STKI Sintang 45.37 223 P **P** **17 33 50.0 +1.2**
KURK Kurchatov 45.59 308 *e*P **P** **17 33 49.6 -0.6**
comp=Z,149nm,1.2s
KURK *e*PcP **PcP** **17 35 28.1 -0.4**
KURK Kurchatov 45.59 308⇑ *i*P **P** **17 33 49.7 -0.6**
KURK pmax pmax
comp=Z,115nm,1.0s
KURK Kurchatov 45.59 308 P **P** **17 33 50.2 0.0**
SNR=46
KURBB Kurchatov Arra 45.66 308 P **P** **17 33 50.4 -0.4**
comp=Z,49nm,0.6s,baz=83,slow=7.9,SNR=167
KURBB PcP **PcP** **17 35 28.8 +0.1**
comp=Z,3.7nm,0.7s,baz=100,slow=3.5,SNR=4.0
ODAN Odare 45.76 273 *e*P **P** **17 33 52.3 +0.1**
comp=Z,49nm,0.8s
KAPI Kappang 45.87 210 P **P** **17 33 54.7 +1.9**
SNR=7.8
SVW2 Sparrevohn 46.16 37 *e*P **P** **17 33 56.6 +1.9**
comp=Z,38nm,1.0s
TARA Tarawa 46.17 132 *e*P **P** **17 33 54.5 -0.7**
comp=Z,256nm,1.3s
PMG Port Moresby 46.31 171 P **P** **17 33 56.2 -0.1**
comp=Z,23nm,0.8s,baz=13,slow=8.9,SNR=6.5
PMG Port Moresby 46.31 171 *e*P **P** **17 33 56.4 +0.1**
comp=Z,25nm,0.8s
PMG Port Moresby 46.31 171⇓ *i*P **P** **17 33 56.1 -0.1**
PMG pmax pmax
comp=Z,105nm,0.9s
PDGK Podgornoye 46.32 298 P **P** **17 33 55.2 -1.1**
PDGK pmax pmax
comp=Z,98nm,1.3s
RAMN Ramite 46.35 274 *e*P **P** **17 33 56.9 0.0**
comp=Z,164nm,1.1s
JIRN Jiri 46.38 275 *e*P **P** **17 33 57.5 +0.3**
comp=Z,195nm,1.0s
GUN Gumba 46.52 275 *e*P **P** **17 33 58.5 +0.2**
UZB Uzynbulak 46.70 298 *e*P **P** **17 33 57.1 -2.2**
comp=Z,356nm,1.2s
TDK Taldyqorghan 46.70 300 *i* P **P** **17 33 59.1 -0.1**
comp=Z,389nm,1.2s
SURT Suratani 46.85 244 P **P** **17 34 00.7 +0.1**
comp=Z,15nm,1.4s,comp=Z,223nm
KPKS Kokpek 46.86 298 *i* P **P** **17 33 59.6 -0.9**
comp=Z,98nm,1.2s
KPKS *e*S **S** **17 40 48.7 -1.8**
TRTT Trang 46.97 243 P **P** **17 34 02.8 +1.3**
comp=Z,11nm,0.8s
PKI Pulchoki 47.04 275 *e*P **P** **17 34 02.1 -0.3**
comp=Z,79nm,1.2s
PKIN Phulchoki 47.05 275 *e*P **P** **17 34 02.4 0.0**
KKN Kakani 47.05 276 *e*P **P** **17 34 02.4 +0.1**
SATY Saty 47.15 298 *i* P **P** **17 34 01.2 -1.6**
comp=Z,307nm,1.2s
IM3 Indian Mountai 47.25 31 *e*P **P** **17 34 04.5 +1.5**
IM3 *e*PcP **PcP** **17 35 35.1 +1.0**
DMN Daman 47.26 276 *e*P **P** **17 34 04.1 +0.1**
comp=Z,144nm,1.5s
PRZ Przheval'sk 47.30 297 P **P** **17 34 05.0 +0.9**
PRZ pmax pmax
comp=Z,77nm,1.3s
OHAK Old Harbor 47.43 42 *e*P **P** **17 34 05.6 +1.0**
comp=Z,75nm,1.3s
KDAK Kodiak Island 47.77 42 P **P** **17 34 08.3 +1.1**
comp=Z,25nm,1.0s,baz=270,slow=3.9,SNR=9.8
KDAK Kodiak Island 47.77 42 *e*P **P** **17 34 07.4 +0.2**
comp=Z,170nm,1.7s
KDAK Kodiak Island 47.77 42*ce*P **P** **17 34 09.7 +2.5**
PPLA Purkeypile 47.79 35 *e*P **P** **17 34 08.9 +1.4**
comp=Z,128nm,1.6s
CAST Castle Rocks 47.85 34 *e*P **P** **17 34 09.6 +1.8**
comp=Z,40nm,1.4s
SPU Mount Spurr 47.87 37 *e*P **P** **17 34 09.4 +1.3**
PKDT Phuket 47.90 244 P **P** **17 34 09.3 +0.5**
comp=Z,24nm,1.1s
TARG Taragay, Kyrgy 47.93 296 *e*P **P** **17 34 09.7 +0.4**
comp=Z,44nm,1.1s
DANN Dangsing 48.02 277 *e*P **P** **17 34 10.8 +0.8**
KULM Kulim 48.09 239 *e*P **P** **17 34 10.2 0.0**
comp=Z,28nm,1.2s
MDOK Medeo 48.09 298 *i* P **P** **17 34 08.5 -1.6**
comp=Z,352nm,1.2s
MDOK LR LR 17 53 55.3
comp=Z,572nm,17.0s
AAA Alma-Ata 48.17 298 *i* P **P** **17 34 10.7 0.0**
comp=Z,382nm,1.2s
AAA LR LR 17 54 01.2
comp=Z,535nm,15.7s
KDJ Kajisay 48.27 297 *e*P **P** **17 34 11.8 +0.2**
comp=Z,40nm,1.4s
KDJ Kajisay 48.27 297 P **P** **17 34 11.8 +0.2**
KDJ pmax pmax
comp=Z,40nm,1.4s
BPAW Bear Paw Mtn. 48.34 33 *e*P **P** **17 34 13.1 +1.5**
comp=Z,35nm,1.4s
KTH Kantishna Hill 48.37 34 *e*P **P** **17 34 13.2 +1.3**
comp=Z,58nm,1.2s
KOLN Koldanda 48.40 277 *e*P **P** **17 34 12.8 0.0**
comp=Z,155nm,1.5s
KUU Kurty 48.40 299⇓ *i*P **P** **17 34 10.0 -2.4**
comp=Z,271nm,1.2s
IPM Ipoh 48.41 238 *e*P **P** **17 34 12.1 -0.7**
comp=Z,20nm,0.9s
MLY Manley 48.45 32 *e*P **P** **17 34 14.2 +1.6**
comp=Z,51nm,1.5s
SUA Susitna One 48.50 37 *e*P **P** **17 34 13.4 +0.5**
comp=Z,71nm,1.4s

MYKOM **Kota Tinggi** 48.55 233 *e*P P 17 34 13.5 -0.2
comp=Z,22nm,1.1s
TRF **Thorofare Moun** 48.65 34 *e*P P 17 34 15.2 +1.0
comp=Z,17nm,1.0s
SOEI **Soe** 48.72 202 P P 17 34 14.2 -0.9
SOEI pP **sP** 17 34 22.0 +0.2
SOEI **Soe** 48.72 202 *e*P P 17 34 13.9 -1.2
comp=Z,360nm,1.3s
COLD **Coldfoot** 48.74 29 *e*P P 17 34 15.6 +1.1
comp=Z,13nm,1.1s
PYUN **Piuthan** 48.74 277 *e*P P 17 34 15.6 +0.2
comp=Z,269nm,1.3s
TPRI **Tanjung Pinang** 48.79 231 P P 17 34 16.1 +0.5
RC01 **Rabbit Creek A** 49.00 37 *e*P P 17 34 17.6 +0.9
comp=Z,52nm,1.2s
TOLK **Toolik Lake Re** 49.04 27 P P 17 34 18.5 +1.6
baz=267,SNR=17
TOLK **Toolik Lake Re** 49.04 27 *e*P P 17 34 18.2 +1.3
comp=Z,36nm,1.3s
BMNS **Besmoynak** 49.08 299 *i* P P 17 34 16.0 -1.8
comp=Z,678nm,1.2s
TKM2 **Tokmak 2** 49.18 298 P P 17 34 19.4 +0.8
SNR=60
TKM2 **Tokmak 2** 49.18 298 P P 17 34 19.4 +0.8
TKM2 pmax pmax
comp=Z,46nm,1.1s
SEW **Seward** 49.21 38 *e*P P 17 34 18.8 +0.5
comp=Z,56nm,1.2s
MCK **McKinley** 49.25 34 *e*P P 17 34 19.7 +1.1
comp=Z,30nm,1.2s
MCK **McKinley** 49.25 34 *e*P P 17 34 19.7 +1.1
MCK pmax pmax
comp=Z,30nm,1.2s
PMR **Palmer** 49.26 36 *e*P P 17 34 18.9 +0.3
comp=Z,42nm,1.2s
PMR **Palmer** 49.26 36 *e*P P 17 34 18.9 +0.3
PMR pmax pmax
comp=Z,43nm,1.2s
RND **Reindeer** 49.30 34 *e*P P 17 34 19.6 +0.5
comp=Z,48nm,1.2s
RND **Reindeer** 49.30 34 *e*P P 17 34 19.6 +0.5
RND pmax pmax
comp=Z,48nm,1.2s
NRN **Naryn** 49.31 296 P P 17 34 19.8 0.0
NRN pmax pmax
comp=Z,15nm,0.9s
BATI **Baumata** 49.33 202 P P 17 34 20.2 +0.5
comp=Z,135nm,0.8s,baz=197,slow=3.6,SNR=24
BATI LR LR 17 52 59.1
comp=Z,198nm,21.8s,baz=4.5,slow=34
BATI **Baumata** 49.33 202 P P 17 34 19.9 +0.2
HNR **Honiara** 49.40 154 P P 17 34 21.2 +1.0
comp=Z,42nm,0.9s,baz=329,slow=7.5,SNR=2.5
HNR LR LR 17 53 54.0
comp=Z,309nm,21.7s,baz=342,slow=34
HNR **Honiara** 49.40 154 *e*P P 17 34 20.0 -0.2
comp=Z,100nm,1.0s
BRZS **Berezniki** 49.46 308 *i* P P 17 34 19.3 -1.1
comp=Z,71nm,0.7s
BRZS *e*S **S** 17 41 25.0 -2.1
MDM **Murphy Dome** 49.52 32 *e*P P 17 34 21.9 +1.3
comp=Z,71nm,1.2s
SML **Sawmill** 49.63 36 *e*P P 17 34 22.5 +1.0
comp=Z,27nm,1.0s
SML **Sawmill** 49.63 36 *e*P P 17 34 22.5 +1.0
SML pmax pmax
comp=Z,27nm,1.0s
KZA **Kyzart** 49.66 297 P P 17 34 23.9 +1.3
SNR=16
COLA **College** 49.69 32 *e*P P 17 34 22.3 +0.5
comp=Z,80nm,1.7s
COLA **College** 49.69 32 *e*P P 17 34 22.3 +0.5
COLA pmax pmax
comp=Z,80nm,1.7s
BTLS **Baital** 49.70 301 *i* P P 17 34 20.6 -1.7
comp=Z,295nm,1.2s
BTLS *e*S **S** 17 41 28.1 -2.4
CCB **Clear Creek Bu** 49.71 32 *e*P P 17 34 22.9 +0.8
comp=Z,42nm,1.7s
CCB *e*PcP **PcP** 17 35 42.6 -0.3
KBK **Karagaybulak** 49.71 298 P P 17 34 23.3 +0.7
SNR=37
CHMS **Chumysh** 49.76 299 P P 17 34 23.1 +0.3
SNR=10
USP **Ospenovka** 49.86 299 P P 17 34 23.9 +0.3
SNR=22
FRU1 **Bishkek** 49.89 299 P P 17 34 24.2 +0.3
FRU1 pmax pmax
comp=Z,72nm,1.5s
FRU **Bishkek** 49.90 299 *e*P P 17 34 23.0 -0.9
FRU pmax pmax
comp=Z,100nm,1.6s
KSH **Kashi** 49.91 294 P P 17 34 28.4 +4.3
KSH sP sP 17 34 40.5 +10
KSH PcP **PcP** 17 35 48.1 +3.7
KSH S **S** 17 41 36.6 +2.7
KSH ScS **ScS** 17 44 13.1 -2.1
KSH SS **SS** 17 45 04.9 -1.5
KSH pmax pmax
comp=Z,28nm,1.5s
KSH pmax pmax
comp=Z,210nm,4.8s
KSH LR LR
comp=Z,1μm,19.0s
KSH LR LR
comp=Z,900nm,16.1s
KSH LR LR
comp=Z,610nm,21.9s
DHY **Denali Highway** 49.99 34 *e*P P 17 34 24.8 +0.4
comp=Z,72nm,1.8s
AAK **Ala-Archa** 50.04 298 P P 17 34 25.4 +0.3
SNR=14
AAK **Ala-Archa** 50.04 298 *e*P P 17 34 24.9 -0.2
comp=Z,43nm,1.6s
AAK *e*PcP **PcP** 17 35 44.6 -0.2
AAK **Ala-Archa** 50.04 298⇑ *i*P P 17 34 26.0 +0.9
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK **Ala-Archa** 50.04 298 P P 17 34 25.4 +0.3
SNR=8.7
AAK **Ala-Archa** 50.04 298 *i* P P 17 34 25.4 +0.3
SNR=20
AAK **Ala-Archa** 50.04 298 *i* P P 17 34 25.4 +0.3
SNR=20
OTUK **Ortayu** 50.06 306 P P 17 34 24.5 -0.5
OTUK pmax pmax
comp=Z,50nm,1.1s
HDA **Harding Lake** 50.09 33 *e*P P 17 34 25.5 +0.5
comp=Z,61nm,1.4s
SCM **Sheep Creek Mo** 50.10 36 *e*P P 17 34 25.8 +0.6
comp=Z,50nm,1.2s
SCM **Sheep Creek Mo** 50.10 36 *e*P P 17 34 25.8 +0.6
SCM pmax pmax
comp=Z,50nm,1.2s
ILAR **Eielson Array** 50.10 32 P P 17 34 25.8 +0.7
comp=Z,16nm,1.1s,baz=269,slow=5.7,SNR=68
ILAR LR LR 17 56 57.5
comp=Z,440nm,20.4s,baz=276,slow=38
ILB **Eielson Array** 50.10 32 *e*P P 17 34 24.9 -0.2
IL1 **Eielson Array** 50.10 32 *e*P P 17 34 25.6 +0.5
MTN **Manton Dam** 50.11 192 *e*P P 17 34 25.1 -0.5
comp=Z,84nm,1.0s
UCH **Uchtor** 50.14 298 P P 17 34 27.1 +0.9
SNR=11
BVA0 **Borovoye Array** 50.27 312 P P 17 34 25.1 -1.4
BVA0 pmax pmax
comp=Z,28nm,1.0s
BVAR **Borovoye Array** 50.27 312 P P 17 34 26.7 +0.1
comp=Z,10.0nm,0.6s,baz=78,slow=6.9,SNR=71
BVAR PcP **PcP** 17 35 45.8 +0.5
comp=Z,5.1nm,0.6s,baz=76,slow=6.1,SNR=3.5
BRVK **Borovoye** 50.33 312 *e*P P 17 34 26.5 -0.4
comp=Z,36nm,1.1s
BRVK *e*PcP **PcP** 17 35 45.4 0.0
BRVK **Borovoye** 50.33 312 *d i*P P 17 34 26.9 0.0
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK **Borovoye** 50.33 312 P P 17 34 27.4 +0.5
SNR=16
COEN **Coen** 50.48 177 *e*P P 17 34 28.4 +0.1
comp=Z,73nm,0.9s
EKS2 **Erkin-Say** 50.54 299 P P 17 34 28.6 -0.3
SNR=17
FYU **Fort Yukon** 50.70 30 *e*P P 17 34 31.1 +1.6
comp=Z,55nm,1.3s
AML **Almayashu** 50.75 298 P P 17 34 31.5 +0.7
SNR=58

KLU **Klutina** 50.80 36 *e*P P 17 34 31.4 +0.9
comp=Z,33nm,1.2s
PAX **Paxson** 50.86 34 *e*P P 17 34 32.3 +1.4
PAX *e*PcP **PcP** 17 35 48.7 +1.3
PAX **Paxson** 50.86 34 *e*P P 17 34 32.3 +1.4
PAX *e* 17 35 48.7
DIV **Divide** 50.91 37 *e*P P 17 34 33.1 +1.8
comp=Z,96nm,1.4s
HARP **HAARP** 51.06 35 *e*P P 17 34 34.8 +2.4
comp=Z,46nm,1.1s
PSI **Prapat** 51.07 239 P P 17 34 33.3 +0.2
comp=Z,111nm,0.7s,baz=360,slow=7.3,SNR=7.9
PSI LR LR 17 57 20.3
comp=Z,273nm,18.3s,baz=31,slow=37
PSI **Prapat** 51.07 239 *e*P P 17 34 32.6 -0.4
comp=Z,28nm,1.1s
PSI *e*PcP **PcP** 17 35 48.6 -0.3
RIDG **Independ'e Rid** 51.07 33 *e*P P 17 34 33.2 +0.8
RIDG *e*PcP **PcP** 17 35 49.7 +1.6
JAGI **Jajag, Banyuwa** 51.36 214 *e*P P 17 34 33.2 -1.8
comp=Z,52nm,1.0s
DOT **Dot Lake** 51.42 34 *e*P P 17 34 35.7 +0.6
comp=Z,71nm,1.3s
DOT *e*PcP **PcP** 17 35 49.4 0.0
MNAS **Manas** 51.49 299 P P 17 34 35.8 -0.2
MNAS pmax pmax
comp=Z,24nm,0.7s
SFK **Sufi-Kurgan** 51.56 295 P P 17 34 36.6 -0.1
SFK pmax pmax
comp=Z,44nm,1.4s
MENT **Mentasta** 51.66 34 *e*P P 17 34 38.1 +1.3
comp=Z,30nm,1.0s
DZA **Taraz** 52.19 300 *i* P P 17 34 40.9 -0.2
comp=Z,407nm,1.2s
EGAK **Eagle** 52.55 32 *e*P P 17 34 44.1 +0.7
comp=Z,95nm,2.0s
UGM **Wanagama** 52.60 219 *e*P P 17 34 44.0 -0.4
comp=Z,887nm,1.5s
KK31 **Karatay Array** 52.69 300 P P 17 34 44.7 -0.1
KK31 pmax pmax
comp=Z,79nm,1.3s
KKAR **Karatay Array** 52.69 300 *e*P P 17 34 44.6 -0.2
KKAR **Karatay Array** 52.69 300 *e*P P 17 34 44.6 -0.2
GSI **Gunungsitoli** 53.07 239 *e*P P 17 34 47.8 -0.1
comp=Z,131nm,1.0s
LEM **Lembang** 53.20 222 P P 17 34 48.7 -0.3
comp=Z,101nm,1.1s,baz=77,slow=12,SNR=7.6
LEM LR LR 17 58 04.0
comp=Z,226nm,19.2s,baz=230,slow=37
DAWY **Dawson** 53.41 33 *e*P P 17 34 51.3 +1.4
comp=Z,14nm,1.3s
CHM **Chimkent** 53.58 299 *e*P P 17 34 51.4 +0.1
comp=Z,360nm,1.2s
CHM LR LR 17 57 38.0
comp=Z,208nm,15.3s
SVE **Sverdlovsk** 54.92 319 *ce*P P 17 35 01.3 +0.4
SVE pmax pmax
comp=Z,67nm,1.3s
HYT **Haines Junctio** 54.94 36 *e*P P 17 35 02.1 +1.1
INK **Inuvik** 54.95 27 P P 17 35 02.1 +1.2
comp=Z,12nm,0.8s,baz=290,slow=7.1,SNR=25
INK LR LR 18 01 05.4
comp=Z,490nm,18.6s,baz=274,slow=39
INK **Inuvik** 54.95 27 *e*P P 17 35 01.7 +0.8
comp=Z,45nm,1.4s
INK *e*PcP **PcP** 17 36 04.0 +1.4
ARU **Arti** 56.14 319 *e*P P 17 35 09.1 -0.5
comp=Z,60nm,1.0s
ARU **Arti** 56.14 319 *d i*P P 17 35 09.4 -0.2
ARU 17 36 05.2
ARU 17 37 09.7
ARU S **S** 17 42 57.9 0.0
ARU SS **SS** 17 46 42.4 -1.4
ARU pmax pmax
comp=Z,88nm,1.2s
WHY **Whitehorse** 56.22 36 *e*P P 17 35 12.3 +2.0
comp=Z,28nm,1.3s
FITZ **Fitzroy Crossi** 56.34 197 P P 17 35 12.1 +0.8
comp=Z,18nm,0.8s,baz=26,slow=7.6,SNR=17
FITZ **Fitzroy Crossi** 56.34 197 *e*P P 17 35 11.8 +0.4
comp=Z,37nm,1.1s
WRAB **Tennant Creek** 56.67 187 *e*P P 17 35 12.9 -0.8
comp=Z,64nm,0.8s
WRAB **Tennant Creek** 56.67 187⇑ *i*P P 17 35 13.0 -0.8
WRAB pmax pmax
comp=Z,69nm,1.0s
WB2 **Warramunga Arr** 56.68 187 *e*P P 17 35 13.3 -0.5
WR1 **Warramunga Arr** 56.68 187 *e*P P 17 35 13.4 -0.4
comp=Z,67nm,0.8s
WR1 *e*PcP **PcP** 17 36 09.7 -0.2
WR1 *e*S **S** 17 43 09.0 +3.3
WR1 ⇑*e* 18 05 22.4
WRA **Warramunga Arr** 56.68 187 P P 17 35 13.4 -0.4
comp=Z,58nm,0.8s,baz=3.5,slow=7.4,SNR=203
WRA PcP **PcP** 17 36 09.7 -0.2
comp=Z,7.0nm,0.6s,baz=0.9,slow=4.6,SNR=6.4
WRA S **S** 17 43 09.0 +3.3
comp=Z,0.6nm,0.9s,baz=3.0,slow=14,SNR=4.7
WRA LR LR 17 58 27.5
comp=Z,307nm,21.3s,baz=355,slow=35
WRA PKP2bc 18 05 22.4
comp=Z,1.5nm,1.1s,baz=195,slow=2.3,SNR=4.5
CTA **Charters Tower** 56.77 174 P P 17 35 14.5 0.0
comp=Z,18nm,1.1s,baz=4.9,slow=8.2,SNR=6.2
CTAO **Charters Tower** 56.77 174 *e*P P 17 35 14.3 -0.2
comp=Z,27nm,1.1s
CTAO **Charters Tower** 56.77 174 *e*P P 17 35 14.3 -0.2
CTAO pmax pmax
comp=Z,27nm,1.1s
KBL **Kabul** 56.89 291 *e*P P 17 35 14.9 -0.7
comp=Z,39nm,1.1s
KBL **Kabul** 56.89 291 *e*P P 17 35 14.9 -0.7
KBL pmax pmax
comp=Z,39nm,1.1s
HYB **Hyderabad** 57.52 268 *i* P P 17 35 19.5 -0.5
AB31 **Akbulak array** 57.62 310 *i* P P 17 35 19.9 -0.3
AB31 pmax pmax
comp=Z,30nm,0.9s
ABKAR **Akbulak array** 57.62 310 *e*P P 17 35 19.7 -0.5
comp=Z,232nm,0.9s
AKTO **Aktyubinsk** 58.37 312 P P 17 35 25.0 -0.5
comp=Z,30nm,1.2s,baz=68,slow=11,SNR=18
DLBC **Dease Lake** 59.27 38 *e*P P 17 35 34.5 +2.8
comp=Z,54nm,1.4s
AS01 **Alice Springs** 60.40 187 *e*P P 17 35 39.2 -0.5
AS31 **Alice Springs** 60.41 187 *e*P P 17 35 39.1 -0.6
comp=Z,10nm,0.8s
ASAR **Alice Springs** 60.41 187 P P 17 35 39.4 -0.4
comp=Z,32nm,0.8s,baz=9.6,slow=6.4,SNR=150
ASAR LR LR 18 00 41.7
comp=Z,213nm,20.5s,baz=2.5,slow=35
ASAR PKP2bc 18 05 11.7
comp=Z,1.1nm,1.0s,baz=197,slow=3.5,SNR=4.5
SPA0 **Spitsbergen Ar** 60.68 349 *e*P P 17 35 41.3 +0.3
SPITS **Spitsbergen Ar** 60.68 349 P P 17 35 41.8 +0.7
comp=Z,1.9nm,0.4s,baz=52,slow=6.9,SNR=11
SPITS LR LR 18 04 55.4
comp=Z,145nm,18.1s,baz=210,slow=39
POO **Poona** 60.71 272 *e*P P 17 35 33.0 -9.1
MBWA **Marble Bar** 60.86 202 *e*P P 17 35 42.7 -0.1
comp=Z,54nm,1.2s
PALK **Pallekele** 61.65 257 *ce*P P 17 35 51.8 +3.3
PALK **Pallekele** 61.65 257 P P 17 35 50.9 +2.4
PALK **Pallekele** 61.65 257 P P 17 35 50.9 +2.4
EIDS **Eidsvold** 62.56 169 *e*P P 17 35 54.8 +0.5
comp=Z,27nm,0.9s
APA **Apatity** 62.68 336⇓ *i*P P 17 35 53.9 -0.7
APA pmax pmax
comp=Z,15nm,0.9s
TMCR **Tamitsa** 62.68 331 *e*P P 17 35 54.5 -0.1
TMCR pmax pmax
comp=Z,83nm,1.3s
RES **Resolute Bay** 63.05 14 *e*P P 17 35 56.8 -0.1
comp=Z,12nm,0.8s
RES **Resolute Bay** 63.05 14 *e*P P 17 35 56.8 -0.1
RES pmax pmax
comp=Z,12nm,0.8s
DZM **Mont Dzumac** 63.39 153 P P 17 36 01.5 +1.6
comp=Z,59nm,1.1s,baz=26,slow=7.4,SNR=14
DZM LR LR 18 03 42.6
comp=Z,216nm,19.3s,baz=12,slow=36
DZM **Mont Dzumac** 63.39 153 *e*P P 17 36 01.7 +1.8
comp=Z,143nm,1.2s
DZM **Mont Dzumac** 63.39 153 *e*LR LR 17 54 57.3
comp=Z,320nm,21.9s
DZM **Mont Dzumac** 63.39 153 *e*P P 17 36 00.7 +0.8

comp=Z,61nm,1.1s
GEYT **Alibeck** 63.39 299 P P 17 36 00.1 +0.2
comp=Z,11nm,1.0s,baz=25,slow=4.9,SNR=23
GEYT LR LR 18 03 36.4
comp=Z,362nm,21.0s,baz=100,slow=36
KLMR **Klimovskoe** 63.65 328 *e*P P 17 35 59.1 -2.0
KLMR pmax pmax
comp=Z,52nm,1.4s
KLMR **Klimovskoe** 63.65 328 *e*P P 17 35 59.1 -2.0
KLMR AMP 17 36 02.8
comp=Z,52nm,1.4s
KLMR LQ LQ 18 01 48.2
KLMR LQ LQ 18 01 48.2
ARA0 **ARCESS Array S** 64.04 339 *e*P P 17 36 04.0 +0.4
ARCES **ARCESS Array B** 64.04 339 P P 17 36 04.0 +0.4
comp=Z,12nm,1.0s,baz=48,slow=7.4,SNR=20
ARCES LR LR 18 09 17.0
comp=Z,408nm,18.4s,baz=24,slow=41
YKW3 **Yellowknife Ar** 64.36 30 *e*P P 17 36 06.0 +0.2
comp=Z,34nm,1.5s
YKA **Yellowknife Ar** 64.40 30 P P 17 36 06.6 +0.6
comp=Z,5.7nm,0.9s,baz=298,slow=6.5,SNR=56
YKA PcP **PcP** 17 36 41.8 +1.4
comp=Z,3.9nm,0.8s,baz=303,slow=3.9,SNR=12
YKA PKP2bc 18 04 55.9
comp=Z,0.8nm,0.9s,baz=119,slow=2.9,SNR=9.1
YKA LR LR 18 06 09.9
comp=Z,31nm,19.5s,baz=0.0,slow=38
TULEG **Thule** 65.48 7 *e*P P 17 36 12.2 -0.7
comp=Z,52nm,1.4s
DAG **Danmarks Havn** 66.01 355 *i* P P 17 36 18.3 +2.0
comp=Z,11nm,0.7s
DAG **Danmarks Havn** 66.01 355 *e*P P 17 36 18.3 +2.0
DAG pmax pmax
comp=Z,11nm,0.7s
OUL **Oulu** 66.58 335 P P 17 36 19.4 -0.7
OUL pmax pmax
comp=Z,59nm,1.7s
LLLB **Lillooet** 66.93 43 *e*P P 17 36 23.8 +1.1
comp=Z,47nm,1.3s
MOS **Moscow** 67.09 323 *e*P P 17 36 23.1 -0.4
MOS *e* 17 36 51.0
MOS *e* 17 38 49.6
MOS *e*S **S** 17 45 16.4 -0.2
MOS pmax pmax
comp=Z,100nm,1.5s
VRH **Novokhopyorsk** 67.35 318 *e*P P 17 36 24.2 -1.0
VRH pmax pmax
comp=Z,60nm,1.3s
NLWA **Neilton Lookou** 67.41 47 *e*P P 17 36 27.8 +2.0
comp=Z,107nm,1.3s
A04D **Lummi Island** 67.42 45 P P 17 36 27.5 +1.8
baz=300
AFI **Afiamalu** 67.46 129 LR LR 18 02 41.9
comp=Z,138nm,18.8s,baz=314,slow=33
AFI **Afiamalu** 67.46 129 *e*P P 17 36 26.3 -0.1
comp=Z,46nm,1.0s
AFI **Afiamalu** 67.46 129 *e*P P 17 36 26.3 -0.1
AFI pmax pmax
comp=Z,47nm,1.0s
ARMA **Armidale** 67.60 170 *e*P P 17 36 28.2 +1.1
comp=Z,29nm,0.9s
OBN **Obninsk** 67.93 323 *e*P P 17 36 28.6 -0.1
comp=Z,138nm,1.5s
OBN **Obninsk** 67.93 323 *c i*P P 17 36 28.7 -0.1
OBN *i* 17 36 53.9
OBN *i* 17 38 56.6
OBN pmax pmax
comp=Z,53nm,1.2s
OBN MLR MLR
comp=Z,596nm,16.0s
SUF **Sumiainen** 67.94 333 P P 17 36 29.6 +0.8
SUF pmax pmax
comp=Z,78nm,1.4s
B05A **Bryant** 68.00 46 P P 17 36 31.2 +1.9
baz=301
E03A **Lebam** 68.02 48 *e*P P 17 36 30.9 +1.4
comp=Z,78nm,1.2s
LPSR **Galich'ya Gora** 68.10 320 *e*P P 17 36 29.2 -0.7
LPSR pmax pmax
comp=Z,40nm,0.8s
PUL **Pulkovo** 68.10 329⇓ *i*P P 17 36 31.0 +1.2
PUL pmax pmax
comp=Z,74nm,0.6s
B06A **Marblemount** 68.22 45 *e*P P 17 36 32.4 +1.7
comp=Z,56nm,1.4s
STKA **Stephens Creek** 68.27 179 P P 17 36 31.2 +0.2
comp=Z,22nm,0.8s,baz=348,slow=7.1,SNR=26
STKA LR LR 18 06 51.0
comp=Z,138nm,20.8s,baz=11,slow=36
STKA **Stephens Creek** 68.27 179 *e*P P 17 36 31.1 0.0
comp=Z,5.2nm,0.8s
KULLO **Kullorsuaq** 68.33 5 *i* P P 17 36 31.2 +0.2
comp=Z,52nm,1.2s
KULLO **Kullorsuaq** 68.33 5 *i* P P 17 36 31.2 +0.2
KULLO pmax pmax
comp=Z,52nm,1.2s
C05A **Tolt Reservoir** 68.53 46 *e*P P 17 36 32.4 -0.4
F04D **Rainier, OR** 68.58 48 P P 17 36 34.7 +1.6
baz=301
D05A **Enumclaw** 68.61 47 *e*P P 17 36 35.0 +1.8
comp=Z,49nm,1.1s
VSR **Storozhevoye** 68.71 319 *e*P P 17 36 33.2 -0.6
VSR pmax pmax
comp=Z,50nm,1.0s
FIA1 **FINESS Array S** 68.76 332 *e*P P 17 36 33.2 -0.7
FIA0 **FINESS Array S** 68.76 332 *e*P P 17 36 33.8 -0.1
FIA0 **FINESS Array S** 68.76 332 *e*P P 17 36 33.8 -0.1
FINES **FINESS Array B** 68.76 332 P P 17 36 33.8 -0.1
comp=Z,36nm,1.0s,baz=64,slow=6.6,SNR=34
FINES LR LR 18 11 38.6
comp=Z,454nm,18.2s,baz=16,slow=40
C06D **Leavenworth** 68.86 45 P P 17 36 36.1 +1.3
baz=302
G03D **McMinnville, O** 68.88 49 P P 17 36 36.0 +1.1
baz=301
LON **Longmire** 68.95 47 *e*P P 17 36 36.9 +1.4
comp=Z,20nm,1.3s
LON **Longmire** 68.95 47 *e*P P 17 36 36.9 +1.4
LON pmax pmax
comp=Z,20nm,1.3s
COR **Corvallis** 69.18 49 *e*P P 17 36 38.8 +2.0
comp=Z,78nm,1.2s
COR **Corvallis** 69.18 49 *e*P P 17 36 38.8 +2.0
COR pmax pmax
comp=Z,78nm,1.2s
BBOO **Buckleboo** 69.32 184 *e*P P 17 36 37.6 0.0
comp=Z,30nm,0.8s
LTY **Liberty** 69.34 46 *e*P P 17 36 39.3 +1.4
comp=Z,40nm,1.4s
KEBM **Edson Butte** 69.43 51 *e*P P 17 36 41.0 +2.6
comp=Z,158nm,1.3s
B08A **Colville Reser** 69.52 45 *e*P P 17 36 40.4 +1.5
GOF **Gofitskoye** 69.79 312⇑ *e*P P 17 36 40.8 +0.2
GOF pmax pmax
comp=Z,89nm,1.3s
H04A **Detroit Lake** 69.81 49 *e*P P 17 36 42.4 +1.7
comp=Z,68nm,1.3s
KBO **Bosley Butte** 69.84 52 *e*P P 17 36 43.6 +2.5
comp=Z,82nm,1.3s
EDM **Edmonton** 69.99 38 *e*P P 17 36 42.5 +0.7
comp=Z,78nm,1.3s
EDM **Edmonton** 69.99 38 *e*P P 17 36 42.5 +0.7
EDM pmax pmax
comp=Z,78nm,1.3s
G05D **Wamic, OR** 70.03 48 P P 17 36 43.2 +1.0
baz=302
I04A **Tendick Farm,** 70.14 50 P P 17 36 44.6 +1.8
baz=302,SNR=16
E07A **Sunnyside** 70.19 46 *e*P P 17 36 44.5 +1.5
comp=Z,50nm,1.2s
L02D **Cave Junction,** 70.26 52 P P 17 36 45.7 +2.1
baz=302
WSAR **Wadi Sarin** 70.30 285 LR LR 18 12 21.5
comp=Z,265nm,18.4s,baz=90,slow=40
VSU **Vasula** 70.37 329⇓ *i*P P 17 36 44.0 +0.2
VSU pmax pmax
comp=Z,123nm,1.1s
KRMB **Red Mountain** 70.41 53 *e*P P 17 36 46.4 +1.8
comp=Z,38nm,1.4s
C09A **Chrisman Ranch** 70.42 45 *e*P P 17 36 45.5 +1.1
HUMO **Hull Mountain** 70.43 51 *e*P P 17 36 46.8 +2.2
comp=Z,23nm,1.4s
G06A **Carlson Farm,** 70.44 48 *e*P P 17 36 46.8 +2.1
comp=Z,57nm,1.3s
D08A **Wollman Farm,** 70.46 46 *e*P P 17 36 46.3 +1.6
comp=Z,53nm,1.4s

I05D	**Terrebonne, OR**	**70.50**	**49**	P		**P**	**17 36 46.9**	**+1.8**
	baz=303								
F07A	**Phinny Hill Vi**	**70.50**	**47**	*eP*		**P**	**17 36 46.9**	**+1.9**
	comp=Z,58nm,1.2s								
BIDO	**Bidbid**	**70.53**	**285**	P		**P**	**17 36 47.0**	**+1.5**
	SNR=6.4								
KBZ	**Khabaz**	**70.58**	**310**	P		**P**	**17 36 45.4**	**0.0**
	comp=Z,16nm,0.9s,baz=62,slow=4.5,SNR=17								
KBZ				LR		LR	18 10 27.7		
	comp=Z,438nm,19.0s,baz=62,slow=38								
KIV	**Kislovodsk**	**70.59**	**311**	*eP*		**P**	**17 36 46.1**	**+0.5**
	comp=Z,107nm,1.4s								
KIV	**Kislovodsk**	**70.59**	**311**	*eP*		**P**	**17 36 45.9**	**+0.2**
KIV				pmax		pmax			
	comp=Z,66nm,1.1s								
KIV	**Kislovodsk**	**70.59**	**311**	P		**P**	**17 36 46.4**	**+0.7**
	SNR=13								
KIV	**Kislovodsk**	**70.59**	**311**	*i* P		**P**	**17 36 45.1**	**-0.6**
	SNR=7.6								
KIV	**Kislovodsk**	**70.59**	**311**	*i* P		**P**	**17 36 45.1**	**-0.6**
	SNR=7.6								
J04D	**Umpqua Nationa**	**70.62**	**50**	P		**P**	**17 36 48.1**	**+2.1**
	baz=303,SNR=8.6								
E08A	**Dider Farm, El**	**70.69**	**46**	*eP*		**P**	**17 36 47.4**	**+1.4**
	comp=Z,35nm,1.2s								
JCC	**Jacoby Creek,**	**70.70**	**53**	*eP*		**P**	**17 36 48.3**	**+2.1**
	comp=Z,57nm,1.4s								
SHME	**Shamm**	**70.72**	**288**	P		**P**	**17 36 46.9**	**+0.2**
SHME	**Shamm**	**70.72**	**288**	P		**P**	**17 36 46.9**	**+0.2**
NEW	**Newport**	**70.81**	**44**	P		**P**	**17 36 48.2**	**+1.4**
	baz=304,SNR=19								
NEW	**Newport**	**70.81**	**44**	*eP*		**P**	**17 36 47.9**	**+1.1**
	comp=Z,38nm,1.2s								
NEW	**Newport**	**70.81**	**44**	*eP*		**P**	**17 36 47.9**	**+1.1**
NEW				pmax		pmax			
	comp=Z,38nm,1.2s								
KHMM	**Horse Mountain**	**70.86**	**53**	*eP*		**P**	**17 36 49.2**	**+1.7**
	comp=Z,28nm,1.1s								
NEY	**Neytrino**	**70.95**	**310⇑**	*eP*		**P**	**17 36 49.2**	**+1.2**
NEY				pmax		pmax			
	comp=Z,2.0nm,0.6s								
SUMG	**Summit**	**70.98**	**360**	*i* P		**P**	**17 36 49.0**	**+1.1**
	comp=Z,36nm,1.0s								
SUMG	**Summit**	**70.98**	**360**	*eP*		**P**	**17 36 48.5**	**+0.6**
	comp=Z,38nm,1.0s								
SUMG	**Summit**	**70.98**	**360**	*i* P		**P**	**17 36 49.0**	**+1.1**
SUMG				pmax		pmax			
	comp=Z,37nm,1.0s								
PINE	**Pine Mountain**	**71.04**	**49**	*eP*		**P**	**17 36 50.2**	**+1.7**
	comp=Z,96nm,1.1s								
YBH	**Yreka Blue Hor**	**71.05**	**52**	P		**P**	**17 36 50.4**	**+2.0**
	comp=Z,14nm,1.1s,baz=137,slow=5.4,SNR=22								
YBH				LR		LR	18 02 37.6		
	comp=Z,206nm,19.9s,baz=306,slow=31								
YBH	**Yreka Blue Hor**	**71.05**	**52**	*eP*		**P**	**17 36 50.5**	**+2.0**
	comp=Z,33nm,1.3s								
YBH	**Yreka Blue Hor**	**71.05**	**52**	*eP*		**P**	**17 36 50.5**	**+2.0**
YBH				pmax		pmax			
	comp=Z,33nm,1.3s								
MSFE	**Esma-Masafi**	**71.07**	**288**	P		**P**	**17 36 51.4**	**+2.6**
MSFE	**Esma-Masafi**	**71.07**	**288**	P		**P**	**17 36 51.4**	**+2.6**
J05D	**Fort Rock, OR**	**71.14**	**50**	P		**P**	**17 36 51.4**	**+2.4**
	baz=303,SNR=14								
M02C	**Callahan**	**71.15**	**52**	P		**P**	**17 36 51.5**	**+2.4**
	baz=303,SNR=11								
K04D	**Chiloquin, OR**	**71.17**	**51**	P		**P**	**17 36 50.9**	**+1.7**
	baz=303								
E09A	**Wood Farm, Sta**	**71.20**	**46**	*eP*		**P**	**17 36 50.3**	**+1.1**
	comp=Z,79nm,1.3s								
KMRM	**Mail Ridge**	**71.23**	**54**	*eP*		**P**	**17 36 51.4**	**+1.9**
	comp=Z,17nm,1.1s								
UOSS	**Minazif**	**71.26**	**287**	*eP*		**P**	**17 36 50.0**	**+0.1**
	comp=Z,25nm,1.1s								
GNI	**Garni**	**71.34**	**306**	P		**P**	**17 36 51.0**	**+0.7**
	comp=Z,9.7nm,0.9s,baz=333,slow=2.3,SNR=4.0								
GNI				LR		LR	18 10 19.0		
	comp=Z,264nm,18.3s,baz=66,slow=38								
GNI	**Garni**	**71.34**	**306⇑**	*iP*		**P**	**17 36 51.1**	**+0.7**
GNI				pmax		pmax			
	comp=Z,86nm,1.2s								
HATD	**Hatta, Dubai**	**71.38**	**287**	*i* P		**P**	**17 36 51.6**	**+1.0**
	SNR=5.8								
HATD	**Hatta, Dubai**	**71.38**	**287**	*i* P		**P**	**17 36 51.6**	**+1.0**
	SNR=5.8								
G08A	**Pilot Rock**	**71.41**	**47**	*eP*		**P**	**17 36 51.8**	**+1.2**
	comp=Z,21nm,1.2s								
SOHO	**SOHO**	**71.44**	**287**	*i* P		**P**	**17 36 51.4**	**+0.4**
	SNR=18								
SOHO	**SOHO**	**71.44**	**287**	*i* P		**P**	**17 36 51.4**	**+0.4**
	SNR=18								
AKH	**Akhalkalaki**	**71.46**	**308**	*eP*		**P**	**17 36 52.1**	**+1.0**
	comp=Z,41nm,1.7s								
AKH	**Akhalkalaki**	**71.46**	**308**	*eP*		**P**	**17 36 52.1**	**+1.0**
AKH				pmax		pmax			
	comp=Z,41nm,1.7s								
N02D	**Trinity Center**	**71.47**	**52**	P		**P**	**17 36 53.3**	**+2.3**
	baz=303,SNR=14								
M04C	**Macdoel**	**71.58**	**51**	P		**P**	**17 36 53.8**	**+2.1**
	baz=303,SNR=19								
KCPM	**Cahto Peak**	**71.59**	**54**	*eP*		**P**	**17 36 53.6**	**+1.7**
	comp=Z,48nm,1.3s								
I07A	**Izee**	**71.75**	**48**	*eP*		**P**	**17 36 54.7**	**+2.0**
	comp=Z,17nm,1.1s								
WDC	**Whiskeytown Da**	**71.78**	**53**	*eP*		**P**	**17 36 54.9**	**+2.1**
	comp=Z,34nm,1.3s								
WDC	**Whiskeytown Da**	**71.78**	**53**	*eP*		**P**	**17 36 54.9**	**+2.1**
WDC				pmax		pmax			
	comp=Z,34nm,1.3s								
F10A	**Beach Ranch, E**	**72.03**	**46**	*eP*		**P**	**17 36 55.8**	**+1.5**
	comp=Z,21nm,1.0s								
ALNE	**Al Ain**	**72.08**	**287**	*i* P		**P**	**17 36 55.0**	**+0.2**
	SNR=6.2								
ALNE	**Al Ain**	**72.08**	**287**	*i* P		**P**	**17 36 55.0**	**+0.2**
	SNR=6.2								
WALA	**Waterton Lakes**	**72.11**	**42**	*eP*		**P**	**17 36 56.4**	**+1.6**
	comp=Z,51nm,1.3s								
CAN	**Canberra**	**72.12**	**173**	*eP*		**P**	**17 36 55.5**	**+0.9**
	comp=Z,40nm,1.2s								
CAN	**Canberra**	**72.12**	**173**	*eP*		**P**	**17 36 55.5**	**+0.9**
CAN				pmax		pmax			
	comp=Z,40nm,1.2s								
IZAR	**Zarasai**	**72.30**	**327**	*eP*		**P**	**17 36 56.0**	**+0.5**
IZAR				IAmb		IAmb	17 36 57.1		
	comp=Z,13nm,0.8s								
HOPS	**Hopland Field**	**72.30**	**54**	*eP*		**P**	**17 36 57.7**	**+1.7**
	comp=Z,26nm,1.3s								
SCO	**Scoresbysund**	**72.34**	**354**	*i* P		**P**	**17 36 56.2**	**+0.6**
SCO	**Scoresbysund**	**72.34**	**354**	*i* P		**P**	**17 36 56.2**	**+0.6**
IDID	**Didziasalis**	**72.36**	**327**	*eP*		**P**	**17 36 56.4**	**+0.5**
IDID				IAmb		IAmb	17 36 57.5		
	comp=Z,17nm,1.0s								
MICGM	**Minsk**	**72.36**	**326**	*e*		**P**	**17 36 56.0**	**0.0**
MNK	**Minsk**	**72.36**	**326**	*eP*		**P**	**17 36 56.0**	**0.0**
AJN	**Ajban**	**72.40**	**288**	P		**P**	**17 36 56.3**	**-0.4**
AJN	**Ajban**	**72.40**	**288**	P		**P**	**17 36 56.3**	**-0.4**
O03D	**Paynes Creek**	**72.41**	**53**	P		**P**	**17 36 58.0**	**+1.3**
	baz=304,SNR=22								
ISAL	**Salakas**	**72.46**	**327**	*eP*		**P**	**17 36 57.0**	**+0.5**
ISAL				IAmb		IAmb	17 36 59.2		
	comp=Z,37nm,1.1s								
MOD	**Modoc Plateau**	**72.47**	**51**	*eP*		**P**	**17 36 58.5**	**+1.5**
	comp=Z,30nm,1.4s								
IIGN	**Ignalina**	**72.56**	**327**	*eP*		**P**	**17 36 57.6**	**+0.4**
IIGN				IAmb		IAmb	17 36 58.8		
	comp=Z,20nm,0.9s								
NACGM	**Naroch**	**72.60**	**326**	*e*		**P**	**17 36 57.0**	**-0.4**
BMO	**Blue Mountains**	**72.62**	**47**	*eP*		**P**	**17 36 59.7**	**+1.8**
	comp=Z,51nm,1.3s								
BMO	**Blue Mountains**	**72.62**	**47**	*eP*		**P**	**17 36 59.7**	**+1.8**
BMO				pmax		pmax			
	comp=Z,51nm,1.3s								
NWAO	**Narrogin (SRO)**	**72.66**	**200**	*eP*		**P**	**17 36 59.0**	**+1.2**
	comp=Z,89nm,1.5s								
NWAO	**Narrogin (SRO)**	**72.66**	**200**	*eP*		**P**	**17 36 59.0**	**+1.2**
NWAO				pmax		pmax			
	comp=Z,89nm,1.5s								
JTMT	**Jette**	**72.67**	**43**	*eP*		**P**	**17 36 59.5**	**+1.3**
	comp=Z,62nm,1.3s								
J08A	**Circle Bar Ran**	**72.77**	**49**	*eP*		**P**	**17 37 00.6**	**+1.8**
	comp=Z,61nm,1.3s								
ORV	**Oroville**	**73.01**	**53**	*eP*		**P**	**17 37 01.0**	**+0.8**
	comp=Z,37nm,1.3s								
ORV	**Oroville**	**73.01**	**53**	*eP*		**P**	**17 37 01.0**	**+0.8**
ORV				pmax		pmax			
	comp=Z,37nm,1.3s								
WVOR	**Wild Horse Val**	**73.20**	**49**	*eP*		**P**	**17 37 02.9**	**+1.5**
	comp=Z,45nm,1.4s								
WVOR	**Wild Horse Val**	**73.20**	**49**	*eP*		**P**	**17 37 02.9**	**+1.5**
WVOR				pmax		pmax			
	comp=Z,45nm,1.4s								
ANN	**Anapa**	**73.25**	**314**	*eP*		**P**	**17 36 59.9**	**-1.5**
ANN				pmax		pmax			
	comp=Z,91nm,1.4s								
MSO	**Missoula**	**73.40**	**44**	P		**P**	**17 37 03.8**	**+1.4**
	baz=306,SNR=18								
MSO	**Missoula**	**73.40**	**44**	*eP*		**P**	**17 37 03.2**	**+0.8**
	comp=Z,33nm,1.2s								
BEKR	**Beckworth**	**73.57**	**52**	*eP*		**P**	**17 37 04.9**	**+1.3**
	comp=Z,41nm,1.1s								
AFDM	**Forest Hills D**	**73.69**	**53**	*eP*		**P**	**17 37 05.5**	**+1.3**
	comp=Z,30nm,1.3s								
NC405	**NORSAR Array S**	**73.98**	**337**	*eP*		**P**	**17 37 05.0**	**-0.6**
NC303	**NORSAR Array S**	**74.01**	**337**	*eP*		**P**	**17 37 05.1**	**-0.5**
ILULI	**Ilulissat**	**74.01**	**4**	*i* P		**P**	**17 37 05.7**	**+0.2**
	comp=Z,36nm,1.1s								
ILULI	**Ilulissat**	**74.01**	**4**	*eP*		**P**	**17 37 04.8**	**-0.6**
	comp=Z,39nm,1.1s								
ILULI	**Ilulissat**	**74.01**	**4**	*i* P		**P**	**17 37 05.7**	**+0.2**
ILULI				pmax		pmax			
	comp=Z,36nm,1.1s								
RDG13	**Poverty Ridge**	**74.04**	**55**	*eP*		**P**	**17 37 07.3**	**+0.9**
	comp=Z,69nm,1.4s								
HFS	**Hagfors**	**74.08**	**335**	P		**P**	**17 37 06.2**	**+0.1**
	comp=Z,5.0nm,0.5s,baz=54,slow=7.3,SNR=45								
HFS				LR		LR	18 14 49.3		
	comp=Z,544nm,18.1s,baz=34,slow=40								
AKASG	**Malin Array Be**	**74.12**	**322**	P		**P**	**17 37 06.0**	**-0.4**
	comp=Z,5.9nm,0.5s,baz=46,slow=6.5,SNR=71								
AKASG				LR		LR	18 14 05.4		
	comp=Z,185nm,19.4s,baz=25,slow=39								
AKASG	**Malin Array Be**	**74.12**	**322**	P		**P**	**17 37 06.0**	**-0.4**
AKASG				pmax		pmax			
	comp=Z,6.0nm,0.5s								
AKASG				MLR		MLR			
	comp=Z,185nm,19.5s								
AKBB	**Malin Array Si**	**74.12**	**322**	*eP*		**P**	**17 37 05.4**	**-1.0**
	comp=Z,36nm,1.0s								
AKBB	**Malin Array Si**	**74.12**	**322**	*eP*		**P**	**17 37 05.4**	**-1.0**
AKBB				pmax		pmax			
	comp=Z,36nm,1.0s								
KIEV	**Kiev**	**74.13**	**322⇑**	*iP*		**P**	**17 37 05.5**	**-1.0**
KIEV				pmax		pmax			
	comp=Z,32nm,1.1s								
KIEV	**Kiev**	**74.13**	**322**	*i* P		**P**	**17 37 06.2**	**-0.3**
	SNR=21								
KIEV	**Kiev**	**74.13**	**322**	*i* P		**P**	**17 37 06.2**	**-0.3**
	SNR=21								
NC204	**NORSAR Array S**	**74.16**	**337**	*eP*		**P**	**17 37 06.8**	**+0.2**
AK11	**Malin Array Si**	**74.16**	**322**	*eP*		**P**	**17 37 05.8**	**-0.8**
NB201	**NORSAR Array S**	**74.17**	**337**	*eP*		**P**	**17 37 05.9**	**-0.7**
NB2	**NORSAR Subarra**	**74.20**	**337**	P		**P**	**17 37 06.5**	**-0.3**
	comp=Z,60nm,1.2s,baz=42,slow=6.2								
NB2	**NORSAR Subarra**	**74.20**	**337**	P		**P**	**17 37 06.4**	**-0.3**
NB2				pmax		pmax			
	comp=Z,48nm,1.2s								
NB2	**NORSAR Subarra**	**74.20**	**337**	P		**P**	**17 37 06.5**	**-0.3**
	baz=42,slow=6.2								
NB200	**NORSAR Array S**	**74.20**	**337**	*eP*		**P**	**17 37 06.7**	**-0.1**
NOA	**NORSAR Array B**	**74.20**	**337**	P		**P**	**17 37 06.7**	**-0.1**
	comp=Z,22nm,1.0s,baz=41,slow=5.9,SNR=15								
NOA				LR		LR	18 12 48.0		
	comp=Z,385nm,20.5s,baz=45,slow=38								
PAHR	**Pah Rah Range**	**74.28**	**52**	*eP*		**P**	**17 37 08.8**	**+1.0**
	comp=Z,44nm,1.2s								
NBO02	**NORSAR Array S**	**74.30**	**337**	*eP*		**P**	**17 37 07.3**	**0.0**
FFC	**Flin Flon**	**74.31**	**32**	*eP*		**P**	**17 37 08.1**	**+0.6**
	comp=Z,41nm,1.0s								
FFC	**Flin Flon**	**74.31**	**32**	*eP*		**P**	**17 37 08.1**	**+0.6**
FFC				pmax		pmax			
	comp=Z,41nm,1.0s								
MFID	**Camas Ranch**	**74.32**	**47**	*eP*		**P**	**17 37 09.2**	**+1.3**
	comp=Z,58nm,1.4s								
NC602	**NORSAR Array S**	**74.33**	**337**	*eP*		**P**	**17 37 07.4**	**-0.1**
VCNR	**Virginia City**	**74.34**	**53**	*eP*		**P**	**17 37 10.2**	**+1.9**
	comp=Z,17nm,0.9s								
FCC	**Fort Churchill**	**74.56**	**26**	*eP*		**P**	**17 37 08.9**	**+0.1**
	comp=Z,46nm,1.0s								
FCC	**Fort Churchill**	**74.56**	**26**	*eP*		**P**	**17 37 08.9**	**+0.1**
FCC				pmax		pmax			
	comp=Z,45nm,1.0s								
CMB	**Columbia Colle**	**74.59**	**54**	*eP*		**P**	**17 37 10.5**	**+1.0**
	comp=Z,56nm,1.3s								
CMB	**Columbia Colle**	**74.59**	**54**	*eP*		**P**	**17 37 10.5**	**+1.0**
CMB				pmax		pmax			
	comp=Z,56nm,1.3s								
SAO	**San Andreas Ge**	**74.61**	**56**	*eP*		**P**	**17 37 11.0**	**+1.4**
	comp=Z,18nm,1.1s								
SAO	**San Andreas Ge**	**74.61**	**56**	*eP*		**P**	**17 37 11.0**	**+1.4**
SAO				pmax		pmax			
	comp=Z,18nm,1.1s								
HRY	**Holter Researc**	**74.63**	**43**	*eP*		**P**	**17 37 11.0**	**+1.3**
SUW	**Suwalki**	**74.77**	**327**	*eP*		**P**	**17 37 09.9**	**-0.3**
SUW	**Suwalki**	**74.77**	**327**	*eP*		**P**	**17 37 09.8**	**-0.4**
	comp=Z,84nm,1.2s								
SUW	**Suwalki**	**74.77**	**327**	*eP*		**P**	**17 37 09.9**	**-0.3**
YERR	**Yerington**	**74.78**	**53**	*eP*		**P**	**17 37 12.2**	**+1.4**
	comp=Z,62nm,1.2s								
LRM	**Limekiln Ridge**	**74.83**	**44**	*eP*		**P**	**17 37 12.4**	**+1.4**
WAKR	**Walker**	**74.93**	**53**	*eP*		**P**	**17 37 13.0**	**+1.3**
	comp=Z,36nm,1.2s								
EGMT	**Eagleton**	**74.93**	**41**	P		**P**	**17 37 12.7**	**+1.3**
	baz=309								
EGMT	**Eagleton**	**74.93**	**41**	*eP*		**P**	**17 37 12.3**	**+1.0**
	comp=Z,79nm,1.1s								
HLID	**Hailey**	**75.06**	**47**	P		**P**	**17 37 13.7**	**+1.4**
	baz=307								
HLID	**Hailey**	**75.06**	**47**	*eP*		**P**	**17 37 13.3**	**+1.0**
	comp=Z,31nm,1.3s								
SIM	**Simferopol'**	**75.07**	**315**	*eP*		**P**	**17 37 12.1**	**0.0**
SIM				S		**S**	**17 46 52.0**	**+2.4**
SIM				pmax		pmax			
	comp=Z,25nm,1.1s								
SIM				MLR		MLR			
	comp=Z,1μm,14.0s								
MCMT	**McKenzie Canyo**	**75.20**	**45**	*eP*		**P**	**17 37 14.2**	**+1.0**
BMN	**Battle Mountai**	**75.22**	**50**	*eP*		**P**	**17 37 15.1**	**+1.8**
	comp=Z,58nm,1.3s								
BMN	**Battle Mountai**	**75.22**	**50**	*eP*		**P**	**17 37 15.1**	**+1.8**
BMN				pmax		pmax			
	comp=Z,57nm,1.3s								
PMPB	**Monarch Peak**	**75.35**	**56**	*eP*		**P**	**17 37 16.1**	**+2.2**
	comp=Z,19nm,1.0s								
BOZ	**Bozeman (W)**	**75.42**	**44**	P		**P**	**17 37 15.8**	**+1.5**
	baz=308,SNR=11								
BOZ	**Bozeman (W)**	**75.42**	**44**	*eP*		**P**	**17 37 15.2**	**+0.9**
	comp=Z,45nm,1.0s								
BOZ	**Bozeman (W)**	**75.42**	**44**	*eP*		**P**	**17 37 15.2**	**+0.9**
BOZ				pmax		pmax			
	comp=Z,45nm,1.0s								
RYN	**Ryan**	**75.45**	**53**	*eP*		**P**	**17 37 16.0**	**+1.4**
	comp=Z,45nm,1.3s								
MDPB	**Devils Postpil**	**75.66**	**54**	*eP*		**P**	**17 37 17.0**	**+1.0**
	comp=Z,26nm,1.2s								
NV01	**Mina Array Sit**	**75.70**	**53**	*eP*		**P**	**17 37 17.7**	**+1.6**
NVAR	**Mina Array Bea**	**75.70**	**53**	P		**P**	**17 37 17.9**	**+1.8**
	comp=Z,24nm,1.0s,baz=283,slow=5.8,SNR=92								
NVAR				LR		LR	18 04 16.7		
	comp=Z,189nm,21.7s,baz=90,slow=31								
NV11	**Mina Array Sit**	**75.80**	**53**	*eP*		**P**	**17 37 18.0**	**+1.4**
	comp=Z,4.3nm,1.4s								
MLAC	**Mammoth, Mammo**	**75.82**	**54**	P		**P**	**17 37 18.6**	**+1.8**
	baz=306								
PAGB	**Antelope Grade**	**75.99**	**56**	*eP*		**P**	**17 37 19.1**	**+1.5**
	comp=Z,72nm,1.2s								
QLMT	**Earthquake Lak**	**76.00**	**44**	*eP*		**P**	**17 37 19.1**	**+1.4**
YHB	**Horse Butte**	**76.18**	**44**	*eP*		**P**	**17 37 20.3**	**+1.5**
	comp=Z,32nm,1.0s								
SORM	**Soroca**	**76.19**	**320⇓**	*iP*		**P**	**17 37 18.2**	**-0.2**
SORM	**Soroca**	**76.19**	**320⇓**	P		**P**	**17 37 18.2**	**-0.2**
SFJD	**Kangerlussuaq**	**76.23**	**5**	*i* P		**P**	**17 37 18.6**	**+0.3**
	comp=Z,23nm,1.1s								
SFJD	**Kangerlussuaq**	**76.23**	**5**	*eP*		**P**	**17 37 18.7**	**+0.4**
	comp=Z,19nm,0.9s								
SFJD	**Kangerlussuaq**	**76.23**	**5**	*i* P		**P**	**17 37 18.6**	**+0.3**
SFJD				pmax		pmax			
	comp=Z,23nm,1.1s								
RCTC	**Rector, Farmer**	**76.33**	**55**	P		**P**	**17 37 20.4**	**+1.0**
	baz=306								
YHH	**Holmes Hill**	**76.35**	**44**	*eP*		**P**	**17 37 21.4**	**+1.6**
	comp=Z,26nm,1.2s								
YMR	**Madison River**	**76.36**	**44**	*eP*		**P**	**17 37 21.6**	**+1.8**
	comp=Z,86nm,1.6s								
GCMT	**Greycliff**	**76.38**	**43**	*eP*		**P**	**17 37 21.5**	**+1.8**
SMMC	**Simmler**	**76.40**	**56**	P		**P**	**17 37 21.7**	**+1.8**
	baz=306								
YNR	**Norris Junctio**	**76.49**	**44**	*eP*		**P**	**17 37 22.6**	**+2.0**
	comp=Z,38nm,1.3s								
MCID	**Moose Creek**	**76.54**	**45**	*eP*		**P**	**17 37 23.5**	**+2.7**
TIN	**Tinemaha, Big**	**76.55**	**54**	P		**P**	**17 37 22.7**	**+1.8**
	baz=306								
TIN	**Tinemaha, Big**	**76.55**	**54**	*eP*		**P**	**17 37 21.8**	**+0.9**
TIN	**Tinemaha, Big**	**76.55**	**54**	*eP*		**P**	**17 37 21.8**	**+0.9**
YFT	**Old Faithful**	**76.57**	**44**	*eP*		**P**	**17 37 22.9**	**+1.9**
	comp=Z,39nm,1.0s								
KIS	**Kishinev**	**76.68**	**319**	*eP*		**P**	**17 37 20.0**	**-1.2**
KIS				LRM		MLR	18 19 12.0		
	comp=Z,300nm,20.0s								
KIS	**Kishinev**	**76.68**	**319**	*eP*		**P**	**17 37 20.0**	**-1.2**
YPP	**Pitchstone Pla**	**76.70**	**44**	*eP*		**P**	**17 37 24.0**	**+2.2**
	comp=Z,46nm,1.6s								
VES	**Vestal, Richgr**	**76.70**	**55**	P		**P**	**17 37 22.6**	**+1.0**
	baz=306,SNR=8.4								
LKWY	**Lake**	**76.74**	**44**	*eP*		**P**	**17 37 24.5**	**+2.5**
	comp=Z,52nm,1.3s								
LKWY	**Lake**	**76.74**	**44**	*eP*		**P**	**17 37 24.5**	**+2.5**
LKWY				pmax		pmax			
	comp=Z,52nm,1.3s								
H17A	**Grant Village**	**76.75**	**44**	P		**P**	**17 37 25.5**	**+3.5**
	baz=309,SNR=51								
H17A	**Grant Village**	**76.75**	**44**	*eP*		**P**	**17 37 24.6**	**+2.6**
	comp=Z,61nm,1.0s								
PKM	**Mcpherson Peak**	**76.77**	**56**	P		**P**	**17 37 24.4**	**+2.2**
	baz=306,SNR=16								
IMW	**Indian Meadow**	**76.86**	**45**	*eP*		**P**	**17 37 24.7**	**+2.0**
	comp=Z,34nm,1.0s								
FXWY	**Fox Creek**	**76.97**	**45**	*eP*		**P**	**17 37 25.1**	**+1.9**
	comp=Z,35nm,1.2s								
CWC	**Cottonwood Cre**	**77.01**	**54**	P		**P**	**17 37 24.8**	**+1.3**
	baz=306								
RLMT	**Red Lodge**	**77.02**	**43**	P		**P**	**17 37 25.3**	**+1.8**
	baz=310,SNR=16								
RLMT	**Red Lodge**	**77.02**	**43**	*eP*		**P**	**17 37 24.1**	**+0.6**
	comp=Z,64nm,1.4s								
MOOW	**Moose Ponds**	**77.06**	**45**	*eP*		**P**	**17 37 25.1**	**+1.4**
	comp=Z,50nm,1.4s								
SBC	**Santa Barbara**	**77.10**	**57**	P		**P**	**17 37 25.1**	**+1.3**
	baz=306								
HVU	**Hansel Valley**	**77.10**	**47**	*eP*		**P**	**17 37 25.6**	**+1.6**
	comp=Z,28nm,1.0s								
HVU	**Hansel Valley**	**77.10**	**47**	*eP*		**P**	**17 37 25.6**	**+1.6**
HVU				pmax		pmax			
	comp=Z,28nm,1.0s								
TPAW	**Teton Pass**	**77.10**	**45**	*eP*		**P**	**17 37 25.0**	**+0.9**
	comp=Z,26nm,1.0s								
GRAC	**Grapevine Rang**	**77.14**	**53**	P		**P**	**17 37 26.0**	**+1.9**
	baz=306,SNR=6.1								
ISA	**Isabella, Lake**	**77.21**	**55**	P		**P**	**17 37 25.2**	**+0.7**
	baz=306,SNR=13								
ISA	**Isabella, Lake**	**77.21**	**55**	*eP*		**P**	**17 37 24.8**	**+0.3**
	comp=Z,19nm,1.3s								
ISA	**Isabella, Lake**	**77.21**	**55**	*eP*		**P**	**17 37 24.8**	**+0.3**
ISA				pmax		pmax			
	comp=Z,19nm,1.3s								
LVV	**L'vov**	**77.22**	**324**	*eP*		**P**	**17 37 25.0**	**+0.8**
LOHW	**Long Hollow**	**77.22**	**45**	*eP*		**P**	**17 37 25.9**	**+1.2**
	comp=Z,20nm,1.2s								
SNOW	**Snow King Moun**	**77.23**	**45**	*eP*		**P**	**17 37 26.3**	**+1.5**
	comp=Z,25nm,1.0s								
REDW	**Red Top Meadow**	**77.24**	**45**	*eP*		**P**	**17 37 26.6**	**+1.8**
	comp=Z,46nm,1.3s								
ARVC	**Arvin**	**77.28**	**56**	P		**P**	**17 37 26.0**	**+1.1**
	baz=306								
LEOM	**Leova**	**77.32**	**319⇑**	*iP*		**P**	**17 37 24.7**	**-0.1**
LEOM	**Leova**	**77.32**	**319⇑**	P		**P**	**17 37 24.7**	**-0.1**
BEL	**Belsk**	**77.32**	**326**	*eP*		**P**	**17 37 25.7**	**+1.0**

TIRR **Tirgusor** 78.54 317 ⇓*i*P P 17 37 30.4 -1.2
TIRR **Tirgusor** 78.54 317 *e*P P 17 37 30.8 -0.9
comp=Z,31nm,1.4s
TIRR **Tirgusor** 78.54 317 *e*P P 17 37 30.8 -0.9
TIRR pmax pmax
comp=Z,31nm,1.4s
BR101 **Keskin Array S** 78.54 311 *e*P P 17 37 32.0 +0.1
BR131 **Keskin Array S** 78.54 311 *e*P P 17 37 32.0 0.0
BRTR **Keskin Array B** 78.54 311 P P 17 37 32.0 0.0
comp=Z,5.9nm,0.8s,baz=92,slow=4.0,SNR=45
BRTR LR LR 18 17 40.9
comp=Z,168nm,18.2s,baz=44,slow=40
PLOR **Plostina** 78.57 319 ⇓*i*P P 17 37 31.6 -0.3
PLOR **Plostina** 78.57 319 ⇓P P 17 37 31.6 -0.3
CIS **Catalina Islan** 78.58 57 P P 17 37 33.4 +1.3
baz=307
BFSC **Mount Baldy Ra** 78.59 56 P P 17 37 33.3 +1.0
baz=307,SNR=9.9
JLU **Jordanelle** 78.62 48 *e*P P 17 37 34.3 +1.8
comp=Z,35nm,1.1s
RRX **Edison Barstow** 78.64 55 P P 17 37 33.4 +0.9
baz=307
NLU **North Lily Min** 78.65 48 *e*P P 17 37 34.0 +1.4
comp=Z,33nm,1.1s
HARR **Harsova** 78.65 318 ⇑*i*P P 17 37 32.6 +0.4
HARR **Harsova** 78.65 318 ⇑P P 17 37 32.6 +0.4
TLB **Topalu** 78.66 318 ⇓*i*P P 17 37 32.7 +0.4
TLB **Topalu** 78.66 318 ⇓P P 17 37 32.7 +0.4
GRER 78.71 319 ⇑*i*P P 17 37 35.7 +3.1
SCI2 **San Clemente I** 78.74 57 P P 17 37 34.3 +1.3
baz=307
STHS **Stebnicka Huta** 78.81 325 *e*P P 17 37 34.1 +1.0
STHS pmax pmax
comp=Z,20nm,1.0s
STHS **Stebnicka Huta** 78.81 325 *e*P P 17 37 34.1 +1.0
SHPR **Sheep Range** 78.85 53 *e*P P 17 37 35.3 +1.6
comp=Z,40nm,1.2s
UZH **Uzhgorod** 78.86 323 *d*/*i*P P 17 37 33.3 -0.1
UZH *e* 17 37 40.9
UZH *e* 17 37 53.0
MPU **Maple Canyon** 78.88 48 *e*P P 17 37 35.7 +1.8
comp=Z,59nm,1.2s
OJC **Ojcow** 78.91 326 *e*P P 17 37 34.2 +0.6
OJC **Ojcow** 78.91 326 *e*P P 17 37 33.9 +0.3
comp=Z,78nm,1.2s
OJC **Ojcow** 78.91 326 *e*P P 17 37 34.2 +0.6
ARCR **ARCALIA** 78.92 321 ⇓*i*P P 17 37 35.0 +1.3
BMR **Baia Mare** 78.94 322 ⇓*i*P P 17 37 34.7 +0.9
BMR **Baia Mare** 78.94 322 ⇓P P 17 37 34.7 +0.9
FLU **Fool Peak** 78.95 49 *e*P P 17 37 36.3 +2.0
ANTO **Ankara** 78.96 312 *e*P P 17 37 34.4 +0.2
comp=Z,59nm,1.4s
ANTO **Ankara** 78.96 312 *e*P P 17 37 34.4 +0.2
ANTO pmax pmax
comp=Z,59nm,1.4s
ANTO **Ankara** 78.96 312 P P 17 37 34.8 +0.6
SNR=12
BR231 **Keskin MP Arra** 78.99 312 *e*P P 17 37 33.0 -1.4
TUQ **Turquoise Moun** 79.01 54 P P 17 37 36.2 +1.6
baz=308,SNR=6.8
CRVS **Cervenica-Dubn** 79.07 324 *e*P P 17 37 35.2 +0.7
CRVS **Cervenica-Dubn** 79.07 324 *e*P P 17 37 35.2 +0.7
TRPA **Tarpa** 79.09 323 ⇓*e*P P 17 37 35.5 +0.9
HEC **Hector,Ludlow** 79.11 55 P P 17 37 36.4 +1.3
baz=307,SNR=13
ISR **Istrita** 79.11 319 ⇓*i*P P 17 37 35.7 +0.8
ISR **Istrita** 79.11 319 ⇓P P 17 37 35.7 +0.8
DOPR **Dopca** 79.14 320 ⇓*i*P P 17 37 35.9 +0.9
MLR **Muntele Rosu** 79.17 319 LR LR 18 15 24.4
comp=Z,141nm,18.5s,baz=42,slow=38
MLR **Muntele Rosu** 79.17 319 ⇑*i*P P 17 37 35.3 0.0
MLR **Muntele Rosu** 79.17 319 *e*P P 17 37 34.5 -0.8
comp=Z,36nm,1.4s
MLR **Muntele Rosu** 79.17 319 ⇑P P 17 37 35.3 0.0
NIE **Niedzica** 79.25 325 *e*P P 17 37 36.2 +0.7
NIE **Niedzica** 79.25 325 *e*P P 17 37 36.2 +0.7
MURC **Murrieta** 79.28 56 P P 17 37 37.1 +1.1
baz=307
CCUT **Cedar City** 79.35 51 *e*P P 17 37 38.1 +1.6
comp=Z,42nm,1.3s
MSU **Marysvale** 79.48 50 *e*P P 17 37 38.9 +1.6
MSU **Marysvale** 79.48 50 *e*P P 17 37 38.9 +1.6
SZCU **Shurtz Canyon** 79.49 51 *e*P P 17 37 38.5 +1.2
comp=Z,24nm,1.1s
CJR **Cluj-Napoca** 79.55 321 ⇓*i*P P 17 37 38.5 +1.3
CJR **Cluj-Napoca** 79.55 321 ⇓P P 17 37 38.5 +1.3
GMRC **Granite Mounta** 79.58 54 P P 17 37 39.2 +1.5
baz=308,SNR=17
TMUT **Trail Mountain** 79.58 49 *e*P P 17 37 39.4 +1.5
comp=Z,42nm,1.3s
VOIR 79.68 320 ⇓*i*P P 17 37 37.6 -0.4
VOIR 79.68 320 ⇓P P 17 37 37.6 -0.4
P17A **Butcher Ranch,** 79.75 48 *e*P P 17 37 40.1 +1.4
comp=Z,87nm,1.2s
LCMT **Little Creek M** 79.76 51 *e*P P 17 37 40.0 +1.3
comp=Z,50nm,1.2s
PFO **Pinyon Flats O** 79.76 56 P P 17 37 39.9 +1.2
baz=308,SNR=13
PFO **Pinyon Flats O** 79.76 56 *e*P P 17 37 39.7 +1.0
comp=Z,38nm,1.3s
PFO **Pinyon Flats O** 79.76 56 *e*P P 17 37 39.7 +1.0
PFO pmax pmax
comp=Z,38nm,1.3s
XPFO **Piæon Flat** 79.76 56 *e*P P 17 37 39.7 +1.0
comp=Z,37nm,1.2s
109C **Camp Elliot, M** 79.77 57 P P 17 37 39.8 +1.2
baz=307
MTPU **Mount Pierson** 79.78 50 *e*P P 17 37 41.0 +2.0
comp=Z,38nm,1.1s
LANS **Liptovska Anna** 79.82 325 *e*P P 17 37 39.6 +0.9
LANS **Liptovska Anna** 79.82 325 *e*P P 17 37 39.6 +0.9
KECS **Kecovo** 79.83 324 *e*P P 17 37 39.2 +0.6
KECS pmax pmax
comp=Z,7.0nm,1.3s
KECS **Kecovo** 79.83 324 *e*P P 17 37 39.2 +0.6
BELC **Belle Mtn. Jos** 79.83 55 P P 17 37 40.0 +0.9
baz=308,SNR=11
Q16A **Castle Valley** 79.84 49 *e*P P 17 37 40.8 +1.7
comp=Z,80nm,1.3s
OKC **Ostrava-Krasne** 79.92 326 ⇓*e*P P 17 37 40.7 +1.6
OKC **Ostrava-Krasne** 79.92 326 *e*P P 17 37 40.7 +1.6
DRGR 79.94 322 ⇓*i*P P 17 37 39.4 0.0
DRGR 79.94 322 ⇓P P 17 37 39.4 0.0
ARR **Arges** 79.94 320 ⇓*i*P P 17 37 40.9 +1.5
P18A **Preston Nutter** 79.95 48 *e*P P 17 37 41.8 +1.9
comp=Z,54nm,1.2s
KSP **Ksiaz** 80.00 328 *e*P P 17 37 39.8 +0.3
KSP **Ksiaz** 80.00 328 *e*P P 17 37 39.8 +0.3
KNB **Kanab** 80.02 51 *e*P P 17 37 41.7 +1.5
comp=Z,98nm,1.3s
KNB **Kanab** 80.02 51 *e*P P 17 37 41.7 +1.5
KNB pmax pmax
comp=Z,98nm,1.3s
PKCU **Pink Cliffs** 80.07 51 *e*P P 17 37 42.2 +1.6
comp=Z,39nm,1.3s
SRU **San Rafael Swe** 80.11 48 *e*P P 17 37 41.7 +1.1
comp=Z,48nm,1.0s
SRU **San Rafael Swe** 80.11 48 *e*P P 17 37 41.7 +1.1
SRU pmax pmax
comp=Z,48nm,1.0s
ULM **Lac du Bonnet** 80.12 33 P P 17 37 40.4 +0.3
comp=Z,20nm,0.9s,baz=307,slow=6.6,SNR=23
ULM LR LR 18 15 51.9
comp=Z,130nm,20.4s,baz=303,slow=38
ULM **Lac du Bonnet** 80.12 33 *e*P P 17 37 40.3 +0.1
comp=Z,37nm,1.0s
K22A **Casper** 80.13 44 P P 17 37 41.6 +1.0
baz=312,SNR=6.2
K22A **Casper** 80.13 44 *e*P P 17 37 41.3 +0.7
comp=Z,117nm,1.9s
RAYN **Ar Rayn** 80.14 292 *e*P P 17 37 40.4 -0.5
comp=Z,32nm,1.1s
MDND **Maddock** 80.15 36 P P 17 37 40.9 +0.5
baz=315
MDND **Maddock** 80.15 36 *e*P P 17 37 40.8 +0.5
comp=Z,64nm,0.8s
BAR **Barrett** 80.18 57 *e*P P 17 37 41.5 +0.6
comp=Z,23nm,1.1s
MTLAZ **Mount Logan** 80.19 52 *e*P P 17 37 42.4 +1.2
MONP2 **Monument Peak** 80.22 56 P P 17 37 42.4 +1.1
baz=308,SNR=11
MMU **Miners Mountai** 80.22 49 *e*P P 17 37 43.5 +2.1
MORC **Moravsky Berou** 80.24 327 ⇓*i*P P 17 37 41.4 +0.5
MORC **Moravsky Berou** 80.24 327 *e*P P 17 37 41.6 +0.8
comp=Z,138nm,1.2s
MORC **Moravsky Berou** 80.24 327 *e*P P 17 37 41.7 +0.8
MORC pmax pmax
comp=Z,138nm,1.2s
NEE2 **Needles Airpor** 80.26 54 P P 17 37 42.2 +1.0
baz=308
IRM **Iron Mountain** 80.30 55 P P 17 37 42.7 +1.3
baz=308,SNR=20
LOT **Lotru** 80.33 320 ⇓*i*P P 17 37 41.8 +0.2
DPC **Dobruska-Polom** 80.35 328 ⇓*i*P P 17 37 42.4 +0.9
DPC **Dobruska-Polom** 80.35 328 ⇓*i*P P 17 37 42.4 +0.9
UPC **Upice** 80.37 328 ⇓*e*P P 17 37 42.2 +0.7
UPC **Upice** 80.37 328 *e*P P 17 37 42.2 +0.7
RWWY **Rawlins** 80.38 45 *e*P P 17 37 43.0 +0.9
comp=Z,42nm,1.1s
BC3 **Big Chuckawall** 80.40 55 P P 17 37 43.4 +1.2
baz=308,SNR=11
RSSD **Black Hills** 80.49 41 P P 17 37 43.3 +0.6
baz=313
RSSD **Black Hills** 80.49 41 *e*P P 17 37 43.1 +0.5
comp=Z,80nm,1.9s
RSSD **Black Hills** 80.49 41 *e*P P 17 37 43.1 +0.5
RSSD pmax pmax
comp=Z,80nm,1.9s
PSZ **Piszkesteto** 80.50 324 ⇓*i*P P 17 37 42.6 +0.2
PSZ **Piszkesteto** 80.50 324 ⇓*e*P P 17 37 43.1 +0.7
PSZ **Piszkesteto** 80.50 324 *e*P P 17 37 42.3 -0.1
comp=Z,45nm,1.1s
PSZ **Piszkesteto** 80.50 324 *e*P P 17 37 42.3 -0.1
PSZ pmax pmax
comp=Z,45nm,1.1s
RAR **Rarotonga** 80.53 125 LR LR 18 06 03.2
comp=Z,165nm,22.0s,baz=273,slow=30
W13A **Hualapai Mount** 80.53 53 *e*P P 17 37 42.5 -0.5
comp=Z,29nm,1.3s
IKP **In-Ko-Pah, Jac** 80.58 56 P P 17 37 44.5 +1.4
baz=308,SNR=16
VYHS **Vyhne** 80.58 325 *e*P P 17 37 43.1 +0.3
VYHS pmax pmax
comp=Z,24nm,1.4s
VYHS **Vyhne** 80.58 325 *e*P P 17 37 43.1 +0.3
SWSC **Sam W. Stewart** 80.60 56 P P 17 37 44.2 +1.1
baz=308,SNR=6.4
B31A **Greenbush Farm** 80.65 35 P P 17 37 43.7 +0.7
baz=316
SZH **Strazhica** 80.67 318 P P 17 37 43.0 -0.3
U15A **North Rim** 80.72 51 *e*P P 17 37 45.7 +1.6
comp=Z,58nm,1.3s
O20A **White River Ci** 80.80 46 P P 17 37 45.4 +1.1
baz=311
O20A **White River Ci** 80.80 46 *e*P P 17 37 45.2 +0.9
comp=Z,38nm,1.1s
A32A **Rocking H Ranc** 80.82 34 P P 17 37 44.5 +0.5
baz=317,SNR=9.3
SIRR **Siria** 80.82 322 ⇓*i*P P 17 37 44.9 +0.8
JMB **Yambol** 80.86 317 P P 17 37 44.6 +0.3
PDMCI **Parker Dam,Lak** 80.86 54 P P 17 37 46.0 +1.6
baz=308,SNR=7.6
Y12C **Blythe** 80.95 55 P P 17 37 46.2 +1.3
baz=308
Y12C **Blythe** 80.95 55 *e*P P 17 37 46.5 +1.6
comp=Z,53nm,1.3s
BRG **Berggiesshubel** 80.96 329 *e*P P 17 37 44.8 +0.1
comp=Z,42nm,1.4s
BRG **Berggiesshubel** 80.96 329 *e*P P 17 37 44.8 +0.1
BRG pmax pmax
comp=Z,42nm,1.4s
PVCC **Panska Ves** 80.96 328 ⇓*e*P P 17 37 45.6 +0.9
PVCC **Panska Ves** 80.96 328 *e*P P 17 37 45.6 +0.9
VRAC **Vranov** 81.00 327 ⇓*i*P P 17 37 46.1 +1.1
VRAC **Vranov** 81.00 327 ⇓P P 17 37 46.1 +1.1
CLL **Collm** 81.02 330 ⇓*i*P P 17 37 45.1 +0.1
comp=Z,61nm,1.1s
CLL LmH 18 15 00.0
comp=N,400nm,19.1s
CLL LmH 18 15 00.0
comp=E,900nm,19.6s
CLL LmV 18 18 00.0
comp=Z,400nm,20.2s
CLL **Collm** 81.02 330 *e*P P 17 37 44.6 -0.3
comp=Z,107nm,1.5s
CLL **Collm** 81.02 330 ⇓*i*P P 17 37 45.1 +0.1
CLL pmax pmax
comp=Z,61nm,1.1s
CLL MLR MLR
comp=Z,400nm,20.2s
C31A **Landman Farms,** 81.07 36 P P 17 37 45.8 +0.5
baz=316
ASF **Jabal al Asfar** 81.11 303 P P 17 37 46.8 +0.9
comp=Z,7.6nm,1.0s,baz=287,slow=4.9,SNR=7.3
B32A **Ashes, Strandq** 81.18 34 P P 17 37 46.1 +0.2
baz=317,SNR=7.7
GLA **Glamis** 81.18 55 P P 17 37 47.9 +1.6
baz=306,SNR=7.8
GLA **Glamis** 81.18 55 *e*P P 17 37 47.5 +1.2
comp=Z,37nm,1.2s
GLA **Glamis** 81.18 55 *e*P P 17 37 47.5 +1.2
GLA pmax pmax
comp=Z,37nm,1.2s
SMOL **Smolenice** 81.21 326 *e*P P 17 37 47.5 +1.4
SMOL **Smolenice** 81.21 326 *e*P P 17 37 47.5 +1.4
A33A **Warroad** 81.30 34 P P 17 37 46.8 +0.3
baz=318,SNR=19
BZS **Buzias** 81.30 322 ⇑*i*P P 17 37 45.7 -0.9
BZS **Buzias** 81.30 322 ⇑P P 17 37 45.7 -0.9
GOPC **GO Pecny, Ondr** 81.33 328 ⇓*e*P P 17 37 47.2 +0.5
GOPC *e*PCP pP 17 37 50.3 -1.5
GOPC **GO Pecny, Ondr** 81.33 328 *e*P P 17 37 47.2 +0.5
PV09 **Paradox Valley** 81.34 48 *e*P P 17 37 48.6 +1.2
PRU **Pruhonice** 81.38 328 ⇓*e*P P 17 37 47.3 +0.4
PRU *e*PCP pP 17 37 50.4 -1.6
PRU AMS AMS 18 17 00.0
comp=Z,600nm,20.6s
PRU **Pruhonice** 81.38 328 *e*P P 17 37 47.3 +0.4
PRU MLR MLR
comp=Z,600nm,20.6s
MODS **Modra-Piesok** 81.38 326 *e*P P 17 37 48.0 +1.0
MODS **Modra-Piesok** 81.38 326 *e*P P 17 37 48.0 +1.0
PV10 **Paradox Valley** 81.47 48 *e*P P 17 37 49.7 +1.7
TREC **Trest** 81.50 327 ⇓*e*P P 17 37 48.5 +0.9
TREC **Trest** 81.50 327 *e*P P 17 37 48.5 +0.9
AGMN **Agassiz Nation** 81.56 34 P P 17 37 47.7 -0.2
baz=318
AGMN **Agassiz Nation** 81.56 34 *e*P P 17 37 47.4 -0.5
comp=Z,22nm,0.8s
MMAI **Mount Meron Ar** 81.59 305 P P 17 37 49.3 +0.9
comp=Z,3.9nm,0.6s,baz=52,slow=7.5,SNR=8.6
MMAI LR LR 18 17 10.8
comp=Z,242nm,19.9s,baz=25,slow=38
C32A **Crookston** 81.60 35 P P 17 37 48.2 0.0
baz=317
D31A **Mcclaflin, Tow** 81.61 36 P P 17 37 48.9 +0.7
baz=316
N23A **Red Feather La** 81.62 45 P P 17 37 50.6 +1.9
baz=312,SNR=23
N23A **Red Feather La** 81.62 45 *e*P P 17 37 50.0 +1.3
comp=Z,72nm,1.4s
PHWY **Pilot Hill** 81.62 44 *e*P P 17 37 49.4 +0.6
comp=Z,66nm,1.7s
PV05 **Paradox Valley** 81.63 48 *e*P P 17 37 50.0 +1.2
B33A **Robert and Kas** 81.70 34 P P 17 37 48.5 -0.1
baz=318
CSS **Mathiatis** 81.71 308 *e*P P 17 37 49.1 +0.1
comp=Z,20nm,1.9s
Y14A **Wickenburg** 81.82 54 *e*P P 17 37 50.5 +0.8
comp=Z,102nm,1.1s
WUAZ **Wupatki** 81.87 52 P P 17 37 51.8 +1.8
baz=310,SNR=16
WUAZ **Wupatki** 81.87 52 *e*P P 17 37 51.4 +1.4
comp=Z,39nm,1.1s
D32A **Dogwood Acres,** 81.88 36 P P 17 37 49.7 0.0
baz=317
E31A **Nome** 81.89 36 P P 17 37 50.4 +0.7
baz=316,SNR=6.4
PV01 **Paradox Valley** 81.91 48 *e*P P 17 37 51.2 +0.9
B34A **Aery, Baudette** 81.96 33 P P 17 37 50.2 +0.2
baz=318,SNR=6.5
C33A **Trail** 82.00 35 P P 17 37 50.4 +0.2
baz=318,SNR=7.4
KDZ **Kurdzhali** 82.05 317 P P 17 37 50.9 +0.3
113A **Mohawk Valley,** 82.06 55 *e*P P 17 37 51.8 +1.0
comp=Z,48nm,1.7s
NKC **Novy Kostel** 82.07 329 ⇓*e*P P 17 37 51.1 +0.5
NKC **Novy Kostel** 82.07 329 *e*P P 17 37 51.1 +0.5
MOX **Moxa** 82.09 330 P P 17 37 51.5 +0.8
MOX pmax pmax
comp=Z,21nm,1.4s
SMCO **Snowmass** 82.17 46 *e*P P 17 37 53.2 +1.4
comp=Z,40nm,1.4s
F31A **Hecla** 82.22 37 P P 17 37 51.9 +0.5
baz=316
SOP **Sopron** 82.22 326 ⇓*e*P P 17 37 52.3 +0.9
SOP **Sopron** 82.22 326 P P 17 37 53.6 +2.2
SOP pmax pmax
comp=Z,45nm,0.8s
E32A **Braaten, Kindr** 82.25 36 P P 17 37 51.8 +0.3
baz=317
CONA **Conrad Observa** 82.35 326 *i* P P 17 37 53.2 +1.0
comp=Z,36nm,1.5s,SNR=11
RZN **Rozhen** 82.41 317 P P 17 37 53.1 +0.4
D33A **AnnSam, Waubun** 82.42 35 P P 17 37 52.6 +0.2
baz=318
KHC **Kasperske Hory** 82.44 328 ⇓*i*P P 17 37 53.0 +0.4
KHC *ex* x 17 38 30.5
KHC **Kasperske Hory** 82.44 328 *e*P P 17 37 52.4 -0.2
comp=Z,30nm,1.5s
KHC **Kasperske Hory** 82.44 328 ⇓*i*P P 17 37 53.0 +0.4
B35A **Bob, Littlefor** 82.46 33 P P 17 37 53.1 +0.4
baz=319,SNR=5.5
C34A **RKJ Ranch, Bem** 82.47 34 P P 17 37 52.8 +0.1
baz=318
X16A **Lo Mia Camp, P** 82.53 52 *e*P P 17 37 55.0 +1.4
comp=Z,35nm,1.3s
ISCO **Idaho Springs** 82.54 45 P P 17 37 55.3 +1.7
baz=312,SNR=9.5
ISCO **Idaho Springs** 82.54 45 *e*P P 17 37 55.3 +1.7
comp=Z,74nm,1.9s
ISCO **Idaho Springs** 82.54 45 *e*P P 17 37 55.3 +1.7
ISCO pmax pmax
comp=Z,73nm,1.9s
MVCO **Mesa Verde** 82.55 49 P P 17 37 55.3 +1.6
baz=311,SNR=16
MVCO **Mesa Verde** 82.55 49 *e*P P 17 37 55.0 +1.3
comp=Z,86nm,1.5s
VTS **Vitosha** 82.59 319 ⇓*i*P P 17 37 54.1 +0.4
VTS **Vitosha** 82.59 319 *e*P P 17 37 54.0 +0.3
comp=Z,14nm,1.0s
VTS **Vitosha** 82.59 319 *e*P P 17 37 54.0 +0.3
VTS pmax pmax
comp=Z,14nm,1.0s
VTS **Vitosha** 82.59 319 P P 17 37 54.0 +0.3
GEC2 **GERESS Array S** 82.61 328 *e*P P 17 37 53.4 -0.1
comp=Z,43nm,1.6s
GEC2 **GERESS Array S** 82.61 328 *e*P P 17 37 53.4 -0.1
GEC2 pmax pmax
comp=Z,43nm,1.6s
GERES **GERESS Array B** 82.61 328 P P 17 37 53.8 +0.3
comp=Z,6.4nm,0.6s,baz=40,slow=5.8,SNR=38
GERES PP PP 17 41 04.0 +1.6
comp=Z,1.8nm,1.0s,baz=39,slow=7.2,SNR=4.3
GERES PKKPbc PKKPbc 17 56 18.4 +0.4
comp=Z,0.3nm,0.6s,baz=186,slow=2.4,SNR=4.1
GERES LR LR 18 18 19.7
comp=Z,431nm,18.1s,baz=27,slow=38
GEA0 **GERESS Array S** 82.61 328 *e*P P 17 37 53.2 -0.4
G31A **Conde** 82.69 38 P P 17 37 54.6 +0.6
baz=316
WET **Wettzell** 82.73 328 P P 17 37 55.1 +1.0
WET pmax pmax
comp=Z,26nm,0.8s
F32A **Veblen** 82.75 37 P P 17 37 54.2 -0.1
baz=317
D34A **Park Rapids** 82.76 35 P P 17 37 54.5 +0.2
baz=318,SNR=5.4
E33A **Westby DABS, E** 82.81 36 P P 17 37 55.2 +0.6
baz=318,SNR=6.5
C35A **Jirik Farms, M** 82.85 34 P P 17 37 54.6 -0.1
baz=319,SNR=13
SUSD **Miller** 82.89 38 P P 17 37 55.4 +0.5
baz=316
GRF **Grafenberg Arr** 82.99 330 P P 17 37 56.2 +0.8
GRF pmax pmax
comp=Z,64nm,1.1s
GRFO **Grafenberg** 82.99 330 *e*P P 17 37 55.7 +0.3
comp=Z,58nm,1.1s
GRFO **Grafenberg** 82.99 330 *e*P P 17 37 55.7 +0.3
GRFO pmax pmax
comp=Z,58nm,1.1s
MMB **Musomiste** 83.01 318 P P 17 37 56.4 +0.7
ARSA **Arzberg** 83.01 326 *i* P P 17 37 56.4 +0.9
comp=Z,21nm,1.4s,SNR=7.2
G32A **Webster** 83.02 37 P P 17 37 56.4 +0.8
baz=317,SNR=5.4
GRB1 **Grafenberg Arr** 83.05 329 P P 17 37 56.8 +1.1
GRB1 pmax pmax
comp=Z,50nm,1.2s
H31A **Wolsey** 83.10 38 P P 17 37 56.4 +0.3
baz=316
MOA **Molln** 83.12 327 *i* PcP P 17 37 57.0 +0.9
comp=Z,39nm,1.4s,SNR=9.3
BUG **Bochum--Univer** 83.13 333 P P 17 37 57.6 +1.6
BUG pmax pmax
comp=Z,21nm,1.4s
W18A **Petrified Fore** 83.15 51 P P 17 37 58.4 +1.7
baz=311
KKB **Krupnik** 83.17 318 P P 17 37 55.9 -0.6
F33A **5 Mile Ranch,** 83.17 36 P P 17 37 57.2 +0.9
baz=318,SNR=12
EKA **Eskdalemuir Ar** 83.18 340 P P 17 37 56.6 +0.3
comp=Z,9.1nm,0.9s,baz=24,slow=5.4,SNR=8.4
EKA LR LR 18 19 20.1
comp=Z,192nm,19.3s,baz=335,slow=39
EKA **Eskdalemuir Ar** 83.18 340 P P 17 37 56.6 +0.3
EKA pmax pmax
comp=Z,18nm,1.1s
EKA MLR MLR
comp=Z,192nm,19.3s
DIVS **Divibare** 83.19 321 *e*P P 17 37 56.0 -0.6
comp=Z,51nm,1.4s
214A **Organ Pipe Nat** 83.20 55 P P 17 37 58.4 +1.6
baz=309
E34A **Wadena** 83.20 35 P P 17 37 57.1 +0.5
baz=318
S22A **4UR Ranch, Cre** 83.20 47 P P 17 37 59.0 +1.9
baz=312
S22A **4UR Ranch, Cre** 83.20 47 *e*P P 17 37 58.9 +1.8
comp=Z,42nm,1.2s
D35A **Remer** 83.28 34 P P 17 37 56.9 0.0
baz=319,SNR=5.2
C36A **Pine Crest Far** 83.31 33 P P 17 37 57.2 +0.2
baz=320,SNR=11
Q24A **Divide** 83.36 46 P P 17 37 58.7 +0.7
baz=313
Q24A **Divide** 83.36 46 *e*P P 17 37 59.3 +1.4
comp=Z,12nm,0.9s
X18A **Snowflake** 83.40 52 *e*P P 17 37 59.5 +1.4
comp=Z,36nm,1.2s
E35A **Pequot Lakes** 83.52 35 P P 17 37 58.2 0.0
baz=319
THZ **Tophouse** 83.53 156 *e*P P 17 37 58.3 +0.3
comp=Z,76nm,1.4s
G33A **Ortonville** 83.57 37 P P 17 37 59.2 +0.7
baz=318,SNR=9.9
H32A **Carlson Farm,** 83.59 38 P P 17 37 58.5 -0.2
baz=317
D36A **Goodland** 83.61 34 P P 17 37 58.7 +0.1
baz=320,SNR=5.3
C37A **Embarrass** 83.62 33 P P 17 37 58.9 +0.2
baz=320,SNR=10
SOKA **Soboth** 83.66 326 *i* P P 17 37 59.3 +0.2
comp=Z,79nm,1.3s,SNR=21
F34A **Alexandria** 83.69 36 P P 17 37 59.1 +0.1
baz=318
SOH **Sokhos** 83.75 317 P P 17 38 01.5 +2.0
EYMN **Ely** 83.75 32 P P 17 37 59.8 +0.5
baz=321,SNR=7.4
EYMN **Ely** 83.75 32 *e*P P 17 37 59.6 +0.3
comp=Z,36nm,0.9s
OGNE **Ogallala** 83.75 43 P P 17 37 60.0 +0.4
baz=314
H33A **Prehn Over Nor** 83.80 37 P P 17 38 00.4 +0.7
baz=317,SNR=17
VAY **Valandovo** 83.82 318 *i* P P 17 38 01.1 +1.3
J31A **Geddes** 83.82 39 P P 17 37 59.9 +0.1
baz=316
G34A **Benson** 83.92 36 P P 17 38 00.7 +0.5
baz=318
I32A **Karley and Nic** 83.93 38 P P 17 38 00.1 -0.2
baz=317
D37A **Cotton** 83.95 33 P P 17 38 00.5 +0.1
baz=320
F35A **Swanville** 83.96 35 P P 17 38 00.8 +0.3
baz=319
SKO **Skopje** 83.96 319 ⇓*i*P P 17 38 01.4 +0.8

SDCO **Great Sand Dun** 83.98 47 P P 17 38 02.7 +1.6
baz=313,SNR=20
SDCO **Great Sand Dun** 83.98 47 *e*P P 17 38 02.3 +1.2
comp=Z,36nm,1.4s
C38A **Sawbill Land.** 84.02 32 P P 17 38 00.8 +0.1
baz=321,SNR=9.7
E36A **McGregor** 84.07 34 P P 17 38 01.3 +0.4
baz=320,SNR=7.1
BLY **Banja Luka** 84.10 323⇓*i*P P 17 38 00.4 -0.8
BLY **Banja Luka** 84.10 323 *e*P P 17 38 01.1 -0.1
comp=Z,37nm,1.4s
KBA **Koelnbreinsper** 84.11 327 P P 17 38 03.3 +1.9
KBA pmax pmax
comp=Z,42nm,1.0s
KBA **Koelnbreinsper** 84.11 327 *e*P P 17 38 01.6 +0.1
comp=Z,19nm,1.1s
FUR **Furstenfeldbru** 84.16 329 P P 17 38 02.9 +1.5
FUR pmax pmax
comp=Z,47nm,1.0s
J32A **Parkston** 84.21 39 P P 17 38 02.0 +0.2
baz=317
I33A **Coleman** 84.24 38 P P 17 38 02.4 +0.4
baz=317
MEM **Membach** 84.27 333⇑P P 17 38 01.9 0.0
comp=Z,14nm,1.2s
H34A **Spellman Lake,** 84.28 37 P P 17 38 02.7 +0.6
baz=318
K31A **O'Neill** 84.30 40 P P 17 38 03.0 +0.7
baz=316
TUC **Tucson** 84.30 54 P P 17 38 03.7 +1.2
baz=310
TUC **Tucson** 84.30 54 *e*P P 17 38 03.0 +0.5
comp=Z,28nm,1.3s
TUC **Tucson** 84.30 54 *e*P P 17 38 03.0 +0.5
TUC pmax pmax
comp=Z,28nm,1.3s
MYKA **Terra Mystica** 84.32 326 *e*P P 17 38 02.0 -0.3
comp=Z,28nm,1.5s
C39A **Grand Marais** 84.43 32 P P 17 38 02.7 -0.1
baz=322
F36A **Milaca** 84.44 35 P P 17 38 02.6 -0.3
baz=319
G35A **Watkins** 84.48 36 P P 17 38 03.6 +0.5
baz=319
KRUS **Krusevo** 84.49 319 *i* P P 17 38 03.4 +0.1
STU **Stuttgart** 84.53 330 *e*P P 17 38 03.7 +0.4
comp=Z,45nm,0.9s
STU **Stuttgart** 84.53 330 *e*P P 17 38 03.7 +0.4
STU pmax pmax
comp=Z,45nm,0.9s
ECSD **EROS Data Cent** 84.56 38 P P 17 38 04.1 +0.5
baz=318,SNR=15
ECSD **EROS Data Cent** 84.56 38 *e*P P 17 38 03.6 +0.1
comp=Z,23nm,0.9s
K32A **Verdigre** 84.67 39 P P 17 38 04.0 -0.1
baz=317
OXZ **Oxford** 84.67 158 *e*P P 17 38 02.8 -1.0
comp=Z,21nm,0.9s
PMOR **Pomariorio Ree** 84.68 113 *e*T T 19 11 02.9
comp=Z,58nm,0.2s
BCLA **Clavier** 84.68 333⇑P P 17 38 04.1 +0.1
comp=Z,14nm,1.5s
J33A **Davis** 84.69 38 P P 17 38 04.5 +0.2
baz=317
BIA **Bitola** 84.70 318 *i* P P 17 38 05.2 +0.9
H35A **Sunnyside Ranc** 84.71 36 P P 17 38 05.3 +1.0
baz=319,SNR=22
WTTA **Wattenberg** 84.71 328 PcP P 17 38 04.6 +0.2
comp=Z,9.5nm,1.2s
ABTA **Abfaltersbach** 84.73 327 *e*P P 17 38 04.0 -0.4
comp=Z,22nm,1.3s,SNR=7.4
E38A **The Farm, Brul** 84.75 33 P P 17 38 04.9 +0.4
baz=321,SNR=6.7
C40A **Isle Royale Na** 84.76 31 P P 17 38 03.6 -0.9
baz=322
KSCO **Kaye Shedlock'** 84.77 44 P P 17 38 05.3 +0.5
baz=314
KSCO **Kaye Shedlock'** 84.77 44 *e*P P 17 38 05.3 +0.5
comp=Z,52nm,1.3s
PDG **Podgorica** 84.77 321⇓*i*P P 17 38 04.2 -0.3
TTG **Podgorica** 84.77 321 *e*P P 17 38 04.3 -0.3
comp=Z,116nm,1.4s
TTG **Podgorica** 84.77 321 *e*P P 17 38 04.3 -0.3
TTG pmax pmax
comp=Z,116nm,1.4s
G36A **St. Michael** 84.81 35 P P 17 38 04.8 +0.1
baz=319
FNA **Florina** 84.84 318 P P 17 38 05.1 0.0
FNA pmax pmax
comp=Z,32nm,1.2s
MOTA **Moosalm** 84.87 328 *e*P P 17 38 05.1 -0.1
comp=Z,26nm,1.2s,SNR=7.4
MHTCO **State Highway** 84.87 47 *e*P P 17 38 07.5 +2.0
comp=Z,82nm,1.3s
RETA **Reutte** 84.91 328 *i* PcP P 17 38 05.7 +0.4
comp=Z,49nm,1.4s,SNR=11
OHR **Ohrid** 84.91 319 *i* P P 17 38 05.8 +0.3
F37A **Hinrichs Farm,** 84.95 34 P P 17 38 05.7 +0.2
baz=320
SNF **Seneffe** 84.97 334⇑P P 17 38 05.5 +0.1
WLF **Walferdange** 84.99 332⇑P P 17 38 06.1 +0.6
comp=Z,30nm,1.7s
WLF **Walferdange** 84.99 332 *e*P P 17 38 06.0 +0.4
comp=Z,62nm,1.4s
WLF **Walferdange** 84.99 332 *e*P P 17 38 06.0 +0.4
WLF pmax pmax
comp=Z,62nm,1.4s
T25A **Trinidad** 85.03 47 P P 17 38 07.9 +1.5
baz=313,SNR=19
T25A **Trinidad** 85.03 47 *e*P P 17 38 07.8 +1.5
comp=Z,32nm,0.9s
APE **Apeiranthos** 85.10 313⇑*i*P P 17 38 06.7 +0.3
APE pmax pmax
comp=Z,47nm,1.2s
PPT **Papeete** 85.11 116 LR LR 18 10 24.1
comp=Z,155nm,21.0s,baz=306,slow=32
F38A **Pierce - Schro** 85.11 34 P P 17 38 07.1 +0.8
baz=320,SNR=13
PPT2 **Papeete2** 85.12 116 *e*LR LR 18 04 40.0
comp=Z,852nm,31.8s,baz=308
PPT2 **Papeete2** 85.12 116 *e*T T 19 11 37.2
comp=Z,14nm,0.2s
L32A **Elgin** 85.12 40 P P 17 38 07.0 +0.5
baz=317
KARP **Karpathos** 85.16 311 *e*P P 17 38 06.4 -0.3
comp=Z,29nm,1.2s
K33A **Hardington** 85.20 39 P P 17 38 07.2 +0.4
baz=317
DOU **Dourbes** 85.21 333⇑P P 17 38 06.6 0.0
J34A **George** 85.22 38 P P 17 38 07.0 +0.1
baz=318
H36A **Jessenland, He** 85.22 36 P P 17 38 08.1 +1.3
baz=319,SNR=5.1
BFO **Black Forest** 85.23 330 *e*P P 17 38 06.5 -0.3
comp=Z,95nm,1.3s
BFO **Black Forest** 85.23 330 *e*P P 17 38 06.5 -0.3
BFO pmax pmax
comp=Z,95nm,1.3s
LAZ **Ladron** 85.23 50 *e*P P 17 38 08.2 +0.8
SPMN **Marine on St.** 85.25 35 P P 17 38 07.3 +0.3
baz=320
SPMN **Marine on St.** 85.25 35 *e*P P 17 38 07.5 +0.5
comp=Z,74nm,0.8s
I35A **Creekview Farm** 85.26 37 P P 17 38 07.6 +0.5
baz=318
FETA **Feichten** 85.28 328 *e*PcP P 17 38 07.7 +0.3
comp=Z,13nm,1.2s
ANMO **Albuquerque** 85.29 49 P P 17 38 09.2 +1.6
baz=312
ANMO **Albuquerque** 85.29 49 *e*P P 17 38 08.1 +0.5
comp=Z,35nm,1.3s
ANMO **Albuquerque** 85.29 49⇓*i*P P 17 38 08.2 +0.5
ANMO pmax pmax
comp=Z,22nm,1.1s
E39A **Mellen** 85.37 33 P P 17 38 07.7 +0.2
baz=321
L33A **Hoskins** 85.38 39 P P 17 38 08.0 +0.3
baz=317
DAVA **Damuels** 85.43 329 *e*PcP P 17 38 08.0 0.0
comp=Z,42nm,1.1s,SNR=9.6
BGNE **Belgrade** 85.48 40 P P 17 38 08.5 +0.2
baz=317
J35A **Milford** 85.52 37 P P 17 38 08.6 +0.2
baz=318
F39A **Loretta** 85.57 33 P P 17 38 09.0 +0.4
baz=321
CDF **Champ du Feu** 85.58 331 *e*P P 17 38 07.2 -1.5
CDF pmax pmax
comp=Z,59nm,1.2s
Y22E **IRIS PASSCAL I** 85.59 50 P P 17 38 10.7 +1.6
baz=312
K34A **Le Mars** 85.59 38 P P 17 38 08.8 +0.1
baz=318
E40A **Wakefield** 85.60 32 P P 17 38 08.7 0.0
baz=322,SNR=5.7
I36A **Fitzsimmons Fa** 85.61 36 P P 17 38 09.4 +0.6
baz=319
SLE **Schleitheim** 85.62 330 P P 17 38 09.6 +0.8
SLE pmax pmax
comp=Z,22nm,1.5s
D41A **Chassel** 85.68 31 P P 17 38 09.6 +0.5
baz=323
H37A **Dierke Farm, C** 85.69 35 P P 17 38 09.7 +0.5
baz=320
BNM **Barren Site** 85.72 50 *e*P P 17 38 11.1 +1.2
G38A **Ridgeland** 85.73 34 P P 17 38 09.6 +0.2
baz=320,SNR=7.2
ECH **Echery** 85.78 331 *e*P P 17 38 09.0 -0.6
comp=Z,34nm,1.1s
ECH **Echery** 85.78 331 *e*P P 17 38 09.0 -0.6
ECH pmax pmax
comp=Z,34nm,1.1s
FUORN **Ofenpass-Fuorn** 85.80 328 *e*P P 17 38 09.9 -0.1
comp=Z,73nm,1.4s
SCHQ **Schefferville** 85.80 15 P P 17 38 10.6 +1.0
comp=Z,5.3nm,0.7s,baz=339,slow=7.9,SNR=5.4
SCHQ LR LR 18 18 09.3
comp=Z,233nm,21.9s,baz=330,slow=37
SCHQ **Schefferville** 85.80 15 *e*P P 17 38 10.5 +1.0
comp=Z,15nm,1.1s
M33A **Taylor Creek F** 85.86 40 P P 17 38 10.3 +0.2
baz=317
319A **Douglas** 85.87 54 *e*P P 17 38 11.4 +0.9
comp=Z,28nm,1.2s
I37A **Lemond, Waseca** 85.90 36 P P 17 38 11.2 +0.9
baz=320,SNR=10
H38A **Maiden Rock** 85.91 35 P P 17 38 10.2 -0.1
baz=320
F40A **Park Falls** 85.91 33 P P 17 38 10.6 +0.3
baz=322
G39A **Holcombe** 85.94 34 P P 17 38 09.6 -0.9
baz=321
J36A **Seneca 1, Swea** 85.97 37 P P 17 38 11.0 +0.4
baz=319,SNR=6.5
L34A **Svendsen Farm,** 85.98 39 P P 17 38 10.8 +0.1
baz=318
E41A **Kenton** 85.98 32 P P 17 38 10.1 -0.5
baz=322
K35A **Storm Lake** 85.99 38 P P 17 38 11.0 +0.3
baz=318
121A **Cookes Peak, D** 86.07 52 P P 17 38 12.6 +1.1
baz=312
M34A **Aspy Farms, Fr** 86.22 39 P P 17 38 12.0 +0.1
baz=318
HINF **Hinteralfeld** 86.23 331 *e*P P 17 38 11.1 -0.8
HINF pmax pmax
comp=Z,22nm,1.3s
DAMY **Dhamar** 86.27 285 *e*P P 17 38 13.9 +1.0
comp=Z,48nm,1.2s
HAU **Haudompre** 86.27 331 *e*P P 17 38 10.2 -1.8
HAU pmax pmax
comp=Z,13nm,0.7s
L35A **Bielow Farm, R** 86.29 38 P P 17 38 12.1 -0.1
baz=318
TUE **Stuetta** 86.30 329 *e*P P 17 38 12.1 -0.3
comp=Z,27nm,1.1s
N33A **J Bar K, Exete** 86.33 40 P P 17 38 12.0 -0.5
baz=317
J37A **Redenius Farm,** 86.36 36 P P 17 38 13.1 +0.6
baz=320,SNR=5.6
I38A **Scanlan Farm,** 86.38 35 P P 17 38 12.5 -0.1
baz=320
G40A **Rib Lake** 86.39 33 P P 17 38 13.3 +0.7
baz=322
K36A **Gilmore City** 86.44 37 P P 17 38 13.7 +0.8
baz=319
E42A **Champion** 86.45 31 P P 17 38 13.5 +0.5
baz=323
F41A **Three Lakes** 86.50 32 P P 17 38 13.8 +0.6
baz=322
CBKS **Cedar Bluff** 86.50 43 P P 17 38 12.9 -0.5
baz=316
CBKS **Cedar Bluff** 86.50 43 *e*P P 17 38 12.9 -0.5
comp=Z,32nm,1.1s
CBKS **Cedar Bluff** 86.50 43 *e*P P 17 38 12.9 -0.5
CBKS pmax pmax
comp=Z,32nm,1.1s
IDI **Anoyia** 86.69 312 P P 17 38 14.7 +0.3
comp=Z,55nm,1.2s,baz=18,slow=9.6,SNR=11
IDI **Anoyia** 86.69 312⇓*i*P P 17 38 13.9 -0.5
IDI **Anoyia** 86.69 312 *e*P P 17 38 13.2 -1.2
comp=Z,59nm,1.2s
M35A **Neola** 86.69 39 P P 17 38 14.7 +0.5
baz=318
K37A **Belmond** 86.73 37 P P 17 38 14.9 +0.5
baz=320,SNR=12
L36A **Harm Buss Farm** 86.73 38 P P 17 38 14.9 +0.5
baz=319
O33A **Hebron** 86.75 41 P P 17 38 14.4 -0.1
baz=317
N34A **Lincoln** 86.75 40 P P 17 38 14.2 -0.3
baz=318
TAOE **Nuku Hiva Isla** 86.75 103 *e*LR LR 18 05 48.5
comp=Z,690nm,22.5s
H40A **Chili** 86.81 34 P P 17 38 15.5 +0.8
baz=322
J38A **Wedel Dairy, R** 86.86 36 P P 17 38 15.3 +0.3
baz=320
G41A **Antigo** 86.88 33 P P 17 38 15.4 +0.3
baz=322
I39A **Houston** 86.89 35 P P 17 38 15.2 0.0
baz=321
F42A **Maple Grove Fa** 86.89 32 P P 17 38 15.4 +0.3
baz=323
E44A **Grand Marais A** 87.11 30 P P 17 38 16.5 +0.3
baz=324
O34A **Beatrice** 87.13 40 P P 17 38 15.9 -0.5
baz=318
H41A **Junction City** 87.14 33 P P 17 38 16.6 +0.3
baz=322
M36A **Felix, Anita** 87.15 38 P P 17 38 17.1 +0.7
baz=319,SNR=7.0
L37A **Phoenix Point,** 87.16 37 P P 17 38 16.8 +0.4
baz=319
N35A **Tabor** 87.17 39 P P 17 38 17.1 +0.6
baz=318
G42A **Mountain** 87.18 32 P P 17 38 17.1 +0.6
baz=323
J39A **Decorah** 87.21 35 P P 17 38 16.6 -0.1
baz=321
SENIN **Lac Senin/Sane** 87.23 330 *e*P P 17 38 17.2 +0.2
comp=Z,35nm,1.5s
F43A **Flat Rock, Esc** 87.24 31 P P 17 38 17.1 +0.3
baz=324
I40A **Norwalk** 87.28 34 P P 17 38 17.6 +0.5
baz=321
F44A **Big Bay de Noc** 87.43 31 P P 17 38 18.1 +0.4
baz=324
I41A **Arkdale** 87.48 34 P P 17 38 18.7 +0.7
baz=322
G43A **Wallace** 87.48 32 P P 17 38 18.0 +0.1
baz=323
P34A **Walnut Farm, R** 87.53 41 P P 17 38 18.4 +0.1
baz=318,SNR=9.4
L38A **Oak Wood Farm,** 87.53 37 P P 17 38 18.8 +0.5
baz=320
N36A **Muff Farm, Cla** 87.55 39 P P 17 38 19.1 +0.7
baz=319
M37A **Trindle Farm,** 87.56 38 P P 17 38 19.1 +0.7
baz=319
SCIA **State Center** 87.59 37 P P 17 38 19.3 +0.8
baz=320
SCIA **State Center** 87.59 37 *e*P P 17 38 19.5 +1.0
comp=Z,48nm,1.1s
J40A **Soldiers Grove** 87.61 35 P P 17 38 18.5 -0.1
baz=321
K39A **Oelwein** 87.61 36 P P 17 38 18.3 -0.3
baz=321
E45A **Wooded Hills,** 87.63 30 P P 17 38 18.2 -0.4
baz=325
H42A **Shiocton** 87.72 33 P P 17 38 19.6 +0.6
baz=323
Q34A **Chapman** 87.93 41 P P 17 38 20.9 +0.7
baz=318,SNR=6.2
J41A **Loganville** 87.96 34 P P 17 38 20.7 +0.4
baz=322
K40A **Colesburg** 87.96 35 P P 17 38 20.5 +0.2
baz=321
P35A **Duane Minner,** 87.97 40 P P 17 38 20.6 +0.2
baz=318
M38A **Pleasantville** 87.97 37 P P 17 38 21.2 +0.8
baz=320
N37A **Lee Paris, Mou** 87.97 38 P P 17 38 21.1 +0.7
baz=319
KSU1 **Kansas State U** 87.97 41 P P 17 38 20.9 +0.4
baz=318
KSU1 **Kansas State U** 87.97 41 *e*P P 17 38 20.4 0.0
comp=Z,32nm,0.8s
L39A **Vinton** 88.00 36 P P 17 38 20.8 +0.3
baz=320
F45A **CMU Biological** 88.04 30 P P 17 38 20.8 +0.2
baz=325
I42A **Draeger Farm,** 88.04 33 P P 17 38 20.8 +0.2
baz=322
O36A **Bolckow** 88.06 39 P P 17 38 21.0 +0.2
baz=319
H43A **Windswept, Lux** 88.08 32 P P 17 38 21.1 +0.2
baz=323
FLN **La Foliniere** 88.10 335 *e*P P 17 38 20.6 -0.2
FLN pmax pmax
comp=Z,44nm,1.3s
LDF **La Druitiere** 88.13 335 *e*P P 17 38 20.6 -0.4
LDF pmax pmax
comp=Z,57nm,1.5s
SSF **Saint Saulge** 88.14 332 *e*P P 17 38 20.8 -0.2
SSF pmax pmax
comp=Z,29nm,1.5s
MNTX **Cornudas Mount** 88.14 51 P P 17 38 22.4 +1.0
baz=313
MNTX **Cornudas Mount** 88.14 51 *e*P P 17 38 22.4 +1.0
comp=Z,24nm,1.5s
LPL **La Plagne** 88.15 330 *e*P P 17 38 22.5 +1.1
LPL pmax pmax
comp=Z,5.0nm,0.6s
LPG **La Plagne** 88.16 329 *e*P P 17 38 22.0 +0.4
LPG pmax pmax
comp=Z,5.0nm,0.6s
MSTX **Muleshoe** 88.18 48 P P 17 38 21.7 +0.1
baz=314
AMTX **Amarillo** 88.19 47 P P 17 38 22.6 +1.0
baz=315
AMTX **Amarillo** 88.19 47 *e*P P 17 38 22.6 +1.0
comp=Z,44nm,1.3s
JFWS **Jewell Farm** 88.21 35 P P 17 38 22.5 +1.0
baz=322
R34A **Isabella, Hill** 88.22 42 P P 17 38 21.9 +0.3
baz=317
F46A **Macinaw City C** 88.27 30 P P 17 38 22.3 +0.6
baz=325
P36A **Good Intent, A** 88.32 40 P P 17 38 22.6 +0.5
baz=319,SNR=5.9
SMF **Signal de Mont** 88.36 332 *e*P P 17 38 23.1 +1.0
SMF pmax pmax
comp=Z,41nm,1.5s
I43A **Langenfeld Bro** 88.38 33 P P 17 38 22.7 +0.4
baz=323
J42A **Columbus** 88.40 34 P P 17 38 22.6 +0.2
baz=322
M39A **Webster** 88.42 37 P P 17 38 23.0 +0.5
baz=320
L40A **Anamosa** 88.42 36 P P 17 38 22.8 +0.3
baz=321
AVF **Avril sur Loir** 88.42 332 *e*P P 17 38 21.0 -1.4
AVF pmax pmax
comp=Z,39nm,1.2s
K41A **Shullsburg** 88.42 35 P P 17 38 22.7 +0.2
baz=322
N38A **Joes South For** 88.42 38 P P 17 38 22.9 +0.3
baz=320
O37A **Wolven Farm, M** 88.44 39 P P 17 38 23.2 +0.6
baz=319
Q35A **Mercer Eighty,** 88.45 41 P P 17 38 23.2 +0.5
baz=318,SNR=6.3
GRR **Gorron** 88.55 335 *e*P P 17 38 22.9 -0.1
GRR pmax pmax
comp=Z,44nm,1.2s
J43A **Natural Harves** 88.66 33 P P 17 38 23.7 +0.1
baz=323
N39A **Derby Farms, D** 88.72 37 P P 17 38 24.5 +0.6
baz=320
K42A **Prairie Point,** 88.72 34 P P 17 38 24.0 +0.1
baz=322
L41A **Preston** 88.75 35 P P 17 38 24.0 0.0
baz=322
R35A **Emporia Munici** 88.76 41 P P 17 38 25.3 +1.1
baz=318,SNR=7.2
MBDF **Montbardon** 88.78 329 *e*P P 17 38 25.0 +0.7
MBDF pmax pmax
comp=Z,5.0nm,0.6s
P37A **Lathrop** 88.78 39 P P 17 38 24.7 +0.5
baz=319
M40A **Post Highland** 88.79 36 P P 17 38 24.7 +0.5
baz=321
O38A **Galt** 88.82 38 P P 17 38 24.9 +0.5
baz=320
TBI **Tubuai** 88.95 120 *e*LR LR 18 06 33.5
comp=Z,453nm,27.2s,baz=308
TBI **Tubuai** 88.95 120 *e*T T 19 16 25.7
comp=Z,82nm,0.3s
ORIF **Oris-en-Rattie** 88.99 330 *e*P P 17 38 27.0 +1.8
ORIF pmax pmax
comp=Z,17nm,1.2s
GLMI **Grayling** 89.11 30 P P 17 38 25.8 +0.1
baz=326
R36A **Gordon, Harris** 89.13 41 P P 17 38 26.6 +0.7
baz=318
N40A **Mertquake, Sal** 89.16 37 P P 17 38 26.6 +0.6
baz=321
P38A **Dawn** 89.16 39 P P 17 38 26.4 +0.3
baz=320
O39A **Kirksville** 89.17 38 P P 17 38 26.4 +0.3
baz=320
L42A **Oliver, Polo** 89.19 35 P P 17 38 25.9 -0.2
baz=322
SGMF **Saint Gilles** 89.22 336 *e*P P 17 38 26.2 +0.1
SGMF pmax pmax
comp=Z,52nm,1.4s
K43A **Burlington** 89.24 34 P P 17 38 26.6 +0.3
baz=323
Q37A **Longview Farm,** 89.26 40 P P 17 38 26.5 0.0
baz=319
TCF **Toulx Ste Croi** 89.27 333 *e*P P 17 38 26.5 +0.1
TCF pmax pmax
comp=Z,31nm,1.4s
M41A **Milan** 89.27 36 P P 17 38 27.1 +0.6
baz=322
ATD **Arta Tunnel** 89.29 284 LR LR 18 21 30.3
comp=Z,204nm,21.1s,baz=70,slow=38
L43A **Garden Prairie** 89.47 34 P P 17 38 27.3 -0.1
baz=323
VIVF **Saint-Julien-l** 89.52 330 *e*P P 17 38 28.5 +0.8
VIVF pmax pmax
comp=Z,41nm,1.9s
O40A **La Belle** 89.61 37 P P 17 38 28.4 +0.3
baz=321
Q38A **Cooks Store, C** 89.62 39 P P 17 38 28.5 +0.3
baz=320
N41A **Harden Midland** 89.64 36 P P 17 38 28.3 +0.1
baz=321
P39B **Salisbury** 89.66 38 P P 17 38 28.9 +0.6
baz=320
QUIF **Quistinic** 89.72 337 *e*P P 17 38 28.4 0.0
QUIF pmax pmax
comp=Z,46nm,1.3s
L44A **Lake County Fo** 89.85 34 P P 17 38 29.7 +0.5
baz=323
Q39A **Willow Grove F** 89.88 39 P P 17 38 30.1 +0.6
baz=320
LPIG **La Paz** 89.92 60 LR LR 18 15 09.4
comp=Z,113nm,18.2s,baz=321,slow=33
N42A **Yates City** 89.94 36 P P 17 38 30.3 +0.7
baz=322
M43A **Waltham Townsh** 89.96 35 P P 17 38 30.3 +0.6
baz=322
WMOK **Wichita Mounta** 89.96 45 P P 17 38 30.6 +0.7
baz=316
WMOK **Wichita Mounta** 89.96 45 *e*P P 17 38 30.4 +0.5
comp=Z,31nm,1.4s
WMOK **Wichita Mounta** 89.96 45 *e*P P 17 38 30.4 +0.5
WMOK pmax pmax
comp=Z,31nm,1.4s
P40A **Paris** 89.97 38 P P 17 38 30.7 +0.9
baz=321,SNR=8.9

R38A	Fenwick Farm,	90.06	40	P		P	17 38 29.7	-0.6
	baz=319							
O41A	Passleys Farm,	90.09	37	P		P	17 38 30.2	-0.1
	baz=321							
N43A	Stutzman Famil	90.25	35	P		P	17 38 31.4	+0.3
	baz=322							
P41A	Barry, Barry	90.35	37	P		P	17 38 32.4	+0.8
	baz=321,SNR=5.5							
RJF	Les Rejaudoux	90.36	332	*e*P		P	17 38 31.6	+0.1
RJF				pmax		pmax		
	comp=Z,24nm,1.2s							
Q40A	Laux Farm, Aux	90.37	38	P		P	17 38 31.9	+0.2
	baz=320							
R39A	Chumby, Stover	90.41	39	P		P	17 38 32.1	+0.2
	baz=320,SNR=6.4							
M44A	Midewin, Midew	90.42	34	P		P	17 38 32.4	+0.5
	baz=323							
CAF	Calviac	90.48	332	*e*P		P	17 38 32.5	+0.4
CAF				pmax		pmax		
	comp=Z,39nm,1.4s							
S38A	Stockton	90.48	40	P		P	17 38 31.8	-0.4
	baz=319							
OK021	N3530 Road, Sp	90.49	43	*e*P		P	17 38 33.0	+0.7
	comp=Z,25nm,0.8s							
HDIL	Hopedale	90.50	36	P		P	17 38 32.6	+0.3
	baz=322							
HDIL	Hopedale	90.50	36	*e*P		P	17 38 33.2	+0.9
	comp=Z,124nm,1.6s							
O43A	Sugar Creek Fa	90.70	36	P		P	17 38 33.7	+0.5
	baz=322							
T38A	Diamond	90.73	41	P		P	17 38 33.8	+0.4
	baz=319,SNR=12							
S39A	Bolivar	90.74	40	P		P	17 38 33.5	+0.1
	baz=320,SNR=7.5							
P42A	Winchester	90.76	37	P		P	17 38 34.2	+0.7
	baz=322							
TUL1	Leonard	90.77	43	P		P	17 38 34.4	+0.8
	baz=318							
TUL1	Leonard	90.77	43	*e*P		P	17 38 34.5	+0.8
	comp=Z,19nm,0.6s							
M45A	Boilermakers S	90.78	34	P		P	17 38 34.0	+0.4
	baz=324							
R40A	Maddies Statio	90.82	39	P		P	17 38 34.4	+0.6
	baz=320,SNR=6.6							
Q41A	Truxton	90.82	38	P		P	17 38 34.5	+0.7
	baz=321							
TX31	Lajitas Ar. Si	90.83	52	*e*P		P	17 38 35.0	+0.9
LTX	Lajitas	90.83	52	*e*P		P	17 38 35.3	+1.2
LTX	Lajitas	90.83	52	*e*P		P	17 38 35.3	+1.2
TXAR	Lajitas Array	90.83	52	P		P	17 38 35.3	+1.2
	comp=Z,6.5nm,0.8s,baz=295,slow=3.0,SNR=33							
TXAR				LR		LR	18 13 10.0	
	comp=Z,275nm,22.0s,baz=0.0,slow=32							
TXAR	Lajitas Array	90.83	52	P		P	17 38 35.3	+1.2
TXAR				pmax		pmax		
	comp=Z,4.0nm,0.5s							
TXAR				MLR		MLR		
	comp=Z,275nm,22.0s							
N44A	Piper City	90.85	35	P		P	17 38 34.2	+0.4
	baz=323							
ABTX	Abilene, Hawle	90.98	47	P		P	17 38 35.4	+0.7
	baz=316							
ABTX	Abilene, Hawle	90.98	47	*e*P		P	17 38 35.3	+0.6
	comp=Z,41nm,1.2s							
N45A	Kentland	91.09	34	P		P	17 38 35.5	+0.5
	baz=324							
P43A	Skaggs, Pawnee	91.11	36	P		P	17 38 35.5	+0.4
	baz=322							
M46A	Old House Fiel	91.16	33	P		P	17 38 35.7	+0.4
	baz=324							
HPIG		91.18	55	*e*P		P	17 38 37.1	+1.1
	comp=Z,26nm,1.4s							
Q42A	Golden Eagle	91.20	37	P		P	17 38 36.2	+0.7
	baz=322							
O44A	Mansfield	91.21	35	P		P	17 38 35.7	+0.2
	baz=323							
T39A	Clever	91.22	40	P		P	17 38 35.9	+0.2
	baz=320							
S40A	Lebanon	91.23	39	P		P	17 38 35.9	+0.1
	baz=320							
R41A	Rosebud	91.26	38	P		P	17 38 36.4	+0.6
	baz=321,SNR=6.7							
N46A	Monticello	91.40	34	P		P	17 38 36.9	+0.4
	baz=324							
O45A	Potomac	91.47	35	P		P	17 38 37.5	+0.7
	baz=323							
HHAR	Hobbs	91.48	41	*e*P		P	17 38 37.0	0.0
	comp=Z,10nm,0.8s							
CCM	Cathedral Cave	91.51	38	P		P	17 38 37.5	+0.6
	baz=321							
CCM	Cathedral Cave	91.51	38	*e*P		P	17 38 37.6	+0.6
	comp=Z,44nm,1.5s							
CCM	Cathedral Cave	91.51	38	*e*P		P	17 38 37.6	+0.6
CCM				pmax		pmax		
	comp=Z,44nm,1.5s							
R42A	Luebbering	91.56	38	P		P	17 38 37.4	+0.1
	baz=321							
T40A	Mansfield	91.56	40	P		P	17 38 36.9	-0.4
	baz=320							
TRQ	Mont Tremblant	91.58	24	*e*P		P	17 38 37.6	+0.4
Q43A	New Douglas	91.58	37	P		P	17 38 37.7	+0.4
	baz=322							
S41A	Jillco Farms,	91.62	39	P		P	17 38 37.8	+0.3
	baz=321							
U39A	Green Forest	91.65	41	P		P	17 38 38.0	+0.3
	baz=320							
SFIN	Lafayette	91.66	34	P		P	17 38 38.1	+0.5
	baz=324							
P44A	Sand Creek, Wi	91.68	36	P		P	17 38 37.7	0.0
	baz=323							
MTLF	Montolieu	91.76	331	*e*P		P	17 38 38.2	+0.1
MTLF				pmax		pmax		
	comp=Z,41nm,1.6s							
PLVO	Plevna	91.77	26	*e*P		P	17 38 38.0	-0.1
	comp=Z,68nm,1.5s							
Q44A	Meyer Farm, Va	91.94	36	P		P	17 38 39.1	+0.1
	baz=322							
S42A	Caledonia	91.96	38	P		P	17 38 39.9	+0.8
	baz=321,SNR=6.4							
V39A	Pettigrew	91.97	41	P		P	17 38 39.3	0.0
	baz=320							
R43A	Red Bud	91.99	37	P		P	17 38 39.2	0.0
	baz=322							
U40A	Yellville	92.00	40	P		P	17 38 39.2	-0.1
	baz=320							
T41A	Mountain View	92.03	39	P		P	17 38 39.2	-0.3
	baz=321							
P45A	Graceland, Par	92.04	35	P		P	17 38 39.8	+0.4
	baz=323							
O47A	Sheridan	92.19	34	P		P	17 38 39.8	-0.3
	baz=324							
P46A	Rosedale	92.22	35	P		P	17 38 40.3	+0.1
	baz=324							
Q45A	Warren Harvey,	92.35	36	P		P	17 38 41.6	+0.7
	baz=323							
T42A	Van Buren	92.38	39	P		P	17 38 41.2	+0.1
	baz=321							
W39A	Magazine	92.39	42	P		P	17 38 41.0	-0.1
	baz=319							
JCT	Junction City	92.42	49	P		P	17 38 41.9	+0.5
	baz=316							
JCT	Junction City	92.42	49	*e*P		P	17 38 42.2	+0.8
	comp=Z,80nm,1.8s							
JCT	Junction City	92.42	49	*e*P		P	17 38 42.2	+0.8
JCT				pmax		pmax		
	comp=Z,80nm,1.8s							
R44A	Waltonville	92.42	37	P		P	17 38 41.7	+0.5
	baz=322							
V40A	Witts Springs	92.43	41	P		P	17 38 41.3	-0.1
	baz=320							
S43A	Fulton Ridge,	92.47	38	P		P	17 38 41.6	+0.2
	baz=322							
U41A	Viola	92.49	40	P		P	17 38 41.6	+0.1
	baz=321							
WHTX	Lake Whitney,	92.72	46	P		P	17 38 43.6	+0.9
	baz=317							
X39A	Fountain Ranch	92.72	42	P		P	17 38 43.5	+0.8
	baz=319							
T43A	Greenville	92.74	38	P		P	17 38 43.1	+0.4
	baz=322							
P47A	Martinsville	92.75	34	P		P	17 38 43.2	+0.5
	baz=324							
W40A	Ferguson Farm,	92.77	41	P		P	17 38 43.0	+0.2
	baz=320							
W40A	Ferguson Farm,	92.77	41	*e*P		P	17 38 43.5	+0.6
	comp=Z,46nm,1.2s							
R45A	Skylar, Fairfi	92.77	36	P		P	17 38 42.9	+0.1
	baz=323							
S44A	Carbondale	92.78	37	P		P	17 38 43.3	+0.5
	baz=322							
V41A	Mountainview	92.80	40	P		P	17 38 43.2	+0.2
	baz=320							
U42A	Revenden	92.83	39	P		P	17 38 43.3	+0.2
	baz=321							
PBMO	Poplar Bluff	92.91	39	*e*P		P	17 38 44.1	+0.6
	comp=Z,41nm,1.6s							
MIAR	Mount Ida	92.99	42	P		P	17 38 44.4	+0.5
	baz=320							
MIAR	Mount Ida	92.99	42	*e*P		P	17 38 44.9	+1.0
	comp=Z,25nm,1.0s							
MIAR	Mount Ida	92.99	42	*e*P		P	17 38 44.9	+1.0
MIAR				pmax		pmax		
	comp=Z,25nm,1.0s							
X301	Greenbrier Sit	93.09	41	*e*P		P	17 38 44.5	+0.2
	comp=Z,55nm,1.6s							
WHAR	Wooly Hollow	93.11	41	*e*P		P	17 38 45.0	+0.6
	comp=Z,25nm,1.0s							
S45A	Carrier Mills	93.11	37	P		P	17 38 44.8	+0.4
	baz=323							
Q47A	Bedord North L	93.12	35	P		P	17 38 44.5	+0.1
	baz=324							
V42A	Cord	93.18	40	P		P	17 38 44.7	0.0
	baz=321							
R46A	Gibon Southern	93.20	36	P		P	17 38 44.7	-0.1
	baz=323							
ERPA	Erie	93.22	29	P		P	17 38 45.1	+0.3
	baz=329							
W41B	Gary Mavity, V	93.22	41	P		P	17 38 45.1	+0.2
	baz=320							
U43A	Rector	93.24	39	P		P	17 38 45.4	+0.4
	baz=322							
X40A	Basin Creek Fa	93.43	42	P		P	17 38 46.1	+0.1
	baz=320							
W42A	Bald Knob	93.52	40	P		P	17 38 46.1	-0.2
	baz=321							
435B	Jarrell	93.52	47	P		P	17 38 46.8	+0.4
	baz=317							
S46A	Don Dixon Farm	93.52	36	P		P	17 38 46.6	+0.3
	baz=323							
Y40A	Okolona	93.55	42	P		P	17 38 46.5	0.0
	baz=320							
R47A	Wooly Knot Far	93.59	35	P		P	17 38 46.1	-0.5
	baz=324							
T46A	Princeton	93.95	37	P		P	17 38 49.3	+1.0
	baz=323,SNR=6.7							
X42A	Stuttgart	94.02	41	P		P	17 38 48.8	+0.1
	baz=321							
PKME	Peaks-Kenny Pk	94.03	21	P		P	17 38 49.1	+0.7
	baz=337							
Z40A	Long Farm, Mag	94.06	43	P		P	17 38 49.5	+0.7
	baz=320							
U45A	Rockin P Farm,	94.08	38	P		P	17 38 49.3	+0.5
	baz=323							
N54A	Moraine State	94.20	30	P		P	17 38 48.7	-0.6
	baz=329							
833A	Chaparral WMA,	94.20	50	P		P	17 38 49.4	-0.2
	baz=316							
S48A	Wiedeman Farm,	94.33	35	P		P	17 38 50.1	+0.1
	baz=324							
Y42A	Garnett, Star	94.48	41	P		P	17 38 50.9	+0.1
	baz=321							
WVT	Waverly	94.71	37	P		P	17 38 52.8	+1.1
	baz=323							
WVT	Waverly	94.71	37	*e*P		P	17 38 52.5	+0.7
	comp=Z,37nm,1.8s							
WVT	Waverly	94.71	37	*e*P		P	17 38 52.5	+0.7
WVT				pmax		pmax		
	comp=Z,37nm,1.8s							
U47A	Clarksville	94.72	37	P		P	17 38 51.0	-0.8
	baz=324							
V46A	Holladay	94.83	38	P		P	17 38 52.1	-0.2
	baz=323							
KEST	Kesra	94.85	322	LR		LR	18 27 35.1	
	comp=Z,417nm,18.1s,baz=312,slow=39							
KEST	Kesra	94.85	322	*e*P		P	17 38 52.4	-0.1
	comp=Z,40nm,1.5s							
V47A	Nunnelly	95.10	37	P		P	17 38 53.2	-0.4
	baz=323							
OXF	Oxford	95.20	39	P		P	17 38 54.0	0.0
	baz=322							
SSPA	Standing Stone	95.30	28	P		P	17 38 54.8	+0.4
	baz=330							
O56A	Blue Knob Stat	95.35	29	P		P	17 38 54.8	+0.1
	baz=330							
MCWV	Mont Chateau	95.36	30	P		P	17 38 55.1	+0.4
	baz=329							
V48A	Smith Brothers	95.51	37	P		P	17 38 55.4	-0.1
	baz=324							
W47A	Westpoint	95.52	38	P		P	17 38 55.2	-0.3
	baz=323							
N59A	State Game Lan	95.84	27	P		P	17 38 58.2	+1.4
	baz=332							
HRV	Adam Dziewonsk	95.86	23	P		P	17 38 56.2	-0.7
	baz=335							
W48A	Pulaski	95.94	37	P		P	17 38 57.2	-0.2
	baz=324							
Y46A	Houston	95.97	39	P		P	17 38 57.9	+0.3
	baz=322							
145A	Houston Renfro	96.42	41	P		P	17 39 00.8	+1.1
	baz=322							
TKL	Tuckaleechee C	97.02	35	LR		LR	18 25 05.9	
	comp=Z,171nm,21.3s,baz=332,slow=37							
TKL	Tuckaleechee C	97.02	35	*e*P		P	17 39 02.8	+0.5
	comp=Z,33nm,1.5s							
TKL	Tuckaleechee C	97.02	35	*e*P		P	17 39 02.8	+0.5
TKL				pmax		pmax		
	comp=Z,33nm,1.5s							
ES19	SCONCA Array	97.21	333	*e*P		P	17 39 02.4	-0.8
ESDC	Sonseca Array	97.25	333	P		P	17 39 02.6	-0.7
	comp=Z,0.5nm,0.5s,baz=31,slow=3.5,SNR=5.2							
ESDC				LR		LR	18 28 33.6	
	comp=Z,245nm,18.6s,baz=15,slow=39							
Z50A	Ashland	97.95	38	P		P	17 39 06.2	-0.3
	baz=324							
TOA1	Torodi Ar. Sit	117.06	314	*e*PKPdf		PKPdf	17 44 15.9	0.0
TOA1				*e*PKKPbc		PKKPbc	17 54 42.4	+2.9
TOA0	Torodi Ar. Sit	117.06	314	*e*PKPdf		PKPdf	17 44 15.3	-0.6
TOA0				*e*PKPdf		PKiKP	17 44 15.4	-0.5
TOA0				*e*PP		PP	17 45 20.9	-3.7
TORD	Torodi Ar. Bea	117.06	314	PKP		PKPdf	17 44 15.9	0.0
	comp=Z,2.3nm,0.9s,baz=25,slow=1.8,SNR=10							
TORD				PKKPbc		PKKPbc	17 54 42.4	+2.9
	comp=Z,1.6nm,0.9s,baz=229,slow=3.2,SNR=5.5							
KOWA	Kowa	119.08	320	PKP		PKPdf	17 44 20.0	+0.2
	comp=Z,6.0nm,0.6s,baz=43,slow=2.3,SNR=18							
KOWA	Kowa	119.08	320	*e*PKPdf		PKPdf	17 44 19.7	0.0
KOWA				*e*PKPdf		PKPdf	17 44 20.0	+0.2
KOWA				*e*PP		PP	17 45 34.3	-4.3
MATP	Matopo	119.33	265	PKP		PKPdf	17 44 20.2	0.0
	comp=Z,2.5nm,0.6s,baz=226,slow=1.1,SNR=8.7							
LBTB	Lobatse	123.93	262	*e*PKPdf		PKPdf	17 44 28.6	-0.3
LBTB				*e*PP		PP	17 46 07.0	-5.9
LBTB	Lobatse	123.93	262	*e*PKIKP		PKPdf	17 44 28.6	-0.3
BOSA	Boshof	125.86	259	PKP		PKPdf	17 44 32.5	0.0
	comp=Z,4.3nm,0.9s,baz=141,slow=1.4,SNR=6.3							
SDV	Santo Domingo	125.98	39	PKP		PKPdf	17 44 33.5	+0.3
	comp=Z,19nm,0.8s,baz=294,slow=3.8,SNR=17							
SDV	Santo Domingo	125.98	39	*e*PKPdf		PKPdf	17 44 33.6	+0.3
SDV				*e*PP		PP	17 46 20.6	-4.9
TIC	Toumodi	126.15	316	*e*PKIKP		PKPdf	17 44 33.0	-0.4
KIC	Kosan Boka	126.23	315	*e*PKIKP		PKPdf	17 44 33.3	-0.2
	comp=Z,46nm,1.3s							
QSPA	South Pole Qui	126.48	180	*e*PKPdf		PKPdf	17 44 31.8	-0.6
LIC	Lamto	126.50	316	*e*PKIKP		PKPdf	17 44 33.7	-0.4
	comp=Z,54nm,1.4s							
RUSC	La Rusia	127.19	44	*e*PKPdf		PKPdf	17 44 36.1	+0.1
TSUM	Tsumeb	127.45	273	*e*PKPdf		PKPdf	17 44 36.3	+0.5
PTGA	Pitinga	139.44	33	PKP		PKPdf	17 45 00.1	+1.7
	comp=Z,7.3nm,0.8s,baz=107,slow=2.9,SNR=5.6							
SAML	Samuel	144.93	44	*e*PKPdf		PKPab	17 45 07.0	-0.2
LPAZ	La Paz	147.42	59	PKPbc		PKPbc	17 45 16.6	+1.1
	comp=Z,11nm,0.7s,baz=273,slow=4.5,SNR=21							
LPAZ	La Paz	147.42	59	*e*PKPdf		PKPdf	17 45 14.1	+1.1
MNMC	Minye Minye	148.28	65	*e*PKPdf		PKPdf	17 45 14.3	+0.4
MNMC				*e*PKPbc		PKiKP	17 45 19.1	+0.2
PB11	IPOC Station P	148.63	66	*e*PKPdf		PKPdf	17 45 15.1	+0.8
PB11				*e*PKPbc		PKPbc	17 45 18.8	+0.7
RCBR	Riachuelo	149.07	353	*e*PKPbc		PKPdf	17 45 17.8	+2.7
PB01	IPOC Station P	149.54	67	*e*PKPdf		PKPdf	17 45 16.2	+0.5
PB01				*e*PKPbc		PKPbc	17 45 21.4	+1.2
PB04	IPOC Station P	149.81	70	*e*PKPdf		PKPdf	17 45 17.0	+0.8
PB04				*e*PKPbc		PKPbc	17 45 22.0	+1.1
GO09	Cerro Castillo	152.50	132	*e*PKPdf		PKPdf	17 45 21.2	+2.1
GO09				*e*PKPbc		PKiKP	17 45 27.6	+1.3
LCO	Las Campanas	152.71	83	*e*PKPdf		PKPdf	17 45 18.6	-1.9
LCO				*e*PKPbc		PKPbc	17 45 27.9	+0.3
PLCA	Paso Flores	155.46	109	PKP		PKPdf	17 45 25.2	+1.4
	comp=Z,1.7nm,0.9s,baz=32,slow=1.7,SNR=2.9							
PLCA				PKPbc		pPKPbc	17 45 35.3	-2.8
	comp=Z,1.5nm,0.8s,baz=315,slow=7.6,SNR=3.0							
PLCA				PKPab		PKPab	17 45 51.0	+1.5
	comp=Z,5.5nm,0.9s,baz=237,slow=4.6,SNR=6.2							
PLCA	Paso Flores	155.46	109	*e*PKPdf		PKPdf	17 45 23.3	-0.5
PLCA				PKPbc		pPKPbc	17 45 35.3	-2.8
PLCA				*e*PKPab		PKPab	17 45 51.5	+1.9
PLCA	Paso Flores	155.46	109	*e*PKIKP		PKPdf	17 45 23.3	-0.5
PLCA							17 45 35.3	
BDFB	Brasilia	157.64	22	*e*PKPdf		PKPdf	17 45 27.7	+0.3
BDFB				*e*PKPab		PKPab	17 45 59.9	+0.6
BDFB	Brasilia	157.64	22	*e*PKIKP		PKPdf	17 45 27.7	+0.3
CPUP	Villa Florida	161.57	61	PKP		PKPdf	17 45 31.3	-0.1
	comp=Z,1.6nm,0.9s,baz=180,slow=0.8,SNR=3.8							
CPUP	Villa Florida	161.57	61	*e*PKPdf		PKPdf	17 45 31.2	-0.3
CPUP				*e*PKPab		PKPab	17 46 15.5	-0.8
CPUP	Villa Florida	161.57	61	*e*PKIKP		PKPdf	17 45 31.2	-0.3
CPUP				*e*			17 46 15.5	

*CSEM **09** 17:35:34.5,38°.41N×21°.05E,h34km,ML1.8/2,After ATH*
ATH 09 17:35:34.5,38°.41N×21°.05E,h34km±6km,ML1.8/2,Error ellipse: s-maj=6.6km s-min=1.2km az=305.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	Valsamata	0.42	238	P	Pb	17 35 43.9	-0.2
VLS				S	Sn	17 35 52.1	+1.3
VLS				AML	AML	17 35 52.5	
	comp=E,403μm,0.1s						
VLS				AML	AML	17 35 52.6	
	comp=N,226μm,0.1s						
VLS	Valsamata	0.42	238	P	Pb	17 35 44.1	0.0
VLS				S	Sn	17 35 51.8	+0.9
PVO	Paravola	0.43	61	P	Pn	17 35 44.4	0.0
PVO				S	Sn	17 35 51.8	+0.8
PVO				AML	AML	17 35 52.1	
	comp=E,272μm,0.3s						
PVO				AML	AML	17 35 52.2	
	comp=N,195μm,0.3s						
PVO	Paravola	0.43	61	P	Pn	17 35 44.4	0.0
PVO				S	Sn	17 35 51.8	+0.8
RLS	Riolos of Patr	0.48	136	P	Pn	17 35 45.5	+0.5
RLS				S	Sn	17 35 53.3	+1.1
RLS	Riolos of Patr	0.48	136	P	Pn	17 35 45.3	+0.3
RLS				S	Sn	17 35 53.1	+0.9
EFP	Efpalio	0.68	88	P	Pn	17 35 47.0	-0.6
EFP	Efpalio	0.68	88	P	Pn	17 35 47.7	+0.1
DRO	Drossia	0.69	131	P	Pb	17 35 48.9	+0.6
DRO	Drossia	0.69	131	P	Pb	17 35 48.7	+0.4
ANX	Ano Chora	0.71	74	P	Pb	17 35 49.8	+1.1
ANX	Ano Chora	0.71	74	P	Pb	17 35 49.4	+0.7
AGG	Agios Georgios	1.18	58	P	Pb	17 35 57.9	+1.4
AGG	Agios Georgios	1.18	58	P	Pb	17 35 57.2	+0.8

RSNC 09 17:36:07.6±0.6,3°.71N×82°.41W,h6km±17km,ML3.5, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAPC	Malpelo	0.85	70	*e*P	Pg	17 36 22.4	-1.6
MAPC				*e*S	Sg	17 36 34.4	-0.7
MAPC				*i*		17 36 36.0	
	comp=Z,2μm,0.3s						
GRGC	Isla de Gorgon	4.29	99	*e*P	Pn	17 37 12.8	-0.7
GRGC				*i*		17 37 13.4	
	comp=Z,12nm,0.1s						
GRGC				*e*S	Sn	17 38 01.7	-2.3
BCIP	Isla Barro Col	5.99	25	*e*P	Pn	17 37 35.6	-1.3
SOTA	Rioblanco	6.00	105	*e*P	Pn	17 37 37.2	-0.2
SOTA				*e*S	Sn	17 38 45.4	-1.4
SOTA				*i*		17 38 55.9	
	comp=Z,86nm,0.6s						

*ISCJB **09** 17:41:49.0±0.5,37°.23N±0°.04×28°.74E±0°.04,h0km,Error ellipse: s-maj=5.4km s-min=4.2km az=170.1*
*DDA **09** 17:41:48.5,37°.20N×28°.79E,h7km,Md2.7,Suspected Mining explosion.*
*CSEM **09** 17:41:49.1±0.2,37°.23N×28°.75E,h1km,MD2.7,Error ellipse: s-maj=4.6km s-min=3.7km az=20.0,Suspected Mining explosion.*
*ISK **09** 17:41:49.5,37°.25N×28°.71E,h8km,ML2.6/5*
ISC 09 17:41:48.7±0.8,37°.22N±0°.03×28°.70E±0°.04,h0km,n29,σ0s62/37,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVA	DENIZLI_Tavas	0.30	35	*i* P	Pg	17 41 54.6	+0.2
TAVA				*i* S	Sg	17 41 58.7	+0.4
TAVA	DENIZLI_Tavas	0.30	35	P	Pg	17 41 54.6	+0.2
TAVA				S	Sg	17 41 58.7	+0.4
YER	Yerkesik	0.34	256	PG	Pb	17 41 57.0	-0.7
YER				SG	Sb	17 42 02.7	-1.0
YER	Yerkesik	0.34	256	*e*Pg	Pb	17 41 57.0	-0.7
YER				*e*Sg	Sb	17 42 02.7	-1.0
TURN	Turunc	0.35	192	PG	Pn	17 42 01.3	+0.3
TURN	Turunc	0.35	192	*e*Pg	Pn	17 42 01.3	+0.3
FETY	Fethiye	0.66	152	PG	Pg	17 42 02.4	+1.1
FETY	Fethiye	0.66	152	P	Pg	17 42 00.5	-0.8
FETY	Fethiye	0.66	152	*e*Pg	Pg	17 42 02.4	+1.1
GOLH	Golhisar	0.69	88	*i* P	Pg	17 42 00.4	-1.5
GOLH	Golhisar	0.69	88	P	Pg	17 42 00.4	-1.5
AYDN	Tasoluk	0.79	304	*i* P	Pb	17 42 05.0	-0.3
AYDN	Tasoluk	0.79	304	P	Pb	17 42 05.0	-0.3
AYDB	Zeytinkoy-Aydi	0.97	319	PG	Pb	17 42 08.5	+0.1
AYDB				SG	Sb	17 42 21.6	-0.2
AYDB	Zeytinkoy-Aydi	0.97	319	*e*Pg	Pb	17 42 08.5	+0.1
AYDB				*e*Sg	Sb	17 42 21.6	-0.2
BDRM	Kayabasi	1.01	262	*i* P	Pb	17 42 09.1	0.0
BDRM	Kayabasi	1.01	262	P	Pb	17 42 09.1	0.0
ELL	Elmali	1.08	115	PN	Pn	17 42 11.5	+0.4
ELL	Elmali	1.08	115	*e*Pn	Pn	17 42 11.5	+0.4
BODT	Bodrum	1.12	262	PN	Pn	17 42 11.6	0.0
BODT				SN	Sn	17 42 28.1	+0.4
BODT	Bodrum	1.12	262	*e*Pn	Pn	17 42 11.6	0.0
BODT	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.35**	**53**	*i* P	**Pb**	**17 57 31.0**	**+0.1**
GEVA	**Gevas**	**0.35**	**53**	P	**Pb**	**17 57 31.0**	**+0.1**
SRTM	**Siirt_Merkez**	**0.62**	**260**	*i* P	**Pg**	**17 57 33.4**	**-0.3**
SRTM	**Siirt_Merkez**	**0.62**	**260**	P	**Pg**	**17 57 33.4**	**-0.3**
SIRT	**Sirnak**	**0.63**	**199**	PG	**Pg**	**17 57 33.7**	**-0.2**
SIRT				SG	**Sg**	**17 57 42.8**	**+0.7**
SIRT	**Sirnak**	**0.63**	**199**	*e*Pg	**Pg**	**17 57 33.7**	**-0.2**
SIRT				*e*Sg	**Sg**	**17 57 42.8**	**+0.7**
SIRN	**S¨–rnak**	**0.64**	**201**	*i* P	**Pb**	**17 57 35.3**	**-0.4**
SIRN				*i* S	**Sg**	**17 57 42.5**	**0.0**
SIRN	**S¨–rnak**	**0.64**	**201**	P	**Pb**	**17 57 35.3**	**-0.4**
SIRN				S	**Sg**	**17 57 42.5**	**0.0**
GURO	**Guroymak-BITLI**	**0.69**	**311**	PG	**Pg**	**17 57 34.9**	**-0.2**
GURO				SG	**Sb**	**17 57 45.9**	**-0.7**
GURO	**Guroymak-BITLI**	**0.69**	**311**	*e*Pg	**Pg**	**17 57 34.9**	**-0.2**
GURO				*e*Sg	**Sb**	**17 57 45.9**	**-0.7**
HAKT	**HAKKARI**	**0.96**	**124**	*i* P	**Pb**	**17 57 41.7**	**+0.4**
HAKT	**HAKKARI**	**0.96**	**124**	P	**Pb**	**17 57 41.7**	**+0.4**
CUKT	**Cukurca**	**1.11**	**139**	PN	**Pg**	**17 57 42.4**	**-0.8**
CUKT	**Cukurca**	**1.11**	**139**	*i* P	**Pg**	**17 57 42.6**	**-0.6**
CUKT	**Cukurca**	**1.11**	**139**	P	**Pg**	**17 57 42.6**	**-0.6**
BTMN	**Batman**	**1.15**	**260**	*i* P	**Pg**	**17 57 43.8**	**0.0**
BTMN				*i* S	**Sg**	**17 57 59.0**	**+0.3**
BTMN	**Batman**	**1.15**	**260**	P	**Pg**	**17 57 43.8**	**0.0**
BTMN				S	**Sg**	**17 57 59.0**	**+0.3**
AGRB	**Hanur-Agry**	**1.49**	**9**	PN	**Pb**	**17 57 50.1**	**-0.2**
AGRB	**Hanur-Agry**	**1.49**	**9**	*e*Pn	**Pb**	**17 57 50.1**	**-0.2**
MARD	**Mardin**	**1.71**	**243**	*i* P	**Sn**	**17 58 14.6**	**-0.5**
MAZI	**Mazidag**	**1.90**	**251**	PN	**Pn**	**17 57 55.8**	**+0.6**
MAZI				SN	**Sn**	**17 58 19.8**	**+0.2**
MAZI	**Mazidag**	**1.90**	**251**	*e*Pn	**Pn**	**17 57 55.8**	**+0.6**
MAZI				*e*Sn	**Sn**	**17 58 19.8**	**+0.2**

NIED ***09*** *18:15:00.36˚.70N×140˚.70E.h5km.Mw3.8 Best double couple: M₀5.20000×10¹⁴ NP1:φ₀357.00000°.δ28.00000°. λ-52.00000°. NP2:φ₀135.00000°.δ68.00000°. λ-108.00000°.*

ISCJB ***09*** *18:15:45.1±0.6.36˚.69N±0˚.03×140˚.72E±0˚.04.h17km±3km. mb4.1/28.Error ellipse: s-maj=6.1km s-min=3.6km az=37.9*

IDC ***09*** *18:15:45.0±0.6.36˚.81N×140˚.54E.h0km.mb3.9/18. mb1 4.0/19.mb1mx3.8/69.mbtmp3.9/19.ML3.7/1.Error ellipse: s-maj=16.5km s-min=12.8km az=104.0*

JMA ***09*** *18:15:46.0.36˚.70N×140˚.64E.h6km±1km.M3.7 Broadband fault plane solution: P waves. NP1: φ₀359.00000°.δ58.00000°.λ-69.00000°. NP2: φ₀143.00000°.δ37.00000°.λ-120.00000°. Principal axes: T Plg11.0000°. Azm74.0000°; N Plg18.0000°. Azm168.0000°; P Plg69.0000°. Azm314.0000°;*

JMA Felt III J1.

NEIC ***09*** *18:15:50.0±1.8.36˚.82N×140˚.51E.h33km±12km.mb4.6/14 Error ellipse: s-maj=6.7km s-min=4.9km az=132.0*

ISC 09 18:15:45.1±1.3,36˚.80N±0˚.04×140˚.55E±0˚.03,h1km±9km, n70,σ0°82/83,mb4.1/28,5C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.18**	**176**	⇑P	**Pg**	**18 15 48.3**	**-0.3**
JHO				S	**Sg**	**18 15 50.1**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.36**	**33**	⇑P	**Pb**	**18 15 54.2**	**-0.2**
ONAJ				S	**Sb**	**18 15 59.9**	**-0.8**
JSB	**Shiboa**	**0.54**	**289**	P	**Pn**	**18 15 58.9**	**-1.0**
JSB				S	**Sn**	**18 16 08.0**	**-1.6**
JFK	**Kawauchi**	**0.63**	**24**	⇑P	**Pb**	**18 15 59.0**	**+0.1**
JFK				S	**Sb**	**18 16 08.2**	**0.0**
JYT	**Yasato**	**0.64**	**207**	⇑P	**Pg**	**18 15 57.2**	**-0.1**
JYT				*e*S	**Sg**	**18 16 05.5**	**0.0**
JFT	**Otama**	**0.74**	**347**	P	**Pn**	**18 16 02.3**	**-0.4**
JFT				S	**Sn**	**18 16 13.1**	**-1.6**
JFY	**Yanaizu**	**0.91**	**312**	P	**Pn**	**18 16 05.4**	**+0.3**
JFY				*e*S	**Sn**	**18 16 18.8**	**-0.1**
JAG	**Ashikaga**	**0.96**	**248**	⇑P	**Pg**	**18 16 04.0**	**+0.6**
JAG				S	**Sg**	**18 16 17.1**	**+1.2**
MJAR	**Matsushiro Arr**	**1.90**	**263**	Pn	**Pn**	**18 16 19.8**	**+1.1**
MJAR	17nm,0.3s,baz=86,slow=9.4,SNR=109			Sn	**Sb**	**18 16 45.3**	**+0.5**
MAJO	**Matsushiro**	**1.90**	**263**	*e*Pn	**Pb**	**18 16 20.1**	**-0.5**
MAJO	35nm,0.3s,baz=54,slow=26,SNR=14			*e*Sn	**Sb**	**18 16 45.3**	**+0.5**
MAJO				*e*		18 16 46.0	
MAT	**Matsushiro**	**1.90**	**263**	P	**Pn**	**18 16 19.5**	**+0.8**
MAT				S	**Sb**	**18 16 45.7**	**+0.8**
MJB9	**Matsu-Tunnel**	**1.90**	**263**	*e*Pn	**Pn**	**18 16 19.7**	**+1.0**
MJB9				*e*Sn	**Sg**	**18 16 46.1**	**-0.2**
INU	**Inuyama**	**3.21**	**244**	*e*Pn	**Pn**	**18 16 38.6**	**+2.0**
ERM	**Erimo**	**5.59**	**20**	*e*Pn	**Pn**	**18 17 10.4**	**+1.1**
ERM				*e*Sn	**Sn**	**18 18 16.3**	**+2.1**
ASAJ	**Asahikawa**	**7.48**	**11**	Pn	**Pn**	**18 17 36.5**	**+1.2**
ASAJ	1.1nm,0.3s,baz=216,slow=9.9,SNR=18			Sn	**Sn**	**18 19 01.6**	**+1.0**
ASAJ	**Asahikawa**	**7.48**	**11**	*e*Pn	**Pn**	**18 17 36.2**	**+1.0**
ASAJ	baz=282,slow=20,SNR=2.6			*e*Sn	**Sn**	**18 19 00.7**	**0.0**
USRK	**Ussuriysk Ar.**	**9.86**	**321**	Pn	Pn	18 18 13.9	+6.0
	0.2nm,0.3s,baz=122,slow=16,SNR=3.7						
MA2	**Magadan**	**23.74**	**13**	P	**P**	**18 20 58.8**	**+0.3**
	2.7nm,0.7s,baz=190,slow=11,SNR=8.7						
YAK	**Yakutsk**	**26.16**	**348**	P	**P**	**18 21 19.7**	**-0.9**
	3.4nm,0.4s,baz=238,slow=1.2,SNR=3.2						
YAK	**Yakutsk**	**26.16**	**348**	*e*P	**P**	**18 21 18.9**	**-1.6**
	4.7nm,0.7s						
SEY	**Seymchan**	**27.16**	**12**	P	**P**	**18 21 28.8**	**-0.9**
	1.2nm,0.9s,baz=182,slow=7.4,SNR=5.6						
SONA1	**Songino Array**	**27.34**	**305**	*e*P	**P**	**18 21 30.2**	**-1.4**
SONA0	**Songino Array**	**27.35**	**305**	*e*P	**P**	**18 21 30.9**	**-0.8**
SONM	**Songino Array**	**27.35**	**305**	P	**P**	**18 21 30.9**	**-0.8**
	1.4nm,0.8s,baz=111,slow=9.5,SNR=10						
H11N2	**WAKE ISLAND Hy**	**28.63**	**119**	T	T	18 51 25.8	
	baz=312,slow=75,SNR=131						
H11N1	**WAKE ISLAND Hy**	**28.63**	**119**	T	T	18 51 26.3	
	baz=312,slow=75,SNR=162						
H11N3	**WAKE ISLAND Hy**	**28.64**	**119**	T	T	18 51 27.1	
	baz=312,slow=75,SNR=114						
H11S1	**WAKE ISLAND Hy**	**29.32**	**121**	T	T	18 52 15.3	
	baz=314,slow=76,SNR=447						
H11S3	**WAKE ISLAND Hy**	**29.32**	**121**	T	T	18 52 16.9	
	baz=314,slow=76,SNR=276						
H11S2	**WAKE ISLAND Hy**	**29.33**	**121**	T	T	18 52 18.9	
	baz=314,slow=76,SNR=213						
ZAA0	**Zalesovo Array**	**41.57**	**313**	*e*P	**P**	**18 23 34.3**	**+0.2**
	2.2nm,0.7s						
ZAA1	**Zalesovo Array**	**41.57**	**313**	*e*P	**P**	**18 23 34.0**	**-0.1**
ZAA1				*e*PcP	**PcP**	**18 25 32.5**	**+1.2**
ZALV	**Zalesovo Beam**	**41.57**	**313**	P	**P**	**18 23 34.0**	**-0.1**
	2.1nm,0.5s,baz=99,slow=7.7,SNR=11						
ZALV				PcP	**PcP**	**18 25 32.5**	**+1.2**
	0.6nm,0.6s,baz=80,slow=3.4,SNR=3.0						
MK01	**Makanchi Array**	**43.66**	**302**	*e*P	**P**	**18 23 51.4**	**+0.1**
MK31	**Makanchi Array**	**43.66**	**302**	*e*P	**P**	**18 23 51.1**	**-0.1**
MK32	**Makanchi Array**	**43.66**	**302**	*e*P	**P**	**18 23 51.5**	**+0.2**
MK32				*e*PP	**PcP**	**18 25 39.0**	**+0.5**
MKAR	**Makanchi Array**	**43.66**	**302**	P	**P**	**18 23 51.5**	**+0.2**
	0.3nm,0.7s,baz=90,slow=8.5,SNR=4.3						
MKAR				PcP	**PcP**	**18 25 39.0**	**+0.5**
	0.2nm,0.6s,baz=93,slow=2.9,SNR=3.0						
MKAR	**Makanchi Array**	**43.66**	**302**	*e*P	**P**	**18 23 50.9**	**-0.4**
	8.9nm,1.3s						
MKAR				PcP	**PcP**	**18 25 39.0**	**+0.5**
KURK	**Kurchatov**	**45.54**	**308**	*e*P	**P**	**18 24 05.7**	**-0.5**
	3.6nm,0.8s						
KURBB	**Kurchatov Arra**	**45.60**	**308**	P	**P**	**18 24 06.2**	**-0.4**
	2.3nm,0.6s,baz=85,slow=8.0,SNR=26						
ILAR	**Eielson Array**	**50.06**	**32**	P	**P**	**18 24 41.0**	**-0.1**
	0.3nm,0.6s,baz=270,slow=4.5,SNR=3.2						
ILB	**Eielson Array**	**50.06**	**32**	*e*P	**P**	**18 24 40.5**	**-0.6**
BVAR	**Borovoye Array**	**50.22**	**312**	P	**P**	**18 24 41.7**	**-0.7**
	1.2nm,0.8s,baz=84,slow=8.5,SNR=6.8						
BRVK	**Borovoye**	**50.28**	**312**	*e*P	**P**	**18 24 42.8**	**-0.1**
	9.3nm,1.8s						
FYU	**Fort Yukon**	**50.66**	**30**	*e*P	**P**	**18 24 44.8**	**-0.8**
	13nm,0.9s						
KK05	**Karatay Array**	**52.63**	**300**	*e*P	**P**	**18 25 00.3**	**-0.4**
KK06	**Karatay Array**	**52.64**	**300**	*e*P	**P**	**18 25 00.6**	**-0.1**
KK31	**Karatay Array**	**52.65**	**300**	*e*P	**P**	**18 25 01.2**	**+0.4**
KK07	**Karatay Array**	**52.66**	**300**	*e*P	**P**	**18 25 01.3**	**+0.4**
KK08	**Karatay Array**	**52.66**	**300**	*e*P	**P**	**18 25 01.5**	**+0.6**
INK	**Inuvik**	**54.91**	**27**	*e*P	**P**	**18 25 18.6**	**+1.7**
	11nm,1.6s						
FITZ	**Fitzroy Crossi**	**56.39**	**197**	P	**P**	**18 25 28.5**	**+0.5**
	3.2nm,1.1s,baz=34,slow=3.6,SNR=3.6						
FITZ	**Fitzroy Crossi**	**56.39**	**197**	*e*P	**P**	**18 25 28.8**	**+0.7**
	15nm,1.5s						
WR1	**Warramunga Arr**	**56.73**	**187**	*e*P	**P**	**18 25 29.2**	**-1.3**
	17nm,1.6s						
WRA	**Warramunga Arr**	**56.73**	**187**	P	**P**	**18 25 29.2**	**-1.3**
	1.2nm,0.5s,baz=4.4,slow=7.3,SNR=36						
ABKAR	**Akbulak array**	**57.56**	**310**	*e*P	**P**	**18 25 36.0**	**-0.2**
	9.9nm,0.8s						
AS31	**Alice Springs**	**60.46**	**187**	*e*P	**P**	**18 25 56.4**	**-0.1**
	0.8nm,0.9s						
ASAR	**Alice Springs**	**60.46**	**187**	P	**P**	**18 25 56.6**	**+0.1**
	0.9nm,0.7s,baz=12,slow=6.5,SNR=18						
YKA	**Yellowknife Ar**	**64.36**	**30**	P	**P**	**18 26 22.5**	**+0.4**
	0.2nm,0.6s,baz=303,slow=6.9,SNR=3.2						
STKA	**Stephens Creek**	**68.32**	**179**	P	**P**	**18 26 48.2**	**+0.5**
	0.8nm,0.5s,baz=340,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**68.32**	**179**	*e*P	**P**	**18 26 48.3**	**+0.5**
	6.3nm,1.9s						
FIA0	**FINESS Array S**	**68.70**	**332**	*e*P	**P**	**18 26 49.5**	**-0.4**
FINES	**FINESS Array B**	**68.70**	**332**	P	**P**	**18 26 49.5**	**-0.4**
	3.1nm,0.9s,baz=350,slow=9.7,SNR=4.7						
AKASG	**Malin Array Be**	**74.06**	**322**	P	**P**	**18 27 21.7**	**-0.8**
	0.2nm,0.3s,baz=62,slow=5.3,SNR=3.6						
AKBB	**Malin Array Si**	**74.06**	**322**	*e*P	**P**	**18 27 22.7**	**+0.2**
	34nm,1.9s						
NV01	**Mina Array Sit**	**75.68**	**53**	*e*P	**P**	**18 27 33.5**	**+1.1**
NVAR	**Mina Array Bea**	**75.68**	**53**	P	**P**	**18 27 33.7**	**+1.2**
	0.5nm,0.6s,baz=286,slow=3.5,SNR=4.8						
PD31	**Pinedale Array**	**78.33**	**45**	*e*P	**P**	**18 27 46.6**	**-0.7**
PDAR	**Pinedale Array**	**78.33**	**45**	P	**P**	**18 27 47.2**	**0.0**
	0.3nm,0.6s,baz=42,slow=1.5,SNR=3.3						
JLU	**Jordanelle**	**78.59**	**48**	*e*P	**P**	**18 27 48.9**	**+0.1**
	12nm,1.6s						

NIED ***09*** *18:18:00.35˚.70N×142˚.40E.h8km.Mw5.1 Best double couple: M₀5.59000×10¹⁶ NP1:φ₀180.00000°.δ39.00000°. λ60.00000°. NP2:φ₀36.00000°.δ57.00000°.λ112.00000°.*

JMA ***09*** *18:18:56.0±0.3.35˚.71N×142˚.43E.h26km.M5.1*

IDC ***09*** *18:18:57.9±0.4.35˚.67N×142˚.07E.h0km.mb4.4/36, mb1 4.5/41,mb1mx4.4/73,mbtmp4.5/41,ML4.0/4,MS4.6/47, Ms1 4.6/47,ms1mx4.4/67,Error ellipse: s-maj=11.9km s-min=9.9km az=105.0*

GCMT ***09*** *18:18:59.3±0.2.35˚.63N×142˚.28E.h14km.MW5.1/99, Moment Tensor Solution. s51,c69; s99,c172; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.24±.17; Mθθ-1.13±.11; Mφφ-3.11±.12; Mrθ0.60±.24; Mrφ-2.08±.07; Mθφ2.78±.27; Best double couple: M₀5.18500×10¹⁶ NP1:φ₀21.00000°.δ62.00000°.λ79.00000°. NP2: φ₀223.00000°.δ30.00000°.λ109.00000°. Principal axes: T 5.1740, Plg71.0000°. Azm267.0000°; N 0.0210, Plg9.0000°. Azm27.0000°; P -5.1950, Plg16.0000°. Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***09*** *18:18:59.3±1.9.35˚.64N×142˚.03E.h10km±11km. mb5.0/172 Error ellipse: s-maj=4.1km s-min=3.0km az=130.0*

MOS ***09*** *18:18:59.3±1.0.35˚.67N×142˚.07E.h22km.mb5.0/81, MS5.0/19,Error ellipse: s-maj=6.3km s-min=4.1km az=104.8*

ISCJB ***09*** *18:18:59.2±0.8.35˚.65N±0˚.02×142˚.03E±0˚.02.h20km±5km. mb4.9/244,MS4.8/67,Error ellipse: s-maj=3.7km s-min=2.7km az=157.2*

BJI ***09*** *18:19:01.5.35˚.68N×141˚.81E.h30km.mb4.8/68,mB5.2/62, Ms5.4/82,Ms7 5.2/75*

ISC 09 18:19:01.2±0.5,35˚.70N±0˚.03×142˚.14E±0˚.03,h26km±3km, n535,σ1°78/541,mb5.0/244,MS4.9/68,38C-14D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.04**	**270**	⇑P	**Pn**	**18 19 18.8**	**-1.3**
CHOJ				S	**Sb**	**18 19 35.1**	**+1.4**
BSO1	**Boso 1**	**1.41**	**223**	P	**Pn**	**18 19 23.5**	**-1.2**
JAG	**Ashikaga**	**2.29**	**289**	⇑P	**Pn**	**18 19 36.3**	**-1.0**
JKT	**Katashina**	**2.56**	**295**	⇑P	**Pn**	**18 19 40.7**	**-0.5**
JRY	**Ryogami san**	**2.65**	**278**	P	**Pn**	**18 19 42.3**	**+0.1**
JHJ2	**Mitsune**	**3.22**	**217**	*e*Pn	**Pn**	**18 19 50.6**	**+0.5**
JHJ2				*e*Sn	**Sn**	**18 20 25.6**	**-1.9**
JHJ	**Hachijo jima 2**	**3.23**	**218**	Pn	**Pn**	**18 19 49.7**	**-0.5**
	97nm,0.3s,baz=278,slow=23,SNR=7.0						
JHJ				Sn	**Sn**	**18 20 26.4**	**-1.4**
	182nm,0.3s,baz=71,slow=22,SNR=11						
MJAR	**Matsushiro Arr**	**3.29**	**286**	Pn	**Pn**	**18 19 51.2**	**+0.1**
	7.8nm,0.3s,baz=109,slow=7.6,SNR=24						
MAJO	**Matsushiro**	**3.29**	**286**	*e*Pn	**Pn**	**18 19 51.0**	**-0.1**
MAJO				*e*Sn	**Sn**	**18 20 25.9**	**-3.5**
MAJO	**Matsushiro**	**3.29**	**286**	⇑*i*P	**Pn**	**18 19 52.8**	**+1.7**
MAT	**Matsushiro**	**3.29**	**286**	P	**Pn**	**18 19 51.4**	**+0.3**
MAT				*e*S	**Sn**	**18 20 30.7**	**+1.3**
MJB9	**Matsu-Tunnel**	**3.29**	**286**	*e*Pn	**Pn**	**18 19 51.5**	**+0.4**
MJB9				*e*Sn	**Sn**	**18 20 26.4**	**-3.1**
INU	**Inuyama**	**4.19**	**267**	*e*Pn	**Pn**	**18 20 04.5**	**+1.1**
INU				*e*Sn	**Sn**	**18 20 45.5**	**-6.0**
ERM	**Erimo**	**6.36**	**7**	*e*Pn	**Pn**	**18 20 31.1**	**-2.0**
ERM				*e*Sn	**Sn**	**18 21 40.0**	**-4.9**
ERM	**Erimo**	**6.36**	**7**	⇑*i*P	**Pn**	**18 20 33.9**	**+0.7**
ASAJ	**Asahikawa**	**8.41**	**2**	Pn	**Pn**	**18 21 00.1**	**-1.3**
	5.0nm,0.3s,baz=218,slow=8.3,SNR=35						
ASAJ				Sn	**Sn**	**18 22 32.5**	**-3.0**
	3.9nm,0.3s,baz=32,slow=30,SNR=8.2						
ASAJ	**Asahikawa**	**8.41**	**2**	*e*Pn	**Pn**	**18 20 59.0**	**-2.4**
ASAJ				*e*Sn	**Sn**	**18 22 30.2**	**-5.3**
GLVR	**Golovnino**	**8.44**	**17**	P	**Pn**	**18 21 02.0**	**+0.3**
CBIJ	**Chichi jima**	**8.58**	**180**	*e*Pn	**Pn**	**18 21 00.1**	**-3.7**
CBIJ				*e*Sn	Sn	18 22 30.0	-10
JCJ	**Chichijima**	**8.58**	**180**	Pn	**Pn**	**18 21 00.1**	**-3.7**
	13nm,0.3s,baz=280,slow=23,SNR=17						
JCJ				Sn	Sn	18 22 28.5	-11
	4.5nm,0.3s,baz=270,slow=20,SNR=2.8						
JCJ				LR	LR	18 26 37.3	
	comp=Z,684nm,19.8s,baz=357,slow=54						
GRPR	**Tuman**	**8.74**	**18**	*e*P	**Pn**	**18 21 06.6**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**8.80**	**18**	*e*P	**Pn**	**18 21 06.9**	**+0.2**
YUK				pmax	pmax		
	comp=Z,77nm,0.6s						
YUK				pmax	pmax		
	comp=N,26nm,0.2s						
YUK				pmax	pmax		
	comp=E,30nm,0.6s						
YUK				MLR	MLR		
	comp=Z,6μm,15.0s						
YUK				MLR	MLR		
	comp=N,4μm,14.0s						
YUK				MLR	MLR		
	comp=E,6μm,13.0s						
LAGR	**Lagunnoye**	**8.80**	**17**	P	**Pn**	**18 21 07.9**	**+1.2**
LAGR				*e*S	**Sn**	**18 22 40.4**	**-4.6**
SHO	**Shikotan**	**8.92**	**22**	*e*P	**Pn**	**18 21 06.3**	**-2.1**
SHO				pmax	pmax		
	comp=N,36nm,0.7s						
SHO				pmax	pmax		
	comp=E,63nm,0.7s						
SHO				pmax	pmax		
	comp=Z,40nm,0.7s						
JNU	**Nakatsue**	**9.65**	**258**	Pn	**Pn**	**18 21 19.2**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=79,slow=7.6,SNR=13						
JNU				LR	LR	18 25 04.6	
	comp=Z,4μm,21.5s,baz=84,slow=38						
JNU	**Nakatsue**	**9.65**	**258**	*e*Pn	**Pn**	**18 21 18.9**	**+0.4**
TEY	**Ternei**	**10.23**	**337**	*e*P	**Pn**	**18 21 27.7**	**+1.4**
KUR	**Kuril'sk**	**10.47**	**23**	*e*P	**Pn**	**18 21 31.1**	**+1.5**
KUR				*i* S	**Sn**	**18 23 20.9**	**-5.1**
KUR				pmax	pmax		
	comp=Z,30nm,0.9s						
KUR				pmax	pmax		
	comp=N,18nm,0.5s						
KUR				pmax	pmax		
	comp=E,21nm,0.8s						
KUR				MLR	MLR		
	comp=N,2μm,14.0s						
KUR				MLR	MLR		
	comp=Z,2μm,14.0s						
KUR				MLR	MLR		
	comp=E,4μm,10.0s						
VLA	**Vladivostok**	**10.85**	**316**	*c i*P	**Pn**	**18 21 35.6**	**+0.9**
YSS	**Yuzh-Sakhalins**	**11.25**	**2**	*e*Pn	**Pn**	**18 21 37.0**	**-3.3**
YSS	**Yuzh-Sakhalins**	**11.25**	**2**	*e*P	**Pn**	**18 21 37.8**	**-2.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=N,6μm,15.0s						
YSS				MLR	MLR		
	comp=Z,8μm,15.0s						
YSS				MLR	MLR		
	comp=E,9μm,14.0s						
USRK	**Ussuriysk Ar.**	**11.51**	**321**	Pn	**Pn**	**18 21 44.3**	**+0.5**
	comp=E,0.2nm,0.3s,baz=128,slow=13,SNR=16						
USRK				LR	LR	18 25 58.7	
	comp=E,4μm,18.1s,baz=131,slow=37						
KSRS	**Korea Array**	**11.56**	**283**	Pn	**Pn**	**18 21 47.5**	**+3.0**
	comp=E,0.2nm,0.3s,baz=101,slow=13,SNR=29						
KSRS				LR	LR	18 26 04.6	
	comp=E,2μm,19.6s,baz=91,slow=37						
KS01	**Wonju Array Si**	**11.59**	**283**	*e*Pn	**Pn**	**18 21 45.5**	**+0.6**
KS15	**Wonju Array Si**	**11.59**	**283**	*e*Pn	**Pn**	**18 21 45.8**	**+0.9**
KSAR	**Wonju Array Be**	**11.59**	**283**	Pn	**Pn**	**18 21 47.5**	**+2.6**
KSAR	**Wonju Array Be**	**11.59**	**283**	P	**Pn**	**18 21 47.6**	**+2.6**
INCN	**Inchon**	**12.59**	**283**	*e*Pn	**Pn**	**18 21 59.8**	**+1.2**
MDJ	**Mudanjiang**	**13.08**	**317**	P	**Pn**	**18 22 02.5**	**-2.7**
MDJ				pP	P	18 22 09.4	-5.8
MDJ				sP		18 22 14.4	
MDJ				S	**Sn**	**18 24 31.9**	**+2.1**
MDJ				pmax	pmax		
	comp=E,8.0nm,1.8s						
MDJ				pmax	pmax		
	comp=E,1μm,10.7s						
MDJ				LR	LR		
	comp=E,11μm,13.5s						
MDJ				LR	LR		
	comp=E,8μm,12.0s						
MDJ				LR	LR		
	comp=E,12μm,11.9s						
MDJ	**Mudanjiang**	**13.08**	**317**	*e*Pn	**Pn**	**18 22 03.6**	**-1.6**
JOW	**Kunigami**	**14.77**	**237**	*e*Pn	**P**	**18 22 34.0**	**-0.2**
CN2	**Changchun**	**15.15**	**307**	*e*P	**Pn**	**18 22 32.9**	**-0.5**
CN2				*e*S	**Sn**	**18 25 21.6**	**+1.2**
CN2				pmax	pmax		
	comp=E,10.0nm,1.3s						
CN2				pmax	pmax		
	comp=E,200nm,5.0s						
CN2				LR	LR		
	comp=E,7μm,16.0s						
CN2				LR	LR		
	comp=E,8μm,16.0s						
CN2				LR	LR		
	comp=E,9μm,13.0s						
KLR	**Kul'dur**	**15.52**	**334**	Pn	**Pn**	**18 22 35.4**	**-2.8**
	comp=E,0.0nm,0.3s,baz=136,slow=10,SNR=12						
KLR				LR	LR	18 28 32.4	
	comp=E,490nm,18.9s,baz=142,slow=37						
KLR	**Kul'dur**	**15.52**	**334**	‖*e*P	**Pn**	**18 22 37.8**	**-0.4**
GRNR	**Gornyy**	**15.62**	**346**	*e*P	**Pn**	**18 22 36.0**	**-3.5**
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
DL2	**Dalian**	**16.62**	**287**	P	**Pn**	**18 22 50.5**	**-1.9**
DL2				S	**Sn**	**18 25 50.7**	**-5.5**
DL2				pmax	pmax		
	comp=Z,44nm,1.4s						
DL2				pmax	pmax		
	comp=Z,1μm,5.1s						
DL2				LR	LR		
	comp=Z,8μm,13.2s						
DL2				LR	LR		
	comp=Z,7μm,12.1s						
DL2				LR	LR		
	comp=Z,9μm,12.0s						
NKL	**Nikolayevsk**	**17.48**	**357**	*e*P	**Pn**	**18 22 59.5**	**-3.4**
NKL				pmax	pmax		
	comp=N,8.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,26nm,0.9s						
NKL				pmax	pmax		
	comp=Z,450nm,6.0s						
OKH	**Okha**	**17.86**	**2**	*e*P	**P**	**18 23 12.5**	**+4.4**
OKH				*i* S	**Sn**	**18 26 23.2**	**-2.6**
OKH				pmax	pmax		
	comp=Z,400nm,11.7s						
OKH				smax	smax		
	comp=E,2μm,10.0s						
SKR	**Severo-Kuril's**	**18.07**	**30**	*e*P	P	18 23 22.9	+12
SKR				*e*S	**Sn**	**18 26 26.1**	**-4.8**
SKR				pmax	pmax		
	comp=Z,700nm,3.9s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
SSE	**Sheshan**	**18.08**	**261**	P	**Pn**	**18 23 09.2**	**-1.3**
SSE				S	**Sn**	**18 26 30.7**	**-0.8**
SSE				pmax	pmax		
	comp=Z,23nm,0.6s						
SSE				pmax	pmax		
	comp=Z,240nm,4.9s						
SSE				LR	LR		
	comp=Z,4μm,14.9s						
SSE				LR	LR		
	comp=Z,3μm,15.1s						
ANA2	**Anatahan**	**19.54**	**170**	*e*P	**P**	**18 23 25.2**	**-1.7**
NJ2	**Nanjing**	**19.66**	**266

comp=Z,3µm,15.2s
BJT Baijiatuau 20.92 290 *e*P **P 18 23 37.6 -4.2**
comp=Z,77nm,1.5s
BJT Baijiatuau 20.92 290 *e*P **P 18 23 37.6 -4.2**
BJT pmax pmax
comp=Z,77nm,1.5s
YHNB Yeheng 21.00 244 *e*P **P 18 23 41.7 -1.2**
comp=Z,92nm,1.4s
HIA Hailar 21.26 317 *e*P **P 18 23 44.5 -0.9**
comp=Z,35nm,1.0s
HIA Hailar 21.26 317 *d i*P **P 18 23 47.0 +1.6**
HIA pmax pmax
comp=Z,36nm,1.1s
YULB Yu-li 21.84 241 *e*P **P 18 23 50.0 -1.8**
comp=Z,31nm,1.1s
SSLB Suanglung 21.84 243 *e*P **P 18 23 50.5 -1.3**
comp=Z,48nm,1.3s
GUMO Guam 22.15 173 LR LR 18 38 20.9
comp=Z,407nm,18.3s,baz=5.5,slow=53
GUMO Guam 22.15 173 *e*P **P 18 23 55.0 -0.1**
comp=Z,369nm,1.3s
GUMO Guam 22.15 173 *e*P **P 18 23 55.0 -0.1**
GUMO pmax pmax
comp=Z,369nm,1.3s
TWG Pinlang 22.36 241 *e*P **P 18 23 56.7 -0.6**
comp=Z,316nm,1.4s
TPUB Ta-pu 22.37 242 *e*P **P 18 23 55.7 -1.9**
comp=Z,83nm,1.4s
WHN Wuhan 23.79 265 ⇓P **P 18 24 10.5 -1.4**
WHN S **S 18 28 26.1 +0.2**
WHN pmax pmax
comp=Z,40nm,1.0s
WHN LR LR
comp=Z,12µm,13.6s
WHN LR LR
comp=Z,9µm,13.0s
WHN LR LR
comp=Z,10µm,13.6s
TIY Taiyuan 23.85 284 *e*P **P 18 24 12.9 +0.4**
TIY S **S 18 28 23.7 -3.3**
TIY sS **sS 18 28 37.6 -1.9**
TIY pmax pmax
comp=Z,530nm,6.5s
TIY LR LR
comp=Z,2µm,11.5s
TIY LR LR
comp=Z,6µm,13.5s
TIY LR LR
comp=Z,7µm,12.2s
CLNS Chul'man 24.14 337 *e*P **P 18 24 15.3 +0.4**
CLNS *e**PP **sP 18 24 26.2 +0.6**
CLNS *e* 18 27 55.1
CLNS *e*S **S 18 28 31.4 +0.3**
CLNS *e*SS **SnSn 18 29 23.3 +10**
CLNS pmax pmax
comp=N,17nm,1.2s
CLNS pmax pmax
comp=Z,34nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=E,16nm,1.0s
CLNS pmax pmax
comp=Z,36nm,1.1s
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS smax smax
comp=E,1µm,11.8s
CLNS smax smax
comp=N,2µm,11.8s
CLNS MLR MLR
comp=Z,4µm,11.0s
CLNS MLR MLR
comp=E,4µm,13.0s
CLNS MLR MLR
comp=N,5µm,12.0s
HHC Hu-ho-hao-te 24.47 291 *e*P **P 18 24 17.6 -0.7**
HHC pP pP 18 24 26.9 +1.1
HHC sP sP 18 24 30.9 +1.9
HHC S **S 18 28 31.6 -5.4**
HHC sS pS 18 28 45.6 +0.6
HHC pmax pmax
comp=N,11nm,0.9s
HHC pmax pmax
comp=N,460nm,6.2s
HHC LR LR
comp=N,3µm,14.1s
HHC LR LR
comp=N,4µm,12.9s
HHC LR LR
comp=N,4µm,13.7s
MA2 Magadan 24.54 11 P **P 18 24 19.5 +1.0**
comp=N,7.6nm,0.8s,baz=191,slow=8.6,SNR=23
MA2 Magadan 24.54 11 ⇑*i*P **P 18 24 19.6 +1.0**
MA2 *e**PP **sP 18 24 28.5 -0.8**
CIT Chita 26.05 318 *e*P **P 18 24 32.5 +0.2**
CIT *e* 18 25 22.5
CIT pmax pmax
comp=Z,133nm,2.2s
H11N2 WAKE ISLAND Hy 26.98 120 T T 18 52 58.7
baz=311,slow=75,SNR=23
H11N1 WAKE ISLAND Hy 26.98 120 T T 18 52 53.3
baz=311,slow=75,SNR=21
H11N3 WAKE ISLAND Hy 26.99 120 T T 18 53 00.5
baz=311,slow=75,SNR=27
XAN Xi'an 27.23 276 P **P 18 24 42.8 -0.4**
XAN pP pP 18 24 50.5 -0.2
XAN PP **PnPn 18 25 29.2 +2.2**
XAN S **S 18 29 22.6 +1.8**
XAN SS **SnSn 18 30 35.0 +5.6**
XAN pmax pmax
comp=Z,34nm,1.2s
XAN pmax pmax
comp=Z,550nm,5.1s
XAN LR LR
comp=Z,2µm,15.7s
XAN LR LR
comp=Z,4µm,14.5s
XAN LR LR
comp=Z,4µm,14.2s
YAK Yakutsk 27.50 347 P **P 18 24 45.5 +0.4**
comp=Z,34nm,0.8s,baz=22,slow=2.4,SNR=30
YAK LR LR 18 35 54.1
comp=Z,3µm,18.4s,baz=111,slow=37
YAK Yakutsk 27.50 347 *e*P **P 18 24 44.9 -0.3**
comp=Z,51nm,0.9s
YAK Yakutsk 27.50 347 *c i*P **P 18 24 45.2 +0.1**
YAK *e**PP **sP 18 24 57.4 +1.5**
YAK *e*S **S 18 29 21.6 -2.6**
YAK *e*SS **SnSn 18 30 35.2 0.0**
YAK pmax pmax
comp=Z,55nm,1.1s
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,203nm,2.3s
YAK pmax pmax
comp=N,115nm,2.2s
YAK pmax pmax
comp=E,80nm,2.5s
YAK smax smax
comp=N,967nm,7.8s
YAK smax smax
comp=E,894nm,8.0s
YAK MLR MLR
comp=Z,8µm,17.0s
YAK MLR MLR
comp=Z,2µm,14.0s
YAK MLR MLR
comp=N,8µm,19.0s
H11S1 WAKE ISLAND Hy 27.66 122 T T 18 53 40.1
baz=313,slow=75,SNR=26
H11S3 WAKE ISLAND Hy 27.66 122 T T 18 53 43.2
baz=313,slow=75,SNR=25
H11S2 WAKE ISLAND Hy 27.67 122 T T 18 53 46.2
baz=313,slow=75,SNR=21
ENH Enshi 27.84 268 *e*P **P 18 24 46.9 -1.7**
comp=N,41nm,0.9s
GZH Guangzhou 27.95 251 *e*P **P 18 24 47.0 -2.6**
GZH S **S 18 29 24.4 -7.6**
GZH LR LR
comp=N,4µm,15.7s
GZH LR LR
comp=N,2µm,15.1s
SEY Seymchan 27.99 10 P **P 18 24 51.2 +1.7**
comp=N,2.2nm,0.7s,baz=196,slow=6.5,SNR=9.4
SEY Seymchan 27.99 10 ⇓*i*P **P 18 24 51.6 +2.0**
ULN Ulaanbaatar 28.60 306 *e*P **P 18 24 55.2 -0.2**
comp=N,19nm,1.0s
ULN Ulaanbaatar 28.60 306 *ce*P **P 18 24 56.3 +0.9**
ULN pmax pmax
comp=Z,20nm,1.2s
BOD Bodaibo 28.97 329 *e*P **P 18 24 58.5 +0.2**
BOD pmax pmax
comp=Z,59nm,1.6s
SONA1 Songino Array 29.02 306 *e*P **P 18 24 59.0 -0.1**
SONA0 Songino Array 29.02 306 *e*P **P 18 25 00.1 +1.0**
SONM Songino Array 29.02 306 P **P 18 25 00.1 +1.0**
comp=Z,13nm,0.7s,baz=108,slow=9.7,SNR=41
SONM LR LR 18 36 21.0
comp=Z,985nm,20.1s,baz=98,slow=36
LZH Lanzhou 30.89 282 *e*P **P 18 25 15.6 -0.2**
LZH pP pP 18 25 24.0 +0.6
LZH sP sP 18 25 27.8 +1.2
LZH PP **PnPn 18 26 17.2 +0.6**
LZH S **S 18 30 16.0 -2.5**
LZH sS pS 18 30 29.0 +2.1
LZH SS **ScP 18 31 55.0 +1.9**
LZH pmax pmax
comp=Z,45nm,1.1s
LZH pmax pmax
comp=Z,260nm,6.5s
LZH LR LR
comp=Z,3µm,13.0s
LZH LR LR
comp=Z,4µm,13.2s
LZH LR LR
comp=Z,4µm,14.5s
IRK Irkutsk 31.43 314 *e*P **P 18 25 20.1 -0.1**
IRK pmax pmax
comp=Z,71nm,3.6s
ZAK Zakamensk 31.56 310 *e*P **P 18 25 22.2 +0.7**
ZAK pmax pmax
comp=Z,18nm,1.4s
GYA Guiyang 31.60 263 ⇑*i*P **P 18 25 21.3 -0.8**
GYA pP sP 18 25 32.0 -0.9
GYA PP **PnPn 18 26 27.2 +1.2**
GYA PcP **PcP 18 28 15.5 +1.4**
GYA S **S 18 30 27.8 -1.9**
GYA sS sS 18 30 43.2 +0.9
GYA SS **SnSn 18 32 16.0 -0.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.3s
GYA LR LR
comp=Z,550nm,17.2s
GYA LR LR
comp=Z,480nm,17.5s
GYA LR LR
comp=Z,510nm,17.8s
TLY Talaya 31.65 312 *e*P **P 18 25 23.1 +0.9**
comp=Z,49nm,1.2s
TLY Talaya 31.65 312 *e*P **P 18 25 23.3 +1.1**
TLY *e* 18 26 25.7
TLY *e*PPP PPP 18 26 35.4
TLY *e*S **S 18 30 26.2 -3.6**
TLY pmax pmax
comp=Z,47nm,1.2s
TLY MLR MLR
comp=Z,3µm,15.0s
CD2 Chengdu 32.29 273 *e*P **P 18 25 27.4 -0.6**
CD2 pP pP 18 25 35.6 0.0
CD2 sP sP 18 25 39.4 +0.6
CD2 S **S 18 30 38.9 -1.3**
CD2 sS sS 18 30 53.4 +0.7
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.4s
CD2 LR LR
comp=Z,8µm,16.9s
CD2 LR LR
comp=Z,5µm,17.9s
CD2 LR LR
comp=Z,4µm,14.9s
DAV Davao City (W) 32.29 212 LR LR 18 36 33.9
comp=Z,929nm,21.1s,baz=54,slow=33
QIZ Qiongzhong 32.95 248 P **P 18 25 37.5 +3.7**
QIZ S **S 18 30 53.4 +3.0**
QIZ pmax pmax
comp=Z,35nm,1.9s
QIZ LR LR
comp=Z,3µm,14.4s
QIZ LR LR
comp=Z,1µm,14.8s
QIZ LR LR
comp=Z,2µm,13.3s
MOY Mondy 33.25 312 *e*P **P 18 25 36.8 +0.5**
MOY pmax pmax
comp=Z,43nm,2.9s
GTA Gaotai 33.53 289 *e*P **P 18 25 39.2 +0.3**
GTA pP pP 18 25 46.4 -0.1
GTA sP sP 18 25 49.6 -0.1
GTA S **S 18 30 56.8 -2.7**
GTA sS pS 18 31 10.1 +2.1
GTA SS **SnSn 18 32 59.8 -3.0**
GTA pmax pmax
comp=Z,15nm,1.1s
GTA pmax pmax
comp=Z,430nm,6.7s
GTA LR LR
comp=Z,3µm,14.5s
GTA LR LR
comp=Z,2µm,13.5s
GTA LR LR
comp=Z,2µm,13.8s
BILL Bilibino 35.15 15 *i*P **P 18 25 52.6 +0.2**
BILL *i* 18 26 03.3
BILL pmax pmax
comp=Z,11nm,1.3s
BILL MLR MLR
comp=Z,2µm,19.0s
KMI Kunming 35.37 264 P **P 18 25 55.1 +0.1**
KMI pP pP 18 26 04.0 +1.3
KMI sP sP 18 26 07.4 +1.6
KMI PP **PnPn 18 27 13.9 +0.2**
KMI S **S 18 31 26.2 -2.0**
KMI sS sS 18 31 41.1 +0.2
KMI pmax pmax
comp=Z,11nm,1.4s
KMI pmax pmax
comp=Z,240nm,5.7s
KMI LR LR
comp=Z,3µm,16.3s
KMI LR LR
comp=Z,1µm,16.1s
KMI LR LR
comp=Z,3µm,16.3s
MYLDM Lahad Datu 37.37 221 *e*P **P 18 26 13.0 +1.1**
comp=Z,33nm,1.2s
TNTI Ternate 37.37 205 *e*P **P 18 26 11.5 -0.4**
comp=Z,227nm,1.5s
SKNT Sakolnakorn 38.64 251 P P 18 26 28.6 +5.9
comp=Z,111nm,1.8s
FAKI Fak Fak 39.52 196 *e*P **P 18 26 27.6 -2.3**
comp=Z,69nm,1.3s
LUWI Luwuk 40.78 211 *e*P **P 18 26 38.3 -2.1**
comp=Z,40nm,0.8s
RABL Rabaul 40.78 165 *e*P **P 18 26 39.0 -1.5**
comp=Z,17nm,0.9s
CHAI Chaiyaphum 40.81 252 P **P 18 26 41.0 +0.3**
comp=Z,6.7nm,1.0s
CMAI Chiengmai2 40.88 259 P P 18 26 46.9 +5.5
comp=Z,839nm,0.9s,comp=Z,65µm
LAMP Lampang 41.16 257 P P 18 26 55.7 +12
CMMT Chiang Mai 41.55 258 P **P 18 26 48.7 +1.9**
comp=Z,9.8nm,2.1s
CHTO Chiang Mai 41.55 258 P **P 18 26 49.8 +3.0**
comp=Z,43nm,2.0s
CHTO Chiang Mai 41.55 258 *e*P **P 18 26 46.2 -0.6**
comp=Z,12nm,1.2s
CHTO Chiang Mai 41.55 258 *e*P **P 18 26 46.2 -0.6**
CHTO pmax pmax
comp=Z,12nm,1.2s
DGZ Jazzator, Alta 41.65 307 *c i*P **P 18 26 48.8 +1.3**
CM31 Chiang Mai Arr 41.75 257 *e*P **P 18 26 48.8 +0.3**
CMAR Chiang Mai Arr 41.75 257 P **P 18 26 48.9 +0.4**
comp=Z,2.5nm,0.9s,baz=49,slow=6.5,SNR=12
CMAR LR LR 18 45 18.6
comp=Z,1µm,18.0s,baz=53,slow=38
CM01 Chiang Mai Arr 41.76 257 *e*P **P 18 26 46.5 -2.0**
SRAK Srakaew 41.91 249 P **P 18 26 46.9 -2.9**
comp=Z,65nm,0.9s,comp=Z,530nm
WMQ Urumqi 41.97 298 P **P 18 26 52.5 +2.4**
WMQ pP sP 18 27 00.7 -0.3
WMQ sP pP 18 27 07.6 +10
WMQ S **S 18 33 14.0 +6.8**
WMQ pmax pmax
comp=Z,57nm,1.3s
WMQ pmax pmax
comp=Z,690nm,3.7s
WMQ LR LR
comp=Z,3µm,16.5s
WMQ LR LR
comp=Z,1µm,20.3s
WMQ LR LR
comp=Z,1µm,18.7s
NAYO Nakonayok 42.28 250 P **P 18 26 53.6 +0.8**
comp=Z,63nm,0.7s,comp=Z,7µm
LSA Lhasa 42.93 277 *e*P **P 18 26 58.7 +0.2**
comp=Z,12nm,1.1s
LSA Lhasa 42.93 277 *e*P **P 18 26 58.7 +0.2**
LSA pmax pmax
comp=Z,12nm,1.1s
UTHA Uthaitani 42.99 253 P **P 18 27 01.4 +2.9**
comp=Z,3.1nm,1.2s,comp=Z,51nm
SBUM Sibu 43.15 227 *e*P **P 18 27 00.4 +0.6**
comp=Z,14nm,1.1s
ZAA0 Zalesovo Array 43.25 313 *e*P **P 18 27 00.1 -0.1**
comp=Z,33nm,1.3s
ZAA1 Zalesovo Array 43.25 313 *e*P **P 18 27 00.8 +0.6**
ZALV Zalesovo Beam 43.25 313 P **P 18 27 00.8 +0.6**
comp=Z,11nm,0.8s,baz=90,slow=6.3,SNR=24
ZALV LR LR 18 45 57.8
comp=Z,827nm,19.7s,baz=74,slow=38
ZALV Zalesovo Beam 43.25 313 *e*P **P 18 26 59.7 -0.5**
ZALV Zalesovo Beam 43.25 313 *e*P **P 18 26 59.7 -0.5**
SDPT Sand Point 43.33 45 *e*P **P 18 27 01.4 +0.6**
comp=Z,134nm,1.2s
SRDT SRDT 43.95 252 P **P 18 27 06.6 +0.3**
comp=Z,18nm,1.6s,comp=Z,1µm
SHL Shillong 43.99 271 *e*P **P 18 27 10.0 +3.2**
SHL *e*S **S 18 33 44.0 +6.5**
NVS Novosibirsk 44.19 315 *e*P **P 18 27 07.4 -0.3**
NVS pmax pmax
comp=Z,28nm,1.3s
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,20nm,1.5s
PHET Kaeng Krachan 44.44 250 P **P 18 27 11.6 +1.4**
comp=E,10nm,1.0s
CHGN Chignik 44.53 43 *e*P **P 18 27 11.0 +0.6**
comp=E,96nm,1.0s
SAUI Saumlaki 44.63 195 *e*P **P 18 27 11.6 -0.1**
comp=E,49nm,0.8s
KSM Kuching 45.08 228 *e*P **P 18 27 14.6 -0.7**
comp=E,46nm,1.4s
PMG Port Moresby 45.11 173 LR LR 18 50 17.5
comp=E,154nm,18.1s,baz=345,slow=42
PMG Port Moresby 45.11 173 *e*P **P 18 27 14.3 -1.1**
comp=E,46nm,1.6s
PMG Port Moresby 45.11 173 *e*P **P 18 27 14.4 -1.1**
PMG pmax pmax
comp=Z,47nm,1.6s
MK01 Makanchi Array 45.32 303 *e*P **P 18 27 16.6 -0.4**
MK31 Makanchi Array 45.33 303 *e*P **P 18 27 17.0 0.0**
MK31 Makanchi Array 45.33 303 *ce*P **P 18 27 17.3 +0.3**
MK31 pmax pmax
comp=Z,22nm,0.9s
MK32 Makanchi Array 45.33 303 *e*P **P 18 27 17.6 +0.6**
MKAR Makanchi Array 45.33 303 P **P 18 27 17.6 +0.6**
comp=Z,13nm,0.8s,baz=82,slow=9.1,SNR=30
MKAR LR LR 18 46 03.9
comp=Z,1µm,18.7s,baz=81,slow=36
MKAR Makanchi Array 45.33 303 *e*P **P 18 27 17.0 0.0**
comp=Z,102nm,0.8s
MKAR Makanchi Array 45.33 303 *e*P **P 18 27 17.0 0.0**
MKAR pmax pmax
comp=Z,102nm,0.8s
MAKZ Makanchi 45.54 303 *e*P **P 18 27 18.4 -0.2**
comp=Z,25nm,0.9s
MAKZ Makanchi 45.54 303 *e*P **P 18 27 18.4 -0.2**
MAKZ pmax pmax
comp=Z,25nm,0.9s
TAPN Taplejung 46.63 276 *e*P **P 18 27 28.1 +0.3**
comp=Z,30nm,0.9s
ODAN Odare 47.09 275 *e*P **P 18 27 31.5 +0.1**
comp=Z,78nm,1.4s
KURK Kurchatov 47.22 309 *e*P **P 18 27 31.5 -0.2**
comp=Z,62nm,1.0s
KURK Kurchatov 47.22 309 ⇑*i*P **P 18 27 32.0 +0.3**
KURK pmax pmax
comp=Z,116nm,1.0s
KURBB Kurchatov Arra 47.29 309 P **P 18 27 32.4 +0.1**
comp=Z,24nm,1.0s,baz=84,slow=7.8,SNR=45
OHAK Old Harbor 47.35 42 *e*P **P 18 27 35.3 +2.7**
comp=Z,144nm,1.8s
IM3 Indian Mountai 47.51 30 *e*P **P 18 27 35.5 +1.7**
TRTT Trang 47.64 245 P P 18 27 45.3 +10
comp=Z,14nm,1.1s
RAMN Ramite 47.70 276 *e*P **P 18 27 36.3 +0.2**
comp=Z,77nm,1.1s
KDAK Kodiak Island 47.71 41 P **P 18 27 36.2 +0.8**
comp=Z,15nm,0.7s,baz=266,slow=7.2,SNR=6.2
KDAK Kodiak Island 47.71 41 *e*P **P 18 27 36.4 +1.0**
comp=Z,246nm,2.0s
KDAK Kodiak Island 47.71 41 *i*P **P 18 27 39.4 +4.0**
JIRN Jiri 47.73 277 *e*P **P 18 27 37.2 +0.7**
GUN Gumba 47.88 277 *e*P **P 18 27 38.1 +0.5**
PGK Podgornoye 47.92 299 *i*P **P 18 27 38.5 +1.0**
PDGK pmax pmax
comp=Z,52nm,1.0s
HNR Honiara 47.93 156 LR LR 18 48 44.9
comp=Z,437nm,18.4s,baz=332,slow=37
PPLA Purkeypile 47.93 34 *e*P **P 18 27 37.1 -0.2**
comp=Z,64nm,1.6s
SPU Mount Spurr 47.95 37 *e*P **P 18 27 37.6 +0.3**
CAST Castle Rocks 48.01 34 *e*P **P 18 27 39.5 +1.8**
comp=Z,62nm,1.9s
SOEI Soe 48.26 204 *e*P **P 18 27 42.6 +2.4**
comp=Z,59nm,0.9s
PKI Pulchoki 48.40 277 *e*P **P 18 27 42.1 +0.5**
PKIN Phulchoki 48.41 277 *e*P **P 18 27 42.5 +0.9**
comp=Z,32nm,0.8s
KKN Kakani 48.42 277 *e*P **P 18 27 41.8 +0.2**
comp=Z,56nm,1.2s
BPAW Bear Paw Mtn. 48.52 33 *e*P **P 18 27 43.1 +1.4**
comp=Z,41nm,1.8s
KTH Kantishna Hill 48.53 33 *e*P **P 18 27 41.8 0.0**
comp=Z,32nm,1.4s
SUA Susitna One 48.58 36 *e*P **P 18 27 44.1 +1.8**
comp=Z,16nm,0.8s
PKDT Phuket 48.61 246 P P 18 27 53.6 +11
comp=Z,19nm,1.1s
DMN Daman 48.63 277 *e*P **P 18 27 43.5 +0.2**
comp=Z,36nm,1.2s
KULM Kulim 48.67 241 *e*P **P 18 27 42.6 -0.8**
comp=Z,31nm,1.2s
MLY Manley 48.68 31 *e*P **P 18 27 44.8 +1.9**
comp=Z,20nm,1.3s
TRF Thorofare Moun 48.81 34 *e*P **P 18 27 44.4 +0.3**
comp=Z,29nm,1.6s
BATI Baumata 48.88 204 LR LR 18 46 25.5
comp=Z,137nm,20.8s,baz=26,slow=34
IPM Ipoh 48.97 240 *e*P **P 18 27 43.8 -1.9**
comp=Z,21nm,0.7s
SEW Seward 49.25 38 *e*P **P 18 27 48.3 +1.1**
comp=Z,88nm,1.4s
PMR Palmer 49.35 36 *e*P **P 18 27 48.2 +0.2**
comp=Z,51nm,1.5s
PMR Palmer 49.35 36 *e*P **P 18 27 48.2 +0.2**
PMR pmax pmax
comp=Z,51nm,1.5s
MTN Manton Dam 49.39 194 *e*P **P 18 27 47.5 -1.2**
comp=Z,92nm,1.3s
MTN *e*PcP **PcP 18 29 08.8 -2.2**
TOLK Toolik Lake Re 49.39 27 *e*P **P 18 27 49.9 +1.5**
comp=Z,50nm,1.8s
TOLK *e*PcP **PcP 18 29 07.7 -2.7**
COEN Coen 49.40 179 *e*P **P 18 27 49.4 +0.6**
comp=Z,41nm,1.2s
DANN Dangsing 49.41 279 *e*P **P 18 27 50.6 +1.3**
MCK McKinley 49.42 33 *e*P **P 18 27 51.2 +2.6**
comp=Z,36nm,1.6s
MCK McKinley 49.42 33 *e*P **P 18 27 51.2 +2.6**
MCK pmax pmax

comp=Z,36nm,1.6s
RND Reindeer 49.46 34 *e*P **P 18 27 50.1 +1.2**
comp=Z,27nm,1.2s
RND Reindeer 49.46 34 *e*P **P 18 27 50.1 +1.2**
RND pmax pmax
comp=Z,27nm,1.2s
TARG Taragay, Kyrgy 49.52 298 *e*P **P 18 27 50.8 +0.7**
comp=Z,26nm,0.9s
SML Sawmill 49.73 36 *e*P **P 18 27 52.1 +1.1**
comp=Z,23nm,1.0s
SML Sawmill 49.73 36 *e*P **P 18 27 52.1 +1.1**
SML pmax pmax
comp=Z,23nm,1.0s
MDM Murphy Dome 49.74 32 *e*P **P 18 27 52.1 +1.1**
comp=Z,31nm,1.3s
KOLN Koldanda 49.78 278 *e*P **P 18 27 52.2 +0.2**
comp=Z,75nm,1.4s
KDJ Kajisay 49.87 298 *e*P **P 18 27 52.2 -0.3**
comp=Z,17nm,0.9s
COLA College 49.90 32 *e*P **P 18 27 54.0 +1.9**
comp=Z,11nm,0.8s
COLA College 49.90 32 *e*P **P 18 27 54.0 +1.9**
COLA pmax pmax
comp=Z,11nm,0.8s
CCB Clear Creek Bu 49.92 32 *e*P **P 18 27 53.6 +1.3**
comp=Z,29nm,1.7s
DHY Denali Highway 50.13 34 *e*P **P 18 27 56.4 +2.2**
comp=Z,69nm,1.9s
PYUN Piuthan 50.13 279 *e*P **P 18 27 55.6 +0.9**
comp=Z,167nm,1.3s
SCM Sheep Creek Mo 50.20 36 *e*P **P 18 27 56.1 +1.5**
comp=Z,148nm,2.0s
SCM Sheep Creek Mo 50.20 36 *e*P **P 18 27 56.1 +1.5**
SCM pmax pmax
comp=Z,148nm,2.0s
IL1 Eielson Array 50.31 32 *e*P **P 18 27 55.7 +0.4**
ILAR Eielson Array 50.31 32 P **P 18 27 56.2 +0.9**
comp=Z,4.2nm,0.8s,baz=268,slow=6.2,SNR=37
ILAR LR LR 18 50 25.8
comp=Z,311nm,20.3s,baz=288,slow=38
ILB Eielson Array 50.31 32 *e*P **P 18 27 55.7 +0.4**
KLU Klutina 50.89 36 *e*P **P 18 28 00.9 +1.1**
comp=Z,34nm,1.3s
FYU Fort Yukon 50.98 29 *e*P **P 18 28 00.2 0.0**
comp=Z,49nm,1.5s
DIV Divide 50.99 36 *e*P **P 18 28 01.1 +0.5**
comp=Z,61nm,1.4s
PAX Paxson 51.01 34 *e*P **P 18 28 02.4 +1.7**
comp=Z,56nm,1.9s
PAX Paxson 51.01 34 *e*P **P 18 28 02.4 +1.7**
PAX pmax pmax
comp=Z,56nm,1.9s
HARP HAARP 51.19 35 *e*P **P 18 28 03.9 +2.0**
comp=Z,182nm,2.0s
RIDG Independ'e Rid 51.24 33 *e*P **P 18 28 03.4 +1.0**
comp=Z,42nm,1.7s
JAGI Jajag, Banyuwa 51.24 217 *e*P **P 18 28 02.5 -0.4**
comp=Z,49nm,1.2s
KSH Kashi 51.49 295 P **P 18 28 08.1 +3.4**
KSH pP sP 18 28 15.4 -0.3
KSH PcP **PcP 18 29 21.5 +2.8**
KSH PP **PP 18 30 05.0 +3.1**
KSH S **S 18 35 25.4 +1.9**
KSH sS sS 18 35 41.6 +5.1
KSH ScS **ScS 18 37 53.4 -0.1**
KSH pmax pmax
comp=Z,8.0nm,1.1s
KSH pmax pmax
comp=Z,260nm,6.6s
KSH LR LR
comp=Z,870nm,11.3s
KSH LR LR
comp=Z,910nm,11.8s
KSH LR LR
comp=Z,1μm,11.5s
FRU Bishkek 51.50 300 *e*P **P 18 28 04.0 -0.6**
FRU MLR MLR
comp=E,2μm,13.0s
BMRM Bremner River 51.57 37 *e*P **P 18 28 06.8 +1.9**
comp=E,107nm,1.9s
DOT Dot Lake 51.59 33 *e*P **P 18 28 05.3 +0.3**
comp=E,62nm,1.4s
PSI Prapat 51.63 241 LR LR 18 51 19.2
comp=E,290nm,18.3s,baz=358,slow=38
PSI Prapat 51.63 241 *e*P **P 18 28 04.8 -1.2**
comp=E,18nm,1.0s
PSI Prapat 51.63 241 *e*P **P 18 28 04.8 -1.2**
PSI pmax pmax
comp=Z,18nm,1.0s
AAK Ala-Archa 51.64 300 *e*P **P 18 28 06.3 +0.5**
comp=Z,16nm,1.0s
AAK Ala-Archa 51.64 300⇑ *i*P **P 18 28 07.0 +1.2**
AAK pmax pmax
comp=Z,9.0nm,0.8s
OTUK Ortayu 51.68 307 P **P 18 28 06.6 +0.7**
OTUK pmax pmax
comp=Z,18nm,0.8s
MENT Mentasta 51.80 34 *e*P **P 18 28 07.5 +0.9**
comp=Z,30nm,1.4s
BVAR Borovoye Array 51.90 313 P **P 18 28 07.7 +0.2**
comp=Z,4.6nm,1.0s,baz=83,slow=3.6,SNR=16
BVAR LR LR 18 51 27.1
comp=Z,785nm,19.5s,baz=73,slow=38
BKNI Bangkinang 51.93 237 *e*P **P 18 28 07.8 -0.3**
comp=Z,155nm,1.2s
BRVK Borovoye 51.96 313 *e*P **P 18 28 07.8 0.0**
comp=Z,28nm,1.5s
BRVK Borovoye 51.96 313⇑ *i*P **P 18 28 09.0 +1.2**
BRVK pmax pmax
comp=Z,22nm,1.2s
EGAK Eagle 52.76 32 *e*P **P 18 28 16.3 +2.7**
comp=Z,40nm,2.0s
SFK Sufi-Kurgan 53.14 297 P **P 18 28 18.2 +1.1**
SFK pmax pmax
comp=Z,12nm,1.2s
OPA Opana 53.59 88 *e*P **P 18 28 21.6 +1.3**
comp=Z,448nm,1.2s
OPA Opana 53.59 88 *e*P **P 18 28 21.6 +1.3**
OPA pmax pmax
comp=Z,448nm,1.2s
DAWY Dawson 53.61 32 *e*P **P 18 28 23.2 +3.3**
comp=Z,21nm,1.4s
GSI Gunungsitoli 53.63 241 *e*P **P 18 28 19.8 -0.8**
comp=Z,145nm,1.2s
KK31 Karatay Array 54.30 301 *i* P **P 18 28 25.1 -0.2**
KK31 pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 54.30 301 *e*P **P 18 28 24.8 -0.5**
KKAR Karatay Array 54.30 301 *e*P **P 18 28 24.8 -0.5**
HYT Haines Junctio 55.02 36 *e*P **P 18 28 32.3 +2.0**
comp=Z,75nm,1.7s
INK Inuvik 55.31 27 P **P 18 28 33.5 +1.5**
comp=Z,3.1nm,0.7s,baz=267,slow=5.4,SNR=10
INK Inuvik 55.31 27 *e*P **P 18 28 33.0 +1.0**
comp=Z,7.8nm,0.8s
CTA Charters Tower 55.62 175 P **P 18 28 34.8 -0.1**
comp=Z,3.5nm,0.9s,baz=333,slow=6.8,SNR=3.0
CTAO Charters Tower 55.62 175 *e*P **P 18 28 34.7 -0.1**
comp=Z,28nm,1.6s
CTAO Charters Tower 55.62 175 *e*P **P 18 28 34.7 -0.1**
CTAO pmax pmax
comp=Z,28nm,1.6s
FITZ Fitzroy Crossi 55.74 199 P **P 18 28 36.4 +0.7**
comp=Z,9.4nm,0.8s,baz=27,slow=7.7,SNR=16
FITZ Fitzroy Crossi 55.74 199 *e*P **P 18 28 36.3 +0.5**
WRAB Tennant Creek 55.82 189 *e*P **P 18 28 35.3 -1.0**
comp=Z,55nm,1.1s
WRAB Tennant Creek 55.82 189*c i*P **P 18 28 36.0 -0.3**
WRAB pmax pmax
comp=Z,10.0nm,0.8s
WB2 Warramunga Arr 55.83 189 *e*P **P 18 28 34.6 -1.8**
WR1 Warramunga Arr 55.83 189 *e*P **P 18 28 36.4 0.0**
WRA Warramunga Arr 55.83 189 P **P 18 28 36.4 0.0**
comp=Z,11nm,0.7s,baz=7.0,slow=7.5,SNR=93
WRA LR LR 18 51 46.3
comp=Z,338nm,20.0s,baz=350,slow=35
SVE Sverdlovsk 56.53 319⇑ *e*P **P 18 28 42.2 +1.1**
SVE pmax pmax
comp=Z,36nm,1.5s
SVE MLR MLR
comp=Z,2μm,14.0s
ARU Arti 57.75 319 *e*P **P 18 28 49.6 0.0**
comp=Z,17nm,0.9s
ARU Arti 57.75 319*c i*P **P 18 28 50.0 +0.4**
ARU 18 29 42.5
ARU 18 30 59.1
ARU S **S 18 36 48.1 +1.3**
ARU SS **SS 18 40 35.2 -1.6**
ARU pmax pmax
comp=Z,12nm,1.0s
KBL Kabul 58.45 292 *e*P **P 18 28 54.3 -0.9**
comp=Z,8.4nm,0.9s
KBL Kabul 58.45 292 *e*P **P 18 28 54.3 -0.9**
KBL pmax pmax
comp=Z,8.0nm,0.9s
HYB Hyderabad 58.76 270 *i* P **P 18 28 58.0 +0.6**
HYB *es*P **pP 18 29 06.0 +0.6**
AB31 Akbulak array 59.25 311 *i* P **P 18 28 58.5 -1.7**
AB31 pmax pmax
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 59.25 311 *e*P **P 18 28 59.6 -0.6**
comp=Z,69nm,1.1s
AS01 Alice Springs 59.55 189 *e*P **P 18 29 02.0 -0.5**
AS31 Alice Springs 59.55 189 *e*P **P 18 29 02.1 -0.5**
comp=Z,4.3nm,0.7s
ASAR Alice Springs 59.56 189 P **P 18 29 02.5 0.0**
comp=Z,3.1nm,0.8s,baz=18,slow=10,SNR=37
ASAR LR LR 18 54 01.3
comp=Z,250nm,20.0s,baz=8.5,slow=35
AKTO Aktyubinsk 60.00 313 P **P 18 29 05.2 -0.2**
comp=Z,7.1nm,1.0s,baz=76,slow=9.6,SNR=16
AKTO LR LR 18 56 13.7
comp=Z,566nm,19.7s,baz=57,slow=37
MBWA Marble Bar 60.40 204 *e*P **P 18 29 07.3 -1.1**
comp=Z,55nm,1.5s
DZM Mont Dzumac 61.90 154 P **P 18 29 21.0 +2.3**
comp=Z,7.2nm,0.8s,baz=39,slow=13,SNR=2.5
DZM Mont Dzumac 61.90 154 *e*P P 18 29 24.8 +6.2
comp=Z,89nm,1.4s
DZM *e*S **S 18 37 39.1 -1.9**
comp=Z,985nm,27.4s
DZM Mont Dzumac 61.90 154 *e*LR LR 18 47 41.0
comp=Z,981nm,21.2s
DZM Mont Dzumac 61.90 154 *e*P **P 18 29 19.4 +0.7**
comp=Z,61nm,1.4s
SPITS Spitsbergen Ar 61.94 349 LR LR 18 59 31.9
comp=Z,2μm,18.0s,baz=35,slow=39
POO Poona 62.02 273 *e*P P 18 29 12.0 -7.6
RES Resolute Bay 63.74 14 P **P 18 29 31.1 +0.9**
comp=Z,6.4nm,0.9s,baz=313,slow=6.6,SNR=14
RES Resolute Bay 63.74 14 *e*P **P 18 29 30.6 +0.5**
comp=Z,39nm,1.6s
APA Apatity 64.14 336⇓ *i*P P 18 29 44.2 +11
APA pmax pmax
comp=Z,8.0nm,0.9s
TMCR Tamitsa 64.19 332 *e*P **P 18 29 30.2 -3.0**
TMCR pmax pmax
comp=Z,8.0nm,0.6s
YKA Yellowknife Ar 64.67 30 P **P 18 29 37.3 +0.9**
comp=Z,1.1nm,0.9s,baz=297,slow=6.3,SNR=11
GEYT Alibeck 65.00 300 P **P 18 29 39.7 +0.6**
comp=Z,1.9nm,0.7s,baz=49,slow=2.9,SNR=7.8
KLMR Klimovskoe 65.19 328 *e*P P 18 29 47.5 +7.7
KLMR *e* 18 32 12.6
KLMR pmax pmax
comp=Z,29nm,1.5s
KLMR Klimovskoe 65.19 328 *e*P P 18 29 47.6 +7.8
KLMR AMP 18 29 53.9
comp=Z,29nm,1.5s
KLMR *e*PP PP 18 32 12.6 +10
KLMR LQ LQ 18 53 52.1
KLMR LQ LQ 18 53 52.1
KLMR LR LR 18 59 14.3
ARCES ARCESS Array B 65.45 340 LR LR 19 03 45.5
comp=Z,2μm,18.4s,baz=37,slow=41
AFI Afiamalu 65.83 130 LR LR 19 01 10.8
comp=Z,260nm,18.1s,baz=306,slow=38
TULEG Thule 66.34 8 *e*P **P 18 29 46.9 -0.1**
comp=Z,24nm,1.3s
STKA Stephens Creek 67.22 180 P **P 18 29 52.1 -1.0**
comp=Z,2.4nm,0.8s,baz=336,slow=10.0,SNR=5.3
STKA Stephens Creek 67.22 180 *e*P **P 18 29 52.9 -0.2**
comp=Z,1.6nm,0.9s
STKA Stephens Creek 67.22 180 *e*P **P 18 29 52.9 -0.2**
STKA pmax pmax
comp=Z,2.0nm,0.9s
B06A Marblemount 68.05 45 *e*P **P 18 29 59.0 +0.8**
MOS Moscow 68.67 324 *e*P **P 18 30 06.4 +4.4**
MOS *e* 18 30 28.0
MOS *e* 18 32 39.9
MOS pmax pmax
comp=Z,23nm,0.7s
MOS MLR MLR
comp=Z,1μm,17.0s
VRH Novokhopyorsk 68.96 318 *e*P **P 18 30 03.4 -0.5**
VRH pmax pmax
comp=Z,10.0nm,1.0s
VRH MLR MLR
comp=Z,3μm,13.0s
B08A Colville Reser 69.37 45 *e*P **P 18 30 08.6 +2.0**
comp=Z,21nm,1.6s
OBN Obninsk 69.51 324 *e*P **P 18 30 06.9 -0.4**
OBN *i* 18 30 13.0
OBN *i* 18 30 34.6
OBN *i* SS SS 18 43 45.8 +5.8
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,1μm,14.0s
LPSR Galich'ya Gora 69.70 321 *e*P **P 18 30 07.9 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FIA0 FINESS Array S 70.26 333 *e*P **P 18 30 12.5 +0.7**
FIA0 FINESS Array S 70.26 333 *e*P **P 18 30 12.5 +0.7**
FINES FINESS Array B 70.26 333 P **P 18 30 12.5 +0.7**
comp=Z,2.6nm,0.8s,baz=64,slow=4.4,SNR=5.9
FINES LR LR 19 03 18.1
comp=Z,689nm,18.6s,baz=42,slow=38
C09A Chrisman Ranch 70.27 45 *e*P **P 18 30 13.3 +1.2**
comp=Z,24nm,1.6s
VSR Storozhevoye 70.32 319 *e*P **P 18 30 13.1 +0.8**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR MLR MLR
comp=Z,3μm,18.0s
YBH Yreka Blue Hor 70.70 52 P **P 18 30 15.8 +0.8**
comp=Z,1.0nm,0.9s,baz=318,slow=12,SNR=2.7
YBH LR LR 18 55 14.9
comp=Z,127nm,21.0s,baz=318,slow=31
PINE Pine Mountain 70.76 50 *e*P **P 18 30 17.2 +1.7**
comp=Z,30nm,1.5s
E09A Wood Farm, Sta 71.02 46 *e*P **P 18 30 17.9 +1.2**
comp=Z,17nm,1.4s
KCPM Cahto Peak 71.18 54 *e*P **P 18 30 19.9 +2.0**
comp=Z,44nm,1.9s
GOF Gofitskoye 71.42 312⇑ *e*P **P 18 30 18.8 -0.3**
GOF pmax pmax
comp=Z,24nm,1.3s
WSAR Wadi Sarin 71.78 286 P **P 18 30 22.4 +0.7**
comp=Z,5.5nm,1.0s,baz=117,slow=11,SNR=3.8
WSAR LR LR 19 04 37.9
comp=Z,185nm,19.4s,baz=83,slow=38
SUMG Summit 72.02 0 *i* P **P 18 30 24.1 +1.4**
SUMG Summit 72.02 0 *e*P **P 18 30 23.8 +1.1**
comp=Z,14nm,1.0s
SUMG Summit 72.02 0 *i* P **P 18 30 24.1 +1.4**
TBLG Delisi 72.13 309 *e*P **P 18 30 23.0 -0.5**
comp=Z,27nm,1.4s
TBLG Delisi 72.13 309 *e*P **P 18 30 23.0 -0.5**
TBLG pmax pmax
comp=Z,27nm,1.4s
KBZ Khabaz 72.21 311 P **P 18 30 24.3 +0.4**
comp=Z,7.0nm,1.0s,baz=283,slow=1.3,SNR=9.4
KIV Kislovodsk 72.22 312 *e*P **P 18 30 24.5 +0.4**
comp=Z,22nm,1.0s
KIV Kislovodsk 72.22 312 *e*P **P 18 30 26.4 +2.3**
KIV pmax pmax
comp=Z,19nm,1.1s
JTMT Jette 72.56 43 *e*P **P 18 30 26.2 0.0**
comp=Z,41nm,2.0s
ORV Oroville 72.62 54 *e*P **P 18 30 27.8 +1.3**
comp=Z,12nm,1.4s
ORV Oroville 72.62 54 *e*P **P 18 30 27.8 +1.3**
ORV pmax pmax
comp=Z,13nm,1.4s
WVOR Wild Horse Val 72.91 50 *e*P **P 18 30 30.4 +2.1**
comp=Z,30nm,2.0s
WVOR Wild Horse Val 72.91 50 *e*P **P 18 30 30.4 +2.1**
WVOR pmax pmax
comp=Z,30nm,2.0s
GNI Garni 72.97 307 LR LR 19 03 55.0
comp=Z,470nm,20.6s,baz=53,slow=37
AKH Akhalkalaki 73.09 309 *e*P **P 18 30 28.2 -1.3**
comp=Z,18nm,1.4s
AKH Akhalkalaki 73.09 309 *e*P **P 18 30 28.2 -1.3**
AKH pmax pmax
comp=Z,18nm,1.4s
BEKR Beckworth 73.20 53 *e*P **P 18 30 29.7 -0.4**
comp=Z,6.1nm,1.0s
MSO Missoula 73.27 44 *e*P **P 18 30 30.2 -0.1**
comp=Z,2nm,1.5s
AFDM Forest Hills D 73.29 54 *e*P **P 18 30 30.7 +0.2**
comp=Z,13nm,1.6s
SCO Scoresbysund 73.49 354 *i* P **P 18 30 31.6 +0.6**
comp=Z,22nm,1.3s
SCO Scoresbysund 73.49 354 *e*P **P 18 30 31.6 +0.6**
SCO pmax pmax
comp=Z,22nm,1.3s
RUBR Rubicon Trail 73.77 53 *e*P **P 18 30 33.0 -0.6**
comp=Z,13nm,0.6s
PAHR Pah Rah Range 73.91 53 *e*P **P 18 30 34.3 0.0**
comp=Z,19nm,1.7s
MFID Camas Ranch 74.09 48 *e*P **P 18 30 38.3 +3.1**
comp=Z,15nm,1.7s
CMB Columbia Colle 74.17 54 *e*P **P 18 30 38.8 +3.1**
comp=Z,14nm,1.4s
CMB Columbia Colle 74.17 54 *e*P **P 18 30 38.8 +3.1**
CMB pmax pmax
comp=Z,14nm,1.4s
YERR Yerington 74.40 53 *e*P **P 18 30 37.6 +0.4**
comp=Z,16nm,1.5s
FFC Flin Flon 74.51 33 *e*P **P 18 30 38.5 +1.2**
comp=Z,15nm,1.4s
FFC Flin Flon 74.51 33 *e*P **P 18 30 38.5 +1.2**
FFC pmax pmax
comp=Z,15nm,1.4s
WAKR Walker 74.54 54 *e*P **P 18 30 40.7 +2.7**
comp=Z,14nm,1.5s
LRM Limekiln Ridge 74.69 44 *e*P **P 18 30 39.8 +0.9**
HLID Hailey 74.85 47 *e*P **P 18 30 42.3 +2.6**
comp=Z,17nm,1.9s
ANN Anapa 74.88 314 *e*P P 18 30 52.8 +13
ANN *e*SS SS 18 45 06.8 +4.3
ANN pmax pmax
comp=Z,49nm,1.0s
DLMT Dillon 74.88 45 *e*P **P 18 30 41.8 +2.0**
comp=Z,26nm,1.5s
FCC Fort Churchill 74.93 27 *e*P **P 18 30 39.7 +0.1**
comp=Z,15nm,1.2s
FCC Fort Churchill 74.93 27 *e*P **P 18 30 39.7 +0.1**
FCC pmax pmax
comp=Z,15nm,1.2s
RYN Ryan 75.07 53 *e*P **P 18 30 43.3 +2.3**
comp=Z,8.5nm,1.2s
KVN Kaiserville 75.11 53 *e*P **P 18 30 44.4 +3.1**
comp=Z,8.7nm,1.3s
KVN Kaiserville 75.11 53 *e*P **P 18 30 44.4 +3.1**
KVN pmax pmax
comp=Z,9.0nm,1.3s
MDPB Devils Postpil 75.25 54 *e*P **P 18 30 42.4 +0.2**
comp=Z,9.3nm,1.4s
NV01 Mina Array Sit 75.32 53 *e*P **P 18 30 44.2 +1.7**
NVAR Mina Array Bea 75.32 53 P **P 18 30 44.9 +2.3**
comp=Z,1.4nm,0.8s,baz=280,slow=6.1,SNR=5.9
NVAR LR LR 18 56 41.4
comp=Z,160nm,21.6s,baz=82,slow=30
NV11 Mina Array Sit 75.42 53 *e*P **P 18 30 46.4 +3.4**
comp=Z,0.5nm,1.2s
PAGB Antelope Grade 75.52 56 *e*P **P 18 30 43.5 0.0**
comp=Z,34nm,1.5s
HFS Hagfors 75.54 336 LR LR 19 07 05.0
comp=Z,1μm,18.6s,baz=32,slow=38
NB2 NORSAR Subarra 75.64 338 P **P 18 30 44.1 +0.4**
comp=Z,7.6nm,1.0s,baz=40,slow=5.9
NB200 NORSAR Array S 75.64 338 *e*P **P 18 30 44.1 +0.4**
NOA NORSAR Array B 75.64 338 P **P 18 30 44.1 +0.4**
comp=Z,2.0nm,0.8s,baz=38,slow=5.6,SNR=3.8
NOA LR LR 19 07 05.6
comp=Z,1μm,19.1s,baz=40,slow=38
AKASG Malin Array Be 75.71 323 P **P 18 30 44.3 +0.1**
comp=Z,2.6nm,0.7s,baz=47,slow=6.1,SNR=15
AKASG LR LR 19 04 37.1
comp=Z,551nm,20.0s,baz=40,slow=36
AKASG Malin Array Be 75.71 323*ce*P **P 18 30 44.5 +0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 75.71 323 *e*P **P 18 30 43.6 -0.6**
comp=Z,30nm,1.5s
AKBB Malin Array Si 75.71 323 *e*P **P 18 30 43.6 -0.6**
AKBB pmax pmax
comp=Z,30nm,1.5s
KIEV Kiev 75.72 323 *e*P **P 18 30 43.2 -1.1**
comp=Z,31nm,1.6s
KIEV Kiev 75.72 323 *e*P **P 18 30 43.2 -1.1**
KIEV pmax pmax
comp=Z,31nm,1.6s
AK11 Malin Array Si 75.75 323 *e*P **P 18 30 43.8 -0.7**
QLMT Earthquake Lak 75.86 45 *e*P **P 18 30 48.6 +3.1**
YHH Holmes Hill 76.21 45 *e*P **P 18 30 50.8 +3.1**
comp=Z,6.2nm,1.3s
YMR Madison River 76.22 45 *e*P **P 18 30 50.8 +3.2**
comp=Z,13nm,1.4s
YPP Pitchstone Pla 76.55 45 *e*P **P 18 30 51.6 +2.1**
comp=Z,30nm,2.0s
H17A Grant Village 76.61 45 *e*P **P 18 30 53.0 +3.2**
comp=Z,7.4nm,0.9s
IMW Indian Meadow 76.70 45 *e*P **P 18 30 53.5 +3.1**
comp=Z,30nm,1.9s
FXWY Fox Creek 76.80 46 *e*P **P 18 30 52.9 +2.0**
comp=Z,20nm,1.8s
HVU Hansel Valley 76.87 48 *e*P **P 18 30 52.6 +1.4**
comp=Z,12nm,1.5s
HVU Hansel Valley 76.87 48 *e*P **P 18 30 52.6 +1.4**
HVU pmax pmax
comp=Z,13nm,1.5s
MOOW Moose Ponds 76.90 45 *e*P **P 18 30 52.0 +0.5**
comp=Z,22nm,1.8s
RLMT Red Lodge 76.91 44 *e*P **P 18 30 52.0 +0.6**
comp=Z,38nm,2.0s
TPAW Teton Pass 76.93 46 *e*P **P 18 30 54.6 +2.9**
comp=Z,19nm,1.6s
REDW Red Top Meadow 77.07 46 *e*P **P 18 30 54.1 +1.6**
comp=Z,26nm,1.8s
R11A Troy Canyon, C 77.12 52 *e*P **P 18 30 54.6 +1.9**
comp=Z,15nm,1.8s
SFJD Kangerlussuaq 77.16 5 *i* P P 18 31 01.7 +10
BGU Big Grassy Mou 77.22 49 *e*P **P 18 30 56.2 +3.0**
comp=Z,4.8nm,1.1s
CLC China Lake 77.26 55 *e*P **P 18 30 53.5 +0.1**
CLC China Lake 77.26 55 *e*P **P 18 30 53.5 +0.1**
HONU Honeyville 77.49 48 *e*P **P 18 30 54.5 -0.2**
HWUT Hardware Ranch 77.70 47 *e*P **P 18 30 57.7 +1.8**
comp=Z,9.9nm,1.2s
DUG Dugway, Tooele 77.79 49 *e*P **P 18 30 57.6 +1.2**
comp=Z,15nm,1.4s
DUG Dugway, Tooele 77.79 49 *e*P **P 18 30 57.6 +1.2**
DUG pmax pmax
comp=Z,15nm,1.4s
SORM Soroca 77.79 321⇑ *i*P **P 18 30 56.0 0.0**
SORM Soroca 77.79 321⇑ P **P 18 30 56.0 0.0**
GSC Goldstone, Bar 78.08 55 *e*P **P 18 31 00.1 +2.1**
comp=Z,3.7nm,0.9s
GSC Goldstone, Bar 78.08 55 *e*P **P 18 31 00.1 +2.1**
GSC pmax pmax
comp=Z,4.0nm,0.9s
TCUT Toone Canyon 78.09 48 *e*P **P 18 31 00.1 +1.9**
comp=Z,13nm,1.1s
PSRC Puddingstone R 78.10 57 *e*P **P 18 30 59.1 +1.1**
BFSC Mount Baldy Ra 78.12 56 *e*P **P 18 30 59.1 +0.8**
PD31 Pinedale Array 78.18 46 *e*P **P 18 30 59.1 +0.4**
PDAR Pinedale Array 78.18 46 P **P 18 30 59.7 +1.0**
comp=Z,0.7nm,0.7s,baz=243,slow=1.7,SNR=6.3
PDAR LR LR 19 04 19.4
comp=Z,93nm,20.1s,baz=351,slow=35
PDAR Pinedale Array 78.18 46 *e*P **P 18 30 58.2 -0.5**
KIS Kishinev 78.29 320 *e*P **P 18 31 00.0 +1.2**
KIS LRM MLR 19 09 20.0
comp=Z,3μm,16.0s
KIS Kishinev 78.29 320 *e*P **P 18 31 00.0 +1.2**
JLU Jordanelle 78.38 48 *e*P **P 18 31 00.5 +0.7**
comp=Z,22nm,1.7s
NLU North Lily Min 78.38 49 *e*P **P 18 31 01.4 +1.6**
comp=Z,16nm,1.7s
SHPR Sheep Range 78.47 53 *e*P **P 18 31 03.1 +2.8**
comp=Z,11nm,1.5s
MPU Maple Canyon 78.62 49 *e*P **P 18 31 02.4 +1.3**
comp=Z,5.5nm,0.7s
RAR Rarotonga 78.91 126 LR LR 19 05 57.7
comp=Z,417nm,18.4s,baz=274,slow=36
LEOM Leova 78.92 320⇑ *i*P **P 18 31 01.1 -1.2**

LEOM	Leova	78.92	320	⇑P		P	18 31 01.1	-1.2
BORG	Borgarnes	79.04	353	LR		LR	19 08 41.1	
	comp=Z,376nm,18.1s,baz=6.6,slow=38							
MSU	Marysvale	79.19	50	*e*P		P	18 31 04.8	+0.6
MSU	Marysvale	79.19	50	*e*P		P	18 31 04.8	+0.6
PFO	Pinyon Flats O	79.29	56	*e*P		P	18 31 05.7	+0.9
	comp=Z,14nm,1.5s							
PFO	Pinyon Flats O	79.29	56	*e*P		P	18 31 05.7	+0.9
PFO				pmax	pmax			
	comp=Z,14nm,1.5s							
XPFO	Pïæon Flat	79.30	56	*e*P		P	18 31 05.7	+0.9
	comp=Z,16nm,1.6s							
ILGA	Ilgaz	79.30	313	*e*P		P	18 31 05.7	+0.9
	comp=Z,45nm,1.6s							
TMUT	Trail Mountain	79.31	49	*e*P		P	18 31 05.7	+0.6
	comp=Z,30nm,2.0s							
LCMT	Little Creek M	79.41	52	*e*P		P	18 31 06.1	+0.7
TLCR		79.46	319	⇓*i*P		P	18 31 06.3	+1.0
TLCR		79.46	319	⇓P		P	18 31 06.3	+1.0
MTPU	Mount Pierson	79.47	51	*e*P		P	18 31 08.1	+2.2
	comp=Z,19nm,1.7s							
P17A	Butcher Ranch,	79.49	49	*e*P		P	18 31 06.9	+1.1
	comp=Z,16nm,1.3s							
KWP	Kalwaria Pacla	79.55	325	*e*P		P	18 31 06.5	+0.8
	comp=Z,259nm,1.1s							
KWP	Kalwaria Pacla	79.55	325	*e*P		P	18 31 06.5	+0.8
KWP				pmax	pmax			
	comp=Z,259nm,1.1s							
Q16A	Castle Valley	79.57	49	*e*P		P	18 31 08.1	+1.8
	comp=Z,9.9nm,1.3s							
KNB	Kanab	79.68	52	*e*P		P	18 31 08.9	+2.0
	comp=Z,14nm,1.3s							
KNB	Kanab	79.68	52	*e*P		P	18 31 08.9	+2.0
KNB				pmax	pmax			
	comp=Z,14nm,1.3s							
P18A	Preston Nutter	79.70	48	*e*P		P	18 31 09.1	+2.0
	comp=Z,13nm,1.3s							
BUR08	Bucovina Ar. S	79.71	322	*e*P		P	18 31 07.3	+0.6
BUR04	Bucovina Ar. S	79.72	322	*e*P		P	18 31 07.1	+0.3
BURAR	Bucovina Array	79.72	322	⇑*i*P		P	18 31 06.3	-0.5
BURAR	Bucovina Array	79.72	322	⇑P		P	18 31 06.3	-0.5
TESR	Tescani	79.73	321	⇑*i*P		P	18 31 07.1	+0.3
CFR	Carcaliu	79.83	319	⇑*i*P		P	18 31 07.2	-0.1
CFR	Carcaliu	79.83	319	⇑P		P	18 31 07.2	-0.1
SRU	San Rafael Swe	79.85	49	*e*P		P	18 31 09.5	+1.7
	comp=Z,7.1nm,0.9s							
SRU	San Rafael Swe	79.85	49	*e*P		P	18 31 09.5	+1.7
SRU				pmax	pmax			
	comp=Z,7.0nm,0.9s							
VRI	Vrincioaia	80.12	320	⇑*i*P		P	18 31 09.1	+0.2
VRI	Vrincioaia	80.12	320	⇑P		P	18 31 09.1	+0.2
PLOR	Plostina	80.17	320	⇑*i*P		P	18 31 08.1	-1.1
PLOR	Plostina	80.17	320	⇑P		P	18 31 08.1	-1.1
BR101	Keskin Array S	80.17	312	*e*P		P	18 31 10.4	+1.0
BR131	Keskin Array S	80.17	312	*e*P		P	18 31 09.3	-0.1
BRTR	Keskin Array B	80.17	312	P		P	18 31 10.4	+1.0
	comp=Z,4.6nm,1.0s,baz=104,slow=3.2,SNR=20							
BRTR				LR		LR	19 10 15.8	
	comp=Z,119nm,19.1s,baz=14,slow=38							
TLB	Topalu	80.27	319	⇓*i*P		P	18 31 09.8	+0.1
TLB	Topalu	80.27	319	⇓P		P	18 31 09.8	+0.1
U15A	North Rim	80.37	52	*e*P		P	18 31 11.0	+0.2
	comp=Z,10nm,1.4s							
RSSD	Black Hills	80.43	42	*e*P		P	18 31 12.3	+1.4
	comp=Z,22nm,1.8s							
RSSD	Black Hills	80.43	42	*e*P		P	18 31 12.3	+1.4
RSSD				pmax	pmax			
	comp=Z,22nm,1.8s							
UZH	Uzhgorod	80.44	324	*e*P		P	18 31 00.7	-10
UZH				*e*			18 31 04.1	
OJC	Ojcow	80.47	327	*e*P		P	18 31 10.7	0.0
	comp=Z,35nm,1.6s							
OJC	Ojcow	80.47	327	*e*P		P	18 31 10.7	0.0
OJC				pmax	pmax			
	comp=Z,35nm,1.6s							
ANTO	Ankara	80.59	313	*e*P		P	18 31 10.9	-0.7
	comp=Z,56nm,1.8s							
ANTO	Ankara	80.59	313	*e*P		P	18 31 10.9	-0.7
ANTO				pmax	pmax			
	comp=Z,56nm,1.8s							
O20A	White River Ci	80.59	47	*e*P		P	18 31 11.9	+0.1
	comp=Z,34nm,1.8s							
BR231	Keskin MP Arra	80.62	313	*e*P		P	18 31 10.4	-1.4
CRVS	Cervenica-Dubn	80.64	325	*e*P		P	18 31 15.6	+3.9
CRVS	Cervenica-Dubn	80.64	325	*e*P		P	18 31 15.6	+3.9
GLA	Glamis	80.73	56	*e*P		P	18 31 12.1	-0.3
	comp=Z,8.4nm,0.9s							
GLA	Glamis	80.73	56	*e*P		P	18 31 12.1	-0.3
GLA				pmax	pmax			
	comp=Z,8.0nm,0.9s							
DOPR	Dopca	80.74	321	⇓*i*P		P	18 31 13.8	+1.5
MLR	Muntele Rosu	80.78	320	LR		LR	19 09 03.3	
	comp=Z,182nm,19.4s,baz=32,slow=37							
BKZ	Black Stump Fm	80.97	154	*e*P		P	18 31 13.3	-0.1
	comp=Z,50nm,1.6s							
PV09	Paradox Valley	81.08	49	*e*P		P	18 31 14.6	+0.1
PV10	Paradox Valley	81.21	49	*e*P		P	18 31 17.1	+1.9
VOIR		81.28	321	⇑*i*P		P	18 31 20.3	+5.1
VOIR		81.28	321	⇑P		P	18 31 20.3	+5.1
PV05	Paradox Valley	81.36	49	*e*P		P	18 31 16.9	+0.9
Y14A	Wickenburg	81.41	54	*e*P		P	18 31 17.6	+1.5
	comp=Z,16nm,0.8s							
N23A	Red Feather La	81.46	45	*e*P		P	18 31 17.1	+0.6
	comp=Z,11nm,1.0s							
WUAZ	Wupatki	81.52	52	*e*P		P	18 31 18.4	+1.7
	comp=Z,6.3nm,1.0s							
DRGR		81.53	323	⇓*i*P		P	18 31 09.3	-7.2
DRGR		81.53	323	⇓P		P	18 31 09.3	-7.2
PV01	Paradox Valley	81.65	49	*e*P		P	18 31 18.6	+1.1
AGMN	Agassiz Nation	81.70	35	*e*P		P	18 31 18.9	+1.6
	comp=Z,40nm,2.0s							
RAYN	Ar Rayn	81.70	293	*e*P		P	18 31 17.3	-0.5
	comp=Z,15nm,1.4s							
MORC	Moravsky Berou	81.79	327	⇓*i*P		P	18 31 11.2	-6.6
MORC	Moravsky Berou	81.79	327	⇓P		P	18 31 11.2	-6.6
SMCO	Snowmass	81.96	47	*e*P		P	18 31 19.8	+0.5
	comp=Z,19nm,1.8s							
PSZ	Piszkesteto	82.08	325	*e*P		P	18 31 19.4	+0.1
	comp=Z,12nm,1.1s							
PSZ	Piszkesteto	82.08	325	*e*P		P	18 31 19.5	+0.1
PSZ				pmax	pmax			
	comp=Z,12nm,1.1s							
VYHS	Vyhne	82.15	326	*e*P		P	18 31 21.3	+1.6
VYHS	Vyhne	82.15	326	*e*P		P	18 31 21.3	+1.6
SIRR	Siria	82.41	323	⇑*i*P		P	18 31 20.7	-0.3
CLL	Collm	82.54	331	*e*P		P	18 31 22.0	+0.4
CLL				*i*			18 31 33.9	
CLL				*e*S		S	18 41 36.0	-0.7
CLL	Collm	82.54	331	*e*P		P	18 31 21.4	-0.2
	comp=Z,13nm,1.3s							
CLL	Collm	82.54	331	*e*P		P	18 31 21.4	-0.2
CLL				pmax	pmax			
	comp=Z,13nm,1.3s							
ASF	Jabal al Asfar	82.74	304	P		P	18 31 24.0	+0.9
	comp=Z,1.8nm,0.9s,baz=52,slow=17,SNR=2.5							
S22A	4UR Ranch, Cre	82.96	48	*e*P		P	18 31 23.7	-0.8
	comp=Z,31nm,1.9s							
X18A	Snowflake	83.05	52	*e*P		P	18 31 25.5	+0.7
	comp=Z,5.3nm,1.0s							
MMAI	Mount Meron Ar	83.21	306	P		P	18 31 27.5	+1.9
	comp=Z,7.3nm,1.0s,baz=40,slow=9.6,SNR=5.1							
MMAI				LR		LR	19 10 56.6	
	comp=Z,360nm,19.9s,baz=350,slow=38							
PPT2	Papeete2	83.53	117	*e*LR		LR	18 57 41.6	
	comp=Z,998nm,28.0s							
KHC	Kasperske Hory	83.98	329	*e*P		P	18 31 30.0	+0.9
KHC				*ex*		x	18 31 40.0	
KHC	Kasperske Hory	83.98	329	*e*P		P	18 31 30.0	+0.9
KHC				*e*			18 31 40.0	
GEC2	GERESS Array S	84.15	329	*e*P		P	18 31 29.9	-0.2
	comp=Z,11nm,1.4s							
GEC2	GERESS Array S	84.15	329	*e*P		P	18 31 29.9	-0.2
GEC2				pmax	pmax			
	comp=Z,11nm,1.4s							
GERES	GERESS Array B	84.15	329	P		P	18 31 30.5	+0.5
	comp=Z,0.7nm,0.6s,baz=51,slow=7.0,SNR=5.9							
GERES				LR		LR	19 10 58.2	
	comp=Z,856nm,19.4s,baz=18,slow=37							
GEA0	GERESS Array S	84.16	329	*e*P		P	18 31 29.7	-0.4
VTS	Vitosha	84.20	319	⇑*i*P		P	18 31 31.7	+1.2
VTS	Vitosha	84.20	319	*e*P		P	18 31 31.0	+0.5
	comp=Z,14nm,1.0s							
VTS	Vitosha	84.20	319	*e*P		P	18 31 31.0	+0.5
VTS				pmax	pmax			
	comp=Z,14nm,1.0s							
EKA	Eskdalemuir Ar	84.58	341	LR		LR	19 12 53.2	
	comp=Z,640nm,18.9s,baz=5.0,slow=38							
ANMO	Albuquerque	85.00	50	*e*P		P	18 31 35.9	+1.2
	comp=Z,11nm,1.3s							
ANMO	Albuquerque	85.00	50	*e*P		P	18 31 35.9	+1.2
ANMO				pmax	pmax			
	comp=Z,11nm,1.3s							
TAOE	Nuku Hiva Isla	85.28	104	*e*S		S	18 42 02.7	-2.8
	comp=Z,162nm,25.8s							
TAOE	Nuku Hiva Isla	85.28	104	*e*LR		LR	18 58 02.4	
	comp=Z,883nm,31.3s							
SCHQ	Schefferville	86.45	16	LR		LR	19 11 34.8	
	comp=Z,394nm,21.6s,baz=334,slow=36							
BFO	Black Forest	86.75	331	*ce*P		P	18 31 44.6	+1.6
TBI	Tubuai	87.34	121	*e*LR		LR	18 59 22.1	
	comp=Z,656nm,27.5s,baz=308							
IDI	Anoyia	88.32	313	LR		LR	19 16 38.7	
	comp=Z,279nm,19.0s,baz=7.5,slow=39							
TX31	Lajitas Ar. Si	90.47	53	*e*P		P	18 32 01.8	+0.8
LTX	Lajitas	90.47	53	*e*P		P	18 32 02.6	+1.6
LTX	Lajitas	90.47	53	*e*P		P	18 32 02.6	+1.6
TXAR	Lajitas Array	90.47	53	P		P	18 32 02.6	+1.6
	comp=Z,2.4nm,0.8s,baz=288,slow=3.3,SNR=16							
ATD	Arta Tunnel	90.77	285	LR		LR	19 14 57.8	
	comp=Z,144nm,21.8s,baz=23,slow=37							
VAE	Valguarnera	92.53	321	LR		LR	19 17 50.3	
	comp=Z,450nm,19.5s,baz=1.0,slow=38							
KEST	Kesra	96.44	323	LR		LR	19 21 03.8	
	comp=Z,560nm,18.0s,baz=344,slow=39							
RKT	Rikitea	97.71	113	*e*LR		LR	19 03 50.5	
	comp=Z,564nm,26.2s							
CVRD	Centerville Ro	97.81	31	*e*P		Pdif	18 32 36.5	+2.1
	comp=Z,21nm,0.9s							
IP05	Hopewell Churc	98.03	31	*e*P		Pdif	18 32 40.1	+4.8
NCAT	North Carolina	98.63	33	*e*P		P	18 32 38.1	0.0
	comp=Z,20nm,0.7s							
ESDC	Sonseca Array	98.74	334	LR		LR	19 22 13.4	
	comp=Z,514nm,18.2s,baz=5.0,slow=38							
TOA1	Torodi Ar. Sit	118.68	315	*e*PKPdf		PKPdf	18 37 47.5	-0.1
TORD	Torodi Ar. Bea	118.68	315	PKP		PKPdf	18 37 47.5	-0.1
	comp=Z,0.4nm,0.6s,baz=42,slow=1.0,SNR=2.6							
SDV	Santo Domingo	125.95	41	PKP		PKPdf	18 38 02.5	+0.7
	comp=Z,2.1nm,0.6s,baz=90,slow=5.1,SNR=3.1							
LPAZ	La Paz	146.83	62	PKPbc		PKPab	18 38 43.5	-0.2
	comp=Z,7.2nm,0.9s,baz=313,slow=2.6,SNR=12							
LPAZ	La Paz	146.83	62	*e*PKPdf		PKPbc	18 38 41.9	-0.4
LPAZ	La Paz	146.83	62	*e*PKP2		PKPbc	18 38 41.9	-0.4
PB11	IPOC Station P	147.87	69	*e*PKPbc		PKPbc	18 38 45.4	+0.8
LCO	Las Campanas	151.56	86	*e*PKPbc		PKPbc	18 38 54.5	+0.9

JMA 09 18:19:43.5, 36.70N×140.64E, h5km±1km, M3.2, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	Hitachi	0.11	213	⇑P		Pg	18 19 45.8	+0.1
JHO				S		Sg	18 19 47.5	+0.3
ONAJ	Iwakimizuishiy	0.42	18	P		Pg	18 19 51.9	+0.2
ONAJ				S		Sg	18 19 57.4	+0.2
JFK	Kawauchi	0.69	16	S		Sg	18 20 05.8	0.0
JAG	Ashikaga	0.99	254	P		Pg	18 20 02.1	-0.5
JAG				S		Sg	18 20 15.8	+0.3

*CSEM **09** 18:30:39.3±0.2, 38.70N×43.54E, h15km, ML2.5, Error ellipse: s-maj=6.6km s-min=3.8km az=118.0*
*DDA **09** 18:30:39.4, 38.70N×43.54E, h7km, Md2.4*
*ISK **09** 18:30:39.3, 38.72N×43.49E, h4km, ML2.5/4*
*ISCJB **09** 18:30:40.0±0.8, 38.68N±0.06×43.55E±0.09, h17km±10km, Error ellipse: s-maj=13.9km s-min=6.4km az=34.0*

ISC 09 18:30:39.9±1.1, 38.69N±0.03×43.55E±0.05, h18km±3km, n18, σ0963/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VANB	Van	0.16	232	PG		Pg	18 30 44.5	+0.1
VANB	Van	0.16	232	*e*Pg		Pg	18 30 44.5	+0.1
TVAN	Van	0.20	214	*i* P		Pb	18 30 44.2	-0.6
TVAN				*i* S		Sg	18 30 48.7	+0.2
TVAN	Van	0.20	214	P		Pb	18 30 44.2	-0.6
TVAN				S		Sg	18 30 48.7	+0.2
CLDR	Caldiran	0.54	32	PG		Pb	18 30 50.3	-0.6
CLDR				SG		Sb	18 30 58.7	+0.3
CLDR	Caldiran	0.54	32	*i* P		Pb	18 30 50.1	-0.8
CLDR	Caldiran	0.54	32	P		Pb	18 30 50.1	-0.8
CLDR	Caldiran	0.54	32	*e*Pg		Pb	18 30 50.3	-0.6
CLDR				*e*Sg		Sb	18 30 58.7	+0.3
GEVA	Gevas	0.54	226	*i* P		Pb	18 30 49.9	-1.0
GEVA	Gevas	0.54	226	P		Pb	18 30 49.9	-1.0
TUTA	Tutak	0.91	321	*i* P		Pb	18 30 56.6	-0.8
TUTA	Tutak	0.91	321	P		Pb	18 30 56.6	-0.8
AGRB	Hanur-Agry	0.98	334	PG		Pb	18 30 58.2	-0.4
AGRB	Hanur-Agry	0.98	334	*e*Pg		Pb	18 30 58.2	-0.4
HAKT	HAKKARI	1.14	174	*i* P		Pb	18 31 00.8	-0.4
HAKT	HAKKARI	1.14	174	P		Pb	18 31 00.8	-0.4
GURO	Guroymak-BITLI	1.20	264	PN		Pn	18 31 01.8	-0.1
GURO				SN		Sn	18 31 18.5	+0.8
GURO	Guroymak-BITLI	1.20	264	*e*Pn		Pn	18 31 01.8	-0.1
GURO				*e*Sn		Sn	18 31 18.5	+0.8

NEIC 09 18:37:01.9±0.6, 19.62N×70.67W, h10km, ML3.8, Error ellipse: s-maj=10.2km s-min=6.1km az=182.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SDDR	Presa de Saban	0.87	223	*e*Pg		Pg	18 37 17.0	-1.6
SDDR				*e*Sg		Sg	18 37 28.9	-1.1
BANI	BANI	1.26	167	*e*Pn		Pn	18 37 24.8	-0.9
BANI				*e*Sn		Sb	18 37 42.0	-0.1
SDD	Santo Domingo	1.36	148	*e*Pn		Pn	18 37 24.6	-2.4
SDD				*e*Sn		Sb	18 37 41.6	-3.3
GRTK	Grand Turk	1.93	347	*e*Pn		Pn	18 37 35.2	+0.5
GRTK				*e*Sn		Sn	18 37 59.9	+0.8
LGNH	LØogne	2.14	239	*e*Pn		Pn	18 37 38.5	+0.8
LGNH				*e*Sn		Sb	18 38 08.4	+0.9
AGP	Aguadilla	3.55	109	*e*Pn		Pn	18 37 57.4	+0.3
MPR	Mayaguez	3.62	112	*e*Pn		Pn	18 37 57.8	-0.3
MPR				*e*Sn		Sn	18 38 42.9	+2.1
GTBY	Guantanamo Bay	4.20	275	*e*Pn		Pn	18 38 05.6	-0.4
GTBY				*e*Sn		Sn	18 38 53.7	-1.4
SJG	San Juan	4.53	109	*e*Pn		Pn	18 38 10.8	+0.2
SJG				*e*Sn		Sn	18 39 00.5	-2.8
CBYP	Canovanas	4.75	106	*e*Pn		Pn	18 38 13.3	-0.3
CBYP				*e*Sn		Sn	18 39 04.5	-4.2
HUMP	Col San Antoni	4.79	107	*e*Pn		Pn	18 38 14.1	-0.1
HUMP				*e*Sn		Sn	18 39 06.3	-3.5
MTP	Monte Pirata	5.08	107	*e*Pn		Pn	18 38 18.4	+0.3
MTP				*e*Sn		Sn	18 39 13.8	-3.0
CDVI	St. Croix	5.89	107	*e*Pn		Pn	18 38 29.3	0.0
MTDJ	Mount Denham	6.65	259	*e*Pn		Pn	18 38 40.5	+0.7
CBCY	The Bluff, Cay	8.57	272	*e*Pn		Pn	18 39 04.8	-1.2
SDV	Santo Domingo	10.68	180	*e*Pn		Pn	18 39 37.3	+2.1
BCIP	Isla Barro Col	13.67	222	*e*Pn		Pn	18 40 15.9	0.0
RUSC	La Rusia	13.85	190	*e*Pn		Pn	18 40 20.5	+1.7

*ISCJB **09** 18:38:26.7±0.7, 36.72N±0.03×140.73E±0.05, h13km±3km, mb3.5/11, Error ellipse: s-maj=7.8km s-min=4.0km az=35.1*
*IDC **09** 18:38:26.3±0.8, 36.70N×140.67E, h0km, mb3.6/11, mb1 3.8/12, mb1mx3.6/66, mbtmp3.6/12, ML3.4/1, Error ellipse: s-maj=19.6km s-min=16.0km az=134.0*
*JMA **09** 18:38:27.8, 36.76N×140.62E, h5km±1km, M3.5*
JMA Felt II J1.

ISC 09 18:38:27.7±1.0, 36.74N±0.03×140.65E±0.04, h8km±7km, n27, σ0964/31, mb3.5/11, 4C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	Hitachi	0.14	206	⇑P		Pg	18 38 31.0	+0.2
JHO				S		Sg	18 38 33.2	+0.3
ONAJ	Iwakimizuishiy	0.38	18	⇑P		Pg	18 38 35.1	-0.1
ONAJ				S		Sg	18 38 40.5	+0.2
JSB	Shiboa	0.63	292	⇑P		Pg	18 38 40.0	+0.2
JSB				S		Sg	18 38 48.4	+0.4
JYT	Yasato	0.63	216	P		Pg	18 38 39.8	0.0
JYT				*e*S		Sg	18 38 48.2	+0.2
JFK	Kawauchi	0.65	16	⇑P		Pg	18 38 39.9	-0.4
JFK				S		Sg	18 38 48.5	-0.3
JFT	Otama	0.82	342	P		Pg	18 38 43.4	0.0
JFT				S		Sg	18 38 53.6	-0.5
JAG	Ashikaga	1.01	252	P		Pg	18 38 46.2	-1.0
JAG				*e*S		Sg	18 38 59.7	-0.6
MJAR	Matsushiro Arr	1.97	265	Pn		Pn	18 39 01.7	+0.3
	24nm,0.3s,baz=84,slow=15,SNR=26							
MJAR				Sn		Sn	18 39 27.7	+1.4
	47nm,0.3s,baz=58,slow=19,SNR=19							
MAT	Matsushiro	1.97	265	P		Pn	18 39 01.7	+0.2
MAT				S		Sb	18 39 28.5	-0.2
ASAJ	Asahikawa	7.52	11	Pn		Pn	18 40 17.6	0.0
	0.6nm,0.3s,baz=205,slow=13,SNR=6.3							
ASAJ				Sn		Sn	18 41 44.8	+1.8
	0.2nm,0.3s,baz=270,slow=20,SNR=2.7							
MA2	Magadan	23.77	13	P		P	18 43 40.5	+0.1
	2.3nm,0.6s,baz=199,slow=8.4,SNR=11							
SEY	Seymchan	27.20	12	P		P	18 44 11.6	0.0
	0.5nm,0.3s,baz=157,slow=13,SNR=3.4							
SONM	Songino Array	27.44	305	P		P	18 44 13.3	-0.8
	0.4nm,0.5s,baz=130,slow=16,SNR=4.3							
H11N2	WAKE ISLAND Hy	28.53	119	T		T	19 14 07.8	
	baz=312,slow=75,SNR=54							
H11N1	WAKE ISLAND Hy	28.54	119	T		T	19 14 09.5	
	baz=312,slow=75,SNR=51							
H11N3	WAKE ISLAND Hy	28.55	119	T		T	19 14 10.6	
	baz=312,slow=75,SNR=45							
H11S1	WAKE ISLAND Hy	29.22	121	T		T	19 14 58.0	
	baz=314,slow=75,SNR=72							
H11S3	WAKE ISLAND Hy	29.22	121	T		T	19 14 59.4	
	baz=314,slow=75,SNR=77							
H11S2	WAKE ISLAND Hy	29.24	121	T		T	19 15 01.4	
	baz=314,slow=75,SNR=65							
ZALV	Zalesovo Beam	41.66	313	P		P	18 46 15.9	-0.5
	0.6nm,0.4s,baz=106,slow=8.2,SNR=4.1							
MKAR	Makanchi Array	43.76	302	P		P	18 46 34.5	+0.9
	0.5nm,0.7s,baz=91,slow=9.2,SNR=6.2							
KURBB	Kurchatov Arra	45.70	308	P		P	18 46 48.5	-0.5
	0.9nm,0.7s,baz=84,slow=7.7,SNR=15							
ILAR	Eielson Array	50.07	32	P		P	18 47 22.8	+0.1
	0.5nm,1.0s,baz=268,slow=5.9,SNR=3.6							
WRA	Warramunga Arr	56.69	187	P		P	18 48 11.3	-0.4
	0.5nm,0.7s,baz=3.4,slow=7.4,SNR=5.1							
ASAR	Alice Springs	60.42	187	P		P	18 48 36.8	-1.0
	0.4nm,0.9s,baz=16,slow=7.1,SNR=4.2							
NVAR	Mina Array Bea	75.66	53	P		P	18 50 13.5	-0.3
	0.3nm,0.6s,baz=275,slow=5.3,SNR=2.5							
PDAR	Pinedale Array	78.31	45	P		P	18 50 29.3	+0.7
	0.3nm,0.7s,baz=327,slow=1.5,SNR=2.9							

*IDC **09** 18:43:31.3±2.5, 24.04S×179.74W, h488km±22km, mb3.3/8, mb1 3.4/10, mb1mx3.2/44, mbtmp4.2/10, Error ellipse: s-maj=27.7km s-min=22.9km az=123.0*
*ISCJB **09** 18:43:32.4±1.3, 24.00S±0.09×179.78W±0.2, h512km, mb3.7/8, Error ellipse: s-maj=25.3km s-min=12.2km az=174.5*

ISC 09 18:43:33.5±1.1, 24.1S±0.1×179.8W±0.2, h512km, n16, σ1912/18, mb3.6/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	Mont Dzumac	12.82	276	P		P	18 46 20.3	-0.5
	0.2nm,0.3s,baz=112,slow=18,SNR=4.7							
URZ	Urewera	14.32	190	P		P	18 46 36.7	+0.5
	2.8nm,0.3s,baz=269,slow=3.5,SNR=10.0							
URZ				S		S	18 49 05.9	-1.0
	0.9nm,0.3s,baz=198,slow=22,SNR=8.7							
CTA	Charters Tower	31.65	271	P		P	18 49 14.2	-0.3
	3.1nm,0.3s,baz=98,slow=11,SNR=5.3							
STKA	Stephens Creek	34.80	248	P		P	18 49 41.7	+0.7
	0.4nm,0.3s,baz=94,slow=12,SNR=4.3							
ASAR	Alice Springs	42.17	261	P		P	18 50 40.6	-0.5
	0.3nm,0.3s,baz=97,slow=7.3,SNR=17							
ASAR				ScP		ScP	18 55 27.2	+1.9
	0.5nm,0.8s,baz=120,slow=4.5,SNR=5.8							
WRA	Warramunga Arr	42.56	266	P		P	18 50 43.1	-1.0
	1.8nm,0.6s,baz=96,slow=8.3,SNR=45							
WRA				ScP		ScP	18 55 29.0	+2.0
	0.6nm,0.9s,baz=100,slow=4.0,SNR=5.0							
FITZ	Fitzroy Crossi	50.98	266	P		P	18 51 47.8	0.0
	2.1nm,0.8s,baz=90,slow=6.1,SNR=4.1							
PETK	Petropavlovsk-	79.37	346	P		P	18 54 45.0	-0.7
	1.7nm,0.6s,baz=115,slow=6.3,SNR=6.5							
MA2	Magadan	86.85

TWGZ	Tauwhareparae	4.54	185	S	S	19 01 48.4	+0.1		
MARZ	Manawahe	4.58	199	P	P	19 00 41.2	+3.0		
URZ	Urewera	4.74	194	P	P	19 00 39.4	-0.1		
	24nm,0.3s,baz=269,slow=2.0,SNR=73								
URZ				S	S	19 01 48.8	-2.3		
	2.8nm,0.3s,baz=226,slow=22,SNR=9.3								
URZ	Urewera	4.74	194	P	P	19 00 39.5	0.0		
URZ	Urewera	4.74	194	S	S	19 01 49.1	-2.0		
MWZ	Matawai	4.74	189	P	P	19 00 40.7	+1.2		
MWZ	Matawai	4.74	189	S	S	19 01 50.4	-0.9		
TKGZ	Te Karaka	4.81	186	P	P	19 00 42.3	+2.2		
CNGZ	Carnagh Statio	4.83	183	P	P	19 00 42.5	+2.2		
TARZ	Mount Tarawera	4.86	199	P	P	19 00 43.7	+3.1		
RAGZ	Rawiri	4.92	190	P	P	19 00 43.8	+2.7		
RRRZ	Republican Roa	4.95	199	P	P	19 00 42.1	+0.8		
HSRZ	Hossack Road	5.00	201	P	P	19 00 45.3	+3.6		
MUGZ	Murupara	5.02	196	P	P	19 00 42.7	+0.9		
MUGZ	Murupara	5.02	196	S	S	19 01 52.7	-2.8		
HRRZ	Handcock Road	5.06	200	P	P	19 00 44.8	+2.5		
RIGZ	Rimuhau	5.08	187	P	P	19 00 43.9	+1.6		
RTZ	Ruatahuna	5.11	194	P	P	19 00 43.4	+0.7		
PRRZ	Plateau Road	5.13	199	P	P	19 00 41.5	-1.3		
SNGZ	Shannon Statio	5.21	190	P	P	19 00 45.2	+1.8		
SNGZ	Shannon Statio	5.21	190	S	S	19 01 57.4	-1.0		
TLZ	Tolley Road	5.26	207	P	P	19 00 47.4	+3.5		
PRGZ	Paritu Road	5.29	185	P	P	19 00 47.8	+3.7		
KUTZ	Kaahu Road	5.30	204	P	P	19 00 47.2	+2.9		
MTHZ	Maungataniwha	5.37	194	P	P	19 00 45.7	+0.9		
RAHZ	Arahi	5.38	192	P	P	19 00 46.8	+1.8		
RAHZ	Arahi	5.38	192	S	S	19 01 59.9	-1.2		
KNZ	Kokohu	5.40	187	P	P	19 00 47.0	+2.0		
MRHZ	Matea Rd	5.44	198	P	P	19 00 46.6	+1.1		
WHHZ	Waihua	5.51	190	P	P	19 00 48.8	+2.7		
WHHZ	Waihua	5.51	190	S	S	19 02 02.6	-0.6		
NMHZ	Naumai	5.61	194	P	P	19 00 48.5	+1.5		
RATZ	Rangitukua	5.66	202	P	P	19 00 49.6	+2.2		
ARHZ	Aropaoanui	5.73	192	P	P	19 00 49.9	+1.9		
BKZ	Black Stump Fm	5.74	196	P	P	19 00 48.1	-0.1		
BKZ	Black Stump Fm	5.74	196	S	S	19 02 04.3	-2.7		
KATZ	Kakaramea	5.78	202	P	P	19 00 51.1	+2.5		
MCHZ	McNeill Hill	5.96	194	P	P	19 00 51.0	+0.9		
ASAR	Alice Springs	40.13	272	P	P	19 06 00.7	-0.2		
	0.2nm,0.5s,baz=109,slow=7.5,SNR=8.7								
ASAR				PcP	PcP	19 07 51.5	-0.1		
	0.2nm,0.5s,baz=118,slow=4.0,SNR=5.4								
WRA	Warramunga Arr	41.43	278	P	P	19 06 10.4	-0.7		
	0.4nm,0.3s,baz=116,slow=6.9,SNR=15								
PETK	Petropavlovsk-	88.28	348	P	P	19 11 04.3	-0.3		
	1.6nm,0.6s,baz=110,slow=5.6,SNR=8.1								
KURBB	Kurchatov Arra	121.15	313	PKP	PKPdf	19 17 01.3	-0.7		
	0.2nm,0.5s,baz=94,slow=2.8,SNR=4.5								
ARCES	ARCESS Array B	141.05	345	PKhKP	PKPpre	19 17 32.2			
	3.4nm,0.9s,baz=48,slow=1.3,SNR=4.0								
FINES	FINESS Array B	147.04	336	PKPbc	PKPbc	19 17 51.9	-0.6		
	1.0nm,0.4s,baz=31,slow=5.5,SNR=13								
MMAI	Mount Meron Ar	149.28	279	PKPbc	PKPbc	19 18 00.6	+1.4		
	0.7nm,0.4s,baz=120,slow=5.7,SNR=3.5								
BRTR	Keskin Array B	151.32	292	PKPbc	PKPbc	19 18 03.6	-0.1		
	0.4nm,0.5s,baz=145,slow=5.3,SNR=3.7								
AKASG	Malin Array Be	151.85	317	PKPbc	PKPbc	19 18 02.7	-1.7		
	0.3nm,0.3s,baz=47,slow=2.0,SNR=2.9								

*THE **09** 19:02:09.8, 40.12N×19.77E, h0km±2km, ML2.9/5, Error ellipse: s-maj=3.0km s-min=1.1km az=275.0*
*ATH **09** 19:02:11.9, 40.11N×19.94E, h17km±1km, ML2.7/4, Error ellipse: s-maj=2.5km s-min=1.3km az=92.0*
*TIR **09** 19:02:11.2, 40.07N×19.89E, h22km, ML3.1*
*PDG **09** 19:02:12.9±0.5, 40.07N×19.98E, h3km±1km, ML3.1/9, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
*CSEM **09** 19:02:13.2±0.1, 40.06N×20.03E, h2km, ML2.9, Error ellipse: s-maj=3.8km s-min=2.1km az=67.0*
*BEO **09** 19:02:14.3±0.4, 39.98N×20.03E, h20km±3km, M2.9/1*

ISC 09 19:02:12.4±0.9, 40.06N±0.02×19.93E±0.02, h14km±6km, n144, σ1§56/221, 22C, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRN	Sarande	0.19	164	*i*	PG	Pg		19 02 16.2	-0.6
SRN				*i*	SG	Sg		19 02 20.5	+0.8
SRN	Sarande	0.19	164	*i*	Pg	Pg		19 02 16.2	-0.6
SRN				*i*	Sg	Sg		19 02 20.5	+0.8
SGD	Sagiada	0.51	153	P		Pg		19 02 21.3	-1.1
SGD	Sagiada	0.51	153	P		Pg		19 02 22.0	-0.4
SGD	Sagiada	0.51	153	P		Pg		19 02 21.6	-0.8
IGT	Igoumenitsa	0.61	150	*i*	PG	Pg		19 02 23.8	-0.7
IGT				*i*	SG	Sb		19 02 34.0	+0.6
IGT	Igoumenitsa	0.61	150	*e*	Pg	Pg		19 02 23.6	-0.8
IGT	Igoumenitsa	0.61	150	P		Pg		19 02 22.9	-1.5
IGT				S		Sn		19 02 35.4	-1.1
IGT				AML		AML		19 02 37.7	
	comp=N,1089μm,0.2s								
IGT				AML		AML		19 02 40.7	
	comp=E,1257μm,0.5s								
IGT	Igoumenitsa	0.61	150	P		Pg		19 02 23.7	-0.7
IGT				*i*	Sg	Sb		19 02 34.0	+0.6
IGT	Igoumenitsa	0.61	150	P		Pg		19 02 23.6	-0.8
IGT				S		Sb		19 02 34.1	+0.6
JAN	Janina	0.81	120	P		Pn		19 02 29.6	0.0
JAN				S		Sn		19 02 39.9	-1.6
JAN				AML		AML		19 02 43.8	
	comp=N,2142μm,0.4s								
JAN				AML		AML		19 02 44.9	
	comp=E,2645μm,0.3s								
JAN	Janina	0.81	120	P		Pb		19 02 27.9	-0.5
JAN				S		Sg		19 02 39.7	+0.8
JAN	Janina	0.81	120	P		Pb		19 02 27.9	-0.5
JAN				S		Sn		19 02 42.0	+0.5
KBN	Korca	0.86	49	*i*	PG	Pb		19 02 27.2	-2.1
KBN				*i*	SG	Sn		19 02 41.2	-1.5
KBN	Korca	0.86	49	*i*	Pg	Pb		19 02 27.2	-2.1
KBN				*i*	Sg	Sn		19 02 41.2	-1.5
NEST	Nestorio	0.92	67	P		Pb		19 02 28.3	-2.1
NEST				S		Sb		19 02 41.8	-0.8
NEST				AML		AML		19 02 47.1	
	comp=N,630μm,0.5s								
NEST				AML		AML		19 02 47.6	
	comp=E,770μm,0.4s								
NEST	Nestorio	0.92	67	P		Pb		19 02 28.7	-1.6
NEST				S		Sb		19 02 41.7	-0.8
NEST	Nestorio	0.92	67	P		Pb		19 02 28.7	-1.6
NEST				S		Sn		19 02 44.0	-0.3
KPRO	Kipourio	1.10	95	P		Pb		19 02 31.7	-1.6
KPRO				S		Sb		19 02 47.2	-0.5
KPRO				AML		AML		19 02 54.5	
	comp=E,998μm,0.5s								
KPRO				AML		AML		19 02 55.2	
	comp=N,828μm,0.4s								
KPRO	Kipourio	1.10	95	P		Pb		19 02 32.3	-1.1
KPRO				S		Sg		19 02 47.6	-0.5
KPRO	Kipourio	1.10	95	P		Pb		19 02 32.0	-1.4
SCTE	Santa Cesarea	1.12	271	*i*	PG	Pn		19 02 34.0	+0.2
SCTE				*i*	SG	Sb		19 02 49.1	+0.9
SCTE	Santa Cesarea	1.12	271	*i*	Pg	Pn		19 02 34.0	+0.2
SCTE				*i*	Sg	Sb		19 02 49.1	+0.9
OHR	Ohrid	1.24	32	*i*	Pg	Pn		19 02 34.6	-0.8
OHR				*e*	Sg	Sg		19 02 54.7	+2.3
TIR	Tirane	1.28	358	*i*	PG	Pb		19 02 36.5	+0.1
TIR				*i*	SG	Sg		19 02 55.9	+2.0
TIR	Tirane	1.28	358	*e*	Pg	Pg		19 02 37.9	+0.7
TIR				*e*	Sg	Sg		19 02 59.2	+5.3
TIR	Tirane	1.28	358	P		Pn		19 02 36.1	+0.1
TIR	Tirane	1.28	358	P		Pn		19 02 35.7	-0.3
TIR	Tirane	1.28	358	*e*	Pg	Pg		19 02 37.9	+0.7
TIR				*i*	Sg	Sg		19 02 55.9	+2.0
DSL	Palaion Diasel	1.29	136	P		Pg		19 02 38.7	+1.4
DSL				S		Sg		19 02 53.6	-0.5
DSL	Palaion Diasel	1.29	136	P		Pb		19 02 36.5	-0.1
DSL				S		Sg		19 02 54.3	+0.2
DSL	Palaion Diasel	1.29	136	P		Pb		19 02 36.5	-0.1
DSL				S		Sg		19 02 56.4	+2.3
FNA	Florina	1.32	56	*i*	PN	Pn		19 02 36.1	-0.4
FNA				*i*	SN	Sg		19 02 56.6	+1.7
FNA	Florina	1.32	56	*e*	Pg	Pn		19 02 36.2	-0.4
FNA				*e*	Sg	Sg		19 02 56.8	+1.9
FNA	Florina	1.32	56	P		Pn		19 02 36.3	-0.2
FNA				S		Sb		19 02 52.3	-1.5
FNA	Florina	1.32	56	P		Pn		19 02 36.3	-0.2
FNA				S		Sn		19 02 53.1	-0.8
FNA				*i*	Sn	Sg		19 02 56.6	+1.7
FNA	Florina	1.32	56	P		Pn		19 02 36.0	-0.5
FNA				S		Sg		19 02 55.9	+1.0
BIA	Bitola	1.43	48	*i*	Pn	Pn		19 02 38.1	+0.1
KZN	Kozani	1.43	80	P		Pg		19 02 39.8	-0.1
KZN	Kozani	1.43	80	P		Pb		19 02 38.6	-0.3
KZN	Kozani	1.43	80	P		Pb		19 02 38.6	-0.3
KRUS	Krusevo	1.64	37	*i*	Pn	Pb		19 02 41.8	-0.8
PHP	Peshkopia	1.67	13	*i*	PN	Pb		19 02 43.2	+0.2
PHP				*i*	SN	Sg		19 03 05.2	-0.9
PHP	Peshkopia	1.67	13	*i*	Pn	Pb		19 02 43.2	+0.2
PHP				*i*	Sn	Sg		19 03 05.2	-0.9
THL	Klokotos Trika	1.68	107	P		Pg		19 02 43.9	-0.8
THL	Klokotos Trika	1.68	107	P		Pb		19 02 43.4	+0.3
EVR	Evrytania	1.85	128	P		Pb		19 02 46.3	+0.2
EVR	Evrytania	1.85	128	P		Pb		19 02 45.9	-0.2
PVO	Paravola	1.90	139	P		Pb		19 02 46.7	-0.2
PVO	Paravola	1.90	139	P		Pb		19 02 46.5	-0.4
VLS	Valsamata	1.95	165	P		Pb		19 02 46.8	-1.0
VLS	Valsamata	1.95	165	P		Pb		19 02 47.0	-0.8
LIT	Litokhoron	1.96	88	P		Pb		19 02 47.3	-0.7
LIT	Litokhoron	1.96	88	P		Pb		19 02 46.9	-1.1
ULC	Ulcinj	1.97	345	⇑*i*	Pn	Pb		19 02 47.4	-0.7
ULC				*e*	Sn	Sg		19 03 16.0	+0.2
ULC	Ulcinj	1.97	345	⇑*i*	Pn	Pb		19 02 47.4	-0.7
ULC				*e*	Sn	Sg		19 03 16.0	+0.2
PUK	Puka	1.98	359	*i*	PN	Pn		19 02 46.4	+0.8
PUK				*i*	SN	Sb		19 03 12.6	-0.3
PUK	Puka	1.98	359	*i*	Pn	Pn		19 02 46.4	+0.8
PUK				*i*	Sn	Sb		19 03 12.6	-0.3
KFL	Anninata	2.06	161	P		Pn		19 02 47.5	+0.8
KFL	Anninata	2.06	161	P		Pn		19 02 48.1	+1.4
GRG	Griva	2.08	64	P		Pb		19 02 48.3	-1.8
GRG	Griva	2.08	64	P		Pb		19 02 48.2	-1.8
AGG	Agios Georgios	2.12	119	P		Pb		19 02 49.4	-1.4
AGG	Agios Georgios	2.12	119	P		Pb		19 02 49.4	-1.4
ANX	Ano Chora	2.13	133	P		Pb		19 02 50.7	-0.2
ANX	Ano Chora	2.13	133	P		Pb		19 02 50.0	-0.9
DRME	Dracevica, Mon	2.20	345	⇑*i*	Pn	Pb		19 02 51.1	-0.9
DRME				*e*	Sn	Sg		19 03 22.0	-1.0
DRME	Dracevica, Mon	2.20	345	⇑*i*	Pn	Pb		19 02 51.1	-0.9
DRME				*e*	Sn	Sg		19 03 22.0	-1.0
SKO	Skopje	2.22	30	*e*	Pn	Pn		19 02 49.8	+0.9
SKO				*e*	Sn	Sb		19 03 18.8	-1.0
SKO	Skopje	2.22	30	*e*	Pn	Pn		19 02 49.8	+0.9
SKO				*e*	Sn	Sb		19 03 18.8	-1.0
EFP	Efpalio	2.24	136	P		Pn		19 02 50.3	+1.1
EFP	Efpalio	2.24	136	P		Pn		19 02 50.7	+1.6
SERG	Sergoula	2.33	134	P		Pb		19 02 53.2	-1.0
SERG	Sergoula	2.33	134	P		Pb		19 02 52.8	-1.5
RLS	Riolos of Patr	2.33	149	P		Pn		19 02 51.2	+0.8
RLS	Riolos of Patr	2.33	149	P		Pn		19 02 51.8	+1.4
BUM	Brajici-Budva	2.37	341	⇑*i*	Pn	Pb		19 02 53.5	-1.5
BUM				*e*	Sn	Sb		19 03 25.8	+1.7
BUM	Brajici-Budva	2.37	341	⇑*i*	Pn	Pb		19 02 53.5	-1.5
BUM				*e*	Sn	Sb		19 03 25.8	+1.7
TRIZ	Trizonia	2.37	135	P		Pn		19 02 52.6	+1.6
TRIZ	Trizonia	2.37	135	P		Pn		19 02 52.8	+1.8
KALE	Kalithea	2.39	134	P		Pb		19 02 53.9	-1.4
KALE	Kalithea	2.39	134	P		Pb		19 02 53.6	-1.8
PDG	Podgorica	2.42	348	*e*	Pn	Pb		19 02 55.2	-0.6
PDG				*e*	Sn	Sb		19 03 24.9	-0.6
PDG	Podgorica	2.42	348	⇑*i*	Pn	Pb		19 02 54.9	-0.9
PDG				*e*	Sn	Sb		19 03 24.9	-0.6
TTG	Podgorica	2.42	348	⇑*i*	Pn	Pb		19 02 54.9	-0.9
TTG				*e*	Sn	Sb		19 03 27.4	+1.9
HORT	Hortiatis	2.48	77	P		Pn		19 02 52.6	+0.1
HORT	Hortiatis	2.48	77	P		Pn		19 02 53.2	+0.7
KNT	Kendrikon	2.51	63	P		Pn		19 02 52.5	-0.4
KNT	Kendrikon	2.51	63	P		Pn		19 02 53.3	+0.4
DRO	Drossia	2.52	146	P		Pn		19 02 53.7	+0.6
DRO	Drossia	2.52	146	P		Pn		19 02 54.4	+1.3
PVY	Plav	2.53	0	⇑*i*	Pn	Pb		19 02 56.1	-1.6
PVY				*e*	Sn	Sb		19 03 29.5	+0.7
PVY	Plav	2.53	0	⇑*i*	Pn	Pb		19 02 56.1	-1.6
PVY				*e*	Sn	Sb		19 03 29.5	+0.7
CEME	Cevo	2.60	343	⇑*i*	Pn	Pb		19 02 56.8	-2.1
CEME				*e*	Sn	Sb		19 03 31.4	+0.7
CEME	Cevo	2.60	343	⇑*i*	Pn	Pb		19 02 56.8	-2.1
CEME				*e*	Sn	Sb		19 03 31.4	+0.7
DSF	Desfina	2.60	128	P		Pn		19 02 55.8	+1.6
DSF	Desfina	2.60	128	P		Pn		19 02 55.9	+1.7
XOR	Xorichti	2.61	104	P		Pn		19 02 55.7	+1.4
XOR	Xorichti	2.61	104	P		Pn		19 02 55.8	+1.5
HCY	Herceg Novi	2.62	336	⇑*i*	Pn	Pn		19 02 56.8	+2.4
HCY				*e*	Sn	Sb		19 03 32.0	+0.8
HCY	Herceg Novi	2.62	336	⇑*i*	Pn	Pb		19 02 56.8	+2.4
HCY				*e*	Sn	Sb		19 03 32.0	+0.8
KLV	Kalavryta, Ach	2.65	139	P		Pn		19 02 56.9	+2.0
KLV	Kalavryta, Ach	2.65	139	P		Pn		19 02 56.9	+2.0
NKME	Niksic	2.80	345	*e*	Pn	Pb		19 03 00.5	-1.8
NKME				*e*	Sn	Sb		19 03 36.0	-0.5
NKME	Niksic	2.80	345	*e*	Pn	Pb		19 03 00.5	-1.8
NKME				*e*	Sn	Sb		19 03 36.0	-0.5
KOME	Kolasin	2.80	354	⇑*i*	Pn	Pb		19 03 00.1	-2.3
KOME				*e*	Sn	Sb		19 03 36.5	-0.1
KOME	Kolasin	2.80	354	⇑*i*	Pn	Pb		19 03 00.1	-2.3
KOME				*e*	Sn	Sb		19 03 36.5	-0.1
BEY	Berane	2.81	359	⇑*i*	Pn	Pb		19 03 00.1	-2.3
BEY				*e*	Sn	Sb		19 03 36.5	-0.2
IVA	Berane	2.81	359	⇑*i*	Pn	Pb		19 03 00.1	-2.3
IVA				*e*	Sn	Sb		19 03 36.5	-0.2
GUR	Goura	2.83	138	P		Pn		19 02 58.4	+1.0
GUR	Goura	2.83	138	P		Pn		19 02 58.9	+1.5
PAIG	Paliouri	2.88	91	P		Pn		19 02 57.6	-0.3
PAIG	Paliouri	2.88	91	P		Pn		19 02 58.6	+0.6
SRS	Serrai	2.98	68	*e*	Pn	Pn		19 03 00.2	+0.9
SRS				*e*	Sn	Sn		19 03 35.8	+0.9
SRS	Serrai	2.98	68	*e*	Pn	Pn		19 03 00.2	+0.9
SRS				*e*	Sn	Sn		19 03 35.8	+0.9
BRY	Bratogost	3.02	340	⇑*i*	Pn	Pn		19 03 02.9	+2.8
BRY				*e*	Sn	Sb		19 03 41.5	-1.5
BRY	Bratogost	3.02	340	⇑*i*	Pn	Pn		19 03 02.9	+2.8
BRY				*e*	Sn	Sb		19 03 41.5	-1.5
BARS	Barje	3.09	27	*e*	Pn	Pn		19 03 02.8	+1.9
BARS				*e*	Sn	Sn		19 03 39.0	+1.3
BARS	Barje	3.09	27	*e*	Pn	Pn		19 03 02.8	+1.9
BARS				*e*	Sn	Sn		19 03 39.0	+1.3
SJES	Sjenica	3.20	1	*e*	Pn	Pn		19 03 05.2	+2.8
SJES				*e*	Sn	Sn		19 03 43.0	+2.6
SJES	Sjenica	3.20	1	*e*	Pn	Pn		19 03 05.2	+2.8
SJES				*e*	Sn	Sn		19 03 43.0	+2.6
STON	Ston	3.27	330	*e*	Pn	Pn		19 03 09.9	-2.4
STON				*e*	Sn	Sn		19 03 37.4	-4.6
SELS	Selova	3.28	15	*e*	Pn	Pn		19 03 06.1	+2.6
PLE	Pljevlja	3.29	353	⇑*i*	Pn	Pn		19 03 06.8	+3.1
PLE				*e*	Sn	Sb		19 03 48.0	-2.7
PLE	Pljevlja	3.29	353	⇑*i*	Pn	Pn		19 03 06.8	+3.1
PLE				*e*	Sn	Sb		19 03 48.0	-2.7
IVAS	Ivanjica	3.52	3	*e*	Pn	Pb		19 03 10.8	-3.7
IVAS				*e*	Sn	Sn		19 03 51.2	+3.0
IVAS	Ivanjica	3.52	3	*e*	Pn	Pb		19 03 10.8	-3.7
IVAS				*e*	Sn	Sn		19 03 51.2	+3.0
ZAPS	Zavoj	3.79	31	*e*	Pn	Pn		19 03 12.1	+1.6
ZAPS				*e*	Sn	Sn		19 03 55.4	+0.4
ZAPS	Zavoj	3.79	31	*e*	Pn	Pn		19 03 12.1	+1.6
ZAPS				*e*	Sn	Sn		19 03 55.4	+0.4
BOVS	Bovan	3.81	20	*e*	Pn	Pn		19 03 12.1	+1.4
BOVS	Bovan	3.81	20	*e*	Pn	Pn		19 03 12.1	+1.4
BBLS	Lazići	3.82	354	*e*	Pn	Pn		19 03 14.2	+3.2
BBLS	Lazići	3.82	354	*e*	Pn	Pn		19 03 14.2	+3.2
GRUS	Gruza	3.87	8	*e*	Pn	Pn		19 03 13.9	+2.4
GRUS	Gruza	3.87	8	*e*	Pn	Pn		19 03 13.9	+2.4
DIVS	Divibare	4.03	1	*e*	Pn	Pn		19 03 15.9	+2.0
DIVS				*e*	Sn	Sn		19 04 01.0	0.0
DIVS	Divibare	4.03	1	*e*	Pn	Pn		19 03 15.9	+2.0
ZAGS	Zajecar	4.12	24	*e*	Pn	Pn		19 03 17.1	+2.1
ZAGS	Zajecar	4.12	24	*e*	Pn	Pn		19 03 17.1	+2.1
TRUS	Trudelj	4.17	5	*e*	Pn	Pn		19 03 17.4	+1.7
TRUS				*e*	Sn	Sn		19 04 05.8	+1.5
TRUS	Trudelj	4.17	5	*e*	Pn	Pn		19 03 17.4	+1.7
TRUS				*e*	Sn	Sn		19 04 05.8	+1.5
TEKS	Tekeris	4.49	356	*e*	Pn	Pn		19 03 20.9	+0.7
TEKS	Tekeris	4.49	356	*e*	Pn	Pn		19 03 20.9	+0.7
NVLJ	Novalja	5.86	322	*e*	Pn	Pn		19 03 37.3	-1.6
NVLJ					Sn	Sn		19 04 41.0	-4.7

IDC 09 19:02:33.7±2.1, 21.25S×168.16E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/43, mbtmp3.6/3, Error ellipse: s-maj=63.1km s-min=28.4km az=144.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	1.79	242	P		Pn	Pb	19 03 06.9	-0.6
	34nm,0.3s,baz=65,slow=18,SNR=63								
DZM					Sn	Sn		19 03 26.9	-2.6
	90nm,0.3s,baz=116,slow=23,SNR=12								
WRA	Warramunga Arr	31.65	266	P		P		19 08 57.5	-1.4
	0.5nm,0.9s,baz=96,slow=8.7,SNR=3.3								
ASAR	Alice Springs	31.70	259	P		P		19 08 59.9	+0.5
	0.6nm,0.7s,baz=90,slow=8.4,SNR=11								
ILAR	Eielson Array	92.44	18	P		P		19 15 46.4	+0.5
	0.6nm,1.0s,baz=221,slow=6.8,SNR=2.6								
GERES	GERESS Array B	145.74	330	PKPbc		PKPdf		19 22 13.4	-0.9
	0.7nm,0.8s,baz=343,slow=1.0,SNR=4.6								

*IDC **09** 19:12:58.6±2.0, 10.66S×120.31E, h0km, mb3.4/1, mb1 3.3/4, mb1mx3.1/52, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=54.6km s-min=25.8km az=30.0*
*ISCJB **09** 19:13:02.2±0.8, 10.72S±0.06×120.42E±0.05, h31km, mb3.5/1, Error ellipse: s-maj=9.8km s-min=5.8km az=31.9*
*DJA **09** 19:13:04.4±1.6, 11°S±8°×12°0E±°, h31km±18km, M3.2/5, MLv3.2/5*

ISC 09 19:13:03.6±1.2, 10.64S±0.09×120.41E±0.05, h31km, n9, σ1§60/14, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.45	21	P		Pb		19 13 11.6	-1.7
BASI				S		Sb		19 13 18.2	-1.7
WSI	Waingapu	0.97	353	P		Pb		19 13 21.6	-0.3
WSI				S		Sb		19 13 36.2	+1.8
WBSI	Waikabubak, Su	1.41	314	P		Pn		19 13 27.1	-0.1
WBSI				S		Sb		19 13 46.3	-0.8
PLAI	Plampang	3.16	304	P		Pn		19 13 53.1	+1.8
PLAI				S		Sn		19 14 28.7	+0.7
BATI	Baumata	3.23	83	Pn		Pn		19 13 52.8	+0.6
	1.8nm,0.3s,baz=288,slow=17,SNR=4.8								
BATI				Sn		Sn		19 14 31.5	+2.0
	1.0nm,0.3s,baz=4.8,slow=12,SNR=3.1								
BATI	Baumata	3.23	83	S		Sn		19 14 31.8	+2.2
WRA	Warramunga Arr	16.30	126	Pn		Pn		19 16 48.1	-2.2
	0.0nm,0.3s,baz=296,slow=13,SNR=4.7								
ASAR	Alice Springs	18.25	137	P		Pn		19 17 15.1	+0.4
	0.1nm,0.3s,baz=315,slow=12,SNR=5.6								
MKAR	Makanchi Array	66.54	332	P		P		19 23 50.2	-0.4
	0.4nm,0.9s,baz=122,slow=7.7,SNR=2.6								

*ISCJB **09** 19:18:00.6±0.5, 24.87N±0.04×122.43E±0.02, h2km±5km, Error ellipse: s-maj=6.7km s-min=2.9km az=10.2*
*TAP **09** 19:18:00.8, 24.92N×122.41E, h16km, ML3.1, C*
*JMA **09** 19:18:00.5±0.2, 24.85N×122.41E, h0km±2km, M2.9*

ISC 09 19:18:00.7±1.2, 24.89N±0.05×122.41E±0.02, h9km±10km, n20, σ0§48/37, Taiwan region

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

MNMC	**Minye Minye**	**99.21**	**116**	*e*P		**Pdif**	**19 47 44.5**	**+1.6**
	25nm,0.7s							
HHAR	**Hobbs**	**100.25**	**55**	*e*pP	Pdif		19 48 08.7	+22
HFS	**Hagfors**	**142.71**	**349**	PKP	**PKPdf**		**19 53 31.3**	**+0.8**
	0.7nm,0.3s,baz=42,slow=4.5,SNR=7.0							
BR101	**Keskin Array S**	**148.12**	**307**	*e*PKPbc	**PKPab**		**19 53 47.5**	**-1.2**
BRTR	**Keskin Array B**	**148.12**	**307**	PKPbc	**PKPab**		**19 53 47.5**	**-1.2**
	0.2nm,0.3s,baz=63,slow=3.1,SNR=3.8							
MMAI	**Mount Meron Ar**	**148.31**	**294**	PKPbc	**PKPab**		**19 53 48.9**	**-0.7**
	0.5nm,0.4s,baz=90,slow=5.8,SNR=2.5							

*IDC **09** 19:37:27.2±1.8, 19°.50S×169°.95E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.0/42, mbtmp4.1/11, ML3.6/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/31, Error ellipse: s-maj=63.9km s-min=18.7km az=137.0*
*NEIC **09** 19:37:30.1±0.8, 19°.33S×169°.70E, h10km, mb4.7/8, Error ellipse: s-maj=25.1km s-min=9.8km az=143.0*
*ISCJB **09** 19:37:32.7±0.9, 19°.3S±0°.1×169°.5E±0°.1, h33km, mb4.4/17, MS3.9/1, Error ellipse: s-maj=25.9km s-min=8.6km az=43.5*

ISC 09 19:37:34.8±0.9, 19°.3S±0°.2×169°.6E±0°.2, h35km, n33, σ1s29/36, mb4.5/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.04**	**226**	Pn	**Pn**	**19 38 32.8**	**-1.5**
	3.3nm,0.3s,baz=95,slow=8.5,SNR=43						
DZM				Sn	**Sn**	**19 39 22.8**	**+2.3**
	9.7nm,0.3s,baz=120,slow=20,SNR=4.2						
DZM				LR	LR	19 39 26.9	
	comp=Z,284nm,18.3s,baz=15,slow=29						
DZM	**Mont Dzumac**	**4.04**	**226**	*e*Pn	**Pn**	**19 38 32.9**	**-1.4**
DZM				*e*Sn	**Sn**	**19 39 21.1**	**+0.6**
AFI	**Afiamalu**	**18.65**	**76**	LR	LR	19 47 29.1	
	comp=Z,110nm,21.7s,baz=229,slow=33						
CTA	**Charters Tower**	**21.97**	**264**	P	**P**	**19 42 28.1**	**+2.4**
	2.4nm,0.7s,baz=78,slow=14,SNR=3.6						
STKA	**Stephens Creek**	**28.10**	**238**	P	**P**	**19 43 23.7**	**+0.4**
	1.2nm,0.6s,baz=89,slow=8.7,SNR=6.4						
STKA	**Stephens Creek**	**28.10**	**238**	*e*P	**P**	**19 43 24.3**	**+1.0**
	5.0nm,1.8s						
WB2	**Warramunga Arr**	**33.15**	**263**	*e*P	**P**	**19 44 07.0**	**-1.1**
WR1	**Warramunga Arr**	**33.16**	**263**	*e*P	**P**	**19 44 07.0**	**-1.1**
	16nm,1.8s						
WR1				*e*PcP	**PcP**	**19 46 48.8**	**-2.0**
WRA	**Warramunga Arr**	**33.16**	**263**	P	**P**	**19 44 07.0**	**-1.1**
	1.9nm,0.9s,baz=95,slow=8.9,SNR=9.9						
WRA				PcP	**PcP**	**19 46 48.8**	**-2.0**
	0.8nm,0.8s,baz=103,slow=2.5,SNR=5.4						
AS01	**Alice Springs**	**33.38**	**256**	*e*P	**P**	**19 44 09.3**	**-0.8**
AS31	**Alice Springs**	**33.42**	**256**	*e*P	**P**	**19 44 09.6**	**-0.9**
	3.7nm,0.6s						
ASAR	**Alice Springs**	**33.42**	**256**	P	**P**	**19 44 09.8**	**-0.7**
	9.3nm,0.6s,baz=84,slow=8.9,SNR=147						
ASAR				PcP	**PcP**	**19 46 49.5**	**-1.9**
	0.6nm,0.8s,baz=105,slow=2.9,SNR=4.8						
MTN	**Manton Dam**	**37.42**	**274**	*e*P	**P**	**19 44 44.7**	**-0.2**
	16nm,0.8s						
FAKI	**Fak Fak**	**39.92**	**289**	*e*P	**P**	**19 45 05.1**	**-0.7**
	28nm,1.2s						
FITZ	**Fitzroy Crossi**	**41.55**	**264**	P	**P**	**19 45 19.1**	**-0.1**
	5.6nm,0.8s,baz=158,slow=5.4,SNR=4.6						
FITZ	**Fitzroy Crossi**	**41.55**	**264**	*e*P	**P**	**19 45 19.5**	**+0.2**
MBWA	**Marble Bar**	**46.65**	**259**	*e*P	**P**	**19 46 00.0**	**-0.2**
	62nm,1.8s						
ASAJ	**Asahikawa**	**67.73**	**339**	*e*P	**P**	**19 48 29.4**	**+0.8**
	4.9nm,0.8s						
CM01	**Chiang Mai Arr**	**78.77**	**294**	*e*P	**P**	**19 49 35.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**78.80**	**294**	P	**P**	**19 49 34.9**	**+0.4**
	0.5nm,0.7s,baz=145,slow=4.5,SNR=5.9						
MA2	**Magadan**	**80.05**	**350**	P	**P**	**19 49 39.6**	**-0.7**
	1.5nm,0.2s,baz=100,slow=6.0,SNR=7.3						
SEY	**Seymchan**	**83.03**	**352**	P	**P**	**19 49 56.0**	**-0.1**
	2.0nm,0.8s,baz=126,slow=6.3,SNR=13						
ULN	**Ulaanbaatar**	**87.07**	**323**	*e*P	**P**	**19 50 16.9**	**+0.1**
	4.5nm,1.1s						
SONA0	**Songino Array**	**87.42**	**323**	*e*P	**P**	**19 50 18.6**	**0.0**
SONM	**Songino Array**	**87.42**	**323**	P	**P**	**19 50 18.6**	**0.0**
	1.5nm,0.9s,baz=156,slow=7.5,SNR=13						
FLSC	**Flash Two Peak**	**88.02**	**52**	*e*P	**P**	**19 50 21.2**	**-0.4**
WESC	**Westside Schoo**	**88.08**	**54**	*e*P	**P**	**19 50 21.6**	**-0.3**
NVAR	**Mina Array Bea**	**88.58**	**48**	LR	LR	20 21 44.9	
	comp=Z,48nm,19.2s,baz=311,slow=30						
ILAR	**Eielson Array**	**90.16**	**17**	P	**P**	**19 50 29.7**	**-1.2**
	0.3nm,0.8s,baz=243,slow=4.0,SNR=3.8						
BGMT	**Barton Gulch**	**95.61**	**44**	*e*P	**P**	**19 51 00.4**	**+3.6**
MK32	**Makanchi Array**	**101.97**	**315**	*e*Pdif	**Pdif**	**19 51 26.0**	**+0.9**
MKAR	**Makanchi Array**	**101.97**	**315**	P	**Pdif**	**19 51 26.0**	**+0.9**
	0.3nm,0.6s,baz=92,slow=5.6,SNR=4.0						
GERES	**GERESS Array B**	**144.66**	**332**	PKPbc	**PKPab**	**19 57 05.0**	**-1.4**
	0.5nm,0.6s,baz=44,slow=5.9,SNR=4.4						

*IDC **09** 19:40:49.4±4.5, 18°.86S×169°.13E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/41, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=107.7km s-min=32.4km az=116.0*
*NEIC **09** 19:40:51.2±1.5, 18°.85S×169°.06E, h10km, mb4.4/4, Error ellipse: s-maj=29.2km s-min=11.9km az=98.0*

ISC 09 19:40:51.8±2.6, 18°.9S±0°.1×169°.0E±0°.3, h10km, n15, σ0s80/17, mb4.1/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.98**	**216**	Pn	**Pn**	**19 41 53.0**	**+0.1**
	1.5nm,0.3s,baz=112,slow=13,SNR=8.7						
DZM				Sn	**Sn**	**19 42 40.7**	**+1.0**
	8.2nm,0.3s,baz=125,slow=22,SNR=8.0						
DZM	**Mont Dzumac**	**3.98**	**216**	*e*Pn	**Pn**	**19 41 52.4**	**-0.5**
DZM				*e*Sn	**Sn**	**19 42 37.8**	**-1.9**
HNR	**Honiara**	**12.81**	**316**	*e*Pn	**Pn**	**19 43 53.6**	**-0.4**
STKA	**Stephens Creek**	**27.83**	**237**	P	**P**	**19 46 42.1**	**+0.6**
	1.5nm,0.7s,baz=90,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**27.83**	**237**	*e*P	**P**	**19 46 41.5**	**+0.1**
	2.5nm,1.6s						
WR1	**Warramunga Arr**	**32.64**	**262**	*e*P	**P**	**19 47 24.3**	**+0.1**
	18nm,1.7s						
WRA	**Warramunga Arr**	**32.64**	**262**	P	**P**	**19 47 24.3**	**+0.1**
	0.1nm,0.3s,baz=82,slow=6.2,SNR=5.0						
AS01	**Alice Springs**	**32.92**	**255**	*e*P	**P**	**19 47 27.1**	**+0.5**
AS31	**Alice Springs**	**32.97**	**255**	*e*P	**P**	**19 47 27.2**	**+0.2**
	1.2nm,0.4s						
ASAR	**Alice Springs**	**32.97**	**255**	P	**P**	**19 47 27.4**	**+0.4**
	1.6nm,0.5s,baz=82,slow=8.7,SNR=27						
FITZ	**Fitzroy Crossi**	**41.02**	**264**	P	**P**	**19 48 36.3**	**+0.8**
	2.6nm,0.7s,baz=132,slow=7.6						
FITZ	**Fitzroy Crossi**	**41.02**	**264**	*e*P	**P**	**19 48 36.9**	**+1.4**
MBWA	**Marble Bar**	**46.17**	**258**	*e*P	**P**	**19 49 17.4**	**+0.3**
	50nm,1.8s						
SONA0	**Songino Array**	**86.76**	**323**	*e*P	**P**	**19 53 35.8**	**-0.5**
SONM	**Songino Array**	**86.76**	**323**	P	**P**	**19 53 35.8**	**-0.5**
	0.2nm,0.7s,baz=126,slow=7.3,SNR=2.5						

*ISCJB **09** 19:50:40.9±0.3, 31°.55S±0°.02×69°.71W±0°.04, h115km±3km, mb3.7/6, Error ellipse: s-maj=5.6km s-min=4.0km az=10.1*
*IDC **09** 19:50:40.4±3.0, 31°.69S×69°.12W, h100km±25km, mb3.6/6, mb1 3.8/9, mb1mx3.6/37, mbtmp3.9/9, Error ellipse: s-maj=26.1km s-min=23.7km az=69.0*
*GUC **09** 19:50:41.0±0.5, 31°.54S×69°.47W, h142km±20km, ML4.0*
*SJA **09** 19:50:41.5±0.7, 31°.58S×69°.18W, h104km±3km, ML4.0, MW4.0, Fault plane solution: NP1:φs253.61000°, δ54.04000°, λ-59.83000°.*

ISC 09 19:50:41.3±0.7, 31°.55S±0°.03×69°.15W±0°.04, h109km±5km, n41, σ1s16/60, mb3.8/6, 12C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.28**	**207**	⇓*i*P	**Pn**	**19 50 57.4**	**+0.2**
RTLS				*i* S	**Sn**	**19 51 09.6**	**+0.3**
RTLS				IAML		19 51 10.6	
	comp=Z,3μm,0.2s						
ZON	**Zonda**	**0.40**	**90**	⇓*i*P	**Pn**	**19 50 58.1**	**+0.6**
ZON				*e*S	**Sn**	**19 51 09.8**	**+0.1**
SJA	**San Juan**	**0.50**	**88**	⇓*i*P	**Pn**	**19 50 59.0**	**+0.9**
SJA				IAML		19 50 59.3	
	comp=Z,6μm,0.2s						
SJA				*i* S	**Sn**	**19 51 11.7**	**+1.0**
RTCV	**Cerro Valdivia**	**0.60**	**121**	⇓*i*P	**Pn**	**19 50 59.6**	**+0.7**
RTCV				*i* S	**Sn**	**19 51 12.1**	**0.0**
RTLL	**Cerro Villicun**	**0.61**	**69**	⇓*i*P	**Pn**	**19 50 59.2**	**+0.2**
RTLL				*e*S	**Sn**	**19 51 12.8**	**+0.6**
RTLL				IAML		19 51 14.0	
	comp=Z,5μm,0.4s						
AUSP	**Uspallata**	**0.70**	**197**	⇑*i*P	**Pn**	**19 51 00.3**	**+0.4**
AMOG	**MOGNA**	**0.82**	**43**	⇓*i*P	**Pn**	**19 51 01.5**	**+0.7**
AMOG				*i* S	**Sn**	**19 51 14.8**	**-0.7**
ASAL	**Salagasta**	**1.07**	**166**	⇑*i*P	**Pn**	**19 51 04.1**	**+0.8**
ASAL				*i* S	**Sn**	**19 51 17.8**	**-2.2**
ARCO	**CERRO ARCO**	**1.30**	**172**	⇑*e*P	**Pn**	**19 51 06.7**	**+0.8**
ARCO				IAML		19 51 07.2	
	comp=Z,4μm,0.3s						
ARCO				*e*S	**Sn**	**19 51 26.4**	**+1.8**
AAGR	**Agrelo**	**1.56**	**170**	⇑*i*P	**Pn**	**19 51 09.5**	**+0.7**
AAGR				*i* S	**Sn**	**19 51 30.2**	**+0.4**
ACAN	**Cantantal**	**1.82**	**114**	⇑*i*P	**Pn**	**19 51 13.0**	**+1.1**
ACAN				*e*S	**Sn**	**19 51 35.7**	**+0.3**
GO04	**Tololo Observa**	**1.97**	**314**	⇑*i*P	**Pn**	**19 51 14.1**	**-0.1**
GO04				*e*S	**Sn**	**19 51 39.2**	**0.0**
GO04				IAML		19 51 45.2	
	comp=N,3μm,0.4s						
TLL	**Tololo Astrono**	**1.98**	**314**	*e*P	**Pn**	**19 51 14.2**	**-0.1**
TLL				*e*S	**Sn**	**19 51 39.8**	**+0.4**
TLL				IAML		19 51 42.4	
	comp=E,1μm,0.4s						
AVIZ	**Vizcacheras**	**1.99**	**165**	⇑*i*P	**Pn**	**19 51 14.9**	**+0.7**
AVIZ				*i* S	**Sn**	**19 51 38.5**	**-0.9**
FCH	**Farellones**	**2.02**	**208**	*e*P	**Pn**	**19 51 15.9**	**+1.0**
FCH				*e*S	**Sn**	**19 51 42.5**	**+2.1**
FCH				IAML		19 51 49.1	
	comp=E,631nm,0.2s						
PEL	**Peldehue**	**2.06**	**219**	*e*P	**Pn**	**19 51 15.0**	**0.0**
PEL				*e*S	**Sn**	**19 51 40.7**	**-0.1**
AGUA	**GUANDACOL**	**2.13**	**16**	⇑*i*P	**Pn**	**19 51 17.7**	**+1.7**
AGUA				*e*S	**Sn**	**19 51 44.1**	**+1.6**
CLCH	**Cerro Calan**	**2.19**	**212**	*e*P	**Pn**	**19 51 17.2**	**+0.5**
CLCH				*e*S	**Sn**	**19 51 44.5**	**+0.7**
CLCH				IAML		19 51 46.5	
	comp=E,1μm,0.5s						
LMEL	**Las Melosas**	**2.46**	**201**	*e*P	**Pn**	**19 51 20.8**	**+0.4**
LMEL				*e*S	**Sn**	**19 51 54.1**	**+3.8**
LMEL				IAML		19 51 59.2	
	comp=N,356nm,0.1s						
APLL	**PUNTA DE LOS L**	**2.52**	**64**	IAML		19 51 53.6	
	comp=Z,168nm,0.2s						
LCO	**Las Campanas**	**2.86**	**332**	⇑*i*P	**Pn**	**19 51 25.6**	**-0.1**
VCA	**Vinchina**	**2.92**	**16**	⇑*i*P	**Pn**	**19 51 27.8**	**+1.4**
VCA				IAML		19 52 08.2	
	comp=Z,886nm,0.3s						
MRA	**San Martin**	**3.04**	**108**	⇑*i*P	**Pn**	**19 51 28.5**	**+0.7**
MRA				IAML		19 52 03.9	
	comp=Z,458nm,0.2s						
RFA	**San Rafael**	**3.27**	**170**	⇑*i*P	**Pn**	**19 51 30.3**	**-0.6**
RFA				IAML		19 52 33.8	
	comp=N,334nm,0.3s						
GO05	**HualaæØ**	**4.17**	**213**	⇓*e*P	**Pn**	**19 51 39.9**	**-3.0**
CYA	**Choya**	**4.24**	**44**	⇓*e*P	**Pn**	**19 51 43.4**	**-0.6**
CYA				IAML		19 53 08.0	
	comp=Z,68nm,0.4s						
AHML	**Horco Molle**	**5.80**	**36**	*e*P	**Pn**	**19 52 02.5**	**-2.4**
PLCA	**Paso Flores**	**9.24**	**187**	P	**Pn**	**19 52 50.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=13,slow=18,SNR=2.9						
CPUP	**Villa Florida**	**11.58**	**66**	P	**Pn**	**19 53 21.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=228,slow=14,SNR=2.8						
LPAZ	**La Paz**	**15.22**	**4**	P	**P**	**19 54 12.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=121,slow=3.7,SNR=11						
TXAR	**Lajitas Array**	**68.87**	**328**	P	**P**	**20 01 35.5**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=155,slow=8.5,SNR=10.0						
KOWA	**Kowa**	**77.39**	**64**	P	**P**	**20 02 25.3**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=311,slow=9.3,SNR=3.6						
BOSA	**Boshof**	**79.02**	**117**	P	**P**	**20 02 33.3**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=222,slow=12,SNR=3.4						
TORD	**Torodi Ar. Bea**	**81.07**	**69**	P	**P**	**20 02 45.0**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=254,slow=4.8,SNR=5.0						
TORD				pP	**pP**	**20 03 13.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=251,slow=3.4,SNR=5.0						
PDAR	**Pinedale Array**	**82.73**	**331**	P	**P**	**20 02 53.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=136,slow=6.3,SNR=4.6						
NVAR	**Mina Array Bea**	**83.32**	**323**	P	**P**	**20 02 56.5**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=143,slow=5.4,SNR=4.1						
ASAR	**Alice Springs**	**120.83**	**205**	PKP	**PKPdf**	**20 09 19.7**	**-1.5**
	comp=Z,0.2nm,0.8s,baz=133,slow=1.8,SNR=3.9						
WRA	**Warramunga Arr**	**124.06**	**207**	PKP	**PKPdf**	**20 09 26.7**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=155,slow=1.7,SNR=10						
KURBB	**Kurchatov Arra**	**149.42**	**42**	PKPbc	**PKPbc**	**20 10 17.9**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=302,slow=3.0,SNR=16						
ZALV	**Zalesovo Beam**	**150.86**	**32**	PKPbc	**PKPbc**	**20 10 21.0**	**+0.5**
	comp=Z,2.9nm,0.4s,baz=303,slow=2.8,SNR=20						
MKAR	**Makanchi Array**	**153.32**	**47**	PKPbc	**PKPbc**	**20 10 26.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=278,slow=1.7,SNR=7.1						
MKAR				PKPab	**PKPab**	**20 10 39.2**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=284,slow=3.1,SNR=6.7						

*NIED **09** 19:52:00, 38°.50N×142°.10E, h59km, Mw4.2 Best double couple: M0 2.64000×10^15 NP1:φs75.00000°, δ28.00000°, λ27.00000°. NP2:φs320.00000°, δ77.00000°, λ115.00000°.*

JMA 09 19:52:30.0±0.1, 38°.45N×142°.11E, h46km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.60**	**271**	P	Pn	19 52 42.3	+0.1
JIO				S	Sn	19 52 50.7	-0.3
OFUJ	**Ofunato**	**0.72**	**331**	P	Pn	19 52 44.0	+0.2
OFUJ				S	Sn	19 52 53.9	+0.1
JMK	**Ichinoseki**	**0.86**	**306**	P	Pn	19 52 45.9	+0.2
JMK				S	Sn	19 52 57.4	+0.2
JOU	**Okura**	**1.14**	**266**	P	Pn	19 52 49.9	+0.4
JOU				S	Sn	19 53 04.4	+0.4
JMM	**Marumori**	**1.19**	**241**	P	Pn	19 52 50.0	-0.2
JMM				S	Sn	19 53 04.7	-0.5
JOM	**Ohasama**	**1.20**	**328**	P	Pn	19 52 50.9	+0.5
JOM				S	Sn	19 53 06.4	+0.8
JYK	**Kaneyama**	**1.45**	**289**	P	Pn	19 52 54.4	+0.7
JYK				S	Sn	19 53 12.5	+0.9
JFK	**Kawauchi**	**1.46**	**222**	P	Pn	19 52 53.9	0.0
JRG	**Rokugo**	**1.49**	**310**	P	Pn	19 52 55.0	+0.7
JYS	**Shirataka**	**1.62**	**263**	P	Pn	19 52 56.8	+0.6
JFT	**Otama**	**1.68**	**237**	P	Pn	19 52 57.8	+0.8

MAN 09 19:53:08, 9°.91N×123°.23E, h1km, mb3.8, ML2.5, MS2.1, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.56**	**179**	⇑*i*P	Pg	19 53 19.3	+0.6
SNPH				*i* S	Sg	19 53 25.5	-0.6
TBP	**Tagbilaran**	**0.66**	**109**	*e*P	Pg	19 53 20.6	0.0
GUIM	**Jordan**	**0.95**	**319**	*e*P	Pb	19 53 27.6	+0.3
GUIM				*e*S	Sn	19 53 42.4	-0.4
MSLP	**Maasin**	**1.62**	**82**	*e*P	Pb	19 53 38.3	-0.5
MSLP				*e*S	Sg	19 54 02.2	+2.0

NNC 09 19:58:17.9±4.8, 37°.05N×70°.74E, h0km, mb3.5, mpv3.2, 4C-2D, Error ellipse: s-maj=37.4km s-min=32.2km az=153.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.67**	**35**	⇑Pn	Pn	19 59 16.4	+0.3
	1.9nm,0.3s						
SFK				Sn	Sn	20 00 02.8	+2.6
	16nm,0.4s						
MNAS	**Manas**	**5.60**	**13**	⇓Pn	Pn	19 59 42.3	-0.2
	2.0nm,0.7s						
MNAS				⇓Sn	Sn	20 00 48.5	+0.8
	2.9nm,0.6s						
KK31	**Karatay Array**	**6.05**	**358**	Pn	Pn	19 59 49.1	+0.4
	0.5nm,0.3s,baz=166,slow=12,SNR=16						
KK31				⇑Sn	Sn	20 00 59.9	+1.2
	1.5nm,0.5s,baz=174,slow=22,SNR=14						
AAK	**Ala-Archa**	**6.28**	**26**	⇑Pn	Pn	19 59 50.4	-1.6
	2.9nm,1.4s						
AAK				⇑Sn	Sn	20 01 03.5	-1.1
	4.4nm,0.8s						

JMA 09 19:59:55.4±0.1, 34°.26N×140°.24E, h44km±2km, M3.5, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.58**	**22**	⇓P	Pn	20 00 08.0	+0.8
BSO1	**Boso 1**	**0.72**	**57**	P	Pn	20 00 08.8	0.0
BSO1				*eX*		20 00 18.7	

JIM2	**Oshima 3**	**0.81**	**305**	P	Pn	20 00 10.5	+0.1
TATJ	**Tateyama 2**	**0.82**	**340**	P	Pn	20 00 11.6	+1.0
JKO	**Kozu shima**	**0.92**	**266**	P	Pn	20 00 12.0	+0.1
KTJJ	**Kamata 2**	**1.18**	**305**	⇑P	Pn	20 00 15.6	+0.2
KTJJ				S	Sn	20 00 30.2	0.0
JHJ2	**Mitsune**	**1.20**	**197**	P	Pn	20 00 15.2	-0.5
JIZS	**Izushimoda**	**1.21**	**292**	⇑P	Pn	20 00 16.6	+0.7
JIZS				*e*S	Sn	20 00 31.5	+0.3
JOD2	**Odawara 2**	**1.38**	**317**	⇑P	Pn	20 00 18.7	+0.5
JOD2				*e*S	Sn	20 00 35.0	-0.3
MAT	**Matsushiro**	**2.82**	**324**	P	Pn	20 00 40.4	+2.4
MAT				S	Sn	20 01 13.0	+2.3

*SJA **09** 20:07:35.7±1.0, 21°.72S×68°.56W, h172km±16km, ML3.7, MW3.4*
*ISCJB **09** 20:07:36.6±0.2, 21°.69S±0°.02×68°.42W±0°.03, h127km±2km, mb4.6/27, Error ellipse: s-maj=4.8km s-min=3.4km az=140.8*
*NEIC **09** 20:07:37.0±0.4, 21°.64S×68°.23W, h115km±3km, mb4.7/18, Error ellipse: s-maj=7.4km s-min=4.7km az=54.0*
NEIC Felt [III] at Pica and [II] at Alto Hospicio and Huara.
*GUC **09** 20:07:37.1±0.6, 21°.64S×68°.57W, h134km±5km, ML5.0*
*IDC **09** 20:07:38.8±0.5, 21°.60S×68°.27W, h132km±3km, mb4.0/13, mb1 4.1/17, mb1mx4.0/39, mbtmp4.4/17, MS3.5/3, Ms1 3.5/3, ms1mx3.0/39, Error ellipse: s-maj=19.4km s-min=12.4km az=60.0*
*SCB **09** 20:07:38.1±0.4, 21°.33S×68°.06W, h120km, Ml4.1/2, Error ellipse: s-maj=10.1km s-min=3.6km az=36.0*

ISC 09 20:07:38.1±0.3, 21°.68S±0°.03×68°.48W±0°.03, h131km±3km, h131km:pP-P, n148, σ1s53/215, mb4.6/27, 14C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.72**	**261**	⇑*i*P	**Pn**	**20 07 58.4**	**-0.5**
PB09				*e*S	**Sn**	**20 08 14.2**	**-0.5**
PB09				IAML		20 08 17.5	
	comp=N,42μm,0.5s						
PB01	**IPOC Station P**	**1.14**	**304**	*e*Pn	**Pn**	**20 08 01.6**	**-0.9**
PB01				*e*Sn	**Sn**	**20 08 20.0**	**-1.1**
PB01	**IPOC Station P**	**1.14**	**304**	⇑*i*P	**Pn**	**20 08 01.5**	**-1.0**
PB01				*e*S	**Sn**	**20 08 20.0**	**-1.1**
PB01				IAML		20 08 21.7	
	comp=E,48μm,0.1s						
PB07	**IPOC Station P**	**1.31**	**268**	*e*P	**Pn**	**20 08 03.5**	**-0.9**
PB07				⇑*i*P	**Pn**	**20 08 03.6**	**-0.8**
PB07				*e*S	**Sn**	**20 08 23.5**	**-0.9**
PB07				IAML		20 08 24.8	
	comp=E,45μm,0.6s						
PB02	**IPOC Station P**	**1.37**	**285**	⇑*i*P	**Pn**	**20 08 04.1**	**-0.9**
PB02				*e*S	**Sn**	**20 08 24.3**	**-1.1**
PB02				IAML		20 08 25.6	
	comp=E,54μm,0.0s						
PB06	**IPOC Station P**	**1.44**	**225**	⇑*i*P	**Pn**	**20 08 05.4**	**-0.4**
PB06				*i* S	**Sn**	**20 08 26.5**	**-0.4**
PB06				IAML		20 08 27.1	
	comp=E,10μm,0.4s						
PB08	**IPOC Station P**	**1.66**	**337**	*i* P	**Pn**	**20 08 08.2**	**-0.3**
PB08				*e*S	**Sn**	**20 08 31.2**	**-0.5**
PB08				IAML		20 08 33.0	
	comp=E,11μm,0.3s						
PB04	**IPOC Station P**	**1.68**	**247**	*e*Pn	**Pn**	**20 08 07.7**	**-0.8**
PB04				*e*Sn	**Sn**	**20 08 29.9**	**-1.9**
PB04	**IPOC Station P**	**1.68**	**247**	⇑*i*P	**Pn**	**20 08 07.8**	**-0.8**
PB04				*i* S	**Sn**	**20 08 31.1**	**-0.7**
PB04				IAML		20 08 34.2	
	comp=E,8μm,0.9s						
PB11	**IPOC Station P**	**2.21**	**330**	*e*Pn	**Pn**	**20 08 13.2**	**-1.7**
PB11				*e*Sn	**Sn**	**20 08 40.8**	**-2.3**
PB11	**IPOC Station P**	**2.21**	**330**	⇓*i*P	**Pn**	**20 08 13.5**	**-1.4**
PB11				*e*S	**Sn**	**20 08 41.5**	**-1.6**
PB11				IAML		20 08 43.1	
	comp=E,26μm,0.2s						
PSGC	**Pisagua**	**2.59**	**323**	*i* P	**Pn**	**20 08 17.4**	**-2.2**
PSGC				*i* S	**Sn**	**20 08 49.0**	**-2.5**
PSGC				IAML		20 08 51.2	
	comp=E,6μm,0.2s						
PB10	**IPOC Station P**	**2.65**	**226**	*e*Pn	**Pn**	**20 08 19.5**	**-0.7**
PB10				*e*Sn	**Sn**	**20 08 47.6**	**-5.1**
PB10	**IPOC Station P**	**2.65**	**226**	*e*P	**P

NORC	**Norcasia**	**27.79**	**346**	*e*P		pP	20 13 43.0	-0.1
HELC	**Santa Helena**	**28.55**	**345**	*e*P		**P**	**20 13 22.1**	**-0.1**
HELC					*e*pP	**pP**	**20 13 49.8**	**-0.5**
HELC	**Santa Helena**	**28.55**	**345**	*e*P		pP	20 13 49.9	-0.5
PTBC	**PUERTO BERRIO,**	**28.65**	**348**	*e*P		pP	20 13 48.6	-2.3
ZARC	**Zaragoza, Cauc**	**29.66**	**347**	*e*P		pP	20 13 58.5	-1.3
SDV	**Santo Domingo**	**30.45**	**356**	LR		LR	20 26 06.6	
	comp=Z,63nm,19.7s,baz=39,slow=36							
RCBR	**Riachuelo**	**35.23**	**68**	*e*P		**P**	**20 14 18.7**	**-1.6**
	comp=Z,55nm,1.3s							
ZAIG	**Zacatecas**	**55.28**	**321**	*e*P		**P**	**20 17 00.0**	**+1.6**
	comp=Z,7.6nm,0.7s							
ZAIG					*e*pP	**pP**	**20 17 30.0**	**+0.7**
TKL	**Tuckaleechee C**	**58.84**	**345**	P		**P**	**20 17 22.4**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=175,slow=13,SNR=3.4							
TKL					pP	**pP**	**20 17 54.2**	**0.0**
	comp=Z,3.8nm,0.7s,baz=158,slow=11,SNR=3.0							
TKL	**Tuckaleechee C**	**58.84**	**345**	*e*P		**P**	**20 17 22.9**	**0.0**
TKL					*e*pP	**pP**	**20 17 53.6**	**-0.5**
TZTN	**Tazewell**	**59.64**	**346**	*e*P		**P**	**20 17 30.2**	**+1.7**
TZTN					*e*pP	**pP**	**20 17 59.0**	**-0.7**
VNA3	**Neumayer Olymp**	**59.77**	**161**	P		**P**	**20 17 29.3**	**+0.3**
JCT	**Junction City**	**59.97**	**329**	*e*P		**P**	**20 17 31.4**	**+0.6**
	comp=Z,4.7nm,0.8s							
VNA2	**Neumayer--Watz**	**60.34**	**161**	P		**P**	**20 17 33.8**	**+1.0**
	baz=283,slow=7.9							
SLBS	**Sierra La Lagu**	**60.52**	**316**	*e*P		**P**	**20 17 37.2**	**+2.4**
	comp=Z,72nm,2.0s							
MIAR	**Mount Ida**	**60.80**	**336**	*e*P		**P**	**20 17 36.7**	**+0.3**
	comp=Z,50nm,1.9s							
LTX	**Lajitas**	**61.01**	**325**	*e*P		**P**	**20 17 38.8**	**+0.8**
TXAR	**Lajitas Array**	**61.01**	**325**	P		**P**	**20 17 38.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=134,slow=11,SNR=5.3							
TXAR					pP	**pP**	**20 18 09.7**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=146,slow=9.1,SNR=8.0							
TX31	**Lajitas Ar. Si**	**61.01**	**325**	*e*P		**P**	**20 17 37.5**	**-0.6**
TX31					*e*pP	**pP**	**20 18 08.5**	**-1.0**
SNAA	**Sanae**	**61.98**	**161**	P		**P**	**20 17 44.5**	**+0.6**
SNAA	**Sanae**	**61.98**	**161**	P		**P**	**20 17 43.8**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=286,slow=9.7,SNR=9.9							
SNAA	**Sanae**	**61.98**	**161**	*e*P		**P**	**20 17 43.4**	**-0.6**
	comp=Z,8.2nm,0.9s							
FVM	**French Village**	**62.84**	**341**	*e*P		**P**	**20 17 49.6**	**-0.3**
FVM					*e*pP	**pP**	**20 18 22.2**	**+0.7**
LIC	**Lamto**	**68.05**	**74**	*e*P		**P**	**20 18 22.9**	**-1.1**
	comp=Z,28nm,0.8s							
TIC	**Toumodi**	**68.24**	**73**	*e*P		**P**	**20 18 24.0**	**-1.2**
KIC	**Kosan Boka**	**68.37**	**74**	*e*P		**P**	**20 18 24.9**	**-1.1**
	comp=Z,59nm,0.8s							
ECSD	**EROS Data Cent**	**70.03**	**339**	*e*P		**P**	**20 18 37.5**	**+1.9**
ECSD					*e*pP	**pP**	**20 19 07.3**	**-0.5**
SWSC	**Sam W. Stewart**	**70.65**	**319**	*e*P		**P**	**20 18 41.5**	**+1.9**
U15A	**North Rim**	**71.09**	**324**	*e*P		**P**	**20 18 43.9**	**+1.3**
U15A					*e*pP	**pP**	**20 19 16.1**	**+1.2**
FRD	**Ford Ranch, An**	**71.52**	**319**	*e*P		**P**	**20 18 45.1**	**+0.2**
KNB	**Kanab**	**71.81**	**324**	*e*P		**P**	**20 18 49.4**	**+2.6**
KNB					*e*pP	**pP**	**20 19 20.8**	**+1.7**
SRU	**San Rafael Swe**	**72.15**	**327**	*e*P		**P**	**20 18 49.7**	**+1.0**
SRU					*e*pP	**pP**	**20 19 21.5**	**+0.5**
MTPU	**Mount Pierson**	**72.22**	**325**	*e*P		**P**	**20 18 51.5**	**+2.1**
	comp=Z,11nm,1.6s							
P18A	**Preston Nutter**	**72.40**	**327**	*e*P		**P**	**20 18 52.3**	**+1.9**
P18A					*e*pP	**pP**	**20 19 23.7**	**+1.0**
P17A	**Butcher Ranch,**	**72.53**	**327**	*e*P		**P**	**20 18 52.4**	**+1.5**
P17A					*e*pP	**pP**	**20 19 24.2**	**+0.9**
KOWA	**Kowa**	**72.72**	**66**	P		**P**	**20 18 51.4**	**-0.9**
	comp=Z,10.0nm,0.7s,baz=248,slow=8.3,SNR=30							
KOWA				LR		LR	20 50 47.4	
	comp=Z,119nm,18.5s,baz=26,slow=36							
KOWA	**Kowa**	**72.72**	**66**	*e*P		**P**	**20 18 51.0**	**-1.4**
	comp=Z,12nm,0.8s							
KOWA				*e*			20 50 47.4	
CLC	**China Lake**	**73.70**	**320**	*e*P		**P**	**20 19 00.5**	**+2.7**
PD31	**Pinedale Array**	**74.47**	**330**	*e*P		**P**	**20 19 02.9**	**+0.6**
PD31					*e*pP	**pP**	**20 19 33.5**	**-1.3**
PDAR	**Pinedale Array**	**74.47**	**330**	P		**P**	**20 19 03.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=156,slow=8.1,SNR=3.6							
PDAR					pP	**pP**	**20 19 34.9**	**0.0**
	comp=Z,0.5nm,0.8s,baz=147,slow=5.4,SNR=2.2							
HWUT	**Hardware Ranch**	**74.55**	**328**	*e*P		**P**	**20 19 03.8**	**+1.0**
HWUT					*e*pP	**pP**	**20 19 35.6**	**+0.3**
MDND	**Maddock**	**74.65**	**339**	*e*P		**P**	**20 19 02.9**	**-0.1**
MDND					*e*pP	**pP**	**20 19 36.3**	**+0.8**
ULM	**Lac du Bonnet**	**75.61**	**342**	P		**P**	**20 19 07.8**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=156,slow=4.7,SNR=6.0							
ULM					pP	**pP**	**20 19 40.4**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=149,slow=7.4,SNR=5.7							
ULM	**Lac du Bonnet**	**75.61**	**342**	*e*P		**P**	**20 19 08.9**	**+0.5**
ULM					*e*pP	**pP**	**20 19 40.8**	**-0.2**
MOOW	**Moose Ponds**	**75.78**	**330**	*e*P		**P**	**20 19 10.9**	**+1.1**
MOOW					*e*pP	**pP**	**20 19 43.1**	**+0.7**
NV01	**Mina Array Sit**	**75.89**	**322**	*e*P		**P**	**20 19 11.9**	**+1.4**
NV01					*e*pP	**pP**	**20 19 42.8**	**-0.4**
NVAR	**Mina Array Bea**	**75.89**	**322**	P		**P**	**20 19 12.5**	**+2.0**
	comp=Z,0.6nm,0.8s,baz=141,slow=6.5,SNR=5.1							
NVAR					pP	**pP**	**20 19 44.5**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=152,slow=7.4,SNR=5.0							
RLMT	**Red Lodge**	**76.17**	**332**	*e*P		**P**	**20 19 13.4**	**+1.4**
RLMT					*e*pP	**pP**	**20 19 45.3**	**+0.7**
YHH	**Holmes Hill**	**76.62**	**330**	*e*P		**P**	**20 19 17.3**	**+2.7**
YHH					*e*pP	**pP**	**20 19 49.2**	**+1.9**
TOA0	**Torodi Ar. Sit**	**77.04**	**70**	*e*P		**P**	**20 19 15.5**	**-1.7**
	comp=Z,22nm,0.8s							
TOA0					*e*pP	**pP**	**20 19 50.6**	**+0.7**
TOA1	**Torodi Ar. Sit**	**77.04**	**70**	*e*P		**P**	**20 19 16.2**	**-1.0**
TOA1					*e*pP	**pP**	**20 19 51.4**	**+1.5**
TORD	**Torodi Ar. Bea**	**77.04**	**70**	P		**P**	**20 19 16.2**	**-1.0**
	comp=Z,17nm,0.8s,baz=252,slow=5.3,SNR=88							
TORD					pP	**pP**	**20 19 51.4**	**+1.5**
	comp=Z,12nm,0.8s,baz=253,slow=5.5,SNR=10							
PAHR	**Pah Rah Range**	**77.37**	**322**	*e*P		**P**	**20 19 20.1**	**+1.3**
PAHR					*e*pP	**pP**	**20 19 53.0**	**+1.5**
HLID	**Hailey**	**77.41**	**328**	*e*P		**P**	**20 19 21.2**	**+2.3**
HLID					*e*pP	**pP**	**20 19 53.1**	**+1.5**
BGH	**Bear Gulch**	**77.57**	**319**	*e*P		**P**	**20 19 21.2**	**+1.6**
BOZ	**Bozeman (W)**	**77.59**	**331**	*e*P		**P**	**20 19 21.1**	**+1.2**
	comp=Z,9.3nm,0.8s							
MFID	**Camas Ranch**	**78.02**	**327**	*e*P		**P**	**20 19 24.3**	**+2.1**
MFID					*e*pP	**pP**	**20 19 56.0**	**+0.9**
LRM	**Limekiln Ridge**	**78.14**	**330**	*e*P		**P**	**20 19 24.8**	**+1.8**
LRM					*e*pP	**pP**	**20 19 55.3**	**-0.5**
ORV	**Oroville**	**78.49**	**321**	*e*P		**P**	**20 19 26.8**	**+2.0**
ORV					*e*pP	**pP**	**20 19 58.3**	**+0.8**
TSUM	**Tsumeb**	**79.60**	**107**	*e*P		**P**	**20 19 31.4**	**-0.1**
	comp=Z,19nm,0.9s							
FFC	**Flin Flon**	**81.33**	**341**	*e*P		**P**	**20 19 42.0**	**+2.3**
FFC					*e*pP	**pP**	**20 20 13.1**	**+0.4**
C09A	**Chrisman Ranch**	**82.33**	**329**	*e*P		**P**	**20 19 47.0**	**+1.9**
C09A					*e*pP	**pP**	**20 20 19.4**	**+1.2**
FCC	**Fort Churchill**	**82.90**	**347**	*e*P		**P**	**20 19 48.2**	**+0.5**
FCC					*e*pP	**pP**	**20 20 20.7**	**-0.2**
BOSA	**Boshof**	**83.00**	**118**	P		**P**	**20 19 48.6**	**-0.7**
	comp=Z,7.5nm,0.8s,baz=219,slow=4.8,SNR=10							
EDM	**Edmonton**	**84.10**	**335**	*e*P		**P**	**20 19 55.4**	**+1.3**
EDM					*e*pP	**pP**	**20 20 26.8**	**-0.5**
LBTB	**Lobatse**	**84.58**	**115**	*e*P		**P**	**20 19 57.1**	**-0.3**
	comp=Z,9.7nm,0.8s							
PAB	**San Pablo**	**85.36**	**44**	*e*P		**P**	**20 20 00.6**	**-0.2**
	comp=Z,8.3nm,0.9s							
PAB					*e*pP	**pP**	**20 20 35.5**	**+1.4**
ESDC	**Sonseca Array**	**85.68**	**44**	P		**P**	**20 20 02.8**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=231,slow=5.2,SNR=14							
ES19	**SONSECA Array**	**85.74**	**44**	*e*P		**P**	**20 20 02.1**	**-0.5**
MATP	**Matopo**	**86.77**	**111**	P		**P**	**20 20 18.4**	**+0.6**
	comp=Z,6.4nm,0.9s,baz=244,slow=5.5,SNR=16							
YKA	**Yellowknife Ar**	**91.49**	**340**	P		**P**	**20 20 29.6**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=134,slow=4.5,SNR=29							
YKA					pP	**pP**	**20 21 03.5**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=136,slow=4.6,SNR=8.8							
YKW3	**Yellowknife Ar**	**91.55**	**340**	*e*P		**P**	**20 20 29.8**	**+0.3**
YKW3					*e*pP	**pP**	**20 21 03.3**	**+0.2**
RAO	**Raoul Island**	**95.28**	**236**	*e*pP		pP	20 21 22.0	+0.7
ASAR	**Alice Springs**	**129.94**	**207**	PKP		**PKPdf**	**20 26 33.9**	**+0.8**
	comp=Z,1.0nm,1.0s,baz=168,slow=1.8,SNR=6.9							
ASAR					pPKP	**pPKPdf**	**20 27 09.1**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=130,slow=1.1,SNR=6.4							
ABKAR	**Akbulak array**	**131.01**	**43**	*e*PKPpre		PKPpre	20 26 21.7	
ABKAR					*e*PKPdf	**PKPdf**	**20 26 32.5**	**-1.6**
WR1	**Warramunga Arr**	**133.00**	**210**	*e*PKPdf		**PKPdf**	**20 26 39.9**	**+1.0**
WR1					*e*pPKPdf	**pPKPdf**	**20 27 15.1**	**+1.2**
WRA	**Warramunga Arr**	**133.00**	**210**	PKP		**PKPdf**	**20 26 39.9**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=160,slow=1.9,SNR=7.8							
WRA					pPKP	**pPKPdf**	**20 27 15.1**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=152,slow=2.0,SNR=5.8							
KURK	**Kurchatov**	**141.26**	**33**	*e*PKPdf		**PKPdf**	**20 26 54.7**	**+1.7**
KURBB	**Kurchatov Arra**	**141.27**	**34**	PKhKP		PKPpre	20 26 49.6	
	comp=Z,0.5nm,0.7s,baz=299,slow=2.6,SNR=4.8							
KURBB					PKP	**PKiKP**	**20 26 54.7**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=304,slow=2.5,SNR=6.9							
ZAA1	**Zalesovo Array**	**141.94**	**26**	*e*PKPpre		PKPpre	20 26 48.4	
ZAA1				*e*PKPdf		**PKPdf**	**20 26 55.5**	**+1.4**
ZAA1				*e*pPKPdf		pPKPdf	20 27 31.2	+1.8
ZALV	**Zalesovo Beam**	**141.94**	**26**	PKhKP		PKPpre	20 26 48.4	
	comp=Z,1.4nm,0.6s,baz=299,slow=3.1,SNR=4.4							
ZALV					PKP	**PKPdf**	**20 26 55.5**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=286,slow=3.4,SNR=7.8							
ZALV					pPKP	pPKPdf	20 27 31.2	+1.8
	comp=Z,1.9nm,0.8s,baz=306,slow=3.0,SNR=3.8							
ZALV	**Zalesovo Beam**	**141.94**	**26**	*e*PKPpre		PKPpre	20 26 50.0	
ZALV				*e*PKPdf		**PKPdf**	**20 26 54.6**	**+0.4**
ZALV				*e*pPKPdf		pPKPdf	20 27 27.6	-1.8
AAK	**Ala-Archa**	**142.73**	**47**	PKP		**PKPdf**	**20 26 55.1**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=243,slow=2.3,SNR=3.6							
KDJ	**Kajisay**	**144.76**	**47**	*e*PKPdf		**PKPdf**	**20 26 59.8**	**0.0**
KDJ					*e*pPKPdf	**pPKPdf**	**20 27 33.8**	**-1.2**
MAKZ	**Makanchi**	**145.36**	**37**	*e*PKPdf		**PKPab**	**20 27 00.9**	**0.0**
MAKZ					*e*pPKPab	**pPKPdf**	**20 27 36.3**	**+0.7**
MK31	**Makanchi Array**	**145.54**	**36**	*e*PKPdf		**PKPab**	**20 27 01.5**	**-0.1**
MK31					*e*pPKPab	pPKPbc	20 27 36.0	+0.1
MK32	**Makanchi Array**	**145.54**	**36**	*e*PKPdf		**PKPab**	**20 27 01.6**	**0.0**
MK32					*e*pPKPab	**pPKPdf**	**20 27 36.1**	**+0.2**
MKAR	**Makanchi Array**	**145.54**	**36**	PKPbc		**PKPab**	**20 27 01.6**	**0.0**
	comp=Z,4.8nm,0.9s,baz=322,slow=3.4,SNR=31							
MKAR					pPKP	**pPKPdf**	**20 27 36.1**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=321,slow=2.8,SNR=6.3							
MK01	**Makanchi Array**	**145.56**	**36**	*e*PKPdf		**PKPab**	**20 27 01.4**	**-0.3**
MK01					*e*pPKPab	**pPKPdf**	**20 27 36.4**	**+0.4**
KLR	**Kul'dur**	**148.16**	**335**	PKPbc		**PKPbc**	**20 27 08.9**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=336,slow=2.2,SNR=4.5							
KLR					pPKPbc	**pPKPbc**	**20 27 44.0**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=103,slow=1.3,SNR=5.6							
SONA0	**Songino Array**	**153.58**	**8**	*e*PKPdf		**PKPdf**	**20 27 14.1**	**+0.5**
SONA0					*e*PKPbc	**PKiKP**	**20 27 21.9**	**+0.4**
SONM	**Songino Array**	**153.58**	**8**	PKP		**PKPdf**	**20 27 14.1**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=268,slow=0.9,SNR=5.1							
SONM					PKPbc	**PKiKP**	**20 27 21.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=299,slow=1.3,SNR=4.4							
PSI	**Prapat**	**157.59**	**145**	*e*PKPdf		**PKPdf**	**20 27 19.3**	**-0.7**
PSI					*e*PKPab	**pPKPdf**	**20 27 55.2**	**0.0**

*ISK **09** 20:15:13.9, 38°.70N×43°.21E, h21km, ML2.4/4*
*CSEM **09** 20:15:15.0±0.2, 38°.73N×43°.22E, h8km, ML2.4, Error ellipse: s-maj=6.0km s-min=5.2km az=109.0*
*DDA **09** 20:15:15.3, 38°.75N×43°.28E, h7km, Ml2.5*
ISC 09 20:15:14.9±1.0, 38°.73N±0°.04×43°.27E±0°.04, h23km±8km, n20, σ0°80/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**145**	PG	**Pb**	**20 15 20.4**	**+0.4**
VANB				SG	**Sb**	**20 15 24.6**	**+1.2**
VANB	**Van**	**0.16**	**145**	*e*Pg	**Pb**	**20 15 20.4**	**+0.4**
TVAN	**Van**	**0.22**	**152**	*i* P	**Pb**	**20 15 20.3**	**-0.5**
TVAN				*i* S	**Sb**	**20 15 24.7**	**-0.2**
TVAN	**Van**	**0.22**	**152**	P	**Pb**	**20 15 20.3**	**-0.5**
TVAN				S	**Sb**	**20 15 24.7**	**-0.2**
GEVA	**Gevas**	**0.45**	**202**	*i* P	**Pb**	**20 15 23.3**	**-0.9**
GEVA	**Gevas**	**0.45**	**202**	P	**Pb**	**20 15 23.3**	**-0.9**
CLDR	**Caldiran**	**0.65**	**50**	PG	**Pb**	**20 15 27.5**	**-0.3**
CLDR				SG	**Sn**	**20 15 38.7**	**0.0**
CLDR	**Caldiran**	**0.65**	**50**	*i* P	**Pb**	**20 15 27.9**	**+0.2**
CLDR	**Caldiran**	**0.65**	**50**	*e*Pg	**Pb**	**20 15 27.5**	**-0.3**
CLDR	**Caldiran**	**0.65**	**50**	P	**Pb**	**20 15 28.0**	**+0.2**
CLDR				*e*Sg	**Sn**	**20 15 38.7**	**0.0**
TUTA	**Tutak**	**0.76**	**332**	*i* P	**Pb**	**20 15 29.7**	**+0.1**
TUTA	**Tutak**	**0.76**	**332**	P	**Pb**	**20 15 29.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.88**	**346**	PG	**Pn**	**20 15 32.0**	**0.0**
AGRB				SG	**Sn**	**20 15 44.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.88**	**346**	*e*Pg	**Pn**	**20 15 32.0**	**0.0**
AGRB				*e*Sg	**Sn**	**20 15 44.5**	**+0.4**
GURO	**Guroymak-BITLI**	**0.99**	**260**	PG	**Pn**	**20 15 32.6**	**-0.8**
GURO				SG	**Sb**	**20 15 45.1**	**-0.9**
GURO	**Guroymak-BITLI**	**0.99**	**260**	*e*Pg	**Pn**	**20 15 32.6**	**-0.8**
GURO				*e*Sg	**Sb**	**20 15 45.1**	**-0.9**
HAKT	**HAKKARI**	**1.22**	**163**	*i* P	**Pb**	**20 15 38.2**	**+0.9**
HAKT	**HAKKARI**	**1.22**	**163**	P	**Pb**	**20 15 38.2**	**+0.9**
SRTM	**Siirt_Merkez**	**1.29**	**236**	*i* P	**Pb**	**20 15 40.4**	**+1.9**
SRTM	**Siirt_Merkez**	**1.29**	**236**	P	**Pb**	**20 15 40.4**	**+1.9**

*IDC **09** 20:29:45.3±3.3, 38°.34N×20°.91E, h0km, mb3.6/5, mb1 3.5/8, mb1mx3.3/56, mbtmp3.4/8, ML2.7/3, Error ellipse: s-maj=56.2km s-min=26.1km az=58.0*
*TIR **09** 20:29:47.2, 38°.38N×21°.77E, h38km, ML3.9*
*ATH **09** 20:29:51.9, 38°.69N×21°.29E, h18km, ML3.1/35, Error ellipse: s-maj=0.9km s-min=0.6km az=197.0*
*THE **09** 20:29:51.7, 38°.66N×21°.30E, h14km, ML3.1/17, Error ellipse: s-maj=0.6km s-min=0.3km az=175.0*
*CSEM **09** 20:29:52.3±0.1, 38°.67N×21°.27E, h10km, ML3.1, Error ellipse: s-maj=3.5km s-min=2.3km az=60.0*
ISC 09 20:29:52.1±0.8, 38°.68N±0°.01×21°.30E±0°.01, h13km±5km, n194, σ1°27/286, mb3.6/6, 5C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDO	**Prodromos**	**0.13**	**228**	P	**Pg**	**20 29 55.1**	**-0.3**
PDO	**Prodromos**	**0.13**	**228**	P	**Pg**	**20 29 55.4**	**0.0**
PVO	**Paravola**	**0.19**	**111**	P	**Pg**	**20 29 56.4**	**+0.2**
PVO				AML	AML	20 30 00.8	
	comp=E,51171µm,0.4s						
PVO				S	**Sb**	**20 30 01.0**	**+0.1**
PVO				AML	AML	20 30 01.3	
	comp=N,28820µm,0.2s						
PVO	**Paravola**	**0.19**	**111**	P	**Pg**	**20 29 56.5**	**+0.2**
PVO				S	**Sg**	**20 29 59.5**	**+0.3**
PVO	**Paravola**	**0.19**	**111**	P	**Pg**	**20 29 56.5**	**+0.2**
PVO				S	**Sg**	**20 29 59.5**	**+0.3**
EVR	**Evrytania**	**0.46**	**59**	P	**Pg**	**20 30 00.5**	**-0.7**
EVR				AML	AML	20 30 08.5	
	comp=E,7064µm,0.4s						
EVR				S	**Sb**	**20 30 08.7**	**-0.2**
EVR				AML	AML	20 30 09.4	
	comp=N,10389µm,0.4s						
EVR	**Evrytania**	**0.46**	**59**	P	**Pg**	**20 30 00.8**	**-0.4**
EVR				S	**Sg**	**20 30 07.7**	**+0.3**
EVR	**Evrytania**	**0.46**	**59**	P	**Pg**	**20 30 00.7**	**-0.4**
EVR				S	**Sg**	**20 30 07.7**	**+0.3**
DSL	**Palaion Diasel**	**0.48**	**340**	P	**Pg**	**20 30 00.5**	**-1.1**
DSL				S	**Sb**	**20 30 09.6**	**+0.2**
DSL				AML	AML	20 30 10.8	
	comp=E,9926µm,0.3s						
DSL				AML	AML	20 30 12.9	
	comp=N,8134µm,0.5s						
DSL	**Palaion Diasel**	**0.48**	**340**	P	**Pg**	**20 30 00.8**	**-0.7**
DSL				S	**Sb**	**20 30 08.7**	**-0.7**
DSL	**Palaion Diasel**	**0.48**	**340**	P	**Pg**	**20 30 00.8**	**-0.7**
DSL				S	**Sb**	**20 30 08.7**	**-0.7**
VVK	**Vomvokou**	**0.48**	**123**	P	**Pg**	**20 30 01.1**	**-0.4**
VVK				S	**Sb**	**20 30 09.6**	**+0.3**
ANX	**Ano Chora**	**0.49**	**100**	P	**Pg**	**20 30 00.8**	**-1.0**
ANX				S	**Sg**	**20 30 07.7**	**-0.7**
ANX				AML	AML	20 30 14.1	
	comp=N,9262µm,0.5s						
ANX				AML	AML	20 30 14.2	
	comp=E,8900µm,0.8s						
ANX	**Ano Chora**	**0.49**	**100**	P	**Pg**	**20 30 01.3**	**-0.5**
ANX				S	**Sg**	**20 30 08.4**	**0.0**
ANX	**Ano Chora**	**0.49**	**100**	P	**Pg**	**20 30 01.3**	**-0.5**
ANX				S	**Sg**	**20 30 08.7**	**+0.3**
EFP	**Efpalio**	**0.54**	**118**	P	**Pg**	**20 30 01.9**	**-0.8**
EFP				S	**Sb**	**20 30 11.4**	**+0.4**
EFP				AML	AML	20 30 11.6	
	comp=E,5696µm,0.6s						
EFP				AML	AML	20 30 14.4	
	comp=N,4083µm,0.4s						
EFP	**Efpalio**	**0.54**	**118**	P	**Pg**	**20 30 02.3**	**-0.3**
EFP				S	**Sg**	**20 30 09.8**	**0.0**
EFP	**Efpalio**	**0.54**	**118**	P	**Pg**	**20 30 02.0**	**-0.6**
EFP				S	**Sg**	**20 30 09.8**	**0.0**
UPR	**University Cam**	**0.55**	**136**	P	**Pg**	**20 30 02.9**	**0.0**
UPR				S	**Sn**	**20 30 12.9**	**-1.8**
UPR	**University Cam**	**0.55**	**136**	P	**Pg**	**20 30 02.9**	**0.0**
UPR				S	**Sb**	**20 30 11.9**	**+0.5**
RLS	**Riolos of Patr**	**0.64**	**168**	P	**Pg**	**20 30 03.9**	**-0.6**
RLS				S	**Sn**	**20 30 15.9**	**-0.9**
RLS				AML	AML	20 30 19.2	
	comp=N,1641µm,0.6s						
RLS				AML	AML	20 30 22.3	
	comp=E,1148µm,0.8s						
RLS	**Riolos of Patr**	**0.64**	**168**	P	**Pg**	**20 30 04.2**	**-0.3**
RLS				S	**Sg**	**20 30 12.8**	**-0.2**
RLS	**Riolos of Patr**	**0.64**	**168**	P	**Pg**	**20 30 03.7**	**-0.8**
RLS				S	**Sg**	**20 30 12.8**	**-0.2**
SERG	**Sergoula**	**0.65**	**114**	P	**Pg**	**20 30 04.0**	**-0.8**
SERG				S	**Sg**	**20 30 13.7**	**+0.4**
SERG	**Sergoula**	**0.65**	**114**	P	**Pg**	**20 30 04.0**	**-0.8**
SERG				S	**Sg**	**20 30 13.7**	**+0.4**
TRIZ	**Trizonia**	**0.68**	**118**	P	**Pg**	**20 30 03.7**	**-1.6**
TRIZ				S	**Sg**	**20 30 13.2**	**-1.1**
TRIZ	**Trizonia**	**0.68**	**118**	P	**Pg**	**20 30 04.5**	**-0.9**
TRIZ				S	**Sg**	**20 30 14.1**	**-0.2**
LAKA	**Lakka**	**0.69**	**130**	P	**Pg**	**20 30 04.4**	**-1.1**
LAKA	**Lakka**	**0.69**	**130**	P	**Pg**	**20 30 04.9**	**-0.6**
KFL	**Anninata**	**0.70**	**215**	P	**Pg**	**20 30 04.6**	**-1.1**
KFL	**Anninata**	**0.70**	**215**	P	**Pg**	**20 30 05.0**	**-0.8**
KFL				S	**Sg**	**20 30 14.9**	**-0.1**
KFL	**Anninata**	**0.70**	**215**	P	**Pg**	**20 30 04.9**	**-0.8**
KFL				S	**Sg**	**20 30 14.9**	**-0.1**
KALE	**Kalithea**	**0.72**	**114**	P	**Pg**	**20 30 04.3**	**-1.7**
KALE				S	**Sn**	**20 30 18.1**	**-0.9**
KALE				AML	AML	20 30 22.2	
	comp=N,2238µm,0.4s						
KALE				AML	AML	20 30 28.1	
	comp=E,2039µm,0.6s						
KALE	**Kalithea**	**0.72**	**114**	P	**Pg**	**20 30 05.2**	**-0.9**
KALE				S	**Sb**	**20 30 16.1**	**-0.2**
KALE	**Kalithea**	**0.72**	**114**	P	**Pg**	**20 30 05.2**	**-0.9**
KALE				S	**Sb**	**20 30 16.1**	**-0.2**
VLS	**Valsamata**	**0.76**	**228**	P	**Pg**	**20 30 04.5**	**-2.3**
VLS				S	**Sn**	**20 30 18.3**	**-1.5**
VLS				AML	AML	20 30 26.6	
	comp=E,1695µm,0.7s						
VLS				AML	AML	20 30 29.2	
	comp=N,1951µm,0.5s						
VLS	**Valsamata**	**0.76**	**228**	P	**Pg**	**20 30 05.4**	**-1.3**
VLS				S	**Sb**	**20 30 17.3**	**0.0**
VLS	**Valsamata**	**0.76**	**228**	P	**Pg**	**20 30 05.4**	**-1.3**
VLS				S	**Sb**	**20 30 17.3**	**0.0**
VTN	**Vitineika**	**0.77**	**187**	P	**Pg**	**20

PROD					AML	AML	20 30 40.7		
	comp=E,645µm,0.4s								
PROD	**Prodromos**	**1.32**	**108**		P	**Pg**	**20 30 18.3**	**+0.8**	
LKR	**Lokris**	**1.33**	**91**		P	**Pb**	**20 30 16.5**	**-0.3**	
LKR					S	**Sb**	**20 30 33.5**	**-0.3**	
LKR					AML	AML	20 30 38.2		
	comp=N,658µm,0.4s								
LKR					AML	AML	20 30 45.8		
	comp=E,543µm,0.6s								
LKR	**Lokris**	**1.33**	**91**		P	**Pb**	**20 30 16.8**	**-0.1**	
LKR					S	**Sg**	**20 30 34.5**	**-0.4**	
LKR	**Lokris**	**1.33**	**91**		P	**Pn**	**20 30 15.3**	**-1.0**	
LKR					S	**Sb**	**20 30 33.5**	**-0.3**	
TRIP	**Tripoli**	**1.38**	**146**		P	**Pb**	**20 30 17.7**	**-0.2**	
TRIP					S	**Sg**	**20 30 39.8**	**+3.1**	
TRIP					AML	AML	20 30 40.7		
	comp=E,1332µm,0.6s								
TRIP					AML	AML	20 30 42.3		
	comp=N,1003µm,0.6s								
TRIP	**Tripoli**	**1.38**	**146**		P	**Pb**	**20 30 17.9**	**0.0**	
TRIP					S	**Sg**	**20 30 38.6**	**+1.9**	
MES3	**Kyparissia**	**1.46**	**168**		P	**Pg**	**20 30 22.7**	**+2.5**	
MES3	**Kyparissia**	**1.46**	**168**		P	**Pg**	**20 30 21.1**	**+0.9**	
LTK	**Loutraki**	**1.47**	**116**		P	**Pg**	**20 30 19.8**	**-0.4**	
LTK					S	**Sg**	**20 30 40.9**	**+1.6**	
LTK					AML	AML	20 30 46.7		
	comp=E,669µm,0.8s								
LTK					AML	AML	20 30 47.4		
	comp=N,528µm,0.7s								
LTK	**Loutraki**	**1.47**	**116**		P	**Pg**	**20 30 19.7**	**-0.5**	
LTK					S	**Sg**	**20 30 40.4**	**+1.1**	
FYTO	**Fytoko, Volos**	**1.47**	**60**		P	**Pb**	**20 30 18.8**	**-0.4**	
FYTO					S	**Sg**	**20 30 40.1**	**+0.8**	
FYTO					AML	AML	20 30 41.2		
	comp=N,1166µm,0.5s								
FYTO					AML	AML	20 30 50.2		
	comp=E,443µm,0.5s								
FYTO	**Fytoko, Volos**	**1.47**	**60**		P	**Pb**	**20 30 19.2**	**0.0**	
FYTO					S	**Sg**	**20 30 39.9**	**+0.6**	
SRN	**Sarande**	**1.56**	**320**	*i* PN	**Pb**		**20 30 20.5**	**-0.4**	
SRN				*i* SN	**Sg**		**20 30 42.8**	**+0.4**	
SRN	**Sarande**	**1.56**	**320**	*i* Pn	**Pb**		**20 30 20.5**	**-0.4**	
SRN				*i* Sn	**Sg**		**20 30 42.8**	**+0.4**	
ITM	**Ithomi**	**1.58**	**162**		P	**Pn**	**20 30 19.1**	**-0.7**	
ITM	**Ithomi**	**1.58**	**162**		P	**Pn**	**20 30 20.2**	**+0.4**	
VIL2	**Platees**	**1.61**	**106**		P	**Pg**	**20 30 23.4**	**+0.4**	
VIL2					S	**Sg**	**20 30 43.7**	**-0.3**	
VIL2					AML	AML	20 30 55.8		
	comp=N,831µm,0.9s								
VIL2					AML	AML	20 30 59.2		
	comp=E,563µm,0.6s								
NEO	**Neokhori**	**1.62**	**67**		P	**Pb**	**20 30 21.8**	**-0.1**	
NEO					S	**Sg**	**20 30 44.0**	**-0.3**	
NEO					AML	AML	20 30 46.3		
	comp=N,1512µm,0.5s								
NEO					AML	AML	20 30 47.0		
	comp=E,1051µm,0.6s								
NEO	**Neokhori**	**1.62**	**67**		P	**Pb**	**20 30 21.8**	**-0.1**	
NEO					S	**Sg**	**20 30 43.8**	**-0.5**	
XOR	**Xorichti**	**1.62**	**65**		P	**Pb**	**20 30 22.5**	**+0.6**	
XOR					S	**Sg**	**20 30 44.2**	**-0.1**	
XOR					AML	AML	20 30 46.8		
	comp=N,1219µm,0.6s								
XOR					AML	AML	20 30 47.9		
	comp=E,714µm,0.5s								
XOR	**Xorichti**	**1.62**	**65**		P	**Pb**	**20 30 22.2**	**+0.3**	
XOR					S	**Sg**	**20 30 44.0**	**-0.3**	
XOR	**Xorichti**	**1.62**	**65**		P	**Pn**	**20 30 19.5**	**-0.9**	
XOR					S	**Sn**	**20 30 40.5**	**-0.7**	
KZN	**Kozani**	**1.66**	**12**		P	**Pn**	**20 30 21.6**	**+0.6**	
KZN					S	**Sg**	**20 30 45.2**	**-0.4**	
KZN					AML	AML	20 30 49.6		
	comp=N,524µm,0.5s								
KZN					AML	AML	20 30 51.0		
	comp=E,1133µm,0.5s								
KZN	**Kozani**	**1.66**	**12**		P	**Pb**	**20 30 21.9**	**-0.7**	
KZN					S	**Sg**	**20 30 44.8**	**-0.8**	
VILL	**Villia**	**1.66**	**108**		P	**Pb**	**20 30 23.0**	**+0.4**	
VILL					S	**Sb**	**20 30 44.3**	**+0.9**	
LIT	**Litokhoron**	**1.69**	**33**		P	**Pn**	**20 30 21.9**	**+0.5**	
LIT					S	**Sg**	**20 30 46.9**	**+0.5**	
LIT					AML	AML	20 30 48.1		
	comp=E,991µm,0.6s								
LIT					AML	AML	20 30 50.2		
	comp=N,914µm,0.5s								
LIT	**Litokhoron**	**1.69**	**33**		P	**Pb**	**20 30 22.3**	**-0.7**	
LIT					S	**Sg**	**20 30 46.0**	**-0.4**	
NEST	**Nestorio**	**1.74**	**354**		P	**Pg**	**20 30 26.1**	**+0.6**	
NEST	**Nestorio**	**1.74**	**354**		P	**Pg**	**20 30 24.7**	**-0.8**	
SKIA	**Skiathos**	**1.75**	**73**		P	**Pg**	**20 30 25.4**	**-0.4**	
SKIA					AML	AML	20 30 56.1		
	comp=N,401µm,0.8s								
SKIA					AML	AML	20 30 57.0		
	comp=E,308µm,0.8s								
SKIA	**Skiathos**	**1.75**	**73**		P	**Pb**	**20 30 24.6**	**+0.5**	
PYL	**PYLOS**	**1.82**	**169**		P	**Pb**	**20 30 24.8**	**-0.4**	
PYL	**PYLOS**	**1.82**	**169**		P	**Pb**	**20 30 24.7**	**-0.5**	
MES2	**Methoni**	**1.88**	**170**		P	**Pg**	**20 30 27.3**	**-0.9**	
MES2	**Methoni**	**1.88**	**170**		P	**Pb**	**20 30 26.4**	**+0.1**	
DID	**Didima**	**1.93**	**127**		P	**Pb**	**20 30 27.0**	**-0.1**	
DID					S	**Sb**	**20 30 51.7**	**+0.6**	
DID					AML	AML	20 30 57.4		
	comp=E,715µm,0.6s								
DID					AML	AML	20 31 02.2		
	comp=N,396µm,0.7s								
DID	**Didima**	**1.93**	**127**		P	**Pb**	**20 30 26.6**	**-0.5**	
DID					S	**Sb**	**20 30 51.5**	**+0.5**	
KRND	**KRANIDI**	**1.95**	**131**		P	**Pb**	**20 30 28.0**	**+0.5**	
KRND					S	**Sb**	**20 30 51.9**	**+0.2**	
KRND					AML	AML	20 30 56.8		
	comp=N,508µm,1.1s								
KRND					AML	AML	20 31 00.7		
	comp=E,529µm,0.6s								
KRND	**KRANIDI**	**1.95**	**131**		P	**Pb**	**20 30 27.3**	**-0.2**	
KRND					S	**Sb**	**20 30 52.0**	**+0.2**	
KBN	**Korca**	**1.98**	**349**	*i* PN	**Pg**		**20 30 31.0**	**+1.0**	
KBN				*i* SN	**Sg**		**20 30 55.6**	**-0.1**	
KBN	**Korca**	**1.98**	**349**	*i* Pn	**Pg**		**20 30 31.0**	**+1.0**	
	baz=251								
KBN				*i* Sn	**Sg**		**20 30 55.6**	**-0.1**	
	baz=251								
ATHU	**Athens Univers**	**2.08**	**109**		P	**Pb**	**20 30 28.7**	**-1.0**	
ATHU	**Athens Univers**	**2.08**	**109**		P	**Pb**	**20 30 28.5**	**-1.2**	
DYR	**Agios Nikonas**	**2.08**	**157**		P	**Pg**	**20 30 31.6**	**-0.5**	
DYR	**Agios Nikonas**	**2.08**	**157**		P	**Pb**	**20 30 30.0**	**+0.2**	
FNA	**Florina**	**2.10**	**2**	*i* PN	**Pb**		**20 30 29.1**	**-0.9**	
FNA				*i* SN	**Sg**		**20 30 58.1**	**-1.4**	
FNA	**Florina**	**2.10**	**2**	P	**Pb**		**20 30 29.5**	**-0.5**	
FNA	**Florina**	**2.10**	**2**	P	**Pb**		**20 30 29.0**	**-1.0**	
FNA				*i* Sn	**Sg**		**20 30 58.1**	**-1.4**	
	baz=1.0								
PTL	**Penteli**	**2.11**	**107**		P	**Pn**	**20 30 28.5**	**+1.3**	
PTL					S	**Sb**	**20 30 57.3**	**+0.9**	
PTL					AML	AML	20 31 09.0		
	comp=N,220µm,0.8s								
PTL					AML	AML	20 31 14.9		
	comp=E,237µm,1.0s								
PTL	**Penteli**	**2.11**	**107**		P	**Pb**	**20 30 28.6**	**-1.6**	
PTL					S	**Sb**	**20 30 56.5**	**+0.1**	
VLY	**Voula,Athens**	**2.13**	**112**		P	**Pn**	**20 30 28.7**	**+1.4**	
VLY					AML	AML	20 31 08.3		
	comp=E,309µm,0.5s								
VLY					AML	AML	20 31 08.8		
	comp=N,310µm,0.8s								
VLY	**Voula,Athens**	**2.13**	**112**		P	**Pb**	**20 30 28.9**	**-1.6**	
PAIG	**Paliouri**	**2.22**	**55**		P	**Pn**	**20 30 28.5**	**-0.1**	
PAIG	**Paliouri**	**2.22**	**55**		P	**Pn**	**20 30 29.4**	**+0.8**	
BIA	**Bitola**	**2.33**	**0**	*i* Pn	**Pg**		**20 30 35.7**	**-1.1**	
VLI	**Veliai**	**2.35**	**146**		P	**Pb**	**20 30 32.2**	**-2.1**	
VLI	**Veliai**	**2.35**	**146**		P	**Pb**	**20 30 32.2**	**-2.1**	
HORT	**Hortiatis**	**2.36**	**35**		P	**Pn**	**20 30 31.2**	**+0.5**	
HORT	**Hortiatis**	**2.36**	**35**		P	**Pn**	**20 30 31.7**	**+1.1**	
PLG	**Polygyros**	**2.37**	**44**		P	**Pn**	**20 30 30.7**	**+0.1**	
PLG	**Polygyros**	**2.37**	**44**		P	**Pn**	**20 30 31.5**	**+0.9**	
GRG	**Griva**	**2.42**	**20**		P	**Pn**	**20 30 32.5**	**+1.0**	
GRG	**Griva**	**2.42**	**20**		P	**Pn**	**20 30 32.7**	**+1.3**	
OHR	**Ohrid**	**2.46**	**351**	*i* Pn	**Pg**		**20 30 38.0**	**-1.1**	
SCTE	**Santa Cesarea**	**2.60**	**303**	*i* PN	**Pn**		**20 30 33.8**	**0.0**	
SCTE	**Santa Cesarea**	**2.60**	**303**	*i* Pn	**Pn**		**20 30 33.8**	**0.0**	
OUR	**Ouranopolis**	**2.65**	**51**		P	**Pn**	**20 30 33.9**	**-0.5**	
OUR	**Ouranopolis**	**2.65**	**51**		P	**Pn**	**20 30 35.1**	**+0.6**	
SOH	**Sokhos**	**2.66**	**36**		P	**Pn**	**20 30 34.5**	**-0.2**	
SOH	**Sokhos**	**2.66**	**36**		P	**Pn**	**20 30 35.4**	**+0.7**	
KRUS	**Krusevo**	**2.68**	**359**	*i* Pn		**Pn**	**20 30 37.1**	**+2.0**	
KNT	**Kendrikon**	**2.76**	**26**	P		**Pb**	**20 30 39.0**	**-2.3**	
KNT	**Kendrikon**	**2.76**	**26**	P		**Pn**	**20 30 38.4**	**+2.3**	
SRS	**Serrai**	**3.00**	**35**	P		**Pn**	**20 30 40.6**	**+1.2**	
SRS	**Serrai**	**3.00**	**35**	P		**Pn**	**20 30 40.8**	**+1.4**	
PHP	**Peshkopia**	**3.07**	**348**	*i* PN		**Pn**	**20 30 40.5**	**+0.1**	
PHP	**Peshkopia**	**3.07**	**348**	*i* Pn		**Pn**	**20 30 40.5**	**+0.1**	
NVR	**Nevrokopi**	**3.31**	**36**	P		**Pn**	**20 30 44.4**	**+0.8**	
NVR	**Nevrokopi**	**3.31**	**36**	P		**Pn**	**20 30 45.0**	**+1.4**	
KAVA	**Kavala**	**3.38**	**46**	P		**Pn**	**20 30 44.7**	**+0.1**	
KAVA	**Kavala**	**3.38**	**46**	P		**Pn**	**20 30 45.6**	**+1.0**	
PUK	**Puka**	**3.52**	**343**	*i* PN		**Pn**	**20 30 47.0**	**+0.4**	
PUK	**Puka**	**3.52**	**343**	*i* Pn		**Pn**	**20 30 47.0**	**+0.4**	
SMTH	**Samothraki Isl**	**3.72**	**60**	P		**Pn**	**20 30 50.3**	**+1.0**	
SMTH	**Samothraki Isl**	**3.72**	**60**	P		**Pn**	**20 30 50.9**	**+1.6**	
MATE	**Matera**	**4.05**	**300**	*i* P		**Sg**	**20 32 10.7**	**+8.4**	
RDO	**Rodhopi**	**4.08**	**52**	P		**Pn**	**20 30 57.7**	**+3.5**	
RDO	**Rodhopi**	**4.08**	**52**	P		**Pn**	**20 30 57.1**	**+2.9**	
VTS	**Vitosha**	**4.16**	**20**	*i* P		**Sn**	**20 31 46.6**	**+2.5**	
IDI	**Anoyia**	**4.44**	**139**	Pn		Pn	20 30 54.3	-4.9	
	comp=N,0.1nm,0.3s,baz=306,slow=17,SNR=1.9								
IDI						Sn	**20 31 54.0**	**+3.2**	
	comp=N,0.4nm,0.3s,baz=297,slow=18,SNR=2.5								
STON	**Ston**	**5.00**	**328**	*e*Pn		**Pn**	**20 31 04.6**	**-2.2**	
STON						Sn	**20 31 58.5**	**-5.9**	
STON	**Ston**	**5.00**	**328**	*e*Pn		**Pn**	**20 31 04.5**	**-2.2**	
ZAGS	**Zajecar**	**5.17**	**7**	*e*Pn		**Pn**	**20 31 08.8**	**-0.4**	
GRUS	**Gruza**	**5.22**	**355**	*e*Pn		**Pn**	**20 31 06.6**	**-3.2**	
BBLS	**Lazići**	**5.37**	**345**	*e*Pn		**Pn**	**20 31 11.8**	**-0.2**	
DIVS	**Divibare**	**5.50**	**350**	*e*Pn		**Pn**	**20 31 13.3**	**-0.4**	
TEKS	**Tekeris**	**6.01**	**348**	*e*Pn		**Pn**	**20 31 20.3**	**-0.4**	
ARR	**Arges**	**7.12**	**19**	*i* P		**Pn**	**20 31 35.8**	**-0.2**	
ARR	**Arges**	**7.12**	**19**	*i* P		**Pn**	**20 31 35.8**	**-0.2**	
UDBI	**Udbina**	**7.16**	**326**	*e*Pn		**Pn**	**20 31 37.0**	**+0.4**	
UDBI	**Udbina**	**7.16**	**326**	*e*Pn		**Pn**	**20 31 36.9**	**+0.4**	
ISR	**Istrita**	**7.52**	**30**	*i* P		Pn	20 31 51.5	+10	
MLR	**Muntele Rosu**	**7.63**	**25**	Pn		**Pn**	**20 31 46.0**	**+3.0**	
	comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=3.4								
MLR	**Muntele Rosu**	**7.63**	**25**	*i* P		Pn	20 31 50.3	+7.3	
PLOR	**Plostina**	**8.18**	**27**	*i* P		**Pn**	**20 31 53.3**	**+2.7**	
PLOR	**Plostina**	**8.18**	**27**	*i* P		**Pn**	**20 31 53.3**	**+2.7**	
VRI	**Vrincioaia**	**8.22**	**28**	*i* P		**Pn**	**20 31 53.7**	**+2.6**	
VRI	**Vrincioaia**	**8.22**	**28**	*i* P		**Pn**	**20 31 53.7**	**+2.6**	
BRTR	**Keskin Array B**	**9.63**	**80**	Pn		**Pn**	**20 32 13.8**	**+3.3**	
	comp=N,0.1nm,0.3s,baz=283,slow=11,SNR=2.6								
KECS	**Kecovo**	**9.81**	**357**	*e*PN		Pn	20 32 06.5	-6.3	
HFS	**Hagfors**	**22.00**	**350**	P		**P**	**20 34 44.7**	**-1.1**	
	comp=N,2.8nm,0.9s,baz=164,slow=16,SNR=3.4								
FINES	**FINESS Array B**	**22.98**	**6**	P		**P**	**20 34 53.6**	**-2.5**	
	comp=N,2.1nm,0.9s,baz=180,slow=7.6,SNR=4.0								
KURBB	**Kurchatov Arra**	**41.44**	**54**	P		**P**	**20 37 37.0**	**-1.2**	
	comp=N,0.2nm,0.8s,baz=278,slow=8.3,SNR=3.4								
MKAR	**Makanchi Array**	**44.51**	**59**	P		**P**	**20 38 01.7**	**-1.6**	
	comp=N,0.3nm,0.6s,baz=278,slow=6.8,SNR=4.5								
ZALV	**Zalesovo Beam**	**44.90**	**49**	P		**P**	**20 38 04.4**	**-1.7**	
	comp=N,0.8nm,0.4s,baz=281,slow=9.0,SNR=5.0								
SONM	**Songino Array**	**59.66**	**51**	P		**P**	**20 39 59.7**	**+3.6**	
	comp=N,0.2nm,0.4s,baz=305,slow=18,SNR=5.1								

*ISCJB **09** 20:36:48.4±0.5, 60.59N±0.02×141.49W±0.03, h12km±3km, Error ellipse: s-maj=4.3km s-min=2.5km az=19.5*
*PGC **09** 20:36:48.0±0.0, 60.44N×141.80W, h23km, ML3.0/5, 181km Wnw of Yakutat, Ak Southeastern Alaska*
*NEIC **09** 20:36:49.2±0.0, 60.54N×141.53W, h4km, ML2.8(AEIC), After AEIC.*

ISC 09 20:36:48.4±1.1, **60.50N**±0.03×**141.63W**±0.02, **h14**km±10km, **n69**, **σ1°55**/96, **Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BAGL	**Bagley Icefiel**	**0.23**	**269**	*e*Pg		**Pb**	**20 36 55.0**	**+0.7**
BAGL				*e*Sg		**Sb**	**20 36 59.8**	**+1.5**
RKAV	**Rock Avalanche**	**0.24**	**144**	P		**Pb**	**20 36 54.9**	**+0.2**
RKAV				S		**Sb**	**20 36 59.5**	**+0.6**
MESA	**MESA**	**0.35**	**207**	P		**Pn**	**20 36 58.2**	**-1.2**
MESA				S		**Sn**	**20 37 04.9**	**-1.4**
ISLE	**Juniper Island**	**0.37**	**287**	P		**Pb**	**20 36 56.9**	**+0.1**
ISLE				S		**Sb**	**20 37 02.7**	**+0.3**
SAMH	**Samovar Hills**	**0.56**	**131**	P		**Pb**	**20 37 00.8**	**+0.7**
SAMH				S		**Sb**	**20 37 09.5**	**+1.5**
KULT	**Kultieth River**	**0.60**	**246**	P		**Pn**	**20 37 02.1**	**-0.5**
PCA	**Pinnacle**	**0.79**	**120**	P		**Pg**	**20 37 03.6**	**-0.2**
PCA				S		**Sg**	**20 37 14.7**	**+0.5**
PCA	**Pinnacle**	**0.79**	**120**	*e*Pg		**Pg**	**20 37 03.6**	**-0.2**
PCA				*e*Sg		**Sg**	**20 37 14.8**	**+0.6**
KHIT	**Khitrov Hills**	**0.80**	**267**	P		**Pn**	**20 37 05.3**	**-0.1**
KHIT				S		**Sn**	**20 37 18.1**	**+0.9**
NICHA	**Nichawak Mount**	**1.19**	**258**	P		**Pg**	**20 37 12.0**	**+0.7**
PNL	**Peninsula**	**1.39**	**126**	Pn		**Pn**	**20 37 12.3**	**-1.1**
PNL				Sn		**Sn**	**20 37 30.5**	**-1.2**
PNL	**Peninsula**	**1.39**	**126**	*e*Pn		**Pn**	**20 37 12.4**	**-1.1**
RAGM	**Ragged Mountai**	**1.51**	**267**	*e*Pn		**Pb**	**20 37 16.6**	**+0.3**
RAGM				*e*Sn		**Sg**	**20 37 36.4**	**-0.7**
GOAT	**Goat Mountain**	**1.53**	**275**	P		**Pb**	**20 37 16.4**	**-0.2**
BMRM	**Bremner River**	**1.54**	**289**	*e*Pn		**Pb**	**20 37 16.1**	**-0.5**
BMRM				*e*Sn		**Sb**	**20 37 35.8**	**-0.2**
YUK7	**Dusty Glacier**	**1.73**	**87**	Pn		**Pn**	**20 37 17.4**	**-0.8**
YUK7				Sn		**Sn**	**20 37 39.9**	**-0.3**
YUK7	**Dusty Glacier**	**1.73**	**87**	P		**Pn**	**20 37 17.8**	**-0.4**
YUK5	**Granite Creek**	**1.96**	**69**	Pn		**Pn**	**20 37 20.6**	**-0.7**
YUK5				Sn		**Sn**	**20 37 45.3**	**-0.4**
WAZA	**Wrangell Mount**	**2.00**	**324**	P		**Pn**	**20 37 21.9**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.04**	**273**	*e*Pn		**Pb**	**20 37 24.1**	**-1.0**
EYAK				*e*Sn		**Sb**	**20 37 49.7**	**-0.6**
HYT	**Haines Junctio**	**2.06**	**79**	Pn		**Pn**	**20 37 22.0**	**-0.7**
HYT				Sn		**Sn**	**20 37 47.9**	**-0.4**
HYT	**Haines Junctio**	**2.06**	**79**	*e*Pn		**Pn**	**20 37 22.2**	**-0.5**
DIV	**Divide**	**2.13**	**289**	Pg		**Pb**	**20 37 25.3**	**-1.4**
DIV				Sg		**Sb**	**20 37 53.3**	**+0.3**
DIV	**Divide**	**2.13**	**289**	*e*Pn		**Pb**	**20 37 26.0**	**-0.8**
DIV				*e*Sn		**Sb**	**20 37 53.1**	**+0.1**
KLU	**Klutina**	**2.32**	**297**	*e*Pn		**Pn**	**20 37 27.7**	**+1.5**
KLU				*e*Sn		**Sn**	**20 37 56.1**	**+1.5**
HARP	**HAARP**	**2.56**	**320**	Pn		**Pn**	**20 37 27.6**	**-1.9**
HARP				Pg		**Pb**	**20 37 32.9**	**-1.1**
HARP	**HAARP**	**2.56**	**320**	*e*Pn		**Pn**	**20 37 31.6**	**+2.1**
MENT	**Mentasta**	**2.65**	**339**	*e*Pn		**Pn**	**20 37 32.7**	**+2.1**
MENT				*e*Sn		**Sb**	**20 38 07.6**	**-0.3**
GLI	**Glacier Island**	**2.71**	**281**	*e*Pn		**Pb**	**20 37 34.9**	**-1.9**
GLI				*e*Sn		**Sb**	**20 37 57.5**	**-2.0**
PLBC	**Pleasant Camp**	**2.84**	**109**	Pn		**Pn**	**20 37 32.9**	**-0.5**
SCM	**Sheep Creek Mo**	**3.07**	**298**	*e*Pn		**Pn**	**20 37 36.7**	**+0.1**
SCM				*e*Sn		**Sn**	**20 38 14.8**	**+1.8**
PAX	**Paxson**	**3.08**	**325**	Pn		**Pn**	**20 37 34.2**	**-2.6**
PAX				Pg		**Pb**	**20 37 42.4**	**-0.7**
PAX	**Paxson**	**3.08**	**325**	*e*Pn		**Pn**	**20 37 39.9**	**+3.2**
SKAG	**Skagway**	**3.33**	**105**	*e*Pn		**Pn**	**20 37 37.5**	**-2.5**
WHY	**Whitehorse**	**3.33**	**84**	Pn		**Pn**	**20 37 40.0**	**-0.2**
WHY				Sn		**Sn**	**20 38 17.1**	**-2.5**
WHY	**Whitehorse**	**3.33**	**84**	*e*Pn		**Pn**	**20 37 40.0**	**-0.2**
DOT	**Dot Lake**	**3.37**	**341**	Pn		**Pn**	**20 37 41.7**	**+1.1**
DOT	**Dot Lake**	**3.37**	**341**	*e*Pn		**Pn**	**20 37 42.0**	**+1.5**
SML	**Sawmill**	**3.50**	**295**	*e*Pn		**Pn**	**20 37 44.1**	**+1.6**
RIDG	**Independ'e Rid**	**3.59**	**337**	*e*Pn		**Pn**	**20 37 45.3**	**+1.6**
DAWY	**Dawson**	**3.73**	**15**	Pn		**Pn**	**20 37 47.0**	**+1.4**
DAWY	**Dawson**	**3.73**	**15**	*e*Pn		**Pn**	**20 37 47.1**	**+1.4**
DHY	**Denali Highway**	**3.76**	**316**	*e*Pn		**Pn**	**20 37 48.9**	**+2.8**
PMR	**Palmer**	**3.81**	**290**	*e*Pn		**Pn**	**20 37 52.1**	**-3.3**
PMR				*e*Sn		**Sb**	**20 38 40.2**	**-1.1**
SEW	**Seward**	**3.91**	**268**	*e*Pn		**Pn**	**20 37 52.0**	**+4.1**
BESE	**Bessie Mountai**	**3.95**	**116**	*e*Pn		**Pn**	**20 37 48.2**	**-0.4**
RC01	**Rabbit Creek A**	**4.02**	**282**	*e*Pn		**Pb**	**20 37 54.6**	**-4.3**
RC01				*e*Sg		**Sb**	**20 38 47.0**	**-0.2**
EGAK	**Eagle**	**4.30**	**3**	*e*Pn		**Pn**	**20 37 55.5**	**+2.1**
RND	**Reindeer**	**4.49**	**314**	*e*Pn		**Pn**	**20 37 57.9**	**+1.9**
SUA	**Susitna One**	**4.54**	**286**	*e*Pn		**Pn**	**20 37 57.5**	**+0.7**
HDA	**Harding Lake**	**4.64**	**330**	*e*Pn		**Pn**	**20 37 57.7**	**-0.3**
BRLK	**Bradley Lake**	**4.69**	**265**	*e*Pn		**Pn**	**20 38 02.3**	**+3.6**
MCK	**McKinley**	**4.72**	**317**	*e*Pn		**Pn**	**20 38 00.9**	**+1.8**
IL1	**Eielson Array**	**4.93**	**333**	*e*Pn		**Pn**	**20 38 02.2**	**+0.2**
ILB	**Eielson Array**	**4.93**	**333**	*e*Pn		**Pn**	**20 38 02.5**	**+0.6**
TRF	**Thorofare Moun**	**5.04**	**310**	*e*Pn		**Pn**	**20 38 05.2**	**+1.5**
CCB	**Clear Creek Bu**	**5.05**	**328**	*e*Pn		**Pn**	**20 38 04.8**	**+1.2**
KTH	**Kantishna Hill**	**5.34**	**309**	*e*Pn		**Pn**	**20 38 08.8**	**+1.1**
MDM	**Murphy Dome**	**5.41**	**329**	*e*Pn		**Pn**	**20 38 09.5**	**+0.9**
PPLA	**Purkeypile**	**5.57**	**300**	*e*Pn		**Pn**	**20 38 12.9**	**+2.0**
PPLA				*e*Sg		**Sb**	**20 39 32.4**	**+0.4**
BPAW	**Bear Paw Mtn.**	**5.67**	**314**	*e*Pn		**Pn**	**20 38 13.2**	**+1.1**
CAST	**Castle Rocks**	**5.74**	**305**	*e*Pn		**Pn**	**20 38 13.3**	**+0.2**
MLY	**Manley**	**6.18**	**321**	*e*Pn		**Pn**	**20 38 22.1**	**+3.0**
KDAK	**Kodiak Island**	**6.26**	**249**	*e*Pn		**Pn**	**20 38 21.4**	**+1.3**
FYU	**Fort Yukon**	**6.30**	**347**	*e*Pn		**Pn**	**20 38 22.3**	**+1.5**
OHAK	**Old Harbor**	**6.88**	**247**	*e*Pn		**Pn**	**20 38 25.0**	**-3.7**
COLD	**Coldfoot**	**7.74**	**334**	*e*Pn		**Pn**	**20 38 42.8**	**+2.3**
IM3	**Indian Mountai**	**7.75**	**320**	*e*Pn		**Pn**	**20 38 41.8**	**+1.2**
TOLK	**Toolik Lake Re**	**8.85**	**341**	*e*Pn		**Pn**	**20 38 57.2**	**+1.4**

*ISK **09** 20:38:22.7, 39.40N×34.10E, h4km, ML2.6/4*
*CSEM **09** 20:38:23.9±0.2, 39.35N×34.12E, h2km, MD2.6, Error ellipse: s-maj=6.0km s-min=3.6km az=148.0*
*DDA **09** 20:38:24.0, 39.36N×34.15E, h7km, Md2.6*

ISC 09 20:38:24.0±1.1, **39.38N**±0.03×**34.11E**±0.03, **h5**km±11km, **n24**, **σ055**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CDAG	**Cicekdag**	**0.32**	**39**	*i* P		**Pg**	**20 38 30.3**	**+0.1**
CDAG				*i* S		**Sg**	**20 38 35.0**	**+0.6**
CDAG	**Cicekdag**	**0.32**	**39**	P		**Pg**	**20 38 30.3**	**+0.1**
CDAG				S		**Sg**	**20 38 35.0**	**+0.6**
SERE	**Sereflikochisa**	**0.61**	**225**	PG		**Pg**	**20 38 35.6**	**-0.1**
SERE				SG		**Sg**	**20 38 43.8**	**+0.3**
SERE	**Sereflikochisa**	**0.61**	**225**	*e*Pg		**Pg**	**20 38 35.6**	**-0.1**
SERE				*e*Sg		**Sg**	**20 38 43.8**	**+0.3**
BBAL	**Bala**	**0.78**	**282**	*i* P		**Pb**	**20 38 40.1**	**-0.2**
BBAL	**Bala**	**0.78**	**282**	P		**Pb**	**20 38 40.1**	**-0.2**
AVNS	**Nevsehir-Avano**	**0.81**	**135**	*i* P		**Pg**	**20 38 39.2**	**-0.3**
AVNS	**Nevsehir-Avano**	**0.81**	**135**	P		**Pg**	**20 38 39.2**	**-0.3**
AFSR	**Af˘ar-Bala (A**	**0.81**

	comp=Z,82nm,18.2s,baz=286,slow=32						
URZ	**Urewera**	**19.61**	**163**	LR	LR	20 49 32.2	
	comp=Z,106nm,19.5s,baz=86,slow=32						
STKA	**Stephens Creek**	**28.27**	**239**	P	**P**	**20 44 58.1**	**+0.4**
	1.8nm,0.9s,baz=90,slow=7.3,SNR=3.9						
STKA				LR	LR	20 56 19.6	
	comp=Z,70nm,18.2s,baz=205,slow=37						
STKA	**Stephens Creek**	**28.27**	**239**	*eP*	**P**	**20 44 57.3**	**-0.4**
	2.2nm,1.5s						
WB2	**Warramunga Arr**	**33.50**	**263**	*eP*	**P**	**20 45 46.8**	**+2.8**
WR1	**Warramunga Arr**	**33.51**	**263**	*eP*	**P**	**20 45 42.0**	**-2.1**
	21nm,1.8s						
WR1				*e*PcP	**PcP**	**20 48 24.6**	**0.0**
WRA	**Warramunga Arr**	**33.51**	**263**	P	**P**	**20 45 42.0**	**-2.1**
	0.6nm,0.5s,baz=102,slow=8.0,SNR=9.3						
WRA				PcP	**PcP**	**20 48 24.6**	**0.0**
	0.7nm,0.9s,baz=105,slow=3.7,SNR=5.0						
AS01	**Alice Springs**	**33.69**	**257**	*eP*	**P**	**20 45 44.9**	**-0.8**
AS31	**Alice Springs**	**33.73**	**257**	*eP*	**P**	**20 45 44.9**	**-1.2**
	2.7nm,0.6s						
ASAR	**Alice Springs**	**33.73**	**257**	P	**P**	**20 45 45.1**	**-0.9**
	6.6nm,0.7s,baz=84,slow=8.8,SNR=118						
ASAR				LR	LR	20 59 07.8	
	comp=Z,92nm,18.3s,baz=103,slow=36						
MCQ	**Macquarie Isla**	**35.86**	**191**	*eP*	**P**	**20 46 03.6**	**-0.3**
	129nm,1.1s						
MTN	**Manton Dam**	**37.84**	**274**	*eP*	**P**	**20 46 19.9**	**-1.4**
	18nm,1.2s						
MBWA	**Marble Bar**	**46.98**	**259**	*eP*	**P**	**20 47 35.6**	**0.0**
	57nm,1.9s						
NWAO	**Narrogin (SRO)**	**48.69**	**243**	LR	LR	21 08 01.1	
	comp=Z,82nm,18.9s,slow=36						
CM31	**Chiang Mai Arr**	**79.29**	**294**	*eP*	**P**	**20 51 09.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**79.29**	**294**	P	**P**	**20 51 10.9**	**+0.9**
	0.3nm,0.8s,baz=130,slow=4.0,SNR=4.3						
CIAC	**Catalina I. Ai**	**86.19**	**53**	*eP*	**P**	**20 51 45.0**	**-0.6**
SONA0	**Songino Array**	**87.92**	**323**	*eP*	**P**	**20 51 53.7**	**-0.1**
SONM	**Songino Array**	**87.92**	**323**	P	**P**	**20 51 53.7**	**-0.1**
	1.1nm,0.9s,baz=148,slow=7.4,SNR=7.1						
ILAR	**Eielson Array**	**90.35**	**17**	P	**P**	**20 52 06.0**	**+1.4**
	0.2nm,0.6s,baz=219,slow=5.3,SNR=3.3						
YML	**Mary Lake**	**96.25**	**45**	*eP*	**P**	**20 52 33.1**	**+0.4**

DDA ***09*** *20:40:14.9, 38.72N×43.60E, h7km, Ml2.8*
ISK ***09*** *20:40:14.6, 38.74N×43.47E, h5km, ML2.4/5*
ISCJB ***09*** *20:40:15.9±0.6, 38.77N±0.03×43.42E±0.07, h3km±8km, Error ellipse: s-maj=10.1km s-min=5.0km az=18.9*
CSEM ***09*** *20:40:15.6±0.3, 38.76N×43.47E, h5km, ML2.4, Error ellipse: s-maj=8.8km s-min=4.8km az=113.0*

ISC 09 20:40:15.7±0.9, **38.74N**±0.04×**43.52E**±0.05, **h13**km±8km, **n23**, σ0**s70**/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**216**	PG	**Pg**	**20 40 20.1**	**+0.2**
VANB	**Van**	**0.18**	**216**	*e*Pg	**Pg**	**20 40 20.1**	**+0.2**
TVAN	**Van**	**0.23**	**204**	*i* P	**Pg**	**20 40 20.1**	**-0.7**
TVAN				*i* S	**Sg**	**20 40 24.5**	**+0.3**
TVAN	**Van**	**0.23**	**204**	P	**Pg**	**20 40 20.1**	**-0.7**
TVAN				S	**Sg**	**20 40 24.5**	**+0.3**
CLDR	**Caldiran**	**0.51**	**37**	PG	**Pb**	**20 40 26.1**	**-0.6**
CLDR				SG	**Sb**	**20 40 34.6**	**+0.6**
CLDR	**Caldiran**	**0.51**	**37**	*i* P	**Pg**	**20 40 24.5**	**-1.2**
CLDR	**Caldiran**	**0.51**	**37**	P	**Pg**	**20 40 24.5**	**-1.2**
CLDR	**Caldiran**	**0.51**	**37**	*e*Pg	**Pb**	**20 40 26.1**	**-0.6**
CLDR				*e*Sg	**Sb**	**20 40 34.6**	**+0.6**
GEVA	**Gevas**	**0.56**	**221**	*i* P	**Pg**	**20 40 26.0**	**-0.7**
GEVA	**Gevas**	**0.56**	**221**	P	**Pg**	**20 40 26.0**	**-0.7**
DYDN	**Diyadin**	**0.81**	**9**	*i* P	**Pg**	**20 40 31.2**	**-0.3**
DYDN	**Diyadin**	**0.81**	**9**	P	**Pg**	**20 40 31.2**	**-0.3**
TUTA	**Tutak**	**0.86**	**320**	*i* P	**Pb**	**20 40 32.3**	**-0.4**
TUTA	**Tutak**	**0.86**	**320**	P	**Pb**	**20 40 32.3**	**-0.4**
AGRB	**Hanur-Agry**	**0.93**	**334**	PG	**Pb**	**20 40 33.6**	**-0.3**
AGRB	**Hanur-Agry**	**0.93**	**334**	*e*Pg	**Pb**	**20 40 33.6**	**-0.3**
GURO	**Guroymak-BITLI**	**1.18**	**261**	PN	**Pb**	**20 40 37.1**	**-1.0**
GURO				SN	**Sn**	**20 40 54.6**	**+0.4**
GURO	**Guroymak-BITLI**	**1.18**	**261**	*e*Pn	**Pb**	**20 40 37.1**	**-1.0**
GURO				*e*Sn	**Sn**	**20 40 54.6**	**+0.4**
IGDI	**IGDIR**	**1.21**	**21**	*i* P	**Pn**	**20 40 39.4**	**+1.0**
CUKT	**Cukurca**	**1.49**	**177**	PN	**Pg**	**20 40 44.2**	**-0.2**
CUKT	**Cukurca**	**1.49**	**177**	*e*Pn	**Pg**	**20 40 44.2**	**-0.2**
SIRT	**Sirnak**	**1.50**	**215**	PN	**Pg**	**20 40 43.7**	**-0.9**
SIRT	**Sirnak**	**1.50**	**215**	*e*Pn	**Pg**	**20 40 43.7**	**-0.9**

ISCJB ***09*** *20:49:09.1±1.4, 36.60N±0.07×140.83E±0.09, h10km±5km, mb3.3/3, Error ellipse: s-maj=14.7km s-min=6.8km az=41.4*
IDC ***09*** *20:49:09.0±1.9, 36.64N×140.80E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.1/70, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=38.3km s-min=24.8km az=66.0*
JMA ***09*** *20:49:11.5, 36.70N×140.65E, h5km±1km, M3.0*
JMA Felt II J1.

ISC 09 20:49:10.4±1.9, **36.63N**±0.08×**140.8E**±0.1, **h7**km±9km, **n9, s0**, σ0**s49**/13, **mb3.4/3, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.17**	**262**	P	**Pg**	**20 49 13.9**	**+0.1**
JHO				S	**Sg**	**20 49 15.5**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.47**	**2**	P	**Pg**	**20 49 19.8**	**+0.4**
JYT	**Yasato**	**0.62**	**229**	*e*S	**Sg**	**20 49 30.8**	**+0.4**
JFK	**Kawauchi**	**0.73**	**6**	P	**Pg**	**20 49 24.5**	**0.0**
JFK				S	**Sg**	**20 49 34.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.07**	**268**	Pn	**Pn**	**20 49 45.7**	**+0.3**
	6.7nm,0.3s,baz=84,slow=14,SNR=57						
MJAR				Sn	**Sn**	**20 50 11.1**	**-0.4**
	8.6nm,0.3s,baz=88,slow=28,SNR=17						
MAT	**Matsushiro**	**2.07**	**268**	P	**Pn**	**20 49 45.9**	**+0.4**
MAT				S	**Sn**	**20 50 12.2**	**+0.7**
ZALV	**Zalesovo Beam**	**41.81**	**313**	P	**P**	**20 57 00.5**	**+0.1**
	0.3nm,0.4s,baz=101,slow=7.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**45.84**	**308**	P	**P**	**20 57 32.1**	**-0.7**
	0.3nm,0.5s,baz=80,slow=7.9,SNR=5.5						
WRA	**Warramunga Arr**	**56.60**	**187**	P	**P**	**20 58 53.6**	**-0.2**
	0.2nm,0.7s,baz=2.9,slow=7.3,SNR=4.4						

IDC ***09*** *20:52:51.4±1.0, 34.93N×32.50E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.6/62, mbtmp3.7/15, ML3.8/4, MS3.0/5, Ms1 3.0/5, ms1mx2.7/69, Error ellipse: s-maj=22.2km s-min=15.3km az=24.0*
ISK ***09*** *20:52:53.5, 34.80N×32.48E, h14km, ML3.9/38*
HLW ***09*** *20:52:54.2, 34.97N×32.39E, h33km±20km, Ml3.4*
DDA ***09*** *20:52:55.6, 35.12N×32.43E, h16km, Ml4.0*
CSEM ***09*** *20:52:55.5±0.2, 34.80N×32.53E, h25km±1km, mb4.3/8, Error ellipse: s-maj=3.3km s-min=2.5km az=56.0*
ISCJB ***09*** *20:52:55.2±0.2, 34.76N±0.01×32.47E±0.02, h47km±2km, mb3.9/18, MS3.4/1, Error ellipse: s-maj=3.0km s-min=1.9km az=152.2*
NIC ***09*** *20:52:56.3±0.1, 34.89N×32.58E, h15km, ML4.0 Felt I=IV at Choulou (Pafos District).*
NEIC ***09*** *20:52:56.3±0.6, 34.75N×32.45E, h42km±6km, mb4.1/22, Error ellipse: s-maj=6.8km s-min=4.6km az=191.0*
GII ***09*** *20:52:56.1±0.2, 34.73N×32.68E, h10km, MD3.6/6*

ISC 09 20:52:55.1±0.8, **34.82N**±0.02×**32.50E**±0.02, **h30**km±5km, **n338**, σ1**s72**/391, **mb4.0**/18, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.14**	**296**	P	**Pn**	**20 53 01.0**	**-0.2**
	baz=88						
PPCY	**Paphos**	**0.14**	**296**	P	**Pn**	**20 53 01.0**	**-0.2**
AKMC	**Akamas**	**0.25**	**326**	P	**Pb**	**20 53 02.1**	**+0.2**
	baz=123						
AKMC	**Akamas**	**0.25**	**326**	P	**Pb**	**20 53 02.1**	**+0.2**
SZAC	**Souni**	**0.32**	**102**	P	**Pb**	**20 53 02.5**	**-0.4**
	baz=298						
SZAC				S	**Sb**	**20 53 07.5**	**-0.7**
SZAC	**Souni**	**0.32**	**102**	P	**Pb**	**20 53 02.5**	**-0.4**
SZAC				S	**Sb**	**20 53 07.5**	**-0.7**
ALFC	**Alefka**	**0.34**	**14**	P	**Pb**	**20 53 02.1**	**-1.1**
	baz=183						
ALFC				S	**Sb**	**20 53 06.8**	**-1.9**
ALFC	**Alefka**	**0.34**	**14**	P	**Pb**	**20 53 02.1**	**-1.1**
LEF	**Lefka**	**0.44**	**47**	PG	**Pb**	**20 53 02.5**	**-2.1**
LEF	**Lefka**	**0.44**	**47**	*e*Pg	**Pb**	**20 53 02.5**	**-2.1**
LEF	**Lefka**	**0.44**	**47**	P	**Pb**	**20 53 03.2**	**-1.4**
AKDN	**Akdeniz- K¯–br**	**0.61**	**39**	PG	**Pb**	**20 53 07.0**	**-0.4**
AKDN	**Akdeniz- K¯–br**	**0.61**	**39**	*e*Pg	**Pb**	**20 53 07.0**	**-0.4**
MAMC	**Mammari**	**0.69**	**59**	P	**Pb**	**20 53 08.0**	**-0.6**
	baz=242						
MAMC	**Mammari**	**0.69**	**59**	P	**Pb**	**20 53 08.0**	**-0.6**
CSS	**Mathiatis**	**0.70**	**78**	PG	**Pb**	**20 53 07.4**	**-1.4**
CSS				SG	**Sn**	**20 53 18.1**	**-0.7**
CSS	**Mathiatis**	**0.70**	**78**	*e*Pn	**Pb**	**20 53 07.8**	**-1.0**
CSS				*e*Sn	**Sn**	**20 53 18.9**	**+0.1**
CSS	**Mathiatis**	**0.70**	**78**	P	**Pb**	**20 53 08.4**	**-0.4**
	baz=263						
CSS	**Mathiatis**	**0.70**	**78**	*e*Pg	**Pb**	**20 53 07.4**	**-1.4**
CSS	**Mathiatis**	**0.70**	**78**	*e*Pn	**Pb**	**20 53 07.8**	**-1.0**
CSS	**Mathiatis**	**0.70**	**78**	P	**Pb**	**20 53 08.4**	**-0.4**
CSS				*e*Sg	**Sn**	**20 53 18.1**	**-0.7**
CSS	**Mathiatis**	**0.70**	**78**	Pg	**Pb**	**20 53 07.1**	**-1.7**
CSS				Sg	**Sb**	**20 53 15.8**	**-2.4**
AKIN	**Ak¯–nc¯–lar- K**	**0.82**	**76**	PG	**Pb**	**20 53 10.3**	**-0.5**
AKIN	**Ak¯–nc¯–lar- K**	**0.82**	**76**	*e*Pg	**Pb**	**20 53 10.3**	**-0.5**
LFK	**Lefkose**	**0.96**	**61**	PG	**Pb**	**20 53 12.6**	**-0.7**
LFK				SG	**Sn**	**20 53 27.5**	**+2.1**
LFK	**Lefkose**	**0.96**	**61**	*e*Pg	**Pb**	**20 53 12.6**	**-0.7**
LFK				*e*Sg	**Sn**	**20 53 27.5**	**+2.1**
BOZY	**Bozyazi-Mersin**	**1.34**	**17**	PN	**Pn**	**20 53 18.3**	**+0.5**
BOZY	**Bozyazi-Mersin**	**1.34**	**17**	*e*Pn	**Pn**	**20 53 18.3**	**+0.5**
TEKE	**Tekeli-Mersin**	**1.41**	**21**	PN	**Pn**	**20 53 19.5**	**+0.8**
TEKE				SN	**Sb**	**20 53 38.2**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.41**	**21**	*e*Pn	**Pn**	**20 53 19.5**	**+0.8**
TEKE				*e*Sn	**Sb**	**20 53 38.2**	**-0.2**
EREN	**Erenkoy**	**1.54**	**62**	PN	**Pb**	**20 53 21.6**	**-1.4**
EREN	**Erenkoy**	**1.54**	**62**	*e*Pn	**Pb**	**20 53 21.6**	**-1.4**
AKK2	**Akkuyu-Mersin**	**1.57**	**33**	PN	**Pn**	**20 53 21.9**	**+1.0**
AKK2	**Akkuyu-Mersin**	**1.57**	**33**	*e*Pn	**Pn**	**20 53 21.9**	**+1.0**
AKK1	**Akkuyu-Mersin**	**1.57**	**33**	PN	**Pn**	**20 53 21.7**	**+0.8**
AKK1	**Akkuyu-Mersin**	**1.57**	**33**	*e*Pn	**Pn**	**20 53 21.7**	**+0.8**
AKKU	**Akkuyu-Mersin**	**1.59**	**33**	PN	**Pn**	**20 53 22.1**	**+0.9**
AKKU	**Akkuyu-Mersin**	**1.59**	**33**	*e*Pn	**Pn**	**20 53 22.1**	**+0.9**
OREN	**Orenkoy-Mersin**	**1.59**	**29**	PN	**Pb**	**20 53 23.2**	**-0.6**
OREN	**Orenkoy-Mersin**	**1.59**	**29**	*e*Pn	**Pb**	**20 53 23.2**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.60**	**32**	*i* P	**Pn**	**20 53 20.9**	**-0.5**
GULN				*i* S	**Sn**	**20 53 41.9**	**+0.8**
GULN	**MERSIN_Gulnar**	**1.60**	**32**	P	**Pn**	**20 53 20.9**	**-0.5**
GULN				S	**Sn**	**20 53 41.9**	**+0.8**
TEPE	**Tepekoy-Mersin**	**1.64**	**32**	PN	**Pn**	**20 53 23.1**	**+1.1**
TEPE	**Tepekoy-Mersin**	**1.64**	**32**	*e*Pn	**Pn**	**20 53 23.1**	**+1.1**
YESI	**Yesilovacik-Me**	**1.66**	**34**	PN	**Pn**	**20 53 22.7**	**+0.6**
YESI	**Yesilovacik-Me**	**1.66**	**34**	*e*Pn	**Pn**	**20 53 22.7**	**+0.6**
TEVE	**Tevekalti-Mers**	**1.79**	**25**	PN	**Pn**	**20 53 25.3**	**+1.3**
TEVE	**Tevekalti-Mers**	**1.79**	**25**	*e*Pn	**Pn**	**20 53 25.3**	**+1.3**
KIZK	**Mersin**	**2.13**	**39**	PN	**Pn**	**20 53 29.8**	**+1.2**
KIZK	**Mersin**	**2.13**	**39**	*i* P	**Pn**	**20 53 29.9**	**+1.2**
KIZK				*i* S	**Sb**	**20 53 57.7**	**-1.3**
KIZK	**Mersin**	**2.13**	**39**	P	**Pn**	**20 53 29.9**	**+1.2**
KIZK				S	**Sb**	**20 53 57.7**	**-1.3**
KEPZ	**Antalya-Kepez**	**2.20**	**341**	*i* P	**Pn**	**20 53 31.1**	**+1.5**
KEPZ	**Antalya-Kepez**	**2.20**	**341**	P	**Pn**	**20 53 31.1**	**+1.5**
AKAS	**Kas**	**2.75**	**302**	PN	**Pn**	**20 53 38.2**	**+1.0**
AKAS	**Kas**	**2.75**	**302**	*i* P	**Pn**	**20 53 39.2**	**+1.9**
AKAS	**Kas**	**2.75**	**302**	*e*Pn	**Pn**	**20 53 38.2**	**+1.0**
AKAS	**Kas**	**2.75**	**302**	P	**Pn**	**20 53 39.2**	**+1.9**
BHL	**Bhannes**	**2.77**	**108**	*e*P	**Pn**	**20 53 37.6**	**+0.1**
DQRL	**Deir Qamar**	**2.78**	**113**	*e*P	**Pn**	**20 53 38.6**	**+1.0**
KORT	**Korkueli**	**2.79**	**322**	PN	**Pn**	**20 53 38.7**	**+0.9**
KORT	**Korkueli**	**2.79**	**322**	P	**Pb**	**20 53 43.2**	**-1.0**
KORT	**Korkueli**	**2.79**	**322**	*e*Pn	**Pn**	**20 53 38.7**	**+0.9**
KORT	**Korkueli**	**2.79**	**322**	P	**Pb**	**20 53 43.2**	**-1.0**
HNTI	**Hanita**	**2.82**	**127**	Pn	**Pn**	**20 53 38.8**	**+0.6**
HNTI				Sn	**Sn**	**20 54 11.4**	**+0.2**
HNTI	**Hanita**	**2.82**	**127**	Pn	**Pn**	**20 53 38.8**	**+0.6**
HNTI				Sn	**Sn**	**20 54 11.4**	**+0.2**
DED	**Mersin**	**2.84**	**41**	*i* P	**Pn**	**20 53 40.7**	**+2.3**
DED				*i* S	**Sb**	**20 54 15.8**	**-3.6**
ELL	**Elmali**	**2.85**	**313**	PN	**Pn**	**20 53 40.5**	**+1.8**
ELL	**Elmali**	**2.85**	**313**	*e*Pn	**Pn**	**20 53 40.5**	**+1.8**
HWQ	**Hawqa**	**2.90**	**100**	*e*P	**Pn**	**20 53 39.9**	**+0.6**
KERG	**Konya-Eregli**	**2.90**	**27**	*i* P	**Pb**	**20 53 42.9**	**-3.4**
KERG				*i* S	**Sb**	**20 54 19.1**	**-2.3**
KERG	**Konya-Eregli**	**2.90**	**27**	P	**Pb**	**20 53 42.8**	**-3.4**
SUTC	**Sutluce-Ispart**	**2.91**	**336**	PN	**Pn**	**20 53 41.5**	**+2.0**
SUTC	**Sutluce-Ispart**	**2.91**	**336**	*e*Pn	**Pn**	**20 53 41.5**	**+2.0**
KRTS	**Karatas**	**2.92**	**52**	PN	**Pn**	**20 53 41.3**	**+1.8**
KRTS	**Karatas**	**2.92**	**52**	*e*Pn	**Pn**	**20 53 41.3**	**+1.8**
QRWL	**Qaraoun**	**2.93**	**115**	*e*P	**Pn**	**20 53 40.5**	**+0.8**
KMER	**Konya-Meram**	**2.94**	**358**	*i* P	**Pb**	**20 53 44.0**	**-2.9**
KMER	**Konya-Meram**	**2.94**	**358**	P	**Pb**	**20 53 44.0**	**-2.9**
MMA0B	**Mount Meron ar**	**3.01**	**126**	Pn	**Pn**	**20 53 41.2**	**+0.3**
MMA0B				Sn	**Sn**	**20 54 16.9**	**+0.9**
MMA0B	**Mount Meron ar**	**3.01**	**126**	Pn	**Pn**	**20 53 41.2**	**+0.3**
MMA0B				Sn	**Sn**	**20 54 16.9**	**+0.9**
MMAI	**Mount Meron Ar**	**3.01**	**126**	Pn	**Pn**	**20 53 41.5**	**+0.6**
	16nm,0.3s,baz=314,slow=13,SNR=92						
MMAI				Sn	**Sn**	**20 54 15.6**	**-0.5**
	40nm,0.3s,baz=314,slow=23,SNR=11						
OFRI	**'Ofer**	**3.02**	**136**	Pn	**Pn**	**20 53 41.5**	**+0.6**
OFRI				Sn	**Sn**	**20 54 15.9**	**-0.2**
OFRI	**'Ofer**	**3.02**	**136**	Pn	**Pn**	**20 53 41.5**	**+0.6**
OFRI				Sn	**Sn**	**20 54 15.9**	**-0.2**
BLGI	**Bet Lehem HaGe**	**3.06**	**132**	Pn	**Pn**	**20 53 42.2**	**+0.7**
BLGI	**Bet Lehem HaGe**	**3.06**	**132**	Pn	**Pn**	**20 53 42.2**	**+0.7**
RCY	**Rachaya**	**3.07**	**115**	*e*P	**Pn**	**20 53 42.3**	**+0.6**
SHBL	**Chebaa**	**3.07**	**118**	*e*P	**Pn**	**20 53 42.5**	**+0.8**
KSDI	**Kefar Szold**	**3.09**	**121**	Pn	**Pn**	**20 53 42.6**	**+0.8**
KSDI				Sn	**Sn**	**20 54 17.4**	**-0.3**
KSDI	**Kefar Szold**	**3.09**	**121**	Pn	**Pn**	**20 53 42.6**	**+0.8**
KSDI				Sn	**Sn**	**20 54 17.4**	**-0.3**
YAYL	**Yayladag**	**3.19**	**67**	PN	**Pn**	**20 53 45.3**	**+2.0**
YAYL	**Yayladag**	**3.19**	**67**	*e*Pn	**Pn**	**20 53 45.3**	**+2.0**
YURE	**YUREGIR**	**3.24**	**51**	PN	**Pn**	**20 53 45.3**	**+1.4**
YURE	**YUREGIR**	**3.24**	**51**	*e*Pn	**Pn**	**20 53 45.3**	**+1.4**
FETY	**Fethiye**	**3.31**	**304**	PN	**Pn**	**20 53 45.6**	**+0.7**
FETY	**Fethiye**	**3.31**	**304**	P	**Pn**	**20 53 45.7**	**+0.8**
FETY				S	**Sn**	**20 54 22.8**	**-0.5**
SLTI	**Sal'it**	**3.34**	**140**	Pn	**Pn**	**20 53 45.8**	**+0.5**
SLTI	**Sal'it**	**3.34**	**140**	Pn	**Pn**	**20 53 45.8**	**+0.5**
DOGA	**KONYA_Doganhis**	**3.34**	**349**	*i* P	**Pn**	**20 53 49.7**	**+4.2**
DOGA	**KONYA_Doganhis**	**3.34**	**349**	P	**Pn**	**20 53 49.7**	**+4.2**
GOLH	**Golhisar**	**3.39**	**316**	*i* P	**Pn**	**20 53 49.2**	**+3.2**
GOLH	**Golhisar**	**3.39**	**316**	P	**Pn**	**20 53 49.2**	**+3.2**
ISP	**Isparta**	**3.39**	**333**	PN	**Pn**	**20 53 47.7**	**+1.6**
ISP	**Isparta**	**3.39**	**333**	*e*Pn	**Pn**	**20 53 48.3**	**+2.2**
ISP				*e*Sn	**Sn**	**20 54 29.5**	**+4.1**
ISP	**Isparta**	**3.39**	**333**	*e*Pn	**Pn**	**20 53 47.7**	**+1.6**
ISP				*e*Sn	**Sn**	**20 54 29.5**	**+4.1**
ISP	**Isparta**	**3.39**	**333**	Pn	**Pn**	**20 53 51.2**	**-3.4**
MMLI	**Mount Malkishu**	**3.41**	**133**	Pn	**Pn**	**20 53 47.1**	**+0.9**
MMLI				Sn	**Sn**	**20 54 25.9**	**+0.3**
MMLI	**Mount Malkishu**	**3.41**	**133**	Pn	**Pn**	**20 53 47.1**	**+0.9**
MMLI				Sn	**Sn**	**20 54 25.9**	**+0.3**
BAGO	**Egridir - ISPA**	**3.45**	**337**	*i* P	**Pb**	**20 53 51.6**	**-3.9**
SULT	**Sultanhani-AKS**	**3.47**	**13**	PN	**Pn**	**20 53 49.2**	**+2.1**
SULT	**Sultanhani-AKS**	**3.47**	**13**	*e*Pn	**Pn**	**20 53 49.2**	**+2.1**
BRDR	**BURDUR-Merkez**	**3.48**	**326**	*i* P	**Pn**	**20 53 51.0**	**+3.7**
BRDR	**BURDUR-Merkez**	**3.48**	**326**	P	**Pn**	**20 53 51.0**	**+3.7**
HMDT	**Nahal Hemdat**	**3.60**	**135**	Pn	**Pn**	**20 53 50.4**	**+1.5**
HMDT				Sn	**Sn**	**20 54 30.3**	**-0.1**
HMDT	**Nahal Hemdat**	**3.60**	**135**	Pn	**Pn**	**20 53 50.4**	**+1.5**
HMDT				Sn	**Sn**	**20 54 30.3**	**-0.1**
CHBY	**Cihanbeyli**	**3.77**	**5**	PN	**Pn**	**20 53 54.0**	**+2.8**
CHBY	**Cihanbeyli**	**3.77**	**5**	*e*Pn	**Pn**	**20 53 54.0**	**+2.8**
TURN	**Turunc**	**3.77**	**304**	PN	**Pn**	**20 53 55.8**	**+4.7**
TURN	**Turunc**	**3.77**	**304**	*i* P	**Pn**	**20 53 55.5**	**+4.4**
TURN				*i* S	**Sn**	**20 54 39.8**	**+5.3**
TURN	**Turunc**	**3.77**	**304**	P	**Pn**	**20 53 55.5**	**+4.4**
TURN	**Turunc**	**3.77**	**304**	*e*Pn	**Pn**	**20 53 55.8**	**+4.7**
TURN				S	**Sn**	**20 54 39.8**	**+5.3**
KOZT	**Kozan**	**3.78**	**44**	PN	**Pn**	**20 53 53.7**	**+2.4**
KOZT	**Kozan**	**3.78**	**44**	*e*Pn	**Pn**	**20 53 53.7**	**+2.4**
AMAZ	**Amatzia**	**3.86**	**148**	Pn	**Pn**	**20 53 53.9**	**+1.5**
AMAZ				Sn	**Sn**	**20 54 37.9**	**+1.2**
AMAZ	**Amatzia**	**3.86**	**148**	Pn	**Pn**	**20 53 53.9**	**+1.5**
AMAZ				Sn	**Sn**	**20 54 37.9**	**+1.2**
KZIL	**AFYON_Kizioren**	**3.92**	**332**	*i* P	**Pn**	**20 53 55.9**	**+2.6**
KZIL	**AFYON_Kizioren**	**3.92**	**332**	P	**Pn**	**20 53 55.9**	**+2.6**
TAVA	**DENIZLI_Tavas**	**3.92**	**313**	*i* P	**Pn**	**20 53 55.6**	**+2.2**
TAVA	**DENIZLI_Tavas**	**3.92**	**313**	P	**Pn**	**20 53 55.6**	**+2.2**
RSH		**3.99**	**165**	P	**Pn**	**20 53 55.4**	**+1.2**
	baz=163						
RSH				S	**Sn**	**20 54 41.5**	**+1.6**
	baz=163						
RSH		**3.99**	**165**	P	**Pn**	**20 53 55.4**	**+1.2**
RSH				S	**Sn**	**20 54 41.5**	**+1.6**
SHUT	**Suhut-Afyon**	**4.04**	**338**	PN	**Pn**	**20 53 57.6**	**+2.6**
SHUT	**Suhut-Afyon**	**4.04**	**338**	*e*Pn	**Pn**	**20 53 57.6**	**+2.6**
DSI	**Dead Sea**	**4.04**	**143**	Pn	**Pn**	**20 53 56.4**	**+1.4**
DSI				Sn	**Sn**	**20 54 41.1**	**-0.2**
DSI	**Dead Sea**	**4.04**	**143**	Pn	**Pn**	**20 53 56.4**	**+1.4**
DSI				Sn	**Sn**	**20 54 41.1**	**-0.2**
BOLV	**Bolvadin**	**4.08**	**343**	*i* P	**Pn**	**20 53 59.9**	**+4.3**
BOLV	**Bolvadin**	**4.08**	**343**	P	**Pn**	**20 53 59.9**	**+4.3**
YTIR	**Yattir**	**4.09**	**147**	Pn	**Pn**	**20 53 55.9**	**+0.2**
YTIR				Sn	**Sn**	**20 54 43.7**	**+1.1**
YTIR	**Yattir**	**4.09**	**147**	Pn	**Pn**	**20 53 55.9**	**+0.2**
YTIR				Sn	**Sn**	**20 54 43.7**	**+1.1**
YER	**Yerkesik**	**4.12**	**305**	PN	**Pn**	**20 53 58.5**	**+2.4**
YER	**Yerkesik**	**4.12**	**305**	*e*Pn	**Pn**	**20 53 58.5**	**+2.4**
KZIT	**Kziot**	**4.22**	**157**	Pn	**Pn**	**20 53 58.6**	**+1.2**
KZIT				Sn	**Sn**	**20 54 46.2**	**+0.5**
KZIT	**Kziot**	**4.22**	**157**	Pn	**Pn**	**20 53 58.6**	**+1.2**
KZIT				Sn	**Sn**	**20 54 46.2**	**+0.5**
MZDA	**Masada**	**4.25**	**145**	Pn	**Pn**	**20 53 59.3**	**+1.6**
MZDA				Sn	**Sn**	**20 54 47.0**	**+0.7**
MZDA	**Masada**	**4.25**	**145**	Pn	**Pn**	**20 53 59.3**	**+1.6**
MZDA				Sn	**Sn**	**20 54 47.0**	**+0.7**
KHAL	**Karahalli**	**4.29**	**327**	*i* P	**Pn**	**20 54 00.1**	**+1.7**
KHAL	**Karahalli**	**4.29**	**327**	P	**Pn**	**20 54 00.1**	**+1.7**
KARP	**Karpathos**	**4.43**	**281**	PN	**Pn**	**20 54 02.9**	**+2.6**
KARP	**Karpathos**	**4.43**	**281**	*e*Pn	**Pn**	**20 54 01.3**	**+1.0**
KARP				*e*Sn	**Sn**	**20 54 42.9**	**-7.9**
KARP	**Karpathos**	**4.43**	**281**	*e*Pn	**Pn**	**20 54 01.3**	**+1.0**
KMRS	**Kahramanmaras**	**4.46**	**52**	PN	**Pn**	**20 54 03.2**	**+2.6**
**KMR

GEA0	GERESS Array S	19.73	321	eP	P	20 57 22.9	+0.7	
GEA0	GERESS Array S	19.73	321	eP	P	20 57 23.0	+0.7	
GEC2	GERESS Array S	19.73	321	eP	P	20 57 22.5	+0.2	
	20nm,1.9s							
GEC2	GERESS Array S	19.73	321	eP	P	20 57 22.5	+0.2	
	20nm,1.9s							
GERES	GERESS Array B	19.73	321	P	P	20 57 22.6	+0.3	
	0.3nm,0.3s,baz=122,slow=11,SNR=13							
KHC	Kasperske Hory	19.98	321	eP	P	20 57 25.0	+0.1	
KHC	Kasperske Hory	19.98	321	eP	P	20 57 24.5	-0.4	
	1.8nm,0.7s							
KHC	Kasperske Hory	19.98	321	eP	P	20 57 24.5	-0.4	
	1.8nm,0.7s							
SUW	Suwalki	20.27	344	eP	P	20 57 29.3	+1.3	
	23nm,1.1s							
FUORN	Ofenpass-Fuorn	20.49	312	eP	P	20 57 30.1	-0.6	
	38nm,2.0s							
FUORN	Ofenpass-Fuorn	20.49	312	eP	P	20 57 30.1	-0.6	
	38nm,2.0s							
OBN	Obninsk	20.49	7	LR	LR	21 07 24.5		
	comp=Z,167nm,20.2s,baz=272,slow=43							
GYB4	ALIBECK ARRAY	20.83	74	eP	P	20 57 31.9	-2.3	
	4.1nm,0.9s							
GYB5	ALIBECK ARRAY	20.83	74	eP	P	20 57 32.7	-1.6	
	4.8nm,0.9s							
GYB5	ALIBECK ARRAY	20.83	74	eP	P	20 57 32.7	-1.6	
	4.8nm,0.9s							
GEYT	Alibeck	20.84	74	P	P	20 57 35.7	+1.3	
	0.7nm,0.4s,baz=232,slow=8.7,SNR=4.9							
GYA0	ALIBECK ARRAY	20.84	74	eP	P	20 57 34.5	+0.1	
	3.0nm,0.9s							
GYA0	ALIBECK ARRAY	20.84	74	eP	P	20 57 34.5	+0.1	
	3.0nm,0.9s							
GYA0B	ALIBECK ARRAY	20.84	74	eP	P	20 57 34.4	0.0	
	3.4nm,0.9s							
GYA0B	ALIBECK ARRAY	20.84	74	eP	P	20 57 34.4	0.0	
	3.4nm,0.9s							
GYA1	ALIBECK ARRAY	20.84	74	eP	P	20 57 35.1	+0.7	
	2.9nm,0.8s							
GYA1	ALIBECK ARRAY	20.84	74	eP	P	20 57 35.1	+0.7	
	2.9nm,0.8s							
GYA2	ALIBECK ARRAY	20.84	74	eP	P	20 57 35.5	+1.1	
	3.3nm,0.9s							
GYA2	ALIBECK ARRAY	20.84	74	eP	P	20 57 35.5	+1.1	
	3.3nm,0.9s							
GYB1	ALIBECK ARRAY	20.85	74	eP	P	20 57 34.5	0.0	
	13nm,1.7s							
GYB1	ALIBECK ARRAY	20.85	74	eP	P	20 57 34.5	0.0	
	13nm,1.7s							
GYB2	ALIBECK ARRAY	20.85	74	eP	P	20 57 35.4	+0.9	
	16nm,1.8s							
GYB2	ALIBECK ARRAY	20.85	74	eP	P	20 57 35.4	+0.9	
	16nm,1.8s							
BFO	Black Forest	22.44	314	eP	P	20 57 53.2	+1.7	
	19nm,1.8s							
BFO	Black Forest	22.44	314	eP	P	20 57 53.2	+1.7	
	19nm,1.8s							
ECH	Echery	23.09	313	eP	P	20 57 57.3	-0.9	
	11nm,1.5s							
ECH	Echery	23.09	313	eP	P	20 57 57.3	-0.9	
	11nm,1.5s							
AKTO	Aktyubinsk	24.24	42	P	P	20 58 12.1	+2.9	
	1.1nm,0.6s,baz=218,slow=16,SNR=2.7							
AB08	Akbulak array	24.78	46	eP	P	20 58 15.1	+1.0	
AB09	Akbulak array	24.78	46	eP	P	20 58 15.0	+0.9	
AB03	Akbulak array	24.79	46	eP	P	20 58 15.8	+1.6	
AB04	Akbulak array	24.79	46	eP	P	20 58 15.7	+1.4	
AB01	Akbulak array	24.80	46	eP	P	20 58 13.8	-0.5	
AB01	Akbulak array	24.80	46	eP	P	20 58 13.8	-0.5	
AB31	Akbulak array	24.80	46	eP	P	20 58 14.3	+0.1	
AB31	Akbulak array	24.80	46	eP	P	20 58 14.4	+0.1	
ABKAR	Akbulak array	24.80	46	eP	P	20 58 13.8	-0.5	
	9.9nm,0.9s							
ABKAR	Akbulak array	24.80	46	eP	P	20 58 13.8	-0.5	
	9.9nm,0.9s							
AB02	Akbulak array	24.80	46	eP	P	20 58 14.5	+0.2	
AB02	Akbulak array	24.80	46	eP	P	20 58 14.5	+0.2	
AB07	Akbulak array	24.80	46	eP	P	20 58 15.1	+0.8	
AB07	Akbulak array	24.80	46	eP	P	20 58 15.1	+0.8	
AB05	Akbulak array	24.80	46	eP	P	20 58 16.4	+2.1	
AB06	Akbulak array	24.81	46	eP	P	20 58 16.1	+1.7	
FIA0	FINESS Array S	26.95	353	eP	P	20 58 32.6	-1.0	
FIA1	FINESS Array S	26.95	353	eP	P	20 58 32.4	-1.2	
FINES	FINESS Array B	26.95	353	P	P	20 58 32.6	-1.0	
	2.6nm,0.5s,baz=152,slow=12,SNR=17							
CART	Cartagena	27.09	286	eP	P	20 58 34.5	-0.6	
	41nm,1.0s							
CART	Cartagena	27.09	286	eP	P	20 58 34.5	-0.6	
	41nm,1.0s							
HFS	Hagfors	28.12	340	P	P	20 58 44.4	+0.3	
	1.5nm,0.8s,baz=116,slow=8.2,SNR=3.2							
KK03	Karatay Array	30.48	63	eP	P	20 59 05.7	+0.4	
KK03	Karatay Array	30.48	63	eP	P	20 59 05.7	+0.4	
KK01	Karatay Array	30.48	63	eP	P	20 59 06.1	+0.8	
KK01	Karatay Array	30.48	63	eP	P	20 59 06.1	+0.8	
KK04	Karatay Array	30.48	63	eP	P	20 59 05.4	+0.2	
KK02	Karatay Array	30.48	63	eP	P	20 59 05.3	0.0	
KK02	Karatay Array	30.48	63	eP	P	20 59 05.3	0.0	
KK31	Karatay Array	30.48	63	eP	P	20 59 06.0	+0.7	
KK31	Karatay Array	30.48	63	eP	P	20 59 06.0	+0.7	
KKAR	Karatay Array	30.48	63	eP	P	20 59 05.7	+0.4	
KKAR	Karatay Array	30.48	63	eP	P	20 59 05.7	+0.4	
KK05	Karatay Array	30.49	63	eP	P	20 59 06.0	+0.5	
KK05	Karatay Array	30.49	63	eP	P	20 59 05.9	+0.5	
KK06	Karatay Array	30.49	63	eP	P	20 59 06.1	+0.7	
KK06	Karatay Array	30.49	63	eP	P	20 59 06.1	+0.7	
ARA0	ARCESS Array S	34.98	356	eP	P	20 59 43.3	-1.0	
ARCES	ARCESS Array B	34.98	356	P	P	20 59 43.3	-1.0	
	4.3nm,0.9s,baz=170,slow=7.4,SNR=8.8							
TOA1	Torodi Ar. Sit	35.23	240	eP	P	20 59 47.9	+0.9	
TOA0	Torodi Ar. Sit	35.23	240	eP	P	20 59 46.2	-0.7	
TORD	Torodi Ar. Bea	35.23	240	P	P	20 59 47.9	+0.9	
	0.4nm,0.5s,baz=53,slow=7.1,SNR=5.1							
KDJ	Kajisay	35.41	65	eP	P	20 59 48.2	-0.3	
	3.2nm,0.9s							
KDJ	Kajisay	35.41	65	eP	P	20 59 48.2	-0.3	
	3.2nm,0.9s							
KMBO	Kilima Mbogo	36.04	172	eP	P	20 59 53.6	-0.5	
	3.8nm,1.2s							
KURBB	Kurchatov Arra	36.68	50	P	P	20 59 59.0	0.0	
	0.3nm,0.6s,baz=266,slow=8.7,SNR=4.6							
MAKZ	Makanchi	38.71	57	eP	P	21 00 16.6	+0.3	
	7.2nm,1.6s							
MK31	Makanchi Array	38.93	57	eP	P	21 00 17.9	-0.2	
MK32	Makanchi Array	38.93	57	eP	P	21 00 19.1	+1.0	
MKAR	Makanchi Array	38.93	57	P	P	21 00 19.1	+1.0	
	0.5nm,0.7s,baz=279,slow=6.4,SNR=6.3							
MKAR	Makanchi Array	38.93	57	eP	P	21 00 17.5	-0.6	
	5.7nm,0.8s							
MK01	Makanchi Array	38.94	57	eP	P	21 00 18.9	+0.7	
ZALV	Zalesovo Beam	40.91	46	P	P	21 00 34.5	+0.1	
	0.4nm,0.5s,baz=280,slow=8.6,SNR=2.8							
ZALV	Zalesovo Beam	40.91	46	eP	P	21 00 33.9	-0.5	
ZAA1	Zalesovo Array	40.91	46	eP	P	21 00 34.5	+0.1	
SONA0	Songino Array	54.98	52	eP	P	21 02 24.6	+1.0	
SONM	Songino Array	54.98	52	P	P	21 02 24.6	+1.0	
	0.2nm,0.4s,baz=300,slow=6.5,SNR=2.4							
CMAR	Chiang Mai Arr	60.60	87	P	P	21 03 02.4	-0.8	
	0.6nm,0.8s,baz=266,slow=3.6,SNR=3.7							
YKA	Yellowknife Ar	79.47	345	P	P	21 04 58.7	+0.4	
	0.2nm,0.5s,baz=36,slow=5.4,SNR=3.1							

IDC 09 20:58:11.8±4.9, 1.81S×139.12E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.0/46, mbtmp3.1/3, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/18, Error ellipse: s-maj=197.9km s-min=28.0km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.62	194	P	P	21 02 31.0	-0.1
	0.1nm,0.3s,baz=17,slow=13,SNR=8.4						
ASAR	Alice Springs	22.31	193	P	P	21 03 11.8	+0.7
	0.1nm,0.4s,baz=31,slow=11,SNR=4.3						
LEM	Lembang	31.80	260	LR	LR	21 19 38.1	
	comp=Z,196nm,21.0s,baz=300,slow=40						
MKAR	Makanchi Array	69.33	322	P	P	21 09 21.0	-0.3
	0.3nm,0.9s,baz=108,slow=4.7,SNR=2.5						

IDC 09 21:01:30.6±11.0, 6.73S×129.45E, h229km±124km, mb2.8/1, mb1 2.7/4, mb1mx2.5/51, mbtmp3.3/4, Error ellipse: s-maj=77.0km s-min=50.7km az=42.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.90	198	P	Pn	21 04 14.0	+0.6
	0.1nm,0.3s,baz=11,slow=10,SNR=3.5						
FITZ				S	S	21 06 26.0	+0.9
	0.1nm,0.3s,baz=180,slow=17,SNR=2.4						
WRA	Warramunga Arr	13.96	161	P	Pn	21 04 38.3	-0.7
	0.1nm,0.3s,baz=334,slow=13,SNR=5.4						
WRA				S	S	21 07 00.8	-13
	0.1nm,0.3s,baz=346,slow=25,SNR=5.4						
ASAR	Alice Springs	17.37	166	P	P	21 05 17.9	+0.1
	0.1nm,0.3s,baz=347,slow=10,SNR=4.1						
MKAR	Makanchi Array	67.70	327	P	P	21 12 03.2	0.0
	0.1nm,0.3s,baz=126,slow=9.1,SNR=5.1						

IDC 09 21:06:01.1±9.4, 8.11S×127.96E, h250km±111km, mb2.4/1, mb1 3.0/4, mb1mx2.7/52, mbtmp3.5/4, Error ellipse: s-maj=70.9km s-min=50.0km az=27.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.19	193	P	Pn	21 08 21.2	-0.9
	0.0nm,0.3s,baz=8.7,slow=13,SNR=2.1						
FITZ				S	S	21 10 15.3	-1.3
	baz=108,slow=20						
WRA	Warramunga Arr	13.29	153	P	P	21 09 01.4	-0.7
	0.2nm,0.3s,baz=335,slow=12,SNR=8.0						
WRA				S	S	21 11 19.5	-8.7
	0.2nm,0.3s,baz=330,slow=23,SNR=7.6						
ASAR	Alice Springs	16.48	160	P	Pn	21 09 38.5	-0.5
	0.2nm,0.3s,baz=340,slow=10,SNR=23						
MKAR	Makanchi Array	68.06	328	P	P	21 16 33.9	0.0
	0.1nm,0.4s,baz=118,slow=5.6,SNR=2.5						

*ISCJB **09** 21:07:19.1±1.1, 43.29N±0.07×146.68E±0.08, h57km±14km, Error ellipse: s-maj=14.1km s-min=6.5km az=147.6*
*SKHL **09** 21:07:20.8±0.6, 43.32N×146.74E, h49km±5km, mb4.2/2*
*JMA **09** 21:07:20.3±0.1, 43.24N×146.59E, h52km±2km, M3.1*

ISC 09 21:07:18.9±2.0, 43.24N±0.10×146.74E±0.08, h46km±31km, n13, σ0s73/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	Shikotan	0.64	6	*i* P	Pn	21 07 32.1	+0.4
SHO				AMB	AMB	21 07 33.5	
	60nm,0.2s						
SHO				*i* S	Sn	21 07 40.9	+0.1
SHO				A	A	21 07 42.7	
	1μm,0.4s						
SHO				A	A	21 07 42.7	
	700nm,0.4s						
NEM2	Nemuro 2	0.74	280	P	Pn	21 07 33.2	+0.2
NEM2				*e*S	Sn	21 07 42.6	-0.6
GLVR	Golovnino	1.02	300	*i* P	Pn	21 07 37.4	+0.6
GLVR				*i* S	Sn	21 07 50.4	+0.4
YUK	Yuzh-Kuril'sk	1.02	322	*i* P	Pn	21 07 37.1	+0.3
YUK				AMB	AMB	21 07 39.9	
	83nm,0.4s						
YUK				AMB	AMB	21 07 39.9	
	89nm,0.4s						
YUK				AMB	AMB	21 07 39.9	
	400nm,0.4s						
YUK				*i* S	Sn	21 07 49.4	-0.7
YUK				A	A	21 07 51.0	
	1μm,0.4s						
YUK				A	A	21 07 51.0	
	161nm,0.4s						
GRPR	Tuman	1.03	317	*i* P	Pn	21 07 37.3	+0.3
GRPR				*i* S	Sn	21 07 49.4	-0.9
LAGR	Lagunnoye	1.07	320	*i* P	Pn	21 07 38.3	+0.8
LAGR				*i* S	Sn	21 07 50.7	-0.6
JRA	Rausu	1.37	301	P	Pn	21 07 42.2	+0.6
JRA				*e*S	Sn	21 07 58.3	-0.2
JNK	Nakash	1.52	284	P	Pn	21 07 43.6	0.0
JNK				*e*S	Sn	21 08 00.9	-1.2
JAK	Akkeshi	1.52	262	P	Pn	21 07 43.9	+0.3
KUR	Kuril'sk	2.15	22	*e*P	Pn	21 07 52.7	+0.4
KUR				*e*S	Sn	21 08 16.6	-1.2
JAR	Ashorobuto	2.17	273	P	Pn	21 07 53.4	+0.8
JAR				*e*S	Sn	21 08 18.2	-0.1
JTKR	Abashiri--Toko	2.19	291	P	Pn	21 07 53.8	+1.1
JCH	Churui	2.56	257	P	Pn	21 07 58.5	+0.6
JCH				*e*S	Sn	21 08 26.6	-1.2

*ISK **09** 21:09:40.4, 39.04N×35.95E, h5km, ML2.7/3*
*ISCJB **09** 21:09:41.4±0.2, 39.05N±0.04×35.91E±0.05, h5km±7km, Error ellipse: s-maj=6.7km s-min=6.0km az=7.2*
*CSEM **09** 21:09:41.4±0.2, 39.04N×35.92E, h8km, ML2.7, Error ellipse: s-maj=4.9km s-min=3.6km az=162.0*
*DDA **09** 21:09:41.5, 39.05N×35.92E, h7km, Md2.7*

ISC 09 21:09:41.4±1.1, 39.06N±0.04×35.91E±0.03, h5km±11km, n22, σ0s41/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNN	Bunyan	0.21	194	PG	Pg	21 09 45.1	-0.4
BNN				SG	Sg	21 09 48.3	+0.1
BNN	Bunyan	0.21	194	*e*Pg	Pg	21 09 45.1	-0.4
BNN				*e*Sg	Sg	21 09 48.3	+0.1
CUSAR	Sarkisla-SIVAS	0.45	35	*i* P	Pg	21 09 50.2	+0.2
CUSAR	Sarkisla-SIVAS	0.45	35	P	Pg	21 09 50.2	+0.2
CUALT	Altinyayla-SIV	0.69	71	*i* P	Pg	21 09 55.3	+0.6
CUALT	Altinyayla-SIV	0.69	71	P	Pg	21 09 55.3	+0.6
YOZ	Yozgat	0.74	322	PG	Pg	21 09 55.6	0.0
YOZ				SG	Sb	21 10 06.7	-0.7
YOZ	Yozgat	0.74	322	*e*Pg	Pg	21 09 55.6	0.0
YOZ				*e*Sg	Sb	21 10 06.7	-0.7
AVNS	Nevsehir-Avano	0.86	254	*i* P	Pg	21 09 58.1	+0.1
AVNS	Nevsehir-Avano	0.86	254	P	Pg	21 09 58.1	+0.1
SVSK	Karacayir	1.20	44	PN	Pg	21 10 03.7	-0.8
SVSK				SN	Sb	21 10 20.4	-0.1
SVSK	Karacayir	1.20	44	*e*Pn	Pg	21 10 03.7	-0.8
SVSK				*e*Sn	Sb	21 10 20.4	-0.1
CUKAN	kangal_SIVAS	1.24	77	*i* P	Pn	21 10 05.8	+0.3
CUKAN				*i* S	Sn	21 10 22.5	-0.1
CUKAN	kangal_SIVAS	1.24	77	P	Pn	21 10 05.8	+0.3
CUKAN				S	Sn	21 10 22.5	-0.1
CDAG	Cicekdag	1.32	296	*i* P	Pg	21 10 07.0	+0.3
CDAG	Cicekdag	1.32	296	P	Pg	21 10 07.0	+0.3
COAL	Corum-Alaca	1.40	330	*i* P	Pb	21 10 08.0	0.0
COAL	Corum-Alaca	1.40	330	P	Pb	21 10 08.0	0.0
CORM	Corum	1.50	319	PN	Pn	21 10 09.1	+0.1
CORM	Corum	1.50	319	*e*Pn	Pn	21 10 09.1	+0.1
AFSR	Af'ar-Bala (A	2.24	281	PN	Pn	21 10 19.8	+0.6
AFSR	Af'ar-Bala (A	2.24	281	*e*Pn	Pn	21 10 19.8	+0.6

*ISCJB **09** 21:15:48.5±0.9, 25.4S±0.2×179.8E±0.2, h493km, mb3.7/7, Error ellipse: s-maj=25.6km s-min=17.3km az=147.7*
*IDC **09** 21:15:53.4±5.7, 25.65S×179.83E, h551km±73km, mb3.3/7, mb1 3.5/8, mb1mx3.2/46, mbtmp4.2/8, Error ellipse: s-maj=63.5km s-min=24.8km az=179.0*

ISC 09 21:15:49.2±0.9, 25.4S±0.2×179.9E±0.2, h493km, n10, σ0s83/8, mb3.7/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	13.05	190	P	P	21 18 38.6	-0.2
	2.4nm,0.3s,baz=31,slow=2.7,SNR=7.0						
CTA	Charters Tower	31.39	273	P	P	21 21 30.0	+0.8
	6.9nm,0.5s,baz=97,slow=9.9,SNR=14						
STKA	Stephens Creek	34.08	250	P	P	21 21 52.0	+0.1
	1.6nm,0.6s,baz=98,slow=8.6,SNR=5.9						
ASAR	Alice Springs	41.69	262	P	P	21 22 54.0	-0.4
	2.1nm,0.3s,baz=88,slow=7.0,SNR=49						
WRA	Warramunga Arr	42.20	268	P	P	21 22 57.8	-0.6
	2.3nm,0.5s,baz=104,slow=7.7,SNR=42						
NVAR	Mina Array Bea	85.90	44	P	P	21 27 37.4	+0.7
	0.9nm,0.8s,baz=224,slow=9.9,SNR=6.1						
TXAR	Lajitas Array	91.32	58	P	P	21 28 02.5	+0.5
	0.4nm,0.7s,baz=206,slow=7.9,SNR=3.6						
ILAR	Eielson Array	93.50	14	P	P	21 28 09.8	-1.3
	0.1nm,0.4s,baz=227,slow=5.4,SNR=2.9						
NOA	NORSAR Array B	143.52	351	PKP	PKPab	21 34 24.2	-1.0
	0.5nm,0.7s,baz=14,slow=5.5,SNR=3.0						
HFS	Hagfors	143.97	348	PKP	PKPbc	21 34 25.5	-1.2
	4.9nm,1.0s,baz=321,slow=2.0,SNR=5.1						

*ISCJB **09** 21:27:08.6±0.5, 9.17S±0.04×112.94E±0.02, h86km±3km, mb4.0/24, Error ellipse: s-maj=7.4km s-min=3.5km az=18.5*
*NEIC **09** 21:27:09.8±0.5, 9.02S×113.02E, h77km±4km, mb4.4/8, Error ellipse: s-maj=8.1km s-min=3.9km az=212.0*
*DJA **09** 21:27:09.4±0.2, 9.3S×111.3E, h68km±5km, M4.7/25, mb4.8/19, mB5.5/3, MLv4.6/25, Mw(mB)5.0/3*
*IDC **09** 21:27:09.1±2.0, 8.96S×113.09E, h67km±18km, mb3.8/19, mb1 3.9/22, mb1mx3.8/58, mbtmp4.1/22, MS3.4/2, Ms1 3.4/2, ms1mx2.7/53, Error ellipse: s-maj=18.5km s-min=10.2km az=37.0*

ISC 09 21:27:09.2±0.9, 9.21S±0.06×112.95E±0.04, h72km±8km, n96, σ1s39/108, mb4.2/24, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	Gumukmas	1.05	28	P	Pn	21 27 27.8	-0.6
GMJI				S	Sn	21 27 41.4	-1.4
JAGI	Jajag, Banyuwa	1.40	59	P	Pn	21 27 32.6	-0.3
JAGI				S	Sn	21 27 49.1	-1.7
JAGI	Jajag, Banyuwa	1.40	59	*e*Pn	Pn	21 27 32.3	-0.6
BLJI	Banyuglugur	1.59	24	P	Pn	21 27 36.2	+0.8
BLJI				S	Sn	21 27 56.7	+1.5
PWJI	Pagerwojo	1.63	316	P	Pn	21 27 35.9	-0.1
PWJI				S	Sn	21 27 55.4	-0.8
ABJI	Asem Bagus	1.90	42	P	Pn	21 27 40.7	+1.2
ABJI				S	Sn	21 28 05.6	+3.1
PCJI	Pacitan	2.02	300	P	Pn	21 27 41.4	+0.3
PCJI				S	Sn	21 28 05.0	-0.5
IGBI	Denpasar	2.21	80	P	Pn	21 27 43.3	-0.3
IGBI				S	Sn	21 28 10.1	+0.1
DNP	Denpasar	2.30	77	P	Pn	21 27 45.6	+0.7
DNP				S	Sn	21 28 14.5	+2.3
GRJI	Gresik	2.33	348	P	Pn	21 27 46.4	+1.1
GRJI				S	Sn	21 28 14.0	+1.1
KMMI	Kalianget	2.37	25	P	Pn	21 27 46.9	+1.0
SRBI	Singaraja	2.50	64	P	Pn	21 27 48.2	+0.5
TBJI	Tambak Boyo	2.61	335	P	Pn	21 27 50.5	+1.3
TBJI				S	Sn	21 28 20.5	+0.7
SMRI	Semarang	3.28	311	P	Pn	21 27 59.4	+1.2
SMRI	Semarang	3.28	311	*e*Pn	Pn	21 27 58.6	+0.3
BWJI	Bawean	3.35	355	P	Pn	21 28 00.4	+1.2
CMJI	Cimerak	4.67	287	P	Pn	21 28 16.8	-0.4
PLAI	Plampang	4.79	86	P	Pn	21 28 19.0	+0.2
CISI	Cisompet, Garu	5.34	288	P	Pn	21 28 26.0	-0.4
CISI	Cisompet, Garu	5.34	288	*e*Pn	Pn	21 28 26.2	-0.2
LEM	Lembang	5.78	294	P	Pn	21 28 33.7	+1.1
	1.9nm,0.3s,baz=343,slow=19,SNR=2.7						
LEM				S	Sn	21 29 39.2	+1.6
	5.8nm,0.3s,baz=334,slow=20,SNR=6.6						
WBSI	Waikabubak, Su	6.37	94	P	Pn	21 28 41.0	+0.5
	105nm,0.9s,1μm0.3nm						
KBKI	Kotabaru	6.69	29	P	Pn	21 28 46.2	+1.4
	52nm,1.0s,0.2nm						
WSI	Waingapu	7.27	94	P	Pn	21 28 54.8	+2.1
	226nm,0.6s,2.8nm						
BASI	Baing, Sumba	7.59	98	P	Pn	21 28 57.6	+0.5
	153nm,0.9s,0.5nm						
CGJI	Cibinong	7.63	289	P	Pn	21 28 59.4	+1.7
	89nm,0.9s,4μm0.6nm						
BSSI	Bau Bau, Buton	8.07	68	P	Pn	21 29 04.3	+0.5
	122nm,0.7s						
BNSI	Bone	8.56	57	P	Pn	21 29 11.7	+1.2
	50nm,0.8s						
KASI	Kota Agung	9.14	293	P	Pn	21 29 18.8	+0.4
	58nm,1.7s						
LWLI	Liwa	9.75	295	P	Pn	21 29 28.7	+1.9
	40nm,0.8s						
BATI	Baumata	10.61	96	P	Pn	21 29 37.8	-0.7
	3.2nm,0.3s,baz=153,slow=2.3,SNR=4.6						
BATI				S	Sn	21 31 31.6	-4.0
	1.7nm,0.3s,baz=54,slow=18,SNR=4.2						
MNAI	Manna	11.03	295	P	Pn	21 29 42.3	-1.8
SOEI	Soe	11.18	94	P	Pn	21 29 45.8	-0.5
SOEI	Soe	11.18	94	*e*Pn	Pn	21 29 46.3	0.0
SBUM	Sibu	11.60	356	*e*Pn	Pn	21 29 49.8	-2.1
SANI	Sanana	14.79	62	P	P	21 30 36.3	-2.4
FITZ	Fitzroy Crossi	15.17	127	P	Pn	21 30 39.6	+0.3
	0.5nm,0.3s,baz=306,slow=14,SNR=2.3						
FITZ				S	Sn	21 33 10.9	-16
	0.1nm,0.3s,baz=66,slow=12,SNR=2.0						
LBMI	Labuha	16.80	60	P	P	21 31 00.5	-0.5
MTN	Manton Dam	18.21	103	*e*P	Pn	21 31 17.2	0.0
	44nm,1.5s						
SWI	Sorong	20.02	67	P	Pn	21 31 44.2	+5.5
FAKI	Fak Fak	20.18	73	P	P	21 31 37.4	-0.6
FAKI	Fak Fak	20.18	73	*e*P	P	21 31 37.1	-0.9
	11nm,0.6s						
WRA	Warramunga Arr	23.26	120	P	P	21 32 10.3	-0.4
	2.1nm,0.7s,baz=296,slow=12,SNR=23						
WRA				PcP	PcP	21 35 57.5	+1.2
	1.4nm,0.7s,baz=299,slow=1.8,SNR=9.3						
WRAB	Tennant Creek	23.27	120	*e*P	P	21 32 11.0	+0.3
	25nm,1.0s						
NWAO	Narrogin (SRO)	23.93	171	LR	LR	21 42 45.6	
	comp=Z,46nm,18.0s,baz=172,slow=39						
AS31	Alice Springs	24.66	128	*e*P	P	21 32 24.4	+1.1
	1.4nm,0.6s						
ASAR	Alice Springs	24.66	128	P

RAYN	**Ar Rayn**	**73.47**	**298**	*e*P	**P**	**21 38 34.4**	**-0.1**
	2.7nm,0.7s							
ABKAR	**Akbulak array**	**74.39**	**327**	*e*P	**P**	**21 38 38.5**	**-0.6**
	15nm,0.7s							
KMBO	**Kilima Mbogo**	**75.70**	**271**	LR	LR	22 08 24.0		
	comp=Z,35nm,19.7s,baz=90,slow=33							
MATP	**Matopo**	**81.68**	**251**	P	**P**	**21 39 22.2**	**+1.8**
	2.5nm,0.7s,baz=102,slow=5.8,SNR=7.6							
KBZ	**Khabaz**	**82.26**	**317**	P	**P**	**21 39 22.5**	**-0.2**
	3.7nm,0.9s,baz=177,slow=3.0,SNR=6.8							
MMAI	**Mount Meron Ar**	**84.68**	**305**	P	**P**	**21 39 37.6**	**+2.1**
	1.8nm,0.6s,baz=81,slow=9.3,SNR=4.9							
BR131	**Keskin Array S**	**87.70**	**311**	*e*P	**P**	**21 39 50.1**	**-0.2**
BRTR	**Keskin Array B**	**87.70**	**311**	P	**P**	**21 39 50.4**	**0.0**
	3.0nm,0.8s,baz=132,slow=6.0,SNR=18							
BR231	**Keskin MP Arra**	**88.38**	**311**	*e*P	**P**	**21 39 51.2**	**-2.2**
SNAA	**Sanae**	**89.14**	**197**	P	**P**	**21 39 57.9**	**+1.5**
	1.4nm,0.6s,baz=56,slow=7.3,SNR=5.2							
AKASG	**Malin Array Be**	**93.10**	**321**	P	**P**	**21 40 14.3**	**-0.7**
	0.1nm,0.2s,baz=83,slow=4.5,SNR=4.1							
YKA	**Yellowknife Ar**	**116.75**	**23**	PKP	**PKPdf**	**21 45 44.8**	**0.0**
	0.2nm,0.6s,baz=315,slow=2.1,SNR=4.1							
WCI	**Wyandotte Cave**	**146.31**	**28**	*e*PKPdf	**PKPdf**	**21 46 39.5**	**-1.3**
LRAL	**Lakeview Retre**	**149.98**	**35**	*e*PKPdf	**PKPdf**	**21 46 47.0**	**0.0**

MEX 09 21:31:26.4±0.7, 18°41N×102°95W, h25km±14km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.39**	**252**	*e*P	Pb	21 31 33.1	-1.8
MMIG				*e*S	Sb	21 31 39.5	-1.2
EZ5V		**1.23**	**330**	*e*P	Pn	21 31 45.3	-2.9
EZ5V				*e*S	Sn	21 32 00.7	-3.4
ZIIG	**Zihuatanejo**	**1.62**	**119**	*e*P	Pn	21 31 50.9	-2.5
ZIIG				*i* S	Sn	21 32 10.6	-2.9
SFJM	**Santa Fe**	**2.07**	**358**	*i* P	Pn	21 31 54.3	-5.4
SFJM				*i* S	Sn	21 32 19.1	-5.6
CJM	**Chamela**	**2.26**	**299**	*e*P	Pn	21 32 00.3	-1.8
CJM				*i* S	Sn	21 32 26.1	-3.1

*INMG **09** 21:34:36.9±0.8, 36°.78N×9°.67W, h22km±2km, ML2.1, Error ellipse: s-maj=2.8km s-min=2.0km az=50.0*
*IGIL **09** 21:34:36.6, 36°.77N×9°.67W, h19km, ML2.1*
*MDD **09** 21:34:36.2±1.4, 36°.73N×9°.74W, h47km±29km, mb4.2/5, Error ellipse: s-maj=13.6km s-min=8.5km az=54.0, PRXIMO*
*CSEM **09** 21:34:37.7±0.3, 36°.91N×9°.58W, h30km, ML2.6/5, Error ellipse: s-maj=5.1km s-min=3.6km az=43.0*

ISC 09 21:34:35.2±2.5, 36°.78N±0°.10×9°.68W±0°.09, h71km±10km, n103, σ1s00/189, 5C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.77**	**63**	⇑*i*P	**Pn**	**21 34 50.8**	**-0.1**
PFVI				*e*S	**Sn**	**21 35 01.4**	**-1.2**
PFVI				A	A	21 35 02.1	
	27nm,0.1s						
PFVI	**Vila Bisbo**	**0.77**	**63**	⇑P	**Pn**	**21 34 50.8**	**-0.1**
	10nm,0.0s,SNR=18						
PFVI				S	**Sn**	**21 35 01.4**	**-1.2**
	75nm,0.2s,SNR=6.1						
PFVI	**Vila Bisbo**	**0.77**	**63**	P	**Pn**	**21 34 50.8**	**-0.1**
	10nm,0.0s,SNR=18						
PFVI				S	**Sn**	**21 35 01.4**	**-1.2**
	75nm,0.2s,SNR=6.1						
MORF	**Marmelete**	**0.98**	**57**	*e*P	**Pn**	**21 34 53.7**	**+0.3**
MORF				*e*S	**Sn**	**21 35 06.2**	**-0.8**
MORF				AML	AML	21 35 07.3	
	comp=N,52nm,0.4s						
MORF	**Marmelete**	**0.98**	**57**	*e*P	**Pn**	**21 34 53.8**	**+0.3**
MORF				*e*S	**Sn**	**21 35 06.5**	**-0.6**
MORF				A	A	21 35 07.5	
	comp=N,22nm,0.3s						
MORF	**Marmelete**	**0.98**	**57**	P	**Pn**	**21 34 53.8**	**+0.3**
MORF				S	**Sn**	**21 35 06.5**	**-0.6**
	comp=N,22nm,0.3s						
MORF	**Marmelete**	**0.98**	**57**	*e*P	**Pn**	**21 34 53.8**	**+0.3**
MORF				S	**Sn**	**21 35 06.5**	**-0.6**
	comp=N,22nm,0.3s						
PTEO	**Sao Teotonio**	**1.08**	**45**	*e*P	**Pn**	**21 34 56.3**	**+1.6**
PTEO				*e*S	**Sn**	**21 35 08.9**	**-0.4**
PTEO				A	A	21 35 09.9	
	comp=N,19nm,0.1s						
PTEO	**Sao Teotonio**	**1.08**	**45**	P	**Pn**	**21 34 56.3**	**+1.6**
PTEO				S	**Sn**	**21 35 08.9**	**-0.4**
	comp=N,9.3nm,0.1s						
PTEO	**Sao Teotonio**	**1.08**	**45**	*e*P	**Pn**	**21 34 56.3**	**+1.6**
PTEO				S	**Sn**	**21 35 08.9**	**-0.4**
	comp=N,9.3nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.47**	**71**	⇑*e*P	**Pn**	**21 35 00.6**	**+0.8**
PBDV				*e*S	**Sn**	**21 35 18.2**	**-0.2**
PBDV	**Barranco-do-Ve**	**1.47**	**71**	P	**Pn**	**21 35 00.6**	**+0.8**
PBDV				S	**Sn**	**21 35 18.2**	**-0.2**
PBDV	**Barranco-do-Ve**	**1.47**	**71**	⇑*e*P	**Pn**	**21 35 00.6**	**+0.8**
PBDV				*e*S	**Sn**	**21 35 18.2**	**-0.2**
PCVE	**Castro Verde**	**1.56**	**57**	*e*P	**Pn**	**21 35 01.9**	**+0.9**
PCVE				*e*S	**Sn**	**21 35 20.7**	**+0.2**
PCVE				A	A	21 35 22.1	
	comp=N,9.2nm,0.4s						
PCVE	**Castro Verde**	**1.56**	**57**	P	**Pn**	**21 35 01.9**	**+0.9**
PCVE				S	**Sn**	**21 35 20.7**	**+0.2**
	comp=N,9.2nm,0.4s						
PCVE	**Castro Verde**	**1.56**	**57**	*e*P	**Pn**	**21 35 01.9**	**+0.9**
PCVE				S	**Sn**	**21 35 20.7**	**+0.2**
	comp=N,9.2nm,0.4s						
MESJ	**Messejana**	**1.57**	**47**	*e*P	**Pn**	**21 35 01.9**	**+0.9**
MESJ				*e*S	**Sn**	**21 35 20.6**	**-0.1**
MESJ				AML	AML	21 35 21.2	
	comp=E,15nm,0.1s						
MESJ	**Messejana**	**1.57**	**47**	*e*P	**Pn**	**21 35 02.0**	**+0.9**
MESJ				*e*S	**Sn**	**21 35 20.8**	**+0.1**
MESJ				A	A	21 35 21.3	
	comp=E,8.1nm,0.2s						
MESJ	**Messejana**	**1.57**	**47**	P	**Pn**	**21 35 02.0**	**+0.9**
MESJ				S	**Sn**	**21 35 20.8**	**+0.1**
	comp=E,8.1nm,0.2s						
MESJ	**Messejana**	**1.57**	**47**	*e*P	**Pn**	**21 35 02.0**	**+0.9**
MESJ				S	**Sn**	**21 35 20.8**	**+0.1**
	comp=E,8.1nm,0.2s						
PNCL	**Nicolau / Gran**	**1.61**	**34**	*e*P	**Pn**	**21 35 02.4**	**+0.8**
PNCL				*e*S	**Sn**	**21 35 21.6**	**-0.1**
PNCL				A	A	21 35 26.2	
	comp=E,13nm,0.2s						
PNCL	**Nicolau / Gran**	**1.61**	**34**	*e*P	**Pn**	**21 35 02.4**	**+0.8**
PNCL				*e*S	**Sn**	**21 35 21.6**	**-0.1**
	comp=E,13nm,0.2s						
PVAQ	**Vaqueiros**	**1.69**	**68**	*e*P	**Pn**	**21 35 03.5**	**+0.8**
PVAQ				*e*S	**Sn**	**21 35 23.4**	**-0.1**
PVAQ				A	A	21 35 25.7	
	comp=E,9.5nm,0.1s						
PVAQ	**Vaqueiros**	**1.69**	**68**	P	**Pn**	**21 35 03.5**	**+0.8**
PVAQ				S	**Sn**	**21 35 23.4**	**-0.1**
	comp=E,9.5nm,0.1s						
PVAQ	**Vaqueiros**	**1.69**	**68**	*e*P	**Pn**	**21 35 03.5**	**+0.8**
PVAQ				S	**Sn**	**21 35 23.4**	**-0.1**
	comp=E,9.5nm,0.1s						
PBEJ	**Beja**	**1.91**	**49**	*e*Sn	**Sn**	**21 35 28.3**	**-0.4**
PBEJ				A	A	21 35 29.7	
	comp=E,7.2nm,0.2s						
PBEJ	**Beja**	**1.91**	**49**	S	**Sn**	**21 35 28.3**	**-0.4**
	comp=E,3.6nm,0.2s						
PBEJ	**Beja**	**1.91**	**49**	S	**Sn**	**21 35 28.3**	**-0.4**
	comp=E,3.6nm,0.2s						
EGRO	**El Granado**	**1.91**	**66**	P	**Pn**	**21 35 06.6**	**+1.0**
	comp=E,0.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 35 28.4**	**-0.3**
	comp=E,5.9nm,0.1s,SNR=5.8						
EGRO	**El Granado**	**1.91**	**66**	P	**Pn**	**21 35 06.6**	**+1.0**
	comp=E,0.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 35 28.4**	**-0.3**
	comp=E,5.9nm,0.1s,SNR=5.8						
PMST	**Lisbon--Monsan**	**1.99**	**11**	*e*Sn	**Sn**	**21 35 31.0**	**+0.3**
PMST	**Lisbon--Monsan**	**1.99**	**11**	*e*Sn	**Sn**	**21 35 31.0**	**+0.3**
EVO	**Evora**	**2.19**	**37**	*e*Pn	**Pn**	**21 35 10.2**	**+0.8**
EVO				*e*Sn	**Sn**	**21 35 35.1**	**-0.5**
EVO				A	A	21 35 35.7	
	comp=E,16nm,0.1s						
EVO	**Evora**	**2.19**	**37**	P	**Pn**	**21 35 10.2**	**+0.8**
EVO				S	**Sn**	**21 35 35.1**	**-0.5**
	comp=E,16nm,0.1s						
EVO	**Evora**	**2.19**	**37**	P	**Pn**	**21 35 10.2**	**+0.8**
EVO				S	**Sn**	**21 35 35.1**	**-0.5**
	comp=E,16nm,0.1s						
PMAFR	**Mafra**	**2.19**	**8**	*e*Pn	**Pn**	**21 35 10.1**	**+0.7**
PMAFR				*e*Sn	**Sn**	**21 35 35.8**	**+0.2**
PMAFR				A	A	21 35 39.6	
	comp=E,20nm,0.3s						
PMAFR	**Mafra**	**2.19**	**8**	P	**Pn**	**21 35 10.1**	**+0.7**
	comp=E,16nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**21 35 35.7**	**+0.2**
	comp=E,40nm,0.2s,SNR=12						
PMAFR	**Mafra**	**2.19**	**8**	P	**Pn**	**21 35 10.1**	**+0.7**
	comp=E,16nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**21 35 35.7**	**+0.2**
	comp=E,40nm,0.2s,SNR=12						
PBAR	**Barrancos**	**2.52**	**56**	*e*Pn	**Pn**	**21 35 14.9**	**+1.1**
PBAR				*e*Sn	**Sn**	**21 35 43.3**	**-0.2**
PBAR				A	A	21 35 45.0	
	comp=E,5.8nm,0.2s						
PBAR	**Barrancos**	**2.52**	**56**	P	**Pn**	**21 35 14.9**	**+1.1**
PBAR				S	**Sn**	**21 35 43.3**	**-0.2**
	comp=E,5.8nm,0.2s						
PBAR	**Barrancos**	**2.52**	**56**	P	**Pn**	**21 35 14.9**	**+1.1**
PBAR				S	**Sn**	**21 35 43.3**	**-0.2**
	comp=E,5.8nm,0.2s						
ALMR	**Almeirim**	**2.52**	**20**	*e*P	**Pn**	**21 35 15.2**	**+1.3**
ALMR				*e*S	**Sn**	**21 35 43.4**	**-0.2**
ALMR				AML	AML	21 35 44.4	
	comp=N,9.4nm,0.4s						
ALMR	**Almeirim**	**2.52**	**20**	P	**Pn**	**21 35 15.2**	**+1.3**
ALMR				S	**Sn**	**21 35 43.4**	**-0.2**
	comp=N,4.7nm,0.4s						
ALMR	**Almeirim**	**2.52**	**20**	P	**Pn**	**21 35 15.2**	**+1.3**
ALMR				S	**Sn**	**21 35 43.4**	**-0.2**
	comp=N,4.7nm,0.4s						
PMTG	**Montargil**	**2.56**	**26**	*e*Pn	**Pn**	**21 35 15.4**	**+1.1**
PMTG				*e*Sn	**Sn**	**21 35 44.3**	**-0.1**
PMTG				A	A	21 35 45.1	
	comp=N,8.3nm,0.5s						
PMTG	**Montargil**	**2.56**	**26**	*e*Pn	**Pn**	**21 35 15.4**	**+1.1**
PMTG				*e*Sn	**Sn**	**21 35 44.3**	**-0.1**
	comp=N,8.3nm,0.5s						
EMIN	**Mina Concepcio**	**2.59**	**67**	P	**Pn**	**21 35 15.4**	**+0.5**
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 35 44.8**	**-0.5**
	comp=N,1.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.59**	**67**	P	**Pn**	**21 35 15.4**	**+0.5**
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 35 44.8**	**-0.5**
	comp=N,1.3nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.66**	**38**	*e*Pn	**Pn**	**21 35 16.9**	**+1.1**
PESTR				*e*Sn	**Sn**	**21 35 46.5**	**-0.4**
PESTR				A	A	21 35 49.3	
	comp=N,4.0nm,0.5s						
PESTR	**Estremoz**	**2.66**	**38**	*e*Pn	**Pn**	**21 35 16.9**	**+1.1**
PESTR				*e*Sn	**Sn**	**21 35 46.5**	**-0.4**
	comp=N,4.0nm,0.5s						
EBAD	**Badajoz**	**2.89**	**46**	P	**Pn**	**21 35 19.5**	**+0.6**
	comp=N,0.5nm,0.0s,SNR=6.0						
EBAD				S	**Sn**	**21 35 52.1**	**-0.4**
	comp=N,5.4nm,0.2s,SNR=10						
EBAD	**Badajoz**	**2.89**	**46**	P	**Pn**	**21 35 19.5**	**+0.6**
	comp=N,0.5nm,0.0s,SNR=6.0						
EBAD				S	**Sn**	**21 35 52.1**	**-0.4**
	comp=N,5.4nm,0.2s,SNR=10						
PTOM	**Tomar**	**3.00**	**19**	*e*Pn	**Pn**	**21 35 21.5**	**+1.1**
PTOM				*e*Sn	**Sn**	**21 35 54.7**	**-0.5**
PTOM				A	A	21 35 58.1	
	comp=N,7.3nm,0.1s						
PTOM	**Tomar**	**3.00**	**19**	P	**Pn**	**21 35 21.5**	**+1.1**
PTOM				S	**Sn**	**21 35 54.7**	**-0.5**
	comp=N,3.7nm,0.1s						
PTOM	**Tomar**	**3.00**	**19**	P	**Pn**	**21 35 21.5**	**+1.1**
PTOM				S	**Sn**	**21 35 54.7**	**-0.5**
	comp=N,3.7nm,0.1s						
ESPR	**Espera**	**3.07**	**87**	P	**Pn**	**21 35 22.2**	**+0.9**
	comp=N,3.6nm,0.2s,SNR=6.3						
ESPR				S	**Sn**	**21 35 56.3**	**-0.6**
	comp=N,14nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.07**	**87**	P	**Pn**	**21 35 22.2**	**+0.9**
	comp=N,3.6nm,0.2s,SNR=6.3						
ESPR				S	**Sn**	**21 35 56.3**	**-0.6**
	comp=N,14nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**3.20**	**34**	*e*Pn	**Pn**	**21 35 24.2**	**+1.1**
PMRV				*e*Sn	**Sn**	**21 35 59.3**	**-0.8**
PMRV				A	A	21 36 01.9	
	comp=N,4.6nm,0.3s						
PMRV	**Marv??o**	**3.20**	**34**	P	**Pn**	**21 35 24.2**	**+1.1**
PMRV				S	**Sn**	**21 35 59.3**	**-0.8**
	comp=N,4.6nm,0.3s						
PMRV	**Marv??o**	**3.20**	**34**	P	**Pn**	**21 35 24.2**	**+1.1**
PMRV				S	**Sn**	**21 35 59.3**	**-0.8**
	comp=N,4.6nm,0.3s						
PCAS	**Casmilo, Conde**	**3.39**	**16**	*e*Pn	**Pn**	**21 35 27.0**	**+1.2**
PCAS				*e*Sn	**Sn**	**21 36 04.3**	**-0.5**
PCAS				A	A	21 36 08.2	
	comp=N,4.4nm,0.6s						
PCAS	**Casmilo, Conde**	**3.39**	**16**	*e*Pn	**Pn**	**21 35 27.0**	**+1.2**
PCAS				*e*Sn	**Sn**	**21 36 04.3**	**-0.5**
	comp=N,4.4nm,0.6s						
PCBR	**Castelo Branco**	**3.51**	**29**	*e*Pn	**Pn**	**21 35 28.8**	**+1.5**
PCBR				*e*Sn	**Sn**	**21 36 06.9**	**-0.7**
PCBR				A	A	21 36 08.9	
	comp=N,2.2nm,0.3s						
PCBR	**Castelo Branco**	**3.51**	**29**	P	**Pn**	**21 35 28.8**	**+1.5**
PCBR				S	**Sn**	**21 36 06.9**	**-0.7**
	comp=N,1.1nm,0.3s						
PCBR	**Castelo Branco**	**3.51**	**29**	P	**Pn**	**21 35 28.8**	**+1.5**
PCBR				S	**Sn**	**21 36 06.9**	**-0.7**
	comp=N,1.1nm,0.3s						
ECAB	**El Cabril**	**3.63**	**68**	P	**Pn**	**21 35 30.1**	**+1.1**
	comp=N,0.2nm,0.0s,SNR=8.0						
ECAB				S	**Sn**	**21 36 09.2**	**-1.4**
	comp=N,1.3nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**3.63**	**68**	P	**Pn**	**21 35 30.1**	**+1.1**
	comp=N,0.2nm,0.0s,SNR=8.0						
ECAB				S	**Sn**	**21 36 09.2**	**-1.4**
	comp=N,1.3nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**3.98**	**24**	*e*Sn	**Sn**	**21 36 18.8**	**-0.4**
MTE				A	A	21 36 20.4	
	comp=N,4.0nm,0.4s						
MTE	**Manteigas**	**3.98**	**24**	S	**Sn**	**21 36 18.8**	**-0.4**
	comp=N,2.0nm,0.4s						
MTE	**Manteigas**	**3.98**	**24**	S	**Sn**	**21 36 18.8**	**-0.4**
	comp=N,2.0nm,0.4s						
PVIS	**Viseu**	**4.17**	**19**	*e*Pn	**Pn**	**21 35 37.3**	**+1.0**
PVIS				*e*Sn	**Sn**	**21 36 22.8**	**-1.0**
PVIS				A	A	21 36 26.2	
	comp=N,4.6nm,0.1s						
PVIS	**Viseu**	**4.17**	**19**	P	**Pn**	**21 35 37.3**	**+1.0**
PVIS				S	**Sn**	**21 36 22.8**	**-1.0**
	comp=N,2.3nm,0.1s						
PVIS	**Viseu**	**4.17**	**19**	P	**Pn**	**21 35 37.3**	**+1.0**
PVIS				S	**Sn**	**21 36 22.8**	**-1.0**
	comp=N,2.3nm,0.1s						
EADA	**Adamuz**	**4.29**	**70**	P	**Pn**	**21 35 39.5**	**+1.5**
	comp=N,0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 36 26.0**	**-0.8**
	comp=N,1.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.29**	**70**	P	**Pn**	**21 35 39.5**	**+1.5**
	comp=N,0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 36 26.0**	**-0.8**
	comp=N,1.8nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.33**	**40**	P	**Pn**	**21 35 39.0**	**+0.5**
	comp=N,0.7nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**21 36 27.1**	**-0.6**
	comp=N,3.9nm,0.1s,SNR=9.7						
EPLA	**Plasencia**	**4.33**	**40**	P	**Pn**	**21 35 39.0**	**+0.5**
	comp=N,0.7nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**21 36 27.1**	**-0.6**
	comp=N,3.9nm,0.1s,SNR=9.7						
POLO	**Lamas de Olo**	**4.81**	**17**	*e*Pn	**Pn**	**21 35 45.8**	**+0.6**
POLO				*e*Sn	**Sn**	**21 36 37.7**	**-2.0**
POLO				A	A	21 36 41.8	
	comp=N,1.1nm,0.6s						
POLO	**Lamas de Olo**	**4.81**	**17**	*e*Pn	**Pn**	**21 35 45.8**	**+0.6**
POLO				*e*Sn	**Sn**	**21 36 37.7**	**-2.0**
	comp=N,1.1nm,0.6s						
MVO	**Moncorvo**	**4.84**	**24**	*e*Pn	**Pn**	**21 35 46.6**	**+1.1**
MVO				*e*Sn	**Sn**	**21 36 38.5**	**-1.7**
MVO				A	A	21 36 41.5	
	comp=N,3.4nm,0.5s						
MVO	**Moncorvo**	**4.84**	**24**	P	**Pn**	**21 35 46.6**	**+1.1**
	comp=N,1.4nm,0.1s,SNR=7.5						
MVO				*e*Sn	**Sn**	**21 36 38.5**	**-1.7**
	comp=N,3.4nm,0.5s						
MVO				S	**Sn**	**21 36 38.9**	**-1.4**
	comp=N,3.5nm,0.4s,SNR=7.9						
PAB	**San Pablo**	**5.03**	**55**	P	**Pn**	**21 35 49.2**	**+1.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**21 36 43.3**	**-1.6**
	comp=N,1.3nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.03**	**55**	P	**Pn**	**21 35 49.2**	**+1.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**21 36 43.3**	**-1.6**
	comp=N,1.3nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.23**	**13**	P	**Pn**	**21 35 51.7**	**+0.8**
	comp=N,1.2nm,0.2s,SNR=7.1						
ELOB				S	**Sn**	**21 36 47.9**	**-2.0**
	comp=N,1.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.23**	**13**	P	**Pn**	**21 35 51.7**	**+0.8**
	comp=N,1.2nm,0.2s,SNR=7.1						
ELOB				S	**Sn**	**21 36 47.9**	**-2.0**
	comp=N,1.9nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.29**	**11**	*e*Pn	**Pn**	**21 35 52.5**	**+0.8**
PGAV				*e*Sn	**Sn**	**21 36 49.1**	**-2.2**
PGAV	**Gavieira, Arco**	**5.29**	**11**	*e*Pn	**Pn**	**21 35 52.5**	**+0.8**
PGAV				*e*Sn	**Sn**	**21 36 49.1**	**-2.2**
ESDC	**Sonseca Array**	**5.35**	**56**	⇑P	**Pn**	**21 35 53.7**	**+1.2**
	comp=N,1.9nm,0.1s,baz=240,slow=14,SNR=18						
ESDC				S	**Sn**	**21 36 52.5**	**-0.2**
	comp=N,0.5nm,0.4s,baz=242,slow=23,SNR=13						
ESDC	**Sonseca Array**	**5.35**	**56**	P	**Pn**	**21 35 53.7**	**+1.2**
	comp=N,1.9nm,0.1s,baz=240,slow=14,SNR=18						
ESDC				S	**Sn**	**21 36 52.5**	**-0.2**
	comp=N,0.5nm,0.4s,slow=23,SNR=13						
EQES	**Quesada**	**5.37**	**77**	S	**Sn**	**21 36 52.3**	**-1.0**
	comp=N,1.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.37**	**77**	S	**Sn**	**21 36 52.3**	**-1.0**
	comp=N,1.2nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**5.51**	**24**	*e*Sn	**Sn**	**21 36 54.6**	**-2.0**
PBRG				A	A	21 36 59.1	
	comp=N,2.4nm,0.1s						
PBRG	**Braganca**	**5.51**	**24**	S	**Sn**	**21 36 54.6**	**-2.0**
	comp=N,1.2nm,0.1s						
PBRG	**Braganca**	**5.51**	**24**	S	**Sn**	**21 36 54.6**	**-2.0**
	comp=N,1.2nm,0.1s						
ECAL	**Calabor**	**5.63**	**23**	P	**Pn**	**21 35 57.8**	**+1.4**
	comp=N,1.0nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**21 36 58.9**	**-0.8**
	comp=N,4.0nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**5.63**	**23**	P	**Pn**	**21 35 57.8**	**+1.4**
	comp=N,1.0nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**21 36 58.9**	**-0.8**
	comp=N,4.0nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**5.79**	**47**	S	**Sn**	**21 37 01.6**	**-2.1**
	comp=N,1.9nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**5.79**	**47**	S	**Sn**	**21 37 01.6**	**-2.1**
	comp=N,1.9nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**5.83**	**75**	S	**Sn**	**21 37 03.3**	**-1.5**
	comp=N,1.8nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**5.83**	**75**	S	**Sn**	**21 37 03.3**	**-1.5**
	comp=N,1.8nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.13**	**11**	P	**Pn**	**21 36 04.0**	**+0.8**
	comp=N,0.6nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**21 37 09.3**	**-2.6**
	comp=N,0.8nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.13**	**11**	P	**Pn**	**21 36 04.0**	**+0.8**
	comp=N,0.6nm,0.1s,SNR=7.9						

*IDC **09** 21:41:50.7±2.7, 19°.72S×170°.23E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/43, mbtmp4.0/8, ML3.5/1, MS3.6/13, Ms1 3.6/13, ms1mx3.3/44, Error ellipse: s-maj=91.1km s-min=23.4km az=140.0*
*NEIC **09** 21:41:51.9±0.6, 19°.71S×170°.29E, h10km, mb4.4/6, Error ellipse: s-maj=20.4km s-min=9.4km az=157.0*
*ISCJB **09** 21:41:53.5±0.7, 19°.8S±0°.2×170°.3E±0°.1, h33km, mb4.2/13, MS3.6/9, Error ellipse: s-maj=25.0km s-min=9.1km az=148.1*

ISC 09 21:41:55.5±0.8, 19°.7S±0°.2×170°.2E±0°.1, h35km, n27, σ1s60/19, mb4.2/13, MS3.7/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.26**	**235**	P	**Pn**	**21 42 58.8**	**+0.8**
	3.0nm,0.3s,baz=64,slow=19,SNR=34						
DZM				Sn	**Sn**	**21 43 46.2**	**-0.3**
	3.1nm,0.3s,baz=144,slow=23,SNR=7.0						
DZM				LR	LR	21 44 26.6	
	comp=Z,987nm,18.8s,baz=60,slow=37						
DZM	**Mont Dzumac**	**4.26**	**235**	*e*Pn	**Pn**	**21 42 58.5**	**+0.4**
DZM				Sn	**Sn**	**21 43 46.2**	**-0.3**
HNR	**Honiara**	**14.19**	**314**	LR	LR	21 49 19.8	
	comp=Z,69nm,18.6s,baz=108,slow=32						
AFI	**Afiamalu**	**18.17**	**74**	LR	LR	21 51 42.3

JHJ Sn **Sb** **21 47 39.0 +1.0**
120nm,0.3s,baz=83,slow=22,SNR=6.2
BSO4 Boso 4 1.69 321 P **Pn** **21 47 15.7 0.0**
JIZS Izushimoda 2.51 295 P **Pn** **21 47 27.4 +0.3**
JOD2 Odawara 2 2.63 307 P **Pn** **21 47 27.9 -0.9**
JOD2 eS **Sn** **21 47 56.9 -3.0**
JYN Shimob 3.13 306 P **Pn** **21 47 35.6 -0.1**
JYN eS **Sn** **21 48 10.3 -2.0**
SHZ3 Shizuoka 3 3.15 297 P **Pn** **21 47 36.3 +0.3**
MJAR Matsushiro Arr 4.00 316 Pn **Pn** **21 47 48.0 +0.3**
1.9nm,0.3s,baz=155,slow=12,SNR=18
MJAR Sn **Sn** **21 48 34.6 +0.8**
2.4nm,0.3s,baz=164,slow=11,SNR=6.2
MAT Matsushiro 4.00 316 P **Pn** **21 47 48.1 +0.4**
MAT S **Sn** **21 48 34.6 +0.8**
JCJ Chichijima 6.59 176 Pn **Pn** **21 48 23.9 +0.7**
baz=307,slow=20
JCJ Sn **Sn** **21 49 34.5 -3.0**
5.7nm,0.3s,baz=277,slow=17,SNR=3.0
KSRS Korea Array 11.78 292 LR LR 21 54 04.3
comp=Z,33nm,18.7s,baz=330,slow=37
SONM Songino Array 29.31 309 P **P** **21 52 55.6 +1.7**
0.3nm,0.7s,baz=116,slow=8.5,SNR=3.5
CMAR Chiang Mai Arr 40.94 259 P **P** **21 54 28.6 0.0**
0.3nm,0.6s,baz=51,slow=7.1,SNR=4.4
ZALV Zalesovo Beam 44.35 315 P **P** **21 54 56.3 +0.4**
0.2nm,0.3s,baz=83,slow=12,SNR=3.4
MKAR Makanchi Array 46.12 305 P **P** **21 55 10.7 +0.6**
0.9nm,0.6s,baz=88,slow=9.8,SNR=12
KURBB **Kurchatov Arra 48.26 310** P **P** **21 55 26.3 -0.4**
1.3nm,0.7s,baz=85,slow=7.6,SNR=17
ILAR Eielson Array 52.24 31 P **P** **21 55 56.4 -0.2**
0.7nm,0.7s,baz=260,slow=5.8,SNR=9.9
WRA Warramunga Arr 53.79 189 P **P** **21 56 08.9 +0.5**
0.4nm,0.3s,baz=5.6,slow=7.6,SNR=12
ASAR Alice Springs 57.51 188 P **P** **21 56 35.9 +0.7**
0.2nm,0.4s,baz=8.5,slow=8.3,SNR=5.1
YKA Yellowknife Ar 66.61 29 P **P** **21 57 35.5 -0.3**
0.1nm,0.4s,baz=301,slow=6.4,SNR=3.8

*ISCJB **09** 21:53:41.4±0.3,25.01S±0.07×179.84E±0.07,h501km, mb4.2/32, Error ellipse: s-maj=9.7km s-min=7.8km az=148.8*
*IDC **09** 21:53:41.9±1.3,25.02S×179.97E,h500km±13km, mb3.8/20,mb1 4.0/23,mb1mx3.8/50,mbtmp4.6/23, Error ellipse: s-maj=13.7km s-min=11.4km az=164.0*
*NEIC **09** 21:53:42.6±0.7,25.06S×179.95E,h510km±8km,mb4.6/14, Error ellipse: s-maj=10.8km s-min=7.3km az=169.0*
ISC 09 21:53:41.8±0.5,25.08S±0.07×180.00E±0.08,h501km,n58, σ1s30/67,mb4.4/32,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.55**	**156**	P	**P**	**21 55 06.6**	**+1.9**
	155nm,0.3s,baz=65,slow=19,SNR=4.2						
RAO				S	**S**	**21 56 06.3**	**-6.2**
	86nm,0.3s,baz=72,slow=19,SNR=2.8						
DZM	**Mont Dzumac**	**12.79**	**281**	P	**P**	**21 56 30.2**	**+1.4**
	1.3nm,0.3s,baz=94,slow=16,SNR=18						
DZM	**Mont Dzumac**	**12.79**	**281**	*eP*	**P**	**21 56 30.1**	**+1.3**
	37nm,1.0s						
URZ	**Urewera**	**13.36**	**190**	P	**P**	**21 56 34.7**	**+0.2**
	0.9nm,0.3s,baz=314,slow=6.6,SNR=3.5						
URZ				S	**S**	**21 58 58.5**	**+1.5**
	2.9nm,0.3s,baz=196,slow=21,SNR=13						
RPZ	**Rata Peaks**	**19.97**	**199**	P	**P**	**21 57 40.1**	**+0.2**
	5.3nm,0.4s,baz=34,slow=8.3,SNR=5.6						
EIDS	**Eidsvold**	**26.14**	**263**	*eP*	**P**	**21 58 35.8**	**+0.4**
	40nm,1.3s						
CTA	**Charters Tower**	**31.50**	**272**	P	**P**	**21 59 22.6**	**+0.4**
	28nm,0.3s,baz=94,slow=11,SNR=64						
CTAO	**Charters Tower**	**31.50**	**272**	*eP*	**P**	**21 59 22.5**	**+0.4**
	210nm,0.6s						
TAU	**Tasmania Unive**	**32.14**	**228**	P	**P**	**21 59 28.2**	**+0.9**
	7.4nm,0.8s						
STKA	**Stephens Creek**	**34.30**	**250**	P	**P**	**21 59 46.1**	**+0.4**
	7.5nm,0.4s,baz=93,slow=11,SNR=42						
PMG	**Port Moresby**	**34.89**	**291**	P	**P**	**21 59 50.4**	**-0.5**
	19nm,0.7s,baz=50,slow=8.0,SNR=8.3						
PMG	**Port Moresby**	**34.89**	**291**	*eP*	**P**	**21 59 50.3**	**-0.7**
	12nm,0.8s						
BBOO	**Buckleboo**	**38.99**	**248**	*eP*	**P**	**22 00 24.1**	**-0.4**
	10nm,0.8s						
ASAR	**Alice Springs**	**41.85**	**262**	P	**P**	**22 00 47.2**	**-0.4**
	12nm,0.6s,baz=92,slow=6.9,SNR=111						
ASAR				PP	**PcP**	**22 02 31.7**	**-0.3**
	0.7nm,0.6s,baz=91,slow=9.3,SNR=4.1						
ASAR				ScP	**ScP**	**22 05 35.0**	**+0.5**
	1.7nm,0.9s,baz=112,slow=3.7,SNR=7.8						
ASAR				S	**S**	**22 06 26.6**	**-2.5**
	0.9nm,0.7s,baz=100,slow=14,SNR=6.0						
WRAB	**Tennant Creek**	**42.33**	**267**	*eP*	**P**	**22 00 50.4**	**-1.0**
	24nm,0.6s						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**22 00 50.7**	**-0.7**
	20nm,0.4s,baz=101,slow=7.8,SNR=193						
WRA				ScP	**ScP**	**22 05 37.0**	**+0.6**
	6.7nm,0.9s,baz=101,slow=4.1,SNR=20						
WRA				S	**S**	**22 06 32.4**	**-3.6**
	3.4nm,0.9s,baz=100,slow=14,SNR=11						
FITZ	**Fitzroy Crossi**	**50.75**	**267**	P	**P**	**22 01 55.2**	**0.0**
	18nm,0.7s,baz=104,slow=8.0,SNR=20						
VNDA	**Vanda**	**53.20**	**185**	P	**P**	**22 02 13.3**	**+1.2**
	1.1nm,0.8s,baz=2.7,slow=8.9,SNR=5.7						
NWAO	**Narrogin (SRO)**	**54.75**	**246**	P	**P**	**22 02 23.3**	**-0.5**
	7.7nm,0.8s,baz=293,slow=7.7,SNR=4.0						
NWAO	**Narrogin (SRO)**	**54.75**	**246**	*eP*	**P**	**22 02 24.1**	**+0.3**
SOEI	**Soe**	**54.95**	**276**	*eP*	**P**	**22 02 25.2**	**-0.4**
	30nm,0.9s						
MBWA	**Marble Bar**	**55.17**	**261**	*eP*	**P**	**22 02 25.9**	**-1.0**
	98nm,1.5s						
BATI	**Baumata**	**55.32**	**275**	P	**P**	**22 02 28.3**	**+0.3**
	18nm,0.5s,baz=152,slow=4.0,SNR=6.9						
MAJO	**Matsushiro**	**72.87**	**326**	P	**P**	**22 04 18.8**	**-0.6**
	2.5nm,0.6s						
PETK	**Petropavlovsk-**	**80.25**	**347**	P	**P**	**22 04 59.3**	**-0.2**
	1.7nm,0.7s,baz=140,slow=4.8,SNR=5.5						
USRK	**Ussuriysk Ar.**	**81.75**	**327**	P	**P**	**22 05 08.0**	**+0.5**
	1.4nm,0.5s,baz=108,slow=6.6,SNR=4.1						
SNAA	**Sanae**	**83.49**	**179**	P	**P**	**22 05 16.0**	**-0.1**
	2.3nm,0.7s,baz=232,slow=12,SNR=9.8						
VNA3	**Neumayer Olymp**	**83.70**	**177**	P	**P**	**22 05 17.3**	**+0.3**
ISA	**Isabella, Lake**	**83.84**	**46**	*eP*	**P**	**22 05 19.3**	**+1.0**
	12nm,1.0s						
CMB	**Columbia Colle**	**84.06**	**43**	*eP*	**P**	**22 05 19.8**	**+0.5**
	15nm,0.9s						
VNA2	**Neumayer--Watz**	**84.11**	**178**	P	**P**	**22 05 19.7**	**+0.6**
	baz=184,slow=4.1						
YBH	**Yreka Blue Hor**	**85.00**	**39**	P	**P**	**22 05 24.7**	**+0.8**
	3.0nm,1.0s,baz=267,slow=5.2,SNR=5.6						
NVAR	**Mina Array Bea**	**85.60**	**44**	P	**P**	**22 05 27.6**	**+0.6**
	2.6nm,0.7s,baz=220,slow=8.3,SNR=12						
TUC	**Tucson**	**87.24**	**52**	*eP*	**P**	**22 05 35.6**	**+0.8**
	8.0nm,0.8s						
MSU	**Marysvale**	**89.60**	**47**	*eP*	**P**	**22 05 46.2**	**+0.3**
	0.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.93**	**290**	P	**P**	**22 05 48.8**	**+1.2**
	1.1nm,0.3s,baz=142,slow=3.9,SNR=15						
CMAR				pP	**pP**	**22 07 42.5**	**+3.3**
	0.4nm,0.4s,baz=134,slow=3.6,SNR=6.2						
CHTO	**Chiang Mai**	**90.09**	**291**	*eP*	**P**	**22 05 48.6**	**+0.3**
	2.3nm,1.0s						
TMUT	**Trail Mountain**	**90.66**	**46**	*eP*	**P**	**22 05 51.6**	**+0.8**
	16nm,0.7s						
TXAR	**Lajitas Array**	**91.06**	**58**	P	**P**	**22 05 54.2**	**+1.6**
	3.9nm,0.8s,baz=217,slow=6.3,SNR=24						
ANMO	**Albuquerque**	**91.69**	**52**	P	**P**	**22 05 54.8**	**-0.7**
	1.0nm,0.7s,baz=250,slow=11,SNR=3.7						
ILAR	**Eielson Array**	**93.18**	**14**	P	**P**	**22 06 00.1**	**-1.4**
	0.4nm,0.8s,baz=234,slow=5.2,SNR=4.7						
PDAR	**Pinedale Array**	**93.54**	**44**	P	**P**	**22 06 04.0**	**+0.1**
	0.9nm,0.7s,baz=169,slow=5.2,SNR=1.6						
MKAR	**Makanchi Array**	**112.95**	**312**	SKP	**SKPdf**	**22 14 08.7**	**-0.4**
	0.7nm,0.7s,baz=62,slow=2.1,SNR=6.7						
FRB	**Frobisher Bay**	**121.68**	**29**	PKP	**PKPdf**	**22 11 36.2**	**-1.3**
	2.0nm,0.6s,baz=127,slow=4.7,SNR=6.0						
GEYT	**Alibeck**	**129.55**	**299**	SKPbc	SKPbc	22 14 29.5	+1.0
	3.1nm,0.9s,baz=111,slow=3.2,SNR=8.5						
ARCES	**ARCESS Array B**	**133.04**	**348**	PKP	**PKPdf**	**22 11 59.3**	**+0.2**
	4.5nm,0.9s,baz=316,slow=2.5,SNR=3.4						
ARCES				SKPab	**SKPbc**	**22 14 39.6**	**-0.3**
	6.1nm,0.9s,baz=341,slow=2.6,SNR=8.8						
FINES	**FINESS Array B**	**139.56**	**341**	SKPbc	**SKPbc**	**22 14 59.9**	**+0.4**
	5.8nm,0.8s,baz=26,slow=4.0,SNR=13						
NB2	**NORSAR Subarra**	**143.25**	**351**	PKP	PKPab	22 12 15.0	-0.8
	comp=Z,1.1nm,0.7s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.25**	**351**	PKP	PKPab	22 12 15.5	-0.3
	comp=Z,1.2nm,0.8s,baz=22,slow=3.9,SNR=4.2						
HFS	**Hagfors**	**143.70**	**348**	PKP	PKPab	22 12 16.5	-1.1
	comp=Z,5.4nm,0.6s,baz=55,slow=3.5,SNR=20						
AKASG	**Malin Array Be**	**145.96**	**326**	PKPbc	**PKPbc**	**22 12 23.8**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=46,slow=4.8,SNR=8.4						
AKASG				pPKPbc	pPKPab	22 14 19.0	-2.0
	comp=Z,0.6nm,0.6s,baz=45,slow=4.5,SNR=3.0						
AKASG				SKPbc	**SKiKP**	**22 15 16.2**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=46,slow=2.8,SNR=4.4						
MMAI	**Mount Meron Ar**	**148.17**	**293**	PKPbc	**PKPbc**	**22 12 32.3**	**+1.0**
	comp=Z,2.3nm,0.5s,baz=58,slow=5.4,SNR=7.3						
BRTR	**Keskin Array B**	**148.28**	**306**	PKPbc	**PKPbc**	**22 12 31.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=159,slow=3.6,SNR=4.6						
BRTR				pPKPbc	**pPKPdf**	**22 14 27.4**	**+1.0**
	comp=Z,0.9nm,1.0s,baz=116,slow=2.9,SNR=4.0						
EKA	**Eskdalemuir Ar**	**149.69**	**4**	PKPbc	**PKPbc**	**22 12 32.7**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=338,slow=3.1,SNR=3.4						
CLL	**Collm**	**151.98**	**343**	*i* PKPbc	**PKPbc**	**22 12 39.3**	**-0.2**
GERES	**GERESS Array B**	**153.96**	**339**	PKPbc	**PKPbc**	**22 12 42.8**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=98,slow=3.4,SNR=4.2						
GERES				PKPab	**PKPab**	**22 12 59.2**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=74,slow=5.5,SNR=2.7						
ESDC	**Sonseca Array**	**165.07**	**12**	PKPab	**PKPab**	**22 13 48.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=350,slow=5.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**168.02**	**188**	PKP	**PKPdf**	**22 12 50.3**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=116,slow=3.4,SNR=3.8						
TORD				PKPab	**PKPab**	**22 14 02.0**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=174,slow=4.2,SNR=11						

CASC 09 22:10:44.7±1.3,11.38N×85.69W,h182km±6km,MD4.1, ML3.5,4C-1D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUAI	**Buenos Aires**	**0.61**	**144**	*iP*	**Pn**	**22 11 14.2**	**+3.9**
GB1A	**Borinquen Arri**	**0.62**	**152**	*eP*	**Pn**	**22 11 10.7**	**+0.3**
GB1A				*eS*	**Sn**	**22 11 29.8**	**-0.4**
BUEV	**Buena Vista**	**0.64**	**154**	*eP*	**Pn**	**22 11 10.9**	**+0.4**
LAPC	**Finca la Perla**	**0.66**	**157**	*eP*	**Pn**	**22 11 10.2**	**-0.3**
MESS	**Mesas**	**0.80**	**142**	*eP*	**Pn**	**22 11 11.7**	**+0.4**
COLC	**Colonia**	**0.85**	**146**	*eP*	**Pn**	**22 11 12.3**	**+0.7**
CUI	**Cuipilapa**	**0.88**	**144**	*eP*	**Pn**	**22 11 12.5**	**+0.6**
CUI				*eS*	**Sn**	**22 11 33.4**	**+0.6**
MGAN	**Managua**	**0.94**	**325**	*eP*	**Pn**	**22 11 12.8**	**+0.7**
MGAN				*eS*	**Sn**	**22 11 34.8**	**+1.4**
TISN	**Laguna Tiscapa**	**0.95**	**324**	*eP*	**Pn**	**22 11 12.8**	**+0.5**
XAVN	**Gruta Xavier**	**0.99**	**321**	*eP*	**Pn**	**22 11 13.1**	**+0.6**
XAVN				AML	AML	22 11 38.3	
	comp=Z,319nm,0.2s						
AMAS	**Alto Masis**	**1.02**	**138**	*eP*	**Pn**	**22 11 13.6**	**+0.7**
COPN	**Copaltepe**	**1.19**	**312**	*eP*	**Pn**	**22 11 13.9**	**-0.2**
COPN				AML	AML	22 11 42.5	
	comp=Z,327nm,0.2s						
MOMN	**Momotombo**	**1.32**	**321**	*eP*	**Pn**	**22 11 15.3**	**+0.1**
MATN	**Matagalpa**	**1.56**	**352**	*eP*	**Pn**	**22 11 18.0**	**+0.5**
ESPN	**Las Esperanzas**	**1.59**	**59**	*eP*	**Pn**	**22 11 18.2**	**+0.5**
ESPN				*eS*	**Sn**	**22 11 43.6**	**+0.4**
JCR	**Jicaral**	**1.62**	**159**	*eP*	**Pn**	**22 11 18.2**	**+0.1**
SRA1	**San Ramˆ‡n**	**1.75**	**137**	*eS*	**Sn**	**22 11 48.3**	**+2.0**
CGA2	**Cerro Gallo 2**	**1.81**	**138**	*eP*	**Pn**	**22 11 20.8**	**+0.7**
CGA2				*eS*	**Sn**	**22 11 48.2**	**+0.7**
ESTN	**Estel**	**1.84**	**339**	*eP*	**Pn**	**22 11 20.7**	**+0.4**
CRIN	**San Cristobal**	**1.87**	**315**	*eP*	**Pn**	**22 11 20.2**	**-0.4**
CRIN				*eS*	**Sn**	**22 11 48.9**	**+0.4**
CRIN				AML	AML	22 11 51.9	
	comp=E,775nm,0.5s						
LCR2	**La Lucha 2**	**2.32**	**134**	*eP*	**Pn**	**22 11 26.4**	**+0.7**
LCR2				*eS*	**Sn**	**22 11 58.5**	**+0.9**
URSC	**Urasca**	**2.43**	**129**	*eP*	**Pn**	**22 11 27.8**	**+1.0**
URSC				*eS*	**Sn**	**22 12 01.2**	**+1.6**
BUS	**Buena Vista**	**2.62**	**133**	*eP*	**Pn**	**22 11 30.3**	**+0.8**
BUS				*eS*	**Sn**	**22 12 04.8**	**+0.7**
EDLM	**Las Mercedes**	**2.94**	**135**	*eP*	**Pn**	**22 11 33.2**	**+0.4**
EDLM				*eS*	**Sn**	**22 12 09.9**	**-0.3**

IDC 09 22:24:21.6±3.3,22.70S×170.65E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/39,mbtmp3.7/4,ML3.6/1,MS3.3/4, Ms1 3.3/4,ms1mx2.9/37,Error ellipse: s-maj=132.4km s-min=45.4km az=163.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.95**	**278**	Pn	**Pn**	**22 25 22.7**	**-0.9**
	4.0nm,0.3s,baz=138,slow=15,SNR=83						
DZM				Sn	**Sn**	**22 26 05.5**	**-5.2**
	8.4nm,0.3s,baz=217,slow=18,SNR=11						
DZM				LR	LR	22 26 42.1	
	comp=Z,398nm,18.8s,baz=36,slow=36						
PMG	**Port Moresby**	**26.11**	**297**	LR	LR	22 39 05.5	
	comp=Z,55nm,18.6s,baz=175,slow=34						
STKA	**Stephens Creek**	**27.32**	**244**	LR	LR	22 40 00.7	
	comp=Z,46nm,20.1s,baz=30,slow=34						
ASAR	**Alice Springs**	**33.74**	**261**	P	P	**22 31 04.8**	**-0.3**
	0.5nm,0.7s,baz=85,slow=8.0,SNR=5.5						
ASAR				LR	LR	22 43 56.0	
	comp=Z,80nm,21.1s,baz=110,slow=35						
WRA	**Warramunga Arr**	**33.89**	**268**	P	P	**22 31 06.3**	**-0.1**
	0.8nm,0.9s,baz=100,slow=8.2,SNR=4.0						
CMAR	**Chiang Mai Arr**	**81.12**	**294**	P	P	**22 36 40.5**	**+1.1**
	0.5nm,0.4s,baz=141,slow=3.3,SNR=7.1						
BRG	**Berggiesshubel**	**146.54**	**333**	*e*PKP	PKPbc	22 44 04.5	-0.3
	9.7nm,1.4s						
GERES	**GERESS Array B**	**148.15**	**331**	PKPbc	PKPbc	22 44 08.0	-1.5
	1.5nm,1.0s,baz=56,slow=3.4,SNR=7.0						

IDC 09 23:32:32.7±3.6,5.34N×94.69E,h0km,mb3.4/5,mb1 3.5/5, mb1mx3.3/63,mbtmp3.4/5,Error ellipse: s-maj=147.8km s-min=22.9km az=62.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**25.62**	**240**	T	T	00 05 15.8	
	baz=60,slow=75,SNR=4.6						
H08S2	**Diego Garcia H**	**25.62**	**240**	T	T	00 05 03.5	
	baz=60,slow=75,SNR=4.2						
H08S1	**Diego Garcia H**	**25.64**	**240**	T	T	00 05 08.9	
	baz=60,slow=75,SNR=4.9						
MKAR	**Makanchi Array**	**42.67**	**347**	P	P	**23 40 31.4**	**+0.3**
	0.1nm,0.4s,baz=155,slow=10.0,SNR=4.5						
SONM	**Songino Array**	**43.52**	**11**	P	P	**23 40 37.6**	**-0.6**
	0.4nm,1.0s,baz=182,slow=5.2,SNR=2.2						
WRA	**Warramunga Arr**	**46.38**	**124**	P	P	**23 41 02.9**	**+1.7**
	0.2nm,0.8s,baz=297,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**47.90**	**129**	P	P	**23 41 11.6**	**-1.5**
	0.1nm,0.4s,baz=294,slow=8.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**49.13**	**352**	P	P	**23 41 21.9**	**-0.1**
	0.5nm,0.4s,baz=178,slow=7.8,SNR=4.5						

IDC 09 23:32:47.5±5.2,19.17S×169.59E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.8/38,mbtmp4.0/5,ML3.6/11, Ms1 3.6/11,ms1mx3.3/43,Error ellipse: s-maj=132.4km s-min=35.2km az=120.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.12**	**225**	Pn	**Pn**	**23 33 52.4**	**+0.5**
	3.6nm,0.3s,baz=97,slow=9.4,SNR=47						
DZM				Sn	**Sn**	**23 34 40.3**	**-0.6**
	27nm,0.3s,baz=358,slow=19,SNR=10						
DZM				LR	LR	23 35 18.7	
	comp=Z,743nm,18.4s,baz=19,slow=37						
HNR	**Honiara**	**13.45**	**315**	LR	LR	23 40 31.8	
	comp=Z,108nm,18.8s,baz=112,slow=34						
AFI	**Afiamalu**	**18.61**	**76**	LR	LR	23 42 48.2	
	comp=Z,225nm,19.0s,baz=232,slow=32						
URZ	**Urewera**	**20.11**	**163**	LR	LR	23 43 34.9	
	comp=Z,152nm,21.6s,baz=338,slow=32						
PMG	**Port Moresby**	**23.78**	**291**	LR	LR	23 46 07.7	
	comp=Z,108nm,18.3s,baz=100,slow=34						
RPZ	**Rata Peaks**	**24.50**	**177**	LR	LR	23 46 47.5	
	comp=Z,141nm,18.7s,baz=312,slow=34						
STKA	**Stephens Creek**	**28.16**	**238**	P	P	**23 38 42.2**	**+0.5**
	1.1nm,0.4s,baz=59,slow=12,SNR=8.5						
STKA				LR	LR	23 48 41.1	
	comp=Z,135nm,21.3s,baz=31,slow=34						
WRA	**Warramunga Arr**	**33.19**	**263**	P	P	**23 39 26.2**	**0.0**
	0.3nm,0.5s,baz=100,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**33.47**	**256**	P	P	**23 39 28.2**	**-0.5**
	3.1nm,0.6s,baz=84,slow=8.9,SNR=35						
ASAR				LR	LR	23 52 05.6	
	comp=Z,143nm,22.0s,baz=94,slow=35						
BATI	**Baumata**	**45.20**	**275**	LR	LR	23 59 01.8	
	comp=Z,125nm,18.1s,baz=187,slow=35						
JNU	**Nakatsue**	**63.81**	**324**	LR	LR	00 08 56.0	
	comp=Z,23nm,19.4s,baz=117,slow=34						
YBH	**Yreka Blue Hor**	**87.02**	**44**	LR	LR	00 20 10.9	
	comp=Z,60nm,18.4s,baz=344,slow=33						
SONM	**Songino Array**	**87.37**	**323**	P	P	**23 45 36.4**	**-0.2**
	0.5nm,0.8s,baz=119,slow=5.1,SNR=3.6						

IDC 09 23:36:44.9±4.0,22.18S×170.49E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.6/37,mbtmp3.6/3,ML3.8/1,Error ellipse: s-maj=176.2km s-min=49.6km az=162.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.75**	**271**	Pn	**Pn**	**23 37 44.5**	**+0.3**
	7.3nm,0.3s,baz=122,slow=13,SNR=50						
DZM				Sn	**Sn**	**23 38 25.7**	**-3.4**
	5.9nm,0.3s,baz=42,slow=20,SNR=5.8						
ASAR	**Alice Springs**	**33.67**	**260**	P	P	**23 43 28.2**	**+0.4**
	0.5nm,0.7s,baz=86,slow=8.8,SNR=4.1						
WRA	**Warramunga Arr**	**33.76**	**267**	P	P	**23 43 28.0**	**-0.7**
	0.3nm,0.5s,baz=101,slow=8.5,SNR=3.1						
GERES	**GERESS Array B**	**147.62**	**331**	PKPbc	PKPbc	**23 56 30.8**	**-0.6**
	0.1nm,0.3s,baz=72,slow=4.3,SNR=3.8						

*IDC **10** 00:00:21.9±1.7,0.78S×133.97E,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.6/57,mbtmp3.8/8,ML3.6/2,Error ellipse: s-maj=66.9km s-min=19.1km az=80.0*
*ISCJB **10** 00:00:23.8±0.8,0.67S±0.06×134.25E±0.08,h32km, mb3.8/6,Error ellipse: s-maj=10.9km s-min=8.0km az=178.4*
*DJA **10** 00:00:23.5±1.2,1˚S±6˚×13˚4E±˚,h14km±3km,M3.8/4, MLv3.8/4*
ISC 10 00:00:25.5±1.3,0.70S±0.08×134.3E±0.1,h32km,n11, σ0s85/14,mb3.8/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.81**	**185**	P	**Pn**	**00 00 39.8**	**-0.9**
RKPI				S	**Sb**	**00 00 52.7**	**+0.9**
FAKI	**Fak Fak**	**2.98**	**222**	P	**Pn**	**00 01 10.4**	**-0.1**
FAKI				S	**Sn**	**00 01 45.6**	**+0.4**
SWI	**Sorong**	**2.99**	**267**	P	**Pn**	**00 01 09.7**	**-1.0**
SWI				S	**Sn**	**00 01 45.9**	**+0.4**
WRA	**Warramunga Arr**	**19.13**	**180**	P	**P**	**00 04 45.4**	**-0.6**
	0.2nm,0.3s,baz=357,slow=12,SNR=7.1						
FITZ	**Fitzroy Crossi**	**19.25**	**206**	P	**P**	**00 04 46.5**	**-0.9**
	0.1nm,0.3s,baz=0.0,slow=19,SNR=3.6						
ASAR	**Alice Springs**	**22.84**	**181**	P	**P**	**00 05 26.0**	**-0.1**
	1.2nm,0.8s,baz=7.3,slow=11,SNR=9.2						
CMAR	**Chiang Mai Arr**	**39.58**	**301**	P	**P**	**00 07 53.6**	**-0.5**
	0.6nm,0.3s,baz=122,slow=6.9,SNR=8.1						
MKAR	**Makanchi Array**	**65.51**	**324**	P	**P**	**00 11 07.0**	**+1.3**
	1.2nm,0.5s,baz=116,slow=7.9,SNR=20						
ZALV	**Zalesovo Beam**	**68.00**	**331**	P	**P**	**00 11 21.5**	**+0.1**
	0.3nm,0.3s,baz=123,slow=6.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**69.55**	**326**	P	**P**	**00 11 32.1**	**+1.0**
	0.9nm,0.7s,baz=119,slow=5.9,SNR=12						
BVAR	**Borovoye Array**	**75.14**	**326**	P	**P**	**00 12 05.5**	**+1.0**
	0.5nm,0.6s,baz=108,slow=7.9,SNR=3.4						

*ISCJB **10** 00:08:43.8±0.3,41.77N±0.04×139.42E±0.07, h218km±3km,mb3.5/13,Error ellipse: s-maj=8.4km s-min=6.1km az=25.5*
*IDC **10** 00:08:44.3±1.0,41.77N×139.38E,h208km±9km,mb3.3/13, mb1 3.4/18,mb1mx3.2/72,mbtmp3.8/18,Error ellipse: s-maj=15.1km s-min=9.7km az=145.0*
*JMA **10** 00:08:45.3±0.1,41.78N×139.37E,h208km±1km,M3.3*
ISC 10 00:08:44.6±0.7,41.77N±0.05×139.40E±0.06,h213km±6km, n40,σ0s53/50,mb3.5/13,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.32**	**11**	P	**Pn**	**00 09 12.7**	**0.0**
JOSM				*eS*	**S**	**00 09 33.6**	**-1.2**
**

σ2918/33, **mb3.7**/4, **4C-7D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.41**	**22**	⇑P	**Pn**	**00 16 04.6**	**+2.2**
	4.7nm,0.2s						
SFK				⇓S	**Sn**	**00 16 32.7**	**+0.6**
	67nm,0.2s						
TAS	**Tashkent**	**4.27**	**327**	⇓S	**Sn**	**00 17 19.6**	**+4.0**
AML	**Almayashu**	**4.47**	**13**	P	**Pn**	**00 16 31.6**	**+1.9**
	SNR=16						
MNAS	**Manas**	**4.71**	**1**	⇑P	**Pn**	**00 16 34.2**	**+1.5**
	2.7nm,0.4s						
MNAS				⇓S	**Sn**	**00 17 25.1**	**-1.3**
	34nm,0.5s						
UCH	**Uchtor**	**4.74**	**20**	P	**Pn**	**00 16 35.1**	**+1.6**
	SNR=11						
KZA	**Kyzart**	**4.84**	**26**	P	**Pn**	**00 16 35.9**	**+1.1**
	SNR=7.6						
EKS2	**Erkin-Say**	**5.00**	**12**	P	**Pn**	**00 16 39.1**	**+2.5**
	SNR=19						
AAK	**Ala-Archa**	**5.12**	**18**	⇓S	**Sn**	**00 17 35.8**	**-0.6**
	30nm,0.9s						
AAK	**Ala-Archa**	**5.12**	**18**	P	**Pn**	**00 16 40.3**	**+2.0**
	SNR=8.7						
KK31	**Karatay Array**	**5.50**	**346**	P	**Pn**	**00 16 44.9**	**+1.6**
	5.9nm,0.3s,baz=157,slow=11,SNR=172						
KK31				⇑S	**Sn**	**00 17 43.3**	**-2.1**
	26nm,0.5s,baz=141,slow=14,SNR=22						
TKM2	**Tokmak 2**	**5.70**	**25**	⇓P	**Pn**	**00 16 48.4**	**+2.2**
	0.3nm,0.3s						
TKM2				⇓S	**Sn**	**00 17 48.6**	**-1.9**
	2.7nm,0.6s						
GEYT	**Alibeck**	**11.26**	**275**	P	**Pn**	**00 18 01.2**	**+0.2**
	0.2nm,0.3s,baz=82,slow=10,SNR=4.4						
GEYT				S	**Sn**	**00 20 01.4**	**-3.5**
	0.8nm,0.3s,baz=115,slow=10.0,SNR=7.7						
MKAR	**Makanchi Array**	**11.62**	**36**	P	**Pn**	**00 18 06.8**	**+1.1**
	0.0nm,0.3s,baz=221,slow=15,SNR=2.2						
PYUN	**Piuthan**	**13.14**	**134**	*eP*	**Pn**	**00 18 23.7**	**-2.2**
	10nm,0.4s						
PYUN				*eS*	Sn	00 20 39.0	-12
KURBB	**Kurchatov Arra**	**13.58**	**17**	P	**Pn**	**00 18 28.9**	**-2.3**
	0.0nm,0.3s,baz=207,slow=12,SNR=3.1						
KOLN	**Koldanda**	**13.74**	**133**	*eP*	**Pn**	**00 18 33.2**	**-0.5**
	4.5nm,0.4s						
AB31	**Akbulak array**	**14.56**	**326**	⇓P	**Pn**	**00 18 44.3**	**+0.5**
	0.4nm,0.4s,baz=162,slow=22,SNR=4.6						
AB31				S	**Sn**	**00 21 18.2**	**-6.3**
	0.7nm,0.4s,baz=132,slow=24,SNR=8.8						
PKI	**Pulchoki**	**14.97**	**129**	*eP*	**Pn**	**00 18 47.2**	**-2.2**
PKI				*eS*	Sn	00 21 21.2	-14
BVAR	**Borovoye Array**	**15.31**	**356**	LR	LR	00 25 27.3	
	comp=Z,74nm,21.3s,baz=320,slow=39						
JIRN	**Jiri**	**15.39**	**127**	*eP*	**Pn**	**00 18 53.6**	**-1.2**
	9.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.27**	**326**	P	**P**	**00 19 07.5**	**+1.6**
	0.5nm,0.3s,baz=126,slow=13,SNR=5.7						
AKTO	**Aktyubinsk**	**16.27**	**326**	⇑P	**P**	**00 19 07.6**	**+1.6**
	1.7nm,0.6s						
TAPN	**Taplejung**	**16.58**	**124**	*eP*	**Pn**	**00 19 07.4**	**-2.0**
ZALV	**Zalesovo Beam**	**18.31**	**24**	P	**P**	**00 19 28.1**	**-0.2**
	0.1nm,0.3s,baz=208,slow=11,SNR=4.2						
FINES	**FINESS Array B**	**37.05**	**325**	P	**P**	**00 22 23.0**	**+1.4**
	1.3nm,0.9s,baz=117,slow=7.1,SNR=4.8						
ARCES	**ARCESS Array B**	**40.39**	**337**	P	**P**	**00 22 50.7**	**+1.2**
	2.9nm,0.9s,baz=115,slow=9.9,SNR=6.7						
NOA	**NORSAR Array B**	**44.02**	**322**	P	**P**	**00 23 20.4**	**+1.3**
	0.9nm,0.8s,baz=85,slow=7.8,SNR=2.6						
JHJ	**Hachijo jima 2**	**54.06**	**73**	LR	LR	00 50 41.1	
	comp=Z,314nm,19.4s,baz=84,slow=39						
TORD	**Torodi Ar. Bea**	**66.83**	**269**	P	**P**	**00 26 03.8**	**+0.9**
	0.5nm,1.0s,baz=52,slow=5.9,SNR=3.5						

NEIC ***10*** *00:15:48.7±0.0,65.83N×174.84W,h20km,mb4.3/10, ML4.3(AEIC),After AEIC.*

ISCJB ***10*** *00:15:53.1±0.3,65.84N±0.05×173.82W±0.07,h10km, mb4.0/24,MS3.1/6, Error ellipse: s-maj=7.0km s-min=3.9km az=9.3*

IDC ***10*** *00:15:54.0±0.8,65.83N×174.02W,h0km,mb3.8/17, mb1 3.9/21,mb1mx3.8/78,mbtmp3.8/21,ML3.4/4,MS3.2/10, Ms1 3.1/10,ms1mx2.9/71,Error ellipse: s-maj=27.2km s-min=12.5km az=20.0*

ISC 10 00:15:55.0±0.5, 65.85N±0.07×173.71W±0.05, h10km, n70, σ2905/73, **mb4.1**/24, **MS3.3**/6, **Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**2.25**	**157**	*eP*n	**Pn**	**00 16 29.1**	**-3.1**
GAMB				*eS*n	**Sn**	**00 17 01.4**	**+1.4**
RDOG	**Red Dog Mine**	**4.79**	**58**	P	**Pn**	**00 17 08.2**	**+1.1**
RDOG				S	**Sn**	**00 18 03.5**	**+0.9**
IM3	**Indian Mountai**	**8.16**	**80**	*eP*n	**Pn**	**00 17 55.2**	**+1.9**
IM3				*eS*n	**Sn**	**00 19 26.4**	**+1.0**
TT01	**Tatalina**	**8.21**	**103**	*eP*n	**Pn**	**00 17 56.0**	**+2.1**
SVW2	**Sparrevohn**	**9.39**	**112**	*eP*n	**Pn**	**00 18 11.5**	**+1.3**
COLD	**Coldfoot**	**9.46**	**71**	*eP*n	**Pn**	**00 18 13.8**	**+2.7**
CAST	**Castle Rocks**	**9.58**	**95**	*eP*n	**Pn**	**00 18 14.0**	**+1.2**
MLY	**Manley**	**9.58**	**84**	*eP*n	**Pn**	**00 18 15.0**	**+2.1**
TOLK	**Toolik Lake Re**	**9.73**	**62**	*eP*n	**Pn**	**00 18 16.3**	**+1.5**
PPLA	**Purkeypile**	**9.76**	**98**	*eP*n	**Pn**	**00 18 16.8**	**+1.4**
BPAW	**Bear Paw Mtn.**	**9.77**	**90**	*eP*n	**Pn**	**00 18 16.7**	**+1.3**
KTH	**Kantishna Hill**	**10.00**	**93**	*eP*n	**Pn**	**00 18 20.5**	**+1.9**
TRF	**Thorofare Moun**	**10.30**	**93**	*eP*n	**Pn**	**00 18 23.8**	**+1.0**
MDM	**Murphy Dome**	**10.63**	**83**	*eP*n	**Pn**	**00 18 29.4**	**+2.2**
SPU	**Mount Spurr**	**10.71**	**100**	*eP*n	**Pn**	**00 18 30.5**	**+2.2**
MCK	**McKinley**	**10.75**	**90**	*eP*n	**Pn**	**00 18 30.1**	**+1.3**
CCB	**Clear Creek Bu**	**10.90**	**84**	*eP*n	**Pn**	**00 18 32.8**	**+2.0**
RND	**Reindeer**	**10.91**	**91**	*eP*n	**Pn**	**00 18 33.2**	**+2.1**
SUA	**Susitna One**	**11.07**	**103**	*eP*n	**Pn**	**00 18 36.1**	**+2.8**
IL1	**Eielson Array**	**11.23**	**83**	*eP*n	**Pn**	**00 18 37.0**	**+1.6**
ILAR	**Eielson Array**	**11.23**	**83**	Pn	**Pn**	**00 18 36.6**	**+1.2**
	0.6nm,0.3s,baz=283,slow=14,SNR=38						
ILAR				Sn	**Sn**	**00 20 40.1**	**-0.7**
	0.4nm,0.3s,baz=167,slow=32,SNR=5.7						
ILAR				Lg	Lg	00 21 56.6	
	baz=281,slow=28,SNR=4.3						
ILAR				LR	LR	00 23 52.1	
	comp=Z,46nm,18.4s,baz=49,slow=42						
ILB	**Eielson Array**	**11.23**	**83**	*eP*n	**Pn**	**00 18 37.0**	**+1.6**
ILB				*eS*n	**Sn**	**00 20 40.1**	**-0.7**
HDA	**Harding Lake**	**11.32**	**85**	*eP*n	**Pn**	**00 18 38.0**	**+1.4**
DHY	**Denali Highway**	**11.66**	**92**	*eP*n	**Pn**	**00 18 43.9**	**+2.5**
RC01	**Rabbit Creek A**	**11.69**	**103**	*eP*n	**Pn**	**00 18 44.1**	**+2.5**
SML	**Sawmill**	**11.87**	**98**	*eP*n	**Pn**	**00 18 46.7**	**+2.6**
BRLK	**Bradley Lake**	**12.04**	**110**	*eP*n	**Pn**	**00 18 47.8**	**+1.4**
SCM	**Sheep Creek Mo**	**12.26**	**97**	*eP*n	**Pn**	**00 18 52.5**	**+3.0**
KDAK	**Kodiak Island**	**12.78**	**119**	Pn	**Pn**	**00 18 56.4**	**-0.1**
	0.6nm,0.3s,baz=10,slow=8.7,SNR=9.8						
KDAK				LR	LR	00 24 04.1	
	comp=Z,98nm,21.6s,baz=313,slow=38						
KDAK	**Kodiak Island**	**12.78**	**119**	*eP*n	**Pn**	**00 18 58.3**	**+1.7**
DOT	**Dot Lake**	**12.78**	**86**	*eP*n	**Pn**	**00 18 59.1**	**+2.5**
HARP	**HAARP**	**12.87**	**92**	*eP*n	**Pn**	**00 19 01.1**	**+3.3**
KLU	**Klutina**	**13.01**	**97**	*eP*n	**Pn**	**00 19 02.6**	**+2.8**
EGAK	**Eagle**	**13.56**	**80**	*eP*n	**Pn**	**00 19 09.2**	**+2.0**
SEY	**Seymchan**	**14.83**	**274**	Pn	**Pn**	**00 19 24.6**	**+0.2**
	0.1nm,0.3s,baz=54,slow=18,SNR=2.7						
SEY				Sn	**Sn**	**00 22 08.6**	**+0.1**
	0.2nm,0.3s,baz=27,slow=23,SNR=2.8						
SEY				Lg	Lg	00 23 41.7	
	0.2nm,0.3s,baz=332,slow=22,SNR=6.6						
INK	**Inuvik**	**15.64**	**63**	*eP*n	**Pn**	**00 19 37.0**	**+1.8**
	0.1nm,0.3s,baz=194,slow=8.3,SNR=3.6						
INK				Sn	**Sn**	**00 22 20.2**	**-8.1**
	0.1nm,0.3s,baz=131,slow=11,SNR=2.1						
INK	**Inuvik**	**15.64**	**63**	*eP*n	**Pn**	**00 19 36.9**	**+1.8**
	4.0nm,0.7s						
MA2	**Magadan**	**17.25**	**265**	LR	LR	00 26 51.5	
	comp=Z,61nm,19.2s,baz=26,slow=38						
PETK	**Petropavlovsk-**	**19.09**	**242**	P	**P**	**00 20 15.8**	**-1.7**
	0.3nm,0.3s,baz=55,slow=16,SNR=4.2						
PETK				LR	LR	00 27 58.1	
	comp=Z,100nm,18.3s,baz=10,slow=38						
TIXI	**Tiksi**	**20.82**	**311**	P	**P**	**00 20 36.6**	**+0.5**
	2.7nm,0.6s,baz=95,slow=10,SNR=5.7						
YAK	**Yakutsk**	**24.42**	**288**	LR	LR	00 31 59.3	
	comp=Z,22nm,21.1s,baz=82,slow=40						
YKA	**Yellowknife Ar**	**25.13**	**70**	P	**P**	**00 21 21.6**	**+2.0**
	1.1nm,0.7s,baz=303,slow=8.6,SNR=18						
YKA				LR	LR	00 31 27.5	
	comp=Z,11nm,18.4s,baz=180,slow=37						
YKB5	**Yellowknife Ar**	**25.13**	**70**	*eP*	**P**	**00 21 18.6**	**-1.0**
HSO	**Harness Mounta**	**35.38**	**104**	*eP*	**P**	**00 22 48.6**	**-2.0**
SPITS	**Spitsbergen Ar**	**36.07**	**356**	LR	LR	00 37 53.3	
	comp=Z,97nm,18.0s,baz=180,slow=37						
YBH	**Yreka Blue Hor**	**37.04**	**105**	P	**P**	**00 23 06.6**	**+1.8**
	1.1nm,0.9s,baz=257,slow=5.8,SNR=4.2						
YBH				LR	LR	00 36 11.7	
	comp=Z,53nm,19.6s,baz=12,slow=33						
YBH	**Yreka Blue Hor**	**37.04**	**105**	*eP*	**P**	**00 23 01.5**	**-3.3**
	15nm,1.8s						
J08A	**Circle Bar Ran**	**37.38**	**99**	*eP*	**P**	**00 23 06.5**	**-1.1**
	26nm,1.9s						
WDC	**Whiskeytown Da**	**38.09**	**106**	*eP*	**P**	**00 23 10.0**	**-3.5**
	17nm,1.8s						
BOZ	**Bozeman (W)**	**38.35**	**91**	P	**P**	**00 23 12.9**	**-2.9**
	3.1nm,0.8s						
YHH	**Holmes Hill**	**39.33**	**91**	*eP*	**P**	**00 23 22.8**	**-1.5**
	8.2nm,1.6s						
ORV	**Oroville**	**39.38**	**106**	*eP*	**P**	**00 23 22.5**	**-1.8**
	9.5nm,1.9s						
H17A	**Grant Village**	**39.76**	**91**	*eP*	**P**	**00 23 25.4**	**-2.4**
	15nm,1.8s						
IMW	**Indian Meadow**	**40.02**	**92**	*eP*	**P**	**00 23 27.1**	**-2.9**
	19nm,2.0s						
TPAW	**Teton Pass**	**40.35**	**92**	*eP*	**P**	**00 23 31.4**	**-1.4**
	5.5nm,1.3s						
PDAR	**Pinedale Array**	**41.52**	**91**	P	**P**	**00 23 43.5**	**+1.2**
	0.8nm,0.7s,baz=331,slow=5.8,SNR=6.7						
NVAR	**Mina Array Bea**	**41.62**	**103**	P	**P**	**00 23 43.9**	**+0.8**
	0.4nm,0.8s,baz=303,slow=6.2,SNR=4.5						
KSRS	**Korea Array**	**43.64**	**259**	LR	LR	00 42 13.8	
	comp=Z,28nm,18.6s,baz=25,slow=36						
SONM	**Songino Array**	**43.77**	**286**	P	**P**	**00 24 00.7**	**+0.3**
	2.2nm,1.2s,baz=37,slow=7.6,SNR=7.8						
SONM				LR	LR	00 41 13.1	
	comp=Z,71nm,18.3s,baz=116,slow=35						
ZALV	**Zalesovo Beam**	**46.62**	**307**	P	**P**	**00 24 22.4**	**-0.3**
	1.4nm,0.6s,baz=28,slow=6.4,SNR=8.2						
KURBB	**Kurchatov Arra**	**51.49**	**309**	P	**P**	**00 24 59.9**	**-0.2**
	0.7nm,0.7s,baz=36,slow=7.6,SNR=6.7						
BVAR	**Borovoye Array**	**51.84**	**316**	P	**P**	**00 25 02.5**	**-0.2**
	0.9nm,0.8s,baz=45,slow=6.3,SNR=3.2						
FINES	**FINESS Array B**	**52.17**	**348**	P	**P**	**00 25 05.3**	**+0.3**
	2.3nm,1.0s,baz=306,slow=3.3,SNR=3.1						
MKAR	**Makanchi Array**	**53.57**	**304**	P	**P**	**00 25 14.8**	**-0.8**
	0.4nm,0.6s,baz=44,slow=7.1,SNR=4.6						
HFS	**Hagfors**	**54.21**	**355**	P	**P**	**00 25 20.3**	**+0.3**
	7.3nm,1.1s,baz=357,slow=11,SNR=3.7						
TXAR	**Lajitas Array**	**55.47**	**95**	P	**P**	**00 25 30.4**	**+0.7**
	0.7nm,0.9s,baz=304,slow=2.9,SNR=4.5						
EKA	**Eskdalemuir Ar**	**58.93**	**6**	P	**P**	**00 25 54.6**	**+1.0**
	1.2nm,0.6s,baz=0.0,slow=6.0,SNR=5.5						
AKASG	**Malin Array Be**	**62.45**	**344**	P	**P**	**00 26 17.4**	**-0.4**
	0.6nm,0.4s,baz=14,slow=6.4,SNR=5.0						
GERES	**GERESS Array B**	**65.50**	**355**	P	**P**	**00 26 38.9**	**+1.0**
	0.1nm,0.3s,baz=358,slow=3.3,SNR=3.6						
BRTR	**Keskin Array B**	**72.64**	**338**	P	**P**	**00 27 22.5**	**0.0**
	0.5nm,0.8s,baz=345,slow=1.6,SNR=3.4						

ISCJB ***10*** *00:28:39.5±0.9,66.0N±0.2×173.4W±0.2,h10km,mb3.3/6, MS3.6/2,Error ellipse: s-maj=31.6km s-min=8.5km az=9.3*

IDC ***10*** *00:28:41.3±1.5,66.29N×173.64W,h0km,mb3.4/6, mb1 3.5/7,mb1mx3.3/73,mbtmp3.5/7,ML3.6/1,MS3.4/3, Ms1 3.5/3,ms1mx2.8/44,Error ellipse: s-maj=67.3km s-min=21.3km az=20.0*

ISC 10 00:28:41.6±1.1, 66.0N±0.2×173.62W±0.09, h10km, n11, σ0549/10, **mb3.4**/6, **Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**11.18**	**84**	Pn	**Pn**	**00 31 21.1**	**-0.1**
	0.3nm,0.3s,baz=281,slow=13,SNR=18						
ILAR				Sn	**Sn**	**00 33 25.4**	**-0.5**
	0.1nm,0.3s,baz=98,slow=1.0,SNR=5.3						
KDAK	**Kodiak Island**	**12.82**	**120**	Pn	**Pn**	**00 31 43.7**	**+0.1**
	0.4nm,0.3s,baz=24,slow=9.0,SNR=6.9						
KDAK				LR	LR	00 36 49.0	
	comp=Z,80nm,20.9s,baz=92,slow=38						
SEY	**Seymchan**	**14.86**	**274**	Lg	Lg	00 36 24.5	
	0.1nm,0.3s,baz=228,slow=14,SNR=2.6						
INK	**Inuvik**	**15.54**	**63**	Pn	**P**	**00 32 25.4**	**+0.7**
	0.1nm,0.3s,baz=306,slow=8.7,SNR=4.8						
YKA	**Yellowknife Ar**	**25.05**	**70**	P	**P**	**00 34 05.5**	**+0.1**
	0.2nm,0.6s,baz=304,slow=8.1,SNR=4.6						
SONM	**Songino Array**	**43.76**	**286**	P	**P**	**00 36 46.8**	**0.0**
	0.2nm,0.6s,baz=30,slow=9.0,SNR=3.3						
SONM				LR	LR	00 55 30.7	
	comp=Z,46nm,20.1s,baz=8.0,slow=37						
ARCES	**ARCESS Array B**	**44.09**	**350**	LR	LR	00 55 39.1	
	comp=Z,113nm,18.9s,baz=104,slow=37						
ZALV	**Zalesovo Beam**	**46.56**	**307**	P	**P**	**00 37 08.3**	**-0.5**
	0.4nm,0.3s,baz=29,slow=8.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**51.42**	**309**	P	**P**	**00 37 46.7**	**+0.6**
	0.3nm,0.6s,baz=31,slow=7.3,SNR=2.9						
BVAR	**Borovoye Array**	**51.76**	**316**	P	**P**	**00 37 48.9**	**+0.2**
	0.2nm,0.4s,baz=8.1,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**53.51**	**304**	P	**P**	**00 38 01.3**	**-0.5**
	0.3nm,0.6s,baz=37,slow=7.4,SNR=4.1						

IDC 10 00:32:24.2±7.5, 8.02S×120.03E, h192km±83km, mb2.9/3, **mb1 2.9**/5, **mb1mx2.7**/56, **mbtmp3.4**/5, **Error ellipse: s-maj=172.7km s-min=33.5km az=51.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.41**	**152**	P	Pn	00 35 01.7	0.0
	baz=343,slow=14						
FITZ				S	Sn	00 37 00.7	-8.1
	0.1nm,0.3s,baz=279,slow=24,SNR=11						
WRA	**Warramunga Arr**	**18.23**	**132**	P	P	00 36 22.6	-0.6
	0.2nm,0.3s,baz=306,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**20.46**	**141**	P	P	00 36 47.7	+0.5
	0.4nm,0.5s,baz=312,slow=8.5,SNR=6.5						
STKA	**Stephens Creek**	**31.08**	**143**	P	P	00 38 24.3	-0.1
	0.5nm,0.4s,baz=312,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**64.07**	**332**	P	P	00 42 37.6	0.0
	0.2nm,0.6s,baz=156,slow=7.6,SNR=2.9						

ISCJB ***10*** *00:41:59.5±0.7,37.77N±0.02×21.45E±0.05,h7km±4km, Error ellipse: s-maj=6.8km s-min=3.8km az=178.2*

ATH ***10*** *00:41:59.6,37.78N×21.45E,h13km±3km, ML1.8/7, Error ellipse: s-maj=3.9km s-min=0.9km az=85.0*

CSEM ***10*** *00:41:59.8±0.2,37.78N×21.47E,h2km, ML2.0, Error ellipse: s-maj=5.4km s-min=2.8km az=87.0*

THE ***10*** *00:41:59.9,37.78N×21.47E,h0km±3km, ML2.0/8, Error ellipse: s-maj=3.9km s-min=0.9km az=242.0*

ISC 10 00:42:00.6±1.0, 37.78N±0.02×21.49E±0.03, h12km±8km, n48, σ1800/79, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRO	**Drossia**	**0.24**	**46**	P	**Pg**	**00 42 04.9**	**-0.8**
DRO				S	**Sg**	**00 42 09.3**	**+0.2**
DRO				AML	AML	00 42 09.8	
	comp=E,2097μm,0.4s						
DRO				AML	AML	00 42 10.2	
	comp=N,1532μm,0.1s						
DRO	**Drossia**	**0.24**	**46**	P	**Pg**	**00 42 05.1**	**-0.6**
DRO				S	**Sg**	**00 42 09.3**	**+0.2**
DRO	**Drossia**	**0.24**	**46**	P	**Pg**	**00 42 05.1**	**-0.6**
DRO				S	**Sg**	**00 42 09.5**	**+0.4**
RLS	**Riolos of Patr**	**0.27**	**357**	P	**Pg**	**00 42 05.4**	**-0.8**
RLS				S	**Sb**	**00 42 11.1**	**-1.0**
RLS				AML	AML	00 42 12.0	
	comp=N,371μm,0.2s						
RLS				AML	AML	00 42 13.2	
	comp=E,285μm,0.2s						
RLS	**Riolos of Patr**	**0.27**	**357**	P	**Pg**	**00 42 05.4**	**-0.8**
RLS				S	**Sg**	**00 42 10.3**	**+0.3**
RLS	**Riolos of Patr**	**0.27**	**357**	P	**Pg**	**00 42 05.5**	**-0.8**
RLS				S	**Sg**	**00 42 10.8**	**+0.8**
AMT	**Artemida-Makis**	**0.31**	**145**	P	**Pg**	**00 42 05.9**	**-0.8**
AMT				S	**Sg**	**00 42 11.4**	**+0.5**
AMT				AML	AML	00 42 12.2	
	comp=E,773μm,0.4s						
AMT				AML	AML	00 42 13.0	
	comp=N,782μm,0.5s						
AMT	**Artemida-Makis**	**0.31**	**145**	P	**Pg**	**00 42 06.0**	**-0.8**
AMT				S	**Sg**	**00 42 11.1**	**+0.2**
AMT	**Artemida-Makis**	**0.31**	**145**	P	**Pg**	**00 42 06.0**	**-0.8**
AMT				S	**Sg**	**00 42 11.2**	**+0.3**
MES3	**Kyparissia**	**0.55**	**165**	P	**Pg**	**00 42 11.2**	**-0.2**
MES3	**Kyparissia**	**0.55**	**165**	P	**Pg**	**00 42 10.8**	**-0.5**
KLV	**Kalavryta, Ach**	**0.58**	**63**	P	**Pg**	**00 42 10.0**	**-2.0**
KLV				S	**Sg**	**00 42 19.4**	**-0.3**
KLV				AML	AML	00 42 23.0	
	comp=E,85μm,0.2s						
KLV				AML	AML	00 42 24.3	
	comp=N,103μm,0.2s						
KLV	**Kalavryta, Ach**	**0.58**	**63**	P	**Pg**	**00 42 11.1**	**-0.9**
KLV				S	**Sg**	**00 42 19.8**	**+0.1**
KLV	**Kalavryta, Ach**	**0.58**	**63**	P	**Pg**	**00 42 11.1**	**-0.9**
KLV				S	**Sb**	**00 42 20.7**	**-0.4**
TRIP	**Tripoli**	**0.67**	**112**	P	**Pg**	**00 42 13.5**	**-0.1**
TRIP				S	**Sb**	**00 42 23.3**	**-0.4**
TRIP	**Tripoli**	**0.67**	**112**	P	**Pg**	**00 42 13.2**	**-0.4**
TRIP				S	**Sg**	**00 42 23.0**	**+0.6**
GUR	**Goura**	**0.69**	**77**	P	**Pg**	**00 42 12.3**	**-1.7**
GUR				S	**Sg**	**00 42 23.6**	**+0.5**
GUR				AML	AML	00 42 26.7	
	comp=N,225μm,0.3s						
GUR				AML	AML	00 42 27.3	
	comp=E,144μm,0.3s						
GUR	**Goura**	**0.69**	**77**	P	**Pg**	**00 42 12.9**	**-1.1**
GUR				S	**Sg**	**00 42 23.6**	**+0.5**
GUR	**Goura**	**0.69**	**77**	P	**Pg**	**00 42 12.6**	**-1.4**
GUR				S	**Sb**	**00 42 24.5**	**+0.2**
ITM	**Ithomi**	**0.70**	**150**	P	**Pg**	**00 42 13.1**	**-1.0**
ITM	**Ithomi**	**0.70**	**150**	P	**Pg**	**00 42 13.1**	**-1.0**
EFP	**Efpalio**	**0.72**	**27**	P	**Pg**	**00 42 13.2**	**-1.4**
EFP	**Efpalio**	**0.72**	**27**	P	**Pg**	**00 42 13.5**	**-1.1**
EFP				S	**Sg**	**00 42 24.1**	**+0.1**
EFP	**Efpalio**	**0.72**	**27**	P	**Pg**	**00 42 13.2**	**-1.4**
EFP				S	**Sg**	**00 42 24.1**	**+0.1**
TRIZ	**Trizonia**	**0.74**	**38**	P	**Pg**	**00 42 13.2**	**-1.8**
TRIZ				S	**Sb**	**00 42 27.3**	**+1.7**
TRIZ	**Trizonia**	**0.74**	**38**	P	**Pg**	**00 42 13.7**	**-1.2**
TRIZ				S	**Sb**	**00 42 26.1**	**+0.5**
SERG	**Sergoula**	**0.77**	**35**	P	**Pg**	**00 42 14.2**	**-1.3**
SERG	**Sergoula**	**0.77**	**35**	P	**Pg**	**00 42 14.5**	**-1.0**
KALE	**Kalithea**	**0.80**	**40**	P	**Pg**	**00 42 14.0**	**-1.9**
KALE				S	**Sb**	**00 42 28.2**	**+1.0**
KALE				AML	AML	00 42 30.3	
	comp=N,232μm,0.6s						
KALE				AML	AML	00 42 30.6	
	comp=E,104μm,0.3s						
KALE	**Kalithea**	**0.80**	**40**	P	**Sb**	**00 42 28.0**	**+0.8**
KALE				AML	AML	00 42 43.8	
	comp=N,200μm,0.3s						
KALE				AML	AML	00 42 44.8	
	comp=E,119μm,0.2s						
KALE	**Kalithea**	**0.80**	**40**	P	**Pg**	**00 42 14.6**	**-1.4**
KALE				S	**Sb**	**00 42 27.4**	**+0.2**
PVO	**Paravola**	**0.83**	**2**	P	**Pg**	**00 42 15.7**	**-0.9**
PVO				S	**Sg**	**00 42 27.6**	**+0.1**
PVO	**Paravola**	**0.83**	**2**	P	**Pg**	**00 42 15.7**	**-0.9**
PVO				S	**Sg**	**00 42 27.6**	**+0.1**
ANX	**Ano Chora**	**0.88**	**23**	P	**Pg**	**00 42 15.8**	**-1.8**
ANX	**Ano Chora**	**0.88**	**23**	P	**Pg**	**00 42 16.2**	**-1.3**
ANX				S	**Sg**	**00 42 29.1**	**+0.1**
ANX	**Ano Chora**	**0.88**	**23**	P	**Pg**	**00 42 16.6**	**-0.9**
ANX				S	**Sg**	**00 42 29.1**	**+0.1**
PYL	**PYLOS**	**0.91**	**167**	P	**Pg**	**00 42 15.5**	**-2.6**
PYL				S	**Sb**	**00 42 31.4**	**+1.1**
PYL	**PYLOS**	**0.91**	**167**	P	**Pg**	**00 42 16.2**	**-1.9**
PYL				S	**Sb**	**00 42 30.5**	**+0.1**
DSF	**Desfina**	**1.03**	**52**	P	**Pg**	**00 42 18.3**	**-2.2**
DSF				S	**Sb**	**00 42 35.0**	**+1.0**
DSF	**Desfina**	**1.03**	**52**	P	**Pg**	**00 42 19.0**	**-1.4**
DSF				S	**Sb**	**00 42 34.7**	**+0.7**
DSL	**Palaion Diasel**	**1.38**	**347**	P	**Pn**	**00 42 26.2**	**+0.4**
DSL	**Palaion Diasel**	**1.38**	**347**	P	**Pn**	**00 42 26.2**	**+0.4**
DSL	**Palaion Diasel**	**1.38**	**347**	P	**Pn**	**00 42 26.2**	**+0.4**
**A

DSF	**Desfina**	**0.99**	**106**	P	Pb	00 42 35.7 +0.4
THL	**Klokotos Trika**	**1.03**	**32**	S	Sn	00 42 50.7 +1.2
THL	**Klokotos Trika**	**1.03**	**32**	P	Pn	00 42 35.7 -0.1
THL				S	Sn	00 42 50.8 +1.3
IGT	**Igoumenitsa**	**1.14**	**318**	P	Pb	00 42 38.0 +0.2
IGT				S	Sb	00 42 55.4 +3.1
IGT	**Igoumenitsa**	**1.14**	**318**	P	Pb	00 42 38.3 +0.4
IGT				S	Sb	00 42 54.9 +2.7
KPRO	**Kipourio**	**1.27**	**2**	P	Pb	00 42 41.4 +1.4
KPRO	**Kipourio**	**1.27**	**2**	P	Pb	00 42 41.1 +1.0
NEST	**Nestorio**	**1.74**	**353**	P	Pb	00 42 49.8 +1.7
NEST	**Nestorio**	**1.74**	**353**	P	Pb	00 42 48.8 +0.7

*IDC **10** 00:45:22.7±2.8,2˚.62S×141˚.24E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/41, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=92.8km s-min=23.4km az=94.0*
*ISCJB **10** 00:45:25.1±0.8,2˚.65S±0˚.08×141˚.21E±0˚.07, h31km, mb4.0/7, Error ellipse: s-maj=13.4km s-min=7.5km az=30.7*
*DJA **10** 00:45:27.9±0.8,2˚.5S±6˚×14˚1E±˚, h10km, M5.1/6, mB6.3/2, mb5.4/4, MLv5.0/6, Mw(mB)6.1/2*
*NEIC **10** 00:45:28.1±0.8,2˚.70S×141˚.16E, h35km, mb4.4/2, Error ellipse: s-maj=17.7km s-min=10.3km az=70.0*

ISC 10 00:45:27.5±1.0, 2˚.6S±0˚.1×141˚.13E±0˚.09, h31km, n16, σ1=8/17, mb3.7/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.44**	**285**	P	**Pb**	**00 45 35.5**	**-1.5**
JAY				S	**Sb**	**00 45 42.2**	**-1.4**
GENI	**Genyem**	**0.96**	**272**	P	**Pn**	**00 45 45.2**	**+0.4**
GENI				S	**Sn**	**00 45 58.0**	**+0.5**
MMPI	**Merauke**	**5.84**	**187**	P	Pn	00 47 00.0	+8.0
RKPI	**Ransiki, Papua**	**7.04**	**279**	P	**Pn**	**00 47 08.8**	**+0.4**
KMPI	**Kaimana, Papua**	**7.48**	**262**	P	**Pn**	**00 47 16.6**	**+2.0**
PMG	**Port Moresby**	**9.01**	**139**	Pn	**Pn**	**00 47 34.8**	**-0.7**
WRAB	**Tennant Creek** 1.3nm,0.7s	**18.43**	**201**	*e*P	**P**	**00 49 40.5**	**0.0**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=24,slow=12,SNR=12	**18.44**	**201**	P	**P**	**00 49 39.9**	**-0.7**
FITZ	**Fitzroy Crossi** 1.7nm,0.6s,baz=32,slow=13	**21.61**	**224**	P	**P**	**00 50 14.9**	**-0.2**
ASAR	**Alice Springs** 0.9nm,0.5s,baz=26,slow=11,SNR=16	**22.05**	**198**	P	**P**	**00 50 19.8**	**0.0**
NACB	**Ninganchiao** 9.5nm,0.7s	**32.72**	**326**	P	**P**	**00 51 58.3**	**+0.8**
KULM	**Kulim** 1.3nm,0.4s	**41.19**	**281**	P	**P**	**00 53 10.0**	**+0.3**
COCO	**West Island** 190nm,0.6s	**44.87**	**255**	*e*P	**P**	**00 53 39.6**	**+0.1**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=105,slow=4.9,SNR=3.2	**71.22**	**322**	P	**P**	**00 56 45.6**	**+2.0**
KURK	**Kurchatov**	**75.05**	**324**	P	**P**	**00 57 05.4**	**-0.8**
KURBB	**Kurchatov Arra** 0.2nm,0.8s,baz=120,slow=5.5,SNR=2.9	**75.07**	**324**	P	**P**	**00 57 05.4**	**-0.9**

*ISCJB **10** 01:02:09.3±0.3,7˚.42S±0˚.04×125˚.08E±0˚.05, h371km, mb3.7/12, Error ellipse: s-maj=7.0km s-min=5.3km az=12.7*
*DJA **10** 01:02:09.7±0.5,7˚.5S±4˚×12˚.5E±˚, h366km±6km, M4.3/10, mB5.0/1, mb4.2/7, MLv4.4/10, Mw(mB)4.3/1*
*IDC **10** 01:02:09.7±1.1,7˚.37S×125˚.09E, h360km±13km, mb3.5/12, mb1 3.6/15, mb1mx3.4/50, mbtmp4.2/15, Error ellipse: s-maj=24.7km s-min=8.8km az=67.0*

ISC 10 01:02:10.2±0.5, 7˚.43S±0˚.05×124˚.98E±0˚.07, h371km, n39, σ1=30/47, mb3.7/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.41**	**197**	P	**Pn**	**01 03 05.9**	**-0.6**
SOEI				S	**S**	**01 03 52.2**	**+0.3**
MMRI	**Maumere**	**2.97**	**246**	P	**Pn**	**01 03 10.5**	**-0.4**
MMRI				S	**S**	**01 04 00.2**	**+0.4**
BATI	**Baumata** 178nm,0.3s,baz=122,slow=1.7,SNR=103	**3.05**	**205**	P	**Pn**	**01 03 12.8**	**+1.2**
BATI				S	**S**	**01 04 00.7**	**-0.4**
BATI	**Baumata** 83nm,0.3s,baz=180,slow=1.0,SNR=5.0	**3.05**	**205**	P	**Pn**	**01 03 11.6**	**0.0**
BATI				S	**S**	**01 04 00.5**	**-0.6**
EDFI	**Ende, Flores**	**3.51**	**248**	P	**Pn**	**01 03 16.4**	**+0.5**
EDFI				S	**S**	**01 04 08.0**	**-0.9**
KDI	**Kendari**	**4.18**	**326**	P	**Pn**	**01 03 22.4**	**+0.1**
NLAI	**Namlea**	**4.67**	**27**	P	**Pn**	**01 03 27.5**	**+0.1**
NLAI				S	**S**	**01 04 30.1**	**+0.2**
AAI	**Ambon**	**4.91**	**41**	P	**Pn**	**01 03 30.1**	**+0.2**
BASI	**Baing, Sumba**	**5.16**	**237**	P	**Pn**	**01 03 31.9**	**-0.6**
SANI	**Sanana**	**5.44**	**11**	P	**Pn**	**01 03 35.5**	**-0.2**
PLAI	**Plampang**	**7.26**	**259**	P	**S**	**01 05 18.0**	**-4.7**
FAKI	**Fak Fak** 24nm,1.1s	**8.52**	**59**	P	**Pn**	**01 04 08.0**	**-2.8**
SWI	**Sorong**	**9.04**	**44**	P	**Pn**	**01 04 15.9**	**-1.1**
FITZ	**Fitzroy Crossi** baz=19,slow=9.8	**10.62**	**177**	P	**Pn**	**01 04 35.4**	**-0.1**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=326,slow=11,SNR=30	**15.39**	**145**	P	**P**	**01 05 27.2**	**-1.0**
WRA				S	**S**	**01 08 11.1**	**-1.2**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=315,slow=22,SNR=18	**18.27**	**153**	P	**P**	**01 05 59.0**	**-0.1**
ASAR				S	**S**	**01 09 11.1**	**+2.5**
STKA	**Stephens Creek** 0.1nm,0.3s,baz=346,slow=23,SNR=4.3	**28.83**	**150**	P	**P**	**01 07 35.9**	**0.0**
CMAR	**Chiang Mai Arr** 5.7nm,0.7s,baz=324,slow=9.3,SNR=18	**36.36**	**315**	P	**P**	**01 08 41.3**	**+0.6**
KSRS	**Korea Array** 1.6nm,0.4s,baz=118,slow=6.1,SNR=5.5	**44.74**	**3**	P	**P**	**01 09 46.6**	**-1.5**
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=233,slow=25,SNR=4.2	**45.47**	**15**	P	**P**	**01 09 53.5**	**-0.5**
ODAN	**Odare** 2.7nm,0.7s,baz=191,slow=9.5,SNR=7.7	**49.89**	**315**	*e*P	**P**	**01 10 29.5**	**+1.5**
TAPN	**Taplejung** 9.0nm,0.5s	**49.97**	**315**	*e*P	**P**	**01 10 30.1**	**+1.5**
RAMN	**Ramite** 29nm,0.6s	**50.51**	**314**	*e*P	**P**	**01 10 34.5**	**+1.9**
JIRN	**Jiri**	**51.22**	**315**	*e*P	**P**	**01 10 39.5**	**+1.5**
GUN	**Gumba** 17nm,0.6s	**51.59**	**315**	*e*P	**P**	**01 10 42.2**	**+1.5**
PKI	**Pulchoki** 14nm,0.6s	**51.73**	**314**	*e*P	**P**	**01 10 42.8**	**+1.2**
PKIN	**Phulchoki**	**51.74**	**314**	*e*P	**P**	**01 10 43.2**	**+1.6**
USRK	**Ussuriysk Ar.** 1.9nm,0.5s,baz=190,slow=5.9,SNR=6.9	**51.78**	**6**	P	**P**	**01 10 41.5**	**+0.2**
KKN	**Kakani**	**51.95**	**314**	*e*P	**P**	**01 10 44.7**	**+1.6**
DMN	**Daman**	**51.97**	**314**	*e*P	**P**	**01 10 44.9**	**+1.6**
PYUN	**Piuthan** 12nm,0.5s	**53.77**	**313**	*e*P	**P**	**01 10 57.8**	**+1.5**
SONM	**Songino Array** 1.0nm,0.8s,baz=162,slow=8.3,SNR=8.5	**57.43**	**345**	P	**P**	**01 11 22.1**	**+0.5**
MKAR	**Makanchi Array** 2.9nm,0.6s,baz=124,slow=7.8,SNR=45	**65.96**	**329**	P	**P**	**01 12 18.9**	**+1.1**
PETK	**Petropavlovsk-** 1.9nm,0.7s,baz=186,slow=5.2,SNR=4.3	**66.39**	**21**	P	**P**	**01 12 20.7**	**+0.4**
ZALV	**Zalesovo Beam** 1.4nm,0.6s,baz=130,slow=3.6,SNR=8.8	**69.86**	**336**	P	**P**	**01 12 41.3**	**-0.3**
KURBB	**Kurchatov Arra** 1.4nm,0.8s,baz=134,slow=4.0,SNR=14	**70.36**	**331**	P	**P**	**01 12 45.4**	**+0.8**
BVAR	**Borovoye Array** 0.9nm,0.7s,baz=124,slow=5.1,SNR=5.2	**75.84**	**329**	P	**P**	**01 13 16.4**	**0.0**
SNAA	**Sanae** 2.1nm,1.0s,baz=198,slow=6.4,SNR=3.5	**94.04**	**195**	P	**P**	**01 14 47.6**	**+0.8**
CPUP	**Villa Florida** 1.0nm,0.7s,baz=100,slow=4.6,SNR=3.3	**146.36**	**176**	PKPbc	**PKPbc**	**01 21 08.6**	**-0.1**

IDC 10 01:06:31.9±1.6, 7˚.13S×127˚.89E, h0km, mb3.3/3, mb1 3.7/6, mb1mx3.4/50, mbtmp3.5/6, ML3.7/2, Error ellipse: s-maj=98.1km s-min=24.8km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** baz=17,slow=11	**11.12**	**191**	Pn	Pn	01 09 14.5	+2.1
FITZ				Sn	Sn	01 11 06.5	-11
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=325,slow=14,SNR=3.5 baz=279,slow=18,SNR=3.7	**14.19**	**154**	Pn	Pn	01 09 52.6	-1.7
WRA				Sn	Sn	01 12 16.1	-17
ASAR	**Alice Springs** 0.4nm,0.3s,baz=340,slow=11,SNR=9.3 0.7nm,0.3s,baz=333,slow=22,SNR=7.0	**17.43**	**161**	P	Pn	01 10 36.2	-0.5
ASAR				S	Sn	01 13 34.7	-17
SONM	**Songino Array** 0.6nm,1.0s,baz=169,slow=8.2,SNR=3.0	**57.93**	**343**	P	P	01 16 27.7	+1.6
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=131,slow=6.2,SNR=3.6	**67.20**	**328**	P	P	01 17 27.5	-0.5
KURBB	**Kurchatov Arra** 0.1nm,0.5s,baz=134,slow=5.1,SNR=3.4	**71.54**	**329**	P	P	01 17 53.7	-1.0

*STR **10** 01:10:54.5±5.9, 44˚N±28˚×1˚1E±5˚0, h5km, M4.1/5, MLv4.1/5*
*LDG **10** 01:10:59.8±0.2, 44˚.44N×10˚.43E, h2km, Md2.6/2, Ml2.7/8, Error ellipse: s-maj=4.0km s-min=2.7km az=65.0*
*GEN **10** 01:10:59.5, 44˚.43N×10˚.43E, h19km, ML1.9*
*ISCJB **10** 01:10:59.2±0.3, 44˚.41N±0˚.02×10˚.45E±0˚.03, h25km±2km, Error ellipse: s-maj=3.9km s-min=2.8km az=145.1*
*ROM **10** 01:10:59.2±0.1, 44˚.43N×10˚.41E, h24km±2km, Ml2.5/11, Error ellipse: s-maj=2.5km s-min=1.9km az=120.0*
*CSEM **10** 01:10:59.5±0.1, 44˚.42N×10˚.45E, h20km, ML2.8/13, Error ellipse: s-maj=3.8km s-min=3.0km az=130.0*

ISC 10 01:10:59.9±0.9, 44˚.43N±0˚.02×10˚.42E±0˚.02, h19km±2km, n118, σ1=23/169, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.01**	**207**	Pg	**Pg**	**01 11 02.9**	**-0.5**
ERBM				Sg	**Sg**	**01 11 06.6**	**+0.9**
ERBM	**Eremo** 3µm,0.2s	**0.01**	**207**	Pg	**Pg**	**01 11 02.9**	**-0.5**
ERBM				Sg	**Sg**	**01 11 06.6**	**+0.9**
SARO	**Sassorosso**	**0.24**	**183**	P	**Pb**	**01 11 04.1**	**-1.4**
SARO				S	**Sb**	**01 11 09.0**	**-0.2**
GRAM	**Graiana**	**0.26**	**284**	P	**Pb**	**01 11 05.0**	**-0.8**
GRAM				S	**Sb**	**01 11 09.7**	**-0.1**
VLC	**Villacollemand**	**0.27**	**185**	Pg	**Pg**	**01 11 05.5**	**-0.5**
VLC				Sg	**Sg**	**01 11 10.9**	**+0.7**
VLC	**Villacollemand** 186nm,0.8s	**0.27**	**185**	Pg	**Pg**	**01 11 05.5**	**-0.5**
VLC				Sg	**Sg**	**01 11 10.9**	**+0.7**
PRMA	**PARMA**	**0.34**	**347**	Pg	**Pg**	**01 11 06.3**	**-1.0**
PRMA	**PARMA**	**0.34**	**347**	Pg	**Pg**	**01 11 06.3**	**-1.0**
PRMA				Sg	**Sb**	**01 11 13.8**	**+1.3**
BDI	**Bagni Di Lucca** 783nm,0.3s	**0.39**	**161**	Pg	**Pg**	**01 11 07.3**	**-0.7**
BDI	**Bagni Di Lucca** 134nm,0.3s	**0.39**	**161**	Pg	**Pg**	**01 11 07.3**	**-0.7**
ZCCA	**Zocca**	**0.41**	**101**	Pg	**Pb**	**01 11 08.7**	**+0.2**
ZCCA	**Zocca**	**0.41**	**101**	Pg	**Pb**	**01 11 08.7**	**+0.2**
CODM	**Codolo**	**0.41**	**265**	P	**Pg**	**01 11 07.8**	**-0.6**
CODM				S	**Sb**	**01 11 14.8**	**+0.4**
NOVE	**Novellara** 470nm,0.5s	**0.43**	**30**	Pg	**Pg**	**01 11 08.3**	**-0.4**
NOVE	**Novellara** 470nm,0.5s	**0.43**	**30**	Pg	**Pg**	**01 11 08.3**	**-0.4**
POPM	**Popiglio**	**0.45**	**147**	P	**Pg**	**01 11 07.3**	**-1.9**
MAIM	**Mastiano**	**0.52**	**174**	P	**Pg**	**01 11 10.2**	**0.0**
MAIM	**Mastiano**	**0.52**	**174**	Pg	**Pg**	**01 11 10.3**	**0.0**
PLMA	**Palmaria, Port**	**0.56**	**227**	Pg	**Pb**	**01 11 10.3**	**-0.6**
PLMA				Sg	**Sg**	**01 11 18.7**	**+0.2**
PLMA	**Palmaria, Port**	**0.56**	**227**	Pg	**Pb**	**01 11 10.3**	**-0.6**
PLMA				Sg	**Sg**	**01 11 18.7**	**+0.2**
FNVD	**Fontana Vidola** 73nm,0.5s	**0.57**	**117**	Pg	**Pb**	**01 11 11.0**	**-0.1**
FNVD	**Fontana Vidola** 73nm,0.5s	**0.57**	**117**	Pg	**Pb**	**01 11 11.0**	**-0.1**
SC2M	**Scurtabo**	**0.63**	**268**	P	**Pb**	**01 11 11.5**	**-0.7**
SC2M				S	**Sg**	**01 11 20.9**	**-0.1**
SC2M				Sg	**Sg**	**01 11 21.6**	**+0.6**
SC2M	**Scurtabo**	**0.63**	**268**	Pg	**Pb**	**01 11 11.5**	**-0.7**
SC2M				Sg	**Sg**	**01 11 21.6**	**+0.6**
PTF	**Prato**	**0.66**	**135**	Pg	**Pb**	**01 11 12.5**	**-0.2**
PTF	**Prato**	**0.66**	**135**	Pg	**Pb**	**01 11 12.5**	**-0.2**
SALO	**Salr**	**1.19**	**4**	Pg	**Pn**	**01 11 21.2**	**-0.3**
SALO	**Salr**	**1.19**	**4**	Pg	**Pn**	**01 11 21.2**	**-0.3**
SALO				Sg	**Sg**	**01 11 38.2**	**-0.4**
BALD	**Monte Baldo** 199nm,0.4s	**1.29**	**13**	*e*Pg	**Pn**	**01 11 21.9**	**-1.1**
BALD				*e*Sg	**Sn**	**01 11 40.1**	**+0.4**
BALD	**Monte Baldo**	**1.29**	**13**	*e*Pg	**Pn**	**01 11 21.9**	**-1.1**
BALD				*e*Sg	**Sn**	**01 11 40.1**	**+0.4**
TEOL	**Teolo**	**1.29**	**43**	Pg	**Pn**	**01 11 22.9**	**+0.1**
TEOL				Sg	**Sb**	**01 11 40.5**	**+0.9**
TEOL	**Teolo** 154nm,0.3s	**1.29**	**43**	Pg	**Pn**	**01 11 22.9**	**+0.1**
TEOL				Sg	**Sb**	**01 11 40.5**	**+0.9**
TEOL	**Teolo** 154nm,0.3s	**1.29**	**43**	*e*Pg	**Pn**	**01 11 22.9**	**+0.1**
TEOL				*e*Sg	**Sb**	**01 11 40.4**	**+0.9**
ROVR	**Rover˜¤ Verone** 93nm,0.3s	**1.30**	**21**	Pg	**Pn**	**01 11 22.2**	**-0.9**
ROVR				Sg	**Sb**	**01 11 40.8**	**+0.6**
ROVR	**Rover˜¤ Verone** 93nm,0.3s	**1.30**	**21**	Pg	**Pn**	**01 11 22.2**	**-0.9**
ROVR				Sg	**Sb**	**01 11 40.8**	**+0.6**
MARN	**Marana (Italy)**	**1.33**	**25**	*e*Pg	**Pn**	**01 11 22.2**	**-1.3**
MARN	**Marana (Italy)**	**1.33**	**25**	*e*Pg	**Pn**	**01 11 22.2**	**-1.3**
MAGA	**Magasa**	**1.36**	**6**	Pg	**Pn**	**01 11 22.6**	**-1.2**
MAGA				Sg	**Sn**	**01 11 41.4**	**+0.1**
MAGA	**Magasa** 119nm,0.4s	**1.36**	**6**	Pg	**Pn**	**01 11 22.6**	**-1.2**
MAGA				Sg	**Sn**	**01 11 41.4**	**+0.1**
RNI	**Roncone**	**1.56**	**5**	*e*Pg	**Pn**	**01 11 24.9**	**-1.8**
RNI	**Roncone**	**1.56**	**5**	*e*Pg	**Pn**	**01 11 24.9**	**-1.8**
PANI	**Paranotta**	**1.75**	**21**	*e*Pn	**Pn**	**01 11 27.7**	**-1.6**
CGRP	**Cima Grappa**	**1.75**	**33**	*e*Pn	**Pn**	**01 11 27.8**	**-1.5**
CGRP	**Cima Grappa**	**1.75**	**33**	*e*Pn	**Pn**	**01 11 27.8**	**-1.5**
CTI	**Castel Tesino** 558nm,3.9s	**1.84**	**28**	Pg	**Pn**	**01 11 29.3**	**-1.2**
CTI	**Castel Tesino** 558nm,3.9s	**1.84**	**28**	Pg	**Pn**	**01 11 29.3**	**-1.2**
VARN	**Col Varnada, M**	**1.97**	**37**	*e*Pn	**Pn**	**01 11 31.0**	**-1.2**
VARN	**Col Varnada, M**	**1.97**	**37**	*e*Pn	**Pn**	**01 11 31.0**	**-1.2**
CARE	**Lago del Cares**	**2.01**	**5**	*e*Pn	**Pn**	**01 11 31.4**	**-1.6**
CARE	**Lago del Cares**	**2.01**	**5**	*e*Pn	**Pn**	**01 11 31.4**	**-1.6**
OZOL	**Ozolo**	**2.03**	**12**	*e*Pn	**Pn**	**01 11 31.5**	**-1.5**
OZOL	**Ozolo**	**2.03**	**12**	*e*Pn	**Pn**	**01 11 31.5**	**-1.5**
APPI	**Appiano** 20nm,0.3s	**2.13**	**15**	Pg	**Pn**	**01 11 33.7**	**-0.7**
APPI	**Appiano** 20nm,0.3s	**2.13**	**15**	Pg	**Pn**	**01 11 33.7**	**-0.7**
PGF	**Pioggiola** 4.3nm,0.2s	**2.14**	**209**	*e*Pn	**Pn**	**01 11 34.3**	**-0.3**
PGF				*e*Sn	**Sn**	**01 11 58.2**	**-2.5**
PGF	**Pioggiola** 2.2nm,0.2s	**2.14**	**209**	*e*Pn	**Pn**	**01 11 34.3**	**-0.3**
PGF				*e*Sn	**Sn**	**01 11 58.2**	**-2.5**
SBF	**Sospel** 11nm,0.3s	**2.22**	**256**	*e*Pn	**Pn**	**01 11 35.6**	**0.0**
SBF				*e*Sn	**Sn**	**01 12 04.1**	**+1.5**
SBF	**Sospel** 5.3nm,0.3s	**2.22**	**256**	*e*Pn	**Pn**	**01 11 35.6**	**0.0**
SBF				*e*Sn	**Sn**	**01 12 04.1**	**+1.5**
SURF	**Saint Ours** 1.5nm,0.2s	**2.58**	**272**	Pn	**Pn**	**01 11 41.9**	**+1.2**
FETA	**Feichten** 0.6nm,0.2s	**2.60**	**5**	Pn	**Pn**	**01 11 42.1**	**+1.1**
FETA	**Feichten** 0.6nm,0.2s	**2.60**	**5**	*e*Pn	**Pn**	**01 11 42.1**	**+1.1**
CALF	**Calern**	**2.61**	**256**	Pn	**Pn**	**01 11 42.1**	**+1.1**
MBDF	**Montbardon**	**2.62**	**278**	*e*Pn	**Pn**	**01 11 42.1**	**+0.8**
MBDF	**Montbardon**	**2.62**	**278**	*e*Pn	**Pn**	**01 11 42.1**	**+0.8**
ABTA	**Abfaltersbach** 0.4nm,0.1s	**2.75**	**32**	Pn	**Pn**	**01 11 42.9**	**0.0**
ABTA				Sn	**Sn**	**01 12 15.2**	**-0.4**
ABTA	**Abfaltersbach** 1.5nm,0.2s	**2.75**	**32**	*e*Pn	**Pn**	**01 11 42.9**	**0.0**
ABTA				*e*Sn	**Sn**	**01 12 15.2**	**-0.4**
LPG	**La Plagne**	**2.81**	**294**	*e*Pn	**Pn**	**01 11 44.3**	**+0.3**
LPG				*e*Sn	**Sn**	**01 12 17.9**	**+0.4**
LPG	**La Plagne**	**2.81**	**294**	*e*Pn	**Pn**	**01 11 44.3**	**+0.3**
LPG				*e*Sn	**Sn**	**01 12 17.9**	**+0.4**
LPL	**La Plagne**	**2.83**	**294**	*e*Pn	**Pn**	**01 11 45.1**	**+0.9**
LPL	**La Plagne**	**2.83**	**294**	*e*Pn	**Pn**	**01 11 45.1**	**+0.9**
FRF	**La Foret Royal**	**2.86**	**254**	*e*Pn	**Pn**	**01 11 44.2**	**-0.1**
FRF				*e*Sn	**Sn**	**01 12 17.9**	**-0.3**
FRF	**La Foret Royal** 3.0nm,0.3s	**2.86**	**254**	*e*Pn	**Pn**	**01 11 44.2**	**-0.1**

DAVA	**Damuels** 1.9nm,0.1s	**2.88**	**353**	Pn	**Pn**	**01 11 45.9**	**+1.0**
DAVA				Sn	**Sn**	**01 12 20.9**	**+1.8**
DAVA	**Damuels** 1.9nm,0.1s	**2.88**	**353**	*e*Pn	**Pn**	**01 11 45.9**	**+1.0**
DAVA				*e*Sn	**Sn**	**01 12 20.9**	**+1.8**
MOTA	**Moosalm** 4.0nm,0.3s	**2.96**	**9**	Pn	**Pn**	**01 11 46.9**	**+1.1**
MOTA	**Moosalm** 4.0nm,0.3s	**2.96**	**9**	Pn	**Pn**	**01 11 46.9**	**+1.1**
WTTA	**Wattenberg** 2.8nm,0.2s	**2.96**	**16**	Pn	**Pn**	**01 11 47.6**	**+1.6**
WTTA	**Wattenberg** 2.8nm,0.2s	**2.96**	**16**	*e*Pn	**Pn**	**01 11 47.6**	**+1.6**
WATA	**Walderalm** 2.8nm,0.2s	**3.02**	**15**	Pn	**Pn**	**01 11 48.0**	**+1.3**
WATA	**Walderalm** 2.8nm,0.2s	**3.02**	**15**	*i* Pn	**Pn**	**01 11 48.0**	**+1.3**
LMR	**La Mourre**	**3.03**	**250**	*e*Pn	**Pn**	**01 11 46.3**	**-0.4**
LMR	**La Mourre**	**3.03**	**250**	*e*P	**Pn**	**01 11 49.0**	**+2.3**
LMR				*e*Sn	**Sn**	**01 12 22.4**	**0.0**
LMR	**La Mourre** 4.5nm,0.4s	**3.03**	**250**	*e*Pn	**Pn**	**01 11 46.3**	**-0.4**
LMR	**La Mourre**	**3.03**	**250**	*e*P	**Pn**	**01 11 49.0**	**+2.3**
RETA	**Reutte** 2.6nm,0.2s	**3.07**	**4**	Pn	**Pn**	**01 11 48.0**	**+0.7**
RETA				Sn	**Sn**	**01 12 24.8**	**+1.3**
RETA	**Reutte** 2.6nm,0.2s	**3.07**	**4**	*i* Pn	**Pn**	**01 11 48.0**	**+0.7**
RETA				*i* Sn	**Sn**	**01 12 24.8**	**+1.3**
NVLJ	**Novalja**	**3.19**	**86**	*e*Pn	**Pn**	**01 11 48.8**	**0.0**
NVLJ				Sn	**Sn**	**01 12 23.4**	**-3.0**
ORIF	**Oris-en-Rattie**	**3.27**	**280**	*e*Pn	**Pn**	**01 11 52.2**	**+2.0**
ORIF	**Oris-en-Rattie**	**3.27**	**280**	*e*Pn	**Pn**	**01 11 52.2**	**+2.0**
KBA	**Koelnbreinsper** 0.2nm,0.1s	**3.35**	**37**	Pn	**Pn**	**01 11 51.7**	**+0.4**
KBA				Sn	**Sn**	**01 12 30.4**	**-0.2**
KBA	**Koelnbreinsper** 0.2nm,0.1s	**3.35**	**37**	*i* Pn	**Pn**	**01 11 51.7**	**+0.4**
KBA				*e*Sn	**Sn**	**01 12 30.4**	**-0.2**
SMRF	**Simiane la Rot**	**3.51**	**264**	*e*Pn	**Pn**	**01 11 55.2**	**+1.8**
SMRF	**Simiane la Rot**	**3.51**	**264**	*e*P	**Pn**	**01 11 56.5**	**+3.1**
SMRF	**Simiane la Rot**	**3.51**	**264**	*e*Pn	**Pn**	**01 11 55.2**	**+1.8**
SMRF	**Simiane la Rot**	**3.51**	**264**	*e*P	**Pn**	**01 11 56.5**	**+3.1**
CABF	**La Chapelle**	**3.75**	**307**	*e*Pn	**Pn**	**01 11 57.9**	**+1.3**
CABF	**La Chapelle**	**3.75**	**307**	*e*Pn	**Pn**	**01 11 57.9**	**+1.3**
KIZ	**Kirchzarten**	**3.93**	**335**	Pn	**Pn**	**01 11 57.9**	**-1.2**
SOKA	**Soboth** 0.1nm,0.1s	**3.95**	**54**	Pn	**Pn**	**01 11 58.8**	**-0.6**
SOKA	**Soboth** 0.1nm,0.1s	**3.95**	**54**	*i* Pn	**Pn**	**01 11 58.8**	**-0.6**
VIVF	**Saint-Julien-l**	**4.12**	**278**	*e*Pn	**Pn**	**01 12 02.8**	**+1.0**
VIVF	**Saint-Julien-l**	**4.12**	**278**	*e*Pn	**Pn**	**01 12 02.8**	**+1.0**
HINF	**Hinteralfeld**	**4.20**	**325**	*e*Pn	**Pn**	**01 12 01.7**	**-1.1**
HINF				*e*Sn	**Sn**	**01 12 48.8**	**-2.5**
HINF	**Hinteralfeld** 5.2nm,0.4s	**4.20**	**325**	*e*Pn	**Pn**	**01 12 01.7**	**-1.1**
HINF				*e*Sn	**Sn**	**01 12 48.8**	**-2.5**
MOA	**Molln** 2.6nm,0.4s	**4.34**	**37**	Pn	**Pn**	**01 12 04.1**	**-0.7**
MOA				Sn	**Sn**	**01 12 54.8**	**-0.1**
MOA	**Molln** 0.8nm,0.3s	**4.34**	**37**	*i* Pn	**Pn**	**01 12 04.1**	**-0.7**
MOA				*i* Sn	**Sn**	**01 12 54.8**	**-0.1**
OPP	**Oppenau** 0.7nm,0.2s	**4.35**	**340**	Pn	**Pn**	**01 12 03.2**	**-1.7**
ECH	**Echery**	**4.41**	**330**	Pn	**Pn**	**01 12 05.5**	**-0.3**
CDF	**Champ du Feu** 0.8nm,0.3s	**4.54**	**333**	*e*Pn	**Pn**	**01 12 06.5**	**-1.0**
CDF				*e*Sn	**Sn**	**01 12 56.4**	**-3.4**
CDF	**Champ du Feu** 1.2nm,0.3s	**4.54**	**333**	*e*Pn	**Pn**	**01 12 06.5**	**-1.0**
HAU	**Haudompre** 2.7nm,0.3s	**4.56**	**323**	*e*Pn	**Pn**	**01 12 06.9**	**-0.9**
HAU				*e*Sn	**Sn**	**01 12 57.7**	**-2.5**
HAU	**Haudompre** 5.3nm,0.3s	**4.56**	**323**	*e*Pn	**Pn**	**01 12 06.9**	**-0.9**
HAU				*e*Sn	**Sn**	**01 12 57.7**	**-2.5**
SMF	**Signal de Mont**	**5.12**	**298**	*e*Pn	**Pn**	**01 12 15.6**	**+0.1**
SMF				*e*Sn	**Sn**	**01 13 11.5**	**-2.6**
SMF	**Signal de Mont**	**5.12**	**298**	*e*Pn	**Pn**	**01 12 15.6**	**+0.1**
SMF				*e*Sn	**Sn**	**01 13 11.5**	**-2.6**
LOR	**Lormes** baz=123	**5.39**	**304**	*e*Pn	**Pn**	**01 12 18.8**	**-0.4**
LOR				*e*Sn	**Sn**	**01 13 17.9**	**-2.8**
LOR	**Lormes**	**5.39**	**304**	*e*Pn	**Pn**	**01 12 18.8**	**-0.4**
LOR				*e*Sn	**Sn**	**01 13 17.9**	**-2.8**
AVF	**Avril sur Loir**	**5.49**	**298**	*e*Pn	**Pn**	**01 12 20.3**	**-0.2**
AVF	**Avril sur Loir**	**5.49**	**298**	*e*Pn	**Pn**	**01 12 20.3**	**-0.2**

*BUL **10** 01:12:02.8±1.1, 21˚.34S×32˚.14E, h10km, MD3

*SJA **10** 01:24:19.2±0.8, 31°.57S×68°.76W, h10km±3km, ML2.9, MW3.1*

*GUC **10** 01:24:21.2±0.3, 31°.74S×68°.92W, h161km±30km, ML3.8*

ISC 10 01:24:19.4±0.9, **31°.53S**±0°.02×**68°.83W**±0°.03, **h13**km±7km, **n24**, σ0**°96**/45, **1C-2D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.13**	**99**	*i* P	**Pg**	**01 24 23.1**	**+0.3**
ZON				*i* S	**Sg**	**01 24 25.2**	**0.0**
ZON				IAML		01 24 26.3	
	comp=Z,2μm,0.2s						
SJA	**San Juan**	**0.23**	**91**	*i* P	**Pg**	**01 24 24.3**	**-0.1**
SJA				*i* S	**Sg**	**01 24 27.5**	**-0.2**
SJA				IAML		01 24 27.6	
	comp=Z,8μm,0.1s						
RTLL	**Cerro Villicun**	**0.36**	**57**	*i* P	**Pg**	**01 24 26.0**	**-0.7**
RTLL				*i* S	**Sg**	**01 24 31.1**	**-0.4**
RTLL				IAML		01 24 31.5	
	comp=Z,1μm,0.3s						
RTLL	**Cerro Villicun**	**0.36**	**57**↑	*i* P	**Pg**	**01 24 25.9**	**-0.7**
RTLL				*e*S	**Sg**	**01 24 31.1**	**-0.4**
RTLL				IAML		01 24 31.7	
	comp=E,3μm,0.4s						
RTCV	**Cerro Valdivia**	**0.41**	**144**	*i* P	**Pg**	**01 24 26.7**	**-1.1**
RTLS	**Leoncito**	**0.49**	**236**	*i* P	**Pb**	**01 24 29.9**	**-0.2**
RTLS				*i* S	**Sb**	**01 24 37.0**	**-0.3**
RTLS				IAML		01 24 38.5	
	comp=Z,620nm,0.2s						
AMOG	**MOGNA**	**0.65**	**26**	*i* P	**Pb**	**01 24 32.3**	**-0.5**
AUSP	**Uspallata**	**0.84**	**214**	*i* P	**Pg**	**01 24 35.7**	**-0.1**
AUSP				*i* S	**Sg**	**01 24 46.7**	**-0.3**
ASAL	**Salagasta**	**1.06**	**180**	*i* P	**Pb**	**01 24 38.8**	**-1.0**
ASAL				*i* S	**Sb**	**01 24 53.5**	**-0.1**
ARCO	**CERRO ARCO**	**1.32**	**184**	*i* P	**Pn**	**01 24 43.8**	**0.0**
ARCO				*i* S	**Sg**	**01 25 02.7**	**+0.8**
ARCO				IAML		01 25 06.5	
	comp=Z,110nm,0.2s						
AAGR	**Agrelo**	**1.56**	**180**	*i* P	**Pb**	**01 24 48.3**	**+0.1**
AAGR				*i* S	**Sg**	**01 25 09.2**	**-0.4**
ACAN	**Cantantal**	**1.58**	**119**	*i* P	**Pn**	**01 24 46.6**	**-0.7**
ACAN				*i* S	**Sb**	**01 25 08.5**	**0.0**
AVIZ	**Vizcacheras**	**1.96**	**172**	*i* P	**Pb**	**01 24 54.8**	**-0.3**
AVIZ				*i* S	**Sb**	**01 25 19.6**	**+0.1**
AGUA	**GUANDACOL**	**2.05**	**8**	*i* P	**Pb**	**01 24 56.6**	**-0.1**
AGUA				*i* S	**Sg**	**01 25 24.3**	**-1.2**
GO04	**Tololo Observa**	**2.17**	**308**↓	*i* P	**Pg**	**01 24 59.6**	**-1.4**
GO04				*e*S	**Sg**	**01 25 28.6**	**-0.6**
GO04				IAML		01 25 35.8	
	comp=N,671nm,0.5s						
TLL	**Tololo Astrono**	**2.17**	**308**	*e*P	**Pg**	**01 24 59.9**	**-1.3**
TLL				*e*S	**Sg**	**01 25 29.4**	**0.0**
TLL				IAML		01 25 34.0	
	comp=N,222nm,0.5s						
APLL	**PUNTA DE LOS L**	**2.27**	**61**	*i* P	**Pn**	**01 24 58.0**	**+1.2**
APLL				*i* S	**Sb**	**01 25 27.2**	**-1.3**
APLL				IAML		01 25 27.7	
	comp=Z,84nm,0.2s						
LMEL	**Las Melosas**	**2.59**	**206**	*e*P	**Pg**	**01 25 09.0**	**-0.2**
LMEL				*e*S	**Sg**	**01 25 43.7**	**+0.9**
VCA	**Vinchina**	**2.83**	**11**	*i* P	**Pb**	**01 25 09.4**	**-0.5**
VCA				*i* S	**Sb**	**01 25 46.3**	**+1.6**
VCA				IAML		01 25 49.4	
	comp=Z,117nm,0.4s						
VCA	**Vinchina**	**2.83**	**11**↓	*i* P	**Pb**	**01 25 09.5**	**-0.5**
VCA				*i* S	**Sb**	**01 25 46.4**	**+1.7**
VCA				IAML		01 25 49.1	
	comp=E,136nm,0.6s						
LCO	**Las Campanas**	**2.98**	**327**	*i* P	**Pb**	**01 25 11.7**	**-1.0**
LCO				*i* S	**Sb**	**01 25 48.9**	**-0.3**
LCO	**Las Campanas**	**2.98**	**327**	*e*P	**Pb**	**01 25 13.8**	**+1.1**
LCO				*i* S	**Sb**	**01 25 51.4**	**+2.2**
LCO				IAML		01 25 56.4	
	comp=E,108nm,0.4s						
RFA	**San Rafael**	**3.25**	**175**	*i* P	**Pn**	**01 25 10.0**	**-0.3**
RFA				*i* S	**Sb**	**01 25 59.2**	**+2.6**
RFA				IAML		01 26 09.3	
	comp=Z,51nm,0.5s						
CYA	**Choya**	**4.04**	**41**	*i* P	**Pn**	**01 25 23.0**	**+1.9**
CYA				IAML		01 26 31.3	
	comp=Z,16nm,0.3s						

*NIED **10** 01:33:00, 38°.30N×141°.90E, h44km, Mw4.0 Best double couple: M0 1.24000×10^15 NP1:φ≈205.00000°, δ19.00000°, λ92.00000°. NP2:φ≈23.00000°, δ71.00000°, λ89.00000°.*

*ISCJB **10** 01:33:32.5±0.6, 38°.30N±0°.03×141°.95E±0°.06, h52km±3km, mb4.2/49, Error ellipse: s-maj=8.4km s-min=3.9km az=30.7*

*MOS **10** 01:33:32.2±1.0, 38°.42N×141°.93E, h46km, mb4.5/13, Error ellipse: s-maj=9.1km s-min=6.0km az=91.1*

*JMA **10** 01:33:33.7±0.1, 38°.31N×141°.89E, h46km±1km, MA4.1*

JMA Felt II J1.

*IDC **10** 01:33:34.6±0.7, 38°.32N×141°.99E, h57km±5km, mb3.8/28, mb1 3.9/32, mb1mx3.8/75, mbtmp4.1/32, MS2.7/4, Ms1 2.7/4, ms1mx2.5/63, Error ellipse: s-maj=13.5km s-min=8.7km az=133.0*

*NEIC **10** 01:33:34.9±0.5, 38°.33N×141°.88E, h57km±3km, mb4.4/13, Error ellipse: s-maj=8.2km s-min=4.3km az=136.0*

NEIC Recorded [2 JMA] in Iwate and Miyagi.

ISC 10 01:33:34.2±0.6, **38°.37N**±0°.05×**141°.86E**±0°.05, **h51**km±4km, **n138**, σ2**°00**/155, **mb4.2**/50, **10C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.41**	**282**	P	**Pn**	**01 33 44.2**	**-0.3**
JIO				S	**Sn**	**01 33 51.4**	**-0.5**
OFUJ	**Ofunato**	**0.72**	**348**	P	**Pn**	**01 33 48.5**	**+0.2**
OFUJ				S	**Sn**	**01 33 58.8**	**+0.3**
JMK	**Ichinoseki**	**0.77**	**319**	P	**Pn**	**01 33 49.4**	**+0.6**
JMK				S	**Sn**	**01 34 00.2**	**+0.7**
JOU	**Okura**	**0.94**	**270**	P	**Pn**	**01 33 51.2**	**0.0**
JOU				S	**Sn**	**01 34 04.0**	**+0.3**
JMM	**Marumori**	**0.98**	**239**	P	**Pn**	**01 33 50.5**	**-1.2**
JMM				S	**Sn**	**01 34 03.5**	**-1.1**
JOM	**Ohasama**	**1.19**	**338**	P	**Pn**	**01 33 55.3**	**+0.9**
JOM				S	**Sn**	**01 34 11.4**	**+1.9**
JFK	**Kawauchi**	**1.27**	**218**	P	**Pn**	**01 33 54.1**	**-1.5**
JFK				S	**Sn**	**01 34 08.6**	**-3.0**
JYK	**Kaneyama**	**1.30**	**295**	P	**Pn**	**01 33 56.5**	**+0.6**
JRG	**Rokugo**	**1.40**	**317**	P	**Pn**	**01 33 58.3**	**+0.9**
JYS	**Shirataka**	**1.42**	**264**	P	**Pn**	**01 33 57.7**	**+0.1**
JYS				S	**Sn**	**01 34 16.0**	**+0.8**
JFT	**Otama**	**1.48**	**235**	P	**Pn**	**01 33 58.0**	**-0.4**
JFT				S	**Sn**	**01 34 15.7**	**-0.9**
JYA	**Atsumi**	**1.70**	**278**	P	**Pn**	**01 34 02.0**	**+0.6**
MJAR	**Matsushiro Arr**	**3.43**	**239**	P	**Pn**	**01 34 25.7**	**+0.6**
	6.8nm,0.3s,baz=34,slow=15,SNR=24						
MJAR				S	**Sn**	**01 35 09.7**	**+5.0**
	4.2nm,0.3s,baz=73,slow=13,SNR=5.3						
MJAR				LR	LR	01 35 58.8	
	comp=Z,166nm,21.3s,baz=140,slow=42						
MAJO	**Matsushiro**	**3.44**	**239**	*e*Pn	**Pn**	**01 34 25.8**	**+0.6**
MAJO	**Matsushiro**	**3.44**	**239**↑	*i*P	**Pn**	**01 34 26.2**	**+1.0**
MAT	**Matsushiro**	**3.44**	**239**	P	**Pn**	**01 34 25.9**	**+0.7**
MAT				*e*S	**Sn**	**01 35 10.5**	**+5.8**
MJB9	**Matsu-Tunnel**	**3.44**	**239**	*e*Pn	**Pn**	**01 34 26.6**	**+1.3**
ERM	**Erimo**	**3.77**	**15**	*e*Pn	**Pn**	**01 34 30.7**	**+1.0**
ERM				*e*Sn	**Sn**	**01 35 16.4**	**+3.6**
ERM	**Erimo**	**3.77**	**15**	*e*P	**Pn**	**01 34 30.7**	**+1.0**
ERM				*e*		01 35 16.4	
INU	**Inuyama**	**4.92**	**234**	*e*Pn	**Pn**	**01 34 47.6**	**+2.0**
ASAJ	**Asahikawa**	**5.76**	**5**	P	**Pn**	**01 34 57.7**	**+0.6**
	3.0nm,0.3s,baz=221,slow=10,SNR=13						
ASAJ				S	**Sn**	**01 36 04.2**	**+2.4**
	2.0nm,0.3s,baz=117,slow=2.5,SNR=5.6						
YUK	**Yuzh-Kuril'sk**	**6.41**	**27**	*e*P	**Pn**	**01 35 06.2**	**+0.3**
YUK				*i* S	**Sn**	**01 36 12.8**	**-4.9**
YUK				smax	smax		
	comp=E,269nm,0.5s						
YUK				smax	smax		
	comp=N,240nm,0.3s						
SHO	**Shikotan**	**6.65**	**33**	*e*P	**Pn**	**01 35 06.9**	**-2.3**
SHO				*i* S	**Sn**	**01 36 15.5**	**-8.1**
SHO				smax	smax		
	comp=N,155nm,0.4s						
SHO				smax	smax		
	comp=E,178nm,0.4s						
KUR	**Kuril'sk**	**8.19**	**31**	P	**Pn**	**01 35 27.4**	**-2.9**
KUR				*e*S	**Sn**	**01 36 56.2**	**-5.1**
YSS	**Yuzh-Sakhalins**	**8.60**	**4**	*e*P	**Pn**	**01 35 36.6**	**+0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**9.44**	**311**	P	**Pn**	**01 35 49.3**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=124,slow=14,SNR=13						
JNU	**Nakatsue**	**10.35**	**243**	LR	LR	01 40 28.3	
	comp=Z,104nm,18.8s,baz=293,slow=40						
JNU	**Nakatsue**	**10.35**	**243**	*e*Pn	**Pn**	**01 35 58.4**	**-1.6**
KSRS	**Korea Array**	**11.05**	**270**	P	**Pn**	**01 36 12.0**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=79,slow=15,SNR=2.7						
KSRS				LR	LR	01 40 07.0	
	comp=Z,80nm,19.5s,baz=31,slow=35						
KSAR	**Wonju Array Be**	**11.09**	**270**	P	**Pn**	**01 36 12.0**	**+2.1**
KSAR	**Wonju Array Be**	**11.09**	**270**	P	**Pn**	**01 36 12.0**	**+2.1**
KLR	**Kul'dur**	**13.07**	**329**	P	**Pn**	**01 36 37.9**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=139,slow=14,SNR=4.3						
KLR				LR	LR	01 40 44.7	
	comp=Z,5.2nm,20.7s,baz=182,slow=33						
KLR	**Kul'dur**	**13.07**	**329**‖	*e*P	**Pn**	**01 36 37.1**	**+0.2**
CN2	**Changchun**	**13.51**	**299**	*e*P	**Pn**	**01 36 40.4**	**-2.6**
NJ2	**Nanjing**	**19.80**	**258**	*e*P	**P**	**01 38 00.2**	**-0.1**
MA2	**Magadan**	**21.97**	**12**	P	**P**	**01 38 24.6**	**+1.1**
	comp=Z,6.9nm,0.7s,baz=207,slow=9.6,SNR=8.6						
MA2	**Magadan**	**21.97**	**12**‖	*i*P	**P**	**01 38 22.2**	**-1.2**
HHC	**Hu-ho-hao-te**	**23.42**	**286**	*e*P	**P**	**01 38 36.0**	**-2.7**
GUMO	**Guam**	**24.83**	**173**	*e*P	**P**	01 39 04.8	+13
GUMO	**Guam**	**24.83**	**173**	*e*P	**P**	01 39 04.8	+13
SEY	**Seymchan**	**25.41**	**11**	P	**P**	**01 38 57.6**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=210,slow=14,SNR=15						
SEY	**Seymchan**	**25.41**	**11**↑	*i*P	**P**	**01 38 57.3**	**+0.8**
BOD	**Bodaibo**	**26.60**	**326**	*e*P	**P**	**01 39 05.7**	**-1.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULN	**Ulaanbaatar**	**26.92**	**302**↑	*i*P	**P**	**01 39 10.0**	**-0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**27.36**	**302**	P	**P**	**01 39 14.9**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=122,slow=9.3,SNR=8.0						
SONM	**Songino Array**	**27.36**	**302**	*e*P	**P**	**01 39 16.1**	**+1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ENH	**Enshi**	**27.83**	**263**	*e*P	**P**	**01 39 18.4**	**-0.3**
	comp=Z,13nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.56**	**124**	T	T	02 09 38.8	
	baz=316,slow=75,SNR=1340						
H11N1	**WAKE ISLAND Hy**	**28.57**	**124**	T	T	02 09 38.8	
	baz=316,slow=75,SNR=1312						
H11N3	**WAKE ISLAND Hy**	**28.57**	**124**	T	T	02 09 41.1	
	baz=316,slow=75,SNR=1176						
H11S1	**WAKE ISLAND Hy**	**29.32**	**126**	T	T	02 10 34.7	
	baz=318,slow=76,SNR=291						
H11S3	**WAKE ISLAND Hy**	**29.32**	**126**	T	T	02 10 37.5	
	baz=318,slow=76,SNR=554						
H11S2	**WAKE ISLAND Hy**	**29.33**	**126**	T	T	02 10 38.4	
	baz=318,slow=76,SNR=268						
LZH	**Lanzhou**	**30.22**	**278**	*e*P	**P**	**01 39 41.7**	**+1.7**
LZH				pP	pP	01 39 50.3	-2.9
LZH				sP	sP	01 39 54.9	-4.4
LZH				*e*PP	**PnPn**	**01 40 36.9**	**-2.3**
LZH				*e*S	**S**	**01 44 31.0**	**-5.0**
LZH				sS	sS	01 44 46.0	-12
LZH				SS	**SnSn**	**01 46 00.1**	**-13**
CD2	**Chengdu**	**32.05**	**268**	*e*P	**P**	**01 39 55.0**	**-1.1**
BILL	**Bilibino**	**32.64**	**17**	*i* P	**P**	**01 40 01.5**	**+0.7**
BILL				*i*		01 42 42.2	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.4s						
TIXI	**Tiksi**	**34.01**	**353**↑	*i*P	**P**	**01 40 11.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KMI	**Kunming**	**35.53**	**260**	P	**P**	**01 40 28.9**	**+2.4**
DGZ	**Jazzator, Alta**	**39.91**	**305***c*	*i* P	**P**	**01 41 04.9**	**+1.7**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMQ	**Urumqi**	**40.57**	**296**	P	**P**	**01 41 09.9**	**+1.3**
WMQ				pP	pP	01 41 19.6	-2.5
WMQ				sP	sP	01 41 22.1	-6.0
ZAA0	**Zalesovo Array**	**41.29**	**311**	*e*P	**P**	**01 41 15.2**	**+1.0**
	comp=Z,3.7nm,0.7s						
ZALV	**Zalesovo Beam**	**41.29**	**311**	P	**P**	**01 41 14.7**	**+0.4**
	comp=Z,3.3nm,0.4s,baz=82,slow=7.5,SNR=19						
ZALV				PcP	**PcP**	**01 43 11.8**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=100,slow=2.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**42.19**	**254**	P	**P**	**01 41 21.2**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=48,slow=9.3,SNR=4.4						
MK01	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**01 41 34.5**	**+0.4**
MK31	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**01 41 34.8**	**+0.6**
MK31	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**01 41 34.8**	**+0.6**
MKAR	**Makanchi Array**	**43.72**	**301**	P	**P**	**01 41 34.5**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=86,slow=10,SNR=28						
MKAR	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**01 41 34.8**	**+0.6**
	comp=Z,20nm,0.6s						
MKAR	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**01 41 34.7**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAKZ	**Makanchi**	**43.93**	**301**	*e*P	**P**	**01 41 36.7**	**+0.9**
	comp=Z,8.8nm,1.5s						
MAKZ	**Makanchi**	**43.93**	**301**	*e*P	**P**	**01 41 36.7**	**+0.9**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SVW2	**Sparrevohn**	**44.25**	**38**	*e*P	P	01 41 46.8	+8.7
	comp=Z,21nm,1.4s						
KURK	**Kurchatov**	**45.40**	**307**	*e*P	**P**	**01 41 47.5**	**0.0**
	comp=Z,10.0nm,0.8s						
KURK				PcP	**PcP**	**01 43 26.0**	**+0.1**
KURK	**Kurchatov**	**45.40**	**307***c*	*i*P	**P**	**01 41 48.0**	**+0.6**
KURK				pmax	pmax		
	comp=Z,29nm,0.6s						
KURBB	**Kurchatov Array**	**45.47**	**307**	P	**P**	**01 41 48.2**	**+0.2**
	comp=Z,8.3nm,0.8s,baz=79,slow=8.2,SNR=84						
KURBB				PcP	**PcP**	**01 43 26.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=73,slow=2.9,SNR=2.2						
TAPN	**Taplejung**	**46.22**	**273**	*e*P	**P**	**01 41 55.9**	**+1.4**
RAMN	**Ramite**	**47.27**	**273**	*e*P	**P**	**01 42 03.3**	**+0.5**
	comp=Z,29nm,1.1s						
GUN	**Gumba**	**47.39**	**275**	*e*P	**P**	**01 42 04.5**	**+0.7**
	comp=Z,12nm,0.4s						
KKN	**Kakani**	**47.91**	**275**	*e*P	**P**	**01 42 08.3**	**+0.6**
PKI	**Pulchoki**	**47.92**	**275**	*e*P	**P**	**01 42 08.1**	**+0.3**
	comp=Z,6.3nm,0.5s						
PKIN	**Phulchoki**	**47.92**	**275**	*e*P	**P**	**01 42 08.6**	**+0.8**
ILAR	**Eielson Array**	**48.18**	**33**	P	**P**	**01 42 09.7**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=271,slow=6.0,SNR=6.6						
ILAR				pP	**pP**	**01 42 23.7**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=271,slow=6.2,SNR=3.2						
ILAR	**Eielson Array**	**48.18**	**33**	*e*P	**P**	**01 42 10.2**	**+1.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DANN	**Dangsing**	**48.84**	**276**	*e*P	**P**	**01 42 16.1**	**+1.2**
KOLN	**Koldanda**	**49.24**	**276**	*e*P	**P**	**01 42 18.6**	**+0.7**
PYUN	**Piuthan**	**49.56**	**276**	*e*P	**P**	**01 42 21.0**	**+0.7**
BVAR	**Borovoye Array**	**49.94**	**312**	P	**P**	**01 42 22.0**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=76,slow=8.1,SNR=7.0						
BVAR				PcP	**PcP**	**01 43 42.9**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=90,slow=2.4,SNR=4.8						
BRVK	**Borovoye**	**50.00**	**312**↓	*i*P	**P**	**01 42 24.3**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**50.18**	**298**	*e*P	**P**	**01 42 24.7**	**-0.1**
	comp=Z,1.2nm,0.5s						
AAK	**Ala-Archa**	**50.18**	**298**↑	*i*P	**P**	**01 42 25.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSH	**Kashi**	**50.20**	**293**	*e*P	P	01 42 30.1	+5.2
KSH				PP	**PP**	**01 44 19.7**	**-0.6**
KSH				S	**S**	**01 49 33.7**	**+0.4**
KKAR	**Karatay Array**	**52.77**	**299**	*e*P	**P**	**01 42 43.9**	**-0.1**
	comp=Z,0.6nm,0.5s						
KKAR	**Karatay Array**	**52.77**	**299**	*e*P	**P**	**01 42 43.9**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**53.04**	**28**	P	**P**	**01 42 46.4**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=273,slow=4.9,SNR=3.2						
JAGI	**Jajag, Banyuwa**	**53.28**	**215**	*e*P	P	01 42 54.9	+7.0
	comp=Z,13nm,0.5s						
ARU	**Arti**	**55.60**	**318**	*e*P	**P**	**01 43 04.7**	**+0.4**
	comp=Z,3.2nm,0.6s						
ARU	**Arti**	**55.60**	**318***c*	*i*P	**P**	**01 43 03.5**	**-0.8**
ARU				S	**S**	**01 50 47.9**	**+1.8**
ARU				SS	**SS**	**01 54 24.6**	**-6.5**
ARU				pmax	pmax		
	comp=Z,16nm,1.7s						
ABKAR	**Akbulak array**	**57.36**	**310**	*e*P	**P**	**01 43 17.2**	**+0.3**
	comp=Z,1.1nm,0.4s						
AKTO	**Aktyubinsk**	**58.05**	**311**	P	**P**	**01 43 22.2**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=72,slow=13,SNR=4.9						
WRA	**Warramunga Arr**	**58.43**	**188**	P	**P**	**01 43 23.0**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=6.0,slow=7.0,SNR=13						
RES	**Resolute Bay**	**61.22**	**15**	P	**P**	**01 43 43.6**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=323,slow=7.7,SNR=4.2						
ASAR	**Alice Springs**	**62.16**	**188**	P	**P**	**01 43 49.2**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=15,slow=6.1,SNR=13						
ASAR	**Alice Springs**	**62.16**	**188**	*e*P	**P**	**01 43 49.7**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**62.48**	**31**	P	**P**	**01 43 51.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=302,slow=6.7,SNR=4.8						
YKA				pP	**pP**	**01 44 06.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=294,slow=6.4,SNR=3.6						
YKA	**Yellowknife Ar**	**62.48**	**31**	*e*P	**P**	**01 43 52.6**	**+0.8**
ARCES	**ARCESS Array B**	**62.87**	**339**	P	**P**	**01 43 54.8**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=55,slow=7.5,SNR=9.9						
GEYT	**Alibeck**	**63.50**	**299**	P	**P**	**01 43 58.8**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=82,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**67.80**	**332**	P	**P**	**01 44 26.2**	**0.0**
	comp=Z,2.8nm,0.6s,baz=46,slow=8.2,SNR=11						
FINES	**FINESS Array B**	**67.80**	**332**	*e*P	**P**	**01 44 26.9**	**+0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**70.30**	**311**	*e*P	**P**	**01 44 43.6**	**+1.3**
	comp=Z,13nm,1.1s						
KIV	**Kislovodsk**	**70.30**	**311**	*e*P	**P**	**01 44 43.5**	**+1.3**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KBZ	**Khabaz**	**70.30**	**310**	P	**P**	**01 44 43.2**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=116,slow=2.1,SNR=5.6						
HFS	**Hagfors**	**73.02**	**336**	P	**P**	**01 44 58.7**	**+0.6**
	comp=Z,3.4nm,0.6s,baz=50,slow=4.5,SNR=19						
NB2	**NORSAR Subarra**	**73.09**	**337**	P	**P**	**01 44 58.8**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**73.09**	**337**	P	**P**	**01 44 58.9**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=38,slow=5.9,SNR=9.3						
NOA	**NORSAR Array B**	**73.09**	**337**	*e*P	**P**	**01 44 59.3**	**+0.7**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**73.46**	**322**	P	**P**	**01 45 01.2**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=45,slow=6.1,SNR=15						
AKASG	**Malin Array Be**	**73.46**	**322**	*e*P	**P**	**01 45 01.2**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KIEV	**Kiev**	**73.47**	**322**	*e*P	**P**	**01 45 01.3**	**+0.3**
	comp=Z,3.9nm,0.6s						
KIEV	**Kiev**	**73.47**	**322**↑	*i*P	**P**	**01 45 01.7**	**+0.7**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**73.91**	**54**	pP	pP	01 45 20.0	+1.4
	comp=Z,0.8nm,0.8s,baz=282,slow=5.4,SNR=5.6						
FRB	**Frobisher Bay**	**75.39**	**13**	P	**P**	**01 45 11.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=138,slow=8.4,SNR=4.5						
PDAR	**Pinedale Array**	**76.48**	**46**	P	**P**	**01 45 19.6**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=285,slow=0.3,SNR=4.7						
PDAR				pP	**pP**	**01 45 34.1**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=286,slow=1.4,SNR=6.6						
BUR08	**Bucovina Ar. S**	**77.47**	**322**	*e*P	**P**	**01 45 25.4**	**+1.2**
STHS	**Stebnicka Huta**	**78.07**	**325**	*e*P	**P**	**01 45 29.2**	**+1.9**
STHS	**Stebnicka Huta**	**78.07**	**325**	*e*P	**P**	**01 45 29.2**	**+1.9**
BRTR	**Keskin Array B**	**78.23**	**312**	P	**P**	**01 45 29.4**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=93,slow=3.6,SNR=6.7						
CLL	**Collm**	**80.11**	**330**	*e*P	**P**	**01 45 39.0**	**+0.6**
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**80.11**	**330**	*e*P	**P**	**01 45 39.0**	**+0.6**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RAYN	**Ar Rayn**	**80.48**	**292**	*e*P	**P**	**01 45 40.9**	**0.0**
	comp=Z,1.7nm,0.6s						
GERES	**GERESS Array B**	**81.76**	**328**	P	**P**	**01 45 47.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=46,slow=5.8,SNR=6.6						
GERES	**GERESS Array B**	**81.76**	**328**	*e*P	**P**	**01 45 48.0**	**+0.6**
GRFO	**

BATI S Sn 02 23 34.5 -0.7
2.9nm,0.3s,baz=139,slow=20,SNR=2.5
WRA Warramunga Arr 12.89 157 P Pn 02 24 07.0 +1.5
0.2nm,0.3s,baz=342,slow=13,SNR=2.4
WRA S Sn 02 26 26.6 -2.2
1.2nm,0.3s,baz=337,slow=22,SNR=10
ASAR Alice Springs 16.21 164 P Pn 02 24 46.8 +0.1
0.2nm,0.3s,baz=338,slow=13,SNR=3.7
ASAR S S 02 27 46.9 +0.6
0.3nm,0.3s,baz=342,slow=24,SNR=5.6
MKAR Makanchi Array 68.57 328 P P 02 31 52.5 -0.1
0.7nm,0.4s,baz=126,slow=8.1,SNR=22
KURBB Kurchatov Arra 72.89 329 P P 02 32 18.7 0.0
0.5nm,0.4s,baz=132,slow=5.2,SNR=4.6

MOS ***10*** *02:26:54.2±1.1, 19°.55S×68°.02W,h85km,mb5.4/47,Error ellipse: s-maj=12.2km s-min=4.7km az=111.6*
ISCJB ***10*** *02:26:54.2±0.3, 19°.46S±0°.02×68°.87W±0°.03, h91km±3km, mb5.3/270,Error ellipse: s-maj=5.6km s-min=3.4km az=148.0*
SCB ***10*** *02:26:55.5±0.6, 19°.66S×68°.93W, h109km, Ml4.4/1, Error ellipse: s-maj=20.7km s-min=5.0km az=60.0*
IDC ***10*** *02:26:56.5±1.3, 19°.61S×68°.98W, h99km±10km, mb4.7/25, mb1 4.8/28, mb1mx4.7/44, mbtmp5.0/28, MS4.0/19, Ms1 4.0/19, ms1mx3.8/43, Error ellipse: s-maj=13.2km s-min=9.8km az=55.0*
GUC ***10*** *02:26:57.4±0.6, 19°.74S×69°.25W, h101km±3km, ML5.3*
GCMT ***10*** *02:26:57.0±0.2, 19°.76S×69°.36W, h128km±1km, MW5.2/102, Moment Tensor Solution. s50,c69; s102,c161; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.85±.15; Mθθ-0.52±.16; Mϕϕ4.37±.22; Mrθ-0.07±.10; Mθϕ-0.01±.17; Mϕr-5.32±.15; Best double couple: M₀6.72300×10¹⁶ NP1:ϕs1.00000°, δ71.00000°, λ-89.00000°. NP2:ϕs179.00000°, δ19.00000°, λ-91.00000°. Principal axes: T 6.9830, Plg26.0000°, Azm90.0000°; N -0.5150, Plg0.0000°, Azm180.0000°; P -6.4630, Plg64.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***10*** *02:26:57.0±0.0, 19°.74S×69°.25W, h101km, mb5.3/248, ML5.3(GUC), After GUC.*
NEIC Felt [IV] at Camina; [III] at Arica, Codpa, Cuya, Huara, Pica and Pozo Almonte; [II] at Alcerreca, Alto Hospicio, Iquique and Poconchile. Also felt at Tacna, Peru.
BJI ***10*** *02:26:58.8, 19°.60S×68°.80W, h106km, mB5.4/10*
ISC 10 02:26:57.2±0.3, 19°.67S±0°.03×69°.15W±0°.04, h106km±2km, h107km; pP-P, n1085, σ1s11/1201, mb5.3/269, 23C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.47**	**180**	⇓*iP*		**Pn**	**02 27 13.6**	**-0.3**
PB08				*eS*		**Sn**	**02 27 25.9**	**-0.5**
PB08				IAML			02 27 27.0	
	comp=E,124μm,0.2s							
PB11	**IPOC Station P**	**0.48**	**260**	*e*P	n	**Pn**	**02 27 12.3**	**-1.4**
PB11	**IPOC Station P**	**0.48**	**260**	⇑*iP*		**Pn**	**02 27 12.8**	**-0.9**
PB11				*i* S		**Sn**	**02 27 24.9**	**-1.2**
MNMC	**Minye Minye**	**0.68**	**322**	*e*P	n	**Pn**	**02 27 15.3**	**-0.1**
MNMC	**Minye Minye**	**0.68**	**322**	⇑*iP*		**Pn**	**02 27 15.4**	**0.0**
MNMC				*i* S		**Sn**	**02 27 29.1**	**+0.1**
PSGC	**Pisagua**	**0.92**	**275**	⇑*iP*		**Pn**	**02 27 16.4**	**-0.9**
PSGC				*i* S		**Sn**	**02 27 31.2**	**-1.4**
PSGC				IAML			02 27 31.5	
	comp=E,65μm,0.7s							
PB01	**IPOC Station P**	**1.40**	**193**	*e*P	n	**Pn**	**02 27 22.0**	**-0.7**
PB01	**IPOC Station P**	**1.40**	**193**	⇑*iP*		**Pn**	**02 27 22.1**	**-0.5**
PB01				*e*S		**Sn**	**02 27 40.8**	**-1.2**
PB01				IAML			02 27 42.3	
	comp=E,114μm,0.6s							
PB12	**IPOC Station P**	**1.53**	**313**	⇑*iP*		**Pn**	**02 27 23.6**	**-0.7**
PB12				*e*S		**Sn**	**02 27 43.4**	**-1.4**
PB02	**IPOC Station P**	**1.78**	**203**	⇑*iP*		**Pn**	**02 27 26.4**	**-0.9**
PB02				*i* S		**Sn**	**02 27 49.5**	**-0.8**
PB02				IAML			02 27 54.5	
	comp=N,32μm,0.4s							
PB09	**IPOC Station P**	**2.11**	**182**	⇑*iP*		**Pn**	**02 27 31.7**	**0.0**
PB09				*e*S		**Sn**	**02 27 58.0**	**0.0**
PB09				IAML			02 28 02.2	
	comp=N,36μm,0.8s							
PB04	**IPOC Station P**	**2.81**	**199**	*e*P	n	**Pn**	**02 27 39.4**	**-1.3**
BBOJ	**La Paz, Jacaqu**	**2.83**	**19**	⇑*i*P	n	**Pn**	**02 27 43.6**	**+2.2**
BBOE	**La Paz, Chanca**	**3.05**	**21**	⇑*i*P	n	**Pn**	**02 27 45.7**	**+1.4**
BBOD	**La Paz, Gloria**	**3.06**	**10**	⇑*i*P	n	**Pn**	**02 27 47.0**	**+2.5**
LPAZ	**La Paz**	**3.50**	**16**	P		**Pn**	**02 27 53.2**	**+2.8**
	comp=N,29nm,0.3s,baz=186,slow=8.8,SNR=847							
LPAZ				S		**Sn**	**02 28 29.7**	**-1.7**
	comp=N,33nm,0.3s,baz=205,slow=19,SNR=3.9							
LPAZ	**La Paz**	**3.50**	**16**	P		**Pn**	**02 27 52.7**	**+2.3**
LPAZ	**La Paz**	**3.50**	**16**	⇑*i*P	n	**Pn**	**02 27 52.3**	**+1.9**
LPAZ				*e*S	n	**Sn**	**02 28 33.0**	**+1.6**
BBOB	**La Paz, Bander**	**3.64**	**16**	⇓*i*P	n	**Pn**	**02 27 54.6**	**+2.4**
MOCB	**Mochara**	**3.65**	**116**	⇑*i*P	n	**Pn**	**02 27 52.4**	**+0.3**
MOCB				⇑*i*S	n	**Sn**	**02 28 35.1**	**+0.5**
	comp=N,732nm,1.0s							
ARE	**Arequipa**	**3.89**	**325**	⇑*iP*		**Pn**	**02 27 54.1**	**-1.2**
ARE				*e*S		Sn	02 28 26.0	-14
ARE	**Arequipa**	**3.89**	**325**	⇑*iP*		**Pn**	**02 27 54.1**	**-1.2**
PB10	**IPOC Station P**	**4.04**	**199**	*e*P	n	**Pn**	**02 27 54.9**	**-2.1**
PB10	**IPOC Station P**	**4.04**	**199**	*i* P		**Pn**	**02 27 54.4**	**-2.5**
HJA	**Humahuaca**	**4.95**	**136**	*i* P		**Pn**	**02 28 09.3**	**-0.3**
AZAP	**Zapla**	**5.91**	**141**	*i* P		**Pn**	**02 28 21.2**	**-1.2**
SLA	**San Lorenzo**	**6.05**	**147**	*i* P		**Pn**	**02 28 23.2**	**-1.2**
SLA				IAML			02 28 28.2	
	comp=Z,258nm,0.7s							
ASTB	**Santa Barbara**	**6.09**	**135**	*i* P		**Pn**	**02 28 23.6**	**-1.3**
ASTB				*i* S		**Sn**	**02 29 33.6**	**+0.2**
ALOL	**LOMAS DE OLMED**	**6.33**	**132**	*i* P		**Pn**	**02 28 26.7**	**-1.2**
ALOL				*i* S		**Sn**	**02 29 38.7**	**-0.2**
FSA	**Cafayete**	**7.04**	**156**	*i* P		**Pn**	**02 28 36.1**	**-1.7**
FSA				IAML			02 28 40.6	
	comp=Z,22nm,0.8s							
SIV	**San Ignacio**	**8.52**	**66**	P		**Pn**	**02 28 55.6**	**-2.2**
	comp=Z,12nm,0.3s,baz=262,slow=15,SNR=684							
SIV	**San Ignacio**	**8.52**	**66**	*e*P		**Pn**	**02 28 55.0**	**-2.8**
CYA	**Choya**	**9.25**	**161**	*i* P		**Pn**	**02 29 04.1**	**-3.5**
CYA				IAML			02 29 10.3	
	comp=Z,20nm,0.6s							
LCO	**Las Campanas**	**9.40**	**188**	*e*Pn		**Pn**	**02 29 11.3**	**+1.4**
LCO				*e*Sn		**Sn**	**02 30 57.4**	**+3.4**
LCO				*e*Lg		Lg	02 31 23.6	
LCO	**Las Campanas**	**9.40**	**188**	P		**Pn**	**02 29 09.3**	**-0.6**
NNA	**Nana**	**10.64**	**315**	P		**Pn**	**02 29 25.2**	**-1.4**
	comp=Z,3.9nm,0.3s,baz=84,slow=5.8,SNR=7.8							
NNA				S		**Sn**	**02 31 18.3**	**-5.5**
	comp=Z,18nm,0.3s,baz=220,slow=14,SNR=5.1							
NNA	**Nana**	**10.64**	**315**	*e*Pn		**Pn**	**02 29 24.4**	**-2.1**
NNA				*e*Sn		**Sn**	**02 31 17.7**	**-6.1**
SAML	**Samuel**	**12.12**	**29**	*e*Pn		**Pn**	**02 29 42.8**	**-3.6**
SAML	**Samuel**	**12.12**	**29**	P		**Pn**	**02 29 42.8**	**-3.6**
CPUP	**Villa Florida**	**12.74**	**124**	P		**Pn**	**02 29 51.6**	**-2.8**
	comp=Z,1.5nm,0.3s,baz=303,slow=12,SNR=84							
CPUP				ScP		**ScP**	**02 38 46.2**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=358,slow=7.3,SNR=3.0							
CPUP	**Villa Florida**	**12.74**	**124**	*e*Pn		**Pn**	**02 29 52.1**	**-2.3**
CPUP				ScP		**ScP**	**02 38 46.2**	**+0.3**
CPUP	**Villa Florida**	**12.74**	**124**	*e*P		**Pn**	**02 29 52.1**	**-2.3**
ATAH	**Atahualpa**	**15.36**	**323**	P		**P**	**02 30 32.6**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=144,slow=9.3,SNR=21							
ATAH				LR		LR	02 37 23.9	
	comp=Z,589nm,20.3s,baz=171,slow=41							
GO05	**HualaæØ**	**15.47**	**189**	*e*Pn		**P**	**02 30 30.8**	**-0.9**
	comp=Z,100nm,1.4s							
TRQA	**Tornquist**	**19.35**	**163**	*e*P		**P**	**02 31 14.3**	**0.0**
	comp=Z,31nm,0.8s							
TRQA	**Tornquist**	**19.35**	**163**	P		**P**	**02 31 14.3**	**0.0**
SPB	**Sao Paulo**	**20.56**	**105**	*e*P		**P**	**02 31 25.9**	**-1.6**
	comp=Z,348nm,1.4s							
PTGA	**Pitinga**	**20.86**	**27**	P		**P**	**02 31 28.8**	**-2.0**
	comp=Z,19nm,0.5s,baz=200,slow=13,SNR=42							
PTGA				S		**S**	**02 35 12.9**	**-4.8**
	comp=Z,16nm,0.7s,baz=356,slow=22,SNR=5.2							
PLCA	**Paso Flores**	**21.02**	**183**	P		**P**	**02 31 32.2**	**-0.2**
	comp=Z,43nm,0.9s,baz=28,slow=11,SNR=29							
PLCA				PcP		**PcP**	**02 35 35.5**	**+0.3**
	comp=Z,5.6nm,0.8s,baz=21,slow=3.0,SNR=5.6							
PLCA				ScP		**ScP**	**02 39 02.9**	**+0.4**
	comp=Z,5.1nm,1.0s,baz=269,slow=1.4,SNR=5.2							
PLCA	**Paso Flores**	**21.02**	**183**	*e*P		**P**	**02 31 32.4**	**0.0**
	comp=Z,69nm,1.0s							
PLCA				PcP		**PcP**	**02 35 35.5**	**+0.3**
PLCA				ScP		**ScP**	**02 39 02.9**	**+0.4**
PLCA	**Paso Flores**	**21.02**	**183**	*e*P		**P**	**02 31 32.4**	**0.0**
PLCA							02 35 35.6	
PLCA				pmax		pmax		
	comp=Z,69nm,1.0s							
OTAV	**Otavalo**	**21.79**	**334**	*e*P		**P**	**02 31 42.7**	**+1.6**
	comp=Z,54nm,0.8s							
OTAV	**Otavalo**	**21.79**	**334**	*e*P		**P**	**02 31 42.7**	**+1.6**
OTAV	**Otavalo**	**21.79**	**334**	*e*P		**P**	**02 31 43.0**	**+1.9**
FLOC	**Florencia**	**22.07**	**342**	*e*P		**P**	**02 31 43.0**	**-0.6**
CMBC	**Cumbal**	**22.18**	**336**	⇑*e*P		**P**	**02 31 46.3**	**+1.0**
GCUF	**Volcan Galeras**	**22.27**	**338**	*e*P		**P**	**02 31 47.7**	**+1.4**
CRUC	**La Cruz**	**22.45**	**339**	*e*P		**P**	**02 31 48.3**	**+0.3**
SOTA	**Rioblanco**	**22.88**	**341**	*e*P		**P**	**02 31 52.3**	**-0.1**
POPC	**Popayan, Colom**	**23.28**	**341**	*e*P		**P**	**02 31 54.3**	**-1.6**
SJAC	**San Juan de Ar**	**23.29**	**348**	*e*P		**P**	**02 31 54.3**	**-1.5**
TUMC	**Tumaco**	**23.34**	**335**	*e*P		**P**	**02 31 57.8**	**+1.6**
	comp=Z,208nm,0.8s							
MARP	**Paez Belalcaza**	**23.35**	**343**	*e*P		**P**	**02 31 57.0**	**+0.3**
PRAC	**Prado**	**23.91**	**346**	*e*P		**P**	**02 32 01.7**	**+0.3**
	comp=Z,59nm,1.2s							
HORQ	**Saladito**	**24.16**	**342**	*e*P		**P**	**02 32 02.9**	**-0.9**
YOTC	**Yotoco, Valle**	**24.55**	**342**	*e*P		**P**	**02 32 06.3**	**-1.0**
ROSC	**El Rosal**	**24.89**	**348**	P		**P**	**02 32 12.4**	**+1.8**
	comp=Z,11nm,0.6s,baz=60,slow=21,SNR=6.6							
ROSC				LR		LR	02 43 11.9	
	comp=Z,348nm,19.7s,baz=218,slow=39							
ROSC	**El Rosal**	**24.89**	**348**	*e*P		**P**	**02 32 10.2**	**-0.5**
	comp=Z,12nm,0.7s							
RREF	**El Recreo**	**25.17**	**345**	⇑*e*P		**P**	**02 32 14.2**	**+0.8**
GUYC	**Guyana, Colomb**	**25.49**	**345**	*e*P		**P**	**02 32 15.6**	**-0.6**
RUSC	**La Rusia**	**25.70**	**351**	*e*P		**P**	**02 32 18.2**	**+0.1**
	comp=Z,45nm,1.2s							
RUSC	**La Rusia**	**25.70**	**351**	*e*P		**P**	**02 32 18.2**	**+0.1**
HELC	**Santa Helena**	**26.46**	**346**	*e*P		**P**	**02 32 23.4**	**-1.4**
	comp=Z,58nm,0.5s							
PTBC	**PUERTO BERRIO,**	**26.57**	**348**	*e*P		**P**	**02 32 22.2**	**-3.2**
PAMC	**Pamplona, Colo**	**27.07**	**352**	*e*P		**P**	**02 32 28.9**	**-1.6**
CHRN	**Cochrane**	**27.65**	**185**	*e*P		**P**	**02 32 33.2**	**-1.6**
	comp=Z,9.5nm,0.8s							
PAYG	**Puerto Ayora**	**28.02**	**310**	*e*P		**P**	**02 32 39.1**	**+0.7**
	comp=Z,46nm,0.8s							
SDV	**Santo Domingo**	**28.42**	**357**	P		**P**	**02 32 41.6**	**-0.5**
	comp=Z,11nm,0.6s,baz=198,slow=6.5,SNR=12							
SDV				LR		LR	02 44 51.2	
	comp=Z,219nm,19.2s,baz=217,slow=38							
SDV	**Santo Domingo**	**28.42**	**357**	*e*P		**P**	**02 32 41.3**	**-0.8**
	comp=Z,25nm,0.8s							
PCRV	**Puerto La Cruz**	**29.99**	**9**	P		**P**	**02 32 55.4**	**-0.5**
	comp=Z,5.6nm,0.4s,baz=336,slow=16,SNR=5.7							
PCRV				LR		LR	02 45 42.4	
	comp=Z,318nm,21.3s,baz=182,slow=38							
BCIP	**Isla Barro Col**	**30.53**	**339**	*e*P		**P**	**02 33 02.1**	**+1.6**
	comp=Z,40nm,0.6s							
EFI	**East Falkland**	**33.10**	**167**	⇑*e*P		**P**	**02 33 23.1**	**+0.3**
EFI				pmax		pmax		
	comp=Z,46nm,1.0s							
JTS	**JuntasAbangare**	**33.60**	**331**	P		**P**	**02 33 29.6**	**+2.1**
	comp=Z,38nm,0.8s,baz=170,slow=12,SNR=21							
JTS				LR		LR	02 48 59.3	
	comp=Z,244nm,18.2s,baz=76,slow=39							
JTS	**JuntasAbangare**	**33.60**	**331**	*e*P		**P**	**02 33 29.2**	**+1.8**
	comp=Z,37nm,0.8s							
RCBR	**Riachuelo**	**35.13**	**71**	P		**P**	**02 33 40.5**	**-0.4**
	comp=Z,64nm,0.8s,baz=240,slow=10.0,SNR=17							
RCBR	**Riachuelo**	**35.13**	**71**	*e*P		**P**	**02 33 40.8**	**-0.1**
	comp=Z,61nm,0.8s							
RCBR	**Riachuelo**	**35.13**	**71**	P		**P**	**02 33 41.5**	**+0.7**
RCBR				pmax		pmax		
	comp=Z,71nm,0.9s							
SJG	**San Juan**	**37.66**	**5**	*e*P		**P**	**02 34 00.7**	**-1.4**
	comp=Z,51nm,0.9s							
SJG	**San Juan**	**37.66**	**5**	*e*P		**P**	**02 34 00.7**	**-1.4**
SJG				pmax		pmax		
	comp=Z,51nm,0.9s							
CBYP	**Canovanas**	**37.85**	**5**	*e*P		**P**	**02 34 01.2**	**-2.6**
	comp=Z,104nm,1.0s							
TGUH	**Tegucigalpa,Un**	**37.97**	**331**	*e*P		**P**	**02 34 06.3**	**+1.5**
	comp=Z,77nm,0.9s							
MTDJ	**Mount Denham**	**38.55**	**347**	*e*P		**P**	**02 34 09.3**	**-0.4**
	comp=Z,100nm,1.1s							
CMIG	**Matias Romero**	**44.43**	**324**	LR		LR	02 53 50.0	
	comp=Z,39nm,20.6s,baz=152,slow=36							
958A	**Wauchula**	**48.54**	**345**	P		**P**	**02 35 30.4**	**+0.8**
	baz=164							
957A	**Wimauma**	**48.74**	**345**	P		**P**	**02 35 31.8**	**+0.7**
	baz=164							
859A	**Kempfer Cattle**	**48.79**	**346**	P		**P**	**02 35 32.1**	**+0.5**
	baz=165							
DWPF	**Disney Wildern**	**48.97**	**346**	P		**P**	**02 35 33.3**	**+0.5**
	baz=165							
DWPF	**Disney Wildern**	**48.97**	**346**	*e*P		**P**	**02 35 32.1**	**-0.7**
	comp=Z,83nm,0.7s							
858A	**St. Cloud**	**49.05**	**346**	P		**P**	**02 35 34.0**	**+0.6**
	baz=165							
857A	**Zephyrhills**	**49.31**	**345**	P		**P**	**02 35 35.8**	**+0.3**
	baz=164							
758A	**Lake Helen**	**49.73**	**346**	P		**P**	**02 35 39.2**	**+0.6**
	baz=165							
757A	**Oxford**	**49.91**	**345**	P		**P**	**02 35 40.5**	**+0.5**
	baz=164,SNR=6.3							
MOIG	**Morelia**	**50.16**	**319**	*e*P		**P**	**02 35 43.4**	**+1.1**
658A	**Bunnell**	**50.19**	**346**	P		**P**	**02 35 42.7**	**+0.6**
	baz=165							
656A	**Willston**	**50.44**	**345**	P		**P**	**02 35 44.5**	**+0.5**
	baz=164,SNR=15							
657A	**Interlachen**	**50.48**	**346**	P		**P**	**02 35 44.9**	**+0.6**
	baz=165,SNR=7.0							
655A	**Horseshoe Beac**	**50.76**	**344**	P		**P**	**02 35 46.9**	**+0.6**
	baz=163,SNR=8.9							
557A	**Orange Park**	**50.87**	**346**	P		**P**	**02 35 47.7**	**+0.5**
	baz=165,SNR=9.7							
556A	**Lake Butler**	**51.01**	**345**	P		**P**	**02 35 48.7**	**+0.4**
	baz=164,SNR=6.5							
555A	**McAlpin**	**51.26**	**345**	P		**P**	**02 35 50.6**	**+0.4**
	baz=163,SNR=5.6							
554A	**Perry**	**51.41**	**344**	P		**P**	**02 35 51.7**	**+0.5**
	baz=163,SNR=9.6							
456A	**Hilliard**	**51.61**	**346**	P		**P**	**02 35 53.5**	**+0.8**
	baz=165,SNR=7.1							
553A	**Crawfordville**	**51.71**	**343**	P		**P**	**02 35 54.5**	**+1.0**
	baz=162,SNR=9.0							
455A	**Stateville**	**51.87**	**345**	P		**P**	**02 35 55.3**	**+0.7**
	baz=164							
454A	**Quitman**	**52.00**	**344**	P		**P**	**02 35 55.8**	**+0.2**
	baz=163,SNR=8.7							
453A	**Whigham**	**52.31**	**343**	P		**P**	**02 35 58.4**	**+0.5**
	baz=162,SNR=9.7							
451A	**Vernon**	**52.49**	**342**	P		**P**	**02 35 59.6**	**+0.4**
	baz=160							
452A	**Marianna**	**52.54**	**343**	P		**P**	**02 35 59.9**	**+0.2**
	baz=161							
TIGA	**Tifton**	**52.68**	**344**	P		**P**	**02 36 00.7**	**+0.1**
	baz=163,SNR=6.9							
TIGA	**Tifton**	**52.68**	**344**	*e*P		**P**	**02 36 00.6**	**0.0**
	comp=Z,61nm,0.9s							
TIGA				epP		**pP**	**02 36 27.4**	**+1.3**
TIGA				*es*P		**sP**	**02 36 37.0**	**-0.9**
353A	**Camilla**	**52.75**	**344**	P		**P**	**02 36 01.3**	**+0.2**
	baz=162							
450A	**Crestview**	**52.91**	**341**	P		**P**	**02 36 03.1**	**+0.7**
	baz=160							
351A	**Pinckard**	**53.06**	**342**	P		**P**	**02 36 03.7**	**+0.3**
	baz=161,SNR=8.9							
449A	**Pace**	**53.07**	**340**	P		**P**	**02 36 03.7**	**+0.2**
	baz=159							
352A	**Blakely**	**53.07**	**343**	P		**P**	**02 36 03.5**	**0.0**
	baz=162							
LNIG	**Linares**	**53.23**	**325**	*e*P		**P**	**02 36 04.1**	**-0.7**
	comp=Z,62nm,1.2s							
ZAIG	**Zacatecas**	**53.33**	**321**	*e*P		**P**	**02 36 07.0**	**+1.1**
RGRS	**Roger Stewart**	**53.34**	**348**	*e*P		**P**	**02 36 06.1**	**+0.7**
	comp=Z,913nm,0.6s							
BRAL	**Brewton**	**53.40**	**341**	P		**P**	**02 36 06.2**	**+0.3**
	baz=159,SNR=8.0							
BRAL	**Brewton**	**53.40**	**341**	*e*P		**P**	**02 36 05.8**	**-0.1**
	comp=Z,155nm,1.0s							
350A	**Dozier**	**53.41**	**342**	P		**P**	**02 36 06.4**	**+0.4**
	baz=160,SNR=7.5							
448A	**Bay Minette**	**53.43**	**340**	P		**P**	**02 36 06.3**	**+0.1**
	baz=158							
NHSC	**New Hope**	**53.53**	**348**	P		**P**	**02 36 07.3**	**+0.5**
	baz=167,SNR=6.9							
NHSC	**New Hope**	**53.53**	**348**	*e*P		**P**	**02 36 07.8**	**+0.9**
	comp=Z,172nm,1.0s							
NHSC				*ep*P		**pP**	**02 36 32.4**	**0.0**
NHSC				*es*P		**sP**	**02 36 44.5**	**+0.3**
447A	**Lucedale**	**53.57**	**339**	P		**P**	**02 36 07.4**	**+0.2**
	baz=157							
349A	**Repton**	**53.61**	**341**	P		**P**	**02 36 07.6**	**+0.2**
	baz=159,SNR=10							
251A	**Midway**	**53.78**	**343**	P		**P**	**02 36 08.2**	**-0.5**
	baz=161,SNR=14							
348A	**Jackson**	**53.89**	**340**	P		**P**	**02 36 09.6**	**+0.1**
	baz=158							
250A	**Grady**	**53.91**	**342**	P		**P**	**02 36 09.2**	**-0.4**
	baz=160,SNR=8.8							
347A	**Saraland**	**54.09**	**339**	P		**P**	**02 36 11.0**	**0.0**
	baz=158							
445A	**Amite**	**54.10**	**337**	P		**P**	**02 36 11.9**	**+0.9**
	baz=155							
151A	**Opelika**	**54.16**	**343**	P		**P**	**02 36 11.0**	**-0.5**
	baz=161,SNR=9.5							
249A	**Camden**	**54.17**	**341**	P		**P**	**02 36 11.3**	**-0.3**
	baz=159,SNR=13							
444A	**Pine Grove**	**54.23**	**337**	P		**P**	**02 36 12.1**	**+0.1**
	baz=155							
346A	**Big Creek Wild**	**54.39**	**339**	P		**P**	**02 36 12.8**	**-0.3**
	baz=156							
542A	**Morse**	**54.40**	**335**	P		**P**	**02 36 14.1**	**+0.9**
	baz=153							
150A	**Eclectic**	**54.43**	**342**	P		**P**	**02 36 13.2**	**-0.2**
	baz=161,SNR=13							
248A	**Dixon Mills**	**54.47**	**341**	P		**P**	**02 36 13.4**	**-0.3**
	baz=159,SNR=14							
345A	**Thompson Farm,**	**54.51**	**338**	P		**P**	**02 36 14.4**	**+0.3**
	baz=156,SNR=5.1							
GOGA	**Godfrey**	**54.53**	**345**	P		**P**	**02 36 13.7**	**-0.4**
	baz=164,SNR=6.1							
GOGA	**Godfrey**	**54.53**	**345**	*e*P		**P**	**02 36 13.9**	**-0.2**
	comp=Z,38nm,1.3s							
GOGA				epP		**pP**	**02 36 39.8**	**+0.1**
GOGA	**Godfrey**	**54.53**	**345**	*e*P		**P**	**02 36 13.9**	**-0.2**
GOGA				*e**PP		**pP**	**02 36 39.8**	**+0.1**
GOGA				pmax		pmax		
	comp=Z,38nm,1.3s							
541A	**Lake Charles**	**54.60**	**334**	P		**P**	**02 36 15.5**	**+0.8**
	baz=152							
149A	**Jones**	**54.65**	**342**	P		**P**	**02 36 14.5**	**-0.5**
	baz=160,SNR=9.0							
443A	**Delano Plantat**	**54.66**	**336**	P		**P**	**02 36 16.0**	**+0.8**
	baz=154							
247A	**Quitman**	**54.71**	**340**	P		**P**	**02 36 15.3**	**-0.2**
	baz=158,SNR=7.8							
442A	**Mamou**	**54.87**	**335**	P		**P**	**02 36 17.8**	**+1.2**
	baz=153							
344A	**Westbrook Farm**	**54.89**	**337**	P		**P**	**02 36 17.3**	**+0.5**
	baz=155,SNR=7.2							
148A	**Greensboro**	**54.93**	**341**	P		**P**	**02 36 16.3**	**-0.7**
	baz=159,SNR=6.7							
Z50A	**Ashland**	**55.01**	**343**	P		**P**	**02 36 17.1**	**-0.5**
	baz=161,SNR=19							
HODGE	**Hodges**	**55.04**	**347**	*e*P		**P**	**02 36 18.1**	**+0.3**
	comp=Z,20nm,1.0s							
LRAL	**Lakeview Retre**	**55.12**	**342**	P		**P**	**02 36 18.0**	**-0.3**
	baz=160,SNR=8.0							
LRAL	**Lakeview Retre**	**55.12**	**342**	*e*P		**P**	**02 36 17.8**	**-0.6**
	comp=Z,38nm,1.2s							
245A	**Little AP, Sta**	**55.12**	**338**	P		**P**	**02 36 18.4**	**0.0**
	baz=156,SNR=15							
Z49A	**Columbiana**	**55.13**	**342**	P		**P**	**02 36 18.1**	**-0.4**
	baz=160,SNR=14							
147A	**Livingston**	**55.17**	**340**	P		**P**	**02 36 19.1**	**+0.3**
	baz=158							
441A	**DeRidder**	**55.20**	**335**	P		**P**	**02 36 20.7**	**+1.7**
	baz=152							
CNNC	**Cliffs of the**	**55.24**	**351**	*e*P		**P**	**02 36 19.5**	**+0.3**
	comp=Z,111nm,1.8s							
146A	**Union**	**55.39**	**340**	P		**P**	**02 36 20.2**	**-0.2**
	baz=157,SNR=7.4							
244A	**Avery, Jackson**	**55.41**	**338**	P		**P**	**02 36 20.3**	**-0.2**
	baz=155,SNR=7.7							
342A	**Flagon Creek P**	**55.42**	**336**	P		**P**	**02 36 21.3**	**+0.7**
	baz=154,SNR=18							
VBMS	**Vicksburg**	**55.51**	**338**	P		**P**	**02 36 21.1**	**-0.1**
	baz=156							
VBMS	**Vicksburg**	**55.51**	**338**	*e*P		**P**	**02 36 21.4**	**+0.2**
	comp=Z,

baz=156
OXF **Oxford** 57.23 340 P P 02 36 32.3 -1.0
baz=157,SNR=23
OXF **Oxford** 57.23 340 *e*P P 02 36 31.8 -1.6
comp=Z,118nm,0.9s
OXF **Oxford** 57.23 340 *e*P P 02 36 31.8 -1.6
OXF pmax pmax
comp=Z,118nm,0.9s
PLAL **Pickwick Lake** 57.25 342 *e*P P 02 36 32.2 -1.3
comp=Z,53nm,0.9s
Z41A **Richland Creek** 57.28 336 P P 02 36 34.1 +0.3
baz=154,SNR=8.7
W47A **Westpoint** 57.36 342 P P 02 36 33.5 -0.8
baz=160,SNR=21
Y42A **Garnett, Star** 57.42 338 P P 02 36 34.9 +0.1
baz=155,SNR=7.4
X44A **Crenshaw** 57.46 339 P P 02 36 34.1 -0.9
baz=157,SNR=5.8
W46A **Michie** 57.48 341 P P 02 36 34.2 -0.9
baz=159,SNR=7.4
CCAR **Cane Creek** 57.49 338 *e*P P 02 36 35.8 +0.6
comp=Z,69nm,0.8s
Z40A **Long Farm, Mag** 57.50 336 P P 02 36 36.2 +0.9
baz=153,SNR=37
VWCC **Virginia Weste** 57.53 350 *e*P P 02 36 36.0 +0.6
VWCC *e*pP pP 02 37 02.3 +1.0
TZTN **Tazewell** 57.55 346 P P 02 36 35.5 0.0
baz=164,SNR=5.1
TZTN **Tazewell** 57.55 346 *e*P P 02 36 34.5 -1.1
comp=Z,28nm,1.0s
BLA **Blacksburg** 57.57 349 P P 02 36 36.2 +0.4
baz=168,SNR=6.0
BLA **Blacksburg** 57.57 349 *e*P P 02 36 36.5 +0.7
comp=Z,150nm,1.6s
BLA **Blacksburg** 57.57 349 *e*P P 02 36 36.5 +0.7
BLA pmax pmax
comp=Z,150nm,1.6s
V48A **Smith Brothers** 57.60 343 P P 02 36 35.2 -0.8
baz=160,SNR=25
X43A **Marvell** 57.72 339 P P 02 36 36.9 +0.1
baz=156,SNR=9.1
W45A **Hickory Valley** 57.75 341 P P 02 36 36.1 -1.0
baz=158,SNR=27
Y41A **Eaglette Beard** 57.76 337 P P 02 36 37.4 +0.3
baz=154,SNR=15
WLAR **White Oak Lake** 57.78 336 *e*P P 02 36 38.1 +0.9
comp=Z,210nm,0.9s
V47A **Nunnelly** 57.88 342 P P 02 36 36.8 -1.1
baz=160,SNR=11
JCT **Junction City** 57.93 329 P P 02 36 38.4 0.0
baz=146,SNR=12
JCT **Junction City** 57.93 329 *e*P P 02 36 38.5 0.0
comp=Z,36nm,1.0s
JCT **Junction City** 57.93 329 *e*P P 02 36 38.5 0.0
JCT pmax pmax
comp=Z,36nm,1.0s
X42A **Stuttgart** 58.01 338 P P 02 36 38.5 -0.3
baz=155
V46A **Holladay** 58.02 342 P P 02 36 37.6 -1.3
baz=159,SNR=8.4
WHTX **Lake Whitney,** 58.09 332 P P 02 36 39.7 +0.2
baz=148,SNR=9.1
WHTX **Lake Whitney,** 58.09 332 *e*P P 02 36 39.9 +0.4
comp=Z,59nm,0.9s
Y40A **Okolona** 58.13 336 P P 02 36 40.0 +0.3
baz=153,SNR=20
V45A **Humboldt** 58.22 341 P P 02 36 39.5 -0.7
baz=158,SNR=12
U48A **Cassie Pea, Po** 58.25 344 P P 02 36 39.9 -0.6
baz=161,SNR=16
WVT **Waverly** 58.25 342 P P 02 36 39.4 -1.2
baz=159
WVT **Waverly** 58.25 342 *e*P P 02 36 39.3 -1.2
comp=Z,65nm,0.9s
WVT **Waverly** 58.25 342 *e*P P 02 36 39.3 -1.2
WVT pmax pmax
comp=Z,65nm,0.9s
X41A **Kaden, Bauxite** 58.27 337 P P 02 36 40.4 -0.3
baz=154,SNR=7.0
HPIG 58.31 321 *e*P P 02 36 42.0 +0.6
comp=Z,46nm,1.1s
X40A **Basin Creek Fa** 58.38 337 P P 02 36 41.5 +0.1
baz=154
U47A **Clarksville** 58.39 343 P P 02 36 40.6 -0.8
baz=160,SNR=28
UALR **University of** 58.47 338 *e*P P 02 36 41.9 -0.1
comp=Z,58nm,1.1s
U46A **Springville** 58.56 342 P P 02 36 41.8 -0.9
baz=159,SNR=15
V44A **Blytheville** 58.59 340 P P 02 36 42.3 -0.6
baz=157
W42A **Bald Knob** 58.63 339 P P 02 36 42.7 -0.4
baz=155
SLBS **Sierra La Lagu** 58.65 315 *e*P P 02 36 45.4 +1.8
comp=Z,99nm,1.3s
MIAR **Mount Ida** 58.71 336 P P 02 36 43.7 -0.1
baz=153,SNR=40
MIAR **Mount Ida** 58.71 336 *e*P P 02 36 43.6 -0.1
comp=Z,69nm,1.0s
MIAR **Mount Ida** 58.71 336 *e*P P 02 36 43.7 -0.1
MIAR pmax pmax
comp=Z,69nm,1.0s
U45A **Rockin P Farm,** 58.73 342 P P 02 36 43.1 -0.6
baz=158,SNR=8.9
UTMT **University of** 58.75 341 *e*P P 02 36 42.7 -1.3
comp=Z,171nm,1.1s
V43A **Jonesboro** 58.76 340 P P 02 36 44.4 +0.4
baz=156
T48A **Bowling Green** 58.77 344 P P 02 36 43.4 -0.7
baz=161,SNR=12
W41B **Gary Mavity, V** 58.79 338 P P 02 36 43.7 -0.5
baz=155,SNR=11
T47A **Sharon Grove** 58.85 343 P P 02 36 44.0 -0.7
baz=160,SNR=31
X39A **Fountain Ranch** 58.89 336 P P 02 36 45.2 +0.3
baz=153,SNR=43
U44B **Burton Farm, H** 58.89 341 P P 02 36 45.3 +0.3
baz=158
X301 **Greenbrier Sit** 58.90 338 *e*P P 02 36 45.0 0.0
comp=Z,30nm,0.8s
WHAR **Wooly Hollow** 58.91 338 *e*P P 02 36 44.9 -0.2
comp=Z,36nm,0.9s
TXAR **Lajitas Array** 59.01 325 P P 02 36 46.1 0.0
comp=Z,7.5nm,0.8s,baz=147,slow=8.0,SNR=55
TX31 **Lajitas Ar. Si** 59.01 325 *e*P P 02 36 46.1 0.0
V42A **Cord** 59.06 339 P P 02 36 45.3 -0.8
baz=156,SNR=8.6
W40A **Ferguson Farm,** 59.10 337 P P 02 36 46.6 +0.3
baz=154,SNR=24
W40A **Ferguson Farm,** 59.10 337 *e*P P 02 36 46.7 +0.3
comp=Z,112nm,0.9s
T46A **Princeton** 59.12 343 P P 02 36 46.0 -0.5
baz=160,SNR=27
U44A **Portageville** 59.15 341 P P 02 36 46.9 +0.2
baz=158,SNR=9.0
S48A **Wiedeman Farm,** 59.20 344 P P 02 36 46.1 -1.0
baz=162,SNR=19
U43A **Rector** 59.25 340 P P 02 36 47.1 -0.4
baz=157,SNR=6.2
V41A **Mountainview** 59.31 338 P P 02 36 47.0 -0.8
baz=155,SNR=34
T45A **Paducah** 59.31 342 P P 02 36 47.4 -0.4
baz=159,SNR=6.8
W39A **Magazine** 59.37 337 P P 02 36 48.5 +0.2
baz=153,SNR=26
U42A **Revenden** 59.51 339 P P 02 36 48.5 -0.7
baz=156,SNR=19
V40A **Witts Springs** 59.56 338 P P 02 36 48.9 -0.7
baz=154,SNR=24
ABTX **Abilene, Hawle** 59.62 330 P P 02 36 49.8 -0.3
baz=147,SNR=24
ABTX **Abilene, Hawle** 59.62 330 *e*P P 02 36 50.2 0.0
comp=Z,64nm,0.9s
ABTX *e*pP pP 02 37 16.0 -0.1
PBMO **Poplar Bluff** 59.64 340 *e*P P 02 36 49.6 -0.5
comp=Z,65nm,0.8s
T44A **Benton** 59.66 341 P P 02 36 49.9 -0.3
baz=158,SNR=16
S46A **Don Dixon Farm** 59.67 343 P P 02 36 49.4 -0.9
baz=160,SNR=8.5
U41A **Viola** 59.73 339 P P 02 36 49.9 -0.9
baz=155,SNR=32
WCI **Wyandotte Cave** 59.80 344 P P 02 36 50.2 -1.0
baz=161
WCI **Wyandotte Cave** 59.80 344 *e*P P 02 36 50.2 -1.0
comp=Z,63nm,1.1s
WCI **Wyandotte Cave** 59.80 344 *e*P P 02 36 50.2 -1.0
WCI pmax pmax
comp=Z,63nm,1.1s
MCWV **Mont Chateau** 59.86 350 P P 02 36 51.9 +0.3
baz=168,SNR=12
MCWV **Mont Chateau** 59.86 350 *e*P P 02 36 52.0 +0.5
comp=Z,71nm,0.8s
R48A **Northridge Ran** 59.86 345 P P 02 36 50.8 -0.8
baz=162,SNR=6.1
T43A **Greenville** 59.87 341 P P 02 36 50.9 -0.7
baz=157,SNR=43
V39A **Pettigrew** 59.89 337 P P 02 36 51.7 -0.2
baz=153,SNR=60
S45A **Carrier Mills** 59.91 342 P P 02 36 51.2 -0.7
baz=159,SNR=14
USIN **University of** 59.92 343 *e*P P 02 36 51.2 -0.8
comp=Z,68nm,1.1s
R47A **Wooly Knot Far** 59.93 344 P P 02 36 51.3 -0.8
baz=161,SNR=8.1
U40A **Yellville** 60.07 338 P P 02 36 52.4 -0.7
baz=154,SNR=38
T42A **Van Buren** 60.08 340 P P 02 36 52.3 -0.8
baz=156,SNR=17
R46A **Gibson Southern** 60.11 343 P P 02 36 53.2 0.0
baz=160
S44A **Carbondale** 60.12 342 P P 02 36 52.6 -0.7
baz=158,SNR=19
SIUC **Southern Illin** 60.13 342 *e*P P 02 36 52.9 -0.5
comp=Z,102nm,0.9s
S43A **Fulton Ridge,** 60.25 341 P P 02 36 53.5 -0.8
baz=157,SNR=32
O56A **Blue Knob Stat** 60.27 352 P P 02 36 53.8 -0.6
baz=170
O56A **Blue Knob Stat** 60.27 352 *e*P P 02 36 54.2 -0.2
comp=Z,47nm,0.9s
T41A **Mountain View** 60.31 339 P P 02 36 54.0 -0.7
baz=156,SNR=18
U39A **Green Forest** 60.31 337 P P 02 36 54.2 -0.5
baz=154,SNR=39
HHAR **Hobbs** 60.39 337 *e*P P 02 36 54.9 -0.4
comp=Z,79nm,1.1s
R45A **Skylar, Fairfi** 60.39 343 P P 02 36 54.5 -0.7
baz=159,SNR=12
Q47A **Bedord North L** 60.51 345 P P 02 36 55.1 -0.8
baz=161,SNR=14
PAL **Palisades** 60.53 356 P P 02 36 55.4 -0.6
baz=175
SSPA **Standing Stone** 60.55 352 P P 02 36 56.6 +0.4
baz=171
SSPA **Standing Stone** 60.55 352 *e*P P 02 36 56.6 +0.4
comp=Z,25nm,1.1s
R44A **Waltonville** 60.58 342 P P 02 36 55.8 -0.7
baz=159,SNR=9.6
S42A **Caledonia** 60.66 340 P P 02 36 56.1 -1.0
baz=157,SNR=14
T40A **Mansfield** 60.66 339 P P 02 36 56.4 -0.7
baz=155,SNR=24
FVM **French Village** 60.74 341 *e*P P 02 36 57.1 -0.4
comp=Z,124nm,0.9s
FVM **French Village** 60.74 341 *e*P P 02 36 57.2 -0.4
FVM pmax pmax
comp=Z,125nm,0.9s
BLO **Bloomington** 60.75 345 *e*P P 02 36 56.5 -1.1
comp=Z,84nm,1.2s
BLO *e*pP pP 02 37 23.3 -0.5
BLO **Bloomington** 60.75 345 *e*P P 02 36 56.5 -1.1
BLO *e**PP pP 02 37 23.3 -0.5
BLO pmax pmax
comp=Z,84nm,1.2s
OLIL **Olney** 60.76 343 *e*P P 02 36 56.8 -0.8
comp=Z,29nm,1.0s
TUL1 **Leonard** 60.77 335 P P 02 36 57.5 -0.3
baz=151,SNR=29
TUL1 **Leonard** 60.77 335 *e*P P 02 36 57.7 -0.1
comp=Z,96nm,1.0s
OK022 **N350 Road, Pr** 60.79 334 *e*P P 02 36 57.5 -0.5
comp=Z,56nm,1.0s
S41A **Jillco Farms,** 60.80 340 P P 02 36 57.3 -0.7
baz=156,SNR=37
T39A **Clever** 60.85 338 P P 02 36 57.6 -0.7
baz=154,SNR=26
R43A **Red Bud** 60.86 341 P P 02 36 57.7 -0.7
baz=158,SNR=18
OK021 **N3530 Road, Sp** 60.87 334 *e*P P 02 36 57.9 -0.6
comp=Z,84nm,1.3s
OK020 **N3440 Road, Me** 60.88 334 *e*P P 02 36 58.0 -0.6
comp=Z,65nm,0.7s
Q45A **Warren Harvey,** 60.92 343 P P 02 36 58.0 -0.8
baz=160,SNR=15
ACSO **Alum Creek Sta** 60.97 348 P P 02 36 58.9 -0.3
baz=165,SNR=6.0
ACSO **Alum Creek Sta** 60.97 348 *e*P P 02 36 58.8 -0.3
comp=Z,72nm,0.8s
ACSO *e*pP pP 02 37 25.6 +0.3
P47A **Martinsville** 60.99 345 P P 02 36 58.3 -0.9
baz=162,SNR=10.0
WMOK **Wichita Mounta** 61.00 332 P P 02 36 58.6 -0.9
baz=148,SNR=11
WMOK **Wichita Mounta** 61.00 332 *e*P P 02 36 58.6 -0.9
comp=Z,15nm,0.7s
WMOK **Wichita Mounta** 61.00 332 *e*P P 02 36 58.6 -0.9
WMOK pmax pmax
comp=Z,15nm,0.7s
S40A **Lebanon** 61.06 339 P P 02 36 59.2 -0.6
baz=155,SNR=28
CCM **Cathedral Cave** 61.06 340 P P 02 36 59.4 -0.4
baz=156
CCM **Cathedral Cave** 61.06 340 *e*P P 02 36 59.2 -0.6
comp=Z,82nm,1.1s
CCM *e*S S 02 45 14.2 +3.8
CCM **Cathedral Cave** 61.06 340 *e*P P 02 36 59.2 -0.6
CCM *e*S S 02 45 14.2 +3.8
CCM pmax pmax
comp=Z,82nm,1.1s
R42A **Luebbering** 61.13 341 P P 02 36 59.1 -1.0
baz=157,SNR=36
N54A **Moraine State** 61.16 351 P P 02 37 00.7 +0.3
baz=168,SNR=12
N54A **Moraine State** 61.16 351 *e*P P 02 37 00.8 +0.5
comp=Z,80nm,0.9s
Q44A **Meyer Farm, Va** 61.17 342 P P 02 36 59.5 -1.0
baz=159,SNR=17
T38A **Diamond** 61.19 337 P P 02 37 00.2 -0.4
baz=153,SNR=48
SLM **Saint Louis** 61.28 341 *e*P P 02 37 00.8 -0.3
comp=Z,87nm,1.3s
SLM **Saint Louis** 61.28 341 *e*P P 02 37 00.9 -0.3
SLM pmax pmax
comp=Z,87nm,1.3s
BRYW **Bryant College** 61.32 358 *e*P P 02 37 01.7 +0.3
BRYW *e*pP pP 02 37 28.9 +1.3
R41A **Rosebud** 61.33 340 P P 02 37 00.9 -0.6
baz=156,SNR=41
P46A **Rosedale** 61.35 344 P P 02 37 00.8 -0.9
baz=161,SNR=10
Q43A **New Douglas** 61.40 342 P P 02 37 01.1 -0.9
baz=158,SNR=13
P45A **Graceland, Par** 61.40 344 P P 02 37 00.9 -1.1
baz=160,SNR=24
S39A **Bolivar** 61.43 338 P P 02 37 01.8 -0.5
baz=154,SNR=61
S38A **Stockton** 61.58 338 P P 02 37 02.6 -0.6
baz=154,SNR=31
P44A **Sand Creek, Wi** 61.59 343 P P 02 37 02.4 -0.9
baz=159,SNR=10.0
R40A **Maddies Statio** 61.61 339 P P 02 37 02.8 -0.6
baz=155,SNR=28
GDL2 **Guadalupe Moun** 61.62 326 *e*P P 02 37 04.1 +0.3
Q42A **Golden Eagle** 61.63 341 P P 02 37 02.9 -0.6
baz=157,SNR=22
M54A **Oil Creek Stat** 61.65 351 P P 02 37 03.6 0.0
baz=169,SNR=6.6
M54A **Oil Creek Stat** 61.65 351 *e*P P 02 37 03.9 +0.2
M54A *e*pP pP 02 37 31.1 +1.3
O47A **Sheridan** 61.68 345 P P 02 37 02.9 -0.9
baz=162,SNR=20
MNTX **Cornudas Mount** 61.77 325 P P 02 37 03.9 -0.8
baz=141,SNR=36
MNTX **Cornudas Mount** 61.77 325 *e*P P 02 37 04.2 -0.6
comp=Z,27nm,0.9s
ALLY **Alegheny Colle** 61.86 351 *e*P P 02 37 05.2 +0.2
comp=Z,156nm,0.7s
ALLY *e*pP pP 02 37 32.5 +1.2
VNA3 **Neumayer Olymp** 61.87 162 P P 02 37 05.8 +0.9
Q41A **Truxton** 61.88 341 P P 02 37 04.7 -0.5
baz=156,SNR=46
BINY **Binghamton** 61.88 354 P P 02 37 05.3 0.0
baz=173
BINY **Binghamton** 61.88 354 *e*P P 02 37 04.2 -1.0
BINY *e*pP pP 02 37 32.9 +1.5
R39A **Chumby, Stover** 61.89 339 P P 02 37 04.9 -0.4
baz=155,SNR=31
HRV **Adam Dziewonsk** 61.91 358 P P 02 37 05.6 +0.3
baz=178
HRV **Adam Dziewonsk** 61.91 358 *e*P P 02 37 04.8 -0.5
HRV *e*pP pP 02 37 32.9 +1.4
HRV **Adam Dziewonsk** 61.91 358 *e*P P 02 37 04.8 -0.5
HRV *e*PP pP 02 37 32.9 +1.4
BBTS **Babate** 61.99 61 P P 02 37 06.2 -0.3
comp=Z,54nm,0.8s,baz=253,slow=2.3,SNR=12
BBTS LR LR 03 01 57.7
comp=Z,172nm,21.4s,baz=234,slow=34
P43A **Skaggs, Pawnee** 62.00 342 P P 02 37 05.2 -0.8
baz=158,SNR=28
SFIN **Lafayette** 62.04 345 P P 02 37 04.9 -1.4
baz=161,SNR=17
SFIN **Lafayette** 62.04 345 *e*P P 02 37 04.8 -1.4
comp=Z,67nm,0.6s
SFIN *e*pP pP 02 37 31.4 -1.1
SFIN *es*P sP 02 37 43.6 -0.5
VNA1 **Neumayer--Stat** 62.07 161 P P 02 37 06.7 +0.6
O45A **Potomac** 62.08 344 P P 02 37 05.3 -1.2
baz=160,SNR=27
R38A **Fenwick Farm,** 62.08 338 P P 02 37 06.0 -0.6
baz=154,SNR=59
O44A **Mansfield** 62.18 343 P P 02 37 06.1 -1.1
baz=160,SNR=11
Q40A **Laux Farm, Aux** 62.19 340 P P 02 37 06.6 -0.7
baz=156,SNR=10
P42A **Winchester** 62.19 342 P P 02 37 06.4 -0.9
baz=158,SNR=23
MSTX **Muleshoe** 62.23 329 P P 02 37 07.6 -0.2
baz=144,SNR=47
MSTX **Muleshoe** 62.23 329 *e*P P 02 37 07.4 -0.4
comp=Z,89nm,1.0s
MSTX *e*pP pP 02 37 33.6 -0.5
MSTX *es*P PcP 02 37 46.5 -0.3
TRY **Troy** 62.23 356 *e*P P 02 37 07.8 +0.3
comp=Z,39nm,0.9s
ERPA **Erie** 62.29 351 P P 02 37 08.1 +0.2
baz=169,SNR=6.8
ERPA **Erie** 62.29 351 *e*P P 02 37 08.4 +0.5
comp=Z,166nm,0.8s
ERPA *e*pP pP 02 37 33.9 -0.2
PLIO **Pelee Island,** 62.38 349 P P 02 37 08.0 -0.4
baz=166
N46A **Monticello** 62.44 345 P P 02 37 07.9 -1.0
baz=162,SNR=10
VNA2 **Neumayer--Watz** 62.44 161 P P 02 37 09.4 +0.8
baz=290,slow=6.3
AMTX **Amarillo** 62.44 330 P P 02 37 08.7 -0.5
baz=145
AMTX **Amarillo** 62.44 330 *e*P P 02 37 08.8 -0.5
comp=Z,28nm,0.9s
P41A **Barry, Barry** 62.49 341 P P 02 37 08.4 -0.8
baz=157,SNR=35
Q39A **Willow Grove F** 62.53 339 P P 02 37 09.2 -0.4
baz=155,SNR=36
O43A **Sugar Creek Fa** 62.54 343 P P 02 37 08.6 -1.0
baz=159,SNR=9.7
N45A **Kentland** 62.59 344 P P 02 37 08.8 -1.1
baz=161,SNR=9.4
MMNY **Mt. Morris Dam** 62.62 353 *e*P P 02 37 11.0 +0.9
comp=Z,92nm,1.5s
P40A **Paris** 62.66 340 P P 02 37 09.8 -0.6
baz=156,SNR=30
Q38A **Cooks Store, C** 62.67 339 P P 02 37 10.5 0.0
baz=154,SNR=66
O42A **Bath** 62.67 342 P P 02 37 09.7 -0.8
baz=158,SNR=13
N44A **Piper City** 62.70 344 P P 02 37 09.5 -1.1
baz=160,SNR=13
R36A **Gordon, Harris** 62.77 337 P P 02 37 10.7 -0.5
baz=152,SNR=34
HDIL **Hopedale** 62.78 343 P P 02 37 10.2 -1.0
baz=159,SNR=15
HDIL **Hopedale** 62.78 343 *e*P P 02 37 10.0 -1.2
comp=Z,86nm,0.8s
M46A **Old House Fiel** 62.83 346 P P 02 37 10.8 -0.8
baz=162
O41A **Passleys Farm,** 62.84 341 P P 02 37 10.6 -1.0
baz=157,SNR=23
P39B **Salisbury** 62.85 340 P P 02 37 11.2 -0.6
baz=155,SNR=31
Q37A **Longview Farm,** 62.88 338 P P 02 37 11.5 -0.4
baz=153,SNR=21
HSIG 63.02 319 *e*P P 02 37 13.8 +0.7
M45A **Boilermakers S** 63.03 345 P P 02 37 11.5 -1.3
baz=161
R35A **Emporia Munici** 63.03 336 P P 02 37 13.1 +0.1
baz=152,SNR=12
AAM **Ann Arbor** 63.10 348 P P 02 37 12.6 -0.7
baz=165
AAM **Ann Arbor** 63.10 348 *e*P P 02 37 12.2 -1.1
comp=Z,37nm,1.0s
AAM **Ann Arbor** 63.10 348 *e*P P 02 37 12.2 -1.1
AAM pmax pmax
comp=Z,37nm,1.0s
N43A **Stutzman Famil** 63.11 343 P P 02 37 12.5 -0.9
baz=159,SNR=42
O40A **La Belle** 63.15 341 P P 02 37 13.0 -0.6
baz=156,SNR=16
TYNO **Tyneside** 63.23 351 P P 02 37 13.5 -0.6
baz=169
P38A **Dawn** 63.24 339 P P 02 37 13.8 -0.4
baz=154,SNR=23
STCO **Saint Catharin** 63.25 352 P P 02 37 14.3 +0.1
baz=170
N42A **Yates City** 63.25 342 P P 02 37 13.4 -0.8
baz=158,SNR=24
N41A **Harden Midland** 63.37 342 P P 02 37 14.4 -0.7
baz=157,SNR=7.8
R34A **Isabella, Hill** 63.42 336 P P 02 37 15.4 -0.1
baz=150,SNR=21
Q35A **Mercer Eighty,** 63.44 337 P P 02 37 15.0 -0.7
baz=152,SNR=31
O39A **Kirksville** 63.48 340 P P 02 37 15.4 -0.5
baz=156,SNR=13
P37A **Lathrop** 63.48 338 P P 02 37 15.2 -0.7
baz=154,SNR=48
M43A **Waltham Townsh** 63.51 343 P P 02 37 15.1 -0.9
baz=159,SNR=17
ELFO **Elginfield** 63.55 350 P P 02 37 14.4 -1.8
baz=167
LBNH **Lisbon** 63.65 358 P P 02 37 17.2 +0.3
baz=177
O38A **Galt** 63.66 339 P P 02 37 16.6 -0.4
baz=155,SNR=12
319A **Douglas** 63.71 322 *e*P P 02 37 19.1 +1.3
comp=Z,71nm,0.9s
121A **Cookes Peak, D** 63.73 324 P P 02 37 19.1 +1.2
baz=139,SNR=21
121A **Cookes Peak, D** 63.73 324 *e*P P 02 37 18.9 +1.1
comp=Z,30nm,0.9s
M42A **Sheffield** 63.75 343 P P 02 37 16.8 -0.8
baz=158
N40A **Mertquake, Sal** 63.76 341 P P 02 37 16.9 -0.7
baz=157,SNR=15
P36A **Good Intent, A** 63.81 338 P P 02 37 17.5 -0.5
baz=153,SNR=19
Q34A **Chapman** 63.84 336 P P 02 37 17.9 -0.3
baz=151,SNR=18
DRWO **Darlington Wes** 63.84 352 P P 02 37 17.7 -0.4
baz=170
WLVO **Wesleyville** 63.85 353 P P 02 37 18.1 0.0
baz=170
KSU1 **Kansas State U** 63.87 336 P P 02 37 17.9 -0.6
baz=151,SNR=18
KSU1 **Kansas State U** 63.87 336 *e*P P 02 37 17.7 -0.7
comp=Z,65nm,0.9s
M41A **Milan** 63.90 342 P P 02 37 17.7 -0.8
baz=158,SNR=12
O37A **Wolven Farm, M** 63.93 339 P P 02 37 18.5 -0.3
baz=154,SNR=11
L44A **Lake County Fo** 63.94 345 P P 02 37 18.1 -0.7
baz=160
PKRO **Pickering** 63.98 352 P P 02 37 19.1 +0.1
baz=170,SNR=5.3
P35A **Duane Minner,** 64.03 337 P P 02 37 18.8 -0.6
baz=152,SNR=13
N39A **Derby Farms, D** 64.03 340 P P 02 37 18.8 -0.7
baz=156,SNR=20
SNAA **Sanae** 64.07 161 P P 02 37 20.1 +0.6
SNAA **Sanae** 64.07 161 P P 02 37 20.0 +0.6
comp=Z,19nm,0.8s,baz=285,slow=5.8,SNR=22
SNAA **Sanae** 64.07 161 *e*P P 02 37 20.3 +0.8
comp=Z,26nm,0.9s

SNAA				*e*P	**pP**	02 37 47.2	+1.4	
SNAA	**Sanae**	**64.07**	**161**	*e*P	**P**	02 37 20.3	+0.8	
SNAA				*e**PP	**pP**	02 37 47.2	+1.4	
SNAA				pmax	pmax			
	comp=Z,26nm,0.9s							
L43A	**Garden Prairie**	**64.16**	**344**	P	**P**	02 37 19.4	-0.8	
	baz=160,SNR=19							
LONY	**Lake Ozonia**	**64.17**	**356**	P	**P**	02 37 20.5	+0.2	
	baz=174							
LONY	**Lake Ozonia**	**64.17**	**356**	*e*P	**P**	02 37 20.9	+0.6	
LONY				*e*pP	**pP**	02 37 46.8	+0.1	
O36A	**Bolckow**	**64.18**	**338**	P	**P**	02 37 19.8	-0.7	
	baz=153,SNR=15							
N38A	**Joes South For**	**64.19**	**340**	P	**P**	02 37 19.8	-0.7	
	baz=155,SNR=12							
M40A	**Post Highland**	**64.21**	**341**	P	**P**	02 37 20.0	-0.6	
	baz=157,SNR=19							
L42A	**Oliver, Polo**	**64.23**	**343**	P	**P**	02 37 20.1	-0.6	
	baz=159							
BNM	**Barren Site**	**64.33**	**326**	*e*P	**P**	02 37 22.8	+0.9	
P34A	**Walnut Farm, R**	**64.34**	**337**	P	**P**	02 37 21.7	+0.1	
	baz=151,SNR=36							
DELO	**Deloro Mine**	**64.34**	**353**	P	**P**	02 37 20.1	-1.3	
	baz=171							
BASO	**Ashfield**	**64.40**	**350**	P	**P**	02 37 21.8	0.0	
	baz=167							
BWLO	**Walkerton**	**64.42**	**350**	P	**P**	02 37 21.7	-0.2	
	baz=168							
LPM	**Los Pinos Moun**	**64.46**	**326**	*e*P	**P**	02 37 23.5	+0.9	
LPM				*e*pP	**pP**	02 37 49.5	+0.6	
LPM				*es*P	**sP**	02 38 02.0	+1.4	
M39A	**Webster**	**64.48**	**341**	P	**P**	02 37 21.7	-0.6	
	baz=156,SNR=15							
N37A	**Lee Faris, Mou**	**64.48**	**339**	P	**P**	02 37 22.2	-0.2	
	baz=154,SNR=20							
L41A	**Preston**	**64.53**	**343**	P	**P**	02 37 21.8	-0.9	
	baz=158,SNR=12							
K43A	**Burlington**	**64.54**	**344**	P	**P**	02 37 21.9	-0.8	
	baz=160,SNR=8.3							
PKME	**Peaks-Kenny Pk**	**64.62**	**360**	P	**P**	02 37 22.7	-0.5	
	baz=180							
O35A	**Humboldt**	**64.64**	**338**	P	**P**	02 37 22.7	-0.7	
	baz=152,SNR=6.6							
L40A	**Anamosa**	**64.73**	**342**	P	**P**	02 37 23.2	-0.7	
	baz=157,SNR=17							
M38A	**Pleasantville**	**64.74**	**340**	P	**P**	02 37 23.6	-0.5	
	baz=155,SNR=27							
SADO	**Sadowa**	**64.78**	**352**	*e*P	**P**	02 37 23.3	-0.9	
	comp=Z,50nm,1.0s							
N36A	**Muff Farm, Cla**	**64.79**	**339**	P	**P**	02 37 24.2	-0.2	
	baz=153,SNR=19							
LAZ	**Ladron**	**64.79**	**326**	*e*P	**P**	02 37 25.9	+1.1	
LAZ				*e*pP	**pP**	02 37 51.8	+0.5	
PLVO	**Plevna**	**64.80**	**354**	P	**P**	02 37 24.6	+0.2	
	baz=172							
PLVO	**Plevna**	**64.80**	**354**	*e*P	**P**	02 37 23.7	-0.7	
PLVO				*e*pP	**pP**	02 37 51.0	+0.3	
O34A	**Beatrice**	**64.85**	**337**	P	**P**	02 37 24.6	-0.2	
	baz=151,SNR=7.9							
ANMO	**Albuquerque**	**64.86**	**327**	P	**P**	02 37 25.4	+0.2	
	baz=141							
ANMO	**Albuquerque**	**64.86**	**327**	*e*P	**P**	02 37 25.8	+0.6	
	comp=Z,14nm,0.9s							
ANMO				*e*pP	**pP**	02 37 51.5	-0.1	
ANMO				*es*P	**sP**	02 38 04.6	+1.4	
ANMO	**Albuquerque**	**64.86**	**327**	*e*P	**P**	02 37 25.8	+0.6	
ANMO				*e**PP	**pP**	02 37 51.5	-0.1	
ANMO				*e**SP	**sP**	02 38 04.6	+1.4	
ANMO				pmax	pmax			
	comp=Z,14nm,0.9s							
CBKS	**Cedar Bluff**	**64.86**	**334**	P	**P**	02 37 25.2	+0.3	
	baz=148,SNR=16							
CBKS	**Cedar Bluff**	**64.86**	**334**	*e*P	**P**	02 37 25.3	+0.3	
	comp=Z,92nm,0.9s							
CBKS				*e*pP	**pP**	02 37 51.0	-0.4	
CBKS				*es*P	**sP**	02 38 03.3	+0.3	
CBKS	**Cedar Bluff**	**64.86**	**334**	*e*P	**P**	02 37 25.3	+0.3	
CBKS				*e**PP	**pP**	02 37 51.0	-0.4	
CBKS				*e**SP	**sP**	02 38 03.3	+0.3	
CBKS				pmax	pmax			
	comp=Z,93nm,0.9s							
K42A	**Prairie Point,**	**64.87**	**344**	P	**P**	02 37 24.3	-0.5	
	baz=159,SNR=22							
BANO	**Bancroft**	**64.88**	**353**	P	**P**	02 37 24.4	-0.4	
	baz=171							
BMRO	**Meriville Lake**	**64.90**	**351**	P	**P**	02 37 24.4	-0.6	
	baz=168							
K41A	**Shullsburg**	**64.97**	**343**	P	**P**	02 37 24.9	-0.6	
	baz=158,SNR=10							
M37A	**Trindle Farm,**	**65.01**	**340**	P	**P**	02 37 25.6	-0.2	
	baz=154,SNR=25							
L39A	**Vinton**	**65.02**	**341**	P	**P**	02 37 25.2	-0.6	
	baz=156,SNR=14							
N35A	**Tabor**	**65.07**	**338**	P	**P**	02 37 25.8	-0.4	
	baz=153,SNR=26							
O33A	**Hebron**	**65.09**	**336**	P	**P**	02 37 26.4	+0.1	
	baz=151,SNR=18							
SCIA	**State Center**	**65.19**	**340**	P	**P**	02 37 26.6	-0.3	
	baz=155,SNR=9.9							
SCIA	**State Center**	**65.19**	**340**	*e*P	**P**	02 37 26.7	-0.3	
	comp=Z,99nm,0.9s							
SCIA				*e*pP	**pP**	02 37 53.6	+0.2	
SCIA				*es*P	**sP**	02 38 05.2	+0.2	
J43A	**Natural Harves**	**65.19**	**345**	P	**P**	02 37 26.4	-0.5	
	baz=160,SNR=17							
ALFO	**Alfred**	**65.20**	**356**	P	**P**	02 37 27.0	+0.1	
	baz=174							
JFWS	**Jewell Farm**	**65.24**	**343**	P	**P**	02 37 26.7	-0.6	
	baz=158,SNR=16							
JFWS	**Jewell Farm**	**65.24**	**343**	*e*P	**P**	02 37 26.8	-0.5	
	comp=Z,45nm,0.8s							
JFWS				*e*pP	**pP**	02 37 53.4	-0.3	
JFWS	**Jewell Farm**	**65.24**	**343**	*e*P	**P**	02 37 26.8	-0.5	
JFWS				*e**PP	**pP**	02 37 53.4	-0.3	
JFWS				pmax	pmax			
	comp=Z,45nm,0.8s							
TUC	**Tucson**	**65.27**	**322**	P	**P**	02 37 28.5	+0.8	
	baz=137							
TUC	**Tucson**	**65.27**	**322**	*e*P	**P**	02 37 28.7	+0.9	
	comp=Z,66nm,1.6s							
TUC				*e*pP	**pP**	02 37 54.7	+0.5	
TUC	**Tucson**	**65.27**	**322**	*e*P	**P**	02 37 28.7	+0.9	
TUC				*e**PP	**pP**	02 37 54.7	+0.5	
TUC				pmax	pmax			
	comp=Z,66nm,1.6s							
K40A	**Colesburg**	**65.29**	**342**	P	**P**	02 37 26.9	-0.7	
	baz=157,SNR=16							
M36A	**Felix, Anita**	**65.30**	**339**	P	**P**	02 37 27.5	-0.3	
	baz=154,SNR=11							
J42A	**Columbus**	**65.31**	**344**	P	**P**	02 37 27.2	-0.5	
	baz=159							
L38A	**Oak Wood Farm,**	**65.32**	**341**	P	**P**	02 37 27.2	-0.6	
	baz=155,SNR=14							
N34A	**Lincoln**	**65.35**	**337**	P	**P**	02 37 27.5	-0.5	
	baz=152,SNR=36							
PEMO	**Pembroke**	**65.45**	**354**	P	**P**	02 37 27.8	-0.8	
	baz=172							
BUKO	**Buck Lake**	**65.47**	**352**	P	**P**	02 37 28.7	0.0	
	baz=170,SNR=5.5							
KLBO	**Killbear Provi**	**65.50**	**351**	P	**P**	02 37 28.8	-0.1	
	baz=169							
K39A	**Oelwein**	**65.51**	**342**	P	**P**	02 37 28.4	-0.7	
	baz=157,SNR=22							
L37A	**Phoenix Point,**	**65.56**	**340**	P	**P**	02 37 28.9	-0.5	
	baz=155,SNR=7.4							
T25A	**Trinidad**	**65.56**	**330**	P	**P**	02 37 30.2	+0.4	
	baz=144,SNR=17							
T25A	**Trinidad**	**65.56**	**330**	*e*P	**P**	02 37 30.4	+0.6	
	comp=Z,83nm,1.6s							
TOBO	**Tobermory, Bru**	**65.56**	**350**	P	**P**	02 37 28.1	-1.1	
	baz=167							
J41A	**Loganville**	**65.59**	**343**	P	**P**	02 37 29.1	-0.5	
	baz=159,SNR=14							
I43A	**Langenfeld Bro**	**65.60**	**345**	P	**P**	02 37 29.1	-0.5	
	baz=160,SNR=9.1							
N33A	**J Bar K, Exete**	**65.61**	**337**	P	**P**	02 37 29.7	0.0	
	baz=151,SNR=6.2							
M35A	**Neola**	**65.62**	**338**	P	**P**	02 37 29.5	-0.3	
	baz=153,SNR=7.2							
MHTCO	**State Highway**	**65.69**	**329**	*e*P	**P**	02 37 31.6	+1.0	
	comp=Z,87nm,1.5s							
GLMI	**Grayling**	**65.72**	**348**	P	**P**	02 37 30.1	-0.2	
	baz=164,SNR=5.2							
GLMI	**Grayling**	**65.72**	**348**	*e*P	**P**	02 37 29.9	-0.4	
	comp=Z,115nm,1.0s							
GLMI				*e*pP	**pP**	02 37 57.2	+0.4	
K38A	**Parkersburg**	**65.73**	**341**	P	**P**	02 37 29.8	-0.6	
	baz=156,SNR=8.0							
TRQ	**Mont Tremblant**	**65.77**	**356**	*e*P	**P**	02 37 30.8	+0.1	
TRQ				*e*pP	**pP**	02 37 58.2	+1.1	
I42A	**Draeger Farm,**	**65.80**	**344**	P	**P**	02 37 30.4	-0.4	
	baz=160,SNR=11							
J40A	**Soldiers Grove**	**65.82**	**343**	P	**P**	02 37 30.4	-0.6	
	baz=158,SNR=18							
L36A	**Harm Buss Farm**	**65.84**	**339**	P	**P**	02 37 31.1	0.0	
	baz=154,SNR=21							
M34A	**Aspy Farms, Fr**	**65.97**	**338**	P	**P**	02 37 31.6	-0.4	
	baz=152,SNR=17							
J39A	**Decorah**	**66.04**	**342**	P	**P**	02 37 31.7	-0.7	
	baz=157,SNR=27							
H43A	**Windswept, Lux**	**66.06**	**346**	P	**P**	02 37 31.9	-0.6	
	baz=161,SNR=8.6							
K37A	**Belmond**	**66.10**	**340**	P	**P**	02 37 32.3	-0.5	
	baz=155,SNR=7.0							
L35A	**Bielow Farm, R**	**66.14**	**339**	P	**P**	02 37 32.9	-0.2	
	baz=153,SNR=14							
I41A	**Arkdale**	**66.20**	**344**	P	**P**	02 37 32.9	-0.5	
	baz=159,SNR=8.4							
214A	**Organ Pipe Nat**	**66.22**	**320**	P	**P**	02 37 35.3	+1.4	
	baz=135,SNR=26							
214A	**Organ Pipe Nat**	**66.22**	**320**	*e*P	**P**	02 37 35.4	+1.6	
	comp=Z,290nm,1.0s							
I40A	**Norwalk**	**66.25**	**343**	P	**P**	02 37 33.0	-0.7	
	baz=158,SNR=6.7							
K36A	**Gilmore City**	**66.25**	**340**	P	**P**	02 37 33.5	-0.2	
	baz=154,SNR=14							
M33A	**Taylor Creek F**	**66.25**	**337**	P	**P**	02 37 33.6	-0.2	
	baz=151,SNR=15							
J38A	**Wedel Dairy, R**	**66.25**	**342**	P	**P**	02 37 33.1	-0.6	
	baz=156,SNR=7.6							
KSCO	**Kaye Shedlock'**	**66.26**	**332**	P	**P**	02 37 34.8	+0.7	
	baz=146,SNR=11							
KSCO	**Kaye Shedlock'**	**66.26**	**332**	*e*P	**P**	02 37 34.8	+0.7	
	comp=Z,76nm,0.9s							
KSCO				*e*pP	**pP**	02 38 01.4	+0.9	
KSCO				*es*P	**sP**	02 38 13.7	+1.5	
H42A	**Shiocton**	**66.28**	**345**	P	**P**	02 37 33.6	-0.3	
	baz=160,SNR=12							
L34A	**Svendsen Farm,**	**66.30**	**338**	P	**P**	02 37 33.9	-0.2	
	baz=152,SNR=8.9							
X18A	**Snowflake**	**66.42**	**324**	*e*P	**P**	02 37 36.5	+1.3	
	comp=Z,37nm,1.3s							
X18A				*e*pP	**PcP**	02 38 03.1	-1.0	
BGNE	**Belgrade**	**66.46**	**337**	P	**P**	02 37 35.1	0.0	
	baz=150,SNR=36							
BGNE	**Belgrade**	**66.46**	**337**	*e*P	**P**	02 37 35.2	+0.1	
	comp=Z,320nm,0.8s							
I39A	**Houston**	**66.46**	**343**	P	**P**	02 37 34.6	-0.5	
	baz=157,SNR=20							
J37A	**Redenius Farm,**	**66.57**	**341**	P	**P**	02 37 35.2	-0.5	
	baz=155,SNR=9.3							
SDCO	**Great Sand Dun**	**66.57**	**329**	P	**P**	02 37 36.9	+0.6	
	baz=143,SNR=43							
SDCO	**Great Sand Dun**	**66.57**	**329**	*e*P	**P**	02 37 37.1	+0.8	
	comp=Z,77nm,1.3s							
SDCO				*e*pP	**pP**	02 38 02.5	-0.3	
SDCO				*es*P	**sP**	02 38 16.2	+1.8	
K35A	**Storm Lake**	**66.58**	**339**	P	**P**	02 37 36.1	+0.2	
	baz=153							
F46A	**Macinaw City C**	**66.66**	**348**	P	**P**	02 37 35.6	-0.7	
	baz=164,SNR=6.2							
H41A	**Junction City**	**66.66**	**344**	P	**P**	02 37 35.8	-0.5	
	baz=159,SNR=8.5							
F45A	**CMU Biological**	**66.72**	**348**	P	**P**	02 37 36.2	-0.4	
	baz=163							
W18A	**Petrified Fore**	**66.73**	**325**	P	**P**	02 37 38.4	+1.1	
	baz=138							
W18A	**Petrified Fore**	**66.73**	**325**	*e*P	**P**	02 37 38.0	+0.8	
	comp=Z,45nm,1.0s							
G43A	**Wallace**	**66.79**	**346**	P	**P**	02 37 36.3	-0.8	
	baz=161							
L33A	**Hoskins**	**66.79**	**338**	P	**P**	02 37 37.1	-0.2	
	baz=151,SNR=5.6							
J36A	**Seneca 1, Swea**	**66.83**	**340**	P	**P**	02 37 37.2	-0.3	
	baz=154,SNR=8.5							
K34A	**Le Mars**	**66.84**	**339**	P	**P**	02 37 37.3	-0.3	
	baz=152,SNR=7.2							
H40A	**Chili**	**66.86**	**344**	P	**P**	02 37 37.0	-0.6	
	baz=158,SNR=23							
I38A	**Scanlan Farm,**	**66.86**	**342**	P	**P**	02 37 37.1	-0.5	
	baz=156,SNR=28							
G42A	**Mountain**	**66.95**	**345**	P	**P**	02 37 37.5	-0.6	
	baz=160,SNR=8.2							
K33A	**Hardington**	**67.08**	**338**	P	**P**	02 37 39.0	-0.1	
	baz=152,SNR=9.1							
G41A	**Antigo**	**67.10**	**345**	P	**P**	02 37 38.6	-0.5	
	baz=160,SNR=10.0							
J35A	**Milford**	**67.14**	**340**	P	**P**	02 37 39.0	-0.5	
	baz=154							
H39A	**Augusta**	**67.16**	**343**	P	**P**	02 37 39.0	-0.5	
	baz=158,SNR=8.3							
I37A	**Lemond, Waseca**	**67.16**	**341**	P	**P**	02 37 39.3	-0.2	
	baz=155,SNR=11							
X16A	**Lo Mia Camp, P**	**67.17**	**323**	*e*P	**P**	02 37 41.5	+1.5	
	comp=Z,25nm,1.0s							
F44A	**Big Bay de Noc**	**67.19**	**347**	P	**P**	02 37 38.7	-1.0	
	baz=162							
F43A	**Flat Rock, Esc**	**67.22**	**346**	P	**P**	02 37 39.0	-0.8	
	baz=162,SNR=5.8							
S22A	**4UR Ranch, Cre**	**67.22**	**328**	P	**P**	02 37 40.9	+0.5	
	baz=142,SNR=20							
S22A	**4UR Ranch, Cre**	**67.22**	**328**	*e*P	**P**	02 37 41.0	+0.5	
	comp=Z,14nm,0.9s							
J34A	**George**	**67.32**	**339**	P	**P**	02 37 40.5	0.0	
	baz=153							
I36A	**Fitzsimmons Fa**	**67.35**	**341**	P	**P**	02 37 40.3	-0.4	
	baz=155,SNR=6.7							
Q24A	**Divide**	**67.37**	**330**	P	**P**	02 37 42.0	+0.7	
	baz=143,SNR=36							
Q24A	**Divide**	**67.37**	**330**	*e*P	**P**	02 37 42.0	+0.7	
	comp=Z,52nm,0.9s							
G40A	**Rib Lake**	**67.41**	**344**	P	**P**	02 37 40.7	-0.4	
	baz=159,SNR=5.2							
H38A	**Maiden Rock**	**67.43**	**342**	P	**P**	02 37 40.8	-0.4	
	baz=157,SNR=15							
K32A	**Verdigre**	**67.48**	**337**	P	**P**	02 37 41.7	+0.2	
	baz=151,SNR=5.6							
I35A	**Creekview Farm**	**67.51**	**340**	P	**P**	02 37 42.0	+0.3	
	baz=154							
H37A	**Dierke Farm, C**	**67.53**	**342**	P	**P**	02 37 41.5	-0.3	
	baz=156,SNR=8.2							
F41A	**Three Lakes**	**67.58**	**345**	P	**P**	02 37 41.8	-0.3	
	baz=160,SNR=16							
OGNE	**Ogallala**	**67.61**	**334**	P	**P**	02 37 43.1	+0.6	
	baz=147,SNR=9.1							
OGNE	**Ogallala**	**67.61**	**334**	*e*P	**P**	02 37 43.1	+0.6	
	comp=Z,55nm,0.8s							
OGNE				*e*pP	**pP**	02 38 10.8	+1.7	
MVCO	**Mesa Verde**	**67.65**	**327**	P	**P**	02 37 43.7	+0.7	
	baz=140,SNR=25							
MVCO	**Mesa Verde**	**67.65**	**327**	*e*P	**P**	02 37 44.0	+0.9	
	comp=Z,26nm,0.8s							
MVCO				*e*pP	**pP**	02 38 10.2	+0.5	
G39A	**Holcombe**	**67.69**	**343**	P	**P**	02 37 42.3	-0.5	
	baz=158,SNR=18							
E43A	**Lone Tree Farm**	**67.69**	**347**	P	**P**	02 37 42.3	-0.5	
	baz=162							
J33A	**Davis**	**67.70**	**338**	P	**P**	02 37 42.7	-0.2	
	baz=152,SNR=14							
Y14A	**Wickenburg**	**67.73**	**322**	*e*P	**P**	02 37 44.7	+1.3	
	comp=Z,96nm,0.8s							
K31A	**O'Neill**	**67.73**	**337**	P	**P**	02 37 43.4	+0.2	
	baz=150,SNR=16							
G38A	**Ridgeland**	**67.77**	**343**	P	**P**	02 37 42.7	-0.6	
	baz=157,SNR=12							
H36A	**Jessenland, He**	**67.83**	**341**	P	**P**	02 37 43.4	-0.3	
	baz=155,SNR=25							
COWI	**Conover**	**67.92**	**345**	*e*P	**P**	02 37 43.3	-1.0	
	comp=Z,52nm,1.5s							
WUAZ	**Wupatki**	**67.93**	**324**	P	**P**	02 37 46.3	+1.5	
	baz=137,SNR=33							
WUAZ	**Wupatki**	**67.93**	**324**	*e*P	**P**	02 37 46.3	+1.5	
	comp=Z,54nm,0.9s							
ECSD	**EROS Data Cent**	**67.94**	**339**	P	**P**	02 37 44.1	-0.4	
	baz=152,SNR=22							
ECSD	**EROS Data Cent**	**67.94**	**339**	*e*P	**P**	02 37 44.1	-0.4	
	comp=Z,68nm,1.4s							
E42A	**Champion**	**67.95**	**346**	P	**P**	02 37 44.3	-0.1	
	baz=161							
F40A	**Park Falls**	**68.00**	**344**	P	**P**	02 37 44.8	0.0	
	baz=159,SNR=30							
J32A	**Parkston**	**68.05**	**338**	P	**P**	02 37 44.9	-0.3	
	baz=151,SNR=22							
SPMN	**Marine on St.**	**68.08**	**342**	P	**P**	02 37 44.3	-1.0	
	baz=156,SNR=11							
SPMN	**Marine on St.**	**68.08**	**342**	*e*P	**P**	02 37 44.7	-0.6	
	comp=Z,58nm,1.1s							
SPMN				*e*pP	**PcP**	02 38 11.0	+0.4	
SPMN				*es*P	**sP**	02 38 23.8	+0.4	
LIC	**Lamto**	**68.11**	**75**	*e*P	**P**	02 37 43.9	-2.2	
	comp=Z,101nm,1.4s							
F39A	**Loretta**	**68.20**	**344**	P	**P**	02 37 45.7	-0.3	
	baz=158,SNR=11							
GLA	**Glamis**	**68.20**	**320**	P	**P**	02 37 47.7	+1.3	
	baz=134,SNR=6.9							
GLA	**Glamis**	**68.20**	**320**	*e*P	**P**	02 37 47.8	+1.4	
	comp=Z,103nm,1.9s							
GLA	**Glamis**	**68.20**	**320**	*e*P	**P**	02 37 47.8	+1.4	
GLA				pmax	pmax			
	comp=Z,103nm,1.9s							
H35A	**Sunnyside Ranc**	**68.22**	**341**	P	**P**	02 37 45.9	-0.3	
	baz=154,SNR=14							
E41A	**Kenton**	**68.22**	**345**	P	**P**	02 37 45.4	-0.8	
	baz=160							
ISCO	**Idaho Springs**	**68.25**	**330**	P	**P**	02 37 47.8	+0.8	
	baz=143,SNR=37							
ISCO	**Idaho Springs**	**68.25**	**330**	*e*P	**P**	02 37 47.7	+0.8	
	comp=Z,30nm,0.9s							
ISCO	**Idaho Springs**	**68.25**	**330**	*e*P	**P**	02 37 47.7	+0.8	
ISCO				pmax	pmax			
	comp=Z,30nm,0.9s							
I33A	**Coleman**	**68.28**	**339**	P	**P**	02 37 46.2	-0.4	
	baz=152							
TIC	**Toumodi**	**68.29**	**74**	*e*P	**P**	02 37 45.3	-2.0	
J31A	**Geddes**	**68.31**	**337**	P	**P**	02 37 46.4	-0.3	
	baz=150,SNR=13							
G36A	**St. Michael**	**68.37**	**342**	P	**P**	02 37 46.3	-0.7	
	baz=155							
PV01	**Paradox Valley**	**68.39**	**327**	*e*P	**P**	02 37 48.9	+1.2	
SMCO	**Snowmass**	**68.41**	**329**	*e*P	**P**	02 37 49.0	+1.1	
	comp=Z,25nm,0.8s							
KIC	**Kosan Boka**	**68.42**	**75**	*e*P	**P**	02 37 46.2	-1.9	
	comp=Z,154nm,1.0s							
E40A	**Wakefield**	**68.43**	**345**	P	**P**	02 37 47.5	0.0	
	baz=159,SNR=19							
DBIC	**Dimbokro**	**68.44**	**74**	P	**P**	02 37 47.2	-1.0	
	comp=Z,46nm,0.8s,baz=221,slow=6.4,SNR=61							
DBIC				LR	LR	03 06 53.8		
	comp=Z,111nm,19.3s,baz=244,slow=35							
F37A	**Hinrichs Farm,**	**68.49**	**343**	P	**P**	02 37 47.6	-0.2	
	baz=156,SNR=5.5							
I32A	**Karley and Nic**	**68.49**	**338**	P	**P**	02 37 47.8	0.0	
	baz=152,SNR=6.5							
H34A	**Spellman Lake,**	**68.49**	**340**	P	**P**	02 37 47.7	-0.1	
	baz=153,SNR=10.0							
F38A	**Pierce - Schro**	**68.50**	**343**	P	**P**	02 37 47.5	-0.3	
	baz=157,SNR=11							
Y12C	**Blythe**	**68.50**	**320**	P	**P**	02 37 49.7	+1.6	
	baz=134,SNR=20							
Y12C	**Blythe**	**68.50**	**320**	*e*P	**P**	02 37 49.8	+1.6	
	comp=Z,31nm,0.8s							
Y12C				*e*pP	**pP**	02 38 16.7	+1.9	
E39A	**Mellen**	**68.54**	**344**	P	**P**	02 37 47.8	-0.3	
	baz=158,SNR=12							
G35A	**Watkins**	**68.58**	**341**	P	**P**	02 37 48.3	-0.1	
	baz=154,SNR=10							
NVL	**N'lazarevskaya**	**68.61**	**159**	*e*P	**P**	02 37 51.4	+3.1	
NVL				pmax	pmax			
	comp=Z,35nm,1.4s							
PV05	**Paradox Valley**	**68.62**	**327**	*e*P	**P**	02 37 50.1	+1.0	
PDMCI	**Parker Dam,Lak**	**68.66**	**321**	P	**P**	02 37 50.5	+1.4	
	baz=135,SNR=8.2							
D41A	**Chassel**	**68.69**	**346**	P	**P**	02 37 48.4	-0.6	
	baz=160							
IKP	**In-Ko-Pah, Jac**	**68.72**	**319**	P	**P**	02 37 50.5	+0.8	
	baz=133,SNR=18							
SWSC	**Sam W. Stewart**	**68.73**	**319**	P	**P**	02 37 50.9	+1.3	
	baz=133,SNR=6.0							
PV10	**Paradox Valley**	**68.81**	**327**	*e*P	**P**	02 37 51.0	+0.6	
H33A	**Prehn Over Nor**	**68.82**	**339**	P	**P**	02 37 49.7	-0.2	
	baz=152,SNR=18							
I31A	**Royce, Wessing**	**68.87**	**338**	P	**P**	02 37 50.4	+0.2	
	baz=150,SNR=9.7							
F36A	**Milaca**	**68.87**	**342**	P	**P**	02 37 49.9	-0.3	
	baz=156,SNR=17							
H32A	**Carlson Farm,**	**68.90**	**339**	P	**P**	02 37 50.1	-0.4	
	baz=152,SNR=17							
PV09	**Paradox Valley**	**68.95**	**327**	*e*P	**P**	02 37 52.3	+1.0	
G34A	**Benson**	**68.96**	**340**	P	**P**	02 37 50.4	-0.4	
	baz=153							
BC3	**Big Chuckawall**	**69.00**	**320**	P	**P**	02 37 52.8	+1.5	
	baz=133,SNR=36							
E38A	**The Farm, Brul**	**69.01**	**344**	P	**P**	02 37 50.5	-0.5	
	baz=158,SNR=5.8							
W13A	**Hualapai Mount**	**69.06**	**322**	*e*P	**P**	02 37 53.6	+1.7	
MONP2	**Monument Peak**	**69.08**	**319**	P	**P**	02 37 53.8	+1.8	
	baz=132,SNR=18							
BAR	**Barrett**	**69.09**	**318**	*e*P	**P**	02 37 53.5	+1.6	
	comp=Z,54nm,1.0s							
U15A	**North Rim**	**69.10**	**324**	*e*P	**P**	02 37 54.0	+1.9	
	comp=Z,50nm,1.0s							
IRM	**

SRU **San Rafael Swe** 70.13 327 *e*P P 02 37 59.3 +1.0
comp=Z,44nm,0.8s
SRU **San Rafael Swe** 70.13 327 *e*P P 02 37 59.3 +1.0
SRU pmax pmax
comp=Z,44nm,0.8s
D35A **Remer** 70.13 342 P P 02 37 58.0 +0.1
baz=155
E33A **Westby DABS, E** 70.20 341 P P 02 37 58.0 -0.4
baz=153
C37A **Embarrass** 70.21 344 P P 02 37 58.2 -0.1
baz=157,SNR=9.5
MTPU **Mount Pierson** 70.22 325 *e*P P 02 38 00.4 +1.3
comp=Z,107nm,1.9s
EYMN **Ely** 70.23 344 P P 02 37 58.0 -0.5
baz=158,SNR=6.5
EYMN **Ely** 70.23 344 *e*P P 02 37 57.3 -1.2
comp=Z,24nm,0.8s
BBRC **Big Bear Solar** 70.31 319 P P 02 38 00.4 +0.8
baz=132
Q16A **Castle Valley** 70.32 326 *e*P P 02 38 00.8 +1.3
comp=Z,28nm,0.8s
HEC **Hector,Ludlow** 70.33 320 P P 02 38 00.9 +1.3
baz=133,SNR=38
F31A **Hecla** 70.37 339 P P 02 37 59.5 +0.1
baz=151,SNR=26
P18A **Preston Nutter** 70.38 327 *e*P P 02 38 01.2 +1.3
comp=Z,43nm,0.8s
SZCU **Shurtz Canyon** 70.39 324 *e*P P 02 38 01.6 +1.7
comp=Z,79nm,1.7s
C36A **Pine Crest Far** 70.41 343 P P 02 37 59.6 0.0
baz=156,SNR=14
D34A **Park Rapids** 70.47 341 P P 02 37 59.7 -0.3
baz=154
SCI2 **San Clemente I** 70.48 317 P P 02 38 01.7 +1.3
baz=131
RWWY **Rawlins** 70.49 331 *e*P P 02 38 01.5 +1.0
comp=Z,31nm,0.9s
TUQ **Turquoise Moun** 70.50 321 P P 02 38 02.0 +1.4
baz=134,SNR=15
CCUT **Cedar City** 70.50 324 *e*P P 02 38 02.9 +2.1
comp=Z,70nm,1.0s
P17A **Butcher Ranch,** 70.51 327 *e*P P 02 38 01.7 +1.1
comp=Z,56nm,0.9s
MSU **Marysvale** 70.56 325 *e*P P 02 38 02.6 +1.6
MSU **Marysvale** 70.56 325 *e*P P 02 38 02.6 +1.6
TMUT **Trail Mountain** 70.62 327 *e*P P 02 38 02.8 +1.3
comp=Z,16nm,0.8s
CIS **Catalina Islan** 70.67 318 P P 02 38 02.1 +0.6
baz=131
C35A **Jirik Farms, M** 70.67 343 P P 02 38 00.9 -0.3
baz=155,SNR=11
D33A **AnnSam, Waubun** 70.72 341 P P 02 38 01.3 -0.2
baz=154
BFSC **Mount Baldy Ra** 70.75 319 P P 02 38 03.2 +1.1
baz=132,SNR=21
SHPR **Sheep Range** 70.79 322 *e*P P 02 38 04.1 +1.7
comp=Z,36nm,0.9s
FMP **Fort Macarthur** 70.80 318 P P 02 38 03.9 +1.6
baz=131
E31A **Nome** 70.86 339 P P 02 38 02.4 +0.1
baz=152,SNR=6.6
C34A **RKJ Ranch, Bem** 70.90 342 P P 02 38 02.3 -0.3
baz=154,SNR=7.0
GSC **Goldstone, Bar** 70.93 320 P P 02 38 04.4 +1.3
baz=133,SNR=26
GSC **Goldstone, Bar** 70.93 320 *e*P P 02 38 05.0 +1.8
comp=Z,90nm,1.5s
GSC **Goldstone, Bar** 70.93 320 *e*P P 02 38 05.0 +1.8
GSC pmax pmax
comp=Z,90nm,1.5s
K22A **Casper** 70.94 332 P P 02 38 03.8 +0.7
baz=143,SNR=20
K22A **Casper** 70.94 332 *e*P P 02 38 04.0 +0.9
comp=Z,36nm,0.8s
MWC **Mount Wilson** 70.98 319 *e*P P 02 38 05.2 +1.6
comp=Z,106nm,1.4s
MWC *ep*P **pP** 02 38 31.3 +0.9
MWC **Mount Wilson** 70.98 319 *e*P **P** 02 38 05.2 +1.6
MWC *e**PP **pP** 02 38 31.3 +0.9
MWC pmax pmax
comp=Z,106nm,1.4s
PASC **Pasadena Art C** 71.03 319 *e*P P 02 38 05.1 +1.4
comp=Z,54nm,1.0s
RSSD **Black Hills** 71.06 334 P P 02 38 04.9 +0.9
baz=146
RSSD **Black Hills** 71.06 334 *e*P P 02 38 04.6 +0.7
comp=Z,49nm,0.8s
RSSD **Black Hills** 71.06 334 *e*P P 02 38 04.6 +0.7
RSSD pmax pmax
comp=Z,49nm,0.8s
DECC **Green Verdugo** 71.17 319 P P 02 38 05.6 +1.0
baz=131,SNR=7.0
B35A **Bob, Littlefor** 71.20 343 P P 02 38 04.0 -0.4
baz=156,SNR=20
C33A **Trail** 71.25 341 P P 02 38 04.5 -0.2
baz=154,SNR=8.3
SNCC **San Nicolas Is** 71.28 317 P P 02 38 06.3 +1.1
baz=130
MPU **Maple Canyon** 71.38 327 *e*P P 02 38 07.1 +1.2
comp=Z,40nm,0.9s
EDW2 **Edwards Air Fo** 71.38 319 P P 02 38 06.9 +1.1
baz=132,SNR=25
BLG **Laguna Peak, P** 71.54 318 P P 02 38 07.9 +1.2
baz=131,SNR=5.7
NLU **North Lily Min** 71.56 327 *e*P P 02 38 08.4 +1.4
comp=Z,30nm,1.0s
B34A **Aery, Baudette** 71.58 342 P P 02 38 06.5 -0.2
baz=155,SNR=14
LRMC **Laurel Mtn Rad** 71.58 320 P P 02 38 08.3 +1.2
baz=132,SNR=18
OSI **Osito Audit: C** 71.65 319 P P 02 38 08.4 +0.9
baz=131
OSI **Osito Audit: C** 71.65 319 *e*P P 02 38 09.4 +1.9
comp=Z,54nm,1.1s
B33A **Robert and Kas** 71.66 342 P P 02 38 07.0 -0.1
baz=154,SNR=7.8
JLU **Jordanelle** 71.72 327 *e*P P 02 38 09.3 +1.3
comp=Z,44nm,0.9s
FURC **Furnace Creek,** 71.76 321 P P 02 38 09.4 +1.5
baz=133,SNR=42
AGMN **Agassiz Nation** 71.76 342 P P 02 38 07.6 -0.1
baz=154,SNR=15
AGMN **Agassiz Nation** 71.76 342 *e*P P 02 38 07.3 -0.4
comp=Z,39nm,0.8s
AGMN *ep*P **pP** 02 38 34.9 +0.3
AGMN *es*P **sP** 02 38 46.1 0.0
SCZ2 **Santa Cruz Isl** 71.83 318 P P 02 38 09.2 +0.7
baz=130
MPMC **Manual Prospec** 71.85 320 P P 02 38 09.9 +1.0
baz=132,SNR=31
C31A **Landman Farms,** 71.89 340 P P 02 38 08.6 +0.1
baz=152,SNR=9.1
CTU **Camp Tracy** 71.94 327 *e*P P 02 38 10.5 +1.3
comp=Z,16nm,1.0s
B32A **Ashes, Strandq** 72.05 341 P P 02 38 09.3 -0.1
baz=153,SNR=20
ARVC **Arvin** 72.06 319 P P 02 38 10.6 +0.8
baz=131
DAC **Darwin (Calif)** 72.06 321 *e*P P 02 38 11.6 +1.5
comp=Z,38nm,0.9s
DAC **Darwin (Calif)** 72.06 321 *e*P P 02 38 11.6 +1.5
DAC pmax pmax
comp=Z,38nm,0.9s
TCUT **Toone Canyon** 72.08 328 *e*P P 02 38 11.2 +1.1
comp=Z,34nm,0.8s
DUG **Dugway, Tooele** 72.12 326 P P 02 38 11.5 +1.2
baz=137,SNR=49
DUG **Dugway, Tooele** 72.12 326 *e*P P 02 38 11.8 +1.5
comp=Z,53nm,1.1s
DUG **Dugway, Tooele** 72.12 326 *e*P P 02 38 11.8 +1.5
DUG pmax pmax
comp=Z,53nm,1.1s
ISA **Isabella, Lake** 72.19 320 P P 02 38 11.9 +1.2
baz=132,SNR=36
ISA **Isabella, Lake** 72.19 320 *e*P P 02 38 12.5 +1.8
comp=Z,41nm,0.8s
ISA **Isabella, Lake** 72.19 320 *e*P P 02 38 12.5 +1.8
ISA pmax pmax
comp=Z,41nm,0.8s
A33A **Warroad** 72.20 342 P P 02 38 10.1 -0.2
baz=154,SNR=32
R11A **Troy Canyon, C** 72.31 323 P P 02 38 12.7 +1.2
baz=134,SNR=38
R11A **Troy Canyon, C** 72.31 323 *e*P P 02 38 13.3 +1.8
comp=Z,48nm,1.3s
GRAC **Grapevine Rang** 72.41 321 P P 02 38 13.9 +2.0
baz=133,SNR=14
B31A **Greenbush Farm** 72.42 341 P P 02 38 11.6 -0.1
baz=152
PD31 **Pinedale Array** 72.42 330 *e*P P 02 38 12.3 +0.2
PDAR **Pinedale Array** 72.42 330 *e*P P 02 38 12.3 +0.2
comp=Z,10nm,0.9s,baz=138,slow=6.9,SNR=32
PDAR LR LR 03 14 46.7
comp=Z,75nm,18.3s,baz=130,slow=40
PDAR **Pinedale Array** 72.42 330 *e*P P 02 38 11.5 -0.6
BW06 **Boulder Array** 72.42 330 P P 02 38 12.3 +0.2
baz=140,SNR=13
BW06 **Boulder Array** 72.42 330 *e*P P 02 38 12.4 +0.3
comp=Z,25nm,1.4s
A32A **Rocking H Ranc** 72.50 341 P P 02 38 11.9 -0.3
baz=153,SNR=6.7
KOWA **Kowa** 72.51 67 P P 02 38 12.1 -0.8
comp=Z,5.4nm,0.6s,baz=252,slow=6.3,SNR=16
KOWA LR LR 03 08 37.1
comp=Z,243nm,20.6s,baz=210,slow=35
KOWA **Kowa** 72.51 67 *e*P P 02 38 12.1 -0.8
comp=Z,46nm,1.2s
PKM **Mcpherson Peak** 72.51 318 P P 02 38 14.6 +1.9
baz=130,SNR=41
HWUT **Hardware Ranch** 72.52 328 *e*P P 02 38 13.2 +0.5
comp=Z,34nm,0.8s
MDND **Maddock** 72.55 339 P P 02 38 13.1 +0.6
baz=150,SNR=14
MDND **Maddock** 72.55 339 *e*P P 02 38 13.3 +0.8
comp=Z,269nm,0.8s
MDND *ep*P **pP** 02 38 40.9 +1.5
MDND *es*P **sP** 02 38 51.4 +0.5
VES **Vestal, Richgr** 72.68 319 P P 02 38 14.8 +1.4
baz=131,SNR=24
SPUT **South Promonto** 72.75 327 *e*P P 02 38 15.0 +1.0
comp=Z,46nm,1.0s
BGU **Big Grassy Mou** 72.77 327 *e*P P 02 38 15.2 +1.1
comp=Z,34nm,1.0s
SMMC **Simmler** 72.90 318 P P 02 38 16.8 +2.0
baz=130,SNR=28
TIN **Tinemaha, Big** 72.96 321 P P 02 38 17.1 +1.8
baz=132,SNR=9.5
RCTC **Rector, Farmer** 73.08 320 P P 02 38 17.1 +1.3
baz=131,SNR=7.1
AHID **Auburn Hatcher** 73.16 329 *e*P P 02 38 17.3 +0.8
comp=Z,49nm,0.8s
HVU **Hansel Valley** 73.26 327 *e*P P 02 38 17.8 +0.8
comp=Z,45nm,1.1s
HVU **Hansel Valley** 73.26 327 *e*P P 02 38 17.8 +0.8
HVU pmax pmax
comp=Z,45nm,1.1s
PAGB **Antelope Grade** 73.33 319 *e*P P 02 38 19.3 +1.9
comp=Z,102nm,1.3s
REDW **Red Top Meadow** 73.49 330 *e*P P 02 38 19.3 +0.9
comp=Z,29nm,0.9s
ULM **Lac du Bonnet** 73.52 342 P P 02 38 17.6 -0.5
comp=Z,24nm,0.6s,baz=154,slow=6.0,SNR=64
ULM LR LR 03 13 03.2
comp=Z,78nm,18.6s,baz=93,slow=38
ULM **Lac du Bonnet** 73.52 342 *e*P P 02 38 17.6 -0.5
comp=Z,69nm,1.2s
ULM **Lac du Bonnet** 73.52 342 *e*P P 02 38 17.6 -0.5
ULM pmax pmax
comp=Z,69nm,1.2s
SNOW **Snow King Moun** 73.52 330 *e*P P 02 38 20.1 +1.4
comp=Z,29nm,0.8s
SNOW *e*PcP **PcP** 02 38 31.3 -2.8
LOHW **Long Hollow** 73.56 330 *e*P P 02 38 19.6 +0.8
comp=Z,20nm,0.8s
TPAW **Teton Pass** 73.64 330 *e*P P 02 38 19.8 +0.5
comp=Z,30nm,0.8s
MLAC **Mammoth, Mammo** 73.70 321 P P 02 38 21.5 +1.7
baz=132,SNR=5.4
MOOW **Moose Ponds** 73.73 330 *e*P P 02 38 20.5 +0.7
comp=Z,83nm,1.9s
FXWY **Fox Creek** 73.78 330 *e*P P 02 38 21.0 +0.8
comp=Z,20nm,0.9s
NV11 **Mina Array Sit** 73.84 322 *e*P P 02 38 21.9 +1.4
comp=Z,1.9nm,1.0s
MDPB **Devils Postpil** 73.85 321 *e*P P 02 38 22.2 +1.5
comp=Z,35nm,1.0s
NV01 **Mina Array Sit** 73.92 322 *e*P P 02 38 21.9 +0.8
NVAR **Mina Array Bea** 73.92 322 P P 02 38 22.4 +1.4
comp=Z,20nm,0.9s,baz=158,slow=6.5,SNR=112
IMW **Indian Meadow** 73.94 330 *e*P P 02 38 22.1 +1.1
comp=Z,54nm,1.1s
PMPB **Monarch Peak** 73.98 319 *e*P P 02 38 23.3 +2.0
comp=Z,59nm,0.8s
LAO **LASA Array** 74.05 334 P P 02 38 22.1 +0.7
baz=144,SNR=30
LAO **LASA Array** 74.05 334 *e*P P 02 38 22.1 +0.7
comp=Z,80nm,1.1s
RLMT **Red Lodge** 74.11 332 P P 02 38 23.2 +1.2
baz=141,SNR=41
RLMT **Red Lodge** 74.11 332 *e*P P 02 38 23.0 +1.1
comp=Z,39nm,0.8s
H17A **Grant Village** 74.14 330 P P 02 38 23.6 +1.4
baz=140,SNR=22
H17A **Grant Village** 74.14 330 *e*P P 02 38 23.9 +1.7
comp=Z,18nm,0.8s
RYN **Ryan** 74.19 322 *e*P P 02 38 23.9 +1.4
comp=Z,33nm,1.1s
LKWY **Lake** 74.19 331 *e*P P 02 38 24.7 +2.2
comp=Z,55nm,0.8s
LKWY **Lake** 74.19 331 *e*P P 02 38 24.7 +2.2
LKWY pmax pmax
comp=Z,55nm,0.8s
SCHQ **Schefferville** 74.23 1 P P 02 38 21.2 -1.0
comp=Z,15nm,0.9s,baz=194,slow=4.5,SNR=15
SCHQ **Schefferville** 74.23 1 *e*P P 02 38 21.9 -0.2
comp=Z,21nm,1.0s
YFT **Old Faithful** 74.31 330 *e*P P 02 38 25.1 +2.0
comp=Z,34nm,0.9s
VAH **Vaihoa** 74.39 259 *e*P P 02 38 26.6 +2.6
comp=Z,116nm,1.0s
YNR **Nels Junctio** 74.44 331 *e*P P 02 38 26.0 +2.1
comp=Z,23nm,0.7s
YMR **Madison River** 74.53 330 *e*P P 02 38 26.3 +1.8
comp=Z,75nm,1.1s
YHH **Holmes Hill** 74.57 331 *e*P P 02 38 26.3 +1.6
comp=Z,55nm,0.9s
WAKR **Walker** 74.64 321 *e*P P 02 38 27.1 +2.0
comp=Z,36nm,1.2s
PMOR **Pomariorio Ree** 74.70 259 *e*P P 02 38 28.4 +2.6
comp=Z,70nm,1.0s
YHB **Hoe Butte** 74.70 330 *e*P P 02 38 27.2 +1.8
comp=Z,55nm,0.8s
DGMT **Dagmar** 74.71 337 P P 02 38 26.6 +1.5
baz=146,SNR=11
DGMT **Dagmar** 74.71 337 *e*P P 02 38 25.8 +0.7
comp=Z,91nm,0.9s
DGMT *ep*P **pP** 02 38 53.5 +1.3
SAO **San Andreas Ge** 74.73 319 *e*P P 02 38 27.2 +1.7
comp=Z,16nm,0.9s
SAO **San Andreas Ge** 74.73 319 *e*P P 02 38 27.2 +1.7
SAO pmax pmax
comp=Z,16nm,0.9s
YERR **Yerington** 74.84 322 *e*P P 02 38 28.1 +1.7
comp=Z,62nm,1.3s
QLMT **Earthquake Lak** 74.87 330 *e*P P 02 38 28.2 +1.8
QLMT *ep*P **pP** 02 38 54.9 +1.4
CMB **Columbia Colle** 74.90 320 *e*P P 02 38 27.6 +1.1
comp=Z,9.5nm,0.9s
CMB **Columbia Colle** 74.90 320 *e*P P 02 38 27.6 +1.1
CMB pmax pmax
comp=Z,10.0nm,0.9s
TVO **Taravao** 75.17 256 *e*P P 02 38 31.1 +2.5
comp=Z,29nm,1.3s
VCNR **Virginia City** 75.28 322 *e*P P 02 38 30.8 +1.9
comp=Z,50nm,1.4s
RDG13 **Poverty Ridge** 75.33 319 *e*P P 02 38 30.8 +1.8
comp=Z,21nm,1.0s
HLID **Hailey** 75.39 328 P P 02 38 30.8 +1.5
baz=136,SNR=80
HLID **Hailey** 75.39 328 *e*P P 02 38 30.9 +1.6
comp=Z,51nm,0.9s
PAHR **Pah Rah Range** 75.40 322 *e*P P 02 38 31.2 +1.8
comp=Z,76nm,0.9s
RUBR **Rubicon Trail** 75.42 321 *e*P P 02 38 32.0 +2.3
comp=Z,25nm,1.0s
PAE **Paea** 75.50 256 *e*P P 02 38 32.9 +2.5
comp=Z,10.0nm,0.9s
PPT2 **Papeete2** 75.52 256 *e*P P 02 38 33.0 +2.4
comp=Z,49nm,1.2s
MCMT **McKenzie Canyo** 75.54 329 *e*P P 02 38 31.9 +1.7
MCMT *ep*P **pP** 02 38 58.3 +1.0
BOZ **Bozeman (W)** 75.54 331 P P 02 38 30.1 0.0
baz=139
BOZ **Bozeman (W)** 75.54 331 *e*P P 02 38 30.6 +0.5
comp=Z,30nm,1.0s
BOZ **Bozeman (W)** 75.54 331 *e*P P 02 38 30.6 +0.5
BOZ pmax pmax
comp=Z,30nm,1.0s
DLMT **Dillon** 75.82 330 *e*P P 02 38 33.0 +1.3
comp=Z,61nm,1.4s
AFDM **Forest Hills D** 75.84 321 *e*P P 02 38 33.0 +1.1
comp=Z,26nm,1.0s
MFID **Camas Ranch** 76.00 327 *e*P P 02 38 34.3 +1.6
comp=Z,62nm,1.1s
BEKR **Beckworth** 76.07 322 *e*P P 02 38 33.7 +0.4
comp=Z,31nm,1.1s
LRM **Limekiln Ridge** 76.09 330 *e*P P 02 38 34.6 +1.2
LRM *ep*P **pP** 02 39 01.2 +0.7
HRY **Holter Researc** 76.48 331 *e*P P 02 38 36.7 +1.3
MCCM **Marconi Confer** 76.48 319 *e*P P 02 38 37.1 +1.7
comp=Z,57nm,0.9s
ORV **Oroville** 76.54 321 *e*P P 02 38 37.2 +1.4
comp=Z,79nm,1.1s
ORV **Oroville** 76.54 321 *e*P P 02 38 37.2 +1.4
ORV pmax pmax
comp=Z,79nm,1.1s
EGMT **Eagleton** 76.57 333 P P 02 38 36.6 +0.8
baz=141,SNR=36
EGMT **Eagleton** 76.57 333 *e*P P 02 38 36.4 +0.5
comp=Z,75nm,1.0s
WVOR **Wild Horse Val** 76.81 325 *e*P P 02 38 38.2 +0.8
comp=Z,14nm,1.4s
WVOR **Wild Horse Val** 76.81 325 *e*P P 02 38 38.2 +0.8
WVOR pmax pmax
comp=Z,14nm,1.4s
TOA0 **Torodi Ar. Sit** 76.96 71 *e*P P 02 38 37.3 -1.4
TORD **Torodi Ar. Bea** 76.96 71 P P 02 38 37.3 -1.4
comp=Z,9.9nm,0.5s,baz=252,slow=5.8,SNR=161
TORD LR LR 03 11 21.0
comp=Z,194nm,20.6s,baz=15,slow=35
HOPS **Hopland Field** 77.13 320 *e*P P 02 38 41.0 +1.9
comp=Z,27nm,1.2s
O03D **Paynes Creek** 77.19 321 P P 02 38 39.9 +0.5
baz=130,SNR=17
J08A **Circle Bar Ran** 77.35 325 *e*P P 02 38 41.5 +1.2
comp=Z,10nm,0.8s
MOD **Modoc Plateau** 77.38 323 *e*P P 02 38 41.8 +1.2
comp=Z,80nm,1.6s
MSO **Missoula** 77.53 330 P P 02 38 42.6 +1.3
baz=137,SNR=25
MSO **Missoula** 77.53 330 *e*P P 02 38 42.6 +1.3
comp=Z,29nm,1.1s
BMO **Blue Mountains** 77.77 327 *e*P P 02 38 43.6 +1.0
comp=Z,14nm,0.9s
BMO **Blue Mountains** 77.77 327 *e*P P 02 38 43.6 +1.0
BMO pmax pmax
comp=Z,41nm,0.9s
WDC **Whiskeytown Da** 77.81 321 *e*P P 02 38 42.5 -0.3
WDC *ep*P **pP** 02 39 09.6 -0.4
WDC **Whiskeytown Da** 77.81 321 *e*P P 02 38 42.5 -0.3
WDC *e**PP **pP** 02 39 09.6 -0.4
KCPM **Cahto Peak** 77.87 320 *e*P P 02 38 45.6 +2.3
comp=Z,38nm,1.0s
N02D **Trinity Center** 78.16 322 P P 02 38 45.3 +0.4
baz=130,SNR=20
M04C **Macdoel** 78.17 323 P P 02 38 45.8 +0.8
baz=130,SNR=15
KMRM **Mail Ridge** 78.28 320 *e*P P 02 38 47.3 +1.8
comp=Z,64nm,1.1s
SYO **Syowa Base** 78.28 160‖ *e*P P 02 38 42.0 -3.0
SYO **Syowa Base** 78.28 160‖ *e*PcP **PcP** 02 38 54.0 0.0
JTMT **Jette** 78.36 331 *e*P P 02 38 47.1 +1.2
comp=Z,36nm,1.0s
I07A **Izee** 78.39 325 *e*P P 02 38 48.1 +2.0
comp=Z,19nm,1.1s
M02C **Callahan** 78.51 322 P P 02 38 47.6 +0.9
baz=129,SNR=9.5
F10A **Beach Ranch, E** 78.51 328 *e*P P 02 38 47.9 +1.2
comp=Z,22nm,0.9s
VNDA **Vanda** 78.60 190 P P 02 38 47.8 +1.2
comp=Z,3.8nm,0.9s,baz=154,slow=4.6,SNR=7.9
VNDA LR LR 03 13 52.1
comp=Z,45nm,18.2s,baz=183,slow=36
YBH **Yreka Blue Hor** 78.64 322 P P 02 38 47.3 -0.2
comp=Z,10nm,0.9s,baz=116,slow=3.4,SNR=22
YBH LR LR 03 12 47.7
comp=Z,49nm,19.5s,baz=134,slow=35
YBH **Yreka Blue Hor** 78.64 322 *e*P P 02 38 47.5 0.0
comp=Z,12nm,0.9s
YBH **Yreka Blue Hor** 78.64 322 *e*P P 02 38 47.5 0.0
YBH pmax pmax
comp=Z,12nm,0.9s
KHMM **Horse Mountain** 78.70 321 *e*P P 02 38 49.8 +1.9
comp=Z,37nm,1.1s
J05D **Fort Rock, OR** 78.80 324 P P 02 38 49.6 +1.2
baz=131,SNR=15
JCC **Jacoby Creek,** 78.84 321 *e*P P 02 38 50.4 +2.0
comp=Z,71nm,1.1s
G08A **Pilot Rock** 78.92 327 *e*P P 02 38 50.0 +1.1
comp=Z,24nm,1.2s
PINE **Pine Mountain** 78.97 325 *e*P P 02 38 51.1 +1.7
comp=Z,52nm,1.1s
WALA **Waterton Lakes** 79.16 332 *e*P P 02 38 51.1 +0.9
comp=Z,53nm,0.9s
WALA *ep*P **pP** 02 39 16.7 -0.8
FFC **Flin Flon** 79.24 341 *e*P P 02 38 50.3 0.0
comp=Z,26nm,1.0s
FFC **Flin Flon** 79.24 341 *e*P P 02 38 50.3 0.0
FFC pmax pmax
comp=Z,26nm,1.0s
J04D **Umpqua Nationa** 79.26 324 P P 02 38 52.3 +1.3
baz=130,SNR=7.3
HUMO **Hull Mountain** 79.33 323 *e*P P 02 38 51.7 +0.6
comp=Z,71nm,2.0s
E09A **Wood Farm, Sta** 79.34 328 *e*P P 02 38 52.2 +1.1
comp=Z,36nm,1.1s
L02D **Cave Junction,** 79.42 322 P P 02 38 53.1 +1.5
baz=129,SNR=8.3
I05D **Terrebonne, OR** 79.55 325 P P 02 38 53.8 +1.5
baz=131,SNR=15
G06A **Carlson Farm,** 79.76 326 *e*P P 02 38 55.1 +1.7
comp=Z,29nm,1.0s
I04A **Tendick Farm,** 79.78 324 P P 02 38 54.5 +1.0
baz=130,SNR=6.1
E08A **Dider Farm, El** 79.78 328 *e*P P 02 38 54.6 +1.2
comp=Z,8.2nm,0.8s
F07A **Phinny Hill Vi** 79.83 327 *e*P P 02 38 56.0 +2.3
comp=Z,59nm,1.4s
NEW **Newport** 80.06 330 P P 02 38 55.3 +0.3
comp=Z,7.4nm,0.9s,baz=148,slow=13,SNR=15
NEW **Newport** 80.06 330 P P 02 38 55.7 +0.7
baz=135,SNR=12
NEW **Newport** 80.06 330 *e*P P 02 38 55.3 +0.3
comp=Z,12nm,0.9s
NEW **Newport** 80.06 330 *e*P P 02 38 55.3 +0.3
NEW pmax pmax
comp=Z,12nm,0.9s
D08A **Wollman Farm,** 80.10 328 *e*P P 02 38 56.5 +1.3
comp=Z,56nm,1.4s
G05D **Wamic, OR** 80.12 326 P P 02 38 56.9 +1.5
baz=131,SNR=8.3
H04A **Detroit Lake** 80.23 325 *e*P P 02 38 56.8 +0.8
comp=Z,40nm,1.1s
E07A **Sunnyside** 80.23 327 *e*P P 02 38 57.8 +1.9
comp=Z,42nm,1.2s
C09A **Chrisman Ranch** 80.29 329 *e*P P 02 38 57.4 +1.2
comp=Z,69nm,0.8s
MORF **Marmelete** 80.33 45 *e*P P 02 39 00.9 +4.2
MORF *ep*P **pP** 02 39 25.4 +1.4
PBDV **Barranco-do-Ve** 80.77 45 *e*P P 02 39 01.7 +2.7
COR **Corvallis** 80.78 324 *e*P P 02 39 00.3 +1.5
comp=Z,83nm,1.0s
COR **Corvallis** 80.78 324 *e*P P 02 39 00.3 +1.5
COR pmax pmax
comp=Z,83nm,1.0s
TSUM **Tsumeb** 80.78 107 P P 02 38 59.7 0.0
comp=Z,6.0nm,0.8s,baz=231,slow=5.8,SNR=10
TSUM **Tsumeb** 80.78 107 *e*P P 02 39 00.2 +0.5
comp=Z,8.1nm,0.7s
TSUM *ep*P **pP** 02 39 28.3 +1.2
FCC **Fort Churchill** 80.81 347 *e*P P 02 38 58.8 +0.2
comp=Z,34nm,0.9s
FCC **Fort Churchill** 80.81 347 *e*P P 02 38 58.8 +0.2
FCC pmax pmax
comp=Z,34nm,0.9s
PNCL **Nicolau / Gran** 80.85 44 *e*P P 02 39 03.6 +4.2
MESJ **Messejana** 80.91 44 *e*P P 02 39 02.7 +3.0
MESJ *ep*P **pP** 02 39 29.4 +2.3
PCVE **Castro Verde** 80.91 45 *e*P P 02 39 04.1 +4.4
PCVE *ep*P **pP** 02 39 29.1 +2.0
LTY **Liberty** 81.12 327 *e*P P 02 38 59.5 -1.2
comp=Z,66nm,1.1s
G03D **McMinnville, O** 81.16 325 P P 02 39 02.0 +1.2
BOZ pmax pmax
comp=Z,30nm,1.0s
DLMT **Dillon** 75.82 330 *e*P P 02 38 33.0 +1.3
comp=Z,61nm,1.4s
AFDM **Forest Hills D** 75.84 321 *e*P P 02 38 33.0 +1.1
comp=Z,26nm,1.0s
MFID **Camas Ranch** 76.00 327 *e*P P 02 38 34.3 +1.6
comp=Z,62nm,1.1s
BEKR **Beckworth** 76.07 322 *e*P P 02 38 33.7 +0.4
comp=Z,31nm,1.1s
LRM **Limekiln Ridge** 76.09 330 *e*P P 02 38 34.6 +1.2
LRM *ep*P **pP** 02 39 01.2 +0.7
HRY **Holter Researc** 76.48 331 *e*P P 02 38 36.7 +1.3
MCCM **Marconi Confer** 76.48 319 *e*P P 02 38 37.1 +1.7
comp=Z,57nm,0.9s
ORV **Oroville** 76.54 321 *e*P P 02 38 37.2 +1.4
comp=Z,79nm,1.1s
ORV **Oroville** 76.54 321 *e*P P 02 38 37.2 +1.4
ORV pmax pmax
comp=Z,79nm,1.1s
EGMT **Eagleton** 76.57 333 P P 02 38 36.6 +0.8
baz=141,SNR=36
EGMT **Eagleton** 76.57 333 *e*P P 02 38 36.4 +0.5
comp=Z,75nm,1.0s
WVOR **Wild Horse Val** 76.81 325 *e*P P 02 38 38.2 +0.8
comp=Z,14nm,1.4s
WVOR **Wild Horse Val** 76.81 325 *e*P P 02 38 38.2 +0.8
WVOR pmax pmax
comp=Z,14nm,1.4s
TOA0 **Torodi Ar. Sit** 76.96 71 *e*P P 02 38 37.3 -1.4
TORD **Torodi Ar. Bea** 76.96 71 P P 02 38 37.3 -1.4
comp=Z,9.9nm,0.5s,baz=252,slow=5.8,SNR=161
TORD LR LR 03 11 21.0
comp=Z,194nm,20.6s,baz=15,slow=35
HOPS **Hopland Field** 77.13 320 *e*P P 02 38 41.0 +1.9
comp=Z,27nm,1.2s
O03D **Paynes Creek** 77.19 321 P P 02 38 39.9 +0.5
baz=130,SNR=17
J08A **Circle Bar Ran** 77.35 325 *e*P P 02 38 41.5 +1.2
comp=Z,10nm,0.8s
MOD **Modoc Plateau** 77.38 323 *e*P P 02 38 41.8 +1.2
comp=Z,80nm,1.6s
MSO **Missoula** 77.53 330 P P 02 38 42.6 +1.3
baz=137,SNR=25
MSO **Missoula** 77.53 330 *e*P P 02 38 42.6 +1.3
comp=Z,29nm,1.1s
BMO **Blue Mountains** 77.77 327 *e*P P 02 38 43.6 +1.0
comp=Z,14nm,0.9s
BMO **Blue Mountains** 77.77 327 *e*P P 02 38 43.6 +1.0
BMO pmax pmax
comp=Z,41nm,0.9s
WDC **Whiskeytown Da** 77.81 321 *e*P P 02 38 42.5 -0.3
WDC *ep*P **pP** 02 39 09.6 -0.4
WDC **Whiskeytown Da** 77.81 321 *e*P P 02 38 42.5 -0.3
WDC *e**PP **pP** 02 39 09.6 -0.4
KCPM **Cahto Peak** 77.87 320 *e*P P 02 38 45.6 +2.3
comp=Z,38nm,1.0s
N02D **Trinity Center** 78.16 322 P P 02 38 45.3 +0.4
baz=130,SNR=20
M04C **Macdoel** 78.17 323 P P 02 38 45.8 +0.8
baz=130,SNR=15
KMRM **Mail Ridge** 78.28 320 *e*P P 02 38 47.3 +1.8
comp=Z,64nm,1.1s
SYO **Syowa Base** 78.28 160‖ *e*P P 02 38 42.0 -3.0
SYO **Syowa Base** 78.28 160‖ *e*PcP **PcP** 02 38 54.0 0.0
JTMT **Jette** 78.36 331 *e*P P 02 38 47.1 +1.2
comp=Z,36nm,1.0s
I07A **Izee** 78.39 325 *e*P P 02 38 48.1 +2.0
comp=Z,19nm,1.1s
M02C **Callahan** 78.51 322 P P 02 38 47.6 +0.9
baz=129,SNR=9.5
F10A **Beach Ranch, E** 78.51 328 *e*P P 02 38 47.9 +1.2
comp=Z,22nm,0.9s
VNDA **Vanda** 78.60 190 P P 02 38 47.8 +1.2
comp=Z,3.8nm,0.9s,baz=154,slow=4.6,SNR=7.9
VNDA LR LR 03 13 52.1
comp=Z,45nm,18.2s,baz=183,slow=36
YBH **Yreka Blue Hor** 78.64 322 P P 02 38 47.3 -0.2
comp=Z,10nm,0.9s,baz=116,slow=3.4,SNR=22
YBH LR LR 03 12 47.7
comp=Z,49nm,19.5s,baz=134,slow=35
YBH **Yreka Blue Hor** 78.64 322 *e*P P 02 38 47.5 0.0
comp=Z,12nm,0.9s
YBH **Yreka Blue Hor** 78.64 322 *e*P P 02 38 47.5 0.0
YBH pmax pmax
comp=Z,12nm,0.9s
KHMM **Horse Mountain** 78.70 321 *e*P P 02 38 49.8 +1.9
comp=Z,37nm,1.1s
J05D **Fort Rock, OR** 78.80 324 P P 02 38 49.6 +1.2
baz=131,SNR=15
JCC **Jacoby Creek,** 78.84 321 *e*P P 02 38 50.4 +2.0
comp=Z,71nm,1.1s
G08A **Pilot Rock** 78.92 327 *e*P P 02 38 50.0 +1.1
comp=Z,24nm,1.2s
PINE **Pine Mountain** 78.97 325 *e*P P 02 38 51.1 +1.7
comp=Z,52nm,1.1s
WALA **Waterton Lakes** 79.16 332 *e*P P 02 38 51.1 +0.9
comp=Z,53nm,0.9s
WALA *ep*P **pP** 02 39 16.7 -0.8
FFC **Flin Flon** 79.24 341 *e*P P 02 38 50.3 0.0
comp=Z,26nm,1.0s
FFC **Flin Flon** 79.24 341 *e*P P 02 38 50.3 0.0
FFC pmax pmax
comp=Z,26nm,1.0s
J04D **Umpqua Nationa** 79.26 324 P P 02 38 52.3 +1.3
baz=130,SNR=7.3
HUMO **Hull Mountain** 79.33 323 *e*P P 02 38 51.7 +0.6
comp=Z,71nm,2.0s
E09A **Wood Farm, Sta** 79.34 328 *e*P P 02 38 52.2 +1.1
comp=Z,36nm,1.1s
L02D **Cave Junction,** 79.42 322 P P 02 38 53.1 +1.5
baz=129,SNR=8.3
I05D **Terrebonne, OR** 79.55 325 P P 02 38 53.8 +1.5
baz=131,SNR=15
G06A **Carlson Farm,** 79.76 326 *e*P P 02 38 55.1 +1.7
comp=Z,29nm,1.0s
I04A **Tendick Farm,** 79.78 324 P P 02 38 54.5 +1.0
baz=130,SNR=6.1
E08A **Dider Farm, El** 79.78 328 *e*P P 02 38 54.6 +1.2
comp=Z,8.2nm,0.8s
F07A **Phinny Hill

baz=130
B08A Colville Reser 81.19 329 *e*P **P** **02 39 01.6 +0.5**
comp=Z,30nm,1.0s
PBEJ Beja 81.24 44 *e*P **P** **02 39 02.7 +1.2**
PBEJ *e*pP **pP** **02 39 30.8 +1.9**
LON Longmire 81.37 326 *e*P **P** **02 39 02.5 +0.5**
comp=Z,17nm,0.9s
LON Longmire 81.37 326 *e*P **P** **02 39 02.5 +0.5**
LON pmax pmax
comp=Z,17nm,0.9s
PMTG Montargil 81.58 43 *e*P **P** **02 39 04.3 +1.1**
comp=Z,19nm,1.6s
PMTG *e*pP **pP** **02 39 32.3 +1.7**
D05A Enumclaw 81.75 327 *e*P **P** **02 39 05.2 +1.3**
comp=Z,84nm,0.9s
PBAR Barrancos 81.87 45 *e*P **P** **02 39 09.3 +4.5**
PBAR *e*pP **pP** **02 39 33.9 +1.7**
PESTR Estremoz 81.88 44 *e*P **P** **02 39 08.7 +3.9**
PESTR *e*pP **pP** **02 39 34.2 +1.9**
EDM Edmonton 82.02 335 *e*P **P** **02 39 05.1 -0.2**
comp=Z,195nm,1.0s
EDM *e*pP **pP** **02 39 32.3 -0.4**
EDM *es*P **sP** **02 39 44.0 -0.1**
EDM Edmonton 82.02 335 *e*P **P** **02 39 05.1 -0.2**
EDM *e**PP **pP** **02 39 32.3 -0.4**
EDM pmax pmax
comp=Z,195nm,1.0s
E03A Lebam 82.16 325 *e*P **P** **02 39 07.0 +0.9**
comp=Z,48nm,0.9s
B06A Marblemount 82.36 328 *e*P **P** **02 39 07.6 +0.6**
comp=Z,73nm,0.8s
B06A *e*pP **pP** **02 39 35.6 +1.1**
B05A Bryant 82.51 327 P **P** **02 39 08.3 +0.5**
baz=131,SNR=14
PVIS Viseu 82.70 42 *e*P **P** **02 39 11.7 +2.6**
A04D Lummi Island 83.11 328 P **P** **02 39 12.0 +1.1**
baz=130
PGAV Gavieira, Arco 83.16 41 *e*P P 02 39 16.7 +5.2
PGC Sidney 83.44 327 *e*P **P** **02 39 14.2 +1.6**
comp=Z,70nm,0.9s
LLLB Lillooet 83.94 329 *e*P **P** **02 39 15.5 +0.3**
comp=Z,49nm,1.0s
TAM Tamanrasset 84.21 63 *e*P **P** **02 39 17.6 +0.2**
comp=Z,20nm,1.3s
TAM *e*pP **pP** **02 39 41.9 -3.0**
TAM Tamanrasset 84.21 63 *e*P **P** **02 39 17.6 +0.2**
TAM *e**PP **pP** **02 39 41.9 -3.0**
TAM pmax pmax
comp=Z,20nm,1.3s
BOSA Boshof 84.50 118 P **P** **02 39 17.8 -1.1**
comp=Z,2.6nm,0.7s,baz=223,slow=5.3,SNR=3.6
BOSA LR LR 03 16 45.5
comp=Z,85nm,18.4s,baz=253,slow=35
ESDC Sonseca Array 84.70 45 P **P** **02 39 17.0 -2.3**
comp=Z,1.1nm,0.8s,baz=262,slow=5.1,SNR=3.7
ESDC LR LR 03 14 16.2
comp=Z,69nm,19.7s,baz=330,slow=34
ES19 SONSECA Array 84.75 45 *e*P **P** **02 39 20.8 +1.1**
ES19 *e*pP **pP** **02 39 48.7 +1.5**
BBB Bella Bella 87.97 328 LR LR 03 24 28.9
comp=Z,42nm,19.5s,baz=104,slow=39
YKA Yellowknife Ar 89.40 341 P **P** **02 39 41.7 +0.3**
comp=Z,81nm,0.8s,baz=134,slow=4.7,SNR=1222
YKW3 Yellowknife Ar 89.45 341 *e*P **P** **02 39 42.0 +0.4**
LSZ Lusaka 91.64 107 *e*P **P** **02 39 51.8 -1.4**
comp=Z,1.9nm,0.8s
LSZ Lusaka 91.64 107 *e*P **P** **02 39 51.8 -1.4**
LSZ pmax pmax
comp=Z,2.0nm,0.8s
DLBC Dease Lake 92.49 333 *e*P **P** **02 39 56.6 +0.6**
comp=Z,23nm,0.9s
DLBC *e*pP **pP** **02 40 24.1 +0.3**
SUMG Summit 94.30 9 *i* P **P** **02 40 04.8 +0.4**
SUMG Summit 94.30 9 *e*P **P** **02 40 04.5 +0.1**
comp=Z,11nm,1.0s
SUMG *e*pP **pP** **02 40 32.0 -0.4**
SUMG Summit 94.30 9 *i* P **P** **02 40 04.8 +0.4**
RES Resolute Bay 95.57 353 *e*P **P** **02 40 09.1 -0.6**
comp=Z,2.7nm,0.9s
RES Resolute Bay 95.57 353 *e*P **P** **02 40 09.1 -0.6**
RES pmax pmax
comp=Z,3.0nm,0.9s
WLF Walferdange 95.68 39 *e*P **P** **02 40 09.7 -1.1**
comp=Z,7.7nm,1.0s
WLF Walferdange 95.68 39 *e*P **P** **02 40 09.7 -1.1**
WLF pmax pmax
comp=Z,8.0nm,1.0s
TULEG Thule 96.00 0 *e*P **P** **02 40 11.8 +0.2**
comp=Z,16nm,1.0s
RPZ Rata Peaks 96.26 219 LR LR 03 15 16.3
comp=Z,86nm,21.9s,baz=35,slow=30
INK Inuvik 99.16 340 P **Pdif** **02 40 25.6 -0.3**
comp=Z,5.0nm,0.8s,baz=115,slow=5.2,SNR=16
INK Inuvik 99.16 340 *e*P **Pdif** **02 40 25.8 -0.1**
INK Inuvik 99.16 340 *e*P **Pdif** **02 40 25.8 -0.1**
GERES GERESS Array B 100.01 42 PKKPbc PKKPbc 02 56 49.6 -1.0
comp=Z,0.6nm,0.9s,baz=119,slow=1.7,SNR=5.4
ILAR Eielson Array 102.51 335 P **Pdif** **02 40 40.9 -0.1**
comp=Z,0.7nm,0.8s,baz=159,slow=3.9,SNR=8.5
ILAR PP **PP** **02 44 55.4 0.0**
comp=Z,3.2nm,1.1s,baz=101,slow=6.1,SNR=9.2
COLA College 102.93 335 *e*Pdif **Pdif** **02 40 42.6 -0.2**
COLA College 102.93 335 *e*P **Pdif** **02 40 42.6 -0.2**
FINES FINESS Array B 109.56 31 PKKPbc PKKPbc 02 56 20.6 -1.2
comp=Z,3.4nm,0.9s,baz=248,slow=9.8,SNR=5.2
AKASC Malin Array Be 110.22 42 PKKPbc PKKPbc 02 56 18.8 -0.6
comp=Z,0.6nm,0.5s,baz=75,slow=5.0,SNR=6.5
BRTR Keskin Array B 111.96 54 PKiKP **PKiKP** **02 45 19.6 -0.6**
comp=Z,0.9nm,0.8s,baz=158,slow=1.3,SNR=5.2
BRTR PKKPab **PKKPab** **02 56 21.2 +0.5**
comp=Z,1.2nm,0.8s,baz=96,slow=5.0,SNR=6.7
KIV Kislovodsk 118.99 50 *e*PKPdf **PKPdf** **02 45 33.5 0.0**
KIV Kislovodsk 118.99 50 *e*PKiKP **PKPdf** **02 45 33.5 0.0**
KBZ Khabaz 119.14 50 PKP **PKPdf** **02 45 33.4 -0.2**
comp=Z,3.6nm,0.9s,baz=180,slow=2.2,SNR=7.5
RAYN Ar Rayn 119.58 74 *e*PKPdf **PKPdf** **02 45 34.7 -0.5**
GNI Garni 120.50 54 *e*PKPdf **PKPdf** **02 45 36.8 +0.2**
GNI Garni 120.50 54 *e*PKiKP **PKPdf** **02 45 36.8 +0.2**
BILL Bilibino 120.75 339 *i* PKiKP **PKPdf** **02 45 35.9 -0.1**
BILL *i* 02 46 08.9
BILL *i* 02 47 02.8
BILL pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 120.87 210 PKP **PKPdf** **02 45 37.5 0.0**
comp=Z,3.3nm,0.6s,baz=62,slow=1.2,SNR=10
BBOO Buckleboo 122.51 205 *e*PKPdf **PKPdf** **02 45 40.5 -0.2**
ARU Arti 126.76 33 *e*PKPdf **PKPdf** **02 45 47.7 -0.1**
ARU Arti 126.76 33 *i* PKiKP **PKPdf** **02 45 47.8 -0.1**
ARU 02 47 45.6
ARU 02 52 49.5
TIXI Tiksi 126.96 353 PKP **PKPdf** **02 45 47.1 -0.8**
comp=Z,4.7nm,0.9s,baz=47,slow=3.4,SNR=8.0
TIXI SKP 02 49 12.2
comp=Z,1.3nm,0.3s,baz=62,slow=1.1,SNR=3.7
TIXI Tiksi 126.96 353 ⇑ *i* PKiKP **PKPdf** **02 45 46.8 -1.0**
CTA Charters Tower 127.42 223 PKP **PKPdf** **02 45 50.0 -0.3**
comp=Z,7.8nm,0.9s,baz=92,slow=2.2,SNR=6.0
CTAO Charters Tower 127.42 223 *e*PKPdf **PKPdf** **02 45 50.3 0.0**
CTAO Charters Tower 127.42 223 *e*PKiKP **PKPdf** **02 45 50.3 0.0**
SEY Seymchan 128.34 337 PKiP **PKPdf** **02 45 51.4 +0.7**
comp=Z,10.0nm,0.9s,baz=88,slow=1.9,SNR=38
SEY Seymchan 128.34 337 ⇑ *i* PKiKP **PKPdf** **02 45 51.9 +1.2**
AKTO Aktyubinsk 128.41 41 PKiKP **PKPdf** **02 45 51.2 -0.1**
AKTO pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 129.95 42 *e*PKPdf **PKPdf** **02 45 54.4 +0.2**
PET Petropavlovsk 130.47 324 *i* PKiKP **PKPdf** **02 45 56.2 +1.2**
PETK Petropavlovsk- 130.96 324 PKP **PKPdf** **02 45 56.7 +0.7**
comp=Z,8.3nm,0.9s,baz=115,slow=5.6,SNR=10.0
MA2 Magadan 130.99 334 PKP **PKPdf** **02 45 56.3 +0.5**
comp=Z,1.8nm,0.3s,baz=37,slow=4.3,SNR=5.6
MA2 Magadan 130.99 334 ⇑ *i* PKiKP **PKPdf** **02 45 56.5 +0.6**
ASAR Alice Springs 131.41 209 PKhKP PKPpre 02 45 45.5
comp=Z,0.4nm,0.6s,baz=84,slow=8.4,SNR=5.9
ASAR PKP **PKPdf** **02 45 57.9 -0.1**
comp=Z,7.3nm,0.7s,baz=150,slow=2.2,SNR=46
COEN Coen 133.86 226 *e*PKPdf **PKPdf** **02 46 02.5 -0.2**
BRVK Borovoye 134.34 33 *e*PKPdf **PKPdf** **02 46 02.1 -0.3**
BRVK Borovoye 134.34 33 ⇓ *i* PKiKP **PKPdf** **02 46 03.8 +1.4**
WRA Warramunga Arr 134.39 212 PKhKP PKPpre 02 45 50.9
comp=Z,1.4nm,0.9s,baz=215,slow=1.7,SNR=4.8
WRA PKP **PKPdf** **02 46 03.7 +0.1**
comp=Z,10nm,0.7s,baz=158,slow=1.8,SNR=50
WRAB Tennant Creek 134.40 212 *e*PKPdf **PKPdf** **02 46 03.4 -0.1**
WRAB Tennant Creek 134.40 212 ⇑ *i* PKiKP **PKPdf** **02 46 03.1 -0.5**
BVA0 Borovoye Array 134.41 33 *i* PKiKP **PKPdf** **02 46 03.4 +0.9**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 134.41 33 PKP **PKPdf** **02 46 03.3 +0.8**
comp=Z,1.4nm,0.7s,baz=267,slow=2.8,SNR=12
YAK Yakutsk 135.69 347 *e*PKHKP PKPpre 02 45 50.1
YAK pmax pmax
comp=Z,12nm,1.2s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,13nm,0.9s
OTUK Ortayu 137.88 38 PKiKP **PKPdf** **02 46 09.4 +0.2**
OTUK pmax pmax
comp=Z,5.0nm,1.2s
MBWA Marble Bar 138.50 193 *e*PKPdf **PKPdf** **02 46 11.7 +0.5**
NVS Novosibirsk 139.11 24 *e*PKiKP **PKPdf** **02 46 10.9 -0.2**
NVS *e* 02 46 35.0
NVS pmax pmax
comp=Z,12nm,1.2s
NKL Nikolayevsk 139.42 333 *e*PKHKP PKPpre 02 46 03.8
KURK Kurchatov 139.91 32 PKPpre PKPpre 02 46 03.8
KURK *e*PKPdf **PKPdf** **02 46 12.2 -0.5**
KURK Kurchatov 139.91 32 *i* PKiKP **PKPdf** **02 46 12.3 -0.5**
KURBB Kurchatov Arra 139.93 32 PKhKP PKPpre 02 46 03.8
comp=Z,0.5nm,0.6s,baz=309,slow=3.3,SNR=4.3
KURBB PKP **PKPdf** **02 46 13.6 +0.8**
comp=Z,2.3nm,0.9s,baz=314,slow=1.9,SNR=13
ZALV Zalesovo Beam 140.39 24 PKiKP PKPpre 02 46 07.2
comp=Z,3.6nm,0.6s,baz=303,slow=3.0,SNR=13
ZALV PKP **PKPdf** **02 46 13.8 +0.3**
comp=Z,6.4nm,0.7s,baz=278,slow=2.7,SNR=14
ZALV SKPbc **SKPbc** **02 49 40.7 +0.6**
comp=Z,4.5nm,0.9s,baz=305,slow=5.2,SNR=6.9
MNAS Manas 140.52 46 PKiKP **PKPdf** **02 46 15.3 +1.0**
MNAS pmax pmax
comp=Z,5.0nm,1.1s
AAK Ala-Archa 141.80 45 *e*PKPdf PKPpre 02 46 13.4
AAK Ala-Archa 141.80 45 PKiKP **PKPdf** **02 46 17.0 +0.4**
AAK pmax pmax
comp=Z,4.0nm,1.0s
BOD Bodaibo 141.84 357 *e*PKHKP PKPpre 02 46 09.6
BOD pmax pmax
comp=Z,12nm,0.8s
TKM2 Tokmak 2 142.41 44 PKiKP **PKPdf** **02 46 18.7 +0.9**
TKM2 pmax pmax
comp=Z,5.0nm,1.1s
GRNR Gornyy 142.97 333 *e*PKiKP **PKiKP** **02 46 16.2 -5.3**
ZEA Zeya 143.73 344 *e*PKiKP PKPbc 02 46 17.8 +0.5
ZEA pmax pmax
comp=Z,28nm,1.2s
ASAJ Asahikawa 144.03 320 PKP PKPbc 02 46 19.2 +0.7
comp=Z,11nm,0.9s,baz=276,slow=5.9,SNR=13
ASAJ Asahikawa 144.03 320 *e*PKPdf PKPbc 02 46 19.1 +0.6
MAKZ Makanchi 144.10 34 PKiKP **PKPab** **02 46 18.2 0.0**
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
KSH Kashi 144.10 49 PKP **PKPdf** **02 46 20.0 -0.8**
KSH pPKP pPKPdf 02 46 47.7 -2.2
KSH PP **PP** **02 49 33.0 -3.1**
KSH PKS **PKSdf** **02 49 53.5 -3.0**
KSH SKS **SKSdf** **02 53 18.7 -2.0**
KSH SS **SS** **03 08 12.4 -0.3**
KSH AMB AMB
comp=Z,210nm,7.8s
KSH LR LR
comp=Z,170nm,10.8s
KSH LR LR
comp=Z,150nm,8.9s
KSH LR LR
comp=Z,180nm,9.1s
MK31 Makanchi Array 144.28 34 *i* PKiKP PKPbc 02 46 19.1 -0.1
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 144.28 34 PKP PKPbc 02 46 19.4 +0.1
comp=Z,4.1nm,0.7s,baz=336,slow=2.7,SNR=32
MKAR SKPbc **SKiKP** **02 49 51.2 +0.3**
comp=Z,1.7nm,0.7s,baz=338,slow=2.6,SNR=4.7
DGZ Jazzator, Alta 144.69 27 *d* iPKiKP PKPbc 02 46 21.0 +0.4
PDGK Podgornoye 144.69 41 PKiKP PKPbc 02 46 21.1 +0.3
PDGK pmax pmax
comp=Z,31nm,1.1s
ERM Erimo 144.75 316 *e*PKPdf **PKPdf** **02 46 22.2 +0.6**
ERM Erimo 144.75 316 *d* iPKiKP **PKPdf** **02 46 22.7 +1.1**
KLR Kul'dur 146.08 335 PKPbc **PKPbc** **02 46 24.6 -0.1**
comp=Z,1.7nm,0.8s,baz=46,slow=2.8,SNR=77
KLR Kul'dur 146.08 335 *d* iPKP2 **PKPab** **02 46 25.1 -0.4**
GUMO Guam 146.89 265 PKPbc **PKPbc** **02 46 28.1 0.0**
comp=Z,375nm,1.0s,baz=182,slow=7.1,SNR=9.2
GUMO Guam 146.89 265 *e*PKPbc **PKPbc** **02 46 27.7 -0.3**
TEY Ternei 146.91 326 *e*PKP2 **PKPbc** **02 46 26.9 -0.3**
IRK Irkutsk 147.09 7 *e*PKP2 **PKPbc** **02 46 26.8 -0.7**
IRK pmax pmax
comp=Z,59nm,2.0s
MOY Mondy 147.15 11 *e*PKP2 **PKPbc** **02 46 28.7 +0.8**
MOY pmax pmax
comp=Z,50nm,1.4s
TLY Talaya 147.56 8 *e*PKPbc **PKPbc** **02 46 28.8 0.0**
TLY Talaya 147.56 8 *e*PKP2 **PKPbc** **02 46 27.7 -1.2**
TLY pmax pmax
comp=Z,20nm,1.0s
BATI Baumata 147.74 204 P **PKPbc** **02 46 30.9 +0.5**
SOEI Soe 147.91 206 P **PKPbc** **02 46 31.5 +0.5**
SOEI Soe 147.91 206 *e*PKPbc **PKPbc** **02 46 32.1 +1.1**
SOEI *e*PKPab **PKPab** **02 46 35.5 +1.8**
PALK Pallekele 148.26 109 *e*PKPbc **PKPbc** **02 46 31.2 -0.7**
PALK Pallekele 148.26 109 *e*PKP2 **PKPbc** **02 46 31.2 -0.7**
ZAK Zakamensk 148.77 9 *e*PKiKP **PKPdf** **02 46 29.3 +1.0**
ZAK *e* 02 47 00.1
ZAK pmax pmax
comp=Z,16nm,1.3s
ZAK pmax pmax
comp=Z,12nm,1.1s
WMQ Urumqi 149.10 34 *e*PKPbc **PKPdf** **02 46 30.7 +1.8**
FAKI Fak Fak 149.24 225 *e*PKPbc **PKPbc** **02 46 35.0 +0.7**
FAKI *e*PKPab **PKPab** **02 46 40.7 +1.7**
HYB Hyderabad 149.32 89 *i* PKP **PKPbc** **02 46 35.0 +0.6**
HIA Hailar 149.62 348 *e*PKPbc **PKPbc** **02 46 34.2 -0.1**
HIA *e*PKPab **PKPab** **02 46 40.0 +0.4**
HIA Hailar 149.62 348 *e*PKP2 **PKPbc** **02 46 34.2 -0.1**
MMRI Maumere 149.72 203 *e*PKPbc **PKPbc** **02 46 35.2 -0.2**
EDFI Ende, Flores 149.81 202 P **PKPdf** **02 46 28.3 -2.7**
USRK Ussuriysk Ar. 149.85 329 PKPbc **PKPbc** **02 46 35.2 +0.3**
comp=Z,30nm,0.8s,baz=303,slow=3.9,SNR=4.2
USRK PKPab **PKPab** **02 46 41.1 +0.5**
comp=Z,9.0nm,0.6s,baz=33,slow=1.7,SNR=11
MDJ Mudanjiang 150.64 332 PKPbc **PKPbc** **02 46 34.6 -2.2**
MJAR Matsushiro Arr 150.74 311 PKPbc **PKPbc** **02 46 37.6 +0.3**
comp=Z,21nm,0.8s,baz=90,slow=1.1,SNR=60
MAJO Matsushiro 150.74 311 *e*PKPbc **PKPbc** **02 46 37.8 +0.5**
MAJO Matsushiro 150.74 311 *e*PKiKP **PKPbc** **02 46 37.8 +0.5**
MAT Matsushiro 150.74 311 PKP **PKPbc** **02 46 36.8 -0.5**
PLAI Plampang 150.87 194 P **PKPbc** **02 46 38.4 +0.2**
SONM Songino Array 151.68 6 PKP **PKPdf** **02 46 33.2 +0.2**
comp=Z,3.5nm,0.8s,baz=286,slow=1.2,SNR=25
SONM PKPbc **PKiKP** **02 46 39.9 +0.3**
comp=Z,30nm,0.8s,baz=305,slow=1.2,SNR=100
ULN Ulaanbaatar 151.71 5 *e*PKPdf **PKPdf** **02 46 32.6 -0.4**
ULN *e*PKPbc **PKiKP** **02 46 39.6 -0.2**
ULN *e*PKPab **PKPab** **02 46 48.5 +0.1**
ULN Ulaanbaatar 151.71 5 *e*PKiKP **PKPdf** **02 46 32.6 -0.4**
ULN *e* 02 46 48.6
BBSI Bau Bau 152.47 206 P **PKPbc** **02 46 38.7 -3.2**
LEM Lembang 153.47 173 PKPbc **PKPbc** **02 46 45.3 +1.0**
comp=Z,66nm,0.9s,baz=340,slow=23,SNR=9.0
KAPI Kappang 153.95 201 *e*PKPbc **PKPbc** **02 46 40.0 +0.8**
KAPI *e*PKPab **PKPab** **02 46 59.4 +0.8**
BNSI Bone 154.40 202 P **PKPbc** **02 47 40.0 +0.9**
KSRS Korea Array 156.86 324 PKP **PKPdf** **02 46 41.4 +1.1**
comp=Z,4.0nm,0.9s,baz=14,slow=1.5,SNR=5.2
KSRS PKPab **PKPab** **02 47 11.4 +0.9**
comp=Z,8.5nm,0.8s,baz=56,slow=4.3,SNR=10
KSAR Wonju Array Be 156.89 324 PKP **PKPdf** **02 46 41.4 +1.1**
KSAR PKPab **PKPab** **02 47 11.4 +0.8**
KSAR Wonju Array Be 156.89 324 PKiKP **PKPdf** **02 46 41.4 +1.1**
KSAR 02 47 11.4
GTA Gaotai 158.15 23 *e*PKP **PKPdf** **02 46 42.7 +0.7**
GTA pPKP pPKPdf 02 47 09.3 -1.9
GTA sPKP 02 47 20.2
HHC Hu-ho-hao-te 158.88 358 *e*PKP **PKPdf** **02 46 43.8 +1.0**
LZH Lanzhou 162.53 19 *e*PKP **PKPdf** **02 46 46.9 -0.1**
LZH pPKP pPKPdf 02 47 14.3 -2.0
LZH sPKP 02 47 22.9
LZH LR LR
comp=Z,120nm,16.0s
LZH LR LR
comp=Z,140nm,17.8s
LZH LR LR
comp=Z,200nm,19.9s
KULM Kulim 162.59 144 *e*PKPdf **PKPdf** **02 46 47.1 -0.4**
TIA Tai'an 162.62 343 PKP **PKPdf** **02 46 48.0 +1.1**
KKM Kota Kinabalu 165.48 202 *e*PKPdf **PKPdf** **02 46 50.3 0.0**
XAN Xi'an 165.59 6 PKP **PKPdf** **02 46 50.8 +1.1**
NJ2 Nanjing 165.73 331 *e*PKP **PKPdf** **02 46 49.2 -0.6**
CD2 Chengdu 167.11 28 PKP **PKPdf** **02 46 49.8 -1.2**
CMAR Chiang Mai Arr 168.68 94 PKP **PKPdf** **02 46 52.5 +0.2**
comp=Z,2.6nm,0.8s,baz=269,slow=1.8,SNR=14
CHTO Chiang Mai 168.72 92 *e*PKPdf **PKPdf** **02 46 52.6 +0.2**
CHTO Chiang Mai 168.72 92 *e*PKiKP **PKPdf** **02 46 52.6 +0.2**
GYA Guiyang 172.22 29 PKP **PKPdf** **02 46 53.0 -1.2**
GYA sPKP 02 47 32.0
GYA PKPab **PKPab** **02 48 19.4 +1.0**
GYA PKS **PKSdf** **02 50 24.8 -1.9**
GYA PP **PP** **02 52 11.2 +2.4**
GYA AMB AMB
comp=Z,120nm,8.4s

*ISCJB **10** 02:31:36.4±0.5, 60°00'N±0°02'×153°00'W±0°07, h1km±4km, mb3.6/3, Error ellipse: s-maj=6.5km s-min=2.9km az=17.5*
*NEIC **10** 02:31:36.7±0.0, 60°02'N×152°99'W, h1km, ML2.7(AEIC), After AEIC.*
*IDC **10** 02:31:39.0±1.2, 59°76N×152°88W, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.2/73, mbtmp3.3/5, ML2.6/2, Error ellipse: s-maj=28.0km s-min=16.6km az=99.0*

ISC 10 02:31:36.0±1.0, 60°07N±0°02'×153°20W±0°04, h5km±7km, n48, σ1s83/59, mb3.7/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILW	**Iliamna West**	**0.03**	**99**	P	**Pg**	**02 31 38.9**	**+1.5**
IVE	**Iliamna Volcan**	**0.10**	**118**	P	**Pg**	**02 31 37.8**	**-0.4**
ILS	**Iliamna Low So**	**0.13**	**149**	P	**Pg**	**02 31 37.7**	**-0.9**
RSO	**Redoubt South**	**0.46**	**29**	*e*Pg	**Pb**	**02 31 46.4**	**-0.2**
RSO				*e*Sg	**Sg**	**02 31 52.0**	**+1.1**
RDWB	**Redoubt West**	**0.46**	**23**	P	**Pb**	**02 31 46.4**	**-0.3**
RDWB				S	**Sb**	**02 31 53.4**	**-0.5**
RDJH	**Redoubt Jeurge**	**0.56**	**20**	P	**Pb**	**02 31 48.3**	**-0.1**
DFR	**Drift River**	**0.59**	**26**	P	**Pb**	**02 31 48.6**	**-0.2**
DFR				S	**Sb**	**02 31 57.1**	**-0.3**
AUNW	**Augustine NWes**	**0.70**	**192**	P	**Pg**	**02 31 50.1**	**+0.6**
AUW	**Augustine West**	**0.71**	**191**	P	**Pg**	**02 31 50.3**	**+0.6**
AUE	**Augustine Isla**	**0.71**	**187**	P	**Pg**	**02 31 49.9**	**+0.2**
AUI	**Augustine Isla**	**0.74**	**189**	P	**Pg**	**02 31 50.4**	**+0.2**
CDD	**Cape Douglas**	**1.16**	**191**	P	**Pg**	**02 31 57.4**	**-0.9**
BRLK	**Bradley Lake**	**1.20**	**104**	P	**Pn**	**02 31 57.0**	**-2.5**
BRLK				S	**Sg**	**02 32 11.5**	**-3.1**
CKL	**Chakachamna La**	**1.21**	**20**	P	**Pn**	**02 31 59.6**	**-0.1**
SPWE	**Spurr West**	**1.25**	**14**	P	**Pn**	**02 32 00.6**	**+0.4**
FONW	**Fourpeaked Sta**	**1.29**	**197**	P	**Pn**	**02 31 59.5**	**-1.1**
SPCP	**Crater Peak Br**	**1.31**	**23**	P	**Pn**	**02 32 01.3**	**+0.2**
SPCP				S	**Sn**	**02 32 19.2**	**+0.2**
SLKM	**Skilak Lake**	**1.55**	**72**	P	**Pn**	**02 32 03.2**	**-1.0**
SVW2	**Sparrevohn**	**1.57**	**312**	P	**Pg**	**02 32 06.8**	**+0.8**
KAPH	**Katmai Pasha**	**1.59**	**202**	P	**Pn**	**02 32 04.7**	**-0.1**
STLK	**Strandline Lak**	**1.59**	**24**	P	**Pg**	**02 32 05.8**	**-0.6**
KARR	**Katmai Rainbow**	**1.75**	**207**	P	**Pb**	**02 32 07.7**	**-0.9**
SUA	**Susitna One**	**1.85**	**40**	P	**Pb**	**02 32 09.3**	**-1.0**
FIB	**Fire Island**	**1.86**	**52**	P	**Pb**	**02 32 09.9**	**-0.4**
SEW	**Seward**	**1.88**	**87**	P	**Pn**	**02 32 08.2**	**-0.5**
RC01	**Rabbit Creek A**	**2.00**	**57**	P	**Pn**	**02 32 10.5**	**+0.2**
SKT	**Skwentna**	**2.09**	**22**	P	**Pg**	**02 32 14.3**	**-1.7**
KELA	**Mount Kelaz**	**2.09**	**220**	P	**Pb**	**02 32 13.2**	**-1.2**
KDAK	**Kodiak Island**	**2.31**	**172**	Pn	**Pn**	**02 32 15.2**	**+0.6**
	6.0nm,0.3s,baz=349,slow=14,SNR=74						
KDAK				Sn	**Sn**	**02 32 45.5**	**+2.1**
	3.0nm,0.3s,baz=178,slow=18,SNR=5.6						
KDAK	**Kodiak Island**	**2.31**	**172**	P	**Pn**	**02 32 15.9**	**+1.2**
PMR	**Palmer**	**2.51**	**51**	*e*Pn	**Pn**	**02 32 18.8**	**+1.4**
PMR				*e*Sg	**Sb**	**02 32 54.8**	**+2.1**
KNK	**Knik Glacier**	**2.69**	**58**	P	**Pn**	**02 32 21.6**	**+1.7**
KNK				S	**Sn**	**02 32 55.5**	**+2.6**
GHO	**Glory Hole Cre**	**2.70**	**49**	P	**Pn**	**02 32 22.4**	**+2.3**
GHO				S	**Sb**	**02 32 57.6**	**-0.6**
OHAK	**Old Harbor**	**2.85**	**181**	P	**Pn**	**02 32 23.2**	**+1.2**
PPLA	**Purkeypile**	**2.88**	**9**	*e*Pg	**Pg**	**02 32 30.7**	**-0.5**
PPLA				*e*Sn	**Sb**	**02 32 59.5**	**-4.0**
PPLA				*e*Sg	**Sg**	**02 33 09.5**	**+0.9**
SML	**Sawmill**	**2.95**	**52**	P	**Pn**	**02 32 25.5**	**+2.0**
SML				S	**Sn**	**02 33 02.2**	**+3.0**
TT01	**Tatalina**	**3.16**	**336**	P	**Pb**	**02 32 29.0**	**-3.5**
KTH	**Kantishna Hill**	**3.66**	**16**	*e*Pn	**Pb**	**02 32 37.6**	**-3.6**
TRF	**Thorofare Moun**	**3.67**	**21**	P	**Pb**	**02 32 36.8**	**-4.5**
KLU	**Klutina**	**3.85**	**65**	P	**Pn**	**02 32 36.5**	**+0.7**
BPAW	**Bear Paw Mtn.**	**4.18**	**13**	*e*Pn	**Pb**	**02 32 44.3**	**-5.7**
MCK	**McKinley**	**4.20**	**27**	*e*Pn	**Pn**	**02 32 41.0**	**+0.4**
MCK				*e*Pg	**Pg**	**02 32 53.7**	**-2.6**
PAX	**Paxson**	**4.71**	**48**	*e*Pn	**Pn**	**02 32 49.4**	**+1.7**
ILAR	**Eielson Array**	**5.56**	**29**	Pn	**Pn**	**02 33 01.9**	**+2.7**
	0.2nm,0.3s,baz=214,slow=13,SNR=14						
ILAR				Sn	**Sn**	**02 34 08.6**	**+5.2**
	0.1nm,0.3s,baz=218,slow=24,SNR=4.4						
YKA	**Yellowknife Ar**	**18.52**	**66**	P	**Pn**	**02 35 54.2**	**+1.4**
	0.0nm,0.3s,baz=275,slow=9.9,SNR=7.8						
TXAR	**Lajitas Array**	**45.10**	**110**	P	**P**	**02 39 52.6**	**-0.3**
	0.9nm,1.0s,baz=342,slow=5.7,SNR=2.5						
SONM	**Songino Array**	**54.67**	**306**	P	P	02 41 12.2	+6.6
	0.3nm,0.5s,baz=44,slow=4.4,SNR=3.1						
BVAR	**Borovoye Array**	**61.96**	**332**	P	P	02 42 00.7	+4.4
	0.3nm,0.6s,baz=25,slow=7.6,SNR=2.7						

IDC 10 02:36:07.8±1.3, 9°30N×123°61E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/67, mbtmp3.5/5, Error ellipse: s-maj=149.4km s-min=19.5km az=67.0, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.92**	**160**	P	P	02 42 26.2	-0.3
	0.2nm,0.3s,baz=345,slow=9.5,SNR=3.9						
ASAR	**Alice Springs**	**34.27**	**163**	P	P	02 42 56.4	+0.4
	0.3nm,0.4s,baz=339,slow=7.0,SNR=6.6						
SONM	**Songino Array**	**41.08**	**342**	P	P	02 43 54.8	+1.4
	0.4nm,0.6s,baz=162,slow=8.7,SNR=3.5						
MKAR	**Makanchi Array**	**51.25**	**324**	P	P	02 45 13.3	-0.1
	0.3nm,0.5s,baz=118,slow=7.0,SNR=8.3						
KURBB	**Kurchatov Arra**	**55.41**	**327**	P	P	02 45 42.4	-1.5
	0.5nm,0.6s,baz=118,slow=8.1,SNR=5.8						

*ISCJB **10** 02:42:03.1±1.4, 17°65S±0°5×178°78W±0°3, h539km, n10, σ0s81/12, mb3.9/7, Fiji Islands region*
*IDC **10** 02:42:05.5±5.0, 17°66S×178°75W, h560km±56km, mb3.4/7, mb1 3.7/7, mb1mx3.1/52, mbtmp4.3/7, Error ellipse: s-maj=70.1km s-min=25.1km az=155.0*

ISC 10 02:42:03.5±1.4, 17°65S±0°5×178°7W±0°3, h539km, n10, σ0s81/12, mb3.9/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.22**	**260**	P	**P**	**02 47 56.5**	**+0.2**
	0.8nm,0.3s,baz=87,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**38.53

IDC ***10*** *02:52:20.2±1.7,2°.79S×141°.16E,h0km,mb3.6/4, mb1 3.9/5,mb1mx3.5/52,mbtmp3.7/5,ML3.9/1,MS3.5/6, Ms1 3.5/6,ms1mx3.1/38,Error ellipse: s-maj=72.7km s-min=25.4km az=97.0*

DJA ***10*** *02:52:23.0±0.9,2°.5S×146°.1E±°,h10km,M5.0/5,mb5.0/1, MLv5.0/5*

ISCJB ***10*** *02:52:24.9±1.0,2°.5S±0°.1×140°.80E±0°.07,h31km,mb3.5/4, MS3.7/4,Error ellipse: s-maj=16.7km s-min=9.8km az=170.1*

ISC 10 02:52:25.8±1.0,2°.5S±0°.1×140°.8E±0°.1,h31km,n20, σ2°.41/11,mb3.5/4,MS3.8/4,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.06**	**283**	**P**	**Pb**	**02 52 28.4**	**-2.8**
JAY				S	**Sb**	**02 52 32.3**	**-2.5**
GENI	**Genyem**	**0.60**	**264**	**P**	**Pn**	**02 52 37.8**	**-0.4**
GENI				S	**Sn**	**02 52 48.7**	**+1.9**
MMPI	**Merauke**	**5.91**	**184**	**P**	**Pn**	**02 53 53.5**	**+2.2**
RKPI	**Ransiki, Papua**	**6.66**	**279**	**P**	**Pn**	**02 54 02.4**	**+0.8**
PMG	**Port Moresby** comp=Z,105nm,19.0s,baz=0.5,slow=42	**9.33**	**137**	LR	LR	02 58 37.5	
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=24,slow=12,SNR=15	**18.41**	**199**	P	**P**	**02 56 35.8**	**-2.8**
BATI	**Baumata** comp=Z,54nm,20.5s,baz=40,slow=40	**18.61**	**245**	LR	LR	03 04 52.6	
ASAR	**Alice Springs** 2.3nm,0.9s,baz=27,slow=9.4,SNR=15	**22.04**	**197**	P	**P**	**02 57 15.2**	**-2.9**
H11S3	**WAKE ISLAND Hy** baz=233,slow=75,SNR=55	**32.98**	**50**	T	T	03 33 27.0	
H11S2	**WAKE ISLAND Hy** baz=233,slow=75,SNR=56	**32.99**	**50**	T	T	03 33 28.9	
H11S1	**WAKE ISLAND Hy** baz=233,slow=75,SNR=35	**33.00**	**50**	T	T	03 33 33.8	
H11N1	**WAKE ISLAND Hy** baz=229,slow=75,SNR=4.5	**33.87**	**48**	T	T	03 34 36.5	
H11N2	**WAKE ISLAND Hy** baz=229,slow=75,SNR=5.9	**33.88**	**48**	T	T	03 34 40.8	
H11N3	**WAKE ISLAND Hy** baz=229,slow=75,SNR=2.8	**33.88**	**48**	T	T	03 34 40.8	
MJAR	**Matsushiro Arr** comp=Z,43nm,21.1s,baz=15,slow=32	**38.94**	**357**	LR	LR	03 13 00.1	
PSI	**Prapat** comp=Z,90nm,18.4s,baz=140,slow=40	**42.16**	**277**	LR	LR	03 20 40.7	
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=99,slow=6.4,SNR=2.3	**70.91**	**322**	P	**P**	**03 03 42.0**	**+1.9**
BVAR	**Borovoye Array** 0.6nm,0.6s,baz=114,slow=6.5,SNR=3.9	**80.34**	**325**	P	**P**	**03 04 35.8**	**+1.8**
BVAR				LR	LR	03 43 53.0	
WSAR	**Wadi Sarin** comp=Z,57nm,18.8s,baz=230,slow=38	**83.76**	**294**	LR	LR	03 46 11.0	
ILAR	**Eielson Array** 0.2nm,0.6s,baz=250,slow=3.9,SNR=4.6	**84.82**	**24**	P	**P**	**03 04 56.7**	**-0.4**

ISCJB ***10*** *03:14:10.8±0.3,31°.62S±0°.02×179°.32E±0°.06,h450km, mb4.2/18,Error ellipse: s-maj=7.5km s-min=3.1km az=10.8*

NEIC ***10*** *03:14:11.3±0.5,31°.77S×179°.55E,h463km±6km,mb4.6/12, Error ellipse: s-maj=10.9km s-min=6.7km az=118.0*

IDC ***10*** *03:14:11.1±0.9,31°.67S×179°.60E,h457km±8km,mb3.8/9, mb1 3.9/2,mb1mx3.6/41,mbtmp4.6/12,Error ellipse: s-maj=22.5km s-min=13.2km az=145.0*

WEL ***10*** *03:14:15.9±0.8,32°.5S°×18°.0W±1°.4,h415km±12km*

ISC 10 03:14:10.9±0.3,31°.68S±0°.03×179°.35E±0°.05,h450km, n134,σ2°.9/131,mb4.1/18,1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.37**	**45**	P	**P**	**03 15 22.4**	**+1.6**
GLKZ	**Green Lake**	**3.37**	**45**	S	**S**	**03 16 16.5**	**-1.0**
RIZ	**Raoul Island**	**3.38**	**45**	P	**P**	**03 15 22.9**	**+2.0**
RIZ	**Raoul Island**	**3.38**	**45**	S	**S**	**03 16 13.9**	**-3.8**
RAO	**Raoul Island** 84nm,0.3s,baz=66,slow=20,SNR=3.1	**3.38**	**45**	P	**P**	**03 15 20.6**	**-0.3**
RAO	70nm,0.3s,baz=66,slow=20,SNR=2.7			S	**S**	**03 16 15.4**	**-2.3**
GRZ	**Great Barrier**	**5.59**	**214**	P	P	03 15 48.3	+7.5
KUZ	**Kuaotunu**	**5.88**	**210**	P	P	03 15 49.5	+5.8
MXZ	**Matakaoa Point**	**5.93**	**188**	*eP*	**P**	**03 15 47.8**	**+3.5**
MXZ	**Matakaoa Point**	**5.93**	**188**	P	**P**	**03 15 46.3**	**+2.0**
MXZ	**Matakaoa Point**	**5.93**	**188**	S	**S**	**03 17 02.0**	**+1.3**
WCZ	**Waipu Caves**	**5.95**	**223**	P	P	03 15 52.2	+7.7
OUZ	**Omahuta**	**5.96**	**232**	*eP*	P	03 15 51.4	+6.8
OUZ	**Omahuta**	**5.96**	**232**	P	P	03 15 51.7	+7.1
WIZ	**White Island**	**6.10**	**196**	P	P	03 15 50.8	+4.8
WMGZ	**Waiomatatini S**	**6.17**	**187**	P	**P**	**03 15 48.9**	**+2.2**
WMGZ	**Waiomatatini S**	**6.17**	**187**	S	**S**	**03 17 08.0**	**+2.7**
WIAZ	**Waiheke Island**	**6.18**	**213**	P	P	03 15 53.8	+6.9
HAZ	**Te Kaha**	**6.20**	**192**	P	**P**	**03 15 49.4**	**+2.3**
HAZ	**Te Kaha**	**6.20**	**192**	S	**S**	**03 17 04.8**	**-0.9**
PKGZ	**Pakihiroa**	**6.28**	**189**	P	**P**	**03 15 49.9**	**+1.9**
PKGZ	**Pakihiroa**	**6.28**	**189**	S	**S**	**03 17 07.0**	**-0.4**
RUGZ	**Raukumara Rang**	**6.42**	**192**	P	**P**	**03 15 51.3**	**+1.9**
RUGZ	**Raukumara Rang**	**6.42**	**192**	S	**S**	**03 17 09.0**	**-1.2**
PUZ	**Puketiti**	**6.44**	**188**	P	**P**	**03 15 51.4**	**+1.8**
PUZ	**Puketiti**	**6.44**	**188**	S	**S**	**03 17 09.1**	**-1.3**
WTAZ	**Waiatarua**	**6.56**	**216**	P	P	03 15 56.4	+5.6
TWGZ	**Tauwhareparae**	**6.58**	**189**	P	**P**	**03 15 54.5**	**+3.4**
AWAZ	**Awhitu Peninsu**	**6.63**	**215**	P	P	03 15 57.6	+6.1
KMRZ	**Kaimai**	**6.76**	**204**	P	P	03 15 58.2	+5.2
TOZ	**Tahuroa Road**	**6.81**	**207**	P	P	03 15 59.2	+5.7
URZ	**Urewera** 212nm,0.3s,baz=300,slow=2.9,SNR=502	**6.81**	**195**	P	**P**	**03 15 55.7**	**+2.2**
URZ	20nm,0.3s,baz=37,slow=20,SNR=7.3			S	**S**	**03 17 16.1**	**-1.4**
URZ	**Urewera**	**6.81**	**195**	*eP*	**P**	**03 15 54.8**	**+1.4**
URZ				S	**S**	**03 17 16.1**	**-1.4**
URZ	**Urewera**	**6.81**	**195**	P	**P**	**03 15 54.8**	**+1.4**
URZ	**Urewera**	**6.81**	**195**	S	**S**	**03 17 16.6**	**-1.0**
CNGZ	**Carnagh Statio**	**6.85**	**188**	P	**P**	**03 15 56.9**	**+2.7**
CNGZ	**Carnagh Statio**	**6.85**	**188**	S	**S**	**03 17 19.9**	**+1.6**
TKGZ	**Te Karaka**	**6.86**	**190**	P	**P**	**03 15 56.9**	**+3.0**
TKGZ	**Te Karaka**	**6.86**	**190**	S	**S**	**03 17 17.8**	**-0.5**
OMRZ	**Omania**	**6.86**	**200**	P	P	03 15 58.9	+4.9
MKRZ	**Makatiti**	**6.86**	**199**	P	P	03 15 59.3	+5.2
TARZ	**Mount Tarawera**	**6.94**	**199**	P	**P**	**03 15 58.3**	**+3.4**
RAGZ	**Rawiri**	**6.98**	**193**	P	**P**	**03 15 57.8**	**+2.4**
RAGZ	**Rawiri**	**6.98**	**193**	S	**S**	**03 17 20.2**	**-0.7**
HLRZ	**Highlands Stat**	**7.00**	**200**	P	P	**03 15 59.4**	**+3.9**
RRRZ	**Republican Roa**	**7.04**	**198**	P	P	03 16 00.2	+4.3
RIGZ	**Rimuhau**	**7.13**	**190**	P	**P**	**03 15 58.3**	**+1.5**
RIGZ	**Rimuhau**	**7.13**	**190**	S	**S**	**03 17 22.7**	**-1.0**
HRRZ	**Handcock Road**	**7.15**	**200**	P	P	**03 16 00.6**	**+3.5**
GRRZ	**Galatos Road**	**7.16**	**201**	P	P	03 16 01.8	+4.6
RTZ	**Ruatahuna**	**7.18**	**195**	P	**P**	**03 15 59.6**	**+2.1**
SNGZ	**Shannon Statio**	**7.27**	**192**	P	**P**	**03 16 01.4**	**+3.0**
WPRZ	**Whakapapataran**	**7.30**	**200**	P	**P**	**03 16 01.9**	**+3.2**
PRGZ	**Paritu Road**	**7.33**	**189**	P	**P**	**03 16 01.9**	**+3.0**
TLZ	**Tolley Road**	**7.33**	**204**	P	**P**	**03 16 02.7**	**+3.6**
MTHZ	**Maungataniwha**	**7.44**	**195**	P	**P**	**03 16 01.8**	**+1.6**
RAHZ	**Arahi**	**7.45**	**194**	P	**P**	**03 16 01.9**	**+1.6**
MRHZ	**Matea Rd**	**7.53**	**198**	P	**P**	**03 16 02.6**	**+1.5**
RATZ	**Rangitukua**	**7.74**	**201**	P	**P**	**03 16 06.4**	**+3.0**
HIZ	**Hauiti**	**7.75**	**207**	*eP*	P	03 16 08.1	+4.7
BKZ	**Black Stump Fm**	**7.82**	**197**	*eP*	**P**	**03 16 05.2**	**+1.0**
KWHZ	**Kaweka Forest**	**8.09**	**196**	P	**P**	**03 16 06.9**	**-0.2**
BFZ	**Birch Farm**	**9.32**	**195**	*eP*	**P**	**03 16 22.0**	**+1.5**
BFZ				*eS*	**S**	**03 18 06.0**	**-1.1**
SNZO	**South Karori**	**10.31**	**200**	*eP*	**P**	**03 16 31.2**	**0.0**
SNZO				*eS*	**S**	**03 18 21.8**	**-5.0**
THZ	**Tophouse**	**11.31**	**205**	*eP*	**P**	**03 16 42.6**	**+0.5**
THZ				*eS*	**S**	**03 18 42.9**	**-3.9**
KHZ	**Kahutara**	**11.67**	**202**	*eP*	**P**	**03 16 47.5**	**+1.6**
KHZ				*eS*	**S**	**03 18 50.9**	**-3.0**
LTZ	**Lake Taylor**	**12.43**	**205**	*eP*	**P**	**03 16 54.5**	**+0.3**
OXZ	**Oxford**	**12.98**	**204**	*eP*	**P**	**03 16 59.8**	**-0.4**
MQZ	**McQueen's Vall**	**13.12**	**202**	*eP*	**P**	**03 17 01.4**	**-0.1**
RPZ	**Rata Peaks** 3.4nm,0.3s,baz=350,slow=1.6,SNR=11	**13.68**	**206**	P	**P**	**03 17 07.0**	**-0.6**
RPZ	0.8nm,0.3s,baz=146,slow=3.6,SNR=2.8			S	**S**	**03 19 29.6**	**-4.1**
RPZ	**Rata Peaks**	**13.68**	**206**	*eP*	**P**	**03 17 06.2**	**-1.5**
RPZ				S	**S**	**03 19 29.6**	**-4.1**
MSVF	**Nonsavu** 19nm,0.6s	**13.94**	**355**	*eP*	**P**	**03 17 11.1**	**+0.3**
FOZ	**Fox Glacier**	**14.02**	**210**	*eP*	**P**	**03 17 11.5**	**+0.2**
LBZ	**Lake Benmore**	**14.58**	**207**	*eP*	**P**	**03 17 17.3**	**0.0**
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=168,slow=19,SNR=13	**14.96**	**307**	P	**P**	**03 17 25.2**	**+3.5**
DZM	**Mont Dzumac** 14nm,0.8s	**14.96**	**307**	*eP*	**P**	**03 17 26.9**	**+5.1**
ODZ	**Otahua Downs**	**14.97**	**205**	*eP*	**P**	**03 17 20.9**	**-0.6**
WKZ	**Wanaka** 106nm,1.6s	**15.41**	**209**	*eP*	**P**	**03 17 25.4**	**-0.9**
AFI	**Afiamalu** 13nm,0.3s,baz=299,slow=12,SNR=10	**19.47**	**27**	P	**P**	**03 18 09.1**	**+1.5**
AFI	2.7nm,0.3s,baz=59,slow=23,SNR=3.0			S	**S**	**03 21 24.6**	**+3.8**
AFI	**Afiamalu** 60nm,0.6s	**19.47**	**27**	*eP*	**P**	**03 18 07.7**	**+0.1**
AFI				S	**S**	**03 21 24.6**	**+3.8**
ARMA	**Armidale** 42nm,1.1s	**23.76**	**266**	*eP*	**P**	**03 18 49.8**	**+3.5**
CTAO	**Charters Tower** 52nm,0.7s	**31.81**	**283**	*eP*	**P**	**03 19 58.7**	**+1.6**
STKA	**Stephens Creek** 5.5nm,0.5s,baz=109,slow=7.7,SNR=39	**31.99**	**260**	P	**P**	**03 20 01.1**	**+2.7**
STKA	**Stephens Creek** 2.1nm,1.1s	**31.99**	**260**	*eP*	**P**	**03 20 01.1**	**+2.7**
BBOO	**Buckleboo** 4.5nm,0.5s	**36.44**	**256**	*eP*	**P**	**03 20 37.0**	**+0.9**
PMG	**Port Moresby** 49nm,1.6s	**37.17**	**300**	*eP*	P	03 20 50.0	+7.7
AS01	**Alice Springs**	**40.75**	**270**	*eP*	**P**	**03 21 11.3**	**-0.1**
AS31	**Alice Springs** 1.9nm,0.8s	**40.79**	**270**	*eP*	**P**	**03 21 12.7**	**+0.9**
ASAR	**Alice Springs** 4.3nm,0.6s,baz=105,slow=7.4,SNR=75	**40.79**	**270**	P	**P**	**03 21 12.6**	**+0.8**
ASAR	0.4nm,0.7s,baz=116,slow=3.8,SNR=4.1			ScP	**ScP**	**03 26 05.7**	**-3.0**
ASAR	0.6nm,0.9s,baz=108,slow=16,SNR=4.7			S	**S**	**03 26 47.5**	**-1.7**
WB2	**Warramunga Arr**	**41.89**	**275**	*eP*	**P**	**03 21 20.1**	**-0.5**
WRAB	**Tennant Creek** 21nm,1.4s	**41.90**	**275**	*eP*	**P**	**03 21 20.8**	**+0.2**
WRA	**Warramunga Arr** 10nm,0.4s,baz=112,slow=7.9,SNR=188	**41.90**	**275**	P	**P**	**03 21 21.2**	**+0.6**
WRA	0.9nm,0.7s,baz=115,slow=3.5,SNR=5.3			ScP	**ScP**	**03 26 10.9**	**-2.3**
WRA	0.6nm,0.7s,baz=108,slow=14,SNR=3.6			S	**S**	**03 27 02.6**	**-2.8**
MTN	**Manton Dam** 21nm,1.4s	**47.97**	**282**	*eP*	**P**	**03 22 07.2**	**-0.4**
FAKI	**Fak Fak** 5.5nm,0.7s	**52.69**	**293**	*eP*	**P**	**03 22 42.4**	**0.0**
WRMHI	**West Rim**	**56.32**	**29**	*eP*	**P**	**03 23 08.2**	**+0.2**
BYL	**Byron's Ledge**	**56.34**	**29**	*eP*	**P**	**03 23 07.4**	**-0.7**
UWB	**Uwekahuna B**	**56.34**	**29**	*eP*	**P**	**03 23 06.8**	**-1.3**
SBLHI	**Steaming Bluff**	**56.35**	**29**	*eP*	**P**	**03 23 06.8**	**-1.3**
VNA3	**Neumayer Olymp**	**77.17**	**177**	P	**P**	**03 25 16.8**	**+0.2**
VNA2	**Neumayer--Watz** baz=182,slow=5.2	**77.57**	**178**	P	**P**	**03 25 19.3**	**+0.5**
MJAR	**Matsushiro Arr** 0.7nm,0.8s,baz=160,slow=4.0,SNR=4.0	**78.04**	**327**	P	**P**	**03 25 20.7**	**-1.0**
ASAJ	**Asahikawa** 2.5nm,0.5s,baz=131,slow=9.3,SNR=4.6	**82.56**	**334**	P	**P**	**03 25 46.6**	**+1.3**
KSRS	**Korea Array** 2.4nm,0.7s,baz=137,slow=5.9,SNR=6.4	**83.88**	**321**	P	**P**	**03 25 53.0**	**+0.9**
KSAR	**Wonju Array Be**	**83.89**	**321**	P	**P**	**03 25 53.0**	**+0.9**
NJ2	**Nanjing**	**85.38**	**312**	*eP*	**P**	**03 26 00.3**	**+0.8**
PEA0B	**Petropavlovsk-** 54nm,1.6s	**86.52**	**347**	*eP*	**P**	**03 26 05.3**	**+0.8**
PETK	**Petropavlovsk-** 12nm,0.7s,baz=122,slow=7.2,SNR=29	**86.52**	**347**	P	**P**	**03 26 04.9**	**+0.4**
USRK	**Ussuriysk Ar.** 1.3nm,0.5s,baz=159,slow=4.5,SNR=3.6	**87.00**	**328**	P	**P**	**03 26 08.3**	**+1.3**
NV01	**Mina Array Sit**	**90.73**	**44**	*eP*	**P**	**03 26 25.4**	**+0.6**
NVAR	**Mina Array Bea** 1.3nm,0.7s,baz=221,slow=7.9,SNR=13	**90.73**	**44**	P	**P**	**03 26 25.4**	**+0.5**
KMI	**Kunming**	**92.39**	**298**	P	**P**	**03 26 34.0**	**+1.2**
XAN	**Xi'an**	**93.09**	**308**	P	**P**	**03 26 40.1**	**+4.5**
XAN				pP	pP	03 28 30.8	+13
CD2	**Chengdu**	**94.86**	**303**	*eP*	**P**	**03 26 44.6**	**+0.8**
HHC	**Hu-ho-hao-te**	**95.51**	**315**	*eP*	**P**	**03 26 48.6**	**+2.1**
LZH	**Lanzhou**	**97.68**	**308**	*eP*	Pdif	03 26 57.6	+1.1
LZH				pP	pP	03 28 51.1	+12
LZH				sP	sP	03 29 41.0	+16
LZH				*ePP*	**PP**	**03 30 56.0**	**-5.9**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=163,slow=1.3,SNR=8.2	**116.85**	**310**	PKP	**PKPdf**	**03 32 01.8**	**-1.3**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=90,slow=4.3,SNR=2.4	**117.47**	**318**	PKP	**PKPdf**	**03 32 02.9**	**-1.0**
KSH	**Kashi**	**118.93**	**301**	*e*PKP	**PKPdf**	**03 32 03.1**	**-4.3**
KURK	**Kurchatov**	**120.28**	**314**	PKP	**PKPdf**	**03 32 08.1**	**-1.4**
KURBB	**Kurchatov Arra** 1.6nm,0.6s,baz=115,slow=2.0,SNR=14	**120.32**	**314**	PKP	**PKPdf**	**03 32 08.1**	**-1.4**
BVAR	**Borovoye Array** 1.5nm,0.5s,baz=111,slow=2.6,SNR=11	**125.72**	**315**	PKP	**PKPdf**	**03 32 19.5**	**-0.3**
SPITS	**Spitsbergen Ar** 8.7nm,1.0s,baz=160,slow=4.6,SNR=5.4	**132.80**	**355**	PKP	**PKPdf**	**03 32 31.7**	**-0.9**
ARCES	**ARCESS Array B** 9.6nm,1.2s,baz=17,slow=2.9,SNR=8.5	**139.32**	**346**	PKhKP	PKPpre	03 32 36.8	
ARCES	2.2nm,0.7s,baz=67,slow=1.6,SNR=7.1			PKP	**PKPdf**	**03 32 45.3**	**+0.4**
KBZ	**Khabaz** 3.4nm,0.8s,baz=90,slow=4.4,SNR=5.7	**143.89**	**302**	PKP	PKPbc	03 32 52.6	-0.1
FINES	**FINESS Array B** 15nm,0.4s,baz=46,slow=4.5,SNR=252	**145.51**	**338**	PKPbc	**PKPdf**	**03 32 56.4**	**+0.4**
MMAI	**Mount Meron Ar** 2.9nm,0.4s,baz=83,slow=7.3,SNR=21	**149.60**	**282**	PKPbc	**PKPbc**	**03 33 09.5**	**+0.6**
NB2	**NORSAR Subarra** comp=Z,2.7nm,0.6s,baz=16,slow=2.6	**149.61**	**349**	PKP	**PKPbc**	**03 33 07.0**	**-1.0**
NOA	**NORSAR Array B** comp=Z,4.5nm,0.7s,baz=15,slow=4.1,SNR=11	**149.61**	**349**	PKPbc	**PKPbc**	**03 33 06.9**	**-1.0**
HFS	**Hagfors** comp=Z,2.2nm,0.3s,baz=154,slow=1.4,SNR=42	**149.98**	**346**	PKPbc	**PKPbc**	**03 33 07.3**	**-1.5**
AKASG	**Malin Array Be** comp=Z,1.3nm,0.3s,baz=55,slow=2.5,SNR=17	**150.86**	**319**	PKPbc	**PKPbc**	**03 33 10.5**	**-0.6**
BRTR	**Keskin Array B** comp=Z,1.5nm,0.5s,baz=146,slow=3.6,SNR=14	**151.15**	**296**	PKPbc	**PKPbc**	**03 33 10.9**	**-1.5**
VYHS	**Vyhne**	**157.65**	**324**	*e*PKP	**PKPab**	**03 33 49.6**	**0.0**
GERES	**GERESS Array B** comp=Z,0.8nm,0.7s,baz=42,slow=6.1,SNR=5.8	**159.71**	**332**	PKPab	**PKPab**	**03 33 57.8**	**-0.9**
BCLA	**Clavier**	**160.76**	**348**	⇓PKPab	**PKPab**	**03 34 01.5**	**-1.5**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,1.0s,baz=176,slow=3.2,SNR=3.4	**161.43**	**187**	PKPab	**PKPab**	**03 34 06.8**	**+0.1**

NNC 10 03:15:07.3±3.0,37°.00N×70°.71E,h0km,mb3.5,mpv3.1, 5C-3D,Error ellipse: s-maj=24.1km s-min=20.9km az=142.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 2.2nm,0.4s	**3.72**	**35**	⇑P	Pn	03 16 06.0	-0.3
SFK	6.5nm,0.2s			⇑S	Sn	03 16 52.8	+1.8
MNAS	**Manas** 1.9nm,1.0s	**5.65**	**14**	⇑P	Pn	03 16 33.5	+0.7
MNAS	1.2nm,0.4s			⇓S	Sn	03 17 39.9	+1.4
KK31	**Karatay Array** 1.8nm,0.6s,baz=176,slow=13,SNR=22	**6.10**	**359**	⇑P	Pn	03 16 38.7	-0.1
KK31	0.3nm,0.3s,baz=191,slow=24,SNR=5.7			⇓S	Sn	03 17 50.8	+1.5
AAK	**Ala-Archa** 0.5nm,0.3s	**6.34**	**26**	⇑P	Pn	03 16 42.2	0.0
AAK	2.0nm,0.8s			⇓S	Sn	03 17 54.5	-0.9

IDC 10 03:29:29.4±5.5,3°.25S×141°.05E,h0km,mb3.1/2, mb1 3.5/3,mb1mx3.2/41,mbtmp3.3/3,ML3.3/1,Error ellipse: s-maj=204.4km s-min=30.4km az=90.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=22,slow=12,SNR=3.4	**17.84**	**201**	P	Pn	03 33 39.5	+0.4
ASAR	**Alice Springs** 0.5nm,0.8s,baz=27,slow=9.6,SNR=3.6	**21.44**	**198**	P	P	03 34 18.6	-0.7
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=102,slow=6.6,SNR=2.8	**71.65**	**322**	P	P	03 40 53.3	+0.3

JMA 10 03:34:18.3±0.3,37°.10N×142°.37E,h11km±4km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.22**	**283**	P	Pn	03 34 40.7	-0.7
JFK				*eS*	Sb	03 34 57.0	-0.3
ONAJ	**Iwakimizuishiy**	**1.26**	**271**	P	Pn	03 34 41.6	-0.3
ONAJ				*eS*	Sn	03 34 58.6	-0.2
JMM	**Marumori**	**1.47**	**302**	P	Pn	03 34 44.5	-0.2
JMM				S	Sn	03 35 04.0	+0.1
JHO	**Hitachi**	**1.52**	**252**	P	Pb	03 34 46.1	-0.5
JIO	**Ouri**	**1.58**	**329**	P	Pn	03 34 46.2	0.0
JIO				*eS*	Sn	03 35 06.0	-0.6
JFT	**Otama**	**1.67**	**285**	P	Pn	03 34 48.2	+0.6
JOU	**Okura**	**1.85**	**314**	P	Pn	03 34 50.8	+0.8
JYK	**Kaneyama**	**2.41**	**319**	P	Pn	03 34 59.3	+1.6
JAG	**Ashikaga**	**2.44**	**255**	P	Pn	03 34 58.6	+0.6
JOM	**Ohasama**	**2.52**	**341**	P	Pn	03 35 01.2	+2.1
MAT	**Matsushiro**	**3.39**	**262**	P	Pn	03 35 14.2	+3.1
MAT				*eS*	Sn	03 35 51.2	-0.1

ROM 10 03:37:39.8±0.1,42°.62N×13°.10E,h10km,Md1.6/3,Ml1.5/2, Error ellipse: s-maj=1.1km s-min=0.2km az=1.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa** 118nm,0.1s	**0.05**	**254**	Pg	Pg	03 37 42.2	+0.2
LNSS				Sg	Sg	03 37 43.9	+0.3
SMA1	**SAN MARTINO** 125nm,0.2s	**0.17**	**85**	Pg	Pg	03 37 44.2	+0.6
SMA1				Sg	Sg	03 37 47.4	+1.1
NRCA	**Norcia** 39nm,0.1s	**0.22**	**2**	Pg	Pg	03 37 45.1	+0.7
NRCA				Sg	Sg	03 37 48.9	+1.4

IDC ***10*** *03:39:56.4±1.3,38°.39N×21°.57E,h0km,mb3.5/4, mb1 3.5/8,mb1mx3.3/58,mbtmp3.3/8,ML3.1/4,Error ellipse: s-maj=25.1km s-min=18.8km az=84.0*

TIR ***10*** *03:39:56.1,38°.37N×21°.04E,h46km*

ATH ***10*** *03:39:58.8,38°.69N×21°.29E,h19km±1km,ML3.3/15,Error ellipse: s-maj=1.5km s-min=0.8km az=196.0*

CSEM ***10*** *03:39:58.9±0.1,38°.67N×21°.28E,h5km,ML3.3,Error ellipse: s-maj=2.9km s-min=1.8km az=56.0*

ISCJB ***10*** *03:39:59.4±0.3,38°.67N±0°.02×21°.25E±0°.02,h16km±4km, mb3.5/4,Error ellipse: s-maj=3.2km s-min=2.4km az=151.9*

BEO ***10*** *03:39:59.9±0.8,38°.66N×21°.38E,h11km±8km,M3.2/7*

THE ***10*** *03:39:59.0,38°.67N×21°.29E,h3km±1km,ML3.1/25,Error ellipse: s-maj=1.2km s-min=0.5km az=192.0*

ISC 10 03:39:59.1±0.8,38°.67N±0°.01×21°.29E±0°.01,h16km±5km, n172,σ1°.32/264,mb3.5/4,5C-3D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.19**	**105**	P	**Pg**	**03 40 03.5**	**-0.2**
PVO				AML	AML	03 40 07.8	
PVO	comp=E,22843μm,0.2s			S	**Sb**	**03 40 07.9**	**+0.3**
PVO	comp=N,66214μm,0.5s			AML	AML	03 40 08.0	
PVO	**Paravola**	**0.19**	**105**	P	**Pg**	**03 40 03.5**	**-0.2**
PVO				S	**Sg**	**03 40 06.6**	**-0.1**
PVO	**Paravola**	**0.19**	**105**	P	**Pg**	**03 40 03.5**	**-0.2**
PVO				S	**Sg**	**03 40 06.6**	**-0.1**
EVR	**Evrytania**	**0.47**	**58**	P	**Pg**	**03 40 06.8**	**-1.8**
EVR				AML	AML	03 40 15.9	
EVR	comp=N,6810μm,0.4s			AML	AML	03 40 16.1	
EVR	comp=E,6739μm,0.7s			S	**Sb**	**03 40 16.4**	**+0.5**
EVR	**Evrytania**	**0.47**	**58**	P	**Pg**	**03 40 07.5**	**-1.1**
EVR				S	**Sb**	**03 40 15.5**	**-0.4**
EVR	**Evrytania**	**0.47**	**58**	P	**Pg**	**03 40 07.5**	**-1.1**
EVR				S	**Sb**	**03 40 15.5**	**-0.4**
DSL	**Palaion Diasel**	**0.49**	**342**	P	**Pg**	**03 40 07.5**	**-1.4**
DSL				S	**Sb**	**03 40 16.1**	**-0.2**
DSL	comp=E,11385μm,0.4s			AML	AML	03 40 18.0	
DSL	comp=N,5763μm,0.2s			AML	AML	03 40 19.1	
DSL	**Palaion Diasel**	**0.49**	**342**	P	**Pg**	**03 40 07.7**	**-1.2**
DSL				S	**Sg**	**03 40 15.7**	**+0.1**
DSL	**Palaion Diasel**	**0.49**	**342**	P	**Pg**	**03 40 07.7**	**-1.2**
DSL				S	**Sb**	**03 40 16.4**	**0.0**
ANX	**Ano Chora**	**0.50**	**98**	P	**Pg**	**03 40 08.3**	**-0.8**
ANX				S	**Sb**	**03 40 17.2**	**+0.7**
ANX	comp=N,18280μm,0.4s			AML	AML	03 40 21.4	
ANX	comp=E,13110μm,0.4s			AML	AML	03 40 22.7	
ANX	**Ano Chora**	**0.50**	**98**	P	**Pg**	**03 40 08.5**	**-0.5**
ANX				S	**Sb**	**03 40 16.6**	**0.0**
ANX	**Ano Chora**	**0.50**	**98**	P	**Pg**	**03 40 08.5**	**-0.8**
ANX				S	**Sb**	**03 40 16.7**	**+0.1**
EFP	**Efpalio**	**0.54**	**116**	P	**Pg**	**03 40 09.6**	**-0.1**
EFP				S	**Sb**	**03 40 18.2**

DRO				S	Sn	03 40 26.2	-0.7	
DRO				AML	AML	03 40 29.3		
	comp=E,13150μm,0.2s							
DRO				AML	AML	03 40 29.6		
	comp=N,12529μm,0.4s							
DRO	**Drossia**	**0.78**	**155**	P	**Pb**	**03 40 14.2**	**-0.2**	
DRO				S	**Sb**	**03 40 24.9**	**+0.1**	
DRO	**Drossia**	**0.78**	**155**	P	**Pg**	**03 40 13.8**	**-0.6**	
DRO				S	**Sb**	**03 40 24.9**	**+0.1**	
AGG	**Agios Georgios**	**0.88**	**66**	P	**Pb**	**03 40 15.2**	**-0.9**	
AGG				S	**Sn**	**03 40 28.7**	**-0.7**	
AGG				AML	AML	03 40 30.4		
	comp=E,5766μm,0.5s							
AGG				AML	AML	03 40 30.4		
	comp=N,9784μm,0.7s							
AGG	**Agios Georgios**	**0.88**	**66**	P	**Pb**	**03 40 15.4**	**-0.7**	
AGG				S	**Sg**	**03 40 28.3**	**+0.4**	
AGG	**Agios Georgios**	**0.88**	**66**	P	**Pb**	**03 40 15.3**	**-0.8**	
AGG				S	**Sn**	**03 40 28.8**	**-0.7**	
KLV	**Kalavryta, Ach**	**0.92**	**132**	P	**Pb**	**03 40 14.8**	**-1.8**	
KLV				S	**Sn**	**03 40 31.1**	**+0.9**	
KLV				AML	AML	03 40 32.9		
	comp=E,1099μm,0.6s							
KLV				AML	AML	03 40 34.0		
	comp=N,1032μm,0.3s							
KLV	**Kalavryta, Ach**	**0.92**	**132**	P	**Pb**	**03 40 15.7**	**-0.9**	
KLV				S	**Sn**	**03 40 29.8**	**-0.4**	
KLV	**Kalavryta, Ach**	**0.92**	**132**	P	**Pb**	**03 40 15.7**	**-0.9**	
KLV				S	**Sn**	**03 40 29.8**	**-0.4**	
DSF	**Desfina**	**1.00**	**104**	P	**Pb**	**03 40 15.9**	**-2.1**	
DSF	**Desfina**	**1.00**	**104**	P	**Pb**	**03 40 16.9**	**-1.2**	
DSF				S	**Sn**	**03 40 32.2**	**-0.1**	
DSF	**Desfina**	**1.00**	**104**	P	**Pb**	**03 40 16.7**	**-1.4**	
DSF				S	**Sn**	**03 40 32.2**	**-0.1**	
JAN	**Janina**	**1.05**	**341**	P	**Pb**	**03 40 18.3**	**-0.6**	
JAN				S	**Sn**	**03 40 34.4**	**+0.9**	
JAN				AML	AML	03 40 38.8		
	comp=E,2583μm,0.4s							
JAN				AML	AML	03 40 39.0		
	comp=N,3438μm,0.4s							
JAN	**Janina**	**1.05**	**341**	P	**Pb**	**03 40 18.3**	**-0.6**	
JAN				S	**Sn**	**03 40 33.5**	**0.0**	
JAN	**Janina**	**1.05**	**341**	P	**Pb**	**03 40 18.3**	**-0.6**	
THL	**Klokotos Trika**	**1.06**	**32**	P	**Pb**	**03 40 17.3**	**-1.7**	
THL	**Klokotos Trika**	**1.06**	**32**	P	**Pb**	**03 40 17.9**	**-1.1**	
THL				S	**Sn**	**03 40 34.5**	**+0.9**	
THL	**Klokotos Trika**	**1.06**	**32**	P	**Pb**	**03 40 17.8**	**-1.2**	
THL				S	**Sn**	**03 40 34.5**	**+0.9**	
GUR	**Goura**	**1.10**	**131**	P	**Pb**	**03 40 18.2**	**-1.6**	
GUR				S	**Sn**	**03 40 37.1**	**+2.2**	
GUR				AML	AML	03 40 39.4		
	comp=E,3125μm,0.3s							
GUR				AML	AML	03 40 44.4		
	comp=N,4081μm,0.4s							
GUR	**Goura**	**1.10**	**131**	P	**Pb**	**03 40 19.1**	**-0.7**	
GUR				S	**Sn**	**03 40 36.0**	**+1.1**	
GUR	**Goura**	**1.10**	**131**	P	**Pb**	**03 40 18.6**	**-1.2**	
GUR				S	**Sn**	**03 40 36.0**	**+1.1**	
IGT	**Igoumenitsa**	**1.14**	**319**	*i* PN	**Pn**	**03 40 19.6**	**-0.9**	
IGT				*i* SN	**Sg**	**03 40 39.0**	**+2.9**	
IGT	**Igoumenitsa**	**1.14**	**319**	*e*Pg	**Pn**	**03 40 20.4**	**0.0**	
IGT				*e*Sg	**Sg**	**03 40 38.3**	**+2.1**	
IGT	**Igoumenitsa**	**1.14**	**319**	P	**Pn**	**03 40 20.5**	**0.0**	
IGT				S	**Sg**	**03 40 37.4**	**+1.3**	
IGT				AML	AML	03 40 40.3		
	comp=N,1185μm,0.5s							
IGT				AML	AML	03 40 40.4		
	comp=E,1562μm,0.4s							
IGT	**Igoumenitsa**	**1.14**	**319**	*i* Pn	**Pn**	**03 40 19.6**	**-0.9**	
IGT	**Igoumenitsa**	**1.14**	**319**	P	**Pn**	**03 40 19.9**	**-0.6**	
IGT	**Igoumenitsa**	**1.14**	**319**	*e*Pg	**Pn**	**03 40 20.4**	**0.0**	
IGT				S	**Sg**	**03 40 36.6**	**+0.4**	
IGT				*e*Sg	**Sg**	**03 40 38.3**	**+2.1**	
IGT				*i* Sn	**Sg**	**03 40 39.0**	**+2.9**	
IGT	**Igoumenitsa**	**1.14**	**319**	P	**Pn**	**03 40 19.9**	**-0.6**	
IGT				S	**Sg**	**03 40 37.2**	**+1.0**	
AMT	**Artemida-Makis**	**1.18**	**164**	P	**Pn**	**03 40 20.7**	**-0.2**	
AMT	**Artemida-Makis**	**1.18**	**164**	P	**Pb**	**03 40 21.1**	**0.0**	
AMT				S	**Sg**	**03 40 37.8**	**+0.6**	
AMT	**Artemida-Makis**	**1.18**	**164**	P	**Pb**	**03 40 21.1**	**0.0**	
AMT				S	**Sg**	**03 40 37.8**	**+0.6**	
THAL	**Thalero**	**1.25**	**120**	P	**Pg**	**03 40 22.8**	**-0.3**	
THAL	**Thalero**	**1.25**	**120**	P	**Pg**	**03 40 22.7**	**-0.4**	
THAL				S	**Sg**	**03 40 41.4**	**+2.0**	
THAL	**Thalero**	**1.25**	**120**	P	**Pb**	**03 40 22.3**	**+0.1**	
THAL				S	**Sg**	**03 40 41.4**	**+2.0**	
SGD	**Sagiada**	**1.25**	**319**	P	**Pb**	**03 40 22.4**	**0.0**	
SGD	**Sagiada**	**1.25**	**319**	P	**Pn**	**03 40 21.8**	**-0.2**	
SGD	**Sagiada**	**1.25**	**319**	P	**Pn**	**03 40 21.8**	**-0.2**	
KPRO	**Kipourio**	**1.29**	**2**	P	**Pb**	**03 40 23.0**	**-0.1**	
KPRO	**Kipourio**	**1.29**	**2**	P	**Pb**	**03 40 22.9**	**-0.1**	
KPRO				S	**Sg**	**03 40 41.0**	**+0.2**	
KPRO	**Kipourio**	**1.29**	**2**	P	**Pn**	**03 40 22.3**	**-0.2**	
KPRO				S	**Sg**	**03 40 41.0**	**+0.2**	
LKR	**Lokris**	**1.33**	**90**	P	**Pb**	**03 40 24.1**	**+0.3**	
LKR	**Lokris**	**1.33**	**90**	P	**Pb**	**03 40 24.0**	**+0.3**	
LKR				S	**Sg**	**03 40 43.4**	**+1.2**	
LKR	**Lokris**	**1.33**	**90**	P	**Pn**	**03 40 23.0**	**-0.1**	
LKR				S	**Sg**	**03 40 43.4**	**+1.2**	
TRIP	**Tripoli**	**1.37**	**146**	P	**Pn**	**03 40 22.9**	**-0.8**	
TRIP	**Tripoli**	**1.37**	**146**	P	**Pn**	**03 40 23.9**	**+0.2**	
LTK	**Loutraki**	**1.46**	**116**	P	**Pg**	**03 40 27.1**	**-0.2**	
LTK	**Loutraki**	**1.46**	**116**	P	**Pg**	**03 40 26.7**	**-0.6**	
FYTO	**Fytoko, Volos**	**1.48**	**59**	P	**Pg**	**03 40 27.4**	**-0.2**	
FYTO	**Fytoko, Volos**	**1.48**	**59**	P	**Pb**	**03 40 26.6**	**+0.4**	
FYTO				S	**Sg**	**03 40 47.1**	**+0.2**	
FYTO	**Fytoko, Volos**	**1.48**	**59**	P	**Pb**	**03 40 26.6**	**+0.4**	
FYTO				S	**Sg**	**03 40 47.1**	**+0.2**	
SMIA	**Simia**	**1.51**	**81**	P	**Pn**	**03 40 25.9**	**+0.3**	
SMIA	**Simia**	**1.51**	**81**	P	**Pb**	**03 40 26.4**	**-0.4**	
SMIA	**Simia**	**1.51**	**81**	P	**Pb**	**03 40 26.3**	**-0.5**	
ITM	**Ithomi**	**1.57**	**161**	P	**Pb**	**03 40 27.8**	**+0.2**	
ITM	**Ithomi**	**1.57**	**161**	P	**Pb**	**03 40 27.9**	**+0.2**	
ITM				S	**Sb**	**03 40 47.5**	**+0.2**	
ITM	**Ithomi**	**1.57**	**161**	P	**Pb**	**03 40 27.2**	**-0.5**	
ITM				S	**Sb**	**03 40 47.5**	**+0.2**	
SRN	**Sarande**	**1.57**	**321**	*i* PN	**Pb**	**03 40 27.9**	**+0.1**	
SRN				*i* SN	**Sg**	**03 40 50.5**	**+0.6**	
SRN	**Sarande**	**1.57**	**321**	*i* Pn	**Pb**	**03 40 27.9**	**+0.1**	
SRN				*i* Sn	**Sg**	**03 40 50.5**	**+0.6**	
VIL2	**Platees**	**1.61**	**106**	P	**Pg**	**03 40 29.8**	**-0.4**	
NEO	**Neokhori**	**1.63**	**66**	P	**Pb**	**03 40 28.5**	**-0.4**	
NEO	**Neokhori**	**1.63**	**66**	P	**Pb**	**03 40 28.5**	**-0.4**	
XOR	**Xorichti**	**1.64**	**64**	P	**Pg**	**03 40 30.9**	**+0.3**	
XOR	**Xorichti**	**1.64**	**64**	P	**Pb**	**03 40 28.4**	**-0.5**	
XOR				S	**Sb**	**03 40 50.3**	**+1.0**	
XOR	**Xorichti**	**1.64**	**64**	P	**Pb**	**03 40 28.4**	**-0.5**	
XOR				S	**Sb**	**03 40 50.3**	**+1.0**	
VILL	**Villia**	**1.66**	**107**	P	**Pb**	**03 40 29.5**	**+0.1**	
KZN	**Kozani**	**1.68**	**13**	P	**Pb**	**03 40 29.2**	**-0.5**	
KZN	**Kozani**	**1.68**	**13**	P	**Pb**	**03 40 29.0**	**-0.7**	
KZN				S	**Sb**	**03 40 51.6**	**+1.0**	
KZN	**Kozani**	**1.68**	**13**	P	**Pb**	**03 40 29.0**	**-0.7**	
KZN				S	**Sb**	**03 40 51.6**	**+1.0**	
LIT	**Litokhoron**	**1.71**	**33**	P	**Pb**	**03 40 29.4**	**-0.7**	
LIT				S	**Sb**	**03 40 52.7**	**+1.4**	
LIT	**Litokhoron**	**1.71**	**33**	P	**Pb**	**03 40 29.4**	**-0.7**	
LIT				S	**Sb**	**03 40 52.7**	**+1.4**	
KBN	**Korca**	**1.99**	**349**	*i* PN	**Pb**	**03 40 35.6**	**+0.6**	
KBN				*i* SN	**Sg**	**03 41 04.0**	**+0.7**	
KBN	**Korca**	**1.99**	**349**	*i* Pn	**Pb**	**03 40 35.6**	**+0.6**	
EREA	**Eretria**	**2.08**	**96**	P	**Pb**	**03 40 34.9**	**-1.5**	
EREA	**Eretria**	**2.08**	**96**	P	**Pb**	**03 40 35.0**	**-1.5**	
FNA	**Florina**	**2.12**	**2**	*i* PN	**Pb**	**03 40 36.3**	**-0.8**	
FNA				*i* SN	**Sg**	**03 41 06.3**	**-0.9**	
FNA	**Florina**	**2.12**	**2**	*e*Pn	**Pb**	**03 40 35.7**	**-1.4**	
FNA				*e*Sn	**Sb**	**03 41 02.5**	**-0.7**	
FNA	**Florina**	**2.12**	**2**	*e*Pn	**Pb**	**03 40 35.7**	**-1.4**	
FNA				*e*Sn	**Sb**	**03 41 02.5**	**-0.7**	
VLY	**Voula,Athens**	**2.13**	**112**	P	**Pn**	**03 40 35.4**	**+1.4**	
VLY	**Voula,Athens**	**2.13**	**112**	P	**Pb**	**03 40 35.6**	**-1.7**	
GRG	**Griva**	**2.44**	**20**	P	**Pn**	**03 40 39.2**	**+0.9**	
GRG	**Griva**	**2.44**	**20**	P	**Pn**	**03 40 39.2**	**+0.9**	
OHR	**Ohrid**	**2.47**	**351**	*e*Pn	**Pg**	**03 40 45.0**	**-1.5**	
KRUS	**Krusevo**	**2.70**	**359**	*e*Pn	**Pn**	**03 40 44.0**	**+2.0**	
TIR	**Tirane**	**2.89**	**338**	*i* PN	**Pn**	**03 40 46.7**	**+2.2**	
TIR				*i* SN	**Sn**	**03 41 21.3**	**+2.3**	
TIR	**Tirane**	**2.89**	**338**	*e*Pn	**Pn**	**03 40 46.8**	**+2.2**	
TIR	**Tirane**	**2.89**	**338**	*i* Pn	**Pn**	**03 40 46.7**	**+2.2**	
TIR				*i* Sn	**Sn**	**03 41 21.3**	**+2.3**	

SRS	**Serrai**	**3.02**	**35**	*e*Pn	**Pn**	**03 40 47.2**	**+0.9**	
SRS				*e*Sn	**Sn**	**03 41 21.8**	**-0.3**	
SRS	**Serrai**	**3.02**	**35**	*e*Pn	**Pn**	**03 40 47.2**	**+0.9**	
SRS				*e*Sn	**Sn**	**03 41 21.8**	**-0.3**	
PHP	**Peshkopia**	**3.08**	**348**	*i* PN	**Pn**	**03 40 48.1**	**+0.9**	
PHP				*i* SN	**Sn**	**03 41 22.1**	**-1.7**	
PHP	**Peshkopia**	**3.08**	**348**	*i* Pn	**Pn**	**03 40 48.1**	**+0.9**	
PHP				*i* Sn	**Sn**	**03 41 22.0**	**-1.7**	
	baz=353							
PUK	**Puka**	**3.54**	**343**	*i* PN	**Pn**	**03 40 54.1**	**+0.7**	
PUK				*i* SN	**Sn**	**03 41 29.4**	**-5.5**	
PUK	**Puka**	**3.54**	**343**	*i* Pn	**Pn**	**03 40 54.1**	**+0.7**	
PDG	**Podgorica**	**4.07**	**338**	ǁ*i*P	**Sn**	**03 41 49.9**	**+2.0**	
BARS	**Barje**	**4.17**	**5**	*e*Pn	**Pn**	**03 41 03.6**	**+1.6**	
BARS	**Barje**	**4.17**	**5**	*e*Pn	**Pn**	**03 41 03.6**	**+1.6**	
VTS	**Vitosha**	**4.18**	**20**	ǁ*i*P	**Sn**	**03 41 53.6**	**+2.6**	
IDI	**Anoyia**	**4.43**	**138**	Pn	Pn	03 40 59.1	-6.7	
	comp=E,1.4nm,0.3s,baz=333,slow=13,SNR=7.5							
IDI				Sn	**Sn**	**03 41 50.9**	**-6.1**	
	comp=E,0.7nm,0.3s,baz=155,slow=20,SNR=2.6							
SELS	**Selova**	**4.55**	**358**	*e*Pn	**Pn**	**03 41 07.5**	**+0.2**	
SJES	**Sjenica**	**4.70**	**348**	*e*Pn	**Pn**	**03 41 10.2**	**+0.8**	
ZAPS	**Zavoj**	**4.71**	**12**	*e*Pn	**Pn**	**03 41 11.0**	**+1.5**	
BOVS	**Bovan**	**4.97**	**3**	*e*Pn	**Pn**	**03 41 15.1**	**+2.0**	
BOVS	**Bovan**	**4.97**	**3**	*e*Pn	**Pn**	**03 41 15.1**	**+2.0**	
IVAS	**Ivanjica**	**4.98**	**350**	*e*Pn	**Pn**	**03 41 15.3**	**+2.1**	
IVAS				*e*Sn	**Sn**	**03 42 11.7**	**+1.2**	
IVAS	**Ivanjica**	**4.98**	**350**	*e*Pn	**Pn**	**03 41 15.3**	**+2.1**	
IVAS				*e*Sn	**Sn**	**03 42 11.7**	**+1.2**	
STON	**Ston**	**5.01**	**328**	*i* Pn	**Pn**	**03 41 11.6**	**-2.0**	
STON				*i* Sn	**Sn**	**03 42 06.0**	**-5.1**	
STON	**Ston**	**5.01**	**328**	*i* Pn	**Pn**	**03 41 11.5**	**-2.0**	
ZAGS	**Zajecar**	**5.19**	**8**	*e*Pn	**Pn**	**03 41 16.9**	**+0.9**	
ZAGS	**Zajecar**	**5.19**	**8**	*e*Pn	**Pn**	**03 41 16.9**	**+0.9**	
GRUS	**Gruza**	**5.24**	**355**	*e*Pn	**Pn**	**03 41 17.6**	**+0.9**	
GRUS	**Gruza**	**5.24**	**355**	*e*Pn	**Pn**	**03 41 17.6**	**+0.9**	
BBLS	**Lazići**	**5.39**	**345**	*e*Pn	**Pn**	**03 41 21.5**	**+2.7**	
BBLS	**Lazići**	**5.39**	**345**	*e*Pn	**Pn**	**03 41 21.5**	**+2.7**	
DIVS	**Divibare**	**5.51**	**350**	*e*Pn	**Pn**	**03 41 20.6**	**0.0**	
DIVS				*e*Sn	**Sn**	**03 42 21.7**	**-2.0**	
DIVS	**Divibare**	**5.51**	**350**	*e*Pn	**Pn**	**03 41 20.6**	**0.0**	
TRUS	**Trudelj**	**5.59**	**353**	*e*Pn	**Pn**	**03 41 23.6**	**+2.0**	
TRUS	**Trudelj**	**5.59**	**353**	*e*Pn	**Pn**	**03 41 23.6**	**+2.0**	
TEKS	**Tekeris**	**6.03**	**348**	*e*Pn	**Pn**	**03 41 26.6**	**-0.9**	
TEKS	**Tekeris**	**6.03**	**348**	*e*Pn	**Pn**	**03 41 26.6**	**-0.9**	
BANR	**Banloc**	**6.71**	**359**	ǁ*i*P	**Pb**	**03 41 59.4**	**+4.1**	
ARR	**Arges**	**7.14**	**19**	ǁ*i*P	**Pb**	**03 41 58.6**	**-4.1**	
UDBI	**Udbina**	**7.17**	**326**	*e*Pn	**Pn**	**03 41 43.3**	**-0.1**	
UDBI				Sn	**Sn**	**03 43 01.1**	**-3.4**	
UDBI	**Udbina**	**7.17**	**326**	*e*Pn	**Pn**	**03 41 43.2**	**-0.1**	
VOIR		**7.32**	**21**	ǁ*i*P	Pn	03 41 50.8	+5.4	
NVLJ	**Novalja**	**7.61**	**323**	*e*Pn	**Pn**	**03 41 49.4**	**+0.1**	
NVLJ	**Novalja**	**7.61**	**323**	*e*Pn	**Pn**	**03 41 49.3**	**+0.1**	
MLR	**Muntele Rosu**	**7.64**	**25**	P	**Pn**	**03 41 54.5**	**+4.6**	
	comp=E,0.1nm,0.3s,baz=198,slow=16,SNR=4.2							
MLR	**Muntele Rosu**	**7.64**	**25**	ǁ*i*P	Pn	03 41 55.6	+5.7	
PLOR	**Plostina**	**8.20**	**27**	ǁ*i*P	**Pn**	**03 42 01.4**	**+4.0**	
VRI	**Vrincioaia**	**8.24**	**27**	ǁ*i*P	Pn	03 42 04.3	+6.3	
BRTR	**Keskin Array B**	**9.64**	**47**	Pn	**Pn**	**03 42 19.2**	**+1.9**	
	comp=E,1nm,0.3s,baz=253,slow=9.9,SNR=3.1							
GERES	**GERESS Array B**	**11.55**	**334**	Pn	Pn	03 42 49.7	+6.3	
	comp=E,0.1nm,0.3s,baz=158,slow=14,SNR=3.0							
FINES	**FINESS Array B**	**23.00**	**6**	P	**P**	**03 45 03.4**	**+0.5**	
	comp=E,2.2nm,1.0s,baz=188,slow=9.5,SNR=3.6							
TORD	**Torodi Ar. Bea**	**30.79**	**220**	P	**P**	**03 46 13.9**	**-0.2**	
	comp=E,0.2nm,0.4s,baz=38,slow=9.0,SNR=6.1							
ARCES	**ARCESS Array B**	**31.01**	**3**	P	**P**	**03 46 15.9**	**+0.4**	
	comp=E,2.7nm,1.0s,baz=191,slow=8.3,SNR=3.1							
MKAR	**Makanchi Array**	**44.53**	**59**	P	**P**	**03 48 08.1**	**-1.8**	
	comp=E,0.1nm,0.5s,baz=290,slow=6.3,SNR=2.5							

*MOS **10** 03:54:19.8±1.4,51°.54N×96°.18E,h10km,mb4.4/1, Error ellipse: s-maj=18.5km s-min=14.5km az=165.6*
*ISCJB **10** 03:54:21.2±0.7,51°.6N±0°.1×96°.29E±0.05,h10km,mb3.6/7, Error ellipse: s-maj=18.2km s-min=4.7km az=178.0*
*IDC **10** 03:54:21.2±1.5,51°.53N×96°.47E, h0km,mb3.9/7, mb1 3.7/10,mb1mx3.4/74,mbtmp3.7/10,ML2.5/3, Error ellipse: s-maj=35.1km s-min=16.0km az=156.0*
*NEIC **10** 03:54:22.9±1.3,51°.57N×96°.35E,h10km,mb4.3/1, Error ellipse: s-maj=29.1km s-min=9.7km az=155.0*

ISC 10 03:54:22.4±0.9, 51°.5N±0°.2×96°.38E±0°.04, h10km, n26, σ1s 96/23, mb3.6/7, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
ORL	**Orlik**	**2.36**	**63**	*e*PN	**Pb**	**03 55 04.5**	**-0.5**
ORL				*e*		03 55 36.3	
ORL				pmax	pmax		
	comp=Z,103nm,0.3s						
ORL				smax	smax		
	comp=N,336nm,0.8s						
MOY	**Mondy**	**2.88**	**85**	*e*PN	**Pg**	**03 55 15.7**	**-2.0**
MOY				*e*		03 55 56.4	
MOY				pmax	pmax		
	comp=Z,62nm,0.4s						
MOY				smax	smax		
	comp=N,267nm,0.7s						
ARS	**Arshan**	**3.78**	**81**	*e*PN	**Pg**	**03 55 32.9**	**-2.0**
ARS				pmax	pmax		
	comp=Z,82nm,0.4s						
ZAK	**Zakamensk**	**4.51**	**102**	*e*PN	**Pg**	**03 55 45.5**	**-3.3**
ZAK				pmax	pmax		
	comp=Z,26nm,0.6s						
TLY	**Talaya**	**4.54**	**85**	Pn	**Pn**	**03 55 33.7**	**+2.6**
TLY				*e*Sn	**Sn**	**03 56 25.6**	**+1.8**
TLY				*e*Sg	**Sg**	**03 56 45.6**	**-2.3**
TLY	**Talaya**	**4.54**	**85**	*e*PN	**Pg**	**03 55 45.3**	**-3.9**
TLY				*e*		03 56 45.3	
TLY				pmax	pmax		
	comp=Z,15nm,0.3s						
IRK	**Irkutsk**	**4.95**	**78**	*e*PN	**Pb**	**03 55 52.5**	**+3.4**
IRK				*e*		03 56 56.1	
IRK				pmax	pmax		
	comp=Z,87nm,0.1s						
IRK				smax	smax		
	comp=N,400nm,1.2s						
TRG	**Tyrgan**	**6.27**	**75**	*e*PN	**Pn**	**03 55 57.1**	**+2.2**
TRG				*e*		03 56 16.2	
TRG				*e*S	**Sn**	**03 57 07.9**	**+1.4**
TRG				*e*		03 57 36.0	
TRG				pmax	pmax		
	comp=Z,11nm,0.6s						
TRG				smax	smax		
	comp=E,77nm,0.9s						
OGRR	**Ongureny**	**7.16**	**68**	*e*P	**Pn**	**03 56 09.0**	**+1.8**
OGRR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ZALV	**Zalesovo Beam**	**7.43**	**294**	Pn	**Pn**	**03 56 10.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=113,slow=15,SNR=4.0						
ZALV				Sn	**Sn**	**03 57 35.4**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=110,slow=17,SNR=3.9						
ZALV				Lg	Lg	03 58 03.2	
	comp=Z,1.4nm,0.3s,baz=119,slow=27,SNR=7.7						
SONM	**Songino Array**	**7.47**	**116**	Pg	Pg	03 56 38.6	-6.7
	comp=Z,0.4nm,0.3s,baz=302,slow=18,SNR=19						
SONM				Lg	Lg	03 58 24.0	
	comp=Z,1.7nm,0.3s,baz=304,slow=30,SNR=8.9						
NVS	**Novosibirsk**	**8.57**	**298**	*e*P	**Pn**	**03 56 24.7**	**-1.7**
NVS				*e*		03 57 59.6	
SYVR	**Suvo**	**8.57**	**70**	*e*P	Pn	03 56 40.2	+14
SYVR				pmax	pmax		
	comp=Z,9.0nm,1.5s						
NIZ	**Nizh Angarsk**	**8.91**	**56**	*e*P	Pn	03 56 42.5	+11
MKAR	**Makanchi Array**	**10.36**	**248**	Pn	Pn	03 56 51.8	+0.8
	comp=Z,0.1nm,0.3s,baz=72,slow=15,SNR=4.7						
MKAR				Lg	Lg	03 59 43.8	
	comp=Z,0.2nm,0.3s,baz=76,slow=21,SNR=4.8						
KURK	**Kurchatov**	**11.19**	**273**	*e*Pn	**Pn**	**03 57 02.6**	**+0.3**
KURK				Lg	Lg	04 00 12.7	
KURK	**Kurchatov**	**11.19**	**273**	*e*P	**Pn**	**03 57 02.6**	**+0.3**
KURBB	**Kurchatov Arra**	**11.27**	**272**	Pn	Pn	03 57 05.0	+1.7
	comp=Z,0.0nm,0.3s,baz=75,slow=16,SNR=3.4						
KURBB				Lg	Lg	04 00 12.7	
	comp=Z,0.1nm,0.3s,baz=83,slow=33,SNR=7.1						
YAK	**Yakutsk**	**20.82**	**47**	P	Pn	03 59 03.6	-2.5
	comp=Z,20nm,0.4s,baz=328,slow=0.9,SNR=4.1						
ABKAR	**Akbulak array**	**23.19**	**279**	*e*P	**P**	**03 59 28.0**	**-1.1**
	comp=Z,0.6nm,0.8s						
AKTO	**Aktyubinsk**	**24.00**	**283**	P	**P**	**03 59 36.6**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=0.9,slow=4.1,SNR=3.8						
TIXI	**Tiksi**	**24.84**	**24**	P	**P**	**03 59 44.6**	**+0.1**
	comp=Z,5.6nm,0.6s,baz=250,slow=6.6,SNR=17						

FINES	**FINESS Array B**	**38.20**	**313**	P	**P**	**04 01 42.1**	**+0.3**	
	comp=Z,1.7nm,0.8s,baz=91,slow=11,SNR=3.8							
BRTR	**Keskin Array B**	**44.13**	**280**	P	P	04 02 32.2	+1.2	
	comp=Z,0.6nm,0.8s,baz=60,slow=7.3,SNR=4.4							
NOA	**NORSAR Array B**	**44.95**	**317**	P	**P**	**04 02 37.8**	**+0.6**	
	comp=Z,0.9nm,0.8s,baz=67,slow=16,SNR=3.2							
TORD	**Torodi Ar. Bea**	**82.72**	**282**	P	**P**	**04 06 45.8**	**-0.7**	
	comp=Z,0.2nm,0.5s,baz=20,slow=6.1,SNR=5.3							

IDC 10 03:54:34.5±4.2, 3°.21S×141°.92E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.2/50, mbtmp3.2/4, ML3.1/1, Error ellipse: s-maj=131.3km s-min=28.6km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.20**	**203**	P	P	03 58 49.6	+0.5
	0.1nm,0.3s,baz=22,slow=12,SNR=4.7						
FITZ	**Fitzroy Crossi**	**21.76**	**226**	P	P	03 59 27.9	0.0
	1.6nm,0.9s,baz=58,slow=15						
ASAR	**Alice Springs**	**21.76**	**200**	P	P	03 59 27.5	-0.5
	0.2nm,0.4s,baz=31,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**72.16**	**321**	P	P	04 06 01.2	0.0
	0.2nm,0.6s,baz=128,slow=5.4,SNR=2.3						

MAN 10 03:56:13, 9°.70N×122°.96E, h33km, mb4.1, ML2.9, MS2.5, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SNPH	**Sibulan**	**0.45**	**142**	ǁ*i*P	Pn	03 56 24.8	+1.5
SNPH				*i* S	Sn	03 56 32.2	+2.0
GUIM	**Jordan**	**0.98**	**339**	*e*P	Pn	03 56 30.8	+0.3
GUIM				*e*S	Sb	03 56 44.1	-0.2
MSLP	**Maasin**	**1.92**	**77**	*e*P	Pn	03 56 44.0	+0.6
MSLP				*e*S	Sn	03 57 07.6	+1.1

*ISCJB **10** 04:21:53.2±0.4, 16°.50S±0°.06×73°.60W±0°.08, h100km, mb4.1/20, Error ellipse: s-maj=13.3km s-min=3.6km az=142.4*
*NEIC **10** 04:21:53.8±0.9, 16°.49S×73°.73W, h94km±11km, mb4.2/13, ML4.7(ARE), Error ellipse: s-maj=17.5km s-min=8.7km az=62.0*
NEIC Felt [III] at Acari and [II] at Caraveli and Chala.
*IDC **10** 04:21:54.2±0.6, 16°.13S×73°.37W, h64km±5km, mb3.7/11, mb1 3.9/12,mb1mx3.7/42,mbtmp4.0/12,MS3.2/6, Ms1 3.2/6,ms1mx3.0/41, Error ellipse: s-maj=22.7km s-min=15.2km az=72.0*

ISC 10 04:21:53.8±0.5, 16°.57S±0°.06×73°.71W±0°.07, h100km, n65, σ2s 42/70, mb4.1/20, 3C-3D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PB12	**IPOC Station P**	**3.81**	**123**	ǁ*i*P	**Pn**	**04 22 50.5**	**0.0**
PSGC	**Pisagua**	**4.55**	**132**	ǁ*i*P	**Pn**	**04 23 01.4

ESDC				pP		**pP**	**04 34 41.0**	**-6.7**
	0.5nm,0.5s,baz=256,slow=4.3,SNR=3.3								
BOSA	**Boshof**	**89.79**	**120**	P		**P**	**04 34 45.9**	**+4.1**
	2.6nm,1.0s,baz=205,slow=17,SNR=2.2								
H11N3	**WAKE ISLAND Hyl**	**22.57**	**283**	T		T	06 54 54.2		
	baz=103,SNR=3.2								
H11N2	**WAKE ISLAND Hyl**	**22.58**	**283**	T		T	06 54 55.8		
	baz=103,SNR=3.9								
H11N1	**WAKE ISLAND Hyl**	**22.59**	**283**	T		T	06 54 56.3		
	baz=103								
H11S2	**WAKE ISLAND Hyl**	**22.60**	**282**	T		T	06 54 54.5		
	baz=99,slow=75,SNR=16								
H11S1	**WAKE ISLAND Hyl**	**22.60**	**282**	T		T	06 54 55.5		
	baz=99,slow=75,SNR=10								
H11S3	**WAKE ISLAND Hyl**	**22.61**	**282**	T		T	06 54 55.1		
	baz=99,slow=75,SNR=11								
ASAR	**Alice Springs**	**131.76**	**215**	PKP		**PKPdf**	**04 41 01.3**	**+5.2**
	0.3nm,0.5s,baz=138,slow=1.8,SNR=8.2								
WRA	**Warramunga Arr**	**134.44**	**218**	PKP		**PKPdf**	**04 41 06.6**	**+5.4**
	0.4nm,0.4s,baz=132,slow=1.8,SNR=7.2								
WRA				pPKP		**pPKPdf**	**04 41 24.5**	**-4.1**
	0.6nm,0.7s,baz=137,slow=1.8,SNR=3.1								
MBWA	**Marble Bar**	**140.25**	**200**	*e*PKPdf		**PKPdf**	**04 41 11.3**	**-0.5**
MKAR	**Makanchi Array**	**143.89**	**28**	PKP		**PKPdf**	**04 41 19.1**	**+1.5**
	0.3nm,0.8s,baz=327,slow=2.4,SNR=3.3								
SONM	**Songino Array**	**148.83**	**360**	PKPbc		**PKPab**	**04 41 33.9**	**-0.1**
	1.0nm,0.7s,baz=354,slow=1.7,SNR=8.2								
SONM				pPKPbc		**pPKPdf**	**04 41 51.5**	**-2.0**
	0.8nm,0.7s,baz=333,slow=1.1,SNR=4.4								
KSRS	**Korea Array**	**151.77**	**322**	PKPbc		**PKPab**	**04 41 42.1**	**-4.2**
	0.8nm,0.5s,baz=19,slow=3.0,SNR=3.1								
KSRS				pPKPbc		**pPKPdf**	**04 41 59.9**	**+1.6**
	2.2nm,0.7s,baz=5.0,slow=2.9,SNR=3.3								
HHC	**Hu-ho-hao-te**	**155.38**	**350**	*e*P		**PKPdf**	**04 41 34.2**	**-1.7**
LZH	**Lanzhou**	**160.44**	**6**	*e*PKP		**PKPdf**	**04 41 40.0**	**-2.4**
LZH				pPKP		pPKPdf	04 42 06.5	-3.5
LZH				sPKP			04 42 17.7	
CD2	**Chengdu**	**165.54**	**9**	PKP		**PKPdf**	**04 41 48.0**	**+0.7**

*IDC **10** 04:26:42.4±3.1, 14.°97N×92.°25W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/49, mbtmp3.6/8, ML3.9/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/42, Error ellipse: s-maj=114.5km s-min=29.2km az=35.0*

*NEIC **10** 04:26:53.9±0.0, 15.°00N×93.°29W, h69km, MD4.1(MEX), After MEX.*

*MEX **10** 04:26:53.9±0.5, 15.°00N×93.°29W, h69km±8km, MD4.1*

ISC 10 04:26:51.5±2.3, 14.°9N±0.°1×93.°24W±0.°07, h51km±15km**, n19,** σ1**9**13/26**, mb3.6/6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PCIG		**0.84**	**1**	*e*P		**Pn**	**04 27 07.6**	**+0.6**
PCIG				*i* S		**Sn**	**04 27 18.0**	**-0.4**
PCIG		**0.84**	**1**	*e*P		**Pn**	**04 27 07.6**	**+0.6**
PCIG				*i* S		**Sn**	**04 27 18.0**	**-0.4**
CCIG	**Comitan**	**1.76**	**37**	*e*P		**Pn**	**04 27 20.1**	**+0.4**
CCIG				*i* S		**Sn**	**04 27 40.4**	**-0.8**
CCIG	**Comitan**	**1.76**	**37**	*e*P		**Pn**	**04 27 20.1**	**+0.4**
CCIG				*i* S		**Sn**	**04 27 40.4**	**-0.8**
TGIG		**1.91**	**3**	*e*P		**Pn**	**04 27 21.7**	**0.0**
TGIG				*e*S		**Sn**	**04 27 42.5**	**-2.0**
TGIG		**1.91**	**3**	*e*P		**Pn**	**04 27 21.7**	**0.0**
TGIG				*e*S		**Sn**	**04 27 42.5**	**-2.0**
CMIG	**Matias Romero**	**2.72**	**325**	Pn		**Pn**	**04 27 33.9**	**+1.1**
	9.4nm,0.3s,baz=148,slow=13,SNR=72								
CMIG						Sn	**Sn**	**04 28 04.5**	**0.0**
	45nm,0.3s,baz=115,slow=17,SNR=8.9								
CMIG				LR		LR	04 28 38.7		
	comp=Z,77nm,21.5s,baz=90,slow=35								
HUIG	**Huatulco**	**2.91**	**288**	*e*P		**Pn**	**04 27 35.2**	**-0.2**
HUIG				*i* S		**Sn**	**04 28 07.8**	**-1.4**
HUIG	**Huatulco**	**2.91**	**288**	*e*P		**Pn**	**04 27 35.2**	**-0.2**
HUIG				*i* S		**Sn**	**04 28 07.8**	**-1.4**
TXAR	**Lajitas Array**	**17.33**	**328**	P		**P**	**04 30 52.5**	**+1.8**
	0.1nm,0.3s,baz=150,slow=12,SNR=7.2								
MNTX	**Cornudas Mount**	**20.10**	**329**	*e*P		**Pn**	**04 31 23.6**	**+0.4**
	2.0nm,0.9s								
WMOK	**Wichita Mounta**	**20.41**	**347**	*e*P		Pn	04 31 25.6	-1.2
	1.1nm,0.6s								
ANMO	**Albuquerque**	**23.27**	**332**	P		**P**	**04 31 55.2**	**+0.4**
	1.2nm,0.6s,baz=163,slow=19,SNR=4.7								
PDAR	**Pinedale Array**	**31.15**	**336**	P		**P**	**04 33 05.4**	**-0.3**
	0.5nm,0.7s,baz=126,slow=9.1,SNR=3.2								
NVAR	**Mina Array Bea**	**32.25**	**321**	P		**P**	**04 33 18.1**	**+2.6**
	1.2nm,0.7s,baz=131,slow=8.8,SNR=13								
YKA	**Yellowknife Ar**	**49.92**	**347**	P		**P**	**04 35 38.5**	**-1.3**
	0.3nm,0.5s,baz=152,slow=7.2,SNR=7.3								
ILAR	**Eielson Array**	**61.58**	**337**	P		**P**	**04 37 03.0**	**-0.3**
	0.3nm,0.5s,baz=135,slow=4.7,SNR=10								
TORD	**Torodi Ar. Bea**	**91.34**	**76**	P		P	04 39 46.1	-6.4
	0.3nm,0.8s,baz=284,slow=7.3,SNR=3.1								
CMAR	**Chiang Mai Arr**	**144.78**	**340**	PKPbc		**PKPab**	**04 46 21.8**	**-0.7**
	0.7nm,0.4s,baz=332,slow=2.6,SNR=5.7								

*CSEM **10** 04:30:38.2±0.1, 43.°18N×13.°58E, h2km, ML2.8/4, Error ellipse: s-maj=3.1km s-min=2.4km az=153.0*

*ROM **10** 04:30:38.5±0.3, 43.°18N×13.°50E, h19km±3km, Md2.0/4, Ml2.2/4, Error ellipse: s-maj=3.0km s-min=1.6km az=63.0*

ISC 10 04:30:37.2±1.0, 43.°20N±0.°03×13.°58E±0.°03, h12km±11km**, n16,** σ0**9**42**/32, 2C, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GUMA	**Gualdo di Mace**	**0.29**	**118**	⇑ *i*Pg		**Pg**	**04 30 43.5**	**+0.2**
GUMA					Sg	**Sg**	**04 30 46.7**	**-0.6**
	489nm,0.2s							
GUMA	**Gualdo di Mace**	**0.29**	**118**	⇑ *i*Pg		**Pg**	**04 30 43.5**	**+0.2**
GUMA					Sg	**Sg**	**04 30 46.7**	**-0.6**
	489nm,0.2s							
SNTG	**Esanatoglia**	**0.47**	**277**	Pg		**Pb**	**04 30 47.4**	**-0.1**
SNTG					Sg	**Sb**	**04 30 53.8**	**-0.6**
SNTG	**Esanatoglia**	**0.47**	**277**	Pg		**Pb**	**04 30 47.4**	**-0.1**
SNTG					Sg	**Sb**	**04 30 53.8**	**-0.6**
NRCA	**Norcia**	**0.50**	**223**	Pg		**Pb**	**04 30 47.5**	**-0.5**
NRCA					Sg	**Sg**	**04 30 53.9**	**+0.1**
	431nm,0.1s							
NRCA	**Norcia**	**0.50**	**223**	Pg		**Pb**	**04 30 47.5**	**-0.5**
NRCA					Sg	**Sg**	**04 30 53.9**	**+0.1**
	431nm,0.1s							
CESI	**CESI - Serrava**	**0.53**	**249**	Pg		**Pg**	**04 30 48.0**	**+0.3**
CESI					Sg	**Sg**	**04 30 55.0**	**+0.2**
	14nm,0.3s							
CESI	**CESI - Serrava**	**0.53**	**249**	Pg		**Pg**	**04 30 48.0**	**+0.3**
CESI					Sg	**Sg**	**04 30 55.0**	**+0.2**
	14nm,0.3s							
SMA1	**SAN MARTINO**	**0.60**	**198**	Pg		**Pb**	**04 30 49.5**	**-0.2**
SMA1					Sg	**Sb**	**04 30 57.9**	**-0.2**
	73nm,0.3s							
SMA1	**SAN MARTINO**	**0.60**	**198**	Pg		**Pb**	**04 30 49.5**	**-0.2**
SMA1					Sg	**Sb**	**04 30 57.9**	**-0.2**
	73nm,0.3s							
CAMP	**Campotosto**	**0.68**	**191**	Pg		**Pb**	**04 30 51.1**	**+0.1**
CAMP					Sg	**Sb**	**04 31 01.1**	**+0.7**
CAMP	**Campotosto**	**0.68**	**191**	Pg		**Pb**	**04 30 51.1**	**+0.1**
CAMP					Sg	**Sb**	**04 31 01.1**	**+0.7**
LNSS	**Leonessa**	**0.72**	**214**	Pg		**Pg**	**04 30 51.3**	**+0.1**
LNSS					Sg	**Sb**	**04 31 01.2**	**-0.4**
LNSS	**Leonessa**	**0.72**	**214**	Pg		**Pg**	**04 30 51.3**	**+0.1**
LNSS					Sg	**Sb**	**04 31 01.2**	**-0.4**
NVLJ	**Novalja**	**1.65**	**34**	*e*Pn		**Pg**	**04 31 08.8**	**-0.1**
NVLJ					Sn	**Sg**	**04 31 31.0**	**+0.7**
NVLJ	**Novalja**	**1.65**	**34**	*e*Pn		**Pg**	**04 31 08.8**	**-0.1**
NVLJ					Sn	**Sg**	**04 31 31.0**	**+0.7**

*IDC **10** 04:37:08.2±0.8, 16.°45S×173.°29W, h0km, mb4.3/12, mb1 4.5/14, mb1mx4.3/43, mbtmp4.3/14, ML3.7/2, MS3.6/10, Ms1 3.6/10, ms1mx3.3/45, Error ellipse: s-maj=36.2km s-min=15.1km az=134.0*

*NEIC **10** 04:37:09.3±0.4, 16.°44S×173.°25W, h10km, mb4.5/8, Error ellipse: s-maj=18.5km s-min=8.0km az=136.0*

*ISCJB **10** 04:37:15.1±0.7, 16.°5S±0.°1×173.°4W±0.°1, h66km, mb4.3/20, Error ellipse: s-maj=27.2km s-min=11.4km az=136.4*

ISC 10 04:37:16.9±0.7, 16.°6S±0.°2×173.°3W±0.°2, h66km**, n51,** σ1**9**00**/34, mb4.5/20, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**3.03**	**30**	Pn		Pn	04 37 53.9	-8.7
	33nm,0.3s,baz=168,slow=4.4,SNR=23							
AFI					Sn	Sn	04 38 21.5	-16
	88nm,0.3s,baz=245,slow=19,SNR=18							
AFI				LR		LR	04 38 54.0	
	comp=Z,480nm,18.3s,baz=265,slow=36							
MSVF	**Nonsavu**	**8.31**	**261**	*e*Pn		Pn	04 39 21.4	+6.5
	25nm,1.0s							
RAR	**Rarotonga**	**13.65**	**112**	LR		LR	04 44 13.4	
	comp=Z,228nm,20.1s,baz=264,slow=31							
DZM	**Mont Dzumac**	**19.85**	**251**	P		**P**	**04 41 40.8**	**-1.9**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.4							
DZM				LR		LR	04 48 16.9	
	comp=Z,236nm,19.1s,baz=108,slow=34							
DZM	**Mont Dzumac**	**19.85**	**251**	*e*LR		LR	04 46 56.3	
	333nm,25.1s							
DZM	**Mont Dzumac**	**19.85**	**251**	*e*P		**P**	**04 41 41.9**	**-0.8**
	6.7nm,0.7s							
PPT2	**Papeete2**	**22.74**	**96**	*e*LR		LR	04 47 22.4	
	196nm,25.8s							
PPT2	**Papeete2**	**22.74**	**96**	*e*T		T	05 05 18.5	
	6.5nm,0.4s							
PPT	**Papeete**	**22.74**	**96**	LR		LR	04 49 18.4	
	comp=Z,92nm,18.1s,baz=304,slow=32							
TVO	**Taravao**	**23.04**	**97**	*e*T		T	05 05 41.2	
	1.6nm,0.3s							
URZ	**Urewera**	**23.19**	**199**	P		**P**	**04 42 17.8**	**-0.2**
	4.0nm,0.4s,baz=323,slow=3.9,SNR=5.7							
TBI	**Tubuai**	**23.42**	**111**	*e*LR		LR	04 47 54.5	
	239nm,24.8s							
TBI	**Tubuai**	**23.42**	**111**	*e*T		T	05 06 19.5	
	14nm,0.3s							
HNR	**Honiara**	**26.95**	**282**	LR		LR	04 51 59.7	
	comp=Z,347nm,20.6s,baz=148,slow=33							
RKT	**Rikitea**	**36.60**	**107**	*e*T		T	05 22 43.7	
	6.9nm,0.3s							
PMG	**Port Moresby**	**39.09**	**275**	LR		LR	04 58 35.8	
	comp=Z,86nm,19.9s,baz=217,slow=33							
H11S2	**WAKE ISLAND Hy**	**39.98**	**330**	T		T	05 27 06.5	
	baz=155,slow=74,SNR=9.7							
H11S3	**WAKE ISLAND Hy**	**39.99**	**330**	T		T	05 27 06.5	
	baz=155,slow=74,SNR=3.8							
H11S1	**WAKE ISLAND Hy**	**40.00**	**330**	T		T	05 27 04.8	
	baz=155							
H11N3	**WAKE ISLAND Hy**	**40.94**	**331**	T		T	05 28 17.4	
	baz=150,slow=76,SNR=12							
H11N1	**WAKE ISLAND Hy**	**40.95**	**331**	T		T	05 28 18.6	
	baz=150,slow=76,SNR=9.7							
H11N2	**WAKE ISLAND Hy**	**40.96**	**331**	T		T	05 28 17.4	
	baz=150,slow=76,SNR=13							
COEN	**Coen**	**41.98**	**267**	*e*P		**P**	**04 45 01.2**	**-0.6**
	4.5nm,0.7s							
STKA	**Stephens Creek**	**43.52**	**241**	P		**P**	**04 45 13.8**	**-0.4**
	6.3nm,0.8s,baz=87,slow=10,SNR=14							
BBOO	**Buckleboo**	**48.29**	**241**	*e*P		**P**	**04 45 51.4**	**-0.3**
	7.4nm,0.8s							
WRAB	**Tennant Creek**	**49.64**	**258**	*e*P		**P**	**04 46 01.6**	**-0.6**
	5.0nm,1.1s							
WRA	**Warramunga Arr**	**49.65**	**258**	P		**P**	**04 46 01.2**	**-1.1**
	1.5nm,0.5s,baz=93,slow=6.6,SNR=24							
WRA				PcP		**PcP**	**04 47 23.6**	**+0.7**
	0.5nm,0.7s,baz=95,slow=3.7,SNR=5.4							
WRA				LR		LR	05 05 55.8	
	comp=Z,71nm,19.0s,baz=150,slow=35							
ASAR	**Alice Springs**	**49.82**	**253**	P		**P**	**04 46 02.9**	**-0.7**
	11nm,0.6s,baz=89,slow=8.4,SNR=189							
ASAR				PcP		**PcP**	**04 47 24.5**	**+0.9**
	0.7nm,0.6s,baz=97,slow=4.0,SNR=2.8							
SOEI	**Soe**	**60.94**	**268**	*e*P		**P**	**04 47 25.4**	**+1.6**
	21nm,0.8s							
MBWA	**Marble Bar**	**63.10**	**254**	*e*P		**P**	**04 47 37.3**	**-0.8**
	25nm,0.9s							
MJAR	**Matsushiro Arr**	**69.86**	**320**	LR		LR	05 13 39.3	
	comp=Z,28nm,21.3s,baz=10,slow=31							
ASAJ	**Asahikawa**	**72.55**	**328**	P		**P**	**04 48 37.0**	**+0.2**
	4.8nm,0.7s,baz=216,slow=4.4,SNR=7.6							
ASAJ	**Asahikawa**	**72.55**	**328**	*e*P		**P**	**04 48 37.1**	**+0.3**
	2.0nm,0.9s							
PETK	**Petropavlovsk-**	**73.74**	**342**	P		**P**	**04 48 44.1**	**+0.4**
	6.6nm,0.8s,baz=125,slow=9.2,SNR=12							
NVAR	**Mina Array Bea**	**75.14**	**42**	P		**P**	**04 48 52.0**	**-0.5**
	0.9nm,0.8s,baz=229,slow=10,SNR=8.8							
NVAR				LR		LR	05 15 31.8	
	comp=Z,58nm,19.9s,baz=146,slow=31							
MCK	**McKinley**	**82.24**	**11**	*e*P		**P**	**04 49 29.3**	**-1.3**
	5.9nm,0.9s							
PDAR	**Pinedale Array**	**83.08**	**42**	P		**P**	**04 49 35.1**	**-0.6**
	1.2nm,0.7s,baz=206,slow=3.7,SNR=12							
PDAR				LR		LR	05 20 25.1	
	comp=Z,43nm,19.2s,baz=352,slow=31							
COLA	**College**	**83.48**	**11**	*e*P		**P**	**04 49 35.2**	**-1.7**
	4.0nm,0.8s							
ILAR	**Eielson Array**	**83.56**	**11**	P		**P**	**04 49 36.5**	**-0.9**
	0.7nm,0.6s,baz=233,slow=6.4,SNR=29							
IPM	**Ipoh**	**87.09**	**276**	*e*P		**P**	**04 49 57.1**	**+0.9**
	6.8nm,0.8s							
YKA	**Yellowknife Ar**	**91.13**	**23**	P		**P**	**04 50 13.3**	**-0.7**
	0.2nm,0.7s,baz=234,slow=4.1,SNR=6.4							
CMAR	**Chiang Mai Arr**	**93.03**	**288**	P		**P**	**04 50 25.8**	**+1.9**
	2.2nm,0.3s,baz=113,slow=2.1,SNR=5.5							
SONM	**Songino Array**	**95.74**	**318**	P		**P**	**04 50 35.2**	**-0.6**
	0.3nm,0.7s,baz=96,slow=2.9,SNR=2.2							
SAML	**Samuel**	**106.42**	**105**	*e*PKP		**PKiKP**	**04 55 35.8**	**+0.7**
KMBO	**Kilima Mbogo**	**145.07**	**243**	PKPbc		**PKPdf**	**04 56 49.6**	**+1.5**
	2.2nm,0.7s,baz=59,slow=4.5,SNR=7.2							
KMBO	**Kilima Mbogo**	**145.07**	**243**	*e*PKPbc		**PKPdf**	**04 56 49.3**	**+1.2**
PSZ	**Piszkesteto**	**146.88**	**344**	*e*PKPbc		**PKPdf**	**04 56 50.6**	**+0.7**
BRTR	**Keskin Array B**	**147.08**	**320**	PKPbc		**PKPab**	**04 56 53.9**	**-0.6**
	3.2nm,0.8s,baz=112,slow=2.1,SNR=17							
GERES	**GERESS Array B**	**147.29**	**351**	PKPbc		**PKPbc**	**04 56 52.3**	**-0.7**
	0.6nm,0.4s,baz=20,slow=4.3,SNR=7.5							
ASCN	**Ascension**	**147.99**	**138**	*e*PKPbc		**PKPbc**	**04 56 55.6**	**-0.2**
MMAI	**Mount Meron Ar**	**149.33**	**308**	PKPbc		**PKPbc**	**04 57 00.2**	**+1.3**
	5.2nm,0.9s,baz=46,slow=4.2,SNR=2.6							
MMAI				PKPab		**PKPab**	**04 57 04.4**	**+0.8**
	5.0nm,0.9s,baz=46,slow=4.2,SNR=5.4							

IDC 10 04:52:25.1±11.0, 6.°90S×129.°62E, h411km±157km**, mb2.6/1, mb1 2.5/3, mb1mx2.3/46, mbtmp3.2/3, Error ellipse: s-maj=131.3km s-min=70.6km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**13.76**	**161**	P		P	04 55 22.3	-1.5
	0.1nm,0.3s,baz=345,slow=13,SNR=4.0							
WRA				S		S	04 57 52.2	+0.6
	0.1nm,0.3s,baz=338,slow=22,SNR=4.4							
ASAR	**Alice Springs**	**17.18**	**167**	P		P	04 56 01.1	+0.5
	0.1nm,0.3s,baz=337,slow=9.8,SNR=11							
MKAR	**Makanchi Array**	**67.93**	**327**	P		P	05 02 41.2	0.0
	0.2nm,0.4s,baz=116,slow=8.1,SNR=4.1							

IDC 10 04:58:45.0±2.7, 5.°19S×133.°53E, h0km**, mb3.6/2, mb1 3.5/5, mb1mx3.4/45, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=126.7km s-min=27.5km az=83.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**14.69**	**177**	Pn		Pn	05 02 12.4	-1.8
	0.1nm,0.3s,baz=355,slow=13,SNR=4.0							
WRA				Sn		Sn	05 04 45.2	-13
	0.0nm,0.3s,baz=350,slow=24,SNR=2.7							
FITZ	**Fitzroy Crossi**	**14.97**	**210**	Pn		Pn	05 02 17.9	-0.2
	baz=26,slow=11							
ASAR	**Alice Springs**	**18.38**	**179**	P		P	05 03 02.4	+0.8
	0.1nm,0.3s,baz=1.7,slow=12,SNR=8.0							
MKAR	**Makanchi Array**	**68.71**	**325**	P		P	05 09 51.4	+0.8
	0.2nm,0.5s,baz=119,slow=7.4,SNR=5.2							
BVAR	**Borovoye Array**	**78.45**	**327**	P		P	05 10 47.1	-0.6
	0.3nm,0.3s,baz=129,slow=3.9,SNR=4.2							

*ISCJB **10** 05:00:11.1±0.3, 65.°11N±0.°03×88.°29W±0.°06, h10km, mb3.5/10, MS3.2/1, Error ellipse: s-maj=3.8km s-min=3.4km az=174.3*

*IDC **10** 05:00:14.9±0.6, 65.°18N×88.°25W, h0km, mb3.4/8, mb1 3.7/14, mb1mx3.5/71, mbtmp3.6/14, ML3.2/6, MS3.4/1, Ms1 3.4/1, ms1mx2.5/57, Error ellipse: s-maj=14.6km s-min=8.7km az=8.0*

*NEIC **10** 05:00:14.9±0.0, 65.°09N×88.°35W, h5km, mb4.2/5, MN4.0(OTT), After OTT.*

*OTT **10** 05:00:15.2±0.2, 65.°09N×88.°37W, h7km, MN4.0/25, Mw3.8/1, 188km southwest from Repulse Bay, Nu Boothia Ungava Seismic Zone.*

ISC 10 05:00:13.3±0.5, 65.°08N±0.°03×88.°30W±0.°04, h10km**, n75,** σ2**9**74/113**, mb3.5/10, 2D, Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WAGN	**Wager Bay**	**0.93**	**330**	⇓Pg		**Pg**	**05 00 32.2**	**+1.0**
WAGN					SG	**Sg**	**05 00 43.3**	**-0.1**
WAGN					Trac		05 00 47.0	
	comp=Z,2μm,0.2s							
WAGN	**Wager Bay**	**0.93**	**330**	Pg		**Pg**	**05 00 32.2**	**+1.0**
WAGN					Sg	**Sg**	**05 00 43.3**	**-0.1**
WAGN					Lg	Lg	05 00 47.0	
NUNN	**Nunuq Camp, NU**	**1.18**	**278**	⇓Pg		**Pb**	**05 00 36.0**	**+0.2**
NUNN					SG	**Sb**	**05 00 50.0**	**-1.1**
NUNN					Trac		05 00 53.1	
	comp=Z,661nm,0.1s							
NUNN	**Nunuq Camp, NU**	**1.18**	**278**	Pg		**Pb**	**05 00 36.0**	**+0.2**
NUNN					Sg	**Sb**	**05 00 50.0**	**-1.1**
SEDN	**First Sedna Si**	**2.24**	**216**	PN		**Pn**	**05 00 52.4**	**+2.1**
SEDN					SN	**Sb**	**05 01 21.3**	**-0.2**
SEDN					Trac		05 01 25.5	
	comp=Z,113nm,0.1s							
SEDN					LG	Lg	05 01 25.6	
SEDN	**First Sedna Si**	**2.24**	**216**	Pn		**Pn**	**05 00 52.4**	**+2.1**
SEDN					Sn	**Sb**	**05 01 21.3**	**-0.2**
SEDN					Lg	Lg	05 01 25.6	
BULN	**Bullion Camp,**	**2.39**	**306**	PN		**Pn**	**05 00 53.6**	**+1.1**
BULN					SN	**Sn**	**05 01 20.7**	**-1.1**
BULN					Trac		05 01 34.8	
	comp=Z,141nm,0.1s							
BULN	**Bullion Camp,**	**2.39**	**306**	Pn		**Pn**	**05 00 53.6**	**+1.1**
BULN					Sn	**Sn**	**05 01 20.7**	**-1.1**
MCMN	**McManaman Lake**	**2.50**	**226**	PN		**Pn**	**05 00 55.8**	**+1.8**
MCMN					SN	**Sn**	**05 01 26.6**	**+2.2**
MCMN					LG	Lg	05 01 32.5	
MCMN					Trac		05 01 37.3	
	comp=Z,720nm,0.5s							
KUGN	**Kugaaruk Camp,**	**3.10**	**348**	PN		**Pn**	**05 01 03.5**	**+1.2**
KUGN					SN	**Sn**	**05 01 38.8**	**-0.6**
KUGN					LG	Lg	05 01 53.5	
KUGN					Trac		05 01 54.5	
	comp=Z,94nm,0.2s							
KUGN	**Kugaaruk Camp,**	**3.10**	**348**	Pn		**Pn**	**05 01 03.5**	**+1.2**
KUGN					Sn	**Sn**	**05 01 38.8**	**-0.6**
KUGN					Lg	Lg	05 01 53.5	
YBKN	**Baker Lake, Hu**	**3.40**	**260**	PN		**Pn**	**05 01 07.5**	**+1.2**
YBKN					SN	**Sn**	**05 01 46.6**	**+0.1**
YBKN					LG	Lg	05 02 00.5	
YBKN					Trac		05 02 03.5	
	comp=Z,191nm,0.2s							
YBKN	**Baker Lake, Hu**	**3.40**	**260**	Pn		**Pn**	**05 01 07.5**	**+1.2**
YBKN					Sn	**Sn**	**05 01 46.6**	**+0.1**
YBKN					Lg	Lg	05 02 00.5	
ARVN	**Arviat, NU**	**4.79**	**216**	PN		**Pn**	**05 01 28.6**	**+3.3**
ARVN					SN	**Sn**	**05 02 21.4**	**+0.6**
ARVN					LG	Lg	05 02 41.5	
ARVN					Trac		05 02 48.6	
	comp=Z,52nm,0.1s							
ARVN	**Arviat, NU**	**4.79**	**216**	Pn		**Pn**	**05 01 28.6**	**+3.3**
ARVN					Sn	**Sn**	**05 02 21.4**	**+0.6**
ARVN					Lg	Lg	05 02 41.5	
ILON	**Igloolik, Nuna**	**4.99**	**27**	PN		**Pn**	**05 01 28.3**	**+0.2**
ILON					SN	**Sn**	**05 02 24.3**	**-1.4**
ILON					Trac		05 02 52.2	
	comp=Z,88nm,0.2s							
ILON					LG	Lg	05 02 52.5	
ILON	**Igloolik, Nuna**	**4.99**	**27**	Pn		**Pn**	**05 01 28.3**	**+0.2**
ILON					Sn	**Sn**	**05 02 24.3**	**-1.4**
ILON					Lg	Lg	05 02 52.5	
FCC	**Fort Churchill**	**6.90**	**206**	PN		**Pn**	**05 01 55.9**	**+1.5**
FCC					SN	**Sn**	**05 03 09.7**	**-3.2**
FCC					LG	Lg	05 03 49.4	
FCC					Trac		05 03 54.8	
	comp=Z,49nm,0.5s							
FCC	**Fort Churchill**	**6.90**	**206**	*e*Pn		**Pn**	**05 01 55.3**	**+0.9**
FCC				*e*Sn		**Sn**	**05 03 09.8**	**-3.2**
FCC				*e*Lg		Lg	05 03 47.6	
MRYN	**Mary River**	**7.09**	**24**	PN		**Pn**	**05 01 57.4**	**+0.4**
MRYN					SN	**Sn**

KUKN LG Lg 05 05 51.4
KUKN Trac 05 05 57.6
comp=Z,54nm,0.6s
KUKN Kugluktuk,NWT 11.01 296 Pn Pn 05 02 44.1 -6.6
KUKN Sn Sn 05 04 43.1 -11
KUKN Lg Lg 05 05 51.4
KJKQ Kuujjuarapik 11.13 147 PN **Pn** **05 02 53.5 +1.2**
KJKQ SN **Sn** **05 04 50.8 -5.8**
KJKQ LG Lg 05 06 03.2
KJKQ Trac 05 06 09.2
comp=Z,12nm,0.3s
KJKQ Kuujjuarapik 11.13 147 Pn **Pn** **05 02 53.5 +1.2**
KJKQ Sn **Sn** **05 04 50.8 -5.8**
KJKQ Lg Lg 05 06 03.2
HPLN Hepburn Lake, 11.16 289 PN **Pn** **05 02 53.0 +0.3**
HPLN SN Sn 05 04 47.0 -10
HPLN LG Lg 05 06 03.9
HPLN Trac 05 06 08.2
comp=Z,146nm,0.8s
KUQ Kuujjuuaa 11.72 117 PN **Pn** **05 03 01.5 +1.1**
KUQ SN **Sn** **05 05 05.2 -6.0**
KUQ Trac 05 06 25.7
comp=Z,37nm,0.5s
KUQ Kuujjuuaa 11.72 117 Sn **Pn** **05 03 01.5 +1.1**
KUQ Sn **Sn** **05 05 05.2 -6.0**
YKW1 Yellowknife Ar 11.83 269 PN **Pn** **05 03 03.6 +1.7**
YKW1 SN Sn 05 05 00.9 -13
YKW1 LG Lg 05 06 24.6
YKW1 Yellowknife Ar 11.83 269 *e*Pn **Pn** **05 03 03.6 +1.7**
YKW1 *e*Sn Sn 05 05 00.9 -13
YKW1 *e*Lg Lg 05 06 24.6
YKW3 Yellowknife Ar 11.85 270 PN **Pn** **05 03 00.4 -1.7**
YKW3 SN Sn 05 05 03.2 -11
YKW3 LG Lg 05 06 18.0
YKW3 Trac 05 06 32.7
comp=Z,35nm,0.6s
YKW3 Yellowknife Ar 11.85 270 *e*Pn **Pn** **05 03 00.8 -1.3**
YKW3 *e*Sn Sn 05 05 03.2 -11
YKW3 *e*Lg Lg 05 06 18.0
YKA Yellowknife Ar 11.87 269 Pn **Pn** **05 03 01.1 -1.3**
0.3nm,0.3s,baz=21,slow=3.9,SNR=24
YKA Sn Sn 05 05 01.3 -13
1.1nm,0.3s,baz=59,slow=22,SNR=18
YKA Lg Lg 05 06 16.2
1.1nm,0.3s,baz=61,slow=27,SNR=3.8
EDZN EDZO 12.41 272 PN **Pn** **05 03 09.3 -0.5**
FL31 Flin Flon Arra 12.42 220 PN **Pn** **05 03 12.4 +2.4**
FL31 Flin Flon Arra 12.42 220 Pn **Pn** **05 03 12.4 +2.4**
DHRN Dharma Camp 12.75 293 PN **Pn** **05 03 12.8 -1.5**
TULEG Thule 13.05 20 *e*Pn **Pn** **05 03 16.6 -1.8**
SCHQ Schefferville 14.78 124 Pn Pn 05 03 39.2 -2.9
0.7nm,0.3s,baz=337,slow=9.6,SNR=18
SCHQ Sn Sn 05 06 14.7 -11
0.7nm,0.3s,baz=224,slow=19,SNR=5.0
SCHQ Lg Lg 05 07 50.4
0.8nm,0.3s,baz=60,slow=18,SNR=5.9
SCHQ Schefferville 14.78 124 *e*Pn **Pn** **05 03 39.9 -2.3**
SFJD Kangerlussuaq 15.27 66 *e*Pn **Pn** **05 03 46.9 -1.6**
16nm,1.4s
ULM Lac du Bonnet 15.39 199 Pn **Pn** **05 03 48.6 -1.8**
0.2nm,0.3s,baz=8.1,slow=14,SNR=5.3
ULM Sn Sn 05 06 26.0 -15
0.3nm,0.3s,baz=9.5,slow=18,SNR=4.0
ULM Lg Lg 05 08 05.6
0.6nm,0.3s,baz=70,slow=15,SNR=3.1
ULM Lac du Bonnet 15.39 199 *e*Pn **Pn** **05 03 51.0 +0.7**
42nm,2.0s
INK Inuvik 17.85 301 Pn **Pn** **05 04 18.8 -2.6**
0.3nm,0.3s,baz=65,slow=13,SNR=11
INK Sn Sn 05 07 23.2 -17
0.3nm,0.3s,baz=171,slow=19,SNR=4.1
INK Lg Lg 05 09 24.0
baz=345,slow=32,SNR=4.8
INK Inuvik 17.85 301 *e*Pn **Pn** **05 04 20.0 -1.4**
21nm,1.8s
ECSD EROS Data Cent 21.89 196 *e*P **P** **05 05 08.0 +1.8**
2.8nm,0.8s
PKME Peaks-Kenny Pk 22.45 143 *e*P **P** **05 05 13.3 +1.2**
90nm,1.8s
BBB Bella Bella 23.92 257 LR LR 05 15 12.6
comp=Z,81nm,18.2s,baz=263,slow=38
ILAR Eielson Array 24.07 296 P **P** **05 05 31.5 +3.1**
0.3nm,0.9s,baz=74,slow=10,SNR=3.2
PDAR Pinedale Array 25.37 219 P **P** **05 05 44.1 +3.6**
0.5nm,0.9s,baz=12,slow=7.9,SNR=3.8
OCR O'Connell Ranc 34.33 231 *e*P **P** **05 06 57.1 -2.6**
FINES FINESS Array B 44.73 38 P **P** **05 08 27.9 +1.8**
2.7nm,1.1s,baz=314,slow=16,SNR=2.5
AKASG Malin Array Be 54.93 44 P **P** **05 09 46.5 +2.7**
0.1nm,0.3s,baz=326,slow=7.8,SNR=3.0
BVAR Borovoye Array 61.09 15 P **P** **05 10 29.6 +2.8**
0.5nm,0.6s,baz=310,slow=6.8,SNR=3.6
KURBB Kurchatov Arra 64.18 9 P **P** **05 10 49.7 +2.2**
0.3nm,0.7s,baz=355,slow=6.5,SNR=4.2
MKAR Makanchi Array 68.22 7 P **P** **05 11 15.8 +2.2**
0.1nm,0.6s,baz=35,slow=5.3,SNR=2.9
TORD Torodi Ar. Bea 78.18 84 P **P** **05 12 16.0 +3.3**
0.4nm,1.0s,baz=330,slow=5.7,SNR=2.6

IDC 10 05:06:43.0±1.6, 24°13.3S×69°67.E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/62, mbtmp3.5/4, Error ellipse: s-maj=56.6km s-min=33.0km az=24.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.61**	**10**	T	T	05 27 40.7	
	baz=190,slow=76,SNR=4.7						
H08S2	**Diego Garcia H**	**16.61**	**10**	T	T	05 27 39.5	
	baz=190,slow=76,SNR=5.2						
H08S3	**Diego Garcia H**	**16.63**	**10**	T	T	05 27 41.2	
	baz=190,slow=76,SNR=3.5						
ASAR	**Alice Springs**	**58.24**	**104**	P	P	05 16 39.5	-0.1
	0.4nm,0.6s,baz=256,slow=6.2,SNR=8.7						
MKAR	**Makanchi Array**	**71.51**	**9**	P	P	05 18 05.4	0.0
	0.3nm,0.7s,baz=200,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**76.00**	**291**	P	P	05 18 32.5	0.0
	0.2nm,0.5s,baz=112,slow=6.7,SNR=3.0						
ZALV	**Zalesovo Beam**	**78.85**	**9**	P	P	05 18 47.6	+0.1
	0.3nm,0.3s,baz=197,slow=4.5,SNR=2.5						

*ISCJB **10** 05:17:13.8±0.8, 30°.60N±0°.06×70°.13E±0°.09, h23km, mb3.6/12, MS3.3/6, Error ellipse: s-maj=12.4km s-min=6.7km az=144.4*
*IDC **10** 05:17:13.2±1.0, 30°.70N×69°.67E, h0km, mb3.6/12, mb1 3.7/14, mb1mx3.4/75, mbtmp3.6/14, ML3.6/2, MS3.3/8, Ms1 3.4/8, ms1mx3.0/58, Error ellipse: s-maj=21.9km s-min=19.9km az=111.0*
*NNC **10** 05:17:20.4±4.4, 31°.05N×70°.06E, h0km, mb4.0, Error ellipse: s-maj=68.1km s-min=27.7km az=127.0*
ISC 10 05:17:16.2±0.9, 30°.63N±0°.08×69°.99E±0°.10, h23km, n35, σ2§19/33, mb3.5/12, MS3.3/6, 5C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**9.79**	**16**	⇑P	**Pn**	**05 19 37.6**	**+1.7**
	5.9nm,0.5s						
SFK				⇑S	**Sn**	**05 21 27.3**	**+2.0**
	13nm,0.8s						
PYUN	**Piuthan**	**11.62**	**99**	*e*P	**Pn**	05 19 59.3	-1.5
	13nm,0.4s						
MNAS	**Manas**	**12.01**	**9**	⇑P	**Pn**	**05 20 05.9**	**-0.2**
	3.9nm,0.8s						
GEYT	**Alibeck**	**12.22**	**310**	LR	LR	05 26 08.8	
	comp=Z,64nm,20.8s,baz=355,slow=45						
KOLN	**Koldanda**	**12.22**	**100**	*e*P	**Pn**	**05 20 07.9**	**-1.3**
KK31	**Karatay Array**	**12.46**	**2**	⇓P	**Pn**	**05 20 12.3**	**+0.2**
	1.0nm,0.4s,baz=336,slow=40,SNR=13						
KK31				⇑S	**Sn**	**05 22 28.2**	**-2.1**
	2.6nm,0.6s,baz=190,slow=24,SNR=6.0						
AAK	**Ala-Archa**	**12.52**	**16**	Pn	**Pn**	**05 20 11.8**	**-1.3**
	0.5nm,0.3s,baz=172,slow=7.2,SNR=4.7						
AAK				Sn	**Sn**	**05 22 28.9**	**-2.9**
	0.2nm,0.3s,baz=167,slow=16,SNR=4.5						
AAK				LR	LR	05 25 53.3	
	comp=Z,153nm,18.2s,baz=191,slow=42						
AAK	**Ala-Archa**	**12.52**	**16**	⇑P	**Pn**	**05 20 12.4**	**-0.6**
	4.2nm,0.6s						
AAK				⇓S	**Sn**	**05 22 30.3**	**-1.6**
	3.9nm,0.7s						
TKM2	**Tokmak 2**	**13.06**	**19**	⇓P	**Pn**	**05 20 20.8**	**+0.2**
	3.4nm,1.1s						
PKIN	**Phulchoki**	**13.81**	**99**	*e*P	**Pn**	**05 20 27.7**	**-3.1**
GUN	**Gumba**	**14.13**	**97**	*e*P	**Pn**	**05 20 32.2**	**-3.1**
	24nm,0.4s						
JIRN	**Jiri**	**14.46**	**98**	*e*P	**Pn**	**05 20 37.6**	**-2.3**
	17nm,0.5s						
RAMN	**Ramite**	**15.02**	**100**	*e*P	**Pn**	**05 20 46.0**	**-1.3**
TAPN	**Taplejung**	**15.84**	**97**	*e*P	**Pn**	**05 20 54.9**	**-3.3**
MKAR	**Makanchi Array**	**18.74**	**27**	P	**P**	**05 21 32.6**	**-0.8**
	0.1nm,0.3s,baz=216,slow=12,SNR=8.9						
AB31	**Akbulak array**	**20.11**	**341**	⇓P	**P**	**05 21 50.0**	**+1.7**
	1.2nm,0.8s,baz=148,slow=13,SNR=10						
KURBB	**Kurchatov Arra**	**20.97**	**15**	P	**P**	**05 21 56.9**	**-0.7**
	1.0nm,0.7s,baz=207,slow=10,SNR=5.7						
AKTO	**Aktyubinsk**	**21.73**	**339**	P	**P**	**05 22 04.5**	**-1.2**
	0.4nm,0.5s,baz=156,slow=11,SNR=2.8						
AKTO	**Aktyubinsk**	**21.73**	**339**	⇓P	**P**	**05 22 10.7**	**+4.9**
	4.8nm,0.8s						
BVA0	**Borovoye Array**	**22.39**	**1**	P	**P**	**05 22 17.0**	**+4.2**
	4.2nm,0.9s,baz=169,slow=10.0,SNR=7.3						
BVAR	**Borovoye Array**	**22.39**	**1**	P	**P**	**05 22 13.9**	**+1.1**
	1.2nm,0.6s,baz=161,slow=9.4,SNR=6.9						
GNI	**Garni**	**22.61**	**302**	LR	LR	05 33 44.6	
	comp=Z,90nm,18.8s,baz=38,slow=44						
KVAR	**Kislovodsk Arr**	**25.33**	**309**	LR	LR	05 34 58.8	
	comp=Z,102nm,18.3s,baz=72,slow=42						
ZALV	**Zalesovo Beam**	**25.65**	**20**	P	**P**	**05 22 45.7**	**+1.7**
	1.5nm,0.5s,baz=210,slow=11,SNR=9.1						
ARU	**Arti**	**27.02**	**346**	P	**P**	**05 22 56.3**	**-0.1**
	1.3nm,0.2s,baz=97,slow=17,SNR=2.0						
MMAI	**Mount Meron Ar**	**29.41**	**284**	LR	LR	05 36 39.0	
	comp=Z,26nm,18.9s,baz=180,slow=40						
BRTR	**Keskin Array B**	**30.90**	**297**	P	**P**	**05 23 30.2**	**-1.0**
	0.3nm,0.6s,baz=129,slow=9.0,SNR=2.4						
BRTR				LR	LR	05 35 46.3	
	comp=Z,32nm,19.9s,baz=358,slow=36						
SONM	**Songino Array**	**32.65**	**48**	P	**P**	**05 23 48.5**	**+2.0**
	0.2nm,0.3s,baz=258,slow=7.2,SNR=2.8						
OBN	**Obninsk**	**34.08**	**326**	LR	LR	05 41 31.7	
	comp=Z,88nm,18.5s,baz=86,slow=43						
NOA	**NORSAR Array B**	**48.68**	**326**	LR	LR	05 48 26.9	
	comp=Z,104nm,21.6s,baz=5.0,slow=39						
SEY	**Seymchan**	**59.80**	**32**	P	**P**	**05 27 20.2**	**+0.9**
	0.9nm,0.5s,baz=324,slow=19,SNR=3.0						
TORD	**Torodi Ar. Bea**	**64.84**	**271**	P	**P**	**05 27 51.4**	**-2.4**
	0.6nm,0.8s,baz=77,slow=6.4,SNR=3.4						
WRA	**Warramunga Arr**	**79.68**	**120**	P	**P**	**05 29 25.7**	**+3.4**
	0.3nm,0.6s,baz=322,slow=5.2,SNR=5.0						
ASAR	**Alice Springs**	**81.65**	**124**	P	**P**	**05 29 34.6**	**+1.8**
	0.3nm,0.6s,baz=304,slow=5.6,SNR=4.4						
YKA	**Yellowknife Ar**	**87.13**	**2**	P	**P**	**05 29 59.6**	**-0.4**
	0.1nm,0.3s,baz=352,slow=5.1,SNR=3.8						

IDC 10 05:21:18.2±1.6, 24°.20S×69°.57E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/70, mbtmp3.6/4, Error ellipse: s-maj=69.0km s-min=30.0km az=28.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.70**	**10**	T	T	05 42 14.7	
	baz=190,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**16.70**	**10**	T	T	05 42 17.4	
	baz=190,slow=76,SNR=10						
H08S3	**Diego Garcia H**	**16.72**	**10**	T	T	05 42 16.2	
	baz=190,slow=76,SNR=9.5						
ASAR	**Alice Springs**	**58.31**	**104**	P	P	05 31 15.4	0.0
	0.4nm,0.6s,baz=252,slow=6.0,SNR=8.1						
WRA	**Warramunga Arr**	**59.71**	**100**	P	P	05 31 24.9	-0.2
	0.3nm,0.6s,baz=254,slow=6.7,SNR=3.2						
MKAR	**Makanchi Array**	**71.59**	**9**	P	P	05 32 41.2	0.0
	0.3nm,0.5s,baz=183,slow=5.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**75.94**	**292**	P	P	05 33 07.5	+0.1
	1.1nm,1.0s,baz=122,slow=4.1,SNR=3.6						

*IDC **10** 05:22:37.4±0.7, 51°.78N×96°.41E, h0km, mb3.7/16, mb1 3.7/20, mb1mx3.6/79, mbtmp3.6/20, ML2.9/4, Error ellipse: s-maj=17.2km s-min=11.0km az=174.0*
*ISCJB **10** 05:22:38.1±0.5, 51°.77N±0°.09×96°.22E±0°.07, h10km, mb3.6/16, Error ellipse: s-maj=12.9km s-min=6.4km az=1.6*
*MOS **10** 05:22:38.3±1.8, 51°.79N×96°.19E, h11km, mb4.1/8, Error ellipse: s-maj=12.2km s-min=9.2km az=23.9*
ISC 10 05:22:39.4±0.6, 51°.82N±0°.09×96°.25E±0°.05, h10km, n39, σ1§87/37, mb3.7/16, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.74**	**248**	*i* PN	**Pn**	**05 23 07.0**	**-2.7**
ORL	**Orlik**	**2.30**	**70**	*e*PN	**Pb**	**05 23 21.8**	**+0.8**
ORL				*e*		05 23 53.7	
ORL				pmax	pmax		
	comp=Z,147nm,0.7s						
ORL				smax	smax		
	comp=N,654nm,0.9s						
MOY	**Mondy**	**2.95**	**91**	*e*PN	**Pb**	**05 23 33.2**	**+1.1**
MOY				*e*		05 24 14.3	
MOY				pmax	pmax		
	comp=Z,139nm,0.4s						
MOY				smax	smax		
	comp=N,530nm,1.2s						
ARS	**Arshan**	**3.83**	**86**	*e*PN	**Pn**	**05 23 41.8**	**+3.5**
ARS				*e*		05 23 52.1	
ARS				pmax	pmax		
	comp=Z,157nm,0.5s						
TLY	**Talaya**	**4.59**	**89**	*e*PN	**Pg**	**05 24 03.9**	**-3.4**
TLY				*e*		05 25 04.0	
TLY				pmax	pmax		
	comp=Z,17nm,0.6s						
ZAK	**Zakamensk**	**4.66**	**105**	*e*PN	**Pb**	**05 24 03.1**	**+2.0**
ZAK				pmax	pmax		
	comp=Z,34nm,0.7s						
LUZB	**Luzhba, Kemero**	**4.83**	**295**	*e*PN	**Pn**	**05 23 54.2**	**+2.1**
IRK	**Irkutsk**	**4.97**	**82**	*e*PN	**Pg**	**05 24 11.2**	**-3.2**
IRK				*e*		05 25 13.4	
IRK				pmax	pmax		
	comp=Z,101nm,0.1s						
IRK				smax	smax		
	comp=N,527nm,0.5s						
OGRR	**Ongureny**	**7.12**	**71**	*e*PN	**Pn**	**05 24 25.4**	**+1.8**
OGRR				*e*		05 24 48.6	
OGRR				pmax	pmax		
	comp=Z,16nm,1.0s						
ZALV	**Zalesovo Beam**	**7.24**	**292**	Pn	**Pn**	**05 24 26.5**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=98,slow=12,SNR=4.6						
ZALV				Lg	Lg	05 26 20.0	
	comp=Z,2.5nm,0.3s,baz=114,slow=25,SNR=8.3						
SONM	**Songino Array**	**7.68**	**117**	Pg	**Pb**	**05 24 56.4**	**+3.8**
	comp=Z,0.9nm,0.3s,baz=305,slow=19,SNR=15						
SONM				Lg	Lg	05 26 39.4	
	comp=Z,1.8nm,0.3s,baz=299,slow=30,SNR=10						
ULN	**Ulaanbaatar**	**8.03**	**115**	*i* P	**Pn**	**05 24 38.6**	**+2.5**
NVS	**Novosibirsk**	**8.36**	**296**	*e*P	**Pn**	**05 24 43.6**	**+3.2**
NVS				*e*		05 26 21.8	
MKAR	**Makanchi Array**	**10.41**	**247**	Pn	**Pn**	**05 25 08.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=50,slow=11,SNR=8.9						
MKAR				Lg	Lg	05 27 60.0	
	comp=Z,0.4nm,0.3s,baz=66,slow=33,SNR=4.3						
MKAR	**Makanchi Array**	**10.41**	**247**	*i* P	Pn	05 25 12.1	+3.5
KURK	**Kurchatov**	**11.11**	**271**	*i* P	Pn	05 25 21.4	+3.3
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURBB	**Kurchatov Arra**	**11.18**	**271**	Pn	**Pn**	**05 25 19.9**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=75,slow=15,SNR=4.5						
KURBB				Lg	Lg	05 28 25.7	
	comp=Z,0.1nm,0.3s,baz=76,slow=24,SNR=5.4						
BVAR	**Borovoye Array**	**15.80**	**285**	Pn	**Pn**	**05 26 19.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=75,slow=7.6,SNR=2.9						
BRVK	**Borovoye**	**15.86**	**285**	*i* P	**P**	**05 26 24.6**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARU	**Arti**	**22.36**	**297**	P	**P**	**05 27 38.9**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=94,slow=11,SNR=5.2						
ARU	**Arti**	**22.36**	**297**	P	**P**	**05 27 38.9**	**+1.7**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**23.86**	**282**	P	**P**	**05 27 51.9**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=86,slow=13,SNR=7.1						
TIXI	**Tiksi**	**24.59**	**24**	P	**P**	**05 27 59.8**	**+0.6**
	comp=Z,20nm,0.9s,baz=245,slow=6.7,SNR=21						
TIXI	**Tiksi**	**24.59**	**24**	*i* P	**P**	**05 28 00.6**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SEY	**Seymchan**	**31.19**	**47**	P	**P**	**05 28 56.7**	**-1.5**
	comp=Z,0.4nm,0.2s,baz=240,slow=18,SNR=2.0						
FINES	**FINESS Array B**	**37.93**	**313**	P	**P**	**05 29 57.2**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=158,slow=5.6,SNR=4.0						
AKASG	**Malin Array Be**	**40.61**	**296**	P	**P**	**05 30 18.4**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=76,slow=12,SNR=2.6						
BRTR	**Keskin Array B**	**44.00**	**280**	P	**P**	**05 30 47.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=78,slow=6.4,SNR=5.4						
HFS	**Hagfors**	**44.02**	**314**	P	**P**	**05 30 47.1**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=94,slow=10,SNR=2.3						
NOA	**NORSAR Array B**	**44.68**	**316**	P	**P**	**05 30 51.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=57,slow=6.6,SNR=3.1						
NOA	**NORSAR Array B**	**44.68**	**316**	P	**P**	**05 30 51.5**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**53.97**	**28**	P	**P**	**05 32 02.4**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=317,slow=4.2,SNR=4.8						
INK	**Inuvik**	**54.63**	**20**	P	**P**	**05 32 08.3**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=321,slow=4.5,SNR=3.8						
YKA	**Yellowknife Ar**	**63.44**	**15**	P	**P**	**05 33 06.5**	**-2.2**
	comp=Z,0.1nm,0.5s,baz=336,slow=6.9,SNR=3.8						
ESDC	**Sonseca Array**	**65.57**	**303**	P	**P**	**05 33 23.8**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=15,slow=5.3,SNR=2.8						
WRA	**Warramunga Arr**	**78.83**	**144**	P	**P**	**05 34 41.0**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=345,slow=6.3,SNR=3.3						
WRA	**Warramunga Arr**	**78.83**	**144**	P	**P**	**05 34 41.0**	**-1.3**
ASAR	**Alice Springs**	**82.09**	**146**	P	**P**	**05 35 00.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=324,slow=4.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**82.58**	**282**	P	**P**	**05 35 02.2**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=35,slow=5.3,SNR=3.8						

IDC 10 05:25:23.5±1.4, 24°.02S×69°.70E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.4/69, mbtmp3.7/6, MS3.7/8, Ms1 3.7/8, ms1mx3.3/59, Error ellipse: s-maj=46.8km s-min=26.9km az=28.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.50**	**10**	T	T	05 46 17.0	
	baz=190,slow=76,SNR=27						
H08S2	**Diego Garcia H**	**16.50**	**10**	T	T	05 46 17.6	
	baz=190,slow=76,SNR=36						
H08S3	**Diego Garcia H**	**16.52**	**10**	T	T	05 46 19.5	
	baz=190,slow=76,SNR=21						
MATP	**Matopo**	**38.22**	**267**	LR	LR	05 44 55.6	
	comp=Z,123nm,19.9s,baz=114,slow=31						
PSI	**Prapat**	**38.97**	**51**	LR	LR	05 45 52.6	
	comp=Z,98nm,18.8s,baz=236,slow=32						
H01W2	**Cape Leeuwin H**	**39.89**	**116**	T	T	06 15 10.5	
	baz=273,slow=75,SNR=5.8						
H01W3	**Cape Leeuwin H**	**39.89**	**116**	T	T	06 15 11.5	
	baz=273,slow=75,SNR=4.0						
H01W1	**Cape Leeuwin H**	**39.91**	**116**	T	T	06 15 09.9	
	baz=273,slow=75,SNR=6.2						
BOSA	**Boshof**	**39.93**	**254**	LR	LR	05 45 31.3	
	comp=Z,162nm,18.9s,baz=43,slow=30						
CMAR	**Chiang Mai Arr**	**50.95**	**37**	P	P	05 34 27.3	+0.2
	1.0nm,0.3s,baz=240,slow=7.7,SNR=4.3						
CMAR				LR	LR	05 52 03.5	
	comp=Z,62nm,21.3s,baz=201,slow=31						
ASAR	**Alice Springs**	**58.23**	**104**	P	P	05 35 20.2	+0.1
	0.5nm,0.7s,baz=255,slow=6.2,SNR=7.8						
WRA	**Warramunga Arr**	**59.62**	**100**	P	P	05 35 29.4	-0.3
	0.5nm,0.7s,baz=255,slow=6.7,SNR=3.3						
MKAR	**Makanchi Array**	**71.39**	**9**	P	P	05 36 45.2	-0.1
	0.4nm,0.6s,baz=181,slow=5.7,SNR=5.2						
KURBB	**Kurchatov Arra**	**74.72**	**6**	P	P	05 37 04.7	-0.1
	0.3nm,0.5s,baz=199,slow=5.5,SNR=2.4						
PMG	**Port Moresby**	**74.83**	**94**	LR	LR	06 08 51.5	
	comp=Z,46nm,18.1s,baz=32,slow=35						
TORD	**Torodi Ar. Bea**	**75.99**	**291**	P	P	05 37 13.2	+0.2
	0.4nm,1.0s,baz=121,slow=5.4,SNR=2.6						
JNU	**Nakatsue**	**81.38**	**48**	LR	LR	06 13 56.5	
	comp=Z,38nm,18.2s,baz=296,slow=36						
KSRS	**Korea Array**	**82.06**	**43**	LR	LR	06 12 39.2	
	comp=Z,8.6nm,18.0s,baz=296,slow=35						
VRAC	**Vranov**	**86.95**	**328**	LR	LR	06 20 15.5	
	comp=Z,123nm,18.9s,baz=350,slow=38						

IDC 10 05:29:47.2±7.8, 20°.74S×172°.15E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.5/35, mbtmp3.3/3, Error ellipse: s-maj=342.7km s-min=41.6km az=149.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.41**	**264**	P	P	05 36 44.8	-0.4
	0.2nm,0.6s,baz=96,slow=8.6,SNR=4.3						
ASAR	**Alice Springs**	**35.46**	**258**	P	P	05 36 45.8	+0.1
	0.3nm,0.7s,baz=91,slow=9.3,SNR=5.9						
ILAR	**Eielson Array**	**90.87**	**16**	P	P	05 42 52.1	0.0
	0.2nm,0.7s,baz=211,slow=6.3,SNR=3.3						

*IDC **10** 05:42:39.5±2.3, 22°.64S×170°.62E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/37, mbtmp3.7/6, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/33, Error ellipse: s-maj=112.0km s-min=30.1km az=166.0*
*NEIC **10** 05:42:42.4±0.8, 22°.38S×170°.41E, h10km, mb4.4/3, Error ellipse: s-maj=26.7km s-min=16.4km az=166.0*
*ISCJB **10** 05:42:44.4±0.8, 22°.4S±0°.2×170°.36E±0°.09, h33km, mb4.1/9, MS3.7/1, Error ellipse: s-maj=25.7km s-min=11.4km az=176.9*
ISC 10 05:42:46.1±0.9, 22°.4S±0°.2×170°.38E±0°.09, h33km, n17, σ1§19/18, mb4.0/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.66**	**274**	Pn	**Pn**	**05 43 40.4**	**-0.1**
	3.9nm,0.3s,baz=157,slow=6.2,SNR=89						
DZM				Sn	**Sn**	**05 44 21.7**	**-1.0**
	5.5nm,0.3s,baz=51,slow=19,SNR=12						
DZM	**Mont Dzumac**	**3.66**	**274**	*e*Pn	**Pn**	**05 43 40.5**	**-0.1**
DZM				*e*Sn	**Sn**	**05 44 23.7**	**+1.0**
ASAR	**Alice Springs**	**33.55**	**261**	P	**P**	**05 49 23.5**	**+0.3**
	0.6nm,0.8s,baz=86,slow=8.2,SNR=6.3						
WB2	**Warramunga Arr**	**33.64**	**267**	*e*P	**P**	**05 49 22.4**	**-1.6**
WR1	**Warramunga Arr**	**33.65**	**267**	*e*P	**P**	**05 49 22.9**	**-1.1**
	2.8nm,1.0s						
WRA	**Warramunga Ar

PMOZ	**Porto Moniz, M**	**4.73**	**191**	*e*Sn	**Sn**	05 48 08.8	**-6.3**
	47nm,0.5s						
PMAR	**Madeira**	**4.79**	**188**	*e*Pn	**Pn**	05 47 22.1	**+1.1**
PMAR				*e*Sn	Sn	05 48 08.2	-8.5
PMAR				A	A	05 48 13.7	
	36nm,0.2s						
PMAR	**Madeira**	**4.79**	**188**	P	**Pn**	05 47 22.1	**+1.1**
PMAR				S	Sn	05 48 08.2	-8.5
	18nm,0.2s						
PMAR	**Madeira**	**4.79**	**188**	P	**Pn**	05 47 22.1	**+1.1**
PMAR				S	Sn	05 48 08.2	-8.5
	18nm,0.2s						
FUL	**Funchal**	**4.87**	**188**	*e*Sn	Sn	05 48 09.9	-8.3
FUL				A	A	05 48 13.5	
	26nm,0.2s						
FUL	**Funchal**	**4.87**	**188**	S	Sn	05 48 09.9	-8.3
	13nm,0.2s						
PMAFR	**Mafra**	**5.59**	**73**	*e*Pn	**Pn**	05 47 35.9	**+4.1**
PMAFR				*e*Sn	**Sn**	05 48 35.5	**-0.5**
PMAFR				A	A	05 48 43.3	
	11nm,0.3s						
PMAFR	**Mafra**	**5.59**	**73**	P	**Pn**	05 47 35.8	**+4.0**
	17nm,0.7s,SNR=19						
PMAFR				S	**Sn**	05 48 35.3	**-0.7**
	22nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**5.59**	**73**	P	**Pn**	05 47 35.8	**+4.0**
	17nm,0.7s,SNR=19						
PMAFR				*e*Sn	**Sn**	05 48 35.5	**-0.5**
	11nm,0.3s						
PMST	**Lisbon--Monsan**	**5.62**	**75**	*e*Sn	**Sn**	05 48 37.6	**+0.9**
PMST	**Lisbon--Monsan**	**5.62**	**75**	*e*Sn	**Sn**	05 48 37.6	**+0.9**
PFVI	**Vila Bisbo**	**5.83**	**91**	*e*Pn	**Pn**	05 47 38.4	**+3.3**
PFVI				*e*Sn	**Sn**	05 48 40.0	**-2.0**
PFVI				A	A	05 48 46.7	
	5.9nm,0.5s						
PFVI	**Vila Bisbo**	**5.83**	**91**	P	**Pn**	05 47 38.4	**+3.3**
	17nm,0.8s,SNR=7.2						
PFVI				S	**Sn**	05 48 40.7	**-1.3**
	5.9nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.83**	**91**	P	**Pn**	05 47 38.4	**+3.3**
	17nm,0.8s,SNR=7.2						
PFVI				*e*Sn	**Sn**	05 48 40.0	**-2.0**
	5.9nm,0.5s						
PFVI				S	**Sn**	05 48 40.7	**-1.3**
	5.9nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.89**	**87**	*e*Pn	**Pn**	05 47 39.0	**+3.2**
PTEO				*e*Sn	**Sn**	05 48 40.8	**-2.6**
PTEO				A	A	05 48 49.0	
	7.4nm,0.6s						
PTEO	**Sao Teotonio**	**5.89**	**87**	P	**Pn**	05 47 39.0	**+3.2**
PTEO				S	**Sn**	05 48 40.8	**-2.6**
	3.7nm,0.6s						
PTEO	**Sao Teotonio**	**5.89**	**87**	P	**Pn**	05 47 39.0	**+3.2**
PTEO				S	**Sn**	05 48 40.8	**-2.6**
	3.7nm,0.6s						
MORF	**Marmelete**	**5.96**	**89**	*e*P	**Pn**	05 47 40.6	**+3.8**
MORF				*e*S	**Sn**	05 48 43.8	**-1.4**
MORF				AML	AML	05 48 46.5	
	comp=N,11nm,0.2s						
MORF	**Marmelete**	**5.96**	**89**	*e*Pn	**Pn**	05 47 40.4	**+3.5**
MORF				*e*Sn	**Sn**	05 48 43.3	**-1.9**
MORF				A	A	05 48 48.5	
	comp=N,5.9nm,0.2s						
MORF	**Marmelete**	**5.96**	**89**	P	**Pn**	05 47 40.6	**+3.8**
MORF				S	**Sn**	05 48 43.3	**-1.9**
	comp=N,5.9nm,0.2s						
MORF	**Marmelete**	**5.96**	**89**	*e*Pn	**Pn**	05 47 40.4	**+3.5**
MORF	**Marmelete**	**5.96**	**89**	P	**Pn**	05 47 40.7	**+3.8**
MORF				S	**Sn**	05 48 43.3	**-1.9**
	comp=N,5.9nm,0.2s						
PNCL	**Nicolau / Gran**	**6.05**	**82**	*e*Pn	**Pn**	05 47 41.4	**+3.3**
PNCL				*e*Sn	**Sn**	05 48 45.6	**-1.8**
PNCL				A	A	05 48 47.8	
	comp=N,6.0nm,0.3s						
PNCL	**Nicolau / Gran**	**6.05**	**82**	*e*Pn	**Pn**	05 47 41.4	**+3.3**
PNCL				*e*Sn	**Sn**	05 48 45.6	**-1.8**
	comp=N,6.0nm,0.3s						
ALMR	**Almeirim**	**6.17**	**72**	*e*P	**Pn**	05 47 43.6	**+3.9**
ALMR	**Almeirim**	**6.17**	**72**	*e*P	**Pn**	05 47 43.6	**+3.9**
ALMR	**Almeirim**	**6.17**	**72**	P	**Pn**	05 47 43.6	**+3.9**
ALMR	**Almeirim**	**6.17**	**72**	P	**Pn**	05 47 43.6	**+3.9**
MESJ	**Messejana**	**6.29**	**84**	*e*P	**Pn**	05 47 45.2	**+3.9**
MESJ				*e*S	**Sn**	05 48 51.6	**-1.6**
MESJ				AML	AML	05 48 54.2	
	comp=N,8.0nm,0.1s						
MESJ	**Messejana**	**6.29**	**84**	*e*Pn	**Pn**	05 47 45.4	**+4.1**
MESJ				*e*Sn	**Sn**	05 48 51.9	**-1.3**
MESJ				A	A	05 48 56.0	
	comp=N,5.4nm,0.8s						
MESJ	**Messejana**	**6.29**	**84**	P	**Pn**	05 47 45.2	**+3.9**
MESJ				S	**Sn**	05 48 51.6	**-1.6**
	comp=N,8.0nm,0.1s						
MESJ	**Messejana**	**6.29**	**84**	P	**Pn**	05 47 45.2	**+3.9**
MESJ				S	**Sn**	05 48 51.6	**-1.6**
	comp=N,8.0nm,0.1s						
MESJ				*e*Sn	**Sn**	05 48 51.9	**-1.3**
	comp=N,5.4nm,0.8s						
PTOM	**Tomar**	**6.41**	**68**	*e*Pn	**Pn**	05 47 46.9	**+3.8**
PTOM				*e*Sn	**Sn**	05 48 55.3	**-1.0**
PTOM				A	A	05 49 01.4	
	comp=N,5.5nm,0.3s						
PTOM	**Tomar**	**6.41**	**68**	P	**Pn**	05 47 46.9	**+3.8**
PTOM				S	**Sn**	05 48 55.3	**-1.0**
	comp=N,2.8nm,0.3s						
PTOM	**Tomar**	**6.41**	**68**	P	**Pn**	05 47 46.9	**+3.8**
PTOM				S	**Sn**	05 48 55.3	**-1.0**
	comp=N,2.8nm,0.3s						
PMTG	**Montargil**	**6.42**	**73**	*e*Pn	**Pn**	05 47 46.6	**+3.5**
PMTG				*e*Sn	**Sn**	05 48 54.9	**-1.5**
PMTG				A	A	05 49 01.2	
	comp=N,2.8nm,0.2s						
PMTG	**Montargil**	**6.42**	**73**	*e*Pn	**Pn**	05 47 46.6	**+3.5**
PMTG				*e*Sn	**Sn**	05 48 54.9	**-1.5**
	comp=N,2.8nm,0.2s						
PCVE	**Castro Verde**	**6.43**	**86**	*e*Sn	**Sn**	05 48 55.0	**-1.7**
PCVE	**Castro Verde**	**6.43**	**86**	S	**Sn**	05 48 55.0	**-1.7**
PCVE	**Castro Verde**	**6.43**	**86**	S	**Sn**	05 48 55.0	**-1.7**
PCAS	**Casmilo, Conde**	**6.49**	**64**	*e*Sn	**Sn**	05 48 56.9	**-1.3**
PCAS				A	A	05 49 08.1	
	comp=N,2.1nm,0.2s						
PCAS	**Casmilo, Conde**	**6.49**	**64**	*e*Sn	**Sn**	05 48 56.9	**-1.3**
	comp=N,2.1nm,0.2s						
EVO	**Evora**	**6.49**	**78**	*e*Pn	**Pn**	05 47 47.8	**+3.6**
EVO				*e*Sn	**Sn**	05 48 56.0	**-2.3**
EVO				A	A	05 49 05.7	
	comp=N,4.8nm,0.1s						
EVO	**Evora**	**6.49**	**78**	P	**Pn**	05 47 47.8	**+3.6**
EVO				S	**Sn**	05 48 56.0	**-2.3**
	comp=N,4.8nm,0.1s						
EVO	**Evora**	**6.49**	**78**	P	**Pn**	05 47 47.8	**+3.6**
EVO				S	**Sn**	05 48 56.0	**-2.3**
	comp=N,4.8nm,0.1s						
PBDV	**Barranco-do-Ve**	**6.53**	**90**	*e*Pn	**Pn**	05 47 48.2	**+3.4**
PBDV				*e*Sn	**Sn**	05 48 58.9	**-0.5**
PBDV	**Barranco-do-Ve**	**6.53**	**90**	P	**Pn**	05 47 48.2	**+3.4**
PBDV				S	**Sn**	05 48 58.9	**-0.5**
PBDV	**Barranco-do-Ve**	**6.53**	**90**	P	**Pn**	05 47 48.2	**+3.4**
PBDV				S	**Sn**	05 48 58.9	**-0.5**
PBEJ	**Beja**	**6.57**	**83**	*e*Sn	**Sn**	05 48 58.2	**-2.0**
PBEJ				A	A	05 49 03.1	
	comp=N,3.8nm,0.5s						
PBEJ	**Beja**	**6.57**	**83**	S	**Sn**	05 48 58.2	**-2.0**
	comp=N,1.9nm,0.5s						
PBEJ	**Beja**	**6.57**	**83**	S	**Sn**	05 48 58.2	**-2.0**
	comp=N,1.9nm,0.5s						
PVAQ	**Vaqueiros**	**6.69**	**88**	*e*Sn	**Sn**	05 49 03.3	**+0.1**
PVAQ	**Vaqueiros**	**6.69**	**88**	S	**Sn**	05 49 03.3	**+0.1**
PVAQ	**Vaqueiros**	**6.69**	**88**	S	**Sn**	05 49 03.3	**+0.1**
PESTR	**Estremoz**	**6.87**	**76**	*e*Pn	**Pn**	05 47 53.4	**+4.1**
PESTR				*e*Sn	**Sn**	05 49 05.6	**-1.9**
PESTR				A	A	05 49 08.9	
	comp=N,2.3nm,0.5s						
PESTR	**Estremoz**	**6.87**	**76**	*e*Pn	**Pn**	05 47 53.4	**+4.1**
PESTR				*e*Sn	**Sn**	05 49 05.6	**-1.9**
	comp=N,2.3nm,0.5s						
EGRO	**El Granado**	**6.87**	**87**	P	**Pn**	05 47 52.2	**+2.8**
	comp=N,1.4nm,0.4s,SNR=7.9						
EGRO				S	**Sn**	05 49 05.5	**-2.2**
	comp=N,7.1nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**6.87**	**87**	P	**Pn**	05 47 52.2	**+2.8**
	comp=N,1.4nm,0.4s,SNR=7.9						
EGRO				S	**Sn**	05 49 05.5	**-2.2**
	comp=N,7.1nm,0.3s,SNR=7.9						
PMRV	**Marv??o**	**7.12**	**72**	*e*Pn	**Pn**	05 47 56.2	**+3.3**
PMRV				*e*Sn	**Sn**	05 49 11.7	**-2.2**
PMRV				A	A	05 49 16.5	
	comp=N,3.3nm,0.3s						
PMRV	**Marv??o**	**7.12**	**72**	P	**Pn**	05 47 56.2	**+3.3**
PMRV				S	**Sn**	05 49 11.7	**-2.2**
	comp=N,3.3nm,0.3s						
PMRV	**Marv??o**	**7.12**	**72**	P	**Pn**	05 47 56.2	**+3.3**
PMRV				S	**Sn**	05 49 11.7	**-2.2**
	comp=N,3.3nm,0.3s						
PCBR	**Castelo Branco**	**7.17**	**68**	*e*Pn	**Pn**	05 47 57.0	**+3.6**
PCBR				*e*Sn	**Sn**	05 49 12.7	**-2.2**
PCBR				A	A	05 49 24.3	
	comp=N,2.0nm,0.8s						
PCBR	**Castelo Branco**	**7.17**	**68**	P	**Pn**	05 47 57.0	**+3.6**
PCBR				S	**Sn**	05 49 12.7	**-2.2**
	comp=N,1.0nm,0.8s						
PCBR	**Castelo Branco**	**7.17**	**68**	P	**Pn**	05 47 57.0	**+3.6**
PCBR				S	**Sn**	05 49 12.7	**-2.2**
	comp=N,1.0nm,0.8s						
PVIS	**Viseu**	**7.17**	**61**	*e*Pn	**Pn**	05 47 57.7	**+4.2**
PVIS				*e*Sn	**Sn**	05 49 11.1	**-3.9**
PVIS	**Viseu**	**7.17**	**61**	P	**Pn**	05 47 57.7	**+4.2**
PVIS				S	**Sn**	05 49 11.1	**-3.9**
PVIS	**Viseu**	**7.17**	**61**	P	**Pn**	05 47 57.7	**+4.2**
PVIS				S	**Sn**	05 49 11.1	**-3.9**
PBAR	**Barrancos**	**7.23**	**82**	*e*Pn	**Pn**	05 47 58.5	**+4.2**
PBAR				*e*Sn	**Sn**	05 49 13.9	**-2.5**
PBAR				A	A	05 49 19.7	
	comp=N,4.0nm,0.3s						
PBAR	**Barrancos**	**7.23**	**82**	P	**Pn**	05 47 58.5	**+4.2**
PBAR				S	**Sn**	05 49 13.9	**-2.5**
	comp=N,4.0nm,0.3s						
PBAR	**Barrancos**	**7.23**	**82**	P	**Pn**	05 47 58.5	**+4.2**
PBAR				S	**Sn**	05 49 13.9	**-2.5**
	comp=N,4.0nm,0.3s						
MTE	**Manteigas**	**7.29**	**64**	*e*Pn	**Pn**	05 47 59.1	**+3.8**
MTE				*e*Sn	**Sn**	05 49 16.0	**-2.2**
MTE				A	A	05 49 20.7	
	comp=N,2.5nm,0.5s						
MTE	**Manteigas**	**7.29**	**64**	P	**Pn**	05 47 59.1	**+3.8**
MTE				S	**Sn**	05 49 16.0	**-2.2**
	comp=N,1.2nm,0.5s						
MTE	**Manteigas**	**7.29**	**64**	P	**Pn**	05 47 59.1	**+3.8**
MTE				S	**Sn**	05 49 16.0	**-2.2**
	comp=N,1.2nm,0.5s						
EBAD	**Badajoz**	**7.30**	**77**	P	**Pn**	05 47 59.0	**+3.8**
	comp=N,3.7nm,0.3s,SNR=11						
EBAD				S	**Sn**	05 49 15.4	**-2.7**
	comp=N,1.3nm,0.3s,SNR=5.9						
EBAD	**Badajoz**	**7.30**	**77**	P	**Pn**	05 47 59.0	**+3.8**
	comp=N,3.7nm,0.3s,SNR=11						
EBAD				S	**Sn**	05 49 15.4	**-2.7**
	comp=N,1.3nm,0.3s,SNR=5.9						
EMIN	**Mina Concepcio**	**7.51**	**85**	P	**Pn**	05 48 01.3	**+3.1**
	comp=N,1.0nm,0.3s,SNR=5.9						
EMIN				S	**Sn**	05 49 20.2	**-3.2**
	comp=N,1.9nm,0.3s,SNR=5.7						
EMIN	**Mina Concepcio**	**7.51**	**85**	P	**Pn**	05 48 01.3	**+3.1**
	comp=N,1.0nm,0.3s,SNR=5.9						
EMIN				S	**Sn**	05 49 20.2	**-3.2**
	comp=N,1.9nm,0.3s,SNR=5.7						
PGAV	**Gavieira, Arco**	**7.53**	**51**	*e*Pn	**Pn**	05 48 01.2	**+2.7**
PGAV				*e*Sn	**Sn**	05 49 18.9	**-5.0**
PGAV				A	A	05 49 22.8	
	comp=N,6.8nm,0.5s						
PGAV	**Gavieira, Arco**	**7.53**	**51**	*e*Pn	**Pn**	05 48 01.2	**+2.7**
PGAV				*e*Sn	**Sn**	05 49 18.9	**-5.0**
	comp=N,6.8nm,0.5s						
POLO	**Lamas de Olo**	**7.53**	**56**	*e*Sn	**Sn**	05 49 20.1	**-3.8**
POLO				A	A	05 49 26.5	
	comp=N,1.0nm,0.5s						
POLO	**Lamas de Olo**	**7.53**	**56**	*e*Sn	**Sn**	05 49 20.1	**-3.8**
	comp=N,1.0nm,0.5s						
PVRL	**Vila Real**	**7.53**	**57**	*e*Sn	**Sn**	05 49 20.9	**-3.1**
PVRL	**Vila Real**	**7.53**	**57**	S	**Sn**	05 49 20.9	**-3.1**
PVRL	**Vila Real**	**7.53**	**57**	S	**Sn**	05 49 20.9	**-3.1**
PCAB	**Cabril**	**7.54**	**53**	*e*Sn	**Sn**	05 49 21.6	**-2.6**
PCAB	**Cabril**	**7.54**	**53**	S	**Sn**	05 49 21.6	**-2.6**
PCAB	**Cabril**	**7.54**	**53**	S	**Sn**	05 49 21.6	**-2.6**
ELOB	**Lobios**	**7.61**	**52**	P	**Pn**	05 48 01.7	**+2.2**
	comp=N,1.1nm,0.4s,SNR=7.6						
ELOB				S	**Sn**	05 49 23.4	**-2.4**
	comp=N,2.5nm,0.3s,SNR=5.6						
ELOB	**Lobios**	**7.61**	**52**	P	**Pn**	05 48 01.7	**+2.2**
	comp=N,1.1nm,0.4s,SNR=7.6						
ELOB				S	**Sn**	05 49 23.4	**-2.4**
	comp=N,2.5nm,0.3s,SNR=5.6						
MVO	**Moncorvo**	**7.95**	**60**	*e*Pn	**Pn**	05 48 07.5	**+3.2**
MVO				*e*Sn	**Sn**	05 49 31.2	**-3.1**
MVO				A	A	05 49 44.5	
	comp=N,3.0nm,0.5s						
MVO	**Moncorvo**	**7.95**	**60**	P	**Pn**	05 48 07.0	**+2.7**
	comp=N,1.7nm,0.4s,SNR=7.9						
MVO				S	**Sn**	05 49 31.1	**-3.2**
	comp=N,1.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**7.95**	**60**	P	**Pn**	05 48 07.0	**+2.7**
	comp=N,1.7nm,0.4s,SNR=7.9						
MVO	**Moncorvo**	**7.95**	**60**	*e*Pn	**Pn**	05 48 07.5	**+3.2**
MVO				*e*Sn	**Sn**	05 49 31.2	**-3.1**
	comp=N,3.0nm,0.5s						
EAGO	**Agolada(Pontev**	**8.13**	**47**	P	**Pn**	05 48 09.4	**+2.8**
	comp=N,1.9nm,0.1s,SNR=7.9						
EAGO				S	Sn	05 49 31.1	-7.5
	comp=N,10.0nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**8.13**	**47**	P	**Pn**	05 48 09.4	**+2.8**
	comp=N,1.9nm,0.1s,SNR=7.9						
EAGO				S	Sn	05 49 31.1	-7.5
	comp=N,10.0nm,0.3s,SNR=7.9						
ESPR	**Espera**	**8.22**	**91**	S	**Sn**	05 49 38.8	**-2.1**
	comp=N,8.9nm,0.5s,SNR=7.9						
ESPR	**Espera**	**8.22**	**91**	S	**Sn**	05 49 38.8	**-2.1**
	comp=N,8.9nm,0.5s,SNR=7.9						
EPLA	**Plasencia**	**8.26**	**69**	P	**Pn**	05 48 10.1	**+1.6**
	comp=N,0.6nm,0.1s,SNR=4.0						
EPLA	**Plasencia**	**8.26**	**69**	P	**Pn**	05 48 10.1	**+1.6**
	comp=N,0.6nm,0.1s,SNR=4.0						
PBRG	**Braganca**	**8.43**	**56**	*e*Pn	**Pn**	05 48 14.7	**+3.9**
PBRG				*e*Sn	**Sn**	05 49 42.9	**-3.1**
PBRG	**Braganca**	**8.43**	**56**	P	**Pn**	05 48 14.7	**+3.9**
PBRG				S	**Sn**	05 49 42.9	**-3.1**
PBRG	**Braganca**	**8.43**	**56**	P	**Pn**	05 48 14.7	**+3.9**
PBRG				S	**Sn**	05 49 42.9	**-3.1**
ECAL	**Calabor**	**8.49**	**56**	P	**Pn**	05 48 14.8	**+3.1**
	comp=N,3.8nm,0.6s,SNR=4.4						
ECAL				S	**Sn**	05 49 44.9	**-2.8**
	comp=N,15nm,0.8s,SNR=7.9						
ECAL	**Calabor**	**8.49**	**56**	P	**Pn**	05 48 14.8	**+3.1**
	comp=N,3.8nm,0.6s,SNR=4.4						
ECAL				S	**Sn**	05 49 44.9	**-2.8**
	comp=N,15nm,0.8s,SNR=7.9						
ECAB	**El Cabril**	**8.50**	**83**	P	**Pn**	05 48 15.5	**+3.7**
	comp=N,1.0nm,0.3s,SNR=7.5						
ECAB				S	**Sn**	05 49 42.5	**-5.3**
	comp=N,7.0nm,0.8s,SNR=7.9						
ECAB	**El Cabril**	**8.50**	**83**	P	**Pn**	05 48 15.5	**+3.7**
	comp=N,1.0nm,0.3s,SNR=7.5						
ECAB				S	**Sn**	05 49 42.5	**-5.3**
	comp=N,7.0nm,0.8s,SNR=7.9						
EPON	**Pontenova**	**8.99**	**47**	P	**Pn**	05 48 21.1	**+2.6**
	comp=N,3.3nm,0.5s,SNR=7.9						
EPON				S	Sn	05 49 52.1	-7.7
	comp=N,3.6nm,0.5s,SNR=7.9						
EPON	**Pontenova**	**8.99**	**47**	P	**Pn**	05 48 21.1	**+2.6**
	comp=N,3.3nm,0.5s,SNR=7.9						
EPON				S	Sn	05 49 52.1	-7.7
	comp=N,3.6nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**9.17**	**82**	P	**Pn**	05 48 24.4	**+3.5**
	comp=N,1.1nm,0.2s,SNR=7.9						
EADA				S	**Sn**	05 49 59.7	**-4.5**
	comp=N,4.9nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**9.17**	**82**	P	**Pn**	05 48 24.4	**+3.5**
	comp=N,1.1nm,0.2s,SNR=7.9						
EADA				S	**Sn**	05 49 59.7	**-4.5**
	comp=N,4.9nm,0.5s,SNR=7.9						
PAB	**San Pablo**	**9.46**	**74**	P	**Pn**	05 48 27.8	**+2.8**
	comp=N,0.4nm,0.5s,SNR=7.9						
PAB				S	**Sn**	05 50 07.0	**-4.4**
	comp=N,4.4nm,0.8s,SNR=7.9						
PAB	**San Pablo**	**9.46**	**74**	P	**Pn**	05 48 27.8	**+2.8**
	comp=N,0.4nm,0.5s,SNR=7.9						
PAB				S	**Sn**	05 50 07.0	**-4.4**
	comp=N,4.4nm,0.8s,SNR=7.9						
EGOR	**Sierra Gorda,**	**9.59**	**89**	S	**Sn**	05 50 10.4	**-4.2**
	comp=N,4.4nm,0.7s,SNR=7.9						
EGOR	**Sierra Gorda,**	**9.59**	**89**	S	**Sn**	05 50 10.4	**-4.2**
	comp=N,4.4nm,0.7s,SNR=7.9						
ESDC	**Sonseca Array**	**9.77**	**73**	P	**Pn**	05 48 32.6	**+3.3**
	comp=N,0.2nm,0.3s,baz=258,slow=12,SNR=5.6						
ESDC	**Sonseca Array**	**9.77**	**73**	P	**Pn**	05 48 32.6	**+3.3**
	comp=N,0.2nm,0.3s,SNR=5.6						
GUD	**Guadarrama**	**9.83**	**68**	S	**Sn**	05 50 15.5	**-5.1**
	comp=N,5.9nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**9.83**	**68**	S	**Sn**	05 50 15.5	**-5.1**
	comp=N,5.9nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**10.15**	**52**	P	**Pn**	05 48 37.2	**+2.9**
	comp=N,1.7nm,0.5s,SNR=7.9						
EARI				S	**Sn**	05 50 23.4	**-4.8**
	comp=N,14nm,0.9s,SNR=7.9						
EQES	**Quesada**	**10.36**	**84**	P	**Pn**	05 48 40.6	**+3.2**
	comp=N,0.7nm,0.2s,SNR=7.9						
EQES				S	**Sn**	05 50 28.8	**-4.8**
	comp=N,7.1nm,0.9s,SNR=7.9						
ETOR	**Torete**	**11.42**	**69**	P	**Pn**	05 48 55.0	**+3.1**
	comp=N,2.6nm,0.5s,SNR=7.9						

SJA 10 06:12:13.1±0.5, 32°23S×69°53W, h120km±4km, ML2.6, MW4.3, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.12**	**85**	*i*	P		Pn	06 12 30.6	+0.7
RTLS	**Leoncito**	**0.47**	**24**	*i*	P		Pn	06 12 32.1	+0.8
RTLS					IAML			06 12 32.5	
	comp=Z,39nm,0.4s								
RTLS				*i*	S		Sn	06 12 46.7	+1.8
ASAL	**Salagasta**	**0.69**	**122**	*i*	P		Pn	06 12 33.2	+0.8
ASAL				*i*	S		Sn	06 12 48.1	+1.0
ARCO	**CERRO ARCO**	**0.79**	**141**	*i*	P		Pn	06 12 34.2	+0.9
ARCO				*i*	S		Sn	06 12 49.6	+0.9
ARCO					IAML			06 12 51.1	
	comp=Z,304nm,0.2s								
RTCV	**Cerro Valdivia**	**0.92**	**66**	*i*	P		Pn	06 12 34.9	+0.5
RTCV				*i*	S		Sn	06 12 51.2	+0.7
AAGR	**Agrelo**	**1.03**	**145**	*i*	P		Pn	06 12 36.4	+0.8
AMOG	**MOGNA**	**1.56**	**35**	*i*	P		Pn	06 12 42.5	+1.2

MEX 10 06:23:56.7±0.9, 16°94N×100°22W, h12km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.12**	**337**	*e*	P		Pg	06 23 59.1	-0.7
CAIG				*i*	S		Sg	06 24 01.6	-0.5
MEIG	**Mezcala**	**1.14**	**30**	*e*	P		Pb	06 24 13.9	-4.5
MEIG				*e*	S		Sb	06 24 28.3	-4.9
ARIG	**Puente Sto Nin**	**1.34**	**355**	*e*	P		Pn	06 24 18.0	-3.3
ARIG				*e*	S		Sb	06 24 33.9	-5.1
PLIG	**Platanillo**	**1.60**	**25**	*i*	P		Pn	06 24 21.8	-3.1
PLIG				*i*	S		Sn	06 24 41.4	-4.2
TLIG	**Tlapa**	**1.70**	**68**	*e*	P		Pn	06 24 23.6	-2.6
TLIG				*e*	S		Sn	06 24 43.6	-4.5
PNIG	**Pinotepa**	**2.08**	**105**	*i*	P		Pn	06 24 28.0	-3.4
PNIG				*i*	S		Sn	06 24 53.1	-4.1
VHO	**Vista Hermosa**	**3.34**	**87**	*i*	P		Pn	06 24 46.2	-2.8
VHO				*i*	S		Sn	06 25 24.0	-4.6

IDC ***10*** *06:26:45.8±2.0, 27°42S×69°81W, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.4/29, mbtmp3.7/1, Error ellipse: s-maj=265.1km s-min=72.6km az=149.0*
GUC ***10*** *06:26:58.5±0.4, 27°23S×70°04W, h98km±6km, ML3.2*
ISCJB ***10*** *06:26:59.4±0.7, 27°22S±0°05×69°99W±0°09, h100km, mb3.6/1, Error ellipse: s-maj=11.5km s-min=7.0km az=5.2*

ISC 10 06:26:59.4±1.0, 27°24S±0°06×70°00W±0°09, h100km, n10, σ0°79/13, 4C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.41**	**210**	⇓*i*	P		**Pn**	**06 27 15.3**	**+0.6**
GO03				*i*	S		**Sn**	**06 27 27.3**	**+1.1**
GO03					IAML			06 27 27.4	
	comp=E,1μm,0.2s								
VACH	**Vallenar**	**1.49**	**206**	⇑*i*	P		Pn	06 27 35.2	+10
VACH				*i*	S		Sn	06 27 55.7	+10
LCO	**Las Campanas**	**1.87**	**199**	⇓*i*	P		**Pn**	**06 27 31.1**	**+0.5**
LCO				*i*	S		**Sn**	**06 27 55.4**	**+1.1**
LCO					IAML			06 27 56.7	
	comp=N,280nm,0.4

WR1					*e*PcP	**PcP**	06 38 44.2	-1.7
WRA	**Warramunga Arr**	**31.62**	**159**	P	**P**	06 35 52.8	-1.1
	0.4nm,0.6s,baz=341,slow=9.2,SNR=4.9							
WRA					PcP	**PcP**	06 38 44.2	-1.7
	0.3nm,0.5s,baz=338,slow=2.5,SNR=5.3							
WB2	**Warramunga Arr**	**31.63**	**159**	*e*P	**P**	06 35 52.9	-1.0
	39nm,1.3s							
AS31	**Alice Springs**	**34.96**	**163**	*e*P	**P**	06 36 23.2	+0.2
	0.7nm,0.4s							
AS31					*e*PcP	**PcP**	06 38 54.4	-0.9
ASAR	**Alice Springs**	**34.96**	**163**	P	**P**	06 36 23.2	+0.2
	1.1nm,0.6s,baz=343,slow=7.4,SNR=18							
ASAR					PcP	**PcP**	06 38 54.4	-0.9
	0.3nm,0.5s,baz=337,slow=2.1,SNR=3.6							
AS01	**Alice Springs**	**34.98**	**162**	*e*P	**P**	06 36 23.9	+0.7
USRK	**Ussuriysk Ar.**	**35.07**	**11**	P	**P**	06 36 25.2	+1.5
	2.1nm,0.7s,baz=200,slow=10.0,SNR=6.1							
ASAJ	**Asahikawa**	**38.09**	**23**	P	**P**	06 36 50.2	+0.8
	1.5nm,0.3s,baz=225,slow=2.9,SNR=3.4							
ASAJ	**Asahikawa**	**38.09**	**23**	*e*P	**P**	06 36 50.2	+0.8
	23nm,1.9s							
KLR	**Kul'dur**	**39.91**	**9**	P	**P**	06 37 05.8	+1.3
	0.2nm,0.8s,baz=177,slow=4.8,SNR=7.0							
SONA0	**Songino Array**	**40.38**	**343**	*e*P	**P**	06 37 09.5	+0.8
SONM	**Songino Array**	**40.38**	**343**	P	**P**	06 37 09.5	+0.8
	0.5nm,0.7s,baz=167,slow=8.9,SNR=4.8							
STKA	**Stephens Creek**	**45.13**	**158**	P	**P**	06 37 47.0	-0.2
	1.2nm,0.9s,baz=332,slow=11,SNR=2.9							
MK01	**Makanchi Array**	**50.47**	**324**	*e*P	**P**	06 38 29.4	+0.9
MK31	**Makanchi Array**	**50.49**	**324**	*e*P	**P**	06 38 29.6	+0.9
MK32	**Makanchi Array**	**50.49**	**324**	*e*P	**P**	06 38 29.5	+0.8
MK32					*e*PcP	**PcP**	06 39 46.8	+0.2
MKAR	**Makanchi Array**	**50.49**	**324**	P	**P**	06 38 29.5	+0.8
	0.6nm,0.6s,baz=129,slow=8.8,SNR=4.8							
MKAR					PcP	**PcP**	06 39 46.8	+0.2
	0.4nm,0.6s,baz=125,slow=2.8,SNR=3.6							
MKAR	**Makanchi Array**	**50.49**	**324**	*e*P	**P**	06 38 29.8	+1.1
	5.8nm,0.8s							
MKAR					PcP	**PcP**	06 39 46.8	+0.2
PETK	**Petropavlovsk-**	**51.34**	**26**	P	**P**	06 38 35.5	+0.5
	0.7nm,0.6s,baz=233,slow=8.4,SNR=3.9							
PEA1	**Petropavlovsk-**	**51.34**	**26**	*e*P	**P**	06 38 35.5	+0.5
ZALV	**Zalesovo Beam**	**53.52**	**333**	P	**P**	06 38 50.3	-0.7
	0.5nm,0.4s,baz=134,slow=6.2,SNR=3.2							
ZALV	**Zalesovo Beam**	**53.52**	**333**	*e*P	**P**	06 38 51.3	+0.3
ZAA1	**Zalesovo Array**	**53.52**	**333**	*e*P	**P**	06 38 50.4	-0.7
KURBB	**Kurchatov Arra**	**54.66**	**327**	P	**P**	06 38 59.7	+0.3
	0.7nm,0.6s,baz=122,slow=8.7,SNR=11							
KURK	**Kurchatov**	**54.66**	**327**	*e*P	**P**	06 39 00.9	+1.4
	5.2nm,1.4s							
ABKAR	**Akbulak array**	**65.15**	**320**	*e*P	**P**	06 40 11.6	0.0
	5.2nm,0.5s							
BKZ	**Black Stump Fm**	**69.54**	**138**	*e*P	**P**	06 40 40.1	+0.5
	36nm,1.6s							
IM3	**Indian Mountai**	**78.28**	**25**	*e*P	**P**	06 41 31.0	+0.8
CAST	**Castle Rocks**	**78.94**	**27**	*e*P	**P**	06 41 34.1	+0.2
	24nm,1.8s							
MCK	**McKinley**	**80.34**	**27**	*e*P	**P**	06 41 42.1	+0.5
	4.9nm,1.1s							
SML	**Sawmill**	**80.72**	**29**	*e*P	**P**	06 41 43.1	-0.5
	25nm,1.5s							
ILAR	**Eielson Array**	**81.17**	**26**	P	**P**	06 41 44.4	-1.6
	0.3nm,0.7s,baz=251,slow=4.4,SNR=4.3							
ILB	**Eielson Array**	**81.17**	**26**	*e*P	**P**	06 41 45.8	-0.2
FIA0	**FINESS Array S**	**84.75**	**331**	*e*P	**P**	06 42 03.9	-0.7
FINES	**FINESS Array B**	**84.75**	**331**	P	**P**	06 42 03.9	-0.7
	3.6nm,1.0s,baz=72,slow=0.6,SNR=4.1							
AKASG	**Malin Array Be**	**84.88**	**320**	P	**P**	06 42 04.9	-0.6
	0.4nm,0.4s,baz=67,slow=5.1,SNR=5.3							
BUR04	**Bucovina Ar. S**	**86.05**	**318**	*e*P	**P**	06 42 21.9	+0.7
YKA	**Yellowknife Ar**	**95.39**	**23**	P	**P**	06 42 54.5	-0.2
	0.2nm,0.7s,baz=304,slow=4.0,SNR=6.3							
BNM	**Barren Site**	**115.68**	**45**	*e*PKPdf	**PKPdf**	06 48 12.8	-1.0
PLCA	**Paso Flores**	**146.97**	**161**	PKPbc	**PKPbc**	06 49 13.2	-0.4
	1.5nm,0.9s,baz=280,slow=1.9,SNR=4.2							
PLCA	**Paso Flores**	**146.97**	**161**	*e*PKPdf	**PKPbc**	06 49 13.5	-0.1
AGP	**Aguadilla**	**150.15**	**20**	*e*PKPdf	**PKPdf**	06 49 16.3	-1.0
TUMC	**Tumaco**	**155.38**	**63**	*e*PKPdf	**PKPdf**	06 49 24.7	-0.4

JMA 10 06:31:48.4±0.3, 36°.98N×142°.43E, h6km±3km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.31**	**276**	P	Pn	06 32 12.9	-0.4
JHO	**Hitachi**	**1.54**	**257**	P	Pn	06 32 16.5	+0.1
JMM	**Marumori**	**1.57**	**305**	P	Pn	06 32 17.0	+0.1
JMM				*e*S	Sn	06 32 37.5	-0.1
JIO	**Ouri**	**1.70**	**330**	P	Pn	06 32 19.0	+0.4
JIO				S	Sn	06 32 41.2	+0.5
JFT	**Otama**	**1.75**	**288**	P	Pb	06 32 20.6	-0.4
JFT				S	Sn	06 32 42.3	+0.3
JOU	**Okura**	**1.97**	**315**	P	Pn	06 32 23.0	+0.7
JOU				S	Sn	06 32 48.2	+0.9
JYS	**Shirataka**	**2.25**	**304**	P	Pn	06 32 27.2	+1.0
JYK	**Kaneyama**	**2.53**	**320**	P	Pn	06 32 31.2	+1.1
JRY	**Ryogami san**	**3.00**	**252**	P	Pn	06 32 37.9	+1.4
JRY				S	Sn	06 33 13.9	+1.1
MAT	**Matsushiro**	**3.42**	**264**	P	Pb	06 32 46.1	-3.3
MAT				*e*S	Sn	06 33 24.9	+1.8

*IDC **10** 06:34:39.1±6.6, 6°.40S×149°.93E, h76km±47km, mb3.1/4, mb1 3.4/5, mb1mx3.2/43, mbtmp3.5/5, ML2.0/1, Error ellipse: s-maj=80.2km s-min=32.5km az=109.0*

ISC 10 06:34:36.0±2.5, 6°.2S±0°.3×150°.0E±0°.5, h43km, n7, σ1s36/8, mb3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.22**	**222**	P	**Pn**	**06 35 39.0**	**+1.2**
	7.0nm,0.3s,baz=17,slow=9.9,SNR=14						
PMG				S	**Sn**	**06 36 25.5**	**-0.3**
	3.6nm,0.3s,baz=102,slow=20,SNR=4.3						
WRA	**Warramunga Arr**	**20.42**	**227**	P	**P**	06 39 09.2	-0.5
	1.1nm,0.5s,baz=52,slow=11,SNR=14						
ASAR	**Alice Springs**	**23.223**	**000**	P	**P**	06 39 39.4	-0.3
	0.2nm,0.4s,baz=58,slow=8.1,SNR=4.3						
FITZ	**Fitzroy Crossi**	**26.52**	**241**	P	**P**	06 40 08.7	-1.1
	0.7nm,0.3s,baz=55,slow=9.3,SNR=7.4						
SONM	**Songino Array**	**66.09**	**329**	P	**P**	06 45 19.5	+0.7
	0.1nm,0.3s,baz=140,slow=4.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**148.03**	**285**	PKPbc	**PKPdf**	06 54 16.0	+1.2
	0.4nm,0.3s,baz=87,slow=2.0,SNR=7.7						
KOWA	**Kowa**	**153.18**	**290**	PKPbc	**PKPbc**	06 54 28.1	-2.1
	0.8nm,0.4s,baz=49,slow=3.5,SNR=4.8						

*JMA **10** 06:37:05.9±0.2, 24°.83N×122°.10E, h98km±3km, M2.7*
*ISCJB **10** 06:37:06.5±0.5, 24°.89N±0°.03×122°.14E±0°.02, h92km±3km, Error ellipse: s-maj=4.7km s-min=3.3km az=158.9*
*TAP **10** 06:37:06.2, 24°.90N×122°.14E, h94km, ML3.5, C*

ISC 10 06:37:07.0±1.4, 24°.88N±0°.04×122°.14E±0°.03, h90km±7km, n65, σ0s47/124, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.18**	**313**	⇑*i*P	**Pn**	**06 37 20.1**	**+0.2**
	baz=309						
TWB1				S	**Sn**	**06 37 29.3**	**-0.3**
	baz=309						
EGS		**0.19**	**259**	*e*P	**Pn**	**06 37 20.0**	**+0.1**
	baz=250						
EGS				S	**Sn**	**06 37 30.2**	**+0.6**
	baz=250						
NTC	**Toucheng**	**0.28**	**265**	P	**Pn**	**06 37 20.1**	**-0.3**
	baz=260						
NTC				*e*S	**Sn**	**06 37 30.6**	**+0.3**
	baz=260						
TIPB	**Shuangxi**	**0.30**	**288**	⇑*i*P	**Pn**	**06 37 19.5**	**-1.0**
	baz=283						
TIPB				S	**Sn**	**06 37 29.8**	**-0.7**
	baz=283						
EOS1	**EOS1**	**0.33**	**181**	*e*P	**Pn**	**06 37 20.7**	**+0.1**
	baz=181						
EOS1				*e*S	**Sn**	**06 37 31.6**	**+1.0**
	baz=181						
ILA	**Ilan**	**0.37**	**252**	*e*P	**Pn**	**06 37 20.9**	**+0.1**
	baz=248						
ILA				*e*S	**Sn**	**06 37 31.4**	**+0.3**
	baz=248						
WFSB	**Wu-fen Shan**	**0.37**	**300**	*e*P	**Pn**	**06 37 21.1**	**+0.2**
	baz=297						
WFSB				*e*S	**Sn**	**06 37 31.1**	**-0.1**
	baz=297						
TWC	**Suao**	**0.38**	**224**	⇑*i*P	**Pn**	**06 37 20.6**	**-0.3**
	baz=220						
TWC				*e*S	**Sn**	**06 37 31.0**	**-0.2**
	baz=220						
TWE	**Neicheng**	**0.46**	**250**	P	**Pn**	**06 37 21.2**	**-0.2**
	baz=245						
TWE				*e*S	**Sn**	**06 37 32.2**	**+0.1**
	baz=245						
TWA	**Mucha**	**0.51**	**281**	*e*P	**Pn**	**06 37 21.6**	**-0.2**
	baz=278						
TWA				*e*S	**Sn**	**06 37 32.6**	**-0.3**
	baz=278						
ENAH	**Nanao**	**0.52**	**215**	P	**Pn**	**06 37 22.1**	**+0.1**
	baz=213						
ENAH				S	**Sn**	**06 37 33.7**	**+0.7**
	baz=213						
YM07	**YM07**	**0.55**	**302**	*e*P	**Pn**	**06 37 21.2**	**-1.0**
	baz=300						
YM07				*e*S	**Sn**	**06 37 32.8**	**-0.8**
	baz=300						
ENTT	**Nioudou**	**0.57**	**245**	P	**Pn**	**06 37 22.4**	**0.0**
	baz=242						
ENTT				*e*S	**Sn**	**06 37 34.3**	**+0.5**
	baz=242						
NANB	**Nanao**	**0.57**	**218**	*e*P	**Pn**	**06 37 22.4**	**+0.1**
	baz=216						
NANB				*e*S	**Sn**	**06 37 34.2**	**+0.4**
	baz=216						
ENA	**Nanau**	**0.58**	**219**	*i* P	**Pn**	**06 37 22.5**	**+0.1**
	baz=216						
ENA				S	**Sn**	**06 37 34.7**	**+0.8**
	baz=216						
TAP1	**Taipei**	**0.58**	**286**	*e*P	**Pn**	**06 37 22.5**	**+0.1**
	baz=283						
TAP1				*e*S	**Sn**	**06 37 34.4**	**+0.6**
	baz=283						
YM08	**YM08**	**0.58**	**302**	*e*P	**Pn**	**06 37 21.9**	**-0.6**
	baz=299						
YM08				*e*S	**Sn**	**06 37 33.5**	**-0.5**
	baz=299						
NWLT	**Wulai**	**0.58**	**260**	P	**Pn**	**06 37 22.1**	**-0.4**
	baz=257						
NWLT				*e*S	**Sn**	**06 37 34.9**	**+0.8**
	baz=257						
YM10	**YM10**	**0.59**	**298**	*i* P	**Pn**	**06 37 22.4**	**-0.1**
	baz=295						
YM10				*i* S	**Sn**	**06 37 34.2**	**0.0**
	baz=295						
TATO	**Taipei**	**0.60**	**279**	*e*P	**Pn**	**06 37 22.5**	**-0.1**
	baz=276						
TATO				*e*S	**Sn**	**06 37 33.6**	**-0.6**
	baz=276						
YM04	**YM04**	**0.61**	**297**	P	**Pn**	**06 37 22.4**	**-0.3**
	baz=294						
YM04				*i* S	**Sn**	**06 37 34.1**	**-0.3**
	baz=294						
TWY	**Chenhua**	**0.63**	**309**	*e*P	**Pn**	**06 37 22.4**	**-0.4**
	baz=307						
TWY				*e*S	**Sn**	**06 37 34.8**	**+0.1**
	baz=307						
TWS1	**Kuangyinshan**	**0.69**	**289**	*e*P	**Pn**	**06 37 23.4**	**0.0**
	baz=286						
TWS1				*e*S	**Sn**	**06 37 35.8**	**+0.2**
	baz=286						
YHNB	**Yeheng**	**0.72**	**253**	*e*P	**Pn**	**06 37 23.8**	**0.0**
	baz=251						
YHNB				*e*S	**Sn**	**06 37 36.4**	**0.0**
	baz=251						
WLTB	**Daxi**	**0.80**	**268**	*e*P	**Pn**	**06 37 24.9**	**+0.4**
	baz=266						
WLTB				*e*S	**Sn**	**06 37 38.6**	**+0.9**
	baz=266						
NNSB	**Datong**	**0.82**	**237**	*e*P	**Pn**	**06 37 25.0**	**+0.1**
	baz=235						
NNSB				*e*S	**Sn**	**06 37 38.7**	**+0.4**
	baz=235						
NNSH	**Datong**	**0.82**	**237**	*e*P	**Pn**	**06 37 25.0**	**+0.1**
	baz=235						
NNSH				*e*S	**Sn**	**06 37 38.3**	**0.0**
	baz=235						
NNS	**Nan Shan**	**0.82**	**238**	*i* P	**Pn**	**06 37 25.1**	**+0.1**
	baz=235						
NNS				S	**Sn**	**06 37 38.4**	**+0.2**
	baz=235						
NCU	**National Centr**	**0.87**	**276**	*e*P	**Pn**	**06 37 24.7**	**-0.5**
	baz=274						
NCU				*e*S	**Sn**	**06 37 39.2**	**+0.3**
	baz=274						
NCUH	**Zhongli**	**0.87**	**276**	*e*S	**Sn**	**06 37 39.5**	**+0.5**
	baz=274						
YOJ	**Yonaguni jima**	**0.90**	**117**	*e*P	**Pn**	**06 37 25.4**	**-0.2**
	baz=118						
YOJ				*e*S	**Sn**	**06 37 39.6**	**+0.2**
	baz=118						
YOJ	**Yonaguni jima**	**0.90**	**117**	P	**Pn**	**06 37 25.3**	**-0.2**
YOJ				S	**Sn**	**06 37 39.8**	**+0.3**
TWD	**Chiawan**	**0.94**	**212**	P	**Pn**	**06 37 25.1**	**-0.9**
	baz=210						
TWD				S	**Sn**	**06 37 39.1**	**-1.1**
	baz=210						
LIOB	**Emei**	**1.05**	**257**	P	**Pn**	**06 37 27.3**	**0.0**
	baz=255						
LIOB				S	**Sn**	**06 37 42.3**	**-0.2**
	baz=255						
SBCB	**Hsinchu**	**1.05**	**265**	*e*P	**Pn**	**06 37 27.6**	**+0.3**
	baz=263						
SBCB				*e*S	**Sn**	**06 37 42.6**	**+0.1**
	baz=263						
NSTT	**Nanjuang**	**1.06**	**257**	*e*P	**Pn**	**06 37 27.3**	**-0.2**
	baz=255						
NSTT				S	**Sn**	**06 37 42.2**	**-0.5**
	baz=255						
HSN	**Hsinchu**	**1.06**	**266**	*e*S	**Sn**	**06 37 42.8**	**0.0**
	baz=265						
TWT	**Tachien**	**1.07**	**235**	*e*P	**Pn**	**06 37 28.4**	**+0.6**
	baz=233						
TWT				*i* S	**Sn**	**06 37 43.8**	**+0.5**
	baz=233						
WHF	**Hehuan Shan**	**1.08**	**227**	P	**Pn**	**06 37 27.7**	**-0.4**
	baz=226						
WHF				*e*S	**Sn**	**06 37 42.8**	**-1.1**
	baz=226						
ENLB	**Shoufeng**	**1.09**	**207**	P	**Pn**	**06 37 27.1**	**-0.6**
	baz=206						
ENLB				*e*S	**Sn**	**06 37 43.4**	**+0.1**
	baz=206						
TDCB	**Techi**	**1.09**	**235**	*e*P	**Pn**	**06 37 28.1**	**+0.2**
	baz=233						
TDCB				*e*S	**Sn**	**06 37 43.5**	**-0.1**
	baz=233						
CHGB	**Renai**	**1.20**	**227**	*e*P	**Pn**	**06 37 29.1**	**-0.2**
	baz=226						
CHGB				*e*S	**Sn**	**06 37 46.0**	**0.0**
	baz=226						
NMLH	**Miaoli**	**1.27**	**255**	*e*S	**Sn**	**06 37 47.4**	**+0.2**
	baz=253						
OWD	**Renai**	**1.27**	**224**	*e*P	**Pn**	**06 37 29.8**	**-0.4**
	baz=222						
OWD				*e*S	**Sn**	**06 37 46.6**	**-0.9**
	baz=222						
NSY	**Sanyi**	**1.33**	**250**	*e*S	**Sn**	**06 37 48.8**	**+0.2**
	baz=248						
TWQ1	**Liyutan**	**1.35**	**247**	*e*P	**Pn**	**06 37 30.9**	**0.0**
	baz=245						
TWQ1				*e*S	**Sn**	**06 37 48.8**	**-0.2**
	baz=245						
EGFH	**Guangfu**	**1.37**	**208**	*e*P	**Pn**	**06 37 31.0**	**-0.2**
	baz=207						
EGFH				*e*S	**Sn**	**06 37 49.9**	**+0.5**
	baz=207						
PTSB	**Yuanli**	**1.37**	**252**	*e*P	**Pn**	**06 37 31.4**	**+0.2**
	baz=250						
PTSB				*e*S	**Sn**	**06 37 50.1**	**+0.7**
	baz=250						
DPDB	**Guoxing**	**1.39**	**233**	*e*P	**Pn**	**06 37 31.8**	**+0.3**
	baz=231						
DPDB				*e*S	**Sn**	**06 37 50.6**	**+0.7**
	baz=231						
SMLT	**Sun Moon Lake**	**1.50**	**229**	*e*P	**Pn**	**06 37 33.0**	**+0.1**
	baz=227						
SMLT				*e*S	**Sn**	**06 37 53.2**	**+0.7**
	baz=227						
TYC	**Yuchr**	**1.52**	**230**	*e*P	**Pn**	**06 37 32.7**	**-0.3**
	baz=229						
TYC				*e*S	**Sn**	**06 37 52.7**	**0.0**
	baz=229						
HGSD	**Ruisui**	**1.53**	**205**	*e*P	**Pn**	**06 37 32.8**	**-0.4**
	baz=204						
HGSD				*e*S	**Sn**	**06 37 52.6**	**-0.2**
	baz=204						
SSLB	**Suanglung**	**1.53**	**225**	*e*P	**Pn**	**06 37 33.4**	**+0.2**
	baz=224						
SSLB				*e*S	**Sn**	**06 37 53.2**	**+0.2**
	baz=224						
WCHH	**Zhanghua**	**1.65**	**241**	*e*S	**Sn**	**06 37 55.9**	**+0.3**
	baz=240						
WJS	**Zhushan**	**1.66**	**231**	*e*S	**Sn**	**06 37 56.6**	**+0.6**
	baz=230						
TWF1	**Yuli**	**1.70**	**207**	*e*P	**Pn**	**06 37 33.6**	**-1.9**
	baz=206						
TWF1				*e*S	**Sn**	**06 37 57.0**	**0.0**
	baz=206						
ALS	**Alishan**	**1.83**	**222**	*e*P	**Pn**	**06 37 37.6**	**+0.3**
	baz=221						
ALS				*e*S	**Sn**	**06 38 00.2**	**-0.1**
	baz=221						
FULB	**Fuli**	**1.84**	**205**	*e*P	**Pn**	**06 37 37.7**	**+0.4**
	baz=204						
FULB				*e*S	**Sn**	**06 37 59.9**	**-0.3**
	baz=204						
CHN5	**Tsauling**	**1.85**	**226**	*e*P	**Pn**	**06 37 37.4**	**0.0**
	baz=225						
CHN5				*e*S	**Sn**	**06 38 00.3**	**0.0**
	baz=225						
JIJ	**Ishigaki jima**	**1.90**	**105**	P	**Pn**	**06 37 37.5**	**-0.4**
JIJ				S	**Sn**	**06 38 00.6**	**-0.8**
ELDTW	**Lidau**	**1.97**	**212**	*e*P	**Pn**	**06 37 38.5**	**-0.5**
	baz=210						
ELDTW				*e*S	**Sn**	**06 38 02.5**	**-0.8**
	baz=210						
JISG	**Ishigakijimahi**	**2.00**	**98**	P	**Pn**	**06 37 39.3**	**+0.1**
JISG				S	**Sn**	**06 38 03.8**	**+0.1**
CHN4	**Tsaushan**	**2.08**	**223**	*e*P	**Pn**	**06 37 40.4**	**+0.1**
	baz=222						
CHN4				*e*S	**Sn**	**06 38 06.0**	**+0.4**
	baz=222						
TPUB	**Ta-pu**	**2.09**	**222**	*e*P	**Pn**	**06 37 40.9**	**+0.4**
	baz=220						
TPUB				*e*S	**Sn**	**06 38 06.0**	**0.0**
	baz=220						
JTJ	**Tarama**	**2.34**	**95**	P	**Pn**	**06 37 44.2**	**+0.4**
JTJ				S	**Sn**	**06 38 12.8**	**+0.9**

*IDC **10** 07:03:28.3±1.0, 24°.09S×65°.02W, h0km, mb4.0/4, mb1 4.1/7, mb1mx3.8/37, mbtmp3.9/7, ML3.8/3, MS3.2/2, Ms1 3.3/2, ms1mx2.8/32, Error ellipse: s-maj=29.4km s-min=23.1km az=38.0*
*SJA **10** 07:03:31.5±0.8, 24°.08S×65°.97W, h46km±144km, ML3.7, MW3.7*
*ISCJB **10** 07:03:32.1±0.4, 24°.11S±0°.03×64°.74W±0°.05, h33km, mb4.3/10, MS3.6/1, Error ellipse: s-maj=7.0km s-min=4.8km az=3.6*
*NEIC **10** 07:03:35.5±0.9, 24°.05S×64°.78W, h46km±8km, mb4.4/8, Error ellipse: s-maj=10.9km s-min=8.8km az=77.0*

ISC 10 07:03:33.8±0.5, 24°.08S±0°.05×64°.80W±0°.08, h35km, n42, σ1s72/44, mb4.4/10, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**0.91**	**225**	*i* P	**Pn**	**07 03 48.0**	**-2.3**
SLA				*i* S	**Sn**	**07 03 58.9**	**-3.3**
SLA				IAML		07 04 01.9	
	comp=Z,4μm,0.3s						
HJA	**Humahuaca**	**1.03**	**327**	*i* P	**Pn**	**07 03 51.1**	**-1.1**
HJA				*i* S	**Sn**	**07 04 06.2**	**+0.6**
HJA				IAML		07 04 11.3	
	comp=Z,4μm,0.5s						
FSA	**Cafayete**	**2.29**	**208**	*e*P	**Pn**	**07 04 08.4**	**-0.9**
FSA				*i* S	**Sn**	**07 04 41.4**	**+5.0**
FSA				IAML		07 04 46.9	
	comp=Z,421nm,0.3s						
AHML	**Horco Molle**	**2.74**	**190**	*e*P	**Pn**	**07 04 15.0**	**-0.3**
AHML				IAML		07 04 33.9	
	comp=Z,106nm,0.6s						
AHML				*i* S	**Sn**	**07 04 47.6**	**+0.4**
CYA	**Choya**	**4.44**	**192**	*e*P	**Pn**	**07 04 38.3**	**-0.4**
PB04	**IPOC Station P**	**5.22**	**288**	*e*Pn	**Pn**	**07 04 51.4**	**+1.8**
PB01	**IPOC Station P**	**5.29**	**304**	*e*Pn	**Pn**	**07 04 52.9**	**+2.5**
PB10	**IPOC Station P**	**5.30**	**275**	*e*Pn	Pn	07 04 53.8	+3.2
PB11	**IPOC Station P**	**6.23**	**313**	*e*Pn	**Pn**	**07 05 05.4**	**+2.0**
MNMC	**Minye Minye**	**6.65**	**317**	*e*Pn	**Pn**	**07 05 11.5**	**+2.2**
CPUP	**Villa Florida**	**7.12**	**110**	Pn	**Pn**	**07 05 16.7**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=281,slow=12,SNR=32						
CPUP				Lg	Lg	07 07 21.6	
	comp=Z,6.4nm,0.3s,baz=22,slow=20,SNR=4.3						
CPUP	**Villa Florida**	**7.12**	**110**	*e*Pn	**Pn**	**07 05 17.1**	**+1.5**
LCO	**Las Campanas**	**7.21**	**226**	*e*Pn	**Pn**	**07 05 16.9**	**-0.1**
LPAZ	**La Paz**	**8.36**	**337**	Pn	**Pn**	**07 05 34.0**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=143,slow=11,SNR=5.9						
LPAZ				Lg	Lg	07 07 53.4	
	comp=Z,0.3nm,0.3s,baz=43,slow=23,SNR=1.9						
LPAZ				LR	LR	07 09 36.2	
	comp=Z,88nm,19.3s,baz=76,slow=44						
LPAZ	**La Paz**	**8.36**	**337**	*e*Pn	**Pn**	**07 05 34.5**	**+1.3**
LPAZ				Lg	Lg	07 07 53.4	
SIV	**San Ignacio**	**8.78**	**24**	Pn	**Pn**	**07 05 38.5**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=219,slow=11,SNR=36						
SIV				Sn	**Sn**	**07 07 12.5**	**-3.6**
	comp=Z,0.9nm,0.3s,baz=162,slow=20,SNR=1.6						
SIV				Lg	Lg	07 08 06.3	
	comp=Z,2.4nm,0.3s,baz=290,slow=19,SNR=3.3						
SAML	**Samuel**	**15.13**	**6**	*e*Pn	**Pn**	**07 07 05.5**	**+0.5**
	comp=Z,3.6nm,1.0s						
PLCA	**Paso Flores**	**17.29**	**195**	P	**Pn**	**07 07 29.4**	**-3.1**
	comp=Z,0.0nm,0.3s,baz=338,slow=5.4,SNR=1.9						
PLCA	**Paso Flores**	**17.29**	**195**	*e*Pn	**P**	**07 07 33.4**	**-0.3**
	comp=Z,20nm,1.8s						
RUSC	**La Rusia**	**30.87**	**344**	*e*P	**P**	**07 09 46.6**	**-0.9**
	comp=Z,4.8nm,1.5s						
SDV	**Santo Domingo**	**33.26**	**349**	P	**P**	**07 10 06.3**	**-1.9**
	comp=Z,2.0nm,0.6s,baz=166,slow=16,SNR=2.9						
BANI	**BANI**	**42.56**	**352**	*e*P	**P**	**07 11 26.9**	**+0.3**
TKL	**Tuckaleechee C**	**62.07**	**343**	LR	LR	07 41 24.4	
	comp=Z,37nm,19.0s,baz=343,slow=31

Ms1 3.3/1,ms1mx2.3/64,Error ellipse: s-maj=15.9km s-min=9.5km az=145.0

ISC 10 07:15:44.6±0.8,50°55N±0.06×157°34E±0.05,h97km±6km, n176,σ1°60/213,mb4.4/59,1C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.79**	**280**	*i*P		**Pn**	**07 16 01.0**	**-1.5**
SKR				*i* S		**Sn**	**07 16 13.8**	**-2.2**
SKR				pmax	pmax			
	comp=Z,1μm,0.4s							
SKR				pmax	pmax			
	comp=Z,886nm,0.3s							
SKR				smax	smax			
	comp=N,9μm,0.5s							
SKR				smax	smax			
	comp=E,8μm,0.4s							
SKR	**Severo-Kuril's**	**0.79**	**280**	*i* P		**Pn**	**07 16 01.1**	**-1.5**
SKR				*i* S		**Sn**	**07 16 14.2**	**-1.8**
PAU	**Pauzhetka**	**0.98**	**340**	PN		**Pn**	**07 16 04.2**	**-0.3**
PAU				S		**Sn**	**07 16 19.7**	**+0.3**
PAU	**Pauzhetka**	**0.98**	**340**	*e*P		**Pn**	**07 16 04.2**	**-0.3**
PAU				*e*S		**Sn**	**07 16 19.7**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.34**	**20**	*e*P		**Pn**	**07 16 07.5**	**-1.2**
KDTR				*e*S		**Sn**	**07 16 25.2**	**-1.7**
ASAK	**Asacha**	**1.87**	**11**	PN		**Pn**	**07 16 15.2**	**-0.1**
ASAK				S		**Sn**	**07 16 39.2**	**+0.4**
ASAK	**Asacha**	**1.87**	**11**	*e*P		**Pn**	**07 16 15.2**	**-0.1**
ASAK				*e*S		**Sn**	**07 16 39.2**	**+0.4**
MTVR	**Mutnovka**	**2.00**	**15**	PN		**Pn**	**07 16 17.0**	**-0.2**
MTVR				S		**Sn**	**07 16 41.8**	**-0.2**
MTVR	**Mutnovka**	**2.00**	**15**	*e*P		**Pn**	**07 16 17.0**	**-0.2**
MTVR				*i* S		**Sn**	**07 16 41.8**	**-0.2**
RUS	**Russkaya**	**2.02**	**21**	PN		**Pn**	**07 16 16.1**	**-1.1**
RUS				S		**Sn**	**07 16 40.6**	**-1.6**
RUS	**Russkaya**	**2.02**	**21**	*e*P		**Pn**	**07 16 16.1**	**-1.1**
RUS				*e*S		**Sn**	**07 16 40.6**	**-1.6**
KRMR	**Karymshinskiy**	**2.33**	**12**	PN		**Pn**	**07 16 21.6**	**+0.3**
KRMR				S		**Sn**	**07 16 50.2**	**+0.7**
KRMR	**Karymshinskiy**	**2.33**	**12**	*e*P		**Pn**	**07 16 21.6**	**+0.3**
KRMR				*e*S		**Sn**	**07 16 50.2**	**+0.7**
PEA0B	**Petropavlovsk-**	**2.57**	**5**	*e*Pn		**Pn**	**07 16 24.9**	**+0.4**
PETK	**Petropavlovsk-**	**2.57**	**5**	P		**Pn**	**07 16 25.2**	**+0.7**
	comp=E,2.9nm,0.3s,baz=188,slow=13,SNR=69							
PETK				S		**Sn**	**07 16 56.8**	**+1.6**
	comp=E,4.3nm,0.3s,baz=197,slow=14,SNR=6.2							
PETK	**Petropavlovsk-**	**2.57**	**5**	*e*Pn		**Pn**	**07 16 24.6**	**+0.1**
PETK				*e*Sn		**Sn**	**07 17 00.4**	**+5.3**
PETK	**Petropavlovsk-**	**2.57**	**5**	*e*PN		**Pn**	**07 16 24.6**	**+0.1**
PET	**Petropavlovsk**	**2.61**	**18**	*e*Pn		**Pn**	**07 16 24.7**	**-0.2**
PET				*e*Sn		**Sn**	**07 16 56.8**	**+0.9**
PET	**Petropavlovsk**	**2.61**	**18**	*i*PN		**Pn**	**07 16 24.6**	**-0.3**
PET				*i* S		**Sn**	**07 16 55.7**	**-0.2**
PET				pmax	pmax			
	comp=Z,101nm,0.5s							
PET				smax	smax			
	comp=E,133nm,0.6s							
PET				smax	smax			
	comp=N,246nm,0.7s							
PET	**Petropavlovsk**	**2.61**	**18**	*e*P		**Pn**	**07 16 24.7**	**-0.2**
PET				*e*S		**Sn**	**07 16 55.5**	**-0.4**
DALK	**Dalny**	**2.63**	**19**	PN		**Pn**	**07 16 24.9**	**-0.4**
DALK				S		**Sn**	**07 16 56.4**	**-0.1**
DALK	**Dalny**	**2.63**	**19**	*e*P		**Pn**	**07 16 24.9**	**-0.4**
DALK				*e*S		**Sn**	**07 16 56.4**	**-0.1**
UGLR	**Uglovaya**	**2.81**	**18**	PN		**Pn**	**07 16 28.1**	**+0.3**
UGLR				S		**Sn**	**07 17 01.1**	**0.0**
UGLR	**Uglovaya**	**2.81**	**18**	*e*P		**Pn**	**07 16 28.1**	**+0.3**
UGLR				*e*S		**Sn**	**07 17 01.1**	**0.0**
AVH	**Avacha**	**2.85**	**17**	PN		**Pn**	**07 16 29.1**	**+0.8**
AVH				S		**Sn**	**07 17 02.9**	**+1.0**
AVH	**Avacha**	**2.85**	**17**	*e*P		**Pn**	**07 16 29.1**	**+0.8**
AVH				*e*S		**Sn**	**07 17 02.9**	**+1.0**
KOK	**Koryaka**	**2.86**	**16**	PN		**Pn**	**07 16 29.4**	**+1.0**
KOK				S		**Sn**	**07 17 04.0**	**+1.9**
KOK	**Koryaka**	**2.86**	**16**	*e*P		**Pn**	**07 16 29.4**	**+1.0**
KOK				*e*S		**Sn**	**07 17 04.0**	**+1.9**
SMAR	**Somma**	**2.86**	**18**	PN		**Pn**	**07 16 28.7**	**+0.2**
SMAR	**Somma**	**2.86**	**18**	*e*P		**Pn**	**07 16 28.7**	**+0.2**
SDLR	**Sedlovina**	**2.89**	**19**	PN		**Pn**	**07 16 28.6**	**-0.3**
SDLR				S		**Sn**	**07 17 02.0**	**-0.9**
SDLR	**Sedlovina**	**2.89**	**19**	*e*P		**Pn**	**07 16 28.6**	**-0.3**
SDLR				*e*S		**Sn**	**07 17 02.0**	**-0.9**
NLC	**Nalytchevo**	**2.90**	**25**	PN		**Pn**	**07 16 27.2**	**-1.6**
NLC				S		**Sn**	**07 16 59.9**	**-3.0**
NLC	**Nalytchevo**	**2.90**	**25**	*e*P		**Pn**	**07 16 27.2**	**-1.6**
NLC				*e*S		**Sn**	**07 16 59.9**	**-3.0**
KRX	**Arik**	**2.93**	**16**	PN		**Pn**	**07 16 29.7**	**+0.4**
KRX				S		**Sn**	**07 17 03.8**	**0.0**
KRX	**Arik**	**2.93**	**16**	*e*P		**Pn**	**07 16 29.7**	**+0.4**
KRX				*e*S		**Sn**	**07 17 03.8**	**0.0**
SPN	**Mys Shipunski**	**3.04**	**32**	PN		**Pn**	**07 16 30.2**	**-0.6**
SPN				S		**Sn**	**07 17 04.3**	**-2.1**
SPN	**Mys Shipunski**	**3.04**	**32**	*e*P		**Pn**	**07 16 30.2**	**-0.6**
SPN				*e*S		**Sn**	**07 17 04.3**	**-2.1**
GNL	**Ganaly**	**3.17**	**6**	PN		**Pn**	**07 16 33.6**	**+1.0**
GNL	**Ganaly**	**3.17**	**6**	*e*P		**Pn**	**07 16 33.6**	**+1.0**
KMNR	**Kamenistaya**	**5.50**	**17**	PN		**Pn**	**07 17 04.5**	**+0.5**
KMNR	**Kamenistaya**	**5.50**	**17**	*e*P		**Pn**	**07 17 04.5**	**+0.5**
KOZ	**Kozyrevsk**	**5.72**	**14**	PN		**Pn**	**07 17 07.8**	**+0.9**
KOZ	**Kozyrevsk**	**5.72**	**14**	*e*P		**Pn**	**07 17 07.8**	**+0.9**
BDR	**Baidarnaya**	**6.45**	**19**	PN		**Pn**	**07 17 16.8**	**-0.1**
BDR	**Baidarnaya**	**6.45**	**19**	*e*P		**Pn**	**07 17 16.8**	**-0.1**
SMKR	**Semkarok**	**6.52**	**21**	PN		**Pn**	**07 17 18.2**	**+0.3**
SMKR	**Semkarok**	**6.52**	**21**	*e*P		**Pn**	**07 17 18.2**	**+0.3**
SRKR	**Sorokina**	**6.52**	**19**	PN		**Pn**	**07 17 18.0**	**+0.1**
SRKR	**Sorokina**	**6.52**	**19**	*e*P		**Pn**	**07 17 18.0**	**+0.1**
KBTR	**Krutoberegovo**	**6.54**	**28**	PN		**Pn**	**07 17 17.4**	**-0.7**
KBTR				S		**Sn**	**07 18 27.4**	**-3.7**
KBTR	**Krutoberegovo**	**6.54**	**28**	*e*P		**Pn**	**07 17 17.4**	**-0.7**
KBTR				*e*S		**Sn**	**07 18 27.4**	**-3.7**
BKI	**Bering**	**7.00**	**45**	PN		**Pn**	**07 17 22.5**	**-1.7**
BKI	**Bering**	**7.00**	**45**	*e*P		**Pn**	**07 17 22.5**	**-1.7**
BKI				*e*S		**Sn**	**07 18 34.5**	**-7.6**
KUR	**Kuril'sk**	**8.29**	**234**	*e*PN		**Pn**	**07 17 43.4**	**+1.4**
KUR				*e*S		**Sn**	**07 19 12.6**	**-1.3**
TYV	**Tymovskoe**	**9.33**	**278**	*e*PN		**Pn**	**07 17 57.2**	**+1.2**
TYV				*e*S		**Sn**	**07 19 36.6**	**-2.4**
TYV				pmax	pmax			
	comp=Z,11nm,1.0s							
TYV				smax	smax			
	comp=N,4.0nm,0.7s							
SHO	**Shikotan**	**9.78**	**231**	*e*PN		Pn	07 17 56.3	-5.9
SHO				pmax	pmax			
	comp=Z,21nm,0.5s							
MA2	**Magadan**	**9.79**	**340**	P		**Pn**	**07 18 01.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=148,slow=13,SNR=4.6							
YSS	**Yuzh-Sakhalins**	**10.28**	**255**	*e*PN		**Pn**	**07 18 10.0**	**+1.0**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SMY	**Shemya**	**10.64**	**72**	*e*Pn		**Pn**	**07 18 16.4**	**+2.6**
SMY	**Shemya**	**10.64**	**72**	*e*PN		**Pn**	**07 18 16.4**	**+2.6**
ASAJ	**Asahikawa**	**11.89**	**243**	P		**Pn**	**07 18 30.8**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=19,slow=18,SNR=3.2							
SEY	**Seymchan**	**12.70**	**350**	P		**Pn**	**07 18 41.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=204,slow=6.0,SNR=1.7							
KLR	**Kul'dur**	**16.52**	**275**	P		**Pn**	**07 19 29.1**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=86,slow=14,SNR=2.7							
KLR	**Kul'dur**	**16.52**	**275**	*i* P		**P**	**07 19 31.9**	**+0.7**
BILL	**Bilibino**	**18.09**	**11**	*d* iP		**Pn**	**07 19 48.5**	**-0.6**
BILL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**18.26**	**259**	P		**P**	**07 19 49.0**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=72,slow=14,SNR=2.9							
YAK	**Yakutsk**	**19.00**	**318**	*e*P		**Pn**	**07 20 03.3**	**+3.3**
YAK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MDJ	**Mudanjiang**	**19.57**	**263**	P		**P**	**07 20 01.2**	**-3.4**
MDJ				pmax	pmax			
	comp=Z,11nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,87nm,4.5s							
MJA0	**Matsu Arr-Jizo**	**19.61**	**232**	*e*P		**P**	**07 20 05.3**	**+0.2**
MJA0				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**19.63**	**232**	P		**P**	**07 20 04.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=28,slow=6.5,SNR=8.1							
GAMB	**Gambell**	**21.10**	**39**	*e*P		**P**	**07 20 21.4**	**+0.6**
	comp=Z,20nm,1.8s							
JHJ	**Hachijo jima 2**	**21.69**	**223**	LR		LR	07 30 37.2	
	comp=Z,73nm,19.5s,baz=240,slow=41							
KSRS	**Korea Array**	**24.70**	**249**	P		**P**	**07 20 56.9**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=43,slow=9.8,SNR=7.5							
TIXI	**Tiksi**	**24.76**	**339**	P		**P**	**07 20 55.0**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=2.5							
TIXI	**Tiksi**	**24.76**	**339**	P		**P**	**07 20 55.0**	**-1.7**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.3s							
IM3	**Indian Mountai**	**29.04**	**39**	*e*P		**P**	**07 21 35.5**	**+0.4**
MIDW	**Midway**	**29.40**	**130**	*e*P		**P**	**07 21 38.5**	**-0.1**
	comp=Z,218nm,1.3s							
TRF	**Thorofare Moun**	**30.35**	**45**	*e*P		**P**	**07 21 46.9**	**0.0**
	comp=Z,42nm,1.9s							
COLD	**Coldfoot**	**30.61**	**37**	*e*P		**P**	**07 21 49.7**	**+0.8**
	comp=Z,16nm,1.9s							
SEW	**Seward**	**30.92**	**51**	*e*P		**P**	**07 21 51.6**	**-0.1**
	comp=Z,63nm,1.5s							
TOLK	**Toolik Lake Re**	**31.03**	**35**	*e*P		**P**	**07 21 53.6**	**+1.0**
	comp=Z,18nm,1.8s							
SML	**Sawmill**	**31.31**	**48**	*e*P		**P**	**07 21 56.0**	**+0.8**
	comp=Z,74nm,1.9s							
SML	**Sawmill**	**31.31**	**48**	*e*P		**P**	**07 21 56.0**	**+0.8**
SML				pmax	pmax			
	comp=Z,74nm,1.9s							
H11N2	**WAKE ISLAND Hy**	**31.68**	**163**	T		T	07 55 53.7	
	baz=348,slow=76,SNR=21							
H11N3	**WAKE ISLAND Hy**	**31.69**	**163**	T		T	07 55 50.4	
	baz=348,slow=76,SNR=26							
H11N1	**WAKE ISLAND Hy**	**31.69**	**163**	T		T	07 55 50.9	
	baz=348,slow=76,SNR=8.7							
HDA	**Harding Lake**	**31.81**	**43**	*e*P		**P**	**07 22 00.1**	**+0.6**
	comp=Z,15nm,1.8s							
ILAR	**Eielson Array**	**31.83**	**42**	P		**P**	**07 21 59.9**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=259,slow=6.9,SNR=8.8							
ILAR	**Eielson Array**	**31.83**	**42**	*e*P		**P**	**07 22 00.6**	**+0.9**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
IL1	**Eielson Array**	**31.84**	**42**	*e*P		**P**	**07 22 00.8**	**+1.0**
ULN	**Ulaanbaatar**	**32.46**	**285**	*e*P		**P**	**07 22 04.8**	**-0.8**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.0s							
FYU	**Fort Yukon**	**32.52**	**39**	*e*P		**P**	**07 22 05.6**	**-0.1**
	comp=Z,22nm,1.5s							
PAX	**Paxson**	**32.55**	**46**	*e*P		**P**	**07 22 08.5**	**+2.4**
	comp=Z,20nm,1.9s							
PAX	**Paxson**	**32.55**	**46**	*e*P		**P**	**07 22 08.5**	**+2.4**
PAX				pmax	pmax			
	comp=Z,20nm,1.9s							
H11S1	**WAKE ISLAND Hy**	**32.83**	**163**	T		T	07 57 14.3	
	baz=348,slow=76,SNR=46							
H11S3	**WAKE ISLAND Hy**	**32.84**	**163**	T		T	07 57 14.6	
	baz=348,slow=76,SNR=63							
H11S2	**WAKE ISLAND Hy**	**32.85**	**163**	T		T	07 57 12.6	
	baz=348,slow=76,SNR=27							
SONA1	**Songino Array**	**32.87**	**285**	*e*P		**P**	**07 22 08.8**	**-0.3**
SONM	**Songino Array**	**32.88**	**285**	P		**P**	**07 22 07.8**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=73,slow=7.2,SNR=3.9							
SONM	**Songino Array**	**32.88**	**285**	*e*P		**P**	**07 22 08.0**	**-1.2**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**32.94**	**271**	*e*P		**P**	**07 22 11.5**	**+1.7**
HHC				pmax	pmax			
	comp=Z,20nm,0.8s							
HHC				pmax	pmax			
	comp=Z,130nm,8.9s							
TLY	**Talaya**	**33.09**	**293**	*e*P		**P**	**07 22 12.1**	**+1.2**
	comp=Z,1.8nm,0.5s							
TLY	**Talaya**	**33.09**	**293**	*e*P		**P**	**07 22 12.1**	**+1.2**
TLY				pmax	pmax			
	comp=Z,2.0nm,0.5s							
DOT	**Dot Lake**	**33.12**	**44**	*e*P		**P**	**07 22 11.4**	**+0.3**
	comp=Z,43nm,1.4s							
NJ2	**Nanjing**	**33.83**	**252**	*e*P		**P**	**07 22 17.8**	**+0.4**
NJ2				pmax	pmax			
	comp=Z,14nm,0.5s							
EGAK	**Eagle**	**34.28**	**42**	*e*P		**P**	**07 22 21.2**	**+0.2**
	comp=Z,32nm,1.8s							
DAWY	**Dawson**	**35.13**	**43**	*e*P		**P**	**07 22 28.9**	**+0.5**
	comp=Z,13nm,1.7s							
INK	**Inuvik**	**36.93**	**35**	P		**P**	**07 22 43.5**	**0.0**
	comp=Z,4.1nm,0.8s,baz=282,slow=7.5,SNR=14							
INK	**Inuvik**	**36.93**	**35**	*e*P		**P**	**07 22 45.0**	**+1.5**
	comp=Z,4.5nm,0.9s							
LZH	**Lanzhou**	**40.63**	**270**	*e*P		**P**	**07 23 15.3**	**+0.3**
LZH				pP		pP	07 23 37.1	-0.4
LZH				sP		sP	07 23 49.6	+1.1
LZH				*e*PP		**PnPn**	**07 24 54.0**	**-1.1**
LZH				pmax	pmax			
	comp=Z,16nm,1.0s							
LZH				pmax	pmax			
	comp=Z,150nm,5.1s							
LZH				LR	LR			
	comp=Z,190nm,13.0s							
LZH				LR	LR			
	comp=Z,160nm,13.2s							
LZH				LR	LR			
	comp=Z,140nm,14.5s							
GTA	**Gaotai**	**41.21**	**277**	*e*P		**P**	**07 23 17.0**	**-2.8**
GTA				pP		pP	07 23 42.1	-0.2
GTA				sP		sP	07 23 55.4	+2.1
GTA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CD2	**Chengdu**	**44.02**	**264**	*e*P		**P**	**07 23 41.8**	**-0.6**
YKW3	**Yellowknife Ar**	**46.16**	**40**	*e*P		**P**	**07 24 00.6**	**+1.6**
	comp=Z,2.6nm,0.8s							
YKA	**Yellowknife Ar**	**46.20**	**40**	P		**P**	**07 23 59.4**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=298,slow=7.7,SNR=28							
YKA				PcP		**PcP**	**07 25 33.4**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=309,slow=3.5,SNR=3.0							
YKA	**Yellowknife Ar**	**46.20**	**40**	*e*P		**P**	**07 24 00.1**	**+0.9**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
WMQ	**Urumqi**	**46.22**	**290**	P		**P**	**07 24 01.6**	**+1.9**
KURK	**Kurchatov**	**47.64**	**302**	*e*P		**P**	**07 24 09.4**	**-1.2**
	comp=Z,2.1nm,0.4s							
KURK	**Kurchatov**	**47.64**	**302**	*e*P		**P**	**07 24 09.4**	**-1.2**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MK31	**Makanchi Array**	**47.73**	**296**	*e*P		**P**	**07 24 10.0**	**-1.4**
MK31	**Makanchi Array**	**47.73**	**296**	*e*P		**P**	**07 24 10.0**	**-1.4**
MKAR	**Makanchi Array**	**47.73**	**296**	P		**P**	**07 24 10.2**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=61,slow=9.9,SNR=5.7							
MKAR	**Makanchi Array**	**47.73**	**296**	*e*P		**P**	**07 24 10.1**	**-1.3**
	comp=Z,4.7nm,0.6s							
MKAR	**Makanchi Array**	**47.73**	**296**	*e*P		**P**	**07 24 10.1**	**-1.3**
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MK01	**Makanchi Array**	**47.74**	**296**	*e*P		**P**	**07 24 10.3**	**-1.1**
KURBB	**Kurchatov Arra**	**47.74**	**302**	P		**P**	**07 24 10.1**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=59,slow=7.2,SNR=8.2							
KMI	**Kunming**	**48.69**	**260**	P		**P**	**07 24 20.2**	**+0.9**
KMI				pmax	pmax			
	comp=Z,14nm,0.8s							
BVAR	**Borovoye Array**	**50.64**	**309**	P		**P**	**07 24 31.2**	**-2.2**
	comp=Z,1.0nm,0.6s,baz=46,slow=15,SNR=3.7							
BRVK	**Borovoye**	**50.67**	**309**	*i* P		**P**	**07 24 33.4**	**-0.3**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MOD	**Modoc Plateau**	**54.85**	**65**	*e*P		**P**	**07 25 07.0**	**+2.2**
	comp=Z,22nm,1.9s							
KSH	**Kashi**	**55.80**	**292**	*e*P		**P**	**07 25 14.3**	**+2.7**
KSH				pP		pP	07 25 41.2	+6.0
KSH				S		**S**	**07 32 49.8**	**-1.3**
KSH				sS		sS	07 33 35.6	+4.0
KSH				pmax	pmax			
	comp=Z,100nm,8.5s							
KSH				LR	LR			
	comp=Z,140nm,8.0s							
KSH				LR	LR			
	comp=Z,220nm,8.5s							
KSH				LR	LR			
	comp=Z,140nm,11.0s							
FCC	**Fort Churchill**	**56.54**	**36**	*e*P		**P**	**07 25 17.3**	**+1.0**
	comp=Z,14nm,1.8s							
FCC	**Fort Churchill**	**56.54**	**36**	*e*P		**P**	**07 25 17.3**	**+1.0**
FCC				pmax	pmax			
	comp=Z,14nm,1.8s							
SUMG	**Summit**	**56.67**	**6**	*e*P		**P**	**07 25 18.4**	**+0.8**
	comp=Z,21nm,1.7s							
SUMG	**Summit**	**56.67**	**6**	*e*P		**P**	**07 25 18.4**	**+0.8**
SUMG				pmax	pmax			
	comp=Z,21nm,1.7s							
WAKR	**Walker**	**57.55**	**67**	*e*P		**P**	**07 25 26.3**	**+2.2**
	comp=Z,13nm,1.8s							
KVN	**Kaiserville**	**57.97**	**66**	*e*P		**P**	**07 25 29.2**	**+2.2**
	comp=Z,2.1nm,0.9s							
KVN	**Kaiserville**	**57.97**	**66**	*e*P		**P**	**07 25 29.2**	**+2.2**
KVN				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ABKAR	**Akbulak array**	**58.13**	**310**	*e*P		**P**	**07 25 26.6**	**-1.2**
	comp=Z,2.6nm,1.0s							
GCMT	**Greycliff**	**58.20**	**55**	*e*P		**P**	**07 25 30.9**	**+2.5**
YHH	**Holmes Hill**	**58.24**	**57**	*e*P		**P**	**07 25 31.1**	**+2.1**
	comp=Z,2.1nm,0.7s							
NV01	**Mina Array Sit**	**58.27**	**67**	*e*P		**P**	**07 25 31.0**	**+1.9**
NVAR	**Mina Array Bea**	**58.27**	**67**	P		**P**	**07 25 30.6**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=298,slow=7.3,SNR=9.0							
RLMT	**Red Lodge**	**58.86**	**56**	*e*P		**P**	**07 25 35.5**	**+2.4**
	comp=Z,13nm,1.6s							
FXWY	**Fox Creek**	**58.91**	**58**	*e*P		**P**	**07 25 35.4**	**+1.8**
	comp=Z,12nm,1.9s							
TPAW	**Teton Pass**	**59.05**	**58**	*e*P		**P**	**07 25 36.8**	**+2.2**
	comp=Z,15nm,2.0s							
REDW	**Red Top Meadow**	**59.19**	**58**	*e*P		**P**	**07 25 38.1**	**+2.7**
	comp=Z,20nm,1.9s							
LAO	**LASA Array**	**59.38**	**53**	*e*P		**P**	**07 25 35.7**	**-0.8**
LAO				*e*PcP		**PcP**	**07 26 23.2**	**-0.2**
PD31	**Pinedale Array**	**60.29**	**58**	*e*P		**P**	**07 25 44.5**	**+1.5**
PDAR	**Pinedale Array**	**60.29**	**58**	P		**P**	**07 25 44.5**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=301,slow=3.5,SNR=13							
PDAR	**Pinedale Array**	**60.29**	**58**	*e*P		**P**	**07 25 44.7**	**+1.7**
NLU	**North Lily Min**	**60.82**	**62**	*e*P		**P**	**07 25 48.7**	**+2.1**
	comp=Z,6.0nm,1.6s							
SFJD	**Kangerlussuaq**	**60.88**	**12**	*e*P		**P**	**07 25 42.9**	**-3.4**
	comp=Z,32nm,1.3s							
SFJD	**Kangerlussuaq**	**60.88**	**12**	*e*P		**P**	**07 25 42.9**	**-3.4**
SFJD				pmax	pmax			
	comp=Z,32nm,1.3s							
FINES	**FINESS Array B**	**61.76**	**336**	P		**P**	**07 25 52.3**	**0.0**
	comp=Z,4.6nm,1.1s,baz=320,slow=14,SNR=3.7							
RSSD	**Black Hills**	**62.26**	**54**	*e*P		**P**	**07 25 57.2**	**+0.9**
	comp=Z,4.1nm,0.9s							
RSSD	**Black Hills**	**62.26**	**54**	*e*P		**P**	**07 25 57.2**	**+0.9**
RSSD				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ISCO	**Idaho Springs**	**64.49**	**58**	*e*P		**P**	**07 26 13.3**	**+2.2**
	comp=Z,2.9nm,1.0s							
ISCO	**Idaho Springs**	**64.49**	**58**	*e*P		**P**	**07 26 13.3**	**+2.2**
ISCO				pmax	pmax			
	comp=Z,3.0nm,1.0s							
NOA	**NORSAR Array B**	**65.48**	**343**	P		**P**	**07 26 14.6**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=21,slow=8.1,SNR=2.8							
MHTCO	**State Highway**	**66.91**	**59**	*e*P		**P**	**07 26 28.6**	**+2.1**
	comp=Z,5.5nm,1.2s							
MAK	**Makhachkala**	**68.65**	**312**	*e*P		**P**	**07 26 35.4**	**-1.7**
MAK				*e*			07 29 08.6	
MAK				*e*S		**S**	**07 35 27.0**	**-5.1**
MAK				*e*SS		**SS**	**07 39 56.0**	**-1.3**
MAK				pmax	pmax			
	comp=Z,214nm,1.2s							
MAK				MLR	MLR			
	comp=Z,275nm,13.0s							
SCHQ	**Schefferville**	**68.69**	**26**	P		**P**	**07 26 37.3**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=281,slow=6.0,SNR=7.9							
SCHQ	**Schefferville**	**68.69**	**26**	*e*P		**P**	**07 26 37.5**	**+0.3**
	comp=Z,40nm,1.8s							
WRA	**Warramunga Arr**	**73.06**	**203**	P		**P**	**07 27 03.9**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=15,slow=6.2,SNR=3.9							
EKA	**Eskdalemuir Ar**	**73.24**	**349**	P		**P**	**07 27 04.0**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=17,slow=5.2,SNR=3.1							
EKA	**Eskdalemuir Ar**	**73.24**	**349**	P		**P**	**07 27 04.0**	**-0.7**
EKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TX31	**Lajitas Ar. Si**	**73.24**	**64**	*e*P		**P**	**07 27 06.7**	**+1.5**
TXAR	**Lajitas Array**	**73.24**	**64**	P		**P**	**07 27 06.6**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=303,slow=4.8,SNR=17							
AS01	**Alice Springs**	**76.73**	**202**	*e*P		**P**	**07 27 26

IBAF				*e*AMB	AMB	07 21 49.0		
	comp=Z,328nm,0.3s							
IRAM	**Ramesheh**	**3.59**	**340**	*e*Pn	**Pn**	**07 21 34.4**	**+0.4**
IRAM				*e*AMB	AMB	07 21 36.2		
	comp=Z,234nm,0.1s							
IZEF	**Zefreh**	**4.64**	**345**	*e*Pn	**Pn**	**07 21 48.1**	**-0.3**
IZEF				*e*AMB	AMB	07 21 51.3		
	comp=Z,93nm,0.1s							
MMAI	**Mount Meron Ar**	**16.46**	**291**	Pn	**P**	**07 24 34.1**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=119,slow=8.4,SNR=2.8							
BRTR	**Keskin Array B**	**20.10**	**309**	P	**P**	**07 25 12.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=125,slow=14,SNR=3.3							
MKAR	**Makanchi Array**	**28.85**	**43**	P	**P**	**07 26 38.3**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=228,slow=8.7,SNR=3.9							
FINES	**FINESS Array B**	**37.83**	**339**	P	**P**	**07 27 53.0**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=151,slow=8.7,SNR=4.6							
HFS	**Hagfors**	**41.66**	**331**	P	**P**	**07 28 24.5**	**-1.7**
	comp=Z,2.2nm,0.9s,baz=134,slow=12,SNR=3.3							
ESDC	**Sonseca Array**	**48.41**	**299**	P	**P**	**07 29 19.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=89,slow=8.2,SNR=3.2							
TORD	**Torodi Ar. Bea**	**50.65**	**264**	P	**P**	**07 29 36.6**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=57,slow=7.5,SNR=7.0							

IDC ***10*** *07:22:17.8±3.5,37°.26N×73°.36E,h0km,mb3.5/2, mb1 3.6/7,mb1mx3.2/74,mbtmp3.5/7,ML3.4/3,MS3.2/1, Ms1 3.4/1,ms1mx2.5/60,Error ellipse: s-maj=55.2km s-min=35.9km az=159.0*

ISCJB ***10*** *07:22:20.9±1.4,37°.49N±0°.09×72°.6E±0°.1,h10km,mb3.5/2, MS3.1/1,Error ellipse: s-maj=16.7km s-min=10.2km az=31.5*

NNC ***10*** *07:22:23.0±1.6,37°.61N×72°.60E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=14.9km s-min=10.5km az=118.0*

ISC 10 07:22:22.8±1.0,37°.54N±0°.07×72°.6E±0°.1,h10km,n15, σ1§86/21,11C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.57**	**15**	⇑P	**Pn**	**07 23 04.4**	**-0.3**
	14nm,0.4s						
SFK				⇓S	**Sb**	**07 23 38.1**	**-2.7**
	83nm,0.6s						
CEP	**Cherat**	**3.75**	**189**	P	**Pb**	**07 23 30.1**	**+0.9**
MNAS	**Manas**	**4.95**	**359**	⇑Pn	**Pn**	**07 23 38.0**	**+0.7**
	4.6nm,0.4s						
MNAS				⇑Sn	**Sn**	**07 24 36.1**	**+1.5**
	7.7nm,0.9s						
MNAS				⇑Lg	Lg	07 24 56.6	
	10nm,0.9s						
AAK	**Ala-Archa**	**5.29**	**15**	Pn	**Pn**	**07 23 43.0**	**+0.9**
	0.8nm,0.3s,baz=163,slow=5.7,SNR=7.4						
AAK				Sn	**Sn**	**07 24 43.6**	**+0.4**
	0.6nm,0.3s,baz=263,slow=15,SNR=2.7						
AAK	**Ala-Archa**	**5.29**	**15**	⇑Pn	**Pn**	**07 23 44.5**	**+2.5**
	2.5nm,0.7s						
AAK				⇑Sn	**Sn**	**07 24 45.0**	**+1.9**
	10.0nm,0.7s						
AAK				⇓Lg	Lg	07 25 07.8	
	16nm,1.1s						
KK31	**Karatay Array**	**5.79**	**344**	Pn	**Pn**	**07 23 49.5**	**+0.7**
	2.9nm,0.4s,baz=152,slow=12,SNR=36						
KK31				⇑Sn	**Sn**	**07 24 56.4**	**+1.1**
	3.8nm,0.6s,baz=152,slow=21,SNR=4.6						
TKM2	**Tokmak 2**	**5.84**	**22**	⇑Pn	**Pn**	**07 23 50.2**	**+0.6**
	1.3nm,0.5s						
TKM2				⇑Pg	**Pb**	**07 24 08.0**	**+3.2**
	5.6nm,1.0s						
TKM2				⇓Sn	**Sn**	**07 24 58.2**	**+1.5**
	2.4nm,0.5s						
TKM2				⇑Lg	Lg	07 25 25.1	
	12nm,1.1s						
MKAR	**Makanchi Array**	**11.69**	**35**	Pn	**Pn**	**07 25 06.6**	**-3.1**
	0.0nm,0.3s,baz=212,slow=9.3,SNR=2.3						
AB31	**Akbulak array**	**14.88**	**326**	⇑P	**Pn**	**07 25 52.7**	**-0.5**
	1.5nm,0.7s,baz=136,slow=12,SNR=8.7						
BVAR	**Borovoye Array**	**15.57**	**355**	Pn	**Pn**	**07 26 01.7**	**-0.6**
	0.2nm,0.3s,baz=164,slow=15,SNR=3.0						
AKTO	**Aktyubinsk**	**16.60**	**326**	Pn	**P**	**07 26 17.3**	**-0.7**
	0.2nm,0.3s,baz=139,slow=9.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**18.44**	**23**	P	**Pn**	**07 26 34.6**	**-3.7**
	baz=214,slow=11,SNR=1.6						
CMAR	**Chiang Mai Arr**	**29.85**	**122**	LR	LR	07 42 31.6	
	comp=Z,41nm,19.4s,baz=186,slow=42						
FINES	**FINESS Array B**	**37.37**	**325**	P	**P**	**07 29 35.1**	**-0.2**
	1.6nm,0.9s,baz=120,slow=13,SNR=3.0						
YKA	**Yellowknife Ar**	**80.14**	**3**	P	**P**	**07 34 31.4**	**-1.3**
	0.2nm,0.7s,baz=344,slow=4.9,SNR=3.8						

MAN 10 07:31:34,12°.50N×123°.61E,h3km,mb4.4,ML3.2,MS2.9, 1C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.14**	**173**	⇑*i*P	Pg	07 31 37.6	+0.9
MMPH				*i* S	Sg	07 31 39.2	+0.6
CNP	**Catarman**	**1.03**	**89**	*e*P	Pn	07 31 55.1	-0.3
CNP				*e*S	Sn	07 32 10.0	-0.4
PVCP	**Virac**	**1.21**	**26**	*e*P	Pn	07 31 58.5	+0.7
PVCP				*e*S	Sn	07 32 15.2	+0.4
RCP	**Roxas**	**1.26**	**222**	⇓*e*P	Pn	07 31 58.8	+0.3
RCP				*e*S	Sn	07 32 16.3	+0.4
OTRP	**Odiongan**	**1.55**	**265**	*e*P	Pb	07 32 03.2	-0.2
OTRP				*e*S	Sb	07 32 23.7	+0.1
OCLP	**Ormoc**	**1.74**	**146**	*e*P	Pb	07 32 06.2	-0.4
OCLP				*e*S	Sb	07 32 29.3	+0.4
PLP	**Palo**	**1.89**	**134**	⇓*i*P	Pn	07 32 07.5	+0.3
PLP				*e*S	Sn	07 32 28.6	-2.9
MSLP	**Maasin**	**2.65**	**152**	*e*P	Pb	07 32 21.0	-1.1
MSLP				*e*S	Sn	07 32 52.7	+2.4

SJA ***10*** *07:41:14.0±0.5,24°.24S×66°.96W,h214km±5km,ML2.7, MW3.1*

ISCJB ***10*** *07:41:15.9±0.4,24°.24S±0°.05×67°.05W±0°.04,h181km, mb3.4/1,Error ellipse: s-maj=6.9km s-min=4.2km az=30.6*

GUC ***10*** *07:41:17.4±0.5,24°.12S×67°.52W,h226km±10km,ML4.3*

IDC ***10*** *07:41:30.9±9.3,22°.75S×66°.04W,h268km±69km,mb3.1/1, mb1 3.2/2,mb1mx2.9/33,mbtmp3.7/2,Error ellipse: s-maj=127.9km s-min=73.9km az=45.0*

ISC 10 07:41:15.8±1.0,24°.20S±0°.06×67°.01W±0°.04,h181km,n22, σ1§23/31,2C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.47**	**111**	*i* P	**Pn**	**07 41 49.2**	**+1.4**
SLA				IAML		07 41 50.0	
	comp=Z,41nm,0.5s						
SLA				*i* S	**Sn**	**07 42 14.6**	**+2.0**
HJA	**Humahuaca**	**1.77**	**57**	*i* P	**Pn**	**07 41 52.3**	**+1.3**
HJA				IAML		07 41 56.4	
	comp=Z,40nm,0.4s						
AZAP	**Zapla**	**1.78**	**91**	*i* P	**Pn**	**07 41 52.0**	**+1.1**
AZAP				IAML		07 41 53.0	
	comp=Z,65nm,0.4s						
FSA	**Cafayete**	**2.12**	**154**	*i* P	**Pn**	**07 41 54.8**	**+0.2**
FSA				IAML		07 41 57.4	
	comp=Z,8.9nm,0.2s						
ASTB	**Santa Barbara**	**2.35**	**84**	*i* P	**Pn**	**07 41 57.8**	**+0.7**
GO02	**Mina Guanaco**	**2.53**	**247**	⇑*i*P	**Pn**	**07 42 00.9**	**+1.6**
GO02				*i* S	**Sn**	**07 42 35.0**	**+1.9**
GO02				IAML		07 42 36.9	
	comp=E,529nm,0.1s						
PB06	**IPOC Station P**	**2.78**	**302**	⇑*i*P	**Pn**	**07 42 03.5**	**+1.4**
PB06				*i* S	**Sn**	**07 42 38.1**	**+0.1**
PB06				IAML		07 42 40.6	
	comp=E,677nm,0.1s						
ALOL	**LOMAS DE OLMED**	**2.80**	**83**	*i* P	**Pn**	**07 42 01.9**	**-0.3**
AHML	**Horco Molle**	**2.99**	**150**	*i* P	**Pn**	**07 42 04.3**	**-0.2**
AHML				IAML		07 42 05.7	
	comp=Z,17nm,0.4s						
PB14	**IPOC Station P**	**3.12**	**261**	*e*P	**Pn**	**07 42 07.2**	**+0.9**
PB14				*i* S	**Sn**	**07 42 44.9**	**-0.7**
PB14				IAML		07 42 48.1	
	comp=E,252nm,0.3s						
PB09	**IPOC Station P**	**3.15**	**319**	⇓*i*P	**Pn**	**07 42 08.4**	**+1.8**
PB09				*e*S	**Sn**	**07 42 46.9**	**+0.7**
PB09				IAML		07 42 48.0	
	comp=N,695nm,0.5s						
PB10	**IPOC Station P**	**3.31**	**281**	*i* P	**Pn**	**07 42 09.3**	**+0.9**
PB10				*i* S	**Sn**	**07 42 50.2**	**+0.8**
PB10	**IPOC Station P**	**3.31**	**281**	⇓*i*P	**Pn**	**07 42 09.6**	**+1.2**
PB10				*e*S	**Sn**	**07 42 48.5**	**-0.9**
PB10				IAML		07 42 52.9	
	comp=E,557nm,0.3s						
PB04	**IPOC Station P**	**3.43**	**302**	*e*P	**Pn**	**07 42 10.9**	**+0.9**
PB04				*i* S	**Sn**	**07 42 51.1**	**-1.1**
PB04				IAML		07 42 57.2	
	comp=E,199nm,0.2s						
PB07	**IPOC Station P**	**3.61**	**312**	*e*P	**Pn**	**07 42 12.9**	**+0.6**
PB07				*i* S	**Sn**	**07 42 54.6**	**-1.8**
PB07				IAML		07 42 56.7	
	comp=E,400nm,0.3s						
CYA	**Choya**	**4.37**	**166**	*i* P	**Pn**	**07 42 20.8**	**-0.9**
CYA				IAML		07 42 24.1	
	comp=Z,4,4nm,0.3s						
VCA	**Vinchina**	**4.64**	**193**	*i* P	**Pn**	**07 42 24.8**	**-0.6**
APLL	**PUNTA DE LOS L**	**6.19**	**176**	*i* P	**Pn**	**07 42 43.9**	**-1.5**
AMOG	**MOGNA**	**6.84**	**191**	*i* P	**Pn**	**07 42 52.4**	**-1.6**
LPAZ	**La Paz**	**7.94**	**352**	P	**Pn**	**07 43 09.1**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=168,slow=9.1,SNR=23						
LPAZ				S	Sn	07 44 28.3	-10
	baz=121,slow=5.9,SNR=1.7						
TORD	**Torodi Ar. Bea**	**76.65**	**69**	P	**P**	**07 52 45.3**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=251,slow=5.3,SNR=4.6						
MKAR	**Makanchi Array**	**146.68**	**40**	PKPbc	**PKPdf**	**08 00 35.3**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=306,slow=2.9,SNR=7.7						

NIED ***10*** *07:46:00,36°.00N×141°.20E,h5km,Mw3.7 Best double couple: M₀4.51000×10¹⁴ NP1:φ₀46.00000°,δ46.00000°, λ-1.00000° NP2:φ₀137.00000°,δ89.00000°, λ-136.00000°.*

ISCJB ***10*** *07:46:14.6±1.1,35°.97N±0°.05×141°.22E±0°.07,h16km±7km, mb3.4/9,Error ellipse: s-maj=8.9km s-min=7.9km az=13.6*

IDC ***10*** *07:46:14.2±0.9,35°.95N×141°.16E,h0km,mb3.4/9, mb1 3.6/11,mb1mx3.4/70,mbtmp3.4/11,ML3.5/2,MS2.3/1, Ms1 2.3/1,ms1mx2.0/35,Error ellipse: s-maj=21.7km s-min=19.9km az=101.0*

JMA ***10*** *07:46:15.4±0.1,35°.98N×141°.15E,h22km±2km,M3.8*

JMA Felt I J1.

ISC 10 07:46:15.1±1.6,36°.02N±0°.05×141°.16E±0°.07,h6km±10km, n23,σ1§00/21,mb3.5/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.40**	**217**	P	**Pg**	**07 46 23.1**	**+0.2**
CHOJ				S	**Sg**	**07 46 28.6**	**+0.4**
JHO	**Hitachi**	**0.76**	**321**	P	**Pg**	**07 46 30.1**	**+0.4**
JHO				S	**Sb**	**07 46 41.7**	**+0.5**
JYT	**Yasato**	**0.81**	**285**	P	**Pg**	**07 46 30.6**	**0.0**
JYT				S	**Sg**	**07 46 41.9**	**+0.8**
ONAJ	**Iwakimizuishiy**	**1.11**	**345**	P	**Pb**	**07 46 35.5**	**-1.4**
MJAR	**Matsushiro Arr**	**2.44**	**283**	Pn	**Pn**	**07 46 55.0**	**-0.5**
	7.0nm,0.3s,baz=93,slow=8.8,SNR=74						
MJAR				Sn	**Sn**	**07 47 26.3**	**+0.7**
	5.9nm,0.3s,baz=116,slow=25,SNR=5.7						
MAT	**Matsushiro**	**2.44**	**283**	P	**Pn**	**07 46 54.4**	**-1.1**
MAT				*e*S	**Sn**	**07 47 24.8**	**-0.9**
ASAJ	**Asahikawa**	**8.16**	**7**	Pn	**Pn**	**07 48 13.2**	**-0.8**
	0.7nm,0.3s,baz=212,slow=17,SNR=6.1						
KSRS	**Korea Array**	**10.72**	**282**	LR	LR	07 53 00.0	
	comp=Z,18nm,20.1s,baz=155,slow=38						
SEY	**Seymchan**	**27.82**	**11**	P	**P**	**07 52 06.9**	**+2.0**
	0.4nm,0.2s,baz=175,slow=6.8,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**27.83**	**119**	T	T	08 21 06.3	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**27.83**	**119**	T	T	08 21 05.1	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**27.84**	**119**	T	T	08 21 05.9	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**28.50**	**121**	T	T	08 21 55.2	
	baz=311						
H11S3	**WAKE ISLAND Hy**	**28.50**	**121**	T	T	08 21 58.1	
	baz=311						
H11S2	**WAKE ISLAND Hy**	**28.52**	**121**	T	T	08 21 57.3	
	baz=311						
ZALV	**Zalesovo Beam**	**42.45**	**313**	P	**P**	**07 54 10.3**	**-0.2**
	0.4nm,0.4s,baz=112,slow=6.4,SNR=2.3						
MKAR	**Makanchi Array**	**44.49**	**303**	P	**P**	**07 54 28.7**	**+1.5**
	0.4nm,0.5s,baz=86,slow=10,SNR=4.7						
KURBB	**Kurchatov Arra**	**46.47**	**309**	P	**P**	**07 54 42.2**	**-0.5**
	0.5nm,0.6s,baz=85,slow=7.8,SNR=3.6						
ILAR	**Eielson Array**	**50.46**	**32**	P	**P**	**07 55 13.5**	**+0.2**
	0.5nm,1.1s,baz=280,slow=5.4,SNR=3.5						
WRA	**Warramunga Arr**	**56.03**	**188**	P	**P**	**07 55 53.6**	**-1.2**
	0.3nm,0.4s,baz=23,slow=7.2,SNR=8.3						
ASAR	**Alice Springs**	**59.76**	**188**	P	**P**	**07 56 21.0**	**0.0**
	0.1nm,0.5s,baz=21,slow=10,SNR=4.3						
YKA	**Yellowknife Ar**	**64.78**	**30**	P	**P**	**07 56 53.2**	**-0.9**
	0.1nm,0.7s,baz=303,slow=6.4,SNR=3.0						
NVAR	**Mina Array Bea**	**75.76**	**53**	P	**P**	**07 58 03.4**	**+1.3**
	0.1nm,0.4s,baz=350,slow=4.6,SNR=2.8						

STR ***10*** *07:50:09.4±2.6,43°.5N±0°.1×12°.8E±0°.2,h5km,MLv3.8/13*

IDC ***10*** *07:50:20.7±4.8,44°.08N×11°.79E,h24km±33km,mb3.3/6, mb1 3.6/10,mb1mx3.4/66,mbtmp3.5/10,ML3.4/4,Error ellipse: s-maj=29.5km s-min=12.3km az=116.0*

PRU ***10*** *07:50:21.8,44°.17N×12°.12E,h4km*

LDG ***10*** *07:50:21.8±0.1,43°.99N×11°.78E,h10km,Ml3.7/27,Error ellipse: s-maj=2.6km s-min=1.5km az=41.0*

ROM ***10*** *07:50:21.0±0.1,43°.99N×11°.80E,h32km±1km,Ml3.4/51, Error ellipse: s-maj=1.6km s-min=1.2km az=31.0*

CSEM ***10*** *07:50:21.3±0.1,44°.00N×11°.84E,h30km,ML3.7/35,Error ellipse: s-maj=1.9km s-min=1.7km az=25.0*

ISC 10 07:50:20.9±0.7,43°.98N±0°.02×11°.82E±0°.02,h29km±4km, n325,σ1§31/436,mb3.5/6,6C-16D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.07**	**166**	⇓*i*Pg	**Pb**	**07 50 25.9**	**-0.1**
SFI				Sg	**Sb**	**07 50 29.8**	**+0.3**
	16μm,0.5s						
SFI	**Santa Sofia**	**0.07**	**166**	⇑*i*Pg	**Pb**	**07 50 25.9**	**-0.1**
SFI				Sg	**Sb**	**07 50 29.8**	**+0.3**
	16μm,0.5s						
VMG	**Vicchio**	**0.20**	**266**	⇓*i*Pg	**Pb**	**07 50 27.1**	**0.0**
VMG	**Vicchio**	**0.20**	**266**	⇓*i*Pg	**Pb**	**07 50 27.1**	**0.0**
CRE	**Caprese Michel**	**0.37**	**165**	⇓*i*Pg	**Pb**	**07 50 29.7**	**+0.3**
CRE				Sg	**Sn**	**07 50 36.6**	**-0.1**
	6μm,0.4s						
CRE	**Caprese Michel**	**0.37**	**165**	⇓*i*Pg	**Pb**	**07 50 29.7**	**+0.3**
CRE				Sg	**Sn**	**07 50 36.6**	**-0.1**
	6μm,0.4s						
IMOL	**Imola, Italy**	**0.39**	**351**	Pg	**Pn**	**07 50 30.1**	**-0.5**
IMOL				Sg	**Sn**	**07 50 37.1**	**+0.1**
	69μm,9.4s						
IMOL	**Imola, Italy**	**0.39**	**351**	Pg	**Pn**	**07 50 30.1**	**-0.5**
IMOL				Sg	**Sn**	**07 50 37.1**	**+0.1**
	69μm,9.4s						
CPGN	**Carpegna, Ital**	**0.40**	**116**	Pg	**Pn**	**07 50 30.5**	**-0.4**
CPGN				Sg	**Sn**	**07 50 38.4**	**+0.9**
	2μm,0.4s						
CPGN	**Carpegna, Ital**	**0.40**	**116**	Pg	**Pn**	**07 50 30.5**	**-0.4**
CPGN				Sg	**Sn**	**07 50 38.4**	**+0.9**
	2μm,0.4s						
PARC	**Parchiule**	**0.45**	**137**	Pg	**Pb**	**07 50 30.8**	**+0.3**
PARC				Sg	**Sn**	**07 50 39.1**	**+0.6**
	1μm,0.5s						
PARC	**Parchiule**	**0.45**	**137**	Pg	**Pb**	**07 50 30.8**	**+0.3**
PARC				Sg	**Sn**	**07 50 39.1**	**+0.6**
	1μm,0.5s						
MTRZ	**Monterenzio**	**0.47**	**327**	Pg	**Pb**	**07 50 30.9**	**0.0**
	4μm,0.5s						
MTRZ	**Monterenzio**	**0.47**	**327**	Pg	**Pb**	**07 50 30.9**	**0.0**
	4μm,0.5s						
BLLA	**Bellaria**	**0.50**	**70**	Pg	**Pn**	**07 50 31.8**	**-0.2**
	3μm,0.9s						
BLLA	**Bellaria**	**0.50**	**70**	Pg	**Pn**	**07 50 31.8**	**-0.2**
	3μm,0.9s						
FNVD	**Fontana Vidola**	**0.54**	**291**	Pg	**Pb**	**07 50 32.2**	**+0.2**
FNVD				Sg	**Sn**	**07 50 41.5**	**+0.6**
	2μm,0.6s						
FNVD	**Fontana Vidola**	**0.54**	**291**	Pg	**Pb**	**07 50 32.2**	**+0.2**
FNVD				Sg	**Sn**	**07 50 41.5**	**+0.6**
	2μm,0.6s						
PTF	**Prato**	**0.54**	**268**	Pg	**Pn**	**07 50 32.4**	**-0.4**
PTF				Sg	**Sn**	**07 50 40.9**	**0.0**
PTF	**Prato**	**0.54**	**268**	Pg	**Pn**	**07 50 32.4**	**-0.4**
PTF				Sg	**Sn**	**07 50 40.9**	**0.0**
BADI	**Badiali**	**0.56**	**147**	Pg	**Pn**	**07 50 32.7**	**-0.2**
	2μm,0.6s						
BADI	**Badiali**	**0.56**	**147**	Pg	**Pn**	**07 50 32.7**	**-0.2**
	2μm,0.6s						
ATMC	**Monte Cedrone**	**0.59**	**153**	Pg	**Pn**	**07 50 33.2**	**-0.3**
ATMC				Sg	**Sn**	**07 50 42.9**	**+0.7**
	2μm,0.4s						
ATMC	**Monte Cedrone**	**0.59**	**153**	Pg	**Pn**	**07 50 33.2**	**-0.3**
ATMC				Sg	**Sn**	**07 50 42.9**	**+0.7**
	2μm,0.4s						
CSNT	**Castellina Chi**	**0.64**	**218**	Pg	**Pn**	**07 50 34.0**	**0.0**
CSNT				Sg	**Sn**	**07 50 43.9**	**+0.7**
	1μm,0.6s						
CSNT	**Castellina Chi**	**0.64**	**218**	Pg	**Pn**	**07 50 34.0**	**0.0**
CSNT				Sg	**Sn**	**07 50 43.9**	**+0.7**
	1μm,0.6s						
CRMI	**Carmignano**	**0.64**	**253**	Pg	**Pn**	**07 50 34.0**	**-0.1**
CRMI				Sg	**Sn**	**07 50 43.2**	**-0.2**
	1μm,0.3s						
CRMI	**Carmignano**	**0.64**	**253**	Pg	**Pn**	**07 50 34.0**	**-0.1**
CRMI				Sg	**Sn**	**07 50 43.2**	**-0.2**
	1μm,0.3s						
CAFI	**Castiglion Fio**	**0.66**	**171**	⇓*i*Pg	**Pn**	**07 50 34.2**	**-0.1**
CAFI				Sg	**Sn**	**07 50 44.7**	**+1.0**
	950nm,0.5s						
CAFI	**Castiglion Fio**	**0.66**	**171**	⇓*i*Pg	**Pn**	**07 50 34.2**	**-0.1**
CAFI				Sg	**Sn**	**07 50 44.7**	**+1.0**
	950nm,0.5s						
ATPC	**Poggio Castell**	**0.68**	**137**	Pg	**Pn**	**07 50 34.9**	**+0.3**
	1μm,0.6s						
ATPC	**Poggio Castell**	**0.68**	**137**	Pg	**Pn**	**07 50 34.9**	**+0.3**
	1μm,0.6s						
PIEI	**Pieia**	**0.68**	**130**	Pg	**Pb**	**07 50 34.4**	**+0.1**
	687nm,0.3s						
PIEI	**Pieia**	**0.68**	**130**	Pg	**Pb**	**07 50 34.4**	**+0.1**
	687nm,0.3s						
FIU	**Minerbio Fiu**	**0.70**	**340**	Pg	**Pn**	**07 50 36.3**	**+1.4**
	3μm,0.4s						
FIU	**Minerbio Fiu**	**0.70**	**340**	Pg	**Pn**	**07 50 36.3**	**+1.4**
	3μm,0.4s						
ZCCA	**Zocca**	**0.71**	**302**	Pg	**Pn**	**07 50 36.4**	**+1.3**
	1μm,1.1s						
ZCCA	**Zocca**	**0.71**	**302**	Pg	**Pn**	**07 50 36.4**	**+1.3**
	1μm,1.1s						
ATVO	**AVT- Monte Val**	**0.73**	**144**	Pg	**Pn**	**07 50 35.7**	**+0.4**
	1μm,0.7s						
ATVO	**AVT- Monte Val**	**0.73**	**144**	Pg	**Pn**	**07 50 35.7**	**+0.4**
	1μm,0.7s						
PESA	**Pesaro**	**0.74**	**92**	Pg	**Pn**	**07 50 35.7**	**+0.3**
	2μm,0.6s						
PESA	**Pesaro**	**0.74**	**92**	Pg	**Pn**	**07 50 35.7**	**+0.3**
	2μm,0.6s						
FSSB	**Fossombrone**	**0.75**	**112**	Pg	**Pn**	**07 50 35.6**	**0.0**
	2μm,0.3s						
FSSB	**Fossombrone**	**0.75**	**112**	Pg	**Pn**	**07 50 35.6**	**0.0**
	2μm,0.3s						
MPAG	**Monte Paganucc**	**0.76**	**117**	Pg	**Pb**	**07 50 35.6**	**-0.1**
	1μm,0.6s						
MPAG	**Monte Paganucc**	**0.76**	**117**	Pg	**Pb**	**07 50 35.6**	**-0.1**
	1μm,0.6s						
FRON	**Frontone**	**0.80**	**125**	Pg	**Pb**	**07 50 36.9**	**+0.6**
	1μm,0.7s						
FRON	**Frontone**	**0.80**	**125**	Pg	**Pb**	**07 50 36.9**	**+0.6**
	1μm,0.7s						
MURB	**Monte Urbino**	**0.88**	**144**	Pg	**Pb**	**07 50 38.4**	**+0.8**
	2μm,0.4s						
MURB	**Monte Urbino**	**0.88**	**144**	Pg	**Pb**	**07 50 38.4**	**+0.8**
	2μm,0.4s						
BDI	**Bagni Di Lucca**	**0.89**	**276**	Pg	**Pn**	**07 50 37.1**	**-0.4**
BDI				Sg	**Sb**	**07 50 48.8**	**-0.5**
	661nm,0.7s						
BDI	**Bagni Di Lucca**	**0.89**	**276**	Pg	**Pn**	**07 50 37.1**	**-0.4**
BDI				Sg	**Sb**	**07 50 48.8**	**-0.5**
	661nm,0.7s						
FROS	**Frosini**	**0.91**	**212**	Pg	**Pb**	**07 50 37.9**	**-0.2**
	843nm,0.8s						
FROS	**Frosini**	**0.91**	**212**	Pg	**Pb**	**07 50 37.9**	**-0.2**
	843nm,0.8s						
ARVD	**Arcevia**	**0.94**	**120**	Pg	**Pb**	**07 50 39.3**	**+0.6**
	442nm,0.6s						
ARVD	**Arcevia**	**0.94**	**120**	Pg	**Pb**	**07 50 39.3**	**+0.6**
	442nm,0.6s						
MAIM	**Mastiano**	**0.96**	**267**	Pg	**Pn**	**07 50 38.2**	**-0.3**
	467nm,0.5s						
MAIM	**Mastiano**	**0.96**	**267**	Pg	**Pn**	**07 50 38.2**	**-0.3**
	467nm,0.5s						
ATCC	**AVT- Casa Cast**	**0.99**	**143**	Pg	**Pb**	**07 50 39.7**	**+0.2**
	2μm,1.0s						
ATCC	**AVT- Casa Cast**	**0.99**	**143**	Pg	**Pb**	**07 50 39.7**	**+0.2**
	2μm,1.0s						
VLC	**Villacollemand**	**1.05**	**280**	Pg	**Pn**	**07 50 39.7**	**0.0**
	931nm,1.4s						
VLC	**Villacollemand**	**1.05**	**280**	Pg	**Pn**	**07 50 39.7**	**0.0**
	931nm,1.4s						
ADRI	**Adria, Italy**	**1.07**	**7**	*e*Pg	**Pn**	**07 50 39.3**	**-0.7**
ADRI				*e*Sg	**Sb**	**07 50 55.0**	**+0.6**
ADRI	**Adria, Italy**	**1.07**	**7**	*e*Pg	**Pn**	**07 50 39.3**	**-0.7**
ADRI				*e*Sg	**Sb**	**07 50 55.0**	**+0.6**
MGAB	**Montegabbione**	**1.08**	**169**	Pg	**Pn**	**07

MAGA	**Magasa**	1.99	335	Pg	Pn	07 50 52.7	0.0
	777nm,0.5s						
MAGA	**Magasa**	1.99	335	Pg	Pn	07 50 52.7	0.0
	777nm,0.5s						
AQU	**L'Aquila**	1.99	144	*e*Pn	Pb	07 50 54.6	-1.9
VARN	**Col Varnada, M**	2.03	6	*e*Pn	Pn	07 50 52.5	-0.7
VARN	**Col Varnada, M**	2.03	6	*e*Pn	Pn	07 50 52.5	-0.7
CTI	**Castel Tesino**	2.08	357	Pg	Pn	07 50 53.7	-0.2
	409nm,0.4s						
CTI	**Castel Tesino**	2.08	357	Pg	Pn	07 50 53.7	-0.2
	409nm,0.4s						
CAE	**Caneva**	2.08	12	*e*Pn	Pn	07 50 53.1	-0.8
CAE	**Caneva**	2.08	12	*e*Pn	Pn	07 50 53.1	-0.8
PANI	**Panarotta**	2.10	351	*e*Pn	Pn	07 50 53.3	-1.1
PANI	**Panarotta**	2.10	351	*e*Pn	Pn	07 50 53.3	-1.1
POLC	**Polcenigo**	2.10	13	*e*Pn	Pn	07 50 53.7	-0.5
POLC	**Polcenigo**	2.10	13	*e*Pn	Pn	07 50 53.6	-0.5
TLI	**Talmassons**	2.15	25	*e*Pn	Pn	07 50 54.0	-0.7
TLI	**Talmassons**	2.15	25	*e*Pn	Pn	07 50 54.0	-0.7
RNI	**Roncone**	2.18	337	*e*Pn	Pn	07 50 55.1	-0.3
RNI	**Roncone**	2.18	337	*e*Pn	Pn	07 50 55.1	-0.3
SKDS	**Skadanscina**	2.21	44	*j*Pn	Pn	07 50 54.5	-1.2
SKDS	**Skadanscina**	2.21	44	Pn	Pn	07 50 54.5	-1.2
TRI	**Trieste**	2.21	38	*e*Pn	Pn	07 50 54.6	-1.1
TRI	**Trieste**	2.21	38	*e*Pn	Pn	07 50 54.6	-1.1
MLNI	**Malnisio**	2.24	14	*e*Pn	Pn	07 50 55.4	-0.7
MLNI	**Malnisio**	2.24	14	*e*Pn	Pn	07 50 55.4	-0.7
NVLJ	**Novalja**	2.27	74	*e*Pn	Pn	07 50 56.6	+0.1
NVLJ				Sn	Sn	07 51 22.6	-0.8
NVLJ	**Novalja**	2.27	74	*e*Pn	Pn	07 50 56.5	+0.1
NVLJ				Sn	Sn	07 51 22.5	-0.8
AGOR	**Agordo**	2.31	4	*e*Pn	Pn	07 50 56.5	-0.6
SABO	**M.te Sabotino**	2.37	32	Pg	Pn	07 50 57.2	-0.6
	246nm,0.6s						
SABO	**M.te Sabotino**	2.37	32	Pg	Pn	07 50 57.2	-0.6
	246nm,0.6s						
SABO	**M.te Sabotino**	2.37	32	*e*Pn	Pn	07 50 57.2	-0.6
STAL	**STALIGIAL**	2.37	15	Pg	Pn	07 50 56.9	-1.0
	242nm,0.3s						
STAL	**STALIGIAL**	2.37	15	Pg	Pn	07 50 56.9	-1.0
	242nm,0.3s						
CIMO	**Cimolais**	2.37	10	*e*Pn	Pn	07 50 57.0	-0.9
CIMO	**Cimolais**	2.37	10	*e*Pn	Pn	07 50 57.0	-0.9
MPRI	**Monte Prat**	2.41	20	*e*Pn	Pn	07 50 58.1	-0.4
MPRI	**Monte Prat**	2.41	20	*e*Pn	Pn	07 50 58.1	-0.4
COLI	**Coloredo**	2.42	27	*e*Pn	Pn	07 50 57.9	-0.6
COLI	**Coloredo**	2.42	27	*e*Pn	Pn	07 50 57.9	-0.6
BUA	**Buia**	2.42	22	*e*Pn	Pn	07 50 58.2	-0.4
BUA	**Buia**	2.42	22	*e*Pn	Pn	07 50 58.2	-0.4
BAD	**Bernadia**	2.47	24	*e*Pn	Pn	07 50 58.6	-0.7
BAD	**Bernadia**	2.47	24	*e*Pn	Pn	07 50 58.6	-0.7
VINO	**Villanova**	2.50	24	*e*Pn	Pn	07 50 58.9	-0.8
VINO	**Villanova**	2.50	24	*e*Pn	Pn	07 50 58.9	-0.8
KOSI	**Kohlern**	2.51	353	Pg	Pn	07 51 00.2	+0.3
	204nm,0.7s						
KOSI	**Kohlern**	2.51	353	Pg	Pn	07 51 00.2	+0.3
	204nm,0.7s						
PGF	**Pioggiola**	2.51	236	*e*Pn	Pn	07 50 59.6	-0.2
PGF				*e*Sn	Sn	07 51 28.8	-0.7
	57nm,0.3s						
PGF	**Pioggiola**	2.51	236	*e*Pn	Pn	07 50 59.6	-0.2
PGF				*e*Sn	Sn	07 51 28.8	-0.7
	28nm,0.3s						
BOO	**Bordano**	2.51	21	*e*Pn	Pn	07 50 59.0	-0.8
BOO	**Bordano**	2.51	21	*e*Pn	Pn	07 50 59.0	-0.8
APPI	**Appiano**	2.54	351	Pg	Pn	07 51 00.6	+0.4
	307nm,0.4s						
APPI	**Appiano**	2.54	351	Pg	Pn	07 51 00.6	+0.4
	307nm,0.4s						
CEY	**Cerknica**	2.56	46	*e*Pn	Pn	07 50 59.3	-1.1
CADS	**Cadrg**	2.63	30	*j*Pn	Pn	07 51 00.6	-0.8
CADS	**Cadrg**	2.63	30	*j*Pn	Pn	07 51 00.6	-0.8
PTCC	**Patocco-Chiusa**	2.66	23	Pg	Pn	07 51 00.9	-1.0
	64nm,0.5s						
PTCC	**Patocco-Chiusa**	2.66	23	Pg	Pn	07 51 00.9	-1.0
	64nm,0.5s						
ABTA	**Abfaltersbach**	2.81	10	Pn	Pn	07 51 04.3	+0.3
	23nm,0.4s,SNR=16						
ABTA				Sn	Sn	07 51 37.1	+0.1
	24nm,0.4s						
ABTA	**Abfaltersbach**	2.81	10	*e*Pn	Pn	07 51 04.3	+0.3
	23nm,0.4s,SNR=16						
ABTA				*e*Sn	Sn	07 51 37.1	+0.1
	24nm,0.4s						
LJU	**Ljubljana**	2.82	42	*e*Pn	Pn	07 51 03.5	-0.5
UDBI	**Udbina**	2.88	78	*i* Pn	Pn	07 51 06.2	+1.2
UDBI				Sn	Sn	07 51 37.9	-0.9
UDBI	**Udbina**	2.88	78	*i* Pn	Pn	07 51 06.1	+1.2
UDBI				Sn	Sn	07 51 37.8	-0.9
MYKA	**Terra Mystica**	2.95	25	Pn	Pn	07 51 06.1	+0.2
	2.8nm,0.1s						
MYKA				Sn	Sn	07 51 40.2	-0.1
	11nm,0.3s						
MYKA	**Terra Mystica**	2.95	25	*e*Pn	Pn	07 51 06.1	+0.2
	2.8nm,0.1s						
MYKA				Sn	Sn	07 51 40.2	-0.1
	11nm,0.3s						
OZLJ	**Ozalj**	3.07	56	*e*Pn	Pn	07 51 07.3	-0.1
OZLJ				Sn	Sn	07 51 40.7	-2.4
OZLJ	**Ozalj**	3.07	56	*e*Pn	Pn	07 51 07.3	-0.1
OZLJ				Sn	Sn	07 51 40.7	-2.4
FETA	**Feichten**	3.14	346	Pn	Pn	07 51 10.4	+1.8
	12nm,0.4s,SNR=17						
FETA				Sn	Sn	07 51 46.6	+1.4
	40nm,0.4s						
FETA	**Feichten**	3.14	346	*i* Pn	Pn	07 51 10.4	+1.8
	12nm,0.4s,SNR=17						
FETA				*i* Sn	Sn	07 51 46.6	+1.4
	40nm,0.4s						
SBF	**Sospel**	3.17	269	*e*Pn	Pn	07 51 08.9	0.0
	SNR=1.0						
SBF				*e*Sn	Sn	07 51 44.7	-1.1
	221nm,0.5s,SNR=1.0						
SBF	**Sospel**	3.17	269	*e*Pn	Pn	07 51 08.9	0.0
	SNR=1.0						
SBF				*e*Sn	Sn	07 51 44.7	-1.1
	111nm,0.5s,SNR=1.0						
CRES	**Cresnjev**	3.18	53	*j*Pn	Pn	07 51 08.9	0.0
CRES	**Cresnjev**	3.18	53	*e*Pn	Pn	07 51 08.7	-0.2
OBKA	**Obir**	3.18	36	Pn	Pn	07 51 09.4	+0.3
	1.6nm,0.1s						
OBKA	**Obir**	3.18	36	*e*Pn	Pn	07 51 09.4	+0.3
	1.6nm,0.1s						
REVF	**Revere**	3.23	267	Pn	Pn	07 51 08.9	-0.8
REVF	**Revere**	3.23	267	Pn	Pn	07 51 09.0	-0.8
LUCF	**Luceram**	3.23	270	Pn	Pn	07 51 09.4	-0.4
LUCF	**Luceram**	3.23	270	Pn	Pn	07 51 09.5	-0.4
KBA	**Koelnbreinsper**	3.28	18	Pn	Pn	07 51 10.9	+0.4
	7.9nm,0.2s,SNR=7.8						
KBA				Sn	Sn	07 51 48.3	-0.4
	13nm,0.3s						
KBA	**Koelnbreinsper**	3.28	18	*i* Pn	Pn	07 51 10.9	+0.4
	7.9nm,0.2s,SNR=7.8						
KBA				*e*Sn	Sn	07 51 48.3	-0.4
	13nm,0.3s						
WTTA	**Wattenberg**	3.29	358	Pn	Pn	07 51 12.3	+1.6
WTTA				Sn	Sn	07 51 51.3	+2.4
	14nm,0.4s						
WTTA	**Wattenberg**	3.29	358	*i* Pn	Pn	07 51 12.5	+1.8
	4.4nm,0.2s						
WTTA				*e*Sn	Sn	07 51 51.3	+2.4
	14nm,0.4s						
WATA	**Walderalm**	3.36	357	Pn	Pn	07 51 13.6	+2.0
	12nm,0.2s,SNR=14						
WATA				Sn	Sn	07 51 51.4	+0.7
	11nm,0.3s						
WATA	**Walderalm**	3.36	357	*i* Pn	Pn	07 51 13.6	+2.0
	12nm,0.2s,SNR=14						
WATA				*i* Sn	Sn	07 51 51.4	+0.7
	11nm,0.3s						
MOTA	**Moosalm**	3.41	352	Pn	Pn	07 51 14.0	+1.8
	16nm,0.3s,SNR=21						
MOTA	**Moosalm**	3.41	352	*i* Pn	Pn	07 51 14.0	+1.8
	16nm,0.3s,SNR=21						
SOKA	**Soboth**	3.52	39	Pn	Pn	07 51 14.2	+0.4
	3.7nm,0.3s						
SOKA	**Soboth**	3.52	39	*e*Pn	Pn	07 51 14.2	+0.4
	3.7nm,0.3s						
DAVA	**Damuels**	3.58	338	Pn	Pn	07 51 17.0	+2.4
	8.7nm,0.1s,SNR=7.0						
DAVA				Sn	Sn	07 51 58.3	+2.3
	37nm,0.2s						
DAVA	**Damuels**	3.58	338	*i* Pn	Pn	07 51 17.0	+2.4
	8.7nm,0.1s,SNR=7.0						
DAVA				*i* Sn	Sn	07 51 58.3	+2.3
	37nm,0.2s						
RETA	**Reutte**	3.59	348	Pn	Pn	07 51 16.2	+1.6
	9.0nm,0.1s						
RETA				Sn	Sn	07 51 57.5	+1.4
	29nm,0.3s						
RETA	**Reutte**	3.59	348	*i* Pn	Pn	07 51 16.2	+1.6
	9.0nm,0.1s						
RETA				*i* Sn	Sn	07 51 57.5	+1.4
	29nm,0.3s						
MBDF	**Montbardon**	3.70	283	*e*Pn	Pn	07 51 16.7	+0.4
	SNR=1.0						
MBDF				*e*Sn	Sn	07 51 56.1	-2.9
	37nm,0.5s,SNR=1.0						
MBDF	**Montbardon**	3.70	283	*e*Pn	Pn	07 51 16.7	+0.4
	SNR=1.0						
MBDF				*e*Sn	Sn	07 51 56.1	-2.9
	19nm,0.5s,SNR=1.0						
FRF	**La Foret Royal**	3.77	265	*e*Pn	Pn	07 51 17.4	+0.3
	SNR=1.0						
FRF				*e*Sn	Sn	07 51 58.7	-1.8
	70nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	3.77	265	*e*Pn	Pn	07 51 17.4	+0.3
	SNR=1.0						
FRF				*e*Sn	Sn	07 51 58.7	-1.8
	35nm,0.4s,SNR=1.0						
LMR	**La Mourre**	3.91	262	*e*Pn	Pn	07 51 19.3	+0.3
	SNR=1.0						
LMR				*e*Sn	Sn	07 52 02.1	-1.8
	21nm,0.2s,SNR=1.0						
LMR	**La Mourre**	3.91	262	*e*Pn	Pn	07 51 19.3	+0.3
	SNR=1.0						
LMR				*e*Sn	Sn	07 52 02.1	-1.8
	10nm,0.2s,SNR=1.0						
LPG	**La Plagne**	3.92	295	*e*Pn	Pn	07 51 19.4	0.0
	SNR=1.0						
LPG				*e*Sn	Sn	07 52 04.1	-0.5
	22nm,0.4s						
LPG	**La Plagne**	3.92	295	*e*Pn	Pn	07 51 19.4	0.0
	SNR=1.0						
LPG				*e*Sn	Sn	07 52 04.1	-0.5
	11nm,0.4s						
BLY	**Banja Luka**	3.92	77	*i*P	Pn	07 51 16.6	-2.6
BLY	**Banja Luka**	3.92	77	*i*P	Pn	07 51 16.6	-2.6
BLY	**Banja Luka**	3.92	77	*e*Pn	Pn	07 51 20.9	+1.7
BLY				S	Sn	07 52 00.9	-3.3
LPL	**La Plagne**	3.94	295	*e*Pn	Pn	07 51 19.9	+0.3
LPL				*e*Sn	Sn	07 52 03.1	-1.9
	50nm,0.6s,SNR=1.0						
LPL	**La Plagne**	3.94	295	*e*Pn	Pn	07 51 19.9	+0.3
LPL				*e*Sn	Sn	07 52 03.1	-1.9
	25nm,0.6s,SNR=1.0						
ARSA	**Arzberg**	4.18	37	Pn	Pn	07 51 22.2	-0.5
	4.2nm,0.2s						
ARSA				Sn	Sn	07 52 08.6	-1.9
	3.6nm,0.3s						
ARSA	**Arzberg**	4.18	37	*i* Pn	Pn	07 51 22.2	-0.5
	4.2nm,0.2s						
ARSA				*e*Sn	Sn	07 52 08.6	-1.9
	3.6nm,0.3s						
MOA	**Molln**	4.23	23	Pn	Pn	07 51 23.8	+0.3
	8.8nm,0.2s,SNR=6.2						
MOA				Sn	Sn	07 52 09.8	-2.1
	9.4nm,0.3s						
MOA	**Molln**	4.23	23	*i* Pn	Pn	07 51 23.8	+0.3
	8.8nm,0.2s,SNR=6.2						
MOA				*i* Sn	Sn	07 52 09.8	-2.1
	9.4nm,0.3s						
OG01	**Vacheresse**	4.33	305	Pn	Pn	07 51 26.7	+1.9
OG01	**Vacheresse**	4.33	305	Pn	Pn	07 51 26.8	+1.9
ORIF	**Oris-en-Rattie**	4.36	285	*e*Pn	Pn	07 51 26.5	+1.2
	SNR=1.0						
ORIF				*e*Sn	Sn	07 52 13.2	-1.9
	32nm,0.6s						
ORIF	**Oris-en-Rattie**	4.36	285	*e*Pn	Pn	07 51 26.5	+1.2
	SNR=1.0						
ORIF				*e*Sn	Sn	07 52 13.2	-1.9
	16nm,0.6s						
STON	**Ston**	4.42	102	*e*Pn	Pn	07 51 26.3	+0.3
STON				Sn	Sn	07 52 14.2	-2.3
STON	**Ston**	4.42	102	*e*Pn	Pn	07 51 26.3	+0.3
STON				Sn	Sn	07 52 14.2	-2.3
SMRF	**Simiane la Rot**	4.51	272	*e*Pn	Pn	07 51 28.7	+1.4
	SNR=1.0						
SMRF				*e*Sn	Sn	07 52 17.6	-1.2
	12nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	4.51	272	*e*Pn	Pn	07 51 28.7	+1.4
	SNR=1.0						
SMRF				*e*Sn	Sn	07 52 17.6	-1.2
	5.9nm,0.3s,SNR=1.0						
SPAK	**Spaichingen-Ko**	4.64	334	Pn	Pn	07 51 29.0	0.0
SPAK	**Spaichingen-Ko**	4.64	334	Pn	Pn	07 51 29.0	0.0
FELD	**Feldberg im Sc**	4.72	327	Pn	Pn	07 51 30.4	+0.1
FELD	**Feldberg im Sc**	4.72	327	Pn	Pn	07 51 30.4	+0.1
CABF	**La Chapelle**	4.83	305	*e*Pn	Pn	07 51 32.5	+0.8
	SNR=1.0						
CABF				*e*Sn	Sn	07 52 24.7	-2.0
	23nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	4.83	305	*e*Pn	Pn	07 51 32.5	+0.8
	SNR=1.0						
CABF				*e*Sn	Sn	07 52 24.7	-2.0
	11nm,0.5s,SNR=1.0						
CONA	**Conrad Observa**	4.85	34	Pn	Pn	07 51 31.9	-0.1
	2.2nm,0.2s						
CONA				Sn	Sn	07 52 26.6	-0.7
	2.8nm,0.3s						
CONA	**Conrad Observa**	4.85	34	*i* Pn	Pn	07 51 31.9	-0.1
	2.2nm,0.2s						
CONA				*e*Sn	Sn	07 52 26.6	-0.7
	2.8nm,0.3s						
LOMF	**Lomont**	4.86	316	Pn	Pn	07 51 33.0	+0.9
LOMF	**Lomont**	4.86	316	Pn	Pn	07 51 33.1	+0.9
MATE	**Matera**	4.92	131	S	Sn	07 52 27.7	-1.0
MATE	**Matera**	4.92	131	S	Sn	07 52 27.7	-1.0
TREB	**Trebinje**	4.92	103	*e*Pn	Pn	07 51 33.5	+0.6
GERES	**GERESS Array B**	5.04	14	Pn	Pn	07 51 33.7	-0.9
	3.4nm,0.3s,baz=193,slow=14,SNR=80						
GERES				Sn	Sn	07 52 28.4	-3.5
	4.7nm,0.3s,baz=199,slow=24,SNR=14						
MOF	**Molkenrain**	5.07	321	Pn	Pn	07 51 35.4	+0.4
MOF	**Molkenrain**	5.07	321	Pn	Pn	07 51 35.5	+0.4
HAPS	**Han Pijesak,Bl**	5.14	86	*e*Pn	Pn	07 51 36.3	+0.3
HINF	**Hinteralfeld**	5.17	320	*e*Pn	Pn	07 51 36.5	+0.1
	SNR=1.0						
HINF				*e*Sn	Sn	07 52 32.7	-2.4
	81nm,0.4s						
HINF	**Hinteralfeld**	5.17	320	*e*Pn	Pn	07 51 36.5	+0.1
	SNR=1.0						
HINF				*e*Sn	Sn	07 52 32.7	-2.4
	40nm,0.4s						
VIVF	**Saint-Julien-l**	5.20	282	*e*Pn	Pn	07 51 37.7	+1.0
	SNR=1.0						
VIVF				*e*Sn	Sn	07 52 32.9	-2.8
	7.3nm,0.4s						
VIVF	**Saint-Julien-l**	5.20	282	*e*Pn	Pn	07 51 37.7	+1.0
	SNR=1.0						
VIVF				*e*Sn	Sn	07 52 32.9	-2.8
	3.7nm,0.4s						
KHC	**Kasperske Hory**	5.30	13	*e*PN	Pn	07 51 37.1	-1.0
KHC				*ex*	x	07 51 45.0	
KHC				*e*SN	Sn	07 52 34.3	-3.8
KHC				*e*SB	Sb	07 52 59.0	+3.2
KHC	**Kasperske Hory**	5.30	13	Pn	Pn	07 51 37.1	-1.0
KHC				Sn	Sn	07 52 34.3	-3.8
ECH	**Echery**	5.34	324	Pn	Pn	07 51 39.0	+0.4
ECH	**Echery**	5.34	324	Pn	Pn	07 51 39.0	+0.4
CDF	**Champ du Feu**	5.44	326	*e*Pn	Pn	07 51 40.5	+0.4
	SNR=1.0						
CDF				*e*Sn	Sn	07 52 38.9	-2.9
	47nm,0.3s						
CDF	**Champ du Feu**	5.44	326	*e*Pn	Pn	07 51 40.5	+0.4
	SNR=1.0						
BBLS	**Lazić**	5.48	89	*e*Sn	Sn	07 52 41.0	-1.7
HAU	**Haudompre**	5.55	318	*e*Pn	Pn	07 51 41.7	+0.2
	SNR=1.0						
HAU				*e*Sn	Sn	07 52 41.5	-2.8
	145nm,0.3s						
HAU	**Haudompre**	5.55	318	*e*Pn	Pn	07 51 41.7	+0.2
	SNR=1.0						
TEKS	**Tekeris**	5.56	81	*e*Pn	Pn	07 51 42.6	+0.8
PDG	**Podgorica**	5.65	103	S	Sn	07 52 44.6	-2.1
PDG	**Podgorica**	5.65	103	S	Sn	07 52 44.6	-2.1
PDG				*e*Sn	Sn	07 52 47.6	+0.9
DRME	**Dracevica, Mon**	5.68	106	*e*Pn	Pn	07 51 44.4	+1.1
LANF	**Langenberg**	5.72	332	Pn	Pn	07 51 44.4	+0.6
LANF	**Langenberg**	5.72	332	Pn	Pn	07 51 44.5	+0.6
LASF	**Ste Croix**	5.75	274	*e*Pn	Pn	07 51 44.6	+0.4
	SNR=1.0						
LASF	**Ste Croix**	5.75	274	*e*Pn	Pn	07 51 44.6	+0.4
	SNR=1.0						
THEF	**They Montfort**	5.88	318	Pn	Pn	07 51 46.7	+0.7
THEF	**They Montfort**	5.88	318	Pn	Pn	07 51 46.8	+0.7
SMF	**Signal de Mont**	6.23	298	*e*Pn	Pn	07 51 51.2	+0.3
	SNR=1.0						
SMF				*e*Sn	Sn	07 52 56.8	-4.2
	19nm,0.5s,SNR=1.0						
SMF	**Signal de Mont**	6.23	298	*e*Pn	Pn	07 51 51.2	+0.3
	SNR=1.0						
PAGF	**Fort de Pagny**	6.23	319	*e*Pn	Pn	07 51 51.4	+0.5
PAGF				*e*Sn	Sn	07 52 58.1	-3.0
	6.7nm,0.3s						
PAGF	**Fort de Pagny**	6.23	319	*e*Pn	Pn	07 51 51.4	+0.5
LBL	**Lubilhac**	6.25	285	Pn	Pn	07 51 52.4	+1.2
LBL	**Lubilhac**	6.25	285	Pn	Pn	07 51 52.4	+1.2
VRAC	**Vranov**	6.26	30	Pn	Pn	07 51 50.8	-0.5
	0.3nm,0.3s,baz=129,slow=12,SNR=3.4						
VRAC				Sn	Sn	07 52 59.0	-2.8
	0.4nm,0.3s,baz=300,slow=12,SNR=3.8						
VRAC				Lg	Lg	07 53 43.7	
	0.2nm,0.3s,baz=178,slow=23,SNR=2.1						
VRAC	**Vranov**	6.26	30	*j*P	Pn	07 51 51.2	-0.1
VRAC	**Vranov**	6.26	30	*j*P	Pn	07 51 51.2	-0.1
NKC	**Novy Kostel**	6.27	4	*e*PN	Pn	07 51 52.0	+0.5
NKC				*e*SN	Sn	07 52 58.2	-3.9
NKC	**Novy Kostel**	6.27	4	Pn	Pn	07 51 52.0	+0.5
GOPC	**GO Pecny, Ondr**	6.28	18	*e*PN	Pn	07 51 50.2	-1.3
GOPC				*e*SN	Sn	07 52 58.1	-4.1
GOPC	**GO Pecny, Ondr**	6.28	18	Pn	Pn	07 51 50.2	-1.3
PRU	**Pruhonice**	6.29	16	*e*PN	Pn	07 51 50.5	-1.2
PRU				*e*SN	Sn	07 52 58.0	-4.6
PRU	**Pruhonice**	6.29	16	Pn	Pn	07 51 50.5	-1.2
SFTF	**Sexfontaines**	6.33	314	*e*Pn	Pn	07 51 52.6	+0.3
SFTF				*e*Sn	Sn	07 53 00.4	-3.2
	27nm,0.4s						
SFTF	**Sexfontaines**	6.33	314	*e*Pn	Pn	07 51 52.6	+0.3
LOR	**Lormes**	6.48	303	*e*Pn	Pn	07 51 55.1	+0.8
	SNR=1.0						
LOR				*e*Sn	Sn	07 53 02.3	-5.0
	52nm,0.5s,SNR=1.0						
LOR	**Lormes**	6.48	303	*e*Pn	Pn	07 51 55.1	+0.8
	SNR=1.0						
AGO	**Saint Agoulin**	6.50	292	Pn	Pn	07 51 55.4	+0.8
AGO	**Saint Agoulin**	6.50	292	Pn	Pn	07 51 55.5	+0.8
PYM	**Petit Puy Mans**	6.51	289	Pn	Pn	07 51 55.3	+0.5
PYM	**Petit Puy Mans**	6.51	289	Pn	Pn	07 51 55.3	+0.5
MEZF	**Maizieres J'vi**	6.52	316	*e*Pn	Pn	07 51 55.8	+1.0
	SNR=1.0						
MEZF				*e*Sn	Sn	07 53 03.8	-4.4
	16nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	6.52	316	*e*Pn	Pn	07 51 55.8	+1.0
	SNR=1.0						
AVF	**Avril sur Loir**	6.59	298	*e*Pn	Pn	07 51 56.2	+0.3
	SNR=1.0						
AVF				*e*Sn	Sn	07 53 06.8	-3.2
	6.1nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	6.59	298	*e*Pn	Pn	07 51 56.2	+0.3
	SNR=1.0						
SSF	**Saint Saulge**	6.61	301	*e*Pn	Pn	07 51 56.6	+0.6
	SNR=1.0						
SSF				*e*Sn	Sn	07 53 05.6	-4.7
	13nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	6.61	301	*e*Pn	Pn	07 51 56.6	+0.6
	SNR=1.0						
BGF	**Bois d'Agland**	6.84	295	*e*Pn	Pn	07 51 59.6	+0.4
	SNR=1.0						
BGF				*e*Sn	Sn	07 53 12.5	-3.6
	16nm,0.4s						
BGF	**Bois d'Agland**	6.84	295	*e*Pn	Pn	07 51 59.6	+0.4
	SNR=1.0						
MTLF	**Montolieu**	7.00	268	*e*Pn	Pn	07 52 02.1	+0.7
	SNR=1.0						
MTLF				*e*Sn	Sn	07 53 16.3	-3.6
	5.2nm,0.4s,SNR=1.0						
MTLF	**Montolieu**	7.00	268	*e*Pn	Pn	07 52 02.1	+0.7
	SNR=1.0						
MORC	**Moravsky Berou**	7.00	32	*i*P	Pn	07 52 00.1	-1.4
MORC	**Moravsky Berou**	7.00	32	*i*P	Pn	07 52 00.1	-1.4
BRG	**Berggiesshubel**	7.05	11	PG	Pn	07 52 01.1	-0.9
BRG				SG	Sn	07 53 16.2	-4.9
	9.3nm,0.5s						
CAF	**Calviac**	7.05	281	*e*Pn	Pn	07 52 03.1	+1.0
	SNR=1.0						
CAF	**Calviac**	7.05	281	*e*Pn	Pn	07 52 03.1	+1.0
	SNR=1.0						
UPC	**Upice**	7.13	22	*e*PN	Pn	07 52 02.1	-1.1
UPC	**Upice**	7.13	22	Pn	Pn	07

SHO					A	A	08 09 33.2		
	1µm,0.3s								
SHO	**Shikotan**	**0.82**	**271**	*d*	*i* PN	**Pn**	**08 09 21.0**	**+1.2**	
SHO					*i* S	**Sn**	**08 09 32.5**	**+0.3**	
SHO					pmax	pmax			
	comp=E,69nm,0.3s								
SHO					pmax	pmax			
	comp=Z,128nm,0.3s								
SHO					pmax	pmax			
	comp=N,42nm,0.4s								
SHO					smax	smax			
	comp=E,1µm,0.4s								
SHO					smax	smax			
	comp=N,2µm,0.3s								
KUR	**Kuril'sk**	**1.37**	**357**	*i*	P	**Pn**	**08 09 27.8**	**+0.5**	
KUR					AMB	AMB	08 09 29.4		
	comp=N,20nm,0.2s								
KUR					AMB	AMB	08 09 29.4		
	comp=N,41nm,0.2s								
KUR					AMB	AMB	08 09 29.4		
	comp=N,57nm,0.2s								
KUR				*i*	S	**Sn**	**08 09 44.1**	**-1.6**	
KUR					A	A	08 09 44.7		
	comp=N,228nm,0.3s								
KUR					A	A	08 09 44.7		
	comp=N,664nm,0.3s								
KUR	**Kuril'sk**	**1.37**	**357**	*d*	*i* PN	**Pn**	**08 09 27.8**	**+0.5**	
KUR					*i* S	**Sn**	**08 09 44.1**	**-1.6**	
KUR					pmax	pmax			
	comp=N,20nm,0.1s								
KUR					pmax	pmax			
	comp=E,41nm,0.1s								
KUR					pmax	pmax			
	comp=Z,57nm,0.1s								
KUR					smax	smax			
	comp=N,164nm,0.3s								
KUR					smax	smax			
	comp=E,471nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.53**	**277**	*i*	P	**Pg**	**08 09 32.0**	**+0.7**	
YUK					AMB	AMB	08 09 33.2		
	comp=E,39nm,0.4s								
YUK					AMB	AMB	08 09 33.2		
	comp=E,52nm,0.4s								
YUK					AMB	AMB	08 09 33.2		
	comp=E,287nm,0.4s								
YUK				*i*	S	**Sg**	**08 09 51.3**	**+0.2**	
YUK					A	A	08 09 56.5		
	comp=E,590nm,0.3s								
YUK					A	A	08 09 56.5		
	comp=E,72nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.53**	**277**	*c*	*i* PN	**Pg**	**08 09 32.0**	**+0.7**	
YUK					*i* S	**Sg**	**08 09 51.3**	**+0.2**	
YUK					pmax	pmax			
	comp=N,39nm,0.1s								
YUK					pmax	pmax			
	comp=E,52nm,0.1s								
YUK					pmax	pmax			
	comp=Z,287nm,0.1s								
YUK					smax	smax			
	comp=E,718nm,0.2s								
YUK					smax	smax			
	comp=N,585nm,0.4s								
LAGR	**Lagunnoye**	**1.59**	**278**	*e*	P	**Pg**	**08 09 32.8**	**+0.5**	
LAGR					*i* S	**Sb**	**08 09 51.7**	**-0.1**	
LAGR	**Lagunnoye**	**1.59**	**278**	*e*	PN	**Pg**	**08 09 32.8**	**+0.5**	
LAGR					*i* S	**Sb**	**08 09 51.7**	**-0.1**	
GRPR	**Tuman**	**1.59**	**275**	*e*	P	**Pg**	**08 09 32.6**	**+0.2**	
GRPR					eS	**Sb**	**08 09 52.3**	**+0.4**	
GRPR	**Tuman**	**1.59**	**275**	*e*	PN	**Pg**	**08 09 32.6**	**+0.2**	
GRPR					eS	**Sb**	**08 09 52.3**	**+0.4**	
NEM2	**Nemuro 2**	**1.69**	**254**		P	**Pg**	**08 09 34.8**	**+0.5**	
NEM2					eS	**Sg**	**08 09 55.7**	**-0.6**	
GLVR	**Golovnino**	**1.78**	**267**	*e*	P	**Pg**	**08 09 35.9**	**-0.1**	
GLVR					eS	**Sb**	**08 09 57.0**	**-0.2**	
GLVR	**Golovnino**	**1.78**	**267**	*e*	PN	**Pg**	**08 09 35.9**	**-0.1**	
GLVR					eS	**Sb**	**08 09 57.6**	**+0.4**	
JRA	**Rausu**	**2.06**	**273**		eS	**Sb**	**08 10 04.7**	**-0.6**	
JNK	**Nakash**	**2.37**	**264**		eS	**Sb**	**08 10 12.5**	**-1.9**	
JTKR	**Abashiri--Toko**	**2.94**	**273**		P	**Pb**	**08 09 52.6**	**-1.9**	
JAR	**Ashorobuto**	**3.10**	**261**		P	**Pb**	**08 09 55.1**	**-2.3**	
JAR					eS	**Sb**	**08 10 31.1**	**-4.3**	
JOB	**Onbets**	**3.17**	**254**		eS	**Sb**	**08 10 32.2**	**-4.9**	
JCH	**Churui**	**3.59**	**251**		eS	**Sn**	**08 10 43.2**	**+2.7**	
JKA	**Kamikawa-asahi**	**3.88**	**276**	*e*	P	**Pb**	**08 10 11.6**	**+1.0**	
ASAJ	**Asahikawa**	**3.89**	**276**		Pn	**Pb**	**08 10 11.6**	**+0.9**	
	comp=N,1.2nm,0.3s,baz=88,slow=22,SNR=6.3								
ASAJ					Sn	**Sb**	**08 10 55.8**	**-2.1**	
	comp=N,0.3nm,0.3s,baz=206,slow=28,SNR=1.9								
JNBK	**Urakawa-nobuka**	**4.14**	**249**		P	Pb	08 10 09.1	-5.9	
PETK	**Petropavlovsk-**	**11.27**	**31**		Pn	**Pn**	**08 11 43.9**	**+0.7**	
	comp=N,0.2nm,0.3s,baz=202,slow=11,SNR=8.3								
H11N2	**WAKE ISLAND Hy**	**28.81**	**141**		T	T	08 45 45.4		
	baz=332,slow=76,SNR=28								
H11N1	**WAKE ISLAND Hy**	**28.82**	**141**		T	T	08 45 50.4		
	baz=332,slow=76,SNR=37								
H11N3	**WAKE ISLAND Hy**	**28.82**	**141**		T	T	08 45 49.3		
	baz=332,slow=76,SNR=26								
H11S1	**WAKE ISLAND Hy**	**29.79**	**142**		T	T	08 46 54.9		
	baz=333,slow=76,SNR=98								
H11S3	**WAKE ISLAND Hy**	**29.79**	**142**		T	T	08 46 56.2		
	baz=333,slow=76,SNR=46								
H11S2	**WAKE ISLAND Hy**	**29.80**	**142**		T	T	08 46 55.5		
	baz=333,slow=76,SNR=54								
ILAR	**Eielson Array**	**41.04**	**36**		P	**P**	**08 16 45.8**	**+0.4**	
	comp=N,0.2nm,0.6s,baz=262,slow=6.8,SNR=5.9								
YKA	**Yellowknife Ar**	**55.38**	**34**		P	**P**	**08 18 36.1**	**+0.1**	
	comp=N,0.2nm,0.7s,baz=298,slow=7.1,SNR=4.2								
NVAR	**Mina Array Bea**	**67.01**	**58**		P	**P**	**08 19 56.4**	**+0.8**	
	comp=N,0.3nm,0.5s,baz=304,slow=6.2,SNR=4.8								
TXAR	**Lajitas Array**	**82.09**	**57**		P	**P**	**08 21 22.6**	**-0.6**	
	comp=N,0.3nm,0.6s,baz=318,slow=4.6,SNR=4.5								

*ISCJB **10** 08:14:31.5±0.3,44°.49N±0°.01×6°.69E±0°.03, h8km±3km, Error ellipse: s-maj=3.3km s-min=2.2km az=158.5*
*GEN **10** 08:14:31.4,44°.48N×6°.67E, h3km, ML1.9*
*ROM **10** 08:14:32.1±0.7,44°.48N×6°.77E, h8km±3km, Md2.0/7, Ml1.6/6, Error ellipse: s-maj=6.6km s-min=3.2km az=55.0*
*CSEM **10** 08:14:32.0±0.1,44°.50N×6°.71E, h10km, ML2.4/17, Error ellipse: s-maj=2.7km s-min=1.9km az=66.0*
*LDG **10** 08:14:32.4±0.1,44°.51N×6°.72E, h2km, Md2.5/1, Ml2.5/9, Error ellipse: s-maj=1.7km s-min=1.2km az=66.0*
*STR **10** 08:14:33.3±0.2,44°.50N±0°.01×6°.80E±0°.02, h5km, MLv2.6/10*

ISC 10 08:14:32.3±0.9, 44°.50N±0°.02×6°.72E±0°.02, h12km±7km, n60, σ0s65/104, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.23**	**9**	*e*Pg	**Pg**	**08 14 37.4**	**+0.1**
MBDF				*e*Sg	**Sg**	**08 14 40.5**	**-0.3**
	130nm,0.3s						
MBDF	**Montbardon**	**0.23**	**9**	*e*Pg	**Pg**	**08 14 37.4**	**+0.1**
MBDF				*e*Sg	**Sg**	**08 14 40.5**	**-0.3**
	65nm,0.3s						
PZZ	**Stroppo**	**0.28**	**88**	Pg	**Pg**	**08 14 37.5**	**-0.7**
PZZ				Sg	**Sg**	**08 14 41.8**	**-0.3**
	77nm,0.1s						
OG22	**Abries**	**0.36**	**26**	Pg	**Pg**	**08 14 39.9**	**+0.2**
OG22				Sg	**Sg**	**08 14 45.2**	**+0.6**
OG22	**Abries**	**0.36**	**26**	Pg	**Pg**	**08 14 39.9**	**+0.2**
DOI	**San Damiano**	**0.38**	**89**	Pg	**Pg**	**08 14 40.1**	**+0.3**
DOI				Sg	**Sg**	**08 14 45.9**	**+1.0**
	31nm,0.3s						
DOI	**San Damiano**	**0.38**	**89**	Pg	**Pg**	**08 14 40.1**	**+0.3**
DOI				Sg	**Sg**	**08 14 45.9**	**+1.0**
	31nm,0.3s						
RRL	**Rocca Remolon**	**0.43**	**7**	P	**Pg**	**08 14 39.9**	**-0.9**
RRL				S	**Sg**	**08 14 46.3**	**-0.3**
STV	**Sant Anna di V**	**0.50**	**120**	Pg	**Pg**	**08 14 41.3**	**-0.8**
STV				S	**Sg**	**08 14 47.4**	**-1.4**
STV				Sg	**Sg**	**08 14 47.7**	**-1.1**
	51nm,0.2s						
STV	**Sant Anna di V**	**0.50**	**120**	Pg	**Pg**	**08 14 41.3**	**-0.8**
STV				Sg	**Sg**	**08 14 47.7**	**-1.1**
	51nm,0.2s						
BHB	**Bricherasio**	**0.52**	**48**	P	**Pg**	**08 14 42.7**	**+0.2**
BHB				S	**Sg**	**08 14 49.5**	**+0.1**
BNI	**Bardonecchia**	**0.56**	**357**	Pg	**Pb**	**08 14 43.9**	**-0.2**
BNI				Sg	**Sg**	**08 14 50.9**	**+0.3**
	179nm,2.8s						
BNI	**Bardonecchia**	**0.56**	**357**	Pg	**Pb**	**08 14 43.9**	**-0.2**
BNI				Sg	**Sg**	**08 14 50.9**	**+0.3**
	179nm,2.8s						

ENR	**Entracque**	**0.57**	**118**		Pg	**Pg**	**08 14 43.4**	**0.0**	
	77nm,0.1s								
ENR					S	**Sg**	**08 14 50.8**	**-0.2**	
ENR	**Entracque**	**0.57**	**118**		Pg	**Pg**	**08 14 43.4**	**0.0**	
	77nm,0.1s								
MVIF	**Mont Vial**	**0.68**	**153**		Pg	**Pg**	**08 14 45.3**	**-0.1**	
MVIF					Sg	**Sb**	**08 14 55.5**	**0.0**	
MVIF	**Mont Vial**	**0.68**	**153**		Pg	**Pg**	**08 14 45.4**	**-0.1**	
ORIF	**Oris-en-Rattie**	**0.73**	**305**	*e*	Pg	**Pg**	**08 14 45.8**	**-0.7**	
ORIF				*e*	Sg	**Sg**	**08 14 55.0**	**-1.2**	
	34nm,0.2s								
ORIF	**Oris-en-Rattie**	**0.73**	**305**	*e*	Pg	**Pg**	**08 14 45.8**	**-0.7**	
ORIF				*e*	Sg	**Sg**	**08 14 55.0**	**-1.2**	
	17nm,0.2s								
LUCF	**Luceram**	**0.75**	**143**		Pg	**Pg**	**08 14 46.7**	**-0.2**	
LUCF					Sg	**Sg**	**08 14 56.7**	**-0.1**	
LUCF	**Luceram**	**0.75**	**143**		Pg	**Pg**	**08 14 46.7**	**-0.2**	
RSP	**Reno Superiore**	**0.76**	**30**		P	**Pb**	**08 14 47.3**	**-0.2**	
RSP					S	**Sg**	**08 14 56.8**	**-0.2**	
RSP	**Reno Superiore**	**0.76**	**30**		Pg	**Pb**	**08 14 47.3**	**-0.2**	
SBF	**Sospel**	**0.81**	**141**	*e*	Pg	**Pg**	**08 14 48.0**	**-0.1**	
SBF	**Sospel**	**0.81**	**141**	*e*	P	**Pn**	**08 14 50.1**	**+0.4**	
SBF				*e*	Sg	**Sb**	**08 14 59.3**	**-0.1**	
	18nm,0.2s								
SBF	**Sospel**	**0.81**	**141**	*e*	Pg	**Pg**	**08 14 48.0**	**-0.1**	
SBF	**Sospel**	**0.81**	**141**	*e*	P	**Pn**	**08 14 50.1**	**+0.4**	
SBF				*e*	Sg	**Sb**	**08 14 59.3**	**-0.1**	
	9.1nm,0.2s								
GBOS	**Grotte di Boss**	**0.84**	**107**		Pg	**Pg**	**08 14 48.5**	**-0.1**	
GBOS					Sg	**Sg**	**08 14 59.5**	**-0.1**	
	29nm,0.3s								
GBOS	**Grotte di Boss**	**0.84**	**107**		Pg	**Pg**	**08 14 48.5**	**-0.1**	
GBOS					Sg	**Sg**	**08 14 59.5**	**-0.1**	
	29nm,0.3s								
REVF	**Revere**	**0.89**	**148**		Pg	**Pg**	**08 14 48.9**	**-0.5**	
REVF					Sg	**Sb**	**08 15 02.0**	**+0.5**	
REVF	**Revere**	**0.89**	**148**		Pg	**Pg**	**08 14 48.9**	**-0.5**	
FRF	**La Foret Royal**	**0.94**	**183**	*e*	Pg	**Pg**	**08 14 50.2**	**-0.2**	
FRF				*e*	Sg	**Sb**	**08 15 03.5**	**+0.6**	
	42nm,0.2s								
FRF	**La Foret Royal**	**0.94**	**183**	*e*	Pg	**Pg**	**08 14 50.2**	**-0.2**	
FRF				*e*	Sg	**Sb**	**08 15 03.5**	**+0.6**	
	21nm,0.2s								
NEGI	**Seborga**	**0.96**	**132**		P	**Pg**	**08 14 49.6**	**-1.2**	
SMRF	**Simiane la Rot**	**0.97**	**238**	*e*	Pn	**Pb**	**08 14 51.5**	**+0.3**	
SMRF	**Simiane la Rot**	**0.97**	**238**	*e*	P	**Pn**	**08 14 53.0**	**+1.1**	
SMRF				*e*	Sn	**Sb**	**08 15 05.0**	**+1.0**	
	25nm,0.3s								
SMRF	**Simiane la Rot**	**0.97**	**238**	*e*	Pn	**Pb**	**08 14 51.5**	**+0.3**	
SMRF				*e*	Sn	**Sb**	**08 15 05.0**	**+1.0**	
	13nm,0.3s								
LPG	**La Plagne**	**1.00**	**1**	*e*	Pg	**Pg**	**08 14 51.1**	**-0.6**	
LPG				*e*	Sg	**Sg**	**08 15 04.3**	**-0.5**	
	14nm,0.3s								
LPG	**La Plagne**	**1.00**	**1**	*e*	Pg	**Pg**	**08 14 51.1**	**-0.6**	
LPG				*e*	Sg	**Sg**	**08 15 04.3**	**-0.5**	
	7.1nm,0.3s								
LSD	**Lago del Serru**	**1.01**	**17**		P	**Pg**	**08 14 51.3**	**-0.4**	
LSD	**Lago del Serru**	**1.01**	**17**		Pg	**Pb**	**08 14 51.8**	**0.0**	
LSD					Sg	**Sg**	**08 15 05.1**	**+0.2**	
LSD	**Lago del Serru**	**1.01**	**17**		Pg	**Pb**	**08 14 51.8**	**0.0**	
LSD					Sg	**Sg**	**08 15 05.1**	**+0.2**	
LPL	**La Plagne**	**1.02**	**0**	*e*	Pg	**Pg**	**08 14 51.6**	**-0.4**	
LPL				*e*	Sg	**Sg**	**08 15 04.6**	**-0.7**	
	12nm,0.3s								
LPL	**La Plagne**	**1.02**	**0**	*e*	Pg	**Pg**	**08 14 51.6**	**-0.4**	
LPL				*e*	Sg	**Sg**	**08 15 04.6**	**-0.7**	
	5.8nm,0.3s								
IMI	**Imperia**	**1.03**	**124**		P	**Pg**	**08 14 51.7**	**-0.4**	
RORO	**Rocca Rossa**	**1.04**	**111**		P	**Pg**	**08 14 50.8**	**-1.5**	
LMR	**La Mourre**	**1.17**	**188**	*e*	Pg	**Pb**	**08 14 54.9**	**+0.4**	
LMR				*e*	Sg	**Sb**	**08 15 10.7**	**+1.1**	
	17nm,0.2s								
LMR	**La Mourre**	**1.17**	**188**	*e*	Pg	**Pb**	**08 14 54.9**	**+0.4**	
LMR				*e*	Sg	**Sb**	**08 15 10.7**	**+1.1**	
	8.5nm,0.2s								
VIVF	**Saint-Julien-l**	**1.51**	**285**	*e*	Pg	**Pn**	**08 14 59.5**	**+0.3**	
VIVF				*e*	Sg	**Sn**	**08 15 19.5**	**+0.8**	
	6.1nm,0.3s								
VIVF	**Saint-Julien-l**	**1.51**	**285**	*e*	Pg	**Pn**	**08 14 59.5**	**+0.3**	
VIVF				*e*	Sg	**Sn**	**08 15 19.5**	**+0.8**	
	3.0nm,0.3s								
LASF	**Ste Croix**	**2.10**	**259**	*e*	Pn	**Pn**	**08 15 07.2**	**-0.1**	
LASF				*e*	Sn	**Sn**	**08 15 32.0**	**-1.4**	
	1.9nm,0.2s								
LASF	**Ste Croix**	**2.10**	**259**	*e*	Pn	**Pn**	**08 15 07.2**	**-0.1**	
LASF				*e*	Sn	**Sn**	**08 15 32.0**	**-1.4**	
	0.9nm,0.2s								
CABF	**La Chapelle**	**2.16**	**348**	*e*	P	**Pb**	**08 15 10.5**	**-0.9**	
CABF				*e*	Sg	**Sb**	**08 15 39.1**	**+0.9**	
	4.1nm,0.5s								
CABF	**La Chapelle**	**2.16**	**348**	*e*	P	**Pb**	**08 15 10.5**	**-0.9**	
CABF				*e*	Sg	**Sb**	**08 15 39.1**	**+0.9**	
	2.0nm,0.5s								
PGF	**Pioggiola**	**2.56**	**139**	*e*	Pn	**Pn**	**08 15 13.8**	**+0.1**	
PGF				*e*	Sn	**Sn**	**08 15 44.2**	**-0.6**	
	1.5nm,0.2s								
PGF	**Pioggiola**	**2.56**	**139**	*e*	Pn	**Pn**	**08 15 13.8**	**+0.1**	
PGF				*e*	Sn	**Sn**	**08 15 44.2**	**-0.6**	
	0.8nm,0.2s								
LBL	**Lubilhac**	**2.58**	**288**		Pn	**Pn**	**08 15 15.0**	**+1.1**	
LBL	**Lubilhac**	**2.58**	**288**		Pn	**Pn**	**08 15 15.0**	**+1.1**	
PYM	**Petit Puy Mans**	**2.91**	**297**		Pn	**Pn**	**08 15 19.4**	**+0.9**	
PYM	**Petit Puy Mans**	**2.91**	**297**		Pn	**Pn**	**08 15 19.5**	**+0.9**	

*IDC **10** 08:17:38.5±2.9,21°.04S×176°.49W, h181km±25km, mb3.7/8, mb1 4.0/10, mb1mx3.5/52, mbtmp4.3/10, Error ellipse: s-maj=26.4km s-min=13.8km az=147.0*
*ISCJB **10** 08:17:40.3±0.3,21°.12S±0°.03×176°.68W±0°.08, h200km, mb4.6/34, Error ellipse: s-maj=10.5km s-min=4.6km az=6.2*
*BJI **10** 08:17:45.0,20°.97S×176°.56W, h243km, mb4.6/11, mB4.9/5*
*WEL **10** 08:17:46.0,21°.16S×176°.68W, h245km*
*NEIC **10** 08:17:46.3±1.4,21°.16S×176°.68W, h245km±12km, mb4.7/24, Error ellipse: s-maj=11.1km s-min=7.3km az=95.0*

ISC 10 08:17:38.9±0.5, 21°.32S±0°.06×176°.40W±0°.10, h183km, n146, σ2s23/145, mb4.7/34, 15C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.33**	**303**	*e*Pn	Pn	08 19 14.9	+4.5
GLKZ	**Green Lake**	**8.03**	**190**	S	**Sn**	**08 21 08.6**	**+5.9**
GLKZ	**Green Lake**	**8.03**	**190**	P	Pn	08 19 39.4	+7.0
AFI	**Afiamalu**	**8.58**	**32**	P	Pn	08 19 36.1	-3.8
	2.7nm,0.3s,baz=166,slow=4.2,SNR=3.8						
AFI				S	Sn	08 21 01.3	-15
	5.8nm,0.3s,baz=228,slow=18,SNR=4.0						
DZM	**Mont Dzumac**	**15.97**	**264**	*e*P	**P**	**08 21 18.1**	**+4.4**
	35nm,0.8s						
WIAZ	**Waiheke Island**	**17.09**	**204**	P	**Pn**	**08 21 31.2**	**+4.2**
HAZ	**Te Kaha**	**17.14**	**196**	P	**Pn**	**08 21 30.2**	**+2.7**
HAZ	**Te Kaha**	**17.14**	**196**	S	**S**	**08 24 30.1**	**-5.3**
PKGZ	**Pakihiroa**	**17.19**	**195**	P	**Pn**	**08 21 30.8**	**+2.5**
PUZ	**Puketiti**	**17.32**	**194**	P	**Pn**	**08 21 31.9**	**+2.1**
PUZ	**Puketiti**	**17.32**	**194**	S	**S**	**08 24 29.7**	**-10**
MKAZ	**Moumakai**	**17.36**	**203**	P	**Pn**	**08 21 33.5**	**+3.4**
RUGZ	**Raukumara Rang**	**17.36**	**196**	P	**Pn**	**08 21 32.7**	**+2.3**
TWGZ	**Tauwhareparae**	**17.49**	**195**	P	**Pn**	**08 21 34.5**	**+2.7**
TWGZ	**Tauwhareparae**	**17.49**	**195**	S	**S**	**08 24 38.3**	**-4.3**
OPRZ	**Ohinepanea**	**17.56**	**199**	P	**Pn**	**08 21 36.0**	**+3.5**
CNGZ	**Carnagh Statio**	**17.73**	**194**	P	**Pn**	**08 21 37.2**	**+2.7**
MWZ	**Matawai**	**17.75**	**196**	P	**Pn**	**08 21 36.6**	**+1.8**
MWZ	**Matawai**	**17.75**	**196**	S	**S**	**08 24 41.9**	**-5.8**
KMRZ	**Kaimai**	**17.75**	**200**	P	**Pn**	**08 21 38.5**	**+3.6**
TKGZ	**Te Karaka**	**17.77**	**195**	P	**Pn**	**08 21 35.9**	**+0.9**
TKGZ	**Te Karaka**	**17.77**	**195**	S	**S**	**08 24 41.8**	**-6.2**
URZ	**Urewera**	**17.79**	**197**	P	**Pn**	**08 21 36.3**	**+1.0**
	5.0nm,0.3s,baz=266,slow=2.8,SNR=20						
URZ				S	**S**	**08 24 43.5**	**-4.9**
	1.9nm,0.3s,baz=200,slow=23,SNR=11						
URZ	**Urewera**	**17.79**	**197**	*e*P	**Pn**	**08 21 36.6**	**+1.4**
	21nm,0.6s						
URZ	**Urewera**	**17.79**	**197**	P	**Pn**	**08 21 36.0**	**+0.8**
URZ	**Urewera**	**17.79**	**197**	S	**S**	**08 24 41.7**	**-6.8**
TOZ	**Tahuroa Road**	**17.80**	**201**	P	**Pn**	**08 21 39.4**	**+4.1**
RAGZ	**Rawiri**	**17.93**	**196**	P	**Pn**	**08 21 36.6**	**-0.4**
RIGZ	**Rimuhau**	**18.04**	**195**	S	**S**	**08 24 47.0**	**-6.6**
RIGZ	**Rimuhau**	**18.04**	**195**	P	**Pn**	**08 21 39.3**	**+1.1**
MUGZ	**Murupara**	**18.09**	**197**	P	**Pn**	**08 21 39.9**	**+1.1**

PRRZ	**Plateau Road**	**18.21**	**198**		P	**Pn**	**08 21 42.4**	**+2.2**	
TLZ	**Tolley Road**	**18.32**	**201**		P	**Pn**	**08 21 44.5**	**+2.9**	
RAHZ	**Arahi**	**18.41**	**196**		P	**Pn**	**08 21 44.2**	**+1.7**	
NMHZ	**Naumai**	**18.66**	**197**		P	**Pn**	**08 21 45.7**	**+0.2**	
HIZ	**Hauiti**	**18.72**	**202**	*e*	P	**Pn**	**08 21 48.8**	**+2.6**	
	34nm,1.3s								
HIZ	**Hauiti**	**18.72**	**202**		P	**Pn**	**08 21 48.9**	**+2.7**	
BKZ	**Black Stump Fm**	**18.81**	**197**	*e*	P	**Pn**	**08 21 46.6**	**-0.7**	
	32nm,1.5s								
BKZ				*e*	S	**S**	**08 25 06.4**	**-2.3**	
BKZ	**Black Stump Fm**	**18.81**	**197**		P	**P**	**08 21 45.8**	**+1.2**	
MCHZ	**McNeill Hill**	**19.01**	**197**		P	**Pn**	**08 21 49.9**	**+0.3**	
WTVZ	**West Tongariro**	**19.02**	**199**		P	**Pn**	**08 21 50.2**	**+0.3**	
KWHZ	**Kaweka Forest**	**19.07**	**197**		P	**Pn**	**08 21 49.5**	**-0.8**	
NGZ	**Ngauruhoe**	**19.08**	**199**		P	**Pn**	**08 21 51.2**	**+0.7**	
FWVZ	**Far West T-bar**	**19.16**	**199**		P	**Pn**	**08 21 51.1**	**-0.5**	
TRVZ	**Turoa**	**19.21**	**199**		P	**Pn**	**08 21 51.3**	**-0.8**	
BHHZ	**Black Hill Sta**	**19.23**	**198**		P	**P**	**08 21 50.3**	**+1.2**	
PKVZ	**Pokaka**	**19.26**	**200**		P	**Pn**	**08 21 52.4**	**-0.2**	
KAHZ	**Kahuranaki**	**19.29**	**196**		P	**Pn**	**08 21 53.6**	**+0.6**	
PXZ	**Pawanui**	**19.52**	**196**		P	**Pn**	**08 21 54.6**	**-0.9**	
PNHZ	**Pukenui**	**19.59**	**197**		P	**P**	**08 21 54.4**	**+1.5**	
BFZ	**Birch Farm**	**20.29**	**196**	*e*	P	Pn	08 22 03.2	-1.7	
	76nm,1.4s								
THZ	**Tophouse**	**22.29**	**201**	*e*	P	**P**	**08 22 23.6**	**+2.4**	
	56nm,1.6s								
KHZ	**Kahutara**	**22.67**	**200**	*e*	P	**P**	**08 22 27.4**	**+2.8**	
	26nm,1.0s								
LTZ	**Lake Taylor**	**23.41**	**201**	*e*	P	**P**	**08 22 35.9**	**+4.5**	
	28nm,1.3s								
RPZ	**Rata Peaks**	**24.66**	**202**	*e*	P	**P**	**08 22 47.0**	**+4.3**	
	25nm,1.0s								
FOZ	**Fox Glacier**	**24.95**	**204**	*e*	P	**P**	**08 22 48.4**	**+3.1**	
	211nm,1.9s								
LBZ	**Lake Benmore**	**25.55**	**203**	*e*	P	**P**	**08 22 53.5**	**+2.8**	
	79nm,1.6s								
EIDS	**Eidsvold**	**30.09**	**256**	*e*	P	**P**	**08 23 31.9**	**+0.6**	
	16nm,1.6s								
CTA	**Charters Tower**	**34.91**	**265**		P	**P**	**08 24 13.5**	**+0.2**	
	3.0nm,0.5s,baz=98,slow=15,SNR=4.2								
CTAO	**Charters Tower**	**34.91**	**265**	*e*	P	**P**	**08 24 13.5**	**+0.2**	
	18nm,1.4s								
PMG	**Port Moresby**	**36.98**	**283**		P	**P**	**08 24 30.9**	**-0.1**	
	22nm,0.8s,baz=72,slow=8.1,SNR=8.3								
PMG	**Port Moresby**	**36.98**	**283**	*e*	P	**P**	**08 24 31.0**	**0.0**	
	23nm,0.9s								
STKA	**Stephens Creek**	**38.80**	**245**		P	**P**	**08 24 46.2**	**+0.3**	
	2.2nm,0.4s,baz=99,slow=12,SNR=8.7								
STKA	**Stephens Creek**	**38.80**	**245**	*e*	P	**P**	**08 24 46.4**	**+0.4**	
	2.2nm,1.4s								
BBOO	**Buckleboo**	**43.53**	**244**	*e*	P	**P**	**08 25 24.1**	**-0.5**	
	36nm,1.6s								
AS01	**Alice Springs**	**45.75**	**257**	*e*	P	**P**	**08 25 41.8**	**-0.5**	
AS31	**Alice Springs**	**45.79**	**257**	*e*	P	**P**	**08 25 42.1**	**-0.5**	
	2.5nm,0.9s								
ASAR	**Alice Springs**	**45.79**	**257**		P	**P**	**08 25 41.9**	**-0.8**	
	5.4nm,0.8s,baz=89,slow=8.2,SNR=32								
WB2	**Warramunga Arr**	**45.96**	**262**	*e*	P	**P**	**08 25 43.4**	**-0.5**	
WRA	**Warramunga Arr**	**45.97**	**262**		P	**P**	**08 25 42.0**	**-2.1**	
	4.6nm,0.7s,baz=97,slow=7.5,SNR=7.5								
MTN	**Manton Dam**	**50.67**	**271**	*e*	P	**P**	**08 26 18.8**	**-1.2**	
	9.8nm,0.6s								
SAUI	**Saumlaki**	**52.08**	**277**	*e*	P	**P**	**08 26 29.0**	**-1.4**	
	287nm,0.6s								
MBWA	**Marble Bar**	**59.14**	**257**	*e*	P	**P**	**08 27 19.5**	**-1.1**	

KECS	Kecovo	149.71 337	*e*PKP	PKPbc	08 37 07.0	+0.2
MLR	Muntele Rosu	149.71 328	⇑*i*P	PKPbc	08 37 06.8	-0.3
PRU	Pruhonice	150.11 346	⇑*e*PKP	PKPbc	08 37 07.6	-0.1
GOPC	GO Pecny, Ondr	150.12 345	⇑*e*PKP	PKPbc	08 37 07.4	-0.4
VOIR		150.19 329	⇑*i*P	PKPbc	08 37 07.7	-0.5
VRAC	Vranov	150.22 343	⇑*i*P	PKPbc	08 37 08.1	+0.1
DRGR		150.22 333	⇓*i*P	PKPbc	08 37 06.6	-1.6
VYHS	Vyhne	150.26 339	*e*PKP	PKPbc	08 37 07.9	-0.3
NKC	Novy Kostel	150.31 348	⇑*e*PKP	PKPbc	08 37 08.0	-0.3
ARR	Arges	150.44 329	⇓*i*P	PKPbc	08 37 09.1	+0.3
MEM	Membach	150.71 357	⇑PKPbc	PKPbc	08 37 08.9	-0.2
SIRR	Siria	151.08 334	⇓*i*P	PKPbc	08 37 09.9	-0.3
KHC	Kasperske Hory	151.13 346	⇑*e*PKP	PKPbc	08 37 09.8	-0.4
KHC	Kasperske Hory	151.13 346	*e*PKPbc	PKPbc	08 37 10.0	-0.3
GERES	GERESS Array B	151.37 346	PKPbc	PKPbc	08 37 10.4	-0.5
	comp=Z,2.1nm,0.7s,baz=48,slow=2.0,SNR=13					
GEA0	GERESS Array S	151.38 346	*e*PKPbc	PKPbc	08 37 10.1	-0.8
BZS	Buzias	151.62 333	⇑*i*P	PKPbc	08 37 10.6	-0.8
CONA	Conrad Observa	151.67 342	*i* PKiKP	PKPbc	08 37 11.2	-0.4
	comp=Z,4.1nm,0.6s					
MOA	Molln	152.17 345	*e*PKPbc	PKPbc	08 37 11.9	-0.7
	comp=Z,5.9nm,1.1s					
KBA	Koelnbreinsper	153.11 345	*i* PKiKP	PKPbc	08 37 14.2	-0.7
	comp=Z,1.8nm,0.6s					
WTTA	Wattenberg	153.31 348	*i* PKPbc	PKPbc	08 37 14.5	-0.8
	comp=Z,2.4nm,0.5s					
MOTA	Moosalm	153.33 349	*i* PKPbc	PKPbc	08 37 14.0	-1.3
	comp=Z,1.3nm,0.5s					
ABTA	Abfaltersbach	153.62 346	*i* PKPbc	PKPbc	08 37 14.4	-1.5
	comp=Z,3.7nm,0.7s					
FETA	Feichten	153.71 349	*i* PKPbc	PKPbc	08 37 15.1	-1.1
	comp=Z,5.6nm,1.3s					
TORD	Torodi Ar. Bea	171.67 167	PKP	PKPdf	08 37 25.6	-0.7
	comp=Z,0.6nm,0.8s,baz=250,slow=1.3,SNR=3.7					
TORD			PKPab	PKPab	08 38 49.4	+0.7
	comp=Z,0.5nm,0.8s,baz=208,slow=2.6,SNR=3.3					

IDC 10 08:18:48.4±7.5, 6°89S×130°34E, h99km±72km, mb3.6/2, mb1 4.0/6, mb1mx3.4/64, mbtmp4.2/6, ML4.4/3, Error ellipse: s-maj=62.9km s-min=24.4km az=41.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.38**	**243**	P	Pn	08 20 35.1	+1.7
	6.7nm,0.3s,baz=71,slow=10,SNR=3.2						
BATI				S	Sn	08 21 55.9	+0.2
	3.3nm,0.3s,baz=300,slow=23,SNR=2.0						
FITZ	**Fitzroy Crossi**	**12.04**	**202**	P	Pn	08 21 36.0	-0.8
	baz=37,slow=12						
FITZ				S	Sn	08 23 41.9	-7.4
WRA	**Warramunga Arr**	**13.54**	**164**	P	Pn	08 21 54.9	-1.7
	2.0nm,0.3s,baz=345,slow=13,SNR=4						
WRA				S	Sn	08 24 20.1	-5.5
	1.1nm,0.3s,baz=332,slow=22,SNR=5.2						
ASAR	**Alice Springs**	**17.03**	**169**	P	Pn	08 22 40.5	0.0
	1.7nm,0.3s,baz=352,slow=8.8,SNR=41						
STKA	**Stephens Creek**	**26.99**	**159**	P	P	08 24 21.8	+0.7
	2.8nm,0.6s,baz=330,slow=14,SNR=4.7						
MKAR	**Makanchi Array**	**68.32**	**327**	P	P	08 29 38.8	-0.3
	0.2nm,0.4s,baz=114,slow=7.4,SNR=3.2						

*NEIC **10** 08:25:52.4±0.0, 38°56S×175°93E, h141km, ML4.0(WEL), After WEL.*

WEL 10 08:25:51.9, 39°S±1°×17°6E±°, h144km±2km, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHTZ	**Whakaora**	**0.07**	**175**	Pn	Pn	08 26 11.4	+0.1
WHTZ	**Whakaora**	**0.07**	**175**	P	Pn	08 26 11.5	+0.2
KUTZ	**Kaahu Road**	**0.14**	**316**	Pn	Pn	08 26 11.4	+0.1
KUTZ	**Kaahu Road**	**0.14**	**316**	P	Pn	08 26 11.5	+0.1
WPRZ	**Whakapapatarin**	**0.18**	**67**	Pn	Pn	08 26 11.4	0.0
WPRZ				Sn	Sn	08 26 25.9	-0.3
WPRZ	**Whakapapatarin**	**0.18**	**67**	P	Pn	08 26 11.4	0.0
WPRZ	**Whakapapatarin**	**0.18**	**67**	S	Sn	08 26 25.9	-0.3
WATZ	**Wairara**	**0.21**	**235**	Pn	Pn	08 26 11.5	+0.1
WATZ	**Wairara**	**0.21**	**235**	P	Pn	08 26 11.6	+0.1
GRRZ	**Galatos Road**	**0.27**	**28**	P	Pn	08 26 11.9	+0.2
RATZ	**Rangitukua**	**0.31**	**207**	Pn	Pn	08 26 11.7	-0.1
RATZ	**Rangitukua**	**0.31**	**207**	P	Pn	08 26 11.7	0.0
ALRZ	**Allen Road**	**0.31**	**85**	Pn	Pn	08 26 11.8	0.0
ALRZ	**Allen Road**	**0.31**	**85**	P	Pn	08 26 11.8	0.0
ALRZ	**Allen Road**	**0.31**	**85**	S	Sn	08 26 26.2	-0.6
HATZ	**Hinemaiaia**	**0.32**	**160**	P	Pn	08 26 11.7	-0.1
HATZ	**Hinemaiaia**	**0.32**	**160**	S	Sn	08 26 25.6	-1.4
HRRZ	**Handcock Road**	**0.33**	**53**	Pn	Pn	08 26 11.9	0.0
HRRZ				Sn	Sn	08 26 26.8	-0.1
HRRZ	**Handcock Road**	**0.33**	**53**	P	Pn	08 26 12.0	+0.1
HRRZ	**Handcock Road**	**0.33**	**53**	S	Sn	08 26 26.9	-0.1
PRRZ	**Plateau Road**	**0.36**	**75**	P	Pn	08 26 12.1	+0.2
HSRZ	**Hossack Road**	**0.36**	**40**	P	Pn	08 26 12.1	+0.1
HSRZ	**Hossack Road**	**0.36**	**40**	S	Sn	08 26 27.4	+0.2
RITZ	**Rihia Road**	**0.39**	**190**	Pn	Pn	08 26 12.4	+0.3
RITZ	**Rihia Road**	**0.39**	**190**	P	Pn	08 26 12.5	+0.4
TLZ	**Tolley Road**	**0.42**	**309**	Pn	Pn	08 26 12.4	+0.2
TLZ	**Tolley Road**	**0.42**	**309**	P	Pn	08 26 12.4	+0.2
TLZ	**Tolley Road**	**0.42**	**309**	S	Sn	08 26 26.6	-1.0
KATZ	**Kakaramea**	**0.43**	**207**	Pn	Pn	08 26 12.4	0.0
KATZ	**Kakaramea**	**0.43**	**207**	P	Pn	08 26 12.4	0.0
MRHZ	**Matea Rd**	**0.44**	**124**	P	Pn	08 26 12.2	-0.1
MRHZ	**Matea Rd**	**0.44**	**124**	S	Sn	08 26 26.3	-1.6
UTU	**Utuhina**	**0.46**	**25**	Pn	Pn	08 26 12.6	+0.2
UTU	**Utuhina**	**0.46**	**25**	P	Pn	08 26 12.6	+0.2
HLRZ	**Highlands Stat**	**0.46**	**43**	P	Pn	08 26 13.0	+0.6
RRRZ	**Republican Roa**	**0.51**	**61**	Pn	Pn	08 26 12.5	-0.1
RRRZ	**Republican Roa**	**0.51**	**61**	P	Pn	08 26 12.6	0.0
NGRZ	**Ngungotaha**	**0.52**	**21**	P	Pn	08 26 12.9	+0.1
KRVZ	**Karewarewa**	**0.56**	**206**	Pn	Pn	08 26 13.0	0.0
KRVZ	**Karewarewa**	**0.56**	**206**	P	Pn	08 26 13.0	0.0
TARZ	**Mount Tarawera**	**0.56**	**51**	Pn	Pn	08 26 13.0	0.0
TARZ	**Mount Tarawera**	**0.56**	**51**	P	Pn	08 26 13.1	+0.1
OMRZ	**Omania**	**0.59**	**35**	Pn	Pn	08 26 13.1	0.0
OMRZ	**Omania**	**0.59**	**35**	P	Pn	08 26 13.1	0.0
WTVZ	**West Tongariro**	**0.59**	**208**	Pn	Pn	08 26 13.3	+0.1
WTVZ	**West Tongariro**	**0.59**	**208**	P	Pn	08 26 13.3	+0.1
MKRZ	**Makatiti**	**0.61**	**42**	P	Pn	08 26 13.8	+0.6
OTVZ	**Oturere**	**0.61**	**201**	Pn	Pn	08 26 13.4	0.0
KARZ	**Kaharoa**	**0.61**	**22**	P	Pn	08 26 13.4	+0.1
TWVZ	**Taurewa**	**0.62**	**220**	Pn	Pn	08 26 13.4	+0.1
TWVZ	**Taurewa**	**0.62**	**220**	P	Pn	08 26 13.5	+0.1
NGZ	**Ngauruhoe**	**0.64**	**205**	Pn	Pn	08 26 13.5	-0.1
NGZ	**Ngauruhoe**	**0.64**	**205**	P	Pn	08 26 13.6	0.0
MUGZ	**Murupara**	**0.65**	**80**	P	Pn	08 26 13.1	-0.3
LIRZ	**Lichensteins R**	**0.68**	**30**	P	Pn	08 26 13.0	-0.6
COVZ	**Chateau Observ**	**0.69**	**207**	P	Pn	08 26 14.0	+0.2
BKZ	**Black Stump Fm**	**0.71**	**144**	Pn	Pn	08 26 14.1	+0.2
BKZ	**Black Stump Fm**	**0.71**	**144**	P	Pn	08 26 14.1	+0.2
TUVZ	**Tukino**	**0.71**	**199**	Pn	Pn	08 26 14.3	+0.3
TUVZ	**Tukino**	**0.71**	**199**	P	Pn	08 26 14.3	+0.3
FWVZ	**Far West T-bar**	**0.73**	**205**	Pn	Pn	08 26 14.1	-0.1
FWVZ	**Far West T-bar**	**0.73**	**205**	P	Pn	08 26 14.1	-0.1
KMRZ	**Kaimai**	**0.74**	**360**	P	Pn	08 26 14.3	+0.1
MTHZ	**Maungataniwha**	**0.74**	**111**	P	Pn	08 26 14.4	+0.3
WHVZ	**Whangaehu Hut**	**0.75**	**202**	Pn	Pn	08 26 14.4	+0.1
WHVZ	**Whangaehu Hut**	**0.75**	**202**	P	Pn	08 26 14.3	0.0
DRZ	**Dome Shelter**	**0.75**	**204**	Pn	Pn	08 26 14.9	+0.4
DRZ	**Dome Shelter**	**0.75**	**204**	P	Pn	08 26 14.7	+0.3
TRVZ	**Turoa**	**0.77**	**204**	Pn	Pn	08 26 14.6	+0.1
TRVZ	**Turoa**	**0.77**	**204**	P	Pn	08 26 14.6	+0.1
WNVZ	**Wahianoa**	**0.79**	**200**	Pn	Pn	08 26 14.7	+0.2
EDRZ	**Edgecumbe**	**0.79**	**52**	Pn	Pn	08 26 14.2	-0.3
EDRZ	**Edgecumbe**	**0.79**	**52**	P	Pn	08 26 14.2	-0.3
RTZ	**Ruatahuna**	**0.81**	**92**	P	Pn	08 26 14.7	+0.1
MOVZ	**Moawhango**	**0.83**	**191**	Pn	Pn	08 26 14.7	0.0
MOVZ	**Moawhango**	**0.83**	**191**	P	Pn	08 26 14.7	0.0
MARZ	**Manawahe**	**0.83**	**44**	Pn	Pn	08 26 14.7	-0.1
MARZ	**Manawahe**	**0.83**	**44**	P	Pn	08 26 14.8	+0.1
NMHZ	**Naumai**	**0.84**	**127**	Pn	Pn	08 26 15.8	+1.0
NMHZ	**Naumai**	**0.84**	**127**	P	Pn	08 26 15.9	+1.0
PKVZ	**Pokaka**	**0.84**	**214**	Pn	Pn	08 26 15.0	+0.2
PKVZ	**Pokaka**	**0.84**	**214**	P	Pn	08 26 15.0	+0.2
HIZ	**Hauiti**	**0.86**	**275**	Pn	Pn	08 26 15.1	+0.2
HIZ	**Hauiti**	**0.86**	**275**	P	Pn	08 26 15.2	+0.3
MTVZ	**Mangateitei**	**0.88**	**205**	Pn	Pn	08 26 15.3	+0.2
MTVZ	**Mangateitei**	**0.88**	**205**	P	Pn	08 26 15.3	+0.2
OPRZ	**Ohinepanea**	**0.89**	**33**	Pn	Pn	08 26 15.0	-0.1
OPRZ	**Ohinepanea**	**0.89**	**33**	P	Pn	08 26 15.1	0.0
TGRZ	**Tauranga**	**0.90**	**16**	Pn	Pn	08 26 15.3	+0.1
TGRZ	**Tauranga**	**0.90**	**16**	P	Pn	08 26 15.3	+0.1
BHHZ	**Black Hill Sta**	**0.90**	**174**	Pn	Pn	08 26 15.4	0.0
BHHZ	**Black Hill Sta**	**0.90**	**174**	P	Pn	08 26 15.4	+0.1
KWHZ	**Kaweka Forest**	**0.91**	**156**	P	Pn	08 26 15.9	+0.5
TOZ	**Tahuroa Road**	**0.93**	**338**	Pn	Pn	08 26 15.8	+0.3
TOZ	**Tahuroa Road**	**0.93**	**338**	P	Pn	08 26 15.9	+0.4
RAHZ	**Arahi**	**0.95**	**110**	P	Pn	08 26 16.4	+0.8
URZ	**Urewera**	**0.97**	**70**	Pn	Pn	08 26 15.4	-0.4
URZ	**Urewera**	**0.97**	**70**	P	Pn	08 26 15.5	-0.3
URZ	**Urewera**	**0.97**	**70**	P	Pn	08 26 15.5	-0.3
MCHZ	**McNeill Hill**	**1.03**	**146**	Pn	Pn	08 26 17.6	+1.2
MCHZ	**McNeill Hill**	**1.03**	**146**	P	Pn	08 26 17.6	+1.2
ARHZ	**Aropaoanui**	**1.06**	**130**	Pn	Pn	08 26 17.5	+1.0
ARHZ	**Aropaoanui**	**1.06**	**130**	P	Pn	08 26 17.5	+1.0
VRZ	**Vera Road**	**1.07**	**240**	Pn	Pn	08 26 17.1	+0.5
VRZ	**Vera Road**	**1.07**	**240**	P	Pn	08 26 17.2	+0.5
KRHZ	**Kereru**	**1.10**	**163**	P	Pn	08 26 17.5	+0.5
SNGZ	**Shannon Statio**	**1.10**	**100**	Pn	Pn	08 26 17.8	+0.7
SNGZ	**Shannon Statio**	**1.10**	**100**	P	Pn	08 26 17.8	+0.8
WHHZ	**Waihua**	**1.11**	**116**	P	Pn	08 26 17.9	+0.9
RAGZ	**Rawiri**	**1.15**	**86**	Pn	Pn	08 26 17.7	+0.1
RAGZ	**Rawiri**	**1.15**	**86**	P	Pn	08 26 17.7	+0.2
MWZ	**Matawai**	**1.27**	**79**	Pn	Pn	08 26 18.5	-0.1
MWZ	**Matawai**	**1.27**	**79**	P	Pn	08 26 18.6	0.0
PNHZ	**Pukenui**	**1.33**	**172**	Pn	Pn	08 26 19.4	+0.1
PNHZ	**Pukenui**	**1.33**	**172**	P	Pn	08 26 19.4	+0.1
CKHZ	**Cape Kidnapper**	**1.38**	**141**	Pn	Pn	08 26 20.5	+0.8
CKHZ	**Cape Kidnapper**	**1.38**	**141**	P	Pn	08 26 20.6	+0.9
WAZ	**Wanganui**	**1.38**	**213**	Pn	Pn	08 26 20.1	+0.4
WAZ	**Wanganui**	**1.38**	**213**	P	Pn	08 26 20.2	+0.4
KAHZ	**Kahuranaki**	**1.40**	**149**	Pn	Pn	08 26 20.7	+0.7
KAHZ	**Kahuranaki**	**1.40**	**149**	P	Pn	08 26 20.7	+0.8
KNZ	**Kokohu**	**1.41**	**108**	Pn	Pn	08 26 20.5	+0.5
KNZ	**Kokohu**	**1.41**	**108**	P	Pn	08 26 20.6	+0.6
RIGZ	**Rimuhau**	**1.42**	**95**	P	Pn	08 26 20.7	+0.5
TSZ	**Takapari Road**	**1.47**	**180**	Pn	Pn	08 26 20.7	+0.1
TSZ	**Takapari Road**	**1.47**	**180**	P	Pn	08 26 20.8	+0.1
LREZ	**Lake Rotokare**	**1.48**	**234**	P	Pn	08 26 21.6	+0.8
DREZ	**Durham Road**	**1.49**	**246**	Pn	Pn	08 26 21.6	+0.7
DREZ	**Durham Road**	**1.49**	**246**	P	Pn	08 26 21.7	+0.9
RUGZ	**Raukumara Rang**	**1.50**	**66**	P	Pn	08 26 20.4	-0.7
TKGZ	**Te Karaka**	**1.50**	**85**	Pn	Pn	08 26 21.6	+0.7
TKGZ	**Te Karaka**	**1.50**	**85**	P	Pn	08 26 21.6	+0.7
WPHZ	**Waipukurau**	**1.52**	**166**	Pn	Pn	08 26 21.4	+0.2
WPHZ	**Waipukurau**	**1.52**	**166**	P	Pn	08 26 21.5	+0.3
PRGZ	**Paritu Road**	**1.55**	**103**	P	Pn	08 26 22.0	+0.5
PREZ	**Palmer Road**	**1.58**	**241**	P	Pn	08 26 22.2	+0.3
NEZ	**North Egmont**	**1.60**	**244**	Pn	Pn	08 26 23.0	+0.9
PXZ	**Pawanui**	**1.60**	**154**	P	Pn	08 26 22.4	+0.3
MKAZ	**Moumakai**	**1.61**	**337**	P	Pn	08 26 22.6	+0.4
MHGZ	**Mahia Peninsul**	**1.63**	**111**	Pn	Pn	08 26 23.1	+0.7
MHGZ	**Mahia Peninsul**	**1.63**	**111**	P	Pn	08 26 23.1	+0.7
PKE	**Pukeiti**	**1.65**	**248**	Pn	Pn	08 26 23.2	+0.6
PKE	**Pukeiti**	**1.65**	**248**	P	Pn	08 26 23.3	+0.7
TWGZ	**Tauwhareparae**	**1.65**	**76**	Pn	Pn	08 26 23.2	+0.5
TWGZ	**Tauwhareparae**	**1.65**	**76**	P	Pn	08 26 23.2	+0.6
HAZ	**Te Kaha**	**1.67**	**61**	P	Pn	08 26 22.3	-0.5
OHWZ	**Ohakea**	**1.69**	**197**	P	Pn	08 26 23.5	+0.5
DVHZ	**Dannevirke**	**1.71**	**174**	Pn	Pn	08 26 23.1	-0.2
DVHZ	**Dannevirke**	**1.71**	**174**	P	Pn	08 26 23.1	-0.2
PRHZ	**Porangahau**	**1.75**	**163**	Pn	Pn	08 26 23.9	+0.1
PRHZ	**Porangahau**	**1.75**	**163**	P	Pn	08 26 23.9	+0.2
CNGZ	**Carnagh Statio**	**1.77**	**87**	Pn	Pn	08 26 24.6	+0.6
CNGZ	**Carnagh Statio**	**1.77**	**87**	P	Pn	08 26 24.7	+0.7
POWZ	**Post Office Ro**	**1.80**	**184**	Pn	Pn	08 26 24.0	-0.3
POWZ	**Post Office Ro**	**1.80**	**184**	P	Pn	08 26 24.0	-0.3
PKGZ	**Pakihiroa**	**1.82**	**68**	P	Pn	08 26 24.7	+0.2
ETAZ	**East Tamaki Re**	**1.82**	**333**	P	Pn	08 26 25.0	+0.4
AWAZ	**Awhitu Peninsu**	**1.84**	**325**	P	Pn	08 26 25.2	+0.3
KUZ	**Kuaotunu**	**1.85**	**354**	P	Pn	08 26 25.1	+0.2
PUZ	**Puketiti**	**1.89**	**75**	Pn	Pn	08 26 25.2	-0.1
PUZ	**Puketiti**	**1.89**	**75**	P	Pn	08 26 25.2	-0.1
WIAZ	**Waiheke Island**	**1.91**	**340**	P	Pn	08 26 25.9	+0.3
ANWZ	**Angora Road**	**1.91**	**168**	P	Pn	08 26 25.7	+0.1
PRWZ	**Pori Road**	**1.96**	**180**	Pn	Pn	08 26 26.0	-0.2
PRWZ	**Pori Road**	**1.96**	**180**	P	Pn	08 26 26.0	-0.1
MRZ	**Mangatainoka R**	**2.09**	**188**	Pn	Pn	08 26 26.9	-0.7
MRZ	**Mangatainoka R**	**2.09**	**188**	P	Pn	08 26 27.0	-0.7
WMGZ	**Waiomatatini S**	**2.09**	**69**	Pn	Pn	08 26 27.5	-0.2
WMGZ	**Waiomatatini S**	**2.09**	**69**	P	Pn	08 26 27.6	-0.1
BFZ	**Birch Farm**	**2.10**	**174**	Pn	Pn	08 26 27.3	-0.5
BFZ	**Birch Farm**	**2.10**	**174**	P	Pn	08 26 27.3	-0.5
MXZ	**Matakaoa Point**	**2.12**	**62**	Pn	Pn	08 26 28.5	+0.4
MXZ	**Matakaoa Point**	**2.12**	**62**	P	Pn	08 26 28.5	+0.4
TIWZ	**Tintock**	**2.18**	**181**	Pn	Pn	08 26 28.2	-0.7
TIWZ	**Tintock**	**2.18**	**181**	P	Pn	08 26 28.2	-0.7
OGWZ	**Otaki Gorge**	**2.30**	**195**	Pn	Pn	08 26 29.5	-0.8
OGWZ	**Otaki Gorge**	**2.30**	**195**	P	Pn	08 26 29.5	-0.8
CPWZ	**Castlepoint**	**2.32**	**175**	Pn	Pn	08 26 30.4	-0.1
CPWZ	**Castlepoint**	**2.32**	**175**	P	Pn	08 26 30.4	-0.1
HOWZ	**Holdsworth Sta**	**2.33**	**188**	Pn	Pn	08 26 29.5	-1.1
HOWZ	**Holdsworth Sta**	**2.33**	**188**	P	Pn	08 26 29.5	-1.1
KIW	**Kapiti Island**	**2.41**	**199**	Pn	Pn	08 26 30.3	-1.2
KIW	**Kapiti Island**	**2.41**	**199**	P	Pn	08 26 30.3	-1.2
TMWZ	**Te Maipa**	**2.51**	**181**	Pn	Pn	08 26 31.8	-1.1
TMWZ	**Te Maipa**	**2.51**	**181**	P	Pn	08 26 31.8	-1.0
MTW	**Mount Morrison**	**2.59**	**188**	Pn	Pn	08 26 32.3	-1.4
MTW	**Mount Morrison**	**2.59**	**188**	P	Pn	08 26 32.4	-1.4
CAW	**Cannon Point**	**2.60**	**195**	Pn	Pn	08 26 32.7	-1.3
CAW	**Cannon Point**	**2.60**	**195**	P	Pn	08 26 32.7	-1.3
TRWZ	**Traveller**	**2.81**	**184**	Pn	Pn	08 26 35.2	-1.4
TRWZ	**Traveller**	**2.81**	**184**	P	Pn	08 26 35.1	-1.5
PAWZ	**Paruwai Farm**	**2.82**	**188**	Pn	Pn	08 26 35.0	-1.7
PAWZ	**Paruwai Farm**	**2.82**	**188**	P	Pn	08 26 35.0	-1.7
MSWZ	**Moikau Station**	**2.87**	**191**	Pn	Pn	08 26 35.6	-1.7
MSWZ	**Moikau Station**	**2.87**	**191**	P	Pn	08 26 35.6	-1.7
TCW	**Tory Channel**	**2.92**	**206**	Pn	Pn	08 26 36.1	-1.7
TCW	**Tory Channel**	**2.92**	**206**	P	Pn	08 26 36.2	-1.7
BHW	**Baring Head**	**2.93**	**196**	Pn	Pn	08 26 36.3	-1.8
BHW	**Baring Head**	**2.93**	**196**	P	Pn	08 26 36.3	-1.8
PLWZ	**Palliser**	**3.02**	**190**	Pn	Pn	08 26 37.3	-2.0
PLWZ	**Palliser**	**3.02**	**190**	P	Pn	08 26 37.3	-2.0
TUWZ	**Tuamarina**	**3.23**	**208**	Pn	Pn	08 26 40.0	-1.8
TUWZ	**Tuamarina**	**3.23**	**208**	P	Pn	08 26 40.0	-1.8
NNZ	**Nelson**	**3.28**	**216**	Pn	Pn	08 26 40.8	-1.8
NNZ	**Nelson**	**3.28**	**216**	P	Pn	08 26 41.0	-1.6
QRZ	**Quartz Range**	**3.46**	**229**	Pn	Pn	08 26 42.9	-1.9
QRZ	**Quartz Range**	**3.46**	**229**	P	Pn	08 26 42.9	-1.9
BSWZ	**Blackbirch Sta**	**3.50**	**206**	Pn	Pn	08 26 43.6	-1.8
BSWZ	**Blackbirch Sta**	**3.50**	**206**	P	Pn	08 26 43.7	-1.7
THZ	**Tophouse**	**3.92**	**215**	P	Pn	08 26 49.7	-1.4
KHZ	**Kahutara**	**4.24**	**205**	Pn	Pn	08 26 52.8	-2.3
KHZ	**Kahutara**	**4.24**	**205**	P	Pn	08 26 52.8	-2.3

*JSN **10** 08:34:45.2±0.3, 19°42N×76°15W, h15km, MD5.1*
*IDC **10** 08:34:48.8±0.4, 19°10N×76°44W, h0km, mb4.4/34, mb1 4.6/39, mb1mx4.5/71, mbtmp4.5/39, ML4.1/3, MS4.3/41, Ms1 4.3/41, ms1mx4.1/65, Error ellipse: s-maj=13.2km s-min=9.1km az=66.0*
*GCMT **10** 08:34:50.8±0.2, 19°25N×76°43W, h12km, MW5.0/108, Moment Tensor Solution. s37,c43; s108,c173; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.56±.10; Mθθ3.56±.09; Mϕϕ-3.00±.09; Mrθ0.91±.26; Mrϕ2.59±.07; Mθϕ-0.52±.25; Best double couple: M₀4.31600×10¹⁶ NP1:ϕs295.00000°, δ86.00000°, λ-15.00000°. NP2: ϕs26.00000°, δ75.00000°, λ-176.00000°. Principal axes: T 4.5530, Plg8.0000°, Azm342.0000°; N -0.4750, Plg75.0000°, Azm102.0000°; P -4.0780, Plg13.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 08:34:50.8±0.1, 19°16N×76°42W, h10km, mb4.8/255 Error ellipse: s-maj=2.9km s-min=2.2km az=218.0*
NEIC Felt [II] at Bayamo. Also felt at Manzanillo and Santiago de Cuba. Felt [IV] at Ocho Rios, Portmore and Stony Hill; [III] at Mona; [II] at Constant Spring and Half Way Tree, Jamaica. Also felt at Annotto Bay, Discovery Bay, Ewarton, Falmouth, Kingston and Wakefield.
*MOS **10** 08:34:51.8±1.0, 19°12N×76°49W, h28km, mb5.0/55, Error ellipse: s-maj=8.2km s-min=4.5km az=116.4*
*ISCJB **10** 08:34:52.2±0.1, 19°14N±0°02×76°41W±0°02, h33km, mb4.8/261, MS4.3/36, Error ellipse: s-maj=2.8km s-min=2.1km az=145.5*

ISC 10 08:34:53.8±0.3, 19°11N±0°03×76°45W±0°04, h35km, n841, σ1°43/812, mb4.9/268, MS4.3/36, 19C-12D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GWJ	**Greenwich**	**1.07**	**194**	⇑*i*P	Pn	08 35 09.2	-3.1
GWJ				*i* S	Sn	08 35 27.5	+1.5
STH	**Stony Hill**	**1.08**	**198**	⇑*i*P	Pn	08 35 09.7	-2.8
HOJ	**Hope**	**1.14**	**194**	⇑*i*P	Pn	08 35 10.6	-2.7
MTDJ	**Mount Denham**	**1.35**	**230**	*e*Pn	Pn	08 35 13.3	-3.0
MTDJ				*e*Sn	Sn	08 35 32.5	-0.6
GTBY	**Guantanamo Bay**	**1.50**	**57**	*e*Pn	Pn	08 35 14.7	-3.5
GTBY				*e*Sn	Sn	08 35 36.2	-0.4
CBCY	**The Bluff, Cay**	**3.18**	**282**	*e*Pn	Pn	08 35 37.1	-4.2
FSCY	**Frank Sound, G**	**4.48**	**273**	*e*Pn	Pn	08 35 54.4	-4.7
WBCY	**West Bay, Gran**	**4.68**	**274**	*e*Pn	Pn	08 35 58.1	-3.8
WBCY				*e*Sn	Sn	08 36 50.9	-4.2
SDDR	**Presa de Saban**	**4.88**	**91**	*e*Pn	Pn	08 36 03.8	-1.0
GRTK	**Grand Turk**	**5.53**	**64**	*e*Pn	Pn	08 36 11.1	-2.5
GRTK				*e*Sn	Sn	08 37 10.4	-5.6
BANI	**BANI**	**5.82**	**96**	*e*Pn	Pn	08 36 18.7	+1.0
SDD	**Santo Domingo**	**6.23**	**95**	*e*Pn	Pn	08 36 23.8	+0.6
URIC	**Uridia, Colomb**	**8.53**	**149**	*e*P	Pn	08 36 52.0	-2.8
MPR	**Mayaguez**	**8.87**	**94**	*e*Pn	Pn	08 36 60.0	+0.5
CODC	**Agust`›n Codaz**	**9.58**	**162**	*e*P	Pn	08 37 06.6	-2.6
958A	**Wauchula**	**9.74**	**331**	P	Pn	08 37 07.9	-3.5
	baz=149						
958A				S	Sn	08 39 00.3	+0.8
	baz=149						
859A	**

148A **Greensboro** 16.77 326 P Pn 08 38 42.6 -3.4
baz=141
LRAL **Lakeview Retre** 16.78 328 P Pn 08 38 43.3 -2.7
baz=143,SNR=5.6
LRAL **Lakeview Retre** 16.78 328 *e*Pn Pn 08 38 42.7 -3.3
comp=Z,65nm,1.4s
BG3 **Lake Jocassee** 16.83 341 *e*Pn Pn 08 38 43.4 -3.3
comp=Z,40nm,1.1s
BBSR **BB Station** 16.91 36 *e*Pn Pn 08 38 44.5 -3.2
comp=Z,125nm,1.4s
Y49A **Blount Mountai** 17.16 331 P Pn 08 38 49.0 -1.9
baz=146
X50A **Fort Payne** 17.34 334 P Pn 08 38 51.3 -1.7
baz=150,SNR=7.4
Z47A **Carrollton** 17.46 326 P Pn 08 38 53.0 -1.5
baz=141
Y48A **Jasper** 17.57 329 P Pn 08 38 54.5 -1.3
baz=144
146A **Union** 17.59 322 P Pn 08 38 54.2 -1.9
baz=137
CMIG **Matias Romero** 17.64 266 P Pn 08 38 56.0 -0.9
comp=Z,0.6nm,0.3s,baz=70,slow=11,SNR=30
245A **Little AP, Sta** 17.66 319 P Pn 08 38 55.3 -1.7
baz=134
TKL **Tuckaleechee C** 17.71 340 P Pn 08 38 54.1 -3.5
comp=Z,0.4nm,0.3s,baz=163,slow=14,SNR=7.8
TKL LR LR 08 46 42.9
comp=Z,497nm,19.8s,baz=138,slow=40
TKL **Tuckaleechee C** 17.71 340 *e*Pn Pn 08 38 55.5 -2.0
comp=Z,25nm,1.1s
TKL **Tuckaleechee C** 17.71 340 *e*P P 08 38 55.6 -2.0
TKL pmax pmax
comp=Z,25nm,1.1s
CPCT **Cooper Cave** 17.77 338 *e*Pn Pn 08 38 56.3 -2.1
344A **Westbrook Farm** 17.80 316 P P 08 38 58.1 -1.2
baz=130
Y47A **UCPARC, Winfie** 17.89 328 P Pn 08 38 58.2 -1.7
baz=142
Z46A **Louisville** 17.93 324 P Pn 08 38 59.0 -1.3
baz=138
X48A **Hartselle** 17.95 330 P Pn 08 38 59.0 -1.5
baz=146
SWET **Sewanee** 18.11 334 *e*Pn Pn 08 39 00.8 -1.7
comp=Z,24nm,1.3s
244A **Avery, Jackson** 18.16 318 P P 08 39 02.5 -0.7
baz=132
VWCC **Virginia Weste** 18.33 351 *e*Pn P 08 39 02.4 -2.7
BLA **Blacksburg** 18.36 350 P P 08 39 03.8 -1.7
baz=168,SNR=7.5
BLA **Blacksburg** 18.36 350 *e*Pn P 08 39 03.8 -1.7
comp=Z,62nm,1.1s
BLA *e*Sn Sn 08 42 28.4 -1.4
BLA **Blacksburg** 18.36 350 *e*P P 08 39 03.8 -1.7
BLA *e* 08 42 28.4
BLA pmax pmax
comp=Z,62nm,1.1s
X47A **Russelville** 18.39 329 P P 08 39 04.7 -1.1
baz=144
Y46A **Houston** 18.41 326 P Pn 08 39 05.7 -0.4
baz=140,SNR=9.8
TZTN **Tazewell** 18.45 342 P Pn 08 39 06.5 -0.3
baz=158
TZTN **Tazewell** 18.45 342 *e*P P 08 39 05.2 -1.2
comp=Z,51nm,1.2s
W48A **Pulaski** 18.47 332 P P 08 39 05.6 -1.0
baz=147,SNR=6.3
Y45A **Yeager Farm, C** 18.77 324 P Pn 08 39 10.3 -0.2
baz=138
X46A **Booneville** 18.78 327 P Pn 08 39 10.1 -0.6
baz=142
IP07 **Quail** 18.79 356 *e*P P 08 39 07.7 -2.4
comp=Z,16nm,0.7s
IP01 **Cuckoo** 18.82 356 *e*P P 08 39 07.8 -2.6
comp=Z,25nm,0.8s
OTAV **Otavalo** 18.86 186 *e*P Pn 08 39 13.4 +1.2
comp=Z,56nm,1.1s
OTAV **Otavalo** 18.86 186 *e*P Pn 08 39 13.4 +1.2
OTAV pmax pmax
comp=Z,56nm,1.1s
W47A **Westpoint** 18.86 331 P P 08 39 10.2 -0.7
baz=146,SNR=14
PLAL **Pickwick Lake** 18.87 329 *e*P P 08 39 09.3 -1.7
comp=Z,43nm,1.1s
SPRD **Spring Road, M** 18.88 357 *e*P P 08 39 08.0 -3.1
comp=Z,42nm,1.2s
CVRD **Centerville Ro** 18.93 357 *e*P P 08 39 10.0 -1.6
comp=Z,31nm,1.0s
V48A **Smith Brothers** 18.93 333 P Pn 08 39 11.5 -1.0
baz=148,SNR=13
PTRD **Partlow Road** 18.97 357 *e*P P 08 39 10.7 -1.3
comp=Z,43nm,1.0s
SPFD **Spotsylvania F** 18.98 357 *e*P P 08 39 09.4 -2.7
comp=Z,62nm,1.1s
CBN **Corbin Frederi** 19.04 358 *e*P Pn 08 39 13.1 -0.7
comp=Z,60nm,1.1s
X45A **UM Field Stati** 19.10 326 P Pn 08 39 13.8 -0.8
baz=140,SNR=12
W46A **Michie** 19.14 329 P Pn 08 39 13.7 -1.3
baz=143,SNR=5.0
OXF **Oxford** 19.18 326 P Pn 08 39 14.2 -1.3
baz=140,SNR=8.1
OXF **Oxford** 19.18 326 *e*P Pn 08 39 14.4 -1.1
comp=Z,90nm,1.0s
OXF **Oxford** 19.18 326 *e*P Pn 08 39 14.4 -1.1
OXF pmax pmax
comp=Z,90nm,1.0s
V47A **Nunnelly** 19.31 332 P Pn 08 39 15.8 -1.2
baz=147,SNR=22
341A **Kurthwood** 19.38 312 P Pn 08 39 17.3 -0.6
baz=125
U48A **Cassie Pea, Po** 19.47 335 P Pn 08 39 18.3 -0.7
baz=150,SNR=17
V46A **Holladay** 19.55 331 P Pn 08 39 18.7 -1.2
baz=145,SNR=17
X44A **Crenshaw** 19.57 324 P Pn 08 39 18.9 -1.2
baz=138
WVT **Waverly** 19.70 332 P Pn 08 39 20.4 -1.2
baz=146
WVT **Waverly** 19.70 332 *e*P P 08 39 19.6 -0.4
comp=Z,44nm,1.1s
WVT **Waverly** 19.70 332 *e*P P 08 39 19.6 -0.4
WVT pmax pmax
comp=Z,44nm,1.1s
U47A **Clarksville** 19.72 333 P Pn 08 39 20.6 -1.4
baz=148,SNR=14
Z42A **Norrel Spur, H** 19.77 319 P Pn 08 39 21.5 -1.0
baz=132
V45A **Humboldt** 19.91 329 P Pn 08 39 23.0 -1.1
baz=143
T48A **Bowling Green** 19.94 336 P Pn 08 39 23.2 -1.3
baz=151,SNR=13
X43A **Marvell** 20.00 323 P Pn 08 39 24.0 -1.2
baz=136
U46A **Springville** 20.04 331 P Pn 08 39 24.0 -1.7
baz=146
Y42A **Garnett, Star** 20.05 320 P Pn 08 39 24.3 -1.5
baz=133
CCAR **Cane Creek** 20.09 320 *e*P Pn 08 39 25.8 -0.6
comp=Z,107nm,1.1s
T47A **Sharon Grove** 20.11 334 P Pn 08 39 24.6 -2.0
baz=149,SNR=9.5
SDMD **Soldier's Deli** 20.23 359 *e*P Pn 08 39 26.1 -1.9
comp=Z,30nm,0.9s
S48A **Wiedeman Farm,** 20.29 338 P Pn 08 39 26.8 -1.9
baz=153,SNR=18
Z41A **Richland Creek** 20.30 317 P Pn 08 39 27.2 -1.6
baz=130,SNR=8.1
UTMT **University of** 20.35 330 *e*P Pn 08 39 27.8 -1.4
comp=Z,96nm,0.9s
T46A **Princeton** 20.49 333 P Pn 08 39 29.3 -1.6
baz=148
GLAT **Glass** 20.49 329 *e*P P 08 39 28.2 -0.5
MCWV **Mont Chateau** 20.68 353 *e*P P 08 39 26.4 -4.3
comp=Z,41nm,1.1s
PSUB **Penn St. - Bra** 20.76 2 *e*P Pn 08 39 32.1 -2.0
comp=Z,50nm,1.1s
WLAR **White Oak Lake** 20.78 318 *e*P P 08 39 31.3 -0.4
comp=Z,199nm,1.6s
PVMO **Pertageville** 20.81 329 *e*P P 08 39 30.7 -1.3
comp=Z,398nm,0.3s
MVL **Millersville** 20.82 0 *e*P Pn 08 39 32.4 -2.4
comp=Z,70nm,1.5s
WCI **Wyandotte Cave** 20.89 338 P Pn 08 39 33.4 -2.2
baz=153
WCI **Wyandotte Cave** 20.89 338 *e*P P 08 39 33.1 +0.2
comp=Z,45nm,0.9s
WCI **Wyandotte Cave** 20.89 338 *e*P P 08 39 33.2 +0.2
WCI pmax pmax
comp=Z,45nm,0.9s
R48A **Northridge Ran** 20.89 339 P Pn 08 39 33.6 -2.1
baz=154
X41A **Kaden, Bauxite** 20.94 320 P Pn 08 39 34.3 -1.9
baz=133
S46A **Don Dixon Farm** 20.96 334 P P 08 39 33.7 0.0
baz=149
UALR **University of** 21.03 321 *e*P P 08 39 35.6 +1.1
comp=Z,31nm,1.1s
R47A **Wooly Knot Far** 21.03 337 P P 08 39 34.8 +0.3
baz=152,SNR=6.9
PAGS **Pennsylvania G** 21.05 359 *e*P P 08 39 34.6 -0.1
comp=Z,84nm,1.2s
Y40A **Okolona** 21.09 318 P P 08 39 35.7 +0.6
baz=130
U43A **Rector** 21.12 327 P P 08 39 35.8 +0.3
baz=141
X40A **Basin Creek Fa** 21.13 320 P P 08 39 36.1 +0.6
baz=132,SNR=20
O56A **Blue Knob Stat** 21.16 356 P P 08 39 36.7 +0.8
baz=174,SNR=17
O56A **Blue Knob Stat** 21.16 356 *e*P P 08 39 36.6 +0.6
comp=Z,278nm,1.6s
USIN **University of** 21.18 335 *e*P P 08 39 36.0 -0.1
comp=Z,49nm,0.9s
V42A **Cord** 21.22 325 P P 08 39 37.2 +0.6
baz=138,SNR=7.1
W41B **Gary Mavity, V** 21.25 322 P P 08 39 37.6 +0.7
baz=135,SNR=9.5
T44A **Benton** 21.29 330 P P 08 39 37.4 +0.1
baz=144,SNR=5.2
S45A **Carrier Mills** 21.32 333 P P 08 39 37.9 +0.4
baz=147
R46A **Gibon Southern** 21.33 335 P P 08 39 37.8 +0.1
baz=150
WHAR **Wooly Hollow** 21.36 322 *e*P P 08 39 38.8 +0.8
comp=Z,52nm,0.9s
X301 **Greenbrier Sit** 21.38 322 *e*P P 08 39 39.2 +0.9
comp=Z,62nm,1.1s
LUPA **Lehigh Univers** 21.43 2 *e*P P 08 39 39.2 +0.4
comp=Z,10nm,1.4s
PBMO **Poplar Bluff** 21.45 328 *e*P P 08 39 39.0 0.0
comp=Z,52nm,0.9s
SSPA **Standing Stone** 21.49 357 P P 08 39 39.9 +0.5
baz=176
SSPA **Standing Stone** 21.49 357 *e*P P 08 39 39.5 +0.1
comp=Z,150nm,1.7s
U42A **Revenden** 21.55 326 P P 08 39 40.5 +0.5
baz=139,SNR=15
BRNJ **Basking Ridge** 21.56 4 *e*P P 08 39 40.8 +0.7
comp=Z,110nm,1.1s
Q47A **Bedord North L** 21.57 338 P P 08 39 40.4 +0.2
baz=154
T43A **Greenville** 21.62 329 P P 08 39 41.0 +0.1
baz=142,SNR=19
MIAR **Mount Ida** 21.62 319 P P 08 39 41.2 +0.3
baz=131,SNR=22
MIAR **Mount Ida** 21.62 319 *e*P P 08 39 41.3 +0.4
comp=Z,56nm,1.1s
MIAR **Mount Ida** 21.62 319 *e*P P 08 39 41.3 +0.4
MIAR pmax pmax
comp=Z,56nm,1.1s
S44A **Carbondale** 21.63 332 P P 08 39 40.8 -0.1
baz=145,SNR=7.6
SIUC **Southern Illin** 21.63 332 *e*P P 08 39 41.2 +0.3
comp=Z,72nm,1.2s
V41A **Mountainview** 21.63 323 P P 08 39 41.2 +0.2
baz=136,SNR=34
R45A **Skylar, Fairfi** 21.71 334 P P 08 39 41.8 0.0
baz=148,SNR=12
N59A **State Game Lan** 21.74 1 P P 08 39 42.9 +0.8
baz=182,SNR=8.7
N59A **State Game Lan** 21.74 1 *e*P P 08 39 43.1 +1.0
comp=Z,72nm,1.2s
W40A **Ferguson Farm,** 21.75 321 P P 08 39 42.8 +0.6
baz=133,SNR=10
W40A **Ferguson Farm,** 21.75 321 *e*P P 08 39 42.7 +0.5
comp=Z,87nm,1.1s
ACSO **Alum Creek Sta** 21.79 346 P P 08 39 43.2 +0.6
baz=163,SNR=14
ACSO **Alum Creek Sta** 21.79 346 *e*P P 08 39 42.7 +0.1
comp=Z,104nm,1.0s
BLO **Bloomington** 21.81 339 *e*P P 08 39 43.2 +0.4
comp=Z,36nm,0.8s
BLO **Bloomington** 21.81 339 *e*P P 08 39 43.2 +0.4
BLO pmax pmax
comp=Z,36nm,0.8s
U41A **Viola** 21.91 325 P P 08 39 44.2 +0.3
baz=138
S43A **Fulton Ridge,** 21.91 330 P P 08 39 44.1 +0.2
baz=143,SNR=14
X39A **Fountain Ranch** 21.94 318 P P 08 39 44.3 0.0
baz=130
ODNJ **Ogdensburg** 21.95 4 *e*P P 08 39 45.1 +0.8
comp=Z,112nm,1.4s
Q46A **CEJHS Indians,** 21.98 337 P P 08 39 45.0 +0.4
baz=151
T42A **Van Buren** 21.98 327 P P 08 39 45.0 +0.3
baz=140,SNR=32
N54A **Moraine State** 21.99 353 P P 08 39 45.3 +0.6
baz=171,SNR=5.2
N54A **Moraine State** 21.99 353 *e*P P 08 39 45.3 +0.6
comp=Z,80nm,1.3s
P47A **Martinsville** 22.01 339 P P 08 39 45.2 +0.3
baz=154,SNR=20
R44A **Waltonville** 22.01 333 P P 08 39 45.1 +0.1
baz=146,SNR=12
OLIL **Olney** 22.01 335 *e*P P 08 39 45.0 0.0
comp=Z,106nm,0.9s
V40A **Witts Springs** 22.03 322 P P 08 39 45.9 +0.7
baz=135,SNR=27
LNIG **Linares** 22.09 289 *e*P P 08 39 45.5 -0.5
comp=Z,66nm,1.0s
Q45A **Warren Harvey,** 22.17 335 P P 08 39 46.9 +0.1
baz=149,SNR=20
W39A **Magazine** 22.18 320 P P 08 39 47.2 +0.4
baz=132,SNR=10.0
YLE **Yale** 22.33 7 *e*P P 08 39 49.3 +0.9
comp=Z,206nm,1.4s
T41A **Mountain View** 22.34 326 P P 08 39 49.0 +0.4
baz=139,SNR=17
435B **Jarrell** 22.37 305 P P 08 39 49.1 +0.2
baz=116,SNR=6.9
FVM **French Village** 22.41 330 *e*P P 08 39 50.2 +0.9
comp=Z,59nm,1.3s
FVM **French Village** 22.41 330 *e*P P 08 39 50.2 +0.9
FVM pmax pmax
comp=Z,59nm,1.3s
R43A **Red Bud** 22.41 331 P P 08 39 49.5 +0.2
baz=145,SNR=9.3
S42A **Caledonia** 22.41 329 P P 08 39 49.3 -0.1
baz=142
U40A **Yellville** 22.43 323 P P 08 39 50.0 +0.3
baz=136,SNR=13
P46A **Rosedale** 22.45 338 P P 08 39 50.1 +0.4
baz=152,SNR=5.2
M54A **Oil Creek Stat** 22.49 354 P P 08 39 50.9 +0.7
baz=172,SNR=8.9
M54A **Oil Creek Stat** 22.49 354 *e*P P 08 39 50.7 +0.5
comp=Z,82nm,1.1s
Q44A **Meyer Farm, Va** 22.53 334 P P 08 39 50.9 +0.3
baz=148,SNR=18
V39A **Pettigrew** 22.53 321 P P 08 39 51.2 +0.5
baz=133,SNR=15
P45A **Graceland, Par** 22.56 337 P P 08 39 51.2 +0.3
baz=151,SNR=5.6
JRQG **Juriquilla Cam** 22.61 278 *e*P P 08 39 51.8 -0.1
comp=Z,157nm,1.0s
ALLY **Alegheny Colle** 22.68 353 *e*P P 08 39 52.1 -0.1
comp=Z,110nm,1.0s
S41A **Jillco Farms,** 22.75 327 P P 08 39 53.1 +0.2
baz=140,SNR=16
U39A **Green Forest** 22.81 322 P P 08 39 53.9 +0.3
baz=134,SNR=32
R42A **Luebbering** 22.82 330 P P 08 39 54.4 +0.8
baz=143,SNR=13
T40A **Mansfield** 22.82 325 P P 08 39 54.1 +0.3
baz=138
WHTX **Lake Whitney,** 22.83 308 P P 08 39 54.4 +0.6
baz=119,SNR=13
WHTX **Lake Whitney,** 22.83 308 *e*P P 08 39 54.6 +0.8
comp=Z,53nm,0.9s
SLM **Saint Louis** 22.84 331 *e*P P 08 39 54.0 +0.1
comp=Z,60nm,1.3s
P44A **Sand Creek, Wi** 22.85 335 P P 08 39 54.2 +0.2
baz=149,SNR=7.2
CCM **Cathedral Cave** 22.86 329 P P 08 39 54.3 +0.3
baz=142
CCM **Cathedral Cave** 22.86 329 *e*P P 08 39 53.9 -0.1
comp=Z,53nm,1.0s
CCM **Cathedral Cave** 22.86 329 *e*P P 08 39 53.9 -0.1
CCM pmax pmax
comp=Z,53nm,1.0s
833A **Chaparral WMA,** 22.89 298 P P 08 39 54.6 +0.1
baz=108,SNR=28
HHAR **Hobbs** 23.01 322 *e*P P 08 39 56.3 +0.7
comp=Z,67nm,1.1s
BINY **Binghamton** 23.02 1 P P 08 39 55.8 +0.2
baz=181
BINY **Binghamton** 23.02 1 *e*P P 08 39 57.0 +1.3
comp=Z,49nm,1.1s
SFIN **Lafayette** 23.09 339 P P 08 39 56.9 +0.5
baz=154,SNR=7.0
SFIN **Lafayette** 23.09 339 *e*P P 08 39 56.4 +0.1
comp=Z,78nm,1.2s
R41A **Rosebud** 23.11 329 P P 08 39 56.9 +0.3
baz=142,SNR=12
ERPA **Erie** 23.13 353 *e*P P 08 39 57.3 +0.6
comp=Z,66nm,1.1s
S40A **Lebanon** 23.15 326 P P 08 39 57.3 +0.3
baz=138,SNR=16
O45A **Potomac** 23.19 338 P P 08 39 58.2 +0.8
baz=152
Q42A **Golden Eagle** 23.20 331 P P 08 39 58.3 +0.7
baz=144
T39A **Clever** 23.20 324 P P 08 39 58.0 +0.3
baz=136,SNR=16
MOIG **Morelia** 23.34 275 *e*P P 08 39 59.3 -0.1
P43A **Skaggs, Pawnee** 23.36 334 P P 08 39 59.9 +0.8
baz=147
O44A **Mansfield** 23.38 336 P P 08 39 59.8 +0.5
baz=150,SNR=7.0
N46A **Monticello** 23.43 340 P P 08 40 00.5 +0.8
baz=155
R40A **Maddies Statio** 23.55 328 P P 08 40 01.4 +0.4
baz=140,SNR=20
Q41A **Truxton** 23.56 330 P P 08 40 01.9 +0.9
baz=143,SNR=14
WES **Weston** 23.60 10 *e*P P 08 40 02.0 +0.6
comp=Z,151nm,1.6s
WES **Weston** 23.60 10 *e*P P 08 40 02.0 +0.6
WES pmax pmax
comp=Z,151nm,1.6s
S39A **Bolivar** 23.66 325 P P 08 40 02.4 +0.4
baz=137,SNR=24
P42A **Winchester** 23.67 332 P P 08 40 02.8 +0.7
baz=146,SNR=12
T38A **Diamond** 23.73 322 P P 08 40 03.4 +0.7
baz=134,SNR=7.7
N44A **Piper City** 23.82 338 P P 08 40 04.4 +1.0
baz=152,SNR=6.4
O43A **Sugar Creek Fa** 23.82 335 P P 08 40 03.9 +0.4
baz=149
TUL1 **Leonard** 23.89 318 P P 08 40 04.6 +0.5
baz=129,SNR=17
TUL1 **Leonard** 23.89 318 *e*P P 08 40 04.7 +0.5
comp=Z,44nm,0.8s
PAYG **Puerto Ayora** 23.90 216 *e*P P 08 40 05.7 +1.3
comp=Z,120nm,1.5s
S38A **Stockton** 23.93 324 P P 08 40 05.7 +1.1
baz=136,SNR=9.1
R39A **Chumby, Stover** 23.96 326 P P 08 40 05.9 +1.0
baz=138,SNR=14
JCT **Junction City** 23.98 303 P P 08 40 05.5 +0.3
baz=113,SNR=18
JCT **Junction City** 23.98 303 *e*P P 08 40 05.5 +0.3
comp=Z,81nm,1.3s
JCT **Junction City** 23.98 303 *e*P P 08 40 05.5 +0.3
JCT pmax pmax
comp=Z,81nm,1.3s
Q40A **Laux Farm, Aux** 24.00 329 P P 08 40 05.9 +0.8
baz=141,SNR=11
MEDO **Medina** 24.04 356 P P 08 40 06.4 +1.0
baz=175
HDIL **Hopedale** 24.05 335 P P 08 40 06.4 +0.8
baz=149
HDIL **Hopedale** 24.05 335 *e*P P 08 40 06.2 +0.6
comp=Z,45nm,0.8s
P41A **Barry, Barry** 24.06 331 P P 08 40 06.3 +0.6
baz=144,SNR=5.7
O42A **Bath** 24.06 334 P P 08 40 06.8 +1.0
baz=147
OK022 **N3560 Road, Pr** 24.22 317 *e*P P 08 40 07.3 0.0
comp=Z,53nm,1.3s
OK021 **N3530 Road, Sp** 24.29 317 *e*P P 08 40 08.0 +0.1
comp=Z,32nm,1.0s
M44A **Midewin, Midew** 24.31 338 P P 08 40 08.9 +0.9
baz=152
ACCN **Adirondack Com** 24.31 5 *e*P P 08 40 08.0 0.0
comp=Z,53nm,1.4s
N43A **Stutzman Famil** 24.33 336 P P 08 40 08.9 +0.7
baz=150
R38A **Fenwick Farm,** 24.33 325 P P 08 40 09.1 +0.9
baz=136,SNR=7.9
O41A **Passleys Farm,** 24.34 332 P P 08 40 08.8 +0.5
baz=145,SNR=5.6
OK020 **N3440 Road, Me** 24.35 316 *e*P P 08 40 08.6 +0.1
comp=Z,75nm,1.6s
P40A **Paris** 24.40 330 P P 08 40 09.5 +0.6
baz=142,SNR=7.8
Q39A **Willow Grove F** 24.48 328 P P 08 40 10.2 +0.6
baz=140
ZAIG **Zacatecas** 24.65 283 *e*P P 08 40 12.5 +0.9
M43A **Waltham Townsh** 24.68 337 P P 08 40 12.4 +1.0
baz=151
P39B **Salisbury** 24.71 329 P P 08 40 12.2 +0.5
baz=141,SNR=7.9
Q38A **Cooks Store, C** 24.75 327 P P 08 40 12.8 +0.8
baz=138,SNR=26
ABTX **Abilene, Hawle** 24.76 307 P P 08 40 12.8 +0.6
baz=117,SNR=26
ABTX **Abilene, Hawle** 24.76 307 *e*P P 08 40 12.8 +0.6
comp=Z,47nm,0.8s
HNH **Hanover** 24.77 7 *e*P P 08 40 12.1 0.0
comp=Z,62nm,1.3s
O40A **La Belle** 24.79 331 P P 08 40 13.2 +0.8
baz=143,SNR=8.1
N41A **Harden Midland** 24.82 333 P P 08 40 13.6 +1.0
baz=146
NCB **Newcomb** 24.86 4 *e*P P 08 40 13.6 +0.6
comp=Z,31nm,1.1s
M42A **Sheffield** 25.00 336 P P 08 40 15.4 +1.1
baz=149
Q37A **Longview Farm,** 25.13 325 P P 08 40 15.8 +0.3
baz=136
WMOK **Wichita Mounta** 25.19 313 P P 08 40 16.7 +0.6
baz=122,SNR=13
WMOK **Wichita Mounta** 25.19 313 *e*P P 08 40 16.6 +0.6
comp=Z,24nm,1.1s
WMOK **Wichita Mounta** 25.19 313 *e*P P 08 40 16.6 +0.6
WMOK pmax pmax
comp=Z,24nm,1.1s
P38A **Dawn** 25.20 328 P P 08 40 17.0 +0.9
baz=139,SNR=10
O39A **Kirksville** 25.21 330 P P 08 40 17.1 +0.9
baz=142
M41A **Milan** 25.24 335 P P 08 40 17.5 +1.1
baz=147,SNR=8.1
L43A **Garden Prairie** 25.26 338 P P 08 40 16.8 +0.3
baz=152,SNR=6.0
N40A **Mertquake, Sal** 25.27 332 P P 08 40 17.2 +0.5
baz=145
R36A **Gordon, Harris** 25.32 323 P P 08 40 18.1 +0.9
baz=134,SNR=9.6
LBNH **Lisbon** 25.34 8 *e*P P 08 40 18.2 +0.9
comp=Z,42nm,1.2s
LBNH **Lisbon** 25.34 8 *e*P P 08 40 18.2 +0.9
LBNH pmax pmax
comp=Z,43nm,1.2s
L42A **Oliver, Polo** 25.44 337 P P 08 40 18.6 +0.4
baz=150
LONY **Lake Ozonia** 25.48 3 *e*P P 08 40 19.6 +1.0
comp=Z,79nm,1.8s
PTGA **Pitinga** 25.51 139 P P 08 40 20.3 +1.2
comp=Z,35nm,0.8s,baz=325,slow=12,SNR=38
PTGA LR LR 08 51 37.0
comp=Z,541nm,20.2s,baz=322,slow=40
PTGA **Pitinga** 25.51 139 *e*P P 08 40 20.4 +1.2
comp=Z,57nm,1.0s
O38A **Galt** 25.55 329 P P 08 40 20.3 +1.1
baz=140
K43A **Burlington** 25.58 339 P P 08 40 19.9 +0.5
baz=153
P37A **Lathrop** 25.59 327 P P 08 40 20.3 +0.7
baz=138,SNR=21
M40A **Post Highland** 25.67 333 P P 08 40 20.9 +0.5

baz=145
N39A **Derby Farms, D** 25.68 331 P P 08 40 21.4 +0.9
baz=143,SNR=12
SADO **Sadowa** 25.68 356 P P 08 40 21.4 +1.0
comp=Z,24nm,1.0s,baz=187,slow=12,SNR=4.8
SADO LR LR 08 50 00.1
comp=Z,609nm,20.9s,baz=172,slow=36
SADO **Sadowa** 25.68 356 eP P 08 40 20.8 +0.4
comp=Z,57nm,1.3s
R35A **Emporia Munici** 25.71 322 P P 08 40 21.5 +0.7
baz=133
Q35A **Mercer Eighty,** 25.99 323 P P 08 40 24.2 +0.9
baz=134,SNR=7.5
K42A **Prairie Point,** 25.99 338 P P 08 40 24.1 +0.8
baz=151
M39A **Webster** 26.02 332 P P 08 40 24.0 +0.5
baz=144
P36A **Good Intent, A** 26.07 326 P P 08 40 24.6 +0.6
baz=136,SNR=5.7
L40A **Anamosa** 26.09 334 P P 08 40 25.7 +1.5
baz=147
ATAH **Atahualpa** 26.15 184 P P 08 40 27.0 +1.6
comp=Z,5.8nm,0.9s,baz=353,slow=5.5,SNR=5.3
ATAH LR LR 08 53 09.7
comp=Z,745nm,19.3s,baz=34,slow=42
K41A **Shullsburg** 26.20 336 P P 08 40 26.0 +0.9
baz=149
R34A **Isabella, Hill** 26.32 321 P P 08 40 26.8 +0.5
baz=131,SNR=15
N37A **Lee Faris, Mou** 26.40 329 P P 08 40 27.8 +0.9
baz=140
M38A **Pleasantville** 26.43 331 P P 08 40 27.9 +0.6
baz=142,SNR=12
JFWS **Jewell Farm** 26.44 337 P P 08 40 27.7 +0.4
baz=150
JFWS **Jewell Farm** 26.44 337 eP P 08 40 27.5 +0.2
comp=Z,25nm,0.6s
JFWS **Jewell Farm** 26.44 337 eP P 08 40 27.5 +0.2
JFWS pmax pmax
comp=Z,25nm,0.6s
P35A **Duane Minner,** 26.44 324 P P 08 40 28.1 +0.7
baz=135,SNR=8.8
KSU1 **Kansas State U** 26.48 323 P P 08 40 28.7 +1.0
baz=133
KSU1 **Kansas State U** 26.48 323 eP P 08 40 28.6 +0.9
comp=Z,21nm,0.8s
GLMI **Grayling** 26.53 347 eP P 08 40 30.9 +2.8
comp=Z,50nm,0.9s
Q34A **Chapman** 26.55 322 P P 08 40 28.7 +0.3
baz=132,SNR=9.6
K40A **Colesburg** 26.60 335 P P 08 40 29.7 +1.0
baz=148,SNR=5.0
J41A **Loganville** 26.74 338 P P 08 40 32.3 +2.2
baz=150,SNR=5.9
TXAR **Lajitas Array** 26.77 298 P P 08 40 31.0 +0.5
comp=Z,6.3nm,0.9s,baz=116,slow=8.5,SNR=45
TX31 **Lajitas Ar. Si** 26.77 298 eP P 08 40 31.1 +0.5
SCIA **State Center** 26.82 332 eP P 08 40 30.6 -0.2
comp=Z,112nm,1.6s
L38A **Oak Wood Farm,** 26.90 332 P P 08 40 32.2 +0.7
baz=144
K39A **Oelwein** 26.90 334 P P 08 40 33.3 +1.8
baz=146,SNR=8.1
P34A **Walnut Farm, R** 26.91 323 P P 08 40 32.2 +0.7
baz=133
O35A **Humboldt** 26.91 326 P P 08 40 34.3 +2.7
baz=136
J40A **Soldiers Grove** 27.04 337 P P 08 40 33.1 +0.4
baz=149
L37A **Phoenix Point,** 27.24 331 P P 08 40 35.2 +0.7
baz=142
O34A **Beatrice** 27.27 325 P P 08 40 36.2 +1.3
baz=134
AMTX **Amarillo** 27.32 310 P P 08 40 35.5 0.0
baz=118
AMTX **Amarillo** 27.32 310 eP P 08 40 35.1 -0.3
comp=Z,25nm,1.0s
J39A **Decorah** 27.36 335 P P 08 40 35.7 +0.1
baz=147
I40A **Norwalk** 27.42 337 P P 08 40 36.8 +0.7
baz=150
K37A **Belmond** 27.70 332 P P 08 40 39.9 +1.2
baz=143
MSTX **Muleshoe** 27.70 308 P P 08 40 39.1 +0.1
baz=116,SNR=8.4
MSTX **Muleshoe** 27.70 308 eP P 08 40 38.8 -0.2
comp=Z,22nm,1.0s
HPIG 27.94 292 eP P 08 40 41.3 0.0
comp=Z,9.9nm,0.7s
H40A **Chili** 27.97 338 P P 08 40 41.3 +0.3
baz=151
M34A **Aspy Farms, Fr** 28.15 327 P P 08 40 43.2 +0.5
baz=136
CBKS **Cedar Bluff** 28.15 319 P P 08 40 43.4 +0.6
baz=128
CBKS **Cedar Bluff** 28.15 319 eP P 08 40 42.3 -0.5
comp=Z,47nm,1.0s
CBKS **Cedar Bluff** 28.15 319 eP P 08 40 42.3 -0.5
CBKS pmax pmax
comp=Z,47nm,1.0s
CPRX **Cap Rock** 28.16 305 eP P 08 40 43.0 0.0
I38A **Scanlan Farm,** 28.19 335 P P 08 40 43.6 +0.6
baz=147
G40A **Rib Lake** 28.48 339 P P 08 40 46.5 +1.0
baz=152
K34A **Le Mars** 28.78 329 P P 08 40 48.9 +0.6
baz=139
G39A **Holcombe** 28.82 338 P P 08 40 49.2 +0.6
baz=150
MNTX **Cornudas Mount** 28.89 301 P P 08 40 49.9 +0.5
baz=109,SNR=16
MNTX **Cornudas Mount** 28.89 301 eP P 08 40 50.2 +0.8
comp=Z,9.3nm,0.9s
BGNE **Belgrade** 28.92 325 P P 08 40 50.3 +0.8
baz=134
BGNE **Belgrade** 28.92 325 eP P 08 40 50.3 +0.8
comp=Z,39nm,0.8s
F39A **Loretta** 29.28 339 P P 08 40 53.2 +0.5
baz=151
E40A **Wakefield** 29.42 341 P P 08 40 54.8 +0.9
baz=153
E39A **Mellen** 29.57 340 P P 08 40 55.6 +0.3
baz=152
F38A **Pierce - Schro** 29.65 338 P P 08 40 56.0 +0.1
baz=149
J33A **Davis** 29.68 329 P P 08 40 56.6 +0.4
baz=138
H35A **Sunnyside Ranc** 29.76 333 P P 08 40 57.7 +0.7
baz=143
ECSD **EROS Data Cent** 29.82 330 P P 08 40 57.6 +0.1
baz=139,SNR=6.6
ECSD **EROS Data Cent** 29.82 330 eP P 08 40 57.5 +0.1
comp=Z,11nm,1.0s
EPT **El Paso** 29.82 301 eP P 08 40 58.0 +0.3
comp=Z,16nm,0.9s
K31A **O'Neill** 30.09 326 P P 08 41 01.0 +1.1
baz=134,SNR=7.4
KSCO **Kaye Shedlock'** 30.10 317 P P 08 41 00.9 +0.7
baz=124
H34A **Spellman Lake,** 30.15 332 P P 08 41 00.9 +0.5
baz=142
J32A **Parkston** 30.15 328 P P 08 41 00.8 +0.4
baz=137
F36A **Milaca** 30.18 336 P P 08 41 01.1 +0.4
baz=146
T25A **Trinidad** 30.34 312 P P 08 41 02.9 +0.5
baz=119,SNR=12
T25A **Trinidad** 30.34 312 eP P 08 41 03.3 +0.9
comp=Z,15nm,0.8s
MHTCO **State Highway** 30.53 312 eP P 08 41 05.3 +1.2
comp=Z,10nm,1.0s
G34A **Benson** 30.54 333 P P 08 41 04.2 +0.4
baz=142
F35A **Swanville** 30.59 335 P P 08 41 04.9 +0.6
baz=145
BNM **Barren Site** 30.71 305 eP P 08 41 07.2 +1.4
LPM **Los Pinos Moun** 30.77 306 eP P 08 41 07.8 +1.5
H32A **Carlson Farm,** 30.79 330 P P 08 41 06.5 +0.4
baz=139
SAML **Samuel** 30.80 154 eP P 08 41 06.7 +0.3
comp=Z,18nm,0.8s
SAML **Samuel** 30.80 154 eP P 08 41 06.7 +0.3
SAML pmax pmax
comp=Z,18nm,0.8s
G33A **Ortonville** 30.86 332 P P 08 41 06.5 -0.1
baz=141
D37A **Cotton** 30.88 339 P P 08 41 07.8 +1.0
baz=150
ANMO **Albuquerque** 30.88 307 P P 08 41 08.1 +0.9
comp=Z,3.8nm,0.8s,baz=299,slow=9.5,SNR=16
ANMO LR LR 08 55 08.0
comp=Z,579nm,18.5s,baz=296,slow=40
ANMO **Albuquerque** 30.88 307 P P 08 41 08.5 +1.3
baz=113
ANMO **Albuquerque** 30.88 307 eP P 08 41 08.7 +1.5
comp=Z,5.9nm,0.9s
ANMO **Albuquerque** 30.88 307 eP P 08 41 06.3 -0.9
ANMO pmax pmax
comp=Z,8.0nm,1.0s
NNA **Nana** 30.91 181 P P 08 41 07.1 -0.3
comp=Z,9.4nm,0.7s,baz=334,slow=8.9,SNR=5.8
NNA LR LR 08 56 28.0
comp=Z,284nm,18.9s,baz=352,slow=42
NNA **Nana** 30.91 181 i P P 08 41 09.1 +1.8
Y22D **IRIS PASSCAL I** 30.91 305 eP P 08 41 09.0 +1.6
comp=Z,35nm,1.1s
121A **Cookes Peak, D** 31.08 302 P P 08 41 09.6 +0.6
baz=108
121A **Cookes Peak, D** 31.08 302 eP P 08 41 09.6 +0.6
comp=Z,7.0nm,0.9s
E35A **Pequot Lakes** 31.10 336 P P 08 41 09.7 +0.9
baz=146
LAZ **Ladron** 31.20 305 eP P 08 41 11.0 +1.0
H31A **Wolsey** 31.27 329 P P 08 41 10.5 +0.2
baz=137
F33A **5 Mile Ranch,** 31.30 333 P P 08 41 11.1 +0.6
baz=142
G32A **Webster** 31.38 331 P P 08 41 11.3 0.0
baz=139
SDCO **Great Sand Dun** 31.39 312 P P 08 41 12.6 +0.8
baz=118,SNR=9.1
SDCO **Great Sand Dun** 31.39 312 eP P 08 41 12.2 +0.5
comp=Z,24nm,1.8s
C36A **Pine Crest Far** 31.54 339 P P 08 41 13.5 +0.9
baz=149
G31A **Conde** 31.69 330 P P 08 41 13.6 -0.4
baz=138
LPIG **La Paz** 31.82 285 LR LR 08 56 05.8
comp=Z,294nm,18.8s,baz=96,slow=40
D34A **Park Rapids** 31.84 335 P P 08 41 16.2 +0.9
baz=145
C35A **Jirik Farms, M** 31.89 337 P P 08 41 16.1 +0.4
baz=147
319A **Douglas** 31.98 299 eP P 08 41 18.8 +1.9
comp=Z,17nm,1.0s
S22A **4UR Ranch, Cre** 32.32 311 P P 08 41 21.0 +1.0
baz=117
S22A **4UR Ranch, Cre** 32.32 311 eP P 08 41 21.2 +1.2
comp=Z,11nm,1.4s
ISCO **Idaho Springs** 32.48 316 P P 08 41 22.0 +0.7
baz=121,SNR=7.9
ISCO **Idaho Springs** 32.48 316 eP P 08 41 22.3 +1.0
comp=Z,10nm,0.9s
ISCO **Idaho Springs** 32.48 316 eP P 08 41 22.3 +1.0
ISCO pmax pmax
comp=Z,10.0nm,0.9s
E31A **Nome** 32.55 332 P P 08 41 21.4 -0.1
baz=140
HSIG 32.90 294 eP P 08 41 25.7 +0.9
SMCO **Snowmass** 33.08 314 eP P 08 41 27.7 +1.0
comp=Z,8.9nm,0.8s
AGMN **Agassiz Nation** 33.09 336 P P 08 41 26.9 +0.7
baz=145,SNR=6.0
AGMN **Agassiz Nation** 33.09 336 eP P 08 41 26.9 +0.7
comp=Z,30nm,1.3s
PHWY **Pilot Hill** 33.17 318 eP P 08 41 27.6 +0.3
comp=Z,23nm,1.6s
N23A **Red Feather La** 33.26 317 P P 08 41 28.6 +0.5
baz=122
N23A **Red Feather La** 33.26 317 eP P 08 41 28.9 +0.7
comp=Z,15nm,1.3s
MVCO **Mesa Verde** 33.30 309 P P 08 41 29.0 +0.6
baz=114,SNR=10
MVCO **Mesa Verde** 33.30 309 eP P 08 41 29.1 +0.6
comp=Z,17nm,1.0s
X18A **Snowflake** 33.42 304 eP P 08 41 30.9 +1.4
comp=Z,7.6nm,0.8s
B32A **Ashes, Strandq** 33.44 335 P P 08 41 29.9 +0.7
baz=144,SNR=5.3
C31A **Landman Farms,** 33.44 334 P P 08 41 29.9 +0.6
baz=142
W18A **Petrified Fore** 33.45 305 P P 08 41 31.0 +1.2
baz=110,SNR=7.4
W18A **Petrified Fore** 33.45 305 eP P 08 41 31.4 +1.7
comp=Z,23nm,1.0s
TUC **Tucson** 33.46 300 P P 08 41 30.3 +0.6
baz=105
TUC **Tucson** 33.46 300 eP P 08 41 31.2 +1.5
comp=Z,7.6nm,1.2s
TUC **Tucson** 33.46 300 eP P 08 41 31.2 +1.5
TUC pmax pmax
comp=Z,8.0nm,1.2s
PV01 **Paradox Valley** 33.73 311 eP P 08 41 33.4 +1.2
A32A **Rocking H Ranc** 33.84 336 P P 08 41 33.6 +0.8
baz=144,SNR=10.0
B31A **Greenbush Farm** 33.90 334 P P 08 41 34.2 +0.9
baz=142
RSSD **Black Hills** 33.97 323 eP P 08 41 34.6 +0.4
comp=Z,31nm,1.8s
RSSD **Black Hills** 33.97 323 eP P 08 41 34.6 +0.4
RSSD pmax pmax
comp=Z,31nm,1.8s
PV05 **Paradox Valley** 34.09 311 eP P 08 41 36.2 +1.0
PV10 **Paradox Valley** 34.17 311 eP P 08 41 36.9 +0.8
PV09 **Paradox Valley** 34.29 311 eP P 08 41 37.7 +0.6
O20A **White River Ci** 34.40 314 P P 08 41 39.4 +1.5
baz=118
O20A **White River Ci** 34.40 314 eP P 08 41 38.4 +0.5
comp=Z,13nm,1.2s
RWWY **Rawlins** 34.49 317 eP P 08 41 38.7 0.0
comp=Z,14nm,0.8s
X16A **Lo Mia Camp, P** 34.56 303 eP P 08 41 41.2 +1.8
comp=Z,20nm,1.0s
K22A **Casper** 34.57 319 P P 08 41 40.0 +0.6
baz=123
K22A **Casper** 34.57 319 eP P 08 41 40.0 +0.6
comp=Z,20nm,1.4s
ULM **Lac du Bonnet** 34.71 338 P P 08 41 40.5 +0.2
comp=Z,8.9nm,0.6s,baz=154,slow=8.0,SNR=14
ULM LR LR 08 56 11.8
comp=Z,1µm,18.3s,baz=146,slow=37
ULM **Lac du Bonnet** 34.71 338 eP P 08 41 40.2 0.0
comp=Z,46nm,1.5s
ULM **Lac du Bonnet** 34.71 338 eP P 08 41 40.2 0.0
ULM pmax pmax
comp=Z,46nm,1.5s
WUAZ **Wupatki** 34.85 305 P P 08 41 43.1 +1.3
baz=109,SNR=47
WUAZ **Wupatki** 34.85 305 eP P 08 41 43.5 +1.7
comp=Z,51nm,0.8s
214A **Organ Pipe Nat** 35.05 299 P P 08 41 44.3 +0.9
baz=102,SNR=6.0
214A **Organ Pipe Nat** 35.05 299 eP P 08 41 44.5 +1.0
comp=Z,53nm,1.1s
SRU **San Rafael Swe** 35.53 311 eP P 08 41 48.2 +0.6
comp=Z,6.2nm,0.8s
SRU **San Rafael Swe** 35.53 311 eP P 08 41 48.3 +0.6
SRU pmax pmax
comp=Z,6.0nm,0.8s
P18A **Preston Nutter** 35.55 312 eP P 08 41 48.8 +0.8
comp=Z,11nm,0.9s
Y14A **Wickenburg** 35.67 302 eP P 08 41 50.1 +1.2
comp=Z,208nm,2.0s
P17A **Butcher Ranch,** 35.83 312 eP P 08 41 51.4 +1.1
comp=Z,11nm,1.0s
U15A **North Rim** 35.84 306 eP P 08 41 52.2 +1.7
comp=Z,13nm,0.8s
Q16A **Castle Valley** 35.91 311 eP P 08 41 51.5 +0.5
comp=Z,7.7nm,1.0s
113A **Mohawk Valley,** 36.01 300 eP P 08 41 52.7 +1.1
comp=Z,3.8nm,0.8s
TMUT **Trail Mountain** 36.09 311 eP P 08 41 54.0 +1.3
comp=Z,13nm,1.2s
LPAZ **La Paz** 36.12 166 P P 08 41 53.1 -0.2
comp=Z,7.2nm,0.9s,baz=356,slow=8.9,SNR=12
LPAZ LR LR 08 58 44.6
comp=Z,822nm,18.9s,baz=343,slow=40
LPAZ **La Paz** 36.12 166 eP P 08 41 53.1 -0.2
comp=Z,21nm,1.3s
LPAZ **La Paz** 36.12 166 eP P 08 41 53.1 -0.2
LPAZ pmax pmax
comp=Z,21nm,1.3s
PKCU **Pink Cliffs** 36.20 308 eP P 08 41 54.2 +0.6
comp=Z,22nm,1.2s
EKU **East Kanab** 36.21 307 eP P 08 41 55.6 +2.0
MTPU **Mount Pierson** 36.32 309 eP P 08 41 55.6 +1.0
comp=Z,16nm,0.8s
SCHQ **Schefferville** 36.41 9 P P 08 41 55.0 +0.2
comp=Z,4.3nm,0.6s,baz=198,slow=6.6,SNR=25
SCHQ LR LR 08 54 54.2
comp=Z,482nm,21.7s,baz=174,slow=33
KNB **Kanab** 36.44 307 eP P 08 41 57.3 +1.8
comp=Z,29nm,0.9s
KNB **Kanab** 36.44 307 eP P 08 41 57.3 +1.8
KNB pmax pmax
comp=Z,29nm,0.9s
MSU **Marysvale** 36.48 310 eP P 08 41 57.6 +1.7
MSU **Marysvale** 36.48 310 eP P 08 41 57.6 +1.7
BW06 **Boulder Array** 36.54 318 P P 08 41 56.2 -0.2
baz=120,SNR=6.4
BW06 **Boulder Array** 36.54 318 eP P 08 41 56.1 -0.2
comp=Z,5.5nm,0.8s
PD31 **Pinedale Array** 36.54 318 eP P 08 41 56.4 0.0
PDAR **Pinedale Array** 36.54 318 P P 08 41 56.2 -0.1
comp=Z,4.0nm,0.7s,baz=112,slow=10.0,SNR=37
PDAR LR LR 08 58 26.0
comp=Z,1µm,18.6s,baz=116,slow=39
PDAR **Pinedale Array** 36.54 318 eP P 08 41 56.6 +0.3
PDMCI **Parker Dam,Lak** 36.68 302 P P 08 41 58.5 +1.1
baz=104
MPU **Maple Canyon** 36.68 312 eP P 08 41 58.4 +0.9
comp=Z,6.8nm,0.9s
W13A **Hualapai Mount** 36.68 303 eP P 08 41 59.4 +1.7
comp=Z,14nm,0.9s
LCMT **Little Creek M** 36.76 307 eP P 08 41 59.4 +1.2
comp=Z,22nm,1.2s
JLU **Jordanelle** 36.80 313 eP P 08 41 59.4 +0.8
comp=Z,7.3nm,0.8s
SZCU **Shurtz Canyon** 36.83 308 eP P 08 41 59.1 +0.2
comp=Z,8.7nm,1.1s
Y12C **Blythe** 36.85 301 eP P 08 42 00.3 +1.4
comp=Z,15nm,1.4s
GLA **Glamis** 36.94 300 eP P 08 42 00.7 +1.0
comp=Z,30nm,1.5s
GLA **Glamis** 36.94 300 eP P 08 42 00.7 +1.0
GLA pmax pmax
comp=Z,30nm,1.5s
NLU **North Lily Min** 36.97 312 eP P 08 42 01.2 +1.2
comp=Z,20nm,1.5s
TCUT **Toone Canyon** 36.99 314 eP P 08 42 00.3 +0.1
comp=Z,53nm,1.7s
CCUT **Cedar City** 37.02 308 eP P 08 42 01.7 +1.1
comp=Z,9.1nm,1.0s
CTU **Camp Tracy** 37.04 313 eP P 08 42 00.9 +0.3
comp=Z,12nm,1.2s
IRM **Iron Mountain** 37.45 302 P P 08 42 05.0 +1.0
baz=104,SNR=14
AHID **Auburn Hatcher** 37.53 317 eP P 08 42 04.5 -0.2
comp=Z,9.2nm,1.1s
DUG **Dugway, Tooele** 37.58 312 P P 08 42 06.0 +0.8
baz=113,SNR=24
DUG **Dugway, Tooele** 37.58 312 eP P 08 42 05.7 +0.5
comp=Z,18nm,0.8s
DUG **Dugway, Tooele** 37.58 312 eP P 08 42 05.7 +0.5
DUG pmax pmax
comp=Z,18nm,0.8s
RLMT **Red Lodge** 37.59 321 P P 08 42 05.8 +0.6
baz=123,SNR=9.7
RLMT **Red Lodge** 37.59 321 eP P 08 42 05.5 +0.3
comp=Z,21nm,1.1s
BC3 **Big Chuckawall** 37.59 301 P P 08 42 06.0 +0.8
baz=103
LOHW **Long Hollow** 37.62 318 eP P 08 42 05.9 +0.4
comp=Z,42nm,1.9s
SNOW **Snow King Moun** 37.65 318 eP P 08 42 06.5 +0.7
comp=Z,8.8nm,0.8s
LDFC **Landfair** 37.65 303 eP P 08 42 07.3 +1.5
comp=Z,26nm,1.0s
REDW **Red Top Meadow** 37.66 318 eP P 08 42 06.4 +0.5
comp=Z,20nm,0.8s
BEI **Bear River Ran** 37.68 315 eP P 08 42 06.3 +0.3
SWSC **Sam W. Stewart** 37.72 299 P P 08 42 07.3 +1.1
baz=102
MOOW **Moose Ponds** 37.78 318 eP P 08 42 07.4 +0.5
comp=Z,12nm,0.8s
SPUT **South Promonto** 37.78 314 eP P 08 42 07.2 +0.4
comp=Z,9.6nm,0.8s
TPAW **Teton Pass** 37.78 318 eP P 08 42 06.4 -0.5
comp=Z,17nm,1.1s
FXWY **Fox Creek** 37.90 318 eP P 08 42 08.3 +0.4
comp=Z,10nm,0.8s
IMW **Indian Meadow** 37.97 318 eP P 08 42 08.3 -0.3
comp=Z,11nm,0.8s
LKWY **Lake** 37.98 320 eP P 08 42 09.1 +0.6
comp=Z,9.1nm,0.8s
LKWY **Lake** 37.98 320 eP P 08 42 09.1 +0.6
LKWY pmax pmax
comp=Z,9.0nm,0.8s
H17A **Grant Village** 38.00 319 P P 08 42 09.3 +0.6
baz=120
H17A **Grant Village** 38.00 319 eP P 08 42 09.3 +0.6
comp=Z,7.0nm,0.9s
GMRC **Granite Mounta** 38.01 302 P P 08 42 09.5 +0.7
baz=104,SNR=6.3
SIV **San Ignacio** 38.02 156 P P 08 42 08.9 0.0
comp=Z,13nm,0.8s,baz=347,slow=8.0,SNR=46
SIV LR LR 08 58 56.5
comp=Z,398nm,18.7s,baz=360,slow=38
BGU **Big Grassy Mou** 38.02 313 eP P 08 42 09.7 +0.8
comp=Z,10nm,1.0s
SHPR **Sheep Range** 38.07 305 eP P 08 42 11.5 +2.2
comp=Z,13nm,0.9s
BELC **Belle Mtn. Jos** 38.10 301 P P 08 42 10.7 +1.1
baz=103
GCMT **Greycliff** 38.19 322 eP P 08 42 09.9 -0.2
HVU **Hansel Valley** 38.20 314 eP P 08 42 10.4 0.0
comp=Z,7.0nm,0.8s
HVU **Hansel Valley** 38.20 314 eP P 08 42 10.4 0.0
HVU pmax pmax
comp=Z,7.0nm,0.8s
MONP2 **Monument Peak** 38.23 299 P P 08 42 11.6 +0.9
baz=101
YHH **Holmes Hill** 38.37 320 eP P 08 42 12.6 +0.7
comp=Z,4.1nm,0.8s
YMR **Madison River** 38.38 319 eP P 08 42 12.8 +0.9
comp=Z,9.4nm,1.0s
TUQ **Turquoise Moun** 38.38 303 P P 08 42 13.2 +1.3
baz=104,SNR=13
YHB **Horse Butte** 38.56 319 eP P 08 42 13.3 -0.1
comp=Z,8.6nm,0.8s
QLMT **Earthquake Lak** 38.74 319 eP P 08 42 16.8 +1.8
SHOC **Shoshone, Teco** 38.78 304 P P 08 42 16.5 +1.4
baz=105,SNR=9.6
109C **Camp Elliot, M** 38.79 299 P P 08 42 16.7 +1.5
baz=100
R11A **Troy Canyon, C** 38.94 308 P P 08 42 18.0 +1.4
baz=108,SNR=14
R11A **Troy Canyon, C** 38.94 308 eP P 08 42 18.0 +1.4
comp=Z,9.1nm,0.9s
GSC **Goldstone, Bar** 39.05 303 P P 08 42 18.8 +1.3
baz=104,SNR=7.3
GSC **Goldstone, Bar** 39.05 303 eP P 08 42 18.6 +1.1
comp=Z,11nm,1.0s
GSC **Goldstone, Bar** 39.05 303 eP P 08 42 18.6 +1.1
GSC pmax pmax
comp=Z,11nm,1.0s
BOZ **Bozeman (W)** 39.25 320 P P 08 42 19.5 +0.4
baz=121
BOZ **Bozeman (W)** 39.25 320 eP P 08 42 19.8 +0.7
comp=Z,9.4nm,0.8s
BOZ **Bozeman (W)** 39.25 320 eP P 08 42 19.8 +0.7
BOZ pmax pmax
comp=Z,9.0nm,0.8s
FURC **Furnace Creek,** 39.38 305 P P 08 42 22.1 +2.0
baz=105,SNR=9.3
EGMT **Eagleton** 39.49 325 P P 08 42 20.8 -0.1
baz=125
EGMT **Eagleton** 39.49 325 eP P 08 42 21.1 +0.2
comp=Z,23nm,1.1s
BFSC **Mount Baldy Ra** 39.50 301 P P 08 42 22.4 +1.1
baz=102
MCMT **McKenzie Canyo** 39.62 319 eP P 08 42 23.6 +1.3
DLMT **Dillon** 39.72 319 eP P 08 42 23.9 +0.9
comp=Z,12nm,1.0s
MPMC **Manual Prospec** 39.77 304 P P 08 42 24.7 +1.1
baz=104,SNR=11
LRMC **Laurel Mtn Rad** 39.79 303 P P 08 42 24.3 +0.6
baz=103,SNR=8.9
DAC **Darwin (Calif)** 39.90 304 eP P 08 42 26.4 +1.7
comp=Z,8.3nm,0.9s
DAC **Darwin (Calif)** 39.90 304 eP P 08 42 26.4 +1.7
DAC pmax pmax
comp=Z,8.0nm,0.9s
EDW2 **Edwards Air Fo** 39.91 302 P P 08 42 25.5 +0.9

baz=102,SNR=9.9
HRY Holter Researc 39.95 322 *e*P P **08 42 25.6 +0.7**
HLID Hailey 40.06 316 P P **08 42 26.2 +0.4**
baz=115,SNR=9.1
HLID Hailey 40.06 316 *e*P P **08 42 26.6 +0.8**
comp=Z,6.2nm,0.9s
CWC Cottonwood Cre 40.32 304 P P **08 42 29.5 +1.3**
baz=104
ISA Isabella, Lake 40.46 303 P P **08 42 30.4 +1.2**
baz=103,SNR=8.8
ISA Isabella, Lake 40.46 303 *e*P P **08 42 29.4 +0.2**
comp=Z,9.3nm,1.0s
ISA Isabella, Lake 40.46 303 *e*P P **08 42 29.4 +0.2**
ISA pmax pmax
comp=Z,9.0nm,1.0s
PB01 IPOC Station P 40.49 170 *e*P P **08 42 29.1 -0.4**
comp=Z,12nm,0.9s
FFC Flin Flon 40.53 337 *e*P P **08 42 29.8 +0.4**
comp=Z,7.9nm,1.0s
FFC Flin Flon 40.53 337 *e*P P **08 42 29.8 +0.4**
FFC pmax pmax
comp=Z,8.0nm,1.0s
ARVC Arvin 40.63 302 P P **08 42 31.9 +1.4**
baz=102
BMN Battle Mountai 40.81 310 *e*P P **08 42 32.2 +0.1**
comp=Z,8.3nm,0.9s
BMN Battle Mountai 40.81 310 *e*P P **08 42 32.2 +0.1**
BMN pmax pmax
comp=Z,8.0nm,0.9s
NV11 Mina Array Sit 40.90 307 *e*P P **08 42 34.2 +1.4**
comp=Z,1.4nm,0.9s
MFID Camas Ranch 40.93 315 *e*P P **08 42 33.5 +0.4**
comp=Z,6.2nm,1.0s
VES Vestal, Richgr 40.98 303 P P **08 42 35.2 +1.8**
baz=102,SNR=15
NV01 Mina Array Sit 41.01 307 *e*P P **08 42 34.7 +0.8**
NVAR Mina Array Bea 41.01 307 P P **08 42 35.4 +1.5**
comp=Z,11nm,0.8s,baz=117,slow=7.5,SNR=53
NVAR LR LR 09 01 46.0
comp=Z,329nm,18.1s,baz=256,slow=40
KVN Kaiserville 41.03 308 *e*P P **08 42 34.9 +0.9**
comp=Z,21nm,0.9s
KVN Kaiserville 41.03 308 *e*P P **08 42 34.9 +0.9**
KVN pmax pmax
comp=Z,21nm,0.9s
RCTC Rector, Farmer 41.21 304 P P **08 42 36.9 +1.7**
baz=103,SNR=7.3
RYN Ryan 41.23 307 *e*P P **08 42 37.1 +1.5**
comp=Z,9.8nm,1.2s
MDPB Devils Postpil 41.39 306 *e*P P **08 42 37.8 +0.7**
comp=Z,10nm,0.8s
FCC Fort Churchill 41.64 346 *e*P P **08 42 39.7 +1.3**
comp=Z,21nm,1.5s
FCC Fort Churchill 41.64 346 *e*P P **08 42 39.7 +1.3**
FCC pmax pmax
comp=Z,21nm,1.5s
YERR Yerington 41.87 308 *e*P P **08 42 42.4 +1.5**
comp=Z,37nm,0.8s
GATR Gnd/Air Tx Cnt 41.87 301 *e*P P **08 42 42.0 +1.2**
PAGB Antelope Grade 41.88 302 *e*P P **08 42 41.3 +0.5**
comp=Z,16nm,1.0s
WAKR Walker 41.88 307 *e*P P **08 42 43.0 +2.0**
comp=Z,13nm,1.0s
JTMT Jette 41.91 322 *e*P P **08 42 40.9 -0.2**
comp=Z,40nm,1.7s
PAHR Pah Rah Range 42.17 308 *e*P P **08 42 44.8 +1.5**
comp=Z,14nm,1.5s
VCNR Virginia City 42.26 308 *e*P P **08 42 45.6 +1.6**
comp=Z,10nm,1.2s
PMPB Monarch Peak 42.42 303 *e*P P **08 42 45.4 +0.1**
comp=Z,31nm,1.0s
WVOR Wild Horse Val 42.48 313 *e*P P **08 42 46.5 +0.7**
comp=Z,6.1nm,0.8s
BMO Blue Mountains 42.48 316 *e*P P **08 42 45.1 -0.6**
comp=Z,19nm,1.7s
BMO Blue Mountains 42.48 316 *e*P P **08 42 45.1 -0.6**
BMO pmax pmax
comp=Z,19nm,1.7s
CMB Columbia Colle 42.49 306 *e*P P **08 42 46.1 +0.3**
comp=Z,4.8nm,0.8s
CMB Columbia Colle 42.49 306 *e*P P **08 42 46.1 +0.3**
CMB pmax pmax
comp=Z,5.0nm,0.8s
RUBR Rubicon Trail 42.57 307 *e*P P **08 42 47.6 +1.0**
comp=Z,39nm,0.9s
J08A Circle Bar Ran 42.69 314 *e*P P **08 42 47.3 -0.2**
comp=Z,10nm,0.9s
F10A Beach Ranch, E 42.89 318 *e*P P **08 42 48.7 -0.3**
comp=Z,6.0nm,0.8s
BEKR Beckworth 42.94 308 *e*P P **08 42 49.6 0.0**
comp=Z,5.4nm,0.7s
SAO San Andreas Ge 43.04 304 *e*P P **08 42 50.4 +0.2**
comp=Z,17nm,1.0s
SAO San Andreas Ge 43.04 304 *e*P P **08 42 50.4 +0.2**
SAO pmax pmax
comp=Z,17nm,1.0s
AFDM Forest Hills D 43.16 307 *e*P P **08 42 51.8 +0.7**
comp=Z,8.0nm,1.0s
RDG13 Poverty Ridge 43.41 305 *e*P P **08 42 55.1 +1.9**
comp=Z,21nm,1.3s
MOD Modoc Plateau 43.48 311 *e*P P **08 42 54.0 +0.1**
comp=Z,6.4nm,0.8s
E09A Wood Farm, Sta 43.70 318 *e*P P **08 42 55.0 -0.3**
comp=Z,21nm,1.4s
ORV Oroville 43.71 308 *e*P P **08 42 55.4 -0.1**
comp=Z,14nm,1.4s
ORV Oroville 43.71 308 *e*P P **08 42 55.4 -0.1**
ORV pmax pmax
comp=Z,14nm,1.4s
G08A Pilot Rock 43.73 316 *e*P P **08 42 56.0 +0.2**
comp=Z,6.6nm,0.9s
NEW Newport 43.84 321 P P **08 42 56.9 +0.4**
comp=Z,4.7nm,0.9s,baz=128,slow=8.6,SNR=6.9
NEW Newport 43.84 321 P P **08 42 56.5 +0.1**
baz=117
NEW Newport 43.84 321 *e*P P **08 42 56.6 +0.1**
comp=Z,9.4nm,0.9s
NEW Newport 43.84 321 *e*P P **08 42 56.6 +0.1**
NEW pmax pmax
comp=Z,9.0nm,0.9s
O03D Paynes Creek 44.12 309 P P **08 42 58.8 -0.1**
baz=105
E08A Dider Farm, El 44.27 318 *e*P P **08 43 00.1 +0.2**
comp=Z,19nm,1.5s
C09A Chrisman Ranch 44.32 320 *e*P P **08 43 00.4 0.0**
comp=Z,8.2nm,0.8s
EDM Edmonton 44.38 329 *e*P P **08 43 01.1 +0.3**
comp=Z,23nm,1.2s
EDM Edmonton 44.38 329 *e*P P **08 43 01.1 +0.3**
EDM pmax pmax
comp=Z,23nm,1.2s
J05D Fort Rock, OR 44.57 313 P P **08 43 02.2 -0.3**
baz=108
G06A Carlson Farm, 44.81 316 *e*P P **08 43 04.6 +0.2**
comp=Z,45nm,1.8s
FRB Frobisher Bay 44.92 5 LR LR 09 02 27.1
comp=Z,415nm,18.8s,baz=8.0,slow=37
YBH Yreka Blue Hor 45.16 310 P P **08 43 06.5 -0.7**
comp=Z,2.6nm,0.7s,baz=80,slow=5.8,SNR=9.8
YBH LR LR 09 03 59.5
comp=Z,270nm,18.7s,baz=99,slow=39
YBH Yreka Blue Hor 45.16 310 *e*P P **08 43 06.8 -0.4**
comp=Z,4.6nm,0.8s
YBH Yreka Blue Hor 45.16 310 *e*P P **08 43 06.8 -0.4**
YBH pmax pmax
comp=Z,5.0nm,0.8s
J04D Umpqua Nationa 45.16 313 P P **08 43 07.3 0.0**
baz=108
B08A Colville Reser 45.20 320 *e*P P **08 43 06.9 -0.5**
comp=Z,17nm,1.2s
KCPM Cahto Peak 45.30 307 *e*P P **08 43 08.8 +0.4**
comp=Z,17nm,1.1s
KMRM Mail Ridge 45.52 308 *e*P P **08 43 10.4 +0.4**
comp=Z,44nm,1.6s
I04A Tendick Farm, 45.54 313 P P **08 43 10.5 +0.4**
baz=108
HUMO Hull Mountain 45.57 311 *e*P P **08 43 09.4 -1.0**
comp=Z,32nm,1.8s
LTY Liberty 45.58 318 *e*P P **08 43 10.9 +0.4**
comp=Z,54nm,1.8s
H04A Detroit Lake 45.66 314 *e*P P **08 43 11.6 +0.5**
comp=Z,15nm,0.8s
LON Longmire 46.12 317 *e*P P **08 43 15.3 +0.6**
comp=Z,15nm,1.3s
LON Longmire 46.12 317 *e*P P **08 43 15.3 +0.6**
LON pmax pmax
comp=Z,15nm,1.3s
KBO Bosley Butte 46.37 311 *e*P P **08 43 18.6 +1.8**
comp=Z,369nm,1.9s
LLLB Lillooet 47.65 322 *e*P P **08 43 26.9 +0.3**
comp=Z,18nm,1.3s
CPUP Villa Florida 48.84 157 P P **08 43 34.5 -1.3**
comp=Z,3.3nm,0.9s,baz=331,slow=7.6,SNR=6.6
CPUP LR LR 09 07 19.6
comp=Z,282nm,18.1s,baz=342,slow=40
CPUP Villa Florida 48.84 157 *e*P P **08 43 34.8 -1.1**
comp=Z,14nm,1.3s
CPUP Villa Florida 48.84 157 *e*P P **08 43 34.8 -1.1**
CPUP pmax pmax
comp=Z,14nm,1.3s
SFJD Kangerlussuaq 50.67 13 *i*P P **08 43 49.2 -0.1**
SFJD Kangerlussuaq 50.67 13 *e*P P **08 43 49.2 -0.1**
YKA Yellowknife Ar 50.69 338 P P **08 43 49.4 -0.2**
comp=Z,4.3nm,0.9s,baz=129,slow=8.5,SNR=42
YKW3 Yellowknife Ar 50.74 338 *e*P P **08 43 50.4 +0.5**
comp=Z,23nm,1.5s
DLBC Dease Lake 55.10 329 *e*P P **08 44 24.0 +1.7**
comp=Z,22nm,1.1s
RPN Rapa Nui 55.94 216 LR LR 09 03 24.2
comp=Z,240nm,20.0s,baz=42,slow=31
BBTS Babate 57.28 85 LR LR 09 04 14.9
comp=Z,204nm,21.2s,baz=280,slow=31
TULEG Thule 57.59 2 *e*P P **08 44 39.9 +0.3**
comp=Z,13nm,0.9s
SUMG Summit 57.67 13 *i*P P **08 44 40.8 +0.1**
comp=Z,28nm,1.1s
SUMG Summit 57.67 13 *e*P P **08 44 40.8 +0.1**
comp=Z,36nm,1.2s
SUMG Summit 57.67 13 *e*P P **08 44 40.8 +0.1**
SUMG pmax pmax
comp=Z,36nm,1.2s
BORG Borgarnes 58.27 24 LR LR 09 06 33.0
comp=Z,204nm,19.0s,baz=199,slow=33
PLCA Paso Flores 59.79 175 P P **08 44 55.8 +0.3**
comp=Z,4.1nm,0.8s,baz=20,slow=8.9,SNR=20
PLCA LR LR 09 11 05.7
comp=Z,107nm,20.6s,baz=21,slow=36
PLCA Paso Flores 59.79 175 *e*P P **08 44 56.0 +0.6**
comp=Z,20nm,1.2s
PLCA Paso Flores 59.79 175 *e*P P **08 44 56.0 +0.6**
PLCA pmax pmax
comp=Z,20nm,1.2s
INK Inuvik 60.45 339 P P **08 44 59.4 -0.2**
comp=Z,1.8nm,0.8s,baz=87,slow=6.8,SNR=5.4
INK Inuvik 60.45 339 *e*P P **08 44 59.6 +0.1**
comp=Z,24nm,1.7s
INK Inuvik 60.45 339 *e*P P **08 44 59.6 +0.1**
INK pmax pmax
comp=Z,24nm,1.7s
DAWY Dawson 61.22 333 *e*P P **08 45 05.4 +0.5**
comp=Z,15nm,1.4s
MESJ Messejana 61.55 57 *e*P P **08 45 08.8 +1.3**
PCVE Castro Verde 61.70 57 *e*P P **08 45 09.9 +1.3**
PVAQ Vaqueiros 61.97 57 *e*P P 08 45 14.2 +3.8
PMRV Marv??o 62.12 55 *e*P P **08 45 12.5 +1.1**
EGAK Eagle 62.15 334 *e*P P **08 45 11.8 +0.7**
comp=Z,6.3nm,1.0s
PBAR Barrancos 62.46 56 *e*P P **08 45 15.6 +1.9**
RAGM Ragged Mountai 62.83 329 *e*P P **08 45 15.7 -0.1**
comp=Z,185nm,2.0s
MENT Mentasta 62.84 332 *e*P P **08 45 16.1 +0.3**
comp=Z,67nm,2.0s
EYAK Cordova Ski Ar 63.38 329 *e*P P **08 45 21.2 +1.8**
comp=Z,153nm,1.9s
HARP HAARP 63.39 331 *e*P P **08 45 20.7 +1.2**
comp=Z,38nm,1.3s
DIV Divide 63.47 330 *e*P P **08 45 20.4 +0.2**
comp=Z,38nm,1.3s
RIDG Independ'e Rid 63.49 332 *e*P P **08 45 21.6 +1.4**
comp=Z,19nm,1.0s
KLU Klutina 63.60 330 *e*P P **08 45 22.7 +1.7**
comp=Z,20nm,1.2s
PAX Paxson 63.63 332 *e*P P **08 45 22.4 +1.4**
comp=Z,10nm,1.1s
PAX Paxson 63.63 332 *e*P P **08 45 22.5 +1.4**
PAX pmax pmax
comp=Z,10.0nm,1.1s
FYU Fort Yukon 64.20 336 *e*P P **08 45 25.3 +0.6**
comp=Z,24nm,1.4s
DHY Denali Highway 64.50 332 *e*P P **08 45 28.6 +1.6**
comp=Z,12nm,1.2s
HDA Harding Lake 64.52 333 *e*P P **08 45 26.8 0.0**
comp=Z,44nm,1.9s
IL1 Eielson Array 64.55 333 *e*P P **08 45 26.9 -0.1**
ILAR Eielson Array 64.55 333 P P **08 45 27.1 +0.1**
comp=Z,1.0nm,0.8s,baz=110,slow=4.7,SNR=11
ILAR LR LR 09 14 29.1
comp=Z,656nm,19.3s,baz=104,slow=37
ILB Eielson Array 64.55 333 *e*P P **08 45 27.9 +0.9**
ESDC Sonseca Array 64.75 54 P P **08 45 28.7 -0.2**
comp=Z,0.3nm,0.4s,baz=278,slow=6.3,SNR=6.0
ESDC LR LR 09 08 08.7
comp=Z,243nm,21.6s,baz=335,slow=31
SML Sawmill 64.78 330 *e*P P **08 45 28.6 0.0**
comp=Z,32nm,1.1s
SML Sawmill 64.78 330 *e*P P **08 45 28.6 0.0**
SML pmax pmax
comp=Z,32nm,1.1s
ES19 SONSECA Array 64.80 54 *e*P P **08 45 29.5 +0.3**
CCB Clear Creek Bu 64.92 333 *e*P P **08 45 29.6 +0.2**
comp=Z,7.1nm,1.2s
COLA College 64.97 333 *i*P P **08 45 32.7 +3.0**
COLA pmax pmax
comp=Z,2.0nm,0.7s
EKA Eskdalemuir Ar 65.01 37 P P **08 45 32.0 +1.9**
comp=Z,2.0nm,0.6s,baz=276,slow=5.4,SNR=7.5
RND Reindeer 65.21 332 *e*P P **08 45 32.8 +1.4**
comp=Z,30nm,1.0s
RND Reindeer 65.21 332 *e*P P **08 45 32.8 +1.4**
RND pmax pmax
comp=Z,30nm,1.0s
MCK McKinley 65.28 332 *e*P P **08 45 33.1 +1.2**
comp=Z,14nm,1.1s
MCK McKinley 65.28 332 *e*P P **08 45 33.1 +1.2**
MCK pmax pmax
comp=Z,14nm,1.1s
RC01 Rabbit Creek A 65.38 329 *e*P P **08 45 33.5 +1.0**
comp=Z,23nm,1.0s
BRLK Bradley Lake 65.85 328 *e*P P **08 45 36.7 +1.1**
comp=Z,153nm,1.8s
TRF Thorofare Moun 65.86 332 *e*P P **08 45 36.8 +1.1**
comp=Z,29nm,1.4s
SUA Susitna One 65.89 330 *e*P P **08 45 37.0 +1.0**
comp=Z,74nm,2.0s
CHRN Cochrane 66.14 177 *e*P P **08 45 37.8 +0.4**
comp=Z,11nm,0.9s
KTH Kantishna Hill 66.15 332 *e*P P **08 45 38.6 +1.1**
comp=Z,15nm,1.0s
TOLK Toolik Lake Re 66.21 337 P P **08 45 38.4 +0.7**
baz=98
TOLK Toolik Lake Re 66.21 337 *e*P P **08 45 38.8 +1.0**
comp=Z,18nm,1.4s
BPAW Bear Paw Mtn. 66.23 332 *e*P P **08 45 38.3 +0.4**
comp=Z,12nm,1.2s
COLD Coldfoot 66.25 336 *e*P P **08 45 38.5 +0.5**
comp=Z,7.4nm,1.1s
CAST Castle Rocks 66.66 332 *e*P P **08 45 41.0 +0.4**
comp=Z,18nm,1.4s
PPLA Purkeypile 66.67 331 *e*P P **08 45 41.5 +0.6**
comp=Z,54nm,1.8s
IM3 Indian Mountai 67.54 334 *e*P P **08 45 46.4 +0.2**
SVW2 Sparrevohn 68.22 329 *e*P P **08 45 51.0 +0.5**
comp=Z,25nm,1.5s
TAOE Nuu Hiva Isla 68.64 252 *e*LR LR 09 06 42.4
comp=Z,288nm,29.3s
KOWA Kowa 69.06 81 P P **08 45 57.2 +0.6**
comp=Z,1.4nm,0.6s,baz=294,slow=7.1,SNR=5.3
KOWA LR LR 09 12 21.1
comp=Z,254nm,21.7s,baz=232,slow=33
TIC Toumodi 70.33 90 *e*P P **08 46 04.3 -0.2**
LIC Lamto 70.46 90 *e*P P **08 46 03.5 -1.7**
comp=Z,51nm,1.4s
DBIC Dimbokro 70.48 90 P P **08 46 05.4 0.0**
comp=Z,2.8nm,0.9s,baz=266,slow=7.8,SNR=2.8
DBIC LR LR 09 11 51.7
comp=Z,224nm,21.9s,baz=264,slow=32
KIC Kosan Boka 70.69 90 *e*P P **08 46 07.5 +0.9**
comp=Z,47nm,1.3s
ECH Echery 71.80 44 *e*P P **08 46 14.1 +1.3**
comp=Z,11nm,1.0s
ECH Echery 71.80 44 *e*P P **08 46 14.1 +1.3**
ECH pmax pmax
comp=Z,11nm,1.0s
SPA0 Spitsbergen Ar 72.01 13 *e*P P **08 46 14.5 +1.0**
SPITS Spitsbergen Ar 72.01 13 P P **08 46 14.3 +0.7**
comp=Z,6.4nm,0.8s,baz=219,slow=3.9,SNR=5.1
SPITS LR LR 09 18 52.8
comp=Z,130nm,19.2s,baz=175,slow=37
NB2 NORSAR Subarra 72.36 31 P P **08 46 17.7 +1.8**
comp=Z,20nm,1.4s,baz=281,slow=5.9
NOA NORSAR Array B 72.36 31 P P **08 46 15.4 -0.5**
comp=Z,0.7nm,0.7s,baz=280,slow=5.8,SNR=2.7
NOA LR LR 09 17 12.7
comp=Z,149nm,18.0s,baz=290,slow=35
HFS Hagfors 73.71 31 LR LR 09 16 59.6
comp=Z,196nm,18.5s,baz=290,slow=34
FUORN Ofenpass-Fuorn 74.15 46 *e*P P **08 46 28.3 +1.3**
comp=Z,27nm,1.0s
RETA Reutte 74.31 45 *e*pP P **08 46 29.7 +1.9**
comp=Z,16nm,0.9s
FETA Feichten 74.38 45 *e*pP P **08 46 30.5 +2.2**
comp=Z,15nm,1.1s
MOTA Moosalm 74.57 45 *e*P P 08 46 33.7 +4.4
comp=Z,12nm,0.9s
TOA0 Torodi Ar. Sit 74.77 81 *e*P P **08 46 31.1 +0.2**
comp=Z,18nm,1.4s
TORD Torodi Ar. Bea 74.77 81 P P **08 46 30.6 -0.2**
comp=Z,1.5nm,0.7s,baz=280,slow=4.7,SNR=9.5
TORD LR LR 09 16 15.5
comp=Z,313nm,20.2s,baz=285,slow=33
CLL Collm 74.99 41 *e*P P 08 46 40.0 +8.5
GAMB Gambell 75.34 333 *e*P P **08 46 35.0 +1.8**
comp=Z,4.7nm,1.0s
ABTA Abfaltersbach 75.64 45 *e*P P 08 46 39.3 +3.8
comp=Z,9.6nm,0.9s
BRG Berggiesshubel 75.66 41 *e*P P 08 46 43.2 +7.8
comp=Z,9.4nm,1.2s
BRG Berggiesshubel 75.66 41 *e*P P 08 46 43.2 +7.8
BRG pmax pmax
comp=Z,9.0nm,1.2s
KEST Kesra 75.78 57 *e*P P **08 46 36.5 +0.1**
comp=Z,142nm,1.8s
KHC Kasperske Hory 75.81 43 *e*P P **08 46 39.0 +2.7**
KHC *ex* x 08 46 45.7
KHC Kasperske Hory 75.81 43 *e*P P **08 46 37.6 +1.2**
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 75.81 43 *e*P P **08 46 37.6 +1.2**
KHC pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 75.95 43 P P **08 46 38.4 +1.1**
comp=Z,4.8nm,1.0s,baz=252,slow=2.7,SNR=8.7
GEA0 GERESS Array S 75.96 43 *e*P P **08 46 38.1 +0.8**
KBA Koelnbreinsper 76.12 45 *e*pP P **08 46 39.9 +1.6**
comp=Z,24nm,1.9s
PRU Pruhonice 76.23 42 *e*P P 08 46 44.6 +6.0
PRU *e*PCP pP 08 46 48.9 -0.7
PRU Pruhonice 76.23 42 *e*P P 08 46 44.6 +6.0
PRU *e* 08 46 48.9
ARCES ARCESS Array B 76.36 21 P P **08 46 38.7 -0.4**
comp=Z,39nm,1.3s,baz=304,slow=5.1,SNR=15
ARCES ARCESS Array B 76.36 21 *e*P P **08 46 39.5 +0.5**
ARCES ARCESS Array B 76.36 21 *e*P P **08 46 39.5 +0.5**
MOA Molln 76.55 44 *e*pP P **08 46 42.2 +1.6**
comp=Z,10nm,0.8s
UPC Upice 77.02 41 *e*P P 08 46 48.2 +5.1
UPC *e*PCP **PcP 08 46 52.7 -1.3**
UPC Upice 77.02 41 *e*P P 08 46 48.2 +5.1
UPC *e* 08 46 52.7
OBKA Obir 77.06 45 *e*pP P **08 46 45.0 +1.5**
comp=Z,10.0nm,0.9s
DPC Dobruska-Polom 77.25 41 *e*P P **08 46 45.0 +0.5**
DPC *e*PCP **PcP 08 46 54.1 -1.0**
DPC Dobruska-Polom 77.25 41 *e*P P **08 46 45.0 +0.5**
DPC *e* 08 46 54.1
SOKA Soboth 77.34 45 *e*pP P **08 46 46.4 +1.3**
comp=Z,11nm,1.1s
CONA Conrad Observa 77.57 43 *e*pP P **08 46 48.1 +1.8**
comp=Z,9.4nm,0.8s
VRAC Vranov 77.69 42 *e*P P **08 46 48.1 +1.2**
comp=Z,2.5nm,0.3s,baz=176,slow=14,SNR=4.1
VRAC Vranov 77.69 42⇑ *i*P P **08 46 42.4 -4.5**
MORC Moravsky Berou 78.16 41⇑ *i*P P **08 46 50.8 +1.2**
MORC Moravsky Berou 78.16 41⇑⇑P P **08 46 50.8 +1.2**
FINES FINESS Array B 79.23 29 P P **08 46 56.1 +1.0**
comp=Z,3.1nm,0.4s,baz=276,slow=3.3,SNR=37
FINES LR LR 09 18 37.1
comp=Z,152nm,19.6s,baz=284,slow=33
FIA1 FINESS Array S 79.23 29 *e*P P **08 46 56.5 +1.4**
comp=Z,79nm,1.9s
BLY Banja Luka 79.30 46⇓ *i*P P **08 46 58.0 +2.1**
VYHS Vyhne 79.33 42 *e*P P **08 46 56.9 +0.9**
VYHS *e* 08 47 07.4
VYHS Vyhne 79.33 42 *e*P P **08 46 56.9 +0.9**
VYHS *e* 08 47 07.4
PSZ Piszkesteto 80.18 43⇑ *i*P P 08 47 06.7 +6.0
PSZ Piszkesteto 80.18 43⇑⇑P P 08 47 06.7 +6.0
KECS Kecovo 80.39 42 *e*P P **08 47 04.2 +2.5**
KECS *e* 08 47 11.2
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 80.39 42 *e*P P **08 47 04.2 +2.5**
KECS *e* 08 47 11.1
PPT Papeete 80.55 248 LR LR 09 17 41.9
comp=Z,223nm,20.2s,baz=74,slow=32
PPT2 Papeete2 80.56 248 *e*LR LR 09 12 07.3
comp=Z,289nm,28.5s
STHS Stebnicka Huta 80.57 41 *e*P P 08 47 14.3 +12
STHS Stebnicka Huta 80.57 41 *e* P 08 47 14.3 +12
BZS Buzias 82.03 45⇓⇓ *i*P P **08 47 12.5 +2.1**
BZS Buzias 82.03 45 ⇓⇓P P **08 47 12.5 +2.1**
BILL Bilibino 82.03 340 *i*P P **08 47 10.5 +0.5**
BILL *i* 08 47 14.7
BILL *i* 08 47 25.0
BILL pmax pmax
comp=Z,3.0nm,1.0s
DRGR 82.36 43⇓⇓ *i*P P **08 47 13.9 +1.7**
DRGR 82.36 43 ⇓⇓P P **08 47 13.9 +1.7**
TBI Tubuai 82.78 242 *e*LR LR 09 13 14.0
comp=Z,291nm,31.8s
BURAR Bucovina Array 83.67 42⇑⇑ *i*P P 08 47 23.0 +4.0
ARR Arges 84.11 44⇓⇓ *i*P P 08 47 27.0 +5.7
VTS Vitosha 84.13 47⇑⇑ *i*P P 08 47 13.4 -8.2
VTS Vitosha 84.13 47⇑⇑P P 08 47 13.5 -8.1
VOIR 84.35 44⇓⇓ *i*P P **08 47 23.8 +1.2**
VOIR 84.35 44 ⇓⇓P P **08 47 23.8 +1.2**
DOPR Dopca 84.38 43⇑⇑P P 08 47 26.4 +3.8
AKASG Malin Array Be 84.91 38 P P **08 47 25.4 +0.3**
comp=Z,0.4nm,0.4s,baz=287,slow=3.9,SNR=6.2
AKASG LR LR 09 24 21.9
comp=Z,82nm,18.2s,baz=340,slow=35
AKASG Malin Array Be 84.91 38 *i*P P **08 47 26.2 +1.1**
MLR Muntele Rosu 84.92 44 P P **08 47 27.1 +1.6**
comp=Z,3.2nm,1.0s,baz=42,slow=5.4,SNR=8.9
MLR LR LR 09 20 21.5
comp=Z,39nm,19.5s,baz=296,slow=32
MLR Muntele Rosu 84.92 44⇑⇑P P **08 47 27.2 +1.7**
MLR Muntele Rosu 84.92 44 *e*P P **08 47 27.1 +1.6**
comp=Z,18nm,1.0s
MLR Muntele Rosu 84.92 44⇑⇑P P **08 47 27.2 +1.7**
PLOR Plostina 85.24 43⇓⇓ *i*P P **08 47 28.8 +1.8**
PLOR Plostina 85.24 43 ⇓⇓P P **08 47 28.8 +1.8**
VRI Vrincioaia 85.28 43⇓⇓ *i*P P **08 47 28.0 +0.8**
VRI Vrincioaia 85.28 43 ⇓⇓P P **08 47 28.0 +0.8**
KLMR Klimovskoe 85.35 26 *e*P P **08 47 26.1 -1.0**
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR Klimovskoe 85.35 26 *e*P P **08 47 26.2 -0.9**
KLMR AMP 08 47 33.1
comp=Z,29nm,1.4s
SORM Soroca 85.42 41⇑⇑ *i*P P 08 47 15.9 -12
SORM Soroca 85.42 41⇑⇑P P 08 47 15.9 -12
OBN Obninsk 86.91 32 P P **08 47 35.3 +0.4**
comp=Z,14nm,0.4s,baz=246,slow=10,SNR=3.2
OBN Obninsk 86.91 32 *i*P P **08 47 35.7 +0.8**
OBN pmax pmax
comp=Z,14nm,1.0s
OBN MLR MLR
comp=Z,246nm,15.0s
TIXI Tiksi 87.82 352 P P **08 47 39.7 +0.7**
comp=Z,3.6nm,0.6s,baz=29,slow=5.0,SNR=6.9
TIXI Tiksi 87.82 352 *e*P P **08 47 39.9 +0.9**
comp=Z,10nm,1.4s
TIXI Tiksi 87.82 352⇑ *e*P P **08 47 39.5 +0.5**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
SEY Seymchan 89.73 340 P P **08 47 49.4 +1.3**
comp=Z,2.8nm,0.9s,baz=74,slow=7.0,SNR=11
SEY Seymchan 89.73 340 *ce*P P **08 47 49.1 +0.9**
RAR Rarotonga 90.83 248 LR LR 09 21 02.0
comp=Z,75nm,18.7s,baz=68,slow=30

BRTR	**Keskin Array B**	**92.48**	**46**	LR	LR	09 26 01.5	
	comp=Z,44nm,19.0s,baz=300,slow=33						
MA2	**Magadan**	**92.68**	**338**	*i* P	**P**	**08 48 02.9**	**+1.0**
PETK	**Petropavlovsk-**	**94.25**	**331**	LR	LR	09 31 51.8	
	comp=Z,219nm,21.4s,baz=48,slow=36						
AKTO	**Aktyubinsk**	**99.98**	**28**	LR	LR	09 33 07.3	
	comp=Z,87nm,19.2s,baz=321,slow=35						
KSH	**Kashi**	**116.23**	**24**	*e*PKP	**PKPdf**	**08 53 35.0**	**+1.1**
HHC	**Hu-ho-hao-te**	**119.88**	**353**	*e*PKP	**PKPdf**	**08 53 41.3**	**+0.4**
HHC				PP	**PP**	**08 55 08.4**	**+5.0**
HHC	**Hu-ho-hao-te**	**119.88**	**353**	SS	SS	09 11 24.6	-1.1
LZH	**Lanzhou**	**125.10**	**360**	*e*PKP	**PKPdf**	**08 53 48.3**	**-2.8**
LZH				pPKP	pPKPdf	08 53 57.8	-4.8
LZH				sPKP		08 54 02.6	
CD2	**Chengdu**	**130.26**	**360**	PKP	**PKPdf**	**08 53 59.8**	**-1.2**
GYA	**Guiyang**	**134.60**	**356**	*e*Pdif	**Pdif**	**08 51 07.9**	**-2.0**
GYA				PKP	**PKiKP**	**08 54 09.8**	**-1.0**
GYA				PP	**PP**	**08 56 44.4**	**+3.7**
KMI	**Kunming**	**136.02**	**1**	PKP	**PKPdf**	**08 54 10.9**	**-1.3**
KMI				pPKP	pPKPdf	08 54 18.1	-5.5
KMI				sPKP		08 54 20.8	
KMI				PP	**PP**	**08 56 53.5**	**+3.7**
CMAR	**Chiang Mai Arr**	**142.39**	**7**	PKP	**PKPdf**	**08 54 26.2**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=321,slow=4.2,SNR=4.4						
STKA	**Stephens Creek**	**143.57**	**242**	PKP	**PKPdf**	**08 54 25.7**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=338,slow=3.7,SNR=4.3						
BBOO	**Buckleboo**	**147.89**	**238**	*e*PKPbc	**PKPbc**	**08 54 35.6**	**-0.1**
WC3	**Warramunga Arr**	**150.96**	**263**	*e*PKPbc	**PKPbc**	**08 54 43.3**	**-0.3**
WB2	**Warramunga Arr**	**150.98**	**263**	*e*PKPdf	**PKPdf**	**08 54 38.3**	**+0.3**
WB2				*e*PKPbc	**PKiKP**	**08 54 43.4**	**-0.9**
WRAB	**Tennant Creek**	**150.98**	**263**	*e*PKPbc	**PKPbc**	**08 54 43.5**	**-0.2**
WRA	**Warramunga Arr**	**150.99**	**263**	PKP	**PKPdf**	**08 54 38.2**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=86,slow=2.7,SNR=44						
WRA				PKPbc	**PKPbc**	**08 54 43.1**	**-0.7**
	comp=Z,7.2nm,0.6s,baz=84,slow=2.7,SNR=51						
AS01	**Alice Springs**	**151.36**	**255**	*e*PKPdf	**PKPdf**	**08 54 39.1**	**+0.6**
AS01				*e*PKPbc	**PKiKP**	**08 54 44.1**	**-0.9**
AS31	**Alice Springs**	**151.40**	**255**	*e*PKPbc	**PKPbc**	**08 54 44.3**	**-0.4**
ASAR	**Alice Springs**	**151.41**	**255**	PKP	**PKPdf**	**08 54 38.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=99,slow=2.1,SNR=29						
ASAR				PKPbc	**PKPbc**	**08 54 43.7**	**-1.0**
	comp=Z,5.4nm,0.7s,baz=96,slow=2.2,SNR=56						

*ISCJB **10** 08:49:56.9±0.7,51°.44N±0°.03×16°.05E±0°.04, h0km, Error ellipse: s-maj=4.8km s-min=3.1km az=15.2*
*CSEM **10** 08:49:59.1±0.5,51°.40N×16°.10E, h2km, ML3.2/8, Error ellipse: s-maj=7.5km s-min=4.1km az=5.0*
*PRU **10** 08:49:59.8,51°.41N×16°.07E, h0km*
*VIE **10** 08:50:02.6±0.7,51°.17N×16°.19E, h0km, mb2.4/2, ML2.6/4, Error ellipse: s-maj=5.5km s-min=4.5km az=29.0, Suspected Mining induced.*

ISC 10 08:49:57.8±0.9,51°.51N±0°.03×16°.04E±0°.03, h0km, n32, σ1s39/65, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.69**	**167**	*e*Pg		**Pg**	**08 50 10.9**	**0.0**
KSP				*e*Sg		**Sg**	**08 50 19.9**	**0.0**
KSP	**Ksiaz**	**0.69**	**167**	*e*Pg		**Pg**	**08 50 10.9**	**0.0**
KSP				*e*Sg		**Sg**	**08 50 19.9**	**0.0**
UPC	**Upice**	**1.01**	**181**	*e*PG		**Pg**	**08 50 17.1**	**+0.1**
UPC				*e*SG		**Sg**	**08 50 28.7**	**-1.3**
	comp=Z,61nm,0.2s							
UPC	**Upice**	**1.01**	**181**	Pg		**Pg**	**08 50 17.1**	**+0.1**
UPC				Sg		**Sg**	**08 50 28.7**	**-1.3**
	61nm,0.2s							
DPC	**Dobruska-Polom**	**1.18**	**171**	*e*PG		**Pg**	**08 50 19.8**	**-0.5**
DPC				*e*SG		**Sg**	**08 50 33.7**	**-1.8**
	comp=Z,22nm,0.3s							
DPC	**Dobruska-Polom**	**1.18**	**171**	Pg		**Pg**	**08 50 19.8**	**-0.5**
DPC				Sg		**Sg**	**08 50 33.7**	**-1.8**
	22nm,0.3s							
PVCC	**Panska Ves**	**1.35**	**224**	*e*PG		**Pn**	**08 50 24.5**	**+0.6**
PVCC				*e*SG		**Sn**	**08 50 42.4**	**-0.2**
	comp=Z,103nm,0.2s							
PVCC	**Panska Ves**	**1.35**	**224**	Pg		**Pn**	**08 50 24.5**	**+0.6**
PVCC				Sg		**Sn**	**08 50 42.4**	**-0.2**
	103nm,0.2s							
BRG	**Berggiesshubel**	**1.47**	**245**	PG		**Pb**	**08 50 26.5**	**+0.7**
BRG				SG		**Sn**	**08 50 46.4**	**+1.0**
	30nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.79**	**207**	*e*PG		**Pb**	**08 50 31.6**	**+0.2**
GOPC				*e*SG		**Sg**	**08 50 54.6**	**-0.5**
	comp=Z,14nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.79**	**207**	Pg		**Pb**	**08 50 31.6**	**+0.2**
GOPC				Sg		**Sg**	**08 50 54.6**	**-0.5**
	14nm,0.2s							
PRU	**Pruhonice**	**1.80**	**213**	*e*PG		**Pb**	**08 50 31.6**	**+0.1**
PRU				*e*SG		**Sn**	**08 50 53.2**	**-0.3**
	comp=Z,9.1nm,0.2s							
PRU	**Pruhonice**	**1.80**	**213**	Pg		**Pb**	**08 50 31.6**	**+0.1**
PRU				Sg		**Sn**	**08 50 53.2**	**-0.3**
	9.1nm,0.2s							
CLL	**Collm**	**1.91**	**265**	*e*Pg		**Pb**	**08 50 34.0**	**+0.5**
CLL				*e*Sg		**Sg**	**08 51 00.0**	**+0.8**
	comp=Z,13nm,0.6s							
MORC	**Moravsky Berou**	**1.98**	**151**	*e*Pn		**Pn**	**08 50 31.6**	**-1.0**
MORC				*e*Sn		**Sn**	**08 50 57.0**	**-1.2**
MORC				*e*Sg		**Sb**	**08 50 59.3**	**-0.7**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PG		**Pg**	**08 50 38.5**	**-0.4**
OKC				*e*SG		**Sb**	**08 51 04.1**	**-0.5**
	comp=Z,12nm,0.3s							
OKC	**Ostrava-Krasne**	**2.15**	**141**	Pg		**Pg**	**08 50 38.5**	**-0.4**
OKC				Sg		**Sb**	**08 51 04.1**	**-0.5**
	comp=Z,12nm,0.3s							
VRAC	**Vranov**	**2.23**	**171**	*e*Pn		**Pn**	**08 50 36.3**	**+0.3**
VRAC				*e*Sg		**Sg**	**08 51 07.9**	**-1.6**
NKC	**Novy Kostel**	**2.61**	**242**	*e*PN		**Pn**	**08 50 43.1**	**+1.9**
NKC				*e*PG		**Pg**	**08 50 48.5**	**+0.7**
NKC				*e*SG		**Sg**	**08 51 21.7**	**+0.1**
NKC	**Novy Kostel**	**2.61**	**242**	Pn		**Pn**	**08 50 43.1**	**+1.9**
KHC	**Kasperske Hory**	**2.86**	**214**	*e*PN		**Pn**	**08 50 44.9**	**+0.3**
KHC				*e*PG		**Pb**	**08 50 50.9**	**+1.3**
KHC				*e*SN		**Sn**	**08 51 18.5**	**-1.2**
KHC				*e*SG		**Sg**	**08 51 28.3**	**-1.2**
KHC	**Kasperske Hory**	**2.86**	**214**	Pn		**Pn**	**08 50 44.9**	**+0.3**
LANS	**Liptovska Anna**	**3.23**	**136**	*e*Pg		**Pb**	**08 50 57.1**	**+1.2**
LANS				*e*Sg		**Sb**	**08 51 38.0**	**+2.2**
LANS	**Liptovska Anna**	**3.23**	**136**	*e*PG		**Pb**	**08 50 57.1**	**+1.2**
LANS				*e*SG		**Sb**	**08 51 38.0**	**+2.2**
CONA	**Conrad Observa**	**3.59**	**182**	Pn		**Pn**	**08 50 55.1**	**+0.4**
	comp=Z,0.3nm,0.2s							
CONA				Sg		**Sg**	**08 51 49.1**	**-3.9**
	comp=Z,4.2nm,0.2s							
CONA	**Conrad Observa**	**3.59**	**182**	*i* Pn		**Pn**	**08 50 55.1**	**+0.4**
	comp=Z,0.3nm,0.2s							
CONA				Sg		**Sg**	**08 51 49.1**	**-3.9**
	comp=Z,4.2nm,0.2s							
BSD	**Bornholm Skovb**	**3.67**	**350**	*i* P		**Pn**	**08 50 54.9**	**-0.8**
BSD				*i* S		**Sn**	**08 51 35.0**	**-4.7**
BSD	**Bornholm Skovb**	**3.67**	**350**	*i* P		**Pn**	**08 50 54.9**	**-0.8**
MOA	**Molln**	**3.84**	**198**	Pn		**Pn**	**08 50 58.8**	**+0.7**
	comp=Z,0.6nm,0.2s							
MOA				Sg		**Sg**	**08 52 00.4**	**-0.8**
	comp=Z,2.5nm,0.2s							
MOA	**Molln**	**3.84**	**198**	*i* Pn		**Pn**	**08 50 58.8**	**+0.7**
	comp=Z,0.6nm,0.2s							
MOA				*e*Sg		**Sg**	**08 52 00.4**	**-0.8**
	comp=Z,2.5nm,0.2s							
STHS	**Stebnicka Huta**	**3.93**	**120**	*e*Pg		**Pg**	**08 51 13.5**	**+0.4**
STHS				*e*Sg		**Sg**	**08 52 06.9**	**+2.9**
STHS	**Stebnicka Huta**	**3.93**	**120**	*e*PG		**Pg**	**08 51 13.5**	**+0.4**
STHS				*e*SG		**Sg**	**08 52 06.9**	**+2.9**
STHS				*e*LG		Lg	08 52 07.6	

*DDA **10** 08:51:12.9, 37°.74N×29°.21E, h7km, Md2.6*
*ISCJB **10** 08:51:13.1±0.5, 37°.70N±0°.03×29°.23E±0°.03, h1km±7km, Error ellipse: s-maj=5.2km s-min=4.3km az=170.6*
*CSEM **10** 08:51:13.4±0.2, 37°.70N×29°.22E, h2km, ML2.4, Error ellipse: s-maj=5.4km s-min=5.2km az=155.0*
*ISK **10** 08:51:13.8, 37.69N×29.17E, h8km, ML2.4/6*

ISC 10 08:51:13.4±1.1, 37°.71N±0°.03×29°.25E±0°.02, h5km±11km, n31, σ1s15/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DENT	**Denizli**	**0.18**	**286**	PG		**Pg**	**08 51 16.9**	**0.0**
DENT				SG		**Sg**	**08 51 19.8**	**+0.5**
DENT	**Denizli**	**0.18**	**286**	*e*PG		**Pg**	**08 51 16.9**	**0.0**
DENT				*e*Sg		**Sg**	**08 51 19.8**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.36**	**228**	*i* P		**Pg**	**08 51 19.9**	**-0.4**
TAVA	**DENIZLI_Tavas**	**0.36**	**228**	P		**Pg**	**08 51 19.9**	**-0.4**
GOLH	**Golhisar**	**0.53**	**152**	*i* P		**Pg**	**08 51 23.6**	**0.0**
GOLH	**Golhisar**	**0.53**	**152**	P		**Pg**	**08 51 23.6**	**0.0**
BRDR	**BURDUR-Merkez**	**0.65**	**90**	*i* P		**Pg**	**08 51 26.3**	**+0.4**
BRDR				*i* S		**Sb**	**08 51 36.6**	**0.0**
BRDR	**BURDUR-Merkez**	**0.65**	**90**	P		**Pg**	**08 51 26.3**	**+0.4**
BRDR				S		**Sb**	**08 51 36.6**	**0.0**
KHAL	**Karahalli**	**0.69**	**16**	*i* P		**Pg**	**08 51 25.4**	**-1.4**
KHAL				*i* S		**Sg**	**08 51 35.5**	**-0.3**
KHAL	**Karahalli**	**0.69**	**16**	P		**Pg**	**08 51 25.4**	**-1.4**
KHAL				S		**Sg**	**08 51 35.5**	**-0.3**
KZIL	**AFYON_Kizioren**	**0.90**	**52**	*i* P		**Pg**	**08 51 27.9**	**-2.8**
KZIL				*i* S		**Sg**	**08 51 42.8**	**+0.5**
KZIL	**AFYON_Kizioren**	**0.90**	**52**	P		**Pg**	**08 51 27.9**	**-2.8**
KZIL				S		**Sg**	**08 51 42.8**	**+0.5**
KULA	**Kula-Manisa**	**0.93**	**330**	PG		**Pg**	**08 51 31.3**	**0.0**
KULA				SG		**Sb**	**08 51 44.9**	**+0.1**
KULA	**Kula-Manisa**	**0.93**	**330**	*e*Pg		**Pg**	**08 51 31.3**	**0.0**
KULA				*e*Sg		**Sb**	**08 51 44.9**	**+0.1**
YER	**Yerkesik**	**0.95**	**234**	PG		**Pg**	**08 51 31.2**	**-0.5**
YER	**Yerkesik**	**0.95**	**234**	*e*Pg		**Pg**	**08 51 31.2**	**-0.5**
TURN	**Turunc**	**0.98**	**212**	PN		**Pn**	**08 51 36.4**	**+2.7**
TURN	**Turunc**	**0.98**	**212**	*e*Pn		**Pn**	**08 51 36.4**	**+2.7**
FETY	**Fethiye**	**1.07**	**187**	PG		**Pn**	**08 51 34.5**	**-0.6**
FETY	**Fethiye**	**1.07**	**187**	P		**Pg**	**08 51 31.7**	**-2.3**
FETY	**Fethiye**	**1.07**	**187**	*e*Pg		**Pn**	**08 51 34.5**	**-0.6**
AYDN	**Tasoluk**	**1.08**	**268**	*i* P		**Pg**	**08 51 33.7**	**-0.5**
AYDN				*i* S		**Sb**	**08 51 47.9**	**-1.3**
AYDN	**Tasoluk**	**1.08**	**268**	P		**Pg**	**08 51 33.7**	**-0.5**
AYDN				S		**Sb**	**08 51 47.9**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**1.10**	**283**	PG		**Pg**	**08 51 33.9**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.10**	**283**	*e*Pg		**Pg**	**08 51 33.9**	**-0.6**
KORT	**Korkueli**	**1.13**	**128**	PN		**Pn**	**08 51 36.7**	**+0.8**
KORT	**Korkueli**	**1.13**	**128**	*e*Pn		**Pn**	**08 51 36.7**	**+0.8**
SHUT	**Suhut-Afyon**	**1.33**	**50**	PN		**Pg**	**08 51 40.3**	**+1.3**
SHUT	**Suhut-Afyon**	**1.33**	**50**	*e*Pn		**Pg**	**08 51 40.3**	**+1.3**
TVSB	**Tavsanli**	**1.75**	**5**	PN		**Pb**	**08 51 45.7**	**-0.4**
TVSB	**Tavsanli**	**1.75**	**5**	*e*Pn		**Pb**	**08 51 45.7**	**-0.4**

*ISCJB **10** 08:57:53.3±0.7,25°.96S±0°.09×179°.5E±0°.1, h503km, mb3.9/7, Error ellipse: s-maj=13.5km s-min=12.1km az=172.2*
*IDC **10** 08:57:54.6±1.5,26°.09S×179°.57E, h513km±19km, mb3.4/7, mb1 3.7/9, mb1mx3.3/42, mbtmp4.3/9, Error ellipse: s-maj=33.5km s-min=13.5km az=167.0*

ISC 10 08:57:53.7±0.7,26°.05S±0°.1×179°.6E±0°.1, h503km, n17, σ0s97/17, mb3.9/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**3.91**	**146**	P		**P**	**08 59 13.3**	**+1.7**
	311nm,0.3s,baz=80,slow=8.8,SNR=13							
URZ	**Urewera**	**12.37**	**189**	P		**P**	**09 00 34.7**	**-1.4**
	0.9nm,0.3s,baz=275,slow=3.3,SNR=6.9							
URZ				S		**S**	**09 02 49.9**	**+0.1**
	0.9nm,0.3s,baz=228,slow=23,SNR=5.0							
DZM	**Mont Dzumac**	**12.62**	**285**	P		**P**	**09 00 39.9**	**+0.8**
	1.6nm,0.3s,baz=112,slow=10,SNR=37							
CTA	**Charters Tower**	**31.16**	**274**	P		**P**	**09 03 31.9**	**+0.7**
	7.5nm,0.5s,baz=100,slow=11,SNR=14							
STKA	**Stephens Creek**	**33.62**	**251**	P		**P**	**09 03 52.0**	**+0.1**
	1.5nm,0.4s,baz=76,slow=12,SNR=11							
ASAR	**Alice Springs**	**41.35**	**263**	P		**P**	**09 04 55.3**	**-0.1**
	5.5nm,0.5s,baz=88,slow=7.8,SNR=114							
ASAR				S		**S**	**09 10 33.5**	**+0.1**
	1.0nm,1.0s,baz=101,slow=16,SNR=5.0							
WRA	**Warramunga Arr**	**41.92**	**269**	P		**P**	**09 04 59.4**	**-0.6**
	7.6nm,0.4s,baz=101,slow=7.7,SNR=342							
NVAR	**Mina Array Bea**	**86.55**	**44**	P		**P**	**09 09 44.3**	**+1.0**
	0.8nm,0.8s,baz=215,slow=7.8,SNR=7.1							
TXAR	**Lajitas Array**	**91.88**	**58**	P		**P**	**09 10 08.2**	**0.0**
	0.4nm,0.7s,baz=213,slow=5.7,SNR=4.2							
ILAR	**Eielson Array**	**94.18**	**14**	P		**P**	**09 10 16.6**	**-1.1**
	0.1nm,0.6s,baz=227,slow=6.3,SNR=4.5							
MKAR	**Makanchi Array**	**113.29**	**312**	PKiKP		**PKiKP**	**09 15 32.3**	**-1.5**
	0.2nm,0.6s,baz=75,slow=1.6,SNR=2.6							
NB2	**NORSAR Subarra**	**144.11**	**350**	PKP		PKPbc	09 16 30.0	-0.7
	comp=Z,0.6nm,0.3s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**144.11**	**350**	PKP		PKPbc	09 16 30.1	-0.6
	comp=Z,2.5nm,0.6s,baz=22,slow=3.8,SNR=6.3							
HFS	**Hagfors**	**144.54**	**348**	PKP		**PKPdf**	**09 16 31.2**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=61,slow=3.2,SNR=25							
AKASG	**Malin Array Be**	**146.51**	**325**	PKPbc		**PKPbc**	**09 16 37.3**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=48,slow=3.8,SNR=4.8							
MMAI	**Mount Meron Ar**	**148.16**	**291**	PKPbc		**PKPbc**	**09 16 44.0**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=58,slow=5.6,SNR=3.7							
EKA	**Eskdalemuir Ar**	**150.65**	**3**	PKPbc		**PKPbc**	**09 16 47.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=353,slow=3.0,SNR=5.6							

KRSC 10 09:02:10.2±1.0, 48°.05N×155°.63E, h51km±24km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**2.65**	**7**	*e*P		Pn	09 02 53.3	+2.8
SKR				*e*S		Sn	09 03 25.1	+3.7
PAU	**Pauzhetka**	**3.50**	**12**	*e*P		Pn	09 03 05.8	+3.7
PAU				*e*S		Sn	09 03 47.1	+4.8
KDTR	**Khodutka, Kamc**	**4.08**	**22**	*e*P		Pn	09 03 14.1	+4.1
KDTR				*e*S		Sn	09 04 01.2	+4.8
ASAK	**Asacha**	**4.57**	**18**	*e*P		Pn	09 03 20.8	+3.9
MTVR	**Mutnovka**	**4.73**	**19**	*e*S		Sn	09 04 17.2	+4.6
RUS	**Russkaya**	**4.76**	**22**	*e*P		Pn	09 03 23.1	+3.8
RUS				*e*S		Sn	09 04 16.8	+3.7
PET	**Petropavlovsk**	**5.34**	**20**	*e*S		Sn	09 04 31.0	+3.7
UGLR	**Uglovaya**	**5.55**	**20**	*e*P		Pn	09 03 33.5	+3.2
AVH	**Avacha**	**5.58**	**20**	*e*P		Pn	09 03 34.6	+3.9
SDLR	**Sedlovina**	**5.63**	**20**	*e*P		Pn	09 03 36.1	+4.8
SPN	**Mys Shipunski**	**5.77**	**27**	*e*S		Sn	09 04 42.4	+4.3
KBTR	**Krutoberegovo**	**9.28**	**26**	*e*P		Pn	09 04 26.4	+5.2

*ISK **10** 09:19:03.6, 38°.66N×43°.21E, h18km, ML2.6/3*
*ISCJB **10** 09:19:04.8±0.8, 38°.62N±0°.04×43°.27E±0°.06, h21km±5km, Error ellipse: s-maj=8.1km s-min=7.4km az=11.8*
*DDA **10** 09:19:04.3, 38°.67N×43°.29E, h7km, Md2.9*
*CSEM **10** 09:19:04.6±0.3, 38°.65N×43°.25E, h8km, ML2.6, Error ellipse: s-maj=6.8km s-min=6.3km az=62.0*

ISC 10 09:19:03.2±1.1, 38°.61N±0°.05×43°.40E±0°.05, h30km±7km, n23, σ1s58/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VANB	**Van**	**0.01**	**220**	PG		**Pb**	**09 19 08.8**	**+0.4**
VANB				SG		**Sb**	**09 19 13.2**	**+1.2**
VANB	**Van**	**0.01**	**220**	*e*Pg		**Pb**	**09 19 08.8**	**+0.4**
TVAN	**Van**	**0.08**	**176**	*i* P		**Pb**	**09 19 08.5**	**-0.2**
TVAN	**Van**	**0.08**	**176**	P		**Pb**	**09 19 08.5**	**-0.2**
GEVA	**Gevas**	**0.40**	**223**	*i* P		**Pb**	**09 19 11.7**	**-0.5**
GEVA	**Gevas**	**0.40**	**223**	P		**Pb**	**09 19 11.7**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.57**	**291**	*i* P		**Pb**	**09 19 13.5**	**-1.4**
ADCV				*i* S		**Sb**	**09 19 20.9**	**-1.9**
ADCV	**BITLIS_Adilcev**	**0.57**	**291**	P		**Pb**	**09 19 13.5**	**-1.4**
ADCV				S		**Sb**	**09 19 20.9**	**-1.9**
CLDR	**Caldiran**	**0.67**	**37**	PG		**Pn**	**09 19 18.5**	**+1.6**
CLDR	**Caldiran**	**0.67**	**37**	*i* S		**Sb**	**09 19 20.2**	**-5.6**
CLDR	**Caldiran**	**0.67**	**37**	*e*Pg		**Pn**	**09 19 18.5**	**+1.6**
TUTA	**Tutak**	**0.92**	**330**	*i* P		**Pb**	**09 19 20.1**	**-0.6**
TUTA				*i* S		**Sn**	**09 19 31.6**	**-0.9**
TUTA	**Tutak**	**0.92**	**330**	P		**Pb**	**09 19 20.1**	**-0.6**
TUTA				S		**Sn**	**09 19 31.6**	**-0.9**
AGRB	**Hanur-Agry**	**1.02**	**342**	PG		**Pn**	**09 19 22.3**	**+0.7**
AGRB				SG		**Sn**	**09 19 35.4**	**+0.4**
AGRB	**Hanur-Agry**	**1.02**	**342**	*e*Pg		**Pn**	**09 19 22.3**	**+0.7**
AGRB				*e*Sg		**Sn**	**09 19 35.4**	**+0.4**
GURO	**Guroymak-BITLI**	**1.07**	**268**	PG		**Pb**	**09 19 22.0**	**-1.3**
GURO				SG		**Sn**	**09 19 35.5**	**-0.7**
GURO	**Guroymak-BITLI**	**1.07**	**268**	*e*Pg		**Pb**	**09 19 22.0**	**-1.3**
GURO				*e*Sg		**Sn**	**09 19 35.5**	**-0.7**
EKAR	**Karacoban**	**1.23**	**302**	*i* P		**Pb**	**09 19 28.4**	**+2.5**
EKAR	**Karacoban**	**1.23**	**302**	P		**Pb**	**09 19 28.4**	**+2.5**
SRTM	**Siirt_Merkez**	**1.31**	**243**	*i* P		**Pb**	**09 19 28.2**	**+0.9**
SRTM	**Siirt_Merkez**	**1.31**	**243**	P		**Pb**	**09 19 28.2**	**+0.9**
EATA	**Eleskirt**	**1.44**	**331**	*i* P		**Pb**	**09 19 29.8**	**+0.2**
EATA				*i* S		**Sb**	**09 19 48.9**	**+1.2**
EATA	**Eleskirt**	**1.44**	**331**	P		**Pb**	**09 19 29.8**	**+0.2**
EATA				S		**Sb**	**09 19 48.9**	**+1.2**

*IDC **10** 09:33:03.6±0.9, 39°.64N×74°.35E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.5/74, mbtmp3.7/10, ML3.2/4, Error ellipse: s-maj=21.4km s-min=12.2km az=88.0*
*SOME **10** 09:33:04.9, 39°.87N×74°.43E, h0km*
*ISCJB **10** 09:33:04.0±0.6, 39°.51N±0°.03×74°.32E±0°.04, h10km, mb3.6/6, Error ellipse: s-maj=5.0km s-min=4.1km az=2.6*
*BJI **10** 09:33:04.4, 39°.86N×74°.18E, h5km, ML3.3/5*
*NNC **10** 09:33:05.5±1.1, 39°.67N×74°.31E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=10.0km s-min=3.2km az=1.0*
*KRNET **10** 09:33:05.1±0.1, 39°.70N×74°.34E, mb3.8*

ISC 10 09:33:03.9±0.8, 39°.49N±0°.05×74°.33E±0°.03, h10km, n67, σ1s73/108, mb3.8/6, 38C-30D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFK	**Sufi-Kurgan**	**0.83**	**309**	⇓P		**Pg**	**09 33 19.1**	**-0.8**
	28nm,0.2s							
SFK				⇑S		**Sb**	**09 33 29.5**	**-2.3**
	148nm,0.2s							
SFK	**Sufi-Kurgan**	**0.83**	**309**	⇑*i*P		**Pg**	**09 33 19.0**	**-0.8**
	baz=97							
SFK				⇑*i*S		**Sg**	**09 33 28.9**	**-1.8**
	baz=97							
KSH	**Kashi**	**1.27**	**88**	Pg		**Pn**	**09 33 25.5**	**-2.3**
KSH				Sg		**Sb**	**09 33 39.4**	**-4.9**
KSH				smax	smax			
	comp=N,770nm,0.6s							
KSH				smax	smax			
	comp=E,870nm,0.2s							
ARSB	**Arslanbob**	**2.10**	**331**	⇑*e*P		**Pb**	**09 33 40.4**	**-1.8**
	baz=28							
ARSB				⇑*i*S		**Sb**	**09 34 06.9**	**-1.5**
	baz=28							
NRN	**Naryn**	**2.32**	**33**	⇑*i*P		**Pn**	**09 33 43.3**	**+0.9**
	baz=35							
NRN				⇑*i*S		**Sb**	**09 34 11.9**	**-2.9**
	baz=35							
KZA	**Kyzart**	**2.68**	**15**	P		**Pn**	**09 33 48.7**	**+1.3**
	SNR=124							
KZA	**Kyzart**	**2.68**	**15**	⇑*i*P		**Pn**	**09 33 48.2**	**+0.8**
	baz=16							
KZA				⇑*i*S		**Sb**	**09 34 21.1**	**-4.1**
	baz=16							
AML	**Almayashu**	**2.68**	**350**	P		**Pn**	**09 33 48.5**	**+1.1**
	SNR=82							
AML	**Almayashu**	**2.68**	**350**	⇓*i*P		**Pn**	**09 33 48.4**	**+0.9**
	baz=49							
AML				⇓*i*S		**Sb**	**09 34 21.4**	**-3.9**
	baz=49							
TOKL	**Toktogul**	**2.69**	**336**	⇓*i*P		**Pn**	**09 33 48.7**	**+1.4**
	baz=34							
TOKL				⇓*i*S		**Sb**	**09 34 21.1**	**-4.1**
	baz=34							
UCH	**Uchtor**	**2.74**	**3**	P		**Pn**	**09 33 49.8**	**+1.5**
	SNR=271							
UCH	**Uchtor**	**2.74**	**3**	⇓*i*P		**Pn**	**09 33 49.7**	**+1.5**
	baz=3.0							
UCH				⇓*i*S		**Sn**	**09 34 21.7**	**0.0**
	baz=3.0							
ARK	**Arkit**	**2.93**	**323**

	5.6nm,0.6s								
MDOK					⇑Pg		**Pb**	**09 34 17.3**	**-0.6**
	21nm,0.5s								
MDOK					⇑Lg		Lg	09 35 13.6	
	67nm,1.0s								
MDOK	**Medeo**	**4.20**	**28**	*e*P			**Pb**	**09 34 17.4**	**-0.5**
	26nm,0.6s								
MDOK					*e*S		**Sb**	**09 35 09.9**	**+1.2**
	24nm,0.8s								
KNDC	**Almaty**	**4.22**	**27**	⇑Pn			**Pn**	**09 34 09.2**	**+0.9**
	8.9nm,0.3s								
KNDC					⇓Pg		**Pb**	**09 34 17.0**	**-1.1**
	82nm,0.7s								
KNDC					⇑Lg		Lg	09 35 14.0	
	64nm,1.1s								
KOTS	**Kotyrbulak**	**4.28**	**28**	*e*P			**Pb**	**09 34 19.6**	**+0.3**
KOTS					*e*S		**Sb**	**09 35 13.5**	**+2.3**
PRZ	**Przheval'sk**	**4.29**	**45**	⇑*i*P			**Pn**	**09 34 12.3**	**+2.9**
	baz=47								
PRZ					⇑*i*S		**Sn**	**09 35 00.8**	**+1.2**
	baz=47								
KTBS	**Karatobe**	**4.57**	**22**	*e*P			**Pb**	**09 34 23.3**	**-0.8**
KTBS					*e*S		**Sb**	**09 35 19.8**	**+0.5**
KK31	**Karatay Array**	**4.62**	**323**	⇑Pn			**Pn**	**09 34 15.2**	**+1.5**
	0.5nm,0.2s,baz=126,slow=12,SNR=22								
KK31					⇑Pg		**Pb**	**09 34 26.3**	**+1.4**
	2.4nm,0.4s								
KK31					⇑Sn		**Sn**	**09 35 09.4**	**+2.0**
	7.3nm,0.3s								
KK31					⇓Lg		Lg	09 35 24.1	
	30nm,0.7s								
CHKK	**Chushkaly**	**4.79**	**24**	*e*P			**Pb**	**09 34 27.9**	**0.0**
	8.8nm,0.4s								
CHKK					*e*S		**Sb**	**09 35 27.4**	**+1.8**
	22nm,0.6s								
ARXS	**Arharly**	**5.39**	**28**	*e*P			**Pb**	**09 34 35.6**	**-2.5**
	17nm,0.4s								
ARXS					*e*S		**Sb**	**09 35 41.2**	**-1.8**
	7.4nm,0.6s								
PDGK	**Podgornoye**	**5.45**	**44**	⇓Pn			**Pn**	**09 34 26.8**	**+1.5**
	4.0nm,0.6s								
PDGK					⇓Pg		**Pb**	**09 34 41.1**	**+1.8**
	20nm,0.7s								
PDGK					⇑Lg		Lg	09 35 54.6	
	23nm,0.8s								
PDGK	**Podgornoye**	**5.45**	**44**	⇑*e*P			**Pn**	**09 34 27.1**	**+1.8**
	baz=45								
PDGK					⇑*i*S		**Sn**	**09 35 27.5**	**-0.6**
	baz=45								
MNBS	**Baschi**	**5.50**	**32**	*e*P			**Pb**	**09 34 39.1**	**-0.9**
	8.2nm,0.8s								
MNBS					*e*S		**Sb**	**09 35 46.7**	**+0.6**
	7.3nm,0.5s								
OTUK	**Ortayu**	**8.87**	**351**	⇑Lg			Lg	09 37 42.8	
	30nm,1.5s								
MKAR	**Makanchi Array**	**9.33**	**36**	Pn			**Pn**	**09 35 19.9**	**+1.6**
	0.1nm,0.3s,baz=214,slow=13,SNR=4.9								
WMQ	**Urumqi**	**10.89**	**62**	*e*P			**Pn**	**09 35 40.9**	**+1.1**
KURBB	**Kurchatov Arra**	**11.52**	**13**	Lg			Lg	09 39 01.9	
	0.0nm,0.3s,baz=204,slow=32,SNR=4.1								
BVAR	**Borovoye Array**	**13.81**	**350**	Pn			**Pn**	**09 36 17.6**	**-1.9**
	baz=134,slow=12,SNR=2.1								
BVAR					Lg		Lg	09 40 15.2	
	0.5nm,0.3s,baz=166,slow=25,SNR=5.5								
AB31	**Akbulak array**	**14.16**	**318**	Pn			**Pn**	**09 36 22.9**	**-1.5**
	1.4nm,0.7s,baz=126,slow=13,SNR=12								
AKTO	**Aktyubinsk**	**15.87**	**319**	Pn			**Pn**	**09 36 46.1**	**-1.1**
	0.1nm,0.3s,baz=126,slow=17,SNR=2.8								
ZALV	**Zalesovo Beam**	**16.12**	**23**	Pn			**Pn**	**09 36 49.9**	**-0.5**
	0.3nm,0.3s,baz=209,slow=12,SNR=3.3								
FINES	**FINESS Array B**	**36.58**	**323**	P			**P**	**09 40 10.2**	**+0.7**
	0.4nm,0.5s,baz=116,slow=13,SNR=3.9								
ARCES	**ARCESS Array B**	**39.46**	**335**	P			**P**	**09 40 34.0**	**+0.1**
	5.0nm,0.9s,baz=96,slow=11,SNR=3.7								
TORD	**Torodi Ar. Bea**	**68.40**	**269**	P			**P**	**09 44 07.0**	**+0.9**
	0.3nm,0.4s,baz=55,slow=5.5,SNR=8.9								
YKA	**Yellowknife Ar**	**78.11**	**4**	P			**P**	**09 45 02.2**	**-0.3**
	0.1nm,0.4s,baz=348,slow=5.6,SNR=12								
WRA	**Warramunga Arr**	**81.42**	**125**	P			**P**	**09 45 23.0**	**+1.8**
	0.5nm,0.7s,baz=330,slow=5.5,SNR=11								
ASAR	**Alice Springs**	**83.89**	**127**	P			**P**	**09 45 35.5**	**+1.6**
	0.7nm,0.9s,baz=311,slow=5.3,SNR=5.6								

ISCJB ***10*** *09:37:18.4±0.3,38°.24N±0°.04×93°.82E±0°.03,h10km, mb4.5/64,MS3.5/7,Error ellipse: s-maj=6.1km s-min=3.2km az=18.9*

IDC ***10*** *09:37:18.4±0.6,38°.20N×93°.95E,h0km,mb4.2/26, mb1 4.3/28,mb1mx4.1/75,mbtmp4.2/28,ML3.5/2,MS3.5/7, Ms1 3.6/7,ms1mx3.1/78,Error ellipse: s-maj=15.7km s-min=12.1km az=17.0*

NEIC ***10*** *09:37:20.1±0.2,38°.18N×93°.87E,h10km,mb4.7/16,Error ellipse: s-maj=6.0km s-min=3.6km az=204.0*

BJI ***10*** *09:37:20.4,38°.11N×93°.86E,h10km,mb4.5/17,mB4.7/11, ML3.9/10,Ms3.8/15,Ms7 3.8/16*

MOS ***10*** *09:37:21.7±0.9,38°.27N×93°.81E,h33km,mb5.0/28,Error ellipse: s-maj=9.6km s-min=4.8km az=128.7*

NNC ***10*** *09:37:24.0±2.9,38°.61N×93°.88E,h24km±21km,mb4.5, Error ellipse: s-maj=29.6km s-min=17.6km az=41.0*

ISC 10 09:37:20.7±0.5,38°.31N±0°.06×93°.86E±0°.04,h10km,n155,
σ1§63/172,mb4.7/64,MS3.5/7,18C-8D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**4.78**	**75**	*e*Pn	**Pn**	**09 38 32.9**	**+0.1**
GTA				Sn	**Sn**	**09 39 29.4**	**+1.1**
GTA				LR	LR		
	comp=N,1μm,9.7s						
GTA				LR	LR		
	comp=E,1μm,9.0s						
GTA				LR	LR		
	comp=Z,1μm,10.7s						
GTA	**Gaotai**	**4.78**	**75**	*e*Pn	**Pn**	**09 38 32.9**	**+0.1**
GTA				Sn	**Sn**	**09 39 29.4**	**+1.1**
WMQ	**Urumqi**	**7.21**	**322**	Pn	**Pn**	**09 39 08.7**	**+2.4**
WMQ				Sn	**Sn**	**09 40 29.7**	**+1.4**
WMQ				LR	LR		
	comp=N,360nm,18.1s						
WMQ				LR	LR		
	comp=E,520nm,22.9s						
WMQ				LR	LR		
	comp=Z,560nm,15.1s						
WMQ	**Urumqi**	**7.21**	**322**	Pn	**Pn**	**09 39 08.7**	**+2.4**
WMQ				Sn	**Sn**	**09 40 29.7**	**+1.4**
WMQ	**Urumqi**	**7.21**	**322**	P	**Pn**	**09 39 08.7**	**+2.4**
WMQ						09 40 29.7	
LZH	**Lanzhou**	**8.27**	**102**	*e*P	**Pn**	**09 39 22.5**	**+1.7**
LZH				S	**Sn**	**09 40 51.7**	**-2.7**
LZH	**Lanzhou**	**8.27**	**102**	Pn	**Pn**	**09 39 22.5**	**+1.7**
LZH	**Lanzhou**	**8.27**	**102**	P	**Pn**	**09 39 22.5**	**+1.7**
CD2	**Chengdu**	**10.99**	**129**	*e*P	**Pn**	**09 39 56.0**	**-2.0**
CD2	**Chengdu**	**10.99**	**129**	*e*P	**Pn**	**09 39 56.0**	**-2.0**
PDGK	**Podgornoye**	**11.98**	**299**	⇓Pn	**Pn**	**09 40 13.5**	**+1.8**
	11nm,1.0s						
PDGK				⇓Sn	**Sn**	**09 42 25.7**	**+0.2**
	39nm,0.8s						
PDGK				⇓Lg	Lg	09 43 37.6	
	37nm,0.8s						
PDGK	**Podgornoye**	**11.98**	**299**	P	**Pn**	**09 40 13.5**	**+1.8**
PDGK				S	**Sn**	**09 42 25.7**	**+0.2**
PDGK				pmax	pmax		
	comp=Z,11nm,1.0s						
PDGK				smax	smax		
	comp=N,39nm,0.8s						
MK01	**Makanchi Array**	**12.00**	**319**	*e*Pn	**Pn**	**09 40 12.3**	**+0.5**
MK31	**Makanchi Array**	**12.02**	**319**	Pn	**Pn**	**09 40 12.3**	**+0.3**
	comp=N,26nm,0.7s,baz=125,slow=13,SNR=210						
MK31				⇑Sn	**Sn**	**09 42 23.2**	**-2.9**
	comp=N,16nm,0.6s,baz=128,slow=26,SNR=7.7						
MK31				⇑Lg	Lg	09 43 37.7	
	comp=N,36nm,0.9s						
MK31	**Makanchi Array**	**12.02**	**319**	*e*Pn	**Pn**	**09 40 12.1**	**+0.1**
MK31	**Makanchi Array**	**12.02**	**319**	*e*P	**Pn**	**09 40 12.1**	**+0.1**
MKAR	**Makanchi Array**	**12.02**	**319**	Pn	**Pn**	**09 40 12.4**	**+0.4**
	comp=N,2.6nm,0.3s,baz=127,slow=14,SNR=95						
MKAR				Sn	**Sn**	**09 42 24.8**	**-1.4**
	comp=N,2.7nm,0.3s,baz=129,slow=27,SNR=7.0						
MKAR	**Makanchi Array**	**12.02**	**319**	*e*Pn	**Pn**	**09 40 14.2**	**+2.2**
MKAR				Sn	**Sn**	**09 42 24.8**	**-1.4**
MKAR	**Makanchi Array**	**12.02**	**319**	*e*P	**Pn**	**09 40 14.2**	**+2.2**
MKAR						09 42 24.8	
MAKZ	**Makanchi**	**12.19**	**318**	⇑Pn	**Pn**	**09 40 13.7**	**-0.7**
	comp=N,25nm,0.6s						
MAKZ				⇓Sn	**Sn**	**09 42 26.1**	**-4.2**
	comp=N,22nm,1.1s						
MAKZ				⇓Lg	Lg	09 43 41.4	
	comp=N,52nm,1.3s						
MAKZ	**Makanchi**	**12.19**	**318**	*e*Pn	**Pn**	**09 40 15.1**	**+0.7**
MAKZ	**Makanchi**	**12.19**	**318**	*e*P	**Pn**	**09 40 15.1**	**+0.7**
XAN	**Xi'an**	**12.89**	**105**	Pg	Pn	09 40 32.3	+8.3
XAN				Sg		09 41 33.2	
SONM	**Songino Array**	**13.20**	**40**	Pn	**Pn**	**09 40 28.3**	**+0.1**
	comp=N,0.2nm,0.3s,baz=211,slow=14,SNR=4.1						
SONM				Sn	Sn	09 43 08.3	+13
	comp=N,0.2nm,0.3s,baz=235,slow=18,SNR=2.8						
SONM				Lg	Lg	09 44 17.6	
	comp=N,0.6nm,0.3s,baz=223,slow=30,SNR=6.2						
SONA1	**Songino Array**	**13.21**	**40**	*e*Pn	Pn	09 40 33.4	+5.0
KDJ	**Kajisay**	**13.31**	**292**	P	**Pn**	**09 40 28.5**	**-1.3**
ULN	**Ulaanbaatar**	**13.55**	**41**	*e*Pn	**Pn**	**09 40 35.5**	**+2.4**
ULN	**Ulaanbaatar**	**13.55**	**41**	*i* P	**Pn**	**09 40 31.1**	**-2.0**
MDOK	**Medeo**	**13.64**	**296**	⇑Pn	**Pn**	**09 40 33.7**	**-0.5**
	comp=N,9.3nm,0.7s						
MDOK				⇓Sn	**Sn**	**09 43 06.8**	**+1.0**
	comp=N,19nm,0.7s						
MDOK				⇑Lg	Lg	09 44 31.3	
	comp=N,32nm,1.4s						
ZAK	**Zakamensk**	**13.81**	**26**	*e*P	**P**	**09 40 46.3**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**13.89**	**74**	*e*P	**Pn**	**09 40 39.7**	**+2.0**
HHC				S	**Sn**	**09 43 14.9**	**+2.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,5.6s						
HHC				LR	LR		
	comp=Z,170nm,12.7s						
HHC				LR	LR		
	comp=Z,250nm,13.1s						
HHC				LR	LR		
	comp=Z,170nm,13.9s						
KSH	**Kashi**	**13.99**	**281**	P	**Pn**	**09 40 41.8**	**+2.8**
KSH				pP	P	09 40 45.4	-1.7
KSH				sP		09 40 49.4	
KSH				PP	**PnPn**	**09 40 53.5**	**+6.7**
KSH				S	**Sn**	**09 43 21.4**	**+7.0**
KSH				SS	**S**	**09 43 38.1**	**+2.0**
KSH				pmax	pmax		
	comp=Z,12nm,0.7s						
KSH				pmax	pmax		
	comp=Z,110nm,5.6s						
KSH				LR	LR		
	comp=Z,190nm,7.0s						
KSH				LR	LR		
	comp=Z,450nm,11.8s						
NRN	**Naryn**	**14.07**	**288**	P	**Pn**	**09 40 39.8**	**-0.5**
MOY	**Mondy**	**14.27**	**18**	*e*P	**P**	**09 40 53.4**	**+3.2**
MOY				pmax	pmax		
	comp=Z,10.0nm,2.1s						
TKM2	**Tokmak 2**	**14.61**	**294**	⇑Pn	**Pn**	**09 40 46.5**	**-1.2**
TKM2	comp=Z,16nm,0.5s						
TKM2				⇑Sn	**Sn**	**09 43 25.3**	**-4.5**
	comp=Z,13nm,0.8s						
TKM2	**Tokmak 2**	**14.61**	**294**	P	**Pn**	**09 40 46.5**	**-1.2**
TKM2				S	**Sn**	**09 43 25.3**	**-4.5**
TKM2				pmax	pmax		
	comp=Z,16nm,0.5s						
TKM2				smax	smax		
	comp=N,13nm,0.8s						
TLY	**Talaya**	**15.04**	**24**	⇑*e*P	**P**	**09 41 01.3**	**+2.7**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,247nm,15.0s						
KMI	**Kunming**	**15.15**	**148**	P	**Pn**	**09 40 52.4**	**-2.5**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
ENH	**Enshi**	**15.19**	**117**	*e*Pn	**Pn**	**09 40 52.8**	**-2.4**
	comp=Z,6.6nm,0.3s						
AAK	**Ala-Archa**	**15.36**	**292**	Pn	**Pn**	**09 40 56.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=266,slow=18,SNR=4.4						
AAK				LR	LR	09 48 16.4	
	comp=Z,145nm,21.8s,baz=3.0,slow=43						
AAK	**Ala-Archa**	**15.36**	**292**	⇑Pn	**Pn**	**09 40 59.0**	**+1.4**
	comp=Z,6.7nm,0.6s						
AAK	**Ala-Archa**	**15.36**	**292**	*e*Pn	**Pn**	**09 40 56.8**	**-0.8**
	comp=Z,8.1nm,0.6s						
AAK	**Ala-Archa**	**15.36**	**292**	*e*P	**Pn**	**09 40 56.8**	**-0.8**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
IRK	**Irkutsk**	**15.72**	**24**	*e*P	**P**	**09 41 07.7**	**+1.6**
IRK				pmax	pmax		
	comp=Z,28nm,1.5s						
KURBB	**Kurchatov Arra**	**16.43**	**323**	Pn	**Pn**	**09 41 10.5**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=135,slow=11,SNR=50						
KURBB				Sn	**Sn**	**09 44 12.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=121,slow=23,SNR=3.9						
KURBB				Lg	Lg	09 46 10.8	
	baz=134,slow=33,SNR=4.1						
KURK	**Kurchatov**	**16.45**	**324**	⇑Pn	**Pn**	**09 41 09.9**	**-1.6**
	comp=Z,18nm,1.0s						
KURK				⇑Sn	**Sn**	**09 44 09.8**	**-4.2**
	comp=Z,14nm,1.0s						
KURK				⇑Lg	Lg	09 45 56.3	
	comp=Z,41nm,1.2s						
KURK	**Kurchatov**	**16.45**	**324**	*e*Pn	**Pn**	**09 41 11.7**	**+0.2**
	comp=Z,14nm,0.9s						
KURK				Sn	**Sn**	**09 44 12.4**	**-1.6**
KURK				Lg	Lg	09 46 10.8	
KURK	**Kurchatov**	**16.45**	**324**	*e*P	**Pn**	**09 41 11.7**	**+0.2**
KURK						09 44 12.5	
KURK				pmax	pmax		
	comp=Z,14nm,0.9s						
MNAS	**Manas**	**16.79**	**291**	P	**Pn**	**09 41 15.6**	**-0.4**
MNAS				pmax	pmax		
	comp=Z,8.0nm,1.5s						
NVS	**Novosibirsk**	**18.05**	**340**	*e*P	**Pn**	**09 41 30.8**	**-0.6**
NVS				*e*		09 44 49.2	
KKAR	**Karatay Array**	**18.32**	**293**	*e*P	**P**	**09 41 35.2**	**+0.2**
KKAR	**Karatay Array**	**18.32**	**293**	*e*P	**P**	**09 41 35.2**	**+0.2**
OTUK	**Ortayu**	**18.50**	**309**	⇑Pn	**P**	**09 41 36.8**	**-0.1**
	comp=Z,14nm,0.8s						
OTUK	**Ortayu**	**18.50**	**309**	P	**P**	**09 41 36.8**	**-0.1**
OTUK				pmax	pmax		
	comp=Z,14nm,0.8s						
WHN	**Wuhan**	**18.57**	**109**	P	**Pn**	**09 41 43.7**	**+5.8**
WHN				LR	LR		
	comp=Z,690nm,16.9s						
CMAR	**Chiang Mai Arr**	**20.27**	**166**	P	Pn	09 41 56.0	-2.4
	comp=Z,1.0nm,0.5s,baz=349,slow=9.2,SNR=1.9						
CMAR				LR	LR	09 49 57.8	
	comp=Z,93nm,20.4s,baz=13,slow=38						
CMAR	**Chiang Mai Arr**	**20.27**	**166**	P	Pn	09 41 56.0	-2.4
KBL	**Kabul**	**20.30**	**267**	*e*P	**P**	**09 41 57.0**	**+0.1**
	comp=Z,5.4nm,0.6s						
KBL	**Kabul**	**20.30**	**267**	*e*P	**P**	**09 41 57.1**	**+0.1**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CM01	**Chiang Mai Arr**	**20.31**	**166**	*e*P	Pn	09 41 58.9	0.0
NJ2	**Nanjing**	**21.33**	**99**	*e*P	**P**	**09 42 08.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
BVAR	**Borovoye Array**	**21.90**	**320**	P	**P**	**09 42 14.3**	**+0.5**
	comp=Z,4.5nm,0.6s,baz=118,slow=12,SNR=19						
BVAR				LR	LR	09 51 26.8	
	comp=Z,246nm,19.2s,baz=85,slow=38						
BRVK	**Borovoye**	**21.97**	**320**	*e*P	**P**	**09 42 14.9**	**+0.4**
	comp=Z,28nm,1.4s						
BRVK	**Borovoye**	**21.97**	**320**	*e*P	**P**	**09 42 14.9**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,28nm,1.4s						
BOD	**Bodaibo**	**23.55**	**27**	*e*P	**P**	**09 42 31.4**	**+0.5**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s						
AB31	**Akbulak array**	**26.61**	**305**	P	**P**	**09 42 57.9**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=64,slow=6.4,SNR=13						
AB31	**Akbulak array**	**26.61**	**305**	P	**P**	**09 42 57.9**	**-1.2**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ABKAR	**Akbulak array**	**26.61**	**305**	*e*P	**P**	**09 42 59.6**	**+0.6**
	comp=Z,17nm,0.7s						
KS15	**Wonju Array Si**	**26.79**	**81**	*e*P	**P**	**09 42 59.5**	**-1.3**
GEYT	**Alibeck**	**28.02**	**280**	P	**P**	**09 43 12.9**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=46,slow=9.1,SNR=3.3						
AKTO	**Aktyubinsk**	**28.07**	**307**	P	**P**	**09 43 12.1**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=96,slow=11,SNR=9.4						
KLR	**Kul'dur**	**29.17**	**56**	P	**P**	**09 43 21.3**	**-0.7**
	comp=Z,0.1nm,0.7s,baz=262,slow=15,SNR=4.7						
KLR	**Kul'dur**	**29.17**	**56**	*i* P	**P**	**09 43 21.0**	**-1.0**
ARU	**Arti**	**29.54**	**319**	P	**P**	**09 43 25.8**	**+0.6**
	comp=Z,8.0nm,0.5s,baz=98,slow=5.5,SNR=15						
ARU				LR	LR	09 55 46.3	
	comp=Z,96nm,18.1s,baz=72,slow=37						
ARU	**Arti**	**29.54**	**319**	*e*P	**P**	**09 43 25.8**	**+0.6**
	comp=Z,9.5nm,0.5s						
ARU	**Arti**	**29.54**	**319**	*c i*P	**P**	**09 43 25.7**	**+0.5**
ARU						09 44 15.9	
ARU				S	**S**	**09 48 22.3**	**+2.5**
ARU				SS	**SnSn**	**09 49 49.3**	**+2.0**
ARU				pmax	pmax		
	comp=Z,21nm,1.7s						
YAK	**Yakutsk**	**32.31**	**31**	*e*P	**P**	**09 43 50.8**	**+1.3**
	comp=Z,9.5nm,0.8s						
YAK	**Yakutsk**	**32.31**	**31**	*e*P	**P**	**09 43 50.8**	**+1.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ASAJ	**Asahikawa**	**36.68**	**65**	P	**P**	**09 44 27.6**	**0.0**
	comp=Z,2.1nm,0.7s,baz=153,slow=3.2,SNR=4.4						
TIXI	**Tiksi**	**37.85**	**17**	P	**P**	**09 44 36.5**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=196,slow=4.7,SNR=8.7						
TIXI	**Tiksi**	**37.85**	**17**	*e*P	**P**	**09 44 36.7**	**-0.4**
	comp=Z,3.1nm,0.8s						
TIXI	**Tiksi**	**37.85**	**17**	*ce*P	**P**	**09 44 36.0**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	**Khabaz**	**38.34**	**295**	P	**P**	**09 44 41.4**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=93,slow=8.8,SNR=3.0						
VSR	**Storozhevoye**	**40.02**	**307**	*e*P	**P**	**09 44 54.6**	**-0.9**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LPSR	**Galich'ya Gora**	**40.10**	**309**	*e*P	**P**	**09 44 56.3**	**+0.1**
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
KLMR	**Klimovskoe**	**40.29**	**322**	*e*P	**P**	**09 44 55.7**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,16nm,1.2s						
KLMR	**Klimovskoe**	**40.29**	**322**	*e*P	**P**	**09 44 55.8**	**-1.9**
KLMR				AMP		09 44 58.9	
	comp=Z,16nm,1.2s						
MA2	**Magadan**	**41.41**	**40**	P	**P**	**09 45 07.0**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=275,slow=9.2,SNR=4.0						
MA2	**Magadan**	**41.41**	**40**	*ce*P	**P**	**09 45 06.4**	**-0.6**
OBN	**Obninsk**	**41.45**	**313**	*i* P	**P**	**09 45 05.4**	**-1.9**
OBN				*i*		09 45 13.4	
OBN				*i*		09 47 08.7	
OBN				pmax	pmax		
	comp=Z,28nm,1.6s						
SEY	**Seymchan**	**42.54**	**35**	P	**P**	**09 45 15.8**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=264,slow=8.7,SNR=24						
SEY	**Seymchan**	**42.54**	**35**	*ce*P	**P**	**09 45 16.3**	**+0.2**
PETK	**Petropavlovsk-**	**45.44**	**49**	LR	LR	10 04 28.5	
	comp=Z,51nm,19.1s,baz=316,slow=36						
BR131	**Keskin Array S**	**46.03**	**292**	*e*P	**P**	**09 45 44.8**	**+0.2**
BRTR	**Keskin Array B**	**46.03**	**292**	P	**P**	**09 45 45.0**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=100,slow=7.4,SNR=12						
AKASG	**Malin Array Be**	**46.31**	**307**	P	**P**	**09 45 46.7**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=73,slow=7.5,SNR=3.0						
BR231	**Keskin MP Arra**	**46.62**	**292**	*e*P	**P**	**09 45 45.6**	**-3.6**
FINES	**FINESS Array B**	**46.82**	**322**	P	**P**	**09 45 50.5**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=82,slow=8.0,SNR=12						
ARCES	**ARCESS Array B**	**47.16**	**334**	P	**P**	**09 45 53.0**	**+0.1**
	comp=Z,2.5nm,0.4s,baz=83,slow=7.6,SNR=19						
ARCES				PcP	**PcP**	**09 47 23.6**	**-0.7**
	comp=Z,5.5nm,0.9s,baz=46,slow=3.5,SNR=4.8						
BILL	**Bilibino**	**48.59**	**29**	*c i*P	**P**	**09 46 04.9**	**+0.9**
BILL				*i*		09 46 10.6	
BILL				*i*		09 47 29.8	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,94nm,19.0s						
ATD	**Arta Tunnel**	**52.58**	**254**	LR	LR	10 12 25.0	
	comp=Z,29nm,19.1s,baz=40,slow=40						
HFS	**Hagfors**	**53.01**	**322**	P	**P**	**09 46 37.8**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=83,slow=14,SNR=5.1						
NB2	**NORSAR Subarra**	**53.97**	**323**	P	**P**	**09 46 43.8**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=73,slow=7.4						
NOA	**NORSAR Array B**	**53.97**	**323**	P	**P**	**09 46 44.2**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=74,slow=7.4,SNR=6.4						
NOA				LR	LR	10 11 15.4	
	comp=Z,117nm,18.3s,baz=295,slow=38						
BRG	**Berggiesshubel**	**55.61**	**311**	*e*P	**P**	**09 46 56.9**	**+0.5**
	comp=Z,4.3nm,0.8s						
BRG	**Berggiesshubel**	**55.61**	**311**	*e*P	**P**	**09 46 56.9**	**+0.5**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**56.01**	**312**	⇓*i*P	**P**	**09 46 59.8**	**+0.5**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**56.01**	**312**	⇓*i*P	**P**	**09 46 59.8**	**+0.5**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**56.48**	**309**	P	**P**	**09 47 03.0**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=51,slow=7.0,SNR=7.7						
GEA0	**GERESS Array S**	**56.48**	**309**	*e*P	**P**	**09 47 03.0**	**+0.2**
BFO	**Black Forest**	**59.96**	**310**	*i* P	**P**	**09 47 28.4**	**+1.3**
SLE	**Schleitheim**	**60.

comp=Z,9.0nm,0.6s
EGAK Eagle 68.62 22 *e*P P 09 48 23.7 +0.2
comp=Z,6.9nm,0.9s
WRA Warramunga Arr 69.29 139 P P 09 48 26.1 -2.1
comp=Z,2.5nm,1.0s,baz=338,slow=6.7,SNR=11
KDAK Kodiak Island 69.34 32 *i* P P 09 48 27.9 -0.2
ESDC Sonseca Array 71.95 306 P P 09 48 44.5 +0.1
comp=Z,0.9nm,0.6s,baz=53,slow=6.2,SNR=8.5
AS31 Alice Springs 72.19 142 *e*P P 09 48 44.6 -1.2
comp=Z,0.9nm,0.6s
ASAR Alice Springs 72.19 142 P P 09 48 44.5 -1.4
comp=Z,3.0nm,0.8s,baz=330,slow=6.3,SNR=56
AS01 Alice Springs 72.21 142 *e*P P 09 48 44.6 -1.4
YKA Yellowknife Ar 76.96 13 P P 09 49 12.5 -0.5
comp=Z,1.9nm,0.9s,baz=338,slow=5.5,SNR=31
TOA0 Torodi Ar. Sit 83.65 282 *e*P P 09 49 49.3 -0.6
TORD Torodi Ar. Bea 83.65 282 P P 09 49 49.4 -0.5
comp=Z,3.3nm,0.8s,baz=47,slow=4.8,SNR=20
SCHQ Schefferville 85.76 349 P P 09 49 58.8 -1.1
comp=Z,2.7nm,0.7s,baz=334,slow=2.7,SNR=7.0
FFC Flin Flon 86.34 9 *e*P P 09 50 02.0 -0.7
comp=Z,4.4nm,0.8s
FFC Flin Flon 86.34 9 *e*P P 09 50 02.0 -0.7
FFC pmax pmax
comp=Z,4.0nm,0.8s
JTMT Jette 90.72 19 *e*P P 09 50 24.2 +0.3
comp=Z,9.3nm,1.2s
LKWY Lake 94.65 17 *e*P P 09 50 41.2 -1.0
comp=Z,14nm,1.8s
LKWY Lake 94.65 17 *e*P P 09 50 41.2 -1.0
LKWY pmax pmax
comp=Z,14nm,1.8s
CPUP Villa Florida 153.00 288 PKPbc **PKPbc** 09 57 16.6 -1.9
comp=Z,2.5nm,0.7s,baz=82,slow=2.1,SNR=5.7

MAN 10 09:58:33,12.94N×121.33E,h25km,mb4.2,ML3.0,MS2.7, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.52**	**203**	*e*P	Pn	09 58 44.5	-0.3
SJMP				*e*S	Sn	09 58 53.3	+0.4
PGP	**Puerto Galera**	**0.67**	**327**	⇑*e*P	Pb	09 58 46.4	+0.3
PGP				*i* S	Sn	09 58 56.8	+0.1
BOAC	**Boac**	**0.72**	**44**	*e*P	Pn	09 58 48.2	+0.6
BOAC				*e*S	Sn	09 58 58.8	+0.9
OTRP	**Odiongan**	**0.89**	**130**	*e*P	Pb	09 59 48.8	-1.0
BUSP	**Coron**	**1.44**	**230**	*e*P	Pn	09 59 58.0	+0.4
BUSP				*e*S	Sb	09 59 17.3	+0.1

IDC 10 10:05:32.6±3.9,2.67S×141.47E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.1/51,mbtmp3.2/3,ML3.3/1,Error ellipse: s-maj=131.8km s-min=32.5km az=89.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.53**	**202**	P	P	10 09 50.3	-0.5
	0.1nm,0.3s,baz=23,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**22.12**	**199**	P	P	10 10 29.4	-0.5
	0.5nm,0.6s,baz=30,slow=10,SNR=9.8						
MKAR	**Makanchi Array**	**71.45**	**322**	P	P	10 16 55.6	+0.6
	0.1nm,0.4s,baz=111,slow=7.9,SNR=1.2						

*NIED **10** 10:08:00,31.60N×131.10E,h68km,Mw3.9 Best double couple: M0 7.60000×10^14 NP1:ϕs143.00000°,δ65.00000°, λ153.00000°. NP2:ϕs246.00000°,δ65.00000°,λ28.00000°.*
*ISCJB **10** 10:08:28.3±0.5,31.62N±0.03×131.09E±0.06,h73km±3km, mb3.4/5,Error ellipse: s-maj=8.1km s-min=5.3km az=11.1*
*JMA **10** 10:08:29.2,31.62N×131.07E,h67km±1km,M3.6 Broadband fault plane solution: P waves. NP1: ϕs234.00000°,δ85.00000°,λ16.00000°. NP2: ϕs142.00000°,δ74.00000°,λ175.00000°. Principal axes: T Plg15.0000°, Azm99.0000°; N Plg73.0000°, Azm250.0000°; P Plg8.0000°, Azm7.0000°;*
JMA Felt II J1.
*IDC **10** 10:08:29.1±1.3,31.62N×131.16E,h68km±9km,mb3.1/5, mb1 3.4/8,mb1mx3.1/72,mbtmp3.5/8,MS2.7/1,Ms1 2.7/1, ms1mx2.3/18 Error ellipse: s-maj=21.2km s-min=13.0km az=93.0*

ISC 10 10:08:29.1±0.7,31.63N±0.04×131.10E±0.05,h66km±6km, n21,σ1s15/34,mb3.5/6,3C-5D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.18**	**125**	⇓P	**Pn**	**10 08 39.4**	**+0.3**
JNAR				S	**Sn**	**10 08 47.0**	**+0.7**
JTZ	**Takazaki**	**0.27**	**357**	⇓P	**Pn**	**10 08 39.8**	**+0.2**
JTZ				*e*S	**Sn**	**10 08 47.4**	**+0.1**
JSU	**Suzuyama**	**0.57**	**258**	⇑P	**Pn**	**10 08 42.2**	**0.0**
JSU				S	**Sn**	**10 08 52.1**	**+0.2**
JZO	**Okuchi**	**0.67**	**320**	⇑P	**Pn**	**10 08 43.5**	**+0.2**
JZO				S	**Sn**	**10 08 54.1**	**+0.3**
JTSN	**Tsuno**	**0.70**	**29**	⇓P	**Pn**	**10 08 44.1**	**+0.4**
JTSN				*e*S	**Sn**	**10 08 55.0**	**+0.5**
JIU2	**Izumi 2**	**0.95**	**345**	⇓P	**Pn**	**10 08 47.2**	**+0.5**
JIU2				*e*S	**Sn**	**10 09 00.1**	**+0.3**
JTN	**Tanegashima 3**	**0.98**	**186**	⇓P	**Pn**	**10 08 47.4**	**+0.3**
JTN				*e*S	**Sn**	**10 09 01.0**	**+0.6**
JSJ	**Shimokoshiki**	**1.18**	**273**	⇑P	**Pn**	**10 08 49.3**	**-0.4**
JSJ				S	**Sn**	**10 09 04.7**	**-0.5**
JYAK	**Yakushimahirau**	**1.48**	**200**	P	**Pn**	**10 08 53.8**	**+0.2**
JYAK				S	**Sn**	**10 09 12.1**	**0.0**
JNU	**Nakatsue**	**1.50**	**353**	P	**Pn**	**10 08 54.8**	**+0.8**
	130nm,0.3s,baz=209,slow=9.6,SNR=1477						
JNU				S	**Sn**	**10 09 13.4**	**+0.7**
	70nm,0.3s,baz=29,slow=18,SNR=5.0						
KSRS	**Korea Array**	**6.38**	**337**	P	**Pn**	**10 10 02.5**	**+2.2**
	1.3nm,0.3s,baz=149,slow=14,SNR=17						
MAT	**Matsushiro**	**7.66**	**48**	P	**Pn**	**10 10 18.4**	**+0.4**
MAT				*e*S	**Sn**	**10 11 39.3**	**-4.0**
MJAR	**Matsushiro Arr**	**7.66**	**48**	P	**Pn**	**10 10 19.2**	**+1.2**
	2.8nm,0.3s,baz=227,slow=17,SNR=92						
MJAR				S	**Sn**	**10 11 40.7**	**-2.7**
	0.2nm,0.3s,baz=212,slow=18,SNR=2.9						
USRK	**Ussuriysk Ar.**	**12.57**	**3**	LR	LR	10 16 05.0	
	comp=Z,31nm,18.3s,baz=358,slow=36						
KLR	**Kul'dur**	**17.59**	**1**	P	**P**	**10 12 31.1**	**+1.3**
	0.1nm,0.3s,baz=177,slow=6.8,SNR=22						
SONM	**Songino Array**	**24.80**	**318**	P	**P**	**10 13 44.7**	**-0.3**
	0.4nm,0.7s,baz=138,slow=11,SNR=3.6						
SONM				pP	**pP**	**10 14 00.0**	**-0.7**
	1.4nm,1.2s,baz=138,slow=9.1,SNR=3.7						
MKAR	**Makanchi Array**	**40.08**	**307**	P	**P**	**10 15 57.9**	**-0.1**
	0.2nm,0.7s,baz=40,slow=2.5,SNR=2.5						
MKAR				pP	**pP**	**10 16 14.4**	**+0.1**
	0.6nm,0.8s,baz=97,slow=9.9,SNR=5.6						
KURBB	**Kurchatov Arra**	**42.90**	**312**	pP	pP	10 16 37.0	-0.4
	0.6nm,0.8s,baz=96,slow=8.4,SNR=4.1						
BVAR	**Borovoye Array**	**48.09**	**315**	P	**P**	**10 17 02.2**	**+0.2**
	0.3nm,0.3s,baz=90,slow=12,SNR=2.9						
BVAR				pP	**pP**	**10 17 18.6**	**-0.1**
	0.6nm,0.3s,baz=246,slow=44,SNR=2.3						
WRA	**Warramunga Arr**	**51.37**	**176**	P	**P**	**10 17 27.9**	**+0.7**
	0.4nm,0.9s,baz=358,slow=8.3,SNR=2.9						
FINES	**FINESS Array B**	**69.43**	**330**	P	**P**	**10 19 28.1**	**-1.7**
	1.0nm,0.6s,baz=51,slow=7.6,SNR=3.9						

*ISCJB **10** 10:11:06.8±0.4,61.45N±0.03×152.30W±0.06, h133km±4km,mb3.1/1,Error ellipse: s-maj=5.6km s-min=4.4km az=43.7*
*NEIC **10** 10:11:08.1±0.0,61.44N×152.39W,h130km,ML2.7(AEIC), After AEIC.*
*IDC **10** 10:11:09.3±1.8,61.18N×150.88W,h58km±39km,mb3.1/1, mb1 3.4/4, mb1mx2.9/80,mbtmp3.2/4,ML2.6/3,Error ellipse: s-maj=71.0km s-min=9.6km az=110.0*

ISC 10 10:11:06.7±1.1,61.43N±0.04×152.35W±0.04, h138km±7km,n54,σ1s11/69,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGL	**Barrier Glacie**	**0.17**	**188**	P	**Pn**	**10 11 25.4**	**-0.3**
SPWE	**Spurr West**	**0.18**	**213**	P	**Pn**	**10 11 25.4**	**-0.3**
SPCP	**Crater Peak Br**	**0.19**	**150**	P	**Pn**	**10 11 25.3**	**-0.5**
SPCP				S	**Sn**	**10 11 39.1**	**-1.0**
CKL	**Chakachamna La**	**0.23**	**179**	P	**Pn**	**10 11 25.6**	**-0.2**
CKL				S	**Sn**	**10 11 39.7**	**-0.5**
STLK	**Strandline Lak**	**0.26**	**74**	P	**Pn**	**10 11 25.4**	**-0.4**
SKT	**Skwentna**	**0.68**	**35**	P	**Pn**	**10 11 27.6**	**-0.2**
SKT				S	**Sn**	**10 11 42.8**	**-1.0**
SUA	**Susitna One**	**0.77**	**87**	P	**Pn**	**10 11 28.9**	**+0.3**
SUA				S	**Sn**	**10 11 44.8**	**-0.4**
DFR	**Drift River**	**0.86**	**191**	P	**Pn**	**10 11 29.3**	**0.0**
DFR				S	**Sn**	**10 11 45.7**	**-0.6**
RDJH	**Redoubt Jeurge**	**0.87**	**195**	P	**Pn**	**10 11 29.6**	**+0.2**
RDJH				S	**Sn**	**10 11 46.1**	**-0.5**
RDWB	**Redoubt West**	**0.97**	**195**	P	**Pn**	**10 11 30.4**	**0.0**
VOGL	**Vogel Lake**	**1.02**	**114**	P	**Pn**	**10 11 32.2**	**+1.6**
RC01	**Rabbit Creek A**	**1.31**	**104**	P	**Pn**	**10 11 33.7**	**+0.4**
RC01				S	**Sn**	**10 11 53.6**	**+0.1**
SLKM	**Skilak Lake**	**1.39**	**131**	P	**Pn**	**10 11 34.5**	**+0.3**
ILW	**Iliamna West**	**1.43**	**196**	P	**Pn**	**10 11 35.1**	**+0.3**
PPLA	**Purkeypile**	**1.48**	**3**	P	**Pn**	**10 11 35.5**	**+0.3**
PPLA				S	**Sn**	**10 11 56.8**	**-0.3**
ILS	**Iliamna Low So**	**1.52**	**194**	P	**Pn**	**10 11 36.1**	**+0.4**
PMR	**Palmer**	**1.55**	**83**	P	**Pn**	**10 11 35.5**	**-0.3**
PMR				S	**Sn**	**10 11 57.5**	**-0.7**
SVW2	**Sparrevohn**	**1.60**	**259**	P	**Pn**	**10 11 35.9**	**-0.6**
SVW2				S	**Sn**	**10 11 57.3**	**-1.9**
GHO	**Glory Hole Cre**	**1.67**	**77**	P	**Pn**	**10 11 37.2**	**-0.1**
GHO				S	**Sn**	**10 12 00.6**	**-0.2**
HOM	**Homer**	**1.81**	**169**	P	**Pn**	**10 11 39.6**	**+0.8**
BRLK	**Bradley Lake**	**1.82**	**156**	P	**Pn**	**10 11 39.0**	**-0.1**
KNK	**Knik Glacier**	**1.87**	**89**	P	**Pn**	**10 11 39.5**	**-0.1**
SEW	**Seward**	**1.95**	**132**	P	**Pn**	**10 11 40.5**	**0.0**
SML	**Sawmill**	**1.96**	**77**	P	**Pn**	**10 11 40.4**	**-0.2**
SML				S	**Sn**	**10 12 06.1**	**-0.5**
CAST	**Castle Rocks**	**2.00**	**3**	P	**Pn**	**10 11 41.0**	**-0.2**
AUW	**Augustine West**	**2.14**	**196**	P	**Pn**	**10 11 43.5**	**+0.7**
KTH	**Kantishna Hill**	**2.23**	**17**	P	**Pn**	**10 11 44.2**	**+0.3**
TRF	**Thorofare Moun**	**2.25**	**24**	P	**Pn**	**10 11 44.6**	**+0.3**
TT01	**Tatalina**	**2.27**	**312**	P	**Pn**	**10 11 44.2**	**-0.2**
SCM	**Sheep Creek Mo**	**2.43**	**78**	P	**Pn**	**10 11 46.4**	**0.0**
RND	**Reindeer**	**2.56**	**38**	P	**Pn**	**10 11 48.3**	**+0.2**
GLI	**Glacier Island**	**2.60**	**100**	P	**Pn**	**10 11 47.7**	**-0.9**
GLI				S	**Sn**	**10 12 19.5**	**-1.3**
BPAW	**Bear Paw Mtn.**	**2.75**	**13**	P	**Pn**	**10 11 50.5**	**+0.1**
MCK	**McKinley**	**2.80**	**33**	P	**Pn**	**10 11 51.6**	**+0.6**
JPK	**Jack Peak**	**2.80**	**95**	P	**Pn**	**10 11 50.8**	**-0.3**
DHY	**Denali Highway**	**2.85**	**52**	P	**Pn**	**10 11 52.4**	**+0.5**
KLU	**Klutina**	**3.08**	**86**	P	**Pn**	**10 11 54.6**	**-0.2**
HARP	**HAARP**	**3.54**	**71**	P	**Pn**	**10 12 01.9**	**+1.4**
PAX	**Paxson**	**3.57**	**61**	P	**Pn**	**10 12 02.2**	**+1.2**
KDAK	**Kodiak Island**	**3.66**	**182**	P	**Pn**	**10 12 00.6**	**-1.5**
	0.4nm,0.3s,baz=58,slow=7.6,SNR=18						
KDAK				S	**Sn**	**10 12 42.2**	**-2.8**
	2.2nm,0.3s,baz=25,slow=9.6,SNR=6.3						
KDAK	**Kodiak Island**	**3.66**	**182**	P	**Pn**	**10 12 00.7**	**-1.4**
BMRM	**Bremner River**	**3.78**	**94**	P	**Pn**	**10 12 03.1**	**-0.6**
GOAT	**Goat Mountain**	**3.81**	**100**	P	**Pn**	**10 12 03.6**	**-0.4**
RAGM	**Ragged Mountai**	**3.89**	**102**	P	**Pn**	**10 12 04.6**	**-0.6**
MDM	**Murphy Dome**	**4.00**	**26**	P	**Pn**	**10 12 06.9**	**+0.2**
COLA	**College**	**4.01**	**29**	P	**Pn**	**10 12 07.8**	**+1.1**
ILAR	**Eielson Array**	**4.17**	**34**	P	**Pn**	**10 12 10.0**	**+1.2**
	0.9nm,0.3s,baz=214,slow=14,SNR=51						
ILAR				S	**Sn**	**10 12 54.4**	**-2.7**
	0.9nm,0.3s,baz=202,slow=16,SNR=9.7						
ILB	**Eielson Array**	**4.17**	**34**	P	**Pn**	**10 12 09.1**	**+0.3**
RIDG	**Independ'e Rid**	**4.17**	**53**	P	**Pn**	**10 12 10.0**	**+1.1**
IM3	**Indian Mountai**	**4.62**	**353**	P	**Pn**	**10 12 14.9**	**+0.2**
BCA3	**Beaver Creek A**	**5.20**	**67**	P	**Pn**	**10 12 23.6**	**+1.1**
FALS	**False Pass**	**8.80**	**227**	*e*Pn	**Pn**	**10 13 08.2**	**-2.5**
	116nm,0.9s						
FALS				*e*Sn	**Sn**	**10 14 53.2**	**+5.0**
YKA	**Yellowknife Ar**	**17.61**	**70**	P	**Pn**	**10 15 05.1**	**+1.9**
	0.0nm,0.3s,baz=279,slow=11,SNR=5.9						
TXAR	**Lajitas Array**	**45.21**	**112**	P	P	10 19 14.1	+4.4
	0.3nm,0.6s,baz=347,slow=7.7,SNR=2.9						

MEX 10 10:19:52.5±0.5,19.37N×105.17W,h5km,MD3.8,Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.18**	**43**	*i* P	Pg	10 19 55.7	-0.4
CJM				*i* S	Sg	10 19 58.4	-0.1
EZ5V		**1.49**	**85**	*e*P	Pn	10 20 17.1	-3.1
EZ5V				*e*S	Sb	10 20 36.2	-4.9
MMIG	**Aquila**	**2.04**	**121**	*e*P	Pn	10 20 23.7	-3.7
MMIG				*e*S	Sn	10 20 48.4	-4.9
SFJM	**Santa Fe**	**2.30**	**61**	*i* P	Pn	10 20 24.4	-6.8
SFJM				*e*S	Sn	10 20 52.4	-7.6
ZAIG	**Zacatecas**	**4.17**	**35**	*i* P	Pn	10 20 54.0	-3.1
ZAIG				*i* S	Sn	10 21 43.8	-2.6

IDC 10 10:38:44.5±3.1,5.30S×133.48E,h0km,mb3.7/1, mb1 3.7/4,mb1mx3.3/51,mbtmp3.6/4,ML3.0/2,Error ellipse: s-maj=127.7km s-min=30.7km az=82.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.58**	**177**	Pn	Pn	10 42 12.2	0.0
	0.1nm,0.3s,baz=352,slow=14,SNR=2.4						
WRA				Sn	Sn	10 44 46.6	-8.1
	0.1nm,0.3s,baz=358,slow=23,SNR=2.4						
FITZ	**Fitzroy Crossi**	**14.85**	**210**	Pn	Pn	10 42 16.8	+0.8
	baz=47,slow=11						
FITZ				Sn	Sn	10 44 56.4	-5.0
	baz=236,slow=21						
ASAR	**Alice Springs**	**18.27**	**179**	P	Pn	10 42 59.0	-0.6
	0.0nm,0.3s,baz=357,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**68.77**	**325**	P	P	10 49 50.5	0.0
	0.4nm,0.5s,baz=118,slow=7.7,SNR=5.2						

*DDA **10** 11:01:48.7,38.80N×43.37E,h7km,Md2.5*
*ISK **10** 11:01:48.8,38.78N×43.27E,h20km,ML2.6/2*
*CSEM **10** 11:01:49.4±0.2,38.80N×43.31E,h20km,ML2.6,Error ellipse: s-maj=5.4km s-min=4.6km az=87.0*
*ISCJB **10** 11:01:50.2±0.6,38.78N±0.03×43.27E±0.05,h25km±10km, Error ellipse: s-maj=6.5km s-min=4.3km az=160.9*

ISC 10 11:01:49.4±0.9,38.79N±0.03×43.33E±0.03,h27km±7km, n24,σ1s01/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**165**	PG	**Pb**	**11 01 55.9**	**+0.4**
VANB				SG	**Sb**	**11 02 00.5**	**+0.9**
VANB	**Van**	**0.20**	**165**	*e*Pg	**Pb**	**11 01 55.9**	**+0.4**
VANB				*e*Sg	**Sb**	**11 02 00.5**	**+0.9**
TVAN	**Van**	**0.27**	**166**	*i* P	**Pb**	**11 01 56.1**	**-0.3**
TVAN				*i* S	**Sb**	**11 02 00.8**	**-0.4**
TVAN	**Van**	**0.27**	**166**	P	**Pb**	**11 01 56.2**	**-0.3**
TVAN				S	**Sb**	**11 02 00.8**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.47**	**273**	*i* P	**Pb**	**11 01 59.1**	**-0.3**
ADCV				*i* S	**Sb**	**11 02 05.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.47**	**273**	P	**Pb**	**11 01 59.1**	**-0.3**
ADCV				S	**Sb**	**11 02 05.8**	**-0.3**
GEVA	**Gevas**	**0.52**	**204**	*i* P	**Pb**	**11 01 59.3**	**-0.9**
GEVA				*i* S	**Sb**	**11 02 06.2**	**-1.3**
GEVA	**Gevas**	**0.52**	**204**	P	**Pb**	**11 01 59.3**	**-0.9**
GEVA				S	**Sb**	**11 02 06.2**	**-1.3**
CLDR	**Caldiran**	**0.58**	**52**	PG	**Pb**	**11 02 00.9**	**-0.4**
CLDR				SG	**Sn**	**11 02 11.2**	**+0.3**
CLDR	**Caldiran**	**0.58**	**52**	*i* P	**Pb**	**11 01 59.5**	**-1.8**
CLDR				*i* S	**Sn**	**11 02 10.7**	**-0.2**
CLDR	**Caldiran**	**0.58**	**52**	P	**Pb**	**11 01 59.5**	**-1.8**
CLDR	**Caldiran**	**0.58**	**52**	*e*Pg	**Pb**	**11 02 00.9**	**-0.4**
CLDR				S	**Sn**	**11 02 10.7**	**-0.2**
CLDR				*e*Sg	**Sn**	**11 02 11.2**	**+0.3**
TUTA	**Tutak**	**0.73**	**327**	*i* P	**Pb**	**11 02 04.0**	**+0.2**
TUTA				*i* S	**Sb**	**11 02 12.1**	**-1.4**
TUTA	**Tutak**	**0.73**	**327**	P	**Pb**	**11 02 04.0**	**+0.2**
TUTA				S	**Sb**	**11 02 12.1**	**-1.4**
AGRB	**Hanur-Agry**	**0.83**	**342**	PG	**Pb**	**11 02 05.3**	**-0.1**
AGRB				SG	**Sn**	**11 02 17.3**	**+0.4**
AGRB	**Hanur-Agry**	**0.83**	**342**	*e*Pg	**Pb**	**11 02 05.3**	**-0.1**
AGRB				*e*Sg	**Sn**	**11 02 17.3**	**+0.4**
GURO	**Guroymak-BITLI**	**1.04**	**257**	PG	**Pn**	**11 02 08.0**	**-0.2**
GURO	**Guroymak-BITLI**	**1.04**	**257**	*e*Pg	**Pn**	**11 02 08.1**	**-0.2**
EKAR	**Karacoban**	**1.09**	**296**	*i* P	**Pb**	**11 02 09.6**	**-0.1**
EKAR	**Karacoban**	**1.09**	**296**	P	**Pb**	**11 02 09.6**	**-0.1**
EATA	**Eleskirt**	**1.25**	**329**	*i* S	**Sb**	**11 02 31.0**	**+2.5**
EATA	**Eleskirt**	**1.25**	**329**	S	**Sb**	**11 02 31.0**	**+2.5**
HAKT	**HAKKARI**	**1.27**	**166**	*i* P	**Pb**	**11 02 13.0**	**+0.2**
HAKT				*i* S	**Sb**	**11 02 30.5**	**+1.7**
HAKT	**HAKKARI**	**1.27**	**166**	P	**Pb**	**11 02 13.0**	**+0.2**
HAKT				S	**Sb**	**11 02 30.5**	**+1.7**

*ISCJB **10** 11:02:31.8±0.4,50.24N±0.03×18.81E±0.03,h0km,Error ellipse: s-maj=4.3km s-min=2.2km az=12.8*
*CSEM **10** 11:02:33.1±0.3,50.23N×18.84E,h2km,Error ellipse: s-maj=6.5km s-min=3.0km az=13.0*
*PRU **10** 11:02:33.5,50.24N×18.81E,h0km*
*WAR **10** 11:02:34.0,50.24N×18.91E,h1km,Mw2.5*

ISC 10 11:02:32.8±0.8,50.20N±0.03×18.83E±0.02,h0km,n46, σ0s66/77,10C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**48**	*i* Pg	**Pg**	**11 02 35.5**	**0.0**
CHZP				*e*Sg	**Sg**	**11 02 37.0**	**-0.4**
CHZP	**Chorzow**	**0.14**	**48**	*i* Pg	**Pg**	**11 02 35.5**	**0.0**
CHZP				*e*Sg	**Sg**	**11 02 37.0**	**-0.4**
OKC	**Ostrava-Krasne**	**0.57**	**231**	*e*PG	**Pb**	**11 02 45.2**	**-0.4**
OKC				*e*SG	**Sb**	**11 02 54.0**	**-0.3**
	comp=Z,17nm,0.3s						
OKC	**Ostrava-Krasne**	**0.57**	**231**	Pg	**Pb**	**11 02 45.2**	**-0.4**
OKC				Sg	**Sb**	**11 02 54.0**	**-0.3**
	17nm,0.3s						
OJC	**Ojcow**	**0.62**	**88**	*e*Pg	**Pg**	**11 02 44.7**	**0.0**
OJC				*e*Sg	**Sg**	**11 02 52.9**	**+0.1**
OJC	**Ojcow**	**0.62**	**88**	*e*Pg	**Pg**	**11 02 44.7**	**0.0**
OJC				*e*Sg	**Sg**	**11 02 52.9**	**+0.1**
OJC	**Ojcow**	**0.62**	**88**	*e*Pg	**Pg**	**11 02 44.7**	**0.0**
OJC				*e*Sg	**Sg**	**11 02 52.9**	**+0.1**
MORC	**Moravsky Berou**	**0.93**	**244**	⇑*i*P	**Pb**	**11 02 52.1**	**+0.2**
MORC	**Moravsky Berou**	**0.93**	**244**	S	**Sb**	**11 03 05.6**	**+0.8**
MORC	**Moravsky Berou**	**0.93**	**244**	⇑*i*P	**Pb**	**11 02 52.1**	**+0.2**
MORC				*e*Sg	**Sb**	**11 03 05.5**	**+0.8**
LANS	**Liptovska Anna**	**1.13**	**158**	*e*Pg	**Pn**	**11 02 55.9**	**0.0**
LANS				*e*Sg	**Sb**	**11 03 11.5**	**+1.1**
LANS	**Liptovska Anna**	**1.13**	**158**	*e*PG	**Pn**	**11 02 55.9**	**0.0**
LANS				*e*SG	**Sb**	**11 03 11.5**	**+1.1**
NIE	**Niedzica**	**1.23**	**129**	*e*Pg	**Pn**	**11 02 57.7**	**+0.3**
NIE				*e*Sg	**Sn**	**11 03 14.8**	**+0.1**
NIE	**Niedzica**	**1.23**	**129**	*e*Pg	**Pn**	**11 02 57.7**	**+0.3**
NIE				*e*Sg	**Sn**	**11 03 14.8**	**+0.1**
NIE	**Niedzica**	**1.23**	**129**	*e*Pg	**Pn**	**11 02 57.7**	**+0.3**
NIE				*e*Sg	**Sn**	**11 03 14.8**	**+0.1**
DPC	**Dobruska-Polom**	**1.61**	**276**	*e*PG	**Pn**	**11 03 02.7**	**+0.1**
DPC				*e*SG	**Sg**	**11 03 24.7**	**0.0**
DPC	**Dobruska-Polom**	**1.61**	**276**	Pg	**Pn**	**11 03 02.7**	**+0.1**
DPC				Sg	**Sg**	**11 03 24.7**	**0.0**
VRAC	**Vranov**	**1.70**	**239**	⇓*i*P	**Pg**	**11 03 05.4**	**0.0**
VRAC	**Vranov**	**1.70**	**239**	⇓*i*P	**Pg**	**11 03 05.4**	**0.0**
VRAC				S	**Sb**	**11 03 26.8**	**-0.1**
VRAC				*e*Sg	**Sg**	**11 03 28.6**	**+1.2**
VYHS	**Vyhne**	**1.71**	**180**	*e*Pg	**Pn**	**11 03 04.1**	**+0.3**
VYHS				*e*Sn	**Sn**	**11 03 26.3**	**0.0**
VYHS	**Vyhne**	**1.71**	**180**	*e*PG	**Pn**	**11 03 04.1**	**+0.3**
VYHS				*e*SN	**Sn**	**11 03 26.3**	**0.0**
VYHS				*e*LG	Lg	11 03 29.9	
KSP	**Ksiaz**	**1.74**	**293**	*e*Pg	**Pg**	**11 03 06.2**	**0.0**
KSP				*e*Sg	**Sg**	**11 03 30.2**	**+1.5**
KSP	**Ksiaz**	**1.74**	**293**	*e*Pg	**Pg**	**11 03 06.2**	**0.0**
KSP				*e*Sg	**Sg**	**11 03 30.2**	**+1.5**
KSP	**Ksiaz**	**1.74**	**293**	*e*Pg	**Pg**	**11 03 06.2**	**0.0**
KSP				*e*Sg	**Sg**	**11 03 30.2**	**+1.5**
STHS	**Stebnicka Huta**	**1.75**	**116**	*e*Pn	**Pb**	**11 03 05.5**	**-0.3**
STHS				*e*Sn	**Sb**	**11 03 28.3**	**-0.0**
STHS	**Stebnicka Huta**	**1.75**	**116**	*e*PN	**Pb**	**11 03 05.5**	**-0.3**
STHS				*e*SN	**Sb**	**11 03 28.2**	**0.0**
STHS				*e*LG	Lg	11 03 34.1	
UPC	**Upice**	**1.83**	**281**	*e*SG	**Sg**	**11 03 31.7**	**+0.1**
UPC	**Upice**	**1.83**	**281**	Sg	**Sg**	**11 03 31.7**	**+0.1**
KECS	**Kecovo**	**2.03**	**147**	*e*Pn	**Pn**	**11 03 08.4**	**+0.1**
KECS				*e*Sn	**Sn**	**11 03 33.4**	**-0.9**
KECS	**Kecovo**	**2.03**	**147**	*e*PN	**Pn**	**11 03 08.4**	**+0.1**
KECS				*e*SN	**Sn**	**11 03 33.4**	**-0.9**
KECS				*e*LG	Lg	11 03 40.0	
CRVS	**Cervenica-Dubn**	**2.15**	**126**	*e*Pg	**Pg**	**11 03 14.0**	**0.0**
CRVS				*e*Sg	**Sg**	**11 03 42.3**	**+0.5**
CRVS	**Cervenica-Dubn**	**2.15**	**126**	*e*PG	**Pg**	**11 03 14.0**	**0.0**
CRVS				*e*SG	**Sg**	**11 03 42.3**	**+0.5**
PSZ	**Piszkesteto**	**2.39**	**163**	⇑*i*P	**P

*JMA **10** 11:40:07.5±0.6, 32.°99N×138.°61E, h313km, M3.4*
*ISCJB **10** 11:40:08.4±0.8, 33.°07N±0.°09×138.°5E±0.°1, h300km, mb3.1/5, Error ellipse: s-maj=15.0km s-min=10.0km az=35.4*
*IDC **10** 11:40:09.8±1.9, 33.°16N×138.°56E, h306km±26km, mb2.9/5, mb1 3.1/6, mb1mx2.7/71, mbtmp3.6/6, Error ellipse: s-maj=77.3km s-min=16.5km az=72.0*

ISC 10 11:40:09.7±1.1, 33.°2N±0.°1×138.°5E±0.°1, h300km, n19, σ0s96/20, mb3.1/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHMK	Hamakita	1.73	339	P		P	Pn	11 40 55.3	+1.1
HMMJ	Hamamatsu 2	1.78	339	P		P	Pn	11 40 55.8	+1.1
JOD2	Odawara 2	2.12	13	P		P	Pn	11 40 58.4	+1.0
JYN	Shimob	2.30	1	P		P	Pn	11 41 00.5	+1.6
BSO4	Boso 4	2.35	40	eS		S	S	11 41 39.4	+0.7
BSO1	Boso 1	2.52	54	eS		S	S	11 41 40.4	-0.2
JHU	Hanno	2.73	13	P		P	Pn	11 41 03.3	+0.6
JRY	Ryogami san	2.84	7	P		P	Pn	11 41 05.0	+1.2
JWT	Wachi	3.31	310	P		P	Pn	11 41 08.7	+0.3
JAG	Ashikaga	3.32	13	P		P	Pn	11 41 08.4	-0.1
JAG				S		S	S	11 41 53.6	-2.0
MJAR	Matsushiro Arr	3.35	356	P		P	Pn	11 41 09.6	+0.7
	2.2nm,0.3s,baz=175,slow=12,SNR=45								
MAT	Matsushiro	3.35	356	P		P	Pn	11 41 09.4	+0.5
MAT	Matsushiro	3.35	356	P		P	Pn	11 41 09.7	+0.8
JFT	Otama	4.57	19	P		P	Pn	11 41 22.5	+0.3
SONM	Songino Array	28.21	311	P		P	P	11 45 36.0	+0.6
	0.4nm,0.6s,baz=116,slow=9.8,SNR=3.0								
KURBB	Kurchatov Arra	46.58	311	P		P		11 48 07.6	-0.4
	0.2nm,0.4s,baz=88,slow=7.3,SNR=3.4								
WRA	Warramunga Arr	52.99	185	P		P		11 48 55.1	-1.1
	0.4nm,0.3s,baz=360,slow=7.5,SNR=16								
ASAR	Alice Springs	56.71	185	P		P		11 49 22.6	-0.2
	0.3nm,0.5s,baz=17,slow=11,SNR=9.4								
FINES	FINESS Array B	71.08	332	P		P		11 50 55.1	-0.1
	0.6nm,0.4s,baz=68,slow=7.8,SNR=6.3								

*NIED **10** 11:55:00, 37.°40N×141.°70E, h5km, Mw3.8 Best double couple: M0 6.19000×10^14 NP1:φ=28.00000°, δ=39.00000°, λ=-89.00000°. NP2:φ=206.00000°, δ=51.00000°, λ=-91.00000°.*
*ISCJB **10** 11:55:40.3±0.5, 37.°35N±0.°03×141.°61E±0.°04, h10km, mb4.1/21, MS3.9/1, Error ellipse: s-maj=5.1km s-min=4.3km az=40.9*
*JMA **10** 11:55:41.1±0.2, 37.°37N×141.°60E, h27km±2km, M4.3*
JMA Felt I J1.
*IDC **10** 11:55:41.2±0.7, 37.°38N×141.°44E, h0km, mb4.0/17, mb1 4.0/19, mb1mx3.9/66, mbtmp4.0/19, ML3.5/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/60, Error ellipse: s-maj=19.9km s-min=15.1km az=91.0*
*NEIC **10** 11:55:45.5±0.6, 37.°37N×141.°49E, h35km, mb4.5/5, Error ellipse: s-maj=14.4km s-min=8.1km az=117.0*
NEIC Recorded [1 JMA] in Fukushima and Miyagi.

ISC 10 11:55:42.3±0.6, 37.°38N±0.°04×141.°44E±0.°05, h10km, n51, σ1s27/49, mb4.0/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.45	268	P		P	Pb	11 55 52.1	-0.3
JFK				eS		S	Sb	11 56 00.6	+1.4
ONAJ	Iwakimizuishiy	0.58	242	P		P	Pb	11 55 54.0	-0.7
ONAJ				eS		S	Sb	11 56 03.8	+0.8
JMM	Marumori	0.71	313	P		P	Pb	11 55 55.9	-0.8
JMM				S		S	Sb	11 56 06.8	+0.3
JFT	Otama	0.89	279	P		P	Pn	11 56 00.0	-0.9
JFT				eS		S	Sn	11 56 13.2	-0.7
JHO	Hitachi	1.04	223	P		P	Pg	11 56 00.2	-2.1
JIO	Ouri	1.07	356	P		P	Pb	11 56 00.6	-2.4
JIO				eS		S	Sg	11 56 14.8	-2.1
JOU	Okura	1.16	328	P		P	Pb	11 56 03.6	-0.9
JOU				eS		S	Sg	11 56 19.6	-0.1
JYS	Shirataka	1.38	308	P		P	Pb	11 56 07.8	-0.4
JFY	Yanaizu	1.39	272	P		P	Pb	11 56 07.6	-0.7
MJAR	Matsushiro Arr	2.72	253	Pn		P	Pn	11 56 26.6	+0.5
	5.3nm,0.3s,baz=149,slow=8.8,SNR=43								
MJAR				Sn		S	Sb	11 57 05.3	+0.7
	6.3nm,0.3s,baz=76,slow=15,SNR=8.3								
MJAR				LR		LR		11 57 07.2	
	comp=Z,60nm,18.6s,baz=65,slow=32								
MAJO	Matsushiro	2.72	253	ePn		P	Pn	11 56 26.8	+0.7
MAT	Matsushiro	2.72	253	P		P	Pn	11 56 26.6	+0.5
MAT				eS		S	Sb	11 57 04.4	-0.2
JHJ2	Mitsune	4.46	198	ePn		P	Pn	11 56 49.4	-0.6
ERM	Erimo	4.81	15	ePn		P	Pn	11 56 55.4	+0.6
ERM				eSn		S	Sn	11 57 54.4	+3.8
ASAJ	Asahikawa	6.79	7	Pn		P	Pn	11 57 22.5	+0.6
	0.9nm,0.3s,baz=214,slow=13,SNR=12								
ASAJ	Asahikawa	6.79	7	Pn		P	Pn	11 57 22.5	+0.6
	0.4nm,0.6s								
USRK	Ussuriysk Ar.	9.88	317	Pn		P	Pn	11 58 11.0	+6.6
	0.2nm,0.3s,baz=102,slow=12,SNR=3.7								
USRK				LR		LR		12 01 39.1	
	comp=Z,99nm,18.9s,baz=110,slow=36								
KSRS	Korea Array	10.76	274	Pn		P	Pn	11 58 26.5	+10
	0.1nm,0.3s,baz=84,slow=13,SNR=3.2								
KSRS				LR		LR		12 02 07.1	
	comp=Z,70nm,20.1s,baz=20,slow=36								
KSAR	Wonju Array Be	10.79	274	Pn		P	Pn	11 58 26.5	+10
JOW	Kunigami	15.32	230	ePn		P	Pn	11 59 18.4	-0.2
	35nm,1.7s								
PET	Petropavlovsk	19.71	32	eP		P		12 00 07.8	-3.9
MA2	Magadan	23.01	12	P		P		12 00 47.8	+0.7
	2.2nm,0.6s,baz=187,slow=12,SNR=9.3								
YAK	Yakutsk	25.74	347	P		P		12 01 14.0	+1.3
	12nm,0.5s,baz=2.3,slow=0.4,SNR=5.3								
YAK	Yakutsk	25.74	347	eP		P		12 01 13.7	+1.1
	12nm,0.6s								
ULN	Ulaanbaatar	27.18	304	eP		P		12 01 25.6	-0.5
	0.9nm,0.3s								
SONM	Songino Array	27.61	303	P		P		12 01 29.9	0.0
	1.0nm,0.5s,baz=101,slow=8.8,SNR=9.1								
H11N2	WAKE ISLAND Hy	28.31	121	T		T		12 31 03.4	
	baz=314,slow=75,SNR=497								
H11N1	WAKE ISLAND Hy	28.31	121	T		T		12 31 01.5	
	baz=314,slow=75,SNR=454								
H11N3	WAKE ISLAND Hy	28.32	121	T		T		12 31 04.8	
	baz=314,slow=75,SNR=409								
H11S1	WAKE ISLAND Hy	29.03	123	T		T		12 31 57.6	
	baz=316,slow=75,SNR=154								
H11S3	WAKE ISLAND Hy	29.03	123	T		T		12 31 58.4	
	baz=316,slow=75,SNR=128								
H11S2	WAKE ISLAND Hy	29.05	123	T		T		12 31 59.4	
	baz=316,slow=75,SNR=106								
ZALV	Zalesovo Beam	41.70	312	P		P		12 03 30.0	-1.0
	1.2nm,0.5s,baz=87,slow=6.3,SNR=6.9								
MKAR	Makanchi Array	43.96	302	P		P		12 03 48.9	-0.6
	1.8nm,0.7s,baz=91,slow=11,SNR=19								
KURK	Kurchatov	45.74	308	eP		P		12 04 02.8	-0.7
	26nm,0.7s								
KURBB	Kurchatov Arra	45.81	308	P		P		12 04 03.2	-0.9
	1.6nm,0.4s,baz=81,slow=7.7,SNR=27								
ILAR	Eielson Array	49.19	33	P		P		12 04 28.6	-1.6
	0.6nm,0.7s,baz=262,slow=6.0,SNR=12								
BVAR	Borovoye Array	50.36	312	P		P		12 04 40.0	+0.7
	0.6nm,0.6s,baz=91,slow=6.3,SNR=3.9								
BVAR	Borovoye Array	50.36	312	P		P		12 04 40.0	+0.7
WRAB	Tennant Creek	57.40	188	eP		P		12 05 25.3	-5.7
	12nm,1.5s								
WRA	Warramunga Arr	57.41	188	P		P		12 05 31.6	+0.6
	1.2nm,0.7s,baz=5.4,slow=7.3,SNR=12								
ABKAR	Akbulak array	57.73	310	eP		P		12 05 32.2	-0.9
	2.0nm,0.5s								
AKTO	Aktyubinsk	58.46	312	P		P		12 05 39.6	+1.4
	1.1nm,0.5s,baz=75,slow=11,SNR=4.6								
ASAR	Alice Springs	61.13	188	P		P		12 05 57.6	+0.8
	0.6nm,0.8s,baz=12,slow=6.1,SNR=6.3								
YKA	Yellowknife Ar	63.50	30	P		P		12 06 12.8	+0.6
	0.3nm,0.6s,baz=302,slow=6.3,SNR=7.0								
FINES	FINESS Array B	68.52	332	P		P		12 06 45.3	+0.8
	2.6nm,0.7s,baz=36,slow=9.6,SNR=6.6								
STKA	Stephens Creek	68.90	180	P		P		12 06 46.9	-0.3
	0.9nm,0.8s,baz=132,slow=15,SNR=4.4								
WSAR	Wadi Sarin	70.80	285	LR		LR		12 42 40.3	
	comp=Z,57nm,18.0s,baz=130,slow=40								
HFS	Hagfors	73.78	336	P		P		12 07 18.3	+1.9
	2.1nm,0.8s,baz=97,slow=4.8,SNR=4.8								
AKASG	Malin Array Be	74.04	322	P		P		12 07 19.0	+0.9
	0.9nm,0.4s,baz=46,slow=6.6,SNR=7.1								
TXAR	Lajitas Array	89.89	52	P		P		12 08 43.2	+1.3
	0.2nm,0.5s,baz=333,slow=3.5,SNR=4.1								

IDC 10 12:03:01.2±1.7, 30.°61S×176.°96W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/39, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=43.1km s-min=31.3km az=99.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.58	328	Pn		Pg		12 03 32.1	+0.5
	595nm,0.3s,baz=104,slow=8.3,SNR=37								
URZ	Urewera	9.06	211	Pn		Pn		12 05 14.8	+1.5
	0.2nm,0.3s,baz=38,slow=19,SNR=2.6								
URZ				Sn		Sn		12 07 13.3	+17
	0.6nm,0.3s,baz=72,slow=20,SNR=4.8								
ASAR	Alice Springs	43.99	267	P		P		12 11 10.2	-0.3
	0.2nm,0.3s,baz=104,slow=7.6,SNR=9.0								
WRA	Warramunga Arr	45.00	272	P		P		12 11 17.6	-1.0
	0.8nm,0.4s,baz=110,slow=7.6,SNR=22								
MKAR	Makanchi Array	118.59	310	PKP		PKPdf		12 21 50.7	-0.2
	0.1nm,0.5s,baz=110,slow=2.1,SNR=3.0								
KURBB	Kurchatov Arra	121.88	313	PKP		PKPdf		12 21 57.0	0.0
	0.2nm,0.5s,baz=101,slow=1.8,SNR=4.0								
FINES	FINESS Array B	145.64	341	PKPbc		PKPdf		12 22 39.9	-0.9
	0.8nm,0.4s,baz=49,slow=2.0,SNR=12								

*SOME **10** 12:06:01.6, 44.°62N×82.°07E, h15km*
*NNC **10** 12:06:02.4±1.6, 44.°70N×82.°29E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=21.9km s-min=4.1km az=116.0*

ISC 10 12:06:03.1±1.5, 44.°74N±0.°07×82.°19E±0.°08, h10km, n12, σ1s74/22, 4C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.05	2	⇓Pn		P	Pb	12 06 39.2	-1.3
	2.2nm,0.2s,baz=182,slow=14,SNR=675								
MK31				⇑Sn			Sb	12 07 06.9	+0.9
	16nm,0.5s,baz=181,slow=27,SNR=31								
MAKZ	Makanchi	2.07	356	⇑Pn		P	Pn	12 06 39.2	+1.2
	7.6nm,0.7s								
MAKZ				⇓Sn			Sb	12 07 07.0	+0.4
	5.2nm,0.3s								
KAPS	Kapalarasan	2.08	286	⇓iS			Sn	12 07 06.3	+2.2
	20nm,0.3s								
KAPS	Kapalarasan	2.08	286	eP		P	Pn	12 06 39.2	+1.1
	8.7nm,0.2s								
PDGK	Podgornoye	2.41	235	⇑Pn		P	Pn	12 06 42.9	+0.3
	3.9nm,0.5s								
PDGK				⇑Sn			Sb	12 07 15.7	-0.5
	28nm,0.7s								
MNBS	Baschi	2.80	258	eP		P	Pb	12 06 51.2	-2.0
	5.8nm,0.3s								
MNBS				eS		S	Sb	12 07 26.9	-0.6
	31nm,0.4s								
ARXS	Arharly	3.17	262	eP		P	Pb	12 06 57.1	-2.4
	5.0nm,0.3s								
ARXS				eS		S	Sb	12 07 36.9	-1.2
	20nm,0.4s								
ZSN	Zaisan	3.29	34	eP		P	Pb	12 07 01.9	+0.4
	0.8nm,0.3s								
ZSN				eS		S	Sg	12 07 45.4	-3.2
	6.9nm,0.3s								
CHKK	Chushkaly	3.84	258	eP		P	Pb	12 07 09.2	-1.7
	6.0nm,0.4s								
CHKK				eS		S	Sb	12 07 57.9	+0.5
	17nm,0.4s								
TNSS	Tian-Shan	4.16	248	eP		P	Pb	12 07 16.4	-0.1
	2.2nm,0.7s								
TNSS				eS		S	Sb	12 08 10.1	+3.2
	2.6nm,0.3s								
IZV	Izvestkoviy	4.38	249	eP		P	Pb	12 07 19.7	-0.5
	2.7nm,0.5s								
IZV				eS		S	Sb	12 08 15.9	+2.8
	4.1nm,0.4s								
DGS	Degeres	4.87	254	eP		P	Pb	12 07 27.0	-1.5
	1.7nm,0.4s								
DGS				eS		S	Sb	12 08 28.2	+1.1
	4.3nm,0.4s								

IDC 10 12:09:45.6±4.0, 18.°19N×145.°76E, h80km±36km, mb3.3/6, mb1 3.7/7, mb1mx3.2/59, mbtmp3.7/7, MS3.0/1, Ms1 3.0/1, ms1mx2.3/26, Error ellipse: s-maj=75.9km s-min=20.1km az=111.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.66	191	P		P	Pn	12 10 54.0	+0.5
	6.8nm,0.3s,baz=348,slow=19,SNR=3.7								
GUMO				S		Sn	Sn	12 11 47.0	+0.6
	9.4nm,0.3s,baz=343,slow=19,SNR=3.3								
JNU	Nakatsue	19.99	321	LR		LR		12 20 42.6	
	comp=Z,41nm,19.3s,baz=312,slow=33								
WRA	Warramunga Arr	39.52	197	P		P		12 17 08.0	-0.9
	0.5nm,0.5s,baz=19,slow=9.0,SNR=8.9								
WRA				PcP		PcP		12 19 15.3	+0.2
	0.2nm,0.8s,baz=19,slow=3.5,SNR=2.9								
ASAR	Alice Springs	43.18	196	P		P		12 17 38.9	+0.1
	0.2nm,0.4s,baz=22,slow=6.8,SNR=3.4								
ILAR	Eielson Array	64.07	26	P		P		12 20 10.3	-0.5
	0.1nm,0.4s,baz=254,slow=6.3,SNR=7.9								
YKA	Yellowknife Ar	78.41	28	P		P		12 21 37.6	+0.3
	0.4nm,0.6s,baz=288,slow=5.3,SNR=8.3								
NVAR	Mina Array Bea	83.41	52	P		P		12 22 05.0	+0.2
	0.3nm,0.5s,baz=267,slow=5.4,SNR=3.8								
FINES	FINESS Array B	87.36	335	P		P		12 22 23.8	+0.1
	2.0nm,0.9s,baz=46,slow=4.0,SNR=4.4								

*IDC **10** 12:18:23.5±0.6, 11.°45N×91.°83E, h0km, mb4.1/16, mb1 4.2/18, mb1mx3.9/63, mbtmp4.0/18, ML3.7/2, MS3.6/21, Ms1 3.6/21, ms1mx3.4/71, Error ellipse: s-maj=21.6km s-min=13.6km az=54.0*
*ISCJB **10** 12:18:26.7±0.4, 11.°47N±0.°05×91.°98E±0.°04, h29km, mb4.2/27, MS3.6/19, Error ellipse: s-maj=7.8km s-min=4.7km az=24.0*
*NEIC **10** 12:18:29.5±0.5, 11.°52N×92.°04E, h35km, mb4.5/11, Error ellipse: s-maj=10.4km s-min=7.0km az=54.0*

ISC 10 12:18:28.7±0.5, 11.°58N±0.°07×91.°98E±0.°05, h29km, n84, σ2s17/74, mb4.2/27, MS3.6/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SURT	Suratani	7.20	111	P		P	Pn	12 20 13.8	+1.8
	15nm,0.9s								
SRDT	SRDT	7.49	68	P		P	Pn	12 20 18.4	+2.4
	71nm,0.9s								
PHET	Kaeng Krachan	7.60	79	P		P	Pn	12 20 19.5	+2.0
	16nm,0.9s,210nm								
UTHA	Uthaitani	8.27	61	P		P	Pn	12 20 28.7	+2.0
	9.0nm,1.0s,86nm0.0nm								
TRTT	Trang	8.46	115	P		P	Pn	12 20 39.4	+10
NAYO	Nakonayok	9.51	72	P		P	Pn	12 20 45.9	+2.2
	8.8nm,1.2s								
CM01	Chiang Mai Arr	9.58	44	ePn		P	Pn	12 20 43.1	-1.5
CM31	Chiang Mai Arr	9.59	44	ePn		P	Pn	12 20 43.4	-1.5
CMAR	Chiang Mai Arr	9.59	44	Pn		P	Pn	12 20 46.8	+1.9
	0.2nm,0.3s,baz=236,slow=15,SNR=8.9								
CMAR				LR		LR		12 24 47.6	
	comp=Z,222nm,21.6s,baz=223,slow=39								
CHTO	Chiang Mai	9.84	42	ePn		P	Pn	12 20 50.0	+1.6
PHIT	Phitsanulok	9.89	55	P		P	Pn	12 20 49.6	+0.6
LAMP	Lampang	10.11	46	P		P	Pn	12 20 57.1	+5.1
CHBT	CHBT	10.19	82	P		P	Pn	12 20 58.2	+5.1
KULM	Kulim	10.61	125	ePn		P	Pn	12 20 59.6	+0.7
CHAI	Chaiyaphum	10.63	65	P		P	Pn	12 21 08.6	+9.5
PALK	Palkekele	11.92	250	Pn		P	Pn	12 21 11.2	-5.6
	0.3nm,0.3s,baz=117,slow=11,SNR=2.5								
PALK				Sn			Sn	12 23 24.3	-4.6
	1.0nm,0.3s,baz=114,slow=20,SNR=3.8								
PALK				LR		LR		12 25 29.7	
	comp=Z,483nm,19.2s,baz=116,slow=36								
SHL	Shillong	13.91	360	eP		P	Pn	12 21 42.0	-2.1
HYB	Hyderabad	14.23	296	*i* P		P	Pn	12 21 50.5	+2.1
HYB				eS		S	Sn	12 24 26.0	+0.6
KMI	Kunming	16.89	36	P		P		12 22 25.3	+0.2
JIRN	Jiri	16.89	342	eP		P		12 22 22.1	-1.4
PKI	Pulchoki	17.06	340	eP		P	Pn	12 22 26.3	+0.8
	24nm,0.6s								
PKIN	Phulchoki	17.07	340	eP		P		12 22 26.5	-0.7
DMN	Daman	17.20	339	eP		P	Pn	12 22 27.6	+0.4
	38nm,0.8s								
KOLN	Koldanda	17.92	335	eP		P		12 22 37.4	+0.9
	28nm,0.7s								
LSA	Lhasa	18.05	358	P		P		12 22 42.9	+4.8
LSA	Lhasa	18.05	358	eP		P		12 22 39.0	+0.8
	12nm,0.8s								
LSA				eS		Sn		12 25 51.0	-7.6
PYUN	Piuthan	18.47	334	eP		Pn		12 22 44.9	+2.2
QIZ	Qiongzhong	18.75	65	P		P		12 22 43.7	-1.7
QIZ				S		Sn		12 26 09.9	-5.1
KSM	Kuching	20.78	118	eP		P		12 23 07.2	-0.4
	10nm,1.1s								
CD2	Chengdu	22.12	28	eP		P		12 23 22.0	+0.1
KKM	Kota Kinabalu	24.57	101	eP		P		12 23 46.0	-0.5
	23nm,1.0s								
ENH	Enshi	24.70	39	eP		P		12 23 46.5	-1.0
	29nm,0.9s								
LZH	Lanzhou	26.66	22	eP		P		12 24 07.3	+2.1
LZH				pP		sP		12 24 17.3	+0.1
LZH				sP		pP		12 24 21.1	+7.4
LZH				PP		PnPn		12 24 52.1	+5.4
XAN	Xi'an	27.19	32	P		P		12 24 12.1	+2.2
H08S3	Diego Garcia H	27.20	226	T		T		12 52 31.8	
	baz=45,slow=76,SNR=760								
H08S2	Diego Garcia H	27.21	226	T		T		12 52 24.3	
	baz=45,slow=76,SNR=1016								
H08S1	Diego Garcia H	27.22	226	T		T		12 52 27.3	
	baz=45,slow=76,SNR=1008								
GTA	Gaotai	28.58	13	eP		P		12 24 25.9	+3.5
GTA				pP		pP		12 24 30.2	-0.7
GTA				sP		sP		12 24 33.3	-1.1
KSH	Kashi	31.24	336	eP		P		12 24 48.1	+2.2
WMQ	Urumqi	32.34	354	P		P		12 24 59.7	+4.2
WMQ				pP		P		12 25 04.8	+0.8
HHC	Hu-ho-hao-te	33.87	27	eP		P		12 25 08.6	-0.4
HHC				sP		S		12 25 22.1	+1.1
HHC				S		S		12 30 29.2	-2.4
HHC				SS		SnSn		12 32 38.0	-0.4
AAK	Ala-Archa	34.48	337	eP		P		12 25 16.2	+1.9
	10nm,1.5s								
MK01	Makanchi Array	36.02	349	eP		P		12 25 28.1	+0.8
MK31	Makanchi Array	36.04	349	eP		P		12 25 28.4	+0.8
MKAR	Makanchi Array	36.04	349	P		P		12 25 27.6	+0.1
	1.8nm,0.9s,baz=165,slow=7.2,SNR=21								
MKAR				PcP		PcP		12 27 54.3	+0.9
	0.5nm,0.8s,baz=197,slow=4.7,SNR=1.9								
MKAR				LR		LR		12 44 05.6	
	comp=Z,74nm,19.8s,baz=161,slow=43								
MKAR	Makanchi Array	36.04	349	eP		P		12 25 28.1	+0.6
	16nm,0.8s								
MKAR				PcP		PcP		12 27 54.3	+0.9
MAKZ	Makanchi	36.12	348	eP		P		12 25 29.2	+1.0
	3.0nm,0.9s								
SONM	Songino Array	38.11	16	P		P		12 25 45.6	+0.4
	4.7nm,1.1s,baz=198,slow=9.3,SNR=13								
SONA1	Songino Array	38.13	16	eP		P		12 25 45.7	+0.4
GEYT	Alibeck	40.04	317	LR		LR		12 46 01.2	
	comp=Z,56nm,18.7s,baz=45,slow=41								
KURBB	Kurchatov Arra	40.46	347	P		P		12 26 05.3	+0.7
	3.1nm,1.0s,baz=143,slow=6.2,SNR=7.4								
KURK	Kurchatov	40.53	347	eP		P		12 26 07.0	+1.9
	4.6nm,1.0s								
KSAR	Wonju Array Be	41.20	45	P		P		12 26 10.7	-0.2
KSRS	Korea Array	41.23	45	P		P		12 26 10.6	-0.5
	1.7nm,0.7s,baz=244,slow=9.0,SNR=4.8								
KSRS				LR		LR		12 45 45.5	
	comp=Z,101nm,18.5s,baz=238,slow=40								
JNU	Nakatsue	41.55	53	LR		LR		12 43 47.4	
	comp=Z,71nm,20.1s,baz=292,slow=36								
ZAA0	Zalesovo Array	42.64	354	eP		P		12 26 24.7	+2.3
	4.9nm,1.0s								
ZALV	Zalesovo Beam	42.64	354	P		P		12 26 22.2	-0.2
	0.7nm,0.4s,baz=174,slow=7.8,SNR=2.8								
ZALV				LR		LR		12 46 43.8	
	comp=Z,115nm,20.9s,baz=248,slow=40								
ZALV	Zalesovo Beam	42.64	354	eP		P		12 26 26.1	+3.6
FITZ	Fitzroy Crossi	44.43	131	P		P		12 26 36.3	-1.0
	6.5nm,0.8s,baz=324,slow=13								
BVAR	Borovoye Array	44.82	342	P		P		12 26 38.0	-1.9
	0.3nm,0.4s,baz=102,slow=6.6,SNR=4.4								
BVAR				LR		LR		12 48 10.5	
	comp=Z,102nm,18.4s,baz=104,slow=40								
ABKAR	Akbulak array	45.98	331	eP		P		12 26 50.9	+1.7
	13nm,0.8s								
USRK	Ussuriysk Ar.	47.28	39	LR		LR		12 49 46.8	
	comp=Z,81nm,18.4s,baz=189,slow=40								
ATD	Arta Tunnel	48.08	275	LR		LR		12 45 37.7	
	comp=Z,47nm,18.2s,baz=48,slow=34								
MJAR	Matsushiro Arr	48.38	51	LR		LR		12 48 15.6	
	comp=Z,62nm,19.9s,baz=265,slow=37								
KLR	Kul'dur	49.88	33	LR		LR		12 51 57.8	
	comp=Z,15nm,18.6s,baz=233,slow=40								
GUMO	Guam	51.58	82	LR		LR		12 48 39.5	
	comp

	comp=Z,108nm,18.6s,baz=312,slow=45								
PMG	**Port Moresby**	**9.09**	**137**	*e*Pn		Pn	12 35 32.7	+5.0
SWI	**Sorong**	**9.81**	**281**	P		Pn	12 35 29.4	-8.3
SAUI	**Saumlaki**	**10.88**	**241**	P		Pn	12 35 44.9	-7.5
SAUI	**Saumlaki**	**10.88**	**241**	*e*Pn		**Pn**	**12 35 53.2**	**+0.8**
RABL	**Rabaul**	**11.34**	**98**	*e*Pn		Pn	12 36 02.5	+3.9
COEN	**Coen**	**11.37**	**169**	*e*Pn		Pn	12 36 02.3	+3.3
TNTI	**Ternate**	**13.97**	**284**	*e*Pn		**Pn**	**12 36 33.8**	**-0.8**
GUMO	**Guam**	**16.70**	**14**	*e*Pn		**P**	**12 37 10.8**	**-1.9**
SOEI	**Soe**	**17.93**	**246**	*e*Pn		**P**	**12 37 25.8**	**-0.8**
	24nm,1.1s								
WRAB	**Tennant Creek**	**18.25**	**200**	*e*P		**P**	**12 37 30.8**	**+0.9**
	23nm,1.5s								
WB2	**Warramunga Arr**	**18.25**	**200**	*e*P		**Pn**	**12 37 30.9**	**+1.1**
WRA	**Warramunga Arr**	**18.26**	**200**	P		**Pn**	**12 37 28.3**	**-1.7**
	0.4nm,0.3s,baz=24,slow=12,SNR=18								
FITZ	**Fitzroy Crossi**	**21.38**	**223**	P		**P**	**12 38 02.8**	**-1.2**
	2.3nm,0.7s,baz=50,slow=9.7,SNR=2.6								
AS01	**Alice Springs**	**21.86**	**197**	*e*P		**P**	**12 38 09.4**	**+0.2**
AS31	**Alice Springs**	**21.87**	**197**	*e*P		**P**	**12 38 09.6**	**+0.2**
	2.1nm,1.2s								
ASAR	**Alice Springs**	**21.88**	**197**	P		**P**	**12 38 09.2**	**-0.1**
	2.4nm,0.7s,baz=30,slow=9.7,SNR=18								
EIDS	**Eidsvold**	**24.54**	**157**	*e*P		**P**	**12 38 37.4**	**+1.4**
	5.7nm,0.8s								
KKM	**Kota Kinabalu**	**26.15**	**290**	*e*P		**P**	**12 38 51.5**	**+0.6**
	30nm,1.1s								
JAGI	**Jajag, Banyuwa**	**27.21**	**257**	*e*P		**P**	**12 39 00.2**	**-0.1**
	76nm,1.6s								
STKA	**Stephens Creek**	**28.99**	**179**	*e*P		**P**	**12 39 17.1**	**+1.1**
	1.4nm,1.3s								
CBIJ	**Chichi jima**	**29.69**	**2**	*e*P		**P**	**12 39 22.6**	**+0.4**
	181nm,1.0s								
BBOO	**Buckleboo**	**30.25**	**188**	*e*P		P	12 39 30.5	+3.3
	24nm,1.4s								
YULB	**Yu-li**	**32.24**	**325**	*e*P		**P**	**12 39 45.8**	**+1.0**
	23nm,1.2s								
H11S3	**WAKE ISLAND Hy**	**33.01**	**49**	T		T	13 14 25.2		
	baz=232,slow=75,SNR=23								
H11S2	**WAKE ISLAND Hy**	**33.02**	**49**	T		T	13 14 21.7		
	baz=232,slow=75,SNR=22								
H11S1	**WAKE ISLAND Hy**	**33.03**	**49**	T		T	13 14 26.8		
	baz=232,slow=75,SNR=14								
JNU	**Nakatsue**	**36.91**	**346**	LR		LR	12 53 29.9		
	comp=Z,37nm,18.4s,baz=276,slow=33								
MKAR	**Makanchi Array**	**71.16**	**322**	P		**P**	**12 44 36.2**	**+1.4**
	0.7nm,0.8s,baz=99,slow=7.4,SNR=3.5								
KURK	**Kurchatov**	**75.01**	**324**	P		**P**	**12 44 58.4**	**+0.9**
KURBB	**Kurchatov Arra**	**75.02**	**324**	P		**P**	**12 44 58.4**	**+0.8**
	0.4nm,0.7s,baz=110,slow=5.5,SNR=4.1								
BVAR	**Borovoye Array**	**80.59**	**325**	P		**P**	**12 45 29.5**	**+0.9**
	0.8nm,0.6s,baz=103,slow=6.4,SNR=5.5								
ILAR	**Eielson Array**	**84.96**	**24**	P		**P**	**12 45 50.0**	**-1.1**
	0.3nm,0.6s,baz=257,slow=4.2,SNR=6.0								

*ISCJB **10** 12:40:22.6±0.4, 50°27'N±0°.03×18°.73E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=2.1km az=14.4*
*BGR **10** 12:40:24.9±0.4, 50°.24N×18°.81E, h1km, ML3.1/9, Error ellipse: s-maj=8.9km s-min=4.4km az=3.0*
*CSEM **10** 12:40:24.0±0.3, 50°.25N×18°.78E, h2km, ML3.0/4, Error ellipse: s-maj=7.0km s-min=3.2km az=15.0*
*PRU **10** 12:40:24.5, 50°.29N×18°.73E, h0km*
*WAR **10** 12:40:24.9, 50°.27N×18°.85E, h1km, Mw2.8*
*VIE **10** 12:40:26.4±1.3, 49°.86N×18°.87E, h0km, mb2.2/4, ML2.8/4, Error ellipse: s-maj=14.1km s-min=7.9km az=7.0, Suspected Mining induced.*
*IDC **10** 12:40:26.8±1.4, 50°.27N×18°.68E, h0km, mb1 3.3/2, mb1mx2.8/57, mbtmp3.1/2, ML2.2/2, Error ellipse: s-maj=27.7km s-min=10.5km az=142.0*

ISC 10 12:40:23.9±0.7, 50°22'N±0°.03×18°.77E±0°.01, h0km, n68, σ1§08/108, 8C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHZP	**Chorzow**	**0.16**	**64**	*i* Pg		**Pg**	**12 40 27.0**	**+0.1**
CHZP				*i* Sg		**Sg**	**12 40 28.8**	**-0.1**
CHZP	**Chorzow**	**0.16**	**64**	*i* Pg		**Pg**	**12 40 27.0**	**+0.1**
CHZP				*i* Sg		**Sg**	**12 40 28.8**	**-0.1**
RAC	**Raciborz**	**0.40**	**250**	*e*Sg		**Sb**	**12 40 41.2**	**+0.7**
OKC	**Ostrava-Krasne**	**0.56**	**227**	*e*Pg		**Pb**	**12 40 36.8**	**+0.2**
OKC	**Ostrava-Krasne**	**0.56**	**227**	*e*PG		**Pb**	**12 40 36.6**	**+0.1**
OKC				*e*SG		**Sg**	**12 40 43.5**	**+1.7**
	comp=Z,53nm,0.4s							
OKC	**Ostrava-Krasne**	**0.56**	**227**	Pg		**Pb**	**12 40 36.6**	**+0.1**
OKC				Sg		**Sg**	**12 40 43.5**	**+1.7**
	53nm,0.4s							
OJC	**Ojcow**	**0.66**	**90**	*e*Pg		**Pg**	**12 40 36.5**	**0.0**
OJC				*e*Sg		**Sg**	**12 40 44.3**	**-0.7**
OJC	**Ojcow**	**0.66**	**90**	*e*P		**Pg**	**12 40 36.5**	**0.0**
OJC				*e*Sg		**Sg**	**12 40 45.0**	**0.0**
OJC	**Ojcow**	**0.66**	**90**	*e*Pg		**Pg**	**12 40 36.5**	**0.0**
OJC				*e*Sg		**Sg**	**12 40 44.3**	**-0.7**
OJC	**Ojcow**	**0.66**	**90**	P		**Pg**	**12 40 36.5**	**0.0**
OJC				Sg		**Sg**	**12 40 45.0**	**0.0**
MORC	**Moravsky Berou**	**0.91**	**241**	*e*Pg		**Pb**	**12 40 42.7**	**+0.1**
MORC				*e*Sg		**Sb**	**12 40 55.5**	**+0.2**
MORC	**Moravsky Berou**	**0.91**	**241**	⇑*i*P		**Pb**	**12 40 42.6**	**0.0**
MORC				S		**Sb**	**12 40 55.6**	**+0.3**
MORC	**Moravsky Berou**	**0.91**	**241**	⇑*i*P		**Pb**	**12 40 42.6**	**0.0**
MORC				Sg		**Sb**	**12 40 55.5**	**+0.2**
LANS	**Liptovska Anna**	**1.16**	**157**	*e*Pg		**Pb**	**12 40 47.5**	**+0.6**
LANS				*e*Sg		**Sn**	**12 41 03.8**	**-0.3**
LANS	**Liptovska Anna**	**1.16**	**157**	*e*PG		**Pb**	**12 40 47.5**	**+0.6**
LANS				*e*SG		**Sn**	**12 41 03.8**	**-0.3**
NIE	**Niedzica**	**1.27**	**129**	*e*Pg		**Pg**	**12 40 48.7**	**+0.5**
NIE				*e*Sg		**Sn**	**12 41 07.0**	**+0.2**
NIE	**Niedzica**	**1.27**	**129**	*e*Pg		**Pg**	**12 40 48.7**	**+0.5**
NIE				*e*Sg		**Sn**	**12 41 07.0**	**+0.2**
NIE	**Niedzica**	**1.27**	**129**	*e*Pg		**Pg**	**12 40 48.8**	**+0.5**
NIE				*e*Sg		**Sn**	**12 41 07.0**	**+0.2**
DPC	**Dobruska-Polom**	**1.58**	**276**	*e*PG		**Pn**	**12 40 53.3**	**+0.1**
DPC				*e*SG		**Sn**	**12 41 12.8**	**-1.5**
	comp=Z,91nm,0.6s							
DPC	**Dobruska-Polom**	**1.58**	**276**	Pg		**Pn**	**12 40 53.3**	**+0.1**
DPC				Sg		**Sg**	**12 41 15.4**	**+0.8**
VRAC	**Vranov**	**1.68**	**238**	Pn		**Pb**	**12 40 56.3**	**+0.6**
	4.0nm,0.3s,baz=61,slow=16,SNR=15							
VRAC				Lg		Lg	12 41 19.3	
	16nm,0.3s,baz=120,slow=20,SNR=29							
VRAC	**Vranov**	**1.68**	**238**	⇑*i*P		**Pb**	**12 40 56.2**	**+0.4**
VRAC	**Vranov**	**1.68**	**238**	⇑*i*P		**Pb**	**12 40 56.2**	**+0.4**
VRAC				S		**Sg**	**12 41 19.1**	**+1.1**
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg		**Pg**	**12 40 56.9**	**+0.4**
KSP				*e*Sg		**Sg**	**12 41 19.8**	**+1.3**
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg		**Pg**	**12 40 56.9**	**+0.4**
KSP				*e*Sg		**Sg**	**12 41 19.8**	**+1.3**
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg		**Pg**	**12 40 56.9**	**+0.4**
KSP				*e*Sg		**Sg**	**12 41 19.8**	**+1.3**
KSP	**Ksiaz**	**1.70**	**292**	Pg		**Pg**	**12 40 56.9**	**+0.4**
KSP				Sg		**Sg**	**12 41 19.8**	**+1.3**
VYHS	**Vyhne**	**1.73**	**179**	*e*Pg		**Pn**	**12 40 55.5**	**+0.3**
VYHS				*e*Sn		**Sn**	**12 41 18.5**	**+0.5**
VYHS	**Vyhne**	**1.73**	**179**	*e*PG		**Pn**	**12 40 55.5**	**+0.3**
VYHS				*e*SN		**Sn**	**12 41 18.5**	**+0.5**
VYHS				*e*LG		Lg	12 41 23.6	
STHS	**Stebnicka Huta**	**1.79**	**116**	*e*Sn		**Sg**	**12 41 23.1**	**+1.7**
STHS	**Stebnicka Huta**	**1.79**	**116**	*e*SN		**Sg**	**12 41 23.1**	**+1.7**
STHS				*e*LG		Lg	12 41 26.6	
UPC	**Upice**	**1.79**	**280**	*e*SG		**Sb**	**12 41 21.1**	**+0.5**
	comp=Z,26nm,0.4s							
UPC	**Upice**	**1.79**	**280**	Sg		**Sb**	**12 41 21.1**	**+0.5**
	26nm,0.4s							
KECS	**Kecovo**	**2.07**	**147**	*e*Pn		**Pb**	**12 41 03.3**	**+1.0**
KECS	**Kecovo**	**2.07**	**147**	*e*PN		**Pb**	**12 41 03.3**	**+1.0**
KECS				*e*LG		Lg	12 41 38.9	
CRVS	**Cervenica-Dubn**	**2.19**	**126**	*e*Pn		**Pb**	**12 41 04.8**	**+0.4**
CRVS				*e*Sg		**Sg**	**12 41 35.7**	**+1.4**
CRVS	**Cervenica-Dubn**	**2.19**	**126**	*e*PN		**Pb**	**12 41 04.8**	**+0.4**
CRVS				*e*SG		**Sg**	**12 41 35.7**	**+1.4**
PSZ	**Piszkesteto**	**2.42**	**162**	⇑*i*P		**Pn**	**12 41 05.0**	**+0.2**
PSZ	**Piszkesteto**	**2.42**	**162**	⇑*i*P		**Pn**	**12 41 05.0**	**+0.2**
PSZ				S		**Sn**	**12 41 34.7**	**-0.4**
GOPC	**GO Pecny, Ondr**	**2.59**	**265**	*e*PG		**Pb**	**12 41 09.6**	**-1.6**
GOPC				*e*SG		**Sb**	**12 41 44.8**	**+1.3**
GOPC	**GO Pecny, Ondr**	**2.59**	**265**	Pg		**Pb**	**12 41 09.6**	**-1.6**
GOPC				Sg		**Sb**	**12 41 44.8**	**+1.3**
PRU	**Pruhonice**	**2.73**	**267**	*e*PG		**Pn**	**12 41 11.6**	**+2.6**
PRU				*e*SG		**Sb**	**12 41 49.7**	**+2.0**
	comp=Z,11nm,0.4s							
CONA	**Conrad Observa**	**2.99**	**221**	Pn		**Pn**	**12 41 13.1**	**+0.5**
	0.1nm,0.1s							
CONA				Sn		**Sn**	**12 41 48.9**	**-0.3**
	6.2nm,0.3s							
CONA	**Conrad Observa**	**2.99**	**221**	*e*Pn		**Pn**	**12 41 13.1**	**+0.5**
	0.1nm,0.1s							
CONA				Sn		**Sn**	**12 41 48.9**	**-0.3**
	6.2nm,0.3s							
BRG	**Berggiesshubel**	**3.15**	**284**	PG		**Pg**	**12 41 23.3**	**-0.9**
BRG				SG		**Sg**	**12 42 06.1**	**+1.1**
	11nm,0.4s							
BRG	**Berggiesshubel**	**3.15**	**284**	*e*Sg		**Sg**	**12 42 05.7**	**+0.7**
BRG	**Berggiesshubel**	**3.15**	**284**	Sg		**Sg**	**12 42 05.7**	**+0.7**
KHC	**Kasperske Hory**	**3.55**	**254**	*e*PG		**Pb**	**12 41 27.6**	**+0.1**
KHC				*e*SG		**Sg**	**12 42 16.5**	**-1.3**
GEC2	**GERESS Array S**	**3.58**	**249**	*e*Sg		**Sg**	**12 42 17.0**	**-1.8**
GERES	**GERESS Array B**	**3.58**	**249**	Pn		**Pn**	**12 41 22.6**	**+1.9**
	0.1nm,0.3s,baz=60,slow=14,SNR=2.8							
GERES				Pg		**Pg**	**12 41 31.9**	**-0.6**
	0.5nm,0.3s,baz=62,slow=18,SNR=10							
GERES				Sn		**Sn**	**12 42 05.1**	**+1.3**
	0.7nm,0.3s,baz=66,slow=26,SNR=4.1							
GERES				Lg		Lg	12 42 18.1	
	4.2nm,0.3s,baz=64,slow=28,SNR=15							
MOA	**Molln**	**3.80**	**233**	Pg		**Pg**	**12 41 35.6**	**-1.1**
	1.5nm,0.3s							
MOA				Sg		**Sg**	**12 42 23.8**	**-2.1**
	13nm,0.5s							
MOA	**Molln**	**3.80**	**233**	Pg		**Pg**	**12 41 35.6**	**-1.1**
	1.5nm,0.3s							
MOA				Sg		**Sg**	**12 42 23.8**	**-2.1**
	13nm,0.5s							
CLL	**Collm**	**3.82**	**289**	*e*Sg		**Sg**	**12 42 26.4**	**-0.2**
CLL	**Collm**	**3.82**	**289**	*e*Pg		**Pg**	**12 41 39.0**	**+1.9**
CLL				*i* Sg		**Sg**	**12 42 28.7**	**+2.1**
	comp=Z,14nm,0.9s							
CLL	**Collm**	**3.82**	**289**	Sg		**Sg**	**12 42 26.4**	**-0.2**
WERD	**Werda**	**4.15**	**276**	*e*Sg		**Sg**	**12 42 35.8**	**-1.4**
WERD	**Werda**	**4.15**	**276**	Sg		**Sg**	**12 42 35.8**	**-1.4**
ROTZ	**Rotzenmuhle**	**4.26**	**266**	*e*Sg		**Sg**	**12 42 42.0**	**+1.3**
ROTZ	**Rotzenmuhle**	**4.26**	**266**	Sg		**Sg**	**12 42 42.0**	**+1.3**
DRGR		**4.32**	**141**	⇓*i*P		**Pn**	**12 41 31.2**	**+0.4**
DRGR		**4.32**	**141**	S		**Sn**	**12 42 20.0**	**-1.9**
DRGR		**4.32**	**141**	⇓*i*P		**Pn**	**12 41 31.2**	**+0.4**
BURAR	**Bucovina Array**	**4.99**	**119**	⇑*i*P		**Pn**	**12 41 40.4**	**+0.4**
BURAR	**Bucovina Array**	**4.99**	**119**	⇑*i*P		**Pn**	**12 41 40.4**	**+0.4**
BZS	**Buzias**	**4.99**	**156**	⇓*i*P		**Pn**	**12 41 40.1**	**+0.1**
BZS	**Buzias**	**4.99**	**156**	⇓*i*P		**Pn**	**12 41 40.1**	**+0.1**
AKASG	**Malin Array Be**	**6.69**	**82**	Pg		**Pb**	**12 42 24.3**	**+3.3**
	baz=270,slow=15,SNR=2.1							
AKASG				Lg		Lg	12 43 52.4	
	comp=Z,0.8nm,0.3s,baz=274,slow=28,SNR=3.4							
FINES	**FINESS Array B**	**11.96**	**17**	Pn		**Pn**	**12 43 11.9**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=199,slow=12,SNR=4.8							

DJA 10 12:45:03.7±0.4, 4°S±4°×130°6E±°, h203km±7km, M4.5/9, mb4.2/7, MLv4.7/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMPI	**Kaimana, Papua**	**2.52**	**276**	P		Pn	12 45 48.0	0.0
KMPI				S		S	12 46 23.8	+1.8
RKPI	**Ransiki, Papua**	**3.15**	**319**	P		Pn	12 45 56.0	+0.8
RKPI				S		S	12 46 36.4	+1.4
FAKI	**Fak Fak**	**4.09**	**284**	P		Pn	12 46 06.1	-0.6
FAKI				S		S	12 46 55.6	0.0
GENI	**Genyem**	**4.16**	**72**	P		Pn	12 46 08.2	+0.6
GENI				S		S	12 46 58.2	+1.0
JAY	**Jayapura**	**4.69**	**73**	P		Pn	12 46 14.7	+0.4
JAY				S		S	12 47 10.0	+0.6
SWI	**Sorong**	**5.81**	**301**	P		Pn	12 46 28.9	+0.3
MMPI	**Merauke**	**6.13**	**138**	P		Pn	12 46 33.0	+0.3
BNDI	**Bandanaira**	**6.33**	**264**	P		Pn	12 46 36.2	+0.9
SAUI	**Saumlaki**	**6.34**	**230**	P		Pn	12 46 34.6	-0.9
SAUI				S		S	12 47 48.9	+0.9
MSAI	**Masohi**	**7.30**	**274**	P		Pn	12 46 46.8	-1.1
MSAI				S		S	12 48 10.5	-0.1
AAI	**Ambon**	**8.01**	**271**	P		Pn	12 46 58.5	+1.3
LBMI	**Labuha**	**9.30**	**290**	P		Pn	12 47 13.7	-0.2

*IDC **10** 12:46:05.7±1.6, 2°.70S×141°.27E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/50, mbtmp3.7/6, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/44, Error ellipse: s-maj=63.8km s-min=14.6km az=99.0*
*ISCJB **10** 12:46:09.1±0.6, 2°.83S±0°.06×140°.86E±0°.08, h31km, mb4.0/8, MS3.5/2, Error ellipse: s-maj=11.5km s-min=8.6km az=169.6*
*NEIC **10** 12:46:10.5±0.6, 2°.77S×140°.97E, h35km, mb4.0/5, Error ellipse: s-maj=11.1km s-min=10.9km az=134.0*
NEIC Felt [III] at Jayapura.

ISC 10 12:46:10.1±0.7, 2°.75S±0°.09×140°.95E±0°.09, h31km, n27, σ1§55/21, mb3.7/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MANU	**Manus Island**	**6.45**	**84**	*e*Pn		**Pn**	**12 47 39.5**	**-3.5**
FAKI	**Fak Fak**	**8.70**	**269**	*e*Pn		**Pn**	**12 48 13.6**	**-0.3**
PMG	**Port Moresby**	**9.04**	**137**	*e*Pn		**Pn**	**12 48 18.0**	**-0.7**
COEN	**Coen**	**11.35**	**169**	*e*Pn		**Pn**	**12 48 50.9**	**+0.6**
MTN	**Manton Dam**	**13.97**	**224**	*e*Pn		**Pn**	**12 49 23.4**	**-2.6**
TNTI	**Ternate**	**14.03**	**284**	*e*Pn		**Pn**	**12 49 25.1**	**-1.7**
SOEI	**Soe**	**17.98**	**246**	*e*P		**P**	**12 50 18.1**	**-0.2**
	8.1nm,1.0s							
CTAO	**Charters Tower**	**18.00**	**164**	*e*P		**P**	**12 50 18.1**	**-0.3**
	32nm,0.9s							
WRAB	**Tennant Creek**	**18.26**	**200**	*e*Pn		**Pn**	**12 50 20.7**	**-0.5**
	24nm,1.5s							
WB2	**Warramunga Arr**	**18.27**	**200**	*e*Pn		**Pn**	**12 50 22.5**	**+1.1**
WRA	**Warramunga Arr**	**18.27**	**200**	P		**Pn**	**12 50 20.8**	**-0.7**
	0.5nm,0.3s,baz=23,slow=12,SNR=30							
AS01	**Alice Springs**	**21.87**	**197**	*e*P		**P**	**12 51 01.2**	**+0.6**
AS31	**Alice Springs**	**21.88**	**198**	*e*P		**P**	**12 51 01.6**	**+0.9**
	1.2nm,0.6s							
ASAR	**Alice Springs**	**21.89**	**198**	P		**P**	**12 51 00.2**	**-0.5**
	1.8nm,0.8s,baz=28,slow=9.1,SNR=24							
ASAR				S		Sn	12 55 08.1	-3.6
	0.6nm,0.8s,baz=15,slow=29,SNR=4.2							
EIDS	**Eidsvold**	**24.52**	**157**	*e*P		**P**	**12 51 29.2**	**+2.2**
	4.6nm,0.7s							
H11S3	**WAKE ISLAND Hy**	**32.98**	**49**	T		T	13 27 16.2	
	baz=232,slow=75,SNR=31							
H11S2	**WAKE ISLAND Hy**	**32.99**	**49**	T		T	13 27 15.8	
	baz=232,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**	**33.00**	**49**	T		T	13 27 16.3	
	baz=232,slow=75,SNR=20							
KSRS	**Korea Array**	**41.79**	**344**	LR		LR	13 10 11.7	
	comp=Z,45nm,18.2s,baz=348,slow=35							
MA2	**Magadan**	**62.62**	**6**	LR		LR	13 21 19.1	
	comp=Z,38nm,19.1s,baz=356,slow=34							
MKAR	**Makanchi Array**	**71.20**	**322**	P		**P**	**12 57 28.4**	**+2.2**
	0.5nm,0.7s,baz=110,slow=8.0,SNR=4.7							
KURK	**Kurchatov**	**75.04**	**324**	P		**P**	**12 57 50.2**	**+1.4**
KURBB	**Kurchatov Arra**	**75.06**	**324**	P		**P**	**12 57 50.2**	**+1.4**
	0.4nm,0.8s,baz=108,slow=6.2,SNR=4.5							
CHGN	**Chignik**	**76.50**	**30**	*e*P		**P**	**12 57 58.1**	**+1.2**
	154nm,0.6s							
BVAR	**Borovoye Array**	**80.63**	**325**	P		**P**	**12 58 21.2**	**+1.4**
	0.9nm,0.6s,baz=91,slow=5.8,SNR=5.3							
ILAR	**Eielson Array**	**84.94**	**24**	P		**P**	**12 58 42.0**	**0.0**
	0.3nm,0.6s,baz=273,slow=4.3,SNR=4.5							
PTV	**Peach Tree Val**	**98.34**	**54**	*e*P		Pdif	12 59 46.2	+0.8

*NEIC **10** 12:50:51.4±0.0, 18°.23N×102°.40W, h23km, MD4.0(MEX), After MEX.*

MEX 10 12:50:51.4±0.4, 18°.23N×102°.40W, h23km±12km, MD4.0, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MMIG	**Aquila**	**0.90**	**274**	*e*P		Pb	12 51 05.5	-2.9
MMIG				*e*S		Sb	12 51 16.9	-3.2
MMIG	**Aquila**	**0.90**	**274**	*e*P		Pb	12 51 05.5	-2.9
MMIG				*e*S		Sb	12 51 16.9	-3.2
ZIIG	**Zihuatanejo**	**1.08**	**125**	*e*P		Pn	12 51 08.3	-2.8
ZIIG				*e*S		Sb	12 51 21.6	-3.5
ZIIG	**Zihuatanejo**	**1.08**	**125**	*e*P		Pn	12 51 08.3	-2.8
ZIIG				*e*S		Sb	12 51 21.6	-3.5
EZ5V		**1.69**	**318**	*e*P		Pn	12 51 17.0	-2.7
EZ5V				*e*S		Sn	12 51 37.7	-3.1
ARIG	**Puente Sto Nin**	**1.95**	**88**	*e*P		Pn	12 51 20.2	-2.9
ARIG				*e*S		Sn	12 51 43.2	-3.6
CAIG	**El Cayaco**	**2.34**	**120**	*e*P		Pn	12 51 26.2	-2.3
CAIG				*i* S		Sn	12 51 53.3	-3.3
CAIG	**El Cayaco**	**2.34**	**120**	*e*P		Pn	12 51 26.2	-2.3
CAIG				*i* S		Sn	12 51 53.3	-3.3
MEIG	**Mezcala**	**2.66**	**96**	*i* P		Pn	12 51 31.1	-1.8
MEIG				*i* S		Sn	12 52 01.3	-3.2
MEIG	**Mezcala**	**2.66**	**96**	*i* P		Pn	12 51 31.1	-1.8
MEIG				*i* S		Sn	12 52 01.3	-3.2
IGIG	**Irapuato, Guan**	**2.71**	**22**	*i* P		Pn	12 51 31.8	-1.9
IGIG				*i* S		Sn	12 52 03.3	-2.5
PLIG	**Platanillo**	**2.75**	**86**	*e*P		Pn	12 51 32.4	-1.9
PLIG	**Platanillo**	**2.75**	**86**	*e*P		Pn	12 51 32.4	-1.9
CJM	**Chamela**	**2.81**	**297**	*i* P		Pn	12 51 33.4	-1.5
CJM				*i* S		Sn	12 52 04.8	-3.2
CJM	**Chamela**	**2.81**	**297**	*i* P		Pn	12 51 33.4	-1.5
CJM				*i* S		Sn	12 52 04.8	-3.2
TLIG	**Tlapa**	**3.71**	**100**	*i* P		Pn	12 51 44.9	-2.5
TLIG				*i* S		Sn	12 52 27.5	-2.9
TLIG	**Tlapa**	**3.71**	**100**	*i* P		Pn	12 51 44.9	-2.5
TLIG				*i* S		Sn	12 52 27.5	-2.9

*ISCJB **10** 12:59:20.0±0.4, 67°.17N±0°.02×20°.72E±0°.08, h0km, Error ellipse: s-maj=4.4km s-min=3.1km az=0.8*
*UPP **10** 12:59:20.8, 67°.18N×20°.65E, h0km, ML2.4, Suspected Mining explosion.*
*CSEM **10** 12:59:20.7±0.3, 67°.19N×20°.74E, h2km, ML1.7, Error ellipse: s-maj=6.4km s-min=4.0km az=61.0, Mining explosion.*
*IDC **10** 12:59:20.2±1.2, 67°.17N×20°.42E, h0km, mb1 3.2/3, mb1mx2.9/67, mbtmp3.1/3, ML2.3/3, Error ellipse: s-maj=18.2km s-min=9.5km az=104.0*
*HEL **10** 12:59:21.3±0.0, 67°.18N×20°.65E, h0km, ML1.7, ML2.4(UPP), Explosion*

ISC 10 12:59:20.1±0.8, 67°.19N±0°.02×20°.80E±0°.02, h0km, n46, σ0§99/67, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DUNU	**Dundret**	**0.11**	**233**	P		**Pg**	**12 59 22.3**	**+0.1**
DUNU				S		**Sg**	**12 59 23.4**	**-0.2**
DUNU	**Dundret**	**0.11**	**233**	P		**Pg**	**12 59 22.3**	**+0.1**
DUNU				S		**Sg**	**12 59 23.5**	**-0.2**
DUNU	**Dundret**	**0.11**	**233**	*i* P		**Pg**	**12 59 22.3**	**+0.1**
DUNU				*i* S		**Sg**	**12 59 23.5**	**-0.2**
MASU	**Masugnsbyn**	**0.54**	**59**	P		**Pb**	**12 59 32.1**	**-0.2**
MASU	**Masugnsbyn**	**0.54**	**59**	P		**Pb**	**12 59 32.2**	**-0.2**
MASU	**Masugnsbyn**	**0.54**	**59**	*i* P		**Pb**	**12 59 32.2**	**-0.2**
KUA	**Kurravaara**	**0.79**	**347**	P		**Pg**	**12 59 35.5**	**+0.3**
KUA	**Kurravaara**	**0.79**	**347**	P		**Pg**	**12 59 35.5**	**+0.3**
KUA	**Kurravaara**	**0.79**	**347**	*i* P		**Pg**	**12 59 35.5**	**+0.3**
RATU	**Laukkuluspa**	**0.79**	**324**	P		**Pg**	**12 59 35.0**	**-0.1**
RATU	**Laukkuluspa**	**0.79**	**324**	P		**Pg**	**12 59 35.0**	**-0.1**
RATU	**Laukkuluspa**	**0.79**	**324**	*i* P		**Pg**	**12 59 35.0**	**-0.1**
ERTU	**Ertsjaerv**	**0.84**	**139**	P		**Pg**	**12 59 36.6**	**+0.4**
ERTU				Sb		**S

TARG ⇑*i*S **Sn** **13 01 04.4 +1.3**
baz=18
KDJ Kajisay 1.73 359 *e*Pn **Pn** **13 00 50.6 +1.5**
KDJ Kajisay 1.73 359⇓*e*P **Pn** **13 00 50.6 +1.5**
baz=0.0
KDJ ⇓*i*S **Sb** **13 01 14.6 +2.0**
baz=0.0
ULHL Ulahol 1.99 339 P **Pb** **13 00 55.2 -0.3**
SNR=117
ULHL Ulahol 1.99 339⇓*i*P **Pn** **13 00 54.7 +2.1**
baz=40
ULHL ⇓*i*S **Sb** **13 01 21.9 +1.9**
baz=40
KZA Kyzart 2.24 319 P **Pb** **13 00 59.3 -0.6**
SNR=211
KZA Kyzart 2.24 319⇑*i*P **Pn** **13 00 58.6 +2.3**
baz=20
KZA ⇑*i*S **Sb** **13 01 28.1 +0.6**
baz=20
PRZ Przheval'sk 2.27 23⇑*i*P **Pn** **13 00 58.9 +2.5**
baz=23
PRZ ⇑*i*S **Sn** **13 01 28.4 +4.3**
baz=23
BOOM Boomskoye usch 2.30 336⇑*i*P **Pn** **13 00 59.5 +2.6**
baz=37
BOOM ⇑*i*S **Sb** **13 01 28.8 -0.2**
baz=37
TNSS Tian-Shan 2.65 356 *e*P **Pb** **13 01 09.3 +2.5**
184nm,0.5s
TNSS *e*S **Sg** **13 01 45.5 +0.7**
538nm,0.8s
IZV Izvestkoviy 2.68 350 *e*P **Pb** **13 01 08.7 +1.5**
IZV *e*S **Sg** **13 01 44.3 -1.4**
554nm,0.6s
UCH Uchtor 2.74 313 P **Pb** **13 01 06.3 -2.1**
SNR=46
UCH Uchtor 2.74 313⇓*i*P **Pn** **13 01 05.9 +2.8**
baz=14
UCH ⇓*i*S **Sb** **13 01 39.8 -2.0**
baz=14
MDOK Medeo 2.77 357 ⇑Pn **Pn** **13 01 06.4 +3.1**
47nm,0.8s
MDOK ⇑Pg **Pb** **13 01 11.3 +2.6**
217nm,0.8s
MDOK ⇓Lg Lg 13 01 47.2
795nm,0.7s
MDOK Medeo 2.77 357 *e*P **Pb** **13 01 10.6 +1.9**
176nm,0.8s
MDOK *e*S **Sg** **13 01 47.5 -1.2**
596nm,0.8s
MTBS Maitube 2.80 348 *e*P **Pb** **13 01 10.5 +1.3**
43nm,0.6s
MTBS *e*S **Sg** **13 01 47.5 -2.0**
141nm,0.3s
TKM2 Tokmak 2 2.80 335 ⇓Pn **Pn** **13 01 07.1 +3.3**
28nm,0.3s
TKM2 ⇓Lg Lg 13 01 48.8
189nm,0.5s
TKM2 Tokmak 2 2.80 335 P **Pn** **13 01 07.1 +3.3**
SNR=132
TKM2 Tokmak 2 2.80 335 PN **Pn** **13 01 07.1 +3.3**
TKM2 pmax pmax
comp=Z,28nm,0.4s
TKM2 Tokmak 2 2.80 335⇑*i*P **Pn** **13 01 06.4 +2.6**
baz=35
TKM2 ⇑*i*S **Sb** **13 01 41.6 -1.7**
baz=35
SATY Saty 2.81 18 *e*P **Pb** **13 01 10.8 +1.5**
comp=Z,180nm,0.8s
SATY *e*S **Sb** **13 01 48.0 +4.5**
comp=Z,400nm,1.2s
KST Kastek 2.81 341 *e*P **Pb** **13 01 11.2 +1.9**
comp=Z,8.4nm,0.4s
KST *e*S **Sg** **13 01 48.7 -1.2**
comp=Z,401nm,0.7s
AAA Alma-Ata 2.82 356 *e*P **Pb** **13 01 11.9 +2.3**
comp=Z,211nm,0.8s
AAA *e*S **Sg** **13 01 49.8 -0.6**
comp=Z,1μm,0.7s
AAA Alma-Ata 2.82 356 *i* PN **Pb** **13 01 11.1 +1.5**
AAA *i* S **Sg** **13 01 50.4 +0.1**
AAA pmax pmax
comp=Z,180nm,0.5s
AAA smax smax
comp=N,1μm,0.7s
KNDC Almaty 2.83 356 ⇑Pn **Pn** **13 01 07.9 +3.9**
comp=N,211nm,0.9s
KNDC ⇑Lg Lg 13 01 49.9
comp=N,745nm,0.6s
KBK Karagaybulak 2.83 324 P **Pb** **13 01 07.9 -1.8**
SNR=93
KBK Karagaybulak 2.83 324⇑*i*P **Pn** **13 01 06.3 +2.2**
baz=24
KBK ⇑*i*S **Sn** **13 01 41.7 +3.8**
baz=24
KOTS Kotyrbulak 2.84 358 *e*P **Pb** **13 01 12.4 +2.5**
KOTS *e*S **Sg** **13 01 50.7 -0.2**
SFK Sufi-Kurgan 2.87 264 ⇓Pn **Pn** **13 01 06.1 +1.3**
comp=N,2.6nm,0.4s
SFK ⇓Pg **Pb** **13 01 10.0 -0.5**
comp=N,17nm,0.4s
SFK ⇓Lg Lg 13 01 47.1
comp=N,175nm,0.5s
SFK Sufi-Kurgan 2.87 264 PN **Pn** **13 01 06.5 +1.8**
SFK pmax pmax
comp=Z,3.0nm,0.4s
SFK Sufi-Kurgan 2.87 264⇑*i*P **Pn** **13 01 06.1 +1.3**
baz=64
SFK ⇑*i*S **Sb** **13 01 42.7 -2.6**
baz=64
AAK Ala-Archa 3.03 319 Pn **Pn** **13 01 10.6 +3.7**
comp=Z,18nm,0.3s,baz=126,slow=8.6,SNR=193
AAK Lg Lg 13 01 55.3
comp=Z,25nm,0.3s,baz=19,slow=22,SNR=23
AAK LR LR 13 02 03.7
comp=Z,20nm,21.6s,baz=208,slow=32
AAK Ala-Archa 3.03 319 ⇓Pn **Pn** **13 01 10.1 +3.1**
comp=Z,34nm,0.5s
AAK ⇑Lg Lg 13 01 54.8
comp=Z,363nm,0.9s
AAK Ala-Archa 3.03 319 P **Pn** **13 01 10.4 +3.4**
SNR=108
AAK Ala-Archa 3.03 319 *e*Pn **Pn** **13 01 10.3 +3.4**
AAK Ala-Archa 3.03 319⇑*i*P **Pn** **13 01 09.5 +2.6**
baz=19
AAK ⇑*i*S **Sn** **13 01 46.4 +3.5**
baz=19
DGS Degeres 3.04 340 *e*P **Pb** **13 01 15.1 +1.7**
comp=Z,90nm,0.8s
DGS *e*S **Sg** **13 01 55.2 -2.2**
comp=Z,269nm,0.5s
FRU1 Bishkek 3.10 322⇑*i*P **Pn** **13 01 10.1 +2.4**
baz=23
FRU1 ⇑*i*S **Sn** **13 01 48.6 +4.3**
baz=23
FRU Bishkek 3.12 322⇑*e*PN **Pb** **13 01 12.0 -2.6**
FRU *i* 13 01 19.0
FRU *e* 13 01 58.0
FRU pmax pmax
comp=Z,290nm,2.0s
FRU smax smax
comp=E,500nm,1.8s
AML Almayashu 3.17 304 P **Pn** **13 01 12.2 +3.2**
SNR=220
AML Almayashu 3.17 304⇑*i*P **Pn** **13 01 11.5 +2.5**
baz=5.0
AML ⇑*i*S **Sn** **13 01 50.6 +4.0**
baz=5.0
KURS Kuram 3.17 13 *e*P **Pb** **13 01 17.9 +2.4**
comp=E,18nm,0.8s
KURS *e*S **Sg** **13 01 59.9 -1.7**
comp=E,172nm,0.7s
CHMS Chumysh 3.19 325 P **Pn** **13 01 12.4 +3.5**
SNR=141
CHMS Chumysh 3.19 325⇑*i*P **Pn** **13 01 11.4 +2.4**
baz=26
CHMS ⇑*i*S **Sn** **13 01 50.6 +4.0**
baz=26
KTBS Karatobe 3.34 353 *e*P **Pb** **13 01 20.8 +2.5**
KTBS *e*S **Sg** **13 02 05.1 -1.8**
ARSB Arslanbob 3.34 288⇑*e*P **Pn** **13 01 12.8 +1.6**
baz=88
ARSB ⇑*e*S **Sn** **13 01 52.4 +1.9**
baz=88
PDGK Podgornoye 3.39 29 ⇓Pn **Pn** **13 01 14.1 +2.3**
comp=E,15nm,0.5s
PDGK ⇑Pg **Pb** **13 01 20.0 +0.8**
comp=E,50nm,0.5s
PDGK ⇓Lg Lg 13 02 06.6
comp=E,472nm,0.8s
PDGK Podgornoye 3.39 29 PN **Pn** **13 01 14.7 +2.9**
PDGK pmax pmax
comp=Z,15nm,0.5s
PDGK Podgornoye 3.39 29⇑*i*P **Pn** **13 01 14.3 +2.5**
baz=29
PDGK ⇑*i*S **Sn** **13 01 55.6 +4.0**
baz=29
EKS2 Erkin-Say 3.43 312 P **Pn** **13 01 16.3 +3.9**
SNR=81
EKS2 Erkin-Say 3.43 312⇑*i*P **Pn** **13 01 14.9 +2.5**
baz=13
EKS2 ⇑*i*S **Sn** **13 01 56.2 +3.5**
baz=13
CHKK Chushkaly 3.46 357 *e*P **Pb** **13 01 23.0 +2.5**
comp=Z,124nm,0.7s
CHKK *e*S **Sg** **13 02 08.8 -2.0**
comp=Z,352nm,0.5s
USP Ospenovka 3.52 326 P **Pn** **13 01 17.3 +3.8**
SNR=32
USP Ospenovka 3.52 326⇑*i*P **Pn** **13 01 16.4 +3.0**
baz=26
USP ⇑*i*S **Sn** **13 01 58.8 +4.2**
baz=26
KUU Kurty 3.56 350 *e*P **Pb** **13 01 24.4 +2.4**
comp=Z,30nm,0.8s
KUU *e*S **Sg** **13 02 11.0 -2.8**
comp=Z,248nm,0.6s
TOKL Toktogul 3.63 297⇑*i*P **Pn** **13 01 16.3 +1.3**
baz=97
TOKL ⇑*i*S **Sn** **13 01 58.9 +1.5**
baz=97
MNBS Baschi 3.79 13 *e*P **Pb** **13 01 26.9 +0.8**
comp=E,61nm,0.6s
MNBS *e*S **Sb** **13 02 15.6 +4.0**
comp=Z,120nm,0.8s
ARXS Arharly 3.84 7 *e*P **Pb** **13 01 29.1 +2.2**
comp=Z,63nm,0.6s
ARXS *e*S **Sg** **13 02 19.6 -3.5**
comp=Z,137nm,0.9s
MNAS Manas 4.11 302 ⇑Pn **Pn** **13 01 24.4 +2.6**
comp=Z,5.6nm,0.4s
MNAS ⇑Pg **Pb** **13 01 34.8 +3.2**
comp=Z,59nm,1.1s
MNAS ⇓Lg Lg 13 02 27.5
comp=Z,41nm,0.6s
MNAS Manas 4.11 302 PN **Pn** **13 01 24.4 +2.6**
MNAS pmax pmax
comp=Z,6.0nm,0.4s
MNAS Manas 4.11 302⇑*i*P **Pn** **13 01 24.5 +2.8**
baz=3.0
MNAS ⇑*i*S **Sn** **13 02 12.8 +3.3**
baz=3.0
ARK Arkit 4.21 291⇓*e*P **Pn** **13 01 24.5 +1.4**
baz=92
ARK ⇓*e*S **Sn** **13 02 12.5 +0.7**
baz=92
KAPS Kapalarasan 5.13 17 *e*P **Pg** **13 01 54.9 -3.0**
comp=Z,12nm,0.6s
KAPS *e*S **Sg** **13 03 03.9 -0.5**
comp=Z,46nm,1.1s
KK06 Karatay Array 5.69 301 *e*Pn **Pn** **13 01 44.9 +1.7**
KK05 Karatay Array 5.70 301 *e*Pn **Pn** **13 01 45.1 +1.7**
KK31 Karatay Array 5.70 301 ⇑Pn **Pn** **13 01 45.7 +2.3**
comp=Z,0.7nm,0.4s
KK31 ⇓Pg **Pb** **13 02 00.9 +2.4**
comp=Z,4.7nm,0.5s
KK31 ⇓Lg Lg 13 03 18.9
comp=Z,14nm,0.6s,baz=119,slow=28,SNR=8.9
KK31 Karatay Array 5.70 301 *e*Pn **Pn** **13 01 45.7 +2.3**
KK31 Karatay Array 5.70 301 *e*PN **Pn** **13 01 45.7 +2.3**
KKAR Karatay Array 5.70 301 *e*Pn **Pn** **13 01 45.6 +2.2**
KKAR Karatay Array 5.70 301 *e*PN **Pn** **13 01 45.6 +2.2**
KK07 Karatay Array 5.70 300 *e*Pn **Pn** **13 01 44.7 +1.3**
KK01 Karatay Array 5.70 301 *e*Pn **Pn** **13 01 45.3 +1.8**
KK03 Karatay Array 5.71 301 *e*Pn **Pn** **13 01 45.1 +1.7**
KK04 Karatay Array 5.71 301 *e*Pn **Pn** **13 01 45.3 +1.8**
KK08 Karatay Array 5.71 300 *e*Pn **Pn** **13 01 45.0 +1.3**
MAKZ Makanchi 7.28 27 ⇑Pn **Pn** **13 02 07.4 +2.3**
comp=Z,1.0nm,0.3s
MAKZ ⇓Pg Pg 13 02 34.9 -4.0
comp=Z,4.6nm,0.8s
MAKZ ⇓Lg Lg 13 04 09.1
comp=Z,15nm,1.1s
MAKZ Makanchi 7.28 27 *e*Pn **Pn** **13 02 06.0 +0.9**
MAKZ Makanchi 7.28 27 *e*P **Pn** **13 02 06.0 +0.9**
MK01 Makanchi Array 7.36 28 *e*Pn **Pn** **13 02 05.8 -0.4**
MK31 Makanchi Array 7.38 28 ⇑Pn **Pn** **13 02 07.9 +1.4**
comp=Z,1.2nm,0.4s,baz=205,slow=12,SNR=23
MK31 ⇑Pg Pg 13 02 35.7 -5.2
comp=Z,4.7nm,0.8s
MK31 ⇓Lg Lg 13 04 14.2
comp=Z,24nm,1.2s,baz=207,slow=29,SNR=4.0
MK31 Makanchi Array 7.38 28 *e*Pn **Pn** **13 02 08.2 +1.7**
MK31 Makanchi Array 7.38 28 *e*P **Pn** **13 02 08.2 +1.7**
MK32 Makanchi Array 7.38 28 *e*Pn **Pn** **13 02 07.8 +1.4**
MKAR Makanchi Array 7.38 28 Pn **Pn** **13 02 07.8 +1.4**
comp=Z,0.6nm,0.3s,baz=204,slow=16,SNR=29
MKAR Lg Lg 13 04 14.7
comp=Z,0.7nm,0.3s,baz=214,slow=30,SNR=5.7
MKAR Makanchi Array 7.38 28 *e*Pn **Pn** **13 02 07.4 +0.9**
CHCP Chirak Chowk 7.43 206 P **Pn** **13 02 06.6 -0.6**
CEP Cherat 7.81 215 P **Pn** **13 02 11.0 -1.5**
WMQ Urumqi 8.51 63 P **Pn** **13 02 23.2 +1.2**
WMQ S **Sn** **13 03 54.0 -3.6**
OTUK Ortayu 8.59 338 ⇓Pn **Pn** **13 02 25.0 +1.9**
comp=Z,4.7nm,1.0s
OTUK ⇓Pg 13 02 53.9
comp=Z,8.3nm,1.5s
OTUK ⇓Lg Lg 13 04 50.1
comp=Z,27nm,0.9s
OTUK Ortayu 8.59 338 P **Pn** **13 02 25.0 +1.9**
OTUK pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 10.27 5 Pn **Pn** **13 02 46.7 +0.6**
comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=25
KURBB Lg Lg 13 05 42.9
comp=Z,0.1nm,0.3s,baz=192,slow=30,SNR=7.3
KURK Kurchatov 10.37 5 ⇓Pn **Pn** **13 02 48.0 +0.6**
comp=Z,6.0nm,0.9s
KURK ⇓Lg Lg 13 05 48.9
comp=Z,52nm,1.2s
KURK Kurchatov 10.37 5 *e*Pn **Pn** **13 02 47.9 +0.5**
KURK Kurchatov 10.37 5 *e*P **Pn** **13 02 47.9 +0.5**
BVA0 Borovoye Array 13.46 342 ⇓Pn **Pn** **13 03 30.1 +0.4**
comp=Z,5.3nm,1.2s,baz=162,slow=14,SNR=4.9
BVAR Borovoye Array 13.46 342 Pn **Pn** **13 03 29.6 -0.1**
comp=Z,0.2nm,0.3s,baz=159,slow=13,SNR=11
BVAR Lg Lg 13 07 17.5
comp=Z,0.3nm,0.3s,baz=156,slow=26,SNR=3.7
BRVK Borovoye 13.52 342 *e*Pn **Pn** **13 03 30.6 +0.2**
BRVK Borovoye 13.52 342 *e*P **Pn** **13 03 30.7 +0.2**
ZAA0 Zalesovo Array 14.50 18 *e*Pn **Pn** **13 03 46.1 +2.3**
ZALV Zalesovo Beam 14.50 18 Pn **Pn** **13 03 44.2 +0.4**
comp=Z,0.2nm,0.3s,baz=210,slow=14,SNR=6.0
ZALV Lg Lg 13 08 02.3
comp=Z,0.1nm,0.3s,baz=199,slow=27,SNR=5.3
ZALV Zalesovo Beam 14.50 18 *e*Pn **Pn** **13 03 42.6 -1.2**
ZALV Zalesovo Beam 14.50 18 *e*P **Pn** **13 03 42.6 -1.2**
ZAA1 Zalesovo Array 14.50 18 *e*Pn **Pn** **13 03 44.2 +0.3**
NVS Novosibirsk 15.00 14 *e*P **P** **13 03 56.4 +0.4**
AB07 Akbulak array 15.08 312 *e*Pn **Pn** **13 03 51.0 -0.7**
AB06 Akbulak array 15.08 312 *e*Pn **Pn** **13 03 52.8 +1.0**
AB03 Akbulak array 15.09 312 *e*Pn **Pn** **13 03 51.1 -0.7**
AB01 Akbulak array 15.09 312 *e*Pn **Pn** **13 03 51.0 -0.9**
AB02 Akbulak array 15.09 312 *e*Pn **Pn** **13 03 50.6 -1.3**
AB31 Akbulak array 15.09 312 Pn **Pn** **13 03 50.2 -1.6**
comp=Z,0.5nm,0.6s,baz=117,slow=12,SNR=14
AB31 Akbulak array 15.09 312 *e*Pn **Pn** **13 03 51.0 -0.9**
AB31 Akbulak array 15.09 312 *e*P **Pn** **13 03 51.0 -0.9**
ABKAR Akbulak array 15.09 312 *e*Pn **Pn** **13 03 52.2 +0.3**
comp=Z,12nm,0.6s
AB08 Akbulak array 15.10 312 *e*Pn **Pn** **13 03 51.2 -0.7**
AB04 Akbulak array 15.10 312 *e*Pn **Pn** **13 03 51.6 -0.3**
AB05 Akbulak array 15.10 312 *e*Pn **Pn** **13 03 52.0 0.0**
AB09 Akbulak array 15.11 312 *e*Pn **Pn** **13 03 51.4 -0.7**
AKTO Aktyubinsk 16.76 313 P **Pn** **13 04 12.6 -0.8**
comp=Z,0.2nm,0.3s,baz=104,slow=14,SNR=4.5
SONA0 Songino Array 22.14 61 *e*P **P** **13 05 12.3 -2.1**
SONM Songino Array 22.14 61 P **P** **13 05 12.3 -2.1**
comp=Z,0.2nm,0.4s,baz=284,slow=12,SNR=2.5
SONM Songino Array 22.14 61 *e*P P 13 05 24.5 +10
SONM pmax pmax
comp=Z,1.0nm,0.6s
XAN Xi'an 25.94 94 P **P** 13 05 43.2 -7.8
FIA0 FINESS Array S 37.22 322 *e*P **P** **13 07 29.3 -0.3**
FIA0 FINESS Array S 37.22 322 *e*P **P** **13 07 29.3 -0.3**
FINES FINESS Array B 37.22 322 P **P** **13 07 29.3 -0.3**
comp=Z,1.0nm,0.5s,baz=113,slow=8.5,SNR=7.9
ARA0 ARCESS Array S 39.58 334 *e*P **P** **13 07 49.2 -0.2**
ARCES ARCESS Array B 39.58 334 P **P** **13 07 49.2 -0.2**
comp=Z,10nm,1.1s,baz=101,slow=9.3,SNR=3.1
STHS Stebnicka Huta 39.83 302 *e*P **P** **13 07 53.2 +1.4**
STHS Stebnicka Huta 39.83 302 *e*P **P** **13 07 53.2 +1.4**
GERES GERESS Array B 44.80 303 P **P** **13 08 31.9 -0.5**
comp=Z,0.6nm,0.5s,baz=64,slow=9.3,SNR=6.3
INK Inuvik 69.19 12 P **P** **13 11 24.9 +0.3**
comp=Z,0.6nm,0.4s,baz=337,slow=5.8,SNR=3.7
TOA1 Torodi Ar. Sit 70.61 271 *e*P **P** **13 11 31.5 -2.7**
TORD Torodi Ar. Bea 70.61 271 P **P** **13 11 31.5 -2.7**
comp=Z,0.4nm,0.6s,baz=55,slow=5.5,SNR=3.2
YKA Yellowknife Ar 77.02 6 P **P** **13 12 09.2 -1.7**
comp=Z,0.1nm,0.4s,baz=348,slow=5.6,SNR=6.7

DJA 10 13:02:11.5±0.5, 0°N±2°×12°4E±°, h79km±16km, M3.6/8, MLv3.6/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.68**	**218**	P	Pn	13 02 39.4	+0.3
LUWI				S	Sn	13 03 00.0	0.0
MRSI	**Marisa**	**1.87**	**276**	P	Pn	13 02 41.8	+0.2
MRSI				S	Sn	13 03 05.6	+1.1
APSI	**Ampana**	**2.46**	**241**	P	Pn	13 02 48.9	-0.6
APSI				S	Sn	13 03 19.5	+0.8
SANI	**Sanana**	**3.19**	**137**	P	Pn	13 02 58.6	-0.9
SANI				S	Sn	13 03 36.4	-0.1
SGSI	**Sangihe**	**3.79**	**27**	P	Pn	13 03 07.6	0.0
SGSI				S	Sn	13 03 51.3	+0.2
LBMI	**Labuha**	**3.81**	**104**	P	Pn	13 03 08.0	+0.1
LBMI				S	Sn	13 03 52.5	+0.9
MPSI	**Mapaga**	**3.90**	**271**	P	Pn	13 03 08.3	-0.8
MPSI				S	Sn	13 03 54.2	+0.4

DJA 10 13:06:03.4±0.6, 2°S±4°×14°1E±°, h11km, M4.9/8, mB5.4/2, mb5.0/8, MLv4.9/6, Mw(mB)4.9/2, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.30**	**183**	P	Pg	13 06 10.0	+0.4
JAY				S	Sb	13 06 15.5	-0.4
GENI	**Genyem**	**0.67**	**235**	P	Pb	13 06 17.0	-0.1
GENI				S	Sb	13 06 27.1	+0.7
MMPI	**Merauke**	**6.22**	**183**	P	Pn	13 07 36.7	+1.4
RKPI	**Ransiki, Papua**	**6.58**	**276**	P	Pn	13 07 40.2	+0.1
KMPI	**Kaimana, Papua**	**7.15**	**258**	P	Pn	13 07 47.0	-1.0
FAKI	**Fak Fak**	**8.49**	**265**	P	Pn	13 08 05.9	-0.6
SWI	**Sorong**	**9.55**	**278**	P	Pn	13 08 20.5	-0.5
SAUI	**Saumlaki**	**10.99**	**238**	P	Pn	13 08 41.1	+0.3
BNDI	**Bandanaira**	**11.04**	**258**	P	Pn	13 08 40.9	-0.5
MSAI	**Masohi**	**11.83**	**264**	P	Pn	13 08 52.2	0.0

IDC 10 13:11:43.8±570.0, 47°65N×49°57E, h0km, Error ellipse: s-maj=214.4km s-min=129.4km az=50.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.21**	**61**	*i*		13 47 20.0	
	baz=246,slow=307,SNR=12						
I43RU	**DUBNA INFRASON**	**11.81**	**325**	*i*		14 22 10.0	
	baz=133,slow=329,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**22.97**	**61**	*i*		15 35 20.0	
	baz=267,slow=336,SNR=1.2						

*NIED **10** 13:11:00, 43.70N×147.70E, h23km, Mw3.6 Best double couple: M0 2.68000×10^14 NP1:φ=217.00000°, δ71.00000°, λ171.00000°. NP2:φ=310.00000°, δ81.00000°, λ19.00000°.*
*MOS **10** 13:11:48.3±1.1, 43.76N×148.03E, h41km, mb4.4/1, Error ellipse: s-maj=12.9km s-min=10.4km az=118.9*
*JMA **10** 13:11:48.5±0.2, 43.69N×147.67E, h0km, M3.9*
*SKHL **10** 13:11:49.5±0.2, 43.71N×148.01E, h43km±7km, mb4.2/3*
*IDC **10** 13:11:54.7±4.6, 44.10N×147.86E, h61km±29km, mb3.1/5, mb1 3.4/9, mb1mx3.1/67, mbtmp3.5/9, ML3.9/3, Error ellipse: s-maj=67.7km s-min=20.4km az=161.0*

ISC 10 13:11:46.8±2.1, 43.83N±0.07°×147.84E±0.07°, h3km±11km, n47, σ1s54/56, mb3.4/6, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.73**	**273**	*i* P	**Pb**	**13 12 03.5**	**+1.3**
SHO				AMB	AMB	13 12 04.8	
	230nm,0.4s						
SHO				AMB	AMB	13 12 04.8	
	390nm,0.4s						
SHO				AMB	AMB	13 12 04.8	
	520nm,0.4s						
SHO				*i* S	**Sn**	**13 12 14.0**	**-1.7**
SHO				A	A	13 12 14.6	
	1μm,0.3s						
SHO				A	A	13 12 14.6	
	350nm,0.3s						
SHO	**Shikotan**	**0.73**	**273**	*d* PN	**Pb**	**13 12 03.5**	**+1.3**
SHO				*i* S	**Sn**	**13 12 14.0**	**-1.7**
SHO				pmax	pmax		
	comp=Z,523nm,0.5s						
SHO				pmax	pmax		
	comp=E,386nm,0.6s						
SHO				pmax	pmax		
	comp=N,227nm,0.3s						
SHO				smax	smax		
	comp=N,1μm,0.3s						
SHO				smax	smax		
	comp=E,3μm,0.6s						
KUR	**Kuril'sk**	**1.40**	**1**	*i* P	**Pn**	**13 12 13.7**	**+0.4**
KUR				AMB	AMB	13 12 15.1	
	comp=E,156nm,0.4s						
KUR				AMB	AMB	13 12 15.1	
	comp=E,176nm,0.4s						
KUR				AMB	AMB	13 12 15.1	
	comp=E,62nm,0.4s						
KUR				*i* S	**Sn**	**13 12 31.9**	**-0.4**
KUR				A	A	13 12 36.6	
	comp=E,490nm,0.3s						
KUR				A	A	13 12 36.6	
	comp=E,334nm,0.3s						
KUR	**Kuril'sk**	**1.40**	**1**	*c* *i* PN	**Pn**	**13 12 13.7**	**+0.4**
KUR				*i* S	**Sn**	**13 12 31.9**	**-0.4**
KUR				pmax	pmax		
	comp=N,156nm,0.3s						
KUR				pmax	pmax		
	comp=E,176nm,0.3s						
KUR				pmax	pmax		
	comp=Z,619nm,0.3s						
KUR				smax	smax		
	comp=N,494nm,0.2s						
KUR				smax	smax		
	comp=E,334nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.44**	**279**	*i* P	**Pg**	**13 12 14.2**	**-0.3**
YUK				AMB	AMB	13 12 15.9	
	comp=E,137nm,0.3s						
YUK				AMB	AMB	13 12 15.9	
	comp=E,80nm,0.3s						
YUK				AMB	AMB	13 12 15.9	
	comp=E,46nm,0.3s						
YUK				*i* S	**Sb**	**13 12 32.7**	**-0.3**
YUK				A	A	13 12 36.3	
	comp=E,860nm,0.4s						
YUK				A	A	13 12 36.3	
	comp=E,126nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.44**	**279**	*d* PN	**Pg**	**13 12 14.2**	**-0.3**
YUK				*i* S	**Sb**	**13 12 32.7**	**-0.3**
YUK				pmax	pmax		
	comp=N,137nm,0.2s						
YUK				pmax	pmax		
	comp=E,80nm,0.2s						
YUK				pmax	pmax		
	comp=Z,463nm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK				smax	smax		
	comp=N,855nm,0.2s						
LAGR	**Lagunnoye**	**1.50**	**279**	*e*P	**Pn**	**13 12 15.1**	**+0.5**

LAGR				*i* S	**Sb**	**13 12 34.2**	**-0.5**	
LAGR	**Lagunnoye**	**1.50**	**279**	*e*PN	**Pn**	**13 12 15.1**	**+0.5**	
LAGR				*i* S	**Sb**	**13 12 34.2**	**-0.5**	
GRPR	**Tuman**	**1.50**	**277**	*i* P	**Pn**	**13 12 15.0**	**+0.4**	
GRPR				*i* S	**Sb**	**13 12 34.3**	**-0.5**	
GRPR	**Tuman**	**1.50**	**277**	‖ *i* PN	**Pn**	**13 12 15.0**	**+0.4**	
GRPR				*i* S	**Sb**	**13 12 34.3**	**-0.5**	
NEM2	**Nemuro 2**	**1.59**	**254**	P	**Pn**	**13 12 15.7**	**-0.1**	
NEM2				*e*S	**Sn**	**13 12 35.2**	**-1.7**	
GLVR	**Golovnino**	**1.68**	**268**	*e*P	**Pb**	**13 12 18.1**	**-0.3**	
GLVR				*i* S	**Sg**	**13 12 39.8**	**-1.0**	
GLVR	**Golovnino**	**1.68**	**268**	‖ *i* PN	**Pb**	**13 12 18.1**	**-0.3**	
GLVR				*i* S	**Sg**	**13 12 39.8**	**-1.0**	
JRA	**Rausu**	**1.97**	**274**	P	**Pn**	**13 12 22.2**	**+1.2**	
JRA				*e*S	**Sb**	**13 12 46.6**	**-1.5**	
JNK	**Nakash**	**2.27**	**265**	P	**Pn**	**13 12 25.9**	**+0.6**	
JAK	**Akkeshi**	**2.44**	**251**	P	**Pn**	**13 12 28.4**	**+0.9**	
JTKR	**Abashiri--Toko**	**2.84**	**274**	P	**Pn**	**13 12 35.1**	**+2.0**	
JAR	**Ashorobuto**	**3.00**	**261**	P	**Pn**	**13 12 37.1**	**+1.8**	
JAR				*e*S	**Sn**	**13 13 12.8**	**+1.0**	
JOB	**Onbets**	**3.06**	**254**	P	**Pn**	**13 12 37.3**	**+1.2**	
JMP	**Maruseppu**	**3.24**	**275**	P	**Pn**	**13 12 40.6**	**+2.0**	
HRK	**Horoka**	**3.44**	**266**	*e*P	**Pn**	**13 12 43.9**	**+2.6**	
JCH	**Churui**	**3.49**	**251**	P	**Pn**	**13 12 43.4**	**+1.4**	
JCH				*e*S	**Sn**	**13 13 24.4**	**+0.7**	
JKK2	**Kamakawa 2**	**3.68**	**272**	P	**Pn**	**13 12 48.0**	**+3.4**	
JKA	**Kamikawa-asahi**	**3.79**	**276**	*e*P	**Pn**	**13 12 50.1**	**+4.0**	
ASAJ	**Asahikawa**	**3.79**	**276**	P	**Pn**	**13 12 50.1**	**+3.9**	
	comp=N,2.5nm,0.3s,baz=92,slow=11,SNR=26							
ASAJ				S	**Sb**	**13 13 40.0**	**-0.7**	
	baz=237,slow=10,SNR=1.8							
JFR	**Furan**	**3.87**	**262**	P	**Pn**	**13 12 50.1**	**+2.8**	
JSE	**Soyaes**	**3.93**	**288**	P	**Pn**	**13 12 50.2**	**+2.2**	
JNBK	**Urakawa-nobuka**	**4.04**	**249**	P	**Pn**	**13 12 51.3**	**+1.8**	
JNBK				*e*S	**Sn**	**13 13 37.7**	**+0.5**	
YSS	**Yuzh-Sakhalins**	**4.75**	**313**	*e*P	**Pn**	**13 13 01.9**	**+2.6**	
YSS	**Yuzh-Sakhalins**	**4.75**	**313**	*e*PN	**Pn**	**13 13 01.9**	**+2.6**	
YSS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PETK	**Petropavlovsk-**	**11.35**	**32**	P	**Pn**	**13 14 30.6**	**+0.8**	
	comp=Z,0.3nm,0.3s,baz=210,slow=11,SNR=11							
MA2	**Magadan**	**15.87**	**5**	P	**Pn**	**13 15 31.3**	**+0.3**	
	comp=Z,0.3nm,0.3s,baz=151,slow=19,SNR=3.8							
SEY	**Seymchan**	**19.32**	**6**	P	**P**	**13 16 11.4**	**-1.4**	
	comp=Z,0.1nm,0.3s,baz=151,slow=10,SNR=6.8							
H11N2	**WAKE ISLAND Hy**	**28.84**	**140**	T	T	13 48 30.3		
	baz=331,slow=76,SNR=25							
H11N1	**WAKE ISLAND Hy**	**28.85**	**140**	T	T	13 48 34.8		
	baz=331,slow=76,SNR=30							
H11N3	**WAKE ISLAND Hy**	**28.86**	**140**	T	T	13 48 37.2		
	baz=331,slow=76,SNR=32							
H11S1	**WAKE ISLAND Hy**	**29.82**	**142**	T	T	13 49 43.3		
	baz=332,slow=76,SNR=99							
H11S3	**WAKE ISLAND Hy**	**29.82**	**142**	T	T	13 49 38.3		
	baz=332,slow=76,SNR=22							
H11S2	**WAKE ISLAND Hy**	**29.84**	**142**	T	T	13 49 43.7		
	baz=332,slow=76,SNR=28							
NRIK	**Noril'sk**	**39.42**	**331**	P	**P**	**13 19 16.2**	**-1.3**	
	comp=Z,1.1nm,0.4s,baz=331,slow=15							
ILAR	**Eielson Array**	**41.13**	**36**	P	P	13 19 30.6	-1.2	
	comp=Z,0.4nm,0.5s,baz=27,slow=8,SNR=7.1							
MKAR	**Makanchi Array**	**44.99**	**298**	P	**P**	**13 20 03.1**	**-0.2**	
	comp=Z,0.2nm,0.7s,baz=73,slow=6.2,SNR=2.7							
KURK	**Kurchatov**	**45.90**	**304**	*e*P	**P**	**13 20 10.8**	**+0.5**	
KURK	**Kurchatov**	**45.90**	**304**	P	**P**	**13 20 10.8**	**+0.5**	
KURBB	**Kurchatov Arra**	**45.98**	**304**	P	**P**	**13 20 10.8**	**-0.2**	
	comp=Z,0.2nm,0.5s,baz=76,slow=8.4,SNR=3.8							
YKA	**Yellowknife Ar**	**55.46**	**34**	P	P	13 21 20.9	-1.4	
	comp=Z,0.1nm,0.4s,baz=305,slow=7.1,SNR=3.7							
FINES	**FINESS Array B**	**65.03**	**333**	P	P	13 22 25.5	-2.3	
	comp=Z,1.9nm,0.9s,baz=27,slow=12,SNR=4.2							

*IDC **10** 13:12:36.6±0.9,8˚.27S×124˚.75E,h0km,mb3.8/7, mb1 4.0/10,mb1mx3.7/56,mbtmp3.9/10,ML4.2/3,Error ellipse: s-maj=37.6km s-min=18.4km az=61.0*
*ISCJB **10** 13:12:47.6±0.5,8˚.98S±0˚.05×124˚.19E±0˚.05,h122km±5km, mb3.6/7,Error ellipse: s-maj=9.6km s-min=5.8km az=140.6*
*DJA **10** 13:12:50.2±0.2,9˚S±2˚×12˚4E±°,h10km,M4.1/12,mb4.2/6, ML4.1/12*

ISC 10 13:12:48.6±0.8,8˚.99S±0˚.05×124˚.18E±0˚.06,h116km±9km, n23,σ1s29/32,mb3.7/7,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.76**	**173**	P	**Pn**	**13 13 08.6**	**+0.4**
SOEI				S	**Sn**	**13 13 22.0**	**-1.0**
BATI	**Baumata**	**1.31**	**203**	Pn	**Pn**	**13 13 14.6**	**+1.0**
	39nm,0.3s,baz=87,slow=3.4,SNR=27						
BATI				Sn	**Sn**	**13 13 33.5**	**+0.9**
	142nm,0.3s,baz=108,slow=20,SNR=47						
BATI	**Baumata**	**1.31**	**203**	P	**Pn**	**13 13 14.5**	**+0.9**
BATI				S	**Sn**	**13 13 33.8**	**+1.2**
MMRI	**Maumere**	**1.95**	**280**	P	**Pn**	**13 13 20.2**	**-1.0**
MMRI				S	**Sn**	**13 13 43.6**	**-2.5**
EDFI	**Ende, Flores**	**2.47**	**275**	P	**Pn**	**13 13 27.8**	**-0.1**
EDFI				S	**Sn**	**13 13 56.6**	**-1.5**
BASI	**Baing, Sumba**	**3.75**	**251**	P	**Pn**	**13 13 46.2**	**+1.4**
BASI				S	**Sn**	**13 14 30.4**	**+2.1**
BBSI	**Bau Bau**	**3.83**	**335**	P	**Pn**	**13 13 45.8**	**0.0**
BBSI				S	**Sn**	**13 14 31.1**	**+1.0**
BSSI	**Bau Bau, Buton**	**4.62**	**308**	P	**Pn**	**13 13 57.0**	**+0.5**
BSSI				S	**Sn**	**13 14 49.6**	**+0.4**
WBSI	**Waikabubak, Su**	**4.77**	**262**	P	**Pn**	**13 13 59.3**	**+0.9**
WBSI				S	**Sn**	**13 14 53.9**	**+1.2**
BNSI	**Bone**	**6.09**	**318**	P	**Pn**	**13 14 17.1**	**+0.8**
BNSI				S	**Sn**	**13 15 25.3**	**+0.5**
PLAI	**Plampang**	**6.33**	**271**	P	**Pn**	**13 14 19.9**	**+0.4**
AAI	**Ambon**	**6.61**	**37**	P	Pn	13 14 27.6	+4.3
SANI	**Sanana**	**7.13**	**15**	P	**Pn**	**13 14 33.7**	**+3.4**
TTSI	**Tana Toraja**	**7.33**	**323**	P	**Pn**	**13 14 34.4**	**+1.4**
WRA	**Warramunga Arr**	**14.66**	**139**	Pn	**Pn**	**13 16 08.7**	**-1.8**
	1.0nm,0.3s,baz=319,slow=15,SNR=38						
WRA				Sn	Sn	13 18 40.7	-12
	1.6nm,0.3s,baz=313,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.31**	**149**	P	**Pn**	**13 16 44.0**	**+0.8**
	1.7nm,0.3s,baz=325,slow=12,SNR=64						
ASAR				S	Sn	13 19 45.3	-11
	0.8nm,0.3s,baz=321,slow=20,SNR=14						
CTA	**Charters Tower**	**24.02**	**120**	P	**P**	**13 17 52.4**	**-0.6**
	4.4nm,1.0s,baz=285,slow=12,SNR=2.5						
CMAR	**Chiang Mai Arr**	**36.93**	**318**	P	**P**	**13 19 47.3**	**+0.6**
	0.7nm,0.5s,baz=147,slow=7.6,SNR=4.1						
SONM	**Songino Array**	**58.73**	**346**	P	**P**	**13 22 33.5**	**-0.9**
	0.3nm,0.6s,baz=155,slow=5.3,SNR=3.6						
MKAR	**Makanchi Array**	**66.89**	**330**	P	**P**	**13 23 28.5**	**+0.1**
	1.1nm,0.8s,baz=133,slow=7.4,SNR=9.2						
AAK	**Ala-Archa**	**68.48**	**323**	P	**P**	**13 23 39.4**	**+0.8**
	0.4nm,0.4s,baz=148,slow=8.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**70.96**	**337**	P	**P**	**13 23 52.3**	**-1.0**
	0.4nm,0.4s,baz=125,slow=4.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**71.33**	**331**	P	**P**	**13 23 55.4**	**-0.3**
	0.2nm,0.5s,baz=141,slow=4.9,SNR=9.2						

*DDA **10** 13:32:48.0,37˚.20N×36˚.96E,h7km,Ml3.8*
*ISK **10** 13:32:47.7,37˚.21N×36˚.95E,h4km,ML3.6/21*
*CSEM **10** 13:32:48.5±0.1,37˚.19N×36˚.95E,h2km,ML3.6, Error ellipse: s-maj=3.0km s-min=2.2km az=163.0*
*GII **10** 13:32:57.3±0.0,37˚.20N×36˚.96E,h1km,MD3.7/1*

ISC 10 13:32:48.3±1.0,37˚.19N±0˚.02×36˚.95E±0˚.02,h6km±9km, n111,σ0s89/139,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara¯**	**0.16**	**349**	*i* P	**Pg**	**13 32 51.1**	**-0.4**
HCB				*i* S	**Sg**	**13 32 53.2**	**-0.5**
GAZ	**Gaziantep**	**0.21**	**95**	PG	**Pg**	**13 32 52.5**	**0.0**
GAZ				SG	**Sg**	**13 32 56.4**	**+1.0**
GAZ	**Gaziantep**	**0.21**	**95**	*e*Pg	**Pg**	**13 32 52.5**	**0.0**
GAZ				*e*Sg	**Sg**	**13 32 56.4**	**+1.0**
KMRS	**Kahramanmaras**	**0.32**	**353**	PG	**Pg**	**13 32 54.0**	**-0.5**
KMRS				SG	**Sg**	**13 32 58.7**	**0.0**
KMRS	**Kahramanmaras**	**0.32**	**353**	*e*Pg	**Pg**	**13 32 54.0**	**-0.5**
KMRS				*e*Sg	**Sg**	**13 32 58.7**	**0.0**
KUZU	**Kuzuini**	**0.43**	**166**	*i* P	**Pg**	**13 32 57.0**	**+0.4**
KUZU				*i* S	**Sg**	**13 33 02.8**	**+0.6**
KUZU	**Kuzuini**	**0.43**	**166**	P	**Pg**	**13 32 57.0**	**+0.4**
KUZU				S	**Sg**	**13 33 02.8**	**+0.6**
ANDN	**Andirin**	**0.62**	**309**	*i* P	**Pg**	**13 32 59.7**	**-0.5**
ANDN				*i* S	**Sg**	**13 33 07.5**	**-0.6**
ANDN	**Andirin**	**0.62**	**309**	P	**Pg**	**13 32 59.7**	**-0.5**
ANDN				S	**Sg**	**13 33 07.6**	**-0.6**
DORT	**Dortyol-Hatay**	**0.70**	**239**	PG	**Pg**	**13 33 01.9**	**+0.1**
DORT	**Dortyol-Hatay**	**0.70**	**239**	*e*Pg	**Pg**	**13 33 01.9**	**+0.1**
KOZT	**Kozan**	**0.94**	**288**	PG	**Pg**	**13 33 06.1**	**-0.2**
KOZT	**Kozan**	**0.94**	**288**	*e*Pg	**Pg**	**13 33 06.1**	**-0.2**
CEYT	**Ceyhan**	**0.97**	**260**	PG	**Pg**	**13 33 07.1**	**+0.1**
CEYT	**Ceyhan**	**0.97**	**260**	*e*Pg	**Pg**	**13 33 07.1**	**+0.1**
SAIM	**ADANA**	**1.04**	**319**	*i* P	**Pb**	**13 33 09.0**	**+0.1**
SAIM				*i* S	**Sg**	**13 33 21.5**	**-0.4**
SAIM	**ADANA**	**1.04**	**319**	P	**Pb**	**13 33 09.0**	**+0.1**
SAIM				S	**Sg**	**13 33 21.5**	**-0.4**
ATAB	**Bozova**	**1.11**	**75**	*i* P	**Pg**	**13 33 09.2**	**-0.5**
ATAB				*i* S	**Sg**	**13 33 23.6**	**-0.5**
ATAB	**Bozova**	**1.11**	**75**	P	**Pg**	**13 33 09.1**	**-0.5**
ATAB				S	**Sg**	**13 33 23.6**	**-0.5**
YURE	**YUREGIR**	**1.11**	**251**	PN	**Pg**	**13 33 09.9**	**+0.3**
YURE	**YUREGIR**	**1.11**	**251**	*i* P	**Pg**	**13 33 10.2**	**+0.5**
YURE	**YUREGIR**	**1.11**	**251**	*e*Pn	**Pg**	**13 33 09.9**	**+0.3**
YURE	**YUREGIR**	**1.11**	**251**	P	**Pg**	**13 33 10.1**	**+0.5**
ELBS	**KAHRAMANMARAS**	**1.14**	**7**	*i* P	**Pg**	**13 33 10.3**	**+0.1**
ELBS				*i* S	**Sb**	**13 33 25.6**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.14**	**7**	P	**Pg**	**13 33 10.3**	**+0.1**
ELBS				S	**Sb**	**13 33 25.6**	**-0.2**
AKCD	**Akcadag**	**1.35**	**35**	*i* P	**Pb**	**13 33 14.1**	**0.0**
AKCD				*i* S	**Sb**	**13 33 31.5**	**-0.2**
AKCD	**Akcadag**	**1.35**	**35**	P	**Pb**	**13 33 14.1**	**0.0**
AKCD				S	**Sb**	**13 33 31.5**	**-0.2**
KRTD	**Karatas-Adana**	**1.36**	**245**	PN	**Pn**	**13 33 14.3**	**+0.4**
KRTD	**Karatas-Adana**	**1.36**	**245**	*e*Pn	**Pn**	**13 33 14.3**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.37**	**103**	*i* P	**Pn**	**13 33 13.4**	**-0.7**
SURC				*i* S	**Sb**	**13 33 32.4**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.37**	**103**	P	**Pn**	**13 33 13.4**	**-0.7**
SURC				S	**Sb**	**13 33 32.4**	**+0.2**
KRTS	**Karatas**	**1.40**	**244**	PN	**Pn**	**13 33 14.8**	**+0.4**
KRTS	**Karatas**	**1.40**	**244**	*e*Pn	**Pn**	**13 33 14.8**	**+0.4**
DARE	**Darende-Malaty**	**1.44**	**17**	PN	**Pb**	**13 33 15.6**	**-0.1**
DARE	**Darende-Malaty**	**1.44**	**17**	*e*Pn	**Pb**	**13 33 15.6**	**-0.1**
KARA	**Karaisali**	**1.51**	**273**	PN	**Pn**	**13 33 15.7**	**-0.3**
KARA	**Karaisali**	**1.51**	**273**	*e*Pn	**Pn**	**13 33 15.7**	**-0.3**
URFA	**Urfa**	**1.52**	**80**	PN	**Pn**	**13 33 16.1**	**0.0**
URFA	**Urfa**	**1.52**	**80**	*e*Pn	**Pn**	**13 33 16.1**	**0.0**
YAHY	**KAYSERI_Yahyal**	**1.55**	**306**	*i* P	**Pn**	**13 33 16.8**	**+0.2**
YAHY	**KAYSERI_Yahyal**	**1.55**	**306**	P	**Pn**	**13 33 16.8**	**+0.2**
CUGUR	**Gurin_S¯VAS**	**1.55**	**9**	*i* P	**Pb**	**13 33 17.4**	**-0.2**
CUGUR				*i* S	**Sg**	**13 33 39.5**	**+1.3**
CUGUR	**Gurin_S¯VAS**	**1.55**	**9**	P	**Pb**	**13 33 17.4**	**-0.2**
CUGUR				S	**Sg**	**13 33 39.5**	**+1.3**
MALT	**Malatya**	**1.62**	**46**	PN	**Pn**	**13 33 18.3**	**+0.7**
MALT	**Malatya**	**1.62**	**46**	*e*Pn	**Pn**	**13 33 18.3**	**+0.7**
HEKM	**Malatya_Hekimh**	**1.87**	**25**	*i* P	**Pg**	**13 33 23.9**	**-0.2**
HEKM				*i* S	**Sg**	**13 33 48.4**	**+0.1**
HEKM	**Malatya_Hekimh**	**1.87**	**25**	P	**Pg**	**13 33 23.9**	**-0.2**
HEKM				S	**Sg**	**13 33 48.4**	**+0.1**
BNN	**Bunyan**	**1.87**	**333**	PN	**Pn**	**13 33 21.8**	**+0.7**
BNN	**Bunyan**	**1.87**	**333**	*e*Pn	**Pn**	**13 33 21.8**	**+0.7**
ELZG	**Elazig**	**2.08**	**50**	*i* P	**Pb**	**13 33 27.1**	**+0.6**
ELZG				*i* S	**Sg**	**13 33 54.0**	**-1.0**
ELZG	**Elazig**	**2.08**	**50**	P	**Pb**	**13 33 27.1**	**+0.6**
ELZG				S	**Sg**	**13 33 54.0**	**-1.0**
KERG	**Konya-Eregli**	**2.26**	**277**	*i* P	**Pn**	**13 33 26.6**	**+0.2**
KERG	**Konya-Eregli**	**2.26**	**277**	P	**Pn**	**13 33 26.6**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**2.29**	**346**	*i* P	**Pn**	**13 33 26.9**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**2.29**	**346**	P	**Pn**	**13 33 26.9**	**0.0**
AVNS	**Nevsehir-Avano**	**2.31**	**315**	*i* P	**Pn**	**13 33 28.7**	**+1.6**
AVNS	**Nevsehir-Avano**	**2.31**	**315**	P	**Pn**	**13 33 28.7**	**+1.6**
KIZK	**Mersin**	**2.36**	**253**	PN	**Pn**	**13 33 27.7**	**+0.1**
KEMA	**Kemaliye**	**2.41**	**30**	*i* P	**Pn**	**13 33 29.3**	**+0.9**
KEMA				*i* S	**Sn**	**13 33 57.8**	**-0.4**
KEMA	**Kemaliye**	**2.41**	**30**	P	**Pn**	**13 33 29.3**	**+0.9**
KEMA				S	**Sn**	**13 33 57.8**	**-0.4**
GULA	**Gulagac**	**2.44**	**299**	PN	**Pn**	**13 33 29.9**	**+1.1**
GULA	**Gulagac**	**2.44**	**299**	*e*Pn	**Pn**	**13 33 29.9**	**+1.1**
SILI	**Silifke-Mersin**	**2.56**	**252**	PN	**Pn**	**13 33 31.9**	**+1.5**
SILI	**Silifke-Mersin**	**2.56**	**252**	*e*Pn	**Pn**	**13 33 31.9**	**+1.5**
PTK	**Pertek**	**2.57**	**48**	PN	**Pn**	**13 33 31.3**	**+0.5**
PTK	**Pertek**	**2.57**	**48**	*e*Pn	**Pn**	**13 33 31.3**	**+0.5**
DIYA	**Diyarbakir**	**2.63**	**73**	*i* P	**Pn**	**13 33 30.3**	**-1.1**
DIYA	**Diyarbakir**	**2.63**	**73**	P	**Pn**	**13 33 30.3**	**-1.1**
DYBB	**Diyarbakir**	**2.65**	**72**	PN	**Pn**	**13 33 32.5**	**+0.8**
SCER	**sogukcermik**	**2.67**	**3**	*i* P	Pn	13 33 27.4	-4.7
DIY	**Diyarbakir**	**2.70**	**74**	*e*Pn	**Pn**	**13 33 32.5**	**+0.1**
SVSK	**Karacayir**	**2.72**	**1**	PN	**Pn**	**13 33 33.7**	**+1.1**
SVSK	**Karacayir**	**2.72**	**1**	*e*Pn	**Pn**	**13 33 33.7**	**+1.1**
YOZ	**Yozgat**	**2.76**	**333**	PN	**Pn**	**13 33 34.2**	**+0.9**
YOZ	**Yozgat**	**2.76**	**333**	*e*Pn	**Pn**	**13 33 34.2**	**+0.9**
EREN	**Erenkoy**	**2.79**	**234**	PN	**Pn**	**13 33 34.7**	**+1.2**
EREN	**Erenkoy**	**2.79**	**234**	*e*Pn	**Pn**	**13 33 34.7**	**+1.2**
MAZI	**Mazidag**	**2.80**	**83**	PN	**Pn**	**13 33 34.6**	**+0.7**
MAZI	**Mazidag**	**2.80**	**83**	*e*Pn	**Pn**	**13 33 34.6**	**+0.7**
SULT	**Sultanhani-AKS**	**2.90**	**291**	PN	**Pn**	**13 33 36.4**	**+1.2**
SULT	**Sultanhani-AKS**	**2.90**	**291**	*e*Pn	**Pn**	**13 33 36.4**	**+1.2**
TEVE	**Tevekalti-Mers**	**2.91**	**256**	PN	**Pn**	**13 33 36.4**	**+1.1**
TEVE	**Tevekalti-Mers**	**2.91**	**256**	*e*Pn	**Pn**	**13 33 36.4**	**+1.1**
AKKU	**Akkuyu-Mersin**	**2.92**	**250**	PN	**Pn**	**13 33 36.2**	**+0.9**
AKKU	**Akkuyu-Mersin**	**2.92**	**250**	*e*Pn	**Pn**	**13 33 36.2**	**+0.9**
HANI	**Diyarbakir_Han**	**3.00**	**65**	*i* P	**Pn**	**13 33 37.0**	**+0.5**
HANI	**Diyarbakir_Han**	**3.00**	**65**	P	**Pn**	**13 33 37.0**	**+0.5**
MARD	**Mardin**	**3.06**	**87**	*i* P	**Pn**	**13 33 35.4**	**-2.1**
CDAG	**Cicekdag**	**3.16**	**321**	*i* P	**Pn**	**13 33 39.7**	**+0.9**
CDAG	**Cicekdag**	**3.16**	**321**	P	**Pn**	**13 33 39.7**	**+0.9**
SUSE	**Susehri**	**3.17**	**18**	*i* P	**Pn**	**13 33 38.0**	**-0.9**
SUSE	**Susehri**	**3.17**	**18**	P	**Pn**	**13 33 38.0**	**-0.9**
RSDY	**Resadiye-TOKAT**	**3.22**	**5**	PN	**Pn**	**13 33 40.5**	**+1.1**
RSDY	**Resadiye-TOKAT**	**3.22**	**5**	*e*Pn	**Pn**	**13 33 40.5**	**+1.1**
TEKE	**Tekeli-Mersin**	**3.25**	**252**	PN	**Pn**	**13 33 39.9**	**0.0**
TEKE	**Tekeli-Mersin**	**3.25**	**252**	*e*Pn	**Pn**	**13 33 39.9**	**0.0**
CORM	**Corum**	**3.49**	**329**	PN	**Pn**	**13 33 44.1**	**+0.8**
CORM	**Corum**	**3.49**	**329**	*e*Pn	**Pn**	**13 33 44.1**	**+0.8**
CSS	**Mathiatis**	**3.68**	**234**	PN	**Pn**	**13 33 47.6**	**+1.8**
CSS	**Mathiatis**	**3.68**	**234**	*e*Pn	**Pn**	**13 33 47.6**	**+1.8**
AFSR	**Af˘ar-Bala (A**	**3.79**	**308**	PN	**Pn**	**13 33 49.1**	**+1.7**
AFSR	**Af˘ar-Bala (A**	**3.79**	**308**	*e*Pn	**Pn**	**13 33 49.1**	**+1.7**
SRTM	**Siirt_Merkez**	**4.03**	**77**	*i* P	**Pb**	**13 34 01.0**	**+1.2**
KSDI	**Kefar Szold**	**4.13**	**195**	Pn	**Pb**	**13 34 02.1**	**+0.7**
KSDI				Sn	**Sb**	**13 34 52.5**	**+1.0**
MMA0B	**Mount Meron ar**	**4.35**	**197**	Pn	**Pb**	**13 34 04.9**	**-0.4**
MMA0B				Sn	**Sb**	**13 34 57.8**	**-0.3**
SIRT	**Sirnak**	**4.39**	**84**	PN	**Pn**	**13 33 57.3**	**+1.7**
SIRT	**Sirnak**	**4.39**	**84**	*e*Pn	**Pn**	**13 33 57.3**	**+1.7**
OFRI	**'Ofer**	**4.83**	**200**	Pn	**Pb**	**13 34 01.4**	**-2.0**
MMLI	**Mount Malkishu**	**4.90**	**195**	Pn	**Pb**	**13 34 12.7**	**-2.0**
HMDT	**Nahal Hemdat**	**5.06**	**194**	Pn	**Pb**	**13 34 13.9**	**-3.4**
HMDT				Sn	**Sb**	**13 35 16.3**	**-2.2**
PRNI	**Paran**	**7.01**	**194**	Pn	Pn	13 34 40.1	+8.5

DJA 10 13:50:56.0±0.3,1˚N±2˚×120˚0E±°,h10km,M3.9/12,mb4.0/2, MLv3.9/12,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.38**	**154**	P	Pb	13 51 04.5	-0.3
MPSI				S	Sg	13 51 08.9	+0.3
MRSI	**Marisa**	**2.22**	**95**	P	Pn	13 51 33.5	+0.6
MRSI				S	Sn	13 52 01.4	+1.0
SGKI	**Sangatta, Kali**	**2.44**	**241**	P	Pn	13 51 36.4	+0.4
SGKI				S	Sn	13 52 06.7	+0.8
APSI	**Ampana**	**2.49**	**129**	P	Pn	13 51 37.1	+0.5
APSI				S	Sn	13 52 07.8	+0.8
SMKI	**Samarinda**	**2.76**	**246**	P	Pn	13 51 40.6	+0.3
SMKI				S	Sn	13 52 14.6	+0.9
BKB	**Balikpapan**	**3.43**	**236**	P	Pn	13 51 48.1	-1.4
BKB				S	Sn	13 52 29.7	-0.5
LUWI	**Luwuk**	**3.49**	**119**	P	Pn	13 51 50.2	-0.2
LUWI				S	Sn	13 52 33.1	+1.3
TTSI	**Tana Toraja**	**3.70**	**179**	P	Pn	13 51 53.8	+0.5
TTSI				S	Sn	13 52 38.5	+1.5
KMSI	**Cibinong**	**4.25**	**91**	P	Pn	13 52 01.0	+0.1
KMSI				S	Sn	13 52 51.7	+1.1
BNSI	**Bone**	**5.06**	**176**	P	Pn	13 52 12.3	+0.3
BNSI				S	Sn	13 53 11.9	+1.3
KBKI	**Kotabaru**	**5.32**	**222**	P	Pn	13 52 14.6	-1.0
KBKI				S	Sn	13 53 18.2	+1.2

MAN 10 13:53:46,9˚.93N×123˚.08E,h50km,mb4.5,ML3.4,MS3.2, 1C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.60**	**165**	‖ *i* P	Pn	13 54 00.9	+2.3
SNPH				*i* S	Sn	13 54 11.3	+3.7
TBP	**Tagbilaran**	**0.81**	**107**	*e*P	Pn	13 53 59.9	-1.2
TBP				*i* S	Sn	13 54 10.9	-1.2
GUIM	**Jordan**	**0.85**	**325**	*e*P	Pn	13 54 02.8	+1.1
GUIM				*e*S	Sn	13 54 15.5	+2.3
RCP	**Roxas**	**1.66**	**349**	‖ *e*P	Pn	13 54 15.6	+3.0
RCP				*e*S	Sn	13 54 38.7	+5.9
MSLP	**Maasin**	**1.76**	**83**	*e*P	Pn	13 54 14.9	+0.8
MSLP				*e*S	Sn	13 54 37.0	+1.5
OCLP	**Ormoc**	**1.87**	**53**	*e*P	Pn	13 54 15.9	+0.3
OCLP				*e*S	Sn	13 54 40.6	+2.5

IDC 10 13:59:10.6±4.0,14˚.27N×91˚.82W,h0km,mb3.4/1, mb1 3.6/3,mb1mx3.4/48,mbtmp3.3/3,ML3.4/2,Error ellipse: s-maj=137.1km s-min=44.5km az=37.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**4.07**	**314**	Pn	Pn	14 00 13.8	-0.3
	2.6nm,0.3s,baz=134,slow=13,SNR=15						
CMIG				Sn	Sn	14 01 03.8	+1.3
	3.6nm,0.3s,baz=72,slow=20,SNR=4.7						
TXAR	**Lajitas Array**	**18.57**	**326**	P	P	14 03 29.3	0.0
	0.0nm,0.3s,baz=140,slow=13,SNR=3.2						
YKA	**Yellowknife Ar**	**50.80**	**347**	P	P	14 08 12.2	-0.3
	0.4nm,0.7s,baz=150,slow=7.5,SNR=7.8						
CMAR	**Chiang Mai Arr**	**145.79**	**342**	PKPbc	PKPdf	14 18 51.9	-0.3
	0.3nm,0.4s,baz=333,slow=2.0,SNR=4.7						

*ISCJB **10** 14:08:25.6±0.4,57˚.47S±0˚.07×25˚.9W±0˚.2,h65km, mb4.5/15,Error ellipse: s-maj=18.9km s-min=7.5km az=154.6*
*IDC **10** 14:08:27.2±5

mb1 5.5/64,mb1mx5.4/80,mbtmp5.5/64,ML4.6/4,MS4.8/60, Ms1 4.8/60,ms1mx4.8/72,Error ellipse: s-maj=9.1km s-min=5.6km az=9.0

BJI ***10*** *14:10:37.8,55.16N×158.22W,h2km,mb5.7/82,mB5.6/65, Ms5.7/89,Ms7 5.5/80*

GCMT ***10*** *14:10:39.8±0.1,55.09N×157.41W,h12km,MW5.5/131, Moment Tensor Solution. s106,c200; s131,c321; Duration: 1s3 Moment tensor: Scale 10¹⁷Nm; Mrr-1.97±.02; Mθθ1.37±.02; Mφφ0.60±.02; Mrθ-0.56±.04; Mθφ0.71±.01; Mφr-0.51±.05; Best double couple: M₀2.02500×10¹⁷ NP1:φs55.00000°,δ56.00000°, λ-94.00000°. NP2:φs243.00000°,δ34.00000°, λ-84.00000°. Principal axes: T 1.9310, Plg11.0000°, Azm148.0000°; N 0.1920, Plg3.0000°, Azm58.0000°; P -2.1190, Plg79.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***10*** *14:10:39.0±0.0,55.13N×157.71W,h13km,Moment Tensor Solution. s21 Moment tensor: Scale 10¹⁷Nm; Mrr-1.58; Mθθ1.07; Mφφ0.51; Mrθ-0.68; Mθφ0.78; Mφr-0.71; Best double couple: M₀1.90000×10¹⁷ NP1:φs49.00000°, δ61.00000°,λ-95.00000°. NP2:φs241.00000°,δ30.00000°, λ-79.00000°. Principal axes: T 1.8900, Plg15.0000°, Azm143.0000°; N -0.0200, Plg5.0000°, Azm51.0000°; P -1.8700, Plg73.0000°, Azm303.0000°;*

NEIC ***10*** *14:10:39.9±0.1,55.15N×157.57W,h10km,mb5.7/298, MS5.1/298,MW5.4,MW5.3,MW5.5,ML5.5(AEIC) Error ellipse: s-maj=2.2km s-min=1.5km az=187.0,Moment Tensor Solution. s17 Moment tensor: Scale 10¹⁷Nm; Mrr-1.55; Mθθ1.16; Mφφ0.40; Mrθ-0.25; Mθφ0.51; Mφr-0.48; Best double couple: M₀1.60000×10¹⁷ NP1:φs253.00000°, δ37.00000°,λ-74.00000°. NP2:φs53.00000°,δ54.00000°, λ-102.00000°. Principal axes: T 1.4800, Plg8.0000°, Azm151.0000°; N 0.1900, Plg10.0000°, Azm60.0000°; P -1.6700, Plg77.0000°, Azm282.0000°; Moment Tensor Solution. s36 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.06; Mθθ1.04; Mφφ0.02; Mrθ0.05; Mθφ0.48; Mφr0.08; Best double couple: M₀1.20000×10¹⁷ NP1:φs72.00000°, δ43.00000°,λ-84.00000°. NP2:φs245.00000°,δ47.00000°, λ-95.00000°. Principal axes: T 1.2300, Plg2.0000°, Azm338.0000°; N -0.1600, Plg4.0000°, Azm248.0000°; P -1.0700, Plg86.0000°, Azm95.0000°;*

MOS ***10*** *14:10:39.9±1.9,55.10N×157.60W,h33km,mb6.0/137, MS5.1/67 Error ellipse: s-maj=6.1km s-min=3.4km az=89.9*

ISC 10 14:10:40.6±0.4,54.98N±0.03×157.52W±0.02,h20km±2km, h20km:pP-P,n2012,σ1s41/2223,mb5.8/609,MS5.1/400, 28C-134D,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
CHGN	**Chignik**	**1.42**	**340**	*e*Pn			**Pn**	**14 11 04.9**			**-0.4**
CHGN				*e*Sn			**Sn**	**14 11 20.9**			**-2.5**
VNSG	**Veniaminof 6**	**1.45**	**323**	P			**Pn**	**14 11 05.6**			**-0.2**
VNHG	**Veniaminof 1**	**1.56**	**324**	P			**Pn**	**14 11 07.4**			**+0.1**
VNSS	**Veniaminof 8**	**1.66**	**320**	P			**Pn**	**14 11 09.6**			**+0.8**
SDPT	**Sand Point**	**1.73**	**284**	*e*Pn			**Pn**	**14 11 09.9**			**+0.3**
SDPT				*e*Sn			**Sn**	**14 11 31.1**			**0.0**
ANPB	**Aniakchak Plen**	**1.88**	**347**	P			**Pn**	**14 11 11.3**			**-0.3**
ANNE	**Aniakchak Nort**	**1.96**	**351**	P			**Pn**	**14 11 12.5**			**-0.3**
ANNW	**Aniakchak Nort**	**2.03**	**349**	P			**Pn**	**14 11 14.3**			**+0.5**
PVV	**Pavlof Volcano**	**2.48**	**281**	P			**Pn**	**14 11 20.1**			**+0.2**
DOL	**Dolgoi Island**	**2.50**	**276**	P			**Pn**	**14 11 20.2**			**0.0**
PS4A	**Pavlof South-4**	**2.51**	**280**	P			**Pn**	**14 11 20.3**			**0.0**
DRIA	**Deer Island**	**2.73**	**272**	P			**Pn**	**14 11 23.2**			**-0.2**
DT1	**Dutton Round H**	**2.74**	**275**	*e*Pn			**Pn**	**14 11 23.6**			**+0.1**
PLK3	**Peulik 3**	**2.81**	**14**	P			**Pn**	**14 11 24.6**			**+0.2**
BALA	**Baldy Mountain**	**3.03**	**276**	*e*Pn			**Pn**	**14 11 28.9**			**+1.4**
OHAK	**Old Harbor**	**3.27**	**45**	*e*Pn			**Pn**	**14 11 28.8**			**-1.9**
FALS	**False Pass**	**3.40**	**270**	*e*Pn			**Pn**	**14 11 33.0**			**+0.5**
FALS				*e*Sn			**Sn**	**14 12 13.3**			**+1.1**
ANCK	**Angle Creek**	**3.42**	**18**	P			**Pn**	**14 11 32.4**			**-0.5**
KABU	**Katmai Buttres**	**3.52**	**20**	P			**Pn**	**14 11 34.4**			**+0.1**
ISLZ	**Isanotski Laza**	**3.59**	**268**	P			**Pn**	**14 11 35.6**			**+0.5**
KELA	**Mount Kelaz**	**3.61**	**15**	P			**Pn**	**14 11 34.5**			**-0.9**
SSLS	**Shishaldin Sou**	**3.75**	**269**	P			**Pn**	**14 11 38.5**			**+1.1**
SSLW	**Shishaldin Wes**	**3.82**	**270**	P			**Pn**	**14 11 39.2**			**+0.9**
KARR	**Katmai Rainbow**	**3.85**	**23**	P			**Pn**	**14 11 38.4**			**-0.4**
KDAK	**Kodiak Island** 47nm,0.3s,baz=181,slow=5.5,SNR=299	**3.93**	**42**	Pn			**Pn**	**14 11 37.5**			**-2.3**
KDAK	14nm,0.3s,baz=130,slow=8.1,SNR=6.6			Lg			Lg	14 12 50.8			
KDAK	**Kodiak Island**	**3.93**	**42**	*e*Pg			**Pn**	**14 11 38.3**			**-1.4**
KDAK				*e*Sn			**Sn**	**14 12 25.4**			**+0.2**
KDAK				*e*Lg			Lg	14 12 50.8			
KDAK	**Kodiak Island**	**3.93**	**42**	*i* P			**Pn**	**14 11 37.2**			**-2.6**
KAPH	**Katmai Pasha**	**4.03**	**24**	P			**Pn**	**14 11 40.5**			**-0.7**
WESN	**West Dahl Nort**	**4.11**	**267**	*e*Pn			**Pn**	**14 11 43.3**			**+1.0**
WESP	**Westdahl Peak**	**4.20**	**266**	*e*Pn			**Pn**	**14 11 44.5**			**+0.9**
WESP				*e*Sn			**Sn**	**14 12 34.9**			**+2.8**
FONW	**Fourpeaked Sta**	**4.34**	**26**	P			**Pn**	**14 11 44.5**			**-1.0**
CDD	**Cape Douglas**	**4.50**	**27**	P			**Pn**	**14 11 46.5**			**-1.1**
AKSA	**Akutan Strait**	**4.83**	**263**	*e*Pn			**Pn**	**14 11 53.1**			**+0.9**
AKSA				*e*Sn			**Sn**	**14 12 46.5**			**-1.0**
AKUT	**Akutan**	**4.88**	**263**	*e*Pn			**Pn**	**14 11 53.3**			**+0.6**
AKUT				*e*Sg			**Sg**	**14 13 16.0**			**-1.0**
AUI	**Augustine Isla**	**4.90**	**25**	P			**Pn**	**14 11 53.3**			**+0.1**
AHB	**Akutan Harbor**	**4.91**	**263**	P			**Pn**	**14 11 54.1**			**+0.9**
AUW	**Augustine West**	**4.92**	**25**	P			**Pn**	**14 11 52.8**			**-0.6**
AUNW	**Augustine NWes**	**4.93**	**25**	P			**Pn**	**14 11 52.8**			**-0.7**
AKRB	**Akutan Reef Bi**	**5.05**	**264**	*e*Pn			**Pn**	**14 11 56.0**			**+0.9**
UNV	**Unalaska Valle**	**5.37**	**261**	*e*Pn			**Pn**	**14 11 59.3**			**-0.1**
UNV				*e*Sn			**Sn**	**14 12 55.1**			**-5.5**
ILS	**Iliamna Low So**	**5.54**	**24**	P			**Pn**	**14 12 01.7**			**-0.3**
MCIR	**Makushin Cirqu**	**5.56**	**263**	*e*Pn			**Pn**	**14 12 02.8**			**+0.5**
MGOD	**Makushin Gods**	**5.59**	**262**	*e*Pn			**Pn**	**14 12 03.0**			**+0.4**
ILW	**Iliamna West**	**5.62**	**23**	*e*Pn			**Pn**	**14 12 02.7**			**-0.4**
HOM	**Homer**	**5.67**	**32**	*e*Pn			**Pn**	**14 12 03.0**			**-0.7**
HOM				*e*Lg			Lg	14 13 43.8			
BRLK	**Bradley Lake**	**5.99**	**34**	*e*Pn			**Pn**	**14 12 05.8**			**-2.4**
BRLK				*e*Sn			**Sn**	**14 13 10.7**			**-5.4**
BRLK				*e*Lg			Lg	14 13 47.5			
RSO	**Redoubt South**	**6.06**	**23**	*e*Pn			**Pn**	**14 12 10.0**			**+0.8**
RDWB	**Redoubt West**	**6.07**	**22**	P			**Pn**	**14 12 09.0**			**-0.3**
RDJH	**Redoubt Jeurge**	**6.17**	**22**	P			**Pn**	**14 12 10.3**			**-0.3**
SVW2	**Sparrevohn**	**6.22**	**9**	*e*Pn			**Pn**	**14 12 10.7**			**-0.6**
SVW2				*e*Sn			**Sn**	**14 13 21.4**			**-0.4**
OKWE	**Okmok W'ng Wal**	**6.46**	**261**	P			**Pn**	**14 12 15.0**			**+0.4**
OKSP	**Okmok Steeple**	**6.56**	**259**	P			**Pn**	**14 12 16.1**			**+0.1**
SEW	**Seward**	**6.73**	**37**	*e*Pn			**Pn**	**14 12 15.7**			**-2.5**
SEW				*e*Sn			**Sn**	**14 13 30.7**			**-3.4**
SLKM	**Skilak Lake**	**6.78**	**32**	*e*Pn			**Pn**	**14 12 17.2**			**-1.7**
SLKM	**Skilak Lake**	**6.78**	**32**	*e*P			**Pn**	**14 12 17.2**			**-1.7**
SPU	**Mount Spurr**	**6.86**	**23**	*e*Pn			**Pn**	**14 12 19.7**			**-0.4**
RC01	**Rabbit Creek A**	**7.39**	**31**	*e*Pn			**Pn**	**14 12 25.7**			**-1.5**
RC01				*e*Sn			**Sn**	**14 13 45.6**			**-4.7**
SUA	**Susitna One**	**7.42**	**26**	*e*Pn			**Pn**	**14 12 26.7**			**-1.1**
SUA				*e*Sn			**Sn**	**14 13 46.3**			**-5.0**
SPIA	**Saint Paul Isl**	**7.45**	**292**	*e*Pn			**Pn**	**14 12 28.7**			**+0.6**
SPIA				*e*Sn			**Sn**	**14 13 48.6**			**-3.3**
MID	**Middleton Isla**	**7.53**	**49**	*e*Pn			**Pn**	**14 12 26.0**			**-3.2**
MID				*e*Sn			**Sn**	**14 13 50.8**			**-3.0**
MID	**Middleton Isla**	**7.53**	**49**	*e*P			**Pn**	**14 12 26.0**			**-3.2**
MID				*e*				14 13 50.8			
PMR	**Palmer**	**7.96**	**30**	*e*Pn			**Pn**	**14 12 32.9**			**-2.2**
PMR	**Palmer**	**7.96**	**30**	*e*P			**Pn**	**14 12 32.9**			**-2.2**
GLI	**Glacier Island**	**8.11**	**39**	*e*Pn			**Pn**	**14 12 34.0**			**-3.0**
GLI				*e*Sn			**Sn**	**14 14 02.3**			**-5.7**
SML	**Sawmill**	**8.37**	**31**	*e*Pn			**Pn**	**14 12 38.7**			**-2.0**
SML	**Sawmill**	**8.37**	**31**	*e*P			**Pn**	**14 12 38.7**			**-2.0**
PPLA	**Purkeypike**	**8.40**	**17**	*e*Pn			**Pn**	**14 12 41.6**			**+0.3**
EYAK	**Cordova Ski Ar**	**8.41**	**44**	*e*Pn			**Pn**	**14 12 38.6**			**-2.6**
EYAK				*e*Sn			**Sn**	**14 14 10.9**			**-4.5**
SCM	**Sheep Creek Mo**	**8.70**	**34**	*e*Pn			**Pn**	**14 12 43.5**			**-1.8**
SCM	**Sheep Creek Mo**	**8.70**	**34**	*e*P			**Pn**	**14 12 43.5**			**-1.8**
RAGM	**Ragged Mountai**	**8.75**	**47**	*e*Pn			**Pn**	**14 12 44.1**			**-1.9**
RAGM				*e*Sn			**Sn**	**14 14 19.2**			**-4.8**
DIV	**Divide**	**8.76**	**40**	*e*Pn			**Pn**	**14 12 43.8**			**-2.3**
DIV				*e*Sn			**Sn**	**14 14 19.1**			**-5.0**
CAST	**Castle Rocks**	**8.91**	**16**	*e*Pn			**Pn**	**14 12 48.0**			**-0.1**
KLU	**Klutina**	**8.94**	**38**	*e*Pn			**Pn**	**14 12 47.0**			**-1.6**
KLU				*e*Sn			**Sn**	**14 14 25.0**			**-3.6**
BMRM	**Bremner River**	**9.11**	**44**	*e*Pn			**Pn**	**14 12 48.7**			**-2.2**
BMRM				*e*Sn			**Sn**	**14 14 29.1**			**-3.6**
KTH	**Kantishna Hill**	**9.23**	**19**	*e*Pn			**Pn**	**14 12 51.2**			**-1.4**
TRF	**Thorofare Moun**	**9.27**	**21**	*e*Pn			**Pn**	**14 12 51.8**			**-1.3**
RND	**Reindeer**	**9.54**	**24**	*e*Pn			**Pn**	**14 12 54.5**			**-2.3**
RND	**Reindeer**	**9.54**	**24**	*e*P			**Pn**	**14 12 54.5**			**-2.3**
DHY	**Denali Highway**	**9.65**	**29**	*e*Pn			**Pn**	**14 12 55.9**			**-2.4**
BPAW	**Bear Paw Mtn.**	**9.73**	**17**	*e*Pn			**Pn**	**14 12 57.2**			**-2.1**
MCK	**McKinley**	**9.80**	**23**	*e*Pn			**Pn**	**14 12 58.3**			**-2.0**
MCK	**McKinley**	**9.80**	**23**	*e*P			**Pn**	**14 12 58.3**			**-2.0**
HARP	**HAARP**	**9.83**	**36**	*e*Pn			**Pn**	**14 13 00.2**			**-0.5**
HARP				*e*Sn			**Sn**	**14 14 49.6**			**-0.7**
PAX	**Paxson**	**10.13**	**33**	*e*Pn			**Pn**	**14 13 03.2**			**-1.6**
PAX				*e*Sn			**Sn**	**14 14 54.9**			**-2.8**
PAX	**Paxson**	**10.13**	**33**	*e*P			**Pn**	**14 13 03.2**			**-1.6**
PAX				*e*				14 14 54.9			
PCA	**Pinnacle**	**10.59**	**54**	*e*Pn			**Pn**	**14 13 10.3**			**-0.8**
PCA				*e*Sn			**Sn**	**14 15 06.8**			**-2.2**
MLY	**Manley**	**10.63**	**16**	*e*Pn			**Pn**	**14 13 09.1**			**-2.6**
MENT	**Mentasta**	**10.68**	**36**	*e*Pn			**Pn**	**14 13 10.8**			**-1.5**
HDA	**Harding Lake**	**10.84**	**25**	*e*Pn			**Pn**	**14 13 11.3**			**-3.2**
HDA				*e*Sn			**Sn**	**14 15 13.4**			**-1.7**
CCB	**Clear Creek Bu**	**10.85**	**23**	*e*Pn			**Pn**	**14 13 10.7**			**-3.8**
RIDG	**Independ'e Rid**	**10.89**	**31**	*e*Pn			**Pn**	**14 13 14.1**			**-1.1**
MDM	**Murphy Dome**	**11.03**	**21**	*e*Pn			**Pn**	**14 13 13.8**			**-3.2**
COLA	**College**	**11.03**	**22**	*e*Pn			**Pn**	**14 13 14.4**			**-2.6**
COLA	**College**	**11.03**	**22**	*e*P			**Pn**	**14 13 14.4**			**-2.6**
DOT	**Dot Lake**	**11.06**	**33**	*e*Pn			**Pn**	**14 13 16.7**			**-0.8**
ILAR	**Eielson Array** 6.4nm,0.3s,baz=216,slow=14,SNR=161	**11.16**	**24**	Pn			**Pn**	**14 13 14.1**			**-4.8**
ILAR	baz=210,slow=20,SNR=1.9			Sn			Sn	14 15 12.6			-10
ILAR	comp=Z,8μm,19.3s,baz=224,slow=42			LR			LR	14 18 21.4			
ILB	**Eielson Array**	**11.16**	**24**	*e*Pn			**Pn**	**14 13 15.6**			**-3.3**
ILB				*e*Sn			**Sn**	**14 15 21.1**			**-1.8**
IL1	**Eielson Array**	**11.16**	**24**	*e*Pn			**Pn**	**14 13 15.2**			**-3.7**
IM3	**Indian Mountai**	**11.20**	**8**	*e*Pn			**Pn**	**14 13 18.7**			**-0.6**
HYT	**Haines Junctio**	**12.12**	**53**	*e*Pn			**Pn**	**14 13 31.3**			**-0.8**
EGAK	**Eagle**	**12.76**	**33**	*e*Pn			**Pn**	**14 13 39.7**			**-1.0**
COLD	**Coldfoot**	**12.78**	**13**	*e*Pn			**Pn**	**14 13 36.2**			**-4.7**
SKAG	**Skagway**	**12.81**	**60**	*e*Pn			**Pn**	**14 13 40.9**			**-0.4**
DAWY	**Dawson**	**12.89**	**38**	*e*Pn			**Pn**	**14 13 42.0**			**-0.6**
BESE	**Bessie Mountai**	**12.92**	**65**	*e*Pn			**Pn**	**14 13 41.4**			**-1.5**
FYU	**Fort Yukon**	**13.05**	**22**	*e*Pn			**Pn**	**14 13 40.7**			**-3.9**
WHY	**Whitehorse**	**13.30**	**56**	*e*Pn			**Pn**	**14 13 47.2**			**-0.9**
CRAG	**Craig**	**13.92**	**78**	*e*Pn			**Pn**	**14 13 54.1**			**-2.3**
TOLK	**Toolik Lake Re** baz=199,SNR=11	**14.20**	**12**	P			**Pn**	**14 13 59.3**			**-1.0**
TOLK	**Toolik Lake Re**	**14.20**	**12**	*e*Pn			**Pn**	**14 13 57.3**			**-3.0**
WRAK	**Wrangell Islan** 344nm,1.6s	**14.24**	**74**	*e*Pn			**Pn**	**14 14 01.5**			**+0.5**
DLBC	**Dease Lake** 190nm,0.9s	**15.44**	**66**	*e*Pn			**Pn**	**14 14 17.4**			**+0.3**
SMY	**Shemya** 304nm,1.0s	**16.84**	**274**	*e*Pn			**Pn**	**14 14 34.3**			**-0.7**
SMY	**Shemya**	**16.84**	**274**	*e*P			**Pn**	**14 14 34.3**			**-0.7**
SMY	comp=Z,304nm,1.0s			pmax			pmax				
INK	**Inuvik**	**17.38**	**30**	P			**Pn**	**14 14 40.3**			**-1.3**
INK	comp=Z,4.1nm,0.3s,baz=223,slow=15,SNR=98			S			**S**	**14 17 59.8**			**-2.7**
INK	comp=Z,0.5nm,0.3s,baz=98,slow=32,SNR=6.4 **Inuvik**	**17.38**	**30**	*e*Pn			**Pn**	**14 14 39.5**			**-2.1**
INK	comp=Z,1μm,1.4s			S			**S**	**14 17 59.8**			**-2.7**
INK	**Inuvik**	**17.38**	**30**	*e*P			**Pn**	**14 14 39.5**			**-2.1**
INK	comp=Z,1μm,1.4s			pmax			pmax				
BBB	**Bella Bella**	**17.62**	**87**	P			**Pn**	**14 14 45.1**			**+0.4**
BBB	comp=Z,0.4nm,0.3s,baz=284,slow=12,SNR=3.0 comp=Z,0.3nm,0.3s,baz=18,slow=20,SNR=1.7			S			**S**	**14 18 15.2**			**+7.7**
BBB	comp=Z,0.5nm,0.3s,baz=101,slow=1.3,SNR=3.3			PcP			**PcP**	**14 19 22.9**			**+0.1**
BBB	comp=Z,7μm,18.1s,baz=293,slow=33			LR			LR	14 20 22.2			
BBB	**Bella Bella** comp=Z,268nm,1.5s	**17.62**	**87**	*e*Pn			**Pn**	**14 14 45.1**			**+0.4**
BBB				S			**S**	**14 18 15.2**			**+7.7**
BBB				*e*PcP			**PcP**	**14 19 22.9**			**+0.1**
BILL	**Bilibino**	**21.24**	**322**	*d* iP			**P**	**14 15 23.7**			**-1.3**
BILL				*i*				14 15 41.9			
BILL				*i* S			Sn	14 19 25.0			-2.2
BILL	comp=Z,239nm,1.0s			pmax			pmax				
BILL	comp=Z,10μm,15.0s			MLR			MLR				
LLLB	**Lillooet**	**21.83**	**87**	*e*P			**P**	**14 15 33.5**			**+2.0**
LLLB	comp=Z,159nm,1.0s			LR			LR				
PGC	comp=Z,10μm,19.0s **Sidney**	**21.83**	**93**	*e*P			**P**	**14 15 32.3**			**+0.8**
PGC	comp=Z,164nm,1.4s			LR			LR				
A04D	comp=Z,9μm,18.0s **Lummi Island**	**22.23**	**92**	P			**P**	**14 15 36.4**			**+0.7**
NLWA	baz=300,SNR=11 **Neilton Lookou**	**22.24**	**96**	*e*P			**P**	**14 15 38.5**			**+2.5**
NLWA	comp=Z,178nm,0.9s			LR			LR				
B05A	comp=Z,6μm,18.0s **Bryant**	**22.81**	**92**	P			**P**	**14 15 43.6**			**+1.7**
E03A	baz=301,SNR=52 **Lebam**	**22.88**	**97**	PFAKE				14 15 50.0			+7.3
E03A				LR			LR				
YKW3	comp=Z,6μm,18.0s **Yellowknife Ar**	**23.11**	**53**	*e*P			**P**	**14 15 44.2**			**-0.7**
YKW3	comp=Z,98nm,1.1s			LR			LR				
YKA	comp=Z,5μm,20.0s **Yellowknife Ar**	**23.12**	**54**	P			**P**	**14 15 44.3**			**-0.6**
YKA	comp=Z,36nm,0.8s,baz=270,slow=9.2,SNR=177			S			**S**	**14 19 54.9**			**0.0**
YKA	comp=Z,1.1nm,0.7s,baz=276,slow=14,SNR=2.2			LR			LR	14 26 01.5			
YKA	comp=Z,588nm,20.6s,baz=180,slow=40			P3KPbc				14 49 14.0			
YKB5	comp=Z,1.5nm,0.7s,baz=96,slow=5.1,SNR=28 **Yellowknife Ar**	**23.12**	**54**	*e*P			**P**	**14 15 44.4**			**-0.6**
D05A	**Enumclaw**	**23.43**	**95**	PFAKE				14 16 00.0			+12
D05A	comp=Z,5μm,18.0s			LR			LR				
F04D	**Rainier, O** baz=305	**23.46**	**98**	P			**P**	**14 15 50.7**			**+2.1**
C06D	**Leavenworth** baz=302,SNR=14	**23.68**	**92**	P			**P**	**14 15 52.7**			**+2.0**
PNT	**Penticton**	**23.72**	**88**	*e*P			**P**	**14 15 53.0**			**+1.9**
PNT	**Penticton**	**23.72**	**88**	*e*P			**P**	**14 15 53.0**			**+1.9**
LON	**Longmire** comp=Z,158nm,1.3s	**23.77**	**95**	*e*P			**P**	**14 15 54.1**			**+2.5**
LON	**Longmire**	**23.77**	**95**	*e*P			**P**	**14 15 54.2**			**+2.5**
LON	comp=Z,158nm,1.3s			pmax			pmax				
G03D	**McMinnville, O** baz=307	**23.83**	**100**	P			**P**	**14 15 54.1**			**+2.0**
NLW	**Nelson Butte**	**23.92**	**91**	*e*P			**P**	**14 15 55.2**			**+2.1**
LTY	**Liberty** comp=Z,274nm,1.8s	**24.15**	**93**	*e*P			**P**	**14 15 57.1**			**+1.8**
LTY	comp=Z,6μm,19.0s			LR			LR				
COR	**Corvallis** comp=Z,158nm,1.1s	**24.18**	**101**	*e*P			**P**	**14 15 58.3**			**+2.9**
COR	comp=Z,2μm,18.0s			LR			LR				
COR	**Corvallis**	**24.18**	**101**	*e*P			**P**	**14 15 58.3**			**+2.9**
COR	comp=Z,158nm,1.1s			pmax			pmax				
COR	comp=Z,2μm,18.0s			MLR			MLR				
WTV	**Waterville**	**24.33**	**92**	*e*P			**P**	**14 15 58.5**			**+1.6**
NAC	**Naches**	**24.35**	**94**	*e*pP			pP	14 16 08.7			+5.7
B08A	**Colville Reser** comp=Z,139nm,1.4s	**24.35**	**90**	*e*P			**P**	**14 15 58.8**			**+1.8**
B08A				*e*PcP			**PcP**	**14 19 34.9**			**-1.0**
B08A	comp=Z,3μm,18.0s			LR			LR				
EBG	**Ellensburg**	**24.40**	**94**	*e*P			**P**	**14 15 59.9**			**+2.4**
KEBM	**Edson Butte** comp=Z,177nm,1.2s	**24.69**	**106**	*e*P			**P**	**14 16 02.1**			**+2.0**
KEBM				*e*PcP			**PcP**	**14 19 37.5**			**+0.7**
KEBM	comp=Z,4μm,22.0s			LR			LR				
H04A	**Detroit Lake** comp=Z,189nm,1.0s	**24.75**	**100**	*e*P			**P**	**14 16 02.9**			**+2.1**
H04A				*e*PcP			**PcP**	**14 19 37.7**			**+0.9**
H04A	comp=Z,2μm,18.0s			LR			LR				
G05D	**Wamic, OR** baz=307,SNR=15	**24.92**	**98**	P			**P**	**14 16 04.0**			**+1.9**
E07A	**Sunnyside** comp=Z,81nm,0.9s	**25.00**	**94**	*e*P			**P**	**14 16 05.0**			**+2.1**
E07A	comp=Z,6μm,18.0s			LR			LR				
I04A	**Tendick Farm,** baz=309,SNR=16	**25.18**	**102**	P			**P**	**14 16 06.4**			**+1.9**
KBO	**Bosley Butte** comp=Z,7μm,21.0s	**25.18**	**107**	PFAKE				14 16 20.0			+15
KBO				LR			LR				
C09A	**Chrisman Ranch** comp=Z,93nm,1.0s	**25.25**	**90**	*e*P			**P**	**14 16 06.8**			**+1.7**
C09A	comp=Z,6μm,18.0s			LR			LR				
D08A	**Wollman Farm,** comp=Z,88nm,1.0s	**25.27**	**92**	*e*P			**P**	**14 16 07.0**			**+1.7**
D08A				*e*PcP			**PcP**	**14 19 39.3**			**+1.4**
D08A	comp=Z,3μm,18.0s			LR			LR				
G06A	**Carlson Farm,** comp=Z,99nm,1.4s	**25.31**	**97**	*e*P			**P**	**14 16 07.6**			**+1.9**
G06A				*e*PcP			**PcP**	**14 19 39.2**			**+1.1**
G06A	comp=Z,6μm,18.0s			LR			LR				
F07A	**Phinny Hill Vi** comp=Z,157nm,0.8s	**25.33**	**95**	*e*P			**P**	**14 16 08.4**			**+2.6**
F07A	comp=Z,5μm,18.0s			LR			LR				
I05D	**Terrebonne, OR** baz=308,SNR=14	**25.45**	**100**	P			**P**	**14 16 09.0**			**+2.0**
E08A	**Dider Farm, El**	**25.50**	**93**	PFAKE				14 16 20.0			+13
E08A	comp=Z,5μm,18.0s			LR			LR				
PET	**Petropavlovsk** comp=Z,340nm,0.9s	**25.52**	**284**	*e*P			**P**	**14 16 06.9**			**-0.5**
PET	**Petropavlovsk**	**25.52**	**284**	⇓ *i* P			**P**	**14 16 08.6**			**-0.7**
PET				*e*				14 16 40.0			
PET				*e*S			**S**	**14 20 28.1**			**-5.5**
PET	comp=Z,2μm,4.1s			pmax			pmax				
PET	comp=Z,458nm,1.0s			pmax			pmax				
PET	comp=Z,1μm,8.7s			pmax			pmax				
PET	comp=Z,187nm,1.1s			pmax			pmax				
PET	comp=Z,800nm,7.6s			pmax			pmax				
PET	comp=Z,1μm,4.2s			MLR			MLR				
L02D	comp=Z,3μm,19.0s **Cave Junction,** baz=312,SNR=8.4	**25.57**	**106**	P			**P**	**14 16 10.2**			**+2.2**
HUMO	**Hull Mountain** comp=Z,74nm,1.2s	**25.63**	**104**	*e*P			**P**	**14 16 11.0**			**+2.4**
HUMO				*e*PcP			**PcP**	**14 19 40.3**			**+1.4**
HUMO	comp=Z,1μm,18.0s			LR			LR				
EDM	**Edmonton** comp=Z,387nm,0.9s	**25.64**	**76**	*e*P			**P**	**14 16 09.5**			**+0.9**
EDM				*e*PcP			**PcP**	**14 19 40.0**			**+1.3**
EDM	comp=Z,3μm,18.0s			LR			LR				
EDM	**Edmonton**	**25.64**	**76**	*e*P			**P**	**14 16 09.5**			**+0.9**
EDM				*e*				14 19 40.0			
EDM	comp=Z,387nm,0.9s			pmax			pmax				
EDM	comp=Z,3μm,18.0s			MLR			MLR				
NEW	**Newport** comp=Z,59nm,0.9s,baz=301,slow=11,SNR=86	**25.68**	**88**	P			**P**	**14 16 10.2**			**+1.2**
NEW	comp=Z,8.0nm,0.8s,baz=301,slow=5.4,SNR=4.6			PcP			**PcP**	**14 19 39.7**			**+0.8**
NEW	comp=Z,2.8nm,0.9s,baz=90,slow=20,S

WALA ePcP PcP 14 19 43.0 +0.7
WALA LR LR
comp=Z,7μm,18.0s
WDC Whiskeytown Da 27.22 107 eP P 14 16 25.2 +2.2
comp=Z,79nm,1.4s
WDC ePcP PcP 14 19 43.1 +0.6
WDC LR LR
comp=Z,3μm,20.0s
WDC Whiskeytown Da 27.22 107 eP P 14 16 25.2 +2.2
WDC e 14 19 43.1
WDC pmax pmax
comp=Z,79nm,1.4s
WDC MLR MLR
comp=Z,3μm,20.0s
KCPM Cahto Peak 27.28 110 eP P 14 16 26.4 +2.7
comp=Z,55nm,1.1s
KCPM LR LR
comp=Z,2μm,19.0s
BMO Blue Mountains 27.44 95 eP P 14 16 26.9 +1.8
comp=Z,70nm,1.0s
BMO LR LR
comp=Z,6μm,18.0s
BMO Blue Mountains 27.44 95 eP P 14 16 26.9 +1.8
BMO pmax pmax
comp=Z,70nm,1.0s
BMO MLR MLR
comp=Z,6μm,18.0s
JTMT Jette 27.58 87 eP P 14 16 27.9 +1.6
comp=Z,277nm,1.6s
JTMT LR LR
comp=Z,5μm,18.0s
MOD Modoc Plateau 27.58 103 eP P 14 16 28.6 +2.2
comp=Z,33nm,0.8s
MOD ePcP PcP 14 19 44.7 +1.2
MOD LR LR
comp=Z,3μm,18.0s
J08A Circle Bar Ran 27.68 98 eP P 14 16 29.2 +2.0
comp=Z,43nm,0.8s
J08A ePcP PcP 14 19 44.6 +0.8
J08A LR LR
comp=Z,4μm,18.0s
MA2 Magadan 27.73 301 P P 14 16 27.1 -0.3
comp=Z,71nm,1.1s,baz=81,slow=11,SNR=53
MA2 PcP PcP 14 19 43.6 +0.2
comp=Z,20nm,0.8s,baz=97,slow=2.9,SNR=6.2
MA2 S S 14 21 08.7 +0.4
comp=Z,1.7nm,0.7s,baz=305,slow=19,SNR=1.7
MA2 LR LR 14 29 20.3
comp=Z,2μm,18.4s,baz=60,slow=41
MA2 Magadan 27.73 301 *d* iP P 14 16 26.8 -0.5
O03D Paynes Creek 27.83 107 P P 14 16 30.2 +1.7
baz=314,SNR=44
SKR Severo-Kuril's 27.93 281 eP P 14 16 27.4 -1.8
SKR e 14 17 11.3
SKR ePPP PPP 14 17 36.1
SKR eS S 14 21 10.3 -1.3
SKR pmax pmax
comp=Z,423nm,1.1s
SKR pmax pmax
comp=Z,400nm,8.5s
SKR pmax pmax
comp=Z,1μm,5.4s
SKR MLR MLR
comp=Z,1μm,18.0s
HOPS Hopland Field 28.05 110 eP P 14 16 32.5 +2.1
comp=Z,121nm,1.2s
HOPS ePcP PcP 14 19 45.5 +0.9
WVOR Wild Horse Val 28.17 100 eP P 14 16 33.6 +2.0
comp=Z,132nm,1.5s
WVOR LR LR
comp=Z,4μm,18.0s
WVOR Wild Horse Val 28.17 100 eP P 14 16 33.6 +2.0
WVOR pmax pmax
comp=Z,132nm,1.5s
WVOR MLR MLR
comp=Z,4μm,18.0s
MSO Missoula 28.26 88 P P 14 16 33.5 +1.1
baz=303,SNR=14
MSO Missoula 28.26 88 eP P 14 16 33.5 +1.1
comp=Z,172nm,2.0s
MSO ePcP PcP 14 19 45.6 +0.5
MSO LR LR
comp=Z,4μm,18.0s
GDXM Geysers 28.34 110 PFAKE 14 16 50.0 +17
GDXM LR LR
comp=Z,4μm,18.0s
ORV Oroville 28.51 108 eP P 14 16 35.7 +1.2
comp=Z,60nm,1.3s
ORV ePcP PcP 14 19 46.0 +0.3
ORV LR LR
comp=Z,3μm,21.0s
ORV Oroville 28.51 108 eP P 14 16 35.7 +1.2
ORV e 14 19 46.0
ORV pmax pmax
comp=Z,60nm,1.3s
ORV MLR MLR
comp=Z,3μm,21.0s
MCCM Marconi Confer 28.77 111 PFAKE 14 16 50.0 +13
MCCM LR LR
comp=Z,4μm,19.0s
BEKR Beckworth 28.92 106 PFAKE 14 16 50.0 +12
BEKR LR LR
comp=Z,5μm,21.0s
MFID Camas Ranch 29.16 96 eP P 14 16 42.1 +1.7
comp=Z,88nm,1.0s
MFID LR LR
comp=Z,3μm,18.0s
AFDM Forest Hills D 29.23 108 eP P 14 16 42.6 +1.7
comp=Z,92nm,1.5s
AFDM ePcP PcP 14 19 48.4 +0.9
AFDM LR LR
comp=Z,3μm,18.0s
HRY Holter Researc 29.54 87 eP P 14 16 45.1 +1.3
HRY ePcP PcP 14 19 49.2 +0.9
PAHR Pah Rah Range 29.57 105 eP P 14 16 46.1 +2.0
comp=Z,66nm,1.0s
PAHR ePcP PcP 14 19 49.2 +0.6
PAHR LR LR
comp=Z,5μm,20.0s
RUBR Rubicon Trail 29.61 107 eP P 14 16 46.8 +2.3
comp=Z,287nm,2.0s
RUBR LR LR
comp=Z,3μm,20.0s
LRM Limekiln Ridge 29.68 89 eP P 14 16 46.4 +1.3
LRM ePcP PcP 14 19 49.1 +0.2
VCNR Virginia City 29.71 106 eP P 14 16 47.7 +2.3
comp=Z,116nm,1.1s
VCNR ePcP PcP 14 19 50.6 +1.6
VCNR LR LR
comp=Z,4μm,19.0s
HLID Hailey 29.88 94 P P 14 16 48.5 +1.7
baz=308,SNR=72
HLID Hailey 29.88 94 eP P 14 16 48.6 +1.7
comp=Z,46nm,1.0s
HLID ePcP PcP 14 19 50.7 +1.4
HLID LR LR
comp=Z,6μm,18.0s
RDG13 Poverty Ridge 29.91 111 eP P 14 16 49.1 +2.1
comp=Z,161nm,1.8s
RDG13 ePcP PcP 14 19 50.6 +1.2
RDG13 LR LR
comp=Z,3μm,21.0s
MCMT McKenzie Canyo 30.02 91 eP P 14 16 49.8 +1.6
MCMT ePcP PcP 14 19 51.0 +1.2
EGMT Eagleton 30.03 83 P P 14 16 49.1 +1.1
baz=302,SNR=57
EGMT Eagleton 30.03 83 eP P 14 16 48.9 +0.9
comp=Z,142nm,1.1s
EGMT ePcP PcP 14 19 49.7 +0.2
EGMT LR LR
comp=Z,6μm,18.0s
YERR Yerington 30.16 106 eP P 14 16 51.6 +2.2
comp=Z,88nm,1.0s
YERR ePcP PcP 14 19 50.9 +0.8
YERR LR LR
comp=Z,4μm,18.0s
CMB Columbia Colle 30.20 109 eP P 14 16 51.5 +1.9
comp=Z,55nm,1.0s
CMB ePcP PcP 14 19 50.6 +0.5
CMB LR LR
comp=Z,4μm,21.0s
CMB Columbia Colle 30.20 109 eP P 14 16 51.5 +1.9
CMB e 14 19 50.6
CMB pmax pmax
comp=Z,55nm,1.0s
CMB MLR MLR
comp=Z,4μm,21.0s
BOZ Bozeman (W) 30.28 89 P P 14 16 51.6 +1.2
baz=305
BMN Battle Mountai 30.29 102 eP P 14 16 52.3 +1.8
comp=Z,22nm,0.9s
BMN ePcP PcP 14 19 50.9 +0.5
BMN LR LR
comp=Z,3μm,19.0s
BMN Battle Mountai 30.29 102 eP P 14 16 52.3 +1.8
BMN e 14 19 50.9
BMN pmax pmax
comp=Z,22nm,0.9s
BMN MLR MLR
comp=Z,3μm,19.0s
WAKR Walker 30.39 107 eP P 14 16 53.9 +2.5
comp=Z,110nm,1.2s
WAKR ePcP PcP 14 19 52.1 +1.4
WAKR LR LR
comp=Z,4μm,20.0s
SAO San Andreas Ge 30.56 112 PFAKE 14 17 10.0 +17
SAO LR LR
comp=Z,5μm,18.0s
RYN Ryan 30.81 106 eP P 14 16 57.1 +2.1
comp=Z,68nm,1.0s
RYN ePcP PcP 14 19 52.5 +0.7
RYN LR LR
comp=Z,4μm,19.0s
RES Resolute Bay 30.89 27 eP P 14 16 54.8 -0.4
comp=Z,107nm,1.6s
RES Resolute Bay 30.89 27 eP P 14 16 54.8 -0.4
RES pmax pmax
comp=Z,107nm,1.6s
YHB Horse Butte 31.02 90 eP P 14 16 58.2 +1.3
comp=Z,59nm,1.0s
YHB ePcP PcP 14 19 53.9 +1.5
YHB LR LR
comp=Z,2μm,19.0s
NV01 Mina Array Sit 31.07 106 eP P 14 16 59.3 +1.9
NV01 ePcP PcP 14 19 54.0 +1.4
NVAR Mina Array Bea 31.07 106 P P 14 16 59.0 +1.6
comp=Z,45nm,0.8s,baz=300,slow=8.5,SNR=339
NVAR PcP PcP 14 19 53.4 +0.8
comp=Z,11nm,0.8s,baz=285,slow=2.5,SNR=12
NVAR LR LR 14 27 03.8
comp=Z,4μm,19.1s,baz=48,slow=32
NV11 Mina Array Sit 31.15 106 eP P 14 16 59.9 +1.9
comp=Z,8.5nm,1.4s
NV11 ePcP PcP 14 19 53.6 +0.9
NV11 LR LR
comp=Z,300nm,20.0s
YHH Holmes Hill 31.20 89 eP P 14 17 00.1 +1.4
comp=Z,78nm,0.9s
YHH ePcP PcP 14 19 53.1 +0.2
YHH LR LR
comp=Z,2μm,19.0s
YMR Madison River 31.20 90 eP P 14 16 59.8 +1.3
comp=Z,85nm,0.9s
YMR ePcP PcP 14 19 53.9 +1.0
YMR LR LR
comp=Z,2μm,21.0s
MDPB Devils Postpil 31.21 108 eP P 14 17 00.8 +2.1
comp=Z,71nm,0.9s
MDPB LR LR
comp=Z,3μm,18.0s
FFC Flin Flon 31.27 67 eP P 14 16 58.8 +0.1
comp=Z,34nm,1.0s
FFC LR LR
comp=Z,3μm,19.0s
FFC Flin Flon 31.27 67 eP P 14 16 58.8 +0.1
FFC pmax pmax
comp=Z,34nm,1.0s
FFC MLR MLR
comp=Z,3μm,19.0s
GCMT Greycliff 31.30 87 eP P 14 17 01.1 +1.8
comp=Z,22nm,1.1s
GCMT Greycliff 31.30 87 eP PcP 14 19 51.2 -1.8
PMPB Monarch Peak 31.31 112 PFAKE 14 17 10.0 +11
PMPB LR LR
comp=Z,3μm,19.0s
YNR Norris Junctio 31.34 89 eP P 14 17 00.6 +0.8
comp=Z,131nm,1.1s
YNR LR LR
comp=Z,2μm,18.0s
YNR Norris Junctio 31.34 89 eP PcP 14 19 54.1 +0.8
MLAC Mammoth, Mammo 31.34 107 P P 14 17 02.9 +3.0
baz=317,SNR=36
MLAC Mammoth, Mammo 31.34 107 eP P 14 17 03.0 +3.1
YFT Old Faithful 31.41 90 eP P 14 17 03.4 +3.0
comp=Z,40nm,0.9s
YFT Old Faithful 31.41 90 eP PcP 14 19 55.6 +2.2
YPP Pitchstone Pla 31.53 90 eP P 14 17 04.1 +2.5
comp=Z,65nm,1.5s
YPP ePcP PcP 14 19 55.4 +1.5
YPP LR LR
comp=Z,2μm,18.0s
H17A Grant Village 31.59 90 P P 14 17 04.8 +2.8
baz=307,SNR=55
H17A Grant Village 31.59 90 eP P 14 17 05.2 +3.2
comp=Z,78nm,1.0s
H17A LR LR
comp=Z,4μm,18.0s
LKWY Lake 31.59 89 PFAKE 14 17 20.0 +18
LKWY LR LR
comp=Z,4μm,18.0s
IMW Indian Meadow 31.68 91 eP P 14 17 05.0 +2.1
comp=Z,64nm,1.2s
IMW ePcP PcP 14 19 54.3 +0.1
IMW LR LR
comp=Z,900nm,18.0s
YTP The Promontory 31.76 90 eP P 14 17 06.0 +2.6
FXWY Fox Creek 31.79 91 eP P 14 17 05.7 +2.0
comp=Z,93nm,1.9s
FXWY ePcP PcP 14 19 55.2 +0.8
MOOW Moose Ponds 31.88 91 eP P 14 17 06.2 +1.6
comp=Z,90nm,1.8s
MOOW ePcP PcP 14 19 55.8 +1.1
MOOW LR LR
comp=Z,1μm,19.0s
RLMT Red Lodge 31.92 88 P P 14 17 06.8 +2.0
baz=306,SNR=65
RLMT Red Lodge 31.92 88 eP P 14 17 06.7 +1.8
comp=Z,95nm,1.1s
RLMT LR LR
comp=Z,2μm,19.0s
TPAW Teton Pass 31.92 91 eP P 14 17 06.6 +1.6
comp=Z,182nm,1.9s
TPAW LR LR
comp=Z,1μm,19.0s
HVU Hansel Valley 31.94 96 eP P 14 17 07.3 +2.3
comp=Z,124nm,0.9s
HVU ePcP PcP 14 19 56.0 +1.1
HVU LR LR
comp=Z,3μm,18.0s
HVU Hansel Valley 31.94 96 eP P 14 17 07.3 +2.3
HVU e 14 19 56.0
HVU pmax pmax
comp=Z,124nm,0.9s
HVU MLR MLR
comp=Z,3μm,18.0s
PAGB Antelope Grade 31.97 111 PFAKE 14 17 20.0 +15
PAGB LR LR
comp=Z,3μm,21.0s
SNOW Snow King Moun 32.05 91 eP PcP 14 19 56.9 +1.7
REDW Red Top Meadow 32.05 92 eP P 14 17 08.0 +2.0
comp=Z,118nm,1.7s
REDW ePcP PcP 14 19 57.3 +2.1
REDW LR LR
comp=Z,800nm,22.0s
RCTC Rector, Farmer 32.09 110 P P 14 17 09.0 +2.9
baz=318
TIN Tinemaha, Big 32.09 108 P P 14 17 09.1 +2.8
baz=317,SNR=6.2
MTUT Morton Thiokol 32.17 95 eP P 14 17 09.3 +2.3
AHID Auburn Hatcher 32.28 93 eP P 14 17 07.6 -0.4
comp=Z,41nm,1.1s
AHID LR LR
comp=Z,2μm,18.0s
BEI Bear River Ran 32.30 94 eP P 14 17 10.5 +2.4
BGU Big Grassy Mou 32.35 97 eP P 14 17 10.6 +2.0
comp=Z,138nm,1.2s
BGU ePcP PcP 14 19 56.8 +0.9
BGU LR LR
comp=Z,2μm,19.0s
LTU Little Mountai 32.36 95 eP P 14 17 10.6 +1.9
SMMC Simmler 32.42 112 P P 14 17 11.6 +2.4
baz=320
SPUT South Promonto 32.43 96 eP P 14 17 11.5 +2.2
comp=Z,113nm,1.1s
SPUT ePcP PcP 14 19 57.2 +1.1
SPUT LR LR
comp=Z,2μm,18.0s
WVUT Wellsville 32.52 95 eP P 14 17 12.0 +1.9
VES Vestal, Richgr 32.52 110 P P 14 17 11.6 +1.7
baz=319,SNR=24
GRAC Grapevine Rang 32.61 107 P P 14 17 13.4 +2.6
baz=317,SNR=22
CWC Cottonwood Cre 32.62 108 P P 14 17 13.3 +2.3
baz=318
R11A Troy Canyon, C 32.64 103 P P 14 17 13.0 +1.8
baz=315,SNR=103
R11A Troy Canyon, C 32.64 103 eP P 14 17 12.8 +1.6
comp=Z,66nm,1.0s
R11A ePcP PcP 14 19 58.1 +1.2
R11A LR LR
comp=Z,2μm,21.0s
WLHM Little Horse 32.71 109 epP pP 14 17 24.5 +6.5
LAO LASA Array 32.77 83 P P 14 17 13.6 +1.5
baz=304,SNR=36
LAO LASA Array 32.77 83 eP P 14 17 13.8 +1.6
comp=Z,505nm,1.9s
LAO ePcP PcP 14 19 58.0 +1.1
LAO LR LR
comp=Z,4μm,18.0s
PKM Mcpherson Peak 32.84 112 P P 14 17 15.3 +2.3
baz=320,SNR=6.1
FSU Fish Springs 32.94 99 eP P 14 17 15.6 +1.9
DUG Dugway, Tooele 32.95 98 P P 14 17 15.5 +1.7
baz=312,SNR=124
DUG Dugway, Tooele 32.95 98 eP P 14 17 15.3 +1.4
comp=Z,132nm,1.0s
DUG ePcP PcP 14 19 59.4 +1.8
DUG LR LR
comp=Z,1μm,19.0s
DUG Dugway, Tooele 32.95 98 eP P 14 17 15.3 +1.4
DUG e 14 19 59.4
DUG pmax pmax
comp=Z,132nm,1.0s
DUG MLR MLR
comp=Z,1μm,19.0s
DGMT Dagmar 32.96 79 P P 14 17 14.7 +1.0
baz=302,SNR=14
DGMT Dagmar 32.96 79 eP P 14 17 15.3 +1.6
comp=Z,47nm,0.6s
DGMT LR LR
comp=Z,2μm,18.0s
ISA Isabella, Lake 32.98 110 P P 14 17 15.6 +1.5
baz=319,SNR=42
ISA Isabella, Lake 32.98 110 eP P 14 17 15.7 +1.6
comp=Z,72nm,1.3s
ISA ePcP PcP 14 19 58.0 +0.3
ISA LR LR
comp=Z,2μm,18.0s
ISA Isabella, Lake 32.98 110 eP P 14 17 15.7 +1.6
ISA e 14 19 58.0
ISA pmax pmax
comp=Z,72nm,1.3s
ISA MLR MLR
comp=Z,2μm,18.0s
DAC Darwin (Calif) 33.01 108 eP P 14 17 16.3 +1.9
comp=Z,65nm,0.8s
DAC LR LR
comp=Z,3μm,19.0s
DAC Darwin (Calif) 33.01 108 eP P 14 17 16.3 +1.9
DAC pmax pmax
comp=Z,65nm,0.8s
DAC MLR MLR
comp=Z,3μm,19.0s
TCUT Toone Canyon 33.15 95 P P 14 17 15.1 -0.6
comp=Z,94nm,1.0s
TCUT LR LR
comp=Z,3μm,18.0s
BW06 Boulder Array 33.17 91 P P 14 17 17.2 +1.3
baz=309,SNR=19
BW06 Boulder Array 33.17 91 eP P 14 17 17.1 +1.3
comp=Z,20nm,0.9s
BW06 LR LR
comp=Z,1μm,18.0s
PD31 Pinedale Array 33.17 91 eP P 14 17 17.1 +1.3
PD31 ePP PnPn 14 18 26.4 +0.7
PD31 ePcP PcP 14 19 58.3 0.0
PDAR Pinedale Array 33.17 91 P P 14 17 17.0 +1.2
comp=Z,14nm,0.8s,baz=306,slow=4.9,SNR=127
PDAR PcP PcP 14 19 58.3 0.0
comp=Z,5.9nm,1.0s,baz=217,slow=0.7,SNR=4.6
PDAR S S 14 22 38.9 +4.6
comp=Z,1.4nm,1.1s,baz=1.8,slow=5.8,SNR=3.0
PDAR LR LR 14 28 55.2
comp=Z,1μm,18.4s,baz=322,slow=33
PDAR P3KPbc 14 48 29.6
comp=Z,1.9nm,0.9s,baz=114,slow=5.4,SNR=12
PDAR Pinedale Array 33.17 91 eP P 14 17 17.1 +1.3
PDAR ePP PnPn 14 18 27.4 +1.7
PDAR ePcP PcP 14 19 57.8 -0.5
PDAR S S 14 22 38.9 +4.6
PDAR e 14 48 29.6
ARVC Arvin 33.19 111 P P 14 17 17.2 +1.4
baz=319,SNR=9.0
MPMC Manual Prospec 33.23 108 P P 14 17 18.4 +2.1
baz=318,SNR=128
CTU Camp Tracy 33.23 96 eP P 14 17 16.9 +0.6
comp=Z,94nm,1.1s
CTU ePP PnPn 14 18 28.7 +2.2
CTU ePcP PcP 14 19 59.3 +0.9
CTU LR LR
comp=Z,2μm,18.0s
SBC Santa Barbara 33.23 112 P P 14 17 18.3 +2.2
baz=320
FURC Furnace Creek, 33.27 107 P P 14 17 18.8 +2.4
baz=317,SNR=28
JLU Jordanelle 33.47 96 eP P 14 17 20.0 +1.5
comp=Z,54nm,1.1s
JLU LR LR
comp=Z,2μm,19.0s
NLU North Lily Min 33.54 97 eP P 14 17 20.7 +1.7
comp=Z,66nm,0.9s
NLU LR LR
comp=Z,1μm,18.0s
HTU Hoyt Peak 33.55 96 eP P 14 17 21.0 +1.8
LRMC Laurel Mtn Rad 33.55 109 P P 14 17 20.9 +1.8
baz=318,SNR=77
SCZ2 Santa Cruz Isl 33.62 113 P P 14 17 21.3 +1.7
baz=321
OSI Osito Audit: C 33.63 111 P P 14 17 21.7 +2.0
baz=320
OSI Osito Audit: C 33.63 111 PFAKE 14 17 30.0 +10
OSI LR LR
comp=Z,4μm,20.0s
DAU Daniels Canyon 33.70 96 eP P 14 17 22.6 +2.1
DAU Daniels Canyon 33.70 96 eP P 14 17 22.7 +2.1
FCC Fort Churchill 33.72 57 eP P 14 17 20.5 +0.4
comp=Z,339nm,1.6s
FCC ePcP PcP 14 19 59.3 +0.1
FCC LR LR
comp=Z,8μm,19.0s
FCC Fort Churchill 33.72 57 eP P 14 17 20.5 +0.4
FCC e 14 19 59.3
FCC pmax pmax
comp=Z,339nm,1.6s
FCC MLR MLR
comp=Z,8μm,19.0s
MPU Maple Canyon 33.75 97 eP P 14 17 20.5 -0.4
comp=Z,40nm,1.0s
EDW2 Edwards Air Fo 33.83 110 P P 14 17 22.8 +1.4
baz=319,SNR=16
BLG Laguna Peak, P 33.83 112 P P 14 17 23.3 +1.9
baz=320,SNR=6.2
SHOC Shoshone, Teco 34.01 107 P P 14 17 25.0 +2.0
baz=318,SNR=63
DECC Green Verdugo 34.12 111 P P 14 17 25.8 +1.9
baz=320
GSC Goldstone, Bar 34.16 108 P P 14 17 26.3 +2.0
baz=318,SNR=48
GSC Goldstone, Bar 34.16 108 eP P 14 17 26.4 +2.0
comp=Z,79nm,1.0s
GSC ePcP PcP 14 20 01.9 +0.8
GSC LR LR
comp=Z,3μm,19.0s
GSC Goldstone, Bar 34.16 108 eP P 14 17 26.4 +2.0
GSC e 14 20 01.9
GSC pmax pmax
comp=Z,79nm,1.0s
GSC MLR MLR
comp=Z,3μm,19.0s

HLK Haleakala 34.18 178 PFAKE 14 17 40.0 +15
HLK LR LR
comp=Z,5µm,18.0s
SHPR Sheep Range 34.19 105 *e*P **P** **14 17 26.3 +1.6**
comp=Z,21nm,1.0s
SHPR *e*PcP **PcP** **14 20 02.2 +1.1**
SHPR LR LR
comp=Z,4µm,22.0s
TCRU Three Creeks R 34.23 100 PFAKE 14 17 40.0 +15
TCRU LR LR
comp=Z,2µm,18.0s
SNCC San Nicolas Is 34.25 114 P **P** **14 17 26.9 +1.9**
baz=321
SNCC San Nicolas Is 34.25 114 PFAKE 14 17 40.0 +15
SNCC LR LR
comp=Z,3µm,21.0s
TIXI Tiksi 34.25 327 P3KPbc 14 48 24.8
comp=Z,1.2nm,0.3s,baz=320,slow=9.3,SNR=3.0
TIXI Tiksi 34.25 327 *e*P **P** **14 17 23.9 -0.7**
comp=Z,148nm,0.9s
TIXI *e*PcP **PcP** **14 20 01.1 +0.6**
TIXI *e* 14 48 24.8
TIXI LR LR
comp=Z,4µm,19.0s
TIXI Tiksi 34.25 327 *d i*P **P** **14 17 23.5 -1.1**
TIXI pmax pmax
comp=Z,195nm,1.0s
TIXI MLR MLR
comp=Z,6µm,15.0s
PASC Pasadena Art C 34.26 111 *e*P **P** **14 17 25.7 +0.6**
comp=Z,326nm,2.2s
PASC LR LR
comp=Z,3µm,19.0s
SNO Snow College 34.27 98 *e*P **P** **14 17 28.1 +2.6**
MWC Mount Wilson 34.29 111 *e*P **P** **14 17 26.1 +0.5**
comp=Z,120nm,1.4s
MWC LR LR
comp=Z,4µm,18.0s
MWC Mount Wilson 34.29 111 *e*P **P** **14 17 26.1 +0.5**
MWC pmax pmax
comp=Z,120nm,1.4s
MWC MLR MLR
comp=Z,4µm,18.0s
SGU Sterling 34.30 98 *e*P **P** **14 17 28.5 +2.7**
CCUT Cedar City 34.45 102 *e*P **P** **14 17 29.0 +1.9**
comp=Z,137nm,1.6s
CCUT LR LR
comp=Z,2µm,22.0s
MSU Marysvale 34.46 99 *e*P **P** **14 17 29.2 +2.2**
MSU Marysvale 34.46 99 *e*P **P** **14 17 29.2 +2.2**
TMUT Trail Mountain 34.47 98 *e*P **P** **14 17 29.4 +2.1**
comp=Z,67nm,0.9s
TMUT *e*PcP **PcP** **14 20 03.9 +1.8**
TMUT LR LR
comp=Z,1µm,20.0s
BFSC Mount Baldy Ra 34.49 110 P **P** **14 17 29.1 +1.8**
baz=320,SNR=31
ARGU Argyle Ridge 34.50 96 *e*P **P** **14 17 29.7 +2.2**
TUQ Turquoise Moun 34.55 107 P **P** **14 17 29.3 +1.6**
baz=318,SNR=38
FMP Fort Macarthur 34.55 112 P **P** **14 17 29.1 +1.5**
baz=320
SZCU Shurtz Canyon 34.58 102 *e*P **P** **14 17 29.8 +1.7**
comp=Z,32nm,1.0s
SZCU LR LR
comp=Z,1µm,22.0s
P17A Butcher Ranch, 34.62 97 *e*P **P** **14 17 30.3 +1.9**
comp=Z,48nm,1.0s
P17A *e*PcP **PcP** **14 20 02.7 +0.3**
P17A LR LR
comp=Z,1µm,19.0s
ROA Roan Cliffs 34.71 96 *e*P **P** **14 17 31.4 +2.0**
CIS Catalina Islan 34.72 112 P **P** **14 17 30.6 +1.4**
baz=321
Q16A Castle Valley 34.75 98 *e*P **P** **14 17 31.9 +2.3**
comp=Z,116nm,1.1s
Q16A *e*PcP **PcP** **14 20 04.1 +1.3**
Q16A LR LR
comp=Z,1µm,22.0s
HEC Hector,Ludlow 34.77 108 P **P** **14 17 31.4 +1.8**
baz=319,SNR=15
MTPU Mount Pierson 34.78 100 *e*P **P** **14 17 32.1 +2.2**
comp=Z,27nm,1.0s
MTPU LR LR
comp=Z,3µm,19.0s
P18A Preston Nutter 34.80 96 *e*P **P** **14 17 32.0 +1.9**
comp=Z,88nm,1.0s
P18A *e*PcP **PcP** **14 20 04.5 +1.5**
P18A LR LR
comp=Z,1µm,18.0s
BBRC Big Bear Solar 34.87 109 P **P** **14 17 32.5 +1.8**
baz=319,SNR=30
LCMT Little Creek M 34.90 102 *e*P **P** **14 17 32.9 +2.1**
comp=Z,53nm,1.0s
LCMT *e*PcP **PcP** **14 20 04.8 +1.6**
LCMT LR LR
comp=Z,2µm,20.0s
SCI2 San Clemente I 34.98 113 P **P** **14 17 33.0 +1.7**
baz=321
K22A Casper 34.99 89 P **P** **14 17 32.4 +0.9**
baz=309,SNR=38
K22A Casper 34.99 89 *e*P **P** **14 17 32.5 +0.9**
comp=Z,131nm,1.2s
K22A LR LR
comp=Z,1µm,20.0s
SRU San Rafael Swe 34.99 97 *e*P **P** **14 17 33.6 +2.0**
comp=Z,197nm,0.9s
SRU LR LR
comp=Z,2µm,18.0s
SRU San Rafael Swe 34.99 97 *e*P **P** **14 17 33.6 +2.0**
SRU pmax pmax
comp=Z,197nm,0.9s
SRU MLR MLR
comp=Z,2µm,18.0s
PKCU Pink Cliffs 35.12 101 *e*P **P** **14 17 35.3 +2.4**
comp=Z,53nm,1.0s
PKCU LR LR
comp=Z,3µm,20.0s
KNB Kanab 35.13 102 *e*P **P** **14 17 35.1 +2.2**
comp=Z,41nm,0.9s
KNB *e*PcP **PcP** **14 20 06.1 +2.2**
KNB LR LR
comp=Z,3µm,19.0s
KNB Kanab 35.13 102 *e*P **P** **14 17 35.1 +2.2**
KNB *e* 14 20 06.1
KNB pmax pmax
comp=Z,41nm,0.9s
KNB MLR MLR
comp=Z,3µm,19.0s
GMRC Granite Mounta 35.17 108 P **P** **14 17 34.8 +1.7**
baz=318,SNR=37
MMU Miners Mountai 35.17 99 *e*P **P** **14 17 35.3 +2.0**
RWWY Rawlins 35.20 91 *e*P **P** **14 17 34.0 +0.5**
comp=Z,240nm,1.1s
RWWY LR LR
comp=Z,1µm,19.0s
MURC Murrieta 35.23 111 P **P** **14 17 34.9 +1.4**
baz=320,SNR=7.0
LDFC Landfair 35.26 107 *e*P **P** **14 17 35.3 +1.4**
comp=Z,131nm,0.8s
LDFC LR LR
comp=Z,2µm,18.0s
EKU East Kanab 35.28 102 *e*P **P** **14 17 36.4 +2.3**
NKL Nikolayevsk 35.28 293 *i* P **P** **14 17 33.5 -0.1**
NKL *e* 14 23 11.0
NKL pmax pmax
comp=N,140nm,1.0s
NKL pmax pmax
comp=E,64nm,1.0s
NKL pmax pmax
comp=Z,340nm,1.0s
NKL pmax pmax
comp=Z,1µm,7.0s
TYV Tymovskoe 35.34 289 *e*P **P** **14 17 34.7 +0.5**
TYV pmax pmax
comp=Z,257nm,1.2s
KUR Kuril'sk 35.50 277 *d i*P **P** **14 17 34.8 -0.9**
KUR *i* 14 20 00.6
KUR *e*S **S** **14 23 09.5 -0.2**
KUR pmax pmax
comp=Z,913nm,4.2s
KUR pmax pmax
comp=Z,164nm,1.4s
KUR MLR MLR
comp=Z,575nm,15.0s
RSSD Black Hills 35.52 85 P **P** **14 17 37.2 +1.1**
baz=308

RSSD Black Hills 35.52 85 *e*P **P** **14 17 37.2 +1.1**
comp=Z,117nm,0.9s
RSSD *e*PcP **PcP** **14 20 04.1 -0.9**
RSSD LR LR
comp=Z,4µm,18.0s
RSSD Black Hills 35.52 85 *e*P **P** **14 17 37.2 +1.1**
RSSD *e* 14 20 04.1
RSSD pmax pmax
RSSD comp=Z,117nm,0.9s
RSSD MLR MLR
comp=Z,4µm,18.0s
BELC Belle Mtn. Jos 35.57 109 P **P** **14 17 37.9 +1.3**
baz=319,SNR=38
O20A White River Ci 35.62 94 P **P** **14 17 38.3 +1.3**
baz=312,SNR=207
O20A White River Ci 35.62 94 *e*P **P** **14 17 38.0 +1.0**
comp=Z,280nm,0.9s
O20A LR LR
comp=Z,3µm,18.0s
PFO Pinyon Flats O 35.62 110 P **P** **14 17 38.4 +1.5**
baz=320,SNR=42
PFO Pinyon Flats O 35.62 110 *e*P **P** **14 17 38.6 +1.6**
comp=Z,70nm,1.1s
PFO LR LR
comp=Z,4µm,19.0s
PFO Pinyon Flats O 35.62 110 *e*P **P** **14 17 38.6 +1.6**
PFO pmax pmax
comp=Z,70nm,1.1s
PFO MLR MLR
comp=Z,4µm,19.0s
XPFO Piæon Flat 35.62 110 *e*P **P** **14 17 38.6 +1.6**
comp=Z,68nm,1.1s
XPFO LR LR
comp=Z,4µm,20.0s
TPFO Pinon Flats 35.62 110 P **P** **14 17 38.4 +1.4**
baz=320
NEE2 Needles Airpor 35.76 106 P **P** **14 17 39.8 +1.8**
baz=318,SNR=17
109C Camp Elliot, M 35.82 111 P **P** **14 17 40.5 +2.0**
baz=321,SNR=12
CPE Camp Elliot 35.82 111 PFAKE 14 17 50.0 +11
CPE LR LR
comp=Z,2µm,22.0s
U15A North Rim 35.85 102 *e*P **P** **14 17 40.9 +1.8**
comp=Z,42nm,1.0s
U15A *e*PP **PnPn** **14 18 59.6 +0.3**
U15A *e*PcP **PcP** **14 20 07.7 +1.6**
U15A LR LR
comp=Z,2µm,21.0s
MDND Maddock 35.89 77 P **P** **14 17 39.9 +0.9**
baz=304,SNR=8.0
MDND Maddock 35.89 77 *e*P **P** **14 17 40.2 +1.1**
comp=Z,326nm,1.3s
MDND LR LR
comp=Z,2µm,19.0s
W13A Hualapai Mount 35.92 105 *e*P **P** **14 17 41.4 +1.7**
comp=Z,93nm,1.1s
W13A *e*PcP **PcP** **14 20 07.7 +1.4**
W13A LR LR
comp=Z,3µm,20.0s
IRM Iron Mountain 35.92 108 P **P** **14 17 41.4 +1.9**
baz=319,SNR=123
BC3 Big Chuckawall 36.13 109 P **P** **14 17 42.6 +1.3**
baz=320,SNR=41
MONP2 Monument Peak 36.18 110 P **P** **14 17 43.9 +2.0**
baz=320,SNR=43
PV09 Paradox Valley 36.20 97 *e*P **P** **14 17 43.5 +1.4**
BAR Barrett 36.21 111 *e*P **P** **14 17 43.6 +1.6**
comp=Z,62nm,1.0s
BAR LR LR
comp=Z,2µm,19.0s
PDMCI Parker Dam,Lak 36.37 106 P **P** **14 17 45.2 +2.0**
baz=318,SNR=22
PV04 Paradox Valley 36.41 97 *e*P **P** **14 17 43.0 -0.7**
N23A Red Feather La 36.44 91 P **P** **14 17 45.5 +1.4**
baz=311,SNR=44
N23A Red Feather La 36.44 91 *e*P **P** **14 17 45.5 +1.4**
comp=Z,228nm,1.5s
N23A LR LR
comp=Z,2µm,19.0s
PHWY Pilot Hill 36.46 90 PFAKE 14 18 00.0 +16
PHWY LR LR
comp=Z,1µm,18.0s
SWSC Sam W. Stewart 36.48 110 P **P** **14 17 46.0 +1.8**
baz=320,SNR=23
PV05 Paradox Valley 36.51 97 *e*P **P** **14 17 46.2 +1.5**
PV05 *e*PcP **PcP** **14 20 09.4 +1.4**
IKP In-Ko-Pah, Jac 36.54 110 P **P** **14 17 46.7 +1.9**
baz=321,SNR=23
Y12C Blythe 36.57 107 P **P** **14 17 46.9 +2.0**
baz=319,SNR=46
Y12C Blythe 36.57 107 *e*P **P** **14 17 46.8 +1.9**
comp=Z,131nm,1.0s
Y12C LR LR
comp=Z,2µm,19.0s
A31A Linda, St. Vin 36.64 74 P **P** **14 17 45.8 +0.4**
baz=303
ULM Lac du Bonnet 36.66 71 P **P** **14 17 45.8 +0.3**
comp=Z,57nm,0.9s,baz=300,slow=9.0,SNR=74
ULM PcP **PcP** **14 20 08.0 +0.1**
comp=Z,17nm,0.8s,baz=336,slow=4.2,SNR=5.5
ULM LR LR 14 33 44.2
comp=Z,2µm,18.8s,baz=307,slow=38
ULM Lac du Bonnet 36.66 71 *e*P **P** **14 17 45.8 +0.3**
comp=Z,88nm,1.0s
ULM *e*PcP **PcP** **14 20 08.2 +0.2**
ULM LR LR
comp=Z,3µm,19.0s
ULM Lac du Bonnet 36.66 71 *e*P **P** **14 17 45.8 +0.3**
ULM *e* 14 20 08.2
ULM pmax pmax
comp=Z,88nm,1.0s
ULM MLR MLR
comp=Z,3µm,19.0s
B31A Greenbush Farm 36.66 75 P **P** **14 17 46.2 +0.6**
baz=304,SNR=10
PV01 Paradox Valley 36.77 97 *e*P **P** **14 17 48.3 +1.3**
PV01 *e*PcP **PcP** **14 20 09.8 +0.9**
YAK Yakutsk 36.77 311 *e*P **P** **14 17 45.4 -1.0**
comp=Z,355nm,0.8s
YAK *e*PcP **PcP** **14 20 09.3 +1.2**
YAK LR LR
comp=Z,3µm,18.0s
YAK Yakutsk 36.77 311 *d i*P **P** **14 17 45.2 -1.2**
YAK *e**PP **sP** **14 17 54.8 -0.1**
YAK *e* 14 19 13.3
YAK *e* 14 20 08.1
YAK *e*S **S** **14 23 26.0 -2.9**
YAK *e**SS **sS** **14 23 44.3 +5.4**
YAK *e*SSS SSS 14 26 28.2
YAK *e* 14 28 00.3
YAK pmax pmax
comp=Z,268nm,0.9s
YAK pmax pmax
comp=N,38nm,1.3s
YAK pmax pmax
comp=E,129nm,1.3s
YAK pmax pmax
comp=Z,188nm,2.0s
YAK pmax pmax
comp=N,82nm,2.0s
YAK pmax pmax
comp=E,159nm,1.9s
YAK smax smax
comp=E,305nm,4.0s
YAK smax smax
comp=N,100nm,3.4s
GLA Glamis 36.93 109 P **P** **14 17 49.9 +1.8**
baz=320,SNR=15
GLA Glamis 36.93 109 *e*P **P** **14 17 50.1 +2.0**
comp=N,93nm,1.1s
GLA LR LR
comp=Z,2µm,20.0s
GLA Glamis 36.93 109 *e*P **P** **14 17 50.1 +2.0**
GLA pmax pmax
comp=Z,93nm,1.1s
GLA MLR MLR
comp=Z,2µm,20.0s
C31A Landman Farms, 36.97 76 P **P** **14 17 48.5 +0.3**
baz=304,SNR=10.0
SMCO Snowmass 36.98 94 *e*P **P** **14 17 50.0 +1.1**
comp=Z,100nm,1.4s
SMCO *e*PcP **PcP** **14 20 10.7 +1.0**
SMCO LR LR
comp=Z,4µm,18.0s
WUAZ Wupatki 37.02 102 P **P** **14 17 50.7 +1.8**
baz=317,SNR=48

WUAZ Wupatki 37.02 102 *e*P **P** **14 17 50.8 +1.8**
comp=Z,94nm,1.0s
WUAZ *e*PcP **PcP** **14 20 11.1 +1.6**
WUAZ LR LR
comp=Z,1µm,19.0s
A32A Rocking H Ranc 37.03 73 P **P** **14 17 49.0 +0.2**
baz=304,SNR=8.7
TULEG Thule 37.11 23 PFAKE 14 18 00.0 +11
TULEG LR LR
comp=Z,3µm,20.0s
Y14A Wickenburg 37.27 106 *e*P **P** **14 17 52.9 +1.9**
comp=Z,232nm,0.8s
Y14A *e*PcP **PcP** **14 20 11.3 +1.1**
Y14A LR LR
comp=Z,6µm,19.0s
B32A Ashes, Strandq 37.30 74 P **P** **14 17 51.2 +0.2**
baz=304,SNR=6.1
ISCO Idaho Springs 37.35 92 P **P** **14 17 53.0 +1.1**
baz=312,SNR=28
ISCO Idaho Springs 37.35 92 *e*P **P** **14 17 53.3 +1.4**
comp=Z,30nm,1.1s
ISCO LR LR
comp=Z,2µm,19.0s
ISCO Idaho Springs 37.35 92 *e*P **P** **14 17 53.3 +1.4**
ISCO pmax pmax
comp=Z,30nm,1.1s
ISCO MLR MLR
comp=Z,2µm,19.0s
YUK Yuzh-Kuril'sk 37.37 277 *d i*P **P** **14 17 50.9 -0.7**
YUK *i* S **S** **14 23 39.3 +1.1**
YUK pmax pmax
comp=Z,533nm,0.9s
YUK pmax pmax
comp=N,62nm,0.6s
YUK pmax pmax
comp=E,151nm,1.3s
YUK pmax pmax
comp=Z,1µm,2.6s
YUK MLR MLR
comp=Z,892nm,22.0s
YUK MLR MLR
comp=E,992nm,19.0s
YSS Yuzh-Sakhalins 37.40 283 *e*P **P** **14 17 52.4 +0.5**
comp=E,1µm,2.0s
YSS LR LR
comp=Z,800nm,18.0s
YSS Yuzh-Sakhalins 37.40 283 *k i*P **P** **14 17 52.3 +0.5**
YSS *e* 14 19 14.0
YSS *e*PPP PPP 14 20 10.8
YSS *e*S **S** **14 23 35.0 -3.8**
YSS pmax pmax
comp=Z,180nm,2.0s
MVCO Mesa Verde 37.45 98 P **P** **14 17 53.8 +1.1**
baz=315,SNR=84
MVCO Mesa Verde 37.45 98 *e*P **P** **14 17 53.3 +0.6**
comp=Z,94nm,0.9s
MVCO LR LR
comp=Z,1µm,20.0s
E31A Nome 37.58 77 P **P** **14 17 53.5 0.0**
baz=306,SNR=6.8
C32A Crookston 37.62 75 P **P** **14 17 53.9 +0.1**
baz=305
A33A Warroad 37.63 73 P **P** **14 17 54.0 +0.2**
baz=304,SNR=24
AGMN Agassiz Nation 37.72 74 P **P** **14 17 54.7 0.0**
baz=304,SNR=40
AGMN Agassiz Nation 37.72 74 *e*P **P** **14 17 54.5 -0.1**
comp=Z,87nm,0.9s
AGMN LR LR
comp=Z,3µm,18.0s
113A Mohawk Valley, 37.72 108 *e*P **P** **14 17 56.4 +1.6**
comp=Z,65nm,1.2s
113A *e*PcP **PcP** **14 20 12.5 +1.0**
113A LR LR
comp=Z,2µm,18.0s
D32A Dogwood Acres, 37.74 76 P **P** **14 17 54.9 +0.2**
baz=305
F31A Hecla 37.78 79 P **P** **14 17 55.2 0.0**
baz=306
X16A Lo Mia Camp, P 37.79 104 *e*P **P** **14 17 58.0 +2.4**
comp=Z,86nm,1.1s
X16A *e*PcP **PcP** **14 20 13.4 +1.5**
X16A LR LR
comp=Z,5µm,20.0s
B33A Robert and Kas 37.89 74 P **P** **14 17 56.1 0.0**
baz=304,SNR=8.3
E32A Braaten, Kindr 38.02 77 P **P** **14 17 57.1 0.0**
baz=306
S22A 4UR Ranch, Cre 38.04 95 P **P** **14 17 59.4 +1.7**
baz=314,SNR=42
S22A 4UR Ranch, Cre 38.04 95 *e*P **P** **14 17 59.6 +1.8**
comp=Z,69nm,1.1s
S22A *e*PcP **PcP** **14 20 14.2 +1.4**
S22A LR LR
comp=Z,3µm,19.0s
C33A Trail 38.08 75 P **P** **14 17 57.6 0.0**
baz=305,SNR=9.1
Q24A Divide 38.18 93 P **P** **14 17 59.9 +1.0**
baz=313,SNR=13
Q24A Divide 38.18 93 PFAKE 14 18 10.0 +11
Q24A LR LR
comp=Z,3µm,18.0s
G31A Conde 38.19 79 P **P** **14 17 58.8 +0.3**
baz=307
SUSD Miller 38.23 81 P **P** **14 17 59.3 +0.4**
baz=308,SNR=7.2
W18A Petrified Fore 38.24 101 P **P** **14 18 00.9 +1.6**
baz=317,SNR=7.9
W18A Petrified Fore 38.24 101 *e*P **P** **14 17 58.5 -0.8**
comp=Z,63nm,1.2s
W18A LR LR
comp=Z,2µm,20.0s
B34A Aery, Baudette 38.29 73 P **P** **14 17 59.4 0.0**
baz=304,SNR=19
D33A AnnSam, Waubun 38.39 75 P **P** **14 18 00.3 0.0**
baz=306,SNR=5.3
F32A Veblen 38.41 78 P **P** **14 18 00.4 0.0**
baz=307
H31A Wolsey 38.48 81 P **P** **14 18 01.6 +0.6**
baz=308
X18A Snowflake 38.54 102 *e*P **P** **14 18 04.1 +2.2**
comp=Z,86nm,1.2s
X18A LR LR
comp=Z,1µm,21.0s
G32A Webster 38.57 79 P **P** **14 18 02.0 +0.2**
baz=307,SNR=6.5
C34A RKJ Ranch, Bem 38.62 74 P **P** **14 18 02.2 +0.1**
baz=305,SNR=6.7
OGNE Ogallala 38.66 88 P **P** **14 18 04.0 +1.3**
baz=311,SNR=34
OGNE Ogallala 38.66 88 *e*P **P** **14 18 04.3 +1.6**
comp=Z,199nm,0.9s
OGNE LR LR
comp=Z,2µm,20.0s
E33A Westby DABS, E 38.67 76 P **P** **14 18 02.7 +0.1**
baz=306
I31A Royce, Wessing 38.72 81 P **P** **14 18 03.8 +0.7**
baz=308,SNR=5.2
GRNR Gornyy 38.76 292 ‖ *i*P **P** **14 18 03.5 +0.2**
GRNR *e* 14 20 15.8
GRNR pmax pmax
comp=N,170nm,1.0s
GRNR pmax pmax
comp=E,170nm,1.0s
GRNR pmax pmax
comp=Z,700nm,1.0s
D34A Park Rapids 38.78 75 P **P** **14 18 03.4 -0.2**
baz=306
SDCO Great Sand Dun 38.80 94 P **P** **14 18 05.0 +0.8**
baz=314,SNR=105
SDCO Great Sand Dun 38.80 94 *e*P **P** **14 18 05.9 +1.8**
comp=Z,88nm,1.1s
SDCO LR LR
comp=Z,4µm,18.0s
214A Organ Pipe Nat 38.87 108 P **P** **14 18 05.8 +1.4**
baz=320,SNR=52
214A Organ Pipe Nat 38.87 108 *e*P **P** **14 18 06.0 +1.6**
comp=Z,358nm,1.0s
B35A Bob, Littlefor 38.87 72 P **P** **14 18 04.2 0.0**
baz=305,SNR=12
F33A 5 Mile Ranch, 38.90 77 P **P** **14 18 04.5 0.0**
baz=307,SNR=9.2
H32A Carlson Farm, 39.06 80 P **P** **14 18 06.2 +0.3**
baz=308,SNR=28
J31A Geddes 39.06 82 P **P** **14 18 06.5 +0.5**
baz=309,SNR=15
C35A Jirik Farms, M 39.10 73 P **P** **14 18 06.0 -0.2**
baz=305,SNR=11

E34A Wadena 39.13 76 P P 14 18 06.6 +0.2
baz=306
ASAJ Asahikawa 39.18 280 P P 14 18 07.2 +0.3
comp=Z,129nm,0.9s,baz=40,slow=4.0,SNR=149
ASAJ PcP PcP 14 20 16.0 +0.2
comp=Z,26nm,0.8s,baz=309,slow=1.4,SNR=4.3
ASAJ S S 14 24 05.9 +0.2
comp=Z,3.7nm,1.2s,baz=240,slow=20,SNR=2.3
ASAJ Asahikawa 39.18 280 *e*P P 14 18 07.0 +0.2
comp=Z,174nm,1.0s
ASAJ *e*PcP PcP 14 20 17.0 +1.2
ASAJ S S 14 24 05.9 +0.2
G33A Ortonville 39.20 78 P P 14 18 07.2 +0.1
baz=307,SNR=7.3
H33A Prehn Over Nor 39.34 79 P P 14 18 08.2 0.0
baz=308,SNR=16
D35A Remer 39.42 74 P P 14 18 09.1 +0.3
baz=306,SNR=20
K31A O'Neill 39.47 83 P P 14 18 10.3 +0.9
baz=310,SNR=13
F34A Alexandria 39.51 77 P P 14 18 09.7 +0.1
baz=307,SNR=7.7
J32A Parkston 39.52 82 P P 14 18 10.0 +0.3
baz=309,SNR=8.3
E35A Pequot Lakes 39.53 75 P P 14 18 10.0 +0.2
baz=306,SNR=6.2
KSCO Kaye Shedlock' 39.60 90 P P 14 18 12.0 +1.4
baz=313,SNR=14
KSCO Kaye Shedlock' 39.60 90 *e*P P 14 18 12.7 +2.1
comp=Z,226nm,1.0s
KSCO LR LR
comp=Z,3μm,18.0s
G34A Benson 39.63 78 P P 14 18 10.5 -0.1
baz=308,SNR=6.7
MHTCO State Highway 39.69 94 *e*P P 14 18 13.8 +2.3
comp=Z,204nm,1.2s
MHTCO LR LR
comp=Z,4μm,18.0s
C36A Pine Crest Far 39.70 73 P P 14 18 11.4 +0.2
baz=306,SNR=18
TUC Tucson 39.72 105 P P 14 18 12.9 +1.3
baz=319
TUC Tucson 39.72 105 *e*P P 14 18 13.7 +2.1
comp=Z,74nm,1.2s
TUC *e*PcP PcP 14 20 18.8 +0.9
TUC LR LR
comp=Z,1μm,19.0s
TUC Tucson 39.72 105 *e*P P 14 18 13.7 +2.1
TUC *e* 14 20 18.8
TUC pmax pmax
comp=Z,74nm,1.2s
TUC MLR MLR
comp=Z,1μm,19.0s
T25A Trinidad 39.85 94 P P 14 18 14.5 +1.6
baz=314,SNR=68
T25A Trinidad 39.85 94 *e*P P 14 18 14.7 +1.9
comp=Z,138nm,1.0s
T25A LR LR
comp=Z,4μm,18.0s
F35A Swanville 39.85 76 P P 14 18 12.6 +0.1
baz=307,SNR=11
D36A Goodland 39.86 74 P P 14 18 12.6 +0.1
baz=306,SNR=12
H34A Spellman Lake, 39.90 79 P P 14 18 13.0 +0.2
baz=308,SNR=12
K32A Verdigre 39.90 82 P P 14 18 13.5 +0.6
baz=310,SNR=13
ECSD EROS Data Cent 40.00 80 P P 14 18 13.6 -0.1
baz=309,SNR=19
ECSD EROS Data Cent 40.00 80 *e*P P 14 18 13.7 -0.1
comp=Z,31nm,0.9s
ECSD *e*PcP PcP 14 20 18.9 +0.4
ECSD LR LR
comp=Z,3μm,19.0s
J33A Davis 40.06 81 P P 14 18 14.4 +0.1
baz=309,SNR=8.7
C37A Embarrass 40.08 72 P P 14 18 14.5 +0.2
baz=306,SNR=23
ERM Erimo 40.17 277 *e*P P 14 18 15.6 +0.5
comp=Z,329nm,1.1s
ERM Erimo 40.17 277 *c i*P P 14 18 15.5 +0.3
ERM pmax pmax
comp=Z,344nm,1.1s
ERM MLR MLR
comp=Z,1μm,18.0s
E36A McGregor 40.20 75 P P 14 18 15.3 0.0
baz=307,SNR=21
ANMO Albuquerque 40.22 98 P P 14 18 17.1 +1.1
comp=Z,32nm,1.0s,baz=141,slow=8.6,SNR=44
ANMO PcP PcP 14 20 20.1 +0.5
comp=Z,24nm,0.9s,baz=89,slow=3.4,SNR=12
ANMO S S 14 24 20.9 -1.0
comp=Z,1.1nm,0.8s,baz=316,slow=12,SNR=2.4
ANMO Albuquerque 40.22 98 P P 14 18 16.6 +0.7
baz=316
ANMO Albuquerque 40.22 98 *e*P P 14 18 17.3 +1.4
comp=Z,65nm,1.3s
ANMO *e*PcP PcP 14 20 20.5 +0.9
ANMO S S 14 24 20.9 -1.0
ANMO LR LR
comp=Z,1μm,21.0s
ANMO Albuquerque 40.22 98 *d i*P P 14 18 17.2 +1.3
ANMO pmax pmax
comp=Z,52nm,1.2s
ANMO MLR MLR
comp=Z,999nm,14.0s
LAZ Ladron 40.23 100 *e*P P 14 18 17.3 +1.3
D37A Cotton 40.28 73 P P 14 18 15.8 -0.2
baz=306,SNR=16
G35A Watkins 40.29 77 P P 14 18 16.3 +0.2
baz=308,SNR=5.8
EYMN Ely 40.33 72 P P 14 18 16.4 -0.1
baz=306,SNR=23
EYMN Ely 40.33 72 *e*P P 14 18 16.5 +0.1
comp=Z,124nm,0.9s
EYMN LR LR
comp=Z,2μm,18.0s
H35A Sunnyside Ranc 40.41 78 P P 14 18 17.1 0.0
baz=308,SNR=15
F36A Milaca 40.44 76 P P 14 18 17.4 +0.1
baz=307,SNR=18
K33A Hardington 40.49 82 P P 14 18 18.4 +0.6
baz=310,SNR=12
KULLO Kullorsuaq 40.56 24⇓ *i*P P 14 18 17.7 -0.3
comp=Z,431nm,0.9s
KULLO Kullorsuaq 40.56 24⇓ *i*P P 14 18 17.7 -0.3
KULLO pmax pmax
comp=Z,430nm,0.9s
LPM Los Pinos Moun 40.58 99 *e*P P 14 18 20.6 +1.8
C38A Sawbill Land. 40.58 72 P P 14 18 18.5 -0.1
baz=306,SNR=7.5
Y22D IRIS PASSCAL I 40.59 100 P P 14 18 19.4 +0.5
baz=317
Y22D IRIS PASSCAL I 40.59 100 PFAKE 14 18 30.0 +11
Y22D LR LR
comp=Z,900nm,20.0s
BGNE Belgrade 40.59 84 P P 14 18 19.0 +0.3
baz=311,SNR=13
BGNE Belgrade 40.59 84 *e*P P 14 18 19.8 +1.1
comp=Z,388nm,1.0s
BGNE LR LR
comp=Z,4μm,18.0s
L33A Hoskins 40.61 83 P P 14 18 19.3 +0.4
baz=310,SNR=12
E37A Wrenshall 40.64 74 P P 14 18 19.4 +0.4
baz=307,SNR=7.9
J34A George 40.65 80 P P 14 18 19.1 -0.1
baz=309
G36A St. Michael 40.69 76 P P 14 18 19.7 +0.2
baz=308,SNR=9.5
I35A Creekview Farm 40.85 79 P P 14 18 20.8 0.0
baz=309
K34A Le Mars 40.95 81 P P 14 18 21.9 +0.3
baz=310,SNR=20
H36A Jessenland, He 40.99 77 P P 14 18 22.6 +0.6
baz=308,SNR=18
F37A Hinrichs Farm, 41.02 75 P P 14 18 22.2 0.0
baz=308,SNR=10
M33A Taylor Creek F 41.04 83 P P 14 18 23.1 +0.7
baz=311,SNR=15
E38A The Farm, Brul 41.09 73 P P 14 18 22.6 -0.1
baz=307,SNR=20
C39A Grand Marais 41.15 71 P P 14 18 23.1 -0.1
baz=306,SNR=5.6
SPMN Marine on St. 41.23 76 P P 14 18 24.1 +0.2
baz=308,SNR=11
SPMN Marine on St. 41.23 76 *e*P P 14 18 23.9 +0.1
comp=Z,50nm,1.0s
SPMN LR LR
comp=Z,2μm,19.0s
121A Cookes Peak, D 41.23 102 P P 14 18 25.5 +1.3
baz=318,SNR=46
121A Cookes Peak, D 41.23 102 P P 14 18 23.2 -1.1
comp=Z,81nm,1.1s
L34A Svendsen Farm, 41.25 82 P P 14 18 24.4 +0.3
baz=310,SNR=6.7
319A Douglas 41.26 105 *e*P P 14 18 26.5 +2.1
comp=Z,73nm,1.1s
319A *e*PcP PcP 14 20 24.1 +1.2
319A LR LR
comp=Z,1μm,18.0s
F38A Pierce - Schro 41.30 74 P P 14 18 24.9 +0.5
baz=308,SNR=65
CLNS Chul'man 41.34 306 *e*P P 14 18 23.7 -1.0
CLNS *e**PP sP 14 18 33.0 -0.3
CLNS *e* 14 19 58.2
CLNS *e* 14 20 22.5
CLNS *e*PPP PPP 14 20 28.8
CLNS *e*S S 14 24 35.4 -2.4
CLNS pmax pmax
comp=Z,65nm,0.9s
CLNS pmax pmax
comp=N,31nm,0.9s
CLNS pmax pmax
comp=E,51nm,1.0s
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=Z,26nm,1.1s
CLNS smax smax
comp=N,262nm,15.6s
CLNS smax smax
comp=E,324nm,12.3s
CLNS MLR MLR
comp=Z,5μm,15.0s
CLNS MLR MLR
comp=E,4μm,13.0s
CLNS MLR MLR
comp=N,1μm,13.0s
CBKS Cedar Bluff 41.40 88 P P 14 18 26.2 +0.8
baz=313,SNR=28
CBKS Cedar Bluff 41.40 88 *e*P P 14 18 26.4 +1.1
comp=N,242nm,1.1s
CBKS LR LR
comp=Z,1μm,20.0s
CBKS Cedar Bluff 41.40 88 *e*P P 14 18 26.5 +1.1
CBKS pmax pmax
comp=Z,242nm,1.1s
CBKS MLR MLR
comp=Z,1μm,20.0s
K35A Storm Lake 41.42 80 P P 14 18 25.7 +0.2
baz=310
M34A Aspy Farms, Fr 41.43 83 P P 14 18 25.9 +0.3
baz=311,SNR=6.9
N33A J Bar K, Exete 41.43 84 P P 14 18 26.2 +0.6
baz=311,SNR=9.0
J36A Seneca 1, Swea 41.54 79 P P 14 18 26.5 0.0
baz=310,SNR=6.9
H37A Dierke Farm, C 41.56 77 P P 14 18 27.2 +0.6
baz=309,SNR=9.4
C40A Isle Royale Na 41.62 70 P P 14 18 27.2 +0.1
baz=307
L35A Bielow Farm, R 41.63 81 P P 14 18 27.0 -0.2
baz=310,SNR=6.4
I37A Lemond, Waseca 41.64 78 P P 14 18 27.6 +0.4
baz=309,SNR=14
E39A Mellen 41.77 73 P P 14 18 28.0 -0.3
baz=308,SNR=5.7
G38A Ridgeland 41.79 75 P P 14 18 28.5 0.0
baz=308,SNR=9.8
O33A Hebron 41.79 85 P P 14 18 29.0 +0.5
baz=312,SNR=52
F39A Loretta 41.85 74 P P 14 18 29.3 +0.3
baz=308,SNR=6.2
H38A Maiden Rock 41.86 76 P P 14 18 29.4 +0.3
baz=309,SNR=13
ZEA Zeya 41.87 301 *de*P P 14 18 28.0 -1.0
ZEA *e*S S 14 24 45.0 -0.6
ZEA pmax pmax
comp=E,86nm,1.2s
ZEA pmax pmax
comp=Z,170nm,1.2s
ZEA pmax pmax
comp=N,200nm,3.0s
ZEA pmax pmax
comp=E,300nm,3.0s
ZEA pmax pmax
comp=Z,800nm,3.0s
ZEA smax smax
comp=N,800nm,14.0s
ZEA smax smax
comp=E,500nm,14.0s
ZEA MLR MLR
comp=Z,4μm,14.0s
ZEA MLR MLR
comp=E,3μm,16.0s
N34A Lincoln 41.91 84 P P 14 18 29.9 +0.4
baz=311,SNR=20
K36A Gilmore City 41.92 80 P P 14 18 29.7 +0.2
baz=310
M35A Neola 41.96 82 P P 14 18 30.6 +0.6
baz=311,SNR=14
TEY Ternei 41.99 285 *e*P P 14 18 28.7 -1.3
TEY pmax pmax
comp=Z,1μm,2.0s
TEY pmax pmax
comp=N,39nm,1.0s
TEY pmax pmax
comp=E,86nm,1.0s
TEY pmax pmax
comp=Z,215nm,1.0s
J37A Redenius Farm, 42.00 79 P P 14 18 30.4 +0.2
baz=310,SNR=18
E40A Wakefield 42.10 73 P P 14 18 31.3 +0.3
baz=308,SNR=13
G39A Holcombe 42.10 75 P P 14 18 30.7 -0.3
baz=308,SNR=22
KLR Kul'dur 42.12 293 *d i*P P 14 18 30.5 -0.6
L36A Harm Buss Farm 42.14 81 P P 14 18 31.5 +0.2
baz=310,SNR=6.3
HSIG 42.15 109 *e*P P 14 18 33.3 +1.8
HSIG LR LR
comp=Z,1μm,22.0s
I38A Scanlan Farm, 42.23 77 P P 14 18 32.3 +0.3
baz=309,SNR=18
O34A Beatrice 42.23 84 P P 14 18 32.6 +0.5
baz=312,SNR=58
F40A Park Falls 42.29 73 P P 14 18 32.8 +0.2
baz=308,SNR=13
K37A Bend 42.30 79 P P 14 18 32.6 0.0
baz=310,SNR=13
N35A Tabor 42.39 83 P P 14 18 34.0 +0.6
baz=311,SNR=27
H39A Augusta 42.41 75 P P 14 18 33.7 +0.2
baz=309,SNR=13
D41A Chassel 42.45 71 P P 14 18 34.0 +0.2
baz=308
M36A Felix, Anita 42.48 82 P P 14 18 34.4 +0.3
baz=311,SNR=5.1
EPT El Paso 42.52 102 *e*P P 14 18 36.5 +1.8
comp=Z,83nm,0.9s
EPT LR LR
comp=Z,3μm,19.0s
P34A Walnut Farm, R 42.58 85 P P 14 18 35.5 +0.5
baz=312,SNR=31
E41A Kenton 42.60 72 P P 14 18 35.0 -0.1
baz=308,SNR=6.8
J38A Wedel Dairy, R 42.60 78 P P 14 18 35.4 +0.3
baz=310,SNR=17
O35A Humboldt 42.63 84 P P 14 18 35.4 +0.1
baz=312
L37A Phoenix Point, 42.64 80 P P 14 18 35.7 +0.3
baz=311,SNR=27
G40A Rib Lake 42.65 74 P P 14 18 35.6 +0.1
baz=309,SNR=9.9
COWI Conover 42.73 72 *e*P P 14 18 36.3 +0.3
comp=Z,41nm,0.9s
COWI LR LR
comp=Z,2μm,20.0s
SRIG Santa Rosalia 42.78 111 PFAKE 14 18 50.0 +13
SRIG LR LR
comp=Z,2μm,22.0s
I39A Houston 42.80 77 P P 14 18 36.7 0.0
baz=310,SNR=21
N36A Muff Farm, Cla 42.81 82 P P 14 18 37.4 +0.6
baz=312,SNR=14
K38A Parkersburg 42.86 79 P P 14 18 37.2 0.0
baz=310,SNR=8.8
Q34A Chapman 42.93 86 P P 14 18 38.5 +0.6
baz=313,SNR=51
M37A Trindle Farm, 42.94 81 P P 14 18 37.9 +0.1
baz=311,SNR=25
H40A Chili 42.95 75 P P 14 18 38.1 +0.2
baz=309,SNR=9.0
F41A Three Lakes 42.97 73 P P 14 18 38.2 +0.2
baz=308,SNR=7.1
KSU1 Kansas State U 43.00 86 P P 14 18 38.8 +0.4
baz=313,SNR=10
KSU1 Kansas State U 43.00 86 *e*P P 14 18 38.6 +0.2
comp=Z,129nm,1.0s
KSU1 LR LR
comp=Z,2μm,18.0s
AMTX Amarillo 43.00 94 P P 14 18 39.4 +0.9
baz=316
AMTX Amarillo 43.00 94 *e*P P 14 18 39.7 +1.1
comp=Z,157nm,1.0s
AMTX LR LR
comp=Z,3μm,18.0s
J39A Decorah 43.02 77 P P 14 18 38.4 -0.1
baz=310,SNR=14
MSTX Muleshoe 43.03 96 P P 14 18 39.7 +0.8
baz=317,SNR=39
MSTX Muleshoe 43.03 96 *e*P P 14 18 40.0 +1.1
comp=Z,131nm,1.2s
MSTX LR LR
comp=Z,2μm,18.0s
P35A Duane Minner, 43.05 85 P P 14 18 39.2 +0.4
baz=312,SNR=69
L38A Oak Wood Farm, 43.08 80 P P 14 18 39.0 0.0
baz=311,SNR=7.1
SCIA State Center 43.09 80 P P 14 18 39.5 +0.4
baz=311,SNR=8.0
SCIA State Center 43.09 80 *e*P P 14 18 38.7 -0.3
comp=Z,258nm,1.4s
SCIA LR LR
comp=Z,2μm,20.0s
R34A Isabella, Hill 43.18 87 P P 14 18 40.4 +0.6
baz=313,SNR=52
E42A Champion 43.19 71 P P 14 18 40.2 +0.3
baz=308,SNR=8.1
MNTX Cornudas Mount 43.21 101 P P 14 18 41.5 +1.4
baz=319,SNR=88
MNTX Cornudas Mount 43.21 101 *e*P P 14 18 42.0 +1.9
comp=Z,57nm,0.9s
MNTX LR LR
comp=Z,2μm,21.0s
G41A Antigo 43.25 74 P P 14 18 40.8 +0.4
baz=309
O36A Bolckow 43.26 83 P P 14 18 40.9 +0.5
baz=312,SNR=22
N37A Lee Faris, Mou 43.27 82 P P 14 18 41.3 +0.7
baz=312,SNR=28
I40A Norwalk 43.28 76 P P 14 18 40.7 +0.1
baz=310,SNR=18
K39A Oelwein 43.33 78 P P 14 18 40.5 -0.4
baz=310,SNR=20
H41A Junction City 43.36 74 P P 14 18 41.2 -0.1
baz=309
M38A Pleasantville 43.42 80 P P 14 18 42.0 +0.3
baz=311,SNR=34
P36A Good Intent, A 43.46 84 P P 14 18 42.4 +0.3
baz=312,SNR=36
F42A Maple Grove Fa 43.49 72 P P 14 18 42.4 +0.2
baz=309,SNR=5.4
Q35A Mercer Eighty, 43.50 85 P P 14 18 42.6 +0.2
baz=313,SNR=14
J40A Soldiers Grove 43.53 77 P P 14 18 42.5 -0.1
baz=310,SNR=10
I41A Arkdale 43.59 75 P P 14 18 43.4 +0.3
baz=310,SNR=14
L39A Vinton 43.64 79 P P 14 18 43.1 -0.4
baz=311,SNR=12
G42A Mountain 43.65 73 P P 14 18 43.8 +0.3
baz=309,SNR=6.4
O37A Wolven Farm, M 43.70 83 P P 14 18 44.4 +0.4
baz=312,SNR=24
E43A Lone Tree Farm 43.73 71 P P 14 18 44.0 -0.1
baz=308,SNR=9.6
K40A Colesburg 43.75 78 P P 14 18 44.0 -0.4
baz=311
R35A Emporia Munici 43.77 86 P P 14 18 44.8 +0.2
baz=313,SNR=7.2
N38A Joes South For 43.81 81 P P 14 18 45.1 +0.3
baz=312,SNR=41
J41A Loganville 43.95 76 P P 14 18 45.4 -0.6
baz=310,SNR=13
M39A Webster 43.96 80 P P 14 18 46.1 0.0
baz=311,SNR=39
F43A Flat Rock, Esc 43.97 72 P P 14 18 46.2 +0.1
baz=309
P37A Lathrop 43.97 83 P P 14 18 46.4 +0.2
baz=313,SNR=48
G43A Wallace 44.05 72 P P 14 18 46.7 0.0
baz=309
H42A Shiocton 44.05 74 P P 14 18 46.6 -0.1
baz=310
JFWS Jewell Farm 44.11 77 P P 14 18 46.6 -0.7
baz=310,SNR=10
JFWS Jewell Farm 44.11 77 *e*P P 14 18 47.1 -0.2
comp=Z,71nm,0.9s
JFWS LR LR
comp=Z,4μm,19.0s
JFWS Jewell Farm 44.11 77 *e*P P 14 18 47.1 -0.2
JFWS pmax pmax
comp=Z,71nm,0.9s
JFWS MLR MLR
comp=Z,4μm,19.0s
L40A Anamosa 44.12 78 P P 14 18 46.9 -0.4
baz=311,SNR=19
O38A Galt 44.12 82 P P 14 18 47.5 +0.2
baz=312,SNR=14
E44A Grand Marais A 44.16 70 P P 14 18 47.1 -0.5
baz=309
R36A Gordon, Harris 44.16 86 P P 14 18 47.6 -0.2
baz=313,SNR=14
N39A Derby Farms, D 44.17 81 P P 14 18 47.8 0.0
baz=312,SNR=30
I42A Draeger Farm, 44.23 75 P P 14 18 47.5 -0.7
baz=310,SNR=7.9
K41A Shullsburg 44.28 77 P P 14 18 48.1 -0.6
baz=311,SNR=27
H11N2 WAKE ISLAND Hy 44.28 232 T T 15 06 20.5
baz=29,slow=76,SNR=18
F44A Big Bay de Noc 44.29 71 P P 14 18 48.0 -0.7
baz=309
H11N3 WAKE ISLAND Hy 44.29 232 T T 15 06 20.9
baz=29,slow=76,SNR=40
H11N1 WAKE ISLAND Hy 44.30 232 T T 15 06 19.2
baz=29,slow=76,SNR=34
M40A Post Highland 44.38 79 P P 14 18 49.0 -0.4
baz=312,SNR=9.5
Q37A Longview Farm, 44.39 84 P P 14 18 49.2 -0.3
baz=313,SNR=12
P38A Dawn 44.41 83 P P 14 18 49.5 -0.2
baz=313,SNR=97
J42A Columbus 44.48 76 P P 14 18 49.6 -0.7
baz=310,SNR=6.7
H43A Windswept, Lux 44.50 73 P P 14 18 50.0 -0.3
baz=310
L41A Preston 44.52 78 P P 14 18 50.0 -0.5
baz=311,SNR=11
O39A Kirksville 44.56 81 P P 14 18 50.6 -0.3
baz=312,SNR=19
I43A Langenfeld Bro 44.66 74 P P 14 18 50.9 -0.7
baz=310
N40A Mertquake, Sal 44.69 80 P P 14 18 51.6 -0.3
baz=312,SNR=8.3
K42A Prairie Point, 44.71 76 P P 14 18 51.6 -0.5
baz=311,SNR=8.6
E45A Wooded Hills, 44.73 70 P P 14 18 52.0 -0.2
baz=309
WMOK Wichita Mounta 44.78 92 P P 14 18 53.2 +0.5
baz=316,SNR=154
WMOK Wichita Mounta 44.78 92 *e*P P 14 18 53.2 +0.5
comp=Z,143nm,0.8s
WMOK LR LR
comp=Z,2μm,19.0s
WMOK Wichita Mounta 44.78 92 *e*P P 14 18 53.3 +0.5
WMOK pmax pmax
comp=Z,143nm,0.8s
WMOK MLR MLR
comp=Z,2μm,19.0s

Q38A Cooks Store, C 44.81 83 P P 14 18 52.6 -0.3
baz=313,SNR=85
J43A Natural Harves 44.83 75 P P 14 18 52.4 -0.6
baz=310,SNR=6.6
M41A Milan 44.95 79 P P 14 18 53.6 -0.4
baz=312,SNR=13
P39B Salisbury 44.95 82 P P 14 18 53.5 -0.5
baz=313,SNR=53
F45A CMU Biological 44.96 71 P P 14 18 53.9 -0.1
baz=309
O40A La Belle 45.03 81 P P 14 18 54.2 -0.5
baz=312,SNR=57
L42A Oliver, Polo 45.03 77 P P 14 18 53.9 -0.7
baz=311,SNR=7.0
USRK Ussuriysk Ar. 45.08 287 P P 14 18 54.1 -0.8
comp=Z,23nm,1.0s,baz=64,slow=8.7,SNR=33
USRK PcP PcP 14 20 35.8 +0.4
comp=Z,16nm,1.0s,baz=15,slow=2.2,SNR=7.6
USRK LR LR 14 38 29.9
comp=Z,2µm,19.8s,baz=44,slow=37
Q39A Willow Grove F 45.12 83 P P 14 18 55.1 -0.3
baz=313
ILULI Ilulissat 45.16 29 *i* P P 14 18 54.4 -0.9
comp=Z,44nm,1.2s
ILULI Ilulissat 45.16 29 *e*P P 14 18 54.9 -0.4
comp=Z,53nm,1.2s
ILULI Ilulissat 45.16 29 *i* P P 14 18 54.4 -0.9
ILULI pmax pmax
comp=Z,45nm,1.2s
R38A Fenwick Farm, 45.18 84 P P 14 18 55.2 -0.6
baz=314,SNR=37
N41A Harden Midland 45.22 80 P P 14 18 55.7 -0.4
baz=312,SNR=9.4
OK020 N3440 Road, Me 45.31 89 *e*P P 14 18 57.5 +0.6
comp=Z,177nm,1.0s
OK020 LR LR
comp=Z,2µm,18.0s
F46A Macinaw City C 45.32 70 P P 14 18 56.6 -0.2
baz=310,SNR=12
K43A Burlington 45.32 76 P P 14 18 56.3 -0.6
baz=311,SNR=6.6
P40A Paris 45.33 82 P P 14 18 56.5 -0.5
baz=313,SNR=87
M42A Sheffield 45.34 78 P P 14 18 56.6 -0.5
baz=312
OK021 N3530 Road, Sp 45.35 89 *e*P P 14 18 57.9 +0.7
comp=Z,221nm,1.0s
OK021 LR LR
comp=Z,700nm,19.0s
OK022 N3560 Road, Pr 45.43 89 *e*P P 14 18 58.5 +0.6
comp=Z,258nm,1.1s
OK022 LR LR
comp=Z,900nm,22.0s
L43A Garden Prairie 45.43 77 P P 14 18 57.3 -0.5
baz=311,SNR=6.3
H11S1 WAKE ISLAND Hy 45.44 231 T T 15 07 42.8
baz=28,slow=76,SNR=276
H11S2 WAKE ISLAND Hy 45.46 231 T T 15 07 43.9
baz=28,slow=76,SNR=304
H11S3 WAKE ISLAND Hy 45.46 231 T T 15 07 45.7
baz=28,slow=160,SNR=160
S38A Stockton 45.56 85 P P 14 18 57.8 -1.0
baz=314,SNR=43
R39A Chumby, Stover 45.59 84 P P 14 18 58.1 -1.0
baz=314,SNR=21
O41A Passleys Farm, 45.60 80 P P 14 18 58.7 -0.4
baz=313,SNR=21
N42A Yates City 45.60 79 P P 14 18 58.7 -0.5
baz=312,SNR=18
TUL1 Leonard 45.67 88 P P 14 18 59.9 +0.2
baz=315,SNR=43
TUL1 Leonard 45.67 88 *e*P P 14 19 00.3 +0.5
comp=Z,203nm,0.9s
TUL1 LR LR
comp=Z,2µm,18.0s
Q40A Laux Farm, Aux 45.67 82 P P 14 18 59.4 -0.3
baz=313,SNR=54
T38A Diamond 45.75 86 P P 14 19 00.1 -0.2
baz=314,SNR=50
P41A Barry, Barry 45.79 81 P P 14 19 00.2 -0.4
baz=313,SNR=48
M43A Waltham Townsh 45.80 77 P P 14 19 00.4 -0.4
baz=312,SNR=5.2
ABTX Abilene, Hawle 45.81 95 P P 14 19 01.7 +0.8
baz=317,SNR=72
ABTX Abilene, Hawle 45.81 95 *e*P P 14 19 01.9 +0.9
comp=Z,168nm,0.9s
ABTX LR LR
comp=Z,3µm,18.0s
VLA Vladivostok 45.83 286 *d i*P P 14 19 00.7 -0.2
VLA pmax pmax
comp=Z,254nm,1.5s
S39A Bolivar 45.85 84 P P 14 19 00.4 -0.8
baz=314,SNR=36
L44A Lake County Fo 45.90 76 P P 14 19 01.4 -0.1
baz=312
LTX Lajitas 45.96 101 *e*P P 14 19 03.4 +1.2
LTX Lajitas 45.96 101 *e*P P 14 19 03.4 +1.2
TX31 Lajitas Ar. Si 45.96 101 *e*P P 14 19 03.6 +1.3
TX31 *e*PcP PcP 14 20 39.6 +0.8
TXAR Lajitas Array 45.96 101 P P 14 19 03.4 +1.2
comp=Z,52nm,0.8s,baz=308,slow=5.8,SNR=462
TXAR PcP PcP 14 20 39.1 +0.3
comp=Z,9.6nm,0.7s,baz=274,slow=0.6,SNR=6.6
TXAR LR LR 14 36 57.0
comp=Z,2µm,18.9s,baz=0.0,slow=34
DAG Danmarks Havn 45.96 12 ǁ *i*P P 14 19 01.5 0.0
comp=Z,55nm,0.8s
DAG Danmarks Havn 45.96 12 ǁ *i*P P 14 19 01.5 0.0
DAG pmax pmax
comp=Z,55nm,0.8s
SUMG Summit 45.99 21 *i* P P 14 19 02.7 +0.4
comp=Z,90nm,1.1s
SUMG Summit 45.99 21 *e*P P 14 19 02.5 +0.2
comp=Z,140nm,1.3s
SUMG Summit 45.99 21 *i* P P 14 19 02.7 +0.4
SUMG pmax pmax
comp=Z,90nm,1.1s
O42A Bath 46.00 80 P P 14 19 02.2 -0.1
baz=313,SNR=6.0
GLMI Grayling 46.00 71 P P 14 19 02.1 -0.1
baz=310
GLMI Grayling 46.00 71 *e*P P 14 19 03.0 +0.7
comp=Z,154nm,0.8s
GLMI LR LR
comp=Z,2µm,22.0s
N43A Stutzman Famil 46.01 78 P P 14 19 01.7 -0.7
baz=312
R40A Maddies Statio 46.04 83 P P 14 19 01.8 -0.9
baz=314,SNR=19
MDJ Mudanjiang 46.12 289 P P 14 19 00.8 -2.4
MDJ pP pP 14 19 03.9 -5.5
MDJ sP sP 14 19 05.3 -6.6
MDJ PcP PcP 14 20 37.8 -1.2
MDJ PP PP 14 20 51.7 +0.4
MDJ ScP ScP 14 24 28.9 -1.9
MDJ S S 14 25 53.9 +6.1
MDJ ScS ScS 14 28 53.0 -4.3
MDJ pmax pmax
comp=Z,140nm,0.8s
MDJ pmax pmax
comp=Z,670nm,5.7s
MDJ LR LR
comp=Z,2µm,16.7s
MDJ LR LR
comp=Z,2µm,20.8s
MDJ LR LR
comp=Z,3µm,16.1s
MDJ Mudanjiang 46.12 289 *e*P P 14 19 02.7 -0.6
comp=Z,125nm,1.0s
MDJ LR LR
comp=Z,2µm,18.0s
Q41A Truxton 46.18 82 P P 14 19 03.3 -0.4
baz=313,SNR=37
HDIL Hopedale 46.20 79 P P 14 19 03.7 -0.2
baz=312,SNR=26
HDIL Hopedale 46.20 79 *e*P P 14 19 03.7 -0.2
comp=Z,273nm,0.8s
HDIL LR LR
comp=Z,4µm,18.0s
KBS Kingsbay 46.20 3 *e*P P 14 19 05.2 +1.8
comp=Z,259nm,1.1s
KBS Kingsbay 46.20 3 *e*P P 14 19 05.2 +1.8
KBS pmax pmax
comp=Z,259nm,1.1s
KBS Kingsbay 46.20 3 *e*P P 14 19 04.6 +1.2
KBS IAmb IAmb 14 19 05.7
comp=Z,264nm,1.1s
P42A Winchester 46.26 80 P P 14 19 04.0 -0.4
baz=313,SNR=21
T39A Clever 46.28 85 P P 14 19 04.2 -0.4
baz=314,SNR=66
M44A Midewin, Midew 46.35 77 P P 14 19 04.9 -0.1
baz=312,SNR=11
O43A Sugar Creek Fa 46.37 79 P P 14 19 04.8 -0.4
baz=313,SNR=7.8
S40A Lebanon 46.39 84 P P 14 19 04.5 -0.9
baz=314,SNR=13
LPIG La Paz 46.40 112 P P 14 19 07.0 +1.4
comp=Z,22nm,0.3s,baz=226,slow=4.7,SNR=12
LPIG LR LR 14 36 00.4
comp=Z,956nm,19.8s,baz=329,slow=33
HHAR Hobbs 46.48 86 *e*P P 14 19 05.7 -0.4
comp=Z,84nm,0.9s
HHAR LR LR
comp=Z,2µm,21.0s
R41A Rosebud 46.55 82 P P 14 19 05.9 -0.8
baz=314,SNR=37
Q42A Golden Eagle 46.61 81 P P 14 19 07.1 0.0
baz=313,SNR=21
U39A Green Forest 46.67 86 P P 14 19 07.0 -0.6
baz=315,SNR=46
HPIG 46.68 105 *e*P P 14 19 09.6 +1.5
comp=Z,28nm,0.7s
HPIG LR LR
comp=Z,2µm,22.0s
T40A Mansfield 46.69 84 P P 14 19 06.8 -0.9
baz=314,SNR=27
MJAR Matsushiro Arr 46.69 274 P P 14 19 08.0 +0.2
comp=Z,28nm,0.9s,baz=42,slow=5.5,SNR=57
MJAR S S 14 25 59.6 +3.5
comp=Z,1.0nm,0.8s,baz=87,slow=21,SNR=2.9
MJAR LR LR 14 37 43.7
comp=Z,963nm,21.5s,baz=70,slow=35
MJB9 Matsu-Tunnel 46.69 274 *e*P P 14 19 08.3 +0.5
comp=Z,258nm,1.3s
MJB9 LR LR
comp=Z,2µm,19.0s
MAJO Matsushiro 46.69 274 *e*P P 14 19 08.3 +0.5
comp=Z,251nm,1.3s
MAJO LR LR
comp=Z,2µm,19.0s
MAJO Matsushiro 46.69 274 *d i*P P 14 19 08.1 +0.3
MAJO pmax pmax
comp=Z,243nm,1.4s
MAT Matsushiro 46.69 274 P P 14 19 07.7 -0.1
MAT *e*S S 14 25 57.6 +1.5
P43A Skaggs, Pawnee 46.69 80 P P 14 19 07.6 -0.1
baz=313,SNR=17
N44A Piper City 46.70 78 P P 14 19 07.6 -0.1
baz=312,SNR=6.4
SFJD Kangerlussuaq 46.73 31 *i* P P 14 19 07.8 +0.2
comp=Z,80nm,0.9s
SFJD Kangerlussuaq 46.73 31 *e*P P 14 19 07.9 +0.3
comp=Z,67nm,0.8s
SFJD Kangerlussuaq 46.73 31 *i* P P 14 19 07.8 +0.2
SFJD pmax pmax
comp=Z,80nm,0.9s
CCM Cathedral Cave 46.79 83 P P 14 19 07.8 -0.8
baz=314
CCM Cathedral Cave 46.79 83 *e*P P 14 19 07.7 -0.8
comp=Z,91nm,1.1s
CCM *e*PcP PcP 14 20 40.0 -1.4
CCM LR LR
comp=Z,4µm,18.0s
CCM Cathedral Cave 46.79 83 *e*P P 14 19 07.7 -0.8
CCM *e* 14 20 40.0
CCM pmax pmax
comp=Z,91nm,1.1s
CCM MLR MLR
comp=Z,4µm,18.0s
S41A Jilco Farms, 46.83 83 P P 14 19 07.9 -0.9
baz=314,SNR=60
R42A Luebbering 46.89 82 P P 14 19 08.8 -0.5
baz=314,SNR=12
SLBS Sierra La Lagu 46.93 112 *e*P P 14 19 11.5 +1.7
comp=Z,96nm,1.3s
O44A Mansfield 46.94 78 P P 14 19 09.2 -0.5
baz=313,SNR=11
V39A Pettigrew 46.96 87 P P 14 19 09.6 -0.4
baz=315,SNR=35
SLM Saint Louis 46.97 81 *e*P P 14 19 10.2 +0.3
comp=Z,197nm,1.0s
SLM LR LR
comp=Z,3µm,18.0s
SLM Saint Louis 46.97 81 *e*P P 14 19 10.2 +0.3
SLM pmax pmax
comp=Z,197nm,1.0s
SLM MLR MLR
comp=Z,3µm,18.0s
N45A Kentland 47.01 77 P P 14 19 10.0 -0.2
baz=313,SNR=7.8
U40A Yellville 47.05 85 P P 14 19 09.8 -0.8
baz=315,SNR=46
SPA0 Spitsbergen Ar 47.05 2 *e*P P 14 19 10.6 +0.5
SPA0 Spitsbergen Ar 47.05 2 *e*P P 14 19 10.6 +0.5
SPA0 IAmb IAmb 14 19 12.4
comp=Z,534nm,1.4s
SPITS Spitsbergen Ar 47.05 2 P P 14 19 10.2 +0.1
comp=Z,187nm,1.1s,baz=2.5,slow=10,SNR=24
SPITS LR LR 14 39 03.2
comp=Z,2µm,20.3s,baz=90,slow=36
Q43A New Douglas 47.06 81 P P 14 19 10.7 +0.1
baz=314,SNR=45
T41A Mountain View 47.19 84 P P 14 19 10.7 -1.0
baz=315,SNR=20
S42A Caledonia 47.24 83 P P 14 19 11.4 -0.7
baz=314,SNR=21
M46A Old House Fiel 47.28 76 P P 14 19 12.3 0.0
baz=312,SNR=5.0
O45A Potomac 47.29 78 P P 14 19 12.5 +0.1
baz=313,SNR=14
JCT Junction City 47.30 97 P P 14 19 13.2 +0.6
baz=319,SNR=134
JCT Junction City 47.30 97 *e*P P 14 19 13.0 +0.4
comp=Z,303nm,0.8s
JCT LR LR
comp=Z,1µm,22.0s
JCT Junction City 47.30 97 *e*P P 14 19 13.0 +0.4
JCT pmax pmax
comp=Z,303nm,0.8s
JCT MLR MLR
comp=Z,1µm,22.0s
FVM French Village 47.31 82 *e*P P 14 19 12.1 -0.5
comp=Z,124nm,1.1s
FVM LR LR
comp=Z,3µm,19.0s
FVM French Village 47.31 82 *e*P P 14 19 12.1 -0.5
FVM pmax pmax
comp=Z,125nm,1.1s
FVM MLR MLR
comp=Z,3µm,19.0s
P44A Sand Creek, Wi 47.32 79 P P 14 19 12.8 +0.2
baz=313,SNR=60
W39A Magazine 47.33 87 P P 14 19 12.9 +0.1
baz=316,SNR=72
NRIK Noril'sk 47.34 334 P P 14 19 12.7 +0.3
comp=Z,60nm,0.9s,baz=151,slow=2.1
R43A Red Bud 47.39 81 P P 14 19 12.7 -0.5
baz=314,SNR=70
N46A Monticello 47.41 76 P P 14 19 13.0 -0.4
baz=313,SNR=6.0
TOBO Tobermory, Bru 47.41 69 P P 14 19 13.2 -0.1
baz=311,SNR=14
V40A Witts Springs 47.45 86 P P 14 19 13.0 -0.8
baz=315,SNR=75
Q44A Meyer Farm, Va 47.48 80 P P 14 19 13.5 -0.3
baz=314,SNR=17
WHTX Lake Whitney, 47.53 93 P P 14 19 15.0 +0.7
baz=318,SNR=31
WHTX Lake Whitney, 47.53 93 *e*P P 14 19 15.4 +1.1
comp=Z,197nm,1.0s
WHTX LR LR
comp=Z,4µm,19.0s
SFIN Lafayette 47.56 77 P P 14 19 14.4 -0.1
baz=313,SNR=31
SFIN Lafayette 47.56 77 *e*P P 14 19 14.5 0.0
comp=Z,124nm,0.8s
SFIN LR LR
comp=Z,4µm,19.0s
T42A Van Buren 47.59 83 P P 14 19 13.1 -1.7
baz=315,SNR=25
U41A Viola 47.59 85 P P 14 19 13.6 -1.3
baz=315,SNR=27
X39A Fountain Ranch 47.63 88 P P 14 19 15.5 +0.3
baz=316,SNR=39
W40A Ferguson Farm, 47.75 87 P P 14 19 16.1 +0.1
baz=316,SNR=36
W40A Ferguson Farm, 47.75 87 *e*P P 14 19 15.9 0.0
comp=Z,142nm,0.9s
W40A LR LR
comp=Z,2µm,20.0s
P45A Graceland, Par 47.77 79 P P 14 19 16.1 -0.1
baz=313,SNR=64
S43A Fulton Ridge, 47.79 82 P P 14 19 15.8 -0.5
baz=314,SNR=89
V41A Mountainview 47.85 85 P P 14 19 15.8 -1.0
baz=315,SNR=94
R44A Waltonville 47.89 81 P P 14 19 16.7 -0.4
baz=314,SNR=23
MIAR Mount Ida 47.91 88 P P 14 19 17.7 +0.4
baz=316,SNR=81
MIAR Mount Ida 47.91 88 *e*P P 14 19 17.7 +0.4
comp=Z,188nm,1.0s
MIAR LR LR
comp=Z,2µm,19.0s
MIAR Mount Ida 47.91 88 *e*P P 14 19 17.7 +0.4
MIAR pmax pmax
comp=Z,189nm,1.0s
MIAR MLR MLR
comp=Z,2µm,19.0s
Q45A Warren Harvey, 47.97 79 P P 14 19 17.4 -0.3
baz=314,SNR=97
U42A Revenden 47.98 84 P P 14 19 16.2 -1.6
baz=315,SNR=24
BMRO Meriville Lake 47.99 69 P P 14 19 17.6 -0.2
baz=311
T43A Greenville 48.01 83 P P 14 19 17.3 -0.8
baz=315,SNR=39
P46A Rosedale 48.01 78 P P 14 19 18.0 0.0
baz=313,SNR=32
KLBO Killbear Provi 48.03 68 P P 14 19 17.9 -0.2
baz=311,SNR=11
X301 Greenbrier Sit 48.10 86 *e*P P 14 19 18.4 -0.3
comp=Z,111nm,1.2s
X301 *e*PcP PcP 14 20 40.6 -5.5
X301 LR LR
comp=Z,2µm,18.0s
OLIL Olney 48.12 80 *e*P P 14 19 18.7 -0.1
comp=Z,454nm,0.9s
OLIL LR LR
comp=Z,2µm,19.0s
WHAR Wooly Hollow 48.12 86 *e*P P 14 19 18.2 -0.8
comp=Z,350nm,2.0s
WHAR LR LR
comp=Z,2µm,18.0s
BASO Ashfield 48.13 70 P P 14 19 18.8 -0.1
baz=312
PBMO Poplar Bluff 48.14 83 *e*P P 14 19 18.2 -0.9
comp=Z,41nm,0.9s
PBMO LR LR
comp=Z,3µm,18.0s
O47A Sheridan 48.17 77 P P 14 19 18.6 -0.7
baz=313,SNR=26
S44A Carbondale 48.18 81 P P 14 19 18.8 -0.5
baz=314,SNR=32
AAM Ann Arbor 48.18 73 P P 14 19 19.2 -0.1
baz=312
AAM Ann Arbor 48.18 73 *e*P P 14 19 19.7 +0.4
comp=Z,66nm,1.0s
AAM LR LR
comp=Z,2µm,19.0s
AAM Ann Arbor 48.18 73 *e*P P 14 19 19.7 +0.4
AAM pmax pmax
comp=Z,66nm,1.0s
AAM MLR MLR
comp=Z,2µm,19.0s
SIUC Southern Illin 48.18 81 *e*P P 14 19 18.8 -0.6
comp=Z,163nm,0.8s
SIUC LR LR
comp=Z,3µm,18.0s
HSPB Hornsund (broa 48.21 2 *e*P P 14 19 18.9 -0.2
HSPB IAmb IAmb 14 19 20.3
comp=Z,103nm,1.0s
INU Inuyama 48.21 274 *e*P P 14 19 18.9 -0.7
comp=Z,67nm,1.0s
JHJ Hachijo jima 2 48.22 270 LR LR 14 39 15.6
comp=Z,674nm,20.5s,baz=87,slow=36
W41B Gary Mavity, V 48.23 86 P P 14 19 19.0 -0.7
baz=316,SNR=12
V42A Cord 48.28 85 P P 14 19 18.8 -1.3
baz=315,SNR=14
HIA Hailar 48.31 300 *e*P P 14 19 18.6 -1.6
comp=Z,127nm,1.3s
HIA LR LR
comp=Z,1µm,21.0s
HIA Hailar 48.31 300 *e*P P 14 19 18.6 -1.6
HIA pmax pmax
comp=Z,127nm,1.3s
HIA MLR MLR
comp=Z,1µm,21.0s
R45A Skylar, Fairfi 48.32 80 P P 14 19 20.4 0.0
baz=314,SNR=70
Q46A CEJHS Indians, 48.34 79 P P 14 19 20.5 -0.1
baz=314,SNR=12
435B Jarrell 48.34 95 P P 14 19 21.6 +0.8
baz=318,SNR=25
BWLO Walkerton 48.35 70 P P 14 19 20.3 -0.3
baz=312
X40A Basin Creek Fa 48.38 87 P P 14 19 20.7 -0.2
baz=316,SNR=27
BUKO Buck Lake 48.41 67 P P 14 19 21.1 +0.1
baz=311,SNR=7.4
T44A Benton 48.41 82 P P 14 19 20.6 -0.5
baz=315,SNR=11
U43A Rector 48.44 84 P P 14 19 20.5 -0.9
baz=315
UALR University of 48.46 87 *e*P P 14 19 21.4 -0.1
comp=Z,67nm,1.0s
UALR LR LR
comp=Z,2µm,19.0s
Y40A Okolona 48.47 88 P P 14 19 21.4 -0.2
baz=316,SNR=10
SCHQ Schefferville 48.51 51 P P 14 19 21.2 -0.5
comp=Z,33nm,0.8s,baz=319,slow=8.4,SNR=31
SCHQ LR LR 14 41 18.8
comp=Z,3µm,18.5s,baz=323,slow=38
SCHQ Schefferville 48.51 51 *e*P P 14 19 21.3 -0.5
comp=Z,372nm,1.8s
X41A Kaden, Bauxite 48.56 87 P P 14 19 22.0 -0.3
baz=316
S45A Carrier Mills 48.57 81 P P 14 19 21.9 -0.5
baz=314,SNR=40
W42A Bald Knob 48.58 85 P P 14 19 22.1 -0.3
baz=316
P47A Martinsville 48.63 78 P P 14 19 22.3 -0.6
baz=314,SNR=49
BLO Bloomington 48.70 78 *e*P P 14 19 23.2 -0.2
comp=Z,222nm,0.9s
BLO LR LR
comp=Z,3µm,19.0s
BLO Bloomington 48.70 78 *e*P P 14 19 23.2 -0.2
BLO pmax pmax
comp=Z,221nm,0.9s
BLO MLR MLR
comp=Z,3µm,19.0s
U44A Portageville 48.76 83 P P 14 19 23.5 -0.3
baz=315,SNR=7.1
V43A Jonesboro 48.78 84 P P 14 19 23.2 -0.7
baz=316
WLAR White Oak Lake 48.80 88 *e*P P 14 19 24.9 +0.7
comp=Z,202nm,1.1s
WLAR LR LR
comp=Z,2µm,18.0s
R46A Gibon Southern 48.81 80 P P 14 19 24.0 -0.2
baz=314,SNR=29
PVMO Portageville 48.82 83 PFAKE 14 19 40.0 +16
PVMO LR LR
comp=Z,3µm,18.0s
USIN University of 48.89 80 *e*P P 14 19 24.6 -0.2
comp=Z,570nm,0.8s
USIN LR LR
comp=Z,2µm,20.0s
CN2 Changchun 48.91 291 ǁ *i*P P 14 19 24.7 -0.2
CN2 *e*sP pP 14 19 31.7 +0.6
CN2 PcP PcP 14 20 48.3 -0.6
CN2 *e*S S 14 26 25.7 -1.6
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,3µm,16.0s

CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,2μm,17.0s
Q47A Bedord North L 48.92 78 P **P** 14 19 24.7 -0.3
baz=314,SNR=63
Y41A Eaglette Beard 48.95 88 P **P** 14 19 25.7 +0.4
baz=316,SNR=28
SADO Sadowa 48.99 68 P **P** 14 19 24.9 -0.6
comp=Z,48nm,0.8s,baz=321,slow=8.4,SNR=25
SADO PcP **PcP** 14 20 49.5 +0.3
comp=Z,21nm,0.8s,baz=315,slow=4.4,SNR=5.6
SADO Sadowa 48.99 68 *e*P **P** 14 19 25.0 -0.6
comp=Z,69nm,0.9s
SADO *e*PcP **PcP** 14 20 48.9 -0.3
SADO LR LR
comp=Z,3μm,18.0s
T45A Paducah 48.99 82 P **P** 14 19 25.3 -0.3
baz=315,SNR=6.0
X42A Stuttgart 49.03 86 P **P** 14 19 25.8 -0.1
baz=316
S46A Don Dixon Farm 49.06 80 P **P** 14 19 25.6 -0.5
baz=315,SNR=40
U44B Burton Farm, H 49.07 83 P **P** 14 19 25.7 -0.5
baz=315
V44A Blytheville 49.12 84 P **P** 14 19 26.3 -0.3
baz=316
PLIO Pelee Island, 49.12 73 P **P** 14 19 25.8 -0.7
baz=313
GLAT Glass 49.15 83 *e*P **P** 14 19 25.8 -1.0
833A Chaparral WMA, 49.16 98 P **P** 14 19 27.8 +0.9
baz=320,SNR=16
W43A Forest City 49.18 85 P **P** 14 19 26.7 -0.3
baz=316
ACTO Acton 49.27 69 P **P** 14 19 27.8 +0.2
baz=312,SNR=16
Z41A Richland Creek 49.29 88 P **P** 14 19 28.5 +0.7
baz=317,SNR=10
140A Cam and Jess, 49.29 89 P **P** 14 19 28.7 +0.8
baz=317,SNR=21
NATX Nacogdoches 49.31 91 P **P** 14 19 29.0 +0.9
baz=318,SNR=16
NATX Nacogdoches 49.31 91 *e*P **P** 14 19 29.3 +1.2
comp=Z,295nm,1.0s
NATX LR LR
comp=Z,2μm,18.0s
R47A Wooly Knot Far 49.31 79 P **P** 14 19 27.6 -0.4
baz=314,SNR=11
UTMT University of 49.34 82 *e*P **P** 14 19 28.8 +0.5
comp=Z,415nm,1.0s
HALT Halls 49.38 83 *e*P **P** 14 19 28.1 -0.4
PEMO Pembroke 49.39 66 P **P** 14 19 28.3 -0.2
baz=312,SNR=26
U45A Rockin P Farm, 49.40 82 P **P** 14 19 28.4 -0.3
baz=315,SNR=11
CCAR Cane Creek 49.40 87 *e*P **P** 14 19 30.1 +1.3
comp=Z,273nm,0.9s
CCAR LR LR
comp=Z,2μm,18.0s
T46A Princeton 49.41 81 P **P** 14 19 28.5 -0.2
baz=315,SNR=36
Y42A Garnett, Star 49.45 87 P **P** 14 19 29.6 +0.5
baz=317,SNR=15
BANO Bancroft 49.47 67 P **P** 14 19 29.0 -0.1
baz=312,SNR=26
X43A Marvell 49.48 86 P **P** 14 19 29.2 -0.2
baz=316,SNR=9.1
WCI Wyandotte Cave 49.49 79 P **P** 14 19 28.8 -0.5
baz=314
WCI Wyandotte Cave 49.49 79 *e*P **P** 14 19 28.9 -0.5
comp=Z,87nm,1.0s
WCI LR LR
comp=Z,2μm,18.0s
WCI Wyandotte Cave 49.49 79 *e*P **P** 14 19 28.9 -0.5
WCI pmax pmax
comp=Z,87nm,1.0s
WCI MLR MLR
comp=Z,2μm,18.0s
CIT Chita 49.52 306 *e*P **P** 14 19 29.8 +0.2
CIT *e* 14 19 38.8
CIT *e* 14 20 51.8
CIT pmax pmax
comp=Z,331nm,1.5s
PKRO Pickering 49.56 68 P **P** 14 19 29.7 -0.2
baz=312,SNR=13
MET Memphis--Engin 49.60 84 PFAKE 14 19 40.0 +10
MET LR LR
comp=Z,2μm,18.0s
R48A Northridge Ran 49.61 78 P **P** 14 19 29.7 -0.6
baz=314
240A Hunter Patters 49.62 90 P **P** 14 19 31.2 +0.8
baz=318,SNR=7.6
W44A Shelby Farms P 49.65 84 P **P** 14 19 30.8 +0.1
baz=316
141A Papa Simpson, 49.70 89 P **P** 14 19 31.8 +0.7
baz=317,SNR=8.3
V45A Humboldt 49.72 83 P **P** 14 19 30.9 -0.2
baz=316,SNR=11
TYNO Tyneside 49.72 70 P **P** 14 19 31.1 +0.1
baz=313
U46A Springville 49.73 82 P **P** 14 19 31.2 0.0
baz=315,SNR=16
Z42A Norrel Spur, H 49.77 88 P **P** 14 19 31.9 +0.4
baz=317,SNR=12
DRWO Darlington Wes 49.81 68 P **P** 14 19 31.8 0.0
baz=313
T47A Sharon Grove 49.89 81 P **P** 14 19 32.6 +0.1
baz=315,SNR=41
Y43A Makayla and Ka 49.89 86 P **P** 14 19 32.9 +0.4
baz=317,SNR=6.8
PLVO Plevna 49.90 66 P **P** 14 19 31.7 -0.8
baz=312,SNR=16
PLVO Plevna 49.90 66 *e*P **P** 14 19 32.3 -0.1
comp=Z,96nm,1.0s
PLVO LR LR
comp=Z,2μm,19.0s
X44A Crenshaw 49.92 85 P **P** 14 19 32.4 -0.3
baz=316,SNR=14
WLVO Wesleyville 49.95 68 P **P** 14 19 32.8 0.0
baz=313
ACSO Alum Creek Sta 49.96 75 P **P** 14 19 32.5 -0.4
baz=314,SNR=22
ACSO Alum Creek Sta 49.96 75 *e*P **P** 14 19 32.5 -0.4
comp=Z,98nm,0.9s
ACSO LR LR
comp=Z,2μm,22.0s
DELO Deloro Mine 49.97 67 P **P** 14 19 32.6 -0.3
baz=312,SNR=10
W45A Hickory Valley 50.00 84 P **P** 14 19 33.3 0.0
baz=316,SNR=11
S48A Wiedeman Farm, 50.02 79 P **P** 14 19 33.1 -0.3
baz=315,SNR=11
WVT Waverly 50.09 82 P **P** 14 19 33.9 0.0
baz=316
WVT Waverly 50.09 82 *e*P **P** 14 19 33.9 0.0
comp=Z,281nm,0.9s
WVT LR LR
comp=Z,3μm,18.0s
WVT Waverly 50.09 82 *e*P **P** 14 19 33.9 0.0
WVT pmax pmax
comp=Z,281nm,0.9s
WVT MLR MLR
comp=Z,3μm,18.0s
241A Mo Tay, Goldon 50.12 90 P **P** 14 19 35.0 +0.8
baz=318,SNR=25
V46A Holladay 50.16 82 P **P** 14 19 34.6 +0.2
baz=316,SNR=92
U47A Clarksville 50.17 81 P **P** 14 19 34.9 +0.3
baz=315,SNR=53
T48A Bowling Green 50.21 80 P **P** 14 19 35.0 +0.1
baz=315,SNR=37
Z43A Armstrong Fami 50.22 87 P **P** 14 19 35.4 +0.4
baz=317
Y44A Strider, Charl 50.27 86 P **P** 14 19 35.6 +0.3
baz=317,SNR=10
ERPA Erie 50.32 71 P **P** 14 19 35.3 -0.3
baz=313,SNR=10
ERPA Erie 50.32 71 *e*P **P** 14 19 35.5 -0.2
comp=Z,163nm,0.9s
ERPA *e*PcP **PcP** 14 20 54.4 +0.3
ERPA LR LR
comp=Z,3μm,18.0s
OXF Oxford 50.34 85 P **P** 14 19 35.7 -0.1
baz=316,SNR=40
OXF Oxford 50.34 85 *e*P **P** 14 19 35.8 -0.1
comp=Z,450nm,1.0s
OXF LR LR
comp=Z,2μm,19.0s
OXF Oxford 50.34 85 *e*P **P** 14 19 35.8 -0.1
OXF pmax pmax
comp=Z,450nm,1.0s
OXF MLR MLR
comp=Z,2μm,19.0s
X45A UM Field Stati 50.41 85 P **P** 14 19 36.1 -0.3
baz=316,SNR=14
TRQ Mont Tremblant 50.42 63 *e*P **P** 14 19 35.6 -0.9
MEDO Medina 50.43 69 P **P** 14 19 36.2 -0.2
baz=313,SNR=11
V47A Nunnelly 50.48 82 P **P** 14 19 37.0 +0.1
baz=316,SNR=68
341A Kurthwood 50.48 90 P **P** 14 19 37.8 +0.8
baz=318,SNR=31
W46A Michie 50.48 83 P **P** 14 19 37.0 0.0
baz=316,SNR=12
143A Socs Landing, 50.49 88 P **P** 14 19 37.9 +0.9
baz=317,SNR=20
242A Grayson 50.53 89 P **P** 14 19 37.6 +0.3
baz=318,SNR=16
ALLY Alegheny Colle 50.55 71 *e*P **P** 14 19 37.2 -0.2
comp=Z,233nm,0.9s
ALLY LR LR
comp=Z,1μm,21.0s
U48A Cassie Pea, Po 50.55 81 P **P** 14 19 37.7 +0.2
baz=315,SNR=145
Z44A Pea Ridge, Bel 50.64 86 P **P** 14 19 38.4 +0.3
baz=317,SNR=12
ALFO Alfred 50.66 64 P **P** 14 19 37.2 -0.9
baz=313,SNR=23
Y45A Yeager Farm, C 50.72 85 P **P** 14 19 38.7 -0.1
baz=317,SNR=15
PLAL Pickwick Lake 50.76 83 *e*P **P** 14 19 38.6 -0.5
comp=Z,290nm,1.0s
PLAL LR LR
comp=Z,2μm,18.0s
X46A Booneville 50.78 84 P **P** 14 19 39.2 +0.1
baz=316,SNR=81
W47A Westpoint 50.84 82 P **P** 14 19 39.9 +0.1
baz=316,SNR=78
SCO Scoresbysund 50.86 18 *i* P **P** 14 19 40.0 +0.7
SCO Scoresbysund 50.86 18 *e*P **P** 14 19 39.0 -0.3
comp=Z,103nm,1.4s
SCO LR LR
comp=Z,2μm,18.0s
SCO Scoresbysund 50.86 18 *i* P **P** 14 19 40.0 +0.7
441A DeRidder 50.90 91 P **P** 14 19 40.6 +0.5
baz=318
M54A Oil Creek Stat 50.91 71 P **P** 14 19 39.3 -0.8
baz=314,SNR=20
M54A Oil Creek Stat 50.91 71 *e*P **P** 14 19 39.2 -0.8
comp=Z,121nm,0.9s
M54A LR LR
comp=Z,800nm,19.0s
342A Flagon Creek P 50.94 90 P **P** 14 19 41.2 +0.8
baz=318,SNR=8.4
V48A Smith Brothers 50.94 81 P **P** 14 19 40.0 -0.4
baz=316,SNR=32
Z45A Winona 51.00 86 P **P** 14 19 41.0 +0.2
baz=317,SNR=12
MMNY Mt. Morris Dam 51.02 69 *e*P **P** 14 19 40.7 -0.2
comp=Z,86nm,0.9s
MMNY *e*PcP **PcP** 14 20 56.7 -0.1
MMNY LR LR
comp=Z,3μm,18.0s
243A Waterproof 51.05 88 P **P** 14 19 41.9 +0.6
baz=318,SNR=5.8
Y46A Houston 51.10 85 P **P** 14 19 41.8 +0.2
baz=317,SNR=84
N54A Moraine State 51.11 72 P **P** 14 19 40.9 -0.7
baz=314,SNR=15
N54A Moraine State 51.11 72 *e*P **P** 14 19 41.0 -0.7
comp=Z,96nm,1.0s
N54A *e*PcP **PcP** 14 20 56.9 -0.2
N54A LR LR
comp=Z,3μm,18.0s
144A Alexander Plac 51.11 87 P **P** 14 19 42.2 +0.4
baz=317,SNR=16
X47A Russelville 51.22 83 P **P** 14 19 42.1 -0.4
baz=316,SNR=31
W48A Pulaski 51.30 82 P **P** 14 19 42.9 -0.2
baz=316,SNR=56
CBIJ Chichi jima 51.33 263 *e*P **P** 14 19 44.1 +0.7
comp=Z,748nm,1.2s
JCJ Chichijima 51.33 263 P **P** 14 19 43.8 +0.4
comp=Z,308nm,0.9s,baz=80,slow=4.9,SNR=7.5
VBMS Vicksburg 51.36 87 P **P** 14 19 44.2 +0.7
baz=318,SNR=15
VBMS Vicksburg 51.36 87 *e*P **P** 14 19 44.5 +0.9
comp=Z,312nm,1.0s
VBMS LR LR
comp=Z,2μm,20.0s
442A Mamou 51.37 90 P **P** 14 19 44.3 +0.7
baz=318
ANGG Ammassalik, Gr 51.38 27 *e*P **P** 14 19 42.5 -0.8
comp=Z,53nm,0.7s
244A Avery, Jackson 51.39 88 P **P** 14 19 44.2 +0.4
baz=318,SNR=52
145A Houston Renfro 51.42 87 P **P** 14 19 44.2 +0.2
baz=317,SNR=16
LONY Lake Ozonia 51.49 65 P **P** 14 19 43.4 -1.0
baz=313,SNR=11
LONY Lake Ozonia 51.49 65 *e*P **P** 14 19 44.0 -0.4
comp=Z,62nm,0.9s
LONY *e*PcP **PcP** 14 20 58.7 +0.2
LONY LR LR
comp=Z,2μm,19.0s
Z46A Louisville 51.55 85 P **P** 14 19 44.9 -0.2
baz=317
Y47A UCPARC, Winfie 51.67 84 P **P** 14 19 45.5 -0.4
baz=317,SNR=61
ZAIG Zacatecas 51.69 106 *e*P **P** 14 19 47.6 +1.1
ZAIG LR LR
comp=Z,1μm,20.0s
X48A Hartselle 51.73 83 P **P** 14 19 45.8 -0.5
baz=317,SNR=32
LNIG Linares 51.75 101 *e*P **P** 14 19 46.5 -0.1
comp=Z,103nm,1.3s
LNIG *e*PcP **PcP** 14 20 59.7 0.0
LNIG LR LR
comp=Z,2μm,19.0s
344A Westbrook Farm 51.80 88 P **P** 14 19 47.8 +1.0
baz=318,SNR=20
SWET Sewanee 51.82 81 *e*P **P** 14 19 46.1 -1.0
comp=Z,24nm,1.0s
245A Little AP, Sta 51.85 87 P **P** 14 19 47.7 +0.4
baz=318,SNR=18
FRNY Flat Rock 51.87 64 *e*P **P** 14 19 45.9 -1.4
comp=Z,68nm,0.9s
FRNY LR LR
comp=Z,3μm,18.0s
146A Union 51.89 86 P **P** 14 19 47.9 +0.3
baz=317,SNR=27
KS01 Wonju Array Si 51.90 283 *e*P **P** 14 19 47.0 -0.6
KS01 *e*PcP **PcP** 14 21 01.6 +1.5
KSRS Korea Array 51.90 283 P **P** 14 19 48.2 +0.7
comp=Z,71nm,0.9s,baz=51,slow=6.8,SNR=81
KSRS PcP **PcP** 14 21 00.5 +0.5
comp=Z,17nm,0.8s,baz=47,slow=4.0,SNR=5.4
KSRS LR LR 14 42 11.6
comp=Z,420nm,19.5s,baz=44,slow=36
KS15 Wonju Array Si 51.93 283 *e*P **P** 14 19 48.9 +1.1
KS15 *e*PcP **PcP** 14 21 00.5 +0.4
KSAR Wonju Array Be 51.93 283 P **P** 14 19 48.2 +0.4
KSAR PcP **PcP** 14 21 00.5 +0.4
KSAR Wonju Array Be 51.93 283 P **P** 14 19 48.2 +0.4
KSAR 14 21 00.5
Y48A Jasper 52.05 83 P **P** 14 19 47.9 -0.8
baz=317,SNR=12
Z47A Carrollton 52.05 85 P **P** 14 19 48.4 -0.3
baz=317,SNR=42
MCWV Mont Chateau 52.09 73 P **P** 14 19 48.2 -0.8
baz=315,SNR=14
MCWV Mont Chateau 52.09 73 *e*P **P** 14 19 48.1 -0.8
comp=Z,130nm,0.9s
MCWV LR LR
comp=Z,2μm,19.0s
X49A Woodville 52.10 82 P **P** 14 19 48.3 -0.8
baz=317,SNR=51
NCB Newcomb 52.13 65 *e*P **P** 14 19 49.0 -0.2
comp=Z,130nm,1.1s
NCB *e*PcP **PcP** 14 21 00.8 -0.1
NCB LR LR
comp=Z,2μm,20.0s
Z48A Northport 52.22 84 P **P** 14 19 49.4 -0.6
baz=317,SNR=33
TZTN Tazewell 52.22 78 P **P** 14 19 49.8 -0.1
baz=316,SNR=23
TZTN Tazewell 52.22 78 *e*P **P** 14 19 49.9 -0.1
comp=Z,122nm,1.0s
TZTN LR LR
comp=Z,4μm,18.0s
345A Thompson Farm, 52.31 88 P **P** 14 19 51.2 +0.6
baz=318,SNR=10
147A Livingston 52.32 85 P **P** 14 19 50.6 -0.1
baz=317,SNR=33
O56A Blue Knob Stat 52.37 71 P **P** 14 19 50.0 -1.1
baz=315,SNR=26
O56A Blue Knob Stat 52.37 71 *e*P **P** 14 19 50.1 -0.9
comp=Z,111nm,0.9s
O56A LR LR
comp=Z,1μm,18.0s
BINY Binghamton 52.42 68 P **P** 14 19 51.2 -0.2
baz=314,SNR=18
BINY Binghamton 52.42 68 *e*P **P** 14 19 51.3 -0.1
comp=Z,116nm,0.9s
BINY LR LR
comp=Z,2μm,19.0s
NRS Narsarsuaq 52.45 35 *i* P **P** 14 19 50.6 -0.7
NRS Narsarsuaq 52.45 35 *e*P **P** 14 19 50.6 -0.7
CPCT Cooper Cave 52.45 80 *e*P **P** 14 19 51.2 -0.5
SSPA Standing Stone 52.48 71 P **P** 14 19 51.3 -0.6
baz=315
SSPA Standing Stone 52.48 71 *e*P **P** 14 19 51.3 -0.6
comp=Z,185nm,0.9s
SSPA LR LR
comp=Z,2μm,21.0s
X50A Fort Payne 52.52 82 P **P** 14 19 51.8 -0.5
baz=317,SNR=63
Y49A Blount Mountai 52.52 83 P **P** 14 19 51.5 -0.7
baz=317,SNR=24
445A Amite 52.56 89 P **P** 14 19 53.1 +0.6
baz=318
346A Big Creek Wild 52.58 87 P **P** 14 19 53.0 +0.3
baz=318,SNR=9.1
247A Quitman 52.58 86 P **P** 14 19 53.2 +0.5
baz=318,SNR=27
INCN Inchon 52.61 284 *e*P **P** 14 19 53.7 +0.9
comp=Z,285nm,1.5s
INCN Inchon 52.61 284 P **P** 14 19 53.8 +0.9
SNR=5.5
VT1 Waterbury 52.65 64 *e*P **P** 14 19 52.8 -0.2
comp=Z,100nm,1.0s
TKL Tuckaleechee C 52.73 79 P **P** 14 19 53.1 -0.6
comp=Z,68nm,1.0s,baz=321,slow=4.6,SNR=33
TKL LR LR 14 42 51.1
comp=Z,2μm,18.0s,baz=325,slow=37
TKL Tuckaleechee C 52.73 79 *e*P **P** 14 19 53.2 -0.6
comp=Z,129nm,1.1s
TKL *e*PP **PP** 14 21 53.4 +0.6
TKL Tuckaleechee C 52.73 79 *e*P **P** 14 19 53.2 -0.6
TKL *e* 14 21 53.4
TKL pmax pmax
comp=Z,129nm,1.1s
148A Greensboro 52.74 85 P **P** 14 19 53.4 -0.4
baz=318,SNR=7.1
LRAL Lakeview Retre 52.79 84 P **P** 14 19 53.4 -0.8
baz=317,SNR=16
LRAL Lakeview Retre 52.79 84 *e*P **P** 14 19 53.7 -0.5
comp=Z,47nm,1.0s
LRAL LR LR
comp=Z,3μm,18.0s
ACCN Adirondack Com 52.82 65 *e*P **P** 14 19 54.1 -0.2
comp=Z,120nm,1.0s
ACCN LR LR
comp=Z,3μm,20.0s
Y50A Piedmont 52.89 82 P **P** 14 19 54.3 -0.6
baz=317,SNR=30
Z49A Columbiana 52.94 83 P **P** 14 19 54.6 -0.7
baz=317,SNR=52
TJN Taejon 52.98 282 *d i* P **P** 14 19 56.1 +0.5
248A Dixon Mills 53.05 85 P **P** 14 19 56.0 -0.1
baz=318,SNR=14
446A Poplarville 53.07 88 P **P** 14 19 56.5 +0.2
baz=318,SNR=6.8
347A Saraland 53.10 87 P **P** 14 19 56.8 +0.3
baz=318,SNR=14
LBNH Lisbon 53.14 64 P **P** 14 19 55.9 -0.8
baz=314,SNR=7.6
LBNH Lisbon 53.14 64 *e*P **P** 14 19 56.6 0.0
comp=Z,72nm,0.9s
LBNH LR LR
comp=Z,2μm,18.0s
LBNH Lisbon 53.14 64 *e*P **P** 14 19 56.6 0.0
LBNH pmax pmax
comp=Z,72nm,0.9s
LBNH MLR MLR
comp=Z,2μm,18.0s
149A Jones 53.22 84 P **P** 14 19 56.9 -0.5
baz=318,SNR=55
Z50A Ashland 53.24 83 P **P** 14 19 56.9 -0.7
baz=317,SNR=48
TRY Troy 53.28 66 *e*P **P** 14 19 57.8 +0.1
comp=Z,81nm,0.8s
546A Slidell 53.28 88 P **P** 14 19 58.4 +0.5
baz=319
HNH Hanover 53.32 64 *e*P **P** 14 19 58.3 +0.3
comp=Z,72nm,0.9s
JNU Nakatsue 53.34 277 P **P** 14 19 58.8 +0.5
comp=Z,49nm,0.9s,baz=50,slow=8.1,SNR=19
JNU LR LR 14 42 12.5
comp=Z,1μm,21.1s,baz=60,slow=36
JNU Nakatsue 53.34 277 *e*P **P** 14 19 58.8 +0.5
comp=Z,106nm,1.1s
645A Chauvin 53.36 90 P **P** 14 19 58.8 +0.4
baz=319
PAGS Pennsylvania G 53.40 70 *e*P **P** 14 19 57.9 -0.7
comp=Z,134nm,0.9s
PAGS LR LR
comp=Z,2μm,19.0s
PQI Presque Isle 53.42 59 *e*P **P** 14 19 57.8 -0.9
comp=Z,311nm,1.9s
PQI *e*PcP **PcP** 14 21 05.6 0.0
N59A State Game Lan 53.43 69 P **P** 14 19 58.7 -0.2
baz=315,SNR=11
N59A State Game Lan 53.43 69 *e*P **P** 14 19 58.6 -0.3
comp=Z,401nm,1.9s
N59A LR LR
comp=Z,3μm,18.0s
348A Jackson 53.46 86 P **P** 14 19 59.5 +0.3
baz=318,SNR=9.2
447A Lucedale 53.48 87 P **P** 14 19 59.7 +0.4
baz=318
249A Camden 53.49 85 P **P** 14 19 59.1 -0.3
baz=318,SNR=16
BLA Blacksburg 53.50 75 P **P** 14 19 58.9 -0.6
baz=316,SNR=20
BLA Blacksburg 53.50 75 *e*P **P** 14 19 59.2 -0.3
comp=Z,110nm,0.9s
BLA LR LR
comp=Z,2μm,20.0s
BLA Blacksburg 53.50 75 *e*P **P** 14 19 59.2 -0.3
BLA pmax pmax
comp=Z,109nm,0.9s
BLA MLR MLR
comp=Z,2μm,20.0s
IRK Irkutsk 53.57 311 *e*P **P** 14 19 58.8 -1.0
IRK *e*S S 14 27 41.2 +10
IRK pmax pmax
comp=Z,272nm,2.0s
150A Eclectic 53.66 84 P **P** 14 20 00.0 -0.6
baz=318,SNR=25
BG3 Lake Jocassee 53.68 79 *e*P **P** 14 20 00.6 -0.2
comp=Z,179nm,1.1s
BG3 LR LR
comp=Z,2μm,20.0s
VWCC Virginia Weste 53.73 75 *e*P **P** 14 20 00.5 -0.6
MVL Millersville 53.76 70 *e*P **P** 14 20 00.8 -0.4
comp=Z,436nm,2.0s
MVL LR LR
comp=Z,3μm,20.0s
PKME Peaks-Kenny Pk 53.77 61 P **P** 14 20 00.2 -0.9
baz=315,SNR=12
PKME Peaks-Kenny Pk 53.77 61 *e*P **P** 14 20 00.3 -0.9
comp=Z,99nm,1.0s
PKME *e*PcP **PcP** 14 21 08.1 +1.1
PKME LR LR
comp=Z,6μm,18.0s
448A Bay Minette 53.84 86 P **P** 14 20 02.2 +0.3
baz=318
LUPA Lehigh Univers 53.87 69 *e*P **P** 14 20 01.9 -0.1
comp=Z,13nm,0.9s
LUPA LR LR
comp=Z,200nm,18.0s
349A Repton 53.91 86 P **P** 14 20 02.6 +0.2

baz=318,SNR=9.5
SDMD Soldier's Deli 53.91 71 *e*P P 14 20 02.0 -0.4
comp=Z,62nm,0.9s
SDMD LR LR
comp=Z,1µm,19.0s
ODNJ Ogdensburg 53.94 68 *e*P P 14 20 02.3 -0.3
comp=Z,61nm,0.9s
ODNJ LR LR
comp=Z,2µm,18.0s
250A Grady 53.98 84 P P 14 20 02.4 -0.6
baz=318,SNR=22
WVL Waterville 54.07 62 *e*P P 14 20 03.0 -0.5
comp=Z,76nm,0.9s
151A Opelika 54.12 83 P P 14 20 02.5 -1.5
baz=318,SNR=19
BRAL Brewton 54.13 86 P P 14 20 03.7 -0.3
baz=318,SNR=6.8
BRAL Brewton 54.13 86 *e*P P 14 20 04.5 +0.4
comp=Z,279nm,1.2s
BRAL LR LR
comp=Z,2µm,18.0s
BRNJ Basking Ridge 54.24 68 *e*P P 14 20 05.0 +0.2
comp=Z,94nm,0.8s
BRNJ LR LR
comp=Z,2µm,19.0s
TLY Talaya 54.25 311 *e*P P 14 20 05.1 +0.4
comp=Z,365nm,1.8s
TLY LR LR
comp=Z,2µm,21.0s
TLY Talaya 54.25 311 *d i*P P 14 20 04.2 -0.5
TLY *e* 14 21 10.3
TLY *e* 14 22 10.6
TLY *e*S **S** **14 27 44.7 +4.0**
TLY pmax pmax
comp=Z,187nm,1.8s
TLY Talaya 54.25 311 P P 14 20 05.4 +0.7
SNR=75
QUA2 Belchertown 54.29 66 *e*P P 14 20 04.0 -1.1
comp=Z,87nm,0.9s
PSUB Penn St. - Bra 54.30 70 *e*P P 14 20 04.9 -0.3
comp=Z,49nm,1.1s
IP07 Quail 54.33 73 *e*P P 14 20 05.5 0.0
comp=Z,176nm,0.9s
SPRD Spring Road, M 54.33 73 *e*P P 14 20 05.6 +0.1
comp=Z,117nm,1.1s
449A Pace 54.34 86 P P 14 20 04.9 -0.6
baz=318
CVRD Centerville Ro 54.34 73 *e*P P 14 20 05.6 +0.1
comp=Z,115nm,1.0s
IP01 Cuckoo 54.36 73 *e*P P 14 20 05.9 +0.2
comp=Z,159nm,1.2s
IP01 LR LR
comp=Z,3µm,18.0s
DL2 Dalian 54.37 289 ⇑*i*P P 14 20 06.1 +0.4
DL2 S **S** **14 27 45.6 +3.0**
DL2 pmax pmax
comp=Z,66nm,0.9s
DL2 pmax pmax
comp=Z,530nm,3.7s
DL2 LR LR
comp=Z,2µm,17.7s
DL2 LR LR
comp=Z,1µm,18.0s
DL2 LR LR
comp=Z,2µm,19.2s
PAL Palisades 54.37 68 P P 14 20 05.0 -0.7
baz=316,SNR=6.0
PAL Palisades 54.37 68 *e*P P 14 20 05.8 +0.2
comp=Z,395nm,2.0s
PAL *e*PcP **PcP** **14 21 09.5 +0.1**
PAL LR LR
comp=Z,2µm,18.0s
PAL Palisades 54.37 68 *e*P P 14 20 05.8 +0.2
PAL *e* 14 21 09.5
PAL pmax pmax
comp=Z,395nm,2.0s
PAL MLR MLR
comp=Z,2µm,18.0s
251A Midway 54.39 84 P P 14 20 04.9 -1.0
baz=318,SNR=29
PAULI Pauline 54.44 79 *e*P P 14 20 06.0 -0.3
comp=Z,63nm,1.0s
PAULI LR LR
comp=Z,3µm,20.0s
SPFD Spotsylvania F 54.45 73 *e*P P 14 20 05.9 -0.4
comp=Z,69nm,0.8s
KMSC Kings Mountain 54.48 78 P P 14 20 05.6 -1.0
baz=317,SNR=34
KMSC Kings Mountain 54.48 78 *e*P P 14 20 06.0 -0.6
comp=Z,150nm,1.0s
KMSC LR LR
comp=Z,4µm,18.0s
CBN Corbin Frederi 54.48 72 PFAKE 14 20 20.0 +13
CBN LR LR
comp=Z,2µm,18.0s
CPNY Central Park 54.49 68 *e*P P 14 20 06.3 -0.3
comp=Z,93nm,1.1s
JRQG Juriquilla Cam 54.51 105 *e*P P 14 20 08.5 +1.3
GOGA Godfrey 54.53 81 P P 14 20 05.9 -1.1
baz=317,SNR=25
GOGA Godfrey 54.53 81 *e*P P 14 20 05.8 -1.1
comp=Z,85nm,0.9s
GOGA LR LR
comp=Z,3µm,19.0s
GOGA Godfrey 54.53 81 *e*P P 14 20 05.8 -1.1
GOGA pmax pmax
comp=Z,85nm,0.9s
GOGA MLR MLR
comp=Z,3µm,19.0s
HRV Adam Dziewonsk 54.54 65 P P 14 20 05.6 -1.3
baz=315
HRV Adam Dziewonsk 54.54 65 *e*P P 14 20 07.1 +0.1
comp=Z,356nm,1.9s
HRV LR LR
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 54.54 65 *e*P P 14 20 07.1 +0.1
HRV pmax pmax
comp=Z,356nm,1.9s
HRV MLR MLR
comp=Z,2µm,19.0s
HODGE Hodges 54.62 79 *e*P P 14 20 06.9 -0.7
comp=Z,118nm,0.9s
HODGE LR LR
comp=Z,2µm,19.0s
YLE Yale 54.66 67 *e*P P 14 20 08.2 +0.4
YLE LR LR
comp=Z,2µm,19.0s
HAMF Hammerfest 54.68 360 *e*P P 14 20 07.5 0.0
HAMF IAmb IAmb 14 20 08.6
comp=Z,145nm,1.1s
NCAT North Carolina 54.68 76 *e*P P 14 20 07.5 -0.5
comp=Z,73nm,0.9s
NCAT LR LR
comp=Z,3µm,18.0s
WES Weston 54.75 65 *e*P P 14 20 08.7 +0.3
comp=Z,134nm,0.9s
WES Weston 54.75 65 *e*P P 14 20 08.7 +0.3
WES pmax pmax
comp=Z,134nm,0.9s
351A Pinckard 54.88 84 P P 14 20 08.7 -0.8
baz=318,SNR=22
MOIG Morelia 54.92 107 *e*P P 14 20 12.0 +1.7
MOIG LR LR
comp=Z,1µm,18.0s
BRYW Bryant College 54.97 65 *e*P P 14 20 10.2 +0.2
comp=Z,90nm,0.9s
BRYW *e*PcP **PcP** **14 21 12.3 +0.6**
EMMW East Machias 55.08 60 *e*P P 14 20 10.3 -0.5
comp=Z,82nm,0.9s
352A Blakely 55.12 84 P P 14 20 10.2 -1.0
baz=318
451A Vernon 55.28 85 P P 14 20 11.6 -0.9
baz=319
ZAK Zakamensk 55.34 310 *e*P P 14 20 13.0 +0.3
ZAK pmax pmax
comp=Z,45nm,1.6s
MOY Mondy 55.40 312 *e*P P 14 20 13.5 +0.3
MOY pmax pmax
comp=Z,260nm,2.6s
ULN Ulaanbaatar 55.43 306 *e*P P 14 20 13.7 +0.2
comp=Z,82nm,1.2s
ULN LR LR
comp=Z,2µm,19.0s
ULN Ulaanbaatar 55.43 306 *d i*P P 14 20 13.6 +0.1
ULN pmax pmax
comp=Z,84nm,1.2s
ULN Ulaanbaatar 55.43 306 P P 14 20 13.5 0.0
SNR=30
452A Marianna 55.44 84 P P 14 20 12.7 -0.8
baz=318
KEV Kevo 55.53 358 *e*P P 14 20 13.3 -0.4
comp=Z,160nm,0.9s
KEV Kevo 55.53 358 *e*P P 14 20 13.3 -0.4
KEV pmax pmax
comp=Z,160nm,0.9s
353A Camilla 55.62 83 P P 14 20 13.6 -1.2
baz=318
TRO Tromso 55.67 2 *e*P P 14 20 14.6 0.0
TRO IAmb IAmb 14 20 15.8
comp=Z,131nm,0.8s
SONA1 Songino Array 55.75 306 *e*P P 14 20 15.2 -0.5
SONA1 *e*PcP **PcP** **14 21 16.4 +1.6**
SONA0 Songino Array 55.76 306 *e*P P 14 20 16.4 +0.5
SONA0 *e*PcP **PcP** **14 21 15.2 +0.4**
SONM Songino Array 55.76 306 P P 14 20 16.4 +0.5
comp=Z,81nm,1.1s,baz=44,slow=5.2,SNR=313
SONM PcP **PcP** **14 21 15.2 +0.5**
comp=Z,43nm,1.0s,baz=70,slow=2.0,SNR=7.3
SONM LR LR 14 45 24.0
comp=Z,1µm,18.9s,baz=39,slow=37
SONM PKP2bc 14 50 12.8
comp=Z,0.6nm,0.9s,baz=238,slow=2.7,SNR=2.8
ARA0 ARCESS Array S 55.77 359 *e*P P 14 20 14.9 -0.6
ARCES ARCESS Array B 55.77 359 P P 14 20 14.9 -0.5
comp=Z,59nm,0.9s,baz=24,slow=7.8,SNR=60
ARCES LR LR 14 45 27.1
comp=Z,615nm,19.7s,baz=354,slow=38
ARCES ARCESS Array B 55.77 359 *e*P P 14 20 15.0 -0.5
ARE0 ARCESS Array S 55.77 359 *e*P P 14 20 15.1 -0.4
comp=Z,118nm,1.0s
ARE0 ARCESS Array S 55.77 359 *e*P P 14 20 15.1 -0.4
ARE0 IAmb IAmb 14 20 16.0
comp=Z,122nm,1.1s
TIGA Tifton 55.91 83 P P 14 20 15.9 -1.0
baz=318
TIGA Tifton 55.91 83 *e*P P 14 20 15.4 -1.5
TIGA LR LR
comp=Z,2µm,19.0s
453A Whigham 55.93 84 P P 14 20 16.4 -0.6
baz=319
BORG Borgarnes 55.97 21 P P 14 20 17.5 +0.6
comp=Z,31nm,0.9s,baz=0.0,slow=3.0,SNR=3.2
BORG LR LR 14 47 52.7
comp=Z,1µm,18.0s,baz=332,slow=40
BORG Borgarnes 55.97 21 *e*P P 14 20 17.5 +0.6
comp=Z,392nm,1.6s
BORG Borgarnes 55.97 21 *e*P P 14 20 17.5 +0.6
BORG pmax pmax
comp=Z,393nm,1.6s
UNM Universidad Na 56.32 105 PFAKE 14 20 30.0 +10
UNM LR LR
comp=Z,2µm,18.0s
KIF Kilpisjarvi 56.32 1 *e*P P 14 20 18.6 -0.7
CNNC Cliffs of the 56.34 75 PFAKE 14 20 30.0 +10
CNNC LR LR
comp=Z,2µm,20.0s
553A Crawfordville 56.36 84 P P 14 20 19.5 -0.7
baz=319,SNR=8.6
BJI Beijing 56.49 293 P P 14 20 20.9 0.0
BJI S **S** **14 28 12.5 +1.6**
BJI pmax pmax
comp=Z,70nm,1.8s
BJI pmax pmax
comp=Z,910nm,9.2s
BJI LR LR
comp=Z,3µm,19.2s
BJI LR LR
comp=Z,4µm,21.0s
BJI LR LR
comp=Z,2µm,27.9s
NHSC New Hope 56.62 79 P P 14 20 21.4 -0.5
baz=318,SNR=13
NHSC New Hope 56.62 79 *e*P P 14 20 21.7 -0.3
comp=Z,306nm,0.9s
NHSC LR LR
comp=Z,3µm,18.0s
455A Stateville 56.75 83 P P 14 20 22.0 -0.9
baz=319
554A Perry 56.87 84 P P 14 20 23.2 -0.5
baz=319,SNR=5.2
HEF Hetta 56.92 359 *e*P P 14 20 23.4 -0.2
LOF Lofoten 57.03 4 *e*P P 14 20 25.5 +1.2
LOF IAmb IAmb 14 20 26.5
comp=Z,64nm,1.0s
LVZ Lovozero 57.11 355 *e*P P 14 20 24.9 -0.1
comp=Z,220nm,0.9s
LVZ Lovozero 57.11 355 *ce*P P 14 20 24.8 -0.2
LVZ pmax pmax
comp=Z,283nm,1.0s
555A McAlpin 57.25 83 P P 14 20 25.5 -0.9
baz=319,SNR=5.4
STEI Steigen 57.29 3 *e*P P 14 20 26.4 +0.2
STEI IAmb IAmb 14 20 27.1
comp=Z,61nm,0.6s
APA Apatity 57.50 355 ⇓*i*P P 14 20 26.6 -1.1
APA *i* 14 22 34.6
APA *i*S **S** **14 28 20.0 -3.5**
APA *i*PS **PnS** **14 28 35.0 -0.2**
APA pmax pmax
comp=Z,36nm,0.8s
655A Horseshoe Beac 57.54 84 P P 14 20 27.8 -0.8
baz=319
SARN Sarigan 57.54 252 *e*P P 14 20 28.4 -0.3
LVIG Laguna Verde 57.55 102 PFAKE 14 20 40.0 +11
LVIG LR LR
comp=Z,1µm,19.0s
556A Lake Butler 57.66 83 P P 14 20 28.7 -0.7
baz=319,SNR=12
557A Orange Park 58.03 82 P P 14 20 31.3 -0.7
baz=319,SNR=5.4
656A Willston 58.06 83 P P 14 20 31.7 -0.4
baz=319
HHC Hu-ho-hao-te 58.30 297 *e*P P 14 20 34.5 +0.6
HHC sP sP 14 20 41.9 -0.8
HHC S **S** **14 28 33.0 -2.0**
HHC ScS **ScS** **14 30 19.1 -3.2**
HHC SS **SS** **14 32 24.9 -1.5**
HHC pmax pmax
comp=Z,83nm,1.3s
HHC pmax pmax
comp=Z,850nm,4.4s
HHC LR LR
comp=Z,2µm,15.3s
HHC LR LR
comp=Z,3µm,14.8s
HHC LR LR
comp=Z,2µm,14.8s
KONS Konsvik 58.64 4 *e*P P 14 20 35.8 +0.2
KONS IAmb IAmb 14 20 36.1
comp=Z,153nm,1.2s
757A Oxford 58.65 83 P P 14 20 35.4 -0.9
baz=320
TIA Tai'an 58.78 290 P P 14 20 37.0 -0.1
TIA S **S** **14 28 45.5 +4.4**
TIA pmax pmax
comp=Z,46nm,1.3s
TIA pmax pmax
comp=Z,500nm,6.7s
TIA LR LR
comp=Z,1µm,21.4s
TIA LR LR
comp=Z,1µm,22.0s
TIA LR LR
comp=Z,1µm,20.1s
STOK Stokkvaagen 58.80 4 *e*P P 14 20 37.2 +0.4
STOK IAmb IAmb 14 20 38.1
comp=Z,123nm,1.0s
HVS Khovu-Aksy 58.83 316 *d i*P P 14 20 37.5 +0.1
HVS pmax pmax
comp=Z,165nm,0.9s
MOR8 Moi Rana 59.02 4 *e*P P 14 20 37.3 -1.1
MOR8 IAmb IAmb 14 20 37.8
comp=Z,92nm,1.0s
857A Zephyrhills 59.07 84 P P 14 20 38.5 -0.7
baz=320,SNR=5.6
BTO Baotou 59.27 298 *e*P P 14 20 40.3 -0.3
BTO pmax pmax
comp=Z,30nm,0.8s
957A Wimauma 59.52 85 P P 14 20 41.7 -0.6
baz=320
JOW Kunigami 59.53 274 *e*P P 14 20 43.5 +1.0
comp=Z,141nm,1.3s
JOW *e*PP **PP** **14 22 53.6 -0.1**
858A St. Cloud 59.60 83 P P 14 20 42.3 -0.6
baz=320
DWPF Disney Wildern 59.64 84 P P 14 20 43.1 -0.1
baz=320
DWPF Disney Wildern 59.64 84 PFAKE 14 21 00.0 +17
DWPF LR LR
comp=Z,3µm,18.0s
NVS Novosibirsk 59.76 324 ⇑*i*P P 14 20 43.8 +0.2
NVS *e* 14 22 52.3
NVS *e*S **S** **14 28 54.8 +1.6**
NVS pmax pmax
comp=N,44nm,1.8s
NVS pmax pmax
comp=E,47nm,1.8s
NVS pmax pmax
comp=Z,116nm,1.8s
NVS smax smax
comp=N,34nm,2.0s
NVS smax smax
comp=E,53nm,2.3s
958A Wauchula 59.86 84 P P 14 20 44.3 -0.4
baz=320
ZAA1 Zalesovo Array 59.94 323 *e*P P 14 20 44.8 -0.1
ZAA0 Zalesovo Array 59.94 323 *e*P P 14 20 45.1 +0.2
comp=E,69nm,1.1s
ZAA0 *e*PP **PP** **14 22 54.4 -2.2**
ZAA0 LR LR
comp=Z,4µm,21.0s
ZALV Zalesovo Beam 59.94 323 P P 14 20 44.8 -0.1
comp=Z,34nm,1.0s,baz=35,slow=5.7,SNR=82
ZALV S **S** **14 28 58.4 +2.9**
comp=Z,0.3nm,0.4s,baz=46,slow=8.3,SNR=2.1
ZALV LR LR 14 48 28.3
comp=Z,3µm,18.2s,baz=44,slow=38
ZALV PKP2bc 14 50 17.8
comp=Z,0.2nm,0.3s,baz=245,slow=2.7,SNR=3.6
ZALV Zalesovo Beam 59.94 323 *e*P P 14 20 44.0 -0.8
ZALV *e*PP **PP** **14 22 54.0 -2.7**
ZALV ⇑*e* 14 50 17.8
ZALV Zalesovo Beam 59.94 323 *e*P P 14 20 44.1 -0.8
ZALV *e* 14 22 54.0
859A Kempfer Cattle 59.99 83 P P 14 20 44.9 -0.6
baz=320
TIY Taiyuan 60.17 294 *e*P P 14 20 47.9 +1.1
TIY S **S** **14 29 04.0 +4.8**
TIY pmax pmax
comp=Z,95nm,1.1s
TIY pmax pmax
comp=Z,640nm,8.7s
TIY LR LR
comp=Z,2µm,11.6s
TIY LR LR
comp=Z,560nm,13.9s
TIY LR LR
comp=Z,2µm,15.6s
SSE Sheshan 60.34 283 P P 14 20 48.5 +0.5
SSE S **S** **14 29 04.5 +3.2**
SSE pmax pmax
comp=Z,52nm,0.9s
SSE pmax pmax
comp=Z,420nm,3.5s
SSE LR LR
comp=Z,410nm,14.5s
SSE LR LR
comp=Z,600nm,14.3s
CMIG Matias Romero 60.52 103 P P 14 20 48.9 -0.4
comp=Z,15nm,0.9s,baz=316,slow=7.3,SNR=12
NSS Namsos 60.55 5 *e*P P 14 20 48.8 -0.1
NSS IAmb IAmb 14 20 49.6
comp=Z,100nm,1.2s
TMCR Tamitsa 60.58 352 *e*P P 14 20 47.3 -1.8
TMCR pmax pmax
comp=Z,201nm,0.9s
GUMO Guam 60.59 250 P P 14 20 48.7 -1.1
comp=Z,67nm,0.4s,baz=31,slow=5.9,SNR=8.3
GUMO LR LR 14 42 55.5
comp=Z,286nm,21.8s,baz=90,slow=32
NJ2 Nanjing 60.93 285 *e*P P 14 20 51.6 -0.3
NJ2 pP **pP** **14 20 56.7 -1.6**
NJ2 sP **sP** **14 20 59.2 -1.5**
NJ2 S **S** **14 29 14.3 +5.5**
NJ2 pmax pmax
comp=Z,62nm,1.1s
NJ2 pmax pmax
comp=Z,560nm,3.9s
NJ2 LR LR
comp=Z,1µm,17.9s
NJ2 LR LR
comp=Z,2µm,19.0s
NJ2 LR LR
comp=Z,2µm,17.9s
TBLU Trondheim 61.72 6 *e*P P 14 20 55.1 -1.7
TBLU IAmb IAmb 14 20 55.4
comp=Z,149nm,1.3s
MOL Molde 62.21 8 *e*P P 14 20 59.1 -1.0
MOL IAmb IAmb 14 21 00.5
comp=Z,79nm,0.9s
AKN Aaknes 62.55 8 *e*P P 14 21 03.1 +0.7
AKN IAmb IAmb 14 21 04.1
comp=Z,188nm,0.9s
DOMB Dombas 62.84 7 *e*P P 14 21 04.0 -0.4
DOMB IAmb IAmb 14 21 05.3
comp=Z,62nm,0.8s
HYA Hoyanger 63.48 9 *e*P P 14 21 09.4 +0.8
HYA IAmb IAmb 14 21 09.8
comp=Z,116nm,1.2s
LRW Lerwick 63.69 13 *e*P P 14 21 10.5 +0.5
NC204 NORSAR Array S 63.72 6 *e*P P 14 21 10.6 +0.3
NC204 NORSAR Array S 63.72 6 *e*P P 14 21 10.7 +0.4
NC204 IAmb IAmb 14 21 10.9
comp=Z,235nm,1.1s
KLMR Klimovskoe 63.72 351 *e*P P 14 21 05.7 -4.5
KLMR *e*S **S** **14 29 39.5 -3.6**
KLMR pmax pmax
comp=Z,233nm,1.0s
KLMR Klimovskoe 63.72 351 *e*P P 14 21 05.7 -4.5
KLMR AMP 14 21 11.2
comp=Z,233nm,1.0s
KLMR *e*S **S** **14 29 39.6 -3.6**
KLMR *e*S **S** **14 29 39.6 -3.6**
KLMR LQ LQ 14 42 53.1
KLMR LQ LQ 14 42 53.1
KLMR LR LR 14 47 10.5
NC303 NORSAR Array S 63.81 6 *e*P P 14 21 11.1 +0.3
NC303 NORSAR Array S 63.81 6 *e*P P 14 21 11.0 +0.2
NC303 IAmb IAmb 14 21 11.4
comp=Z,246nm,1.1s
FIA1 FINESS Array S 63.89 358 *e*P P 14 21 11.0 -0.2
FIA0 FINESS Array S 63.89 358 *e*P P 14 21 11.0 -0.3
FIA0 FINESS Array S 63.89 358 *e*P P 14 21 11.0 -0.3
FINES FINESS Array B 63.89 358 P P 14 21 11.0 -0.3
comp=Z,76nm,0.8s,baz=15,slow=6.3,SNR=135
FINES PKP2bc 14 50 01.0
comp=Z,3.8nm,0.8s,baz=169,slow=2.3,SNR=5.5
FINES LR LR 14 52 30.8
comp=Z,519nm,18.5s,baz=12,slow=39
NC405 NORSAR Array S 63.94 6 *e*P P 14 21 11.0 -0.7
NBO02 NORSAR Array S 63.95 6 *e*P P 14 21 11.7 -0.1
NBO00 NORSAR Array S 63.97 6 *e*P P 14 21 12.4 +0.5
NBO00 NORSAR Array S 63.97 6 *e*P P 14 21 12.1 +0.3
NBO00 IAmb IAmb 14 21 12.9
comp=Z,3µm,2.8s
NB201 NORSAR Array S 63.98 6 *e*P P 14 21 11.5 -0.4
NB201 NORSAR Array S 63.98 6 *e*P P 14 21 11.1 -0.9
NB201 IAmb IAmb 14 21 12.4
comp=Z,596nm,1.6s
NB2 NORSAR Subarra 63.98 6 P P 14 21 11.8 -0.2
comp=Z,105nm,0.9s,baz=353,slow=6.5
NB2 NORSAR Subarra 63.98 6 P P 14 21 11.8 -0.2
baz=353,slow=6.5
NB200 NORSAR Array S 63.98 6 *e*P P 14 21 12.1 +0.1
NOA NORSAR Array B 63.98 6 P P 14 21 12.1 +0.1
comp=Z,62nm,0.9s,baz=353,slow=6.5,SNR=62
NOA PKP2bc 14 50 03.6
comp=Z,6.8nm,1.0s,baz=141,slow=3.5,SNR=4.9
NOA LR LR 14 51 08.9
comp=Z,276nm,18.4s,baz=345,slow=38
ASK Askoy 64.07 9 *e*P P 14 21 13.6 +1.1
ASK IAmb IAmb 14 21 13.7
comp=Z,141nm,1.2s
NAO01 NORSAR Array S 64.16 6 *e*P P 14 21 13.5 +0.4
NAO01 *e*PcP **PcP** **14 21 48.2 +0.3**
NAO01 NORSAR Array S 64.16 6 *e*P P 14 21 13.3 +0.2
NAO01 IAmb IAmb 14 21 14.3
comp=Z,302nm,1.3s

BER Bergen 64.18 9 *e*P P **14 21 14.3 +1.2**
BER IAmb IAmb 14 21 14.6
comp=Z,59nm,0.8s
NC605 NORSAR Array S 64.26 6 *e*P P **14 21 13.6 -0.1**
NC602 NORSAR Array S 64.31 6 *e*P P **14 21 14.4 +0.3**
NC602 NORSAR Array S 64.31 6 *e*P P **14 21 13.9 -0.2**
NC602 IAmb IAmb 14 21 14.9
comp=Z,328nm,1.1s
SVE Sverdlovsk 64.32 338*c i*P P **14 21 14.4 +0.2**
SVE *e*S S **14 29 54.4 +3.7**
SVE pmax pmax
comp=Z,217nm,1.3s
SEM Semipalatinsk 64.45 323⇓*i*P P **14 21 15.1 -0.4**
comp=Z,519nm,1.2s
SEM *i* S S **14 29 53.0 0.0**
SEM LR LR 14 50 31.6
comp=Z,3μm,14.7s
WHN Wuhan 64.57 287 ⇓P P **14 21 16.4 +0.2**
WHN LR LR
comp=Z,3μm,19.1s
WHN LR LR
comp=Z,2μm,12.0s
WHN LR LR
comp=Z,2μm,15.2s
KURK Kurchatov 64.75 324 *e*P P **14 21 17.4 +0.3**
comp=Z,111nm,1.0s
KURK *e*PP PP **14 23 33.4 -5.6**
KURK LR LR
comp=Z,2μm,18.0s
KURK Kurchatov 64.75 324*d i*P P **14 21 17.3 +0.2**
KURK pmax pmax
comp=Z,493nm,1.2s
KURK Kurchatov 64.75 324 P P **14 21 17.4 +0.3**
SNR=47
ODD1 Odda 64.76 9 *e*P P **14 21 17.9 +0.8**
ODD1 IAmb IAmb 14 21 18.5
comp=Z,119nm,1.2s
XAN Xi'an 64.81 294 P P **14 21 18.0 +0.2**
XAN S S **14 30 00.0 +2.4**
XAN ScS **SKSac** **14 31 07.4 -3.9**
XAN SS **SS** **14 34 11.4 +3.1**
XAN pmax pmax
comp=Z,100nm,1.2s
XAN pmax pmax
comp=Z,700nm,5.4s
XAN LR LR
comp=Z,2μm,15.7s
XAN LR LR
comp=Z,2μm,15.2s
XAN LR LR
comp=Z,2μm,16.3s
KURBB Kurchatov Arra 64.86 324 P P **14 21 17.9 +0.1**
comp=Z,63nm,1.0s,baz=33,slow=6.4,SNR=244
KURBB S S **14 29 59.9 +2.4**
comp=Z,0.4nm,0.8s,baz=42,slow=13,SNR=3.3
HFS Hagfors 65.02 5 P P **14 21 18.7 0.0**
comp=Z,45nm,0.8s,baz=40,slow=4.7,SNR=47
HFS LR LR 14 51 47.5
comp=Z,521nm,18.2s,baz=355,slow=38
ARU Arti 65.13 339 *e*P P **14 21 18.7 -0.7**
comp=Z,119nm,0.8s
ARU Arti 65.13 339*d i*P P **14 21 19.2 -0.3**
ARU 14 21 51.5
ARU S S **14 30 02.9 +2.2**
ARU pmax pmax
comp=Z,122nm,0.8s
ARU MLR MLR
comp=Z,1μm,19.0s
BLS5 Blasjo 65.23 9 *e*P P **14 21 21.0 +0.9**
BLS5 IAmb IAmb 14 21 21.4
comp=Z,78nm,0.8s
GTA Gaotai 65.24 304 ⇓P P **14 21 20.6 -0.1**
GTA pP pP 14 21 24.8 -2.3
GTA sP sP 14 21 28.2 -1.3
GTA S S **14 30 01.4 -1.5**
GTA sS pS 14 30 09.7 -1.1
GTA SS SS **14 34 09.9 -5.0**
GTA pmax pmax
comp=Z,130nm,1.0s
GTA pmax pmax
comp=Z,760nm,6.7s
GTA LR LR
comp=Z,2μm,14.5s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,1μm,20.2s
ZSN Zaisan 65.24 319⇓*i*P P **14 21 21.4 +1.0**
comp=Z,812nm,1.2s
ZSN *i* S S **14 30 05.0 +2.5**
ZSN LR LR 14 50 58.4
comp=Z,362nm,13.4s
TAOE Nuku Hiva Isla 65.25 161 *e*S S **14 29 59.0 -4.1**
comp=Z,4μm,25.4s
TAOE *e*SS SS **14 34 12.6 -3.7**
comp=Z,570nm,25.5s
TAOE *e*LR LR 14 40 49.9
comp=Z,4μm,28.5s,baz=358
TAOE Nuku Hiva Isla 65.25 161 *e*T T 15 31 46.9
comp=Z,212nm,0.2s
KONO Kongsberg 65.26 7 *e*P P **14 21 21.3 +1.1**
comp=Z,149nm,1.1s
KONO Kongsberg 65.26 7*d i*P P **14 21 20.8 +0.6**
KONO pmax pmax
comp=Z,77nm,1.0s
KONO Kongsberg 65.26 7 *e*P P **14 21 20.9 +0.6**
KONO IAmb IAmb 14 21 21.9
comp=Z,163nm,1.1s
BRVK Borovoye 65.31 331 *e*P P **14 21 20.9 +0.1**
comp=Z,131nm,1.2s
BRVK LR LR
comp=Z,2μm,18.0s
BRVK Borovoye 65.31 331*d i*P P **14 21 20.8 +0.1**
BRVK pmax pmax
comp=Z,435nm,1.7s
BRVK Borovoye 65.31 331 P P **14 21 20.8 +0.1**
SNR=37
BVA0 Borovoye Array 65.31 330 *i* P P **14 21 20.8 +0.1**
BVA0 pmax pmax
comp=Z,136nm,1.4s
BVAR Borovoye Array 65.31 330 P P **14 21 20.8 +0.1**
comp=Z,41nm,0.7s,baz=37,slow=6.0,SNR=256
BVAR S S **14 30 05.5 +2.5**
comp=Z,2.5nm,1.0s,baz=40,slow=5.8,SNR=5.3
BVAR LR LR 14 52 03.7
comp=Z,1μm,20.9s,baz=28,slow=38
NACB Ninganchiao 65.41 277 *e*P P **14 21 20.8 -1.0**
comp=Z,96nm,0.9s
PUL Pulkovo 65.43 356⇓*i*P P **14 21 21.5 +0.1**
PUL pmax pmax
comp=Z,220nm,0.7s
KPL Plockton 65.74 16 *e*P P **14 21 24.1 +0.8**
KPL Plockton 65.74 16 *e*P P **14 21 23.9 +0.6**
LZH Lanzhou 65.85 299 ⇓P P **14 21 25.4 +0.7**
LZH pP pP 14 21 30.1 -1.0
LZH sP sP 14 21 32.7 -0.8
LZH PP **PP** **14 23 51.1 +1.8**
LZH *e*S S **14 30 09.0 -1.5**
LZH sS pS 14 30 16.3 -2.1
LZH SS SS **14 34 24.2 -0.4**
LZH pmax pmax
comp=Z,100nm,1.0s
LZH pmax pmax
comp=Z,730nm,7.4s
LZH LR LR
comp=Z,2μm,13.0s
LZH LR LR
comp=Z,2μm,13.9s
LZH LR LR
comp=Z,3μm,14.8s
MCD Coleburn Disti 65.88 15 *e*P P **14 21 24.8 +0.5**
KSB Sheil Bridge 65.90 16 *e*P P **14 21 24.1 -0.3**
SSLB Suanglung 66.07 278 *e*P P **14 21 25.9 -0.2**
comp=Z,177nm,1.0s
YULB Yu-li 66.18 277 *e*P P **14 21 25.4 -1.4**
comp=Z,37nm,0.8s
SNART Snartemo 66.37 9 *e*P P **14 21 28.3 +0.9**
SNART IAmb IAmb 14 21 29.1
comp=Z,53nm,1.0s
SNET Serv Nac Est T 66.46 100 PFAKE 14 21 40.0 +11
SNET LR LR
comp=Z,700nm,19.0s
QZH Quanzhou 66.52 280⇓*i*P P **14 21 28.6 -0.3**
QZH pmax pmax
comp=Z,83nm,1.2s
QZH pmax pmax
comp=Z,490nm,8.8s
QZH LR LR
comp=Z,850nm,15.0s
QZH LR LR
comp=Z,710nm,14.9s
QZH LR LR
comp=Z,1μm,16.3s
HOMB Homborsund 66.54 8 *e*P P **14 21 29.1 +0.6**
HOMB IAmb IAmb 14 21 30.0
comp=Z,282nm,1.3s
DRUM Mains of Drumt 66.64 15 *e*P P **14 21 29.2 0.0**
DRUM IAmb IAmb 14 21 30.4
comp=Z,249nm,0.8s
TPUB Ta-pu 66.64 278 *e*P P **14 21 29.1 -0.6**
comp=Z,56nm,1.0s
TWG Pinlang 66.76 277 *e*P P **14 21 32.0 +1.6**
comp=Z,144nm,0.9s
MK31 Makanchi Array 66.76 320 *e*P P **14 21 30.1 -0.2**
MK31 *e*PP PP 14 23 46.9 -10
MK31 Makanchi Array 66.76 320 *i* P P **14 21 29.8 -0.4**
MK31 pmax pmax
comp=Z,47nm,0.7s
MK32 Makanchi Array 66.76 320 *e*P P **14 21 30.0 -0.2**
MKAR Makanchi Array 66.76 320 P P **14 21 30.0 -0.2**
comp=Z,37nm,0.7s,baz=47,slow=6.9,SNR=331
MKAR S S **14 30 24.8 +3.8**
comp=Z,2.1nm,1.1s,baz=25,slow=6.7,SNR=4.3
MKAR PKP2bc 14 49 57.7
comp=Z,1.3nm,1.0s,baz=212,slow=5.1,SNR=5.8
MKAR LR LR 14 52 06.7
comp=Z,2μm,18.1s,baz=32,slow=37
MKAR Makanchi Array 66.76 320 *e*P P **14 21 30.1 -0.2**
comp=Z,265nm,0.8s
MKAR *e*PP PP 14 23 47.1 -10
MKAR S S **14 30 24.8 +3.8**
MKAR ⇑*e* 14 49 57.7
MKAR LR LR
comp=Z,500nm,20.0s
MKAR Makanchi Array 66.76 320 *e*P P **14 21 30.1 -0.2**
MKAR S S **14 30 24.8 +3.8**
MKAR pmax pmax
comp=Z,265nm,0.8s
MKAR MLR MLR
comp=Z,500nm,20.0s
MK01 Makanchi Array 66.78 320 *e*P P **14 21 29.0 -1.3**
VSU Vasula 66.86 358*d i*P P **14 21 30.6 +0.1**
VSU pmax pmax
comp=Z,1μm,1.7s
MAKZ Makanchi 66.87 320 *e*P P **14 21 30.6 -0.3**
comp=Z,252nm,1.6s
MAKZ LR LR
comp=Z,2μm,18.0s
MAKZ Makanchi 66.87 320 *e*P P **14 21 30.6 -0.3**
MAKZ pmax pmax
comp=Z,252nm,1.6s
MAKZ MLR MLR
comp=Z,2μm,18.0s
EAB Aberfoyle 67.05 16 *e*P P **14 21 32.2 +0.3**
WMQ Urumqi 67.11 314 P P **14 21 33.2 +0.7**
WMQ pP pP 14 21 36.9 -2.1
WMQ ScS **SKiKP** **14 31 22.9 -8.2**
WMQ pmax pmax
comp=Z,150nm,1.1s
WMQ pmax pmax
comp=Z,2μm,5.1s
WMQ LR LR
comp=Z,4μm,26.3s
WMQ LR LR
comp=Z,5μm,26.3s
WMQ LR LR
comp=Z,2μm,32.1s
TGUH Tegucigalpa,Un 67.28 98 PFAKE 14 21 50.0 +16
TGUH LR LR
comp=Z,700nm,21.0s
BRZS Berezniki 67.31 327⇓*i*P P **14 21 33.7 +0.1**
comp=Z,192nm,1.2s
BRZS *e*S S **14 30 28.1 +0.7**
PGBU Glenifferbraes 67.39 16 *e*P P **14 21 34.2 +0.2**
PGBU IAmb IAmb 14 21 35.3
comp=Z,85nm,0.9s
ENH Enshi 67.43 291 PFAKE 14 21 50.0 +15
ENH LR LR
comp=Z,1μm,18.0s
ESY Stoneypath 67.58 15 *e*P P **14 21 35.3 +0.1**
EKA Eskdalemuir Ar 68.06 15 P P **14 21 38.5 +0.3**
comp=Z,54nm,0.8s,baz=344,slow=5.0,SNR=72
EKA LR LR 14 55 58.6
comp=Z,331nm,18.7s,baz=345,slow=40
ESK Eskdalemuir 68.07 15 *e*P P **14 21 37.8 -0.4**
GAL1 Galloway 68.26 17 *e*P P **14 21 39.6 +0.1**
GAL1 IAmb IAmb 14 21 40.8
comp=Z,49nm,0.9s
MUD Monsted U'grnd 68.40 8 *i* P P **14 21 41.7 +1.4**
MUD Monsted U'grnd 68.40 8 *i* P P **14 21 41.7 +1.4**
MUD Monsted U'grnd 68.40 8 *e*P P **14 21 39.2 -1.1**
EDMD Edmundbyers 68.73 15 *e*P P **14 21 42.7 +0.3**
EDMD IAmb IAmb 14 21 43.9
comp=Z,124nm,1.1s
KESW Keswick, Cumbr 68.79 16 *e*P P **14 21 43.1 +0.3**
KESW IAmb IAmb 14 21 44.2
comp=Z,124nm,1.1s
MOS Moscow 68.95 351 *e*P P **14 21 41.5 -2.2**
MOS *e* 14 21 50.7
MOS *e* 14 22 05.2
MOS *e*S S **14 30 46.4 -0.3**
MOS pmax pmax
comp=Z,233nm,1.5s
MOS pmax pmax
comp=Z,400nm,1.7s
WIM Isle of Man 68.96 17 *e*P P **14 21 43.0 -0.9**
COP Copenhagen 69.39 6⇓*i*P P **14 21 47.4 +0.9**
COP Copenhagen 69.39 6⇓*i*P P **14 21 47.4 +0.9**
IZAR Zarasai 69.59 358 *e*P P **14 21 47.4 -0.3**
IZAR IAmb IAmb 14 21 49.0
comp=Z,70nm,1.2s
GTBY Guantanamo Bay 69.61 84 PFAKE 14 22 00.0 +12
GTBY LR LR
comp=Z,2μm,20.0s
HPK Haverah Park 69.62 15 *e*P P **14 21 48.6 +0.6**
HPK IAmb IAmb 14 21 49.6
comp=Z,238nm,1.5s
OBN Obninsk 69.66 351 *e*P P **14 21 47.1 -1.0**
comp=Z,408nm,1.5s
OBN Obninsk 69.66 351*d i*P P **14 21 47.8 -0.3**
OBN *i* 14 21 55.7
OBN *i* 14 22 15.3
OBN *i* S S **14 30 56.8 +1.7**
OBN pmax pmax
comp=Z,144nm,1.0s
AFI Afiamalu 69.67 195 P P **14 21 50.1 +1.4**
comp=Z,14nm,0.9s,baz=99,slow=17,SNR=2.4
AFI LR LR 14 45 04.2
comp=Z,711nm,22.0s,baz=3.5,slow=30
AFI Afiamalu 69.67 195 *e*P P **14 21 50.1 +1.4**
comp=Z,115nm,1.5s
AFI Afiamalu 69.67 195 *e*P P **14 21 50.1 +1.4**
AFI pmax pmax
comp=Z,115nm,1.5s
TDK Taldyqorghan 69.71 321 *i* P P **14 21 49.5 +0.8**
comp=Z,1μm,1.0s
TDK LR LR 14 52 44.0
comp=Z,1μm,19.4s
LLD Lille Linde 69.73 6 *i* P P **14 21 48.8 +0.3**
comp=Z,114nm,0.9s
LLD Lille Linde 69.73 6 *i* P P **14 21 48.8 +0.3**
LLD pmax pmax
comp=Z,110nm,0.9s
WME Myndd Eilian 69.75 17 *e*P P **14 21 47.7 -1.0**
ISAL Salakas 69.77 358 *e*P P **14 21 48.4 -0.4**
ISAL IAmb IAmb 14 21 50.2
comp=Z,62nm,1.1s
CD2 Chengdu 69.97 295 P P **14 21 51.4 +0.9**
CD2 pP pP 14 21 54.7 -2.3
CD2 sP sP 14 21 55.9 -3.5
CD2 S S **14 31 01.0 +1.4**
CD2 SKS **ScS** **14 31 52.0 +0.4**
CD2 SS SS **14 35 30.3 +2.1**
CD2 pmax pmax
comp=Z,360nm,0.8s
CD2 pmax pmax
comp=Z,980nm,5.0s
CD2 LR LR
comp=Z,2μm,22.8s
CD2 LR LR
comp=Z,2μm,17.7s
CD2 LR LR
comp=Z,2μm,14.9s
IIGN Ignalina 69.99 358 *e*P P **14 21 49.8 -0.3**
IIGN IAmb IAmb 14 21 51.5
comp=Z,33nm,1.0s
IDID Didziasalis 70.01 357 *e*P P **14 21 50.0 -0.4**
IDID IAmb IAmb 14 21 51.6
comp=Z,56nm,1.1s
BSD Bornholm Skovb 70.09 5⇓*i*P P **14 21 50.9 +0.1**
comp=Z,86nm,1.1s
BSD Bornholm Skovb 70.09 5⇓*i*P P **14 21 50.9 +0.1**
BSD pmax pmax
comp=Z,87nm,1.1s
BSD Bornholm Skovb 70.09 5 *e*P P **14 21 49.8 -1.0**
LBWR Ladybower, Pea 70.15 15 *e*P P **14 21 51.4 +0.1**
LBWR IAmb IAmb 14 21 52.6
comp=Z,103nm,1.0s
PMOR Pomariorio Ree 70.18 170 *e*P P **14 21 53.0 +1.3**
comp=Z,154nm,1.3s
PMOR Pomariorio Ree 70.18 170 *e*T T 15 37 55.3
comp=Z,2μm,0.3s
LMK Market Rasen 70.30 14 *e*P P **14 21 52.3 +0.2**
LMK IAmb IAmb 14 21 52.8
comp=Z,374nm,1.2s
FOEL Foel Wylfa 70.41 16 *e*P P **14 21 51.9 -0.9**
FOEL IAmb IAmb 14 21 53.5
comp=Z,184nm,1.0s
NACGM Naroch 70.42 357 *e* P **14 21 52.0 -0.8**
VAH Vaihoa 70.44 170 *e*P P **14 21 54.3 +1.0**
comp=Z,145nm,1.1s
VAH Vaihoa 70.44 170 *e*T T 15 38 15.4
comp=Z,91nm,0.4s
PDGK Podgornoye 70.75 320 *i* P P **14 21 55.6 +0.4**
PDGK pmax pmax
comp=Z,204nm,1.1s
MICGM Minsk 70.79 357⇑*e*P P **14 21 54.0 -1.1**
MICGM PM 14 21 56.0
comp=Z,0.4nm,1.0s
MNK Minsk 70.79 357⇑*e*P P **14 21 54.0 -1.1**
MNK pmax pmax
comp=Z,430nm,1.0s
HLM1 Long Mynd 70.82 16 *e*P P **14 21 55.5 +0.1**
HLM1 IAmb IAmb 14 21 56.9
comp=Z,105nm,1.4s
AKTO Aktyubinsk 70.84 337 P P **14 21 55.6 +0.1**
comp=Z,100nm,0.8s,baz=27,slow=6.3,SNR=337
AKTO LR LR 14 55 18.5
comp=Z,946nm,20.7s,baz=19,slow=38
AKTO Aktyubinsk 70.84 337 *i* P P **14 21 55.0 -0.5**
AKTO pmax pmax
comp=Z,129nm,0.8s
GZH Guangzhou 70.94 283 P P **14 21 53.9 -2.5**
GZH S S **14 31 08.3 -2.6**
GZH ScS **SKSac** **14 31 52.2 -5.6**
GZH LR LR
comp=Z,1μm,19.4s
GZH LR LR
comp=Z,1μm,19.4s
LPW Lampeter 71.02 17 *e*P P **14 21 56.3 -0.2**
LPW IAmb IAmb 14 21 57.0
comp=Z,40nm,1.1s
UZB Uzynbulak 71.08 320⇓*i*P P **14 21 58.0 +0.7**
comp=Z,510nm,1.4s
UZB *e*S S **14 31 13.6 +1.1**
UZB LR LR 14 54 19.7
comp=Z,946nm,14.7s
WACR West Acre 71.15 14 *e*P P **14 21 57.0 -0.3**
WACR IAmb IAmb 14 21 59.0
comp=Z,356nm,0.9s
BTLS Baital 71.20 324⇓*i*P P **14 21 58.4 +0.6**
comp=Z,1μm,1.2s
BTLS *e*S S **14 31 14.5 +1.0**
BTLS LR LR 14 54 05.6
comp=Z,772nm,12.0s
MCH1 Michaelchurch 71.31 16 *e*P P **14 21 58.3 0.0**
MCH1 IAmb IAmb 14 21 59.8
comp=Z,127nm,1.1s
SUW Suwalki 71.37 360 *e*P P **14 21 58.0 -0.6**
SUW Suwalki 71.37 360 *e*P P **14 21 58.0 -0.6**
SATY Saty 71.39 320⇓*i*P P **14 21 59.9 +0.8**
comp=Z,1μm,1.5s
SATY *i* S S **14 31 17.6 +1.6**
SATY LR LR 14 54 39.1
comp=Z,1μm,16.7s
KUU Kurty 71.41 322⇓*i*P P **14 21 59.1 0.0**
comp=Z,340nm,1.2s
KUU *i* S S **14 31 16.7 +0.7**
KUU LR LR 14 55 09.2
comp=Z,1μm,15.4s
AB31 Akbulak array 71.49 335 *i* P P **14 21 59.6 +0.2**
AB31 pmax pmax
comp=Z,96nm,0.7s
ABKAR Akbulak array 71.49 335 *e*P P **14 21 59.3 -0.1**
comp=Z,849nm,0.8s
ABKAR LR LR
comp=Z,400nm,18.0s
MONM Monmouth 71.49 16 *e*P P **14 21 59.8 +0.4**
MONM IAmb IAmb 14 22 00.9
comp=Z,126nm,1.3s
SSW Stow on the Wo 71.52 16 *e*P P **14 22 00.1 +0.6**
JTS JuntasAbangare 71.64 98 LR LR 14 53 09.6
comp=Z,316nm,20.3s,baz=358,slow=36
STRD Stroud 71.66 16 *e*P P **14 22 00.8 +0.4**
STRD IAmb IAmb 14 22 02.0
comp=Z,309nm,1.3s
HGH Gray Hill 71.69 16 *e*P P **14 22 00.9 +0.3**
MDOK Medeo 71.79 321 *i* P P **14 22 02.2 +0.6**
comp=Z,794nm,1.3s
MDOK *e*S S **14 31 21.5 +0.8**
MDOK LR LR 14 54 09.0
comp=Z,901nm,18.1s
AAA Alma-Ata 71.80 321⇓*i*P P **14 22 02.6 +1.1**
comp=Z,1μm,1.2s
AAA LR LR 14 54 13.7
comp=Z,1μm,17.4s
AAA Alma-Ata 71.80 321 *i* P P **14 22 02.6 +1.1**
AAA *e*S S **14 31 19.6 -1.0**
AAA pmax pmax
comp=Z,900nm,2.3s
AAA smax smax
comp=N,1μm,7.9s
AAA MLR MLR
comp=Z,3μm,15.0s
SKP1 Kophill 71.92 15 *e*P P **14 22 02.4 +0.5**
LPSR Galich'ya Gora 71.92 350 *e*P P **14 22 01.5 -0.4**
LPSR pmax pmax
comp=Z,150nm,1.0s
GYA Guiyang 71.95 290⇓*i*P P **14 22 03.2 +0.5**
GYA PcP **PcP** **14 22 23.4 +2.1**
GYA PP **PP** **14 24 45.0 +2.8**
GYA S S **14 31 26.5 +3.6**
GYA SKS **SKSac** **14 32 02.6 -3.1**
GYA SS SS **14 36 00.2 +1.2**
GYA pmax pmax
comp=Z,200nm,1.0s
GYA pmax pmax
comp=Z,540nm,7.8s
GYA LR LR
comp=Z,730nm,22.7s
GYA LR LR
comp=Z,790nm,23.9s
GYA LR LR
comp=Z,1μm,24.0s
HTL Hartland 72.03 18 *e*P P **14 22 02.9 +0.3**
HTL IAmb IAmb 14 22 04.2
comp=Z,55nm,1.1s
GKP Gorka Klasztor 72.03 3 *e*P P **14 22 03.0 +0.4**
GKP Gorka Klasztor 72.03 3 *e*P P **14 22 03.0 +0.4**
WOL Wolverton 72.25 15 *e*P P **14 22 04.6 +0.6**
WOL IAmb IAmb 14 22 05.7
comp=Z,455nm,1.5s
BMNS Besmoynak 72.33 322⇓*i*P P **14 22 05.8 +1.0**
comp=Z,1μm,1.2s
BMNS LR LR 14 54 37.1
comp=Z,1μm,16.7s
TKM2 Tokmak 2 72.53 322 P P **14 22 06.5 +0.4**
SNR=93
TKM2 Tokmak 2 72.53 322 *i* P P **14 22 06.6 +0.6**
TKM2 pmax pmax
comp=Z,103nm,1.0s
SDDR Presa de Saban 72.54 82 *e*P P **14 22 06.3 +0.1**
comp=Z,46nm,0.9s
SDDR LR LR
comp=Z,1μm,18.0s
PPT Papeete 72.57 172 LR LR 14 46 50.1
comp=Z,1μm,19.6s,baz=2.5,slow=30

TIAR Tiarei 72.58 172 *e*P P 14 22 07.2 +1.0
comp=Z,40nm,1.1s
TIAR Tiarei 72.58 172 *e*T T 15 40 55.0
comp=Z,222nm,0.3s
PPT2 Papeete2 72.59 172 *e*S S 14 31 26.5 -3.4
comp=Z,2µm,30.8s
PPT2 Papeete2 72.59 172 *e*LR LR 14 44 07.6
comp=Z,2µm,22.5s,baz=351
PPT2 Papeete2 72.59 172 *e*T T 15 40 56.0
comp=Z,37nm,0.3s
USP Ospenovka 72.61 323 P P 14 22 07.0 +0.7
SNR=88
WTSB Winterswijk 72.63 10 *e*P P 14 22 06.8 +0.6
comp=Z,225nm,1.0s
KDJ Kajisay 72.64 320 *e*P P 14 22 07.7 +1.0
comp=Z,73nm,1.0s
KDJ LR LR
comp=Z,3µm,18.0s
DYA Yadsworthy 72.66 17 *e*P P 14 22 05.4 -1.0
DYA IAmb IAmb 14 22 06.7
comp=Z,125nm,1.1s
PAE Paea 72.66 172 *e*T T 15 41 01.3
comp=Z,12nm,0.3s
CCA1 Carnmenellis 72.67 18 *e*P P 14 22 06.0 -0.5
CCA1 IAmb IAmb 14 22 08.0
comp=Z,152nm,1.2s
CHMS Chumysh 72.75 323 P P 14 22 08.4 +1.2
SNR=73
TARG Taragay, Kyrgy 72.76 320 *e*P P 14 22 09.0 +1.3
comp=Z,46nm,0.8s
TARG LR LR
comp=Z,2µm,19.0s
VORR Voronezh 72.81 349 P P 14 22 06.0 -1.3
VORR pmax pmax
comp=Z,400nm,1.4s
TVO Taravao 72.81 172 *e*P P 14 22 08.7 +1.1
comp=Z,28nm,0.9s
TVO Taravao 72.81 172 *e*T T 15 41 12.2
comp=Z,12nm,0.3s
ULHL Ulahol 72.88 321 P P 14 22 09.2 +1.0
SNR=25
FRU Bishkek 72.95 323 ⇓*i*P P 14 22 09.0 +0.7
FRU *i* 14 22 18.0
FRU pmax pmax
comp=Z,500nm,2.0s
FRU pmax pmax
comp=N,160nm,2.2s
FRU MLR MLR
comp=E,3µm,13.0s
KBK Karagaybulak 72.99 322 P P 14 22 10.0 +1.3
SNR=109
MEH Mehetia 73.01 171 *e*T T 15 41 24.8
comp=E,12nm,0.2s
AAK Ala-Archa 73.16 323 P P 14 22 10.9 +1.1
SNR=84
AAK Ala-Archa 73.16 323 *e*P P 14 22 10.2 +0.5
comp=E,78nm,0.8s
AAK LR LR
comp=Z,5µm,18.0s
AAK Ala-Archa 73.16 323 *i* P P 14 22 10.4 +0.7
AAK pmax pmax
comp=Z,159nm,1.5s
VSR Storozhevoye 73.26 349 *e*P P 14 22 09.0 -1.0
VSR pmax pmax
comp=Z,240nm,1.2s
HNR Honiara 73.37 224 LR LR 14 53 16.0
comp=Z,359nm,18.1s,baz=7.5,slow=35
HNR Honiara 73.37 224 PFAKE 14 22 20.0 +9.0
HNR LR LR
comp=Z,800nm,18.0s
KZA Kyzart 73.39 322 P P 14 22 12.6 +1.2
SNR=72
EKS2 Erkin-Say 73.39 323 P P 14 22 12.3 +1.2
SNR=81
UCC Uccle 73.51 12 ⇓P P 14 22 11.7 +0.3
comp=Z,106nm,1.5s
UCH Uchtor 73.52 322 P P 14 22 13.3 +1.1
SNR=35
BEL Belsk 73.55 1 *e*P P 14 22 12.2 +0.6
BEL Belsk 73.55 1 *e*P P 14 22 12.2 +0.6
BEBN Eben Emael 73.67 11 ⇑P P 14 22 13.3 +1.0
HGN Heimansgroeve 73.72 11 *e*P P 14 22 13.0 +0.3
comp=Z,211nm,1.3s
TGY Tagaytay City 73.73 271 P P 14 22 14.3 +1.1
comp=Z,192nm,0.3s,baz=162,slow=6.4,SNR=18
CLL Collm 73.79 6 ⇓*i*P P 14 22 13.3 +0.2
comp=Z,102nm,1.1s
CLL *i* pP pP 14 22 17.3 -2.2
CLL *e*PPPP 14 27 42.0
CLL *e*S S 14 31 47.0 +4.2
CLL *e*PPS PPS 14 32 30.0
CLL *e*SS SS 14 36 30.0 +4.7
CLL *e*SSS SSS 14 39 54.0
CLL *e* 14 40 36.0
CLL Lm MLR 15 04 00.0
comp=Z,800nm,18.1s
CLL Collm 73.79 6 *e*P P 14 22 13.0 -0.1
comp=Z,76nm,0.9s
CLL Collm 73.79 6 ⇓*i*P P 14 22 13.3 +0.2
CLL *e*S S 14 31 47.0 +4.2
CLL pmax pmax
comp=Z,102nm,1.1s
CLL MLR MLR
comp=Z,800nm,18.1s
SNF Seneffe 73.79 12 ⇓P P 14 22 13.6 +0.5
comp=Z,90nm,1.3s
MEM Membach 73.89 11 ⇓P P 14 22 14.0 +0.4
comp=Z,57nm,1.1s
MEM Membach 73.89 11 P P 14 22 14.4 +0.8
AML Almayashu 73.89 323 P P 14 22 15.3 +1.0
SNR=120
MNAS Manas 73.98 324 *i* P P 14 22 15.1 +0.5
MNAS pmax pmax
comp=Z,161nm,1.1s
BCLA Clavier 74.00 11 ⇑P P 14 22 14.2 -0.1
comp=Z,66nm,1.5s
DZA Taraz 74.02 325 *i* P P 14 22 15.9 +1.3
comp=Z,734nm,1.7s
DZA *e*S S 14 31 47.5 +1.8
DZA LR LR 14 55 54.0
comp=Z,1µm,13.4s
KK31 Karatay Array 74.10 326 *i* P P 14 22 15.3 +0.3
KK31 pmax pmax
comp=Z,92nm,0.8s
KKAR Karatay Array 74.10 326 *e*P P 14 22 15.7 +0.6
KKAR Karatay Array 74.10 326 *e*P P 14 22 15.7 +0.6
JQE Queens East 74.17 16 *e*P P 14 22 15.3 0.0
DOU Dourbes 74.23 12 ⇓P P 14 22 16.1 +0.4
comp=Z,47nm,1.2s
BRG Berggiesshubel 74.28 6 *i* P P 14 22 16.4 +0.5
comp=Z,130nm,1.1s
BRG *e*PP PP 14 25 01.9 +0.9
comp=Z,29nm,1.7s
BRG Berggiesshubel 74.28 6 *i* P P 14 22 16.4 +0.5
BRG *e* 14 25 01.9
BRG pmax pmax
comp=Z,130nm,1.1s
BRG pmax pmax
comp=Z,29nm,1.7s
MOX Moxa 74.36 7 P P 14 22 17.0 +0.6
KSP Ksiaz 74.42 4 *e*P P 14 22 17.4 +0.6
KSP Ksiaz 74.42 4 *e*P P 14 22 17.4 +0.6
AKASG Malin Array Be 74.54 356 P P 14 22 16.9 -0.6
comp=Z,45nm,0.7s,baz=6.0,slow=5.9,SNR=37
AKASG Malin Array Be 74.54 356 *i* P P 14 22 16.5 -0.9
AKASG pmax pmax
comp=Z,46nm,0.7s
AKBB Malin Array Si 74.54 356 *e*P P 14 22 16.8 -0.6
comp=Z,297nm,1.4s
AKBB Malin Array Si 74.54 356 *e*P P 14 22 16.8 -0.6
AKBB pmax pmax
comp=Z,297nm,1.4s
KIEV Kiev 74.55 356 *e*P P 14 22 16.6 -0.9
comp=Z,288nm,1.4s
KIEV Kiev 74.55 356 *d i*P P 14 22 16.8 -0.7
KIEV pmax pmax
comp=Z,234nm,1.4s
AK11 Malin Array Si 74.56 356 *e*P P 14 22 16.9 -0.7
PVCC Panska Ves 74.66 5 *e*P P 14 22 18.9 +0.8
PVCC *e*pP pP 14 22 22.1 -2.5
PVCC Panska Ves 74.66 5 *e*P P 14 22 18.9 +0.8
UPC Upice 74.75 4 *e*P P 14 22 19.2 +0.5
UPC AMS AMS 15 05 30.0
comp=Z,1µm,12.7s
UPC Upice 74.75 4 *e*P P 14 22 19.2 +0.5
UPC MLR MLR
comp=Z,1µm,12.7s
NKC Novy Kostel 74.82 7 *e*P P 14 22 19.8 +0.7
NKC *e*pP pP 14 22 23.2 -2.5
NKC Novy Kostel 74.82 7 *e*P P 14 22 19.8 +0.7
WLF Walferdange 74.83 11 ⇑P P 14 22 20.1 +0.9
comp=Z,110nm,1.4s
WLF Walferdange 74.83 11 *e*P P 14 22 19.9 +0.7
comp=Z,150nm,1.1s
WLF Walferdange 74.83 11 *e*P P 14 22 19.9 +0.7
WLF pmax pmax
comp=Z,150nm,1.1s
DPC Dobruska-Polom 74.92 4 *e*P P 14 22 19.8 +0.1
DPC Dobruska-Polom 74.92 4 *e*P P 14 22 19.8 +0.1
CHM Chimkent 75.10 326 ⇓*i*P P 14 22 21.8 +0.9
comp=Z,2µm,0.9s
CHM LR LR 14 56 04.7
comp=Z,1µm,16.1s
IUG Iuzhnay 75.11 325 ⇓*i*P P 14 22 22.1 +1.1
comp=Z,2µm,1.2s
IUG LR LR 14 55 43.3
comp=Z,819nm,15.4s
KMI Kunming 75.13 292 P P 14 22 21.5 -0.1
KMI pP pP 14 22 24.1 -4.0
KMI sP sP 14 22 26.5 -3.9
KMI PcP PcP 14 22 37.4 +2.3
KMI PP PP 14 25 10.5 +1.1
KMI S S 14 31 57.0 -2.1
KMI sS pS 14 32 02.9 -4.3
KMI SKS SKSac 14 32 26.7 -3.1
KMI SS SS 14 36 40.4 -7.2
KMI pmax pmax
comp=Z,560nm,6.9s
KMI LR LR
comp=Z,1µm,20.6s
KMI LR LR
comp=Z,1µm,20.1s
KMI LR LR
comp=Z,770nm,25.1s
OJC Ojcow 75.15 2 *e*P P 14 22 21.4 +0.4
OJC Ojcow 75.15 2 *e*P P 14 22 20.6 -0.4
comp=Z,199nm,1.7s
OJC Ojcow 75.15 2 *e*P P 14 22 20.6 -0.4
OJC pmax pmax
comp=Z,199nm,1.7s
PRU Pruhonice 75.19 5 *e*P P 14 22 21.9 +0.7
PRU *e*pP pP 14 22 26.2 -1.6
PRU AMS AMS 15 10 00.0
comp=Z,1µm,10.6s
PRU Pruhonice 75.19 5 *e*P P 14 22 21.9 +0.7
PRU MLR MLR
comp=Z,1µm,10.6s
GRF Grafenberg Arr 75.28 8 P P 14 22 22.5 +0.8
GRFO Grafenberg 75.28 8 *e*P P 14 22 22.1 +0.4
comp=Z,72nm,0.8s
GRFO Grafenberg 75.28 8 *e*P P 14 22 22.2 +0.4
GRFO pmax pmax
comp=Z,72nm,0.8s
GOPC GO Pecny, Ondr 75.28 5 *e*P P 14 22 22.3 +0.5
GOPC AMS AMS 15 07 50.0
comp=Z,1µm,10.2s
GOPC GO Pecny, Ondr 75.28 5 *e*P P 14 22 22.3 +0.5
GOPC MLR MLR
comp=Z,1µm,10.2s
MSVF Nonsavu 75.35 204 *e*P P 14 22 24.2 +1.7
comp=Z,86nm,1.2s
MSVF Nonsavu 75.35 204 *e*P P 14 22 24.2 +1.7
MSVF pmax pmax
comp=Z,86nm,1.2s
KSH Kashi 75.37 320 P P 14 22 26.4 +3.8
KSH sP sP 14 22 32.9 +1.4
KSH PcP PcP 14 22 38.8 +3.0
KSH S S 14 32 05.8 +4.6
KSH sS sS 14 32 13.7 +1.8
KSH SKS SKKSac 14 32 31.9 +0.5
KSH SS SS 14 37 00.5 +10
KSH pmax pmax
comp=Z,200nm,1.2s
KSH pmax pmax
comp=Z,740nm,4.9s
KSH LR LR
comp=Z,900nm,12.8s
KSH LR LR
comp=Z,940nm,13.7s
KSH LR LR
comp=Z,3µm,16.0s
OKC Ostrava-Krasne 75.49 3 *e*P P 14 22 23.3 +0.3
OKC *e*pP pP 14 22 27.5 -2.0
OKC Ostrava-Krasne 75.49 3 *e*P P 14 22 23.3 +0.3
MORC Moravsky Berou 75.53 3 ⇓*i*P P 14 22 23.5 +0.2
MORC Moravsky Berou 75.53 3 *e*P P 14 22 23.4 +0.2
comp=Z,186nm,0.8s
MORC Moravsky Berou 75.53 3 *e*P P 14 22 23.4 +0.2
MORC pmax pmax
comp=Z,186nm,0.8s
LVV L'vov 75.57 359 *e*P P 14 22 23.1 -0.3
LANF Langenberg 75.68 10 P P 14 22 24.9 +0.8
KWP Kalwaria Pacla 75.76 360 *e*P P 14 22 25.2 +0.7
KWP Kalwaria Pacla 75.76 360 *e*P P 14 22 25.2 +0.7
SFK Sufi-Kurgan 75.83 322 *i* P P 14 22 25.5 +0.1
SFK pmax pmax
comp=Z,154nm,1.2s
RAR Rarotonga 75.90 182 LR LR 14 51 43.9
comp=Z,866nm,19.0s,baz=4.5,slow=32
TREC Trest 75.93 5 *e*P P 14 22 26.2 +0.7
TREC Trest 75.93 5 *e*P P 14 22 26.2 +0.7
WET Wettzell 75.94 6 P P 14 22 26.2 +0.6
NIE Niedzica 75.96 1 *e*P P 14 22 26.4 +0.7
NIE Niedzica 75.96 1 *e*P P 14 22 26.4 +0.7
VRAC Vranov 75.97 4 ⇓*i*P P 14 22 26.0 +0.3
STHS Stebnicka Huta 75.97 1 *e*P P 14 22 26.7 +1.0
STHS pmax pmax
comp=Z,72nm,0.8s
STHS Stebnicka Huta 75.97 1 *e*P P 14 22 26.7 +1.0
KHC Kasperske Hory 75.99 6 *e*P P 14 22 26.6 +0.7
KHC *e*pP pP 14 22 30.4 -2.0
KHC *ex* x 14 22 43.5
KHC AMS AMS 15 11 50.0
comp=Z,1µm,11.9s
KHC Kasperske Hory 75.99 6 *e*P P 14 22 25.8 -0.1
comp=Z,45nm,0.9s
KHC Kasperske Hory 75.99 6 *e*P P 14 22 25.8 -0.1
KHC pmax pmax
comp=Z,45nm,0.9s
STU Stuttgart 76.02 9 *e*P P 14 22 24.5 -1.5
comp=Z,144nm,1.2s
STU Stuttgart 76.02 9 *e*P P 14 22 24.5 -1.5
STU pmax pmax
comp=Z,144nm,1.2s
QIZ Qiongzhong 76.13 283 P P 14 22 28.2 +1.2
QIZ S S 14 32 14.2 +4.4
QIZ pmax pmax
comp=Z,66nm,1.1s
QIZ LR LR
comp=Z,820nm,15.1s
QIZ LR LR
comp=Z,460nm,14.7s
SJG San Juan 76.15 78 *e*P P 14 22 26.3 -0.9
comp=Z,57nm,1.0s
SJG LR LR
comp=Z,1µm,21.0s
SJG San Juan 76.15 78 *e*P P 14 22 26.3 -0.9
SJG pmax pmax
comp=Z,57nm,1.0s
SJG MLR MLR
comp=Z,1µm,21.0s
LANS Liptovska Anna 76.21 2 *e*P P 14 22 28.4 +1.2
LANS Liptovska Anna 76.21 2 *e*P P 14 22 28.4 +1.2
GEC2 GERESS Array S 76.29 6 *e*P P 14 22 28.2 +0.5
comp=Z,58nm,0.8s
GEC2 GERESS Array S 76.29 6 *e*P P 14 22 28.2 +0.5
GEC2 pmax pmax
comp=Z,58nm,0.8s
GERES GERESS Array B 76.29 6 P P 14 22 28.0 +0.4
comp=Z,36nm,0.7s,baz=356,slow=4.6,SNR=242
GERES PKPPKP P'P'df 14 49 40.7 -9.5
comp=Z,0.4nm,0.5s,baz=201,slow=2.6,SNR=4.6
GERES LR LR 14 57 06.8
comp=Z,331nm,20.8s,baz=353,slow=37
GEA0 GERESS Array S 76.29 6 *e*P P 14 22 27.0 -0.7
HUMP Col San Antoni 76.30 78 PFAKE 14 22 40.0 +12
HUMP LR LR
comp=Z,2µm,18.0s
JAY Jayapura 76.30 245 P P 14 22 28.9 +0.8
ECH Echery 76.37 10 *e*P P 14 22 28.3 +0.2
comp=Z,96nm,0.9s
ECH Echery 76.37 10 *e*P P 14 22 28.3 +0.2
ECH pmax pmax
comp=Z,96nm,0.9s
BFO Black Forest 76.38 10 *e*P P 14 22 28.0 -0.1
comp=Z,52nm,1.0s
BFO Black Forest 76.38 10 *i* P P 14 22 28.4 +0.3
CRVS Cervenica-Dubn 76.49 1 *e*P P 14 22 29.2 +0.5
CRVS Cervenica-Dubn 76.49 1 *e*P P 14 22 29.2 +0.5
CRVS *e*PP PP 14 25 11.0 -8.8
MTP Monte Pirata 76.50 78 *e*P P 14 22 28.8 -0.4
comp=Z,200nm,1.3s
GENI Genyem 76.65 245 P P 14 22 29.9 -0.1
comp=Z,140nm,1.7s,comp=Z,3µm
DAV Davao City (W) 76.73 263 P P 14 22 31.3 +0.8
comp=Z,104nm,0.3s,baz=284,slow=4.2,SNR=6.2
DAV LR LR 14 53 19.8
comp=Z,894nm,21.3s,baz=83,slow=33
MOF Molkenrain 76.73 11 P P 14 22 30.6 +0.4
UZH Uzhgorod 76.76 0 *e*P P 14 22 28.3 -1.9
UZH *i* 14 22 37.1
SMOL Smolenice 76.79 3 *e*P P 14 22 31.5 +1.1
SMOL Smolenice 76.79 3 *e*P P 14 22 31.5 +1.1
FUR Furstenfeldbru 76.80 8 P P 14 22 31.4 +0.9
VYHS Vyhne 76.86 2 *e*P P 14 22 31.6 +0.8
VYHS pmax pmax
comp=Z,72nm,1.2s
VYHS Vyhne 76.86 2 *e*P P 14 22 31.5 +0.8
KECS Kecovo 76.90 1 *e*P P 14 22 32.1 +1.1
KECS pmax pmax
comp=Z,43nm,0.8s
KECS Kecovo 76.90 1 *e*P P 14 22 32.1 +1.1
SLE Schleitheim 76.95 10 P P 14 22 31.7 +0.3
ZST Bratislava 77.10 4 *e*P P 14 22 31.9 -0.2
ZST pmax pmax
comp=Z,113nm,1.2s
ZST Bratislava 77.10 4 *e*P P 14 22 31.9 -0.2
SORM Soroca 77.14 356 ⇑*i*P P 14 22 31.9 -0.4
SORM Soroca 77.14 356 P P 14 22 31.8 -0.5
TRPA Tarpa 77.26 360 ⇓*e*P P 14 22 34.0 +1.0
LSA Lhasa 77.27 304 P P 14 22 35.2 +1.3
LSA pmax pmax
comp=Z,180nm,1.0s
LSA pmax pmax
comp=Z,520nm,9.0s
LSA LR LR
comp=Z,860nm,18.0s
LSA LR LR
comp=Z,1µm,16.6s
LSA LR LR
comp=Z,3µm,13.9s
LSA Lhasa 77.27 304 *e*P P 14 22 35.3 +1.3
comp=Z,150nm,1.0s
LSA LR LR
comp=Z,2µm,18.0s
LSA Lhasa 77.27 304 *e*P P 14 22 35.3 +1.3
LSA pmax pmax
comp=Z,150nm,1.0s
LSA MLR MLR
comp=Z,2µm,18.0s
MOA Molln 77.31 6 *i* pP P 14 22 33.6 +0.3
comp=Z,31nm,1.0s,SNR=16
CONA Conrad Observa 77.31 5 *i* pP P 14 22 34.3 +0.9
comp=Z,86nm,0.9s,SNR=51
RETA Reutte 77.43 8 *i* pP P 14 22 34.6 +0.5
comp=Z,83nm,1.7s,SNR=23
PSZ Piszkesteto 77.45 2 ⇓*i*P P 14 22 35.2 +1.1
PSZ Piszkesteto 77.45 2 ⇓*e*P P 14 22 35.3 +1.1
PSZ Piszkesteto 77.45 2 *e*P P 14 22 35.3 +1.1
comp=Z,144nm,1.1s
PSZ Piszkesteto 77.45 2 *e*P P 14 22 35.3 +1.1
PSZ pmax pmax
comp=Z,144nm,1.1s
DAVA Damuels 77.56 9 *i* pP P 14 22 35.3 +0.4
comp=Z,26nm,0.8s,SNR=9.9
SOP Sopron 77.59 4 ⇓*e*P P 14 22 36.1 +1.2
SOP Sopron 77.59 4 P P 14 22 36.0 +1.2
MOTA Moosalm 77.60 8 *i* pP P 14 22 35.5 +0.4
comp=Z,99nm,1.0s,SNR=56
WATA Walderalm 77.64 8 *i* pP P 14 22 35.9 +0.5
comp=Z,195nm,1.2s,SNR=52
BMR Baia Mare 77.72 359 ⇓*i*P P 14 22 36.1 +0.5
WTTA Wattenberg 77.72 8 *i* pP P 14 22 36.5 +0.7
comp=Z,93nm,0.9s,SNR=32
BUR08 Bucovina Ar. S 77.72 358 *e*P P 14 22 36.1 +0.3
BUR04 Bucovina Ar. S 77.75 358 *e*P P 14 22 36.3 +0.4
BURAR Bucovina Array 77.75 358 ⇓*i*P P 14 22 36.1 +0.2
BURAR Bucovina Array 77.75 358 P P 14 22 36.1 +0.2
BUD Budapest 77.87 2 ⇓*e*P P 14 22 37.1 +0.7
BUD Budapest 77.87 2 P P 14 22 38.1 +1.7
FETA Feichten 77.89 8 *i* pP P 14 22 37.5 +0.7
comp=Z,116nm,1.0s,SNR=40
CSKK Cs ̌tkako 77.97 3 ⇓*e*P P 14 22 38.1 +1.1
ARSA Arzberg 77.97 5 *i* pP P 14 22 38.0 +1.0
comp=Z,62nm,0.9s,SNR=28
KBA Koelnbreinsper 78.02 6 P P 14 22 38.1 +0.6
KBA Koelnbreinsper 78.02 6 *i* pP P 14 22 38.5 +1.0
comp=Z,299nm,1.3s,SNR=79
SABA Saba 78.18 76 PFAKE 14 22 50.0 +11
SABA LR LR
comp=Z,2µm,21.0s
MOTC Monteria, Cord 78.19 92 *e*P P 14 22 31.6 -7.1
SENIN Lac Senin/Sane 78.22 11 *e*P P 14 22 39.4 +0.7
comp=Z,25nm,1.0s
FUORN Ofenpass-Fuorn 78.25 9 *e*P P 14 22 39.7 +0.8
comp=Z,208nm,1.4s
KIS Kishinev 78.26 356 ⇓*i*P P 14 22 37.0 -1.6
comp=Z,500nm,1.4s
KIS Kishinev 78.26 356 *i* PcP PcP 14 22 50.0 +2.0
KIS Kishinev 78.26 356 *e*PP PP 14 25 32.0 -2.6
KIS *e*S S 14 32 26.0 -6.1
KIS Kishinev 78.26 356 ⇓*i*P P 14 22 37.0 -1.6
KIS *i* 14 22 50.0
KIS *e* 14 25 32.0
KIS *e* 14 27 30.0
KIS *e*S S 14 32 26.0 -6.1
KIS *e*PS SKSac 14 32 54.0 +2.4
KIS pmax pmax
comp=Z,500nm,1.4s
KIS pmax pmax
comp=Z,700nm,2.0s
KIS MLR MLR
comp=Z,2µm,20.0s
ABTA Abfaltersbach 78.30 7 *i* pP P 14 22 39.1 +0.1
comp=Z,76nm,1.0s,SNR=24
TBI Tubuai 78.31 172 *e*S S 14 32 29.4 -3.5
comp=Z,2µm,31.0s
TBI Tubuai 78.31 172 *e*LR LR 14 46 36.1
comp=Z,2µm,33.2s,baz=351
TBI Tubuai 78.31 172 *e*T T 15 48 04.0
comp=Z,93nm,0.3s
TUE Stuetta 78.31 9 *e*P P 14 22 40.1 +0.9
comp=Z,265nm,2.0s
MYKA Terra Mystica 78.49 6 *i* pP P 14 22 40.1 +0.1
comp=Z,45nm,1.2s,SNR=12
SOKA Soboth 78.52 5 *i* pP P 14 22 40.7 +0.6
comp=Z,204nm,1.3s,SNR=56
PERS Pernice 78.57 5 *i* P P 14 22 40.6 +0.2
DRGR 78.60 360 ⇑*i*P P 14 22 40.9 +0.3
DRGR 78.60 360 P P 14 22 40.9 +0.3
OBKA Obir 78.66 6 *i* pP P 14 22 41.6 +0.6
comp=Z,248nm,0.7s,SNR=59
CJR Cluj-Napoca 78.68 359 ⇑*i*P P 14 22 41.2 +0.2
BEHE Becsehely 78.81 4 ⇓*e*P P 14 22 42.6 +0.9
GOF Gofitskoye 78.82 345 ⇑*e*P P 14 22 42.4 +0.7
GOF pmax pmax
comp=Z,432nm,1.3s
TESR Tescani 78.82 357 ⇑*i*P P 14 22 41.2 -0.5
RKPI Ransiki, Papua 78.95 251 P P 14 22 41.8 -1.0
SSB Saint Sauveur 78.96 13 *e*P P 14 22 42.8 +0.2
comp=Z,80nm,1.3s
SSB Saint Sauveur 78.96 13 *e*P P 14 22 42.8 +0.2
SSB pmax pmax
comp=Z,80nm,1.3s
PMG Port Moresby 78.99 236 P P 14 22 43.2 +0.2
comp=Z,65nm,1.0s,baz=0.7,slow=7.0,SNR=16
PMG LR LR 14 53 38.4
comp=Z,539nm,20.1s,baz=56,slow=33
PMG Port Moresby 78.99 236 *e*P P 14 22 43.5 +0.6
comp=Z,164nm,1.2s
PMG LR LR
comp=Z,700nm,21.0s
PMG Port Moresby 78.99 236 *d i*P P 14 22 43.0 +0.1
PMG pmax pmax
comp=Z,886nm,1.7s
SIRR Siria 79.13 1 ⇓*i*P P 14 22 44.0 +0.6

JAVS Javornik 79.25 6 *i*P **P** **14 22 43.8 -0.4**
DOPR Dopca 79.40 358⇓*i*P **P** **14 22 45.9 +1.0**
TRI Trieste 79.42 6 *e*P **P** **14 22 44.9 -0.1**
comp=Z,45nm,1.0s
TRI Trieste 79.42 6 *e*P **P** **14 22 44.9 -0.1**
TRI pmax pmax
comp=Z,45nm,1.0s
BNI Bardonecchia 79.44 11 *e*P **P** **14 22 46.9 +1.6**
comp=Z,76nm,1.0s
BNI Bardonecchia 79.44 11 *e*P **P** **14 22 46.9 +1.6**
BNI pmax pmax
comp=Z,76nm,1.0s
VRI Vrincioaia 79.47 357⇑*i*P **P** **14 22 45.6 +0.3**
VRI Vrincioaia 79.47 357 P **P** **14 22 45.5 +0.3**
PLOR Plostina 79.48 357⇓*i*P **P** **14 22 45.8 +0.4**
PLOR Plostina 79.48 357 P **P** **14 22 45.8 +0.4**
PETR Petresti 79.59 357⇑*i*P **P** **14 22 46.3 +0.4**
OZLJ Ozalj 79.60 5 P **P** **14 22 45.9 0.0**
ZARC Zaragoza, Cauc 79.70 92 *e*P **P** **14 22 43.5 -3.5**
BOJS Bojanci 79.70 5 *i*P **P** **14 22 46.8 +0.2**
BZS Buzias 79.78 1⇓*i*P **P** **14 22 47.2 +0.3**
BZS Buzias 79.78 1 P **P** **14 22 47.1 +0.2**
ANN Anapa 79.79 349 *i*P **P** **14 22 46.2 -0.8**
MLR Muntele Rosu 79.86 358 P **P** **14 22 47.9 +0.4**
comp=Z,3.0nm,0.6s,baz=338,slow=5.3,SNR=29
MLR PKKPbc **PKKPbc** **14 41 30.5 -0.3**
comp=Z,0.3nm,0.6s,baz=168,slow=6.9,SNR=4.3
MLR Muntele Rosu 79.86 358 *e*P **P** **14 22 48.0 +0.4**
comp=Z,207nm,1.6s
MLR PKKPbc **PKKPbc** **14 41 30.6 -0.3**
MLR Muntele Rosu 79.86 358 *e*P **P** **14 22 48.0 +0.4**
MLR pmax pmax
comp=Z,207nm,1.6s
PGAV Gavieira, Arco 79.93 23⇓*e*P **P** **14 22 48.8 +0.8**
comp=Z,83nm,1.5s
PGAV Gavieira, Arco 79.93 23 *e*LR LR 14 52 29.6
comp=Z,870nm,20.0s
VOIR 79.94 358⇓*i*P **P** **14 22 48.0 +0.1**
VOIR 79.94 358 P **P** **14 22 48.0 +0.1**
LOT Lotru 79.94 359⇓*i*P **P** **14 22 47.8 -0.2**
KVAR Kislovodsk Arr 79.95 345 P **P** **14 22 48.8 +0.8**
comp=Z,38nm,0.9s,baz=110,slow=2.1,SNR=22
KIV Kislovodsk 79.95 345 *e*P **P** **14 22 49.0 +1.0**
comp=Z,94nm,1.1s
KIV Kislovodsk 79.95 345 *e*P **P** **14 22 48.6 +0.6**
KIV *e* 14 25 49.6
KIV *e*S **S** **14 32 51.6 +1.1**
KIV pmax pmax
comp=Z,77nm,1.0s
KIV pmax pmax
comp=Z,120nm,3.5s
SIM Simferopol' **79.96 352** *ce*P **P** **14 22 48.3 +0.4**
SIM *e* 14 22 58.0
SIM pmax pmax
comp=Z,162nm,1.5s
ARR Arges 80.01 358⇑*i*P **P** **14 22 49.1 +0.8**
SWI Sorong 80.02 254 P **P** **14 22 49.3 +0.7**
comp=Z,217nm,1.2s,comp=Z,2μm
TLCR 80.06 355⇑*i*P **P** **14 22 48.8 +0.3**
CFR Carcaliu 80.10 356⇓*i*P **P** **14 22 48.9 +0.2**
CFR Carcaliu 80.10 356 P **P** **14 22 48.8 +0.1**
MAK Makhachkala 80.13 342 *e*P **P** **14 22 44.1 -4.8**
MAK *e*S **S** **14 32 46.2 -5.9**
MAK pmax pmax
comp=Z,543nm,1.5s
KBZ Khabaz 80.14 345 P **P** **14 22 49.7 +0.8**
comp=Z,34nm,0.8s,baz=14,slow=2.7,SNR=40
KBZ LR LR 15 03 29.7
comp=Z,1μm,18.1s,baz=8.0,slow=40
MTUR Matau 80.14 358⇓*i*P **P** **14 22 50.8 +1.7**
RKT Rikitea 80.15 159 *e*P **P** **14 22 49.9 +0.9**
comp=Z,295nm,1.4s
RKT Rikitea 80.15 159 *e*S **S** **14 32 50.3 -2.1**
comp=Z,522nm,29.2s
RKT Rikitea 80.15 159 *e*LR LR 14 47 39.0
comp=Z,2μm,31.2s,baz=342
RKT Rikitea 80.15 159 *e*T T 15 50 24.6
comp=Z,19nm,0.3s
GROC Groznyy 80.20 343 *e*P **P** **14 22 48.4 -0.8**
GROC *e* 14 22 55.7
GROC *e* 14 25 50.0
GROC pmax pmax
comp=Z,15nm,0.6s
ISR Istrita 80.22 357⇓*i*P **P** **14 22 49.5 +0.1**
ISR Istrita 80.22 357 P **P** **14 22 49.5 +0.1**
PCAB Cabril 80.23 23⇓*e*P **P** **14 22 50.4 +0.9**
comp=Z,82nm,1.7s
NCK Nalchik 80.27 345 *d i*P **P** **14 22 50.9 +1.2**
NCK pmax pmax
comp=Z,355nm,1.7s
HELC Santa Helena 80.36 93 PFAKE 14 23 00.0 +9.0
HELC LR LR
comp=Z,1μm,21.0s
HELC Santa Helena 80.36 93 *e*P **P** **14 22 48.5 -2.5**
PBRG Braganca 80.42 22⇓*e*P **P** **14 22 51.4 +0.9**
comp=Z,74nm,1.4s
PBRG *ep*P **PcP** **14 22 57.3 -0.2**
PBRG Braganca 80.42 22 *e*LR LR 14 50 19.4
comp=Z,761nm,18.0s
BLY Banja Luka 80.55 4⇓*i*P **P** **14 22 51.4 +0.3**
HARR Harsova 80.60 356⇑*i*P **P** **14 22 51.8 +0.4**
POLO Lamas de Olo 80.60 23⇓*e*P **P** **14 22 52.5 +0.9**
comp=Z,45nm,1.6s
NVLJ Novalja 80.62 6 P **P** **14 22 51.6 +0.1**
NEY Neytrino 80.64 345 *c i*P **P** **14 22 53.5 +1.6**
NEY pmax pmax
comp=Z,29nm,1.8s
PTO Porto 80.64 23 *e*P **P** **14 22 53.1 +1.4**
comp=Z,83nm,1.5s
TLB Topalu 80.70 356⇑*i*P **P** **14 22 52.1 +0.2**
PTBC PUERTO BERRIO, 80.70 92 *e*P **P** **14 22 50.2 -2.2**
VLC Villacollemand 80.70 9 *e*P **P** **14 22 52.3 +0.3**
comp=Z,68nm,0.9s
UDBI Udbina 80.70 5 P **P** **14 22 52.2 +0.2**
PVRL Vila Real 80.71 23 *e*P **P** **14 22 53.4 +1.3**
comp=Z,111nm,1.8s
SOC Sochi 80.72 347 *e*P **P** **14 22 51.8 -0.2**
SOC *e* 14 25 53.0
SOC *e*S **S** **14 32 57.9 -0.5**
SOC *e*SS **SS** **14 38 09.0 -1.0**
SOC *e*SSS SSS 14 41 29.7
SOC pmax pmax
comp=Z,104nm,1.0s
SRE Strehaia 80.73 359⇓*i*P **P** **14 22 52.8 +0.6**
SRE Strehaia 80.73 359 P **P** **14 22 52.7 +0.6**
TIRR Tirgusor 80.81 356⇓*i*P **P** **14 22 52.8 +0.2**
TIRR Tirgusor 80.81 356 *e*P **P** **14 22 52.7 +0.2**
comp=Z,93nm,0.9s
TIRR Tirgusor 80.81 356 *e*P **P** **14 22 52.7 +0.2**
TIRR pmax pmax
comp=Z,93nm,0.9s
MVO Moncorvo 80.97 22⇓*e*P **P** **14 22 54.3 +0.8**
comp=Z,87nm,1.2s
MVO Moncorvo 80.97 22 *e*LR LR 14 50 34.4
comp=Z,1μm,18.0s
KMPI Kaimana, Papua 81.00 250 P **P** **14 22 53.0 -0.9**
SDV Santo Domingo 81.01 87 P **P** **14 22 53.0 -1.2**
comp=Z,11nm,0.9s,baz=309,slow=6.9,SNR=12
SDV LR LR 15 00 58.0
comp=Z,522nm,18.7s,baz=294,slow=37
SDV Santo Domingo 81.01 87 P **P** **14 22 53.0 -1.2**
SDV LR LR
comp=Z,600nm,19.0s
SDV Santo Domingo 81.01 87 *e*P **P** **14 22 51.5 -2.8**
PAMC Pamplona, Colo 81.07 90 *e*P **P** **14 22 51.4 -3.5**
SGRR Singureni 81.13 357⇑*i*P **P** **14 22 53.8 -0.4**
FAKI Fak Fak 81.17 252 P **P** **14 22 54.6 -0.2**
FAKI Fak Fak 81.17 252 *e*P **P** **14 22 55.2 +0.4**
comp=Z,123nm,0.8s
PVIS Viseu 81.20 23⇓*e*P **P** **14 22 55.6 +0.8**
comp=Z,85nm,1.4s
GUN Gumba 81.25 307 *e*P **P** **14 22 56.3 +0.7**
comp=Z,580nm,1.1s
NORC Norcasia 81.25 93 *e*P **P** **14 22 53.8 -1.6**
DIVS Divibare 81.28 2 *e*P **P** **14 22 55.6 +0.5**
comp=Z,64nm,0.9s
CMAI Chiengmai2 81.32 292 P **P** **14 22 55.9 +0.1**
comp=Z,2μm,1.2s,comp=Z,17μm
JIRN Jiri 81.32 306 *e*P **P** **14 22 56.9 +0.9**
comp=Z,602nm,0.7s
BARC Barichara 81.39 91 *e*P **P** **14 22 54.6 -1.7**
RREF El Recreo 81.52 94 *e*P **P** **14 22 54.1 -3.3**
AKT Akhty 81.52 341⇓*i*P **P** **14 22 57.1 +0.6**
AKT *e* 14 23 03.0
AKT pmax pmax
comp=Z,137nm,1.0s
MTE Manteigas 81.58 23⇓*e*P **P** **14 22 57.6 +0.8**
comp=Z,122nm,1.7s
MTE Manteigas 81.58 23 *e*LR LR 14 52 14.6
comp=Z,778nm,18.0s
MTE Manteigas 81.58 23 *e*P **P** **14 22 57.2 +0.4**
comp=Z,74nm,1.1s
KKN Kakani 81.63 307 *e*P **P** **14 22 58.0 +0.6**
comp=Z,463nm,1.3s
YOTC Yotoco, Valle 81.69 95 *e*P **P** **14 22 54.1 -3.6**
PCAS Casmilo, Conde 81.70 24 *e*P **P** **14 22 57.9 +0.6**
comp=Z,92nm,2.1s
GKN Gorkha 81.74 308 *e*P **P** **14 22 58.4 +0.4**
PKI Pulchoki 81.76 307 *e*P **P** **14 22 58.6 +0.3**
PKIN Phulchoki 81.76 307 *e*P **P** **14 22 59.1 +0.9**
comp=Z,175nm,0.9s
TBLG Delisi 81.81 343 P **P** **14 22 59.5 +1.6**
DANN Dangsing 81.84 309 *e*P **P** **14 23 00.0 +1.3**
DMN Daman 81.87 307 *e*P **P** **14 22 59.4 +0.7**
comp=Z,320nm,1.0s
LBMI Labuha 81.93 257 P **P** **14 22 58.6 -0.2**
HORQ Saladito 81.93 95 *e*P **P** **14 22 56.7 -2.5**
RUSC La Rusia 82.02 91 *e*P **P** **14 22 56.8 -3.1**
SZH Strazhica 82.08 357 *i*P **P** **14 22 59.1 -0.2**
PRD Provadia 82.11 356 *i*P **P** **14 22 59.9 +0.5**
PCBR Castelo Branco 82.14 23⇓*e*P **P** **14 23 00.2 +0.6**
comp=Z,100nm,1.6s
PTOM Tomar 82.14 24⇓*e*P **P** **14 23 00.2 +0.6**
comp=Z,91nm,1.8s
KHON Khomkaen 82.21 287 P **P** **14 23 01.0 +0.7**
comp=Z,40nm,1.1s,comp=Z,1μm
CMMT Chiang Mai 82.29 292 P **P** **14 22 59.4 -1.4**
comp=Z,89nm,1.7s,comp=Z,1μm
CHTO Chiang Mai 82.29 292 P **P** **14 23 00.5 -0.2**
comp=Z,519nm,1.4s,comp=Z,6μm
CHTO Chiang Mai 82.29 292 *e*P **P** **14 23 00.8 +0.1**
comp=Z,53nm,0.9s
CHTO LR LR
comp=Z,600nm,20.0s
CHTO Chiang Mai 82.29 292 *e*P **P** **14 23 00.8 +0.1**
CHTO pmax pmax
comp=Z,53nm,0.9s
CHTO MLR MLR
comp=Z,600nm,20.0s
CHTO Chiang Mai 82.29 292 P **P** **14 23 01.1 +0.4**
SNR=28
KBL Kabul 82.30 323 *e*P **P** **14 23 00.1 -0.7**
comp=Z,84nm,1.0s
KBL LR LR
comp=Z,1μm,19.0s
KBL Kabul 82.30 323 *e*P **P** **14 23 00.1 -0.7**
KBL pmax pmax
comp=Z,84nm,1.0s
KBL MLR MLR
comp=Z,1μm,19.0s
AKH Akhalkalaki 82.32 344 P **P** **14 23 02.3 +1.5**
AKH Akhalkalaki 82.32 344⇓*i*P **P** **14 23 02.0 +1.2**
MYLDM Lahad Datu 82.33 268 *e*P **P** **14 23 02.4 +1.5**
comp=Z,133nm,1.2s
PYUN Piuthan 82.41 309 *e*P **P** **14 23 02.1 +0.6**
comp=Z,757nm,1.1s
KOLN Koldanda 82.41 308 *e*P **P** **14 23 02.1 +0.6**
BRY Bratogost 82.44 3⇓*i*P **P** **14 23 01.1 -0.2**
STON Ston 82.44 4 P **P** **14 22 59.6 -1.5**
IVA Berane 82.50 2⇓*i*P **P** **14 23 01.7 +0.1**
KOME Kolasin 82.51 2⇓*i*P **P** **14 23 01.9 +0.2**
ALMR Almeirim 82.54 24 *e*P **P** **14 23 02.4 +0.7**
ALMR AMS AMS 15 01 12.0
comp=Z,848nm,16.5s
ALMR Almeirim 82.54 24 *e*P **P** **14 23 02.4 +0.7**
ALMR A A 15 01 12.0
comp=Z,848nm,16.5s
ALMR Almeirim 82.54 24 *e*P **P** **14 23 02.4 +0.7**
GEYT Alibeck 82.55 332 P **P** **14 23 02.7 +0.9**
comp=Z,54nm,1.0s,baz=343,slow=4.6,SNR=92
GEYT PP **PP** **14 26 09.0 -1.4**
comp=Z,11nm,1.1s,baz=316,slow=6.0,SNR=4.1
GEYT LR LR 15 04 54.8
comp=Z,894nm,19.1s,baz=30,slow=40
PMRV Marv??o 82.55 23⇓*e*P **P** **14 23 02.3 +0.5**
comp=Z,115nm,1.5s
PMRV Marv??o 82.55 23 *e*LR LR 14 55 00.0
comp=Z,617nm,16.0s
PMAFR Mafra 82.56 24⇓*e*P **P** **14 23 02.5 +0.6**
comp=Z,238nm,1.7s
NKME Niksic 82.58 3⇓*i*P **P** **14 23 01.8 -0.2**
CM31 Chiang Mai Arr 82.58 291 *e*P **P** **14 23 03.0 +0.7**
CM31 *e*PKKPbc **PKKPbc** **14 41 24.4 0.0**
CM31 Chiang Mai Arr 82.58 291 P **P** **14 23 02.8 +0.6**
CMAR Chiang Mai Arr 82.58 291 P **P** **14 23 02.6 +0.4**
comp=Z,139nm,0.9s,baz=13,slow=5.4,SNR=595
CMAR PKKPbc **PKKPbc** **14 41 24.4 0.0**
comp=Z,1.2nm,0.6s,baz=234,slow=3.8,SNR=7.7
CMAR LR LR 15 02 31.2
comp=Z,597nm,18.9s,baz=40,slow=38
CMAR Chiang Mai Arr 82.58 291 *i*P **P** **14 23 02.9 +0.6**
CMAR pmax pmax
comp=Z,146nm,0.9s
CM01 Chiang Mai Arr 82.61 291 *e*P **P** **14 23 01.5 -0.9**
DZM Mont Dzumac 82.69 213 LR LR 14 56 20.2
comp=Z,456nm,18.1s,baz=36,slow=33
DZM Mont Dzumac 82.69 213 *e*P **P** **14 23 03.4 +0.8**
comp=Z,109nm,1.4s
DZM Mont Dzumac 82.69 213 *e*S **S** **14 33 14.8 -4.3**
comp=Z,329nm,26.2s
DZM *e*SS **SS** **14 38 43.0 +0.9**
comp=Z,386nm,25.1s
DZM Mont Dzumac 82.69 213 *e*LR LR 14 49 03.9
comp=Z,758nm,24.6s
PMTG Montargil 82.70 24⇓*e*P **P** **14 23 02.8 +0.2**
comp=Z,68nm,1.9s
AQU L'Aquila 82.73 7 P **P** **14 23 00.9 -1.9**
comp=Z,49nm,0.8s
AQU L'Aquila 82.73 7 P **P** **14 23 00.9 -1.9**
AQU pmax pmax
comp=Z,49nm,0.8s
PRAC Prado 82.74 94 PFAKE 14 23 20.0 +17
PRAC LR LR
comp=Z,300nm,21.0s
PVY Plav 82.78 2⇓*i*P **P** **14 23 02.8 -0.3**
CEME Cevo 82.80 3⇓*i*P **P** **14 23 03.2 +0.1**
VTS Vitosha 82.80 359⇓*i*P **P** **14 23 02.8 -0.4**
VTS Vitosha 82.80 359 *e*P **P** **14 23 03.2 0.0**
VTS Vitosha 82.80 359 *e*P **P** **14 23 03.2 0.0**
VTS Vitosha 82.80 359 *i*P **P** **14 23 02.5 -0.7**
VTS Vitosha 82.80 359 P **P** **14 23 03.2 0.0**
LIS Lisbon 82.82 24 *e*P **P** **14 23 04.0 +0.8**
LIS AMS AMS 15 05 48.5
comp=Z,865nm,15.0s
LIS Lisbon 82.82 24⇓*e*P **P** **14 23 03.9 +0.7**
LIS Lisbon 82.82 24 *e*P **P** **14 23 04.0 +0.8**
PHIT Phitsanulok 82.83 290 P **P** **14 23 04.0 +0.5**
comp=Z,61nm,1.1s,comp=Z,580nm
PGB Panagyurishte 82.83 359 *i*P **P** **14 23 03.4 +0.1**
JMB Yambol 82.86 357 *i*P **P** **14 23 03.6 +0.2**
HCY Herceg Novi 82.89 3⇓*i*P **P** **14 23 03.3 -0.2**
PDG Podgorica 82.93 2⇑*i*P **P** **14 23 03.9 +0.2**
TTG Podgorica 82.93 2⇓*i*P **P** **14 23 03.8 +0.2**
TTG Podgorica 82.93 2 *e*P **P** **14 23 03.8 +0.2**
comp=Z,124nm,0.8s
TTG LR LR
comp=Z,700nm,20.0s
TTG Podgorica 82.93 2 *e*P **P** **14 23 03.8 +0.2**
TTG pmax pmax
comp=Z,124nm,0.8s
TTG MLR MLR
comp=Z,700nm,20.0s
KMSI Cibinong 82.93 261 P **P** **14 23 02.9 -1.1**
KKM Kota Kinabalu 82.94 270 *e*P **P** **14 23 05.7 +1.4**
comp=Z,78nm,1.1s
PCON Cinco Dias 83.00 96 *e*P **P** **14 23 02.0 -3.1**
CHAI Chaiyaphum 83.02 288 P **P** **14 23 04.8 +0.2**
comp=Z,13nm,1.2s
ES19 SONSECA Array 83.03 20 *e*P **P** **14 23 04.7 +0.4**
ESDC Sonseca Array 83.04 20 P **P** **14 23 05.2 +0.8**
comp=Z,46nm,0.8s,baz=341,slow=4.7,SNR=194
ESDC PP **PP** **14 26 14.2 -0.2**
comp=Z,1.6nm,0.7s,baz=345,slow=8.5,SNR=4.8
ESDC PKKPbc **PKKPbc** **14 41 23.9 +0.4**
comp=Z,1.4nm,0.7s,baz=175,slow=1.2,SNR=12
ESDC PKPPKP P'P'df 14 49 26.9 -10
comp=Z,0.6nm,0.7s,baz=199,slow=1.7,SNR=4.2
ESDC LR LR 15 05 37.5
comp=Z,360nm,18.1s,baz=275,slow=40
ESLA Sonseca Array 83.04 20 *e*P **P** **14 23 05.3 +0.9**
comp=Z,83nm,0.9s
SOTA Rioblanco 83.04 96 *e*P P 14 23 00.1 -5.2
PESTR Estremoz 83.04 23⇓*e*P **P** **14 23 04.9 +0.5**
comp=Z,132nm,1.6s
PESTR Estremoz 83.04 23 *e*P **P** **14 23 04.7 +0.3**
comp=Z,55nm,1.2s
BUM Brajici-Budva 83.05 3⇓*i*P **P** **14 23 04.3 -0.1**
PAB San Pablo 83.08 21 *e*P **P** **14 23 05.5 +0.8**
comp=Z,92nm,1.3s
PAB San Pablo 83.08 21 *e*P **P** **14 23 05.5 +0.8**
PAB pmax pmax
comp=Z,92nm,1.3s
DIKM Dikmen 83.13 350 P **P** **14 23 06.4 +1.6**
KARS Kars 83.15 344 P **P** **14 23 07.1 +2.0**
KURC Kurucasile-Bar 83.15 352 P **P** **14 23 04.4 -0.5**
DRME Dracevica, Mon 83.17 2⇓*i*P **P** **14 23 05.4 +0.4**
EVO Evora 83.26 24⇓*e*P **P** **14 23 06.0 +0.5**
comp=Z,113nm,1.8s
KTUT Trabzon 83.27 347 P **P** **14 23 06.6 +1.1**
SENK Senkaya-Erzuru 83.33 345 P **P** **14 23 07.8 +1.7**
GNI Garni 83.35 343 P **P** **14 23 07.7 +1.6**
comp=Z,35nm,0.8s,baz=30,slow=2.7,SNR=20
GNI PKKPbc **PKKPbc** **14 41 25.5 +2.5**
comp=Z,1.8nm,0.4s,baz=194,slow=5.2,SNR=3.2
GNI LR LR 15 06 28.0
comp=Z,876nm,18.0s,baz=25,slow=40
GNI Garni 83.35 343 *d i*P **P** **14 23 07.8 +1.7**
GNI pmax pmax
comp=Z,440nm,1.7s
GCUF Volcan Galeras 83.36 97 *e*P **P** **14 23 04.7 -2.2**
MSAI Masohi 83.36 255 P **P** **14 23 05.6 -0.7**
ULC Ulcinj 83.39 2⇓*i*P **P** **14 23 06.0 -0.1**
PCRV Puerto La Cruz 83.41 82 LR LR 14 59 52.7
comp=Z,697nm,20.7s,baz=300,slow=35
SKO Skopje 83.42 1⇓*i*P **P** **14 23 07.2 +0.9**
ESPY Espiye-Giresun 83.47 348 P **P** **14 23 06.6 0.0**
KKB Krupnik 83.53 360 *i*P **P** **14 23 07.0 +0.2**
OTAV Otavalo 83.53 99 *e*P **P** **14 23 07.0 -0.7**
comp=Z,107nm,2.2s
OTAV Otavalo 83.53 99 *e*P **P** **14 23 04.9 -2.8**
PNCL Nicolau / Gran 83.54 24⇓*e*P **P** **14 23 07.7 +0.8**
comp=Z,158nm,1.6s
PNCL Nicolau / Gran 83.54 24 *e*LR LR 14 53 34.8
comp=Z,854nm,18.0s
KVT Kavak 83.61 350 P **P** **14 23 09.1 +1.8**
RZN Rozhen 83.69 358 *i*P **P** **14 23 08.6 +0.7**
KDZ Kurdzhali 83.71 358 *i*P **P** **14 23 08.6 +0.8**
PBEJ Beja 83.78 24⇓*e*P **P** **14 23 08.8 +0.6**
comp=Z,82nm,1.7s
CTYL Yalikoy Yolu 83.79 356 P **P** **14 23 07.6 -0.5**
BNDI Bandanaira 83.79 253 P **P** **14 23 07.4 -1.1**
MMB Musomiste 83.80 359 *i*P **P** **14 23 09.2 +0.9**
BAYT Ayd¯–ntepe-Bay 83.81 347 P **P** **14 23 10.1 +1.6**
PBAR Barrancos 83.83 23⇓*e*P **P** **14 23 09.2 +0.8**
comp=Z,457nm,1.3s
PBAR Barrancos 83.83 23 *e*LR LR 14 52 32.7
comp=Z,2μm,18.0s
MESJ Messejana 83.87 24 *e*P **P** **14 23 09.5 +0.9**
MESJ AMS AMS 15 00 33.6
comp=Z,920nm,20.2s
MESJ Messejana 83.87 24⇓*e*P **P** **14 23 09.2 +0.6**
comp=Z,76nm,1.6s
MESJ Messejana 83.87 24 *e*P **P** **14 23 09.5 +0.9**
SANI Sanana 83.94 258 P **P** **14 23 08.6 -0.6**
KLYT Kilyos 83.98 355 P **P** **14 23 10.0 +0.9**
CTKS Kestanelik-??a 84.02 355 P **P** **14 23 09.5 +0.2**
KRUS Krusevo 84.02 1⇓*i*P **P** **14 23 09.7 +0.2**
TIR Tirane 84.02 2 *e*P **P** **14 23 06.6 -2.7**
comp=Z,73nm,0.8s
TIR Tirane 84.02 2 *e*P **P** **14 23 06.6 -2.7**
TIR pmax pmax
comp=Z,73nm,0.8s
PTEO Sao Teotonio 84.04 24⇓*e*P **P** **14 23 10.1 +0.6**
comp=Z,153nm,1.4s
NVR Nevrokopi 84.04 359 P **P** **14 23 10.3 +0.8**
SLVT Silivri 84.04 356 P **P** **14 23 10.7 +1.3**
AAI Ambon 84.05 255 P **P** **14 23 09.5 -0.3**
BGKT Bogazkoy 84.06 355 P **P** **14 23 10.4 +0.9**
VAY Valandovo 84.07 360⇓*i*P **P** **14 23 10.4 +0.8**
PCVE Castro Verde 84.11 24⇓*e*P **P** **14 23 10.6 +0.7**
comp=Z,114nm,1.6s
RSDY Resadiye-TOKAT 84.15 349 P **P** **14 23 10.6 +0.5**
ISK Istanbul-Kandi 84.16 355 P **P** **14 23 10.3 +0.2**
MRSI Marisa 84.17 263 P **P** **14 23 09.9 -0.5**
AGRB Hanur-Agry 84.19 344 P **P** **14 23 12.2 +1.7**
RDO Rodhopi 84.21 358 *e*P **P** **14 23 10.9 +0.6**
RDO Rodhopi 84.21 358 P **P** **14 23 10.9 +0.6**
KNT Kendrikon 84.23 360 P **P** **14 23 10.7 +0.3**
OHR Ohrid 84.27 1⇓*i*P **P** **14 23 10.7 0.0**
SRS Serrai 84.27 359 *e*P **P** **14 23 10.9 +0.3**
SRS Serrai 84.27 359 P **P** **14 23 11.1 +0.5**
SRS Serrai 84.27 359 P **P** **14 23 10.9 +0.3**
MORF Marmelete 84.28 24 *e*P **P** **14 23 11.4 +0.6**
MORF AMS AMS 15 01 05.1
comp=Z,1μm,19.5s
MORF Marmelete 84.28 24⇓*e*P **P** **14 23 11.4 +0.6**
comp=Z,182nm,1.4s
MORF Marmelete 84.28 24 *e*LR LR 14 53 24.5
comp=Z,1μm,18.0s
MORF Marmelete 84.28 24 P **P** **14 23 11.4 +0.6**
CANT Cankiri 84.31 351 P **P** **14 23 12.9 +2.0**
TOKT Tokat 84.31 349 P **P** **14 23 12.2 +1.3**
BIA Bitola 84.37 1 *e*P **P** **14 23 11.7 +0.5**
HRT Hereke 84.37 355 P **P** **14 23 12.1 +0.9**
PFVI Vila Bisbo 84.40 25 *e*P **P** **14 23 12.7 +1.3**
PVAQ Vaqueiros 84.41 24⇓*e*P **P** **14 23 12.3 +0.9**
comp=Z,162nm,1.6s
PVAQ Vaqueiros 84.41 24 *e*LR LR 14 53 54.8
comp=Z,945nm,20.0s
GRG Griva 84.44 0 *e*P **P** **14 23 11.9 +0.4**
GRG Griva 84.44 0 *e*P **P** **14 23 11.9 +0.4**
GRG Griva 84.44 0 P **P** **14 23 11.9 +0.4**
ALN Alexandroupoli 84.45 357 P **P** **14 23 11.8 +0.3**
CLDR Caldiran 84.47 343 P **P** **14 23 12.6 +0.7**
PBDV Barranco-do-Ve 84.51 24⇓*e*P **P** **14 23 13.0 +1.1**
comp=Z,225nm,1.5s
PBDV Barranco-do-Ve 84.51 24 *e*LR LR 14 54 12.3
comp=Z,1μm,18.0s
SRAK Srakaew 84.53 286 P **P** **14 23 11.2 -1.1**
comp=Z,278nm,0.8s,comp=Z,3μm
FNA Florina 84.61 1 P **P** **14 23 12.4 0.0**
FNA Florina 84.61 1 P **P** **14 23 12.2 -0.2**
MDUB Mudurnu 84.63 353 P **P** **14 23 12.7 +0.1**
CORM Corum 84.64 351 P **P** **14 23 13.7 +1.0**
SVSK Karacayir 84.66 349 P **P** **14 23 14.5 +1.9**
ARMT Armutlu 84.67 355 P **P** **14 23 13.3 +0.6**
NAYO Nakonayok 84.68 287 P **P** **14 23 13.6 +0.6**
comp=Z,82nm,1.7s,comp=Z,9μm
UTHA Uthaitani 84.69 289 P **P** **14 23 13.5 +0.4**
comp=Z,37nm,1.1s,comp=Z,339nm
GULT Gulveren 84.71 354 P **P** **14 23 14.0 +1.0**
ADVT Abdulvahap 84.76 354 P **P** **14 23 13.9 +0.8**
GEMT Gemlik 84.78 355 P **P** **14 23 13.8 +0.6**
MDNY Mudanya-Bursa 84.87 355 P **P** **14 23 13.5 -0.1**
EDC Edincik 84.93 356 P **P** **14 23 14.3 +0.3**
LUWI Luwuk 84.94 261 P **P** **14 23 13.1 -1.2**
comp=Z,210nm,1.1s,comp=Z,2μm
LUWI Luwuk 84.94 261 *e*P **P** **14 23 13.0 -1.3**
comp=Z,228nm,1.1s
CAVI Cavuskoy 84.98 354 P **P** **14 23 15.2 +0.9**
VANB Van 85.09 344 P **P** **14 23 16.7 +1.8**
LOD Lodumlu 85.09 352 P **P** **14 23 15.4 +0.5**
ANTO Ankara 85.11 352 P **P** **14 23 16.4 +1.4**
ANTO Ankara 85.11 352 *e*P **P** **14 23 16.4 +1.4**
comp=Z,185nm,0.8s
ANTO Ankara 85.11 352 *e*P **P** **14 23 16.4 +1.4**
ANTO pmax pmax
comp=Z,185nm,0.8s
YOZ Yozgat 85.11 350 P **P** **14 23 16.4 +1.3**
BR231 Keskin MP Arra 85.14 352 *e*P **P** **14 23 16.6 +1.4**
BR101 Keskin Array S 85.18 351 *e*P **P** **14 23 16.2 +0.8**
BR101 *e*PKKPbc **PKKPbc** **14 41 19.5 +0.7**
BR131 Keskin Array S 85.18 351 *e*P **P** **14 23 16.1 +0.6**
BRTR Keskin Array B 85.18 351 P **P** **14 23 16.2 +0.8**
comp=Z,59nm,0.8s,baz=33,slow=2.7,SNR=222
BRTR PKKPbc **PKKPbc** **14 41 19.5 +0.7**
comp=Z,2.0nm,0.9s,baz=181,slow=6.2,SNR=7.8
BRTR PKPPKP **P'P'df** **14 49 26.7 -7.0**
comp=Z,2.0nm,1.2s,baz=195,slow=1.9,SNR=5.3
BRTR LR LR 15 09 37.0
comp=Z,325nm,18.0s,baz=24,slow=42
CUC Castrocucco 85.23 5 *e*P **P** **14 23 15.1 -0.5**
comp=Z,70nm,0.9s
LIT Litokhoron 85.29 360 *e*P **P** **14 23 15.7 -0.1**

LIT	Litokhoron	85.29	360	eP		P		14 23 15.7	-0.1	
LIT	Litokhoron	85.29	360	P		P		14 23 15.7	-0.1	
GURO	Guroymak-BITLI	85.34	345	P		P		14 23 17.5	+1.2	
PTK	Pertek	85.38	347	P		P		14 23 18.4	+1.9	
MPSI	Mapaga	85.45	264	P		P		14 23 16.3	-0.6	
APSI	Ampana	85.47	262	P		P		14 23 16.4	-0.6	
AFSR	Af ar-Bala (A	85.51	352	P		P		14 23 17.3	+0.3	
SVRH	Sivrihisar-ESK	85.63	353	P		P		14 23 18.4	+0.8	
BALB	Balikesir	85.64	356	P		P		14 23 18.1	+0.6	
SFS	San Fernando	85.65	23	PFAKE				14 23 30.0	+12	
SFS				LR		LR				
	comp=Z,1µm,18.0s									
RAO	Raoul Island	85.70	198	eP		P		14 23 17.2	-0.4	
RAO	Raoul Island	85.70	198	eP		P		14 23 17.2	-0.4	
TVSB	Tavsanli	85.75	355	P		P		14 23 17.9	-0.3	
THL	Klokotos Trika	85.83	0	P		P		14 23 18.0	-0.4	
BNN	Bunyan	85.84	350	P		P		14 23 19.2	+0.5	
SRDT	SRDT	85.86	289	P		P		14 23 18.4	-0.5	
	comp=Z,155nm,1.2s									
SAUI	Saumlaki	85.90	250	P		P		14 23 19.2	+0.2	
DARE	Darende-Malaty	85.94	348	P		P		14 23 21.3	+2.2	
SERE	Sereflikochisa	85.96	351	P		P		14 23 20.4	+1.1	
MALT	Malatya	86.08	347	P		P		14 23 21.6	+1.8	
TIP	Timpagrande	86.08	4	jj iP		P		14 23 18.9	-0.9	
TIP	Timpagrande	86.08	4	eP		P		14 23 20.2	+0.4	
	comp=Z,94nm,0.9s									
SIMA	Simav-Kutahya	86.14	355	P		P		14 23 20.2	+0.1	
PMOZ	Porto Moniz, M	86.15	33	eLR		LR		14 56 50.2		
	comp=Z,908nm,18.0s									
DYBB	Diyarbakir	86.20	346	P		P		14 23 22.3	+1.9	
SIRT	Sirnak	86.31	344	P		P		14 23 22.3	+1.3	
CUKT	Cukurca	86.37	343	P		P		14 23 20.7	-0.6	
AGG	Agios Georgios	86.37	0	eP		P		14 23 21.3	+0.1	
	comp=Z,224nm,0.9s									
AGG	Agios Georgios	86.37	0	eP		P		14 23 21.3	+0.1	
AGG				pmax		pmax				
	comp=Z,225nm,0.9s									
CHBY	Cihanbeyli	86.38	352	P		P		14 23 22.0	+0.7	
GULA	Gulagac	86.50	351	P		P		14 23 22.8	+0.9	
SHUT	Suhut-Afyon	86.58	354	P		P		14 23 23.3	+1.0	
MAZI	Mazidag	86.65	346	P		P		14 23 23.1	+0.4	
SULT	Sultanhani-AKS	86.71	351	P		P		14 23 24.2	+1.3	
KULA	Kula-Manisa	86.72	355	P		P		14 23 23.6	+0.6	
PHET	Kaeng Krachan	86.77	288	P		P		14 23 24.1	+0.7	
	comp=Z,30nm,1.0s,comp=Z,372nm									
ANX	Ano Chora	86.80	0	P		P		14 23 24.0	+0.6	
URFA	Urfa	86.88	347	P		P		14 23 24.4	+0.6	
EFP	Efpalio	86.96	0	P		P		14 23 24.8	+0.8	
DSF	Desfina	86.98	360	eP		P		14 23 23.1	-1.1	
DSF	Desfina	86.98	360	P		P		14 23 23.1	-1.1	
KMRS	Kahramanmaras	87.06	349	P		P		14 23 25.8	+1.2	
KOZT	Kozan	87.20	349	P		P		14 23 26.6	+1.4	
ISP	Isparta	87.31	354	P		P		14 23 26.4	+0.5	
ISP	Isparta	87.31	354	jj iP		P		14 23 25.8	-0.1	
ISP	Isparta	87.31	354	eP		P		14 23 26.7	+0.8	
ISP				LR		LR				
	comp=Z,600nm,22.0s									
ISP	Isparta	87.31	354	eP		P		14 23 26.7	+0.8	
ISP				MLR		MLR				
	comp=Z,600nm,22.0s									
ISP	Isparta	87.31	354	P		P		14 23 26.7	+0.8	
AYDB	Zeytinkoy-Aydi	87.33	356	P		P		14 23 26.5	+0.5	
KLV	Kalavryta, Ach	87.35	0	eP		P		14 23 26.2	+0.2	
KLV	Kalavryta, Ach	87.35	0	P		P		14 23 26.2	+0.2	
GAZ	Gaziantep	87.35	348	P		P		14 23 27.1	+1.0	
GUR	Goura	87.45	0	eP		P		14 23 26.2	-0.4	
GUR	Goura	87.45	0	P		P		14 23 26.2	-0.4	
SGKI	Sangatta, Kali	87.48	266	P		P		14 23 25.2	-1.6	
KARA	Karaisali	87.50	350	P		P		14 23 27.9	+1.2	
SUTC	Sutluce-Ispart	87.62	353	P		P		14 23 27.4	0.0	
VAE	Valguarnera	87.65	6	LR		LR		15 07 37.1		
	comp=Z,421nm,18.1s,baz=20,slow=39									
BCK	Bucak	87.67	354	P		P		14 23 27.1	-0.5	
CEYT	Ceyhan	87.67	349	P		P		14 23 29.2	+1.7	
YURE	YUREGIR	87.87	349	P		P		14 23 30.3	+1.8	
MLSB	Milas	87.98	356	P		P		14 23 29.3	+0.3	
YER	Yerkesik	88.12	355	P		P		14 23 30.6	+0.9	
YER	Yerkesik	88.12	355	eP		P		14 23 30.3	+0.6	
YER	Yerkesik	88.12	355	eP		P		14 23 30.3	+0.6	
YER	Yerkesik	88.12	355	P		P		14 23 30.3	+0.6	
KORT	Korkueli	88.14	354	P		P		14 23 30.3	+0.4	
SBUM	Sibu	88.16	272	eP		P		14 23 30.8	+0.7	
	comp=Z,25nm,1.0s									
SBUM				LR		LR				
	comp=Z,400nm,19.0s									
TTSI	Tana Toraja	88.25	262	P		P		14 23 29.2	-1.3	
	comp=Z,42nm,1.7s,comp=Z,974nm									
KIZK	Mersin	88.36	351	P		P		14 23 30.6	-0.2	
TURN	Turunc	88.36	355	P		P		14 23 30.8	0.0	
ELL	Elmali	88.42	354	P		P		14 23 30.0	-1.2	
SILI	Silifke-Mersin	88.49	351	P		P		14 23 30.8	-0.6	
FETY	Fethiye	88.58	355	P		P		14 23 31.1	-0.7	
CTA	Charters Tower	88.72	231	P		P		14 23 33.1	+0.6	
	comp=Z,59nm,0.9s,baz=32,slow=7.5,SNR=41									
CTAO	Charters Tower	88.72	231	eP		P		14 23 33.3	+0.8	
	comp=Z,95nm,0.9s									
CTAO				pmax		pmax				
	comp=Z,95nm,0.9s									
AKKU	Akkuyu-Mersin	88.73	351	P		P		14 23 32.5	0.0	
TEKE	Tekeli-Mersin	88.78	351	P		P		14 23 32.8	0.0	
AKAS	Kas	88.95	354	P		P		14 23 32.9	-0.8	
KEST	Kesra	88.95	11	P		P		14 23 34.1	+0.4	
	comp=Z,13nm,0.8s,baz=324,slow=3.9,SNR=5.6									
KEST				PKKPbc		PKKPbc		14 41 06.5	-3.2	
	comp=Z,7.2nm,0.3s,baz=138,slow=6.2,SNR=14									
KEST				LR		LR		15 07 25.1		
	comp=Z,1µm,19.2s,baz=324,slow=38									
KEST	Kesra	88.95	11	eP		P		14 23 34.1	+0.4	
	comp=Z,117nm,1.7s									
KEST				ePKKPdf		PKKPbc		14 41 06.5	-3.2	
BNSI	Bone	89.20	261	P		P		14 23 33.8	-1.1	
	comp=Z,48nm,1.2s									
MTKI	Muara Teweh, K	89.37	267	P		P		14 23 35.6	-0.2	
KARP	Karpathos	89.75	356	eP		P		14 23 37.2	-0.1	
	comp=Z,23nm,0.9s									
ALFC	Alefka	89.81	352	P		P		14 23 37.9	+0.2	
LEF	Lefka	89.82	351	P		P		14 23 38.3	+0.7	
PHNC	Paralimni	89.83	351	P		P		14 23 38.7	+1.0	
KAPI	Kappang	89.90	261	eP		P		14 23 37.0	-1.3	
	comp=Z,106nm,1.3s									
KAPI				LR		LR				
	comp=Z,8µm,18.0s									
KAPI	Kappang	89.90	261	P		P		14 23 38.3	+0.1	
	SNR=6.2									
CSS	Mathiatis	89.94	351	P		P		14 23 39.5	+1.3	
CSS	Mathiatis	89.94	351	eP		P		14 23 36.2	-2.0	
	comp=Z,32nm,1.4s									
CSS	Mathiatis	89.94	351	P		P		14 23 38.9	+0.7	
AKMC	Akamas	89.96	352	P		P		14 23 38.4	+0.1	
MTN	Manton Dam	90.04	248	eP		P		14 23 38.9	+0.2	
	comp=Z,121nm,1.6s									
KSM	Kuching	90.05	273	eP		P		14 23 39.5	+0.5	
	comp=Z,52nm,1.0s									
IDI	Anoyia	90.07	358	P		P		14 23 39.2	+0.2	
	comp=Z,20nm,0.9s,baz=359,slow=8.8,SNR=7.5									
IDI				LR		LR		15 06 00.4		
	comp=Z,198nm,21.8s,baz=337,slow=37									
IDI	Anoyia	90.07	358	jj iP		P		14 23 39.6	+0.7	
IDI	Anoyia	90.07	358	eP		P		14 23 39.1	+0.2	
	comp=Z,128nm,1.4s									
PPCY	Paphos	90.10	352	P		P		14 23 40.6	+1.7	
SZAC	Souni	90.18	351	P		P		14 23 40.3	+0.9	
BSSI	Bau Bau, Buton	90.40	260	P		P		14 23 39.4	-1.2	
SURT	Suratani	90.48	286	P		P		14 23 40.9	-0.1	
	comp=Z,44nm,1.3s,comp=Z,592nm									
STKI	Sintang	90.52	271	P		P		14 23 39.7	-1.5	
KBKI	Kotabaru	90.55	265	P		P		14 23 40.6	-0.7	
TRTT	Trang	90.90	285	P		P		14 23 42.7	-0.3	
	comp=Z,29nm,1.1s,comp=Z,390nm									
SOEI	Soe	91.23	255	P		P		14 23 44.9	+0.4	
	comp=Z,32nm,1.3s									
SOEI	Soe	91.23	255	eP		P		14 23 42.8	-1.7	
	comp=Z,52nm,1.2s									
EIDS	Eidsvold	91.31	225	PFAKE				14 24 00.0	+16	
EIDS				LR		LR				
	comp=Z,800nm,18.0s									
MMRI	Maumere	91.45	257	P		P		14 23 44.0	-1.4	
RPN	Rapa Nui	91.61	138	LR		LR		14 55 33.5		
	comp=Z,647nm,20.9s,baz=330,slow=29									
MMAI	Mount Meron Ar	91.66	349	P		P		14 23 46.6	+0.2	
	comp=Z,9.8nm,1.0s,baz=335,slow=6.4,SNR=5.2									
MMAI				LR		LR		15 09 04.5		
	comp=Z,222nm,21.8s,baz=55,slow=38									
BATI	Baumata	91.94	255	LR		LR		15 01 14.2		
	comp=Z,237nm,21.7s,baz=18,slow=33									
BATI	Baumata	91.94	255	P		P		14 23 47.1	-0.6	
RPR	Rampur	92.08	308	eP		P		14 23 48.3	-0.1	
RPR				IAmb		IAmb		14 23 49.3		
	comp=Z,76nm,1.6s									
ASF	Jabal al Asfar	92.32	348	P		P		14 23 49.8	+0.3	
	comp=Z,7.5nm,0.9s,baz=22,slow=3.1,SNR=9.3									
ASF				LR		LR		15 09 05.7		
	comp=Z,113nm,19.4s,baz=326,slow=38									
PVM	Polavaram	92.39	305	eP		P		14 23 50.1	+0.3	
PVM				IAmb		IAmb		14 23 51.0		
	comp=Z,195nm,1.9s									
SRSP	Sriramsagar	92.45	308	eP		P		14 23 49.0	-1.2	
SRSP				IAmb		IAmb		14 23 50.4		
	comp=Z,89nm,1.4s									
KULM	Kulim	92.45	283	eP		P		14 23 50.1	-0.1	
	comp=Z,37nm,1.0s									
PBKI	Pangkalan Bun	92.66	269	P		P		14 23 49.6	-1.5	
IPM	Ipoh	92.91	282	eP		P		14 23 52.5	+0.2	
	comp=Z,38nm,0.9s									
IPM				LR		LR				
	comp=Z,600nm,20.0s									
MYKOM	Kota Tinggi	93.50	278	PFAKE				14 24 10.0	+15	
MYKOM				LR		LR				
	comp=Z,400nm,18.0s									
BASI	Baing, Sumba	93.67	258	P		P		14 23 54.3	-1.4	
HYBB	Hyderabad (bro	93.67	307	eP		P		14 23 55.3	-0.5	
HYBB				IAmb		IAmb		14 23 56.5		
	comp=Z,96nm,1.1s									
HYB	Hyderabad	93.67	307	jj iP		P		14 23 55.5	-0.3	
	comp=Z,120nm,1.0s									
HYB				ePP		PP		14 27 44.0	+3.8	
HYB				eS		S		14 35 00.0	-3.8	
KLRI	Killari	93.98	309	eP		P		14 23 56.8	-0.5	
KLRI				IAmb		IAmb		14 23 57.7		
	comp=Z,88nm,0.8s									
NJS	Nagarjunasagar	94.08	306	eP		P		14 23 57.6	-0.1	
NJS				IAmb		IAmb		14 23 58.5		
	comp=Z,50nm,1.2s									
WB2	Warramunga Arr	94.30	241	eP		P		14 23 57.2	-1.2	
WR1	Warramunga Arr	94.31	241	eP		P		14 23 57.8	-0.6	
	comp=Z,45nm,1.0s									
WR1				ePKiKP		PKiKP		14 28 42.6	+0.6	
WRA	Warramunga Arr	94.31	241	P		P		14 23 57.8	-0.6	
	comp=Z,19nm,0.9s,baz=39,slow=5.2,SNR=112									
WRA				PKiKP		PKiKP		14 28 42.6	+0.6	
	comp=Z,1.5nm,0.9s,baz=21,slow=1.8,SNR=7.5									
WRA				LR		LR		15 01 50.0		
	comp=Z,495nm,21.7s,baz=45,slow=33									
WRA	Warramunga Arr	94.31	241	i P		P		14 23 57.7	-0.8	
WRA				pmax		pmax				
	comp=Z,19nm,0.9s									
ADKI	Addanki	94.39	306	eP		P		14 23 58.8	-0.2	
ADKI				IAmb		IAmb		14 24 00.2		
	comp=Z,30nm,0.9s									
SRLM	Srisailam	94.67	307	eP		P		14 23 59.8	-0.6	
SRLM				IAmb		IAmb		14 24 01.1		
	comp=Z,50nm,1.1s									
PTGA	Pitinga	94.94	84	PFAKE				14 24 10.0	+8.4	
PTGA				LR		LR				
	comp=Z,600nm,20.0s									
UOSS	Minazif	95.31	330	PFAKE				14 24 10.0	+6.8	
UOSS				LR		LR				
	comp=Z,800nm,19.0s									
PSI	Prapat	95.47	283	P		P		14 24 04.0	-0.1	
	comp=Z,9.6nm,0.8s,baz=22,slow=7.2,SNR=18									
PSI				LR		LR		15 10 51.0		
	comp=Z,294nm,18.4s,baz=8.0,slow=38									
PSI	Prapat	95.47	283	eP		P		14 24 04.1	-0.1	
	comp=Z,26nm,0.9s									
PSI	Prapat	95.47	283	eP		P		14 24 04.1	-0.1	
PSI				pmax		pmax				
	comp=Z,27nm,0.9s									
HIZ	Hauiti	96.08	201	PFAKE				14 24 20.0	+14	
HIZ				LR		LR				
	comp=Z,700nm,18.0s									
WSAR	Wadi Sarin	96.17	327	P		P		14 24 07.4	+0.2	
	comp=Z,39nm,1.0s,baz=12,slow=2.6,SNR=12									
WSAR				LR		LR		15 11 18.6		
	comp=Z,640nm,21.7s,baz=344,slow=38									
SKHT	Srikalahasti	96.33	305	eP		P		14 24 07.7	-0.2	
SKHT				IAmb		IAmb		14 24 09.2		
	comp=Z,61nm,1.4s									
URV	Uravakonda	96.42	307	eP		P		14 24 07.5	-0.9	
URV				IAmb		IAmb		14 24 08.6		
	comp=Z,84nm,1.8s									
AS01	Alice Springs	97.62	239	eP		P		14 24 13.0	-0.5	
AS31	Alice Springs	97.64	239	eP		P		14 24 13.6	-0.1	
	comp=Z,1.9nm,1.0s									
AS31				ePP		PP		14 28 09.1	-2.7	
AS31				ePKiKP		PKiKP		14 28 47.6	-0.2	
AS31				ePKKPbc		PKKPbc		14 40 47.8	0.0	
ASAR	Alice Springs	97.65	239	P		P		14 24 13.4	-0.2	
	comp=Z,6.2nm,1.0s,baz=36,slow=3.9,SNR=26									
ASAR				PP		PP		14 28 09.1	-2.7	
	comp=Z,1.7nm,0.9s,baz=33,slow=7.9,SNR=4.1									
ASAR				PKiKP		PKiKP		14 28 47.6	-0.2	
	comp=Z,1.6nm,0.8s,baz=20,slow=1.9,SNR=8.3									
ASAR				PKKPbc		PKKPbc		14 40 47.8	0.0	
	comp=Z,2.1nm,1.1s,baz=180,slow=2.9,SNR=6.3									
RAYN	Ar Rayn	99.36	339	eP		Pdif		14 24 20.5	-1.0	
RAYN				LR		LR				
	comp=Z,38nm,1.4s									
SAML	Samuel	99.75	92	PFAKE				14 24 40.0	+17	
SAML				LR		LR				
	comp=Z,400nm,20.0s									
STKA	Stephens Creek	101.00	229	PKiKP		PKiKP		14 28 53.1	-0.3	
	comp=Z,2.0nm,0.8s,baz=4.8,slow=5.3,SNR=3.0									
TAM	Tamanrasset	101.19	16	PFAKE				14 24 40.0	+10	
TAM				LR		LR				
	comp=Z,800nm,18.0s									
LPAZ	La Paz	102.82	100	PKKPbc		PKKPbc		14 40 33.9	+0.5	
	comp=Z,1.6nm,0.8s,baz=141,slow=3.8,SNR=5.0									
ODZ	Otahua Downs	103.24	203	PFAKE				14 24 50.0	+12	
ODZ				LR		LR				
	comp=Z,1µm,22.0s									
KOWA	Kowa	107.25	27	PKKPab		PKKPab		14 40 35.6	-2.9	
	comp=Z,3.0nm,0.8s,baz=193,slow=5.6,SNR=4.7									
KOWA	Kowa	107.25	27	ePKKPdf		PKKPdf		14 40 35.6	+5.0	
KOWA				LR		LR				
	comp=Z,1µm,19.0s									
TOC1	Torodi Ar. Sit	109.88	22	PFAKE				14 29 20.0		
TOC1				LR		LR				
	comp=Z,2µm,20.0s									
TOC7	Torodi Ar. Sit	109.88	22	PFAKE				14 29 20.0		
TOC7				LR		LR				
	comp=Z,2µm,19.0s									
TOB5	Torodi Ar. Sit	109.89	22	PFAKE				14 29 20.0		
TOB5				LR		LR				
	comp=Z,2µm,19.0s									
TOA1	Torodi Ar. Sit	109.89	22	ePKiKP		PKiKP		14 29 08.8	-1.6	
TOA1				ePP		PP		14 29 37.1	-4.8	
TOA1				ePKKPbc		PKKPbc		14 40 10.4	-0.4	
TOA1				ePKKPab		PKKPdf		14 40 23.8	-1.9	
TORD	Torodi Ar. Bea	109.90	22	PKiKP		PKiKP		14 29 08.8	-1.6	
	comp=Z,1.0nm,0.7s,baz=334,slow=4.0,SNR=4.8									
TORD				PP		PP		14 29 37.1	-4.9	
	comp=Z,3.6nm,1.0s,baz=350,slow=5.2,SNR=6.7									
TORD				PKKPbc		PKKPbc		14 40 10.4	-0.4	
	comp=Z,2.0nm,0.8s,baz=168,slow=2.4,SNR=8.8									
TORD				PKKPab		PKKPdf		14 40 23.8	-1.9	
	comp=Z,7.3nm,1.0s,baz=163,slow=5.3,SNR=13									
TOC4	Torodi Ar. Sit	109.92	22	PFAKE				14 29 20.0		
TOC4				LR		LR				
	comp=Z,2µm,20.0s									
ATD	Arta Tunnel	111.56	338	PFAKE				14 29 30.0		
ATD				LR		LR				
	comp=Z,400nm,20.0s									
RCBR	Riachuelo	112.53	67	PFAKE				14 29 30.0		
RCBR				LR		LR				
	comp=Z,28µm,22.0s									
FURI	Furi	114.93	342	PFAKE				14 29 30.0	+9.5	
FURI				LR		LR				
	comp=Z,500nm,18.0s									
CPUP	Villa Florida	116.87	98	PKP		PKPdf		14 29 22.1	-1.2	
	comp=Z,2.5nm,0.7s,baz=263,slow=2.9,SNR=7.2									
CPUP				PKKPbc		PKKPbc		14 39 49.6	+2.2	
	comp=Z,5.6nm,1.0s,baz=110,slow=6.6,SNR=6.0									
CPUP	Villa Florida	116.87	98	ePKPdf		PKPdf		14 29 23.1	-0.3	
CPUP				ePKKPbc		PKKPbc		14 39 49.6	+2.2	
SPB	Sao Paulo	120.45	88	PFAKE				14 29 40.0	+10	
SPB				LR		LR				
	comp=Z,400nm,21.0s									
PLCA	Paso Flores	120.53	118	PKP		PKPdf		14 29 29.7	-0.4	
	comp=Z,10.0nm,0.8s,baz=321,slow=2.2,SNR=22									
PLCA				PKKPbc		PKKPab		14 39 36.2	+1.0	
	comp=Z,1.7nm,0.8s,baz=155,slow=6.0,SNR=3.7									
PLCA	Paso Flores	120.53	118	PKIKP		PKPdf		14 29 29.7	-0.4	
PLCA				pmax		pmax				
	comp=Z,9.0nm,0.8s									
PLCA				pmax		pmax				
	comp=Z,2.0nm,0.8s									
KMBO	Kilima Mbogo	124.98	342	PKP		PKPdf		14 29 40.4	+0.7	
	comp=Z,16nm,0.9s,baz=8.7,slow=3.8,SNR=38									
KMBO				PP		PP		14 31 27.7	+0.3	
	comp=Z,1.2nm,0.4s,baz=357,slow=4.4,SNR=4.0									
KMBO	Kilima Mbogo	124.98	342	ePKPdf		PKPdf		14 29 40.9	+1.2	
KMBO				ePP		PP		14 31 27.7	+0.3	
KMBO				LR		LR				
	comp=Z,500nm,18.0s									
MBAR	Mbarara	125.38	350	PKP		PKPdf		14 29 39.6	-0.8	
	comp=Z,2.2nm,0.3s,baz=214,slow=3.6,SNR=7.1									
MBAR	Mbarara	125.38	350	ePKPdf		PKPdf		14 29 40.2	-0.2	
SBA	Scott Base	134.38	190	ePKPdf		PKPdf		14 29 57.2	+2.0	
SBA	Scott Base	134.38	190	ePKIKP		PKPdf		14 29 57.2	+2.0	
VNDA	Vanda	134.62	191	PKP		PKPdf		14 29 55.4	-0.3	
	comp=Z,3.0nm,1.1s,baz=360,slow=3.3,SNR=5.6									
VNDA	Vanda	134.62	191	ePKPdf		PKPdf		14 29 57.3	+1.6	
OPO	Ambohidratompo	139.06	323	PKP		PKPdf		14 30 06.3	+0.4	
	comp=Z,5.9nm,1.0s,baz=26,slow=4.0,SNR=4.8									
LSZ	Lusaka	140.13	351	PKhKP		PKPpre		14 30 00.5		
	comp=Z,6.7nm,0.7s,baz=333,slow=2.8,SNR=8.4									
LSZ				PP		PP		14 33 04.3	-0.1	
	comp=Z,4.5nm,0.6s,baz=354,slow=8.8,SNR=4.9									
LSZ	Lusaka	140.13	351	ePKPpre		PKPpre		14 30 03.3		
LSZ				ePP		PP		14 33 04.3	-0.1	
TSUM	Tsumeb	144.09	8	PKP		PKPbc		14 30 12.8	-0.1	
	comp=Z,14nm,0.8s,baz=19,slow=3.8,SNR=24									
MATP	Matopo	145.20	350	PKPbc		PKPbc		14 30 16.1	-0.2	
	comp=Z,59nm,0.9s,baz=354,slow=2.9,SNR=85									
HOPE	Hope Point	146.74	114	ePKPdf		PKPbc		14 30 19.6	-0.3	
LBTB	Lobatse	149.98	354	PKPbc		PKPbc		14 30 29.6	+0.2	
	comp=Z,162nm,1.0s,baz=354,slow=2.2,SNR=12									
LBTB	Lobatse	149.98	354	ePKPdf		PKPdf		14 30 25.0	+0.5	
BOSA	Boshof	153.58	355	PKP		PKPdf		14 30 29.6	-0.2	
	comp=Z,6.1nm,0.9s,baz=16,slow=6.2,SNR=8.2									
BOSA				PKPbc		PKiKP		14 30 37.7	0.0	
	comp=Z,26nm,0.9s,baz=67,slow=2.7,SNR=8.7									
BOSA	Boshof	153.58	355	ePKPdf		PKPdf		14 30 29.6	-0.2	
BOSA				ePKPdf		PKPdf		14 30 30.1	+0.3	
BOSA				ePKPbc		PKiKP		14 30 37.7	0.0	
BOSA	Boshof	153.58	355	ePKIKP		PKPdf		14 30 29.7	-0.2	
BOSA				e				14 30 30.1		
BOSA				e				14 30 37.7		
SUR	Sutherland	157.38	4	PKPab		PKPab		14 31 05.3	-1.0	
	comp=Z,1.5nm,0.9s,baz=308,slow=2.5,SNR=5.8									
SNAA	Sanae	160.05	157	PKP		PKPdf		14 30 33.7	-3.0	
	comp=Z,3.1nm,0.9s,baz=165,slow=2.9,SNR=3.7									
SNAA				PKPab		PKPab		14 31 15.6	-1.2	
	comp=Z,16nm,1.1s,baz=196,slow=3.8,SNR=7.4									
NVL	N'lazarevskaya	163.47	168	ePKP2		PKPab		14 31 25.9	-5.8	
NVL				pmax		pmax				
	comp=Z,21nm,1.2s									

*ISCJB **10** 14:13:29.1±0.7,28°.04N±0°.03×59°.36E±0°.09,h10km, Error ellipse: s-maj=11.2km s-min=4.5km az=171.8*
*THR **10** 14:13:30.2±0.4,28°.03N×59°.13E,h15km, ML3.7*
*CSEM **10** 14:13:31.7±0.3,28°.08N×59°.25E,h15km, ML4.0, Error ellipse: s-maj=10.8km s-min=6.5km az=86.0*
*TEH **10**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.38**	**220**	*eP*	Pn	14 25 01.0	+2.2
LUBP				*eS*	Sn	14 25 14.0	+3.4
PGP	**Puerto Galera**	**0.68**	**140**↑	*eP*	Pn	14 25 02.6	+1.6
PGP				*i* S	Sn	14 25 17.8	+3.3
SJMP	**San Jose**	**1.67**	**159**	*eP*	Pn	14 25 13.5	+1.8
SJMP				*eS*	Sn	14 25 34.9	+1.3

IDC 10 14:25:35.6±572.0, 47°.52N×49°.31E, h0km, Error ellipse: s-maj=211.4km s-min=127.8km az=50.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.43**	**60**	*i*		15 03 20.0	
	baz=246,slow=332,SNR=7.0						
I43RU	**DUBNA INFRASONI**	**1.82**	**326**	*i*		15 36 10.0	
	baz=134,slow=332,SNR=0.6						
I46RU	**ZALESOVO INFRA**	**23.19**	**61**	*i*		16 50 10.0	
	baz=266,slow=322,SNR=1.1						

IDC 10 14:39:17.6±567.0, 47°.53N×49°.35E, h0km, Error ellipse: s-maj=217.0km s-min=127.7km az=50.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.40**	**60**	*i*		15 13 20.0	
	baz=246,slow=313,SNR=15						
I43RU	**DUBNA INFRASONI**	**1.82**	**326**	*i*		15 50 00.0	
	baz=134,slow=332,SNR=1.2						
I46RU	**ZALESOVO INFRA**	**23.16**	**61**	*i*		17 04 40.0	
	baz=266,slow=317,SNR=3.9						
I34MN	**SONGINO INFRAS**	**37.67**	**68**	*i*		18 31 20.0	
	baz=291,slow=344,SNR=0.3						

MAN 10 14:46:34, 10°.61N×123°.12E, h96km, mb4.2, ML3.1, MS2.8, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.52**	**272**	*eP*	Pn	14 46 52.1	+2.6
GUIM				*eS*	Sn	14 47 04.6	+3.5
TBP	**Tagbilaran**	**1.17**	**141**	*eP*	Pn	14 46 48.6	-7.5
SNPH	**Sibulan**	**1.27**	**175**↑	*iP*	Pn	14 46 48.4	-8.8
SNPH				*i* S	Sn	14 46 56.8	-18
MSLP	**Maasin**	**1.78**	**105**	*eP*	Pn	14 47 04.5	+1.0
MSLP				*eS*	Sn	14 47 27.7	+1.6

MAN 10 14:57:15, 9°.89N×123°.07E, h26km, mb4.2, ML3.0, MS2.7, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.57**	**163**↑	*iP*	Pn	14 57 28.3	+0.9
SNPH				*i* S	Sn	14 57 37.0	+1.0
GUIM	**Jordan**	**0.87**	**327**	*eP*	Pb	14 57 30.9	-0.7
GUIM				*eS*	Sn	14 57 44.8	+1.3
MSLP	**Maasin**	**1.78**	**82**	*eP*	Pn	14 57 44.0	-0.1
MSLP				*eS*	Sn	14 58 07.3	+1.4
OCLP	**Ormoc**	**1.91**	**53**	*eP*	Pn	14 57 44.0	-1.9
OCLP				*eS*	Sn	14 58 03.2	-5.8

SJA 10 15:11:09.8±0.8, 31°.63S×67°.88W, h10km±4km, ML2.4, MW4.0, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.59**	**300**	*i* P	Pg	15 11 21.4	+0.2
RTLL				*i* S	Sb	15 11 30.4	-0.4
RTLL				IAML		15 11 37.1	
	comp=Z,240nm,0.2s						
SJA	**San Juan**	**0.59**	**279**	*i* P	Pb	15 11 22.2	-0.1
SJA				*i* S	Sb	15 11 30.8	0.0
RTCV	**Cerro Valdivia**	**0.61**	**247**	*i* P	Pb	15 11 22.2	-0.4
RTCV				*i* S	Sb	15 11 31.2	-0.2
ZON	**Zonda**	**0.69**	**276**	*i* P	Pg	15 11 23.4	+0.2
ZON				*i* S	Sb	15 11 33.8	+0.2
AMOG	**MOGNA**	**0.86**	**322**	*i* P	Pg	15 11 26.7	+0.2
AMOG				*i* S	Sb	15 11 39.2	+0.5
ACAN	**Cantantal**	**0.87**	**138**	*i* P	Pb	15 11 27.1	0.0
ACAN				*i* S	Sb	15 11 38.8	-0.1
RTLS	**Leoncito**	**1.22**	**262**	*i* P	Pb	15 11 32.8	-0.4
RTLS				IAML		15 11 50.9	
	comp=Z,82nm,0.3s						
ASAL	**Salagasta**	**1.26**	**220**	*i* P	Pg	15 11 34.0	-0.1
ASAL				*i* S	Sn	15 11 55.0	+4.3
AUSP	**Uspallata**	**1.42**	**245**	*i* P	Pb	15 11 36.5	0.0
AAGR	**Agrelo**	**1.66**	**209**	*i* P	Pg	15 11 41.8	+0.1
AAGR				*i* S	Sg	15 12 05.9	+2.6
APLL	**PUNTA DE LOS L**	**1.69**	**44**	*i* P	Pn	15 11 40.1	+0.7
APLL				*i* S	Sg	15 12 04.5	+0.4
MRA	**San Martin**	**2.00**	**114**	*i* P	Pn	15 11 44.6	+0.9
MRA				*i* S	Sg	15 12 12.8	-1.2
AGUA	**GUANDACOL**	**2.20**	**346**	*i* P	Pb	15 11 49.4	-0.4
AGUA				*i* S	Sg	15 12 20.2	-0.3
VCA	**Vinchina**	**2.89**	**354**	*i* P	Pb	15 12 01.4	-0.3
VCA				*i* S	Sb	15 12 38.0	+0.8
RFA	**San Rafael**	**3.17**	**189**	*i* P	Pn	15 12 01.1	+1.1
RFA				*i* S	Sg	15 12 51.1	-0.7
LCO	**Las Campanas**	**3.57**	**316**	*i* P	Pb	15 12 12.4	-0.9
LCO				*i* S	Sb	15 12 58.5	+1.7
CYA	**Choya**	**3.65**	**30**	*i* P	Pn	15 12 07.3	+0.9

MAN 10 15:18:59, 13°.17N×120°.71E, h42km, mb4.5, ML3.3, MS3.2, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.41**	**35**↑	*eP*	Pn	15 19 10.8	+2.0
PGP				*i* S	Sn	15 19 19.2	+3.7
LUBP	**Lubang**	**0.72**	**321**	*eP*	Pn	15 19 14.8	+1.9
LUBP				*eS*	Sn	15 19 25.1	+2.3
SJMP	**San Jose**	**0.81**	**150**	*eP*	Pn	15 19 15.2	+1.3
SJMP				*eS*	Sn	15 19 27.2	+2.5

IDC 10 15:20:01.5±583.0, 47°.50N×49°.54E, h0km, Error ellipse: s-maj=218.7km s-min=128.6km az=49.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.31**	**59**	*i*		15 55 10.0	
	baz=246,slow=316,SNR=7.1						
I43RU	**DUBNA INFRASONI**	**1.93**	**325**	*i*		16 32 10.0	
	baz=134,slow=335,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**23.07**	**61**	*i*		17 44 40.0	
	baz=266,slow=324,SNR=3.7						

*IDC **10** 15:31:34.5±1.0, 31°.93N×90°.87E, h0km, mb3.5/7, mb1 3.6/10, mb1mx3.4/66, mbtmp3.4/10, ML3.4/3, Error ellipse: s-maj=38.1km s-min=18.1km az=63.0*
*ISCJB **10** 15:31:37.8±0.6, 32°.05N±0°.06×91°.04E±0°.09, h33km, mb3.5/6, Error ellipse: s-maj=12.2km s-min=7.5km az=30.6*

ISC 10 15:31:39.7±0.8, 32°.08N±0°.09×91°.0E±0°.1, h35km, n18, σ1s02/18, mb3.6/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**6.09**	**225**	*eP*	**Pn**	**15 33 08.2**	**+0.6**
	27nm,0.4s						
GUN	**Gumba**	**6.10**	**228**	*eP*	**Pn**	**15 33 09.8**	**+2.1**
	16nm,0.4s						
KKN	**Kakani**	**6.57**	**231**	*eP*	**Pn**	**15 33 14.7**	**+0.6**
	16nm,0.5s						
PKI	**Pulchoki**	**6.64**	**229**	*eP*	**Pn**	**15 33 15.2**	**+0.1**
	24nm,0.5s						
PKIN	**Phulchoki**	**6.64**	**229**	*eP*	**Pn**	**15 33 15.7**	**+0.6**
	35nm,0.7s						
DMN	**Daman**	**6.81**	**231**	*eP*	**Pn**	**15 33 17.8**	**+0.5**
	15nm,0.6s						
KOLN	**Koldanda**	**7.75**	**238**	*eP*	**Pn**	**15 33 30.1**	**-0.1**
	12nm,0.5s						
PYUN	**Piuthan**	**8.02**	**242**	*eP*	**Pn**	**15 33 33.1**	**-0.8**
	15nm,0.3s						
CMAR	**Chiang Mai Arr**	**15.33**	**150**	Pn	**Pn**	**15 35 11.8**	**-1.7**
	0.1nm,0.3s,baz=325,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**16.15**	**338**	Pn	**Pn**	**15 35 22.7**	**-1.3**
	0.0nm,0.3s,baz=145,slow=13,SNR=3.7						
SONM	**Songino Array**	**19.59**	**32**	P	**Pn**	**15 36 06.7**	**+0.4**
	0.1nm,0.3s,baz=213,slow=12,SNR=7.6						
KURBB	**Kurchatov Arra**	**20.71**	**337**	P	**P**	**15 36 17.5**	**+0.7**
	0.9nm,0.6s,baz=145,slow=11,SNR=7.5						
ZALV	**Zalesovo Beam**	**22.31**	**350**	P	**P**	**15 36 35.1**	**+1.2**
	1.7nm,0.7s,baz=182,slow=8.9,SNR=7.3						
BVAR	**Borovoye Array**	**25.70**	**331**	P	**P**	**15 37 07.6**	**+1.2**
	0.4nm,0.6s,baz=141,slow=9.6,SNR=4.3						
WRA	**Warramunga Arr**	**66.30**	**135**	P	**P**	**15 42 25.1**	**+0.3**
	0.5nm,0.9s,baz=329,slow=6.2,SNR=5.4						
ASAR	**Alice Springs**	**68.93**	**138**	P	**P**	**15 42 42.0**	**+0.7**
	0.7nm,0.8s,baz=331,slow=7.4,SNR=9.3						
ILAR	**Eielson Array**	**73.48**	**22**	P	**P**	**15 43 08.2**	**0.0**
	0.3nm,0.8s,baz=308,slow=4.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**82.59**	**281**	P	**P**	**15 43 58.8**	**-0.8**
	0.3nm,0.6s,baz=45,slow=3.8,SNR=2.6						

*NIED **10** 15:40:00.37°.20N×141°.50E, h41km, Mw4.0 Best double couple: M0 1.31000×10^15 NP1:φs173.00000°, δ20.00000°, λ65.00000°. NP2:φs19.00000°, δ72.00000°, λ99.00000°.*
*BJI **10** 15:40:01.8, 36°.75N×142°.22E, h45km, mb4.5/28, mB5.0/14, Ms4.3/7, Ms7 4.0/6*
*ISCJB **10** 15:40:07.7±0.5, 37°.23N±0°.03×141°.61E±0°.04, h45km±4km, mb4.2/38, MS3.8/4, Error ellipse: s-maj=6.2km s-min=3.8km az=28.7*
*MOS **10** 15:40:07.6±0.8, 37°.23N×141°.63E, h42km, mb4.5/7, Error ellipse: s-maj=9.5km s-min=6.6km az=90.3*
*NEIC **10** 15:40:09.7±0.6, 37°.21N×141°.61E, h48km±5km, mb4.4/3, Error ellipse: s-maj=7.6km s-min=5.6km az=112.0*
NEIC Recorded [2 JMA] in Fukushima.
*JMA **10** 15:40:09.7±0.1, 37°.25N×141°.45E, h46km±1km, M4.1*
JMA Felt II J1.
*IDC **10** 15:40:11.8±1.7, 37°.25N×141°.47E, h61km±16km, mb3.8/26, mb1 3.9/31, mb1mx3.8/76, mbtmp4.1/31, MS3.4/5, Ms1 3.4/5, ms1mx2.9/61, Error ellipse: s-maj=13.2km s-min=9.8km az=90.0*

ISC 10 15:40:07.4±1.3, 37°.22N±0°.04×141°.68E±0°.05, h27km±9km, n110, σ1s57/126, mb4.2/38, MS3.8/5, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.66**	**283**	P	**Pb**	**15 40 20.3**	**-0.1**
JFK				S	**Sb**	**15 40 27.6**	**-1.6**
ONAJ	**Iwakimizuishiy**	**0.71**	**261**	P	**Pn**	**15 40 21.2**	**-0.6**
ONAJ				S	**Sb**	**15 40 29.1**	**-1.7**
JMM	**Marumori**	**0.95**	**313**	P	**Pn**	**15 40 24.6**	**-0.5**
JMM				S	**Sn**	**15 40 35.6**	**-2.2**
JHO	**Hitachi**	**1.08**	**236**	P	**Pn**	**15 40 26.1**	**-0.7**
JHO				S	**Sn**	**15 40 38.1**	**-2.8**
JFT	**Otama**	**1.11**	**286**	P	**Pn**	**15 40 27.2**	**0.0**
JFT				S	**Sn**	**15 40 39.7**	**-2.0**
JIO	**Ouri**	**1.26**	**348**	P	**Pn**	**15 40 30.0**	**+0.8**
JIO				S	**Sn**	**15 40 44.2**	**-1.1**
JOU	**Okura**	**1.40**	**325**	P	**Pn**	**15 40 31.4**	**+0.2**
JOU				*eS*	**Sn**	**15 40 47.9**	**-0.9**
JFY	**Yanaizu**	**1.59**	**277**	P	**Pn**	**15 40 33.6**	**-0.2**
JFY				*eS*	**Sn**	**15 40 51.9**	**-1.5**
JYS	**Shirataka**	**1.62**	**308**	P	**Pn**	**15 40 34.5**	**+0.2**
JYS				S	**Sn**	**15 40 53.6**	**-0.7**
JMK	**Ichinoseki**	**1.77**	**348**	P	**Pn**	**15 40 37.3**	**+1.1**
MJAR	**Matsushiro Arr**	**2.87**	**257**	P	**Pn**	**15 40 51.9**	**+0.6**
	18nm,0.3s,baz=70,slow=10,SNR=211						
MJAR				S	**Sn**	**15 41 25.2**	**+0.2**
	13nm,0.3s,baz=75,slow=19,SNR=6.1						
MJAR				LR	LR	15 42 12.2	
	comp=Z,353nm,19.1s,baz=85,slow=45						
MAJO	**Matsushiro**	**2.87**	**257**	*eP*	**Pn**	**15 40 52.4**	**+1.0**
MAJO				*eS*	**Sn**	**15 41 23.0**	**-2.1**
MAJO	**Matsushiro**	**2.87**	**257**	*eP*	**Pn**	**15 40 52.4**	**+1.0**
MAJO				*e*		15 41 23.0	
MAT	**Matsushiro**	**2.87**	**257**	P	**Pn**	**15 40 52.1**	**+0.7**
MAT				*eS*	**Sn**	**15 41 25.3**	**+0.3**
MJB9	**Matsu-Tunnel**	**2.87**	**257**	*ePn*	**Pn**	**15 40 52.5**	**+1.0**
INU	**Inuyama**	**4.21**	**245**	*ePn*	**Pn**	**15 41 11.8**	**+2.0**
JHJ2	**Mitsune**	**4.38**	**201**	*ePn*	**Pn**	**15 41 12.2**	**+0.1**
JHJ	**Hachijo jima 2**	**4.38**	**201**	P	**Pn**	**15 41 14.7**	**+2.6**
	32nm,0.3s,baz=57,slow=16,SNR=5.7						
JHJ				S	**Sn**	**15 42 04.7**	**+2.4**
	54nm,0.3s,baz=252,slow=19,SNR=3.0						
ERM	**Erimo**	**4.92**	**13**	*ePn*	**Pn**	**15 41 21.9**	**+2.4**
ERM	**Erimo**	**4.92**	**13**	*eP*	**Pn**	**15 41 21.8**	**+2.2**
ASAJ	**Asahikawa**	**6.92**	**5**	P	**Pn**	**15 41 47.5**	**+0.4**
	2.3nm,0.3s,baz=162,slow=13,SNR=27						
ASAJ				S	**Sn**	**15 43 07.0**	**+2.1**
	0.8nm,0.3s,baz=221,slow=19,SNR=3.8						
ASAJ	**Asahikawa**	**6.92**	**5**	*ePn*	**Pn**	**15 41 47.2**	**+0.2**
ASAJ				Sn	**Sn**	**15 43 06.4**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**7.51**	**24**	*eP*	**Pn**	**15 41 56.1**	**+1.0**
YUK				*i* S	**Sn**	**15 43 16.2**	**-3.1**
YUK				pmax	pmax		
	comp=Z,79nm,0.6s						
YUK				pmax	pmax		
	comp=N,36nm,0.5s						
YUK				pmax	pmax		
	comp=E,59nm,0.6s						
SHO	**Shikotan**	**7.71**	**29**	*eP*	**Pn**	**15 41 58.1**	**+0.3**
SHO				*i* S	**Sn**	**15 43 17.4**	**-6.8**
KUR	**Kuril'sk**	**9.26**	**28**	*eP*	**Pn**	**15 42 21.8**	**+2.7**
KUR				*eS*	**Sn**	**15 43 58.5**	**-3.8**
KUR				smax	smax		
	comp=N,32nm,0.3s						
KUR				smax	smax		
	comp=E,21nm,0.3s						
JNU	**Nakatsue**	**9.74**	**248**	P	**Pn**	**15 42 27.4**	**+1.6**
	comp=E,0.5nm,0.3s,baz=64,slow=10,SNR=6.6						
YSS	**Yuzh-Sakhalins**	**9.76**	**4**	*eP*	**Pn**	**15 42 29.6**	**+3.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CBIJ	**Chichi jima**	**10.11**	**177**	P	**Pn**	**15 42 30.2**	**-0.5**
JCJ	**Chichijima**	**10.11**	**177**	P	**Pn**	**15 42 30.2**	**-0.5**
	comp=Z,3.3nm,0.3s,baz=315,slow=20,SNR=3.2						
JCJ				S	**Sn**	**15 44 19.4**	**-3.9**
	comp=Z,3.3nm,0.3s,baz=307,slow=20,SNR=2.8						
USRK	**Ussuriysk Ar.**	**10.13**	**316**	P	**Pn**	**15 42 33.2**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=132,slow=14,SNR=14						
KSRS	**Korea Array**	**10.96**	**275**	P	**Pn**	**15 42 44.7**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=88,slow=15,SNR=5.8						
KSRS				LR	LR	15 46 26.3	
	comp=Z,77nm,20.9s,baz=115,slow=35						
KSAR	**Wonju Array Be**	**10.99**	**275**	P	**Pn**	**15 42 44.7**	**+1.9**
KSAR	**Wonju Array Be**	**10.99**	**275**	P	**Pn**	**15 42 44.7**	**+1.9**
KLR	**Kul'dur**	**14.00**	**332**	P	**Pn**	**15 43 25.6**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=140,slow=18,SNR=2.8						
NKL	**Nikolayevsk**	**15.94**	**358**	*eP*	**Pn**	**15 43 46.8**	**-2.9**
NJ2	**Nanjing**	**19.46**	**261**	*eP*	**P**	**15 44 32.9**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
MA2	**Magadan**	**23.13**	**12**	P	**P**	**15 45 12.0**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=200,slow=11,SNR=12						
MA2	**Magadan**	**23.13**	**12**	*ceP*	**P**	**15 45 11.8**	**+0.7**
HHC	**Hu-ho-hao-te**	**23.61**	**288**	*eP*	**P**	**15 45 16.6**	**+0.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,97nm,6.8s						
YAK	**Yakutsk**	**25.93**	**347**	P	**P**	**15 45 36.8**	**-0.4**
	comp=Z,5.5nm,0.3s,baz=210,slow=2.8,SNR=5.8						
YAK	**Yakutsk**	**25.93**	**347**	*eP*	**P**	**15 45 36.6**	**-0.5**
	comp=Z,9.7nm,0.7s						
SEY	**Seymchan**	**26.57**	**11**	P	**P**	**15 45 44.1**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=214,slow=11,SNR=16						
SEY	**Seymchan**	**26.57**	**11**	*i* P	**P**	**15 45 44.4**	**+1.6**
XAN	**Xi'an**	**26.74**	**273**	P	**P**	**15 45 42.8**	**-2.0**
XAN				pP	pP	15 45 55.3	+2.6
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,210nm,5.3s						
ULN	**Ulaanbaatar**	**27.43**	**304**	*ceP*	**P**	**15 45 50.7**	**-0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SONA1	**Songino Array**	**27.86**	**304**	*eP*	**P**	**15 45 52.6**	**-2.2**
SONM	**Songino Array**	**27.86**	**304**	P	**P**	**15 45 53.8**	**-1.0**
	comp=Z,3.5nm,0.6s,baz=102,slow=8.8,SNR=31						
H11N2	**WAKE ISLAND Hy**	**28.06**	**121**	T	T	16 16 17.7	
	baz=314,slow=75,SNR=367						
H11N1	**WAKE ISLAND Hy**	**28.07**	**121**	T	T	16 16 18.6	
	baz=314,slow=75,SNR=400						
H11N3	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	16 16 19.2	
	baz=314,slow=75,SNR=380						
H11S1	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	16 17 07.6	
	baz=316,slow=76,SNR=105						
H11S3	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	16 17 11.8	
	baz=316,slow=76,SNR=86						
H11S2	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	16 17 10.4	
	baz=316,slow=76,SNR=78						
LZH	**Lanzhou**	**30.25**	**279**	*eP*	**P**	**15 46 17.0**	**+0.8**
LZH				pP	sP	15 46 29.4	+2.0
LZH				sP	pP	15 46 34.2	+10
LZH				PP	**PnPn**	**15 47 17.2**	**+3.0**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,5.6s						
LZH				LR	LR		
	comp=Z,170nm,13.2s						
LZH				LR	LR		
	comp=Z,120nm,14.0s						
LZH				LR	LR		
	comp=Z,260nm,16.3s						
CD2	**Chengdu**	**31.89**	**270**	*eP*	**P**	**15 46 29.6**	**-0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	**Gaotai**	**32.71**	**287**	*eP*	**P**	**15 46 36.8**	**-1.0**
GTA				pP	pP	15 46 48.4	+2.7
GTA				sP	sP	15 46 53.8	+4.8
GTA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WMQ	**Urumqi**	**40.95**	**297**	P	**P**	**15 47 48.2**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,250nm,7.9s						
CMAR	**Chiang Mai Arr**	**41.75**	**255**	P	**P**	**15 47 54.5**	**0.0**
	comp=Z,0.9nm,0.8s,baz=56,slow=5.2,SNR=6.6						
CMAR	**Chiang Mai Arr**	**41.75**	**255**	*ceP*	**P**	**15 47 54.7**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAA0	**Zalesovo Beam**	**41.95**	**312**	*eP*	**P**	**15 47 55.9**	**+0.2**
	comp=Z,8.0nm,1.0s						
ZALV	**Zalesovo Beam**	**41.95**	**312**	P	**P**	**15 47 54.8**	**-0.9**
	comp=Z,2.3nm,0.4s,baz=92,slow=7.4,SNR=15						
ZALV	**Zalesovo Beam**	**41.95**	**312**	*eP*	**P**	**15 47 55.1**	**-0.5**
ZALV	**Zalesovo Beam**	**41.95**	**312**	*eP*	**P**	**15 47 55.2**	**-0.5**
MK01	**Makanchi Array**	**44.20**	**302**	*eP*	**P**	**15 48 12.4**	**-1.7**
MK31	**Makanchi Array**	**44.20**	**302**	*eP*	**P**	**15 48 13.2**	**-0.8**
MK31	**Makanchi Array**	**44.20**	**302**	*eP*	**P**	**15 48 13.2**	**-0.8**
MKAR	**Makanchi Array**	**44.20**	**302**	P	**P**	**15 48 13.0**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=86,slow=9.7,SNR=41						
MKAR				LR	LR	16 06 01.3	
	comp=Z,67nm,18.9s,baz=296,slow=35						
MKAR	**Makanchi Array**	**44.20**	**302**	*ceP*	**P**	**15 48 13.5**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAKZ	**Makanchi**	**44.41**	**302**	*eP*	**P**	**15 48 15.0**	**-0.7**
	comp=Z,2.3nm,0.6s						
MAKZ	**Makanchi**	**44.41**	**302**	*eP*	**P**	**15 48 15.0**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**45.98**	**308**	*eP*	**P**	**15 48 26.9**	**-1.2**
KURK	**Kurchatov**	**45.98**	**308**	*ceP*	**P**	**15 48 27.1**	**-1.0**
KURK				pmax	pmax		
	comp=Z,36nm,1.0s						
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**15 48 27.8**	**-0.9**
	comp=Z,3.5nm,0.4s,baz=83,slow=8.2,SNR=47						
JIRN	**Jiri**	**47.21**	**275**	*eP*	**P**	**15 48 38.2**	**-0.3**
	comp=Z,13nm,0.5s						
GUN	**Gumba**	**47.35**	**276**	*eP*	**P**	**15 48 39.0**	**-0.5**
	comp=Z,11nm,0.4s						
PKI	**Pulchoki**	**47.87**	**275**	*eP*	**P**	**15 48 42.4**	**-1.2**
KKN	**Kakani**	**47.88**	**276**	*eP*	**P**	**15 48 42.9**	**-0.6**
PKIN	**Phulchoki**	**47.88**	**275**	*eP*	**P**	**15 48 41.9**	**-1.7**
	comp=Z,8.7nm,0.7s						
DMN	**Daman**	**48.10**	**276**	*eP*	**P**	**15 48 43.7**	**-1.5**
DANN	**Dangsing**	**48.84**	**277**	*eP*	**P**	**15 48 50.9**	**-0.1**
ILAR	**Eielson Array**	**49.22**	**32**	P	**P**	**15 48 54.1**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=262,slow=5.6,SNR=20						
KOLN	**Koldanda**	**49.22**	**277**	*eP*	**P**	**15 48 51.6**	**-2.2**
PYUN	**Piuthan**	**49.56**	**277**	*eP*	**P**	**15 48 55.5**	**-0.9**
	comp=Z,28nm,0.8s						
KSH	**Kashi**	**50.52**	**294**	P	**P**	**15 49 07.1**	**+3.6**
KSH				pP	sP	15 49 19.3	+4.4
KSH				sP	pP	15 49 25.1	+13
KSH				S	**S**	**15 56 18.1**	**+2.1**
KSH				sS	sS	15 56 39.6	+10
KSH				ScS	**ScS**	**15 58 51.1**	**-1.6**
KSH				pmax	pmax		
	comp=Z,12nm,1.8s						
KSH				pmax	pmax		
	comp=Z,230nm,8.6s						
KSH				LR	LR		
	comp=Z,120nm,9.2s						
KSH				LR	LR		
	comp=Z,130nm,11.9s						
KSH				LR	LR		
	comp=Z,200nm,8.6s						
AAK	**Ala-Archa**	**50.59**	**298**	P	**P**	**15 49 03.1**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=114,slow=10.0,SNR=3.2						
AAK				LR	LR	16 10 32.7	
	comp=Z,83nm,18.5s,baz=349,slow=36						
BVAR	**Borovoye Array**	**50.60**	**312**	P	**P**	**15 49 03.1**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=76,slow=8.1,SNR=7.9						
BRVK	**Borovoye**	**50.66**	**312**	*ceP*	**P**	**15 49 04.6**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,19nm,2.5s						
INK	**Inuvik**	**54.12**	**27**	P	**P**	**15 49 30.8**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=281,slow=5.2,SNR=3.7						
FITZ	**Fitzroy Crossi**	**57.07**	**198**	P	**P**	**15 49 51.6**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=11,slow=8.8,SNR=4.2						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**15 49 52.7**	**0.0**
	comp=Z,2.0nm,0.5s,baz=5.9,slow=7.4,SNR=68

baz=53
H08S2 **Diego Garcia H** 26.20 235 T T 16 15 05.9
baz=53,SNR=3.3
H08S1 **Diego Carcia H** 26.22 235 T T 16 15 05.3
baz=53
MKAR **Makanchi Array** 40.08 348 P P 15 50 03.0 -0.3
0.7nm,0.8s,baz=165,slow=8.2,SNR=3.2
KURBB **Kurchatov Arra** 44.53 346 P P 15 50 39.7 +0.3
0.2nm,0.3s,baz=169,slow=6.5,SNR=3.5
ZALV **Zalesovo Beam** 46.58 353 P P 15 50 55.2 -0.4
1.4nm,0.4s,baz=179,slow=6.9,SNR=6.6
MA2 **Magadan** 66.99 28 P P 15 53 21.2 +0.7
0.8nm,0.2s,baz=255,slow=5.8,SNR=3.9
TIXI **Tiksi** 67.37 11 P P 15 53 22.1 -0.7
1.9nm,0.4s,baz=223,slow=6.1,SNR=6.0
FINES **FINESS Array B** 72.61 332 P P 15 53 55.3 +0.1
1.3nm,0.9s,baz=101,slow=7.2,SNR=4.4

MOS ***10*** *15:52:18.1±2.5,48˚.13N×156˚.58E,h9km,mb4.2/1,Error ellipse: s-maj=99.9km s-min=14.3km az=83.0*

KRSC 10 15:52:18.1±2.0,48˚.13N×156˚.58E,h9km±48km,ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.58**	**353**	*e*Pn	Pn	15 53 01.1	+1.1
SKR				*e*S	Sn	15 53 32.5	+1.1
SKR				smax	smax		
	comp=E,63nm,0.3s						
SKR				smax	smax		
	comp=N,58nm,0.3s						
SKR	**Severo-Kuril's**	**2.58**	**353**	*e*P	Pn	15 53 00.9	+0.9
SKR				*e*S	Sn	15 53 32.6	+1.2
PAU	**Pauzhetka**	**3.35**	**3**	*e*S	Sn	15 53 54.0	+3.6
KDTR	**Khodutka, Kamc**	**3.81**	**14**	*e*P	Pn	15 53 20.8	+3.8
KDTR				*e*S	Sb	15 54 07.9	-3.8
ASAK	**Asacha**	**4.34**	**11**	PN	Pn	15 53 27.3	+2.9
ASAK	**Asacha**	**4.34**	**11**	*e*P	Pn	15 53 27.3	+2.9
MTVR	**Mutnovka**	**4.48**	**13**	*e*S	Sn	15 54 24.6	+6.0
RUS	**Russkaya**	**4.49**	**15**	PN	Pn	15 53 29.6	+3.4
RUS				S	Sn	15 54 22.9	+4.4
RUS	**Russkaya**	**4.49**	**15**	*e*P	Pn	15 53 29.6	+3.4
RUS				*e*S	Sn	15 54 22.9	+4.4
DALK	**Dalny**	**5.10**	**15**	*e*S	Sn	15 54 39.7	+6.0
UGLR	**Uglovaya**	**5.29**	**15**	PN	Pn	15 53 43.0	+5.7
UGLR	**Uglovaya**	**5.29**	**15**	*e*P	Pn	15 53 43.0	+5.7
AVH	**Avacha**	**5.33**	**14**	PN	Pn	15 53 43.5	+5.7
AVH	**Avacha**	**5.33**	**14**	*e*P	Pn	15 53 43.5	+5.7
SDLR	**Sedlovina**	**5.36**	**15**	PN	Pn	15 53 42.3	+3.9
SDLR	**Sedlovina**	**5.36**	**15**	*e*P	Pn	15 53 42.3	+3.9

TEH ***10*** *15:54:27.5,37˚.38N×57˚.16E,h9km,ML3.6*
NNC ***10*** *15:54:27.9±1.6,37˚.63N×56˚.77E,h0km,mb3.9,mpv4.5, Error ellipse: s-maj=16.6km s-min=7.4km az=10.0*
IDC ***10*** *15:54:27.5±1.4,37˚.35N×57˚.02E,h0km,mb3.2/4, mb1 3.6/7,mb1mx3.3/72,mbtmp3.5/7,ML3.5/3,Error ellipse: s-maj=13.7km s-min=8.2km az=43.0*
ISCJB ***10*** *15:54:28.7±0.6,37˚.60N±0˚.04×57˚.11E±0˚.03,h12km±5km, mb3.1/2,Error ellipse: s-maj=7.4km s-min=4.2km az=166.3*
CSEM ***10*** *15:54:29.4±0.2,37˚.54N×57˚.12E,h10km,ML3.6,Error ellipse: s-maj=8.7km s-min=5.2km az=167.0*

ISC 10 15:54:28.0±1.8,37˚.51N±0˚.05×57˚.16E±0˚.03,h1km±14km, n45,σ1ϑ46/52,1C-1D,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.28**	**46**	*e*Pg	**Pb**	**15 54 36.7**	**+0.8**
ISFR	**Sfrayin**	**0.81**	**123**	*e*Pg	**Pg**	**15 54 43.3**	**-0.2**
ISFR				*e*AMB	AMB	15 54 57.9	
	comp=Z,27μm,0.1s						
MRVT	**Maraveh tapeh**	**0.86**	**281**	*e*Pg	**Pb**	**15 54 44.6**	**-1.1**
GEYT	**Alibeck**	**0.87**	**61**	Pg	**Pn**	**15 54 47.0**	**-0.4**
	comp=Z,59nm,0.3s,baz=235,slow=18,SNR=144						
GEYT				Lg	Lg	15 55 03.2	
	comp=Z,85nm,0.3s,baz=238,slow=35,SNR=13						
GEYT				LR	LR	15 55 12.3	
	comp=Z,77nm,18.2s,baz=325,slow=43						
ASHT	**Ashkhabad**	**1.07**	**66**	P	**Pn**	**15 54 52.4**	**+2.3**
	comp=Z,214nm,0.5s						
ASHT	**Ashkhabad**	**1.07**	**66**	P	**Pn**	**15 54 52.4**	**+2.3**
	comp=Z,214nm,0.5s						
IEMG	**Emamgholi**	**1.20**	**94**	*e*Pg	**Pb**	**15 54 51.2**	**-0.4**
IEMG				*e*Sg	**Sn**	**15 55 08.7**	**-0.4**
IEMG				*e*AMB	AMB	15 55 15.2	
	comp=Z,12μm,0.1s						
IEMG	**Emamgholi**	**1.20**	**94**	*e*Pg	**Pb**	**15 54 51.2**	**-0.4**
IEMG				*e*Sg	**Sn**	**15 55 08.7**	**-0.4**
IKRD	**Kardeh**	**1.31**	**123**	*e*AMB	AMB	15 55 38.3	
	comp=Z,6μm,0.3s						
IKRD				*e*Pn	Pg	15 55 04.8	+12
IMND	**Minoodasht**	**1.41**	**260**	*e*Pg	**Pn**	**15 54 56.0**	**+1.2**
IMND				*e*AMB	AMB	15 54 58.5	
	comp=Z,10μm,0.1s						
IMND				*e*Sg	**Sn**	**15 55 15.6**	**+1.6**
IMND	**Minoodasht**	**1.41**	**260**	*e*Pg	**Pn**	**15 54 56.0**	**+1.2**
IMND				*e*Sg	**Sn**	**15 55 15.6**	**+1.6**
IAKL	**Akhelmad**	**1.57**	**125**	*e*Pn	**Pn**	**15 54 56.7**	**-0.5**
IAKL				*e*AMB	AMB	15 55 03.4	
	comp=Z,8μm,0.1s						
IAKL	**Akhelmad**	**1.57**	**125**	*e*Pn	**Pn**	**15 54 56.7**	**-0.5**
ISRO	**Mashad**	**2.21**	**122**	*e*AMB	AMB	15 55 43.6	
	comp=Z,5μm,0.4s						
ISRO				*e*Pn	**Pn**	**15 55 06.5**	**+0.7**
IMOG	**Moghan**	**2.24**	**128**	*e*AMB	AMB	15 55 48.1	
	comp=Z,5μm,0.4s						
IMOG				*e*Pn	**Pn**	**15 55 07.9**	**+1.5**
IMYA	**Miami**	**2.63**	**115**	*e*Pn	**Pn**	**15 55 13.5**	**+1.8**
IMYA				*e*AMB	AMB	15 56 03.4	
	comp=Z,2μm,0.2s						
IMYA	**Miami**	**2.63**	**115**	*e*Pn	**Pn**	**15 55 13.5**	**+1.8**
IGLO	**Ghaloghah**	**2.84**	**250**	*e*Pn	**Pn**	**15 55 15.6**	**+0.9**
IGLO				*e*AMB	AMB	15 56 17.7	
	comp=Z,3μm,0.3s						
IANJ	**Anjilo**	**3.31**	**233**	*e*Pn	**Pn**	**15 55 21.5**	**+0.4**
IANJ				*e*AMB	AMB	15 56 13.6	
	comp=Z,783nm,0.2s						
IANJ	**Anjilo**	**3.31**	**233**	*e*Pn	**Pn**	**15 55 21.5**	**+0.4**
ISHM	**Shahmirzad**	**3.54**	**243**	*e*Pn	**Pn**	**15 55 26.6**	**+2.3**
ISHM				*e*AMB	AMB	15 56 25.4	
	comp=Z,1μm,0.2s						
IALA	**Alasht**	**3.77**	**249**	*e*Pn	**Pn**	**15 55 28.7**	**+1.3**
IALA				*e*AMB	AMB	15 56 20.0	
	comp=Z,1μm,0.2s						
IALA	**Alasht**	**3.77**	**249**	*e*Pn	**Pn**	**15 55 28.7**	**+1.3**
ILAS	**Lasjerd**	**3.99**	**239**	*e*Pn	**Pn**	**15 55 31.3**	**+0.8**
ILAS				*e*AMB	AMB	15 56 44.1	
	comp=E,836nm,0.2s						
ILAS	**Lasjerd**	**3.99**	**239**	*e*Pn	**Pn**	**15 55 31.3**	**+0.8**
IFIR	**Firoozkooh**	**4.00**	**244**	*e*Pn	**Pn**	**15 55 31.1**	**+0.5**
IFIR				*e*AMB	AMB	15 56 49.4	
	comp=E,586nm,0.2s						
IFIR	**Firoozkooh**	**4.00**	**244**	*e*Pn	**Pn**	**15 55 31.1**	**+0.5**
IPRN	**Peran**	**4.06**	**253**	*e*Pn	**Pn**	**15 55 32.5**	**+1.1**
IPRN				*e*AMB	AMB	15 56 45.9	
	comp=Z,1μm,0.3s						
IGZV	**Ghazvin**	**5.67**	**261**	*e*Pn	**Pn**	**15 55 54.1**	**+0.6**
IGZV				*e*AMB	AMB	15 55 57.3	
	comp=Z,357nm,0.1s						
IGZV	**Ghazvin**	**5.67**	**261**	*e*Pn	**Pn**	**15 55 54.1**	**+0.6**
IKLH	**Kolahrood**	**6.18**	**229**	*e*Pn	**Pn**	**15 56 00.2**	**-0.3**
IKLH				*e*AMB	AMB	15 56 27.1	
	comp=Z,116nm,0.4s						
IKLH	**Kolahrood**	**6.18**	**229**	*e*Pn	**Pn**	**15 56 00.2**	**-0.3**
AB31	**Akbulak array**	**11.92**	**9**	Pn	**Pn**	**15 57 17.4**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=191,slow=12,SNR=7.8						
AB31				Sn	**Sn**	**15 59 32.4**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=197,slow=22,SNR=5.4						
AB31	**Akbulak array**	**11.92**	**9**	Pn	**Pn**	**15 57 17.4**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=191,SNR=7.8						
AB31				Sn	**Sn**	**15 59 32.4**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=197,SNR=5.4						
KBZ	**Khabaz**	**12.48**	**304**	Pn	**Pn**	**15 57 26.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=108,slow=13,SNR=3.8						
AKTO	**Aktyubinsk**	**12.94**	**2**	Pn	**Pn**	**15 57 33.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=188,slow=13,SNR=4.1						
AKTO				Sn	**Sn**	**15 59 52.5**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=6.5						
AKTO	**Aktyubinsk**	**12.94**	**2**	⇓Pn	**Pn**	**15 57 31.2**	**-1.7**
	comp=Z,2.8nm,0.9s						
AKTO				⇑Sn	**Sn**	**15 59 55.3**	**-2.2**
	comp=Z,2.8nm,0.6s						
AKTO	**Aktyubinsk**	**12.94**	**2**	Pn	**Pn**	**15 57 31.2**	**-1.7**
	comp=Z,2.8nm,0.9s						
AKTO				Sn	**Sn**	**15 59 55.3**	**-2.2**
	comp=Z,2.8nm,0.6s						
BVA0	**Borovoye Array**	**18.05**	**27**	P	**P**	**15 58 42.5**	**+2.1**
	comp=Z,4.0nm,1.1s,baz=214,slow=9.9,SNR=11						
BVA0	**Borovoye Array**	**18.05**	**27**	P	**P**	**15 58 42.5**	**+2.1**
	comp=Z,4.0nm,1.1s,baz=214,SNR=11						
BVAR	**Borovoye Array**	**18.05**	**27**	P	**P**	**15 58 41.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=221,slow=10,SNR=10						
KURBB	**Kurchatov Arra**	**20.10**	**42**	P	**Pn**	**15 59 04.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=240,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**20.75**	**55**	P	Pn	15 59 11.7	-0.6
	comp=Z,0.8nm,0.6s,baz=246,slow=9.0,SNR=12						
AKASG	**Malin Array Be**	**23.84**	**313**	P	**P**	**15 59 43.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=110,slow=8.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**25.13**	**40**	P	**P**	**15 59 55.3**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=252,slow=7.3,SNR=3.3						

NIED ***10*** *16:00:00,36˚.60N×141˚.10E,h50km,Mw3.9 Best double couple: Mo8.39000×10^14 NP1:ϕ=210.00000°,δ29.00000°, λ113.00000°. NP2:ϕ=4.00000°,δ63.00000°,λ78.00000°.*
ISCJB ***10*** *16:00:41.0±0.7,36˚.56N±0˚.03×141˚.25E±0˚.07,h47km±6km, mb3.8/10,Error ellipse: s-maj=9.0km s-min=5.2km az=15.5*
JMA ***10*** *16:00:43.1±0.1,36˚.61N×141˚.08E,h49km±1km,M3.9*
JMA Felt II J1.
IDC ***10*** *16:00:43.6±1.9,36˚.54N×141˚.19E,h53km±17km,mb3.6/10, mb1 3.8/16,mb1mx3.5/82,mbtmp4.0/16,ML3.6/4,MS2.6/2, Ms1 2.6/2,ms1mx2.3/64,Error ellipse: s-maj=15.7km s-min=10.1km az=72.0*

ISC 10 16:00:42.2±1.1,36˚.57N±0˚.05×141˚.24E±0˚.08,h38km±2km, n37,σ0ϑ98/39,mb3.8/14,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.54**	**274**	P	**Pn**	**16 00 53.2**	**-0.3**
JHO				S	**Sn**	**16 01 00.3**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.64**	**326**	P	**Pn**	**16 00 54.5**	**-0.4**
ONAJ				S	**Sn**	**16 01 02.5**	**-1.3**
JFK	**Kawauchi**	**0.84**	**340**	P	**Pn**	**16 00 57.4**	**-0.2**
JFK				S	**Sn**	**16 01 07.7**	**-1.2**
JYT	**Yasato**	**0.91**	**248**	P	**Pn**	**16 00 58.1**	**-0.4**
JYT				S	**Sn**	**16 01 09.2**	**-1.2**
JSB	**Shiboa**	**1.13**	**291**	P	**Pn**	**16 01 01.4**	**-0.1**
JSB				*e*S	**Sn**	**16 01 15.0**	**-0.8**
JFT	**Otama**	**1.19**	**323**	P	**Pn**	**16 01 03.0**	**+0.7**
JFT				S	**Sn**	**16 01 17.1**	**-0.1**
JMM	**Marumori**	**1.34**	**345**	P	**Pn**	**16 01 04.7**	**+0.4**
JMM				S	**Sn**	**16 01 20.8**	**-0.1**
JAG	**Ashikaga**	**1.45**	**265**	P	**Pn**	**16 01 05.4**	**-0.4**
JAG				*e*S	**Sn**	**16 01 21.9**	**-1.6**
JFY	**Yanaizu**	**1.48**	**305**	P	**Pn**	**16 01 06.4**	**0.0**
MJAR	**Matsushiro Arr**	**2.44**	**270**	P	**Pn**	**16 01 20.1**	**+0.6**
	25nm,0.3s,baz=91,slow=12,SNR=453						
MJAR				S	**Sn**	**16 01 49.2**	**+1.1**
	18nm,0.3s,baz=99,slow=15,SNR=5.8						
MJAR				LR	LR	16 02 32.1	
	comp=Z,121nm,21.6s,baz=90,slow=46						
MAT	**Matsushiro**	**2.44**	**270**	P	**Pn**	**16 01 20.1**	**+0.6**
MAT				S	**Sn**	**16 01 48.6**	**+0.5**
JHJ	**Hachijo jima 2**	**3.65**	**200**	P	**Pn**	**16 01 37.0**	**+1.0**
	40nm,0.3s,baz=56,slow=13,SNR=6.4						
JHJ				S	**Sn**	**16 02 18.6**	**+0.8**
	15nm,0.3s,baz=270,slow=19,SNR=2.9						
ASAJ	**Asahikawa**	**7.61**	**7**	P	**Pn**	**16 02 30.3**	**-0.1**
	0.8nm,0.3s,baz=219,slow=14,SNR=15						
ASAJ				S	**Sn**	**16 03 54.3**	**-1.0**
	0.8nm,0.3s,baz=322,slow=19,SNR=2.8						
JCJ	**Chichijima**	**9.48**	**175**	P	**Pn**	**16 02 55.6**	**-0.6**
	4.7nm,0.3s,baz=330,slow=20,SNR=3.1						
USRK	**Ussuriysk Ar.**	**10.38**	**320**	P	**Pn**	**16 03 09.4**	**+1.1**
	0.2nm,0.3s,baz=144,slow=13,SNR=3.0						
KSRS	**Korea Array**	**10.69**	**279**	P	**Pn**	**16 03 15.6**	**+3.0**
	0.1nm,0.3s,baz=95,slow=13,SNR=3.1						
KSRS				LR	LR	16 07 03.3	
	comp=Z,40nm,18.4s,baz=135,slow=36						
KLR	**Kul'dur**	**14.42**	**334**	P	**Pn**	**16 04 04.3**	**+0.8**
	0.0nm,0.3s,baz=239,slow=12,SNR=2.7						
SEY	**Seymchan**	**27.27**	**11**	P	**P**	**16 06 24.2**	**+1.6**
	0.4nm,0.3s,baz=202,slow=7.9,SNR=5.8						
SONM	**Songino Array**	**27.93**	**305**	P	**P**	**16 06 28.1**	**-0.8**
	1.9nm,0.8s,baz=110,slow=8.9,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.04**	**120**	T	T	16 36 37.0	
	baz=313,slow=75,SNR=68						
H11N1	**WAKE ISLAND Hy**	**28.04**	**120**	T	T	16 36 37.6	
	baz=313,slow=75,SNR=60						
H11N3	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	16 36 38.4	
	baz=313,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hy**	**28.73**	**122**	T	T	16 37 23.6	
	baz=314,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**28.73**	**122**	T	T	16 37 26.2	
	baz=314,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**28.75**	**122**	T	T	16 37 27.4	
	baz=314,slow=76,SNR=56						
ZALV	**Zalesovo Beam**	**42.12**	**313**	P	**P**	**16 08 29.4**	**-1.1**
	1.5nm,0.5s,baz=99,slow=7.4,SNR=6.7						
MKAR	**Makanchi Array**	**44.25**	**302**	P	**P**	**16 08 47.1**	**-0.8**
	0.5nm,0.6s,baz=88,slow=8.4,SNR=11						
KURBB	**Kurchatov Arra**	**46.18**	**308**	P	**P**	**16 09 02.0**	**-1.0**
	2.6nm,0.4s,baz=82,slow=7.7,SNR=12						
ILAR	**Eielson Array**	**49.96**	**32**	P	**P**	**16 09 33.2**	**+1.2**
	0.5nm,0.9s,baz=262,slow=5.4,SNR=5.7						
BVAR	**Borovoye Array**	**50.78**	**313**	P	**P**	**16 09 37.7**	**-0.7**
	0.7nm,0.5s,baz=89,slow=7.7,SNR=6.5						
WRA	**Warramunga Arr**	**56.59**	**188**	P	**P**	**16 10 20.8**	**-0.4**
	1.6nm,0.5s,baz=5.4,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**60.31**	**188**	P	**P**	**16 10 46.8**	**-0.3**
	0.5nm,0.7s,baz=19,slow=9.8,SNR=4.1						
YKA	**Yellowknife Ar**	**64.28**	**30**	pP	pP	16 11 27.8	+3.2
	0.2nm,0.7s,baz=303,slow=6.0,SNR=3.8						
FINES	**FINESS Array B**	**69.16**	**332**	P	**P**	**16 11 44.0**	**-0.3**
	1.7nm,1.0s,baz=23,slow=7.5,SNR=3.0						
NVAR	**Mina Array Bea**	**75.38**	**53**	pP	pP	16 12 37.8	+4.1
	0.8nm,0.8s,baz=288,slow=5.9,SNR=4.5						
PDAR	**Pinedale Array**	**78.09**	**45**	pP	pP	16 12 52.9	+3.9
	0.5nm,0.6s,baz=282,slow=1.9,SNR=4.3						
TXAR	**Lajitas Array**	**90.51**	**52**	pP	pP	16 13 56.7	+4.4
	0.3nm,0.8s,baz=316,slow=5.0,SNR=2.8						

DJA ***10*** *16:00:50.6±0.5,6˚.5±2˚×10˚.4E±˚,h11km±4km,M5.0/26, mb4.9/26,mB5.6/6,MLv5.1/20,Mw(mB)5.0/6*
NEIC ***10*** *16:00:51.7±0.5,6˚.22S×103˚.69E,h35km,mb4.4/5,Error ellipse: s-maj=13.8km s-min=5.5km az=224.0*
ISCJB ***10*** *16:00:52.7±0.6,6˚.29S±0˚.04×103˚.69E±0˚.04,h63km±4km, mb4.6/62,Error ellipse: s-maj=8.7km s-min=3.4km az=43.1*
IDC ***10*** *16:00:55.8±3.5,6˚.06S×103˚.88E,h65km±31km,mb4.2/30, mb1 4.2/31,mb1mx4.0/72,mbtmp4.5/31,ML4.1/1,MS3.6/6, Ms1 3.7/6,ms1mx3.2/58,Error ellipse: s-maj=21.5km s-min=11.9km az=47.0*
MOS ***10*** *16:00:56.2±1.2,6˚.01S×104˚.01E,h85km,mb4.8/29,Error ellipse: s-maj=11.3km s-min=5.8km az=112.0*

ISC 10 16:00:55.4±0.7,6˚.18S±0˚.05×103˚.75E±0˚.05,h71km±5km, n222,σ1ϑ76/237,mb4.6/62,16C-7D,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.99**	**49**	P	**Pn**	**16 01 11.6**	**-2.3**
KASI				S	**Sn**	**16 01 28.5**	**+0.8**
LWLI	**Liwa**	**1.20**	**15**	P	**Pn**	**16 01 15.4**	**-1.3**
LWLI				S	**Sn**	**16 01 33.6**	**+1.1**
BLSI	**Bandar Lampung**	**1.70**	**62**	P	**Pn**	**16 01 22.3**	**-0.8**
BLSI				S	**Sn**	**16 01 46.5**	**+2.5**
KLI	**Kotabumi**	**1.72**	**40**	P	**Pn**	**16 01 23.0**	**-0.3**
KLI				S	**Sn**	**16 01 48.2**	**+3.7**
KLI	**Kotabumi**	**1.72**	**40**	P	**Pn**	**16 01 23.1**	**-0.3**
MDSI	**Maura Dua**	**1.74**	**14**	P	**Pn**	**16 01 23.4**	**-0.3**
MDSI				S	**Sn**	**16 01 47.5**	**+2.5**
MNAI	**Manna**	**1.98**	**336**	P	**Pn**	**16 01 25.6**	**-1.2**
MNAI				S	**Sn**	**16 01 51.0**	**+0.3**
MNAI	**Manna**	**1.98**	**336**	*e*Pn	**Pn**	**16 01 26.1**	**-0.7**
CGJI	**Cibinong**	**1.98**	**103**	P	**Pn**	**16 01 25.1**	**-1.8**
CGJI				S	**Sn**	**16 01 52.3**	**+1.5**
SBJI	**Serang**	**2.37**	**89**	P	**Pn**	**16 01 31.5**	**-0.6**
TNG	**Tangerang**	**2.88**	**90**	S	**Sn**	**16 02 15.5**	**+2.8**
SKJI	**Sukabumi**	**2.91**	**106**	P	**Pn**	**16 01 38.5**	**-1.0**
SKJI				S	**Sn**	**16 02 14.6**	**+1.3**
MASI	**Maura Aman, Be**	**3.37**	**334**	P	**Pn**	**16 01 45.0**	**-0.9**
MASI				S	**Sn**	**16 02 26.2**	**+1.4**
PMBI	**Palembang**	**3.39**	**18**	P	**Pn**	**16 01 45.3**	**-0.8**
PMBI				S	**Sn**	**16 02 28.1**	**+2.9**
CNJI	**Cibinong**	**3.54**	**109**	S	**Sn**	**16 02 30.9**	**+2.1**
LEM	**Lembang**	**3.90**	**100**	P	**Pn**	**16 01 53.3**	**+0.2**
	15nm,0.3s,baz=196,slow=11,SNR=16						
LEM				S	**Sn**	**16 02 43.5**	**+5.7**
	3.8nm,0.3s,baz=163,slow=19,SNR=2.3						
LEM				LR	LR	16 03 51.9	
	comp=Z,679nm,18.0s,baz=29,slow=46						
LEM	**Lembang**	**3.90**	**100**	P	**Pn**	**16 01 51.3**	**-1.8**
CISI	**Cisompet, Garu**	**4.26**	**109**	P	**Pn**	**16 01 56.7**	**-1.3**
CISI				S	**Sn**	**16 02 49.3**	**+2.7**
CISI	**Cisompet, Garu**	**4.26**	**109**	*e*Pn	**Pn**	**16 01 54.9**	**-3.1**
JCJI	**Jatiwangi**	**4.51**	**94**	P	**Pn**	**16 02 00.5**	**-0.8**
JMBI	**JAMBI**	**4.52**	**359**	P	**Pn**	**16 02 00.6**	**-0.9**
PPBI	**Pangkal Pinang**	**4.65**	**31**	P	**Pn**	**16 02 03.2**	**-0.1**
CMJI	**Cimerak**	**4.93**	**109**	P	**Pn**	**16 02 05.8**	**-1.3**
	224nm,0.8s,1.0nm						
PPSI	**Pulau Pagai**	**5.04**	**312**	P	**Pn**	**16 02 05.6**	**-3.0**
DSRI	**Dabo**	**5.73**	**8**	P	**Pn**	**16 02 17.6**	**-0.4**
RGRI	**Rengat**	**5.96**	**346**	P	**Pn**	**16 02 20.4**	**-0.8**
PDSI	**Padang**	**6.18**	**328**	P	**Pn**	**16 02 22.1**	**-2.1**
SISI	**Saibi**	**6.70**	**316**	P	**Pn**	**16 02 29.4**	**-1.8**
TPRI	**Tanjung Pinang**	**7.10**	**6**	P	**Pn**	**16 02 36.4**	**-0.3**
PCJI	**Pacitan**	**7.64**	**106**	P	**Pn**	**16 02 43.6**	**-0.5**
MYKOM	**Kota Tinggi**	**7.92**	**1**	*e*Pn	**Pn**	**16 02 46.0**	**-1.9**
TBJI	**Tambak Boyo**	**8.07**	**95**	P	**Pn**	**16 02 49.4**	**-0.7**
MNSI	**Mandailing Nat**	**8.09**	**329**	P	**Pn**	**16 02 48.0**	**-2.2**
PWJI	**Pagerwojo**	**8.20**	**103**	P	**Pn**	**16 02 51.1**	**-0.7**
PBKI	**Pangkalan Bun**	**8.62**	**67**	P	**Pn**	**16 02 58.7**	**+1.1**
GRJI	**Gresik**	**8.71**	**95**	P	**Pn**	**16 02 58.8**	**+0.1**
GSI	**Gunungsitoli**	**9.66**	**320**	P	**Pn**	**16 03 09.0**	**-2.7**
GSI	**Gunungsitoli**	**9.66**	**320**	*e*Pn	**Pn**	**16 03 07.2**	**-4.6**
GSI				*e*Sn	**Sn**	**16 05 05.8**	**+7.1**
GMJI	**Gumukmas**	**9.84**	**103**	P	**Pn**	**16 03 13.8**	**-0.4**
BLJI	**Banyuglugur**	**9.90**	**100**	P	**Pn**	**16 03 14.4**	**-0.6**
STKI	**Sintang**	**9.90**	**51**	P	**Pn**	**16 03 15.5**	**+0.4**
KMMI	**Kalianget**	**10.19**	**95**	P	**Pn**	**16 03 16.9**	**-2.1**
ABJI	**Asem Bagus**	**10.53**	**99**	P	**Pn**	**16 03 24.1**	**+0.4**
JAGI	**Jajag, Banyuwa**	**10.57**	**103**	P	**Pn**	**16 03 23.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**10.57**	**103**	*e*Pn	**Pn**	**16 03 20.8**	**-3.4**
SRBI	**Singaraja**	**11.53**	**100**	P	**Pn**	**16 03 36.5**	**-0.8**
IGBI	**Denpasar**	**11.60**	**104**	P	**Pn**	**16 03 37.7**	**-0.5**
DNP	**Denpasar**	**11.63**	**103**	P	**Pn**	**16 03 37.7**	**-1.0**
KULM	**Kulim**	**11.81**	**345**	*e*Pn	**Pn**	**16 03 37.7**	**-3.4**
PHET	**Kaeng Krachan**	**19.41**	**348**	P	**Pn**	**16 05 19.0**	**+1.2**
	4.6nm,0.8s						
BATI	**Baumata**	**20.11**	**103**	P	**P**	**16 05 23.9**	**+0.2**
	15nm,0.3s,baz=286,slow=4.7,SNR=11						
BATI				S	**S**	**16 09 01.7**	**-4.3**
	16nm,0.6s,baz=282,slow=20,SNR=5.3						
SRAK	**Srakaew**	**20.14**	**355**	P	**P**	**16 05 25.0**	**+1.1**
	60nm,0.8s,560nm						
NAYO	**Nakonayok**	**20.51**	**353**	P	**P**	**16 05 27.2**	**-0.7**
	83nm,0.8s,13μm						
SOEI	**Soe**	**20.63**	**101**	*e*P	**P**	**16 05 27.5**	**-1.9**
UTHA	**Uthaitani**	**22.02**	**349**	P	**P**	**16 05 45.0**	**+0.9**
	12nm,0.8s,111nm						
KHON	**Khomkaen**	**22.39**	**358**	P	**P**	**16 05 50.3**	**+2.1**
	9.3nm,0.9s,3μm						
PHIT	**Phitsanulok**	**23.46**	**352**	P	**P**	**16 05 59.3**	**+0.5**
	16nm,1.1s,177nm						
FITZ	**Fitzroy Crossi**	**24.42**	**121**	P	**P**	**16 06 08.3**	**+0.7**
	2.3nm,1.0s,baz=289,slow=10.0,SNR=2.8						
LAMP	**Lampang**	**24.88**	**351**	P	**P**	**16

JHJ	**Hachijo jima 2**	**51.94**	**39**	LR	LR	16 31 55.7	
	comp=Z,30nm,21.1s,baz=263,slow=36						
KSH	**Kashi**	**52.22**	**333**	P	**P**	**16 09 58.1**	**-1.3**
KSH				sP	pP	16 10 11.9	-5.6
KSH				PcP	**PcP**	**16 11 09.5**	**-0.6**
KSH				PP	**PP**	**16 11 56.2**	**-2.4**
KSH				S	**S**	**16 17 14.9**	**-4.2**
KSH				sS	sS	16 17 30.8	-19
KSH	**Kashi**	**52.22**	**333**	SS	**SS**	**16 20 48.7**	**-8.9**
MJAR	**Matsushiro Arr**	**53.36**	**35**	P	**P**	**16 10 06.3**	**-1.5**
	comp=Z,20nm,0.7s,baz=270,slow=6.5,SNR=10						
CN2	**Changchun**	**53.48**	**19**	*eP*	**P**	**16 10 07.9**	**-0.6**
SFK	**Sufi-Kurgan**	**53.76**	**331**	*iP*	**P**	**16 10 11.6**	**+0.7**
SFK				pmax	pmax		
	comp=Z,27nm,0.7s						
NRN	**Naryn**	**53.76**	**334**	P	**P**	**16 10 11.5**	**+0.5**
SONM	**Songino Array**	**53.84**	**2**	P	**P**	**16 10 12.4**	**+1.3**
	comp=Z,19nm,0.8s,baz=179,slow=9.1,SNR=112						
KDJ	**Kajisay**	**53.84**	**336**	P	**P**	**16 10 12.5**	**+1.1**
SONA1	**Songino Array**	**53.85**	**2**	*eP*	**P**	**16 10 11.6**	**+0.3**
ULN	**Ulaanbaatar**	**53.90**	**3**	*eP*	**P**	**16 10 11.2**	**-0.4**
ULN	**Ulaanbaatar**	**53.90**	**3**	*c iP*	**P**	**16 10 12.5**	**+0.9**
ULN				pmax	pmax		
	comp=Z,11nm,0.8s						
PDGK	**Podgornoye**	**53.96**	**338**	*iP*	**P**	**16 10 12.6**	**+0.4**
PDGK				pmax	pmax		
	comp=Z,13nm,0.6s						
KZA	**Kyzart**	**54.61**	**334**	P	**P**	**16 10 18.6**	**+1.3**
	SNR=12						
UCH	**Uchtor**	**55.06**	**334**	P	**P**	**16 10 21.4**	**+0.9**
	SNR=8.6						
TKM2	**Tokmak 2**	**55.16**	**335**	P	**P**	**16 10 21.5**	**+0.6**
	SNR=27						
TKM2	**Tokmak 2**	**55.16**	**335**	*iP*	**P**	**16 10 21.1**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KBK	**Karagaybulak**	**55.22**	**334**	P	**P**	**16 10 22.9**	**+1.5**
	SNR=12						
AML	**Almayashu**	**55.34**	**333**	P	**P**	**16 10 23.0**	**+0.5**
	SNR=12						
AAK	**Ala-Archa**	**55.40**	**334**	P	**P**	**16 10 23.4**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=130,slow=7.5,SNR=12						
AAK	**Ala-Archa**	**55.40**	**334**	*eP*	**P**	**16 10 23.0**	**+0.4**
	comp=Z,3.7nm,0.9s						
AAK	**Ala-Archa**	**55.40**	**334**	*iP*	**P**	**16 10 22.6**	**0.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
EKS2	**Erkin-Say**	**55.73**	**334**	P	**P**	**16 10 25.8**	**+0.9**
	SNR=33						
USP	**Ospenovka**	**55.90**	**334**	P	**P**	**16 10 26.6**	**+0.5**
	SNR=10						
MK01	**Makanchi Array**	**56.06**	**342**	*eP*	**P**	**16 10 27.1**	**0.0**
MK31	**Makanchi Array**	**56.08**	**342**	*eP*	**P**	**16 10 27.9**	**+0.6**
MK31	**Makanchi Array**	**56.08**	**342**	*iP*	**P**	**16 10 27.2**	**0.0**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MKAR	**Makanchi Array**	**56.08**	**342**	P	**P**	**16 10 27.8**	**+0.5**
	comp=Z,18nm,0.8s,baz=148,slow=7.8,SNR=79						
MKAR	**Makanchi Array**	**56.08**	**342**	*ceP*	**P**	**16 10 27.6**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,18nm,0.8s						
MNAS	**Manas**	**56.17**	**332**	*iP*	**P**	**16 10 28.7**	**+0.6**
MNAS				pmax	pmax		
	comp=Z,19nm,0.7s						
MAKZ	**Makanchi**	**56.19**	**342**	*eP*	**P**	**16 10 28.4**	**+0.4**
MAKZ	**Makanchi**	**56.19**	**342**	*iP*	**P**	**16 10 27.6**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**56.24**	**24**	P	**P**	**16 10 28.8**	**+0.4**
	comp=Z,6.9nm,0.5s,baz=204,slow=5.3,SNR=20						
ZAK	**Zakamensk**	**56.34**	**360**	*eP*	**P**	**16 10 29.7**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KK31	**Karatay Array**	**57.57**	**332**	*iP*	**P**	**16 10 37.5**	**-0.4**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TLY	**Talaya**	**57.64**	**360**	*eP*	**P**	**16 10 39.8**	**+1.6**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KLR	**Kul'dur**	**60.35**	**21**	P	**P**	**16 10 57.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=233,slow=5.1,SNR=63						
KLR	**Kul'dur**	**60.35**	**21**	*iP*	**P**	**16 10 56.7**	**-0.3**
KURBB	**Kurchatov Arra**	**60.63**	**342**	P	**P**	**16 10 59.5**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=158,slow=6.2,SNR=40						
KURK	**Kurchatov**	**60.68**	**342**	*eP*	**P**	**16 10 59.5**	**+0.3**
KURK	**Kurchatov**	**60.68**	**342**	*c iP*	**P**	**16 10 59.2**	**0.0**
KURK				pmax	pmax		
	comp=Z,12nm,0.8s						
OTUK	**Ortayu**	**60.81**	**336**	P	**P**	**16 11 00.0**	**-0.2**
OTUK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GEYT	**Alibeck**	**61.03**	**320**	P	**P**	**16 11 02.8**	**+0.9**
	comp=Z,4.5nm,0.9s,baz=149,slow=6.9,SNR=6.7						
ASAJ	**Asahikawa**	**61.09**	**31**	P	**P**	**16 11 01.9**	**-0.1**
	comp=Z,10nm,0.7s,baz=242,slow=7.0,SNR=19						
ASAJ	**Asahikawa**	**61.09**	**31**	*eP*	**P**	**16 11 02.3**	**+0.2**
ZALV	**Zalesovo Beam**	**61.99**	**347**	P	**P**	**16 11 08.2**	**+0.3**
	comp=Z,14nm,0.5s,baz=159,slow=5.4,SNR=64						
ZEA	**Zeya**	**62.90**	**15**	*eP*	**P**	**16 11 14.6**	**+0.6**
ZEA				pmax	pmax		
	comp=Z,15nm,0.8s						
NVS	**Novosibirsk**	**63.17**	**347**	*eP*	**P**	**16 11 14.4**	**-1.4**
YSS	**Yuzh-Sakhalins**	**63.17**	**29**	*eP*	**P**	**16 11 15.6**	**-0.4**
YSS	**Yuzh-Sakhalins**	**63.17**	**29**	*eP*	**P**	**16 11 15.7**	**-0.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GRNR	**Gornyy**	**63.34**	**23**	*eP*	**P**	**16 11 17.9**	**+0.9**
BVA0	**Borovoye Array**	**65.39**	**339**	*iP*	**P**	**16 10 30.3**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVAR	**Borovoye Array**	**65.39**	**339**	P	**P**	**16 11 30.7**	**+0.3**
	comp=Z,8.1nm,0.7s,baz=141,slow=8.6,SNR=43						
BRVK	**Borovoye**	**65.46**	**339**	*eP*	**P**	**16 11 31.4**	**+0.6**
BRVK	**Borovoye**	**65.46**	**339**	*ceP*	**P**	**16 11 30.7**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NKL	**Nikolayevsk**	**66.84**	**23**	*eP*	**P**	**16 11 39.5**	**-0.1**
NKL				pmax	pmax		
	comp=N,6.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,19nm,0.9s						
AB31	**Akbulak array**	**67.09**	**331**	*iP*	**P**	**16 11 41.5**	**+0.2**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	**Akbulak array**	**67.09**	**331**	*eP*	**P**	**16 11 41.7**	**+0.4**
	comp=Z,4.1nm,0.5s						
AKTO	**Aktyubinsk**	**68.80**	**331**	P	**P**	**16 11 52.4**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=102,slow=7.3,SNR=6.2						
YAK	**Yakutsk**	**70.90**	**13**	P	**P**	**16 12 04.1**	**-0.6**
	comp=Z,6.4nm,0.6s,baz=171,slow=4.6,SNR=10						
YAK	**Yakutsk**	**70.90**	**13**	*eP*	**P**	**16 12 04.5**	**-0.2**
YAK	**Yakutsk**	**70.90**	**13**	*eP*	**P**	**16 12 04.2**	**-0.4**
YAK				*e**PP	**sP**	**16 12 29.1**	**-2.4**
YAK				*e*		16 14 51.2	
YAK				*e*S	**S**	**16 21 11.1**	**-3.2**
YAK				*e**SS	**sS**	**16 21 45.7**	**-0.8**
YAK				*e*		16 21 51.0	
YAK				*e*SS	**SS**	**16 25 45.1**	**-3.4**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,126nm,3.7s						
YAK				pmax	pmax		
	comp=N,64nm,4.0s						
YAK				pmax	pmax		
	comp=E,55nm,3.8s						
YAK				smax	smax		
	comp=N,43nm,4.0s						
YAK				smax	smax		
	comp=E,34nm,3.3s						
SVE	**Sverdlovsk**	**71.96**	**337**	*eP*	**P**	**16 12 12.5**	**+1.3**
SVE				pmax	pmax		
	comp=Z,18nm,0.9s						
ARU	**Arti**	**72.52**	**336**	P	**P**	**16 12 09.9**	**-4.6**
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=1.8						
ARU	**Arti**	**72.52**	**336**	*eP*	**P**	**16 12 12.1**	**-2.4**
ARU	**Arti**	**72.52**	**336**	*d iP*	**P**	**16 12 15.5**	**+1.0**
ARU				S	**SKiKP**	**16 21 39.7**	**-3.2**
ARU				pmax	pmax		
	comp=Z,16nm,1.0s						
KBZ	**Khabaz**	**73.89**	**319**	P	**P**	**16 12 24.1**	**+1.2**
	comp=Z,8.4nm,0.8s,baz=127,slow=4.4,SNR=11						
MATP	**Matopo**	**74.06**	**251**	LR	LR	16 43 06.2	
	comp=Z,47nm,18.0s,baz=324,slow=34						
PETK	**Petropavlovsk-**	**74.49**	**30**	P	**P**	**16 12 24.4**	**-1.8**
	comp=Z,2.4nm,0.8s,baz=247,slow=3.1,SNR=4.8						
SYO	**Syowa Base**	**75.17**	**200**	*ieP*	**P**	**16 12 31.6**	**+1.8**
MA2	**Magadan**	**75.35**	**23**	P	**P**	**16 12 31.0**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=213,slow=5.9,SNR=11						
MA2	**Magadan**	**75.35**	**23**	*ceP*	**P**	**16 12 31.4**	**+0.4**
SEY	**Seymchan**	**78.15**	**21**	P	**P**	**16 12 47.2**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=280,slow=23,SNR=9.4						
SEY	**Seymchan**	**78.15**	**21**	*ieP*	**P**	**16 12 46.8**	**+0.2**
BRTR	**Keskin Array B**	**78.88**	**312**	P	**P**	**16 12 52.5**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=125,slow=5.9,SNR=14						
BRTR	**Keskin Array B**	**78.88**	**312**	*i* P	**P**	**16 12 53.2**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VSR	**Storozhevoye**	**79.33**	**325**	*eP*	**P**	**16 12 52.8**	**-0.6**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TIXI	**Tiksi**	**79.42**	**8**	*ceP*	**P**	**16 12 51.9**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
LPSR	**Galich'ya Gora**	**80.02**	**326**	*eP*	**P**	**16 12 56.9**	**-0.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KLMR	**Klimovskoe**	**83.20**	**334**	*eP*	**P**	**16 13 13.1**	**-0.6**
KLMR				pmax	pmax		
	comp=Z,17nm,1.4s						
KLMR	**Klimovskoe**	**83.20**	**334**	*eP*	**P**	**16 13 13.2**	**-0.5**
KLMR				AMP		16 13 19.0	
	comp=Z,17nm,1.4s						
CFR	**Carcaliu**	**84.31**	**316**	*iP*	**P**	**16 13 20.5**	**+0.8**
CFR	**Carcaliu**	**84.31**	**316**	P	**P**	**16 13 20.5**	**+0.8**
AKASG	**Malin Array Be**	**85.06**	**322**	P	**P**	**16 13 24.2**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=86,slow=4.9,SNR=14						
AKASG	**Malin Array Be**	**85.06**	**322**	*i* P	**P**	**16 13 24.5**	**+1.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VRI	**Vrincioaia**	**85.44**	**317**	*iP*	**P**	**16 13 27.9**	**+2.5**
VRI	**Vrincioaia**	**85.44**	**317**	P	**P**	**16 13 27.9**	**+2.5**
PLOR	**Plostina**	**85.49**	**317**	*iP*	**P**	**16 13 27.7**	**+2.0**
PLOR	**Plostina**	**85.49**	**317**	P	**P**	**16 13 27.7**	**+2.0**
TESR	**Tescani**	**85.64**	**318**	*iP*	**P**	**16 13 27.9**	**+1.5**
MLR	**Muntele Rosu**	**85.89**	**316**	P	**P**	**16 13 29.6**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=84,slow=9.2,SNR=5.4						
MLR	**Muntele Rosu**	**85.89**	**316**	*iP*	**P**	**16 13 27.3**	**-0.5**
VOIR		**86.49**	**316**	*iP*	**P**	**16 13 32.0**	**+1.3**
VOIR		**86.49**	**316**	P	**P**	**16 13 32.0**	**+1.3**
BURAR	**Bucovina Array**	**86.85**	**318**	*iP*	**P**	**16 13 35.2**	**+2.8**
BURAR	**Bucovina Array**	**86.85**	**318**	P	**P**	**16 13 35.2**	**+2.8**
CJR	**Cluj-Napoca**	**87.74**	**317**	*iP*	**P**	**16 13 38.8**	**+2.1**
CJR	**Cluj-Napoca**	**87.74**	**317**	P	**P**	**16 13 38.8**	**+2.1**
DEV	**Deva**	**88.05**	**316**	*iP*	**P**	**16 13 40.2**	**+2.1**
DEV	**Deva**	**88.05**	**316**	P	**P**	**16 13 40.2**	**+2.1**
DRGR		**88.36**	**317**	*iP*	**P**	**16 13 42.0**	**+2.4**
DRGR		**88.36**	**317**	P	**P**	**16 13 42.0**	**+2.4**
BZS	**Buzias**	**88.89**	**316**	*iP*	**P**	**16 13 44.1**	**+2.0**
BZS	**Buzias**	**88.89**	**316**	P	**P**	**16 13 44.1**	**+2.0**
SIRR	**Siria**	**88.97**	**317**	*iP*	**P**	**16 13 44.5**	**+2.0**
SNAA	**Sanae**	**89.33**	**198**	LR	LR	16 50 42.5	
	comp=Z,57nm,18.4s,baz=89,slow=33						
FINES	**FINESS Array B**	**89.53**	**332**	P	**P**	**16 13 46.0**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=79,slow=3.8,SNR=8.0						
FINES	**FINESS Array B**	**89.53**	**332**	*i* P	**P**	**16 13 46.5**	**+1.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**130.25**	**44**	PKP	**PKPdf**	**16 19 59.0**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=259,slow=1.8,SNR=3.0						
PDAR	**Pinedale Array**	**133.18**	**34**	PKP	**PKPdf**	**16 20 04.8**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=83,slow=2.3,SNR=2.2						
TXAR	**Lajitas Array**	**145.37**	**45**	PKPbc	**PKPab**	**16 20 27.7**	**+1.5**
	comp=Z,5.3nm,0.8s,baz=284,slow=1.3,SNR=59						

*IDC **10** 16:08:38.5±2.0, 7.°22S×129.°03E, h197km±20km, mb3.5/9, mb1 3.6/13, mb1mx3.4/54, mbtmp4.2/13, Error ellipse: s-maj=20.5km s-min=11.4km az=42.0*

ISC 10 16:08:34.3±0.6, 7.°22S±0.°07×129.°23E±0.°08, h156km, n28, σ2s41/35, mb3.7/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.26**	**241**	P	**Pn**	**16 10 07.9**	**+3.3**
	8.6nm,0.3s,baz=72,slow=3.3,SNR=12						
BATI				S	**Sn**	**16 11 17.0**	**+1.7**
	24nm,0.3s,baz=198,slow=20,SNR=11						
FITZ	**Fitzroy Crossi**	**11.37**	**198**	P	**Pn**	**16 11 14.5**	**+2.2**
	0.3nm,0.3s,baz=37,slow=13,SNR=7.7						
FITZ				S	**Sn**	**16 13 12.0**	**-6.2**
	0.5nm,0.3s,baz=208,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	**13.59**	**159**	P	**Pn**	**16 11 40.7**	**-0.2**
	2.8nm,0.3s,baz=344,slow=12,SNR=27						
WRA				S	**Sn**	**16 14 06.5**	**-5.1**
	2.0nm,0.3s,baz=338,slow=21,SNR=8.5						
WRA				ScP	**ScP**	**16 20 09.0**	**-4.8**
	0.1nm,0.3s,baz=329,slow=1.3,SNR=6.3						
QIS	**Mount Isa**	**16.64**	**144**	P	**P**	**16 12 18.9**	**+0.5**
	baz=17,SNR=14						
ASAR	**Alice Springs**	**16.96**	**165**	P	**Pn**	**16 12 25.1**	**+2.5**
	2.5nm,0.3s,baz=342,slow=10.0,SNR=156						
ASAR				S	**S**	**16 15 29.4**	**-1.4**
	0.5nm,0.3s,baz=345,slow=23,SNR=7.7						
ASAR				ScP	**ScP**	**16 20 16.4**	**-3.6**
	0.1nm,0.3s,baz=2.0,slow=1.7,SNR=6.5						
WRKA	**Warakurna**	**17.75**	**183**	P	**Pn**	**16 12 33.4**	**+1.5**
	baz=18,SNR=4.2						
PMG	**Port Moresby**	**17.87**	**98**	P	**Pn**	**16 12 36.9**	**+3.5**
	1.3nm,0.3s,baz=277,slow=11,SNR=9.5						
CTA	**Charters Tower**	**20.88**	**129**	P	**P**	**16 13 07.0**	**+2.5**
	3.9nm,0.8s,baz=322,slow=12,SNR=3.3						
MEEK	**Meekatharra**	**21.80**	**206**	P	**P**	**16 13 16.2**	**+2.0**
	baz=22,SNR=3.9						
QLP	**Quilpie**	**23.97**	**145**	P	**P**	**16 13 34.1**	**-0.4**
	baz=24,SNR=4.9						
STKA	**Stephens Creek**	**27.11**	**156**	P	**P**	**16 14 03.7**	**+0.9**
	1.4nm,0.5s,baz=333,slow=7.9,SNR=4.3						
STKA	**Stephens Creek**	**27.11**	**156**	P	**P**	**16 14 02.9**	**+0.1**
	baz=27,SNR=4.0						
NWAO	**Narrogin (SRO)**	**27.91**	**202**	P	**P**	**16 14 11.9**	**+2.0**
	baz=28,SNR=8.9						
NWAO				P	**P**	**16 14 11.9**	**+2.0**
	baz=28,SNR=8.9						
PSI	**Prapat**	**31.84**	**287**	P	**P**	**16 14 43.3**	**-1.7**
	5.3nm,0.7s,baz=133,slow=6.1,SNR=9.2						
DZM	**Mont Dzumac**	**38.78**	**116**	P	**P**	**16 15 45.1**	**+1.0**
	2.0nm,0.7s,baz=273,slow=16,SNR=3.0						
CMAR	**Chiang Mai Arr**	**39.29**	**311**	P	**P**	**16 15 47.4**	**-0.9**
	1.0nm,0.8s,baz=138,slow=6.6,SNR=8.5						
JIRN	**Jiri**	**54.16**	**312**	*eP*	**P**	**16 17 42.7**	**-1.5**
	9.0nm,0.5s						
GUN	**Gumba**	**54.52**	**312**	*eP*	**P**	**16 17 45.5**	**-1.3**
	12nm,0.5s						
PKI	**Pulchoki**	**54.69**	**311**	*eP*	**P**	**16 17 46.6**	**-1.4**
PKIN	**Phulchoki**	**54.70**	**311**	*eP*	**P**	**16 17 47.0**	**-1.0**
	3.9nm,0.5s						
KKN	**Kakani**	**54.90**	**311**	*eP*	**P**	**16 17 48.1**	**-1.3**
	3.7nm,0.4s						
DMN	**Daman**	**54.94**	**311**	*eP*	**P**	**16 17 48.6**	**-1.1**
	4.4nm,0.5s						
KOLN	**Koldanda**	**56.16**	**310**	*eP*	**P**	**16 17 57.1**	**-1.2**
	3.1nm,0.3s						
PYUN	**Piuthan**	**56.79**	**310**	*eP*	**P**	**16 18 01.8**	**-1.0**
SONM	**Songino Array**	**58.41**	**342**	P	**P**	**16 18 14.1**	**+0.5**
	0.3nm,0.5s,baz=157,slow=7.5,SNR=2.1						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**16 19 15.7**	**-1.0**
	0.5nm,0.4s,baz=115,slow=8.2,SNR=18						
ZALV	**Zalesovo Beam**	**71.44**	**334**	P	**P**	**16 19 35.2**	**-2.4**
	0.5nm,0.5s,baz=155,slow=6.6,SNR=3.4						
KURBB	**Kurchatov Arra**	**72.30**	**329**	P	**P**	**16 19 41.7**	**-1.1**
	0.4nm,0.5s,baz=125,slow=4.9,SNR=4.5						

*ISCJB **10** 16:13:00.5±0.5, 13.°77N±0.°05×120.°56E±0.°06, h130km±4km, mb3.6/6, Error ellipse: s-maj=9.5km s-min=7.4km az=169.5*

*IDC **10** 16:13:01.5±3.4, 13.°84N×120.°89E, h134km±8km, mb3.4/6, mb1 3.4/6, mb1mx3.1/63, mbtmp3.8/6, MS3.7/1, Ms1 3.7/1, ms1mx2.7/31, Error ellipse: s-maj=72.6km s-min=41.4km az=146.0*

*MAN **10** 16:13:02, 13.°78N×120.°58E, h106km, mb4.6, ML3.4, MS3.3*

ISC 10 16:13:01.6±0.9, 13.°78N±0.°05×120.°59E±0.°06, h125km±7km, n18, σ1s10/26, mb3.6/6, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.33**	**262**	*eP*	**Pn**	**16 13 19.6**	**+0.5**
LUBP				*eS*	**Sn**	**16 13 31.7**	**-0.8**
PGP	**Puerto Galera**	**0.45**	**128**	*eP*	**Pn**	**16 13 19.6**	**-0.2**
PGP				*i* S	**Sn**	**16 13 33.6**	**0.0**
TGY	**Tagaytay City**	**0.47**	**47**	P	**Pn**	**16 13 20.9**	**+1.0**
	197nm,0.3s,baz=243,slow=6.8,SNR=7.1						
TGY				S	**Sn**	**16 13 35.5**	**+1.7**
	196nm,0.3s,baz=102,slow=20,SNR=25						
TGY	**Tagaytay City**	**0.47**	**47**	*eP*	Pn	16 13 12.4	-7.5
TGY				*eS*	**Sn**	**16 13 33.6**	**-0.2**
LQP	**Lukban**	**0.98**	**70**	*eP*	**Pn**	**16 13 20.8**	**-3.2**
BOAC	**Boac**	**1.26**	**104**	*eP*	**Pn**	**16 13 27.2**	**+0.5**
BOAC				*eS*	**Sn**	**16 13 44.8**	**-0.9**
SJMP	**San Jose**	**1.41**	**158**	*eP*	**Pn**	**16 13 28.5**	**+0.2**
SJMP				*eS*	**Sn**	**16 13 48.6**	**-0.1**
BUSP	**Coron**	**1.81**	**192**	*eP*	**Pn**	**16 13 32.9**	**0.0**
BUSP				*eS*	**Sn**	**16 13 55.9**	**-1.0**
GQP	**Guinayangan**	**1.81**	**86**	*iP*	**Pn**	**16 13 34.1**	**+1.1**
GQP				*i* S	**Sn**	**16 13 58.0**	**+1.1**
PCPH	**Palayan**	**1.84**	**16**	*eP*	**Pn**	**16 13 32.7**	**-0.6**
SCZP	**Santa Cruz**	**2.09**	**342**	*eP*	**Pn**	**16 13 36.7**	**+0.3**
SCZP				*eS*	**Sn**	**16 14 02.2**	**-0.8**
BALP	**Baler**	**2.17**	**26**	*eP*	**Pn**	**16 13 38.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**21.30**	**285**	P	**P**	**16 17 40.5**	**+1.9**
	1.8nm,0.8s,baz=96,slow=8.1,SNR=17						
SONM	**Songino Array**	**35.95**	**344**	P	**P**	**16 19 49.7**	**-0.6**
	0.4nm,0.5s,baz=158,slow=9.9,SNR=3.5						
SONM				LR	LR	16 36 26.3	
	comp=Z,107nm,18.5s,baz=311,slow=39						
MKAR	**Makanchi Array**	**45.90**	**324**	P	**P**	**16 21 11.8**	**+0.1**
	0.9nm,0.7s,baz=124,slow=9.1,SNR=6.5						
ZALV	**Zalesovo Beam**	**48.94**	**333**	P	**P**	**16 21 34.1**	**-0.9**
	1.0nm,0.4s,baz=128,slow=6.9,SNR=5.0						
KURBB	**Kurchatov Arra**	**50.06**	**326**	P	**P**	**16 21 43.2**	**-0.4**
	2.2nm,0.5s,baz=132,slow=7.7,SNR=16						
BVAR	**Borovoye Array**	**55.65**	**326**	P	**P**	**16 22 24.3**	**-0.3**
	0.5nm,0.6s,baz=123,slow=9.1,SNR=3.2						

*IDC **10** 16:35:22.6±2.7, 10.°40S×161.°46E, h87km±18km, mb3.3/4, mb1 3.5/5, mb1mx3.2/44, mbtmp3.7/5, Error ellipse: s-maj=36.5km s-min=18.4km az=57.0*

ISC 10 16:35:20.6±1.8, 10.°3S±0.°2×161.°6E±0.°2, h61km, n6, σ2s20/8, mb3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.81**	**298**	P	**Pn**	**16 35 50.9**	**+1.4**
	37nm,0.3s,baz=170,slow=6.1,SNR=29						
HNR				S	**Sn**	**16 36 14.2**	**+2.6**
	51nm,0.3s,baz=186,slow=19,SNR=5.7						
DZM	**Mont Dzumac**	**12.61**	**159**	P	**Pn**	**16 38 18.2**	**+0.9**
	0.1nm,0.3s,baz=322,slow=19,SNR=5.0						
DZM				S	**Sn**	**16 40 38.2**	**+1.9**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**27.95**	**247**	P	**P**	**16 41 03.8**	**-1.8**
	1.1nm,0.7s,baz=79,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**29.54**	**240**	P	**P**	**16 41 17.8**	**-2.0**
	0.4nm,0.9s,baz=64,slow=10,SNR=3.6						
FITZ	**Fitzroy Crossi**	**35.64**	**253**	P	**P**	**16 42 11.1**	**-1.9**
	1.3nm,0.7s,baz=72,slow=11						
SONM	**Songino Array**	**75.67**	**325**	P	**P**	**16 46 58.7**	**-0.8**
	0.2nm,0.6s,baz=142,slow=6.1,SNR=2.8						

GUC 10 16:39:28.5±0.6, 21.°35S×69.°21W, h103km±4km, ML3.6, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.40**	**320**	*iP*	Pn	16 39 44.2	+0.1
PB01				*eS*	Sn	16 39 55.9	+0.2
PB01				IAML		16 39 56.4	
	comp=E,4µm,0.3s						
PB09	**IPOC Station P**	**0.45**	**184**	*eP*	Pn	16 39 44.9	+0.4
PB09				*eS*	Sn	16 39 57.4	+1.0
PB09				IAML		16 39 58.4	
	comp=N,5µm,0.1s						
PB02	**IPOC Station P**	**0.64**	**273**	*iP*	Pn	16 39 46.5	+0.7
PB02				*eS*	Sn	16

OUZ	**Omahuta**	**4.84**	**264**	P	**Pn**	**16 44 55.8 -1.1**
WATZ	**Wairara**	**4.89**	**217**	P	**Pn**	**16 44 58.6 +1.1**
BKZ	**Black Stump Fm**	**4.93**	**208**	P	**Pn**	**16 44 57.2 -0.9**
RATZ	**Rangitukua**	**4.99**	**215**	P	**Pn**	**16 44 59.8 +0.8**
RITZ	**Rihia Road**	**5.04**	**214**	P	**Pn**	**16 45 00.2 +0.6**
MCHZ	**McNeill Hill**	**5.10**	**205**	P	**Pn**	**16 44 59.4 -1.0**
KWHZ	**Kaweka Forest**	**5.18**	**207**	P	**Pn**	**16 45 00.2 -1.3**
HIZ	**Hauiti**	**5.21**	**224**	P	**Pn**	**16 45 04.0 +2.2**
KRVZ	**Karewarewa**	**5.24**	**215**	P	**Pn**	**16 45 02.1 -0.1**
WTVZ	**West Tongariro**	**5.28**	**215**	P	**Pn**	**16 45 02.4 -0.4**
NGZ	**Ngauruhoe**	**5.32**	**215**	P	**Pn**	**16 45 03.4 0.0**
KAHZ	**Kahuranaki**	**5.36**	**202**	P	**Pn**	**16 45 02.6 -1.2**
COVZ	**Chateau Observ**	**5.37**	**215**	P	**Pn**	**16 45 03.7 -0.2**
BHHZ	**Black Hill Sta**	**5.38**	**209**	P	**Pn**	**16 45 02.8 -1.2**
KRHZ	**Kereru**	**5.39**	**206**	P	**Pn**	**16 45 02.4 -1.8**
FWVZ	**Far West T-bar**	**5.41**	**214**	P	**Pn**	**16 45 04.1 -0.5**
MOVZ	**Moawhango**	**5.44**	**212**	P	**Pn**	**16 45 03.4 -1.5**
MTVZ	**Mangateitei**	**5.55**	**214**	P	**Pn**	**16 45 05.4 -0.9**
PXZ	**Pawanui**	**5.58**	**201**	P	**Pn**	**16 45 04.5 -2.1**
PNHZ	**Pukenui**	**5.69**	**206**	P	**Pn**	**16 45 06.0 -2.2**
VRZ	**Vera Road**	**5.70**	**220**	P	**Pn**	**16 45 09.5 +1.2**
PRHZ	**Porangahau**	**5.86**	**202**	P	**Pn**	**16 45 08.1 -2.4**
TSZ	**Takapari Road**	**5.91**	**207**	P	**Pn**	**16 45 08.1 -2.9**
GLKZ	**Green Lake**	**5.99**	**22**	S	**Sn**	**16 46 18.7 -1.2**
RIZ	**Raoul Island**	**6.00**	**22**	S	**Sn**	**16 46 22.0 +1.8**
DVHZ	**Dannevirke**	**6.05**	**205**	P	**Pn**	**16 45 10.0 -2.9**
WAZ	**Wanganui**	**6.07**	**215**	P	**Pn**	**16 45 11.8 -1.4**
ANWZ	**Angora Road**	**6.09**	**202**	P	**Pn**	**16 45 10.9 -2.6**
POWZ	**Post Office Ro**	**6.27**	**207**	P	**Pn**	**16 45 13.6 -2.3**
BFZ	**Birch Farm**	**6.36**	**203**	P	**Pn**	**16 45 14.0 -3.1**
TIWZ	**Tintock**	**6.57**	**205**	P	**Pn**	**16 45 17.3 -2.6**
MRZ	**Mangatainoka R**	**6.58**	**207**	P	**Pn**	**16 45 16.0 -3.9**
DZM	**Moni Dzumac**	**17.10**	**315**	P	**Pn**	**16 47 36.3 +0.4**
	0.2nm,0.3s,baz=154,slow=10,SNR=5.7					
STKA	**Stephens Creek**	**31.66**	**264**	P	**P**	**16 49 55.1 +0.4**
	1.7nm,1.0s,baz=100,slow=11,SNR=2.8					
ASAR	**Alice Springs**	**40.98**	**273**	P	**P**	**16 51 12.8 -1.2**
	2.5nm,0.5s,baz=114,slow=8.1,SNR=106					
WRA	**Warramunga Arr**	**42.38**	**278**	P	**P**	**16 51 24.0 -1.3**
	1.5nm,0.5s,baz=115,slow=7.9,SNR=33					
MMAI	**Mount Meron Ar**	**150.23**	**277**	PKPbc	**PKPdf**	**17 03 14.3 +0.5**
	0.4nm,0.2s,baz=94,slow=4.3,SNR=7.3					

MAN 10 16:48:10.9±0.78N×123.00E, h51km, mb4.2, ML3.0, MS2.6, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.49**	**152**	↓*iP*	Pn	16 48 24.5	+3.2
SNPH				*i* S	Sn	16 48 33.0	+3.6
TBP	**Tagbilaran**	**0.85**	**96**	*eP*	Pn	16 48 24.9	-1.0
GUIM	**Jordan**	**0.94**	**334**	*eP*	Pn	16 48 28.1	+1.2
GUIM				*eS*	Sn	16 48 41.9	+2.6
MSLP	**Maasin**	**1.87**	**79**	*eP*	Pn	16 48 40.8	+1.3
MSLP				*eS*	Sn	16 49 04.0	+2.0

NEIC 10 17:04:53.3±0.0, 52.17N×173.68W, h102km, ML3.4(AEIC), **After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.28**	**292**	*e*Pn	Pn	17 05 08.6	+0.5
KOKL	**Mount Kliuchef**	**0.36**	**296**	*e*Pn	Pn	17 05 09.2	+0.7
KOKL				*e*Sn	Sn	17 05 20.8	+1.1
KOWE	**Korovin West**	**0.40**	**299**	*e*Pn	Pn	17 05 09.2	+0.6
KOWE				*e*Sn	Sn	17 05 21.4	+1.2
GSMY	**Great Sitkin M**	**1.47**	**266**	*e*Pn	Pn	17 05 20.1	+0.8
GSTD	**Great Sitkin T**	**1.53**	**267**	*e*Pn	Pn	17 05 20.5	+0.5
ADAG	**Mount Adagdak**	**1.82**	**265**	*e*Pn	Pn	17 05 25.1	+1.6
TAPA	**Tanaga Point A**	**2.58**	**264**	*e*Pn	Pn	17 05 34.5	+0.9
TAFP	**Tanaga Falls P**	**2.67**	**266**	*e*Pn	Pn	17 05 35.5	+0.7
TASE	**Tanaga Southea**	**2.72**	**265**	*e*Pn	Pn	17 05 36.2	+0.9
OKSP	**Okmok Steeple**	**3.45**	**70**	P	Pn	17 05 46.5	+1.3
OKSP				S	Sn	17 06 27.4	+2.3
OKWE	**Okmok W'ng Wal**	**3.55**	**66**	P	Pn	17 05 48.2	+1.8
OKTU	**Okmok Mt. Tuli**	**3.63**	**68**	*e*Pn	Pn	17 05 49.1	+1.6
MREP	**Makushin Rep't**	**4.50**	**66**	P	Pn	17 06 00.4	+1.2
UNV	**Unalaska Valle**	**4.65**	**66**	*e*Pn	Pn	17 06 02.4	+1.2
UNV				*e*Sn	Sn	17 06 54.4	+0.5
AHB	**Akutan Harbor**	**5.12**	**65**	P	Pn	17 06 09.8	+2.2
AKUT	**Akutan**	**5.15**	**64**	*e*Pn	Pn	17 06 09.5	+1.5
SMY	**Shemya**	**7.49**	**279**	*e*Pn	Pn	17 06 37.8	-2.0
SDPT	**Sand Point**	**8.44**	**63**	*e*Pn	Pn	17 06 52.3	-0.3
CHGN	**Chignik**	**9.84**	**59**	*e*Sn	Sn	17 09 14.0	+14
OHAK	**Old Harbor**	**12.81**	**59**	*e*Pn	Pn	17 07 48.5	-2.9
KDAK	**Kodiak Island**	**13.32**	**57**	*e*Pn	Pn	17 07 56.8	-1.4
HOM	**Homer**	**14.40**	**50**	*e*Pn	Pn	17 08 11.6	-0.4
BRLK	**Bradley Lake**	**14.79**	**50**	*e*Pn	Pn	17 08 16.0	-1.1
YHB	**Horse Butte**	**40.93**	**75**	*e*pP	pP	17 12 46.7	-2.5
IMW	**Indian Meadow**	**41.56**	**76**	*e*P	P	17 12 31.2	+0.2
MOOW	**Moose Ponds**	**41.76**	**76**	*e*P	P	17 12 29.6	-2.9
MLI	**Malad Range**	**41.92**	**79**	*e*P	P	17 12 33.0	-0.8
AGOC	**Agoura**	**42.79**	**93**	*e*P	P	17 12 39.1	-1.7
ROA	**Roan Cliffs**	**44.41**	**80**	*e*P	P	17 12 55.1	+1.0
BTCC	**Brunts Corner**	**45.74**	**91**	*e*P	P	17 13 04.3	+0.1

*CSEM **10** 17:25:55.1, 39.02N×28.04W, h0km, ML2.6, After PDA*
PDA 10 17:25:55.1±0.7, 39.02N×28.04W, h0km±3km, MD3.5, ML2.6, 4C, Error ellipse: s-maj=2.6km s-min=2.3km az=121.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.05**	**75**	*eP*	Pg	17 25 56.0	0.0
PGRA				*eS*	Sg	17 25 56.9	+0.3
PGRA				A	A	17 26 01.3	
	6μm,0.4s						
PGRA	**Graciosa**	**0.05**	**75**	*eP*	Pg	17 25 56.0	0.0
ROSA	**Rosais**	**0.34**	**208**	⇑*iP*	Pg	17 26 01.4	-0.1
ROSA				*eS*	Sg	17 26 06.5	+0.6
ROSA				A	A	17 26 08.1	
	288nm,0.3s						
ROSA	**Rosais**	**0.34**	**208**	⇑*iP*	Pg	17 26 01.4	-0.1
ROSA				*eS*	Sg	17 26 06.5	+0.6
PMAN	**Manadas**	**0.39**	**186**	⇑*iP*	Pg	17 26 02.0	-0.5
PMAN				*eS*	Sg	17 26 07.6	+0.1
PMAN				A	A	17 26 08.7	
	599nm,0.3s						
PMAN	**Manadas**	**0.39**	**186**	⇑*iP*	Pg	17 26 02.0	-0.5
PMAN				*eS*	Sg	17 26 07.6	+0.1
PICO	**Pico**	**0.60**	**210**	*eP*	Pg	17 26 05.8	-0.7
PICO				*eS*	Sg	17 26 14.0	-0.2
PICO				A	A	17 26 16.8	
	124nm,0.3s						
PICO	**Pico**	**0.60**	**210**	*eP*	Pg	17 26 05.8	-0.7
PICO				*eS*	Sg	17 26 14.0	-0.2
PCED	**Cedros**	**0.65**	**233**	*eP*	Pg	17 26 06.5	-1.0
PCED				*eS*	Sg	17 26 15.1	-0.7
PCED				A	A	17 26 17.5	
	81nm,0.2s						
PCED	**Cedros**	**0.65**	**233**	*eP*	Pg	17 26 06.5	-1.0
PCED				*eS*	Sg	17 26 15.1	-0.7
PCAN	**Candelaria**	**0.65**	**212**	*eP*	Pg	17 26 06.4	-1.2
PCAN				*eS*	Sg	17 26 15.4	-0.6
PCAN				A	A	17 26 17.2	
	143nm,0.3s						
PCAN	**Candelaria**	**0.65**	**212**	*eP*	Pg	17 26 06.4	-1.2
PCAN				*eS*	Sg	17 26 15.4	-0.6
CALA	**Caldeira**	**0.68**	**230**	*eP*	Pg	17 26 07.1	-0.9
CALA				*eS*	Sg	17 26 15.9	-0.9
CALA	**Caldeira**	**0.68**	**230**	*eP*	Pg	17 26 07.1	-0.9
CALA				*eS*	Sg	17 26 15.9	-0.9
ADH	**Angra Heroismo**	**0.73**	**120**	*eS*	Sg	17 26 17.2	-1.2
ADH				A	A	17 26 17.5	
	78nm,0.4s						
ADH	**Angra Heroismo**	**0.73**	**120**	*eS*	Sg	17 26 17.2	-1.2

*ISCJB **10** 17:38:02.8±0.4, 41.88N±0.03×142.22E±0.04, h99km±3km, mb3.4/8, Error ellipse: s-maj=6.7km s-min=4.1km az=135.4*
*JMA **10** 17:38:03.3±0.2, 41.86N×142.19E, h101km±2km, M3.2*
*IDC **10** 17:38:04.0±2.4, 41.94N×142.23E, h92km±16km, mb3.2/8, mb1 3.2/10, mb1mx3.0/66, mbtmp3.5/10, Error ellipse: s-maj=32.6km s-min=17.1km az=119.0*
ISC 10 17:38:03.8±0.8, 41.87N±0.04×142.23E±0.04, h95km±7km, n32, σ0.9 79/42, mb3.4/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.56**	**44**	P	**Pn**	**17 38 19.7**	**+0.2**
JNBK				*e*S	**Sn**	**17 38 32.0**	**+0.7**
JEM	**Erimo**	**0.71**	**78**	P	**Pn**	**17 38 21.2**	**+0.4**
JEM				*e*S	**Sn**	**17 38 34.3**	**+0.8**
JKB	**Kayabe**	**0.89**	**271**	P	**Pn**	**17 38 22.2**	**-0.4**
JKB				*e*S	**Sn**	**17 38 36.0**	**-0.8**
JBT2	**Biratori 2**	**0.91**	**6**	P	**Pn**	**17 38 22.9**	**+0.1**
JBT2				*e*S	**Sn**	**17 38 37.4**	**+0.3**
JOT	**Ohata**	**1.01**	**241**	P	**Pn**	**17 38 23.7**	**-0.2**
JOT				*e*S	**Sn**	**17 38 38.3**	**-0.8**
JNB	**Noboribetsu**	**1.07**	**304**	P	**Pn**	**17 38 24.0**	**-0.5**
JNB				*e*S	**Sn**	**17 38 38.9**	**-1.3**
JCH	**Churui**	**1.12**	**48**	P	**Pn**	**17 38 25.6**	**+0.4**
JCH				*e*S	**Sn**	**17 38 41.4**	**+0.1**
JEW	**Eniwo**	**1.12**	**329**	P	**Pn**	**17 38 25.1**	**-0.1**
JEW				*e*S	**Sn**	**17 38 41.6**	**+0.2**
JFR	**Furan**	**1.32**	**12**	P	**Pn**	**17 38 27.5**	**0.0**
JFR				*e*S	**Sn**	**17 38 45.5**	**0.0**
JTM	**Tenmabayashi**	**1.39**	**219**	P	**Pn**	**17 38 28.6**	**+0.2**
JTM				*e*S	**Sn**	**17 38 46.9**	**-0.2**
JANG	**Nango**	**1.59**	**200**	P	**Pn**	**17 38 30.6**	**-0.4**
JANG				*e*S	**Sn**	**17 38 50.9**	**-0.6**
JAR	**Ashorobuto**	**1.82**	**38**	P	**Pn**	**17 38 33.5**	**-0.3**
JAR				*e*S	**Sn**	**17 38 55.4**	**-1.3**
JSK	**Shakotan**	**1.96**	**319**	P	**Pn**	**17 38 36.3**	**+0.7**
JKK2	**Kamakawa 2**	**2.03**	**11**	P	**Pn**	**17 38 36.9**	**+0.3**
JKK2				*e*S	**Sn**	**17 39 01.8**	**+0.2**
JOSM	**Okushiri--Mats**	**2.06**	**277**	P	**Pn**	**17 38 37.2**	**+0.3**
JOSM				*e*S	**Sn**	**17 39 01.9**	**-0.4**
JAK	**Akkeshi**	**2.14**	**58**	P	**Pn**	**17 38 37.2**	**-0.8**
JAK				*e*S	**Sn**	**17 39 01.9**	**-2.2**
ASAJ	**Asahikawa**	**2.26**	**7**	P	**Pn**	**17 38 39.8**	**+0.3**
	20nm,0.3s,baz=222,slow=9.3,SNR=417						
ASAJ				S	**Sn**	**17 39 05.8**	**-1.0**
	3.8nm,0.3s,baz=206,slow=30,SNR=7.2						
MJAR	**Matsushiro Arr**	**6.17**	**212**	P	**Pn**	**17 39 33.1**	**+0.7**
	0.4nm,0.3s,baz=25,slow=13,SNR=7.9						
SEY	**Seymchan**	**21.93**	**12**	P	**P**	**17 42 47.8**	**-1.3**
	0.3nm,0.3s,baz=78,slow=24,SNR=4.2						
SONM	**Songino Array**	**25.93**	**296**	P	**P**	**17 43 28.6**	**+1.5**
	0.2nm,0.5s,baz=110,slow=8.5,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**30.40**	**129**	T	T	18 16 43.5	
	baz=323,slow=74,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**30.41**	**129**	T	T	18 16 46.2	
	baz=323,slow=74,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**30.42**	**129**	T	T	18 16 44.9	
	baz=323						
H11S1	**WAKE ISLAND Hy**	**31.26**	**131**	T	T	18 17 55.1	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**31.26**	**131**	T	T	18 17 55.7	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**31.27**	**131**	T	T	18 18 01.6	
	baz=322						
ZALV	**Zalesovo Beam**	**39.27**	**308**	P	**P**	**17 45 23.1**	**+0.2**
	0.8nm,0.5s,baz=76,slow=7.8,SNR=4.9						
MKAR	**Makanchi Array**	**42.25**	**298**	P	**P**	**17 45 45.9**	**-1.6**
	0.2nm,0.8s,baz=57,slow=5.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**43.66**	**304**	P	**P**	**17 45 58.3**	**-0.5**
	0.5nm,0.4s,baz=76,slow=8.9,SNR=5.8						
ILAR	**Eielson Array**	**45.12**	**35**	P	**P**	**17 46 10.2**	**+0.1**
	0.2nm,0.8s,baz=266,slow=5.3,SNR=4.5						
BVAR	**Borovoye Array**	**47.89**	**309**	P	**P**	**17 46 32.6**	**+0.6**
	0.5nm,0.3s,baz=81,slow=10,SNR=5.9						
FINES	**FINESS Array B**	**64.85**	**332**	P	**P**	**17 48 33.0**	**+0.8**
	1.7nm,0.9s,baz=58,slow=5.2,SNR=7.8						

*IDC **10** 17:44:21.6±1.2, 30.00N×52.32E, h0km, mb3.5/11, mb1 3.7/14, mb1mx3.5/60, mbtmp3.5/14, ML3.2/3, Error ellipse: s-maj=26.9km s-min=17.1km az=12.0*
*TEH **10** 17:44:24.3, 30.01N×52.41E, h10km, ML3.4*
*CSEM **10** 17:44:24.8, 30.22N×52.33E, h14km, ML3.4, After THR*
ISC 10 17:44:24.0±1.1, 30.01N±0.05×52.39E±0.03, h16km±8km, n32, σ1.945/37, mb3.5/11, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.53**	**245**	*e*Pg	**Pg**	**17 44 34.4**	**-0.2**
IKAZ				*e*Sg	**Sg**	**17 44 40.9**	**-0.8**
IPAR	**Pars**	**0.59**	**106**	*e*Pg	**Pg**	**17 44 34.9**	**-0.9**
IPAR				*e*Sg	**Sg**	**17 44 42.7**	**-1.1**
ISRV	**Sarvestan**	**0.89**	**134**	*e*Pg	**Pb**	**17 44 40.6**	**-0.6**
ISRV				*e*Sg	**Sb**	**17 44 51.3**	**-1.6**
ISRV				*e*AMB	AMB	17 45 02.5	
	comp=Z,12μm,0.2s						
AHBU	**AHRAM**	**1.48**	**220**	*e*Pg	**Pg**	**17 44 54.4**	**+1.8**
GHIR	**Ghir-Karzin**	**1.79**	**163**	*e*Pn	**Pg**	**17 45 00.4**	**+2.0**
IRAM	**Ramesheh**	**1.80**	**360**	*e*Pn	**Pn**	**17 44 53.1**	**-1.5**
IRAM				*e*AMB	AMB	17 44 59.2	
	comp=Z,3μm,0.2s						
ISAD	**Sadrabad**	**2.20**	**30**	*e*AMB	AMB	17 45 07.8	
	comp=Z,3μm,0.2s						
ISAD				*e*Pn	**Pn**	**17 45 02.3**	**+2.1**
ISAD				*e*Sg	**Sb**	**17 45 32.0**	**+1.2**
IMEH	**Mehriz**	**2.36**	**54**	*e*Pn	**Pn**	**17 45 03.2**	**+0.9**
IMEH				*e*Sg	**Sb**	**17 45 36.7**	**+1.4**
IMEH				*e*AMB	AMB	17 45 42.6	
	comp=Z,2μm,0.4s						
IGAR	**Gharneh**	**2.41**	**353**	*e*AMB	AMB	17 45 07.7	
	comp=Z,2μm,0.1s						
IGAR				*e*Pn	**Pn**	**17 45 03.8**	**+0.8**
NASN	**Na'in**	**2.81**	**7**	*e*Pn	**Pn**	**17 45 08.7**	**+0.1**
ICHK	**Chekchek**	**2.82**	**37**	*e*AMB	AMB	17 45 24.9	
	comp=Z,1μm,0.3s						
ICHK				*e*Pn	**Pn**	**17 45 09.8**	**+1.1**
IZEF	**Zefreh**	**2.88**	**359**	*e*Pn	**Pn**	**17 45 10.9**	**+1.4**
IZEF				*e*AMB	AMB	17 45 22.9	
	comp=Z,710nm,0.2s						
IPIR	**Pirpir**	**2.96**	**335**	*e*Pn	**Pn**	**17 45 11.6**	**+0.9**
IPIR				*e*AMB	AMB	17 46 06.0	
	comp=Z,700nm,0.2s						
IBAF	**Bafgh**	**3.16**	**59**	*e*AMB	AMB	17 45 45.0	
	comp=Z,505nm,0.3s						
IKLH	**Kolahrood**	**3.38**	**348**	*e*Pn	**Pn**	**17 45 17.1**	**+0.8**
IKLH				*e*AMB	AMB	17 45 44.3	
	comp=Z,610nm,0.2s						
KRBR	**Kerman**	**3.79**	**89**	*e*Pn	**Pn**	**17 45 25.9**	**+3.8**
QAM	**Ghamsar**	**3.83**	**348**	*e*Pn	**Pn**	**17 45 25.4**	**+2.9**
QAM				*e*AMB	AMB	17 46 29.0	
	comp=Z,1μm,0.2s						
KHMZ	**Khomeyn**	**4.26**	**332**	*e*Pn	**Pn**	**17 45 28.6**	**+0.2**
WSAR	**Wadi Sarin**	**8.75**	**139**	Pn	**Pn**	**17 46 31.3**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=345,slow=5.2,SNR=14						
WSAR				Sn	**Sn**	**17 48 05.6**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=141,slow=14,SNR=3.8						
GEYT	**Alibeck**	**9.22**	**30**	Pn	**Pn**	**17 46 37.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=225,slow=10.0,SNR=2.3						
BRTR	**Keskin Array B**	**18.16**	**307**	P	**Pn**	**17 48 35.0**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=136,slow=12,SNR=2.9						
AAK	**Ala-Archa**	**21.75**	**49**	P	**P**	**17 49 16.8**	**+1.9**
	comp=Z,1.8nm,0.8s,baz=225,slow=12,SNR=9.6						
MLR	**Muntele Rosu**	**25.84**	**314**	P	**P**	**17 49 55.5**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=171,slow=5.7,SNR=8.6						
AKASG	**Malin Array Be**	**26.98**	**327**	P	**P**	**17 50 04.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=130,slow=10.0,SNR=4.0						
KURBB	**Kurchatov Arra**	**28.41**	**36**	P	**P**	**17 50 17.6**	**0.0**
	comp=Z,0.2nm,0.4s,baz=234,slow=9.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**33.48**	**35**	P	**P**	**17 51 02.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=246,slow=11,SNR=3.6						
GERES	**GERESS Array B**	**34.83**	**314**	P	**P**	**17 51 15.0**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=122,slow=8.3,SNR=2.6						
FINES	**FINESS Array B**	**35.91**	**339**	P	**P**	**17 51 22.5**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=145,slow=7.0,SNR=6.9						
CMAR	**Chiang Mai Arr**	**43.72**	**94**	P	**P**	**17 52 28.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=292,slow=9.5,SNR=7.5						
EKA	**Eskdalemuir Ar**	**46.47**	**319**	P	**P**	**17 52 48.9**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=98,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**49.63**	**262**	P	**P**	**17 53 14.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=56,slow=8.4,SNR=5.2						
YKA	**Yellowknife Ar**	**87.23**	**354**	P	**P**	**17 57 09.2**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=6.8,slow=5.0,SNR=4.8						

*ISCJB **10** 17:49:16.6±0.4, 43.13N±0.02×78.34E±0.03, h1km±5km, Error ellipse: s-maj=4.2km s-min=3.3km az=14.1*
*KRNET **10** 17:49:16.9±0.1, 43.09N×78.32E, h16km, mb2.4*
*NNC **10** 17:49:16.0±0.5, 43.21N×78.31E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=28.9km s-min=2.5km az=174.0*
*SOME **10** 17:49:17.1, 43.12N×78.32E, h5km*
ISC 10 17:49:16.4±0.8, 43.12N±0.02×78.34E±0.02, h12km±7km, n34, σ0.964/65, 18C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.08**	**141**	*eP*	**Pg**	**17 49 19.2**	**+0.1**
	924nm,0.1s						
SATY				*eS*	**Sg**	**17 49 20.9**	**-0.2**
	2μm,0.1s						
KURS	**Kuram**	**0.39**	**341**	*eP*	**Pb**	**17 49 24.7**	**-0.6**
	1.8nm,0.1s						
KURS				*eS*	**Sb**	**17 49 30.3**	**-1.0**
	12nm,0.2s						
KURS	**Kuram**	**0.39**	**341**	*eP*	**Pb**	**17 49 24.7**	**-0.6**
	baz=45						
KURS				*eS*	**Sb**	**17 49 30.3**	**-1.0**
	baz=45						
KPKS	**Kokpek**	**0.43**	**36**	*eP*	**Pb**	**17 49 25.5**	**-0.5**
	3.8nm,0.1s						
KPKS				*eS*	**Sb**	**17 49 31.4**	**-1.0**
	46nm,0.2s						
UZB	**Uzynbulak**	**0.50**	**87**	*eP*	**Pg**	**17 49 26.4**	**+0.2**
	35nm,0.1s						
UZB				*eS*	**Sg**	**17 49 33.2**	**+0.3**
	52nm,0.1s						
PRZ	**Przheval'sk**	**0.64**	**176**	↓*eP*	**Pb**	**17 49 29.3**	**-0.3**
	baz=73						
PRZ				↓*eS*	**Sg**	**17 49 37.9**	**+0.7**
	baz=73						
PDGK	**Podgornoye**	**0.87**	**76**	↓*P*	**Pg**	**17 49 32.7**	**-0.4**
	3.1nm,0.4s						
PDGK				⇑*S*	**Sg**	**17 49 44.3**	**-0.2**
	2.7nm,0.3s						
PDGK	**Podgornoye**	**0.87**	**76**	⇑*iP*	**Pg**	**17 49 32.8**	**-0.4**
	baz=74						
PDGK				⇑*iS*	**Sb**	**17 49 44.5**	**-0.6**
	baz=74						
KOTS	**Kotyrbulak**	**0.91**	**278**	*eP*	**Pg**	**17 49 34.1**	**+0.2**
	4.8nm,0.1s						
KOTS				*eS*	**Sb**	**17 49 46.4**	**+0.1**
	11nm,0.2s						
MDOK	**Medeo**	**0.95**	**273**	↓*P*	**Pg**	**17 49 34.5**	**-0.1**
	2.5nm,0.6s						
MDOK				⇑*S*	**Sg**	**17 49 46.6**	**-0.4**
	3.0nm,0.4s						
MDOK	**Medeo**	**0.95**	**273**	*eP*	**Pg**	**17 49 34.3**	**-0.3**
	2.8nm,0.3s						
MDOK				*eS*	**Sg**	**17 49 46.6**	**-0.4**
	6.5nm,0.2s						
MDOK	**Medeo**	**0.95**	**273**	*eP*	**Pg**	**17 49 34.3**	**-0.3**
	baz=75						
MDOK				*eS*	**Sg**	**17 49 46.6**	**-0.4**
	baz=75						
MNBS	**Baschi**	**0.96**	**3**	*eP*	**Pb**	**17 49 35.3**	**+0.2**
	5.5nm,0.2s						
MNBS				*eS*	**Sb**	**17 49 48.4**	**+0.6**
	41nm,0.4s						
MNBS	**Baschi**	**0.96**	**3**	*eP*	**Pb**	**17 49 35.3**	**+0.2**
	baz=9.0						
MNBS				*eS*	**Sb**	**17 49 48.4**	**+0.6**
	baz=9.0						
TNSS	**Tian-Shan**	**1.02**	**266**	*eP*	**Pg**	**17 49 35.7**	**-0.4**
	3.1nm,0.2s						
TNSS				*eS*	**Sg**	**17 49 48.9**	**-0.6**
	7.0nm,0.2s						
TNSS	**Tian-Shan**	**1.02**	**266**	*eP*	**Pg**	**17 49 35.7**	**-0.4**
	baz=68						
TNSS				*eS*	**Sg**	**17 49 48.9**	**-0.6**
	baz=68						
ARXS	**Arharly**	**1.15**	**341**	*eP*	**Pn**	**17 49 38.7**	**+0.2**
	4.1nm,0.3s						
ARXS				*eS*	**Sb**	**17 49 54.0**	**+0.7**
	4.5nm,0.2s						
CHKK	**Chushkaly**	**1.23**	**307**	*eP*	**Pb**	**17 49 39.4**	**-0.1**
	1.7nm,0.1s						
CHKK				*eS*	**Sg**	**17 49 55.6**	**-0.3**
	13nm,0.2s						
CHKK	**Chushkaly**	**1.23**	**307**	*eP*	**Pb**	**17 49 39.4**	**-0.1**
	baz=9.0						
CHKK				*eS*	**Sg**	**17 49 55.6**	**-0.3**
	baz=9.0						
IZV	**Izvestkoviy**	**1.27**	**267**	*eP*	**Pn**	**17 49

HNTI	**Hanita**	**0.36**	**232**	Pg		**Pg**		**17 55 06.7**	**+0.4**
HNTI				Sg		**Sb**		**17 55 12.4**	**+0.2**
DQRL	**Deir Qamar**	**0.40**	**7**	*eP*		**Pg**		**17 55 07.3**	**+0.1**
DQRL	**Deir Qamar**	**0.40**	**7**	*eP*		**Pg**		**17 55 07.3**	**+0.1**
BEYL	**Beirut**	**0.56**	**359**	*eP*		**Pg**		**17 55 10.1**	**0.0**
BEYL	**Beirut**	**0.56**	**359**	*eP*		**Pg**		**17 55 10.1**	**0.0**
BHL	**Bhannes**	**0.61**	**11**	*eP*		**Pg**		**17 55 10.8**	**-0.2**
BHL				*eS*		**Sg**		**17 55 18.8**	**-0.4**
BHL	**Bhannes**	**0.61**	**11**	*eP*		**Pg**		**17 55 10.8**	**-0.2**
BHL				*eS*		**Sg**		**17 55 18.8**	**-0.4**
BLGI	**Bet Lehem HaGe**	**0.63**	**205**	Pg		**Pg**		**17 55 10.9**	**-0.4**
BLGI				Sg		**Sg**		**17 55 19.2**	**-0.5**
BLGI	**Bet Lehem HaGe**	**0.63**	**205**	Pg		**Pg**		**17 55 10.9**	**-0.4**
BLGI				Sg		**Sg**		**17 55 19.2**	**-0.5**
OFRI	**'Ofer**	**0.81**	**213**	Pg		**Pg**		**17 55 14.0**	**-0.7**
OFRI				Sg		**Sg**		**17 55 25.5**	**0.0**
MMLI	**Mount Malkishu**	**0.87**	**185**	Pg		**Pg**		**17 55 14.7**	**-1.1**
MMLI				Sg		**Sg**		**17 55 26.5**	**-0.7**
MMLI	**Mount Malkishu**	**0.87**	**185**	Pg		**Pg**		**17 55 14.7**	**-1.1**
MMLI				Sg		**Sg**		**17 55 26.5**	**-0.7**
HWQ	**Hawqa**	**1.04**	**20**	*eP*		**Pb**		**17 55 18.2**	**-0.3**
HWQ	**Hawqa**	**1.04**	**20**	*eP*		**Pb**		**17 55 18.2**	**-0.3**
HMDT	**Nahal Hemdat**	**1.05**	**179**	Pg		**Pb**		**17 55 17.8**	**-0.8**
HMDT				Sg		**Sb**		**17 55 32.0**	**-0.1**
HMDT	**Nahal Hemdat**	**1.05**	**179**	Pg		**Pb**		**17 55 17.8**	**-0.8**
HMDT				Sg		**Sb**		**17 55 32.0**	**-0.1**
SLTI	**Sal'it**	**1.13**	**201**	Pg		**Pb**		**17 55 19.3**	**-0.7**
SLTI				Sg		**Sb**		**17 55 35.0**	**+0.5**
SLTI	**Sal'it**	**1.13**	**201**	Pg		**Pb**		**17 55 19.3**	**-0.7**
SLTI				Sg		**Sb**		**17 55 35.0**	**+0.5**
DSI	**Dead Sea**	**1.73**	**184**	Pn		**Pn**		**17 55 28.5**	**+0.2**
DSI				Sn		**Sn**		**17 55 51.2**	**+1.2**
DSI	**Dead Sea**	**1.73**	**184**	Pn		**Pn**		**17 55 28.5**	**+0.2**
DSI				Sn		**Sn**		**17 55 51.2**	**+1.2**
AMAZ	**Amatzia**	**1.84**	**196**	Pn		**Pn**		**17 55 30.4**	**+0.7**
AMAZ				Sn		**Sb**		**17 55 54.7**	**-0.1**
AMAZ	**Amatzia**	**1.84**	**196**	Pn		**Pn**		**17 55 30.4**	**+0.7**
AMAZ				Sn		**Sb**		**17 55 54.7**	**-0.1**
YTIR	**Yattir**	**1.96**	**190**	Pn		**Pn**		**17 55 32.5**	**+1.0**
YTIR	**Yattir**	**1.96**	**190**	Pn		**Pn**		**17 55 32.5**	**+1.0**
MZDA	**Masada**	**1.99**	**184**	Pn		**Pn**		**17 55 32.5**	**+0.7**
MZDA	**Masada**	**1.99**	**184**	Pn		**Pn**		**17 55 32.5**	**+0.7**
CSS	**Mathiatis**	**2.45**	**313**	Pn		**Pn**		**17 55 37.7**	**-0.4**
CSS	**Mathiatis**	**2.45**	**313**	Pn		**Pn**		**17 55 37.7**	**-0.4**

*NEIC **10** 18:06:29.9±2.0,8.°51N×93.°85E,h5km±12km,mb4.6/22, Error ellipse: s-maj=5.9km s-min=3.8km az=62.0*
*BJI **10** 18:06:30.4,8.°28N×93.°64E,h29km,mb4.3/26,mB4.9/17, Ms4.3/6,Ms7 4.0/4*
*ISCJB **10** 18:06:33.2±0.7,8.°47N±0.°03×93.°84E±0.°04,h42km±6km, mb4.4/58,MS3.6/6,Error ellipse: s-maj=7.4km s-min=4.3km az=145.4*
*MOS **10** 18:06:33.5±1.0,8.°43N×93.°83E,h49km,mb4.7/18,Error ellipse: s-maj=11.8km s-min=6.0km az=112.2*
*IDC **10** 18:06:36.0±2.4,8.°55N×93.°85E,h45km±22km,mb3.9/26, mb1 4.0/29,mb1mx3.9/66,mbtmp4.1/29,ML3.9/3,MS3.5/8, Ms1 3.5/8,ms1mx3.1/73,Error ellipse: s-maj=17.7km s-min=10.4km az=60.0*

ISC 10 18:06:33.0±1.5,8.°46N±0.°05×93.°83E±0.°05,h24km±11km, n182,σ1♀44/184,mb4.5/58,MS3.6/6,8C-5D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**3.36**	**341**	*eP*		Pn	18 07 24.4	+0.4
PBA				*eS*		Sn	18 08 01.8	-1.3
PBA				IAML			18 09 08.2	
	comp=E,39nm,0.1s							
PBA				IAML			18 09 10.2	
	comp=N,36nm,1.2s							
LHMI	**Lhok Sumawe**	**4.45**	**136**	P		**Pb**	**18 07 48.1**	**-2.5**
PKDT	**Phuket**	**4.49**	**97**	P		**Pn**	**18 07 39.9**	**+0.3**
DGPR	**DIGLIPUR**	**4.78**	**349**	*eP*		**Pn**	**18 07 45.5**	**+2.0**
DGPR				*eS*		**Sn**	**18 08 38.7**	**+0.6**
DGPR				IAML			18 09 03.4	
	comp=E,20nm,1.6s							
DGPR				IAML			18 09 08.7	
	comp=N,37nm,0.5s							
MLSI	**Meulaboh, Aceh**	**4.88**	**148**	P		**Pn**	**18 07 49.4**	**+4.4**
SURT	**Suratani**	**4.93**	**84**	P		**Pn**	**18 07 46.6**	**+1.0**
TRTT	**Trang**	**5.83**	**96**	P		**Pn**	**18 07 58.4**	**+0.4**
TPTI		**6.14**	**147**	P		**Pn**	**18 08 06.2**	**+3.9**
KCSI	**Kotacane, Aceh**	**6.27**	**141**	P		Pn	18 08 10.5	+6.4
	comp=N,49nm,0.7s							
TSI	**Tuntungan**	**6.81**	**136**	P		Pn	18 08 18.6	+7.2
PHET	**Kaeng Krachan**	**7.21**	**52**	P		**Pn**	**18 08 20.5**	**+3.5**
	comp=N,12nm,0.8s,comp=N,0.0nm							
KULM	**Kulim**	**7.46**	**114**	*e*Pn		**Pn**	**18 08 21.8**	**+1.3**
KULM				*e*Sn		**Sn**	**18 09 41.8**	**-2.6**
PSI	**Prapat**	**7.56**	**138**	P		**Pn**	**18 08 26.1**	**+4.1**
	comp=N,0.6nm,0.3s,baz=316,slow=11,SNR=5.6							
PSI				LR		LR	18 11 43.5	
	comp=N,444nm,20.1s,baz=306,slow=40							
PSI	**Prapat**	**7.56**	**138**	*e*Pn		**Pn**	**18 08 22.6**	**+0.7**
PSI	**Prapat**	**7.56**	**138**	*e*P		**Pn**	**18 08 22.6**	**+0.7**
GSI	**Gunungsitoli**	**8.02**	**152**	P		**Pn**	**18 08 28.3**	**+0.2**
GSI	**Gunungsitoli**	**8.02**	**152**	*e*Pn		**Pn**	**18 08 25.8**	**-2.4**
IPM	**Ipoh**	**8.16**	**118**	*e*Pn		**Pn**	**18 08 28.6**	**-1.5**
IPM				*e*Sn		**Sn**	**18 09 59.7**	**-2.0**
UTHA	**Uthaitani**	**8.94**	**37**	P		**Pn**	**18 08 44.8**	**+4.1**
	comp=N,7.1nm,0.7s,comp=N,7.1nmcomp=N,0.0nm							
MNSI	**Mandailing Nat**	**9.52**	**143**	P		**Pn**	**18 08 51.6**	**+2.9**
SRAK	**Srakaew**	**9.76**	**55**	P		Pn	18 09 03.5	+11
PHIT	**Phitsanulok**	**10.79**	**36**	P		Pn	18 09 11.6	+5.5
SISI	**Saibi**	**11.04**	**151**	P		Pn	18 09 05.1	-4.4
CM01	**Chiang Mai Arr**	**11.09**	**26**	*e*Pn		**Pn**	**18 09 09.4**	**-0.7**
CM31	**Chiang Mai Arr**	**11.11**	**26**	*e*Pn		**Pn**	**18 09 07.6**	**-2.9**
CMAR	**Chiang Mai Arr**	**11.11**	**26**	P		**Pn**	**18 09 12.8**	**+2.2**
	comp=N,1.0nm,0.3s,baz=213,slow=15,SNR=29							
CMAR				LR		LR	18 13 28.7	
	comp=N,59nm,19.3s,baz=221,slow=38							
CMAR	**Chiang Mai Arr**	**11.11**	**26**	*i* P		**Pn**	**18 09 14.0**	**+3.5**
CMAR				pmax		pmax		
	comp=Z,3.0nm,0.4s							
CHTO	**Chiang Mai**	**11.43**	**25**	*e*Pn		**Pn**	**18 09 13.6**	**-1.3**
CHTO	**Chiang Mai**	**11.43**	**25**	*e*P		**Pn**	**18 09 13.6**	**-1.3**
PALK	**Pallekele**	**13.06**	**266**	P		**Pn**	**18 09 39.6**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=121,slow=5.9,SNR=3.8							
PALK				S		Sn	18 11 53.3	-8.6
	comp=Z,0.6nm,0.3s,baz=270,slow=1.0,SNR=4.2							
PALK				LR		LR	18 14 07.8	
	comp=Z,210nm,21.8s,baz=116,slow=34							
PALK	**Pallekele**	**13.06**	**266**	*e*Pn		**Pn**	**18 09 37.6**	**+0.4**
PALK				S		Sn	18 11 53.3	-8.6
PALK	**Pallekele**	**13.06**	**266**	*e*P		**Pn**	**18 09 37.6**	**+0.4**
VIS	**Vishakhapatnam**	**13.76**	**313**	*e*P		**Pn**	**18 09 45.2**	**-1.5**
VIS				*ex*		x	18 12 10.1	
MDRS	**Chennai**	**14.11**	**290**	*e*P		**Pn**	**18 09 52.6**	**+1.1**
BOK	**Bokaro**	**17.05**	**334**	*e*P		**Pn**	**18 10 30.9**	**+1.0**
SHL	**Shillong**	**17.12**	**354**	*e*P		**Pn**	**18 10 30.8**	**-0.2**
HYB	**Hyderabad**	**17.34**	**302**	*e*P		**P**	**18 10 35.5**	**+0.7**
KMI	**Kunming**	**18.63**	**26**	P		**Pn**	**18 10 51.2**	**+1.6**
KMI				pmax		pmax		
	comp=Z,8.0nm,0.5s							
SBUM	**Sibu**	**19.24**	**107**	*e*P		**P**	**18 10 55.6**	**-0.2**
	comp=Z,6.7nm,1.1s							
JIRN	**Jiri**	**20.42**	**340**	*e*P		**P**	**18 11 09.6**	**+0.6**
	comp=Z,77nm,0.8s							
PKI	**Pulchoki**	**20.61**	**338**	*e*P		**P**	**18 11 11.2**	**+0.2**
	comp=Z,58nm,1.3s							
PKIN	**Phulchoki**	**20.62**	**338**	*e*P		**P**	**18 11 11.6**	**+0.5**
	comp=Z,26nm,0.7s							
COCO	**West Island**	**20.73**	**172**	*e*P		**P**	**18 11 10.9**	**-1.0**
	comp=Z,1μm,1.9s							
COCO	**West Island**	**20.73**	**172**	*e*P		**P**	**18 11 10.9**	**-1.0**
COCO				pmax		pmax		
	comp=Z,1μm,1.9s							
GUN	**Gumba**	**20.76**	**340**	*e*P		**P**	**18 11 12.8**	**+0.2**
	comp=Z,62nm,0.7s							
DMN	**Daman**	**20.76**	**338**	*e*P		**P**	**18 11 12.8**	**+0.3**
	comp=Z,28nm,0.8s							
KKN	**Kakani**	**20.86**	**338**	*e*P		**P**	**18 11 13.6**	**0.0**
	comp=Z,32nm,0.9s							
LSA	**Lhasa**	**21.29**	**354**	P		**P**	**18 11 18.1**	**-0.3**
LSA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
LSA	**Lhasa**	**21.29**	**354**	*e*P		**P**	**18 11 17.5**	**-0.8**
	comp=Z,11nm,1.0s							
LSA	**Lhasa**	**21.29**	**354**	*e*P		**P**	**18 11 17.5**	**-0.8**
LSA				pmax		pmax		
	comp=Z,11nm,1.0s							
KOLN	**Koldanda**	**21.51**	**335**	*e*P		**P**	**18 11 21.1**	**+0.6**
	comp=Z,18nm,0.7s							
DANN	**Dangsing**	**21.95**	**336**	*e*P		**P**	**18 11 26.0**	**+0.6**
PYUN	**Piuthan**	**22.06**	**334**	*e*P		**P**	**18 11 27.3**	**+0.9**
	comp=Z,31nm,0.8s							
CD2	**Chengdu**	**24.19**	**21**	*e*P		**P**	**18 11 48.0**	**+0.3**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.4s							
MYLDM	**Lahad Datu**	**24.70**	**96**	*e*P		**P**	**18 11 52.0**	**-0.5**
	comp=Z,33nm,1.4s							
H08S3	**Diego Garcia H**	**26.61**	**234**	T		T	18 39 04.2	
	baz=53,slow=76,SNR=23							
H08S2	**Diego Garcia H**	**26.61**	**234**	T		T	18 39 04.4	
	baz=53,slow=76,SNR=30							
H08S1	**Diego Garcia H**	**26.63**	**234**	T		T	18 39 02.2	
	baz=53,slow=76,SNR=21							
LZH	**Lanzhou**	**28.98**	**17**	*e*P		**P**	**18 12 32.1**	**+1.1**
LZH				pP		pP	18 12 42.1	+3.9
LZH				sP		sP	18 12 46.1	+4.9
LZH				*e*PP		**PnPn**	**18 13 26.2**	**+3.0**
LZH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
LZH				pmax		pmax		
	comp=Z,130nm,4.1s							
LZH				LR		LR		
	comp=Z,190nm,13.0s							
LZH				LR		LR		
	comp=Z,160nm,13.2s							
LZH				LR		LR		
	comp=Z,140nm,14.5s							
LUWI	**Luwuk**	**30.35**	**107**	*e*P		**P**	**18 12 43.8**	**+0.6**
	comp=Z,33nm,0.8s							
GTA	**Gaotai**	**31.29**	**9**	*e*P		**P**	**18 12 51.9**	**+0.6**
GTA				pP		pP	18 12 56.3	-2.3
GTA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
YOJ	**Yonaguni jima**	**32.09**	**57**	*e*P		**P**	**18 12 57.6**	**-0.7**
	comp=Z,336nm,1.5s							
YOJ	**Yonaguni jima**	**32.09**	**57**	*e*P		**P**	**18 12 57.7**	**-0.7**
YOJ				pmax		pmax		
	comp=Z,337nm,1.5s							
NJ2	**Nanjing**	**33.03**	**41**	*e*P		**P**	**18 13 07.2**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s							
KBL	**Kabul**	**34.53**	**322**	*e*P		**P**	**18 13 18.4**	**-1.4**
	comp=Z,4.8nm,0.7s							
KBL	**Kabul**	**34.53**	**322**	*e*P		**P**	**18 13 18.5**	**-1.4**
KBL				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KSH	**Kashi**	**34.82**	**335**	P		**P**	**18 13 20.5**	**-1.7**
KSH				pP		pP	18 13 26.9	-2.6
KSH				PP		**PnPn**	**18 14 39.3**	**+0.4**
KSH				S		**S**	**18 18 46.0**	**-5.8**
KSH				sS		pS	18 19 02.4	+2.3
KSH				SS		**SnSn**	**18 20 58.9**	**-7.7**
KSH				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KSH				pmax		pmax		
	comp=Z,180nm,6.8s							
KSH				LR		LR		
	comp=Z,180nm,6.9s							
KSH				LR		LR		
	comp=Z,250nm,7.1s							
KSH				LR		LR		
	comp=Z,210nm,9.2s							
BATI	**Baumata**	**35.01**	**121**	LR		LR	18 28 05.4	
	comp=Z,130nm,19.2s,baz=284,slow=37							
WMQ	**Urumqi**	**35.63**	**352**	P		**P**	**18 13 29.9**	**+0.8**
WMQ				pP		pP	18 13 38.5	+2.1
HHC	**Hu-ho-hao-te**	**35.91**	**23**	*e*P		**P**	**18 13 33.9**	**+2.4**
HHC				pmax		pmax		
	comp=Z,17nm,0.7s							
HHC				pmax		pmax		
	comp=Z,97nm,8.8s							
TARG	**Taragay, Kyrgy**	**36.04**	**339**	*e*P		**P**	**18 13 30.6**	**-2.4**
	comp=Z,5.7nm,0.9s							
NRN	**Naryn**	**36.45**	**337**	P		**P**	**18 13 34.9**	**-1.5**
NRN				pmax		pmax		
	comp=Z,15nm,2.0s							
PRZ	**Przheval'sk**	**36.52**	**341**	P		**P**	**18 13 37.2**	**+0.4**
PRZ				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KDJ	**Kajisay**	**36.62**	**339**	*e*P		**P**	**18 13 37.6**	**0.0**
	comp=Z,5.4nm,0.9s							
KDJ	**Kajisay**	**36.62**	**339**	*e*P		**P**	**18 13 37.7**	**0.0**
KDJ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
WSAR	**Wadi Sarin**	**36.79**	**298**	LR		LR	18 28 22.7	
	comp=Z,52nm,18.8s,baz=78,slow=36							
AAK	**Ala-Archa**	**38.06**	**337**	*e*P		**P**	**18 13 50.3**	**+0.5**
	comp=Z,6.6nm,1.1s							
AAK	**Ala-Archa**	**38.06**	**337**	*i* P		**P**	**18 13 49.1**	**-0.7**
AAK				pmax		pmax		
	comp=Z,10.0nm,1.5s							
MK01	**Makanchi Array**	**39.43**	**348**	*e*P		**P**	**18 13 59.8**	**-1.4**
MK31	**Makanchi Array**	**39.46**	**348**	*e*P		**P**	**18 14 00.5**	**-0.8**
MK31	**Makanchi Array**	**39.46**	**348**	*e*P		**P**	**18 14 00.5**	**-0.8**
MK32	**Makanchi Array**	**39.46**	**348**	*e*P		**P**	**18 14 00.9**	**-0.5**
MKAR	**Makanchi Array**	**39.46**	**348**	P		**P**	**18 14 00.9**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=165,slow=10.0,SNR=12							
MKAR	**Makanchi Array**	**39.46**	**348**	*e*P		**P**	**18 14 00.8**	**-0.5**
	comp=Z,12nm,0.9s							
MAKZ	**Makanchi**	**39.54**	**347**	*e*P		**P**	**18 14 01.1**	**-0.9**
	comp=Z,11nm,1.8s							
MAKZ	**Makanchi**	**39.54**	**347**	*e*P		**P**	**18 14 01.1**	**-0.9**
MAKZ				pmax		pmax		
	comp=Z,11nm,1.8s							
KKAR	**Karatay Array**	**40.11**	**333**	*e*P		**P**	**18 14 06.6**	**-0.2**
KKAR	**Karatay Array**	**40.11**	**333**	*e*P		**P**	**18 14 06.6**	**-0.2**
SONA0	**Songino Array**	**40.67**	**13**	*e*P		**P**	**18 14 11.2**	**-0.3**
SONA0				*e*PcP		**PcP**	**18 16 13.6**	**+0.6**
SONM	**Songino Array**	**40.67**	**13**	P		**P**	**18 14 11.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=202,slow=11,SNR=2.2							
SONM				PcP		**PcP**	**18 16 13.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=200,slow=3.4,SNR=5.2							
GEYT	**Alibeck**	**43.57**	**318**	P		**P**	**18 14 36.1**	**+0.9**
	comp=Z,9.0nm,0.7s,baz=144,slow=7.1,SNR=29							
KURBB	**Kurchatov Arra**	**43.91**	**346**	P		**P**	**18 14 37.5**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=164,slow=7.2,SNR=16							
KURK	**Kurchatov**	**43.98**	**346**	*e*P		**P**	**18 14 37.3**	**-1.0**
	comp=Z,6.7nm,1.2s							
KURK	**Kurchatov**	**43.98**	**346**	*ce*P		**P**	**18 14 37.2**	**-1.0**
KURK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ZAA0	**Zalesovo Array**	**45.94**	**353**	*e*P		**P**	**18 14 53.4**	**-0.4**
	comp=Z,10.0nm,0.9s							
ZALV	**Zalesovo Beam**	**45.94**	**353**	P		**P**	**18 14 54.0**	**+0.2**
	comp=Z,9.5nm,0.8s,baz=169,slow=8.9,SNR=31							
ZALV	**Zalesovo Beam**	**45.94**	**353**	*e*P		**P**	**18 14 53.8**	**0.0**
ZALV	**Zalesovo Beam**	**45.94**	**353**	*e*P		**P**	**18 14 53.8**	**0.0**
ZAA1	**Zalesovo Array**	**45.95**	**353**	*e*P		**P**	**18 14 54.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**46.80**	**153**	P		**P**	**18 15 01.4**	**+0.6**
	comp=Z,8.0nm,0.7s,baz=131,slow=20,SNR=5.6							
NWAO				LR		LR	18 33 06.8	
	comp=Z,35nm,20.1s,baz=212,slow=34							
NVS	**Novosibirsk**	**47.03**	**352**	*i* P		**P**	**18 15 02.3**	**0.0**
NVS				pmax		pmax		
	comp=N,6.0nm,1.0s							
NVS				pmax		pmax		
	comp=Z,9.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,2.0nm,0.8s							
BVAR	**Borovoye Array**	**48.34**	**341**	P		**P**	**18 15 12.3**	**-0.2**
	comp=E,0.9nm,0.7s,baz=134,slow=6.2,SNR=5.0							
BRVK	**Borovoye**	**48.41**	**341**	*ce*P		**P**	**18 15 12.2**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
RAYN	**Ar Rayn**	**48.57**	**294**	*e*P		**P**	**18 15 16.4**	**+1.5**
	comp=Z,16nm,0.8s							
RAYN	**Ar Rayn**	**48.57**	**294**	*e*P		**P**	**18 15 16.4**	**+1.5**
RAYN				pmax		pmax		
	comp=Z,16nm,0.8s							
WRA	**Warramunga Arr**	**48.84**	**126**	P		**P**	**18 15 16.7**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=304,slow=8.6,SNR=17							
WRA				PcP		**PcP**	**18 16 42.1**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=319,slow=2.7,SNR=6.2							
WR1	**Warramunga Arr**	**48.85**	**126**	*e*P		**P**	**18 15 16.7**	**-0.2**
	comp=Z,27nm,1.8s							
WR1				*e*PcP		**PcP**	**18 16 42.1**	**+0.6**
MJAR	**Matsushiro Arr**	**49.00**	**48**	PcP		**PcP**	**18 16 42.8**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=242,slow=2.6,SNR=7.9							
ABKAR	**Akbulak array**	**49.58**	**331**	*e*P		**P**	**18 15 21.6**	**-0.5**
	comp=Z,29nm,1.0s							
AS31	**Alice Springs**	**50.52**	**130**	*e*P		**P**	**18 15 28.9**	**-0.7**
	comp=Z,2.1nm,1.5s							
ASAR	**Alice Springs**	**50.52**	**130**	P		**P**	**18 15 29.4**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=305,slow=7.0,SNR=13							
ASAR				PcP		**PcP**	**18 16 48.4**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=312,slow=3.1,SNR=9.8							
AS01	**Alice Springs**	**50.55**	**130**	*e*P		**P**	**18 15 28.8**	**-1.1**
AKTO	**Aktyubinsk**	**51.30**	**331**	P		**P**	**18 15 34.2**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=102,slow=14,SNR=4.6							
SVE	**Sverdlovsk**	**54.75**	**338**	*e*P		**P**	**18 16 01.1**	**+0.7**
ARU	**Arti**	**55.24**	**337**	*d i*P		**P**	**18 16 03.4**	**-0.6**
ARU				S		**S**	**18 23 48.3**	**+2.3**
ARU				SS		**SS**	**18 27 32.1**	**+1.7**
ARU				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KIV	**Kislovodsk**	**56.69**	**318**	*e*P		**P**	**18 16 14.5**	**-0.2**
	comp=Z,22nm,1.4s							
KIV	**Kislovodsk**	**56.69**	**318**	*e*P		**P**	**18 16 14.5**	**-0.2**
KIV				pmax		pmax		
	comp=Z,22nm,1.4s							
NKL	**Nikolayevsk**	**58.39**	**31**	*e*P		**P**	**18 16 27.2**	**+0.8**
STKA	**Stephens Creek**	**60.73**	**134**	P		**P**	**18 16 42.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=90,slow=20,SNR=2.4							
STKA				LR		LR	18 46 00.9	
	comp=Z,47nm,18.1s,baz=3.7,slow=39							
BR101	**Keskin Array S**	**61.82**	**311**	*e*P		**P**	**18 16 49.1**	**-1.3**
BR131	**Keskin Array S**	**61.82**	**311**	*e*P		**P**	**18 16 48.4**	**-2.0**
BRTR	**Keskin Array B**	**61.82**	**311**	P		**P**	**18 16 49.1**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=116,slow=7.1,SNR=14							
BRTR				LR		LR	18 47 17.8	
	comp=Z,39nm,18.2s,baz=328,slow=40							
BR231	**Keskin MP Arra**	**62.49**	**311**	*e*P		P	18 16 49.5	-5.4
OBN	**Obninsk**	**64.73**	**328**	*i* P		**P**	**18 17 06.9**	**-2.2**
OBN				*i*			18 17 46.7	
OBN				pmax		pmax		
	comp=Z,8.0nm,1.0s							
MA2	**Magadan**	**66.39**	**28**	*ce*P		**P**	**18 17 20.3**	**+0.4**
TIXI	**Tiksi**	**66.73**	**11**	*e*P		**P**	**18 17 20.4**	**-1.3**
	comp=Z,4.9nm,0.6s							
TIXI	**Tiksi**	**66.73**	**11**	*ce*P		**P**	**18 17 19.8**	**-1.9**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.0s							
CFR	**Carcaliu**	**66.97**	**316**	*i* P		**P**	**18 17 23.1**	**-0.7**
AKASG	**Malin Array Be**	**67.51**	**322**	P		**P**	**18 17 25.2**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=81,slow=5.9,SNR=6.8							
VRI	**Vrincioaia**	**68.07**	**316**	*i* P		**P**	**18 17 29.1**	**-1.7**
PLOR	**Plostina**	**68.12**	**316**	*i* P		**P**	**18 17 31.0**	**-0.2**
TESR	**Tescani**	**68.25**	**317**	*i* P		**P**	**18 17 30.7**	**-1.2**
MLR	**Muntele Rosu**	**68.55**	**316**	P		**P**	**18 17 33.3**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=51,slow=9.4,SNR=6.6							
MLR	**Muntele Rosu**	**68.55**	**316**	*i* P		**P**	**18 17 33.9**	**0.0**
MLR	**Muntele Rosu**	**68.55**	**316**	*e*P		**P**	**18 17 33.4**	**-0.5**
	comp=Z,24nm,1.5s							
MLR	**Muntele Rosu**	**68.55**	**316**	*e*P		**P**	**18 17 33.4**	**-0.5**
MLR				pmax		pmax		
	comp=Z,24nm,1.5s							
VOIR		**69.16**	**315**	*i* P		**P**	**18 17 36.9**	**-0.8**
LSZ	**Lusaka**	**69.18**	**250**	*e*P		**P**	**18 17 38.6**	**+0.3**
	comp=Z,4.6nm,0.8s							
LSZ	**Lusaka**	**69.18**	**250**	*e*P		**P**	**18 17 38.6**	**+0.3**
LSZ				pmax		pmax		
	comp=Z,5.0nm,0.8s							
BUR04	**Bucovina Ar. S**	**69.42**	**318**	*e*P		**P**	**18 17 38.4**	**-0.8**
BUR08	**Bucovina Ar. S**	**69.43**	**318**	*e*P		**P**	**18 17 38.5**	**-0.8**
MATP	**Matopo**	**70.33**	**245**	P		**P**	**18 17 46.9**	**+1.6**
	comp=Z,2.4nm,0.5s,baz=82,slow=7.2,S

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRUS				iSg	Sg	18 19 28.1	-0.1
BARS	Barje	0.81	20	ePg	Pg	18 19 20.3	-0.5
BARS				eSg	Sb	18 19 31.7	-0.2
BARS	Barje	0.81	20	ePg	Pg	18 19 20.3	-0.5
BARS				eSg	Sb	18 19 31.7	-0.2
BIA	Bitola	1.04	185	⇑iPg	Pg	18 19 25.4	+0.1
BIA				iSg	Sg	18 19 39.4	+0.5
OHR	Ohrid	1.06	207	iPg	Pb	18 19 25.6	+0.1
OHR				iSg	Sb	18 19 39.5	+0.2
OHR				eLg	Lg	18 19 40.3	
	comp=E,285nm,0.5s						
OHR				eLg	Lg	18 19 42.7	
	comp=N,171nm,0.5s						
VAY	Valandovo	1.12	131	ePg	Pg	18 19 26.9	+0.1
VAY				eSg	Sb	18 19 41.0	+0.1
VAY	Valandovo	1.12	131	ePg	Pg	18 19 26.9	+0.1
VAY				eSg	Sb	18 19 41.0	+0.1
VAY	Valandovo	1.12	131	iPg	Pb	18 19 25.8	-0.6
VAY				iSg	Sb	18 19 40.2	-0.7
VAY				eLg	Lg	18 19 43.3	
	comp=E,126nm,1.0s						
VAY				eLg	Lg	18 19 44.0	
	comp=N,277nm,1.6s						
SELS	Selova	1.18	349	ePg	Pn	18 19 27.1	-0.4
SELS				eSg	Sg	18 19 43.3	-0.1
FNA	Florina	1.27	182	P	Pn	18 19 29.0	+0.3
FNA				S	Sg	18 19 46.6	+0.3
FNA				AML	AML	18 19 48.7	
	comp=E,272µm,0.4s						
FNA				AML	AML	18 19 49.5	
	comp=N,297µm,0.3s						
FNA	Florina	1.27	182	P	Pn	18 19 29.1	+0.3
FNA				S	Sg	18 19 46.6	+0.3
GRG	Griva	1.32	146	P	Pn	18 19 29.3	0.0
GRG				S	Sn	18 19 47.1	+0.4
GRG				AML	AML	18 19 49.7	
	comp=N,164µm,0.9s						
GRG				AML	AML	18 19 50.8	
	comp=E,123µm,0.4s						
GRG	Griva	1.32	146	P	Pn	18 19 29.2	-0.1
GRG				S	Sn	18 19 46.9	+0.1
TIR	Tirane	1.38	239	⇓iP	Pn	18 19 27.9	-2.2
TIR	Tirane	1.38	239	⇓iP	Pn	18 19 27.9	-2.2
TIR				S	Sn	18 19 47.4	-0.8
KNT	Kendrikon	1.41	129	P	Pn	18 19 31.0	+0.3
KNT				S	Sn	18 19 49.0	-0.1
KNT				AML	AML	18 19 53.0	
	comp=N,101µm,0.6s						
KNT				AML	AML	18 19 53.7	
	comp=E,64µm,0.7s						
KNT	Kendrikon	1.41	129	P	Pn	18 19 30.8	+0.2
KNT				S	Sn	18 19 49.2	+0.1
VTS	Vitosha	1.41	67	⇓iP	Pb	18 19 31.6	+0.1
VTS	Vitosha	1.41	67	⇓iP	Pb	18 19 31.6	+0.1
VTS				S	Sg	18 19 50.2	-0.6
ZAPS	Zavoj	1.50	36	ePg	Pg	18 19 33.8	-0.2
ZAPS				eSg	Sg	18 19 53.6	+0.1
BOVS	Bovan	1.59	7	ePg	Pn	18 19 32.4	-0.6
BOVS				eSg	Sg	18 19 57.1	+0.8
SJES	Sjenica	1.62	318	ePg	Pb	18 19 35.1	+0.1
SJES				eSn	Sg	18 19 58.8	+1.5
PDG	Podgorica	1.67	284	⇓iP	Pb	18 19 35.9	+0.2
PDG	Podgorica	1.67	284	⇓iP	Pb	18 19 35.9	+0.2
PDG				S	Sg	18 20 00.0	+1.2
NEST	Nestorio	1.67	190	P	Pb	18 19 36.1	+0.2
NEST	Nestorio	1.67	190	P	Pb	18 19 36.3	+0.4
KZN	Kozani	1.77	172	P	Pb	18 19 38.3	+0.7
KZN	Kozani	1.77	172	P	Pb	18 19 38.2	+0.7
IVAS	Ivanjica	1.79	328	ePn	Pn	18 19 36.3	+0.4
IVAS				eSn	Sb	18 20 00.5	+0.3
IVAS	Ivanjica	1.79	328	ePn	Pn	18 19 36.3	+0.4
IVAS				eSn	Sb	18 20 00.5	+0.3
ZAGS	Zajecar	1.85	18	ePg	Pb	18 19 38.7	-0.1
ZAGS				eSg	Sg	18 20 04.1	-0.5
ZAGS	Zajecar	1.85	18	ePg	Pb	18 19 38.7	-0.1
ZAGS				eSg	Sg	18 20 04.1	-0.5
GRUS	Gruza	1.90	344	ePn	Pb	18 19 39.7	-0.1
GRUS				eSn	Sb	18 20 03.8	+0.3
GRUS	Gruza	1.90	344	ePn	Pb	18 19 39.7	-0.1
GRUS				eSn	Sb	18 20 03.8	+0.3
NVR	Nevrokopi	1.95	111	P	Pb	18 19 40.2	-0.4
NVR	Nevrokopi	1.95	111	P	Pb	18 19 40.0	-0.5
KPRO	Kipourio	2.10	182	P	Pb	18 19 42.0	-1.3
KPRO	Kipourio	2.10	182	P	Pb	18 19 42.4	-0.8
PLG	Polygyros	2.26	137	P	Pn	18 19 43.6	+1.3
PLG	Polygyros	2.26	137	P	Pn	18 19 44.1	+1.8
TRUS	Trudelj	2.29	341	ePn	Pn	18 19 43.3	+0.6
TRUS	Trudelj	2.29	341	ePn	Pn	18 19 43.3	+0.6
DIVS	Divibare	2.30	333	ePn	Pb	18 19 46.1	-0.5
DIVS	Divibare	2.30	333	ePn	Pb	18 19 46.1	-0.5
BBLS	Lazići	2.34	321	ePn	Pn	18 19 44.6	+1.1
BBLS	Lazići	2.34	321	ePn	Pn	18 19 44.6	+1.1
KUBS	Kucevo	2.36	4	ePg	Pb	18 19 46.4	-1.2
IGT	Igoumenitsa	2.66	199	P	Pb	18 19 52.0	-0.8
IGT	Igoumenitsa	2.66	199	P	Pb	18 19 51.4	-1.3
BZS	Buzias	3.56	2	⇑iP	Pn	18 20 00.8	+0.7
BZS	Buzias	3.56	2	⇑iP	Pn	18 20 00.8	+0.7

*ISCJB **10** 18:19:33.4±0.5, 52°.81S±0°.07×21°.6E±0°.2, h10km, mb4.5/13, MS3.7/12, Error ellipse: s-maj=17.5km s-min=10.0km az=2.0*

*IDC **10** 18:19:33.0±0.7, 52°.86S×21°.58E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/55, mbtmp3.9/8, MS3.7/12, Ms1 3.7/12, ms1mx3.4/43, Error ellipse: s-maj=35.5km s-min=18.1km az=86.0*

*NEIC **10** 18:19:34.7±0.3, 52°.86S×21°.48E, h10km, mb4.7/7, Error ellipse: s-maj=12.6km s-min=7.7km az=86.0*

ISC 10 18:19:34.8±0.6**, 52°.84S**±0°.09×**21°.5E**±0°.2**, h10km, n40,** σ0s.78/30**, mb4.3**/13**, MS3.7**/12**, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUR	Sutherland	20.45	358	P	P	18 24 13.0	+0.4
	0.9nm,1.0s,baz=180,slow=19,SNR=2.4						
SUR				LR	LR	18 30 46.0	
	comp=Z,25nm,18.9s,baz=180,slow=33						
SUR	Sutherland	20.45	358	eP	P	18 24 12.4	-0.2
	47nm,1.3s						
CRZF	Crozet Islands	20.56	84	eP	P	18 24 14.5	+1.1
	132nm,1.4s						
SNAA	Sanae	21.72	201	P	P	18 24 26.2	+0.3
SNAA	Sanae	21.72	201	P	P	18 24 26.4	+0.5
	3.7nm,0.7s,baz=63,slow=14,SNR=8.2						
SNAA				LR	LR	18 30 45.3	
	comp=Z,338nm,20.5s,baz=58,slow=31						
SNAA	Sanae	21.72	201	eP	P	18 24 25.9	+0.1
	12nm,1.2s						
VNA2	Neumayer--Watz	22.28	205	P	P	18 24 33.5	+1.8
	baz=41,slow=11						
BOSA	Boshof	24.36	8	P	P	18 24 52.9	-0.2
	2.6nm,0.7s,baz=199,slow=11,SNR=2.4						
BOSA				LR	LR	18 32 39.5	
	comp=Z,265nm,20.4s,baz=178,slow=32						
MAW	Mawson	24.65	143	LR	LR	18 33 42.9	
	comp=Z,101nm,18.4s,baz=254,slow=34						
LBTB	Lobatse	27.96	8	LR	LR	18 34 48.7	
	comp=Z,257nm,18.8s,baz=188,slow=33						
MATP	Matopo	32.80	12	P	P	18 26 08.6	+0.3
	4.2nm,0.9s,baz=182,slow=10,SNR=5.6						
MATP				LR	LR	18 37 46.6	
	comp=Z,322nm,19.8s,baz=185,slow=33						
QSPA	South Pole Qui	37.38	180	eP	P	18 26 47.5	0.0
	6.7nm,0.8s						
VNDA	Vanda	47.59	169	P	P	18 28 09.9	-0.1
	1.1nm,0.8s,baz=226,slow=9.2,SNR=3.9						
VNDA				LR	LR	18 47 01.3	
	comp=Z,102nm,21.9s,baz=216,slow=35						
VNDA	Vanda	47.59	169	eP	P	18 28 09.6	-0.4
SBA	Scott Base	47.82	171	eP	P	18 28 13.5	+1.6
	18nm,1.4s						
H10S2	ASCENSION HYDR	52.65	313	T	T	19 25 50.4	
	baz=153,slow=74,SNR=5.1						
H10S3	ASCENSION HYDR	52.66	313	T	T	19 25 43.7	
	baz=153,slow=74,SNR=5.5						
H10S1	ASCENSION HYDR	52.66	313	T	T	19 25 43.0	
	baz=153,slow=74,SNR=6.6						
KMBO	Kilima Mbogo	53.18	20	LR	LR	18 50 37.9	
	comp=Z,110nm,18.9s,baz=93,slow=35						
CPUP	Villa Florida	62.88	262	LR	LR	18 52 57.7	
	comp=Z,36nm,19.9s,baz=147,slow=32						
DBIC	Dimbokro	63.38	330	LR	LR	18 50 52.1	
	comp=Z,72nm,21.8s,baz=151,slow=30						
ATD	Arta Tunnel	66.67	23	LR	LR	18 57 09.3	
	comp=Z,33nm,21.1s,baz=328,slow=34						
TORD	Torodi Ar. Bea	67.90	339	P	P	18 30 34.0	+0.6
	0.4nm,0.8s,baz=162,slow=10.0,SNR=3.3						
TOA1	Torodi Ar. Sit	67.91	339	eP	P	18 30 34.0	+0.5
MLZ	Mavora Lakes	78.06	157	eP	P	18 31 32.3	-1.2
	133nm,1.7s						
SAML	Samuel	79.75	269	eP	P	18 31 43.2	+0.2
	3.4nm,0.8s						
RPZ	Rata Peaks	80.31	158	LR	LR	19 06 02.4	
	comp=Z,99nm,18.1s,baz=207,slow=35						
RPZ	Rata Peaks	80.31	158	eP	P	18 31 45.2	-0.5
	36nm,1.1s						
ASAR	Alice Springs	83.94	121	P	P	18 32 05.2	+0.1
	1.2nm,0.8s,baz=211,slow=4.7,SNR=8.2						
AS01	Alice Springs	83.96	122	eP	P	18 32 05.3	0.0
WRA	Warramunga Arr	87.23	120	P	P	18 32 20.9	-0.7
	1.3nm,1.0s,baz=191,slow=4.1,SNR=5.7						
WR1	Warramunga Arr	87.23	120	eP	P	18 32 20.9	-0.7
	57nm,0.4s						
SONA0	Songino Array	123.42	54	ePKPdf	PKPdf	18 38 31.1	-0.3
SONM	Songino Array	123.42	54	PKP	PKPdf	18 38 31.1	-0.3
	0.6nm,0.8s,baz=212,slow=3.5,SNR=4.9						
PD31	Pinedale Array	146.25	273	ePKPdf	PKPdf	18 39 13.1	-0.8
PDAR	Pinedale Array	146.25	273	PKPbc	PKPdf	18 39 14.4	+0.4
	1.1nm,0.6s,baz=108,slow=4.8,SNR=10						
RES	Resolute Bay	146.95	334	PKPbc	PKPdf	18 39 12.7	-1.1
	0.7nm,0.2s,baz=3.6,slow=5.8,SNR=12						
RES	Resolute Bay	146.95	334	ePKPbc	PKPab	18 39 16.9	-0.4
NVAR	Mina Array Bea	148.89	259	PKPbc	PKPbc	18 39 20.9	-1.6
	1.3nm,0.8s,baz=147,slow=3.5,SNR=7.7						
YKA	Yellowknife Ar	155.12	310	PKPbc	PKPdf	18 39 35.1	+8.5
	0.3nm,0.6s,baz=79,slow=2.3,SNR=6.5						
YKA				PKPab	PKPab	18 39 52.0	+0.5
	0.8nm,0.7s,baz=92,slow=4.9,SNR=12						

*CSEM **10** 18:20:41.8±0.4, 50°.23N×19°.23E, h2km, Error ellipse: s-maj=8.3km s-min=3.6km az=11.0*

PRU 10 18:20:42.6, 50°.20N×19°.23E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.37	87	ePg	Pg	18 20 48.8	-0.8
OJC				eSg	Sg	18 20 53.2	-1.2
OJC	Ojcow	0.37	87	ePg	Pg	18 20 48.8	-0.8
OJC				eSg	Sg	18 20 53.2	-1.1
OKC	Ostrava-Krasne	0.79	243	eSG	Sg	18 21 09.1	+1.3
	comp=Z,7.8nm,0.4s						
OKC	Ostrava-Krasne	0.79	243	Sg	Sg	18 21 09.1	+1.3
	7.8nm,0.4s						
NIE	Niedzica	1.04	138	ePg	Pg	18 21 02.9	+0.3
NIE				eSg	Sg	18 21 16.9	+0.7
NIE	Niedzica	1.04	138	ePg	Pg	18 21 02.9	+0.3
NIE				eSg	Sg	18 21 16.9	+0.8
LANS	Liptovska Anna	1.06	172	ePg	Pg	18 21 02.4	-0.5
LANS				eSg	Sg	18 21 16.6	-0.1
LANS	Liptovska Anna	1.06	172	ePG	Pg	18 21 02.4	-0.5
LANS				eSG	Sg	18 21 16.6	-0.1
MORC	Moravsky Berou	1.17	249	ePg	Pb	18 21 05.5	-0.2
MORC				eSg	Sb	18 21 21.3	-0.1
STHS	Stebnicka Huta	1.52	120	ePg	Pn	18 21 11.2	+0.1
STHS				eSn	Sn	18 21 32.9	+1.3
STHS	Stebnicka Huta	1.52	120	ePG	Pn	18 21 11.2	+0.1
STHS				eSN	Sn	18 21 32.9	+1.3
STHS				eLG	Lg	18 21 33.0	
VYHS	Vyhne	1.73	189	eSn	Sn	18 21 34.7	-1.9
VYHS	Vyhne	1.73	189	ePG	Pn	18 21 12.7	-1.2
VYHS				eSN	Sn	18 21 34.7	-1.9
VYHS				eLG	Lg	18 21 36.5	
DPC	Dobruska-Polom	1.87	276	ePG	Pn	18 21 16.4	+0.5
DPC				eSG	Sb	18 21 41.3	-0.3
	comp=Z,10.0nm,0.6s						
DPC	Dobruska-Polom	1.87	276	Pg	Pn	18 21 16.4	+0.5
DPC				Sg	Sb	18 21 41.3	-0.3
	10.0nm,0.6s						
KECS	Kecovo	1.91	154	eSn	Sn	18 21 41.3	+0.3
KECS	Kecovo	1.91	154	eSN	Sn	18 21 41.3	+0.3
KECS				eLG	Lg	18 21 49.1	
KSP	Ksiaz	1.98	290	ePg	Pg	18 21 22.0	+1.4
KSP				eSg	Sg	18 21 47.3	+1.0
KSP	Ksiaz	1.98	290	eSg	Sg	18 21 47.3	+1.1
UPC	Upice	2.08	280	eSG	Sg	18 21 50.3	+0.8
UPC	Upice	2.08	280	Sg	Sg	18 21 50.3	+0.8
PRU	Pruhonice	3.03	268	eSG	Sg	18 22 18.7	-1.1
PRU	Pruhonice	3.03	268	Sg	Sg	18 22 18.7	-1.1
BRG	Berggiesshubel	3.44	283	SG	Sg	18 22 33.1	+0.1
	2.1nm,0.6s						
KHC	Kasperske Hory	3.82	256	eSG	Sg	18 22 43.1	-2.3
KHC	Kasperske Hory	3.82	256	Sg	Sg	18 22 43.1	-2.3

WEL 10 18:25:06.0, 45°S±6°×**16°8E**±°**, h5km, ML3.1**/10**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.25	249	P	Pb	18 25 12.5	-0.6
MSZ	Milford Sound	0.25	249	S	Sb	18 25 17.2	-0.6
WKZ	Wanaka	0.59	114	P	Pg	18 25 16.9	-0.6
WKZ	Wanaka	0.59	114	S	Sg	18 25 24.2	-1.1
JCZ	Jackson Bay	0.64	37	P	Pg	18 25 16.5	-1.8
JCZ	Jackson Bay	0.64	37	S	Sg	18 25 24.5	-2.0
MLZ	Mavora Lakes	0.79	187	P	Pg	18 25 21.6	+0.4
MLZ	Mavora Lakes	0.79	187	P	Pg	18 25 21.6	+0.4
MLZ	Mavora Lakes	0.79	187	S	Sb	18 25 33.0	-0.3
EAZ	Earnscleugh	0.99	131	P	Pg	18 25 24.1	-0.9
DCZ	Deep Cove	1.18	221	P	Pg	18 25 28.5	-0.2
WHZ	Wether Hill Ro	1.33	189	P	Pn	18 25 31.0	-0.3
WHZ	Wether Hill Ro	1.33	189	S	Sn	18 25 49.5	+0.2
LBZ	Lake Benmore	1.39	82	P	Pn	18 25 31.0	-1.2
LBZ	Lake Benmore	1.39	82	P	Pn	18 25 31.0	-1.2
FOZ	Fox Glacier	1.54	47	P	Pn	18 25 32.7	-1.4
FOZ	Fox Glacier	1.54	47	S	Sn	18 25 53.5	-1.0
TUZ	Tuapeka	1.68	145	P	Pn	18 25 36.7	+0.6
TUZ	Tuapeka	1.68	145	S	Sb	18 25 58.9	0.0
ODZ	Otahua Downs	1.76	106	P	Pn	18 25 37.5	+0.3
PYZ	Puysegur Point	1.93	215	P	Pb	18 25 41.9	+0.2
SYZ	Scrubby Hill	2.05	163	P	Pb	18 25 42.5	-1.2
HHSZ	Highcliff Hill	2.10	129	P	Pb	18 25 44.2	-0.4
RPZ	Rata Peaks	2.19	68	P	Pb	18 25 45.8	-0.4
APZ	The Paps	2.26	185	P	Pn	18 25 45.4	+1.4
APZ	The Paps	2.26	185	S	Sb	18 26 14.7	-0.8
WVZ	Waitaha Valley	2.34	51	P	Pb	18 25 47.7	-1.0
QRZ	Quartz Range	4.90	41	P	Pn	18 26 19.5	-0.8

KRSC 10 18:26:24.4±1.0**, 55°.89N**×**163°.78E, h14km**±20km**, ML3.7, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.63	301	eP	Pg	18 26 35.1	-1.5
KBTR				eS	Sg	18 26 44.6	-0.3
BKI	Bering	1.42	118	eP	Pb	18 26 50.5	-0.1
BKI				eS	Sg	18 27 09.9	-0.3
SMKR	Semkarok	1.47	299	eP	Pn	18 26 49.9	-0.6
SMKR				eS	Sn	18 27 09.0	-0.5
BDR	Baidarnaya	1.59	296	eP	Pn	18 26 52.3	+0.1
BDR				eS	Sb	18 27 13.1	-0.4
SRKR	Sorokina	1.65	299	eP	Pn	18 26 52.7	-0.2
SRKR				eS	Sb	18 27 15.0	-0.1
KLY	Klyuchi	1.80	285	eP	Pn	18 26 54.0	-1.0
KLY				eS	Sn	18 27 16.0	-1.7
KRSR	Krestovskiy	1.83	282	eP	Pb	18 26 56.8	-0.9
BZWR	Bezymyannyi-We	1.85	274	eP	Pb	18 26 57.7	-0.4
BZMR	Bezymyannaya	1.85	273	eP	Pb	18 26 57.7	-0.4
KMNR	Kamenistaya	2.00	268	eP	Pb	18 27 00.8	+0.2
TUMR	Tumrok	2.15	255	eP	Pb	18 27 03.2	0.0
KOZ	Kozyrevsk	2.20	276	eP	Pb	18 27 03.2	-0.8
KOZ				eS	Sb	18 27 30.8	-0.3
ESO	Esso	2.86	273	eP	Pb	18 27 13.2	-2.0
SPN	Mys Shipunski	3.55	220	eP	Pn	18 27 21.7	+2.6
SPN				eS	Sn	18 28 02.4	+1.6
NLC	Nalytchevo	3.75	225	eS	Sn	18 28 10.2	+4.4
SDLR	Sedlovina	3.87	229	eP	Pn	18 27 27.5	+4.0
SMAR	Somma	3.92	230	eP	Pn	18 27 27.0	+2.8
AVH	Avacha	3.94	230	eP	Pn	18 27 28.2	+3.7
UGLR	Uglovaya	3.94	229	eP	Pn	18 27 28.6	+4.1
GNL	Ganaly	4.03	239	eP	Pn	18 27 29.4	+3.6
KRMR	Karymshinskiy	4.51	229	eP	Pn	18 27 36.9	+4.7
RUS	Russkaya	4.64	224	eP	Pn	18 27 37.6	+3.6
KDTR	Khodutka, Kamc	5.30	222	eP	Pn	18 27 46.3	+3.2

*IDC **10** 18:26:22.8±2.0, 35°.14S×178°.78E, h179km±16km, mb4.4/12, mb1 4.4/14, mb1mx4.1/46, mbtmp4.8/14, MS3.2/1, Ms1 3.2/1, ms1mx2.6/39, Error ellipse: s-maj=19.3km s-min=12.8km az=48.0*

*BJI **10** 18:26:24.8, 35°.79S×178°.27E, h187km, mb5.0/8, mB5.3/5*

*WEL **10** 18:26:25.1±0.8, 35°S±5°×17°9E±°, h126km±31km*

*NEIC **10** 18:26:25.4±0.0, 35°.53S×178°.80E, h226km, mb4.8/29, After WEL.*

*ISCJB **10** 18:26:28.5±0.4, 36°.02S±0°.04×178°.71E±0°.07, h255km±3km, mb4.7/35, Error ellipse: s-maj=9.2km s-min=5.6km az=22.5*

ISC 10 18:26:30.3±0.6**, 35°.91S**±0°.06×**178°.39E**±0°.06**, h239km**±4km**, n343,** σ1s.69/348**, mb4.8**/35**, 1C-1D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.65	182	ePn	Pn	18 27 05.4	-3.3
MXZ				eSn	S	18 27 35.1	-3.8
MXZ	Matakaoa Point	1.65	182	P	Pn	18 27 06.6	-2.0
MXZ	Matakaoa Point	1.65	182	S	S	18 27 36.8	-2.1
WIZ	White Island	1.88	211	P	Pn	18 27 10.5	-0.1
WMGZ	Waiomatatini S	1.91	179	Pn	Pn	18 27 09.5	-1.4
WMGZ	Waiomatatini S	1.91	179	P	Pn	18 27 09.7	-1.2
WMGZ	Waiomatatini S	1.91	179	S	S	18 27 43.4	+0.6
HAZ	Te Kaha	1.91	195	P	Pn	18 27 09.4	-1.4
HAZ	Te Kaha	1.91	195	S	S	18 27 43.8	+1.0
PKGZ	Pakihiroa	1.99	187	P	Pn	18 27 10.3	-1.4
PKGZ	Pakihiroa	1.99	187	S	S	18 27 45.4	+1.0
RUGZ	Raukumara Rang	2.13	195	P	Pn	18 27 11.5	-1.6
PUZ	Puketiti	2.16	183	Pn	Pn	18 27 11.7	-1.6
PUZ				Sn	S	18 27 47.5	+0.3
PUZ	Puketiti	2.16	183	P	Pn	18 27 11.7	-1.6
PUZ	Puketiti	2.16	183	S	S	18 27 47.1	-0.1
WHRZ	Whale Island	2.25	210	P	Pn	18 27 14.5	+0.4
WHRZ	Whale Island	2.25	210	S	S	18 27 53.6	+4.9
TWGZ	Tauwhareparae	2.29	188	Pn	Pn	18 27 13.8	-0.7
TWGZ	Tauwhareparae	2.29	188	P	Pn	18 27 13.9	-0.7
TWGZ	Tauwhareparae	2.29	188	S	S	18 27 53.0	+3.5
KUZ	Kuaotunu	2.31	248	Pn	Pn	18 27 12.8	-2.0
KUZ	Kuaotunu	2.31	248	P	Pn	18 27 13.1	-1.7
GRZ	Great Barrier	2.40	261	P	Pn	18 27 11.7	-3.9
OPRZ	Ohinepanea	2.43	217	Pn	Pn	18 27 16.0	+0.1
OPRZ	Ohinepanea	2.43	217	P	Pn	18 27 16.2	+0.3
MARZ	Manawahe	2.49	213	Pn	Pn	18 27 17.1	+0.5
MWZ	Matawai	2.52	196	Pn	Pn	18 27 16.2	-0.6
MWZ	Matawai	2.52	196	P	Pn	18 27 16.0	-0.9
URZ	Urewera	2.56	203	P	Pn	18 27 16.5	-0.8
	103nm,0.3s,baz=264,slow=5.3,SNR=195						
URZ				S	S	18 27 56.9	+2.6
	233nm,0.3s,baz=329,slow=22,SNR=5.3						
URZ				LR	LR	18 28 23.3	
	comp=Z,381nm,19.2s,baz=258,slow=36						
URZ	Urewera	2.56	203	ePn	Pn	18 27 16.5	-0.8
URZ				eSn	S	18 27 50.6	-3.7
URZ				e		18 28 23.3	
URZ	Urewera	2.56	203	P	Pn	18 27 16.5	-0.7
URZ	Urewera	2.56	203	P	Pn	18 27 17.5	+0.3
URZ	Urewera	2.56	203	S	S	18 27 58.3	+4.0
EDRZ	Edgecumbe	2.56	211	Pn	Pn	18 27 17.8	+0.5
TKGZ	Te Karaka	2.56	190	Pn	Pn	18 27 16.6	-0.7
TKGZ				Sn	S	18 27 56.6	+2.3
TKGZ	Te Karaka	2.56	190	P	Pn	18 27 16.3	-0.9
CNGZ	Carnagh Statio	2.57	183	Pn	Pn	18 27 16.7	-0.7
CNGZ	Carnagh Statio	2.57	183	P	Pn	18 27 16.8	-0.5
CNGZ	Carnagh Statio	2.57	183	S	S	18 27 59.3	+4.7
RAGZ	Rawiri	2.70	197	Pn	Pn	18 27 18.5	-0.3
RAGZ	Rawiri	2.70	197	P	Pn	18 27 18.8	+0.1
RAGZ	Rawiri	2.70	197	P	Pn	18 27 19.6	+0.8
OMRZ	Omania	2.72	216	Pn	Pn	18 27 19.8	+0.7
KMRZ	Kaimai	2.76	225	P	Pn	18 27 20.6	+1.2
TARZ	Mount Tarawera	2.77	212	Pn	Pn	18 27 20.8	+1.2
TARZ	Mount Tarawera	2.77	212	P	Pn	18 27 19.4	-0.2
WIAZ	Waiheke Island	2.77	251	P	Pn	18 27 17.6	-1.9
NGRZ	Ngongotaha	2.81	218	P	Pn	18 27 21.3	+1.3
RIGZ	Rimuhau	2.84	190	P	Pn	18 27 19.2	-1.0
HLRZ	Highlands Stat	2.85	214	P	Pn	18 27 21.4	+1.0
RRRZ	Republican Roa	2.85	211	Pn	Pn	18 27 21.3	+0.9
RRRZ	Republican Roa	2.85	211	P	Pn	18 27 21.7	+1.3
MKAZ	Moumakai	2.86	244	Pn	Pn	18 27 20.6	+0.1
MKAZ	Moumakai	2.86	244	P	Pn	18 27 20.3	-0.2
UTU	Utuhina	2.87	217	P	Pn	18 27 22.2	+1.7
MUGZ	Murupara	2.87	206	P	Pn	18 27 20.5	-0.1
RTZ	Ruatahuna	2.93	202	P	Pn	18 27 20.8	-0.5
TOZ	Tahuroa Road	2.95	231	Pn	Pn	18 27 22.6	+1.2
TOZ	Tahuroa Road	2.95	231	P	Pn	18 27 22.9	+1.5
HSRZ	Hossack Road	2.95	215	P	Pn	18 27 25.8	+4.4
ETAZ	East Tamaki Re	2.98	249	Pn	Pn	18 27 21.8	0.0
SNGZ	Shannon Statio	2.99	196	Pn	Pn	18 27 21.6	-0.2
SNGZ	Shannon Statio	2.99	196	P	Pn	18 27 21.8	-0.1
HRRZ	Handcock Road	3.00	214	P	Pn	18 27 23.4	+1.4
PRGZ	Paritu Road	3.04	188	Pn	Pn	18 27 21.8	-0.6
PRRZ	Plateau Road	3.04	211	Pn	Pn	18 27 22.8	+0.4
PRRZ	Plateau Road	3.04	211	P	Pn	18 27 23.2	+0.8
GRRZ	Galatos Road	3.04	216	P	Pn	18 27 24.2	+1.7
KBAZ	Karaka Road Bo	3.06	246	Pn	Pn	18 27 23.4	+0.8
KBAZ	Karaka Road Bo	3.06	246	P	Pn	18 27 23.7	+1.1
ALRZ	Allen Road	3.11	211	Pn	Pn	18 27 23.6	+0.4
ALRZ	Allen Road	3.11	211	P	Pn	18 27 23.8	+0.5
WPRZ	Whakapapatarin	3.15	214	P	Pn	18 27 25.0	+1.3
KNZ	Kokohu	3.16	190	Pn	Pn	18 27 22.8	-0.9
KNZ	Kokohu	3.16	190	P	Pn	18 27 22.8	-0.9
RAHZ	Arahi	3.18	199	P	Pn	18 27 23.9	-0.1
RAHZ	Arahi	3.18	199	P	Pn	18 27 23.9	-0.1
MTHZ	Maungataniwha	3.19	202	P	Pn	18 27 23.5	-0.6
AWAZ	Awhitu Peninsu	3.23	248	P	Pn	18 27 25.2	+0.7
MHGZ	Mahia Peninsul	3.26	187	Pn	Pn	18 27 24.3	-0.5
MHGZ	Mahia Peninsul	3.26	187	P	Pn	18 27 24.4	-0.5
WCZ	Waipu Caves	3.29	268	P	Pn	18 27 22.4	-2.8
KUTZ	Kaahu Road	3.29	218	Pn	Pn	18 27 26.8	+1.5
KUTZ	Kaahu Road	3.29	218	P	Pn	18 27 27.1	+1.8
WHHZ	Waihua	3.29	196	P	Pn	18 27 25.2	-0.1
MRHZ	Matea Rd	3.32	208	P	Pn	18 27 26.0	+0.4
TLZ	Tolley Road	3.32	223	Pn	Pn	18 27 26.8	+1.1
TLZ	Tolley Road	3.32	223	P	Pn	18 27 27.6	+1.9
WHTZ	Whakaora	3.37	214	Pn	Pn	18 27 27.6	+1.5
WHTZ	Whakaora	3.37	214	P	Pn	18 27 28.0	+1.8
NMHZ	Naumai	3.42	201	Pn	Pn	18 27 27.0	+0.2
NMHZ	Naumai	3.42	201	P	Pn	18 27 27.0	+0.2
HATZ	Hinemaiaia	3.49	211	P	Pn	18 27 28.5	+0.9
WATZ	Wairara	3.51	216	Pn	Pn	18 27 29.0	+1.2
WATZ	Wairara	3.51	216	P	Pn	18 27 29.1	+1.4
ARHZ	Aropaoanui	3.53	198	Pn	Pn	18 27 27.8	-0.1
ARHZ	Aropaoanui	3.53	198	P	Pn	18 27 27.8	-0.1
BKZ	Black Stump Fm	3.58	204	ePn	Pn	18 27 28.3	-0.3
BKZ				eSn	S	18 28 16.6	+1.7
BKZ	Black Stump Fm	3.58	204	P	Pn	18 27 28.4	-0.2
RATZ	Rangitukua	3.62	214	Pn	Pn	18 27 30.3	+1.3
RATZ	Rangitukua	3.62	214	P	Pn	18 27 30.0	+1.0
RITZ	Rihia Road	3.67	213	Pn	Pn	18 27 30.5	+1.0
RITZ	Rihia Road	3.67	213	P	Pn	18 27 30.6	+1.0
KATZ	Kakaramea	3.74	214	Pn	Pn	18 27 32.3	+1.8
KATZ	Kakaramea	3.74	214	P	Pn	18 27 32.4	+1.9
MCHZ	McNeill Hill	3.78	200	Pn	Pn	18 27 30.8	-0.1
MCHZ	McNeill Hill	3.78	200	P	Pn	18 27 30.8	-0.1
HIZ	Hauiti	3.84	226	ePn	Pn	18 27 34.0	+2.4
HIZ	Hauiti	3.84	226	P	Pn	18 27 34.4	+2.8
KWHZ	Kaweka Forest	3.84	203	P	Pn	18 27 31.4	-0.3
KRVZ	Karewarewa	3.86	214	Pn	Pn	18 27 32.6	+0.7
KRVZ	Karewarewa	3.86	214	P	Pn	18 27 32.6	+0.7
CKHZ	Cape Kidnapper	3.88	195	Pn	Pn	18 27 31.9	-0.2
CKHZ	Cape Kidnapper	3.88	195	P	Pn	18 27 31.7	-0.4
WTVZ	West Tongariro	3.90	214	Pn	Pn	18 27 32.9	+0.5
WTVZ	West Tongariro	3.90	214	P	Pn	18 27 33.0	+0.6
OTVZ	Oturere	3.91	213	Pn	Pn	18 27 32.7	+0.2
TWVZ	Taurewa	3.93	216	Pn	Pn	18 27 33.5	+0.7
TWVZ	Taurewa	3.93	216	P	Pn	18 27 33.8	+1.0
NGZ	Ngauruhoe	3.94	213	Pn	Pn	18 27 33.6	+0.7
NGZ	Ngauruhoe	3.94	213	P	Pn	18 27 33.9	+0.9
OUZ	Omahuta	3.97	279	ePn	Pn	18 27 29.4	-3.8
OUZ	Omahuta	3.97	279	P	Pn	18 27 29.7	-3.5
COVZ	Chateau Observ	3.99	214	P	Pn	18 27 34.5	+1.0
TUVZ	Tukino	4.00	212	Pn	Pn	18 27 33.8	+0.2
TUVZ	Tukino	4.00	212	P	Pn	18 27 34.3	+0.7
BHHZ	Black Hill Sta	4.02	207	Pn	Pn	18 27 33.2	-0.6
BHHZ	Black Hill Sta	4.02	207	P	Pn	18 27 33.4	-0.5

FWVZ	Far West T-bar	4.03 213	Pn	Pn	18 27 34.4	+0.4			
FWVZ	Far West T-bar	4.03 213	P	Pn	18 27 34.5	+0.4			
WHVZ	Whangaehu Hut	4.04 213	Pn	Pn	18 27 34.5	+0.4			
WHVZ	Whangaehu Hut	4.04 213	P	Pn	18 27 34.6	+0.5			
DRZ	Dome Shelter	4.04 213	Pn	Pn	18 27 35.5	+1.2			
DRZ	Dome Shelter	4.04 213	P	Pn	18 27 35.7	+1.4			
KRHZ	Kereru	4.06 203	P	Pn	18 27 33.6	-0.6			
KAHZ	Kahuranaki	4.06 197	Pn	Pn	18 27 34.1	-0.1			
KAHZ	Kahuranaki	4.06 197	P	Pn	18 27 34.0	-0.2			
WNVZ	Wahianoa	4.07 212	Pn	Pn	18 27 34.4	-0.1			
MOVZ	Moawhango	4.07 210	Pn	Pn	18 27 33.8	-0.5			
MOVZ	Moawhango	4.07 210	P	Pn	18 27 33.9	-0.5			
PKVZ	Pokaka	4.15 215	Pn	Pn	18 27 35.8	+0.5			
PKVZ	Pokaka	4.15 215	P	Pn	18 27 35.9	+1.2			
MTVZ	Mangateitei	4.17 213	Pn	Pn	18 27 36.2	+0.6			
MTVZ	Mangateitei	4.17 213	P	Pn	18 27 36.2	+0.6			
PXZ	Pawanui	4.29 196	Pn	Pn	18 27 35.9	-1.0			
PXZ	Pawanui	4.29 196	P	Pn	18 27 36.0	-0.9			
VRZ	Vera Road	4.32 221	Pn	Pn	18 27 39.1	+1.8			
VRZ	Vera Road	4.32 221	P	Pn	18 27 39.2	+1.9			
PNHZ	Pukenui	4.36 203	Pn	Pn	18 27 36.9	-0.9			
PNHZ	Pukenui	4.36 203	P	Pn	18 27 36.9	-0.9			
WPHZ	Waipukurau	4.42 200	Pn	Pn	18 27 37.7	-0.9			
WPHZ	Waipukurau	4.42 200	P	Pn	18 27 38.2	-0.4			
MHEZ	Mangahewa	4.52 224	P	Pn	18 27 43.6	+3.8			
PRHZ	Porangahau	4.56 197	Pn	Pn	18 27 39.7	-0.6			
PRHZ	Porangahau	4.56 197	P	Pn	18 27 39.7	-0.6			
TSZ	Takapari Road	4.56 204	Pn	Pn	18 27 39.7	-0.6			
TSZ	Takapari Road	4.56 204	P	Pn	18 27 39.7	-0.6			
DREZ	Durham Road	4.67 224	P	Pn	18 27 45.0	+3.5			
WAZ	Wanganui	4.69 214	Pn	Pn	18 27 42.4	+0.6			
WAZ	Wanganui	4.69 214	P	Pn	18 27 42.4	+0.6			
DVHZ	Dannevirke	4.72 201	Pn	Pn	18 27 41.0	-1.2			
DVHZ	Dannevirke	4.72 201	P	Pn	18 27 41.1	-1.1			
LREZ	Lake Rotokare	4.75 221	P	Pn	18 27 45.4	+2.8			
NEZ	North Egmont	4.79 224	Pn	Pn	18 27 45.9	+2.8			
ANWZ	Angora Road	4.79 198	P	Pn	18 27 42.6	-0.3			
PKE	Pukeiti	4.80 226	P	Pn	18 27 46.2	+3.1			
PREZ	Palmer Road	4.80 223	P	Pn	18 27 46.3	+3.2			
KHEZ	Kahui Hut	4.85 225	Pn	Pn	18 27 46.4	+2.6			
OHWZ	Ohakea	4.93 209	P	Pn	18 27 45.5	+0.8			
POWZ	Post Office Ro	4.93 204	Pn	Pn	18 27 44.1	-0.7			
POWZ	Post Office Ro	4.93 204	P	Pn	18 27 44.2	-0.5			
NMEZ	Namu Road	5.01 224	Pn	Pn	18 27 48.2	+2.6			
NMEZ	Namu Road	5.01 224	P	Pn	18 27 48.2	+2.6			
PRWZ	Pori Road	5.01 202	Pn	Pn	18 27 45.3	-0.5			
PRWZ	Pori Road	5.01 202	P	Pn	18 27 45.2	-0.5			
BFZ	Birch Farm	5.05 199	*e*Pn	Pn	18 27 44.9	-1.4			
BFZ			*e*Sn	S	18 28 43.6	-3.2			
BFZ	Birch Farm	5.05 199	P	Pn	18 27 45.0	-1.2			
MRZ	Mangatainoka R	5.23 204	Pn	Pn	18 27 47.1	-1.4			
MRZ	Mangatainoka R	5.23 204	P	Pn	18 27 47.5	-1.0			
TIWZ	Tintock	5.24 201	Pn	Pn	18 27 47.8	-0.9			
TIWZ	Tintock	5.24 201	P	Pn	18 27 47.5	-1.1			
CPWZ	Castlepoint	5.28 198	Pn	Pn	18 27 49.0	-0.1			
CPWZ	Castlepoint	5.28 198	P	Pn	18 27 49.0	-0.1			
HOWZ	Holdsworth Sta	5.47 204	Pn	Pn	18 27 49.8	-1.7			
HOWZ	Holdsworth Sta	5.47 204	P	Pn	18 27 49.9	-1.6			
OGWZ	Otaki Gorge	5.51 206	Pn	Pn	18 27 50.9	-1.0			
OGWZ	Otaki Gorge	5.51 206	P	Pn	18 27 51.0	-1.0			
TMWZ	Te Maipa	5.55 200	Pn	Pn	18 27 51.2	-1.2			
TMWZ	Te Maipa	5.55 200	P	Pn	18 27 51.2	-1.2			
KIW	Kapiti Island	5.65 208	Pn	Pn	18 27 52.3	-1.4			
KIW	Kapiti Island	5.65 208	P	Pn	18 27 52.3	-1.4			
MTW	Mount Morrison	5.71 203	Pn	Pn	18 27 52.8	-1.6			
MTW	Mount Morrison	5.71 203	P	Pn	18 27 52.8	-1.6			
CAW	Cannon Point	5.81 206	Pn	Pn	18 27 53.9	-1.7			
CAW	Cannon Point	5.81 206	P	Pn	18 27 53.9	-1.7			
TRWZ	Traveller	5.87 200	Pn	Pn	18 27 55.2	-1.3			
TRWZ	Traveller	5.87 200	P	Pn	18 27 55.2	-1.3			
PAWZ	Paruwai Farm	5.94 202	Pn	Pn	18 27 55.6	-1.7			
PAWZ	Paruwai Farm	5.94 202	P	Pn	18 27 55.8	-1.5			
MSWZ	Moikau Station	6.02 203	Pn	Pn	18 27 56.7	-1.6			
MSWZ	Moikau Station	6.02 203	P	Pn	18 27 56.8	-1.6			
WEL	Wellington	6.07 207	Pn	Pn	18 27 57.5	-1.5			
SNZO	South Karori	6.12 207	*e*Pn	Pn	18 27 57.9	-1.6			
SNZO			*e*Sn	S	18 29 09.7	-1.1			
BHW	Baring Head	6.14 206	Pn	Pn	18 27 57.9	-1.9			
BHW	Baring Head	6.14 206	P	Pn	18 27 57.9	-1.9			
PLWZ	Palliser	6.16 203	Pn	Pn	18 27 58.2	-1.8			
PLWZ	Palliser	6.16 203	P	Pn	18 27 58.3	-1.8			
TCW	Tory Channel	6.20 210	P	Pn	18 27 59.0	-1.6			
TUWZ	Tuamarina	6.52 211	P	Pn	18 28 02.8	-1.8			
NNZ	Nelson	6.59 215	P	Pn	18 28 04.1	-1.5			
CMWZ	Cape Campbell	6.68 208	P	Pn	18 28 06.1	-0.5			
BSWZ	Blackbirch Sta	6.78 210	P	Pn	18 28 06.4	-1.6			
THZ	Tophouse	7.24 215	*e*Pn	Pn	18 28 12.6	-1.2			
THZ			*e*Sn	S	18 29 36.5	-0.4			
THZ	Tophouse	7.24 215	P	Pn	18 28 12.2	-1.6			
GLKZ	Green Lake	7.32 26	P	Pn	18 27 52.2	-23			
GLKZ	Green Lake	7.32 26	S	S	18 29 05.8	-33			
RIZ	Raoul Island	7.33 26	S	S	18 29 07.8	-31			
RIZ	Raoul Island	7.33 26	P	Pn	18 28 08.2	-6.9			
KHZ	Kahutara	7.51 209	*e*Pn	Pn	18 28 15.7	-1.5			
KHZ			*e*Sn	S	18 29 39.8	-3.1			
KHZ	Kahutara	7.51 209	P	Pn	18 28 15.4	-1.7			
DSZ	Denniston Nort	7.77 219	P	Pn	18 28 20.0	-0.6			
LTZ	Lake Taylor	8.34 213	*e*Pn	Pn	18 28 26.4	-1.4			
LTZ			*e*Sn	S	18 29 56.1	-6.3			
LTZ	Lake Taylor	8.34 213	P	Pn	18 28 26.1	-1.7			
INZ	Inchbonnie	8.68 216	P	Pn	18 28 30.4	-1.6			
CTZ	Chatham Island	8.71 155	Pn	Pn	18 28 38.8	+6.5			
EYCZ	Eyrewell	8.83 210	P	Pn	18 28 32.4	-1.5			
CRLZ	Canterbury Las	8.85 208	*e*Pn	Pn	18 28 32.6	-1.6			
CRLZ			*e*Sn	S	18 30 11.4	-2.7			
CRLZ	Canterbury Las	8.85 208	P	Pn	18 28 32.8	-1.4			
OXZ	Oxford	8.88 212	*e*Pn	Pn	18 28 31.9	-2.7			
OXZ			*e*Sn	S	18 30 12.9	-1.9			
OXZ	Oxford	8.88 212	P	Pn	18 28 32.3	-2.3			
MQZ	McQueen's Vall	8.95 208	*e*Pn	Pn	18 28 33.1	-2.4			
MQZ			*e*Sn	S	18 30 15.0	-1.5			
MQZ	McQueen's Vall	8.95 208	P	Pn	18 28 32.8	-2.6			
WVZ	Waitaha Valley	9.28 217	P	Pn	18 28 38.4	-1.3			
RPZ	Rata Peaks	9.62 214	P	Pn	18 28 42.8	-1.2			
	14nm,0.3s,baz=100,slow=0.2,SNR=26								
RPZ				S	S	18 30 31.9	-0.3		
	15nm,0.3s,baz=71,slow=16,SNR=8.2								
RPZ	Rata Peaks	9.62 214	*e*Pn	Pn	18 28 42.2	-1.9			
RPZ			*e*Sn	S	18 30 31.3	-1.0			
RPZ	Rata Peaks	9.62 214	P	Pn	18 28 42.7	-1.4			
FOZ	Fox Glacier	10.07 218	*e*Pn	Pn	18 28 48.7	-1.1			
FOZ	Fox Glacier	10.07 218	P	Pn	18 28 49.0	-0.8			
LBZ	Lake Benmore	10.54 214	*e*Pn	Pn	18 28 54.2	-1.4			
LBZ	Lake Benmore	10.54 214	P	Pn	18 28 54.4	-1.2			
ODZ	Otahua Downs	10.86 210	*e*Pn	Pn	18 28 59.2	-0.5			
ODZ			*e*Sn	S	18 30 59.6	-1.6			
ODZ	Otahua Downs	10.86 210	P	Pn	18 28 59.2	-0.5			
JCZ	Jackson Bay	10.98 219	P	Pn	18 29 00.3	-1.1			
WKZ	Wanaka	11.41 216	*e*Pn	Pn	18 29 04.8	-1.8			
WKZ	Wanaka	11.41 216	P	Pn	18 29 04.9	-1.8			
HHSZ	Highcliff Hill	11.57 208	P	Pn	18 29 09.4	+0.8			
EAZ	Earnscleugh	11.59 214	P	Pn	18 29 08.5	-0.3			
MSZ	Milford Sound	11.84 219	P	Pn	18 29 12.9	+0.9			
TUZ	Tuapeka	12.02 211	P	Pn	18 29 16.3	+1.2			
MLZ	Mavora Lakes	12.24 216	*e*Pn	Pn	18 29 16.9	-0.1			
MLZ	Mavora Lakes	12.24 216	P	Pn	18 29 17.2	+0.2			
SYZ	Scrubby Hill	12.69 210	P	P	18 29 24.5	-0.4			
WHZ	Wether Hill Ro	12.71 215	*e*Pn	Pn	18 29 22.1	-0.7			
WHZ	Wether Hill Ro	12.71 215	P	Pn	18 29 22.7	0.0			
DCZ	Deep Cove	12.79 218	*e*Pn	Pn	18 29 22.8	-0.9			
APZ	The Paps	13.41 212	P	P	18 29 32.5	-0.5			
PYZ	Puysegur Point	13.52 217	*e*Pn	Pn	18 29 30.1	-2.6			
PYZ	Puysegur Point	13.52 217	P	P	18 29 34.3	+0.1			
LHI	Lord Howe Isla	16.66 280	*e*P	Pn	18 30 07.9	-2.8			
	104nm,1.1s								
DZM	Mont Dzumac	17.28 320	P	P	18 30 07.0	-8.9			
	0.1nm,0.3s,baz=144,slow=17,SNR=2.3								
DZM	Mont Dzumac	17.28 320	*e*P	P	18 30 11.8	-4.1			
	12nm,0.7s								
MSVF	Nonsavu	18.11 359	*e*P	P	18 30 15.4	-10			
	31nm,0.7s								
ARMA	Armidale	23.03 276	*e*P	P	18 31 14.7	0.0			
	18nm,0.8s								
AFI	Afiamalu	23.62 24	P	P	18 31 11.9	-8.2			
	33nm,0.8s,baz=31,slow=14,SNR=4.9								
AFI	Afiamalu	23.62 24	*e*P	P	18 31 12.6	-7.5			
	42nm,0.8s								
CAN	Canberra	23.87 263	*e*P	P	18 31 23.2	+1.0			
	23nm,1.3s								
TAU	Tasmania Unive	24.91 244	*e*P	P	18 31 35.0	+3.6			
	84nm,1.6s								
EIDS	Eidsvold	25.66 287	*e*P	P	18 31 38.6	+0.1			
	9.7nm,1.0s								
STKA	Stephens Creek	30.69 267	P	P	18 32 25.0	+2.1			
	5.4nm,0.4s,baz=88,slow=9.1,SNR=5.6								
STKA	Stephens Creek	30.69 267	*e*P	P	18 32 24.4	+1.5			
	2.9nm,1.1s								
CTA	Charters Tower	32.28 291	P	P	18 32 35.8	-1.1			
	20nm,0.9s,baz=115,slow=10,SNR=13								
CTAO	Charters Tower	32.28 291	*e*P	P	18 32 36.8	-0.1			
	25nm,0.9s								
BBOO	Buckleboo	34.89 263	*e*P	P	18 33 00.8	+1.5			
	16nm,0.8s								
TARA	Tarawa	37.42 351	*e*P	P	18 33 14.4	-6.3			
	191nm,1.4s								
COEN	Coen	38.39 296	*e*P	P	18 33 27.3	-1.6			
	10nm,0.7s								
PMG	Port Moresby	38.76 305	*e*P	P	18 33 30.5	-1.4			
	16nm,1.0s								
RABL	Rabaul	39.76 316	*e*P	P	18 33 37.5	-2.8			
	37nm,0.5s								
AS01	Alice Springs	40.14 275	*e*P	P	18 33 43.8	+0.5			
AS31	Alice Springs	40.17 275	*e*P	P	18 33 44.2	+0.6			
	8.6nm,0.5s								
ASAR	Alice Springs	40.17 275	P	P	18 33 44.0	+0.4			
	15nm,0.5s,baz=115,slow=7.5,SNR=231								
WB2	Warramunga Arr	41.67 280	*e*P	P	18 33 55.4	-0.3			
WRAB	Tennant Creek	41.68 280	*e*P	P	18 33 55.5	-0.3			
	34nm,0.6s								
WR1	Warramunga Arr	41.68 280	*e*P	P	18 33 55.5	-0.4			
	57nm,0.4s								
WRA	Warramunga Arr	41.68 280	P	P	18 33 55.5	-0.4			
	29nm,0.5s,baz=119,slow=7.6,SNR=86								
VNDA	Vanda	42.33 185	P	P	18 34 06.5	+6.2			
	7.1nm,0.8s,baz=357,slow=9.0,SNR=23								
VNDA	Vanda	42.33 185	*e*P	P	18 34 07.7	+7.4			
	14nm,1.0s								
MANU	Manus Island	44.28 312	*e*P	P	18 34 17.7	+1.1			
MTN	Manton Dam	48.22 286	*e*P	P	18 34 46.2	-1.0			
	54nm,1.8s								
FITZ	Fitzroy Crossi	49.64 276	P	P	18 34 58.4	+0.4			
	2.7nm,0.5s,baz=126,slow=5.4,SNR=14								
FITZ	Fitzroy Crossi	49.64 276	*e*P	P	18 34 58.6	+0.7			
NWAO	Narrogin (SRO)	49.81 255	P	P	18 35 01.0	+1.9			
	12nm,0.6s,baz=352,slow=6.7,SNR=13								
NWAO	Narrogin (SRO)	49.81 255	*e*P	P	18 35 01.0	+1.9			
	135nm,1.8s								
MBWA	Marble Bar	52.87 269	*e*P	P	18 35 21.1	-0.8			
	42nm,1.3s								
QSPA	South Pole Qui	54.21 180	*e*P	P	18 35 37.6	+6.4			
	81nm,0.8s								
SOEI	Soe	55.44 284	*e*P	P	18 35 41.9	+1.3			
	18nm,0.9s								
MMRI	Maumere	57.71 284	*e*P	P	18 35 56.1	-0.4			
	44nm,0.9s								
LEM	Lembang	70.46 276	P	P	18 37 20.9	+1.5			
	23nm,0.6s,baz=145,slow=18,SNR=4.9								
SYO	Syowa Base	71.06 195	*e*P	P	18 37 23.7	+1.8			
SYO	Syowa Base	71.06 195	*e*PcP	PcP	18 37 41.0	+0.4			
SNAA	Sanae	72.71 180	P	P	18 37 35.9	+4.1			
SNAA	Sanae	72.71 180	P	P	18 37 35.0	+3.2			
	10nm,0.8s,baz=185,slow=6.6,SNR=57								
SNAA	Sanae	72.71 180	*e*P	P	18 37 35.8	+4.1			
	22nm,1.1s								
VNA3	Neumayer Olymp	72.99 177	P	P	18 37 37.6	+4.2			
VNA2	Neumayer--Watz	73.39 178	P	P	18 37 40.1	+4.5			
	1.9nm,0.8s,baz=247,slow=6.6,SNR=4.6								
VNA1	Neumayer--Stat	73.64 178	P	P	18 37 41.6	+4.5			
PLCA	Paso Flores	80.92 134	P	P	18 38 20.3	+2.2			
	1.9nm,0.8s,baz=247,slow=6.6,SNR=4.6								
PLCA	Paso Flores	80.92 134	*e*P	P	18 38 20.2	+2.2			
	24nm,1.8s								
GYA	Guiyang	91.75 302	*e*P	P	18 39 12.0	+0.9			
GYA			pmax	pmax					
	comp=Z,10.0nm,1.0s								
NLHM	Lake Herman	91.92 43	*e*P	P	18 39 08.6	-2.8			
CMAR	Chiang Mai Arr	92.44 291	P	P	18 39 14.5	+0.2			
	0.8nm,0.7s,baz=148,slow=3.8,SNR=9.9								
KMI	Kunming	93.68 298	P	P	18 39 21.4	+1.3			
KMI			pmax	pmax					
	comp=Z,6.0nm,0.5s								
KMI			LR	LR					
	comp=N,140nm,7.8s								
KMI			LR	LR					
	comp=E,150nm,8.9s								
KMI			LR	LR					
	comp=Z,230nm,18.3s								
BEKR	Beckworth	94.14 43	*e*P	P	18 39 19.4	-2.4			
	5.4nm,0.6s								
NV01	Mina Array Sit	94.30 45	*e*P	P	18 39 19.9	-2.7			
SHPR	Sheep Range	94.85 48	*e*P	P	18 39 21.6	-3.5			
	27nm,1.9s								
CD2	Chengdu	96.52 303	*e*P	P	18 39 32.6	-0.1			
GULW	Guler Mountain	97.75 38	*e*P	P	18 39 34.9	-3.1			
HHC	Hu-ho-hao-te	97.94 315	*e*P	Pdif	18 39 39.0	+0.1			
HHC			pmax	pmax					
	comp=Z,10.0nm,0.7s								
HHC			pmax	pmax					
	comp=Z,120nm,6.9s								
LZH	Lanzhou	99.63 308	*e*P	Pdif	18 39 48.0	+1.4			
LZH			pP	pP	18 40 35.7	-9.3			
LZH			sP	sP	18 40 55.2	-15			
LZH			*e*PP	PP	18 43 55.0	+0.6			
LZH			pmax	pmax					
	comp=Z,15nm,1.0s								
LZH			pmax	pmax					
	comp=Z,100nm,5.1s								
YKA	Yellowknife Ar	111.71 27	PKKPbc	PKKPbc	18 55 31.1	+0.1			
	0.5nm,0.6s,baz=39,slow=3.4,SNR=12								
WMQ	Urumqi	114.21 307	*e*PKP	PKiKP	18 44 41.5	+0.5			
MATP	Matopo	117.13 212	PKP	PKPdf	18 44 47.8	+0.3			
	2.1nm,0.5s,baz=231,slow=6.5,SNR=11								
MK32	Makanchi Array	118.92 309	*e*PKPdf	PKPdf	18 44 47.7	-2.2			
MKAR	Makanchi Array	118.92 309	PKP	PKPdf	18 44 47.7	-2.2			
	0.7nm,0.6s,baz=82,slow=1.8,SNR=2.8								
ZALV	Zalesovo Beam	120.06 317	PKP	PKPdf	18 44 49.0	-2.8			
	0.6nm,0.5s,baz=70,slow=4.7,SNR=2.2								
ZAA1	Zalesovo Array	120.06 317	*e*PKPdf	PKPdf	18 44 49.0	-2.8			
KSH	Kashi	120.34 299	*e*PKP	PKPdf	18 44 57.9	+4.9			
KSH			PP	PP	18 46 31.1	+7.9			
KSH			AMB	AMB					
	comp=Z,220nm,6.3s								
KSH			LR	LR					
	comp=N,110nm,8.1s								
KSH			LR	LR					
	comp=E,85nm,11.3s								
KSH			LR	LR					
	comp=Z,230nm,10.2s								
KURK	Kurchatov	122.57 312	*e*PKPdf	PKPdf	18 44 54.2	-2.5			
KURBB	Kurchatov Arra	122.59 312	PKP	PKPdf	18 44 54.2	-2.6			
	5.6nm,1.1s,baz=118,slow=1.9,SNR=5.0								
BVAR	Borovoye Array	128.09 313	PKP	PKPdf	18 45 05.7	-1.6			
	1.2nm,0.6s,baz=225,slow=0.2,SNR=2.8								
GEYT	Alibeck	132.93 291	SKPbc	SKPab	18 48 24.4	+0.5			
	2.2nm,0.8s,baz=135,slow=0.6,SNR=4.9								
FIA1	FINESS Array S	149.04 334	*e*PKPdf	PKPdf	18 45 46.8	+2.0			
FIA0	FINESS Array S	149.04 334	*e*PKPbc	PKPbc	18 45 46.9	-2.2			
FINES	FINESS Array B	149.04 334	PKPbc	PKPbc	18 45 46.9	-2.2			
	9.0nm,0.6s,baz=64,slow=4.4,SNR=6.7								
LIC	Lamto	150.29 173	*e*PKP1	PKPbc	18 45 54.9	+1.2			
	74nm,0.8s								
KIC	Kosan Boka	150.45 174	*e*PKP1	PKPbc	18 45 54.9	+0.8			
	34nm,0.8s								
TIC	Toumodi	150.71 173	*e*PKP1	PKPbc	18 45 55.8	+1.1			
DBIC	Dimbokro	150.75 173	PKPbc	PKPbc	18 45 56.0	+1.2			
	baz=140,slow=3.1								
BR101	Keskin Array S	152.01 289	*e*PKPbc	PKPbc	18 45 55.5	-1.5			
BRTR	Keskin Array B	152.01 289	PKPbc	PKPbc	18 45 55.5	-1.5			
	4.2nm,0.7s,baz=150,slow=3.8,SNR=12								
AKASG	Malin Array Be	153.37 313	PKPbc	PKPbc	18 45 57.5	-2.0			
	1.6nm,0.4s,baz=50,slow=3.0,SNR=5.6								
TOA0	Torodi Ar. Sit	157.14 188	*e*PKPdf	PKPdf	18 45 58.0	+0.1			
TOA0			*e*PKPdf	PKPdf	18 45 58.7	+0.8			
TOA0			*e*PKPab	PKPab	18 46 31.7	+2.1			
TOA0			*e*PKPab	PKPab	18 46 31.8	+2.2			
TORD	Torodi Ar. Bea	157.14 188	PKP	PKPdf	18 45 58.3	+0.4			
	1.6nm,0.9s,baz=99,slow=1.1,SNR=7.5								
TORD			PKPbc	PKPbc	18 46 11.3				
	1.4nm,0.5s,baz=172,slow=2.8,SNR=17								
TORD			PKPab	PKPab	18 46 31.9	+2.3			
	9.8nm,0.8s,baz=168,slow=3.7,SNR=24								
TOA1	Torodi Ar. Sit	157.15 188	*e*PKPdf	PKPdf	18 45 58.3	+0.4			
TOA1			*e*PKPdif	PKPdf	18 46 11.3	+13			
TOA1			*e*PKPab	PKPab	18 46 31.9	+2.2			

NIED ***10*** *18:33:00,43.˚10N×147.˚80E,h14km,Mw4.7 Best double couple: M₀1.24000×10¹⁸ NP1:φ133.00000°,δ68.00000°, λ-1.00000°. NP2:φ224.00000°,δ89.00000°, λ-158.00000°.*

ISCJB ***10*** *18:33:17.5±0.7,43.˚13N±0.˚02×148.˚09E±0.˚02,h18km±4km, mb4.8/235,MS4.0/39,Error ellipse: s-maj=4.2km s-min=2.2km az=173.0*

JMA ***10*** *18:33:19.4±0.2,43.˚10N×147.˚83E,h7km,M4.8*

NEIC ***10*** *18:33:19.5±1.6,43.˚16N×148.˚04E,h19km±10km, mb4.9/145,Error ellipse: s-maj=4.7km s-min=2.8km az=157.0*

GCMT ***10*** *18:33:19.5±0.4,43.˚17N×148.˚09E,h26km±2km,MW4.9/67, Moment Tensor Solution. s7,c8; s67,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.25±.15; Mθθ2.00±.10; Mφφ-1.75±.10; Mrθ0.86±.23; Mφθ0.54±.09; Mφr1.34±.24; Best double couple: M₀2.52700×10¹⁶ NP1:φ219.00000°,δ85.00000°,λ-141.00000°. NP2: φ125.00000°,δ51.00000°,λ-6.00000°. Principal axes: T 2.5190, Plg23.0000°, Azm345.0000°; N 0.0170, Plg50.0000°, Azm224.0000°; P -2.5360, Plg30.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SKHL ***10*** *18:33:20.5±0.5,43.˚17N×148.˚17E,h44km±5km,Ms4.0/5*

MOS ***10*** *18:33:21.0±0.9,43.˚27N×148.˚03E,h39km,mb5.2/89,Error ellipse: s-maj=6.4km s-min=4.0km az=116.3*

BJI ***10*** *18:33:21.6,43.˚34N×147.˚70E,h23km,mb4.6/51,mB5.0/37, Ms4.4/34,Ms7 4.1/34*

IDC ***10*** *18:33:24.8±0.4,43.˚18N×148.˚02E,h61km±3km,mb4.3/34, mb1 4.5/36,mb1mx4.3/67,mbtmp4.6/36,MS3.8/37, Ms1 3.8/37,ms1mx3.6/65,Error ellipse: s-maj=10.3km s-min=8.5km az=177.0*

ISC 10 18:33:22.7±0.4, 43.˚18N±0.˚03×148.˚09E±0.˚02, h44km±3km, n705,σ1°83/721, mb4.9/257, MS4.0/39, 34C-30D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
SHO	**Shikotan**	**1.14**	**307**	*i* P		**Pn**	**18 33 39.9**	**-2.3**
SHO					AMB	AMB	18 33 40.6	
	620nm,0.4s							
SHO					AMB	AMB	18 33 40.6	
	1μm,0.4s							
SHO					AMB	AMB	18 33 40.6	
	3μm,0.4s							
SHO				*i* S		**Sn**	**18 33 54.2**	**-2.5**
SHO					A	A	18 33 55.0	
	32μm,0.4s							
SHO					A	A	18 33 55.0	
	7μm,0.4s							
SHO	**Shikotan**	**1.14**	**307**	*c i* PN		**Pn**	**18 33 39.9**	**-2.3**
SHO				*i* S		**Sn**	**18 33 54.5**	**-2.2**
SHO					pmax	pmax		
	comp=Z,3μm,0.4s							
SHO					pmax	pmax		
	comp=N,622nm,0.3s							
SHO					pmax	pmax		
	comp=E,1μm,0.3s							
SHO					smax	smax		
	comp=N,93μm,0.3s							
NEM2	**Nemuro 2**	**1.72**	**277**	P		**Pn**	**18 33 47.7**	**-2.4**
NEM2				*e*S		**Sn**	**18 34 08.1**	**-2.8**
YUK	**Yuzh-Kuril'sk**	**1.83**	**299**	*i* P		**Pn**	**18 33 49.7**	**-1.9**
YUK					AMB	AMB	18 33 50.7	
	comp=N,2μm,0.3s

YSS Yuzh-Sakhalins 5.34 317 *o*ePN **Pn 18 34 39.6 -0.2**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS MLR MLR
comp=Z,800nm,15.0s
YSS MLR MLR
comp=N,900nm,11.0s
JKB Kayabe 5.37 258 P **Pn 18 34 38.8 -1.4**
JKB *e*S **Sn 18 35 35.6 -5.1**
JOT Ohata 5.52 253 P **Pn 18 34 40.2 -2.1**
JOT *e*S **Sn 18 35 38.7 -5.8**
UGL Uglegorsk 7.23 327 *i* P **Pn 18 35 06.8 +1.1**
UGL AMB AMB 18 35 08.0
comp=N,95nm,0.8s
UGL AMS AMS 18 38 00.0
comp=N,1µm,18.0s
UGL AMS AMS 18 38 00.0
comp=N,1µm,18.0s
UGL AMS AMS 18 38 00.0
comp=N,1µm,18.0s
TEY Ternei 8.47 287 *e*P **Pn 18 35 23.0 +0.3**
TEY AMB AMB 18 35 23.7
comp=N,37nm,0.8s
TEY Ternei 8.47 287 *e*PN **Pn 18 35 23.0 +0.3**
TEY pmax pmax
comp=Z,37nm,0.8s
TYV Tymovskoe 8.53 336 *e*P **Pn 18 35 23.9 +0.4**
TYV AMB AMB 18 35 25.8
comp=Z,26nm,0.8s
TYV *e*S **Sn 18 36 56.3 -2.0**
SKR Severo-Kuril's 9.30 33 *i* P **Pn 18 35 31.7 -2.3**
SKR AMB AMB 18 35 34.2
comp=Z,90nm,0.9s
SKR *e*S **Sn 18 37 11.0 -6.1**
SKR AMS AMS 18 40 09.8
comp=Z,1µm,10.0s
SKR Severo-Kuril's 9.30 33K *i* PN **Pn 18 35 31.7 -2.3**
SKR pmax pmax
comp=Z,200nm,1.8s
SKR pmax pmax
comp=Z,92nm,0.9s
SKR MLR MLR
comp=Z,800nm,13.0s
SKR MLR MLR
comp=Z,1µm,9.0s
MAJO Matsushiro 10.07 232 *e*Pn **Pn 18 35 42.2 -2.6**
MAJO Matsushiro 10.07 232 *e*PN **Pn 18 35 42.2 -2.6**
MJAR Matsushiro Arr 10.07 232 P **Pn 18 35 42.5 -2.3**
comp=Z,1.7nm,0.3s,baz=30,slow=12,SNR=25
MJAR LR LR 18 39 59.8
comp=Z,372nm,21.6s,baz=75,slow=39
MJB9 Matsu-Tunnel 10.07 232 *e*Pn **Pn 18 35 41.8 -3.0**
OKH Okha 10.92 344 *e*P **Pn 18 35 55.7 -0.5**
OKH AMS AMS 18 40 12.8
comp=Z,200nm,18.0s
OKH AMS AMS 18 40 12.8
comp=Z,500nm,18.0s
OKH Okha 10.92 344⇑ *i* PN **Pn 18 35 55.7 -0.5**
OKH *i* S **Sn 18 38 01.2 +4.3**
OKH pmax pmax
comp=Z,200nm,8.4s
GRNR Gornyy 10.99 318 *e*P **Pn 18 35 59.4 +2.1**
GRNR AMB AMB 18 36 03.0
comp=Z,52nm,1.0s
GRNR Gornyy 10.99 318 *e*PN **Pn 18 35 59.4 +2.1**
GRNR pmax pmax
comp=Z,52nm,1.0s
NKL Nikolayevsk 11.12 336 *e*P **Pn 18 35 57.8 -1.2**
NKL AMB AMB 18 36 01.4
comp=Z,78nm,1.0s
NKL AMB AMB 18 36 01.4
comp=Z,53nm,1.0s
NKL AMB AMB 18 36 01.4
comp=Z,100nm,1.0s
NKL AMS AMS 18 40 26.0
comp=Z,450nm,17.0s
NKL AMS AMS 18 40 26.0
comp=Z,950nm,17.0s
NKL AMS AMS 18 40 26.0
comp=Z,600nm,17.0s
NKL Nikolayevsk 11.12 336 *e*PN **Pn 18 35 57.8 -1.2**
NKL pmax pmax
comp=N,78nm,1.2s
NKL pmax pmax
comp=E,53nm,1.2s
NKL pmax pmax
comp=Z,100nm,1.2s
NKL pmax pmax
comp=E,400nm,7.0s
NKL pmax pmax
comp=Z,350nm,7.0s
INU Inuyama 11.60 231 *e*Pn Pn 18 35 60.0 -5.6
USRK Ussuriysk Ar. 11.70 281 P **Pn 18 36 04.8 -2.1**
comp=Z,1.3nm,0.3s,baz=87,slow=12,SNR=21
USRK LR LR 18 40 21.1
comp=Z,325nm,19.3s,baz=83,slow=36
PEA0B Petropavlovsk- 11.81 29 *e*Pn Pn 18 36 05.8 -2.7
PETK Petropavlovsk- 11.81 29 P **Pn 18 36 06.3 -2.2**
comp=Z,2.8nm,0.3s,baz=210,slow=11,SNR=33
PETK LR LR 18 41 01.0
comp=Z,533nm,19.0s,baz=202,slow=38
PETK Petropavlovsk- 11.81 29 *e*Pn Pn 18 36 05.8 -2.7
PEA1 Petropavlovsk- 11.82 29 *e*Pn **Pn 18 36 06.3 -2.2**
VLA Vladivostok 11.84 275⇑ *e*PN **Pn 18 36 07.7 -1.1**
VLA pmax pmax
comp=Z,83nm,1.1s
JHJ Hachijo jima 2 11.98 216 LR LR 18 40 53.4
comp=Z,148nm,20.2s,baz=328,slow=38
PET Petropavlovsk 12.11 32 *e*P Pn 18 36 09.0 -3.4
PET AMB AMB 18 36 28.5
comp=Z,19nm,0.7s
PET AMS AMS 18 40 57.2
comp=Z,520nm,16.0s
PET Petropavlovsk 12.11 32 *e*Pn Pn 18 36 08.8 -3.6
PET Petropavlovsk 12.11 32 *e*PN Pn 18 36 09.0 -3.4
PET pmax pmax
comp=Z,19nm,0.7s
PET MLR MLR
comp=Z,500nm,16.0s
PET MLR MLR
comp=Z,600nm,20.0s
KLR Kul'dur 12.82 304 P **Pn 18 36 22.0 -0.2**
comp=Z,0.0nm,0.3s,baz=109,slow=16,SNR=9.6
KLR LR LR 18 41 36.3
comp=Z,11nm,19.1s,baz=116,slow=38
MDJ Mudanjiang 13.42 282 P **Pn 18 36 27.3 -3.1**
MDJ S **Sn 18 38 56.2 -1.7**
MDJ pmax pmax
comp=Z,47nm,0.8s
MDJ pmax pmax
comp=Z,120nm,3.5s
MDJ LR LR
comp=Z,690nm,12.6s
MDJ LR LR
comp=Z,320nm,4.5s
MDJ LR LR
comp=Z,450nm,11.0s
MDJ Mudanjiang 13.42 282 *e*P **Pn 18 36 28.9 -1.5**
MDJ Mudanjiang 13.42 282 *e*Pn **Pn 18 36 28.5 -1.8**
EKMR Ekimchan 14.11 320 *e*P **Pn 18 36 38.2 -1.6**
EKMR AMB AMB 18 36 40.0
comp=Z,58nm,0.9s
KSRS Korea Array 16.39 256 P **Pn 18 37 05.5 -4.1**
comp=Z,0.2nm,0.3s,baz=63,slow=14,SNR=8.2
KSRS S **Sn 18 40 09.8 -0.5**
comp=Z,0.3nm,0.3s,baz=68,slow=23,SNR=5.1
KSRS LR LR 18 44 01.6
comp=Z,238nm,18.9s,baz=60,slow=39
KS01 Wonju Array Si 16.40 256 *e*Pn **Pn 18 37 06.0 -3.7**
KS15 Wonju Array Si 16.43 256 *e*Pn **Pn 18 37 08.4 -1.5**
KSAR Wonju Array Be 16.43 256 P **Pn 18 37 05.5 -4.5**
KSAR S **Sn 18 40 09.8 -1.4**
KSAR Wonju Array Be 16.43 256 P **Pn 18 37 05.5 -4.5**
KSAR S **Sn 18 40 09.8 -1.4**
CN2 Changchun 16.43 280 *e*P **Pn 18 37 05.8 -4.3**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,300nm,13.0s
MA2 Magadan 16.50 5 P **Pn 18 37 07.1 -3.7**
comp=Z,1.6nm,0.3s,baz=180,slow=11,SNR=45
MA2 LR LR 18 43 24.5
comp=Z,309nm,20.4s,baz=187,slow=36
MA2 Magadan 16.50 5*c i* P **Pn 18 37 07.7 -3.1**
CBIJ Chichi jima 16.75 199 *e*Pn **Pn 18 37 11.4 -2.7**
comp=Z,141nm,1.0s
JNU Nakatsue 16.82 239 P **Pn 18 37 15.9 +0.9**
comp=Z,0.5nm,0.3s,baz=44,slow=8.9,SNR=15
JNU LR LR 18 44 32.6
comp=Z,254nm,19.1s,baz=35,slow=40
JNU Nakatsue 16.82 239 *e*Pn **Pn 18 37 12.2 -2.8**
comp=Z,63nm,1.0s
BMKR Bomnak 17.05 319 *e*P **Pn 18 37 15.0 -2.6**
BMKR AMB AMB 18 37 17.1
comp=Z,96nm,0.8s
TJN Taejon 17.29 254‖ *e*P **Pn 18 37 18.9 -1.9**
ZEA Zeya 17.32 315 *e*P **Pn 18 37 18.8 -2.3**
ZEA AMB AMB 18 37 20.2
comp=Z,24nm,1.0s
ZEA AMB AMB 18 37 20.2
comp=Z,36nm,1.0s
ZEA AMS AMS 18 45 46.0
comp=Z,200nm,15.0s
ZEA AMS AMS 18 45 46.0
comp=Z,400nm,15.0s
ZEA Zeya 17.32 315 *e*P **Pn 18 37 18.8 -2.3**
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,36nm,1.2s
ZEA MLR MLR
comp=Z,400nm,16.0s
ZEA MLR MLR
comp=E,200nm,14.0s
KROS Kirovskiy 17.81 317 *e*P **Pn 18 37 22.6 -4.5**
KROS AMB AMB 18 37 26.6
comp=E,8.0nm,0.4s
SMY Shemya 19.77 52 *e*P **P 18 37 47.2 -1.6**
comp=E,147nm,1.2s
SMY Shemya 19.77 52 *e*P **P 18 37 47.2 -1.6**
SMY pmax pmax
comp=Z,147nm,1.2s
SEY Seymchan 19.95 6 P **P 18 37 48.5 -2.2**
comp=Z,1.8nm,0.3s,baz=181,slow=8.4,SNR=62
CLNS Chul'man 20.09 321 *e*P **P 18 37 50.4 -1.9**
CLNS pmax pmax
comp=Z,16nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=N,15nm,0.8s
YAK Yakutsk 21.79 336 P **P 18 38 06.3 -4.3**
comp=N,114nm,0.6s,baz=26,slow=0.5,SNR=82
YAK S **S 18 42 01.9 -7.0**
comp=N,4.6nm,0.3s,baz=45,slow=23,SNR=6.9
YAK LR LR 18 47 58.1
comp=N,294nm,18.2s,baz=94,slow=40
YAK Yakutsk 21.79 336 *e*P **P 18 38 06.2 -4.4**
comp=N,160nm,0.9s
YAK S **S 18 42 01.9 -7.0**
YAK Yakutsk 21.79 336*d i* P **P 18 38 05.9 -4.6**
YAK *e* 18 38 23.5
YAK *e*S **S 18 42 01.8 -7.0**
YAK *e* 18 42 07.1
YAK *e**SS Sn 18 42 16.1 -3.9
YAK *e* 18 49 31.6
YAK pmax pmax
comp=Z,86nm,0.9s
YAK pmax pmax
comp=E,25nm,0.8s
YAK pmax pmax
comp=N,9.0nm,0.8s
YAK smax smax
comp=E,86nm,1.9s
YAK smax smax
comp=N,84nm,1.8s
YAK MLR MLR
comp=Z,297nm,17.0s
YAK MLR MLR
comp=N,298nm,15.0s
YAK MLR MLR
comp=E,122nm,15.0s
BJI Beijing 23.99 273 P **P 18 38 32.0 -1.0**
BJI pmax pmax
comp=E,13nm,1.6s
TIA Tai'an 24.72 264 P **P 18 38 41.3 +1.5**
TIA pmax pmax
comp=E,33nm,0.7s
NJ2 Nanjing 25.56 254 *e*P **P 18 38 44.8 -2.6**
NJ2 Nanjing 25.56 254 *e*P **P 18 38 51.8 +4.4**
NJ2 pmax pmax
comp=E,20nm,0.5s
BOD Bodaibo 25.81 316 *e*P **P 18 38 45.7 -3.8**
BOD pmax pmax
comp=Z,36nm,1.0s
BILL Bilibino 26.72 15*d i* P **P 18 38 55.4 -2.2**
BILL *i* 18 39 37.7
BILL *i* S **S 18 43 27.3 -2.6**
BILL pmax pmax
comp=Z,11nm,0.9s
BILL MLR MLR
comp=Z,370nm,16.0s
HHC Hu-ho-hao-te 27.10 278 *e*P **P 18 39 03.1 +1.7**
HHC sP pP 18 39 16.4 +3.4
HHC S **S 18 43 35.4 -1.1**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.3s
HHC LR LR
comp=Z,170nm,17.3s
HHC LR LR
comp=Z,340nm,18.5s
HHC LR LR
comp=Z,160nm,17.3s
H11N2 WAKE ISLAND Hy 28.23 140 T T 19 10 15.4
baz=330,slow=75,SNR=76
H11N1 WAKE ISLAND Hy 28.24 140 T T 19 10 33.0
baz=330,slow=75,SNR=41
H11N3 WAKE ISLAND Hy 28.24 140 T T 19 10 18.3
baz=330,slow=75,SNR=47
BTO Baotou 28.29 278 *e*P **P 18 39 15.1 +3.1**
ULN Ulaanbaatar 28.88 294 *e*P **P 18 39 17.2 0.0**
ULN Ulaanbaatar 28.88 294 *e*P **P 18 39 17.0 -0.3**
comp=Z,22nm,0.9s
ULN Ulaanbaatar 28.88 294*c i* P **P 18 39 17.2 0.0**
ULN pmax pmax
comp=Z,36nm,1.2s
H11S1 WAKE ISLAND Hy 29.20 142 T T 19 11 00.6
baz=332,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 29.20 142 T T 19 11 02.8
baz=332,slow=76,SNR=6.4
H11S2 WAKE ISLAND Hy 29.21 142 T T 19 11 01.9
baz=332,slow=76,SNR=15
SONA1 Songino Array 29.31 294 *e*P **P 18 39 21.4 +0.3**
SONA0 Songino Array 29.32 294 *e*P **P 18 39 21.3 +0.2**
SONM Songino Array 29.32 294 P **P 18 39 21.3 +0.2**
comp=Z,13nm,0.8s,baz=86,slow=7.5,SNR=63
SONM LR LR 18 52 40.1
comp=Z,472nm,18.1s,baz=90,slow=40
GUMO Guam 29.62 186 LR LR 18 48 17.5
comp=Z,62nm,21.4s,baz=10.0,slow=30
GAMB Gambell 30.79 34 *e*P **P 18 39 36.7 +3.0**
comp=Z,19nm,1.6s
TLY Talaya 30.82 302 *e*P **P 18 39 34.3 0.0**
TLY Talaya 30.82 302 *e*P **P 18 39 32.7 -1.6**
comp=Z,4.7nm,0.9s
TLY Talaya 30.82 302 *e*P **P 18 39 34.0 -0.3**
TLY pmax pmax
comp=Z,13nm,1.7s
TLY MLR MLR
comp=Z,238nm,17.0s
ZAK Zakamensk 31.12 299 *e*P **P 18 39 36.7 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
XAN Xi'an 31.69 267 P **P 18 39 45.8 +3.7**
XAN pP pP 18 39 54.8 +0.9
XAN pmax pmax
comp=Z,14nm,1.2s
XAN pmax pmax
comp=Z,170nm,3.6s
MOY Mondy 32.47 302 *e*P **P 18 39 49.1 +0.2**
MOY pmax pmax
comp=Z,23nm,1.5s
LZH Lanzhou 34.48 273 *e*P **P 18 40 07.6 +1.1**
LZH pP pP 18 40 16.4 -2.0
LZH sP sP 18 40 21.0 -2.6
LZH *e*PP **PnPn 18 41 23.6 +1.2**
LZH *e*S **S 18 45 32.0 -0.1**
LZH sS sS 18 45 48.0 -3.8
LZH SS **SnSn 18 47 43.0 -2.5**
LZH pmax pmax
comp=Z,15nm,1.2s
LZH pmax pmax
comp=Z,100nm,5.1s
LZH LR LR
comp=Z,240nm,13.9s
LZH LR LR
comp=Z,230nm,12.9s
LZH LR LR
comp=Z,200nm,14.4s
GTA Gaotai 36.06 281 *e*P **P 18 40 22.0 +1.9**
GTA pP pP 18 40 26.1 -5.9
GTA sP sP 18 40 29.3 -7.9
GTA S **S 18 45 55.6 -0.7**
GTA sS sS 18 46 13.4 -2.7
GTA SS **SnSn 18 48 20.7 -3.0**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,6.2s
GTA LR LR
comp=Z,250nm,13.3s
GTA LR LR
comp=Z,220nm,16.6s
GTA LR LR
comp=Z,170nm,11.9s
CD2 Chengdu 37.03 266 *e*P **P 18 40 27.5 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
GYA Guiyang 37.45 257 *e*P **P 18 40 31.6 -0.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
SVW2 Sparrevohn 37.53 42 *e*P **P 18 40 32.0 -0.2**
comp=Z,37nm,1.3s
IM3 Indian Mountai 38.73 34 *e*P **P 18 40 44.9 +2.7**
OHAK Old Harbor 38.80 48 *e*P **P 18 40 44.8 +1.9**
comp=Z,209nm,1.8s
PPLA Purkeypile 39.19 39 *e*P **P 18 40 47.7 +1.4**
comp=Z,30nm,1.3s
SPU Mount Spurr 39.25 41 *e*P **P 18 40 46.5 -0.1**
CAST Castle Rocks 39.26 38 *e*P **P 18 40 47.9 +1.3**
comp=Z,11nm,0.9s
BPAW Bear Paw Mtn. 39.77 37 *e*P **P 18 40 51.9 +1.0**
comp=Z,8.6nm,0.8s
KTH Kantishna Hill 39.78 38 *e*P **P 18 40 51.9 +0.8**
comp=Z,26nm,1.0s
SUA Susitna One 39.87 41 *e*P **P 18 40 53.0 +1.1**
comp=Z,14nm,0.8s
BRLK Bradley Lake 39.88 44 *e*P **P 18 40 51.5 -0.4**
comp=Z,86nm,1.6s
MLY Manley 39.91 35 *e*P **P 18 40 53.7 +1.7**
comp=Z,12nm,0.9s
TRF Thorofare Moun 40.06 38 *e*P **P 18 40 54.3 +0.8**
comp=Z,15nm,1.1s
COLD Coldfoot 40.27 32 *e*P **P 18 40 56.2 +1.2**
comp=Z,12nm,1.0s
RC01 Rabbit Creek A 40.37 42 *e*P **P 18 40 56.0 +0.1**
comp=Z,15nm,0.7s
TOLK Toolik Lake Re 40.64 30 P **P 18 40 58.1 0.0**
baz=264
TOLK Toolik Lake Re 40.64 30 *e*P **P 18 40 58.5 +0.5**
comp=Z,12nm,0.6s
MCK McKinley 40.67 37 *e*P **P 18 41 00.0 +1.7**
MCK McKinley 40.67 37 *e*P **P 18 41 00.0 +1.7**
comp=Z,18nm,1.2s
MCK McKinley 40.67 37 *e*P **P 18 41 00.0 +1.7**
MCK pmax pmax
comp=Z,18nm,1.2s
RND Reindeer 40.71 38 *e*P **P 18 40 59.5 +0.8**
comp=Z,49nm,1.7s
RND Reindeer 40.71 38 *e*P **P 18 40 59.5 +0.8**
RND pmax pmax
comp=Z,49nm,1.7s
MDM Murphy Dome 40.97 36 *e*P **P 18 41 01.2 +0.4**
comp=Z,18nm,0.7s
SML Sawmill 41.01 40 *e*P **P 18 41 01.2 0.0**
SML Sawmill 41.01 40 *e*P **P 18 41 01.2 0.0**
comp=Z,25nm,1.0s
SML Sawmill 41.01 40 *e*P **P 18 41 01.2 0.0**
SML pmax pmax
comp=Z,25nm,1.0s
COLA College 41.13 36 *e*P **P 18 41 03.7 +1.6**
comp=Z,42nm,0.7s
COLA College 41.13 36 *e*P **P 18 41 03.7 +1.6**
COLA pmax pmax
comp=Z,42nm,0.7s
CCB Clear Creek Bu 41.15 36 *e*P **P 18 41 03.0 +0.7**
comp=Z,8.4nm,1.1s
DHY Denali Highway 41.39 38 *e*P **P 18 41 05.0 +0.6**
comp=Z,64nm,1.9s
SCM Sheep Creek Mo 41.48 40 *e*P **P 18 41 05.3 +0.2**
comp=Z,39nm,1.3s
SCM Sheep Creek Mo 41.48 40 *e*P **P 18 41 05.3 +0.2**
SCM pmax pmax
comp=Z,39nm,1.3s
HDA Harding Lake 41.53 36 *e*P **P 18 41 05.4 +0.1**
comp=Z,18nm,0.9s
IL1 Eielson Array 41.55 36 *e*P **P 18 41 05.4 -0.1**
ILAR Eielson Array 41.55 36 P **P 18 41 05.6 +0.1**
comp=Z,3.7nm,0.9s,baz=281,slow=8.3,SNR=22
ILB Eielson Array 41.55 36 *e*P **P 18 41 05.0 -0.5**
ZAA1 Zalesovo Array 41.88 308 *e*P **P 18 41 07.6 -0.7**
ZAA1 *e*PcP **PcP 18 43 03.9 +0.6**
ZAA1 *e* 18 43 20.5
ZAA0 Zalesovo Array 41.88 308 *e*P **P 18 41 07.0 -1.4**
comp=Z,41nm,1.6s
ZALV Zalesovo Beam 41.88 308 P **P 18 41 07.6 -0.8**
comp=Z,5.3nm,0.6s,baz=67,slow=6.0,SNR=24
ZALV PcP **PcP 18 43 03.9 +0.5**
comp=Z,1.6nm,0.6s,baz=89,slow=4.8,SNR=3.0
ZALV pPcP 18 43 20.5
comp=Z,4.1nm,0.7s,baz=97,slow=2.6,SNR=5.4
ZALV LR LR 18 57 50.9
comp=Z,108nm,19.5s,baz=66,slow=35
KLU Klutina 42.18 41 *e*P **P 18 41 10.9 +0.1**
comp=Z,16nm,0.9s
FYU Fort Yukon 42.20 33 *e*P **P 18 41 11.4 +0.6**
comp=Z,25nm,0.7s
HARP HAARP 42.45 39 *e*P **P 18 41 13.4 +0.4**
comp=Z,124nm,1.8s
RIDG Independ'e Rid 42.49 37 *e*P **P 18 41 13.7 +0.5**
comp=Z,22nm,1.1s
NVS Novosibirsk 42.61 309⇑ *i* P **P 18 41 13.9 -0.3**
NVS *e*S **S 18 47 30.6 -3.1**
NVS pmax pmax
comp=Z,28nm,1.0s
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=E,21nm,1.1s
NVS smax smax
comp=N,5.0nm,1.8s
NVS smax smax
comp=E,8.0nm,1.8s
DOT Dot Lake 42.84 37 *e*P **P 18 41 17.3 +1.2**
comp=E,9nm,0.7s
BMRM Bremner River 42.87 41 *e*P **P 18 41 18.4 +2.0**
comp=E,20nm,0.8s
RAGM Ragged Mountai 42.91 42 *e*P **P 18 41 19.2 +2.4**
comp=E,85nm,1.6s
WMQ Urumqi 42.94 293 P **P 18 41 19.0 +1.8**
WMQ pP pP 18 41 23.5 -5.8
WMQ sP sP 18 41 30.3 -4.1
WMQ pmax pmax
comp=E,41nm,0.9s
WMQ pmax pmax
comp=E,110nm,4.9s
WMQ LR LR
comp=E,2µm,19.5s
WMQ LR LR
comp=E,530nm,22.1s
WMQ LR LR
comp=E,330nm,23.5s
MENT Mentasta 43.06 38 *e*P **P 18 41 18.3 +0.4**
comp=E,24nm,1.3s
EGAK Eagle 44.00 36 *e*P **P 18 41 24.8 -0.5**
comp=E,20nm,1.0s
DAWY Dawson 44.85 36 *e*P **P 18 41 32.2 0.0**
comp=E,5.6nm,0.7s
MK31 Makanchi Array 45.45 298 *e*P **P 18 41 36.9 -0.3**
MK31 Makanchi Array 45.45 298 *i* P **P 18 41 37.0 -0.3**
MK31 pmax pmax

comp=Z,37nm,1.0s
MK32 Makanchi Array 45.45 298 *e*P **P** **18 41 37.5 +0.3**
MK32 *e*S **S** **18 48 18.0 +2.5**
MKAR Makanchi Array 45.45 298 P **P** **18 41 37.5 +0.3**
comp=Z,22nm,0.9s,baz=77,slow=8.3,SNR=142
MKAR pP **pP** **18 41 52.1 +2.8**
comp=Z,12nm,0.8s,baz=79,slow=6.6,SNR=9.2
MKAR S **S** **18 48 18.0 +2.5**
comp=Z,1.4nm,1.1s,baz=74,slow=18,SNR=5.7
MKAR LR LR 19 02 05.3
comp=Z,198nm,18.0s,baz=78,slow=38
MKAR Makanchi Array 45.45 298 *e*P **P** **18 41 37.1 -0.1**
comp=Z,190nm,1.0s
MKAR S **S** **18 48 18.0 +2.5**
MKAR Makanchi Array 45.45 298 *e*P **P** **18 41 37.1 -0.1**
MKAR S **S** **18 48 18.0 +2.5**
MKAR pmax pmax
comp=Z,190nm,1.0s
MK01 Makanchi Array 45.45 298 *e*P **P** **18 41 37.5 +0.2**
MAKZ Makanchi 45.65 299 *e*P **P** **18 41 39.0 +0.2**
comp=Z,27nm,0.9s
MAKZ *e*S **S** **18 48 20.9 +2.6**
MAKZ Makanchi 45.65 299 *i* P **P** **18 41 38.4 -0.4**
MAKZ pmax pmax
comp=Z,27nm,0.9s
HYT Haines Junctio 46.31 41 *e*P **P** **18 41 44.1 +0.1**
comp=Z,42nm,0.8s
KURK Kurchatov 46.41 305 *e*P **P** **18 41 44.4 -0.3**
KURK Kurchatov 46.41 305 *e*P **P** **18 41 44.1 -0.6**
comp=Z,25nm,0.8s
KURK Kurchatov 46.41 305*c i*P **P** **18 41 43.8 -0.9**
KURK pmax pmax
comp=Z,36nm,1.1s
KURBB Kurchatov Arra 46.50 305 P **P** **18 41 45.4 0.0**
comp=Z,14nm,0.5s,baz=70,slow=8.6,SNR=103
INK Inuvik 46.55 30 P **P** **18 41 45.9 +0.4**
comp=Z,16nm,0.9s,baz=281,slow=5.5,SNR=20
INK Inuvik 46.55 30 *e*P **P** **18 41 47.1 +1.6**
comp=Z,12nm,0.7s
INK Inuvik 46.55 30 *e*P **P** **18 41 47.1 +1.6**
INK pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 46.89 273 *e*P **P** **18 41 51.1 +1.8**
comp=Z,7.2nm,0.9s
LSA Lhasa 46.89 273 *e*P **P** **18 41 51.1 +1.8**
LSA pmax pmax
comp=Z,7.0nm,0.9s
CMAI Chiengmai2 46.98 256 P P 18 41 57.5 +7.8
comp=Z,204nm,1.3s
LAMP Lampang 47.50 254 P P 18 42 01.1 +7.6
comp=Z,7.5nm,1.0s
CMMT Chiang Mai 47.79 255 P P 18 42 02.7 +6.9
comp=Z,15nm,0.9s
CHTO Chiang Mai 47.79 255 P P 18 42 02.8 +7.0
comp=Z,32nm,1.1s
CHTO Chiang Mai 47.79 255 *e*P **P** **18 41 55.8 0.0**
comp=Z,12nm,0.9s
CHTO Chiang Mai 47.79 255 *e*P **P** **18 41 55.8 0.0**
CHTO pmax pmax
comp=Z,12nm,0.9s
CM31 Chiang Mai Arr 48.03 255 *e*P **P** **18 41 59.0 +1.3**
CMAR Chiang Mai Arr 48.03 255 P **P** **18 41 57.4 -0.2**
comp=Z,0.6nm,0.5s,baz=45,slow=8.0,SNR=6.5
CMAR pP **pP** **18 42 14.0 +4.2**
comp=Z,3.1nm,0.7s,baz=43,slow=7.1,SNR=12
CMAR pPcP 18 43 43.1
comp=Z,0.9nm,0.6s,baz=1.4,slow=1.4,SNR=4.3
CMAR LR LR 19 03 07.0
comp=Z,134nm,18.5s,baz=48,slow=37
CM01 Chiang Mai Arr 48.04 255 *e*P **P** **18 41 58.4 +0.6**
PDGK Podgornoye 48.62 295 *i* P **P** **18 42 01.6 -0.5**
PDGK pmax pmax
comp=Z,10.0nm,0.8s
SHL Shillong 48.69 268 *e*P P 18 42 09.0 +6.1
UTHA Uthaitani 49.64 252 P P 18 42 18.0 +8.0
BVA0 Borovoye Array 50.39 310 *i* P **P** **18 42 14.7 -0.6**
BVA0 pmax pmax
comp=Z,32nm,1.3s
BVAR Borovoye Array 50.39 310 P **P** **18 42 13.9 -1.4**
comp=Z,5.8nm,0.6s,baz=72,slow=9.3,SNR=46
BVAR LR LR 19 02 57.1
comp=Z,163nm,19.7s,baz=80,slow=35
BRVK Borovoye 50.44 310 *e*P **P** **18 42 15.4 -0.2**
BRVK Borovoye 50.44 310 *e*P **P** **18 42 15.5 -0.1**
comp=Z,31nm,1.0s
BRVK Borovoye 50.44 310*c i*P **P** **18 42 15.4 -0.2**
BRVK pmax pmax
comp=Z,100nm,1.2s
TARG Taragay, Kyrgy 50.44 294 *e*P **P** **18 42 17.4 +1.1**
comp=Z,14nm,1.2s
KDJ Kajisay 50.67 295 *e*P **P** **18 42 18.4 +0.6**
comp=Z,9.2nm,0.8s
KDJ Kajisay 50.67 295 P **P** **18 42 18.4 +0.6**
KDJ pmax pmax
comp=Z,9.0nm,0.8s
OTUK Ortayu 51.13 304 P **P** **18 42 21.0 0.0**
OTUK pmax pmax
comp=Z,21nm,0.8s
ULHL Ulahol 51.24 295 P **P** **18 42 25.2 +3.1**
SNR=8.4
TKM2 Tokmak 2 51.37 296 P **P** **18 42 24.0 +1.0**
SNR=24
TKM2 Tokmak 2 51.37 296 *i* P **P** **18 42 23.1 +0.1**
TKM2 pmax pmax
comp=Z,15nm,1.0s
JIRN Jiri 51.65 274 *e*P **P** **18 42 27.0 +1.5**
GUN Gumba 51.73 274 *e*P **P** **18 42 26.1 0.0**
comp=Z,35nm,0.6s
KBK Karagaybulak 51.91 296 P **P** **18 42 30.2 +3.1**
SNR=21
USP Ospenovka 51.93 297 P **P** **18 42 28.3 +1.3**
SNR=36
KZA Kyzart 51.98 295 P **P** **18 42 31.6 +3.7**
SNR=31
FRU Bishkek 52.05 297 *e*P **P** **18 42 29.0 +1.1**
FRU *e* 18 42 49.0
AAK Ala-Archa 52.22 296 *e*P **P** **18 42 29.8 +0.5**
AAK Ala-Archa 52.22 296 P **P** **18 42 32.2 +2.9**
SNR=7.8
AAK Ala-Archa 52.22 296 *e*P **P** **18 42 29.5 +0.2**
comp=Z,5.8nm,0.8s
AAK Ala-Archa 52.22 296 *i* P **P** **18 42 29.8 +0.5**
AAK pmax pmax
comp=Z,10.0nm,1.3s
KKN Kakani 52.24 275 *e*P **P** **18 42 30.1 +0.4**
PKI Pulchoki 52.27 274 *e*P **P** **18 42 30.0 -0.1**
comp=Z,35nm,1.0s
PKIN Phulchoki 52.27 274 *e*P **P** **18 42 31.1 +1.1**
PMG Port Moresby 52.34 181 LR LR 19 01 22.0
comp=Z,44nm,20.8s,baz=8.0,slow=32
EKS2 Erkin-Say 52.67 297 ⇑P **P** **18 42 33.8 +1.2**
SNR=16
KSH Kashi 52.70 292 P P 18 42 37.8 +4.9
KSH sP pP 18 42 52.0 +6.7
KSH PcP **PcP** **18 43 45.1 +2.9**
KSH S **S** **18 50 03.8 +6.2**
KSH sS sS 18 50 19.9 +1.7
KSH ScS **ScS** **18 52 20.8 +1.8**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH pmax pmax
comp=Z,170nm,5.4s
KSH LR LR
comp=Z,220nm,13.0s
KSH LR LR
comp=Z,230nm,11.7s
KSH LR LR
comp=Z,260nm,10.0s
AML Almayashu 52.98 296 P **P** **18 42 38.6 +3.4**
SNR=12
HNR Honiara 53.47 165 LR LR 19 05 52.9
comp=Z,73nm,18.6s,baz=20,slow=36
KOLN Koldanda 53.47 276 *e*P **P** **18 42 38.5 -0.3**
comp=Z,33nm,0.8s
MNAS Manas 53.59 297 *i* P **P** **18 42 39.5 +0.1**
MNAS pmax pmax
comp=Z,18nm,0.8s
PYUN Piuthan 53.73 276 *e*P **P** **18 42 40.8 +0.1**
SVE Sverdlovsk 54.02 317 ⇑*i*P **P** **18 42 42.5 +0.4**
SVE pmax pmax
comp=Z,69nm,1.0s
SFK Sufi-Kurgan 54.12 294 *i* P **P** **18 42 45.1 +1.6**
SFK pmax pmax
comp=Z,11nm,1.0s
KK31 Karatay Array 54.58 299 *i* P **P** **18 42 46.2 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 54.58 299 *e*P **P** **18 42 46.2 -0.3**
KKAR Karatay Array 54.58 299 *e*P **P** **18 42 46.2 -0.3**
ARU Arti 55.23 317 *e*P **P** **18 42 50.4 -0.5**
comp=Z,40nm,0.9s
ARU Arti 55.23 317*c i*P **P** **18 42 50.2 -0.7**
ARU S **S** **18 50 32.8 +1.9**
ARU SS **SS** **18 54 13.5 -1.4**
ARU pmax pmax
comp=Z,69nm,1.2s
RES Resolute Bay 55.32 17 P **P** **18 42 51.4 +0.2**
comp=Z,28nm,0.5s,baz=320,slow=7.7,SNR=100
RES Resolute Bay 55.32 17 *e*P **P** **18 42 51.1 -0.1**
comp=Z,31nm,0.8s
KBS Kingsbay 55.46 351 *e*P **P** **18 42 51.7 -0.5**
comp=Z,29nm,0.8s
KBS Kingsbay 55.46 351 *e*P **P** **18 42 51.7 -0.5**
KBS pmax pmax
comp=Z,29nm,0.8s
SPA0 Spitsbergen Ar 55.47 349 *e*P **P** **18 42 51.9 -0.4**
SPITS Spitsbergen Ar 55.47 349 P **P** **18 42 51.4 -1.0**
comp=Z,2.1nm,0.4s,baz=87,slow=10,SNR=28
SPITS LR LR 19 09 54.0
comp=Z,102nm,18.9s,baz=170,slow=40
YKW3 Yellowknife Ar 55.86 34 *e*P **P** **18 42 55.6 +0.3**
comp=Z,6.9nm,0.8s
YKA Yellowknife Ar 55.90 34 P **P** **18 42 55.1 -0.4**
comp=Z,1.5nm,0.7s,baz=299,slow=6.8,SNR=15
YKB5 Yellowknife Ar 55.90 34 *e*P **P** **18 42 58.0 +2.5**
AB31 Akbulak array 57.95 309 *i* P **P** **18 43 09.9 -0.4**
AB31 pmax pmax
comp=Z,14nm,0.8s
ABKAR Akbulak array 57.95 309 *e*P **P** **18 43 09.8 -0.6**
comp=Z,243nm,1.4s
TULEG Thule 58.27 10 *e*P **P** **18 43 11.2 -1.0**
comp=Z,42nm,0.8s
AKTO Aktyubinsk 58.42 311 P **P** **18 43 13.4 -0.3**
comp=Z,5.7nm,0.6s,baz=58,slow=12,SNR=16
AKTO LR LR 19 10 18.0
comp=Z,159nm,18.9s,baz=53,slow=38
AKTO Aktyubinsk 58.42 311 *i* P **P** **18 43 13.5 -0.1**
AKTO pmax pmax
comp=Z,10.0nm,0.8s
APA Apatity 59.17 336 ⇑*i*P **P** **18 43 16.8 -1.8**
APA pmax pmax
comp=Z,15nm,0.8s
TMCR Tamitsa 59.80 332 *e*P **P** **18 43 22.3 -0.6**
TMCR pmax pmax
comp=Z,39nm,0.8s
ARA0 ARCESS Array S 60.02 340 *e*P **P** **18 43 24.2 -0.1**
ARCES ARCESS Array B 60.02 340 P **P** **18 43 24.2 -0.1**
comp=Z,21nm,0.9s,baz=51,slow=7.6,SNR=42
ARCES LR LR 19 14 55.5
comp=Z,90nm,18.5s,baz=46,slow=42
GULW Guler Mountain 60.96 53 *e*P **P** **18 43 30.2 -1.1**
SGF Sodankyl 61.23 338 P **P** **18 43 33.1 +0.5**
KLMR Klimovskoe 61.28 328 *e*P **P** **18 43 30.2 -2.8**
KLMR pmax pmax
comp=Z,44nm,1.0s
KLMR Klimovskoe 61.28 328 *e*P **P** **18 43 30.2 -2.8**
KLMR AMP 18 43 33.8
comp=Z,44nm,1.0s
KULLO Kullorsuaq 61.31 7 *i* P **P** **18 43 33.6 +0.5**
comp=Z,26nm,0.7s
KULLO Kullorsuaq 61.31 7 *i* P **P** **18 43 33.6 +0.5**
KULLO pmax pmax
comp=Z,26nm,0.7s
EDM Edmonton 61.36 43 *e*P **P** **18 43 34.5 +0.7**
comp=Z,10nm,0.8s
EDM Edmonton 61.36 43 *e*P **P** **18 43 34.5 +0.7**
EDM pmax pmax
comp=Z,10.0nm,0.8s
MSF Maaselka 61.57 336 P **P** **18 43 35.6 +0.6**
MSF pmax pmax
comp=Z,167nm,2.2s
NEW Newport 62.20 49 P **P** **18 43 40.0 +0.5**
comp=Z,1.8nm,0.5s,baz=253,slow=6.1,SNR=4.1
NEW Newport 62.20 49 P **P** **18 43 38.3 -1.3**
baz=305
NEW Newport 62.20 49 P **P** **18 43 40.0 +0.5**
PINE Pine Mountain 62.53 55 *e*P **P** **18 43 42.8 +0.8**
comp=Z,14nm,0.8s
E09A Wood Farm, Sta 62.62 51 *e*P **P** **18 43 42.1 -0.2**
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 62.63 57 P **P** **18 43 43.1 +0.6**
comp=Z,5.5nm,0.7s,baz=348,slow=5.5,SNR=11
YBH LR LR 19 07 40.1
comp=Z,32nm,20.8s,baz=326,slow=33
YBH Yreka Blue Hor 62.63 57 *e*P **P** **18 43 43.3 +0.7**
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 62.63 57 *e*P **P** **18 43 43.3 +0.7**
YBH pmax pmax
comp=Z,13nm,1.0s
J05D Fort Rock, OR 62.65 55 P **P** **18 43 42.3 -0.4**
baz=305
M02C Callahan 62.73 58 P **P** **18 43 42.9 -0.3**
baz=305
N02D Trinity Center 63.06 58 P **P** **18 43 45.2 -0.2**
baz=305
M04C Macdoel 63.13 57 P **P** **18 43 45.8 -0.2**
baz=305
MOD Modoc Plateau 64.00 56 *e*P **P** **18 43 51.9 +0.1**
comp=Z,9.3nm,0.8s
O03D Paynes Creek 64.02 58 P **P** **18 43 51.5 -0.3**
baz=306
WRAB Tennant Creek 64.06 194 *i* P **P** **18 43 54.0 +2.0**
WRAB pmax pmax
comp=Z,6.0nm,1.1s
WB2 Warramunga Arr 64.07 194 *e*P **P** **18 43 53.7 +1.7**
WR1 Warramunga Arr 64.07 194 *e*P **P** **18 43 50.2 -1.9**
WRA Warramunga Arr 64.07 194 P **P** **18 43 50.2 -1.9**
comp=Z,1.2nm,0.7s,baz=16,slow=6.9,SNR=6.1
WRA pP **pP** **18 44 07.8 +3.1**
comp=Z,28nm,1.2s,baz=12,slow=6.8,SNR=19
WRA Warramunga Arr 64.07 194 *i* P **P** **18 43 50.0 -2.1**
WRA pmax pmax
comp=Z,1.0nm,0.7s
J08A Circle Bar Ran 64.25 54 *e*P **P** **18 43 53.8 +0.5**
comp=Z,7.8nm,0.9s
FITZ Fitzroy Crossi 64.37 204 P **P** **18 43 53.4 -0.7**
comp=Z,0.7nm,0.7s,baz=198,slow=20,SNR=1.9
FITZ pP **pP** **18 44 11.1 +4.4**
comp=Z,9.4nm,1.1s,baz=349,slow=9.2,SNR=5.8
FITZ Fitzroy Crossi 64.37 204 *e*P **P** **18 43 53.0 -1.0**
SUMG Summit 64.45 2 *i* P **P** **18 43 54.9 +0.4**
comp=Z,40nm,0.8s
SUMG Summit 64.45 2 *e*P **P** **18 43 54.5 0.0**
comp=Z,62nm,1.1s
SUMG Summit 64.45 2 *i* P **P** **18 43 54.9 +0.4**
SUMG pmax pmax
comp=Z,40nm,0.8s
ORV Oroville 64.64 59 *e*P **P** **18 43 55.1 -0.6**
comp=Z,4.1nm,0.7s
ORV Oroville 64.64 59 *e*P **P** **18 43 55.1 -0.6**
ORV pmax pmax
comp=Z,4.0nm,0.7s
WVOR Wild Horse Val 64.70 55 *e*P **P** **18 43 56.5 +0.3**
comp=Z,8.8nm,1.0s
WVOR Wild Horse Val 64.70 55 *e*P **P** **18 43 56.5 +0.3**
WVOR pmax pmax
comp=Z,9.0nm,1.0s
SUF Sumiainen 64.73 334 P **P** **18 43 58.5 +2.6**
SUF pmax pmax
comp=Z,103nm,2.6s
MSO Missoula 64.78 49 P **P** **18 43 56.3 -0.4**
baz=307,SNR=5.0
MSO Missoula 64.78 49 *e*P **P** **18 43 56.5 -0.2**
comp=Z,13nm,1.3s
BEKR Beckworth 65.16 58 *e*P **P** **18 43 57.8 -1.6**
comp=Z,14nm,1.0s
GEYT Allbeck 65.31 300 P **P** **18 44 00.7 +0.5**
comp=Z,5.0nm,0.7s,baz=25,slow=3.9,SNR=13
AFDM Forest Hills D 65.32 59 *e*P **P** **18 43 59.8 -0.4**
comp=Z,7.5nm,1.3s
FIA1 FINESS Array S 65.69 333 *e*P **P** **18 44 01.1 -1.0**
FIA0 FINESS Array S 65.69 333 *e*P **P** **18 44 01.8 -0.4**
FIA0 FINESS Array S 65.69 333 *e*P **P** **18 44 01.8 -0.4**
FINES FINESS Array B 65.69 333 P **P** **18 44 01.8 -0.4**
comp=Z,11nm,0.6s,baz=37,slow=7.1,SNR=41
FFC Flin Flon 65.75 37 *e*P **P** **18 44 03.8 +1.1**
comp=Z,15nm,0.8s
FFC Flin Flon 65.75 37 *e*P **P** **18 44 03.8 +1.1**
FFC pmax pmax
comp=Z,15nm,0.8s
PAHR Pah Rah Range 65.86 58 *e*P **P** **18 44 04.0 +0.1**
comp=Z,12nm,1.1s
VCNR Virginia City 65.94 58 *e*P **P** **18 44 04.9 +0.5**
comp=Z,8.2nm,0.9s
FCC Fort Churchill 66.17 30 *e*P **P** **18 44 04.7 -0.6**
comp=Z,9.8nm,0.8s
FCC Fort Churchill 66.17 30 *e*P **P** **18 44 04.7 -0.6**
FCC pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 66.17 324 *e*P **P** **18 44 05.2 -0.1**
OBN Obninsk 66.17 324 *i* P **P** **18 44 05.2 -0.1**
OBN *i* 18 44 17.0
OBN *i* 18 46 31.1
OBN pmax pmax
comp=Z,32nm,1.2s
OBN MLR MLR
comp=Z,220nm,13.0s
LRM Limekiln Ridge 66.22 49 *e*P **P** **18 44 06.1 -0.1**
CMB Columbia Colle 66.24 60 *e*P **P** **18 44 05.5 -0.7**
comp=Z,5.4nm,0.7s
CMB Columbia Colle 66.24 60 *e*P **P** **18 44 05.5 -0.7**
CMB pmax pmax
comp=Z,5.0nm,0.7s
EGMT Eagleton 66.30 46 P **P** **18 44 06.2 -0.3**
baz=309,SNR=5.6
EGMT Eagleton 66.30 46 *e*P **P** **18 44 06.3 -0.1**
comp=Z,11nm,0.8s
YERR Yerington 66.38 58 *e*P **P** **18 44 07.1 -0.2**
comp=Z,18nm,1.0s
SCO Scoresbysund 66.42 356 *i* P **P** **18 44 06.7 0.0**
comp=Z,14nm,1.1s
SCO Scoresbysund 66.42 356 *e*P **P** **18 44 06.1 -0.6**
comp=Z,78nm,2.0s
SCO Scoresbysund 66.42 356 *i* P **P** **18 44 06.7 0.0**
SCO pmax pmax
comp=Z,14nm,1.1s
HLID Hailey 66.50 52 P **P** **18 44 07.5 -0.4**
baz=308
HLID Hailey 66.50 52 *e*P **P** **18 44 08.2 +0.3**
comp=Z,21nm,1.9s
WAKR Walker 66.55 59 *e*P **P** **18 44 08.7 +0.3**
comp=Z,10nm,1.2s
BMN Battle Mountai 66.75 56 *e*P **P** **18 44 09.5 0.0**
comp=Z,9.9nm,0.7s
BMN Battle Mountai 66.75 56 *e*P **P** **18 44 09.5 0.0**
BMN pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 66.80 321 *e*P **P** **18 44 08.9 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
BOZ Bozeman (W) 66.81 49 P **P** **18 44 08.9 -0.9**
baz=309,SNR=5.9
BOZ Bozeman (W) 66.81 49 *e*P **P** **18 44 10.3 +0.5**
BOZ Bozeman (W) 66.81 49 *e*P **P** **18 44 09.8 0.0**
comp=Z,9.3nm,0.6s
BOZ Bozeman (W) 66.81 49 *e*P **P** **18 44 09.8 0.0**
BOZ pmax pmax
comp=Z,9.0nm,0.6s
RYN Ryan 67.05 58 *e*P **P** **18 44 11.8 +0.4**
comp=Z,8.8nm,0.9s
DZM Mont Dzumac 67.09 162 LR LR 19 10 09.9
comp=Z,54nm,20.1s,baz=194,slow=33
NV01 Mina Array Sit 67.30 58 *e*P **P** **18 44 13.6 +0.4**
NVAR Mina Array Bea 67.30 58 P **P** **18 44 13.8 +0.7**
comp=Z,6.9nm,0.7s,baz=292,slow=6.6,SNR=50
NVAR pP **pP** **18 44 30.5 +4.6**
comp=Z,9.7nm,0.9s,baz=293,slow=6.6,SNR=12
NV11 Mina Array Sit 67.39 58 *e*P **P** **18 44 13.8 +0.1**
comp=Z,0.5nm,0.9s
VSR Storozhevoye 67.61 320 *e*P **P** **18 44 14.3 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
AFI Afiamalu 67.66 137 LR LR 19 07 06.8
comp=Z,42nm,21.3s,baz=284,slow=30
VSU Vasula 67.66 331*ce*P **P** **18 44 14.6 -0.2**
VSU pmax pmax
comp=Z,36nm,0.9s
YHH Holmes Hill 67.74 49 *e*P **P** **18 44 16.3 +0.4**
comp=Z,4.1nm,1.0s
AS01 Alice Springs 67.78 194 *e*P **P** **18 44 17.4 +1.6**
AS31 Alice Springs 67.78 194 *e*P **P** **18 44 16.5 +0.6**
comp=Z,1.0nm,0.8s
ASAR Alice Springs 67.78 194 P **P** **18 44 15.6 -0.4**
comp=Z,0.9nm,0.8s,baz=13,slow=6.3,SNR=10
H17A Grant Village 68.14 49 P **P** **18 44 18.3 -0.2**
baz=310,SNR=5.6
H17A Grant Village 68.14 49 *e*P **P** **18 44 20.1 +1.6**
comp=Z,7.7nm,1.0s
IMW Indian Meadow 68.26 50 *e*P **P** **18 44 20.0 +0.8**
comp=Z,5.4nm,0.9s
FXWY Fox Creek 68.37 50 *e*P **P** **18 44 20.4 +0.6**
comp=Z,4.9nm,1.0s
RLMT Red Lodge 68.40 48 P **P** **18 44 19.3 -0.6**
baz=310
MOOW Moose Ponds 68.46 50 *e*P **P** **18 44 20.6 +0.2**
comp=Z,10.0nm,1.4s
TPAW Teton Pass 68.51 50 *e*P **P** **18 44 20.9 +0.1**
comp=Z,9.9nm,1.1s
HVU Hansel Valley 68.55 53 *e*P **P** **18 44 21.3 +0.4**
comp=Z,5.2nm,0.9s
HVU Hansel Valley 68.55 53 *e*P **P** **18 44 21.3 +0.4**
HVU pmax pmax
comp=Z,5.0nm,0.9s
REDW Red Top Meadow 68.65 50 *e*P **P** **18 44 21.7 +0.2**
comp=Z,8.4nm,1.0s
R11A Troy Canyon, C 69.03 57 P **P** **18 44 23.7 -0.2**
baz=309,SNR=17
R11A Troy Canyon, C 69.03 57 *e*P **P** **18 44 23.9 -0.1**
comp=Z,8.4nm,0.9s
DAC Darwin (Calif) 69.08 60 *e*P **P** **18 44 24.2 -0.1**
comp=Z,8.0nm,1.4s
DAC Darwin (Calif) 69.08 60 *e*P **P** **18 44 24.2 -0.1**
DAC pmax pmax
comp=Z,8.0nm,1.4s
SFJD Kangerlussuaq 69.23 8 *i* P **P** **18 44 25.9 +1.5**
comp=Z,8.1nm,0.8s
SFJD Kangerlussuaq 69.23 8 *i* P **P** **18 44 25.9 +1.5**
SFJD pmax pmax
comp=Z,8.0nm,0.8s
MPMC Manual Prospec 69.28 60 P **P** **18 44 25.0 -0.6**
baz=309,SNR=7.6
HWUT Hardware Ranch 69.36 52 *e*P **P** **18 44 26.0 +0.1**
comp=Z,12nm,1.4s
FURC Furnace Creek, 69.42 59 P **P** **18 44 25.6 -0.4**
baz=309,SNR=5.4
LRMC Laurel Mtn Rad 69.52 60 P **P** **18 44 26.8 -0.1**
baz=309
DUG Dugway, Tooele 69.53 54 P **P** **18 44 26.7 -0.3**
baz=310,SNR=6.5
DUG Dugway, Tooele 69.53 54 *e*P **P** **18 44 27.7 +0.7**
DUG Dugway, Tooele 69.53 54 *e*P **P** **18 44 27.4 +0.4**
comp=Z,8.5nm,1.0s
DUG Dugway, Tooele 69.53 54 *e*P **P** **18 44 27.4 +0.4**
DUG pmax pmax
comp=Z,9.0nm,1.0s
EDW2 Edwards Air Fo 69.69 61 P **P** **18 44 28.0 +0.1**
baz=309
BW06 Boulder Array 69.75 50 P **P** **18 44 28.0 -0.4**
baz=310
PD31 Pinedale Array 69.75 50 *e*P **P** **18 44 28.2 -0.2**
PDAR Pinedale Array 69.75 50 P **P** **18 44 28.4 0.0**
comp=Z,1.7nm,0.7s,baz=261,slow=2.3,SNR=17
PDAR pP **pP** **18 44 45.5 +4.3**
comp=Z,1.5nm,0.6s,baz=329,slow=1.1,SNR=6.6
PDAR Pinedale Array 69.75 50 *e*P **P** **18 44 28.2 -0.2**
NLU North Lily Min 70.12 54 *e*P **P** **18 44 31.3 +0.6**
comp=Z,4.7nm,0.9s
SHOC Shoshone, Teco 70.14 59 P **P** **18 44 30.4 -0.3**
baz=309
GSC Goldstone, Bar 70.19 60 P **P** **18 44 31.0 0.0**
baz=309
NC405 NORSAR Array S 70.19 339 *e*P **P** **18 44 29.2 -1.2**
NC204 NORSAR Array S 70.29 340 *e*P **P** **18 44 30.9 -0.3**
NACGM Naroch 70.30 328 *e* **P** **18 44 30.0 -1.2**
BFSC Mount Baldy Ra 70.31 61 P **P** **18 44 31.1 -0.7**
baz=309
NB201 NORSAR Array S 70.35 339 *e*P **P** **18 44 30.1 -1.3**
NB2 NORSAR Subarra 70.38 339 P **P** **18 44 31.3 -0.3**
comp=Z,17nm,0.7s,baz=32,slow=6.5
NB2 NORSAR Subarra 70.38 339 P **P** **18 44 31.7 +0.1**
NB2 pmax pmax
comp=Z,14nm,0.7s
NB2 NORSAR Subarra 70.38 339 P **P** **18 44 31.3 -0.3**
baz=32,slow=6.5
NB200 NORSAR Array S 70.38 339 *e*P **P** **18 44 31.6 -0.1**
NOA NORSAR Array B 70.38 339 P **P** **18 44 31.6 -0.1**
comp=Z,19nm,0.8s,baz=33,slow=6.2,SNR=32
NOA pP **pP** **18 44 48.7 +4.2**
comp=Z,7.9nm,0.7s,baz=33,slow=6.6,SNR=4.7

NOA LR LR 19 18 30.4
comp=Z,111nm,20.0s,baz=345,slow=38
SHPR Sheep Range 70.45 58 *eP* **P 18 44 33.3 +0.6**
comp=Z,8.8nm,0.9s
NCK Nalchik 70.46 312⇑ *eP* **P 18 44 33.8 +1.4**
NCK pmax pmax
comp=Z,10.0nm,0.8s
NBO02 NORSAR Array S 70.46 339 *eP* **P 18 44 31.2 -0.9**
HFS Hagfors 70.48 338 P **P 18 44 31.6 -0.6**
comp=Z,19nm,0.6s,baz=35,slow=5.3,SNR=35
HFS LR LR 19 18 07.5
comp=Z,121nm,18.2s,baz=7.0,slow=38
KIV Kislovodsk 70.65 312 *eP* **P 18 44 34.9 +1.2**
KIV Kislovodsk 70.65 312 *eP* **P 18 44 35.1 +1.5**
comp=Z,21nm,0.7s
KIV Kislovodsk 70.65 312 *eP* **P 18 44 34.9 +1.2**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,169nm,18.0s
TUQ Turquoise Moun 70.66 59 P **P 18 44 34.2 +0.3**
baz=310
KBZ Khabaz 70.69 312 P **P 18 44 34.5 +0.7**
comp=Z,13nm,0.8s,baz=44,slow=9.0,SNR=17
HEC Hector,Ludlow 70.78 60 P **P 18 44 34.5 -0.2**
baz=310,SNR=8.7
CCUT Cedar City 70.89 56 *eP* **P 18 44 35.4 0.0**
comp=Z,9.9nm,1.1s
MURC Murrieta 71.01 62 P **P 18 44 36.0 0.0**
baz=310
SZCU Shurtz Canyon 71.03 56 *eP* **P 18 44 36.0 -0.3**
comp=Z,7.1nm,0.9s
P17A Butcher Ranch, 71.22 53 *eP* **P 18 44 37.8 +0.5**
comp=Z,10nm,1.0s
GMRC Granite Mounta 71.24 60 P **P 18 44 37.0 -0.4**
baz=310,SNR=6.9
MTPU Mount Pierson 71.29 55 *eP* **P 18 44 38.6 +0.6**
comp=Z,7nm,0.8s
LCMT Little Creek M 71.31 57 *eP* **P 18 44 38.4 +0.5**
comp=Z,11nm,0.9s
PFO Pinyon Flats O 71.48 61 P **P 18 44 38.8 -0.1**
baz=310
K22A Casper 71.51 49 P **P 18 44 38.9 -0.2**
baz=312
BELC Belle Mtn. Jos 71.53 61 P **P 18 44 38.7 -0.5**
baz=310
ULM Lac du Bonnet 71.54 37 LR LR 19 18 00.9
comp=Z,62nm,18.7s,baz=39,slow=37
KNB Kanab 71.56 56 *eP* **P 18 44 40.0 +0.6**
comp=Z,14nm,1.0s
KNB Kanab 71.56 56 *eP* **P 18 44 40.1 +0.6**
KNB pmax pmax
comp=Z,15nm,1.0s
RSSD Black Hills 71.86 46 P **P 18 44 40.3 -0.9**
baz=313
RSSD Black Hills 71.86 46 *eP* **P 18 44 40.7 -0.5**
comp=Z,5.2nm,0.8s
RSSD Black Hills 71.86 46 *eP* **P 18 44 40.7 -0.5**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
AKH Akhalkalaki 71.90 310⇓ *iP* **P 18 44 41.9 +0.5**
IRM Iron Mountain 71.97 60 P **P 18 44 41.6 -0.1**
baz=310,SNR=8.3
GNI Garni 72.03 308 *i P* **P 18 44 42.9 +0.7**
GNI pmax pmax
comp=Z,32nm,1.3s
BC3 Big Chuckawall 72.09 61 P **P 18 44 42.1 -0.5**
baz=310
W13A Hualapai Mount 72.15 59 *eP* **P 18 44 43.0 0.0**
comp=Z,5.8nm,1.0s
O20A White River Ci 72.23 51 P **P 18 44 42.9 -0.5**
baz=312
U15A North Rim 72.27 57 *eP* **P 18 44 44.6 +0.7**
comp=Z,15nm,1.0s
IKP In-Ko-Pah, Jac 72.32 62 P **P 18 44 43.6 -0.3**
baz=310
AKASG Malin Array Be 72.44 324 P **P 18 44 44.0 -0.2**
comp=Z,16nm,0.8s,baz=39,slow=6.2,SNR=35
AKASG Malin Array Be 72.44 324 P **P 18 44 44.0 -0.2**
AKBB Malin Array Si 72.44 324 *eP* **P 18 44 43.5 -0.7**
comp=Z,29nm,1.0s
AKBB Malin Array Si 72.44 324 *eP* **P 18 44 43.5 -0.7**
AKBB pmax pmax
comp=Z,29nm,1.0s
KIEV Kiev 72.45 324 *eP* **P 18 44 43.9 -0.3**
KIEV Kiev 72.45 324 *eP* **P 18 44 43.5 -0.7**
comp=Z,28nm,1.0s
KIEV Kiev 72.45 324⇓ *iP* **P 18 44 43.9 -0.3**
KIEV pmax pmax
comp=Z,32nm,1.0s
AK11 Malin Array Si 72.48 324 *eP* **P 18 44 43.6 -0.8**
PDMCI Parker Dam,Lak 72.51 59 P **P 18 44 45.0 +0.1**
baz=311,SNR=7.7
Y12C Blythe 72.62 60 P **P 18 44 45.3 -0.3**
baz=311
Y12C Blythe 72.62 60 *eP* **P 18 44 45.7 +0.1**
comp=Z,9.9nm,0.8s
A33A Warroad 72.71 38 P **P 18 44 45.8 0.0**
baz=317
GLA Glamis 72.88 61 P **P 18 44 47.2 -0.1**
baz=311
GLA Glamis 72.88 61 *eP* **P 18 44 47.4 +0.2**
comp=Z,13nm,0.9s
GLA Glamis 72.88 61 *eP* **P 18 44 47.4 +0.2**
GLA pmax pmax
comp=Z,13nm,0.9s
PV10 Paradox Valley 72.94 53 *eP* **P 18 44 48.4 +0.6**
N23A Red Feather La 73.02 50 *eP* **P 18 44 48.4 +0.2**
comp=Z,18nm,1.4s
PV05 Paradox Valley 73.10 54 *eP* **P 18 44 49.1 +0.5**
PV01 Paradox Valley 73.37 53 *eP* **P 18 44 50.1 -0.2**
WUAZ Wupatki 73.43 57 P **P 18 44 51.3 +0.8**
baz=312,SNR=6.0
WUAZ Wupatki 73.43 57 *eP* **P 18 44 51.0 +0.4**
comp=Z,8.0nm,0.9s
Y14A Wickenburg 73.46 59 *eP* **P 18 44 50.6 0.0**
comp=Z,29nm,0.9s
ISCO Idaho Springs 73.95 50 P **P 18 44 52.9 -0.8**
baz=313
ISCO Idaho Springs 73.95 50 *eP* **P 18 44 53.9 +0.2**
comp=Z,9.5nm,1.3s
ISCO Idaho Springs 73.95 50 *eP* **P 18 44 53.9 +0.2**
ISCO pmax pmax
comp=Z,10.0nm,1.3s
MVCO Mesa Verde 74.03 54 P **P 18 44 53.8 -0.4**
baz=312
MVCO Mesa Verde 74.03 54 *eP* **P 18 44 54.3 +0.1**
comp=Z,8.0nm,0.9s
WSAR Wadi Sarin 74.10 287 LR LR 19 20 09.2
comp=Z,59nm,18.5s,baz=57,slow=38
X16A Lo Mia Camp, P 74.11 58 *eP* **P 18 44 55.2 +0.6**
comp=Z,14nm,0.9s
S22A 4UR Ranch, Cre 74.65 53 P **P 18 44 57.6 -0.2**
baz=313
S22A 4UR Ranch, Cre 74.65 53 *eP* **P 18 44 58.4 +0.6**
comp=Z,9.3nm,1.4s
214A Organ Pipe Nat 74.89 60 P **P 18 44 59.1 +0.1**
baz=312
STKA Stephens Creek 74.93 186 P **P 18 44 59.4 +0.6**
comp=Z,0.4nm,0.4s,baz=322,slow=18,SNR=1.9
STKA pP **pP 18 45 16.2 +4.5**
comp=Z,7.2nm,1.0s,baz=346,slow=9.8,SNR=6.9
STKA LR LR 19 15 23.1
comp=Z,35nm,21.9s,baz=26,slow=34
STKA Stephens Creek 74.93 186 *eP* **P 18 44 59.6 +0.8**
comp=Z,2.2nm,1.1s
STKA Stephens Creek 74.93 186 *eP* **P 18 44 59.6 +0.8**
STKA pmax pmax
comp=Z,2.0nm,1.1s
X18A Snowflake 74.96 57 *eP* **P 18 45 00.3 +0.8**
comp=Z,9.7nm,1.0s
LVV L'vov 75.28 326 *eP* **P 18 45 04.6 +3.8**
SDCO Great Sand Dun 75.42 52 *eP* **P 18 45 02.2 -0.1**
comp=Z,11nm,1.6s
TUC Tucson 75.93 59 P **P 18 45 05.0 0.0**
baz=312
TUC Tucson 75.93 59 *eP* **P 18 45 05.1 +0.1**
comp=Z,3.4nm,0.8s
TUC Tucson 75.93 59 *eP* **P 18 45 05.1 +0.1**
TUC pmax pmax
comp=Z,3.0nm,0.8s
ECSD EROS Data Cent 75.93 43 P **P 18 45 03.5 -1.2**
baz=317
ECSD EROS Data Cent 75.93 43 *eP* **P 18 45 04.0 -0.7**
comp=Z,5.4nm,0.8s
KWP Kalwaria Pacla 75.96 327 *eP* **P 18 45 08.6 +3.8**
KWP Kalwaria Pacla 75.96 327 *eP* **P 18 45 05.1 +0.4**
comp=Z,387nm,0.8s
KWP Kalwaria Pacla 75.96 327 *eP* **P 18 45 05.1 +0.4**
LEOM Leova 76.04 322⇓ *iP* **P 18 45 08.9 +3.8**
LEOM Leova 76.04 322 P **P 18 45 09.0 +3.8**
H35A Sunnyside Ranc 76.09 41 P **P 18 45 05.1 -0.5**
baz=318
T25A Trinidad 76.46 52 P **P 18 45 07.6 -0.5**
baz=314
BUR08 Bucovina Ar. S 76.48 324 *eP* **P 18 45 08.2 +0.4**
BUR04 Bucovina Ar. S 76.50 324 *eP* **P 18 45 07.8 -0.2**
BURAR Bucovina Array 76.50 324⇑ *iP* **P 18 45 08.6 +0.6**
BURAR Bucovina Array 76.50 324 P **P 18 45 08.6 +0.6**
OJC Ojcow 76.62 329 *eP* **P 18 45 09.1 +0.6**
OJC Ojcow 76.62 329 *eP* **P 18 45 08.6 +0.2**
comp=Z,30nm,1.0s
OJC Ojcow 76.62 329 *eP* **P 18 45 09.1 +0.6**
STHS Stebnicka Huta 76.71 328 *eP* **P 18 45 10.2 +1.2**
STHS pmax pmax
comp=Z,14nm,0.9s
STHS Stebnicka Huta 76.71 328 *eP* **P 18 45 10.2 +1.2**
STHS *e* 18 45 13.1
TESR Tescani 76.72 323⇓ *iP* **P 18 45 09.1 0.0**
TLCR 76.75 321⇓ *iP* **P 18 45 10.0 +0.7**
TLCR 76.75 321 P **P 18 45 10.0 +0.7**
ANMO Albuquerque 76.78 54 P **P 18 45 10.6 +0.7**
baz=314
ANMO Albuquerque 76.78 54 *eP* **P 18 45 10.1 +0.2**
comp=Z,5.0nm,0.9s
ANMO Albuquerque 76.78 54 *eP* **P 18 45 10.1 +0.2**
ANMO pmax pmax
comp=Z,5.0nm,0.9s
UZH Uzhgorod 76.91 326 *eP* **P 18 45 12.7 +2.6**
UZH *e* 18 45 23.1
CRVS Cervenica-Dubn 77.03 327 *eP* **P 18 45 11.3 +0.5**
CRVS Cervenica-Dubn 77.03 327 *eP* **P 18 45 11.3 +0.5**
CRVS *e* 18 45 14.6
PETR Petresti 77.07 322⇑ *iP* **P 18 45 13.7 +2.7**
CFR Carcaliu 77.07 321⇓ *iP* **P 18 45 11.2 +0.1**
CFR Carcaliu 77.07 321 P **P 18 45 11.2 +0.1**
NIE Niedzica 77.07 328 *eP* P 18 45 15.6 +4.5
NIE Niedzica 77.07 328 *eP* P 18 45 15.6 +4.5
ODBI Odobesti 77.12 322⇑ *iP* **P 18 45 12.9 +1.6**
VRI Vrincioaia 77.18 322⇑ *iP* **P 18 45 12.2 +0.4**
VRI Vrincioaia 77.18 322 P **P 18 45 12.2 +0.4**
PLOR Plostina 77.23 322⇓ *iP* **P 18 45 12.8 +0.8**
PLOR Plostina 77.23 322 P **P 18 45 12.8 +0.8**
ARCR ARCALIA 77.28 324⇓ *iP* **P 18 45 13.8 +1.6**
KSP Ksiaz 77.39 331 *eP* **P 18 45 16.6 +3.8**
KSP Ksiaz 77.39 331 *eP* **P 18 45 16.6 +3.8**
TIRR Tirgusor 77.49 320⇓ *iP* **P 18 45 13.2 -0.2**
TIRR Tirgusor 77.49 320 *eP* **P 18 45 12.3 -1.1**
comp=Z,7.2nm,0.9s
TIRR Tirgusor 77.49 320 P **P 18 45 13.2 -0.2**
319A Douglas 77.50 59 *eP* **P 18 45 14.4 +0.5**
comp=Z,14nm,0.8s
OKC Ostrava-Krasne 77.55 329 *eP* P 18 45 18.0 +4.3
OKC Ostrava-Krasne 77.55 329 *eP* P 18 45 18.0 +4.3
TLB Topalu 77.56 321⇑ *iP* **P 18 45 14.6 +0.8**
TLB Topalu 77.56 321 P **P 18 45 14.6 +0.8**
LANS Liptovska Anna 77.61 328 *eP* **P 18 45 15.6 +1.5**
LANS *e* 18 45 19.1
LANS Liptovska Anna 77.61 328 *eP* **P 18 45 15.6 +1.5**
LANS *e* 18 45 19.0
DOPR Dopca 77.70 323⇑ *iP* **P 18 45 17.1 +2.5**
KECS Kecovo 77.75 327 *eP* **P 18 45 16.1 +1.2**
KECS *e* 18 45 19.3
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 77.75 327 *eP* **P 18 45 16.1 +1.2**
KECS *e* 18 45 19.3
UPC Upice 77.77 331 *eP* **P 18 45 15.1 +0.2**
UPC Upice 77.77 331 *eP* **P 18 45 15.1 +0.2**
DPC Dobruska-Polom 77.79 331 *eP* **P 18 45 15.6 +0.5**
DPC *epP* **PcP 18 45 19.2 -5.8**
DPC *ex* x 18 45 31.4
DPC Dobruska-Polom 77.79 331 *eP* **P 18 45 15.6 +0.5**
DPC *e* 18 45 31.4
MLR Muntele Rosu 77.82 322 P **P 18 45 16.9 +1.4**
comp=Z,2.2nm,0.6s,baz=236,slow=3.6,SNR=11
MLR LR LR 19 21 22.4
comp=Z,49nm,19.0s,baz=38,slow=37
MLR Muntele Rosu 77.82 322⇓ *iP* **P 18 45 16.9 +1.4**
MLR Muntele Rosu 77.82 322 *eP* **P 18 45 16.6 +1.1**
comp=Z,11nm,0.7s
MORC Moravsky Berou 77.82 330⇓ *iP* **P 18 45 16.2 +0.9**
MORC Moravsky Berou 77.82 330 *eP* **P 18 45 15.7 +0.4**
comp=Z,106nm,1.1s
MORC Moravsky Berou 77.82 330 P **P 18 45 16.2 +0.9**
ISR Istrita 77.84 322⇓ *iP* **P 18 45 16.6 +1.1**
ISR Istrita 77.84 322 P **P 18 45 16.6 +1.1**
CJR Cluj-Napoca 77.89 325⇓ *iP* **P 18 45 17.7 +2.0**
CJR Cluj-Napoca 77.89 325 P **P 18 45 17.7 +2.0**
SCHQ Schefferville 77.93 20 P **P 18 45 16.9 +1.2**
comp=Z,3.7nm,0.4s,baz=3.2,slow=12,SNR=4.0
SCHQ LR LR 19 22 18.0
comp=Z,106nm,20.0s,baz=334,slow=38
SCHQ Schefferville 77.93 20 *eP* **P 18 45 16.6 +0.9**
comp=Z,38nm,1.9s
CLL Collm 78.13 333 *eP* **P 18 45 15.8 -1.1**
CLL Collm 78.13 333 *i P* **P 18 45 16.4 -0.5**
comp=Z,10.0nm,0.9s
CLL ⇑ *ipP* **PcP 18 45 20.5 -5.8**
comp=Z,39nm,0.9s
CLL *i* 18 45 31.8
CLL Collm 78.13 333 *eP* **P 18 45 16.0 -0.9**
comp=Z,35nm,0.9s
CLL Collm 78.13 333 *i P* **P 18 45 16.4 -0.5**
CLL *i* 18 45 31.8
CLL pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 78.18 332 *eP* **P 18 45 20.3 +3.1**
comp=Z,14nm,1.1s
BRG Berggiesshubel 78.18 332 *eP* **P 18 45 20.3 +3.1**
BRG pmax pmax
comp=Z,14nm,1.1s
DRGR 78.20 325⇓ *iP* **P 18 45 18.1 +0.6**
DRGR 78.20 325 P **P 18 45 18.1 +0.6**
PVCC Panska Ves 78.26 332 *eP* **P 18 45 18.3 +0.7**
PVCC *epP* **PcP 18 45 21.5 -5.4**
PVCC Panska Ves 78.26 332 *eP* **P 18 45 18.3 +0.7**
PVCC *e* 18 45 21.5
VOIR 78.26 323⇓ *iP* **P 18 45 18.8 +1.0**
VOIR 78.26 323 P **P 18 45 18.8 +1.0**
SULR 78.31 322⇓ *iP* **P 18 45 20.3 +2.3**
VYHS Vyhne 78.39 328 *eP* **P 18 45 18.9 +0.5**
VYHS *e* 18 45 22.3
VYHS Vyhne 78.39 328 *eP* **P 18 45 18.9 +0.5**
VYHS *e* 18 45 22.3
BR101 Keskin Array S 78.43 314 *eP* **P 18 45 19.6 +0.7**
BR131 Keskin Array S 78.43 314 *eP* **P 18 45 18.7 -0.2**
BRTR Keskin Array B 78.43 314 *eP* **P 18 45 19.6 +0.6**
comp=Z,1.1nm,0.6s,baz=69,slow=3.0,SNR=7.5
BRTR LR LR 19 27 37.3
comp=Z,39nm,18.9s,baz=72,slow=42
BRTR Keskin Array B 78.43 314 *i P* P 18 45 23.3 +4.3
BRTR pmax pmax
comp=Z,3.0nm,0.7s
PSZ Piszkesteto 78.44 327⇓ *iP* **P 18 45 18.8 0.0**
PSZ Piszkesteto 78.44 327 *eP* **P 18 45 21.2 +2.5**
comp=Z,17nm,1.0s
PSZ Piszkesteto 78.44 327 *eP* **P 18 45 21.3 +2.5**
PSZ pmax pmax
comp=Z,17nm,1.0s
ARR Arges 78.50 323⇓ *iP* **P 18 45 21.6 +2.5**
VRAC Vranov 78.56 330⇓ *iP* **P 18 45 20.3 +1.0**
VRAC Vranov 78.56 330 P **P 18 45 20.3 +1.0**
GOPC GO Pecny, Ondr 78.70 331 *eP* **P 18 45 20.8 +0.7**
GOPC *epP* **PcP 18 45 24.1 -4.8**
GOPC GO Pecny, Ondr 78.70 331 *eP* **P 18 45 20.8 +0.7**
GOPC *e* 18 45 24.1
PRU Pruhonice 78.72 332 *eP* **P 18 45 20.6 +0.4**
PRU *epP* **PcP 18 45 23.7 -5.2**
PRU Pruhonice 78.72 332 *eP* **P 18 45 20.6 +0.4**
PRU *e* 18 45 23.7
BR231 Keskin MP Arra 78.79 315 *eP* **P 18 45 19.2 -1.7**
EKA Eskdalemuir Ar 78.86 344 P **P 18 45 21.0 +0.1**
comp=Z,8.3nm,0.7s,baz=24,slow=4.0,SNR=12
EKA Eskdalemuir Ar 78.86 344 *eP* **P 18 45 21.0 +0.1**
SMOL Smolenice 78.91 329 P P 18 45 26.0 +4.8
TREC Trest 78.97 331 *eP* **P 18 45 21.5 -0.1**
TREC *epP* **PcP 18 45 25.4 -4.7**
TREC Trest 78.97 331 *eP* **P 18 45 21.5 -0.1**
TREC *e* 18 45 25.4
SIRR Siria 79.06 325⇑ *iP* **P 18 45 24.8 +2.7**
NKC Novy Kostel 79.23 333 *eP* **P 18 45 23.3 +0.3**
NKC Novy Kostel 79.23 333 *eP* **P 18 45 23.3 +0.3**
WTSB Winterswijk 79.48 337 *eP* **P 18 45 27.8 +3.6**
comp=Z,38nm,0.8s
KESW Keswick, Cumbr 79.55 343 *eP* **P 18 45 28.6 +4.0**
BZS Buzias 79.60 325⇓ *iP* **P 18 45 25.1 +0.1**
BZS Buzias 79.60 325 P **P 18 45 25.1 +0.1**
AMTX Amarillo 79.62 52 *eP* **P 18 45 25.5 0.0**
comp=Z,14nm,0.9s
MNTX Cornudas Mount 79.68 56 P **P 18 45 25.2 -0.5**
baz=315
MNTX Cornudas Mount 79.68 56 *eP* **P 18 45 26.0 +0.2**
comp=Z,7.1nm,0.8s
KHC Kasperske Hory 79.78 332 *eP* **P 18 45 26.4 +0.3**
KHC *epP* **PcP 18 45 30.3 -3.4**
KHC *ex* x 18 45 41.5
KHC Kasperske Hory 79.78 332 *eP* **P 18 45 26.4 +0.3**
KHC Kasperske Hory 79.78 332 *eP* **P 18 45 26.0 0.0**
KHC Kasperske Hory 79.78 332 *eP* **P 18 45 26.4 +0.3**
KHC *e* 18 45 30.3
KHC *e* 18 45 41.5
HPK Haverah Park 79.82 342 *eP* **P 18 45 29.6 +3.6**
HPK IAmb IAmb 18 45 30.8
comp=Z,46nm,0.8s
SOP Sopron 79.92 329 P P 18 45 31.7 +4.9
CONA Conrad Observa 79.98 330 *i pP* P 18 45 32.0 +4.8
comp=Z,12nm,0.8s,baz=34,slow=5.6,SNR=25
GEC2 GERESS Array S 79.98 331 *eP* **P 18 45 29.6 +2.4**
comp=Z,5.8nm,0.7s
GEC2 GERESS Array S 79.98 331 *eP* **P 18 45 29.6 +2.4**
GEC2 pmax pmax
comp=Z,6.0nm,0.7s
GERES GERESS Array B 79.98 331 P **P 18 45 27.1 -0.1**
comp=Z,5.0nm,0.8s,baz=34,slow=5.6,SNR=25
GEA0 GERESS Array S 79.99 331 *eP* **P 18 45 26.5 -0.8**
GRFO Grafenberg 80.11 333 *eP* **P 18 45 27.6 -0.1**
comp=Z,33nm,1.0s
GRFO Grafenberg 80.11 333 *eP* **P 18 45 27.6 -0.1**
GRFO pmax pmax
comp=Z,33nm,1.0s
P37A Lathrop 80.14 44 P **P 18 45 26.9 -1.2**
baz=319
LBWR Ladybower, Pea 80.36 342 *eP* **P 18 45 32.8 +3.8**
LBWR IAmb IAmb 18 45 33.9
comp=Z,54nm,0.9s
R36A Gordon, Harris 80.49 46 P **P 18 45 29.4 -0.7**
baz=318
MOA Molln 80.63 330 *epP* **P 18 45 34.7 +4.1**
comp=Z,5.7nm,0.7s
ARSA Arzberg 80.67 329 *epP* P 18 45 35.4 +4.5
comp=Z,4.1nm,0.7s
HGN Heimansgroeve 80.80 337 *eP* **P 18 45 35.1 +3.8**
comp=Z,41nm,0.8s
BEBN Eben Emael 80.84 337⇑ P **P 18 45 35.3 +3.6**
comp=Z,22nm,0.7s
MEM Membach 80.92 337⇓ *iP* **P 18 45 35.7 +3.6**
comp=Z,26nm,1.0s
Q38A Cooks Store, C 80.99 44 P **P 18 45 32.1 -0.5**
baz=319
FOEL Foel Wylfa 81.16 343 *eP* **P 18 45 36.4 +3.1**
FOEL IAmb IAmb 18 45 37.4
comp=Z,50nm,1.1s
BCLA Clavier 81.29 337⇑ P **P 18 45 37.4 +3.3**
comp=Z,17nm,0.8s
VTS Vitosha 81.32 322⇓ *iP* **P 18 45 35.2 +0.7**
VTS Vitosha 81.32 322 *eP* **P 18 45 34.1 -0.5**
comp=Z,12nm,1.0s
VTS Vitosha 81.32 322 P **P 18 45 35.2 +0.7**
SOKA Soboth 81.33 329 *i PcP* P 18 45 38.8 +4.3
comp=Z,18nm,1.0s,SNR=8.8
PERS Pernice 81.34 329 *i P* P 18 45 38.8 +4.4
P40A Paris 81.34 43 P **P 18 45 33.7 -0.8**
baz=320
R38A Fenwick Farm, 81.42 45 P **P 18 45 33.7 -1.3**
baz=319
HLM1 Long Mynd 81.44 343 *eP* **P 18 45 38.7 +3.9**
HLM1 IAmb IAmb 18 45 39.2
comp=Z,20nm,0.9s
SNF Seneffe 81.50 338⇑ P **P 18 45 39.2 +4.1**
comp=Z,18nm,0.8s
DIVS Divibare 81.50 325 *eP* **P 18 45 36.2 +0.8**
comp=Z,7.4nm,0.7s
STU Stuttgart 81.56 334 *eP* **P 18 45 34.8 -0.7**
comp=Z,22nm,0.9s
STU Stuttgart 81.56 334 *eP* **P 18 45 34.8 -0.7**
STU pmax pmax
comp=Z,22nm,0.9s
KBA Koelnbreinsper 81.61 331 P P 18 45 40.8 +4.7
KBA Koelnbreinsper 81.61 331 *i pP* P 18 45 40.8 +4.7
comp=Z,16nm,0.8s,SNR=5.9
OBKA Obir 81.66 330 *i PcP* P 18 45 40.4 +4.3
comp=Z,11nm,0.7s
GIVF Givet 81.71 337 *eP* **P 18 45 38.9 +2.6**
GIVF pmax pmax
comp=Z,16nm,1.0s
WLF Walferdange 81.72 336⇑ P **P 18 45 40.1 +3.8**
SSW Stow on the Wo 81.72 342 *eP* P 18 45 40.6 +4.3
ELSH Elham, Standar 81.75 340 *eP* P 18 45 40.8 +4.4
ELSH IAmb IAmb 18 45 41.5
comp=Z,75nm,0.8s
R39A Chumby, Stover 81.77 44 P **P 18 45 35.6 -1.2**
baz=320
DOU Dourbes 81.78 337⇑ P **P 18 45 40.1 +3.5**
LPIG La Paz 81.81 65 LR LR 19 23 57.9
comp=Z,38nm,18.2s,baz=136,slow=37
BAIF Baives 81.92 337 *eP* **P 18 45 40.1 +2.7**
BAIF pmax pmax
comp=Z,13nm,1.0s
MCH1 Michaelchurch 81.95 342 *eP* **P 18 45 41.5 +4.1**
MCH1 IAmb IAmb 18 45 42.8
comp=Z,38nm,0.8s
WATA Walderalm 82.02 332 *ePcP* P 18 45 42.4 +4.3
comp=Z,10nm,0.5s,SNR=7.6
MONM Monmouth 82.05 342 *eP* **P 18 45 42.0 +4.0**
MONM IAmb IAmb 18 45 43.0
comp=Z,29nm,0.8s
WTTA Wattenberg 82.06 332 *epP* P 18 45 43.0 +4.6
comp=Z,13nm,0.5s,SNR=5.1
LPW Lampeter 82.07 343 *eP* **P 18 45 42.0 +4.0**
T38A Diamond 82.09 46 P **P 18 45 37.7 -0.9**
baz=319
S39A Bolivar 82.10 45 P **P 18 45 37.7 -0.8**
baz=320
SWN1 Swindon 82.13 342 *eP* P 18 45 42.8 +4.4
SWN1 IAmb IAmb 18 45 43.7
comp=Z,90nm,0.7s
VISS Visnje 82.14 329 *i P* P 18 45 42.4 +3.7
RETA Reutte 82.16 332 *i pP* P 18 45 43.3 +4.5
comp=Z,14nm,1.0s
MOTA Moosalm 82.17 332 *ePcP* P 18 45 43.2 +4.3
comp=Z,12nm,0.5s,SNR=12
WOL Wolverton 82.18 341 *eP* **P 18 45 42.7 +4.0**
WOL IAmb IAmb 18 45 43.1
comp=Z,54nm,0.6s
R40A Maddies Statio 82.18 44 P **P 18 45 37.7 -1.3**
baz=320
Q41A Truxton 82.19 43 P **P 18 45 37.7 -1.3**
baz=321
HMNX Herstmonceux 82.21 340 *eP* **P 18 45 43.0 +4.1**
BFO Black Forest 82.23 334 *eP* **P 18 45 38.9 -0.2**
comp=Z,17nm,1.2s
BFO Black Forest 82.23 334 *i P* P 18 45 40.0 +0.9
BOJS Bojanci 82.24 329 *i P* P 18 45 43.2 +4.1
HGH Gray Hill 82.24 342 *eP* P 18 45 43.2 +4.2
MMAI Mount Meron Ar 82.37 309 P **P 18 45 41.2 +1.0**
comp=Z,4.9nm,0.8s,baz=34,slow=5.6,SNR=6.7
MMAI LR LR 19 27 19.6
comp=Z,45nm,19.2s,baz=340,slow=39
TX31 Lajitas Ar. Si 82.39 57 *eP* **P 18 45 39.8 -0.6**
LTX Lajitas 82.40 57 *eP* **P 18 45 40.6 +0.3**
LTX Lajitas 82.40 57 *eP* **P 18 45 40.7 +0.3**
TXAR Lajitas Array 82.40 57 P **P 18 45 40.6 +0.3**
comp=Z,3.8nm,0.9s,baz=296,slow=4.0,SNR=29
FETA Feichten 82.58 332 *i pP* P 18 45 45.5 +4.4
comp=Z,8.2nm,0.8s,SNR=8.1
S40A Lebanon 82.59 44 P **P 18 45 39.9 -1.2**
baz=320
DAVA Damuels 82.64 333 *i pP* P 18 45 45.6 +4.3
comp=Z,14nm,0.7s,SNR=6.4
ECH Echery 82.70 335 *eP* **P 18 45 41.1 -0.4**
comp=Z,18nm,1.1s
ECH Echery 82.70 335 *eP* **P 18 45 41.1 -0.4**
ECH pmax pmax
comp=Z,18nm,1.1s

CCM	**Cathedral Cave**	82.88	43	P	P	18 45 41.2	-1.4	
	baz=321							
CCM	**Cathedral Cave**	82.88	43	*e*P	P	18 45 41.7	-0.9	
	comp=Z,42nm,1.6s							
CCM	**Cathedral Cave**	82.88	43	*e*P	P	18 45 41.7	-0.9	
CCM				pmax	pmax			
	comp=Z,41nm,1.6s							
R42A	**Luebbering**	82.93	43	P	P	18 45 41.5	-1.4	
	baz=321							
U39A	**Green Forest**	83.01	46	P	P	18 45 42.6	-0.7	
	baz=320							
FUORN	**Ofenpass-Fuorn**	83.08	332	*e*P	P	18 45 43.5	-0.3	
	comp=Z,23nm,1.3s							
BRY	**Bratogost**	83.09	325	P	P	18 45 47.9	+4.1	
PPT	**Papeete**	83.14	122	LR	LR	19 14 05.0		
	comp=Z,64nm,21.7s,baz=323,slow=29							
HINF	**Hinteralfeld**	83.15	335	*e*P	P	18 45 46.5	+2.6	
HINF				pmax	pmax			
	comp=Z,8.0nm,0.9s							
PDG	**Podgorica**	83.18	324	⇓*i*P	P	18 45 48.3	+4.3	
S42A	**Caledonia**	83.32	43	P	P	18 45 44.2	-0.7	
	baz=321							
V39A	**Pettigrew**	83.34	46	P	P	18 45 43.9	-1.2	
	baz=320							
U40A	**Yellville**	83.36	45	P	P	18 45 43.8	-1.4	
	baz=320							
TUE	**Stuetta**	83.52	333	*e*P	P	18 45 46.1	0.0	
	comp=Z,9.1nm,0.6s							
DYA	**Yadsworthy**	83.62	342	*e*P	P	18 45 49.4	+3.2	
DYA				IAmb	IAmb	18 45 50.2		
	comp=Z,44nm,1.0s							
ALFO	**Alfred**	83.67	29	P	P	18 45 45.0	-1.5	
	baz=330							
TIR	**Tirane**	83.80	323	⇑*i*P	P	18 45 52.1	+4.8	
TIR	**Tirane**	83.80	323	P	P	18 45 52.1	+4.8	
JCT	**Junction City**	83.89	54	P	P	18 45 47.5	-0.5	
	baz=317							
JCT	**Junction City**	83.89	54	*e*P	P	18 45 47.6	-0.4	
	comp=Z,16nm,0.8s							
JCT	**Junction City**	83.89	54	*e*P	P	18 45 47.6	-0.4	
JCT				pmax	pmax			
	comp=Z,16nm,0.8s							
X39A	**Fountain Ranch**	84.10	47	P	P	18 45 48.3	-0.6	
	baz=320							
V41A	**Mountainview**	84.16	45	P	P	18 45 48.3	-1.0	
	baz=320							
SENIN	**Lac Senin/Sane**	84.29	334	*e*P	P	18 45 47.2	-2.8	
	comp=Z,7.4nm,0.8s							
MIAR	**Mount Ida**	84.36	47	P	P	18 45 49.9	-0.3	
	baz=320							
CABF	**La Chapelle**	84.46	335	*e*P	P	18 45 53.8	+3.1	
CABF				pmax	pmax			
	comp=Z,10.0nm,1.0s							
V42A	**Cord**	84.54	45	P	P	18 45 50.3	-0.9	
	baz=321							
SSF	**Saint Saulge**	84.83	337	*e*P	P	18 45 55.6	+3.2	
SSF				pmax	pmax			
	comp=Z,11nm,0.8s							
AVF	**Avril sur Loir**	85.12	337	*e*P	P	18 45 57.3	+3.5	
AVF				pmax	pmax			
	comp=Z,24nm,1.0s							
LPG	**La Plagne**	85.24	334	*e*P	P	18 45 58.6	+3.8	
LPG				pmax	pmax			
	comp=Z,12nm,0.7s							
QUIF	**Quistinic**	85.81	341	*e*P	P	18 46 00.9	+3.7	
QUIF				pmax	pmax			
	comp=Z,25nm,0.8s							
TCF	**Toulx Ste Croi**	85.91	337	*e*P	P	18 46 01.5	+3.7	
TCF				pmax	pmax			
	comp=Z,9.0nm,0.8s							
MBDF	**Montbardon**	85.92	333	*e*P	P	18 46 01.4	+3.3	
MBDF				pmax	pmax			
	comp=Z,7.0nm,0.7s							
MFF	**Saint Martin d**	86.27	339	*e*P	P	18 46 03.5	+4.0	
MFF				pmax	pmax			
	comp=Z,14nm,0.6s							
RJF	**Les Rejaudoux**	87.00	337	*e*P	P	18 46 07.1	+3.9	
RJF				pmax	pmax			
	comp=Z,23nm,1.2s							
W48A	**Pulaski**	87.31	42	P	P	18 46 04.3	-0.6	
	baz=323							
TZTN	**Tazewell**	87.79	39	P	P	18 46 05.7	-1.4	
	baz=325							
LNIG	**Linares**	88.18	57	*e*P	P	18 46 09.9	+0.7	
	comp=Z,5.5nm,0.8s							
TKL	**Tuckaleechee C**	88.41	40	LR	LR	19 29 31.7		
	comp=Z,59nm,18.9s,baz=352,slow=38							
Z50A	**Ashland**	89.32	43	P	P	18 46 13.8	-0.7	
	baz=324							
KEST	**Kesra**	92.92	328	LR	LR	19 32 16.4		
	comp=Z,130nm,18.0s,baz=270,slow=38							
ATD	**Arta Tunnel**	93.04	289	LR	LR	19 33 16.8		
	comp=Z,54nm,19.2s,baz=92,slow=39							
ESDC	**Sonseca Array**	93.73	339	LR	LR	19 34 06.1		
	comp=Z,107nm,18.2s,baz=20,slow=39							
TOA1	**Torodi Ar. Sit**	116.06	323	*e*PKPdf	pPKPdf	18 52 17.7	+2.8	
TOA1				*e*PP	PP	18 53 04.6	-0.7	
TORD	**Torodi Ar. Bea**	116.06	323	pPKP	pPKPdf	18 52 17.7	+2.8	
	comp=Z,0.4nm,0.5s,baz=22,slow=1.2,SNR=3.2							
TORD				PP	PP	18 53 04.6	-0.7	
	comp=Z,1.4nm,0.9s,baz=29,slow=7.7,SNR=5.6							
SNAA	**Sanae**	148.11	197	PKPbc	PKPab	18 53 03.8	-1.5	
	comp=Z,2.0nm,1.0s,baz=200,slow=6.5,SNR=3.9							
PLCA	**Paso Flores**	151.33	98	PKPbc	PKPbc	18 53 11.3	+0.1	
	comp=Z,1.9nm,0.9s,baz=284,slow=7.0,SNR=3.5							

*IDC **10** 18:35:25.6±0.8, 7.°98S×146.°46E, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.7/48, mbtmp3.9/10, ML3.7/3, Error ellipse: s-maj=27.5km s-min=11.9km az=67.0*
*ISCJB **10** 18:35:28.6±0.5, 8.°19S±0.°05×146.°46E±0.°09, h33km, mb3.8/7, Error ellipse: s-maj=13.8km s-min=6.4km az=22.4*
*NEIC **10** 18:35:31.9±0.7, 8.°25S×146.°61E, h55km±8km, mb4.1/4, Error ellipse: s-maj=12.7km s-min=5.7km az=120.0*

ISC 10 18:35:30.3±0.7, 8.°19S±0.°09×146.°4E±0.°1, h35km, n27, σ0°73/27, mb3.7/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	1.42	149	Pg	Pn	18 35 54.2	+0.5
	35nm,0.3s,baz=5.4,slow=4.1,SNR=76						
PMG				Lg	Lg	18 36 16.2	
	45nm,0.3s,baz=133,slow=21,SNR=5.4						
PMG				LR	LR	18 36 50.8	
	comp=Z,263nm,20.8s,baz=233,slow=54						
MANU	**Manus Island**	6.17	9	*e*Pn	Pn	18 37 01.5	+2.4
COEN	**Coen**	6.56	209	*e*Pn	Pn	18 37 04.4	+0.1
COEN				*e*Sn	Sn	18 38 17.9	-0.1
RABL	**Rabaul**	6.96	56	*e*Pn	Pn	18 37 09.7	-0.2
CTA	**Charters Tower**	11.84	181	Pn	Pn	18 38 18.2	+1.5
	0.2nm,0.3s,baz=345,slow=16,SNR=3.8						
CTAO	**Charters Tower**	11.84	181	*e*Pn	Pn	18 38 16.8	+0.1
MTN	**Manton Dam**	15.72	252	*e*Pn	P	18 39 13.3	+0.3
	13nm,0.6s						
WRAB	**Tennant Creek**	16.52	224	*e*Pn	P	18 39 22.1	+0.3
	24nm,0.8s						
WB2	**Warramunga Arr**	16.52	224	*e*Pn	Pn	18 39 17.4	-2.1
WR1	**Warramunga Arr**	16.53	224	*e*Pn	P	18 39 21.3	-0.6
	22nm,1.8s						
WRA	**Warramunga Arr**	16.53	224	Pn	P	18 39 21.3	-0.6
	0.2nm,0.3s,baz=47,slow=12,SNR=9.8						
AS01	**Alice Springs**	19.48	216	*e*P	Pn	18 39 55.8	-0.1
AS31	**Alice Springs**	19.51	216	*e*P	Pn	18 39 56.1	-0.1
	3.3nm,1.2s						
ASAR	**Alice Springs**	19.51	216	P	Pn	18 39 56.7	+0.5
	0.6nm,0.3s,baz=46,slow=10,SNR=52						
FITZ	**Fitzroy Crossi**	22.48	242	P	P	18 40 27.6	+0.8
	3.2nm,1.0s,baz=48,slow=18,SNR=3.2						
CMAR	**Chiang Mai Arr**	53.80	300	P	P	18 44 50.1	+0.2
	1.2nm,0.5s,baz=122,slow=5.6,SNR=12						
SONA0	**Songino Array**	66.03	332	*e*P	P	18 46 14.6	+0.9
SONM	**Songino Array**	66.03	332	P	P	18 46 14.6	+0.9
	0.4nm,0.6s,baz=148,slow=4.9,SNR=4.3						
MK32	**Makanchi Array**	78.81	321	*e*P	P	18 47 29.4	-0.3
MKAR	**Makanchi Array**	78.81	321	P	P	18 47 29.4	-0.3
	0.6nm,0.6s,baz=100,slow=6.2,SNR=3.7						
ZALV	**Zalesovo Beam**	80.54	328	P	P	18 47 38.4	-0.5
	0.5nm,0.4s,baz=92,slow=5.7,SNR=3.0						
ZAA1	**Zalesovo Array**	80.55	328	*e*P	P	18 47 38.4	-0.5
KURK	**Kurchatov**	82.61	324	*e*P	P	18 47 50.2	+0.3
KURBB	**Kurchatov Arra**	82.62	323	P	P	18 47 50.2	+0.2
	0.2nm,0.3s,baz=103,slow=4.0,SNR=2.2						
ILAR	**Eielson Array**	87.71	23	P	P	18 48 14.2	-1.0
	0.8nm,0.7s,baz=256,slow=4.8,SNR=10.0						
TORD	**Torodi Ar. Bea**	145.00	281	PKPbc	PKPdf	18 55 04.8	-0.2
	1.1nm,0.7s,baz=54,slow=3.4,SNR=4.3						
TOA1	**Torodi Ar. Sit**	145.00	281	*e*PKPbc	PKPdf	18 55 04.8	-0.2

*ISCJB **10** 18:45:05.0±0.5, 23.°72N±0.°02×122.°58E±0.°02, h22km±4km, Error ellipse: s-maj=4.3km s-min=2.5km az=159.4*
*JMA **10** 18:45:05.5±0.1, 23.°73N×122.°58E, h37km, M2.2*
*TAP **10** 18:45:07.5, 23.°76N×122.°50E, h49km±1km, ML2.7, D*

ISC 10 18:45:03.8±1.2, 23.°72N±0.°03×122.°57E±0.°02, h17km±9km, n50, σ0°61/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	0.81	25	P	Pn	18 45 20.0	-0.4
JYNG				S	Sg	18 45 30.4	+0.2
TWD	**Chiawan**	0.96	292	*e*P	Pn	18 45 22.8	+0.2
	baz=292						
TWD				*e*S	Sb	18 45 34.6	+0.1
	baz=292						
NACB	**Ninganchiao**	1.00	297	*e*P	Pg	18 45 23.1	-0.2
	baz=297						
NACB				*e*S	Sb	18 45 33.5	-2.1
	baz=297						
NANB	**Nanao**	1.03	313	*e*P	Pg	18 45 24.6	+0.8
	baz=324						
NANB				*e*S	Sn	18 45 37.5	-0.1
	baz=324						
ENA	**Nanau**	1.04	313	*e*P	Pg	18 45 24.8	+0.9
	baz=323						
ENA				*e*S	Sn	18 45 38.0	+0.3
	baz=323						
ESL	**Shilin**	1.05	275	*e*P	Pb	18 45 23.6	+0.2
	baz=266						
ESL				*e*S	Sb	18 45 36.5	-0.4
	baz=266						
EGFH	**Guangfu**	1.05	267	*e*P	Pg	18 45 24.2	0.0
	baz=265						
EGFH				*e*S	Sb	18 45 37.2	+0.2
	baz=265						
HGSD	**Ruisui**	1.08	258	*e*P	Pb	18 45 24.1	+0.2
	baz=255						
HGSD				*e*S	Sb	18 45 37.4	-0.4
	baz=255						
TWC	**Suao**	1.10	323	*e*P	Pg	18 45 25.8	+0.6
	baz=333						
EHY	**Hungye**	1.17	260	*e*P	Pg	18 45 26.3	-0.1
	baz=257						
EHY				*e*S	Sb	18 45 40.6	+0.3
	baz=257						
HATJ	**Hateruma jima**	1.18	73	P	Pb	18 45 25.9	+0.2
HATJ				S	Sb	18 45 40.5	-0.2
YULB	**Yu-li**	1.21	255	*e*P	Pg	18 45 27.1	-0.2
	baz=252						
YULB				*e*S	Sn	18 45 42.5	+0.4
	baz=252						
IRIF	**Iriomote-Funau**	1.22	60	P	Pb	18 45 26.9	+0.4
IRIF				S	Sn	18 45 42.4	+0.1
TWF1	**Yuli**	1.23	253	*e*P	Pg	18 45 27.1	-0.3
	baz=250						
TWF1				*e*S	Sb	18 45 42.2	+0.2
	baz=250						
WHF	**Hehuan Shan**	1.27	290	*e*P	Pb	18 45 27.8	+0.3
	baz=281						
WHF				*e*S	Sb	18 45 42.4	-1.3
	baz=281						
FULB	**Fuli**	1.28	246	*e*P	Pn	18 45 27.0	0.0
	baz=234						
FULB				*e*S	Sb	18 45 43.5	-0.3
	baz=234						
TWE	**Neicheng**	1.29	321	*e*P	Pg	18 45 28.5	-0.3
	baz=323						
TWE				*e*S	Sg	18 45 45.3	-0.5
	baz=323						
ENTT	**Nioudou**	1.30	315	*e*P	Pg	18 45 28.9	+0.1
	baz=317						
ENTT				*e*S	Sn	18 45 44.5	+0.3
	baz=317						
OWD	**Renai**	1.30	281	*e*P	Pb	18 45 27.9	+0.1
	baz=280						
OWD				*e*S	Sb	18 45 43.6	-0.7
	baz=280						
NNS	**Nan Shan**	1.31	303	*e*P	Pg	18 45 29.0	-0.1
	baz=305						
NNS				*e*S	Sn	18 45 44.5	-0.1
	baz=305						
TWT	**Tachien**	1.38	293	*e*P	Pg	18 45 30.0	-0.5
	baz=293						
TWT				*e*S	Sn	18 45 45.4	-1.0
	baz=293						
JKRS	**Kuro-shima**	1.41	68	P	Pn	18 45 29.4	+0.7
JKRS				S	Sb	18 45 47.9	+0.5
TIPB	**Shuangxi**	1.42	332	*e*P	Pg	18 45 30.5	-0.7
	baz=334						
TIPB				*e*S	Sb	18 45 47.6	-0.1
	baz=334						
NWLT	**Wulai**	1.44	317	*e*P	Pg	18 45 30.8	-0.7
	baz=319						
NWLT				*e*S	Sn	18 45 47.5	-0.1
	baz=319						
YUS	**Yu-Shan**	1.50	262	*e*P	Pb	18 45 31.7	+0.1
	baz=259						
ELDTW	**Lidau**	1.52	250	*e*P	Pn	18 45 31.1	+0.7
	baz=247						
ELDTW				*e*S	Sn	18 45 49.1	-0.7
	baz=247						
DPDB	**Guoxing**	1.54	282	*e*P	Pb	18 45 31.6	-0.3
	baz=281						
SMLT	**Sun Moon Lake**	1.54	276	*e*P	Pb	18 45 32.2	+0.2
	baz=276						
SMLT				*e*S	Sn	18 45 49.8	-0.4
	baz=276						
JIJ	**Ishigaki jima**	1.57	66	P	Pn	18 45 31.0	+0.1
JIJ				S	Sn	18 45 50.3	-0.6
TYC	**Yuchr**	1.58	277	*e*P	Pb	18 45 32.5	0.0
	baz=276						
ALS	**Alishan**	1.63	263	*e*P	Pb	18 45 34.1	+0.5
	baz=254						
TWG	**Pinlang**	1.64	237	*e*P	Pb	18 45 33.2	-0.4
	baz=244						
TWG				*e*S	Sn	18 45 52.4	-0.2
	baz=244						
WJS	**Zhushan**	1.69	274	*e*P	Pb	18 45 35.4	+0.9
	baz=267						
WJS				*e*S	Sb	18 45 56.0	+0.5
	baz=267						
LIOB	**Emei**	1.69	303	*e*P	Pb	18 45 35.2	+0.7
	baz=297						
LIOB				*e*S	Sn	18 45 54.5	+0.5
	baz=297						
NSTT	**Nanjuang**	1.70	303	*e*S	Sn	18 45 54.5	+0.4
	baz=296						
WNT	**Mingjian**	1.74	276	*e*P	Pb	18 45 36.1	+0.8
	baz=275						
WNT				*e*S	Sb	18 45 56.7	-0.1
	baz=275						
CHN5	**Tsauling**	1.74	266	*e*P	Pb	18 45 36.0	+0.7
	baz=265						
CHN5				*e*S	Sb	18 45 56.6	-0.4
	baz=265						
STYT	**Tauyuan**	1.76	252	*e*P	Pb	18 45 35.6	0.0
	baz=244						
STYT				*e*S	Sn	18 45 56.0	+0.5
	baz=244						
TWQ1	**Liyutan**	1.76	291	*e*P	Pg	18 45 36.6	-1.0
	baz=291						
JISG	**Ishigakijimahi**	1.81	61	P	Pn	18 45 34.1	-0.1
JISG				S	Sn	18 45 56.0	-0.7
WGK	**Gukeng**	1.84	269	*e*P	Pb	18 45 37.3	+0.3
	baz=268						
WGK				*e*S	Sb	18 45 59.5	-0.3
	baz=268						
WTP	**Ta-pu**	1.86	256	*e*P	Pb	18 45 37.4	+0.1
	baz=253						
WTP				*e*S	Sb	18 45 59.8	-0.5
	baz=253						
ECL	**Taimali**	1.86	233	*e*P	Pb	18 45 36.4	-0.9
	baz=239						
ECL				*e*S	Sn	18 45 57.1	-0.9
	baz=239						
WDLH	**Douliu**	1.86	269	*e*P	Pb	18 45 37.7	+0.3
	baz=268						
WDLH				*e*S	Sb	18 46 00.1	-0.3
	baz=268						
SLGT	**Liugui**	1.91	248	*e*P	Pb	18 45 37.9	-0.3
	baz=239						
SLGT				*e*S	Sb	18 46 01.5	-0.3
	baz=239						
SGST	**Jiashian**	1.93	251	*e*P	Pb	18 45 39.1	+0.5
	baz=242						
SGST				*e*S	Sb	18 46 01.9	-0.5
	baz=242						
CHN1	**Nanshi**	1.95	255	*e*P	Pb	18 45 39.5	+0.6
	baz=252						
CHN1				*e*S	Sb	18 46 02.5	-0.4
	baz=252						
SSD	**Sandimen**	2.03	242	*e*P	Pb	18 45 39.0	-1.3
	baz=236						
SSD				*e*S	Sn	18 46 01.9	-0.3
	baz=236						
EAST	**Anshuo**	2.07	230	*e*P	Pn	18 45 39.0	+1.2
	baz=234						
SCZT	**Fangliau**	2.24	234	*e*P	Pn	18 45 42.1	+2.0
	baz=227						
SCZT				*e*S	Sn	18 46 08.2	+0.8
	baz=227						

*IDC **10** 18:54:09.4±2.4, 24.°78N×122.°29E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/65, mbtmp3.4/3, Error ellipse: s-maj=389.6km s-min=26.1km az=70.0*
*ISCJB **10** 18:54:10.9±0.3, 24.°78N±0.°02×121.°94E±0.°02, h5km±2km, mb3.4/3, Error ellipse: s-maj=2.6km s-min=2.3km az=154.9*
*TAP **10** 18:54:11.1, 24.°80N×121.°88E, h10km, ML3.7, B*
*JMA **10** 18:54:11.4±0.1, 24.°76N×121.°78E, h35km, M3.7*

ISC 10 18:54:11.1±0.8, 24.°79N±0.°02×121.°91E±0.°02, h12km±4km, n109, σ0°73/146, mb3.5/3, 30C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		0.06	22	⇓*i*P	Pg	18 54 13.8	+0.2
	baz=51						
EGS				*i* S	Sg	18 54 15.5	+0.1
	baz=51						
NTC	**Toucheng**	0.10	315	⇓*i*P	Pg	18 54 13.9	0.0
	baz=328						
NTC				*e*S	Sg	18 54 15.9	-0.1
	baz=328						
ILA	**Ilan**	0.14	262	*i* P	Pg	18 54 14.7	+0.1
	baz=254						
ILA				*i* S	Sg	18 54 17.3	+0.3
	baz=254						
TWC	**Suao**	0.18	196	⇑*i*P	Pg	18 54 15.4	+0.2
	baz=180						
TWC				*i* S	Sg	18 54 17.9	-0.2
	baz=180						
TIPB	**Shuangxi**	0.20	339	⇑*i*P	Pg	18 54 14.6	-1.0
	baz=343						
TIPB				*i* S	Sg	18 54 17.4	-1.2
	baz=343						
TWE	**Neicheng**	0.23	253	⇑*i*P	Pg	18 54 15.9	-0.1
	baz=246						
TWE				*i* S	Sg	18 54 18.9	-0.3
	baz=246						
TWB1	**Santiao Chiao**	0.23	19	⇑*i*P	Pg	18 54 16.2	+0.1
	baz=26						
TWB1				*i* S	Sg	18 54 19.2	-0.2
	baz=26						
NWF	**Wu-fen Shan**	0.30	338	⇑*i*P	Pg	18 54 17.8	+0.4
	baz=328						
NWF				*i* S	Sg	18 54 21.9	+0.2
	baz=328						
WFSB	**Wu-fen Shan**	0.30	338	⇑*e*P	Pg	18 54 17.8	+0.4
	baz=332						
WFSB				*e*S	Sg	18 54 21.8	+0.2
	baz=332						
EOS1	**EOS1**	0.31	139	⇑*e*P	Pb	18 54 18.3	-0.3
	baz=138						
EOS1				*e*S	Sb	18 54 24.8	+1.2
	baz=138						
ENTT	**Nioudou**	0.34	245	⇑P	Pg	18 54 17.8	-0.2
	baz=241						
TWA	**Mucha**	0.35	304	⇑*i*P	Pg	18 54 18.4	+0.2
	baz=304						
TWA				*i* S	Sg	18 54 23.0	0.0
	baz=304						
NWLT	**Wulai**	0.37	269	⇑*i*P	Pg	18 54 18.4	-0.1
	baz=266						
NWLT				S	Sg	18 54 22.6	-0.9
	baz=266						
NANB	**Nanao**	0.38	202	⇑*e*P	Pg	18 54 18.8	-0.1
	baz=191						
ENA	**Nanau**	0.39	203	⇑*i*P	Pg	18 54 18.9	0.0
	baz=198						
ENA				*e*S	Sg	18 54 23.7	-0.3
	baz=198						
TATO	**Taipei**	0.42	297	⇑*e*P	Pb	18 54 19.9	-0.7
	baz=282						
TATO				*e*S	Sg	18 54 25.4	+0.2
	baz=282						
TAP1	**Taipei**	0.43	306	⇑*e*P	Pb	18 54 20.3	-0.3
	baz=305						
TAP	**Taipei**	0.44	305	⇑*i*P	Pb	18 54 20.5	-0.4
	baz=295						
TAP				S	Sg	18 54 25.7	-0.1
	baz=295						
YM07	**YM07**	0.47	326	⇑*e*P	Pg	18 54 19.9	-0.5
	baz=327						
YM10	**YM10**	0.48	320	⇑*i*P	Pb	18 54 21.4	-0.3
	baz=320						
YM08	**YM08**	0.49	324	⇑*e*P	Pg	18 54 21.2	+0.4
	baz=325						
YHNB	**Yeheng**	0.49	257	⇑*e*P	Pg	18 54 20.6	-0.3
	baz=266						
YHNB				*e*S	Sg	18 54 26.2	-1.3
	baz=266						
YM04	**YM04**	0.50	318	⇑*i*P	Pb	18 54 21.5	-0.3
	baz=318						
YM03	**YM03**	0.51	320	⇑*i*P	Pb	18 54 21.7	-0.5
	baz=320						
TWS1	**Kuangyinshan**	0.54	305	⇑*i*P	Pb	18 54 22.8	+0.2
	baz=294						
TWS1				*e*S	Sb	18 54 29.7	-0.7
	baz=294						
NTST	**Danshui**	0.56	312	⇑P	Pb	18 54 23.1	+0.3
	baz=312						
TWY	**Chenhua**	0.56	330	⇑*i*P	Pb	18 54 22.8	-0.1
	baz=332						
NNS	**Nan Shan**	0.59	235	⇑P	Pg	18 54 22.2	-0.6
	baz=232						
NNSB	**Datong**	0.59	233	⇑*e*P	Pg	18 54 22.2	-0.5
	baz=236						
NNSH	**Datong**	0.59	233	*e*P	Pg	18 54 22.1	-0.7
	baz=226						
WLTB	**Daxi**	0.60	277	⇑*i*P	Pb	18 54 23.6	+0.1
	baz=275						
WLTB				S	Sb	18 54 31.8	-0.1
	baz=275						
NACB	**Ninganchiao**	0.67	205	*e*P	Pg	18 54 24.1	-0.1
	baz=212						
NACB				*e*S	Sg	18 54 32.9	-0.2
	baz=212						
NCU	**National Centr**	0.68	286	⇑*i*P	Pb	18 54 25.4	+0.5
	baz=285						
NCU				*e*S	Sb	18 54 35.2	+1.0
	baz=285						
NCUH	**Zhongli**	0.68	286	⇑P	Pb	18 54 25.5	+0.6
	baz=285						
TWD	**Chiawan**	0.76	202	*e*P	Pg	18 54 25.4	-0.4
	baz=199						
TWD				S	Sg	18 54 35.7	-0.1
	baz=199						
LIOB	**Emei**	0.82	260	*e*P	Pb	18 54 27.6	+0.2
	baz=252						
SBCB	**Hsinchu**	0.84	271	⇑*e*P	Pn	18 54 28.5	-0.2
	baz=290						
NSTT	**Nanjuang**	0.84	260	*e*P	Pb	18 54 27.6	0.0
	baz=258						
NSTT				*e*S	Sn	18 54 39.7	-1.3
	baz=258						
TWT	**Tachien**	0.85	232	*e*P	Pb	18 54 28.1	+0.1
	baz=223						
HSN	**Hsinchu**	0.85	271	*e*P	Pb	18 54 27.9	+0.1
	baz=289						
HSN				*e*S	Sn	18 54 40.1	-1.2
	baz=289						

baz=195
CHGB Renai 0.98 223 *e*P Pg 18 54 29.4 -0.7
baz=215
JYNG Yonagunijimaku 1.00 109 P Pg 18 54 30.3 -0.2
JYNG *e*S Sb 18 54 44.4 +0.8
NMLH Miaoli 1.04 256 *e*P Pn 18 54 32.2 +0.6
baz=255
NMLH *e*S Sn 18 54 46.8 +0.7
baz=255
YOJ Yonaguni jima 1.06 108⇓ *e*P Pg 18 54 31.0 -0.5
baz=109
YOJ *e*S Sg 18 54 45.3 +0.1
baz=109
YOJ Yonaguni jima 1.06 108 P Pg 18 54 31.0 -0.5
YOJ S Sg 18 54 45.4 +0.1
ESL Shilin 1.06 204 *e*P Pg 18 54 30.8 -0.8
baz=202
ESL *e*S Sg 18 54 43.9 -1.4
baz=202
OWD Renai 1.06 219 *e*P Pb 18 54 31.5 0.0
baz=217
NSY Sanyi 1.10 251 *e*P Pn 18 54 33.3 +0.9
baz=249
NSY *e*S Sn 18 54 48.8 +1.1
baz=249
TWQ1 Liyutan 1.12 247 *e*P Pn 18 54 33.4 +0.8
baz=266
PTSB Yuanli 1.14 253 *e*P Pn 18 54 33.7 +0.8
baz=252
PTSB *e*S Sn 18 54 50.0 +1.5
baz=252
DPDB Guoxing 1.17 230 *e*P Pb 18 54 32.6 -0.7
baz=237
EGFH Guangfu 1.20 202 *e*P Pb 18 54 33.0 -0.7
baz=205
SMLT Sun Moon Lake 1.28 226 *e*P Pb 18 54 35.2 -0.1
baz=213
TCU Taichung 1.29 241 *e*P Pg 18 54 36.0 +0.1
baz=262
TYC Yuchr 1.30 228 *e*P Pg 18 54 36.0 -0.2
baz=215
SSLB Suanglung 1.32 221 *e*P Pn 18 54 35.4 0.0
baz=207
HGSD Ruisui 1.36 199 *e*P Pg 18 54 36.8 -0.6
baz=211
EHY Hungye 1.38 203 *e*P Pn 18 54 35.2 -1.0
baz=199
WCHH Zhanghua 1.42 240 *e*P Pg 18 54 38.5 +0.2
baz=261
WNT Mingjian 1.44 231 *e*P Pg 18 54 39.1 +0.4
baz=230
WJS Zhushan 1.44 228 *e*P Pg 18 54 39.5 +0.7
baz=227
YULB Yu-li 1.50 202 *e*P Pn 18 54 37.9 +0.1
baz=199
TWF1 Yuli 1.53 201 *e*P Pn 18 54 38.5 +0.2
baz=198
YUS Yu-Shan 1.56 214 *e*P Pg 18 54 40.4 -0.7
baz=194
ALS Alishan 1.62 219 *e*P Pg 18 54 42.2 -0.1
baz=199
CHN5 Tsauling 1.63 224 *e*P Pg 18 54 42.1 -0.4
baz=223
CHN5 *e*S Sg 18 55 05.4 +1.8
baz=223
WGK Gukeng 1.64 229 *e*P Pg 18 54 42.6 -0.1
baz=249
WDLH Douliu 1.66 229 *e*P Pg 18 54 42.5 -0.5
baz=244
RLNB Erlin 1.67 238 *e*P Pn 18 54 40.7 +0.5
baz=257
FULB Fuli 1.68 200 *e*P Pb 18 54 41.6 -0.3
baz=209
IRIF Iriomote-Funau 1.72 105 P Pn 18 54 40.4 -0.5
IRIF S Sn 18 55 02.0 -0.8
CHKT Chengkung 1.75 197 *e*P Pn 18 54 42.1 +0.9
baz=177
ELDTW Lidau 1.79 207 *e*P Pn 18 54 42.7 +0.8
baz=191
CHN2 Minshiung 1.81 227 *e*P Pg 18 54 45.3 -0.5
baz=247
CHY Chiayi 1.86 227 *e*P Pb 18 54 44.7 -0.4
baz=247
HATJ Hateruma jima 1.88 112 P Pn 18 54 43.2 +0.2
HATJ S Sn 18 55 06.0 -0.7
TPUB Ta-pu 1.88 219 *e*P Pb 18 54 45.4 -0.1
baz=214
WSF Szhu 1.92 234 *e*P Pb 18 54 44.7 -1.3
baz=248
STYT Tauyuan 1.93 213 *e*P Pb 18 54 46.5 +0.3
baz=196
WTP Ta-pu 1.94 218 *e*P Pb 18 54 47.0 +0.6
baz=196
JKRS Kuro-shima 1.99 105 P Pn 18 54 44.5 -0.1
JKRS S Sn 18 55 08.6 -0.9
CHN1 Nanshi 2.03 219 *e*P Pb 18 54 48.2 +0.2
baz=217
JIJ Ishigaki jima 2.08 101 P Pn 18 54 45.3 -0.5
JIJ S Sn 18 55 10.9 -0.8
SGST Jiashian 2.08 216 *e*P Pb 18 54 49.1 +0.2
baz=199
SGST *e*S Sg 18 55 18.8 +0.6
baz=199
TWG Pinlang 2.10 201 *e*P Pn 18 54 47.4 +1.3
baz=181
TWGBT Beinan 2.10 201 *e*P Pn 18 54 47.4 +1.2
baz=181
TWH Lutao 2.10 191 *e*P Pn 18 54 46.8 +0.6
baz=187
CHN8 Yiju 2.11 228 *e*P Pb 18 54 47.9 -1.4
baz=245
SLGT Liugui 2.12 213 *e*P Pb 18 54 49.3 -0.3
baz=195
JISG Ishigakijimahi 2.20 95 P Pn 18 54 47.6 +0.2
JISG S Sn 18 55 15.7 +1.2
MATB Ma-tsu 2.23 308 *e*P Pn 18 54 46.8 -1.1
baz=305
VWUC VWUC 2.24 276 *e*P Pn 18 54 47.1 -1.0
baz=276
SSD Sandimen 2.34 210 *e*P Pb 18 54 52.8 -0.5
baz=205
ECL Taimali 2.35 202 *e*P Pn 18 54 51.1 +1.6
baz=184
MASBT Mashibuluo 2.46 209 *e*P Pb 18 54 53.4 -1.8
baz=204
PHUB P'eng-hu 2.48 240 *e*P Pn 18 54 50.8 -0.5
baz=240
JTJ Tarama 2.55 93 P Pn 18 54 54.4 +2.1
EAST Anshuo 2.58 202 *e*P Pn 18 54 54.2 +1.4
baz=188
SSPT Xinbi 2.60 208 *e*P Pb 18 54 56.1 -1.6
baz=204
SCZT Fangliau 2.68 206 *e*P Pn 18 54 56.1 +2.0
baz=202
KNM Kinmen 3.18 264 *e*P Pn 18 55 02.4 +1.4
baz=267
KNMB Chin-men Tao 3.22 265 *e*P Pn 18 55 00.9 -0.6
baz=267
SONM Songino Array 26.08 336 P P 18 59 46.2 +1.5
1.0nm,0.9s,baz=148,slow=10,SNR=7.8
WRA Warramunga Arr 46.08 164 P P 19 02 34.4 -0.7
0.6nm,0.8s,baz=346,slow=8.7,SNR=4.5
ASAR Alice Springs 49.55 165 P P 19 03 01.4 -0.7
0.3nm,1.0s,baz=346,slow=7.1,SNR=2.6

IDC 10 18:55:13.0±5.1,2°39S×104°45E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.0/66,mbtmp3.1/3,Error ellipse: s-maj=293.2km s-min=29.0km az=52.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.01**	**123**	P		P	19 01 59.9	+0.9
	0.4nm,0.9s,baz=298,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**35.49**	**129**	P		P	19 02 10.8	-1.0
	0.2nm,0.8s,baz=299,slow=8.0,SNR=3.3							
MKAR	**Makanchi Array**	**52.72**	**341**	P		P	19 04 29.4	-0.1
	0.2nm,0.8s,baz=142,slow=7.3,SNR=4.1							

*IDC **10** 19:13:54.4±0.5,61°.07N×162°.93E,h0km,mb4.3/36, mb1 4.4/40,mb1mx4.3/78,mbtmp4.3/40,ML3.6/2,MS3.6/17, Ms1 3.6/17,ms1mx3.3/71,Error ellipse: s-maj=13.3km s-min=8.2km az=165.0*
*KRSC **10** 19:13:54.3±1.4,60°.98N×162°.93E,h21km±20km,ML5.1, FELT [II-III] at Ilpyrskiy; [felt] at Vivenka, Tymlat, Lesnay no.*
*ISCJB **10** 19:13:54.3±0.1,61°.06N±0°.02×162°.92E±0°.03,h10km, mb4.6/218,MS3.6/17,Error ellipse: s-maj=2.8km s-min=1.9km az=165.8*
*MOS **10** 19:13:54.7±0.7,61°.06N×162°.90E,h13km,mb4.7/60,Error ellipse: s-maj=8.0km s-min=3.7km az=86.1*
*BJI **10** 19:13:55.1,61°.34N×163°.06E,h21km,mb4.5/38,mB5.0/27, Ms4.4/13,Ms7 4.1/12*
*NEIC **10** 19:13:57.8±0.6,61°.13N×162°.86E,h19km±3km,mb4.6/165, Error ellipse: s-maj=3.4km s-min=1.8km az=171.0*
*NERS **10** 19:14:02.8,60°.94N×162°.01E,h33km*
ISC 10 19:13:55.8±0.3,61°.04N±0°.03×162°.98E±0°.03,h10km,n561, σ1s25/575,mb4.6/218,MS3.7/17,16C-18D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TILK	**Tilichiki**	**1.66**	**110**	P		**Pn**	**19 14 24.4**	**-0.5**
TILK				S		**Sb**	**19 14 45.9**	**-1.5**
TILK	**Tilichiki**	**1.66**	**110**	*e*P		**Pn**	**19 14 24.4**	**-0.5**
TILK				*e*S		**Sb**	**19 14 45.9**	**-1.5**
OSSR	**Ossora**	**1.79**	**179**	P		**Pn**	**19 14 25.3**	**-1.4**
OSSR				S		**Sn**	**19 14 47.3**	**-2.2**
OSSR	**Ossora**	**1.79**	**179**	*i* P		**Pn**	**19 14 25.3**	**-1.4**
OSSR				*i* S		**Sn**	**19 14 47.3**	**-2.2**
KMSK	**Kamenskaya**	**2.10**	**46**	P		**Pn**	**19 14 30.6**	**-0.3**
KMSK				S		**Sb**	**19 14 57.6**	**-2.4**
KMSK	**Kamenskaya**	**2.10**	**46**	*e*P		**Pn**	**19 14 30.6**	**-0.3**
KMSK				*e*S		**Sb**	**19 14 57.6**	**-2.4**
PALN	**Palana**	**2.47**	**219**	P		**Pn**	**19 14 34.7**	**-1.3**
PALN				S		**Sn**	**19 15 03.6**	**-2.6**
PALN	**Palana**	**2.47**	**219**	*e*P		**Pn**	**19 14 34.7**	**-1.3**
PALN				*e*S		**Sn**	**19 15 03.6**	**-2.6**
OMS	**Omsukchan**	**3.73**	**297**	*e*Pg		**Pg**	**19 15 05.4**	**-1.7**
OMS				Pgmax			19 15 06.1	
	10.0nm,0.2s							
OMS				*e*S		**Sn**	**19 15 38.6**	**+1.3**
OMS				*e*Sg		**Sg**	**19 15 52.1**	**-3.3**
OMS				Sgmax			19 16 05.2	
	1μm,1.0s							
OMS	**Omsukchan**	**3.73**	**297**	*e*P		**Pg**	**19 15 05.4**	**-1.7**
OMS				*e*S		**Sn**	**19 15 38.6**	**+1.3**
OMS				pmax		pmax		
	comp=Z,10.0nm,0.2s							
OMS				smax		smax		
	comp=E,1μm,1.0s							
SRKR	**Sorokina**	**4.50**	**193**	P		**Pn**	**19 15 05.2**	**+1.3**
SRKR	**Sorokina**	**4.50**	**193**	*e*P		**Pn**	**19 15 05.2**	**+1.3**
SMKR	**Semkarok**	**4.54**	**191**	P		**Pn**	**19 15 05.3**	**+0.8**
SMKR	**Semkarok**	**4.54**	**191**	*e*P		**Pn**	**19 15 05.3**	**+0.8**
BDR	**Baidarnaya**	**4.58**	**192**	P		**Pn**	**19 15 06.1**	**+1.1**
BDR	**Baidarnaya**	**4.58**	**192**	*e*P		**Pn**	**19 15 06.1**	**+1.1**
KBTR	**Krutoberegovo**	**4.84**	**181**	P		**Pn**	**19 15 09.2**	**+0.6**
KBTR	**Krutoberegovo**	**4.84**	**181**	*e*P		**Pn**	**19 15 09.2**	**+0.6**
KLY	**Klyuchi**	**4.89**	**195**	P		**Pn**	**19 15 10.0**	**+0.7**
KLY	**Klyuchi**	**4.89**	**195**	*e*P		**Pn**	**19 15 10.0**	**+0.7**
TLAR	**Talaya**	**5.14**	**276**	*e*P		**Pn**	**19 15 13.7**	**+1.0**
TLAR				Pmax			19 15 14.5	
	comp=E,20nm,0.9s							
TLAR				*e*S		**Sn**	**19 16 14.2**	**+2.2**
TLAR				*e*Sg		**Sg**	**19 16 33.8**	**-6.7**
TLAR				Sgmax			19 16 43.0	
	comp=E,480nm,0.8s							
TLAR				Sgmax			19 16 43.0	
	comp=E,1μm,0.8s							
TLAR	**Talaya**	**5.14**	**276**	*e*P		**Pn**	**19 15 13.7**	**+1.0**
TLAR				S		**Sn**	**19 16 14.2**	**+2.2**
TLAR				pmax		pmax		
	comp=Z,20nm,0.9s							
TLAR				smax		smax		
	comp=N,480nm,0.8s							
TLAR				smax		smax		
	comp=E,1μm,0.8s							
KOZ	**Kozyrevsk**	**5.25**	**199**	P		**Pn**	**19 15 15.8**	**+1.6**
KOZ	**Kozyrevsk**	**5.25**	**199**	*e*P		**Pn**	**19 15 15.8**	**+1.6**
BZWR	**Bezymyannyi-We**	**5.25**	**195**	P		**Pn**	**19 15 16.1**	**+1.7**
BZWR	**Bezymyannyi-We**	**5.25**	**195**	*e*P		**Pn**	**19 15 16.1**	**+1.7**
BZMR	**Bezymyannaya**	**5.28**	**195**	P		**Pn**	**19 15 15.3**	**+0.5**
BZMR	**Bezymyannaya**	**5.28**	**195**	*e*P		**Pn**	**19 15 15.3**	**+0.5**
SEY	**Seymchan**	**5.35**	**295**	Pn		**Pn**	**19 15 15.4**	**0.0**
	comp=E,2.0nm,0.3s,baz=109,slow=12,SNR=85							
SEY				Lg		Lg	19 16 42.0	
	comp=E,20nm,0.3s,baz=359,slow=16,SNR=5.2							
SEY	**Seymchan**	**5.35**	**295**	*e*P		**Pn**	**19 15 15.3**	**-0.2**
SEY				Pmax			19 15 15.7	
	comp=E,10.0nm,0.6s							
SEY				*e*Pg		**Pg**	**19 15 33.3**	**-4.7**
SEY				Pgmax			19 15 38.1	
	comp=E,30nm,0.5s							
SEY				*e*Sg		**Sg**	**19 16 40.7**	**-6.5**
SEY				Sgmax			19 16 53.0	
	comp=E,340nm,0.7s							
SEY				Sgmax			19 16 53.0	
	comp=E,1μm,0.1s							
SEY	**Seymchan**	**5.35**	**295**	*e*P		**Pn**	**19 15 15.3**	**-0.2**
SEY				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KMNR	**Kamenistaya**	**5.49**	**196**	P		**Pn**	**19 15 17.8**	**+0.2**
KMNR	**Kamenistaya**	**5.49**	**196**	*e*P		**Pn**	**19 15 17.8**	**+0.2**
ESO	**Esso**	**5.60**	**206**	P		**Pn**	**19 15 20.4**	**+1.4**
ESO	**Esso**	**5.60**	**206**	*e*P		**Pn**	**19 15 20.4**	**+1.4**
BKI	**Bering**	**6.06**	**164**	P		**Pn**	**19 15 25.6**	**+0.3**
BKI	**Bering**	**6.06**	**164**	*e*P		**Pn**	**19 15 25.6**	**+0.3**
MGD	**Magadan 1**	**6.13**	**266**	*e*P		**Pn**	**19 15 26.4**	**+0.2**
MGD				Pmax			19 15 38.6	
	comp=Z,30nm,0.4s							
MGD				*e*S		**Sn**	**19 16 32.1**	**-4.2**
MGD				*e*Sg		**Sg**	**19 17 03.8**	**-8.4**
MGD				Sgmax			19 17 18.4	
	comp=Z,350nm,0.7s							
MA2	**Magadan**	**6.25**	**262**	Pn		**Pn**	**19 15 27.5**	**-0.3**
	comp=Z,6.0nm,0.3s,baz=69,slow=14,SNR=99							
MA2				Lg		Lg	19 17 07.8	
	comp=Z,5.1nm,0.3s,baz=5.0,slow=8.1,SNR=7.1							
MA2				LR		LR	19 17 23.3	
	comp=Z,117nm,19.4s,baz=50,slow=34							
MA2	**Magadan**	**6.25**	**262**	*e*P		**Pn**	**19 15 27.5**	**-0.3**
MA2				Pmax			19 15 28.1	
	comp=Z,30nm,0.7s							
MA2				*e*S		**Sn**	**19 16 37.2**	**-2.0**
MA2				*e*Sg		**Sb**	**19 17 05.5**	**+6.4**
MA2				Sgmax			19 17 30.9	
	comp=Z,240nm,0.9s							
MA2				Sgmax			19 17 30.9	
	comp=Z,120nm,1.0s							
BILL	**Bilibino**	**7.17**	**10**	*i* P		**Pn**	**19 15 40.4**	**-0.1**
BILL				*e*S		**Sn**	**19 17 01.6**	**-0.3**
BILL				pmax		pmax		
	comp=Z,14nm,0.7s							
BILL				MLR		MLR		
	comp=Z,200nm,11.0s							
SUUS	**Susuman**	**7.21**	**290**	*e*P		**Pn**	**19 15 43.6**	**+2.5**
SUUS				*e*			19 16 06.4	
SUUS				*e*Sg		**Sg**	**19 17 39.3**	**-7.5**
SUUS				Sgmax			19 17 46.6	
	comp=Z,810nm,1.6s							
SUUS				Sgmax			19 17 46.6	
	comp=Z,130nm,0.8s							
SUUS	**Susuman**	**7.21**	**290**	*e*P		**Pn**	**19 15 43.6**	**+2.5**
SUUS				pmax		pmax		
	comp=Z,20nm,0.6s							
OCHR	**Omchak**	**7.29**	**282**	*e*P		**Pn**	**19 15 43.6**	**+1.3**
OCHR				Pmax			19 15 47.7	
	comp=Z,100nm,0.5s							
OCHR				*e*Pg		**Pg**	**19 16 11.3**	**-4.0**
OCHR				*e*S		**Sn**	**19 17 06.6**	**+1.5**
OCHR				*e*Sg		Sg	19 17 40.0	-10
OCHR				Sgmax			19 17 59.8	
	comp=Z,100nm,0.5s							
GNL	**Ganaly**	**7.85**	**202**	P		**Pn**	**19 15 51.6**	**+1.7**
GNL	**Ganaly**	**7.85**	**202**	*e*P		**Pn**	**19 15 51.6**	**+1.7**
AVH	**Avacha**	**8.12**	**198**	P		**Pn**	**19 15 54.3**	**+0.6**
AVH	**Avacha**	**8.12**	**198**	*e*P		**Pn**	**19 15 54.3**	**+0.6**
PET	**Petropavlovsk**	**8.37**	**198**	*e*Pn		**Pn**	**19 15 59.9**	**+2.9**
PET	**Petropavlovsk**	**8.37**	**198**	*e*P		Pn	19 16 03.8	+6.8
PET				*e*S		Sn	19 17 41.2	+10
PET				pmax		pmax		
	comp=Z,15nm,1.2s							
PET				MLR		MLR		
	comp=Z,800nm,12.0s							
PET				MLR		MLR		
	comp=Z,900nm,7.0s							
PEA1	**Petropavlovsk-**	**8.45**	**202**	*e*Pn		**Pn**	**19 15 58.6**	**+0.5**
PEA0B	**Petropavlovsk-**	**8.45**	**202**	*e*Pn		Pn	19 16 02.8	+4.6
PETK	**Petropavlovsk-**	**8.45**	**202**	Pn		**Pn**	**19 15 58.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=57,slow=16,SNR=3.7							
PETK	**Petropavlovsk-**	**8.45**	**202**	*e*Pn		Pn	19 16 01.8	+3.7
PETK	**Petropavlovsk-**	**8.45**	**202**	*e*P		Pn	19 16 01.8	+3.7
SMY	**Shemya**	**10.30**	**139**	*e*Pn		**Pn**	**19 16 26.7**	**+3.4**
SMY	**Shemya**	**10.30**	**139**	*e*P		**Pn**	**19 16 26.7**	**+3.4**
GAMB	**Gambell**	**12.02**	**66**	*e*Pn		**Pn**	**19 16 47.1**	**+0.3**
NKL	**Nikolayevsk**	**14.40**	**247**	*e*P		**Pn**	**19 17 21.0**	**+1.6**
NKL				pmax		pmax		
	comp=E,6.0nm,0.9s							
NKL				pmax		pmax		
	comp=Z,3.0nm,0.9s							
YAK	**Yakutsk**	**15.81**	**288**	Pn		**Pn**	**19 17 38.6**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=65,slow=1.7,SNR=3.7							
YAK				Lg		Lg	19 22 15.1	
	comp=Z,0.0nm,0.3s,baz=342,slow=22,SNR=4.2							
YAK				LR		LR	19 23 52.2	
	comp=Z,226nm,19.0s,baz=84,slow=38							
YAK	**Yakutsk**	**15.81**	**288**	*e*Pn		**P**	**19 17 38.9**	**-3.1**
	comp=Z,21nm,0.7s							
YAK				Lg		Lg	19 22 15.1	
YAK	**Yakutsk**	**15.81**	**288**	*e*P		**P**	**19 17 42.1**	**+0.2**
YAK				*e*S		**Sn**	**19 20 36.1**	**+3.0**
YAK				pmax		pmax		
	comp=Z,26nm,1.0s							
YAK				pmax		pmax		
	comp=N,3.0nm,1.0s							
YAK				pmax		pmax		
	comp=E,17nm,1.2s							
YAK				pmax		pmax		
	comp=Z,32nm,1.2s							
YAK				pmax		pmax		
	comp=N,17nm,1.5s							
YAK				pmax		pmax		
	comp=E,39nm,1.5s							
YAK				smax		smax		
	comp=N,61nm,4.1s							
YAK				smax		smax		
	comp=E,35nm,2.9s							
YAK				MLR		MLR		
	comp=Z,170nm,18.0s							
YAK				MLR		MLR		
	comp=E,104nm,19.0s							
TIXI	**Tiksi**	**17.02**	**323**	Pn		**P**	**19 17 53.9**	**-1.3**
	comp=E,1.0nm,0.3s,baz=112,slow=14,SNR=21							
TIXI				Lg		Lg	19 22 50.7	
	baz=338,slow=20,SNR=3.1							
TIXI				LR		LR	19 24 29.8	
	comp=E,110nm,19.9s,baz=140,slow=37							
TIXI	**Tiksi**	**17.02**	**323**	*i* P		**P**	**19 17 53.4**	**-1.9**
TIXI				pmax		pmax		
	comp=Z,7.0nm,0.7s							
GRNR	**Gornyy**	**17.96**	**247**	*e*P		**P**	**19 18 08.4**	**+2.6**
YSS	**Yuzh-Sakhalins**	**18.33**	**229**	*e*P		**Pn**	**19 18 08.5**	**-1.3**
YSS				pmax		pmax		
	comp=Z,10.0nm,1.0s							
IM3	**Indian Mountai**	**19.59**	**57**	*e*P		**Pn**	**19 18 24.5**	**-0.5**
SVW2	**Sparrevohn**	**19.81**	**72**	*e*P		**Pn**	**19 18 28.4**	**+0.8**
	comp=Z,19nm,1.0s							
CLNS	**Chul'man**	**19.89**	**275**	*e*P		**Pn**	**19 18 29.0**	**+0.4**
CLNS				pmax		pmax		
	comp=Z,12nm,1.0s							
CLNS				pmax		pmax		
	comp=N,9.0nm,0.9s							
CLNS				pmax		pmax		
	comp=E,10.0nm,1.0s							
CLNS				MLR		MLR		
	comp=Z,207nm,8.0s							
CLNS				MLR		MLR		
	comp=E,216nm,8.0s							
CLNS				MLR		MLR		
	comp=N,98nm,11.0s							
ZEA	**Zeya**	**20.38**	**265**	*e*P		Pn	19 18 32.4	-1.9
ZEA				pmax		pmax		
	comp=Z,48nm,1.6s							
ZEA				MLR		MLR		
	comp=Z,300nm,10.0s							
CAST	**Castle Rocks**	**20.75**	**64**	*e*P		Pn	19 18 37.5	-1.0
	comp=Z,12nm,0.7s							
PPLA	**Purkeypile**	**20.83**	**65**	*e*P		Pn	19 18 38.5	-1.2
	comp=Z,33nm,1.2s							
ASAJ	**Asahikawa**	**20.84**	**225**	P		Pn	19 18 38.3	-1.4
	comp=Z,2.8nm,0.8s,baz=32,slow=9.5,SNR=3.2							
ASAJ	**Asahikawa**	**20.84**	**225**	*e*P		Pn	19 18 38.9	-0.8
	comp=Z,6.0nm,0.9s							
COLD	**Coldfoot**	**20.88**	**53**	*e*P		Pn	19 18 38.5	-1.6
	comp=Z,18nm,0.8s							
MLY	**Manley**	**20.97**	**59**	*e*P		Pn	19 18 39.6	-1.7
	comp=Z,16nm,1.1s							
TOLK	**Toolik Lake Re**	**21.03**	**49**	P		**P**	**19 18 39.3**	**0.0**
	baz=272							
TOLK	**Toolik Lake Re**	**21.03**	**49**	*e*P		**P**	**19 18 39.6**	**+0.4**
	comp=Z,53nm,1.4s							
BPAW	**Bear Paw Mtn.**	**21.06**	**62**	*e*P		**P**	**19 18 41.4**	**+1.8**
	comp=Z,16nm,1.1s							
KLR	**Kul'dur**	**21.17**	**250**	P		**P**	**19 18 41.1**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=39,slow=12,SNR=14							
KLR				LR		LR	19 26 57.6	
	comp=Z,8.2nm,19.1s,baz=40,slow=37							
KLR	**Kul'dur**	**21.17**	**250**	*e*P		**P**	**19 18 40.6**	**-0.3**
KTH	**Kantishna Hill**	**21.22**	**63**	*e*P		**P**	**19 18 43.1**	**+1.8**
	comp=Z,34nm,1.3s							
SPU	**Mount Spurr**	**21.41**	**70**	*e*P		**P**	**19 18 45.2**	**+1.9**
TRF	**Thorofare Moun**	**21.52**	**63**	*e*P		**P**	**19 18 46.4**	**+1.7**
	comp=Z,33nm,1.1s							
SUA	**Susitna One**	**21.91**	**68**	*e*P		**P**	**19 18 50.5**	**+1.7**
	comp=Z,25nm,1.1s							
MCK	**McKinley**	**22.03**	**62**	*e*P		**P**	**19 18 51.3**	**+1.3**
	comp=Z,61nm,1.1s							
MCK	**McKinley**	**22.03**	**62**	*e*P		**P**	**19 18 51.3**	**+1.3**
MCK				pmax		pmax		
	comp=Z,61nm,1.1s							
MDM	**Murphy Dome**	**22.03**	**59**	*e*P		**P**	**19 18 50.3**	**+0.3**
	comp=Z,12nm,1.0s							
RND	**Reindeer**	**22.15**	**63**	*e*P		**P**	**19 18 52.1**	**+0.7**
	comp=Z,21nm,1.2s							
RND	**Reindeer**	**22.15**	**63**	*e*P		**P**	**19 18 52.1**	**+0.7**
RND				pmax		pmax		
	comp=Z,21nm,1.2s							
COLA	**College**	**22.21**	**59**	*i* P		**P**	**19 18 51.3**	**-0.6**
COLA				pmax		pmax		
	comp=Z,11nm,1.1s							
CCB	**Clear Creek Bu**	**22.28**	**59**	*e*P		**P**	**19 18 53.0**	**+0.4**
	comp=Z,21nm,1.3s							
OHAK	**Old Harbor**	**22.43**	**80**	*e*P		**P**	**19 18 54.5**	**+0.2**
	comp=Z,361nm,1.9s							
BRLK	**Bradley Lake**	**22.46**	**73**	*e*P		**P**	**19 18 55.4**	**+0.7**
	comp=Z,150nm,1.9s							
RC01	**Rabbit Creek A**	**22.49**	**69**	*e*P		**P**	**19 18 54.9**	**-0.1**
	comp=Z,14nm,1.1s							
KDAK	**Kodiak Island**	**22.51**	**78**	P		**P**	**19 18 54.7**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=305,slow=7.6,SNR=5.1							
KDAK				LR		LR	19 28 26.7	
	comp=Z,257nm,18.4s,baz=301,slow=39							
KDAK	**Kodiak Island**	**22.51**	**78**	*e*P		**P**	**19 18 54.7**	**-0.4**
	comp=Z,115nm,1.5s							
KDAK	**Kodiak Island**	**22.51**	**78**	*i* P		**P**	**19 18 55.7**	**+0.6**
IL1	**Eielson Array**	**22.64**	**59**	*e*P		**P**	**19 18 56.4**	**-0.1**
ILAR	**Eielson Array**	**22.64**	**59**	P		**P**	**19 18 57.0**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=272,slow=10,SNR=47							
ILB	**Eielson Array**	**22.64**	**59**	*e*P		**P**	**19 18 56.5**	**+0.1**
HDA	**Harding Lake**	**22.70**	**60**	*e*P		**P**	**19 18 56.9**	**-0.3**
	comp=Z,12nm,1.0s							
SML	**Sawmill**	**22.87**	**67**	*e*P		**P**	**19 18 58.9**	**-0.1**
	comp=Z,36nm,1.4s							
SML	**Sawmill**	**22.87**	**67**	*e*P		**P**	**19 18 58.9**	**-0.1**
SML				pmax		pmax		
	comp=Z,36nm,1.4s							
DHY	**Denali Highway**	**22.89**	**63**	*e*P		**P**	**19 18 59.3**	**0.0**
	comp=Z,14nm,1.0s							
FYU	**Fort Yukon**	**22.92**	**54**	*e*P		**P**	**19 18 59.2**	**-0.1**
	comp=Z,48nm,1.4s							
SCM	**Sheep Creek Mo**	**23.31**	**66**	*e*P		**P**	**19 19 03.5**	**-0.1**
	comp=Z,88nm,1.7s							
SCM	**Sheep Creek Mo**	**23.31**	**66**	*e*P		**P**	**19 19 03.5**	**-0.1**
SCM				pmax		pmax		
	comp=Z,88nm,1.7s							
PAX	**Paxson**	**23.75**	**63**	*e*P		**P**	**19 19 07.5**	**-0.3**
	comp=Z,20nm,1.2s							
PAX	**Paxson**	**23.75**	**63**	*e*P		**P**	**19 19 07

RIDG **Independ'e Rid** 23.77 61 *e*P P 19 19 06.9 -1.2
comp=Z,17nm,1.0s
KLU **Klutina** 24.06 66 *e*P P 19 19 11.3 +0.4
comp=Z,30nm,1.0s
HARP **HAARP** 24.07 64 *e*P P 19 19 11.7 +0.9
comp=Z,135nm,2.0s
DOT **Dot Lake** 24.13 61 *e*P P 19 19 11.0 -0.4
comp=Z,47nm,0.9s
DIV **Divide** 24.27 67 *e*P P 19 19 13.3 +0.6
comp=Z,20nm,1.0s
EYAK **Cordova Ski Ar** 24.51 68 *e*P P 19 19 15.7 +0.9
comp=Z,34nm,0.8s
MENT **Mentasta** 24.51 62 *e*P P 19 19 14.9 0.0
comp=Z,15nm,0.7s
BOD **Bodaibo** 24.65 284 ||*i*P P 19 19 15.2 -0.9
BOD pmax pmax
comp=Z,22nm,1.3s
BMRM **Bremner River** 24.85 67 *e*P P 19 19 18.1 +0.1
comp=Z,28nm,1.0s
USRK **Ussuriysk Ar.** 24.91 242 P P 19 19 19.6 +1.1
comp=Z,10nm,0.8s,baz=39,slow=9.1,SNR=9.6
EGAK **Eagle** 25.00 57 *e*P P 19 19 18.7 -0.5
comp=Z,29nm,0.9s
RAGM **Ragged Mountai** 25.06 68 *e*P P 19 19 20.6 +0.7
comp=Z,141nm,1.7s
DAWY **Dawson** 25.95 58 *e*P P 19 19 29.1 +1.2
comp=Z,12nm,1.0s
INK **Inuvik** 26.91 47 P P 19 19 36.2 -0.2
comp=Z,5.1nm,1.0s,baz=308,slow=8.0,SNR=4.4
INK **Inuvik** 26.91 47 *e*P P 19 19 36.5 0.0
comp=Z,10.0nm,1.3s
INK **Inuvik** 26.91 47 *e*P P 19 19 36.5 0.0
INK pmax pmax
comp=Z,10.0nm,1.3s
HYT **Haines Junctio** 28.06 64 *e*P P 19 19 47.8 +0.8
comp=Z,11nm,1.2s
CN2 **Changchun** 28.12 249 *e*P P 19 19 50.1 +2.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
MJB9 **Matsu-Tunnel** 29.10 224 *e*P P 19 19 55.4 -0.9
comp=Z,29nm,1.5s
MAJO **Matsushiro** 29.10 224 *e*P P 19 19 55.8 -0.5
comp=Z,29nm,1.5s
MAJO **Matsushiro** 29.10 224 *e*P P 19 19 55.8 -0.5
MAJO pmax pmax
comp=Z,29nm,1.5s
MJAR **Matsushiro Arr** 29.10 224 P P 19 19 56.1 -0.2
comp=Z,1.7nm,1.1s,baz=5.9,slow=10,SNR=5.0
KSRS **Korea Array** 32.22 239 LR LR 19 34 32.2
comp=Z,54nm,18.8s,baz=24,slow=38
TLY **Talaya** 33.06 281 *e*P P 19 20 31.0 -0.1
comp=Z,3.2nm,0.8s
TLY **Talaya** 33.06 281 *e*P P 19 20 32.2 +1.1
TLY pmax pmax
comp=Z,8.0nm,1.9s
TLY MLR MLR
comp=Z,53nm,9.0s
ULN **Ulaanbaatar** 33.96 273 *e*P P 19 20 41.2 +2.2
comp=Z,8.0nm,1.5s
ULN **Ulaanbaatar** 33.96 273 *e*P P 19 20 41.3 +2.2
ULN pmax pmax
comp=Z,8.0nm,1.5s
ZAK **Zakamensk** 34.08 279 *e*P P 19 20 43.0 +3.0
ZAK pmax pmax
comp=Z,3.0nm,1.3s
SONA1 **Songino Array** 34.29 274 *e*P P 19 20 42.8 +0.8
SONA0 **Songino Array** 34.30 274 *e*P P 19 20 42.9 +0.9
SONA0 *e*PcP PcP 19 23 17.2 -0.8
SONM **Songino Array** 34.30 274 P P 19 20 42.9 +0.9
comp=Z,1.8nm,1.0s,baz=48,slow=7.2,SNR=9.2
SONM PcP PcP 19 23 17.2 -0.8
comp=Z,0.5nm,0.5s,baz=51,slow=2.8,SNR=4.5
SONM LR LR 19 34 58.0
comp=Z,128nm,19.6s,baz=59,slow=37
MOY **Mondy** 34.33 283 *e*P P 19 20 45.7 +3.5
MOY pmax pmax
comp=Z,17nm,2.6s
JNU **Nakatsue** 34.81 231 LR LR 19 34 34.6
comp=Z,96nm,18.4s,baz=48,slow=36
RES **Resolute Bay** 35.41 27 P P 19 20 51.5 +0.3
comp=Z,2.0nm,0.7s,baz=294,slow=7.1,SNR=9.0
RES PcP PcP 19 23 19.3 -1.2
comp=Z,2.2nm,0.9s,baz=299,slow=5.1,SNR=5.8
RES **Resolute Bay** 35.41 27 *e*P P 19 20 51.0 -0.2
comp=Z,2.3nm,0.8s
RES PcP PcP 19 23 19.3 -1.2
RES **Resolute Bay** 35.41 27 *e*P P 19 20 51.0 -0.2
RES 19 23 19.3
RES pmax pmax
comp=Z,2.0nm,0.8s
YKW3 **Yellowknife Ar** 36.49 51 *e*P P 19 21 00.2 -0.3
comp=Z,6.9nm,1.0s
YKA **Yellowknife Ar** 36.53 51 P P 19 21 01.1 +0.2
comp=Z,2.6nm,0.6s,baz=304,slow=8.4,SNR=56
YKA PcP PcP 19 23 23.6 -0.4
comp=Z,0.5nm,0.7s,baz=315,slow=3.7,SNR=7.3
YKB5 **Yellowknife Ar** 36.53 51 *e*P P 19 21 00.3 -0.6
HHC **Hu-ho-hao-te** 36.92 261 *e*P P 19 21 05.6 +1.0
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,190nm,7.8s
SPA0 **Spitsbergen Ar** 39.56 350 *e*P P 19 21 27.0 +0.7
SPITS **Spitsbergen Ar** 39.56 350 P P 19 21 26.7 +0.5
comp=Z,4.9nm,0.5s,baz=27,slow=11,SNR=15
ZAA1 **Zalesovo Array** 40.21 296 *e*P P 19 21 31.5 -0.4
ZALV **Zalesovo Beam** 40.22 296 P P 19 21 31.5 -0.5
comp=Z,0.8nm,0.5s,baz=31,slow=6.9,SNR=5.6
ZALV LR LR 19 39 31.6
comp=Z,130nm,18.2s,baz=68,slow=38
ZALV **Zalesovo Beam** 40.22 296 *e*P P 19 21 31.8 -0.1
ZALV **Zalesovo Beam** 40.22 296 *e*P P 19 21 31.8 -0.1
NVS **Novosibirsk** 40.30 298 *e*P P 19 21 26.2 -6.4
NVS pmax pmax
comp=E,11nm,1.4s
NVS pmax pmax
comp=Z,13nm,1.4s
NVS pmax pmax
comp=N,6.0nm,1.3s
NJ2 **Nanjing** 40.71 245 *e*P P 19 21 39.0 +2.8
NJ2 pmax pmax
comp=N,16nm,0.7s
LLLB **Lillooet** 41.16 69 *e*P P 19 21 41.2 +1.3
comp=N,17nm,1.1s
NLWA **Neilton Lookou** 42.54 74 *e*P P 19 21 53.0 +1.8
comp=N,80nm,1.8s
B05A **Bryant** 42.73 72 P P 19 21 53.4 +0.7
baz=316
B06A **Marblemount** 42.83 71 *e*P P 19 21 54.3 +0.8
comp=N,29nm,1.4s
NIHS **Ingelmoor High** 43.05 73 *e*pP pP 19 22 01.5 +3.1
EDM **Edmonton** 43.09 61 *e*P P 19 21 56.1 +0.6
comp=N,8.9nm,0.7s
EDM **Edmonton** 43.09 61 *e*P P 19 21 56.2 +0.6
EDM pmax pmax
comp=Z,9.0nm,0.7s
E03A **Lebam** 43.30 75 *e*P P 19 21 58.6 +1.4
comp=Z,124nm,1.8s
XAN **Xi'an** 43.62 257 P P 19 22 04.8 +4.8
XAN pP sP 19 22 12.4 +8.0
XAN pmax pmax
comp=Z,4.0nm,1.3s
GTA **Gaotai** 43.73 270 *e*P P 19 22 01.0 0.0
GTA pP sP 19 22 05.1 -0.3
GTA sP pP 19 22 08.8 +4.7
GTA pmax pmax
comp=Z,2.0nm,1.2s
B08A **Colville Reser** 43.94 70 *e*P P 19 22 03.0 +0.5
comp=Z,6.9nm,1.0s
LTY **Liberty** 44.13 72 *e*P P 19 22 04.6 +0.6
comp=Z,7.2nm,1.0s
LZH **Lanzhou** 44.40 264 *e*P P 19 22 10.8 +4.4
LZH pP sP 19 22 14.5 +3.7
LZH sP pP 19 22 17.1 +7.6
LZH pmax pmax
comp=Z,56nm,1.5s
LZH pmax pmax
comp=Z,190nm,4.9s
EBG **Ellensburg** 44.43 72 *e*P P 19 22 09.5 +3.1
GULW **Guler Mountain** 44.68 74 *e*P P 19 22 13.6 +5.1
C09A **Chrisman Ranch** 44.83 70 *e*P P 19 22 10.3 +0.8
comp=Z,6.1nm,1.1s
NEW **Newport** 45.01 68 P P 19 22 11.3 +0.3
baz=318
D08A **Wollman Farm,** 45.08 71 *e*P P 19 22 12.2 +0.6
comp=Z,6.5nm,0.9s

KURK **Kurchatov** 45.19 297 *e*P P 19 22 12.0 -0.4
comp=Z,21nm,1.0s
KURK **Kurchatov** 45.19 297 ||*e*P P 19 22 11.7 -0.6
KURK pmax pmax
comp=Z,98nm,1.2s
KURBB **Kurchatov Arra** 45.30 297 P P 19 22 12.8 -0.4
comp=Z,9.9nm,0.8s,baz=43,slow=7.8,SNR=84
H04A **Detroit Lake** 45.33 76 *e*P P 19 22 14.5 +0.9
comp=Z,16nm,1.3s
KEV **Kevo** 45.80 340 *e*P P 19 22 17.1 +0.1
comp=Z,118nm,1.7s
KEV **Kevo** 45.80 340 *e*P P 19 22 17.1 +0.1
KEV pmax pmax
comp=Z,118nm,1.7s
E09A **Wood Farm, Sta** 45.84 71 *e*P P 19 22 17.8 +0.2
comp=Z,28nm,1.7s
SUMG **Summit** 45.85 9 *i*P P 19 22 18.1 +0.3
comp=Z,23nm,1.4s
SUMG **Summit** 45.85 9 *e*P P 19 22 18.1 +0.3
comp=Z,13nm,1.1s
SUMG **Summit** 45.85 9 *e*P P 19 22 18.1 +0.3
SUMG pmax pmax
comp=Z,13nm,1.1s
WALA **Waterton Lakes** 45.86 65 *e*P P 19 22 18.5 +0.7
comp=Z,22nm,1.2s
WMQ **Urumqi** 46.19 284 P P 19 22 23.1 +2.6
WMQ pP sP 19 22 26.2 +1.4
WMQ sP pP 19 22 29.5 +5.9
WMQ pmax pmax
comp=Z,18nm,1.5s
WMQ pmax pmax
comp=Z,530nm,6.5s
ARA0 **ARCESS Array S** 46.24 341 *e*P P 19 22 19.9 -0.5
ARCES **ARCESS Array B** 46.24 341 P P 19 22 19.9 -0.5
comp=Z,4.9nm,0.9s,baz=30,slow=7.1,SNR=11
ARCES **ARCESS Array B** 46.24 341 *e*P P 19 22 20.0 -0.5
ARCES **ARCESS Array B** 46.24 341 *e*P P 19 22 20.0 -0.5
G08A **Pilot Rock** 46.38 73 *e*P P 19 22 22.8 +0.8
comp=Z,9.2nm,1.1s
MK31 **Makanchi Array** 46.46 291 *e*P P 19 22 21.2 -1.3
MK31 **Makanchi Array** 46.46 291 *i*P P 19 22 21.0 -1.5
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK32 **Makanchi Array** 46.46 291 *e*P P 19 22 21.4 -1.1
MKAR **Makanchi Array** 46.46 291 P P 19 22 21.4 -1.1
comp=Z,2.3nm,0.8s,baz=50,slow=6.4,SNR=14
MKAR LR LR 19 42 52.2
comp=Z,111nm,18.8s,baz=3.0,slow=37
MKAR **Makanchi Array** 46.46 291 *e*P P 19 22 21.2 -1.3
comp=Z,50nm,1.4s
MKAR **Makanchi Array** 46.46 291 *i*P P 19 22 23.2 +0.7
MKAR pmax pmax
comp=Z,2.0nm,0.8s
FCC **Fort Churchill** 46.47 44 *e*P P 19 22 21.7 -0.6
comp=Z,9.4nm,1.1s
FCC **Fort Churchill** 46.47 44 *e*P P 19 22 21.7 -0.6
FCC pmax pmax
comp=Z,9.0nm,1.1s
MK01 **Makanchi Array** 46.48 291 *e*P P 19 22 21.6 -1.0
PINE **Pine Mountain** 46.59 75 *e*P P 19 22 24.5 +0.7
comp=Z,9.6nm,0.9s
MAKZ **Makanchi** 46.59 291 *e*P P 19 22 22.2 -1.3
comp=Z,8.6nm,1.1s
MAKZ **Makanchi** 46.59 291 *i*P P 19 22 21.6 -1.9
MAKZ pmax pmax
comp=Z,9.0nm,1.3s
FFC **Flin Flon** 46.63 53 *e*P P 19 22 23.1 -0.5
comp=Z,8.1nm,1.4s
FFC **Flin Flon** 46.63 53 *e*P P 19 22 23.1 -0.5
FFC pmax pmax
comp=Z,8.0nm,1.4s
F10A **Beach Ranch, E** 46.67 71 *e*P P 19 22 24.7 +0.5
comp=Z,20nm,1.4s
JTMT **Jette** 46.67 67 *e*P P 19 22 24.8 +0.5
comp=Z,15nm,1.8s
J05D **Fort Rock, OR** 46.84 76 P P 19 22 26.4 +0.7
baz=320
BVA0 **Borovoye Array** 46.93 304 *i*P P 19 22 25.3 -0.7
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVAR **Borovoye Array** 46.93 304 P P 19 22 25.9 -0.1
comp=Z,4.7nm,0.7s,baz=54,slow=7.7,SNR=24
BVAR LR LR 19 43 25.9
comp=Z,95nm,18.4s,baz=357,slow=38
BRVK **Borovoye** 46.95 304 *e*P P 19 22 26.0 -0.2
comp=Z,7.4nm,0.9s
BRVK **Borovoye** 46.95 304 ||*e*P P 19 22 25.9 -0.2
BRVK pmax pmax
comp=Z,26nm,1.2s
YBH **Yreka Blue Hor** 47.33 79 P P 19 22 30.0 +0.6
comp=Z,2.5nm,0.7s,baz=309,slow=4.4,SNR=4.9
YBH LR LR 19 40 05.9
comp=Z,29nm,18.8s,baz=342,slow=33
YBH **Yreka Blue Hor** 47.33 79 *e*P P 19 22 31.2 +1.8
comp=Z,19nm,1.4s
YBH **Yreka Blue Hor** 47.33 79 P P 19 22 30.0 +0.6
YBH pmax pmax
comp=Z,2.0nm,0.6s
YBH MLR MLR
comp=Z,29nm,18.8s
BMO **Blue Mountains** 47.48 72 *e*P P 19 22 31.1 +0.6
comp=Z,6.2nm,0.9s
BMO **Blue Mountains** 47.48 72 *e*P P 19 22 31.1 +0.6
BMO pmax pmax
comp=Z,6.0nm,0.9s
MSO **Missoula** 47.52 68 P P 19 22 31.3 +0.5
baz=319
MSO **Missoula** 47.52 68 *e*P P 19 22 31.1 +0.2
comp=Z,5.4nm,0.9s
SVE **Sverdlovsk** 47.74 313 *e*P P 19 22 33.2 +0.9
J08A **Circle Bar Ran** 48.08 74 *e*P P 19 22 36.2 +1.0
comp=Z,4.7nm,0.8s
EGMT **Eagleton** 48.47 64 P P 19 22 38.3 +0.1
baz=320
EGMT **Eagleton** 48.47 64 *e*P P 19 22 38.5 +0.3
comp=Z,11nm,1.1s
HRY **Holter Researc** 48.55 66 *e*P P 19 22 39.5 +0.7
CD2 **Chengdu** 48.66 260 *e*P P 19 22 39.8 +0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
WVOR **Wild Horse Val** 48.71 75 *e*P P 19 22 40.8 +0.6
comp=Z,4.8nm,0.9s
WVOR **Wild Horse Val** 48.71 75 *e*P P 19 22 40.8 +0.6
WVOR pmax pmax
comp=Z,5.0nm,0.9s
SCO **Scoresbysund** 48.72 2 *e*P P 19 22 40.5 +1.0
comp=Z,46nm,1.8s
SCO **Scoresbysund** 48.72 2 *e*P P 19 22 40.6 +1.0
SCO pmax pmax
comp=Z,46nm,1.8s
ARU **Arti** 48.77 314 *e*P P 19 22 40.1 -0.1
comp=Z,9.6nm,1.1s
ARU **Arti** 48.77 314 *c*P P 19 22 40.6 +0.3
ARU 19 24 31.3
ARU S S 19 29 44.8 +2.1
ARU SS SS 19 33 12.2 -0.1
ARU pmax pmax
comp=Z,10.0nm,1.2s
LRM **Limekiln Ridge** 48.95 67 *e*P P 19 22 43.1 +1.0
DLMT **Dillon** 49.24 68 *e*P P 19 22 44.6 +0.4
comp=Z,4.5nm,0.8s
MFID **Camas Ranch** 49.27 72 *e*P P 19 22 44.5 +0.1
comp=Z,5.1nm,0.9s
BOZ **Bozeman (W)** 49.49 67 P P 19 22 45.9 -0.3
baz=321
BOZ **Bozeman (W)** 49.49 67 *e*P P 19 22 47.1 +1.0
comp=Z,4.8nm,0.9s
BOZ **Bozeman (W)** 49.49 67 *e*P P 19 22 47.1 +1.0
BOZ pmax pmax
comp=Z,5.0nm,0.9s
MCMT **McKenzie Canyo** 49.54 69 *e*P P 19 22 47.0 +0.5
ORV **Oroville** 49.60 79 *e*P P 19 22 46.9 +0.1
comp=Z,10nm,1.8s
ORV **Oroville** 49.60 79 *e*P P 19 22 46.9 +0.1
ORV pmax pmax
comp=Z,11nm,1.8s
HLID **Hailey** 49.80 71 P P 19 22 48.9 +0.4
baz=321,SNR=5.5
HLID **Hailey** 49.80 71 *e*P P 19 22 49.2 +0.7
comp=Z,2.3nm,0.7s
SFJD **Kangerlussuaq** 49.91 17 *e*P P 19 22 48.6 -0.2
comp=Z,44nm,1.7s
SFJD **Kangerlussuaq** 49.91 17 *e*P P 19 22 48.6 -0.2
SFJD pmax pmax
comp=Z,44nm,1.7s
GCMT **Greycliff** 50.22 65 *e*P P 19 22 52.1 +0.5
YHB **Horse Butte** 50.34 67 *e*P P 19 22 53.8 +1.1
comp=Z,5.3nm,0.8s
PDGK **Podgornoye** 50.39 290 *i*P P 19 22 52.0 -0.9
PDGK pmax pmax
comp=Z,6.0nm,1.0s
YHH **Holmes Hill** 50.47 67 *e*P P 19 22 54.5 +0.8
comp=Z,5.2nm,0.8s
PAHR **Pah Rah Range** 50.49 78 *e*P P 19 22 54.7 +1.0
comp=Z,19nm,1.8s
YMR **Madison River** 50.51 67 *e*P P 19 22 55.1 +1.1
comp=Z,8.3nm,1.1s
YNR **Norris Junctio** 50.60 67 *e*P P 19 22 56.0 +1.4
comp=Z,17nm,1.6s
YFT **Old Faithful** 50.74 67 *e*P P 19 22 57.5 +1.8
comp=Z,6.9nm,1.0s
LKWY **Lake** 50.85 67 *e*P P 19 22 57.9 +1.4
comp=Z,7.0nm,0.7s
LKWY **Lake** 50.85 67 *e*P P 19 22 57.9 +1.4
LKWY pmax pmax
comp=Z,7.0nm,0.7s
YPP **Pitchstone Pla** 50.89 67 *e*P P 19 22 58.3 +1.4
comp=Z,10.0nm,1.7s
H17A **Grant Village** 50.90 67 *e*P P 19 22 58.4 +1.5
comp=Z,6.3nm,1.0s
RLMT **Red Lodge** 50.92 66 P P 19 22 57.2 +0.2
baz=321
RLMT **Red Lodge** 50.92 66 *e*P P 19 22 58.2 +1.3
comp=Z,12nm,1.0s
BMN **Battle Mountai** 50.94 75 *e*P P 19 22 58.0 +0.8
comp=Z,6.8nm,1.3s
BMN **Battle Mountai** 50.94 75 *e*P P 19 22 58.0 +0.8
BMN pmax pmax
comp=Z,7.0nm,1.3s
LAO **LASA Array** 51.03 62 P P 19 22 56.8 -0.8
baz=322
IMW **Indian Meadow** 51.12 68 *e*P P 19 22 59.9 +1.2
comp=Z,3.5nm,0.8s
RDG13 **Poverty Ridge** 51.16 81 *e*P P 19 23 00.4 +1.7
comp=Z,20nm,1.5s
FXWY **Fox Creek** 51.29 68 *e*P P 19 23 00.9 +1.1
comp=Z,3.4nm,0.9s
MOOW **Moose Ponds** 51.33 68 *e*P P 19 23 01.0 +0.9
comp=Z,3.1nm,1.1s
TPAW **Teton Pass** 51.44 68 *e*P P 19 23 01.8 +0.8
comp=Z,6.0nm,1.0s
LOHW **Long Hollow** 51.50 68 *e*P P 19 23 02.4 +1.0
comp=Z,3.7nm,0.8s
SNOW **Snow King Moun** 51.55 68 *e*P P 19 23 02.8 +1.0
comp=Z,26nm,1.9s
REDW **Red Top Meadow** 51.58 68 *e*P P 19 23 03.0 +1.0
comp=Z,6.0nm,1.0s
KVN **Kaiserville** 51.61 77 *e*P P 19 23 03.1 +0.8
comp=Z,2.6nm,0.8s
KVN **Kaiserville** 51.61 77 *e*P P 19 23 03.1 +0.8
KVN pmax pmax
comp=Z,3.0nm,0.8s
RYN **Ryan** 51.75 78 *e*P P 19 23 04.5 +1.3
comp=Z,2.1nm,0.7s
AHID **Auburn Hatcher** 51.94 69 *e*P P 19 23 04.9 +0.2
comp=Z,18nm,1.8s
HVU **Hansel Valley** 51.95 71 *e*P P 19 23 05.6 +0.9
comp=Z,6.0nm,0.9s
HVU **Hansel Valley** 51.95 71 *e*P P 19 23 05.6 +0.9
HVU pmax pmax
comp=Z,6.0nm,0.9s
NV01 **Mina Array Sit** 52.01 78 *e*P P 19 23 06.0 +0.8
NVAR **Mina Array Bea** 52.01 78 P P 19 23 06.7 +1.4
comp=Z,1.7nm,0.7s,baz=307,slow=7.1,SNR=13
NV11 **Mina Array Sit** 52.08 78 *e*P P 19 23 06.1 +0.4
comp=Z,1.2nm,1.9s
MDPB **Devils Postpil** 52.27 79 *e*P P 19 23 08.6 +1.3
comp=Z,11nm,1.2s
KDJ **Kajisay** 52.39 291 *e*P P 19 23 07.4 -0.6
comp=Z,3.3nm,0.9s
TARG **Taragay, Kyrgy** 52.42 290 *e*P P 19 23 08.8 +0.3
comp=Z,14nm,1.8s
ULM **Lac du Bonnet** 52.46 53 P P 19 23 08.2 +0.1
comp=Z,3.3nm,0.6s,baz=335,slow=6.3,SNR=8.2
ULM **Lac du Bonnet** 52.46 53 *e*P P 19 23 08.0 -0.1
comp=Z,21nm,1.5s
SPUT **South Promonto** 52.47 71 *e*P P 19 23 09.2 +0.6
BW06 **Boulder Array** 52.64 68 P P 19 23 10.0 +0.1
baz=322,SNR=5.5
BW06 **Boulder Array** 52.64 68 *e*P P 19 23 10.3 +0.4
comp=Z,7.1nm,0.8s
PD31 **Pinedale Array** 52.64 68 *e*P P 19 23 10.3 +0.4
PDAR **Pinedale Array** 52.64 68 P P 19 23 10.7 +0.8
comp=Z,5.2nm,0.7s,baz=319,slow=2.9,SNR=53
PDAR **Pinedale Array** 52.64 68 *e*P P 19 23 10.4 +0.6
HWUT **Hardware Ranch** 52.64 70 *e*P P 19 23 11.2 +1.4
comp=Z,6.0nm,1.0s
MDND **Maddock** 52.89 57 *e*P P 19 23 12.6 +1.2
comp=Z,51nm,1.8s
DUG **Dugway, Tooele** 53.19 72 P P 19 23 14.1 +0.3
baz=323
DUG **Dugway, Tooele** 53.19 72 *e*P P 19 23 14.6 +0.8
comp=Z,5.3nm,0.9s
DUG **Dugway, Tooele** 53.19 72 *e*P P 19 23 14.6 +0.8
DUG pmax pmax
comp=Z,5.0nm,0.9s
AAK **Ala-Archa** 53.20 293 P P 19 23 13.8 -0.2
comp=Z,3.6nm,0.6s,baz=105,slow=3.0,SNR=16
AAK **Ala-Archa** 53.20 293 *e*P P 19 23 13.8 -0.2
comp=Z,5.7nm,0.9s
AAK **Ala-Archa** 53.20 293 *i*P P 19 23 13.7 -0.2
AAK pmax pmax
comp=Z,4.0nm,0.6s
R11A **Troy Canyon, C** 53.36 76 P P 19 23 15.8 +0.6
baz=323
FIA1 **FINESS Array S** 53.46 336 *e*P P 19 23 14.7 -0.6
FIA0 **FINESS Array S** 53.46 336 *e*P P 19 23 14.8 -0.6
FIA0 **FINESS Array S** 53.46 336 *e*P P 19 23 14.8 -0.6
FINES **FINESS Array B** 53.46 336 P P 19 23 14.8 -0.6
comp=Z,3.9nm,0.9s,baz=23,slow=7.4,SNR=15
C31A **Landman Farms,** 53.69 56 P P 19 23 17.5 +0.2
baz=324
A33A **Warroad** 53.70 53 P P 19 23 17.4 +0.1
baz=324
CWC **Cottonwood Cre** 53.71 79 P P 19 23 18.4 +0.7
baz=324
VES **Vestal, Richgr** 53.71 80 P P 19 23 18.5 +0.9
baz=324
NLU **North Lily Min** 53.72 72 *e*P P 19 23 18.1 +0.3
comp=Z,7.3nm,0.9s
AKTO **Aktyubinsk** 53.76 310 P P 19 23 17.2 -0.5
comp=Z,3.4nm,0.9s,baz=55,slow=19,SNR=7.9
AKTO LR LR 19 49 06.1
comp=Z,124nm,18.1s,baz=26,slow=39
MPU **Maple Canyon** 53.88 71 *e*P P 19 23 20.0 +1.1
comp=Z,13nm,1.8s
AB31 **Akbulak array** 53.98 308 *i*P P 19 23 19.1 -0.3
AB31 pmax pmax
comp=Z,3.0nm,0.7s
ABKAR **Akbulak array** 53.98 308 *e*P P 19 23 19.5 +0.1
comp=Z,28nm,0.8s
KMI **Kunming** 54.00 257 P P 19 23 22.3 +2.3
KMI pmax pmax
comp=Z,14nm,0.7s
RSSD **Black Hills** 54.00 63 P P 19 23 19.6 -0.3
baz=323
RSSD **Black Hills** 54.00 63 *e*P P 19 23 19.9 +0.1
comp=Z,7.2nm,1.0s
RSSD **Black Hills** 54.00 63 *e*P P 19 23 20.0 +0.1
RSSD pmax pmax
comp=Z,7.0nm,1.0s
AGMN **Agassiz Nation** 54.03 54 P P 19 23 19.7 0.0
baz=324
DAC **Darwin (Calif)** 54.07 79 *e*P P 19 23 21.5 +1.1
comp=Z,8.6nm,1.4s
DAC **Darwin (Calif)** 54.07 79 *e*P P 19 23 21.5 +1.1
DAC pmax pmax
comp=Z,9.0nm,1.4s
K22A **Casper** 54.08 66 P P 19 23 20.5 +0.1
baz=323
K22A **Casper** 54.08 66 *e*P P 19 23 20.5 +0.1
comp=Z,24nm,1.8s
FURC **Furnace Creek,** 54.27 78 P P 19 23 21.9 +0.4
baz=324
MPMC **Manual Prospec** 54.30 79 P P 19 23 22.7 +0.6
baz=324,SNR=6.6
B34A **Aery, Baudette** 54.35 53 P P 19 23 22.1 0.0
baz=324
KKAR **Karatay Array** 54.59 296 *e*P P 19 23 24.1 +0.2
KKAR **Karatay Array** 54.59 296 *e*P P 19 23 24.1 +0.2
TMUT **Trail Mountain** 54.65 72 *e*P P 19 23 25.9 +1.2

LRMC **Laurel Mtn Rad** 54.67 79 P P 19 23 25.2 +0.5
baz=324
P17A **Butcher Ranch,** 54.72 71 eP P 19 23 26.1 +1.0
comp=Z,7.7nm,1.5s
B35A **Bob, Littlefor** 54.81 53 P P 19 23 24.5 -0.9
baz=325
MSU **Marysvale** 54.83 73 eP P 19 23 27.4 +1.5
MSU **Marysvale** 54.83 73 eP P 19 23 27.4 +1.5
EDW2 **Edwards Air Fo** 55.01 80 P P 19 23 28.0 +0.9
baz=325
KSH **Kashi** 55.02 289 P P 19 23 31.0 +3.8
KSH PP **PP** 19 25 34.4 +4.4
KSH PcS **PcS** 19 28 28.7 0.0
KSH S **S** 19 31 10.6 +1.4
KSH ScS **ScS** 19 33 14.3 -2.0
KSH pmax pmax
comp=Z,5.0nm,1.2s
KSH pmax pmax
comp=Z,110nm,6.8s
KSH LR LR
comp=Z,170nm,10.6s
KSH LR LR
comp=Z,180nm,7.5s
KSH LR LR
comp=Z,170nm,12.4s
F31A **Hecla** 55.04 57 P P 19 23 27.3 +0.2
baz=324
SHPR **Sheep Range** 55.04 77 eP P 19 23 28.4 +0.9
comp=Z,7.2nm,1.5s
CCUT **Cedar City** 55.05 75 eP P 19 23 28.5 +0.9
comp=Z,2.7nm,0.9s
SRU **San Rafael Swe** 55.11 71 eP P 19 23 28.6 +0.7
comp=Z,7.1nm,1.0s
SRU **San Rafael Swe** 55.11 71 eP P 19 23 28.6 +0.7
SRU pmax pmax
comp=Z,7.0nm,1.0s
MTPU **Mount Pierson** 55.20 73 eP P 19 23 30.1 +1.3
comp=Z,14nm,1.9s
GSC **Goldstone, Bar** 55.23 79 P P 19 23 29.7 +0.9
baz=324,SNR=6.5
GSC **Goldstone, Bar** 55.23 79 eP P 19 23 29.7 +0.9
comp=Z,8.1nm,0.8s
GSC **Goldstone, Bar** 55.23 79 eP P 19 23 29.7 +0.9
GSC pmax pmax
comp=Z,8.0nm,0.8s
C35A **Jirik Farms, M** 55.25 53 P P 19 23 28.7 +0.1
baz=325
D34A **Park Rapids** 55.28 54 P P 19 23 28.9 +0.1
baz=325
O20A **White River Ci** 55.33 69 P P 19 23 30.0 +0.5
baz=324
O20A **White River Ci** 55.33 69 eP P 19 23 30.2 +0.6
comp=Z,7.6nm,0.8s
LCMT **Little Creek M** 55.54 75 eP P 19 23 32.3 +1.3
comp=Z,2.8nm,1.0s
TUQ **Turquoise Moun** 55.55 78 P P 19 23 31.9 +0.9
baz=325
BFSC **Mount Baldy Ra** 55.69 80 P P 19 23 33.1 +1.0
baz=325
KNB **Kanab** 55.73 74 eP P 19 23 34.0 +1.6
comp=Z,5.5nm,1.0s
KNB **Kanab** 55.73 74 eP P 19 23 34.0 +1.6
KNB pmax pmax
comp=Z,6.0nm,1.0s
N23A **Red Feather La** 55.75 66 P P 19 23 32.9 +0.3
baz=324
LSA **Lhasa** 55.76 270 eP P 19 23 32.9 -0.1
comp=Z,2.7nm,0.8s
LSA **Lhasa** 55.76 270 eP P 19 23 32.9 -0.1
LSA pmax pmax
comp=Z,3.0nm,0.8s
HEC **Hector,Ludlow** 55.84 79 P P 19 23 33.6 +0.5
baz=325
F33A **5 Mile Ranch,** 55.85 56 P P 19 23 33.1 +0.2
baz=325
D36A **Goodland** 56.00 53 P P 19 23 33.7 -0.3
baz=326
GMRC **Granite Mounta** 56.20 78 P P 19 23 36.3 +0.6
baz=325,SNR=6.4
LDFC **Landfair** 56.22 78 eP P 19 23 35.9 0.0
comp=Z,15nm,0.4s
PV09 **Paradox Valley** 56.25 71 eP P 19 23 37.3 +1.1
D37A **Cotton** 56.30 53 P P 19 23 36.2 0.0
baz=326
G33A **Ortonville** 56.32 57 P P 19 23 36.5 +0.2
baz=325
NB2 **NORSAR Subarra** 56.33 344 P P 19 23 35.8 -0.4
comp=Z,4.0nm,0.7s,baz=16,slow=7.4
NB200 **NORSAR Array S** 56.33 344 eP P 19 23 36.1 -0.1
NOA **NORSAR Array B** 56.33 344 P P 19 23 36.1 -0.1
comp=Z,3.1nm,0.6s,baz=1.4,slow=6.7,SNR=5.7
PV10 **Paradox Valley** 56.39 71 eP P 19 23 39.1 +1.9
U15A **North Rim** 56.46 74 eP P 19 23 39.2 +1.4
comp=Z,7.7nm,0.8s
E36A **McGregor** 56.51 54 P P 19 23 37.0 -0.6
baz=326
PV05 **Paradox Valley** 56.60 71 eP P 19 23 40.0 +1.3
BELC **Belle Mtn. Jos** 56.68 79 P P 19 23 39.8 +0.6
baz=325
SMCO **Snowmass** 56.68 68 eP P 19 23 40.4 +0.9
comp=Z,6.6nm,1.3s
PFO **Pinyon Flats O** 56.77 80 P P 19 23 40.5 +0.7
baz=325
PFO **Pinyon Flats O** 56.77 80 eP P 19 23 39.9 +0.1
comp=Z,7.9nm,1.4s
PFO **Pinyon Flats O** 56.77 80 eP P 19 23 39.9 +0.1
PFO pmax pmax
comp=Z,8.0nm,1.4s
XPFO **Piæon Flat** 56.78 80 eP P 19 23 39.9 +0.1
comp=Z,3.4nm,0.8s
ISCO **Idaho Springs** 56.79 67 P P 19 23 40.1 0.0
baz=325
ISCO **Idaho Springs** 56.79 67 eP P 19 23 41.1 +1.0
comp=Z,16nm,1.9s
ISCO **Idaho Springs** 56.79 67 eP P 19 23 41.1 +1.0
ISCO pmax pmax
comp=Z,16nm,1.9s
W13A **Hualapai Mount** 56.79 77 eP P 19 23 40.9 +0.9
comp=Z,3.2nm,1.1s
PV01 **Paradox Valley** 56.80 70 eP P 19 23 40.8 +0.7
HFS **Hagfors** 56.85 342 P P 19 23 38.9 -0.9
comp=Z,3.3nm,0.8s,baz=19,slow=4.9,SNR=6.1
IRM **Iron Mountain** 56.96 78 P P 19 23 41.9 +0.9
baz=325,SNR=8.6
E38A **The Farm, Brul** 57.09 52 P P 19 23 41.3 -0.5
baz=326
PDMCI **Parker Dam,Lak** 57.32 77 P P 19 23 44.2 +0.7
baz=325
MONP2 **Monument Peak** 57.38 80 P P 19 23 44.5 +0.2
baz=326
ECSD **EROS Data Cent** 57.45 58 P P 19 23 44.5 +0.2
baz=326
ECSD **EROS Data Cent** 57.45 58 eP P 19 23 44.6 +0.2
comp=Z,5.6nm,0.8s
F38A **Pierce - Schro** 57.51 53 P P 19 23 44.7 0.0
baz=326
Y12C **Blythe** 57.59 78 P P 19 23 45.9 +0.5
baz=325
WUAZ **Wupatki** 57.63 74 P P 19 23 46.2 +0.3
baz=325
WUAZ **Wupatki** 57.63 74 eP P 19 23 47.2 +1.3
comp=Z,6.0nm,0.8s
SWSC **Sam W. Stewart** 57.64 80 P P 19 23 46.5 +0.7
baz=326
IKP **In-Ko-Pah, Jac** 57.73 80 P P 19 23 47.2 +0.7
baz=326
SPMN **Marine on St.** 57.75 54 P P 19 23 46.2 -0.2
baz=326
S22A **4UR Ranch, Cre** 57.91 69 eP P 19 23 49.7 +1.7
comp=Z,6.6nm,1.0s
SDCO **Great Sand Dun** 58.52 68 eP P 19 23 53.1 +0.9
comp=Z,4.5nm,1.0s
X18A **Snowflake** 59.11 74 eP P 19 23 58.0 +1.8
comp=Z,7.4nm,0.9s
MHTCO **State Highway** 59.39 68 eP P 19 23 59.9 +1.6
comp=Z,14nm,1.2s
214A **Organ Pipe Nat** 59.88 78 P P 19 24 02.2 +0.8
baz=326
ANMO **Albuquerque** 60.38 71 P P 19 24 04.9 -0.2
baz=326
ANMO **Albuquerque** 60.38 71 eP P 19 24 06.2 +1.2
comp=Z,2.6nm,0.8s
ANMO **Albuquerque** 60.38 71⇑*i*P P 19 24 05.5 +0.4
ANMO pmax pmax
comp=Z,3.0nm,0.8s
TUC **Tucson** 60.55 76 P P 19 24 06.5 +0.5
baz=326
TUC **Tucson** 60.55 76 eP P 19 24 07.2 +1.1
comp=Z,5.5nm,1.4s
TUC **Tucson** 60.55 76 eP P 19 24 07.2 +1.1
TUC pmax pmax
comp=Z,6.0nm,1.4s
P34A **Walnut Farm, R** 60.83 61 P P 19 24 07.7 -0.1
baz=327
CHTO **Chiang Mai** 61.19 256 eP P 19 24 10.1 -0.4
comp=Z,3.4nm,0.8s
CHTO **Chiang Mai** 61.19 256 eP P 19 24 10.1 -0.4
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CM31 **Chiang Mai Arr** 61.50 256 eP P 19 24 12.3 -0.2
CMAR **Chiang Mai Arr** 61.50 256 P P 19 24 12.2 -0.4
comp=Z,1.1nm,0.4s,baz=10,slow=6.5,SNR=13
CMAR LR LR 19 53 19.1
comp=Z,28nm,19.6s,baz=15,slow=38
CMAR **Chiang Mai Arr** 61.50 256 *i* P P 19 24 12.1 -0.5
CMAR pmax pmax
comp=Z,2.0nm,0.7s
121A **Cookes Peak, D** 61.77 73 P P 19 24 14.6 +0.2
baz=327
319A **Douglas** 62.03 75 eP P 19 24 17.3 +1.1
comp=Z,8.3nm,0.9s
AKASG **Malin Array Be** 62.60 329 P P 19 24 19.2 -0.4
comp=Z,2.0nm,0.6s,baz=28,slow=7.0,SNR=9.3
AKBB **Malin Array Si** 62.60 329 eP P 19 24 19.2 -0.3
comp=Z,25nm,1.8s
AKBB **Malin Array Si** 62.60 329 eP P 19 24 19.2 -0.3
AKBB pmax pmax
comp=Z,25nm,1.8s
AMTX **Amarillo** 62.61 67 P P 19 24 20.0 0.0
baz=327
AMTX **Amarillo** 62.61 67 eP P 19 24 19.7 -0.2
comp=Z,5.5nm,0.8s
MSTX **Muleshoe** 62.88 69 P P 19 24 21.9 +0.1
baz=327
MSTX **Muleshoe** 62.88 69 eP P 19 24 21.8 0.0
comp=Z,10nm,0.9s
PEMO **Pembroke** 63.03 43 P P 19 24 22.2 -0.3
baz=332
R38A **Fenwick Farm,** 63.21 59 P P 19 24 23.6 -0.2
baz=328
EKA **Eskdalemuir Ar** 63.45 351 P P 19 24 24.9 -0.3
comp=Z,3.1nm,0.6s,baz=7.0,slow=5.9,SNR=20
R39A **Chumby, Stover** 63.46 59 P P 19 24 25.3 -0.1
baz=328
MNTX **Cornudas Mount** 63.58 72 P P 19 24 26.7 +0.3
baz=327
MNTX **Cornudas Mount** 63.58 72 eP P 19 24 27.1 +0.7
comp=Z,5.5nm,1.1s
Q41A **Truxton** 63.66 57 P P 19 24 26.2 -0.6
baz=329
S38A **Stockton** 63.68 60 P P 19 24 26.2 -0.7
baz=328
R40A **Maddies Statio** 63.80 58 P P 19 24 27.0 -0.7
baz=329
ALFO **Alfred** 63.85 41 P P 19 24 27.4 -0.5
baz=333
S39A **Bolivar** 63.87 59 P P 19 24 27.3 -0.8
baz=328
T38A **Diamond** 64.02 60 P P 19 24 28.5 -0.6
baz=328
WMOK **Wichita Mounta** 64.02 65 P P 19 24 28.8 -0.4
baz=329
WMOK **Wichita Mounta** 64.02 65 eP P 19 24 29.4 +0.2
comp=Z,9.1nm,1.0s
WMOK **Wichita Mounta** 64.02 65 eP P 19 24 29.4 +0.2
WMOK pmax pmax
comp=Z,9.0nm,1.0s
GEYT **Alibeck** 64.15 302 P P 19 24 30.1 0.0
comp=Z,2.4nm,0.9s,baz=18,slow=6.2,SNR=7.0
GEYT LR LR 19 53 20.4
comp=Z,84nm,21.7s,baz=15,slow=37
R41A **Rosebud** 64.16 57 P P 19 24 29.2 -0.8
baz=329
S40A **Lebanon** 64.29 59 P P 19 24 30.3 -0.7
baz=329
S41A **Jillco Farms,** 64.61 58 P P 19 24 32.5 -0.6
baz=329
T40A **Mansfield** 64.66 59 P P 19 24 32.7 -0.7
baz=329
P46A **Rosedale** 64.70 53 P P 19 24 32.8 -0.7
baz=330
HHAR **Hobbs** 64.81 60 eP P 19 24 33.4 -0.9
comp=Z,6.9nm,0.9s
S42A **Caledonia** 64.85 57 P P 19 24 33.9 -0.7
baz=329
KBZ **Khabaz** 64.86 316 P P 19 24 35.7 +1.2
comp=Z,4.9nm,0.9s,baz=237,slow=2.9,SNR=4.7
U39A **Green Forest** 64.92 60 P P 19 24 34.3 -0.7
baz=329
T41A **Mountain View** 65.07 58 P P 19 24 35.2 -0.9
baz=329
KWP **Kalwaria Pacla** 65.15 333 eP P 19 24 36.6 +0.3
comp=Z,139nm,0.8s
KWP **Kalwaria Pacla** 65.15 333 eP P 19 24 36.7 +0.3
OJC **Ojcow** 65.22 335 eP P 19 24 37.0 +0.2
comp=Z,14nm,1.1s
OJC **Ojcow** 65.22 335 eP P 19 24 37.0 +0.2
OJC pmax pmax
comp=Z,14nm,1.1s
V39A **Pettigrew** 65.31 60 P P 19 24 36.8 -0.8
baz=329
T42A **Van Buren** 65.36 58 P P 19 24 37.1 -0.8
baz=329
ABTX **Abilene, Hawle** 65.42 67 P P 19 24 38.4 0.0
baz=328
ABTX **Abilene, Hawle** 65.42 67 eP P 19 24 38.2 -0.2
comp=Z,17nm,1.2s
CLL **Collm** 65.45 340 eP P 19 24 38.0 -0.2
comp=Z,6.0nm,1.0s
CLL **Collm** 65.45 340 eP P 19 24 38.0 -0.2
CLL pmax pmax
comp=Z,6.0nm,1.0s
Q47A **Bedord North L** 65.59 53 P P 19 24 38.5 -0.9
baz=330
U41A **Viola** 65.60 59 P P 19 24 38.7 -0.8
baz=329
STHS **Stebnicka Huta** 65.67 334 eP P 19 24 41.0 +1.2
STHS pmax pmax
comp=Z,91nm,3.7s
STHS **Stebnicka Huta** 65.67 334 eP P 19 24 41.0 +1.2
V40A **Witts Springs** 65.69 60 P P 19 24 39.9 -0.2
baz=329
UPC **Upice** 65.69 338 eP P 19 24 40.5 +0.7
UPC **Upice** 65.69 338 eP P 19 24 40.5 +0.7
BRG **Berggiesshubel** 65.71 339 eP P 19 24 39.5 -0.4
comp=Z,3.3nm,1.0s
BRG **Berggiesshubel** 65.71 339 eP P 19 24 39.5 -0.4
BRG pmax pmax
comp=Z,3.0nm,1.0s
DPC **Dobruska-Polom** 65.78 337 eP P 19 24 40.3 -0.2
DPC **Dobruska-Polom** 65.78 337 eP P 19 24 40.3 -0.2
W39A **Magazine** 65.80 61 P P 19 24 40.0 -0.7
baz=329
MORC **Moravsky Berou** 66.09 336⇑*i*P P 19 24 43.1 +0.6
MORC **Moravsky Berou** 66.09 336 eP P 19 24 42.8 +0.3
comp=Z,24nm,1.1s
MORC **Moravsky Berou** 66.09 336 eP P 19 24 42.8 +0.3
MORC pmax pmax
comp=Z,25nm,1.1s
W40A **Ferguson Farm,** 66.10 60 P P 19 24 42.0 -0.7
baz=329
N54A **Moraine State** 66.24 47 P P 19 24 42.5 -1.0
baz=332
X39A **Fountain Ranch** 66.24 62 P P 19 24 42.9 -0.7
baz=329
WCI **Wyandotte Cave** 66.25 54 P P 19 24 42.9 -0.7
baz=330
WCI **Wyandotte Cave** 66.25 54 eP P 19 24 44.4 +0.8
comp=Z,16nm,1.3s
WCI **Wyandotte Cave** 66.25 54 eP P 19 24 44.4 +0.8
WCI pmax pmax
comp=Z,16nm,1.3s
TX31 **Lajitas Ar. Si** 66.36 72 eP P 19 24 45.0 +0.4
LTX **Lajitas** 66.36 72 eP P 19 24 45.6 +1.0
LTX **Lajitas** 66.36 72 eP P 19 24 45.6 +1.0
TXAR **Lajitas Array** 66.36 72 P P 19 24 45.6 +1.0
comp=Z,2.3nm,0.9s,baz=320,slow=4.4,SNR=20
TXAR LR LR 19 56 09.5
comp=Z,34nm,19.5s,baz=0.0,slow=38
BUR08 **Bucovina Ar. S** 66.43 330 eP P 19 24 44.8 0.0
PRU **Pruhonice** 66.45 338 eP P 19 24 45.0 +0.3
PRU **Pruhonice** 66.45 338 eP P 19 24 45.0 +0.3
BUR04 **Bucovina Ar. S** 66.45 330 eP P 19 24 44.8 -0.1
BURAR **Bucovina Array** 66.46 330⇑*i*P P 19 24 45.1 +0.2
BURAR **Bucovina Array** 66.46 330⇑P P 19 24 45.1 +0.2
W41B **Gary Mavity, V** 66.47 60 P P 19 24 44.6 -0.5
baz=329
GOPC **GO Pecny, Ondr** 66.48 338 eP P 19 24 45.2 +0.2
GOPC **GO Pecny, Ondr** 66.48 338 eP P 19 24 45.2 +0.2
VRAC **Vranov** 66.72 337⇓*i*P P 19 24 47.3 +0.8
VRAC **Vranov** 66.72 337⇓P P 19 24 47.3 +0.8
VYHS **Vyhne** 67.06 335 eP P 19 24 49.1 +0.5
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS **Vyhne** 67.06 335 eP P 19 24 49.1 +0.5
TESR **Tescani** 67.13 329⇓*i*P P 19 24 49.0 -0.1
JCT **Junction City** 67.16 68 P P 19 24 49.8 +0.2
baz=329
SMOL **Smolenice** 67.32 336 P P 19 24 53.4 +3.1
Y41A **Eaglette Beard** 67.42 61 P P 19 24 50.9 -0.2
baz=330
KHC **Kasperske Hory** 67.45 339 eP P 19 24 48.6 -2.6
KHC *ex* x 19 24 51.5
KHC **Kasperske Hory** 67.45 339 eP P 19 24 48.6 -2.6
KHC *e* 19 24 51.5
WVT **Waverly** 67.46 56 P P 19 24 51.0 -0.4
baz=330
GEC2 **GERESS Array S** 67.70 339 eP P 19 24 53.0 +0.1
comp=Z,11nm,1.3s
GEC2 **GERESS Array S** 67.70 339 eP P 19 24 53.0 +0.1
GEC2 pmax pmax
comp=Z,11nm,1.3s
GERES **GERESS Array B** 67.70 339 P P 19 24 53.1 +0.3
comp=Z,1.3nm,0.6s,baz=36,slow=5.0,SNR=12
GEA0 **GERESS Array S** 67.71 339 eP P 19 24 52.7 -0.1
VRI **Vrincioaia** 67.71 329⇓*i*P P 19 24 54.2 +1.4
VRI **Vrincioaia** 67.71 329⇓P P 19 24 54.2 +1.4
PLOR **Plostina** 67.75 329⇑*i*P P 19 24 54.5 +1.4
PLOR **Plostina** 67.75 329⇑P P 19 24 54.5 +1.4
TLCR 67.80 327⇑*i*P P 19 24 54.1 +0.8
TLCR 67.80 327⇑P P 19 24 54.1 +0.8
V47A **Nunnelly** 67.85 56 P P 19 24 53.3 -0.5
baz=330
DOPR **Dopca** 67.95 330⇓*i*P P 19 24 55.5 +1.1
CFR **Carcaliu** 67.99 327⇓*i*P P 19 24 55.0 +0.5
CFR **Carcaliu** 67.99 327⇓P P 19 24 55.0 +0.5
CONA **Conrad Observa** 68.19 337 *i* P P 19 24 56.6 +0.8
comp=Z,8.7nm,1.4s
MLR **Muntele Rosu** 68.26 329⇓*i*P P 19 24 57.9 +1.5
MLR **Muntele Rosu** 68.26 329⇓P P 19 24 57.9 +1.5
VOIR 68.53 330⇓*i*P P 19 24 59.4 +1.3
VOIR 68.53 330⇓P P 19 24 59.4 +1.3
SIRR **Siria** 68.56 332⇓*i*P P 19 24 59.2 +1.1
MOA **Molln** 68.56 338 *i* P P 19 24 59.2 +1.0
comp=Z,7.7nm,1.6s
TLB **Topalu** 68.56 327⇑*i*P P 19 24 57.7 -0.4
TLB **Topalu** 68.56 327⇑P P 19 24 57.7 -0.4
TIRR **Tirgusor** 68.58 327⇓*i*P P 19 24 58.6 +0.3
TIRR **Tirgusor** 68.58 327 eP P 19 24 58.3 0.0
comp=Z,7.6nm,1.1s
TIRR **Tirgusor** 68.58 327 eP P 19 24 58.3 0.0
TIRR pmax pmax
comp=Z,8.0nm,1.1s
ARR **Arges** 68.70 330⇑*i*P P 19 25 00.1 +1.0
BZS **Buzias** 69.18 332⇑*i*P P 19 25 02.3 +0.3
BZS **Buzias** 69.18 332⇑P P 19 25 02.3 +0.3
WATA **Walderalm** 69.53 340 *i* P P 19 25 05.3 +0.9
comp=Z,2.4nm,0.7s
WTTA **Wattenberg** 69.59 340 *i* P P 19 25 05.1 +0.3
comp=Z,2.7nm,0.7s
MOTA **Moosalm** 69.60 340 *i* P P 19 25 05.2 +0.5
comp=Z,2.2nm,0.7s
OBKA **Obir** 69.80 337 eP P 19 25 06.7 +0.8
comp=Z,11nm,0.8s
ABTA **Abfaltersbach** 69.94 339 eP P 19 25 07.7 +0.9
comp=Z,7.6nm,1.0s
FETA **Feichten** 69.98 340 *i* P P 19 25 08.1 +1.0
comp=Z,7.5nm,1.2s
Z50A **Ashland** 70.73 56 P P 19 25 10.9 -0.8
baz=332
149A **Jones** 70.95 57 P P 19 25 12.5 -0.6
baz=331
BR101 **Keskin Array S** 71.45 321 eP P 19 25 16.8 +0.6
BR131 **Keskin Array S** 71.45 321 eP P 19 25 16.1 -0.1
BRTR **Keskin Array B** 71.45 321 P P 19 25 16.8 +0.6
comp=Z,1.7nm,0.9s,baz=31,slow=3.2,SNR=6.2
BR231 **Keskin MP Arra** 71.61 322 eP P 19 25 16.5 -0.6
VTS **Vitosha** 71.66 330⇑*i*P P 19 25 15.9 -1.5
VTS **Vitosha** 71.66 330⇑P P 19 25 15.9 -1.5
PSI **Prapat** 75.22 248 LR LR 20 05 39.8
comp=Z,25nm,18.8s,baz=1.0,slow=41
PSI **Prapat** 75.22 248 eP P 19 25 38.9 +0.3
comp=Z,8.3nm,1.4s
PSI **Prapat** 75.22 248 eP P 19 25 38.9 +0.3
PSI pmax pmax
comp=Z,8.0nm,1.4s
MMAI **Mount Meron Ar** 77.04 317 P P 19 25 48.7 0.0
comp=Z,2.3nm,0.8s,baz=355,slow=14,SNR=3.4
ES19 **SONSECA Array** 79.04 350 eP P 19 25 59.2 -0.5
ESDC **Sonseca Array** 79.07 350 P P 19 26 00.1 +0.1
comp=Z,1.8nm,0.6s,baz=3.5,slow=5.5,SNR=20
WR1 **Warramunga Arr** 83.93 207 eP P 19 26 25.3 -0.3
comp=Z,5.7nm,0.7s
WRA **Warramunga Arr** 83.93 207 P P 19 26 25.3 -0.3
comp=Z,3.8nm,0.7s,baz=15,slow=5.4,SNR=8.9
WRA **Warramunga Arr** 83.93 207 *i* P P 19 26 26.2 +0.6
WRA pmax pmax
comp=Z,4.0nm,0.7s
AS01 **Alice Springs** 87.62 206 eP P 19 26 43.4 -0.5
AS31 **Alice Springs** 87.63 206 eP P 19 26 42.7 -1.2
comp=Z,0.9nm,0.6s
ASAR **Alice Springs** 87.63 206 P P 19 26 43.1 -0.7
comp=Z,1.5nm,0.9s,baz=3.4,slow=4.6,SNR=5.4
COCO **West Island** 89.47 243 *i* P P 19 26 56.3 +3.6
SDV **Santo Domingo** 98.70 54 LR LR 20 17 26.9
comp=Z,22nm,18.9s,baz=62,slow=39

IDC **10** *19:15:55.9±1.3,4°.24S×102°.24E,h0km,mb3.9/10, mb1 4.0/10,mb1mx3.6/65,mbtmp3.9/10,Error ellipse: s-maj=51.6km s-min=15.4km az=50.0*
DJA **10** *19:15:57.7±0.9,5°.5S±4°×10°.2E±°,h16km±6km,M4.2/7, MLv4.2/7*
ISCJB **10** *19:15:58.8±0.9,4°.55S±0°.06×101°.74E±0°.05,h57km±7km, mb4.2/14,Error ellipse: s-maj=12.6km s-min=5.1km az=34.9*
NEIC **10** *19:16:01.0±1.0,4°.13S×102°.21E,h40km±9km,mb4.7/7, Error ellipse: s-maj=14.1km s-min=7.6km az=53.0*
ISC 10 19:15:59.0±0.9,**4°.56S**±0°.09×**101°.72E**±0°.07,**h40**km±8km, **n52**,σ1^{s}**16**/52,**mb4.2**/14,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	1.25	81	P	**Pn**	19 16 20.0	0.0
MNAI				S	**Sn**	19 16 36.3	+0.7
MNAI	**Manna**	1.25	81	*e*Pn	**Pn**	19 16 17.9	-2.0
MASI	**Maura Aman, Be**	1.50	20	P	**Pn**	19 16 23.4	-0.1
MASI				S	**Sn**	19 16 43.4	+1.6
LWLI	**Liwa**	2.37	101	P	**Pn**	19 16 35.4	-0.2
LWLI				S	**Sn**	19 17 05.5	+2.0
MDSI	**Maura Dua**	2.45	88	P	**Pn**	19 16 37.0	+0.5
MDSI				S	**Sn**	19 17 06.7	+1.5
PPSI	**Pulau Pagai**	2.47	316	P	**Pn**	19 16 37.3	+0.5
PPSI				S	**Sn**	19 17 08.6	+2.9
KASI	**Kota Agung**	2.93	109	P	**Pn**	19 16 43.9	+0.9
KASI				S	**Sn**	19 17 18.7	+1.7
KLI	**Kotabumi**	3.14	96	P	**Pn**	19 16 46.2	+0.2
KLI				S	**Sn**	19 17 23.4	+1.1
PMBI	**Palembang**	3.45	62	P	**Pn**	19 16 49.4	-0.8
PMBI				S	**Sn**	19 17 29.9	0.0
MYKOM	**Kota Tinggi**	6.66	19	*e*Pn	Pn	19 17 26.6	-7.7
CISI	**Cisompet, Garu**	6.75	116	*e*Pn	**Pn**	19 17 34.3	-1.5
CISI				*e*Sn	Sn	19 18 39.9	-12
GSI	**Gunungsitoli**	7.15	324	*e*Pn	**Pn**	19 17 41.0	-0.1
GSI				*e*Sn	**Sn**	19 18 56.2	-4.8
COCO	**West Island**	8.99	212	*e*Pn	Pn	19 18 18.2	+12
KULM	**Kulim**	9.84	354	*e*Pn	Pn	19 18 15.6	-2.4
BATI	**Baumata**	22.46	106	P	**P**	19 20 53.1	-2.0
	4.5nm,0.5s,baz=326,slow=7.3,SNR=3.5						
FITZ	**Fitzroy Crossi**	26.99	122	P	**P**	19 21 37.4	+0.1
	1.1nm,0.5s,baz=276,slow=6.2,SNR=5.4						
FITZ	**Fitzroy Crossi**	26.99	122	*e*P	**P**	19 21 37.5	+0.2
	17nm,1.5s						
H08S2	**Diego Garcia H**	29.22	263	T	T	19 52 14.9	
	baz=85,slow=76,SNR=22						
H08S3	**Diego Garcia H**	29.23	263	T	T	19 52 13.4	

baz=85,slow=76,SNR=25
H08S1 Diego Carcia H 29.24 263 T T 19 52 15.7
baz=85,slow=76,SNR=9.1
WR1 Warramunga Arr 35.25 119 *e*P **P 19 22 49.0 -1.2**
19nm,1.8s
WRA Warramunga Arr 35.25 119 P **P 19 22 49.0 -1.2**
0.3nm,0.3s,baz=301,slow=11,SNR=16
ASAR Alice Springs 36.38 125 P **P 19 23 00.2 +0.4**
0.5nm,0.6s,baz=296,slow=7.9,SNR=12
STKA Stephens Creek 46.18 131 P **P 19 24 21.3 +1.2**
1.7nm,0.7s,baz=302,slow=14,SNR=3.6
STKA Stephens Creek 46.18 131 *e*P **P 19 24 20.6 +0.5**
6.0nm,1.9s
SONA0 Songino Array 52.33 4 *e*P **P 19 25 07.4 +0.4**
SONM Songino Array 52.33 4 P **P 19 25 07.4 +0.4**
0.6nm,0.6s,baz=186,slow=9.8,SNR=5.3
SONA1 Songino Array 52.34 4 *e*P **P 19 25 07.4 +0.3**
MK01 Makanchi Array 53.92 344 *e*P **P 19 25 19.2 +0.6**
MK31 Makanchi Array 53.95 344 *e*P **P 19 25 19.6 +0.8**
MK32 Makanchi Array 53.95 344 *e*P **P 19 25 19.1 +0.4**
MKAR Makanchi Array 53.95 344 P **P 19 25 19.1 +0.4**
0.7nm,0.4s,baz=149,slow=9.4,SNR=25
MKAR Makanchi Array 53.95 344 *e*P **P 19 25 19.5 +0.7**
8.3nm,0.4s
MAKZ Makanchi 54.05 343 *e*P **P 19 25 19.8 +0.3**
6.9nm,1.8s
USRK Ussuriysk Ar. 55.64 26 P **P 19 25 30.8 -0.2**
1.9nm,0.6s,baz=185,slow=3.3,SNR=4.3
ZALV Zalesovo Beam 59.99 349 P **P 19 26 01.8 +0.4**
1.0nm,0.4s,baz=177,slow=6.6,SNR=6.6
ZALV Zalesovo Beam 59.99 349 *e*P **P 19 26 00.7 -0.6**
ZAA1 Zalesovo Array 59.99 349 *e*P **P 19 26 01.8 +0.4**
AB07 Akbulak array 64.68 331 *e*P **P 19 26 33.1 +0.3**
AB06 Akbulak array 64.69 331 *e*P **P 19 26 32.9 0.0**
AB08 Akbulak array 64.69 331 *e*P **P 19 26 33.0 +0.1**
AB01 Akbulak array 64.69 331 *e*P **P 19 26 33.1 +0.1**
AB31 Akbulak array 64.69 331 *e*P **P 19 26 33.2 +0.3**
ABKAR Akbulak array 64.69 331 *e*P **P 19 26 33.2 +0.3**
35nm,1.8s
AB02 Akbulak array 64.69 331 *e*P **P 19 26 32.9 0.0**
AB04 Akbulak array 64.70 331 *e*P **P 19 26 33.1 +0.1**
AB05 Akbulak array 64.71 331 *e*P **P 19 26 33.1 +0.1**
AB09 Akbulak array 64.71 331 *e*P **P 19 26 33.2 +0.1**
MAW Mawson 68.26 195 *e*P P 19 26 59.3 +3.9
15nm,1.4s
BR101 Keskin Array S 76.31 313 *e*P P 19 27 49.2 +5.0
BRTR Keskin Array B 76.31 313 P P 19 27 49.2 +5.0
0.4nm,0.7s,baz=139,slow=6.7,SNR=2.9
TXAR Lajitas Array 145.57 41 PKPbc **PKPab 19 35 34.8 +0.5**
1.3nm,0.5s,baz=271,slow=0.8,SNR=26

*ISCJB **10** 19:19:36.7±0.3, 11.°04S±0.°03×113.°35E±0.°02, h25km, mb4.4/30, Error ellipse: s-maj=4.0km s-min=3.3km az=21.9*
*IDC **10** 19:19:36.8±1.0, 10.°70S×113.°39E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.0/54, mbtmp4.1/16, ML4.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/51, Error ellipse: s-maj=32.5km s-min=15.3km az=45.0*
*DJA **10** 19:19:38.9±0.6, 11.°3S×3.°1E±1.°, h27km±7km, M4.6/19, mb4.8/7, mB5.3/3, MLv4.6/19, Mw(mB)4.7/3*
*NEIC **10** 19:19:40.9±0.6, 10.°78S×113.°43E, h31km±3km, mb4.5/19, Error ellipse: s-maj=8.2km s-min=3.6km az=208.0*
ISC 10 19:19:39.0±0.5, 10.°87S±0.°05×113.°43E±0.°04, h25km, n113, σ2s02/128, mb4.3/30, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.48**	**17**	P	**Pn**	**19 20 19.3**	**+1.4**
JAGI				S	**Sb**	**19 20 51.7**	**-1.4**
JAGI	**Jajag, Banyuwa**	**2.48**	**17**	*e*Pn	**Pn**	**19 20 18.0**	**+0.2**
GMJI	**Gumukmas**	**2.58**	**0**	P	**Pn**	**19 20 19.4**	**+0.3**
GMJI				S	**Sb**	**19 20 53.7**	**-2.0**
IGBI	**Denpasar**	**2.65**	**40**	P	**Pn**	**19 20 21.7**	**+1.6**
IGBI				S	**Sb**	**19 20 55.8**	**-2.0**
DNP	**Denpasar**	**2.79**	**39**	P	**Pn**	**19 20 24.7**	**+2.6**
DNP				S	**Sb**	**19 20 59.4**	**-2.6**
BLJI	**Banyuglugur**	**3.10**	**3**	P	**Pn**	**19 20 28.4**	**+2.0**
BLJI				S	**Sb**	**19 21 06.9**	**-4.1**
ABJI	**Asem Bagus**	**3.15**	**15**	P	**Pn**	**19 20 29.2**	**+2.2**
ABJI				S	**Sb**	**19 21 08.4**	**-3.9**
PWJI	**Pagerwojo**	**3.25**	**330**	P	**Pn**	**19 20 28.3**	**-0.1**
PWJI				S	**Sn**	**19 21 04.7**	**-1.6**
SRBI	**Singaraja**	**3.27**	**33**	P	**Pn**	**19 20 31.2**	**+2.5**
SRBI				S	**Sb**	**19 21 11.2**	**-4.7**
PCJI	**Pacitan**	**3.46**	**320**	P	**Pn**	**19 20 32.0**	**+0.7**
PCJI				S	**Sn**	**19 21 14.0**	**+2.5**
KMMI	**Kalianget**	**3.83**	**8**	P	**Pn**	**19 20 38.6**	**+2.3**
KMMI				S	**Sb**	**19 21 25.3**	**-6.5**
GRJI	**Gresik**	**4.04**	**346**	P	**Pn**	**19 20 41.3**	**+2.1**
GRJI				S	**Sn**	**19 21 29.2**	**+3.5**
PLAI	**Plampang**	**4.74**	**65**	P	**Pn**	**19 20 50.4**	**+1.5**
PLAI				S	**Sn**	**19 21 46.7**	**+3.6**
SMRI	**Semarang**	**4.80**	**322**	P	**Pn**	**19 20 50.7**	**+0.9**
SMRI				S	**Sn**	**19 21 46.8**	**+2.1**
SMRI	**Semarang**	**4.80**	**322**	*e*Pn	**Pn**	**19 20 51.2**	**+1.4**
BWJI	**Bawean**	**5.04**	**351**	S	**Sn**	**19 21 54.0**	**+3.5**
WBSI	**Waikabubak, Su**	**5.99**	**79**	P	**Pn**	**19 21 06.8**	**+0.6**
CISI	**Cisompet, Garu**	**6.44**	**300**	P	**Pn**	**19 21 12.3**	**-0.1**
CISI				S	**Sn**	**19 22 26.0**	**+0.8**
CISI	**Cisompet, Garu**	**6.44**	**300**	*e*Pn	**Sn**	**19 21 12.3**	**-0.3**
CISI				*e*Sn	**Sn**	**19 22 20.1**	**-5.1**
JCJI	**Jatiwangi**	**6.70**	**310**	S	**Sn**	**19 22 29.0**	**-2.5**
LEM	**Lembang**	**7.00**	**304**	P	**Pn**	**19 21 20.9**	**+0.7**
LEM				S	**Sn**	**19 22 40.7**	**+1.5**
BASI	**Baing, Sumba**	**7.06**	**85**	P	**Pn**	**19 21 21.2**	**+0.4**
BASI				S	**Sn**	**19 22 43.2**	**+2.9**
TNG	**Tangerang**	**8.17**	**304**	P	Pn	19 21 18.4	-18
MMRI	**Maumere**	**8.96**	**76**	*e*Pn	**Pn**	**19 21 49.0**	**+2.1**
BATI	**Baumata**	**10.09**	**87**	Pn	**Pn**	**19 22 03.4**	**+1.1**
8.3nm,0.3s,baz=295,slow=4.6,SNR=19							
BATI				Sn	**Sn**	**19 23 50.2**	**-4.6**
2.6nm,0.3s,baz=107,slow=19,SNR=6.8							
BATI	**Baumata**	**10.09**	**87**	P	**Pn**	**19 22 03.5**	**+1.1**
SOEI	**Soe**	**10.72**	**85**	*e*Pn	**Pn**	**19 22 12.4**	**+1.2**
MBWA	**Marble Bar**	**11.89**	**150**	*e*Pn	**Pn**	**19 22 23.4**	**-3.7**
FITZ	**Fitzroy Crossi**	**13.83**	**123**	Pn	**Pn**	**19 22 51.9**	**-1.7**
0.4nm,0.3s,baz=323,slow=14,SNR=17							
FITZ				Sn	Sn	19 25 15.5	-11
0.7nm,0.3s,baz=310,slow=6.4,SNR=10							
MTN	**Manton Dam**	**17.44**	**98**	*e*Pn	**P**	**19 23 41.9**	**+0.2**
18nm,1.3s							
IPM	**Ipoh**	**19.62**	**320**	*e*P	**Pn**	**19 24 07.8**	**+0.6**
25nm,1.9s							
PSI	**Prapat**	**19.82**	**312**	LR	LR	19 32 27.3	
comp=Z,64nm,19.7s,baz=221,slow=39							
GSI	**Gunungsitoli**	**19.87**	**307**	*e*P	**P**	**19 24 05.3**	**-3.2**
42nm,1.6s							
FAKI	**Fak Fak**	**20.27**	**68**	*e*P	**P**	**19 24 11.8**	**-1.1**
155nm,1.6s							
KULM	**Kulim**	**20.48**	**321**	*e*P	**P**	**19 24 14.5**	**-0.7**
21nm,1.6s							
WR1	**Warramunga Arr**	**22.07**	**117**	*e*P	**P**	**19 24 34.1**	**+1.8**
5.9nm,0.6s							
WR1				*e*S	**S**	**19 28 29.9**	**-4.7**
WRA	**Warramunga Arr**	**22.07**	**117**	P	**P**	**19 24 34.1**	**+1.8**
5.1nm,0.5s,baz=290,slow=11,SNR=36							
WRA				S	**S**	**19 28 29.9**	**-4.7**
1.2nm,0.7s,baz=290,slow=25,SNR=6.7							
AS31	**Alice Springs**	**23.29**	**126**	*e*P	**P**	**19 24 47.5**	**+2.4**
1.4nm,0.4s							
ASAR	**Alice Springs**	**23.29**	**126**	P	**P**	**19 24 47.4**	**+2.3**
2.7nm,0.5s,baz=302,slow=9.7,SNR=39							
ASAR				S	**S**	**19 29 01.4**	**+5.1**
0.9nm,0.7s,baz=292,slow=23,SNR=4.7							
AS01	**Alice Springs**	**23.33**	**126**	*e*P	**P**	**19 24 47.3**	**+1.9**
CM01	**Chiang Mai Arr**	**32.41**	**334**	*e*P	**P**	**19 26 08.3**	**+1.2**
CM31	**Chiang Mai Arr**	**32.45**	**334**	*e*P	**P**	**19 26 06.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**32.45**	**334**	P	**P**	**19 26 08.0**	**+0.5**
1.2nm,0.6s,baz=168,slow=8.2,SNR=8.9							
STKA	**Stephens Creek**	**33.37**	**133**	P	**P**	**19 26 19.4**	**+4.0**
1.8nm,0.8s,baz=313,slow=8.3,SNR=6.3							
STKA	**Stephens Creek**	**33.37**	**133**	*e*P	**P**	**19 26 13.6**	**-1.8**
3.9nm,1.8s							
H08S2	**Diego Garcia H**	**40.51**	**271**	T	T	20 10 45.5	
baz=96,slow=75,SNR=21							
H08S3	**Diego Garcia H**	**40.52**	**271**	T	T	20 10 42.4	
baz=96,slow=75,SNR=20							
H08S1	**Diego Garcia H**	**40.53**	**271**	T	T	20 10 43.4	
baz=96,slow=75,SNR=9.0							
JIRN	**Jiri**	**46.51**	**326**	*e*P	**P**	**19 28 06.1**	**+1.1**
GUN	**Gumba**	**46.88**	**326**	*e*P	**P**	**19 28 09.0**	**+1.2**
7.3nm,0.5s							
PKIN	**Phulchoki**	**46.89**	**325**	*e*P	**P**	**19 28 08.9**	**+1.1**
DMN	**Daman**	**47.08**	**325**	*e*P	**P**	**19 28 10.0**	**+0.8**
9.5nm,0.8s							
KKN	**Kakani**	**47.12**	**325**	*e*P	**P**	**19 28 10.5**	**+1.0**
KOLN	**Koldanda**	**48.06**	**324**	*e*P	**P**	**19 28 17.7**	**+0.8**
8.3nm,0.7s							
KS15	**Wonju Array Si**	**49.93**	**15**	*e*P	**P**	**19 28 31.1**	**+0.3**
KSAR	**Wonju Array Be**	**49.93**	**15**	P	**P**	**19 28 32.0**	**+1.3**
KSRS	**Korea Array**	**49.95**	**15**	P	**P**	**19 28 32.0**	**+1.2**
3.3nm,0.7s,baz=199,slow=7.9,SNR=8.8							
JHJ	**Hachijo jima 2**	**50.44**	**29**	P	**P**	**19 28 35.8**	**+1.1**
230nm,0.5s,baz=259,slow=17,SNR=3.5							
JHJ2	**Mitsune**	**50.45**	**29**	*e*P	**P**	**19 28 30.0**	**-4.8**
813nm,1.2s							
INU	**Inuyama**	**51.09**	**25**	*e*P	**P**	**19 28 35.2**	**-4.3**
30nm,1.1s							
USRK	**Ussuriysk Ar.**	**57.34**	**16**	P	**P**	**19 29 25.6**	**+0.7**
4.9nm,0.6s,baz=182,slow=7.5,SNR=7.6							
ULN	**Ulaanbaatar**	**58.74**	**355**	*e*P	**P**	**19 29 34.9**	**+0.1**
12nm,1.9s							
SONA0	**Songino Array**	**58.77**	**354**	*e*P	**P**	**19 29 35.1**	**0.0**
SONM	**Songino Array**	**58.77**	**354**	P	**P**	**19 29 35.1**	**0.0**
0.9nm,0.8s,baz=167,slow=7.6,SNR=5.5							
SONA1	**Songino Array**	**58.78**	**354**	*e*P	**P**	**19 29 35.1**	**-0.1**
KLR	**Kul'dur**	**61.97**	**13**	P	**P**	**19 29 57.0**	**+0.2**
0.1nm,0.5s,baz=161,slow=5.3,SNR=6.5							
KDJ	**Kajisay**	**62.35**	**330**	*e*P	**P**	**19 30 01.3**	**+1.6**
5.8nm,1.3s							
MK01	**Makanchi Array**	**63.77**	**337**	*e*P	**P**	**19 30 09.4**	**+0.6**
MK31	**Makanchi Array**	**63.79**	**337**	*e*P	**P**	**19 30 09.3**	**+0.3**
MK32	**Makanchi Array**	**63.79**	**337**	*e*P	**P**	**19 30 10.0**	**+1.0**
MKAR	**Makanchi Array**	**63.79**	**337**	P	**P**	**19 30 10.0**	**+1.0**
0.6nm,0.4s,baz=144,slow=7.5,SNR=16							
MKAR	**Makanchi Array**	**63.79**	**337**	*e*P	**P**	**19 30 09.1**	**+0.2**
10nm,1.1s							
AAK	**Ala-Archa**	**64.06**	**329**	*e*P	**P**	**19 30 12.7**	**+1.7**
3.9nm,1.0s							
KK06	**Karatay Array**	**66.45**	**327**	*e*P	**P**	**19 30 27.1**	**+0.8**
KK07	**Karatay Array**	**66.46**	**327**	*e*P	**P**	**19 30 27.1**	**+0.8**
KK02	**Karatay Array**	**66.46**	**327**	*e*P	**P**	**19 30 27.3**	**+0.9**
KK31	**Karatay Array**	**66.46**	**327**	*e*P	**P**	**19 30 27.0**	**+0.6**
KKAR	**Karatay Array**	**66.46**	**327**	*e*P	**P**	**19 30 27.2**	**+0.8**
KK05	**Karatay Array**	**66.46**	**327**	*e*P	**P**	**19 30 27.0**	**+0.6**
KK01	**Karatay Array**	**66.47**	**327**	*e*P	**P**	**19 30 26.9**	**+0.5**
KK03	**Karatay Array**	**66.47**	**327**	*e*P	**P**	**19 30 26.9**	**+0.5**
KK04	**Karatay Array**	**66.47**	**327**	*e*P	**P**	**19 30 27.3**	**+0.9**
KK08	**Karatay Array**	**66.47**	**327**	*e*P	**P**	**19 30 27.5**	**+1.0**
KURBB	**Kurchatov Arra**	**68.36**	**337**	P	**P**	**19 30 38.7**	**+0.6**
1.4nm,0.7s,baz=155,slow=5.3,SNR=17							
KURK	**Kurchatov**	**68.40**	**337**	*e*P	**P**	**19 30 38.7**	**+0.3**
ZALV	**Zalesovo Beam**	**68.98**	**342**	P	**P**	**19 30 42.4**	**+0.4**
1.3nm,0.6s,baz=150,slow=5.9,SNR=6.4							
ZALV	**Zalesovo Beam**	**68.98**	**342**	*e*P	**P**	**19 30 41.9**	**-0.1**
ZAA1	**Zalesovo Array**	**68.98**	**342**	*e*P	**P**	**19 30 42.4**	**+0.4**
GEYT	**Alibeck**	**70.89**	**317**	P	**P**	**19 30 55.8**	**+1.7**
1.1nm,0.5s,baz=134,slow=51,SNR=2.9							
GYA2	**ALIBECK ARRAY**	**70.89**	**317**	*e*P	**P**	**19 30 54.4**	**+0.2**
2.8nm,0.8s							
GYB5	**ALIBECK ARRAY**	**70.89**	**317**	*e*P	**P**	**19 30 53.8**	**-0.3**
2.3nm,0.8s							
PEA0B	**Petropavlovsk-**	**74.06**	**26**	*e*P	**P**	**19 31 12.9**	**+0.3**
26nm,1.4s							
PETK	**Petropavlovsk-**	**74.06**	**26**	P	**P**	**19 31 12.5**	**-0.2**
0.7nm,0.5s,baz=251,slow=14,SNR=5.0							
PETK	**Petropavlovsk-**	**74.06**	**26**	*e*P	**P**	**19 31 13.0**	**+0.3**
PEA1	**Petropavlovsk-**	**74.06**	**26**	*e*P	**P**	**19 31 12.5**	**-0.2**
AB07	**Akbulak array**	**76.01**	**327**	*e*P	**P**	**19 31 25.0**	**+1.1**
AB06	**Akbulak array**	**76.02**	**327**	*e*P	**P**	**19 31 25.1**	**+1.1**
AB03	**Akbulak array**	**76.02**	**327**	*e*P	**P**	**19 31 24.4**	**+0.4**
AB08	**Akbulak array**	**76.02**	**327**	*e*P	**P**	**19 31 25.0**	**+0.9**
AB02	**Akbulak array**	**76.03**	**327**	*e*P	**P**	**19 31 25.1**	**+1.1**
AB31	**Akbulak array**	**76.03**	**327**	*e*P	**P**	**19 31 25.5**	**+1.5**
ABKAR	**Akbulak array**	**76.03**	**327**	*e*P	**P**	**19 31 25.2**	**+1.1**
25nm,0.5s							
AB04	**Akbulak array**	**76.03**	**327**	*e*P	**P**	**19 31 25.1**	**+1.1**
AB05	**Akbulak array**	**76.04**	**327**	*e*P	**P**	**19 31 25.2**	**+1.1**
AB09	**Akbulak array**	**76.04**	**327**	*e*P	**P**	**19 31 25.4**	**+1.2**
KMBO	**Kilima Mbogo**	**76.21**	**272**	*e*P	**P**	**19 31 25.5**	**-0.8**
15nm,1.8s							
MA2	**Magadan**	**76.33**	**19**	P	**P**	**19 31 26.8**	**+1.2**
1.1nm,0.3s,baz=196,slow=6.1,SNR=6.1							
SEY	**Seymchan**	**79.46**	**17**	P	**P**	**19 31 44.4**	**+1.5**
0.6nm,0.4s,baz=259,slow=11,SNR=4.6							
TIXI	**Tiksi**	**82.98**	**5**	*e*P	**P**	**19 32 01.6**	**+0.2**
2.3nm,0.8s							
BR101	**Keskin Array S**	**89.14**	**311**	*e*P	**P**	**19 32 32.6**	**-0.2**
BRTR	**Keskin Array B**	**89.14**	**311**	P	**P**	**19 32 32.6**	**-0.2**
0.5nm,0.8s,baz=53,slow=9.6,SNR=3.0							
BR231	**Keskin MP Arra**	**89.87**	**311**	*e*pP	pP	19 32 46.6	+2.6
YKA	**Yellowknife Ar**	**118.09**	**23**	PKP	**PKPdf**	**19 38 24.9**	**+1.6**
0.2nm,0.6s,baz=322,slow=1.8,SNR=5.3							

*NIED **10** 19:27:00, 36.°40N×142.°70E, h8km, Mw3.8 Best double couple: M0 5.66000×10^14 NP1:ϕ1±182.00000°, δ39.00000°, λ52.00000°. NP2:ϕ2±47.00000°, δ60.00000°, λ117.00000°.*
*ISCJB **10** 19:27:21.6±0.5, 36.°39N±0.°05×142.°72E±0.°05, h15km, mb3.6/14, MS3.7/1, Error ellipse: s-maj=7.2km s-min=5.5km az=150.5*
*IDC **10** 19:27:21.0±0.8, 36.°37N×142.°70E, h0km, mb3.7/14, mb1 3.8/16, mb1mx3.7/63, mbtmp3.7/16, ML3.5/2, MS3.7/1, Ms1 3.7/1, ms1mx2.6/60, Error ellipse: s-maj=20.6km s-min=17.8km az=103.0*
*JMA **10** 19:27:22.4±0.2, 36.°42N×142.°72E, h24km, M3.5*
ISC 10 19:27:23.3±0.7, 36.°42N±0.°06×142.°67E±0.°07, h15km, n29, σ0s84/35, mb3.8/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.63**	**244**	P	**Pb**	**19 27 51.2**	**-1.9**
ONAJ	**Iwakimizuishiy**	**1.65**	**295**	P	**Pn**	**19 27 51.1**	**-0.7**
JHO	**Hitachi**	**1.70**	**277**	P	**Pn**	**19 27 51.8**	**-0.7**
JHO				*e*S	**Sn**	**19 28 13.1**	**-0.9**
JFT	**Otama**	**2.17**	**301**	P	**Pn**	**19 27 59.1**	**+0.3**
JFT				*e*S	**Sn**	**19 28 25.7**	**+0.3**
BSO1	**Boso 1**	**2.24**	**219**	P	**Pn**	**19 27 59.1**	**-0.2**
BSO1				*e*S	**Sn**	**19 28 26.3**	**-0.2**
JIO	**Ouri**	**2.29**	**333**	P	**Pn**	**19 28 00.4**	**-0.1**
JAG	**Ashikaga**	**2.59**	**271**	P	**Pn**	**19 28 04.5**	**-0.2**
JAG				*e*S	**Sn**	**19 28 35.4**	**-0.6**
JMK	**Ichinoseki**	**2.77**	**336**	P	**Pn**	**19 28 06.8**	**-0.4**
JRY	**Ryogami san**	**3.07**	**264**	P	**Pn**	**19 28 11.1**	**-0.3**
JYK	**Kaneyama**	**3.09**	**324**	P	**Pn**	**19 28 11.6**	**0.0**
JOD2	**Odawara 2**	**3.13**	**249**	P	**Pn**	**19 28 12.3**	**+0.2**
MJAR	**Matsushiro Arr**	**3.60**	**273**	Pn	**Pn**	**19 28 19.0**	**+0.5**
2.2nm,0.3s,baz=89,slow=8.5,SNR=46							
MAT	**Matsushiro**	**3.60**	**273**	P	**Pn**	**19 28 19.2**	**+0.6**
MAT				*e*S	**Sn**	**19 29 01.9**	**+1.1**
ASAJ	**Asahikawa**	**7.69**	**360**	Pn	**Pn**	**19 29 14.0**	**-0.7**
0.8nm,0.3s,baz=227,slow=9.5,SNR=16							
ASAJ				Sn	**Sn**	**19 30 38.4**	**-3.0**
0.3nm,0.3s,baz=0.0,slow=20,SNR=2.5							
MA2	**Magadan**	**23.76**	**10**	P	**P**	**19 32 34.7**	**-0.1**
0.9nm,0.3s,baz=146,slow=20,SNR=3.6							
SEY	**Seymchan**	**27.21**	**10**	P	**P**	**19 33 06.9**	**+0.7**
0.2nm,0.3s,baz=72,slow=19,SNR=2.5							
SONM	**Songino Array**	**28.96**	**305**	P	**P**	**19 33 22.3**	**+0.1**
2.1nm,1.1s,baz=106,slow=9.0,SNR=5.3							
ZALV	**Zalesovo Beam**	**43.07**	**313**	P	**P**	**19 35 22.6**	**+0.2**
0.9nm,0.5s,baz=98,slow=7.9,SNR=4.8							
ZALV				PcP	**PcP**	**19 37 11.8**	**-0.4**
0.5nm,0.5s,baz=119,slow=5.1,SNR=3.1							
MKAR	**Makanchi Array**	**45.30**	**303**	P	**P**	**19 35 40.9**	**+0.5**
1.1nm,0.7s,baz=88,slow=10,SNR=11							
KDAK	**Kodiak Island**	**46.88**	**42**	LR	LR	19 52 45.7	
comp=Z,90nm,19.9s,baz=120,slow=32							
KURBB	**Kurchatov Arra**	**47.17**	**309**	P	**P**	**19 35 55.4**	**+0.4**
1.3nm,0.7s,baz=84,slow=8.0,SNR=16							
ILAR	**Eielson Array**	**49.47**	**32**	P	**P**	**19 36 12.4**	**-0.1**
0.4nm,0.8s,baz=254,slow=6.8,SNR=4.9							
WRA	**Warramunga Arr**	**56.61**	**189**	P	**P**	**19 37 05.0**	**-0.7**
0.4nm,0.8s,baz=6.6,slow=7.3,SNR=6.7							
AKTO	**Aktyubinsk**	**59.83**	**313**	P	**P**	**19 37 28.6**	**+0.6**
0.6nm,0.4s,baz=212,slow=3.0,SNR=2.3							
ASAR	**Alice Springs**	**60.33**	**189**	P	**P**	**19 37 31.4**	**-0.2**
0.2nm,0.8s,baz=18,slow=13,SNR=3.5							
YKA	**Yellowknife Ar**	**63.83**	**30**	P	**P**	**19 37 55.3**	**+0.7**
0.2nm,0.6s,baz=300,slow=6.5,SNR=3.7							
FINES	**FINESS Array B**	**69.82**	**333**	P	**P**	**19 38 34.1**	**+1.3**
2.7nm,0.9s,baz=51,slow=11,SNR=3.1							
NVAR	**Mina Array Bea**	**74.54**	**54**	P	**P**	**19 39 02.5**	**+0.8**
0.4nm,0.6s,baz=299,slow=3.9,SNR=3.6							
AKASG	**Malin Array Be**	**75.39**	**323**	P	**P**	**19 39 06.2**	**0.0**
0.5nm,0.5s,baz=47,slow=6.4,SNR=3.4							

DJA 10 19:32:42.2±0.5, 2.°S±6.°×14.°1E±1.°, h13km±4km, M4.5/6, mb5.0/4, MLv4.2/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.12**	**102**	P	Pb	19 32 46.3	-0.1
GENI	**Genyem**	**0.43**	**256**	P	Pb	19 32 51.7	0.0
MMPI	**Merauke**	**5.94**	**182**	P	Pn	19 34 10.4	+0.5
MMPI				S	Sn	19 35 20.3	+2.4
RKPI	**Ransiki, Papua**	**6.48**	**279**	P	Pn	19 34 16.9	-0.5
337nm,0.9s,2.2nm							
KMPI	**Kaimana, Papua**	**6.97**	**260**	P	Pn	19 34 24.6	+0.5
85nm,0.7s,0.3nm							
FAKI	**Fak Fak**	**8.34**	**267**	P	Pn	19 34 42.3	-0.7

*ISCJB **10** 19:36:14.4±1.5, 5.°7S±0.°3×154.°8E±0.°2, h118km, mb3.2/5, Error ellipse: s-maj=51.1km s-min=13.2km az=140.7*
*IDC **10** 19:36:25.3±5.5, 5.°59S×154.°29E, h194km±45km, mb2.9/5, mb1 3.2/6, mb1mx3.0/47, mbtmp3.5/6, Error ellipse: s-maj=59.0km s-min=27.8km az=118.0*
ISC 10 19:36:16.1±2.0, 5.°6S±0.°4×154.°7E±0.°3, h118km, n6, σ1s06/6, mb3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.39**	**243**	P	Pn	19 38 19.8	+5.0
1.6nm,0.3s,baz=53,slow=8.4,SNR=7.5							
PMG				S	**Sn**	**19 39 48.5**	**+0.7**
1.5nm,0.3s,baz=317,slow=19,SNR=4.7							
WRA	**Warramunga Arr**	**24.40**	**232**	P	**P**	**19 41 23.5**	**-0.2**
0.9nm,0.6s,baz=57,slow=10.0,SNR=14							
ASAR	**Alice Springs**	**26.90**	**226**	P	**P**	**19 41 45.6**	**-0.6**
0.2nm,0.5s,baz=54,slow=9.1,SNR=5.1							
MKAR	**Makanchi Array**	**82.19**	**319**	P	**P**	**19 48 23.8**	**-0.3**
0.2nm,0.6s,baz=111,slow=5.2,SNR=3.9							
ILAR	**Eielson Array**	**82.20**	**22**	P	**P**	**19 48 24.7**	**+1.0**
0.6nm,1.0s,baz=234,slow=5.4,SNR=3.5							
KURBB	**Kurchatov Arra**	**85.62**	**322**	P	**P**	**19 48 40.2**	**-1.2**
0.2nm,0.5s,baz=99,slow=4.9,SNR=3.0							

DJA 10 19:45:23.2±1.8, 2.°S±7.°×14.°1E±1.°2, h28km±5km, M4.7/7, mb5.3/7, MLv4.4/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.38**	**218**	P	Pb	19 45 32.1	+0.3
JAY				S	Sn	19 45 41.0	+1.6
GENI	**Genyem**	**0.86**	**244**	P	Pb	19 45 39.7	+0.1
GENI				pP	Pn	19 45 36.1	-3.4
MMPI	**Merauke**	**6.24**	**185**	P	Pn	19 46 54.8	+1.3
MMPI				S	Sn	19 48 05.8	+1.9
RKPI	**Ransiki, Papua**	**6.79**	**276**	P	Pn	19 47 01.0	-0.1
KMPI	**Kaimana, Papua**	**7.37**	**259**	P	Pn	19 47 08.1	-0.9
FAKI	**Fak Fak**	**8.71**	**265**	P	Pn	19 47 27.5	+0.1
SWI	**Sorong**	**9.77**	**278**	P	Pn	19 47 42.5	+0.6
SAUI	**Saumlaki**	**11.18**	**239**	P	Pn	19 48 01.0	-0.3
BNDI	**Bandanaira**	**11.25**	**258**	P	Pn	19 48 02.1	-0.2

*IDC **10** 19:55:40.3±1.3, 21.°90S×170.°43E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.1/38, mbtmp4.2/10, ML3.9/1, MS3.8/27, Ms1 3.8/27, ms1mx3.7/37, Error ellipse: s-maj=43.2km s-min=21.7km az=153.0*
*ISCJB **10** 19:55:44.0±0

	comp=Z,279nm,19.2s,baz=95,slow=34								
TBI	**Tubuai**	**37.28**	**100**	*e*LR		LR	20 12 56.4		
	298nm,31.8s								
PPT2	**Papeete2**	**38.13**	**91**	*e*LQ		LQ	20 11 49.6		
	458nm,26.2s								
PPT2				*e*LR		LR	20 13 20.0		
	337nm,29.2s								
MTN	**Manton Dam**	**38.17**	**277**	*e*P		**P**	**20 03 02.8**	**-0.7**	
	20nm,0.6s								
GUMO	**Guam**	**43.09**	**323**	LR		LR	20 19 04.4		
	comp=Z,122nm,20.2s,baz=134,slow=32								
SOEI	**Soe**	**45.55**	**278**	*e*P		**P**	**20 04 03.8**	**-0.2**	
	18nm,0.9s								
BATI	**Baumata**	**45.94**	**277**	LR		LR	20 23 45.6		
	comp=Z,386nm,18.9s,baz=132,slow=36								
MBWA	**Marble Bar**	**46.68**	**261**	*e*P		**P**	**20 04 13.0**	**+0.2**	
	202nm,2.0s								
TNTI	**Ternate**	**47.38**	**293**	*e*P		**P**	**20 04 16.7**	**-1.5**	
NWAO	**Narrogin (SRO)**	**47.76**	**245**	*e*P		**P**	**20 04 20.2**	**-0.8**	
	98nm,1.8s								
DAV	**Davao City (W)**	**52.27**	**298**	LR		LR	20 27 05.4		
	comp=Z,46nm,20.5s,baz=314,slow=36								
VNDA	**Vanda**	**55.80**	**182**	LR		LR	20 26 40.0		
	comp=Z,97nm,18.2s,baz=36,slow=33								
JHJ	**Hachijo jima 2**	**61.90**	**331**	LR		LR	20 33 38.7		
	comp=Z,41nm,18.7s,baz=110,slow=37								
MJAR	**Matsushiro Arr**	**65.47**	**332**	P		**P**	**20 06 27.3**	**+0.5**	
	1.6nm,0.9s,baz=159,slow=8.0,SNR=4.7								
MJAR				LR		LR	20 31 59.5		
	comp=Z,37nm,21.9s,baz=180,slow=33								
MAJO	**Matsushiro**	**65.48**	**332**	*e*P		**P**	**20 06 27.3**	**+0.5**	
JNU	**Nakatsue**	**66.29**	**325**	LR		LR	20 31 50.9		
	comp=Z,56nm,21.8s,baz=118,slow=33								
QSPA	**South Pole Qui**	**68.16**	**180**	*e*P		**P**	**20 06 45.5**	**+1.8**	
	14nm,1.2s								
KSRS	**Korea Array**	**71.15**	**326**	LR		LR	20 37 25.7		
	comp=Z,57nm,18.9s,baz=134,slow=35								
RPN	**Rapa Nui**	**72.31**	**113**	LR		LR	20 30 59.3		
	comp=Z,114nm,19.5s,baz=40,slow=29								
NJ2	**Nanjing**	**72.67**	**316**	*e*P		**P**	**20 07 12.1**	**+0.5**	
NJ2				pmax		pmax			
	comp=Z,14nm,0.6s								
PSI	**Prapat**	**73.66**	**280**	LR		LR	20 39 23.8		
	comp=Z,79nm,21.8s,baz=142,slow=36								
PSI	**Prapat**	**73.66**	**280**	*e*P		**P**	**20 07 17.0**	**-1.0**	
	8.2nm,1.1s								
GSI	**Gunungsitoli**	**74.30**	**278**	*e*P		**P**	**20 07 19.4**	**-2.2**	
	22nm,1.2s								
USRK	**Ussuriysk Ar.**	**74.46**	**333**	LR		LR	20 37 03.7		
	comp=Z,43nm,20.9s,baz=149,slow=33								
PETK	**Petropavlovsk-**	**75.47**	**352**	LR		LR	20 35 06.9		
	comp=Z,78nm,19.8s,baz=146,slow=31								
CM01	**Chiang Mai Arr**	**80.29**	**294**	*e*P		**P**	**20 07 55.6**	**+0.5**	
CM31	**Chiang Mai Arr**	**80.32**	**294**	*e*P		**P**	**20 07 53.2**	**-2.0**	
CMAR	**Chiang Mai Arr**	**80.32**	**294**	P		**P**	**20 07 56.4**	**+1.2**	
	1.7nm,1.0s,baz=120,slow=3.5,SNR=9.3								
KMI	**Kunming**	**80.36**	**302**	P		**P**	**20 07 55.7**	**+0.1**	
KMI				pmax		pmax			
	comp=Z,8.0nm,0.6s								
CHTO	**Chiang Mai**	**80.48**	**295**	*e*P		**P**	**20 07 58.1**	**+2.0**	
	4.3nm,0.9s								
XAN	**Xi'an**	**80.50**	**312**	P		**P**	**20 07 57.5**	**+1.6**	
XAN				pP		sP	20 08 11.4	+4.5	
XAN				pmax		pmax			
	comp=Z,6.0nm,2.2s								
CD2	**Chengdu**	**82.49**	**307**	*e*P		**P**	**20 08 06.4**	**-0.1**	
HHC	**Hu-ho-hao-te**	**82.76**	**319**	*e*P		**P**	**20 08 08.1**	**+0.3**	
HHC				pmax		pmax			
	comp=Z,11nm,1.0s								
HHC				pmax		pmax			
	comp=Z,82nm,7.3s								
LZH	**Lanzhou**	**85.10**	**312**	*e*P		**P**	**20 08 23.1**	**+3.2**	
LZH				pP		sP	20 08 40.4	+9.4	
LZH				sP		pP	20 08 47.2	+19	
LZH				*e*PP		**PP**	**20 11 43.2**	**+5.6**	
LZH				pmax		pmax			
	comp=Z,16nm,1.0s								
LZH				pmax		pmax			
	comp=Z,240nm,5.6s								
LZH				LR		LR			
	comp=E,140nm,12.1s								
LZH				LR		LR			
	comp=Z,150nm,13.4s								
SNAA	**Sanae**	**86.54**	**182**	P		**P**	**20 08 24.3**	**-2.1**	
VNA3	**Neumayer Olymp**	**87.10**	**180**	P		**P**	**20 08 25.2**	**-3.8**	
VNA2	**Neumayer--Watz**	**87.40**	**181**	P		**P**	**20 08 27.9**	**-2.6**	
	baz=178,slow=3.2								
VNA1	**Neumayer--Stat**	**87.69**	**181**	P		**P**	**20 08 28.9**	**-2.9**	
YBH	**Yreka Blue Hor**	**88.66**	**44**	LR		LR	20 39 03.7		
	comp=Z,51nm,21.3s,baz=312,slow=29								
SONA0	**Songino Array**	**89.82**	**323**	*e*P		**P**	**20 08 41.3**	**-1.1**	
SONM	**Songino Array**	**89.82**	**323**	P		**P**	**20 08 41.3**	**-1.1**	
	0.9nm,1.0s,baz=134,slow=3.6,SNR=5.2								
SONM				LR		LR	20 46 41.3		
	comp=Z,49nm,21.1s,baz=156,slow=34								
LPIG	**La Paz**	**89.86**	**64**	LR		LR	20 38 52.7		
	comp=Z,61nm,21.6s,baz=340,slow=29								
NVAR	**Mina Array Bea**	**89.97**	**48**	P		**P**	**20 08 40.0**	**-3.4**	
	0.4nm,0.9s,baz=248,slow=4.8,SNR=2.4								
NVAR				LR		LR	20 43 47.4		
	comp=Z,46nm,18.0s,baz=88,slow=32								
NV01	**Mina Array Sit**	**89.97**	**48**	*e*P		**P**	**20 08 41.6**	**-1.8**	
TXAR	**Lajitas Array**	**97.33**	**61**	LR		LR	20 45 03.7		
	comp=Z,73nm,19.8s,baz=0.0,slow=30								
WALA	**Waterton Lakes**	**97.56**	**40**	*e*P		**P**	**20 09 18.3**	**+0.4**	
	13nm,1.0s								
PDAR	**Pinedale Array**	**97.84**	**47**	LR		LR	20 44 19.2		
	comp=Z,43nm,21.4s,baz=32,slow=30								
WMQ	**Urumqi**	**99.61**	**313**	*e*P		**Pdif**	**20 09 28.1**	**+0.9**	
RSSD	**Black Hills**	**102.08**	**47**	*e*Pdif		**Pdif**	**20 09 38.2**	**-0.1**	
KSH	**Kashi**	**106.66**	**306**	*e*Pdif		**Pdif**	**20 10 03.5**	**+4.8**	
DPC	**Dobruska-Polom**	**144.94**	**330**	*e*PKP		**PKPab**	**20 15 18.8**	**-1.1**	
DPC				*ep*PKP		**PKiKP**	**20 15 24.7**	**+0.2**	
VYHS	**Vyhne**	**144.95**	**326**	*e*PKP		**PKPab**	**20 15 19.1**	**-0.8**	
PVCC	**Panska Ves**	**145.59**	**332**	*e*PKP		**PKPdf**	**20 15 20.3**	**-1.4**	
CLL	**Collm**	**145.66**	**334**	*e*PKPbc		**PKPdf**	**20 15 20.0**	**-1.8**	
	comp=Z,7.0nm,0.9s								
CLL				*i* PKiKP		**PKiKP**	**20 15 26.6**	**+0.8**	
	comp=Z,7.0nm,0.9s								
CLL	**Collm**	**145.66**	**334**	*e*PKPdf		**PKPdf**	**20 15 21.1**	**-0.7**	
PRU	**Pruhonice**	**146.00**	**331**	*e*PKP		**PKPdf**	**20 15 21.1**	**-1.3**	
TREC	**Trest**	**146.06**	**330**	*e*PKP		**PKPdf**	**20 15 22.2**	**-0.4**	
EKA	**Eskdalemuir Ar**	**146.24**	**353**	PKPbc		**PKPdf**	**20 15 20.6**	**-2.0**	
	comp=Z,1.9nm,0.8s,baz=350,slow=3.6,SNR=4.7								
NKC	**Novy Kostel**	**146.71**	**334**	*e*PKP		**PKPdf**	**20 15 23.6**	**-0.1**	
CONA	**Conrad Observa**	**146.82**	**328**	*e*PKPbc		**PKPdf**	**20 15 24.5**	**+0.5**	
	comp=Z,7.4nm,1.1s								
KHC	**Kasperske Hory**	**147.05**	**331**	*e*PKP		**PKPdf**	**20 15 24.3**	**0.0**	
KHC				*ep*PKP		**PKPbc**	**20 15 27.8**	**+1.4**	
KHC				*ex*		x	20 15 30.6		
KHC	**Kasperske Hory**	**147.05**	**331**	*e*PKPdf		**PKPdf**	**20 15 24.0**	**-0.3**	
GEC2	**GERESS Array S**	**147.21**	**331**	*e*PKPdf		**PKPdf**	**20 15 24.1**	**-0.6**	
GERES	**GERESS Array B**	**147.21**	**331**	PKPbc		**PKPdf**	**20 15 25.1**	**+0.5**	
	comp=Z,3.0nm,0.9s,baz=33,slow=3.2,SNR=16								
GEA0	**GERESS Array S**	**147.21**	**331**	*e*PKPdf		**PKPdf**	**20 15 24.1**	**-0.5**	
SOKA	**Soboth**	**148.08**	**327**	*e*PKPbc		**PKPdf**	**20 15 27.0**	**+0.8**	
	comp=Z,7.6nm,1.4s								
ABTA	**Abfaltersbach**	**149.28**	**329**	*ep*PKPdf		**PKPdf**	**20 15 30.7**	**+2.6**	
	comp=Z,11nm,1.4s								
WATA	**Walderalm**	**149.28**	**331**	*ep*PKPdf		**PKPdf**	**20 15 30.3**	**+2.2**	
	comp=Z,1.9nm,0.6s								
MOTA	**Moosalm**	**149.49**	**331**	*ep*PKPdf		**PKPdf**	**20 15 30.6**	**+2.1**	
	comp=Z,11nm,1.2s								
WLF	**Walferdange**	**149.53**	**339**	↓PKPbc		**PKPbc**	**20 15 31.5**	**-1.3**	
FETA	**Feichten**	**149.90**	**331**	*ep*PKPdf		**PKPdf**	**20 15 31.4**	**+2.2**	
	comp=Z,6.2nm,1.0s								
TORD	**Torodi Ar. Bea**	**165.92**	**234**	PKPab		**PKPab**	**20 16 49.6**	**+0.4**	
	comp=Z,0.5nm,0.4s,baz=134,slow=4.3,SNR=3.5								
TOA1	**Torodi Ar. Sit**	**165.93**	**234**	*e*PKPab		**PKPab**	**20 16 49.6**	**+0.4**	

MEX 10 20:04:06.7±0.3, 16.09N×98.88W, h12km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.78**	**67**	*e*P	Pg	20 04 19.7	-2.2
PNIG				*e*S	Sg	20 04 29.9	-2.3
TLIG	**Tlapa**	**1.50**	**12**	*e*P	Pn	20 04 29.4	-4.2
TLIG				*e*S	Sn	20 04 48.0	-5.2
CAIG	**El Cayaco**	**1.64**	**306**	*e*P	Pn	20 04 32.0	-3.3
CAIG				*e*S	Sn	20 04 51.5	-5.0
VHO	**Vista Hermosa**	**2.28**	**64**	*i* P	Pn	20 04 41.4	-3.0
VHO				*i* S	Sn	20 05 08.3	-4.3
HUIG	**Huatulco**	**2.69**	**96**	*i* P	Pn	20 04 46.4	-3.5
HUIG				*i* S	Sn	20 05 17.7	-4.7

MAN 10 20:05:06, 12.49N×123.64E, h1km, mb4.3, ML3.1, MS2.8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.13**	**186**	*i* P	Pg	20 05 08.6	0.0
MMPH				*i* S	Sg	20 05 10.1	-0.1
CNP	**Catarman**	**1.00**	**89**	*e*P	Pb	20 05 25.9	-0.3
CNP				*e*S	Sg	20 05 35.5	-2.7
PVCP	**Virac**	**1.21**	**25**	*e*P	Pb	20 05 29.9	+0.2
PVCP				*e*S	Sn	20 05 47.3	+0.2
RCP	**Roxas**	**1.27**	**223**	*i* P	Pg	20 05 30.6	+0.2
RCP				*e*S	Sg	20 05 46.6	-0.2

IDC 10 20:38:42.5±3.0, 5.30S×133.39E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.2/53, mbtmp3.5/4, ML3.0/3, Error ellipse: s-maj=124.2km s-min=30.0km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.58**	**176**	Pn	Pn	20 42 08.6	-1.7
	0.1nm,0.3s,baz=356,slow=13,SNR=2.8						
FITZ	**Fitzroy Crossi**	**14.81**	**210**	Pn	Pn	20 42 14.3	+1.0
	0.1nm,0.3s,baz=38,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**18.27**	**179**	P	P	20 42 57.9	0.0
	0.1nm,0.3s,baz=357,slow=7.2,SNR=7.2						
MKAR	**Makanchi Array**	**68.72**	**325**	P	P	20 49 48.1	0.0
	0.3nm,0.5s,baz=122,slow=7.8,SNR=5.8						

*ISCJB **10** 20:42:59.6±0.3, 56.13S±0.06×27.0W±0.1, h63km, mb4.9/30, Error ellipse: s-maj=9.8km s-min=6.7km az=144.5*
*NEIC **10** 20:43:01.4±0.7, 56.17S×26.95W, h65km±5km, mb4.9/26, Error ellipse: s-maj=7.9km s-min=6.5km az=215.0*
*IDC **10** 20:43:01.6±5.5, 56.21S×26.90W, h65km±47km, mb4.3/10, mb1 4.3/11, mb1mx3.9/33, mbtmp4.5/11, ML4.1/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/27, Error ellipse: s-maj=22.0km s-min=16.9km az=64.0*

ISC 10 20:43:01.1±0.4, 56.18S±0.08×27.09W±0.07, h63km, n96, σ0s81/101, mb4.9/30, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.71**	**286**	*e*Pn	**Pn**	**20 44 24.2**	**+1.1**
HOPE				*e*Sn	**Sn**	**20 45 23.4**	**-3.8**
VNA1	**Neumayer--Stat**	**16.66**	**158**	P	**P**	**20 46 51.1**	**-0.3**
VNA3	**Neumayer Olymp**	**16.85**	**160**	P	**Pn**	**20 46 52.7**	**+0.2**
VNA2	**Neumayer--Watz**	**17.05**	**158**	P	**P**	**20 46 56.2**	**+0.3**
	baz=319,slow=14						
SNAA	**Sanae**	**18.60**	**156**	P	**P**	**20 47 12.8**	**-0.1**
SNAA	**Sanae**	**18.60**	**156**	P	**P**	**20 47 12.0**	**-1.0**
	0.6nm,0.3s,baz=282,slow=13,SNR=25						
SNAA				PcP	**PcP**	**20 51 38.7**	**-0.3**
	0.3nm,0.3s,baz=246,slow=5.4,SNR=7.1						
SNAA	**Sanae**	**18.60**	**156**	*e*P	**P**	**20 47 12.2**	**-0.8**
	20nm,1.5s						
SNAA				*e*PcP	**PcP**	**20 51 39.1**	**0.0**
EFI	**East Falkland**	**18.70**	**271**	*e*P	**Pn**	**20 47 15.8**	**+0.8**
	62nm,1.2s						
PMSA	**Palmer Station**	**19.86**	**229**	*e*P	**Pn**	**20 47 29.0**	**+0.3**
	118nm,1.4s						
GO09	**Cerro Castillo**	**26.83**	**261**	*e*P	**P**	**20 48 34.6**	**-0.6**
	60nm,1.8s						
TRQA	**Tornquist**	**29.43**	**293**	*e*P	**P**	**20 48 57.8**	**-0.7**
	78nm,1.8s						
PLCA	**Paso Flores**	**32.08**	**280**	P	**P**	**20 49 23.0**	**+1.1**
	0.6nm,0.4s,baz=189,slow=23,SNR=3.3						
PLCA	**Paso Flores**	**32.08**	**280**	*e*P	**P**	**20 49 21.2**	**-0.8**
	20nm,1.6s						
QSPA	**South Pole Qui**	**34.07**	**180**	*e*P	**P**	**20 49 38.9**	**-0.3**
	25nm,1.5s						
CPUP	**Villa Florida**	**36.94**	**311**	P	**P**	**20 50 04.5**	**+0.7**
	2.3nm,0.5s,baz=158,slow=7.2,SNR=7.7						
CPUP				PcP	**PcP**	**20 52 24.6**	**+0.6**
	2.5nm,0.7s,baz=155,slow=1.7,SNR=5.1						
CPUP				LR	LR	21 07 16.9	
	comp=Z,26nm,18.5s,baz=166,slow=39						
CPUP	**Villa Florida**	**36.94**	**311**	*e*P	**P**	**20 50 04.4**	**+0.5**
	23nm,1.9s						
CPUP				*e*PcP	**PcP**	**20 52 24.6**	**+0.6**
CPUP				*e*		21 07 16.9	
ROC1	**El Roble**	**38.04**	**289**	*e*P	**P**	**20 50 12.5**	**-0.9**
	11nm,0.9s						
SHEL	**Horse Pasture**	**43.32**	**31**	*e*P	**P**	**20 50 55.0**	**-1.7**
	91nm,1.1s						
PB10	**IPOC Station P**	**45.46**	**298**	*e*P	**P**	**20 51 12.9**	**-0.9**
	46nm,1.2s						
BOSA	**Boshof**	**45.95**	**76**	LR	LR	21 06 42.6	
	comp=Z,116nm,18.8s,baz=215,slow=31						
SBA	**Scott Base**	**45.96**	**184**	*e*P	**P**	**20 51 18.8**	**+1.8**
	98nm,1.9s						
PB04	**IPOC Station P**	**46.25**	**299**	*e*P	**P**	**20 51 21.2**	**+0.9**
	50nm,1.5s						
VNDA	**Vanda**	**46.45**	**183**	P	**P**	**20 51 21.6**	**+0.7**
	3.2nm,0.7s,baz=190,slow=5.8,SNR=16						
VNDA	**Vanda**	**46.45**	**183**	*e*P	**P**	**20 51 21.2**	**+0.3**
PB01	**IPOC Station P**	**47.02**	**301**	*e*P	**P**	**20 51 26.4**	**+0.2**
	10nm,0.5s						
H10S2	**ASCENSION HYDR**	**48.11**	**17**	T	T	21 44 23.8	
	baz=189,slow=75,SNR=114						
H10S3	**ASCENSION HYDR**	**48.11**	**17**	T	T	21 43 53.3	
	baz=189,slow=75,SNR=90						
H10S1	**ASCENSION HYDR**	**48.12**	**17**	T	T	21 44 25.1	
	baz=189,slow=75,SNR=95						
PB11	**IPOC Station P**	**48.20**	**301**	*e*P	**P**	**20 51 36.2**	**+0.8**
	8.4nm,1.0s						
MNMC	**Minye Minye**	**48.71**	**302**	*e*P	**P**	**20 51 40.7**	**+1.2**
	9.8nm,0.5s						
LBTB	**Lobatse**	**48.99**	**73**	*e*P	**P**	**20 51 41.9**	**+0.6**
	49nm,1.9s						
H10N1	**ASCENSION HYDR**	**49.22**	**17**	T	T	21 45 17.2	
	SNR=30						
H10N3	**ASCENSION HYDR**	**49.23**	**17**	T	T	21 45 05.4	
	SNR=67						
H10N2	**ASCENSION HYDR**	**49.24**	**17**	T	T	21 45 29.1	
	SNR=40						
LPAZ	**La Paz**	**50.50**	**305**	P	**P**	**20 51 55.0**	**+1.5**
	4.5nm,0.4s,baz=99,slow=3.9,SNR=24						
LPAZ				PcP	**PcP**	**20 53 11.5**	**+0.8**
	3.2nm,0.6s,baz=128,slow=2.0,SNR=3.7						
LPAZ	**La Paz**	**50.50**	**305**	*e*P	**P**	**20 51 54.8**	**+1.3**
LPAZ				*e*PcP	**PcP**	**20 53 11.6**	**+0.8**
LPAZ				*e*		20 53 11.8	
SAML	**Samuel**	**54.93**	**315**	*e*P	**P**	**20 52 25.8**	**+0.4**
	5.0nm,0.8s						
PTGA	**Pitinga**	**61.31**	**322**	*e*P	**P**	**20 53 09.7**	**-0.3**
	12nm,1.4s						
DBIC	**Dimbokro**	**65.26**	**24**	P	**P**	**20 53 36.2**	**+0.2**
	4.3nm,0.5s,baz=168,slow=6.9,SNR=13						
DBIC				LR	LR	21 17 07.5	
	comp=Z,74nm,18.9s,baz=92,slow=31						
DBIC	**Dimbokro**	**65.26**	**24**	*e*P	**P**	**20 53 35.9**	**-0.1**
	36nm,1.8s						
OTAV	**Otavalo**	**69.77**	**304**	*e*P	**P**	**20 54 06.8**	**+1.7**
	5.0nm,1.0s						
PRAC	**Prado**	**71.25**	**309**	*e*P	**P**	**20 54 13.4**	**-0.1**
	6.8nm,0.7s						
KOWA	**Kowa**	**73.02**	**23**	P	**P**	**20 54 24.7**	**+0.7**
	2.1nm,0.6s,baz=189,slow=9.0,SNR=8.4						
KOWA	**Kowa**	**73.02**	**23**	*e*P	**P**	**20 54 24.4**	**+0.4**
	20nm,1.8s						
PCRV	**Puerto La Cruz**	**73.08**	**321**	P	**P**	**20 54 24.7**	**+0.2**
	9.3nm,0.5s,baz=162,slow=5.7,SNR=8.5						
TOA0	**Torodi Ar. Sit**	**73.14**	**29**	*e*P	**P**	**20 54 24.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.14**	**29**	P	**P**	**20 54 25.1**	**+0.4**
	8.4nm,0.4s,baz=200,slow=6.3,SNR=87						
TOA1	**Torodi Ar. Sit**	**73.14**	**29**	*e*P	**P**	**20 54 25.1**	**+0.4**
SDV	**Santo Domingo**	**74.14**	**315**	P	**P**	**20 54 31.4**	**+0.5**
	4.9nm,0.6s,baz=219,slow=13,SNR=7.6						
SDV	**Santo Domingo**	**74.14**	**315**	*e*P	**P**	**20 54 31.3**	**+0.4**
SDV				*e*PcP	**P**	**20 54 31.4**	**+0.5**
PAYG	**Puerto Ayora**	**74.82**	**292**	*e*P	**P**	**20 54 36.4**	**+1.7**
	108nm,1.3s						
ABVI	**Anegada Island**	**80.95**	**324**	*e*P	**P**	**20 55 07.3**	**-1.1**
	434nm,1.8s						
TAU	**Tasmania Unive**	**81.17**	**176**	*e*P	**P**	**20 55 09.0**	**-0.5**
	160nm,1.8s						
BFZ	**Birch Farm**	**81.50**	**198**	*e*P	**P**	**20 55 10.7**	**-0.6**
	108nm,1.6s						
ASAR	**Alice Springs**	**98.85**	**162**	P	**P**	**20 56 32.8**	**-1.4**
	0.5nm,0.7s,baz=188,slow=3.5,SNR=11						
ISA	**Isabella, Lake**	**119.49**	**291**	*e*PKPdf	**PKPdf**	**21 01 43.1**	**+0.2**
PDAR	**Pinedale Array**	**120.46**	**302**	PKP	**PKPdf**	**21 01 43.5**	**-1.3**
	0.2nm,0.4s,baz=126,slow=4.4,SNR=5.3						
NV01	**Mina Array Sit**	**121.50**	**293**	*e*PKPdf	**PKPdf**	**21 01 47.1**	**+0.2**
NVAR	**Mina Array Bea**	**121.50**	**293**	PKP	**PKPdf**	**21 01 47.8**	**+0.8**
	0.6nm,0.6s,baz=105,slow=3.5,SNR=6.1						
FIA0	**FINESS Array S**	**124.47**	**28**	*e*PKPdf	**PKPdf**	**21 01 51.1**	**-0.4**
FINES	**FINESS Array B**	**124.47**	**28**	PKP	**PKPdf**	**21 01 51.1**	**-0.4**
	0.9nm,0.4s,baz=171,slow=2.9,SNR=17						
ARA0	**ARCESS Array S**	**131.04**	**22**	*e*PKPdf	**PKPdf**	**21 02 03.0**	**-0.9**
ARCES	**ARCESS Array B**	**131.04**	**22**	PKP	**PKPdf**	**21 02 03.0**	**-0.9**
	4.8nm,0.9s,baz=20,slow=3.9,SNR=7.2						
BVAR	**Borovoye Array**	**134.80**	**58**	PKP	**PKPdf**	**21 02 11.5**	**+0.1**
	0.8nm,0.5s,baz=202,slow=1.6,SNR=7.0						
YKA	**Yellowknife Ar**	**136.30**	**318**	PKP	**PKPdf**	**21 02 13.7**	**-0.2**
	1.0nm,0.5s,baz=128,slow=2.3,SNR=18						
YKB5	**Yellowknife Ar**	**136.30**	**318**	*e*PKPdf	**PKPdf**	**21 02 13.2**	**-0.7**
MK32	**Makanchi Array**	**136.87**	**71**	*e*PKPdf	**PKPdf**	**21 02 16.3**	**+0.8**
MKAR	**Makanchi Array**	**136.87**	**71**	PKP	**PKPdf**	**21 02 16.3**	**+0.8**
	0.3nm,0.6s,baz=256,slow=3.2,SNR=3.4						
HYT	**Haines Junctio**	**144.91**	**307**	*e*PKPbc	PKPbc	21 02 28.5	-0.6
INK	**Inuvik**	**145.94**	**320**	PKPbc	**PKPbc**	**21 02 32.0**	**+0.2**
	8.8nm,0.6s,baz=71,slow=3.9,SNR=41						
DAWY	**Dawson**	**146.92**	**312**	*e*PKPdf	**PKPbc**	**21 02 34.5**	**-0.4**
KLU	**Klutina**	**148.96**	**305**	*e*PKPbc	**PKPbc**	**21 02 41.0**	**+0.5**
RIDG	**Independ'e Rid**	**149.13**	**310**	*e*PKPbc	**PKPbc**	**21 02 41.1**	**+0.3**
PAX	**Paxson**	**149.19**	**308**	*e*PKPbc	**PKPbc**	**21 02 41.4**	**+0.3**
FYU	**Fort Yukon**	**149.92**	**315**	*e*PKPbc	**PKPbc**	**21 02 43.2**	**+0.7**
DHY	**Denali Highway**	**150.06**	**308**	*e*PKPbc	**PKPbc**	**21 02 43.7**	**+0.5**
IL1	**Eielson Array**	**150.24**	**311**	*e*PKPbc	**PKPbc**	**21 02 42.8**	**-0.7**
ILAR	**Eielson Array**	**150.24**	**311**	PKPbc	**PKPbc**	**21 02 43.4**	**-0.1**
	7.5nm,0.8s,baz=135,slow=2.1,SNR=76						
ILB	**Eielson Array**	**150.24**	**311**	*e*PKPbc	**PKPbc**	**21 02 42.9**	**-0.5**
CCB	**Clear Creek Bu**	**150.60**	**311**	*e*PKPbc	**PKPbc**	**21 02 44.0**	**-0.2**
CCB				*e*PKPab	**PKPab**	**21 02 51.8**	**+0.4**
COLA	**College**	**150.67**	**312**	*e*PKPdf	**PKPdf**	**21 02 38.0**	**-0.8**
COLA				*e*PKPbc	**PKPbc**	**21 02 43.7**	**-0.7**
COLA				*e*PKPab	**PKPab**	**21 02 52.0**	**+0.4**
SONA0	**Songino Array**	**150.68**	**87**	*e*PKPbc	**PKPbc**	**21 02 44.6**	**-0.6**
SONM	**Songino Array**	**150.68**	**87**	PKPbc	**PKPbc**	**21 02 44.6**	**-0.6**
	4.0nm,0.7s,baz=220,slow=3.4,SNR=28						
SONA1	**Songino Array**	**150.69**	**87**	*e*PKPbc	**PKPbc**	**21 02 44.1**	**-1.1**
RND	**Reindeer**	**150.79**	**308**	*e*PKPbc	**PKPbc**	**21 02 45.2**	**+0.4**
MDM	**Murphy Dome**	**150.84**	**312**	*e*PKPbc	**PKPbc**	**21 02 44.6**	**-0.2**
MDM				*e*PKPab	**PKPab**	**21 02 52.7**	**+0.3**
MCK	**McKinley**	**150.90**	**309**	*e*PKPbc	**PKPbc**	**21 02 45.1**	**+0.1**
KDAK	**Kodiak Island**	**150.93**	**296**	PKPbc	**PKPbc**	**21 02 46.0**	**+0.8**
	15nm,0.6s,baz=216,slow=1.5,SNR=11						
KDAK	**Kodiak Island**	**150.93**	**296**	*e*PKPbc	**PKPbc**	**21 02 45.5**	**+0.3**
KTH	**Kantishna Hill**	**151.73**	**308**	*e*PKPbc	**PKPbc**	**21 02 47.0**	**0.0**
TOLK	**Toolik Lake Re**	**151.81**	**319**	*e*PKPbc	**PKPbc**	**21 02 46.9**	**-0.1**
BPAW	**Bear Paw Mtn.**	**151.86**	**309**	*

2.9nm,0.3s,baz=199,slow=22,SNR=6.8
SEY Seymchan 5.32 296 *e*P Pb 20 46 47.4 -6.3
SEY *e*Pg **Pg** **20 47 01.2 -1.3**
SEY Pgmax 20 47 04.4
10.0nm,0.4s
SEY *e*Sg **Sg** **20 48 07.8 -3.5**
SEY Sgmax 20 48 20.0
40nm,0.4s
MGD Magadan 1 6.07 266 *e*P Pn 20 46 56.1 +5.6
MGD *e*Sg **Sg** **20 48 29.7 -5.8**
MGD Sgmax 20 48 35.5
10.0nm,0.4s
MA2 Magadan 6.19 262 Pn **Pn** **20 46 54.0 +1.9**
0.8nm,0.3s,baz=67,slow=14,SNR=3.9
MA2 Sn **Sn** **20 48 05.0 +2.3**
0.5nm,0.3s,baz=6.4,slow=5.8,SNR=4.4
MA2 Lg Lg 20 48 34.0
0.9nm,0.3s,baz=7.1,slow=11,SNR=4.9
MA2 LR LR 20 48 45.9
comp=Z,30nm,20.6s,baz=279,slow=33
MA2 Magadan 6.19 262 *e*P **Pn** **20 46 54.6 +2.5**
MA2 *e*S **Sn** **20 48 05.3 +2.5**
MA2 *e*Sg **Sg** **20 48 32.6 -6.5**
MA2 Sgmax 20 48 57.3
20nm,0.9s
SUUS Susuman 7.18 291 *e*Sg **Sg** **20 49 07.5 -3.3**
SUUS Sgmax 20 49 13.1
10.0nm,0.6s
BILL Bilibino 7.23 10 *i*P **Pn** **20 47 05.4 -0.9**
BILL pmax pmax
comp=Z,2.0nm,0.8s
OCHR Omchak 7.25 282 *e*P Pn 20 47 12.1 +5.4
OCHR *e*Sg **Sg** **20 49 09.5 -3.8**
OCHR Sgmax 20 49 14.7
comp=Z,10.0nm,0.2s
TIXI Tiksi 17.02 323 P **P** **20 49 22.4 +2.1**
comp=Z,0.3nm,0.3s,baz=119,slow=13,SNR=5.8
ILAR Eielson Array 22.70 59 P **P** **20 50 23.0 +0.8**
comp=Z,0.3nm,0.8s,baz=274,slow=7.1,SNR=4.1
YKA Yellowknife Ar 36.60 51 P **P** **20 52 26.4 0.0**
comp=Z,0.2nm,0.7s,baz=302,slow=7.8,SNR=3.9
KURK Kurchatov 45.17 297 P **P** **20 53 38.6 +1.4**
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURBB Kurchatov Arra 45.27 297 P **P** **20 53 38.6 +0.6**
comp=Z,0.9nm,0.8s,baz=51,slow=7.3,SNR=4.8
PDAR Pinedale Array 52.70 68 P **P** **20 54 36.8 +1.4**
comp=Z,0.3nm,0.5s,baz=358,slow=4.5,SNR=3.8

MOS ***10*** *20:58:06.0±0.9, 8°.59N×93°.81E, h46km, mb4.6/17, Error ellipse: s-maj=13.4km s-min=6.7km az=107.9*
ISCJB ***10*** *20:58:07.8±0.7, 8°.67N±0°.03×93°.85E±0°.05, h57km±7km, mb4.4/48, MS3.5/5, Error ellipse: s-maj=8.2km s-min=4.7km az=164.8*
NEIC ***10*** *20:58:09.2±0.7, 8°.56N×93°.89E, h62km±7km, mb4.7/19, Error ellipse: s-maj=7.9km s-min=5.5km az=67.0*
IDC ***10*** *20:58:09.5±3.2, 8°.61N×93°.82E, h59km±29km, mb3.7/21, mb1 3.9/23, mb1mx3.7/63, mbtmp4.0/23, ML4.4/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/69, Error ellipse: s-maj=22.9km s-min=13.3km az=62.0*
DJA ***10*** *20:58:10.5±1.6, 9°.N±2°×9°.4E±°, h17km±13km, M4.5/22, mb4.7/22, mB5.4/6, MLv4.2/9, Mw(mB)4.8/6*
BJI ***10*** *20:58:10.8, 8°.51N×93°.83E, h98km, mb4.4/20, mB4.9/13*
ISC 10 20:58:11.0±1.0, 8°.64N±0°.05×93°.95E±0°.06, h75km±10km, n169, σ1s47/168, mb4.4/48, 15C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PKDT	**Phuket**	**4.40**	**99**	P		**Pn**	**20 59 12.3**	**-3.1**
	42nm,0.6s,1μm							
LHMI	**Lhok Sumawe**	**4.51**	**139**	P		**Pn**	**20 59 17.2**	**+0.4**
LHMI	**Lhok Sumawe**	**4.51**	**139**	*e*Pn		**Pn**	**20 59 13.7**	**-3.1**
SURT	**Suratani**	**4.80**	**86**	P		**Pn**	**20 59 18.8**	**-2.0**
	30nm,0.6s,488nm							
MLSI	**Meulaboh, Aceh**	**4.98**	**151**	P		**Pn**	**20 59 23.2**	**-0.1**
TRTT	**Trang**	**5.74**	**98**	P		**Pn**	**20 59 30.7**	**-2.9**
	20nm,0.5s							
TPTI		**6.23**	**149**	P		**Pn**	**20 59 39.9**	**-0.5**
KCSI	**Kotacane, Aceh**	**6.35**	**143**	P		**Pn**	**20 59 41.9**	**-0.1**
TSI	**Tuntungan**	**6.86**	**138**	P		**Pn**	**20 59 49.2**	**+0.2**
PHET	**Kaeng Krachan**	**7.01**	**52**	P		**Pn**	**20 59 50.6**	**-0.4**
	7.9nm,0.7s							
KULM	**Kulim**	**7.44**	**116**	*e*Pn		**Pn**	**20 59 53.4**	**-3.4**
KULM				*e*Sn		**Sn**	**21 01 13.7**	**-6.1**
SRDT	**SRDT**	**7.61**	**41**	P		**Pn**	**20 59 58.8**	**-0.4**
	14nm,0.8s							
PSI	**Prapat**	**7.62**	**139**	P		**Pn**	**20 59 60.0**	**+0.5**
	1.3nm,0.3s,baz=326,slow=16,SNR=9.8							
PSI	**Prapat**	**7.62**	**139**	*e*Pn		**Pn**	**20 59 58.9**	**-0.6**
PSI	**Prapat**	**7.62**	**139**	*e*P		**Pn**	**20 59 58.9**	**-0.6**
GSI	**Gunungsitoli**	**8.13**	**153**	P		**Pn**	**21 00 06.1**	**-0.3**
IPM	**Ipoh**	**8.15**	**120**	*e*Pn		**Pn**	**21 00 01.9**	**-4.8**
UTHA	**Uthaitani**	**8.73**	**37**	P		**Pn**	**21 00 14.3**	**-0.2**
MNSI	**Mandailing Nat**	**9.60**	**144**	P		**Pn**	**21 00 26.1**	**-0.3**
BKNI	**Bangkinang**	**10.87**	**139**	P		**Pn**	**21 00 44.5**	**+0.8**
CM01	**Chiang Mai Arr**	**10.87**	**26**	*e*Pn		**Pn**	**21 00 44.1**	**+0.3**
CM31	**Chiang Mai Arr**	**10.90**	**26**	*e*Pn		**Pn**	**21 00 45.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**10.90**	**26**	P		**Pn**	**21 00 44.8**	**+0.7**
	2.0nm,0.3s,baz=213,slow=15,SNR=86							
CMAR				LR		LR	21 05 22.9	
	comp=Z,52nm,18.1s,baz=195,slow=39							
SISI	**Saibi**	**11.15**	**152**	P		**Pn**	**21 00 47.0**	**-0.5**
CHTO	**Chiang Mai**	**11.22**	**25**	*e*Pn		**Pn**	**21 00 50.0**	**+1.6**
CHTO	**Chiang Mai**	**11.22**	**25**	*e*P		**Pn**	**21 00 50.0**	**+1.6**
PALK	**Pallekele**	**13.19**	**265**	LR		LR	21 05 49.1	
	comp=Z,82nm,19.7s,baz=116,slow=35							
PALK	**Pallekele**	**13.19**	**265**	*e*Pn		**Pn**	**21 01 14.3**	**-1.0**
PALK	**Pallekele**	**13.19**	**265**	*e*P		**Pn**	**21 01 14.3**	**-1.0**
MNAI	**Manna**	**15.73**	**145**	P		**P**	**21 01 49.8**	**-0.9**
KMI	**Kunming**	**18.41**	**26**	P		**Pn**	**21 02 24.8**	**+3.4**
KMI				pmax	pmax			
	comp=Z,6.0nm,0.5s							
CGJI	**Cibinong**	**19.15**	**142**	P		**Pn**	**21 02 31.8**	**+1.8**
STKI	**Sintang**	**19.43**	**115**	P		**Pn**	**21 02 34.6**	**+1.3**
SKJI	**Sukabumi**	**19.99**	**141**	P		Pn	21 02 41.6	+1.7
JIRN	**Jiri**	**20.29**	**340**	*e*P		**P**	**21 02 40.7**	**-0.4**
	34nm,0.8s							
PKI	**Pulchoki**	**20.49**	**338**	*e*P		**P**	**21 02 42.7**	**-0.5**
	11nm,0.6s							
PKIN	**Phulchoki**	**20.50**	**338**	*e*P		**P**	**21 02 43.2**	**-0.1**
	27nm,0.8s							
LEM	**Lembang**	**20.53**	**138**	P		Pn	21 02 46.2	-0.3
CNJI	**Cibinong**	**20.58**	**140**	P		Pn	21 02 47.6	+0.8
GUN	**Gumba**	**20.63**	**339**	*e*P		**P**	**21 02 44.3**	**-0.5**
	32nm,0.6s							
DMN	**Daman**	**20.64**	**337**	*e*P		**P**	**21 02 44.2**	**-0.6**
	22nm,0.8s							
JCJI	**Jatiwangi**	**20.73**	**136**	P		Pn	21 02 51.2	+2.6
KKN	**Kakani**	**20.74**	**338**	*e*P		**P**	**21 02 44.9**	**-0.9**
	24nm,0.6s							
PBKI	**Pangkalan Bun**	**20.95**	**122**	P		**P**	**21 02 52.1**	**+4.1**
LSA	**Lhasa**	**21.12**	**353**	*e*P		**P**	**21 02 49.0**	**-1.1**
	7.2nm,0.6s							
LSA	**Lhasa**	**21.12**	**353**	*e*P		**P**	**21 02 49.0**	**-1.1**
LSA				pmax	pmax			
	comp=Z,7.0nm,0.6s							
CISI	**Cisompet, Garu**	**21.21**	**139**	P		**P**	**21 02 53.2**	**+2.4**
KOLN	**Koldanda**	**21.39**	**334**	*e*P		**P**	**21 02 52.3**	**-0.5**
	comp=Z,15nm,0.6s							
CMJI	**Cimerak**	**21.79**	**138**	P		**P**	**21 02 59.1**	**+2.2**
DANN	**Dangsing**	**21.83**	**335**	*e*P		**P**	**21 02 57.3**	**-0.3**
PYUN	**Piuthan**	**21.95**	**333**	*e*P		**P**	**21 02 58.6**	**-0.1**
	comp=Z,28nm,0.8s							
MTKI	**Muara Teweh, K**	**22.94**	**114**	P		**P**	**21 03 13.7**	**+4.5**
CD2	**Chengdu**	**23.98**	**21**	*e*P		**P**	**21 03 18.4**	**-0.2**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,4.6s							
H08S3	**Diego Garcia H**	**26.81**	**234**	T		T	21 30 34.4	
	baz=252,slow=74,SNR=16							
H08S2	**Diego Garcia H**	**26.81**	**233**	T		T	21 30 34.5	
	baz=52,slow=74,SNR=15							
H08S1	**Diego Carcia H**	**26.83**	**234**	T		T	21 30 36.0	
LZH	**Lanzhou**	**28.77**	**17**	*e*P		**P**	**21 04 03.5**	**+1.6**
LZH				pP		sP	21 04 23.3	-5.1
LZH				sP		pP	21 04 36.0	+16
LZH				*e*PP		**PnPn**	**21 04 58.1**	**+1.6**
LZH				*e*S		**S**	**21 08 46.1**	**-0.1**
LZH				sS		sS	21 09 23.2	+6.5
LZH				SS		**SnSn**	**21 10 19.1**	**+4.1**
LZH				pmax	pmax			
	comp=Z,15nm,1.0s							
LZH				pmax	pmax			
	comp=Z,110nm,5.8s							
LZH				LR	LR			
	comp=Z,350nm,10.2s							
LZH				LR	LR			
	comp=Z,320nm,11.4s							
LZH				LR	LR			
	comp=Z,380nm,12.4s							
XAN	**Xi'an**	**28.79**	**26**	P		**P**	**21 04 03.4**	**+1.5**
XAN				pP		sP	21 04 22.0	-6.4
XAN				pmax	pmax			
	comp=Z,5.0nm,1.2s							
KAPI	**Kappang**	**29.08**	**117**	*e*P		**P**	**21 04 03.9**	**-0.8**
	comp=Z,783nm,0.8s							
KAPI	**Kappang**	**29.08**	**117**	*e*P		**P**	**21 04 03.9**	**-0.8**
KAPI				pmax	pmax			
	comp=Z,783nm,0.8s							
DAV	**Davao City (W)**	**31.37**	**91**	LR		LR	21 18 40.1	
	comp=Z,51nm,18.4s,baz=338,slow=39							
NJ2	**Nanjing**	**32.82**	**41**	*e*P		**P**	**21 04 37.7**	**+0.3**
NJ2				pmax	pmax			
	comp=Z,13nm,0.6s							
KBL	**Kabul**	**34.46**	**322**	*e*P		**P**	**21 04 51.3**	**-0.5**
	comp=Z,4.4nm,0.8s							
KBL	**Kabul**	**34.46**	**322**	*e*P		**P**	**21 04 51.3**	**-0.5**
KBL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KSH	**Kashi**	**34.70**	**335**	P		**P**	**21 04 51.9**	**-1.9**
KSH				pP		sP	21 05 15.6	-4.9
KSH				PP		**PP**	**21 06 12.8**	**-1.0**
KSH				S		**S**	**21 10 11.5**	**-7.0**
KSH				sS		sS	21 10 48.7	-0.6
KSH				pmax	pmax			
	comp=Z,9.0nm,1.4s							
KSH				pmax	pmax			
	comp=Z,130nm,7.7s							
KSH				LR	LR			
	comp=Z,220nm,7.3s							
KSH				LR	LR			
	comp=Z,110nm,10.0s							
KSH				LR	LR			
	comp=Z,170nm,9.8s							
BATI	**Baumata**	**35.01**	**122**	LR		LR	21 20 58.8	
	comp=Z,36nm,18.5s,baz=358,slow=39							
WMQ	**Urumqi**	**35.47**	**352**	*e*P		**P**	**21 05 02.0**	**+1.7**
HHC	**Hu-ho-hao-te**	**35.69**	**23**	*e*P		**P**	**21 05 02.2**	**-0.1**
HHC				pmax	pmax			
	comp=Z,13nm,0.7s							
HHC				pmax	pmax			
	comp=Z,75nm,6.7s							
TARG	**Taragay, Kyrgy**	**35.91**	**339**	*e*P		**P**	**21 05 04.7**	**+0.2**
	comp=Z,5.5nm,0.8s							
PRZ	**Przheval'sk**	**36.38**	**340**	P		**P**	**21 05 07.6**	**-0.6**
PRZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KDJ	**Kajisay**	**36.49**	**339**	*e*P		**P**	**21 05 09.2**	**+0.1**
	comp=Z,5.5nm,0.8s							
KDJ	**Kajisay**	**36.49**	**339**	*e*P		**P**	**21 05 09.2**	**+0.1**
KDJ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
JOW	**Kunigami**	**37.19**	**56**	*e*P		**P**	**21 05 16.1**	**+1.1**
	comp=Z,119nm,1.6s							
KBK	**Karagaybulak**	**37.77**	**337**	P		**P**	**21 05 20.8**	**+0.7**
	SNR=8.0							
AML	**Almayashu**	**37.84**	**335**	P		**P**	**21 05 21.1**	**+0.3**
	SNR=18							
AAK	**Ala-Archa**	**37.94**	**336**	P		**P**	**21 05 22.1**	**+0.7**
	SNR=6.7							
AAK	**Ala-Archa**	**37.94**	**336**	*e*P		**P**	**21 05 21.7**	**+0.3**
	comp=Z,3.9nm,0.8s							
AAK	**Ala-Archa**	**37.94**	**336**	*i*P		**P**	**21 05 21.2**	**-0.2**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
FRU1	**Bishkek**	**38.03**	**337**	P		**P**	**21 05 22.0**	**0.0**
FRU1				pmax	pmax			
	comp=Z,15nm,1.5s							
EKS2	**Erkin-Say**	**38.24**	**336**	P		**P**	**21 05 24.4**	**+0.5**
	SNR=5.2							
USP	**Ospenovka**	**38.47**	**337**	P		**P**	**21 05 25.9**	**+0.3**
	SNR=8.9							
MK01	**Makanchi Array**	**39.28**	**347**	*e*P		**P**	**21 05 32.1**	**-0.3**
MK31	**Makanchi Array**	**39.31**	**347**	*e*P		**P**	**21 05 31.7**	**-0.9**
MK31	**Makanchi Array**	**39.31**	**347**	*e*P		**P**	**21 05 31.7**	**-0.9**
MK32	**Makanchi Array**	**39.31**	**347**	*e*P		**P**	**21 05 32.4**	**-0.3**
MKAR	**Makanchi Array**	**39.31**	**347**	P		**P**	**21 05 32.4**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=168,slow=8.4,SNR=17							
MKAR	**Makanchi Array**	**39.31**	**347**	*e*P		**P**	**21 05 32.1**	**-0.5**
	comp=Z,8.3nm,0.8s							
MAKZ	**Makanchi**	**39.39**	**347**	*e*P		**P**	**21 05 31.9**	**-1.4**
	comp=Z,2.2nm,1.1s							
MAKZ	**Makanchi**	**39.39**	**347**	*e*P		**P**	**21 05 31.9**	**-1.4**
MAKZ				pmax	pmax			
	comp=Z,2.0nm,1.1s							
KKAR	**Karatay Array**	**40.00**	**333**	*e*P		**P**	**21 05 38.0**	**-0.4**
KKAR	**Karatay Array**	**40.00**	**333**	*e*P		**P**	**21 05 38.0**	**-0.4**
SONA0	**Songino Array**	**40.46**	**13**	*e*P		**P**	**21 05 42.7**	**+0.3**
SONA0				*e*PcP		**PcP**	**21 07 45.2**	**+1.4**
SONM	**Songino Array**	**40.46**	**13**	P		**P**	**21 05 42.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=202,slow=7.2,SNR=3.7							
SONM				PcP		**PcP**	**21 07 45.2**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=216,slow=2.8,SNR=3.7							
SONA1	**Songino Array**	**40.48**	**13**	*e*P		**P**	**21 05 42.4**	**-0.1**
KS01	**Wonju Array Si**	**42.01**	**42**	*e*P		**P**	**21 05 52.0**	**-3.0**
GEYT	**Alibeck**	**43.51**	**318**	P		**P**	**21 06 08.1**	**+0.9**
	comp=Z,8.7nm,0.7s,baz=144,slow=8.1,SNR=32							
GEYT				LR		LR	21 25 04.6	
	comp=Z,81nm,18.5s,baz=330,slow=37							
KURBB	**Kurchatov Arra**	**43.76**	**346**	P		**P**	**21 06 08.8**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=171,slow=7.3,SNR=14							
KURK	**Kurchatov**	**43.83**	**346**	*e*P		**P**	**21 06 08.8**	**-0.6**
KURK	**Kurchatov**	**43.83**	**346**	*c*e*P*		**P**	**21 06 09.2**	**-0.2**
KURK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
ZAA0	**Zalesovo Array**	**45.78**	**352**	*e*P		**P**	**21 06 25.2**	**+0.3**
	comp=Z,9.1nm,0.8s							
ZALV	**Zalesovo Beam**	**45.78**	**352**	P		**P**	**21 06 25.4**	**+0.5**
	comp=Z,10nm,0.8s,baz=176,slow=8.4,SNR=51							
ZALV	**Zalesovo Beam**	**45.78**	**352**	*e*P		**P**	**21 06 25.3**	**+0.4**
ZALV	**Zalesovo Beam**	**45.78**	**352**	*e*P		**P**	**21 06 25.3**	**+0.4**
ZAA1	**Zalesovo Array**	**45.78**	**352**	*e*P		**P**	**21 06 25.4**	**+0.5**
NVS	**Novosibirsk**	**46.87**	**352**	*i*P		**P**	**21 06 33.4**	**0.0**
NVS				pmax	pmax			
	comp=Z,8.0nm,0.9s							
NVS				pmax	pmax			
	comp=N,2.0nm,0.0s							
MSHR	**Mys Shultsa**	**46.98**	**38**	*c*e*P*		**P**	**21 06 34.5**	**0.0**
BVAR	**Borovoye Array**	**48.21**	**341**	P		**P**	**21 06 43.6**	**-0.2**
	comp=N,1.0nm,0.6s,baz=115,slow=9.9,SNR=7.7							
BRVK	**Borovoye**	**48.27**	**341**	*e*P		**P**	**21 06 43.1**	**-1.3**
	comp=N,9.4nm,1.6s							
BRVK	**Borovoye**	**48.27**	**341**	*c*e*P*		**P**	**21 06 43.5**	**-0.8**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
RAYN	**Ar Rayn**	**48.60**	**294**	*e*P		**P**	**21 06 47.7**	**+0.2**
	comp=Z,7.8nm,0.7s							
RAYN	**Ar Rayn**	**48.60**	**294**	*e*P		**P**	**21 06 47.7**	**+0.2**
RAYN				pmax	pmax			
	comp=Z,8.0nm,0.7s							
MJAR	**Matsushiro Arr**	**48.79**	**48**	PcP		**PcP**	**21 08 13.9**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=261,slow=2.6,SNR=3.8							
WRA	**Warramunga Arr**	**48.86**	**126**	P		**P**	**21 06 49.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=304,slow=8.6,SNR=7.3							
WRA				PcP		**PcP**	**21 08 12.9**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=313,slow=3.0,SNR=3.7							
WRA	**Warramunga Arr**	**48.86**	**126**	*i*P		**P**	**21 06 51.0**	**+1.6**
WR1	**Warramunga Arr**	**48.86**	**126**	*e*P		**P**	**21 06 49.0**	**-0.3**
	comp=Z,33nm,1.8s							
WR1				*e*PcP		**PcP**	**21 08 12.9**	**-0.1**
WB2	**Warramunga Arr**	**48.87**	**126**	*e*PcP		**PcP**	**21 08 14.4**	**+1.4**
ABKAR	**Akbulak array**	**49.47**	**331**	*e*P		**P**	**21 06 52.9**	**-0.7**
	comp=Z,36nm,1.3s							
ASAR	**Alice Springs**	**50.55**	**130**	P		**P**	**21 07 03.6**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=304,slow=7.2,SNR=4.3							
ASAR				PcP		**PcP**	**21 08 19.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=318,slow=3.5,SNR=4.5							
AKTO	**Aktyubinsk**	**51.19**	**331**	P		**P**	**21 07 06.1**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=114,slow=10.0,SNR=4.6							
BR101	**Keskin Array S**	**61.79**	**311**	*e*P		**P**	**21 08 20.4**	**-1.8**
BRTR	**Keskin Array B**	**61.79**	**311**	P		**P**	**21 08 20.4**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=119,slow=7.8,SNR=13							
BRTR	**Keskin Array B**	**61.79**	**311**	*c*e*P*		**P**	**21 08 25.2**	**+2.9**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BR131	**Keskin Array S**	**61.79**	**311**	*e*P		**P**	**21 08 20.1**	**-2.1**
BR231	**Keskin MP Arra**	**62.47**	**310**	*e*P		P	21 08 21.2	-5.5
TIXI	**Tiksi**	**66.53**	**11**	*e*P		**P**	**21 08 51.9**	**-0.5**
	comp=Z,3.2nm,0.6s							
TIXI	**Tiksi**	**66.53**	**11**	*c*e*P*		**P**	**21 08 51.8**	**-0.6**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CFR	**Carcaliu**	**66.92**	**315**	*i*P		**P**	**21 08 54.0**	**-1.4**
VRI	**Vrincioaia**	**68.02**	**316**	*i*P		**P**	**21 09 02.2**	**-0.2**
PLOR	**Plostina**	**68.07**	**316**	*i*P		**P**	**21 09 02.8**	**0.0**
MLR	**Muntele Rosu**	**68.50**	**315**	P		**P**	**21 09 05.0**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=72,slow=3.2,SNR=3.6							
MLR	**Muntele Rosu**	**68.50**	**315**	*i*P		**P**	**21 09 05.7**	**+0.1**
MLR	**Muntele Rosu**	**68.50**	**315**	*e*P		**P**	**21 09 05.0**	**-0.5**
	comp=Z,21nm,1.7s							
MLR	**Muntele Rosu**	**68.50**	**315**	*e*P		**P**	**21 09 05.0**	**-0.5**
MLR				pmax	pmax			
	comp=Z,21nm,1.7s							
VOIR		**69.11**	**315**	*i*P		**P**	**21 09 06.5**	**-2.8**
LSZ	**Lusaka**	**69.35**	**250**	LR		LR	21 35 22.9	
	comp=Z,12nm,20.0s,baz=36,slow=32							
LSZ	**Lusaka**	**69.35**	**250**	*e*P		**P**	**21 09 11.3**	**0.0**
	comp=Z,19nm,1.9s							
LSZ	**Lusaka**	**69.35**	**250**	*e*P		**P**	**21 09 11.3**	**0.0**
LSZ				pmax	pmax			
	comp=Z,19nm,1.9s							
BUR04	**Bucovina Ar. S**	**69.36**	**318**	*e*P		**P**	**21 09 10.7**	**-0.2**
ARR	**Arges**	**69.39**	**315**	*i*P		**P**	**21 09 09.6**	**-1.4**
MATP	**Matopo**	**70.52**	**245**	P		**P**	**21 09 19.2**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=72,slow=9.4,SNR=8.3							
DRGR		**70.92**	**316**	*i*P		**P**	**21 09 20.0**	**-0.3**
FIA0	**FINESS Array S**	**71.95**	**332**	*e*P		**P**	**21 09 26.1**	**0.0**
FIA0	**FINESS Array S**	**71.95**	**332**	*e*P		**P**	**21 09 26.2**	**0.0**
FIA1	**FINESS Array S**	**71.95**	**332**	*e*P		**P**	**21 09 25.9**	**-0.3**
FINES	**FINESS Array B**	**71.95**	**332**	P		**P**	**21 09 26.1**	**0.0**
	comp=Z,2.0nm,0.6s,baz=103,slow=4.4,SNR=14							
LBTB	**Lobatse**	**74.44**	**241**	*e*P		**P**	**21 09 41.7**	**+0.1**
	comp=Z,55nm,1.9s							
ARA0	**ARCESS Array S**	**74.49**	**340**	*e*P		**P**	**21 09 41.1**	**+0.2**
ARCES	**ARCESS Array B**	**74.49**	**340**	P		**P**	**21 09 41.1**	**+0.2**
	comp=Z,3.3nm,1.0s,baz=104,slow=7.6,SNR=4.2							
BOSA	**Boshof**	**75.83**	**238**	P		**P**	**21 09 48.5**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=148,slow=5.4,SNR=4.4							
GEC2	**GERESS Array S**	**77.13**	**318**	*e*P		**P**	**21 09 56.4**	**-0.2**
	comp=Z,12nm,1.8s							
GEC2	**GERESS Array S**	**77.13**	**318**	*e*P		**P**	**21 09 56.4**	**-0.2**
GEC2				pmax	pmax			
	comp=Z,12nm,1.8s							
GERES	**GERESS Array B**	**77.13**	**318**	P		**P**	**21 09 56.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=93,slow=4.7,SNR=4.8							
CLL	**Collm**	**77.65**	**321**	*e*P		**P**	**21 10 00.0**	**+0.7**
HFS	**Hagfors**	**77.70**	**330**	P		**P**	**21 09 59.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=102,slow=3.6,SNR=7.3							
NC405	**NORSAR Array S**	**78.74**	**331**	*e*P		**P**	**21 10 03.6**	**-1.5**
NC602	**NORSAR Array S**	**78.81**	**330**	*e*P		**P**	**21 10 04.4**	**-1.1**
NC303	**NORSAR Array S**	**78.91**	**331**	*e*P		**P**	**21 10 06.0**	**0.0**
NB2	**NORSAR Subarra**	**78.98**	**331**	P		**P**	**21 10 05.8**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=92,slow=5.9							
NB200	**NORSAR Array S**	**78.98**	**331**	*e*P		**P**	**21 10 06.1**	**-0.4**
NOA	**NORSAR Array B**	**78.98**	**331**	P		**P**	**21 10 06.1**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=92,slow=5.7,SNR=3.8							
SPA0	**Spitsbergen Ar**	**79.06**	**348**	*e*P		**P**	**21 10 05.9**	**-0.7**
BNI	**Bardonecchia**	**82.03**	**314**	*e*P		**P**	**21 10 23.4**	**+0.1**
	comp=Z,21nm,1.5s							
BNI	**Bardonecchia**	**82.03**	**314**	*e*P		**P**	**21 10 23.4**	**+0.1**
BNI				pmax	pmax			
	comp=Z,21nm,1.5s							
SYO	**Syowa Base**	**86.08**	**197**	*i*P		**P**	**21 10 43.0**	**0.0**
EKA	**Eskdalemuir Ar**	**86.99**	**325**	P		**P**	**21 10 48.6**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=98,slow=5.1,SNR=5.6							
TORD	**Torodi Ar. Bea**	**90.24**	**283**	P		**P**	**21 11 04.6**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=59,slow=3.2,SNR=3.2							
TOA1	**Torodi Ar. Sit**	**90.24**	**283**	*e*P		**P**	**21 11 04.6**	**+0.5**
ILAR	**Eielson Array**	**94.11**	**22**	P		**P**	**21 11 23.3**	**+2.3**
	comp=Z,0.3nm,0.9s,baz=317,slow=3.8,SNR=3.7							
ILB	**Eielson Array**	**94.11**	**22**	*e*P		**P**	**21 11 22.6**	**+1.6**

TRN 10 21:01:48.8, 12°.36N×59°.40W, h148km, MD3.7, Windward Islands

| Code | Station Name | Δ° | AZ

JFT					S	Sn	21 28 43.0	-0.9		
JYS	**Shirataka**	**1.59**	**281**		P	Pn	21 28 28.7	-0.1		
JYS					*e*S	Sn	21 28 47.1	-1.0		
JOM	**Ohasama**	**1.65**	**339**		P	Pn	21 28 30.9	+1.4		
JOM					S	Sn	21 28 50.3	+0.9		
JYK	**Kaneyama**	**1.65**	**307**		P	Pn	21 28 29.8	+0.2		
JRG	**Rokugo**	**1.83**	**323**		P	Pn	21 28 33.2	+1.1		
JRG					*e*S	Sn	21 28 55.0	+1.0		
JFY	**Yanaizu**	**1.94**	**255**		P	Pn	21 28 33.9	+0.4		
JFY					*e*S	Sn	21 28 55.7	-0.9		
JYA	**Atsumi**	**1.96**	**290**		P	Pn	21 28 33.7	0.0		
JNS	**Sasagawa**	**2.17**	**268**		P	Pn	21 28 36.9	+0.3		
MJAR	**Matsushiro Arr**	**3.37**	**247**		Pn	Pn	21 28 54.8	+1.6		
	1.2nm,0.3s,baz=60,slow=9.3,SNR=20									
MJAR					Sn	Sn	21 29 37.1	+5.2		
	1.6nm,0.3s,baz=68,slow=24,SNR=4.2									
MJAR					LR	LR	21 30 30.7			
	comp=Z,33nm,21.9s,baz=330,slow=42									
MAJO	**Matsushiro**	**3.37**	**247**	*e*Pn		Pn	21 28 55.0	+1.8		
MAT	**Matsushiro**	**3.37**	**247**	P		Pn	21 28 53.9	+0.7		
MAT				*e*S		Sn	21 29 32.4	+0.5		
ASAJ	**Asahikawa**	**6.19**	**4**	Pn		Pn	21 29 31.2	-0.6		
	0.1nm,0.3s,baz=200,slow=15,SNR=3.5									
ASAJ				Sn		Sn	21 30 41.3	0.0		
	0.1nm,0.3s,baz=111,slow=26,SNR=2.3									
USRK	**Ussuriysk Ar.**	**9.84**	**313**	Pn		Pn	21 30 22.6	+0.7		
	0.1nm,0.3s,baz=144,slow=12,SNR=2.9									
SONM	**Songino Array**	**27.72**	**302**	P		P	21 33 48.1	+0.4		
	0.1nm,0.5s,baz=95,slow=7.8,SNR=2.3									
H11N2	**WAKE ISLAND Hy**	**28.19**	**123**	T		T	22 04 09.7			
	baz=316,slow=75,SNR=40									
H11N1	**WAKE ISLAND Hy**	**28.20**	**123**	T		T	22 04 10.4			
	baz=316,slow=75,SNR=32									
H11N3	**WAKE ISLAND Hy**	**28.21**	**123**	T		T	22 04 11.1			
	baz=316,slow=75,SNR=36									
H11S1	**WAKE ISLAND Hy**	**28.94**	**125**	T		T	22 05 05.9			
	baz=317,slow=76,SNR=18									
H11S3	**WAKE ISLAND Hy**	**28.94**	**125**	T		T	22 05 06.7			
	baz=317,slow=76,SNR=28									
H11S2	**WAKE ISLAND Hy**	**28.96**	**125**	T		T	22 05 07.2			
	baz=317,slow=76,SNR=18									
KURK	**Kurchatov**	**45.78**	**308**	P		P	21 36 21.5	+0.9		
	2.6nm,0.6s									
KURBB	**Kurchatov Arra**	**45.85**	**307**	P		P	21 36 22.3	+1.1		
	0.6nm,0.2s,baz=75,slow=7.0,SNR=5.0									
COLA	**College**	**48.05**	**33**	P		P	21 36 36.6	-1.4		
	1.1nm,0.4s									
WRA	**Warramunga Arr**	**58.02**	**189**	P		P	21 37 51.5	-0.5		
	1.1nm,0.7s,baz=6.0,slow=7.2,SNR=11									
SPITS	**Spitsbergen Ar**	**59.74**	**349**	P		P	21 38 01.9	-1.4		
	13nm,1.1s,baz=199,slow=4.0,SNR=2.1									
ASAR	**Alice Springs**	**61.75**	**188**	P		P	21 38 17.7	+0.1		
	0.2nm,0.4s,baz=11,slow=7.0,SNR=4.2									
ARCES	**ARCESS Array B**	**63.33**	**339**	P		P	21 38 28.8	+1.1		
	5.2nm,1.0s,baz=51,slow=13,SNR=2.7									

IDC ***10*** *21:41:03.8±0.6,32.˙63N×46.˙98E,h0km,mb4.1/26, mb1 4.1/33,mb1mx4.1/65,mbtmp4.1/33,ML3.8/6,MS3.4/13, Ms1 3.4/13,ms1mx3.0/63,Error ellipse: s-maj=14.4km s-min=11.0km az=162.0*

ISN ***10*** *21:41:05.7±1.4,32.˙50N×46.˙90E,h0km±10km,ML4.1*

MOS ***10*** *21:41:05.5±1.4,32.˙47N×46.˙91E,h23km,mb4.4/36,Error ellipse: s-maj=6.7km s-min=4.8km az=103.1*

TEH ***10*** *21:41:07.9,32.˙59N×46.˙93E,h10km,ML4.0*

NEIC ***10*** *21:41:07.9±0.0,32.˙59N×46.˙93E,h10km,mb4.4/17, MN4.0(TEH),After TEH.*

THR ***10*** *21:41:08.9±0.6,32.˙53N×46.˙87E,h46km±7km,ML3.9*

ISCJB ***10*** *21:41:08.6±0.4,32.˙50N±0.˙03×46.˙95E±0.˙02,h45km±3km, mb4.2/54,MS3.4/9,Error ellipse: s-maj=4.6km s-min=3.2km az=7.1*

CSEM ***10*** *21:41:09.9±0.1,32.˙55N×46.˙98E,h40km,mb4.2/20,Error ellipse: s-maj=4.5km s-min=3.0km az=9.0*

ISC 10 21:41:08.3±1.2,32.˙56N±0.˙04×46.˙94E±0.˙04,h26km±9km, n277,σ1§21/291,mb4.3/54,MS3.5/9,27C-15D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
IKFM	**Kafar-mosalman**	**1.23**	**38**		*e*Pg	**Pn**	**21 41 29.2**	**-0.6**
IKFM					*e*Sg	**Sb**	**21 41 46.2**	**-0.1**
IKFM	**Kafar-mosalman**	**1.23**	**38**		*e*Pg	**Pn**	**21 41 29.2**	**-0.6**
IKFM					*e*Sg	**Sb**	**21 41 46.2**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.64**	**105**		*e*P	**Pn**	**21 41 36.1**	**+0.6**
SHGR	**Shooshtar-Gavs**	**1.64**	**105**		*e*P	**Pn**	**21 41 36.1**	**+0.6**
SHGR					*e*Sg	**Sb**	**21 42 02.4**	**+4.2**
SHGR					AML	AML	21 42 05.6	
	comp=E,2μm,0.4s							
SHGR					AML	AML	21 42 19.8	
	comp=N,2μm,0.7s							
IKOM	**Komasi**	**1.68**	**16**		*e*Pn	**Pb**	**21 41 37.7**	**-1.0**
IKOM					*e*Sg	**Sb**	**21 41 59.8**	**+0.3**
IKOM					*e*AMB	AMB	21 42 05.1	
	comp=Z,40μm,0.3s							
IKOM	**Komasi**	**1.68**	**16**		Pn	**Pb**	**21 41 37.7**	**-1.0**
IKOM					Sg	**Sb**	**21 41 59.8**	**+0.3**
IKOM	**Komasi**	**1.68**	**16**		*e*Pn	**Pb**	**21 41 37.7**	**-1.0**
IKOM					*e*Sg	**Sb**	**21 41 59.8**	**+0.3**
NSR	**Nassriya**	**1.69**	**204**		*e*Pn	**Pn**	**21 41 36.0**	**-0.1**
	SNR=39							
NSR					*i* Sn	**Sn**	**21 41 56.4**	**-0.5**
	SNR=39							
IGHG	**Ghaleghazi**	**1.79**	**350**		*e*Pn	**Pn**	**21 41 39.0**	**+1.2**
IGHG					*e*AMB	AMB	21 42 14.5	
	comp=Z,50μm,0.3s							
IGHG	**Ghaleghazi**	**1.79**	**350**		Pn	**Pn**	**21 41 39.0**	**+1.2**
IGHG	**Ghaleghazi**	**1.79**	**350**		*e*Pn	**Pn**	**21 41 39.0**	**+1.2**
IVIS	**Veis**	**1.96**	**358**		*e*Pn	**Pn**	**21 41 40.7**	**+0.7**
IVIS					*e*Sg	**Sb**	**21 42 07.3**	**-0.2**
IVIS					*e*AMB	AMB	21 42 15.1	
	comp=Z,16μm,0.2s							
IVIS	**Veis**	**1.96**	**358**		Pn	**Pn**	**21 41 40.7**	**+0.7**
IVIS					Sg	**Sb**	**21 42 07.3**	**-0.2**
IVIS	**Veis**	**1.96**	**358**		*e*Pn	**Pn**	**21 41 40.7**	**+0.7**
IVIS					*e*Sg	**Sb**	**21 42 07.3**	**-0.2**
IDHR	**Dehrash**	**2.18**	**348**		*e*Pn	**Pn**	**21 41 44.1**	**+0.9**
IDHR					*e*AMB	AMB	21 42 25.2	
	comp=Z,20μm,0.3s							
IDHR	**Dehrash**	**2.18**	**348**		Pn	**Pn**	**21 41 44.0**	**+0.9**
IDHR	**Dehrash**	**2.18**	**348**		*e*Pn	**Pn**	**21 41 44.1**	**+0.9**
BHD	**Baghdad**	**2.26**	**289**		*e*Pn	**Pn**	**21 41 46.0**	**+2.0**
	SNR=39							
BHD					*i* Sn	**Sn**	**21 42 13.0**	**+1.9**
	SNR=3.0							
ILIN	**Lien**	**2.35**	**1**		*e*Pn	**Pn**	**21 41 46.5**	**+1.0**
ILIN					*e*Sg	**Sb**	**21 42 20.1**	**+1.2**
ILIN					*e*AMB	AMB	21 42 31.0	
	comp=Z,7μm,0.2s							
ILIN	**Lien**	**2.35**	**1**		Pn	**Pn**	**21 41 46.5**	**+1.0**
ILIN					Sg	**Sb**	**21 42 20.0**	**+1.2**
ILIN	**Lien**	**2.35**	**1**		*e*Pn	**Pn**	**21 41 46.5**	**+1.0**
SNGE	**Sanandaj**	**2.55**	**8**		*e*Pn	**Pn**	**21 41 48.2**	**0.0**
SNGE	**Sanandaj**	**2.55**	**8**		*e*Pn	**Pn**	**21 41 49.3**	**+1.1**
SNGE					*e*Sg	**Sb**	**21 42 28.6**	**+4.1**
SNGE					AML	AML	21 42 34.1	
	comp=E,682nm,0.6s							
KHMZ	**Khomeyn**	**2.79**	**64**		*e*Pn	**Pn**	**21 41 52.8**	**+1.2**
KHMZ	**Khomeyn**	**2.79**	**64**		*e*Pn	**Pn**	**21 41 52.8**	**+1.2**
KHMZ					AML	AML	21 42 41.1	
	comp=E,260nm,0.6s							
HAGD	**Aghdareh**	**2.91**	**39**		*e*Pn	**Pn**	**21 41 54.3**	**+1.1**
HAGD					*e*AMB	AMB	21 42 37.3	
	comp=Z,99nm,0.4s							
HAGD	**Aghdareh**	**2.91**	**39**		*e*Pn	**Pn**	**21 41 54.3**	**+1.1**
ASAO	**Ashtian**	**3.25**	**52**		*e*Pn	**Pn**	**21 41 59.0**	**+1.1**
ASAO	**Ashtian**	**3.25**	**52**		*e*Pn	**Pn**	**21 41 59.2**	**+1.3**
IPIR	**Pirpir**	**3.34**	**87**		*e*Pn	**Pn**	**21 42 00.9**	**+1.8**
IPIR					*e*AMB	AMB	21 42 45.0	
	comp=Z,4μm,0.4s							
IPIR	**Pirpir**	**3.34**	**87**		*e*Pn	**Pn**	**21 42 00.9**	**+1.8**
QAM	**Ghamsar**	**3.96**	**71**		*e*Pn	**Pn**	**21 42 09.3**	**+1.7**
QAM					*e*AMB	AMB	21 43 18.1	
	comp=Z,2μm,0.3s							
IKLH	**Kolahrood**	**3.98**	**78**		*e*Pn	**Pn**	**21 42 09.2**	**+1.4**
IKLH					*e*AMB	AMB	21 43 18.2	
	comp=Z,2μm,0.3s							
IKLH	**Kolahrood**	**3.98**	**78**		*e*Pn	**Pn**	**21 42 09.2**	**+1.4**
GHVR	**GHOM**	**4.11**	**61**		*e*Pn	**Pn**	**21 42 10.5**	**+0.9**
GHVR	**GHOM**	**4.11**	**61**		*e*Pn	**Pn**	**21 42 10.5**	**+0.9**
IGAR	**Gharneh**	**4.32**	**91**		*e*Pn	**Pn**	**21 42 12.7**	**+0.2**
IGAR					*e*AMB	AMB	21 43 07.3	
	comp=Z,1μm,0.1s							

IZEF	**Zefreh**	**4.56**	**84**		*e*Pn	**Pn**	**21 42 16.7**	**+0.9**		
IZEF					*e*AMB	AMB	21 42 46.4			
	comp=Z,780nm,0.4s									
IZEF	**Zefreh**	**4.56**	**84**		*e*Pn	**Pn**	**21 42 16.7**	**+0.9**		
IRAM	**Ramesheh**	**4.68**	**98**		*e*Pn	**Pn**	**21 42 17.7**	**+0.2**		
IRAM					*e*AMB	AMB	21 43 32.7			
	comp=Z,980nm,0.4s									
IRAM	**Ramesheh**	**4.68**	**98**		*e*Pn	**Pn**	**21 42 17.7**	**+0.2**		
RTB	**Rutbah**	**5.60**	**277**		*e*Pn	**Pn**	**21 42 32.0**	**+2.0**		
	SNR=39									
RTB					*i* Sn	**Sn**	**21 43 33.0**	**-0.5**		
	SNR=3.0									
ISAD	**Sadrabad**	**5.75**	**95**		*e*Pn	**Pn**	**21 42 32.6**	**+0.3**		
ISAD					*e*AMB	AMB	21 43 47.2			
	comp=Z,664nm,0.3s									
ISAD	**Sadrabad**	**5.75**	**95**		*e*Pn	**Pn**	**21 42 32.6**	**+0.3**		
ISRV	**Sarvestan**	**6.18**	**119**		*e*Pn	**Pn**	**21 42 39.1**	**+0.9**		
ISRV					*e*AMB	AMB	21 44 09.8			
	comp=Z,1μm,0.4s									
ISRV	**Sarvestan**	**6.18**	**119**		*e*Pn	**Pn**	**21 42 39.1**	**+0.9**		
ICHK	**Chekchek**	**6.33**	**91**		*e*Pn	**Pn**	**21 42 40.1**	**-0.1**		
ICHK					*e*AMB	AMB	21 43 58.0			
	comp=Z,529nm,0.3s									
ICHK	**Chekchek**	**6.33**	**91**		Pn	**Pn**	**21 42 40.0**	**-0.1**		
ICHK	**Chekchek**	**6.33**	**91**		*e*Pn	**Pn**	**21 42 40.1**	**-0.1**		
IMEH	**Mehriz**	**6.63**	**98**		*e*Pn	**Pn**	**21 42 44.2**	**-0.1**		
IMEH					*e*AMB	AMB	21 44 09.6			
	comp=Z,291nm,0.3s									
IMEH	**Mehriz**	**6.63**	**98**		*e*Pn	**Pn**	**21 42 44.2**	**-0.1**		
IBAF	**Bafgh**	**7.39**	**95**		*e*Pn	**Pn**	**21 42 54.5**	**-0.2**		
IBAF					*e*AMB	AMB	21 44 18.5			
	comp=Z,156nm,0.4s									
IBAF	**Bafgh**	**7.39**	**95**		*e*Pn	**Pn**	**21 42 54.5**	**-0.2**		
GNI	**Garni**	**7.78**	**347**		Pn	**Pn**	**21 42 59.5**	**-0.5**		
	comp=Z,0.2nm,0.3s,baz=140,slow=7.9,SNR=1.8									
GNI					Lg	Lg	21 45 13.5			
	comp=Z,0.2nm,0.3s,baz=204,slow=19,SNR=1.6									
GNI	**Garni**	**7.78**	**347**		*e*Pn	**Pn**	**21 43 02.3**	**+2.4**		
GNI	**Garni**	**7.78**	**347**		*i* P	**Pn**	**21 43 02.4**	**+2.4**		
GNI	**Garni**	**7.78**	**347**		*e*Pn	**Pn**	**21 43 02.3**	**+2.4**		
ASF	**Jabal al Asfar**	**8.50**	**270**		Pn	**Pn**	**21 43 07.1**	**-2.7**		
	comp=Z,1.2nm,0.3s,baz=30,slow=3.0,SNR=13									
ASF					Lg	Lg	21 45 37.9			
	comp=Z,1.2nm,0.3s,baz=142,slow=14,SNR=3.8									
RAYN	**Ar Rayn**	**9.09**	**188**		*e*Pn	**Pn**	**21 43 16.7**	**-1.3**		
RAYN	**Ar Rayn**	**9.09**	**188**		P	**Pn**	**21 43 16.7**	**-1.3**		
RAYN					pmax	pmax				
	comp=Z,38nm,0.8s									
RAYN	**Ar Rayn**	**9.09**	**188**		P	**Pn**	**21 43 16.7**	**-1.3**		
	comp=Z,38nm,0.8s									
MMAI	**Mount Meron Ar**	**9.72**	**276**		Pn	**Pn**	**21 43 29.5**	**+2.9**		
	baz=85,slow=18,SNR=2.4									
MMAI					Lg	Lg	21 46 15.4			
	comp=Z,1.2nm,0.3s,baz=84,slow=28,SNR=3.6									
MMAI					LR	LR	21 48 22.0			
	comp=Z,57nm,18.6s,baz=75,slow=45									
GEYT	**Alibeck**	**10.59**	**57**		Pn	**Pn**	**21 43 39.9**	**+1.5**		
	comp=Z,0.1nm,0.3s,baz=266,slow=19,SNR=5.2									
GEYT					LR	LR	21 48 12.3			
	comp=Z,215nm,18.8s,baz=170,slow=41									
EIL	**Elat**	**10.67**	**257**		Pn	**Pn**	**21 43 40.6**	**+1.1**		
	comp=Z,0.5nm,0.3s,baz=52,slow=13,SNR=5.0									
EIL					Lg	Lg	21 46 56.1			
	comp=Z,1.7nm,0.3s,baz=86,slow=13,SNR=5.1									
EIL					LR	LR	21 48 53.4			
	comp=Z,79nm,21.1s,baz=62,slow=44									
UOSS	**Minazif**	**11.12**	**131**		*e*Pn	**Pn**	**21 43 45.4**	**-0.3**		
UOSS	**Minazif**	**11.12**	**131**		*e*Pn	**Pn**	**21 43 45.4**	**-0.3**		
NEY	**Neytrino**	**11.17**	**344**	⇑	*e*P	**Pn**	**21 43 49.9**	**+3.4**		
NEY					pmax	pmax				
	comp=Z,5.0nm,1.4s									
NEY	**Neytrino**	**11.17**	**344**		*e*P	**Pn**	**21 43 49.9**	**+3.4**		
	comp=Z,5.0nm,1.4s									
BRTR	**Keskin Array 3**	**12.90**	**307**		Pn	**Pn**	**21 44 11.8**	**+1.7**		
	comp=Z,0.1nm,0.3s,baz=121,slow=13,SNR=4.4									
WSAR	**Wadi Sarin**	**13.89**	**129**		Pn	**Pn**	**21 44 20.5**	**-3.0**		
	comp=Z,0.8nm,0.3s,baz=352,slow=9.8,SNR=8.0									
MANR	**Mangalia**	**18.24**	**313**	⇑	*i*P	**Pn**	**21 45 19.6**	**+0.1**		
MANR	**Mangalia**	**18.24**	**313**	⇑	*i*P	**Pn**	**21 45 19.6**	**+0.1**		
IDI	**Anoyia**	**18.49**	**285**		P	**Pn**	**21 45 23.2**	**+0.4**		
	comp=Z,1.0nm,0.3s,baz=241,slow=16,SNR=5.9									
KBL	**Kabul**	**18.53**	**78**		*e*P	**Pn**	**21 45 23.8**	**+0.4**		
	comp=Z,12nm,0.9s									
KBL	**Kabul**	**18.53**	**78**		*e*P	**Pn**	**21 45 23.8**	**+0.4**		
KBL					pmax	pmax				
	comp=Z,13nm,0.9s									
KBL	**Kabul**	**18.53**	**78**		*e*P	**Pn**	**21 45 23.8**	**+0.4**		
	comp=Z,12nm,0.9s									
TIRR	**Tirgusor**	**18.69**	**315**	⇓	*i*P	**Pn**	**21 45 25.8**	**+0.8**		
TIRR	**Tirgusor**	**18.69**	**315**	⇓	P	**Pn**	**21 45 25.8**	**+0.8**		
TIRR	**Tirgusor**	**18.69**	**315**		P	**Pn**	**21 45 25.8**	**+0.8**		
CFR	**Carcaliu**	**19.26**	**316**	⇓	*i*P	**P**	**21 45 29.5**	**-1.2**		
CFR	**Carcaliu**	**19.26**	**316**	⇓	P	**P**	**21 45 29.5**	**-1.2**		
CFR	**Carcaliu**	**19.26**	**316**		P	**P**	**21 45 29.5**	**-1.2**		
ABKAR	**Akbulak array**	**19.31**	**26**		*e*P	**P**	**21 45 31.6**	**+0.3**		
	comp=Z,29nm,0.6s									
ABKAR	**Akbulak array**	**19.31**	**26**		*e*P	**P**	**21 45 31.6**	**+0.3**		
	comp=Z,29nm,0.6s									
VSR	**Storozhevoye**	**19.50**	**345**		*e*P	**P**	**21 45 31.9**	**-1.4**		
VSR					pmax	pmax				
	comp=Z,10.0nm,0.6s									
VSR	**Storozhevoye**	**19.50**	**345**		*e*P	**P**	**21 45 31.9**	**-1.4**		
	comp=Z,10.0nm,0.6s									
AKTK	**Aktyubinsk**	**19.65**	**21**		P	**P**	**21 45 34.1**	**-0.9**		
AKTO	**Aktyubinsk**	**19.65**	**21**		P	**P**	**21 45 34.1**	**-0.9**		
	comp=Z,0.3nm,0.3s,baz=205,slow=14,SNR=7.9									
AKTO					LR	LR	21 55 16.8			
	comp=Z,92nm,18.6s,baz=242,slow=44									
ISR	**Istrita**	**20.17**	**314**		P	Pn	21 45 45.3	+2.6		
ISR					pmax	pmax				
	comp=Z,16nm,1.3s									
VRI	**Vrincioaia**	**20.46**	**316**	⇑	*i*P	**P**	**21 45 44.2**	**+0.3**		
VRI	**Vrincioaia**	**20.46**	**316**	⇑	P	**P**	**21 45 44.2**	**+0.3**		
VRI	**Vrincioaia**	**20.46**	**316**		P	**P**	**21 45 44.2**	**+0.3**		
PLOR	**Plostina**	**20.50**	**316**	⇑	*i*P	**P**	**21 45 45.1**	**+0.8**		
PLOR	**Plostina**	**20.50**	**316**	⇑	P	**P**	**21 45 45.1**	**+0.8**		
PLOR	**Plostina**	**20.50**	**316**		P	**P**	**21 45 45.1**	**+0.8**		
MLR	**Muntele Rosu**	**20.72**	**315**		P	**P**	**21 45 46.7**	**-0.2**		
	comp=Z,1.3nm,0.8s,baz=107,slow=3.8,SNR=8.8									
MLR	**Muntele Rosu**	**20.72**	**315**	⇓	*i*P	**P**	**21 45 47.6**	**+0.7**		
MLR	**Muntele Rosu**	**20.72**	**315**	⇓	P	**P**	**21 45 47.6**	**+0.7**		
MLR	**Muntele Rosu**	**20.72**	**315**		P	**P**	**21 45 47.6**	**+0.7**		
THE	**Thessaloniki**	**20.82**	**300**		P	Pn	21 45 51.8	+1.5		
THE					pmax	pmax				
	comp=Z,20nm,2.2s									
LPSR	**Galich'ya Gora**	**20.85**	**346**		*e*P	**P**	**21 45 46.0**	**-2.0**		
LPSR					pmax	pmax				
	comp=Z,100nm,0.8s									
TESR	**Tescani**	**20.87**	**318**	⇓	*i*P	**P**	**21 45 47.7**	**-0.6**		
TESR	**Tescani**	**20.87**	**318**	⇓	*i*P	**P**	**21 45 47.7**	**-0.6**		
MTUR	**Matau**	**21.13**	**313**	⇑	*i*P	**P**	**21 45 52.2**	**+1.0**		
MTUR	**Matau**	**21.13**	**313**	⇑	P	**P**	**21 45 52.2**	**+1.0**		
MTUR	**Matau**	**21.13**	**313**		P	**P**	**21 45 52.2**	**+1.0**		
VOIR		**21.24**	**314**	⇑	*i*P	**P**	**21 45 53.3**	**+0.9**		
VOIR		**21.24**	**314**	⇑	P	**P**	**21 45 53.3**	**+0.9**		
VOIR		**21.24**	**314**		P	**P**	**21 45 53.3**	**+0.9**		
VTS	**Vitosha**	**21.24**	**305**	⇑	*i*P	**P**	**21 45 53.6**	**+1.1**		
VTS	**Vitosha**	**21.24**	**305**	⇑	P	**P**	**21 45 53.6**	**+1.1**		
VTS	**Vitosha**	**21.24**	**305**		P	**P**	**21 45 53.6**	**+1.1**		
ATD	**Arta Tunnel**	**21.27**	**191**		LR	LR	21 54 24.5			
	comp=Z,46nm,19.9s,baz=100,slow=38									
DOPR	**Dopca**	**21.30**	**315**	⇓	*i*P	**P**	**21 45 53.7**	**+0.7**		
DOPR	**Dopca**	**21.30**	**315**	⇓	*i*P	**P**	**21 45 53.7**	**+0.7**		
KKAR	**Karatay Array**	**21.32**	**54**		*e*P	**P**	**21 45 52.6**	**-0.5**		
KKAR	**Karatay Array**	**21.32**	**54**		*e*P	**P**	**21 45 52.7**	**-0.5**		
KKAR	**Karatay Array**	**21.32**	**54**		*e*P	**P**	**21 45 52.7**	**-0.5**		
ARR	**Arges**	**21.46**	**313**	⇑	*i*P	**P**	**21 45 55.5**	**+0.8**		
ARR	**Arges**	**21.46**	**313**	⇑	P	**P**	**21 45 55.5**	**+0.8**		
BURAR	**Bucovina Array**	**22.30**	**319**	⇑	*i*P	**P**	**21 46 04.1**	**+0.3**		
BURAR	**Bucovina Array**	**22.30**	**319**	⇑	P	**P**	**21 46 04.1**	**+0.3**		
BURAR	**Bucovina Array**	**22.30**	**319**	⇑	*i*P	**P**	**21 46 04.1**	**+0.3**		
BUR04	**Bucovina Ar. S**	**22.31**	**319**		*e*P	**P**	**21 46 03.4**	**-0.4**		
BUR04	**Bucovina Ar. S**	**22.31**	**319**		*e*P	**P**	**21 46 03.4**	**-0.4**		
BUR08	**Bucovina Ar. S**	**22.33**	**319**		*e*P	**P**	**21 46 05.0**	**+1.0**		
BUR08	**Bucovina Ar. S**	**22.33**	**319**		*e*P	**P**	**21 46 05.1**	**+1.0**		
AKASG	**Malin Array Be**	**22.34**	**329**		P	**P**	**21 46 01.7**	**-2.4**		
	comp=Z,3.6nm,0.8s,baz=136,slow=9.2,SNR=21									
AKASG	**Malin Array Be**	**22.34**	**329**		*ce*P	**P**	**21 46 04.8**	**+0.8**		
AKASG					pmax	pmax				
	comp=Z,4.0nm,0.7s									
AKASG	**Malin Array Be**	**22.34**	**329**		*e*P	**P**	**21 46 04.8**	**+0.8**		
	comp=Z,4.0nm,0.7s									
AKBB	**Malin Array Si**	**22.34**	**329**		*e*P	**P**	**21 46 04.9**	**+0.9**		
AKBB					pmax	pmax				
	comp=Z,10.0nm,1.0s									
AKBB	**Malin Array Si**	**22.34**	**329**		*e*P	**P**	**21 46 04.9**	**+0.9**		
	comp=Z,10nm,1.0s									
KIEV	**Kiev**	**22.34**	**329**		*e*P	**P**	**21 46 04.8**	**+0.8**		
	comp=Z,9.9nm,1.0s									
KIEV	**Kiev**	**22.34**	**329**		*i* P	**P**	**21 46 04.6**	**+0.6**		
KIEV					pmax	pmax				
	comp=Z,7.0nm,0.8s									
KIEV	**Kiev**	**22.34**	**329**		*e*P	**P**	**21 46 04.8**	**+0.8**		
	comp=Z,9.9nm,1.0s									
AK11	**Malin Array Si**	**22.35**	**329**		*e*P	**P**	**21 46 04.8**	**+0.7**		
MNAS	**Manas**	**22.49**	**57**		P	**P**	**21 46 06.3**	**+0.4**		
MNAS					pmax	pmax				
	comp=Z,13nm,1.1s									
MNAS	**Manas**	**22.49**	**57**		P	**P**	**21 46 06.3**	**+0.4**		
	comp=Z,13nm,1.1s									
SFK	**Sufi-Kurgan**	**22.61**	**63**		P	**P**	**21 46 07.6**	**+0.3**		
SFK					pmax	pmax				
	comp=Z,15nm,1.3s									
SFK	**Sufi-Kurgan**	**22.61**	**63**		P	**P**	**21 46 07.6**	**+0.3**		
	comp=Z,15nm,1.3s									
AML	**Almayashu**	**23.24**	**58**		P	**P**	**21 46 14.3**	**+0.4**		
	SNR=16									
DRGR		**23.32**	**315**	⇓	*i*P	**P**	**21 46 13.8**	**-0.5**		
DRGR		**23.32**	**315**	⇓	P	**P**	**21 46 13.8**	**-0.5**		
DRGR		**23.32**	**315**		P	**P**	**21 46 13.8**	**-0.5**		
EKS2	**Erkin-Say**	**23.44**	**57**		P	**P**	**21 46 15.8**	**+0.1**		
	SNR=8.4									
BZS	**Buzias**	**23.47**	**311**	⇓	*i*P	**P**	**21 46 15.2**	**-0.5**		
BZS	**Buzias**	**23.47**	**311**	⇓	P	**P**	**21 46 15.2**	**-0.5**		
BZS	**Buzias**	**23.47**	**311**		P	**P**	**21 46 15.2**	**-0.5**		
OBN	**Obninsk**	**23.70**	**345**		*e*P	**P**	**21 46 17.6**	**-0.3**		
	comp=Z,44nm,1.3

MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 30.41 52 *eP* **P 21 47 18.7 +0.3**
comp=Z,3.0nm,0.8s
MK01 Makanchi Array 30.41 52 *eP* **P 21 47 18.7 +0.3**
MK01 Makanchi Array 30.41 52 *eP* **P 21 47 18.7 +0.3**
CLL Collm 31.05 317 *eP* **P 21 47 22.0 -1.9**
PYUN Piuthan 31.34 89 *eP* **P 21 47 27.1 +0.1**
FINES FINESS Array B 31.91 341 P **P 21 47 30.1 -1.2**
comp=Z,2.2nm,0.6s,baz=142,slow=9.5,SNR=12
FINES FINESS Array B 31.91 341 *i* P **P 21 47 31.3 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.6s
DANN Dangsing 31.92 88 *eP* **P 21 47 32.8 +0.6**
KOLN Koldanda 31.95 89 *eP* **P 21 47 32.3 -0.1**
comp=Z,10.0nm,1.0s
SUF Sumiainen 32.95 343 P P 21 47 46.5 +6.1
SUF pmax pmax
comp=Z,117nm,1.5s
DMN Daman 33.27 88 *eP* **P 21 47 44.1 +0.1**
comp=Z,27nm,0.9s
KKN Kakani 33.37 88 *eP* **P 21 47 44.8 0.0**
comp=Z,19nm,0.7s
PKIN Phulchoki 33.53 88 *eP* **P 21 47 46.6 +0.4**
comp=Z,18nm,0.8s
PKI Pulchoki 33.54 88 *eP* **P 21 47 46.2 -0.2**
comp=Z,38nm,1.1s
WMQ Urumqi 33.64 59 P **P 21 47 47.2 +0.4**
GUN Gumba 33.83 87 *eP* **P 21 47 49.2 +0.2**
comp=Z,44nm,1.0s
NVS Novosibirsk 33.84 38 *eP* **P 21 47 48.6 +0.3**
JIRN Jiri 34.17 88 *eP* **P 21 47 52.0 0.0**
comp=Z,33nm,0.8s
ZAA0 Zalesovo Array 34.31 40 *eP* **P 21 47 52.3 -0.1**
comp=Z,4.7nm,0.8s
ZALV Zalesovo Beam 34.31 40 P **P 21 47 51.4 -1.0**
comp=Z,4.1nm,0.7s,baz=252,slow=9.2,SNR=20
ZALV LR LR 22 04 42.5
comp=Z,52nm,21.8s,baz=244,slow=41
ZALV Zalesovo Beam 34.31 40 *eP* **P 21 47 51.9 -0.5**
ZALV Zalesovo Beam 34.31 40 *eP* **P 21 47 51.9 -0.5**
KMBO Kilima Mbogo 34.73 197 LR LR 22 02 29.0
comp=Z,47nm,20.3s,baz=93,slow=37
HFS Hagfors 35.19 332 P **P 21 47 58.8 -1.2**
comp=Z,2.4nm,0.5s,baz=128,slow=9.3,SNR=14
HFS LR LR 22 06 01.5
comp=Z,233nm,18.6s,baz=346,slow=43
NOA NORSAR Array B 36.72 332 P **P 21 48 12.0 -1.1**
comp=Z,1.0nm,0.8s,baz=127,slow=8.5,SNR=3.0
NOA NORSAR Array B 36.72 332 P **P 21 48 12.0 -1.1**
TAM Tamanrasset 37.74 266 *eP* **P 21 48 24.8 +2.5**
comp=Z,6.3nm,1.1s
TAM Tamanrasset 37.74 266 *eP* **P 21 48 24.8 +2.5**
TAM pmax pmax
comp=Z,6.0nm,1.1s
LSA Lhasa 37.75 82 P **P 21 48 24.4 +1.7**
LSA pmax pmax
comp=Z,4.0nm,2.0s
LSA Lhasa 37.75 82 P **P 21 48 24.4 +1.7**
comp=Z,4.0nm,2.0s
ARCES ARCESS Array B 38.93 348 P **P 21 48 30.4 -1.2**
comp=Z,5.5nm,1.1s,baz=168,slow=11,SNR=3.3
ES19 SONSECA Array 41.22 295 *eP* **P 21 48 51.8 +0.8**
ES19 SONSECA Array 41.22 295 *eP* **P 21 48 51.8 +0.8**
ESDC Sonseca Array 41.27 295 P **P 21 48 50.7 -0.8**
comp=Z,0.9nm,0.8s,baz=77,slow=9.1,SNR=6.3
EKA Eskdalemuir Ar 41.49 319 P **P 21 48 51.4 -1.5**
comp=Z,1.3nm,0.8s,baz=105,slow=8.2,SNR=4.3
GTA Gaotai 42.82 65 *eP* **P 21 49 04.3 +0.1**
GTA pP pP 21 49 08.6 -3.5
GTA sP sP 21 49 11.7 -3.6
MVO Moncorvo 43.42 297 *eP* **P 21 49 09.8 +0.8**
PVRL Vila Real 43.93 298 *eP* **P 21 49 13.6 +0.6**
PVRL Vila Real 43.93 298 *eP* **P 21 49 13.6 +0.6**
PCBR Castelo Branco 43.93 296 *eP* **P 21 49 13.5 +0.5**
PCBR Castelo Branco 43.93 296 *eP* **P 21 49 13.5 +0.5**
TOA0 Torodi Ar. Sit 45.55 256 *eP* **P 21 49 26.3 +0.1**
TORD Torodi Ar. Bea 45.55 256 P **P 21 49 25.4 -0.7**
comp=Z,3.3nm,0.8s,baz=53,slow=8.1,SNR=13
LZH Lanzhou 46.56 69 *eP* **P 21 49 34.3 +0.2**
LZH pP sP 21 49 45.2 -0.1
LZH sP pP 21 49 51.2 +9.1
SONM Songino Array 46.77 53 P **P 21 49 34.7 -0.8**
comp=Z,0.3nm,0.5s,baz=280,slow=12,SNR=5.6
SONM PcP **PcP 21 51 07.4 -1.2**
comp=Z,0.4nm,0.8s,baz=224,slow=4.0,SNR=2.9
SONM LR LR 22 10 58.7
comp=Z,64nm,18.4s,baz=262,slow=38
SONA1 Songino Array 46.77 53 *eP* **P 21 49 36.0 +0.4**
ULN Ulaanbaatar 47.21 53 *eP* **P 21 49 39.3 +0.3**
comp=Z,7.3nm,1.3s
ULN Ulaanbaatar 47.21 53 *ce* **P 21 49 38.6 -0.4**
ULN pmax pmax
comp=Z,13nm,2.5s
SPITS Spitsbergen Ar 47.62 352 P **P 21 49 39.7 -1.9**
comp=Z,8.3nm,1.0s,baz=153,slow=4.5,SNR=3.0
CHTO Chiang Mai 48.39 93 *eP* **P 21 49 47.3 -1.0**
comp=Z,2.4nm,0.9s
CHTO Chiang Mai 48.39 93 *eP* **P 21 49 47.3 -1.0**
CHTO pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 48.55 94 P **P 21 49 48.1 -1.4**
comp=Z,1.0nm,0.7s,baz=295,slow=9.2,SNR=8.0
CMAR PcP **PcP 21 51 15.3 +0.1**
comp=Z,0.6nm,0.6s,baz=286,slow=6.0,SNR=4.3
CMAR Chiang Mai Arr 48.55 94 *ce* **P 21 49 49.0 -0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
KMI Kunming 48.98 84 P **P 21 49 52.8 -0.2**
KOWA Kowa 49.57 261 P **P 21 49 57.2 -0.3**
comp=Z,4.6nm,0.9s,baz=59,slow=11,SNR=6.6
KOWA Kowa 49.57 261 *eP* **P 21 49 57.8 +0.4**
comp=Z,7.7nm,1.0s
HHC Hu-ho-hao-te 51.43 61 *eP* **P 21 50 13.4 +2.1**
DBIC Dimbokro 54.51 253 P **P 21 50 35.1 +1.0**
comp=Z,4.2nm,1.0s,baz=73,slow=8.6,SNR=3.1
DBIC LR LR 22 14 20.3
comp=Z,56nm,18.1s,baz=28,slow=37
MATP Matopo 55.56 201 P **P 21 50 42.5 +0.8**
comp=Z,5.4nm,0.8s,baz=18,slow=8.4,SNR=5.7
TIXI Tiksi 56.93 22 *ep* **P 21 50 49.6 -1.2**
TIXI pmax pmax
comp=Z,5.0nm,2.5s
BOSA Boshof 64.23 201 P **P 21 51 41.1 0.0**
comp=Z,3.9nm,0.9s,baz=55,slow=5.2,SNR=3.9
KSAR Wonju Array Be 64.53 61 P **P 21 51 40.5 -2.6**
KSAR Wonju Array Be 64.53 61 P **P 21 51 40.5 -2.6**
KSRS Korea Array 64.56 61 P **P 21 51 40.5 -2.7**
comp=Z,1.5nm,0.6s,baz=288,slow=7.2,SNR=5.9
USRK Ussuriysk Ar. 64.88 52 P **P 21 51 43.1 -2.1**
comp=Z,2.1nm,0.6s,baz=279,slow=8.4,SNR=6.1
SEY Seymchan 68.07 28 *ce* **P 21 52 06.2 +0.9**
JNU Nakatsue 68.53 64 LR LR 22 28 18.5
comp=Z,35nm,18.4s,baz=298,slow=41
BILL Bilibino 70.08 20 *i* P **P 21 52 16.6 -1.1**
BILL *i* 21 52 27.2
BILL *i* 21 52 36.9
BILL *i* 21 54 56.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
FRB Frobisher Bay 71.45 335 P **P 21 52 26.5 +0.5**
FRB pmax pmax
comp=Z,10.0nm,1.3s
ILAR Eielson Array 82.39 6 P **P 21 53 27.0 -0.6**
comp=Z,0.7nm,0.8s,baz=321,slow=4.0,SNR=7.8
YKA Yellowknife Ar 84.12 352 P **P 21 53 36.1 -0.4**
comp=Z,1.2nm,0.9s,baz=15,slow=5.2,SNR=17
KDAK Kodiak Island 88.51 10 *i* P **P 21 54 01.2 +3.0**
FFC Flin Flon 89.04 343 *i* P **P 21 54 01.5 +0.7**

IDC 10 21:41:22.7±2.4, 6°18S×130°45E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.2/49, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=144.6km s-min=31.4km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.20**	**165**	Pn	Pn	21 44 44.0	-1.2
	0.2nm,0.3s,baz=348,slow=13,SNR=11						
WRA				Sn	Sn	21 47 12.0	-12
	0.6nm,0.3s,baz=341,slow=21,SNR=9.6						
ASAR	**Alice Springs**	**17.70**	**170**	P	P	21 45 31.7	-0.2
	0.1nm,0.3s,baz=348,slow=11,SNR=5.2						
ASAR				S	Sn	21 48 35.9	-13
	0.1nm,0.3s,baz=358,slow=27,SNR=4.3						

MKAR Makanchi Array 67.79 326 P P 21 52 22.6 0.0
0.2nm,0.6s,baz=141,slow=4.8,SNR=2.8

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*BJI **10** 21:53:55.3, 30°.56N×137°.77E, h458km, mb4.5/24, mB4.7/14*
*JMA **10** 21:53:55.6±0.2, 30°.64N×138°.07E, h474km±3km, M3.8*
*IDC **10** 21:53:55.3±0.6, 30°.71N×138°.06E, h456km±10km, mb2.9/10, mb1 3.1/17, mb1mx2.9/70, mbtmp3.9/17, Error ellipse: s-maj=20.2km s-min=9.0km az=71.0*
*ISCJB **10** 21:53:57.0±0.2, 30°.67N±0°.03×137°.73E±0°.04, h477km, mb4.2/51, Error ellipse: s-maj=5.0km s-min=4.3km az=25.9*
*NEIC **10** 21:53:56.6±0.3, 30°.61N×137°.78E, h458km±4km, mb4.6/32, Error ellipse: s-maj=5.2km s-min=4.1km az=137.0*
ISC 10 21:53:57.6±0.4, 30°.62N±0°.05×137°.88E±0°.06, h477km, n111, σ1°71/119, mb4.3/51, 1C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.94**	**33**	P	**P**	**21 55 03.8**	**-2.4**
JHJ	**Hachijo jima 2**	**2.97**	**33**	P	P	21 55 00.8	-5.6
	57nm,0.3s,baz=74,slow=20,SNR=3.4						
JHJ				S	**S**	**21 55 56.2**	**-6.3**
	28nm,0.3s,baz=53,slow=20,SNR=2.3						
JHJ2	**Mitsune**	**2.98**	**33**	*eP*	P	21 55 01.9	-4.5
JWZ	**Kozaga**	**3.44**	**328**	P	**P**	**21 55 08.8**	**-1.0**
JKN2	**Miekihoku**	**3.86**	**340**	P	**P**	**21 55 12.0**	**-1.1**
JIE	**Ise**	**3.89**	**346**	P	**P**	**21 55 12.5**	**-0.9**
JIE				S	**S**	**21 56 12.6**	**-2.7**
JWY	**Kouya**	**4.08**	**332**	P	**P**	**21 55 14.4**	**-0.7**
HMMJ	**Hamamatsu 2**	**4.23**	**358**	P	**P**	**21 55 14.8**	**-1.4**
HMMJ				S	**S**	**21 56 17.0**	**-3.5**
JAI	**Aioi**	**4.29**	**318**	P	**P**	**21 55 16.3**	**-0.5**
JAI				S	**S**	**21 56 19.9**	**-1.7**
JAO	**Obara**	**4.66**	**354**	P	**P**	**21 55 18.9**	**-1.3**
JEG	**Eigenji**	**4.67**	**345**	P	**P**	**21 55 19.4**	**-0.8**
INU	**Inuyama**	**4.77**	**352**	*eP*	**P**	**21 55 20.1**	**-1.0**
JTO	**Toyohashimizu**	**4.87**	**299**	P	**P**	**21 55 21.7**	**-0.3**
CBIJ	**Chichi jima**	**5.16**	**132**	*eP*	**P**	**21 55 23.6**	**-1.2**
CBIJ				*eS*	**S**	**21 56 30.3**	**-5.6**
JCJ	**Chichijima**	**5.16**	**132**	P	P	21 55 20.0	-4.8
	6.1nm,0.3s,baz=285,slow=20,SNR=2.7						
JCJ				S	**S**	**21 56 29.5**	**-6.5**
	67nm,0.3s,baz=311,slow=23,SNR=19						
MJAR	**Matsushiro Arr**	**5.91**	**3**	P	**P**	**21 55 28.7**	**-3.2**
	1.3nm,0.3s,baz=183,slow=11,SNR=20						
MJAR				S	**S**	**21 56 43.2**	**-5.9**
	0.6nm,0.3s,baz=195,slow=16,SNR=5.2						
MAJO	**Matsushiro**	**5.92**	**3**	*eP*	**P**	**21 55 29.5**	**-2.5**
MAT	**Matsushiro**	**5.92**	**3**	P	**P**	**21 55 28.1**	**-3.9**
MAT				S	S	21 56 40.5	-8.7
MJB9	**Matsu-Tunnel**	**5.92**	**3**	*eP*	**P**	**21 55 29.5**	**-2.5**
JHS	**Saijyo**	**5.93**	**319**	P	**P**	**21 55 31.6**	**-0.5**
JNU	**Nakatsue**	**6.46**	**295**	P	**P**	**21 55 37.5**	**0.0**
	1.6nm,0.3s,baz=139,slow=2.7,SNR=15						
JNU	**Nakatsue**	**6.46**	**295**	*eP*	**P**	**21 55 37.6**	**+0.1**
JOW	**Kunigami**	**9.23**	**248**	*eP*	**P**	**21 56 03.9**	**-2.7**
KSRS	**Korea Array**	**10.70**	**312**	P	**P**	**21 56 21.6**	**-0.5**
	1.0nm,0.3s,baz=125,slow=10.0,SNR=20						
KS15	**Wonju Array Si**	**10.72**	**312**	*eP*	**P**	**21 56 21.5**	**-0.8**
KS01	**Wonju Array Si**	**10.74**	**312**	*eP*	**P**	**21 56 21.3**	**-1.2**
ERM	**Erimo**	**12.14**	**19**	*eP*	**P**	**21 56 37.7**	**+0.2**
ASAJ	**Asahikawa**	**13.98**	**14**	P	**P**	**21 56 56.7**	**-0.4**
	1.8nm,0.3s,baz=222,slow=12,SNR=21						
ASAJ				S	**S**	**21 59 24.8**	**-0.6**
	0.3nm,0.3s,baz=230,slow=18,SNR=3.0						
USRK	**Ussuriysk Ar.**	**14.34**	**343**	P	**P**	**21 56 59.7**	**-1.2**
	4.9nm,0.3s,baz=143,slow=10,SNR=61						
MDJ	**Mudanjiang**	**15.43**	**337**	*eP*	**P**	**21 57 11.6**	**-0.8**
	154nm,2.0s						
SARN	**Sarigan**	**15.62**	**151**	*eP*	**P**	**21 57 14.7**	**-0.2**
YHNB	**Yeheng**	**15.77**	**252**	*eP*	**P**	**21 57 14.8**	**-1.6**
	147nm,1.7s						
ANA2	**Anatahan**	**15.92**	**151**	*eP*	**P**	**21 57 19.5**	**+1.6**
NJ2	**Nanjing**	**16.32**	**280**	*eP*	**P**	**21 57 19.7**	**-2.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
YULB	**Yu-li**	**16.43**	**248**	*eP*	**P**	**21 57 21.2**	**-2.1**
	104nm,1.9s						
SSLB	**Suanglung**	**16.51**	**250**	*eP*	**P**	**21 57 22.8**	**-1.5**
	55nm,1.5s						
TPUB	**Ta-pu**	**17.01**	**249**	*eP*	**P**	**21 57 28.5**	**-0.9**
	90nm,1.5s						
KLR	**Kul'dur**	**19.16**	**348**	P	**P**	**21 57 48.5**	**-1.0**
	0.1nm,0.3s,baz=178,slow=6.6,SNR=34						
HHC	**Hu-ho-hao-te**	**23.59**	**303**	*eP*	**P**	**21 58 32.3**	**+2.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,77nm,5.6s						
ENH	**Enshi**	**24.45**	**276**	*eP*	**P**	**21 58 36.8**	**-0.8**
	13nm,0.3s						
XAN	**Xi'an**	**24.67**	**286**	P	**P**	**21 58 38.9**	**-0.6**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,250nm,5.4s						
LZH	**Lanzhou**	**28.85**	**290**	*eP*	**P**	**21 59 18.1**	**+1.6**
LZH				sP	sP	22 01 27.6	-6.6
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,8.0s						
CD2	**Chengdu**	**29.26**	**279**	P	**P**	**21 59 18.5**	**-1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SONM	**Songino Array**	**29.56**	**315**	P	**P**	**21 59 21.7**	**-0.7**
	0.6nm,0.4s,baz=120,slow=8.5,SNR=4.5						
KMI	**Kunming**	**31.46**	**269**	P	**P**	**21 59 37.5**	**-1.7**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KKM	**Kota Kinabalu**	**31.81**	**224**	*eP*	**P**	**21 59 42.5**	**+0.3**
	20nm,1.2s						
YAK	**Yakutsk**	**31.87**	**353**	*eP*	**P**	**21 59 43.3**	**+1.4**
	11nm,0.5s						
TLY	**Talaya**	**32.83**	**320**	*eP*	**P**	**21 59 50.4**	**0.0**
	2.9nm,0.6s						
SBUM	**Sibu**	**37.07**	**226**	*eP*	**P**	**22 00 25.6**	**-0.7**
	5.8nm,1.1s						
CHTO	**Chiang Mai**	**37.09**	**261**	*eP*	**P**	**22 00 26.6**	**0.0**
	6.2nm,0.8s						
CM31	**Chiang Mai Arr**	**37.25**	**260**	*eP*	**P**	**22 00 27.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**37.25**	**260**	P	**P**	**22 00 27.7**	**-0.1**
	2.9nm,0.7s,baz=59,slow=6.7,SNR=22						
CM01	**Chiang Mai Arr**	**37.25**	**260**	*eP*	**P**	**22 00 27.8**	**-0.1**
SAUI	**Saumlaki**	**38.90**	**190**	*eP*	**P**	**22 00 41.0**	**-0.2**
	141nm,0.9s						
KSM	**Kuching**	**39.02**	**227**	*eP*	**P**	**22 00 42.4**	**0.0**
	9.2nm,0.9s						
WMQ	**Urumqi**	**41.48**	**303**	P	**P**	**22 01 03.1**	**+1.3**
MMRI	**Maumere**	**41.82**	**204**	*eP*	**P**	**22 01 05.1**	**+0.4**
	24nm,1.5s						
KULM	**Kulim**	**43.12**	**242**	*eP*	**P**	**22 01 14.7**	**-0.3**
	8.1nm,0.9s						
MYKOM	**Kota Tinggi**	**43.13**	**235**	*eP*	**P**	**22 01 15.6**	**+0.5**
	15nm,1.1s						
ZALV	**Zalesovo Beam**	**44.35**	**317**	P	**P**	**22 01 23.0**	**-1.1**
	0.2nm,0.3s,baz=77,slow=6.4,SNR=2.5						
JIRN	**Jiri**	**44.92**	**280**	*eP*	**P**	**22 01 29.6**	**+0.2**
	25nm,0.4s						
GUN	**Gumba**	**45.11**	**280**	*eP*	**P**	**22 01 30.9**	**+0.1**
	12nm,0.6s						
MK01	**Makanchi Array**	**45.33**	**307**	*eP*	**P**	**22 01 32.0**	**+0.2**
MK31	**Makanchi Array**	**45.33**	**307**	*eP*	**P**	**22 01 31.6**	**-0.3**
MKAR	**Makanchi Array**	**45.33**	**307**	P	**P**	**22 01 30.6**	**-1.3**
	0.2nm,0.5s,baz=88,slow=10,SNR=7.9						
MKAR				PcP	**PcP**	**22 03 01.7**	**+0.1**
	0.4nm,0.5s,baz=85,slow=6.5,SNR=9.3						
MKAR				ScP	**ScP**	**22 06 07.9**	**-0.5**
	0.5nm,0.9s,baz=104,slow=3.9,SNR=3.5						
MKAR	**Makanchi Array**	**45.33**	**307**	*eP*	**P**	**22 01 31.6**	**-0.3**
	24nm,1.8s						
MAKZ	**Makanchi**	**45.55**	**307**	*eP*	**P**	**22 01 32.3**	**-1.1**
	9.3nm,1.8s						
KKN	**Kakani**	**45.66**	**280**	*eP*	**P**	**22 01 34.6**	**-0.2**
	6.3nm,0.7s						
DMN	**Daman**	**45.86**	**280**	*eP*	**P**	**22 01 36.0**	**-0.4**
	2.5nm,0.4s						
KOLN	**Koldanda**	**47.09**	**281**	*eP*	**P**	**22 01 45.7**	**0.0**
	8.7nm,0.8s						
PYUN	**Piuthan**	**47.51**	**281**	*eP*	**P**	**22 01 49.1**	**+0.2**
	18nm,0.5s						
KURBB	**Kurchatov Arra**	**47.88**	**312**	P	**P**	**22 01 49.9**	**-1.2**
	0.2nm,0.5s,baz=92,slow=10,SNR=5.4						
GSI	**Gunungsitoli**	**48.03**	**240**	*eP*	**P**	**22 01 52.8**	**0.0**
	28nm,1.1s						
JOHN	**Johnston Islan**	**49.70**	**94**	*eP*	**P**	**22 02 06.9**	**+1.8**
	826nm,1.5s						
WRA	**Warramunga Arr**	**50.38**	**184**	P	**P**	**22 02 09.1**	**-0.9**
	0.4nm,0.3s,baz=0.6,slow=7.8,SNR=15						
WRA				PcP	**PcP**	**22 03 21.1**	**+0.9**
	0.5nm,0.8s,baz=1.4,slow=4.5,SNR=3.6						
KSH	**Kashi**	**50.56**	**298**	*eP*	P	22 02 17.1	+5.8
AAK	**Ala-Archa**	**51.17**	**302**	*eP*	**P**	**22 02 15.7**	**-0.1**
	7.6nm,1.8s						
BVAR	**Borovoye Array**	**52.90**	**316**	P	**P**	**22 02 27.4**	**-0.4**
	0.3nm,0.3s,baz=91,slow=8.6,SNR=3.0						
IM3	**Indian Mountai**	**53.67**	**28**	*eP*	**P**	**22 02 33.7**	**+0.5**
KKAR	**Karatay Array**	**53.98**	**303**	*eP*	**P**	**22 02 35.7**	**-0.1**
AS01	**Alice Springs**	**54.10**	**184**	*eP*	**P**	**22 02 37.4**	**+0.6**
ASAR	**Alice Springs**	**54.11**	**184**	P	**P**	**22 02 38.6**	**+1.8**
	0.5nm,0.5s,baz=83,slow=8.9,SNR=12						
SPU	**Mount Spurr**	**54.15**	**34**	*eP*	**P**	**22 02 39.1**	**+2.4**
TOLK	**Toolik Lake Re**	**55.51**	**25**	*eP*	**P**	**22 02 47.7**	**+1.6**
	9.8nm,1.5s						
MDM	**Murphy Dome**	**55.92**	**30**	*eP*	**P**	**22 02 51.5**	**+2.4**
	26nm,2.0s						
COCO	**West Island**	**58.04**	**229**	*eP*	**P**	**22 03 04.5**	**+0.3**
	1μm,1.8s						
ABKAR	**Akbulak array**	**59.94**	**312**	*eP*	**P**	**22 03 16.2**	**-0.4**
	19nm,0.4s						
KKH	**Kailua Kona**	**60.09**	**84**	*eP*	**P**	**22 03 20.1**	**+2.0**
INK	**Inuvik**	**61.43**	**25**	*eP*	**P**	**22 03 26.2**	**+0.1**
	15nm,1.9s						
BBOO	**Buckleboo**	**63.11**	**182**	*eP*	**P**	**22 03 38.0**	**+0.4**
	63nm,1.9s						
ARCES	**ARCESS Array B**	**68.96**	**340**	P	**P**	**22 04 13.2**	**-0.5**
	3.4nm,0.9s,baz=61,slow=7.9,SNR=7.4						
FINES	**FINESS Array B**	**73.11**	**332**	P	**P**	**22 04 37.5**	**-0.7**
	1.5nm,0.9s,baz=126,slow=2.6,SNR=3.8						
F03A	**Seaside**	**74.14**	**46**	*eP*	**P**	**22 04 46.4**	**+1.9**
	346nm,1.9s						
YBH	**Yreka Blue Hor**	**76.67**	**49**	*eP*	**P**	**22 05 00.4**	**+1.6**
	36nm,1.9s						
KMRM	**Mail Ridge**	**76.74**	**51**	*eP*	**P**	**22 05 01.3**	**+2.1**
	69nm,1.5s						
PINE	**Pine Mountain**	**76.80**	**47**	*eP*	**P**	**22 05 00.9**	**+1.4**
	8.6nm,0.8s						
MDPB	**Devils Postpil**	**81.16**	**52**	*eP*	**P**	**22 05 23.2**	**+0.1**
	12nm,0.8s						
MDPB				*ep*	**pP**	**22 07 08.3**	**+0.7**
BUR04	**Bucovina Ar. S**	**81.46**	**321**	*eP*	**P**	**22 05 24.6**	**+0.4**
ISA	**Isabella, Lake**	**82.62**	**53**	*eP*	**P**	**22 05 31.8**	**+1.5**
	3.0nm,0.7s						
YPP	**Pitchstone Pla**	**82.68**	**42**	*eP*	**P**	**22 05 32.0**	**+1.3**
	8.8nm,1.6s						
SPUT	**South Promonto**	**83.42**	**46**	*eP*	**P**	**22 05 35.7**	**+1.4**
	10nm,1.9s						
DGMT	**Dagmar**	**83.71**	**36**	*eP*	**P**	**22 05 37.0**	**+1.6**
	8.3nm,0.6s						
BW06	**Boulder Array**	**84.30**	**43**	*eP*	**P**	**22 05 39.9**	**+1.1**
	4.8nm,1.4s						
PPT	**Papeete**	**84.57**	**114**	*eP*	**P**	**22 05 40.7**	**+0.6**
PPTF	**Pamatai, Papee**	**84.59**	**114**	*eP*	**P**	**22 05 40.7**	**+0.4**
	520nm,2.0s						
PFO	**Pinyon Flats O**	**85.12**	**54**	*eP*	**P**	**22 05 43.8**	**+1.0**
	7.8nm,1.4s						
XPFO	**Piæon Flat**	**85.13**	**54**	*eP*	**P**	**22 05 44.1**	**+1.2**
	7.6nm,1.4s						
PKCU	**Pink Cliffs**	**85.74**	**49**	*eP*	**P**	**22 05 45.7**	**-0.3**
	30nm,2.0s						
P18A	**Preston Nutter**	**85.76**	**46**	*eP*	**P**	**22 05 47.0**	**+0.9**
	13nm,1.9s						
PV15	**Paradox Valley**	**87.64**	**46**	*eP*	**P**	**22 05 54.9**	**0.0**
SYO	**Syowa Base**	**121.17**	**205**	*ePdiff*	**Pdif**	**22 08 24.4**	**+0.4**

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*IDC **10** 21:59:07.7±1.9, 6°18S×154°.54E, h426km±21km, mb3.4/14, mb1 3.5/16, mb1mx3.3/50, mbtmp4.2/16, Error ellipse: s-maj=16.7km s-min=9.0km az=109.0*
*ISCJB **10** 21:59:08.3±0.7, 6°.17S±0°.07×154°.6E±0°.1, h450km, mb3.7/14, Error ellipse: s-maj=17.6km s-min=9.2km az=13.6*
ISC 10 21:59:09.6±0.7, 6°19S±0°10×154°6E±0°2, h450km, n29, σ0°85/34, mb3.7/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.02**	**210**	P	**P**	**22 02 31.8**	**+0.1**
	0.4nm,0.3s,baz=22,slow=6.7,SNR=4.5						
DZM	**Mont Dzumac**	**19.50**	**145**	P	**P**	**22 03 06.3**	**-0.4**
	0.8nm,0.3s,baz=271,slow=7.6,SNR=9.8						
WRA	**Warramunga Arr**	**23.97**	**233**	P	**P**	**22 03 46.3**	**-0.7**
	1.2nm,0.2s,baz=55,slow=8.3,SNR=38						
WRA				PcP	**PcP**	**22 07 15.6**	**+0.9**
	0.9nm,0.8s,baz=60,slow=2.7,SNR=5.9						
WRA				S	**S**	**22 07 32.0**	**+0.9**
	0.4nm,0.8s,baz=72,slow=16,SNR=3.7						
ASAR	**Alice Springs**	**26.42**	**227**	P	**P**	**22 04 07.9**	**-1.0**
	2.1nm,0.3s,baz=56,slow=9.3,SNR=60						
ASAR				PcP	**PcP**	**22 07 21.8**	**+1.5**
	0.8nm,0.6s,baz=59,slow=2.2,SNR=8.9						
ASAR				S	**S**	**22 08 09.5**	**-0.2**
	0.9nm,0.7s,baz=58,slow=14,SNR=9.6						
STKA	**Stephens Creek**	**28.30**	**204**	P	**P**	**22 04 24.4**	**-0.8**
	1.5nm,0.5s,baz=22,slow=8.2,SNR=13						
JNU	**Nakatsue**	**45.12**	**332**	P	**P**	**22 06 44.2**	**-0.3**
	6.6nm,0.7s,baz=112,slow=5.4,SNR=3.2						
MJAR	**Matsushiro Arr**	**45.20**	**341**	P	**P**	**22 06 42.6**	**-2.4**
	1.4nm,0.4s,baz=164,slow=6.3,SNR=12						
MAT	**Matsushiro**	**45.20**	**341**	P	**P**	**22 06 43.3**	**-1.8**
KSRS	**Korea Array**	**50.05**	**332**	P	**P**	**22 07 21.0**	**-0.6**
	1.1nm,0.7s,baz=152,slow=7.7,SNR=3.9						
ASAJ	**Asahikawa**	**51.23**	**349**	P	**P**	**22 07 30.9**	**+0.7**
	3.1nm,0.5s,baz=180,slow=5.1,SNR=8.5						
PETK	**Petropavlovsk-**	**59.13**	**2**	P	**P**	**22 08 25.3**	**-0.2**
	1.4nm,0.5s,baz=163,slow=6.0,SNR=5.4						
CMAR	**Chiang Mai Arr**	**60.09**	**295**	P	**P**	**22 08 33.1**	**+0.5**
	1.6nm,0.4s,baz=119,slow=5.2,SNR=15

JAGN eS Sn 22 04 16.3 -0.1
JNTH Nagotoyohara 1.26 32 P Pn 22 04 03.2 -0.6
JNTH S Sn 22 04 18.8 -0.7
JOW Kunigami 1.64 33 P Pn 22 04 09.3 +0.2
JIH Iheya 1.69 21 P Pn 22 04 10.2 +0.4
JNU Nakatsue 8.26 22 P Pn 22 05 41.6 +1.5
1.0nm,0.3s,baz=216,slow=8.3,SNR=13
KSRS Korea Array 11.98 2 LR LR 22 11 24.2
comp=Z,17nm,19.4s,baz=330,slow=41
DAV Davao City (W) 16.35 185 LR LR 22 16 41.1
comp=Z,26nm,16.2s,baz=336,slow=40
MKAR Makanchi Array 41.42 313 P P 22 11 25.4 -0.4
0.7nm,0.5s,baz=97,slow=11,SNR=10
ZALV Zalesovo Beam 42.35 324 P P 22 11 32.0 -1.3
0.5nm,0.4s,baz=122,slow=7.0,SNR=2.6
KURBB Kurchatov Arra 44.83 317 P P 22 11 52.7 -0.6
0.3nm,0.4s,baz=106,slow=9.1,SNR=3.6
WRA Warramunga Arr 45.64 171 P P 22 12 13.3 +13
0.6nm,0.7s,baz=351,slow=8.5,SNR=7.2
ASAR Alice Springs 49.25 172 P P 22 12 42.2 +14
0.2nm,0.6s,baz=358,slow=14,SNR=9.6
FINES FINESS Array B 73.11 330 P P 22 15 09.7 +0.5
1.4nm,0.9s,baz=82,slow=10.0,SNR=2.7
YKA Yellowknife Ar 79.59 25 P P 22 15 46.4 +0.4
0.3nm,0.5s,baz=297,slow=5.2,SNR=5.2

NIED ***10*** *22:40:00,39.˚10N×142.˚40E,h29km,Mw3.7 Best double couple: M₀4.05000×10¹⁴ NP1:φs315.00000°,δ41.00000°, λ-97.00000°. NP2:φs145.00000°,δ49.00000°, λ-84.00000°.*
JMA ***10*** *22:40:54.6±0.1,39.˚10N×142.˚42E,h30km±1km,M3.9*
JMA Felt I J1.
IDC ***10*** *22:40:58.9±3.0,38.˚98N×142.˚36E,h63km±28km,mb3.3/8, mb1 3.4/10,mb1mx3.2/61,mbtmp3.5/10,ML3.0/2,MS2.7/2, Ms1 2.7/2,ms1mx2.4/26,Error ellipse: s-maj=26.2km s-min=16.8km az=96.0*
ISC 10 22:40:51.9±2.0,39.˚11N±0.˚04×142.˚45E±0.˚07,h5km±11km, n28,σ0§97/29,mb3.6/8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.61**	**268**	P	**Pn**	**22 41 06.2**	**-1.0**
OFUJ				S	**Sb**	**22 41 14.1**	**+0.2**
MIYJ	**Miyakonagasawa**	**0.68**	**314**	P	**Pn**	**22 41 07.2**	**-1.0**
MIYJ				S	**Sb**	**22 41 15.8**	**-0.2**
JTH	**Tanohata**	**0.95**	**332**	P	**Pn**	**22 41 11.4**	**-0.5**
JTH				*e*S	**Sb**	**22 41 24.3**	**+0.6**
JMK	**Ichinoseki**	**0.97**	**261**	P	**Pn**	**22 41 11.7**	**-0.5**
JMK				S	**Sg**	**22 41 23.9**	**+0.8**
JOM	**Ohasama**	**0.97**	**293**	P	**Pn**	**22 41 12.0**	**-0.2**
JOM				S	**Sb**	**22 41 24.4**	**+0.1**
JIO	**Ouri**	**1.08**	**233**	P	**Pb**	**22 41 12.7**	**-0.3**
JIO				*e*S	**Sg**	**22 41 25.7**	**-0.9**
JKZ	**Kuzumaki**	**1.23**	**316**	P	**Pn**	**22 41 16.2**	**+0.3**
JKZ				S	**Sg**	**22 41 31.9**	**+0.3**
JRG	**Rokugo**	**1.44**	**282**	P	**Pg**	**22 41 19.7**	**+0.2**
JRG				S	**Sn**	**22 41 38.5**	**+0.6**
JANG	**Nango**	**1.46**	**331**	P	**Pg**	**22 41 19.6**	**-0.3**
MAT	**Matsushiro**	**4.22**	**234**	P	**Pn**	**22 41 58.9**	**+0.2**
MAT				*e*S	**Sn**	**22 42 46.8**	**+0.2**
MJAR	**Matsushiro Arr**	**4.22**	**234**	P	**Pn**	**22 41 59.0**	**+2.1**
	1.0nm,0.3s,baz=44,slow=10,SNR=32						
ASAJ	**Asahikawa**	**5.01**	**1**	P	Pn	22 42 12.9	+5.2
	0.5nm,0.3s,baz=171,slow=14,SNR=5.7						
ASAJ				S	**Sn**	**22 43 07.2**	**+1.2**
	0.4nm,0.3s,baz=54,slow=19,SNR=2.5						
JNU	**Nakatsue 11.10 241**			LR	LR	22 47 57.0	
	comp=Z,48nm,18.6s,baz=111,slow=38						
KSRS	**Korea Array 11.54 266**			LR	LR	22 47 22.3	
	comp=Z,27nm,19.2s,baz=335,slow=33						
SEY	**Seymchan 24.60 11**			P	**P**	**22 46 14.2**	**+1.5**
	0.9nm,0.6s,baz=192,slow=6.3,SNR=6.7						
H11N2	**WAKE ISLAND Hy 28.59 125**			T	T	23 17 10.1	
	baz=318,slow=75,SNR=51						
H11N1	**WAKE ISLAND Hy 28.60 125**			T	T	23 17 10.8	
	baz=318,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy 28.61 125**			T	T	23 17 11.4	
	baz=318,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy 29.38 127**			T	T	23 18 17.4	
	baz=319,slow=76,SNR=7.1						
H11S3	**WAKE ISLAND Hy 29.38 127**			T	T	23 18 16.8	
	baz=319,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy 29.40 127**			T	T	23 18 14.5	
	baz=319,slow=76,SNR=6.9						
ZALV	**Zalesovo Beam 41.16 311**			P	**P**	**22 48 36.2**	**-0.7**
	0.4nm,0.5s,baz=82,slow=7.2,SNR=2.8						
MKAR	**Makanchi Array 43.74 300**			P	**P**	**22 48 57.9**	**-0.3**
	0.8nm,0.7s,baz=86,slow=9.5,SNR=9.2						
KURBB	**Kurchatov Arra 45.40 307**			P	**P**	**22 49 11.0**	**-0.2**
	0.8nm,0.5s,baz=80,slow=8.4,SNR=8.9						
ILAR	**Eielson Array 47.31 33**			P	**P**	**22 49 26.7**	**+0.6**
	0.5nm,0.7s,baz=270,slow=6.0,SNR=6.5						
BVAR	**Borovoye Array 49.80 311**			P	**P**	**22 49 45.4**	**0.0**
	0.2nm,0.5s,baz=71,slow=8.1,SNR=2.6						
WRA	**Warramunga Arr 59.23 189**			P	**P**	**22 50 52.9**	**-1.3**
	0.3nm,0.4s,baz=6.8,slow=7.1,SNR=6.7						
ASAR	**Alice Springs 62.95 189**			P	**P**	**22 51 17.5**	**-1.9**
	0.2nm,0.5s,baz=24,slow=12,SNR=2.7						

NIED ***10*** *23:02:00,39.˚30N×142.˚60E,h23km,Mw3.6 Best double couple: M₀3.06000×10¹⁴ NP1:φs159.00000°,δ16.00000°, λ31.00000°. NP2:φs38.00000°,δ82.00000°,λ104.00000°.*
IDC ***10*** *23:02:17.5±0.9,39.˚74N×142.˚33E,h0km,mb3.6/11, mb1 3.7/13,mb1mx3.5/71,mbtmp3.6/13,ML2.6/2,MS2.3/1, Ms1 2.3/1,ms1mx1.9/61,Error ellipse: s-maj=25.9km s-min=18.2km az=83.0*
JMA ***10*** *23:02:18.0±0.1,39.˚26N×142.˚60E,h28km±1km,M3.7*
ISC 10 23:02:18.2±1.8,39.˚42N±0.˚05×142.˚47E±0.˚07,h13km±10km, n31,σ1§60/32,mb3.6/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.53**	**288**	P	**Pn**	**23 02 31.0**	**-0.4**
MIYJ				*e*S	**Sn**	**23 02 40.2**	**0.0**
JTH	**Tanohata**	**0.70**	**318**	P	**Pn**	**23 02 34.0**	**+0.2**
JTH				S	**Sn**	**23 02 46.1**	**+1.6**
OFUJ	**Ofunato**	**0.71**	**242**	P	**Pg**	**23 02 32.1**	**+0.2**
OFUJ				S	**Sg**	**23 02 41.9**	**+0.7**
JOM	**Ohasama**	**0.91**	**274**	P	**Pn**	**23 02 36.8**	**+0.1**
JOM				S	**Sn**	**23 02 50.2**	**+0.5**
JKZ	**Kuzumaki**	**1.05**	**303**	P	**Pn**	**23 02 39.7**	**+1.1**
JKZ				S	**Sn**	**23 02 55.4**	**+2.3**
JMK	**Ichinoseki**	**1.07**	**245**	P	**Pb**	**23 02 37.8**	**-0.8**
JANG	**Nango**	**1.21**	**323**	P	**Pg**	**23 02 41.8**	**+0.4**
JANG				S	**Sn**	**23 02 59.5**	**+2.5**
JIO	**Ouri**	**1.30**	**223**	P	**Pn**	**23 02 39.7**	**-2.3**
JRG	**Rokugo**	**1.42**	**270**	P	**Pg**	**23 02 44.9**	**-0.6**
MJAR	**Matsushiro Arr**	**4.42**	**231**	Pn	**Pn**	**23 03 26.9**	**+1.9**
	0.8nm,0.3s,baz=40,slow=11,SNR=24						
MAT	**Matsushiro**	**4.42**	**231**	P	**Pn**	**23 03 26.3**	**+1.3**
MAT				*e*S	**Sn**	**23 04 14.4**	**-2.0**
ASAJ	**Asahikawa**	**4.70**	**1**	Pn	**Pn**	**23 03 28.8**	**0.0**
	1.2nm,0.3s,baz=240,slow=13,SNR=11						
ASAJ				Sn	**Sn**	**23 04 22.9**	**-0.2**
	1.8nm,0.3s,baz=223,slow=19,SNR=3.8						
USRK	**Ussuriysk Ar.**	**9.17**	**305**	Pn	**Pn**	**23 04 28.3**	**-1.8**
	0.2nm,0.3s,baz=123,slow=14,SNR=2.5						
KSRS	**Korea Array 11.58 265**			LR	LR	23 08 57.9	
	comp=Z,16nm,19.8s,baz=335,slow=35						
SEY	**Seymchan 24.30 11**			P	**P**	**23 07 35.4**	**+0.3**
	1.1nm,0.7s,baz=79,slow=23,SNR=4.8						
SONM	**Songino Array 27.23 300**			P	**P**	**23 08 00.2**	**-1.7**
	0.2nm,0.7s,baz=108,slow=7.7,SNR=2.4						
H11N2	**WAKE ISLAND Hy 28.76 126**			T	T	23 38 50.6	
	baz=318,slow=75,SNR=89						
H11N1	**WAKE ISLAND Hy 28.77 126**			T	T	23 38 51.4	
	baz=318,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hy 28.78 126**			T	T	23 38 43.1	
	baz=318,slow=75,SNR=76						
H11S1	**WAKE ISLAND Hy 29.56 128**			T	T	23 39 18.4	
	baz=326						
H11S3	**WAKE ISLAND Hy 29.56 128**			T	T	23 39 23.2	
	baz=326						
H11S2	**WAKE ISLAND Hy 29.58 128**			T	T	23 39 30.9	
	baz=326						
ZALV	**Zalesovo Beam 40.97 310**			P	**P**	**23 10 00.0**	**-0.4**
	0.7nm,0.4s,baz=82,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array 43.60 300**			P	**P**	**23 10 21.3**	**-0.7**
	0.6nm,0.8s,baz=86,slow=10,SNR=6.5						
KURBB	**Kurchatov Arra 45.23 306**			P	**P**	**23 10 34.0**	**-0.9**
	1.1nm,0.5s,baz=81,slow=8.5,SNR=12						
BVAR	**Borovoye Array 49.61 311**			P	**P**	**23 11 08.9**	**0.0**
	0.4nm,0.6s,baz=54,slow=7.3,SNR=2.7						
WRA	**Warramunga Arr 59.53 189**			P	**P**	**23 12 25.4**	**+4.1**
	0.6nm,0.6s,baz=6.1,slow=7.0,SNR=5.3						
YKA	**Yellowknife Ar 61.34 31**			P	**P**	**23 12 32.4**	**-0.7**
	0.1nm,0.5s,baz=301,slow=6.5,SNR=3.7						
ASAR	**Alice Springs 63.26 189**			P	**P**	**23 12 49.8**	**+3.3**
	0.4nm,0.9s,baz=14,slow=7.9,SNR=3.0						
FINES	**FINESS Array B 67.10 332**			P	**P**	**23 13 09.2**	**-1.7**
	1.4nm,0.8s,baz=52,slow=12,SNR=5.0						
AKASG	**Malin Array Be 72.92 322**			P	**P**	**23 13 45.8**	**-1.1**
	0.2nm,0.3s,baz=39,slow=6.2,SNR=3.7						

NEIC 10 23:05:52.4±0.0,63.˚13N×151.˚54W,h12km,MW3.6, ML3.6(AEIC)**,Moment Tensor Solution. s29 Moment tensor: Scale** 10^{14}**Nm;** M_{rr}1.22; $M_{\theta\theta}$1.34; $M_{\phi\phi}$-2.56; $M_{r\theta}$1.22; $M_{\theta\phi}$-2.12; $M_{\phi r}$-0.81; **Best double couple:** $M_0$3.40000×10^{14} **NP1:**φs164.00000°,δ69.00000°, λ29.00000°. **NP2:**φs63.00000°,δ63.00000°,λ156.00000°. **Principal axes:** T 3.2900, Plg35.0000°, Azm25.0000°; N 0.2200, Plg55.0000°, Azm198.0000°; P -3.5000, Plg3.0000°, Azm293.0000°; **After AEIC. Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPLA	**Purkeypile**	**0.38**	**232**	*e*Pg	Pg	23 06 00.1	+0.2
CAST	**Castle Rocks**	**0.38**	**320**	*e*Pg	Pg	23 06 00.4	+0.4
KTH	**Kantishna Hill**	**0.51**	**33**	*e*Pg	Pg	23 06 02.3	0.0
KTH				S	Sg	23 06 09.4	+0.3
TRF	**Thorofare Moun**	**0.65**	**60**	*e*Pg	Pg	23 06 04.7	-0.3
BPAW	**Bear Paw Mtn.**	**1.00**	**14**	*e*Pg	Pb	23 06 11.2	-0.5
SKT	**Skwentna**	**1.16**	**180**	P	Pb	23 06 13.8	-0.5
SKT				S	Sb	23 06 28.4	-0.7
RND	**Reindeer**	**1.25**	**76**	*e*Pn	Pn	23 06 15.1	-0.6
MCK	**McKinley**	**1.32**	**62**	*e*Pn	Pn	23 06 16.3	-0.2
MCK				S	Sb	23 06 33.8	0.0
STLK	**Strandline Lak**	**1.64**	**185**	P	Pn	23 06 21.4	+0.3
SUA	**Susitna One**	**1.71**	**167**	*e*Pn	Pn	23 06 22.9	+0.8
GHO	**Glory Hole Cre**	**1.83**	**137**	P	Pn	23 06 23.8	+0.2
SPCP	**Crater Peak Br**	**1.89**	**189**	P	Pn	23 06 25.5	+0.9
DHY	**Denali Highway**	**1.90**	**90**	*e*Pn	Pn	23 06 24.8	+0.2
PMR	**Palmer**	**1.91**	**143**	*e*Pn	Pn	23 06 24.8	+0.1
MLY	**Manley**	**1.94**	**10**	*e*Pn	Pn	23 06 25.0	-0.1
SPU	**Mount Spurr**	**1.97**	**187**	*e*Pn	Pn	23 06 26.4	+0.8
SML	**Sawmill**	**2.00**	**130**	*e*Pn	Pn	23 06 25.9	0.0
TTA	**Tatalina**	**2.05**	**266**	*e*Pn	Pn	23 06 26.4	-0.3
TT01	**Tatalina**	**2.06**	**266**	P	Pn	23 06 26.4	-0.2
FIB	**Fire Island**	**2.07**	**161**	P	Pb	23 06 28.5	-1.3
RC01	**Rabbit Creek A**	**2.22**	**157**	*e*Pn	Pb	23 06 30.9	-1.4
CCB	**Clear Creek Bu**	**2.25**	**46**	*e*Pn	Pn	23 06 28.3	-1.0
KNK	**Knik Glacier**	**2.25**	**139**	P	Pn	23 06 30.5	+1.1
MDM	**Murphy Dome**	**2.34**	**37**	*e*Pn	Pn	23 06 29.8	-0.8
SCM	**Sheep Creek Mo**	**2.35**	**122**	*e*Pn	Pn	23 06 31.1	+0.3
COLA	**College**	**2.39**	**41**	*e*Pn	Pn	23 06 30.7	-0.5
HDA	**Harding Lake**	**2.41**	**56**	*e*Pn	Pn	23 06 30.8	-0.7
DFR	**Drift River**	**2.61**	**193**	P	Pn	23 06 36.1	+1.8
RDJH	**Redoubt Jeurge**	**2.62**	**194**	P	Pn	23 06 36.6	+2.1
ILB	**Eielson Array**	**2.63**	**49**	*e*Pn	Pn	23 06 33.6	-1.0
IL1	**Eielson Array**	**2.63**	**49**	*e*Pn	Pn	23 06 33.1	-1.5
RDWB	**Redoubt West**	**2.72**	**194**	P	Pn	23 06 37.5	+1.5
PAX	**Paxson**	**2.77**	**91**	*e*Pn	Pn	23 06 37.4	+0.8
SVW2	**Sparrevohn**	**2.79**	**225**	*e*Pn	Pn	23 06 37.5	+0.7
IM3	**Indian Mountai**	**3.02**	**343**	*e*Pn	Pn	23 06 40.2	+0.3
HARP	**HAARP**	**3.02**	**101**	*e*Pn	Pn	23 06 41.5	+1.4
RIDG	**Independ'e Rid**	**3.07**	**76**	*e*Pn	Pn	23 06 41.4	+0.7
GLI	**Glacier Island**	**3.08**	**135**	*e*Pn	Pn	23 06 42.1	+1.3
KLU	**Klutina**	**3.10**	**120**	*e*Pn	Pn	23 06 42.6	+1.5
ILW	**Iliamna West**	**3.17**	**195**	P	Pn	23 06 44.2	+2.0
SEW	**Seward**	**3.20**	**161**	*e*Pn	Pn	23 06 44.7	+2.4
DIV	**Divide**	**3.37**	**124**	*e*Pn	Pn	23 06 46.1	+1.3
BRLK	**Bradley Lake**	**3.39**	**174**	*e*Pn	Pn	23 06 47.8	+2.7
DOT	**Dot Lake**	**3.41**	**78**	*e*Pn	Pn	23 06 46.5	+1.3
MENT	**Mentasta**	**3.57**	**90**	*e*Pn	Pn	23 06 49.5	+2.1
EYAK	**Cordova Ski Ar**	**3.77**	**131**	*e*Pn	Pn	23 06 52.3	+2.0
BMRM	**Bremner River**	**3.92**	**120**	*e*Pn	Pn	23 06 53.6	+1.3
COLD	**Coldfoot**	**4.15**	**7**	*e*Pn	Pn	23 06 56.0	+0.6
RAGM	**Ragged Mountai**	**4.27**	**127**	*e*Pn	Pn	23 06 58.9	+1.8
FYU	**Fort Yukon**	**4.37**	**35**	*e*Pn	Pn	23 06 58.3	-0.1
BCA3	**Beaver Creek A**	**4.43**	**86**	P	Pn	23 07 00.4	+1.0
EGAK	**Eagle**	**4.87**	**66**	*e*Pn	Pn	23 07 05.6	+0.3
DAWY	**Dawson**	**5.50**	**75**	*e*Pn	Pn	23 07 14.0	-0.1
TOLK	**Toolik Lake Re**	**5.59**	**7**	*e*Pn	Pn	23 07 15.9	+0.7
PCA	**Pinnacle**	**6.18**	**114**	*e*Pn	Pn	23 07 24.7	+1.3
HYT	**Haines Junctio**	**7.00**	**103**	*e*Pn	Pn	23 07 35.6	+0.8
INK	**Inuvik**	**9.03**	**47**	*e*Pn	Pn	23 08 02.6	+0.2

NIED ***10*** *23:25:00,39.˚80N×144.˚30E,h5km,Mw4.5 Best double couple: M₀5.32000×10¹⁵ NP1:φs188.00000°,δ29.00000°, λ-82.00000°. NP2:φs358.00000°,δ61.00000°, λ-94.00000°.*
IDC ***10*** *23:25:36.3±0.5,39.˚63N×144.˚42E,h0km,mb4.5/36, mb1 4.6/42,mb1mx4.5/69,mbtmp4.5/42,ML4.0/5,MS3.7/19, Ms1 3.7/19,ms1mx3.4/61,Error ellipse: s-maj=13.1km s-min=10.5km az=126.0*
ISCJB ***10*** *23:25:38.4±0.8,39.˚72N±0.˚02×144.˚18E±0.˚02,h14km±5km, mb4.8/228,MS3.9/23,Error ellipse: s-maj=3.6km s-min=2.4km az=157.5*
JMA ***10*** *23:25:39.5±0.2,39.˚78N×144.˚33E,h41km,M4.6*
MOS ***10*** *23:25:40.9±1.0,39.˚88N×144.˚13E,h28km,mb5.0/62,Error ellipse: s-maj=6.2km s-min=4.1km az=107.3*
NEIC ***10*** *23:25:42.5±0.6,39.˚67N×144.˚15E,h33km±4km,mb4.9/137, Error ellipse: s-maj=3.8km s-min=2.5km az=145.0*
BJI ***10*** *23:25:42.8,39.˚83N×144.˚01E,h40km,mb4.8/63,mB5.0/43, Ms4.4/46,Ms7 4.2/47*
ISC 10 23:25:41.8±0.3,39.˚76N±0.˚03×144.˚29E±0.˚03,h32km±1km, h32km:pP-P,n488,σ1§49/578,mb4.8/229,MS3.9/25, 22C-19D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.88**	**276**	P	**Pn**	**23 26 10.3**	**-1.4**
JTH				*e*S	**Sn**	**23 26 33.0**	**-1.3**
MIYJ	**Miyakonagasawa**	**1.91**	**265**	P	**Pn**	**23 26 11.3**	**-0.9**
MIYJ				*e*S	**Sn**	**23 26 34.2**	**-1.0**
JANG	**Nango**	**2.22**	**287**	P	**Pn**	**23 26 15.3**	**-1.1**
JANG				*e*S	**Sn**	**23 26 41.2**	**-1.5**
JOM	**Ohasama**	**2.33**	**264**	P	**Pn**	**23 26 17.6**	**-0.4**
JOM				S	**Sn**	**23 26 45.0**	**-0.6**
ERM	**Erimo**	**2.42**	**340**	*e*Pn	**Pn**	**23 26 18.4**	**-0.7**
ERM	**Erimo**	**2.42**	**340**	*c*e**P**	**Pn**	**23 26 18.1**	**-1.0**
ERM				pmax	pmax		
	comp=Z,68nm,0.8s						
JMK	**Ichinoseki**	**2.51**	**252**	P	**Pn**	**23 26 19.6**	**-0.8**
JMK				*e*S	**Sn**	**23 26 49.3**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.78**	**336**	P	**Pn**	**23 26 23.5**	**-0.6**
JNBK				*e*S	**Sn**	**23 26 56.9**	**+0.4**
JCH	**Churui**	**2.94**	**347**	*e*S	**Sn**	**23 26 58.8**	**-1.8**
JOT	**Ohata**	**2.96**	**304**	P	**Pn**	**23 26 26.1**	**-0.4**
JOT				*e*S	**Sn**	**23 27 00.7**	**-0.2**
JYK	**Kaneyama**	**3.16**	**256**	P	**Pn**	**23 26 29.0**	**-0.4**
JYK				*e*S	**Sn**	**23 27 05.2**	**-0.8**
JAK	**Akkeshi**	**3.25**	**5**	P	**Pn**	**23 26 28.6**	**-2.0**
JAK				S	**Sn**	**23 27 05.1**	**-3.1**
JKB	**Kayabe**	**3.26**	**312**	P	**Pn**	**23 26 30.4**	**-0.4**
JKB				*e*S	**Sn**	**23 27 07.6**	**-0.9**
JAR	**Ashorobuto**	**3.56**	**354**	P	**Pn**	**23 26 32.8**	**-2.1**
JAR				*e*S	**Sn**	**23 27 12.3**	**-3.5**
JEW	**Eniwo**	**3.75**	**326**	P	**Pn**	**23 26 38.0**	**+0.5**
JEW				*e*S	**Sn**	**23 27 21.6**	**+1.0**
NEM2	**Nemuro 2**	**3.77**	**16**	P	**Pn**	**23 26 34.5**	**-3.2**
NEM2				S	**Sn**	**23 27 15.4**	**-5.5**
JFT	**Otama**	**3.82**	**235**	P	**Pn**	**23 26 36.9**	**-1.5**
JFT				*e*S	**Sn**	**23 27 19.9**	**-2.3**
JTKR	**Abashiri--Toko**	**4.22**	**356**	P	**Pn**	**23 26 42.5**	**-1.4**
JTKR				*e*S	**Sn**	**23 27 29.4**	**-2.7**
JOSM	**Okushiri--Mats**	**4.33**	**304**	P	**Pn**	**23 26 44.9**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**4.43**	**15**	*e*P	**Pn**	**23 26 44.2**	**-2.7**
YUK				*i* S	**Sn**	**23 27 32.6**	**-4.8**
YUK				pmax	pmax		
	comp=Z,158nm,0.2s						
YUK				pmax	pmax		
	comp=E,92nm,0.1s						
YUK				pmax	pmax		
	comp=N,74nm,0.2s						
YUK				smax	smax		
	comp=N,641nm,0.4s						
YUK				smax	smax		
	comp=E,372nm,0.3s						
SHO	**Shikotan 4.53**		**24**	*d i* P	**Pn**	**23 26 44.1**	**-4.1**
SHO				*i* S	**Sn**	**23 27 32.4**	**-7.3**
SHO				pmax	pmax		
	comp=N,74nm,0.4s						
SHO				pmax	pmax		
	comp=E,144nm,0.4s						
SHO				pmax	pmax		
	comp=Z,96nm,0.4s						
SHO				smax	smax		
	comp=N,682nm,0.5s						
SHO				smax	smax		
	comp=E,468nm,0.4s						
ASAJ	**Asahikawa 4.54**		**344**	Pn	**Pn**	**23 26 48.0**	**-0.2**
	comp=E,5.5nm,0.3s,baz=214,slow=15,SNR=36						
ASAJ				Sn	**Sn**	**23 27 39.5**	**-0.5**
	comp=E,5.9nm,0.3s,baz=346,slow=14,SNR=9.3						
MJAR	**Matsushiro Arr 5.77**		**238**	Pn	**Pn**	**23 27 04.9**	**-0.3**
	comp=E,22nm,0.3s,baz=61,slow=10,SNR=409						
MJAR				Sn	**Sn**	**23 28 10.1**	**-0.2**
	baz=55,slow=22,SNR=1.9						
MJAR				LR	LR	23 29 33.2	
	comp=E,714nm,19.6s,baz=55,slow=41						
MAJO	**Matsushiro 5.77**		**238**	*e*Pn	**Pn**	**23 27 05.2**	**0.0**
MAJO	**Matsushiro 5.77**		**238**	*d i* P	**Pn**	**23 27 05.0**	**-0.2**
MAT	**Matsushiro 5.77**		**238**	P	**Pn**	**23 27 04.8**	**-0.4**
MAT				*e*S	**Sn**	**23 28 07.9**	**-2.4**
MJB9	**Matsu-Tunnel 5.77**		**238**	*e*Pn	**Pn**	**23 27 05.3**	**0.0**
KUR	**Kuril'sk 6.08**		**25**	*c i* P	**Pn**	**23 27 07.1**	**-2.3**
KUR				*i* S	**Sn**	**23 28 13.0**	**-4.9**
KUR				pmax	pmax		
	comp=Z,131nm,0.7s						
KUR				pmax	pmax		
	comp=N,57nm,0.4s						
KUR				pmax	pmax		
	comp=E,77nm,0.5s						
KUR				smax	smax		
	comp=E,282nm,0.5s						
KUR				smax	smax		
	comp=N,139nm,0.7s						
INU	**Inuyama 7.26**		**235**	*e*Pn	**Pn**	**23 27 25.1**	**-0.6**
YSS	**Yuzh-Sakhalins 7.28**		**352**	‖ *e*P	**Pn**	**23 27 25.6**	**-0.3**
YSS				*e*S	**Sn**	**23 28 46.1**	**-1.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
JHJ	**Hachijo jima 2 7.55**		**210**	Sn	Sn	23 28 44.4	-10
	comp=Z,36nm,0.3s,baz=63,slow=12,SNR=3.1						
TEY	**Ternei 7.76**		**315**	*e*P	**Pn**	**23 27 32.2**	**-0.3**
TEY				pmax	pmax		
	comp=E,35nm,0.4s						
TEY				pmax	pmax		
	comp=Z,12nm,0.4s						
TEY				pmax	pmax		
	comp=N,12nm,0.4s						
TEY				pmax	pmax		
	comp=Z,44nm,0.4s						
USRK	**Ussuriysk Ar. 10.18**		**300**	Pn	**Pn**	**23 28 07.3**	**+1.7**
	comp=Z,3.6nm,0.3s,baz=104,slow=15,SNR=37						
USRK				LR	LR	23 31 55.2	
	comp=Z,388nm,19.1s,baz=129,slow=37						
MSHR	**Mys Shultsa 10.30**		**290**	*c e* **P**	**Pn**	**23 28 05.8**	**-1.5**
MDJ	**Mudanjiang 11.93**		**299**	P	**Pn**	**23 28 30.2**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,42nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,860nm,3.1s						
MDJ	**Mudanjiang 11.93**		**299**	*e*Pn	**Pn**	**23 28 30.2**	**+0.5**
	comp=Z,49nm,1.0s						
GRNR	**Gornyy 12.32**		**336**	*e*P	**Pn**	**23 28 34.7**	**-0.2**
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
JNU	**Nakatsue 12.66**		**243**	Pn	**Pn**	**23 28 37.8**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=93,slow=5.4,SNR=12						
JNU				LR	LR	23 33 52.3	
	comp=Z,376nm,19.4s,baz=94,slow=39						
JNU	**Nakatsue 12.66**		**243**	*e*Pn	**Pn**	**23 28 38.1**	**-1.6**
KSRS	**Korea Array 13.01**		**265**	Pn	**Pn**	**23 28 44.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=83,slow=13,SNR=6.3						
KSRS				LR	LR	23 33 28.1	
	comp=Z,292nm,18.5s,baz=84,slow=36						
KLR	**Kul'dur 13.02**		**321**	Pn	**Pn**	**23 28 43.6**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=132,slow=13,SNR=28						
KLR				LR	LR	23 33 52.6	
	com

comp=Z,284nm,1.4s
SEY Seymchan 23.72 9 P **P 23 30 50.9 +0.2**
comp=Z,4.5nm,0.3s,baz=187,slow=9.8,SNR=24
SEY Seymchan 23.72 9⇓ *e*P **P 23 30 50.7 0.0**
YAK Yakutsk 24.02 343 P **P 23 30 52.3 -1.2**
comp=Z,20nm,0.4s,baz=117,slow=2.1,SNR=5.1
YAK Yakutsk 24.02 343 *e*P **P 23 30 54.3 +0.8**
comp=Z,37nm,0.7s
YAK Yakutsk 24.02 343 *e*P **P 23 30 51.3 -2.2**
YAK *e**PP **pP 23 31 03.3 +0.7**
YAK *e* 23 34 31.9
YAK *e*S **S 23 35 08.0 -0.3**
YAK *e**SS **sS 23 35 24.5 +1.3**
YAK *e*SS **SnSn 23 35 49.7 -0.3**
YAK *e*SSS SSS 23 36 07.8
YAK *e* 23 42 03.6
YAK pmax pmax
comp=Z,34nm,1.0s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=Z,45nm,1.0s
YAK pmax pmax
comp=N,33nm,1.5s
YAK pmax pmax
comp=E,40nm,1.5s
YAK smax smax
comp=N,73nm,2.5s
YAK smax smax
comp=E,21nm,1.3s
YHNB Yeheng 24.44 239 *e*P **P 23 30 57.2 -0.6**
comp=E,85nm,1.3s
HHC Hu-ho-hao-te 24.91 283 *e*P **P 23 31 02.4 +0.4**
HHC sP sP 23 31 17.1 +2.1
HHC S **S 23 35 19.1 -4.2**
HHC sS sS 23 35 37.7 -0.6
HHC SS **SnSn 23 36 18.3 +6.0**
HHC pmax pmax
comp=E,14nm,1.0s
HHC pmax pmax
comp=E,140nm,5.2s
HHC LR LR
comp=E,210nm,11.8s
HHC LR LR
comp=E,330nm,13.3s
HHC LR LR
comp=E,350nm,11.8s
SSLB Suanglung 25.33 238 *e*P **P 23 31 04.9 -0.9**
comp=E,17nm,0.8s
YULB Yu-li 25.38 237 *e*P **P 23 31 05.1 -1.2**
comp=E,25nm,1.1s
TPUB Ta-pu 25.88 238 *e*P **P 23 31 10.9 +0.1**
comp=E,104nm,1.6s
TWG Pinlang 25.93 236 *e*P **P 23 31 10.5 -0.8**
comp=E,246nm,1.2s
WHN Wuhan 26.05 259 ⇓P **P 23 31 12.6 +0.3**
WHN LR LR
comp=E,620nm,4.6s
WHN LR LR
comp=E,680nm,13.0s
WHN LR LR
comp=E,790nm,13.1s
GUMO Guam 26.07 179 *e*P **P 23 31 11.2 -1.3**
comp=E,98nm,1.1s
GUMO Guam 26.07 179 *e*P **P 23 31 11.2 -1.3**
GUMO pmax pmax
comp=Z,98nm,1.1s
BTO Baotou 26.10 283 *e*P **P 23 31 11.2 -1.6**
BOD Bodaibo 26.58 323 *e*P **P 23 31 16.5 -0.3**
BOD pmax pmax
comp=Z,15nm,1.1s
ULN Ulaanbaatar 27.85 299 *e*P **P 23 31 29.5 +1.0**
comp=Z,11nm,0.8s
ULN Ulaanbaatar 27.85 299 *e*P **P 23 31 29.5 +1.0**
ULN pmax pmax
comp=Z,11nm,0.8s
H11N2 WAKE ISLAND Hy 27.85 129 T T 00 00 31.0
baz=323
H11N1 WAKE ISLAND Hy 27.86 129 T T 00 00 36.7
baz=323,slow=74
H11N3 WAKE ISLAND Hy 27.87 129 T T 00 00 33.0
baz=323,slow=74
SONA1 Songino Array 28.28 299 *e*P **P 23 31 33.3 +0.9**
SONM Songino Array 28.29 299 P **P 23 31 32.9 +0.4**
comp=Z,10nm,1.1s,baz=96,slow=8.5,SNR=22
SONM LR LR 23 43 30.8
comp=Z,322nm,18.8s,baz=145,slow=38
H11S1 WAKE ISLAND Hy 28.69 131 T T 00 01 32.4
baz=318
H11S3 WAKE ISLAND Hy 28.69 131 T T 00 01 30.4
baz=318
H11S2 WAKE ISLAND Hy 28.71 131 T T 00 01 32.3
baz=318
ENH Enshi 29.88 262 *e*P **P 23 31 46.6 0.0**
comp=Z,26nm,0.7s
TLY Talaya 30.39 307 *e*P **P 23 31 50.8 0.0**
comp=Z,19nm,1.3s
TLY Talaya 30.39 307 *e*P **P 23 31 52.1 +1.3**
TLY pmax pmax
comp=Z,15nm,1.2s
TLY MLR MLR
comp=Z,263nm,20.0s
ZAK Zakamensk 30.49 304 *e*P **P 23 31 52.4 +0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 30.79 16 *i*P **P 23 31 53.3 -0.8**
BILL *i* 23 32 03.8
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,107nm,18.0s
LZH Lanzhou 31.93 276 ⇑P **P 23 32 06.2 +1.5**
LZH pP sP 23 32 18.8 +1.0
LZH sP pP 23 32 23.4 +9.5
LZH PP **PnPn 23 33 12.7 +2.7**
LZH S **S 23 37 11.0 -2.9**
LZH sS sS 23 37 30.3 +1.2
LZH SS **SnSn 23 39 02.0 -1.6**
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,140nm,6.8s
LZH LR LR
comp=Z,190nm,12.6s
LZH LR LR
comp=Z,310nm,12.3s
LZH LR LR
comp=Z,390nm,14.7s
MOY Mondy 32.03 306 *e*P P 23 32 11.0 +5.6
TIXI Tiksi 32.91 351 P **P 23 32 13.3 +0.6**
comp=Z,0.6nm,0.3s,baz=344,slow=4.2,SNR=2.6
TIXI Tiksi 32.91 351 *i*P **P 23 32 12.4 -0.3**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
GYA Guiyang 33.94 259⇑ *i*P **P 23 32 22.6 +0.2**
GYA pP sP 23 32 35.4 0.0
GYA PP **PP 23 33 38.0 -1.4**
GYA PcP **PcP 23 35 01.6 +1.3**
GYA S **S 23 37 43.8 -1.5**
GYA sS sS 23 38 02.4 +1.9
GYA ScP **ScP 23 38 43.0 +0.4**
GYA SS **SnSn 23 39 50.5 -2.2**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,530nm,17.7s
GYA LR LR
comp=Z,490nm,17.9s
GYA LR LR
comp=Z,480nm,18.0s
CD2 Chengdu 33.98 268 *e*P **P 23 32 21.8 -0.8**
CD2 pP pP 23 32 32.9 +1.0
CD2 sP sP 23 32 38.0 +2.3
CD2 S **S 23 37 43.6 -2.2**
CD2 sS sS 23 38 02.8 +1.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,400nm,12.1s
CD2 LR LR
comp=Z,330nm,11.5s
GTA Gaotai 34.01 284 *e*P **P 23 32 24.2 +1.3**
GTA pP sP 23 32 36.4 +0.5
GTA sP pP 23 32 41.1 +9.0
GTA S **S 23 37 44.8 -1.4**
GTA sS sS 23 38 05.3 +3.9
GTA SS **SnSn 23 39 52.4 -1.7**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,130nm,7.6s
GTA LR LR
comp=Z,180nm,13.8s
GTA LR LR
comp=Z,380nm,16.6s
GTA LR LR
comp=Z,480nm,17.1s
FALS False Pass 37.60 49 *e*P **P 23 32 54.0 +0.8**
comp=Z,153nm,1.3s
KMI Kunming 37.63 260 P **P 23 32 54.5 +0.3**
KMI pP sP 23 33 06.1 -1.2
KMI pmax pmax
comp=Z,11nm,1.0s
KMI LR LR
comp=Z,110nm,5.8s
KMI LR LR
comp=Z,140nm,6.3s
KMI LR LR
comp=Z,170nm,13.0s
MYLDM Lahad Datu 41.54 221 *e*P **P 23 33 25.7 -0.8**
comp=Z,34nm,1.1s
MANU Manus Island 41.69 175 *e*P **P 23 33 26.8 -0.9**
WMQ Urumqi 41.69 295 P **P 23 33 28.8 +1.2**
WMQ pP pP 23 33 36.8 -0.1
WMQ sP sP 23 33 45.9 +5.1
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ pmax pmax
comp=Z,280nm,5.1s
ZAA0 Zalesovo Array 41.82 310 *e*P **P 23 33 29.1 +0.8**
comp=Z,8.1nm,0.6s
ZALV Zalesovo Beam 41.82 310 P **P 23 33 29.2 +0.8**
comp=Z,3.9nm,0.5s,baz=92,slow=7.7,SNR=25
ZALV PcP **PcP 23 35 23.7 -0.1**
comp=Z,3.9nm,0.6s,baz=85,slow=2.7,SNR=4.7
ZALV LR LR 23 52 49.4
comp=Z,88nm,18.4s,baz=68,slow=39
NVS Novosibirsk 42.66 312 *i*P **P 23 33 36.2 +1.0**
NVS pmax pmax
comp=Z,15nm,1.2s
NVS pmax pmax
comp=E,4.0nm,0.9s
IM3 Indian Mountai 43.16 32 *e*P **P 23 33 39.9 +0.8**
IM3 *e*pP **pP 23 33 49.9 +1.5**
CMAI Chiengmai2 43.40 256 P **P 23 33 43.5 +1.7**
comp=E,234nm,1.9s
KDAK Kodiak Island 43.57 44 P **P 23 33 40.5 -1.9**
comp=E,15nm,0.9s,baz=293,slow=11,SNR=2.8
KDAK Kodiak Island 43.57 44 *e*P **P 23 33 41.9 -0.6**
comp=E,320nm,1.9s
KDAK Kodiak Island 43.57 44 *e*P **P 23 33 41.9 -0.6**
KDAK pmax pmax
comp=Z,320nm,1.9s
PPLA Purkeypile 43.64 36 *e*P **P 23 33 44.9 +1.6**
comp=Z,66nm,1.9s
CAST Castle Rocks 43.70 36 *e*P **P 23 33 45.6 +2.1**
comp=Z,30nm,2.0s
CHAI Chaiyaphum 43.78 249 P **P 23 33 45.1 +0.5**
comp=Z,6.6nm,0.9s,comp=Z,390nm
LAMP Lampang 43.83 254 P **P 23 33 48.9 +3.9**
comp=Z,3.3nm,0.8s
FAKI Fak Fak 43.88 197 *e*P **P 23 33 43.5 -1.9**
comp=Z,59nm,1.2s
HOM Homer 43.95 41 *e*P **P 23 33 47.9 +2.4**
comp=Z,781nm,1.4s
CMMT Chiang Mai 44.16 255 P **P 23 33 47.5 -0.2**
comp=Z,10nm,1.6s
CHTO Chiang Mai 44.16 255 P **P 23 33 48.5 +0.8**
comp=Z,47nm,1.7s
CHTO Chiang Mai 44.16 255 *e*P **P 23 33 48.3 +0.6**
comp=Z,5.5nm,0.8s
CHTO Chiang Mai 44.16 255 *e*P **P 23 33 48.3 +0.6**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
BPAW Bear Paw Mtn. 44.21 35 *e*P **P 23 33 50.0 +2.4**
comp=Z,15nm,1.6s
KTH Kantishna Hill 44.23 36 *e*P **P 23 33 50.3 +2.5**
comp=Z,37nm,1.6s
LSA Lhasa 44.25 274 *e*P **P 23 33 50.2 +1.3**
comp=Z,4.8nm,0.6s
LSA Lhasa 44.25 274 *e*P **P 23 33 50.2 +1.3**
LSA pmax pmax
comp=Z,5.0nm,0.6s
BRLK Bradley Lake 44.33 41 *e*P **P 23 33 48.4 -0.2**
comp=Z,140nm,1.8s
CMAR Chiang Mai Arr 44.38 255 P **P 23 33 48.9 -0.6**
comp=Z,2.2nm,0.3s,baz=45,slow=7.0,SNR=11
CMAR LR LR 23 53 11.9
comp=Z,44nm,20.4s,baz=52,slow=37
TRF Thorofare Moun 44.51 36 *e*P **P 23 33 52.6 +2.4**
comp=Z,21nm,1.5s
MK01 Makanchi Array 44.64 300 *e*P **P 23 33 51.7 +0.4**
MK31 Makanchi Array 44.64 300 *e*P **P 23 33 51.7 +0.4**
MK31 Makanchi Array 44.64 300*ce*P **P 23 33 51.2 -0.1**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MKAR Makanchi Array 44.64 300 P **P 23 33 51.8 +0.4**
comp=Z,8.7nm,0.8s,baz=84,slow=9.2,SNR=82
MKAR LR LR 23 53 28.4
comp=Z,164nm,18.5s,baz=82,slow=37
MKAR Makanchi Array 44.64 300 *e*P **P 23 33 51.7 +0.4**
comp=Z,58nm,0.8s
MKAR Makanchi Array 44.64 300 *e*P **P 23 33 51.7 +0.4**
MKAR pmax pmax
comp=Z,58nm,0.8s
MAKZ Makanchi 44.85 300 *e*P **P 23 33 53.5 +0.5**
comp=Z,13nm,0.9s
MAKZ Makanchi 44.85 300 *i*P **P 23 33 52.7 -0.3**
MAKZ pmax pmax
comp=Z,14nm,1.0s
TOLK Toolik Lake Re 45.02 28 *e*P **P 23 33 56.1 +2.1**
comp=Z,4.9nm,0.9s
MDM Murphy Dome 45.41 34 *e*P **P 23 33 59.4 +2.2**
comp=Z,5.8nm,0.9s
SML Sawmill 45.46 38 *e*P **P 23 33 59.1 +1.5**
comp=Z,39nm,1.5s
SML Sawmill 45.46 38 *e*P **P 23 33 59.1 +1.5**
SML pmax pmax
comp=Z,39nm,1.5s
CCB Clear Creek Bu 45.59 34 *e*P **P 23 34 01.2 +2.7**
comp=Z,21nm,1.9s
SHL Shillong 45.72 268 *e*P **P 23 34 00.0 -0.3**
DHY Denali Highway 45.84 36 *e*P **P 23 34 02.9 +2.1**
comp=Z,25nm,1.8s
IL1 Eielson Array 45.98 34 *e*P **P 23 34 01.8 +0.1**
ILAR Eielson Array 45.98 34 P **P 23 34 01.5 -0.2**
comp=Z,2.3nm,0.7s,baz=257,slow=6.0,SNR=27
ILB Eielson Array 45.98 34 *e*P **P 23 34 02.7 +1.0**
KURK Kurchatov 46.08 306 *e*P **P 23 34 03.1 +0.4**
comp=Z,28nm,0.6s
KURK Kurchatov 46.08 306*d i*P **P 23 34 03.0 +0.4**
KURK pmax pmax
comp=Z,163nm,1.7s
KURBB Kurchatov Arra 46.16 306 P **P 23 34 03.7 +0.5**
comp=Z,20nm,0.6s,baz=80,slow=8.5,SNR=190
FYU Fort Yukon 46.62 31 *e*P **P 23 34 09.0 +2.4**
comp=Z,32nm,1.6s
KLU Klutina 46.64 38 *e*P **P 23 34 08.8 +1.9**
comp=Z,23nm,1.2s
HARP HAARP 46.91 37 *e*P **P 23 34 11.4 +2.5**
comp=Z,114nm,1.9s
RIDG Independ'e Rid 46.93 35 *e*P **P 23 34 09.2 0.0**
comp=Z,36nm,1.8s
SBUM Sibu 47.18 226 *e*P **P 23 34 12.0 +0.4**
comp=Z,10nm,1.1s
PHET Kaeng Krachan 47.46 248 P **P 23 34 15.4 +1.6**
comp=Z,9.2nm,0.8s
PDGK Podgornoye 47.54 296 *i*P **P 23 34 13.7 -0.6**
PDGK pmax pmax
comp=Z,14nm,1.5s
EGAK Eagle 48.43 34 *e*P **P 23 34 21.7 +1.0**
comp=Z,11nm,1.3s
PRZ Przheval'sk 48.58 296 P **P 23 34 22.2 -0.2**
PRZ pmax pmax
comp=Z,9.0nm,1.0s
SAUI Saumlaki 49.00 197 *e*P **P 23 34 25.0 -0.5**
comp=Z,81nm,0.9s
JIRN Jiri 49.04 274 *e*P **P 23 34 27.3 +0.9**
comp=Z,28nm,0.7s
KSM Kuching 49.06 228 *e*P **P 23 34 26.3 +0.2**
comp=Z,21nm,0.9s
KSM *e*pP **sP 23 34 38.5 -0.8**
GUN Gumba 49.16 275 *e*P **P 23 34 28.0 +0.8**
comp=Z,35nm,0.6s
DAWY Dawson 49.29 34 *e*P **P 23 34 29.3 +1.9**
comp=Z,11nm,1.4s
KDJ Kajisay 49.55 296 P **P 23 34 30.0 +0.1**
KDJ pmax pmax
comp=Z,4.0nm,0.9s
KKN Kakani 49.68 275 *e*P **P 23 34 31.7 +0.7**
comp=Z,37nm,0.7s
PKI Pulchoki 49.69 275 *e*P **P 23 34 31.5 +0.3**
comp=Z,67nm,1.5s
PKIN Phulchoki 49.70 275 *e*P **P 23 34 31.8 +0.6**
comp=Z,22nm,0.8s
DMN Daman 49.90 275 *e*P **P 23 34 33.8 +1.0**
TKM2 Tokmak 2 50.36 297 P **P 23 34 37.0 +1.0**
SNR=24
TKM2 Tokmak 2 50.36 297 *i*P **P 23 34 36.3 +0.3**
TKM2 pmax pmax
comp=Z,12nm,0.7s
BVAR Borovoye Array 50.45 311 P **P 23 34 37.4 +1.1**
comp=Z,8.7nm,0.8s,baz=72,slow=9.3,SNR=53
BVAR LR LR 23 56 26.3
comp=Z,94nm,18.2s,baz=77,slow=37
BRVK Borovoye 50.50 311 *e*P **P 23 34 37.6 +0.9**
comp=Z,10nm,0.9s
BRVK Borovoye 50.50 311*d i*P **P 23 34 37.7 +1.0**
BRVK pmax pmax
comp=Z,30nm,1.0s
DANN Dangsing 50.57 277 *e*P **P 23 34 39.2 +1.3**
OTUK Ortayu 50.70 305 P **P 23 34 38.6 +0.3**
OTUK pmax pmax
comp=Z,11nm,0.8s
HYT Haines Junctio 50.77 38 *e*P **P 23 34 40.0 +1.2**
comp=Z,23nm,1.0s
KBK Karagaybulak 50.90 297 P **P 23 34 40.8 +0.7**
SNR=16
KZA Kyzart 50.91 296 P **P 23 34 41.9 +1.5**
SNR=6.3
INK Inuvik 50.93 28 P **P 23 34 39.5 -0.1**
comp=Z,2.2nm,0.7s,baz=314,slow=3.1,SNR=5.8
INK Inuvik 50.93 28 *e*P **P 23 34 39.3 -0.3**
comp=Z,8.8nm,1.3s
KOLN Koldanda 50.98 276 *e*P **P 23 34 41.5 +0.6**
comp=Z,52nm,1.2s
USP Ospenovka 50.98 298 P **P 23 34 41.0 +0.5**
SNR=9.1
HNR Honiara 51.05 160 LR LR 23 56 32.1
comp=Z,14nm,19.1s,baz=96,slow=36
AAK Ala-Archa 51.22 297 *e*P **P 23 34 42.7 +0.3**
comp=Z,6.5nm,1.1s
AAK Ala-Archa 51.22 297 *e*P **P 23 34 42.7 +0.3**
AAK pmax pmax
comp=Z,6.0nm,1.1s
PYUN Piuthan 51.28 277 *e*P **P 23 34 43.8 +0.7**
comp=Z,85nm,1.2s
KSH Kashi 51.39 293 P **P 23 34 47.7 +4.0**
KSH sP sP 23 35 05.8 +8.8
KSH PcP **PcP 23 35 59.5 +1.5**
KSH S **S 23 42 03.3 +2.0**
KSH sS sS 23 42 24.2 +7.2
KSH SS **SS 23 45 38.4 +1.5**
KSH pmax pmax
comp=Z,14nm,1.6s
KSH pmax pmax
comp=Z,230nm,6.3s
KSH LR LR
comp=Z,150nm,10.2s
KSH LR LR
comp=Z,130nm,7.5s
KSH LR LR
comp=Z,120nm,7.6s
EKS2 Erkin-Say 51.70 298 P **P 23 34 46.5 +0.5**
SNR=8.9
AML Almayashu 51.96 297 P **P 23 34 49.3 +1.1**
SNR=8.2
KIP Kipapa 52.04 93 *e*P **P 23 34 50.5 +2.0**
comp=Z,956nm,1.9s
KIP Kipapa 52.04 93 *e*P **P 23 34 50.6 +2.0**
KIP pmax pmax
comp=Z,956nm,1.9s
WHY Whitehorse 52.06 38 *e*P **P 23 34 50.5 +2.1**
comp=Z,36nm,1.8s
KULM Kulim 52.13 241 *e*P **P 23 34 49.9 +0.6**
comp=Z,13nm,0.8s
IPM Ipoh 52.48 239 *e*P **P 23 34 51.8 -0.1**
comp=Z,11nm,1.1s
MNAS Manas 52.63 298 *i*P **P 23 34 53.1 +0.1**
MNAS pmax pmax
comp=Z,9.0nm,0.6s
MYKOM Kota Tinggi 52.68 235 *e*P **P 23 34 53.5 +0.1**
comp=Z,42nm,1.7s
SFK Sufi-Kurgan 52.93 295 *i*P **P 23 34 54.8 -0.5**
SFK pmax pmax
comp=Z,5.0nm,0.8s
BATI Baumata 53.27 206 P **P 23 34 56.2 -1.4**
comp=Z,4.7nm,0.3s,baz=270,slow=5.1,SNR=2.9
KK31 Karatay Array 53.74 299*ce*P **P 23 35 00.6 -0.3**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 53.74 299 *e*P **P 23 35 01.2 +0.2**
KKAR Karatay Array 53.74 299 *e*P **P 23 35 01.2 +0.2**
MTN Manton Dam 53.74 196 *e*P **P 23 34 59.9 -1.1**
comp=Z,19nm,0.8s
MHA Mahukona 54.36 93 *e*P **P 23 35 09.6 +3.9**
MHA Mahukona 54.36 93 *e*P **P 23 35 09.6 +3.9**
HPAH Hawaii Prepara 54.61 93 *e*P P 23 35 12.6 +5.0
WRAK Wrangell Islan 54.62 43 *e*P **P 23 35 10.0 +3.0**
SVE Sverdlovsk 54.62 318 *e*P **P 23 35 08.2 +1.1**
SVE pmax pmax
comp=Z,14nm,1.0s
PSI Prapat 55.12 240 LR LR 00 00 14.8
comp=Z,98nm,18.1s,baz=29,slow=38
KHU Kahuku 55.12 93 *e*P **P 23 35 13.2 +1.7**
comp=Z,529nm,1.6s
KHU Kahuku 55.12 93 *e*P **P 23 35 13.2 +1.7**
KHU pmax pmax
comp=Z,529nm,1.6s
MLH Mauna Loa 55.16 93 *e*P **P 23 35 13.0 +1.2**
comp=Z,403nm,1.6s
MLH Mauna Loa 55.16 93 *e*P **P 23 35 13.0 +1.2**
MLH pmax pmax
comp=Z,403nm,1.6s
ARU Arti 55.84 318 *e*P **P 23 35 16.5 +0.7**
comp=Z,24nm,1.3s
ARU Arti 55.84 318*d i*P **P 23 35 16.2 +0.3**
ARU 23 36 14.0
ARU S **S 23 43 01.4 +0.7**
ARU SS **SS 23 46 45.5 -0.5**
ARU pmax pmax
comp=Z,27nm,1.7s
SMRI Semarang 56.10 222 *e*P **P 23 35 18.6 +0.5**
comp=Z,306nm,1.8s
GSI Gunungsitoli 57.12 240 *e*P **P 23 35 25.3 -0.3**
comp=Z,66nm,1.6s
LEM Lembang 57.40 225 P **P 23 35 27.2 -0.4**
comp=Z,27nm,0.7s,baz=6.3,slow=18,SNR=4.8
CISI Cisompet, Garu 57.90 224 *e*P **P 23 35 29.4 -1.6**
comp=Z,195nm,1.5s
AB31 Akbulak array 57.93 310*ce*P **P 23 35 30.8 0.0**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 57.93 310 *e*P **P 23 35 31.4 +0.6**
comp=Z,69nm,0.6s
AKTO Aktyubinsk 58.55 312 P **P 23 35 35.6 +0.5**
comp=Z,7.7nm,0.8s,baz=75,slow=14,SNR=19
AKTO LR LR 00 03 45.1
comp=Z,92nm,20.1s,baz=28,slow=39
AKTO Aktyubinsk 58.55 312 *i*P **P 23 35 35.0 -0.1**
AKTO pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 58.56 291 *e*P **P 23 35 33.2 -2.5**
comp=Z,11nm,0.5s
KBL Kabul 58.56 291 *e*P **P 23 35 33.2 -2.5**
KBL pmax pmax
comp=Z,11nm,0.5s
RES Resolute Bay 59.39 15 P **P 23 35 40.3 -0.2**
comp=Z,2.9nm,0.6s,baz=292,slow=12,SNR=15
RES Resolute Bay 59.39 15 *e*P **P 23 35 40.5 0.0**
comp=Z,23nm,1.6s
RES Resolute Bay 59.39 15 *e*P **P 23 35 40.6 0.0**
RES pmax pmax

comp=Z,23nm,1.6s
WRAB Tennant Creek 60.10 191 *e*P **P** **23 35 43.8 -2.2**
comp=Z,11nm,0.8s
WRAB Tennant Creek 60.10 191 *i* P **P** **23 35 44.0 -2.0**
WRAB pmax pmax
comp=Z,14nm,0.9s
WRA Warramunga Arr 60.11 191 P **P** **23 35 44.0 -2.1**
comp=Z,7.7nm,0.6s,baz=8.7,slow=6.9,SNR=80
WRA Warramunga Arr 60.11 191 P **P** **23 35 44.0 -2.1**
YKW3 Yellowknife Ar 60.28 32 *e*P **P** **23 35 48.0 +1.1**
comp=Z,23nm,2.0s
YKA Yellowknife Ar 60.32 32 P **P** **23 35 46.8 -0.2**
comp=Z,0.7nm,0.7s,baz=301,slow=6.6,SNR=13
LVZ Lovozero 60.56 336 *e*P **P** **23 35 49.8 +1.1**
comp=Z,137nm,1.8s
LVZ Lovozero 60.56 336 *e*P **P** **23 35 49.8 +1.1**
LVZ pmax pmax
comp=Z,137nm,1.8s
APA Apatity 61.14 336 ⇓*i*P P **23 36 03.7 +11**
APA pmax pmax
comp=Z,7.0nm,0.9s
TMCR Tamitsa 61.44 331 *e*P **P** **23 35 55.0 +0.3**
TMCR pmax pmax
comp=Z,16nm,0.9s
ARCES ARCESS Array B 62.24 340 P **P** **23 36 00.0 0.0**
comp=Z,6.2nm,1.1s,baz=35,slow=21,SNR=3.0
KLMR Klimovskoe 62.66 328 *e*P **P** **23 36 02.0 -0.9**
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 62.66 328 *e*P **P** **23 36 02.0 -0.9**
KLMR AMP 23 36 05.0
comp=Z,14nm,0.9s
AS01 Alice Springs 63.82 191 *e*P **P** **23 36 09.9 -1.2**
AS31 Alice Springs 63.83 191 *e*P **P** **23 36 09.8 -1.3**
comp=Z,2.5nm,0.9s
AS31 *e*pP **pP** **23 36 21.0 +0.1**
ASAR Alice Springs 63.83 191 P **P** **23 36 09.6 -1.5**
comp=Z,7.1nm,0.8s,baz=11,slow=6.6,SNR=66
D05A Enumclaw 64.42 49 *e*P **P** **23 36 15.8 +0.9**
comp=Z,30nm,1.3s
GEYT Alibeck 64.49 299 P **P** **23 36 15.7 +0.2**
comp=Z,5.8nm,0.9s,baz=37,slow=3.7,SNR=15
MBWA Marble Bar 64.79 205 *e*P **P** **23 36 16.3 -1.1**
comp=Z,72nm,1.5s
DZM Mont Dzumac 64.89 157 *e*P **P** **23 36 19.3 +1.1**
comp=Z,56nm,2.0s
PALK Pallekele 65.15 258 *e*P **P** **23 36 19.9 -0.1**
comp=Z,14nm,1.1s
PALK Pallekele 65.15 258 *e*P **P** **23 36 19.9 -0.1**
PALK pmax pmax
comp=Z,14nm,1.1s
KEBM Edson Butte 65.28 54 *e*P **P** **23 36 23.2 +2.6**
comp=Z,375nm,2.0s
B08A Colville Reser 65.32 47 *e*P **P** **23 36 22.6 +1.8**
comp=Z,39nm,2.0s
H04A Detroit Lake 65.63 51 *e*P **P** **23 36 24.8 +2.0**
comp=Z,44nm,1.8s
C09A Chrisman Ranch 66.22 47 *e*P **P** **23 36 28.6 +2.1**
comp=Z,5.2nm,0.9s
PINE Pine Mountain 66.87 52 *e*P **P** **23 36 32.9 +2.0**
PINE *e*pP **sP** **23 36 43.3 -1.2**
AFI Afiamalu 67.24 133 LR LR 00 00 02.9
comp=Z,49nm,21.7s,baz=50,slow=31
OBN Obninsk 67.26 324 *i* P **P** **23 36 32.1 -0.8**
OBN *i* 23 36 43.2
OBN *i* 23 37 01.7
OBN *i* 23 38 58.5
OBN pmax pmax
comp=Z,29nm,1.5s
FIA1 FINESS Array S 67.45 333 *e*P **P** **23 36 34.7 +0.7**
FIA1 *e*pP **sP** **23 36 45.9 -1.7**
FINES FINESS Array B 67.45 333 P **P** **23 36 34.4 +0.3**
comp=Z,9.6nm,0.6s,baz=44,slow=7.4,SNR=60
LPSR Galich'ya Gora 67.65 321 *e*P **P** **23 36 35.5 +0.1**
LPSR *e**SP **pP** **23 36 46.7 +1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 67.95 1 *i* P **P** **23 36 36.7 -0.8**
SUMG Summit 67.95 1 *e*P **P** **23 36 36.7 -0.8**
VSR Storozhevoye 68.36 319 *e*P **P** **23 36 39.7 -0.2**
VSR *e**SP **pP** **23 36 51.0 +1.2**
VSR pmax pmax
comp=Z,7.0nm,0.6s
BMO Blue Mountains 68.43 49 *e*P **P** **23 36 42.5 +1.8**
comp=Z,10nm,1.7s
BMO Blue Mountains 68.43 49 *e*P **P** **23 36 42.5 +1.8**
BMO pmax pmax
comp=Z,11nm,1.7s
JTMT Jette 68.47 45 *e*P **P** **23 36 43.1 +2.2**
comp=Z,23nm,1.7s
ORV Oroville 68.89 56 *e*P **P** **23 36 45.0 +1.6**
comp=Z,12nm,1.5s
ORV Oroville 68.89 56 *e*P **P** **23 36 45.0 +1.6**
ORV pmax pmax
comp=Z,12nm,1.5s
VSU Vasula 69.24 330 *ce*P **P** **23 36 45.8 +0.6**
VSU pmax pmax
comp=Z,65nm,1.2s
PAHR Pah Rah Range 70.14 55 *e*P **P** **23 36 53.4 +2.0**
comp=Z,6.6nm,1.2s
PAHR *e*pP **sP** **23 37 03.1 -1.8**
FFC Flin Flon 70.19 34 *e*P **P** **23 36 50.9 -0.3**
comp=Z,5.6nm,1.1s
FFC *e*pP **pP** **23 37 01.3 +0.2**
FFC Flin Flon 70.19 34 *e*P **P** **23 36 50.9 -0.3**
FFC *e**PP **pP** **23 37 01.3 +0.2**
FFC pmax pmax
comp=Z,6.0nm,1.1s
HRY Holter Researc 70.43 45 *e*P **P** **23 36 54.4 +1.4**
comp=Z,2.5nm,0.6s
CMB Columbia Colle 70.47 57 *e*P **P** **23 36 55.4 +2.1**
comp=Z,24nm,1.8s
CMB Columbia Colle 70.47 57 *e*P **P** **23 36 55.4 +2.1**
CMB pmax pmax
comp=Z,24nm,1.8s
FCC Fort Churchill 70.55 28 *e*P **P** **23 36 53.1 -0.2**
comp=Z,17nm,1.5s
FCC Fort Churchill 70.55 28 *e*P **P** **23 36 53.1 -0.2**
FCC pmax pmax
comp=Z,17nm,1.5s
NCK Nalchik 70.56 311 ⇑*e*P **P** **23 36 54.9 +1.2**
NCK pmax pmax
comp=Z,9.0nm,1.1s
LRM Limekiln Ridge 70.63 46 *e*P **P** **23 36 55.6 +1.2**
LRM *e*pP **pP** **23 37 05.7 +1.4**
EGMT Eagleton 70.74 43 *e*P **P** **23 36 57.0 +2.2**
comp=Z,12nm,0.8s
WAKR Walker 70.80 56 *e*P **P** **23 36 55.6 +0.1**
comp=Z,4.5nm,1.0s
KIV Kislovodsk 70.82 311 *e*P **P** **23 36 55.8 +0.4**
KIV *e*pP **sP** **23 37 09.3 +0.4**
KIV Kislovodsk 70.82 311 *e*P **P** **23 36 55.8 +0.4**
KIV *e**PP **sP** **23 37 09.3 +0.4**
DLMT Dillon 70.83 47 *e*P **P** **23 36 56.2 +0.7**
comp=Z,6.0nm,0.6s
KBZ Khabaz 70.83 311 P **P** **23 36 56.5 +1.2**
comp=Z,9.0nm,0.8s,baz=66,slow=4.5,SNR=13
HLID Hailey 70.88 49 *e*P **P** **23 36 57.3 +1.5**
comp=Z,3.5nm,1.2s
TBLG Delisi 70.93 309 *e*P **P** **23 36 57.2 +1.2**
comp=Z,11nm,0.9s
TBLG Delisi 70.93 309 *e*P **P** **23 36 57.2 +1.2**
TBLG pmax pmax
comp=Z,11nm,0.9s
BMN Battle Mountai 71.06 53 *e*P **P** **23 36 59.1 +2.1**
comp=Z,17nm,1.6s
BMN *e*pP **pP** **23 37 08.5 +1.7**
BMN Battle Mountai 71.06 53 *e*P **P** **23 36 59.1 +2.1**
BMN *e**PP **pP** **23 37 08.5 +1.7**
BMN pmax pmax
comp=Z,17nm,1.6s
BOZ Bozeman (W) 71.22 46 *e*pP pP **23 37 09.3 +1.6**
BOZ Bozeman (W) 71.22 46 *e*P pP **23 37 09.4 +1.6**
RYN Ryan 71.31 55 *e*P **P** **23 37 01.2 +2.7**
comp=Z,6.9nm,1.2s
STKA Stephens Creek 71.31 182 P **P** **23 36 56.5 -1.7**
comp=Z,1.7nm,0.7s,baz=331,slow=8.6,SNR=5.8
KVN Kaiserville 71.33 55 *e*P **P** **23 37 00.6 +1.9**
comp=Z,7.3nm,1.1s
KVN Kaiserville 71.33 55 *e*P **P** **23 37 00.6 +1.9**
KVN pmax pmax
comp=Z,7.0nm,1.1s
NV01 Mina Array Sit 71.57 55 *e*P **P** **23 37 02.1 +1.9**
NVAR Mina Array Bea 71.57 55 P **P** **23 37 00.9 +0.8**
comp=Z,2.2nm,0.8s,baz=287,slow=6.4,SNR=14
NV11 Mina Array Sit 71.66 55 *e*P **P** **23 37 02.6 +2.0**
comp=Z,0.5nm,1.3s
AKH Akhalkalaki 71.87 309 *e*P **P** **23 37 03.8 +1.9**
comp=Z,6.5nm,1.0s
AKH Akhalkalaki 71.87 309 *e*P **P** **23 37 03.8 +1.9**
AKH pmax pmax
comp=Z,7.0nm,1.0s
GNI Garni 71.88 307 LR LR 00 11 32.1
comp=Z,66nm,18.4s,baz=356,slow=38
YHH Holmes Hill 72.16 46 *e*P **P** **23 37 05.0 +1.3**
comp=Z,4.4nm,1.1s
NC405 NORSAR Array S 72.33 338 *e*P **P** **23 37 03.7 -0.3**
NB201 NORSAR Array S 72.50 338 *e*P **P** **23 37 05.0 -0.1**
YPP Pitchstone Pla 72.50 47 *e*P **P** **23 37 08.0 +2.2**
YPP *e*pP **sP** **23 37 18.9 -0.5**
HFS Hagfors 72.52 337 P **P** **23 37 05.1 0.0**
comp=Z,4.0nm,0.6s,baz=47,slow=6.3,SNR=14
NB2 NORSAR Subarra 72.53 338 P **P** **23 37 05.2 -0.1**
comp=Z,6.9nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 72.53 338 P **P** **23 37 05.0 -0.3**
comp=Z,4.2nm,0.8s,baz=38,slow=6.0,SNR=9.3
NOA NORSAR Array B 72.53 338 P **P** **23 37 05.0 -0.3**
H17A Grant Village 72.55 46 *e*P **P** **23 37 07.5 +1.5**
comp=Z,9.3nm,1.0s
BBOO Buckleboo 72.60 187 *e*P **P** **23 37 05.6 -0.3**
comp=Z,58nm,1.7s
NBO02 NORSAR Array S 72.62 338 *e*P **P** **23 37 06.6 +0.8**
IMW Indian Meadow 72.66 47 *e*P **P** **23 37 08.2 +1.5**
IMW *e*pP **sP** **23 37 18.9 -1.4**
FXWY Fox Creek 72.77 47 *e*P **P** **23 37 10.3 +3.0**
comp=Z,5.9nm,1.0s
RLMT Red Lodge 72.82 45 *e*P **P** **23 37 09.4 +1.9**
comp=Z,9.2nm,1.4s
MOOW Moose Ponds 72.86 47 *e*P **P** **23 37 10.3 +2.5**
comp=Z,7.8nm,1.2s
TPAW Teton Pass 72.91 47 *e*P **P** **23 37 10.1 +1.9**
TPAW *e*pP **sP** **23 37 20.0 -1.8**
HVU Hansel Valley 72.92 50 *e*P **P** **23 37 09.6 +1.5**
HVU *e*pP **sP** **23 37 19.8 -1.9**
HVU Hansel Valley 72.92 50 *e*P **P** **23 37 09.6 +1.5**
HVU *e**PP **sP** **23 37 19.8 -1.9**
UOSS Minazif 73.11 289 *e*P **P** **23 37 09.6 +0.3**
comp=Z,122nm,1.8s
AHID Auburn Hatcher 73.28 48 *e*P **P** **23 37 12.1 +1.9**
comp=Z,4.3nm,0.7s
BGU Big Grassy Mou 73.30 51 *e*P **P** **23 37 12.1 +1.8**
comp=Z,2.6nm,0.9s
DAC Darwin (Calif) 73.31 57 *e*P **P** **23 37 12.1 +1.6**
comp=Z,6.8nm,1.5s
DAC Darwin (Calif) 73.31 57 *e*P **P** **23 37 12.1 +1.6**
DAC pmax pmax
comp=Z,7.0nm,1.5s
DGMT Dagmar 73.31 40 *e*P **P** **23 37 11.6 +1.5**
comp=Z,14nm,1.4s
R11A Troy Canyon, C 73.32 54 *e*P **P** **23 37 11.7 +1.1**
comp=Z,9.1nm,1.4s
R11A *e*pP **pP** **23 37 21.9 +1.4**
AKASG Malin Array Be 73.51 323 P **P** **23 37 11.4 +0.2**
comp=Z,3.5nm,0.4s,baz=44,slow=6.2,SNR=24
AKASG Malin Array Be 73.51 323 *ce*P **P** **23 37 11.3 +0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKBB Malin Array Si 73.51 323 *e*P **P** **23 37 11.4 +0.3**
AKBB *e*pP **pP** **23 37 22.8 +1.7**
AKBB Malin Array Si 73.51 323 *e*P **P** **23 37 11.5 +0.3**
AKBB *e**PP **pP** **23 37 22.8 +1.7**
KIEV Kiev 73.52 323 *e*P **P** **23 37 11.3 +0.1**
KIEV *e*pP **pP** **23 37 22.8 +1.6**
KIEV Kiev 73.52 323 *i* P **P** **23 37 10.9 -0.3**
AK11 Malin Array Si 73.55 323 *e*P **P** **23 37 11.8 +0.4**
AK11 *e*pP **pP** **23 37 23.1 +1.8**
HWUT Hardware Ranch 73.73 49 *e*P **P** **23 37 14.9 +1.9**
comp=Z,14nm,1.6s
PD31 Pinedale Array 74.16 47 *e*P **P** **23 37 16.1 +0.6**
PD31 *e*pP **pP** **23 37 26.9 +1.5**
PDAR Pinedale Array 74.16 47 P **P** **23 37 15.6 +0.1**
comp=Z,1.1nm,0.6s,baz=277,slow=1.4,SNR=12
PDAR Pinedale Array 74.16 47 *e*P **P** **23 37 16.1 +0.6**
SHPR Sheep Range 74.72 55 *e*P **P** **23 37 18.4 -0.3**
comp=Z,6.6nm,1.3s
CCUT Cedar City 75.19 53 *e*P **P** **23 37 22.9 +1.3**
comp=Z,3.7nm,1.0s
P17A Butcher Ranch, 75.57 51 *e*P **P** **23 37 25.3 +1.6**
comp=Z,9.8nm,1.2s
LCMT Little Creek M 75.61 54 *e*P **P** **23 37 25.4 +1.6**
comp=Z,5.0nm,1.0s
MTPU Mount Pierson 75.61 52 *e*P **P** **23 37 25.1 +1.1**
MTPU *e*pP **PcP** **23 37 35.7 -1.2**
PFO Pinyon Flats O 75.67 58 *e*P **P** **23 37 25.8 +1.6**
comp=Z,5.4nm,1.0s
PFO Pinyon Flats O 75.67 58 *e*P **P** **23 37 25.8 +1.6**
PFO pmax pmax
comp=Z,5.0nm,1.0s
XPFO Piæon Flat 75.67 58 *e*P **P** **23 37 25.8 +1.6**
comp=Z,5.8nm,1.0s
KNB Kanab 75.86 54 *e*P **P** **23 37 26.5 +1.2**
comp=Z,7.4nm,1.1s
KNB Kanab 75.86 54 *e*P **P** **23 37 26.5 +1.2**
KNB pmax pmax
comp=Z,7.0nm,1.1s
SRU San Rafael Swe 75.93 51 *e*P **P** **23 37 28.0 +2.3**
comp=Z,5.3nm,0.8s
SRU San Rafael Swe 75.93 51 *e*P **P** **23 37 28.0 +2.3**
SRU pmax pmax
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 75.99 35 P **P** **23 37 24.5 -1.0**
comp=Z,2.3nm,0.9s,baz=267,slow=7.6,SNR=3.7
BAR Barrett 76.10 59 *e*P **P** **23 37 27.9 +1.4**
comp=Z,24nm,1.8s
RWWY Rawlins 76.18 47 *e*P **P** **23 37 27.9 +0.7**
comp=Z,11nm,1.2s
RSSD Black Hills 76.30 44 *e*P **P** **23 37 29.2 +1.4**
comp=Z,14nm,0.7s
RSSD Black Hills 76.30 44 *e*P **P** **23 37 29.2 +1.4**
RSSD pmax pmax
comp=Z,14nm,0.7s
LVV L'vov 76.49 325 *e*P **P** **23 37 30.2 +1.8**
U15A North Rim 76.57 54 *e*P **P** **23 37 31.0 +1.5**
U15A *e*pP **PcP** **23 37 41.2 +0.3**
GLA Glamis 77.08 58 *e*P **P** **23 37 33.2 +1.0**
comp=Z,12nm,1.6s
GLA Glamis 77.08 58 *e*P **P** **23 37 33.2 +1.0**
GLA pmax pmax
comp=Z,13nm,1.6s
PV10 Paradox Valley 77.29 51 *e*P **P** **23 37 35.1 +1.6**
BUR08 Bucovina Ar. S 77.53 323 *e*P **P** **23 37 35.6 +1.1**
BUR04 Bucovina Ar. S 77.55 323 *e*P **P** **23 37 35.1 +0.5**
BUR04 *e*pP **PcP** **23 37 46.5 +1.7**
BURAR Bucovina Array 77.55 323 ⇑*i*P **P** **23 37 35.3 +0.8**
TESR Tescani 77.66 321 ⇑*i*P **P** **23 37 34.9 -0.2**
WUAZ Wupatki 77.72 54 *e*P **P** **23 37 37.2 +1.4**
WUAZ *e*pP **sP** **23 37 48.0 -1.4**
ILGA Ilgaz 77.77 314 *e*P **P** **23 37 36.5 +0.4**
comp=Z,14nm,1.2s
CFR Carcaliu 77.88 320 ⇓*i*P **P** **23 37 36.8 +0.5**
STHS Stebnicka Huta 78.00 326 *e*P **P** **23 37 38.3 +1.4**
STHS *e* 23 37 50.1
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 78.00 326 *e*P **P** **23 37 38.3 +1.4**
STHS *e* 23 37 50.1
OJC Ojcow 78.01 327 *e*P **P** **23 37 38.3 +1.3**
OJC Ojcow 78.01 327 *e*P **P** **23 37 38.2 +1.3**
comp=Z,18nm,0.8s
OJC Ojcow 78.01 327 *e*P **P** **23 37 38.3 +1.3**
OJC pmax pmax
comp=Z,18nm,0.8s
UZH Uzhgorod 78.13 325 *e*P **P** **23 37 37.0 -0.6**
UZH *e* 23 37 46.0
TIRR Tirgusor 78.25 319 ⇓*i*P **P** **23 37 38.7 +0.4**
MVCO Mesa Verde 78.38 51 *e*P **P** **23 37 40.9 +1.3**
comp=Z,21nm,1.8s
X16A Lo Mia Camp, P 78.39 55 *e*P **P** **23 37 41.7 +2.1**
comp=Z,14nm,1.8s
NIE Niedzica 78.41 326 *e*P **P** **23 37 40.5 +1.4**
NIE Niedzica 78.41 326 *e*P **P** **23 37 40.6 +1.4**
BR131 Keskin Array S 78.71 313 *e*P **P** **23 37 41.6 +0.5**
BRTR Keskin Array B 78.71 313 P **P** **23 37 40.8 -0.4**
comp=Z,1.1nm,0.6s,baz=89,slow=3.4,SNR=10
BRTR LR LR 00 20 24.6
comp=Z,37nm,18.3s,baz=352,slow=42
BRTR Keskin Array B 78.71 313 *ce*P **P** **23 37 41.7 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
ISR Istrita 78.71 320 ⇑*i*P **P** **23 37 42.1 +1.1**
MLR Muntele Rosu 78.74 321 ⇓*i*P **P** **23 37 42.2 +1.0**
MLR Muntele Rosu 78.74 321 *e*P **P** **23 37 42.3 +1.0**
comp=Z,28nm,1.9s
MLR Muntele Rosu 78.74 321 *e*P **P** **23 37 42.3 +1.0**
MLR pmax pmax
comp=Z,29nm,1.9s
LANS Liptovska Anna 78.97 327 *e*P **P** **23 37 44.0 +1.7**
LANS *e* 23 37 55.1
LANS Liptovska Anna 78.97 327 *e*P **P** **23 37 44.0 +1.7**
LANS *e* 23 37 55.1
OKC Ostrava-Krasne 78.99 328 *e*P **P** **23 37 43.5 +1.2**
OKC *e*pP **sP** **23 37 54.8 -1.2**
OKC Ostrava-Krasne 78.99 328 *e*P **P** **23 37 43.5 +1.2**
OKC *e* 23 37 54.8
S22A 4UR Ranch, Cre 79.02 50 *e*P **P** **23 37 44.7 +1.6**
comp=Z,4.0nm,1.0s
BR231 Keskin MP Arra 79.12 313 *e*P **P** **23 37 42.8 -0.5**
NRS Narsarsuaq 79.12 5 *e*P **P** **23 37 44.4 +1.6**
comp=Z,261nm,1.8s
NRS Narsarsuaq 79.12 5 *e*P **P** **23 37 44.4 +1.6**
NRS pmax pmax
comp=Z,261nm,1.8s
VOIR 79.21 321 ⇓*i*P **P** **23 37 44.7 +1.0**
MORC Moravsky Berou 79.28 328 ⇑*i*P **P** **23 37 44.6 +0.6**
MORC Moravsky Berou 79.28 328 *e*P **P** **23 37 44.9 +0.9**
MORC *e*pP **sP** **23 37 56.1 -1.5**
MORC Moravsky Berou 79.28 328 *e*P **P** **23 37 44.9 +0.9**
MORC *e**PP **sP** **23 37 56.1 -1.5**
DRGR 79.31 323 ⇓*i*P **P** **23 37 44.9 +0.6**
UPC Upice 79.32 329 *e*P **P** **23 37 45.5 +1.3**
UPC *e*pP **sP** **23 37 56.4 -1.4**
UPC Upice 79.32 329 *e*P **P** **23 37 45.5 +1.3**
UPC *e* 23 37 56.4
DPC Dobruska-Polom 79.32 329 *e*P **P** **23 37 45.4 +1.2**
DPC *e*pP **sP** **23 37 56.7 -1.2**
DPC Dobruska-Polom 79.32 329 *e*P **P** **23 37 45.4 +1.2**
DPC *e* 23 37 56.7
ARR Arges 79.46 321 ⇓*i*P **P** **23 37 46.9 +1.8**
PSZ Piszkesteto 79.72 326 ⇓*i*P **P** **23 37 47.9 +1.5**
PSZ Piszkesteto 79.72 326 *e*P **P** **23 37 48.0 +1.5**
PSZ *e*pP **sP** **23 37 58.6 -1.5**
PSZ Piszkesteto 79.72 326 *e*P **P** **23 37 48.0 +1.5**
PSZ *e**PP **sP** **23 37 58.6 -1.5**
VYHS Vyhne 79.74 327 *e*P **P** **23 37 47.3 +0.8**
VYHS *e* 23 37 58.9
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 79.74 327 *e*P **P** **23 37 47.3 +0.8**
VYHS *e* 23 37 58.9
BRG Berggiesshubel 79.83 331 *e*P **P** **23 37 47.1 +0.2**
comp=Z,21nm,1.9s
BRG *e* 23 37 58.5
comp=Z,4.1nm,0.9s
BRG Berggiesshubel 79.83 331 *e*P **P** **23 37 47.1 +0.2**
BRG *e* 23 37 58.5
BRG pmax pmax
comp=Z,21nm,2.0s
BRG pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 79.83 331 *i* P **P** **23 37 47.0 +0.1**
comp=Z,14nm,1.3s
CLL *e* 23 37 52.0
CLL *i* pP **pP** **23 37 58.4 +1.5**
comp=Z,13nm,0.9s
CLL Collm 79.83 331 *e*P **P** **23 37 47.1 +0.3**
CLL *e*pP **sP** **23 37 58.8 -1.7**
CLL Collm 79.83 331 *i* P **P** **23 37 47.0 +0.1**
CLL *i* 23 37 58.4
CLL pmax pmax
comp=Z,14nm,1.3s
PVCC Panska Ves 79.87 330 *e*P **P** **23 37 47.9 +0.8**
PVCC Panska Ves 79.87 330 *e*P **P** **23 37 47.9 +0.8**
VRAC Vranov 80.03 328 ⇓*i*P **P** **23 37 49.4 +1.3**
GOPC GO Pecny, Ondr 80.27 330 *e*P **P** **23 37 50.2 +0.9**
GOPC *e*pP **sP** **23 38 01.6 -1.4**
GOPC GO Pecny, Ondr 80.27 330 *e*P **P** **23 37 50.2 +0.9**
GOPC *e* 23 38 01.6
PRU Pruhonice 80.31 330 *e*P **P** **23 37 50.4 +0.9**
PRU *e*pP **sP** **23 38 01.9 -1.3**
PRU Pruhonice 80.31 330 *e*P **P** **23 37 50.4 +0.9**
PRU *e* 23 38 01.9
ECSD EROS Data Cent 80.38 40 *e*P **P** **23 37 50.2 +0.2**
comp=Z,5.6nm,0.9s
TREC Trest 80.49 329 *e*P **P** **23 37 51.6 +1.1**
TREC Trest 80.49 329 *e*P **P** **23 37 51.6 +1.1**
BZS Buzias 80.70 323 ⇓*i*P **P** **23 37 52.0 +0.3**
T25A Trinidad 80.84 49 *e*P **P** **23 37 54.3 +1.4**
T25A *e*pP **pP** **23 38 04.0 +1.1**
NKC Novy Kostel 80.91 331 *e*P **P** **23 37 53.7 +1.0**
NKC Novy Kostel 80.91 331 *e*P **P** **23 37 53.7 +1.0**
ANMO Albuquerque 81.12 52 *e*P **P** **23 37 54.7 +0.4**
comp=Z,8.2nm,1.4s
ANMO Albuquerque 81.12 52 *ce*P **P** **23 37 55.5 +1.1**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
EKA Eskdalemuir Ar 81.29 342 P **P** **23 37 54.9 +0.3**
comp=Z,1.0nm,0.6s,baz=34,slow=4.4,SNR=4.6
KHC Kasperske Hory 81.37 330 *e*P **P** **23 37 55.9 +0.6**
KHC *e*pP **sP** **23 38 07.3 -1.6**
KHC Kasperske Hory 81.37 330 *e*P **P** **23 37 56.1 +0.9**
KHC *e*pP **sP** **23 38 07.5 -1.5**
KHC Kasperske Hory 81.37 330 *e*P **P** **23 37 56.2 +0.9**
KHC *e**PP **sP** **23 38 07.5 -1.5**
CONA Conrad Observa 81.42 328 *e*P **P** **23 37 57.3 +1.7**
comp=Z,6.6nm,1.3s
CONA *i* P **sP** **23 38 08.5 -0.8**
comp=Z,6.7nm,1.0s
LPM Los Pinos Moun 81.44 52 *e*P **P** **23 37 57.5 +1.4**
GEC2 GERESS Array S 81.55 330 *e*P **P** **23 37 57.0 +0.7**
GEC2 *e*pP **sP** **23 38 08.3 -1.6**
GEC2 GERESS Array S 81.55 330 *e*P **P** **23 37 57.0 +0.7**
GEC2 *e**PP **sP** **23 38 08.4 -1.6**
GERES GERESS Array B 81.55 330 P **P** **23 37 56.7 +0.4**
comp=Z,1.5nm,0.6s,baz=37,slow=6.0,SNR=14
GEA0 GERESS Array S 81.56 330 *e*P **P** **23 37 56.6 +0.3**
GEA0 *e*pP **pP** **23 38 07.9 +1.5**
RAYN Ar Rayn 81.68 294 *e*P **P** **23 37 57.2 -0.1**
comp=Z,6.8nm,1.4s
ARSA Arzberg 82.10 328 *e*P **P** **23 38 00.3 +1.2**
comp=Z,8.6nm,1.6s
ARSA *i* P **sP** **23 38 11.9 -0.9**
comp=Z,2.8nm,0.7s
CSS Mathiatis 82.13 309 *e*P **P** **23 37 59.9 +0.4**
comp=Z,14nm,1.9s
MOA Molln 82.13 329 *e*P **P** **23 38 00.2 +0.9**
comp=Z,6.5nm,1.4s
MMAI Mount Meron Ar 82.20 307 P **P** **23 38 00.8 +0.9**
comp=Z,2.2nm,0.7s,baz=31,slow=5.9,SNR=4.1
VTS Vitosha 82.20 320 ⇑*i*P **P** **23 38 00.6 +0.7**
VTS Vitosha 82.20 320 *e*P **P** **23 38 00.3 +0.5**
comp=Z,38nm,1.9s
VTS Vitosha 82.20 320 *e*P **P** **23 38 00.4 +0.5**
VTS pmax pmax
comp=Z,38nm,1.9s
SOKA Soboth 82.76 327 *i* P **P** **23 38 03.6 +1.0**
comp=Z,11nm,1.3s
SOKA *i* P **sP** **23 38 14.8 -1.5**
comp=Z,10nm,0.8s
MEM Membach 82.86 335 ⇑P **P** **23 38 03.4 +0.5**
OBKA Obir 83.09 328 *e*P **P** **23 38 04.8 +0.5**
comp=Z,6.5nm,0.9s
OBKA *i* P **sP** **23 38 16.7 -1.4**
comp=Z,3.5nm,0.6s
EPT El Paso 83.24 54 *e*P **P** **23 38 07.2 +1.8**
comp=Z,10nm,0.6s
WATA Walderalm 83.61 330 *e*P **P** **23 38 07.1 0.0**
comp=Z,4.8nm,1.0s
ABTA Abfaltersbach 83.73 329 *i* P **P** **23 38 07.7 +0.1**
comp=Z,5.4nm,1.0s
MOTA Moosalm 83.79 330 *i* P **P** **23 38 08.8 +0.8**
comp=Z,8.6nm,0.8s
MOTA *i* P **sP** **23 38 20.5 -1.2**
comp=Z,10nm,0.9s
RETA Reutte 83.80 330 *e*PcP **P** **23 38 09.1 +1.1**
comp=Z,9.3nm,1.3s
RETA *i* P **sP** **23 38 20.6 -1.0**
comp=Z,13nm,1.1s
BKZ Black Stump Fm 83.89 155 *e*P **P** **23 38 06.9 -1.3**
comp=Z,69nm,1.8s
PPT Papeete 83.89 119 LR LR 00 10 27.0
comp=Z,87nm,19.7s,baz=9.5,slow=32
MNTX Cornudas Mount 83.98 53 *e*P **P** **23 38 10.6 +1.5**
comp=Z,4.1nm,1.1s
BFO Black Forest 84.00 332 *e*P **P** **23 38 09.3 +0.4**
comp=Z,14nm,1.4s

BFO	**Black Forest**	**84.00**	**332**	*i* P		**P**	**23 38 10.1**	**+1.2**
AMTX	**Amarillo**	**84.00**	**49**	*e*P		**P**	**23 38 11.6**	**+2.3**
AMTX				*e*pP		**sP**	**23 38 21.3**	**-1.7**
FETA	**Feichten**	**84.20**	**330**	*i* P		**P**	**23 38 10.0**	**-0.1**
	comp=Z,6.3nm,1.2s							
FETA				*i* P		**sP**	**23 38 22.6**	**-1.2**
	comp=Z,9.1nm,1.0s							
DAVA	**Damuels**	**84.30**	**331**	*e*P		**P**	**23 38 10.5**	**-0.1**
	comp=Z,15nm,1.0s							
DAVA				*i* P		**sP**	**23 38 23.1**	**-1.3**
	comp=Z,15nm,1.0s							
ECH	**Echery**	**84.51**	**333**	*e*P		**P**	**23 38 12.0**	**+0.5**
	comp=Z,5.5nm,0.9s							
ECH	**Echery**	**84.51**	**333**	*e*P		**P**	**23 38 12.0**	**+0.5**
ECH				pmax	pmax			
	comp=Z,6.0nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**84.71**	**330**	*e*P		**P**	**23 38 14.0**	**+1.2**
FUORN				*e*pP		**sP**	**23 38 25.2**	**-1.3**
LPIG	**La Paz**	**85.90**	**62**	LR		LR	00 14 04.5	
	comp=Z,34nm,18.7s,baz=352,slow=34							
SENIN	**Lac Senin/Sane**	**86.03**	**332**	*e*P		**P**	**23 38 19.9**	**+0.5**
	comp=Z,5.4nm,0.8s							
TUL1	**Leonard**	**86.57**	**45**	*e*P		**P**	**23 38 22.6**	**+0.6**
	comp=Z,7.1nm,0.6s							
TX31	**Lajitas Ar. Si**	**86.69**	**54**	*e*P		**P**	**23 38 24.6**	**+1.8**
TXAR	**Lajitas Array**	**86.69**	**54**	P		**P**	**23 38 22.4**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=300,slow=3.1,SNR=18							
IDI	**Anoyia**	**86.75**	**314**	*e*P		**P**	**23 38 23.4**	**+0.5**
	comp=Z,90nm,1.4s							
ABTX	**Abilene, Hawle**	**86.80**	**49**	*e*P		**P**	**23 38 25.6**	**+2.5**
	comp=Z,14nm,1.2s							
ABTX				*e*pP		**pP**	**23 38 34.9**	**+1.6**
CCM	**Cathedral Cave**	**87.33**	**41**	*e*P		**P**	**23 38 25.5**	**-0.1**
	comp=Z,15nm,0.9s							
CCM	**Cathedral Cave**	**87.33**	**41**	*e*P		**P**	**23 38 25.5**	**-0.1**
CCM				pmax	pmax			
	comp=Z,15nm,0.9s							
WHTX	**Lake Whitney,**	**88.53**	**48**	*e*P		**P**	**23 38 32.4**	**+0.9**
	comp=Z,33nm,1.6s							
W40A	**Ferguson Farm,**	**88.57**	**44**	*e*P		**P**	**23 38 33.2**	**+1.7**
	comp=Z,48nm,1.8s							
SIUC	**Southern Illin**	**88.60**	**40**	*e*P		**P**	**23 38 33.3**	**+1.6**
SIUC				*e*pP		**pP**	**23 38 43.4**	**+1.6**
PBMO	**Poplar Bluff**	**88.73**	**41**	*e*P		**P**	**23 38 33.0**	**+0.7**
PBMO				*e*pP		**pP**	**23 38 43.2**	**+0.9**
MIAR	**Mount Ida**	**88.79**	**44**	*e*P		**P**	**23 38 34.1**	**+1.5**
	comp=Z,5.7nm,0.8s							
MIAR	**Mount Ida**	**88.79**	**44**	*e*P		**P**	**23 38 34.1**	**+1.5**
MIAR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
X301	**Greenbrier Sit**	**88.89**	**43**	*e*P		**P**	**23 38 34.7**	**+1.6**
	comp=Z,30nm,1.8s							
WHAR	**Wooly Hollow**	**88.91**	**43**	*e*P		**P**	**23 38 33.9**	**+0.8**
	comp=Z,22nm,1.6s							
CAF	**Calviac**	**89.11**	**334**	*e*P		**P**	**23 38 34.6**	**+0.6**
CAF				pmax	pmax			
	comp=Z,50nm,2.2s							

MAN 10 23:27:28, 9.80N×122.97E, h31km, mb4.1, ML2.9, MS2.5, 3C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.52**	**150**	⇑*i*P	Pn	23 27 40.5	+1.2
SNPH				*i* S	Sn	23 27 49.2	+2.0
GUIM	**Jordan**	**0.91**	**336**	*e*P	Pb	23 27 45.1	-0.2
GUIM				*e*S	Sb	23 27 57.8	+0.8
LLP	**Lapu-Lapu**	**1.11**	**62**	⇑*e*P	Pn	23 27 48.0	+0.5
LLP				*i* S	Sb	23 28 02.6	-0.2
RCP	**Roxas**	**1.77**	**353**	⇑*e*P	Pb	23 28 02.3	+2.5
RCP				*e*S	Sb	23 28 23.1	+1.5
MSLP	**Maasin**	**1.89**	**80**	*e*P	Pb	23 28 02.0	+0.1
MSLP				*e*S	Sb	23 28 28.0	+2.9

GUC 10 23:37:01.7±0.5, 22.48S×70.52W, h28km±4km, ML3.7, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.37**	**67**	⇓*i*P	Pb	23 37 10.0	-0.2
PB04				*i* S	Sb	23 37 16.0	0.0
PB04				IAML		23 37 19.9	
	comp=E,11μm,0.2s						
PB06	**IPOC Station P**	**0.91**	**105**	⇓*i*P	Pn	23 37 18.2	-0.5
PB06				*i* S	Sb	23 37 30.2	-0.5
PB06				IAML		23 37 30.4	
	comp=N,6μm,0.2s						
PB07	**IPOC Station P**	**0.95**	**38**	⇓*i*P	Pn	23 37 18.8	-0.5
PB07				*e*S	Sb	23 37 31.5	-0.6
PB07				IAML		23 37 32.8	
	comp=E,2μm,0.5s						
PB10	**IPOC Station P**	**1.03**	**182**	⇓*e*P	Pn	23 37 19.7	-0.5
PB10				*e*S	Sn	23 37 33.2	-0.6
PB10				IAML		23 37 39.9	
	comp=N,3μm,0.5s						
PB02	**IPOC Station P**	**1.29**	**27**	*e*P	Pn	23 37 24.0	+0.1
PB02				*e*S	Sb	23 37 41.3	-0.4
PB02				IAML		23 37 45.6	
	comp=N,3μm,0.4s						
PB09	**IPOC Station P**	**1.37**	**60**	⇓*i*P	Pn	23 37 25.8	+0.8
PB09				*e*S	Sb	23 37 43.6	-0.2
PB09				IAML		23 37 47.5	
	comp=N,7μm,0.2s						
PB01	**IPOC Station P**	**1.72**	**34**	*e*P	Pn	23 37 31.3	+1.4
PB01				IAML		23 37 56.0	
	comp=E,1μm,0.3s						

IDC 10 23:40:15.0±1.8, 46.93N×27.73W, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/69, mbtmp3.5/6, ML4.2/2, Error ellipse: s-maj=45.8km s-min=28.3km az=49.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.49**	**52**	P	Pn	23 44 20.3	+0.2
	baz=256,slow=11,SNR=2.9						
ESDC	**Sonseca Array**	**18.71**	**104**	P	Pn	23 44 35.3	+0.1
	0.6nm,0.3s,baz=293,slow=13,SNR=22						
TORD	**Torodi Ar. Bea**	**41.74**	**134**	P	P	23 48 05.8	-0.1
	1.3nm,0.8s,baz=327,slow=9.0,SNR=6.5						
YKA	**Yellowknife Ar**	**48.53**	**322**	P	P	23 48 59.3	+0.1
	0.1nm,0.5s,baz=67,slow=8.1,SNR=3.8						
H10N2	**ASCENSION HYDR**	**55.77**	**164**	T	T	00 49 54.3	
	baz=350,slow=75,SNR=13						
H10N3	**ASCENSION HYDR**	**55.78**	**164**	T	T	00 49 54.7	
	baz=350,slow=75,SNR=13						
H10N1	**ASCENSION HYDR**	**55.79**	**164**	T	T	00 49 55.8	
	baz=350,slow=75,SNR=12						
H10S1	**ASCENSION HYDR**	**56.83**	**165**	T	T	00 51 11.4	
	baz=351,slow=75,SNR=10						
H10S3	**ASCENSION HYDR**	**56.84**	**165**	T	T	00 51 12.1	
	baz=351,slow=75,SNR=12						
H10S2	**ASCENSION HYDR**	**56.84**	**165**	T	T	00 51 12.8	
	baz=351,slow=75,SNR=10.0						
KURBB	**Kurchatov Arra**	**63.95**	**43**	P	P	23 50 50.8	+1.2
	0.5nm,0.9s,baz=327,slow=5.7,SNR=3.4						
MKAR	**Makanchi Array**	**68.42**	**44**	P	P	23 51 16.8	-1.5
	0.3nm,0.9s,baz=309,slow=8.1,SNR=2.9						

*NIED **11** 23:51:00, 39.70N×143.60E, h17km, Mw3.5 Best double couple: M0 1.76000×10^14 NP1:ϕs 190.00000°, δ33.00000°, λ 66.00000°. NP2:ϕs 37.00000°, δ60.00000°, λ 105.00000°.*
*JMA **10** 23:51:43.8±0.2, 39.73N×143.57E, h18km±4km, M3.6*
*ISCJB **10** 23:51:45.7±1.1, 39.70N±0.05×143.59E±0.09, h40km±10km, mb3.4/5, Error ellipse: s-maj=11.9km s-min=6.8km az=26.9*
*IDC **10** 23:51:49.2±3.5, 39.77N×143.46E, h48km±28km, mb3.2/5, mb1 3.3/7, mb1mx3.1/59, mbtmp3.4/7, ML3.1/2, Error ellipse: s-maj=52.2km s-min=22.8km az=80.0*

ISC 10 23:51:46.4±3.2, 39.71N±0.06×143.50E±0.08, h25km±22km, n22, σ0 90/26, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.28**	**281**	P	**Pn**	**23 52 07.7**	**-1.0**
JTH				S	**Sn**	**23 52 25.1**	**+0.1**
MIYJ	**Miyakonagasawa**	**1.30**	**265**	P	**Pn**	**23 52 08.2**	**-0.8**
MIYJ				*e*S	**Sb**	**23 52 26.2**	**-0.3**
JANG	**Nango**	**1.66**	**294**	P	**Pn**	**23 52 12.9**	**-1.0**
JANG				*e*S	**Sn**	**23 52 34.9**	**+0.5**
JOM	**Ohasama**	**1.72**	**263**	P	**Pn**	**23 52 14.7**	**0.0**
JOM				*e*S	**Sn**	**23 52 36.7**	**+0.8**
JMK	**Ichinoseki**	**1.92**	**248**	P	**Pn**	**23 52 17.2**	**-0.3**
JIO	**Ouri**	**2.09**	**234**	P	**Pn**	**23 52 19.2**	**-0.6**
JTM	**Tenmabayashi**	**2.15**	**301**	P	**Pn**	**23 52 20.5**	**-0.1**
JTM				*e*S	**Sn**	**23 52 47.3**	**+0.9**
JOT	**Ohata**	**2.50**	**313**	P	**Pn**	**23 52 26.8**	**+1.3**
JYK	**Kaneyama**	**2.56**	**253**	P	**Pn**	**23 52 26.8**	**+0.5**
JNBK	**Urakawa-nobuka**	**2.63**	**348**	P	**Pn**	**23 52 27.5**	**+0.3**
JNBK				*e*S	**Sn**	**23 52 58.7**	**+0.4**
JKB	**Kayabe**	**2.87**	**320**	P	**Pn**	**23 52 32.1**	**+1.6**
JCH	**Churui**	**2.90**	**358**	P	**Pn**	**23 52 30.8**	**-0.2**
JCH				*e*S	**Sn**	**23 53 03.5**	**-1.5**
ASAJ	**Asahikawa**	**4.45**	**352**	P	**Pn**	**23 52 53.4**	**+1.1**
	0.8nm,0.3s,baz=204,slow=12,SNR=5.5						
MJAR	**Matsushiro Arr**	**5.24**	**234**	P	**Pn**	**23 53 04.9**	**+1.9**
	0.6nm,0.3s,baz=42,slow=12,SNR=12						
SONM	**Songino Array**	**27.78**	**299**	P	**P**	**23 57 32.4**	**-0.8**
	0.3nm,0.4s,baz=95,slow=6.8,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.30**	**128**	T	T	00 27 20.0	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.31**	**128**	T	T	00 27 40.1	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.32**	**128**	T	T	00 27 38.8	
	baz=320						
ZALV	**Zalesovo Beam**	**41.38**	**310**	P	**P**	**23 59 29.5**	**-0.7**
	0.5nm,0.4s,baz=81,slow=7.7,SNR=2.7						
MKAR	**Makanchi Array**	**44.14**	**300**	P	**P**	**23 59 52.6**	**-0.1**
	0.3nm,0.6s,baz=76,slow=10,SNR=4.1						
KURBB	**Kurchatov Arra**	**45.70**	**306**	P	**P**	**00 00 05.0**	**0.0**
	0.3nm,0.4s,baz=80,slow=8.1,SNR=5.6						
WRA	**Warramunga Arr**	**59.96**	**190**	P	**P**	**00 01 50.7**	**+0.2**
	0.2nm,0.6s,baz=15,slow=10,SNR=3.5						

*ROM **10** 23:58:32.6±0.2, 46.27N×13.73E, h10km, Md2.3/7, Ml1.9/7, Error ellipse: s-maj=3.0km s-min=1.5km az=71.0*
*CSEM **10** 23:58:33.6±0.1, 46.28N×13.72E, h2km, ML2.5/19, Error ellipse: s-maj=2.0km s-min=1.5km az=20.0*
*VIE **10** 23:58:33.5±0.1, 46.28N×13.73E, h5km±3km, mb2.0/4, ML2.0/11, Error ellipse: s-maj=1.2km s-min=1.0km az=30.0*
*LJU **10** 23:58:33.2, 46.27N×13.73E, h8km, ML1.8*
*PRU **10** 23:58:34.5, 46.25N×13.74E, h7km*

ISC 10 23:58:33.5±0.8, 46.26N±0.01×13.72E±0.01, h7km±5km, n95, σ0 80/149, 13C-3D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADS	**Cadrg**	**0.03**	**159**	⇑*i*Pg	**Pg**	**23 58 34.7**	**-0.2**
CADS				*i* Sg	**Sg**	**23 58 35.5**	**-0.4**
	comp=Z,3μm,0.1s						
CADS	**Cadrg**	**0.03**	**159**	⇑*i*Pg	**Pg**	**23 58 34.7**	**-0.2**
CADS				*i* Sg	**Sg**	**23 58 35.5**	**-0.4**
	comp=Z,3μm,0.1s						
DRE	**Drenchia**	**0.10**	**212**	*e*P	**Pg**	**23 58 35.9**	**+0.1**
DRE	**Drenchia**	**0.10**	**212**	*e*Pg	**Pg**	**23 58 37.8**	**+2.0**
DRE	**Drenchia**	**0.10**	**212**	⇓*e*Pg	**Pg**	**23 58 35.9**	**+0.1**
DRE				*e*Sg	**Pg**	**23 58 37.8**	**+2.0**
ROBS	**Robic**	**0.15**	**264**	⇑*i*Pg	**Pg**	**23 58 36.5**	**0.0**
ROBS				*i* Sg	**Sg**	**23 58 38.9**	**+0.3**
	comp=Z,85nm,0.1s						
ROBS	**Robic**	**0.15**	**264**	⇑*i*Pg	**Pg**	**23 58 36.5**	**0.0**
ROBS				*i* Sg	**Sg**	**23 58 38.9**	**+0.3**
	comp=Z,85nm,0.1s						
GORS	**Gorjuse**	**0.20**	**73**	⇑*i*Pg	**Pg**	**23 58 37.5**	**0.0**
GORS				*i* Sg	**Sg**	**23 58 40.8**	**+0.6**
	comp=Z,164nm,0.1s						
GORS	**Gorjuse**	**0.20**	**73**	⇑*i*Pg	**Pg**	**23 58 37.5**	**0.0**
GORS				*i* Sg	**Sg**	**23 58 40.8**	**+0.6**
	comp=Z,164nm,0.1s						
PRED	**Cave del Predi**	**0.21**	**330**	*e*P	**Pg**	**23 58 37.5**	**-0.3**
PRED	**Cave del Predi**	**0.21**	**330**	*e*Pg	**Pg**	**23 58 40.7**	**+2.9**
PRED	**Cave del Predi**	**0.21**	**330**	⇓*e*Pg	**Pg**	**23 58 37.5**	**-0.3**
PRED				*e*Sg	**Pg**	**23 58 40.7**	**+2.9**
VOJS	**Vojsko**	**0.25**	**153**	*i* Pg	**Pg**	**23 58 38.8**	**+0.2**
VOJS				*i* Sg	**Sg**	**23 58 43.2**	**+1.3**
	comp=Z,61nm,0.1s						
VOJS	**Vojsko**	**0.25**	**153**	*i* Pg	**Pg**	**23 58 38.8**	**+0.2**
VOJS				*i* Sg	**Sg**	**23 58 43.2**	**+1.3**
	comp=Z,61nm,0.1s						
COLI	**Coloredo**	**0.27**	**242**	*e*P	**Pg**	**23 58 38.9**	**+0.1**
COLI	**Coloredo**	**0.27**	**242**	⇓*e*Pg	**Pg**	**23 58 38.9**	**+0.1**
COLI				*e*Sg	**Sb**	**23 58 44.0**	**-1.5**
SABO	**M.te Sabotino**	**0.29**	**197**	Pg	**Pg**	**23 58 39.1**	**-0.1**
SABO				Sg	**Sg**	**23 58 44.6**	**+1.5**
	comp=Z,128nm,0.3s						
SABO	**M.te Sabotino**	**0.29**	**197**	Pg	**Pg**	**23 58 39.1**	**-0.1**
SABO				Sg	**Sg**	**23 58 44.6**	**+1.5**
	comp=Z,128nm,0.3s						
SABO	**M.te Sabotino**	**0.29**	**197**	*e*Pg	**Pg**	**23 58 39.1**	**-0.1**
PTCC	**Patocco-Chiusa**	**0.29**	**300**	Pg	**Pg**	**23 58 38.8**	**-0.5**
	comp=Z,85nm,0.2s						
PTCC	**Patocco-Chiusa**	**0.29**	**300**	Pg	**Pg**	**23 58 38.8**	**-0.5**
	comp=Z,85nm,0.2s						
VINO	**Villanova**	**0.30**	**270**	Pg	**Pg**	**23 58 39.3**	**-0.2**
VINO				Sg	**Sg**	**23 58 44.6**	**+1.1**
	comp=Z,155nm,0.1s						
VINO	**Villanova**	**0.30**	**270**	Pg	**Pg**	**23 58 39.3**	**-0.2**
VINO				Sg	**Sg**	**23 58 44.6**	**+1.1**
	comp=Z,155nm,0.1s						
VINO	**Villanova**	**0.30**	**270**	⇓*e*Pg	**Pg**	**23 58 39.2**	**-0.2**
VINO				*e*Sg	**Sg**	**23 58 44.7**	**+1.2**
ACOM	**Acomizza, Ital**	**0.32**	**334**	*e*P	**Pg**	**23 58 39.7**	**-0.2**
ACOM				Sg	**Sg**	**23 58 45.0**	**+0.8**
	comp=Z,170nm,0.2s						
ACOM	**Acomizza, Ital**	**0.32**	**334**	Pg	**Pg**	**23 58 39.7**	**-0.2**
ACOM				Sg	**Sg**	**23 58 45.0**	**+0.8**
	comp=Z,170nm,0.2s						
ACOM	**Acomizza, Ital**	**0.32**	**334**	⇓*e*Pg	**Pg**	**23 58 39.7**	**-0.2**
ACOM				*e*Sg	**Sg**	**23 58 45.0**	**+0.8**
BAD	**Bernadia**	**0.33**	**266**	*e*P	**Pg**	**23 58 40.0**	**0.0**
BAD	**Bernadia**	**0.33**	**266**	⇓*e*Pg	**Pg**	**23 58 40.0**	**0.0**
BAD				*e*Sg	**Sg**	**23 58 45.6**	**+1.2**
MYKA	**Terra Mystica**	**0.38**	**352**	Pg	**Pg**	**23 58 40.6**	**-0.2**
	comp=Z,3.2nm,0.2s,SNR=5.6						
MYKA				Sg	**Sg**	**23 58 45.4**	**-0.4**
	comp=Z,8.1nm,0.1s,SNR=24						
MYKA	**Terra Mystica**	**0.38**	**352**	*e*Pg	**Pg**	**23 58 40.6**	**-0.2**
	comp=Z,3.2nm,0.2s,SNR=5.6						
MYKA				*e*Sg	**Sg**	**23 58 45.4**	**-0.4**
	comp=Z,8.1nm,0.1s,SNR=24						
GEPF	**Gemona**	**0.40**	**272**	Pg	**Pg**	**23 58 41.1**	**-0.2**
GEPF				Sg	**Sg**	**23 58 47.9**	**+1.3**
	comp=Z,116nm,0.2s						
GEPF	**Gemona**	**0.40**	**272**	Pg	**Pg**	**23 58 41.1**	**-0.2**
GEPF				Sg	**Sg**	**23 58 47.9**	**+1.3**
	comp=Z,116nm,0.2s						
BUA	**Buia**	**0.42**	**265**	⇓*e*Pg	**Pg**	**23 58 41.5**	**-0.1**
BUA				*e*Sg	**Sb**	**23 58 48.6**	**-1.2**
CRNS	**Crni Vrh**	**0.42**	**115**	⇑*i*Pg	**Pg**	**23 58 41.5**	**-0.1**
CRNS				*i* Sg	**Sg**	**23 58 48.2**	**+1.1**
	comp=Z,30nm,0.1s						
CRNS	**Crni Vrh**	**0.42**	**115**	⇑*i*Pg	**Pg**	**23 58 41.5**	**-0.1**
CRNS				*i* Sg	**Sg**	**23 58 48.2**	**+1.1**
	comp=Z,30nm,0.1s						
BOO	**Bordano**	**0.43**	**278**	*e*Pg	**Pg**	**23 58 41.3**	**-0.6**
BOO	**Bordano**	**0.43**	**278**	⇓*e*Pg	**Pg**	**23 58 41.3**	**-0.6**
JAVS	**Javornik**	**0.44**	**147**	*i* Pg	**Pg**	**23 58 41.8**	**-0.2**
JAVS				*i* Sg	**Sg**	**23 58 49.0**	**+1.3**
	comp=Z,43nm,0.2s						
JAVS	**Javornik**	**0.44**	**147**	*i* Pg	**Pg**	**23 58 41.8**	**-0.2**
JAVS				*i* Sg	**Sg**	**23 58 49.0**	**+1.3**
	comp=Z,43nm,0.2s						
PLRO	**Paularo**	**0.49**	**307**	*e*P	**Pg**	**23 58 43.0**	**0.0**
PLRO	**Paularo**	**0.49**	**307**	*e*Pg	**Pg**	**23 58 43.0**	**0.0**
PLRO				*e*Sg	**Sb**	**23 58 51.2**	**-0.9**
MOZS	**Mozjanca**	**0.50**	**86**	*i* Pg	**Pg**	**23 58 43.3**	**+0.1**
	comp=Z,10.0nm,0.1s						
MOZS	**Mozjanca**	**0.50**	**86**	*i* Pg	**Pg**	**23 58 43.3**	**+0.1**
	comp=Z,10.0nm,0.1s						
MPRI	**Monte Prat**	**0.51**	**268**	*e*Pg	**Pg**	**23 58 43.1**	**-0.2**
FUSE	**Fusea**	**0.52**	**288**	*e*Pg	**Pg**	**23 58 42.7**	**-0.9**
TRI	**Trieste**	**0.55**	**177**	Pg	**Pg**	**23 58 44.6**	**+0.5**
TRI				Sg	**Sb**	**23 58 52.6**	**-1.0**
	comp=Z,73nm,0.5s						
TRI	**Trieste**	**0.55**	**177**	Pg	**Pg**	**23 58 43.7**	**-0.5**
TRI				Sg	**Sb**	**23 58 52.6**	**-1.0**
	comp=Z,73nm,0.5s						
TRI	**Trieste**	**0.55**	**177**	*e*Pg	**Pg**	**23 58 43.6**	**-0.5**
ZOU	**Zoufplan**	**0.60**	**300**	*e*Pg	**Pg**	**23 58 44.8**	**-0.2**
ZOU				*e*Sg	**Sb**	**23 58 54.4**	**-0.8**
ZOU	**Zoufplan**	**0.60**	**300**	*e*Pg	**Pg**	**23 58 44.8**	**-0.2**
LJU	**Ljubljana**	**0.60**	**111**	*e*Pg	**Pg**	**23 58 45.2**	**+0.1**
	comp=Z,18nm,0.1s						
LJU	**Ljubljana**	**0.60**	**111**	*e*Pg	**Pg**	**23 58 45.2**	**+0.1**
	comp=Z,18nm,0.1s						
CLUD	**Cludinico**	**0.61**	**289**	*e*Pg	**Pg**	**23 58 44.7**	**-0.7**
OBKA	**Obir**	**0.63**	**66**	Pg	**Pg**	**23 58 45.7**	**+0.1**
	comp=Z,2.3nm,0.1s,SNR=6.7						
OBKA				Sg	**Sb**	**23 58 55.0**	**-0.9**
	comp=Z,24nm,0.2s,SNR=9.0						
OBKA	**Obir**	**0.63**	**66**	*e*Pg	**Pg**	**23 58 45.7**	**+0.1**
	comp=Z,2.3nm,0.1s,SNR=6.7						
OBKA				*e*Sg	**Sb**	**23 58 55.0**	**-0.9**
	comp=Z,24nm,0.2s,SNR=9.0						
STAL	**STALIGIAL**	**0.70**	**270**	Pg	**Pg**	**23 58 45.9**	**-1.1**
STAL	**STALIGIAL**	**0.70**	**270**	Pg	**Pg**	**23 58 45.9**	**-1.1**
VNDS	**Vrh nad Dolski**	**0.70**	**103**	*i* Pg	**Pg**	**23 58 47.2**	**+0.2**
VNDS				*e*Sg	**Sb**	**23 58 57.3**	**-0.6**
	comp=Z,9.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.70**	**103**	*i* Pg	**Pg**	**23 58 47.2**	**+0.2**
VNDS				*e*Sg	**Sb**	**23 58 57.3**	**-0.6**
	comp=Z,9.0nm,0.1s						
CEY	**Cerknica**	**0.72**	**136**	*e*Pg	**Pg**	**23 58 46.8**	**-0.5**
CEY				*i* Sg	**Sb**	**23 58 57.9**	**-0.5**
	comp=Z,27nm,0.2s						
CEY	**Cerknica**	**0.72**	**136**	*e*Pg	**Pg**	**23 58 46.8**	**-0.5**
CEY				*i* Sg	**Sb**	**23 58 57.9**	**-0.5**
	comp=Z,27nm,0.2s						
FVI	**Forni Avoltri**	**0.73**	**298**	Pg	**Pg**	**23 58 47.2**	**-0.4**
	comp=Z,30nm,0.4s						
KBA	**Koelnbreinsper**	**0.86**	**343**	Sg	**Sg**	**23 59 01.5**	**+0.3**
	comp=Z,2.2nm,0.1s						
KBA	**Koelnbreinsper**	**0.86**	**343**	*e*Sg	**Sg**	**23 59 01.5**	**+0.3**
	comp=Z,2.2nm,0.1s						
VISS	**Visnje**	**0.90**	**120**	*i* Pg	**Pg**	**23 58 50.5**	**-0.3**
	comp=Z,14nm,0.2s						
VISS	**Visnje**	**0.90**	**120**	*i* Pg	**Pg**	**23 58 50.5**	**-0.3**
	comp=Z,14nm,0.2s						
PDKS	**Podkum**	**0.91**	**102**	*i* Pg	**Pg**	**23 58 51.0**	**0.0**
	comp=Z,10.0nm,0.1s						
PDKS	**Podkum**	**0.91**	**102**	*i* Pg	**Pg**	**23 58 51.0**	**0.0**
	comp=Z,10.0nm,0.1s						
ABTA	**Abfaltersbach**	**0.97**	**301**	Pg	**Pg**	**23 58 51.9**	**-0.2**
	comp=Z,0.4nm,0.1s,SNR=5.7						
ABTA	**Abfaltersbach**	**0.97**	**301**	*e*Pg	**Pg**	**23 58 51.9**	**-0.2**
	comp=Z,0.4nm,0.1s,SNR=5.7						
ABTA				*e*Sg	**Sb**	**23 59 05.6**	**-0.1**
	comp=Z,9.5nm,0.3s,SNR=6.7						
SOKA	**Soboth**	**1.00**	**65**	Pg	**Pg**	**23 58 52.8**	**+0.1**
	comp=Z,5.5nm,0.2s						
SOKA				Sg	**Sg**	**23 59 05.5**	**-0.2**
	comp=Z,2.8nm,0.2s						
SOKA	**Soboth**	**1.00**	**65**	*e*Pg	**Pg**	**23 58 52.8**	**+0.1**
	comp=Z,5.5nm,0.2s						
SOKA				*e*Sg	**Sg**	**23 59 05.5**	**-0.2**
	comp=Z,2.8nm,0.2s						
LEGS	**Legarje**	**1.15**	**105**	*i* Pg	**Pg**	**23 58 55.5**	**-0.1**
LEGS	**Legarje**	**1.15**	**105**	*i* Pg	**Pg**	**23 58 55.5**	**-0.1**
VARN	**Col Varnada, M**	**1.15**	**257**	*e*Pg	**Pn**	**23 58 56.6**	**+0.4**
VARN	**Col Varnada, M**	**1.15**	**257**	*e*Pg	**Pg**	**23 58 56.6**	**+0.4**
DOBS	**Dobrina**	**1.22**	**95**	*e*Pg	**Pg**	**23 58 56.5**	**-0.4**
DOBS	**Dobrina**	**1.22**	**95**	*e*Pg	**Pg**	**23 58 56.5**	**-0.4**
BOJS	**Bojanci**	**1.31**	**125**	*i* Pg	**Pn**	**23 58 58.3**	**0.0**
BOJS	**Bojanci**	**1.31**	**125**	*i* Pg	**Pn**	**23 58 58.3**	**0.0**
OZLJ	**Ozalj**	**1.38**	**117**	*i* Pn	**Pg**	**23 59 00.2**	**+0.3**
OZLJ				Sn	**Sg**	**23 59 18.9**	**+1.1**
OZLJ	**Ozalj**	**1.38**	**117**	*i* Pn	**Pg**	**23 59 00.2**	**+0.3**
OZLJ				Sn	**Sg**	**23 59 18.9**	**+1.1**
CGRP	**Cima Grappa**	**1.39**	**255**	*e*Pg	**Pg**	**23 59 00.3**	**+0.2**
CGRP	**Cima Grappa**	**1.39**	**255**	*e*Pg	**Pg**	**23 59 00.3**	**+0.2**
ARSA	**Arzberg**	**1.59**	**51**	Pg	**Pb**	**23 59 03.2**	**-0.1**
	comp=Z,0.9nm,0.2s						
ARSA				Sn	**Sb**	**23 59 23.5**	**0.0**
	comp=Z,8.3nm,0.5s,SNR=6.6						
ARSA	**Arzber

MMPH	**Masbate**	**0.05**	**229**	⇓*i*P	Pg	00 17 19.3	+0.6
MMPH				*i* S	Sg	00 17 20.9	+1.0
CNP	**Catarman**	**0.98**	**83**	*e*P	Pg	00 17 36.1	+0.2
CNP				*e*S	Sn	00 17 50.9	-0.4
RCP	**Roxas**	**1.22**	**228**⇑	*e*P	Pg	00 17 40.7	+0.3
RCP				*e*S	Sn	00 17 56.9	-0.2
LLP	**Lapu-Lapu**	**2.08**	**172**	*e*P	Pn	00 17 52.7	+0.5
LLP				*e*S	Sn	00 18 19.4	+1.0

MAN 11 00:22:34,15°22N×121°87E,h66km,mb4.2,ML3.0,MS2.7, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.59**	**331**	*e*P	Pn	00 22 49.0	+1.5
BALP				*e*S	Sn	00 23 01.0	+3.7
GQP	**Guinayangan**	**1.42**	**157**⇓	*i*P	Pn	00 22 59.0	+1.2
GQP				*i* S	Sn	00 23 17.0	+1.4
CAUP	**Cauayan**	**1.72**	**358**	*e*P	Pn	00 23 02.6	+0.8
CAUP				*e*S	Sn	00 23 24.2	+1.4
BOAC	**Boac**	**1.75**	**181**	*e*P	Pn	00 23 08.9	+6.7
APYP	**Conner**	**2.70**	**347**	*e*P	Pn	00 23 16.7	+1.6
APYP				*e*S	Sn	00 23 47.6	+1.0
PVCP	**Virac**	**2.73**	**126**	*e*P	Pn	00 23 12.1	-3.4

MEX 11 00:31:22.2±0.4,14°95N×93°18W,h56km±13km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.75**	**357**	*e*P	Pn	00 31 35.4	-1.5
PCIG				*e*S	Sn	00 31 45.6	-1.9
CCIG	**Comitan**	**1.66**	**37**	*e*P	Pn	00 31 48.0	-1.1
CCIG				*i* S	Sn	00 32 07.3	-2.2
TGIG		**1.82**	**2**	*e*P	Pn	00 31 49.1	-2.0
TGIG				*i* S	Sn	00 32 11.1	-2.0

*ISK **11** 00:32:52.6,38°67N×37°39E,h5km,MD2.5/2*
*CSEM **11** 00:32:53.6±0.2,38°62N×37°36E,h10km,ML2.1, Error ellipse: s-maj=5.1km s-min=4.0km az=140.0*
*ISCJB **11** 00:32:54.0±0.5,38°61N±0°03×37°38E±0°04,h10km±4km, Error ellipse: s-maj=5.8km s-min=5.1km az=158.8*
*DDA **11** 00:32:54.3,38°63N×37°38E,h7km,Ml2.1*
ISC 11 00:32:53.5±0.8,38°60N±0°03×37°37E±0°03,h11km±5km, n20,σ0°51/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.10**	**107**	PG	**Pg**	**00 32 56.1**	**-0.3**
DARE				SG	**Sg**	**00 32 57.8**	**-0.7**
DARE	**Darende-Malaty**	**0.10**	**107**	*e*Pg	**Pg**	**00 32 56.1**	**-0.3**
DARE				*e*Sg	**Sg**	**00 32 57.8**	**-0.7**
CUGUR	**Gurin_S¨VAS**	**0.14**	**329**	*i* P	**Pg**	**00 32 57.2**	**+0.1**
CUGUR				*i* S	**Sg**	**00 32 59.8**	**+0.2**
CUGUR	**Gurin_S¨VAS**	**0.14**	**329**	P	**Pg**	**00 32 57.2**	**+0.1**
CUGUR				S	**Sg**	**00 32 59.8**	**+0.2**
ELBS	**KAHRAMANMARAS**	**0.33**	**214**	*i* P	**Pb**	**00 33 01.6**	**+0.1**
ELBS				*i* S	**Sb**	**00 33 07.3**	**+0.5**
ELBS	**KAHRAMANMARAS**	**0.33**	**214**	P	**Pb**	**00 33 01.6**	**+0.1**
ELBS				S	**Sb**	**00 33 07.3**	**+0.5**
HEKM	**Malatya_Hekimh**	**0.54**	**59**	*i* P	**Pg**	**00 33 04.2**	**0.0**
HEKM				*i* S	**Sb**	**00 33 12.8**	**-0.1**
HEKM	**Malatya_Hekimh**	**0.54**	**59**	P	**Pg**	**00 33 04.2**	**0.0**
HEKM				S	**Sb**	**00 33 12.9**	**-0.1**
CUKAN	**kangal_SIVAS**	**0.72**	**6**	*i* P	**Pg**	**00 33 07.3**	**-0.2**
CUKAN				*i* S	**Sb**	**00 33 17.8**	**-0.3**
CUKAN	**kangal_SIVAS**	**0.72**	**6**	P	**Pg**	**00 33 07.3**	**-0.2**
CUKAN				S	**Sb**	**00 33 17.8**	**-0.3**
MALT	**Malatya**	**0.88**	**109**	PG	**Pg**	**00 33 10.1**	**-0.5**
MALT				SG	**Sb**	**00 33 22.7**	**0.0**
MALT	**Malatya**	**0.88**	**109**	*e*Pg	**Pg**	**00 33 10.1**	**-0.5**
MALT				*e*Sg	**Sb**	**00 33 22.7**	**0.0**
KEMA	**Kemaliye**	**1.10**	**52**	*i* P	**Pn**	**00 33 15.4**	**+0.4**
KEMA				*i* S	**Sn**	**00 33 29.8**	**-0.5**
KEMA	**Kemaliye**	**1.10**	**52**	P	**Pn**	**00 33 15.4**	**+0.4**
KEMA				S	**Sn**	**00 33 29.8**	**-0.5**
KMRS	**Kahramanmaras**	**1.15**	**199**	PN	**Pb**	**00 33 16.5**	**+1.0**
KMRS	**Kahramanmaras**	**1.15**	**199**	*e*Pn	**Pb**	**00 33 16.5**	**+1.0**
BNN	**Bunyan**	**1.22**	**282**	PN	**Pg**	**00 33 15.8**	**-1.1**
BNN	**Bunyan**	**1.22**	**282**	*e*Pn	**Pg**	**00 33 15.8**	**-1.1**
PTK	**Pertek**	**1.61**	**79**	PN	**Pn**	**00 33 22.3**	**+0.2**
PTK	**Pertek**	**1.61**	**79**	*e*Pn	**Pn**	**00 33 22.3**	**+0.2**

MAN 11 00:37:11,10°28N×123°26E,h19km,mb4.1,ML2.9,MS2.6, 1C-1D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.70**	**87**⇓	*i*P	Pg	00 37 25.1	+0.3
LLP				*e*S	Sn	00 37 35.9	-0.3
GUIM	**Jordan**	**0.74**	**298**	*e*P	Pg	00 37 25.8	+0.3
GUIM				*e*S	Sn	00 37 37.9	+0.8
TBP	**Tagbilaran**	**0.84**	**134**	*e*P	Pb	00 37 25.9	-1.0
TBP				*i* S	Sn	00 37 40.8	+1.2
SNPH	**Sibulan**	**0.93**	**181**⇑	*i*P	Pb	00 37 28.5	-0.1
SNPH				*i* S	Sb	00 37 40.0	-0.7
MSLP	**Maasin**	**1.59**	**95**	*e*P	Pb	00 37 40.5	+0.8
MSLP				*e*S	Sg	00 38 03.8	+1.5

*ISCJB **11** 00:50:25.0±0.5,67°19N±0°02×20°70E±0°08,h0km,Error ellipse: s-maj=4.5km s-min=3.5km az=172.4*
*CSEM **11** 00:50:25.5±0.2,67°17N×20°62E,h2km,ML1.8,Error ellipse: s-maj=5.8km s-min=3.1km az=62.0,Mining explosion.*
*UPP **11** 00:50:25.7,67°18N×20°65E,h0km,ML2.6,Suspected Mining explosion.*
*HEL **11** 00:50:26.3±0.1,67°17N×20°65E,h0km,ML1.8, ML2.6(UPP),Explosion*
ISC 11 00:50:26.3±0.8,67°17N±0°02×20°68E±0°03,h0km,n45, σ1°02/61,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**221**	P	**Pg**	**00 50 27.3**	**-0.2**
DUNU				S	**Sg**	**00 50 28.5**	**+0.2**
DUNU	**Dundret**	**0.07**	**221**	P	**Pg**	**00 50 27.3**	**-0.2**
DUNU				S	**Sg**	**00 50 28.5**	**+0.2**
DUNU	**Dundret**	**0.07**	**221**	*i* P	**Pg**	**00 50 27.3**	**-0.2**
DUNU				*i* S	**Sg**	**00 50 28.5**	**+0.2**
MASU	**Masugnsbyn**	**0.59**	**60**	P	**Pg**	**00 50 37.1**	**-0.4**
MASU	**Masugnsbyn**	**0.59**	**60**	P	**Pg**	**00 50 37.1**	**-0.4**
MASU	**Masugnsbyn**	**0.59**	**60**	*i* P	**Pg**	**00 50 37.1**	**-0.4**
RATU	**Laukkuluspa**	**0.78**	**328**	P	**Pg**	**00 50 40.0**	**-1.1**
RATU	**Laukkuluspa**	**0.78**	**328**	P	**Pg**	**00 50 40.0**	**-1.1**
RATU	**Laukkuluspa**	**0.78**	**328**	*i* P	**Pg**	**00 50 40.0**	**-1.1**
KUA	**Kurravaara**	**0.80**	**351**	P	**Pg**	**00 50 40.4**	**-1.1**
KUA	**Kurravaara**	**0.80**	**351**	P	**Pg**	**00 50 40.4**	**-1.1**
KUA	**Kurravaara**	**0.80**	**351**	*i* P	**Pg**	**00 50 40.4**	**-1.1**
ERTU	**Ertsjaerv**	**0.86**	**135**	P	**Pg**	**00 50 41.7**	**-1.0**
ERTU				Sb	**Sg**	**00 50 54.0**	**+0.2**
ERTU	**Ertsjaerv**	**0.86**	**135**	P	**Pg**	**00 50 41.7**	**-1.0**
ERTU	**Ertsjaerv**	**0.86**	**135**	*e*P	**Pg**	**00 50 41.4**	**-1.3**
ERTU				*e*SB	**Sg**	**00 50 54.0**	**+0.2**
NIKU	**Nikkaluokta**	**0.94**	**319**	P	**Pg**	**00 50 43.1**	**-1.2**
NIKU	**Nikkaluokta**	**0.94**	**319**	P	**Pg**	**00 50 43.1**	**-1.2**
NIKU	**Nikkaluokta**	**0.94**	**319**	*e*P	**Pg**	**00 50 43.1**	**-1.2**
PAJU	**Pajala**	**0.96**	**98**	P	**Pg**	**00 50 43.8**	**-0.9**
PAJU	**Pajala**	**0.96**	**98**	P	**Pg**	**00 50 43.8**	**-0.9**
PAJU	**Pajala**	**0.96**	**98**	*e*P	**Pg**	**00 50 43.8**	**-0.9**
LANU	**Lannavaara**	**1.01**	**29**	P	**Pg**	**00 50 44.5**	**-1.2**
LANU	**Lannavaara**	**1.01**	**29**	Pb	**Pg**	**00 50 45.6**	**0.0**
LANU	**Lannavaara**	**1.01**	**29**	P	**Pg**	**00 50 44.5**	**-1.2**
LANU	**Lannavaara** baz=218	**1.01**	**29**	*e*PB	**Pg**	**00 50 45.7**	**0.0**
HEF	**Hetta**	**1.68**	**41**	P	**Pn**	**00 50 55.9**	**-1.0**
HEF				Sn	**Sg**	**00 51 19.8**	**-0.4**
HEF	**Hetta**	**1.68**	**41**	*e*P	**Pn**	**00 50 56.0**	**-1.0**
HEF	comp=Z,6.8nm,0.2s			MSG		00 51 16.8	
HEF				*e*SN	**Sg**	**00 51 19.8**	**-0.4**
KALU	**Kalix**	**1.70**	**140**	P	**Pn**	**00 50 56.7**	**-0.4**
KALU				Sn	**Sb**	**00 51 20.0**	**-0.2**
KALU	**Kalix**	**1.70**	**140**	P	**Pn**	**00 50 56.7**	**-0.4**
KALU	**Kalix**	**1.70**	**140**	*e*P	**Pn**	**00 50 56.7**	**-0.4**
KALU				*e*SN	**Sb**	**00 51 20.0**	**-0.2**
TOF	**Tornio**	**1.82**	**125**	P	**Pn**	**00 50 58.7**	**-0.1**
TOF				Sn	**Sb**	**00 51 23.0**	**-0.7**
TOF	**Tornio** baz=306	**1.82**	**125**	*e*P	**Pn**	**00 50 58.7**	**-0.1**
TOF	comp=Z,7.9nm,0.2s			MSG		00 51 21.2	
TOF				*e*SN	**Sb**	**00 51 23.0**	**-0.7**
KIF	**Kilpisjarvi**	**1.84**	**1**	P	**Pn**	**00 50 59.2**	**+0.1**
KIF				Sg	**Sg**	**00 51 25.5**	**+0.1**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	**Pn**	**00 50 59.2**	**+0.1**
KIF	comp=Z,5.4nm,0.2s			MSG		00 51 21.5	
KIF				*e*SG	**Sg**	**00 51 25.5**	**+0.1**
SGF	**Sodankyl**	**2.28**	**80**	*e*PB	**Pn**	**00 51 06.3**	**+1.2**
SGF				*e*SB	**Sb**	**00 51 36.0**	**-1.0**
BURU	**Burvik**	**2.62**	**173**	Sg	**Sg**	**00 51 48.4**	**-1.7**
BURU	**Burvik**	**2.62**	**173**	*e*PB	**Pn**	**00 51 11.1**	**+1.5**
BURU				*e*SG	**Sg**	**00 51 48.4**	**-1.7**
ARE0	**ARCESS Array S**	**2.97**	**35**	P	**Pn**	**00 51 14.6**	**0.0**
ARE0	**ARCESS Array S**	**2.97**	**35**	*e*P	**Pn**	**00 51 14.6**	**0.0**
ARE0				*e*SB	**Sn**	**00 51 53.1**	**+2.2**
OUL	**Oulu**	**2.98**	**132**	*e*PB	**Pn**	**00 51 16.8**	**+2.1**
OUF	**Merijarvi**	**3.27**	**147**	*e*PG	**Pb**	**00 51 26.3**	**+1.2**
VRF	**Varrio**	**3.49**	**76**	*e*SG	**Sb**	**00 52 12.9**	**+1.3**
KU6	**Riekki**	**3.85**	**103**	S	**Sn**	**00 52 12.9**	**+0.4**
KU6	**Riekki**	**3.85**	**103**	*e*S	**Sn**	**00 52 12.9**	**+0.4**
VAF	**Ylistaro**	**4.23**	**168**	*e*SG	**Sg**	**00 52 38.6**	**-3.4**

*ISCJB **11** 01:17:08.0±0.5,67°82N±0°03×20°28E±0°09,h0km,Error ellipse: s-maj=4.9km s-min=3.8km az=172.3*
*CSEM **11** 01:17:08.2±0.2,67°82N×20°28E,h2km,ML2.4,Error ellipse: s-maj=4.1km s-min=3.6km az=50.0,Mining explosion.*
*UPP **11** 01:17:08.8,67°85N×20°20E,h0km,ML2.4,Mining explosion.*
*HEL **11** 01:17:09.3±0.1,67°84N×20°21E,h0km,ML1.6, ML2.4(UPP),Explosion*
ISC 11 01:17:08.5±0.9,67°84N±0°02×20°26E±0°03,h0km,n34, σ0°69/51,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**15**	P	**Pg**	**01 17 11.3**	**+0.5**
KUA				S	**Sg**	**01 17 12.9**	**+0.5**
KUA	**Kurravaara**	**0.12**	**15**	P	**Pg**	**01 17 11.3**	**+0.5**
KUA				S	**Sg**	**01 17 12.9**	**+0.5**
KUA	**Kurravaara**	**0.12**	**15**	*i* P	**Pg**	**01 17 11.3**	**+0.5**
KUA				*i* S	**Sg**	**01 17 12.9**	**+0.5**
RATU	**Laukkuluspa**	**0.25**	**267**	P	**Pg**	**01 17 13.4**	**+0.1**
RATU	**Laukkuluspa**	**0.25**	**267**	P	**Pg**	**01 17 13.4**	**+0.1**
RATU	**Laukkuluspa**	**0.25**	**267**	*i* P	**Pg**	**01 17 13.4**	**+0.1**
NIKU	**Nikkaluokta**	**0.46**	**274**	P	**Pg**	**01 17 17.3**	**-0.1**
NIKU	**Nikkaluokta**	**0.46**	**274**	P	**Pg**	**01 17 17.4**	**-0.1**
NIKU	**Nikkaluokta**	**0.46**	**274**	*i* P	**Pg**	**01 17 17.4**	**-0.1**
LANU	**Lannavaara**	**0.69**	**71**	P	**Pg**	**01 17 22.0**	**+0.4**
LANU				S	**Sg**	**01 17 31.2**	**+0.6**
LANU	**Lannavaara**	**0.69**	**71**	P	**Pg**	**01 17 22.1**	**+0.4**
LANU	**Lannavaara** baz=250	**0.69**	**71**	*e*P	**Pg**	**01 17 22.1**	**+0.4**
LANU				*e*S	**Sg**	**01 17 31.2**	**+0.6**
DUNU	**Dundret**	**0.73**	**170**	P	**Pg**	**01 17 22.6**	**+0.1**
DUNU	**Dundret**	**0.73**	**170**	P	**Pg**	**01 17 22.7**	**+0.1**
DUNU	**Dundret**	**0.73**	**170**	*i* P	**Pg**	**01 17 22.7**	**+0.1**
MASU	**Masugnsbyn**	**0.77**	**119**	P	**Pg**	**01 17 23.7**	**+0.5**
MASU	**Masugnsbyn**	**0.77**	**119**	P	**Pg**	**01 17 23.7**	**+0.5**
MASU	**Masugnsbyn**	**0.77**	**119**	*i* P	**Pg**	**01 17 23.7**	**+0.5**
KIF	**Kilpisjarvi**	**1.19**	**10**	Pb	**Pg**	**01 17 31.4**	**+0.2**
KIF				S	**Sg**	**01 17 47.0**	**+0.4**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PB	**Pg**	**01 17 31.5**	**+0.2**
KIF	comp=Z,5.9nm,0.2s			MSG		01 17 46.7	
KIF				*e*S	**Sg**	**01 17 47.0**	**+0.4**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**01 17 34.2**	**-0.6**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**01 17 34.2**	**-0.6**
PAJU	**Pajala**	**1.37**	**125**	*e*P	**Pg**	**01 17 34.2**	**-0.6**
HEF	**Hetta**	**1.40**	**64**	Pg	**Pn**	**01 17 34.7**	**-0.5**
HEF				Sb	**Sg**	**01 17 52.8**	**-0.5**
HEF	**Hetta** baz=252	**1.40**	**64**	*e*PG	**Pn**	**01 17 34.8**	**-0.5**
HEF	comp=Z,4.4nm,0.2s			MSG		01 17 52.1	
HEF				*e*SB	**Sg**	**01 17 52.9**	**-0.5**
ERTU	**Ertsjaerv**	**1.50**	**149**	P	**Pn**	**01 17 36.2**	**-0.4**
ERTU				Sn	**Sg**	**01 17 57.1**	**+0.6**
ERTU	**Ertsjaerv**	**1.50**	**149**	P	**Pn**	**01 17 36.2**	**-0.4**
ERTU	**Ertsjaerv**	**1.50**	**149**	*e*PG	**Pn**	**01 17 36.2**	**-0.4**
ERTU				*e*SN	**Sg**	**01 17 57.1**	**+0.6**
KALU	**Kalix**	**2.34**	**147**	Pb	**Pn**	**01 17 49.6**	**+1.5**
KALU				Sb	**Sb**	**01 18 20.1**	**-0.6**
KALU	**Kalix**	**2.34**	**147**	*e*PB	**Pn**	**01 17 49.6**	**+1.5**
KALU				*e*SB	**Sb**	**01 18 20.2**	**-0.6**
TOF	**Tornio**	**2.38**	**136**	Pb	**Pn**	**01 17 50.6**	**+1.8**
TOF				Sg	**Sb**	**01 18 22.4**	**+0.2**
TOF	**Tornio**	**2.38**	**136**	*e*PB	**Pn**	**01 17 50.7**	**+1.8**
TOF	comp=Z,2.3nm,0.2s			MSG		01 18 19.3	
TOF				*e*SG	**Sb**	**01 18 22.4**	**+0.2**
SGF	**Sodankyl**	**2.43**	**97**	Pb	**Pb**	**01 17 52.4**	**-0.6**
SGF				Sb	**Sb**	**01 18 22.5**	**-1.0**
SGF	**Sodankyl**	**2.43**	**97**	*e*PB	**Pb**	**01 17 52.4**	**-0.6**
SGF				*e*SB	**Sb**	**01 18 22.5**	**-1.0**

TRN 11 01:33:54.9,10°94N×62°47W,h9km,MD3.8,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.09**	**105**	*e*P	Pn	01 34 17.4	+0.9
TRN				*e*S	Sn	01 34 31.5	-0.1
GRGR	**Grenville**	**1.43**	**34**	*e*P	Pn	01 34 20.9	-0.2
GRGR				*e*S	Sb	01 34 40.4	+0.2
TBH	**Brigand Hill**	**1.46**	**108**	*e*P	Pb	01 34 21.9	-0.3
TBH				*e*S	Sg	01 34 41.9	+0.2
GRHS	**Sauteurs**	**1.52**	**32**	*e*P	Pb	01 34 23.1	-0.2
GRHS				*e*S	Sb	01 34 42.7	+0.1
GRSS	**Sisters**	**1.59**	**32**	*e*P	Pb	01 34 24.0	-0.6
GRSS				*e*S	Sg	01 34 45.6	-0.6
BOT	**Bacolet**	**1.74**	**82**	*e*P	Pn	01 34 25.1	-0.3
BOT				*e*S	Sn	01 34 47.6	0.0
TOSP	**Speyside**	**1.94**	**79**	*e*P	Pn	01 34 29.3	+0.3
TOSP				*e*S	Sn	01 34 50.5	-2.0
SVB	**Belmont**	**2.61**	**27**	*e*P	Pn	01 34 37.7	+0.3
SVB				*e*S	Sn	01 35 09.2	0.0
SSV	**Crater Summit**	**2.69**	**28**	*e*P	Pn	01 34 39.6	+1.2
MCLT	**Moule a Chique**	**3.14**	**28**	*e*P	Pn	01 34 44.3	-0.3
MCLT				*e*S	Sn	01 35 22.6	+0.4
SLB	**Belfond**	**3.19**	**26**	*e*P	Pn	01 34 45.9	+0.5
BBGH	**Gun Hill**	**3.60**	**52**	*e*P	Pn	01 34 50.4	-0.6

*VIE **11** 01:45:25.5±1.6,51°64N×16°21E,h0km,mb2.1/2,ML2.4/4, Error ellipse: s-maj=14.8km s-min=7.8km az=17.0, Suspected Mining induced.*
*ISCJB **11** 01:45:27.2±0.8,51°43N±0°04×16°08E±0°04,h0km,Error ellipse: s-maj=5.4km s-min=3.2km az=20.4*
*CSEM **11** 01:45:27.9±0.6,51°45N×16°10E,h2km,ML2.9/9,Error ellipse: s-maj=8.7km s-min=5.3km az=19.0*
*PRU **11** 01:45:28.7,51°44N×16°13E,h0km*
ISC 11 01:45:29.7±1.1,51°40N±0°05×16°00E±0°03,h0km,n29, σ1°20/57,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**161**	*i* Pg	**Pg**	**01 45 40.2**	**-0.7**
KSP				*e*Sg	**Sg**	**01 45 48.6**	**+0.1**
UPC	**Upice**	**0.89**	**179**	*e*PG	**Pg**	**01 45 46.3**	**-0.4**
UPC				*e*SG	**Sg**	**01 45 59.1**	**+0.8**
UPC	**Upice** comp=Z,24nm,0.3s	**0.89**	**179**	Pg	**Pg**	**01 45 46.3**	**-0.4**
UPC				Sg	**Sg**	**01 45 59.1**	**+0.8**
DPC	**Dobruska-Polom** 24nm,0.3s	**1.07**	**169**	*e*PG	**Pg**	**01 45 49.0**	**-1.1**
DPC				*e*SG	**Sg**	**01 46 03.7**	**-0.3**
DPC	**Dobruska-Polom** 6.6nm,0.3s	**1.07**	**169**	Pg	**Pg**	**01 45 49.0**	**-1.1**
DPC				Sg	**Sg**	**01 46 03.7**	**-0.3**
PVCC	**Panska Ves**	**1.25**	**227**	*e*PG	**Pn**	**01 45 53.9**	**-0.5**
PVCC	comp=Z,32nm,0.2s			*e*SG	**Sn**	**01 46 12.8**	**+0.8**
PVCC	**Panska Ves**	**1.25**	**227**	Pg	**Pn**	**01 45 53.9**	**-0.5**
PVCC	32nm,0.2s			Sg	**Sn**	**01 46 12.8**	**+0.8**
BRG	**Berggiesshubel**	**1.40**	**249**	PG	**Pg**	**01 45 55.9**	**-0.5**
BRG	12nm,0.4s			SG	**Sn**	**01 46 16.0**	**+0.4**
GOPC	**GO Pecny, Ondr**	**1.67**	**208**	*e*PG	**Pb**	**01 46 00.6**	**-0.7**
GOPC				*e*SG	**Sg**	**01 46 24.1**	**+0.7**
GOPC	**GO Pecny, Ondr**	**1.67**	**208**	Pg	**Pb**	**01 46 00.6**	**-0.7**
GOPC				Sg	**Sg**	**01 46 24.1**	**+0.7**
PRU	**Pruhonice**	**1.69**	**214**	*e*PN	**Pn**	**01 45 59.6**	**-0.8**
PRU				*e*PG	**Pb**	**01 46 01.0**	**-0.6**
PRU	comp=Z,5.9nm,0.3s			*e*SG	**Sg**	**01 46 25.9**	**+2.1**
PRU	**Pruhonice**	**1.69**	**214**	Pn	**Pn**	**01 45 59.6**	**-0.8**
CLL	**Collm**	**1.88**	**268**	*e*Pn	**Pn**	**01 46 02.0**	**-1.0**
CLL				*e*Pg	**Pg**	**01 46 05.0**	**-0.7**
CLL	comp=Z,5.0nm,0.5s			*e*Sg	**Sg**	**01 46 31.0**	**+1.0**
MORC	**Moravsky Berou**	**1.90**	**148**	*e*Sg	**Sb**	**01 46 28.5**	**-1.0**
OKC	**Ostrava-Krasne**	**2.08**	**138**	*e*PG	**Pb**	**01 46 07.2**	**-1.0**
OKC				*e*SG	**Sb**	**01 46 32.9**	**-1.6**
OKC	**Ostrava-Krasne** comp=Z,8.1nm,0.5s	**2.08**	**138**	Pg	**Pb**	**01 46 07.2**	**-1.0**
OKC				Sg	**Sb**	**01 46 32.9**	**-1.6**
VRAC	**Vranov** comp=Z,8.1nm,0.5s	**2.13**	**169**	*e*Pn	**Pn**	**01 46 05.8**	**-0.6**
VRAC				*e*Sg	**Sg**	**01 46 37.9**	**0.0**
TREC	**Trest** comp=Z,5.5nm,0.2s	**2.13**	**189**	*e*SG	**Sg**	**01 46 38.2**	**+0.1**
TREC	**Trest** comp=Z,5.5nm,0.2s	**2.13**	**189**	Sg	**Sg**	**01 46 38.2**	**+0.1**
NKC	**Novy Kostel**	**2.54**	**244**	*e*PN	**Pn**	**01 46 11.4**	**-0.7**
NKC				*e*PG	**Pg**	**01 46 17.7**	**-0.5**
NKC	comp=Z,6.9nm,0.3s			*e*SG	**Sg**	**01 46 53.2**	**+2.1**
NKC	**Novy Kostel**	**2.54**	**244**	Pn	**Pn**	**01 46 11.4**	**-0.7**
KHC	**Kasperske Hory**	**2.75**	**215**	*e*PN	**Pn**	**01 46 14.5**	**-0.5**
KHC				*e*PG	**Pb**	**01 46 20.3**	**+0.6**
KHC				*e*SN	**Sn**	**01 46 48.9**	**-0.1**
KHC	comp=Z,2.5nm,0.3s			*e*SG	**Sg**	**01 46 57.5**	**-0.4**
KHC	**Kasperske Hory**	**2.75**	**215**	Pn	**Pn**	**01 46 14.5**	**-0.5**
CONA	**Conrad Observa** comp=Z,0.3nm,0.2s	**3.48**	**181**	Pn	**Pn**	**01 46 25.5**	**+0.5**
CONA	comp=Z,2.5nm,0.4s			Sn	**Sn**	**01 47 08.3**	**+1.4**
CONA	**Conrad Observa** comp=Z,0.3nm,0.2s	**3.48**	**181**	*e*Pn	**Pn**	**01 46 25.5**	**+0.5**
CONA	comp=Z,2.5nm,0.4s			*e*Sn	**Sn**	**01 47 08.3**	**+1.4**
MOA	**Molln** comp=Z,0.2nm,0.1s	**3.73**	**198**	Pn	**Pn**	**01 46 28.1**	**-0.3**
MOA	comp=Z,1.3nm,0.3s			Sn	**Sn**	**01 47 17.2**	**+4.2**
MOA	**Molln** comp=Z,0.2nm,0.1s	**3.73**	**198**	*e*Pn	**Pn**	**01 46 28.1**	**-0.3**
MOA	comp=Z,1.3nm,0.3s			Sn	**Sn**	**01 47 17.2**	**+4.2**
STHS	**Stebnicka Huta**	**3.90**	**119**	*e*Pg	**Pg**	**01 46 45.7**	**+1.4**
STHS				*e*Sg	**Sg**	**01 47 35.5**	**+0.7**
STHS	**Stebnicka Huta**	**3.90**	**119**	*e*PG	**Pg**	**01 46 45.7**	**+1.4**
STHS				*e*SG	**Sg**	**01 47 35.5**	**+0.7**

IDC 11 01:58:49.5±4.3,17°61S×176°98W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.8/44,mbtmp4.0/4,Error ellipse: s-maj=183.0km s-min=35.0km az=139.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.7nm,0.6s,baz=90,slow=7.1,SNR=4.4	**39.97**	**241**	P	P	02 06 26.9	+0.9
WRA	**Warramunga Arr** 3.1nm,0.4s,baz=97,slow=7.2,SNR=73	**46.03**	**259**	P	P	02 07 14.9	-0.4
ASAR	**Alice Springs** 3.8nm,0.7s,baz=90,slow=7.9,SNR=68	**46.19**	**254**	P	P	02 07 15.8	-0.7
ILAR	**Eielson Array** 0.2nm,0.5s,baz=216,slow=5.5,SNR=4.9	**85.29**	**12**	P	P	02 11 27.9	0.0

*SJA **11** 02:04:53.4±0.8,27°66S×67°50W,h158km±9km,ML3.3, MW3.6*
*ISCJB **11** 02:04:54.2±0.4,27°65S±0°04×67°55W±0°04,h137km, mb4.0/3,Error ellipse: s-maj=6.4km s-min=4.6km az=153.7*
*GUC **11** 02:04:54.2±0.8,27°67S×67°63W,h155km±7km,ML3.9*
*IDC **11** 02:05:03.7±8.2,27°11S×66°88W,h181km±49km,mb3.8/3, mb1 3.4/6,mb1mx3.2/38,mbtmp3.9/6,Error ellipse: s-maj=96.9km s-min=33.0km az=37.0*
ISC 11 02:04:54.8±0.8,27°64S±0°05×67°55W±0°05,h137km,n20, σ0°95/28,mb4.1/3,5C-1D,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**1.23**	**208**	*i* P	**Pn**	**02 05 22.2**	**+1.3**
VCA	comp=Z,1μm,0.3s			IAML		02 05 22.5	
VCA				*i* S	**Sn**	**02 05 42.9**	**+2.2**
VCA	**Vinchina**	**1.23**	**208**⇑	*i*P	**Pn**	**02 05 22.1**	**+1.3**
VCA				*i* S	**Sn**	**02 05 42.5**	**+1.9**
VCA	comp=E,1μ

ϕ_e4.00000°, δ50.00000°, λ-105.00000°. NP2:ϕ_e206.00000°, δ42.00000°, λ-73.00000°. Principal axes: T Plg4.0000°, Azm104.0000°; N Plg11.0000°, Azm13.0000°; P Plg78.0000°, Azm214.0000°;
JMA Felt I J1.

ISC 11 02:14:17.0±1.0, 36°.94N±0°.04×140°.66E±0°.06, h13km±7km, n20, σ0s64/21, mb3.7/5, 4C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.20**	**34**	⇓P	**Pg**	**02 14 21.7**	**+0.2**
ONAJ				S	**Sg**	**02 14 24.7**	**+0.1**
JHO	**Hitachi**	**0.33**	**193**	⇓P	**Pg**	**02 14 23.8**	**+0.1**
JHO				eS	**Sg**	**02 14 28.2**	**-0.1**
JFK	**Kawauchi**	**0.46**	**22**	⇑P	**Pg**	**02 14 26.3**	**+0.1**
JSB	**Shiboa**	**0.59**	**273**	⇑P	**Pb**	**02 14 29.5**	**+0.3**
JSB				S	**Sb**	**02 14 37.9**	**+0.4**
JFT	**Otama**	**0.64**	**336**	⇑P	**Pb**	**02 14 29.8**	**-0.1**
JFT				S	**Sb**	**02 14 38.7**	**0.0**
JFY	**Yanaizu**	**0.90**	**302**	⇑P	**Pb**	**02 14 34.3**	**-0.1**
JFY				eS	**Sg**	**02 14 45.7**	**-0.3**
JMM	**Marumori**	**0.94**	**7**	P	**Pb**	**02 14 34.7**	**-0.3**
JMM				S	**Sg**	**02 14 47.4**	**+0.1**
MJAR	**Matsushiro Arr**	**2.01**	**259**	Pg	**Pb**	**02 14 52.4**	**-0.9**
	22nm,0.3s,baz=81,slow=15,SNR=88						
MJAR				Lg	Lg	02 15 18.2	
	71nm,0.3s,baz=79,slow=31,SNR=16						
MAT	**Matsushiro**	**2.01**	**259**	P	**Pb**	**02 14 52.5**	**-0.8**
MAT				S	**Sb**	**02 15 19.4**	**+1.2**
SONM	**Songino Array**	**27.34**	**304**	P	**P**	**02 20 00.1**	**-1.5**
	0.3nm,0.6s,baz=99,slow=7.5,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	02 50 01.9	
	baz=312,slow=75,SNR=106						
H11N1	**WAKE ISLAND Hy**	**28.63**	**120**	T	T	02 50 02.6	
	baz=312,slow=75,SNR=138						
H11N3	**WAKE ISLAND Hy**	**28.64**	**120**	T	T	02 50 03.4	
	baz=312,slow=75,SNR=107						
H11S1	**WAKE ISLAND Hy**	**29.32**	**122**	T	T	02 50 53.2	
	baz=314,slow=75,SNR=223						
H11S3	**WAKE ISLAND Hy**	**29.32**	**122**	T	T	02 50 52.8	
	baz=314,slow=75,SNR=212						
H11S2	**WAKE ISLAND Hy**	**29.33**	**122**	T	T	02 50 55.5	
	baz=314,slow=75,SNR=160						
MKAR	**Makanchi Array**	**43.66**	**302**	P	**P**	**02 22 21.8**	**+0.6**
	0.3nm,0.7s,baz=96,slow=8.9,SNR=3.4						
KURBB	**Kurchatov Arra**	**45.59**	**308**	P	**P**	**02 22 36.6**	**+0.2**
	0.4nm,0.4s,baz=83,slow=8.1,SNR=7.1						
WRA	**Warramunga Ar**	**56.88**	**187**	P	**P**	**02 24 01.2**	**-0.2**
	1.0nm,0.6s,baz=4.0,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**60.61**	**187**	P	**P**	**02 24 28.2**	**+0.8**
	0.3nm,0.5s,baz=16,slow=7.2,SNR=5.1						

NEIC 11 02:23:09.3±0.8, 4°.28S×138°.63E, h130km±8km, mb4.5/20, Error ellipse: s-maj=7.8km s-min=4.7km az=63.0
ISCJB 11 02:23:10.3±0.4, 4°.35S±0°.03×138°.62E±0°.04, h155km±4km, mb4.3/29, Error ellipse: s-maj=6.7km s-min=5.5km az=8.9
DJA 11 02:23:12.2±0.3, 4°.5±3°×13°.9E±°, h84km±12km, M5.1/7, mB5.5/1, mb4.8/7, MLv5.3/6, Mw(mB)4.9/1
IDC 11 02:23:12.2±0.7, 4°.36S×138°.50E, h155km±5km, mb3.9/13, mb1 4.1/16, mb1mx3.9/40, mbtmp4.4/16, Error ellipse: s-maj=20.6km s-min=8.4km az=84.0

ISC 11 02:23:11.2±0.5, 4°.47S±0°.04×138°.60E±0°.05, h148km±4km, h149km:pP-P, n72, σ1s90/90, mb4.2/29, 1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**2.44**	**40**	P	**Pn**	**02 23 50.6**	**-0.8**
GENI				S	**Sn**	**02 24 20.5**	**-1.9**
JAY	**Jayapura**	**2.86**	**47**	P	**Pn**	**02 23 55.8**	**-1.0**
JAY				S	**Sn**	**02 24 29.2**	**-2.8**
MMPI	**Merauke**	**4.35**	**156**	P	**Pn**	**02 24 19.4**	**+3.5**
KMPI	**Kaimana, Papua**	**4.95**	**279**	P	**Pn**	**02 24 24.6**	**+0.7**
KMPI				S	**Sn**	**02 25 20.3**	**-0.3**
FAKI	**Fak Fak**	**6.52**	**283**	P	**Pn**	**02 24 46.3**	**+1.4**
	45nm,0.8s,0.3nm						
FAKI				S	**Sn**	**02 25 53.9**	**-4.3**
	45nm,0.8s,0.3nm						
FAKI	**Fak Fak**	**6.52**	**283**	*e*Pn	**Pn**	**02 24 43.3**	**-1.6**
PMG	**Port Moresby**	**9.81**	**120**	P	**Pn**	**02 25 32.4**	**+3.7**
	0.9nm,0.3s,baz=309,slow=13,SNR=3.2						
PMG	**Port Moresby**	**9.81**	**120**	*e*Pn	**Pn**	**02 25 26.5**	**-2.2**
COEN	**Coen**	**10.45**	**155**	*e*Pn	**Pn**	**02 25 38.8**	**+1.6**
COEN				*e*Sn	**Sn**	**02 27 26.5**	**-6.4**
MTN	**Manton Dam**	**11.12**	**221**	*e*Pn	**Pn**	**02 25 45.7**	**-0.3**
TNTI	**Ternate**	**12.37**	**295**	*e*Pn	**Pn**	**02 26 00.2**	**-2.2**
SOEI	**Soe**	**15.16**	**249**	P	**P**	**02 26 41.4**	**+1.9**
WRAB	**Tennant Creek**	**15.92**	**195**	*e*Pn	**P**	**02 26 48.5**	**+0.8**
	133nm,0.6s						
WB2	**Warramunga Arr**	**15.93**	**195**	*e*Pn	**P**	**02 26 48.9**	**+1.1**
	185nm,0.6s						
WRA	**Warramunga Ar**	**15.93**	**195**	P	**P**	**02 26 48.2**	**+0.3**
	19nm,0.3s,baz=18,slow=12,SNR=200						
WRA				sP	**sP**	**02 27 30.6**	**-1.5**
	3.3nm,0.3s,baz=16,slow=12,SNR=5.7						
WRA				S	**Sn**	**02 29 37.1**	**-7.6**
	2.0nm,0.3s,baz=11,slow=22,SNR=7.2						
CTA	**Charters Tower**	**17.22**	**155**	P	**Pn**	**02 27 04.5**	**+1.6**
	1.6nm,0.3s,baz=338,slow=12,SNR=15						
CTAO	**Charters Tower**	**17.22**	**155**	*e*P	**Pn**	**02 27 04.7**	**+1.8**
	22nm,0.8s						
TTSI	**Tana Toraja**	**18.79**	**274**	P	**Pn**	**02 27 24.8**	**+3.3**
AS01	**Alice Springs**	**19.60**	**193**	*e*P	**P**	**02 27 29.1**	**+1.0**
AS31	**Alice Springs**	**19.61**	**193**	*e*P	**Pn**	**02 27 30.2**	**-0.9**
	59nm,0.6s						
ASAR	**Alice Springs**	**19.61**	**193**	P	**P**	**02 27 30.1**	**+1.9**
	8.7nm,0.3s,baz=17,slow=11,SNR=270						
ASAR				pP	**pP**	**02 27 55.1**	**+0.9**
	2.6nm,0.3s,baz=9.9,slow=11,SNR=2.2						
ASAR				sP	**sP**	**02 28 13.6**	**+0.6**
	4.1nm,0.3s,baz=18,slow=11,SNR=3.2						
ASAR				S	**S**	**02 31 03.3**	**+1.6**
	1.2nm,0.3s,baz=15,slow=25,SNR=7.4						
EIDS	**Eidsvold**	**23.99**	**151**	*e*P	**P**	**02 28 14.1**	**+1.9**
	45nm,1.1s						
JAGI	**Jajag, Banyuwa**	**24.61**	**259**	*e*P	**P**	**02 28 18.1**	**+0.1**
	59nm,1.4s						
MBWA	**Marble Bar**	**24.72**	**226**	*e*P	**P**	**02 28 19.1**	**+0.2**
	53nm,1.3s						
STKA	**Stephens Creek**	**27.41**	**174**	P	**P**	**02 28 44.7**	**+1.8**
	2.2nm,0.3s,baz=343,slow=8.8,SNR=23						
STKA	**Stephens Creek**	**27.41**	**174**	*e*P	**P**	**02 28 44.2**	**+1.3**
	1.6nm,0.6s						
BBOO	**Buckleboo**	**28.29**	**185**	*e*P	**P**	**02 28 50.5**	**-0.3**
	14nm,0.8s						
ARMA	**Armidale**	**28.59**	**156**	*e*P	**P**	**02 28 54.7**	**+1.1**
	11nm,1.0s						
CAN	**Canberra**	**32.17**	**164**	*e*P	**P**	**02 29 26.8**	**+1.8**
	4.8nm,0.7s						
JNU	**Nakatsue**	**38.10**	**349**	P	**P**	**02 30 14.4**	**-1.3**
	15nm,0.7s,baz=185,slow=4.1,SNR=7.2						
MJAR	**Matsushiro Arr**	**40.80**	**360**	P	**P**	**02 30 36.0**	**-2.0**
	1.2nm,0.6s,baz=181,slow=9.4,SNR=5.0						
MJAR	**Matsushiro Arr**	**40.80**	**360**	P	**P**	**02 30 36.0**	**-2.0**
MAJO	**Matsushiro**	**40.80**	**360**	*e*P	**P**	**02 30 35.6**	**-2.4**
	3.9nm,0.7s						
NJ2	**Nanjing**	**40.89**	**334**	*e*P	**P**	**02 30 38.3**	**-0.5**
WHN	**Wuhan**	**41.83**	**328**	⇓P	**P**	**02 30 48.0**	**+1.5**
CM01	**Chiang Mai Arr**	**45.20**	**301**	*e*P	**P**	**02 31 13.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**45.23**	**301**	P	**P**	**02 31 13.6**	**-0.4**
	3.0nm,0.6s,baz=126,slow=5.6,SNR=16						
CHTO	**Chiang Mai**	**45.39**	**302**	*e*P	**P**	**02 31 14.7**	**-0.6**
	4.1nm,0.7s						
KMI	**Kunming**	**45.59**	**312**	P	**P**	**02 31 18.0**	**+1.0**
CD2	**Chengdu**	**48.42**	**319**	*e*P	**P**	**02 31 38.2**	**-0.4**
USRK	**Ussuriysk Ar.**	**48.81**	**354**	P	**P**	**02 31 40.9**	**-0.4**
	1.7nm,0.6s,baz=156,slow=7.4,SNR=3.0						
HHC	**Hu-ho-hao-te**	**51.45**	**334**	*e*P	**P**	**02 32 03.7**	**+2.3**
LZH	**Lanzhou**	**51.82**	**324**	*e*P	**P**	**02 32 06.5**	**+2.2**
LZH				pP	pP	02 32 42.4	+4.0
LZH				sP	sP	02 33 00.2	+5.4
LZH				*e*PP	**PP**	**02 34 07.0**	**+3.3**
ULN	**Ulaanbaatar**	**59.01**	**336**	*e*P	**P**	**02 32 55.5**	**+0.1**
	6.1nm,1.2s						
SONM	**Songino Array**	**59.26**	**335**	P	**P**	**02 32 57.3**	**+0.1**
	1.1nm,0.6s,baz=156,slow=7.4,SNR=9.3						
SONA1	**Songino Array**	**59.27**	**335**	*e*P	**P**	**02 32 56.9**	**-0.3**
PETK	**Petropavlovsk-**	**59.59**	**13**	P	**P**	**02 32 59.5**	**+0.4**
	5.0nm,0.8s,baz=175,slow=6.5,SNR=5.6						
PETK	**Petropavlovsk-**	**59.59**	**13**	*e*P	**P**	**02 32 59.7**	**+0.6**
WMQ	**Urumqi**	**66.32**	**322**	P	**P**	**02 33 44.7**	**+0.8**
MK01	**Makanchi Array**	**71.09**	**323**	*e*P	**P**	**02 34 13.0**	**-0.4**
MK31	**Makanchi Array**	**71.11**	**323**	*e*P	**P**	**02 34 13.1**	**-0.4**
MKAR	**Makanchi Array**	**71.11**	**323**	P	**P**	**02 34 12.9**	**-0.6**
	1.6nm,0.5s,baz=114,slow=7.9,SNR=26						
MKAR				pP	**pP**	**02 34 50.8**	**+1.2**
	0.9nm,0.7s,baz=111,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**71.11**	**323**	*e*P	**P**	**02 34 13.1**	**-0.4**
	10nm,0.7s						
MKAR				pP	**pP**	**02 34 50.8**	**+1.2**
MAKZ	**Makanchi**	**71.31**	**323**	*e*P	**P**	**02 34 14.1**	**-0.5**
KSH	**Kashi**	**72.21**	**314**	*e*P	**P**	**02 34 22.1**	**+1.8**
KSH				S	**S**	**02 43 28.1**	**-3.1**
ZALV	**Zalesovo Beam**	**73.39**	**330**	P	**P**	**02 34 25.4**	**-1.4**
	2.1nm,0.7s,baz=122,slow=6.0,SNR=9.5						
SPIA	**Saint Paul Isl**	**74.00**	**26**	*e*P	**P**	**02 34 28.4**	**-1.8**
	40nm,1.4s						
VNDA	**Vanda**	**74.05**	**175**	P	**P**	**02 34 30.9**	**+0.6**
	2.3nm,0.5s,baz=327,slow=6.8,SNR=15						
AAK	**Ala-Archa**	**74.39**	**316**	*e*P	**P**	**02 34 31.7**	**-1.4**
	2.1nm,1.0s						
KURK	**Kurchatov**	**75.09**	**325**	*e*P	**P**	**02 34 36.2**	**-0.5**
	3.8nm,1.0s						
KURK				pP	**pP**	**02 35 14.4**	**+1.3**
KURBB	**Kurchatov Arra**	**75.10**	**325**	P	**P**	**02 34 36.1**	**-0.7**
	1.5nm,0.8s,baz=114,slow=4.9,SNR=14						
KURBB				pP	**pP**	**02 35 14.4**	**+1.2**
	2.2nm,0.9s,baz=115,slow=4.7,SNR=8.6						
BVAR	**Borovoye Array**	**80.69**	**325**	P	**P**	**02 35 06.9**	**-0.7**
	2.1nm,0.6s,baz=94,slow=6.4,SNR=11						
BVAR				pP	**pP**	**02 35 46.2**	**+1.7**
	3.2nm,0.8s,baz=46,slow=8.5,SNR=6.6						
BRVK	**Borovoye**	**80.76**	**325**	*e*P	**P**	**02 35 07.4**	**-0.5**
	7.3nm,0.7s						
ABKAR	**Akbulak array**	**85.99**	**320**	*e*P	**P**	**02 35 33.1**	**-1.7**
	1.6nm,0.8s						
MCK	**McKinley**	**86.31**	**25**	*e*P	**P**	**02 35 35.4**	**-0.8**
	2.0nm,0.6s						
DIV	**Divide**	**87.00**	**28**	*e*P	**P**	**02 35 38.8**	**-0.8**
	15nm,1.0s						
IL1	**Eielson Array**	**87.47**	**24**	*e*P	**P**	**02 35 39.8**	**-1.9**
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**02 35 40.2**	**-1.5**
	2.4nm,0.8s,baz=265,slow=4.3,SNR=30						
ILAR				pP	**pP**	**02 36 18.7**	**-0.5**
	0.5nm,0.6s,baz=267,slow=4.4,SNR=2.5						
ILB	**Eielson Array**	**87.47**	**24**	*e*P	**P**	**02 35 40.2**	**-1.5**
TORD	**Torodi Ar. Bea**	**136.61**	**284**	PKP	**PKPdf**	**02 42 17.9**	**+1.2**
	0.4nm,0.8s,baz=71,slow=2.0,SNR=2.6						
CPUP	**Villa Florida**	**145.71**	**154**	PKPbc	**PKPab**	**02 42 34.2**	**+0.2**
	2.1nm,0.6s,baz=244,slow=3.1,SNR=7.9						
LPAZ	**La Paz**	**146.47**	**129**	PKPbc	**PKPab**	**02 42 38.5**	**+0.6**
	1.4nm,0.7s,baz=231,slow=2.4,SNR=6.0						

IDC 11 02:36:20.7±2.1, 33°.63N×141°.72E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/60, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=36.3km s-min=27.0km az=71.0
ISCJB 11 02:36:24.3±1.3, 33°.66N±0°.07×141°.7E±0°.1, h41km, mb3.4/3, Error ellipse: s-maj=14.8km s-min=10.1km az=6.3
JMA 11 02:36:27.7±0.5, 33°.79N×141°.15E, h8km, M2.9

ISC 11 02:36:26.2±1.7, 33°.65N±0°.08×141°.7E±0°.1, h41km, n10, σ0s73/12, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.15**	**331**	P	**Pn**	**02 36 44.3**	**-1.1**
BSO3	**Boso 3**	**1.49**	**321**	P	**Pn**	**02 36 49.7**	**-0.6**
JHJ2	**Mitsune**	**1.63**	**251**	P	**Pn**	**02 36 52.0**	**-0.4**
JHJ	**Hachijo jima 2**	**1.65**	**252**	Pn	**Pn**	**02 36 52.2**	**-0.5**
	14nm,0.3s,baz=73,slow=19,SNR=5.3						
JHJ				Sn	**Sn**	**02 37 12.8**	**+0.1**
	32nm,0.3s,baz=103,slow=23,SNR=1.6						
BSO4	**Boso 4**	**1.73**	**321**	P	**Pn**	**02 36 53.7**	**0.0**
KTJJ	**Kamata 2**	**2.49**	**301**	P	**Pn**	**02 37 03.0**	**-1.3**
MJAR	**Matsushiro Arr**	**4.04**	**317**	Pn	**Pn**	**02 37 25.3**	**-0.2**
	0.6nm,0.3s,baz=159,slow=13,SNR=8.4						
MJAR				Sn	**Sn**	**02 38 12.5**	**+0.9**
	0.4nm,0.3s,baz=275,slow=32,SNR=3.7						
MKAR	**Makanchi Array**	**46.15**	**305**	P	**P**	**02 44 46.8**	**+0.1**
	0.6nm,0.8s,baz=91,slow=7.8,SNR=4.3						
KURBB	**Kurchatov Arra**	**48.29**	**310**	P	**P**	**02 45 03.7**	**+0.5**
	0.2nm,0.4s,baz=88,slow=7.3,SNR=3.8						
WRA	**Warramunga Arr**	**53.74**	**189**	P	**P**	**02 45 44.5**	**+0.1**
	0.2nm,0.6s,baz=3.7,slow=7.1,SNR=3.8						

IDC 11 02:47:35.4±16.0, 17°.93S×178°.69W, h588km±148km, mb3.0/4, mb1 3.2/4, mb1mx2.8/40, mbtmp4.0/4, Error ellipse: s-maj=135.9km s-min=41.9km az=104.0

ISC 11 02:47:33.7±2.3, 18°.0S±0°.4×178°.5W±0°.4, h579km, n7, σ0s21/9, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**02 54 07.5**	**+0.1**
	1.3nm,0.9s,baz=84,slow=9.2,SNR=4.9						
WRA	**Warramunga Arr**	**44.50**	**260**	P	**P**	**02 54 54.6**	**-0.3**
	0.4nm,0.2s,baz=96,slow=6.7,SNR=23						
WRA				PcP	**PcP**	**02 56 25.4**	**-0.1**
	0.3nm,0.5s,baz=96,slow=3.3,SNR=2.9						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**02 54 56.3**	**+0.2**
	4.0nm,0.5s,baz=88,slow=8.8,SNR=107						
ASAR				PcP	**PcP**	**02 56 25.8**	**-0.2**
	0.4nm,0.5s,baz=101,slow=3.3,SNR=5.3						
MJAR	**Matsushiro Arr**	**67.88**	**323**	P	**P**	**02 57 35.4**	**+0.1**
	0.9nm,0.6s,baz=155,slow=6.2,SNR=4.2						
BRTR	**Keskin Array B**	**144.74**	**315**	PKP	**PKPdf**	**03 06 05.7**	**+0.1**
	0.5nm,0.7s,baz=51,slow=0.9,SNR=4.1						
MMAI	**Mount Meron Ar**	**146.07**	**303**	PKPbc	**PKPbc**	**03 06 10.2**	**+0.1**
	3.4nm,0.9s,baz=74,slow=5.2,SNR=3.9						
GERES	**GERESS Array B**	**147.63**	**345**	PKPbc	**PKPbc**	**03 06 13.6**	**-0.1**
	0.5nm,0.5s,baz=30,slow=3.5,SNR=5.4						

SJA 11 02:48:22.9±0.7, 30°.81S×68°.89W, h104km±5km, ML3.2, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**0.36**	**111**	*i* P	Pn	02 48 39.5	+1.1
AMOG				*i* S	Sn	02 48 50.6	+0.6
RTLL	**Cerro Villicun**	**0.63**	**145**	*i* P	Pn	02 48 40.6	+0.4
RTLL				IAML		02 48 54.1	
	comp=Z,569nm,0.3s						
RTLL				*i* S	Sn	02 48 54.1	+1.0
SJA	**San Juan**	**0.77**	**158**	*i* P	Pn	02 48 42.2	+0.8
SJA				*i* S	Sn	02 48 56.5	+1.3
SJA				IAML		02 48 57.1	
	comp=Z,360nm,0.3s						
RTCV	**Cerro Valdivia**	**1.09**	**164**	*i* P	Pn	02 48 45.3	+0.7
AUSP	**Uspallata**	**1.47**	**197**	*i* P	Pn	02 48 50.5	+1.2
ASAL	**Salagasta**	**1.77**	**178**	*i* P	Pn	02 48 54.2	+1.3
ACAN	**Cantantal**	**2.06**	**136**	*i* P	Pn	02 48 57.5	+1.1

ISCJB 11 03:01:17.8±0.7, 51°.46N±0°.03×16°.14E±0°.04, h0km, Error ellipse: s-maj=5.1km s-min=3.1km az=20.6
CSEM 11 03:01:18.9±0.4, 51°.50N×16°.15E, h2km, ML3.0/12, Error ellipse: s-maj=5.8km s-min=3.5km az=6.0
PRU 11 03:01:20.0, 51°.49N×16°.12E, h0km
VIE 11 03:01:21.3±1.0, 51°.32N×16°.06E, h0km, mb2.4/1, ML2.5/5, Error ellipse: s-maj=8.4km s-min=4.7km az=46.0, Suspected Mining induced.

ISC 11 03:01:18.5±1.2, 51°.54N±0°.05×16°.17E±0°.03, h0km, n34, σ0s52/66, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**173**	*i* Pg	**Pg**	**03 01 32.4**	**+0.6**
KSP				*e*Sg	**Sg**	**03 01 41.6**	**+0.7**
KSP	**Ksiaz**	**0.70**	**173**	⇓*i* Pg	**Pg**	**03 01 32.4**	**+0.6**
KSP				*e*Sg	**Sg**	**03 01 41.6**	**+0.7**
UPC	**Upice**	**1.03**	**185**	*e*PG	**Pg**	**03 01 38.5**	**+0.2**
UPC				*e*SG	**Sg**	**03 01 52.1**	**+0.4**
	comp=Z,39nm,0.2s						
UPC	**Upice**	**1.03**	**185**	Pg	**Pg**	**03 01 38.5**	**+0.2**
UPC				Sg	**Sg**	**03 01 52.1**	**+0.4**
	39nm,0.2s						
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*PG	**Pg**	**03 01 41.4**	**+0.1**
DPC				*e*SG	**Sg**	**03 01 56.8**	**+0.1**
	comp=Z,16nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**175**	Pg	**Pg**	**03 01 41.4**	**+0.1**
DPC				Sg	**Sg**	**03 01 56.8**	**+0.1**
	16nm,0.4s						
PVCC	**Panska Ves**	**1.43**	**226**	*e*PG	**Pb**	**03 01 46.0**	**+0.1**
PVCC				*e*SG	**Sb**	**03 02 04.8**	**+0.2**
	comp=Z,44nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**226**	Pg	**Pb**	**03 01 46.0**	**+0.1**
PVCC				Sg	**Sb**	**03 02 04.8**	**+0.2**
	44nm,0.2s						
BRG	**Berggiesshubel**	**1.55**	**245**	PG	**Pn**	**03 01 47.7**	**+0.4**
BRG				SG	**Sg**	**03 02 08.2**	**+0.1**
	19nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	*e*PG	**Pb**	**03 01 52.8**	**-0.3**
GOPC				*e*SG	**Sb**	**03 02 17.0**	**+0.3**
	comp=Z,6.8nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	Pg	**Pb**	**03 01 52.8**	**-0.3**
GOPC				Sg	**Sb**	**03 02 17.0**	**+0.3**
	6.8nm,0.2s						
PRU	**Pruhonice**	**1.86**	**214**	*e*PN	**Pn**	**03 01 51.5**	**-0.1**
PRU				*e*PG	**Pb**	**03 01 53.0**	**-0.3**
PRU				*e*SG	**Sb**	**03 02 17.4**	**+0.3**
	comp=Z,12nm,0.4s						
PRU	**Pruhonice**	**1.86**	**214**	Pn	**Pn**	**03 01 51.5**	**-0.1**
MORC	**Moravsky Berou**	**1.97**	**153**	*e*Pn	**Pn**	**03 01 52.7**	**-0.4**
MORC				*e*Sg	**Sg**	**03 02 21.3**	**-0.3**
CLL	**Collm**	**1.99**	**265**	*e*Pn	**Pn**	**03 01 53.0**	**-0.4**
CLL				*e*Pg	**Pb**	**03 01 56.0**	**+0.4**
CLL				*e*Sg	**Sg**	**03 02 22.0**	**-0.5**
	comp=Z,8.0nm,0.4s						
CLL				*i*		03 02 59.5	
OKC	**Ostrava-Krasne**	**2.12**	**143**	*e*PG	**Pg**	**03 01 58.7**	**-0.3**
OKC				*e*SG	**Sg**	**03 02 26.3**	**-0.1**
	comp=Z,7.7nm,0.3s						
OKC	**Ostrava-Krasne**	**2.12**	**143**	Pg	**Pg**	**03 01 58.7**	**-0.3**
OKC				Sg	**Sg**	**03 02 26.3**	**-0.1**
	comp=Z,7.7nm,0.3s						
VRAC	**Vranov**	**2.25**	**173**	*e*Pn	**Pn**	**03 01 57.7**	**+0.8**
VRAC				*e*Sg	**Sg**	**03 02 29.8**	**-0.8**
TREC	**Trest**	**2.29**	**191**	*e*SG	**Sg**	**03 02 30.8**	**-1.1**
	comp=Z,11nm,0.2s						
TREC	**Trest**	**2.29**	**191**	Sg	**Sg**	**03 02 30.8**	**-1.1**
	comp=Z,11nm,0.2s						
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**03 02 03.2**	**+0.2**
NKC				*e*PG	**Pg**	**03 02 10.5**	**+0.5**
NKC				*e*SG	**Sg**	**03 02 45.0**	**+0.1**
	comp=Z,16nm,0.4s						
NKC	**Novy Kostel**	**2.69**	**242**	Pn	**Pn**	**03 02 03.2**	**+0.2**
KHC	**Kasperske Hory**	**2.92**	**216**	*e*PN	**Pn**	**03 02 06.4**	**+0.2**
KHC				*e*PG	**Pb**	**03 02 12.2**	**+0.7**
KHC				*e*SN	**Sn**	**03 02 41.2**	**-0.9**
KHC				*e*SG	**Sg**	**03 02 50.9**	**-1.4**
	comp=Z,3.6nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**216**	Pn	**Pn**	**03 02 06.4**	**+0.2**
VYHS	**Vyhne**	**3.50**	**149**	*e*Pg	**Pg**	**03 02 25.2**	**-0.3**
VYHS				*e*Sg	**Sg**	**03 03 11.1**	**+0.3**
VYHS	**Vyhne**	**3.50**	**149**	*e*PG	**Pg**	**03 02 25.2**	**-0.3**
VYHS				*e*SG	**Sg**	**03 03 11.1**	**+0.3**
CONA	**Conrad Observa**	**3.62**	**183**	Pn	**Pn**	**03 02 16.7**	**+0.9**
	comp=Z,0.2nm,0.1s						
CONA				Sg	**Sg**	**03 03 14.3**	**-0.3**
	comp=Z,4.6nm,0.4s						
CONA	**Conrad Observa**	**3.62**	**183**	*e*Pn	**Pn**	**03 02 16.7**	**+0.9**
	comp=Z,0.2nm,0.1s						
CONA				Sg	**Sg**	**03 03 14.3**	**-0.3**
	comp=Z,4.6nm,0.4s						
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*Pg	**Pg**	**03 02 32.2**	**-0.5**
STHS				*e*Sg	**Sg**	**03 03 23.2**	**+0.3**
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PG	**Pg**	**03 02 32.2**	**-0.5**
STHS				*e*SG	**Sg**	**03 03 23.2**	**+0.3**
MOA	**Molln**	**3.89**	**199**	Pn	**Pn**	**03 02 19.9**	**+0.4**
	comp=Z,0.7nm,0.3s						
MOA				Sg	**Sg**	**03 03 22.8**	**-0.6**
	comp=Z,2.7nm,0.4s						
MOA	**Molln**	**3.89**	**199**	*e*Pn	**Pn**	**03 02 19.9**	**+0.4**
	comp=Z,0.7nm,0.3s						
MOA				Sg	**Sg**	**03 03 22.8**	**-0.6**
	comp=Z,2.7nm,0.4s						
ARSA	**Arzberg**	**4.31**	**186**	Sg	**Sg**	**03 03 35.8**

comp=N,82nm,0.4s

IDC 11 03:21:55.2±2.4, 23°29S×170°69E, h0km, mb3.9/2, mb1 4.3/3, mb1mx3.8/40, mbtmp4.1/3, ML4.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/42, Error ellipse: s-maj=85.0km s-min=40.5km az=179.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.11**	**286**	Pn	Pn	03 23 01.0	+1.6
	22nm,0.3s,baz=152,slow=15,SNR=224						
DZM				Sn	Sn	03 23 47.5	-0.7
	15nm,0.3s,baz=201,slow=16,SNR=8.9						
DZM				LR	LR	03 24 05.7	
	comp=Z,84nm,18.6s,baz=40,slow=32						
STKA	**Stephens Creek**	**27.11**	**245**	LR	LR	03 37 28.4	
	comp=Z,36nm,18.3s,baz=21,slow=34						
ASAR	**Alice Springs**	**33.69**	**262**	P	P	03 28 38.5	+0.2
	2.6nm,0.6s,baz=93,slow=9.3,SNR=66						
WRA	**Warramunga Arr**	**33.91**	**269**	P	P	03 28 39.5	-0.7
	0.5nm,0.4s,baz=101,slow=8.5,SNR=9.0						
GERES	**GERESS Array B**	**148.67**	**330**	PKPbc	PKPbc	03 41 43.9	-0.6
	0.5nm,0.8s,baz=44,slow=3.0,SNR=3.4						

NIED ***11*** *03:28:00, 38.00N×141.60E, h68km, Mw3.5 Best double couple: M₀1.97000×10¹⁴ NP1:φ₀39.00000°, δ31.00000°, λ133.00000°. NP2:φ₀171.00000°, δ68.00000°, λ68.00000°.*

JMA 11 03:28:42.6, 37.99N×141.58E, h59km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.50**	**339**	P	Pn	03 28 54.5	0.0
JIO				S	Sn	03 29 02.9	-0.2
JMM	**Marumori**	**0.64**	**259**	P	Pn	03 28 56.0	0.0
JMM				S	Sn	03 29 05.8	+0.1
JOU	**Okura**	**0.81**	**298**	P	Pn	03 28 58.3	+0.1
JOU				S	Sn	03 29 09.8	+0.1
JFK	**Kawauchi**	**0.84**	**222**	P	Pn	03 28 58.5	0.0
JFK				S	Sn	03 29 10.0	-0.2
JMK	**Ichinoseki**	**1.00**	**344**	P	Pn	03 29 00.8	+0.2
JMK				S	Sn	03 29 14.2	+0.3
JFT	**Otama**	**1.09**	**245**	P	Pn	03 29 02.3	+0.5
JFT				S	Sn	03 29 16.9	+0.8
JYS	**Shirataka**	**1.22**	**281**	P	Pn	03 29 03.9	+0.4
JYS				S	Sn	03 29 20.0	+1.0
JYK	**Kaneyama**	**1.33**	**314**	P	Pn	03 29 05.4	+0.4
JYK				S	Sn	03 29 22.4	+0.6
JOM	**Ohasama**	**1.50**	**351**	P	Pn	03 29 07.4	+0.2
JOM				S	Sn	03 29 26.0	+0.2
JRG	**Rokugo**	**1.59**	**332**	P	Pn	03 29 09.2	+0.8
JRG				S	Sn	03 29 29.3	+1.4
JYA	**Atsumi**	**1.59**	**293**	P	Pn	03 29 08.9	+0.5
JYA				S	Sn	03 29 28.6	+0.7
JFY	**Yanaizu**	**1.60**	**249**	P	Pn	03 29 09.2	+0.6
MAT	**Matsushiro**	**3.05**	**243**	P	Pn	03 29 30.1	+1.7
MAT				*e*S	Sn	03 30 07.6	+3.8

ISCJB ***11*** *03:28:51.0±0.3, 37.52N±0.02×48.75E±0.04, h10km, mb3.2/5, Error ellipse: s-maj=4.5km s-min=2.5km az=151.4*

CSEM ***11*** *03:28:50.9±0.1, 37.54N×48.78E, h2km, ML3.6, Error ellipse: s-maj=5.4km s-min=2.9km az=58.0*

IDC ***11*** *03:28:50.2±1.7, 37.53N×48.84E, h0km, mb3.3/5, mb1 3.5/8, mb1mx3.3/58, mbtmp3.4/8, ML3.6/2, Error ellipse: s-maj=28.8km s-min=14.5km az=11.0*

THR ***11*** *03:28:51.3±0.6, 37.50N×48.70E, h14km±6km, ML3.8*

TEH ***11*** *03:28:52.5, 37.59N×48.86E, h12km, ML3.8*

ISC 11 03:28:50.8±0.6, 37.54N±0.03×48.87E±0.03, h10km, n70, σ1°53/88, mb3.2/5, 19C-10D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZNJK	**Zanjan**	**0.88**	**190**	*e*Pg	**Pg**	**03 29 06.9**	**-0.9**
ZNJK	**Zanjan**	**0.88**	**190**	*e*Pg	**Pg**	**03 29 07.0**	**-0.9**
ZNJK				AML	AML	03 29 18.4	
	comp=E,2μm,0.4s						
ZNJK				AML	AML	03 29 18.5	
	comp=N,2μm,0.2s						
ASTR	**Astara**	**1.02**	**356**	⇑P	**Pn**	**03 29 10.4**	**-0.8**
	SNR=177						
ASTR				⇓S	**Sn**	**03 29 25.5**	**-0.1**
LKRN	**Lenkeran, Azer**	**1.17**	**356**	⇑P	**Pg**	**03 29 12.9**	**-0.4**
	SNR=7.6						
LKRN				⇑S	**Sn**	**03 29 29.5**	**+0.3**
LRK	**Lerik**	**1.18**	**339**	⇑P	**Pn**	**03 29 13.0**	**-0.5**
	SNR=620						
LRK				⇓S	**Sn**	**03 29 29.1**	**-0.6**
GRMI	**Germi**	**1.48**	**329**	*e*Pg	**Pb**	**03 29 18.1**	**-0.4**
GRMI	**Germi**	**1.48**	**329**	*e*Pg	**Pb**	**03 29 18.1**	**-0.4**
GRMI				AML	AML	03 29 40.6	
	comp=N,1μm,0.2s						
GRMI				AML	AML	03 29 41.2	
	comp=E,976nm,0.2s						
IGZV	**Ghazvin**	**1.58**	**137**	*e*Pn	**Pb**	**03 29 19.1**	**-1.1**
IGZV				*e*AMB	AMB	03 29 42.7	
	comp=Z,28μm,0.2s						
IGZV	**Ghazvin**	**1.58**	**137**	*e*Pn	**Pb**	**03 29 19.1**	**-1.1**
IBST	**Bostanabad**	**1.58**	**276**	*e*Pn	**Pb**	**03 29 19.4**	**-0.9**
IBST				*e*AMB	AMB	03 29 42.8	
	comp=Z,18μm,0.1s						
IBST	**Bostanabad**	**1.58**	**276**	*e*Pn	**Pb**	**03 29 19.4**	**-0.9**
IHRS	**Heris**	**1.64**	**299**	*e*Pn	**Pb**	**03 29 20.5**	**-0.8**
IHRS				*e*AMB	AMB	03 29 22.4	
	comp=Z,44μm,0.1s						
IHRS				*e*Sg	**Sg**	**03 29 42.8**	**-0.9**
IHRS	**Heris**	**1.64**	**299**	*e*Pn	**Pb**	**03 29 20.5**	**-0.8**
IHRS				*e*Sg	**Sg**	**03 29 42.8**	**-0.9**
GLBA	**Clilabad**	**1.74**	**348**	P	**Pb**	**03 29 21.6**	**-1.2**
	SNR=87						
GLBA				⇑S	**Sg**	**03 29 45.6**	**-1.2**
ITBZ	**Tabriz**	**2.27**	**289**	*e*Pn	**Pb**	**03 29 30.2**	**-1.7**
ITBZ				*e*AMB	AMB	03 29 36.4	
	comp=Z,3μm,0.1s						
ITBZ				*e*Sg	**Sg**	**03 30 02.6**	**-1.0**
ITBZ	**Tabriz**	**2.27**	**289**	*e*Pn	**Pb**	**03 29 30.2**	**-1.7**
ITBZ				*e*Sg	**Sg**	**03 30 02.6**	**-1.0**
THKV	**Tehran--Karaj**	**2.29**	**135**	*e*Pn	**Pb**	**03 29 31.8**	**-0.5**
THKV	**Tehran--Karaj**	**2.29**	**135**	*e*Pn	**Pb**	**03 29 31.8**	**-0.5**
THKV				AML	AML	03 30 05.0	
	comp=N,1μm,0.5s						
THKV				AML	AML	03 30 05.4	
	comp=E,697nm,0.4s						
IRAZ	**Razeghan**	**2.29**	**158**	*e*Pn	**Pn**	**03 29 29.9**	**+1.0**
IRAZ				*e*AMB	AMB	03 30 05.1	
	comp=Z,6μm,0.2s						
IRAZ	**Razeghan**	**2.29**	**158**	*e*Pn	**Pn**	**03 29 29.9**	**+1.0**
CHTH	**Charan**	**2.44**	**131**	*e*Pn	**Pb**	**03 29 33.8**	**-1.0**
CHTH	**Charan**	**2.44**	**131**	*e*Pn	**Pb**	**03 29 33.9**	**-1.0**
ORD	**Ordubad**	**2.66**	**302**	⇑Sg	**Sb**	**03 30 13.0**	**+1.8**
ISHB	**Shabestar**	**2.68**	**287**	*e*Pn	**Pb**	**03 29 36.9**	**-2.1**
ISHB				*e*AMB	AMB	03 29 41.0	
	comp=Z,4μm,0.3s						
SNGE	**Sanandaj**	**2.74**	**207**	*e*Pn	**Pn**	**03 29 35.9**	**+0.9**
SNGE	**Sanandaj**	**2.74**	**207**	*e*Pn	**Pn**	**03 29 35.9**	**+0.9**
IMRD	**Marand**	**2.76**	**296**	*e*Pn	**Pn**	**03 29 36.7**	**+1.4**
IMRD				*e*AMB	AMB	03 29 46.4	
	comp=Z,6μm,0.2s						
IMRD	**Marand**	**2.76**	**296**	*e*Pn	**Pn**	**03 29 36.7**	**+1.4**
BRDA	**Brd**	**3.02**	**335**	⇑P	**Pn**	**03 29 39.1**	**+0.4**
	SNR=4.8						
BRDA				⇑S	**Sn**	**03 30 16.6**	**+1.6**
ILIN	**Lien**	**3.04**	**211**	*e*Pn	**Pb**	**03 29 45.3**	**+0.2**
ILIN				*e*AMB	AMB	03 30 27.6	
	comp=Z,977nm,0.2s						
IPRN	**Peran**	**3.06**	**114**	*e*Pn	**Pn**	**03 29 39.7**	**+0.3**
IPRN				*e*AMB	AMB	03 30 33.4	
	comp=Z,3μm,0.3s						
NAX	**Nakhchivan**	**3.12**	**303**	⇓Sg	**Sg**	**03 30 27.9**	**-3.0**
SBZ	**Shahbuz**	**3.20**	**306**	⇓Pg	**Pb**	**03 29 48.9**	**+1.1**
	SNR=106						
SBZ				⇓Sg	**Sg**	**03 30 32.4**	**-1.1**
IDMV	**Damavand**	**3.21**	**127**	*e*Pn	**Pn**	**03 29 43.2**	**+1.6**
IDMV				*e*AMB	AMB	03 29 57.6	
	comp=Z,1μm,0.3s						
IDMV	**Damavand**	**3.21**	**127**	*e*Pn	**Pn**	**03 29 43.2**	**+1.6**
PQL	**Pirkuli**	**3.25**	**356**	⇓P	**Pn**	**03 29 42.5**	**+0.5**
	SNR=2.8						
PQL				⇓S	**Sn**	**03 30 23.1**	**+2.3**
IML	**Ismayilli**	**3.29**	**351**	⇑P	**Pn**	**03 29 43.3**	**+0.8**
	SNR=4.0						
IML				⇑S	**Sn**	**03 30 24.7**	**+3.0**
IVIS	**Veis**	**3.43**	**209**	*e*Pn	**Pn**	**03 29 45.9**	**+1.5**
IVIS				*e*AMB	AMB	03 30 47.5	
	comp=Z,359nm,0.3s						
IVIS	**Veis**	**3.43**	**209**	*e*Pn	**Pn**	**03 29 45.9**	**+1.5**
IVRN	**Varamin**	**3.43**	**137**	*e*Pn	**Pb**	**03 29 51.8**	**+0.1**
IVRN				*e*AMB	AMB	03 30 45.4	
	comp=Z,1μm,0.1s						
IDHR	**Dehrash**	**3.48**	**216**	*e*Pn	**Pn**	**03 29 46.9**	**+1.7**
IDHR				*e*AMB	AMB	03 30 00.9	
	comp=Z,707nm,0.2s						
IDHR	**Dehrash**	**3.48**	**216**	*e*Pn	**Pn**	**03 29 46.9**	**+1.7**
IALA	**Alasht**	**3.48**	**114**	*e*Pn	**Pn**	**03 29 47.1**	**+1.8**
IALA				*e*AMB	AMB	03 30 45.3	
	comp=Z,2μm,0.2s						
IALA	**Alasht**	**3.48**	**114**	*e*Pn	**Pn**	**03 29 47.1**	**+1.8**
QBL	**Gabala**	**3.50**	**347**	⇑P	**Pn**	**03 29 45.3**	**0.0**
	SNR=3.4						
QBL				⇑S	**Sn**	**03 30 29.3**	**+2.6**
IFIR	**Firoozkooh**	**3.65**	**120**	*e*Pn	**Pb**	**03 29 51.7**	**-3.9**
IFIR				*e*AMB	AMB	03 30 05.2	
	comp=Z,524nm,0.1s						
IFIR	**Firoozkooh**	**3.65**	**120**	*e*Pn	**Pb**	**03 29 51.7**	**-3.9**
XNQ	**Khinaliq**	**3.67**	**351**	P	**Pn**	**03 29 48.4**	**+0.6**
	SNR=15						
XNQ				⇓S	**Sn**	**03 30 34.5**	**+3.2**
GANJ	**Ganja**	**3.68**	**328**	⇑P	**Pn**	**03 29 47.1**	**-0.7**
	SNR=3.8						
GANJ				⇑S	**Sn**	**03 30 32.8**	**+1.5**
IGHG	**Ghaleghazi**	**3.71**	**211**	*e*Pn	**Pg**	**03 29 58.8**	**-3.1**
IGHG				*e*AMB	AMB	03 30 02.8	
	comp=Z,870nm,0.4s						
HYR	**Heyderabad**	**3.83**	**306**	⇑Sg	**Sg**	**03 30 51.0**	**-2.7**
SEKA	**Sheki**	**3.89**	**341**	⇑P	**Pn**	**03 29 50.8**	**+0.1**
	SNR=4.4						
SEKA				⇓S	**Sn**	**03 30 38.3**	**+1.9**
ISHM	**Shahmirzad**	**3.95**	**115**	*e*Pn	**Pn**	**03 29 54.5**	**+2.7**
ISHM				*e*AMB	AMB	03 31 01.7	
	comp=Z,1μm,0.2s						
GDB	**GEDABAY**	**4.00**	**324**	⇑P	**Pn**	**03 29 52.1**	**-0.2**
	SNR=6.6						
GDB				⇑S	**Sn**	**03 30 38.5**	**-0.7**
IGLO	**Ghaloghah**	**4.10**	**103**	*e*Pn	**Pn**	**03 29 55.1**	**+1.4**
IGLO				*e*AMB	AMB	03 30 52.9	
	comp=Z,922nm,0.2s						
GNI	**Garni**	**4.15**	**310**	Pg	**Pb**	**03 30 05.9**	**+2.0**
	comp=Z,4.0nm,0.3s,baz=140,slow=2.2,SNR=38						
GNI				Lg	Lg	03 31 02.4	
	comp=Z,1.7nm,0.3s,baz=168,slow=19,SNR=1.7						
QAM	**Ghamsar**	**4.31**	**150**	*e*Pn	**Pn**	**03 29 58.8**	**+2.2**
QAM				*e*AMB	AMB	03 31 11.8	
	comp=Z,955nm,0.3s						
QZX	**Qazax, Azerbai**	**4.44**	**323**	⇓P	**Pn**	**03 29 58.5**	**+0.3**
	SNR=7.4						
QZX				⇑S	**Sn**	**03 30 49.8**	**-0.2**
IZEF	**Zefreh**	**5.43**	**148**	*e*Pn	**Pn**	**03 30 13.7**	**+1.6**
IZEF				*e*AMB	AMB	03 31 58.3	
	comp=Z,124nm,0.3s						
IZEF	**Zefreh**	**5.43**	**148**	*e*Pn	**Pn**	**03 30 13.7**	**+1.6**
GEYT	**Alibeck**	**7.34**	**84**	Pn	**Pn**	**03 30 37.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=284,slow=12,SNR=3.1						
IEMG	**Emamgholi**	**7.78**	**88**	*e*Pn	**Pn**	**03 30 44.3**	**0.0**
IEMG				*e*AMB	AMB	03 30 49.9	
	comp=Z,76nm,0.1s						
IEMG	**Emamgholi**	**7.78**	**88**	*e*Pn	**Pn**	**03 30 44.3**	**0.0**
AKTO	**Aktyubinsk**	**14.46**	**24**	Pn	**Pn**	**03 32 13.9**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=212,slow=10,SNR=6.1						
AKTO				Sn	Sn	03 34 42.9	-13
	comp=Z,0.2nm,0.3s,baz=286,slow=19,SNR=3.2						
AKASG	**Malin Array Be**	**19.21**	**319**	P	**Pn**	**03 33 15.5**	**-0.2**
	baz=123,slow=11,SNR=1.7						
BVAR	**Borovoye Array**	**21.53**	**37**	P	**P**	**03 33 39.6**	**-0.3**
	comp=Z,7nm,0.7s,baz=236,slow=9.0,SNR=14						
KURBB	**Kurchatov Arra**	**24.81**	**49**	P	**P**	**03 34 13.8**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=252,slow=9.8,SNR=3.4						
MKAR	**Makanchi Array**	**26.27**	**59**	P	**P**	**03 34 28.6**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=254,slow=9.6,SNR=3.7						
GERES	**GERESS Array B**	**27.78**	**305**	P	**P**	**03 34 41.4**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=110,slow=8.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**48.44**	**253**	P	**P**	**03 37 34.0**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=40,slow=9.0,SNR=3.2						

GUC 11 03:30:02.8±0.5, 37.56S×74.11W, h40km±3km, ML3.6, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.07**	**48**	*i*P	Pn	03 30 21.2	-0.1
CCSP				*i* S	Sn	03 30 35.5	+0.4
CCSP				IAML		03 30 42.7	
	comp=N,2μm,0.3s						
TMU	**Temuco**	**1.67**	**135**	⇓*i*P	Pn	03 30 30.2	+0.7
TMU				IAML		03 31 01.8	
	comp=N,587nm,1.1s						
COCH	**Cobquecura**	**1.78**	**37**	⇑*i*P	Pn	03 30 31.3	+0.3
COCH				*i* S	Sn	03 30 53.1	+0.7
COCH				IAML		03 31 08.5	
	comp=N,303nm,0.8s						
CCHI	**Chillan**	**1.89**	**60**	*e*P	Pn	03 30 33.7	+1.2
CCHI				*e*S	Sn	03 30 56.0	+0.9
CCHI				IAML		03 31 16.1	
	comp=N,959nm,0.5s						
GO06	**Curarrehue**	**2.89**	**135**	IAML		03 31 37.5	
	comp=N,261nm,1.2s						
GO05	**HualaæØ**	**3.10**	**35**	*e*P	Pn	03 30 50.0	+0.8
GO05				IAML		03 31 50.3	
	comp=E,260nm,0.9s						
CLCH	**Cerro Calan**	**5.08**	**36**	*e*P	Pn	03 31 17.4	+1.0
PEL	**Peldehue**	**5.22**	**33**	*e*P	Pn	03 31 19.4	+1.0
ROCH	**El Roble**	**5.23**	**30**	*e*P	Pn	03 31 19.4	+0.7
FCH	**Farellones**	**5.25**	**38**	*e*P	Pn	03 31 20.2	+1.1

CSEM ***11*** *03:31:10.6±0.3, 38.89N×43.57E, h10km, ML2.6, Error ellipse: s-maj=6.6km s-min=4.9km az=93.0*

DDA ***11*** *03:31:10.7, 38.89N×43.55E, h7km, Ml2.7*

ISK ***11*** *03:31:10.0, 38.89N×43.55E, h17km, ML2.6/3*

ISCJB ***11*** *03:31:11.1±0.5, 38.90N±0.02×43.57E±0.04, h8km±8km, Error ellipse: s-maj=5.1km s-min=3.8km az=5.7*

ISC 11 03:31:10.3±1.0, 38.88N±0.02×43.60E±0.03, h10km±8km, n28, σ0°90/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERCV	**ERCIS-VAN**	**0.25**	**303**	PG	**Pg**	**03 31 15.2**	**-0.3**
ERCV				SG	**Sg**	**03 31 19.2**	**+0.3**
ERCV	**ERCIS-VAN**	**0.25**	**303**	*e*Pg	**Pg**	**03 31 15.2**	**-0.3**
ERCV				*e*Sg	**Sg**	**03 31 19.2**	**+0.3**
VANB	**Van**	**0.33**	**210**	PG	**Pb**	**03 31 18.8**	**+0.3**
VANB				SG	**Sb**	**03 31 24.9**	**+1.0**
VANB	**Van**	**0.33**	**210**	*e*Pg	**Pb**	**03 31 18.8**	**+0.3**
CLDR	**Caldiran**	**0.36**	**43**	PG	**Pg**	**03 31 17.7**	**+0.2**
CLDR				SG	**Sb**	**03 31 24.4**	**-0.3**
CLDR	**Caldiran**	**0.36**	**43**	*i* P	**Pg**	**03 31 17.6**	**+0.1**
CLDR				*i* S	**Sb**	**03 31 24.4**	**-0.3**
CLDR	**Caldiran**	**0.36**	**43**	*e*Pg	**Pg**	**03 31 17.7**	**+0.2**
CLDR				S	**Sb**	**03 31 24.4**	**-0.3**
TVAN	**Van**	**0.39**	**203**	*i* P	**Pg**	**03 31 18.8**	**+0.7**
TVAN				*i* S	**Sb**	**03 31 25.7**	**+0.1**
TVAN	**Van**	**0.39**	**203**	P	**Pg**	**03 31 18.8**	**+0.7**
TVAN				S	**Sb**	**03 31 25.7**	**+0.1**
DYDN	**Diyadin**	**0.66**	**6**	*i* P	**Pb**	**03 31 24.0**	**-0.2**
DYDN				*i* S	**Sb**	**03 31 34.0**	**+0.5**
DYDN	**Diyadin**	**0.66**	**6**	P	**Pb**	**03 31 24.0**	**-0.2**
DYDN				S	**Sb**	**03 31 34.0**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.69**	**264**	*i* P	**Pg**	**03 31 23.4**	**-0.3**
ADCV				*i* S	**Sb**	**03 31 33.7**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.69**	**264**	P	**Pg**	**03 31 23.4**	**-0.3**
ADCV				S	**Sb**	**03 31 33.7**	**-0.6**
GEVA	**Gevas**	**0.71**	**217**	*i* P	**Pg**	**03 31 24.0**	**-0.1**
GEVA				*i* S	**Sg**	**03 31 33.5**	**0.0**
GEVA	**Gevas**	**0.71**	**217**	P	**Pg**	**03 31 24.0**	**-0.1**
GEVA				S	**Sg**	**03 31 33.5**	**0.0**
TUTA	**Tutak**	**0.80**	**310**	*i* P	**Pg**	**03 31 25.2**	**-0.6**
TUTA				*i* S	**Sb**	**03 31 36.6**	**-0.9**
TUTA	**Tutak**	**0.80**	**310**	P	**Pg**	**03 31 25.2**	**-0.6**
TUTA				S	**Sb**	**03 31 36.6**	**-0.9**
AGRB	**Hanur-Agry**	**0.84**	**326**	PG	**Pg**	**03 31 26.2**	**-0.3**
AGRB	**Hanur-Agry**	**0.84**	**326**	*e*Pg	**Pg**	**03 31 26.2**	**-0.3**
BASK	**Baskale_VAN**	**0.89**	**159**	*i* P	**Pg**	**03 31 26.9**	**-0.6**
BASK				*i* S	**Sn**	**03 31 42.0**	**-0.1**
BASK	**Baskale_VAN**	**0.89**	**159**	P	**Pg**	**03 31 26.9**	**-0.6**
BASK				S	**Sn**	**03 31 42.0**	**-0.1**
EKAR	**Karacoban**	**1.25**	**288**	*i* P	**Pb**	**03 31 33.6**	**-0.6**
EKAR				*i* S	**Sn**	**03 31 53.8**	**+2.6**
EKAR	**Karacoban**	**1.25**	**288**	P	**Pb**	**03 31 33.6**	**-0.6**
EKAR				S	**Sn**	**03 31 53.8**	**+2.6**
GURO	**Guroymak-BITLI**	**1.27**	**255**	PN	**Pn**	**03 31 33.2**	**-1.1**
GURO	**Guroymak-BITLI**	**1.27**	**255**	*e*Pn	**Pn**	**03 31 33.2**	**-1.1**
HOMI	**Horasan**	**1.75**	**312**	*i* P	**Pb**	**03 31 42.6**	**-0.2**
HOMI				*i* S	**Sg**	**03 32 09.9**	**+3.2**
ECAT	**Cat-ERZURUM**	**2.17**	**290**	*i* P	**Pb**	**03 31 49.0**	**-0.8**
ECAT	**Cat-ERZURUM**	**2.17**	**290**	P	**Pb**	**03 31 49.0**	**-0.8**

ISCJB ***11*** *03:31:41.6±0.9, 41.64N±0.04×35.98E±0.06, h0km, Error ellipse: s-maj=8.2km s-min=3.7km az=137.8*

ISK ***11*** *03:31:41.7, 41.62N×35.96E, h5km, MD2.6/2*

CSEM ***11*** *03:31:42.0±0.3, 41.63N×35.98E, h1km, ML2.5, Error ellipse: s-maj=8.1km s-min=3.5km az=48.0, Suspected Mining explosion.*

DDA ***11*** *03:31:42.3, 41.62N×35.92E, h7km, Ml2.5, Suspected Mining explosion.*

ISC 11 03:31:41.2±1.1, 41.61N±0.04×36.02E±0.05, h0km, n20, σ0°56/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAMS	**Samsun-Alacam**	**0.28**	**153**	*i* P	**Pb**	**03 31 49.0**	**-0.1**
SAMS				*i* S	**Sb**	**03 31 54.1**	**-0.2**
SAMS	**Samsun-Alacam**	**0.28**	**153**	P	**Pb**	**03 31 49.0**	**-0.1**
SAMS				S	**Sb**	**03 31 54.1**	**-0.2**
KVT	**Kavak**	**0.53**	**178**	PG	**Pb**	**03 31 52.6**	**-0.8**
KVT				SG	**Sb**	**03 32 00.5**	**-1.1**
KVT	**Kavak**	**0.53**	**178**	*e*Pg	**Pb**	**03 31 52.6**	**-0.8**
KVT				*e*Sg	**Sb**	**03 32 00.5**	**-1.1**
DIKM	**Dikmen**	**0.57**	**274**	PG	**Pg**	**03 31 52.7**	**+0.5**
DIKM				SG	**Sg**	**03 32 00.7**	**+0.4**
DIKM	**Dikmen**	**0.57**	**274**	*e*Pg	**Pg**	**03 31 52.7**	**+0.5**
DIKM				*e*Sg	**Sg**	**03 32 00.0**	**+0.4**
HAVZ	**Havza**	**0.58**	**203**	*i* P	**Pb**	**03 31 53.6**	**-0.7**
HAVZ				*i* S	**Sg**	**03 32 00.7**	**+0.9**
HAVZ	**Havza**	**0.58**	**203**	P	**Pb**	**03 31 53.6**	**-0.7**
HAVZ				S	**Sg**	**03 32 00.7**	**+0.9**
SNOP	**Sinop**	**0.73**	**304**	PG	**Pg**	**03 31 55.4**	**+0.1**
SNOP				SG	**Sg**	**03 32 05.1**	**+0.3**
SNOP	**Sinop**	**0.73**	**304**	*e*Pg	**Pg**	**03 31 55.4**	**+0.1**
SNOP				*e*Sg	**Sg**	**03 32 05.1**	**+0.3**
SINO	**SINOP_Merkez**	**0.74**	**304**	*i* P	**Pg**	**03 31 55.3**	**0.0**
SINO	**SINOP_Merkez**	**0.74**	**304**	P	**Pg**	**03 31 55.3**	**0.0**
ERBA	**Erbaa**	**1.08**	**149**	*i* P	**Pb**	**03 32 02.4**	**-0.4**
ERBA				*i* S	**Sb**	**03 32 17.2**	**-0.3**
ERBA	**Erbaa**	**1.08**	**149**	P	**Pb**	**03 32 02.4**	**-0.4**
ERBA				S	**Sb**	**03 32 17.2**	**-0.3**
CTAK	**Corum_Osmancik**	**1.34**	**224**	*i* P	**Pg**	**03 32 06.9**	**+0.1**
CTAK				*i* S	**Sb**	**03 32 25.1**	**+0.1**
CTAK	**Corum_Osmancik**	**1.34**	**224**	P	**Pg**	**03 32 06.9**	**+0.1**
CTAK				S	**Sb**	**03 32 25.1**	**+0.1**
CORM	**Corum**	**1.78**	**217**	PN	**Pn**	**03 32 12.8**	**-0.5**
CORM	**Corum**	**1.78**	**217**	*e*Pn	**Pn**	**03 32 12.8**	**-0.5**
YOZ	**Yozgat**	**2.04**	**195**	PN	**Pn**	**03 32 17.8**	**+0.9**
YOZ	**Yozgat**	**2.04**	**195**	*i* Pn	**Pn**	**03 32 17.8**	**+0.9**

IDC 11 03:58:24.3±3.5, 3.44S×135.84E, h268km±34km, mb3.0/2, mb1 3.4/3, mb1mx2.7/48, mbtmp3.9/3, Error ellipse: s-maj=91.0km s-min=15.8km az=90.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.47**	**185**	P	P	04 01 57.5	-1.8
	1.3nm,0.3s,baz=13,slow=13,SNR=53						
WRA				S	S	04 04 57.1	-0.7
	0.2nm,0.3s,baz=15,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**20.20**	**185**	P	P	04 02 40.0	+0.7
	3.4nm,0.4s,baz=15,slow=11,SNR=48						
ASAR				S	S	04 06 10.7	+0.2
	1.8nm,0.7s,baz=15,slow=24,SNR=9.6						
SONM	**Songino Array**	**57.20**	**337**	P	P	04 07 42.2	-1.6
	0.2nm,0.6s,baz=127,slow=9.6,SNR=1.7						
TXAR	**Lajitas Array**	**118.12**	**59**	PKP	PKPdf	04 16 42.4	+2.2
	0.3nm,0.4s,baz=242,slow=1.9,SNR=3.7						

JMA 11 04:27:35.1±0.2, 35.63N×140.92E, h16km±1km, M2.2, Near east coast of eastern Honshu

| Code | Station Name | Δ

JMA 11 04:28:20.3, 36°.82N×138°.62E, h4km, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.43**	**230**	P	Pg	04 28 28.8	+0.2
MAT				S	Sg	04 28 34.4	+0.2
MAT	**Matsushiro**	**0.43**	**230**	P	Pg	04 28 28.9	+0.3
MAT				S	Sg	04 28 34.4	+0.2

*ISCJB **11** 04:42:33.8±0.3, 65°.85N±0°.05×173°.62W±0°.07, h10km, mb4.1/32, MS2.9/4, Error ellipse: s-maj=7.2km s-min=3.7km az=18.8*
*IDC **11** 04:42:34.8±1.3, 66°.03N×173°.54W, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.8/72, mbtmp3.9/16, MS3.0/6, Ms1 3.0/6, ms1mx2.7/70, Error ellipse: s-maj=37.7km s-min=15.8km az=16.0*
*NEIC **11** 04:42:37.6±1.9, 65°.75N×173°.75W, h26km±14km, mb4.2/16, ML4.2(AEIC), Error ellipse: s-maj=9.6km s-min=5.7km az=204.0*

ISC 11 04:42:35.5±0.5, 65°.81N±0°.07×173°.63W±0°.06, h10km, n76, σ1§25/78, mb4.2/32, MS2.8/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**2.21**	**157**	P	**Pn**	**04 43 09.2**	**-2.9**
GAMB				S	**Sn**	**04 43 40.4**	**+1.0**
RDOG	**Red Dog Mine**	**4.78**	**57**	P	**Pn**	**04 43 48.8**	**+1.3**
RDOG				S	**Sn**	**04 44 42.7**	**-0.2**
IM3	**Indian Mountai**	**8.13**	**80**	P	**Pn**	**04 44 34.2**	**+0.7**
TTA	**Tatalina**	**8.16**	**103**	P	**Pn**	**04 44 35.4**	**+1.5**
TTA				S	**Sn**	**04 46 07.2**	**+1.2**
TT01	**Tatalina**	**8.17**	**103**	P	**Pn**	**04 44 35.3**	**+1.4**
SPIA	**Saint Paul Isl**	**8.81**	**168**	*e*Pn	Pn	04 44 35.9	-6.9
SPIA				S	**Sn**	**04 46 18.8**	**-3.2**
SVW2	**Sparrevohn**	**9.34**	**112**	P	**Pn**	**04 44 50.6**	**+0.5**
COLD	**Coldfoot**	**9.44**	**71**	*e*Pn	**Pn**	**04 44 53.9**	**+2.6**
CAST	**Castle Rocks**	**9.54**	**95**	*e*Pn	**Pn**	**04 44 54.3**	**+1.5**
MLY	**Manley**	**9.55**	**84**	*e*Pn	**Pn**	**04 44 54.2**	**+1.3**
PPLA	**Purkeypile**	**9.73**	**98**	*e*Pn	**Pn**	**04 44 56.4**	**+1.0**
BPAW	**Bear Paw Mtn.**	**9.74**	**90**	*e*Pn	**Pn**	**04 44 56.1**	**+0.7**
KTH	**Kantishna Hill**	**9.97**	**93**	*e*Pn	**Pn**	**04 45 00.0**	**+1.4**
TRF	**Thorofare Moun**	**10.27**	**93**	*e*Pn	**Pn**	**04 45 04.2**	**+1.4**
MDM	**Murphy Dome**	**10.60**	**83**	*e*Pn	**Pn**	**04 45 07.6**	**+0.4**
SPU	**Mount Spurr**	**10.67**	**106**	*e*Pn	**Pn**	**04 45 09.8**	**+1.6**
MCK	**McKinley**	**10.71**	**90**	*e*Pn	**Pn**	**04 45 09.8**	**+1.0**
CCB	**Clear Creek Bu**	**10.87**	**84**	*e*Pn	**Pn**	**04 45 12.1**	**+1.3**
RND	**Reindeer**	**10.88**	**91**	*e*Pn	**Pn**	**04 45 12.9**	**+1.8**
SUA	**Susitna One**	**11.03**	**103**	*e*Pn	**Pn**	**04 45 12.6**	**-0.7**
IL1	**Eielson Array**	**11.21**	**83**	*e*Pn	**Pn**	**04 45 16.9**	**+1.5**
ILAR	**Eielson Array**	**11.21**	**83**	Pn	**Pn**	**04 45 16.1**	**+0.7**
	0.6nm,0.3s,baz=282,slow=14,SNR=44						
ILAR				Sn	**Sn**	**04 47 17.4**	**-3.2**
	0.1nm,0.3s,baz=284,slow=27,SNR=3.0						
ILAR				Lg	Lg	04 48 37.8	
	baz=285,slow=23,SNR=5.7						
ILAR				LR	LR	04 49 18.7	
	comp=Z,41nm,20.7s,baz=1.5,slow=36						
ILB	**Eielson Array**	**11.21**	**83**	*e*Pn	**Pn**	**04 45 16.4**	**+0.9**
PMR	**Palmer**	**11.62**	**100**	*e*Pn	**Pn**	**04 45 23.4**	**+2.4**
DHY	**Denali Highway**	**11.62**	**91**	*e*Pn	**Pn**	**04 45 23.1**	**+1.7**
SML	**Sawmill**	**11.83**	**98**	*e*Pn	**Pn**	**04 45 22.9**	**-1.1**
KDAK	**Kodiak Island**	**12.74**	**119**	Pn	**Pn**	**04 45 38.7**	**+2.4**
	0.7nm,0.3s,baz=4.9,slow=9.6,SNR=10						
INK	**Inuvik**	**15.63**	**63**	Pn	**Pn**	**04 46 16.5**	**+1.0**
	0.1nm,0.3s,baz=286,slow=11,SNR=1.5						
INK	**Inuvik**	**15.63**	**63**	*e*Pn	**Pn**	**04 46 17.2**	**+1.7**
PETK	**Petropavlovsk-**	**19.11**	**242**	LR	LR	04 54 18.6	
	comp=Z,47nm,18.7s,baz=27,slow=37						
TIXI	**Tiksi**	**20.87**	**311**	P	**P**	**04 47 16.6**	**-0.6**
	4.3nm,0.8s,baz=93,slow=7.4,SNR=7.5						
TIXI				LR	LR	04 55 36.1	
	comp=Z,28nm,18.5s,baz=212,slow=38						
TIXI	**Tiksi**	**20.87**	**311**	*e*P	**P**	**04 47 16.6**	**-0.6**
	11nm,0.7s						
YAK	**Yakutsk**	**24.46**	**288**	LR	LR	04 57 13.1	
	comp=Z,36nm,20.7s,baz=102,slow=36						
YKA	**Yellowknife Ar**	**25.11**	**70**	P	**P**	**04 48 00.8**	**+0.8**
	0.7nm,0.7s,baz=303,slow=8.9,SNR=13						
RES	**Resolute Bay**	**25.87**	**37**	LR	LR	05 02 05.3	
	comp=Z,29nm,18.2s,baz=164,slow=46						
RES	**Resolute Bay**	**25.87**	**37**	*e*P	**P**	**04 48 08.3**	**+1.6**
	1.2nm,0.6s						
TULEG	**Thule**	**30.55**	**26**	*e*P	**P**	**04 48 48.8**	**+0.3**
	24nm,1.8s						
BMO	**Blue Mountains**	**36.59**	**97**	*e*P	**P**	**04 49 40.9**	**-0.5**
	7.4nm,1.5s						
BOZ	**Bozeman (W)**	**38.31**	**91**	*e*P	**P**	**04 49 56.9**	**+0.9**
	2.2nm,0.9s						
HLID	**Hailey**	**38.83**	**95**	*e*P	**P**	**04 50 00.3**	**-0.1**
	1.0nm,0.8s						
YHB	**Horse Butte**	**39.18**	**91**	*e*P	**P**	**04 50 04.6**	**+1.2**
	14nm,1.7s						
ORV	**Oroville**	**39.34**	**106**	*e*P	**P**	**04 50 06.0**	**+1.5**
	8.2nm,1.6s						
YMR	**Madison River**	**39.34**	**91**	*e*P	**P**	**04 50 03.0**	**-1.8**
	22nm,2.0s						
PDAR	**Pinedale Array**	**41.49**	**91**	P	**P**	**04 50 22.2**	**-0.3**
	0.5nm,0.7s,baz=321,slow=2.1,SNR=4.7						
PDAR	**Pinedale Array**	**41.49**	**91**	*e*P	**P**	**04 50 22.1**	**-0.5**
NVAR	**Mina Array Bea**	**41.58**	**103**	P	**P**	**04 50 24.0**	**+0.7**
	0.6nm,0.8s,baz=302,slow=9.2,SNR=3.4						
DUG	**Dugway, Tooele**	**42.30**	**96**	*e*P	**P**	**04 50 29.4**	**+0.3**
	1.3nm,0.8s						
NLU	**North Lily Min**	**42.81**	**96**	*e*P	**P**	**04 50 32.4**	**-0.9**
	7.8nm,1.5s						
SONA1	**Songino Array**	**43.79**	**287**	*e*P	**P**	**04 50 41.2**	**+0.1**
SONM	**Songino Array**	**43.81**	**287**	P	**P**	**04 50 42.5**	**+1.3**
	1.1nm,0.7s,baz=39,slow=7.8,SNR=9.1						
SRU	**San Rafael Swe**	**44.16**	**95**	*e*P	**P**	**04 50 43.6**	**-0.6**
	3.0nm,1.0s						
ARCES	**ARCESS Array B**	**44.27**	**350**	P	**P**	**04 50 44.2**	**-0.3**
	3.9nm,0.9s,baz=17,slow=6.6,SNR=2.8						
CHFC	**Chilao Flat St**	**45.24**	**106**	*e*P	**P**	**04 50 53.0**	**+0.2**
ZAA0	**Zalesovo Array**	**46.67**	**307**	*e*P	**P**	**04 51 04.3**	**+0.7**
	19nm,1.8s						
ZALV	**Zalesovo Beam**	**46.67**	**307**	P	**P**	**04 51 04.0**	**+0.3**
	2.5nm,0.6s,baz=37,slow=6.5,SNR=10						
ZALV	**Zalesovo Beam**	**46.67**	**307**	*e*P	**P**	**04 51 03.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**47.50**	**277**	*e*P	**P**	**04 51 11.0**	**+0.6**
KURK	**Kurchatov**	**51.42**	**309**	*e*P	**P**	**04 51 39.8**	**-0.3**
	12nm,0.7s						
KURBB	**Kurchatov Arra**	**51.53**	**309**	P	**P**	**04 51 41.4**	**+0.5**
	1.3nm,0.6s,baz=35,slow=7.6,SNR=14						
BVAR	**Borovoye Array**	**51.89**	**316**	P	**P**	**04 51 43.8**	**+0.2**
	0.8nm,0.5s,baz=30,slow=6.8,SNR=5.9						
BRVK	**Borovoye**	**51.89**	**316**	*e*P	**P**	**04 51 44.0**	**+0.5**
	3.4nm,0.7s						
FINES	**FINESS Array B**	**52.21**	**348**	P	**P**	**04 51 44.9**	**-1.0**
	3.3nm,1.0s,baz=1.1,slow=7.4,SNR=4.4						
MK31	**Makanchi Array**	**53.61**	**304**	*e*P	**P**	**04 51 56.7**	**+0.3**
MKAR	**Makanchi Array**	**53.61**	**304**	P	**P**	**04 51 55.7**	**-0.7**
	1.0nm,0.6s,baz=48,slow=8.2,SNR=13						
MKAR	**Makanchi Array**	**53.61**	**304**	*e*P	**P**	**04 51 56.7**	**+0.3**
	7.2nm,0.6s						
MK01	**Makanchi Array**	**53.63**	**304**	*e*P	**P**	**04 51 55.7**	**-0.9**
HFS	**Hagfors**	**54.24**	**355**	P	**P**	**04 51 59.3**	**-1.5**
	4.4nm,1.0s,baz=336,slow=6.8,SNR=3.7						
WMQ	**Urumqi**	**54.29**	**298**	P	**P**	**04 52 03.1**	**+1.7**
WMQ				pP	sP	04 52 09.6	+3.8
WMQ				sP	pP	04 52 21.2	+17
LZH	**Lanzhou**	**54.71**	**280**	*e*P	**P**	**04 52 05.4**	**+0.7**
LZH				pP	sP	04 52 10.0	+0.9
LZH				sP	pP	04 52 12.1	+4.2
LZH				*e*PP	**PP**	**04 54 08.8**	**+1.9**
JCT	**Junction City**	**56.02**	**91**	*e*P	**P**	**04 52 14.5**	**+0.5**
	4.7nm,0.8s						
ABKAR	**Akbulak array**	**58.12**	**322**	*e*P	**P**	**04 52 28.6**	**0.0**
	1.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**58.96**	**6**	P	**P**	**04 52 34.1**	**-0.3**
	0.8nm,0.5s,baz=0.5,slow=5.4,SNR=8.7						
AAK	**Ala-Archa**	**59.89**	**308**	*e*P	**P**	**04 52 40.6**	**-0.6**
	1.5nm,0.8s						
AKASG	**Malin Array Be**	**62.50**	**344**	P	**P**	**04 52 57.3**	**-1.2**
	1.7nm,0.6s,baz=14,slow=6.2,SNR=6.8						
AKASG				LR	LR	05 23 00.3	
	comp=Z,24nm,20.5s,baz=325,slow=39						
BRTR	**Keskin Array B**	**72.69**	**338**	P	**P**	**04 54 02.4**	**-0.9**
	0.8nm,0.7s,baz=12,slow=7.4,SNR=5.3						
ESDC	**Sonseca Array**	**74.54**	**8**	P	**P**	**04 54 13.9**	**-0.1**
	0.2nm,0.4s,baz=351,slow=5.1,SNR=3.1						

IDC 11 04:54:11.8±0.6, 51°.48N×173°.15W, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/84, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=147.3km s-min=37.0km az=166.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**19.02**	**36**	P	P	04 58 35.0	0.0
	0.2nm,0.3s,baz=228,slow=8.9,SNR=20						
YKA	**Yellowknife Ar**	**32.58**	**47**	P	P	05 00 44.8	+0.4
	0.1nm,0.5s,baz=273,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**49.72**	**299**	P	P	05 03 05.8	+0.3
	0.3nm,0.5s,baz=45,slow=8.3,SNR=3.0						
ARCES	**ARCESS Array B**	**58.53**	**352**	P	P	05 04 08.6	-0.8
	5.6nm,1.0s,baz=6.7,slow=8.5,SNR=1.8						

*IDC **11** 05:00:04.6±0.6, 27°.97N×59°.11E, h0km, mb4.1/29, mb1 4.2/33, mb1mx4.1/73, mbtmp4.1/33, ML3.3/4, MS3.7/24, Ms1 3.7/24, ms1mx3.4/63, Error ellipse: s-maj=14.9km s-min=11.9km az=3.0*
*THR **11** 05:00:05.5±0.8, 28°.07N×59°.02E, h15km, ML4.2*
*ISCJB **11** 05:00:05.5±0.2, 28°.06N±0°.02×59°.12E±0°.03, h10km, mb4.2/43, MS3.6/23, Error ellipse: s-maj=3.5km s-min=2.4km az=20.5*
*NEIC **11** 05:00:06.5±0.0, 28°.26N×59°.08E, h10km, mb4.5/13, ML4.2(THR), MN4.6(TEH), After TEH.*
*CSEM **11** 05:00:06.9±0.1, 28°.08N×59°.14E, h10km, mb4.3/30, Error ellipse: s-maj=5.2km s-min=3.5km az=107.0*
*TEH **11** 05:00:06.5, 28°.26N×59°.08E, h10km, ML4.6*
*DSN **11** 05:00:08.6±1.7, 27°.90N×59°.32E, h30km, ML4.7/7, Error ellipse: s-maj=36.7km s-min=9.8km az=158.0*
*MOS **11** 05:00:08.3±1.6, 28°.01N×59°.13E, h33km, mb4.5/27, Error ellipse: s-maj=8.5km s-min=5.8km az=101.6*
*OMAN **11** 05:00:09.4±99.0, 28°.05N×59°.31E, h35km±12km, Error ellipse: s-maj=72.2km s-min=5.6km az=28.0*

ISC 11 05:00:06.7±0.4, 28°.06N±0°.04×59°.13E±0°.04, h10km, n253, σ1§58/264, mb4.2/43, MS3.6/23, 23C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**2.09**	**257**	*e*Pn	**Pb**	**05 00 43.8**	**-1.0**
NIAN	**Nian**	**2.09**	**257**	*e*Pn	**Pb**	**05 00 43.8**	**-1.0**
ZHSF	**Zahedan**	**2.11**	**43**	*e*Pn	**Pn**	**05 00 43.0**	**+0.7**
ZHSF	**Zahedan**	**2.11**	**43**	*e*Pn	**Pn**	**05 00 43.0**	**+0.7**
ZHSF	**Zahedan**	**2.11**	**43**	*e*Pn	**Pn**	**05 00 43.6**	**+1.3**
ZHSF				AML	AML	05 01 17.9	
	comp=N,973nm,0.5s						
ZHSF				AML	AML	05 01 19.1	
	comp=E,1μm,0.6s						
CHMN	**Cheshme madani**	**2.27**	**323**	*e*Pn	**Pn**	**05 00 44.1**	**-0.5**
CHMN	**Cheshme madani**	**2.27**	**323**	*e*Pn	**Pn**	**05 00 44.1**	**-0.5**
IBND	**Bandar-abas**	**2.37**	**256**	*e*Pn	**Pb**	**05 00 49.6**	**0.0**
IBND	**Bandar-abas**	**2.37**	**256**	Pn	**Pb**	**05 00 49.5**	**0.0**
IBND	**Bandar-abas**	**2.37**	**256**	*e*Pn	**Pb**	**05 00 49.6**	**0.0**
NGRK	**Negar Kerman**	**2.63**	**307**	*e*Pn	**Pn**	**05 00 51.1**	**+1.5**
NGRK	**Negar Kerman**	**2.63**	**307**	*e*Pn	**Pn**	**05 00 51.1**	**+1.5**
GENO	**Geno**	**2.70**	**257**	*e*Pn	**Pn**	**05 00 52.7**	**+2.3**
GENO	**Geno**	**2.70**	**257**	*e*Pn	**Pn**	**05 00 52.7**	**+2.3**
BNDS	**Bandar-Abbas**	**2.70**	**257**	*e*Pn	**Pn**	**05 00 49.0**	**-1.4**
BNDS	**Bandar-Abbas**	**2.70**	**257**	*e*Pn	**Pn**	**05 00 49.6**	**-0.8**
BNDS	**Bandar-Abbas**	**2.70**	**257**	*e*Pn	**Pn**	**05 00 49.6**	**-0.8**
BNDS				AML	AML	05 01 31.0	
	comp=N,2μm,0.4s						
BNDS				AML	AML	05 01 31.8	
	comp=E,1μm,0.5s						
CHBR	**Chabahar**	**2.74**	**153**	*e*Pn	**Pn**	**05 00 51.5**	**+0.8**
CHBR	**Chabahar**	**2.74**	**153**	*e*Pn	**Pn**	**05 00 51.5**	**+0.8**
CHBR				AML	AML	05 01 45.0	
	comp=N,771nm,0.5s						
CHBR				AML	AML	05 01 55.7	
	comp=E,752nm,0.6s						
TVBK	**TV Kerman**	**2.82**	**313**	*e*Pn	**Pn**	**05 00 53.4**	**+1.2**
TVBK	**TV Kerman**	**2.82**	**313**	*e*Pn	**Pn**	**05 00 53.4**	**+1.2**
KHGB	**Koh Gabri**	**3.27**	**315**	*e*Pn	**Pn**	**05 00 58.9**	**+0.7**
KHGB	**Koh Gabri**	**3.27**	**315**	*e*Pn	**Pn**	**05 00 58.9**	**+0.7**
BANOM	**Banah**	**3.30**	**230**	P	**Pn**	**05 00 59.7**	**+1.2**
	SNR=20						
BANOM				S	**Sn**	**05 01 39.6**	**+1.7**
BANOM	**Banah**	**3.30**	**230**	Pn	**Pn**	**05 00 59.3**	**+0.8**
	SNR=27						
BANOM				Sn	**Sn**	**05 01 39.3**	**+1.4**
BANOM	**Banah**	**3.30**	**230**	*i* Pn	**Pn**	**05 00 59.3**	**+0.8**
	SNR=27						
BANOM				Sn	**Sn**	**05 01 39.3**	**+1.4**
BANOM	**Banah**	**3.30**	**230**	*i* P	**Pn**	**05 00 59.3**	**+0.8**
	SNR=27						
BANOM				S	**Sn**	**05 01 39.3**	**+1.4**
SHME	**Shamm**	**3.33**	**234**	P	**Pn**	**05 01 00.8**	**+1.8**
SHME	**Shamm**	**3.33**	**234**	Sn	**Sn**	**05 01 38.3**	**-0.4**
SHME	**Shamm**	**3.33**	**234**	P	**Pn**	**05 00 59.8**	**+0.8**
SHME				S	**Sn**	**05 01 38.3**	**-0.4**
MDH	**Madha**	**3.74**	**223**	*i* Pn	**Pn**	**05 01 04.0**	**-0.5**
	SNR=6.2						
MDH	**Madha**	**3.74**	**223**	*i* P	**Pn**	**05 01 04.0**	**-0.5**
	SNR=6.2						
MSFE	**Esma-Masafi**	**3.78**	**225**	P	**Pn**	**05 01 06.2**	**+1.1**
	SNR=11						
MSFE				S	**Sn**	**05 01 51.5**	**+1.8**
MSFE	**Esma-Masafi**	**3.78**	**225**	*i* Pn	**Pn**	**05 01 05.3**	**+0.2**
	SNR=11						
MSFE	**Esma-Masafi**	**3.78**	**225**	*i* P	**Pn**	**05 01 05.3**	**+0.2**
	SNR=11						
UOSS	**Minazif**	**4.06**	**221**	*e*Pn	**Pn**	**05 01 08.7**	**-0.3**
UOSS				*e*Sn	**Sn**	**05 01 54.8**	**-1.8**
UOSS	**Minazif**	**4.06**	**221**	P	**Pn**	**05 01 08.2**	**-0.7**
UOSS	**Minazif**	**4.06**	**221**	*e*Pn	**Pn**	**05 01 08.7**	**-0.3**
UOSS				*e*Sn	**Sn**	**05 01 54.8**	**-1.8**
UOSS	**Minazif**	**4.06**	**221**	P	**Pn**	**05 01 08.2**	**-0.7**
HATD	**Hatta, Dubai**	**4.20**	**220**	P	**Pn**	**05 01 09.8**	**-1.0**
HATD	**Hatta, Dubai**	**4.20**	**220**	P	**Pn**	**05 01 09.8**	**-1.0**
ASHO	**Ashiyiah**	**4.35**	**220**	P	**Pn**	**05 01 15.0**	**+2.1**
	SNR=11						
ASHO	**Ashiyiah**	**4.35**	**220**	Pn	**Pn**	**05 01 13.7**	**+0.8**
	SNR=11						
ASHO	**Ashiyiah**	**4.35**	**220**	*i* Pn	**Pn**	**05 01 13.7**	**+0.8**
	SNR=11						
ASHO	**Ashiyiah**	**4.35**	**220**	*i* P	**Pn**	**05 01 13.7**	**+0.8**
	SNR=11						
IKOO	**Kooshah**	**4.35**	**359**	*e*Pn	**Pn**	**05 01 12.8**	**-0.3**
IKOO				*e*AMB	AMB	05 02 34.3	
	comp=Z,13μm,0.4s						
IKOO	**Kooshah**	**4.35**	**359**	*e*Pn	**Pn**	**05 01 12.8**	**-0.3**
SOHO	**SOHO**	**4.55**	**211**	*i* Pn	**Pn**	**05 01 14.8**	**-0.9**
	SNR=14						
SOHO	**SOHO**	**4.55**	**211**	*i* P	**Pn**	**05 01 14.8**	**-0.9**
	SNR=14						
BIDO	**Bidbid**	**4.61**	**192**	P	**Pn**	**05 01 16.1**	**-0.4**
	SNR=24						
BIDO				S	**Sn**	**05 02 09.0**	**-1.1**
BIDO	**Bidbid**	**4.61**	**192**	P	**Pn**	**05 01 16.1**	**-0.4**
	SNR=24						
BIDO				S	**Sn**	**05 02 09.0**	**-1.1**
IBAF	**Bafgh**	**4.68**	**320**	*e*Pn	**Pn**	**05 01 17.6**	**0.0**
IBAF				*e*AMB	AMB	05 02 44.6	
	comp=Z,5μm,0.4s						
IBAF	**Bafgh**	**4.68**	**320**	Pn	**Pn**	**05 01 17.6**	**0.0**
IBAF	**Bafgh**	**4.68**	**320**	*e*Pn	**Pn**	**05 01 17.6**	**0.0**
IDAH	**Dahanechah**	**4.70**	**8**	*e*Pn	**Pn**	**05 01 18.5**	**+0.5**
IDAH				*e*AMB	AMB	05 01 39.8	
	comp=Z,4μm,0.3s						
IDAH	**Dahanechah**	**4.70**	**8**	*e*Pn	**Pn**	**05 01 18.5**	**+0.5**
HOQ	**Hoqain**	**4.75**	**201**	P	**Pn**	**05 01 17.9**	**-0.6**
	SNR=13						
HOQ	**Hoqain**	**4.75**	**201**	P	**Pn**	**05 01 17.9**	**-0.6**
	SNR=13						
WSAR	**Wadi Sarin**	**4.83**	**185**	Pn	**Pn**	**05 01 20.2**	**+0.7**
	comp=Z,15nm,0.3s,baz=30,slow=13,SNR=81						
WSAR				Sn	**Sn**	**05 02 14.6**	**-0.8**
	comp=Z,95nm,0.3s,baz=164,slow=7.2,SNR=15						
WSAR	**Wadi Sarin**	**4.83**	**185**	P	**Pn**	**05 01 20.4**	**+0.9**
	SNR=14						
WSAR				S	**Sn**	**05 02 15.5**	**+0.1**
WSAR	**Wadi Sarin**	**4.83**	**185**	Pn	**Pn**	**05 01 20.2**	**+0.7**
WSAR				Sn	**Sn**	**05 02 14.6**	**-0.8**
WSAR				S	**Sn**	**05 02 15.5**	**+0.1**
ITEG	**Tejag**	**4.83**	**356**	*e*Pn	**Pn**	**05 01 19.4**	**-0.3**
ITEG				*e*AMB	AMB	05 02 48.9	
	comp=Z,17μm,0.6s						
ITEG	**Tejag**	**4.83**	**356**	Pn	**Pn**	**05 01 19.4**	**-0.3**
ITEG	**Tejag**	**4.83**	**356**	*e*Pn	**Pn**	**05 01 19.4**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNE	**Al Ain**	**5.01**	**218**	*i* Pn	**Pn**	**05 01 22.5**	**+0.5**
	SNR=14						
ALNE	**Al Ain**	**5.01**	**218**	*i* P	**Pn**	**05 01 22.5**	**+0.5**
	SNR=14						
SMDO	**Samad**	**5.08**	**191**	P	**Pn**	**05 01 23.4**	**+0.4**
	SNR=40						
SMDO				S	**Sn**	**05 02 23.0**	**+1.2**
SMDO	**Samad**	**5.08**	**191**	P	**Pn**	**05 01 23.4**	**+0.4**
	SNR=40						
SMDO				S	**Sn**	**05 02 23.0**	**+1.2**
IMON	**Monand**	**5.13**	**5**	*e*Pn	**Pn**	**05 01 24.4**	**+0.5**
IMON				*e*AMB	AMB	05 01 46.7	
	comp=Z,1μm,0.2s						
IMON	**Monand**	**5.13**	**5**	*e*Pn	**Pn**	**05 01 24.4**	**+0.5**
IMEH	**Mehriz**	**5.14**	**311**	*e*Pn	**Pn**	**05 01 24.4**	**+0.4**
IMEH				*e*AMB	AMB	05 02 57.3	
	comp=Z,3μm,0.5s						
IMEH	**Mehriz**	**5.14**	**311**	*e*Pn	**Pn**	**05 01 24.4**	**+0.4**
ARQ	**Araqi**	**5.26**	**207**	P	**Pn**	**05 01 28.7**	**+3.3**
	SNR=15						
ARQ				S	**Sn**	**05 02 30.6**	**+4.4**
ARQ	**Araqi**	**5.26**	**207**	P	**Pn**	**05 01 28.7**	**+3.3**
	SNR=15						
ARQ				S	**Sn**	**05 02 30.6**	**+4.4**
WBK	**Wadi Bani Khal**	**5.43**	**182**	P	**Pn**	**05 01 28.4**	**+0.6**
	SNR=19						
WBK				S	**Sn**	**05 02 29.9**	**-0.5**
	SNR=6.8						
WBK	**Wadi Bani Khal**	**5.43**	**182**	P	**Pn**	**05 01 28.4**	**+0.6**
	SNR=19						
WBK				S	**Sn**	**05 02 29.9**	**-0.5**
	SNR=6.8						
BSY	**Bisya**	**5.58**	**199**	P	**Pn**	**05 01 31.8**	**+2.0**
	SNR=16						
BSY				S	**Sn**	**05 02 37.4**	**+3.4**
BSYO	**Bisya**	**5.58**	**198**	P	**Pn**	**05 01 31.8**	**+2.0**
	SNR=16						
SHRT	**Shahrakht**	**5.65**	**10**	*e*Pn	**Pn**	**05 01 31.0**	**+0.1**
SHRT	**Shahrakht**	**5.65**	**10**	*e*Pn	**Pn**	**05 01 31.4**	**+0.5**
SHRT	**Shahrakht**	**5.65**	**10**	*e*Pn	**Pn**	**05 01 31.4**	**+0.5**
TABS	**Tabas**	**5.83**	**343**	*e*Pn	**Pn**	**05 01 32.0**	**-1.3**
TABS	**Tabas**	**5.83**	**343**	*e*Pn	**Pn**	**05 01 32.7**	**-0.7**
TABS	**Tabas**	**5.83**	**343**	*e*Pn	**Pn**	**05 01 32.7**	**-0.7**
ICHK	**Chekchek**	**5.84**	**317**	*e*Pn	**Pn**	**05 01 36.7**	**+3.2**
ICHK				*e*AMB	AMB	05 03 18.6	
	comp=Z,2μm,0.3s						
ICHK	**Chekchek**	**5.84**	**317**	Pn	**Pn**	**05 01 36.7**	**+3.2**
BOQSS		**8.97**	**258**	P	**Pn**	**05 02 16.4**	**0.0**
GEYT	**Alibeck**	**9.88**	**355**	Pn	**Pn**	**05 02 29.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=170,slow=10,SNR=7.0						
MRVT	**Maraveh tapeh**	**9.90**	**346**	*e*Pn	**Pn**	**05 02 29.9**	**+0.7**
MRVT	**Maraveh tapeh**	**9.90**	**346**	*e*Pn	**Pn**	**05 02 29.9**	**+0.7**
KBL	**Kabul**	**10.65**	**50**	*e*P	**Pn**	**05 02 42.7**	**+3.1**
KBL	**Kabul**	**10.65**	**50**	*e*Pn	**Pn**	**05 02 42.7**	**+3.1**
KBL	**Kabul**	**10.65**	**50**	*e*P	**Pn**	**05 02 42.7**	**+3.1**
RAYN	**Ar Rayn**	**13.08**	**253**	*e*Pn	**Pn**	**05 03 08.5**	**-4.2**
AKT	**Akhty**	**16.31**	**328**	*e*P	**P**	**05 03 58.6**	**-0.4**
AKT				*e*S	**Sn**	**05 06 59.8**	**+2.7**
AKT				pmax	pmax		
	comp=Z,21nm,0.8s						
AKT				smax	smax		
	comp=N,8.0nm,0.9s						
AKT				smax	smax		
	comp=E,7.0nm,0.7s						
AKT	**Akhty**	**16.31**	**328**	*e*P	**P**	**05 03 58.6**	**-0.4**
	comp=E,21nm,0.8s						
GNI	**Garni**	**16.92**	**319**	Pn	**P**	**05 04 06.5**	**+0.8**
	comp=E,0.6nm,0.3s,baz=153,slow=3.2,SNR=12						
GNI	**Garni**	**16.92**	**319**	*e*P	**P**	**05 04 05.8**	**0.0**
GNI				pmax	pmax		
	comp=Z,23nm

MK31 Makanchi Array 26.07 38 *eP* **P 05 05 40.4 +0.1**
MK31 Makanchi Array 26.07 38 *eP* **P 05 05 40.4 +0.1**
MK31 Makanchi Array 26.07 38 *eP* **P 05 05 40.4 +0.1**
MKAR Makanchi Array 26.07 38 P **P 05 05 40.0 -0.3**
comp=Z,1.5nm,0.7s,baz=223,slow=8.3,SNR=9.3
MKAR LR LR 05 17 05.0
comp=Z,259nm,18.5s,baz=232,slow=39
MKAR Makanchi Array 26.07 38 *ceP* **P 05 05 43.7 +3.4**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 26.07 38 *eP* **P 05 05 40.1 -0.3**
comp=Z,13nm,0.8s
MKAR Makanchi Array 26.07 38 *eP* **P 05 05 40.1 -0.3**
comp=Z,13nm,0.8s
BVAR Borovoye Array 26.30 15 P **P 05 05 43.7 +1.4**
comp=Z,5.4nm,0.8s,baz=202,slow=7.3,SNR=22
BVAR LR LR 05 17 30.4
comp=Z,179nm,21.5s,baz=209,slow=40
BRVK Borovoye 26.30 15 *eP* **P 05 05 42.9 +0.5**
BRVK pmax pmax
comp=Z,29nm,1.2s
BRVK Borovoye 26.30 15 *eP* **P 05 05 43.7 +1.3**
comp=Z,8.6nm,1.0s
BRVK Borovoye 26.30 15 *eP* **P 05 05 42.9 +0.5**
comp=Z,29nm,1.2s
KURBB Kurchatov Arra 26.91 28 P **P 05 05 48.8 +1.0**
comp=Z,0.8nm,0.3s,baz=226,slow=8.0,SNR=3.9
KURK Kurchatov 27.02 28 *eP* **P 05 05 51.8 +3.0**
KURK Kurchatov 27.02 28 P **P 05 05 48.8 0.0**
KURK Kurchatov 27.02 28 P **P 05 05 48.8 0.0**
WMQ Urumqi 27.79 48 P **P 05 05 56.4 +0.5**
LSA Lhasa 28.04 79 *eP* **P 05 05 57.5 -1.3**
LSA pmax pmax
comp=Z,6.0nm,0.5s
LSA Lhasa 28.04 79 *eP* **P 05 05 57.5 -1.3**
comp=Z,5.8nm,0.5s
LSA Lhasa 28.04 79 *eP* **P 05 05 57.5 -1.3**
comp=Z,6.0nm,0.5s
ARU Arti 28.35 359 *eP* **P 05 05 58.4 -2.3**
ARU pmax pmax
comp=Z,22nm,1.8s
ARU Arti 28.35 359 *eP* **P 05 05 58.4 -2.3**
comp=Z,22nm,1.8s
ARU Arti 28.35 359 *eP* **P 05 05 58.4 -2.3**
comp=Z,22nm,1.8s
PALK Pallekele 29.05 131 LR LR 05 17 25.8
comp=Z,65nm,21.4s,baz=296,slow=36
IDI Anoyia 29.91 293 P **P 05 06 14.8 -0.1**
comp=Z,7.8nm,0.8s,baz=181,slow=16,SNR=2.8
VRI Vrincioaia 31.11 314⇑*i*P **P 05 06 30.0 +4.7**
VRI Vrincioaia 31.11 314⇑P **P 05 06 30.0 +4.7**
TESR Tescani 31.43 315⇑*i*P **P 05 06 27.8 -0.3**
TESR Tescani 31.43 315⇑*i*P **P 05 06 27.8 -0.3**
MLR Muntele Rosu 31.47 312 P **P 05 06 30.1 +1.5**
comp=Z,0.6nm,0.8s,baz=121,slow=12,SNR=6.3
MLR LR LR 05 22 16.8
comp=Z,24nm,18.3s,baz=202,slow=42
MLR Muntele Rosu 31.47 312⇑*i*P **P 05 06 31.7 +3.1**
MLR Muntele Rosu 31.47 312⇑P **P 05 06 31.7 +3.1**
OBN Obninsk 31.58 335 LR LR 05 20 18.9
comp=Z,84nm,21.4s,baz=110,slow=38
OBN Obninsk 31.58 335 *eP* **P 05 06 30.6 +1.4**
OBN pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 31.97 323 P **P 05 06 32.1 -0.6**
comp=Z,0.6nm,0.5s,baz=125,slow=7.4,SNR=7.1
KIEV Kiev 31.97 323 *i*P **P 05 06 35.4 +2.6**
KIEV pmax pmax
comp=Z,2.0nm,0.5s
ZAA0 Zalesovo Array 31.98 29 *eP* **P 05 06 33.2 +0.4**
comp=Z,2.2nm,0.8s
ZAA0 Zalesovo Array 31.98 29 *eP* **P 05 06 33.2 +0.4**
comp=Z,2.2nm,0.8s
ZALV Zalesovo Beam 31.98 29 P **P 05 06 32.8 0.0**
comp=Z,0.9nm,0.5s,baz=236,slow=11,SNR=5.5
ZALV LR LR 05 20 57.8
comp=Z,117nm,19.8s,baz=248,slow=39
AK11 Malin Array Si 31.99 323 *eP* **P 05 06 31.9 -1.0**
DOPR Dopca 32.01 313⇓*i*P **P 05 06 34.1 +0.8**
DOPR Dopca 32.01 313⇑*i*P **P 05 06 34.1 +0.8**
VOIR 32.04 312⇑*i*P **P 05 06 33.3 -0.3**
VOIR 32.04 312⇑P **P 05 06 33.3 -0.3**
VOIR 32.04 312 P **P 05 06 33.3 -0.3**
ARR Arges 32.29 312⇑*i*P **P 05 06 35.0 -0.7**
ARR Arges 32.29 312⇑*i*P **P 05 06 35.0 -0.7**
BURAR Bucovina Array 32.77 316⇓*i*P **P 05 06 39.7 -0.3**
BURAR Bucovina Array 32.77 316⇓P **P 05 06 39.7 -0.3**
BURAR Bucovina Array 32.77 316⇓*i*P **P 05 06 39.7 -0.3**
BUR04 Bucovina Ar. S 32.78 316 *eP* **P 05 06 40.5 +0.5**
BUR04 Bucovina Ar. S 32.78 316 *eP* **P 05 06 40.5 +0.5**
BUR08 Bucovina Ar. S 32.80 316 *eP* **P 05 06 39.8 -0.4**
BUR08 Bucovina Ar. S 32.80 316 *eP* **P 05 06 39.8 -0.4**
DRGR 34.04 313⇓*i*P **P 05 06 51.9 +0.9**
DRGR 34.04 313⇓P **P 05 06 51.9 +0.9**
DRGR 34.04 313 P **P 05 06 51.9 +0.9**
SIRR Siria 34.55 312⇓*i*P **P 05 06 56.2 +0.8**
SIRR Siria 34.55 312⇓*i*P **P 05 06 56.2 +0.8**
KLMR Klimovskoe 35.35 344 *eP* **P 05 06 59.5 -2.5**
KLMR pmax pmax
comp=Z,18nm,1.3s
KLMR Klimovskoe 35.35 344 *eP* **P 05 06 59.6 -2.5**
KLMR AMP 05 07 04.1
comp=Z,18nm,1.3s
KMBO Kilima Mbogo 35.83 220 P **P 05 07 09.3 +2.5**
comp=Z,1.0nm,0.6s,baz=25,slow=13,SNR=4.4
KMBO Kilima Mbogo 35.83 220 *ceP* **P 05 07 09.8 +2.9**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
VYHS Vyhne 37.08 314 *eP* **P 05 07 17.2 +0.2**
VYHS Vyhne 37.08 314 *eP* **P 05 07 17.2 +0.2**
VYHS Vyhne 37.08 314 *eP* **P 05 07 17.2 +0.2**
VYHS *e* 05 28 31.8
LZH Lanzhou 38.45 66 *eP* **P 05 07 27.3 -1.7**
LZH pP pP 05 07 32.1 0.0
LZH sP sP 05 07 34.3 +1.0
LZH *ePP* **PnPn 05 08 58.5 -0.2**
VRAC Vranov 38.74 315 LR LR 05 27 43.1
comp=Z,76nm,18.5s,baz=115,slow=43
CD2 Chengdu 38.76 75 *eP* **P 05 07 30.2 -1.3**
FINES FINESS Array B 39.97 336 P **P 05 07 40.3 -0.8**
comp=Z,2.9nm,0.7s,baz=117,slow=2.6,SNR=10
FINES FINESS Array B 39.97 336 *i*P **P 05 07 38.7 -2.4**
FINES pmax pmax
comp=Z,3.0nm,0.7s
ZAK Zakamensk 40.05 44 *eP* **P 05 07 41.3 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
ZAK Zakamensk 40.05 44 *eP* **P 05 07 41.3 -0.8**
comp=Z,2.0nm,1.2s
GERES GERESS Array B 40.44 313 P **P 05 07 44.1 -1.3**
comp=Z,1.5nm,0.7s,baz=108,slow=8.6,SNR=13
SONM Songino Array 41.42 48 P **P 05 07 54.2 +0.7**
comp=Z,2.5nm,0.8s,baz=253,slow=10.0,SNR=18
SONM LR LR 05 26 26.1
comp=Z,143nm,20.1s,baz=345,slow=38
SONA1 Songino Array 41.43 48 *eP* **P 05 07 53.9 +0.3**
SONA1 Songino Array 41.43 48 *eP* **P 05 07 53.9 +0.3**
ULN Ulaanbaatar 41.86 48⇑*eP* **P 05 07 57.2 +0.1**
ULN pmax pmax
comp=Z,6.0nm,1.2s
ULN Ulaanbaatar 41.86 48 *eP* **P 05 07 57.4 +0.2**
comp=Z,4.2nm,0.8s
ULN Ulaanbaatar 41.86 48 *eP* **P 05 07 57.2 +0.1**
comp=Z,6.0nm,1.2s
HFS Hagfors 44.31 329 P **P 05 08 16.6 +0.1**
comp=Z,2.9nm,0.8s,baz=106,slow=15,SNR=5.2
HFS Hagfors 44.31 329 P **P 05 08 16.6 +0.1**
HFS pmax pmax
comp=Z,5.0nm,1.0s
PSI Prapat 45.50 116 P **P 05 08 26.9 +0.2**
comp=Z,1.7nm,0.6s,baz=290,slow=12,SNR=3.5
NOA NORSAR Array B 45.80 330 LR LR 05 31 19.2
comp=Z,63nm,20.4s,baz=355,slow=41
ARCES ARCESS Array B 45.82 344 P **P 05 08 27.9 -0.5**
comp=Z,6.8nm,1.0s,baz=129,slow=5.6,SNR=5.1
ARCES LR LR 05 30 18.1
comp=Z,146nm,18.9s,baz=308,slow=40
BOD Bodaibo 48.13 36 *eP* **P 05 08 45.5 -1.1**
BOD pmax pmax
comp=Z,5.0nm,2.3s
EKA Eskdalemuir Ar 51.77 320 P **P 05 09 14.2 -0.1**
comp=Z,1.4nm,0.8s,baz=95,slow=7.9,SNR=3.1
ESDC Sonseca Array 52.68 300 P **P 05 09 21.6 +0.1**
comp=Z,0.3nm,0.4s,baz=74,slow=8.3,SNR=5.5
SPITS Spitsbergen Ar 53.72 350 P **P 05 09 28.1 -0.4**
comp=Z,3.4nm,0.7s,baz=141,slow=7.3,SNR=2.5
SPITS LR LR 05 37 09.3
comp=Z,74nm,18.5s,baz=200,slow=41
TOA0 Torodi Ar. Sit 55.31 267 *eP* **P 05 09 39.4 -1.4**
comp=Z,3.1nm,0.6s
TORD Torodi Ar. Bea 55.31 267 P **P 05 09 39.6 -1.3**
comp=Z,2.0nm,0.5s,baz=61,slow=7.2,SNR=33
TORD LR LR 05 36 34.0
comp=Z,125nm,19.6s,baz=85,slow=40
YAK Yakutsk 56.53 32 LR LR 05 36 15.3
comp=Z,98nm,18.1s,baz=258,slow=38
MATP Matopo 56.58 215 LR LR 05 34 33.9
comp=Z,43nm,18.4s,baz=24,slow=37
TIXI Tiksi 57.26 21 P **P 05 09 54.4 +0.4**
comp=Z,1.5nm,0.3s,baz=99,slow=3.5,SNR=4.3
KSAR Wonju Array Be 57.44 62 P **P 05 09 55.4 -0.4**
KSAR Wonju Array Be 57.44 62 P **P 05 09 55.4 -0.4**
KSAR Wonju Array Be 57.44 62 P **P 05 09 55.4 -0.4**
KSRS Korea Array 57.47 62 P **P 05 09 55.4 -0.6**
comp=Z,4.1nm,1.1s,baz=261,slow=7.0,SNR=3.4
KSRS LR LR 05 39 27.1
comp=Z,50nm,18.2s,baz=230,slow=41
KLR Kul'dur 58.23 47 LR LR 05 36 46.6
comp=Z,14nm,20.6s,baz=336,slow=38
MSHR Mys Shultsa 58.88 55*ceP* **P 05 10 08.0 +2.2**
USRK Ussuriysk Ar. 59.17 53 LR LR 05 37 46.3
comp=Z,86nm,21.7s,baz=292,slow=38
KOWA Kowa 59.80 271 P **P 05 10 12.0 -0.6**
comp=Z,2.8nm,0.7s,baz=61,slow=9.4,SNR=10
KOWA Kowa 59.80 271 *eP* **P 05 10 12.1 -0.4**
comp=Z,3.6nm,0.8s
JNU Nakatsue 60.87 66 LR LR 05 41 27.8
comp=Z,60nm,19.3s,baz=117,slow=41
DBIC Dimbokro 63.96 263 LR LR 05 39 51.9
comp=Z,64nm,21.2s,baz=34,slow=37
BOSA Boshof 65.03 213 P **P 05 10 46.9 -0.5**
comp=Z,1.1nm,0.6s,baz=11,slow=1.1,SNR=3.3
BILL Bilibino 70.39 22 *i*P **P 05 11 23.8 +3.3**
BILL pmax pmax
comp=Z,19nm,1.0s
PETK Petropavlovsk- 72.90 39 LR LR 05 45 54.8
comp=Z,65nm,18.6s,baz=327,slow=38
WRA Warramunga Arr 86.93 114 P **P 05 12 50.1 -2.2**
comp=Z,0.8nm,0.8s,baz=313,slow=4.5,SNR=5.3
ASAR Alice Springs 88.51 118 P **P 05 13 00.0 +0.1**
comp=Z,1.4nm,0.9s,baz=305,slow=5.5,SNR=9.1
AS01 Alice Springs 88.55 118 *eP* **P 05 13 00.8 +0.8**
YKA Yellowknife Ar 89.62 357 P **P 05 13 03.3 -1.1**
comp=Z,0.9nm,0.7s,baz=358,slow=4.8,SNR=15

DDA ***11*** *05:00:10.6,37.°15N×35.°90E,h7km,Ml2.6*
ISK ***11*** *05:00:10.3,37.°20N×35.°83E,h30km,ML2.1/3*
ISCJB ***11*** *05:00:11.9±0.5,37.°19N±0.°03×35.°92E±0.°03,h22km±6km, Error ellipse: s-maj=5.9km s-min=4.5km az=16.8*
CSEM ***11*** *05:00:11.6±0.2,37.°22N×35.°95E,h20km,ML2.1, Error ellipse: s-maj=4.7km s-min=4.3km az=25.0*
ISC 11 05:00:11.5±0.9,**37.°24N**±0.°03×**35.°94E**±0.°02,**h13**km±9km, **n18,**σ**0°58/36,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.26**	**340**	PG		**Pb**	**05 00 18.0**	**-0.1**
KOZT				SG		**Sb**	**05 00 23.5**	**+1.0**
KOZT	**Kozan**	**0.26**	**340**	*e*Pg		**Pb**	**05 00 18.0**	**-0.1**
KOZT				*e*Sg		**Sb**	**05 00 23.5**	**+1.0**
CEYT	**Ceyhan**	**0.27**	**214**	PG		**Pg**	**05 00 17.2**	**0.0**
CEYT				SG		**Sg**	**05 00 21.5**	**+0.5**
CEYT	**Ceyhan**	**0.27**	**214**	*e*Pg		**Pg**	**05 00 17.2**	**0.0**
CEYT				*e*Sg		**Sg**	**05 00 21.5**	**+0.5**
AKO	**Adana**	**0.45**	**300**	*i*P		**Pb**	**05 00 21.2**	**-0.1**
AKO				*i*S		**Sb**	**05 00 28.2**	**+0.3**
ANDN	**Andirin**	**0.47**	**43**	*i*P		**Pg**	**05 00 21.2**	**+0.3**
ANDN				*i*S		**Sb**	**05 00 29.7**	**+1.0**
ANDN	**Andirin**	**0.47**	**43**	P		**Pg**	**05 00 21.2**	**+0.3**
ANDN				S		**Sb**	**05 00 29.7**	**+1.0**
SAIM	**ADANA**	**0.75**	**9**	*i*P		**Pg**	**05 00 25.8**	**-0.3**
SAIM				*i*S		**Sn**	**05 00 39.5**	**+0.3**
SAIM	**ADANA**	**0.75**	**9**	P		**Pg**	**05 00 25.8**	**-0.3**
SAIM				S		**Sn**	**05 00 39.5**	**+0.3**
HCB	**Kahramanmara¯**	**0.78**	**82**	*i*P		**Pg**	**05 00 26.8**	**+0.1**
HCB				*i*S		**Sb**	**05 00 38.3**	**+0.7**
YAHY	**KAYSERI_Yahyal**	**0.97**	**332**	*i*P		**Pg**	**05 00 30.3**	**0.0**
YAHY				*i*S		**Sg**	**05 00 42.0**	**-1.0**
YAHY	**KAYSERI_Yahyal**	**0.97**	**332**	P		**Pg**	**05 00 30.3**	**0.0**
YAHY				S		**Sg**	**05 00 42.0**	**-1.0**
GAZ	**Gaziantep**	**1.02**	**93**	PN		**Pg**	**05 00 30.1**	**-1.1**
GAZ				SN		**Sg**	**05 00 44.3**	**-0.3**
GAZ	**Gaziantep**	**1.02**	**93**	*e*Pn		**Pg**	**05 00 30.1**	**-1.1**
GAZ				*e*Sn		**Sg**	**05 00 44.3**	**-0.3**
KUZU	**Kuzuini**	**1.02**	**117**	*i*P		**Pg**	**05 00 31.1**	**-0.2**
KUZU				*i*S		**Sg**	**05 00 44.3**	**-0.3**
KUZU	**Kuzuini**	**1.02**	**117**	P		**Pg**	**05 00 31.1**	**-0.2**
KUZU				S		**Sg**	**05 00 44.3**	**-0.3**
KERG	**Konya-Eregli**	**1.45**	**278**	*i*P		**Pn**	**05 00 37.5**	**-0.1**
KERG				*i*S		**Sb**	**05 00 56.9**	**-0.1**
KERG	**Konya-Eregli**	**1.45**	**278**	P		**Pn**	**05 00 37.5**	**-0.1**
KERG				S		**Sb**	**05 00 56.9**	**-0.1**

ISCJB ***11*** *05:07:37.4±0.3,65.°86N±0.°05×173.°74W±0.°07,h10km, mb4.0/19,MS3.4/1, Error ellipse: s-maj=6.9km s-min=3.7km az=14.4*
MOS ***11*** *05:07:38.6±1.3,65.°96N×173.°69W,h13km,mb4.2/13, Error ellipse: s-maj=18.1km s-min=11.4km az=109.8*
IDC ***11*** *05:07:38.1±1.2,65.°96N×173.°75W,h0km,mb3.9/16, mb1 4.0/16,mb1mx3.8/74,mbtmp3.9/16,MS3.2/3, Ms1 3.2/3,ms1mx2.6/72, Error ellipse: s-maj=38.1km s-min=15.1km az=20.0*
NEIC ***11*** *05:07:39.1±0.3,65.°83N×173.°92W,h10km,mb4.5/2, Error ellipse: s-maj=8.3km s-min=3.8km az=201.0*
NERS ***11*** *05:07:42.4,65.°79N×173.°79W,h40km,MPV4.0*
ISC 11 05:07:39.7±0.5,**65.°85N**±0.°07×**173.°71W**±0.°05,**h10**km,**n88,** σ**1°45/89,mb4.0/19,5C,Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**2.25**	**157**	*e*Pn		**Pn**	**05 08 12.9**	**-4.0**
GAMB				*e*Sn		**Sn**	**05 08 44.0**	**-0.7**
BILL	**Bilibino**	**8.14**	**295**	*e*P		**Pn**	**05 09 37.0**	**-0.8**
BILL				*e*Pg		**Pb**	**05 10 05.2**	**+4.5**
BILL				*e*S		Sn	05 11 00.7	-9.0
BILL				*e*			05 11 22.4	
BILL				*e*Sg		Sb	05 11 49.1	+12
BILL				Sgmax			05 11 59.2	
	50nm,1.0s							
BILL	**Bilibino**	**8.14**	**295**	*i*P		**Pn**	**05 09 37.0**	**-0.8**
BILL				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BILL				MLR		MLR		
	comp=Z,164nm,16.0s							
IM3	**Indian Mountai**	**8.16**	**80**	*e*Pn		**Pn**	**05 09 38.9**	**+0.9**
IM3				*e*Lg		Lg	05 11 59.6	
TTA	**Tatalina**	**8.20**	**103**	*e*P		**Pn**	**05 09 39.8**	**+1.2**
TTA	**Tatalina**	**8.20**	**103**	*e*Pn		**Pn**	**05 09 39.8**	**+1.2**
TTA				*e*Lg		Lg	05 12 00.6	
SPIA	**Saint Paul Isl**	**8.86**	**168**	*e*Pn		**Pn**	**05 09 47.4**	**-0.1**
SVW2	**Sparrevohn**	**9.39**	**112**	*e*Pn		**Pn**	**05 09 54.1**	**-0.7**
COLD	**Coldfoot**	**9.46**	**71**	*e*Pn		**Pn**	**05 09 55.2**	**-0.5**
CAST	**Castle Rocks**	**9.58**	**95**	*e*Pn		**Pn**	**05 09 58.8**	**+1.4**
MLY	**Manley**	**9.58**	**84**	*e*Pn		**Pn**	**05 09 58.0**	**+0.5**
TOLK	**Toolik Lake Re**	**9.73**	**62**	*e*Pn		**Pn**	**05 09 59.4**	**-0.1**
TOLK				*e*Sn		**Sn**	**05 11 50.1**	**+1.4**
PPLA	**Purkeypile**	**9.76**	**98**	*e*Pn		**Pn**	**05 10 00.8**	**+0.7**
BPAW	**Bear Paw Mtn.**	**9.77**	**90**	*e*Pn		**Pn**	**05 10 00.6**	**+0.5**
KTH	**Kantishna Hill**	**10.00**	**93**	*e*Pn		**Pn**	**05 10 04.0**	**+0.8**
TRF	**Thorofare Moun**	**10.30**	**93**	*e*Pn		**Pn**	**05 10 07.8**	**+0.4**
SPU	**Mount Spurr**	**10.71**	**106**	*e*Pn		**Pn**	**05 10 14.2**	**+1.2**
MCK	**McKinley**	**10.75**	**90**	*e*P		**Pn**	**05 10 13.7**	**+0.3**
MCK	**McKinley**	**10.75**	**90**	*e*Pn		**Pn**	**05 10 13.7**	**+0.3**
CCB	**Clear Creek Bu**	**10.89**	**84**	*e*Pn		**Pn**	**05 10 16.3**	**+0.9**
RND	**Reindeer**	**10.91**	**91**	*e*P		**Pn**	**05 10 16.6**	**+0.9**
RND	**Reindeer**	**10.91**	**91**	*e*Pn		**Pn**	**05 10 16.6**	**+0.9**
SUA	**Susitna One**	**11.07**	**103**	*e*Pn		**Pn**	**05 10 19.0**	**+1.0**
IL1	**Eielson Array**	**11.23**	**83**	*e*Pn		**Pn**	**05 10 20.5**	**+0.4**
ILAR	**Eielson Array**	**11.23**	**83**	Pn		**Pn**	**05 10 20.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=282,slow=14,SNR=40							
ILB	**Eielson Array**	**11.23**	**83**	*e*Pn		**Pn**	**05 10 19.9**	**-0.1**
HDA	**Harding Lake**	**11.32**	**85**	*e*Pn		**Pn**	**05 10 22.6**	**+1.3**
EVEN	**Evensk**	**12.50**	**264**	*e*		Pn	05 10 51.7	+14
EVEN				*e*			05 12 11.0	
EVEN				*eL*		L	05 14 04.4	
DOT	**Dot Lake**	**12.78**	**86**	*e*Pn		**Pn**	**05 10 41.6**	**+0.4**
DOT				*e*Sn		**Sn**	**05 13 07.5**	**+4.1**
KDAK	**Kodiak Island**	**12.78**	**119**	Pn		**Pn**	**05 10 42.5**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=297,slow=18,SNR=12							
KDAK				LR		LR	05 16 15.1	
	comp=Z,140nm,18.1s,baz=293,slow=40							
KDAK	**Kodiak Island**	**12.78**	**119**	*ce*P		**Pn**	**05 10 43.6**	**+2.4**
MENT	**Mentasta**	**13.22**	**89**	*e*Pn		**Pn**	**05 10 47.4**	**+0.2**
RAGM	**Ragged Mountai**	**14.13**	**99**	*e*Pn		**Pn**	**05 10 59.8**	**+0.2**
SEY	**Seymchan**	**14.83**	**274**	*e*		**P**	**05 11 16.3**	**+1.3**
SEY				*e*			05 13 39.6	
SEY				*eL*		L	05 15 22.6	
SEY	**Seymchan**	**14.83**	**274**	*e*P		**Pn**	**05 11 11.6**	**+2.5**
INK	**Inuvik**	**15.64**	**63**	Pn		**Pn**	**05 11 21.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=288,slow=9.9,SNR=2.5							
TLAR	**Talaya**	**15.71**	**268**	*eL*		L	05 15 53.8	
MGD	**Magadan 1**	**17.00**	**267**	*e*		**Pn**	**05 11 36.2**	**-0.9**
MGD				*e*			05 14 57.1	
MGD				*eL*		L	05 16 41.3	
PETK	**Petropavlovsk-**	**19.10**	**242**	LR		LR	05 19 42.8	
	comp=Z,41nm,19.6s,baz=54,slow=38							
TIXI	**Tiksi**	**20.82**	**311**	P		**P**		
	comp=Z,2.1nm,0.3s,baz=63,slow=7.4,SNR=3.5							
TIXI	**Tiksi**	**20.82**	**311**	*ce*P		**P**	**05 12 20.6**	**-0.2**
TIXI				pmax		pmax		
	comp=Z,12nm,1.0s							
CRAG	**Craig**	**22.00**	**99**	*e*P		**P**	**05 12 34.8**	**+1.1**
YAK	**Yakutsk**	**24.42**	**288**	*e*P		**P**	**05 12 58.4**	**+0.5**
YKA	**Yellowknife Ar**	**25.13**	**70**	*i* P		**P**	**05 13 05.5**	**+1.2**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YSS	**Yuzh-Sakhalins**	**29.74**	**252**	*e*P		**P**	**05 13 45.8**	**+0.1**
GULW	**Guler Mountain**	**34.00**	**100**	*e*P		**P**	**05 14 20.0**	**-3.3**
ULM	**Lac du Bonnet**	**41.02**	**73**	P		**P**	**05 15 22.7**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=320,slow=7.9,SNR=2.5							
PD31	**Pinedale Array**	**41.52**	**91**	*e*P		**P**	**05 15 26.5**	**-0.5**
PDAR	**Pinedale Array**	**41.52**	**91**	P		**P**	**05 15 26.5**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=302,slow=3.3,SNR=4.1							
NV01	**Mina Array Sit**	**41.61**	**103**	*e*P		**P**	**05 15 28.3**	**+0.5**
NVAR	**Mina Array Bea**	**41.61**	**103**	P		**P**	**05 15 28.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=308,slow=5.5,SNR=3.7							
SONA0	**Songino Array**	**43.77**	**286**	*e*P		**P**	**05 15 45.0**	**-0.1**
SONM	**Songino Array**	**43.77**	**286**	P		**P**	**05 15 45.0**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=43,slow=5.9,SNR=5.8							
SONM	**Songino Array**	**43.77**	**286**	P		**P**	**05 15 45.0**	**-0.1**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
DBD	**Des Bee Dove**	**43.79**	**95**	*e*P		**P**	**05 15 44.7**	**-0.8**
GATR	**Gnd/Air Tx Cnt**	**44.11**	**108**	*e*P		**P**	**05 15 51.3**	**+3.5**
GSC	**Goldstone, Bar**	**44.92**	**104**	*e*P		**P**	**05 15 57.1**	**+2.7**
GSC	**Goldstone, Bar**	**44.92**	**104**	*e*P		**P**	**05 15 57.1**	**+2.7**
DSCC	**Desert Studies**	**45.34**	**103**	*e*P		**P**	**05 15 54.5**	**-3.1**
DSCC				*ep*P		**pP**	**05 15 58.9**	**-1.8**
DSCC				*es*P		**sP**	**05 16 02.6**	**+0.6**
KURK	**Kurchatov**	**51.38**	**309**	P		**P**	**05 16 44.5**	**+0.6**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.2s							
KURK	**Kurchatov**	**51.38**	**309**	P		**P**	**05 16 44.5**	**+0.6**
KURBB	**Kurchatov Arra**	**51.49**	**309**	P		**P**	**05 16 44.5**	**-0.2**
	comp=Z,2.0nm,0.2s,baz=35,slow=7.4,SNR=4.4							
BVAR	**Borovoye Array**	**51.84**	**316**	P		**P**	**05 16 46.2**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=33,slow=8.6,SNR=5.8							
FIA0	**FINESS Array S**	**52.17**	**348**	*e*P		**P**	**05 16 49.0**	**-0.7**
FIA0	**FINESS Array S**	**52.17**	**348**	*e*P		**P**	**05 16 49.0**	**-0.7**
FINES	**FINESS Array B**	**52.17**	**348**	P		**P**	**05 16 49.0**	**-0.7**
	comp=Z,3.3nm,1.0s,baz=26,slow=6.7,SNR=6.7							
FINES	**FINESS Array B**	**52.17**	**348**	*ce*P		**P**	**05 16 51.2**	**+1.5**
FINES				pmax		pmax		
	comp=Z,4.0nm,1.0s							
NB200	**NORSAR Array S**	**53.37**	**357**	*e*P		**P**	**05 16 58.1**	**-0.5**
NOA	**NORSAR Array B**	**53.37**	**357**	P		**P**	**05 16 58.1**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=18,slow=7.1,SNR=2.5							
MK32	**Makanchi Array**	**53.57**	**304**	*e*P		**P**	**05 16 59.7**	**-0.6**
MKAR	**Makanchi Array**	**53.57**	**304**	P		**P**	**05 16 59.7**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=48,slow=7.5,SNR=9.0							
MKAR	**Makanchi Array**	**53.57**	**304**	*ce*P		**P**	**05 17 00.9**	**+0.6**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
HFS	**Hagfors**	**54.21**	**355**	P		**P**	**05 17 03.7**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=40,slow=7.5,SNR=3.3							
LTX	**Lajitas**	**55.47**	**95**	*e*P		**P**	**05 17 14.2**	**-0.2**
LTX	**Lajitas**	**55.47**	**95**	*e*P		**P**	**05 17 14.2**	**-0.2**
TXAR	**Lajitas Array**	**55.47**	**95**	P		**P**	**05 17 14.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=297,slow=7.9,SNR=3.0							
OBN	**Obninsk**	**57.19**	**340**	*e*P		**P**	**05 17 28.3**	**+2.2**
OBN				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ABKAR	**Akbulak array**	**58.08**	**322**	*e*P		**P**	**05 17 31.1**	**-1.4**
	comp=Z,1.1nm,0.7s							
EKA	**Eskdalemuir Ar**	**58.93**	**6**	P		**P**	**05 17 38.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=360,slow=4.9,SNR=6.5							
AAK	**Ala-Archa**	**59.84**	**308**	P		**P**	**05 17 45.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=59,slow=5.3,SNR=4.8							
AKASG	**Malin Array Be**	**62.45**	**344**	P		**P**	**05 18 01.1**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=17,slow=6.6,SNR=7.3							
AKASG	**Malin Array Be**	**62.45**	**344**	*ce*P		**P**	**05 18 03.4**	**+1.0**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AKBB	**Malin Array Si**	**62.45**	**344**	*e*P		**P**	**05 18 01.1**	**-1.3**
AKBB				pmax		pmax		
	comp=Z,17nm,1.8s							
AKBB	**Malin Array Si**	**62.45**	**344**	*e*P		**P**	**05 18 01.1**	**-1.3**
	comp=Z,17nm,1.8s							
CLL	**Collm**	**63.06**	**355**	*e*P		P	05 18 14.0	+7.5
BR101	**Keskin

ISK ***11*** *05:23:29.3, 39˚.52N×37˚.70E, h6km, MD2.5/1*
CSEM ***11*** *05:23:30.8±0.4, 39˚.51N×37˚.64E, h5km, MD2.5, Error ellipse: s-maj=10.2km s-min=7.1km az=60.0*
ISCJB ***11*** *05:23:31.2±0.7, 39˚.52N±0˚.04×37˚.60E±0˚.06, h24km±8km, Error ellipse: s-maj=8.1km s-min=5.8km az=159.0*
DDA ***11*** *05:23:31.5, 39˚.51N×37˚.66E, h7km, Md2.5*
ISC 11 05:23:30.9±1.1, **39˚.53N**±0˚.03×**37˚.62E**±0˚.04, **h18**km±6km, **n16**, σ**0**s**56**/**28**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CUKAN	**kangal_SIVAS**	**0.24**	**210**	*i*	P		**Pg**	**05 23 36.6**	**+0.1**
CUKAN				*i*	S		**Sg**	**05 23 40.9**	**+0.5**
CUKAN	**kangal_SIVAS**	**0.24**	**210**		P		**Pg**	**05 23 36.6**	**+0.1**
CUKAN					S		**Sg**	**05 23 40.9**	**+0.5**
CUZAR	**Zara_SIVAS**	**0.38**	**18**	*i*	P		**Pg**	**05 23 38.6**	**-0.3**
CUZAR				*i*	S		**Sb**	**05 23 45.6**	**+0.7**
CUZAR	**Zara_SIVAS**	**0.38**	**18**		P		**Pg**	**05 23 38.6**	**-0.3**
CUZAR					S		**Sb**	**05 23 45.6**	**+0.7**
SVSK	**Karacayir**	**0.62**	**309**		PG		**Pg**	**05 23 42.6**	**-0.5**
SVSK					SG		**Sb**	**05 23 52.6**	**+1.1**
SVSK	**Karacayir**	**0.62**	**309**	*e*	Pg		**Pg**	**05 23 42.6**	**-0.5**
SVSK				*e*	Sg		**Sb**	**05 23 52.6**	**+1.1**
HEKM	**Malatya_Hekimh**	**0.70**	**158**	*i*	P		**Pn**	**05 23 46.0**	**-0.1**
HEKM				*i*	S		**Sb**	**05 23 54.5**	**+0.5**
HEKM	**Malatya_Hekimh**	**0.70**	**158**		P		**Pn**	**05 23 46.0**	**-0.1**
HEKM					S		**Sb**	**05 23 54.5**	**+0.5**
KEMA	**Kemaliye**	**0.72**	**110**	*i*	P		**Pg**	**05 23 45.0**	**-0.1**
KEMA				*i*	S		**Sb**	**05 23 55.0**	**+0.4**
KEMA	**Kemaliye**	**0.72**	**110**		P		**Pg**	**05 23 45.0**	**-0.1**
KEMA					S		**Sb**	**05 23 55.0**	**+0.4**
DARE	**Darende-Malaty**	**0.96**	**186**		PG		**Pb**	**05 23 48.4**	**-0.6**
DARE	**Darende-Malaty**	**0.96**	**186**	*e*	Pg		**Pb**	**05 23 48.4**	**-0.6**
MALT	**Malatya**	**1.36**	**152**		PN		**Pn**	**05 23 54.5**	**-0.7**
MALT	**Malatya**	**1.36**	**152**	*e*	Pn		**Pn**	**05 23 54.5**	**-0.7**
PTK	**Pertek**	**1.52**	**114**		PN		**Pn**	**05 23 57.6**	**+0.3**
PTK					SN		**Sn**	**05 24 16.8**	**+0.1**
PTK	**Pertek**	**1.52**	**114**	*e*	Pn		**Pn**	**05 23 57.6**	**+0.3**
PTK				*e*	Sn		**Sn**	**05 24 16.8**	**+0.1**

ISCJB ***11*** *05:27:34.3±0.2, 51˚.53N±0˚.01×16˚.14E±0˚.02, h0km, mb3.4/7, Error ellipse: s-maj=1.8km s-min=1.6km az=177.5*
LDG ***11*** *05:27:35.6±0.2, 51˚.53N×16˚.15E, h1km, Ml4.1/9, Error ellipse: s-maj=4.5km s-min=2.2km az=12.0, Suspected Mining induced.*
IPEC ***11*** *05:27:35.3±0.3, 51˚.61N×16˚.23E, h0km, ML3.4/3, Error ellipse: s-maj=3.1km s-min=1.7km az=66.0*
CSEM ***11*** *05:27:36.3±0.1, 51˚.55N×16˚.16E, h2km, ML4.2/19, Ms3.5, Error ellipse: s-maj=2.4km s-min=2.2km az=24.0*
PRU ***11*** *05:27:37.0, 51˚.53N×16˚.14E, h0km, M4.2, Felt In Harrachov*
BGR ***11*** *05:27:37.0±0.3, 51˚.54N×16˚.17E, h1km, ML3.8/16, Error ellipse: s-maj=4.4km s-min=2.2km az=15.0*
IDC ***11*** *05:27:37.3±0.5, 51˚.52N×16˚.06E, h0km, mb3.5/7, mb1 3.7/14, mb1mx3.5/67, mbtmp3.5/14, ML3.5/7, Error ellipse: s-maj=9.1km s-min=5.3km az=100.0*
VIE ***11*** *05:27:38.1±0.5, 51˚.42N×16˚.08E, h0km, mb3.2/16, ML3.4/16, Ms3.5/2, Error ellipse: s-maj=5.3km s-min=3.5km az=15.0, Suspected Mining induced.*
UPP ***11*** *05:27:39.5, 51˚.72N×15˚.57E, h0km, ML2.7, Suspected Mining explosion.*
ISC 11 05:27:35.6±0.5, **51˚.59N**±0˚.02×**16˚.16E**±0˚.02, **h0**km, **n209**, σ**1**s**78**/**329**, **mb3.6**/**7**, **5C-28D**, **Poland**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**174**	*i*	Pg	**Pg**	**05 27 50.5**	**+0.5**
KSP				*i*	Sg	**Sg**	**05 27 59.5**	**-0.2**
KSP				*e*			05 28 03.6	
KSP	**Ksiaz**	**0.75**	**174**	*e*	P	**Pg**	**05 27 50.6**	**+0.6**
KSP				*e*	Sg	**Sg**	**05 28 00.3**	**+0.6**
KSP	**Ksiaz**	**0.75**	**174**	‖ *i*	Pg	**Pg**	**05 27 50.5**	**+0.6**
KSP					Sg	**Sg**	**05 28 00.3**	**+0.6**
UPC	**Upice**	**1.09**	**185**	‖ *i*	PG	**Pg**	**05 27 56.6**	**+0.2**
UPC				*e*	SG	**Sg**	**05 28 10.9**	**+0.4**
	comp=Z,871nm,0.4s							
UPC	**Upice**	**1.09**	**185**		Pg	**Pg**	**05 27 56.6**	**+0.2**
UPC					Sg	**Sg**	**05 28 10.9**	**+0.4**
	871nm,0.4s							
DPC	**Dobruska-Polom**	**1.25**	**175**	*e*	Pg	**Pg**	**05 27 59.3**	**-0.1**
DPC				*e*	Sg	**Sg**	**05 28 15.8**	**+0.3**
DPC	**Dobruska-Polom**	**1.25**	**175**	‖ *i*	PG	**Pg**	**05 27 59.3**	**-0.1**
DPC				*e*	SG	**Sg**	**05 28 14.7**	**-0.8**
	comp=Z,354nm,0.4s							
DPC	**Dobruska-Polom**	**1.25**	**175**		Pg	**Pg**	**05 27 59.3**	**-0.1**
DPC					Sg	**Sg**	**05 28 15.8**	**+0.3**
PVCC	**Panska Ves**	**1.46**	**224**	‖ *e*	PG	**Pn**	**05 28 03.2**	**0.0**
PVCC				*e*	SG	**Sg**	**05 28 22.5**	**0.0**
	comp=Z,965nm,0.4s							
PVCC	**Panska Ves**	**1.46**	**224**		Pg	**Pn**	**05 28 03.2**	**0.0**
PVCC					Sg	**Sg**	**05 28 22.5**	**0.0**
	965nm,0.4s							
BRG	**Berggiesshubel**	**1.57**	**244**		PN	**Pn**	**05 28 04.5**	**-0.2**
BRG					PG	**Pg**	**05 28 06.0**	**+0.4**
BRG					SG	**Sg**	**05 28 26.6**	**+0.7**
	954nm,0.6s							
BRG	**Berggiesshubel**	**1.57**	**244**	*e*	Pn	**Pn**	**05 28 04.3**	**-0.4**
BRG				*e*	Sg	**Sg**	**05 28 26.6**	**+0.7**
BRG	**Berggiesshubel**	**1.57**	**244**		Pn	**Pn**	**05 28 04.3**	**-0.4**
BRG					Sg	**Sg**	**05 28 26.6**	**+0.7**
FBE	**Freiberg**	**1.89**	**250**	*e*	Pg	**Pg**	**05 28 11.6**	**-0.1**
FBE				*e*	Sg	**Sg**	**05 28 36.9**	**+0.8**
FBE	**Freiberg**	**1.89**	**250**		Pg	**Pg**	**05 28 11.6**	**-0.1**
FBE					Sg	**Sg**	**05 28 36.9**	**+0.8**
GOPC	**GO Pecny, Ondr**	**1.89**	**208**	‖ *e*	PN	**Pn**	**05 28 08.9**	**-0.2**
GOPC				*e*	PG	**Pb**	**05 28 10.8**	**-0.1**
GOPC				*e*	SG	**Sb**	**05 28 34.6**	**-0.5**
	comp=Z,234nm,0.5s							
PRU	**Pruhonice**	**1.90**	**213**	‖ *e*	PN	**Pn**	**05 28 09.1**	**-0.2**
PRU				*e*	PG	**Pb**	**05 28 11.1**	**0.0**
PRU				*ex*		x	05 28 27.7	
PRU				*e*	SG	**Sb**	**05 28 35.3**	**-0.2**
	comp=Z,272nm,0.4s							
RAC	**Raciborz**	**1.98**	**139**	*e*	Pg	**Pb**	**05 28 13.0**	**+0.5**
RAC				*e*	Sg	**Sg**	**05 28 39.2**	**-0.1**
CLL	**Collm**	**2.00**	**263**	*e*	Pn	**Pn**	**05 28 10.5**	**0.0**
CLL				*e*	Pg	**Pg**	**05 28 13.8**	**+0.1**
CLL				*e*	Sg	**Sg**	**05 28 40.2**	**+0.6**
CLL	**Collm**	**2.00**	**263**	*e*	Pn	**Pn**	**05 28 10.0**	**-0.5**
CLL				*e*	Pg	**Pg**	**05 28 14.0**	**+0.2**
CLL				*e*			05 28 18.0	
CLL				*i*	Sg	**Sg**	**05 28 39.9**	**+0.3**
	comp=Z,312nm,0.6s							
CLL	**Collm**	**2.00**	**263**		Pn	**Pn**	**05 28 10.5**	**0.0**
MORC	**Moravsky Berou**	**2.02**	**154**	*e*	Pn	**Pn**	**05 28 10.7**	**-0.2**
MORC				*e*	Sg	**Sg**	**05 28 39.7**	**-0.6**
MORC	**Moravsky Berou**	**2.02**	**154**	‖ *i*	P	**Pn**	**05 28 10.6**	**-0.2**
MORC	**Moravsky Berou**	**2.02**	**154**		Pn	**Pn**	**05 28 10.7**	**-0.2**
MORC					S	**Sb**	**05 28 38.2**	**-0.5**
MORC					Sg	**Sg**	**05 28 39.7**	**-0.6**
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*	Pn	**Pn**	**05 28 12.0**	**-0.7**
OKC				*e*	Pg	**Pb**	**05 28 16.1**	**+0.6**
OKC				*e*	Sg	**Sb**	**05 28 43.7**	**+0.8**
OKC	**Ostrava-Krasne**	**2.16**	**143**	‖ *e*	PN	**Pn**	**05 28 12.1**	**-0.7**
OKC				*e*	PG	**Pb**	**05 28 16.1**	**+0.6**
OKC				*e*	SG	**Sg**	**05 28 43.9**	**-1.1**
	comp=Z,256nm,0.5s							
OKC	**Ostrava-Krasne**	**2.16**	**143**		Pn	**Pn**	**05 28 12.1**	**-0.7**
CHZP	**Chorzow**	**2.21**	**125**	*e*	Pn	**Pn**	**05 28 13.2**	**-0.3**
CHZP				*e*	Pg	**Pg**	**05 28 18.9**	**+1.0**
CHZP				*e*	Sn	**Sn**	**05 28 40.1**	**-1.4**
CHZP				*e*	Sg	**Sg**	**05 28 46.6**	**0.0**
VRAC	**Vranov**	**2.30**	**173**		Pn	**Pn**	**05 28 15.0**	**+0.3**
	comp=Z,11nm,0.3s,baz=334,slow=16,SNR=78							
VRAC					Sn	**Sn**	**05 28 44.1**	**+0.4**
	comp=Z,16nm,0.3s,baz=53,slow=20,SNR=5.0							
VRAC					Lg	Lg	05 28 48.1	
	comp=Z,58nm,0.3s,baz=255,slow=20,SNR=11							
VRAC	**Vranov**	**2.30**	**173**	⇑ *i*	P	**Pn**	**05 28 14.5**	**-0.2**
VRAC	**Vranov**	**2.30**	**173**	*e*	Pn	**Pn**	**05 28 14.6**	**-0.2**
VRAC				*e*	Sg	**Sb**	**05 28 47.9**	**+1.0**
	comp=Z,167nm,0.4s							
TREC	**Trest**	**2.34**	**191**	‖ *e*	PN	**Pn**	**05 28 15.6**	**+0.3**
TREC				*e*	PG	**Pb**	**05 28 19.2**	**+0.6**
TREC				*e*	SG	**Sg**	**05 28 49.5**	**-1.1**
	comp=Z,181nm,0.5s							
TREC	**Trest**	**2.34**	**191**		Pn	**Pn**	**05 28 15.6**	**+0.3**
KRUC	**Moravsky**	**2.54**	**177**	*e*	Pn	**Pn**	**05 28 18.0**	**+0.1**
KRUC				*e*	Sg	**Sb**	**05 28 55.0**	**+1.4**
	comp=Z,171nm,0.7s							
OJC	**Ojcow**	**2.68**	**119**	*e*	Pn	**Pn**	**05 28 18.7**	**-1.3**
OJC				*e*	Pg	**Pg**	**05 28 27.0**	**+0.1**
OJC				*e*	Sn	**Sn**	**05 28 51.7**	**-1.4**
OJC				*e*	Sg	**Sg**	**05 29 01.8**	**+0.2**
OJC	**Ojcow**	**2.68**	**119**	*e*	Pn	**Pn**	**05 28 18.9**	**-1.0**
OJC				*e*	Pg	**Pg**	**05 28 26.3**	**-0.6**
OJC				*e*	Sg	**Sg**	**05 29 01.7**	**+0.2**
OJC	**Ojcow**	**2.68**	**119**		Pn	**Pn**	**05 28 18.9**	**-1.0**
OJC	**Ojcow**	**2.68**	**119**		Pg	**Pg**	**05 28 26.3**	**-0.6**
OJC					Sn	**Sn**	**05 28 51.7**	**-1.4**
OJC					Sg	**Sg**	**05 29 01.7**	**+0.1**
WERD	**Werda**	**2.69**	**246**	*e*	Pn	**Pn**	**05 28 20.6**	**+0.5**
WERD				*e*	Sg	**Sg**	**05 29 02.7**	**+0.8**
WERD	**Werda**	**2.69**	**246**		Pn	**Pn**	**05 28 20.6**	**+0.5**
WERD					Sg	**Sg**	**05 29 02.7**	**+0.8**
NKC	**Novy Kostel**	**2.71**	**241**	‖ *e*	PN	**Pn**	**05 28 20.9**	**+0.5**
NKC				*e*	PG	**Pg**	**05 28 27.6**	**+0.1**
NKC				*e*	SG	**Sg**	**05 29 02.1**	**-0.6**
	comp=Z,479nm,0.6s							
KHC	**Kasperske Hory**	**2.96**	**215**	‖ *e*	PN	**Pn**	**05 28 23.7**	**-0.2**
KHC				*e*	PG	**Pb**	**05 28 30.0**	**+0.7**
KHC				*e*	SN	**Sn**	**05 29 00.2**	**0.0**
KHC				*e*	SG	**Sg**	**05 29 08.7**	**-2.1**
	comp=Z,147nm,0.5s							
KHC	**Kasperske Hory**	**2.96**	**215**		Pn	**Pn**	**05 28 23.7**	**-0.2**
MOX	**Moxa**	**3.02**	**253**	*e*	Pn	**Pn**	**05 28 24.9**	**+0.3**
MOX				*e*	Pg	**Pg**	**05 28 32.9**	**-0.4**
MOX				*e*	Sg	**Sg**	**05 29 13.0**	**+0.6**
MOX	**Moxa**	**3.02**	**253**		Pn	**Pn**	**05 28 24.9**	**+0.3**
MOX	**Moxa**	**3.02**	**253**		Pg	**Pg**	**05 28 32.9**	**-0.4**
MOX					Sg	**Sg**	**05 29 13.0**	**+0.6**
MANZ	**Manzenberg**	**3.03**	**240**	*e*	Pn	**Pn**	**05 28 25.4**	**+0.6**
MANZ				*e*	Pg	**Pg**	**05 28 34.3**	**+0.7**
MANZ				*e*	Sg	**Sg**	**05 29 13.8**	**+0.9**
MANZ	**Manzenberg**	**3.03**	**240**		Pn	**Pn**	**05 28 25.4**	**+0.6**
ROTZ	**Rotzenmuhle**	**3.11**	**236**	*e*	Pn	**Pn**	**05 28 26.1**	**+0.3**
ROTZ				*e*	Sg	**Sg**	**05 29 13.0**	**-2.3**
ROTZ	**Rotzenmuhle**	**3.11**	**236**		Pn	**Pn**	**05 28 26.1**	**+0.3**
GEC2	**GERESS Array S**	**3.17**	**211**	*e*	Pn	**Pn**	**05 28 27.8**	**+1.1**
GEC2				*e*	Sg	**Sg**	**05 29 15.1**	**-2.2**
GEC2	**GERESS Array S**	**3.17**	**211**		Pn	**Pn**	**05 28 27.8**	**+1.1**
GERES	**GERESS Array B**	**3.17**	**211**		Pn	**Pn**	**05 28 27.5**	**+0.8**
	comp=Z,5.3nm,0.3s,baz=31,slow=12,SNR=154							
GERES					Pg	**Pb**	**05 28 33.5**	**+0.7**
	comp=Z,18nm,0.3s,baz=33,slow=14,SNR=78							
GERES					Lg	Lg	05 29 15.4	
	comp=Z,28nm,0.3s,baz=43,slow=26,SNR=11							
SMOL	**Smolenice**	**3.19**	**165**	*e*	Pg	**Pg**	**05 28 36.1**	**-0.5**
SMOL				*e*	Sg	**Sg**	**05 29 16.1**	**-1.7**
SMOL	**Smolenice**	**3.19**	**165**	*e*	Pn	**Pn**	**05 28 28.4**	**+1.5**
SMOL	**Smolenice**	**3.19**	**165**	*e*	PG	**Pg**	**05 28 36.1**	**-0.5**
SMOL				*e*	SG	**Sg**	**05 29 16.1**	**-1.7**
WET	**Wettzell**	**3.23**	**222**	*e*	Pn	**Pn**	**05 28 27.5**	**0.0**
WET				*e*	Sg	**Sg**	**05 29 18.1**	**-1.0**
WET	**Wettzell**	**3.23**	**222**		Pn	**Pn**	**05 28 27.5**	**0.0**
WET					Sg	**Sg**	**05 29 18.1**	**-1.0**
LANS	**Liptovska Anna**	**3.23**	**138**	*e*	Pg	**Pg**	**05 28 37.4**	**-0.1**
LANS				*e*	Sg	**Sg**	**05 29 17.5**	**-1.8**
LANS	**Liptovska Anna**	**3.23**	**138**	*e*	Pn	**Pn**	**05 28 28.0**	**+0.4**
LANS	**Liptovska Anna**	**3.23**	**138**	*e*	PG	**Pg**	**05 28 37.4**	**-0.1**
LANS				*e*	SG	**Sg**	**05 29 17.5**	**-1.8**
NIE	**Niedzica**	**3.42**	**128**	*e*	P	**Pg**	**05 28 40.7**	**-0.4**
NIE				*e*	S	**Sg**	**05 29 26.2**	**+0.8**
ZST	**Bratislava**	**3.45**	**169**	*e*	Pg	**Pb**	**05 28 38.8**	**+1.3**
ZST				*e*	Sg	**Sg**	**05 29 24.3**	**-2.1**
ZST	**Bratislava**	**3.45**	**169**	*e*	PG	**Pb**	**05 28 38.8**	**+1.3**
ZST				*e*	SG	**Sg**	**05 29 24.3**	**-2.1**
ZST				*e*	LG	Lg	05 29 27.9	
VYHS	**Vyhne**	**3.55**	**150**	*e*	Pg	**Pg**	**05 28 43.3**	**-0.2**
VYHS				*e*	Sg	**Sg**	**05 29 27.1**	**-2.3**
VYHS	**Vyhne**	**3.55**	**150**	*e*	PG	**Pg**	**05 28 43.3**	**-0.2**
VYHS				*e*	SG	**Sg**	**05 29 27.1**	**-2.3**
VYHS				*e*	LG	Lg	05 29 43.1	
BSD	**Bornholm Skovb**	**3.61**	**349**	*i*	P	**Pn**	**05 28 32.9**	**+0.2**
BSD				*i*	S	**Sn**	**05 29 15.2**	**-0.7**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i*	P	**Pn**	**05 28 32.9**	**+0.2**
BSD	SNR=49							
	SNR=49			*i*	S	**Sn**	**05 29 15.3**	**-0.7**
CLZ	**Clausthal**	**3.61**	**276**	*e*	Pn	**Pn**	**05 28 34.3**	**+1.6**
CLZ				*e*	Sg	**Sg**	**05 29 30.8**	**-0.6**
CLZ	**Clausthal**	**3.61**	**276**		Pn	**Pn**	**05 28 34.3**	**+1.6**
CLZ					Sg	**Sg**	**05 29 30.8**	**-0.6**
CONA	**Conrad Observa**	**3.67**	**183**		Pn	**Pn**	**05 28 33.9**	**+0.3**
	comp=Z,5.5nm,0.2s,SNR=9.5							
CONA	**Conrad Observa**	**3.67**	**183**	*e*	Pn	**Pn**	**05 28 33.9**	**+0.3**
	comp=Z,5.5nm,0.2s,SNR=9.5							
CONA					Pg	**Pg**	**05 28 44.4**	**-1.4**
	comp=Z,18nm,0.3s							
CONA					Sg	**Sg**	**05 29 32.8**	**-0.6**
	comp=Z,121nm,0.4s							
GRA1	**Grafenberg Arr**	**3.67**	**241**		Pn	**Pn**	**05 28 34.3**	**+0.7**
GRA1	**Grafenberg Arr**	**3.67**	**241**		Pg	**Pg**	**05 28 47.2**	**+1.3**
GRA1					Sg	**Sg**	**05 29 33.3**	**-0.2**
GRF	**Grafenberg Arr**	**3.67**	**241**	*e*	Pn	**Pn**	**05 28 34.3**	**+0.7**
GRF				*e*	Pg	**Pg**	**05 28 47.2**	**+1.3**
GRF				*e*	Sg	**Sg**	**05 29 33.3**	**-0.2**
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*	Pg	**Pg**	**05 28 52.9**	**+2.5**
STHS				*e*	Sg	**Sg**	**05 29 42.0**	**+1.0**
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*	Pn	**Pn**	**05 28 37.5**	**+0.7**
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*	PG	**Pg**	**05 28 52.9**	**+2.5**
STHS				*e*	SG	**Sg**	**05 29 42.0**	**+1.0**
STHS				*e*	LG	Lg	05 29 56.5	
SOP	**Sopron**	**3.92**	**176**	‖ *e*	PN	**Pn**	**05 28 37.6**	**+0.7**
SOP				*e*	Sn	**Sg**	**05 29 37.9**	**-3.5**
SOP	**Sopron**	**3.92**	**176**	‖ *e*	PN	**Pn**	**05 28 37.6**	**+0.7**
MOA	**Molln**	**3.94**	**199**		Pn	**Pn**	**05 28 37.8**	**+0.5**
	comp=Z,26nm,0.4s,SNR=28							
MOA	**Molln**	**3.94**	**199**	*i*	Pn	**Pn**	**05 28 37.8**	**+0.5**
	comp=Z,26nm,0.4s,SNR=28							
MOA					Pg	**Pg**	**05 28 51.4**	**+0.4**
	comp=Z,29nm,0.3s							
MOA					Sg	**Sg**	**05 29 42.5**	**+0.4**
	comp=Z,249nm,0.6s							
KECS	**Kecovo**	**4.18**	**136**	*e*	Pg	**Pg**	**05 28 54.1**	**-1.4**
KECS	**Kecovo**	**4.18**	**136**	*e*	Pn	**Pn**	**05 28 40.2**	**-0.3**
KECS	**Kecovo**	**4.18**	**136**	*e*	PG	**Pg**	**05 28 54.1**	**-1.4**
KECS				*e*	LG	Lg	05 30 01.3	
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*	Pg	**Pg**	**05 28 58.6**	**0.0**
CRVS				*e*	Sg	**Sg**	**05 29 55.0**	**+0.2**
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*	Pn	**Pn**	**05 28 43.8**	**+1.1**
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*	PG	**Pg**	**05 28 58.6**	**0.0**
CRVS				*e*	SG	**Sg**	**05 29 54.9**	**+0.2**
ARSA	**Arzberg**	**4.36**	**186**		Pn	**Pn**	**05 28 44.2**	**+1.1**
	comp=Z,4.2nm,0.3s							
ARSA	**Arzberg**	**4.36**	**186**	*e*	Pn	**Pn**	**05 28 44.2**	**+1.1**
	comp=Z,4.2nm,0.3s							
ARSA					Pg	**Pg**	**05 28 58.5**	**-0.6**
	comp=Z,12nm,0.3s							
ARSA					Sg	**Sg**	**05 29 57.3**	**+1.6**
	comp=Z,76nm,0.6s							
PSZ	**Piszkesteto**	**4.40**	**145**	⇑ *i*	P	**Pn**	**05 28 43.1**	**-0.5**
PSZ	**Piszkesteto**	**4.40**	**145**	*e*	Pn	**Pn**	**05 28 44.7**	**+1.1**
PSZ				*e*	Sn	**Sg**	**05 29 54.5**	**-2.3**
PSZ	**Piszkesteto**	**4.40**	**145**	⇑ *i*	P	**Pn**	**05 28 43.1**	**-0.5**
PSZ	**Piszkesteto**	**4.40**	**145**	*e*	Pn	**Pn**	**05 28 44.7**	**+1.1**
LLD	**Lille Linde**	**4.43**	**329**	*i*	P	**Pn**	**05 28 47.2**	**+3.3**
LLD	**Lille Linde**	**4.43**	**329**	*e*	P	**Pn**	**05 28 47.2**	**+3.3**
SNR=49								
CSKK	**Cs˘˙tkako**	**4.45**	**161**	‖ *e*	PN	**Pn**	**05 28 44.8**	**+0.6**
CSKK				*e*	Sn	**Sb**	**05 29 42.8**	**-5.8**
CSKK	**Cs˘˙tkako**	**4.45**	**161**	‖ *e*	PN	**Pn**	**05 28 44.8**	**+0.6**
BJUU	**Bjuv**	**4.86**	**339**		P	**Pn**	**05 28 49.4**	**-0.5**
BJUU					S	**Sn**	**05 29 43.7**	**-3.1**
KBA	**Koelnbreinsper**	**4.88**	**203**		Pn	**Pn**	**05 28 51.0**	**+0.7**
	comp=Z,21nm,0.5s,SNR=11							
KBA					Sg	**Sg**	**05 30 13.9**	**+1.8**
	comp=Z,60nm,0.6s							
KBA	**Koelnbreinsper**	**4.88**	**203**	*e*	Pn	**Pn**	**05 28 51.0**	**+0.7**
	comp=Z,21nm,0.5s,SNR=11							
KBA					Sg	**Sg**	**05 30 13.9**	**+1.8**
	comp=Z,60nm,0.6s							
SOKA	**Soboth**	**4.97**	**189**		Pn	**Pn**	**05 28 51.8**	**+0.3**
	comp=Z,3.7nm,0.4s							
SOKA					Sg	**Sg**	**05 30 15.1**	**-0.1**
	comp=Z,23nm,0.5s							
SOKA	**Soboth**	**4.97**	**189**	*e*	Pn	**Pn**	**05 28 51.8**	**+0.3**
	comp=Z,3.7nm,0.4s							
SOKA					Sg	**Sg**	**05 30 15.1**	**-0.1**
	comp=Z,23nm,0.5s							
PERS	**Pernice**	**5.00**	**188**	*i*	Pn	**Pn**	**05 28 52.8**	**+0.8**
PERS	**Pernice**	**5.00**	**188**	*i*	Pn	**Pn**	**05 28 52.8**	**+0.8**
DEL	**Delary**	**5.07**	**345**		P	**Pn**	**05 28 52.8**	**+0.1**
DEL					S	**Sn**	**05 29 48.3**	**-3.7**
DEL	**Delary**	**5.07**	**345**		P	**Pn**	**05 28 52.8**	**+0.1**
DEL					S	**Sn**	**05 29 48.3**	**-3.7**
BEHE	**Becsehely**	**5.14**	**175**	*e*	Pn	**Pn**	**05 28 55.4**	**+1.7**
BEHE	**Becsehely**	**5.14**	**175**	*e*	Pn	**Pn**	**05 28 55.4**	**+1.7**
OBKA	**Obir**	**5.19**	**192**		Pn	**Pn**	**05 28 55.0**	**+0.5**
	comp=Z,1.9nm,0.3s							
OBKA	**Obir**	**5.19**	**192**	*e*	Pn	**Pn**	**05 28 55.0**	**+0.5**
	comp=Z,1.9nm,0.3s							
OBKA					Pg	**Pg**	**05 29 14.6**	**-0.4**
	comp=Z,18nm,0.7s							
OBKA					Sg	**Sg**	**05 30 24.2**	**+1.9**
	comp=Z,31nm,0.5s							
WATA	**Walderalm**	**5.20**	**217**		Pn	**Pn**	**05 28 55.1**	**+0.4**
	comp=Z,8.3nm,0.3s,SNR=12							
WATA	**Walderalm**	**5.20**	**217**	*e*	Pn	**Pn**	**05 28 55.1**	**+0.4**
	comp=Z,8.3nm,0.3s,SNR=12							
MYKA	**Terra Mystica**	**5.23**	**199**		Pn	**Pn**	**05 28 54.7**	**-0.4**
	comp=Z,2.3nm,0.4s							
MYKA					Sn	**Sn**	**05 29 56.4**	**+0.3**
	comp=Z,11nm,0.6s							
MYKA	**Terra Mystica**	**5.23**	**199**		Pn	**Pn**	**05 28 54.7**	**-0.4**
	comp=Z,2.3nm,0.4s							
MYKA				*e*	Sn	**Sn**	**05 29 56.4**	**+0.3**
	comp=Z,11nm,0.6s							
WTTA	**Wattenberg**	**5.24**	**216**		Pn	**Pn**	**05 28 56.0**	**+0.7**
	comp=Z,5.9nm,0.4s							
WTTA	**Wattenberg**	**5.24**	**216**	*e*	Pn	**Pn**	**05 28 56.0**	**+0.7**
	comp=Z,5.9nm,0.4s							
MOTA	**Moosalm**	**5.38**	**220**		Pn	**Pn**	**05 28 57.1**	**0.0**
	comp=Z,7.1nm,0.3s,SNR=12							
MOTA	**Moosalm**	**5.38**	**220**	*e*	Pn	**Pn**	**05 28 57.1**	**0.0**
	comp=Z,7.1nm,0.3s,SNR=12							
TRPA	**Tarpa**	**5.38**	**128**	*e*	Pn	**Pn**	**05 28 57.1**	**0.0**
TRPA				*e*	Sn	**Sn**	**05 29 51.5**	**-8.2**
TRPA	**Tarpa**	**5.38**	**128**	*e*	Pn	**Pn**	**05 28 57.1**	**0.0**
VXJU	**Vaexsjoe**	**5.39**	**353**		P	**Pn**	**05 28 57.8**	**+0.7**
VXJU	**Vaexsjoe**	**5.39**	**353**		P	**Pn**	**05 28 57.9**	**+0.7**
ABTA	**Abfaltersbach**	**5.40**	**208**		Pn	**Pn**	**05 28 58.5**	**+1.0**
	comp=Z,4.9nm,0.3s							
ABTA					Sg	**Sg**	**05 30 29.3**	**+0.2**
	comp=Z,64nm,0.6s

MBDF	**Montbardon**	**9.30**	**226**	*e*P		**Pn**	**05 29 53.1**	**+2.2**
MBDF	**Montbardon**	**9.30**	**226**	*e*P		**Pn**	**05 29 53.1**	**+2.2**
SSF	**Saint Saulge**	**9.42**	**246**	*e*Pn		**Pn**	**05 29 49.6**	**-2.9**
SMF	**Signal de Mont**	**9.47**	**243**	*e*Sg		Sn	05 32 31.5	+51
	comp=Z,33nm,0.9s							
SBF	**Sospel**	**9.71**	**221**	*e*P		**Pn**	**05 29 57.1**	**+0.7**
SBF	**Sospel**	**9.71**	**221**	*e*P		**Pn**	**05 29 57.1**	**+0.7**
NOA	**NORSAR Array B**	**9.86**	**346**	Pn		**Pn**	**05 29 57.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=129,slow=14,SNR=5.8							
NOA				Sn		**Sn**	**05 31 45.6**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=182,slow=13,SNR=2.7							
NOA				Lg	Lg		05 32 53.1	
	comp=Z,0.4nm,0.3s,baz=211,slow=13,SNR=2.9							
FRF	**La Foret Royal**	**10.28**	**222**	*e*P		**Pn**	**05 30 05.6**	**+1.4**
FRF	**La Foret Royal**	**10.28**	**222**	*e*P		**Pn**	**05 30 05.6**	**+1.4**
FINES	**FINESS Array B**	**11.28**	**25**	Pn		**Pn**	**05 30 17.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=210,slow=11,SNR=18							
FINES				Sn		**Sn**	**05 32 17.5**	**-6.9**
	comp=Z,1.2nm,0.3s,baz=213,slow=23,SNR=8.2							
FINES				Lg	Lg		05 33 34.2	
	comp=Z,0.5nm,0.3s,baz=220,slow=24,SNR=2.7							
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn		**Pn**	**05 30 25.9**	**-3.2**
	baz=101,slow=13,SNR=9.6							
EKA				Sn		Sn	05 32 35.0	-10
	baz=101,slow=25,SNR=5.7							
ARCES	**ARCESS Array B**	**18.54**	**10**	Pn		**P**	**05 31 50.4**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=194,slow=13,SNR=24							
BVAR	**Borovoye Array**	**32.53**	**66**	P		**P**	**05 34 10.9**	**+3.1**
	comp=Z,0.8nm,0.7s,baz=297,slow=6.3,SNR=5.4							
KURBB	**Kurchatov Arra**	**38.12**	**66**	P		**P**	**05 34 58.0**	**+2.1**
	comp=Z,0.6nm,0.2s,baz=298,slow=8.0,SNR=4.6							
TORD	**Torodi Ar. Bea**	**40.09**	**202**	P		**P**	**05 35 13.0**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=8.3,slow=8.9,SNR=5.2							
MKAR	**Makanchi Array**	**42.16**	**69**	P		**P**	**05 35 32.8**	**+3.3**
	comp=Z,0.1nm,0.5s,baz=306,slow=8.6,SNR=2.6							
SONM	**Songino Array**	**54.84**	**55**	P		**P**	**05 37 09.9**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=289,slow=9.0,SNR=2.6							
YKA	**Yellowknife Ar**	**59.80**	**336**	P		**P**	**05 37 43.5**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=32,slow=6.6,SNR=11							
PDAR	**Pinedale Array**	**74.90**	**322**	P		**P**	**05 39 19.8**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=63,slow=10,SNR=2.6							

THR ***11*** *05:28:36.3±0.3,28.°20N×59.°00E,h15km,ML3.6*
TEH ***11*** *05:28:36.1,28.°26N×59.°09E,h10km,ML4.0*
CSEM ***11*** *05:28:36.1,28.°26N×59.°09E,h10km,ML4.0, After TEH*
ISCJB ***11*** *05:28:37.4±0.8,28.°23N±0.°06×59.°15E±0.°07,h10km, Error ellipse: s-maj=10.2km s-min=7.2km az=34.6*

ISC 11 05:28:38.5±1.7,28.°21N±0.°06×59.14E±0.06,h10km,n32, σ0s95/31,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHSF	**Zahedan**	**2.01**	**45**	*e*Pn	**Pn**	**05 29 13.2**	**+0.6**
NIAN	**Nian**	**2.14**	**253**	*e*Pn	**Pn**	**05 29 13.9**	**-0.4**
NIAN	**Nian**	**2.14**	**253**	*e*Pn	**Pn**	**05 29 13.9**	**-0.4**
CHMN	**Cheshme madani**	**2.16**	**320**	*e*Pn	**Pn**	**05 29 13.6**	**-1.3**
CHMN	**Cheshme madani**	**2.16**	**320**	*e*Pn	**Pn**	**05 29 13.6**	**-1.3**
IBND	**Bandar-abas**	**2.42**	**252**	*e*Pn	**Pn**	**05 29 18.4**	**+0.3**
IBND				*e*Pn	**Pn**	**05 29 18.6**	**+0.5**
IBND	**Bandar-abas**	**2.42**	**252**	*e*Pn	**Pn**	**05 29 18.4**	**+0.3**
IBND	**Bandar-abas**	**2.42**	**252**	*e*Pn	**Pn**	**05 29 18.6**	**+0.5**
NGRK	**Negar Kerman**	**2.55**	**305**	*e*Pn	**Pn**	**05 29 20.6**	**+0.3**
NGRK	**Negar Kerman**	**2.55**	**305**	*e*Pn	**Pn**	**05 29 20.6**	**+0.3**
TVBK	**TV Kerman**	**2.73**	**311**	*e*Pn	**Pn**	**05 29 22.7**	**-0.1**
TVBK	**TV Kerman**	**2.73**	**311**	*e*Pn	**Pn**	**05 29 22.7**	**-0.1**
GENO	**Geno**	**2.75**	**254**	*e*Pn	**Pn**	**05 29 22.6**	**-0.2**
GENO	**Geno**	**2.75**	**254**	*e*Pn	**Pn**	**05 29 22.6**	**-0.2**
BNDS	**Bandar-Abbas**	**2.75**	**254**	*e*Pn	**Pn**	**05 29 20.4**	**-2.4**
BNDS				AML	AML	05 29 58.9	
	comp=N,270nm,0.5s						
CHBR	**Chabahar**	**2.86**	**155**	*e*Pn	**Pn**	**05 29 24.1**	**-0.1**
CHBR				AML	AML	05 30 19.2	
	comp=E,169nm,0.5s						
KHGB	**Koh Gabri**	**3.17**	**314**	*e*Pn	**Pn**	**05 29 28.6**	**-0.1**
KHGB	**Koh Gabri**	**3.17**	**314**	*e*Pn	**Pn**	**05 29 28.6**	**-0.1**
IKOO	**Kooshah**	**4.21**	**358**	*e*Pn	**Pn**	**05 29 42.2**	**-0.8**
IKOO				*e*AMB	AMB	05 29 43.1	
	comp=Z,4μm,0.1s						
IKOO	**Kooshah**	**4.21**	**358**	*e*Pn	**Pn**	**05 29 42.2**	**-0.8**
IDAH	**Dahanechah**	**4.56**	**8**	*e*Pn	**Pn**	**05 29 48.3**	**+0.4**
IDAH				*e*AMB	AMB	05 29 56.8	
	comp=N,850nm,0.1s						
IDAH	**Dahanechah**	**4.56**	**8**	*e*Pn	**Pn**	**05 29 48.3**	**+0.4**
IBAF	**Bafgh**	**4.58**	**318**	*e*Pn	Pb	05 29 53.6	-5.5
IBAF				*e*AMB	AMB	05 31 10.5	
	comp=Z,641nm,0.3s						
IBAF	**Bafgh**	**4.58**	**318**	*e*Pn	Pb	05 29 53.6	-5.5
ITEG	**Tejag**	**4.69**	**356**	*e*Pn	**Pn**	**05 29 48.9**	**-0.6**
ITEG				*e*AMB	AMB	05 29 49.4	
	comp=Z,3μm,0.1s						
ITEG	**Tejag**	**4.69**	**356**	*e*Pn	**Pn**	**05 29 48.9**	**-0.6**
IMON	**Monand**	**4.99**	**5**	*e*Pn	**Pn**	**05 29 53.8**	**+0.1**
IMON				*e*AMB	AMB	05 29 54.5	
	comp=Z,1μm,0.1s						
IMON	**Monand**	**4.99**	**5**	*e*Pn	**Pn**	**05 29 53.8**	**+0.1**
IMEH	**Mehriz**	**5.05**	**310**	*e*Pn	**Pn**	**05 29 56.9**	**+2.3**
IMEH				*e*AMB	AMB	05 31 22.6	
	comp=Z,369nm,0.3s						
IMEH	**Mehriz**	**5.05**	**310**	*e*Pn	**Pn**	**05 29 56.9**	**+2.3**
SHRT	**Shahrakht**	**5.51**	**10**	*e*Pn	**Pn**	**05 30 00.4**	**-0.4**
TABS	**Tabas**	**5.70**	**343**	*e*Pn	**Pn**	**05 30 02.4**	**-0.9**

CSEM ***11*** *05:31:33.7±0.4,28.°19N×59.°14E,h10km,ML3.7, Error ellipse: s-maj=11.6km s-min=9.1km az=123.0*

TEH 11 05:31:30.8,28.°23N×59.°19E,h10km,ML3.7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHSF	**Zahedan**	**1.96**	**45**	*e*Pn	Pg	05 32 08.9	+0.6
CHMN	**Cheshme madani**	**2.18**	**319**	*e*Pn	Pb	05 32 09.6	-1.0
CHMN	**Cheshme madani**	**2.18**	**319**	*e*Pn	Pb	05 32 09.6	-1.0
NIAN	**Nian**	**2.19**	**253**	*e*Pn	Pb	05 32 09.0	-1.5
NIAN	**Nian**	**2.19**	**253**	*e*Pn	Pb	05 32 09.0	-1.5
IBND	**Bandar-abas**	**2.48**	**252**	*e*Pn	Pb	05 32 14.1	-1.3
IBND	**Bandar-abas**	**2.48**	**252**	*e*Pn	Pb	05 32 14.1	-1.3
NGRK	**Negar Kerman**	**2.58**	**304**	*e*Pn	Pb	05 32 16.0	-1.4
NGRK	**Negar Kerman**	**2.58**	**304**	*e*Pn	Pb	05 32 16.0	-1.4
KRBB	**Kerman**	**2.76**	**310**	*e*Pn	Pb	05 32 18.3	-2.1
TVBK	**TV Kerman**	**2.76**	**310**	*e*Pn	Pb	05 32 19.6	-0.8
TVBK	**TV Kerman**	**2.76**	**310**	*e*Pn	Pb	05 32 19.6	-0.8
GENO	**Geno**	**2.80**	**254**	*e*Pn	Pb	05 32 19.3	-1.7
GENO	**Geno**	**2.80**	**254**	*e*Pn	Pb	05 32 19.3	-1.7
BNDS	**Bandar-Abbas**	**2.80**	**254**	*e*Pn	Pn	05 32 16.1	+0.3
CHBR	**Chabahar**	**2.86**	**156**	*e*Pn	Pn	05 32 19.0	+2.5
KHGB	**Koh Gabri**	**3.20**	**313**	*e*Pn	Pn	05 32 24.1	+2.7
KHGB	**Koh Gabri**	**3.20**	**313**	*e*Pn	Pn	05 32 24.1	+2.7
IKOO	**Kooshah**	**4.19**	**358**	*e*Pn	Pn	05 32 37.6	+2.6
IKOO				*e*Pn	Pn	05 32 37.6	+2.6
IKOO				*e*AMB	AMB	05 32 38.7	
	comp=Z,2μm,0.1s						
IKOO				*e*AMB	AMB	05 33 51.8	
	comp=E,2μm,0.2s						
IKOO	**Kooshah**	**4.19**	**358**	*e*Pn	Pn	05 32 37.6	+2.6
IBAF	**Bafgh**	**4.60**	**318**	*e*Pn	Pb	05 32 53.1	+1.4
IBAF				*e*AMB	AMB	05 33 00.9	
	comp=Z,397nm,0.2s						
IBAF	**Bafgh**	**4.60**	**318**	*e*Pn	Pb	05 32 53.1	+1.4
ITEG	**Tejag**	**4.67**	**355**	*e*Pn	Pn	05 32 44.4	+2.8
ITEG				*e*AMB	AMB	05 32 45.0	
	comp=Z,1μm,0.1s						
ITEG	**Tejag**	**4.67**	**355**	*e*Pn	Pn	05 32 44.4	+2.8
IMON	**Monand**	**4.97**	**5**	*e*Pn	Pn	05 32 49.2	+3.5
IMON				*e*AMB	AMB	05 32 50.2	
	comp=Z,441nm,0.1s						
IMON	**Monand**	**4.97**	**5**	*e*Pn	Pn	05 32 49.2	+3.5

IDC ***11*** *05:31:33.8±6.5,8.°16N×93.°67E,h0km,mb3.8/8,mb1 3.9/9, mb1mx3.5/72,mbtmp3.8/9,ML4.3/1,Error ellipse: s-maj=138.1km s-min=44.4km az=147.0*
ISCJB ***11*** *05:31:41.6±0.9,8.°6N±0.°1×93.°6E±0.°2,h46km,mb3.8/8, Error ellipse: s-maj=25.0km s-min=14.6km az=148.5*

ISC 11 05:31:43.5±1.1,8.°6N±0.°1×93.°5E±0.°2,h46km,n13, σ0s50/10,mb3.8/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.89**	**137**	Pn	**Pn**	**05 33 35.9**	**+0.1**
	0.2nm,0.3s,baz=318,slow=16,SNR=5.4						
CMAR	**Chiang Mai Arr**	**11.12**	**28**	Pn	**Pn**	**05 34 20.2**	**+0.3**
	0.6nm,0.3s,baz=212,slow=15,SNR=14						
H08S3	**Diego Garcia H**	**26.45**	**233**	T	T	06 04 11.7	
	baz=53,slow=75,SNR=3.3						
H08S2	**Diego Garcia H**	**26.45**	**233**	T	T	06 04 16.0	
	baz=53,slow=75,SNR=7.2						
H08S1	**Diego Garcia H**	**26.47**	**233**	T	T	06 04 11.7	
	baz=53,slow=75,SNR=3.9						
MKAR	**Makanchi Array**	**39.24**	**348**	P	**P**	**05 39 07.5**	**0.0**
	0.6nm,0.7s,baz=157,slow=8.3,SNR=5.7						
SONM	**Songino Array**	**40.59**	**13**	P	**P**	**05 39 18.3**	**-0.5**
	0.2nm,0.4s,baz=187,slow=10,SNR=2.7						
GEYT	**Alibeck**	**43.24**	**318**	P	**P**	**05 39 41.3**	**+0.8**
	3.1nm,0.6s,baz=132,slow=8.4,SNR=6.2						
KURBB	**Kurchatov Arra**	**43.69**	**346**	P	**P**	**05 39 43.4**	**-0.4**
	0.8nm,0.7s,baz=161,slow=7.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**45.75**	**353**	P	**P**	**05 40 00.5**	**+0.3**
	1.2nm,0.4s,baz=170,slow=9.0,SNR=8.5						
AKASG	**Malin Array Be**	**67.19**	**322**	P	**P**	**05 42 32.2**	**-0.6**
	0.2nm,0.3s,baz=86,slow=5.7,SNR=3.3						
FINES	**FINESS Array B**	**71.77**	**332**	P	**P**	**05 43 00.6**	**-0.3**
	1.1nm,0.7s,baz=98,slow=5.8,SNR=5.9						
HFS	**Hagfors**	**77.51**	**330**	P	**P**	**05 43 34.6**	**+0.4**
	1.9nm,0.8s,baz=87,slow=8.8,SNR=3.3						

NIED ***11*** *05:40:00,47.°30N×147.°40E,h460km,Mw4.7 Best double couple: M0 1.29000×10^16 NP1:ϕ=358.00000°, δ=46.00000°,λ=-124.00000°. NP2:ϕ=222.00000°, δ=53.00000°,λ=-60.00000°.*
SKHL ***11*** *05:40:08.8±0.6,47.°73N×147.°19E,h446km±5km,mb4.8/4, msh5.0/5*
JMA ***11*** *05:40:08.8±0.4,47.°34N×147.°37E,h490km,M4.8*
ISCJB ***11*** *05:40:09.4±0.2,47.°87N±0.°03×146.°98E±0.°03, h438km±2km,mb4.2/122,Error ellipse: s-maj=4.6km s-min=3.1km az=147.4*
MOS ***11*** *05:40:09.5±0.9,47.°92N×147.°00E,h442km,mb4.3/62, Error ellipse: s-maj=7.8km s-min=5.0km az=97.6*
IDC ***11*** *05:40:10.8±0.8,47.°97N×146.°94E,h439km±8km,mb3.8/39, mb1 3.9/49,mb1mx3.8/74,mbtmp4.6/49,Error ellipse: s-maj=8.9km s-min=6.8km az=144.0*
NEIC ***11*** *05:40:11.1±0.3,47.°97N×146.°89E,h441km±3km,mb4.3/54, Error ellipse: s-maj=4.9km s-min=3.0km az=156.0*

ISC 11 05:40:09.9±0.5,47.°82N±0.°05×147.°06E±0.°04,h437km±4km, n360,σ1s47/422,mb4.2/122,18C-24D,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.64**	**168**	*i* P	**P**	**05 41 13.9**	**+0.6**
KUR				AMB	AMB	05 41 15.6	
	240nm,0.4s						
KUR				AMB	AMB	05 41 20.2	
	600nm,2.0s						
KUR				*e*S	**S**	**05 42 04.9**	**+0.2**
KUR				A	A	05 42 06.5	
	1μm,2.0s						
KUR				A	A	05 42 06.5	
	3μm,2.0s						
KUR				A	A	05 42 06.5	
	240nm,0.7s						
KUR				A	A	05 42 06.5	
	455nm,0.7s						
KUR	**Kuril'sk**	**2.64**	**168**	*d* iPN	**P**	**05 41 14.4**	**+1.1**
KUR				*i* S	**S**	**05 42 05.4**	**+0.7**
KUR				pmax	pmax		
	comp=N,37nm,0.4s						
KUR				pmax	pmax		
	comp=Z,168nm,0.4s						
KUR				pmax	pmax		
	comp=E,57nm,0.2s						
KUR				smax	smax		
	comp=E,92nm,0.5s						
KUR				smax	smax		
	comp=N,257nm,0.7s						
YSS	**Yuzh-Sakhalins**	**3.05**	**255**	*e*P	**P**	**05 41 17.2**	**+1.0**
YSS				AMB	AMB	05 41 18.6	
	comp=N,80nm,0.4s						
YSS				AMB	AMB	05 41 18.6	
	comp=N,90nm,0.4s						
YSS				AMB	AMB	05 41 18.6	
	comp=N,195nm,0.4s						
YSS				*e*S	**S**	**05 42 10.3**	**+0.2**
YSS				A	A	05 42 12.0	
	comp=N,110nm,0.8s						
YSS				A	A	05 42 13.2	
	comp=N,300nm,3.0s						
YSS	**Yuzh-Sakhalins**	**3.05**	**255**	⇑ *i* PN	**P**	**05 41 18.5**	**+2.3**
YSS				*i* S	**S**	**05 42 11.2**	**+1.1**
YSS				pmax	pmax		
	comp=Z,150nm,1.0s						
YSS				pmax	pmax		
	comp=N,80nm,0.5s						
YSS				pmax	pmax		
	comp=E,90nm,0.6s						
YSS				smax	smax		
	comp=N,110nm,0.7s						
YSS				smax	smax		
	comp=E,110nm,0.9s						
YSS				smax	smax		
	comp=E,300nm,3.0s						
YSS	**Yuzh-Sakhalins**	**3.05**	**255**	*e*P	**P**	**05 41 18.5**	**+2.3**
LAGR	**Lagunnoye**	**3.87**	**194**	*e*P	**P**	**05 41 24.0**	**+1.0**
LAGR				*i* S	**S**	**05 42 22.7**	**+0.2**
LAGR	**Lagunnoye**	**3.87**	**194**	*e*PN	**P**	**05 41 24.0**	**+1.0**
LAGR				*i* S	**S**	**05 42 22.7**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**3.88**	**193**	*e*P	**P**	**05 41 23.8**	**+0.7**
YUK				AMB	AMB	05 41 26.3	
	comp=E,115nm,0.3s						
YUK				AMB	AMB	05 41 26.3	
	comp=E,74nm,0.3s						
YUK				AMB	AMB	05 41 26.3	
	comp=E,170nm,0.3s						
YUK				*e*S	**S**	**05 42 22.2**	**-0.4**
YUK				A	A	05 42 26.5	
	comp=E,3μm,2.0s						
YUK				A	A	05 42 30.5	
	comp=E,750nm,0.4s						
YUK				A	A	05 42 30.5	
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.88**	**193**	*e*PN	**P**	**05 41 23.8**	**+0.7**
YUK				*e*S	**S**	**05 42 22.2**	**-0.4**
YUK				pmax	pmax		
	comp=Z,174nm,0.2s						
YUK				pmax	pmax		
	comp=E,74nm,0.3s						
YUK				pmax	pmax		
	comp=N,115nm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK				smax	smax		
	comp=N,754nm,0.3s						
GRPR	**Tuman**	**3.93**	**194**	*e*P	**P**	**05 41 26.0**	**+2.4**
GRPR				*e*S	**S**	**05 42 26.2**	**+2.7**
GRPR	**Tuman**	**3.93**	**194**	*e*PN	**P**	**05 41 26.0**	**+2.4**
GRPR				*e*S	**S**	**05 42 26.2**	**+2.7**
SHO	**Shikotan**	**3.95**	**182**	*i* P	**P**	**05 41 21.3**	**-2.5**
SHO				AMB	AMB	05 41 22.7	
	comp=N,350nm,0.2s						
SHO				AMB	AMB	05 41 27.4	
	comp=N,490nm,2.5s						
SHO				*i* S	**S**	**05 42 18.1**	**-5.8**
SHO				A	A	05 42 22.0	
	comp=N,496nm,0.6s						
SHO				A	A	05 42 22.0	
	comp=N,970nm,0.6s						
SHO	**Shikotan**	**3.95**	**182**	*c i* PN	**P**	**05 41 21.3**	**-2.5**
SHO				pmax	pmax		
	comp=N,195nm,0.2s						
SHO				pmax	pmax		
	comp=E,86nm,0.2s						
SHO				pmax	pmax		
	comp=Z,349nm,0.2s						
JRA	**Rausu**	**4.11**	**200**	P	**P**	**05 41 25.1**	**-0.1**
JRA				*e*S	**S**	**05 42 26.4**	**0.0**
TYV	**Tymovskoe**	**4.19**	**318**	*e*P	**P**	**05 41 26.7**	**+1.0**
TYV				AMB	AMB	05 41 27.7	
	comp=Z,36nm,0.7s						
TYV				*e*S	**S**	**05 42 27.7**	**0.0**
TYV	**Tymovskoe**	**4.19**	**318**	*e*PN	**P**	**05 41 26.7**	**+1.0**
TYV				*e*S	**S**	**05 42 27.4**	**-0.3**
TYV				pmax	pmax		
	comp=Z,36nm,0.7s						
TYV				smax	smax		
	comp=N,65nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**4.22**	**229**	P	**P**	**05 41 27.8**	**+1.7**
JSE				*e*S	**S**	**05 42 29.8**	**+1.6**
GLVR	**Golovnino**	**4.22**	**195**	*e*P	**P**	**05 41 27.4**	**+1.2**
GLVR				*i* S	**S**	**05 42 28.7**	**+0.4**
GLVR	**Golovnino**	**4.22**	**195**	*e*PN	**P**	**05 41 27.4**	**+1.2**
GLVR				*i* S	**S**	**05 42 28.7**	**+0.4**
JTKR	**Abashiri--Toko**	**4.43**	**211**	P	**P**	**05 41 28.6**	**+0.5**
JTKR				*e*S	**S**	**05 42 30.0**	**-1.9**
NEM2	**Nemuro 2**	**4.55**	**192**	P	**P**	**05 41 27.1**	**-2.1**
NEM2				*e*S	**S**	**05 42 29.0**	**-4.9**
ASAJ	**Asahikawa**	**4.84**	**222**	P	**P**	**05 41 33.2**	**+1.2**
	comp=N,56nm,0.3s,baz=346,slow=1.6,SNR=169						
ASAJ				S	**S**	**05 42 40.1**	**+1.1**
	baz=90,slow=20,SNR=2.9						
JKK2	**Kamakawa 2**	**4.96**	**219**	P	**P**	**05 41 34.0**	**+0.7**
JAR	**Ashorobuto**	**5.08**	**208**	P	**P**	**05 41 34.4**	**0.0**
JAR				*e*S	**S**	**05 42 40.7**	**-2.6**
JAK	**Akkeshi**	**5.10**	**200**	P	**P**	**05 41 32.8**	**-1.8**
JAK				*e*S	**S**	**05 42 38.7**	**-5.0**
JYG	**Yagishiri**	**5.18**	**231**	P	**P**	**05 41 36.6**	**+1.3**
JFR	**Furan**	**5.62**	**216**	P	**P**	**05 41 40.1**	**+0.3**
JCH	**Churui**	**5.82**	**208**	P	**P**	**05 41 40.1**	**-1.8**
JCH				*e*S	**S**	**05 42 50.6**	**-6.4**
MYR	**Moyori**	**6.14**	**207**	*e*P	**P**	**05 41 43.0**	**-2.1**
OKH	**Okha**	**6.31**	**337**	*e*P	**P**	**05 41 46.6**	**0.0**
JNBK	**Urakawa-nobuka**	**6.32**	**210**	P	**P**	**05 41 45.3**	**-1.8**
JNBK				*e*S	**S**	**05 43 00.5**	**-6.0**
JEW	**Eniwo**	**6.36**	**221**	P	**P**	**05 41 47.9**	**+0.5**
JEW				*e*S	**S**	**05 43 03.6**	**-3.6**
JSK	**Shakotan**	**6.43**	**228**	P	**P**	**05 41 48.8**	**+0.7**
ERM	**Erimo**	**6.43**	**207**	*ce*PN	**P**	**05 41 47.7**	**-0.5**
ERM				pmax	pmax		
	comp=Z,293nm,0.7s						
ERM	**Erimo**	**6.43**	**207**	*e*P	**P**	**05 41 48.1**	**-0.1**
SKR	**Severo-Kuril's**	**6.58**	**61**	*e*P	**P**	**05 41 50.4**	**+0.7**
SKR				AMB	AMB	05 41 52.0	
	comp=Z,160nm,0.5s						
SKR				AMB	AMB	05 41 54.2	
	comp=Z,160nm,2.0s						
SKR				*e*S	**S**	**05 43 09.5**	**-1.8**
SKR				A	A	05 43 13.0	
	comp=Z,580nm,0.7s						
SKR				A	A	05 43 13.0	
	comp=Z,360nm,0.7s						
SKR				A	A	05 43 15.1	
	comp=Z,488nm,2.0s						
SKR	**Severo-Kuril's**	**6.58**	**61**	*e*PN	**P**	**05 41 51.0**	**+1.3**
SKR				*i* S	**S**	**05 43 11.3**	**0.0**
SKR				pmax	pmax		
	comp=Z,164nm,0.5s						
SKR				smax	smax		
	comp=E,362nm,0.6s						
SKR				smax	smax		
	comp=N,581nm,0.7s						
NKL	**Nikolayevsk**	**6.71**	**325**	*e*P	**P**	**05 41 52.0**	**+0.9**
NKL				AMB	AMB	05 41 52.8	
	comp=N,16nm,0.8s						
NKL				AMB	AMB	05 41 52.8	
	comp=N,12nm,0.8s						
NKL				AMB	AMB	05 41 52.8	
	comp=N,50nm,0.8s						
NKL	**Nikolayevsk**	**6.71**	**325**	*i* PN	**P**	**05 41 52.0**	**+0.9**
NKL				*e*S	**S**	**05 43 15.0**	**+1.2**
NKL				pmax	pmax		
	comp=N,16nm,0.8s						
NKL				pmax	pmax		
	comp=E,12nm,0.8s						
NKL				pmax	pmax		
	comp=E,50nm,0.8s						
NKL				smax	smax		
	comp=E,900nm,7.0s						
PAU	**Pauzhetka**	**7.31**	**56**	*e*P	**P**	**05 41 57.9**	**+0.4**
PAU				AMB	AMB	05 41 59.2	
	comp=E,52nm,0.4s						
PAU				*e*S	**S**	**05 43 23.7**	**-1.8**
PAU				A	A	05 43 37.3	
	comp=E,380nm,0.5s						
PAU				A	A	05 43 37.3	
	comp=E,420nm,0.5s						
JKB	**Kayabe**	**7.31**	**218**	P	**P**	**05 41 56.1**	**-1.7**
JKB				*e*S	**S**	**05 43 19.2**	**-6.7**
GRNR	**Gornyy**	**7.56**	**297**	*e*P	**P**	**05 42 02.0**	**+1.7**
GRNR				AMB	AMB	05 42 03.0	
	comp=E,190nm,0.6s						
GRNR	**Gornyy**	**7.56**	**297**	*e*PN	**P**	**05 42 02.4**	**+2.1**
GRNR				pmax	pmax		
	comp=Z,190nm,0.6s						
JOT	**Ohata**	**7.73**	**216**	P	**P**	**05 42 00.1**	**-2.2**
JOT				*e*S	**S**	**05 43 26.9**	**-7.4**
TEY	**Ternei**	**7.75**	**253**	*e*P	**P**	**05 42 03.5**	**+1.2**
TEY				AMB	AMB	05 42 04.2	
	comp=Z,25nm,0.4s						
TEY	**Ternei**	**7.75**	**253**	*e*PN	**P**	**05 42 04.0**	**+1.7**
TEY				pmax	pmax		
	comp=E,25nm,0.4s						
JOSM	**Okushiri--Mats**	**7.86**	**226**	P	**P**	**05 42 02.6**	**-1.1**
JANG	**Nango**	**8.44**	**210**	P	**P**	**05 42 08.6**	**-1.4**
JANG				*e*S	**S**	**05 43 42.1**	**-6.6**
PEA0B	**Petropavlovsk-**	**8.60**	**48**	*e*P	**P**	**05 42 12.7**	**+1.2**
PETK	**Petropavlovsk-**	**8.60**	**48**	P	**P**	**05 42 12.5**	**+1.0**
	comp=E,1.7nm,0.3s,baz=217,slow=5.7,SNR=27						
PETK	**Petropavlovsk-**	**8.60**	**48**	*e*PN	**P**	**05 42 12.1**	**+0.6**
PETK	**Petropavlovsk-**	**8.60**	**48**	*e*P	**P**	**05 42 12.1**	**+0.6**
PET	**Petropavlovsk**	**9.04**	**51**	*e*P	**P**	**05 42 16.7**	**+0.4**
PET				AMB	AMB	05 42 18.1	
	comp=E,38nm,1.0s						
PET				AM

comp=Z,120nm,0.5s
ZEA Zeya 13.84 303 *e*P **P** **05 43 08.5 -0.1**
ZEA AMB AMB 05 43 09.9
comp=Z,30nm,1.0s
ZEA AMB AMB 05 43 09.9
comp=Z,29nm,1.0s
ZEA AMB AMB 05 43 09.9
comp=Z,50nm,1.0s
ZEA Zeya 13.84 303 *e*P **P** **05 43 08.5 -0.1**
ZEA *i* 05 45 35.3
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=E,29nm,1.2s
ZEA pmax pmax
comp=Z,50nm,1.2s
KROS Kirovskiy 14.22 305 *e*P **P** **05 43 10.1 -2.6**
KROS AMB AMB 05 43 14.9
comp=Z,60nm,0.2s
KROS AMB AMB 05 43 14.9
comp=Z,100nm,0.2s
KROS AMB AMB 05 43 14.9
comp=Z,70nm,0.2s
INU Inuyama 14.53 215 *e*P **P** **05 43 17.5 +1.2**
SEY Seymchan 15.44 9 P **P** **05 43 26.7 +1.1**
comp=Z,2.1nm,0.3s,baz=186,slow=8.1,SNR=38
SEY Seymchan 15.44 9 *e*P **P** **05 43 26.1 +0.5**
SEY Seymchan 15.44 9 ⇓*i*P **P** **05 43 26.1 +0.5**
CN2 Changchun 15.59 263 ⇓P **P** **05 43 26.0 -1.5**
CLNS Chul'man 16.22 312 *e*P **P** **05 43 34.2 +0.2**
CLNS Chul'man 16.22 312 *e*P **P** **05 43 34.2 +0.2**
CLNS pmax pmax
comp=Z,68nm,0.8s
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,34nm,0.9s
YAK Yakutsk 17.30 332 P **P** **05 43 44.1 -1.3**
comp=E,0.1nm,0.3s,baz=24,slow=6.8,SNR=14
YAK Yakutsk 17.30 332 *e*P **P** **05 43 43.5 -1.9**
YAK Yakutsk 17.30 332 *e*P **P** **05 43 43.5 -1.9**
YAK *e*S **S** **05 46 39.1 -4.2**
YAK pmax pmax
comp=E,7.0nm,0.8s
YAK pmax pmax
comp=Z,53nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK smax smax
comp=N,140nm,2.2s
YAK smax smax
comp=E,36nm,0.9s
YAK Yakutsk 17.30 332 *e*P **P** **05 43 44.1 -1.3**
comp=E,79nm,0.7s
KSRS Korea Array 17.44 241 P **P** **05 43 49.1 +2.0**
comp=E,0.7nm,0.3s,baz=47,slow=10.0,SNR=7.6
KSAR Wonju Array Be 17.47 241 P **P** **05 43 49.1 +1.6**
KSAR Wonju Array Be 17.47 241 P **P** **05 43 49.1 +1.6**
JNU Nakatsue 19.10 226 P **P** **05 44 05.2 +1.4**
comp=E,1.2nm,0.3s,baz=42,slow=3.9,SNR=7.3
BOD Bodaibo 22.13 309 *e*P **P** **05 44 29.5 -1.5**
BOD pmax pmax
comp=Z,9.0nm,1.1s
BILL Bilibino 22.50 19 *e*P **P** **05 44 33.4 -0.8**
BILL Bilibino 22.50 19*c i*P **P** **05 44 33.4 -0.8**
BILL pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 25.38 347 P **P** **05 44 58.3 -1.6**
comp=Z,0.9nm,0.3s,baz=143,slow=5.1,SNR=3.8
TIXI Tiksi 25.38 347*ce*P **P** **05 44 58.1 -1.8**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
HHC Hu-ho-hao-te 26.16 268 *e*P **P** **05 45 08.3 +0.9**
ULN Ulaanbaatar 26.65 285*d i*P **P** **05 45 11.2 -0.4**
ULN pmax pmax
comp=Z,8.0nm,0.6s
ULN Ulaanbaatar 26.65 285 *e*P **P** **05 45 11.3 -0.4**
comp=Z,10nm,0.8s
SONA1 Songino Array 27.08 285 *e*P **P** **05 45 15.1 -0.4**
SONM Songino Array 27.09 285 P **P** **05 45 14.8 -0.7**
comp=Z,2.8nm,0.6s,baz=69,slow=8.2,SNR=19
SONM PcP **PcP** **05 48 23.2 +0.5**
comp=Z,1.0nm,0.6s,baz=141,slow=3.0,SNR=4.4
SONM ScP **ScP** **05 51 20.2 -0.6**
comp=Z,0.7nm,0.7s,baz=130,slow=2.9,SNR=6.2
TLY Talaya 28.01 294 *e*P **P** **05 45 23.8 +0.4**
TLY pmax pmax
comp=Z,10.0nm,0.9s
ZAK Zakamensk 28.47 292 *e*P **P** **05 45 27.4 -0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
ZAK pmax pmax
comp=Z,3.0nm,1.4s
XAN Xi'an 31.59 258 P **P** **05 45 55.3 +0.4**
LZH Lanzhou 33.79 266 ⇑P **P** **05 46 14.6 +0.8**
LZH pP pP 05 47 35.6 +2.9
LZH *e*PP **PP** **05 47 46.1 +4.4**
LZH sP sP 05 48 24.6 +1.6
LZH *e*S **S** **05 51 05.2 -0.2**
LZH sS sS 05 53 30.1 -0.4
LZH SS **SS** **05 53 50.0 -5.4**
GTA Gaotai 34.76 274 P **P** **05 46 22.6 +0.7**
GTA PcP **PP** **05 47 55.0 +2.3**
IM3 Indian Mountai 35.38 37 *e*P **P** **05 46 26.4 -0.2**
CAST Castle Rocks 36.15 42 *e*P **P** **05 46 34.0 +1.0**
comp=Z,8.8nm,0.7s
SPU Mount Spurr 36.38 46 *e*P **P** **05 46 35.2 +0.2**
KDAK Kodiak Island 36.64 51 *e*P **P** **05 46 37.6 +0.5**
KDAK Kodiak Island 36.64 51 *i*P **P** **05 46 37.6 +0.5**
KTH Kantishna Hill 36.66 41 *e*P **P** **05 46 37.7 +0.3**
comp=Z,14nm,1.0s
COLD Coldfoot 36.80 35 *e*P **P** **05 46 38.3 -0.1**
comp=Z,7.8nm,0.9s
CD2 Chengdu 36.95 259 *e*P **P** **05 46 39.4 -0.8**
RC01 Rabbit Creek A 37.50 45 *e*P **P** **05 46 44.1 -0.2**
COLA College 37.88 39 ⇑*i*P **P** **05 46 47.8 +0.5**
COLA pmax pmax
comp=Z,17nm,0.8s
IL1 Eielson Array 38.30 39 *e*P **P** **05 46 50.3 -0.5**
ILAR Eielson Array 38.30 39 P **P** **05 46 50.5 -0.4**
comp=Z,8.0nm,0.7s,baz=271,slow=7.9,SNR=116
ILAR ScP **ScP** **05 51 58.7 -0.6**
comp=Z,0.5nm,0.6s,baz=262,slow=3.5,SNR=7.3
ILB Eielson Array 38.30 39 *e*P **P** **05 46 51.1 +0.3**
DGZ Jazzator, Alta 38.46 296*d i*P **P** **05 46 53.1 +0.6**
DGZ pmax pmax
comp=Z,6.0nm,0.7s
ZAA0 Zalesovo Array 38.61 303 *e*P **P** **05 46 52.4 -1.1**
comp=Z,8.6nm,1.5s
ZAA0 *e*PcP **PcP** **05 48 55.1 +0.1**
ZALV Zalesovo Beam 38.61 303 P **P** **05 46 52.3 -1.1**
comp=Z,1.6nm,0.4s,baz=64,slow=7.5,SNR=12
ZALV PcP **PcP** **05 48 55.0 0.0**
comp=Z,2.7nm,0.3s,baz=75,slow=2.2,SNR=14
ZALV ScP **ScP** **05 51 59.4 -1.2**
comp=Z,0.9nm,0.5s,baz=55,slow=7.8,SNR=4.9
FYU Fort Yukon 38.80 36 *e*P **P** **05 46 55.7 +1.0**
comp=Z,17nm,0.7s
NVS Novosibirsk 39.23 305 *e*P **P** **05 46 58.1 -0.4**
NVS Novosibirsk 39.23 305 ⇑*i*P **P** **05 46 58.1 -0.4**
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.8s
NVS pmax pmax
comp=Z,9.0nm,0.8s
WMQ Urumqi 40.69 287 P **P** **05 47 11.1 +0.6**
EGAK Eagle 40.73 39 *e*P **P** **05 47 10.0 -0.5**
comp=Z,12nm,0.8s
MK31 Makanchi Array 42.77 294 *e*P **P** **05 47 26.7 -0.3**
MK31 Makanchi Array 42.77 294 *e*P **P** **05 47 26.7 -0.3**
MKAR Makanchi Array 42.77 294 P **P** **05 47 26.8 -0.3**
comp=Z,10nm,0.5s,baz=68,slow=7.0,SNR=205
MKAR PcP **PcP** **05 49 08.7 -0.2**
comp=Z,1.4nm,0.6s,baz=66,slow=4.2,SNR=4.0
MKAR ScP **ScP** **05 52 16.0 -1.3**
comp=Z,0.8nm,0.6s,baz=55,slow=2.7,SNR=4.9
MKAR Makanchi Array 42.77 294 *e*P **P** **05 47 26.7 -0.3**
comp=Z,170nm,0.5s
MKAR PcP **PcP** **05 49 08.7 -0.2**
MKAR ScP **ScP** **05 52 16.0 -1.3**
MK01 Makanchi Array 42.77 294 *e*P **P** **05 47 26.7 -0.3**
MAKZ Makanchi 42.95 294 *e*P **P** **05 47 28.3 -0.2**
MAKZ pmax pmax
comp=Z,31nm,1.4s
MAKZ Makanchi 42.95 294 *e*P **P** **05 47 28.3 -0.2**
comp=Z,31nm,1.4s
INK Inuvik 42.96 32 P **P** **05 47 28.1 0.0**
comp=Z,8.9nm,0.4s,baz=293,slow=6.4,SNR=92
INK Inuvik 42.96 32 *e*P **P** **05 47 28.0 -0.1**
INK Inuvik 42.96 32 *e*P **P** **05 47 28.0 -0.1**
INK pmax pmax
comp=Z,10.0nm,0.6s
INK Inuvik 42.96 32 *e*P **P** **05 47 28.0 -0.1**
comp=Z,9.7nm,0.6s
KURK Kurchatov 43.31 300 *e*P **P** **05 47 30.4 -0.7**
KURK Kurchatov 43.31 300*d i*P **P** **05 47 30.4 -0.7**
KURK pmax pmax
comp=Z,26nm,1.1s
KURK Kurchatov 43.31 300 *e*P **P** **05 47 30.4 -0.7**
comp=Z,38nm,1.2s
KURK *e*PcP **PcP** **05 49 10.8 +0.3**
HYT Haines Junctio 43.36 44 *e*P **P** **05 47 32.7 +1.1**
comp=Z,19nm,1.2s
KURBB Kurchatov Arra 43.40 300 P **P** **05 47 31.3 -0.5**
comp=Z,14nm,0.5s,baz=73,slow=8.5,SNR=133
KURBB PcP **PcP** **05 49 11.1 +0.2**
comp=Z,4.0nm,0.6s,baz=71,slow=3.2,SNR=22
LSA Lhasa 46.15 268 *e*P **P** **05 47 55.7 +1.7**
LSA pmax pmax
comp=Z,28nm,0.6s
LSA Lhasa 46.15 268 *e*P **P** **05 47 55.7 +1.7**
comp=Z,28nm,0.6s
PDGK Podgornoye 46.15 291 *i*P **P** **05 47 53.0 -0.5**
PDGK pmax pmax
comp=Z,12nm,1.1s
BVAR Borovoye Array 46.95 306 P **P** **05 47 58.4 -0.9**
comp=Z,2.3nm,0.3s,baz=47,slow=9.0,SNR=18
BVAR PcP **PcP** **05 49 23.2 -0.1**
comp=Z,1.5nm,0.4s,baz=67,slow=4.0,SNR=4.4
BRVK Borovoye 47.00 307 *e*P **P** **05 47 59.0 -0.6**
BRVK Borovoye 47.00 307⇓*e*P **P** **05 47 59.0 -0.6**
BRVK pmax pmax
comp=Z,13nm,1.1s
BRVK Borovoye 47.00 307 *e*P **P** **05 47 59.4 -0.2**
comp=Z,13nm,1.1s
CMAI Chiengmai2 47.59 251 P **P** **05 48 05.9 +1.2**
comp=Z,92nm,1.1s,comp=Z,6µm
SHL Shillong 48.34 263 *e*P **P** **05 48 08.0 -2.4**
CMMT Chiang Mai 48.47 250 P **P** **05 48 10.9 -0.3**
comp=Z,14nm,0.7s
CHTO Chiang Mai 48.47 250 P **P** **05 48 11.9 +0.7**
comp=Z,62nm,0.7s
CHTO Chiang Mai 48.47 250 *e*P **P** **05 48 12.2 +1.0**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 48.47 250 *e*P **P** **05 48 12.2 +1.0**
comp=Z,8.4nm,0.8s
CMAR Chiang Mai Arr 48.73 250 P **P** **05 48 13.7 +0.6**
comp=Z,2.6nm,0.5s,baz=33,slow=6.7,SNR=13
CMAR Chiang Mai Arr 48.73 250 *i*P **P** **05 48 14.6 +1.4**
CMAR pmax pmax
comp=Z,3.0nm,0.5s
PHIT Phitsanulok 48.76 248 P **P** **05 48 15.5 +2.2**
comp=Z,10nm,0.9s
ULHL Ulahol 48.76 291 P **P** **05 48 13.9 +0.6**
SNR=44
CHAI Chaiyaphum 48.77 245 P **P** **05 48 14.6 +1.2**
TKM2 Tokmak 2 48.80 292 P **P** **05 48 14.1 +0.5**
SNR=14
USP Ospenovka 49.30 293 P **P** **05 48 17.6 +0.5**
SNR=23
KBK Karagaybulak 49.35 292 P **P** **05 48 18.1 +0.5**
SNR=16
KZA Kyzart 49.47 291 P **P** **05 48 20.1 +1.2**
SNR=30
AAK Ala-Archa 49.64 292 P **P** **05 48 19.9 0.0**
comp=Z,12nm,0.7s,baz=125,slow=3.7,SNR=25
AAK Ala-Archa 49.64 292*d i*P **P** **05 48 19.8 0.0**
AAK pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 49.64 292 P **P** **05 48 20.1 +0.3**
SNR=11
AAK Ala-Archa 49.64 292 *e*P **P** **05 48 20.1 +0.3**
comp=Z,14nm,0.8s
EKS2 Erkin-Say 50.08 293 P **P** **05 48 23.4 +0.4**
SNR=7.1
SVE Sverdlovsk 50.19 314 *e*P **P** **05 48 23.2 -0.2**
SVE Sverdlovsk 50.19 314 *e*P **P** **05 48 23.2 -0.2**
SVE pmax pmax
comp=Z,27nm,0.8s
AML Almayashu 50.41 292 P **P** **05 48 26.6 +0.7**
SNR=15
KSH Kashi 50.42 288 P **P** **05 48 29.9 +4.3**
KSH PcP **PcP** **05 49 39.4 +3.0**
KSH S **S** **05 55 09.1 +3.8**
KSH sS sS 05 57 39.2 -1.4
UTHA Uthaitani 50.60 247 P **P** **05 48 29.1 +2.2**
SPITS Spitsbergen Ar 50.78 348 P **P** **05 48 27.0 -0.5**
comp=Z,5.9nm,0.9s,baz=28,slow=9.4,SNR=8.8
SPITS Spitsbergen Ar 50.78 348 P **P** **05 48 27.0 -0.5**
SPITS pmax pmax
comp=Z,6.0nm,1.0s
JIRN Jiri 50.79 269 *e*P **P** **05 48 29.6 +0.8**
comp=Z,108nm,0.7s
GUN Gumba 50.84 270 *e*P **P** **05 48 29.6 +0.5**
comp=Z,20nm,0.3s
MNAS Manas 50.96 293 *i*P **P** **05 48 29.8 +0.3**
MNAS pmax pmax
comp=Z,12nm,0.5s
RES Resolute Bay 51.10 18 *e*P **P** **05 48 29.3 -0.5**
RES Resolute Bay 51.10 18 *e*P **P** **05 48 29.3 -0.5**
RES pmax pmax
comp=Z,17nm,0.5s
RES Resolute Bay 51.10 18 *e*P **P** **05 48 29.3 -0.5**
comp=Z,17nm,0.5s
KKN Kakani 51.32 270 *e*P **P** **05 48 33.2 +0.8**
comp=Z,19nm,0.4s
PKI Pulchoki 51.38 270 *e*P **P** **05 48 33.4 +0.4**
PKIN Phulchoki 51.38 270 *e*P **P** **05 48 33.3 +0.4**
comp=Z,16nm,0.4s
ARU Arti 51.39 315*d i*P **P** **05 48 31.4 -0.8**
ARU 05 49 37.6
ARU *PP **pP** **05 49 58.5 -0.5**
ARU 05 50 32.3
ARU S **S** **05 55 18.3 +0.7**
ARU SS **SS** **05 58 56.4 -3.2**
ARU pmax pmax
comp=Z,22nm,0.8s
ARU Arti 51.39 315 *e*P **P** **05 48 31.6 -0.6**
comp=Z,20nm,0.8s
DMN Daman 51.56 270 *e*P **P** **05 48 35.1 +0.9**
GKN Gorkha 51.62 271 *e*P **P** **05 48 35.2 +0.7**
comp=Z,1.3nm,0.2s
SFK Sufi-Kurgan 51.71 290 *i*P **P** **05 48 35.0 -0.1**
SFK pmax pmax
comp=Z,27nm,1.1s
KKAR Karatay Array 51.84 295 *e*P **P** **05 48 35.7 -0.1**
KKAR Karatay Array 51.84 295 *e*P **P** **05 48 35.7 -0.1**
DANN Dangsing 51.99 272 *e*P **P** **05 48 38.4 +1.0**
YKW3 Yellowknife Ar 52.44 35 *e*P **P** **05 48 39.7 -0.1**
comp=Z,4.1nm,0.8s
KOLN Koldanda 52.47 271 *e*P **P** **05 48 41.6 +0.9**
YKA Yellowknife Ar 52.48 35 P **P** **05 48 39.8 -0.2**
comp=Z,3.3nm,0.7s,baz=304,slow=6.9,SNR=76
YKA ScP **ScP** **05 52 58.7 +0.6**
comp=Z,0.2nm,0.5s,baz=303,slow=4.3,SNR=4.7
YKA Yellowknife Ar 52.48 35 *e*P **P** **05 48 39.7 -0.3**
PYUN Piuthan 52.66 272 *e*P **P** **05 48 43.0 +0.8**
AB31 Akbulak array 54.53 307 *i*P **P** **05 48 54.3 -0.6**
AB31 pmax pmax
comp=Z,8.0nm,0.4s
ABKAR Akbulak array 54.53 307 *e*P **P** **05 48 54.9 0.0**
comp=Z,260nm,0.4s
AKTO Aktyubinsk 54.89 309 P **P** **05 48 56.6 -0.8**
comp=Z,3.8nm,0.5s,baz=55,slow=6.6,SNR=11
ARCES ARCESS Array B 55.42 339 P **P** **05 49 00.0 -0.9**
comp=Z,1.5nm,0.4s,baz=50,slow=7.6,SNR=20
ARCES PcP **PcP** **05 49 54.7 -0.1**
comp=Z,4.5nm,1.0s,baz=57,slow=6.6,SNR=3.2
KLMR Klimovskoe 56.99 326 *e*P **P** **05 49 10.2 -1.7**
KLMR pmax pmax
comp=Z,17nm,1.0s
KLMR Klimovskoe 56.99 326 *e*P **P** **05 49 10.2 -1.7**
KLMR AMP 05 49 11.8
comp=Z,17nm,1.0s
EDM Edmonton 58.48 44 *e*P **P** **05 49 23.1 +0.8**
EDM pmax pmax
comp=Z,42nm,1.9s
EDM Edmonton 58.48 44 *e*P **P** **05 49 23.1 +0.8**
comp=Z,42nm,1.9s
F07A Phinny Hill Vi 59.73 54 *e*P **P** **05 49 32.8 +2.0**
comp=Z,8.5nm,0.8s
NEW Newport 59.73 50 *e*P **P** **05 49 31.6 +0.8**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 59.73 50 *e*P **P** **05 49 31.6 +0.8**
comp=Z,4.1nm,0.9s
YBH Yreka Blue Hor 60.80 59 P **P** **05 49 39.3 +1.3**
comp=Z,1.9nm,0.7s,baz=28,slow=8.1,SNR=8.2
FIA1 FINESS Array S 61.24 332 *e*P **P** **05 49 39.8 -0.7**
FINES FINESS Array B 61.24 332 P **P** **05 49 39.6 -0.9**
comp=Z,18nm,0.5s,baz=35,slow=8.3,SNR=162
FINES PcP **PcP** **05 50 17.4 -0.8**
comp=Z,1.8nm,0.7s,baz=52,slow=5.4,SNR=2.7
FINES FINESS Array B 61.24 332 *e*P **P** **05 49 39.5 -1.0**
OBN Obninsk 62.02 322 *e*P **P** **05 49 44.9 -0.8**
OBN Obninsk 62.02 322⇓*e*P **P** **05 49 44.9 -0.8**
OBN pmax pmax
comp=Z,11nm,1.0s
GEYT Alibeck 62.48 297 P **P** **05 49 49.5 +0.4**
comp=Z,22nm,0.7s,baz=28,slow=3.5,SNR=37
FFC Flin Flon 62.49 38 *e*P **P** **05 49 49.2 +0.4**
FFC Flin Flon 62.49 38 *e*P **P** **05 49 49.2 +0.4**
FFC pmax pmax
comp=Z,4.0nm,0.6s
FFC Flin Flon 62.49 38 *e*P **P** **05 49 49.2 +0.4**
comp=Z,4.3nm,0.6s
FCC Fort Churchill 62.55 31 *e*P **P** **05 49 48.8 -0.3**
FCC pmax pmax
comp=Z,4.0nm,0.4s
FCC Fort Churchill 62.55 31 *e*P **P** **05 49 48.8 -0.3**
comp=Z,3.8nm,0.4s
LPSR Galich'ya Gora 62.77 319 *e*P **P** **05 49 49.7 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.6s
HRY Holter Researc 63.47 49 *e*P **P** **05 49 57.2 +1.7**
EGMT Eagleton 63.62 47 *e*P **P** **05 49 57.4 +1.0**
comp=Z,5.2nm,0.8s
VSR Storozhevoye 63.63 318 *e*P **P** **05 49 55.2 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
DLMT Dillon 63.98 51 *e*P **P** **05 50 00.7 +1.8**
comp=Z,3.8nm,0.8s
BOZ Bozeman (W) 64.32 50 *e*P **P** **05 50 02.5 +1.4**
BOZ pmax pmax
comp=Z,4.0nm,0.6s
BOZ Bozeman (W) 64.32 50 *e*P **P** **05 50 02.5 +1.4**
comp=Z,3.7nm,0.6s
CMB Columbia Colle 64.56 61 *e*P **P** **05 50 04.2 +1.7**
CMB pmax pmax
comp=Z,3.0nm,0.9s
CMB Columbia Colle 64.56 61 *e*P **P** **05 50 04.2 +1.7**
comp=Z,3.3nm,0.9s
YHB Horse Butte 65.13 50 *e*P **P** **05 50 06.6 +0.3**
comp=Z,5.8nm,1.0s
YHH Holmes Hill 65.28 50 *e*P **P** **05 50 07.8 +0.5**
comp=Z,3.7nm,1.1s
FRB Frobisher Bay 65.29 17 P **P** **05 50 05.4 -1.2**
comp=Z,3.7nm,0.4s,baz=153,slow=8.2,SNR=14
YMR Madison River 65.30 50 *e*P **P** **05 50 09.1 +1.7**
comp=Z,7.6nm,1.3s
NV01 Mina Array Sit 65.51 59 *e*P **P** **05 50 10.3 +1.5**
NVAR Mina Array Bea 65.51 59 P **P** **05 50 10.2 +1.4**
comp=Z,2.8nm,0.7s,baz=295,slow=6.2,SNR=23
YFT Old Faithful 65.52 50 *e*P **P** **05 50 11.2 +2.4**
comp=Z,4.6nm,0.9s
H17A Grant Village 65.69 50 *e*P **P** **05 50 10.8 +1.0**
comp=Z,5.5nm,1.0s
NB2 NORSAR Subarra 65.80 338 P **P** **05 50 09.1 -0.8**
comp=Z,4.8nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 65.80 338 P **P** **05 50 09.2 -0.7**
comp=Z,6.1nm,0.5s,baz=32,slow=6.6,SNR=52
HFS Hagfors 65.92 337 P **P** **05 50 09.7 -1.0**
comp=Z,7.4nm,0.3s,baz=36,slow=4.6,SNR=94
HFS Hagfors 65.92 337 P **P** **05 50 09.7 -1.0**
HFS pmax pmax
comp=Z,8.0nm,0.4s
FXWY Fox Creek 65.98 51 *e*P **P** **05 50 13.5 +1.9**
comp=Z,3.3nm,1.3s
MOOW Moose Ponds 66.05 51 *e*P **P** **05 50 13.3 +1.2**
comp=Z,5.2nm,1.3s
TPAW Teton Pass 66.12 51 *e*P **P** **05 50 14.4 +1.8**
comp=Z,10nm,1.4s
KIV Kislovodsk 67.04 311 *e*P **P** **05 50 18.9 +0.8**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV Kislovodsk 67.04 311 *e*P **P** **05 50 19.1 +1.0**
comp=Z,29nm,0.7s
KBZ Khabaz 67.09 310 P **P** **05 50 18.7 +0.5**
comp=Z,14nm,0.8s,baz=78,slow=4.1,SNR=24
R11A Troy Canyon, C 67.13 58 *e*P **P** **05 50 20.3 +1.4**
comp=Z,17nm,2.0s
ZEI Tsey 67.23 309 *e*P **P** **05 50 18.3 -1.1**
ZEI Tsey 67.23 309 *e*P **P** **05 50 18.3 -1.1**
ZEI pmax pmax
comp=Z,9.0nm,0.8s
BW06 Boulder Array 67.36 51 *e*P **P** **05 50 21.3 +1.1**
comp=Z,5.2nm,1.0s
PD31 Pinedale Array 67.36 51 *e*P **P** **05 50 21.3 +1.1**
PDAR Pinedale Array 67.36 51 P **P** **05 50 21.2 +0.9**
comp=Z,4.9nm,0.8s,baz=303,slow=1.0,SNR=33
PDAR Pinedale Array 67.36 51 *e*P **P** **05 50 20.7 +0.4**
DUG Dugway, Tooele 67.41 55 *e*P **P** **05 50 21.7 +1.2**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 67.41 55 *e*P **P** **05 50 21.7 +1.2**
comp=Z,3.2nm,0.8s
NEY Neytrino 67.52 310 ⇑*i*P **P** **05 50 21.3 +0.1**
NEY pmax pmax
comp=Z,2.0nm,0.7s
TBLG Delisi 67.53 308 *e*P **P** **05 50 21.1 0.0**
TBLG pmax pmax
comp=Z,22nm,0.7s
TBLG Delisi 67.53 308 *e*P **P** **05 50 21.1 0.0**
comp=Z,22nm,0.7s
NLU North Lily Min 67.98 55 *e*P **P** **05 50 24.4 +0.3**
comp=Z,3.3nm,0.9s
MPU Maple Canyon 68.18 54 *e*P **P** **05 50 26.1 +0.7**
comp=Z,3.2nm,0.6s
AKASG Malin Array Be 68.28 323 P **P** **05 50 24.5 -1.0**
comp=Z,8.1nm,0.4s,baz=38,slow=6.4,SNR=58
AKBB Malin Array Si 68.28 323 *e*P **P** **05 50 24.6 -0.9**
AKBB pmax pmax
comp=Z,12nm,0.6s
AKBB Malin Array Si 68.28 323 *e*P **P** **05 50 24.6 -0.9**
comp=Z,12nm,0.6s
KIEV Kiev 68.30 323 *e*P **P** **05 50 24.5 -1.0**
KIEV Kiev 68.30 323⇓*e*P **P** **05 50 24.5 -1.0**
KIEV pmax pmax
comp=Z,10.0nm,0.6s
KIEV Kiev 68.30 323 *e*P **P** **05 50 24.6 -1.0**
comp=Z,12nm,0.7s
ULM Lac du Bonnet 68.31 38 P **P** **05 50 25.3 -0.3**
comp=Z,2.3nm,0.6s,baz=301,slow=5.8,SNR=3.3
AK11 Malin Array Si 68.33 323 *e*P **P** **05 50 24.7 -1.0**
WRA Warramunga Arr 68.41 193 P **P** **05 50 27.1 +0.6**
comp=Z,2.3nm,0.5s,baz=9.4,slow=6.7,SNR=42
WRA Warramunga Arr 68.41 193 *i*P **P** **05 50 26.5 0.0**
WRA pmax pmax
comp=Z,2.0nm,0.5s
RSSD Black Hills 69.19 47 *e*P **P** **05 50 32.3 +0.9**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 69.19 47 *e*P **P** **05 50 32.3 +0.9**
comp=Z,4.3nm,0.8s
LCMT Little Creek M 69.39 57 *e*P **P** **05 50 34.6 +2.0**
comp=Z,2.2nm,0.9s
PV09 Paradox Valley 70.62 54 *e*P **P** **05 50 42.3 +2.1**
PV10 Paradox Valley 70.76 54 *e*P **P** **05 50 42.9 +1.9**
PV01 Paradox Valley 71.19 54 *e*P **P** **05 50 44.7 +1.2**
KIS Kishinev 71.32 320 *e*P **P** **05 50 42.0 -1.8**
KIS Kishinev 71.32 320 *e*P **P** **05 50 42.0 -1.8**
AS01 Alice Springs 72.12 193 *e*P **P** **05 50 49.8 +1.2**
ASAR Alice Springs 72.13 193 P **P** **05 50 50.2 +1.5**
comp=Z,2.0nm,0.5s,baz=2.7,slow=5.2,SNR=42
X16A Lo Mia Camp, P 72.27 58 *e*P **P** **05 50 51.7 +1.9**
BUR08 Bucovina Ar. S 72.32 323 *e*P **P** **05 50 49.6 -0.1**
BUR04 Bucovina Ar. S 72.34 323 *e*P **P** **05 50 49.5 -0.3**
BURAR Bucovina Array 72.34 323 ⇑*i*P **P** **05 50 49.8 -0.1**
STHS Stebnicka Huta 72.43 326 *e*P **P** **05 50 50.5 +0.2**
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 72.43 326 *e*P **P** **05 50 50.5 +0.2**
TESR Tescani 72.62 321 ⇓*i*P **P** **05 50 50.7 -0.7**
UZH Uzhgorod 72.67 325 *e*P **P** **05 50 53.6 +2.0**
UZH *e* 05 51 09.8

ECSD	**EROS Data Cent**	**73.00**	**43**	*e*P		**P**	**05 50 54.1**	**+0.5**
	comp=Z,6.1nm,0.9s							
CFR	**Carcaliu**	**73.04**	**320**	⇑*i*P		**P**	**05 50 53.7**	**-0.1**
VRI	**Vrincioaia**	**73.10**	**321**	⇑*i*P		**P**	**05 50 54.2**	**0.0**
DPC	**Dobruska-Polom**	**73.41**	**330**	*e*P		**P**	**05 50 56.3**	**+0.3**
DPC	**Dobruska-Polom**	**73.41**	**330**	*e*P		**P**	**05 50 56.3**	**+0.3**
MORC	**Moravsky Berou**	**73.47**	**329**	⇓*i*P		**P**	**05 50 56.3**	**0.0**
MORC	**Moravsky Berou**	**73.47**	**329**	*e*P		**P**	**05 50 56.3**	**0.0**
MORC				pmax	pmax			
	comp=Z,26nm,0.8s							
MORC	**Moravsky Berou**	**73.47**	**329**	*e*P		**P**	**05 50 56.3**	**0.0**
	comp=Z,26nm,0.8s							
KECS	**Kecovo**	**73.48**	**326**	*e*P		**P**	**05 50 55.7**	**-0.6**
KECS				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KECS	**Kecovo**	**73.48**	**326**	*e*P		**P**	**05 50 55.7**	**-0.6**
TLB	**Topalu**	**73.55**	**319**	⇓*i*P		**P**	**05 50 56.6**	**-0.1**
DOPR	**Dopca**	**73.59**	**322**	⇓*i*P		**P**	**05 50 57.9**	**+0.9**
CLL	**Collm**	**73.69**	**332**	*e*P		**P**	**05 50 56.3**	**-1.1**
CLL	**Collm**	**73.69**	**332**	*e*P		**P**	**05 50 56.3**	**-1.1**
CLL				pmax	pmax			
	comp=Z,11nm,0.8s							
CLL	**Collm**	**73.69**	**332**	*i*P		**P**	**05 50 56.2**	**-1.1**
	comp=Z,12nm,0.9s							
CLL	**Collm**	**73.69**	**332**	*e*P		**P**	**05 50 56.3**	**-1.1**
	comp=Z,11nm,0.8s							
MLR	**Muntele Rosu**	**73.73**	**321**	P		**P**	**05 50 57.9**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=3.8,slow=15,SNR=13							
MLR	**Muntele Rosu**	**73.73**	**321**	⇑*i*P		**P**	**05 50 58.9**	**+0.9**
MLR	**Muntele Rosu**	**73.73**	**321**	*e*P		**P**	**05 50 56.4**	**-1.6**
	comp=Z,4.9nm,0.8s							
SCHQ	**Schefferville**	**73.81**	**20**	P		**P**	**05 50 57.6**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=329,slow=5.7,SNR=12							
DRGR		**74.01**	**324**	⇓*i*P		**P**	**05 50 59.1**	**-0.4**
VYHS	**Vyhne**	**74.09**	**327**	*e*P		**P**	**05 50 59.8**	**0.0**
VYHS	**Vyhne**	**74.09**	**327**	*e*P		**P**	**05 50 59.8**	**0.0**
VOIR		**74.15**	**322**	⇑*i*P		**P**	**05 51 00.8**	**+0.5**
PLAR	**PLOIESTI**	**74.16**	**321**	⇑*i*P		**P**	**05 51 01.7**	**+1.5**
PSZ	**Piszkesteto**	**74.17**	**326**	⇓*i*P		**P**	**05 51 00.8**	**+0.4**
VRAC	**Vranov**	**74.20**	**329**	P		**P**	**05 51 00.7**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=41,slow=6.6,SNR=7.2							
VRAC	**Vranov**	**74.20**	**329**	*i*P		**P**	**05 51 00.9**	**+0.5**
EKA	**Eskdalemuir Ar**	**74.22**	**343**	P		**P**	**05 50 59.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=23,slow=6.5,SNR=5.9							
SULR		**74.25**	**320**	⇓*i*P		**P**	**05 51 01.0**	**+0.3**
PRU	**Pruhonice**	**74.32**	**330**	*e*P		**P**	**05 51 01.2**	**+0.1**
PRU	**Pruhonice**	**74.32**	**330**	*e*P		**P**	**05 51 01.2**	**+0.1**
PRU	**Pruhonice**	**74.32**	**330**	*e*P		**P**	**05 51 01.2**	**+0.1**
ARR	**Arges**	**74.38**	**322**	⇓*i*P		**P**	**05 51 02.5**	**+0.9**
ANMO	**Albuquerque**	**74.68**	**55**	*ce*P		**P**	**05 51 04.7**	**+1.1**
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.7s							
BR131	**Keskin Array S**	**74.71**	**313**	*e*P		**P**	**05 51 04.0**	**+0.4**
BRTR	**Keskin Array B**	**74.71**	**313**	P		**P**	**05 51 03.7**	**0.0**
	comp=Z,3.2nm,0.8s,baz=76,slow=3.8,SNR=19							
SIRR	**Siria**	**74.86**	**324**	⇑*i*P		**P**	**05 51 04.5**	**+0.3**
BR231	**Keskin MP Arra**	**75.05**	**313**	*e*P		**P**	**05 51 04.3**	**-1.2**
KHC	**Kasperske Hory**	**75.38**	**330**	*e*P		**P**	**05 51 07.3**	**+0.2**
KHC	**Kasperske Hory**	**75.38**	**330**	*e*P		**P**	**05 51 07.1**	**0.0**
KHC	**Kasperske Hory**	**75.38**	**330**	*e*P		**P**	**05 51 07.3**	**+0.2**
KHC	**Kasperske Hory**	**75.38**	**330**	*e*P		**P**	**05 51 07.1**	**0.0**
	comp=Z,2.9nm,0.8s							
BZS	**Buzias**	**75.41**	**324**	⇓*i*P		**P**	**05 51 07.6**	**+0.3**
GERES	**GERESS Array B**	**75.59**	**330**	P		**P**	**05 51 07.8**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=35,slow=5.7,SNR=19							
GEA0	**GERESS Array S**	**75.59**	**330**	*e*P		**P**	**05 51 07.8**	**-0.6**
CONA	**Conrad Observa**	**75.63**	**329**	*e*P		**P**	**05 51 09.1**	**+0.5**
	comp=Z,6.8nm,1.3s,SNR=5.0							
MOA	**Molln**	**76.25**	**329**	*e*P		**P**	**05 51 11.8**	**-0.2**
	comp=Z,4.6nm,0.9s							
ARSA	**Arzberg**	**76.33**	**328**	*e*P		**P**	**05 51 12.8**	**+0.4**
	comp=Z,1.7nm,0.6s							
MEM	**Membach**	**76.39**	**336**	⇓P		**P**	**05 51 12.7**	**+0.1**
SOKA	**Soboth**	**76.99**	**328**	*e*P		**P**	**05 51 16.0**	**-0.1**
	comp=Z,6.4nm,1.0s							
KBA	**Koelnbreinsper**	**77.23**	**330**	*e*P		**P**	**05 51 16.3**	**-1.3**
	comp=Z,5.1nm,0.6s							
VTS	**Vitosha**	**77.24**	**321**	⇓*i*P		**P**	**05 51 17.6**	**-0.1**
VTS	**Vitosha**	**77.24**	**321**	*e*P		**P**	**05 51 17.6**	**-0.1**
VTS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VTS	**Vitosha**	**77.24**	**321**	*e*P		**P**	**05 51 17.6**	**-0.1**
	comp=Z,10nm,0.9s							
WATA	**Walderalm**	**77.60**	**331**	*e*P		**P**	**05 51 19.7**	**+0.1**
	comp=Z,4.0nm,0.5s							
WTTA	**Wattenberg**	**77.65**	**331**	*e*P		**P**	**05 51 19.9**	**+0.1**
	comp=Z,3.8nm,0.5s							
MOTA	**Moosalm**	**77.75**	**331**	*e*P		**P**	**05 51 20.1**	**-0.3**
	comp=Z,2.8nm,0.5s,SNR=6.1							
ABTA	**Abfaltersbach**	**77.81**	**330**	*e*P		**P**	**05 51 19.6**	**-1.0**
	comp=Z,7.1nm,1.3s							
ASF	**Jabal al Asfar**	**78.79**	**306**	P		**P**	**05 51 27.0**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=153,slow=18,SNR=4.0							
ASF	**Jabal al Asfar**	**78.79**	**306**	P		**P**	**05 51 27.0**	**+0.8**
ASF				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MMAI	**Mount Meron Ar**	**78.95**	**307**	P		**P**	**05 51 28.1**	**+1.1**
	comp=Z,4.4nm,0.4s,baz=48,slow=5.9,SNR=7.5							
STKA	**Stephens Creek**	**79.48**	**185**	P		**P**	**05 51 31.3**	**+1.8**
	comp=Z,3.5nm,1.1s,baz=216,slow=3.1							
RAYN	**Ar Rayn**	**80.26**	**294**	*e*P		**P**	**05 51 34.3**	**+0.3**
	comp=Z,7.3nm,0.8s							
TX31	**Lajitas Ar. Si**	**80.45**	**57**	*e*P		**P**	**05 51 36.2**	**+1.2**
TXAR	**Lajitas Array**	**80.45**	**57**	P		**P**	**05 51 36.5**	**+1.5**
	comp=Z,2.1nm,0.5s,baz=286,slow=3.7,SNR=28							
IDI	**Anoyia**	**82.46**	**316**	P		**P**	**05 51 44.1**	**-1.1**
	comp=Z,9.6nm,0.8s,baz=0.0,slow=10,SNR=3.6							
TKL	**Tuckaleechee C**	**85.29**	**39**	P		**P**	**05 51 59.0**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=112,slow=11,SNR=3.6							
TORD	**Torodi Ar. Bea**	**111.92**	**323**	PP		PP	05 58 41.5	-3.1
	comp=Z,0.6nm,0.8s,baz=0.2,slow=7.7,SNR=3.6							
DBIC	**Dimbokro**	**120.36**	**327**	PKP		**PKPdf**	**05 58 10.0**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=16,slow=7.6,SNR=3.0							

IDC 11 05:43:08.4±1.3, 46.05N×27.56W, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/67, mbtmp3.7/5, MS3.5/19, Ms1 3.5/19, ms1mx3.2/65, Error ellipse: s-maj=48.6km s-min=26.0km az=42.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.40**	**102**	LR	LR	05 53 04.1	
	comp=Z,89nm,20.4s,baz=310,slow=32						
SCHQ	**Schefferville**	**26.20**	**304**	P	P	05 48 45.1	+0.5
	2.5nm,0.7s,baz=125,slow=5.7,SNR=4.1						
SCHQ				LR	LR	05 57 34.2	
	comp=Z,83nm,18.2s,baz=2.0,slow=33						
FRB	**Frobisher Bay**	**28.77**	**323**	LR	LR	05 57 09.1	
	comp=Z,101nm,21.7s,baz=250,slow=29						
KEST	**Kesra**	**29.51**	**97**	LR	LR	05 59 37.8	
	comp=Z,110nm,20.1s,baz=290,slow=34						
VRAC	**Vranov**	**29.59**	**67**	LR	LR	06 00 35.4	
	comp=Z,69nm,19.9s,baz=311,slow=35						
TORD	**Torodi Ar. Bea**	**41.06**	**134**	P	P	05 50 53.8	+0.1
	2.9nm,0.9s,baz=330,slow=7.8,SNR=16						
TORD				LR	LR	06 06 37.1	
	comp=Z,117nm,20.1s,baz=335,slow=34						
TKL	**Tuckaleechee C**	**42.95**	**277**	LR	LR	06 09 12.6	
	comp=Z,49nm,18.0s,baz=6.5,slow=36						
DBIC	**Dimbokro**	**43.87**	**146**	LR	LR	06 07 52.6	
	comp=Z,76nm,19.5s,baz=334,slow=34						
BRTR	**Keskin Array B**	**44.31**	**75**	LR	LR	06 10 22.8	
	comp=Z,29nm,19.0s,baz=293,slow=37						
ULM	**Lac du Bonnet**	**44.32**	**301**	LR	LR	06 08 03.7	
	comp=Z,62nm,18.2s,baz=234,slow=34						
YKA	**Yellowknife Ar**	**49.29**	**322**	LR	LR	06 09 55.3	
	comp=Z,4.9nm,19.2s,baz=0.0,slow=33						
ASF	**Jabal al Asfar**	**50.59**	**82**	LR	LR	06 15 40.1	
	comp=Z,125nm,20.5s,baz=270,slow=39						
PDAR	**Pinedale Array**	**56.16**	**299**	LR	LR	06 14 20.0	
	comp=Z,62nm,19.0s,baz=36,slow=33						
ILAR	**Eielson Array**	**59.85**	**334**	P	P	05 53 15.1	-0.2
	0.3nm,0.9s,baz=33,slow=5.6,SNR=2.2						
TXAR	**Lajitas Array**	**60.28**	**283**	LR	LR	06 19 17.3	
	comp=Z,101nm,18.2s,baz=0.0,slow=36						
KURBB	**Kurchatov Arra**	**64.52**	**43**	P	P	05 53 47.2	+0.5
	0.6nm,0.8s,baz=40,slow=32,SNR=4.4						
ZALV	**Zalesovo Beam**	**65.03**	**37**	LR	LR	06 21 44.0	
	comp=Z,36nm,18.0s,baz=242,slow=36						
AAK	**Ala-Archa**	**67.85**	**51**	LR	LR	06 21 56.2	
	comp=Z,8.9nm,19.0s,baz=297,slow=34						
LPIG	**La Paz**	**68.17**	**282**	LR	LR	06 24 05.2	
	comp=Z,61nm,18.9s,baz=32,slow=36						
MKAR	**Makanchi Array**	**68.97**	**44**	P	P	05 54 15.3	+0.1
	0.6nm,0.9s,baz=319,slow=5.7,SNR=3.8						
MATP	**Matopo**	**83.36**	**128**	LR	LR	06 31 05.2	
	comp=Z,25nm,20.3s,baz=340,slow=34						
BOSA	**Boshof**	**88.39**	**136**	LR	LR	06 36 09.8	
	comp=Z,22nm,18.7s,baz=353,slow=36						
MJAR	**Matsushiro Arr**	**96.79**	**11**	LR	LR	06 39 26.4	
	comp=Z,38nm,18.9s,baz=225,slow=35						
WRA	**Warramunga Arr**	**150.00**	**36**	PKPbc	PKPbc	06 02 60.0	-1.0
	0.6nm,0.9s,baz=334,slow=4.0,SNR=3.3						
ASAR	**Alice Springs**	**153.11**	**40**	PKPbc	PKPbc	06 03 07.2	-0.8
	0.2nm,0.7s,baz=342,slow=4.7,SNR=1.6						

*ATA **11** 05:44:44.7±1.1, 38.89N×43.65E, h24km±8km, ML3.5, MW3.3*
*DDA **11** 05:44:45.8, 38.76N×43.32E, h7km, Ml2.9*
*ISK **11** 05:44:45.8, 38.74N×43.19E, h10km, ML2.8/6*
*CSEM **11** 05:44:46.3±0.2, 38.76N×43.27E, h10km, ML2.8, Error ellipse: s-maj=4.9km s-min=4.2km az=71.0*

ISC 11 05:44:46.4±0.9, 38.75N±0.02×43.35E±0.03, h24km±7km, n39, σ1.9s12/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**168**	PG	**Pn**	**05 44 52.5**	**-0.9**
VANB				SG	**Sb**	**05 44 56.5**	**+1.3**
VANB	**Van**	**0.16**	**168**	*e*Pg	**Pn**	**05 44 52.5**	**-0.9**
TVAN	**Van**	**0.23**	**168**	*i*P	**Pb**	**05 44 52.4**	**-0.1**
TVAN				*i*S	**Sb**	**05 44 57.4**	**+0.7**
TVAN	**Van**	**0.23**	**168**	P	**Pb**	**05 44 52.4**	**-0.1**
TVAN				S	**Sb**	**05 44 57.4**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.49**	**277**	*i*P	**Pb**	**05 44 55.0**	**-1.5**
ADCV				*i*S	**Sb**	**05 45 02.2**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.49**	**277**	P	**Pb**	**05 44 55.0**	**-1.5**
ADCV				S	**Sb**	**05 45 02.2**	**-1.2**
GEVA	**Gevas**	**0.49**	**207**	*e*P	**Pn**	**05 44 59.9**	**+1.8**
GEVA	**Gevas**	**0.49**	**207**	*i*P	**Pb**	**05 44 55.8**	**-0.8**
GEVA				*i*S	**Sb**	**05 45 04.0**	**+0.6**
GEVA	**Gevas**	**0.49**	**207**	P	**Pb**	**05 44 55.8**	**-0.8**
GEVA				S	**Sb**	**05 45 04.0**	**+0.6**
CLDR	**Caldiran**	**0.59**	**48**	PG	**Pn**	**05 44 59.2**	**-0.3**
CLDR	**Caldiran**	**0.59**	**48**	*i*P	**Pb**	**05 44 57.8**	**-0.5**
CLDR				*i*S	**Sn**	**05 45 08.6**	**+0.1**
CLDR	**Caldiran**	**0.59**	**48**	P	**Pb**	**05 44 57.8**	**-0.5**
CLDR	**Caldiran**	**0.59**	**48**	*e*Pg	**Pn**	**05 44 59.2**	**-0.3**
CLDR				S	**Sn**	**05 45 08.6**	**+0.1**
TUTA	**Tutak**	**0.77**	**328**	*e*P	**Pn**	**05 45 02.2**	**+0.3**
TUTA				*e*S	**Sn**	**05 45 13.9**	**+0.9**
TUTA				IAML		05 45 17.0	
	comp=Z,188nm,0.5s						
TUTA	**Tutak**	**0.77**	**328**	*i*P	**Pb**	**05 45 00.7**	**-0.6**
TUTA				*i*S	**Sb**	**05 45 11.2**	**-0.3**
TUTA	**Tutak**	**0.77**	**328**	P	**Pb**	**05 45 00.7**	**-0.6**
TUTA				S	**Sb**	**05 45 11.2**	**-0.3**
BASK	**Baskale_VAN**	**0.87**	**143**	*e*P	**Pb**	**05 45 02.0**	**-0.9**
BASK				IAML		05 45 19.1	
	comp=Z,25nm,0.3s						
BASK	**Baskale_VAN**	**0.87**	**143**	*i*P	**Pb**	**05 45 02.5**	**-0.4**
BASK				*i*S	**Sn**	**05 45 15.4**	**+0.2**
BASK	**Baskale_VAN**	**0.87**	**143**	P	**Pb**	**05 45 02.5**	**-0.4**
BASK				S	**Sn**	**05 45 15.4**	**+0.2**
AGRB	**Hanur-Agry**	**0.87**	**342**	PG	**Pb**	**05 45 02.7**	**-0.2**
AGRB				SG	**Sn**	**05 45 14.8**	**-0.5**
AGRB	**Hanur-Agry**	**0.87**	**342**	*e*Pg	**Pb**	**05 45 02.7**	**-0.2**
AGRB				*e*Sg	**Sn**	**05 45 14.8**	**-0.5**
GURO	**Guroymak-BITLI**	**1.05**	**259**	PG	**Pn**	**05 45 04.2**	**-1.5**
GURO				SG	**Sb**	**05 45 17.2**	**-2.1**
GURO	**Guroymak-BITLI**	**1.05**	**259**	*e*Pg	**Pn**	**05 45 04.2**	**-1.5**
GURO				*e*Sg	**Sb**	**05 45 17.2**	**-2.1**
EKAR	**Karacoban**	**1.12**	**297**	*e*P	**Pb**	**05 45 09.0**	**+1.8**
EKAR	**Karacoban**	**1.12**	**297**	*i*P	**Pn**	**05 45 06.0**	**-0.7**
EKAR	**Karacoban**	**1.12**	**297**	P	**Pn**	**05 45 06.0**	**-0.7**
EATA	**Eleskirt**	**1.29**	**329**	*e*P	**Pb**	**05 45 09.9**	**-0.3**
EATA	**Eleskirt**	**1.29**	**329**	*i*P	**Pb**	**05 45 10.8**	**+0.6**
EATA				*i*S	**Sb**	**05 45 28.4**	**+1.8**
EATA	**Eleskirt**	**1.29**	**329**	P	**Pb**	**05 45 10.8**	**+0.6**
EATA				S	**Sb**	**05 45 28.4**	**+1.8**
SRTM	**Siirt_Merkez**	**1.35**	**236**	*i*P	**Pb**	**05 45 11.4**	**+0.3**
SRTM				*i*S	**Sb**	**05 45 30.4**	**+2.4**
SRTM	**Siirt_Merkez**	**1.35**	**236**	P	**Pb**	**05 45 11.4**	**+0.3**
SRTM				S	**Sb**	**05 45 30.4**	**+2.4**
SIRT	**Sirnak**	**1.44**	**210**	PN	**Pb**	**05 45 11.8**	**-0.7**
SIRT	**Sirnak**	**1.44**	**210**	*e*Pn	**Pb**	**05 45 11.8**	**-0.7**
CUKT	**Cukurca**	**1.51**	**172**	PN	**Pb**	**05 45 13.7**	**-0.2**
CUKT	**Cukurca**	**1.51**	**172**	*e*Pn	**Pb**	**05 45 13.7**	**-0.2**
BNGL	**BINGOL**	**1.73**	**277**	*e*P	**Pb**	**05 45 20.7**	**+3.2**
BNGL				IAML		05 45 44.8	
	comp=Z,27nm,0.4s						
BNGL	**BINGOL**	**1.73**	**277**	*i*P	**Pb**	**05 45 17.4**	**-0.1**
BNGL				*i*S	**Sb**	**05 45 40.4**	**+1.6**
ERZM	**Erzurum**	**1.92**	**308**	*e*P	**Pb**	**05 45 21.0**	**+0.1**
ECAT	**Cat-ERZURUM**	**2.03**	**296**	*e*P	**Pb**	**05 45 22.7**	**0.0**

*CSEM **11** 06:03:23.4±0.6, 28.26N×59.07E, h15km, ML3.7, Error ellipse: s-maj=17.3km s-min=8.8km az=133.0*

TEH 11 06:03:18.7, 28.20N×59.14E, h10km, ML3.7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHSF	**Zahedan**	**2.01**	**45**	*e*Pn	Pg	06 03 57.6	+0.3
NIAN	**Nian**	**2.13**	**253**	*e*Pn	Pg	06 03 59.0	-0.6
NIAN	**Nian**	**2.13**	**253**	*e*Pn	Pg	06 03 59.0	-0.6
CHMN	**Cheshme madani**	**2.17**	**320**	*e*Pn	Pb	06 03 57.4	-0.8
CHMN	**Cheshme madani**	**2.17**	**320**	*e*Pn	Pb	06 03 57.4	-0.8
IBND	**Bandar-abas**	**2.42**	**253**	*e*Pn	Pb	06 04 00.6	-1.7
IBND	**Bandar-abas**	**2.42**	**253**	*e*Pn	Pb	06 04 00.6	-1.7
NGRK	**Negar Kerman**	**2.55**	**305**	*e*Pn	Pb	06 04 04.7	-0.1
NGRK	**Negar Kerman**	**2.55**	**305**	*e*Pn	Pb	06 04 04.7	-0.1
KRBR	**Kerman**	**2.73**	**311**	*e*Pn	Pb	06 04 05.9	-2.0
IKOO	**Kooshah**	**4.21**	**358**	*e*Pn	Pn	06 04 26.4	+3.2
IKOO				*e*AMB	AMB	06 04 27.4	
	comp=Z,1μm,0.1s						
IKOO	**Kooshah**	**4.21**	**358**	*e*Pn	Pn	06 04 26.4	+3.2
IDAH	**Dahanechah**	**4.57**	**8**	*e*Pn	Pn	06 04 30.5	+2.4
IDAH				*e*AMB	AMB	06 04 49.3	
	comp=N,391nm,0.1s						
IDAH	**Dahanechah**	**4.57**	**8**	*e*Pn	Pn	06 04 30.5	+2.4
ITEG	**Tejag**	**4.69**	**356**	*e*Pn	Pn	06 04 32.8	+3.0
ITEG				*e*AMB	AMB	06 04 33.7	
	comp=Z,791nm,0.1s						
ITEG				*e*Sg	Sg	06 05 52.4	+3.0
ITEG	**Tejag**	**4.69**	**356**	*e*Pn	Pn	06 04 32.8	+3.0
ITEG				*e*Sg	Sg	06 05 52.4	+3.0
IMON	**Monand**	**5.00**	**5**	*e*Pn	Pn	06 04 37.6	+3.6
IMON				*e*AMB	AMB	06 04 38.9	
	comp=Z,514nm,0.1s						
IMON	**Monand**	**5.00**	**5**	*e*Pn	Pn	06 04 37.6	+3.6
TABS	**Tabas**	**5.70**	**343**	*e*Pn	Pn	06 04 47.4	+3.9

*NAO **11** 06:13:41.3±2.7, 67.75N×20.00E, ML2.3*
*UPP **11** 06:13:42.7, 67.83N×20.18E, h0km, ML2.2, Suspected Mining explosion.*
*ISCJB **11** 06:13:42.4±0.4, 67.75N±0.02×20.27E±0.06, h0km, Error ellipse: s-maj=3.5km s-min=2.9km az=159.3*
*CSEM **11** 06:13:42.7±0.2, 67.73N×20.27E, h2km, ML2.2, Error ellipse: s-maj=5.5km s-min=4.5km az=42.0, Mining explosion.*
*HEL **11** 06:13:42.7, 67.75N×20.14E, h0km, ML2.0, Explosion*
*BER **11** 06:13:46.1±4.1, 67.75N×20.31E, h0km, ML1.9, ML2.3(NAO), Suspected explosion*

ISC 11 06:13:42.8±0.7, 67.78N±0.02×20.26E±0.02, h0km, n67, σ1.9s1.51/101, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.18**	**9**	P	**Pg**	**06 13 45.5**	**-0.7**
KUA				S	**Sg**	**06 13 47.5**	**-1.0**
KUA	**Kurravaara**	**0.18**	**9**	P	**Pg**	**06 13 45.5**	**-0.7**
KUA				S	**Sg**	**06 13 47.5**	**-1.0**
KUA	**Kurravaara**	**0.18**	**9**	*i*P	**Pg**	**06 13 45.5**	**-0.7**
KUA				*i*S	**Sg**	**06 13 47.5**	**-1.0**
RATU	**Laukkuluspa**	**0.26**	**280**	P	**Pg**	**06 13 47.1**	**-0.7**
RATU	**Laukkuluspa**	**0.26**	**280**	P	**Pg**	**06 13 47.1**	**-0.7**
RATU	**Laukkuluspa**	**0.26**	**280**	*i*P	**Pg**	**06 13 47.1**	**-0.7**
NIKU	**Nikkaluokta**	**0.47**	**281**	P	**Pg**	**06 13 51.4**	**-0.5**
NIKU	**Nikkaluokta**	**0.47**	**281**	P	**Pg**	**06 13 51.4**	**-0.5**
NIKU	**Nikkaluokta**	**0.47**	**281**	*i*P	**Pg**	**06 13 51.4**	**-0.5**
LANU	**Lannavaara**	**0.71**	**67**	P	**Pg**	**06 13 56.4**	**+0.1**
LANU				S	**Sg**	**06 14 06.2**	**+0.8**
LANU	**Lannavaara**	**0.71**	**67**	P	**Pg**	**06 13 56.4**	**0.0**
LANU	**Lannavaara**	**0.71**	**67**	*e*P	**Pg**	**06 13 56.3**	**0.0**
LANU				*e*S	**Sg**	**06 14 06.2**	**+0.8**
MASU	**Masugnsbyn**	**0.74**	**115**	P	**Pb**	**06 13 57.6**	**-1.0**
MASU	**Masugnsbyn**	**0.74**	**115**	P	**Pb**	**06 13 57.6**	**-1.0**
MASU	**Masugnsbyn**	**0.74**	**115**	*i*P	**Pb**	**06 13 57.6**	**-1.0**
KIF	**Kilpisjarvi**	**1.25**	**9**	Pg	**Pg**	**06 14 06.5**	**-0.1**
KIF				Lg	Lg	06 14 22.4	
KIF	**Kilpisjarvi**	**1.25**	**9**	*e*P	**Pg**	**06 14 06.3**	**-0.4**
	SNR=70						
KIF				Lg	Lg	06 14 22.4	
KIF				Sn	**Sn**	**06 14 25.9**	**+1.0**
KIF	**Kilpisjarvi**	**1.25**	**9**	*e*P	**Pg**	**06 14 06.3**	**-0.4**
KIF	**Kilpisjarvi**	**1.25**	**9**	*e*PB	**Pg**	**06 14 06.5**	**-0.1**
KIF				MSG		06 14 22.6	
	comp=Z,12nm,0.2s						
KIF				*e*SN	**Sn**	**06 14 25.9**	**+1.0**
PAJU	**Pajala**	**1.34**	**123**	P	**Pg**	**06 14 07.7**	**-0.7**
PAJU	**Pajala**	**1.34**	**123**	P	**Pg**	**06 14 07.7**	**-0.7**
PAJU	**Pajala**	**1.34**	**123**	*e*P	**Pg**	**06 14 07.7**	**-0.7**
HEF	**Hetta**	**1.42**	**62**	*e*P	**Pn**	**06 14 09.3**	**-0.6**
	SNR=50						
HEF				*e*S	**Sg**	**06 14 28.5**	**+0.1**
	SNR=50						
HEF	**Hetta**	**1.42**	**62**	*e*P	**Pn**	**06 14 09.3**	**-0.6**
HEF				*e*S	**Sg**	**06 14 28.5**	**+0.1**
HEF	**Hetta**	**1.42**	**62**	*e*P	**Pn**	**06 14 08.5**	**-1.4**
HEF				MSG		06 14 27.0	
	comp=Z,11nm,0.2s						
HEF				*e*SB	**Sg**	**06 14 28.3**	**-0.1**
ERTU	**Ertsjaerv**	**1.44**	**148**	P	**Pg**	**06 14 09.9**	**-0.5**
ERTU				Sn	**Sn**	**06 14 31.3**	**+1.5**
ERTU	**Ertsjaerv**	**1.44**	**148**	P	**Pb**	**06 14 10.0**	**-0.5**
ERTU	**Ertsjaerv**	**1.44**	**148**	*e*P	**Pg**	**06 14 09.9**	**-0.5**
ERTU				*e*SN	**Sn**	**06 14 31.3**	**+1.5**
STEI	**Steigen**	**1.91**	**277**	*e*P	**Pb**	**06 14 18.0**	**-0.4**
	SNR=50						
STEI	**Steigen**	**1.91**	**277**	*e*P	**Pb**	**06 14 18.0**	**-0.4**
TRO	**Tromso**	**1.92**	**346**	*e*P	**Pn**	**06 14 17.0**	**+0.2**
	SNR=50						
TRO				*e*S	**Sn**	**06 14 42.7**	**+1.1**
	SNR=50						
TRO	**Tromso**	**1.92**	**346**	*e*P	**Pn**	**06 14 17.0**	**+0.2**
TRO				*e*S	**Sn**	**06 14 42.7**	**+1.1**
TRO				IAML		06 14 44.9	
	comp=Z,15nm,0.4s						
KALU	**Kalix**	**2.29**	**146**	Pb	**Pb**	**06 14 23.7**	**-1.1**
KALU				Sg	**Sg**	**06 14 55.2**	**-0.9**
KALU	**Kalix**	**2.29**	**146**	*e*PB	**Pb**	**06 14 23.7**	**-1.1**
KALU				*e*SG	**Sg**	**06 14 55.2**	**-0.9**
TOF	**Tornio**	**2.34**	**135**	Pb	**Pb**	**06 14 24.8**	**-1.0**
TOF				Sg	**Sg**	**06 14 57.0**	**-0.

az=167.6
GUC ***11*** *06:18:44.3±0.6,21.˚98S×68.˚77W,h116km±4km,ML4.1*
IDC ***11*** *06:18:45.9±1.0,22.˚01S×68.˚28W,h117km±7km,mb3.3/4, mb1 3.5/8,mb1mx3.3/38,mbtmp3.7/8,MS2.8/2,Ms1 2.8/2, ms1mx2.5/15,Error ellipse: s-maj=27.9km s-min=22.7km az=52.0*
SJA ***11*** *06:19:03.8±0.6,23.˚02S×67.˚17W,h140km±21km,ML2.6, MW3.6*

ISC 11 06:18:44.8±0.7,22.˚00S±0.˚04×68.˚69W±0.˚05,h113km±6km, n36,σ1s28/46,mb3.4/4,14C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.55**	**291**	*i* P	**Pn**	**06 19 02.3**	**-0.3**
PB09				*e*S	**Sn**	**06 19 15.7**	**-0.3**
PB09				IAML		06 19 16.5	
	comp=N,20μm,0.2s						
PB06	**IPOC Station P**	**1.08**	**229**	*i* P	**Pn**	**06 19 07.2**	**-0.1**
PB06				*e*S	**Sn**	**06 19 24.2**	**-0.1**
PB06				IAML		06 19 24.9	
	comp=N,6μm,0.4s						
PB07	**IPOC Station P**	**1.15**	**283**	*i* P	**Pn**	**06 19 07.6**	**-0.4**
PB07				*e*S	**Sn**	**06 19 24.9**	**-0.6**
PB07				IAML		06 19 25.6	
	comp=N,7μm,0.2s						
PB01	**IPOC Station P**	**1.21**	**322**	*i* P	**Pn**	**06 19 07.8**	**-0.8**
PB01				*e*S	**Sn**	**06 19 26.2**	**-0.4**
PB01				IAML		06 19 27.4	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**1.31**	**301**	*i* P	**Pn**	**06 19 09.1**	**-0.7**
PB02				*e*S	**Sn**	**06 19 28.1**	**-0.6**
PB02				IAML		06 19 31.0	
	comp=E,3μm,0.1s						
PB04	**IPOC Station P**	**1.40**	**256**	*i* P	**Pn**	**06 19 10.2**	**-0.5**
PB04				*e*S	**Sn**	**06 19 29.5**	**-1.0**
PB04				IAML		06 19 33.7	
	comp=N,3μm,0.1s						
PB08	**IPOC Station P**	**1.90**	**347**	*i* P	**Pn**	**06 19 17.3**	**+0.2**
PB08				*i* S	**Sn**	**06 19 41.9**	**+0.3**
PB08				IAML		06 19 45.3	
	comp=E,874nm,0.3s						
PB10	**IPOC Station P**	**2.29**	**228**	*e*P	**Pn**	**06 19 21.2**	**-0.5**
PB10				IAML		06 19 48.8	
	comp=E,324nm,0.3s						
PB11	**IPOC Station P**	**2.40**	**338**	*i* P	**Pn**	**06 19 22.1**	**-1.2**
PB11				*i* S	**Sn**	**06 19 51.2**	**-1.5**
PB11				IAML		06 19 57.4	
	comp=E,898nm,0.4s						
PSGC	**Pisagua**	**2.74**	**330**	IAML		06 20 10.2	
	comp=E,330nm,0.4s						
MOCB	**Mochara**	**2.93**	**76**	*e*Pn	**Pn**	**06 19 31.4**	**+0.9**
MOCB				*e*Sn	**Sn**	**06 20 06.5**	**+1.0**
	comp=E,210nm,1.1s						
MNMC	**Minye Minye**	**2.98**	**343**	*i* P	**Pn**	**06 19 29.9**	**-1.0**
MNMC				*i* S	**Sn**	**06 20 05.3**	**-1.1**
MNMC				IAML		06 20 13.6	
	comp=N,683nm,0.2s						
GO02	**Mina Guanaco**	**3.26**	**195**	*i* P	**Pn**	**06 19 33.6**	**-1.0**
GO02				*i* S	**Sn**	**06 20 12.9**	**-0.1**
GO02				IAML		06 20 15.8	
	comp=E,712nm,0.1s						
HJA	**Humahuaca**	**3.26**	**112**	*i* P	**Pn**	**06 19 35.9**	**+1.2**
SLA	**San Lorenzo**	**3.99**	**133**	*i* P	**Pn**	**06 19 43.1**	**-1.1**
SLA				IAML		06 19 47.2	
	comp=Z,26nm,0.4s						
AZAP	**Zapla**	**4.00**	**124**	*i* P	**Pn**	**06 19 43.3**	**-1.2**
AZAP				IAML		06 19 46.7	
	comp=Z,82nm,0.4s						
ASTB	**Santa Barbara**	**4.36**	**117**	*i* P	**Pn**	**06 19 47.6**	**-1.6**
ALOL	**LOMAS DE OLMED**	**4.70**	**114**	*i* P	**Pn**	**06 19 52.3**	**-1.4**
ALOL				*i* S	Sn	06 20 28.0	-19
FSA	**Cafayete**	**4.78**	**149**	*i* P	**Pn**	**06 19 55.2**	**+0.3**
FSA				IAML		06 19 58.2	
	comp=Z,4.7nm,0.4s						
BBOJ	**La Paz, Jacaqu**	**5.02**	**5**	⇑*i* PPn	**Pn**	**06 19 59.7**	**+1.2**
BBOE	**La Paz, Chanca**	**5.20**	**7**	⇑*i* PPn	**Pn**	**06 20 01.8**	**+0.8**
BBOD	**La Paz, Gloria**	**5.33**	**1**	⇑*i* PPn	**Pn**	**06 20 03.7**	**+1.0**
AHML	**Horco Molle**	**5.66**	**148**	*i* P	**Pn**	**06 20 06.5**	**-0.1**
LPAZ	**La Paz**	**5.71**	**5**	P	**Pn**	**06 20 09.3**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=235,slow=4.8,SNR=23						
LPAZ	**La Paz**	**5.71**	**5**	⇑*i* PPn	**Pn**	**06 20 09.0**	**+1.2**
BBOB	**La Paz, Bander**	**5.85**	**5**	⇑*i* PPn	**Pn**	**06 20 10.4**	**+0.7**
SIV	**San Ignacio**	**9.36**	**52**	P	**Pn**	**06 20 53.2**	**-3.6**
	comp=Z,1.0nm,0.3s,baz=245,slow=13,SNR=26						
SIV				S	Sn	06 22 27.3	-13
	comp=Z,0.1nm,0.3s,baz=319,slow=20,SNR=1.3						
SIV	**San Ignacio**	**9.36**	**52**	*e*P	**Pn**	**06 20 52.9**	**-3.9**
CPUP	**Villa Florida**	**11.23**	**115**	P	Pn	06 21 17.4	-4.6
	comp=Z,0.1nm,0.3s,baz=298,slow=15,SNR=1.9						
CPUP				LR	LR	06 25 24.7	
	comp=Z,39nm,18.2s,baz=22,slow=37						
PLCA	**Paso Flores**	**18.74**	**184**	P	**Pn**	**06 22 55.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=25,slow=8.9,SNR=3.2						
PTGA	**Pitinga**	**22.78**	**23**	LR	LR	06 34 28.6	
	comp=Z,34nm,19.6s,baz=88,slow=42						
PDAR	**Pinedale Array**	**74.64**	**330**	P	**P**	**06 30 14.0**	**+2.0**
	comp=Z,0.1nm,0.4s,baz=148,slow=7.3,SNR=1.8						
NVAR	**Mina Array Bea**	**76.01**	**322**	P	**P**	**06 30 22.2**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=168,slow=5.5,SNR=2.0						
TORD	**Torodi Ar. Bea**	**77.33**	**70**	P	**P**	**06 30 26.4**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=254,slow=5.9,SNR=13						
TORD				pP	**pP**	**06 30 56.2**	**0.0**
	comp=Z,1.0nm,0.7s,baz=253,slow=5.5,SNR=4.6						
YKA	**Yellowknife Ar**	**91.72**	**341**	P	**P**	**06 31 39.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=132,slow=4.4,SNR=9.2						
YKA				pP	**pP**	**06 32 09.6**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=136,slow=4.4,SNR=6.5						
MKAR	**Makanchi Array**	**145.91**	**36**	PKPbc	**PKPbc**	**06 38 10.7**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=316,slow=4.0,SNR=2.4						
MKAR				pPKPbc	pPKPab	06 38 41.9	+0.2
	comp=Z,0.5nm,0.7s,baz=322,slow=3.5,SNR=4.6						

IDC 11 06:25:32.5±2.2,1.˚83N×126.˚94E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.3/59,mbtmp3.5/4,Error ellipse: s-maj=226.5km s-min=23.4km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.82**	**162**	P	P	06 30 37.5	+0.2
	0.7nm,0.4s,baz=341,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**26.23**	**165**	P	P	06 31 09.1	-0.3
	0.2nm,0.5s,baz=345,slow=6.9,SNR=1.5						
STKA	**Stephens Creek**	**36.29**	**159**	P	P	06 32 37.9	0.0
	0.9nm,0.6s,baz=329,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**59.23**	**326**	P	P	06 35 35.7	-0.1
	0.5nm,0.4s,baz=123,slow=8.5,SNR=11						

ISCJB ***11*** *06:29:15.0±0.5,26.˚47S±0.˚03×70.˚81W±0.˚08,h100km, mb4.1/9,Error ellipse: s-maj=10.0km s-min=3.9km az=178.3*
SJA ***11*** *06:29:14.4±0.6,26.˚44S×70.˚85W,h78km±9km,ML3.6, MW3.7*
NEIC ***11*** *06:29:15.0±0.0,26.˚45S×70.˚61W,h73km,mb4.3/5, ML4.2(GUC),After GUC.*
NEIC Felt [IV] at Diego de Almagro and [III] at Caldera, Chanaral, Copiapo and Tierra Amarilla.
GUC ***11*** *06:29:17.6±0.8,26.˚62S×70.˚95W,h65km±12km,ML4.5*
IDC ***11*** *06:29:17.7±0.9,26.˚44S×70.˚48W,h71km±5km,mb4.1/5, mb1 4.1/7,mb1mx3.6/37,mbtmp4.3/7,MS3.0/1,Ms1 3.0/1, ms1mx2.5/28,Error ellipse: s-maj=30.2km s-min=24.4km az=70.0*

ISC 11 06:29:16.6±0.6,26.˚40S±0.˚05×70.˚75W±0.˚08,h100km,n49, σ2s48/54,mb4.3/9,2C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.01**	**160**	⇓*i* P	**Pn**	**06 29 35.6**	**-1.7**
CPCH				*i* S	**Sn**	**06 29 48.5**	**-4.3**
PB14	**IPOC Station P**	**1.80**	**10**	*i* P	**Pn**	**06 29 46.2**	**-0.8**
PB14				*i* S	**Sn**	**06 30 09.5**	**-0.5**
PB14	**IPOC Station P**	**1.80**	**10**	IAML		06 30 10.7	
	comp=N,5μm,0.4s						
VACH	**Vallenar**	**2.16**	**180**	⇓*i* P	Pn	06 29 58.9	+7.6
VACH				*i* S	**Sn**	**06 30 23.8**	**+5.9**
LCO	**Las Campanas**	**2.60**	**179**	*e*Pn	**Pn**	**06 29 55.8**	**-1.5**
LCO	**Las Campanas**	**2.60**	**179**	*i* P	**Pn**	**06 29 55.6**	**-1.7**
PB10	**IPOC Station P**	**2.88**	**4**	*e*Pn	**Pn**	**06 30 00.6**	**-0.3**
PB10	**IPOC Station P**	**2.88**	**4**	*i* P	**Pn**	**06 30 00.4**	**-0.5**
VCA	**Vinchina**	**3.24**	**136**	*i* P	**Pn**	**06 30 05.6**	**-0.2**
VCA				IAML		06 30 50.6	
	comp=E,231nm,0.4s						
VCA	**Vinchina**	**3.24**	**136**	⇑*i* P	**Pn**	**06 30 07.3**	**+1.5**
VCA				IAML		06 30 33.2	
	comp=E,379nm,0.5s						
AGUA	**GUANDACOL**	**3.67**	**147**	*i* P	**Pn**	**06 30 11.3**	**-0.1**
TLL	**Tololo Astrono**	**3.75**	**181**	⇓*i* P	**Pn**	**06 30 11.7**	**-1.0**
TLL				*i* S	**Sn**	**06 30 53.4**	**-2.6**
TLL				IAML		06 31 19.2	
	comp=N,970nm,0.6s						
PB04	**IPOC Station P**	**4.09**	**8**	*e*Pn	**Pn**	**06 30 16.4**	**-0.8**
FSA	**Cafayete**	**4.30**	**87**	*i* P	**Pn**	**06 30 20.3**	**+0.3**
FSA				IAML		06 30 57.5	
	comp=Z,17nm,0.6s						
CYA	**Choya**	**4.84**	**116**	*i* P	**Pn**	**06 30 27.0**	**-0.3**
CYA				IAML		06 30 29.4	
	comp=Z,105nm,0.4s						
AHML	**Horco Molle**	**4.87**	**96**	*i* P	**Pn**	**06 30 27.8**	**+0.2**
APLL	**PUNTA DE LOS L**	**5.45**	**138**	*i* P	**Pn**	**06 30 35.0**	**-0.5**
PB01	**IPOC Station P**	**5.46**	**13**	*e*Pn	**Pn**	**06 30 35.0**	**-0.8**
ROC1	**El Roble**	**6.55**	**182**	*e*Pn	**Pn**	**06 30 48.0**	**-2.7**
ACAN	**Cantantal**	**6.62**	**153**	*i* P	**Pn**	**06 30 50.5**	**-0.9**
PB11	**IPOC Station P**	**6.69**	**9**	*e*Pn	**Pn**	**06 30 50.5**	**-1.9**
PEL	**Peldehue**	**6.72**	**180**	⇑*i* P	**Pn**	**06 30 50.8**	**-1.9**
CLCH	**Cerro Calan**	**6.97**	**179**	*e*P	**Pn**	**06 30 55.0**	**-1.2**
MNMC	**Minye Minye**	**7.32**	**9**	*e*Pn	**Pn**	**06 30 59.5**	**-1.6**
LMEL	**Las Melosas**	**7.43**	**176**	*e*P	**Pn**	**06 31 01.9**	**-0.6**
GO05	**HualaæØ**	**8.64**	**186**	*e*Pn	**Pn**	**06 31 14.5**	**-4.3**
LPAZ	**La Paz**	**10.36**	**14**	P	**Pn**	**06 31 43.2**	**+0.3**
	comp=Z,2.7nm,0.3s,baz=200,slow=6.7,SNR=70						
CPUP	**Villa Florida**	**12.04**	**93**	P	**Pn**	**06 32 03.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=256,slow=16,SNR=3.9						
CPUP				LR	LR	06 36 54.2	
	comp=Z,67nm,19.4s,baz=252,slow=39						
CPUP	**Villa Florida**	**12.04**	**93**	*e*Pn	**Pn**	**06 32 03.9**	**-0.9**
SIV	**San Ignacio**	**13.73**	**43**	P	**Pn**	**06 32 22.7**	**-4.6**
	comp=Z,3.6nm,0.3s,baz=238,slow=10,SNR=44						
SIV				S	Sn	06 34 46.0	-12
	comp=Z,0.1nm,0.3s,baz=238,slow=11,SNR=1.1						
TRQA	**Tornquist**	**13.78**	**150**	*e*Pn	**Pn**	**06 32 26.5**	**-1.2**
PLCA	**Paso Flores**	**14.29**	**179**	P	**P**	**06 32 39.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=20,slow=10,SNR=9.5						
PLCA	**Paso Flores**	**14.29**	**179**	*e*Pn	**Pn**	**06 32 32.5**	**-1.8**
NNA	**Nana**	**15.45**	**337**	*e*Pn	**P**	**06 32 49.8**	**-1.7**
	comp=Z,42nm,1.5s						
SAML	**Samuel**	**18.79**	**24**	*e*P	**Pn**	**06 33 30.6**	**+0.8**
	comp=Z,11nm,0.9s						
SPB	**Sao Paulo**	**21.32**	**88**	*e*P	**P**	**06 33 55.6**	**+0.1**
	comp=Z,11nm,1.0s						
ROSC	**El Rosal**	**31.25**	**353**	*e*P	**P**	**06 35 28.7**	**+1.3**
	comp=Z,19nm,1.8s						
SNAA	**Sanae**	**58.25**	**160**	P	**P**	**06 39 03.2**	**+2.9**
	comp=Z,2.2nm,1.0s,baz=272,slow=8.0,SNR=11						
TXAR	**Lajitas Array**	**63.78**	**328**	P	P	06 39 42.6	+4.4
	comp=Z,0.1nm,0.5s,baz=172,slow=7.3,SNR=2.7						
DBIC	**Dimbokro**	**71.77**	**73**	P	**P**	**06 40 31.1**	**+2.4**
	comp=Z,3.1nm,0.6s,baz=236,slow=5.8,SNR=8.7						
KOWA	**Kowa**	**76.52**	**66**	P	**P**	**06 40 59.7**	**+3.5**
	comp=Z,3.0nm,0.7s,baz=242,slow=5.3,SNR=5.8						
TOA0	**Torodi Ar. Sit**	**80.59**	**70**	*e*P	**P**	**06 41 20.3**	**+1.7**
	comp=Z,4.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.59**	**70**	P	**P**	**06 41 21.9**	**+3.3**
	comp=Z,4.9nm,0.8s,baz=267,slow=5.4,SNR=28						
TORD				pP	**pP**	**06 41 40.7**	**-3.8**
	comp=Z,1.6nm,0.7s,baz=267,slow=5.4,SNR=3.3						
TORD				sP	**sP**	**06 41 48.0**	**-7.2**
	comp=Z,3.4nm,0.5s,baz=266,slow=5.4,SNR=7.1						
MATP	**Matopo**	**88.96**	**112**	P	**P**	**06 42 04.0**	**+3.3**
	comp=Z,2.6nm,1.0s,baz=192,slow=2.7,SNR=3.0						
WRA	**Warramunga Arr**	**127.89**	**210**	PKP	**PKPdf**	**06 48 15.9**	**+4.5**
	comp=Z,0.5nm,0.8s,baz=160,slow=1.5,SNR=2.5						
KURK	**Kurchatov**	**146.31**	**36**	PKPbc	**PKPab**	**06 48 49.0**	**+2.6**
KURBB	**Kurchatov Arra**	**146.31**	**36**	PKPbc	**PKPab**	**06 48 49.0**	**+2.5**
	comp=Z,0.9nm,0.8s,baz=306,slow=3.1,SNR=10.0						
ZALV	**Zalesovo Beam**	**147.08**	**27**	PKPbc	**PKPab**	**06 48 51.0**	**+1.7**
	comp=Z,3.0nm,0.7s,baz=302,slow=3.2,SNR=11						
ZALV				pPKPbc	**pPKPdf**	**06 49 12.1**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=306,slow=3.5,SNR=4.7						
MKAR	**Makanchi Array**	**150.53**	**39**	PKPbc	**PKPab**	**06 49 01.1**	**-2.5**
	comp=Z,2.0nm,0.7s,baz=326,slow=2.2,SNR=22						
MKAR				pPKPbc	**pPKPbc**	**06 49 21.3**	**-2.7**
	comp=Z,1.4nm,0.7s,baz=293,slow=2.6,SNR=7.4						

IDC 11 06:46:31.9±2.4,0.˚65N×125.˚17E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.2/56,mbtmp3.5/3,MS3.2/1,Ms1 3.2/1, ms1mx2.3/34,Error ellipse: s-maj=310.3km s-min=25.8km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**6.39**	**4**	LR	LR	06 50 41.8	
	comp=Z,177nm,19.4s,baz=62,slow=39						
WRA	**Warramunga Arr**	**22.35**	**157**	P	P	06 51 30.9	-0.7
	1.7nm,0.8s,baz=334,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**25.61**	**161**	P	P	06 52 03.5	+0.3
	0.6nm,0.8s,baz=344,slow=9.0,SNR=10						
MKAR	**Makanchi Array**	**59.23**	**327**	P	P	06 56 35.2	+0.1
	0.1nm,0.3s,baz=123,slow=7.5,SNR=5.0						

ISK ***11*** *06:51:15.0,37.˚27N×28.˚14E,h4km,ML2.6/3*
ISCJB ***11*** *06:51:16.6±0.6,37.˚19N±0.˚04×28.˚15E±0.˚04,h0km,Error ellipse: s-maj=6.3km s-min=4.1km az=23.6*
CSEM ***11*** *06:51:16.6±0.3,37.˚17N×28.˚13E,h1km,ML2.6,Error ellipse: s-maj=6.6km s-min=4.0km az=25.0,Suspected Mining explosion.*
DDA ***11*** *06:51:16.9,37.˚22N×28.˚22E,h7km,Ml2.3,Suspected Mining explosion.*

ISC 11 06:51:16.2±1.0,37.˚23N±0.˚04×28.˚13E±0.˚03,h0km,n12, σ0s79/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.15**	**127**	PG	**Pg**	**06 51 19.7**	**+0.6**
YER				SG	**Sg**	**06 51 22.4**	**+1.3**
YER	**Yerkesik**	**0.15**	**127**	*e*Pg	**Pg**	**06 51 19.7**	**+0.6**
YER				*e*Sg	**Sg**	**06 51 22.4**	**+1.3**
AYDN	**Tasoluk**	**0.48**	**335**	*i* P	**Pb**	**06 51 27.2**	**-0.4**
AYDN				*i* S	**Sb**	**06 51 34.8**	**-0.4**
AYDN	**Tasoluk**	**0.48**	**335**	P	**Pb**	**06 51 27.2**	**-0.4**
AYDN				S	**Sb**	**06 51 34.8**	**-0.4**
TURN	**Turunc**	**0.52**	**133**	PG	**Pg**	**06 51 25.2**	**-0.9**
TURN				SG	**Sg**	**06 51 33.3**	**+0.5**
TURN	**Turunc**	**0.52**	**133**	*i* P	**Pg**	**06 51 25.7**	**-0.4**
TURN				*i* S	**Sg**	**06 51 32.5**	**-0.3**
TURN	**Turunc**	**0.52**	**133**	*e*Pg	**Pg**	**06 51 25.2**	**-0.9**
TURN	**Turunc**	**0.52**	**133**	P	**Pg**	**06 51 25.7**	**-0.4**
TURN				S	**Sg**	**06 51 32.5**	**-0.3**
TURN				*e*Sg	**Sg**	**06 51 33.3**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.67**	**69**	*i* P	**Pg**	**06 51 29.5**	**+0.5**
TAVA				*i* S	**Sg**	**06 51 37.7**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.67**	**69**	P	**Pg**	**06 51 29.5**	**+0.5**
TAVA				S	**Sg**	**06 51 37.7**	**0.0**
BODT	**Bodrum**	**0.68**	**256**	PG	**Pg**	**06 51 28.8**	**-0.4**
BODT				SG	**Sg**	**06 51 39.5**	**+1.5**
BODT	**Bodrum**	**0.68**	**256**	*e*Pg	**Pg**	**06 51 28.8**	**-0.4**
BODT				*e*Sg	**Sg**	**06 51 39.5**	**+1.5**

DJA 11 06:54:44.7±1.6,2.˚5S±29.˚×14.˚1E±1.˚3,h23km±10km,M4.6/4, mb5.1/1,MLv4.4/4,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.26**	**241**	P	Pn	06 54 52.2	-0.9
JAY				S	Sn	06 54 58.1	-0.3
GENI	**Genyem**	**0.79**	**255**	P	Pn	06 55 00.2	-0.2
GENI				S	Sn	06 55 11.4	-0.1
KMPI	**Kaimana, Papua**	**7.33**	**260**	P	Pn	06 56 30.4	0.0

TRN 11 06:54:51.8,17.˚19N×61.˚38W,h24km,MD3.7,3C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BPA	**Boggy Peak**	**0.48**	**252**	*e*P	Pn	06 55 03.9	+0.8
BPA				*e*S	Sn	06 55 11.2	+0.4
ANWB	**Willy Bob**	**0.61**	**321**	*e*P	Pn	06 55 06.7	+1.7
ANWB				*e*S	Sn	06 55 15.5	+1.5
SEG	**Port Louis**	**0.80**	**189**	*e*P	Pn	06 55 08.1	+0.6
MBWH		**0.90**	**240**	*e*P	Pn	06 55 10.6	+1.7
MBWH				*e*S	Sn	06 55 23.2	+2.1
MLYT	**Lee's Yard**	**0.91**	**239**	*e*P	Pn	06 55 11.3	+2.3
MLYT				*e*S	Sn	06 55 24.6	+3.2
DEG	**La Desirade**	**0.93**	**161**	*e*P	Pn	06 55 10.4	+1.0
DEG	**La Desirade**	**0.93**	**161**	*e*	Sn	06 55 21.0	-0.9
DEG				*e*S	Sn	06 55 24.0	+2.1
SSG	**Sans Toucher**	**1.14**	**195**	*e*P	Pb	06 55 13.8	+0.9
CRG	**Carmichael**	**1.16**	**193**	⇑*i* P	Pb	06 55 14.2	+0.8
MLG	**Mont-d'or**	**1.17**	**196**	*e*P	Pb	06 55 14.3	+0.9
ECG	**Echelle**	**1.18**	**193**	⇑*i* P	Pb	06 55 14.3	+0.7
PHG	**Guadaloupe-2**	**1.20**	**192**	*e*P	Pb	06 55 14.6	+0.7
MGG	**Marie-Galante**	**1.27**	**177**	*e*P	Pb	06 55 15.6	+0.5
MGG	**Marie-Galante**	**1.27**	**177**	*e*	Sb	06 55 32.3	+1.3
MGG				*e*S	Sb	06 55 33.8	+2.8
TBG	**Guadaloupe-3**	**1.36**	**191**	*e*P	Pb	06 55 17.1	+0.6
TBG				*e*S	Sb	06 55 35.0	+1.5
MDPV	**Dominica, Penn**	**1.56**	**181**	*e*P	Pb	06 55 19.3	-0.7
MDMP	**Dominica, Moor**	**1.59**	**181**	*e*P	Pb	06 55 20.8	+0.3
MDMP				*e*S	Sb	06 55 41.1	+0.9
MDPO	**Dominica; Chan**	**1.61**	**182**	*e*P	Pb	06 55 21.3	+0.4
MDPO				*e*S	Sb	06 55 41.8	+1.1
BBL	**Barber's Block**	**1.66**	**183**	⇑*i* P	Pb	06 55 22.2	+0.4
BBL				*e*S	Sb	06 55 42.7	+0.4

MEX 11 06:57:56.5±0.6,14.˚90N×93.˚19W,h40km±21km,MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.80**	**358**	*e*P	Pn	06 58 09.7	-1.6
PCIG				*e*S	Sn	06 58 19.8	-2.2
CCIG	**Comitan**	**1.71**	**36**	*e*P	Pn	06 58 22.9	-1.1
CCIG				*i* S	Sn	06 58 42.2	-2.5
TGIG		**1.87**	**2**	*e*P	Pn	06 58 23.9	-2.2
TGIG				*e*S	Sn	06 58 46.9	-1.6

IDC ***11*** *06:59:10.7±1.4,51.˚49N×96.˚28E,h0km,mb3.9/4, mb1 3.7/8,mb1mx3.4/71,mbtmp3.6/8,ML3.0/4,MS3.0/3, Ms1 3.0/3,ms1mx2.6/67,Error ellipse: s-maj=26.5km s-min=16.5km az=168.0*
MOS ***11*** *06:59:11.6±2.2,51.˚58N×96.˚19E,h10km,mb4.1/7,Error ellipse: s-maj=13.9km s-min=8.8km az=8.6*
ISCJB ***11*** *06:59:12.9±0.5,51.˚65N±0.˚08×95.˚94E±0.˚06,h10km, mb4.0/7,MS2.8/2,Error ellipse: s-maj=11.3km s-min=5.5km az=177.1*

ISC 11 06:59:12.9±0.7,51.˚7N±0.˚1×96.˚16E±0.˚05,h10km,n30, σ2s32/30,mb4.0/7,2C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HVS	**Khovu-Aksy**	**1.62**	**253**	*de*PN	**Pn**	**06 59 39.1**	**-2.6**
HVS				*i* S	**Sn**	**06 59 59.4**	**-3.3**
ORL	**Orlik**	**2.42**	**67**	*e*PN	**Pb**	**06 59 54.4**	**-2.2**
ORL				*e*		07 00 26.2	
ORL				pmax	pmax		
	comp=Z,210nm,0.7s						
ORL				smax	smax		
	comp=N,680nm,1.1s						
MOY	**Mondy**	**3.01**	**88**	*e*PN	**Pb**	**07 00 05.0**	**-1.6**
MOY				*e*		07 00 44.7	
MOY				pmax	pmax		
	comp=Z,245nm,0.5s						
MOY				smax	smax		
	comp=N,1μm,0.7s						
ARS	**Arshan**	**3.90**	**84**	*e*PN	**Pb**	**07 00 20.9**	**-0.9**
ARS				*e*		07 01 13.5	
ARS				pmax	pmax		
	comp=Z,179nm,0.8s						
ARS				smax	smax		
	comp=N,1μm,0.8s						
TLY	**Talaya**	**4.66**	**87**	*e*PN	**Pb**	**07 00 34.7**	**0.0**
TLY				*e*		07 01 35.3	
TLY				pmax	pmax		
	comp=Z,12nm,0.3s						
TLY				smax	smax		
	comp=N,130nm,0.5s						
ZAK	**Zakamensk**	**4.67**	**103**	*e*PN	**Pb**	**07 00 34.3**	**-0.6**
ZAK				*e*		07 01 35.8	
ZAK				pmax	pmax		
	comp=Z,36nm,0.7s						
ZAK				smax	smax		
	comp=N,398nm,1.1s						
IRK	**Irkutsk**	**5.05**	**80**	*e*PN	**Pb**	**07 00 42.7**	**+1.3**
IRK				*e*		07 01 47.6	
IRK				pmax	pmax		
	comp=Z,131nm,0.2s						
IRK				smax	smax		
	comp=N,561nm,0.8s						
DGZ	**Jazzator, Alta**	**5.88**	**254**	*c* iPN	**Pn**	**07 00 40.5**	**+0.2**
TRG	**Tyrgan**	**6.36**	**76**	*e*PN	**Pn**

KRNET ***11*** *07:03:43.2±0.1, 41°.25N×70°.87E, h13km, mb2.4*
NNC ***11*** *07:03:43.5±3.6, 41°.05N×71°.04E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=25.8km s-min=13.8km az=13.0*
SOME ***11*** *07:03:44.6, 41°.20N×71°.08E, h0km*

ISC 11 07:03:45.8±2.3, 41°.3N±0°.1×71°.02E±0°.05, h13km±12km, n11, σ1s02/17, 16C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.89**	**52**	⇑*i*	**Pg**	**07 04 02.1**	**-0.9**
	baz=57						
ARK				⇑*i*	**Sn**	**07 04 16.3**	**-0.7**
	baz=57						
IUG	**Iuzhnay**	**1.16**	**321**	*e*P	**Pb**	**07 04 07.3**	**-0.3**
	5.8nm,0.2s						
IUG				*e*S	**Sn**	**07 04 23.6**	**+0.1**
	9.1nm,0.3s						
ARSB	**Arslanbob**	**1.48**	**87**	⇑*i*	**Pb**	**07 04 13.5**	**+0.2**
	baz=87						
ARSB				⇑*i*	**Sg**	**07 04 35.5**	**+2.0**
	baz=87						
TOKL	**Toktogul**	**1.55**	**63**	⇑*i*	**Pn**	**07 04 13.6**	**+0.5**
	baz=65						
TOKL				⇑*i*	**Sg**	**07 04 36.7**	**+1.1**
	baz=65						
MNAS	**Manas**	**1.65**	**42**	⇓Pg	**Pb**	**07 04 16.8**	**+0.6**
	0.4nm,0.2s						
MNAS				⇑Lg	Lg	07 04 42.5	
	2.0nm,0.4s						
MNAS	**Manas**	**1.65**	**42**	⇓*e*P	**Pb**	**07 04 16.4**	**+0.2**
	baz=44						
MNAS				⇓*e*S	**Sg**	**07 04 40.0**	**+0.9**
	baz=44						
KK31	**Karatay Array**	**1.88**	**349**	⇑Pg	**Pg**	**07 04 21.7**	**-0.2**
	1.7nm,0.2s,baz=165,slow=18,SNR=48						
KK31				⇑Lg	Lg	07 04 48.4	
	7.5nm,0.5s,baz=164,slow=31,SNR=16						
AML	**Almayashu**	**2.19**	**66**	⇑*e*P	**Pb**	**07 04 24.9**	**-0.5**
	baz=66						
AML				⇑*i*S	**Sg**	**07 04 54.4**	**-1.7**
	baz=66						
UCH	**Uchtor**	**2.79**	**69**	⇑*e*P	**Pb**	**07 04 34.3**	**-1.4**
	baz=69						
UCH				⇑*i*S	**Sb**	**07 05 10.2**	**+0.2**
	baz=69						
AAK	**Ala-Archa**	**2.94**	**61**	⇑Pg	**Pb**	**07 04 38.4**	**+0.3**
	1.7nm,0.7s						
AAK				⇑Lg	Lg	07 05 17.7	
	1.2nm,0.4s						
TKM2	**Tokmak 2**	**3.79**	**63**	⇑Lg	Lg	07 05 44.7	
	0.6nm,0.4s						

NNC 11 07:08:53.1±19.0, 37°.81N×71°.07E, h0km, mb3.6, mpv2.9, 3C, Error ellipse: s-maj=146.8km s-min=106.2km az=3.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.91**	**40**	⇑Pn	Pn	07 09 40.9	+0.1
	0.3nm,0.1s						
SFK				⇑Sn	Sn	07 10 14.9	-1.7
	2.4nm,0.2s						
MNAS	**Manas**	**4.80**	**13**	Pn	Pn	07 10 08.7	+1.9
MNAS				Sn	Sn	07 11 04.5	+1.3
KK31	**Karatay Array**	**5.31**	**356**	Pn	Pn	07 10 17.7	+4.1
	2.4nm,0.7s,baz=178,slow=14,SNR=6.2						
KK31				⇑Sn	Sn	07 11 19.9	+4.4
	0.6nm,0.2s,baz=188,slow=27,SNR=12						

IDC ***11*** *07:09:18.8±2.2, 22°.41N×143°.16E, h167km±19km, mb3.3/9, mb1 3.4/10, mb1mx3.1/66, mbtmp3.8/10, Error ellipse: s-maj=36.8km s-min=14.1km az=84.0*
ISCJB ***11*** *07:09:20.6±1.0, 22°.50N±0°.09×143°.1E±0°.3, h200km, mb3.3/9, Error ellipse: s-maj=40.0km s-min=11.8km az=175.4*

ISC 11 07:09:22.3±1.2, 22°.6N±0°.1×143°.1E±0°.3, h200km, n10, σ1s67/11, mb3.4/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.60**	**350**	P	**Pn**	**07 10 31.0**	**-0.6**
	6.5nm,0.3s,baz=292,slow=19,SNR=3.6						
JCJ				S	**Sn**	**07 11 23.5**	**-2.8**
	13nm,0.3s,baz=287,slow=19,SNR=4.7						
SONM	**Songino Array**	**38.65**	**320**	P	**P**	**07 16 27.5**	**+1.0**
	0.4nm,0.4s,baz=132,slow=7.3,SNR=7.0						
WRA	**Warramunga Arr**	**43.10**	**192**	P	**P**	**07 17 01.5**	**-1.3**
	0.3nm,0.4s,baz=17,slow=8.7,SNR=17						
ASAR	**Alice Springs**	**46.81**	**192**	P	**P**	**07 17 30.0**	**-2.1**
	0.2nm,0.4s,baz=11,slow=8.0,SNR=6.5						
MKAR	**Makanchi Array**	**54.08**	**312**	P	**P**	**07 18 28.0**	**+1.7**
	0.1nm,0.3s,baz=87,slow=10,SNR=2.6						
KURBB	**Kurchatov Arra**	**56.86**	**317**	P	**P**	**07 18 47.1**	**+1.1**
	0.9nm,0.4s,baz=92,slow=7.7,SNR=19						
BVAR	**Borovoye Array**	**61.98**	**319**	P	**P**	**07 19 20.9**	**-0.1**
	0.5nm,0.3s,baz=98,slow=7.7,SNR=4.7						
YKA	**Yellowknife Ar**	**75.73**	**28**	P	**P**	**07 20 46.8**	**+1.3**
	0.3nm,0.5s,baz=292,slow=6.0,SNR=5.8						
ARCES	**ARCESS Array B**	**78.10**	**341**	P	**P**	**07 20 59.5**	**+0.9**
	2.2nm,0.9s,baz=66,slow=7.4,SNR=6.4						
FINES	**FINESS Array B**	**82.39**	**334**	P	**P**	**07 21 21.4**	**-0.2**
	1.6nm,0.9s,baz=64,slow=8.7,SNR=4.8						

ATA ***11*** *07:10:43.9±1.1, 38°.59N×43°.67E, h7km±432km, ML3.3, MW3.3*
ISK ***11*** *07:10:46.3, 38°.59N×43°.10E, h18km, ML2.3/3*
CSEM ***11*** *07:10:47.8±0.3, 38°.63N×43°.13E, h8km, ML2.5, Error ellipse: s-maj=7.0km s-min=5.7km az=21.0*
DDA ***11*** *07:10:48.2, 38°.62N×43°.15E, h7km, Ml2.5*

ISC 11 07:10:47.8±1.2, 38°.61N±0°.03×43°.08E±0°.03, h1km±12km, n21, σ0s96/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.25**	**93**	PG	**Pg**	**07 10 52.3**	**-0.2**
VANB				SG	**Sg**	**07 10 56.8**	**+1.1**
VANB	**Van**	**0.25**	**93**	*e*Pg	**Pg**	**07 10 52.3**	**-0.2**
VANB				*e*Sg	**Sg**	**07 10 56.8**	**+1.1**
TVAN	**Van**	**0.27**	**107**	*i* P	**Pg**	**07 10 52.5**	**-0.5**
TVAN				*i* S	**Sg**	**07 10 57.3**	**+0.8**
TVAN	**Van**	**0.27**	**107**	P	**Pg**	**07 10 52.5**	**-0.5**
TVAN				S	**Sg**	**07 10 57.3**	**+0.8**
GEVA	**Gevas**	**0.30**	**182**	*e*P	**Pb**	**07 10 55.1**	**-0.9**
GEVA	**Gevas**	**0.30**	**182**	*i* P	**Pg**	**07 10 53.9**	**+0.4**
GEVA				*i* S	**Sb**	**07 11 00.4**	**-1.1**
GEVA	**Gevas**	**0.30**	**182**	P	**Pg**	**07 10 53.9**	**+0.4**
GEVA				S	**Sb**	**07 11 00.4**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.34**	**306**	*i* P	**Pb**	**07 10 55.9**	**-0.9**
ADCV				*i* S	**Sb**	**07 11 01.8**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.34**	**306**	P	**Pb**	**07 10 55.8**	**-0.9**
ADCV				S	**Sb**	**07 11 01.8**	**-1.0**
TUTA	**Tutak**	**0.82**	**346**	*i* P	**Pb**	**07 11 04.1**	**-0.8**
TUTA				IAML		07 11 19.8	
	comp=Z,43nm,0.4s						
TUTA	**Tutak**	**0.82**	**346**	*i* P	**Pg**	**07 11 03.5**	**0.0**
TUTA	**Tutak**	**0.82**	**346**	P	**Pg**	**07 11 03.5**	**0.0**
GURO	**Guroymak-BITLI**	**0.82**	**266**	PG	**Pg**	**07 11 02.9**	**-0.6**
GURO				SG	**Sg**	**07 11 15.2**	**+1.1**
GURO	**Guroymak-BITLI**	**0.82**	**266**	*e*Pg	**Pg**	**07 11 02.9**	**-0.6**
GURO				*e*Sg	**Sg**	**07 11 15.2**	**+1.1**
AGRB	**Hanur-Agry**	**0.97**	**356**	PG	**Pg**	**07 11 05.8**	**-0.6**
AGRB	**Hanur-Agry**	**0.97**	**356**	*e*Pg	**Pg**	**07 11 05.8**	**-0.6**
EKAR	**Karacoban**	**1.02**	**310**	*e*P	**Pn**	**07 11 12.1**	**+2.6**
EKAR				*e*S	Sn	07 11 32.5	+7.9
EKAR	**Karacoban**	**1.02**	**310**	*i* P	**Pn**	**07 11 09.2**	**+1.3**
EKAR				*i* S	**Sn**	**07 11 26.8**	**+2.2**
EKAR	**Karacoban**	**1.02**	**310**	P	**Pn**	**07 11 09.2**	**-0.3**
SRTM	**Siirt_Merkez**	**1.10**	**236**	*i* P	**Pn**	**07 11 10.4**	**0.0**
SRTM				*i* S	**Sn**	**07 11 26.6**	**+0.4**
SRTM	**Siirt_Merkez**	**1.10**	**236**	P	**Pn**	**07 11 10.4**	**0.0**
SRTM				S	**Sn**	**07 11 26.6**	**+0.4**

ISCJB ***11*** *07:11:21.2±0.3, 44°.02N±0°.03×11°.84E±0°.04, h33km±7km, Error ellipse: s-maj=5.0km s-min=3.7km az=44.4*
ROM ***11*** *07:11:21.1±0.1, 44°.00N×11°.84E, h29km±2km, Ml2.2/13, Error ellipse: s-maj=2.3km s-min=1.4km az=46.0*
CSEM ***11*** *07:11:21.4±0.1, 43°.97N×11°.83E, h30km, ML2.5/8, Error ellipse: s-maj=4.9km s-min=3.3km az=54.0*
LDG ***11*** *07:11:21.2±0.1, 43°.99N×11°.86E, h25km, Ml2.6/6, Error ellipse: s-maj=2.6km s-min=1.2km az=48.0*
VIE ***11*** *07:11:25.0±1.9, 44°.20N×11°.88E, h32km±47km, ML2.1/5, Error ellipse: s-maj=41.4km s-min=10.1km az=175.0*

ISC 11 07:11:20.8±0.9, 43°.99N±0°.02×11°.79E±0°.02, h30km±5km, n72, σ1s56/108, 4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.09**	**154**	⇓*i*Pg	**Pb**	**07 11 25.7**	**-0.5**
SFI				Sg	**Sb**	**07 11 29.4**	**-0.5**
	589nm,0.3s						
SFI	**Santa Sofia**	**0.09**	**154**	⇓*i*Pg	**Pb**	**07 11 25.7**	**-0.5**
SFI				Sg	**Sb**	**07 11 29.4**	**-0.5**
	589nm,0.3s						
VMG	**Vicchio**	**0.18**	**262**	Pg	**Pb**	**07 11 27.1**	**+0.2**
VMG				Sg	**Sb**	**07 11 32.2**	**+1.1**
VMG	**Vicchio**	**0.18**	**262**	Pg	**Pb**	**07 11 27.1**	**+0.2**
VMG				Sg	**Sb**	**07 11 32.2**	**+1.1**
IMOL	**Imola, Italy**	**0.37**	**355**	Pg	**Pn**	**07 11 30.0**	**-0.1**
IMOL				Sg	**Sb**	**07 11 36.0**	**+0.9**
	27μm,16.0s						
IMOL	**Imola, Italy**	**0.37**	**355**	Pg	**Pn**	**07 11 30.0**	**-0.1**
IMOL				Sg	**Sb**	**07 11 36.0**	**+0.9**
	27μm,16.0s						
CRE	**Caprese Michel**	**0.39**	**162**	⇓*i*Pg	**Pb**	**07 11 29.6**	**0.0**
CRE				Sg	**Sn**	**07 11 36.5**	**-0.3**
	171nm,0.3s						
CRE	**Caprese Michel**	**0.39**	**162**	⇓*i*Pg	**Pb**	**07 11 29.6**	**0.0**
CRE				Sg	**Sn**	**07 11 36.5**	**-0.3**
	171nm,0.3s						
MTRZ	**Monterenzio**	**0.45**	**329**	Pg	**Pb**	**07 11 31.1**	**+0.5**
	249nm,0.4s						
MTRZ	**Monterenzio**	**0.45**	**329**	Pg	**Pb**	**07 11 31.1**	**+0.5**
	249nm,0.4s						
PARC	**Parchiule**	**0.47**	**136**	Pg	**Pb**	**07 11 30.5**	**-0.3**
PARC				Sg	**Sn**	**07 11 39.0**	**+0.2**
	55nm,0.5s						
PARC	**Parchiule**	**0.47**	**136**	Pg	**Pb**	**07 11 30.5**	**-0.3**
PARC				Sg	**Sn**	**07 11 39.0**	**+0.2**
	55nm,0.5s						
FNVD	**Fontana Vidola**	**0.51**	**291**	Pg	**Pn**	**07 11 32.7**	**+0.5**
FNVD				Sg	**Sn**	**07 11 41.4**	**+1.4**
	116nm,0.4s						
FNVD	**Fontana Vidola**	**0.51**	**291**	Pg	**Pn**	**07 11 32.7**	**+0.5**
FNVD				Sg	**Sn**	**07 11 41.4**	**+1.4**
	116nm,0.4s						
PTF	**Prato**	**0.52**	**267**	Pg	**Pn**	**07 11 32.8**	**+0.6**
PTF				Sg	**Sn**	**07 11 41.3**	**+1.2**
PTF	**Prato**	**0.52**	**267**	Pg	**Pn**	**07 11 32.8**	**+0.6**
PTF				Sg	**Sn**	**07 11 41.3**	**+1.2**
BADI	**Badiali**	**0.58**	**145**	Pg	**Pb**	**07 11 32.6**	**0.0**
	63nm,0.4s						
BADI	**Badiali**	**0.58**	**145**	Pg	**Pb**	**07 11 32.6**	**0.0**
	63nm,0.4s						
ATMC	**Monte Cedrone**	**0.61**	**151**	Pg	**Pb**	**07 11 33.3**	**+0.1**
	125nm,0.4s						
ATMC	**Monte Cedrone**	**0.61**	**151**	Pg	**Pb**	**07 11 33.3**	**+0.1**
	125nm,0.4s						
CRMI	**Carmignano**	**0.62**	**252**	Pg	**Pn**	**07 11 34.2**	**+0.6**
CRMI				Sg	**Sn**	**07 11 43.6**	**+1.0**
CRMI	**Carmignano**	**0.62**	**252**	Pg	**Pn**	**07 11 34.2**	**+0.6**
CRMI				Sg	**Sn**	**07 11 43.6**	**+1.0**
CSNT	**Castellina Chi**	**0.63**	**215**	Pg	**Pn**	**07 11 34.5**	**+0.8**
	65nm,0.6s						
CSNT	**Castellina Chi**	**0.63**	**215**	Pg	**Pn**	**07 11 34.5**	**+0.8**
	65nm,0.6s						
CAFI	**Castiglion Fio**	**0.67**	**169**	Pg	**Pb**	**07 11 34.1**	**0.0**
	91nm,1.2s						
CAFI	**Castiglion Fio**	**0.67**	**169**	Pg	**Pb**	**07 11 34.1**	**0.0**
	91nm,1.2s						
ATPC	**Poggio Castell**	**0.70**	**136**	Pg	**Pn**	**07 11 35.1**	**+0.4**
	374nm,2.1s						
ATPC	**Poggio Castell**	**0.70**	**136**	Pg	**Pn**	**07 11 35.1**	**+0.4**
	374nm,2.1s						
ATVO	**AVT- Monte Val**	**0.75**	**143**	Pg	**Pn**	**07 11 35.7**	**+0.3**
ATVO	**AVT- Monte Val**	**0.75**	**143**	Pg	**Pn**	**07 11 35.7**	**+0.3**
FSSB	**Fossombrone**	**0.77**	**112**	Pg	**Pn**	**07 11 35.9**	**+0.2**
	166nm,1.0s						
FSSB	**Fossombrone**	**0.77**	**112**	Pg	**Pn**	**07 11 35.9**	**+0.2**
	166nm,1.0s						
ATTE	**AVT- Monte Tez**	**0.89**	**152**	Pg	**Pb**	**07 11 38.2**	**+0.4**
ATTE	**AVT- Monte Tez**	**0.89**	**152**	Pg	**Pb**	**07 11 38.2**	**+0.4**
TEOL	**Teolo**	**1.37**	**356**	Pg	**Pn**	**07 11 44.1**	**+0.2**
TEOL	**Teolo**	**1.37**	**356**	Pg	**Pn**	**07 11 44.1**	**+0.2**
MAGA	**Magasa**	**1.97**	**336**	Pg	**Pn**	**07 11 52.8**	**+0.6**
	31nm,0.5s						
MAGA	**Magasa**	**1.97**	**336**	Pg	**Pn**	**07 11 52.8**	**+0.6**
	31nm,0.5s						
CTI	**Castel Tesino**	**2.06**	**357**	Pg	**Pn**	**07 11 53.7**	**+0.2**
CTI	**Castel Tesino**	**2.06**	**357**	Pg	**Pn**	**07 11 53.7**	**+0.2**
NVLJ	**Novalja**	**2.29**	**74**	*e*Pn	**Pn**	**07 11 56.2**	**-0.2**
NVLJ				Sn	**Sn**	**07 12 23.3**	**-0.2**
NVLJ	**Novalja**	**2.29**	**74**	*e*Pn	**Pn**	**07 11 56.2**	**-0.2**
NVLJ				Sn	**Sn**	**07 12 23.3**	**-0.2**
PGF	**Pioggiola**	**2.50**	**236**	*e*Pn	**Pn**	**07 11 58.1**	**-1.3**
PGF	**Pioggiola**	**2.50**	**236**	*e*Pn	**Pn**	**07 11 58.1**	**-1.3**
UDBI	**Udbina**	**2.91**	**78**	Sn	**Sn**	**07 12 39.3**	**+0.4**
UDBI	**Udbina**	**2.91**	**78**	Sn	**Sn**	**07 12 39.3**	**+0.4**
FETA	**Feichten**	**3.12**	**347**	Pn	**Pn**	**07 12 09.3**	**+1.2**
	0.6nm,0.3s						
FETA				Sn	**Sn**	**07 12 46.1**	**+1.7**
	0.6nm,0.5s						
FETA	**Feichten**	**3.12**	**347**	Pn	**Pn**	**07 12 09.3**	**+1.2**
	0.6nm,0.3s						
FETA				Sn	**Sn**	**07 12 46.1**	**+1.7**
	0.6nm,0.5s						
SBF	**Sospel**	**3.15**	**269**	*e*Pn	**Pn**	**07 12 08.7**	**+0.3**
SBF	**Sospel**	**3.15**	**269**	*e*P	**Pn**	**07 12 11.1**	**+2.7**
SBF				*e*Sn	**Sn**	**07 12 43.1**	**-1.8**
	5.3nm,0.3s						
SBF	**Sospel**	**3.15**	**269**	*e*Pn	**Pn**	**07 12 08.7**	**+0.3**
SBF	**Sospel**	**3.15**	**269**	*e*P	**Pn**	**07 12 11.1**	**+2.7**
SBF				*e*Sn	**Sn**	**07 12 43.1**	**-1.8**
	2.7nm,0.3s						
WATA	**Walderalm**	**3.35**	**358**	Pn	**Pn**	**07 12 13.4**	**+2.2**
	0.7nm,0.2s						
WATA	**Walderalm**	**3.35**	**358**	*e*Pn	**Pn**	**07 12 13.4**	**+2.2**
	0.7nm,0.2s						
MOTA	**Moosalm**	**3.39**	**352**	Pn	**Pn**	**07 12 14.5**	**+2.7**
	1.0nm,0.3s						
MOTA				Sn	**Sn**	**07 12 50.4**	**-0.6**
	1.0nm,0.3s						
MOTA	**Moosalm**	**3.39**	**352**	*i* Pn	**Pn**	**07 12 14.5**	**+2.7**
	1.0nm,0.3s						
MOTA				*e*Sn	**Sn**	**07 12 50.4**	**-0.6**
	1.0nm,0.3s						
DAVA	**Damuels**	**3.56**	**339**	Pn	**Pn**	**07 12 16.4**	**+2.3**
	0.5nm,0.2s						
DAVA				Sn	**Sn**	**07 12 54.5**	**-0.7**
	1.7nm,0.3s						
DAVA	**Damuels**	**3.56**	**339**	*e*Pn	**Pn**	**07 12 16.4**	**+2.3**
	0.5nm,0.2s						
DAVA				*e*Sn	**Sn**	**07 12 54.5**	**-0.7**
	1.7nm,0.3s						
RETA	**Reutte**	**3.57**	**349**	Pn	**Pn**	**07 12 15.9**	**+1.7**
	0.7nm,0.3s						
RETA				Sn	**Sn**	**07 12 52.9**	**-2.5**
	1.5nm,0.4s						
RETA	**Reutte**	**3.57**	**349**	*e*Pn	**Pn**	**07 12 15.9**	**+1.7**
	0.7nm,0.3s						
RETA				*e*Sn	**Sn**	**07 12 52.9**	**-2.5**
	1.5nm,0.4s						
MBDF	**Montbardon**	**3.67**	**283**	*e*Pn	**Pn**	**07 12 15.1**	**-0.6**
MBDF				*e*Sn	**Sn**	**07 12 55.1**	**-2.9**
	1.1nm,0.3s						
MBDF	**Montbardon**	**3.67**	**283**	*e*Pn	**Pn**	**07 12 15.1**	**-0.6**
MBDF				*e*Sn	**Sn**	**07 12 55.1**	**-2.9**
	0.6nm,0.3s						
LPG	**La Plagne**	**3.89**	**295**	*e*P	**Pn**	**07 12 21.8**	**+3.0**
LPG				*e*Sn	**Sn**	**07 13 00.7**	**-2.9**
	0.9nm,0.3s						
LPG	**La Plagne**	**3.89**	**295**	*e*P	**Pn**	**07 12 21.8**	**+3.0**
LPG				*e*Sn	**Sn**	**07 13 00.7**	**-2.9**
	0.4nm,0.3s						
LPL	**La Plagne**	**3.91**	**295**	*e*P	**Pn**	**07 12 22.2**	**+3.2**
LPL	**La Plagne**	**3.91**	**295**	*e*P	**Pn**	**07 12 22.2**	**+3.2**
HINF	**Hinteralfeld**	**5.15**	**320**	*e*Pn	**Pn**	**07 12 35.4**	**-0.4**
HINF				*e*Sn	**Sn**	**07 13 30.2**	**-4.0**
	1.4nm,0.2s						
HINF	**Hinteralfeld**	**5.15**	**320**	*e*Pn	**Pn**	**07 12 35.4**	**-0.4**
HINF				*e*Sn	**Sn**	**07 13 30.2**	**-4.0**
	0.7nm,0.2s						
CDF	**Champ du Feu**	**5.42**	**326**	*e*Pn	**Pn**	**07 12 39.9**	**+0.3**
CDF				*e*Sn	**Sn**	**07 13 36.5**	**-4.5**
	1.8nm,0.3s						
CDF	**Champ du Feu**	**5.42**	**326**	*e*Pn	**Pn**	**07 12 39.9**	**+0.3**
HAU	**Haudompre**	**5.52**	**319**	*e*Pn	**Pn**	**07 12 41.3**	**+0.3**
HAU				*e*Sn	**Sn**	**07 13 39.0**	**-4.4**
	6.3nm,0.3s						
HAU	**Haudompre**	**5.52**	**319**	*e*Pn	**Pn**	**07 12 41.3**	**+0.3**

CSEM ***11*** *07:11:56.7±0.2, 44°.00N×11°.78E, h35km±2km, ML2.4/8, Error ellipse: s-maj=6.3km s-min=3.5km az=49.0*
ROM ***11*** *07:11:57.4±0.1, 43°.99N×11°.84E, h25km±2km, Ml2.1/10, Error ellipse: s-maj=2.3km s-min=1.3km az=62.0*
LDG ***11*** *07:11:57.0±0.1, 44°.01N×11°.86E, h25km, Ml2.3/6, Error ellipse: s-maj=2.3km s-min=1.1km az=55.0*

ISC 11 07:11:56.4±0.9, 44°.02N±0°.03×11°.80E±0°.03, h32km±5km, n40, σ1s44/63, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.12**	**164**	Pg	**Pb**	**07 12 01.7**	**-0.5**
SFI				Sg	**Sb**	**07 12 05.5**	**-0.6**
	589nm,0.3s						
SFI	**Santa Sofia**	**0.12**	**164**	Pg	**Pb**	**07 12 01.7**	**-0.5**
SFI				Sg	**Sb**	**07 12 05.5**	**-0.6**
	589nm,0.3s						
VMG	**Vicchio**	**0.20**	**254**	Pg	**Pb**	**07 12 03.1**	**+0.2**
VMG				Sg	**Sb**	**07 12 08.1**	**+0.9**
VMG	**Vicchio**	**0.20**	**254**	Pg	**Pb**	**07 12 03.1**	**+0.2**
VMG				Sg	**Sb**	**07 12 08.1**	**+0.9**
IMOL	**Imola, Italy**	**0.35**	**353**	⇑*i*Pg	**Pb**	**07 12 06.0**	**+1.3**
IMOL				Sg	**Sb**	**07 12 11.8**	**+1.5**
	27μm,16.0s						
IMOL	**Imola, Italy**	**0.35**	**353**	⇑*i*Pg	**Pb**	**07 12 06.0**	**+1.3**
IMOL				Sg	**Sb**	**07 12 11.8**	**+1.5**
	27μm,16.0s						
CRE	**Caprese Michel**	**0.41**	**165**	Pg	**Pb**	**07 12 05.6**	**-0.1**
CRE				Sg	**Sb**	**07 12 12.5**	**+0.5**
	171nm,0.3s						
CRE	**Caprese Michel**	**0.41**	**165**	Pg	**Pb**	**07 12 05.6**	**-0.1**
CRE				Sg	**Sb**	**07 12 12.5**	**+0.5**
	171nm,0.3s						
MTRZ	**Monterenzio**	**0.43**	**326**	Pg	**Pb**	**07 12 07.1**	**+1.1**
	249nm,0.4s						
MTRZ	**Monterenzio**	**0.43**	**326**	Pg	**Pb**	**07 12 07.1**	**+1.1**
	249nm,0.4s						
PARC	**Parchiule**	**0.48**	**139**	Pg	**Pb**	**07 12 06.5**	**-0.2**
PARC				Sg	**Sn**	**07 12 14.7**	**+0.2**
	55nm,0.5s						
PARC	**Parchiule**	**0.48**	**139**	Pg	**Pb**	**07 12 06.5**	**-0.2**
PARC				Sg	**Sn**	**07 12 14.7**	**+0.2**
	55nm,0.5s						
FNVD	**Fontana Vidola**	**0.51**	**287**	Pg	**Pb**	**07 12 08.4**	**+1.2**
	116nm,0.4s						
FNVD	**Fontana Vidola**	**0.51**	**287**	Pg	**Pb**	**07 12 08.4**	**+1.2**
	116nm,0.4s						
BADI	**Badiali**	**0.60**	**148**	Pg	**Pb**	**07 12 08.6**	**+0.1**
	63nm,0.4s						
BADI	**Badiali**	**0.60**	**148**	Pg	**Pb**	**07 12 08.6**	**+0.1**
	63nm,0.4s						
ATMC	**Monte Cedrone**	**0.64**	**153**	Pg	**Pb**	**07 12 09.3**	**+0.1**
ATMC				Sg	**Sn**	**07 12 18.7**	**+0.4**
	125nm,0.4s						
ATMC	**Monte Cedrone**	**0.64**	**153**	Pg	**Pb**	**07 12 09.3**	**+0.1**
ATMC				Sg	**Sn**	**07 12 18.7**	**+0.4**
	125nm,0.4s						
CRMI	**Carmignano**	**0.64**	**250**	Pg	**Pb**	**07 12 10.1**	**+0.8**
CRMI	**Carmignano**	**0.64**	**250**	Pg	**Pb**	**07 12 10.1**	**+0.8**
CSNT	**Castellina Chi**	**0.66**	**214**	Pg	**Pb**	**07 12 10.5**	**+1.0**
CSNT	**Castellina Chi**	**0.66**	**214**	Pg	**Pb**	**07 12 10.5**	**+1.0**
CSNT				Sg	**Sn**	**07 12 20.1**	**+1.3**
	65nm,0.6s						
CAFI	**Castiglion Fio**	**0.70**	**170**	Pg	**Pb**	**07 12 10.3**	**+0.1**
	91nm,1.2s						
CAFI	**Castiglion Fio**	**0.70**	**170**	Pg	**Pb**	**07 12 10.3**	**+0.1**
	91nm,1.2s						
FSSB	**Fossombrone**	**0.78**	**114**	Pg	**Pb**	**07 12 12.0**	**+0.5**
	166nm,1.0s						
FSSB	**Fossombrone**	**0.78**	**114**	Pg	**Pb**	**07 12 12.0**	**+0.5**
	166nm,1.0s						
PGF	**Pioggiola**	**2.52**	**235**	*e*Pn	**Pn**	**07 12 34.9**	**-0.3**
PGF	**Pioggiola**	**2.52**	**235**	*e*Pn	**Pn**	**07 12 34.9**	**-0.3**
SBF	**Sospel**	**3.16**	**269**	*e*Pn	**Pn**	**07 12 44.0**	**+0.1**
SBF				*e*Sn	**Sn**	**07 13 18.8**	**-1.7**
	1.3nm,0.2s						
SBF	**Sospel**	**3.16**	**269**	*e*Pn	**Pn**	**07 12 44.0**	**+0.1**
SBF				*e*Sn	**Sn**	**07 13 18.8**	**-1.7**
	0.6nm,0.2s						
MBDF	**Montbardon**	**3.68**	**283**	*e*Pn	**Pn**	**07 12 51.6**	**+0.5**
MBDF				*e*Sn	**Sn**	**07 13 31.5**	**-2.0**
	0.4nm,0.2s						
MBDF	**Montbardon**	**3.68**	**283**	*e*Pn	**Pn**	**07 12 51.6**	**+0.5**
MBDF				*e*Sn	**Sn**	**07 13 31.5**

JNTH S Sn 07 26 12.9 -2.8
JOW Kunigami 1.67 36 P Pn 07 26 03.5 -0.9
JOW Kunigami 1.67 36 ePn Pb 07 26 06.9 +0.6
JIH Iheya 1.70 25 P Pn 07 26 02.9 -1.9
JMJ Miyako jima 2 1.83 249 P Pb 07 26 09.2 +0.1
JMJ eS Sb 07 26 31.8 +0.2
JIKM Ikemajima 1.83 253 P Pb 07 26 08.4 -0.7
JIRB Irabujima 1.93 251 P Pb 07 26 10.8 0.0
JOKE Okinoerabujima 2.25 34 P Pn 07 26 12.7 +0.3
YHNB Yeheng 5.32 262 ePn Pb 07 27 05.0 -3.7
JNU Nakatsue 8.27 22 Pn Pn 07 27 34.9 -0.2
3.0nm,0.3s,baz=213,slow=11,SNR=32
NJ2 Nanjing 9.80 314 eP Pn 07 27 56.6 +0.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KSAR Wonju Array Be 11.93 3 P Pn 07 28 27.1 +1.7
KSAR Wonju Array Be 11.93 3 Pn Pn 07 28 27.1 +1.7
KSRS Korea Array 11.95 3 Pn Pn 07 28 27.0 +1.5
0.1nm,0.3s,baz=180,slow=12,SNR=4.6
KSRS LR LR 07 33 25.4
comp=Z,205nm,18.0s,baz=176,slow=40
MJAR Matsushiro Arr 14.51 38 Pn P 07 29 07.0 -0.1
0.2nm,0.3s,baz=216,slow=12,SNR=11
MJAR LR LR 07 34 36.4
comp=Z,55nm,20.6s,baz=225,slow=38
USRK Ussuriysk Ar. 19.08 11 LR LR 07 37 20.7
comp=Z,112nm,19.2s,baz=181,slow=37
HHC Hu-ho-hao-te 20.09 324 eP P 07 30 08.5 -0.3
HHC PP PnPn 07 30 35.2 +10
HHC S S 07 33 38.7 -15
HHC SS SnSn 07 34 11.4 +0.6
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,63nm,4.1s
HHC LR LR
comp=N,210nm,11.5s
HHC LR LR
comp=E,240nm,8.0s
HHC LR LR
comp=Z,230nm,11.0s
CD2 Chengdu 21.32 290 eP P 07 30 23.2 +1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.6s
MYLDM Lahad Datu 21.84 204 eP P 07 30 39.7 +12
28nm,1.3s
LZH Lanzhou 22.60 303 ⇑P P 07 30 36.8 +0.8
LZH pP sP 07 30 53.3 +9.4
LZH sP pP 07 31 03.7 +22
LZH PP PnPn 07 31 05.3 +5.7
LZH S S 07 34 31.0 -12
LZH sS Sn 07 34 57.1 +0.3
LZH SS SnSn 07 35 15.0 +2.4
LZH pmax pmax
comp=Z,86nm,1.7s
LZH pmax pmax
comp=Z,110nm,4.8s
LZH LR LR
comp=N,200nm,11.9s
LZH LR LR
comp=E,470nm,13.1s
LZH LR LR
comp=Z,410nm,13.6s
KLR Kul'dur 23.97 7 P P 07 30 46.0 -3.3
0.2nm,0.8s,baz=192,slow=5.5,SNR=6.7
TNTI Ternate 24.57 180 eP P 07 31 06.0 +11
83nm,1.1s
YSS Yuzh-Sakhalins 24.75 26⇓eP P 07 30 56.4 -0.1
YSS e 07 31 08.5
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS Yuzh-Sakhalins 24.75 26 eP P 07 30 55.7 -0.8
comp=Z,44nm,1.2s
GTA Gaotai 26.82 308 eP P 07 31 14.9 -0.6
GTA pP sP 07 31 30.6 +7.0
GTA sP pP 07 31 40.0 +19
GTA S S 07 35 38.8 -12
GTA sS sS 07 36 09.7 +9.2
GTA SS SnSn 07 36 54.6 -0.9
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,94nm,6.7s
GTA LR LR
comp=Z,220nm,16.2s
GTA LR LR
comp=Z,220nm,15.9s
GTA LR LR
comp=Z,220nm,14.3s
CHTO Chiang Mai 26.94 261 eP P 07 31 18.3 +1.7
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 26.94 261 eP P 07 31 18.3 +1.7
comp=Z,5.5nm,1.0s
CM01 Chiang Mai Arr 27.06 261 eP P 07 31 18.3 +0.6
CMAR Chiang Mai Arr 27.06 261 P P 07 31 18.9 +1.1
comp=Z,0.9nm,0.2s,baz=54,slow=9.1,SNR=6.1
CMAR LR LR 07 41 51.6
comp=Z,42nm,18.7s,baz=75,slow=36
ULN Ulaanbaatar 27.40 330⇑iP P 07 31 19.5 -1.1
ULN pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 27.40 330 eP P 07 31 19.3 -1.3
comp=Z,3.8nm,0.8s
SONM Songino Array 27.68 329 P P 07 31 22.1 -1.0
comp=Z,4.0nm,0.7s,baz=145,slow=9.0,SNR=15
SONM PcP PcP 07 34 40.7 +0.8
comp=Z,0.3nm,0.6s,baz=109,slow=3.6,SNR=3.4
SONM LR LR 07 44 11.6
comp=Z,168nm,19.2s,baz=162,slow=40
SONA1 Songino Array 27.68 329 eP P 07 31 21.6 -1.6
TLY Talaya 31.70 332⇑eP P 07 31 58.8 +0.2
TLY pmax pmax
comp=Z,8.0nm,2.0s
MOY Mondy 32.86 330 eP P 07 32 08.0 -0.9
PETK Petropavlovsk- 35.83 32 LR LR 07 47 59.5
comp=Z,30nm,19.2s,baz=259,slow=38
WMQ Urumqi 36.85 310 P P 07 32 43.3 -0.1
WMQ sP sP 07 33 09.7 +18
WMQ LR LR
comp=Z,170nm,17.7s
WMQ LR LR
comp=Z,220nm,16.7s
H11N1 WAKE ISLAND Hy 37.02 91 T T 08 12 08.9
baz=283
H11N2 WAKE ISLAND Hy 37.02 91 T T 08 12 16.3
baz=283
H11N3 WAKE ISLAND Hy 37.03 91 T T 08 12 14.4
baz=283
H11S3 WAKE ISLAND Hy 37.19 93 T T 08 12 17.9
baz=290,slow=74,SNR=4.4
H11S1 WAKE ISLAND Hy 37.20 93 T T 08 12 13.6
baz=290,slow=74,SNR=4.6
H11S2 WAKE ISLAND Hy 37.21 93 T T 08 12 14.4
baz=290,slow=74,SNR=4.8
MA2 Magadan 37.82 19⇑eP P 07 32 50.8 -0.5
DGZ Jazzator, Alta 39.04 319⇓eP P 07 33 00.7 -1.2
DGZ pmax pmax
comp=Z,1.0nm,0.8s
SEY Seymchan 41.01 17 P P 07 33 17.8 0.0
comp=Z,4.8nm,0.7s,baz=222,slow=6.7,SNR=29
SEY Seymchan 41.01 17⇓eP P 07 33 17.4 -0.4
MK01 Makanchi Array 41.32 313 eP P 07 33 19.6 -1.0
MK31 Makanchi Array 41.33 313 eP P 07 33 19.8 -0.9
MK31 Makanchi Array 41.33 313 eP P 07 33 19.8 -0.9
MKAR Makanchi Array 41.33 313 P P 07 33 19.9 -0.8
comp=Z,4.2nm,0.6s,baz=99,slow=10,SNR=62
MKAR PcP PcP 07 35 17.8 -1.2
comp=Z,0.9nm,0.8s,baz=108,slow=5.1,SNR=4.3
MKAR LR LR 07 52 22.2
comp=Z,70nm,18.1s,baz=88,slow=39
MKAR Makanchi Array 41.33 313 i P P 07 33 19.8 -0.9
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 41.33 313 eP P 07 33 19.8 -0.9
comp=Z,31nm,0.7s
MKAR PcP PcP 07 35 17.8 -1.2
ZAA0 Zalesovo Array 42.27 324 eP P 07 33 27.1 -1.2
comp=Z,16nm,1.5s
ZAA0 epP sP 07 33 38.1 +1.6
ZALV Zalesovo Beam 42.27 324 P P 07 33 27.0 -1.3
comp=Z,4.6nm,0.8s,baz=109,slow=8.0,SNR=16
ZALV LR LR 07 52 39.9
comp=Z,91nm,19.3s,baz=70,slow=39
ZALV Zalesovo Beam 42.27 324 eP P 07 33 26.7 -1.6
ZALV Zalesovo Beam 42.27 324 eP P 07 33 26.7 -1.6
NVS Novosibirsk 43.49 324 i P P 07 33 38.0 -0.1
KURK Kurchatov 44.71 317 d iP P 07 33 46.7 -1.3
KURK pmax pmax
comp=Z,11nm,1.5s
KURK Kurchatov 44.71 317 eP P 07 33 46.6 -1.4
comp=Z,15nm,1.4s
KURBB Kurchatov Arra 44.74 317 P P 07 33 47.1 -1.1
comp=Z,3.6nm,0.6s,baz=105,slow=8.4,SNR=35
KSH Kashi 44.82 301 P P 07 33 51.0 +1.7
KSH pP sP 07 34 10.8 +13
KSH PcP PP 07 35 34.4 +0.4
KSH PcS PcS 07 39 26.7 +2.0
KSH S S 07 40 19.2 -6.7
KSH sS sS 07 40 50.9 +15
KSH pmax pmax
comp=Z,100nm,4.5s
KSH LR LR
comp=Z,140nm,10.0s
KSH LR LR
comp=Z,220nm,10.3s
KSH LR LR
comp=Z,180nm,8.6s
WRA Warramunga Arr 45.69 171 P P 07 33 56.3 +0.3
comp=Z,2.1nm,0.7s,baz=353,slow=8.5,SNR=21
AAK Ala-Archa 46.12 305 P P 07 33 59.0 -0.5
comp=Z,0.8nm,0.3s,baz=160,slow=5.1,SNR=4.9
AAK Ala-Archa 46.12 305⇑eP P 07 33 59.1 -0.5
AAK pmax pmax
comp=Z,5.0nm,1.7s
BILL Bilibino 48.67 18 i P P 07 34 17.4 -1.4
BILL i 07 36 08.6
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,51nm,16.0s
KKAR Karatay Array 49.07 306 eP P 07 34 22.1 -0.2
KKAR Karatay Array 49.07 306 eP P 07 34 22.1 -0.2
AS31 Alice Springs 49.30 172 eP P 07 34 33.6 +10
comp=Z,1.0nm,0.6s
ASAR Alice Springs 49.30 172 P P 07 34 25.0 +0.9
comp=Z,0.9nm,0.8s,baz=359,slow=14,SNR=14
ASAR Alice Springs 49.30 172 P P 07 34 25.0 +0.9
ASAR pmax pmax
comp=Z,1.0nm,0.8s
AS01 Alice Springs 49.30 172 eP P 07 34 36.5 +12
BVAR Borovoye Array 50.20 319 P P 07 34 30.1 -0.6
comp=Z,2.2nm,0.6s,baz=91,slow=7.5,SNR=17
BVAR LR LR 07 55 40.9
comp=Z,70nm,19.8s,baz=108,slow=36
BRVK Borovoye 50.27 319c iP P 07 34 31.0 -0.2
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 50.27 319 eP P 07 34 30.5 -0.7
comp=Z,7.3nm,0.5s
KBL Kabul 50.55 295 eP P 07 34 34.9 +1.0
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 50.55 295 eP P 07 34 34.9 +1.0
comp=Z,16nm,0.8s
ABKAR Akbulak array 56.46 314 eP P 07 35 16.8 0.0
comp=Z,51nm,0.6s
AKTO Aktyubinsk 57.68 315 P P 07 35 24.4 -0.9
comp=Z,2.0nm,0.8s,baz=90,slow=11,SNR=4.6
STKA Stephens Creek 58.68 166 P P 07 35 33.4 +1.0
comp=Z,0.7nm,0.6s,baz=9.5,slow=6.1,SNR=2.4
GEYT Alibeck 58.84 300 P P 07 35 35.1 +1.3
comp=Z,4.8nm,0.8s,baz=48,slow=2.2,SNR=12
GEYT LR LR 08 03 38.3
comp=Z,51nm,18.2s,baz=35,slow=39
TOLK Toolik Lake Re 64.08 24 eP P 07 36 07.8 -0.9
TOLK ePcP PcP 07 36 43.5 -0.3
MDM Murphy Dome 64.94 28 eP P 07 36 14.2 -0.2
comp=Z,21nm,1.6s
COLA College 65.12 28⇓eP P 07 36 18.5 +3.1
ILAR Eielson Array 65.54 28 P P 07 36 15.9 -2.2
comp=Z,0.5nm,0.8s,baz=252,slow=5.1,SNR=8.7
KBZ Khabaz 68.89 309 P P 07 36 39.5 -0.3
comp=Z,5.5nm,0.8s,baz=160,slow=1.4,SNR=9.1
KIV Kislovodsk 68.98 310 eP P 07 36 38.2 -2.3
KIV pmax pmax
comp=Z,9.0nm,1.0s
SPITS Spitsbergen Ar 69.36 348 LR LR 08 10 55.5
comp=Z,22nm,21.3s,baz=175,slow=39
OBN Obninsk 69.83 322 eP P 07 36 44.0 -1.4
OBN pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 69.94 23 eP P 07 36 45.6 -0.2
INK pmax pmax
comp=Z,8.0nm,1.3s
INK Inuvik 69.94 23 eP P 07 36 45.6 -0.2
comp=Z,7.7nm,1.3s
ARCES ARCESS Array B 70.35 339 P P 07 36 47.7 -0.7
comp=Z,3.5nm,0.9s,baz=67,slow=8.1,SNR=6.8
FINES FINESS Array B 73.04 330 P P 07 37 04.2 -0.4
comp=Z,1.8nm,0.6s,baz=61,slow=6.3,SNR=11
FINES LR LR 08 13 02.1
comp=Z,212nm,18.2s,baz=360,slow=39
RAYN Ar Rayn 73.14 288 eP P 07 37 06.7 +0.7
comp=Z,6.2nm,1.3s
AKASG Malin Array Be 75.48 319 P P 07 37 18.6 -0.5
comp=Z,1.5nm,0.5s,baz=58,slow=6.7,SNR=15
AKASG Malin Array Be 75.48 319 i P P 07 37 19.0 0.0
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 75.48 319 eP P 07 37 18.1 -1.0
AKBB pmax pmax
comp=Z,29nm,1.8s
AKBB Malin Array Si 75.48 319 eP P 07 37 18.1 -1.0
comp=Z,28nm,1.8s
KIEV Kiev 75.49 319⇓eP P 07 37 18.1 -1.0
KIEV pmax pmax
comp=Z,23nm,2.6s
KIEV Kiev 75.49 319 eP P 07 37 18.7 -0.4
comp=Z,24nm,1.7s
AK11 Malin Array Si 75.52 319 eP P 07 37 18.4 -0.9
RES Resolute Bay 76.45 11 eP P 07 37 23.5 -0.7
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 76.45 11 eP P 07 37 23.5 -0.7
comp=Z,5.3nm,0.8s
BR131 Keskin Array S 76.74 308 eP P 07 37 26.8 +0.2
BRTR Keskin Array B 76.74 308 P P 07 37 26.9 +0.3
comp=Z,4.6nm,1.0s,baz=99,slow=5.4,SNR=17
BRTR Keskin Array B 76.74 308 i P P 07 37 27.0 +0.3
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BR231 Keskin MP Arra 77.31 308 eP P 07 37 27.7 -2.1
TLB Topalu 78.64 314⇓iP P 07 37 37.7 +0.7
TLB Topalu 78.64 314 ⇓P P 07 37 37.7 +0.7
TESR Tescani 78.73 316⇓iP P 07 37 38.1 +0.7
VRI Vrincioaia 78.95 316⇑iP P 07 37 40.0 +1.3
VRI Vrincioaia 78.95 316 ⇑P P 07 37 40.0 +1.3
PLOR Plostina 79.01 316⇓iP P 07 37 43.6 +4.6
PLOR Plostina 79.01 316 ⇓P P 07 37 43.6 +4.6
HFS Hagfors 79.03 332 P P 07 37 37.8 -1.0
comp=Z,1.2nm,0.5s,baz=60,slow=5.8,SNR=6.3
BUR08 Bucovina Ar. S 79.14 318 eP P 07 37 39.2 -0.6
BUR08 epP sP 07 37 51.9 +3.6
BURAR Bucovina Array 79.14 318⇓iP P 07 37 40.1 +0.3
BURAR Bucovina Array 79.14 318 ⇓P P 07 37 40.1 +0.3
BUR04 Bucovina Ar. S 79.14 318 eP P 07 37 39.9 +0.1
NB2 NORSAR Subarra 79.56 334 P P 07 37 40.9 -0.8
comp=Z,4.3nm,1.0s,baz=54,slow=5.6
NOA NORSAR Array B 79.56 334 P P 07 37 39.0 -2.7
comp=Z,2.2nm,0.9s,baz=56,slow=5.9,SNR=3.7
NOA LR LR 08 17 08.5
comp=Z,92nm,18.5s,baz=265,slow=39
NOA NORSAR Array B 79.56 334 P P 07 37 39.0 -2.7
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA MLR MLR
comp=Z,93nm,18.5s
YKA Yellowknife Ar 79.60 25 P P 07 37 41.7 -0.1
comp=Z,2.7nm,0.8s,baz=298,slow=5.4,SNR=44
MLR Muntele Rosu 79.61 315⇓iP P 07 37 43.9 +1.5
MLR Muntele Rosu 79.61 315 ⇓P P 07 37 43.9 +1.5
ARR Arges 80.49 316⇑iP P 07 37 48.0 +0.9
DRGR 81.03 318⇓iP P 07 37 51.6 +1.6
DRGR 81.03 318 ⇓P P 07 37 51.6 +1.6
VYHS Vyhne 82.51 320 eP P 07 37 59.8 +2.1
VYHS pmax pmax
comp=Z,78nm,3.8s
VYHS Vyhne 82.51 320 eP P 07 37 59.8 +2.1
GERES GERESS Array B 85.21 323 P P 07 38 11.7 +0.1
comp=Z,1.4nm,0.9s,baz=46,slow=3.9,SNR=8.9
GEA0 GERESS Array S 85.22 323 eP P 07 38 09.3 -2.3

ISCJB **11** *07:45:12.2±0.3, 24°.32S±0°.03×179°.59W±0°.07, h490km, mb4.2/17, Error ellipse: s-maj=8.6km s-min=4.4km az=2.1*
IDC **11** *07:45:12.9±1.9, 24°.44S×179°.70W, h477km±21km, mb3.6/9, mb1 3.8/11, mb1mx3.5/42, mbtmp4.5/11, Error ellipse: s-maj=16.4km s-min=12.1km az=166.0*
WEL **11** *07:45:12.0, 24°.43S×179°.31W, h507km*
NEIC **11** *07:45:12.3±0.6, 24°.43S×179°.31W, h507km±10km, mb4.7/6, Error ellipse: s-maj=13.4km s-min=7.4km az=95.0*
BJI **11** *07:45:13.6, 24°.79S×180°.00W, h508km, mb4.6/8, mB5.0/2*
ISC 11 07:45:12.5±0.4, **24°.42S**±0°.05×**179°.46W**±0°.07, **h490**km, **n90**, σ1§**93**/104, **mb4.3**/17, **1C, South of Fiji Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
GLKZ Green Lake 5.01 164 P P 07 46 39.8 +0.8
GLKZ Green Lake 5.01 164 S S 07 47 50.5 +0.8
MSVF Nonsavu 7.05 340 eP P 07 46 59.9 +0.8
MSVF eS S 07 48 26.6 +0.4
OUZ Omahuta 12.33 208 eP P 07 47 55.2 +0.7
AFI Afiamalu 12.72 36 P P 07 47 59.9 +0.8
5.3nm,0.3s,baz=44,slow=12,SNR=6.2
AFI S S 07 50 12.3 -4.0
2.2nm,0.3s,baz=32,slow=19,SNR=3.7
AFI Afiamalu 12.72 36 eP P 07 47 57.6 -1.5
KUZ Kuaotunu 12.96 197 P P 07 48 01.7 +0.5
DZM Mont Dzumac 13.16 277 P P 07 48 05.3 +1.6
2.1nm,0.3s,baz=85,slow=17,SNR=35
DZM Mont Dzumac 13.16 277 eP P 07 48 04.4 +0.7
RUGZ Raukumara Rang 13.72 190 S S 07 50 38.6 +3.4
URZ Urewera 14.10 191 P P 07 48 12.0 -1.2
3.3nm,0.3s,baz=275,slow=3.6,SNR=15
URZ S S 07 50 35.9 -6.5
0.6nm,0.3s,baz=176,slow=13,SNR=3.1
URZ Urewera 14.10 191 eP P 07 48 13.3 +0.1
TLZ Tolley Road 14.50 196 P P 07 48 17.9 +0.4
MRHZ Matea Rd 14.79 193 P P 07 48 23.3 +2.8
HIZ Hauiti 14.86 198 P P 07 48 22.5 +1.3
RATZ Rangitukua 14.96 195 P P 07 48 23.3 +0.9
NMHZ Naumai 14.97 191 P P 07 48 25.1 +2.6
NMHZ Naumai 14.97 191 S S 07 51 02.8 +3.7
BKZ Black Stump Fm 15.09 192 eP P 07 48 25.8 +2.0
23nm,0.5s
BKZ Black Stump Fm 15.09 192 P P 07 48 23.4 -0.4
BKZ Black Stump Fm 15.09 192 S S 07 51 00.1 -1.5
ARHZ Aropaoanui 15.10 191 P P 07 48 26.9 +3.1
KRVZ Karewarewa 15.21 195 P P 07 48 27.5 +2.5
TWVZ Taurewa 15.23 195 P P 07 48 27.6 +2.3
WTVZ West Tongariro 15.24 195 P P 07 48 28.0 +2.6
NGZ Ngauruhoe 15.29 195 P P 07 48 27.8 +1.9
MCHZ McNeill Hill 15.33 191 P P 07 48 27.6 +1.5
MCHZ McNeill Hill 15.33 191 S S 07 51 06.0 0.0
COVZ Chateau Observ 15.33 195 P P 07 48 28.5 +2.2
KWHZ Kaweka Forest 15.36 192 P P 07 48 27.5 +1.0
TUVZ Tukino 15.37 194 P P 07 48 28.9 +2.2
FWVZ Far West T-bar 15.38 195 P P 07 48 28.3 +1.3
VRZ Vera Road 15.45 197 P P 07 48 27.6 +0.1
MOVZ Moawhango 15.48 194 P P 07 48 29.3 +1.5
BHHZ Black Hill Sta 15.49 193 P P 07 48 26.7 -1.3
KRHZ Kereru 15.58 192 P P 07 48 30.2 +1.4
KAHZ Kahuranaki 15.64 191 P P 07 48 30.6 +1.1
KAHZ Kahuranaki 15.64 191 S S 07 51 11.7 -0.3
FUNA Funafuti 15.86 355 eP P 07 48 32.0 0.0
93nm,1.0s
PXZ Pawanui 15.87 190 P P 07 48 31.6 -0.2
PXZ Pawanui 15.87 190 S S 07 51 15.9 -0.4
PNHZ Pukenui 15.87 192 P P 07 48 32.0 +0.1
PNHZ Pukenui 15.87 192 S S 07 51 11.9 -4.7
WAZ Wanganui 15.99 196 P P 07 48 34.4 +1.3
TSZ Takapari Road 16.06 193 P P 07 48 33.9 0.0
DVHZ Dannevirke 16.25 192 P P 07 48 35.1 -0.8
BFZ Birch Farm 16.61 191 eP P 07 48 38.2 -1.4
29nm,0.6s
SNZO South Karori 17.53 195 eP P 07 48 47.8 -1.0
60nm,0.8s
THZ Tophouse 18.42 198 eP P 07 48 56.0 -1.2
36nm,0.6s
KHZ Kahutara 18.86 196 eP P 07 48 59.1 -1.9
35nm,0.6s
LTZ Lake Taylor 19.55 198 eP P 07 49 06.2 -1.2
66nm,0.6s
OXZ Oxford 20.11 198 eP P 07 49 10.8 -1.7
128nm,0.8s
RPZ Rata Peaks 20.76 200 P P 07 49 17.4 -1.0
35nm,0.6s,baz=330,slow=0.8,SNR=24
RPZ Rata Peaks 20.76 200 eP P 07 49 17.8 -0.6
43nm,0.6s
MCQ Macquarie Isla 34.06 203 eP P 07 51 13.2 -1.7
609nm,1.8s
STKA Stephens Creek 34.99 249 P P 07 51 22.6 -0.4
7.6nm,0.6s,baz=94,slow=11,SNR=36
STKA Stephens Creek 34.99 249 eP P 07 51 22.3 -0.7
1.7nm,0.7s
BBOO Buckleboo 39.69 247 eP P 07 52 01.2 -0.5
15nm,1.0s
AS01 Alice Springs 42.39 261 eP P 07 52 23.3 -0.1
AS31 Alice Springs 42.43 261 eP P 07 52 23.5 -0.3
1.8nm,0.9s
ASAR Alice Springs 42.44 261 P P 07 52 23.6 -0.1
3.8nm,0.8s,baz=93,slow=6.4,SNR=39
ASAR S S 07 58 07.6 -2.0
0.9nm,0.7s,baz=101,slow=17,SNR=8.0
WB2 Warramunga Arr 42.85 267 eP P 07 52 26.2 -0.8
WRAB Tennant Creek 42.85 267 eP P 07 52 26.4 -0.6
5.6nm,0.8s
WRA Warramunga Arr 42.86 267 P P 07 52 26.6 -0.5
6.2nm,0.5s,baz=102,slow=8.2,SNR=89
WRA S S 07 58 16.0 +0.3
2.1nm,0.8s,baz=100,slow=14,SNR=8.1
VNDA Vanda 53.90 185 P P 07 53 51.1 +2.5
2.6nm,0.7s,baz=355,slow=7.1,SNR=13
VNDA Vanda 53.90 185 eP P 07 53 50.6 +2.0
17nm,1.8s
CASY Casey 59.86 206 eP P 07 54 29.9 +0.1
MAW Mawson 77.43 200 P P 07 56 17.3 +1.2
24nm,1.1s,baz=148,slow=13,SNR=3.3
NJ2 Nanjing 81.37 311 eP P 07 56 37.4 -0.2
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
SYO Syowa Base 82.62 193⇑eP P 07 56 40.2 -3.1
SNAA Sanae 84.14 179 P P 07 56 51.4 +0.4
1.5nm,0.6s,baz=257,slow=8.5,SNR=9.5
BEKR Beckworth 84.39 42 eP P 07 56 50.0 -2.9
58nm,1.6s
NVAR Mina Array Bea 84.79 44 P P 07 56 57.0 +2.1
0.1nm,0.3s,baz=238,slow=6.9,SNR=2.9
GYA Guiyang 87.43 300 eP P 07 57 07.0 -0.7
GYA pP pP 07 59 00.2 +3.5
GYA sP sP 07 59 51.0 +4.3
GYA PP PP 08 00 43.5 +2.1
GYA SKS SKSac 08 06 45.8 -2.8
GYA S S 08 07 05.3 -2.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
CM01 Chiang Mai Arr 90.14 290 eP P 07 57 21.0 +0.7
TXAR Lajitas Array 90.29 58 P P 07 57 24.2 +3.3
0.8nm,0.9s,baz=229,slow=5.8,SNR=7.7
HHC Hu-ho-hao-te 91.13 315 eP P 07 57 24.5 0.0
HHC sP sP 08 00 05.0 +1.1
HHC SKS SKSac 08 07 08.9 -0.5
HHC S S 08 07 36.8 -3.5
HHC SS SS 08 14 04.4 +4.6
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,67nm,4.6s
CD2 Chengdu 91.77 303 eP P 07 57 27.0 -0.7
LZH Lanzhou 94.08 308 eP P 07 57 38.0 -0.2
LZH pP pP 07 59 33.0 +4.8
LZH sP sP 08 00 22.3 +4.5
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,150nm,6.1s
YKA Yellowknife Ar 100.62 25 P Pdif 07 58 08.0 +1.3
0.1nm,0.7s,baz=222,slow=8.8,SNR=3.5
YKA PKKPbc PKKPbc 08 14 19.3 -1.7

0.3nm,0.9s,baz=15,slow=2.9,SNR=4.3
KSH Kashi 115.97 304 *e*PKP **PKPdf 08 03 00.5 +1.1**
ARCES ARCESS Array B 132.49 348 PKP **PKPdf 08 03 31.5 +1.5**
2.8nm,0.9s,baz=45,slow=1.4,SNR=2.7
HFS Hagfors 143.15 349 PKhKP PKPpre 08 03 48.3
1.4nm,0.4s,baz=90,slow=3.0,SNR=10
AKASG Malin Array Be 145.67 327 PKPbc **PKPbc 08 03 56.1 +0.4**
1.1nm,0.5s,baz=41,slow=4.3,SNR=7.9
AKASG pPKPbc pPKPab 08 05 49.4 -0.2
1.1nm,0.7s,baz=39,slow=6.0,SNR=3.1
BRTR Keskin Array B 148.28 307 PKPbc **PKPbc 08 04 03.6 +0.3**
1.1nm,0.7s,baz=143,slow=4.9,SNR=5.8
MMAI Mount Meron Ar 148.36 294 PKPbc **PKPbc 08 04 04.2 +0.5**
8.6nm,0.8s,baz=69,slow=4.6,SNR=3.5
EKA Eskdalemuir Ar 149.00 4 PKPbc **PKPbc 08 04 05.8 +1.4**
0.4nm,0.4s,baz=4.6,slow=3.6,SNR=3.8
CLL Collm 151.49 344 *e*PKPbc **PKPbc 08 04 11.0 +0.7**
DBIC Dimbokro 161.61 163 PKP **PKPdf 08 04 17.5 -0.1**
1.5nm,0.6s,baz=232,slow=9.9,SNR=3.0
DBIC PKPab **PKPab 08 05 07.1 +1.6**
2.8nm,0.9s,baz=126,slow=1.3,SNR=4.0
TORD Torodi Ar. Bea 168.73 186 PKP **PKPdf 08 04 23.6 +0.1**
1.7nm,1.1s,baz=302,slow=1.3,SNR=4.6
TORD PKPab **PKPab 08 05 37.6 +0.7**
2.1nm,0.8s,baz=172,slow=4.1,SNR=13
TORD PP **PP 08 09 18.8 -6.9**
1.3nm,0.5s,baz=297,slow=34,SNR=13

ISN ***11*** *07:49:54.7±0.3,38.°34N×43.°77E, h0km, ML3.4*
CSEM ***11*** *07:49:59.7±0.2,39.°07N×43.°73E, h5km, ML3.4, Error ellipse: s-maj=4.2km s-min=3.4km az=138.0*
DDA ***11*** *07:49:59.4,39.°03N×43.°72E, h4km, Ml3.4*
ISK ***11*** *07:49:59.1,39.°04N×43.°73E, h7km, ML3.4/10*
ISCJB ***11*** *07:50:00.0±0.5,39.°06N±0.°02×43.°74E±0.°03, h0km±4km, Error ellipse: s-maj=3.8km s-min=2.8km az=43.7*
ATA ***11*** *07:50:00.8±1.8,39.°04N×43.°80E, h22km±15km, ML3.9, MW4.0*

ISC 11 07:49:59.7±1.0,39.°03N±0.°02×43.°74E±0.°02, h5km±8km, n65,σ0.95/100,3C-8D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.18**	**51**	PG	**Pg**	**07 50 02.9**	**-0.4**
CLDR				SG	**Sg**	**07 50 06.4**	**+0.7**
CLDR	**Caldiran**	**0.18**	**51**	*i* P	**Pg**	**07 50 02.7**	**-0.6**
CLDR				*i* S	**Sg**	**07 50 06.6**	**+0.9**
CLDR	**Caldiran**	**0.18**	**51**	*i* Pg	**Pg**	**07 50 02.9**	**-0.4**
CLDR				S	**Sg**	**07 50 06.6**	**+0.9**
ERCV	**ERCIS-VAN**	**0.31**	**268**	PG	**Pg**	**07 50 05.1**	**-0.7**
ERCV				SG	**Sg**	**07 50 10.6**	**+0.6**
ERCV	**ERCIS-VAN**	**0.31**	**268**	*e*Pg	**Pg**	**07 50 05.1**	**-0.7**
ERCV				*e*Sg	**Sg**	**07 50 10.6**	**+0.6**
DYDN	**Diyadin**	**0.51**	**356**	*e*P	**Pn**	**07 50 12.8**	**-1.2**
DYDN				IAML		07 50 22.3	
	comp=Z,480nm,0.4s						
DYDN	**Diyadin**	**0.51**	**356**	*i* P	**Pg**	**07 50 09.6**	**0.0**
DYDN				*i* S	**Sb**	**07 50 18.0**	**-1.3**
DYDN	**Diyadin**	**0.51**	**356**	P	**Pg**	**07 50 09.6**	**0.0**
DYDN				S	**Sb**	**07 50 18.0**	**-1.3**
VANB	**Van**	**0.51**	**212**	PG	**Pb**	**07 50 11.2**	**-0.1**
VANB				SG	**Sb**	**07 50 19.7**	**+0.6**
VANB	**Van**	**0.51**	**212**	*e*Pg	**Pb**	**07 50 11.2**	**-0.1**
VANB				*e*Sg	**Sb**	**07 50 19.7**	**+0.6**
TVAN	**Van**	**0.56**	**208**	*i* P	**Pb**	**07 50 11.3**	**-0.9**
TVAN				*i* S	**Sb**	**07 50 21.2**	**+0.5**
TVAN	**Van**	**0.56**	**208**	P	**Pb**	**07 50 11.3**	**-0.9**
TVAN				S	**Sb**	**07 50 21.2**	**+0.5**
AGRB	**Hanur-Agry**	**0.80**	**313**	PG	**Pg**	**07 50 14.5**	**-0.5**
AGRB				SG	**Sb**	**07 50 25.9**	**-1.4**
AGRB	**Hanur-Agry**	**0.80**	**313**	*e*Pg	**Pg**	**07 50 14.5**	**-0.5**
AGRB				*e*Sg	**Sb**	**07 50 25.9**	**-1.4**
TUTA	**Tutak**	**0.81**	**298**	*e*P	**Pb**	**07 50 16.4**	**0.0**
TUTA				IAML		07 50 32.3	
	comp=Z,950nm,0.6s						
TUTA	**Tutak**	**0.81**	**298**	*i* P	**Pg**	**07 50 14.7**	**-0.5**
TUTA				*i* S	**Sg**	**07 50 25.8**	**+0.1**
TUTA	**Tutak**	**0.81**	**298**	P	**Pg**	**07 50 14.7**	**-0.5**
TUTA				S	**Sg**	**07 50 25.8**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.82**	**255**	*i* P	**Pg**	**07 50 14.9**	**-0.6**
ADCV				*i* S	**Sb**	**07 50 27.6**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.82**	**255**	P	**Pg**	**07 50 14.9**	**-0.6**
ADCV				S	**Sb**	**07 50 27.6**	**-0.4**
IGDI	**IGDIR**	**0.88**	**17**	*e*P	**Pb**	**07 50 16.6**	**-0.8**
IGDI	**IGDIR**	**0.88**	**17**	*i* P	**Pb**	**07 50 16.7**	**-0.8**
IGDI				*i* S	**Sb**	**07 50 29.9**	**+0.4**
GEVA	**Gevas**	**0.89**	**217**	*e*P	**Pn**	**07 50 19.5**	**+0.4**
GEVA				IAML		07 50 29.4	
	comp=Z,127nm,0.5s						
GEVA				*e*S	**Sn**	**07 50 33.3**	**+0.8**
GEVA	**Gevas**	**0.89**	**217**	*i* P	**Pg**	**07 50 16.0**	**-0.8**
GEVA				*i* S	**Sb**	**07 50 29.3**	**-0.8**
GEVA	**Gevas**	**0.89**	**217**	P	**Pg**	**07 50 16.0**	**-0.8**
GEVA				S	**Sb**	**07 50 29.3**	**-0.8**
BASK	**Baskale_VAN**	**1.00**	**168**	*i* P	**Pg**	**07 50 17.4**	**-1.4**
BASK				*i* S	**Sn**	**07 50 34.3**	**-0.9**
BASK	**Baskale_VAN**	**1.00**	**168**	P	**Pg**	**07 50 17.4**	**-1.4**
BASK				S	**Sn**	**07 50 34.3**	**-0.9**
HYR	**Heyderabad**	**1.10**	**51**	P	**Pb**	**07 50 20.8**	**-0.5**
	SNR=26						
HYR				⇑S	**Sn**	**07 50 39.3**	**+1.7**
EATA	**Eleskirt**	**1.27**	**311**	*e*P	**Pn**	**07 50 27.1**	**+2.7**
EATA				IAML		07 50 49.5	
	comp=Z,34nm,0.6s						
EATA	**Eleskirt**	**1.27**	**311**	*i* P	**Pg**	**07 50 23.6**	**-0.5**
EATA				*i* S	**Sn**	**07 50 41.9**	**-0.2**
EATA	**Eleskirt**	**1.27**	**311**	P	**Pg**	**07 50 23.6**	**-0.5**
EATA				S	**Sn**	**07 50 41.9**	**-0.2**
EKAR	**Karacoban**	**1.32**	**280**	*e*P	**Pb**	**07 50 27.0**	**+1.8**
EKAR				IAML		07 50 51.5	
	comp=Z,52nm,0.5s						
EKAR	**Karacoban**	**1.32**	**280**	*i* P	**Pg**	**07 50 23.5**	**-1.5**
EKAR	**Karacoban**	**1.32**	**280**	P	**Pg**	**07 50 23.5**	**-1.5**
NAX	**Nakhchivan**	**1.37**	**83**	P	**Pg**	**07 50 26.1**	**+0.1**
	SNR=68						
NAX				⇓S	**Sn**	**07 50 47.6**	**+3.3**
DIGO	**Kars**	**1.41**	**349**	*e*P	**Pg**	**07 50 27.9**	**+1.2**
GURO	**Guroymak-BITLI**	**1.42**	**251**	PN	**Pn**	**07 50 25.3**	**-1.0**
GURO	**Guroymak-BITLI**	**1.42**	**251**	*e*Pn	**Pn**	**07 50 25.3**	**-1.0**
SBZ	**Shahbuz**	**1.46**	**75**	P	**Pb**	**07 50 26.9**	**-0.5**
	SNR=60						
SBZ				⇑S	**Sg**	**07 50 49.0**	**+2.5**
KARS	**Kars**	**1.67**	**343**	PN	**Pn**	**07 50 29.5**	**-0.3**
KARS	**Kars**	**1.67**	**343**	*e*Pn	**Pn**	**07 50 29.5**	**-0.3**
HOMI	**Horasan**	**1.74**	**306**	*e*P	**Pg**	**07 50 33.4**	**+0.3**
HOMI				IAML		07 51 06.1	
	comp=Z,33nm,0.4s						
ORD	**Ordubad**	**1.76**	**93**	⇓P	**Pb**	**07 50 32.3**	**-0.2**
	SNR=34						
ORD				⇓S	**Sg**	**07 50 56.7**	**+0.4**
SRTM	**Siirt_Merkez**	**1.76**	**234**	*i* P	**Pb**	**07 50 31.9**	**-0.7**
SRTM	**Siirt_Merkez**	**1.76**	**234**	P	**Pb**	**07 50 31.9**	**-0.7**
CUKT	**Cukurca**	**1.78**	**183**	PN	**Pn**	**07 50 31.4**	**+0.1**
CUKT	**Cukurca**	**1.78**	**183**	*i* P	**Pg**	**07 50 33.8**	**-0.1**
CUKT	**Cukurca**	**1.78**	**183**	*e*Pn	**Pn**	**07 50 31.4**	**+0.1**
CUKT	**Cukurca**	**1.78**	**183**	P	**Pg**	**07 50 33.8**	**-0.1**
SIRT	**Sirnak**	**1.84**	**214**	PN	**Pn**	**07 50 32.2**	**+0.2**
SIRT	**Sirnak**	**1.84**	**214**	*e*Pn	**Pn**	**07 50 32.2**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.87**	**325**	PN	**Pn**	**07 50 32.2**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.87**	**325**	*e*Pn	**Pn**	**07 50 32.2**	**-0.3**
BNGL	**BINGOL**	**2.02**	**269**	*e*P	**Pg**	**07 50 37.9**	**-0.5**
BNGL				IAML		07 51 10.2	
	comp=Z,114nm,0.6s						
BNGL	**BINGOL**	**2.02**	**269**	*i* P	**Pb**	**07 50 36.7**	**-0.3**
BNGL				*i* S	**Sg**	**07 51 05.7**	**+1.1**
ERZM	**Erzurum**	**2.03**	**296**	*e*P	**Pg**	**07 50 38.3**	**-0.4**
BTMN	**Batman**	**2.25**	**240**	*i* P	**Pb**	**07 50 40.8**	**0.0**
BTMN				*i* S	**Sb**	**07 51 09.8**	**+0.8**
BTMN	**Batman**	**2.25**	**240**	P	**Pb**	**07 50 40.8**	**0.0**
BTMN				S	**Sb**	**07 51 09.8**	**+0.8**
GDB	**GEDABAY**	**2.29**	**42**	⇓P	**Pn**	**07 50 37.0**	**-1.3**
	SNR=6.3						
GDB				⇑S	**Sn**	**07 51 07.2**	**+0.1**
QZX	**Qazax, Azerbai**	**2.38**	**31**	⇓P	**Pn**	**07 50 37.3**	**-2.1**
	SNR=9.7						
QZX				⇓S	**Sn**	**07 51 07.8**	**-1.3**
GANJ	**Ganja**	**2.56**	**50**	⇓P	**Pn**	**07 50 41.0**	**-0.9**
	SNR=4.5						
GANJ				⇓S	**Sn**	**07 51 14.5**	**+1.0**
EPOS	**Posof**	**2.59**	**343**	*e*P	**Pb**	**07 50 46.5**	**-0.1**
MAZI	**Mazidag**	**3.03**	**240**	PN	**Pn**	**07 50 49.2**	**+0.8**
MAZI	**Mazidag**	**3.03**	**240**	*e*Pn	**Pn**	**07 50 49.2**	**+0.8**
PTK	**Pertek**	**3.39**	**269**	PN	**Pn**	**07 50 54.5**	**+1.0**
PTK	**Pertek**	**3.39**	**269**	*e*Pn	**Pn**	**07 50 54.5**	**+1.0**

NIED ***11*** *07:51:00,38.°50N×144.°10E, h5km, Mw3.6 Best double couple: M0 2.92000×10^14 NP1:φs138.00000°, δ69.00000°, λ-177.00000°. NP2:φs47.00000°, δ87.00000°, λ-21.00000°.*

JMA 11 07:51:40.6±0.1,38.°53N×144.°08E, h40km, M4.4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.96**	**287**	P	Pn	07 52 12.6	+1.2
OFUJ				*e*S	Sn	07 52 36.5	+1.8
MIYJ	**Miyakonagasawa**	**2.05**	**301**	P	Pn	07 52 13.6	+1.1
MIYJ				*e*S	Sn	07 52 37.4	+0.6
JMK	**Ichinoseki**	**2.28**	**282**	P	Pn	07 52 17.3	+1.6
JMK				*e*S	Sn	07 52 44.4	+1.9
JOM	**Ohasama**	**2.37**	**294**	P	Pn	07 52 18.4	+1.5
JOM				*e*S	Sn	07 52 46.8	+2.1
JOU	**Okura**	**2.69**	**268**	P	Pn	07 52 22.9	+1.6
JOU				*e*S	Sn	07 52 54.6	+1.9
JRG	**Rokugo**	**2.82**	**289**	P	Pn	07 52 25.4	+2.2
JRG				*e*S	Sn	07 52 58.7	+2.8
JYK	**Kaneyama**	**2.94**	**279**	P	Pn	07 52 26.8	+2.1
JYK				*e*S	Sn	07 53 01.0	+2.2
JFT	**Otama**	**3.12**	**252**	P	Pn	07 52 29.6	+2.3
JFT				*e*S	Sn	07 53 05.2	+1.8
JAH	**Hinai**	**3.14**	**303**	*e*S	Sn	07 53 05.8	+2.0
JTM	**Tenmabayashi**	**3.24**	**315**	P	Pn	07 52 30.0	+1.1
JTM				S	Sn	07 53 06.6	+0.4
JOT	**Ohata**	**3.68**	**322**	P	Pn	07 52 36.1	+1.2
JOT				*e*S	Sn	07 53 15.5	-1.6
JCH	**Churui**	**4.12**	**353**	P	Pn	07 52 39.7	-1.2
JCH				*e*S	Sn	07 53 24.8	-3.0
JRY	**Ryogami san**	**4.83**	**240**	P	Pn	07 52 52.1	+1.3
NEM2	**Nemuro 2**	**4.99**	**14**	P	Pn	07 52 49.7	-3.2
NEM2				*e*S	Sn	07 53 42.7	-6.6
MAT	**Matsushiro**	**5.07**	**249**	P	Pn	07 52 57.0	+2.9
MAT				*e*S	Sn	07 53 55.8	+4.4
JOD2	**Odawara 2**	**5.16**	**232**	*e*S	Sn	07 53 52.1	-1.5
JTKR	**Abashiri--Toko**	**5.44**	**359**	P	Pn	07 52 57.6	-1.5
JTKR				*e*S	Sn	07 53 56.0	-4.3

MEX 11 07:53:46.6±0.4,14.°85N×93.°24W, h16km±21km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.85**	**2**	*e*P	Pb	07 53 60.0	-3.1
PCIG				*i* S	Sb	07 54 10.6	-3.7
CCIG	**Comitan**	**1.78**	**37**	*e*P	Pn	07 54 13.8	-3.2
CCIG				*i* S	Sn	07 54 34.8	-4.6
TGIG		**1.93**	**3**	*i* P	Pn	07 54 14.7	-4.1
TGIG				*i* S	Sn	07 54 37.1	-5.7

MAN 11 07:59:24,13.°46N×121.°25E, h29km, mb4.0, ML2.7, MS2.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.29**	**278**	*e*P	Pb	07 59 29.4	-1.9
PGP				*i* S	Sb	07 59 33.6	-2.6
BOAC	**Boac**	**0.58**	**90**	*e*P	Pn	07 59 36.4	+0.2
BOAC				*e*S	Sn	07 59 46.2	+1.5
SJMP	**San Jose**	**1.00**	**187**	*e*P	Pn	07 59 41.5	-0.6
SJMP				*e*S	Sb	07 59 58.0	+2.4
LUBP	**Lubang**	**1.01**	**286**	*e*P	Pn	07 59 42.0	-0.3
LUBP				*e*S	Sn	07 59 55.6	0.0
BUSP	**Coron**	**1.78**	**215**	*e*P	Pn	07 59 53.7	+0.9
BUSP				*e*S	Sn	08 00 15.0	+0.6

IDC ***11*** *08:12:25.4±1.1, 12.°07N×123.°46E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.5/65, mbtmp3.8/6, ML4.5/1, MS3.0/5, Ms1 3.1/5, ms1mx2.7/66, Error ellipse: s-maj=51.7km s-min=15.5km az=55.0*
ISCJB ***11*** *08:12:26.3±0.6, 12.°36N±0.°03×123.°66E±0.°03, h12km±3km, mb3.8/5, MS2.9/5, Error ellipse: s-maj=4.9km s-min=4.6km az=28.3*
MAN ***11*** *08:12:26, 12.°37N×123.°66E, h13km, mb5.2, ML4.1, MS4.2*

ISC 11 08:12:26.1±0.9,12.°27N±0.°03×123.°62E±0.°03, h9km±6km, n37,σ1.69/38,mb3.7/5,MS2.7/5,6C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.09**	**360**	⇓*i* P	**Pg**	**08 12 28.9**	**+0.4**
MMPH				*i* S	**Sg**	**08 12 30.7**	**+0.6**
CNP	**Catarman**	**1.04**	**77**	*e*P	**Pg**	**08 12 45.1**	**-1.1**
CNP				*e*S	**Sg**	**08 12 59.7**	**0.0**
RCP	**Roxas**	**1.11**	**231**	⇑*e*P	**Pn**	**08 12 48.6**	**+0.8**
RCP				*i* S	**Sn**	**08 13 06.0**	**+2.7**
AUQP	**San Andres**	**1.40**	**319**	*e*P	**Pn**	**08 12 51.8**	**0.0**
AUQP				*e*S	**Sg**	**08 13 12.8**	**+1.7**
PVCP	**Virac**	**1.42**	**21**	*e*P	**Pn**	**08 12 50.0**	**-2.0**
PVCP				*e*S	**Sn**	**08 13 07.4**	**-3.4**
OCLP	**Ormoc**	**1.55**	**141**	*e*P	**Pb**	**08 12 54.5**	**-0.4**
OCLP				*e*S	**Sg**	**08 13 19.9**	**+3.9**
OTRP	**Odiongan**	**1.57**	**273**	*e*P	**Pb**	**08 12 53.7**	**-1.6**
OTRP				*e*S	**Sg**	**08 13 17.1**	**+0.5**
PLP	**Palo**	**1.72**	**129**	⇑*i* P	**Pn**	**08 12 56.6**	**+0.4**
PLP				*i* S	**Sb**	**08 13 20.1**	**+0.4**
BESP	**Borongan**	**1.90**	**110**	*e*P	**Pn**	**08 12 58.7**	**+0.1**
LLP	**Lapu-Lapu**	**1.97**	**170**	⇑*e*P	**Pb**	**08 13 00.9**	**-1.3**
LLP				*e*S	**Sg**	**08 13 27.8**	**-1.7**
GQP	**Guinayangan**	**1.99**	**325**	⇑*i* P	**Pn**	**08 12 58.9**	**-1.0**
GQP				*i* S	**Sn**	**08 13 24.8**	**-0.2**
BOAC	**Boac**	**2.10**	**304**	*e*P	**Pn**	**08 13 00.7**	**-0.7**
BOAC				*e*S	**Sg**	**08 13 32.2**	**-1.5**
JAP	**San Jose, Anti**	**2.23**	**228**	⇑*e*P	**Pg**	**08 13 07.5**	**-1.5**
JAP				*e*S	**Sg**	**08 13 33.9**	**-4.1**
MSLP	**Maasin**	**2.44**	**150**	*e*P	**Pn**	**08 13 06.8**	**+0.6**
SJMP	**San Jose**	**2.46**	**275**	*e*P	**Pn**	**08 13 07.0**	**+0.6**
TBP	**Tagbilaran**	**2.57**	**175**	*e*P	**Pb**	**08 13 09.5**	**-3.0**
LQP	**Lukban**	**2.73**	**312**	⇓*e*P	**Pb**	**08 13 15.8**	**+0.5**
TGY	**Tagaytay City**	**3.19**	**305**	Pn	**Pn**	**08 13 17.8**	**+1.3**
	55nm,0.3s,baz=148,slow=9.5,SNR=3.0						
TGY				Lg	Lg	08 14 07.9	
	21nm,0.3s,baz=175,slow=12,SNR=3.1						
BUSP	**Coron**	**3.36**	**266**	*e*P	**Pn**	**08 13 19.5**	**+0.7**
DCPH	**Dipolog City**	**3.67**	**184**	⇑*e*P	**Pn**	**08 13 24.2**	**+1.1**
ENPP	**El Nido**	**4.25**	**256**	*e*P	**Pn**	**08 13 31.8**	**+0.8**
GUMO	**Guam**	**20.75**	**84**	LR	LR	08 26 29.5	
	comp=Z,18nm,18.1s,baz=35,slow=40						
JNU	**Nakatsue**	**21.79**	**17**	LR	LR	08 26 21.7	
	comp=Z,27nm,18.5s,baz=117,slow=38						
CMAR	**Chiang Mai Arr**	**24.57**	**288**	LR	LR	08 26 31.6	
	comp=Z,28nm,18.4s,baz=178,slow=35						
KSRS	**Korea Array**	**25.37**	**8**	LR		08 26 55.7	
	comp=Z,23nm,21.6s,baz=125,slow=34						
WRA	**Warramunga Arr**	**33.70**	**162**	P	**P**	**08 19 06.8**	**-1.1**
	0.6nm,0.6s,baz=340,slow=9.5,SNR=9.0						
ASAR	**Alice Springs**	**37.10**	**164**	P	**P**	**08 19 37.0**	**0.0**
	1.1nm,0.6s,baz=345,slow=7.2,SNR=24						
H11S3	**WAKE ISLAND Hy**	**41.90**	**76**	T	T	09 04 16.9	
	baz=280,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**41.91**	**76**	T	T	09 04 13.9	
	baz=280						
H11S2	**WAKE ISLAND Hy**	**41.92**	**76**	T	T	09 04 19.6	
	baz=280						
H11N1	**WAKE ISLAND Hy**	**42.15**	**74**	T	T	09 04 37.2	
	baz=267,slow=74,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**42.16**	**74**	T	T	09 04 37.6	
	baz=267,slow=74,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**42.17**	**74**	T	T	09 04 37.9	
	baz=267,slow=74,SNR=6.1						
MKAR	**Makanchi Array**	**48.88**	**323**	P	**P**	**08 21 12.6**	**+0.3**
	1.0nm,0.8s,baz=125,slow=7.2,SNR=4.3						
KURBB	**Kurchatov Arra**	**52.96**	**326**	P	**P**	**08 21 43.5**	**+0.7**
	0.8nm,0.9s,baz=127,slow=7.3,SNR=4.2						
GEYT	**Alibeck**	**63.28**	**306**	LR	LR	08 53 06.4	
	comp=Z,73nm,18.8s,baz=345,slow=39						
YKA	**Yellowknife Ar**	**92.98**	**23**	P	**P**	**08 25 42.4**	**+2.8**
	0.2nm,0.7s,baz=303,slow=4.6,SNR=3.6						

NEIC 11 08:20:36.0±0.0,12.°54S×77.°13W, h52km, mb4.2/5, ML3.8(ARE), After ARE., Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.61**	**27**	*e*Pn	Pn	08 20 46.2	-2.6
NNA				*e*Sn	Sn	08 20 55.0	-3.1
OTAV	**Otavalo**	**12.76**	**354**	*e*Pn	Pn	08 23 30.7	-4.5
LCO	**Las Campanas**	**17.45**	**161**	*e*Pn	P	08 24 36.5	-0.2
	46nm,1.9s						
ROSC	**El Rosal**	**17.49**	**9**	*e*Pn	Pn	08 24 31.6	-5.1
	6.1nm,1.4s						
RUSC	**La Rusia**	**18.75**	**13**	*e*P	P	08 24 46.6	-4.7
	4.7nm,1.4s						
MPR	**Mayaguez**	**32.10**	**18**	*e*P	P	08 26 56.2	-2.2
	25nm,0.9s						
SJG	**San Juan**	**32.33**	**20**	*e*P	P	08 26 59.0	-1.4
	24nm,1.4s						

NIED ***11*** *08:33:00,42.°60N×143.°30E, h68km, Mw4.4 Best double couple: M0 4.02000×10^15 NP1:φs85.00000°, δ29.00000°, λ-145.00000°. NP2:φs323.00000°, δ74.00000°, λ-66.00000°.*
BJI ***11*** *08:33:03.1,42.°54N×143.°43E, h72km, mb4.9/43, mB5.0/32, Ms4.2/10, Ms7 4.0/9*
ISCJB ***11*** *08:33:05.2±0.2,42.°52N±0.°02×143.°26E±0.°03, h76km±1km, mb4.6/111, Error ellipse: s-maj=4.7km s-min=2.6km az=145.8*
MOS ***11*** *08:33:05.0±0.8,42.°50N×143.°28E, h78km, mb4.9/46, Error ellipse: s-maj=6.9km s-min=4.8km az=81.2*
IDC ***11*** *08:33:06.5±0.6,42.°59N×143.°25E, h73km±5km, mb4.2/36, mb1 4.3/40, mb1mx4.1/77, mbtmp4.5/40, MS3.1/11, Ms1 3.1/11, ms1mx2.9/67, Error ellipse: s-maj=9.6km s-min=7.1km az=73.0*
JMA ***11*** *08:33:06.8±0.1,42.°54N×143.°27E, h63km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs318.00000°, δ72.00000°, λ-47.00000°. NP2:φs66.00000°, δ46.00000°, λ-155.00000°. Principal axes: T Plg16.0000°, Azm18.0000°; N Plg41.0000°, Azm122.0000°; P Plg45.0000°, Azm271.0000°;*
JMA Felt III J1.
NEIC ***11*** *08:33:06.7±0.3,42.°58N×143.°20E, h74km±3km, mb4.7/50 Error ellipse: s-maj=4.1km s-min=2.7km az=142.0*
NEIC Felt at Obihiro. Recorded [3 JMA] in southern and southeastern Hokkaido.

ISC 11 08:33:06.3±0.4,42.°53N±0.°04×143.°29E±0.°03, h73km±3km, h73km:pP-P,n255,σ0.92/298,mb4.7/111,19C-22D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**0.10**	**35**	⇓P	**Pn**	**08 33 16.0**	**-0.9**
JCH				*e*S	**Sn**	**08 33 23.4**	**-1.2**
JNBK	**Urakawa-nobuka**	**0.47**	**238**	⇑P	**Pn**	**08 33 19.0**	**0.0**
JNBK				*e*S	**Sn**	**08 33 27.6**	**-0.8**
JEM	**Erimo**	**0.53**	**190**	⇓P	**Pn**	**08 33 19.2**	**-0.4**
ERM	**Erimo**	**0.53**	**190**	⇑*e*PN	**Pn**	**08 33 19.3**	**-0.3**
ERM	**Erimo**	**0.53**	**190**	*e*Pn	**Pn**	**08 33 20.3**	**+0.8**
ERM				*e*Sn	**Sn**	**08 33 29.7**	**+0.3**
JOB	**Onbets**	**0.55**	**47**	⇓P	**Pn**	**08 33 20.0**	**+0.2**
JOB				*e*S	**Sn**	**08 33 30.1**	**+0.3**
JBT2	**Biratori 2**	**0.72**	**290**	⇓P	**Pn**	**08 33 21.4**	**-0.2**
JBT2				*e*S	**Sn**	**08 33 33.0**	**0.0**
JFR	**Furan**	**0.81**	**321**	⇓P	**Pn**	**08 33 21.6**	**-1.1**
JFR				*e*S	**Sn**	**08 33 33.5**	**-1.3**
JAR	**Ashorobuto**	**0.84**	**25**	⇑P	**Pn**	**08 33 22.9**	**-0.1**
JAR				*e*S	**Sn**	**08 33 35.0**	**-0.4**
JAK	**Akkeshi**	**1.14**	**65**	⇓P	**Pn**	**08 33 26.1**	**-0.5**
JAK				*e*S	**Sn**	**08 33 41.3**	**-0.5**
JAB	**Ashibetsu**	**1.25**	**322**	P	**Pn**	**08 33 28.5**	**+0.5**
JEW	**Eniwo**	**1.39**	**283**	P	**Pn**	**08 33 30.9**	**+1.1**
JKK2	**Kamakawa 2**	**1.40**	**344**	⇑P	**Pn**	**08 33 30.2**	**+0.2**
JMP	**Maruseppu**	**1.48**	**2**	⇑P	**Pn**	**08 33 31.3**	**+0.3**
JNK	**Nakash**	**1.49**	**44**	⇑P	**Pn**	**08 33 30.8**	**-0.3**
JNK				*e*S	**Sn**	**08 33 49.1**	**-0.8**
JTKR	**Abashiri--Toko**	**1.51**	**17**	⇑P	**Pn**	**08 33 31.8**	**+0.4**
JTKR				*e*S	**Sn**	**08 33 50.9**	**+0.6**
ASAJ	**Asahikawa**	**1.66**	**343**	P	**Pn**	**08 33 34.2**	**+0.8**
	242nm,0.3s,baz=194,slow=11,SNR=1710						
ASAJ				S	**Sn**	**08 33 52.9**	**-1.1**
	161nm,0.3s,baz=174,slow=12,SNR=12						
ASAJ	**Asahikawa**	**1.66**	**343**	*e*Pn	**Pn**	**08 33 34.3**	**+0.9**
ASAJ				*e*Sn	**Sn**	**08 33 52.5**	**-1.5**
GLVR	**Golovnino**	**2.03**	**53**	⇑*i*PN	**Pn**	**08 33 38.5**	**+0.2**
GLVR

comp=E,23nm,1.0s
NKL pmax pmax
comp=Z,100nm,1.0s
SKR Severo-Kuril's 12.00 43 *e*PN **Pn** **08 35 53.7 -0.5**
SKR pmax pmax
comp=Z,300nm,3.0s
SKR pmax pmax
comp=Z,141nm,0.9s
SKR MLR MLR
comp=Z,200nm,16.0s
KSRS Korea Array 12.82 252 P **Pn** **08 36 05.7 +0.3**
comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=6.5
KSRS LR LR 08 40 54.5
comp=Z,88nm,18.5s,baz=58,slow=36
KSAR Wonju Array Be 12.85 252 PN **Pn** **08 36 05.7 -0.2**
KSAR Wonju Array Be 12.85 252 P **Pn** **08 36 05.7 -0.2**
JNU Nakatsue 13.57 230 LR LR 08 41 26.1
comp=Z,85nm,20.9s,baz=117,slow=37
PEA0B Petropavlovsk- 14.31 37 *e*Pn **Pn** **08 36 24.6 -0.4**
PETK Petropavlovsk- 14.31 37 P **Pn** **08 36 22.1 -3.0**
comp=Z,1.2nm,0.3s,baz=203,slow=8.2,SNR=18
PETK LR LR 08 41 37.0
comp=Z,93nm,20.7s,baz=235,slow=36
PETK Petropavlovsk- 14.31 37 *e*P **Pn** **08 36 21.8 -3.3**
PETK Petropavlovsk- 14.31 37 *e*Pn **Pn** **08 36 21.8 -3.3**
PET Petropavlovsk 14.69 39 *e*P **Pn** **08 36 29.4 -0.6**
PET *e*S **Sn** **08 39 11.4 -0.1**
PET pmax pmax
comp=Z,10.0nm,0.5s
PET MLR MLR
comp=Z,100nm,18.0s
PET Petropavlovsk 14.69 39 *e*Pn **Pn** **08 36 30.0 0.0**
MA2 Magadan 17.68 13 P **P** **08 37 05.6 -1.7**
comp=Z,2.7nm,0.3s,baz=198,slow=9.2,SNR=27
MA2 LR LR 08 43 37.9
comp=Z,44nm,20.2s,baz=202,slow=36
MA2 Magadan 17.68 13⇓*e*P **P** **08 37 05.3 -2.0**
SEY Seymchan 21.12 12 P **P** **08 37 42.9 -1.8**
comp=Z,30nm,0.4s,baz=189,slow=10,SNR=145
YAK Yakutsk 21.14 342 *e*P P 08 38 02.5 +18
YAK *e* 08 41 27.1
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.0s
NJ2 Nanjing 22.00 250 *e*P **P** **08 37 54.2 -0.2**
NJ2 pmax pmax
comp=E,17nm,0.5s
ULN Ulaanbaatar 25.92 294⇑*i*P **P** **08 38 31.6 0.0**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 25.92 294 *e*P **P** **08 38 31.6 0.0**
comp=Z,9.9nm,1.2s
WHN Wuhan 26.02 252⇑P **P** **08 38 32.8 +0.4**
SONA1 Songino Array 26.36 294 *e*P **P** **08 38 35.1 -0.4**
SONM Songino Array 26.36 294 P **P** **08 38 35.6 +0.1**
comp=Z,3.2nm,0.4s,baz=86,slow=8.4,SNR=30
SONM LR LR 08 49 44.6
comp=Z,61nm,19.5s,baz=61,slow=38
XAN Xi'an 28.12 264 P **P** **08 38 51.0 -0.3**
XAN pmax pmax
comp=Z,8.0nm,0.6s
XAN pmax pmax
comp=Z,150nm,4.9s
TLY Talaya 28.18 303 *e*P **P** **08 38 51.8 +0.1**
TLY pmax pmax
comp=Z,4.0nm,1.1s
BILL Bilibino 28.35 18 *i*P **P** **08 38 52.9 -0.1**
BILL pmax pmax
comp=Z,2.0nm,0.8s
BILL MLR MLR
comp=Z,46nm,18.0s
ENH Enshi 29.63 257 *e*P **P** **08 39 04.6 -0.2**
TIXI Tiksi 30.05 351 LR LR 08 51 11.3
comp=Z,34nm,20.5s,baz=180,slow=36
H11N2 WAKE ISLAND Hy 30.23 131 T T 09 10 45.9
baz=326,slow=75,SNR=855
H11N1 WAKE ISLAND Hy 30.24 131 T T 09 10 49.2
baz=326,slow=75,SNR=840
H11N3 WAKE ISLAND Hy 30.24 131 T T 09 10 46.0
baz=326,slow=75,SNR=1329
LZH Lanzhou 30.98 271⇓P **P** **08 39 17.8 +1.1**
LZH pP pP 08 39 35.7 +1.7
LZH sP sP 08 39 45.2 +2.7
LZH *e*PP **PnPn** **08 40 21.8 +1.5**
LZH *e*S **S** **08 44 15.0 -1.2**
LZH sS sS 08 44 45.1 -0.8
LZH SS **SnSn** **08 46 03.1 -0.1**
LZH pmax pmax
comp=Z,77nm,1.2s
LZH pmax pmax
comp=Z,360nm,6.4s
LZH LR LR
comp=Z,240nm,10.1s
LZH LR LR
comp=Z,110nm,10.4s
LZH LR LR
comp=Z,160nm,11.7s
H11S1 WAKE ISLAND Hy 31.11 133 T T 09 11 55.5
baz=328,slow=75,SNR=568
H11S3 WAKE ISLAND Hy 31.12 133 T T 09 11 50.7
baz=328,slow=75,SNR=569
H11S2 WAKE ISLAND Hy 31.13 133 T T 09 11 53.6
baz=328,slow=75,SNR=447
GTA Gaotai 32.70 279 *e*P **P** **08 39 32.2 +0.4**
GTA pP pP 08 39 49.4 +0.2
GTA sP sP 08 39 59.4 +1.7
GTA pmax pmax
comp=Z,21nm,0.8s
CD2 Chengdu 33.46 263 *e*P **P** **08 39 37.0 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
KMI Kunming 37.48 256 P **P** **08 40 13.7 +0.6**
KMI pmax pmax
comp=Z,26nm,1.1s
KMI pmax pmax
comp=Z,140nm,5.3s
DGZ Jazzator, Alta 38.59 301 *d i*P **P** **08 40 23.0 +0.9**
DGZ pmax pmax
comp=Z,8.0nm,0.7s
DAV Davao City (W) 38.63 209 LR LR 08 56 13.0
comp=Z,17nm,21.4s,baz=4.0,slow=36
ZAA0 Zalesovo Array 39.49 308 *e*P **P** **08 40 29.3 0.0**
comp=Z,6.6nm,0.9s
ZALV Zalesovo Beam 39.49 308 P **P** **08 40 29.1 -0.2**
comp=Z,2.8nm,0.3s,baz=92,slow=8.0,SNR=10.0
ZALV PcP **PcP** **08 42 36.1 +0.5**
comp=Z,4.5nm,0.8s,baz=105,slow=2.0,SNR=6.1
ZALV ScP **ScP** **08 46 17.9 +0.3**
comp=Z,0.7nm,0.6s,baz=124,slow=8.0,SNR=4.5
ZALV Zalesovo Beam 39.49 308 *e*P **P** **08 40 28.9 -0.4**
ZALV *e* 08 42 35.8
ZALV 08 46 18.0
ZALV Zalesovo Beam 39.49 308 *e*P **P** **08 40 28.9 -0.4**
ZALV *e*PcP **PcP** **08 42 35.8 +0.2**
ZALV ScP **ScP** **08 46 17.9 +0.3**
WMQ Urumqi 39.91 291 P **P** **08 40 33.2 +0.2**
WMQ pmax pmax
comp=Z,31nm,0.7s
WMQ pmax pmax
comp=Z,470nm,6.1s
WMQ LR LR
comp=Z,190nm,19.7s
WMQ LR LR
comp=Z,180nm,17.7s
TTA Tatalina 40.15 38 *e*P **P** **08 40 35.7 +0.9**
TTA pmax pmax
comp=Z,31nm,1.6s
TTA Tatalina 40.15 38 *e*P **P** **08 40 35.7 +0.9**
comp=Z,31nm,1.6s
IM3 Indian Mountai 41.23 34 *e*P **P** **08 40 43.4 -0.2**
CAST Castle Rocks 41.93 37 *e*P **P** **08 40 50.2 +0.9**
comp=Z,9.3nm,0.6s
SPU Mount Spurr 42.06 41 *e*P **P** **08 40 51.2 +0.8**
KDAK Kodiak Island 42.14 46 P **P** **08 40 51.1 0.0**
comp=Z,4.0nm,0.4s,baz=347,slow=1.7,SNR=4.6
KDAK Kodiak Island 42.14 46 *i*P **P** **08 40 51.3 +0.3**
BPAW Bear Paw Mtn. 42.39 36 *e*P **P** **08 40 53.6 +0.5**
comp=Z,5.5nm,0.9s
KTH Kantishna Hill 42.44 37 *e*P **P** **08 40 54.3 +0.7**
comp=Z,14nm,0.8s
MLY Manley 42.47 35 *e*P **P** **08 40 54.0 +0.2**
comp=Z,7.4nm,0.9s
MK31 Makanchi Array 42.64 297 *i*P **P** **08 40 54.9 -0.4**
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 42.64 297 *e*P **P** **08 40 55.1 -0.2**
MKAR Makanchi Array 42.64 297 P **P** **08 40 55.2 -0.1**
comp=Z,9.6nm,0.6s,baz=82,slow=10.0,SNR=133
MKAR PcP **PcP** **08 42 46.4 +0.3**
comp=Z,0.5nm,0.3s,baz=72,slow=5.6,SNR=4.1
MKAR Makanchi Array 42.64 297 *e*P **P** **08 40 55.1 -0.1**
comp=Z,110nm,0.4s
MKAR PcP **PcP** **08 42 46.4 +0.3**
MK01 Makanchi Array 42.64 297 *e*P **P** **08 40 55.1 -0.3**
COLD Coldfoot 42.69 32 *e*P **P** **08 40 55.0 -0.4**
comp=Z,5.4nm,1.0s
MAKZ Makanchi 42.84 298 *e*P **P** **08 40 56.9 -0.1**
MAKZ pmax pmax
comp=Z,21nm,1.1s
MAKZ Makanchi 42.84 298 *e*P **P** **08 40 56.9 -0.1**
comp=Z,21nm,1.1s
TOLK Toolik Lake Re 42.95 30 *e*P **P** **08 40 57.2 -0.3**
comp=Z,12nm,1.4s
MCK McKinley 43.32 37 *e*P **P** **08 41 00.8 +0.2**
MCK pmax pmax
comp=Z,9.0nm,0.6s
MCK McKinley 43.32 37 *e*P **P** **08 41 00.8 +0.2**
comp=Z,9.2nm,0.6s
RND Reindeer 43.38 37 *e*P **P** **08 41 01.6 +0.5**
RND pmax pmax
comp=Z,11nm,1.0s
RND Reindeer 43.38 37 *e*P **P** **08 41 01.6 +0.5**
comp=Z,10nm,1.0s
CMAI Chiengmai2 43.41 253 P **P** **08 41 03.0 +1.0**
comp=Z,77nm,1.0s,comp=Z,23µmcomp=Z,0.3nm
SEW Seward 43.45 42 *e*P **P** **08 41 02.5 +0.9**
MDM Murphy Dome 43.54 35 *e*P **P** **08 41 02.8 +0.4**
comp=Z,7.7nm,0.8s
COLA College 43.71 35 *e*P **P** **08 41 04.1 +0.5**
COLA pmax pmax
comp=Z,15nm,0.7s
COLA College 43.71 35 *e*P **P** **08 41 04.0 +0.5**
comp=Z,15nm,0.7s
CCB Clear Creek Bu 43.74 36 *e*P **P** **08 41 02.9 -1.0**
comp=Z,15nm,1.4s
SML Sawmill 43.77 40 *e*P **P** **08 41 04.3 0.0**
SML pmax pmax
comp=Z,16nm,0.6s
SML Sawmill 43.77 40 *e*P **P** **08 41 04.2 0.0**
comp=Z,16nm,0.6s
KURK Kurchatov 43.86 304 *d i*P **P** **08 41 04.7 -0.4**
KURK pmax pmax
comp=Z,29nm,0.8s
KURK Kurchatov 43.86 304 *e*P **P** **08 41 04.8 -0.2**
comp=Z,27nm,0.8s
KURBB Kurchatov Arra 43.94 304 P **P** **08 41 05.5 -0.2**
comp=Z,31nm,0.7s,baz=75,slow=8.7,SNR=106
DHY Denali Highway 44.08 38 *e*P **P** **08 41 06.8 0.0**
comp=Z,9.8nm,0.6s
IL1 Eielson Array 44.13 35 *e*P **P** **08 41 07.0 0.0**
ILAR Eielson Array 44.13 35 P **P** **08 41 06.9 -0.1**
comp=Z,8.2nm,0.5s,baz=255,slow=5.7,SNR=194
ILB Eielson Array 44.13 35 *e*P **P** **08 41 06.9 -0.1**
CHAI Chaiyaphum 44.13 246 P **P** **08 41 08.1 +0.5**
comp=Z,7.5nm,0.8s,comp=Z,81nmcomp=Z,0.0nm
HDA Harding Lake 44.13 36 *e*P **P** **08 41 07.2 +0.1**
comp=Z,14nm,0.5s
CMMT Chiang Mai 44.22 252 P **P** **08 41 08.1 -0.2**
comp=Z,14nm,0.7s,comp=Z,0.0nm
CHTO Chiang Mai 44.22 252 P **P** **08 41 09.2 +0.9**
comp=Z,61nm,0.7s,comp=Z,0.2nm
CHTO Chiang Mai 44.22 252 *e*P **P** **08 41 08.4 +0.1**
CHTO pmax pmax
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 44.22 252 *e*P **P** **08 41 08.4 +0.1**
comp=Z,8.7nm,0.6s
PHIT Phitsanulok 44.30 249 P **P** **08 41 10.3 +1.4**
comp=Z,10nm,1.0s,comp=Z,0.0nm
CMAR Chiang Mai Arr 44.46 251 P **P** **08 41 11.1 +0.8**
comp=Z,3.0nm,0.6s,baz=44,slow=7.6,SNR=17
CMAR LR LR 08 59 43.9
comp=Z,29nm,18.1s,baz=38,slow=36
FYU Fort Yukon 44.67 33 *e*P **P** **08 41 11.8 +0.6**
comp=Z,9.5nm,0.7s
KLU Klutina 44.96 40 *e*P **P** **08 41 13.8 0.0**
comp=Z,32nm,1.3s
RIDG Independ'e Rid 45.13 37 *e*P **P** **08 41 15.4 +0.4**
comp=Z,8.8nm,0.5s
BMRM Bremner River 45.67 40 *e*P **P** **08 41 20.1 +0.7**
PDGK Podgornoye 45.68 294 *i*P **P** **08 41 18.8 -1.0**
PDGK pmax pmax
comp=Z,5.0nm,0.7s
EGAK Eagle 46.56 35 *e*P **P** **08 41 26.4 +0.2**
comp=Z,38nm,1.8s
KDJ Kajisay 47.71 293 P **P** **08 41 35.7 0.0**
BVA0 Borovoye Array 48.08 309 P **P** **08 41 38.1 -0.1**
BVA0 pmax pmax
comp=Z,6.0nm,0.4s
BVAR Borovoye Array 48.08 309 P **P** **08 41 38.3 +0.1**
comp=Z,10nm,0.3s,baz=80,slow=9.7,SNR=79
BVAR PcP **PcP** **08 43 05.3 +0.5**
comp=Z,2.4nm,0.7s,baz=92,slow=4.5,SNR=4.7
BRVK Borovoye 48.13 309 *de*P **P** **08 41 38.7 +0.1**
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK Borovoye 48.13 309 *e*P **P** **08 41 38.3 -0.3**
comp=Z,7.7nm,0.4s
JIRN Jiri 48.15 271 *e*P **P** **08 41 39.4 -0.1**
comp=Z,22nm,0.4s
GUN Gumba 48.24 272 *e*P **P** **08 41 40.5 +0.3**
comp=Z,76nm,0.6s
TKM2 Tokmak 2 48.46 295 *i*P **P** **08 41 41.8 +0.3**
TKM2 pmax pmax
comp=Z,13nm,0.6s
OTUK Ortayu 48.53 303 P **P** **08 41 41.5 -0.3**
OTUK pmax pmax
comp=Z,8.0nm,0.6s
KKN Kakani 48.75 272 *e*P **P** **08 41 44.2 +0.3**
PKI Pulchoki 48.78 272 *e*P **P** **08 41 44.1 -0.2**
comp=Z,12nm,0.5s
PKIN Phulchoki 48.78 272 *e*P **P** **08 41 44.0 -0.3**
comp=Z,8.2nm,0.4s
INK Inuvik 48.87 29 *e*P **P** **08 41 43.9 -0.1**
INK pmax pmax
comp=Z,12nm,0.4s
INK Inuvik 48.87 29 *e*P **P** **08 41 43.9 -0.1**
comp=Z,12nm,0.4s
DMN Daman 48.98 272 *e*P **P** **08 41 46.0 +0.3**
comp=Z,21nm,0.6s
HYT Haines Junctio 49.08 40 *e*P **P** **08 41 46.8 +0.8**
comp=Z,25nm,0.7s
GKN Gorkha 49.11 273 *e*P **P** **08 41 47.1 +0.5**
AAK Ala-Archa 49.32 295 P **P** **08 41 47.9 -0.1**
comp=Z,1.6nm,0.3s,baz=125,slow=4.3,SNR=8.5
AAK Ala-Archa 49.32 295 *de*P **P** **08 41 47.8 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 49.32 295 *e*P **P** **08 41 47.5 -0.5**
comp=Z,3.2nm,0.8s
DANN Dangsing 49.57 274 *e*P **P** **08 41 51.0 +0.7**
comp=Z,5.8nm,0.8s
KSH Kashi 49.66 291 P **P** **08 41 54.1 +3.5**
KSH pP sP 08 42 13.1 -4.1
KSH ScP **ScP** **08 47 00.0 +0.2**
KSH S **S** **08 48 55.7 +1.9**
KSH sS sS 08 49 28.1 +3.2
KSH ScS **ScS** **08 51 35.1 -0.2**
KSH pmax pmax
comp=Z,13nm,1.3s
KSH pmax pmax
comp=Z,120nm,8.7s
KSH LR LR
comp=Z,96nm,6.9s
KSH LR LR
comp=Z,140nm,9.1s
KSH LR LR
comp=Z,150nm,6.3s
KOLN Koldanda 50.00 273 *e*P **P** **08 41 53.8 +0.3**
PYUN Piuthan 50.27 274 *e*P **P** **08 41 55.7 +0.2**
comp=Z,35nm,0.6s
SFK Sufi-Kurgan 51.13 292 *i*P **P** **08 42 01.4 -0.5**
SFK pmax pmax
comp=Z,7.0nm,0.6s
KK31 Karatay Array 51.76 297 *i*P **P** **08 42 05.6 -0.7**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 51.76 297 *e*P **P** **08 42 06.0 -0.3**
KKAR Karatay Array 51.76 297 *e*P **P** **08 42 06.0 -0.3**
ARU Arti 53.29 316 P **P** **08 42 17.1 -0.2**
comp=Z,5.9nm,0.5s,baz=75,slow=5.1,SNR=11
ARU Arti 53.29 316 *d i*P **P** **08 42 16.8 -0.4**
ARU *PP **pP** **08 42 34.7 -1.0**
ARU 08 44 13.6
ARU S **S** **08 49 43.5 +0.5**
ARU SS **SKiKP** **08 53 25.0 -1.5**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 53.29 316 *e*P **P** **08 42 16.9 -0.4**
comp=Z,18nm,1.3s
AB31 Akbulak array 55.60 308 *i*P **P** **08 42 34.0 -0.1**
AB31 pmax pmax
comp=Z,7.0nm,0.4s
ABKAR Akbulak array 55.60 308 *e*P **P** **08 42 34.1 -0.1**
comp=Z,188nm,0.4s
PSI Prapat 55.91 237 P **P** **08 42 37.5 +0.6**
comp=Z,7.4nm,0.6s,baz=1.0,slow=11,SNR=7.6
PSI Prapat 55.91 237 *e*P **P** **08 42 37.5 +0.6**
PSI pmax pmax
comp=Z,11nm,0.7s
PSI Prapat 55.91 237 *e*P **P** **08 42 37.5 +0.6**
comp=Z,10nm,0.7s
AKTO Aktyubinsk 56.16 310 P **P** **08 42 38.2 0.0**
comp=Z,2.3nm,0.5s,baz=81,slow=7.6,SNR=8.6
KBL Kabul 56.92 289 *e*P **P** **08 42 42.7 -1.3**
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 56.92 289 *e*P **P** **08 42 42.7 -1.3**
comp=Z,7.8nm,0.6s
RES Resolute Bay 56.92 16 *e*P **P** **08 42 41.9 -1.3**
RES pmax pmax
comp=Z,8.0nm,0.6s
RES Resolute Bay 56.92 16 *e*P **P** **08 42 41.9 -1.3**
comp=Z,7.6nm,0.6s
YKW3 Yellowknife Ar 58.32 32 *e*P **P** **08 42 53.2 +0.1**
comp=Z,22nm,1.8s
YKA Yellowknife Ar 58.36 32 P **P** **08 42 53.3 -0.1**
comp=Z,2.5nm,0.5s,baz=304,slow=6.8,SNR=52
ARCES ARCESS Array B 59.38 339 P **P** **08 42 59.6 -0.8**
comp=Z,2.4nm,0.8s,baz=69,slow=8.2,SNR=6.7
FITZ Fitzroy Crossi 62.48 199 P **P** **08 43 22.7 +0.7**
comp=Z,1.8nm,0.5s,baz=14,slow=5.2,SNR=6.3
GEYT Alibeck 62.52 297 P **P** **08 43 22.0 -0.2**
comp=Z,4.8nm,0.7s,baz=35,slow=3.6,SNR=14
WRAB Tennant Creek 62.70 189⇓*i*P **P** **08 43 22.9 -0.5**
WRAB pmax pmax
comp=Z,8.0nm,1.0s
WRA Warramunga Arr 62.71 189 P **P** **08 43 23.1 -0.4**
comp=Z,3.7nm,0.5s,baz=7.2,slow=6.8,SNR=84
OBN Obninsk 64.59 322 *e*P **P** **08 43 33.1 -2.4**
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,47nm,9.0s
FINES FINESS Array B 64.64 332 P **P** **08 43 35.1 -0.6**
comp=Z,5.9nm,0.5s,baz=48,slow=7.3,SNR=73
C09A Chrisman Ranch 64.89 47 *e*P **P** **08 43 38.1 +0.4**
comp=Z,5.5nm,0.6s
F07A Phinny Hill Vi 65.10 50 *e*P **P** **08 43 40.1 +1.1**
comp=Z,7.2nm,0.6s
SUMG Summit 65.19 1 *i*P **P** **08 43 39.8 +0.2**
comp=Z,60nm,2.2s
SUMG Summit 65.19 1 *i*P **P** **08 43 39.8 +0.2**
SUMG pmax pmax
comp=Z,60nm,2.2s
SUMG Summit 65.19 1 *e*P **P** **08 43 38.7 -0.9**
comp=Z,9.4nm,1.1s
E08A Dider Farm, El 65.23 49 *e*P **P** **08 43 40.6 +0.7**
comp=Z,4.6nm,0.6s
E09A Wood Farm, Sta 65.73 49 *e*P **P** **08 43 43.3 +0.3**
comp=Z,5.5nm,0.7s
YBH Yreka Blue Hor 65.92 55 P **P** **08 43 45.7 +1.2**
comp=Z,2.1nm,0.8s,baz=321,slow=5.6,SNR=5.9
AS01 Alice Springs 66.43 189 *e*P **P** **08 43 47.4 -0.2**
ASAR Alice Springs 66.43 189 P **P** **08 43 48.1 +0.4**
comp=Z,1.6nm,0.5s,baz=5.5,slow=6.8,SNR=37
JTMT Jette 67.07 46 *e*P **P** **08 43 52.1 +0.4**
comp=Z,4.0nm,0.9s
FFC Flin Flon 68.33 35 *e*P **P** **08 43 59.3 -0.1**
FFC pmax pmax
comp=Z,3.0nm,0.9s
FFC Flin Flon 68.33 35 *e*P **P** **08 43 59.3 -0.1**
comp=Z,3.3nm,0.9s
FCC Fort Churchill 68.46 28 *e*P **P** **08 43 59.9 -0.2**
FCC pmax pmax
comp=Z,20nm,1.5s
FCC Fort Churchill 68.46 28 *e*P **P** **08 43 59.9 -0.2**
comp=Z,20nm,1.5s
HRY Holter Researc 69.02 45 *e*P **P** **08 44 05.1 +1.1**
EGMT Eagleton 69.24 43 *e*P **P** **08 44 05.8 +0.6**
comp=Z,5.5nm,0.7s
LRM Limekiln Ridge 69.26 46 *e*P **P** **08 44 06.6 +0.9**
DLMT Dillon 69.48 47 *e*P **P** **08 44 07.2 +0.3**
comp=Z,4.4nm,0.8s
HFS Hagfors 69.67 336 P **P** **08 44 07.1 -0.6**
comp=Z,3.9nm,0.5s,baz=49,slow=6.7,SNR=36
NB2 NORSAR Subarra 69.67 337 P **P** **08 44 07.2 -0.5**
comp=Z,1.6nm,0.5s,baz=35,slow=6.5
NOA NORSAR Array B 69.67 337 P **P** **08 44 07.5 -0.2**
comp=Z,1.5nm,0.5s,baz=34,slow=6.5,SNR=11
BOZ Bozeman (W) 69.84 46 *e*P **P** **08 44 09.9 +0.8**
BOZ *e*PP **pP** **08 44 28.8 +0.4**
BOZ Bozeman (W) 69.84 46 *e*P **P** **08 44 09.9 +0.8**
BOZ *e*pP **pP** **08 44 28.8 +0.4**
NV01 Mina Array Sit 70.61 55 *e*P **P** **08 44 14.8 +0.8**
NV01 *e*pP **pP** **08 44 33.8 +0.5**
NVAR Mina Array Bea 70.61 55 P **P** **08 44 15.2 +1.2**
comp=Z,2.0nm,0.8s,baz=290,slow=7.3,SNR=14
NVAR pP **PcP** **08 44 34.0 -0.7**
comp=Z,1.8nm,0.7s,baz=288,slow=6.4,SNR=8.3
YHB Horse Butte 70.63 47 *e*P **P** **08 44 15.3 +1.2**
YHB *e*pP **pP** **08 44 34.0 +0.7**
YHH Holmes Hill 70.79 46 *e*P **P** **08 44 16.5 +1.4**
comp=Z,2.9nm,0.9s
AKASG Malin Array Be 70.84 322 P **P** **08 44 14.3 -0.6**
comp=Z,0.9nm,0.3s,baz=40,slow=5.9,SNR=14
AKBB Malin Array Si 70.84 322 *e*P **P** **08 44 14.8 -0.1**
AKBB pmax pmax
comp=Z,21nm,1.4s
AKBB Malin Array Si 70.84 322 *e*P **P** **08 44 14.8 -0.1**
comp=Z,21nm,1.4s
KIEV Kiev 70.85 322⇓*e*P **P** **08 44 14.8 -0.2**
KIEV pmax pmax
comp=Z,32nm,2.7s
KIEV Kiev 70.85 322 *e*P **P** **08 44 14.6 -0.4**
comp=Z,22nm,1.4s
H17A Grant Village 71.20 47 *e*P **P** **08 44 20.4 +2.8**
comp=Z,4.9nm,1.0s
H17A *e*pP **PcP** **08 44 39.0 +1.9**
IMW Indian Meadow 71.33 47 *e*P **P** **08 44 20.1 +1.7**
IMW *e*pP **PcP** **08 44 38.9 +1.1**
FXWY Fox Creek 71.45 47 *e*P **P** **08 44 20.7 +1.6**
comp=Z,2.6nm,0.8s
MOOW Moose Ponds 71.53 47 *e*P **P** **08 44 21.1 +1.5**
MOOW *e*pP **pP** **08 44 39.6 +0.7**
PD31 Pinedale Array 72.83 47 *e*P **P** **08 44 27.7 +0.3**
PDAR Pinedale Array 72.83 47 P **P** **08 44 27.6 +0.3**
comp=Z,0.9nm,0.4s,baz=294,slow=0.5,SNR=20
PDAR pP **pP** **08 44 46.4 -0.3**
comp=Z,2.4nm,0.5s,baz=239,slow=1.6,SNR=11
WMUT West Mountain 73.36 51 *e*P **P** **08 44 30.7 +0.2**
MPU Maple Canyon 73.52 51 *e*P **P** **08 44 32.5 +1.1**
MPU *e*pP **pP** **08 44 51.4 +0.6**
STKA Stephens Creek 74.06 181 P **P** **08 44 34.9 +0.8**
comp=Z,2.6nm,0.8s,baz=336,slow=8.9,SNR=5.1
STKA LR LR 09 24 60.0
comp=Z,13nm,18.0s,baz=22,slow=42
ULM Lac du Bonnet 74.15 35 P **P** **08 44 33.9 -0.7**
comp=Z,1.4nm,0.5s,baz=309,slow=5.2,SNR=5.6
Q16A Castle Valley 74.52 51 *e*P **P** **08 44 34.6 -2.6**
comp=Z,6.9nm,1.1s
BUR08 Bucovina Ar. S 74.88 322 *e*P **P** **08 44 38.8 -0.2**
BUR04 Bucovina Ar. S 74.89 322 *e*P **P** **08 44 38.8 -0.2**
BURAR Bucovina Array 74.89 322⇓*i*P **P** **08 44 39.4 +0.3**
BURAR Bucovina Array 74.89 322⇓P **P** **08 44 39.4 +0.3**
PV10 Paradox Valley 76.11 50 *e*P **P** **08 44 48.0 +1.6**
MLR Muntele Rosu 76.12 320 P **P** **08 44 47.6 +1.5**
comp=Z,0.1nm,0.4s,baz=76,slow=8.3,SNR=2.5
BRTR Keskin Array B 76.28 312 P **P** **08 44 46.8 -0.4**
comp=Z,0.9nm,0.8s,baz=84,slow=5.5,SNR=3.6
DRGR 76.64 323⇓*i*P **P** **08 44 49.9 +0.9**
DRGR 76.64 323⇓P **P** **08 44 49.9 +0.9**
ARR Arges 76.83 321⇑*i*P **P** **08 44 50.9 +0.8**
CLL Collm 77.04 331 *e*P **P** **08 44 50.0 -1.0**

CLL				*e*			08 45 14.0	
CLL	**Collm**	**77.04**	**331**	*e*P	**P**		**08 44 50.0**	**-1.0**
CLL				*e*(pP)	**pP**		**08 45 14.0**	**+3.4**
EKA	**Eskdalemuir Ar**	**78.42**	**341**	P	**P**		**08 44 58.5**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=23,slow=4.8,SNR=11							
KHC	**Kasperske Hory**	**78.60**	**329**	*e*P	**P**		**08 44 59.6**	**-0.2**
KHC				*e*pP	**pP**		**08 45 21.0**	**+1.6**
KHC	**Kasperske Hory**	**78.60**	**329**	*e*P	**P**		**08 44 59.6**	**-0.2**
KHC				*e*			08 45 21.0	
GERES	**GERESS Array B**	**78.78**	**329**	P	**P**		**08 45 00.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=38,slow=6.8,SNR=5.1							
NWAO	**Narrogin (SRO)**	**78.81**	**206**	P	**P**		**08 45 01.4**	**+0.5**
	comp=Z,11nm,0.8s,baz=256,slow=7.5,SNR=7.7							
VTS	**Vitosha**	**79.59**	**319**	⇓*i*P	**P**		**08 45 05.4**	**-0.1**
VTS	**Vitosha**	**79.59**	**319**	⇓P	**P**		**08 45 05.4**	**-0.1**
SCHQ	**Schefferville**	**79.66**	**17**	P	**P**		**08 45 05.0**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=306,slow=5.0,SNR=7.4							
RAYN	**Ar Rayn**	**79.90**	**293**	P	**P**		**08 45 07.6**	**+0.3**
RAYN	**Ar Rayn**	**79.90**	**293**	*e*P	**P**		**08 45 07.6**	**+0.3**
	comp=Z,29nm,1.9s							
MMAI	**Mount Meron Ar**	**79.95**	**306**	P	**P**		**08 45 08.6**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=20,slow=4.6,SNR=2.7							
PDG	**Podgorica**	**81.58**	**322**	⇓*i*P	**P**		**08 45 15.9**	**0.0**
IDI	**Anoyia**	**84.27**	**314**	P	**P**		**08 45 29.0**	**-1.1**
	comp=Z,14nm,0.9s,baz=90,slow=12,SNR=5.6							
TX31	**Lajitas Ar. Si**	**85.66**	**54**	*e*P	**P**		**08 45 37.7**	**+0.5**
TX31				*e*pP	**pP**		**08 45 57.0**	**-0.1**
TX31				*e*pP	**pP**		**08 45 57.3**	**+0.3**
TXAR	**Lajitas Array**	**85.66**	**54**	P	**P**		**08 45 37.9**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=299,slow=3.8,SNR=15							
TXAR				pP	**pP**		**08 45 57.2**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=298,slow=3.1,SNR=7.7							
SNAA	**Sanae**	**146.42**	**199**	PKPbc	**PKPbc**		**08 52 38.1**	**+0.4**
	comp=Z,3.9nm,0.5s,baz=172,slow=5.1,SNR=42							

IDC 11 08:37:28.4±4.0, 20.49S×178.79W, h615km±37km, mb3.3/4, mb1 3.5/4, mb1mx2.8/48, mbtmp4.4/4, Error ellipse: s-maj=138.5km s-min=23.2km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**32.76**	**264**	P		P	08 43 12.6	-0.3
	2.7nm,0.3s,baz=94,slow=12,SNR=7.1							
ASAR	**Alice Springs**	**43.80**	**257**	P		P	08 44 41.8	-0.1
	3.7nm,0.5s,baz=96,slow=7.6,SNR=47							
ASAR				PcP		PcP	08 46 14.5	+0.1
	0.3nm,0.6s,baz=90,slow=4.6,SNR=4.9							
ASAR				S		S	08 50 29.9	+0.3
	0.6nm,0.9s,baz=93,slow=16,SNR=4.1							
WRA	**Warramunga Arr**	**43.87**	**262**	P		P	08 44 42.2	-0.3
	2.2nm,0.3s,baz=97,slow=7.6,SNR=60							
FITZ	**Fitzroy Crossi**	**52.30**	**263**	P		P	08 45 45.4	+0.5
	1.3nm,0.5s,baz=107,slow=7.1,SNR=6.1							
BVAR	**Borovoye Array**	**118.60**	**320**	PKP		PKPdf	08 55 07.0	-0.4
	0.5nm,0.4s,baz=130,slow=3.5,SNR=2.9							
ARCES	**ARCESS Array B**	**128.78**	**349**	PKP		PKPdf	08 55 26.4	0.0
	1.8nm,0.9s,baz=34,slow=3.8,SNR=2.9							
HFS	**Hagfors**	**139.41**	**350**	PKhKP		PKPpre	08 55 39.5	
	1.9nm,0.7s,baz=81,slow=4.5,SNR=5.1							
AKASG	**Malin Array Be**	**142.65**	**331**	PKP		PKPdf	08 55 50.0	-2.6
	1.4nm,0.4s,baz=43,slow=4.4,SNR=13							
BRTR	**Keskin Array B**	**146.28**	**312**	PKPbc		PKPbc	08 56 01.8	0.0
	0.6nm,0.7s,baz=129,slow=3.4,SNR=4.6							
GERES	**GERESS Array B**	**149.99**	**343**	PKPbc		PKPbc	08 56 10.6	-0.1
	0.9nm,1.0s,baz=0.0,slow=4.0,SNR=4.0							

IDC 11 08:39:32.4±5.5, 12.21N×123.59E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/78, mbtmp3.8/4, ML4.7/1, MS2.9/3, Ms1 3.0/3, ms1mx2.5/62, Error ellipse: s-maj=238.8km s-min=29.7km az=49.0

ISCJB 11 08:39:34.0±0.6, 12.34N±0.03×123.68E±0.03, h11km±4km, mb3.7/3, MS2.9/3, Error ellipse: s-maj=5.2km s-min=4.8km az=143.5

MAN 11 08:39:33, 12.35N×123.67E, h11km, mb4.9, ML3.8, MS3.8

ISC 11 08:39:33.9±0.8, 12.33N±0.03×123.67E±0.03, h13km±5km, n23, σ0.85/31, mb3.7/3, MS2.8/3, 5C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MMPH	**Masbate**	**0.05**	**307**	⇓*i*P		**Pg**	**08 39 36.3**	**-0.1**
MMPH				*i* S		**Sg**	**08 39 38.2**	**+0.1**
CNP	**Catarman**	**0.99**	**79**	*e*P		**Pb**	**08 39 52.6**	**-0.3**
CNP				*e*S		**Sg**	**08 40 06.9**	**+0.9**
RCP	**Roxas**	**1.18**	**230**	⇑*e*P		**Pg**	**08 39 56.1**	**-0.5**
RCP				*i* S		**Sn**	**08 40 13.5**	**+1.4**
PVCP	**Virac**	**1.35**	**21**	*e*P		**Pn**	**08 39 57.5**	**-1.0**
PVCP				*e*S		**Sn**	**08 40 16.3**	**+0.1**
AUQP	**San Andres**	**1.38**	**316**	*e*P		**Pb**	**08 39 59.5**	**-0.1**
AUQP				*e*S		**Sg**	**08 40 19.6**	**+1.1**
OCLP	**Ormoc**	**1.57**	**144**	*e*P		**Pb**	**08 40 02.2**	**-0.6**
OCLP				*e*S		**Sg**	**08 40 26.2**	**+1.7**
OTRP	**Odiongan**	**1.61**	**271**	*e*P		**Pn**	**08 40 01.3**	**-0.7**
PLP	**Palo**	**1.73**	**132**	⇑*i*P		**Pn**	**08 40 04.0**	**+0.3**
PLP				*i* S		**Sb**	**08 40 27.4**	**+0.3**
BESP	**Borongan**	**1.88**	**112**	*e*P		**Pn**	**08 40 06.1**	**+0.4**
GQP	**Guinayangan**	**1.97**	**323**	⇑*e*P		**Pn**	**08 40 06.6**	**-0.4**
GQP				*i* S		**Sn**	**08 40 32.5**	**+1.0**
LLP	**Lapu-Lapu**	**2.02**	**172**	⇑*e*P		**Pn**	**08 40 08.3**	**+0.6**
LLP				*e*S		**Sb**	**08 40 34.1**	**-1.5**
JAP	**San Jose, Anti**	**2.30**	**227**	⇑*e*P		**Pb**	**08 40 14.9**	**-0.4**
JAP				*e*S		**Sb**	**08 40 42.8**	**-0.9**
MSLP	**Maasin**	**2.48**	**152**	*e*P		**Pn**	**08 40 14.8**	**+0.9**
MSLP				*e*S		**Sg**	**08 40 52.9**	**-0.6**
TBP	**Tagbilaran**	**2.63**	**176**	*e*P		**Pn**	**08 40 16.8**	**+0.8**
LQP	**Lukban**	**2.73**	**311**	⇓*e*P		**Pn**	**08 40 19.3**	**+1.7**
TGY	**Tagaytay City**	**3.19**	**304**	Pn		**Pn**	**08 40 23.9**	**+0.1**
	80nm,0.3s,baz=270,slow=1.0,SNR=2.4							
BUSP	**Coron**	**3.40**	**265**	*e*P		**Pn**	**08 40 27.0**	**+0.3**
KSRS	**Korea Array**	**25.31**	**8**	LR		LR	08 55 26.5	
	comp=Z,9.7nm,20.0s,baz=175,slow=38							
MJAR	**Matsushiro Arr**	**27.43**	**26**	LR		LR	08 54 29.1	
	comp=Z,26nm,21.6s,baz=300,slow=32							
WRA	**Warramunga Arr**	**33.74**	**162**	P		**P**	**08 46 14.6**	**-0.8**
	0.5nm,0.7s,baz=341,slow=9.5,SNR=3.3							
ASAR	**Alice Springs**	**37.15**	**164**	P		**P**	**08 46 44.7**	**0.0**
	0.8nm,0.6s,baz=345,slow=7.2,SNR=8.1							
STKA	**Stephens Creek**	**47.19**	**159**	P		**P**	**08 48 06.4**	**0.0**
	0.5nm,0.5s,baz=335,slow=14,SNR=2.0							
ILAR	**Eielson Array**	**78.77**	**26**	LR		LR	09 27 56.1	
	comp=Z,22nm,19.6s,baz=43,slow=37							

DDA 11 08:41:27.0, 41.54N×46.74E, h4km, Ml4.0

AZER 11 08:41:27.5±0.0, 41.54N×46.67E, h10km, ml4.4

IDC 11 08:41:27.2±0.5, 41.52N×46.62E, h0km, mb4.0/21, mb1 4.1/28, mb1mx3.9/68, mbtmp4.0/28, ML3.4/8, MS3.5/19, Ms1 3.5/19, ms1mx3.2/61, Error ellipse: s-maj=10.7km s-min=7.7km az=156.0

MOS 11 08:41:28.6±1.5, 41.54N×46.86E, h12km, mb4.3/21, Error ellipse: s-maj=4.7km s-min=3.2km az=102.9

NSSP 11 08:41:28.8, 41.53N×46.62E, h15km, Ms4.3

TIF 11 08:41:28.3, 41.68N×46.72E, h22km±3km

NEIC 11 08:41:28.8±0.5, 41.48N×46.85E, h10km, mb4.5/14, Error ellipse: s-maj=9.6km s-min=5.9km az=173.0

NEIC Felt at Tbilisi, Georgia.

ISCJB 11 08:41:29.9±0.3, 41.65N±0.01×46.75E±0.02, h15km±2km, mb4.2/35, MS3.5/15, Error ellipse: s-maj=2.3km s-min=1.9km az=37.2

CSEM 11 08:41:29.8±0.1, 41.64N×46.69E, h15km, mb4.4/14, ML4.9/6, Error ellipse: s-maj=2.7km s-min=2.6km az=81.0

NNC 11 08:41:32.4±5.3, 41.88N×47.09E, h0km, mb4.5, Error ellipse: s-maj=59.5km s-min=36.0km az=95.0

ISK 11 08:41:48.9, 41.47N×44.83E, h5km, ML3.5/4

ISC 11 08:41:30.7±0.3, 41.55N±0.01×46.67E±0.01, h21km±2km, n297, σ1.92/391, mb4.2/35, MS3.6/15, 57C-50D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SEKA	**Sheki**	**0.53**	**130**	PG		**Pb**	**08 41 40.1**	**-1.2**
SEKA	**Sheki**	**0.53**	**130**	Pg		**Pb**	**08 41 40.1**	**-1.2**
SEKA				⇓S		**Sn**	**08 41 50.7**	**-0.6**
KMKR	**Kumukh**	**0.66**	**29**	⇓*i*PG		**Pb**	**08 41 42.0**	**-1.7**
KMKR				*i* S		**Sb**	**08 41 52.0**	**-0.6**
KMKR	**Kumukh**	**0.66**	**29**	*i* Pg		**Pb**	**08 41 42.0**	**-1.7**
KMKR				*i* Sg		**Sb**	**08 41 52.0**	**-0.6**
AKT	**Akhty**	**0.80**	**95**	⇓*i*PG		**Pb**	**08 41 44.5**	**-1.5**
AKT				*e*			08 41 55.8	
AKT				pmax	pmax			
	comp=Z,2μm,0.2s							
AKT				smax	smax			
	comp=E,7μm,0.3s							
AKT				smax	smax			
	comp=N,10μm,0.4s							
AKT	**Akhty**	**0.80**	**95**	*i* Pg		**Pb**	**08 41 44.5**	**-1.5**
	comp=N,2μm,0.2s							
AKT				*e*Sg		**Sb**	**08 41 55.8**	**-0.7**
	comp=N,10μm,0.4s							
MNGR	**Mingechevir, A**	**0.84**	**158**	PG		**Pb**	**08 41 45.7**	**-0.8**
MNGR	**Mingechevir, A**	**0.84**	**158**	Pg		**Pb**	**08 41 45.7**	**-0.8**
MNGR	**Mingechevir, A**	**0.84**	**158**	⇓P		**Pn**	**08 41 46.7**	**-0.5**
	SNR=28							
MNGR				⇓S		**Sn**	**08 41 58.6**	**-0.3**
GNBR	**Gunib**	**0.86**	**15**	⇓*i*PG		**Pb**	**08 41 45.6**	**-1.4**
GNBR				*e*			08 41 58.2	
GNBR				pmax	pmax			
	comp=Z,3μm,0.7s							
GNBR				smax	smax			
	comp=N,10μm,1.1s							
GNBR	**Gunib**	**0.86**	**15**	*i* Pg		**Pb**	**08 41 45.6**	**-1.4**
	comp=N,3μm,0.7s							
GNBR				*e*Sg		**Sb**	**08 41 58.2**	**0.0**
	comp=N,10μm,1.1s							
GANJ	**Ganja**	**0.94**	**196**	PG		**Pb**	**08 41 47.1**	**-1.2**
GANJ	**Ganja**	**0.94**	**196**	⇑P		**Pb**	**08 41 47.1**	**-1.2**
	SNR=163							
GANJ				⇓S		**Sb**	**08 42 00.1**	**-0.2**
URKR	**Urkarakh**	**0.95**	**49**	⇑*i*PG		**Pb**	**08 41 47.0**	**-1.5**
URKR				*e*S		**Sb**	**08 42 00.5**	**-0.1**
URKR				pmax	pmax			
	comp=Z,3μm,0.2s							
URKR	**Urkarakh**	**0.95**	**49**	*i* Pg		**Pb**	**08 41 47.0**	**-1.5**
	comp=Z,3μm,0.2s							
URKR				*e*Sg		**Sb**	**08 42 00.5**	**-0.1**
XNZR	**Khunzakh**	**0.99**	**2**	⇑*i*PG		**Pb**	**08 41 48.2**	**-1.0**
XNZR				*e*S		**Sb**	**08 42 01.8**	**0.0**
XNZR	**Khunzakh**	**0.99**	**2**	*i* Pg		**Pb**	**08 41 48.2**	**-1.0**
XNZR				*e*Sg		**Sb**	**08 42 01.8**	**0.0**
QBL	**Gabala**	**1.07**	**124**	⇓P		**Pb**	**08 41 49.8**	**-0.7**
	SNR=79							
QBL				⇑S		**Sn**	**08 42 06.0**	**+1.3**
ARKR	**Arakani**	**1.08**	**13**	PG		**Pn**	**08 41 50.0**	**-0.6**
ARKR				*e*S		**Sn**	**08 42 05.0**	**+0.1**
ARKR	**Arakani**	**1.08**	**13**	Pg		**Pn**	**08 41 50.0**	**-0.6**
GDB	**GEDABAY**	**1.08**	**220**	⇑P		**Pb**	**08 41 48.9**	**-1.8**
	SNR=156							
GDB				⇑S		**Sb**	**08 42 04.2**	**-0.2**
QZX	**Qazax, Azerbai**	**1.09**	**244**	⇓P		**Pn**	**08 41 49.4**	**-1.3**
	SNR=446							
QZX				⇑S		**Sn**	**08 42 05.2**	**0.0**
KSMR	**Kasumkent**	**1.10**	**87**	*i* PG		**Pn**	**08 41 50.5**	**-0.3**
KSMR				*e*S		**Sn**	**08 42 07.0**	**+1.6**
KSMR	**Kasumkent**	**1.10**	**87**	*i* Pg		**Pn**	**08 41 50.5**	**-0.3**
KSMR				*e*Sg		**Sn**	**08 42 07.0**	**+1.6**
BTLR	**Botlikh**	**1.16**	**344**	⇑*i*PG		**Pn**	**08 41 50.8**	**-0.9**
BTLR				*e*			08 42 05.4	
BTLR				pmax	pmax			
	comp=Z,1μm,0.4s							
BTLR				smax	smax			
	comp=N,5μm,1.1s							
BTLR	**Botlikh**	**1.16**	**344**	*i* Pg		**Pn**	**08 41 50.8**	**-0.9**
	comp=N,1μm,0.4s							
BTLR				*e*Sg		**Sb**	**08 42 05.4**	**-1.2**
	comp=N,5μm,1.1s							
SGKR	**Sergokala**	**1.17**	**39**	*i* PG		**Pb**	**08 41 52.0**	**-0.2**
SGKR				*e*S		**Sn**	**08 42 10.0**	**+2.9**
SGKR				pmax	pmax			
	comp=Z,3μm,0.4s							
SGKR	**Sergokala**	**1.17**	**39**	*i* Pg		**Pb**	**08 41 52.0**	**-0.2**
	comp=Z,3μm,0.4s							
XNQ	**Khinaliq**	**1.17**	**108**	⇓P		**Pn**	**08 41 51.6**	**-0.4**
	SNR=105							
XNQ				⇓S		**Sn**	**08 42 08.3**	**+0.8**
QSAR	**Qusar**	**1.20**	**91**	⇑P		**Pb**	**08 41 52.6**	**-0.1**
	SNR=154							
QSAR				⇑S		**Sn**	**08 42 09.4**	**+1.5**
KRNR	**Karanay**	**1.29**	**8**	⇑*i*PG		**Pn**	**08 41 53.0**	**-0.5**
KRNR				*e*S		**Sb**	**08 42 11.5**	**+1.2**
KRNR	**Karanay**	**1.29**	**8**	*i* Pg		**Pn**	**08 41 53.0**	**-0.5**
DRN	**Derbent**	**1.33**	**68**	⇓*i*PG		**Pb**	**08 41 55.1**	**+0.2**
DRN				*e*			08 42 13.3	
DRN				pmax	pmax			
	comp=Z,1μm,0.7s							
DRN				smax	smax			
	comp=N,4μm,0.8s							
DRN	**Derbent**	**1.33**	**68**	*i* Pg		**Pb**	**08 41 55.1**	**+0.2**
	comp=N,1μm,0.7s							
DRN				*e*Sg		**Sb**	**08 42 13.3**	**+1.8**
	comp=N,4μm,0.8s							
BRDA	**Brd**	**1.35**	**163**	⇓P		**Pb**	**08 41 55.4**	**+0.2**
	SNR=135							
BRDA				⇑S		**Sb**	**08 42 15.4**	**+3.5**
IML	**Ismayilli**	**1.37**	**123**	⇓P		**Pn**	**08 41 54.7**	**+0.1**
	SNR=97							
IML				⇑S		**Sb**	**08 42 15.0**	**+2.2**
QUBA	**Quba, Azerbaij**	**1.39**	**98**	⇑P		**Pb**	**08 41 56.0**	**+0.1**
	SNR=30							
QUBA				⇑S		**Sb**	**08 42 16.7**	**+3.5**
BTNK	**Botanikuri**	**1.41**	**276**	P		**Pn**	**08 41 54.1**	**-0.9**
BTNK				S		**Sb**	**08 42 13.8**	**+0.1**
BTNK	**Botanikuri**	**1.41**	**276**	P		**Pn**	**08 41 54.1**	**-0.9**
BTNK				S		**Sb**	**08 42 13.8**	**+0.1**
SEAG	**Tbilisi Sea**	**1.41**	**279**	P		**Pn**	**08 41 55.3**	**+0.2**
SEAG				S		**Sb**	**08 42 14.1**	**+0.3**
SEAG	**Tbilisi Sea**	**1.41**	**279**	P		**Pn**	**08 41 55.3**	**+0.2**
SEAG				S		**Sb**	**08 42 14.1**	**+0.3**
TBLG	**Delisi**	**1.46**	**278**	PG		**Pn**	**08 41 55.5**	**-0.2**
TBLG	**Delisi**	**1.46**	**278**	P		**Pn**	**08 41 55.1**	**-0.6**
TBLG				S		**Sb**	**08 42 15.9**	**+0.8**
TBLG	**Delisi**	**1.46**	**278**	*e*PG		**Pn**	**08 41 55.1**	**-0.6**
TBLG	**Delisi**	**1.46**	**278**	*e*Pn		**Pn**	**08 41 55.5**	**-0.2**
TBLG				*e*Sn		**Sb**	**08 42 16.4**	**+1.3**
TBLG	**Delisi**	**1.46**	**278**	*e*Pn		**Pn**	**08 41 55.5**	**-0.2**
TBLG				S		**Sb**	**08 42 15.9**	**+0.8**
TBLG				*e*Sn		**Sb**	**08 42 16.4**	**+1.3**
DVE	**Vedeno**	**1.46**	**344**	⇑*i*PG		**Pb**	**08 41 56.6**	**-0.5**
DVE				*e*S		**Sb**	**08 42 16.7**	**+1.4**
DVE	**Vedeno**	**1.46**	**344**	*i* Pg		**Pb**	**08 41 56.6**	**-0.5**
DVE				*e*Sg		**Sb**	**08 42 16.7**	**+1.4**
DBC	**Dubki**	**1.47**	**5**	⇑*i*PG		**Pn**	**08 41 56.3**	**+0.3**
DBC				*e*			08 42 16.7	
DBC	**Dubki**	**1.47**	**5**	*i* Pg		**Pn**	**08 41 56.3**	**+0.3**
DBC				*e*Sg		**Sb**	**08 42 16.7**	**+1.1**
ZRD	**Zardab**	**1.49**	**148**	⇑Pn		**Pb**	**08 41 57.3**	**-0.3**
	SNR=95							
ZRD				⇑Sn		**Sb**	**08 42 20.8**	**+4.8**
DLMR	**Dylym**	**1.52**	**359**	*e*PG		**Pb**	**08 41 57.8**	**-0.3**
DLMR				*e*S		**Sb**	**08 42 19.0**	**+2.1**
DLMR				pmax	pmax			
	comp=Z,853nm,0.5s							
DLMR	**Dylym**	**1.52**	**359**	*e*Pg		**Pb**	**08 41 57.8**	**-0.3**
	comp=Z,853nm,0.5s							
MAK	**Makhachkala**	**1.54**	**24**	⇑*i*PG		**Pn**	**08 41 56.3**	**-0.5**
MAK				*e*			08 42 17.2	
MAK				pmax	pmax			
	comp=Z,659nm,0.4s							
MAK				smax	smax			
	comp=N,6μm,0.4s							
MAK				smax	smax			
	comp=N,6μm,0.5s							
MAK	**Makhachkala**	**1.54**	**24**	*i* Pg		**Pn**	**08 41 56.3**	**-0.5**
	comp=N,659nm,0.4s							
MAK				*e*Sg		**Sb**	**08 42 17.2**	**-0.3**
	comp=N,6μm,0.5s							
VADZ	**Vardenis**	**1.55**	**207**	⇓*i*P		**Pn**	**08 41 56.0**	**-1.1**
VADZ				⇓S		**Sn**	**08 42 15.0**	**-1.6**
VADZ	**Vardenis**	**1.55**	**207**	⇓P		**Pn**	**08 41 56.0**	**-1.1**
PQL	**Pirkuli**	**1.64**	**117**	⇑Pn		**Pb**	**08 41 59.8**	**-0.5**
	SNR=44							
PQL				⇑Sn		**Sb**	**08 42 25.1**	**+4.5**
KDMR	**Kurdemir**	**1.65**	**135**	Pn		**Pb**	**08 41 59.9**	**-0.3**
	SNR=8.4							
KDMR				⇓Sn		**Sb**	**08 42 24.2**	**+3.7**
KZR	**Kazreti**	**1.70**	**265**	P		**Pn**	**08 41 58.0**	**-1.1**
KZR				S		**Sn**	**08 42 21.0**	**+0.8**
KZR	**Kazreti**	**1.70**	**265**	P		**Pn**	**08 41 58.0**	**-1.1**
KZR				S		**Sn**	**08 42 21.0**	**+0.8**
STKZ		**1.74**	**178**	⇓*i*P		Pb	08 42 11.9	+10
STKZ				⇓*i*S		Sb	08 42 35.6	+12
SIZA	**Siyzn**	**1.75**	**105**	⇓Pn		**Pb**	**08 42 02.5**	**+0.4**
	SNR=53							
SIZA				⇓Sn		**Sb**	**08 42 27.6**	**+4.0**
GROC	**Groznyy**	**1.77**	**339**	⇓*i*PN		**Pb**	**08 42 03.0**	**+0.6**
GROC				*e*S		**Sb**	**08 42 28.1**	**+4.0**
GROC	**Groznyy**	**1.77**	**339**	*i* Pn		**Pb**	**08 42 03.0**	**+0.6**
STEZ	**Stepenevan**	**1.79**	**253**	⇓*i*P		**Pn**	**08 41 57.0**	**-3.5**
STEZ				⇓S		**Sn**	**08 42 20.0**	**-2.7**
STE	**Stepanavan**	**1.82**	**253**	⇓P		**Pn**	**08 41 57.0**	**-3.8**
ATGJ	**Altiaghaj**	**1.85**	**111**	⇓Pn		**Pb**	**08 42 03.5**	**-0.3**
	SNR=42							
ATGJ				⇓Sn		**Sb**	**08 42 30.0**	**+3.5**
GUDG	**Gudauri**	**1.87**	**300**	P		**Pn**	**08 42 00.1**	**-1.5**
GUDG				S		**Sn**	**08 42 25.1**	**+0.4**
GUDG	**Gudauri**	**1.87**	**300**	P		**Pn**	**08 42 00.1**	**-1.5**
GUDG				S		**Sn**	**08 42 25.0**	**+0.4**
GBS	**Qobustan**	**2.00**	**120**	⇑Pn		**Pb**	**08 42 05.2**	**-1.2**
	SNR=25							
GBS				⇓Sn		**Sb**	**08 42 32.5**	**+1.7**
KMGR	**Komgaron**	**2.01**	**319**	*e*PN		**Pb**	**08 42 07.9**	**+1.4**
KMGR				*e*S		**Sb**	**08 42 34.2**	**+3.1**
GNI	**Garni**	**2.02**	**227**	Pn		**Pn**	**08 42 04.9**	**+1.3**
	comp=N,149nm,0.3s,baz=358,slow=3.3,SNR=368							
GNI				Lg	Lg		08 42 33.3	
	comp=N,144nm,0.3s,baz=157,slow=22,SNR=6.6							
GNI	**Garni**	**2.02**	**227**	⇓*i*P		**Pn**	**08 42 04.9**	**+1.3**
GNI				⇓S		**Sb**	**08 42 32.6**	**+1.0**
GNI	**Garni**	**2.02**	**227**	*d i*PN		**Pn**	**08 42 04.9**	**+1.3**
GNI				pmax	pmax			
	comp=Z,5μm,1.2s							
GNI	**Garni**	**2.02**	**227**	⇓P		**Pn**	**08 42 04.9**	**+1.3**
GNI				S		**Sb**	**08 42 32.6**	**+1.0**
GRS	**Goris**	**2.07**	**187**	⇓*i*P		**Pn**	**08 42 02.0**	**-2.2**
GRS				⇓*i*S		**Sn**	**08 42 30.0**	**+0.6**
GRS	**Goris**	**2.07**	**187**	⇓P		**Pn**	**08 42 02.0**	**-2.2**
GRS				S		**Sn**	**08 42 30.0**	**+0.6**
VLKR	**Vladikavkaz**	**2.10**	**316**	*e*PN		**Pb**	**08 42 09.0**	**+1.0**
VLKR				*e*S		**Sb**	**08 42 37.3**	**+3.7**
SAAT	**Saatly**	**2.15**	**141**	⇓Pn		**Pn**	**08 42 05.7**	**+0.4**
	SNR=3.4							
SAAT				⇑Sn		**Sb**	**08 42 34.1**	**-1.1**
LACR	**Lac**	**2.17**	**307**	*e*PN		**Pb**	**08 42 07.8**	**-1.5**
LACR				*e*S		**Sb**	**08 42 37.3**	**+1.5**
LACR	**Lac**	**2.17**	**307**	*e*Pn		**Pb**	**08 42 07.8**	**-1.5**
GMRZ	**Gyumri**	**2.26**	**252**	*e*P		**Pn**	**08 42 08.0**	**+1.0**
GMRZ				⇑S		**Sb**	**08 42 39.0**	**+0.5**
HYR	**Heyderabad**	**2.29**	**218**	⇑Pn		**Pn**	**08 42 09.1**	**+1.8**
	SNR=70							
HYR				⇓Sn		**Sb**	**08 42 40.8**	**+1.5**
SBZ	**Shahbuz**	**2.31**	**202**	⇓Pn		**Pb**	**08 42 09.5**	**-2.2**
	SNR=138							
SBZ				⇓Sn		**Sb**	**08 42 40.6**	**+0.7**
AKH	**Akhalkalaki**	**2.39**	**268**	PG		**Pn**	**08 42 08.7**	**0.0**
AKH	**Akhalkalaki**	**2.39**	**268**	P		**Pn**	**08 42 09.3**	**+0.6**
AKH				S		**Sn**	**08 42 40.2**	**+0.7**
AKH	**Akhalkalaki**	**2.39**	**268**	*e*PN		**Pn**	**08 42 09.2**	**+0.6**
AKH	**Akhalkalaki**	**2.39**	**268**	*e*Pn		**Pn**	**08 42 09.7**	**+1.0**
AKH				*e*Sn		**Sb**	**08 42 42.9**	**+0.8**
AKH	**Akhalkalaki**	**2.39**	**268**	*e*Pn		**Pn**	**08 42 09.2**	**+0.6**
AKH				S		**Sn**	**08 42 38.1**	**+0.7**
AKH				*e*Sn		**Sb**	**08 42 42.9**	**+0.8**
ALIB	**Äli-Bayra**	**2.39**	**131**	⇑Pn		**Pn**	**08 42 09.5**	**+1.0**
	SNR=18							
ALIB				⇓Sn		**Sb**	**08 42 41.8**	**-0.1**
ZEI	**Tsey**	**2.40**	**302**	*e*PN		**Pb**	**08 42 11.6**	**-1.6**
ZEI				*e*S		**Sb**	**08 42 42.1**	**-0.3**
ZEI	**Tsey**	**2.40**	**302**	*e*Pn		**Pb**	**08 42 11.6

SOC						MLR	MLR			
	comp=Z,238nm,10.0s									
SOC	**Sochi**	**5.52**	**294**	*e*P		**Pn**	**Pn**	**08 42 53.0**	**+1.5**
GEYT	**Alibeck**	**9.53**	**109**	Pn		**Pn**	**Pn**	**08 43 47.5**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=292,slow=16,SNR=10									
GEYT						Sn	**Sn**	**08 45 30.4**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=272,slow=11,SNR=2.4									
BRTR	**Keskin Array B**	**10.07**	**264**	Pn		**Pn**	**Pn**	**08 43 57.0**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=117,slow=9.8,SNR=3.5									
BRTR	**Keskin Array B**	**10.07**	**264**	P		**Pn**	**Pn**	**08 43 57.0**	**+2.9**
BRTR	**Keskin Array B**	**10.07**	**264**	P		**Pn**	**Pn**	**08 43 57.0**	**+2.9**
VRH	**Novokhopyorsk**	**10.23**	**342**	*e*P		**Pn**	**Pn**	**08 43 57.4**	**+1.3**
VRH					pmax	pmax				
	comp=Z,10.0nm,1.0s									
VSR	**Storozhevoye**	**10.96**	**334**	*e*P		**Pn**	**Pn**	**08 44 09.6**	**+3.6**
VSR					pmax	pmax				
	comp=Z,4.0nm,0.4s									
AKTK	**Aktyubinsk**	**11.87**	**38**	P		**Pn**	**Pn**	**08 44 16.8**	**-1.8**
	comp=Z,1.0nm,0.3s									
AKTK					S		**Sn**	**08 46 27.2**	**-3.1**
	comp=Z,310nm,19.5s									
AKTO	**Aktyubinsk**	**11.87**	**38**	Pn		**Pn**	**Pn**	**08 44 16.8**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=225,slow=12,SNR=15									
AKTO					Sn		**Sn**	**08 46 27.2**	**-3.1**
	comp=Z,0.9nm,0.3s,baz=0.0,slow=20,SNR=2.8									
AKTO					LR		LR	08 50 06.9		
	comp=Z,310nm,19.4s,baz=249,slow=44									
AKTO	**Aktyubinsk**	**11.87**	**38**	⇑Pn		**Pn**	**Pn**	**08 44 16.4**	**-2.1**
	comp=Z,13nm,0.7s									
AKTO				⇑Sn		**Sn**	**Sn**	**08 46 25.8**	**-4.4**
	comp=Z,16nm,0.7s									
AB31	**Akbulak array**	**12.09**	**46**	⇑Pn		**Pn**	**Pn**	**08 44 20.5**	**-1.1**
	comp=Z,4.5nm,0.5s,baz=233,slow=13,SNR=36									
AB31				⇑Sn		**Sn**	**Sn**	**08 46 32.0**	**-3.6**
	comp=Z,3.9nm,0.5s,baz=236,slow=25,SNR=4.2									
AB31	**Akbulak array**	**12.09**	**46**	*i* P		**Pn**	**Pn**	**08 44 20.4**	**-1.1**
AB31					pmax	pmax				
	comp=Z,5.0nm,0.5s									
AB31	**Akbulak array**	**12.09**	**46**	Pn		**Pn**	**Pn**	**08 44 20.5**	**-1.1**
	comp=Z,4.5nm,0.5s,SNR=36									
AB31					Sn		**Sn**	**08 46 32.0**	**-3.6**
	comp=Z,3.9nm,0.5s,SNR=4.2									
ABKAR	**Akbulak array**	**12.09**	**46**	*e*Pn		**Pn**	**Pn**	**08 44 20.8**	**-0.7**
ABKAR	**Akbulak array**	**12.09**	**46**	*e*Pn		**Pn**	**Pn**	**08 44 20.8**	**-0.7**
LPSR	**Galich'ya Gora**	**12.24**	**337**	*e*P		**Pn**	**Pn**	**08 44 25.9**	**+2.4**
LPSR					pmax	pmax				
	comp=Z,20nm,1.1s									
MMAI	**Mount Meron Ar**	**12.36**	**230**	LR		LR		08 49 38.7		
	comp=Z,80nm,20.0s,baz=20,slow=40									
ISR	**Istrita**	**15.06**	**290**	⇑*i*P		P		08 45 16.6	+9.3	
ISR	**Istrita**	**15.06**	**290**	⇑P		P		08 45 16.6	+9.3	
PLOR	**Plostina**	**15.09**	**293**	⇑*i*P		**P**		**08 45 12.6**	**+5.0**	
PLOR	**Plostina**	**15.09**	**293**	⇑P		**P**		**08 45 12.6**	**+5.0**	
OBN	**Obninsk**	**15.12**	**337**	*e*P		**Pn**		**08 44 59.1**	**-3.6**	
OBN					pmax	pmax				
	comp=Z,19nm,1.1s									
OBN					MLR	MLR				
	comp=Z,157nm,18.0s									
AKASG	**Malin Array Be**	**15.13**	**313**	Pn		**Pn**	**Pn**	**08 45 02.6**	**-0.3**	
	comp=Z,0.3nm,0.3s,baz=44,slow=5.8,SNR=4.0									
AKBB	**Malin Array Si**	**15.13**	**313**	*e*P		**P**		**08 45 06.6**	**-1.3**	
AKBB					pmax	pmax				
	comp=Z,21nm,1.4s									
AKBB	**Malin Array Si**	**15.13**	**313**	*e*Pn		**P**		**08 45 06.6**	**-1.3**	
	comp=Z,21nm,1.4s									
AKBB	**Malin Array Si**	**15.13**	**313**	*e*P		**P**		**08 45 06.6**	**-1.3**	
	comp=Z,21nm,1.4s									
KIEV	**Kiev**	**15.14**	**313**	*e*P		**P**		**08 45 06.5**	**-1.5**	
KIEV					pmax	pmax				
	comp=Z,22nm,1.4s									
KIEV	**Kiev**	**15.14**	**313**	*e*Pn		**P**		**08 45 06.5**	**-1.5**	
	comp=Z,22nm,1.4s									
KIEV	**Kiev**	**15.14**	**313**	*e*P		**P**		**08 45 06.5**	**-1.5**	
	comp=Z,22nm,1.4s									
AK11	**Malin Array Si**	**15.15**	**313**	*e*Pn		**P**		**08 45 07.4**	**-0.7**	
TESR	**Tescani**	**15.21**	**296**	⇓*i*P		**P**		**08 45 14.7**	**+5.8**	
MOS	**Moscow**	**15.38**	**340**	*e*P		**P**		**08 45 12.3**	**+1.6**	
MOS					pmax	pmax				
	comp=Z,50nm,1.0s									
MLR	**Muntele Rosu**	**15.53**	**292**	Pn		**P**		**08 45 11.0**	**-1.5**	
	comp=Z,0.0nm,0.3s,baz=150,slow=16,SNR=1.8									
MLR	**Muntele Rosu**	**15.53**	**292**	⇑P		**P**		**08 45 11.9**	**-0.7**	
MLR	**Muntele Rosu**	**15.53**	**292**	*e*Pn		**P**		**08 45 11.6**	**-0.9**	
	comp=Z,36nm,1.7s									
VOIR		**16.15**	**291**	⇓*i*P		**P**		**08 45 25.8**	**+6.4**	
VOIR		**16.15**	**291**	⇓P		**P**		**08 45 25.8**	**+6.4**	
BUR04	**Bucovina Ar. S**	**16.42**	**299**	*e*Pn		**P**		**08 45 22.3**	**-0.1**	
BUR08	**Bucovina Ar. S**	**16.43**	**299**	*e*Pn		**P**		**08 45 24.5**	**+2.0**	
ARU	**Arti**	**16.77**	**23**	Pn		**Pn**		**08 45 20.1**	**-3.9**	
	comp=Z,0.0nm,0.3s,baz=270,slow=19,SNR=6.6									
ARU	**Arti**	**16.77**	**23**	*c i*P		**Pn**		**08 45 22.2**	**-1.8**	
ARU					S		**Sn**	**08 48 27.7**	**-1.8**	
ARU					pmax	pmax				
	comp=Z,15nm,0.6s									
ARU	**Arti**	**16.77**	**23**	*e*Pn		**Pn**		**08 45 21.6**	**-2.4**	
	comp=Z,18nm,0.7s									
ARU					*e*Sn		**Sn**	**08 48 25.0**	**-4.5**	
ARU	**Arti**	**16.77**	**23**	*e*Pn		**Pn**		**08 45 21.6**	**-2.4**	
	comp=Z,18nm,0.7s									
KK31	**Karatay Array**	**17.69**	**77**	⇑Pn		**Pn**		**08 45 34.8**	**-0.8**	
	comp=Z,2.0nm,0.5s,baz=283,slow=14,SNR=32									
KK31	**Karatay Array**	**17.69**	**77**	*c e*P		**Pn**		**08 45 33.0**	**-2.6**	
KK31					pmax	pmax				
	comp=Z,1.0nm,0.3s									
KK31	**Karatay Array**	**17.69**	**77**	Pn		**Pn**		**08 45 34.8**	**-0.8**	
	comp=Z,2.0nm,0.5s,SNR=32									
KKAR	**Karatay Array**	**17.69**	**77**	*e*P		**Pn**		**08 45 34.1**	**-1.5**	
KKAR	**Karatay Array**	**17.69**	**77**	*e*Pn		**Pn**		**08 45 34.1**	**-1.5**	
KKAR	**Karatay Array**	**17.69**	**77**	*e*P		**Pn**		**08 45 34.1**	**-1.5**	
SVE	**Sverdlovsk**	**17.75**	**26**	*e*P		**Pn**		**08 45 33.9**	**-2.3**	
SVE					pmax	pmax				
	comp=Z,47nm,1.0s									
RAYN	**Ar Rayn**	**18.01**	**183**	P		**Pn**		**08 45 38.4**	**-1.2**	
RAYN	**Ar Rayn**	**18.01**	**183**	*e*Pn		**Pn**		**08 45 38.4**	**-1.2**	
	comp=Z,29nm,1.9s									
SOKR	**Solikamsk**	**19.13**	**16**	*e*P		**P**		**08 45 48.7**	**-3.3**	
SOKR					pmax	pmax				
	comp=Z,6.0nm,0.5s									
CRVS	**Cervenica-Dubn**	**19.15**	**301**	*e*P		**Pn**		**08 45 55.7**	**+2.3**	
CRVS	**Cervenica-Dubn**	**19.15**	**301**	*e*P		**Pn**		**08 45 55.7**	**+2.3**	
OTUK	**Ortayu**	**19.32**	**61**	P		**P**		**08 45 53.3**	**-1.0**	
OTUK					pmax	pmax				
	comp=Z,9.0nm,0.7s									
BRVK	**Borovoye**	**19.62**	**46**	*c e*P		**P**		**08 45 57.0**	**-0.5**	
BRVK					pmax	pmax				
	comp=Z,39nm,0.8s									
BRVK	**Borovoye**	**19.62**	**46**	*e*P		**P**		**08 45 56.9**	**-0.6**	
	comp=Z,17nm,0.8s									
BVA0	**Borovoye Array**	**19.66**	**46**	P		**P**		**08 45 56.9**	**-1.1**	
BVA0					pmax	pmax				
	comp=Z,20nm,0.9s									
BVAR	**Borovoye Array**	**19.66**	**46**	P		**P**		**08 45 57.2**	**-0.8**	
	comp=Z,0.7nm,0.3s,baz=242,slow=8.4,SNR=13									
BVAR					LR		LR	08 54 29.1		
	comp=Z,124nm,19.2s,baz=254,slow=40									
KECS	**Kecovo**	**19.70**	**299**	*e*P		**Pn**		**08 46 03.1**	**+3.2**	
KECS	**Kecovo**	**19.70**	**299**	*e*P		**Pn**		**08 46 03.1**	**+3.2**	
KLMR	**Klimovskoe**	**19.82**	**350**	*e*P		**P**		**08 45 58.1**	**-1.4**	
KLMR					*e*			08 49 39.2		
KLMR					pmax	pmax				
	comp=Z,25nm,1.2s									
KLMR	**Klimovskoe**	**19.82**	**350**	*e*Pn		**P**		**08 45 58.2**	**-1.3**	
KLMR					AMP			08 45 59.8		
	comp=Z,25nm,1.2s									
KLMR					*e*Sn		**S**	**08 49 39.3**	**-2.2**	
KLMR					*e*Sn		**S**	**08 49 39.3**	**-2.2**	
AML	**Almayashu**	**20.12**	**79**	P		**P**		**08 46 04.1**	**+0.6**	
	SNR=5.5									
OJC	**Ojcow**	**20.52**	**304**	*e*P		Pn		08 46 09.6	0.0	
OJC					pmax	pmax				
	comp=Z,16nm,1.1s									
OJC	**Ojcow**	**20.52**	**304**	*e*P		Pn		08 46 09.6	+0.1	
	comp=Z,16nm,1.1s									
AAK	**Ala-Archa**	**20.65**	**78**	P		**P**		**08 46 09.5**	**+0.6**	
	comp=Z,6.4nm,0.8s,baz=199,slow=7.5,SNR=15									
AAK					LR		LR	08 54 33.1		
	comp=Z,64nm,19.8s,baz=262,slow=38									
AAK	**Ala-Archa**	**20.65**	**78**	P		**P**		**08 46 09.5**	**+0.6**	
	SNR=6.9									
AAK	**Ala-Archa**	**20.65**	**78**	*e*P		**P**		**08 46 08.9**	**0.0**	
	comp=Z,8.6nm,0.8s									
AAK	**Ala-Archa**	**20.65**	**78**	*e*P		**P**		**08 46 08.9**	**0.0**	
	comp=Z,8.6nm,0.8s									
FRU1	**Bishkek**	**20.73**	**77**	P		**P**		**08 46 10.5**	**+0.8**	
FRU1	**Bishkek**	**20.73**	**77**	P		**P**		**08 46 10.5**	**+0.8**	
VYHS	**Vyhne**	**20.78**	**299**	*e*P		Pn		08 46 17.2	+4.6	
VYHS					pmax	pmax				
	comp=Z,7.0nm,1.5s									
VYHS	**Vyhne**	**20.78**	**299**	*e*P		Pn		08 46 17.2	+4.6	
WSAR	**Wadi Sarin**	**20.83**	**148**	LR		LR		08 56 25.3		
	comp=Z,56nm,19.3s,baz=16,slow=43									
KBK	**Karagaybulak**	**20.98**	**78**	P		**P**		**08 46 13.0**	**+0.5**	
	SNR=10									
VSU	**Vasula**	**21.09**	**330**	*e*P		**P**		**08 46 15.4**	**+2.1**	
VSU					pmax	pmax				
	comp=Z,45nm,0.8s									
KZA	**Kyzart**	**21.27**	**79**	P		**P**		**08 46 16.2**	**+0.2**	
	SNR=8.7									
TKM2	**Tokmak 2**	**21.42**	**77**	*i* P		**P**		**08 46 16.5**	**-0.8**	
TKM2					pmax	pmax				
	comp=Z,7.0nm,0.8s									
TKM2	**Tokmak 2**	**21.42**	**77**	P		**P**		**08 46 16.8**	**-0.6**	
	SNR=7.1									
TKM2	**Tokmak 2**	**21.42**	**77**	*i* P		**P**		**08 46 16.5**	**-0.8**	
	comp=Z,7.0nm,0.8s									
KLNR	**Kaliningrad**	**21.81**	**316**	*e*P		**P**		**08 46 24.0**	**+2.9**	
KLNR					pmax	pmax				
	comp=Z,224nm,1.2s									
NRN	**Naryn**	**21.93**	**81**	P		**P**		**08 46 22.8**	**-0.1**	
NRN	**Naryn**	**21.93**	**81**	P		**P**		**08 46 22.8**	**-0.1**	
ULHL	**Ulahol**	**21.98**	**78**	P		**P**		**08 46 24.1**	**+0.8**	
	SNR=8.3									
KSH	**Kashi**	**22.32**	**85**	P		**P**		**08 46 25.0**	**-1.9**	
KSH					sP	pP		08 46 29.1	-3.9	
KSH					PP	**PnPn**		**08 46 52.4**	**+2.7**	
KSH					S	S		08 50 20.9	-10	
KSH					sS	pS		08 50 31.0	-8.3	
KSH					SS	**SnSn**		**08 51 00.0**	**+0.7**	
VRAC	**Vranov**	**22.37**	**300**	LR		LR		08 56 36.7		
	comp=Z,85nm,18.3s,baz=68,slow=41									
KDJ	**Kajisay**	**22.69**	**78**	P		**P**		**08 46 31.5**	**+0.6**	
KDJ	**Kajisay**	**22.69**	**78**	P		**P**		**08 46 31.5**	**+0.6**	
DPC	**Dobruska-Polom**	**22.73**	**303**	*e*P		**P**		**08 46 36.4**	**+5.4**	
DPC					*e*pP	**sP**		**08 46 41.8**	**+2.0**	
DPC	**Dobruska-Polom**	**22.73**	**303**	*e*P		**P**		**08 46 36.4**	**+5.4**	
DPC					*e*			08 46 41.8		
TMCR	**Tamitsa**	**23.20**	**350**	*e*P		**P**		**08 46 35.1**	**-0.6**	
TMCR					*e*S	**S**		**08 50 47.5**	**+1.5**	
TMCR					pmax	pmax				
	comp=Z,55nm,1.5s									
FINES	**FINESS Array B**	**23.49**	**335**	P		**P**		**08 46 37.0**	**-1.6**	
	comp=Z,3.8nm,0.7s,baz=139,slow=9.6,SNR=8.1									
FINES					LR		LR	08 56 19.3		
	comp=Z,208nm,18.9s,baz=157,slow=38									
FINES	**FINESS Array B**	**23.49**	**335**	P		**P**		**08 46 37.0**	**-1.6**	
FINES					pmax	pmax				
	comp=Z,4.0nm,0.7s									
FINES					MLR	MLR				
	comp=Z,208nm,18.9s									
PRZ	**Przheval'sk**	**23.53**	**77**	P		**P**		**08 46 38.8**	**-0.6**	
PRZ	**Przheval'sk**	**23.53**	**77**	P		**P**		**08 46 38.8**	**-0.6**	
KURBB	**Kurchatov Arra**	**23.73**	**57**	P		**P**		**08 46 40.7**	**-0.3**	
	comp=Z,2.0nm,0.6s,baz=262,slow=11,SNR=10									
KURK	**Kurchatov**	**23.80**	**56**	*c e*P		**P**		**08 46 40.6**	**-1.2**	
KURK					pmax	pmax				
	comp=Z,18nm,1.0s									
KURK	**Kurchatov**	**23.80**	**56**	*e*P		**P**		**08 46 41.1**	**-0.7**	
	comp=Z,47nm,1.6s									
GEA0	**GERESS Array S**	**24.20**	**299**	*e*P		**P**		**08 46 46.7**	**+1.0**	
GERES	**GERESS Array B**	**24.20**	**299**	P		**P**		**08 46 46.5**	**+0.8**	
	comp=Z,1.1nm,0.5s,baz=102,slow=9.2,SNR=5.9									
PDGK	**Podgornoye**	**24.21**	**75**	P		**P**		**08 46 45.4**	**-0.4**	
PDGK					pmax	pmax				
	comp=Z,10.0nm,1.5s									
BRG	**Berggiesshubel**	**24.31**	**304**	*e*(P)		**P**		**08 46 52.5**	**+6.0**	
	comp=Z,4.7nm,0.9s									
BRG	**Berggiesshubel**	**24.31**	**304**	*e*P		**P**		**08 46 52.5**	**+6.0**	
BRG					pmax	pmax				
	comp=Z,5.0nm,0.9s									
CLL	**Collm**	**24.97**	**304**	⇑*i*P		**P**		**08 46 58.2**	**+5.8**	
CLL					*e*			08 47 01.0		
CLL					pmax	pmax				
	comp=Z,12nm,1.0s									
CLL	**Collm**	**24.97**	**304**	⇑*i*(sP)		**P**		**08 46 58.2**	**+5.8**	
	comp=Z,12nm,1.0s									
CLL					*e*			08 47 01.0		
CLL	**Collm**	**24.97**	**304**	*e*P		**P**		**08 46 58.9**	**+6.4**	
	comp=Z,11nm,1.0s									
MK31	**Makanchi Array**	**25.93**	**66**	*c e*P		**P**		**08 47 00.9**	**-0.4**	
MK31					pmax	pmax				
	comp=Z,4.0nm,0.6s									
MK31	**Makanchi Array**	**25.93**	**66**	*e*P		**P**		**08 47 01.0**	**-0.3**	
MKAR	**Makanchi Array**	**25.93**	**66**	P		**P**		**08 47 01.6**	**+0.3**	
	comp=Z,7.9nm,0.8s,baz=271,slow=7.9,SNR=29									
MKAR	**Makanchi Array**	**25.93**	**66**	*e*P		**P**		**08 47 00.9**	**-0.4**	
	comp=Z,35nm,0.8s									
MK01	**Makanchi Array**	**25.94**	**66**	*e*P		**P**		**08 47 01.3**	**-0.1**	
HFS	**Hagfors**	**27.47**	**324**	P		**P**		**08 47 13.3**	**-1.6**	
	comp=Z,4.2nm,0.7s,baz=120,slow=10,SNR=3.2									
HFS					LR		LR	08 59 42.8		
	comp=Z,189nm,19.2s,baz=92,slow=40									
ZAA0	**Zalesovo Array**	**28.13**	**51**	*e*P		**P**		**08 47 20.7**	**-0.2**	
	comp=Z,10nm,0.4s									
ZALV	**Zalesovo Beam**	**28.13**	**51**	LR		LR		08 58 44.3		
	comp=Z,73nm,18.9s,baz=248,slow=37									
ZALV	**Zalesovo Beam**	**28.13**	**51**	*e*P		**P**		**08 47 18.7**	**-2.2**	
ZALV	**Zalesovo Beam**	**28.13**	**51**	*e*P		**P**		**08 47 18.7**	**-2.2**	
NB2	**NORSAR Subarra**	**28.97**	**324**	P		**P**		**08 47 32.1**	**+3.7**	
	comp=Z,0.9nm,0.6s,baz=110,slow=8.6									
NOA	**NORSAR Array B**	**28.97**	**324**	P		**P**		**08 47 30.1**	**+1.7**	
	comp=Z,1.1nm,0.8s,baz=124,slow=8.8,SNR=4.5									
NOA					LR		LR	08 59 01.9		
	comp=Z,55nm,19.7s,baz=290,slow=36									
WMQ	**Urumqi**	**30.03**	**72**	P		**P**		**08 47 38.0**	**0.0**	
WMQ					pP	pP		08 47 41.9	-2.6	
WMQ					sP	sP		08 47 45.8	-1.3	
ATD	**Arta Tunnel**	**30.09**	**187**	LR		LR		09 00 56.3		
	comp=Z,64nm,19.2s,baz=346,slow=39									
ARCES	**ARCESS Array B**	**30.14**	**345**	P		**P**		**08 47 37.4**	**-1.2**	
	comp=Z,2.3nm,0.8s,baz=159,slow=10,SNR=7.0									
EKA	**Eskdalemuir Ar**	**35.02**	**310**	P		**P**		**08 48 21.2**	**-0.2**	
	comp=Z,3.0nm,0.8s,baz=104,slow=9.5,SNR=7.0									
ESDC	**Sonseca Array**	**38.03**	**284**	P		**P**		**08 48 46.4**	**-1.0**	
	comp=Z,0.3nm,0.5s,baz=80,slow=7.6,SNR=3.9									
SPITS	**Spitsbergen Ar**	**38.72**	**350**	P		**P**		**08 48 52.4**	**-0.2**	
	comp=Z,8.8nm,0.9s,baz=137,slow=8.7,SNR=10									
SONM	**Songino Array**	**41.99**	**60**	P		**P**		**08 49 19.9**	**-0.4**	
	comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=2.0									
SONM					LR		LR	09 08 24.1		
	comp=Z,150nm,18.1s,baz=284,slow=38									
ULN	**Ulaanbaatar**	**42.41**	**60**	*c e*P		**P**		**08 49 23.1**	**-0.6**	
ULN					pmax	pmax				
	comp=Z,5.0nm,1.7s									
KMBO	**Kilima Mbogo**	**43.33**	**194**	LR		LR		09 07 57.0		
	comp=Z,39nm,18.9s,baz=93,slow=37									
LZH	**Lanzhou**	**44.19**	**78**	*e*P		**P**		**08 49 39.7**	**+1.5**	
LZH					pP	pP		08 49 44.3	-0.5	
LZH					sP	sP		08 49 47.8	+0.4	
LZH					*e*PP	**PcP**		**08 51 24.1**	**+1.4**	
BOD	**Bodaibo**	**44.52**	**45**	*e*P		**P**		**08 49 39.3**	**-1.0**	
BOD					pmax	pmax				
	comp=Z,7.0nm,0.8s									
CD2	**Chengdu**	**46.51**	**84**	*e*P		**P**		**08 49 55.0**	**-1.5**	
HHC	**Hu-ho-hao-te**	**47.77**	**68**	*e*P		**P**		**08 50 07.3**	**+1.0**	
TOA0	**Torodi Ar. Sit**	**48.19**	**247**	*e*P		**P**		**08 50 08.9**	**-0.7**	
TORD	**Torodi Ar. Bea**	**48.19**	**247**	P		**P**		**08 50 08.9**	**-0.8**	
	comp=Z,1.4nm,0.9s,baz=33,slow=6.9,SNR=8.2									
TIXI	**Tiksi**	**48.77**	**25**	P		**P**		**08 50 13.6**	**+0.2**	
	comp=Z,1.5nm,0.3s,baz=218,slow=1.3,SNR=4.8									
TIXI	**Tiksi**	**48.77**	**25**	*c e*P		**P**		**08 50 13.9**	**+0.5**	
TIXI					pmax	pmax				
	comp=Z,7.0nm,2.5s									
CMAR	**Chiang Mai Arr**	**49.92**	**101**	P		**P**		**08 50 23.5**	**+0.6**	
	comp=Z,1.2nm,0.3s,baz=307,slow=8.3,SNR=6.6									
KOWA	**Kowa**	**51.32**	**254**	P		**P**		**08 50 33.1**	**-0.4**	
	comp=Z,0.7nm,0.3s,baz=74,slow=7.4,SNR=4.3									
DBIC	**Dimbokro**	**57.31**	**248**	P		**P**		**08 51 16.4**	**-0.7**	
	comp=Z,1.8nm,0.5s,baz=343,slow=3.8,SNR=3.5									
SEY	**Seymchan**	**60.36**	**30**	P		**P**		**08 51 38.3**	**+0.7**	
	comp=Z,3.5nm,0.8s,baz=314,slow=5.5,SNR=16									
SEY	**Seymchan**	**60.36**	**30**	*c e*P		**P**		**08 51 37.7**	**+0.1**	
KSRS	**Korea Array**	**60.60**	**65**	LR		LR		09 21 13.7		
	comp=Z,43nm,19.1s,baz=3.0,slow=39									
MA2	**Magadan**	**61.59**	**34**	*c e*P		**P**		**08 51 44.7**	**-1.4**	
BILL	**Bilibino**	**61.78**	**22**	*i* P		**P**		**08 51 46.7**	**-0.5**	
BILL					pmax	pmax				
	comp=Z,2.0nm,1.0s									
MATP	**Matopo**	**63.92**	**199**	P		**P**		**08 52 02.0**	**-0.1**	
	comp=Z,1.0nm,0.7s,baz=326,slow=3.6,SNR=3.7									
MJAR	**Matsushiro Arr**	**67.95**	**60**	LR		LR		09 24 33.6		
	comp=Z,80nm,18.4s,baz=285,slow=38									
ILAR	**Eielson Array**	**73.48**	**6**	P		**P**		**08 53 00.3**	**-0.7**	
	comp=Z,0.2nm,0.7s,baz=352,slow=5.5,SNR=3.5									
YKA	**Yellowknife Ar**	**75.21**	**351**	P		**P**		**08 53 11.0**	**-0.1**	
	comp=Z,0.9nm,0.8s,baz=11,slow=6.1,SNR=18									
YKA	**Yellowknife Ar**	**75.21**	**351**	P		**P**		**08 53 11.0**	**-0.1**	
YKA					pmax	pmax				
	comp=Z,1.0nm,0.8s									
KDAK	**Kodiak Island**	**79.72**	**10**	LR		LR		09 32 51.3		
	comp=Z,67nm,18.9s,baz=302,slow=39									
ULM	**Lac du Bonnet**	**82.87**	**337**	LR		LR		09 29 31.0		
	comp=Z,46nm,18.8s,baz=41,slow=35									
LAO	**LASA Array**	**88.89**	**342**	*e*P		**P**		**08 54 24.8**	**+1.5**	
	comp=Z,7.4nm,1.0s									
NEW	**Newport**	**89.42**	**349**	LR		LR		09 35 27.1		
	comp=Z,35nm,19.0s,baz=9.0,slow=36									
NEW	**Newport**	**89.42**	**349**	*e*P		**P**		**08 54 26.6**	**+0.9**	
NEW					pmax	pmax				
	comp=Z,11nm,1.3s									
NEW	**Newport**	**89.42**	**349**	*e*P		**P**		**08 54 26.6**	**+0.9**	
	comp=Z,10nm,1.3s									

ECX ***11*** *08:42:24.9±0.6,31°.87N×114°.96W,h12km,MD2.9,ML3.2*
NEIC ***11*** *08:42:24.9±0.0,31°.88N×114°.96W,h2km,ML2.9(ECX),*
ML3.2(PAS),After ECX.
MEX ***11*** *08:42:25.5±0.5,31°.91N×114°.91W,h10km±7km,MD3.8*

ISC 11 08:42:24.4±1.2,31°.86N±0°.02×115°.06W±0°.03,h23km±4km,
n56,σ1°.71/77,1C-3D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.38**	**179**	⇓*i*P	**Pb**	**08 42 32.4**	**-0.3**
ECBX				*e*S	**Sb**	**08 42 37.9**	**-0.3**
CPBX	**Cerro Prieto**	**0.60**	**340**	*e*Pg	**Pb**	**08 42 35.3**	**-1.0**
CPBX				*e*Sg	**Sb**	**08 42 43.0**	**-1.3**
CPBX	**Cerro Prieto**	**0.60**	**340**	*e*P	**Pb**	**08 42 35.7**	**-0.5**
CPBX				*e*S	**Sb**	**08 42 44.2**	**0.0**
YMD	**Yuma Desert**	**0.82**	**32**	⇓*i*P	**Pn**	**08 42 38.6**	**-2.0**
SPIG	**San Pedro Mart**	**0.88**	**203**	*e*P	**Pb**	**08 42 42.1**	**+0.9**
SPIG				*e*S	**Sn**	**08 42 54.9**

*SJA **11** 09:13:47.6±1.1,30.°95S×66.°76W,h28km±5km, ML2.9, MW3.6*
*ISCJB **11** 09:13:48.9±0.6,31.°04S±0.°04×66.°59W±0.°06,h34km, Error ellipse: s-maj=7.5km s-min=4.0km az=29.5*
*GUC **11** 09:13:49.0±0.6,31.°00S×66.°70W,h187km±19km, ML3.9*

ISC 11 09:13:48.5±1.0,**30.°96S**±0.°03×**66.°75W**±0.°04,**h34**km,**n21,** σ**2°78/29,3D,La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APLL	**PUNTA DE LOS L**	**0.59**	**19**	*i* P	**Pn**	**09 13 59.9**	**-0.6**
ACAN	**Cantantal**	**1.36**	**196**	*i* P	**Pn**	**09 14 10.8**	**-0.4**
AMOG	**MOGNA**	**1.50**	**270**	*i* P	**Pn**	**09 14 13.9**	**+0.9**
RTLL	**Cerro Villicun**	**1.52**	**255**	*i* P	**Pn**	**09 14 13.7**	**+0.3**
RTLL	**Cerro Villicun**	**1.52**	**255**	⇓*i* P	**Pn**	**09 14 13.7**	**+0.3**
RTLL				*e*S	**Sn**	**09 14 33.1**	**+1.0**
SJA	**San Juan**	**1.65**	**249**	*i* P	**Pb**	**09 14 17.1**	**-1.2**
SJA				IAML		09 14 43.0	
	comp=Z,110nm,0.2s						
MRA	**San Martin**	**1.70**	**149**	*i* P	**Pb**	**09 14 17.6**	**-1.6**
RTCV	**Cerro Valdivia**	**1.78**	**239**	*i* P	**Pn**	**09 14 18.0**	**+1.2**
RTCV				*i* S	**Sb**	**09 14 41.6**	**-0.9**
AGUA	**GUANDACOL**	**2.10**	**314**	*i* P	**Pb**	**09 14 23.6**	**-2.4**
ASAL	**Salagasta**	**2.41**	**227**	*i* P	**Pn**	**09 14 28.1**	**+2.5**
VCA	**Vinchina**	**2.55**	**330**	*i* P	**Pb**	**09 14 32.5**	**-1.1**
VCA				IAML		09 15 17.4	
	comp=Z,78nm,0.7s						
VCA	**Vinchina**	**2.55**	**330**	⇓*i* P	**Pb**	**09 14 33.7**	**+0.1**
VCA				*e*S	**Sb**	**09 15 08.3**	**+3.6**
AUSP	**Uspallata**	**2.58**	**240**	*i* P	**Pb**	**09 14 31.1**	**-3.2**
CYA	**Choya**	**2.64**	**18**	*i* P	**Pb**	**09 14 31.6**	**-3.5**
CYA				*i* S	**Sb**	**09 15 03.3**	**-3.8**
AAGR	**Agrelo**	**2.76**	**219**	*e*P	**Pn**	**09 14 33.1**	**+2.7**
GO04	**Tololo Observa**	**3.58**	**282**	⇓*i* P	Pb	09 14 46.2	-5.0
GO04				*e*S	**Sb**	**09 15 30.6**	**-3.7**
GO04				IAML		09 15 46.4	
	comp=N,216nm,0.3s						
TLL	**Tololo Astrono**	**3.58**	**282**	*e*P	**Pb**	**09 14 46.7**	**-4.6**
TLL				*e*S	**Sb**	**09 15 30.3**	**-4.2**
TLL				IAML		09 15 49.1	
	comp=N,61nm,0.5s						
RFA	**San Rafael**	**4.07**	**200**	*i* P	**Pn**	**09 14 49.0**	**+0.6**
RFA				*i* S	**Sn**	**09 15 37.0**	**+2.2**
ROCH	**El Roble**	**4.14**	**240**	*e*P	**Pn**	**09 14 53.5**	**+4.0**
ROCH				*e*S	**Sn**	**09 15 41.6**	**+4.8**
ROCH				IAML		09 15 46.4	
	comp=E,26nm,0.4s						
AHML	**Horco Molle**	**4.34**	**17**	*e*P	**Pn**	**09 14 54.5**	**+2.4**
FSA	**Cafayete**	**4.88**	**8**	*e*P	**Pn**	**09 15 02.4**	**+2.8**
FSA				*i* S	**Sn**	**09 15 58.3**	**+3.3**

*ISCJB **11** 09:36:18.2±0.5,19.°79S±0.°05×69.°25W±0.°08,h111km±5km, mb3.5/4,Error ellipse: s-maj=13.6km s-min=7.3km az=163.4*
*GUC **11** 09:36:20.1±0.6,19.°83S×69.°31W,h96km±3km, ML4.0*
*IDC **11** 09:36:22.2±4.4,19.°68S×68.°95W,h125km±31km,mb3.4/4, mb1 3.5/7,mb1mx3.3/42,mbtmp3.7/7,Error ellipse: s-maj=57.2km s-min=23.8km az=38.0*

ISC 11 09:36:19.1±0.8,**19.°80S**±0.°05×**69.°24W**±0.°08,**h101**km±6km, **n16,**σ1**9**14/23,**mb3.6/4,2C-4D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.35**	**167**	⇓*i* P	**Pn**	**09 36 35.2**	**+0.7**
PB08				*e*S	**Sn**	**09 36 46.9**	**+0.9**
PB08				IAML		09 36 47.6	
	comp=E,8μm,0.2s						
PB11	**IPOC Station P**	**0.40**	**275**	⇓*i* P	**Pn**	**09 36 34.7**	**+0.2**
PB11				*i* S	**Sn**	**09 36 46.2**	**+0.2**
MNMC	**Minye Minye**	**0.74**	**333**	⇓*i* P	**Pn**	**09 36 38.3**	**+0.9**
MNMC				*i* S	**Sn**	**09 36 52.0**	**+1.0**
MNMC				IAML		09 36 52.8	
	comp=E,7μm,0.3s						
PSGC	**Pisagua**	**0.86**	**283**	⇑*i* P	**Pn**	**09 36 38.4**	**+0.2**
PSGC				*e*S	**Sn**	**09 36 52.5**	**-0.1**
PB01	**IPOC Station P**	**1.26**	**191**	⇑*i* P	**Pn**	**09 36 43.4**	**+0.8**
PB01				*i* S	**Sn**	**09 37 01.4**	**+1.0**
PB01				IAML		09 37 02.6	
	comp=N,6μm,0.3s						
PB12	**IPOC Station P**	**1.57**	**319**	*i* P	**Pn**	**09 36 46.5**	**+0.1**
PB12				*e*S	**Sn**	**09 37 05.9**	**-1.1**
PB12				IAML		09 37 08.7	
	comp=E,2μm,0.4s						
PB02	**IPOC Station P**	**1.63**	**202**	⇓*i* P	**Pn**	**09 36 47.7**	**+0.5**
PB02				*e*S	**Sn**	**09 37 08.6**	**+0.1**
PB02				IAML		09 37 16.0	
	comp=N,2μm,0.4s						
LPAZ	**La Paz**	**3.65**	**17**	P	**Pn**	**09 37 16.9**	**+2.8**
	comp=N,2.8nm,0.3s,baz=197,slow=7.2,SNR=68						
SIV	**San Ignacio**	**8.65**	**65**	P	**Pn**	**09 38 19.3**	**-2.2**
	comp=N,0.9nm,0.3s,baz=271,slow=9.7,SNR=41						
CPUP	**Villa Florida**	**12.74**	**123**	P	**Pn**	**09 39 15.6**	**-1.0**
	comp=N,0.1nm,0.3s,baz=299,slow=13,SNR=3.2						
TXAR	**Lajitas Array**	**59.07**	**325**	P	**P**	**09 46 09.1**	**+0.1**
	comp=N,0.2nm,1.0s,baz=143,slow=9.1,SNR=2.7						
ULM	**Lac du Bonnet**	**73.61**	**343**	P	**P**	**09 47 40.4**	**-0.8**
	comp=N,0.7nm,0.5s,baz=108,slow=3.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.08**	**71**	P	**P**	**09 48 00.6**	**-1.4**
	comp=N,0.3nm,0.4s,baz=249,slow=5.4,SNR=8.9						
YKA	**Yellowknife Ar**	**89.49**	**341**	P	**P**	**09 49 04.9**	**+0.5**
	comp=N,1.0nm,0.7s,baz=134,slow=4.6,SNR=26						
WRA	**Warramunga Arr**	**134.25**	**212**	PKP	**PKPdf**	**09 55 27.2**	**+1.2**
	comp=N,0.1nm,0.4s,baz=151,slow=1.8,SNR=6.1						
SONM	**Songino Array**	**151.81**	**6**	PKPbc	**PKPbc**	**09 56 03.0**	**+0.8**
	comp=N,0.4nm,0.5s,baz=22,slow=1.6,SNR=3.2						

*IDC **11** 09:48:55.6±0.8,26.°93N×129.°24E,h0km,mb3.6/12, mb1 3.8/13,mb1mx3.6/67,mbtmpb3.7/13,ML4.0/1,MS3.2/4, Ms1 3.3/4,ms1mx2.8/61,Error ellipse: s-maj=28.7km s-min=19.3km az=73.0*
*ISCJB **11** 09:48:57.8±1.2,26.°88N±0.°04×129.°47E±0.°04,h29km±9km, mb3.5/12,MS3.2/3,Error ellipse: s-maj=6.2km s-min=5.0km az=149.4*
*JMA **11** 09:48:58.2±0.1,26.°89N×129.°48E,h50km,M3.3*

ISC 11 09:48:57.5±3.2,**26.°89N**±0.°04×**129.°46E**±0.°04,**h15**km±20km, **n29,**σ1**9**04/35,**mb3.5/12,MS3.0/3,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.92**	**301**	P	**Pb**	**09 49 15.2**	**+0.1**
JOKE				S	**Sb**	**09 49 27.3**	**+0.1**
JTK	**Tokunoshima**	**1.00**	**333**	P	**Pb**	**09 49 16.3**	**-0.2**
JTK				S	**Sb**	**09 49 29.5**	**-0.1**
JOW	**Kunigami**	**1.06**	**267**	P	**Pb**	**09 49 17.4**	**-0.1**
JNTH	**Nagotoyohara**	**1.33**	**254**	P	**Pn**	**09 49 21.2**	**-0.3**
JNTH				S	**Sn**	**09 49 38.0**	**-1.0**
JIH	**Iheya**	**1.34**	**277**	P	**Pn**	**09 49 21.2**	**-0.4**
JIH				S	**Sn**	**09 49 39.0**	**-0.1**
JAMN	**Amaminishikomi**	**1.38**	**350**	P	**Pn**	**09 49 21.2**	**-0.9**
JAMN				*e*S	**Sn**	**09 49 37.9**	**-2.1**
JZK	**Kikaishima**	**1.50**	**18**	P	**Pn**	**09 49 23.7**	**-0.1**
JZK				S	**Sn**	**09 49 42.8**	**-0.2**
JAM	**Amami Oshima**	**1.52**	**5**	P	**Pn**	**09 49 23.2**	**-1.0**
JJT2	**Tamagusuku 2**	**1.70**	**245**	P	**Pn**	**09 49 26.7**	**+0.1**
JJT2				S	**Sn**	**09 49 47.2**	**-0.9**
JMZ	**Minamidaito 2**	**1.91**	**123**	P	**Pn**	**09 49 28.7**	**-0.7**
JMZ				S	**Sn**	**09 49 50.7**	**-2.4**
JAGN	**Aguni-jima**	**2.00**	**262**	P	**Pn**	**09 49 30.7**	**0.0**
JAGN				S	**Sn**	**09 49 54.6**	**-0.9**
JKE	**Kume jima 2**	**2.46**	**257**	P	**Pn**	**09 49 36.4**	**-0.6**
JKE				S	**Sn**	**09 50 05.4**	**-1.3**
JNU	**Nakatsue**	**6.34**	**11**	Pn	**Pn**	**09 50 31.3**	**+0.9**
	3.7nm,0.3s,baz=301,slow=2.7,SNR=30						
KSRS	**Korea Array**	**10.62**	**353**	LR	LR	09 56 07.5	
	comp=Z,94nm,18.0s,baz=168,slow=41						
SONM	**Songino Array**	**27.62**	**325**	P	**P**	**09 54 45.5**	**+1.1**
	0.3nm,0.5s,baz=126,slow=9.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**29.32**	**260**	LR	LR	10 08 42.4	
	comp=Z,35nm,18.2s,baz=24,slow=41						
PETK	**Petropavlovsk-**	**33.57**	**31**	LR	LR	10 08 53.9	
	comp=Z,21nm,21.2s,baz=220,slow=36						
MKAR	**Makanchi Array**	**41.92**	**311**	P	**P**	**09 56 45.9**	**-1.6**
	0.2nm,0.3s,baz=90,slow=10.0,SNR=5.6						
KURBB	**Kurchatov Arra**	**45.14**	**316**	P	**P**	**09 57 11.7**	**-1.6**
	0.6nm,0.5s,baz=105,slow=8.5,SNR=6.8						
WRA	**Warramunga Arr**	**46.79**	**174**	P	**P**	**09 57 26.9**	**+0.4**
	0.4nm,0.7s,baz=352,slow=8.4,SNR=4.4						
ASAR	**Alice Springs**	**50.44**	**175**	P	**P**	**09 57 56.3**	**+1.7**
	0.4nm,0.8s,baz=5.6,slow=8.4,SNR=4.7						
ILAR	**Eielson Array**	**63.34**	**28**	P	**P**	**09 59 25.6**	**0.0**
	0.3nm,0.8s,baz=237,slow=6.3,SNR=3.5						
FINES	**FINESS Array B**	**72.83**	**331**	P	**P**	**10 00 24.9**	**-0.4**
	3.8nm,1.0s,baz=72,slow=6.2,SNR=4.3						
AKASG	**Malin Array Be**	**75.75**	**320**	P	**P**	**10 00 42.0**	**-0.4**
	1.1nm,0.6s,baz=54,slow=6.8,SNR=7.7						
YKA	**Yellowknife Ar**	**77.47**	**25**	P	**P**	**10 00 52.7**	**+0.8**
	0.1nm,0.7s,baz=296,slow=4.3,SNR=2.9						
BRTR	**Keskin Array B**	**77.50**	**308**	P	**P**	**10 00 53.0**	**+0.2**
	0.7nm,0.7s,baz=109,slow=5.6,SNR=4.1						
NOA	**NORSAR Array B**	**79.21**	**334**	LR	LR	10 42 31.8	
	comp=Z,49nm,18.9s,baz=0.0,slow=41						
GERES	**GERESS Array B**	**85.34**	**323**	P	**P**	**10 01 33.9**	**-0.2**
	0.1nm,0.3s,baz=53,slow=3.8,SNR=3.1						
NVAR	**Mina Array Bea**	**89.26**	**47**	P	**P**	**10 01 55.5**	**+2.1**
	0.4nm,0.8s,baz=300,slow=4.1,SNR=3.0						

IDC 11 09:53:32.6±1.1,**16.°42S×177.°28W,h0km,mb3.8/6, mb1 4.1/6,mb1mx3.8/39,mbtmp3.9/6,Error ellipse: s-maj=44.3km s-min=22.5km az=138.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.31**	**192**	P	P	09 58 30.7	-1.1
	3.7nm,0.3s,baz=0.0,slow=14,SNR=7.7						
STKA	**Stephens Creek**	**40.30**	**240**	P	P	10 01 12.5	+0.7
	0.8nm,0.3s,baz=98,slow=10,SNR=9.6						
WRA	**Warramunga Arr**	**45.98**	**258**	P	P	10 01 57.9	-0.1
	0.1nm,0.3s,baz=90,slow=8.2,SNR=11						
ASAR	**Alice Springs**	**46.25**	**253**	P	P	10 01 59.8	-0.3
	2.4nm,0.5s,baz=88,slow=8.0,SNR=42						
ILAR	**Eielson Array**	**84.20**	**13**	P	P	10 06 05.0	-0.6
	0.5nm,0.5s,baz=223,slow=5.4,SNR=23						
TXAR	**Lajitas Array**	**84.29**	**57**	P	P	10 06 07.6	+0.7
	0.2nm,0.6s,baz=221,slow=6.7,SNR=3.3						

*CSEM **11** 09:57:16.4±0.6,28.°13N×59.°17E,h15km,ML3.8,Error ellipse: s-maj=17.2km s-min=14.5km az=121.0*

TEH 11 09:57:14.3,28.°27N×59.°13E,h10km,ML3.8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHSF	**Zahedan**	**1.97**	**47**	*e*Pn	Pg	09 57 51.4	-0.7
CHMN	**Cheshme madani**	**2.11**	**319**	*e*Pn	Pb	09 57 52.0	-0.4
CHMN	**Cheshme madani**	**2.11**	**319**	*e*Pn	Pb	09 57 52.5	-0.4
NIAN	**Nian**	**2.15**	**251**	*e*Pn	Pb	09 57 52.6	-0.7
NIAN	**Nian**	**2.15**	**251**	*e*Pn	Pb	09 57 52.6	-0.7
NGRK	**Negar Kerman**	**2.51**	**304**	*e*Pn	Pb	09 57 59.1	-0.6
NGRK	**Negar Kerman**	**2.51**	**304**	*e*Pn	Pb	09 57 59.1	-0.6
KRBR	**Kerman**	**2.68**	**310**	*e*Pn	Pb	09 58 01.4	-1.2
GENO	**Geno**	**2.76**	**252**	*e*Pn	Pb	09 58 02.0	-1.8
GENO	**Geno**	**2.76**	**252**	*e*Pn	Pb	09 58 02.0	-1.8
BNDS	**Bandar-Abbas**	**2.76**	**252**	*e*Pn	Pn	09 57 58.0	-0.8
CHBR	**Chabahar**	**2.93**	**155**	*e*Pn	Pn	09 57 59.9	-1.0
IKOO	**Kooshah**	**4.14**	**359**	*e*Pn	Pn	09 58 20.8	+2.9
IKOO				*e*AMB	AMB	09 58 21.6	
	comp=N,2μm,0.1s						
IKOO	**Kooshah**	**4.14**	**359**	*e*Pn	Pn	09 58 20.8	+2.9
IBAF	**Bafgh**	**4.53**	**318**	*e*Pn	Pb	09 58 35.5	+1.5
IBAF				*e*AMB	AMB	09 59 41.6	
	comp=Z,446nm,0.3s						
ITEG	**Tejag**	**4.62**	**356**	*e*Pn	Pn	09 58 27.5	+3.1
ITEG				*e*AMB	AMB	09 58 27.9	
	comp=Z,1μm,0.2s						
ITEG	**Tejag**	**4.62**	**356**	*e*Pn	Pn	09 58 27.5	+3.1

*ISCJB **11** 09:57:39.0±0.5,37.°14N±0.°04×27.°91E±0.°03,h0km,Error ellipse: s-maj=5.5km s-min=3.8km az=15.6*
*ISK **11** 09:57:38.9,37.°17N×27.°82E,h5km,ML2.5/5*
*CSEM **11** 09:57:39.2±0.3,37.°12N×27.°90E,h1km,ML2.5,Error ellipse: s-maj=8.2km s-min=4.7km az=22.0,Suspected Mining explosion.*
*DDA **11** 09:57:40.1,37.°18N×27.°89E,h7km,Ml2.5,Suspected Mining explosion.*

ISC 11 09:57:38.2±0.9,**37.°09N**±0.°03×**27.°90E**±0.°02,**h0**km,**n24,** σ0**°53/35,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.31**	**81**	PG	**Pb**	**09 57 46.5**	**-0.2**
YER	**Yerkesik**	**0.31**	**81**	*e*Pg	**Pb**	**09 57 46.5**	**-0.2**
BDRM	**Kayabasi**	**0.36**	**266**	*i* P	**Pb**	**09 57 46.9**	**-0.7**
BDRM				*i* S	**Sb**	**09 57 53.6**	**-0.2**
BDRM	**Kayabasi**	**0.36**	**266**	P	**Pb**	**09 57 46.9**	**-0.7**
BDRM				S	**Sb**	**09 57 53.6**	**-0.2**
BODT	**Bodrum**	**0.47**	**267**	PG	**Pg**	**09 57 47.5**	**+0.3**
BODT				SG	**Sg**	**09 57 54.2**	**+0.9**
BODT	**Bodrum**	**0.47**	**267**	*e*Pg	**Pg**	**09 57 47.5**	**+0.3**
BODT				*e*Sg	**Sg**	**09 57 54.2**	**+0.9**
AYDN	**Tasoluk**	**0.57**	**358**	*i* P	**Pg**	**09 57 49.9**	**+0.7**
AYDN				*i* S	**Sg**	**09 57 56.2**	**-0.4**
AYDN	**Tasoluk**	**0.57**	**358**	P	**Pg**	**09 57 49.9**	**+0.7**
AYDN				S	**Sg**	**09 57 56.2**	**-0.4**
TURN	**Turunc**	**0.60**	**111**	PG	**Pg**	**09 57 49.4**	**-0.4**
TURN				SG	**Sg**	**09 57 57.3**	**-0.3**
TURN	**Turunc**	**0.60**	**111**	*i* P	**Pg**	**09 57 50.0**	**+0.2**
TURN				*i* S	**Sg**	**09 57 57.9**	**+0.3**
TURN	**Turunc**	**0.60**	**111**	*e*Pg	**Pg**	**09 57 49.4**	**-0.4**
TURN	**Turunc**	**0.60**	**111**	P	**Pg**	**09 57 50.0**	**+0.2**
TURN				*e*Sg	**Sg**	**09 57 57.3**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.66**	**114**	PG	**Pn**	**09 57 54.2**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.66**	**114**	*i* Pg	**Pn**	**09 57 54.2**	**-0.6**
GCAM	**G?zelcaml?**	**0.81**	**319**	PG	**Pg**	**09 57 53.4**	**-0.3**
GCAM				SG	**Sg**	**09 58 03.7**	**-0.5**
GCAM	**G?zelcaml?**	**0.81**	**319**	*i* P	**Pb**	**09 57 55.1**	**0.0**
GCAM	**G?zelcaml?**	**0.81**	**319**	*e*Pg	**Pg**	**09 57 53.4**	**-0.3**
GCAM	**G?zelcaml?**	**0.81**	**319**	P	**Pb**	**09 57 55.2**	**0.0**
GCAM				*e*Sg	**Sg**	**09 58 03.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**360**	PG	**Pg**	**09 57 54.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**360**	*e*Pg	**Pg**	**09 57 54.6**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.89**	**65**	*i* P	**Pb**	**09 57 56.7**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.89**	**65**	P	**Pb**	**09 57 56.7**	**+0.1**
FETY	**Fethiye**	**1.05**	**115**	PN	**Pn**	**09 58 01.4**	**+1.2**
FETY	**Fethiye**	**1.05**	**115**	*i* Pn	**Pn**	**09 58 01.4**	**+1.2**

IDC 11 09:58:20.6±10.0,**18.°14S×178.°56W,h504**km±119km, **mb3.1/6,mb1 3.4/6,mb1mx3.1/39,mbtmp4.0/6,Error ellipse: s-maj=82.7km s-min=34.9km az=149.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.40**	**241**	P	P	10 04 58.0	-0.3
	1.8nm,0.5s,baz=82,slow=11,SNR=6.3						
WRA	**Warramunga Arr**	**44.45**	**260**	P	P	10 05 46.4	-0.2
	0.9nm,0.4s,baz=98,slow=6.5,SNR=29						
ASAR	**Alice Springs**	**44.59**	**254**	P	P	10 05 47.6	0.0
	8.2nm,0.6s,baz=90,slow=8.5,SNR=142						
ASAR				PcP	PcP	10 07 19.6	-0.3
	0.4nm,0.5s,baz=109,slow=4.2,SNR=4.8						
ILAR	**Eielson Array**	**86.14**	**13**	P	P	10 10 07.5	+0.1
	0.3nm,0.4s,baz=218,slow=5.0,SNR=13						
TXAR	**Lajitas Array**	**86.24**	**58**	P	P	10 10 09.3	+0.5
	0.4nm,0.8s,baz=235,slow=5.7,SNR=5.9						
PDAR	**Pinedale Array**	**87.61**	**43**	P	P	10 10 14.5	-0.7
	0.1nm,0.5s,baz=266,slow=2.6,SNR=2.6						

*IDC **11** 10:05:44.2±0.9,11.°1N×146.°01E,h0km,mb3.6/11, mb1 3.8/11,mb1mx3.6/61,mbtmpb3.6/11,ML5.3/1,MS3.4/4, Ms1 3.4/4,ms1mx2.8/56,Error ellipse: s-maj=31.5km s-min=17.5km az=87.0*
*ISCJB **11** 10:05:47.6±0.7,11.°11N±0.°08×145.°9E±0.°2,h33km, mb3.6/12,MS3.3/4,Error ellipse: s-maj=25.8km s-min=9.6km az=166.9*

ISC 11 10:05:49.6±0.9,**11.°2N**±0.°1×**145.°9E**±0.°2,**h35**km,**n23,** σ0°**75/14,mb3.6/12,MS3.5/4,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.64**	**337**	Pn	**Pn**	**10 06 29.7**	**0.0**
	583nm,0.3s,baz=22,slow=7.8,SNR=502						
GUMO				Sn	**Sn**	**10 06 60.0**	**-0.5**
	597nm,0.3s,baz=17,slow=22,SNR=25						
DAV	**Davao City (W)**	**20.50**	**260**	LR	LR	10 18 56.0	
	comp=Z,30nm,18.2s,baz=12,slow=38						
H11S3	**WAKE ISLAND Hy**	**21.34**	**68**	T	T	10 32 34.3	
	baz=253,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**21.35**	**68**	T	T	10 32 35.2	
	baz=253,slow=75,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**21.35**	**68**	T	T	10 32 33.2	
	baz=253,slow=75,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**21.90**	**65**	T	T	10 33 16.9	
	baz=249,slow=75,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**21.91**	**65**	T	T	10 33 19.5	
	baz=249,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**21.92**	**65**	T	T	10 33 20.9	
	baz=249,slow=75,SNR=9.3						
JNU	**Nakatsue**	**25.87**	**330**	P	**P**	**10 11 18.2**	**0.0**
	10.0nm,0.7s,baz=99,slow=4.8,SNR=6.2						
MJAR	**Matsushiro Arr**	**26.23**	**346**	P	**P**	**10 11 19.8**	**-1.5**
	0.9nm,0.4s,baz=157,slow=4.7,SNR=5.2						
KSRS	**Korea Array**	**30.79**	**331**	P	**P**	**10 12 01.6**	**-0.3**
	1.0nm,0.6s,baz=140,slow=9.2,SNR=4.2						
WRA	**Warramunga Arr**	**32.94**	**200**	P	**P**	**10 12 20.5**	**-0.6**
	0.5nm,0.8s,baz=31,slow=9.9,SNR=4.1						
ASAR	**Alice Springs**	**36.55**	**199**	P	**P**	**10 12 51.6**	**-0.6**
	0.2nm,0.5s,baz=27,slow=8.3,SNR=3.6						
DZM	**Mont Dzumac**	**38.66**	**149**	LR	LR	10 27 50.3	
	comp=Z,50nm,18.2s,baz=27,slow=34						
KLR	**Kul'dur**	**39.75**	**345**	P	**P**	**10 13 18.6**	**-0.2**
	0.1nm,0.6s,baz=174,slow=9.2,SNR=3.9						
SONM	**Songino Array**	**49.31**	**326**	P	**P**	**10 14 36.3**	**+0.9**
	0.5nm,0.5s,baz=140,slow=7.8,SNR=5.8						
MKAR	**Makanchi Array**	**63.96**	**317**	P	**P**	**10 16 20.2**	**+0.8**
	0.8nm,0.6s,baz=94,slow=8.8,SNR=9.6						
KDAK	**Kodiak Island**	**65.59**	**31**	LR	LR	10 40 09.6	
	comp=Z,44nm,20.4s,baz=300,slow=32						
KURBB	**Kurchatov Arra**	**67.15**	**320**	P	**P**	**10 16 40.2**	**+0.3**
	1.2nm,0.5s,baz=106,slow=6.1,SNR=14						
ILAR	**Eielson Array**	**70.32**	**25**	P	**P**	**10 16 58.5**	**-0.9**
	0.2nm,0.6s,baz=256,slow=5.3,SNR=5.2						
BVAR	**Borovoye Array**	**72.48**	**322**	LR	LR	10 51 20.1	
	comp=Z,31nm,18.2s,baz=340,slow=38						
YKA	**Yellowknife Ar**	**84.53**	**27**	P	**P**	**10 18 19.2**	**+0.4**
	0.1nm,0.4s,baz=286,slow=3.9,SNR=4.0						
NVAR	**Mina Array Bea**	**87.62**	**51**	P	**P**	**10 18 35.7**	**+0.8**
	0.1nm,0.3s,baz=285,slow=7.2,SNR=2.4						

*ISN **11** 10:07:59.8±1.3,29.°75N×51.°75E,h0km±196km,ML4.5*
*TEH **11** 10:08:00.9,29.°99N×51.°65E,h10km,ML4.1*
*IDC **11** 10:08:02.6±0.8,30.°12N×51.°70E,h0km,mb4.0/24, mb1 4.1/30,mb1mx3.9/70,mbtmp4.0/30,ML3.7/5,MS3.4/16, Ms1 3.4/16,ms1mx3.1/63,Error ellipse: s-maj=18.4km s-min=12.7km az=178.0*
*ISCJB **11** 10:08:03.1±0.2,29.°97N±0.°02×51.°76E±0.°02,h15km, mb4.3/68,MS3.3/11,Error ellipse: s-maj=3.4km s-min=2.2km az=145.8*
*OMAN **11** 10:08:04.8±1.8,29.°77N×51.°57E,h10km,Error ellipse: s-maj=3.0km s-min=1.3km az=37.0*
*CSEM **11** 10:08:04.1±0.1,30.°00N×51.°73E,h10km,mb4.4/22,Error ellipse: s-maj=4.6km s-min=2.8km az=49.0*
*MOS **11** 10:08:05.9±1.4,29.°95N×51.°72E,h36km,mb4.5/20,Error ellipse: s-maj=9.5km s-min=5.6km az=107.8*
*THR **11** 10:08:06.2±0.7,30.°12N×51.°75E,h39km±9km, ML4.2*
*NEIC **11** 10:08:06.2±0.0,30.°12N×51.°75E,h39km,mb4.5/31, ML4.2(THR),MN4.0(TEH),After THR.*
*DSN **11** 10:08:09.3±1.0,29.°84N×51.°95E,h30km,ML4.8/1,Error ellipse: s-maj=48.0km s-min=8.7km az=49.0*

ISC 11 10:08:04.7±0.3,**30.°01N**±0.°03×**51.°73E**±0.°04,**h15**km,**n302,** σ1**9**47/318,**mb4.3/68,MS3.3/11,22C-11D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAM	**Ramesheh**	**1.88**	**17**	*e*Pn	**Pn**	**10 08 35.1**	**-1.4**
IRAM				*e*AMB	AMB	10 09 07.0	
	comp=Z,18μm,0.2s						
IRAM	**Ramesheh**	**1.88**	**17**	*e*Pn	**Pn**	**10 08 35.2**	**-1.3**
IRAM				*e*Sn	**Sb**	**10 09 03.8**	**+1.5**
IRAM	**Ramesheh**	**1.88**	**17**	*e*Pn	**Pn**	**10 08 35.2**	**-1.3**
IRAM				*e*Sn	**Sb**	**10 09 03.8**	**+1.5**
GHIR	**Ghir-Karzin**	**2.04**	**147**	*e*Pn	**Pb**	**10 08 41.0**	**-0.6**
GHIR				*e*Sg	**Sg**	**10 09 11.6**	**+1.

BANOM S Sn 10 10 34.2 -0.7
BANOM Banah 5.73 134 P Pn 10 09 29.4 0.0
SNR=32
BANOM S Sn 10 10 34.2 -0.7
BANOM Banah 5.73 134 *i* P Pn 10 09 29.4 0.0
SNR=32
IANJ Anjilo 5.74 18 *e*Pn Pn 10 09 30.1 +0.4
IANJ *e*AMB AMB 10 09 59.6
comp=Z,586nm,0.2s
IANJ Anjilo 5.74 18 *e*Pn Pn 10 09 30.1 +0.4
TABS Tabas 5.84 50 *e*Pn Pn 10 09 32.1 +1.1
TABS Tabas 5.84 50 *e*Pn Pn 10 09 32.1 +1.1
CHTH Charan 5.90 355 *e*Pn Pn 10 09 32.3 +0.4
CHTH Charan 5.90 355 *e*Pn Pn 10 09 32.3 +0.4
BTHS 5.99 188 P Pn 10 09 35.2 +2.3
BTHS S Sn 10 10 43.9 +2.7
MSFE Esma-Masafi 6.07 139 P Pn 10 09 34.8 +0.8
SNR=18
MSFE S Sn 10 10 42.2 -1.1
MSFE Esma-Masafi 6.07 139 *i* P Pn 10 09 34.6 +0.6
SNR=18
MSFE S Sn 10 10 40.4 -2.8
NAZ Nazwa, Dubai 6.10 144 P Pn 10 09 35.4 +1.1
NAZ S Sn 10 10 44.2 +0.3
SNR=8.5
NAZ Nazwa, Dubai 6.10 144 P Pn 10 09 35.4 +1.1
NAZ S Sn 10 10 44.2 +0.3
SNR=8.5
MDH Madha 6.20 138 *i* P Pn 10 09 35.9 +0.2
SNR=6.2
SNGE Sanandaj 6.28 325 *e*P Pn 10 09 37.2 +0.2
SNGE Sanandaj 6.28 325 *e*P Pn 10 09 37.2 +0.2
ILIN Lien 6.34 322 *e*Pn Pn 10 09 37.1 -0.8
ILIN *e*AMB AMB 10 10 53.7
comp=Z,974nm,0.1s
ILIN Lien 6.34 322 *e*Pn Pn 10 09 37.1 -0.8
UOSS Minazif 6.42 141 *e*Pn Pn 10 09 38.5 -0.3
UOSS *e*Sn Sn 10 10 49.0 -2.8
UOSS Minazif 6.42 141 P Pn 10 09 39.2 +0.4
SNR=18
UOSS S Sn 10 10 49.6 -2.2
UOSS Minazif 6.42 141 *e*Pn Pn 10 09 38.5 -0.3
UOSS Minazif 6.42 141 P Pn 10 09 39.2 +0.4
SNR=18
UOSS S Sn 10 10 49.6 -2.2
HATD Hatta, Dubai 6.48 142 pPn Pn 10 09 40.6 +1.1
SNR=6.9
HATD Hatta, Dubai 6.48 142 P Pn 10 09 40.6 +1.1
SNR=6.9
HATD S Sn 10 10 52.0 -1.2
HATD Hatta, Dubai 6.48 142 P Pn 10 09 39.3 -0.3
SNR=6.8
HATD S Sn 10 10 52.0 -1.2
HATD Hatta, Dubai 6.48 142 *i* P Pn 10 09 39.3 -0.3
SNR=6.8
IDHR Dehrash 6.50 317 *e*Pn Pn 10 09 39.2 -0.9
IDHR *e*AMB AMB 10 10 55.1
comp=Z,2µm,0.1s
IDHR Dehrash 6.50 317 *e*Pn Pn 10 09 39.2 -0.9
ASHO Ashiyiah 6.55 143 pPn Pn 10 09 41.0 +0.4
SNR=11
ASHO Ashiyiah 6.55 143 P Pn 10 09 41.0 +0.4
SNR=11
ASHO S Sn 10 10 54.0 -1.1
ASHO Ashiyiah 6.55 143 P Pn 10 09 40.4 -0.2
SNR=12
ASHO S Sn 10 10 54.0 -1.1
ASHO Ashiyiah 6.55 143 *i* P Pn 10 09 40.4 -0.2
SNR=12
SHRO Shahrood 6.96 30 *e*Pn Pn 10 09 46.4 +0.1
SHRO Shahrood 6.96 30 *e*Pn Pn 10 09 46.4 +0.1
SOHO SOHO 7.25 143 *i* P Pn 10 09 49.4 -0.7
SNR=6.3
SHRT Shahrakht 8.13 61 *e*Pn Pn 10 10 02.8 +0.4
SHRT Shahrakht 8.13 61 *e*Pn Pn 10 10 02.8 +0.4
MRVT Maraveh tapeh 8.45 24 *e*Pn Pn 10 10 07.1 +0.5
MRVT Maraveh tapeh 8.45 24 *e*Pn Pn 10 10 07.1 +0.5
RAYN Ar Rayn 8.53 222 P Pn 10 10 07.6 -0.2
RAYN Ar Rayn 8.53 222 *e*Pn Pn 10 10 07.6 -0.2
RAYN *e*Sn Sn 10 11 43.1 -0.7
RAYN Ar Rayn 8.53 222 P Pn 10 10 07.6 -0.2
RAYN *e*Sn Sn 10 11 43.1 -0.7
WSAR Wadi Sarin 9.14 136 Pn Pn 10 10 15.3 -0.8
comp=Z,2.2nm,0.3s,baz=339,slow=5.8,SNR=16
WSAR Sn Sn 10 11 51.5 -7.2
comp=Z,5.1nm,0.3s,baz=44,slow=23,SNR=11
WSAR LR LR 10 14 34.2
comp=Z,280nm,20.1s,baz=344,slow=42
WSAR Wadi Sarin 9.14 136 P Pn 10 10 15.0 -1.1
SNR=18
WSAR Wadi Sarin 9.14 136 P Pn 10 10 15.0 -1.1
SNR=18
GEYT Alibeck 9.51 32 Pn Pn 10 10 18.4 -2.8
baz=188,slow=20,SNR=1.9
GEYT LR LR 10 14 33.4
comp=Z,154nm,18.3s,baz=225,slow=41
RTB Rutbah 10.21 290 *e*Pn Pn 10 10 32.0 +1.3
SNR=4.0
RTB *i* Sn Sn 10 12 23.0 -1.9
SNR=4.0
GNI Garni 11.62 332 LR LR 10 16 04.0
comp=Z,85nm,21.5s,baz=142,slow=42
WHFO Wadi Hawf 12.18 171 P Pn 10 10 56.3 -1.5
WHFO Wadi Hawf 12.18 171 P Pn 10 10 56.3 -1.5
SHAO Shalim 12.45 163 P Pn 10 11 00.0 -1.4
SHAO Shalim 12.45 163 P Pn 10 11 00.0 -1.4
RBK Rabkut 12.65 169 P Pn 10 11 02.8 -1.5
RBK Rabkut 12.65 169 P Pn 10 11 02.8 -1.5
ASF Jabal al Asfar 12.90 283 Pn Pn 10 11 04.9 -2.7
comp=Z,1.2nm,0.3s,baz=40,slow=7.1,SNR=6.5
ZEI Tsey 14.22 336 *e*P P 10 11 28.7 +3.0
ZEI pmax pmax
comp=Z,11nm,1.1s
MMAI Mount Meron Ar 14.25 286 LR LR 10 18 08.7
comp=Z,136nm,20.1s,baz=110,slow=43
NEY Neytrino 15.05 334⇑ *e*P P 10 11 42.1 -0.2
NEY pmax pmax
comp=Z,7.0nm,2.1s
NEY Neytrino 15.05 334 *e*P P 10 11 42.1 -0.2
comp=Z,7.0nm,2.1s
KBZ Khabaz 15.40 335 Pn Pn 10 11 43.0 +1.7
comp=Z,0.1nm,0.3s,baz=171,slow=19,SNR=3.2
KBZ Khabaz 15.40 335 P Pn 10 11 43.0 +1.7
KBZ Khabaz 15.40 335 Pn Pn 10 11 43.0 +1.7
KVAR Kislovodsk Arr 15.67 335 Pn Pn 10 11 44.7 -0.3
baz=221,slow=9.3,SNR=2.5
KIV Kislovodsk 15.67 335 *e*P Pn 10 11 47.3 +2.3
KIV pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 15.67 335 *e*P Pn 10 11 47.3 +2.3
comp=Z,15nm,1.1s
BR131 Keskin Array S 17.70 308 *e*Pn Pn 10 12 11.0 +0.1
BR131 Keskin Array S 17.70 308 pP Pn 10 12 10.6 -0.3
SNR=8.6
BR131 Keskin Array S 17.70 308 P Pn 10 12 10.6 -0.3
SNR=8.6
BR131 Keskin Array S 17.70 308 P Pn 10 12 10.6 -0.3
SNR=8.6
BR131 Keskin Array S 17.70 308 *e*Pn Pn 10 12 11.0 +0.1
BRTR Keskin Array B 17.70 308 P Pn 10 12 10.7 -0.2
comp=Z,0.3nm,0.3s,baz=129,slow=13,SNR=19
BRTR LR LR 10 20 03.9
comp=Z,111nm,18.9s,baz=111,slow=41
BRTR Keskin Array B 17.70 308 *i* P Pn 10 12 10.6 -0.3
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BR231 Keskin MP Arra 18.35 307 *e*Pn Pn 10 12 10.9 -7.9
KKAR Karatay Array 19.90 44 *e*P P 10 12 35.6 -0.1
KKAR Karatay Array 19.90 44 *e*P P 10 12 35.6 -0.1
KKAR Karatay Array 19.90 44 *e*P P 10 12 35.6 -0.1
ATD Arta Tunnel 20.16 206 LR LR 10 21 43.1
comp=Z,121nm,18.8s,baz=32,slow=40
ABKAR Akbulak array 20.21 16 *e*P P 10 12 37.8 -1.2
comp=Z,20nm,0.7s
ABKAR Akbulak array 20.21 16 *e*P P 10 12 37.8 -1.2
comp=Z,20nm,0.7s
AKTK Aktyubinsk 20.94 11 P P 10 12 45.9 -1.0
comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 20.94 11 P P 10 12 45.9 -1.0
comp=Z,1.9nm,0.6s,baz=188,slow=12,SNR=6.1
AKTO Aktyubinsk 20.94 11 P P 10 12 45.9 -1.0
AKTO pmax pmax
comp=Z,4.0nm,0.6s
KSH Kashi 22.00 58 P P 10 12 55.0 -3.5
KSH pP pP 10 13 02.9 +0.1
KSH sP sP 10 13 08.1 +3.3
KSH S S 10 16 46.2 -15
KSH sS pS 10 17 01.0 -6.5
KSH SS **SnSn** **10 17 23.6 -3.3**
AAK Ala-Archa 22.17 49 P P 10 13 00.5 +0.2
comp=Z,0.5nm,0.4s,baz=198,slow=19,SNR=3.2
AAK LR LR 10 21 55.1
comp=Z,112nm,18.5s,baz=251,slow=38
AAK Ala-Archa 22.17 49⇓ *e*P P 10 13 01.3 +1.0
AAK pmax pmax
comp=Z,2.0nm,1.1s
AAK Ala-Archa 22.17 49 *e*P P 10 13 00.0 -0.3
comp=Z,12nm,1.4s
AAK Ala-Archa 22.17 49 *e*P P 10 13 00.0 -0.3
comp=Z,12nm,1.4s
VRH Novokhopyorsk 22.45 343 *e*P P 10 13 03.1 +0.1
VRH pmax pmax
comp=Z,20nm,1.1s
VRH Novokhopyorsk 22.45 343 *e*P P 10 13 03.1 +0.1
comp=Z,20nm,1.1s
NRN Naryn 22.68 53 P P 10 13 05.1 -0.9
NRN Naryn 22.68 53 P P 10 13 05.1 -0.9
VSR Storozhevoye 23.17 340 *e*P P 10 13 11.6 +1.0
VSR pmax pmax
comp=Z,50nm,0.8s
VSR Storozhevoye 23.17 340 *e*P P 10 13 11.6 +1.0
comp=Z,50nm,0.8s
IDI Anoyia 23.17 290 P P 10 13 10.8 0.0
comp=Z,14nm,0.8s,baz=95,slow=11,SNR=3.2
IDI LR LR 10 24 59.1
comp=Z,57nm,19.1s,baz=79,slow=44
IDI Anoyia 23.17 290 *e*P P 10 13 10.8 0.0
comp=Z,140nm,1.5s
IDI Anoyia 23.17 290 *e*P P 10 13 10.8 0.0
comp=Z,140nm,1.5s
TIRR Tirgusor 23.40 314⇓ *i*P P 10 13 08.1 -4.9
TIRR Tirgusor 23.40 314⇓ *i*P P 10 13 08.1 -4.9
TIRR Tirgusor 23.40 314 *e*P P 10 13 13.8 +0.8
comp=Z,6.3nm,0.8s
TIRR Tirgusor 23.40 314 *e*P P 10 13 13.8 +0.8
comp=Z,6.3nm,0.8s
TLCR 23.53 316⇓ *i*P P 10 13 19.5 +5.2
TLCR 23.53 316 ⇓P P 10 13 19.5 +5.2
TLB Topalu 23.70 314⇑ *i*P P 10 13 13.1 -2.7
TLB Topalu 23.70 314 ⇑P P 10 13 13.2 -2.6
CFR Carcaliu 23.94 316⇑ *i*P P 10 13 18.9 +0.8
CFR Carcaliu 23.94 316 ⇑P P 10 13 18.9 +0.8
CFR Carcaliu 23.94 316 P P 10 13 18.9 +0.8
VRI Vrincioaia 25.14 316⇑ *i*P P 10 13 30.7 +1.5
VRI Vrincioaia 25.14 316 ⇑P P 10 13 30.7 +1.5
VRI Vrincioaia 25.14 316 P P 10 13 30.7 +1.5
PLOR Plostina 25.18 316⇑ *i*P P 10 13 31.2 +1.6
PLOR Plostina 25.18 316 ⇑P P 10 13 31.2 +1.6
PLOR Plostina 25.18 316 P P 10 13 31.2 +1.6
MLR Muntele Rosu 25.43 315 P P 10 13 33.9 +1.9
comp=Z,2.4nm,0.7s,baz=118,slow=2.2,SNR=24
MLR Muntele Rosu 25.43 315⇑ *i*P P 10 13 33.9 +1.9
MLR Muntele Rosu 25.43 315 *e*P P 10 13 34.0 +2.0
MLR pmax pmax
comp=Z,10.0nm,0.7s
MLR Muntele Rosu 25.43 315 *e*P P 10 13 34.0 +2.0
comp=Z,10nm,0.7s
MLR Muntele Rosu 25.43 315 *e*P P 10 13 34.0 +2.0
comp=Z,10nm,0.7s
TESR Tescani 25.52 317⇑ *i*P P 10 13 33.9 +1.3
AGG Agios Georgios 25.75 298 *e*P P 10 13 34.5 -0.3
AGG pmax pmax
comp=Z,138nm,1.4s
AGG Agios Georgios 25.75 298 *e*P P 10 13 34.5 -0.3
comp=Z,138nm,1.4s
AGG Agios Georgios 25.75 298 *e*P P 10 13 34.5 -0.3
comp=Z,138nm,1.4s
VOIR 25.97 314⇑ *i*P P 10 13 39.4 +2.6
VOIR 25.97 314 ⇑P P 10 13 39.4 +2.6
VOIR 25.97 314 P P 10 13 39.4 +2.6
DOPR Dopca 26.00 315⇓ *i*P P 10 13 39.3 +2.3
VTS Vitosha 26.06 307⇑ *i*P P 10 13 26.8 -11
VTS Vitosha 26.06 307 ⇑P P 10 13 26.8 -11
ARR Arges 26.20 313⇓ *i*P P 10 13 40.2 +1.4
AKASG Malin Array Be 26.67 327 P P 10 13 41.6 -1.3
comp=Z,0.9nm,0.5s,baz=133,slow=9.1,SNR=8.0
AKASG LR LR 10 26 46.0
comp=Z,20nm,19.9s,baz=310,slow=42
AKBB Malin Array Si 26.67 327 *e*P P 10 13 42.5 -0.4
AKBB pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 26.67 327 *e*P P 10 13 42.5 -0.4
comp=Z,3.1nm,0.6s
AKBB Malin Array Si 26.67 327 *e*P P 10 13 42.5 -0.4
comp=Z,3.1nm,0.6s
KIEV Kiev 26.67 327⇑ *e*P P 10 13 43.6 +0.7
KIEV pmax pmax
comp=Z,14nm,3.0s
KIEV Kiev 26.67 327 *e*P P 10 13 42.5 -0.5
comp=Z,3.0nm,0.7s
KIEV Kiev 26.67 327 *e*P P 10 13 43.6 +0.7
comp=Z,14nm,3.0s
AK11 Malin Array Si 26.68 327 *e*P P 10 13 44.0 +1.0
AK11 Malin Array Si 26.68 327 *e*P P 10 13 44.0 +1.0
BRVK Borovoye 26.73 25⇑ *e*P P 10 13 43.9 +0.4
BRVK pmax pmax
comp=Z,12nm,2.4s
BRVK Borovoye 26.73 25 *e*P P 10 13 43.9 +0.4
comp=Z,12nm,2.4s
BVAR Borovoye Array 26.75 25 P P 10 13 43.7 +0.1
comp=Z,2.9nm,0.7s,baz=220,slow=5.6,SNR=7.8
ARU Arti 26.85 8 LR LR 10 25 41.1
comp=Z,78nm,18.3s,baz=194,slow=40
BURAR Bucovina Array 26.93 318⇓ *i*P P 10 13 46.5 +1.0
BURAR Bucovina Array 26.93 318 ⇓P P 10 13 46.5 +1.0
BUR04 Bucovina Ar. S 26.93 318 *e*P P 10 13 46.6 +1.2
BUR04 Bucovina Ar. S 26.93 318 *e*P P 10 13 46.7 +1.2
BUR08 Bucovina Ar. S 26.95 318 *e*P P 10 13 45.9 +0.2
BUR08 Bucovina Ar. S 26.95 318 *e*P P 10 13 45.9 +0.2
OBN Obninsk 27.34 341 *e*P P 10 13 50.5 +1.6
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 27.34 341 *e*P P 10 13 50.5 +1.6
comp=Z,7.0nm,1.0s
DRGR 28.03 315⇑ *i*P P 10 13 55.3 0.0
DRGR 28.03 315 ⇑P P 10 13 55.3 0.0
DRGR 28.03 315 P P 10 13 55.3 0.0
BZS Buzias 28.23 312⇑ *i*P P 10 13 57.1 +0.1
BZS Buzias 28.23 312 ⇑P P 10 13 57.1 +0.1
BZS Buzias 28.23 312 P P 10 13 57.1 +0.1
KURBB Kurchatov Arra 28.74 37 P P 10 14 01.9 +0.4
comp=Z,0.9nm,0.6s,baz=236,slow=9.3,SNR=7.9
KURK Kurchatov 28.84 37⇓ *i*P P 10 14 05.3 +2.9
KURK pmax pmax
comp=Z,12nm,1.2s
KURK Kurchatov 28.84 37 P P 10 14 01.9 -0.5
KURK Kurchatov 28.84 37 P P 10 14 01.9 -0.5
MK01 Makanchi Array 28.98 46 *e*P P 10 14 04.5 +0.7
MK01 Makanchi Array 28.98 46 *e*P P 10 14 04.4 +0.7
MKAR Makanchi Array 28.98 46 P P 10 14 02.9 -0.9
comp=Z,0.2nm,0.5s,baz=235,slow=9.6,SNR=3.4
CUC Castrocucco 30.88 299 *e*P P 10 14 22.7 +2.1
comp=Z,25nm,1.2s
CUC Castrocucco 30.88 299 *e*P P 10 14 22.7 +2.1
comp=Z,25nm,1.2s
VYHS Vyhne 31.13 316 *e*P P 10 14 25.4 +2.7
VYHS pmax pmax
comp=Z,23nm,2.5s
VYHS Vyhne 31.13 316 *e*P P 10 14 25.4 +2.7
OJC Ojcow 31.32 319 *e*P P 10 14 26.0 +1.7
OJC pmax pmax
comp=Z,3.0nm,0.7s
OJC Ojcow 31.32 319 *e*P P 10 14 26.0 +1.7
comp=Z,2.6nm,0.7s
OJC Ojcow 31.32 319 *e*P P 10 14 26.0 +1.7
comp=Z,2.6nm,0.7s
WMQ Urumqi 31.62 54 P P 10 14 28.8 +1.7
DGZ Jazzator, Alta 33.30 44⇓ *e*P P 10 14 45.6 +3.7
DGZ pmax pmax
comp=Z,2.0nm,1.6s
MOA Molln 33.74 312 P P 10 14 46.2 +0.6
comp=Z,1.0nm,0.5s
MOA Molln 33.74 312 P P 10 14 46.2 +0.6
comp=Z,1.0nm,0.5s
ZAA0 Zalesovo Array 33.80 35 *e*P P 10 14 45.0 -0.9
comp=Z,3.3nm,1.0s
ZALV Zalesovo Beam 33.80 35 P P 10 14 45.6 -0.3
comp=Z,2.0nm,0.5s,baz=247,slow=8.8,SNR=12
ZALV LR LR 10 30 22.7
comp=Z,74nm,18.2s,baz=248,slow=40
ZALV Zalesovo Beam 33.80 35 *e*P P 10 14 45.5 -0.5
ZALV Zalesovo Beam 33.80 35 *e*P P 10 14 45.5 -0.5
KBA Koelnbreinsper 34.11 311 P P 10 14 49.5 +0.5
comp=Z,4.7nm,0.7s
KBA Koelnbreinsper 34.11 311 *e*P P 10 14 49.5 +0.5
comp=Z,4.7nm,0.7s
GEA0 GERESS Array S 34.42 314 *e*P P 10 14 51.7 +0.2
GERES GERESS Array B 34.42 314 P P 10 14 49.5 -2.1
comp=Z,0.4nm,0.6s,baz=128,slow=11,SNR=3.2
KHC Kasperske Hory 34.59 314 *e*P P 10 14 47.5 -5.5
KHC *ex* x 10 14 53.9
KHC *ep*P sP 10 15 04.1 +4.7
KHC Kasperske Hory 34.59 314 *e*P P 10 14 47.5 -5.5
KHC *e* 10 14 53.9
KHC *e* 10 15 04.1
KHC Kasperske Hory 34.59 314 *e*P P 10 14 54.2 +1.3
comp=Z,1.8nm,1.1s
MOTA Moosalm 35.66 311 *e*P P 10 15 02.4 +0.1
comp=Z,2.7nm,0.7s
CLL Colim 35.70 318 *e*P P 10 15 09.0 +6.6
FIA1 FINESS Array S 35.70 339 *e*P P 10 15 00.6 -1.7
FINES FINESS Array B 35.70 339 P P 10 15 00.7 -1.6
comp=Z,2.0nm,0.5s,baz=143,slow=9.3,SNR=17
FETA Feichten 35.83 310 *e*P P 10 15 04.3 +0.5
comp=Z,3.3nm,0.6s
RETA Reutte 35.92 311 *e*P P 10 15 05.4 +0.9
comp=Z,1.6nm,0.6s
DAVA Damuels 36.45 310 P P 10 15 09.7 +0.6
comp=Z,4.0nm,0.4s
DAVA Damuels 36.45 310 *e*P P 10 15 09.7 +0.6
comp=Z,4.0nm,0.4s
SENIN Lac Senin/Sane 38.01 308 *e*P P 10 15 24.5 +2.1
comp=Z,13nm,1.5s
BNI Bardonecchia 38.25 306 *e*P P 10 15 26.0 +1.7
BNI pmax pmax
comp=Z,16nm,1.4s
BNI Bardonecchia 38.25 306 *e*P P 10 15 26.0 +1.7
comp=Z,16nm,1.4s
GTA Gaotai 40.22 63 *e*P P 10 15 39.0 -1.9
GTA pP pP 10 15 43.2 -2.4
GTA sP sP 10 15 46.5 -0.9
NOA NORSAR Array B 40.92 331 P P 10 15 43.9 -2.4
comp=Z,1.0nm,0.7s,baz=122,slow=8.4,SNR=2.7
NOA LR LR 10 33 44.9
comp=Z,66nm,18.1s,baz=150,slow=38
ARCES ARCESS Array B 42.31 347 P P 10 15 56.5 -1.0
comp=Z,1.9nm,0.8s,baz=147,slow=8.8,SNR=8.2
LZH Lanzhou 43.67 68 *e*P P 10 16 09.7 +0.5
LZH pP sP 10 16 17.4 +1.6
LZH sP pP 10 16 21.4 +7.5
LZH *e*PP PP 10 17 51.2 +0.4
CMAR Chiang Mai Arr 44.28 94 P P 10 16 13.6 -0.6
comp=Z,0.6nm,0.4s,baz=278,slow=6.3,SNR=4.0
CMAR LR LR 10 39 39.6
comp=Z,36nm,18.3s,baz=303,slow=43
CD2 Chengdu 44.51 75 *e*P P 10 16 13.0 -2.9
SONM Songino Array 45.11 51 LR LR 10 36 16.2
comp=Z,78nm,19.3s,baz=232,slow=38
ESDC Sonseca Array 46.08 298 P P 10 16 28.0 -0.2
comp=Z,0.5nm,0.4s,baz=79,slow=7.8,SNR=7.8
EKA Eskdalemuir Ar 46.10 320 P P 10 16 28.1 +0.1
comp=Z,0.2nm,0.3s,baz=105,slow=8.3,SNR=7.1
TOA0 Torodi Ar. Sit 49.07 261 *e*P P 10 16 50.8 -0.8
comp=Z,4.4nm,0.9s
TOA0 Torodi Ar. Sit 49.07 261 P P 10 16 50.5 -1.2
SNR=6.0
TORD Torodi Ar. Bea 49.07 261 P P 10 16 51.5 -0.2
comp=Z,3.3nm,0.6s,baz=58,slow=8.0,SNR=28
HHC Hu-ho-hao-te 49.09 60 *e*P P 10 16 52.6 +1.0
HHC S S 10 23 54.0 -2.2
SPA0 Spitsbergen Ar 50.74 351 *e*P P 10 17 03.6 0.0
SPITS Spitsbergen Ar 50.74 351 P P 10 17 03.5 -0.1
comp=Z,2.1nm,0.5s,baz=72,slow=4.7,SNR=8.9
KOWA Kowa 53.37 266 *e*P P 10 17 24.0 0.0
comp=Z,3.6nm,0.6s
NJ2 Nanjing 56.69 69 *e*P P 10 17 48.9 +1.1
DBIC Dimbokro 57.87 258 P P 10 17 57.6 +1.3
comp=Z,2.1nm,0.5s,baz=26,slow=6.4,SNR=6.8
DBIC Dimbokro 57.87 258 *e*P P 10 17 58.9 +2.6
comp=Z,9.9nm,1.3s
KIC Kosan Boka 57.93 258 *e*P P 10 17 57.8 +1.0
comp=Z,5.7nm,0.6s
TIC Toumodi 58.02 258 *e*P P 10 17 59.6 +2.2
LIC Lamto 58.24 258 *e*P P 10 17 58.0 -0.9
comp=Z,13nm,0.5s
KSRS Korea Array 62.22 61 LR LR 10 48 36.1
comp=Z,34nm,19.1s,baz=306,slow=39
JOW Kunigami 66.18 72 *e*P P 10 18 52.1 +0.1
comp=Z,95nm,1.5s
SEY Seymchan 68.33 29 P P 10 19 05.6 +0.6
comp=Z,1.7nm,0.5s,baz=276,slow=7.9,SNR=11
MA2 Magadan 68.96 33 P P 10 19 09.0 0.0
comp=Z,0.7nm,0.3s,baz=306,slow=1.1,SNR=4.2
MA2 Magdan 68.96 33 *e*P P 10 19 10.9 +1.9
BILL Bilibino 71.00 21 *i* P P 10 19 21.7 +0.3
BILL *i* 10 19 46.5
BILL *i* 10 22 01.5
BILL pmax pmax
comp=Z,2.0nm,1.2s
RES Resolute Bay 73.31 351 *e*P P 10 19 35.4 +0.3
RES pmax pmax
comp=Z,4.0nm,0.6s
RES Resolute Bay 73.31 351 *e*P P 10 19 35.4 +0.3
comp=Z,3.9nm,0.6s
PETK Petropavlovsk- 75.33 37 LR LR 10 56 07.1
comp=Z,25nm,18.2s,baz=348,slow=38
SCHQ Schefferville 80.45 329 P P 10 20 16.5 +0.8
comp=Z,1.6nm,0.8s,baz=72,slow=1.7,SNR=3.8
COLD Coldfoot 81.65 8 *e*P P 10 20 22.2 +0.3
comp=Z,2.6nm,1.1s
IM3 Indian Mountai 82.33 10 *e*P P 10 20 25.2 -0.3
IL1 Eielson Array 84.42 8 *e*P P 10 20 35.6 -0.7
ILAR Eielson Array 84.42 8 P P 10 20 35.4 -0.9
comp=Z,0.3nm,0.8s,baz=339,slow=4.8,SNR=4.9
BPAW Bear Paw Mtn. 84.51 10 *e*P P 10 20 36.4 -0.4
comp=Z,6.5nm,1.2s
CAST Castle Rocks 84.98 11 *e*P P 10 20 38.2 -1.0
comp=Z,7.7nm,1.4s
EGAK Eagle 84.99 6 *e*P P 10 20 38.8 -0.4
comp=Z,1.8nm,0.9s
KTH Kantishna Hill 85.04 10 *e*P P 10 20 39.2 -0.3
comp=Z,1.4nm,0.9s
MCK McKinley 85.15 9 *e*P P 10 20 40.7 +0.7
MCK pmax pmax
comp=Z,7.0nm,1.1s
MCK McKinley 85.15 9 *e*P P 10 20 40.7 +0.7
comp=Z,7.2nm,1.1s
TRF Thorofare Moun 85.23 10 *e*P P 10 20 40.7 +0.1
comp=Z,1.9nm,0.9s
RIDG Independ'e Rid 85.65 7 *e*P P 10 20 42.3 -0.3
comp=Z,7.0nm,1.3s
DOT Dot Lake 85.82 7 *e*P P 10 20 43.1 -0.3
comp=Z,49nm,1.2s
DHY Denali Highway 85.99 9 *e*P P 10 20 44.4 0.0
comp=Z,7.7nm,1.2s
SVW2 Sparrevohn 86.53 13 *e*P P 10 20 45.9 -1.0
comp=Z,9.4nm,0.8s
SUA Susitna One 87.04 11 *e*P P 10 20 48.8 -0.7
comp=Z,8.1nm,1.0s
PMR Palmer 87.17 10 *e*P P 10 20 48.5 -1.4
PMR pmax pmax
comp=Z,16nm,1.3s
PMR Palmer 87.17 10 *e*P P 10 20 48.5 -1.4
comp=Z,16nm,1.3s
YKA Yellowknife Ar 87.17 354 P P 10 20 49.5 -0.4
comp=Z,0.4nm,0.6s,baz=8.5,slow=5.6,SNR=5.0
SCM Sheep Creek Mo 87.19 9 *e*P P 10 20 49.6 -0.6
SCM pmax pmax
comp=Z,27nm,1.3s
SCM Sheep Creek Mo 87.19 9 *e*P P 10 20 49.6 -0.6
comp=Z,26nm,1.3s
ASAR Alice Springs 95.18 114 P P 10 21 28.6 +0.7
comp=Z,0.2nm,0.8s,baz=9.3,slow=5.8,SNR=3.3

ISK ***11*** *10:23:32.8,37°.02N×34°.49E,h8km,ML2.7/6*
ISCJB ***11*** *10:23:33.6±0.6,36°.92N±0°.04×34°.57E±0°.04,h8km±5km,*
Error ellipse: s-maj=7.6km s-min=4.5km az=154.6
DDA ***11*** *10:23:33.2,36°.93N×34°.62E,h7km,Ml2.3*
CSEM ***11*** *10:23:34.2±0.4,36°.91N×34°.53E,h15km,ML2.3,Error*
ellipse: s-maj=12.0km s-min=7.4km az=146.0
ISC 11 10:23:33.2±1.2, 36°.91N±0°.03×34°.57E±0°.03, h6km±10km,
n19,σ0°74/30, Turkey

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

DED	**Mersin**	**0.19**	**73**	*i* P	**Pg**	**10 23 36.3**	**-0.7**
DED				*i* S	**Sg**	**10 23 39.7**	**+0.1**
KIZK	**Mersin**	**0.54**	**219**	PG	**Pb**	**10 23 44.9**	**-0.3**
KIZK				SG	**Sb**	**10 23 53.6**	**+0.3**
KIZK	**Mersin**	**0.54**	**219**	*i* P	**Pg**	**10 23 44.2**	**+0.5**
KIZK				*i* S	**Sb**	**10 23 54.1**	**+0.8**
KIZK	**Mersin**	**0.54**	**219**	P	**Pg**	**10 23 44.2**	**+0.5**
KIZK				S	**Sb**	**10 23 54.1**	**+0.8**
KERG	**Konya-Eregli**	**0.62**	**325**	*i* P	**Pg**	**10 23 45.1**	**0.0**
KERG				*i* S	**Sb**	**10 23 55.0**	**-0.6**
KERG	**Konya-Eregli**	**0.62**	**325**	P	**Pg**	**10 23 45.1**	**0.0**
KERG				S	**Sb**	**10 23 55.0**	**-0.6**
AKO	**Adana**	**0.89**	**51**	*i* P	**Pg**	**10 23 49.7**	**-0.7**
AKO				*i* S	**Sb**	**10 24 03.0**	**-0.4**
CEYT	**Ceyhan**	**0.95**	**83**	PG	**Pb**	**10 23 52.7**	**+0.6**
CEYT				SG	**Sn**	**10 24 07.3**	**+0.3**
CEYT	**Ceyhan**	**0.95**	**83**	*e*Pg	**Pb**	**10 23 52.7**	**+0.6**
CEYT				*e*Sg	**Sn**	**10 24 07.3**	**+0.3**
TEVE	**Tevekalti-Mers**	**1.02**	**243**	PG	**Pb**	**10 23 53.3**	**0.0**
TEVE	**Tevekalti-Mers**	**1.02**	**243**	*e*Pg	**Pb**	**10 23 53.3**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.11**	**228**	PN	**Pn**	**10 23 54.8**	**-0.5**
AKKU	**Akkuyu-Mersin**	**1.11**	**228**	*e*Pn	**Pn**	**10 23 54.8**	**-0.5**
KOZT	**Kozan**	**1.16**	**60**	PN	**Pg**	**10 23 54.9**	**-0.5**
KOZT				SN	**Sn**	**10 24 11.8**	**-0.4**
KOZT	**Kozan**	**1.16**	**60**	*e*Pn	**Pg**	**10 23 54.9**	**-0.5**
KOZT				*e*Sn	**Sn**	**10 24 11.8**	**-0.4**
YAHY	**KAYSERI_Yahyal**	**1.34**	**28**	*i* P	**Pg**	**10 24 01.0**	**+2.0**
YAHY	**KAYSERI_Yahyal**	**1.34**	**28**	P	**Pg**	**10 24 01.0**	**+2.0**
TEKE	**Tekeli-Mersin**	**1.40**	**237**	PN	**Pg**	**10 23 59.7**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.40**	**237**	*e*Pn	**Pg**	**10 23 59.7**	**-0.3**

IDC ***11*** *10:23:25.9±2.6, 35°.19S×178°.58E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/36, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=57.3km s-min=41.5km az=95.0*
WEL ***11*** *10:23:46.8±0.9, 37°.5S×17°.8E±°, h164km±7km*
NEIC ***11*** *10:23:46.0±0.0, 36°.49S×177°.61E, h141km, ML4.1(WEL), After WEL.*
ISCJB ***11*** *10:23:48.5±0.8, 36°.84S±0°.06×177°.65E±0°.07, h150km, mb3.5/2, Error ellipse: s-maj=10.7km s-min=4.8km az=44.1*

ISC 11 10:23:47.7±1.1, 36°.77S±0°.07×177°.76E±0°.06, h150km, n104, σ1°53/107, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**151**	Pn	**Pn**	**10 24 12.1**	**+0.5**
MXZ				Sn	**Sn**	**10 24 31.4**	**+1.5**
MXZ	**Matakaoa Point**	**0.90**	**151**	P	**Pn**	**10 24 11.9**	**+0.3**
MXZ	**Matakaoa Point**	**0.90**	**151**	S	**Sn**	**10 24 32.2**	**+2.3**
HAZ	**Te Kaha**	**0.98**	**179**	P	**Pn**	**10 24 12.9**	**+0.7**
HAZ	**Te Kaha**	**0.98**	**179**	S	**Sn**	**10 24 33.1**	**+2.0**
PKGZ	**Pakihiroa**	**1.14**	**167**	P	**Pn**	**10 24 14.5**	**+0.7**
WMGZ	**Waiomatatini S**	**1.17**	**153**	Pn	**Pn**	**10 24 14.5**	**+0.6**
WMGZ	**Waiomatatini S**	**1.17**	**153**	P	**Pn**	**10 24 14.5**	**+0.6**
WMGZ	**Waiomatatini S**	**1.17**	**153**	S	**Sn**	**10 24 37.0**	**+2.9**
RUGZ	**Raukumara Rang**	**1.19**	**183**	P	**Pn**	**10 24 14.4**	**+0.1**
PUZ	**Puketiti**	**1.35**	**163**	Pn	**Pn**	**10 24 16.5**	**+0.7**
PUZ	**Puketiti**	**1.35**	**163**	P	**Pn**	**10 24 16.4**	**+0.6**
TWGZ	**Tauwhareparae**	**1.41**	**173**	Pn	**Pn**	**10 24 17.7**	**+1.4**
TWGZ	**Tauwhareparae**	**1.41**	**173**	P	**Pn**	**10 24 17.7**	**+1.4**
TWGZ	**Tauwhareparae**	**1.41**	**173**	S	**Sn**	**10 24 41.7**	**+3.3**
OPRZ	**Ohinepanea**	**1.44**	**222**	P	**Pn**	**10 24 18.4**	**+1.9**
OPRZ	**Ohinepanea**	**1.44**	**222**	S	**Sn**	**10 24 41.9**	**+3.3**
MWZ	**Matawai**	**1.57**	**187**	Pn	**Pn**	**10 24 18.8**	**+0.9**
MWZ	**Matawai**	**1.57**	**187**	P	**Pn**	**10 24 18.8**	**+0.9**
MWZ	**Matawai**	**1.57**	**187**	S	**Sn**	**10 24 43.4**	**+2.1**
URZ	**Urewera**	**1.57**	**199**	Pn	**Pn**	**10 24 18.7**	**+0.8**
URZ	20nm,0.3s,baz=272,slow=5.2,SNR=203			Sn	**Sn**	**10 24 43.4**	**+2.2**
URZ	13nm,0.3s,baz=93,slow=10,SNR=7.7 **Urewera**	**1.57**	**199**	P	**Pn**	**10 24 18.7**	**+0.8**
URZ	**Urewera**	**1.57**	**199**	S	**Sn**	**10 24 43.2**	**+2.1**
KUZ	**Kuaotunu**	**1.64**	**270**	P	**Pn**	**10 24 18.9**	**+0.2**
TKGZ	**Te Karaka**	**1.66**	**178**	Pn	**Pn**	**10 24 19.9**	**+0.9**
TKGZ	**Te Karaka**	**1.66**	**178**	P	**Pn**	**10 24 19.9**	**+0.9**
RAGZ	**Rawiri**	**1.74**	**189**	Pn	**Pn**	**10 24 21.1**	**+1.2**
RAGZ	**Rawiri**	**1.74**	**189**	P	**Pn**	**10 24 21.2**	**+1.4**
CNGZ	**Carnagh Statio**	**1.74**	**168**	Pn	**Pn**	**10 24 21.0**	**+1.1**
CNGZ				Sn	**Sn**	**10 24 48.6**	**+4.0**
CNGZ	**Carnagh Statio**	**1.74**	**168**	P	**Pn**	**10 24 21.1**	**+1.3**
MUGZ	**Murupara**	**1.87**	**204**	P	**Pn**	**10 24 22.2**	**+0.9**
GRZ	**Great Barrier**	**1.92**	**285**	P	**Pn**	**10 24 21.8**	**-0.1**
RIGZ	**Rimuhau**	**1.93**	**180**	P	**Pn**	**10 24 22.6**	**+0.6**
RTZ	**Ruatahuna**	**1.94**	**198**	P	**Pn**	**10 24 23.0**	**+0.9**
SNGZ	**Shannon Statio**	**2.03**	**189**	Pn	**Pn**	**10 24 23.9**	**+0.8**
SNGZ	**Shannon Statio**	**2.03**	**189**	P	**Pn**	**10 24 23.9**	**+0.8**
PRRZ	**Plateau Road**	**2.03**	**212**	P	**Pn**	**10 24 24.5**	**+1.3**
TOZ	**Tahuroa Road**	**2.04**	**246**	P	**Pn**	**10 24 24.6**	**+1.5**
MKAZ	**Moumakai**	**2.10**	**260**	P	**Pn**	**10 24 25.0**	**+1.1**
ALRZ	**Allen Road**	**2.11**	**212**	P	**Pn**	**10 24 25.4**	**+1.3**
PRGZ	**Paritu Road**	**2.15**	**177**	Pn	**Pn**	**10 24 25.0**	**+0.4**
PRGZ	**Paritu Road**	**2.15**	**177**	P	**Pn**	**10 24 24.9**	**+0.4**
MTHZ	**Maungataniwha**	**2.20**	**199**	P	**Pn**	**10 24 25.6**	**+0.5**
RAHZ	**Arahi**	**2.20**	**194**	P	**Pn**	**10 24 26.0**	**+0.8**
KNZ	**Kokohu**	**2.25**	**182**	Pn	**Pn**	**10 24 25.7**	**+0.1**
KNZ	**Kokohu**	**2.25**	**182**	P	**Pn**	**10 24 25.7**	**+0.1**
ETAZ	**East Tamaki Re**	**2.27**	**265**	P	**Pn**	**10 24 26.8**	**+0.8**
KBAZ	**Karaka Road Bo**	**2.32**	**261**	P	**Pn**	**10 24 28.3**	**+1.8**
WHHZ	**Waihua**	**2.33**	**190**	P	**Pn**	**10 24 27.4**	**+0.7**
TLZ	**Tolley Road**	**2.35**	**228**	P	**Pn**	**10 24 28.5**	**+1.5**
MHGZ	**Mahia Peninsul**	**2.38**	**177**	Pn	**Pn**	**10 24 27.6**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.38**	**177**	P	**Pn**	**10 24 27.7**	**+0.4**
EPAZ	**Eden Park BICE**	**2.42**	**267**	P	**Pn**	**10 24 29.3**	**+1.6**
HBAZ	**Herne Bay Bore**	**2.43**	**267**	P	**Pn**	**10 24 29.1**	**+1.2**
NMHZ	**Naumai**	**2.44**	**198**	Pn	**Pn**	**10 24 29.0**	**+0.9**
NMHZ	**Naumai**	**2.44**	**198**	P	**Pn**	**10 24 29.0**	**+0.9**
AWAZ	**Awhitu Peninsu**	**2.51**	**262**	P	**Pn**	**10 24 30.3**	**+1.5**
RVAZ	**Riverhead Bore**	**2.55**	**269**	P	**Pn**	**10 24 28.9**	**-0.5**
ARHZ	**Aropaoanui**	**2.56**	**193**	Pn	**Pn**	**10 24 29.8**	**+0.4**
ARHZ	**Aropaoanui**	**2.56**	**193**	P	**Pn**	**10 24 29.8**	**+0.4**
WTAZ	**Waiatarua**	**2.56**	**266**	P	**Pn**	**10 24 30.8**	**+1.4**
BKZ	**Black Stump Fm**	**2.59**	**202**	Pn	**Pn**	**10 24 29.9**	**0.0**
BKZ	**Black Stump Fm**	**2.59**	**202**	P	**Pn**	**10 24 29.9**	**0.0**
MCHZ	**McNeill Hill**	**2.79**	**197**	Pn	**Pn**	**10 24 32.7**	**+0.3**
MCHZ	**McNeill Hill**	**2.79**	**197**	P	**Pn**	**10 24 32.8**	**+0.3**
KWHZ	**Kaweka Forest**	**2.85**	**201**	P	**Pn**	**10 24 32.9**	**-0.2**
WCZ	**Waipu Caves**	**2.88**	**286**	P	**Pn**	**10 24 33.3**	**-0.2**
HIZ	**Hauiti**	**2.88**	**232**	P	**Pn**	**10 24 35.7**	**+2.2**
OTVZ	**Oturere**	**2.90**	**214**	Pn	**Pn**	**10 24 34.4**	**+0.5**
CKHZ	**Cape Kidnapper**	**2.93**	**190**	P	**Pn**	**10 24 33.8**	**-0.3**
BHHZ	**Black Hill Sta**	**3.02**	**206**	Pn	**Pn**	**10 24 34.8**	**-0.5**
BHHZ	**Black Hill Sta**	**3.02**	**206**	P	**Pn**	**10 24 34.9**	**-0.4**
WWVZ	**Wahianoa**	**3.07**	**213**	Pn	**Pn**	**10 24 36.1**	**+0.2**
KAHZ	**Kahuranaki**	**3.09**	**193**	Pn	**Pn**	**10 24 35.9**	**-0.4**
KAHZ	**Kahuranaki**	**3.09**	**193**	P	**Pn**	**10 24 36.0**	**-0.3**
PXZ	**Pawanui**	**3.33**	**192**	Pn	**Pn**	**10 24 38.1**	**-1.0**
PXZ	**Pawanui**	**3.33**	**192**	P	**Pn**	**10 24 38.2**	**-0.9**
PNHZ	**Pukenui**	**3.37**	**201**	Pn	**Pn**	**10 24 38.4**	**-1.3**
PNHZ	**Pukenui**	**3.37**	**201**	P	**Pn**	**10 24 38.4**	**-1.3**
TSZ	**Takapari Road**	**3.57**	**203**	Pn	**Pn**	**10 24 40.6**	**-1.7**
TSZ	**Takapari Road**	**3.57**	**203**	P	**Pn**	**10 24 40.5**	**-1.7**
PRHZ	**Porangahau**	**3.60**	**194**	Pn	**Pn**	**10 24 41.3**	**-1.3**
PRHZ	**Porangahau**	**3.60**	**194**	P	**Pn**	**10 24 41.3**	**-1.3**
WAZ	**Wanganui**	**3.69**	**215**	P	**Pn**	**10 24 43.5**	**-0.3**
OUZ	**Omahuta**	**3.71**	**293**	P	**Pn**	**10 24 43.9**	**-0.3**
ANWZ	**Angora Road**	**3.81**	**195**	P	**Pn**	**10 24 44.0**	**-1.4**
PRWZ	**Pori Road**	**4.03**	**200**	P	**Pn**	**10 24 47.4**	**-0.8**
BFZ	**Birch Farm**	**4.08**	**196**	P	**Pn**	**10 24 47.0**	**-1.8**
MRZ	**Mangatainoka R**	**4.24**	**203**	Pn	**Pn**	**10 24 48.6**	**-2.4**
MRZ	**Mangatainoka R**	**4.24**	**203**	P	**Pn**	**10 24 48.5**	**-2.4**
TIWZ	**Tintock**	**4.25**	**200**	Pn	**Pn**	**10 24 49.5**	**-1.9**
TIWZ	**Tintock**	**4.25**	**200**	P	**Pn**	**10 24 49.3**	**-1.9**
HOWZ	**Holdsworth Sta**	**4.47**	**202**	Pn	**Pn**	**10 24 51.3**	**-2.8**
HOWZ	**Holdsworth Sta**	**4.47**	**202**	P	**Pn**	**10 24 51.3**	**-2.8**
OGWZ	**Otaki Gorge**	**4.51**	**206**	P	**Pn**	**10 24 52.4**	**-2.2**
TMWZ	**Te Maipa**	**4.56**	**198**	P	**Pn**	**10 24 53.0**	**-2.3**
MTW	**Mount Morrison**	**4.72**	**201**	P	**Pn**	**10 24 54.1**	**-3.1**
CAW	**Cannon Point**	**4.81**	**205**	P	**Pn**	**10 24 55.7**	**-2.8**
TRWZ	**Traveller**	**4.89**	**199**	P	**Pn**	**10 24 56.9**	**-2.6**
PLWZ	**Palliser**	**5.17**	**201**	P	**Pn**	**10 24 59.8**	**-3.5**
KHZ	**Kahutara**	**6.51**	**209**	P	**Pn**	**10 25 18.8**	**-2.2**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=119,slow=7.9,SNR=13	**39.75**	**277**	P	**P**	**10 31 04.3**	**-1.5**
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=120,slow=7.9,SNR=14	**41.34**	**282**	P	**P**	**10 31 16.8**	**-2.1**
FINES	**FINESS Array B** 1.2nm,0.9s,baz=236,slow=2.5,SNR=3.0	**149.59**	**333**	PKPbc	**PKPdf**	**10 43 12.9**	**-0.8**

MEX 11 10:32:41.2±0.6, 14°.67N×93°.19W, h16km±34km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.03**	**359**	*e*P	Pb	10 32 57.4	-3.3
PCIG				*e*S	Sb	10 33 09.2	-4.8
CCIG	**Comitan**	**1.90**	**32**	*e*P	Pn	10 33 10.5	-2.6
CCIG				*e*S	Sn	10 33 32.9	-3.9
TGIG		**2.10**	**2**	*e*P	Pn	10 33 12.7	-3.1
TGIG				*e*S	Sn	10 33 37.2	-4.3

NIED ***11*** *11:08:00, 38°.90N×142°.10E, h53km, Mw3.9 Best double couple: M0 6.72000×10^14 NP1:φs213.00000°, δ23.00000°, λ98.00000°. NP2:φs24.00000°, δ67.00000°, λ87.00000°.*
BJI ***11*** *11:08:27.0, 38°.66N×142°.16E, h35km, mb4.6/18, mB5.0/11, Ms4.2/4, Ms7 3.9/5*
ISCJB ***11*** *11:08:29.8±0.8, 38°.89N±0°.04×142°.09E±0°.08, h54km±4km, mb4.2/24, Error ellipse: s-maj=11.8km s-min=4.8km az=23.3*
JMA ***11*** *11:08:30.5±0.1, 38°.88N×142°.07E, h46km±1km, M3.9*
JMA Felt I J1.
IDC ***11*** *11:08:32.0±2.5, 38°.87N×142°.00E, h59km±22km, mb3.6/14, mb1 3.7/16, mb1mx3.5/66, mbtmp3.9/16, ML3.4/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/58, Error ellipse: s-maj=21.8km s-min=14.3km az=115.0*
NEIC ***11*** *11:08:34.3±1.1, 39°.22N×141°.45E, h35km, mb4.7/6, Error ellipse: s-maj=24.6km s-min=7.0km az=118.0*

ISC 11 11:08:30.8±1.2, 38°.88N±0°.05×142°.09E±0°.07, h42km±9km, n59, σ1°66/64, mb4.3/24, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.38**	**302**	P	**Pn**	**11 08 40.2**	**-0.1**
OFUJ				S	**Sn**	**11 08 46.6**	**-0.3**
JMK	**Ichinoseki**	**0.68**	**277**	P	**Pn**	**11 08 43.8**	**-0.3**
JMK				S	**Sn**	**11 08 52.9**	**-0.6**
JIO	**Ouri**	**0.71**	**234**	P	**Pn**	**11 08 44.0**	**-0.5**
JIO				S	**Sn**	**11 08 53.1**	**-1.2**
JOM	**Ohasama**	**0.86**	**314**	P	**Pn**	**11 08 46.4**	**-0.1**
JOM				S	**Sn**	**11 08 57.3**	**-0.6**
JTH	**Tanohata**	**1.08**	**351**	P	**Pn**	**11 08 48.9**	**-0.6**
JOU	**Okura**	**1.23**	**246**	P	**Pn**	**11 08 51.1**	**-0.4**
JOU				*e*S	**Sn**	**11 09 06.6**	**-0.3**
JRG	**Rokugo**	**1.24**	**295**	P	**Pn**	**11 08 51.6**	**-0.2**
JYK	**Kaneyama**	**1.35**	**272**	P	**Pn**	**11 08 53.0**	**-0.2**
JMM	**Marumori**	**1.43**	**226**	P	**Pn**	**11 08 53.6**	**-0.7**
JMM				*e*S	**Sn**	**11 09 11.4**	**-0.5**
JANG	**Nango**	**1.56**	**344**	*e*S	**Sn**	**11 09 14.9**	**-0.2**
ERM	**Erimo**	**3.24**	**14**	*e*Pn	**Pn**	**11 09 20.5**	**+1.3**
MAJO	**Matsushiro**	**3.86**	**234**	*e*Pn	**Pn**	**11 09 29.4**	**+1.8**
MAT	**Matsushiro**	**3.86**	**234**	P	**Pn**	**11 09 29.2**	**+1.5**
MAT				*e*S	**Sn**	**11 10 15.1**	**+3.3**
MJAR	**Matsushiro Arr** 1.6nm,0.3s,baz=32,slow=13,SNR=26	**3.86**	**234**	P	**Pn**	**11 09 28.8**	**+1.1**
MJB9	**Matsu-Tunnel**	**3.86**	**234**	*e*Pn	**Pn**	**11 09 29.6**	**+1.9**
ASAJ	**Asahikawa** 1.5nm,0.3s,baz=227,slow=8.2,SNR=20	**5.25**	**4**	P	**Pn**	**11 09 47.3**	**+0.6**
ASAJ	1.3nm,0.3s,baz=142,slow=19,SNR=4.2			S	**Sn**	**11 10 47.1**	**+1.1**
ASAJ	**Asahikawa**	**5.25**	**4**	*e*Pn	**Pn**	**11 09 47.1**	**+0.4**
INU	**Inuyama**	**5.37**	**231**	*e*Pn	**Pn**	**11 09 49.8**	**+1.4**
USRK	**Ussuriysk Ar.** 0.4nm,0.3s,baz=112,slow=15,SNR=5.7	**9.25**	**308**	P	**Pn**	**11 10 45.1**	**+3.6**
JNU	**Nakatsue** comp=Z,84nm,18.2s,baz=313,slow=36	**10.74**	**241**	LR	LR	11 14 50.6	
KSRS	**Korea Array** comp=Z,27nm,18.4s,baz=99,slow=36	**11.24**	**267**	LR	LR	11 15 17.1	
NJ2	**Nanjing** comp=Z,15nm,0.5s	**20.08**	**257**	*e*P	**P**	**11 13 00.6**	**-0.1**
NJ2				pmax	pmax		
MA2	**Magadan** 1.3nm,0.3s,baz=195,slow=9.6,SNR=5.1	**21.44**	**12**	P	**P**	**11 13 15.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**23.46**	**285**	*e*P	**P**	**11 13 35.4**	**-1.1**
HHC				S	**S**	**11 17 45.9**	**-1.1**
HHC	comp=Z,15nm,1.1s			pmax	pmax		
HHC	comp=Z,74nm,4.9s			pmax	pmax		
SEY	**Seymchan** 1.8nm,0.8s,baz=184,slow=6.1,SNR=12	**24.88**	**11**	P	**P**	**11 13 50.5**	**+1.3**
SONM	**Songino Array** 0.4nm,0.8s,baz=99,slow=8.9,SNR=3.0	**27.25**	**301**	P	**P**	**11 14 09.6**	**-1.3**
H11N2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=582	**28.69**	**125**	T	T	11 44 47.5	
H11N1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=590	**28.70**	**125**	T	T	11 44 48.2	
H11N3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=474	**28.71**	**125**	T	T	11 44 48.9	
H11S1	**WAKE ISLAND Hy** baz=319,slow=76,SNR=37	**29.47**	**127**	T	T	11 45 47.3	
H11S3	**WAKE ISLAND Hy** baz=319,slow=76,SNR=61	**29.47**	**127**	T	T	11 45 45.3	
H11S2	**WAKE ISLAND Hy** baz=319,slow=76,SNR=57	**29.49**	**127**	T	T	11 45 46.3	
LZH	**Lanzhou**	**30.33**	**277**	*e*P	**P**	**11 14 40.9**	**+2.4**
LZH				pP	pP	11 14 50.5	+0.5
LZH				sP	sP	11 14 54.2	-0.9
LZH				*e*PP	**PnPn**	**11 15 40.2**	**+2.5**
LZH	comp=Z,16nm,1.2s			pmax	pmax		
LZH	comp=Z,120nm,4.6s			pmax	pmax		
LZH	comp=N,150nm,10.2s			LR	LR		
LZH	comp=E,120nm,11.4s			LR	LR		
LZH	comp=Z,180nm,12.4s			LR	LR		
CD2	**Chengdu**	**32.24**	**268**	*e*P	**P**	**11 14 55.0**	**-0.3**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
CD2	comp=Z,120nm,5.0s			pmax	pmax		
KMI	**Kunming**	**35.80**	**259**	P	**P**	**11 15 26.2**	**-0.1**
KMI	comp=Z,10.0nm,0.5s			pmax	pmax		
KMI	comp=Z,190nm,4.8s			pmax	pmax		
WMQ	**Urumqi**	**40.51**	**295**	P	**P**	**11 16 05.2**	**-0.5**
WMQ	comp=Z,93nm,14.3s			LR	LR		
ZAA0	**Zalesovo Array** 10nm,1.8s	**41.09**	**311**	*e*P	**P**	**11 16 10.2**	**0.0**
ZALV	**Zalesovo Beam** 1.4nm,0.5s,baz=91,slow=7.4,SNR=6.8	**41.09**	**311**	P	**P**	**11 16 09.5**	**-0.7**
ZALV	**Zalesovo Beam**	**41.09**	**311**	*e*P	**P**	**11 16 09.7**	**-0.5**
MK01	**Makanchi Array**	**43.62**	**301**	*e*P	**P**	**11 16 30.2**	**-0.7**
MK31	**Makanchi Array**	**43.62**	**301**	*e*P	**P**	**11 16 30.3**	**-0.6**
MKAR	**Makanchi Array** 1.8nm,0.6s,baz=85,slow=9.3,SNR=18	**43.62**	**301**	P	**P**	**11 16 30.2**	**-0.7**
MKAR	**Makanchi Array** 19nm,0.6s	**43.62**	**301**	*e*P	**P**	**11 16 30.3**	**-0.7**
MAKZ	**Makanchi** 2.4nm,0.8s	**43.82**	**301**	*e*P	**P**	**11 16 32.0**	**-0.5**
KURK	**Kurchatov** 5.6nm,0.8s	**45.24**	**307**	*e*P	**P**	**11 16 42.9**	**-0.8**
KURBB	**Kurchatov Arra** 4.5nm,0.4s,baz=80,slow=8.1,SNR=40	**45.31**	**307**	P	**P**	**11 16 43.4**	**-0.9**
ILAR	**Eielson Array** 0.5nm,0.7s,baz=259,slow=5.6,SNR=5.9	**47.66**	**33**	P	**P**	**11 17 03.0**	**+0.5**
BVAR	**Borovoye Array** 1.8nm,0.4s,baz=68,slow=7.4,SNR=12	**49.74**	**311**	P	**P**	**11 17 18.1**	**-0.6**
KSH	**Kashi**	**50.16**	**293**	P	**P**	**11 17 26.1**	**+3.9**
KSH				sP	sP	11 17 39.1	-0.1
KSH				PcP	**PcP**	**11 18 47.1**	**+6.0**
KSH				PcS	**PcS**	**11 22 42.7**	**+4.4**
KSH				S	**S**	**11 24 32.2**	**+1.1**
KSH	comp=Z,10.0nm,1.3s			pmax	pmax		
KSH	comp=Z,95nm,4.9s			pmax	pmax		
KSH	comp=E,150nm,11.8s			LR	LR		
KSH	comp=Z,140nm,6.3s			LR	LR		
ABKAR	**Akbulak array** 23nm,0.6s	**57.17**	**309**	*e*P	**P**	**11 18 12.2**	**-1.0**
AKTO	**Aktyubinsk** 1.0nm,0.6s,baz=59,slow=8.2,SNR=4.7	**57.85**	**311**	P	**P**	**11 18 16.2**	**-1.8**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=6.3,slow=6.9,SNR=16	**58.96**	**189**	P	**P**	**11 18 24.7**	**-1.2**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=295,slow=6.4,SNR=3.3	**61.95**	**31**	P	**P**	**11 18 44.9**	**-1.0**
FIA1	**FINESS Array S**	**67.44**	**332**	*e*P	**P**	**11 19 21.0**	**-0.7**
FINES	**FINESS Array B** 3.0nm,0.9s,baz=15,slow=7.9,SNR=5.8	**67.44**	**332**	P	**P**	**11 19 20.4**	**-1.3**
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=47,slow=6.1,SNR=6.2	**73.17**	**322**	P	**P**	**11 19 55.8**	**-1.1**
BRTR	**Keskin Array B** 0.4nm,0.4s,baz=86,slow=3.0,SNR=4.5	**78.03**	**312**	P	**P**	**11 20 24.2**	**-0.9**
BR231	**Keskin MP Arra**	**78.45**	**312**	*e*P	**P**	**11 20 24.8**	**-2.6**
FUORN	**Ofenpass-Fuorn** 13nm,1.4s	**84.60**	**329**	*e*P	**P**	**11 20 56.7**	**-3.2**

ISCJB ***11*** *11:10:51.8±0.1, 24°.98S±0°.02×177°.00W±0°.04, h100km, mb4.9/167, Error ellipse: s-maj=5.7km s-min=2.3km az=25.9*
MOS ***11*** *11:10:51.5±1.3, 24°.73S×176°.95W, h92km, mb5.0/36, Error ellipse: s-maj=10.5km s-min=8.4km az=63.8*
IDC ***11*** *11:10:51.4±2.0, 24°.64S×176°.95W, h80km±17km, mb4.4/21, mb1 4.6/23, mb1mx4.5/41, mbtmp4.8/23, MS3.9/28, Ms1 3.9/28, ms1mx3.8/34, Error ellipse: s-maj=15.1km s-min=12.5km az=100.0*
NEIC ***11*** *11:10:52.6±0.8, 24°.92S×176°.95W, h94km±7km, mb5.0/150, Error ellipse: s-maj=6.0km s-min=4.0km az=141.0*
GCMT ***11*** *11:10:52.6±0.2, 24°.81S×176°.70W, h99km±1km, MW5.2/108, Moment Tensor Solution. s76,c127; s108,c162; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr0.42±.19; Mθθ0.55±.22; Mφφ-0.96±.21; Mrθ-5.25±.12; Mrφ0.81±.19; Mθφ-5.91±.11; Best double couple: Mo7.95200×10^16 NP1:φs41.00000°, δ90.00000°, λ-96.00000°. NP2:φs310.00000°, δ6.00000°, λ-1.00000°. Principal axes: T 8.4090, Plg45.0000°, Azm137.0000°; N -0.9130, Plg6.0000°, Azm41.0000°; P -7.4950, Plg45.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
WEL ***11*** *11:10:52.0, 24°.92S×176°.95W, h94km*
BJI ***11*** *11:10:53.1, 24°.38S×176°.57W, h105km, mb5.1/17, mB5.4/12*

ISC 11 11:10:53.8±0.3, 25°.04S±0°.04×176°.87W±0°.06, h100km, n548, σ2°19/495, mb4.9/167, 13C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.30**	**192**	P	**Pn**	**11 12 01.2**	**+4.2**
RIZ	**Raoul Island**	**4.30**	**192**	S	**Sn**	**11 12 52.9**	**+6.8**
RAO	**Raoul Island** 94nm,0.3s,baz=270,slow=20,SNR=3.8	**4.30**	**192**	P	**Pn**	**11 11 59.0**	**+1.9**
RAO	597nm,0.3s,baz=69,slow=23,SNR=10			S	**Sn**	**11 12 54.0**	**+7.8**
RAO	**Raoul Island**	**4.30**	**192**	*e*P	**Pn**	**11 11 58.7**	**+1.6**
RAO				e		11 12 54.5	
RAO	**Raoul Island**	**4.30**	**192**	*e*Pn	**Pn**	**11 11 58.7**	**+1.6**
RAO				*e*Sn	**Sn**	**11 12 54.5**	**+8.3**
GLKZ	**Green Lake**	**4.31**	**192**	S	**Sn**	**11 12 52.9**	**+6.5**
GLKZ	**Green Lake**	**4.31**	**192**	P	**Pn**	**11 11 59.7**	**+2.5**
MSVF	**Nonsavu**	**8.67**	**326**	*e*P	Pn	11 12 54.4	-2.2
MSVF	**Nonsavu**	**8.67**	**326**	*e*Pn	Pn	11 12 54.4	-2.2
AFI	**Afiamalu** 13nm,0.3s,baz=196,slow=4.0,SNR=18	**12.06**	**24**	P	Pn	11 13 29.4	-13
AFI	18nm,0.3s,baz=213,slow=22,SNR=7.9			S	Sn	11 15 28.5	-27
AFI	**Afiamalu**	**12.06**	**24**	*e*P	Pn	11 13 30.1	-12
AFI	**Afiamalu**	**12.06**	**24**	*e*Pn	Pn	11 13 30.1	-12
AFI				*e*Sn	Sn	11 15 32.3	-23
WMGZ	**Waiomatatini S**	**13.36**	**196**	S	**Sn**	**11 16 19.1**	**-7.2**
WMGZ	**Waiomatatini S**	**13.36**	**196**	P	**Pn**	**11 13 59.0**	**-0.4**

RAR pmax pmax
comp=Z,104nm,1.1s
RAR Rarotonga 16.18 80 *e*Pn **Pn 11 14 33.3 -2.1**
comp=Z,104nm,1.1s
RAR S Sn 11 17 16.0 -19
WAZ Wanganui 16.20 203 P **Pn 11 14 35.0 -0.4**
DVHZ Dannevirke 16.30 199 P **Pn 11 14 36.5 -0.2**
ANWZ Angora Road 16.36 198 P **Pn 11 14 35.7 -1.7**
POWZ Post Office Ro 16.51 200 P **Pn 11 14 38.3 -1.0**
PRWZ Pori Road 16.59 199 P **Pn 11 14 40.1 -0.3**
BFZ Birch Farm 16.63 199 *e*Pn **Pn 11 14 38.2 -2.6**
comp=Z,198nm,1.6s
BFZ Birch Farm 16.63 199 P **Pn 11 14 38.0 -2.8**
TIWZ Tintock 16.82 199 P **Pn 11 14 42.2 -1.0**
FUNA Funafuti 16.84 346 *e*Pn Pn 11 14 34.1 -9.5
comp=Z,208nm,1.8s
HOWZ Holdsworth Sta 17.05 200 P **Pn 11 14 42.2 -3.8**
TMWZ Te Maipa 17.12 199 P **Pn 11 14 43.8 -3.1**
KIW Kapiti Island 17.21 201 P **Pn 11 14 45.5 -2.4**
MTW Mount Morrison 17.29 200 P **Pn 11 14 46.8 -2.1**
TRWZ Traveller 17.45 199 P **P 11 14 48.6 -2.0**
PAWZ Paruwai Farm 17.52 200 P **P 11 14 48.6 -2.8**
MSWZ Moikau Station 17.60 200 P **P 11 14 49.1 -3.2**
SNZO South Karori 17.68 201 *e*P **P 11 14 50.7 -2.4**
comp=Z,76nm,1.2s
BHW Baring Head 17.71 201 P **P 11 14 50.2 -3.3**
PLWZ Palliser 17.74 200 P **P 11 14 51.0 -2.9**
THZ Tophouse 18.71 204 *e*P **P 11 15 01.1 -3.5**
comp=Z,250nm,1.8s
KHZ Kahutara 19.06 202 *e*P **P 11 15 05.8 -2.3**
comp=Z,64nm,0.5s
LTZ Lake Taylor 19.83 204 *e*P **P 11 15 14.1 -2.5**
comp=Z,223nm,1.9s
OXZ Oxford 20.39 204 *e*P **P 11 15 18.4 -4.2**
comp=Z,223nm,1.8s
MQZ McQueen's Vall 20.50 202 *e*P **P 11 15 21.8 -2.0**
comp=Z,558nm,2.0s
RPZ Rata Peaks 21.09 205 P **P 11 15 29.1 -1.0**
comp=Z,10.0nm,0.4s,baz=42,slow=4.9,SNR=7.0
RPZ S **S 11 19 09.9 -9.2**
comp=Z,9.6nm,0.7s,baz=200,slow=15,SNR=3.4
RPZ Rata Peaks 21.09 205 *e*P **P 11 15 26.9 -3.2**
comp=Z,154nm,1.9s
RPZ S **S 11 19 09.9 -9.2**
FOZ Fox Glacier 21.43 207 *e*P **P 11 15 34.0 +0.2**
comp=Z,72nm,1.1s
LBZ Lake Benmore 21.99 205 *e*P **P 11 15 39.0 -0.7**
comp=Z,107nm,1.7s
WKZ Wanaka 22.82 207 *e*P **P 11 15 47.0 -1.3**
comp=Z,452nm,2.0s
MLZ Mavora Lakes 23.63 207 *e*P **P 11 15 56.3 +0.4**
comp=Z,159nm,1.9s
DCZ Deep Cove 24.11 208 *e*P **P 11 16 00.6 +0.4**
comp=Z,227nm,2.0s
WHZ Wether Hill Ro 24.13 207 *e*P **P 11 15 59.8 -0.5**
comp=Z,132nm,1.8s
PYZ Puysegur Point 24.87 208 *e*P **P 11 16 05.9 -1.2**
comp=Z,141nm,1.3s
TBI Tubuai 25.05 92 *e*LQ LQ 11 20 59.5
comp=Z,490nm,31.8s
TBI *e*LR LR 11 22 07.0
comp=Z,2µm,31.8s,baz=256
TBI Tubuai 25.05 92 *e*T T 11 41 30.8
comp=Z,84nm,0.3s
PAE Paea 26.42 79 *e*T T 11 42 54.6
comp=Z,49nm,0.3s
PPT2 Papeete2 26.45 79 *e*LR LR 11 22 55.3
comp=Z,2µm,29.0s,baz=249
PPT2 Papeete2 26.45 79 *e*T T 11 42 57.7
comp=Z,35nm,0.4s
PPT Papeete 26.46 79 LR LR 11 24 58.2
comp=Z,344nm,19.6s,baz=198,slow=32
TIAR Tiarei 26.67 79 *e*T T 11 43 10.7
comp=Z,4.0nm,0.3s
TVO Taravao 26.67 80 *e*T T 11 43 21.3
comp=Z,5.4nm,0.3s
ARMA Armidale 28.34 252 *e*P **P 11 16 40.8 +2.2**
comp=Z,18nm,1.4s
EIDS Eidsvold 28.96 262 *e*P **P 11 16 45.0 +1.0**
comp=Z,11nm,0.6s
VAH Vaihoa 29.08 76 *e*T T 11 46 35.0
comp=Z,25nm,0.2s
CAN Canberra 31.10 243 *e*P **P 11 17 05.2 +2.4**
CAN pmax pmax
comp=Z,60nm,1.8s
CAN Canberra 31.10 243 *e*P **P 11 17 05.2 +2.4**
comp=Z,60nm,1.8s
CTAO Charters Tower 34.34 271 *e*P **P 11 17 31.1 -0.1**
CTAO pmax pmax
comp=Z,19nm,0.5s
CTAO Charters Tower 34.34 271 *e*P **P 11 17 31.1 -0.1**
comp=Z,18nm,0.5s
STKA Stephens Creek 36.98 250 P **P 11 17 54.1 +0.4**
comp=Z,1.6nm,0.4s,baz=91,slow=11,SNR=11
STKA PcP **PcP 11 20 13.2 +0.5**
comp=Z,2.2nm,0.6s,baz=128,slow=5.9,SNR=2.9
STKA LR LR 11 32 59.1
comp=Z,166nm,18.2s,baz=75,slow=36
STKA Stephens Creek 36.98 250 *e*P **P 11 17 53.9 +0.3**
STKA 11 20 13.3
STKA pmax pmax
comp=Z,7.0nm,1.8s
STKA Stephens Creek 36.98 250 *e*P **P 11 17 53.9 +0.3**
comp=Z,7.1nm,1.8s
STKA PcP **PcP 11 20 13.2 +0.5**
PMG Port Moresby 37.56 288 P **P 11 17 57.0 -1.6**
comp=Z,13nm,0.5s,baz=82,slow=6.1,SNR=10
PMG LR LR 11 30 39.9
comp=Z,283nm,21.1s,baz=170,slow=32
PMG Port Moresby 37.56 288 *e*P **P 11 17 57.4 -1.3**
PMG pmax pmax
comp=Z,35nm,1.3s
PMG Port Moresby 37.56 288 *e*P **P 11 17 57.4 -1.3**
comp=Z,35nm,1.3s
RKT Rikitea 38.19 96 *e*LQ LQ 11 26 48.5
comp=Z,383nm,25.5s
RKT *e*LR LR 11 28 11.9
comp=Z,1µm,31.2s,baz=252
RKT Rikitea 38.19 96 *e*T T 11 57 53.1
comp=Z,14nm,0.3s
TAOE Nuku Hiva Isla 38.47 72 *e*LR LR 11 28 24.3
comp=Z,633nm,28.6s
TAOE Nuku Hiva Isla 38.47 72 *e*T T 11 58 15.2
comp=Z,30nm,0.2s
COEN Coen 39.11 279 *e*P **P 11 18 10.7 -1.0**
comp=Z,44nm,1.5s
BBOO Buckleboo 41.65 248 *e*P **P 11 18 32.0 -0.4**
comp=Z,13nm,1.0s
AS01 Alice Springs 44.63 261 *e*P **P 11 18 56.8 +0.1**
AS31 Alice Springs 44.67 261 *e*P **P 11 18 56.9 0.0**
comp=Z,3.2nm,0.5s
ASAR Alice Springs 44.67 261 P **P 11 18 56.0 -0.9**
comp=Z,3.5nm,0.3s,baz=93,slow=7.0,SNR=149
ASAR ScP **ScP 11 24 21.9 +0.6**
comp=Z,1.2nm,0.9s,baz=119,slow=4.5,SNR=5.4
ASAR S **S 11 25 22.0 -4.2**
comp=Z,0.3nm,0.7s,baz=97,slow=14,SNR=3.6
ASAR LR LR 11 35 45.4
comp=Z,226nm,19.6s,baz=118,slow=34
WB2 Warramunga Arr 45.16 266 *e*P **P 11 18 60.0 -1.0**
comp=Z,67nm,1.1s
WRAB Tennant Creek 45.17 266 *e*P **P 11 18 59.7 -1.2**
WRAB pmax pmax
comp=Z,15nm,0.5s
WRAB Tennant Creek 45.17 266 *e*P **P 11 18 59.7 -1.2**
comp=Z,15nm,0.5s
WRA Warramunga Arr 45.18 266 P **P 11 18 59.0 -1.9**
comp=Z,15nm,0.6s,baz=99,slow=8.2,SNR=179
WRA ScP **ScP 11 24 27.1 +3.7**
comp=Z,2.4nm,1.2s,baz=120,slow=3.9,SNR=4.6
WRA S S 11 25 26.5 -7.0
comp=Z,1.3nm,0.7s,baz=100,slow=14,SNR=5.1
WRA LR LR 11 36 18.4
comp=Z,222nm,19.3s,baz=110,slow=34
HPAH Hawaii Prepara 49.30 27 *e*P P 11 19 22.6 -10
comp=Z,132nm,1.2s
VNDA Vanda 53.51 186 P **P 11 20 06.7 +3.2**
comp=Z,2.5nm,0.8s,baz=19,slow=7.3,SNR=12
VNDA LR LR 11 42 11.7
comp=Z,31nm,19.1s,baz=10,slow=35
VNDA Vanda 53.51 186 *e*P **P 11 20 07.2 +3.6**
VNDA pmax pmax
comp=Z,14nm,1.4s
VNDA Vanda 53.51 186 *e*P **P 11 20 07.2 +3.6**
comp=Z,14nm,1.4s
GUMO Guam 53.53 312 LR LR 11 37 45.9
comp=Z,89nm,21.5s,baz=119,slow=30

MBWA Marble Bar 57.98 260 *e*P **P 11 20 35.5 -0.8**
comp=Z,131nm,1.8s
BATI Baumata 58.15 273 P **P 11 20 36.6 -1.0**
comp=Z,11nm,0.4s,baz=154,slow=0.9,SNR=6.0
BATI LR LR 11 46 12.9
comp=Z,164nm,18.7s,baz=120,slow=36
CASY Casey 60.35 206 *e*P **P 11 20 52.9 +1.0**
comp=Z,167nm,1.8s
JHJ Hachijo jima 2 71.05 322 LR LR 11 48 29.2
comp=Z,106nm,21.3s,baz=102,slow=32
TGY Tagaytay City 72.02 296 LR LR 11 50 58.4
comp=Z,62nm,20.3s,baz=79,slow=34
LEM Lembang 74.03 270 P **P 11 22 20.1 +0.7**
comp=Z,19nm,0.6s,baz=333,slow=23,SNR=3.6
LEM LR LR 11 55 25.2
comp=Z,133nm,19.6s,baz=138,slow=36
MJAR Matsushiro Arr 74.47 324 P P 11 22 17.7 -3.6
comp=Z,1.7nm,0.5s,baz=154,slow=5.9,SNR=11
MJAR LR LR 11 52 58.7
comp=Z,28nm,20.1s,baz=155,slow=34
MAJO Matsushiro 74.47 324 *e*P P 11 22 18.1 -3.2
MAJO pmax pmax
comp=Z,26nm,1.6s
MAT Matsushiro 74.47 324 P P 11 22 17.9 -3.4
MAT *e*S SKiKP 11 31 28.0 -10
JNU Nakatsue 76.28 317 LR LR 11 50 25.8
comp=Z,78nm,19.7s,baz=129,slow=31
NACB Ninganchian 77.08 305 *e*P P 11 22 33.6 -2.9
comp=Z,26nm,0.9s
SSLB Suanglung 77.34 304 *e*P P 11 22 34.6 -3.3
comp=Z,70nm,1.6s
MAW Mawson 77.67 200 P **P 11 22 40.7 +1.7**
comp=Z,15nm,0.6s,baz=139,slow=7.3,SNR=8.9
MAW LR LR 11 55 49.7
comp=Z,69nm,18.3s,baz=71,slow=35
MAW Mawson 77.67 200 *e*P **P 11 22 41.0 +2.0**
MAW pmax pmax
comp=Z,14nm,1.1s
MAW Mawson 77.67 200 *e*P **P 11 22 41.0 +2.0**
comp=Z,14nm,1.1s
SMY Shemya 77.83 354 *e*P P 11 22 37.6 -2.3
SMY pmax pmax
comp=Z,98nm,1.0s
SMY Shemya 77.83 354 *e*P P 11 22 37.6 -2.3
comp=Z,98nm,1.0s
ASAJ Asahikawa 78.19 331 *e*P **P 11 22 41.1 -1.0**
comp=Z,5.9nm,0.9s
UNV Unalaska Valle 79.06 6 *e*P P 11 22 44.0 -2.6
comp=Z,54nm,1.2s
AKUT Akutan 79.42 7 *e*P P 11 22 46.1 -2.5
comp=Z,347nm,1.8s
YSS Yuzh-Sakhalins 80.40 333 *e*P **P 11 22 53.9 -0.1**
YSS pmax pmax
comp=Z,10.0nm,0.9s
PET Petropavlovsk 80.60 345 *e*P P 11 22 47.9 -7.0
PET *e*S **S 11 32 48.5 -5.1**
PET pmax pmax
comp=Z,15nm,1.6s
PET pmax pmax
comp=Z,100nm,9.6s
SMMC Simmler 80.61 44 P **P 11 22 55.1 -0.5**
baz=230
PEA0B Petropavlovsk- 80.90 345 *e*P P 11 22 54.6 -2.0
comp=Z,94nm,1.4s
PETK Petropavlovsk- 80.90 345 P P 11 22 54.1 -2.5
comp=Z,12nm,0.6s,baz=153,slow=4.0,SNR=19
PETK LR LR 11 53 04.1
comp=Z,93nm,21.7s,baz=145,slow=32
KSRS Korea Array 80.96 319 P **P 11 22 55.8 -1.5**
comp=Z,1.6nm,0.5s,baz=127,slow=5.8,SNR=11
KSRS LR LR 11 52 41.6
comp=Z,85nm,19.9s,baz=126,slow=31
KSAR Wonju Array Be 80.98 319 P **P 11 22 55.8 -1.6**
KSAR Wonju Array Be 80.98 319 P **P 11 22 55.8 -1.6**
KS01 Wonju Array Si 80.99 319 *e*P **P 11 22 56.1 -1.4**
HOPS Hopland Field 81.15 40 *e*P **P 11 22 57.7 -0.6**
comp=Z,120nm,1.8s
MWC Mount Wilson 81.16 46 *e*P **P 11 22 58.1 -0.6**
MWC pmax pmax
comp=Z,15nm,1.0s
MWC Mount Wilson 81.16 46 *e*P **P 11 22 58.1 -0.6**
comp=Z,15nm,1.0s
ARVC Arvin 81.23 45 P **P 11 22 58.3 -0.4**
baz=231
MURC Murrieta 81.35 47 P **P 11 22 59.0 -0.5**
baz=232
BFSC Mount Baldy Ra 81.43 46 P **P 11 22 59.3 -0.7**
baz=232
VES Vestal, Richgr 81.51 44 P **P 11 22 59.8 -0.4**
baz=231,SNR=6.6
EDW2 Edwards Air Fo 81.61 45 P **P 11 23 00.3 -0.6**
baz=232,SNR=12
ISA Isabella, Lake 81.79 44 P **P 11 23 01.6 -0.3**
baz=231,SNR=10
ISA Isabella, Lake 81.79 44 *e*P **P 11 23 01.8 0.0**
ISA pmax pmax
comp=Z,20nm,1.0s
ISA Isabella, Lake 81.79 44 *e*P **P 11 23 01.8 0.0**
comp=Z,20nm,1.0s
XPFO Piæon Flat 81.84 47 *e*P **P 11 23 01.7 -0.5**
comp=Z,10nm,1.0s
SPIA Saint Paul Isl 82.08 4 *e*P **P 11 23 00.9 -1.8**
CMB Columbia Colle 82.11 42 *e*P **P 11 23 02.8 -0.6**
CMB pmax pmax
comp=Z,11nm,1.1s
CMB Columbia Colle 82.11 42 *e*P **P 11 23 02.8 -0.6**
comp=Z,11nm,1.1s
RRX Edison Barstow 82.25 46 P **P 11 23 03.7 -0.5**
baz=232
AFDM Forest Hills D 82.35 41 *e*P **P 11 23 04.0 -0.7**
comp=Z,11nm,1.2s
BELC Belle Mtn. Jos 82.38 47 P **P 11 23 04.3 -0.8**
baz=233
ORV Oroville 82.44 40 *e*P **P 11 23 03.9 -1.2**
ORV pmax pmax
comp=Z,8.0nm,1.1s
ORV Oroville 82.44 40 *e*P **P 11 23 03.9 -1.2**
comp=Z,8.3nm,1.1s
CHGN Chignik 82.52 10 *e*P **P 11 23 04.3 -0.6**
comp=Z,170nm,1.3s
CWC Cottonwood Cre 82.52 44 P **P 11 23 05.1 -0.7**
baz=232
BC3 Big Chuckawall 82.54 48 P **P 11 23 05.3 -0.5**
baz=234
SYO Syowa Base 82.55 192 µ *e*PcP **P 11 23 08.1 +2.9**
GSC Goldstone, Bar 82.64 46 P **P 11 23 05.7 -0.6**
baz=232,SNR=7.5
GSC Goldstone, Bar 82.64 46 *e*P **P 11 23 05.8 -0.5**
GSC pmax pmax
comp=Z,19nm,1.2s
GSC Goldstone, Bar 82.64 46 *e*P **P 11 23 05.8 -0.5**
comp=Z,19nm,1.2s
MDPB Devils Postpil 82.65 43 *e*P **P 11 23 06.3 -0.2**
comp=Z,14nm,1.0s
HEC Hector,Ludlow 82.66 46 P **P 11 23 05.8 -0.5**
baz=233,SNR=5.2
MPMC Manual Prospec 82.66 45 P **P 11 23 05.8 -0.8**
baz=232,SNR=13
N02D Trinity Center 82.69 38 P **P 11 23 05.9 -0.5**
baz=228
DAC Darwin (Calif) 82.73 44 *e*P **P 11 23 06.5 -0.4**
DAC pmax pmax
comp=Z,3.0nm,0.9s
DAC Darwin (Calif) 82.73 44 *e*P **P 11 23 06.5 -0.4**
comp=Z,3.4nm,0.9s
O03D Paynes Creek 82.75 39 P **P 11 23 06.2 -0.6**
baz=229
TIN Tinemaha, Big 82.81 44 P **P 11 23 06.6 -0.6**
baz=231
WAKR Walker 82.98 42 *e*P **P 11 23 08.2 0.0**
comp=Z,23nm,1.3s
IRM Iron Mountain 83.04 47 P **P 11 23 08.1 -0.3**
baz=234
GMRC Granite Mounta 83.08 47 P **P 11 23 08.1 -0.6**
baz=233,SNR=5.8
YBH Yreka Blue Hor 83.20 38 P **P 11 23 08.7 -0.3**
comp=Z,6.1nm,0.9s,baz=179,slow=6.3,SNR=9.6
YBH LR LR 11 56 52.9
comp=Z,37nm,18.5s,baz=270,slow=33
YBH Yreka Blue Hor 83.20 38 *e*P **P 11 23 08.9 -0.1**
YBH pmax pmax
comp=Z,28nm,1.3s
YBH Yreka Blue Hor 83.20 38 *e*P **P 11 23 08.9 -0.1**
comp=Z,28nm,1.3s
USRK Ussurisk Ar. 83.28 326 P **P 11 23 08.8 -0.5**
comp=Z,1.9nm,0.6s,baz=153,slow=4.8,SNR=3.3
USRK LR LR 11 53 48.9

comp=Z,89nm,20.8s,baz=132,slow=31
BEKR Beckworth 83.31 40 *e*P **P 11 23 09.2 -0.6**
comp=Z,9.9nm,0.5s
FURC Furnace Creek, 83.31 45 P **P 11 23 09.1 -0.4**
baz=232
SHOC Shoshone, Teco 83.34 45 P **P 11 23 09.3 -0.5**
baz=233,SNR=9.9
SNAA Sanae 83.47 178 P **P 11 23 10.8 +0.8**
SNAA Sanae 83.47 178 P **P 11 23 10.9 +0.8**
comp=Z,6.3nm,0.7s,baz=196,slow=7.9,SNR=25
SNAA Sanae 83.47 178 *e*P **P 11 23 10.8 +0.8**
SNAA pmax pmax
comp=Z,47nm,1.6s
SNAA Sanae 83.47 178 *e*P **P 11 23 10.8 +0.8**
comp=Z,47nm,1.6s
NJ2 Nanjing 83.56 310 *e*P **P 11 23 10.4 -0.6**
NJ2 pmax pmax
comp=Z,15nm,0.5s
VNA3 Neumayer Olymp 83.57 176 P **P 11 23 11.2 +0.7**
TYV Tymovskoe 83.58 336 *e*P P 11 23 08.3 -2.3
TYV pmax pmax
comp=Z,13nm,1.4s
TYV pmax pmax
comp=Z,100nm,3.3s
RYN Ryan 83.62 42 *e*P **P 11 23 10.8 -0.5**
comp=Z,26nm,1.9s
NV01 Mina Array Sit 83.62 42 *e*P **P 11 23 10.6 -0.9**
NVAR Mina Array Bea 83.62 42 P **P 11 23 10.6 -0.8**
comp=Z,4.2nm,0.7s,baz=225,slow=7.8,SNR=34
NVAR LR LR 11 57 02.4
comp=Z,58nm,19.0s,baz=270,slow=33
HUMO Hull Mountain 83.65 37 *e*P **P 11 23 11.1 -0.2**
comp=Z,54nm,1.8s
NV11 Mina Array Sit 83.72 42 *e*P **P 11 23 11.1 -0.8**
comp=Z,1.4nm,1.3s
NEE2 Needles Airpor 83.75 47 P **P 11 23 11.4 -0.5**
baz=234
PAHR Pah Rah Range 83.78 41 *e*P **P 11 23 11.6 -0.5**
comp=Z,8.8nm,0.9s
PDMCI Parker Dam,Lak 83.80 48 P **P 11 23 11.7 -0.4**
baz=234
VNA2 Neumayer--Watz 84.02 177 P **P 11 23 13.7 +0.9**
baz=191,slow=4.0
KVN Kaiserville 84.14 42 *e*P **P 11 23 13.2 -0.8**
KVN pmax pmax
comp=Z,14nm,1.1s
KVN Kaiserville 84.14 42 *e*P **P 11 23 13.2 -0.8**
comp=Z,14nm,1.1s
VNA1 Neumayer--Stat 84.24 176 P **P 11 23 14.7 +0.9**
SHPR Sheep Range 84.43 45 *e*P **P 11 23 15.7 +0.1**
comp=Z,12nm,1.2s
W13A Hualapai Mount 84.44 47 P **P 11 23 15.5 -0.1**
J04D Umpqua Nationa 84.54 37 P **P 11 23 15.2 -0.7**
baz=228
MOD Modoc Plateau 84.66 39 *e*P **P 11 23 15.1 -1.4**
comp=Z,9.9nm,0.8s
IPM Ipoh 84.74 277 *e*P **P 11 23 15.8 -1.7**
comp=Z,14nm,1.2s
TUC Tucson 84.98 51 P **P 11 23 17.9 -0.4**
baz=236
TUC Tucson 84.98 51 *e*P **P 11 23 18.5 +0.2**
TUC pmax pmax
comp=Z,13nm,1.0s
TUC Tucson 84.98 51 *e*P **P 11 23 18.5 +0.2**
comp=Z,12nm,1.0s
J05D Fort Rock, OR 85.04 37 P **P 11 23 17.8 -0.6**
baz=229
R11A Troy Canyon, C 85.26 44 P **P 11 23 19.0 -0.7**
baz=233
R11A Troy Canyon, C 85.26 44 *e*P **P 11 23 19.0 -0.7**
comp=Z,5.2nm,1.2s
PLCA Paso Flores 85.42 133 LR LR 11 51 50.4
comp=Z,117nm,21.5s,baz=275,slow=29
BMN Battle Mountai 85.53 41 *e*P **P 11 23 20.2 -0.7**
BMN pmax pmax
comp=Z,10.0nm,1.1s
BMN Battle Mountai 85.53 41 *e*P **P 11 23 20.2 -0.7**
comp=Z,10.0nm,1.1s
319A Douglas 85.54 52 *e*P **P 11 23 21.7 +0.6**
X16A Lo Mia Camp, P 85.70 49 *e*P **P 11 23 22.2 +0.3**
HPIG 85.91 58 *e*P **P 11 23 22.3 -0.9**
comp=Z,4.0nm,0.9s
PSI Prapat 85.92 275 LR LR 12 02 01.5
comp=Z,44nm,19.9s,baz=100,slow=36
WVOR Wild Horse Val 85.95 39 *e*P **P 11 23 22.2 -0.7**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 85.95 39 *e*P **P 11 23 22.2 -0.7**
comp=Z,8.2nm,1.0s
LCMT Little Creek M 85.97 46 *e*P **P 11 23 23.2 0.0**
comp=Z,7.9nm,1.0s
NKL Nikolayevsk 86.15 336 *e*P P 11 23 20.5 -2.9
NKL pmax pmax
comp=Z,22nm,1.0s
CCUT Cedar City 86.20 45 *e*P **P 11 23 24.7 +0.3**
comp=Z,10nm,1.0s
KNB Kanab 86.25 46 *e*P **P 11 23 24.5 -0.1**
KNB pmax pmax
comp=Z,16nm,1.2s
KNB Kanab 86.25 46 *e*P **P 11 23 24.5 -0.1**
comp=Z,16nm,1.2s
U15A North Rim 86.26 47 *e*P **P 11 23 24.9 +0.1**
comp=Z,17nm,1.1s
G05D Wamic, OR 86.29 36 P **P 11 23 23.9 -0.5**
baz=229
WUAZ Wupatki 86.36 48 P **P 11 23 24.4 -0.7**
baz=236,SNR=5.9
WUAZ Wupatki 86.36 48 *e*P **P 11 23 25.4 +0.2**
comp=Z,12nm,1.0s
SZCU Shurtz Canyon 86.41 46 *e*P **P 11 23 25.6 +0.2**
comp=Z,12nm,1.1s
G06A Carlson Farm, 86.65 36 *e*P **P 11 23 25.6 -0.6**
comp=Z,71nm,2.0s
X18A Snowflake 86.78 50 *e*P **P 11 23 27.4 +0.1**
comp=Z,13nm,0.9s
KLR Kul'dur 86.94 329 P **P 11 23 26.2 -1.2**
comp=Z,0.2nm,0.8s,baz=3.3,slow=0.5,SNR=10.0
BRLK Bradley Lake 87.15 13 *e*P **P 11 23 27.1 -1.1**
comp=Z,192nm,1.9s
121A Cookes Peak, D 87.23 52 P **P 11 23 29.0 -0.4**
baz=238,SNR=6.0
121A Cookes Peak, D 87.23 52 *e*P **P 11 23 29.2 -0.3**
comp=Z,8.6nm,1.1s
MTPU Mount Pierson 87.25 46 *e*P **P 11 23 30.4 +0.7**
comp=Z,12nm,1.0s
W18A Petrified Fore 87.25 49 P **P 11 23 29.1 -0.4**
baz=237
MSU Marysvale 87.52 45 *e*P **P 11 23 31.1 +0.3**
MSU Marysvale 87.52 45 *e*P **P 11 23 31.1 +0.3**
EPT El Paso 87.76 53 *e*P **P 11 23 32.1 +0.2**
comp=Z,17nm,1.1s
E07A Sunnyside 87.93 35 *e*P **P 11 23 31.8 -0.4**
comp=Z,9.2nm,1.0s
LTY Liberty 87.96 34 *e*P **P 11 23 31.4 -1.0**
comp=Z,34nm,1.8s
DUG Dugway, Tooele 88.08 44 P **P 11 23 32.5 -0.8**
baz=235
MFID Camas Ranch 88.18 40 *e*P **P 11 23 32.4 -1.2**
comp=Z,16nm,2.0s
BMO Blue Mountains 88.22 38 *e*P **P 11 23 32.5 -1.3**
BMO pmax pmax
comp=Z,17nm,2.0s
BMO Blue Mountains 88.22 38 *e*P **P 11 23 32.5 -1.3**
comp=Z,17nm,2.0s
SPU Mount Spurr 88.24 12 *e*P **P 11 23 31.7 -1.7**
Q16A Castle Valley 88.40 45 *e*P **P 11 23 34.5 -0.5**
comp=Z,6.7nm,1.1s
MNTX Cornudas Mount 88.54 54 P **P 11 23 34.8 -0.7**
baz=239,SNR=11
MNTX Cornudas Mount 88.54 54 *e*P **P 11 23 35.2 -0.3**
comp=Z,15nm,1.3s
TMUT Trail Mountain 88.59 45 *e*P **P 11 23 35.7 -0.2**
comp=Z,21nm,0.7s
RC01 Rabbit Creek A 88.60 13 *e*P **P 11 23 33.7 -1.3**
comp=Z,47nm,1.3s
GAMB Gambell 88.61 2 *e*P **P 11 23 33.6 -1.3**
comp=Z,6.6nm,1.0s
TX31 Lajitas Ar. Si 88.64 57 *e*P **P 11 23 36.2 0.0**
TXAR Lajitas Array 88.64 57 P **P 11 23 36.0 -0.1**
comp=Z,2.3nm,0.9s,baz=214,slow=7.2,SNR=24
Y22D IRIS PASSCAL I 88.66 51 P **P 11 23 35.4 -0.7**
baz=238
Y22D IRIS PASSCAL I 88.66 51 *e*P **P 11 23 34.8 -1.3**
comp=Z,19nm,0.6s
Y22E IRIS PASSCAL I 88.66 51 P **P 11 23 35.4 -0.8**
baz=238
LAZ Ladron 88.67 51 *e*P **P 11 23 36.4 +0.1**

MPU Maple Canyon 88.72 44 eP P 11 23 36.1 -0.3
comp=Z,3.6nm,0.8s
D08A Wollman Farm, 88.74 35 eP P 11 23 35.5 -0.5
comp=Z,17nm,1.2s
SUA Susitna One 88.74 12 eP P 11 23 34.1 -1.7
comp=Z,15nm,0.9s
E09A Wood Farm, Sta 88.81 36 eP P 11 23 35.1 -1.2
comp=Z,7.4nm,1.0s
BNM Barren Site 88.90 51 eP P 11 23 37.3 -0.2
SRU San Rafael Swe 88.93 45 eP P 11 23 36.7 -0.7
SRU pmax pmax
comp=Z,12nm,0.9s
SRU San Rafael Swe 88.93 45 eP P 11 23 36.7 -0.7
comp=Z,12nm,0.9s
F10A Beach Ranch, E 88.96 37 eP P 11 23 35.9 -1.3
comp=Z,11nm,1.1s
LPM Los Pinos Moun 88.98 51 eP P 11 23 37.6 -0.2
P17A Butcher Ranch, 88.99 45 eP P 11 23 37.4 -0.3
comp=Z,9.5nm,1.0s
HVU Hansel Valley 89.02 42 eP P 11 23 37.0 -0.7
HVU pmax pmax
comp=Z,5.0nm,1.2s
HVU Hansel Valley 89.02 42 eP P 11 23 37.0 -0.7
comp=Z,5.0nm,1.2s
CTU Camp Tracy 89.03 44 eP P 11 23 37.1 -0.7
comp=Z,5.8nm,1.0s
HLID Hailey 89.09 40 P P 11 23 37.2 -0.8
baz=234
HLID Hailey 89.09 40 eP P 11 23 37.0 -1.0
comp=Z,3.6nm,1.0s
PMR Palmer 89.18 13 eP P 11 23 35.8 -1.9
PMR pmax pmax
comp=Z,59nm,1.8s
PMR Palmer 89.18 13 eP P 11 23 35.8 -1.9
comp=Z,59nm,1.8s
TTA Tatalina 89.22 9 eP P 11 23 36.5 -1.5
TTA Tatalina 89.22 9 eP P 11 23 36.5 -1.5
MVCO Mesa Verde 89.23 48 P P 11 23 37.9 -1.0
baz=238
B08A Colville Reser 89.36 34 eP P 11 23 37.2 -1.7
comp=Z,8.0nm,1.0s
P18A Preston Nutter 89.39 45 eP P 11 23 39.2 -0.5
comp=Z,3.8nm,0.9s
P18A eS S 11 34 31.5 +10
ANMO Albuquerque 89.44 51 P P 11 23 39.4 -0.5
baz=239
ANMO Albuquerque 89.44 51 eP P 11 23 39.4 -0.5
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO Albuquerque 89.44 51 eP P 11 23 39.4 -0.5
comp=Z,13nm,1.0s
TCUT Toone Canyon 89.49 43 eP P 11 23 38.9 -1.1
comp=Z,31nm,1.3s
C09A Chrisman Ranch 89.55 35 eP P 11 23 38.7 -1.2
comp=Z,17nm,1.4s
BMRM Bremner River 89.61 15 eP P 11 23 38.9 -1.0
comp=Z,29nm,1.1s
SCM Sheep Creek Mo 89.77 14 eP P 11 23 39.9 -0.7
SCM pmax pmax
comp=Z,26nm,1.0s
SCM Sheep Creek Mo 89.77 14 eP P 11 23 39.9 -0.7
comp=Z,26nm,1.0s
GYA Guiyang 89.78 299 eP P 11 23 41.2 -0.4
GYA pP pP 11 24 09.8 +1.9
GYA sP sP 11 24 20.0 +1.5
GYA PP PP 11 27 17.2 +1.7
GYA SKS SKSac 11 34 00.9 -2.5
GYA S SKSSac 11 34 21.4 +4.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
LNIG Linares 89.80 62 eP P 11 23 40.5 -1.0
comp=Z,14nm,1.2s
PPLA Purkeypile 89.81 11 eP P 11 23 37.9 -2.9
comp=Z,76nm,1.9s
CLNB Carlsbad 89.93 54 eP P 11 23 41.9 -0.2
CAST Castle Rocks 90.31 11 eP P 11 23 40.6 -2.4
comp=Z,20nm,1.0s
CPRX Cap Rock 90.32 53 eP P 11 23 42.0 -2.0
NEW Newport 90.44 35 P P 11 23 43.6 -0.5
baz=232
AHID Auburn Hatcher 90.61 42 eP P 11 23 45.2 0.0
comp=Z,12nm,1.3s
KTH Kantishna Hill 90.63 11 eP P 11 23 42.5 -2.1
comp=Z,12nm,1.0s
S22A 4UR Ranch, Cre 90.64 48 P P 11 23 44.9 -0.6
baz=238
S22A 4UR Ranch, Cre 90.64 48 eP P 11 23 43.9 -1.7
comp=Z,12nm,1.0s
TRF Thorofare Moun 90.66 12 eP P 11 23 42.7 -2.1
comp=Z,12nm,1.0s
MCMT McKenzie Canyo 90.74 40 eP P 11 23 45.0 -0.8
RND Reindeer 90.88 12 eP P 11 23 44.1 -1.7
RND pmax pmax
comp=Z,14nm,1.0s
RND Reindeer 90.88 12 eP P 11 23 44.1 -1.7
comp=Z,14nm,1.0s
O20A White River Ci 90.96 46 P P 11 23 45.9 -1.0
baz=238
SEY Seymchan 91.01 346 P P 11 23 44.1 -2.1
comp=Z,12nm,0.9s,baz=143,slow=5.4,SNR=69
REDW Red Top Meadow 91.09 42 eP P 11 23 46.4 -1.0
comp=Z,10nm,1.1s
TPAW Teton Pass 91.10 42 eP P 11 23 46.5 -1.0
comp=Z,6.6nm,1.1s
FXWY Fox Creek 91.14 41 eP P 11 23 47.7 0.0
comp=Z,8.2nm,1.3s
MCK McKinley 91.16 12 eP P 11 23 46.0 -1.0
MCK pmax pmax
comp=Z,28nm,1.6s
MCK McKinley 91.16 12 eP P 11 23 46.0 -1.0
comp=Z,28nm,1.6s
DLMT Dillon 91.20 39 eP P 11 23 47.3 -0.5
comp=Z,10nm,1.2s
SNOW Snow King Moun 91.21 42 eP P 11 23 47.6 -0.4
comp=Z,12nm,1.1s
SMCO Snowmass 91.29 47 eP P 11 23 47.9 -0.7
comp=Z,5.1nm,0.9s
IMW Indian Meadow 91.34 41 eP P 11 23 48.0 -0.6
comp=Z,9.3nm,1.1s
MOOW Moose Ponds 91.37 42 eP P 11 23 47.9 -0.8
comp=Z,10nm,1.8s
LOHW Long Hollow 91.38 42 eP P 11 23 48.1 -0.7
comp=Z,6.9nm,1.2s
833A Chaparral WMA, 91.45 59 P P 11 23 48.6 -0.5
baz=242
SDCO Great Sand Dun 91.54 49 P P 11 23 48.7 -1.0
baz=239
SDCO Great Sand Dun 91.54 49 eP P 11 23 48.6 -1.1
comp=Z,6.1nm,1.1s
BW06 Boulder Array 91.55 43 P P 11 23 48.5 -1.1
baz=237
BW06 Boulder Array 91.55 43 eP P 11 23 48.0 -1.5
comp=Z,6.9nm,1.0s
PD31 Pinedale Array 91.55 43 eP P 11 23 48.0 -1.5
PDAR Pinedale Array 91.55 43 P P 11 23 48.1 -1.5
comp=Z,4.4nm,0.9s,baz=212,slow=3.1,SNR=31
PDAR Pinedale Array 91.55 43 eP P 11 23 47.7 -1.8
QLMT Earthquake Lak 91.57 40 eP P 11 23 49.7 +0.1
MSTX Muleshoe 91.58 53 P P 11 23 48.9 -0.9
baz=241
MSTX Muleshoe 91.58 53 eP P 11 23 49.2 -0.5
comp=Z,11nm,0.9s
YHB Horse Butte 91.67 41 eP P 11 23 48.1 -1.9
comp=Z,16nm,1.5s
YMR Madison River 91.75 41 eP P 11 23 50.7 +0.2
comp=Z,15nm,1.5s
MHTCO State Highway 91.78 50 eP P 11 23 50.3 -0.4
comp=Z,12nm,1.5s
H17A Grant Village 91.83 41 P P 11 23 50.0 -1.0
baz=236
H17A Grant Village 91.83 41 eP P 11 23 49.9 -1.0
comp=Z,4.8nm,1.0s
BOZ Bozeman (W) 91.89 40 P P 11 23 50.3 -0.7
baz=236
BOZ Bozeman (W) 91.89 40 eP P 11 23 50.5 -0.4
BOZ pmax pmax
comp=Z,13nm,1.1s
BOZ Bozeman (W) 91.89 40 eP P 11 23 50.5 -0.4
comp=Z,13nm,1.1s
YHH Holmes Hill 91.89 41 eP P 11 23 50.4 -0.8
comp=Z,5.3nm,1.1s
T25A Trinidad 91.98 50 P P 11 23 50.5 -1.1
baz=240
T25A Trinidad 91.98 50 eP P 11 23 51.0 -0.7
comp=Z,29nm,2.0s

LKWY Lake 92.03 41 eP P 11 23 49.9 -1.9
LKWY pmax pmax
comp=Z,11nm,1.3s
LKWY Lake 92.03 41 eP P 11 23 49.9 -1.9
comp=Z,11nm,1.3s
ZEA Zeya 92.08 331 i P P 11 23 49.0 -2.4
JCT Junction City 92.13 57 P P 11 23 51.3 -1.0
baz=242
JCT Junction City 92.13 57 eP P 11 23 50.2 -2.1
JCT pmax pmax
comp=Z,6.0nm,0.9s
JCT Junction City 92.13 57 eP P 11 23 50.2 -2.1
comp=Z,6.2nm,0.9s
HDA Harding Lake 92.16 13 eP P 11 23 51.4 -0.1
comp=Z,20nm,1.3s
CCB Clear Creek Bu 92.20 12 eP P 11 23 50.3 -1.4
comp=Z,8.2nm,1.1s
KMI Kunming 92.31 297 P P 11 23 54.0 +0.5
KMI pmax pmax
comp=Z,13nm,0.5s
KMI pmax pmax
comp=Z,100nm,4.5s
KMI LR LR
comp=Z,170nm,7.0s
KMI LR LR
comp=Z,140nm,5.9s
KMI LR LR
comp=Z,110nm,7.5s
COLA College 92.40 12 eP P 11 23 50.6 -2.0
COLA pmax pmax
comp=Z,26nm,1.5s
COLA College 92.40 12 eP P 11 23 50.6 -2.0
comp=Z,26nm,1.5s
IM3 Indian Mountai 92.44 9 eP P 11 23 50.8 -2.0
TRQA Tornquist 92.47 134 eP P 11 23 54.6 +0.7
comp=Z,43nm,1.8s
IL1 Eielson Array 92.49 12 eP P 11 23 50.8 -2.2
ILAR Eielson Array 92.49 12 P P 11 23 50.6 -2.5
comp=Z,2.2nm,1.0s,baz=210,slow=5.5,SNR=11
ILAR LR LR 11 56 54.1
comp=Z,47nm,20.6s,baz=268,slow=30
ISCO Idaho Springs 92.51 47 P P 11 23 53.0 -1.2
baz=239
CM01 Chiang Mai Arr 92.56 289 eP P 11 23 54.2 -0.3
CMAR Chiang Mai Arr 92.59 289 P P 11 23 54.6 0.0
comp=Z,2.4nm,0.8s,baz=135,slow=3.3,SNR=13
CMAR LR LR 12 03 41.2
comp=Z,28nm,21.6s,baz=140,slow=34
CHTO Chiang Mai 92.74 289 eP P 11 23 54.8 -0.5
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 92.74 289 eP P 11 23 54.8 -0.5
comp=Z,3.2nm,0.8s
AMTX Amarillo 92.81 53 P P 11 23 54.4 -1.0
baz=241
N23A Red Feather La 92.85 46 P P 11 23 54.7 -1.0
baz=239
RLMT Red Lodge 93.01 41 P P 11 23 55.5 -0.7
baz=237
ABTX Abilene, Hawle 93.24 56 P P 11 23 56.5 -0.9
baz=242
ABTX Abilene, Hawle 93.24 56 eP P 11 23 56.7 -0.7
comp=Z,15nm,1.0s
HHC Hu-ho-hao-te 93.24 314 eP P 11 23 58.5 +1.2
HHC S S 11 34 50.8 -5.3
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.6s
HHC LR LR
comp=Z,160nm,13.6s
HHC LR LR
comp=Z,130nm,13.6s
HHC LR LR
comp=Z,120nm,16.0s
K22A Casper 93.38 44 P P 11 23 56.8 -1.1
baz=239
DAWY Dawson 93.52 16 eP P 11 23 58.2 +0.3
comp=Z,11nm,1.5s
BILL Bilibino 93.64 354 i P P 11 23 52.5 -5.8
BILL i 11 24 22.2
BILL pmax pmax
comp=Z,5.0nm,1.1s
EGAK Eagle 93.71 15 eP P 11 23 57.8 -0.8
comp=Z,20nm,1.6s
CD2 Chengdu 94.09 302 eP P 11 24 00.5 -0.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
COLD Coldfoot 94.13 10 eP P 11 24 00.3 -0.2
comp=Z,17nm,1.9s
WMOK Wichita Mounta 94.85 54 P P 11 24 03.6 -1.1
baz=243
OGNE Ogallala 95.45 47 P P 11 24 06.5 -0.9
baz=242
RSSD Black Hills 95.69 44 P P 11 24 07.4 -1.1
baz=241
RSSD Black Hills 95.69 44 eP P 11 24 05.8 -2.8
RSSD pmax pmax
comp=Z,10.0nm,1.0s
RSSD Black Hills 95.69 44 eP P 11 24 05.8 -2.8
comp=Z,9.7nm,1.0s
JTS JuntasAbangare 96.00 81 LR LR 11 56 40.1
comp=Z,80nm,20.8s,baz=177,slow=29
LZH Lanzhou 96.33 307 eP P 11 24 12.0 +0.4
LZH pP pP 11 24 36.4 +0.4
LZH sP sP 11 24 47.6 -1.0
LZH ePP PP 11 28 09.0 +2.3
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,130nm,7.3s
LZH LR LR
comp=Z,170nm,14.2s
LZH LR LR
comp=Z,120nm,15.0s
LZH LR LR
comp=Z,260nm,17.3s
YAK Yakutsk 96.69 338 eP P 11 24 08.4 -3.9
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.3s
LPAZ La Paz 99.36 113 LR LR 11 58 48.7
comp=N,47nm,20.3s,baz=252,slow=29
SONM Songino Array 99.83 318 LR LR 12 06 54.7
comp=N,40nm,20.9s,baz=146,slow=34
YKA Yellowknife Ar 100.18 25 P Pdif 11 24 25.6 -2.3
comp=N,0.1nm,0.3s,baz=242,slow=4.4,SNR=4.4
YKA PP PP 11 28 27.1 -8.2
comp=N,0.5nm,1.0s,baz=229,slow=6.4,SNR=3.3
WMQ Urumqi 110.64 310 ePKP PKiKP 11 29 13.4 -1.4
WMQ LR LR
comp=N,180nm,39.1s
WMQ LR LR
comp=N,640nm,35.5s
WMQ LR LR
comp=N,330nm,39.1s
ZALV Zalesovo Beam 114.64 320 PKP PKPdf 11 29 20.5 -1.5
comp=N,0.6nm,0.5s,baz=116,slow=3.4,SNR=2.7
MKAR Makanchi Array 115.02 312 PKP PKPdf 11 29 21.1 -1.9
comp=N,0.9nm,0.8s,baz=186,slow=0.9,SNR=6.3
MKAR PKKPbc PKKPbc 11 40 00.6 +0.3
comp=N,0.6nm,0.6s,baz=272,slow=4.0,SNR=6.6
KURK Kurchatov 117.99 316 PKIKP PKPdf 11 29 27.4 -1.2
KURK Kurchatov 117.99 316 PKP PKPdf 11 29 27.4 -1.2
KURBB Kurchatov Arra 118.04 316 PKP PKPdf 11 29 27.4 -1.3
comp=N,0.6nm,0.5s,baz=99,slow=2.1,SNR=2.6
KSH Kashi 118.27 303 ePKP PKPdf 11 29 29.6 -0.1
KSH PP PP 11 30 49.3 +2.1
KSH PKS PKSdf 11 33 04.0 -2.4
KSH SKS SKSdf 11 36 30.5 -2.3
KSH SS SS 11 46 57.4 +1.6
KSH AMB AMB
comp=N,190nm,6.4s
KSH LR LR
comp=N,280nm,11.7s
KSH LR LR
comp=N,260nm,14.9s
KSH LR LR
comp=N,82nm,12.5s
BVAR Borovoye Array 123.17 318 PKP PKPdf 11 29 37.0 -1.5
comp=N,1.2nm,0.5s,baz=110,slow=3.5,SNR=7.3
MATP Matopo 128.51 211 PKP PKPdf 11 29 50.7 +0.8
comp=N,2.0nm,0.9s,baz=207,slow=6.8,SNR=4.3
ARU Arti 129.48 324 PKP PKPdf 11 29 49.3 -1.1
comp=N,2.5nm,0.4s,baz=139,slow=9.3,SNR=3.4
ARU Arti 129.48 324 i PKIKP PKPdf 11 29 51.3 +0.9
ARU 11 32 00.6
ARU 11 36 53.5
ARU SS SS 11 49 16.2 +0.5
ARCES ARCESS Array B 133.55 349 PKhKP PKPpre 11 29 47.9
comp=N,3.7nm,1.0s,baz=345,slow=1.9,SNR=5.1
ARCES PKP PKPdf 11 29 56.7 -1.1
comp=N,1.6nm,0.6s,baz=296,slow=1.0,SNR=11
FIA1 FINESS Array S 140.39 343 ePKPpre PKPpre 11 30 03.5
FINES FINESS Array B 140.40 343 PKhKP PKPpre 11 30 01.4
comp=N,1.4nm,0.5s,baz=66,slow=6.2,SNR=6.9
OBN Obninsk 141.20 330 ePKIKP PKPdf 11 30 14.9 +2.7
VSR Storozhevoye 142.05 323 ePKIKP PKPdf 11 30 15.6 +1.7
DOMB Dombas 142.79 355 eP PKPdf 11 30 08.1 -6.9
NC303 NORSAR Array S 143.39 353 eP PKPab 11 30 10.2 -2.0
NB201 NORSAR Array S 143.57 353 eP PKPab 11 30 10.7 -2.4
NB2 NORSAR Subarra 143.59 353 PKP PKPab 11 30 11.7 -1.4
comp=Z,17nm,0.6s,baz=10,slow=3.3
NB2 NORSAR Subarra 143.59 353 PKP PKPab 11 30 11.7 -1.4
comp=Z,17nm,0.6s,baz=10,slow=3.3
NOA NORSAR Array B 143.59 353 PKhKP PKPpre 11 30 12.1
comp=Z,0.6nm,0.6s,baz=269,slow=5.8,SNR=8.6
NOA PKP PKPab 11 30 15.5 +2.4
comp=Z,1.6nm,0.5s,baz=2.3,slow=2.2,SNR=7.2
NBO00 NORSAR Array S 143.64 354 eP PKPab 11 30 12.6 -0.7
NAO01 NORSAR Array S 143.81 354 eP PKPab 11 30 12.0 -1.9
NC602 NORSAR Array S 143.85 353 eP PKPab 11 30 12.6 -1.5
HFS Hagfors 144.16 351 PKhKP PKPpre 11 30 13.3
comp=Z,7.6nm,0.7s,baz=54,slow=2.5,SNR=31
ODD1 Odda 145.06 357 eP PKPbc 11 30 18.2 -0.4
KONO Kongsberg 145.11 354 ePKIKP PKPbc 11 30 16.7 -2.0
KONO Kongsberg 145.11 354 ePKPdf PKPbc 11 30 16.7 -2.0
KONO Kongsberg 145.11 354 eP PKPbc 11 30 15.9 -2.8
BLS5 Blasjo 145.56 357 eP PKPdf 11 30 18.2 -1.6
KMY Karmoy 145.81 358 eP PKPdf 11 30 18.1 -2.1
HOMB Homborsund 146.57 355 eP PKPdf 11 30 23.8 +2.2
SNART Snartemo 146.59 356 eP PKPdf 11 30 21.1 -0.4
KPL Plockton 147.11 9 eP PKPdf 11 30 22.9 +0.5
AKASG Malin Array Be 147.44 329 PKPbc PKPdf 11 30 23.6 +0.4
comp=Z,7.5nm,0.4s,baz=44,slow=4.3,SNR=39
AKBB Malin Array Si 147.44 329 ePKP2 PKPdf 11 30 25.1 +1.9
AKBB Malin Array Si 147.44 329 ePKPbc PKPdf 11 30 25.1 +1.9
KIEV Kiev 147.45 329 ePKP2 PKPdf 11 30 24.8 +1.6
KIEV Kiev 147.45 329 ePKPdf PKPdf 11 30 24.8 +1.6
AK11 Malin Array Si 147.48 329 ePKPdf PKPdf 11 30 23.7 +0.4
AK11 ePKPbc PKPbc 11 30 24.6 -1.4
SIM Simferopol' 148.05 316 ePKP2 PKPdf 11 30 27.7 +3.3
SIM pmax pmax
comp=Z,26nm,0.8s
EKA Eskdalemuir Ar 149.38 7 PKPbc PKPdf 11 30 30.1 +3.8
comp=Z,1.1nm,0.5s,baz=350,slow=3.3,SNR=9.4
SORM Soroca 149.56 326 ⇑PKP2 PKPdf 11 30 29.9 +3.1
ASF Jabal al Asfar 149.60 291 PKPbc PKPdf 11 30 32.2 +4.8
comp=Z,4.4nm,0.6s,baz=322,slow=4.6,SNR=6.8
ILGA Ilgaz 149.99 310 ePKPbc PKPdf 11 30 32.0 +4.0
KIS Kishinev 150.04 324 ePKHKP PKPbc 11 30 30.0 -2.6
KIS e 11 30 35.0
BRTR Keskin Array B 150.53 307 PKPbc PKPdf 11 30 32.5 +3.8
comp=Z,3.6nm,0.6s,baz=147,slow=4.1,SNR=22
MMAI Mount Meron Ar 150.77 293 PKPbc PKPbc 11 30 34.9 -0.1
comp=Z,14nm,0.5s,baz=74,slow=7.8,SNR=13
ANTO Ankara 151.09 308 ePKIKP PKPdf 11 30 34.4 +4.9
ANTO Ankara 151.09 308 ePKPbc PKPdf 11 30 34.4 +4.9
KWP Kalwaria Pacla 151.10 333 ePKP PKPdf 11 30 33.7 +4.5
KWP Kalwaria Pacla 151.10 333 ePKIKP PKPdf 11 30 33.7 +4.5
BUR08 Bucovina Ar. S 151.46 328 ePKPbc PKPbc 11 30 36.1 0.0
BUR04 Bucovina Ar. S 151.47 328 ePKPbc PKPbc 11 30 36.1 0.0
BURAR Bucovina Array 151.47 328 ⇑PKIKP PKPbc 11 30 36.0 -0.1
CFR Carcaliu 151.52 321 ⇓PKIKP PKPbc 11 30 35.7 -0.4
OJC Ojcow 151.74 337 ePKP PKPdf 11 30 34.7 +4.6
OJC Ojcow 151.74 337 ePKIKP PKPdf 11 30 34.7 +4.6
TIRR Tirgusor 151.78 320 ⇑PKIKP PKPbc 11 30 36.4 -0.3
TIRR Tirgusor 151.78 320 ePKPbc PKPbc 11 30 36.3 -0.5
STHS Stebnicka Huta 151.86 335 ePKIKP PKPbc 11 30 36.3 -0.5
STHS e 11 30 44.2
STHS Stebnicka Huta 151.86 335 ePKP PKPbc 11 30 36.3 -0.5
STHS e 11 30 44.2
VRI Vrincioaia 151.87 324 ⇑PKIKP PKPbc 11 30 36.5 -0.5
TLB Topalu 151.92 320 ⇑PKIKP PKPbc 11 30 36.7 -0.4
UZH Uzhgorod 152.05 332 ePKIKP PKPdf 11 30 35.4 +4.8
UZH e 11 30 44.4
UZH i 11 31 07.0
CSS Mathiatis 152.13 298 ePKPbc PKPbc 11 30 37.1 -0.8
CRVS Cervenica-Dubn 152.18 334 ePKIKP PKPdf 11 30 31.9 +1.1
CRVS e 11 30 45.0
CRVS Cervenica-Dubn 152.18 334 ePKP PKPdf 11 30 31.9 +1.1
CRVS e 11 30 37.0
CRVS e 11 30 45.0
NIE Niedzica 152.22 336 ePKP PKPdf 11 30 36.9 +6.0
NIE Niedzica 152.22 336 ePKIKP PKPdf 11 30 36.9 +6.0
KSP Ksiaz 152.31 342 ePKP PKPbc 11 30 37.6 -0.2
KSP Ksiaz 152.31 342 ePKIKP PKPbc 11 30 37.6 -0.2
MLR Muntele Rosu 152.53 324 PKPbc PKPdf 11 30 36.8 +5.2
comp=Z,0.6nm,0.6s,baz=104,slow=8.7,SNR=5.6
UPC Upice 152.69 342 ⇑ePKP PKPbc 11 30 38.3 -0.3
UPC ePKPAB PKiKP 11 30 45.1 +6.3
UPC Upice 152.69 342 ePKIKP PKPbc 11 30 38.3 -0.3
UPC e 11 30 45.1
CLL Collm 152.69 346 ⇑ i PKIKP PKPdf 11 30 37.0 +5.5
CLL i 11 30 47.3
CLL e 11 31 03.0
CLL pmax pmax
comp=Z,9.0nm,0.6s
CLL pmax pmax
comp=Z,15nm,0.7s
CLL Collm 152.69 346 i PKPbc PKPdf 11 30 37.0 +5.5
comp=Z,9.0nm,0.6s
CLL ⇑ i PKPab PKPab 11 30 47.3 -2.3
comp=Z,15nm,0.7s
CLL epPKPbc pPKPdf 11 31 03.0 +4.0
CLL epPKPab sPKPdf 11 31 11.0 +1.6
CLL Collm 152.69 346 ePKPbc PKPdf 11 30 37.4 +5.9
DPC Dobruska-Polom 152.74 341 ⇑ePKP PKPbc 11 30 38.2 -0.6
DPC ePKPAB PKiKP 11 30 46.3 +7.3
DPC Dobruska-Polom 152.74 341 ePKIKP PKPbc 11 30 38.2 -0.6
DPC e 11 30 46.3
LANS Liptovska Anna 152.75 336 ePKIKP PKPbc 11 30 39.2 +0.3
LANS e 11 30 47.3
LANS Liptovska Anna 152.75 336 ePKP PKPbc 11 30 39.2 +0.3
LANS e 11 30 47.3
BRG Berggiesshubel 152.89 345 ePKP PKPbc 11 30 38.5 -0.6
comp=Z,7.4nm,0.7s
BRG Berggiesshubel 152.89 345 ePKP PKPbc 11 30 47.2 +8.1
comp=Z,8.2nm,0.7s
BRG epPKP pPKPdf 11 31 04.6 +5.2
comp=Z,7.1nm,1.1s
BRG ePKKP 11 39 19.4
comp=Z,12nm,1.5s
BRG Berggiesshubel 152.89 345 ePKIKP PKPbc 11 30 38.5 -0.6
BRG e 11 30 47.2
BRG e 11 31 04.6
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG pmax pmax
comp=Z,8.0nm,0.7s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.5s
KECS Kecovo 152.90 334 ePKP PKPab 11 30 49.7 -0.9
VOIR 153.04 325 ⇓PKIKP PKPbc 11 30 39.2 -0.5
PVCC Panska Ves 153.06 344 ⇑ePKP PKPbc 11 30 39.3 -0.1
PVCC Panska Ves 153.06 344 ePKIKP PKPbc 11 30 39.3 -0.1
DRGR 153.25 329 ⇑PKIKP PKPdf 11 30 38.6 +6.1
VYHS Vyhne 153.52 336 ePKP PKPbc 11 30 41.5 +0.9
VYHS e 11 30 47.9
VYHS e 11 30 51.9
PRU Pruhonice 153.56 343 ePKPAB PKPbc 11 30 47.4 +6.9
PSZ Piszkesteto 153.59 334 ePKIKP PKPbc 11 30 39.6 -1.2
PSZ Piszkesteto 153.59 334 ePKPbc PKPbc 11 30 39.6 -1.2
KHC Kasperske Hory 154.59 344 ePKPDF PKPdf 11 30 34.5 +0.2
KHC ⇑ePKP PKPbc 11 30 41.9 -1.0
KHC ex x 11 30 49.5
KHC epPKP sPKPbc 11 31 20.8 +0.1
KHC Kasperske Hory 154.59 344 ePKIKP PKPdf 11 30 34.5 +0.2
GERES GERESS Array B 154.83 343 PKP PKPdf 11 30 34.8 +0.1
comp=Z,0.2nm,0.6s,baz=108,slow=3.2,SNR=3.6
GERES PKPbc PKPbc 11 30 42.4 -1.1
comp=Z,0.3nm,0.4s,baz=31,slow=4.0,SNR=3.7
SOKA Soboth 156.40 339 ePKPab PKPab 11 31 04.4 -1.3

	comp=Z,5.3nm,1.3s						
SOKA	**Soboth**	**156.40**	**339**	*e*PKPdf	**PKPab**	**11 31 04.4**	**-1.3**
	comp=Z,5.3nm,1.3s						
DIVS	**Divibare**	**156.54**	**328**	*e*PKPab	**PKPab**	**11 31 04.5**	**-1.8**
KBA	**Koelnbreinsper**	**156.54**	**342**	*e*PKPdf	**PKPdf**	**11 30 37.9**	**+0.7**
	comp=Z,4.2nm,0.8s						
KBA	**Koelnbreinsper**	**156.54**	**342**	*e*PKPdf	**PKPdf**	**11 30 37.9**	**+0.7**
	comp=Z,4.2nm,0.8s						
WTTA	**Wattenberg**	**156.81**	**345**	*e*pPKPdf	pPKPdf	11 31 03.7	-1.5
	comp=Z,2.9nm,0.6s						
WTTA	**Wattenberg**	**156.81**	**345**	*e*PKPdf	pPKPdf	11 31 03.7	-1.5
	comp=Z,2.9nm,0.6s						
MOTA	**Moosalm**	**156.85**	**346**	*e*PKPab	**PKPab**	**11 31 06.7**	**-0.9**
	comp=Z,2.5nm,0.9s						
MOTA	**Moosalm**	**156.85**	**346**	*e*PKPdf	**PKPab**	**11 31 06.7**	**-0.9**
	comp=Z,2.5nm,0.9s						
FETA	**Feichten**	**157.24**	**346**	*e*PKPab	**PKPab**	**11 31 05.3**	**-4.0**
	comp=Z,2.2nm,0.9s						
FETA	**Feichten**	**157.24**	**346**	*e*PKPdf	**PKPab**	**11 31 05.3**	**-4.0**
	comp=Z,2.2nm,0.9s						
DBIC	**Dimbokro**	**160.20**	**156**	PKPab	**PKPab**	**11 31 23.1**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=243,slow=6.8,SNR=5.1						
CUC	**Castrocucco**	**161.68**	**328**	*e*PKPab	**PKPab**	**11 31 27.1**	**-1.7**
KEST	**Kesra**	**168.07**	**335**	PKPab	**PKPab**	**11 31 55.5**	**-1.5**
	comp=Z,3.3nm,0.6s,baz=146,slow=3.6,SNR=3.1						
TOA0	**Torodi Ar. Sit**	**168.10**	**173**	*e*PKPdf	**PKPdf**	**11 30 49.0**	**-0.4**
TOA0				*e*PKPab	**PKPab**	**11 31 58.4**	**+1.0**
TOA0				*e*PKPab	**PKPab**	**11 31 58.8**	**+1.4**
TORD	**Torodi Ar. Bea**	**168.10**	**173**	PKP	**PKPdf**	**11 30 48.9**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=139,slow=1.1,SNR=5.6						
TORD				PKPab	**PKPab**	**11 31 58.5**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=200,slow=4.3,SNR=11						

JMA 11 11:39:35.8, 34.99N×135.52E, h13km, M2.5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.31**	**342**	P	Pg	11 39 42.2	+0.1
JWT				S	Sg	11 39 46.3	-0.1
JHE	**Heguri**	**0.36**	**158**	P	Pg	11 39 43.1	0.0
JHE				S	Sg	11 39 48.2	+0.2
JKS	**Kasai**	**0.56**	**269**	P	Pg	11 39 46.6	-0.1
JKS				S	Sg	11 39 54.0	-0.1
JKY	**Yasaka**	**0.72**	**332**	S	Sg	11 39 59.0	-0.4
JWY	**Kouya**	**0.77**	**176**	P	Pg	11 39 50.5	-0.3
JWY				S	Sg	11 40 00.5	-0.4
JAJ2	**Tsuna**	**0.77**	**223**	S	Sg	11 40 01.1	+0.2
TSUJ	**Tsu 2**	**0.79**	**110**	P	Pg	11 39 50.6	-0.5
TSUJ				S	Sg	11 40 00.9	-0.6
JKSM	**Kasumi**	**0.92**	**311**	P	Pg	11 39 53.1	-0.5
JKSM				S	Sg	11 40 05.3	-0.3
JKN2	**Miekihoku**	**0.97**	**140**	*i* S	Sb	11 40 06.5	-0.8
MAT	**Matsushiro**	**2.68**	**54**	P	Pn	11 40 18.9	+0.3
MAT				*e*S	Sb	11 40 53.8	-2.6

MAN 11 11:40:59, 12.16N×125.17E, h35km, mb4.1, ML2.9, MS2.6, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.61**	**155**	*e*P	Pn	11 41 12.8	+1.5
PLP	**Palo**	**1.01**	**191**	⇓*i*P	Pn	11 41 17.2	+0.6
PLP				*i* S	Sn	11 41 30.8	+1.2
MSLP	**Maasin**	**2.04**	**189**	*e*P	Pn	11 41 32.8	+2.0
MSLP				*e*S	Sn	11 41 46.4	-8.6

MAN 11 12:02:50, 9.83N×123.14E, h0km, mb4.0, ML2.8, MS2.4, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.72**	**101**	*e*P	Pg	12 03 04.6	+0.7
GUIM	**Jordan**	**0.96**	**326**	*e*P	Pb	12 03 09.9	+0.3
GUIM				*e*S	Sn	12 03 25.2	0.0
MSLP	**Maasin**	**1.72**	**80**	*e*P	Pn	12 03 21.4	+0.2
MSLP				*e*S	Sb	12 03 44.8	+0.1

IDC 11 12:15:17.6±3.8, 55.89N×86.55E, h0km, mb1 3.0/3, mb1mx2.8/74, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=34.4km s-min=31.5km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.18**	**208**	*i*		12 32 25.6	
	baz=27,slow=336,SNR=3.4						
ZALV	**Zalesovo Beam**	**2.18**	**208**	Pn	Pn	12 15 55.5	+0.4
	3.6nm,0.3s,baz=21,slow=15,SNR=51						
ZALV				Lg	Lg	12 16 26.6	
	4.8nm,0.3s,baz=25,slow=25,SNR=16						
KURBB	**Kurchatov Arra**	**7.13**	**226**	Pn	Pn	12 17 03.0	-0.1
	0.1nm,0.3s,baz=43,slow=14,SNR=7.2						
MKAR	**Makanchi Array**	**9.48**	**198**	Pn	Pn	12 17 35.3	-0.1
	0.1nm,0.3s,baz=15,slow=11,SNR=4.0						

*IDC **11** 12:17:45.0±1.2, 51.63N×173.23W, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.5/78, mbtmp3.7/11, ML3.5/2, Error ellipse: s-maj=33.4km s-min=20.7km az=175.0*
*ISCJB **11** 12:17:49.0±1.0, 51.7N±0.2×173.2W±0.2, h37km, mb3.7/9, Error ellipse: s-maj=26.8km s-min=15.9km az=167.4*

ISC 11 12:17:50.6±1.1, 51.6N±0.2×173.3W±0.1, h37km, n11, σ0§71/11, mb3.8/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**13.42**	**55**	Pn	**Pn**	**12 20 58.6**	**+0.5**
	0.2nm,0.3s,baz=238,slow=15,SNR=3.9						
ILAR	**Eielson Array**	**18.94**	**36**	P	**P**	**12 22 06.7**	**-1.3**
	0.2nm,0.3s,baz=228,slow=8.9,SNR=19						
YKA	**Yellowknife Ar**	**32.53**	**48**	P	**P**	**12 24 17.3**	**-0.1**
	0.1nm,0.5s,baz=273,slow=7.9,SNR=4.5						
PDAR	**Pinedale Array**	**42.91**	**76**	P	**P**	**12 25 46.5**	**+1.0**
	0.5nm,0.8s,baz=278,slow=4.0,SNR=3.7						
TXAR	**Lajitas Array**	**55.18**	**85**	P	**P**	**12 27 18.8**	**-0.7**
	0.3nm,0.8s,baz=309,slow=6.3,SNR=4.1						
ARCES	**ARCESS Array B**	**58.37**	**352**	P	**P**	**12 27 41.6**	**+0.1**
	1.9nm,0.8s,baz=9.1,slow=7.9,SNR=3.9						
MKAR	**Makanchi Array**	**62.53**	**311**	P	**P**	**12 28 10.3**	**+0.1**
	0.3nm,0.7s,baz=35,slow=8.8,SNR=2.6						
BVAR	**Borovoye Array**	**62.87**	**323**	P	**P**	**12 28 12.9**	**+0.6**
	0.5nm,0.5s,baz=47,slow=7.2,SNR=4.9						
HFS	**Hagfors**	**68.45**	**356**	P	**P**	**12 28 48.0**	**-0.1**
	5.2nm,1.1s,baz=70,slow=4.7,SNR=4.4						
AKASG	**Malin Array Be**	**76.28**	**346**	P	**P**	**12 29 34.6**	**-0.3**
	0.4nm,0.3s,baz=17,slow=7.1,SNR=3.1						
ASAR	**Alice Springs**	**88.10**	**227**	P	**P**	**12 30 36.8**	**-0.2**
	0.5nm,0.8s,baz=30,slow=5.7,SNR=5.6						

MAN 11 12:48:14, 9.97N×126.09E, h112km, mb3.6, ML2.4, MS1.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.10**	**205**	*e*P	Pn	12 48 37.6	+1.2
BUTP				*e*S	Sn	12 48 54.9	+1.6
MSLP	**Maasin**	**1.23**	**278**	*e*P	Pn	12 48 38.3	+0.6
MSLP				*e*S	Sn	12 48 58.0	+2.2
BESP	**Borongan**	**1.74**	**338**	*e*P	Pn	12 48 46.1	+2.2
BESP				*e*S	Sn	12 49 07.7	+1.0

*NIED **11** 12:55:00, 37.70N×141.90E, h32km, Mw3.5 Best double couple: M₀2.34000×10¹⁴ NP1:φ₁80.00000°, δ23.00000°, λ-35.00000°. NP2:φ₂203.00000°, δ77.00000°, λ-109.00000°.*
*IDC **11** 12:55:30.2±0.8, 37.60N×142.11E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.5/64, mbtmp3.6/10, ML3.4/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/53, Error ellipse: s-maj=24.5km s-min=17.9km az=110.0*
*ISCJB **11** 12:55:32.9±1.3, 37.62N±0.04×142.02E±0.07, h26km±8km, mb3.6/8, Error ellipse: s-maj=9.0km s-min=6.5km az=8.6*
*JMA **11** 12:55:35.2±0.1, 37.66N×141.87E, h31km±2km, M3.8*

ISC 11 12:55:34.3±2.2, 37.63N±0.05×141.90E±0.08, h26km±15km, n31, σ1§09/33, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.86**	**253**	P	**Pn**	**12 55 50.7**	**-0.1**
JFK				S	**Sn**	**12 56 01.6**	**-1.0**
JMM	**Marumori**	**0.91**	**285**	P	**Pn**	**12 55 51.4**	**-0.1**
JMM				S	**Sn**	**12 56 02.6**	**-1.2**
JIO	**Ouri**	**0.93**	**332**	P	**Pn**	**12 55 51.5**	**-0.3**
JIO				S	**Sn**	**12 56 02.8**	**-1.6**
ONAJ	**Iwakimizuishiy**	**1.03**	**239**	P	**Pn**	**12 55 53.0**	**-0.1**
JOU	**Okura**	**1.22**	**307**	P	**Pn**	**12 55 56.3**	**+0.4**
JOU				S	**Sb**	**12 56 11.7**	**-0.5**
JFT	**Otama**	**1.25**	**265**	P	**Pb**	**12 55 57.2**	**-0.1**
JFT				S	**Sb**	**12 56 12.8**	**-0.1**
JMK	**Ichinoseki**	**1.43**	**338**	P	**Pn**	**12 55 58.8**	**+0.2**
JYS	**Shirataka**	**1.57**	**293**	P	**Pn**	**12 56 01.7**	**+1.1**
JFY	**Yanaizu**	**1.76**	**263**	P	**Pn**	**12 56 04.7**	**+1.5**
JYK	**Kaneyama**	**1.77**	**317**	P	**Pn**	**12 56 04.0**	**+0.7**
JYK				S	**Sn**	**12 56 25.4**	**+0.4**
JOM	**Ohasama**	**1.90**	**346**	P	**Pn**	**12 56 05.8**	**+0.6**
JOM				*e*S	**Sn**	**12 56 28.6**	**+0.3**
JYA	**Atsumi**	**1.98**	**300**	P	**Pn**	**12 56 07.4**	**+1.2**
JRG	**Rokugo**	**2.03**	**331**	P	**Pn**	**12 56 08.1**	**+1.2**
JRG				S	**Sn**	**12 56 32.4**	**+1.1**
MJAR	**Matsushiro Arr**	**3.15**	**251**	Pn	**Pn**	**12 56 24.5**	**+2.2**
	3.5nm,0.3s,baz=80,slow=16,SNR=37						
MAT	**Matsushiro**	**3.15**	**251**	P	**Pn**	**12 56 24.9**	**+2.6**
MAT				*e*S	**Sb**	**12 57 06.6**	**-0.9**
ASAJ	**Asahikawa**	**6.50**	**4**	Pn	**Pn**	**12 57 09.6**	**+1.3**
	0.8nm,0.3s,baz=204,slow=13,SNR=8.5						
USRK	**Ussuriysk Ar.**	**9.96**	**314**	Pn	Pn	12 58 02.3	+6.5
	0.6nm,0.3s,baz=126,slow=13,SNR=9.6						
KSRS	**Korea Array**	**11.10**	**273**	LR	LR	13 02 22.5	
	comp=Z,28nm,18.5s,baz=65,slow=36						
SONM	**Songino Array**	**27.78**	**303**	P	**P**	**13 01 21.4**	**+0.2**
	0.4nm,0.6s,baz=99,slow=8.8,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	13 30 58.1	
	baz=198,slow=74,SNR=42						
H11N3	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	13 30 57.3	
	baz=314,slow=74,SNR=51						
H11S1	**WAKE ISLAND Hy**	**28.86**	**124**	T	T	13 31 52.6	
	baz=317,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hy**	**28.88**	**125**	T	T	13 31 50.2	
	baz=317,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	13 31 46.7	
	baz=317,slow=75,SNR=26						
MKAR	**Makanchi Array**	**44.14**	**302**	P	**P**	**13 03 40.7**	**+0.1**
	0.2nm,0.5s,baz=96,slow=7.4,SNR=3.2						
KURBB	**Kurchatov Arra**	**45.95**	**308**	P	**P**	**13 03 56.1**	**+1.2**
	1.1nm,0.4s,baz=82,slow=8.2,SNR=7.8						
ILAR	**Eielson Array**	**48.78**	**33**	P	**P**	**13 04 17.1**	**+0.3**
	0.1nm,0.6s,baz=278,slow=6.9,SNR=3.8						
INK	**Inuvik**	**53.68**	**27**	P	**P**	**13 04 51.3**	**-2.1**
	3.2nm,0.6s,baz=143,slow=30,SNR=23						
WRA	**Warramunga Arr**	**57.70**	**188**	P	**P**	**13 05 22.4**	**-0.4**
	0.7nm,0.4s,baz=6.4,slow=7.3,SNR=17						
ASAR	**Alice Springs**	**61.43**	**188**	P	**P**	**13 05 48.3**	**-0.2**
	0.4nm,0.7s,baz=5.3,slow=5.8,SNR=8.2						
YKA	**Yellowknife Ar**	**63.10**	**30**	P	**P**	**13 05 59.1**	**-0.1**
	0.2nm,0.7s,baz=302,slow=6.5,SNR=4.4						

KRSC 11 12:56:27.3±0.5, 61.05N×162.84E, h28km±30km, ML3.7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**1.73**	**109**	*e*P	Pb	12 56 57.4	-0.9
TILK				*e*S	Sb	12 57 19.6	0.0
OSSR	**Ossora**	**1.80**	**176**	*e*P	Pn	12 56 57.9	+1.5
OSSR				*e*S	Sn	12 57 20.0	+1.7
KMSK	**Kamenskaya**	**2.15**	**47**	*e*P	Pn	12 57 03.0	+1.9
KMSK				*e*S	Sb	12 57 29.4	-2.1
PALN	**Palana**	**2.43**	**218**	*e*P	Pn	12 57 07.6	+2.5
PALN				*e*S	Sb	12 57 37.2	-2.6

*NNC **11** 13:11:53.2±7.0, 36.99N×70.61E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=63.8km s-min=46.1km az=149.0*

ISC 11 13:11:53.6±3.6, 36.6N±0.2×71.1E±0.1, h100km, n12, σ1§23/16, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.92**	**29**	⇓P	**Pn**	**13 12 52.8**	**+0.9**
	3.4nm,0.3s						
SFK				⇑S	**Sn**	**13 13 40.2**	**+3.1**
	1.7nm,0.2s						
AML	**Almayashu**	**5.90**	**19**	P	**Pn**	**13 13 19.0**	**+0.1**
	SNR=45						
MNAS	**Manas**	**6.00**	**10**	⇑P	**Pn**	**13 13 20.3**	**+0.4**
	2.5nm,0.5s						
MNAS				⇓S	**Sn**	**13 14 26.4**	**-0.9**
	4.0nm,0.6s						
UCH	**Uchtor**	**6.24**	**24**	P	**Pn**	**13 13 23.4**	**-0.1**
	SNR=5.8						
KZA	**Kyzart**	**6.37**	**29**	P	**Pn**	**13 13 24.8**	**-0.4**
	SNR=6.7						
EKS2	**Erkin-Say**	**6.42**	**18**	P	**Pn**	**13 13 26.2**	**+0.6**
	SNR=11						
KK31	**Karatay Array**	**6.53**	**356**	P	**Pn**	**13 13 27.6**	**+0.7**
	2.2nm,0.2s,baz=177,slow=13,SNR=143						
KK31				S	**Sn**	**13 14 40.2**	**+0.3**
	2.1nm,0.3s,baz=186,slow=24,SNR=6.5						
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**13 13 27.3**	**-0.8**
AAK				S	**Sn**	**13 14 39.5**	**-2.4**
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**13 13 28.4**	**+0.3**
	SNR=7.4						
TKM2	**Tokmak 2**	**7.23**	**27**	⇑P	**Pn**	**13 13 36.1**	**-0.6**
	0.3nm,0.2s						
TKM2	**Tokmak 2**	**7.23**	**27**	P	**Pn**	**13 13 36.4**	**-0.2**
	SNR=8.5						
AB31	**Akbulak array**	**15.04**	**331**	P	**Pn**	**13 15 20.1**	**-0.5**
	0.2nm,0.4s,baz=223,slow=9.0,SNR=6.4						

*DDA **11** 13:23:07.4, 39.96N×41.49E, h5km, Ml3.2*
*CSEM **11** 13:23:07.8±0.2, 39.93N×41.52E, h5km, ML3.2, Error ellipse: s-maj=3.6km s-min=3.4km az=165.0*
*ISK **11** 13:23:07.9, 39.96N×41.51E, h10km, ML3.1/10*
*ISCJB **11** 13:23:08.5±0.5, 39.93N±0.02×41.50E±0.03, h6km±4km, Error ellipse: s-maj=3.7km s-min=3.2km az=155.1*
*ATA **11** 13:23:09.8±1.2, 40.03N×41.47E, h15km±9km, ML3.5, MW3.7*

ISC 11 13:23:07.8±1.2, 39.96N±0.02×41.53E±0.02, h4km±10km, n57, σ0§98/85, 3C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.14**	**245**	*i* P	**Pg**	**13 23 09.3**	**-1.4**
ERZM	**Erzurum**	**0.14**	**245**	P	**Pg**	**13 23 09.3**	**-1.4**
HOMI	**Horasan**	**0.30**	**74**	⇑*i*P	**Pb**	**13 23 17.5**	**+1.5**
HOMI				IAML		13 23 24.0	
	comp=Z,484nm,0.4s						
HOMI	**Horasan**	**0.30**	**74**	*i* P	**Pg**	**13 23 13.8**	**0.0**
HOMI				*i* S	**Sb**	**13 23 20.0**	**-1.5**
ECAT	**Cat-ERZURUM**	**0.56**	**230**	⇑*i*P	**Pn**	**13 23 22.1**	**-0.7**
ECAT				IAML		13 23 27.2	
	comp=Z,145nm,0.5s						
ECAT	**Cat-ERZURUM**	**0.56**	**230**	*i* P	**Pg**	**13 23 17.7**	**-0.8**
ECAT				*i* S	**Sg**	**13 23 26.6**	**+0.8**
ECAT	**Cat-ERZURUM**	**0.56**	**230**	P	**Pg**	**13 23 17.7**	**-0.8**
ECAT				S	**Sg**	**13 23 26.5**	**+0.8**
EATA	**Eleskirt**	**0.75**	**98**	⇓*i*P	**Pn**	**13 23 24.9**	**-0.6**
EATA				IAML		13 23 45.2	
	comp=Z,30nm,0.6s						
EATA	**Eleskirt**	**0.75**	**98**	*i* P	**Pb**	**13 23 23.2**	**-0.5**
EATA				*i* S	**Sn**	**13 23 37.0**	**-0.5**
EATA	**Eleskirt**	**0.75**	**98**	P	**Pb**	**13 23 23.2**	**-0.5**
KOPT	**Kop Dagi**	**0.79**	**274**	⇓*e*PG	**Pb**	**13 23 24.9**	**+0.5**
KOPT				IAML		13 23 46.3	
	comp=Z,143nm,0.6s						
KOPT	**Kop Dagi**	**0.79**	**274**	*i* P	**Pg**	**13 23 23.1**	**0.0**
KOPT				*i* S	**Sn**	**13 23 37.1**	**-1.5**
KOPT	**Kop Dagi**	**0.79**	**274**	P	**Pg**	**13 23 23.1**	**0.0**
EKAR	**Karacoban**	**0.82**	**149**	*i* P	**Pg**	**13 23 22.8**	**-0.8**
EKAR				*i* S	**Sn**	**13 23 37.9**	**-1.2**
EKAR	**Karacoban**	**0.82**	**149**	P	**Pg**	**13 23 22.8**	**-0.8**
SENK	**Senkaya-Erzuru**	**0.87**	**46**	PG	**Pb**	**13 23 25.0**	**-0.6**
SENK				SG	**Sb**	**13 23 37.9**	**+0.2**
SENK	**Senkaya-Erzuru**	**0.87**	**46**	*e*Pg	**Pb**	**13 23 25.0**	**-0.6**
SENK				*e*Sg	**Sb**	**13 23 37.9**	**+0.2**
DDEM	**Demirkent**	**0.94**	**10**	*i* P	**Pb**	**13 23 26.9**	**0.0**
DDEM				*i* S	**Sb**	**13 23 40.2**	**+0.4**
DDEM	**Demirkent**	**0.94**	**10**	P	**Pb**	**13 23 26.9**	**0.0**
DDEM				S	**Sb**	**13 23 40.2**	**+0.4**
BAYB	**BAYBURT**	**1.02**	**287**	*e*P	**Pb**	**13 23 27.8**	**-0.5**
BAYB				*e*S	**Sn**	**13 23 43.4**	**-0.6**
BAYB				IAML		13 23 45.9	
	comp=Z,71nm,0.4s						
BAYB	**BAYBURT**	**1.02**	**287**	*i* P	**Pb**	**13 23 27.7**	**-0.5**
BAYB				*i* S	**Sn**	**13 23 43.0**	**-1.0**
BAYB	**BAYBURT**	**1.02**	**287**	P	**Pb**	**13 23 27.7**	**-0.5**
BAYB				S	**Sn**	**13 23 43.0**	**-1.0**
BNGL	**BINGOL**	**1.05**	**196**	*e*P	**Pn**	**13 23 31.0**	**+1.4**
BNGL				*e*S	**Sn**	**13 23 48.2**	**+3.4**
BNGL				IAML		13 23 49.3	
	comp=Z,245nm,0.5s						
BNGL	**BINGOL**	**1.05**	**196**	*i* P	**Pg**	**13 23 27.0**	**-1.0**
BNGL				*i* S	**Sn**	**13 23 44.6**	**-0.3**
DBAD	**Bademkaya**	**1.06**	**7**	*i* P	**Pn**	**13 23 29.0**	**-0.7**
DBAD				*i* S	**Sn**	**13 23 45.3**	**+0.3**
DBAD	**Bademkaya**	**1.06**	**7**	P	**Pn**	**13 23 29.0**	**-0.7**
DBAD				S	**Sn**	**13 23 45.3**	**+0.3**
TUTA	**Tutak**	**1.14**	**119**	*i* P	**Pg**	**13 23 29.4**	**-0.3**
TUTA				*i* S	**Sn**	**13 23 47.5**	**+0.4**
TUTA	**Tutak**	**1.14**	**119**	P	**Pg**	**13 23 29.4**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.15**	**292**	PN	**Pb**	**13 23 29.7**	**-0.7**
BAYT				SN	**Sn**	**13 23 46.0**	**-1.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.15**	**292**	*e*Pn	**Pb**	**13 23 29.7**	**-0.7**
BAYT				*e*Sn	**Sn**	**13 23 46.0**	**-1.1**
DAGI	**Agillar**	**1.15**	**15**	*i* P	**Pn**	**13 23 30.6**	**-0.3**
DAGI				*i* S	**Sn**	**13 23 48.8**	**+1.6**
AGRB	**Hanur-Agry**	**1.19**	**109**	PN	**Pn**	**13 23 31.3**	**-0.2**
AGRB	**Hanur-Agry**	**1.19**	**109**	*e*Pn	**Pn**	**13 23 31.3**	**-0.2**
ARTV	**Artvin**	**1.26**	**14**	*i* P	**Pg**	**13 23 31.7**	**-0.2**
ARTV				*i* S	**Sn**	**13 23 50.8**	**+0.8**
ARTV	**Artvin**	**1.26**	**14**	P	**Pg**	**13 23 31.7**	**-0.2**
ARTV				S	**Sn**	**13 23 50.8**	**+0.8**
KARS	**Kars**	**1.36**	**60**	PN	**Pb**	**13 23 33.9**	**-0.1**
KARS	**Kars**	**1.36**	**60**	*e*Pn	**Pb**	**13 23 33.9**	**-0.1**
GURO	**Guroymak-BITLI**	**1.47**	**164**	PN	**Pn**	**13 23 34.5**	**-0.7**
GURO				SN	**Sb**	**13 23 54.4**	**-0.4**
GURO	**Guroymak-BITLI**	**1.47**	**164**	*e*Pn	**Pn**	**13 23 34.5**	**-0.7**
GURO				*e*Sn	**Sb**	**13 23 54.4**	**-0.4**
DIGO	**Kars**	**1.48**	**72**	*i* P	**Pn**	**13 23 34.6**	**-1.0**
DIGO				*i* S	**Sb**	**13 23 55.0**	**-0.5**
DIGO	**Kars**	**1.48**	**72**	P	**Pn**	**13 23 34.6**	**-1.0**
DIGO				S	**Sb**	**13 23 55.0**	**-0.5**
KTUT	**Trabzon**	**1.69**	**308**	PN	**Pb**	**13 23 38.5**	**-1.0**
KTUT	**Trabzon**	**1.69**	**308**	*e*Pn	**Pb**	**13 23 38.5**	**-1.0**
KELT	**Kelkit**	**1.75**	**277**	*e*PN11	**Pb**	**13 23 42.9**	**+2.1**
KELT				IAML		13 23 46.1	
	comp=Z,17nm,0.6s						
KELT				*e*SN12	**Sg**	**13 24 07.7**	**+3.5**
PTK	**Pertek**	**1.97**	**238**	PN	**Pn**	**13 23 42.3**	**+0.1**
PTK	**Pertek**	**1.97**	**238**	*e*Pn	**Pn**	**13 23 42.3**	**+0.1**
CLDR	**Caldiran**	**2.02**	**113**	PN	**Pn**	**13 23 43.7**	**+0.7**
CLDR	**Caldiran**	**2.02**	**113**	*e*Pn	**Pn**	**13 23 43.7**	**+0.7**
AKH	**Akhalkalaki**	**2.08**	**45**	P	**Pg**	**13 23 47.2**	**-0.4**
ESPY	**Espiye-Giresun**	**2.34**	**295**	PN	**Pn**	**13 23 47.8**	**+0.7**
ESPY	**Espiye-Giresun**	**2.34**	**295**	*e*Pn	**Pn**	**13 23 47.8**	**+0.7**
SIRT	**Sirnak**	**2.56**	**164**	PN	**Pn**	**13 23 51.4**	**+1.1**
SIRT	**Sirnak**	**2.56**	**164**	*i* Pn	**Pn**	**13 23 51.4**	**+1.1**
MAZI	**Mazidag**	**2.64**	**199**	PN	**Pn**	**13 23 51.1**	**-0.3**
MAZI	**Mazidag**	**2.64**	**199**	*e*Pn	**Pn**	**13 23 51.1**	**-0.3**
ONI	**Oni**	**3.00**	**28**	P	**Pb**	**13 24 00.0**	**-1.8**
ONI	**Oni**	**3.00**	**28**	P	**Pb**	**13 24 00.7**	**-1.2**

*ISCJB **11** 13:30:35.8±3.4, 56.0S±0.1×2.9W±0.1, h10km, mb3.9/2, Error ellipse: s-maj=88.3km s-min=19.0km az=0.4*
*IDC **11** 13:30:36.3±2.4, 56.06S×29.27W, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.6/27, mbtmp4.1/3, ML4.4/1, Error ellipse: s-maj=68.2km s-min=37.8km az=82.0*

ISC 11 13:30:38.0±1.9, 56.1S±0.2×29.2W±0.4, h10km, n7, σ0§47/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.36**	**159**	P	**P**	**13 34 42.0**	**+0.6**
VNA2	**Neumayer--Watz**	**17.61**	**156**	P	**P**	**13 34 43.8**	**-0.4**
	baz=315,slow=13						
SNAA	**Sanae**	**19.19**	**155**	P	**P**	**13 35 01.3**	**-0.3**
SNAA	**Sanae**	**19.19**	**155**	P	**P**	**13 35 01.3**	**-0.3**
	1.1nm,0.3s,baz=296,slow=11,SNR=53						
BOSA	**Boshof**	**47.07**	**78**	P	**P**	**13 39 10.2**	**+0.3**
	1.6nm,0.8s,baz=200,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**73.64**	**31**	P	**P**	**13 42 11.2**	**-0.3**
	0.6nm,0.5s,baz=198,slow=6.5,SNR=9.5						
YKA	**Yellowknife Ar**	**135.44**	**319**

TNCL	**Tunceli-Merkez**	**1.22**	**55**	P		**Pn**	**13 51 33.6**	**-2.6**
TNCL				S		**Sg**	**13 51 53.0**	**+0.1**
KMRS	**Kahramanmaras**	**1.41**	**230**	PN		**Pn**	**13 51 39.1**	**+0.3**
KMRS	**Kahramanmaras**	**1.41**	**230**	*e*Pn		**Pn**	**13 51 39.1**	**+0.3**
GAZ	**Gaziantep**	**1.50**	**214**	PN		**Pn**	**13 51 40.3**	**+0.2**
GAZ	**Gaziantep**	**1.50**	**214**	*e*Pn		**Pn**	**13 51 40.3**	**+0.2**
SVSK	**Karacayir**	**1.78**	**327**	PN		**Pb**	**13 51 45.4**	**-0.4**
SVSK	**Karacayir**	**1.78**	**327**	*e*Pn		**Pb**	**13 51 45.4**	**-0.4**
MAZI	**Mazidag**	**1.99**	**119**	PN		**Pn**	**13 51 48.2**	**+1.4**
MAZI	**Mazidag**	**1.99**	**119**	*e*Pn		**Pn**	**13 51 48.2**	**+1.4**

KRSC 11 14:13:54.2±1.1, 54°13N×161°64E, *h*41km±24km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**1.26**	**322**	*i* P		Pn	14 14 16.6	+1.2
KZV				*e*S		Sn	14 14 32.8	+1.5
KII	**Karymskiy**	**1.30**	**267**	*e*P		Pn	14 14 17.1	+1.3
KII				*e*S		Sn	14 14 32.5	+0.5
TUMD	**Tumrok D**	**1.30**	**327**	*e*P		Pn	14 14 16.4	+0.6
TUMD				*e*S		Sn	14 14 31.6	-0.4
SPN	**Mys Shipunski**	**1.41**	**224**	*e*P		Pn	14 14 18.6	+1.3
SPN				*e*S		Sn	14 14 34.8	+0.1
TUMR	**Tumrok**	**1.45**	**324**	*e*P		Pn	14 14 19.3	+1.3
TUMR				*e*S		Sn	14 14 36.6	+0.8
NLC	**Nalytchevo**	**1.67**	**236**	*e*P		Pn	14 14 22.7	+1.9
NLC				*e*S		Sn	14 14 42.5	+1.5
KMNR	**Kamenistaya**	**1.82**	**334**	*i* P		Pn	14 14 25.8	+2.7
KMNR				*e*S		Sn	14 14 47.9	+2.9
SDLR	**Sedlovina**	**1.85**	**244**	*i* P		Pn	14 14 26.0	+2.6
SDLR				*e*S		Sn	14 14 48.2	+2.6
SMAR	**Somma**	**1.90**	**244**	*i* P		Pn	14 14 26.9	+2.7
SMAR				*e*S		Sn	14 14 49.3	+2.3
UGLR	**Uglovaya**	**1.91**	**242**	*i* P		Pn	14 14 26.9	+2.6
UGLR				*e*S		Sn	14 14 49.8	+2.6
BZMR	**Bezymyannaya**	**1.93**	**340**	*e*P		Pn	14 14 28.1	+3.5
BZMR				*e*S		Sn	14 14 51.5	+3.8
AVH	**Avacha**	**1.93**	**245**	*e*P		Pn	14 14 27.5	+3.0
AVH				*e*S		Sn	14 14 50.6	+3.0
KRX	**Arik**	**1.94**	**248**	*i* P		Pn	14 14 27.5	+2.8
KRX				*e*S		Sn	14 14 50.5	+2.6
BZWR	**Bezymyannyi-We**	**1.96**	**341**	*e*P		Pn	14 14 28.7	+3.7
KOK	**Koryaka**	**1.97**	**246**	*e*P		Pn	14 14 27.9	+2.8
KPT	**Kopyto**	**2.02**	**337**	*e*P		Pn	14 14 28.3	+2.6
LGNR	**Loginova**	**2.04**	**345**	*e*P		Pn	14 14 30.3	+4.1
LGNR				*e*S		Sn	14 14 55.6	+5.1
DALK	**Dalny**	**2.04**	**239**	*e*P		Pn	14 14 28.2	+2.2
DALK				*e*S		Sn	14 14 52.1	+1.9
CIRR	**Tsirk**	**2.06**	**346**	*e*P		Pn	14 14 28.8	+2.4
PET	**Petropavlovsk**	**2.10**	**239**	*i* P		Pn	14 14 29.6	+2.9
PET				*e*S		Sn	14 14 53.8	+2.3
KRSR	**Krestovskiy**	**2.19**	**344**	*e*P		Pn	14 14 30.3	+2.3
KRSR				*e*S		Sn	14 14 55.4	+1.5
KOZ	**Kozyrevsk**	**2.19**	**333**	*e*P		Pn	14 14 30.6	+2.6
KOZ				*e*S		Sn	14 14 56.0	+2.2
KBTR	**Krutoberegovo**	**2.19**	**17**	*i* P		Pn	14 14 31.2	+3.2
KBTR				*e*S		Sn	14 14 56.9	+3.0
GNL	**Ganaly**	**2.23**	**260**	*i* P		Pn	14 14 31.6	+2.9
GNL				*e*S		Sn	14 14 57.5	+2.4
KLY	**Klyuchi**	**2.26**	**346**	*e*P		Pn	14 14 31.7	+2.7
KLY				*e*S		Sn	14 14 57.6	+1.9
BDR	**Baidarnaya**	**2.46**	**354**	*e*P		Pn	14 14 35.2	+3.4
SMKR	**Semkarok**	**2.46**	**358**	*e*P		Pn	14 14 35.4	+3.6
SMKR				*e*S		Sn	14 15 04.4	+3.7
KRMR	**Karymshinskiy**	**2.47**	**240**	*e*P		Pn	14 14 34.9	+3.1
KRMR				*e*S		Sn	14 15 03.2	+2.5
ESO	**Esso**	**2.47**	**318**	*e*P		Pn	14 14 33.4	+1.5
ESO				*e*S		Sn	14 15 00.6	-0.3
RUS	**Russkaya**	**2.53**	**229**	*e*P		Pn	14 14 36.5	+3.8
RUS				*e*S		Sn	14 15 06.7	+4.5
SRKR	**Sorokina**	**2.55**	**354**	*e*P		Pn	14 14 36.3	+3.3
SRKR				*e*S		Sn	14 15 05.9	+3.1
MTVR	**Mutnovka**	**2.65**	**233**	*e*P		Pn	14 14 38.3	+3.8
MTVR				*e*S		Sn	14 15 08.8	+3.4
BKI	**Bering**	**2.74**	**65**	*e*P		Pn	14 14 38.0	+2.5
BKI				*e*S		Sn	14 15 07.8	+0.5
ASAK	**Asacha**	**2.85**	**234**	*e*P		Pn	14 14 41.4	+4.3
APC	**Apacha**	**2.94**	**248**	*e*P		Pn	14 14 41.9	+3.7
APC				*e*S		Sn	14 15 15.7	+3.5
KDTR	**Khodutka, Kamc**	**3.17**	**224**	*e*P		Pn	14 14 45.8	+4.4
KDTR				*e*S		Sn	14 15 21.8	+3.9

IDC 11 14:15:53.0±1.6, 10°26S×128°24E, *h*0km, mb3.5/2, mb1 3.3/4, mb1mx3.1/51, mbtmp3.2/4, ML2.5/2, Error ellipse: s-maj=156.2km s-min=30.0km az=62.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**11.28**	**149**	Pn	Pn	14 18 34.8	-1.0
	0.0nm,0.3s,baz=325,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**14.39**	**159**	Pn	Pn	14 19 19.4	+1.2
	0.0nm,0.3s,baz=333,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**70.02**	**328**	P	P	14 27 04.8	-1.9
	0.3nm,0.7s,baz=128,slow=8.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**74.39**	**330**	P	P	14 27 34.5	+1.8
	0.4nm,0.7s,baz=120,slow=7.6,SNR=4.8						

*IDC **11** 14:15:52.6±2.6, 19°49N×65°67W, *h*0km, mb3.2/4, mb1 3.6/4, mb1mx3.3/57, mbtmp3.2/4, Error ellipse: s-maj=72.4km s-min=24.4km az=91.0*
*ISCJB **11** 14:15:56.8±2.3, 19°47N±0°05×66°06W±0°07, *h*29km±18km, mb3.0/4, Error ellipse: s-maj=10.9km s-min=7.3km az=160.0*
*NEIC **11** 14:15:58.4±0.0, 19°37N×66°08W, *h*79km, MD3.4(RSPR), After RSPR.*
*RSPR **11** 14:15:58.4, 19°37N×66°08W, *h*79km±5km, MD3.4/10*
ISC 11 14:15:59.7±2.3, 19°3N±0°2×66°07W±0°06, *h*58km±35km, n27, σ0°82/30, mb3.0/4, 12C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.96**	**207**	⇑*e*P	**Pn**	**14 16 16.6**	**-0.5**
EMPR	**Esperanza - Ma**	**0.96**	**207**	⇓*e*P	**Pn**	**14 16 16.6**	**-0.5**
EMPR				*e*S	**Sn**	**14 16 30.7**	**+0.7**
CBYP	**Canovanas**	**1.07**	**169**	⇓*e*P	**Pn**	**14 16 17.8**	**-1.0**
CBYP	**Canovanas**	**1.07**	**169**	⇓*e*P	**Pn**	**14 16 17.8**	**-1.0**
AOPR	**Arecibo Observ**	**1.18**	**214**	⇓*e*P	**Pn**	**14 16 19.6**	**-0.5**
AOPR	**Arecibo Observ**	**1.18**	**214**	⇓*e*P	**Pn**	**14 16 19.6**	**-0.5**
HUMP	**Col San Antoni**	**1.20**	**170**	⇓*e*P	**Pn**	**14 16 19.6**	**-0.7**
HUMP	**Col San Antoni**	**1.20**	**170**	⇓*e*P	**Pn**	**14 16 19.6**	**-0.7**
HUMP				*e*S	**Sn**	**14 16 36.8**	**+1.1**
SJG	**San Juan**	**1.22**	**184**	⇓*e*P	**Pn**	**14 16 19.9**	**-0.7**
SJG	**San Juan**	**1.22**	**184**	*e*S	**Sn**	**14 16 36.9**	**+0.8**
SJG	**San Juan**	**1.22**	**184**	Pn	**Pn**	**14 16 20.0**	**-0.5**
	45nm,0.3s,baz=13,slow=14,SNR=116						
SJG				Sn	**Sn**	**14 16 36.9**	**+0.8**
	44nm,0.3s,baz=103,slow=19,SNR=27						
MTP	**Monte Pirata**	**1.32**	**158**	⇑*e*P	**Pn**	**14 16 21.0**	**-1.0**
MTP	**Monte Pirata**	**1.32**	**158**	⇑*e*P	**Pn**	**14 16 21.0**	**-1.0**
MTP				*e*S	**Sn**	**14 16 39.1**	**+0.5**
CELP	**Cerrillos**	**1.34**	**201**	⇓*e*P	**Pn**	**14 16 21.3**	**-0.9**
CELP	**Cerrillos**	**1.34**	**201**	⇓*e*P	**Pn**	**14 16 21.3**	**-0.9**
OBIP	**Obispado Ponce**	**1.38**	**202**	⇓*e*P	**Pn**	**14 16 21.7**	**-1.1**
OBIP	**Obispado Ponce**	**1.38**	**202**	⇓*e*P	**Pn**	**14 16 21.7**	**-1.1**
OBIP				*e*S	**Sn**	**14 16 40.4**	**+0.4**
STVI	**Saint Thomas**	**1.44**	**133**	⇑*e*P	**Pn**	**14 16 22.9**	**-0.6**
STVI	**Saint Thomas**	**1.44**	**133**	⇑*e*P	**Pn**	**14 16 22.9**	**-0.6**
STVI				*e*S	**Sn**	**14 16 42.2**	**+0.8**
LSP	**Las Mesas**	**1.50**	**220**	⇑*e*P	**Pn**	**14 16 23.6**	**-0.8**
LSP	**Las Mesas**	**1.50**	**220**	⇑*e*P	**Pn**	**14 16 23.6**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.65**	**217**	⇑*e*P	**Pn**	**14 16 25.8**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.65**	**217**	⇑*e*P	**Pn**	**14 16 25.8**	**-0.6**
TXAR	**Lajitas Array**	**35.55**	**294**	P	P	14 22 54.0	+2.5
	0.3nm,0.7s,baz=116,slow=10,SNR=4.6						
PDAR	**Pinedale Array**	**43.36**	**312**	P	P	14 23 58.6	+2.1
	0.1nm,0.4s,baz=111,slow=9.0,SNR=2.7						
YKA	**Yellowknife Ar**	**54.43**	**335**	P	**P**	**14 25 21.0**	**+0.3**
	0.1nm,0.6s,baz=110,slow=7.1,SNR=2.7						
ILAR	**Eielson Array**	**68.78**	**333**	P	P	14 26 58.7	+1.3
	0.1nm,0.6s,baz=89,slow=3.9,SNR=4.1						

IDC 11 14:16:27.7±641.0, 47°38N×49°09E, *h*0km, Error ellipse: s-maj=244.5km s-min=127.7km az=51.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.63**	**60**	*i*		14 47 50.0	
	baz=246,slow=378,SNR=18						
I43RU	**DUBNA INFRASON**	**11.85**	**326**	*i*		15 28 20.0	
	baz=135,slow=376,SNR=0.6						
I46RU	**ZALESOVO INFRA**	**23.39**	**60**	*i*		16 40 18.5	
	baz=266,slow=311,SNR=4.5						

MAN 11 14:18:28, 13°07N×124°38E, *h*97km, mb4.8, ML3.7, MS3.6, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.57**	**338**	*e*P	Pn	14 18 46.6	+2.6
PVCP				*e*S	Sn	14 18 59.3	+3.3
CNP	**Catarman**	**0.62**	**153**	*e*P	Pn	14 18 46.6	+2.1
CNP				*e*S	Sn	14 18 59.8	+3.1
MMPH	**Masbate**	**1.02**	**226**	⇓*e*P	Pn	14 18 49.4	+1.0
MMPH				*e*S	Sn	14 19 03.7	0.0
BESP	**Borongan**	**1.79**	**144**	*e*P	Pn	14 18 59.4	+1.6
BESP				*e*S	Sn	14 19 22.2	+1.8
PLP	**Palo**	**1.98**	**163**	⇑*i*P	Pn	14 19 01.6	+1.3
PLP				*i* S	Sn	14 19 25.2	+0.4
OCLP	**Ormoc**	**2.02**	**173**	*e*P	Pn	14 19 04.6	+3.9
GQP	**Guinayangan**	**2.05**	**294**	⇑*i*P	Pn	14 19 02.4	+1.3
OTRP	**Odiongan**	**2.40**	**253**	*e*P	Pn	14 19 06.7	+1.0
BOAC	**Boac**	**2.50**	**279**	*e*P	Pn	14 19 08.8	+1.9
BOAC				*e*S	Sn	14 19 39.1	+2.2
MSLP	**Maasin**	**2.95**	**171**	*e*P	Pn	14 19 15.8	+2.7
MSLP				*e*S	Sn	14 19 50.4	+2.6
GUIM	**Jordan**	**2.99**	**216**	*e*P	Pn	14 19 14.7	+1.2
BALP	**Baler**	**3.80**	**315**	*e*P	Pn	14 19 24.8	+0.4
BALP				*e*S	Sn	14 20 06.1	-2.1
CAUP	**Cauayan**	**4.58**	**328**	*e*P	Pn	14 19 36.5	+1.5
CAUP				*e*S	Sn	14 20 28.1	+1.2
ABRA	**Dolores**	**5.76**	**323**	*e*P	Pn	14 19 44.5	-6.6

*ISK **11** 14:21:04.1, 40°93N×28°59E, *h*26km, ML2.6/8*
*CSEM **11** 14:21:05.3±0.1, 40°90N×28°58E, *h*2km, ML2.3, Error ellipse: s-maj=3.0km s-min=2.7km az=67.0*
*DDA **11** 14:21:05.1, 40°96N×28°69E, *h*8km, Ml2.3*
ISC 11 14:21:05.6±0.9, 40°93N±0°03×28°58E±0°03, *h*15km±8km, n27, σ0°71/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELBA	**Catalca**	**0.25**	**333**	*i* P	**Pg**	**14 21 11.0**	**0.0**
ELBA				*i* S	**Sg**	**14 21 14.9**	**+0.2**
ELBA	**Catalca**	**0.25**	**333**	P	**Pg**	**14 21 11.0**	**0.0**
ELBA				S	**Sg**	**14 21 14.9**	**+0.2**
BGKT	**Bogazkoy**	**0.29**	**30**	PG	**Pg**	**14 21 11.4**	**-0.4**
BGKT				SG	**Sb**	**14 21 16.7**	**-0.4**
BGKT	**Bogazkoy**	**0.29**	**30**	*e*Pg	**Pg**	**14 21 11.4**	**-0.4**
BGKT				*e*Sg	**Sb**	**14 21 16.7**	**-0.4**
CTKS	**Kestanelik-??a**	**0.31**	**350**	PG	**Pg**	**14 21 11.9**	**-0.2**
CTKS				SG	**Sb**	**14 21 17.6**	**-0.1**
CTKS	**Kestanelik-??a**	**0.31**	**350**	*e*Pg	**Pg**	**14 21 11.9**	**-0.2**
CTKS				*e*Sg	**Sb**	**14 21 17.6**	**-0.1**
SLVT	**Silivri**	**0.41**	**317**	PG	**Pg**	**14 21 13.5**	**-0.4**
SLVT				SG	**Sb**	**14 21 20.4**	**-0.2**
SLVT	**Silivri**	**0.41**	**317**	*e*Pg	**Pg**	**14 21 13.5**	**-0.4**
SLVT				*e*Sg	**Sb**	**14 21 20.4**	**-0.2**
SBT3	**Marmara-Eregli**	**0.46**	**265**	PG	**Pg**	**14 21 14.2**	**-0.5**
SBT3	**Marmara-Eregli**	**0.46**	**265**	*e*Pg	**Pg**	**14 21 14.2**	**-0.5**
KLYT	**Kilyos**	**0.48**	**47**	PG	**Pg**	**14 21 14.6**	**-0.5**
KLYT				SG	**Sb**	**14 21 22.1**	**-0.3**
KLYT	**Kilyos**	**0.48**	**47**	*e*Pg	**Pg**	**14 21 14.6**	**-0.5**
KLYT				*e*Sg	**Sb**	**14 21 22.1**	**-0.3**
CTYL	**Yalikoy Yolu**	**0.59**	**338**	PG	**Pg**	**14 21 16.3**	**-0.9**
CTYL	**Yalikoy Yolu**	**0.59**	**338**	*e*Pg	**Pg**	**14 21 16.3**	**-0.9**
KIYI	**Yal¯–koy-Catal**	**0.59**	**339**	PG	**Pg**	**14 21 16.6**	**-0.7**
KIYI	**Yal¯–koy-Catal**	**0.59**	**339**	*e*Pg	**Pg**	**14 21 16.6**	**-0.7**
KCTX	**Karacabey (Bur**	**0.68**	**195**	PG	**Pg**	**14 21 18.3**	**-0.6**
KCTX	**Karacabey (Bur**	**0.68**	**195**	*e*Pg	**Pg**	**14 21 18.3**	**-0.6**
EDC	**Edincik**	**0.80**	**223**	PG	**Pg**	**14 21 20.1**	**-1.0**
EDC	**Edincik**	**0.80**	**223**	*e*Pg	**Pg**	**14 21 20.1**	**-1.0**
IGD	**Bursa**	**0.81**	**144**	*i* P	**Pg**	**14 21 20.9**	**-0.5**
IGD				*i* S	**Sg**	**14 21 31.2**	**-0.9**
HRT	**Hereke**	**0.83**	**97**	PG	**Pg**	**14 21 20.4**	**-1.3**
HRT	**Hereke**	**0.83**	**97**	*e*Pg	**Pg**	**14 21 20.4**	**-1.3**
SAHE	**Sakarya_HENDEK**	**1.73**	**92**	*i* P	**Pb**	**14 21 36.5**	**-0.4**
SAHE				*i* S	**Sb**	**14 21 59.2**	**+0.8**
SAHE	**Sakarya_HENDEK**	**1.73**	**92**	P	**Pb**	**14 21 36.5**	**-0.4**
SAHE				S	**Sb**	**14 21 59.2**	**+0.8**
BORA	**Eskisehir**	**1.77**	**126**	*i* P	**Pn**	**14 21 36.9**	**+1.2**
BORA				*i* S	**Sb**	**14 22 01.0**	**+1.2**
BORA	**Eskisehir**	**1.77**	**126**	P	**Pn**	**14 21 36.9**	**+1.2**
BORA				S	**Sb**	**14 22 01.0**	**+1.2**

MEX 11 14:29:59.5±0.5, 14°80N×93°22W, *h*10km±38km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.90**	**0**	*i* P	Pg	14 30 14.4	-2.6
PCIG				*i* S	Sg	14 30 25.8	-2.9
CCIG	**Comitan**	**1.81**	**35**	*i* P	Pn	14 30 28.3	-2.7
CCIG				*e*S	Sn	14 30 49.1	-5.1
TGIG		**1.97**	**3**	*i* P	Pn	14 30 30.0	-3.1
TGIG				*i* S	Sn	14 30 53.5	-4.5

IDC 11 14:31:03.1±2.2, 18°79S×167°71E, *h*0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/45, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=59.4km s-min=34.4km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.48**	**200**	Pn	Pn	14 31 58.7	+0.1
	1.3nm,0.3s,baz=89,slow=12,SNR=60						
DZM				Sn	Sn	14 32 35.6	-4.9
	1.3nm,0.3s,baz=336,slow=22,SNR=7.2						
WRA	**Warramunga Arr**	**31.47**	**262**	P	P	14 37 25.9	-0.8
	0.6nm,1.1s,baz=95,slow=9.1,SNR=2.5						
ASAR	**Alice Springs**	**31.84**	**255**	P	P	14 37 30.6	+0.7
	0.7nm,0.9s,baz=83,slow=8.2,SNR=7.1						
ILAR	**Eielson Array**	**90.24**	**18**	P	P	14 44 05.2	0.0
	0.4nm,0.8s,baz=222,slow=5.9,SNR=4.3						

*ISK **11** 14:31:07.9, 38°82N×43°44E, *h*5km, ML2.3/3*
*ISCJB **11** 14:31:09.6±1.1, 38°77N±0°05×43°54E±0°09, *h*26km±8km, Error ellipse: s-maj=12.9km s-min=6.6km az=30.9*
*CSEM **11** 14:31:09.6±0.4, 38°80N×43°44E, *h*5km, ML2.3, Error ellipse: s-maj=11.1km s-min=8.1km az=118.0*
*DDA **11** 14:31:09.7, 38°80N×43°45E, *h*7km, Ml2.5*
ISC 11 14:31:09.1±1.1, 38°77N±0°06×43°54E±0°05, *h*28km±10km, n11, σ0°75/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.21**	**214**	PG	**Pb**	**14 31 15.1**	**-0.2**
VANB				SG	**Sb**	**14 31 20.9**	**+1.3**
VANB	**Van**	**0.21**	**214**	*e*Pg	**Pb**	**14 31 15.1**	**-0.2**
VANB				*e*Sg	**Sb**	**14 31 20.9**	**+1.3**
TVAN	**Van**	**0.26**	**204**	*i* P	**Pb**	**14 31 15.0**	**-1.1**
TVAN				*i* S	**Sb**	**14 31 20.2**	**-0.6**
TVAN	**Van**	**0.26**	**204**	P	**Pb**	**14 31 15.0**	**-1.1**
TVAN				S	**Sb**	**14 31 20.2**	**-0.6**
CLDR	**Caldiran**	**0.47**	**38**	PG	**Pb**	**14 31 18.9**	**-0.3**
CLDR				SG	**Sb**	**14 31 26.3**	**+0.2**
CLDR	**Caldiran**	**0.47**	**38**	*i* P	**Pb**	**14 31 18.9**	**-0.3**
CLDR				*i* S	**Sn**	**14 31 27.8**	**-0.1**
CLDR	**Caldiran**	**0.47**	**38**	P	**Pb**	**14 31 18.9**	**-0.3**
CLDR				*e*Sg	**Sb**	**14 31 26.3**	**+0.2**
CLDR				S	**Sn**	**14 31 27.8**	**-0.1**
TUTA	**Tutak**	**0.85**	**318**	*i* P	**Pn**	**14 31 25.9**	**+0.5**
TUTA				*i* S	**Sb**	**14 31 35.8**	**-0.7**
TUTA	**Tutak**	**0.85**	**318**	P	**Pn**	**14 31 25.9**	**+0.5**
TUTA				S	**Sb**	**14 31 35.8**	**-0.7**
GURO	**Guroymak-BITLI**	**1.20**	**260**	PN	**Pb**	**14 31 30.7**	**-0.6**
GURO				SN	**Sb**	**14 31 47.3**	**+0.8**
GURO	**Guroymak-BITLI**	**1.20**	**260**	*e*Pn	**Pb**	**14 31 30.7**	**-0.6**
GURO				*e*Sn	**Sb**	**14 31 47.3**	**+0.8**

*IDC **11** 14:40:28.3±0.7, 51°67N×96°13E, *h*0km, mb3.8/14, mb1 3.8/19, mb1mx3.6/72, mbtmp3.7/19, ML2.9/5, MS3.4/2, Ms1 3.4/2, ms1mx2.6/63, Error ellipse: s-maj=18.3km s-min=11.6km az=1.0*
*ISCJB **11** 14:40:29.1±0.6, 51°7N±0°1×95°89E±0°08, *h*10km, mb3.7/14, MS4.1/1, Error ellipse: s-maj=16.1km s-min=6.9km az=171.4*
*MOS **11** 14:40:29.9±1.6, 51°73N×95°83E, *h*16km, mb4.1/10, Error ellipse: s-maj=15.0km s-min=12.0km az=1.0*
ISC 11 14:40:30.3±0.6, 51°7N±0°1×95°98E±0°06, *h*10km, n32, σ1§41/30, mb3.7/14, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**2.51**	**69**	*e*PN	**Pn**	**14 41 12.6**	**+1.4**
ORL				*e*		14 41 45.8	
ORL				pmax	pmax		
	comp=Z,148nm,0.4s						
ORL				smax	smax		
	comp=N,363nm,0.6s						
MOY	**Mondy**	**3.12**	**89**	*e*PN	**Pb**	**14 41 24.3**	**-1.6**
MOY				*e*		14 42 05.2	
MOY				pmax	pmax		
	comp=Z,178nm,0.6s						
MOY				smax	smax		
	comp=E,469nm,0.8s						
ARS	**Arshan**	**4.01**	**84**	*e*PN	**Pb**	**14 41 40.7**	**-0.2**
ARS				*e*		14 42 33.8	
ARS				pmax	pmax		
	comp=Z,99nm,0.5s						
ARS				smax	smax		
	comp=E,672nm,0.9s						
TLY	**Talaya**	**4.77**	**87**	*e*PN	**Pb**	**14 41 54.0**	**+0.1**
TLY				*e*		14 42 54.8	
TLY				pmax	pmax		
	comp=Z,18nm,0.5s						
TLY				smax	smax		
	comp=E,111nm,0.6s						
ZAK	**Zakamensk**	**4.80**	**103**	*e*PN	**Pb**	**14 41 53.8**	**-0.6**
ZAK				*e*		14 42 56.4	
ZAK				pmax	pmax		
	comp=Z,41nm,0.5s						
ZAK				smax	smax		
	comp=N,240nm,0.9s						
IRK	**Irkutsk**	**5.16**	**81**	*e*PN	**Pb**	**14 42 01.6**	**+1.1**
IRK				*e*		14 43 06.3	
IRK				pmax	pmax		
	comp=Z,68nm,0.2s						
IRK				smax	smax		
	comp=N,453nm,1.1s						
TRG	**Tyrgan**	**6.46**	**77**	*e*PN	**Pn**	**14 42 08.1**	**+2.7**
TRG				*e*		14 42 28.0	
TRG				*e*		14 43 49.2	
TRG				pmax	pmax		
	comp=Z,18nm,0.8s						
TRG				smax	smax		
	comp=E,82nm,0.8s						
ZALV	**Zalesovo Beam**	**7.12**	**293**	Pn	**Pn**	**14 42 16.1**	**+1.7**
	comp=E,0.4nm,0.3s,baz=108,slow=12,SNR=12						
ZALV				Lg	Lg	14 44 08.2	
	comp=E,2.6nm,0.3s,baz=109,slow=27,SNR=5.9						
SONM	**Songino Array**	**7.78**	**116**	Pg	**Pb**	**14 42 47.1**	**+1.9**
	comp=E,0.8nm,0.3s,baz=302,slow=18,SNR=24						
SONM				Lg	Lg	14 44 33.8	
	comp=E,3.2nm,0.3s,baz=301,slow=29,SNR=17						
SONM				LR	LR	14 45 30.8	
	comp=E,49nm,20.3s,baz=5.5,slow=39						
SYVR	**Suvo**	**8.74**	**72**	*e*P	Pn	14 42 49.8	+13
SYVR				pmax	pmax		
	comp=Z,16nm,2.1s						
MKAR	**Makanchi Array**	**10.21**	**247**	Pn	**Pn**	**14 42 57.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=61,slow=15,SNR=5.9						
MKAR				Lg	Lg	14 45 46.4	
	comp=Z,0.1nm,0.3s,baz=56,slow=32,SNR=3.8						
KURK	**Kurchatov**	**10.94**	**272**	P	**Pn**	**14 43 08.8**	**+2.1**
KURBB	**Kurchatov Arra**	**11.01**	**271**	Pn	**Pn**	**14 43 08.8**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=76,slow=14,SNR=7.0						
KURBB				Lg	Lg	14 46 14.7	
	comp=Z,0.1nm,0.3s,baz=81,slow=30,SNR=6.7						
BOD	**Bodaibo**	**12.06**	**52**	*e*P	**Pn**	**14 43 18.3**	**-3.6**
BVAR	**Borovoye Array**	**15.66**	**285**	Pn	**Pn**	**14 44 08.5**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=83,slow=12,SNR=3.5						
AAK	**Ala-Archa**	**17.14**	**246**	P	**P**	**14 44 32.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=23,slow=12,SNR=3.4						
AAK				Lg	Lg	14 49 34.9	
	comp=Z,0.0nm,0.3s,baz=74,slow=20,SNR=3.3						
ARU

comp=N,0.7nm,0.3s,baz=238,slow=4.9,SNR=2.7
TORD Torodi Ar. Bea 85.24 69 P **P** **14 55 08.1 +0.4**
comp=N,0.2nm,0.4s,baz=238,slow=5.4,SNR=3.4

*ISCJB **11** 14:59:23.0±0.7, 10°.20S±0°.07×161°.61E±0°.09, h85km, mb3.5/9, Error ellipse: s-maj=14.1km s-min=7.7km az=146.8*
*IDC **11** 14:59:25.5±2.3, 10°.23S×161°.51E, h92km±17km, mb3.4/9, mb1 3.6/10, mb1mx3.3/47, mbtmp3.8/10, Error ellipse: s-maj=25.2km s-min=15.1km az=80.0*
ISC 11 14:59:24.8±0.8, 10°.18S±0°.09×161°.6E±0°.1, h85km, n19, σ0s98/16, mb3.5/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.76**	**295**	P		**Pn**	**14 59 53.7**	**+0.1**
	175nm,0.3s,baz=152,slow=4.4,SNR=187							
HNR				S		**Sn**	**15 00 16.4**	**+0.8**
	133nm,0.3s,baz=174,slow=18,SNR=7.5							
HNR	**Honiara**	**1.76**	**295**	*i* P		**Pn**	**14 59 53.0**	**-0.6**
HNR				*i* S		**Sn**	**15 00 15.0**	**-0.6**
DZM	**Mont Dzumac**	**12.72**	**159**	P		**Pn**	**15 02 24.0**	**+1.5**
	1.5nm,0.3s,baz=305,slow=24,SNR=33							
DZM				S		**Sn**	**15 04 40.7**	**-1.7**
	0.3nm,0.3s,baz=307,slow=20,SNR=4.4							
CTA	**Charters Tower**	**17.74**	**235**	P		**Pn**	**15 03 28.0**	**+1.6**
	0.3nm,0.3s,baz=52,slow=11,SNR=4.0							
WRA	**Warramunga Arr**	**27.98**	**247**	P		**P**	**15 05 07.1**	**-0.6**
	0.4nm,0.5s,baz=74,slow=9.2,SNR=8.4							
STKA	**Stephens Creek**	**28.42**	**218**	P		**P**	**15 05 10.8**	**-0.7**
	1.1nm,0.9s,baz=54,slow=18,SNR=2.0							
H11S2	**WAKE ISLAND Hy**	**28.94**	**10**	T		T	15 34 37.4	
	baz=189							
H11S3	**WAKE ISLAND Hy**	**28.94**	**10**	T		T	15 34 35.2	
	baz=189							
H11S1	**WAKE ISLAND Hy**	**28.96**	**10**	T		T	15 34 41.5	
	baz=189							
ASAR	**Alice Springs**	**29.59**	**240**	P		**P**	**15 05 21.6**	**-0.4**
	0.3nm,0.9s,baz=62,slow=9.7,SNR=4.5							
H11N1	**WAKE ISLAND Hy**	**30.17**	**10**	T		T	15 35 59.1	
	baz=192,slow=76,SNR=3.9							
H11N3	**WAKE ISLAND Hy**	**30.18**	**10**	T		T	15 36 00.9	
	baz=192,slow=76,SNR=2.7							
H11N2	**WAKE ISLAND Hy**	**30.19**	**10**	T		T	15 36 00.6	
	baz=192,slow=76,SNR=5.4							
MJAR	**Matsushiro Arr**	**51.41**	**336**	P		**P**	**15 08 20.4**	**-0.8**
	1.0nm,0.7s,baz=171,slow=7.8,SNR=3.7							
USRK	**Ussuriysk Ar.**	**60.41**	**336**	P		**P**	**15 09 25.5**	**+0.2**
	3.2nm,0.9s,baz=140,slow=11,SNR=3.3							
SEY	**Seymchan**	**73.24**	**356**	P		**P**	**15 10 47.1**	**+0.8**
	0.2nm,0.4s,baz=143,slow=20,SNR=3.3							
SONM	**Songino Array**	**75.58**	**325**	P		**P**	**15 11 01.1**	**+0.6**
	0.5nm,0.3s,baz=143,slow=5.2,SNR=9.4							
ILAR	**Eielson Array**	**84.05**	**20**	P		**P**	**15 11 45.5**	**-0.2**
	0.3nm,0.6s,baz=241,slow=5.6,SNR=6.4							
MKAR	**Makanchi Array**	**90.10**	**318**	P		**P**	**15 12 14.5**	**-0.9**
	0.3nm,0.7s,baz=116,slow=5.0,SNR=2.8							

IDC 11 15:09:24.2±557.0, 47°.51N×49°.58E, h0km, Error ellipse: s-maj=212.5km s-min=125.9km az=49.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.27**	**59**	*i*			15 44 20.0	
	baz=246,slow=317,SNR=27							
I43RU	**DUBNA INFRASONI**	**1.93**	**325**	*i*			16 23 10.0	
	baz=135,slow=329,SNR=0.7							
I46RU	**ZALESOVO INFRA**	**2.04**	**61**	*i*			17 32 00.0	
	baz=266,slow=330,SNR=3.8							
I34MN	**SONGINO INFRAS**	**37.53**	**68**	*i*			19 01 00.0	
	baz=289,slow=332,SNR=0.4							

IDC 11 15:18:21.8±4.9, 6.71S×130.56E, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.4/47, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=66.0km s-min=33.9km az=11.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.65**	**243**	Pn		Pn	15 20 15.1	+0.4
	2.2nm,0.3s,baz=52,slow=19,SNR=4.5							
BATI				Sn		Sn	15 21 41.4	-0.8
	1.1nm,0.3s,baz=17,slow=19,SNR=4.6							
WRA	**Warramunga Arr**	**13.66**	**165**	Pn		Pn	15 21 38.4	+1.4
	0.3nm,0.3s,baz=350,slow=14,SNR=15							
WRA				Sn		Sn	15 24 08.3	-1.2
	0.2nm,0.3s,baz=344,slow=22,SNR=4.5							
ASAR	**Alice Springs**	**17.16**	**170**	Pn		P	15 22 25.4	+0.4
	0.2nm,0.3s,baz=347,slow=9.3,SNR=21							
ASAR				Sn		Sn	15 25 34.8	-0.1
	baz=346,slow=26,SNR=2.9							
STKA	**Stephens Creek**	**27.08**	**159**	P		P	15 24 05.7	-0.6
	1.2nm,0.9s,baz=339,slow=14,SNR=2.9							

*NSSP **11** 15:20:27.4, 38°.52N×44°.13E, h5km, Ms3.0*
*ISK **11** 15:20:27.4, 38°.56N×44°.14E, h5km, ML3.2/5*
*DDA **11** 15:20:28.1, 38°.57N×44°.10E, h5km, Ml3.0*
*CSEM **11** 15:20:28.8±0.5, 38°.56N×44°.13E, h2km, ML3.0, Error ellipse: s-maj=9.9km s-min=5.1km az=97.0*
ISC 11 15:20:30.0±1.2, 38°.55N±0°.02×44°.06E±0°.04, h12km±10km, n32, σ1s22/50, 3C, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BASK	**Baskale_VAN**	**0.50**	**185**	*i* P		**Pg**	**15 20 38.5**	**-1.3**
BASK				*i* S		**Sb**	**15 20 47.6**	**-0.5**
BASK	**Baskale_VAN**	**0.50**	**185**	P		**Pg**	**15 20 38.5**	**-1.3**
BASK				S		**Sb**	**15 20 47.6**	**-0.5**
TVAN	**Van**	**0.52**	**268**	*i* P		**Pg**	**15 20 39.8**	**-0.3**
TVAN				*i* S		**Sn**	**15 20 51.4**	**-0.8**
TVAN	**Van**	**0.52**	**268**	P		**Pg**	**15 20 39.8**	**-0.3**
VANB	**Van**	**0.53**	**275**	PG		**Pg**	**15 20 39.5**	**-0.8**
VANB				SG		**Sb**	**15 20 48.9**	**0.0**
VANB	**Van**	**0.53**	**275**	*e*Pg		**Pg**	**15 20 39.5**	**-0.8**
VANB				*e*Sg		**Sb**	**15 20 48.9**	**0.0**
CLDR	**Caldiran**	**0.60**	**349**	PG		**Pg**	**15 20 40.1**	**-1.7**
CLDR				SG		**Sb**	**15 20 50.1**	**-1.1**
CLDR	**Caldiran**	**0.60**	**349**	*i* P		**Pg**	**15 20 40.1**	**-1.7**
CLDR				*i* S		**Sb**	**15 20 49.2**	**-2.0**
CLDR	**Caldiran**	**0.60**	**349**	P		**Pg**	**15 20 40.1**	**-1.7**
CLDR				S		**Sb**	**15 20 49.2**	**-2.0**
CLDR				*e*Sg		**Sb**	**15 20 50.1**	**-1.1**
GEVA	**Gevas**	**0.82**	**253**	*i* P		**Pg**	**15 20 44.5**	**-1.4**
GEVA				*i* S		**Sb**	**15 20 57.9**	**+0.4**
GEVA	**Gevas**	**0.82**	**253**	P		**Pg**	**15 20 44.5**	**-1.4**
GEVA				S		**Sb**	**15 20 57.9**	**+0.4**
DYDN	**Diyadin**	**1.03**	**344**	*i* P		**Pb**	**15 20 48.8**	**-1.1**
DYDN				*i* S		**Sn**	**15 21 04.0**	**-1.0**
DYDN	**Diyadin**	**1.03**	**344**	P		**Pb**	**15 20 48.8**	**-1.1**
DYDN				S		**Sn**	**15 21 04.0**	**-1.0**
ADCV	**BITLIS_Adilcev**	**1.08**	**284**	*i* P		**Pg**	**15 20 50.0**	**-0.7**
ADCV				*i* S		**Sn**	**15 21 07.0**	**+0.9**
ADCV	**BITLIS_Adilcev**	**1.08**	**284**	P		**Pg**	**15 20 50.0**	**-0.7**
ADCV				S		**Sn**	**15 21 07.0**	**+0.9**
TUTA	**Tutak**	**1.29**	**312**	*i* P		**Pb**	**15 20 53.7**	**-0.7**
TUTA	**Tutak**	**1.29**	**312**	P		**Pb**	**15 20 53.7**	**-0.7**
IGDI	**IGDIR**	**1.32**	**1**	*i* P		**Pb**	**15 20 55.2**	**+0.6**
IGDI				*i* S		**Sn**	**15 21 14.6**	**+2.8**
AGRB	**Hanur-Agry**	**1.32**	**321**	PN		**Pb**	**15 20 54.2**	**-0.6**
AGRB	**Hanur-Agry**	**1.32**	**321**	*e*Pn		**Pb**	**15 20 54.2**	**-0.6**
GURO	**Guroymak-BITLI**	**1.59**	**271**	PN		**Pb**	**15 20 58.9**	**-0.5**
GURO	**Guroymak-BITLI**	**1.59**	**271**	*e*Pn		**Pb**	**15 20 58.9**	**-0.5**
SIRT	**Sirnak**	**1.66**	**231**	PN		**Pb**	**15 20 59.8**	**-0.7**
SIRT	**Sirnak**	**1.66**	**231**	*e*Pn		**Pb**	**15 20 59.8**	**-0.7**
GNI	**Garni**	**1.68**	**18**	∏ *i* P		**Pg**	**15 21 02.6**	**+0.3**
GNI				∏ *i* S		**Sg**	**15 21 26.9**	**+2.8**
GNI	**Garni**	**1.68**	**18**	∏ P		**Pg**	**15 21 02.6**	**+0.3**
SRTM	**Siirt_Merkez**	**1.77**	**252**	*i* P		**Pg**	**15 21 02.9**	**-1.1**
SRTM				*i* S		**Sg**	**15 21 30.0**	**+3.0**
SRTM	**Siirt_Merkez**	**1.77**	**252**	P		**Pg**	**15 21 02.9**	**-1.1**
EATA	**Eleskirt**	**1.79**	**318**	*i* P		**Pg**	**15 21 03.4**	**-1.0**
EATA	**Eleskirt**	**1.79**	**318**	P		**Pg**	**15 21 03.4**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.41**	**327**	PN		**Pn**	**15 21 09.8**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.41**	**327**	*e*Pn		**Pn**	**15 21 09.8**	**+0.4**

MAN 11 15:24:55, 9°.88N×122°.95E, h1km, mb4.2, ML3.0, MS2.7, 1C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.60**	**152**	*e*P		Pb	15 25 08.1	-0.3
SNPH				*e*S		Sb	15 25 17.5	0.0
GUIM	**Jordan**	**0.82**	**334**	*e*P		Pb	15 25 11.7	-0.4
GUIM				*e*S		Sb	15 25 24.4	+0.7
TBP	**Tagbilaran**	**0.92**	**102**	*e*P		Pg	15 25 12.6	0.0
TBP				*i* S		Sb	15 25 27.0	+0.6
LLP	**Lapu-Lapu**	**1.09**	**67**	∏ *i* P		Pg	15 25 14.7	-1.2
LLP				*e*S		Sg	15 25 28.9	-1.0
DCPH	**Dipolog City**	**1.35**	**163**	∏ *e*P		Pg	15 25 20.3	-0.6
DCPH				*e*S		Sn	15 25 40.1	+0.5
RCP	**Roxas**	**1.68**	**353**	∏ *e*P		Pb	15 25 26.3	-0.4
MSLP	**Maasin**	**1.89**	**82**	*e*P		Pn	15 25 28.6	+0.1
MSLP				*e*S		Sb	15 25 54.6	0.0
OCLP	**Ormoc**	**2.00**	**54**	*e*P		Pn	15 25 30.3	+0.3
BUKP	**Musuan**	**2.88**	**134**	*e*P		Pb	15 25 44.9	-2.4

IDC 11 15:51:44.6±6.8, 21°.82N×143°.30E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/60, mbtmp3.5/5, MS3.2/2, Ms1 3.2/2, ms1mx2.5/38, Error ellipse: s-maj=280.3km s-min=22.6km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**11.68**	**345**	LR		LR	15 58 58.8	
	comp=Z,297nm,19.1s,baz=101,slow=37							
MJAR	**Matsushiro Arr**	**15.33**	**344**	LR		LR	16 00 59.8	
	comp=Z,35nm,18.6s,baz=315,slow=36							
WRA	**Warramunga Arr**	**42.42**	**193**	P		P	15 59 41.2	+0.1
	0.2nm,0.3s,baz=14,slow=9.3,SNR=7.4							
ASAR	**Alice Springs**	**46.12**	**192**	P		P	16 00 10.6	-0.3
	0.1nm,0.4s,baz=15,slow=8.6,SNR=3.6							
MKAR	**Makanchi Array**	**54.70**	**313**	P		P	16 01 15.8	+0.2
	0.2nm,0.8s,baz=85,slow=6.2,SNR=2.8							
KURBB	**Kurchatov Arra**	**57.51**	**317**	P		P	16 01 35.5	-0.1
	0.3nm,0.4s,baz=95,slow=7.6,SNR=6.5							
BVAR	**Borovoye Array**	**62.65**	**319**	P		P	16 02 10.6	-0.3
	0.6nm,0.3s,baz=100,slow=8.2,SNR=6.4							

IDC 11 15:55:24.0±5.5, 28°.56S×61°.93E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.2/60, mbtmp3.6/2, Error ellipse: s-maj=296.9km s-min=51.3km az=35.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**23.06**	**28**	T		T	16 25 03.4	
	baz=204,slow=76,SNR=27							
H08S2	**Diego Carcia H**	**23.07**	**28**	T		T	16 25 03.4	
	baz=204,slow=76,SNR=22							
H08S3	**Diego Carcia H**	**23.08**	**28**	T		T	16 25 05.7	
	baz=204,slow=76,SNR=28							
H08N3	**Diego Garcia H**	**23.70**	**23**	T		T	16 25 48.0	
	baz=200,slow=76,SNR=9.7							
H08N1	**Diego Garcia H**	**23.71**	**23**	T		T	16 25 48.0	
	baz=200,slow=76,SNR=14							
H08N2	**Diego Garcia H**	**23.73**	**23**	T		T	16 25 48.6	
	baz=200,slow=76,SNR=13							
H01W2	**Cape Leeuwin H**	**44.44**	**112**	T		T	16 51 12.1	
	baz=261,slow=75,SNR=39							
H01W3	**Cape Leeuwin H**	**44.44**	**112**	T		T	16 51 12.1	
	baz=261,slow=75,SNR=36							
H01W1	**Cape Leeuwin H**	**44.45**	**112**	T		T	16 51 12.9	
	baz=261,slow=75,SNR=39							
ASAR	**Alice Springs**	**63.93**	**104**	P		P	16 05 59.0	-0.2
	0.3nm,0.6s,baz=248,slow=6.3,SNR=8.8							
WRA	**Warramunga Arr**	**65.71**	**100**	P		P	16 06 11.0	+0.2
	0.6nm,0.8s,baz=245,slow=6.4,SNR=3.2							
YKA	**Yellowknife Ar**	**145.99**	**357**	PKPbc		PKPdf	16 15 04.1	-0.1
	0.1nm,0.8s,baz=3.8,slow=4.6,SNR=3.6							

*ISK **11** 15:59:34.7, 39°.44N×38°.32E, h5km, ML2.1/2*
*ISCJB **11** 15:59:35.3±0.7, 39°.49N±0°.03×38°.33E±0°.03, h8km±5km, Error ellipse: s-maj=4.8km s-min=4.4km az=32.9*
*CSEM **11** 15:59:35.1±0.2, 39°.48N×38°.33E, h10km, MD2.7, Error ellipse: s-maj=3.5km s-min=3.2km az=68.0*
*DDA **11** 15:59:35.3, 39°.49N×38°.30E, h7km, Md2.7*
ISC 11 15:59:35.5±1.0, 39°.49N±0°.02×38°.32E±0°.02, h10km±8km, n23, σ0s94/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.26**	**148**	*i* P		**Pg**	**15 59 40.9**	**+0.2**
KEMA				*i* S		**Sg**	**15 59 44.8**	**+0.6**
KEMA	**Kemaliye**	**0.26**	**148**	P		**Pg**	**15 59 40.9**	**+0.2**
KEMA				S		**Sg**	**15 59 44.8**	**+0.6**
REFA	**Refahiye_ERZ**	**0.36**	**104**	*i* P		**Pn**	**15 59 46.2**	**-0.7**
REFA				*i* S		**Sb**	**15 59 54.5**	**+4.7**
HEKM	**Malatya_Hekimh**	**0.67**	**205**	*i* P		**Pg**	**15 59 48.2**	**-0.2**
HEKM				*i* S		**Sb**	**15 59 58.4**	**-0.3**
HEKM	**Malatya_Hekimh**	**0.67**	**205**	P		**Pg**	**15 59 48.2**	**-0.2**
HEKM				S		**Sb**	**15 59 58.4**	**-0.3**
CUKAN	**kangal_SIVAS**	**0.68**	**256**	*i* P		**Pg**	**15 59 48.0**	**-0.7**
CUKAN				*i* S		**Sg**	**15 59 58.0**	**+0.4**
CUKAN	**kangal_SIVAS**	**0.68**	**256**	P		**Pg**	**15 59 48.0**	**-0.7**
CUKAN				S		**Sg**	**15 59 58.0**	**+0.4**
SUSE	**Susehri**	**0.73**	**353**	*i* P		**Pg**	**15 59 49.1**	**-0.5**
SUSE				*i* S		**Sb**	**16 00 00.4**	**-0.1**
SUSE	**Susehri**	**0.73**	**353**	P		**Pg**	**15 59 49.1**	**-0.5**
SUSE				S		**Sb**	**16 00 00.4**	**-0.1**
KELT	**Kelkit**	**0.98**	**47**	*i* P		**Pb**	**15 59 54.8**	**+0.1**
KELT				*i* S		**Sg**	**16 00 07.0**	**-0.2**
KELT	**Kelkit**	**0.98**	**47**	P		**Pb**	**15 59 54.8**	**+0.1**
KELT				S		**Sg**	**16 00 07.0**	**-0.2**
TNCL	**Tunceli-Merkez**	**1.02**	**111**	*i* P		**Pg**	**15 59 54.2**	**-0.9**
TNCL				*i* S		**Sg**	**16 00 07.6**	**-0.8**
TNCL	**Tunceli-Merkez**	**1.02**	**111**	P		**Pg**	**15 59 54.2**	**-0.9**
TNCL				S		**Sg**	**16 00 07.6**	**-0.8**
PTK	**Pertek**	**1.02**	**125**	PG		**Pg**	**15 59 54.3**	**-0.9**
PTK				SG		**Sb**	**16 00 08.5**	**-0.5**
PTK	**Pertek**	**1.02**	**125**	*e*Pg		**Pg**	**15 59 54.3**	**-0.9**
PTK				*e*Sg		**Sb**	**16 00 08.5**	**-0.5**
SVSK	**Karacayir**	**1.11**	**293**	PN		**Pn**	**15 59 56.9**	**-0.1**
SVSK				SN		**Sn**	**16 00 12.8**	**+0.5**
SVSK	**Karacayir**	**1.11**	**293**	*e*Pn		**Pn**	**15 59 56.9**	**-0.1**
SVSK				*e*Sn		**Sn**	**16 00 12.8**	**+0.5**
ELZG	**Elazig**	**1.11**	**152**	*i* P		**Pb**	**15 59 56.7**	**-0.2**
ELZG				*i* S		**Sb**	**16 00 11.7**	**+0.1**
ELZG	**Elazig**	**1.11**	**152**	P		**Pb**	**15 59 56.7**	**-0.2**
ELZG				S		**Sb**	**16 00 11.7**	**+0.1**
MALT	**Malatya**	**1.17**	**176**	PN		**Pg**	**15 59 56.5**	**-1.5**
MALT				SN		**Sb**	**16 00 12.9**	**-0.3**
MALT	**Malatya**	**1.17**	**176**	*e*Pn		**Pg**	**15 59 56.5**	**-1.5**
MALT				*e*Sn		**Sb**	**16 00 12.9**	**-0.3**
AKCD	**Akcadag**	**1.23**	**195**	P		**Pn**	**15 59 59.3**	**+0.5**
AKCD				*i* S		**Sn**	**16 00 16.4**	**+0.9**
AKCD	**Akcadag**	**1.23**	**195**	P		**Pn**	**15 59 59.3**	**+0.5**
AKCD				S		**Sn**	**16 00 16.4**	**+0.9**

*IDC **11** 16:08:04.1±1.1, 17°.06S×168°.68E, h241km±10km, mb4.4/36, mb1 4.4/38, mb1mx4.3/51, mbtmp4.9/38, Error ellipse: s-maj=9.8km s-min=7.4km az=88.0*
*BJI **11** 16:08:05.8, 16°.55S×168°.69E, h254km, mb4.9/49, mB5.1/26*
*ISCJB **11** 16:08:05.3±0.8, 17°.01S±0°.04×168°.54E±0°.03, h262km±8km, mb4.6/134, Error ellipse: s-maj=5.8km s-min=4.9km az=18.5*
*MOS **11** 16:08:06.2±1.0, 16°.98S×168°.56E, h268km, mb4.8/27, Error ellipse: s-maj=9.7km s-min=8.7km az=34.9*
*WEL **11** 16:08:06.0, 17°.04S×168°.60E, h263km*
*NEIC **11** 16:08:06.4±0.1, 17°.04S×168°.60E, mb4.7/80, Error ellipse: s-maj=4.7km s-min=3.6km az=152.0*
ISC 11 16:08:05.9±0.6, 17°.07S±0°.05×168°.59E±0°.06, h258km±4km, n385, σ1s17/395, mb4.7/131, 22C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.37**	**202**	P		**Pn**	**16 09 25.6**	**-0.9**
	11nm,0.3s,baz=338,slow=6.7,SNR=86							
DZM				S		**S**	**16 10 29.7**	**-1.3**
	6.4nm,0.3s,baz=299,slow=17,SNR=12							
DZM	**Mont Dzumac**	**5.37**	**202**	*e*Pn		**Pn**	**16 09 25.7**	**-0.9**
	37nm,0.3s							
DZM				*e*Sn		**S**	**16 10 29.0**	**-2.0**
	36nm,0.2s							
MSVF	**Nonsavu**	**9.05**	**96**	*e*P		**Pn**	**16 10 13.7**	**+1.0**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.05**	**96**	*e*Pn		**Pn**	**16 10 13.7**	**+1.0**
HNR	**Honiara**	**11.33**	**311**	P		**Pn**	**16 10 41.3**	**+0.1**
	17nm,0.3s,baz=161,slow=6.0,SNR=22							
HNR				S		**S**	**16 12 48.0**	**+0.1**
	2.9nm,0.3s,baz=152,slow=17,SNR=2.8							
HNR	**Honiara**	**11.33**	**311**	*e*P		**Pn**	**16 10 40.8**	**-0.4**
HNR				S		**S**	**16 12 48.0**	**+0.1**
HNR	**Honiara**	**11.33**	**311**	*e*Pn		**Pn**	**16 10 40.8**	**-0.4**
HNR				S		**S**	**16 12 48.0**	**+0.1**
NFK	**Norfolk Island**	**11.93**	**183**	P		**P**	**16 10 50.3**	**-1.0**
	baz=12,SNR=4.0							
EIDS	**Eidsvold**	**18.28**	**240**	P		**Pn**	**16 12 03.1**	**-1.4**
	baz=18,SNR=5.7							
EIDS	**Eidsvold**	**18.28**	**240**	*e*P		**P**	**16 12 02.7**	**+1.5**
	17nm,0.8s							
OUZ	**Omahuta**	**18.62**	**167**	*e*P		**P**	**16 12 06.0**	**+1.4**
	153nm,0.9s							
ARMA	**Armidale**	**20.40**	**226**	P		**P**	**16 12 25.2**	**+1.3**
	baz=20,SNR=7.7							
ARMA	**Armidale**	**20.40**	**226**	*e*P		**P**	**16 12 24.9**	**+1.0**
	15nm,0.9s							
KUZ	**Kuaotunu**	**20.59**	**164**	P		**P**	**16 12 26.1**	**+0.5**
RMQ	**Roma**	**20.64**	**240**	P		**P**	**16 12 27.3**	**+1.0**
	baz=21,SNR=29							
CTA	**Charters Tower**	**21.38**	**258**	P		**P**	**16 12 34.3**	**+0.5**
	11nm,0.4s,baz=81,slow=12,SNR=37							
CTAO	**Charters Tower**	**21.38**	**258**	*e*P		**P**	**16 12 34.1**	**+0.3**
CTAO				pmax		pmax		
	comp=Z,67nm,1.4s							
CTAO	**Charters Tower**	**21.38**	**258**	*e*P		**P**	**16 12 34.1**	**+0.3**
	comp=Z,67nm,1.4s							
TOZ	**Tahuroa Road**	**21.46**	**165**	P		**P**	**16 12 35.4**	**+1.2**
OPRZ	**Ohinepanea**	**21.85**	**163**	P		**P**	**16 12 39.7**	**+1.9**
TLZ	**Tolley Road**	**22.04**	**165**	P		**P**	**16 12 41.4**	**+1.8**
HIZ	**Hauiti**	**22.05**	**167**	*e*P		**P**	**16 12 41.5**	**+1.8**
	comp=Z,171nm,1.0s							
HAZ	**Te Kaha**	**22.14**	**160**	P		**P**	**16 12 42.6**	**+2.2**
PMG	**Port Moresby**	**22.19**	**287**	P		**P**	**16 12 41.6**	**+0.4**
	comp=Z,36nm,0.9s,baz=70,slow=7.6,SNR=10.0							
PMG	**Port Moresby**	**22.19**	**287**	*ce*P		**P**	**16 12 41.8**	**+0.6**
PMG				pmax		pmax		
	comp=Z,199nm,1.0s							
PMG	**Port Moresby**	**22.19**	**287**	*e*P		**P**	**16 12 41.9**	**+0.6**
	comp=Z,50nm,1.0s							
TARZ	**Mount Tarawera**	**22.20**	**163**	P		**P**	**16 12 46.9**	**+5.8**
RUGZ	**Raukumara Rang**	**22.29**	**161**	P		**P**	**16 12 42.7**	**+0.7**
PKGZ	**Pakihiroa**	**22.35**	**160**	P		**P**	**16 12 43.4**	**+0.9**
URZ	**Urewera**	**22.39**	**162**	P		**P**	**16 12 42.7**	**0.0**
	comp=Z,44nm,0.6s,baz=325,slow=2.6,SNR=20							
URZ				S		**S**	**16 16 31.2**	**+1.9**
	comp=Z,6.7nm,0.7s,baz=24,slow=20,SNR=2.6							
URZ	**Urewera**	**22.39**	**162**	*e*P		**P**	**16 12 43.7**	**+0.9**
	comp=Z,63nm,0.8s							
URZ				S		**S**	**16 16 31.2**	**+1.9**
WMGZ	**Waiomatatini S**	**22.40**	**159**	P		**P**	**16 12 43.4**	**+0.5**
MGCD	**Mangrove Creek**	**22.50**	**221**	P		**P**	**16 12 46.5**	**+2.6**
	baz=23,SNR=12							
MUGZ	**Murupara**	**22.50**	**163**	P		**P**	**16 12 45.2**	**+1.5**
PUZ	**Puketiti**	**22.58**	**160**	P		**P**	**16 12 44.4**	**-0.1**
TWGZ	**Tauwhareparae**	**22.58**	**160**	P		**P**	**16 12 45.4**	**+0.8**
RATZ	**Rangitukua**	**22.60**	**165**	P		**P**	**16 12 44.5**	**-0.2**
KATZ	**Kakaramea**	**22.69**	**166**	P		**P**	**16 12 47.3**	**+1.7**
TWVZ	**Taurewa**	**22.72**	**166**	P		**P**	**16 12 47.4**	**+1.6**
MRHZ	**Matea Rd**	**22.74**	**164**	P		**P**	**16 12 45.3**	**-0.7**
KRVZ	**Karewarewa**	**22.79**	**166**	P		**P**	**16 12 48.4**	**+1.9**
RAHZ	**Arahi**	**23.00**	**163**	P		**P**	**16 12 49.2**	**+0.9**
RAHZ	**Arahi**	**23.00**	**163**	S		**S**	**16 16 43.5**	**+4.4**
BKZ	**Black Stump Fm**	**23.07**	**164**	*e*P		**P**	**16 12 49.8**	**+0.7**
	comp=Z,63nm,0.7s							
MTSU	**Mount Surprise**	**23.16**	**264**	P		**P**	**16 12 51.2**	**+1.1**
	baz=23,SNR=128							
TSZ	**Takapari Road**	**23.78**	**166**	P		**P**	**16 12 55.8**	**+0.3**
TSZ	**Takapari Road**	**23.78**	**166**	S		**S**	**16 16 53.1**	**+1.6**
BFZ	**Birch Farm**	**24.44**	**166**	*e*P		**P**	**16 12 59.4**	**-2.0**
	comp=Z,61nm,1.1s							
QLP	**Quilpie**	**24.47**	**243**	P		**P**	**16 13 02.2**	**+0.4**
	baz=25,SNR=28							

baz=50,SNR=4.3
LEM Lembang 60.31 272 P **P** **16 17 48.4 0.0**
comp=Z,66nm,0.7s,baz=58,slow=2.6,SNR=16
MJAR Matsushiro Arr 60.56 332 P **P** **16 17 48.5 -0.9**
comp=Z,3.5nm,0.8s,baz=175,slow=8.3,SNR=9.2
MJAR PcP **PcP** **16 18 31.7 +0.5**
comp=Z,1.8nm,0.8s,baz=163,slow=3.4,SNR=2.8
VNDA Vanda 60.57 182 P **P** **16 17 49.0 +0.1**
comp=Z,1.3nm,0.7s,baz=7.7,slow=5.3,SNR=4.4
VNDA Vanda 60.57 182 P **P** **16 17 49.0 +0.1**
JNU Nakatsue 61.56 324 P **P** **16 17 55.9 -0.3**
comp=Z,9.4nm,0.7s,baz=98,slow=6.7,SNR=3.8
TPUB Ta-pu 61.70 309 *e*P **P** **16 17 56.9 -0.4**
comp=Z,58nm,0.8s
SSLB Suanglung 61.75 310 *e*P **P** **16 17 57.0 -0.7**
comp=Z,23nm,0.8s
YHNB Yeheng 61.97 311 *e*P **P** **16 17 59.4 +0.3**
comp=Z,65nm,0.8s
CGJI Cibinong 62.21 271 P **P** **16 17 59.8 -1.1**
KASI Kota Agung 63.65 272 P **P** **16 18 09.4 -1.0**
MDSI Maura Dua 64.25 273 P **P** **16 18 12.4 -1.9**
ASAJ Asahikawa 65.37 340 P **P** **16 18 21.8 +1.0**
comp=Z,22nm,0.8s,baz=208,slow=7.4,SNR=24
KSRS Korea Array 66.38 326 P **P** **16 18 28.1 +0.7**
comp=Z,2.7nm,0.8s,baz=144,slow=5.2,SNR=5.7
KSAR Wonju Array Be 66.39 325 P **P** **16 18 28.1 +0.6**
KSAR Wonju Array Be 66.39 325 P **P** **16 18 28.1 +0.6**
MASI Maura Aman, Be 66.48 274 P **P** **16 18 27.4 -1.2**
YSS Yuzh-Sakhalins 67.84 341‖ *e*P **P** **16 18 37.3 +1.0**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS Yuzh-Sakhalins 67.84 341 *e*P **P** **16 18 37.4 +1.0**
comp=Z,59nm,1.3s
NJ2 Nanjing 68.23 316 *e*P **P** **16 18 39.8 +0.7**
NJ2 pmax pmax
comp=Z,23nm,0.5s
PPSI Pulau Pagai 68.72 274 P **P** **16 18 41.8 -0.7**
USRK Ussuriysk Ar. 69.54 333 P **P** **16 18 47.7 +0.8**
comp=Z,11nm,0.8s,baz=142,slow=4.5,SNR=9.3
IPM Ipoh 70.04 281 *e*P **P** **16 18 50.6 0.0**
comp=Z,20nm,0.8s
MNSI Mandailing Nat 70.21 277 P **P** **16 18 51.2 -0.4**
PETK Petropavlovsk- 70.52 353 P **P** **16 18 52.8 +0.2**
comp=Z,21nm,0.8s,baz=134,slow=5.7,SNR=35
MDJ Mudanjiang 70.94 332 P **P** **16 18 54.8 -0.5**
MDJ pmax pmax
comp=Z,35nm,1.0s
MDJ pmax pmax
comp=Z,1μm,4.2s
MDJ Mudanjiang 70.94 332 *e*P **P** **16 18 56.1 +0.8**
comp=Z,19nm,1.0s
TYV Tymovskoe 71.37 343 *e*P **P** **16 18 58.7 +1.0**
TYV pmax pmax
comp=Z,15nm,1.3s
TYV pmax pmax
comp=Z,100nm,6.0s
PSI Prapat 71.47 279 P **P** **16 18 58.2 -1.1**
comp=Z,22nm,0.9s,baz=65,slow=6.7,SNR=15
PSI Prapat 71.47 279 *e*P **P** **16 18 58.0 -1.3**
PSI pmax pmax
comp=Z,24nm,0.9s
PSI Prapat 71.47 279 *e*P **P** **16 18 58.0 -1.3**
comp=Z,24nm,0.9s
TIA Tai'an 71.92 318 P **P** **16 19 01.6 +0.2**
TIA pmax pmax
comp=Z,19nm,0.9s
SKNT Sakolnakorn 72.07 295 P **P** **16 19 02.6 -0.1**
comp=Z,28nm,0.9s
GSI Gunungsitoli 72.27 277 P **P** **16 19 04.1 +0.1**
GSI Gunungsitoli 72.27 277 *e*P **P** **16 19 04.1 +0.1**
comp=Z,43nm,0.9s
CN2 Changchun 72.30 329 *e*P **P** **16 19 03.9 +0.5**
CN2 pmax pmax
comp=Z,30nm,0.9s
KCSI Kotacane, Aceh 72.79 279 P **P** **16 19 05.8 -1.2**
KHON Khomkaen 72.82 294 P **P** **16 19 08.5 +1.4**
comp=Z,14nm,1.0s
QSPA South Pole Qui 72.97 180 *e*P **P** **16 19 07.5 +0.3**
comp=Z,6.9nm,0.7s
GRNR Gornyy 73.22 339 *e*P **P** **16 19 11.0 +2.3**
GRNR pmax pmax
comp=Z,78nm,1.0s
CHAI Chaiyaphum 73.38 293 P **P** **16 19 10.9 +0.6**
comp=Z,7.8nm,0.8s
KLR Kul'dur 73.65 336 P **P** **16 19 12.1 +0.8**
comp=Z,0.8nm,0.8s,baz=145,slow=3.0,SNR=26
KLR Kul'dur 73.65 336*d i*P **P** **16 19 11.9 +0.7**
ENH Enshi 73.83 309 *e*P **P** **16 19 12.5 -0.2**
comp=Z,13nm,0.8s
NKL Nikolayevsk 73.97 343 *i* P **P** **16 19 14.0 +1.1**
NKL *e* 16 19 22.0
NKL pmax pmax
comp=N,13nm,0.8s
NKL pmax pmax
comp=E,8.0nm,0.8s
NKL pmax pmax
comp=Z,68nm,0.8s
PHIT Phitsanulok 75.27 293 P **P** **16 19 22.5 +1.3**
comp=Z,18nm,0.9s
UTHA Uthaitani 75.50 292 P **P** **16 19 24.2 +1.7**
comp=Z,8.5nm,1.1s
XAN Xi'an 76.20 312 P **P** **16 19 26.7 +0.5**
XAN pmax pmax
comp=Z,23nm,0.8s
LAMP Lampang 76.48 294 P **P** **16 19 29.7 +1.7**
comp=Z,13nm,0.8s
CM01 Chiang Mai Arr 77.03 294 *e*P **P** **16 19 31.1 0.0**
CM31 Chiang Mai Arr 77.06 294 *e*P **P** **16 19 32.3 +1.1**
CMAR Chiang Mai Arr 77.06 294 P **P** **16 19 32.8 +1.5**
comp=Z,13nm,0.9s,baz=130,slow=4.5,SNR=80
CMMT Chiang Mai 77.19 294 P **P** **16 19 32.1 +0.1**
comp=Z,26nm,1.3s
CHTO Chiang Mai 77.20 294 P **P** **16 19 33.1 +1.1**
comp=Z,115nm,1.3s
CHTO Chiang Mai 77.20 294 *e*P **P** **16 19 32.6 +0.6**
CHTO pmax pmax
comp=Z,19nm,0.9s
CHTO Chiang Mai 77.20 294 *e*P **P** **16 19 32.5 +0.6**
comp=Z,19nm,0.9s
CMAI Chiengmai2 77.55 295 P **P** **16 19 35.3 +1.2**
comp=Z,144nm,1.3s
MA2 Magadan 77.75 351 P **P** **16 19 33.6 -0.5**
comp=Z,16nm,0.8s,baz=152,slow=5.5,SNR=75
HHC Hu-ho-hao-te 78.18 319 *e*P **P** **16 19 38.0 +0.9**
HHC S **S** **16 29 10.9 +0.9**
HHC pmax pmax
comp=Z,25nm,1.1s
HHC pmax pmax
comp=Z,85nm,5.9s
CD2 Chengdu 78.44 307 *e*P **P** **16 19 38.8 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
ZEA Zeya 78.94 336 *e*P **P** **16 19 41.2 +0.5**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
SEY Seymchan 80.75 353 P **P** **16 19 50.1 -0.1**
comp=Z,15nm,0.7s,baz=161,slow=5.1,SNR=100
SEY Seymchan 80.75 353*e*P **P** **16 19 50.4 +0.2**
LZH Lanzhou 80.83 312 *e*P **P** **16 19 51.1 -0.4**
LZH sP sP 16 21 22.2 +2.4
LZH *e*PP **PP** **16 23 05.4 +5.5**
LZH pmax pmax
comp=Z,41nm,1.1s
LZH pmax pmax
comp=Z,160nm,5.6s
LZH LR LR
comp=Z,190nm,13.0s
LZH LR LR
comp=Z,160nm,13.2s
LZH LR LR
comp=Z,140nm,14.5s
KDAK Kodiak Island 81.21 20 P **P** **16 19 51.8 -1.0**
comp=Z,11nm,0.9s,baz=270,slow=17,SNR=3.1
GAMB Gambell 82.03 9 *e*P **P** **16 19 56.6 -0.2**
comp=Z,7.9nm,0.8s
YAK Yakutsk 84.63 343 P **P** **16 20 10.0 -0.2**
comp=Z,45nm,0.7s,baz=118,slow=0.2,SNR=21
YAK Yakutsk 84.63 343 *e*P **P** **16 20 09.5 -0.6**
YAK pmax pmax
comp=Z,48nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK Yakutsk 84.63 343 *e*P **P** **16 20 09.8 -0.4**
comp=E,60nm,0.8s
ULN Ulaanbaatar 84.77 324*ce*P **P** **16 20 11.8 +0.4**
ULN pmax pmax
comp=Z,14nm,0.9s
ULN Ulaanbaatar 84.77 324 *e*P **P** **16 20 11.9 +0.4**
comp=Z,17nm,0.9s
JLAB Laurel Hill 84.84 49 *e*P **P** **16 20 11.3 -0.5**
JLAB *e*PcP **PcP** **16 20 16.0 +1.3**
BILL Bilibino 84.89 359 *i* P **P** **16 20 09.2 -2.1**
BILL *i* *PP **pP** **16 21 11.0 -2.0**
BILL pmax pmax
comp=Z,16nm,1.1s
SONM Songino Array 85.12 323 P **P** **16 20 13.3 +0.2**
comp=Z,8.1nm,0.9s,baz=155,slow=7.2,SNR=56
SONA1 Songino Array 85.13 323 *e*P **P** **16 20 13.1 -0.1**
GTA Gaotai 85.20 314 *e*P **P** **16 20 14.1 +0.4**
GTA pP pP 16 21 16.4 +1.0
GTA sP sP 16 21 41.6 -0.9
GTA pmax pmax
comp=Z,29nm,1.1s
SHL Shillong 85.79 298 *e*P **P** **16 20 17.0 0.0**
CAST Castle Rocks 85.86 17 *e*P **P** **16 20 14.3 -1.9**
comp=Z,11nm,0.8s
ORV Oroville 86.05 47 *e*P **P** **16 20 17.5 -0.2**
ORV pmax pmax
comp=Z,8.0nm,0.8s
ORV Oroville 86.05 47 *e*P **P** **16 20 17.5 -0.2**
comp=Z,8.0nm,0.8s
AFDM Forest Hills D 86.16 47 *e*P **P** **16 20 18.4 +0.1**
comp=Z,12nm,0.9s
CMB Columbia Colle 86.18 48 *e*P **P** **16 20 18.4 -0.1**
CMB pmax pmax
comp=Z,12nm,0.8s
CMB Columbia Colle 86.18 48 *e*P **P** **16 20 18.4 -0.1**
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 86.18 44 P **P** **16 20 18.9 +0.5**
comp=Z,5.1nm,0.9s,baz=180,slow=2.3,SNR=6.3
TRF Thorofare Moun 86.38 17 *e*P **P** **16 20 17.8 -1.2**
comp=Z,8.0nm,0.9s
ISA Isabella, Lake 86.61 51 *e*P **P** **16 20 21.0 +0.4**
ISA pmax pmax
comp=Z,6.0nm,0.8s
ISA Isabella, Lake 86.61 51 *e*P **P** **16 20 21.0 +0.4**
comp=Z,5.9nm,0.8s
SYO Syowa Base 86.83 196‖ *e*pP pP 16 21 24.4 +1.5
MCK McKinley 86.98 18 *e*P **P** **16 20 22.0 +0.3**
MCK pmax pmax
comp=Z,19nm,1.4s
MCK McKinley 86.98 18 *e*P **P** **16 20 21.9 +0.3**
comp=Z,19nm,1.4s
WAKR Walker 87.06 48 *e*P **P** **16 20 23.4 +0.5**
comp=Z,9.6nm,0.7s
BOD Bodaibo 87.13 334 *e*P **P** **16 20 20.8 -1.6**
BOD pmax pmax
comp=Z,10.0nm,1.8s
IM3 Indian Mountai 87.50 14 *e*P **P** **16 20 23.5 -0.5**
PAHR Pah Rah Range 87.59 47 *e*P **P** **16 20 25.0 -0.3**
comp=Z,11nm,1.0s
RYN Ryan 87.76 49 *e*P **P** **16 20 26.1 0.0**
comp=Z,7.8nm,0.9s
NV01 Mina Array Sit 87.84 49 *e*P **P** **16 20 26.1 -0.5**
NV01 *e*pP **pP** **16 21 28.5 -0.3**
NVAR Mina Array Bea 87.84 49 P **P** **16 20 26.9 +0.3**
comp=Z,6.1nm,0.8s,baz=227,slow=8.4,SNR=37
LSA Lhasa 87.87 302 *e*P **P** **16 20 27.2 0.0**
comp=Z,5.4nm,0.7s
NV11 Mina Array Sit 87.95 49 *e*P **P** **16 20 27.1 +0.1**
comp=Z,1.1nm,1.2s
CCB Clear Creek Bu 88.00 17 *e*P **P** **16 20 24.3 -2.1**
comp=Z,3.2nm,0.8s
HDA Harding Lake 88.07 18 *e*P **P** **16 20 25.3 -1.5**
comp=Z,28nm,1.6s
MDM Murphy Dome 88.12 17 *e*P **P** **16 20 25.1 -2.0**
comp=Z,24nm,1.8s
COLA College 88.16 17 *e*P **P** **16 20 24.8 -2.3**
COLA pmax pmax
comp=Z,24nm,1.5s
COLA College 88.16 17 *e*P **P** **16 20 24.8 -2.3**
comp=Z,24nm,1.5s
ZAK Zakamensk 88.19 324 *e*P **P** **16 20 27.1 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
PINE Pine Mountain 88.26 43 *e*P **P** **16 20 28.9 +0.5**
comp=Z,19nm,1.0s
IL1 Eielson Array 88.36 17 *e*P **P** **16 20 26.1 -2.1**
ILAR Eielson Array 88.36 17 P **P** **16 20 26.4 -1.8**
comp=Z,3.0nm,0.7s,baz=237,slow=4.7,SNR=57
ILB Eielson Array 88.36 17 *e*P **P** **16 20 26.0 -2.1**
TLY Talaya 88.63 326 *e*P **P** **16 20 29.3 -0.4**
TLY pmax pmax
comp=Z,5.0nm,0.8s
Y12C Blythe 88.89 54 *e*P **P** **16 20 31.4 +0.1**
comp=Z,20nm,1.4s
LDFC Landfair 88.92 53 *e*P **P** **16 20 30.2 -1.4**
comp=Z,15nm,0.8s
113A Mohawk Valley, 89.12 55 *e*P **P** **16 20 32.7 +0.3**
comp=Z,5.5nm,1.0s
WVOR Wild Horse Val 89.22 45 *e*P **P** **16 20 32.9 0.0**
WVOR pmax pmax
comp=Z,10.0nm,1.0s
WVOR Wild Horse Val 89.22 45 *e*P **P** **16 20 32.9 0.0**
comp=Z,10nm,1.0s
I07A Izee 89.32 43 *e*P **P** **16 20 33.6 +0.3**
comp=Z,9.8nm,0.8s
COLD Coldfoot 89.35 15 *e*P **P** **16 20 32.7 0.0**
comp=Z,5.1nm,1.0s
BMN Battle Mountai 89.40 47 *e*P **P** **16 20 34.0 +0.2**
BMN *e*PP **pP** **16 21 37.7 +1.6**
BMN pmax pmax
comp=Z,11nm,0.8s
BMN Battle Mountai 89.40 47 *e*P **P** **16 20 34.0 +0.2**
comp=Z,11nm,0.8s
BMN *e*pP **pP** **16 21 37.7 +1.6**
SHPR Sheep Range 89.41 52 *e*P **P** **16 20 33.4 -0.5**
comp=Z,7.6nm,1.1s
J08A Circle Bar Ran 89.71 44 *e*P **P** **16 20 35.4 +0.3**
comp=Z,16nm,0.8s
R11A Troy Canyon, C 89.78 50 *e*P **P** **16 20 35.0 -0.7**
comp=Z,2.3nm,0.8s
LTY Liberty 89.93 40 *e*P **P** **16 20 35.8 -0.1**
comp=Z,8.8nm,0.8s
EGAK Eagle 90.09 19 *e*P **P** **16 20 35.0 -1.2**
comp=Z,7.8nm,1.1s
PALK Pallekele 90.10 278 P **P** **16 20 38.4 +0.9**
comp=Z,4.3nm,0.8s,baz=116,slow=10,SNR=2.5
HSIG 90.11 60 *e*P **P** **16 20 36.8 -0.4**
comp=Z,11nm,1.2s
E07A Sunnyside 90.14 41 *e*P **P** **16 20 37.2 +0.4**
comp=Z,14nm,0.7s
G08A Pilot Rock 90.18 42 *e*P **P** **16 20 37.3 0.0**
comp=Z,15nm,0.8s
E08A Dider Farm, El 90.61 41 *e*P **P** **16 20 39.3 +0.3**
comp=Z,12nm,0.9s
NVL N'lazarevskaya 90.91 188 *e*P **P** **16 20 41.2 +1.1**
NVL pmax pmax
comp=Z,19nm,1.3s
D08A Wollman Farm, 90.93 41 *e*P **P** **16 20 40.8 +0.3**
comp=Z,7.6nm,0.9s
LCMT Little Creek M 91.02 52 *e*P **P** **16 20 41.7 +0.3**
comp=Z,5.8nm,0.9s
BMO Blue Mountains 91.07 43 *e*P **P** **16 20 41.0 -0.4**
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 91.07 43 *e*P **P** **16 20 41.0 -0.4**
comp=Z,4.0nm,1.0s
CCUT Cedar City 91.12 51 *e*P **P** **16 20 41.8 -0.2**
comp=Z,3.9nm,1.0s
B08A Colville Reser 91.21 39 *e*P **P** **16 20 41.3 -0.5**
comp=Z,6.1nm,0.9s
SNAA Sanae 91.29 183 P **P** **16 20 41.5 -0.4**
SNAA Sanae 91.29 183 P **P** **16 20 41.8 -0.1**
comp=Z,2.0nm,0.8s,baz=189,slow=8.1,SNR=6.1
SNAA Sanae 91.29 183 *e*P **P** **16 20 38.9 -3.0**
TUC Tucson 91.33 57 *e*P **P** **16 20 43.1 +0.3**
comp=Z,5.4nm,0.8s
TUC *e*pP **pP** **16 21 47.9 +2.6**
KNB Kanab 91.34 52 *e*P **P** **16 20 43.3 +0.4**
KNB pmax pmax
comp=Z,12nm,1.6s
KNB Kanab 91.34 52 *e*P **P** **16 20 43.3 +0.4**
comp=Z,12nm,1.6s
X16A Lo Mia Camp, P 91.52 55 *e*P **P** **16 20 44.3 +0.5**
comp=Z,7.2nm,0.9s
U15A North Rim 91.54 52 *e*P **P** **16 20 44.4 +0.4**
comp=Z,7.4nm,0.8s
F10A Beach Ranch, E 91.56 42 *e*P **P** **16 20 43.1 -0.5**
comp=Z,34nm,2.0s
VNA3 Neumayer Olymp 91.90 181 P **P** **16 20 44.3 -0.4**
WUAZ Wupatki 91.93 54 *e*P **P** **16 20 45.2 -0.5**
comp=Z,5.4nm,0.8s
MTPU Mount Pierson 92.17 51 *e*P **P** **16 20 47.7 +0.7**
comp=Z,3.4nm,0.9s
VNA2 Neumayer--Watz 92.19 181 P **P** **16 20 45.8 -0.2**
baz=191,slow=5.6
TIXI Tiksi 92.51 348 P **P** **16 20 46.4 -0.8**
comp=Z,2.8nm,0.9s,baz=92,slow=1.6,SNR=7.2
TIXI Tiksi 92.51 348 *e*P **P** **16 20 46.0 -1.2**
comp=Z,3.9nm,1.1s
HLID Hailey 92.52 45 *e*P **P** **16 20 48.3 +0.1**
comp=Z,12nm,2.0s
HVU Hansel Valley 93.02 47 *e*P **P** **16 20 50.6 +0.1**
HVU pmax pmax
comp=Z,4.0nm,0.9s
HVU Hansel Valley 93.02 47 *e*P **P** **16 20 50.6 +0.1**
comp=Z,3.6nm,0.9s
TCUT Toone Canyon 93.77 48 *e*P **P** **16 20 53.2 -0.9**
comp=Z,6.3nm,0.7s
P18A Preston Nutter 94.12 50 *e*P **P** **16 20 55.5 -0.3**
comp=Z,2.9nm,0.8s
WMQ Urumqi 95.27 314 P **P** **16 21 01.0 +0.4**
WMQ PP **PP** **16 24 55.0 +0.2**
WMQ pmax pmax
comp=Z,39nm,0.7s
WMQ pmax pmax
comp=Z,410nm,4.7s
ANMO Albuquerque 95.58 55 P **P** **16 21 01.8 -0.6**
comp=Z,0.9nm,0.5s,baz=267,slow=19
ANMO Albuquerque 95.58 55*ce*P **P** **16 21 00.3 -2.2**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 95.60 47 P **P** **16 21 01.5 -0.9**
comp=Z,0.4nm,0.5s,baz=221,slow=3.7,SNR=4.9
PDAR Pinedale Array 95.60 47 *e*P **P** **16 21 01.3 -1.1**
TX31 Lajitas Ar. Si 96.28 61 *e*P **P** **16 21 05.5 -0.1**
TXAR Lajitas Array 96.28 61 P **P** **16 21 05.6 0.0**
comp=Z,0.6nm,0.7s,baz=230,slow=5.7,SNR=8.2
DGZ Jazzator, Alta 97.27 320 *e*P **P** **16 21 09.4 -0.2**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 99.04 27 P **Pdif** **16 21 16.4 -0.6**
comp=Z,1.1nm,0.5s,baz=255,slow=4.7,SNR=27
MK01 Makanchi Array 99.75 316 *e*Pdif **Pdif** **16 21 20.7 0.0**
MK31 Makanchi Array 99.76 316 *e*Pdif **Pdif** **16 21 20.8 +0.1**
MKAR Makanchi Array 99.76 316 P **Pdif** **16 21 20.9 +0.2**
comp=Z,1.5nm,0.7s,baz=88,slow=5.9,SNR=31
MKAR PKiKP **PKiKP** **16 25 47.1 -0.7**
comp=Z,0.4nm,0.6s,baz=117,slow=1.0,SNR=7.5
ZAA0 Zalesovo Array 100.02 323 *e*Pdif **Pdif** **16 21 20.5 -1.1**
ZALV Zalesovo Beam 100.02 323 P **Pdif** **16 21 20.6 -1.0**
comp=Z,0.8nm,0.3s,baz=103,slow=5.2,SNR=9.7
ZALV PKiKP **PKiKP** **16 25 48.0 0.0**
comp=Z,0.5nm,0.5s,baz=126,slow=3.7,SNR=3.2
ZALV Zalesovo Beam 100.02 323 *e*P **Pdif** **16 21 20.3 -1.3**
KSH Kashi 102.63 308 *e*P **Pdif** **16 21 37.5 +3.7**
KSH S **Sdif** **16 32 54.3 -1.5**
KSH pmax pmax
comp=Z,91nm,6.2s
KSH LR LR
comp=Z,120nm,8.3s
KSH LR LR
comp=Z,110nm,7.9s
KSH LR LR
comp=Z,180nm,6.1s
KURK Kurchatov 103.00 319 P **Pdif** **16 21 34.7 -0.3**
KURK *i* 16 25 52.6
KURK Kurchatov 103.00 319 Pdif **Pdif** **16 21 34.6 -0.3**
KURK PKiKP **PP** **16 25 52.6 -0.4**
KURBB Kurchatov Arra 103.04 319 Pdiff **Pdif** **16 21 34.6 -0.5**
comp=Z,0.3nm,0.5s,baz=99,slow=5.8,SNR=3.3
KURBB PKiKP **PP** **16 25 52.6 -0.7**
comp=Z,1.2nm,0.8s,baz=114,slow=2.1,SNR=6.6
RES Resolute Bay 108.07 16 PKiKP **PKiKP** **16 25 57.0 -5.2**
comp=Z,0.7nm,0.5s,baz=229,slow=20,SNR=6.2
BVAR Borovoye Array 108.36 321 Pdiff **Pdif** **16 21 59.2 +0.5**
comp=Z,0.5nm,0.6s,baz=40,slow=5.6,SNR=3.5
BVAR PKiKP **PKiKP** **16 26 01.5 -1.9**
comp=Z,0.9nm,0.5s,baz=61,slow=6.8,SNR=6.6
ARU Arti 115.13 325 PKP **PKPdf** **16 26 15.7 -0.5**
comp=Z,3.6nm,0.5s,baz=68,slow=2.6,SNR=4.9
AKTO Aktyubinsk 116.06 318 PKP **PKPdf** **16 26 17.6 -0.5**
comp=Z,2.9nm,0.6s,baz=83,slow=5.7,SNR=9.6
GEYT Alibeck 116.31 304 PKP **PKPdf** **16 26 18.7 -0.3**
comp=Z,1.9nm,0.5s,baz=191,slow=1.5,SNR=8.0
SPITS Spitsbergen Ar 117.39 354 PKP **PKPdf** **16 26 19.5 -0.5**
comp=Z,3.3nm,0.6s,baz=344,slow=2.1,SNR=12
SADO Sadowa 117.58 48 PKP **PKPdf** **16 26 21.7 +0.5**
comp=Z,4.4nm,1.0s,baz=288,slow=3.2,SNR=3.4
SDV Santo Domingo 121.90 90 PKP **PKPdf** **16 26 29.5 -1.2**
comp=Z,3.0nm,0.7s,baz=329,slow=5.9,SNR=4.5
ARCES ARCESS Array B 122.83 345 PKP **PKPdf** **16 26 30.3 -0.4**
comp=Z,6.8nm,0.6s,baz=68,slow=1.8,SNR=58
SCHQ Schefferville 123.51 35 PKP **PKPdf** **16 26 31.4 -0.9**
comp=Z,3.9nm,0.8s,baz=298,slow=3.0,SNR=4.1
MATP Matopo 125.94 228 PKP **PKPdf** **16 26 37.3 -0.9**
comp=Z,4.9nm,1.1s,baz=45,slow=1.4,SNR=4.3
RAYN Ar Rayn 126.52 287 *e*PKiKP **PKPdf** **16 26 38.8 -0.3**
RAYN Ar Rayn 126.52 287 *e*PKPdf **PKPdf** **16 26 38.8 -0.3**
ZEI Tsey 126.74 311 *e*PKiKP **PKPdf** **16 26 39.0 -0.2**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
NCK Nalchik 126.82 312 *i* PKiKP **PKPdf** **16 26 38.4 -0.7**
LPSR Galich'ya Gora 127.13 324 *e*PKiKP **PKPdf** **16 26 39.6 +0.3**
LPSR pmax pmax
comp=Z,20nm,0.8s
KBZ Khabaz 127.27 312 PKP **PKPdf** **16 26 40.5 +0.7**
comp=Z,2.8nm,0.9s,baz=142,slow=5.5,SNR=4.8
OBN Obninsk 127.35 328 *e*PKiKP **PKPdf** **16 26 39.2 -0.4**
OBN pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 127.37 313 *e*PKiKP **PKPdf** **16 26 38.0 -2.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
VSR Storozhevoye 127.51 322 *e*PKiKP **PKPdf** **16 26 39.3 -0.8**
VSR pmax pmax
comp=Z,9.0nm,0.7s
PCRV Puerto La Cruz 127.95 90 SKPbc SKPbc 16 29 34.1
comp=Z,12nm,0.9s,baz=341,slow=11,SNR=3.0
FINES FINESS Array B 128.36 338 PKP **PKPdf** **16 26 41.0 -0.3**
comp=Z,5.3nm,0.9s,baz=30,slow=2.4,SNR=11
FINES SKPbc SKPbc 16 29 39.0
comp=Z,1.0nm,0.5s,baz=49,slow=3.8,SNR=6.4
KMBO Kilima Mbogo 128.75 254 PKP **PKPdf** **16 26 44.6 +0.7**
comp=Z,1.0nm,0.5s,baz=49,slow=8.1,SNR=5.4
PTGA Pitinga 129.00 105 PKP **PKPdf** **16 26 43.6 -0.5**
comp=Z,3.8nm,0.6s,baz=194,slow=1.4,SNR=7.3
NB2 NORSAR Subarra133.20 345 PKPdf **PKPdf** **16 26 50.8 +0.1**
comp=Z,1.5nm,0.8s,baz=31,slow=1.9
NOA NORSAR Array B133.20 345 PKP **PKPdf** **16 26 51.3 +0.6**
comp=Z,2.0nm,0.7s,baz=36,slow=2.1,SNR=5.1
NOA SKPbc **SKPab** **16 29 56.3 -0.1**
comp=Z,2.5nm,0.8s,baz=34,slow=2.8,SNR=3.4
HFS Hagfors 133.32 343 PKP **PKPdf** **16 26 49.9 -0.9**
comp=Z,1.7nm,0.7s,baz=87,slow=6.1,SNR=4.9
AKASG Malin Array Be 133.38 325 PKP **PKPdf** **16 26 50.8 -0.4**
comp=Z,2.6nm,0.7s,baz=60,slow=2.5,SNR=12
AKASG SKPbc **SKPab** **16 29 57.0 -0.4**
comp=Z,1.1nm,0.7s,baz=48,slow=4.3,SNR=6.4
KIEV Kiev 133.39 325 *i* PKiKP **PKPdf** **16 26 50.8 -0.4**
AK11 Malin Array Si 133.42 325 *e*PKPdf **PKPdf** **16 26 50.5 -0.8**
ASF Jabal al Asfar 133.96 298 PKP **PKPdf** **16 26 52.3 -0.7**
comp=Z,2.6nm,0.6s,baz=97,slow=6.5,SNR=4.1
BR131 Keskin Array S 134.98 309 *e*PKPdf **PKPdf** **16 26 53.7 -1.1**
BRTR Keskin Array B 134.98 309 PKP **PKPdf** **16 26 55.7 +0.9**
comp=Z,1.9nm,0.7s,baz=140,slow=4.1,SNR=9.1
BRTR PP **PP** **16 29 33.6 +0.9**
comp=Z,1.4nm,1.0s,baz=99,slow=7.6,SNR=5.0
MMAI Mount Meron Ar 135.09 300 PKP **PKPdf** **16 26 56.2 +1.1**
comp=Z,2.5nm,0.6s,baz=76,slow=6.4,SNR=3.4
SORM Soroca 135.17 323⇑ PKiKP **PKPdf** **16 26 54.2 -0.4**
BR231 Keskin MP Arra 135.58 310 *e*PKPdf **PKPdf** **16 26 54.6 -1.2**
TLCR 136.28 319⇑ PKiKP **PKPdf** **16 26 58.6 +1.8**
LVV L'vov 136.64 327 *e*PKiKP PKPdf 16 27 05.3 +7.9
CFR Carcaliu 136.71 319‖ PKiKP **PKPdf** **16 26 57.5 -0.1**
TIRR Tirgusor 136.86 318⇑ PKiKP **PKPdf** **16 26 59.6 +1.7**
TLB Topalu 137.04 318⇑ PKiKP **PKPdf** **16 26 58.5 +0.3**
BUR08 Bucovina Ar. S 137.23 324 *e*PKPdf **PKPdf** **16 26 58.7 0.0**
BURAR Bucovina Array 137.24 324‖ *i*P **PKPdf** **16 26 57.2 -1.5**
BURAR Bucovina Array 137.24 324‖ PKiKP **PKPdf** **16 26 57.2 -1.5**
BUR04 Bucovina Ar. S 137.24 324 *e*PKPdf **PKPdf** **16 26 59.5 +0.8**

VRI	**Vrincioaia**	**137.26 321**	⇓PKIKP	**PKPdf**	**16 26 59.2**	**+0.5**
MLR	**Muntele Rosu**	**137.92 320**	PKP	**PKPdf**	**16 27 00.1**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=72,slow=9.6,SNR=5.2					
MLR	**Muntele Rosu**	**137.92 320**	⇑*i*P	**PKPdf**	**16 27 00.6**	**+0.6**
MLR	**Muntele Rosu**	**137.92 320**	⇑PKIKP	**PKPdf**	**16 27 00.6**	**+0.6**
DOPR	**Dopca**	**138.01 321**	⇓*i*P	**PKPdf**	**16 27 01.5**	**+1.4**
ARR	**Arges**	**138.78 321**	⇑*i*P	**PKPdf**	**16 27 02.7**	**+1.2**
DRGR		**139.12 324**	⇓*i*P	**PKPdf**	**16 26 57.1**	**-5.0**
DRGR		**139.12 324**	⇓PKIKP	PKPpre	16 26 57.1	
LANS	**Liptovska Anna**	**139.38 329**	*e*PKIKP	**PKPdf**	**16 27 05.8**	**+3.3**
LANS	**Liptovska Anna**	**139.38 329**	*e*PKP	**PKPdf**	**16 27 05.8**	**+3.3**
DPC	**Dobruska-Polom**	**140.03 332**	*e*PKPpre	PKPpre	16 26 58.1	
DPC	**Dobruska-Polom**	**140.03 332**	*e*PKIKP	PKPpre	16 26 58.1	
BZS	**Buzias**	**140.41 323**	⇑*i*P	**PKPdf**	**16 27 03.3**	**-1.1**
BZS	**Buzias**	**140.41 323**	⇑PKIKP	**PKPdf**	**16 27 03.3**	**-1.1**
BRG	**Berggiesshubel**	**140.66 335**	*e*PKP	PKPpre	16 27 00.2	
	comp=Z,4.2nm,1.0s					
BRG	**Berggiesshubel**	**140.66 335**	*e*PKIKP	PKPpre	16 27 00.2	
BRG			pmax	pmax		
	comp=Z,4.0nm,1.0s					
CLL	**Collm**	**140.70 336**	*i* PKIKP	**PKPdf**	**16 27 07.4**	**+2.7**
CLL			pmax	pmax		
	comp=Z,5.0nm,0.9s					
CLL	**Collm**	**140.70 336**	*i* PKPdf	**PKPdf**	**16 27 07.4**	**+2.7**
	comp=Z,5.0nm,0.9s					
PRU	**Pruhonice**	**141.08 333**	*e*PKPpre	PKPpre	16 27 02.6	
PRU			*e*PKPdf	**PKiKP**	**16 27 07.8**	**-0.4**
PRU	**Pruhonice**	**141.08 333**	*e*PKIKP	PKPpre	16 27 02.6	
VTS	**Vitosha**	**141.08 318**	⇓PKIKP	**PKPdf**	**16 27 05.4**	**-0.5**
EKA	**Eskdalemuir Ar**	**141.29 352**	PKhKP	PKPpre	16 26 59.1	
	comp=Z,0.8nm,0.5s,baz=3.4,slow=2.7,SNR=6.2					
CONA	**Conrad Observa**	**141.97 330**	*e*PKPdf	**PKPdf**	**16 27 04.5**	**-2.7**
	comp=Z,4.9nm,0.8s					
KHC	**Kasperske Hory**	**142.14 333**	*e*PKPpre	PKPpre	16 27 03.1	
KHC			*e*PKPdf	**PKPdf**	**16 27 07.7**	**+0.3**
KHC			*ex*	x	16 27 10.6	
KHC			*ex*	x	16 28 03.0	
KHC	**Kasperske Hory**	**142.14 333**	*e*PKHKP	PKPpre	16 27 03.1	
KHC			*e*		16 27 07.7	
DIVS	**Divibare**	**142.24 322**	*e*PKPdf	**PKPdf**	**16 27 07.5**	**-0.3**
GERES	**GERESS Array B**	**142.30 333**	PKhKP	PKPpre	16 27 03.4	
	comp=Z,1.0nm,0.6s,baz=33,slow=3.0,SNR=10					
GEA0	**GERESS Array S**	**142.30 333**	*e*PKPpre	PKPpre	16 27 02.7	
ARSA	**Arzberg**	**142.61 329**	*e*PKPdf	PKPpre	16 27 05.3	
	comp=Z,6.2nm,1.3s					
MOA	**Molln**	**142.78 331**	*i* PKPdf	PKPpre	16 27 05.9	
	comp=Z,6.0nm,0.6s,SNR=5.2					
IDI	**Anoyia**	**142.98 306**	PKhKP	PKPpre	16 27 05.5	
	comp=Z,4.7nm,0.3s,baz=342,slow=9.6,SNR=14					
SOKA	**Soboth**	**143.25 329**	*e*PKPdf	PKPbc	16 27 07.0	-0.4
	comp=Z,12nm,0.6s,SNR=7.2					
BLY	**Banja Luka**	**143.43 325**	⇑*i*P	PKPbc	16 27 08.3	+0.5
BLY	**Banja Luka**	**143.43 325**	*e*PKPdf	PKPbc	16 27 07.8	0.0
OBKA	**Obir**	**143.61 329**	*e*PKPdf	PKPbc	16 27 08.2	-0.1
	comp=Z,17nm,0.9s					
PDG	**Podgorica**	**143.63 320**	⇑*i*P	PKPbc	16 27 08.4	0.0
MEM	**Membach**	**143.74 341**	⇑PKPbc	PKPbc	16 27 08.4	-0.1
KBA	**Koelnbreinsper**	**143.77 331**	*e*PKPdf	PKPbc	16 27 08.7	-0.2
	comp=Z,34nm,1.4s,SNR=9.5					
TIR	**Tirane**	**143.85 318**	⇑PKIKP	PKPab	16 27 08.4	0.0
LJU	**Ljubljana**	**143.95 329**	*i* PKPbc	PKPbc	16 27 09.4	+0.1
MYKA	**Terra Mystica**	**143.96 330**	*e*PKPdf	PKPab	16 27 08.8	+0.1
	comp=Z,16nm,0.5s,SNR=7.2					
GBAS	**Gorenja Brezov**	**144.07 329**	*i* PKPbc	PKPbc	16 27 09.6	0.0
BCLA	**Clavier**	**144.12 342**	⇑PKPbc	PKPbc	16 27 09.4	-0.1
GBRS	**Gornja Briga**	**144.16 328**	*i* PKPbc	PKPbc	16 27 10.3	+0.4
STU	**Stuttgart**	**144.20 337**	*e*PKIKP	PKPbc	16 27 10.1	+0.2
STU	**Stuttgart**	**144.20 337**	*e*PKPdf	PKPbc	16 27 10.1	+0.2
UDBI	**Udbina**	**144.34 326**	P	**PKPab**	**16 27 10.0**	**-0.3**
WATA	**Walderalm**	**144.37 333**	*e*PKPdf	**PKPab**	**16 27 10.5**	**0.0**
	comp=Z,31nm,1.0s,SNR=9.5					
ABTA	**Abfaltersbach**	**144.40 331**	*e*PKPdf	**PKPab**	**16 27 10.1**	**-0.3**
	comp=Z,49nm,0.7s,SNR=26					
WTTA	**Wattenberg**	**144.40 333**	*e*PKPdf	**PKPab**	**16 27 10.7**	**+0.1**
	comp=Z,11nm,0.7s,SNR=8.2					
WLF	**Walferdange**	**144.52 340**	⇑PKPbc	**PKPdf**	**16 27 11.4**	**-0.1**
WLF	**Walferdange**	**144.52 340**	*e*PKPbc	PKPbc	16 27 11.2	+0.3
TRI	**Trieste**	**144.56 329**	*e*PKIKP	**PKPab**	**16 27 11.0**	**0.0**
TRI	**Trieste**	**144.56 329**	*e*PKPbc	**PKPab**	**16 27 11.0**	**0.0**
MOTA	**Moosalm**	**144.57 333**	*e*PKPdf	PKPbc	16 27 11.3	0.0
	comp=Z,62nm,0.9s,SNR=54					
RETA	**Reutte**	**144.60 334**	*i* PKPdf	PKPbc	16 27 11.5	+0.2
	comp=Z,18nm,0.5s,SNR=12					
DOU	**Dourbes**	**144.64 342**	⇑PKPbc	**PKPdf**	**16 27 11.7**	**0.0**
BFO	**Black Forest**	**144.89 337**	*e*PKIKP	**PKPab**	**16 27 12.2**	**0.0**
BFO	**Black Forest**	**144.89 337**	*e*PKPbc	**PKPab**	**16 27 12.2**	**0.0**
FETA	**Feichten**	**144.98 333**	*e*PKPdf	**PKPab**	**16 27 12.7**	**0.0**
	comp=Z,65nm,0.8s,SNR=44					
DAVA	**Damuels**	**145.13 334**	*i* PKPab	**PKPab**	**16 27 13.3**	**0.0**
	comp=Z,62nm,1.0s,SNR=24					
ECH	**Echery**	**145.42 338**	*e*PKP2	**PKPdf**	**16 27 13.4**	**+0.2**
ECH	**Echery**	**145.42 338**	*e*PKPdf	**PKPdf**	**16 27 13.4**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**145.49 333**	*e*PKPdf	**PKPab**	**16 27 14.7**	**-0.2**
TUE	**Stuetta**	**146.00 334**	*e*PKPdf	**PKPbc**	**16 27 16.0**	**+0.3**
SENIN	**Lac Senin/Sane**	**146.92 336**	*e*PKPbc	**PKPbc**	**16 27 18.3**	**0.0**
TIP	**Timpagrande**	**147.03 318**	*e*PKPbc	**PKPbc**	**16 27 18.9**	**+0.2**
AQU	**L'Aquila**	**147.08 325**	*e*PKP2	**PKPbc**	**16 27 18.8**	**+0.1**
AQU	**L'Aquila**	**147.08 325**	*e*PKPbc	**PKPbc**	**16 27 18.8**	**+0.1**
BNI	**Bardonecchia**	**148.24 335**	*e*PKP2	**PKPbc**	**16 27 22.2**	**+0.4**
BNI	**Bardonecchia**	**148.24 335**	*e*PKPbc	**PKPbc**	**16 27 22.2**	**+0.4**
SSB	**Saint Sauveur**	**148.86 338**	*e*PKP2	**PKPbc**	**16 27 23.6**	**+0.3**
SSB	**Saint Sauveur**	**148.86 338**	*e*PKPbc	**PKPbc**	**16 27 23.6**	**+0.3**
VSL	**Villasalto**	**151.25 325**	*e*PKPbc	**PKPbc**	**16 27 28.3**	**-0.8**
KEST	**Kesra**	**153.81 319**	PKP	**PKPdf**	**16 27 28.2**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=68,slow=19,SNR=2.0					
KEST			PKPbc	**PKiKP**	**16 27 35.3**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=93,slow=5.5,SNR=4.2					
ES19	**SONSECA Array**	**156.53 345**	*e*PKPab	**PKPab**	**16 27 60.0**	**-0.4**
ESDC	**Sonseca Array**	**156.57 345**	PKP	**PKPdf**	**16 27 30.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=1.1,slow=9.0,SNR=3.9					
ESDC			PKPab	**PKPab**	**16 27 59.8**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=14,slow=4.0,SNR=14					
ESDC			PP	**PP**	**16 31 40.3**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=12,slow=6.1,SNR=4.1					
TOA0	**Torodi Ar. Sit**	**166.76 255**	*e*PKPdf	**PKPdf**	**16 27 40.4**	**-1.1**
TOA0			*e*PKPab	**PKPab**	**16 28 45.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**166.76 255**	PKP	**PKPdf**	**16 27 40.7**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=57,slow=0.9,SNR=14					
TORD			PKPab	**PKPab**	**16 28 45.5**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=100,slow=4.1,SNR=13					
TORD			PP	**PP**	**16 32 38.5**	**+3.8**
	comp=Z,0.2nm,0.7s,baz=87,slow=3.9,SNR=2.8					
DBIC	**Dimbokro**	**167.84 213**	PKP	**PKPdf**	**16 27 41.7**	**-0.6**
	comp=Z,7.8nm,1.2s,baz=140,slow=2.9,SNR=4.2					
KOWA	**Kowa**	**172.44 251**	PKP	**PKPdf**	**16 27 44.1**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=118,slow=1.2,SNR=11					
KOWA			PKPab	**PKPab**	**16 29 11.2**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=102,slow=6.3,SNR=5.2					
KOWA	**Kowa**	**172.44 251**	*e*PKPdf	**PKPdf**	**16 27 44.0**	**-0.8**
KOWA			*e*PKPab	**PKPab**	**16 29 10.6**	**-0.6**

IDC 11 16:21:55.4±5.8, 3.39S×137.89E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.1/45, mbtmp3.2/4, ML2.7/1, Error ellipse: s-maj=275.8km s-min=27.9km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.82**	**192**	Pn	Pn	16 25 50.5	-2.0
	0.0nm,0.3s,baz=12,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**20.53**	**190**	P	P	16 26 36.3	+0.8
	0.2nm,0.5s,baz=10,slow=8.7,SNR=6.8						
MKAR	**Makanchi Array**	**69.83**	**323**	P	P	16 33 09.2	+1.3
	0.4nm,0.8s,baz=120,slow=5.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**72.11**	**330**	P	P	16 33 20.4	-1.2
	0.2nm,0.3s,baz=104,slow=4.9,SNR=2.5						

*IDC **11** 16:27:07.6±1.8, 10.27S×124.19E, h0km, mb3.3/1, mb1 3.3/4, mb1mx3.2/49, mbtmp3.2/4, ML2.7/3, Error ellipse: s-maj=35.5km s-min=11.7km az=14.0*
*ISCJB **11** 16:27:09.5±0.6, 10.57S±0.04×123.92E±0.05, h27km, mb3.4/1, Error ellipse: s-maj=8.3km s-min=4.8km az=153.2*
*DJA **11** 16:27:11.4±1.0, 10°S±6"×12°4E±", h10km, M2.7/4, MLv2.7/4*

ISC 11 16:27:10.4±0.8, 10.49S±0.06×123.97E±0.07, h27km, n9, σ2.908/15, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.41**	**313**	Pg	**Pb**	**16 27 18.2**	**-1.1**
	109nm,0.3s,baz=114,slow=4.0,SNR=282						
BATI				Lg	Lg	16 27 24.6	
	157nm,0.3s,baz=37,slow=20,SNR=41						
BATI	**Baumata**	**0.41**	**313**	P	**Pb**	**16 27 18.0**	**-1.4**
BATI				S	**Sb**	**16 27 22.9**	**-2.5**
SOEI	**Soe**	**0.79**	**22**	P	**Pn**	**16 27 26.6**	**+0.7**
SOEI				S	**Sn**	**16 27 38.3**	**+1.5**
MMRI	**Maumere**	**2.51**	**317**	P	**Pn**	**16 27 50.5**	**+0.9**
MMRI				S	**Sn**	**16 28 21.1**	**+1.8**
WBSI	**Waikabubak, Su**	**4.59**	**280**	S	**Sn**	**16 29 11.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**7.74**	**168**	Pn	**Pn**	**16 29 03.4**	**+2.1**
	0.1nm,0.3s,baz=354,slow=12,SNR=4.9						
FITZ				Sn	**Sn**	**16 30 29.7**	**+1.5**
	0.2nm,0.3s,baz=329,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**13.72**	**134**	Pn	**Pn**	**16 30 23.2**	**-0.1**
	0.0nm,0.3s,baz=306,slow=13,SNR=2.5						
WRA				Sn	**Sn**	**16 32 51.3**	**-3.6**
	0.1nm,0.3s,baz=314,slow=26,SNR=3.7						
ASAR	**Alice Springs**	**16.17**	**145**	Pn	**Pn**	**16 30 57.9**	**+1.9**
	0.0nm,0.3s,baz=318,slow=12,SNR=5.6						
ASAR				Sn	**Sn**	**16 33 51.4**	**-3.3**
	0.0nm,0.3s,baz=321,slow=24,SNR=2.4						
MKAR	**Makanchi Array**	**68.08**	**330**	P	**P**	**16 38 08.3**	**+0.5**
	0.2nm,0.5s,baz=134,slow=6.2,SNR=4.2						

*ISCJB **11** 16:28:23.2±0.7, 51.44N±0.03×16.18E±0.04, h0km, Error ellipse: s-maj=4.8km s-min=3.1km az=13.3*
*CSEM **11** 16:28:24.7±0.3, 51.45N×16.13E, h2km, ML3.1/9, Error ellipse: s-maj=5.4km s-min=4.1km az=5.0*
*VIE **11** 16:28:27.2±1.0, 51.22N×16.15E, h0km, mb2.2/3, ML2.5/4, Error ellipse: s-maj=8.0km s-min=2.9km az=30.0, Suspected Mining induced.*

ISC 11 16:28:24.5±0.9, 51.48N±0.03×16.15E±0.02, h0km, n34, σ0.997/67, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**172**	*i* Pg	**Pg**	**16 28 36.8**	**0.0**
KSP				*e*Sg	**Sg**	**16 28 44.9**	**-0.4**
KSP	**Ksiaz**	**0.65**	**172**	⇓*i*Pg	**Pg**	**16 28 36.8**	**0.0**
KSP				*e*Sg	**Sg**	**16 28 44.9**	**-0.4**
UPC	**Upice**	**0.98**	**185**	*e*PG	**Pg**	**16 28 43.1**	**-0.1**
UPC				*e*SG	**Sg**	**16 28 55.7**	**-0.3**
	comp=Z,49nm,0.3s						
UPC	**Upice**	**0.98**	**185**	Pg	**Pg**	**16 28 43.1**	**-0.1**
UPC				Sg	**Sg**	**16 28 55.7**	**-0.3**
	49nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**174**	*e*PG	**Pg**	**16 28 45.8**	**-0.5**
DPC				*e*SG	**Sg**	**16 28 59.9**	**-1.2**
	comp=Z,12nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**174**	Pg	**Pg**	**16 28 45.8**	**-0.5**
DPC				Sg	**Sg**	**16 28 59.9**	**-1.2**
	12nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**227**	*e*PG	**Pb**	**16 28 51.4**	**+0.2**
PVCC				*e*SG	**Sn**	**16 29 09.9**	**-0.1**
	comp=Z,83nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**227**	Pg	**Pb**	**16 28 51.4**	**+0.2**
PVCC				Sg	**Sn**	**16 29 09.9**	**-0.1**
	83nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**247**	PG	**Pg**	**16 28 54.0**	**+0.5**
BRG				SG	**Sn**	**16 29 14.2**	**+0.9**
	23nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.79**	**209**	*e*PG	**Pb**	**16 28 58.2**	**0.0**
GOPC				*e*SG	**Sg**	**16 29 21.5**	**-0.6**
	comp=Z,9.9nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.79**	**209**	Pg	**Pb**	**16 28 58.2**	**0.0**
GOPC				Sg	**Sg**	**16 29 21.5**	**-0.6**
	9.9nm,0.3s						
PRU	**Pruhonice**	**1.81**	**215**	*e*PG	**Pb**	**16 28 58.5**	**0.0**
PRU				*ex*	x	16 29 15.4	
PRU				*e*SN	**Sn**	**16 29 19.9**	**-0.7**
PRU				*e*SG	**Sb**	**16 29 21.7**	**0.0**
	comp=Z,12nm,0.4s						
PRU	**Pruhonice**	**1.81**	**215**	Pg	**Pb**	**16 28 58.5**	**0.0**
PRU				Sg	**Sb**	**16 29 21.7**	**0.0**
	12nm,0.4s						
MORC	**Moravsky Berou**	**1.93**	**152**	*e*Pn	**Pn**	**16 28 57.7**	**-0.8**
MORC				*e*Sg	**Sn**	**16 29 23.5**	**+0.1**
CLL	**Collm**	**1.98**	**266**	*e*Pg	**Pb**	**16 29 02.0**	**+0.7**
CLL				*e*Sg	**Sg**	**16 29 29.0**	**+1.0**
	comp=Z,8.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*PG	**Pb**	**16 29 03.6**	**+0.5**
OKC				*e*SG	**Sb**	**16 29 28.5**	**-1.0**
	comp=Z,11nm,0.4s						
OKC	**Ostrava-Krasne**	**2.08**	**142**	Pg	**Pb**	**16 29 03.6**	**+0.5**
OKC				Sg	**Sb**	**16 29 28.5**	**-1.0**
	comp=Z,11nm,0.4s						
VRAC	**Vranov**	**2.20**	**172**	*e*Pn	**Pn**	**16 29 02.0**	**-0.2**
VRAC				*e*Sg	**Sb**	**16 29 32.6**	**-0.2**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	**Pg**	**16 29 15.2**	**+0.2**
OJC				*e*Sg	**Sg**	**16 29 49.2**	**+0.1**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	**Pg**	**16 29 15.2**	**+0.2**
OJC				*e*Sg	**Sg**	**16 29 49.2**	**+0.1**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**16 29 09.5**	**+0.9**
NKC				*e*PG	**Pb**	**16 29 14.2**	**+1.3**
NKC				*e*SG	**Sg**	**16 29 49.8**	**0.0**
	comp=Z,12nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**243**	Pn	**Pn**	**16 29 09.5**	**+0.9**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**16 29 11.7**	**+0.1**
KHC				*e*PG	**Pb**	**16 29 17.6**	**+1.0**
KHC				*e*SN	**Sn**	**16 29 46.4**	**-0.5**
KHC				*e*SG	**Sg**	**16 29 54.7**	**-2.1**
	comp=Z,4.8nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**216**	Pn	**Pn**	**16 29 11.7**	**+0.1**
LANS	**Liptovska Anna**	**3.16**	**136**	*e*Pg	**Pg**	**16 29 26.9**	**+1.9**
LANS				*e*Sg	**Sb**	**16 30 02.3**	**+1.8**
LANS	**Liptovska Anna**	**3.16**	**136**	*e*PG	**Pg**	**16 29 26.9**	**+1.9**
LANS				*e*SG	**Sb**	**16 30 02.3**	**+1.8**
VYHS	**Vyhne**	**3.46**	**149**	*e*Pg	**Pg**	**16 29 30.6**	**-0.1**
VYHS				*e*Sg	**Sb**	**16 30 10.8**	**+1.7**
VYHS	**Vyhne**	**3.46**	**149**	*e*PG	**Pg**	**16 29 30.6**	**-0.1**
VYHS				*e*SG	**Sb**	**16 30 10.8**	**+1.7**
CONA	**Conrad Observa**	**3.56**	**183**	Pn	**Pn**	**16 29 21.2**	**+0.1**
	comp=Z,0.8nm,0.2s						
CONA				Sg	**Sg**	**16 30 17.2**	**-1.7**
	comp=Z,3.8nm,0.3s						
CONA	**Conrad Observa**	**3.56**	**183**	Pn	**Pn**	**16 29 21.2**	**+0.1**
	comp=Z,0.8nm,0.2s						
CONA				Sg	**Sg**	**16 30 17.2**	**-1.7**
	comp=Z,3.8nm,0.3s						
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	**Pn**	**16 29 22.5**	**-0.5**
BSD				*i* S	**Sn**	**16 30 03.5**	**-3.8**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	**Pn**	**16 29 22.5**	**-0.5**
MOA	**Molln**	**3.84**	**199**	Pn	**Pn**	**16 29 24.2**	**-0.6**
	comp=Z,0.4nm,0.2s						
MOA	**Molln**	**3.84**	**199**	*e*Pn	**Pn**	**16 29 24.2**	**-0.6**
	comp=Z,0.4nm,0.2s						

*NSSP **11** 16:36:10.8, 38.47N×44.25E, h5km, Ms3.6*
*DDA **11** 16:36:11.5, 38.56N×44.16E, h5km, Ml3.5*
*ISK **11** 16:36:12.3, 38.61N×44.02E, h5km, ML3.6/10*
*CSEM **11** 16:36:13.5±0.2, 38.58N×44.05E, h5km, ML3.6, Error ellipse: s-maj=5.0km s-min=4.0km az=126.0*
*ISN **11** 16:36:13.0±1.1, 38.41N×44.28E, h0km, 165km, ML3.6*
*TEH **11** 16:36:16.0, 38.79N×44.07E, h10km, ML3.3*

ISC 11 16:36:13.2±1.1, 38.58N±0.02×44.10E±0.02, h3km±10km, n84, σ1.950/121, 8C-8D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BASK	**Baskale_VAN**	**0.53**	**188**	*i* P	**Pg**	**16 36 21.7**	**-1.6**
BASK				*i* S	**Sg**	**16 36 31.1**	**+0.9**
BASK	**Baskale_VAN**	**0.53**	**188**	P	**Pg**	**16 36 21.7**	**-1.6**
BASK				S	**Sg**	**16 36 31.1**	**+0.9**
TVAN	**Van**	**0.54**	**265**	*i* P	**Pg**	**16 36 22.8**	**-0.8**
TVAN				*i* S	**Sb**	**16 36 34.6**	**+0.9**
TVAN	**Van**	**0.54**	**265**	P	**Pg**	**16 36 22.8**	**-0.8**
TVAN				S	**Sb**	**16 36 34.6**	**+0.9**
VANB	**Van**	**0.55**	**272**	PG	**Pg**	**16 36 22.7**	**-1.1**
VANB				SG	**Sg**	**16 36 30.5**	**-0.5**
VANB	**Van**	**0.55**	**272**	*e*Pg	**Pg**	**16 36 22.7**	**-1.1**
VANB				*e*Sg	**Sg**	**16 36 30.5**	**-0.5**
CLDR	**Caldiran**	**0.58**	**346**	PG	**Pg**	**16 36 23.3**	**-1.1**
CLDR				SG	**Sg**	**16 36 32.3**	**+0.3**
CLDR	**Caldiran**	**0.58**	**346**	*i* P	**Pg**	**16 36 23.0**	**-1.4**
CLDR				*i* S	**Sg**	**16 36 32.9**	**+0.9**
CLDR	**Caldiran**	**0.58**	**346**	P	**Pg**	**16 36 23.0**	**-1.4**
CLDR	**Caldiran**	**0.58**	**346**	*e*Pg	**Pg**	**16 36 23.3**	**-1.1**
CLDR				*e*Sg	**Sg**	**16 36 32.3**	**+0.3**
GEVA	**Gevas**	**0.86**	**252**	*i* P	**Pg**	**16 36 27.7**	**-1.9**
GEVA				*i* S	**Sg**	**16 36 41.4**	**+0.7**
GEVA	**Gevas**	**0.86**	**252**	P	**Pg**	**16 36 27.7**	**-1.9**
GEVA				S	**Sg**	**16 36 41.4**	**+0.7**
MAKU	**Maku**	**0.90**	**30**	*e*Pg	**Pb**	**16 36 30.8**	**-0.8**
DYDN	**Diyadin**	**1.02**	**342**	*i* P	**Pg**	**16 36 32.2**	**-0.5**
DYDN				*i* S	**Sb**	**16 36 48.1**	**+0.7**
DYDN	**Diyadin**	**1.02**	**342**	P	**Pg**	**16 36 32.2**	**-0.5**
DYDN				S	**Sb**	**16 36 48.1**	**+0.7**
ADCV	**BITLIS_Adilcev**	**1.10**	**283**	*i* P	**Pg**	**16 36 33.2**	**-1.0**
ADCV				*i* S	**Sn**	**16 36 51.3**	**0.0**
ADCV	**BITLIS_Adilcev**	**1.10**	**283**	P	**Pg**	**16 36 33.2**	**-1.0**
ADCV				S	**Sn**	**16 36 51.3**	**0.0**
ISHB	**Shabestar**	**1.23**	**103**	*e*Pn	**Pn**	**16 36 36.7**	**-0.7**
ISHB				*e*AMB	AMB	16 36 40.7	
	comp=Z,8μm,0.2s						
ISHB				*e*Sg	**Sn**	**16 36 57.4**	**+2.7**
NAX	**Nakhchivan**	**1.24**	**61**	⇓P	**Pn**	**16 36 38.7**	**+1.2**
	SNR=95						
IMRD	**Marand**	**1.27**	**83**	*e*Pn	**Pn**	**16 36 37.3**	**-0.6**
IMRD				*e*AMB	AMB	16 37 11.2	
	comp=Z,13μm,0.3s						
HYR	**Heyderabad**	**1.28**	**27**	⇓P	**Pn**	**16 36 38.6**	**+0.6**
	SNR=63						
IGDI	**IGDIR**	**1.29**	**359**	*i* P	**Pb**	**16 36 37.7**	**-0.4**
IGDI				*i* S	**Sn**	**16 36 58.2**	**+2.3**
TUTA	**Tutak**	**1.29**	**310**	*i* P	**Pn**	**16 36 36.9**	**-1.4**
TUTA				*i* S	**Sb**	**16 36 56.0**	**+0.6**
TUTA	**Tutak**	**1.29**	**310**	P	**Pn**	**16 36 36.9**	**-1.4**
TUTA				S	**Sb**	**16 36 56.0**	**+0.6**
AGRB	**Hanur-Agry**	**1.32**	**320**	PN	**Pn**	**16 36 37.7**	**-0.9**
AGRB	**Hanur-Agry**	**1.32**	**320**	*e*Pn	**Pn**	**16 36 37.7**	**-0.9**
ARRZ	**Ararat**	**1.36**	**20**	*e*P	**Pg**	**16 36 42.5**	**+3.3**
ARRZ				*e*S	**Sn**	**16 37 02.5**	**+4.9**
SBZ	**Shahbuz**	**1.40**	**54**	⇓P	**Pg**	**16 36 40.3**	**+0.3**
	SNR=310						
TASB	**TASBURUN-IGDIR**	**1.41**	**4**	PN	**Pg**	**16 36 39.8**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.41**	**4**	*e*Pn	**Pg**	**16 36 39.8**	**-0.4**
ORD	**Ordubad**	**1.52**	**76**	⇑P	**Pg**	**16 36 42.4**	**0.0**
	SNR=366						
GURO	**Guroymak-BITLI**	**1.62**	**270**	PN	**Pn**	**16 36 41.9**	**-0.8**
GURO	**Guroymak-BITLI**	**1.62**	**270**	*e*Pn	**Pn**	**16 36 41.9**	**-0.8**
ITBZ	**Tabriz**	**1.65**	**101**	*e*Pn	**Pg**	**16 36 44.4**	**-0.4**
ITBZ				*e*AMB	AMB	16 36 48.7	
	comp=Z,1μm,0.2s						
GNI	**Garni**	**1.65**	**17**	⇓⇑*i*P	**Pg**	**16 36 44.5**	**-0.3**
GNI				⇑*i*S	**Sg**	**16 37 08.1**	**+1.9**
GNI	**Garni**	**1.65**	**17**	⇓P	**Pg**	**16 36 44.5**	**-0.3**
GNI				S	**Sg**	**16 37 08.1**	**+1.9**
SIRT	**Sirnak**	**1.69**	**231**	PN	**Pn**	**16 36 44.2**	**

MGG				*e*S	Sn	16 52 14.1	+3.1	
SSG	**Sans Toucher**	**1.06**	**238**	*i*P	Pb	16 52 01.5	0.0	
CRG	**Carmichael**	**1.07**	**235**	*e*P	Pb	16 52 01.6	0.0	
PHG	**Guadaloupe-2**	**1.08**	**233**	*i*P	Pb	16 52 01.9	+0.2	
FNG	**Fond-Bernard**	**1.09**	**237**	*e*P	Pb	16 52 01.6	-0.2	
MLG	**Mont-d'or**	**1.10**	**237**	*e*P	Pb	16 52 02.2	+0.1	
BPA	**Boggy Peak**	**1.13**	**290**	*e*P	Pb	16 52 02.1	-0.5	
BPA				*e*S	Sb	16 52 18.3	+1.4	
TBG	**Guadaloupe-3**	**1.19**	**227**	*e*P	Pb	16 52 03.4	-0.1	
TBG				*e*S	Sb	16 52 19.6	+1.2	
MDPV	**Dominica, Penn**	**1.22**	**212**	*e*P	Pb	16 52 04.2	+0.2	
MDPV				*e*S	Sb	16 52 21.2	+1.7	
MDMP	**Dominica, Moor**	**1.24**	**211**	*e*P	Pb	16 52 04.0	-0.4	
MDMP				*e*S	Sb	16 52 21.5	+1.4	
MDPO	**Dominica; Chan**	**1.28**	**212**	*e*P	Pb	16 52 04.4	-0.6	
MDPO				*e*S	Sb	16 52 22.4	+1.3	
BBL	**Barber's Block**	**1.33**	**212**	*e*P	Pn	16 52 04.9	+0.6	
BBL				*e*S	Sb	16 52 23.6	+1.0	
MLYT	**Lee's Yard**	**1.39**	**273**	*e*P	Pb	16 52 07.1	+0.2	
MLYT				*e*S	Sb	16 52 26.2	+2.0	
MBWH		**1.39**	**273**	*e*P	Pb	16 52 07.1	+0.2	
ANWB	**Willy Bob**	**1.41**	**315**	*e*P	Pb	16 52 06.7	-0.6	
ANWB				*e*S	Sb	16 52 26.9	+2.1	
DLPL	**La Plaine**	**1.41**	**200**	*e*P	Pb	16 52 07.0	-0.3	
DLPL				*e*S	Sb	16 52 25.2	+0.3	
MDN	**Morne-Daniel**	**1.48**	**205**	*e*P	Pb	16 52 08.2	-0.2	
MDN				*e*S	Sb	16 52 28.0	+1.3	
DBCT	**Belle View Cho**	**1.50**	**203**	*e*P	Pb	16 52 09.0	+0.1	
DSTT	**Stowe**	**1.51**	**201**	*e*P	Pb	16 52 08.2	-0.7	
DPMT	**Pointe Michel**	**1.52**	**204**	*e*P	Pb	16 52 09.4	+0.3	
NEV	**Hard Times**	**1.81**	**285**	*e*P	Pb	16 52 13.0	-1.1	
NEV				*e*S	Sb	16 52 35.4	-1.0	
NEV				*e*S	Sn	16 52 35.9	+3.0	
CXM	**Morne La Croix**	**1.89**	**193**	*e*P	Pn	16 52 13.4	+1.4	
CXM				*e*S	Sn	16 52 36.7	+1.7	
PCM	**Pelee Case Pet**	**1.89**	**194**	*e*P	Pn	16 52 13.2	+1.2	
PCM	**Pelee Case Pet**	**1.89**	**194**	*e*P	Pn	16 52 13.4	+1.4	
PML	**Morne Lenard**	**1.92**	**193**	*e*P	Pn	16 52 13.7	+1.3	
FDF	**Fort de France**	**1.96**	**192**	*e*P	Pn	16 52 14.3	+1.3	
FDF				*e*S	Sn	16 52 38.7	+2.0	
LPMF	**Morne Lapointe**	**2.09**	**186**	*e*P	Pn	16 52 16.2	+1.5	
ZAM	**Aeronautique**	**2.10**	**188**	*e*P	Pn	16 52 16.3	+1.5	
MVM	**Montagne Vaucl**	**2.10**	**184**	*e*P	Pb	16 52 17.0	-2.1	
TRMF	**Trois Ilets**	**2.14**	**188**	*e*P	Pn	16 52 16.8	+1.5	
SLB	**Belfond**	**2.84**	**186**	*e*P	Pn	16 52 27.4	+2.3	
SLB				*e*S	Sn	16 53 01.1	+2.8	
SVV	**Soufriere Volc**	**3.36**	**188**	*e*P	Pn	16 52 35.0	+2.8	
SVCV	**St. Vincent, C**	**3.40**	**187**	*e*P	Pn	16 52 34.8	+2.1	
SVB	**Belmont**	**3.41**	**188**	*e*P	Pn	16 52 35.4	+2.5	

IDC ***11*** *17:01:04.1±0.8,51°.80N×96°.24E, h0km, mb3.8/10, mb1 3.8/14,mb1mx3.6/69,mbtmp3.8/14, ML3.0/4, Error ellipse: s-maj=21.4km s-min=13.0km az=11.0*

ISCJB ***11*** *17:01:08.9±0.7,51°.71N±0°.09×95°.34E±0°.10, h10km, mb3.8/10, Error ellipse: s-maj=13.7km s-min=8.2km az=168.7*

MOS ***11*** *17:01:10.2±1.1,51°.85N×95°.22E, h11km, mb4.2/6, Error ellipse: s-maj=14.7km s-min=9.8km az=1.8*

ISC 11 17:01:10.2±0.8, 51°.73N±0°.09×95°.24E±0°.08, h10km, n35, σ2s99/28, mb3.8/10, 2C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HVS	**Khovu-Aksy**	**1.13**	**239**	*d i* PG	**Pb**	**17 01 32.1**	**+0.2**
ORL	**Orlik**	**2.93**	**72**	*e* PN	Pn	17 01 49.3	-7.7
ORL				pmax	pmax		
	comp=Z,109nm,0.5s						
MOY	**Mondy**	**3.58**	**89**	*e* PN	Pn	17 02 00.8	-5.1
MOY				pmax	pmax		
	comp=Z,67nm,0.3s						
ARS	**Arshan**	**4.46**	**85**	*e* PN	**Pn**	**17 02 19.8**	**+1.8**
TLY	**Talaya**	**5.23**	**87**	*e* PN	**Pn**	**17 02 32.0**	**+3.6**
TLY				*e*		17 03 32.0	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TLY				smax	smax		
	comp=N,36nm,0.5s						
ZAK	**Zakamensk**	**5.25**	**102**	*e* PN	**Pn**	**17 02 30.6**	**+1.8**
ZAK				*e*		17 03 34.2	
ZAK				pmax	pmax		
	comp=Z,33nm,0.8s						
ZAK				smax	smax		
	comp=N,238nm,1.4s						
DGZ	**Jazzator, Alta**	**5.36**	**251**	*d i* PN	**Pn**	**17 02 33.7**	**+3.3**
IRK	**Irkutsk**	**5.61**	**81**	*e* PN	Pn	17 02 38.6	+5.0
IRK				*e*		17 03 44.4	
IRK				pmax	pmax		
	comp=Z,27nm,0.5s						
IRK				smax	smax		
	comp=N,423nm,1.6s						
ZALV	**Zalesovo Beam**	**6.69**	**293**	Pn	**Pn**	**17 02 51.7**	**+3.2**
	comp=N,0.5nm,0.3s,baz=106,slow=11,SNR=14						
ZALV				Pg	Pg	17 03 12.2	-6.1
	comp=N,1.2nm,0.3s,baz=102,slow=13,SNR=8.8						
ZALV				Lg	Lg	17 04 44.0	
	comp=N,3.6nm,0.3s,baz=110,slow=26,SNR=14						
TRG	**Tyrgan**	**6.90**	**77**	*e* PN	Pn	17 02 40.9	-11
TRG				pmax	pmax		
	comp=Z,15nm,0.8s						
NVS	**Novosibirsk**	**7.84**	**298**	*e* P	**Pn**	**17 03 07.0**	**+2.8**
SONM	**Songino Array**	**8.20**	**114**	Pg	Pb	17 03 24.3	-8.1
	comp=Z,0.5nm,0.3s,baz=295,slow=17,SNR=13						
SONM				Lg	Lg	17 05 10.1	
	comp=Z,1.5nm,0.3s,baz=297,slow=26,SNR=9.9						
ULN	**Ulaanbaatar**	**8.56**	**112**	*i* eP	Pn	17 03 01.7	-13
SYVR	**Suvo**	**9.17**	**72**	*e* P	**Pn**	**17 03 25.3**	**+2.8**
WMQ	**Urumqi**	**9.40**	**216**	Pn	**Pn**	**17 03 25.5**	**-0.2**
WMQ				Sn	**Sn**	**17 05 07.6**	**-3.8**
WMQ				Sg		17 06 06.4	
MK31	**Makanchi Array**	**9.80**	**245**	*i* P	**Pn**	**17 03 35.6**	**+4.5**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**9.80**	**245**	Pn	**Pn**	**17 03 35.0**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=59,slow=13,SNR=12						
MKAR				Pg		17 04 13.0	
	comp=Z,0.4nm,0.3s,baz=69,slow=17,SNR=7.5						
MKAR				Lg	Lg	17 06 29.0	
	comp=Z,0.6nm,0.3s,baz=51,slow=33,SNR=6.3						
MKAR	**Makanchi Array**	**9.80**	**245**	*i* P	**Pn**	**17 03 35.5**	**+4.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MAKZ	**Makanchi**	**9.96**	**246**	*i* P	**Pn**	**17 03 37.2**	**+3.8**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURK	**Kurchatov**	**10.48**	**271**	*e* P	**Pn**	**17 03 43.5**	**+3.2**
KURBB	**Kurchatov Arra**	**10.55**	**271**	Pn	**Pn**	**17 03 44.1**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=74,slow=15,SNR=5.3						
KURBB				Lg	Lg	17 06 46.2	
	comp=Z,0.0nm,0.3s,baz=76,slow=35,SNR=5.6						
BVAR	**Borovoye Array**	**15.21**	**285**	Pn	**Pn**	**17 04 46.3**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=65,slow=12,SNR=14						
ARU	**Arti**	**21.84**	**297**	P	**P**	**17 06 03.5**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=87,slow=7.2,SNR=6.9						
ARU	**Arti**	**21.84**	**297**	*c i* P	**P**	**17 06 04.4**	**+1.9**
ARU						17 06 22.6	
ARU				SS	Sn	17 10 41.2	+28
ARU				pmax	pmax		
	comp=Z,18nm,2.5s						
AKTO	**Aktyubinsk**	**23.26**	**282**	P	**P**	**17 06 17.1**	**-0.5**
	comp=Z,4.6nm,0.6s,baz=81,slow=10,SNR=18						
TIXI	**Tiksi**	**24.94**	**25**	P	**P**	**17 06 26.1**	**-7.0**
	comp=Z,5.2nm,0.6s,baz=251,slow=4.6,SNR=23						
FINES	**FINESS Array B**	**37.53**	**313**	P	**P**	**17 08 22.5**	**-1.4**
	comp=Z,5.0nm,1.1s,baz=64,slow=8.7,SNR=5.4						
FINES	**FINESS Array B**	**37.53**	**313**	P	**P**	**17 08 22.5**	**-1.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AKASG	**Malin Array Be**	**40.08**	**296**	P	**P**	**17 08 44.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=55,slow=9.1,SNR=3.1						
BRTR	**Keskin Array B**	**43.40**	**279**	P	**P**	**17 09 13.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=72,slow=7.0,SNR=5.8						
BRTR	**Keskin Array B**	**43.40**	**279**	*e* P	**P**	**17 09 13.6**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MLR	**Muntele Rosu**	**44.66**	**291**	P	**P**	**17 09 23.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=131,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**79.13**	**143**	P	P	17 13 08.7	-6.2
	comp=Z,0.5nm,0.9s,baz=342,slow=6.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**81.98**	**281**	P	**P**	**17 13 28.3**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=45,slow=4.6,SNR=2.9						
ASAR	**Alice Springs**	**82.38**	**145**	P	P	17 13 25.9	-6.3
	comp=Z,0.2nm,0.6s,baz=334,slow=5.0,SNR=5.1						

ISN ***11*** *17:17:17.3±0.3,32°.62N×46°.87E, h0km, ML2.8*

TEH 11 17:17:20.1,32°.60N×46°.89E, h10km, ML2.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.22**	**41**	*e* Pg	Pn	17 17 41.3	-2.0
IKFM				*e* Sg	Sb	17 17 59.2	0.0
IKFM				*e* AMB	AMB	17 18 07.5	
	comp=Z,99nm,0.3s						
IKOM	**Komasi**	**1.66**	**18**	*e* Pn	Pn	17 17 48.9	-0.5
IKOM				*e* AMB	AMB	17 18 15.2	
	comp=Z,1μm,0.1s						
IGHG	**Ghaleghazi**	**1.75**	**351**	*e* Pn	Pn	17 17 51.0	+0.3
IGHG				*e* AMB	AMB	17 18 24.2	
	comp=Z,2μm,0.4s						
IVIS	**Veis**	**1.92**	**359**	*e* Pn	Pn	17 17 53.0	0.0
IVIS				*e* Sg	Sb	17 18 19.8	+0.3
IVIS				*e* AMB	AMB	17 18 28.8	
	comp=Z,500nm,0.2s						
IDHR	**Dehrash**	**2.14**	**349**	*e* Pn	Pn	17 17 56.1	0.0
IDHR				*e* AMB	AMB	17 18 29.4	
	comp=Z,942nm,0.2s						
ILIN	**Lien**	**2.31**	**1**	*e* Pn	Pn	17 17 58.8	+0.3
ILIN				*e* AMB	AMB	17 18 39.0	
	comp=Z,347nm,0.2s						

IDC ***11*** *17:28:03.9±7.8, 4°.80S×152°.74E, h102km±54km, mb3.3/5, mb1 3.4/6, mb1mx3.1/45, mbtmp3.6/6, MS2.6/1, Ms1 2.6/1, ms1mx2.3/26, Error ellipse: s-maj=86.2km s-min=33.3km az=108.0*

ISC 11 17:27:54.6±2.5, 4°.7S±0°.4×153°.3E±0°.5, h35km, n7, σ1s51/8, mb3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.64**	**232**	P	**Pn**	**17 29 46.0**	**+2.5**
	0.5nm,0.3s,baz=124,slow=3.6,SNR=2.9						
PMG				S	**Sn**	**17 31 07.6**	**-1.2**
	0.7nm,0.3s,baz=24,slow=20,SNR=3.1						
PMG				LR	LR	17 32 02.6	
	comp=Z,43nm,19.4s,baz=34,slow=33						
WRA	**Warramunga Arr**	**23.85**	**229**	P	**P**	**17 33 04.2**	**-0.6**
	1.4nm,0.9s,baz=53,slow=9.8,SNR=7.7						
ASAR	**Alice Springs**	**26.52**	**223**	P	**P**	**17 33 28.3**	**-0.9**
	0.4nm,0.5s,baz=56,slow=8.7,SNR=12						
FITZ	**Fitzroy Crossi**	**30.10**	**242**	P	**P**	**17 33 59.6**	**-1.5**
	0.8nm,0.4s,baz=74,slow=7.4,SNR=4.0						
MKAR	**Makanchi Array**	**80.56**	**319**	P	**P**	**17 40 03.7**	**+0.2**
	0.3nm,0.8s,baz=108,slow=6.6,SNR=3.1						
BVAR	**Borovoye Array**	**89.44**	**323**	P	**P**	**17 40 48.0**	**+0.1**
	0.3nm,0.5s,baz=96,slow=5.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**150.71**	**289**	PKPbc	**PKPbc**	**17 47 43.9**	**-0.3**
	0.2nm,0.4s,baz=72,slow=3.9,SNR=3.9						

ISCJB ***11*** *17:36:34.3±0.7, 7°.2S±0°.1×156°.01E±0°.08, h62km, mb3.7/6, Error ellipse: s-maj=20.5km s-min=8.7km az=21.4*

IDC ***11*** *17:36:36.2±3.0, 7°.17S×156°.03E, h65km±31km, mb3.5/6, mb1 3.6/8, mb1mx3.4/48, mbtmp3.8/8, ML1.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=29.1km s-min=18.1km az=1.0*

ISC 11 17:36:35.7±0.8, 7°.2S±0°.2×156°.0E±0°.1, h62km, n15, σ1s24/11, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.47**	**120**	P	**Pn**	**17 37 39.6**	**-1.5**
	7.2nm,0.3s,baz=210,slow=20,SNR=4.5						
HNR				S	**Sn**	**17 38 33.8**	**+2.0**
	4.0nm,0.3s,baz=241,slow=19,SNR=2.7						
PMG	**Port Moresby**	**9.05**	**255**	P	**Pn**	**17 38 43.5**	**-0.3**
	0.5nm,0.3s,baz=112,slow=16,SNR=2.4						
PMG				LR	LR	17 41 39.8	
	comp=Z,49nm,20.3s,baz=96,slow=34						
WRA	**Warramunga Arr**	**24.57**	**237**	P	**P**	**17 41 51.0**	**+0.9**
	2.2nm,0.6s,baz=60,slow=9.8,SNR=34						
ASAR	**Alice Springs**	**26.83**	**230**	P	**P**	**17 42 10.2**	**-0.4**
	0.2nm,0.6s,baz=59,slow=9.9,SNR=13						
ASAR				PcP	**PcP**	**17 45 31.9**	**-0.2**
	0.2nm,0.5s,baz=70,slow=2.6,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**27.59**	**22**	T	T	18 10 34.4	
	baz=202,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**27.60**	**22**	T	T	18 10 33.5	
	baz=202,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**27.61**	**22**	T	T	18 10 34.7	
	baz=202,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.79**	**22**	T	T	18 12 13.4	
	baz=211						
H11N3	**WAKE ISLAND Hy**	**28.80**	**22**	T	T	18 12 14.2	
	baz=211						
H11N2	**WAKE ISLAND Hy**	**28.80**	**22**	T	T	18 12 15.3	
	baz=211						
CMAR	**Chiang Mai Arr**	**61.80**	**295**	P	**P**	**17 46 50.0**	**+1.3**
	0.4nm,0.7s,baz=107,slow=4.8,SNR=5.3						
SONM	**Songino Array**	**70.05**	**327**	P	**P**	**17 47 41.5**	**+0.2**
	0.6nm,0.8s,baz=134,slow=5.9,SNR=3.9						
MKAR	**Makanchi Array**	**84.23**	**318**	P	**P**	**17 49 01.2**	**+0.6**
	1.0nm,0.5s,baz=100,slow=7.9,SNR=17						
ZALV	**Zalesovo Beam**	**84.91**	**326**	P	**P**	**17 49 03.1**	**-0.8**
	0.5nm,0.4s,baz=110,slow=7.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**154.07**	**285**	PKPbc	**PKPbc**	**17 56 28.1**	**-1.5**
	0.2nm,0.5s,baz=56,slow=3.6,SNR=2.7						

IDC 11 17:44:30.2±60.0, 16°.16S×173°.37W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/46, mbtmp3.9/3, Error ellipse: s-maj=1155.0km s-min=197.9km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.69**	**241**	P	P	17 52 37.0	-0.2
	1.7nm,0.9s,baz=90,slow=7.1,SNR=2.9						
WRA	**Warramunga Arr**	**49.70**	**257**	P	P	17 53 24.1	-0.4
	0.2nm,0.5s,baz=93,slow=7.0,SNR=9.7						
ASAR	**Alice Springs**	**49.91**	**253**	P	P	17 53 26.2	+0.2
	3.2nm,0.5s,baz=90,slow=7.8,SNR=129						

MOS ***11*** *17:58:26.3±0.9,51°.72N×173°.35W, h26km, mb4.8/46, Error ellipse: s-maj=9.5km s-min=5.5km az=91.1*

ISCJB ***11*** *17:58:28.5±0.6,51°.69N±0°.05×173°.24W±0°.04, h46km±4km, mb4.4/86, MS3.7/2, Error ellipse: s-maj=9.3km s-min=3.5km az=168.2*

NEIC ***11*** *17:58:29.8±0.5,51°.69N×173°.27W, h46km±3km, mb4.4/48, ML3.9(AEIC), Error ellipse: s-maj=8.1km s-min=2.8km az=167.0*

IDC ***11*** *17:58:29.4±0.8,51°.69N×173°.26W, h40km±4km, mb4.0/39, mb1 4.2/41, mb1mx4.1/79, mbtmp4.3/41, ML3.6/2, MS3.6/4, Ms1 3.7/4, ms1mx3.0/71, Error ellipse: s-maj=16.8km s-min=9.3km az=171.0*

ISC 11 17:58:29.6±0.6, 51°.70N±0°.08×173°.30W±0°.04, h39km±4km, h40km:pP-P, n278, σ0s98/295, mb4.5/88, 29C-12D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.76**	**320**	P	**Pn**	**17 58 44.3**	**+0.4**
KOKL	**Mount Kliuchef**	**0.84**	**319**	P	**Pn**	**17 58 45.4**	**+0.5**
KOKL				S	**Sn**	**17 58 57.4**	**+1.2**
KOWE	**Korovin West**	**0.89**	**319**	P	**Pn**	**17 58 46.4**	**+0.8**
GSMY	**Great Sitkin M**	**1.74**	**283**	P	**Pn**	**17 58 59.5**	**+2.2**
GSTD	**Great Sitkin T**	**1.80**	**283**	P	**Pn**	**17 58 57.9**	**-0.2**
ADAG	**Mount Adagdak**	**2.07**	**279**	P	**Pn**	**17 59 02.2**	**+0.5**
KIRH	**Kanaga Island**	**2.36**	**276**	P	**Pn**	**17 59 05.9**	**+0.1**
KIKV	**Kanaga Island**	**2.41**	**276**	P	**Pn**	**17 59 07.5**	**+1.1**
TAPA	**Tanaga Point A**	**2.81**	**274**	P	**Pn**	**17 59 11.7**	**-0.2**
TAFP	**Tanaga Falls P**	**2.91**	**276**	P	**Pn**	**17 59 13.6**	**+0.3**
TASE	**Tanaga Southea**	**2.94**	**275**	P	**Pn**	**17 59 13.1**	**-0.7**
OKWE	**Okmok W'ng Wal**	**3.56**	**58**	P	**Pn**	**17 59 24.2**	**+1.9**
MREP	**Makushin Rep't**	**4.51**	**59**	P	**Pn**	**17 59 36.4**	**+1.0**
MSW	**Makushin Switc**	**4.54**	**58**	P	**Pn**	**17 59 36.9**	**+1.3**
UNV	**Unalaska Valle**	**4.66**	**60**	*e* Pn	**Pn**	**17 59 38.0**	**+0.7**
KDAK	**Kodiak Island**	**13.40**	**55**	Pn	**Pn**	**18 01 35.6**	**-1.3**
	0.7nm,0.3s,baz=217,slow=8.0,SNR=5.9						
KDAK	**Kodiak Island**	**13.40**	**55**	*i* P	**Pn**	**18 01 39.3**	**+2.4**
BRLK	**Bradley Lake**	**14.93**	**49**	*e* Pn	**Pn**	**18 01 56.4**	**-1.2**
SUA	**Susitna One**	**15.73**	**43**	*e* Pn	**Pn**	**18 02 06.4**	**-1.6**
	43nm,1.8s						
RC01	**Rabbit Creek A**	**15.99**	**45**	*e* Pn	**Pn**	**18 02 11.2**	**-0.2**
	51nm,1.6s						
CAST	**Castle Rocks**	**16.25**	**36**	*e* Pn	**P**	**18 02 18.5**	**+1.3**
	28nm,1.6s						
KTH	**Kantishna Hill**	**16.75**	**36**	*e* Pn	**Pn**	**18 02 21.6**	**+0.5**
	15nm,0.9s						
SML	**Sawmill**	**16.91**	**44**	*e* P	**Pn**	**18 02 22.1**	**-0.9**
SML				pmax	pmax		
	comp=Z,64nm,1.7s						
SML	**Sawmill**	**16.91**	**44**	*e* Pn	**Pn**	**18 02 22.1**	**-0.9**
	comp=Z,64nm,1.7s						
TRF	**Thorofare Moun**	**16.93**	**37**	*e* Pn	**Pn**	**18 02 23.6**	**+0.3**
	comp=Z,53nm,1.7s						
BPAW	**Bear Paw Mtn.**	**17.05**	**35**	*e* Pn	**P**	**18 02 25.5**	**-0.6**
	comp=Z,3.0nm,0.9s						
SCM	**Sheep Creek Mo**	**17.36**	**44**	*e* P	**Pn**	**18 02 28.3**	**-0.2**
SCM				pmax	pmax		
	comp=Z,15nm,0.7s						
SCM	**Sheep Creek Mo**	**17.36**	**44**	*e* Pn	**Pn**	**18 02 28.3**	**-0.2**
	comp=Z,15nm,0.7s						
RND	**Reindeer**	**17.46**	**38**	*e* P	**P**	**18 02 31.1**	**+0.5**
RND				pmax	pmax		
	comp=Z,41nm,1.8s						
RND	**Reindeer**	**17.46**	**38**	*e* Pn	**P**	**18 02 31.1**	**+0.5**
	comp=Z,41nm,1.8s						
MCK	**McKinley**	**17.60**	**37**	*e* P	**P**	**18 02 31.8**	**-0.3**
MCK				pmax	pmax		
	comp=Z,46nm,1.7s						
MCK	**McKinley**	**17.60**	**37**	*e* Pn	**P**	**18 02 31.8**	**-0.3**
	comp=Z,46nm,1.7s						
MLY	**Manley**	**17.70**	**32**	*e* Pn	**P**	**18 02 35.0**	**+1.7**
	comp=Z,11nm,0.8s						
PETK	**Petropavlovsk-**	**17.70**	**286**	P	**P**	**18 02 33.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=85,slow=13,SNR=11						
PETK				LR	LR	18 08 38.8	
	comp=Z,123nm,20.9s,baz=90,slow=34						
PETK	**Petropavlovsk-**	**17.70**	**286**	*e* P	**Pn**	**18 02 33.0**	**+0.2**
PETK	**Petropavlovsk-**	**17.70**	**286**	*e* Pn	**Pn**	**18 02 33.0**	**+0.2**
KLU	**Klutina**	**17.85**	**46**	*e* Pn	**Pn**	**18 02 33.1**	**-1.5**
	comp=Z,89nm,2.0s						
DHY	**Denali Highway**	**17.88**	**40**	*e* Pn	**P**	**18 02 35.5**	**+0.1**
	comp=Z,7.8nm,1.0s						
BMRM	**Bremner River**	**18.27**	**48**	*e* P	**P**	**18 02 39.1**	**-0.6**
	comp=Z,50nm,1.5s						
HARP	**HAARP**	**18.52**	**44**	*e* P	**P**	**18 02 41.5**	**-0.8**
	comp=Z,116nm,1.8s						
MDM	**Murphy Dome**	**18.52**	**35**	*e* P	**P**	**18 02 41.3**	**-1.0**
	comp=Z,27nm,1.6s						
COLA	**College**	**18.61**	**35**	*e* P	**P**	**18 02 43.2**	**0.0**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	**College**	**18.61**	**35**	*e* P	**P**	**18 02 43.2**	**0.0**
	comp=Z,5.0nm,0.8s						
HDA	**Harding Lake**	**18.70**	**37**	*e* P	**P**	**18 02 43.0**	**-1.2**
HDA				*e* Pn	**Pn**	**18 02 43.9**	**-0.9**
ILAR	**Eielson Array**	**18.90**	**36**	P	**P**	**18 02 45.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=220,slow=8.8,SNR=36						
ILAR				ScP	**ScP**	**18 10 47.5**	**+4.2**
	baz=270,slow=2.7,SNR=1.8						
ILAR				LR	LR	18 10 49.7	
	comp=Z,178nm,18.2s,baz=254,slow=39						
ILB	**Eielson Array**	**18.90**	**36**	*e* P	**P**	**18 02 45.2**	**-1.2**
BILL	**Bilibino**	**19.16**	**336**	*i* P	**Pn**	**18 02 50.3**	**-0.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,129nm,16.0s						
RIDG	**Independ'e Rid**	**19.20**	**40**	*e* P	**P**	**18 02 49.8**	**0.0**
	comp=Z,20nm,1.2s						
COLD	**Coldfoot**	**19.30**	**28**	*e* P	**Pn**	**18 02 52.4**	**+0.4**
	comp=Z,6.6nm,0.9s						
DOT	**Dot Lake**	**19.47**	**41**	*e* P	**P**	**18 02 50.4**	**-2.4**
	comp=Z,16nm,0.6s						
FYU	**Fort Yukon**	**20.44**	**33**	*e* P	**P**	**18 02 50.4**	**-0.7**
	comp=Z,50nm,1.3s						
TOLK	**Toolik Lake Re**	**20.44**	**25**	*e* P	**P**	**18 03 02.1**	**-1.2**
	comp=Z,17nm,0.8s						
EGAK	**Eagle**	**21.09**	**39**	*e* P	**P**	**18 03 09.8**	**-0.4**
	comp=Z,35nm,0.8s						
SEY	**Seymchan**	**21.38**	**315**	P	**P**	**18 03 13.6**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=130,slow=12,SNR=10						
SEY	**Seymchan**	**21.38**	**315**	*ce* P	**P**	**18 03 13.8**	**+0.5**
MA2	**Magadan**	**21.53**	**306**	P	**P**	**18 03 15.2**	**+0.3**
	comp=Z,4.9nm,0.9s,baz=93,slow=9.5,SNR

YHH	**Holmes Hill**	**41.02**	**74**	*eP*		**P**	**18 06 08.7**	**-0.2**
	comp=Z,4,8nm,0.9s							
FFC	**Flin Flon**	**41.14**	**57**	*i* P		**P**	**18 06 10.6**	**+1.2**
PDAR	**Pinedale Array**	**42.92**	**76**	P		**P**	**18 06 24.4**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=299,slow=4.5,SNR=24							
PDAR	**Pinedale Array**	**42.92**	**76**	*eP*		**P**	**18 06 23.8**	**-0.7**
KSRS	**Korea Array**	**43.05**	**275**	P		**P**	**18 06 25.6**	**+0.4**
	comp=Z,5.6nm,0.9s,baz=52,slow=8.3,SNR=7.5							
KSAR	**Wonju Array Be**	**43.08**	**275**	P		**P**	**18 06 25.7**	**+0.2**
KSAR	**Wonju Array Be**	**43.08**	**275**	P		**P**	**18 06 25.6**	**+0.2**
FCC	**Fort Churchill**	**43.22**	**48**	*eP*		**P**	**18 06 26.2**	**-0.1**
FCC					pmax	pmax		
	comp=Z,6.0nm,0.7s							
FCC	**Fort Churchill**	**43.22**	**48**	*eP*		**P**	**18 06 26.1**	**-0.1**
	comp=Z,5.7nm,0.7s							
RVR	**Riverside**	**43.51**	**91**	*eP*		**P**	**18 06 29.3**	**+0.3**
RVR	**Riverside**	**43.51**	**91**	*eP*		**P**	**18 06 29.2**	**+0.3**
JNU	**Nakatsue**	**44.02**	**267**	P		**P**	**18 06 33.4**	**+0.2**
	comp=Z,14nm,1.0s,baz=38,slow=1.5,SNR=4.9							
SRU	**San Rafael Swe**	**44.50**	**81**	*eP*		**P**	**18 06 35.6**	**-1.5**
SRU					pmax	pmax		
	comp=Z,7.0nm,0.8s							
SRU	**San Rafael Swe**	**44.50**	**81**	*eP*		**P**	**18 06 35.6**	**-1.5**
	comp=Z,6.8nm,0.8s							
U15A	**North Rim**	**45.09**	**85**	*eP*		**P**	**18 06 42.2**	**+0.3**
	comp=Z,9.1nm,1.3s							
PV01	**Paradox Valley**	**46.31**	**81**	*eP*		**P**	**18 06 51.1**	**-0.4**
ULM	**Lac du Bonnet**	**46.60**	**60**	P		**P**	**18 06 52.6**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=293,slow=6.0,SNR=4.6							
TLY	**Talaya**	**48.75**	**305**	*eP*		**P**	**18 07 10.4**	**+0.4**
TLY					pmax	pmax		
	comp=Z,6.0nm,0.9s							
TLY	**Talaya**	**48.75**	**305**	*eP*		**P**	**18 07 06.0**	**-4.0**
	comp=Z,4.2nm,0.8s							
ULN	**Ulaanbaatar**	**49.16**	**299**	*ce*P		**P**	**18 07 12.4**	**-0.9**
ULN					pmax	pmax		
	comp=Z,2.0nm,1.0s							
ULN	**Ulaanbaatar**	**49.16**	**299**	*eP*		**P**	**18 07 12.2**	**-1.1**
	comp=Z,16nm,2.0s							
SONA1	**Songino Array**	**49.52**	**299**	*eP*		**P**	**18 07 15.6**	**-0.6**
SONM	**Songino Array**	**49.53**	**299**	P		**P**	**18 07 16.0**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=49,slow=8.0,SNR=26							
ANMO	**Albuquerque**	**49.66**	**82**	*eP*		**P**	**18 07 18.8**	**+1.4**
ANMO					pmax	pmax		
	comp=Z,1.0nm,1.3s							
SPITS	**Spitsbergen Ar**	**50.26**	**357**	P		**P**	**18 07 20.6**	**-0.5**
	comp=Z,11nm,0.9s,baz=27,slow=5.6,SNR=5.7							
SPITS	**Spitsbergen Ar**	**50.26**	**357**	P		**P**	**18 07 20.6**	**-0.5**
SPITS					pmax	pmax		
	comp=Z,7.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**50.87**	**289**	*eP*		**P**	**18 07 25.5**	**-0.8**
FRB	**Frobisher Bay**	**50.91**	**34**	P		**P**	**18 07 25.9**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=237,slow=17,SNR=2.8							
FRB	**Frobisher Bay**	**50.91**	**34**	P		**P**	**18 07 26.0**	**-0.2**
FRB					pmax	pmax		
	comp=Z,1.0nm,0.3s							
NJ2	**Nanjing**	**52.22**	**276**	*eP*		**P**	**18 07 37.7**	**+1.3**
TX31	**Lajitas Ar. Si**	**55.21**	**85**	*eP*		**P**	**18 07 57.8**	**-0.7**
TXAR	**Lajitas Array**	**55.21**	**85**	P		**P**	**18 07 57.5**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=302,slow=4.8,SNR=16							
ZALV	**Zalesovo Beam**	**56.25**	**316**	P		**P**	**18 08 04.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=10,slow=8.8,SNR=2.7							
XAN	**Xi'an**	**56.94**	**284**	P		**P**	**18 08 10.1**	**-0.6**
XAN				pP		pP	18 08 19.2	-3.0
XAN				sP		sP	18 08 21.1	-5.7
SCHQ	**Schefferville**	**57.57**	**41**	P		**P**	**18 08 13.1**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=307,slow=5.2,SNR=3.6							
ARCES	**ARCESS Array B**	**58.30**	**352**	P		**P**	**18 08 19.0**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=12,slow=7.8,SNR=12							
LZH	**Lanzhou**	**58.55**	**290**	*eP*		**P**	**18 08 22.3**	**+0.2**
LZH				pP		pP	18 08 32.5	-1.2
LZH				sP		sP	18 08 36.8	-1.5
LZH				*e*PP		**PP**	**18 10 33.9**	**+2.3**
LZH				*e*S		**S**	**18 16 23.0**	**-0.2**
LZH				sS		sS	18 16 40.3	-2.0
LZH	**Lanzhou**	**58.55**	**290**	SS		SS	18 20 17.0	+1.4
TRQ	**Mont Tremblant**	**60.16**	**52**	*eP*		**P**	**18 08 32.8**	**-0.2**
KURK	**Kurchatov**	**61.22**	**316**	*eP*		**P**	**18 08 39.7**	**-0.4**
KURK					pmax	pmax		
	comp=Z,3.0nm,0.9s							
KURK	**Kurchatov**	**61.22**	**316**	*eP*		**P**	**18 08 39.6**	**-0.4**
	comp=Z,3.3nm,0.8s							
KURBB	**Kurchatov Arra**	**61.33**	**316**	P		**P**	**18 08 40.6**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=46,slow=6.6,SNR=16							
WMQ	**Urumqi**	**61.99**	**306**	P		**P**	**18 08 47.9**	**+2.5**
CD2	**Chengdu**	**62.24**	**285**	*eP*		**P**	**18 08 46.6**	**-0.6**
BINY	**Binghamton**	**62.30**	**56**	*eP*		**P**	**18 08 46.4**	**-1.0**
	comp=Z,8.9nm,0.6s							
MK31	**Makanchi Array**	**62.46**	**311**	*eP*		**P**	**18 08 47.9**	**-0.6**
MK31	**Makanchi Array**	**62.46**	**311**	*eP*		**P**	**18 08 47.9**	**-0.6**
MKAR	**Makanchi Array**	**62.46**	**311**	P		**P**	**18 08 47.5**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=50,slow=7.3,SNR=17							
MKAR	**Makanchi Array**	**62.46**	**311**	*eP*		**P**	**18 08 47.9**	**-0.6**
MKAR					pmax	pmax		
	comp=Z,10.0nm,0.7s							
MKAR	**Makanchi Array**	**62.46**	**311**	*eP*		**P**	**18 08 47.9**	**-0.6**
	comp=Z,9.8nm,0.7s							
MK01	**Makanchi Array**	**62.48**	**311**	*eP*		**P**	**18 08 47.4**	**-1.2**
BVAR	**Borovoye Array**	**62.80**	**322**	P		**P**	**18 08 50.6**	**+0.1**
	comp=Z,9.0nm,0.7s,baz=53,slow=7.4,SNR=32							
BRVK	**Borovoye**	**62.81**	**323**	*ce*P		**P**	**18 08 50.8**	**+0.2**
BRVK					pmax	pmax		
	comp=Z,13nm,1.0s							
ARU	**Arti**	**64.07**	**331**	*d i*P		**P**	**18 08 58.3**	**-0.6**
ARU							18 09 28.7	
ARU							18 11 16.5	
ARU				S		**S**	**18 17 32.8**	**+0.6**
ARU					pmax	pmax		
	comp=Z,10.0nm,1.2s							
ARU	**Arti**	**64.07**	**331**	*eP*		**P**	**18 08 58.7**	**-0.2**
	comp=Z,6.8nm,0.9s							
FINES	**FINESS Array B**	**66.15**	**350**	P		**P**	**18 09 11.9**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=357,slow=6.7,SNR=3.9							
NOA	**NORSAR Array B**	**67.56**	**358**	P		**P**	**18 09 21.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=4.2,slow=6.5,SNR=2.4							
NOA				pP		**pP**	**18 09 33.5**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=2.5,slow=6.4,SNR=1.8							
HFS	**Hagfors**	**68.38**	**356**	P		**P**	**18 09 25.3**	**-1.1**
	comp=Z,4.0nm,0.9s,baz=306,slow=5.0,SNR=6.9							
HFS				pP		**pP**	**18 09 38.5**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=46,slow=6.4,SNR=1.9							
TKM2	**Tokmak 2**	**68.50**	**313**	P		**P**	**18 09 28.4**	**+0.6**
	SNR=7.9							
USP	**Ospenovka**	**68.73**	**313**	P		**P**	**18 09 29.4**	**+0.4**
	SNR=5.9							
ULHL	**Ulahol**	**68.73**	**312**	P		**P**	**18 09 29.8**	**+0.6**
	SNR=5.1							
CHMS	**Chumysh**	**68.83**	**313**	P		**P**	**18 09 30.1**	**+0.5**
	SNR=5.7							
VSU	**Vasula**	**68.99**	**349**	*ce*P		**P**	**18 09 29.9**	**-0.3**
VSU					pmax	pmax		
	comp=Z,142nm,2.5s							
KBK	**Karagaybulak**	**69.00**	**313**	P		**P**	**18 09 31.3**	**+0.4**
	SNR=9.5							
AAK	**Ala-Archa**	**69.23**	**313**	*d i*P		**P**	**18 09 32.8**	**+0.6**
AAK					pmax	pmax		
	comp=Z,11nm,0.9s							
AAK	**Ala-Archa**	**69.23**	**313**	P		**P**	**18 09 32.7**	**+0.4**
	SNR=16							
AAK	**Ala-Archa**	**69.23**	**313**	*eP*		**P**	**18 09 32.5**	**+0.2**
	comp=Z,11nm,0.8s							
KZA	**Kyzart**	**69.32**	**312**	P		**P**	**18 09 33.8**	**+0.7**
	SNR=6.9							
AKTO	**Aktyubinsk**	**69.33**	**328**	P		**P**	**18 09 32.4**	**-0.1**
	comp=Z,12nm,0.8s,baz=51,slow=8.5,SNR=49							
EKS2	**Erkin-Say**	**69.53**	**314**	P		**P**	**18 09 34.7**	**+0.6**
	SNR=16							
UCH	**Uchtor**	**69.54**	**313**	P		**P**	**18 09 35.5**	**+0.9**
	SNR=6.2							
ABKAR	**Akbulak array**	**69.68**	**326**	*eP*		**P**	**18 09 34.9**	**+0.2**
	comp=Z,51nm,0.8s							
AML	**Almayashu**	**69.99**	**313**	P		**P**	**18 09 38.1**	**+0.9**
	SNR=14							
LSA	**Lhasa**	**70.52**	**293**	P		**P**	**18 09 41.7**	**+1.0**
KKAR	**Karatay Array**	**70.62**	**316**	*eP*		**P**	**18 09 40.6**	**0.0**
KKAR	**Karatay Array**	**70.62**	**316**	*eP*		**P**	**18 09 40.6**	**0.0**
OBN	**Obninsk**	**70.70**	**342**	*eP*		**P**	**18 09 40.0**	**-0.8**
OBN					pmax	pmax		
	comp=Z,7.0nm,0.8s							
KSH	**Kashi**	**70.99**	**310**	P		**P**	**18 09 46.4**	**+3.3**
KSH				sP		sP	18 10 00.7	+1.3
KSH				PcP		**PcP**	**18 10 06.4**	**+3.1**
KSH				S		**S**	**18 18 58.4**	**+2.3**
KSH				sS		sS	18 19 15.8	+0.1
KSH				SKS		**SKSac**	**18 19 40.1**	**-2.3**
KSH	**Kashi**	**70.99**	**310**	SS		SS	18 23 35.1	+6.5
VRH	**Novokhopyorsk**	**73.28**	**338**	*eP*		**P**	**18 09 55.7**	**-0.6**
VRH					pmax	pmax		
	comp=Z,20nm,1.0s							
VSR	**Storozhevoye**	**73.84**	**339**	*eP*		**P**	**18 09 59.4**	**-0.2**
VSR					pmax	pmax		
	comp=Z,10.0nm,0.8s							
CM31	**Chiang Mai Arr**	**74.37**	**280**	*eP*		**P**	**18 10 05.3**	**+2.1**
CMAR	**Chiang Mai Arr**	**74.37**	**280**	P		**P**	**18 10 03.0**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=26,slow=6.7,SNR=19							
CM01	**Chiang Mai Arr**	**74.39**	**280**	*eP*		**P**	**18 10 02.8**	**-0.5**
GUN	**Gumba**	**74.87**	**296**	*eP*		**P**	**18 10 06.7**	**+0.3**
	comp=Z,59nm,0.9s							
JIRN	**Jiri**	**74.89**	**295**	*eP*		**P**	**18 10 06.9**	**+0.3**
	comp=Z,88nm,0.8s							
KKN	**Kakani**	**75.30**	**296**	*eP*		**P**	**18 10 08.9**	**+0.2**
	comp=Z,20nm,0.8s							
PKI	**Pulchoki**	**75.39**	**296**	*eP*		**P**	**18 10 09.3**	**-0.1**
	comp=Z,27nm,0.9s							
PKIN	**Phulchoki**	**75.39**	**296**	*eP*		**P**	**18 10 09.1**	**-0.3**
	comp=Z,23nm,1.0s							
DMN	**Daman**	**75.53**	**296**	*eP*		**P**	**18 10 10.3**	**+0.1**
	comp=Z,27nm,0.9s							
DANN	**Dangsing**	**75.70**	**298**	*eP*		**P**	**18 10 11.8**	**+0.6**
	comp=Z,4.9nm,0.9s							
AKASG	**Malin Array Be**	**76.20**	**345**	P		**P**	**18 10 12.3**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=17,slow=6.2,SNR=15							
AKASG				pP		**PcP**	**18 10 24.9**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=17,slow=6.2,SNR=4.3							
AKBB	**Malin Array Si**	**76.20**	**345**	*eP*		**P**	**18 10 12.5**	**-0.8**
AKBB					pmax	pmax		
	comp=Z,4.0nm,0.7s							
AKBB	**Malin Array Si**	**76.20**	**345**	*eP*		**P**	**18 10 12.4**	**-0.8**
	comp=Z,4.1nm,0.7s							
KIEV	**Kiev**	**76.21**	**345**	*eP*		**P**	**18 10 12.2**	**-1.1**
KIEV					pmax	pmax		
	comp=Z,4.0nm,0.7s							
KIEV	**Kiev**	**76.21**	**345**	*eP*		**P**	**18 10 12.2**	**-1.1**
	comp=Z,3.9nm,0.7s							
KOLN	**Koldanda**	**76.24**	**297**	*eP*		**P**	**18 10 14.0**	**-0.1**
	comp=Z,29nm,0.9s							
PYUN	**Piuthan**	**76.32**	**298**	*eP*		**P**	**18 10 14.6**	**0.0**
	comp=Z,57nm,1.0s							
CLL	**Collm**	**77.23**	**356**	*eP*		**P**	**18 10 19.0**	**-0.1**
CLL	**Collm**	**77.23**	**356**	*eP*		**P**	**18 10 19.0**	**-0.1**
BRG	**Berggiesshubel**	**77.62**	**355**	*i* P		**P**	**18 10 21.4**	**+0.1**
BRG	comp=Z,5.6nm,0.7s							
BRG				*e*PCP		**pP**	**18 10 33.3**	**+0.1**
	comp=Z,6.6nm,1.1s							
BRG	**Berggiesshubel**	**77.62**	**355**	*i* P		**P**	**18 10 21.4**	**+0.1**
BRG				*e*			18 10 33.3	
BRG					pmax	pmax		
	comp=Z,6.0nm,0.7s							
BRG					pmax	pmax		
	comp=Z,7.0nm,1.1s							
UPC	**Upice**	**77.87**	**354**	*eP*		**P**	**18 10 22.8**	**+0.2**
UPC	**Upice**	**77.87**	**354**	*eP*		**P**	**18 10 22.8**	**+0.2**
DPC	**Dobruska-Polom**	**78.00**	**354**	*eP*		**P**	**18 10 23.7**	**+0.3**
DPC				*ex*		x	18 10 29.2	
DPC				*e*pP		**pP**	**18 10 34.9**	**-0.5**
DPC	**Dobruska-Polom**	**78.00**	**354**	*eP*		**P**	**18 10 23.7**	**+0.3**
DPC				*e*			18 10 29.2	
DPC							18 10 34.9	
NKC	**Novy Kostel**	**78.33**	**356**	*eP*		**P**	**18 10 24.8**	**-0.4**
NKC				*ex*		x	18 10 29.3	
NKC	**Novy Kostel**	**78.33**	**356**	*eP*		**P**	**18 10 24.8**	**-0.4**
NKC				*e*			18 10 29.3	
PRU	**Pruhonice**	**78.47**	**355**	*eP*		**P**	**18 10 25.9**	**-0.1**
PRU	**Pruhonice**	**78.47**	**355**	*eP*		**P**	**18 10 25.9**	**-0.1**
MORC	**Moravsky Berou**	**78.48**	**353** ⇑	*i*P		**P**	**18 10 26.2**	**+0.1**
MORC	**Moravsky Berou**	**78.48**	**353** ⇑	P		**P**	**18 10 26.2**	**+0.1**
STHS	**Stebnicka Huta**	**78.50**	**350**	*eP*		**P**	**18 10 27.1**	**+0.9**
STHS					pmax	pmax		
	comp=Z,3.0nm,0.9s							
STHS	**Stebnicka Huta**	**78.50**	**350**	*eP*		**P**	**18 10 27.1**	**+0.9**
GOF	**Gofitskoye**	**78.65**	**335** ⇓	*eP*		**P**	**18 10 26.3**	**-0.7**
SORM	**Soroca**	**78.84**	**345** ⇑	*i*P		**P**	**18 10 27.2**	**-0.8**
SORM	**Soroca**	**78.84**	**345** ⇑	P		**P**	**18 10 27.2**	**-0.8**
GRFO	**Grafenberg**	**78.92**	**357**	*eP*		**P**	**18 10 29.5**	**+1.0**
GRFO					pmax	pmax		
	comp=Z,9.0nm,0.8s							
GRFO	**Grafenberg**	**78.92**	**357**	*eP*		**P**	**18 10 29.5**	**+1.0**
	comp=Z,8.9nm,0.8s							
LANS	**Liptovska Anna**	**78.94**	**351**	*eP*		**P**	**18 10 29.4**	**+0.8**
LANS	**Liptovska Anna**	**78.94**	**351**	*eP*		**P**	**18 10 29.4**	**+0.8**
VRAC	**Vranov**	**79.02**	**353** ⇑	*i*P		**P**	**18 10 29.5**	**+0.5**
VRAC	**Vranov**	**79.02**	**353** ⇑	P		**P**	**18 10 29.5**	**+0.5**
KHC	**Kasperske Hory**	**79.38**	**355**	*eP*		**P**	**18 10 31.2**	**+0.2**
KHC				*ex*		x	18 10 35.4	
KHC				*e*pP		**pP**	**18 10 44.1**	**+1.1**
KHC				*ex*		x	18 13 02.5	
KHC	**Kasperske Hory**	**79.38**	**355**	*eP*		**P**	**18 10 31.2**	**+0.2**
KHC				*e*			18 10 35.4	
KHC				*e*			18 10 44.1	
KHC	**Kasperske Hory**	**79.38**	**355**	*eP*		**P**	**18 10 31.7**	**+0.7**
	comp=Z,2.1nm,0.8s							
KECS	**Kecovo**	**79.51**	**351**	*eP*		**P**	**18 10 31.6**	**-0.1**
KECS					pmax	pmax		
	comp=Z,3.0nm,0.8s							
KECS	**Kecovo**	**79.51**	**351**	*eP*		**P**	**18 10 31.5**	**-0.1**
VYHS	**Vyhne**	**79.65**	**352**	*eP*		**P**	**18 10 32.4**	**-0.1**
VYHS					pmax	pmax		
	comp=Z,22nm,2.6s							
VYHS	**Vyhne**	**79.65**	**352**	*eP*		**P**	**18 10 32.4**	**-0.1**
GERES	**GERESS Array B**	**79.66**	**355**	P		**P**	**18 10 32.6**	**0.0**
	comp=Z,2.6nm,0.7s,baz=19,slow=5.7,SNR=25							
GEA0	**GERESS Array S**	**79.67**	**355**	*eP*		**P**	**18 10 32.3**	**-0.3**
KIV	**Kislovodsk**	**79.77**	**334**	*eP*		**P**	**18 10 33.5**	**+0.2**
KIV					pmax	pmax		
	comp=Z,8.0nm,1.0s							
BUR08	**Bucovina Ar. S**	**79.78**	**347**	*eP*		**P**	**18 10 33.4**	**+0.1**
BUR04	**Bucovina Ar. S**	**79.80**	**347**	*eP*		**P**	**18 10 33.0**	**-0.4**
BURAR	**Bucovina Array**	**79.80**	**347** ⇑	*i*P		**P**	**18 10 33.5**	**+0.1**
BURAR	**Bucovina Array**	**79.80**	**347** ⇑	P		**P**	**18 10 33.5**	**+0.1**
KBZ	**Khabaz**	**79.92**	**334**	P		**P**	**18 10 34.4**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=63,slow=2.2,SNR=12							
KBZ				pP		**pP**	**18 10 47.0**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=329,slow=17,SNR=2.2							
NCK	**Nalchik**	**79.94**	**334**	*eP*		**P**	**18 10 34.3**	**+0.1**
NCK					pmax	pmax		
	comp=Z,14nm,0.9s							
GEYT	**Alibeck**	**80.09**	**321**	P		**P**	**18 10 35.2**	**+0.2**
	comp=Z,4.7nm,0.9s,baz=306,slow=5.1,SNR=12							
BFO	**Black Forest**	**80.34**	**359**	*i* P		**P**	**18 10 37.0**	**+0.8**
BFO	**Black Forest**	**80.34**	**359**	*eP*		**P**	**18 10 36.6**	**+0.4**
	comp=Z,3.7nm,0.8s							
ARCR	**ARCALIA**	**80.44**	**348** ⇑	*i*P		**P**	**18 10 36.1**	**-0.6**
CONA	**Conrad Observa**	**80.45**	**354**	*eP*		**P**	**18 10 37.3**	**+0.4**
	comp=Z,1.7nm,0.7s							
ZEI	**Tsey**	**80.51**	**333**	*eP*		**P**	**18 10 36.8**	**-0.7**
ZEI					pmax	pmax		
	comp=Z,5.0nm,0.7s							
DRGR		**80.93**	**349** ⇑	*i*P		**P**	**18 10 39.6**	**+0.1**
DRGR		**80.93**	**349** ⇑	P		**P**	**18 10 39.6**	**+0.1**
ARSA	**Arzberg**	**81.14**	**354**	*eP*		**P**	**18 10 40.6**	**+0.1**
	comp=Z,0.2nm,0.4s							
WATA	**Walderalm**	**81.26**	**357**	*eP*		**P**	**18 10 41.8**	**+0.5**
	comp=Z,2.1nm,0.6s							
MOTA	**Moosalm**	**81.27**	**357**	*eP*		**P**	**18 10 42.0**	**+0.6**
	comp=Z,2.7nm,0.8s							
VRI	**Vrincioaia**	**81.30**	**346** ⇑	*i*P		**P**	**18 10 41.6**	**+0.2**
VRI	**Vrincioaia**	**81.30**	**346** ⇑	P		**P**	**18 10 41.6**	**+0.2**
WTTA	**Wattenberg**	**81.33**	**357**	*eP*		**P**	**18 10 41.4**	**-0.3**
	comp=Z,3.4nm,0.6s							
DOPR	**Dopca**	**81.39**	**347** ⇑	*i*P		**P**	**18 10 43.1**	**+1.2**
KBA	**Koelnbreinsper**	**81.44**	**355**	*e*PcP		**P**	**18 10 43.1**	**+0.8**
	comp=Z,7.5nm,0.6s							
FETA	**Feichten**	**81.60**	**357**	*eP*		**P**	**18 10 43.8**	**+0.6**
	comp=Z,4.0nm,0.8s,SNR=8.6							
TLCR		**81.63**	**344** ⇓	*i*P		**P**	**18 10 43.8**	**+0.7**
TLCR		**81.63**	**344** ⇓	P		**P**	**18 10 43.8**	**+0.7**
SOKA	**Soboth**	**81.75**	**354**	*e*PcP		**P**	**18 10 44.6**	**+0.8**
	comp=Z,6.0nm,0.9s,SNR=4.6							
CFR	**Carcaliu**	**81.75**	**345** ⇑	*i*P		**P**	**18 10 43.9**	**+0.2**
CFR	**Carcaliu**	**81.75**	**345** ⇑	P		**P**	**18 10 43.9**	**+0.2**
MLR	**Muntele Rosu**	**81.78**	**346**	P		**P**	**18 10 45.1**	**+1.1**
	comp=Z,1.2nm,1.0s,baz=319,slow=20,SNR=3.7							
MLR				LR		LR	18 53 41.3	
	comp=Z,52nm,18.1s,baz=118,slow=40							
MLR	**Muntele Rosu**	**81.78**	**346** ⇓	*i*P		**P**	**18 10 46.2**	**+2.1**
MLR	**Muntele Rosu**	**81.78**	**346** ⇓	P		**P**	**18 10 46.2**	**+2.1**
VOIR		**81.96**	**347** ⇓	*i*P		**P**	**18 10 45.8**	**+0.8**
VOIR		**81.96**	**347** ⇓	P		**P**	**18 10 45.8**	**+0.8**
ARR	**Arges**	**82.09**	**347** ⇓	*i*P		**P**	**18 10 46.5**	**+0.9**
BZS	**Buzias**	**82.22**	**349** ⇑	*i*P		**P**	**18 10 46.4**	**+0.2**
BZS	**Buzias**	**82.22**	**349** ⇑	P		**P**	**18 10 46.4**	**+0.2**
HARR	**Harsova**	**82.26**	**345** ⇑	*i*P		**P**	**18 10 47.2**	**+0.8**
HARR	**Harsova**	**82.26**	**345** ⇑	P		**P**	**18 10 47.2**	**+0.8**
TLB	**Topalu**	**82.34**	**345** ⇓	*i*P		**P**	**18 10 47.0**	**+0.2**
TLB	**Topalu**	**82.34**	**345** ⇓	P		**P**	**18 10 47.0**	**+0.2**
TIRR	**Tirgusor**	**82.40**	**344** ⇑	*i*P		**P**	**18 10 47.5**	**+0.4**
TIRR	**Tirgusor**	**82.40**	**344** ⇑	P		**P**	**18 10 47.6**	**+0.4**
TIRR	**Tirgusor**	**82.40**	**344**	*eP*		**P**	**18 10 47.5**	**+0.4**
	comp=Z,14nm,0.7s							
GNI	**Garni**	**82.71**	**332**	*eP*		**P**	**18 10 48.8**	**-0.2**
GNI					pmax	pmax		
	comp=Z,10.0nm,1.2s							
HUMR	**Humele**	**82.86**	**347** ⇓	*i*P		**P**	**18 10 48.2**	**-1.4**
WRAB	**Tennant Creek**	**84.69**	**228**	*eP*		**P**	**18 11 00.9**	**+1.8**
WRAB					pmax	pmax		
	comp=Z,5.0nm,1.3s							
WRA	**Warramunga Arr**	**84.71**	**228**	P		**P**	**18 10 57.3**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=31,slow=5.8,SNR=5.5							
BR131	**Keskin Array S**	**85.97**	**339**	*eP*		**P**	**18 11 06.2**	**+0.7**
BRTR	**Keskin Array B**	**85.97**	**339**	P		**P**	**18 11 05.8**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=40,slow=2.4,SNR=17							
BR231	**Keskin MP Arra**	**86.04**	**340**	*eP*		**P**	**18 11 06.7**	**+0.8**
HYB	**Hyderabad**	**87.26**	**295**	*i* P		P	18 11 24.5	+12
ASAR	**Alice Springs**	**88.13**	**227**	P		**P**	**18 11 14.8**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=33,slow=4.9,SNR=20							
ES19	**SONSECA Array**	**88.51**	**8**	*eP*		**P**	**18 11 17.4**	**-0.3**
ESDC	**Sonseca Array**	**88.53**	**8**	P		**P**	**18 11 17.1**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=356,slow=4.7,SNR=6.9							
ESDC				pP		**pP**	**18 11 29.9**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=348,slow=4.5,SNR=4.4							
MATP	**Matopo**	**144.44**	**323**	PKP		**PKPab**	**18 17 59.2**	**-0.6**
	comp=Z,8.3nm,0.8s,baz=6.1,slow=2.6,SNR=16							
MATP				pPKP		**pPKPdf**	**18 18 13.2**	**-0.9**
	comp=Z,9.3nm,0.9s,baz=356,slow=4.0,SNR=8.8							
LBTB	**Lobatse**	**149.70**	**324**	PKPbc		**PKPbc**	**18 18 14.9**	**0.0**
	comp=Z,2.5nm,0.6s,baz=0.0,slow=6.1,SNR=2.3							
BOSA	**Boshof**	**153.08**	**322**	PKPbc		**PKPbc**	**18 18 22.8**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=297,slow=4.5,SNR=2.8							

MEX 11 18:01:38.0±0.3, 15.99N×96.14W, h44km±7km, MD3.5,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.22**	**173**	*i* P			Pn	18 01 44.6	-1.3
HUIG				*i* S			Sn	18 01 49.5	-1.9
VHO	**Vista Hermosa**	**1.22**	**332**	*eP*			Pn	18 01 57.1	-1.8
VHO				*e*S			Sn	18 02 12.3	-2.0
PNIG	**Pinotepa**	**1.96**	**282**	*eP*			Pn	18 02 07.5	-1.2
PNIG				*i* S			Sn	18 02 30.1	-2.0

CSEM ***11*** *18:02:23.5±0.1, 46.22N×7.68E, h10km, ML1.8/12, Error ellipse: s-maj=1.7km s-min=1.4km az=103.0*
ROM ***11*** *18:02:23.6±0.5, 46.21N×7.68E, h10km, Md1.7/4, Ml1.1/2, Error

LPL				*e*Sg	Sg	18 02 55.0	-1.0
	2.9nm,0.3s						
LPL	**La Plagne**	**0.99**	**223**	*e*Pg	Pg	18 02 42.3	-0.8
LPL				*e*Sg	Sg	18 02 55.0	-1.0
	1.5nm,0.3s						
LPG	**La Plagne**	**1.00**	**222**	*e*Pg	Pg	18 02 42.4	-0.8
LPG				*e*Sg	Sg	18 02 55.1	-1.0
	3.8nm,0.3s						
LPG	**La Plagne**	**1.00**	**222**	*e*Pg	Pg	18 02 42.4	-0.8
LPG				*e*Sg	Sg	18 02 55.1	-1.0
	1.9nm,0.3s						
RSP	**Reno Superiore**	**1.13**	**196**	P	Pg	18 02 44.1	-1.7
RSP				S	Sg	18 02 58.5	-2.0
CABF	**La Chapelle**	**1.18**	**289**	*e*P	Pn	18 02 47.2	-0.1
CABF				*e*Sg	Sg	18 03 01.5	-0.4
	1.3nm,0.2s						
CABF	**La Chapelle**	**1.18**	**289**	*e*P	Pn	18 02 47.2	-0.1
CABF				*e*Sg	Sg	18 03 01.5	-0.4
	0.6nm,0.2s						
MBDF	**Montbardon**	**1.65**	**204**	*e*Pg	Pb	18 02 54.6	-0.4
MBDF				*e*Sg	Sn	18 03 15.4	0.0
	1.4nm,0.3s						
MBDF	**Montbardon**	**1.65**	**204**	*e*Pg	Pb	18 02 54.6	-0.4
MBDF				*e*Sg	Sn	18 03 15.4	0.0
	0.7nm,0.3s						
HINF	**Hinteralfeld**	**1.68**	**340**	*e*P	Pn	18 02 54.5	+0.3
HINF				*e*Sg	Sg	18 03 17.7	-0.4
	2.0nm,0.2s						
HINF	**Hinteralfeld**	**1.68**	**340**	*e*P	Pn	18 02 54.5	+0.3
HINF				*e*Sg	Sg	18 03 17.7	-0.4
	1.0nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.84**	**225**	*e*Pg	Pb	18 02 57.8	-0.4
ORIF				*e*Sg	Sb	18 03 21.4	-0.2
	1.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.84**	**225**	*e*Pg	Pb	18 02 57.8	-0.4
ORIF				*e*Sg	Sb	18 03 21.4	-0.2
	0.9nm,0.3s						
HAU	**Haudompre**	**1.99**	**333**	*e*Pn	Pn	18 02 56.7	-1.7
HAU	**Haudompre**	**1.99**	**333**	*e*Pg	Pb	18 03 01.3	+0.5
HAU				*e*Sg	Sg	18 03 27.5	-0.6
	2.7nm,0.3s						
HAU	**Haudompre**	**1.99**	**333**	*e*Pn	Pn	18 02 56.7	-1.7
HAU	**Haudompre**	**1.99**	**333**	*e*Pg	Pb	18 03 01.3	+0.5
HAU				*e*Sg	Sg	18 03 27.5	-0.6
	1.4nm,0.3s						
CDF	**Champ du Feu**	**2.19**	**353**	*e*Pg	Pg	18 03 05.2	-0.9
CDF				*e*Sg	Sg	18 03 33.6	-0.9
	1.3nm,0.4s						
CDF	**Champ du Feu**	**2.19**	**353**	*e*Pg	Pg	18 03 05.2	-0.9
CDF				*e*Sg	Sg	18 03 33.6	-0.9
	0.6nm,0.4s						
VIVF	**Saint-Julien-l**	**2.54**	**238**	*e*Sg	Sb	18 03 43.4	+1.8
	1.6nm,0.4s						
VIVF	**Saint-Julien-l**	**2.54**	**238**	*e*Sg	Sb	18 03 43.4	+1.8
	0.8nm,0.4s						
SFTF	**Sexfontaines**	**2.67**	**318**	*e*Sg	Sg	18 03 48.3	-1.7
	0.9nm,0.2s						
SFTF	**Sexfontaines**	**2.67**	**318**	*e*Sg	Sg	18 03 48.3	-1.7
	0.4nm,0.2s						

IDC ***11*** *18:02:51.4±1.4,51°.63N×173°.30W,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.5/84,mbtmp3.8/9,Error ellipse: s-maj=46.9km s-min=25.5km az=15.0*

ISCJB ***11*** *18:02:55.3±1.0,51°.7N±0°.2×173°.3W±0°.2,h37km,mb3.8/9, Error ellipse: s-maj=33.9km s-min=15.7km az=7.9*

ISC 11 18:02:57.0±1.1,51°.6N±0°.3×173°.3W±0°.1,h37km,n16, σ0§48/10,mb3.7/9,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**17.72**	**286**	P	**Pn**	**18 07 00.2**	**-0.4**
	0.1nm,0.3s,baz=91,slow=14,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**35.42**	**213**	T	T	18 47 49.5	
	baz=20						
H11N3	**WAKE ISLAND Hy**	**35.42**	**213**	T	T	18 47 55.2	
	baz=20						
H11N1	**WAKE ISLAND Hy**	**35.43**	**213**	T	T	18 47 53.6	
	baz=20						
H11S1	**WAKE ISLAND Hy**	**36.62**	**213**	T	T	18 49 17.7	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**36.63**	**213**	T	T	18 49 18.9	
	baz=18						
H11S3	**WAKE ISLAND Hy**	**36.63**	**213**	T	T	18 49 18.3	
	baz=18						
PDAR	**Pinedale Array**	**42.94**	**76**	P	**P**	**18 10 52.8**	**+0.5**
	0.4nm,0.6s,baz=308,slow=4.4,SNR=2.4						
SONM	**Songino Array**	**49.57**	**299**	P	**P**	**18 11 44.7**	**+0.6**
	0.4nm,0.6s,baz=52,slow=8.2,SNR=3.0						
TXAR	**Lajitas Array**	**55.22**	**85**	P	**P**	**18 12 25.7**	**-0.4**
	0.6nm,0.8s,baz=308,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**62.51**	**311**	P	**P**	**18 13 16.4**	**-0.1**
	0.1nm,0.3s,baz=42,slow=7.6,SNR=1.3						
BVAR	**Borovoye Array**	**62.86**	**323**	P	**P**	**18 13 19.0**	**+0.4**
	1.2nm,0.5s,baz=61,slow=7.4,SNR=5.9						
HFS	**Hagfors**	**68.46**	**356**	P	**P**	**18 13 54.3**	**-0.3**
	1.8nm,0.7s,baz=325,slow=2.3,SNR=1.7						
AKTO	**Aktyubinsk**	**69.39**	**328**	P	**P**	**18 14 00.9**	**+0.3**
	1.3nm,0.5s,baz=52,slow=5.8,SNR=4.0						
AKASG	**Malin Array Be**	**76.28**	**345**	P	**P**	**18 14 40.8**	**-0.6**
	0.4nm,0.3s,baz=19,slow=6.0,SNR=4.8						
ASAR	**Alice Springs**	**88.08**	**227**	P	**P**	**18 15 43.2**	**-0.1**
	0.4nm,0.9s,baz=57,slow=3.4,SNR=1.9						

ISCJB ***11*** *18:04:21.8±0.4,66°.76N±0°.05×161°.43W±0°.08,h10km, mb3.7/7,Error ellipse: s-maj=7.3km s-min=4.4km az=15.0*

IDC ***11*** *18:04:23.5±1.3,67°.09N×161°.83W,h0km,mb3.6/8, mb1 3.8/11,mb1mx3.5/85,mbtmp3.7/11,ML3.7/3,Error ellipse: s-maj=37.4km s-min=14.0km az=8.0*

NEIC ***11*** *18:04:25.4±0.0,66°.69N×161°.31W,h23km,ML3.7(AEIC), After AEIC.*

ISC 11 18:04:23.3±0.7,66°.70N±0°.06×161°.53W±0°.06,h10km,n36, σ1§63/44,mb3.6/7,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**1.46**	**339**	P	**Pb**	**18 04 50.5**	**0.0**
RDOG				S	**Sg**	**18 05 10.0**	**-0.2**
IM3	**Indian Mountai**	**3.22**	**99**	P	**Pn**	**18 05 13.1**	**-0.7**
IM3				S	**Sn**	**18 05 52.1**	**-0.1**
PS05	**TAPS Pump Stn5**	**4.31**	**84**	P	**Pn**	**18 05 29.3**	**+0.5**
PS05				S	**Sn**	**18 06 16.8**	**-2.2**
TT01	**Tatalina**	**4.48**	**146**	P	**Pn**	**18 05 31.8**	**+0.7**
COLD	**Coldfoot**	**4.48**	**78**	P	**Pn**	**18 05 32.0**	**+0.8**
COLD				S	**Sn**	**18 06 22.0**	**-1.3**
MLY	**Manley**	**4.74**	**106**	P	**Pn**	**18 05 35.8**	**+1.1**
PS06	**TAPS Pump Stn6**	**4.84**	**95**	P	**Pn**	**18 05 36.9**	**+0.8**
TOLK	**Toolik Lake Re**	**4.96**	**61**	P	**Pn**	**18 05 39.0**	**+1.3**
BPAW	**Bear Paw Mtn.**	**5.12**	**116**	P	**Pn**	**18 05 40.6**	**+0.7**
BPAW				S	**Sn**	**18 06 38.0**	**-1.0**
CAST	**Castle Rocks**	**5.18**	**125**	P	**Pn**	**18 05 41.8**	**+1.1**
GAMB	**Gambell**	**5.18**	**240**	P	**Pn**	**18 05 42.1**	**+1.4**
KTH	**Kantishna Hill**	**5.48**	**120**	P	**Pn**	**18 05 46.0**	**+1.1**
PPLA	**Purkeypile**	**5.52**	**129**	P	**Pn**	**18 05 46.9**	**+1.3**
MDM	**Murphy Dome**	**5.74**	**102**	P	**Pn**	**18 05 48.9**	**+0.5**
TRF	**Thorofare Moun**	**5.76**	**119**	P	**Pn**	**18 05 50.0**	**+1.1**
COLA	**College**	**5.92**	**102**	P	**Pn**	**18 05 51.4**	**+0.6**
PS01	**TAPS Pump Stn**	**5.94**	**47**	P	**Pn**	**18 05 52.5**	**+1.4**
CCB	**Clear Creek Bu**	**6.03**	**104**	P	**Pn**	**18 05 52.6**	**+0.2**
MCK	**McKinley**	**6.07**	**113**	P	**Pn**	**18 05 53.8**	**+0.8**
RND	**Reindeer**	**6.30**	**116**	P	**Pn**	**18 05 57.5**	**+1.4**
ILAR	**Eielson Array**	**6.34**	**101**	Pn	**Pn**	**18 05 57.0**	**+0.4**
	3.0nm,0.3s,baz=291,slow=14,SNR=100						
ILAR				Sn	**Sn**	**18 07 07.0**	**-2.0**
	1.6nm,0.3s,baz=345,slow=21,SNR=4.9						
ILAR				Lg	Lg	18 07 41.5	
	1.8nm,0.3s,baz=302,slow=29,SNR=8.0						
ILB	**Eielson Array**	**6.34**	**101**	P	**Pn**	**18 05 57.0**	**+0.4**
SKT	**Skwentna**	**6.42**	**133**	P	**Pn**	**18 05 59.6**	**+1.8**
PS08	**TAPS Pump Stn8**	**6.46**	**103**	P	**Pn**	**18 05 59.5**	**+1.2**
BM3	**Burnt Mountain**	**6.65**	**76**	P	**Pn**	**18 06 00.8**	**-0.1**
INK	**Inuvik**	**10.80**	**69**	Pn	**Pn**	**18 06 59.0**	**+1.3**
	0.5nm,0.3s,baz=282,slow=11,SNR=16						
INK				Sn	**Sn**	**18 08 59.3**	**+0.9**
	0.2nm,0.3s,baz=179,slow=18,SNR=2.3						
SEY	**Seymchan**	**19.60**	**281**	P	**Pn**	**18 08 52.3**	**-0.2**
	0.1nm,0.3s,baz=78,slow=14,SNR=2.8						
YKA	**Yellowknife Ar**	**20.16**	**80**	P	**P**	**18 08 58.3**	**+1.0**
	0.4nm,0.5s,baz=301,slow=9.8,SNR=5.6						
RES	**Resolute Bay**	**22.12**	**40**	P	**P**	**18 09 17.4**	**-0.9**
	0.5nm,0.5s,baz=287,slow=11,SNR=4.1						
MA2	**Magadan**	**22.18**	**274**	P	**P**	**18 09 18.4**	**-0.7**
	1.5nm,0.6s,baz=64,slow=12,SNR=7.5						
TIXI	**Tiksi**	**23.91**	**313**	P	**P**	**18 09 35.1**	**-1.6**
	1.1nm,0.3s,baz=75,slow=6.6,SNR=5.1						
SONM	**Songino Array**	**48.07**	**295**	P	**P**	**18 13 03.8**	**+1.3**
	0.5nm,0.8s,baz=31,slow=8.7,SNR=3.2						
KURBB	**Kurchatov Arra**	**54.49**	**317**	P	**P**	**18 13 49.4**	**-1.0**
	0.7nm,0.3s,baz=34,slow=6.8,SNR=2.1						
MKAR	**Makanchi Array**	**56.90**	**313**	P	**P**	**18 14 05.3**	**-2.6**
	0.2nm,0.6s,baz=32,slow=5.8,SNR=2.2						
EKA	**Eskdalemuir Ar**	**57.20**	**15**	P	**P**	**18 14 08.7**	**-1.2**
	1.8nm,0.9s,baz=336,slow=5.0,SNR=2.8						
KHC	**Kasperske Hory**	**64.44**	**4**	*e*P	**P**	**18 14 58.0**	**-1.2**
KHC				*e*pP	**sP**	**18 15 11.0**	**+7.3**

ISCJB ***11*** *18:06:27.5±0.3,52°.64N±0°.06×33°.39W±0°.06,h10km, mb4.1/36,MS3.5/8,Error ellipse: s-maj=9.3km s-min=4.9km az=178.6*

CSEM ***11*** *18:06:28.0±0.1,52°.68N×33°.32W,h2km,mb4.5/11,Error ellipse: s-maj=7.6km s-min=4.5km az=1.0*

IDC ***11*** *18:06:28.1±0.5,52°.64N×33°.27W,h0km,mb4.0/29, mb1 4.1/31,mb1mx3.9/81,mbtmp4.0/31,ML3.6/2,MS3.5/9, Ms1 3.6/9,ms1mx3.2/66,Error ellipse: s-maj=15.2km s-min=11.1km az=8.0*

NEIC ***11*** *18:06:29.5±0.2,52°.65N×33°.33W,h10km,mb4.5/11,Error ellipse: s-maj=7.1km s-min=4.2km az=182.0*

OTT ***11*** *18:06:32.3±1.4,52°.92N×33°.63W,h18km,ML5.1/3, Atlantic Ocean.*

ISC 11 18:06:29.3±0.5,52°.62N±0°.09×33°.40W±0°.05,h10km,n71, σ1§59/70,mb4.2/36,MS3.5/8,3C,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJNN	**Saint John's**	**13.34**	**256**	PN	**Pn**	**18 09 38.1**	**-0.5**
SJNN				mb		18 09 42.5	
	comp=Z,25nm,0.3s						
SJNN				SN	Sn	18 11 56.8	-10
SJNN				Trac		18 12 03.0	
	comp=Z,28nm,0.5s						
DRLN	**Deer Lake**	**15.54**	**267**	PN	**Pn**	**18 10 06.8**	**-1.6**
DRLN				mb		18 10 10.3	
	comp=Z,7.0nm,0.5s						
DRLN				SN	Sn	18 12 46.3	-14
DRLN				Trac		18 12 57.0	
	comp=Z,36nm,0.6s						
DRLN	**Deer Lake**	**15.54**	**267**	*e*Pn	**Pn**	**18 10 06.8**	**-1.6**
DRLN				*e*Sn	Sn	18 12 46.3	-14
SFJD	**Kangerlussuaq**	**16.72**	**336**	*e*Pn	**Pn**	**18 10 22.0**	**-1.3**
	24nm,1.0s						
EKA	**Eskdalemuir Ar**	**17.92**	**69**	P	**Pn**	**18 10 37.1**	**-1.3**
	baz=277,slow=10,SNR=23						
NATG	**Natashquan Que**	**18.42**	**274**	PN	**P**	**18 10 45.0**	**+0.5**
NATG				SN	Sn	18 13 56.7	-13
GBN	**Guysborough**	**19.71**	**260**	PN	**P**	**18 10 58.7**	**0.0**
GBN				SN	S	18 14 26.2	-15
GBN				Trac		18 14 36.6	
	comp=Z,32nm,1.0s						
GBN	**Guysborough**	**19.71**	**260**	*e*P	**P**	**18 10 58.7**	**0.0**
GBN				*e*S	S	18 14 26.2	-15
SCHQ	**Schefferville**	**19.80**	**290**	P	**P**	**18 11 00.4**	**+0.7**
	0.3nm,0.3s,baz=94,slow=16,SNR=1.9						
SCHQ				LR	LR	18 17 23.3	
	comp=Z,146nm,18.7s,baz=105,slow=33						
SMQ	**Clarke City**	**20.80**	**277**	PN	Pn	18 11 16.2	+3.2
SMQ				SN	**S**	**18 14 55.4**	**-7.1**
FRB	**Frobisher Bay**	**21.30**	**315**	P	**P**	**18 11 16.6**	**+0.8**
	15nm,0.8s,baz=282,slow=9.9,SNR=27						
ICQ	**Pointe Anglais**	**21.39**	**275**	PN	**P**	**18 11 17.4**	**+0.5**
ICQ				SN	**S**	**18 15 08.8**	**-5.3**
ICQ	**Pointe Anglais**	**21.39**	**275**	*e*P	**P**	**18 11 17.4**	**+0.5**
YOSQ	**Ashton Mining**	**23.30**	**286**	PN	P	18 11 51.8	+15
YOSQ				SN	**S**	**18 15 54.4**	**+5.0**
DOU	**Dourbes**	**23.68**	**81**	⇑P	**P**	**18 11 42.5**	**+1.7**
ESDC	**Sonseca Array**	**23.96**	**111**	P	**P**	**18 11 43.4**	**-0.3**
	0.4nm,0.6s,baz=311,slow=12,SNR=3.3						
ESDC				LR	LR	18 18 51.9	
	comp=Z,124nm,21.1s,baz=305,slow=31						
MEM	**Membach**	**24.34**	**79**	⇑P	**P**	**18 11 46.0**	**-1.1**
	comp=Z,7.1nm,0.8s						
WLF	**Walferdange**	**24.77**	**81**	⇑P	**P**	**18 11 50.7**	**-0.2**
NB2	**NORSAR Subarra**	**25.35**	**53**	P	**P**	**18 11 55.7**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=273,slow=9.3						
NOA	**NORSAR Array B**	**25.35**	**53**	P	**P**	**18 11 55.7**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=346,slow=17,SNR=4.1						
NOA				LR	LR	18 20 28.2	
	comp=Z,92nm,18.7s,baz=270,slow=33						
BFO	**Black Forest**	**26.62**	**82**	*e*P	**P**	**18 12 06.5**	**-1.3**
	comp=Z,3.7nm,0.8s						
HFS	**Hagfors**	**26.62**	**55**	P	**P**	**18 12 07.0**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=245,slow=9.4,SNR=3.1						
HFS				LR	LR	18 20 37.4	
	comp=Z,115nm,18.4s,baz=240,slow=32						
GERES	**GERESS Array B**	**29.63**	**78**	P	**P**	**18 12 34.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=281,slow=8.0,SNR=4.3						
GEA0	**GERESS Array S**	**29.63**	**78**	*e*P	**P**	**18 12 34.3**	**-0.4**
SADO	**Sadowa**	**30.75**	**274**	LR	LR	18 24 18.0	
	comp=Z,70nm,20.9s,baz=269,slow=35						
ARCES	**ARCESS Array B**	**31.49**	**35**	P	**P**	**18 12 49.3**	**-1.4**
	comp=Z,4.4nm,0.9s,baz=264,slow=8.1,SNR=3.3						
FINES	**FINESS Array B**	**32.44**	**50**	P	**P**	**18 12 57.9**	**-1.3**
	comp=Z,3.7nm,0.8s,baz=290,slow=5.5,SNR=5.1						
FINES				LR	LR	18 24 08.1	
	comp=Z,128nm,20.0s,baz=286,slow=33						
RES	**Resolute Bay**	**32.70**	**334**	P	**P**	**18 13 02.4**	**+1.1**
	comp=Z,5.8nm,0.8s,baz=93,slow=9.3,SNR=19						
RES				LR	LR	18 24 20.9	
	comp=Z,123nm,20.0s,baz=49,slow=33						
RES	**Resolute Bay**	**32.70**	**334**	*e*P	**P**	**18 13 02.2**	**+0.9**
	comp=Z,7.2nm,0.8s						
FCC	**Fort Churchill**	**33.69**	**305**	*e*P	**P**	**18 13 11.0**	**+0.9**
	comp=Z,9.5nm,1.4s						
KEST	**Kesra**	**34.40**	**102**	P	**P**	**18 13 16.2**	**-0.4**
	comp=Z,6.1nm,1.0s,baz=276,slow=14,SNR=2.3						
BUR04	**Bucovina Ar. S**	**37.01**	**74**	*e*P	**P**	**18 13 39.1**	**+0.2**
AKASG	**Malin Array Be**	**37.81**	**67**	P	**P**	**18 13 44.6**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=303,slow=8.2,SNR=6.3						
ULM	**Lac du Bonnet**	**37.94**	**292**	P	**P**	**18 13 46.0**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=48,slow=12,SNR=2.9						
BBTS	**Babate**	**40.18**	**154**	LR	LR	18 29 00.8	
	comp=Z,54nm,18.1s,baz=290,slow=34						
YKA	**Yellowknife Ar**	**41.81**	**317**	P	**P**	**18 14 18.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=62,slow=9.0,SNR=13						
YKA				PcP	**PcP**	**18 16 18.9**	**+4.5**
	comp=Z,0.4nm,0.6s,baz=56,slow=3.8,SNR=5.2						
KOWA	**Kowa**	**44.62**	**137**	P	**P**	**18 14 41.7**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=335,slow=6.4,SNR=7.2						
INK	**Inuvik**	**45.89**	**329**	P	**P**	**18 14 50.1**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=20,slow=6.7,SNR=3.7						
BR231	**Keskin MP Arra**	**45.94**	**79**	*e*P	**P**	**18 14 52.7**	**+0.5**
BR131	**Keskin Array S**	**46.53**	**78**	*e*P	**P**	**18 14 57.8**	**+0.9**
BRTR	**Keskin Array B**	**46.53**	**78**	P	**P**	**18 14 56.6**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=312,slow=5.9,SNR=8.1						
TOA0	**Torodi Ar. Sit**	**48.31**	**131**	*e*P	**P**	**18 15 10.7**	**-0.1**
TOA0	**Torodi Ar. Sit**	**48.31**	**131**	*e*P	**P**	**18 15 10.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**48.31**	**131**	P	**P**	**18 15 10.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=338,slow=8.1,SNR=6.9						
PDAR	**Pinedale Array**	**49.93**	**291**	P	**P**	**18 15 22.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=63,slow=8.2,SNR=3.2						
NEW	**Newport**	**50.63**	**301**	LR	LR	18 33 52.8	
	comp=Z,64nm,21.2s,baz=339,slow=32						
DBIC	**Dimbokro**	**51.43**	**143**	P	**P**	**18 15 34.4**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=323,slow=9.4,SNR=6.4						
DBIC	**Dimbokro**	**51.43**	**143**	*e*P	**P**	**18 15 33.9**	**-0.6**
	comp=Z,9.0nm,1.3s						
HWUT	**Hardware Ranch**	**51.82**	**291**	*e*P	**P**	**18 15 38.1**	**+0.6**
	comp=Z,3.7nm,0.9s						
SDV	**Santo Domingo**	**53.04**	**228**	P	**P**	**18 15 47.6**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=350,slow=10,SNR=2.5						
AKTO	**Aktyubinsk**	**53.15**	**53**	P	**P**	**18 15 46.9**	**0.0**
	comp=Z,2.3nm,0.5s,baz=335,slow=5.9,SNR=8.3						
TIXI	**Tiksi**	**55.39**	**7**	P	**P**	**18 16 04.1**	**+1.1**
	comp=Z,0.9nm,0.2s,baz=36,slow=2.9,SNR=9.8						
TIXI	**Tiksi**	**55.39**	**7**	*e*P	**P**	**18 16 03.8**	**+0.8**
	comp=Z,2.4nm,0.8s						
TXAR	**Lajitas Array**	**55.52**	**274**	P	**P**	**18 16 06.7**	**+2.0**
	comp=Z,0.2nm,0.7s,baz=59,slow=5.4,SNR=2.4						
BVAR	**Borovoye Array**	**57.05**	**44**	P	**P**	**18 16 15.5**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=309,slow=7.3,SNR=17						
NVAR	**Mina Array Bea**	**57.78**	**292**	P	**P**	**18 16 22.7**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=34,slow=9.8,SNR=3.0						
BEKR	**Beckworth**	**57.93**	**295**	*e*P	**P**	**18 16 22.0**	**+0.2**
	comp=Z,26nm,1.2s						
ROSC	**El Rosal**	**58.30**	**230**	P	**P**	**18 16 25.8**	**+1.0**
	comp=Z,9.1nm,0.7s,baz=80,slow=9.3,SNR=5.7						
ROSC	**El Rosal**	**58.30**	**230**	*e*P	**P**	**18 16 25.3**	**+0.5**
	comp=Z,7.3nm,0.8s						
ROSC	**El Rosal**	**58.30**	**230**	*e*P	**P**	**18 16 25.3**	**+0.5**
	comp=Z,7.3nm,0.8s						
PRAC	**Prado**	**59.55**	**230**	*e*P	**P**	**18 16 34.2**	**+1.2**
	comp=Z,7.8nm,0.8s						
ZALV	**Zalesovo Beam**	**62.03**	**36**	P	**P**	**18 16 49.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=311,slow=3.1,SNR=2.5						
KURK	**Kurchatov**	**62.19**	**42**	P	**P**	**18 16 50.9**	**+0.4**
KURBB	**Kurchatov Arra**	**62.22**	**42**	P	**P**	**18 16 50.9**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=327,slow=6.7,SNR=4.3						
MAKZ	**Makanchi**	**66.63**	**43**	*e*P	**P**	**18 17 19.9**	**+0.2**
	comp=Z,6.1nm,1.4s						
MKAR	**Makanchi Array**	**66.77**	**42**	P	**P**	**18 17 20.8**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=326,slow=5.8,SNR=13						
MK01	**Makanchi Array**	**66.80**	**42**	*e*P	**P**	**18 17 20.6**	**-0.1**
SONM	**Songino Array**	**74.21**	**27**	P	**P**	**18 18 06.4**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=329,slow=5.2,SNR=4.8						
CD2	**Chengdu**	**88.80**	**36**	*e*P	**P**	**18 19 22.2**	**-1.2**
WRA	**Warramunga Arr**	**146.02**	**21**	PKPbc	**PKPdf**	**18 26 08.8**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=342,slow=3.2,SNR=4.7						
ASAR	**Alice Springs**	**149.51**	**23**	PKPbc	**PKPbc**	**18 26 18.1**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=351,slow=2.2,SNR=4.5						

IDC ***11*** *18:11:04.7±0.6,51°.72N×173°.31W,h0km,mb4.1/37, mb1 4.3/39,mb1mx4.2/87,mbtmp4.1/39,ML3.6/2,MS3.7/7, Ms1 3.8/7,ms1mx3.2/75,Error ellipse: s-maj=17.4km s-min=9.9km az=174.0*

ISCJB ***11*** *18:11:07.3±0.2,51°.47N±0°.04×173°.14W±0°.03,h37km, mb4.2/41,MS3.6/6,Error ellipse: s-maj=5.8km s-min=2.9km az=0.2*

NEIC ***11*** *18:11:09.1±0.0,51°.56N×173°.26W,h34km,mb4.2/14, ML3.7(AEIC),After AEIC.*

ISC 11 18:11:09.8±0.5,51°.57N±0°.09×173°.25W±0°.04,h37km, n218,σ1§26/216,mb4.2/41,MS3.6/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.88**	**324**	P	**Pn**	**18 11 25.1**	**-0.5**
KOKL	**Mount Kliuchef**	**0.96**	**323**	P	**Pn**	**18 11 26.0**	**-0.8**
KOKL				S	**Sn**	**18 11 39.4**	**+0.3**
KOWE	**Korovin West**	**1.01**	**323**	P	**Pn**	**18 11 27.2**	**-0.2**
GSMY	**Great Sitkin M**	**1.81**	**286**	P	**Pn**	**18 11 39.5**	**+1.2**
GSTD	**Great Sitkin T**	**1.86**	**286**	P	**Pn**	**18 11 39.5**	**+0.3**
ADAG	**Mount Adagdak**	**2.12**	**282**	P	**Pn**	**18 11 42.9**	**+0.2**
TAPA	**Tanaga Point A**	**2.85**	**277**	P	**Pn**	**18 11 52.6**	**-0.1**
TAFP	**Tanaga Falls P**	**2.96**	**278**	P	**Pn**	**18 11 54.5**	**+0.3**
TASE	**Tanaga Southea**	**2.99**	**277**	P	**Pn**	**18 11 54.8**	**+0.1**
OKSP	**Okmok Steeple**	**3.48**	**59**	P	**Pn**	**18 12 02.5**	**+1.3**
OKSP				S	**Sn**	**18 12 42.0**	**+0.9**
OKAK	**Okmok**	**3.60**	**54**	P	**Pn**	**18 12 03.0**	**0.0**
OKWE	**Okmok W'ng Wal**	**3.61**	**56**	P	**Pn**	**18 12 04.1**	**+1.0**
MSOM	**Makushin Julie**	**4.45**	**57**	P	**Pn**	**18 12 15.4**	**+0.9**
MSOM				S	**Sn**	**18 13 06.2**	**+1.2**
MSW	**Makushin Switc**	**4.58**	**57**	P	**Pn**	**18 12 17.3**	**+0.8**
UNV	**Unalaska Valle**	**4.70**	**58**	*e*Pn	**Pn**	**18 12 19.9**	**+1.9**
AKUT	**Akutan**	**5.21**	**58**	*e*Pn	**Pn**	**18 12 27.9**	**+2.9**
SPIA	**Saint Paul Isl**	**5.89**	**16**	*e*Pn	**Pn**	**18 12 38.3**	**+4.0**
ISLZ	**Isanotski Laza**	**6.55**	**57**	P	**Pn**	**18 12 44.3**	**+0.8**
SDPT	**S

2.3nm,0.8s,baz=296,slow=8.5,SNR=11
NVAR LR LR 18 31 18.3
comp=Z,82nm,20.9s,baz=278,slow=30
VES Vestal, Richgr 41.21 91 P **P** 18 18 50.1 -0.6
baz=310
H17A Grant Village 41.40 74 P **P** 18 18 53.3 +0.8
baz=303
CWC Cottonwood Cre 41.45 89 P **P** 18 18 52.3 -0.6
baz=309
RLMT Red Lodge 41.79 73 P **P** 18 18 55.9 +0.2
baz=303
R11A Troy Canyon, C 41.82 85 P **P** 18 18 55.6 -0.4
baz=308,SNR=6.5
DUG Dugway, Tooele 42.43 81 P **P** 18 19 00.9 +0.1
baz=306
BW06 Boulder Array 42.92 76 P **P** 18 19 05.1 +0.2
baz=305
PD31 Pinedale Array 42.92 76 *e*P **P** 18 19 05.4 +0.4
PDAR Pinedale Array 42.92 76 P **P** 18 19 05.3 +0.4
5.4nm,1.0s,baz=294,slow=4.3,SNR=25
GSC Goldstone, Bar 42.97 90 P **P** 18 19 05.0 -0.2
baz=310
KSRS Korea Array 43.09 275 P **P** 18 19 05.4 -0.7
1.6nm,0.8s,baz=71,slow=5.7,SNR=3.1
KSAR Wonju Array Be 43.12 275 P **P** 18 19 05.4 -0.9
BFSC Mount Baldy Ra 43.13 91 P **P** 18 19 06.4 -0.2
baz=311
GMRC Granite Mounta 44.02 89 P **P** 18 19 13.7 -0.1
baz=311
TPFO Pinon Flats 44.30 91 P **P** 18 19 16.3 +0.3
baz=312
MONP2 Monument Peak 44.80 92 P **P** 18 19 18.6 -1.4
baz=312
O20A White River Ci 45.27 78 P **P** 18 19 23.1 -0.6
baz=307
PDMCI Parker Dam,Lak 45.29 89 P **P** 18 19 23.1 -0.5
baz=311
Y12C Blythe 45.41 89 P **P** 18 19 24.3 -0.3
baz=312
WUAZ Wupatki 46.22 85 P **P** 18 19 31.5 +0.2
baz=310
PV01 Paradox Valley 46.30 80 *e*P **P** 18 19 31.8 -0.1
ULM Lac du Bonnet 46.64 60 P **P** 18 19 34.5 +0.4
1.2nm,0.6s,baz=308,slow=9.0,SNR=2.9
B32A Ashes, Strandq 47.31 62 P **P** 18 19 37.5 -1.9
baz=304
A33A Warroad 47.63 61 P **P** 18 19 42.0 +0.1
baz=304
214A Organ Pipe Nat 47.68 90 P **P** 18 19 42.3 -0.3
baz=313
AGMN Agassiz Nation 47.73 62 P **P** 18 19 42.3 -0.4
baz=305
SDCO Great Sand Dun 48.42 79 P **P** 18 19 48.1 -0.5
baz=310
TUC Tucson 48.71 88 P **P** 18 19 49.9 -0.6
baz=313
H33A Prehn Over Nor 49.35 66 P **P** 18 19 54.6 -0.6
baz=307
T25A Trinidad 49.48 79 P **P** 18 19 56.9 +0.4
baz=310,SNR=5.6
SONM Songino Array 49.62 299 P **P** 18 19 57.2 -0.2
0.6nm,0.4s,baz=65,slow=5.7,SNR=10.0
ECSD EROS Data Cent 50.00 67 P **P** 18 19 58.3 -1.8
baz=308
SPITS Spitsbergen Ar 50.38 357 P **P** 18 20 01.5 -1.1
11nm,1.1s,baz=10,slow=5.2,SNR=5.5
K34A Le Mars 50.94 68 P **P** 18 20 05.9 -1.3
baz=308
FRB Frobisher Bay 51.00 34 P **P** 18 20 06.2 -1.1
0.8nm,0.4s,baz=240,slow=16,SNR=3.6
E40A Wakefield 52.09 61 P **P** 18 20 15.0 -0.9
baz=308
O34A Beatrice 52.17 71 P **P** 18 20 15.9 -0.5
baz=310
F40A Park Falls 52.30 61 P **P** 18 20 16.4 -1.0
baz=308
K37A Belmond 52.30 66 P **P** 18 20 15.5 -1.9
baz=309
P34A Walnut Farm, R 52.50 71 P **P** 18 20 17.8 -1.2
baz=310
MSTX Muleshoe 52.56 81 P **P** 18 20 19.2 -0.4
baz=312
E41A Kenton 52.59 60 P **P** 18 20 18.1 -1.4
baz=309
J38A Wedel Dairy, R 52.62 65 P **P** 18 20 18.0 -1.7
baz=309
L37A Phoenix Point, 52.64 67 P **P** 18 20 19.4 -0.6
baz=310
G40A Rib Lake 52.66 62 P **P** 18 20 18.9 -1.2
baz=309
Q34A Chapman 52.84 72 P **P** 18 20 20.2 -1.3
baz=311
KSU1 Kansas State U 52.92 72 P **P** 18 20 20.8 -1.2
baz=310
F41A Three Lakes 52.97 61 P **P** 18 20 20.4 -1.9
baz=309
P35A Duane Minner, 52.99 71 P **P** 18 20 21.5 -1.1
baz=310
J39A Decorah 53.04 65 P **P** 18 20 21.5 -1.3
baz=310
R34A Isabella, Hill 53.06 73 P **P** 18 20 21.5 -1.6
baz=311
L38A Oak Wood Farm, 53.09 66 P **P** 18 20 21.5 -1.7
baz=310
K39A Oelwein 53.34 65 P **P** 18 20 23.3 -1.8
baz=310
P36A Good Intent, A 53.41 70 P **P** 18 20 24.3 -1.3
baz=311
L39A Vinton 53.65 66 P **P** 18 20 25.7 -1.7
baz=310
O37A Wolven Farm, M 53.67 69 P **P** 18 20 26.4 -1.1
baz=311
P37A Lathrop 53.93 70 P **P** 18 20 27.7 -1.7
baz=311
M39A Webster 53.97 67 P **P** 18 20 28.3 -1.3
baz=310
J41A Loganville 53.97 64 P **P** 18 20 28.5 -1.2
baz=310
L40A Anamosa 54.13 66 P **P** 18 20 29.4 -1.4
baz=310
N39A Derby Farms, D 54.17 67 P **P** 18 20 29.9 -1.2
baz=311,SNR=5.4
P38A Dawn 54.38 69 P **P** 18 20 31.0 -1.7
baz=311
WMOK Wichita Mounta 54.49 77 P **P** 18 20 32.6 -1.0
baz=312
Q38A Cooks Store, C 54.77 70 P **P** 18 20 34.0 -1.6
baz=311
O40A La Belle 55.02 68 P **P** 18 20 36.0 -1.3
baz=311
R38A Fenwick Farm, 55.11 71 P **P** 18 20 36.3 -1.7
baz=312
TX31 Lajitas Ar. Si 55.19 85 *e*P **P** 18 20 38.7 -0.1
TXAR Lajitas Array 55.19 85 P **P** 18 20 38.6 -0.2
2.0nm,0.8s,baz=296,slow=5.2,SNR=26
P40A Paris 55.31 68 P **P** 18 20 38.2 -1.2
baz=312,SNR=7.6
S38A Stockton 55.48 71 P **P** 18 20 39.0 -1.7
baz=312,SNR=5.8
O41A Passleys Farm, 55.60 67 P **P** 18 20 39.7 -1.7
baz=312
Q40A Laux Farm, Aux 55.65 69 P **P** 18 20 40.2 -1.7
baz=312
P41A Barry, Barry 55.79 68 P **P** 18 20 41.4 -1.4
baz=312
S39A Bolivar 55.79 71 P **P** 18 20 41.1 -1.8
baz=312
R40A Maddies Statio 56.01 70 P **P** 18 20 42.7 -1.7
baz=312
Q41A Truxton 56.17 68 P **P** 18 20 43.9 -1.6
baz=312
T39A Clever 56.20 71 P **P** 18 20 44.2 -1.7
baz=312
R41A Rosebud 56.52 69 P **P** 18 20 46.8 -1.3
baz=312
U39A Green Forest 56.57 72 P **P** 18 20 47.2 -1.3
baz=313
Q42A Golden Eagle 56.60 68 P **P** 18 20 47.2 -1.4
baz=312
CCM Cathedral Cave 56.76 69 P **P** 18 20 48.5 -1.3
baz=312
S41A Jillco Farms, 56.78 70 P **P** 18 20 48.2 -1.8
baz=313
V39A Pettigrew 56.84 73 P **P** 18 20 48.8 -1.7
baz=313
U40A Yellville 56.96 72 P **P** 18 20 49.7 -1.6
baz=313
W39A Magazine 57.20 73 P **P** 18 20 51.5 -1.5
baz=313
S42A Caledonia 57.22 69 P **P** 18 20 51.5 -1.6
baz=313
P44A Sand Creek, Wi 57.33 66 P **P** 18 20 52.0 -1.8
baz=312,SNR=6.1
V40A Witts Springs 57.35 72 P **P** 18 20 52.4 -1.7
baz=313
R43A Red Bud 57.38 68 P **P** 18 20 52.5 -1.6
baz=313
X39A Fountain Ranch 57.47 74 P **P** 18 20 53.2 -1.6
baz=314
U41A Viola 57.52 71 P **P** 18 20 53.5 -1.7
baz=313
T42A Van Buren 57.54 70 P **P** 18 20 53.7 -1.7
baz=313
W40A Ferguson Farm, 57.63 73 P **P** 18 20 54.7 -1.2
baz=313
V41A Mountainview 57.77 72 P **P** 18 20 55.5 -1.4
baz=313
MIAR Mount Ida 57.77 74 P **P** 18 20 55.8 -1.1
baz=314,SNR=5.2
S43A Fulton Ridge, 57.77 69 P **P** 18 20 55.7 -1.2
baz=313,SNR=6.7
T43A Greenville 57.98 69 P **P** 18 20 56.8 -1.6
baz=313,SNR=6.7
Q45A Warren Harvey, 57.98 66 P **P** 18 20 57.1 -1.3
baz=313
ARCES ARCESS Array B 58.43 352 P **P** 18 21 00.3 -0.8
1.6nm,0.8s,baz=9.1,slow=8.1,SNR=13
Q47A Bedord North L 58.94 65 P **P** 18 21 03.8 -1.2
baz=313
OXF Oxford 60.27 71 P **P** 18 21 13.1 -1.2
baz=314
V47A Nunnelly 60.46 69 P **P** 18 21 14.0 -1.5
baz=314
ALFO Alfred 60.47 53 P **P** 18 21 13.6 -1.8
baz=315
U48A Cassie Pea, Po 60.55 67 P **P** 18 21 14.4 -1.8
baz=314
W47A Westpoint 60.82 69 P **P** 18 21 16.6 -1.4
baz=315
W48A Pulaski 61.28 69 P **P** 18 21 19.9 -1.2
baz=315
KURK Kurchatov 61.34 316 P **P** 18 21 21.8 +0.5
KURBB Kurchatov Arra 61.44 316 P **P** 18 21 21.8 -0.2
0.7nm,0.3s,baz=41,slow=6.8,SNR=3.6
Y47A UCPARC, Winfie 61.62 70 P **P** 18 21 22.2 -1.3
baz=315
WMQ Urumqi 62.09 306 P **P** 18 21 30.1 +3.5
O56A Blue Knob Stat 62.35 59 P **P** 18 21 26.7 -1.7
baz=316
X50A Fort Payne 62.51 69 P **P** 18 21 28.2 -1.2
baz=316
MKAR Makanchi Array 62.57 311 P **P** 18 21 28.9 -0.9
0.6nm,0.6s,baz=43,slow=7.0,SNR=9.1
BVAR Borooyee Array 62.92 323 P **P** 18 21 31.5 -0.4
2.9nm,0.5s,baz=54,slow=6.2,SNR=35
ARU Arti 64.20 331 P **P** 18 21 39.4 -0.9
2.1nm,0.5s,baz=66,slow=12,SNR=4.3
FINES FINESS Array B 66.28 350 P **P** 18 21 52.5 -1.1
12nm,1.0s,baz=12,slow=7.1,SNR=10
DAV Davao City (W) 66.78 251 P **P** 18 21 59.2 +1.7
290nm,0.4s,baz=57,slow=4.5,SNR=4.9
NOA NORSAR Array B 67.69 358 P **P** 18 22 02.1 -0.5
0.6nm,0.6s,baz=4.2,slow=6.7,SNR=2.8
HFS Hagfors 68.51 356 P **P** 18 22 06.6 -1.2
1.1nm,0.4s,baz=342,slow=3.3,SNR=13
AKTO Aktyubinsk 69.45 328 P **P** 18 22 13.7 -0.1
5.3nm,0.8s,baz=28,slow=5.6,SNR=6.7
ABKAR Akbulak array 69.80 326 *e*P **P** 18 22 16.3 +0.3
KSH Kashi 71.10 310 P **P** 18 22 27.6 +3.4
KSH sP PcP 18 22 56.5 +12
KSH PP **PP** 18 25 06.0 +4.5
KSH S **S** 18 31 35.7 -2.3
KSH sS SKiKP 18 32 09.7 +7.7
KSH Kashi 71.10 310 SS SS 18 36 13.3 +2.4
CMAR Chiang Mai Arr 74.42 280 P **P** 18 22 44.9 +0.9
1.5nm,0.7s,baz=32,slow=7.2,SNR=9.0
GUN Gumba 74.95 296 *e*P **P** 18 22 48.0 +0.6
14nm,0.5s
JIRN Jiri 74.97 295 *e*P **P** 18 22 47.9 +0.3
31nm,0.8s
KKN Kakani 75.38 296 *e*P **P** 18 22 50.2 +0.5
4.7nm,0.5s
PKI Pulchoki 75.48 296 *e*P **P** 18 22 50.3 -0.1
4.2nm,0.5s
PKIN Phulchoki 75.48 296 *e*P **P** 18 22 50.8 +0.4
4.2nm,0.7s
DMN Daman 75.62 296 *e*P **P** 18 22 51.5 +0.3
10nm,1.0s
DANN Dangsing 75.79 298 *e*P **P** 18 22 52.6 +0.4
KOLN Koldanda 76.33 297 *e*P **P** 18 22 55.3 +0.1
6.6nm,0.8s
AKASG Malin Array Be 76.33 346 P **P** 18 22 53.2 -1.3
1.3nm,0.4s,baz=17,slow=5.9,SNR=9.7
PYUN Piuthan 76.41 298 *e*P **P** 18 22 56.2 +0.6
CLL Collm 77.36 356 *e*P **P** 18 23 00.0 -0.3
DPC Dobruska-Polom 78.13 354 *e*P **P** 18 23 04.8 +0.1
DPC *ep*P **PcP** 18 23 11.5 -2.7
DPC *ex* x 18 23 18.9
VRAC Vranov 79.15 353 P **P** 18 23 09.9 -0.4
1.6nm,0.6s,baz=27,slow=9.0,SNR=2.7
KHC Kasperske Hory 79.51 355 *e*P **P** 18 23 13.0 +0.7
GERES GERESS Array B 79.79 355 P **P** 18 23 13.4 -0.4
0.6nm,0.6s,baz=34,slow=5.0,SNR=6.7
KVAR Kislovodsk Arr 79.89 334 P **P** 18 23 14.1 -0.4
4.0nm,0.8s,baz=68,slow=5.4,SNR=1.9
KBZ Khabaz 80.05 334 P **P** 18 23 16.3 +1.1
1.9nm,0.8s,baz=29,slow=10,SNR=3.4
GEYT Alibeck 80.20 321 P **P** 18 23 17.4 +1.2
1.7nm,0.9s,baz=289,slow=9.2,SNR=3.8
WRA Warramunga Arr 84.65 228 P **P** 18 23 38.6 -0.8
0.5nm,0.6s,baz=34,slow=6.2,SNR=2.7
BRTR Keskin Array B 86.10 340 P **P** 18 23 46.9 +0.1
0.7nm,0.9s,baz=50,slow=3.4,SNR=4.1
ASAR Alice Springs 88.06 227 P **P** 18 23 56.1 0.0
0.9nm,0.8s,baz=36,slow=4.5,SNR=6.6
RPZ Rata Peaks 95.88 191 LR LR 19 02 12.2
comp=Z,78nm,21.5s,baz=258,slow=32
TORD Torodi Ar. Bea 115.41 5 PKP **PKPdf** 18 29 49.7 +2.1
0.1nm,0.4s,baz=22,slow=1.6,SNR=2.8
MATP Matopo 144.56 323 PKP PKPbc 18 30 41.0 -0.1
3.0nm,1.0s,baz=348,slow=4.5,SNR=7.6
BOSA Boshof 153.20 322 PKPbc **PKPbc** 18 31 04.3 +0.9
2.4nm,0.8s,baz=270,slow=5.1,SNR=2.4
BOSA PKPab **PKPab** 18 31 14.1 -1.1
3.3nm,1.1s,baz=59,slow=5.9,SNR=3.3

BJI ***11*** *18:11:02.3,2˚.55N×64˚.65E,h6km,mb4.9/60,mB5.4/51, Ms5.2/56,Ms7 5.0/50*
ISCJB ***11*** *18:11:06.3±0.9,3˚.08N±0˚.04×65˚.04E±0˚.02,h1km±5km, mb5.0/173,MS4.8/69,Error ellipse: s-maj=6.6km s-min=4.1km az=175.2*
IDC ***11*** *18:11:07.8±0.4,3˚.08N×65˚.11E,h0km,mb4.4/50, mb1 4.5/51,mb1mx4.4/73,mbtmp4.4/51,ML3.5/1,MS4.7/41, Ms1 4.7/41,ms1mx4.7/48,Error ellipse: s-maj=11.0km s-min=9.3km az=4.0*
MOS ***11*** *18:11:08.0±1.2,3˚.16N×65˚.07E,h10km,mb5.3/58, MS4.8/16,Error ellipse: s-maj=6.8km s-min=4.0km az=106.8*
GCMT ***11*** *18:11:09.4±0.1,2˚.99N×65˚.09E,h12km,MW5.4/128, Moment Tensor Solution. s68,c105; s128,c245; Duration: 1ŝ2 Moment tensor: Scale 10¹⁷Nm; Mrr-1.19±.01; Mθθ0.99±.01; Mϕϕ0.19±.01; Mrθ0.50±.04; Mθϕ-0.54±.01; Mϕr-0.09±.04; Best double couple: M₀1.32900×10¹⁷ NP1:ϕs290.00000°,δ56.00000°, λ-97.00000°. NP2:ϕs124.00000°,δ35.00000°, λ-79.00000°. Principal axes: T 1.3590, Plg11.0000°, Azm26.0000°; N -0.0610, Plg6.0000°, Azm294.0000°; P -1.2990, Plg77.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***11*** *18:11:09.4±0.3,3˚.08N×65˚.13E,h10km,mb5.3/19 Error ellipse: s-maj=7.6km s-min=5.8km az=189.0*
ISC 11 18:11:10.3±0.5,3.07N±0.05×65.07E±0.04,h13km±2km, h13km:pP-P,n461,σ1ŝ73/484,mb5.1/179,MS4.8/72, 44C-29D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**11.05**	**148**	T	T	18 25 02.0	
	baz=328,slow=76,SNR=653						
H08N3	**Diego Garcia H**	**11.06**	**148**	T	T	18 25 03.0	
	baz=328,slow=76,SNR=714						
H08N1	**Diego Garcia H**	**11.07**	**148**	T	T	18 25 03.7	
	baz=328,slow=76,SNR=645						
DGAR	**Diego Garcia**	**12.75**	**145**	*i* P	**Pn**	**18 14 15.6**	**+4.1**
DGAR	**Diego Garcia**	**12.75**	**145**	*e*Pn	Pn	18 14 05.7	-5.7
PALK	**Pallekele**	**16.12**	**74**	Pn	**Pn**	**18 14 57.3**	**+0.4**
	0.2nm,0.3s,baz=295,slow=13,SNR=3.7						
PALK				LR	LR	18 19 47.8	
	comp=Z,7μm,20.1s,baz=295,slow=32						
PALK	**Pallekele**	**16.12**	**74**	*e*P	**Pn**	**18 14 56.0**	**-0.9**
PALK				pmax	pmax		
	comp=Z,78nm,1.3s						
PALK	**Pallekele**	**16.12**	**74**	*e*Pn	**Pn**	**18 14 56.0**	**-0.9**
	comp=Z,78nm,1.3s						
PALK	**Pallekele**	**16.12**	**74**	pP	**P**	**18 15 02.2**	**+2.0**
	SNR=6.8						
URV	**Uravakonda**	**16.85**	**45**	*e*P	**Pn**	**18 15 03.6**	**-2.6**
URV				lAmb	lAmb	18 15 15.6	
	comp=Z,283nm,1.7s						
SKHT	**Srikalahasti**	**17.94**	**53**	*e*P	**Pn**	**18 15 18.0**	**-1.7**
SKHT				lAmb	lAmb	18 15 27.6	
	comp=Z,443nm,2.1s						
KLRI	**Killari**	**18.71**	**36**	*e*P	**P**	**18 15 26.9**	**-1.9**
KLRI				lAmb	lAmb	18 15 37.2	
	comp=Z,150nm,1.3s						
SRLM	**Srisailam**	**18.78**	**46**	*e*P	**P**	**18 15 28.1**	**-1.5**
SRLM				lAmb	lAmb	18 15 34.1	
	comp=Z,247nm,1.7s						
NJS	**Nagarjunasagar**	**19.38**	**45**	*e*P	**P**	**18 15 35.0**	**-1.1**
NJS				lAmb	lAmb	18 15 44.1	
	comp=Z,150nm,1.5s						
ADKI	**Addanki**	**19.40**	**48**	*e*P	**P**	**18 15 34.8**	**-1.5**
ADKI				lAmb	lAmb	18 15 45.0	
	comp=Z,93nm,1.5s						
HYB	**Hyderabad**	**19.46**	**42**↑	*i*P	**Pn**	**18 15 39.0**	**+0.8**
	comp=Z,93nm,1.2s						
HYB				*e*S	**Sn**	**18 19 12.0**	**-4.5**
HYBB	**Hyderabad (bro**	**19.46**	**42**	*e*P	**P**	**18 15 35.4**	**-1.6**
HYBB				lAmb	lAmb	18 15 45.8	
	comp=Z,90nm,1.5s						
SRSP	**Sriramsagar**	**20.43**	**39**	*e*P	**P**	**18 15 48.2**	**+0.7**
SRSP				lAmb	lAmb	18 15 53.3	
	comp=Z,2μm,3.4s						
RPR	**Rampur**	**20.98**	**41**	*e*P	**P**	**18 15 53.8**	**+0.3**
RPR				lAmb	lAmb	18 16 00.8	
	comp=Z,187nm,1.4s						
BSY	**Bisya**	**21.00**	**339**	P	Pn	18 16 02.0	+5.8
	SNR=9.1						
BSY	**Bisya**	**21.00**	**339**	pP	Pn	18 16 02.0	+5.8
	SNR=9.1						
WSAR	**Wadi Sarin**	**21.00**	**343**	P	**P**	**18 15 54.4**	**+0.7**
	comp=Z,5.4nm,0.9s,baz=191,slow=12,SNR=3.3						
WSAR				LR	LR	18 22 19.5	
	comp=Z,4μm,20.2s,baz=176,slow=32						
SMDO	**Samad**	**21.01**	**342**	P	**P**	**18 15 60.0**	**+6.2**
	SNR=16						
SMDO	**Samad**	**21.01**	**342**	pPn	**P**	**18 15 60.0**	**+6.2**
	SNR=16						
BIDO	**Bidbid**	**21.42**	**342**	P	**P**	**18 16 04.0**	**+5.9**
	SNR=10						
BIDO	**Bidbid**	**21.42**	**342**	pP	**P**	**18 16 04.0**	**+5.9**
	SNR=10						
PVM	**Polavaram**	**21.52**	**48**	*e*P	**P**	**18 15 58.8**	**-0.4**
PVM				lAmb	lAmb	18 16 09.2	
	comp=Z,368nm,2.3s						
NGP	**Nagpur**	**22.55**	**36**↑	*ex*	**P**	**18 16 12.3**	**+2.0**
NGP				*ex*	Sn	18 20 25.2	-5.5
ALNE	**Al Ain**	**22.73**	**337**	*i* P	**P**	**18 16 14.8**	**+2.6**
	SNR=9.3						
ALNE	**Al Ain**	**22.73**	**337**	*i* P	**P**	**18 16 14.8**	**+2.6**
	SNR=9.3						
VIS	**Vishakhapatnam**	**23.09**	**50**	*i* x	**P**	**18 16 17.9**	**+1.9**
VIS				*i* x	Sn	18 20 47.0	+3.3
ASHO	**Ashiyiah**	**23.18**	**339**	pP	**P**	18 16 26.7	+10
	SNR=5.1						
HATD	**Hatta, Dubai**	**23.29**	**339**	P	**P**	**18 16 20.2**	**+2.3**
HATD	**Hatta, Dubai**	**23.29**	**339**	P	**P**	**18 16 20.2**	**+2.3**
UOSS	**Minazif**	**23.37**	**339**	P	**P**	**18 16 20.2**	**+1.4**
UOSS	**Minazif**	**23.37**	**339**	P	**P**	**18 16 20.2**	**+1.4**
ATD	**Arta Tunnel**	**23.57**	**292**	P	**P**	**18 16 23.4**	**+2.5**
	comp=Z,5.8nm,0.7s,baz=111,slow=10,SNR=6.4						
ATD				LR	LR	18 24 51.7	
	comp=Z,444nm,18.1s,baz=122,slow=35						
ATD	**Arta Tunnel**	**23.57**	**292**	*e*P	**P**	**18 16 23.8**	**+2.9**
	comp=Z,130nm,1.3s						
NAZ	**Nazwa, Dubai**	**23.61**	**338**	P	**P**	**18 16 23.6**	**+2.5**
NAZ	**Nazwa, Dubai**	**23.61**	**338**	P	**P**	**18 16 23.6**	**+2.5**
MSFE	**Esma-Masafi**	**23.77**	**340**	P	**P**	**18 16 24.9**	**+2.2**
MSFE	**Esma-Masafi**	**23.77**	**340**	P	**P**	**18 16 24.9**	**+2.2**
RAYN	**Ar Rayn**	**27.78**	**319**	*e*P	**P**	**18 17 01.1**	**+1.9**
RAYN				pmax	pmax		
	comp=Z,27nm,1.7s						
RAYN	**Ar Rayn**	**27.78**	**319**	*e*P	**P**	**18 17 00.1**	**+0.9**
	comp=Z,35nm,1.5s						
OPO	**Ambohidratompo**	**27.79**	**219**	LR	LR	18 25 54.6	
	comp=Z,6μm,18.3s,baz=28,slow=32						
KMBO	**Kilima Mbogo**	**28.11**	**262**	P	**P**	**18 17 02.5**	**-0.1**
	comp=Z,7.1nm,0.9s,baz=69,slow=9.3,SNR=5.1						
KMBO				LR	LR	18 26 12.9	
	comp=Z,2μm,21.9s,baz=93,slow=32						
KMBO	**Kilima Mbogo**	**28.11**	**262**	*i* P	**P**	**18 17 04.5**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PYUN	**Piuthan**	**30.20**	**33**	*e*P	**P**	**18 17 21.1**	**+0.2**
	comp=Z,277nm,1.7s						
KOLN	**Koldanda**	**30.28**	**34**	*e*P	**P**	**18 17 22.5**	**+0.9**
	comp=Z,415nm,1.5s						
DANN	**Dangsing**	**30.82**	**33**	*e*P	**P**	**18 17 26.5**	**+0.1**
DMN	**Daman**	**31.02**	**36**	*e*P	**P**	**18 17 29.1**	**+0.9**
	comp=Z,214nm,1.4s						
PKIN	**Phulchoki**	**31.17**	**37**	*e*P	**P**	**18 17 29.4**	**-0.1**
	comp=Z,129nm,1.4s						
PKI	**Pulchoki**	**31.17**	**37**	*e*P	**P**	**18 17 29.4**	**-0.2**
KKN	**Kakani**	**31.26**	**36**	*e*P	**P**	**18 17 30.5**	**+0.3**
	comp=Z,92nm,1.3s						
GUN	**Gumba**	**31.70**	**37**	*e*P	**P**	**18 17 34.8**	**+0.5**
	comp=Z,323nm,1.4s						
JIRN	**Jiri**	**31.71**	**37**	*e*P	**P**	**18 17 34.4**	**0.0**
	comp=Z,186nm,1.4s						
KCSI	**Kotacane, Aceh**	**32.65**	**88**	P	**P**	**18 17 43.4**	**+0.9**
PSI	**Prapat**	**33.81**	**90**	P	**P**	**18 17 53.1**	**+0.4**
	comp=Z,2.1nm,0.4s,baz=275,slow=10.0,SNR=6.7						
PSI				LR	LR	18 29 50.1	
	comp=Z,1μm,19.6s,baz=258,slow=33						
SISI	**Saibi**	**34.29**	**97**	P	P	18 18 02.3	+5.6
MBAR	**Mbarara**	**34.51**	**265**	P	**P**	**18 17 59.8**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=78,slow=10,SNR=4.5						
MNSI	**Mandailing Nat**	**34.56**	**93**	P	**P**	**18 18 00.1**	**+1.0**
GEYT	**Alibeck**	**35.28**	**350**	P	**P**	**18 18 05.8**	**+0.9**
	comp=Z,12nm,1.1s,baz=167,slow=7.0,SNR=11						
GEYT				PcP	**PcP**	**18 20 35.3**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=186,slow=5.8,SNR=2.5						
GEYT				LR	LR	18 32 02.0	
	comp=Z,3μm,21.2s,baz=155,slow=36						
SRDT	**SRDT**	**35.42**	**69**	P	**P**	**18 18 07.5**	**+1.1**
	comp=Z,32nm,1.4s,comp=Z,4μm						
PHET	**Kaeng Krachan**	**35.55**	**72**	P	P	18 18 15.3	+7.7
PDSI	**Padang**	**35.60**	**96**	P	**P**	**18 18 07.7**	**-0.4**
UTHA	**Uthaitani**	**36.05**	**68**	P	P	18 18 19.0	+7.2
LSA	**Lhasa**	**36.24**	**40**	P	**P**	**18 18 14.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LSA	**Lhasa**	**36.24**	**40**	P	**P**	**18 18 15.3**	**+1.4**
LSA	**Lhasa**	**36.24**	**40**	P	**P**	**18 18 15.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**36.52**	**63**	P	**P**	**18 18 16.7**	**+0.9**
	comp=Z,4.4nm,1.0s,baz=252,slow=9.6,SNR=36						
CMAR				PcP	**PcP**	**18 20 38.8**	**-0.7**
	comp=Z,1.7nm,1.1s,baz=244,slow=3.8,SNR=3.7						
CMAR				LR	LR	18 32 58.5	
	comp=Z,1μm,18.1s,baz=251,slow=36						
CM01	**Chiang Mai Arr**	**36.52**	**63**	*e*P	**P**	**18 18 15.6**	**-0.3**
CHTO	**Chiang Mai**	**36.65**	**62**	P	**P**	**18 18 17.8**	**+0.9**
	comp=Z,215nm,1.5s,comp=Z,4μm						
CHTO	**Chiang Mai**	**36.65**	**62**	*e*P	**P**	**18 18 16.1**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,97nm,1.4s						
CHTO	**Chiang Mai**	**36.65**	**62**	*e*P	**P**	**18 18 16.1**	**-0.8**
	comp=Z,97nm,1.4s						
CHTO	**Chiang Mai**	**36.65**	**62**	P	**P**	**18 18 18.2**	**+1.3**
	SNR=22						
CHTO	**Chiang Mai**	**36.65**	**62**	pP	**P**	**18 18 18.2**	**+1.3**
	SNR=22						
CMMT	**Chiang Mai**	**36.65**	**62**	P	**P**	**18 18 16.7**	**-0.3**
	comp=Z,65nm,1.2s,comp=Z,902nm						
CMAI	**Chiengmai2**	**37.15**	**61**	P	**P**	**18 18 23.0**	**+1.6**

comp=Z,417nm,0.8s
LAMP Lampang 37.15 63 P P 18 18 33.3 +12
PHIT Phitsanulok 37.42 66 P **P** **18 18 25.1 +1.6**
comp=Z,20nm,1.0s,comp=Z,192nm
NAYO Nakonayok 37.47 70 P P 18 18 29.2 +5.2
comp=Z,62nm,0.7s,comp=Z,5μm
SFK Sufi-Kurgan 37.57 11 P **P** **18 18 27.9 +3.2**
KSH Kashi 37.61 14 P **P** **18 18 21.5 -3.5**
KSH sP pP 18 18 26.2 -2.8
KSH PP **PP** **18 19 46.9 -4.1**
KSH PcP **PcP** **18 20 40.6 -2.1**
KSH S **S** **18 24 07.1 -7.3**
KSH PcS **PcS** **18 24 27.1 -4.2**
KSH pmax pmax
comp=Z,18nm,0.9s
KSH pmax pmax
comp=Z,340nm,4.9s
KSH LR LR
comp=Z,1μm,14.7s
KSH LR LR
comp=Z,450nm,12.5s
KSH LR LR
comp=Z,1μm,13.5s
SRAK Srakaew 38.08 71 P P 18 18 41.7 +13
CHBT CHBT 38.09 73 P **P** **18 18 25.1 -4.1**
comp=Z,4μm,1.2s,comp=Z,352μm
LKRN Lenkeran, Azer 38.47 339 P **P** **18 18 32.5 +0.5**
CHAI Chaiyaphum 38.50 68 P **P** **18 18 34.2 +1.6**
comp=Z,11nm,1.2s,comp=Z,112nm
EIL Elat 38.93 316 P **P** **18 18 38.2 +2.1**
comp=Z,3.7nm,0.7s,baz=126,slow=8.7,SNR=2.3
EIL LR LR 18 33 02.2
comp=Z,1μm,20.8s,baz=131,slow=34
IUG Iuzhnay 39.16 6⇓*i* P **P** **18 18 37.6 -0.4**
IUG LR LR 18 33 32.4
comp=Z,293nm,14.8s
ASF Jabal al Asfar 39.22 321 P **P** **18 18 39.3 +0.7**
comp=Z,1.0nm,0.4s,baz=126,slow=4.4,SNR=2.2
ASF LR LR 18 33 48.2
comp=Z,529nm,20.1s,baz=90,slow=35
CHM Chimkent 39.29 5 *i* P **P** **18 18 39.7 +0.7**
comp=Z,184nm,2.5s
CHM *e*S **S** **18 24 41.0 +1.4**
CHM LR LR 18 32 15.7
comp=Z,472nm,15.5s
KHON Khomkaen 39.39 68 P P 18 18 47.4 +7.3
MDSI Maura Dua 39.79 101 P **P** **18 18 45.1 +1.6**
MNAS Manas 39.81 9 P **P** **18 18 44.9 +1.5**
NAX Nakhchivan 40.11 336 P **P** **18 18 46.2 +0.3**
KKAR Karatay Array 40.16 6 *e*P **P** **18 18 50.0 +3.8**
KKAR Karatay Array 40.16 6 *e*P **P** **18 18 50.0 +3.8**
AAK Ala-Archa 40.29 11 LR LR 18 36 01.1
comp=Z,2μm,19.7s,baz=192,slow=37
AAK Ala-Archa 40.29 11⇓*i* P **P** **18 18 46.2 -1.2**
AAK pmax pmax
comp=Z,62nm,2.5s
AAK Ala-Archa 40.29 11 *e*P **P** **18 18 48.3 +0.8**
comp=Z,16nm,1.2s
AAK Ala-Archa 40.29 11 P **P** **18 18 48.8 +1.4**
SNR=9.0
AAK Ala-Archa 40.29 11 *i* P **P** **18 18 49.5 +2.1**
SNR=5.9
AAK Ala-Archa 40.29 11 *i* P **P** **18 18 49.5 +2.1**
SNR=5.9
KDJ Kajisay 40.38 14 P **P** **18 18 48.9 +0.7**
FRU Bishkek 40.50 11⇑*e*P **P** **18 18 50.0 +1.0**
FRU *e* 18 20 52.0
FRU pmax pmax
comp=Z,80nm,2.2s
FRU MLR MLR
comp=E,1μm,16.0s
SKNT Sakolnakorn 40.63 67 P **P** **18 18 52.4 +2.0**
comp=E,18nm,0.9s
MMAI Mount Meron Ar 40.73 320 P **P** **18 18 51.8 +0.7**
comp=E,1.3nm,0.7s,baz=99,slow=18,SNR=2.1
MMAI LR LR 18 34 24.8
comp=E,764nm,18.5s,baz=130,slow=34
TKM2 Tokmak 2 40.78 12 *i* P **P** **18 18 51.0 -0.5**
TKM2 pmax pmax
comp=Z,29nm,1.6s
LSZ Lusaka 40.80 242 P **P** **18 18 52.3 +0.4**
comp=Z,10nm,1.0s,baz=72,slow=6.8,SNR=9.0
LSZ PcP **PcP** **18 20 53.1 0.0**
comp=Z,3.4nm,0.8s,baz=69,slow=6.4,SNR=2.8
MNGR Mingechevir, A 40.90 339 P **P** **18 18 52.7 +0.5**
BMNS Besmoynak 40.98 12⇓*i* P **P** **18 18 53.2 +0.2**
BMNS LR LR 18 35 25.9
comp=Z,615nm,17.0s
GANJ Ganja 41.06 338 P **P** **18 18 54.0 +0.3**
SEKA Sheki 41.24 339 P **P** **18 18 55.2 0.0**
GNI Garni 41.25 336 P **P** **18 18 56.8 +1.5**
comp=Z,27nm,0.8s,baz=146,slow=4.6,SNR=28
GNI LR LR 18 36 27.4
comp=Z,896nm,18.2s,baz=140,slow=37
GNI Garni 41.25 336*d* *i*P **P** **18 18 54.8 -0.6**
GNI pmax pmax
comp=Z,700nm,2.5s
GNI Garni 41.25 336 *e*P **P** **18 18 57.3 +1.9**
GNI Garni 41.25 336 P **P** **18 18 57.3 +1.9**
SNR=23
GNI Garni 41.25 336 pP **P** **18 18 57.3 +1.9**
SNR=23
GNI Garni 41.25 336 *i* P **P** **18 18 56.9 +1.5**
SNR=16
GNI Garni 41.25 336 *i* P **P** **18 18 56.9 +1.5**
SNR=16
MDOK Medeo 41.33 13 *e*P **P** **18 18 56.6 +0.7**
comp=Z,168nm,2.5s
MDOK *i* S **S** **18 25 09.8 -0.4**
MDOK LR LR 18 32 56.2
comp=Z,740nm,17.0s
AAA Alma-Ata 41.34 13 *i* P **P** **18 18 56.1 +0.1**
comp=Z,243nm,2.5s
AAA LR LR 18 33 59.7
comp=Z,558nm,17.0s
SATY Saty 41.56 15 *i* P **P** **18 18 57.7 -0.1**
SATY *e*S **S** **18 25 13.9 +0.3**
UZB Uzynbulak 41.80 15 *i* P **P** **18 18 59.8 -0.1**
comp=Z,133nm,2.5s
UZB *i* S **S** **18 25 17.6 +0.4**
ZKTA Zakatala 41.82 339 P **P** **18 19 00.6 +0.7**
KUU Kurty 41.87 12 *i* P **P** **18 19 00.5 +0.3**
comp=Z,60nm,2.5s
KUU LR LR 18 34 36.5
comp=Z,342nm,14.8s
KPKS Kokpek 42.01 15 *i* P **P** **18 19 01.4 -0.1**
PDGK Podgornoye 42.09 16 *i* P **P** **18 19 01.3 -0.9**
PDGK pmax pmax
comp=Z,77nm,1.4s
KMI Kunming 42.36 55 P **P** **18 19 05.2 +0.4**
KMI pP pP 18 19 08.0 -0.9
KMI sP sP 18 19 09.4 -1.1
KMI PP **PP** **18 20 46.7 +3.7**
KMI S **S** **18 25 26.2 0.0**
KMI pmax pmax
comp=Z,20nm,1.1s
KMI pmax pmax
comp=Z,310nm,4.2s
KMI LR LR
comp=Z,720nm,17.8s
KMI LR LR
comp=Z,920nm,18.5s
KMI LR LR
comp=Z,1μm,21.5s
BTLS Baital 42.54 9 *i* P **P** **18 19 05.4 -0.3**
MATP Matopo 42.80 235 P **P** **18 19 08.0 -0.2**
comp=Z,8.3nm,1.1s,baz=50,slow=7.9,SNR=3.5
MATP PcP **PcP** **18 20 58.5 -1.2**
comp=Z,3.1nm,0.9s,baz=78,slow=6.1,SNR=3.2
MATP LR LR 18 33 52.9
comp=Z,2μm,21.6s,baz=70,slow=32
AKH Akhalkalaki 42.82 336 *e*P **P** **18 19 09.0 +0.8**
AKH pmax pmax
comp=Z,99nm,1.3s
AKH Akhalkalaki 42.82 336 *e*P **P** **18 19 09.0 +0.8**
comp=Z,99nm,1.3s
TDK Taldyyorghan 43.38 14 *i* P **P** **18 19 12.9 +0.3**
comp=Z,221nm,2.2s
GROC Groznyy 43.49 339 *e*P **P** **18 19 12.5 -0.9**
GROC *e* 18 21 00.5
GROC pmax pmax
comp=Z,88nm,1.4s
LEM Lembang 43.60 103 P **P** **18 19 15.3 +0.5**
comp=Z,26nm,1.0s,baz=348,slow=13,SNR=5.0
LEM LR LR 18 34 45.9
comp=Z,1μm,20.7s,baz=244,slow=33

ZEI Tsey 43.83 337 *e*P **P** **18 19 17.2 +0.9**
ZEI *e* 18 21 01.7
ZEI pmax pmax
comp=Z,23nm,1.3s
NCK Nalchik 44.55 338 *e*P **P** **18 19 22.0 +0.1**
NCK pmax pmax
comp=Z,14nm,1.2s
KBZ Khabaz 45.01 337 P **P** **18 19 26.2 +0.7**
comp=Z,12nm,1.0s,baz=163,slow=9.0,SNR=18
KBZ PcP **PcP** **18 21 07.4 +0.9**
comp=Z,2.9nm,1.0s,baz=86,slow=3.0,SNR=1.7
KBZ LR LR 18 39 03.1
comp=Z,615nm,21.2s,baz=140,slow=37
WMQ Urumqi 45.27 23 P **P** **18 19 28.4 +0.7**
WMQ pP sP 18 19 33.3 -0.1
WMQ sP pP 18 19 37.1 +5.3
WMQ PP **PP** **18 21 20.0 +6.3**
WMQ S **S** **18 26 10.3 +2.5**
WMQ pmax pmax
comp=Z,56nm,1.1s
WMQ pmax pmax
comp=Z,1μm,4.5s
WMQ LR LR
comp=Z,3μm,20.3s
WMQ LR LR
comp=Z,5μm,20.3s
WMQ LR LR
comp=Z,5μm,25.5s
KVAR Kislovodsk Arr 45.28 337 P **P** **18 19 28.4 +0.5**
comp=Z,7.3nm,0.9s,baz=133,slow=12,SNR=8.2
KVAR PcP **PcP** **18 21 08.5 +0.9**
comp=Z,4.5nm,1.0s,baz=243,slow=4.5,SNR=2.7
KIV Kislovodsk 45.28 337 *e*P **P** **18 19 28.3 +0.4**
KIV *e* 18 21 14.5
KIV *e*S **S** **18 26 09.7 +1.6**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,458nm,16.0s
KIV Kislovodsk 45.28 337 *e*P **P** **18 19 27.5 -0.3**
KIV Kislovodsk 45.28 337 P **P** **18 19 28.0 +0.1**
SNR=11
KIV Kislovodsk 45.28 337 P **P** **18 19 28.0 +0.1**
SNR=11
KIV Kislovodsk 45.28 337 P **P** **18 19 28.5 +0.6**
KIV Kislovodsk 45.28 337 P **P** **18 19 28.5 +0.6**
OTUK Ortayu 45.44 7 P P 18 19 38.3 +9.3
OTUK pmax pmax
comp=Z,88nm,1.8s
CD2 Chengdu 45.81 49 P **P** **18 19 32.0 -0.2**
CD2 pP pP 18 19 34.6 -1.7
CD2 PcS **PcS** **18 25 02.9 -1.1**
CD2 S **S** **18 26 16.3 +0.3**
CD2 SS **SS** **18 29 42.3 +1.7**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.0s
CD2 LR LR
comp=Z,2μm,23.3s
CD2 LR LR
comp=Z,2μm,18.8s
CD2 LR LR
comp=Z,2μm,21.8s
MAKZ Makanchi 45.98 16 *e*P **P** **18 19 32.5 -0.7**
MAKZ pmax pmax
comp=Z,48nm,1.5s
MAKZ Makanchi 45.98 16 *e*P **P** **18 19 32.5 -0.7**
comp=Z,48nm,1.5s
MK01 Makanchi Array 46.04 16 *e*P **P** **18 19 32.5 -1.3**
MK31 Makanchi Array 46.06 16 *i* P **P** **18 19 32.7 -1.2**
MK31 pmax pmax
comp=Z,53nm,1.9s
MK31 Makanchi Array 46.06 16 *e*P **P** **18 19 32.9 -1.0**
MKAR Makanchi Array 46.06 16 P **P** **18 19 33.1 -0.8**
comp=Z,2.5nm,0.8s,baz=208,slow=9.1,SNR=19
MKAR PcP **PcP** **18 21 09.4 -0.7**
comp=Z,2.2nm,0.9s,baz=212,slow=4.3,SNR=4.5
MKAR Makanchi Array 46.06 16 *e*P **P** **18 19 32.9 -1.0**
MKAR 18 21 09.5
MKAR pmax pmax
comp=Z,68nm,1.1s
MKAR Makanchi Array 46.06 16 *e*P **P** **18 19 32.9 -1.0**
comp=Z,68nm,1.1s
MKAR PcP **PcP** **18 21 09.4 -0.7**
GOF Gofitskoye 46.09 338⇑*e*P **P** **18 19 35.3 +1.2**
GOF pmax pmax
comp=Z,78nm,1.6s
GYA Guiyang 46.13 56 P **P** **18 19 30.4 -4.5**
GYA PcP **PcP** **18 21 11.0 0.0**
GYA PP **PP** **18 21 23.5 +0.3**
GYA ScP **ScP** **18 25 03.3 -0.9**
GYA S S 18 26 30.0 +9.1
GYA Guiyang 46.13 56 SS SS 18 29 38.7 -7.6
SOC Sochi 46.19 334 *e*P P 18 19 24.9 -10
SOC *e* 18 21 21.1
SOC *e*SS SS 18 29 38.1 -8.3
SOC MLR MLR
comp=Z,963nm,17.0s
AB31 Akbulak array 46.23 355 *i* P **P** **18 19 35.1 0.0**
AB31 pmax pmax
comp=Z,53nm,1.6s
ABKAR Akbulak array 46.23 355 *e*P **P** **18 19 35.2 +0.1**
BR131 Keskin Array S 46.29 326 *e*P **P** **18 19 36.3 +0.3**
BRTR Keskin Array B 46.29 326 P **P** **18 19 36.0 0.0**
comp=Z,9.0nm,0.8s,baz=145,slow=9.4,SNR=48
BRTR LR LR 18 39 30.3
comp=Z,1μm,18.9s,baz=117,slow=37
BRTR Keskin Array B 46.29 326 *i* P **P** **18 19 36.2 +0.2**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
QIZ Qiongzhong 46.54 67 P **P** **18 19 38.2 +0.1**
QIZ S **S** **18 26 25.9 -0.8**
QIZ LR LR
comp=Z,1μm,13.7s
QIZ LR LR
comp=Z,1μm,17.7s
BR231 Keskin MP Arra 46.86 326 *e*P **P** **18 19 36.2 -4.1**
ISP Isparta 46.86 322*ce*P **P** **18 19 39.8 -0.6**
ISP pmax pmax
comp=Z,40nm,1.7s
LBTB Lobatse 47.38 232 P **P** **18 19 44.6 0.0**
comp=Z,13nm,1.0s,baz=50,slow=7.4,SNR=6.6
ZSN Zaisan 47.41 18 *i* P **P** **18 19 44.2 -0.2**
comp=Z,30nm,2.5s
AKTO Aktyubinsk 47.58 354 P **P** **18 19 45.0 -0.7**
comp=Z,7.2nm,0.8s,baz=165,slow=8.9,SNR=28
AKTO Aktyubinsk 47.58 354 P **P** **18 19 45.0 -0.7**
GTA Gaotai 47.99 36 *e*P **P** **18 19 48.7 -0.5**
GTA pP pP 18 19 52.9 -0.4
GTA sP sP 18 19 56.2 +1.3
GTA S **S** **18 26 49.3 +2.2**
GTA sS sS 18 26 57.6 +3.8
GTA SS **SS** **18 30 13.6 -2.5**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,170nm,5.7s
GTA LR LR
comp=Z,1μm,19.2s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,2μm,21.9s
ANN Anapa 48.15 334 *e*P **P** **18 19 46.7 -3.5**
ANN *e**PP **pP** **18 19 51.9 -2.4**
ANN *e*S **S** **18 26 45.6 -3.3**
ANN pmax pmax
comp=Z,58nm,1.3s
ANN MLR MLR
comp=E,789nm,18.0s
ANN MLR MLR
comp=Z,678nm,18.0s
ANN MLR MLR
comp=N,786nm,18.0s
LZH Lanzhou 48.57 43 *e*P **P** **18 19 55.9 +2.1**
LZH pP sP 18 20 00.0 +0.5
LZH sP pP 18 20 02.5 +4.6
LZH *e*PP **PP** **18 21 46.0 -0.7**
LZH pmax pmax
comp=N,22nm,1.0s
LZH pmax pmax
comp=N,280nm,6.7s
LZH LR LR
comp=N,720nm,14.5s

LZH LR LR
comp=N,860nm,14.0s
LZH LR LR
comp=N,1μm,16.5s
KURBB Kurchatov Arra 48.73 11 P **P** **18 19 54.0 -0.5**
comp=N,2.0nm,0.7s,baz=210,slow=8.1,SNR=16
KURBB PcP **PcP** **18 21 18.9 -0.6**
comp=N,0.9nm,0.2s,baz=214,slow=3.4,SNR=3.7
KURK Kurchatov 48.84 11*ce*P **P** **18 19 54.2 -1.2**
KURK pmax pmax
comp=Z,441nm,2.5s
KURK Kurchatov 48.84 11 P **P** **18 19 54.0 -1.4**
KURK PcP **PcP** **18 21 18.9 -1.0**
KURK Kurchatov 48.84 11 P **P** **18 19 56.2 +0.8**
SNR=12
SEM Semipalatinsk 48.89 13 *i* P **P** **18 19 56.2 +0.2**
comp=Z,130nm,2.5s
SEM *i* S **S** **18 27 00.1 +0.5**
SEM LR LR 18 37 40.2
comp=Z,402nm,14.8s
IDI Anoyia 49.10 316 P **P** **18 19 58.1 +0.3**
comp=Z,19nm,0.9s,baz=227,slow=3.5,SNR=4.6
IDI LR LR 18 41 27.0
comp=Z,206nm,21.4s,baz=87,slow=37
BOSA Boshof 49.52 228 P **P** **18 20 01.2 0.0**
comp=Z,11nm,1.0s,baz=66,slow=8.1,SNR=7.6
BOSA LR LR 18 39 38.6
comp=Z,2μm,18.1s,baz=52,slow=34
BOSA Boshof 49.52 228 *e*P **P** **18 20 01.4 +0.2**
BOSA pmax pmax
comp=Z,32nm,0.9s
BOSA Boshof 49.52 228 *e*P **P** **18 20 01.4 +0.2**
comp=Z,32nm,0.9s
SIM Simferopol' 49.79 331*c* *i*P **P** **18 20 04.1 +1.3**
SIM *e* 18 22 00.0
SIM *e*PPP PPP 18 22 56.0
SIM *e*S **S** **18 27 20.0 +8.0**
SIM pmax pmax
comp=Z,37nm,1.2s
SIM pmax pmax
comp=Z,170nm,9.6s
SIM MLR MLR
comp=N,250nm,19.6s
BVA0 Borovoye Array 49.99 4 *i* P **P** **18 20 03.1 -1.1**
BVA0 pmax pmax
comp=Z,39nm,1.6s
BVAR Borovoye Array 49.99 4 P **P** **18 20 03.8 -0.4**
comp=Z,1.2nm,0.9s,baz=178,slow=5.3,SNR=4.7
BVAR PcP **PcP** **18 21 23.5 -0.6**
comp=Z,1.2nm,0.8s,baz=203,slow=6.3,SNR=2.6
BVAR LR LR 18 42 03.6
comp=Z,1μm,19.6s,baz=187,slow=37
BRVK Borovoye 50.02 4*ce*P **P** **18 20 04.8 +0.5**
BRVK pmax pmax
comp=Z,115nm,2.5s
BRVK Borovoye 50.02 4 *e*P **P** **18 20 04.8 +0.5**
comp=Z,32nm,1.4s
BRVK Borovoye 50.02 4 P **P** **18 20 04.1 -0.2**
SNR=14
DGZ Jazzator, Alta 50.21 19 *e*P **P** **18 20 05.1 -1.0**
XAN Xi'an 51.13 48 P **P** **18 20 12.4 -0.8**
XAN pP pP 18 20 16.6 -0.7
XAN sP sP 18 20 18.6 -0.3
XAN PP **PP** **18 22 09.3 -0.7**
XAN S **S** **18 27 27.0 -4.1**
XAN pmax pmax
comp=Z,26nm,1.7s
XAN pmax pmax
comp=Z,380nm,3.9s
XAN LR LR
comp=Z,550nm,15.7s
XAN LR LR
comp=Z,650nm,17.3s
XAN LR LR
comp=Z,730nm,22.8s
VRH Novokhopyorsk 51.82 342 *e*P **P** **18 20 17.2 -0.7**
VRH *e**PP **pP** **18 20 22.2 +0.1**
VRH pmax pmax
comp=Z,10.0nm,1.1s
TIRR Tirgusor 52.35 327⇑*i*P **P** **18 20 21.6 -0.4**
TIRR Tirgusor 52.35 327 ⇑P **P** **18 20 21.7 -0.3**
TIRR Tirgusor 52.35 327 *e*P **P** **18 20 21.4 -0.6**
TLB Topalu 52.64 327⇑*i*P **P** **18 20 24.3 +0.2**
TLB Topalu 52.64 327 ⇑P **P** **18 20 24.3 +0.2**
VSR Storozhevoye 52.68 340 *e*P **P** **18 20 23.4 -0.9**
VSR *e**PP **pP** **18 20 28.6 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
HARR Harsova 52.77 327⇓*i*P **P** **18 20 25.8 +0.7**
HARR Harsova 52.77 327 ⇓P **P** **18 20 25.8 +0.7**
AGG Agios Georgios 52.80 318 *e*P **P** **18 20 24.6 -0.9**
AGG pmax pmax
comp=Z,231nm,1.4s
AGG Agios Georgios 52.80 318 *e*P **P** **18 20 24.6 -0.9**
comp=Z,231nm,1.4s
CFR Carcaliu 52.98 328⇓*i*P **P** **18 20 26.1 -0.5**
CFR Carcaliu 52.98 328 ⇓P **P** **18 20 26.1 -0.5**
ZAA0 Zalesovo Array 53.25 14 *e*P **P** **18 20 25.4 -3.0**
comp=Z,23nm,0.9s
ZALV Zalesovo Beam 53.25 14 P **P** **18 20 27.2 -1.2**
comp=Z,6.4nm,0.7s,baz=220,slow=7.1,SNR=24
ZALV PcP **PcP** **18 21 35.7 -0.5**
comp=Z,2.0nm,0.8s,baz=235,slow=5.1,SNR=1.8
ZALV Zalesovo Beam 53.25 14 *e*P **P** **18 20 26.5 -2.0**
ZALV 18 21 35.7
ZALV Zalesovo Beam 53.25 14 *e*P **P** **18 20 26.5 -2.0**
ZALV PcP **PcP** **18 21 35.7 -0.5**
ARU Arti 53.46 356 P **P** **18 20 28.8 -1.2**
comp=Z,2.5nm,0.7s,baz=151,slow=1.3,SNR=5.7
ARU Arti 53.46 356*c* *i*P **P** **18 20 29.1 -0.9**
ARU 18 21 33.9
ARU S **S** **18 28 02.9 +0.8**
ARU pmax pmax
comp=Z,20nm,1.7s
ARU MLR MLR
comp=Z,795nm,22.0s
ARU Arti 53.46 356 *e*P **P** **18 20 28.6 -1.4**
HVS Khovu-Aksy 53.60 22 *e*P **P** **18 20 31.5 +0.3**
HVS pmax pmax
comp=Z,57nm,1.6s
NVS Novosibirsk 53.69 13 *e*P **P** **18 20 31.2 -0.5**
NVS pmax pmax
comp=Z,37nm,1.1s
NVS pmax pmax
comp=N,24nm,1.3s
SVE Sverdlovsk 53.72 357⇑*i*P P 18 20 37.3 +5.4
SVE pmax pmax
comp=Z,45nm,1.5s
SVE MLR MLR
comp=Z,1μm,18.0s
LEOM Leova 53.78 329⇓*i*P **P** **18 20 30.5 -2.0**
LEOM Leova 53.78 329 ⇓P **P** **18 20 30.5 -2.0**
ISR Istrita 53.80 327⇑*i*P **P** **18 20 33.1 +0.3**
ISR Istrita 53.80 327 ⇑P **P** **18 20 33.1 +0.3**
KIS Kishinev 53.85 330 *e*P **P** **18 20 31.0 -2.0**
comp=Z,200nm,2.0s
KIS *e*L L 18 41 00.0
KIS LRM MLR 18 46 20.0
comp=Z,600nm,18.0s
KIS Kishinev 53.85 330 *e*P **P** **18 20 31.0 -2.0**
KIS *i* 18 20 37.0
KIS pmax pmax
comp=Z,210nm,2.0s
KIS MLR MLR
comp=Z,600nm,17.0s
KIS MLR MLR
comp=Z,600nm,18.0s
LPSR Galich'ya Gora 53.92 341 *e*P **P** **18 20 33.1 -0.3**
LPSR *e**PP **pP** **18 20 38.2 +0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
WHN Wuhan 53.92 54 ⇑P **P** **18 20 33.5 -0.4**
WHN pP **sP** **18 20 39.9 +0.3**
WHN S **S** **18 28 07.3 -2.0**
WHN LR LR
comp=Z,3μm,18.6s
ODBI Odobesti 53.94 328⇑*i*P **P** **18 20 34.3 +0.6**
VRI Vrincioaia 54.18 328⇓*i*P **P** **18 20 35.2 -0.3**
VRI Vrincioaia 54.18 328 ⇓P **P** **18 20 35.2 -0.3**
VTS Vitosha 54.19 323⇑*i*P **P** **18 20 36.8 +1.0**
VTS Vitosha 54.19 323 ⇑P **P** **18 20 36.8 +1.0**
VTS Vitosha 54.19 323 *e*P **P** **18 20 35.9 0.0**
comp=Z,79nm,1.4s
PLOR Plostina 54.21 328⇓*i*P **P** **18 20 35.6 -0.1**
PLOR Plostina 54.21 328 ⇓P **P** **18 20 35.6 -0.1**

HUMR Humele 54.30 325 ⇓*i*P **P 18 20 36.8 +0.4**
MLR Muntele Rosu 54.36 327 P **P 18 20 37.2 +0.3**
comp=Z,0.7nm,0.5s,baz=153,slow=4.3,SNR=14
MLR LR LR 18 44 05.2
comp=Z,170nm,20.9s,baz=120,slow=36
MLR Muntele Rosu 54.36 327 ⇑*i*P **P 18 20 37.0 0.0**
MLR Muntele Rosu 54.36 327 ⇑P **P 18 20 37.0 0.0**
IAS Iasi 54.61 329 ⇓*i*P **P 18 20 35.9 -2.7**
IAS Iasi 54.61 329 ⇓P **P 18 20 35.9 -2.7**
TESR Tescani 54.64 328 ⇓*i*P **P 18 20 37.4 -1.4**
VOIR 54.82 326 ⇓*i*P **P 18 20 40.0 -0.2**
VOIR 54.82 326 ⇓P **P 18 20 40.0 -0.2**
DOPR Dopca 54.96 327 ⇓*i*P **P 18 20 41.0 -0.2**
ARR Arges 55.01 326 ⇑*i*P **P 18 20 41.5 -0.1**
BTO Baotou 55.08 41 *e*P P 18 20 32.7 -10
TIY Taiyuan 55.34 45 *e*P **P 18 20 44.0 -0.1**
TIY S **S 18 28 24.1 -4.2**
TIY LR LR
comp=Z,540nm,14.9s
TIY LR LR
comp=Z,1μm,22.4s
TIY LR LR
comp=Z,830nm,21.4s
LOT Lotru 55.54 326 ⇓*i*P **P 18 20 46.3 +0.8**
BURAR Bucovina Array 56.10 329 ⇓*i*P **P 18 20 47.0 -2.4**
BURAR Bucovina Array 56.10 329 ⇓P **P 18 20 47.0 -2.4**
BUR04 Bucovina Ar. S 56.10 329 *e*P **P 18 20 49.8 +0.3**
TGY Tagaytay City 56.19 75 LR LR 18 42 02.1
comp=Z,803nm,21.9s,baz=286,slow=33
HHC Hu-ho-hao-te 56.22 41 *e*P **P 18 20 52.0 +1.6**
HHC pP sP 18 20 56.2 0.0
HHC PP **PP 18 22 58.4 +2.6**
HHC S **S 18 28 39.0 -0.9**
HHC sS sS 18 28 51.3 +4.5
HHC SS **SS 18 32 30.8 +4.1**
HHC pmax pmax
comp=Z,27nm,1.2s
HHC pmax pmax
comp=Z,320nm,4.1s
HHC LR LR
comp=Z,1μm,16.3s
HHC LR LR
comp=Z,760nm,14.5s
HHC LR LR
comp=Z,1μm,18.0s
ARCR ARCALIA 56.22 328 ⇓*i*P **P 18 20 48.7 -1.5**
AKASG Malin Array Be 56.24 333 P **P 18 20 48.5 -1.7**
comp=Z,2.9nm,0.8s,baz=126,slow=5.8,SNR=19
AKASG PcP **PcP 18 21 46.9 -0.8**
comp=Z,0.8nm,0.6s,baz=120,slow=2.8,SNR=4.5
AKASG PP **PP 18 22 58.9 +3.3**
comp=Z,0.2nm,0.3s,baz=136,slow=8.2,SNR=5.2
AKBB Malin Array Si 56.24 333 *e*P **P 18 20 48.8 -1.4**
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 56.24 333 *e*P **P 18 20 48.8 -1.4**
comp=Z,17nm,0.9s
KIEV Kiev 56.24 333 *ce*P **P 18 20 48.4 -1.8**
KIEV pmax pmax
comp=Z,18nm,1.7s
KIEV Kiev 56.24 333 *e*P **P 18 20 48.2 -2.0**
comp=Z,17nm,1.0s
KIEV Kiev 56.24 333 *i* P **P 18 20 48.3 -2.0**
SNR=8.5
KIEV Kiev 56.24 333 *i* P **P 18 20 48.3 -2.0**
SNR=8.5
AK11 Malin Array Si 56.25 333 *e*P **P 18 20 49.3 -1.0**
SOKR Solikamsk 56.75 355 *e*P **P 18 20 57.4 +3.8**
SOKR PPP PPP 18 24 18.5
SOKR S **S 18 28 48.9 +2.9**
SOKR pmax pmax
comp=Z,45nm,1.5s
SOKR MLR MLR
comp=Z,501nm,18.0s
OBN Obninsk 56.79 341 *ce*P **P 18 20 53.8 -0.2**
OBN *e* 18 20 58.8
OBN pmax pmax
comp=Z,57nm,1.7s
OBN MLR MLR
comp=Z,487nm,18.0s
BZS Buzias 56.86 325 ⇑*i*P **P 18 20 54.4 -0.4**
BZS Buzias 56.86 325 ⇑P **P 18 20 54.4 -0.4**
DRGR 56.93 326 ⇑*i*P **P 18 20 54.3 -1.1**
DRGR 56.93 326 ⇑P **P 18 20 54.3 -1.1**
MOY Mondy 56.96 26 *e*P **P 18 20 54.5 -1.0**
MOY pmax pmax
comp=Z,42nm,1.7s
MOS Moscow 56.97 342 *e*P **P 18 20 53.0 -2.4**
MOS pmax pmax
comp=Z,179nm,1.3s
MOS pmax pmax
comp=Z,300nm,1.7s
SONM Songino Array 57.01 32 P **P 18 20 55.7 -0.3**
comp=Z,3.6nm,0.8s,baz=225,slow=7.6,SNR=22
SONM PcP **PcP 18 21 50.1 -0.9**
comp=Z,2.0nm,0.9s,baz=229,slow=1.5,SNR=1.9
SONM LR LR 18 45 17.1
comp=Z,2μm,21.2s,baz=238,slow=36
SONA1 Songino Array 57.02 32 *e*P **P 18 20 55.7 -0.4**
ZAK Zakamensk 57.10 28 *e*P **P 18 20 56.1 -0.5**
ZAK pmax pmax
comp=Z,11nm,1.7s
ULN Ulaanbaatar 57.38 32 *e*P **P 18 20 58.3 -0.3**
ULN pmax pmax
comp=Z,4.0nm,1.3s
ULN Ulaanbaatar 57.38 32 P **P 18 21 00.1 +1.5**
SNR=12
ULN Ulaanbaatar 57.38 32 pP **P 18 21 00.1 +1.5**
SNR=12
NJ2 Nanjing 58.06 54 *e*P **P 18 21 04.5 +1.0**
NJ2 S **S 18 29 11.6 +7.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 LR LR
comp=Z,990nm,19.5s
NJ2 LR LR
comp=Z,940nm,16.8s
NJ2 LR LR
comp=Z,1μm,18.7s
LVV L'vov 58.10 330 *e*P **P 18 21 04.9 +1.4**
TIA Tai'an 58.14 49 P **P 18 21 03.7 -0.3**
TIA S **S 18 29 13.1 +7.8**
TIA pmax pmax
comp=Z,12nm,1.2s
TIA pmax pmax
comp=Z,260nm,4.7s
TIA LR LR
comp=Z,590nm,19.8s
TIA LR LR
comp=Z,350nm,16.7s
TLY Talaya 58.16 27 *e*P **P 18 21 04.1 +0.3**
TLY *e*S **S 18 29 04.7 -0.3**
TLY pmax pmax
comp=Z,44nm,1.9s
TLY MLR MLR
comp=Z,885nm,16.0s
UZH Uzhgorod 58.26 328 *i* P **P 18 21 04.0 -0.6**
UZH *e* 18 21 10.6
KWP Kalwaria Pacla 58.66 329 *e*P **P 18 21 08.2 +0.8**
KWP Kalwaria Pacla 58.66 329 *e*P **P 18 21 08.2 +0.8**
IRK Irkutsk 58.82 27 *e*P **P 18 21 09.1 +0.6**
IRK pmax pmax
comp=Z,55nm,4.7s
CRVS Cervenica-Dubn 58.87 328 *e*P **P 18 21 09.1 +0.3**
CRVS *e* 18 21 14.8
CRVS Cervenica-Dubn 58.87 328 *e*P **P 18 21 09.1 +0.3**
CRVS *e* 18 21 14.8
KECS Kecovo 59.15 327 *e*P **P 18 21 08.9 -1.9**
KECS pmax pmax
comp=Z,5.0nm,1.3s
KECS Kecovo 59.15 327 *e*P **P 18 21 08.9 -1.9**
PSZ Piszkesteto 59.15 326 ⇑*i*P **P 18 21 10.9 0.0**
PSZ Piszkesteto 59.15 326 ⇑P **P 18 21 10.9 0.0**
H01W3 Cape Leeuwin H 59.50 134 T T 19 25 33.6
baz=299,slow=75,SNR=85
H01W2 Cape Leeuwin H 59.50 134 T T 19 25 33.9
baz=299,slow=75,SNR=82
H01W1 Cape Leeuwin H 59.51 134 T T 19 25 40.7
baz=299,slow=75,SNR=84
BATI Baumata 59.81 104 P **P 18 21 17.3 +1.3**
comp=Z,5.6nm,0.4s,baz=252,slow=3.2,SNR=2.7
VYHS Vyhne 60.05 326 *e*P **P 18 21 15.4 -1.7**
VYHS *e* 18 21 21.2
VYHS pmax pmax
comp=Z,51nm,2.3s
VYHS Vyhne 60.05 326 *e*P **P 18 21 15.4 -1.7**
VYHS *e* 18 21 21.2
LANS Liptovska Anna 60.08 327 *e*P **P 18 21 16.6 -0.6**
LANS *e* 18 21 22.1
LANS Liptovska Anna 60.08 327 *e*P **P 18 21 16.6 -0.6**
LANS *e* 18 21 22.1
NACGM Naroch 60.26 336 *e* P **P 18 21 16.0 -2.3**
IDID Didziasalis 60.57 336 *e*P **P 18 21 24.9 +4.6**
IDID IAmb IAmb 18 21 26.9
comp=Z,14nm,1.0s
GOLS Golise 60.62 323 *e*P **P 18 21 20.9 -0.1**
KEST Kesra 60.76 310 LR LR 18 47 53.9
comp=Z,502nm,18.4s,baz=23,slow=36
DOBS Dobrina 60.78 323 *e*P **P 18 21 21.9 -0.2**
IIGN Ignalina 60.80 336 *e*P **P 18 21 26.4 +4.4**
IIGN IAmb IAmb 18 21 28.5
comp=Z,18nm,1.0s
KLMR Klimovskoe 60.83 346 *e*P **P 18 21 19.6 -2.5**
KLMR *e* 18 23 33.8
KLMR pmax pmax
comp=Z,81nm,1.3s
KLMR Klimovskoe 60.83 346 *e*P **P 18 21 19.7 -2.4**
KLMR AMP 18 21 27.5
comp=Z,81nm,1.3s
KLMR *e*PP **PP 18 23 33.9 -2.3**
KLMR LQ LQ 18 43 40.0
KLMR LQ LQ 18 43 40.0
KLMR LR LR 18 46 50.0
ISAL Salakas 61.00 336 *e*P **P 18 21 27.6 +4.3**
ISAL IAmb IAmb 18 21 33.7
comp=Z,7.2nm,0.9s
IZAR Zarasai 61.07 336 *e*P **P 18 21 28.2 +4.4**
IZAR IAmb IAmb 18 21 30.1
comp=Z,16nm,0.7s
ARSA Arzberg 61.30 324 *e*P **P 18 21 24.9 -0.6**
comp=Z,27nm,1.4s
SOKA Soboth 61.30 323 *e*P **P 18 21 25.1 -0.6**
comp=Z,25nm,1.4s
CONA Conrad Observa 61.44 325 *e*P **P 18 21 25.9 -0.7**
comp=Z,29nm,1.2s
OBKA Obir 61.51 323 *e*P **P 18 21 26.5 -0.6**
comp=Z,24nm,1.3s
VRAC Vranov 61.74 326 P **P 18 21 28.2 -0.3**
comp=Z,20nm,1.2s,baz=126,slow=5.6,SNR=9.9
VRAC Vranov 61.74 326 ⇑*i*P **P 18 21 26.2 -2.3**
VRAC Vranov 61.74 326 ⇑P **P 18 21 26.2 -2.3**
MYKA Terra Mystica 62.12 322 *e*P **P 18 21 31.9 +0.7**
comp=Z,30nm,1.5s
MOA Molln 62.33 324 *e*P **P 18 21 31.1 -1.4**
comp=Z,29nm,1.1s
TREC Trest 62.35 326 AMS AMS 18 49 50.0
DPC Dobruska-Polom 62.44 327 *e*P **P 18 21 32.5 -0.7**
DPC *ep*P **pP 18 21 37.2 -0.3**
DPC Dobruska-Polom 62.44 327 *e*P **P 18 21 32.5 -0.7**
DPC *e* 18 21 37.2
KBA Koelnbreinsper 62.51 323 *e*P **P 18 21 34.4 +0.4**
comp=Z,21nm,1.6s
UPC Upice 62.69 327 AMS AMS 18 46 40.0
VSU Vasula 62.81 339 *e*P **P 18 21 36.3 +0.9**
VSU pmax pmax
comp=Z,37nm,0.9s
ABTA Abfaltersbach 62.87 322 *e*P **P 18 21 35.7 -0.5**
comp=Z,24nm,1.3s
GERES GERESS Array B 63.14 325 P **P 18 21 36.1 -1.9**
comp=Z,1.4nm,1.0s,baz=132,slow=6.0,SNR=9.8
CIT Chita 63.21 31 *e*P **P 18 21 37.6 -0.7**
CIT *e* 18 22 21.0
CIT pmax pmax
comp=Z,96nm,1.7s
PRU Pruhonice 63.23 326 *e*P **P 18 21 36.9 -1.6**
PRU *ep*P **pP 18 21 42.0 -0.7**
PRU Pruhonice 63.23 326 *e*P **P 18 21 36.9 -1.6**
PRU *e* 18 21 42.0
KHC Kasperske Hory 63.35 325 *e*P **P 18 21 36.8 -2.5**
KHC *ep*P **pP 18 21 42.4 -1.1**
KHC Kasperske Hory 63.35 325 *e*P **P 18 21 36.8 -2.5**
KHC *e* 18 21 42.4
TORD Torodi Ar. Bea 63.38 283 P **P 18 21 39.3 -0.8**
comp=Z,2.1nm,0.9s,baz=101,slow=3.1,SNR=11
TORD LR LR 18 48 40.0
comp=Z,648nm,21.0s,baz=95,slow=36
WTTA Wattenberg 63.63 322 *e*P **P 18 21 40.0 -1.4**
comp=Z,14nm,1.3s
MOTA Moosalm 63.99 322 *e*P **P 18 21 43.5 -0.2**
comp=Z,24nm,1.5s
BRG Berggiesshubel 64.01 327 *e*P **P 18 21 42.9 -0.6**
comp=Z,25nm,1.8s
BRG Berggiesshubel 64.01 327 *e*P **P 18 21 42.9 -0.6**
BRG pmax pmax
comp=Z,25nm,1.8s
TMCR Tamitsa 64.06 347 *e*P **P 18 21 47.8 +4.2**
TMCR pmax pmax
comp=Z,46nm,1.1s
FETA Feichten 64.08 322 *e*P **P 18 21 43.7 -0.6**
comp=Z,13nm,1.1s
RETA Reutte 64.27 322 *e*P **P 18 21 45.1 -0.3**
comp=Z,10nm,1.4s
NKC Novy Kostel 64.53 326 *e*P **P 18 21 46.8 -0.2**
NKC *ep*P **pP 18 21 51.3 +0.1**
NKC Novy Kostel 64.53 326 *e*P **P 18 21 46.8 -0.2**
NKC *e* 18 21 51.3
DAVA Damuels 64.72 322 *e*P **P 18 21 47.2 -1.3**
comp=Z,32nm,1.2s
CLL Collm 64.74 327 ⇑*i*P **P 18 21 47.5 -0.8**
CLL *i* 18 21 52.9
CLL *e*S **S 18 30 24.0 -4.5**
CLL pmax pmax
comp=Z,68nm,1.9s
CLL MLR MLR
comp=Z,400nm,18.0s
CLL Collm 64.74 327 ⇑*i*P **P 18 21 47.5 -0.8**
comp=Z,68nm,1.9s
CLL *i* sP **pP 18 21 52.9 +0.3**
comp=Z,53nm,1.4s
CLL *e*PP **PP 18 24 09.0 -1.8**
CLL *es*PP 18 24 14.0
CLL *e*S **S 18 30 28.0 -0.5**
CLL *e*PS **PnS 18 30 46.0 -0.8**
CLL *e*SS SS 18 35 00.0 +20
CLL *e*SSS SSS 18 37 36.0
CLL *e*(SSSS) 18 38 06.0
CLL Lm MLR 18 56 00.0
comp=Z,400nm,18.0s
FINES FINESS Array B 65.19 341 P **P 18 21 49.6 -1.4**
comp=Z,3.3nm,0.9s,baz=141,slow=6.9,SNR=6.2
SENIN Lac Senin/Sane 65.97 320 *e*P **P 18 21 55.3 -1.4**
comp=Z,31nm,1.1s
BFO Black Forest 66.11 322 *i* P **P 18 21 57.1 -0.2**
BFO Black Forest 66.11 322 *e*P **P 18 21 56.2 -1.1**
BOD Bodaibo 66.68 26 *e*P **P 18 21 59.9 -0.8**
BOD pmax pmax
comp=Z,20nm,1.8s
KSAR Wonju Array Be 66.72 50 P **P 18 22 00.0 -1.4**
KSAR Wonju Array Be 66.72 50 P **P 18 21 60.0 -1.4**
KSRS Korea Array 66.75 50 P **P 18 21 59.9 -1.6**
comp=Z,2.6nm,1.0s,baz=262,slow=8.3,SNR=4.8
KSRS LR LR 18 52 15.9
comp=Z,902nm,21.0s,baz=254,slow=37
CN2 Changchun 66.80 43 *e*P P 18 22 07.1 +5.3
WLF Walferdange 67.95 323 ⇑P P 18 22 14.3 +5.4
APA Apatity 67.96 347 ⇑*i*P P 18 22 18.2 +10
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,1μm,16.0s
JNU Nakatsue 68.15 56 LR LR 18 53 49.8
comp=Z,449nm,19.2s,baz=268,slow=38
MEM Membach 68.40 324 ⇑P **P 18 22 11.4 -0.3**
BCLA Clavier 68.75 324 ⇓P **P 18 22 13.9 0.0**
comp=Z,24nm,1.5s
KOWA Kowa 68.99 284 P **P 18 22 15.4 -0.7**
comp=Z,0.7nm,0.4s,baz=105,slow=4.1,SNR=3.9
KOWA LR LR 18 51 32.3
comp=Z,362nm,20.5s,baz=88,slow=35
HFS Hagfors 69.02 335 P **P 18 22 14.5 -1.0**
comp=Z,8.7nm,0.8s,baz=122,slow=5.6,SNR=8.6
DOU Dourbes 69.05 323 ⇓P **P 18 22 15.9 +0.2**
comp=Z,13nm,1.8s
KIC Kosan Boka 69.61 276 *e*PKP1 **P 18 22 20.5 +0.5**
comp=Z,175nm,1.6s
DBIC Dimbokro 69.72 276 P **P 18 22 20.9 +0.3**
comp=Z,16nm,1.0s,baz=73,slow=6.5,SNR=6.8
DBIC LR LR 18 54 33.2
comp=Z,388nm,18.1s,baz=72,slow=37
TIC Toumodi 69.88 276 *e*PKP1 **P 18 22 21.6 -0.1**
LIC Lamto 69.90 275 *e*PKP1 **P 18 22 20.6 -1.1**
comp=Z,121nm,1.5s
MAW Mawson 70.53 181 LR LR 18 45 22.7
comp=Z,618nm,19.9s,baz=21,slow=29
KONO Kongsberg 70.54 334 *i* P **P 18 22 26.3 +1.5**
KONO pmax pmax
comp=Z,27nm,1.2s
NB2 NORSAR Subarra 70.54 335 P **P 18 22 23.5 -1.4**
comp=Z,55nm,1.2s,baz=113,slow=6.9
NB2 NORSAR Subarra 70.54 335 P **P 18 22 23.5 -1.4**
baz=113,slow=6.9
NOA NORSAR Array B 70.54 335 P **P 18 22 24.3 -0.6**
comp=Z,3.5nm,0.9s,baz=114,slow=6.6,SNR=6.1
NBO02 NORSAR Array S 70.70 335 *e*P **P 18 22 25.3 -0.5**
ARCES ARCESS Array B 71.31 346 P **P 18 22 27.9 -1.3**
comp=Z,2.7nm,0.7s,baz=148,slow=5.3,SNR=6.5
ARCES LR LR 18 55 41.0
comp=Z,528nm,19.8s,baz=120,slow=38
ARCES ARCESS Array B 71.31 346 P **P 18 22 28.0 -1.3**
ZEA Zeya 71.36 34 *e*P **P 18 22 30.2 +0.3**
ZEA *e*S **S 18 31 50.0 +2.4**
ZEA pmax pmax
comp=N,37nm,1.4s
ZEA pmax pmax
comp=E,46nm,1.4s
ZEA pmax pmax
comp=Z,55nm,1.4s
ZEA smax smax
comp=E,400nm,8.0s
ZEA MLR MLR
comp=Z,2μm,22.0s
ZEA MLR MLR
comp=Z,2μm,22.0s
ZEA MLR MLR
comp=N,900nm,18.0s
USRK Ussuriysk Ar. 71.43 44 P **P 18 22 29.4 -1.1**
comp=N,2.6nm,0.8s,baz=280,slow=4.2,SNR=3.8
USRK LR LR 18 55 10.1
comp=N,569nm,19.4s,baz=252,slow=37
WRA Warramunga Arr 71.67 112 P **P 18 22 31.3 -1.1**
comp=N,6.7nm,0.9s,baz=288,slow=5.6,SNR=25
WRAB Tennant Creek 71.68 112 *ce*P **P 18 22 32.6 +0.1**
WRAB pmax pmax
comp=Z,52nm,2.5s
WRAB Tennant Creek 71.68 112 *e*P **P 18 22 32.1 -0.4**
comp=Z,40nm,1.4s
ES19 SONSECA Array 71.92 311 *e*P **P 18 22 32.9 -0.8**
ESDC Sonseca Array 71.97 311 P **P 18 22 33.1 -0.8**
comp=Z,7.1nm,0.9s,baz=87,slow=5.4,SNR=28
ESLA Sonseca Array 71.97 311 *e*P **P 18 22 33.2 -0.7**
comp=Z,48nm,1.1s
ASAR Alice Springs 71.98 116 P **P 18 22 33.5 -0.8**
comp=Z,4.1nm,0.9s,baz=283,slow=6.2,SNR=28
ASAR LR LR 18 54 20.1
comp=Z,166nm,18.1s,baz=297,slow=36
AS01 Alice Springs 72.02 116 *e*P **P 18 22 32.7 -1.9**
PAB San Pablo 72.23 311 *e*P **P 18 22 35.6 0.0**
PAB pmax pmax
comp=Z,56nm,1.3s
PAB San Pablo 72.23 311 *e*P **P 18 22 35.6 0.0**
comp=Z,56nm,1.3s
KLR Kul'dur 72.59 39 P **P 18 22 36.4 -1.0**
comp=Z,0.5nm,0.9s,baz=267,slow=5.9,SNR=13
KLR LR LR 18 56 02.1
comp=Z,117nm,18.7s,baz=273,slow=37
KLR Kul'dur 72.59 39 *ce*P **P 18 22 37.0 -0.4**
SYO Syowa Base 74.02 189 ⇓*e*P **P 18 22 46.0 +0.7**
PBAR Barrancos 74.07 309 *e*P **P 18 22 45.1 -1.2**
comp=Z,37nm,1.7s
PBRG Braganca 74.43 312 *e*P **P 18 22 48.5 0.0**
comp=Z,42nm,1.6s
PMRV Marv??o 74.53 310 *e*P **P 18 22 48.6 -0.5**
comp=Z,47nm,1.6s
MVO Moncorvo 74.54 312 *e*P **P 18 22 49.2 +0.1**
comp=Z,34nm,1.7s
PBDV Barranco-do-Ve 74.63 308 *e*P **P 18 22 51.2 +1.5**
comp=Z,42nm,1.9s
MJAR Matsushiro Arr 74.65 53 P **P 18 22 50.1 +0.3**
comp=Z,8.0nm,1.2s,baz=265,slow=11,SNR=4.8
PCBR Castelo Branco 74.66 310 *e*P **P 18 22 49.6 -0.2**
comp=Z,29nm,1.8s
PBEJ Beja 74.69 308 *e*P **P 18 22 47.3 -2.7**
comp=Z,22nm,1.4s
PCVE Castro Verde 74.77 308 *e*P **P 18 22 50.1 -0.3**
comp=Z,30nm,1.6s
MTE Manteigas 74.80 311 *e*P **P 18 22 51.0 +0.4**
comp=Z,39nm,1.6s
MESJ Messejana 74.94 308 *e*P **P 18 22 50.8 -0.6**
MESJ AMb AMB 18 22 55.1
comp=Z,23nm,1.4s
MESJ Messejana 74.94 308 *e*P **P 18 22 51.2 -0.2**
comp=Z,31nm,1.8s
MESJ Messejana 74.94 308 *e*P **P 18 22 50.8 -0.6**
PMTG Montargil 75.12 310 *e*P **P 18 22 52.7 +0.3**
comp=Z,35nm,1.9s
EKA Eskdalemuir Ar 75.21 327 P **P 18 22 51.2 -1.4**
comp=Z,1.7nm,0.8s,baz=106,slow=7.9,SNR=4.8
PTOM Tomar 75.34 310 *e*P **P 18 22 54.5 +0.8**
comp=Z,33nm,1.3s
PCAS Casmilo, Conde 75.47 310 *e*P **P 18 22 52.7 -1.7**
comp=Z,49nm,1.6s
JHJ Hachijo jima 2 75.53 57 LR LR 18 59 37.1
comp=Z,356nm,18.1s,baz=70,slow=38
YAK Yakutsk 75.60 26 P **P 18 22 53.4 -1.2**
comp=Z,3.3nm,0.6s,baz=260,slow=2.0,SNR=6.1
YAK Yakutsk 75.60 26 *e*P **P 18 22 52.7 -2.0**
YAK *e* 18 22 58.0
YAK pmax pmax
comp=Z,7.0nm,1.0s
YAK MLR MLR
comp=Z,2μm,27.0s
YAK MLR MLR
comp=E,940nm,21.0s
YAK MLR MLR
comp=N,947nm,21.0s
GRNR Gornyy 75.89 38 *e*P **P 18 22 57.1 +0.5**
GRNR pmax pmax
comp=Z,26nm,1.0s
ASAJ Asahikawa 78.92 46 P **P 18 23 13.0 -0.7**
comp=Z,6.0nm,1.0s,baz=272,slow=16,SNR=3.1
NKL Nikolayevsk 78.94 36 *e*P **P 18 23 12.0 -1.6**
NKL pmax pmax
comp=Z,500nm,4.0s
NKL pmax pmax
comp=Z,70nm,1.2s
NKL MLR MLR
comp=Z,1μm,15.0s
NKL MLR MLR
comp=E,1μm,15.0s
TIXI Tiksi 79.05 17 P **P 18 23 12.5 -1.4**
comp=E,3.3nm,0.9s,baz=246,slow=3.6,SNR=13
TIXI Tiksi 79.05 17 *ce*P **P 18 23 12.7 -1.1**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
SPITS Spitsbergen Ar 79.17 351 LR LR 19 01 35.3
comp=Z,367nm,19.4s,baz=5.0,slow=38
YSS Yuzh-Sakhalins 79.36 43 ⇑*e*P **P 18 23 15.3 -0.8**
YSS *e**SP **pP 18 23 21.1 +0.7**
YSS *e* 18 26 16.7
YSS *e* 18 38 17.0
YSS pmax pmax
comp=Z,20nm,1.2s
YSS pmax pmax
comp=Z,50nm,1.2s
YSS MLR MLR
comp=Z,470nm,16.0s
YSS MLR MLR
comp=E,500nm,18.0s
GUMO Guam 79.38 77 LR LR 18 55 43.5
comp=E,137nm,20.7s,baz=266,slow=34
TYV Tymovskoe 79.80 39 *e*P **P 18 23 18.4 +0.1**
TYV *e* 18 33 23.2
TYV pmax pmax
comp=Z,10.0nm,1.3s
TYV pmax pmax
comp=Z,200nm,3.9s
STKA Stephens Creek 80.21 123 P **P 18 23 19.2 -1.8**
comp=Z,2.6nm,1.1s,baz=278,slow=7.1,SNR=3.2
BBTS Babate 81.11 284 LR LR 18 59 05.4
comp=Z,480nm,20.3s,baz=91,slow=36
NVL N'lazarevskaya 81.49 196 *e*P **P 18 23 26.2 -0.8**
NVL pmax pmax
comp=Z,42nm,1.6s
MA2 Magadan 85.19 31 P **P 18 23 45.0 -1.3**
comp=Z,5.0nm,0.7s,baz=253,slow=5.1,SNR=14
MA2 Magadan 85.19 31 *ce*P **P 18 23 45.4 -0.9**
BORG Borgarnes 85.70 335 LR LR 19 04 41.8

	comp=Z,425nm,21.0s,baz=82,slow=38								
SEY	**Seymchan**	**86.06**	**27**	P		**P**	**18 23 49.8**	**-0.8**	
	comp=Z,3.0nm,0.8s,baz=246,slow=5.4,SNR=13								
SNAA	**Sanae**	**86.08**	**197**	LR		LR	18 54 13.1		
	comp=Z,814nm,21.5s,baz=44,slow=30								
PET	**Petropavlovsk**	**89.74**	**37**	*e*P		**P**	**18 24 06.2**	**-2.1**	
PET				*e*SS		SS	18 40 55.5	-0.8	
PET					pmax	pmax			
	comp=Z,10.0nm,1.0s								
PET					MLR	MLR			
	comp=Z,800nm,19.0s								
BILL	**Bilibino**	**91.36**	**22**	*d* P		**P**	**18 24 14.6**	**-1.0**	
BILL				*i*			18 24 20.8		
BILL				*i*			18 27 53.7		
BILL				*i* SS		SS	18 41 24.0	+4.9	
BILL					pmax	pmax			
	comp=Z,8.0nm,1.1s								
BILL					MLR	MLR			
	comp=Z,894nm,22.0s								
VNDA	**Vanda**	**94.45**	**167**	LR		LR	19 01 30.5		
	comp=Z,585nm,20.2s,baz=254,slow=32								
DZM	**Mont Dzumac**	**101.69**	**112**	*e*LR		LR	18 58 15.0		
	comp=Z,439nm,24.6s								
ILAR	**Eielson Array**	**108.37**	**14**	PP		PP	18 29 55.5	-6.4	
	comp=Z,0.6nm,0.9s,baz=326,slow=4.0,SNR=5.5								
YKA	**Yellowknife Ar**	**114.62**	**360**	PKP		PKPdf	18 29 49.1	-1.1	
	comp=Z,0.6nm,0.9s,baz=359,slow=2.1,SNR=8.1								
YKA					PP	PP	18 30 54.9	+8.4	
	comp=Z,0.8nm,0.9s,baz=357,slow=6.7,SNR=7.6								
ULM	**Lac du Bonnet**	**124.42**	**345**	PKP		**PKPdf**	**18 30 08.8**	**-0.6**	
	comp=Z,1.1nm,0.5s,baz=0.5,slow=3.4,SNR=4.0								
EYMN	**Ely**	**125.22**	**341**	P		**PKPdf**	**18 30 10.8**	**-0.2**	
	baz=29								
A33A	**Warroad**	**125.49**	**344**	P		**PKPdf**	**18 30 10.4**	**-1.0**	
	baz=24								
C37A	**Embarrass**	**125.63**	**341**	P		**PKPdf**	**18 30 10.5**	**-1.3**	
	baz=28								
B34A	**Aery, Baudette**	**125.70**	**344**	P		**PKPdf**	**18 30 11.0**	**-0.8**	
	baz=25								
A32A	**Rocking H Ranc**	**125.80**	**345**	P		**PKPdf**	**18 30 11.6**	**-0.4**	
	baz=23								
E39A	**Mellen**	**126.25**	**339**	P		**PKPdf**	**18 30 11.8**	**-1.2**	
	baz=31								
B32A	**Ashes, Strandq**	**126.29**	**345**	P		**PKPdf**	**18 30 12.7**	**-0.3**	
	baz=23								
F39A	**Loretta**	**126.78**	**339**	P		**PKPdf**	**18 30 13.7**	**-0.3**	
	baz=30								
D35A	**Remer**	**126.79**	**342**	P		**PKPdf**	**18 30 13.6**	**-0.4**	
	baz=26								
E36A	**McGregor**	**127.04**	**341**	P		**PKPdf**	**18 30 14.2**	**-0.3**	
	baz=27								
F33A	**5 Mile Ranch,**	**128.57**	**343**	P		**PKPdf**	**18 30 16.6**	**-0.9**	
	baz=24								
NEW	**Newport**	**128.85**	**2**	PKP		**PKPdf**	**18 30 18.3**	**+0.3**	
	comp=Z,2.1nm,1.0s,baz=147,slow=1.0,SNR=4.9								
LAO	**LASA Array**	**129.87**	**352**	P		**PKPdf**	**18 30 21.2**	**+1.3**	
	baz=11								
J37A	**Redenius Farm,**	**129.97**	**340**	P		**PKPdf**	**18 30 20.5**	**+0.3**	
	baz=28								
L40A	**Anamosa**	**130.19**	**337**	P		**PKPdf**	**18 30 20.6**	**-0.1**	
	baz=32								
L37A	**Phoenix Point,**	**131.09**	**339**	P		**PKPdf**	**18 30 21.9**	**-0.4**	
	baz=28								
LPAZ	**La Paz**	**132.16**	**251**	PKP		**PKPdf**	**18 30 26.4**	**+0.6**	
	comp=Z,1.2nm,1.1s,baz=129,slow=1.7,SNR=4.0								
R39A	**Chumby, Stover**	**134.11**	**336**	P		**PKPdf**	**18 30 28.4**	**+0.2**	
	baz=31								
PDAR	**Pinedale Array**	**134.12**	**354**	PKP		**PKPdf**	**18 30 25.4**	**-3.0**	
	comp=Z,1.4nm,0.9s,baz=40,slow=2.5,SNR=8.9								
S38A	**Stockton**	**135.05**	**336**	P		**PKPdf**	**18 30 29.6**	**-0.4**	
	baz=30								
NVAR	**Mina Array Bea**	**138.59**	**4**	PKP		**PKPdf**	**18 30 34.3**	**-2.5**	
	comp=Z,1.9nm,0.7s,baz=292,slow=0.8,SNR=7.5								
TBI	**Tubuai**	**140.99**	**124**	*e*LR		LR	19 16 27.3		
	comp=Z,180nm,34.5s								
ANMO	**Albuquerque**	**141.36**	**349**	PKhKP		PKPpre	18 30 38.4		
	comp=Z,0.6nm,0.5s,baz=166,slow=2.8,SNR=5.4								
IRM	**Iron Mountain**	**142.98**	**0**	P		**PKPdf**	**18 30 41.6**	**-2.9**	
	baz=360								
PPT2	**Papeete2**	**143.09**	**115**	*e*LR		LR	19 17 31.4		
	comp=Z,193nm,23.5s								
121A	**Cookes Peak, D**	**143.95**	**350**	P		PKPbc	18 30 44.1	-0.1	
	baz=12								
MNTX	**Cornudas Mount**	**144.25**	**346**	P		**PKPab**	**18 30 44.6**	**0.0**	
	baz=16								
TUC	**Tucson**	**144.60**	**354**	P		PKPbc	18 30 46.6	+0.5	
	baz=7.0								
214A	**Organ Pipe Nat**	**145.11**	**357**	P		**PKPbc**	**18 30 47.6**	**-0.1**	
	baz=3.6								
833A	**Chaparral WMA,**	**145.40**	**335**	P		**PKPdf**	**18 30 50.1**	**+1.2**	
	baz=28								
TXAR	**Lajitas Array**	**146.02**	**342**	PKPbc		**PKPbc**	**18 30 50.4**	**-0.4**	
	comp=Z,14nm,0.8s,baz=60,slow=2.5,SNR=120								
RKT	**Rikitea**	**152.18**	**137**	*e*LR		LR	19 21 40.9		
	comp=Z,284nm,25.8s								

*ISCJB **11** 18:11:57.4±0.9, 13.6°N±0.1°×145.0°E±0.3, h139km±6km, mb3.5/9, Error ellipse: s-maj=47.9km s-min=20.5km az=11.8*

*IDC **11** 18:11:58.1±0.8, 13.62°N×145.06E, h131km±5km, mb3.3/8, mb1 3.5/8, mb1mx3.2/73, mbtmp3.7/8, Error ellipse: s-maj=34.2km s-min=17.6km az=102.0*

ISC 11 18:11:58.6±1.1, 13.6°N±0.2°×145.1°E±0.4, h135km±8km, n16, σ0°67/11, mb3.7/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
GUMO	**Guam**	**0.18**	**271**	P		**Pn**	**18 12 17.2**			**+0.2**
	787nm,0.3s,baz=274,slow=4.4,SNR=609									
GUMO				S		**Sn**	**18 12 30.6**			**-0.3**
	195nm,0.3s,baz=126,slow=22,SNR=58									
H11S3	**WAKE ISLAND Hy**	**21.35**	**74**	T		T	18 39 09.8			
	baz=259									
H11S1	**WAKE ISLAND Hy**	**21.37**	**74**	T		T	18 39 11.6			
	baz=259									
H11S2	**WAKE ISLAND Hy**	**21.37**	**74**	T		T	18 39 22.4			
	baz=259									
H11N1	**WAKE ISLAND Hy**	**21.78**	**71**	T		T	18 39 40.9			
	baz=257,slow=75									
H11N2	**WAKE ISLAND Hy**	**21.79**	**71**	T		T	18 39 42.9			
	baz=257									
H11N3	**WAKE ISLAND Hy**	**21.80**	**71**	T		T	18 39 42.2			
	baz=257,slow=75									
WRA	**Warramunga Arr**	**34.95**	**198**	P		**P**	**18 18 37.4**			**-0.3**
	0.2nm,0.5s,baz=22,slow=9.3,SNR=5.5									
ASAR	**Alice Springs**	**38.60**	**197**	P		**P**	**18 19 08.8**			**+0.2**
	0.1nm,0.5s,baz=18,slow=13,SNR=6.3									
KURBB	**Kurchatov Arra**	**64.74**	**320**	P		**P**	**18 22 22.1**			**-0.3**
	2.1nm,1.0s,baz=104,slow=6.5,SNR=3.7									
ILAR	**Eielson Array**	**68.49**	**25**	P		**P**	**18 22 45.2**			**-0.7**
	0.5nm,0.4s,baz=249,slow=5.8,SNR=8.8									
BVAR	**Borovoye Array**	**70.04**	**322**	P		**P**	**18 22 55.7**			**0.0**
	0.6nm,0.6s,baz=91,slow=8.0,SNR=2.4									
INK	**Inuvik**	**74.30**	**22**	P		**P**	**18 23 19.5**			**-1.2**
	0.5nm,0.4s,baz=194,slow=8.3,SNR=4.0									
YKA	**Yellowknife Ar**	**82.78**	**27**	P		**P**	**18 24 07.8**			**+0.5**
	0.4nm,0.5s,baz=283,slow=5.2,SNR=3.8									
SPITS	**Spitsbergen Ar**	**84.08**	**351**	P		**P**	**18 24 13.9**			**+0.2**
	11nm,1.1s,baz=40,slow=9.4,SNR=2.4									
RES	**Resolute Bay**	**84.51**	**13**	P		**P**	**18 24 16.6**			**+0.7**
	1.0nm,0.8s,baz=296,slow=4.7,SNR=3.8									

MEX 11 18:12:07.4±0.9, 16.96N×99.87W, h20km±14km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ACX	**Acapulco**	**0.09**	**174**	*e*P		Pb	18 12 13.0			+1.6
ACX				*i* S		Sb	18 12 15.9			+1.9
CAIG	**El Cayaco**	**0.39**	**283**	*i* P		Pb	18 12 13.9			-1.7
CAIG				*i* S		Sb	18 12 19.9			-1.2
MEIG	**Mezcala**	**0.99**	**14**	*e*P		Pb	18 12 22.2			-3.7
MEIG				*e*S		Sb	18 12 34.5			-4.0
TLIG	**Tlapa**	**1.38**	**64**	*e*P		Pn	18 12 29.1			-2.6
TLIG				*i* S		Sn	18 12 45.2			-4.2
ARIG	**Puente Sto Nin**	**1.39**	**341**	*e*P		Pn	18 12 28.9			-2.7
ARIG				*e*S		Sn	18 12 45.7			-3.8
PLIG	**Platanillo**	**1.46**	**14**	*e*P		Pn	18 12 30.2			-2.6
PLIG				*i* S		Sn	18 12 47.8			-3.7
ZIIG	**Zihuatanejo**	**1.65**	**293**	*e*P		Pn	18 12 32.6			-2.7
ZIIG				*i* S		Sn	18 12 52.5			-3.5
PNIG	**Pinotepa**	**1.76**	**109**	*e*P		Pn	18 12 34.0			-2.9
PNIG				*i* S		Sn	18 12 54.1			-4.6

*IDC **11** 18:14:57.4±0.8, 51.54°N×173.21W, h0km, mb3.9/28, mb1 4.0/31, mb1mx3.9/86, mbtmp3.9/31, ML3.5/3, Error ellipse: s-maj=21.3km s-min=11.9km az=171.0*

*ISCJB **11** 18:15:01.3±0.4, 51.51N±0.06°×173.19W±0.05, h37km, mb3.9/33, Error ellipse: s-maj=8.4km s-min=4.7km az=178.4*

*NEIC **11** 18:15:04.6±0.6, 51.60N×173.29W, h49km±4km, mb4.1/6, Error ellipse: s-maj=9.4km s-min=3.8km az=169.0*

ISC 11 18:15:03.5±0.6, 51.60N±0.09°×173.31W±0.04, h37km, n71, σ0°93/67, mb4.0/33, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KOFP	**Korovin Flat P**	**0.83**	**324**	P		**Pn**	**18 15 19.5**			**+0.8**
KOFP				S		**Sn**	**18 15 30.6**			**+0.7**
KOKL	**Mount Kliuchef**	**0.91**	**323**	P		**Pn**	**18 15 20.2**			**+0.4**
KOKL				S		**Sn**	**18 15 32.4**			**+0.6**
KOWE	**Korovin West**	**0.96**	**323**	P		**Pn**	**18 15 21.5**			**+1.0**
GSTD	**Great Sitkin T**	**1.82**	**286**	P		**Pn**	**18 15 33.5**			**+1.2**
ADAG	**Mount Adagdak**	**2.08**	**282**	P		**Pn**	**18 15 37.1**			**+1.3**
TAPA	**Tanaga Point A**	**2.81**	**276**	P		**Pn**	**18 15 47.5**			**+1.6**
TAFP	**Tanaga Falls P**	**2.92**	**278**	P		**Pn**	**18 15 48.5**			**+1.1**
TASE	**Tanaga Southea**	**2.95**	**276**	P		**Pn**	**18 15 48.6**			**+0.8**
OKTU	**Okmok Mt. Tuli**	**3.68**	**59**	P		**Pn**	**18 15 59.5**			**+1.7**
UNV	**Unalaska Valle**	**4.71**	**59**	P		**Pn**	**18 16 14.6**			**+2.8**
UNV				S		**Sn**	**18 17 07.2**			**+2.0**
KDAK	**Kodiak Island**	**13.46**	**55**	Pn		**Pn**	**18 18 12.0**			**+0.4**
	0.3nm,0.3s,baz=252,slow=6.4,SNR=2.7									
PEA1	**Petropavlovsk-**	**17.73**	**286**	*e*Pn		**P**	**18 19 08.2**			**+0.4**
PETK	**Petropavlovsk-**	**17.73**	**286**	P		**P**	**18 19 08.2**			**+0.4**
	0.3nm,0.3s,baz=85,slow=16,SNR=7.0									
ILAR	**Eielson Array**	**18.98**	**36**	P		**Pn**	**18 19 21.6**			**-0.7**
	0.3nm,0.3s,baz=228,slow=9.1,SNR=15									
ILB	**Eielson Array**	**18.98**	**36**	*e*P		**Pn**	**18 19 22.6**			**+0.2**
TOLK	**Toolik Lake Re**	**20.53**	**25**	*e*P		Pn	18 19 39.6			-1.1
	8.8nm,1.2s									
EGAK	**Eagle**	**21.17**	**39**	*e*P		**P**	**18 19 44.3**			**-0.8**
	9.8nm,0.9s									
SEY	**Seymchan**	**21.45**	**315**	P		**P**	**18 19 49.3**			**+1.1**
	1.1nm,0.3s,baz=112,slow=19,SNR=3.3									
MA2	**Magadan**	**21.58**	**306**	P		**P**	**18 19 49.9**			**+0.3**
	0.6nm,0.3s,baz=92,slow=11,SNR=3.6									
INK	**Inuvik**	**25.34**	**34**	P		**P**	**18 20 25.8**			**-0.6**
	1.3nm,0.5s,baz=243,slow=7.6,SNR=5.3									
INK	**Inuvik**	**25.34**	**34**	*e*P		**P**	**18 20 25.8**			**-0.6**
	3.1nm,0.9s									
ASAJ	**Asahikawa**	**30.13**	**273**	P		**P**	**18 21 10.9**			**+1.4**
	4.2nm,0.8s,baz=49,slow=3.3,SNR=3.6									
ASAJ	**Asahikawa**	**30.13**	**273**	*e*P		**P**	**18 21 10.9**			**+1.4**
	6.3nm,0.9s									
TIXI	**Tiksi**	**32.16**	**330**	P		**P**	**18 21 27.5**			**+0.4**
	0.5nm,0.4s,baz=107,slow=12,SNR=3.0									
YKA	**Yellowknife Ar**	**32.57**	**47**	P		**P**	**18 21 31.1**			**+0.3**
	0.2nm,0.4s,baz=276,slow=7.8,SNR=3.8									
YKB5	**Yellowknife Ar**	**32.57**	**47**	*e*P		**P**	**18 21 31.1**			**+0.3**
KLR	**Kul'dur**	**34.40**	**288**	P		**P**	**18 21 46.5**			**-0.4**
	0.1nm,0.5s,baz=14,slow=8.3,SNR=3.2									
H11N2	**WAKE ISLAND Hy**	**35.40**	**213**	T		T	19 00 03.4			
	baz=21									
H11N3	**WAKE ISLAND Hy**	**35.41**	**213**	T		T	19 00 05.4			
	baz=21									
H11N1	**WAKE ISLAND Hy**	**35.42**	**213**	T		T	19 00 02.3			
	baz=21									
H11S1	**WAKE ISLAND Hy**	**36.60**	**213**	T		T	19 01 22.0			
	baz=19									
H11S2	**WAKE ISLAND Hy**	**36.62**	**213**	T		T	19 01 25.4			
	baz=19									
H11S3	**WAKE ISLAND Hy**	**36.62**	**213**	T		T	19 01 26.3			
	baz=19									
USRK	**Usuriysk Ar.**	**36.65**	**280**	P		**P**	**18 22 05.9**			**-0.3**
	2.7nm,0.9s,baz=129,slow=11,SNR=2.9									
PD31	**Pinedale Array**	**42.95**	**76**	*e*P		**P**	**18 22 59.1**			**+0.2**
PDAR	**Pinedale Array**	**42.95**	**76**	P		**P**	**18 22 59.1**			**+0.2**
	0.5nm,0.7s,baz=278,slow=6.3,SNR=4.5									
PV10	**Paradox Valley**	**45.88**	**80**	*e*P		**P**	**18 23 21.5**			**-0.9**
ULM	**Lac du Bonnet**	**46.65**	**60**	P		**P**	**18 23 26.2**			**-1.7**
	0.5nm,0.4s,baz=256,slow=8.3,SNR=2.1									
SONA0	**Songino Array**	**49.58**	**299**	*e*P		**P**	**18 23 51.3**			**+0.6**
SONM	**Songino Array**	**49.58**	**299**	P		**P**	**18 23 51.3**			**+0.6**
	0.9nm,0.6s,baz=55,slow=6.9,SNR=7.0									
SPA0	**Spitsbergen Ar**	**50.35**	**357**	*e*P		**P**	**18 23 55.6**			**-0.4**
SPITS	**Spitsbergen Ar**	**50.35**	**357**	P		**P**	**18 23 55.6**			**-0.4**
	24nm,1.2s,baz=357,slow=5.8,SNR=3.7									
FRB	**Frobisher Bay**	**50.99**	**34**	P		**P**	**18 23 59.5**			**-1.4**
	0.9nm,0.5s,baz=309,slow=9.8,SNR=2.2									
TXAR	**Lajitas Array**	**55.22**	**85**	P		**P**	**18 24 32.4**			**-0.3**
	0.3nm,0.8s,baz=304,slow=6.4,SNR=3.4									
ARA0	**ARCESS Array S**	**58.40**	**352**	*e*P		**P**	**18 24 54.0**			**-0.5**
ARCES	**ARCESS Array B**	**58.40**	**352**	P		**P**	**18 24 54.0**			**-0.5**
	3.6nm,0.9s,baz=8.0,slow=7.8,SNR=5.0									
KURK	**Kurchatov**	**61.29**	**316**	*e*P		**P**	**18 25 15.4**			**+0.7**
KURBB	**Kurchatov Arra**	**61.40**	**316**	P		**P**	**18 25 15.4**			**0.0**
	0.4nm,0.3s,baz=185,slow=18,SNR=3.6									
MK32	**Makanchi Array**	**62.53**	**311**	*e*P		**P**	**18 25 22.6**			**-0.5**
MKAR	**Makanchi Array**	**62.53**	**311**	P		**P**	**18 25 22.5**			**-0.5**
	0.2nm,0.3s,baz=44,slow=6.7,SNR=6.9									
BVAR	**Borovoye Array**	**62.87**	**323**	P		**P**	**18 25 25.4**			**+0.2**
	1.8nm,0.5s,baz=55,slow=6.6,SNR=18									
ARU	**Arti**	**64.15**	**331**	P		**P**	**18 25 33.6**			**-0.1**
	1.0nm,0.4s,baz=102,slow=5.7,SNR=3.2									
ARU	**Arti**	**64.15**	**331**	*e*P		**P**	**18 25 33.5**			**-0.1**
	3.5nm,1.1s									
FIA0	**FINESS Array S**	**66.25**	**350**	*e*P		**P**	**18 25 46.8**			**-0.3**
FINES	**FINESS Array B**	**66.25**	**350**	P		**P**	**18 25 46.8**			**-0.3**
	1.7nm,0.9s,baz=40,slow=5.4,SNR=3.3									
HFS	**Hagfors**	**68.48**	**356**	P		**P**	**18 26 00.3**			**-0.9**
	1.1nm,0.5s,baz=345,slow=4.6,SNR=6.3									
AAK	**Ala-Archa**	**69.29**	**313**	P		**P**	**18 26 07.2**			**+0.4**
	2.8nm,0.7s,baz=158,slow=4.3,SNR=8.0									
AKTO	**Aktyubinsk**	**69.41**	**328**	P		**P**	**18 26 07.0**			**-0.2**
	3.3nm,0.7s,baz=358,slow=4.4,SNR=11									
ABKAR	**Akbulak array**	**69.76**	**326**	*e*P		**P**	**18 26 09.8**			**+0.4**
	1.5nm,0.6s									
LSA	**Lhasa**	**70.56**	**293**	*e*P		**P**	**18 26 17.0**			**+1.9**
CM31	**Chiang Mai Arr**	**74.38**	**280**	*e*P		**P**	**18 26 37.2**			**-0.3**
CMAR	**Chiang Mai Arr**	**74.38**	**280**	P		**P**	**18 26 37.2**			**-0.3**
	0.6nm,0.8s,baz=14,slow=7.2,SNR=6.2									
AKASG	**Malin Array Be**	**76.30**	**345**	P		**P**	**18 26 47.1**			**-0.9**
	0.7nm,0.4s,baz=17,slow=6.0,SNR=6.0									
GERES	**GERESS Array B**	**79.75**	**355**	P		**P**	**18 27 07.1**			**-0.2**
	0.6nm,0.7s,baz=20,slow=4.3,SNR=4.9									
KBZ	**Khabaz**	**80.00**	**334**	P		**P**	**18 27 09.5**			**+0.8**
	1.5nm,0.9s,baz=18,slow=3.2,SNR=2.9									
MLR	**Muntele Rosu**	**81.87**	**346**	P		**P**	**18 27 16.8**			**-2.0**
	0.2nm,0.3s,baz=49,slow=9.3,SNR=3.8									
WRA	**Warramunga Arr**	**84.64**	**228**	P		**P**	**18 27 31.5**			**-1.6**
	0.5nm,0.7s,baz=30,slow=5.7,SNR=2.6									
BR101	**Keskin Array S**	**86.06**	**339**	*e*P		**P**	**18 27 39.7**			**-0.5**
BRTR	**Keskin Array B**	**86.06**	**339**	P		**P**	**18 27 39.7**			**-0.5**
	0.7nm,0.7s,baz=66,slow=3.1,SNR=3.7									
ASAR	**Alice Springs**	**88.06**	**227**	P		**P**	**18 27 49.9**			**+0.1**
	0.5nm,0.7s,baz=25,slow=5.1,SNR=3.9									
MATP	**Matopo**	**144.52**	**323**	PKP		**PKPab**	**18 34 34.6**			**+0.3**
	2.2nm,0.6s,baz=12,slow=5.9,SNR=7.1									

*SJA **11** 18:20:36.1±0.7, 32.93°S×68.93W, h24km±2km, ML2.5, MW3.2*

*ISCJB **11** 18:20:37.2±0.6, 32.97°S±0.04°×68.90W±0.05, h14km, Error ellipse: s-maj=6.8km s-min=4.1km az=43.5*

*GUC **11** 18:20:37.1±0.9, 32.99°S×68.99W, h24km±23km, ML2.4*

ISC 11 18:20:36.2±0.9, 32.95S±0.04°×68.97W±0.04, h14km, n12, σ0°62/20, 1C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ARCO	**CERRO ARCO**	**0.12**	**17**	*i* P		**Pb**	**18 20 41.1**			**+0.8**
ARCO				*i* S		**Sb**	**18 20 44.5**			**+1.4**
ARCO					IAML		18 20 46.1			
	comp=Z,1μm,0.3s									
AAGR	**Agrelo**	**0.18**	**138**	*i* P		**Pb**	**18 20 41.9**			**+0.4**
ASAL	**Salagasta**	**0.38**	**18**	*i* P		**Pb**	**18 20 44.5**			**-0.3**
AVIZ	**Vizcacheras**	**0.65**	**144**	*i* P		**Pb**	**18 20 49.2**			**-0.2**
AUSP	**Uspallata**	**0.81**	**334**	*i* P		**Pb**	**18 20 52.0**			**-0.2**
RTCV	**Cerro Valdivia**	**1.15**	**19**	*i* P		**Pn**	**18 20 57.4**			**-0.5**
RTCV				*i* S		**Sn**	**18 21 13.2**			**-0.2**
FCH	**Farellones**	**1.17**	**251**	*e*P		**Pg**	**18 20 58.6**			**-0.2**
FCH				*e*S		**Sn**	**18 21 15.2**			**+0.9**
FCH					IAML		18 21 15.3			
	comp=N,160nm,0.3s									
LMEL	**Las Melosas**	**1.36**	**229**	*i* P		**Pg**	**18 21 01.8**			**-0.8**
LMEL				*e*S		**Sg**	**18 21 20.8**			**+0.5**
LMEL					IAML		18 21 21.0			
	comp=N,161nm,0.3s									
CLCH	**Cerro Calan**	**1.39**	**251**	*e*P		**Pg**	**18 21 02.4**			**-0.5**
CLCH				*e*S		**Sg**	**18 21 21.2**			**+0.3**
PEL	**Peldehue**	**1.45**	**262**	*e*P		**Pg**	**18 21 03.3**			**-0.8**
PEL				*e*S		**Sg**	**18 21 23.2**			**+0.2**
ROCH	**El Roble**	**1.71**	**269**	*e*P		**Pb**	**18 21 08.0**			**+0.4**
ROCH				*e*S		**Sg**	**18 21 31.6**			**+0.1**
ROCH					IAML		18 21 33.8			
	comp=E,60nm,0.7s									
ROC1	**El Roble**	**1.72**	**269**	*i* P		**Pb**	**18 21 07.9**			**+0.2**
ROC1				*i* S		**Sg**	**18 21 30.9**			**-0.6**

*CSEM **11** 18:21:34.7, 32.84N×47.03E, h16km, ML4.8, After ISN*

ISN 11 18:21:34.7±1.0, 32.84N×47.03E, h16km±4km, ML4.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
NSR	**Nassriya**	**1.98**	**203**	*e*Pn		Pb	18 22 09.0			-1.3
	SNR=5.0									
NSR				*i* Sn		Sb	18 22 34.0			-0.7
	SNR=5.0									
BHD	**Baghdad**	**2.26**	**282**	*e*Pn		Pn	18 22 13.0			+1.5
	SNR=5.0									
BHD				*i* Sn		Sn	18 22 41.0			+2.0
	SNR=5.0									
RTB	**Rutbah**	**5.65**	**274**	*e*Pn		Pn	18 23 00.0			+1.9
	SNR=5.0									
RTB				*i* Sn		Sn	18 24 03.0			+0.2
	SNR=5.0									

*ISK **11** 18:21:59.5, 38.64N×43.21E, h5km, ML2.6/3*

*ISCJB **11** 18:22:00.7±0.5, 38.66N±0.03°×43.22E±0.04, h9km±6km, Error ellipse: s-maj=5.0km s-min=4.7km az=35.6*

*CSEM **11** 18:22:00.1±0.2, 38.65N×43.24E, h12km, ML2.6, Error ellipse: s-maj=4.5km s-min=4.1km az=82.0*

*DDA **11** 18:22:00.2, 38.69N×43.29E, h8km, Ml2.9*

ISC 11 18:22:00.6±1.0, 38.67N±0.02°×43.21E±0.03, h5km±10km, n24, σ1°21/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
VANB	**Van**	**0.15**	**117**	PG		**Pg**	**18 22 04.3**			**+0.5**
VANB				SG		**Sg**	**18 22 06.9**			**+1.0**
VANB	**Van**	**0.15**	**117**	*e*Pg		**Pg**	**18 22 04.3**			**+0.5**
VANB				*e*Sg		**Sg**	**18 22 06.9**			**+1.0**
TVAN	**Van**	**0.20**	**132**	*i* P		**Pg**	**18 22 04.2**			**-0.5**
TVAN				*i* S		**Sg**	**18 22 08.2**			**+0.8**
TVAN	**Van**	**0.20**	**132**	P		**Pg**	**18 22 04.2**			**-0.5**
TVAN				S		**Sg**	**18 22 08.2**			**+0.8**
GEVA	**Gevas**	**0.37**	**199**	*i* P		**Pg**	**18 22 07.5**			**-0.3**
GEVA				*i* S		**Sb**	**18 22 15.3**			**-0.7**
GEVA	**Gevas**	**0.37**	**199**	P		**Pg**	**18 22 07.6**			**-0.3**
GEVA				S		**Sb**	**18 22 15.3**	

H10S1	**ASCENSION HYDR**	**68.35**	**161**	T	T	19 53 03.6			
	baz=350								
H10S3	**ASCENSION HYDR**	**68.36**	**161**	T	T	19 52 46.7			
	baz=350,slow=74								
H10S2	**ASCENSION HYDR**	**68.37**	**161**	T	T	19 53 05.1			
	baz=350,slow=74								
ASAR	**Alice Springs**	**144.13**	**22**	PKP	**PKPdf**	**18 47 10.4**	**-0.5**		
	0.3nm,0.9s,baz=343,slow=2.9,SNR=3.0								

TEH ***11*** *18:28:17.9,38˚.70N×43˚.94E,h28km,ML3.9*
NEIC ***11*** *18:28:17.8±0.0,38˚.57N×44˚.05E,h5km,mb4.0/1, ML4.2(DDA),ML4.3(ISK),MN3.9(TEH),After ISK.*
DDA ***11*** *18:28:17.7,38˚.55N×44˚.09E,h4km,Ml4.2*
NSSP ***11*** *18:28:17.1,38˚.45N×44˚.18E,h6km,Ms4.1*
ISK ***11*** *18:28:18.1,38˚.56N×44˚.03E,h5km,ML4.2/20*
CSEM ***11*** *18:28:19.9±0.1,38˚.60N×44˚.11E,h2km,ML4.2, Error ellipse: s-maj=4.0km s-min=3.1km az=170.0*
IDC ***11*** *18:28:20.4±0.7,38˚.62N×44˚.09E,h0km,mb3.7/17, mb1 3.8/26,mb1mx3.7/67,mbtmp3.7/26,ML2.9/7,MS4.2/3, Ms1 4.2/3,ms1mx3.2/63,Error ellipse: s-maj=11.1km s-min=9.5km az=142.0*
MOS ***11*** *18:28:21.7±2.2,38˚.49N×44˚.19E,h16km,mb4.2/20,Error ellipse: s-maj=6.8km s-min=4.5km az=93.8*
ISC 11 18:28:19.8±0.7,38˚56N±0˚.01×44˚06E±0˚.01,h1km±5km, n267,σ2=06/291,mb4.1/30,MS4.4/3,38C-31D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.51**	**266**	⇑*i*P	**Pb**	**18 28 28.6**	**-3.1**
TVAN				*i* S	**Sb**	**18 28 40.0**	**+0.4**
TVAN	**Van**	**0.51**	**266**	*i* P	**Pb**	**18 28 28.8**	**-2.8**
TVAN				*i* S	**Sb**	**18 28 40.0**	**+0.4**
TVAN	**Van**	**0.51**	**266**	*i* P	**Pb**	**18 28 28.8**	**-2.8**
TVAN				S	**Sb**	**18 28 40.0**	**+0.4**
BASK	**Baskale_VAN**	**0.51**	**185**	⇓*i*P	**Pg**	**18 28 27.6**	**-2.0**
BASK				*i* S	**Sb**	**18 28 37.0**	**-2.6**
BASK	**Baskale_VAN**	**0.51**	**185**	P	**Pg**	**18 28 27.5**	**-2.0**
BASK				S	**Sb**	**18 28 37.0**	**-2.6**
VANB	**Van**	**0.52**	**274**	PG	**Pb**	**18 28 28.6**	**-3.2**
VANB				SG	**Sb**	**18 28 36.9**	**-3.0**
VANB	**Van**	**0.52**	**274**	Pg	**Pg**	**18 28 28.2**	**-1.6**
VANB	**Van**	**0.52**	**274**	Pg	**Pg**	**18 28 28.2**	**-1.6**
VANB				*e*Sg	**Sb**	**18 28 36.9**	**-3.0**
CLDR	**Caldiran**	**0.59**	**350**	PG	**Pg**	**18 28 29.3**	**-1.8**
CLDR				SG	**Sb**	**18 28 39.9**	**-2.0**
CLDR	**Caldiran**	**0.59**	**350**	⇓*i*P	**Pg**	**18 28 28.9**	**-2.2**
CLDR				*i* S	**Sg**	**18 28 38.3**	**-0.4**
CLDR	**Caldiran**	**0.59**	**350**	Pg	**Pg**	**18 28 29.2**	**-1.8**
CLDR	**Caldiran**	**0.59**	**350**	P	**Pg**	**18 28 28.9**	**-2.2**
CLDR	**Caldiran**	**0.59**	**350**	Pg	**Pg**	**18 28 29.2**	**-1.8**
CLDR				S	**Sg**	**18 28 38.3**	**-0.4**
CLDR				*e*Sg	**Sb**	**18 28 39.9**	**-2.0**
ERCV	**ERCIS-VAN**	**0.72**	**309**	PG	**Pb**	**18 28 33.1**	**-2.1**
ERCV				SG	**Sn**	**18 28 44.2**	**-4.8**
ERCV	**ERCIS-VAN**	**0.72**	**309**	*e*Pg	**Pb**	**18 28 33.1**	**-2.1**
ERCV				*e*Sg	**Sn**	**18 28 44.2**	**-4.8**
GEVA	**Gevas**	**0.82**	**253**	⇓*i*P	**Pg**	**18 28 33.6**	**-1.9**
GEVA				*i* S	**Sb**	**18 28 45.9**	**-2.6**
MAKU	**Maku**	**0.93**	**32**	*e*Pg	**Pb**	**18 28 36.8**	**-2.0**
MAKU				*e*Sg	**Sg**	**18 28 48.7**	**-1.0**
YOVA	**Hakkari_Y˘...kse**	**0.99**	**169**	⇓*i*P	**Pn**	**18 28 38.1**	**-2.9**
YOVA				*i* S	**Sn**	**18 28 54.1**	**-1.6**
YOVA	**Hakkari_Y˘...kse**	**0.99**	**169**	P	**Pn**	**18 28 38.1**	**-2.9**
YOVA				S	**Sn**	**18 28 54.1**	**-1.6**
DYDN	**Diyadin**	**1.02**	**344**	⇓*i*P	**Pg**	**18 28 37.5**	**-1.8**
DYDN				*i* S	**Sn**	**18 28 53.7**	**-2.7**
DYDN	**Diyadin**	**1.02**	**344**	P	**Pg**	**18 28 37.5**	**-1.8**
DYDN				S	**Sn**	**18 28 53.7**	**-2.7**
ADCV	**BITLIS_Adilcev**	**1.07**	**284**	⇑*i*P	**Pn**	**18 28 39.0**	**-3.0**
ADCV				*i* S	**Sn**	**18 28 55.3**	**-2.3**
ISHB	**Shabestar**	**1.26**	**102**	*e*Pn	**Pg**	**18 28 42.7**	**-1.2**
ISHB				*e*Sg	**Sn**	**18 29 05.9**	**+3.6**
ISHB				*e*AMB	AMB	18 29 07.9	
	comp=Z,37μm,0.4s						
ISHB	**Shabestar**	**1.26**	**102**	*i* P	**Pg**	**18 28 42.7**	**-1.2**
ISHB				Sg	**Sn**	**18 29 05.8**	**+3.5**
ISHB	**Shabestar**	**1.26**	**102**	*i* P	**Pg**	**18 28 42.7**	**-1.2**
ISHB				Sg	**Sn**	**18 29 05.8**	**+3.5**
NAX	**Nakhchivan**	**1.28**	**61**	PG	**Pg**	**18 28 43.7**	**-0.6**
NAX				S	**Sg**	**18 29 06.4**	**+5.5**
NAX	**Nakhchivan**	**1.28**	**61**	P	**Pg**	**18 28 43.7**	**-0.6**
NAX				S	**Sg**	**18 29 06.4**	**+5.5**
NAX	**Nakhchivan**	**1.28**	**61**	P	**Pg**	**18 28 43.7**	**-0.6**
	SNR=162						
TUTA	**Tutak**	**1.28**	**311**	⇑*i*P	**Pg**	**18 28 42.5**	**-1.8**
TUTA				*i* S	**Sn**	**18 29 01.8**	**-1.1**
TUTA	**Tutak**	**1.28**	**311**	P	**Pg**	**18 28 42.5**	**-1.8**
TUTA				S	**Sn**	**18 29 01.8**	**-1.1**
IMRD	**Marand**	**1.30**	**83**	*e*Pn	**Pg**	**18 28 43.3**	**-1.4**
IMRD				*e*AMB	AMB	18 28 53.3	
	comp=Z,34μm,0.2s						
IMRD				*e*Sg	**Sg**	**18 29 06.2**	**+4.7**
IMRD	**Marand**	**1.30**	**83**	Pn	**Pg**	**18 28 43.3**	**-1.4**
IMRD				Sg	**Sg**	**18 29 06.1**	**+4.6**
IMRD	**Marand**	**1.30**	**83**	*e*Pn	**Pg**	**18 28 43.3**	**-1.4**
IMRD				Sg	**Sg**	**18 29 06.1**	**+4.6**
IGDI	**IGDIR**	**1.30**	**1**	⇓*i*P	**Pg**	**18 28 43.4**	**-1.3**
IGDI				*i* S	**Sg**	**18 29 04.9**	**+3.2**
AGRB	**Hanur-Agry**	**1.31**	**321**	PN	**Pg**	**18 28 43.6**	**-1.3**
AGRB				SN	**Sn**	**18 29 03.3**	**-0.2**
AGRB	**Hanur-Agry**	**1.31**	**321**	Pn	**Pg**	**18 28 43.5**	**-1.3**
AGRB	**Hanur-Agry**	**1.31**	**321**	Pn	**Pg**	**18 28 43.5**	**-1.3**
AGRB				*e*Sn	**Sn**	**18 29 03.3**	**-0.2**
HYR	**Heyderabad**	**1.31**	**28**	P	**Pg**	**18 28 44.0**	**-0.9**
	SNR=152						
ARRZ	**Ararat**	**1.38**	**21**	*e*P	Pg	18 28 51.0	+4.7
ARRZ				*e*S	Sg	18 29 13.0	+8.8
TASB	**TASBURUN-IGDIR**	**1.43**	**6**	PN	**Pg**	**18 28 46.5**	**-0.6**
TASB				SN	**Sg**	**18 29 07.3**	**+1.7**
TASB	**TASBURUN-IGDIR**	**1.43**	**6**	*e*Pn	**Pg**	**18 28 46.5**	**-0.6**
TASB				*e*Sn	**Sg**	**18 29 07.3**	**+1.7**
SBZ	**Shahbuz**	**1.43**	**54**	P	**Pg**	**18 28 46.2**	**-1.0**
	SNR=571						
ORD	**Ordubad**	**1.56**	**76**	⇓P	**Pg**	**18 28 48.0**	**-1.6**
	SNR=174						
GURO	**Guroymak-BITLI**	**1.59**	**270**	PN	**Pb**	**18 28 47.7**	**-2.2**
GURO	**Guroymak-BITLI**	**1.59**	**270**	*e*Pn	**Pb**	**18 28 47.7**	**-2.2**
SIRT	**Sirnak**	**1.66**	**231**	Pn	**Pg**	**18 28 49.3**	**-2.2**
SIRT	**Sirnak**	**1.66**	**231**	*e*Pn	**Pg**	**18 28 49.3**	**-2.2**
GNI	**Garni**	**1.67**	**18**	Pn	**Pg**	**18 28 50.9**	**-0.9**
	comp=Z,38nm,0.3s,baz=296,slow=2.1,SNR=131						
GNI				Sn	**Sg**	**18 29 16.0**	**+2.5**
	comp=Z,86nm,0.3s,baz=108,slow=20,SNR=13						
GNI	**Garni**	**1.67**	**18**	⇓*i*P	**Pb**	**18 28 49.6**	**-1.7**
GNI				⇑*i*S	**Sg**	**18 29 11.5**	**-2.0**
GNI	**Garni**	**1.67**	**18**	*ce*PG	**Pg**	**18 28 50.2**	**-1.6**
GNI				pmax	pmax		
	comp=Z,670nm,0.6s						
GNI	**Garni**	**1.67**	**18**	⇓P	**Pb**	**18 28 49.7**	**-1.7**
GNI	**Garni**	**1.67**	**18**	*e*Pg	**Pg**	**18 28 50.2**	**-1.6**
	comp=Z,670nm,0.6s						
GNI	**Garni**	**1.67**	**18**	Pn	**Pg**	**18 28 50.9**	**-0.9**
GNI				S	**Sg**	**18 29 11.5**	**-2.0**
GNI				Sn	**Sg**	**18 29 16.0**	**+2.5**
ITBZ	**Tabriz**	**1.68**	**101**	*e*Pn	**Pb**	**18 28 50.0**	**-1.5**
ITBZ				*e*AMB	AMB	18 29 09.2	
	comp=Z,5μm,0.2s						
ITBZ	**Tabriz**	**1.68**	**101**	Pn	**Pb**	**18 28 49.9**	**-1.5**
ITBZ	**Tabriz**	**1.68**	**101**	Pn	**Pb**	**18 28 49.9**	**-1.5**
SIRN	**S˘˘rnak**	**1.68**	**231**	⇓*i*P	**Pg**	**18 28 49.6**	**-2.3**
SIRN				*i* S	**Sg**	**18 29 15.6**	**+2.0**
SIRN	**S˘˘rnak**	**1.68**	**231**	P	**Pg**	**18 28 49.6**	**-2.3**
SIRN				S	**Sg**	**18 29 15.6**	**+2.0**
EKAR	**Karacoban**	**1.70**	**295**	⇑*i*P	**Pb**	**18 28 49.8**	**-2.1**
EKAR				*i* S	**Sg**	**18 29 19.2**	**+4.8**
EKAR	**Karacoban**	**1.70**	**295**	P	**Pb**	**18 28 49.8**	**-2.1**
SRTM	**Siirt_Merkez**	**1.77**	**252**	⇓*i*P	**Pg**	**18 28 52.3**	**-1.4**
SRTM				*i* S	**Sg**	**18 29 17.4**	**+0.7**
SRTM	**Siirt_Merkez**	**1.77**	**252**	P	**Pg**	**18 28 52.3**	**-1.4**
SRTM				S	**Sg**	**18 29 17.4**	**+0.7**
EATA	**Eleskirt**	**1.78**	**317**	⇑*i*P	**Pg**	**18 28 51.9**	**-1.9**
EATA				*i* S	**Sg**	**18 29 19.9**	**+3.0**
EATA	**Eleskirt**	**1.78**	**317**	P	**Pg**	**18 28 51.9**	**-1.9**
DIGO	**Kars**	**1.92**	**344**	⇑*i*P	**Pb**	**18 28 54.2**	**-1.6**
DIGO				*i* S	**Sg**	**18 29 22.5**	**+1.0**
DIGO	**Kars**	**1.92**	**344**	P	**Pb**	**18 28 54.2**	**-1.6**
GRS	**Goris**	**2.01**	**61**	⇑*i*P	**Pn**	**18 28 53.0**	**-1.9**
GRS				⇑*i*S	**Sg**	**18 29 23.0**	**-1.2**
GRS	**Goris**	**2.01**	**61**	⇑P	**Pn**	**18 28 53.0**	**-1.9**
GRS				S	**Sg**	**18 29 23.0**	**-1.2**
VADZ	**Vardenis**	**2.07**	**39**	*e*P	**Pb**	**18 28 55.0**	**-3.3**
VADZ				*e*S	**Sg**	**18 29 25.0**	**-1.4**
EAK	**Akyaka**	**2.15**	**351**	⇑*i*P	**Pg**	**18 28 59.7**	**-1.2**
EAK				*i* S	**Sg**	**18 29 30.8**	**+2.0**
KARS	**Kars**	**2.20**	**340**	PN	**Pb**	**18 28 56.9**	**-3.4**
KARS	**Kars**	**2.20**	**340**	PN	**Pb**	**18 28 57.1**	**-3.2**
KARS	**Kars**	**2.20**	**340**	Pn	**Pb**	**18 28 57.1**	**-3.2**
KARS	**Kars**	**2.20**	**340**	Pn	**Pb**	**18 28 57.1**	**-3.2**
HOMI	**Horasan**	**2.23**	**312**	⇓*i*P	**Pg**	**18 28 59.6**	**-2.9**
HOMI				*i* S	Sg	18 29 43.2	+12
BTMN	**Batman**	**2.29**	**254**	⇓*i*P	**Pb**	**18 28 59.1**	**-2.9**
BTMN				*i* S	**Sg**	**18 29 35.0**	**+1.5**
BTMN	**Batman**	**2.29**	**254**	P	**Pb**	**18 28 59.1**	**-2.9**
BNGL	**BINGOL**	**2.30**	**281**	*i* P	**Pb**	**18 28 59.4**	**-2.9**
BNGL				*i* S	**Sg**	**18 29 33.6**	**-0.2**
IHRS	**Heris**	**2.36**	**95**	*e*AMB	AMB	18 29 08.1	
	comp=Z,6μm,0.4s						
IHRS				*e*Pn	**Pb**	**18 29 01.1**	**-2.0**
SENK	**Senkaya-Erzuru**	**2.39**	**327**	PN	**Pn**	**18 28 59.2**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.39**	**327**	*e*Pn	**Pn**	**18 28 59.2**	**-1.0**
IBST	**Bostanabad**	**2.40**	**110**	*e*Pn	**Pb**	**18 29 00.4**	**-3.4**
IBST				*e*AMB	AMB	18 29 39.0	
	comp=Z,2μm,0.3s						
IBST	**Bostanabad**	**2.40**	**110**	*e*Pn	**Pb**	**18 29 00.4**	**-3.4**
ERZM	**Erzurum**	**2.48**	**304**	*i* P	**Pb**	**18 29 03.4**	**-1.9**
ERZM				*i* S	**Sg**	**18 29 43.3**	**+3.8**
ERZM	**Erzurum**	**2.48**	**304**	P	**Pb**	**18 29 03.4**	**-1.9**
GDB	**GEDABAY**	**2.52**	**31**	⇑P	**Pn**	**18 29 00.4**	**-1.6**
	SNR=12						
ECAT	**Cat-ERZURUM**	**2.61**	**294**	⇑*i*P	**Pb**	**18 29 05.2**	**-2.3**
ECAT				*i* S	**Sg**	**18 29 43.1**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.61**	**294**	P	**Pb**	**18 29 05.2**	**-2.3**
QZX	**Qazax, Azerbai**	**2.69**	**22**	⇑P	**Pn**	**18 29 02.0**	**-2.2**
QZX				⇓S	**Sb**	**18 29 40.0**	**-2.2**
GANJ	**Ganja**	**2.72**	**39**	PN	**Pn**	**18 29 03.3**	**-1.3**
GANJ	**Ganja**	**2.72**	**39**	⇓P	**Pn**	**18 29 03.3**	**-1.3**
MARD	**Mardin**	**2.88**	**245**	⇓*i*P	**Pn**	**18 29 05.5**	**-1.3**
MARD				*i* S	**Sg**	**18 29 52.3**	**+0.2**
AKH	**Akhalkalaki**	**2.88**	**352**	PN	Pb	18 29 07.1	-4.8
AKH	**Akhalkalaki**	**2.88**	**352**	P	**Pg**	**18 29 13.4**	**-1.5**
AKH				S	**Sg**	**18 29 53.8**	**+1.6**
AKH	**Akhalkalaki**	**2.88**	**352**	ePn	**Pg**	**18 29 13.3**	**-1.5**
AKH				*e*S	**Sg**	**18 29 53.7**	**+1.6**
AKH	**Akhalkalaki**	**2.88**	**352**	*e*Pn	Pb	18 29 07.1	-4.8
AKH				*e*Sb	**Sg**	**18 29 53.7**	**+1.6**
BRDA	**Brd**	**2.96**	**54**	⇓P	**Pn**	**18 29 06.7**	**-1.1**
	SNR=14						
GRMI	**Germi**	**3.01**	**84**	*e*Pn	**Pb**	**18 29 10.4**	**-3.9**
MAZI	**Mazidag**	**3.06**	**250**	PN	**Pn**	**18 29 08.5**	**-0.8**
MAZI	**Mazidag**	**3.06**	**250**	*e*Pn	**Pn**	**18 29 08.5**	**-0.8**
DIY	**Diyarbakir**	**3.09**	**259**	*e*Pn	Pb	18 29 10.7	-4.8
DYBB	**Diyarbakir**	**3.14**	**260**	PN	Pb	18 29 10.7	-5.7
BTNK	**Botanikuri**	**3.17**	**10**	P	**Pg**	**18 29 16.9**	**-3.5**
BTNK				S	**Sg**	**18 30 02.4**	**+0.9**
TBLG	**Delisi**	**3.21**	**9**	PN	**Pn**	**18 29 11.7**	**+0.4**
TBLG	**Delisi**	**3.21**	**9**	P	**Pg**	**18 29 19.5**	**-1.8**
TBLG				S	**Sg**	**18 30 02.6**	**-0.3**
TBLG	**Delisi**	**3.21**	**9**	*e*PN	**Pg**	**18 29 19.4**	**-1.8**
TBLG				*e*S	**Sg**	**18 30 02.5**	**-0.3**
TBLG	**Delisi**	**3.21**	**9**	*e*Pn	**Pg**	**18 29 11.7**	**+0.4**
TBLG				*e*Sb	**Sg**	**18 30 02.5**	**-0.3**
ZRD	**Zardab**	**3.29**	**57**	⇓P	**Pn**	**18 29 11.3**	**-1.1**
LRK	**Lerik**	**3.36**	**87**	⇑P	**Pn**	**18 29 11.5**	**-2.0**
GLBA	**Clilabad**	**3.45**	**77**	⇓P	**Pn**	**18 29 13.2**	**-1.4**
BAYT	**Ayd˘–ntepe-Bay**	**3.54**	**302**	PN	**Pn**	**18 29 16.5**	**+0.6**
BAYT	**Ayd˘–ntepe-Bay**	**3.54**	**302**	*e*Pn	**Pn**	**18 29 16.5**	**+0.6**
SEKA	**Sheki**	**3.58**	**41**	PN	**Pn**	**18 29 15.8**	**-0.6**
SEKA	**Sheki**	**3.58**	**41**	⇑P	**Pn**	**18 29 15.8**	**-0.6**
SAAT	**Saatly**	**3.63**	**68**	⇑P	**Pn**	**18 29 15.6**	**-1.4**
ZKTA	**Zakatala**	**3.65**	**32**	PN	**Pn**	**18 29 15.7**	**-1.6**
ZKTA	**Zakatala**	**3.65**	**32**	Pn	**Pn**	**18 29 15.7**	**-1.6**
PTK	**Pertek**	**3.66**	**277**	PN	**Pn**	**18 29 18.5**	**+0.8**
PTK	**Pertek**	**3.66**	**277**	*e*Pn	**Pn**	**18 29 18.5**	**+0.8**
KDMR	**Kurdemir**	**3.67**	**59**	⇑P	**Pn**	**18 29 16.5**	**-1.1**
LKRN	**Lenkeran, Azer**	**3.70**	**86**	PN	**Pn**	**18 29 16.2**	**-1.8**
LKRN	**Lenkeran, Azer**	**3.70**	**86**	⇓P	**Pn**	**18 29 16.3**	**-1.8**
ASTR	**Astara**	**3.71**	**89**	⇓P	**Pn**	**18 29 16.3**	**-1.9**
QBL	**Gabala**	**3.76**	**50**	⇓P	**Pn**	**18 29 17.7**	**-1.2**
IML	**Ismayilli**	**3.89**	**54**	⇑P	**Pn**	**18 29 19.4**	**-1.2**
GUDG	**Gudauri**	**3.91**	**5**	P	**Pb**	**18 29 29.7**	**+0.1**
ONI	**Oni**	**4.05**	**354**	P	**Pg**	**18 29 34.9**	**-2.5**
ONI	**Oni**	**4.05**	**354**	*e*PN	**Pg**	**18 29 34.8**	**-2.5**
AKT	**Akhty**	**4.05**	**43**	*e*PN	**Pn**	**18 29 25.2**	**+2.2**
AKT				*e*		18 29 35.1	
AKT				*e*S	**Sn**	**18 30 09.9**	**-1.3**
AKT				*e*		18 30 25.5	
AKT				*e*		18 30 35.5	
AKT				pmax	pmax		
	comp=Z,26nm,0.6s						
AKT				smax	smax		
	comp=E,31nm,0.6s						
AKT				smax	smax		
	comp=N,48nm,0.7s						
AKT				smax	smax		
	comp=N,42nm,0.6s						
AKT	**Akhty**	**4.05**	**43**	*e*Pn	**Pn**	**18 29 25.2**	**+2.2**
	comp=N,26nm,0.6s						
AKT				*e*Sn	**Sn**	**18 30 09.9**	**-1.3**
	comp=N,42nm,0.6s						
XNQ	**Khinaliq**	**4.08**	**49**	⇓P	**Pn**	**18 29 22.2**	**-1.3**
ALIB	**&Aumlˇli-Bayra**	**4.09**	**69**	⇑P	**Pn**	**18 29 22.1**	**-1.2**
PQL	**Pirkuli**	**4.15**	**56**	⇓P	**Pn**	**18 29 23.0**	**-1.3**
ZEI	**Tsey**	**4.22**	**358**	*e*PN	**Pn**	**18 29 23.6**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,19nm,0.6s						
GBS	**Qobustan**	**4.26**	**61**	⇓P	**Pn**	**18 29 24.6**	**-1.2**
URFA	**Urfa**	**4.28**	**256**	PN	**Pn**	**18 29 26.1**	**0.0**
URFA	**Urfa**	**4.28**	**256**	Pn	**Pn**	**18 29 26.2**	**0.0**
URFA	**Urfa**	**4.28**	**256**	Pn	**Pn**	**18 29 26.2**	**+0.1**
IDHR	**Dehrash**	**4.29**	**153**	*e*Pn	**Pn**	**18 29 28.2**	**+1.9**
IDHR				*e*AMB	AMB	18 30 56.5	
	comp=Z,3μm,0.5s						
IDHR	**Dehrash**	**4.29**	**153**	*e*Pn	**Pn**	**18 29 28.2**	**+1.9**
SNGE	**Sanandaj**	**4.36**	**142**	*e*Pn	Pb	18 29 30.8	-6.4
SNGE				*e*Sg	**Sg**	**18 30 40.7**	**+1.0**
QSAR	**Qusar**	**4.37**	**46**	⇑P	**Pn**	**18 29 26.0**	**-1.3**
QUBA	**Quba, Azerbaij**	**4.41**	**49**	⇓P	**Pn**	**18 29 26.5**	**-1.2**
ATGJ	**Altiaghaj**	**4.41**	**57**	⇑P	**Pn**	**18 29 26.6**	**-1.3**
MALT	**Malatya**	**4.43**	**269**	PN	**Pn**	**18 29 29.2**	**+1.1**
MALT	**Malatya**	**4.43**	**269**	PN	**Pn**	**18 29 28.9**	**+0.8**
MALT	**Malatya**	**4.43**	**269**	Pn	**Pn**	**18 29 28.9**	**+0.8**
MALT	**Malatya**	**4.43**	**269**	Pn	**Pn**	**18 29 28.9**	**+0.8**
SIZA	**Siyzn**	**4.50**	**55**	⇑P	**Pn**	**18 29 27.8**	**-1.2**
IVIS	**Veis**	**4.61**	**150**	*e*Pn	**Pn**	**18 29 30.5**	**-0.2**
IVIS				*e*AMB	AMB	18 31 20.6	
	comp=Z,2μm,0.9s						
IVIS	**Veis**	**4.61**	**150**	*e*Pn	**Pn**	**18 29 30.5**	**-0.2**
IGHG	**Ghaleghazi**	**4.69**	**154**	*e*Pn	**Pn**	**18 29 32.1**	**+0.3**
IGHG				*e*AMB	AMB	18 31 13.6	
	comp=Z,5μm,0.7s						
IGHG	**Ghaleghazi**	**4.69**	**154**	*e*Pn	**Pn**	**18 29 32.1**	**+0.3**
GROC	**Groznyy**	**4.82**	**15**	*e*PN	Pg	18 29 48.2	-3.9
GROC				pmax	pmax		
	comp=Z,69nm,1.2s						
NCK	**Nalchik**	**4.94**	**356**	*e*PN	Pb	18 29 39.4	-7.6
NCK	**Nalchik**	**4.94**	**356**	*e*Pn	Pb	18 29 39.4	-7.6
DARE	**Darende-Malaty**	**5.15**	**272**	PN	**Pn**	**18 29 39.4**	**+1.4**
DARE	**Darende-Malaty**	**5.15**	**272**	*e*Pn	**Pn**	**18 29 39.4**	**+1.4**
KBZ	**Khabaz**	**5.23**	**351**	Pn	Pn	18 29 41.4	+2.4
	comp=Z,0.1nm,0.3s,baz=180,slow=10,SNR=2.2						
KVAR	**Kislovodsk Arr**	**5.48**	**350**	Pn	**Pn**	**18 29 44.3**	**+1.7**
	baz=180,slow=18,SNR=2.7						
KIV	**Kislovodsk**	**5.49**	**350**	*e*P	**Pn**	**18 29 44.7**	**+2.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,50nm,7.0s						
KIV	**Kislovodsk**	**5.49**	**350**	*e*P	**Pn**	**18 29 44.7**	**+2.1**
	comp=Z,50nm,7.0s						
RSDY	**Resadiye-TOKAT**	**5.52**	**291**	PN	**Pn**	**18 29 44.9**	**+1.9**
RSDY	**Resadiye-TOKAT**	**5.52**	**291**	*e*Pn	**Pn**	**18 29 44.9**	**+1.9**
GAZ	**Gaziantep**	**5.59**	**258**	PN	**Pn**	**18 29 45.7**	**+1.6**
GAZ	**Gaziantep**	**5.59**	**258**	*e*Pn	**Pn**	**18 29 45.7**	**+1.6**
SVSK	**Karacayir**	**5.64**	**286**	PN	**Pn**	**18 29 46.4**	**+1.7**
SVSK	**Karacayir**	**5.64**	**286**	*e*Pn	**Pn**	**18 29 46.4**	**+1.7**
KMRS	**Kahramanmaras**	**5.75**	**262**	PN	**Pn**	**18 29 47.8**	**+1.6**
KMRS	**Kahramanmaras**	**5.75**	**262**	*e*Pn	**Pn**	**18 29 47.8**	**+1.6**
SOC	**Sochi**	**5.99**	**328**	*e*P	Pn	18 29 52.2	+2.7
SOC				*e*		18 30 59.2	
SOC				MLR	MLR		
	comp=Z,331nm,10.0s						
SOC	**Sochi**	**5.99**	**328**	*e*S	**Sn**	**18 30 59.2**	**+0.5**
	comp=Z,331nm,10.0s						
KOZT	**Kozan**	**6.59**	**263**	PN	**Pn**	**18 29 59.4**	**+1.7**
KOZT	**Kozan**	**6.59**	**263**	*e*Pn	**Pn**	**18 29 59.4**	**+1.7**
BRTR	**Keskin Array B**	**8.18**	**281**	Pn	Pn	18 30 24.2	+4.6
	comp=Z,0.1nm,0.3s,baz=92,slow=11,SNR=5.9						
ASF	**Jabal al Asfar**	**8.65**	**225**	Pn	**Pn**	**18 30 27.2**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=11,slow=10,SNR=2.2						
MMAI	**Mount Meron Ar**	**8.94**	**234**	Pn	**Pn**	**18 30 31.7**	**+1.6**
	comp=Z,2.9nm,0.3s,baz=78,slow=16,SNR=7.6						
GEYT	**Alibeck**	**11.08**	**89**	Pn	**Pn**	**18 30 59.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=300,slow=19,SNR=3.8						
PLOR	**Plostina**	**14.80**	**305**	⇑*i*P	**P**	**18 31 57.5**	**+1.3**
PLOR	**Plostina**	**14.80**	**305**	⇑P	**P**	**18 31 57.5**	**+1.3**
PLOR	**Plostina**	**14.80**	**305**	P	**P**	**18 31 57.5**	**+1.3**
SORM	**Soroca**	**14.88**	**315**	⇑*i*P	**P**	**18 31 55.2**	**-1.8**
SORM	**Soroca**	**14.88**	**315**	⇑P	**P**	**18 31 55.2**	**-1.8**
SORM	**Soroca**	**14.88**	**315**	P	**P**	**18 31 55.2**	**-1.8**
RAYN	**Ar Rayn**	**15.04**	**175**	*e*Pn	**Pn**	**18 31 49.4**	**-4.1**
	comp=Z,4.4nm,0.7s						
RAYN	**Ar Rayn**	**15.04**	**175**	*e*Pn	**Pn**	**18 31 49.4**	**-4.1**
	comp=Z,4.4nm,0.7s						
TESR	**Tescani**	**15.07**	**307**	⇓*i*P	**P**	**18 32 00.1**	**+0.9**
MLR	**Muntele Rosu**	**15.12**	**303**	Pn	**P**	**18 31 57.8**	**-2.1**
	baz=155,slow=19,SNR=1.8						
MLR	**Muntele Rosu**	**15.12**	**303**	⇑*i*P	**P**	**18 32 02.0**	**+2.1**
MLR	**Muntele Rosu**	**15.12**	**303**	⇑P	**P**	**18 32 02.0**	**+2.1**
MLR	**Muntele Rosu**	**15.12**	**303**	P	**P**	**18 32 02.0**	**+2.1**
AKTK	**Aktyubinsk**	**15.46**	**35**	P	**P**	**18 32 00.9**	**-2.6**
AKTO	**Aktyubinsk**	**15.46**	**35**	Pn	**P**	**18 32 00.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=219,slow=13,SNR=2.7						
ABKAR	**Ak

comp=Z,0.8nm,0.2s,baz=72,slow=4.6,SNR=3.4
BILL **Bilibino** **65.29** **21** *i* P P 18 39 08.7 +6.0
BILL pmax pmax
comp=Z,2.0nm,1.1s
YKA **Yellowknife Ar** **77.83** **350** P **P** **18 40 17.4 -0.9**
comp=Z,0.4nm,0.9s,baz=18,slow=4.7,SNR=2.6
BBB **Bella Bella** **89.37** **355** LR LR 19 24 04.8
comp=Z,149nm,19.5s,baz=300,slow=37
PCRV **Puerto La Cruz** **97.95** **290** LR LR 19 25 47.1
comp=Z,244nm,19.1s,baz=75,slow=35

*IDC **11** 18:28:51.0±6.5, 36˚.67N×140˚.81E, h0km, mb3.4/3, mb1 3.3/5, mb1mx3.1/71, mbtmp3.3/5, ML2.8/2, Error ellipse: s-maj=112.4km s-min=31.3km az=144.0*
*ISCJB **11** 18:28:51.7±1.4, 36˚.67N±0˚.06×140˚.86E±0˚.10, h16km±8km, mb3.1/3, Error ellipse: s-maj=14.9km s-min=6.8km az=31.9*
*JMA **11** 18:28:53.5, 36˚.74N×140˚.64E, h5km±1km, M2.8*
ISC 11 18:28:52.6±1.7, 36˚.71N±0˚.06×140˚.76E±0˚.09, h8km±9km, n18, σ0°71/17, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.18**	**238**	P		**Pg**	**18 28 56.4**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.40**	**5**	P		**Pb**	**18 29 01.2**	**-0.8**
ONAJ				S		**Sg**	**18 29 06.6**	**+1.0**
JYT	**Yasato**	**0.66**	**224**	P		**Pb**	**18 29 05.4**	**-0.9**
JFK	**Kawauchi**	**0.67**	**8**	P		**Pb**	**18 29 06.0**	**-0.6**
JFK				S		**Sg**	**18 29 14.9**	**+0.7**
JSB	**Shiboa**	**0.72**	**292**	P		**Pg**	**18 29 06.2**	**-0.2**
JFT	**Otama**	**0.88**	**338**	P		**Pg**	**18 29 09.2**	**-0.3**
JFT				S		**Sg**	**18 29 20.3**	**-0.6**
MJAR	**Matsushiro Arr**	**2.06**	**266**	Pn		**Pn**	**18 29 27.8**	**+0.3**
	2.9nm,0.3s,baz=85,slow=10.0,SNR=34							
MJAR				Sn		**Sn**	**18 29 54.4**	**+1.0**
	8.1nm,0.3s,baz=104,slow=18,SNR=20							
MAT	**Matsushiro**	**2.06**	**266**	P		**Pn**	**18 29 28.1**	**+0.6**
MAT				S		**Sn**	**18 29 54.3**	**+0.9**
ASAJ	**Asahikawa**	**7.54**	**10**	Pn		**Pn**	**18 30 43.2**	**+0.5**
	0.2nm,0.3s,baz=180,slow=20,SNR=2.4							
ASAJ				Sn		Sn	18 31 47.8	-21
	0.1nm,0.3s,baz=342,slow=19,SNR=2.6							
SONM	**Songino Array**	**27.53**	**305**	P		**P**	**18 34 39.5**	**-0.4**
	0.1nm,0.4s,baz=98,slow=10,SNR=2.2							
H11N2	**WAKE ISLAND Hy**	**28.44**	**119**	T		T	19 04 33.7	
	baz=312,slow=74,SNR=23							
H11N1	**WAKE ISLAND Hy**	**28.45**	**119**	T		T	19 04 34.4	
	baz=312,slow=74,SNR=19							
H11N3	**WAKE ISLAND Hy**	**28.46**	**119**	T		T	19 04 35.1	
	baz=312,slow=74,SNR=18							
H11S1	**WAKE ISLAND Hy**	**29.13**	**121**	T		T	19 05 24.5	
	baz=314,slow=76,SNR=48							
H11S3	**WAKE ISLAND Hy**	**29.13**	**122**	T		T	19 05 25.9	
	baz=314,slow=76,SNR=39							
H11S2	**WAKE ISLAND Hy**	**29.15**	**122**	T		T	19 05 26.0	
	baz=314,slow=76,SNR=41							
ZALV	**Zalesovo Beam**	**41.75**	**313**	P		**P**	**18 36 42.0**	**0.0**
	0.3nm,0.4s,baz=104,slow=12,SNR=2.5							
KURBB	**Kurchatov Arra**	**45.79**	**308**	P		**P**	**18 37 14.2**	**-0.4**
	0.3nm,0.6s,baz=84,slow=7.8,SNR=4.8							

*ISCJB **11** 18:41:27.9±0.6, 31˚.89N±0˚.06×137˚.65E±0˚.08, h380km, mb3.2/9, Error ellipse: s-maj=8.8km s-min=7.8km az=170.2*
*JMA **11** 18:41:27.9±0.4, 31˚.80N×137˚.92E, h391km, M3.2*
*IDC **11** 18:41:29.5±1.1, 32˚.21N×137˚.78E, h397km±12km, mb3.0/9, mb1 3.0/12, mb1mx2.8/61, mbtmp3.7/12, Error ellipse: s-maj=28.9km s-min=14.5km az=70.0*
ISC 11 18:41:27.7±0.8, 31˚.92N±0˚.08×137˚.77E±0˚.07, h380km, n23, σ1°97/27, mb3.2/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.08**	**54**	P		**Pn**	**18 42 24.2**	**+1.9**
	11nm,0.3s,baz=75,slow=20,SNR=4.0							
JHJ				S		S	18 43 15.9	+10
	8.4nm,0.3s,baz=252,slow=20,SNR=2.0							
JHJ2	**Mitsune**	**2.10**	**55**	P		**Pn**	**18 42 23.6**	**+1.2**
JWZ	**Kozaga**	**2.36**	**314**	P		**Pn**	**18 42 27.0**	**+2.7**
JIE	**Ise**	**2.62**	**341**	P		**Pn**	**18 42 29.3**	**+3.1**
JWY	**Kouya**	**2.93**	**322**	P		**Pn**	**18 42 31.7**	**+2.9**
JAI	**Aioi**	**3.36**	**305**	P		**Pn**	**18 42 34.9**	**+2.4**
JOD2	**Odawara 2**	**3.52**	**18**	P		**Pn**	**18 42 36.5**	**+2.6**
JOD2				*eS*		**S**	**18 43 29.4**	**+2.0**
JYN	**Shimob**	**3.63**	**10**	P		**Pn**	**18 42 38.3**	**+3.3**
BSO1	**Boso 1**	**3.83**	**44**	P		**Pn**	**18 42 38.0**	**+1.8**
BSO1				S		**S**	**18 43 32.7**	**+0.9**
JRY	**Ryogami san**	**4.20**	**13**	P		**Pn**	**18 42 42.5**	**+2.1**
JRY				*eS*		**S**	**18 43 39.7**	**+0.3**
MJAR	**Matsushiro Arr**	**4.63**	**4**	P		**Pn**	**18 42 45.4**	**+0.6**
	0.4nm,0.3s,baz=180,slow=11,SNR=8.0							
MJAR				S		**S**	**18 43 45.4**	**-1.9**
	0.3nm,0.3s,baz=79,slow=13,SNR=4.6							
JNU	**Nakatsue**	**5.94**	**283**	P		**Pn**	**18 43 00.9**	**+1.9**
	0.5nm,0.3s,baz=84,slow=9.2,SNR=5.7							
CBIJ	**Chichi jima**	**6.16**	**140**	S		**S**	**18 44 16.8**	**-0.9**
KSRS	**Korea Array**	**9.80**	**307**	P		**P**	**18 43 43.9**	**+0.2**
	0.1nm,0.3s,baz=121,slow=10.0,SNR=4.6							
SONM	**Songino Array**	**28.53**	**313**	P		**P**	**18 46 49.9**	**-0.7**
	0.5nm,0.6s,baz=116,slow=9.8,SNR=3.4							
ZALV	**Zalesovo Beam**	**43.34**	**317**	P		**P**	**18 48 52.3**	**-1.4**
	0.4nm,0.3s,baz=83,slow=6.7,SNR=3.2							
MKAR	**Makanchi Array**	**44.48**	**306**	P		**P**	**18 49 01.9**	**-1.0**
	1.1nm,0.6s,baz=86,slow=9.5,SNR=14							
KURBB	**Kurchatov Arra**	**46.95**	**311**	P		**P**	**18 49 20.1**	**-1.7**
	0.6nm,0.4s,baz=91,slow=9.5,SNR=25							
WRA	**Warramunga Arr**	**51.67**	**184**	P		**P**	**18 49 59.8**	**+2.4**
	0.8nm,1.1s,baz=0.2,slow=7.7,SNR=12							
BVAR	**Borovoye Array**	**51.91**	**315**	P		**P**	**18 49 57.4**	**-1.5**
	0.3nm,0.3s,baz=99,slow=7.8,SNR=7.4							
AKTO	**Aktyubinsk**	**59.92**	**313**	P		**P**	**18 50 53.7**	**-1.3**
	0.8nm,0.6s,baz=85,slow=14,SNR=3.7							
FINES	**FINESS Array B**	**71.92**	**332**	P		**P**	**18 52 09.3**	**-1.0**
	0.8nm,0.4s,baz=69,slow=5.1,SNR=14							
AKASG	**Malin Array Be**	**76.46**	**322**	P		**P**	**18 52 35.3**	**-1.2**
	0.4nm,0.4s,baz=52,slow=6.0,SNR=3.9							

*IDC **11** 19:00:54.4±0.7, 51˚.60N×173˚.25W, h0km, mb4.1/34, mb1 4.2/37, mb1mx4.1/81, mbtmp4.1/37, ML3.6/3, MS4.5/1, Ms1 4.5/1, ms1mx3.3/39, Error ellipse: s-maj=19.3km s-min=10.7km az=176.0*
*ISCJB **11** 19:00:57.6±0.3, 51˚.49N±0˚.04×173˚.20W±0˚.04, h37km, mb4.1/49, MS4.5/1, Error ellipse: s-maj=6.2km s-min=3.3km az=2.9*
*NEIC **11** 19:01:01.3±0.5, 51˚.63N×173˚.33W, h48km±4km, mb4.3/30, ML4.3(AEIC), Error ellipse: s-maj=8.3km s-min=3.2km az=171.0*
ISC 11 19:00:59.9±0.5, 51˚.57N±0˚.08×173˚.31W±0˚.04, h37km, n174, σ1°09/171, mb4.2/49, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.86**	**325**	P		**Pn**	**19 01 15.3**	**-0.1**
KOKL	**Mount Kliuchef**	**0.93**	**324**	P		**Pn**	**19 01 16.2**	**-0.2**
KOKL				S		**Sn**	**19 01 28.9**	**+0.3**
KOWE	**Korovin West**	**0.98**	**324**	P		**Pn**	**19 01 17.8**	**+0.7**
GSMY	**Great Sitkin M**	**1.77**	**286**	P		**Pn**	**19 01 29.4**	**+1.6**
GSTD	**Great Sitkin T**	**1.83**	**286**	P		**Pn**	**19 01 29.5**	**+0.8**
ADAG	**Mount Adagdak**	**2.09**	**283**	P		**Pn**	**19 01 33.5**	**+1.2**
TAPA	**Tanaga Point A**	**2.81**	**277**	P		**Pn**	**19 01 43.5**	**+1.2**
TAFP	**Tanaga Falls P**	**2.92**	**278**	P		**Pn**	**19 01 44.5**	**+0.7**
TASE	**Tanaga Southea**	**2.95**	**277**	P		**Pn**	**19 01 45.5**	**+1.3**
OKWE	**Okmok W'ng Wal**	**3.63**	**56**	P		**Pn**	**19 01 54.6**	**+1.2**
OKRE	**Okmok R'deer P**	**3.70**	**56**	P		**Pn**	**19 01 56.1**	**+1.7**
MSOM	**Makushin Julie**	**4.47**	**57**	P		**Pn**	**19 02 06.3**	**+1.3**
MSOM				S		**Sn**	**19 02 56.3**	**+0.6**
MREP	**Makushin Rep't**	**4.58**	**58**	P		**Pn**	**19 02 07.7**	**+1.2**
MSW	**Makushin Switc**	**4.61**	**57**	P		**Pn**	**19 02 08.2**	**+1.3**
UNV	**Unalaska Valle**	**4.72**	**59**	*e*Pn		**Pn**	**19 02 09.9**	**+1.5**
SPIA	**Saint Paul Isl**	**5.89**	**16**	*e*Pn		**Pn**	**19 02 25.0**	**+0.6**
ISLZ	**Isanotski Laza**	**6.58**	**58**	P		**Pn**	**19 02 35.8**	**+1.9**
GAMB	**Gambell**	**12.27**	**3**	Pn		**Pn**	**19 03 53.4**	**+1.8**
	5.5nm,0.6s							
KDAK	**Kodiak Island**	**13.47**	**54**	Pn		**Pn**	**19 04 08.2**	**0.0**
	0.5nm,0.3s,baz=205,slow=3.8,SNR=8.3							
BRLK	**Bradley Lake**	**15.01**	**48**	*e*Pn		**P**	**19 04 32.6**	**-1.4**
	150nm,1.8s							
SUA	**Susitna One**	**15.82**	**43**	*e*Pn		**P**	**19 04 41.7**	**-1.3**
	74nm,1.9s							
KTH	**Kantishna Hill**	**16.86**	**36**	*e*Pn		**P**	**19 04 53.5**	**-0.9**
	24nm,1.3s							
TRF	**Thorofare Moun**	**17.03**	**37**	*e*P		**P**	**19 04 56.3**	**-0.2**
	39nm,1.8s							
BPAW	**Bear Paw Mtn.**	**17.15**	**34**	*e*Pn		**P**	**19 04 58.4**	**+0.8**
	28nm,1.5s							
SCM	**Sheep Creek Mo**	**17.45**	**44**	*e*Pn		**Pn**	**19 04 59.5**	**-0.5**
	27nm,1.1s							
RND	**Reindeer**	**17.55**	**38**	*e*P		**P**	**19 05 01.7**	**-0.4**
	63nm,2.0s							
MCK	**McKinley**	**17.69**	**37**	*e*P		**P**	**19 05 03.5**	**-0.2**
	22nm,1.4s							
PETK	**Petropavlovsk-**	**17.73**	**286**	P		**P**	**19 05 04.3**	**+0.2**
	0.1nm,0.3s,baz=96,slow=15,SNR=3.3							
DHY	**Denali Highway**	**17.97**	**40**	*e*P		**Pn**	**19 05 06.6**	**0.0**
	33nm,1.8s							
CCB	**Clear Creek Bu**	**18.60**	**36**	*e*P		**P**	**19 05 12.4**	**-1.1**
	4.7nm,0.6s							
HARP	**HAARP**	**18.61**	**44**	*e*P		**P**	**19 05 13.8**	**0.0**
	69nm,1.5s							
MDM	**Murphy Dome**	**18.62**	**34**	*e*P		**P**	**19 05 13.2**	**-0.7**
	31nm,1.7s							
HDA	**Harding Lake**	**18.79**	**37**	*e*P		**P**	**19 05 14.5**	**-1.2**
	56nm,2.0s							
IL1	**Eielson Array**	**19.00**	**36**	*e*P		**P**	**19 05 16.6**	**-1.4**
ILAR	**Eielson Array**	**19.00**	**36**	P		**P**	**19 05 16.2**	**-1.8**
	1.0nm,0.3s,baz=239,slow=9.5,SNR=68							
ILB	**Eielson Array**	**19.00**	**36**	*e*P		**P**	**19 05 16.2**	**-1.8**
RIDG	**Independ'e Rid**	**19.29**	**40**	*e*P		**P**	**19 05 20.8**	**-0.4**
	16nm,1.1s							
COLD	**Coldfoot**	**19.41**	**27**	*e*P		**P**	**19 05 18.6**	**-3.8**
	30nm,1.8s							
DOT	**Dot Lake**	**19.57**	**41**	*e*P		**P**	**19 05 24.7**	**+0.5**
	36nm,1.2s							
FYU	**Fort Yukon**	**20.55**	**32**	*e*P		**P**	**19 05 35.7**	**+0.9**
	46nm,1.4s							
TOLK	**Toolik Lake Re**	**20.55**	**25**	P		**P**	**19 05 36.0**	**+1.1**
	baz=226							
EGAK	**Eagle**	**21.19**	**39**	*e*P		**P**	**19 05 41.2**	**-0.5**
	25nm,0.8s							
SEY	**Seymchan**	**21.47**	**315**	P		**P**	**19 05 45.8**	**+1.1**
	2.7nm,1.1s,baz=104,slow=14,SNR=6.0							
MA2	**Magadan**	**21.59**	**306**	P		**P**	**19 05 46.5**	**+0.4**
	0.9nm,0.2s,baz=120,slow=16,SNR=3.5							
DAWY	**Dawson**	**21.64**	**42**	*e*P		**P**	**19 05 46.5**	**-0.1**
	28nm,1.8s							
INK	**Inuvik**	**25.36**	**34**	P		**P**	**19 06 22.3**	**-0.6**
	2.8nm,0.4s,baz=236,slow=7.2,SNR=21							
INK	**Inuvik**	**25.36**	**34**	*e*P		**P**	**19 06 18.8**	**-4.1**
	12nm,1.1s							
DLBC	**Dease Lake**	**25.38**	**57**	*e*P		**P**	**19 06 23.4**	**+0.1**
	11nm,0.9s							
ASAJ	**Asahikawa**	**30.13**	**273**	P		**P**	**19 07 07.6**	**+1.7**
	6.8nm,0.8s,baz=5.0,slow=9.5,SNR=5.7							
TIXI	**Tiksi**	**32.18**	**330**	P		**P**	**19 07 23.9**	**+0.3**
	0.6nm,0.3s,baz=118,slow=12,SNR=3.3							
YKA	**Yellowknife Ar**	**32.59**	**47**	P		**P**	**19 07 27.3**	**0.0**
	0.5nm,0.4s,baz=272,slow=9.2,SNR=12							
B08A	**Colville Reser**	**34.21**	**74**	*e*P		**P**	**19 07 42.8**	**+1.2**
	9.8nm,1.3s							
KLR	**Kul'dur**	**34.41**	**288**	P		**P**	**19 07 43.2**	**0.0**
	0.1nm,0.4s,baz=32,slow=4.1,SNR=5.8							
H11N2	**WAKE ISLAND Hy**	**35.38**	**213**	T		T	19 45 57.4	
	baz=22							
H11N3	**WAKE ISLAND Hy**	**35.38**	**213**	T		T	19 45 51.2	
	baz=22							
H11N1	**WAKE ISLAND Hy**	**35.40**	**213**	T		T	19 45 58.4	
	baz=22							
NEW	**Newport**	**35.57**	**73**	P		**P**	**19 07 53.8**	**+0.4**
	baz=297							
NEW	**Newport**	**35.57**	**73**	*e*P		**P**	**19 07 54.0**	**+0.7**
	5.8nm,1.1s							
EDM	**Edmonton**	**35.69**	**63**	*e*P		**P**	**19 07 55.6**	**+1.3**
	46nm,1.9s							
H11S1	**WAKE ISLAND Hy**	**36.58**	**213**	T		T	19 47 10.4	
	baz=21							
H11S2	**WAKE ISLAND Hy**	**36.59**	**213**	T		T	19 47 11.6	
	baz=21							
H11S3	**WAKE ISLAND Hy**	**36.59**	**213**	T		T	19 47 11.5	
	baz=21							
USRK	**Ussuriysk Ar.**	**36.66**	**281**	P		**P**	**19 08 02.6**	**0.0**
	3.2nm,0.9s,baz=54,slow=7.4,SNR=2.9							
MCMT	**McKenzie Canyo**	**39.83**	**75**	*e*P		**P**	**19 08 29.8**	**+0.2**
EGMT	**Eagleton**	**40.03**	**69**	*e*P		**P**	**19 08 32.7**	**+1.7**
	8.8nm,0.7s							
NV01	**Mina Array Sit**	**40.11**	**87**	*e*P		**P**	**19 08 31.9**	**-0.1**
NVAR	**Mina Array Bea**	**40.11**	**87**	P		**P**	**19 08 33.0**	**+1.0**
	2.1nm,0.8s,baz=284,slow=8.8,SNR=9.6							
YHH	**Holmes Hill**	**41.05**	**74**	*e*P		**P**	**19 08 40.6**	**+0.8**
	4.3nm,0.8s							
CWC	**Cottonwood Cre**	**41.49**	**89**	P		**P**	**19 08 44.2**	**+0.9**
	baz=310							
RLMT	**Red Lodge**	**41.82**	**73**	P		**P**	**19 08 45.0**	**-1.0**
	5.2nm,0.8s							
R11A	**Troy Canyon, C**	**41.86**	**85**	P		**P**	**19 08 46.6**	**+0.3**
	baz=308							
R11A	**Troy Canyon, C**	**41.86**	**85**	*e*P		**P**	**19 08 46.8**	**+0.5**
	2.1nm,1.0s							
MPMC	**Manual Prospec**	**42.10**	**89**	P		**P**	**19 08 48.5**	**+0.2**
	baz=310							
LAO	**LASA Array**	**42.77**	**69**	*e*P		**P**	**19 08 54.9**	**+1.4**
	11nm,1.0s							
PDAR	**Pinedale Array**	**42.95**	**76**	P		**P**	**19 08 55.3**	**+0.1**
	0.9nm,0.4s,baz=276,slow=5.8,SNR=3.9							
GSC	**Goldstone, Bar**	**43.01**	**89**	P		**P**	**19 08 56.3**	**+0.7**
	baz=310							
FCC	**Fort Churchill**	**43.31**	**48**	*e*P		**P**	**19 08 54.5**	**-3.1**
	3.8nm,0.8s							
GMRC	**Granite Mounta**	**44.06**	**89**	P		**P**	**19 09 04.2**	**+0.1**
	baz=311							
IRM	**Iron Mountain**	**44.79**	**89**	P		**P**	**19 09 10.0**	**+0.1**
	baz=311							
PDMCI	**Parker Dam,Lak**	**45.32**	**89**	P		**P**	**19 09 14.3**	**+0.4**
	baz=311							
PV01	**Paradox Valley**	**46.33**	**80**	*e*P		**P**	**19 09 21.4**	**-0.8**
ULM	**Lac du Bonnet**	**46.66**	**59**	P		**P**	**19 09 24.3**	**-0.1**
	0.6nm,0.4s,baz=301,slow=9.7,SNR=4.0							
AGMN	**Agassiz Nation**	**47.76**	**62**	P		**P**	**19 09 33.2**	**+0.3**
	baz=305							
AGMN	**Agassiz Nation**	**47.76**	**62**	*e*P		**P**	**19 09 33.6**	**+0.7**
	4.9nm,0.8s							
C35A	**Jirik Farms, M**	**49.14**	**61**	P		**P**	**19 09 43.2**	**-0.4**
	baz=306							
H33A	**Prehn Over Nor**	**49.38**	**66**	P		**P**	**19 09 45.2**	**-0.3**
	baz=307							
SONM	**Songino Array**	**49.59**	**299**	P		**P**	**19 09 48.0**	**+0.9**
	1.0nm,0.6s,baz=52,slow=7.9,SNR=11							
ECSD	**ERS Data Cent**	**50.03**	**67**	P		**P**	**19 09 49.3**	**-1.1**
	baz=308							
E36A	**McGregor**	**50.24**	**62**	P		**P**	**19 09 51.7**	**-0.3**
	baz=307							
SPITS	**Spitsbergen Ar**	**50.38**	**357**	P		**P**	**19 09 52.4**	**-0.2**
	8.2nm,1.1s,baz=1.3,slow=13,SNR=4.6							
L34A	**Svendsen Farm,**	**51.26**	**69**	P		**P**	**19 09 58.8**	**-0.9**
	baz=309							
F38A	**Pierce - Schro**	**51.34**	**62**	P		**P**	**19 09 58.8**	**-1.4**
	baz=308							
I37A	**Lemond, Waseca**	**51.69**	**65**	P		**P**	**19 10 02.6**	**-0.3**
	baz=309							
J37A	**Redenius Farm,**	**52.04**	**66**	P		**P**	**19 10 05.1**	**-0.4**
	baz=309							
L37A	**Phoenix Point,**	**52.67**	**67**	P		**P**	**19 10 09.8**	**-0.4**
	baz=310							
Q34A	**Chapman**	**52.87**	**72**	P		**P**	**19 10 10.9**	**-0.7**
	baz=311							
M37A	**Trindle Farm,**	**52.96**	**68**	P		**P**	**19 10 12.6**	**+0.3**
	baz=310							
P35A	**Duane Minner,**	**53.02**	**71**	P		**P**	**19 10 12.3**	**-0.5**
	baz=310							
R34A	**Isabella, Hill**	**53.09**	**73**	P		**P**	**19 10 12.7**	**-0.6**
	baz=311							
L38A	**Oak Wood Farm,**	**53.12**	**66**	P		**P**	**19 10 12.9**	**-0.6**
	baz=310							
O37A	**Wolven Farm, M**	**53.71**	**69**	P		**P**	**19 10 17.4**	**-0.4**
	baz=311							
P37A	**Lathrop**	**53.96**	**70**	P		**P**	**19 10 18.7**	**-1.0**
	baz=311							
M39A	**Webster**	**54.00**	**67**	P		**P**	**19 10 19.3**	**-0.6**
	baz=310							
N39A	**Derby Farms, D**	**54.20**	**67**	P		**P**	**19 10 20.8**	**-0.6**
	baz=311							
P38A	**Dawn**	**54.42**	**69**	P		**P**	**19 10 22.2**	**-0.8**
	baz=311							
WMOK	**Wichita Mounta**	**54.53**	**77**	P		**P**	**19 10 24.0**	**+0.1**
	baz=313							
Q38A	**Cooks Store, C**	**54.80**	**70**	P		**P**	**19 10 24.4**	**-1.4**
	baz=312							
P39B	**Salisbury**	**54.96**	**69**	P		**P**	**19 10 26.1**	**-0.9**
	baz=311							
O40A	**La Belle**	**55.05**	**68**	P		**P**	**19 10 26.5**	**-1.1**
	baz=311							
Q39A	**Willow Grove F**	**55.12**	**69**	P		**P**	**19 10 26.9**	**-1.2**
	baz=312							
R38A	**Fenwick Farm,**	**55.15**	**71**	P		**P**	**19 10 26.6**	**-1.7**
	baz=312							
TX31	**Lajitas Ar. Si**	**55.22**	**85**	*e*P		**P**	**19 10 28.7**	**-0.3**
TXAR	**Lajitas Array**	**55.22**	**85**	P		**P**	**19 10 28.9**	**-0.2**
	2.0nm,0.7s,baz=296,slow=5.0,SNR=29							
P40A	**Paris**	**55.34**	**68**	P		**P**	**19 10 28.7**	**-1.0**
	baz=312							
S38A	**Stockton**	**55.51**	**71**	P		**P**	**19 10 29.4**	**-1.5**
	baz=312							
Q40A	**Laux Farm, Aux**	**55.68**	**69**	P		**P**	**19 10 31.0**	**-1.1**
	baz=312							
R40A	**Maddies Statio**	**56.04**	**70**	P		**P**	**19 10 32.9**	**-1.7**
	baz=312							
Q41A	**Truxton**	**56.20**	**68**	P		**P**	**19 10 35.3**	**-0.5**
	baz=312							
T39A	**Clever**	**56.23**	**71**	P		**P**	**19 10 34.9**	**-1.2**
	baz=312							
ZALV	**Zalesovo Beam**	**56.33**	**316**	P		**P**	**19 10 34.9**	**-1.7**
	0.4nm,0.5s,baz=40,slow=14,SNR=2.5							
R41A	**Rosebud**	**56.55**	**69**	P		**P**	**19 10 36.9**	**-1.5**
	baz=312							
U39A	**Green Forest**	**56.60**	**72**	P		**P**	**19 10 37.6**	**-1.2**
	baz=313							
Q42A	**Golden Eagle**	**56.63**	**68**	P		**P**	**19 10 38.4**	**-0.5**
	baz=312							
T40A	**Mansfield**	**56.66**	**71**	P		**P**	**19 10 37.4**	**-1.7**
	baz=313							
S41A	**Jillco Farms,**	**56.81**	**70**	P		**P**	**19 10 38.7**	**-1.5**
	baz=313							
P44A	**Sand Creek, Wi**	**57.36**	**66**	P		**P**	**19 10 43.5**	**-0.5**
	baz=313							
V40A	**Witts Springs**	**57.39**	**72**	P		**P**	**19 10 43.0**	**-1.4**
	baz=313							
R43A	**Red Bud**	**57.41**	**68**	P		**P**	**19 10 43.4**	**-1.0**
	baz=313							
X39A	**Fountain Ranch**	**57.50**	**74**	P		**P**	**19 10 45.1**	**-0.1**
	baz=314							
T42A	**Van Buren**	**57.58**	**70**	P		**P**	**19 10 43.8**	**-1.8**
	baz=313							
W40A	**Ferguson Farm,**	**57.66**	**73**	P		**P**	**19 10 45.5**	**-0.7**
	baz=314							
SCHQ	**Schefferville**	**57.66**	**41**	P		**P**	**19 10 45.7**	**-0.3**
	1.2nm,0.6s,baz=256,slow=15,SNR=2.6							
V41A	**Mountainview**	**57.80**	**72**	P		**P**	**19 10 45.9**	**-1.3**
	baz=313							
MIAR	**Mount Ida**	**57.80**	**74**	P		**P**	**19 10 47.1**	**-0.1**
	baz=314							
S43A	**Fulton Ridge,**	**57.80**	**69**	P		**P**	**19 10 46.4**	**-0.8**
	baz=313							
Q45A	**Warren Harvey,**	**58.01**	**66**	P		**P**	**19 10 48.1**	**-0.5**
	baz=313							
T43A	**Greenville**	**58.01**	**69**	P		**P**	**19 10 47.6**	**-1.1**
	baz=313							
X40A	**Basin Creek Fa**	**58.28**	**73**	P		**P**	**19 10 50.0**	**-0.6**
	baz=314							
R45A	**Skylar, Fairfi**	**58.35**	**67**	P		**P**	**19 10 50.3**	**-0.7**
	baz=313							
ARCES	**ARCESS Array B**	**58.42**	**352**	P		**P**	**19 10 50.3**	**-0.7**
	3.1nm,0.9s,baz=16,slow=6.9,SNR=10							
ARCES					LR	LR	19 37 59.3	
	comp=Z,414nm,21.6s,baz=9.5,slow=38							
Q47A	**Bedord North L**	**58.97**	**65**	P		**P**	**19 10 53.8**	**-1.5**
	baz=314							
V46A	**Holladay**	**60.16**	**69**	P		**P**	**19 11 03.0**	**-0.5**
	baz=314							
V47A	**Nunnelly**	**60.49**	**69**	P		**P**	**19 11 05.1**	**-0.7**
	baz=314							
U48A	**Cassie Pea, Po**	**60.58**	**67**	P		**P**	**19 11 06.2**	**-0.3**
	baz=314							
W47A	**Westpoint**	**60.85**	**69**	P		**P**	**19 11 07.8**	**-0.5**
	baz=315							
V48A	**Smith Brothers**	**60.95**	**68**	P		**P**	**19 11 08.6**	**-0.4**
	baz=315							
Y46A	**Houston**	**61.07**	**71**	P		**P**	**19 11 09.1**	**-0.7**
	baz=315							
KURK	**Kurchatov**	**61.31**	**316**	P		**P**	**19 11 11.9**	**+0.8**
W48A	**Pulaski**	**61.31**	**69**	P		**P**	**19 11 10.8**	**-0.6**
	baz=315							

h43km:pP-P,n992,σ1$37/1051,mb4.9/306,MS4.6/30,
35C-28D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOKL	**Mount Kliuchef**	**0.88**	**322**	P	**Pn**	**19 03 11.6**	**-1.0**
KOWE	**Korovin West**	**0.93**	**322**	P	**Pn**	**19 03 13.0**	**-0.3**
GSMY	**Great Sitkin M**	**1.75**	**285**	P	**Pn**	**19 03 24.4**	**0.0**
GSTD	**Great Sitkin T**	**1.81**	**285**	P	**Pn**	**19 03 24.6**	**-0.7**
ADAG	**Mount Adagdak**	**2.07**	**281**	P	**Pn**	**19 03 28.9**	**0.0**
KIRH	**Kanaga Island**	**2.36**	**278**	P	**Pn**	**19 03 33.6**	**+0.7**
TAPA	**Tanaga Point A**	**2.80**	**276**	P	**Pn**	**19 03 38.5**	**-0.5**
TAFP	**Tanaga Falls P**	**2.91**	**277**	P	**Pn**	**19 03 40.2**	**-0.2**
TASE	**Tanaga Southea**	**2.94**	**276**	P	**Pn**	**19 03 41.5**	**+0.6**
OKAK	**Okmok**	**3.60**	**55**	P	**Pn**	**19 03 49.3**	**-0.5**
OKWE	**Okmok W'ng Wal**	**3.60**	**57**	P	**Pn**	**19 03 51.0**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**3.67**	**59**	P	**Pn**	**19 03 51.8**	**+1.0**
MSOM	**Makushin Julie**	**4.45**	**58**	P	**Pn**	**19 04 02.2**	**+0.8**
MSOM	**Makushin Julie**	**4.45**	**58**	P	**Pn**	**19 04 02.2**	**+0.8**
MGOD	**Makushin Gods**	**4.48**	**59**	P	**Pn**	**19 04 02.2**	**+0.3**
MSW	**Makushin Switc**	**4.58**	**57**	P	**Pn**	**19 04 03.2**	**-0.1**
MSW				S	**Sn**	**19 04 58.4**	**+3.2**
UNV	**Unalaska Valle**	**4.70**	**59**	*e*Pn	**Pn**	**19 04 05.5**	**+0.6**
AKUT	**Akutan**	**5.21**	**58**	*e*Pn	**Pn**	**19 04 15.1**	**+3.2**
SPIA	**Saint Paul Isl**	**5.84**	**17**	*e*Pn	**Pn**	**19 04 23.9**	**+3.3**
ISLZ	**Isanotski Laza**	**6.55**	**58**	P	**Pn**	**19 04 30.6**	**+0.2**
FALS	**False Pass**	**6.76**	**58**	*e*Pn	**Pn**	**19 04 35.5**	**+2.3**
SDPT	**Sand Point**	**8.51**	**59**	*e*Pn	**Pn**	**19 04 58.7**	**+1.6**
GAMB	**Gambell**	**12.21**	**3**	*e*Pn	**Pn**	**19 05 50.4**	**+2.7**
OHAK	**Old Harbor**	**12.91**	**56**	*e*Pn	**Pn**	**19 05 56.1**	**-1.1**
KDAK	**Kodiak Island**	**13.45**	**55**	Pn	**Pn**	**19 06 01.4**	**-3.1**
	1.7nm,0.3s,baz=248,slow=3.8,SNR=8.7						
KDAK	**Kodiak Island**	**13.45**	**55**	*e*P	**Pn**	**19 06 01.2**	**-3.3**
KDAK	**Kodiak Island**	**13.45**	**55**	*e*Pn	**Pn**	**19 06 01.2**	**-3.3**
BRLK	**Bradley Lake**	**14.98**	**48**	*e*Pn	**Pn**	**19 06 26.2**	**+1.0**
SPU	**Mount Spurr**	**15.09**	**42**	*e*Pn	**P**	**19 06 29.9**	**-1.3**
SEW	**Seward**	**15.78**	**48**	*e*Pn	**Pn**	**19 06 31.7**	**-3.7**
	187nm,1.6s						
SUA	**Susitna One**	**15.78**	**43**	*e*Pn	**Pn**	**19 06 36.3**	**+0.7**
	114nm,1.6s						
PPLA	**Purkeypile**	**15.96**	**37**	*e*P	**P**	**19 06 42.1**	**+1.1**
	189nm,1.8s						
RC01	**Rabbit Creek A**	**16.04**	**45**	*e*Pn	**Pn**	**19 06 37.8**	**-1.1**
	141nm,1.9s						
CAST	**Castle Rocks**	**16.31**	**35**	*e*Pn	**P**	**19 06 45.7**	**+1.0**
	20nm,0.8s						
PMR	**Palmer**	**16.53**	**44**	*e*P	**Pn**	**19 06 42.2**	**-2.8**
PMR				pmax	pmax		
	comp=Z,37nm,1.4s						
PMR	**Palmer**	**16.53**	**44**	*e*Pn	**Pn**	**19 06 42.2**	**-2.8**
	comp=Z,37nm,1.4s						
KTH	**Kantishna Hill**	**16.81**	**36**	*e*Pn	**P**	**19 06 50.6**	**+0.3**
	comp=Z,72nm,1.0s						
SML	**Sawmill**	**16.96**	**43**	*e*P	**Pn**	**19 06 49.2**	**-1.3**
SML				pmax	pmax		
	comp=Z,19nm,0.7s						
SML	**Sawmill**	**16.96**	**43**	*e*Pn	**Pn**	**19 06 49.2**	**-1.3**
	comp=Z,19nm,0.7s						
TRF	**Thorofare Moun**	**16.99**	**37**	*e*Pn	**Pn**	**19 06 51.6**	**+0.7**
	comp=Z,35nm,0.8s						
BPAW	**Bear Paw Mtn.**	**17.11**	**35**	*e*Pn	**P**	**19 06 54.0**	**+0.5**
	comp=Z,38nm,0.7s						
PET	**Petropavlovsk**	**17.15**	**286**	*e*P	**P**	**19 06 55.0**	**+1.0**
PET				pmax	pmax		
	comp=Z,25nm,0.8s						
PET				MLR	MLR		
	comp=Z,1μm,20.0s						
SCM	**Sheep Creek Mo**	**17.41**	**44**	*e*P	**Pn**	**19 06 54.0**	**-2.1**
SCM				pmax	pmax		
	comp=Z,32nm,0.7s						
SCM	**Sheep Creek Mo**	**17.41**	**44**	*e*Pn	**Pn**	**19 06 54.0**	**-2.1**
	comp=Z,32nm,0.7s						
RND	**Reindeer**	**17.51**	**38**	*e*P	**Pn**	**19 06 57.0**	**-0.3**
RND				pmax	pmax		
	comp=Z,142nm,2.0s						
RND	**Reindeer**	**17.51**	**38**	*e*Pn	**Pn**	**19 06 57.0**	**-0.3**
	comp=Z,142nm,2.0s						
MCK	**McKinley**	**17.65**	**37**	*e*P	**Pn**	**19 06 58.7**	**-0.3**
MCK				pmax	pmax		
	comp=Z,24nm,0.9s						
MCK	**McKinley**	**17.65**	**37**	*e*Pn	**Pn**	**19 06 58.6**	**-0.3**
	comp=Z,24nm,0.9s						
EYAK	**Cordova Ski Ar**	**17.66**	**49**	*e*Pn	**Pn**	**19 06 58.8**	**-0.3**
	comp=Z,172nm,1.9s						
PETK	**Petropavlovsk-**	**17.71**	**286**	P	**Pn**	**19 06 60.0**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=86,slow=14,SNR=13						
PETK	**Petropavlovsk-**	**17.71**	**286**	P	**Pn**	**19 07 00.0**	**+0.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**17.71**	**286**	*e*Pn	**P**	**19 07 00.7**	**+0.5**
MLY	**Manley**	**17.76**	**32**	*e*Pn	**P**	**19 07 01.7**	**+1.0**
	comp=Z,39nm,1.1s						
DIV	**Divide**	**17.84**	**47**	*e*Pn	**Pn**	**19 07 00.9**	**-0.4**
	comp=Z,69nm,1.5s						
KLU	**Kluina**	**17.90**	**46**	*e*P	**Pn**	**19 07 00.3**	**-1.7**
	comp=Z,81nm,1.5s						
DHY	**Denali Highway**	**17.93**	**40**	*e*P	**Pn**	**19 07 00.8**	**-1.7**
	comp=Z,44nm,1.4s						
RAGM	**Ragged Mountai**	**18.12**	**50**	*e*P	**P**	**19 07 04.2**	**-0.5**
	comp=Z,31nm,0.6s						
BMRM	**Bremner River**	**18.32**	**48**	*e*P	**P**	**19 07 05.0**	**-1.9**
	comp=Z,29nm,0.7s						
CCB	**Clear Creek Bu**	**18.56**	**36**	*e*P	**P**	**19 07 07.9**	**-1.5**
	comp=Z,22nm,0.7s						
HARP	**HAARP**	**18.57**	**44**	*e*P	**P**	**19 07 09.8**	**+0.2**
	comp=Z,208nm,1.9s						
MDM	**Murphy Dome**	**18.58**	**34**	*e*P	**P**	**19 07 08.6**	**-1.1**
	comp=Z,28nm,1.0s						
COLA	**College**	**18.67**	**35**	*e*P	**P**	**19 07 10.4**	**-0.2**
COLA				pmax	pmax		
	comp=Z,24nm,0.9s						
COLA	**College**	**18.67**	**35**	*e*P	**P**	**19 07 10.4**	**-0.2**
	comp=Z,24nm,0.9s						
PAX	**Paxson**	**18.67**	**42**	*e*P	**Pn**	**19 07 11.2**	**-0.2**
PAX				pmax	pmax		
	comp=Z,19nm,1.1s						
PAX	**Paxson**	**18.67**	**42**	*e*P	**Pn**	**19 07 11.2**	**-0.2**
	comp=Z,19nm,1.1s						
HDA	**Harding Lake**	**18.75**	**37**	*e*P	**P**	**19 07 09.7**	**-1.9**
	comp=Z,43nm,0.4s						
IL1	**Eielson Array**	**18.96**	**36**	*e*P	**P**	**19 07 13.0**	**-0.8**
ILAR	**Eielson Array**	**18.96**	**36**	P	**P**	**19 07 11.5**	**-2.4**
	comp=Z,3.5nm,0.3s,baz=225,slow=9.0,SNR=45						
ILB	**Eielson Array**	**18.96**	**36**	*e*P	**P**	**19 07 11.4**	**-2.4**
SKR	**Severo-Kuril's**	**19.13**	**279**	*e*P	**Pn**	**19 07 17.2**	**+0.2**
BILL	**Bilibino**	**19.21**	**337**	*c i*P	**Pn**	**19 07 17.5**	**-0.3**
BILL				pmax	pmax		
	comp=Z,17nm,0.9s						
BILL				MLR	MLR		
	comp=Z,2μm,19.0s						
RIDG	**Independ'e Rid**	**19.25**	**40**	*e*P	**P**	**19 07 15.9**	**-1.2**
	comp=Z,33nm,0.5s						
COLD	**Coldfoot**	**19.36**	**27**	*e*P	**Pn**	**19 07 19.9**	**+0.3**
	comp=Z,27nm,0.9s						
DOT	**Dot Lake**	**19.53**	**41**	*e*P	**P**	**19 07 19.3**	**-0.8**
	comp=Z,53nm,0.6s						
FYU	**Fort Yukon**	**20.50**	**33**	*e*P	**P**	**19 07 30.9**	**+0.4**
	comp=Z,206nm,1.6s						
TOLK	**Toolik Lake Re**	**20.50**	**25**	P	**P**	**19 07 30.7**	**+0.1**
	baz=226,SNR=12						
TOLK	**Toolik Lake Re**	**20.50**	**25**	*e*P	**P**	**19 07 31.4**	**+0.7**
	comp=Z,72nm,0.9s						
EGAK	**Eagle**	**21.14**	**39**	*e*P	**P**	**19 07 36.4**	**-1.1**
	comp=Z,86nm,0.7s						
SEY	**Seymchan**	**21.42**	**315**	P	**P**	**19 07 39.2**	**-1.3**
	comp=Z,6.2nm,0.8s,baz=109,slow=8.3,SNR=8.9						
SEY				ScP	**ScP**	**19 15 20.6**	**+5.1**
	comp=Z,2.7nm,0.8s,baz=95,slow=6.9,SNR=7.3						
SEY	**Seymchan**	**21.42**	**315**	*ce*P	**P**	**19 07 40.7**	**+0.2**
MA2	**Magadan**	**21.56**	**306**	P	**P**	**19 07 42.1**	**+0.1**
	comp=Z,5.5nm,0.6s,baz=99,slow=8.8,SNR=11						
MA2				ScP	**ScP**	**19 15 21.7**	**+5.8**
	comp=Z,1.1nm,0.3s,baz=299,slow=19,SNR=2.8						
MA2				LR	LR	19 15 56.4	
	comp=Z,2μm,18.4s,baz=108,slow=36						
MA2	**Magadan**	**21.56**	**306**	*ce*P	**P**	**19 07 42.2**	**+0.2**
DAWY	**Dawson**	**21.60**	**42**	*e*P	**P**	**19 07 41.5**	**-1.0**
	comp=Z,27nm,1.1s						
HYT	**Haines Junctio**	**21.67**	**51**	*e*P	**P**	**19 07 43.6**	**+0.3**
	comp=Z,17nm,0.7s						
SKAG	**Skagway**	**22.60**	**55**	*e*P	**P**	**19 07 52.9**	**-0.3**
	comp=Z,47nm,1.0s						
INK	**Inuvik**	**25.31**	**34**	P	**P**	**19 08 17.5**	**-1.2**
	comp=Z,7.5nm,0.3s,baz=240,slow=6.9,SNR=15						
INK				LR	LR	19 19 26.4	
	comp=Z,1μm,19.0s,baz=224,slow=39						
INK	**Inuvik**	**25.31**	**34**	*e*P	**P**	**19 08 17.8**	**-0.9**
INK				pmax	pmax		
	comp=Z,31nm,0.7s						
INK	**Inuvik**	**25.31**	**34**	*e*P	**P**	**19 08 17.8**	**-0.9**
	comp=Z,31nm,0.7s						
DLBC	**Dease Lake**	**25.35**	**57**	*e*P	**P**	**19 08 21.1**	**+1.8**
	comp=Z,31nm,0.9s						
TYV	**Tymovskoe**	**27.26**	**286**	*e*P	**P**	**19 08 35.6**	**-0.9**
TYV				*e*		19 13 11.9	
TYV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TYV				MLR	MLR		
	comp=Z,1μm,19.0s						
TYV				MLR	MLR		
	comp=E,900nm,15.0s						
YUK	**Yuzh-Kuril'sk**	**28.13**	**271**	P	P	19 08 39.5	-4.8
YUK				pmax	pmax		
	comp=Z,342nm,1.4s						
YUK				pmax	pmax		
	comp=E,252nm,1.0s						
YUK				pmax	pmax		
	comp=N,220nm,1.4s						
YUK				MLR	MLR		
	comp=Z,416nm,14.0s						
YSS	**Yuzh-Sakhalins**	**28.69**	**278**	*e*P	**P**	**19 08 50.2**	**+0.9**
YSS				pmax	pmax		
	comp=Z,71nm,1.0s						
YSS	**Yuzh-Sakhalins**	**28.69**	**278**	*e*P	**P**	**19 08 50.2**	**+0.9**
	comp=Z,71nm,1.0s						
ASAJ	**Asahikawa**	**30.12**	**273**	P	**P**	**19 09 02.9**	**+0.9**
	comp=Z,33nm,0.8s,baz=27,slow=2.8,SNR=23						
ASAJ	**Asahikawa**	**30.12**	**273**	*e*P	**P**	**19 09 02.5**	**+0.5**
	comp=Z,42nm,0.8s						
ERM	**Erimo**	**30.88**	**269**	*e*P	**P**	**19 09 09.1**	**+0.4**
ERM				pmax	pmax		
	comp=Z,36nm,1.0s						
GRNR	**Gornyy**	**31.00**	**289**	*e*P	**P**	**19 09 09.6**	**-0.1**
YAK	**Yakutsk**	**31.82**	**311**	LR	LR	19 22 36.7	
	comp=Z,2μm,18.3s,baz=92,slow=37						
YAK	**Yakutsk**	**31.82**	**311**	*e*P	**P**	**19 09 14.6**	**-2.1**
YAK				*e**PP	**pP**	**19 09 27.1**	**-1.3**
YAK				*e*		19 10 16.0	
YAK				*e*		19 12 05.8	
YAK				*e*S	**S**	**19 14 20.1**	**-3.7**
YAK				*e*		19 19 43.1	
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,27nm,2.1s						
YAK				pmax	pmax		
	comp=E,131nm,4.0s						
YAK				pmax	pmax		
	comp=N,121nm,4.3s						
YAK				smax	smax		
	comp=E,31nm,2.5s						
YAK				smax	smax		
	comp=N,18nm,1.8s						
YAK				MLR	MLR		
	comp=Z,2μm,18.0s						
YAK				MLR	MLR		
	comp=E,1μm,18.0s						
YAK				MLR	MLR		
	comp=N,2μm,25.0s						
YAK	**Yakutsk**	**31.82**	**311**	*e*P	**P**	**19 09 15.4**	**-1.4**
	comp=N,15nm,0.6s						
TIXI	**Tiksi**	**32.12**	**330**	P	**P**	**19 09 19.0**	**-0.3**
	comp=N,5.1nm,0.5s,baz=101,slow=13,SNR=22						
TIXI				PcP	**PcP**	**19 12 08.5**	**+1.2**
	comp=N,2.9nm,0.4s,baz=112,slow=2.9,SNR=5.3						
TIXI				LR	LR	19 23 32.8	
	comp=N,756nm,18.7s,baz=120,slow=39						
TIXI	**Tiksi**	**32.12**	**330**	*ce*P	**P**	**19 09 18.8**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YKA	**Yellowknife Ar**	**32.55**	**48**	P	**P**	**19 09 22.5**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=274,slow=8.0,SNR=15						
YKA				PcP	**PcP**	**19 12 09.3**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=284,slow=2.8,SNR=4.7						
YKA				ScP	**ScP**	**19 15 55.6**	**+6.9**
	comp=Z,0.4nm,0.5s,baz=289,slow=3.9,SNR=3.8						
YKA				LR	LR	19 24 09.3	
	comp=Z,121nm,19.4s,baz=0.0,slow=39						
B05A	**Bryant**	**32.58**	**75**	P	**P**	**19 09 23.3**	**-0.3**
	baz=296						
F04D	**Rainier, OR**	**33.01**	**79**	P	**P**	**19 09 27.2**	**-0.1**
	baz=298						
TEY	**Ternei**	**33.38**	**279**	*e*P	**P**	**19 09 30.0**	**-0.5**
TEY				pmax	pmax		
	comp=Z,67nm,0.9s						
B08A	**Colville Reser**	**34.20**	**74**	*e*P	**P**	**19 09 38.0**	**+0.2**
	comp=Z,20nm,0.9s						
H04A	**Detroit Lake**	**34.20**	**81**	*e*P	**P**	**19 09 38.9**	**+1.1**
	comp=Z,21nm,0.8s						
KLR	**Kul'dur**	**34.38**	**288**	P	**P**	**19 09 38.2**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=70,slow=5.9,SNR=19						
KLR				LR	LR	19 23 48.9	
	comp=Z,58nm,19.5s,baz=43,slow=37						
KLR	**Kul'dur**	**34.38**	**288**	*e*P	**P**	**19 09 37.9**	**-1.3**
I04A	**Tendick Farm,**	**34.52**	**83**	P	**P**	**19 09 40.4**	**-0.1**
	baz=302						
L02D	**Cave Junction,**	**34.66**	**86**	P	**P**	**19 09 41.5**	**-0.2**
	baz=304						
E07A	**Sunnyside**	**34.71**	**77**	*e*P	**P**	**19 09 42.7**	**+0.5**
	comp=Z,33nm,1.5s						
I05D	**Terrebonne, OR**	**34.90**	**81**	P	**P**	**19 09 43.6**	**-0.3**
	baz=301						
F07A	**Phinny Hill Vi**	**34.99**	**78**	*e*P	**P**	**19 09 45.8**	**+1.3**
	comp=Z,17nm,0.8s						
J04D	**Umpqua Nationa**	**35.00**	**83**	P	**P**	**19 09 44.2**	**-0.6**
	baz=302						
D08A	**Wollman Farm,**	**35.04**	**76**	*e*P	**P**	**19 09 45.2**	**+0.2**
	comp=Z,12nm,0.8s						
C09A	**Chrisman Ranch**	**35.08**	**74**	*e*P	**P**	**19 09 45.6**	**+0.3**
	comp=Z,27nm,1.3s						
ZEA	**Zeya**	**35.18**	**297**	*e*P	**P**	**19 09 45.2**	**-0.8**
ZEA				pmax	pmax		
	comp=Z,26nm,1.0s						
ZEA				MLR	MLR		
	comp=E,500nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,900nm,16.0s						
H11N2	**WAKE ISLAND Hy**	**35.42**	**213**	T	T	19 47 50.9	
	baz=21,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**35.43**	**213**	T	T	19 47 51.5	
	baz=21,slow=76,SNR=43						
PINE	**Pine Mountain**	**35.43**	**82**	*e*P	**P**	**19 09 50.2**	**+1.7**
	comp=Z,29nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**35.44**	**213**	T	T	19 47 58.6	
	baz=21,slow=76,SNR=46						
YBH	**Yreka Blue Hor**	**35.45**	**86**	P	**P**	**19 09 48.7**	**+0.1**
	comp=Z,9.0nm,0.9s,baz=292,slow=6.5,SNR=11						
YBH	**Yreka Blue Hor**	**35.45**	**86**	*e*P	**P**	**19 09 49.2**	**+0.6**
	comp=Z,20nm,1.1s						
J05D	**Fort Rock, OR**	**35.52**	**83**	P	**P**	**19 09 48.7**	**-0.5**
	baz=302						
NEW	**Newport**	**35.56**	**73**	P	**P**	**19 09 49.0**	**-0.4**
	baz=297,SNR=12						
NEW	**Newport**	**35.56**	**73**	*e*P	**P**	**19 09 49.1**	**-0.4**
NEW				pmax	pmax		
	comp=Z,13nm,0.7s						
NEW	**Newport**	**35.56**	**73**	*e*P	**P**	**19 09 49.1**	**-0.4**
	comp=Z,14nm,0.7s						
EDM	**Edmonton**	**35.67**	**63**	*e*P	**P**	**19 09 50.4**	**+0.1**
EDM				pmax	pmax		
	comp=Z,206nm,2.0s						
EDM	**Edmonton**	**35.67**	**63**	*e*P	**P**	**19 09 50.4**	**+0.1**
	comp=Z,206nm,2.0s						
E09A	**Wood Farm, Sta**	**35.77**	**76**	*e*P	**P**	**19 09 51.0**	**-0.1**
	comp=Z,19nm,1.0s						
G08A	**Pilot Rock**	**35.88**	**78**	*e*P	**P**	**19 09 52.6**	**+0.3**
	comp=Z,12nm,1.1s						
N02D	**Trinity Center**	**35.88**	**87**	P	**P**	**19 09 52.4**	**+0.1**
	baz=305						
M04C	**Macdoel**	**35.96**	**85**	P	**P**	**19 09 52.6**	**-0.4**
	baz=304						
I07A	**Izee**	**36.16**	**80**	*e*P	**P**	**19 09 54.9**	**+0.1**
	comp=Z,8.3nm,0.8s						
WDC	**Whiskeytown Da**	**36.20**	**87**	*e*P	**P**	**19 09 56.6**	**+1.6**
WDC				pmax	pmax		
	comp=Z,55nm,1.8s						
WDC	**Whiskeytown Da**	**36.20**	**87**	*e*P	**P**	**19 09 56.6**	**+1.6**
	comp=Z,55nm,1.8s						
H11S1	**WAKE ISLAND Hy**	**36.62**	**213**	T	T	19 49 19.3	
	baz=20,slow=76,SNR=201						
H11S2	**WAKE ISLAND Hy**	**36.64**	**213**	T	T	19 49 20.9	
	baz=20,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy**	**36.64**	**213**	T	T	19 49 19.5	
	baz=20,slow=76,SNR=33						
USRK	**Ussuriysk Ar.**	**36.64**	**280**	P	**P**	**19 09 57.9**	**-0.8**
	comp=Z,9.7nm,0.7s,baz=57,slow=10,SNR=13						
USRK				LR	LR	19 25 35.3	
	comp=Z,550nm,20.2s,baz=55,slow=37						
O03D	**Paynes Creek**	**36.83**	**87**	P	**P**	**19 10 00.1**	**-0.3**
	baz=306,SNR=8.2						
MOD	**Modoc Plateau**	**36.85**	**84**	*e*P	**P**	**19 10 01.1**	**+0.5**
	comp=Z,20nm,1.0s						
WALA	**Waterton Lakes**	**37.09**	**70**	*e*P	**P**	**19 10 03.2**	**+0.6**
	comp=Z,19nm,1.1s						
J08A	**Circle Bar Ran**	**37.18**	**81**	*e*P	**P**	**19 10 02.3**	**-1.1**
	comp=Z,17nm,0.9s						
MJAR	**Matsushiro Arr**	**37.22**	**265**	P	**P**	**19 10 03.2**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=40,slow=5.2,SNR=11						
MJAR				LR	LR	19 24 44.5	
	comp=Z,449nm,20.7s,baz=70,slow=35						
MAJO	**Matsushiro**	**37.22**	**265**	*e*P	**P**	**19 10 04.2**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAJO	**Matsushiro**	**37.22**	**265**	*e*P	**P**	**19 10 04.2**	**+0.6**
	comp=Z,19nm,0.9s						
MAT	**Matsushiro**	**37.22**	**265**	P	**P**	**19 10 04.3**	**+0.6**
MAT				*e*S	**S**	**19 15 52.8**	**+5.3**
ORV	**Oroville**	**37.45**	**88**	*e*P	**P**	**19 10 04.3**	**-1.3**
ORV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ORV	**Oroville**	**37.45**	**88**	*e*P	**P**	**19 10 04.3**	**-1.3**
	comp=Z,8.4nm,1.0s						
JTMT	**Jette**	**37.49**	**72**	*e*P	**P**	**19 10 05.8**	**-0.2**
	comp=Z,8.5nm,0.8s						
WVOR	**Wild Horse Val**	**37.58**	**82**	*e*P	**P**	**19 10 07.1**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,17nm,0.9s						
WVOR	**Wild Horse Val**	**37.58**	**82**	*e*P	**P**	**19 10 07.1**	**+0.3**
	comp=Z,16nm,0.9s						
JSBM	**San Bruno Moun**	**38.03**	**91**	*e*P	**P**	**19 10 08.5**	**-1.9**
RES	**Resolute Bay**	**38.08**	**25**	P	**P**	**19 10 07.0**	**-3.4**
	comp=Z,1.0nm,0.8s,baz=288,slow=3.2,SNR=1.9						
RES				PcP	**PcP**	**19 12 23.7**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=312,slow=4.0,SNR=3.0						
RES				ScP	**ScP**	**19 16 13.1**	**+4.6**
	comp=Z,0.8nm,0.4s,baz=281,slow=5.2,SNR=9.0						
RES				LR	LR	19 29 36.8	
	comp=Z,983nm,18.5s,baz=298,slow=42						
MSO	**Missoula**	**38.14**	**73**	P	**P**	**19 10 11.1**	**-0.4**
	baz=300,SNR=9.8						
MSO	**Missoula**	**38.14**	**73**	*e*P	**P**	**19 10 11.2**	**-0.2**
	comp=Z,18nm,1.1s						
JHJ	**Hachijo jima 2**	**38.50**	**260**	LR	LR	19 25 04.1	
	comp=Z,189nm,19.0s,baz=99,slow=35						
PAHR	**Pah Rah Range**	**38.68**	**86**	*e*P	**P**	**19 10 16.4**	**+0.3**
	comp=Z,38nm,1.3s						
MFID	**Camas Ranch**	**38.77**	**79**	*e*P	**P**	**19 10 17.1**	**+0.2**
	comp=Z,9.4nm,1.0s						
CMB	**Columbia Colle**	**39.06**	**89**	*e*P	**P**	**19 10 20.2**	**+1.0**
CMB				pmax	pmax		
	comp=Z,11nm,1.1s						
CMB	**Columbia Colle**	**39.06**	**89**	*e*P	**P**	**19 10 20.2**	**+1.0**
	comp=Z,11nm,1.1s						
WAKR	**Walker**	**39.37**	**88**	*e*P	**P**	**19 10 22.5**	**+0.5**
	comp=Z,52nm,1.7s						
HRY	**Holter Researc**	**39.45**	**72**	*e*P	**P**	**19 10 22.4**	**0.0**
LRM	**Limekiln Ridge**	**39.54**	**74**	*e*P	**P**	**19 10 21.9**	**-1.4**
HLID	**Hailey**	**39.55**	**78**	P	**P**	**19 10 22.8**	**-0.6**
	baz=303,SNR=9.4						
HLID	**Hailey**	**39.55**	**78**	*e*P	**P**	**19 10 23.1**	**-0.4**
	comp=Z,11nm,1.1s						
BMN	**Battle Mountai**	**39.59**	**84**	*e*P	**P**	**19 10 23.1**	**-0.7**
BMN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BMN	**Battle Mountai**	**39.59**	**84**	*e*P	**P**	**19 10 23.1**	**-0.7**
	comp=Z,8.3nm,0.9s						
MCMT	**McKenzie Canyo**	**39.82**	**75**	*e*P	**P**	**19 10 25.3**	**-0.4**
RYN	**Ryan**	**39.86**	**87**	*e*P	**P**	**19 10 26.4**	**+0.4**
	comp=Z,13nm,1.0s						
EGMT	**Eagleton**	**40.01**	**69**	P	**P**	**19 10 26.1**	**-0.9**
	baz=300,SNR=8.0						
EGMT	**Eagleton**	**40.01**	**69**	*e*P	**P**	**19 10 28.4**	**+1.3**
	comp=Z,27nm,0.8s						
NV01	**Mina Array Sit**	**40.12**	**87**	*e*P	**P**	**19 10 28.2**	**0.0**
NVAR	**Mina Array Bea**	**40.12**	**87**	P	**P**	**19 10 28.3**	**+0.1**
	comp=Z,7.6nm,0.8s,baz=292,slow=8.7,SNR=21						
NVAR				PcP	**PcP**	**19 12 31.1**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=289,slow=5.5,SNR=3.4						
BOZ	**Bozeman (W)**	**40.15**	**73**	P	**P**	**19 10 27.2**	**-1.1**
	baz=302						
BOZ	**Bozeman (W)**	**40.15**	**73**	*e*P	**P**	**19 10 28.8**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,14nm,0.7s						
BOZ	**Bozeman (W)**	**40.15**	**73**	*e*P	**P**	**19 10 28.8**	**+0.5**
	comp=Z,14

baz=308,SNR=15
R11A Troy Canyon, C 41.86 85 eP P 19 10 42.5 0.0
comp=Z,12nm,1.0s
BGU Big Grassy Mou 41.89 80 eP P 19 10 43.5 +0.7
comp=Z,14nm,1.3s
DAC Darwin (Calif) 41.90 89 eP P 19 10 43.3 +0.4
DAC pmax pmax
comp=Z,8.0nm,0.8s
DAC Darwin (Calif) 41.90 89 eP P 19 10 43.3 +0.4
comp=Z,7.7nm,0.8s
SPUT South Promonto 42.03 79 eP P 19 10 44.7 +0.9
comp=Z,5.7nm,0.8s
MPMC Manual Prospec 42.10 89 P P 19 10 44.8 +0.3
baz=310,SNR=7.2
FURC Furnace Creek, 42.23 88 P P 19 10 45.3 0.0
baz=310,SNR=7.2
BLG Laguna Peak, P 42.38 93 P P 19 10 46.2 -0.4
baz=312
HWUT Hardware Ranch 42.39 78 eP P 19 10 47.2 +0.4
comp=Z,13nm,1.4s
DUG Dugway, Tooele 42.46 81 P P 19 10 46.9 -0.4
baz=307,SNR=12
DUG Dugway, Tooele 42.46 81 eP P 19 10 47.8 +0.5
DUG pmax pmax
comp=Z,30nm,1.2s
DUG Dugway, Tooele 42.46 81 eP P 19 10 47.8 +0.5
comp=Z,30nm,1.2s
EDW2 Edwards Air Fo 42.55 91 P P 19 10 47.9 -0.1
baz=311
LAO LASA Array 42.76 69 P P 19 10 49.2 -0.3
baz=302,SNR=7.4
LAO LASA Array 42.76 69 eP P 19 10 50.4 +0.8
comp=Z,15nm,0.8s
TCUT Toone Canyon 42.77 79 eP P 19 10 51.3 +1.3
comp=Z,47nm,1.3s
CTU Camp Tracy 42.81 80 eP P 19 10 50.9 +0.7
comp=Z,13nm,1.1s
MWC Mount Wilson 42.94 92 eP P 19 10 51.7 +0.4
MWC pmax pmax
comp=Z,26nm,1.2s
MWC Mount Wilson 42.94 92 eP P 19 10 51.7 +0.4
comp=Z,26nm,1.2s
BW06 Boulder Array 42.95 76 P P 19 10 51.0 -0.3
baz=305,SNR=13
BW06 Boulder Array 42.95 76 eP P 19 10 51.6 +0.3
comp=Z,17nm,0.8s
PD31 Pinedale Array 42.95 76 eP P 19 10 51.2 -0.1
PDAR Pinedale Array 42.95 76 P P 19 10 51.1 -0.2
comp=Z,11nm,0.7s,baz=299,slow=4.3,SNR=31
PDAR Pinedale Array 42.95 76 eP P 19 10 50.1 -1.2
SHOC Shoshone, Teco 42.96 88 P P 19 10 51.2 0.0
baz=310
GSC Goldstone, Bar 43.02 90 P P 19 10 51.6 -0.2
baz=311,SNR=23
GSC Goldstone, Bar 43.02 90 eP P 19 10 51.9 +0.1
GSC pmax pmax
comp=Z,30nm,0.9s
GSC Goldstone, Bar 43.02 90 eP P 19 10 51.9 +0.1
comp=Z,30nm,0.9s
KSRS Korea Array 43.05 275 P P 19 10 53.1 +1.3
comp=Z,11nm,0.8s,baz=59,slow=7.6,SNR=20
KSRS LR LR 19 27 55.2
comp=Z,245nm,19.9s,baz=55,slow=35
KSRS Korea Array 43.05 275 P P 19 10 53.2 +1.3
KSRS pmax pmax
comp=Z,12nm,0.8s
KSRS MLR MLR
comp=Z,245nm,19.9s
KS01 Wonju Array Si 43.05 275 eP P 19 10 52.5 +0.6
NLU North Lily Min 43.05 81 eP P 19 10 53.0 +0.7
comp=Z,13nm,1.0s
KSAR Wonju Array Be 43.08 275 P P 19 10 53.2 +1.0
KSAR Wonju Array Be 43.08 275 P P 19 10 53.1 +1.0
BFSC Mount Baldy Ra 43.18 91 P P 19 10 53.0 -0.1
baz=312,SNR=12
SHPR Sheep Range 43.27 87 eP P 19 10 54.6 +0.6
comp=Z,7.5nm,1.1s
FCC Fort Churchill 43.27 48 eP P 19 10 53.2 -0.2
FCC pmax pmax
comp=Z,15nm,0.8s
FCC Fort Churchill 43.27 48 eP P 19 10 53.2 -0.2
comp=Z,15nm,0.8s
MPU Maple Canyon 43.29 80 eP P 19 10 54.8 +0.7
comp=Z,11nm,1.0s
HEC Hector,Ludlow 43.61 90 P P 19 10 56.4 -0.3
baz=311,SNR=11
CCUT Cedar City 43.73 84 eP P 19 10 58.7 +1.0
comp=Z,30nm,1.6s
INCN Inchon 43.83 276 P P 19 10 59.4 +1.1
MURC Murrieta 43.89 92 P P 19 10 58.4 -0.4
baz=312
TMUT Trail Mountain 43.98 81 eP P 19 11 00.8 +0.9
comp=Z,18nm,1.0s
JNU Nakatsue 44.01 268 P P 19 11 00.5 +0.8
comp=Z,28nm,0.9s,baz=27,slow=7.9,SNR=8.3
GMRC Granite Mounta 44.06 89 P P 19 10 60.0 -0.3
baz=311,SNR=9.0
TJN Taejon 44.07 274 eP P 19 11 00.1 -0.1
LCMT Little Creek M 44.14 85 eP P 19 11 01.9 +1.0
comp=Z,14nm,1.0s
MTPU Mount Pierson 44.15 83 eP P 19 11 02.4 +1.2
comp=Z,13nm,1.1s
P17A Butcher Ranch, 44.17 80 eP P 19 11 01.6 +0.5
comp=Z,13nm,0.8s
Q16A Castle Valley 44.24 81 eP P 19 11 02.8 +1.0
comp=Z,17nm,1.0s
PFO Pinyon Flats O 44.34 91 eP P 19 11 02.5 0.0
PFO pmax pmax
comp=Z,14nm,1.0s
PFO Pinyon Flats O 44.34 91 eP P 19 11 02.5 0.0
comp=Z,14nm,1.0s
XPFO Piæon Flat 44.34 91 eP P 19 11 02.5 0.0
comp=Z,15nm,1.0s
BELC Belle Mtn. Jos 44.37 90 P P 19 11 02.3 -0.5
baz=312,SNR=5.2
P18A Preston Nutter 44.38 80 eP P 19 11 03.9 +1.0
comp=Z,21nm,0.9s
KNB Kanab 44.40 85 eP P 19 11 04.1 +1.1
KNB pmax pmax
comp=Z,33nm,1.5s
KNB Kanab 44.40 85 eP P 19 11 04.1 +1.1
comp=Z,33nm,1.5s
109C Camp Elliot, M 44.42 92 P P 19 11 02.8 -0.1
baz=312
SRU San Rafael Swe 44.52 81 eP P 19 11 04.9 +1.0
SRU pmax pmax
comp=Z,23nm,0.8s
SRU San Rafael Swe 44.52 81 eP P 19 11 04.9 +1.0
comp=Z,23nm,0.8s
IRM Iron Mountain 44.80 89 P P 19 11 05.5 -0.5
baz=312,SNR=6.8
BAR Barrett 44.83 92 eP P 19 11 06.5 +0.2
comp=Z,14nm,0.9s
K22A Casper 44.84 74 P P 19 11 05.5 -0.9
baz=306,SNR=7.4
K22A Casper 44.84 74 eP P 19 11 06.5 0.0
comp=Z,15nm,0.9s
MONP2 Monument Peak 44.84 92 P P 19 11 06.2 -0.4
baz=312,SNR=7.6
BC3 Big Chuckawall 44.94 90 P P 19 11 06.7 -0.5
baz=312
W13A Hualapai Mount 44.97 88 eP P 19 11 07.5 -0.1
comp=Z,11nm,0.8s
RWWY Rawlins 44.99 76 eP P 19 11 06.8 -1.0
comp=Z,30nm,1.4s
U15A North Rim 45.10 85 eP P 19 11 09.4 +0.6
comp=Z,22nm,1.0s
SWSC Sam W. Stewart 45.19 91 P P 19 11 08.7 -0.4
baz=312
IKP In-Ko-Pah, Jac 45.20 92 P P 19 11 09.0 -0.3
baz=313
O20A White River Ci 45.30 78 P P 19 11 09.3 -0.9
baz=308,SNR=12
O20A White River Ci 45.30 78 eP P 19 11 10.1 0.0
comp=Z,28nm,0.9s
PDMCI Parker Dam,Lak 45.33 89 P P 19 11 09.1 -1.0
baz=311,SNR=7.9
Y12C Blythe 45.45 89 P P 19 11 10.8 -0.4
baz=312,SNR=6.4
Y12C Blythe 45.45 89 eP P 19 11 11.3 +0.1
comp=Z,14nm,0.8s
RSSD Black Hills 45.47 71 P P 19 11 09.8 -1.7
baz=305
RSSD Black Hills 45.47 71 eP P 19 11 11.1 -0.3
RSSD pmax pmax
comp=Z,20nm,1.4s
RSSD Black Hills 45.47 71 eP P 19 11 11.1 -0.3
comp=Z,20nm,1.4s
GLA Glamis 45.73 90 P P 19 11 13.3 -0.1
baz=312
GLA Glamis 45.73 90 eP P 19 11 13.9 +0.5
GLA pmax pmax
comp=Z,15nm,0.9s
GLA Glamis 45.73 90 eP P 19 11 13.9 +0.5
comp=Z,15nm,0.9s
PV09 Paradox Valley 45.75 80 eP P 19 11 13.8 -0.1
PV10 Paradox Valley 45.89 80 eP P 19 11 15.4 +0.5
MDND Maddock 45.91 64 P P 19 11 13.8 -0.9
baz=304
PV04 Paradox Valley 45.96 80 eP P 19 11 14.2 -1.1
PV05 Paradox Valley 46.03 81 eP P 19 11 16.9 +0.8
N23A Red Feather La 46.23 76 P P 19 11 16.9 -0.7
baz=307,SNR=8.8
N23A Red Feather La 46.23 76 eP P 19 11 17.9 +0.3
comp=Z,15nm,1.0s
WUAZ Wupatki 46.26 85 P P 19 11 17.2 -0.5
baz=311,SNR=7.6
WUAZ Wupatki 46.26 85 eP P 19 11 17.8 +0.1
comp=Z,15nm,0.7s
Y14A Wickenburg 46.27 88 eP P 19 11 17.0 -0.7
comp=Z,44nm,0.9s
PV01 Paradox Valley 46.33 80 eP P 19 11 18.1 -0.2
ULM Lac du Bonnet 46.64 60 P P 19 11 19.6 -0.7
comp=Z,4.7nm,0.6s,baz=316,slow=7.9,SNR=9.2
ULM Lac du Bonnet 46.64 60 eP P 19 11 20.0 -0.4
comp=Z,17nm,1.1s
SMCO Snowmass 46.65 78 eP P 19 11 21.1 0.0
comp=Z,5.9nm,0.9s
B31A Greenbush Farm 46.68 63 P P 19 11 19.5 -1.2
baz=304
X16A Lo Mia Camp, P 46.93 86 eP P 19 11 23.9 +0.8
comp=Z,9.3nm,1.0s
MVCO Mesa Verde 46.95 81 P P 19 11 22.7 -0.5
baz=310
MVCO Mesa Verde 46.95 81 eP P 19 11 23.4 +0.2
comp=Z,22nm,1.2s
C31A Landman Farms, 46.99 63 P P 19 11 21.9 -1.2
baz=304
ISCO Idaho Springs 47.10 77 P P 19 11 23.4 -1.1
baz=308
ISCO Idaho Springs 47.10 77 eP P 19 11 25.5 +1.1
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 47.10 77 eP P 19 11 25.5 +1.1
comp=Z,6.1nm,1.0s
W18A Petrified Fore 47.53 84 P P 19 11 27.2 -0.5
baz=311
A33A Warroad 47.63 61 P P 19 11 27.6 -0.5
baz=305,SNR=6.0
S22A 4UR Ranch, Cre 47.64 80 P P 19 11 27.7 -0.9
baz=310,SNR=7.5
S22A 4UR Ranch, Cre 47.64 80 eP P 19 11 29.5 +0.8
comp=Z,8.7nm,1.0s
214A Organ Pipe Nat 47.72 90 P P 19 11 27.9 -1.1
baz=313
AGMN Agassiz Nation 47.74 62 P P 19 11 28.4 -0.5
baz=305,SNR=6.4
AGMN Agassiz Nation 47.74 62 eP P 19 11 28.9 0.0
comp=Z,32nm,1.3s
Q24A Divide 47.90 77 P P 19 11 29.9 -0.7
baz=309
B33A Robert and Kas 47.90 62 P P 19 11 29.4 -0.8
baz=305
SUSD Miller 48.24 68 P P 19 11 32.0 -0.9
baz=307
B34A Aery, Baudette 48.29 61 P P 19 11 32.4 -0.8
baz=305
D33A AnnSam, Waubun 48.41 63 P P 19 11 33.2 -1.0
baz=306
SDCO Great Sand Dun 48.45 79 P P 19 11 34.4 -0.5
baz=310,SNR=9.0
SDCO Great Sand Dun 48.45 79 eP P 19 11 35.3 +0.4
comp=Z,10nm,1.0s
OGNE Ogalala 48.55 73 P P 19 11 35.0 -0.4
baz=306
G32A Webster 48.59 66 P P 19 11 34.7 -0.9
baz=306
C34A RKJ Ranch, Bem 48.63 62 P P 19 11 34.2 -1.6
baz=306
E33A Westby DABS, E 48.70 64 P P 19 11 35.3 -1.1
baz=306
TUC Tucson 48.74 88 P P 19 11 36.4 -0.5
baz=313
TUC Tucson 48.74 88 eP P 19 11 36.7 -0.3
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC Tucson 48.74 88 eP P 19 11 36.7 -0.3
comp=Z,10.0nm,0.9s
TLY Talaya 48.78 305 eP P 19 11 38.2 +1.3
TLY pmax pmax
comp=Z,7.0nm,0.7s
TLY MLR MLR
comp=Z,378nm,14.0s
TLY Talaya 48.78 305 eP P 19 11 38.1 +1.2
comp=Z,38nm,1.6s
D34A Park Rapids 48.81 63 P P 19 11 36.2 -1.0
baz=306
B35A Bob, Littlefor 48.87 61 P P 19 11 36.9 -0.7
baz=306
F33A 5 Mile Ranch, 48.93 65 P P 19 11 37.0 -1.1
baz=306
J31A Geddes 49.05 69 P P 19 11 38.4 -0.8
baz=308,SNR=6.0
H32A Carlson Farm, 49.08 67 P P 19 11 37.7 -1.6
baz=307
C35A Jirik Farms, M 49.12 61 P P 19 11 39.1 -0.4
baz=306
ULN Ulaanbaatar 49.18 299 ceP P 19 11 39.1 -1.1
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 49.18 299 eP P 19 11 38.8 -1.4
comp=Z,10nm,1.0s
G33A Ornville 49.23 65 P P 19 11 39.3 -1.2
baz=307
MHTCO State Highway 49.34 79 eP P 19 11 42.5 +0.9
comp=Z,21nm,0.8s
KSCO Kaye Shedlock' 49.40 76 P P 19 11 41.2 -0.7
baz=309
KSCO Kaye Shedlock' 49.40 76 eP P 19 11 42.5 +0.6
comp=Z,37nm,1.2s
D35A Reser 49.44 62 P P 19 11 41.0 -1.0
baz=306
K31A O'Neill 49.45 69 P P 19 11 41.6 -0.6
baz=308
T25A Trinidad 49.51 79 P P 19 11 42.9 0.0
baz=310,SNR=14
T25A Trinidad 49.51 79 eP P 19 11 43.9 +0.9
comp=Z,32nm,1.1s
J32A Parkston 49.52 68 P P 19 11 41.3 -1.4
baz=308
F34A Alexandria 49.54 64 P P 19 11 41.9 -0.9
baz=307
SONA1 Songino Array 49.54 299 eP P 19 11 42.4 -0.6
SONM Songino Array 49.55 299 P P 19 11 43.1 0.0
comp=Z,4.7nm,0.5s,baz=58,slow=6.1,SNR=42
SONM PcP PcP 19 13 05.2 +1.0
comp=Z,1.3nm,0.7s,baz=42,slow=2.3,SNR=2.6
E35A Pequot Lakes 49.56 63 P P 19 11 42.5 -0.4
baz=307
G34A Benson 49.65 65 P P 19 11 42.0 -1.7
baz=307
ANMO Albuquerque 49.67 82 P P 19 11 44.0 -0.2
comp=Z,2.7nm,1.1s,baz=142,slow=3.5,SNR=3.1
ANMO Albuquerque 49.67 82 ceP P 19 11 43.4 -0.8
ANMO pmax pmax
comp=Z,6.0nm,1.7s
ANMO Albuquerque 49.67 82 eP P 19 11 44.4 +0.2
comp=Z,16nm,1.4s
C36A Pine Crest Far 49.70 61 P P 19 11 43.1 -0.9
baz=306
I33A Coleman 49.72 67 P P 19 11 42.4 -1.8
baz=308
ZAK Zakamensk 49.72 304 eP P 19 11 43.6 -0.6
ZAK e 19 11 57.4
ZAK pmax pmax
comp=Z,9.0nm,1.2s
ZAK pmax pmax
comp=Z,11nm,1.3s
D36A Goodland 49.87 62 P P 19 11 44.1 -1.2
baz=307
F35A Swanville 49.88 64 P P 19 11 44.5 -0.9
baz=307
K32A Verdigre 49.89 69 P P 19 11 44.6 -0.8
baz=308
H34A Spellman Lake, 49.92 66 P P 19 11 44.5 -1.2
baz=308
ECSD EROS Data Cent 50.01 67 P P 19 11 45.4 -1.0
baz=308,SNR=10
ECSD EROS Data Cent 50.01 67 eP P 19 11 45.8 -0.6
comp=Z,13nm,1.0s
J33A Davis 50.06 68 P P 19 11 45.5 -1.3
baz=308
C37A Embarrass 50.08 60 P P 19 11 45.7 -1.1
baz=307
BNM Barren Site 50.09 83 eP P 19 11 48.3 +0.8
MOY Mondy 50.13 306 eP P 19 11 47.5 +0.1
MOY pmax pmax
comp=Z,19nm,1.8s
E36A McGregor 50.22 62 P P 19 11 47.3 -0.6
baz=307,SNR=6.1
D37A Cotton 50.29 61 P P 19 11 47.4 -1.0
baz=307
SPITS Spitsbergen Ar 50.32 357 P P 19 11 47.4 -0.9
comp=Z,8.4nm,0.9s,baz=18,slow=9.0,SNR=11
SPITS PcP PcP 19 13 08.0 +1.6
comp=Z,5.5nm,0.8s,baz=8.9,slow=10,SNR=2.3
EYMN Ely 50.32 60 P P 19 11 47.6 -1.1
baz=307
EYMN Ely 50.32 60 eP P 19 11 48.6 -0.1
comp=Z,20nm,1.3s
H35A Sunnyside Ranc 50.44 65 P P 19 11 49.2 -0.4
baz=308,SNR=5.2
121A Cookes Peak, D 50.46 86 P P 19 11 49.4 -0.7
baz=313
F36A Milaca 50.46 63 P P 19 11 48.1 -1.7
baz=308,SNR=5.7
TIA Tai'an 50.51 281 P P 19 11 50.2 0.0
TIA pmax pmax
comp=Z,13nm,1.1s
BGNE Belgrade 50.56 70 P P 19 11 49.7 -0.9
baz=309
BGNE Belgrade 50.56 70 eP P 19 11 50.7 +0.1
comp=Z,56nm,1.1s
C38A Sawbill Land. 50.58 60 P P 19 11 49.4 -1.2
baz=307
J34A George 50.66 67 P P 19 11 49.6 -1.8
baz=308
G36A St. Michael 50.72 64 P P 19 11 50.1 -1.6
baz=308
HHC Hu-ho-hao-te 50.88 289 eP P 19 11 54.3 +1.2
HHC S S 19 19 02.0 -4.3
HHC sS sS 19 19 32.8 +6.3
HHC SS SS 19 22 34.1 -6.8
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.4s
HHC LR LR
comp=Z,380nm,13.7s
HHC LR LR
comp=Z,450nm,14.3s
HHC LR LR
comp=Z,410nm,16.3s
HSIG 50.91 91 eP P 19 11 52.7 -0.6
comp=Z,9.2nm,1.1s
K34A Le Mars 50.96 68 P P 19 11 51.9 -1.7
baz=309
M33A Taylor Creek F 51.01 70 P P 19 11 52.4 -1.6
baz=309
H36A Jessenland, He 51.02 65 P P 19 11 53.1 -0.9
baz=308,SNR=5.4
F37A Hinrichs Farm, 51.05 63 P P 19 11 52.3 -1.8
baz=308
E38A The Farm, Brul 51.10 61 P P 19 11 52.8 -1.8
baz=308
C39A Grand Marais 51.13 59 P P 19 11 52.9 -1.9
baz=308
L34A Svendsen Farm, 51.24 69 P P 19 11 54.9 -0.8
baz=309,SNR=6.6
SPMN Marine on St. 51.25 63 P P 19 11 53.9 -1.9
baz=308
CBKS Cedar Bluff 51.26 74 P P 19 11 54.8 -1.1
baz=310,SNR=5.3
CBKS Cedar Bluff 51.26 74 eP P 19 11 56.4 +0.5
CBKS pmax pmax
comp=Z,40nm,1.0s
CBKS Cedar Bluff 51.26 74 eP P 19 11 56.4 +0.5
comp=Z,40nm,1.0s
F38A Pierce - Schro 51.32 62 P P 19 11 55.5 -0.7
baz=308,SNR=9.8
J36A Seneca 1, Swea 51.56 66 P P 19 11 56.4 -1.7
baz=309
H37A Dierke Farm, C 51.59 64 P P 19 11 57.3 -1.0
baz=308
I37A Lemond, Waseca 51.67 65 P P 19 11 58.0 -0.8
baz=309,SNR=7.2
O33A Hebron 51.73 71 P P 19 11 57.9 -1.5
baz=310,SNR=5.2
E39A Mellen 51.78 61 P P 19 11 57.7 -1.9
baz=308
G38A Ridgland 51.81 63 P P 19 11 58.1 -1.8
baz=309
F39A Loretta 51.87 62 P P 19 11 59.3 -1.0
baz=308
N34A Lincoln 51.88 70 P P 19 11 58.7 -1.8
baz=310
H38A Maiden Rock 51.88 64 P P 19 11 58.5 -2.0
baz=309
K36A Gilmore City 51.93 67 P P 19 11 59.1 -1.8
baz=309
BTO Baotou 51.94 290 eP P 19 12 00.6 -0.5
M35A Neola 51.95 69 P P 19 12 00.2 -0.8
baz=310
J37A Redenius Farm, 52.02 66 P P 19 12 00.8 -0.7
baz=309,SNR=5.4
E40A Wakefield 52.10 61 P P 19 12 01.1 -1.0
baz=308
G39A Holcombe 52.12 62 P P 19 12 00.4 -1.8
baz=309
SUMG Summit 52.18 16 eP P 19 12 02.7 0.0
SUMG pmax pmax
comp=Z,72nm,1.8s
SUMG Summit 52.18 16 eP P 19 12 02.7 0.0
comp=Z,72nm,1.8s
O34A Beatrice 52.19 71 P P 19 12 01.8 -1.0
baz=310,SNR=10
NJ2 Nanjing 52.21 276 eP P 19 12 03.8 +0.8
NJ2 pmax pmax
comp=Z,17nm,0.5s
I38A Scanlan Farm, 52.25 64 P P 19 12 01.5 -1.7
baz=309
F40A Park Falls 52.30 61 P P 19 12 02.5 -1.1
baz=309,SNR=7.0
K37A Belmond 52.32 66 P P 19 12 01.8 -1.8
baz=309
N35A Tabor 52.37 69 P P 19 12 02.3 -1.9
baz=310
H39A Augusta 52.44 63 P P 19 12 02.9 -1.7
baz=309
P34A Walnut Farm, R 52.52 71 P P 19 12 03.9 -1.4
baz=310
MNTX Cornudas Mount 52.52 85 P P 19 12 05.0 -0.4
baz=314,SNR=9.4
MNTX Cornudas Mount 52.52 85 eP P 19 12 05.6 +0.2
comp=Z,11nm,1.1s
E41A Kenton 52.59 60 P P 19 12 03.7 -1.9
baz=309
O35A Humboldt 52.59 70 P P 19 12 04.2 -1.6
baz=310
J38A Wedel Dairy, R 52.63 65 P P 19 12 05.0 -1.0
baz=309,SNR=5.5
L37A Phoenix Point, 52.66 67 P P 19 12 05.4 -0.8
baz=310,SNR=9.4
G40A Rib Lake 52.67 62 P P 19 12 05.2 -1.0
baz=309
I39A Houston 52.83 64 P P 19 12 05.9 -1.5
baz=310
Q34A Chapman 52.86 72 P P 19 12 06.8 -0.9
baz=311,SNR=11
KSU1 Kansas State U 52.94 72 P P 19 12 07.4 -0.9
baz=311,SNR=5.8
KSU1 Kansas State U 52.94 72 eP P 19 12 07.9 -0.4
comp=Z,29nm,1.0s
M37A Trindle Farm, 52.94 68 P P 19 12 07.6 -0.7
baz=310,SNR=6.0
F41A Three Lakes 52.97 61 P P 19 12 07.7 -0.8
baz=309,SNR=5.2
H40A Chili 52.97 63 P P 19 12 07.4 -1.1
baz=309
P35A Duane Minner, 53.01 71 P P 19 12 08.0 -0.8
baz=311,SNR=6.0
J39A Decorah 53.05 65 P P 19 12 07.5 -1.6
baz=310,SNR=10
R34A Isabella, Hill 53.08 73 P P 19 12 08.0 -1.4

baz=311,SNR=8.5
L38A **Oak Wood Farm,** 53.10 66 P P 19 12 07.8 -1.7
baz=310,SNR=9.3
SCIA **State Center** 53.10 67 P P 19 12 08.4 -1.1
baz=310
SCIA **State Center** 53.10 67 eP P 19 12 09.4 -0.2
comp=Z,35nm,1.1s
E42A **Champion** 53.18 59 P P 19 12 08.8 -1.2
baz=309
O36A **Bolckow** 53.23 70 P P 19 12 09.7 -0.8
baz=311,SNR=5.5
N37A **Lee Faris, Mou** 53.27 69 P P 19 12 10.1 -0.7
baz=310,SNR=5.2
I40A **Norwalk** 53.31 63 P P 19 12 09.8 -1.2
baz=310
K39A **Oelwein** 53.35 65 P P 19 12 09.6 -1.7
baz=310,SNR=6.1
H41A **Junction City** 53.38 62 P P 19 12 09.7 -1.8
baz=310
P36A **Good Intent, A** 53.42 70 P P 19 12 10.4 -1.5
baz=311,SNR=6.5
M38A **Pleasantville** 53.43 67 P P 19 12 10.4 -1.5
baz=310,SNR=9.7
F42A **Maple Grove Fa** 53.48 60 P P 19 12 10.8 -1.5
baz=310
J40A **Soldiers Grove** 53.55 64 P P 19 12 11.9 -0.9
baz=310
I41A **Arkdale** 53.62 63 P P 19 12 11.6 -1.7
baz=310
G42A **Mountain** 53.65 61 P P 19 12 11.7 -1.8
baz=310
L39A **Vinton** 53.66 66 P P 19 12 11.9 -1.7
baz=310,SNR=5.8
R35A **Emporia Munici** 53.69 72 P P 19 12 12.4 -1.4
baz=311
O37A **Wolven Farm, M** 53.69 69 P P 19 12 12.3 -1.6
baz=311,SNR=11
E43A **Lone Tree Farm** 53.70 59 P P 19 12 11.8 -2.0
baz=310
N38A **Joes South For** 53.81 68 P P 19 12 13.1 -1.7
baz=311
P37A **Lathrop** 53.95 70 P P 19 12 14.1 -1.6
baz=311,SNR=14
F43A **Flat Rock, Esc** 53.96 60 P P 19 12 13.7 -2.0
baz=310
M39A **Webster** 53.98 67 P P 19 12 14.8 -1.1
baz=311,SNR=13
J41A **Loganville** 53.98 64 P P 19 12 14.3 -1.6
baz=310
HVS **Khovu-Aksy** 54.06 309 eP P 19 12 16.5 0.0
HVS pmax pmax
comp=Z,22nm,1.1s
O38A **Galt** 54.11 69 P P 19 12 15.2 -1.7
baz=311,SNR=6.5
E44A **Grand Marais A** 54.12 58 P P 19 12 15.7 -1.2
baz=310
JFWS **Jewell Farm** 54.14 64 P P 19 12 15.3 -1.8
baz=310
JFWS **Jewell Farm** 54.14 64 eP P 19 12 16.4 -0.7
JFWS pmax pmax
comp=Z,13nm,0.8s
JFWS **Jewell Farm** 54.14 64 eP P 19 12 16.4 -0.7
comp=Z,13nm,0.8s
L40A **Anamosa** 54.14 66 P P 19 12 15.4 -1.7
baz=311
N39A **Derby Farms, D** 54.18 67 P P 19 12 15.8 -1.6
baz=311,SNR=14
I42A **Draeger Farm,** 54.25 62 P P 19 12 16.1 -1.8
baz=310
K41A **Shullsburg** 54.31 64 P P 19 12 16.7 -1.6
baz=311
Q37A **Longview Farm,** 54.35 70 P P 19 12 17.0 -1.7
baz=311
P38A **Dawn** 54.40 69 P P 19 12 17.5 -1.5
baz=311,SNR=25
M40A **Post Highland** 54.40 66 P P 19 12 17.3 -1.7
baz=311
J42A **Columbus** 54.51 63 P P 19 12 18.0 -1.7
baz=311
WMOK **Wichita Mounta** 54.52 77 P P 19 12 19.0 -1.0
baz=313,SNR=11
WMOK **Wichita Mounta** 54.52 77 eP P 19 12 19.3 -0.7
WMOK pmax pmax
comp=Z,10.0nm,0.8s
WMOK **Wichita Mounta** 54.52 77 eP P 19 12 19.3 -0.7
comp=Z,9.9nm,0.8s
L41A **Preston** 54.54 65 P P 19 12 18.5 -1.5
baz=311
O39A **Kirksville** 54.56 68 P P 19 12 18.6 -1.6
baz=311
I43A **Langenfeld Bro** 54.68 62 P P 19 12 19.1 -1.9
baz=311
N40A **Mertquake, Sal** 54.70 67 P P 19 12 19.7 -1.5
baz=311
K42A **Prairie Point,** 54.73 64 P P 19 12 20.2 -1.2
baz=311
Q38A **Cooks Store, C** 54.79 70 P P 19 12 20.3 -1.5
baz=312,SNR=8.8
LPIG **La Paz** 54.83 95 P P 19 12 21.2 -1.1
comp=Z,22nm,0.3s,baz=194,slow=3.5,SNR=2.4
J43A **Natural Harves** 54.86 63 P P 19 12 20.6 -1.7
baz=311
P39B **Salisbury** 54.94 69 P P 19 12 21.8 -1.1
baz=312,SNR=10
O40A **La Belle** 55.04 68 P P 19 12 22.5 -1.1
baz=311,SNR=14
L42A **Oliver, Polo** 55.06 65 P P 19 12 22.2 -1.6
baz=311
Q39A **Willow Grove F** 55.11 69 P P 19 12 22.3 -1.9
baz=312,SNR=26
R38A **Fenwick Farm,** 55.13 71 P P 19 12 22.2 -2.2
baz=312,SNR=12
TX31 **Lajitas Ar. Si** 55.22 85 eP P 19 12 24.1 -1.2
TX31 eP P 19 12 24.5 -0.7
TXAR **Lajitas Array** 55.22 85 P P 19 12 24.3 -0.9
comp=Z,7.9nm,0.7s,baz=295,slow=4.9,SNR=33
F46A **Macinaw City C** 55.28 58 P P 19 12 23.4 -1.9
baz=311
P40A **Paris** 55.33 68 P P 19 12 24.3 -1.4
baz=312,SNR=28
K43A **Burlington** 55.35 63 P P 19 12 24.3 -1.5
baz=311
ABTX **Abilene, Hawle** 55.43 80 eP P 19 12 27.0 +0.5
comp=Z,48nm,1.5s
L43A **Garden Prairie** 55.46 64 P P 19 12 25.0 -1.7
baz=311
S38A **Stockton** 55.50 71 P P 19 12 24.8 -2.2
baz=312,SNR=21
TUL1 **Leonard** 55.53 74 P P 19 12 26.2 -1.0
baz=313,SNR=5.3
TUL1 **Leonard** 55.53 74 eP P 19 12 26.7 -0.5
comp=Z,18nm,1.0s
R39A **Chumby, Stover** 55.56 70 P P 19 12 25.5 -1.8
baz=312
O41A **Passleys Farm,** 55.61 67 P P 19 12 26.2 -1.5
baz=312,SNR=7.3
Q40A **Laux Farm, Aux** 55.66 69 P P 19 12 26.5 -1.7
baz=312,SNR=12
T38A **Diamond** 55.67 72 P P 19 12 26.6 -1.6
baz=312,SNR=13
HPIG 55.67 89 eP P 19 12 28.4 -0.2
comp=Z,13nm,1.2s
P41A **Barry, Barry** 55.80 68 P P 19 12 27.5 -1.6
baz=312,SNR=9.1
S39A **Bolivar** 55.80 71 P P 19 12 26.7 -2.5
baz=312,SNR=10
M43A **Waltham Townsh** 55.83 65 P P 19 12 27.2 -2.1
baz=312
L44A **Lake County Fo** 55.93 63 P P 19 12 28.3 -1.6
baz=312
GLMI **Grayling** 55.98 59 P P 19 12 28.5 -1.8
baz=311
R40A **Maddies Statio** 56.02 70 P P 19 12 28.5 -2.2
baz=312,SNR=16
N43A **Stutzman Famil** 56.04 65 P P 19 12 29.2 -1.6
baz=312
Q41A **Truxton** 56.18 68 P P 19 12 30.3 -1.5
baz=312,SNR=12
T39A **Clever** 56.22 71 P P 19 12 30.2 -1.9
baz=313,SNR=15
HDIL **Hopedale** 56.23 66 P P 19 12 30.6 -1.5
baz=312
HDIL **Hopedale** 56.23 66 eP P 19 12 31.8 -0.3
comp=Z,41nm,1.1s
ZALV **Zalesovo Beam** 56.29 316 P P 19 12 31.5 -0.9
comp=Z,0.7nm,0.5s,baz=56,slow=4.2,SNR=3.6
ZALV PcP PcP 19 13 30.4 +1.1
comp=Z,1.8nm,0.8s,baz=35,slow=5.4,SNR=3.8

S40A **Lebanon** 56.35 70 P P 19 12 31.4 -1.7
baz=313
NVS **Novosibirsk** 56.35 317 eP P 19 12 31.9 -0.9
M44A **Midewin, Midew** 56.38 64 P P 19 12 31.5 -1.7
baz=312
HHAR **Hobbs** 56.39 72 eP P 19 12 32.0 -1.4
comp=Z,13nm,1.0s
R41A **Rosebud** 56.54 69 P P 19 12 32.6 -1.8
baz=312,SNR=17
U39A **Green Forest** 56.59 72 P P 19 12 33.2 -1.6
baz=313,SNR=9.7
Q42A **Golden Eagle** 56.61 68 P P 19 12 33.7 -1.2
baz=312,SNR=17
T40A **Mansfield** 56.64 71 P P 19 12 33.1 -2.0
baz=313,SNR=13
P43A **Skaggs, Pawnee** 56.71 67 P P 19 12 34.4 -1.1
baz=312,SNR=5.1
N44A **Piper City** 56.72 65 P P 19 12 34.0 -1.6
baz=312
SSLB **Suanglung** 56.75 267 eP P 19 12 38.5 +2.5
comp=Z,39nm,0.9s
CCM **Cathedral Cave** 56.78 69 P P 19 12 34.5 -1.6
baz=313
CCM **Cathedral Cave** 56.78 69 eP P 19 12 34.5 -1.6
CCM pmax pmax
comp=Z,17nm,0.9s
CCM **Cathedral Cave** 56.78 69 eP P 19 12 34.5 -1.6
comp=Z,17nm,0.9s
S41A **Jillco Farms,** 56.80 70 P P 19 12 34.0 -2.2
baz=313,SNR=22
JCT **Junction City** 56.81 82 P P 19 12 34.8 -1.7
baz=315
JCT **Junction City** 56.81 82 eP P 19 12 34.5 -2.0
JCT pmax pmax
comp=Z,14nm,0.9s
JCT **Junction City** 56.81 82 eP P 19 12 34.5 -2.0
comp=Z,14nm,0.9s
V39A **Pettigrew** 56.86 73 P P 19 12 35.2 -1.6
baz=313,SNR=11
R42A **Luebbering** 56.89 69 P P 19 12 35.3 -1.6
baz=313,SNR=9.9
XAN **Xi'an** 56.95 284 P P 19 12 37.3 -0.1
XAN pP pP 19 12 50.0 +0.3
XAN sP sP 19 12 57.9 +3.2
XAN PP **PP** **19 14 40.3 -3.7**
XAN S **S** **19 20 22.0 -6.3**
XAN sS sS 19 20 49.4 +0.6
XAN SS **SS** **19 24 11.0 -5.6**
XAN pmax pmax
comp=Z,21nm,1.3s
XAN pmax pmax
comp=Z,140nm,6.5s
XAN LR LR
comp=Z,320nm,19.0s
XAN LR LR
comp=Z,400nm,19.0s
XAN LR LR
comp=Z,420nm,21.1s
U40A **Yellville** 56.98 72 P P 19 12 36.0 -1.6
baz=313,SNR=11
Q43A **New Douglas** 57.08 67 P P 19 12 36.4 -1.8
baz=313,SNR=6.2
T41A **Mountain View** 57.16 70 P P 19 12 37.0 -1.8
baz=313,SNR=6.7
WHTX **Lake Whitney,** 57.20 79 P P 19 12 38.0 -1.1
baz=314
WHTX **Lake Whitney,** 57.20 79 eP P 19 12 39.2 0.0
comp=Z,22nm,0.7s
W39A **Magazine** 57.22 73 P P 19 12 37.9 -1.3
baz=313,SNR=7.8
S42A **Caledonia** 57.23 69 P P 19 12 37.4 -1.9
baz=313,SNR=8.4
FVM **French Village** 57.30 69 eP P 19 12 38.4 -1.4
FVM pmax pmax
comp=Z,26nm,0.8s
FVM **French Village** 57.30 69 eP P 19 12 38.4 -1.4
comp=Z,26nm,0.8s
O45A **Potomac** 57.32 65 P P 19 12 38.7 -1.2
baz=313
P44A **Sand Creek, Wi** 57.34 66 P P 19 12 39.1 -0.9
baz=313,SNR=16
TOBO **Tobermory, Bru** 57.35 57 P P 19 12 38.0 -2.0
baz=312
V40A **Witts Springs** 57.38 72 P P 19 12 38.7 -1.7
baz=313,SNR=13
R43A **Red Bud** 57.39 68 P P 19 12 39.0 -1.4
baz=313,SNR=14
N46A **Monticello** 57.44 64 P P 19 12 39.1 -1.6
baz=313
X39A **Fountain Ranch** 57.49 74 P P 19 12 40.5 -0.7
baz=314,SNR=11
Q44A **Meyer Farm, Va** 57.49 67 P P 19 12 39.5 -1.7
baz=313
U41A **Viola** 57.54 71 P P 19 12 40.0 -1.5
baz=313,SNR=6.1
T42A **Van Buren** 57.56 70 P P 19 12 39.1 -2.5
baz=313,SNR=11
SFIN **Lafayette** 57.59 65 P P 19 12 39.7 -2.1
baz=313
SFIN **Lafayette** 57.59 65 eP P 19 12 41.5 -0.3
comp=Z,39nm,1.1s
SCHQ **Schefferville** 57.62 41 P P 19 12 41.1 -0.7
comp=Z,5.3nm,0.8s,baz=315,slow=6.1,SNR=6.9
SCHQ **Schefferville** 57.62 41 eP P 19 12 42.0 +0.1
comp=Z,7.5nm,0.9s
W40A **Ferguson Farm,** 57.65 73 P P 19 12 41.4 -0.9
baz=314,SNR=12
W40A **Ferguson Farm,** 57.65 73 eP P 19 12 41.4 -0.9
comp=Z,42nm,0.8s
V41A **Mountainview** 57.78 72 P P 19 12 41.7 -1.5
baz=314,SNR=16
S43A **Fulton Ridge,** 57.78 69 P P 19 12 41.6 -1.6
baz=313,SNR=29
MIAR **Mount Ida** 57.79 74 P P 19 12 41.9 -1.4
baz=314,SNR=18
MIAR **Mount Ida** 57.79 74 eP P 19 12 43.0 -0.3
MIAR pmax pmax
comp=Z,29nm,1.0s
MIAR **Mount Ida** 57.79 74 eP P 19 12 43.0 -0.3
comp=Z,29nm,1.0s
P45A **Graceland, Par** 57.80 66 P P 19 12 41.7 -1.6
baz=313
R44A **Waltonville** 57.90 68 P P 19 12 42.5 -1.5
baz=313,SNR=6.0
U42A **Revenden** 57.94 71 P P 19 12 42.7 -1.6
baz=314,SNR=6.1
KLBO **Killbear Provi** 57.94 56 P P 19 12 42.4 -1.8
baz=313
Q45A **Warren Harvey,** 57.99 66 P P 19 12 43.2 -1.5
baz=313,SNR=15
T43A **Greenville** 57.99 69 P P 19 12 43.1 -1.6
baz=313,SNR=38
X301 **Greenbrier Sit** 58.01 72 eP P 19 12 43.8 -1.0
comp=Z,25nm,0.9s
DGZ **Jazzator, Alta** 58.02 311 eP P 19 12 44.5 -0.4
DGZ pmax pmax
comp=Z,3.0nm,1.0s
P46A **Rosedale** 58.04 65 P P 19 12 43.8 -1.2
baz=313
WHAR **Wooly Hollow** 58.04 72 eP P 19 12 44.7 -0.4
comp=Z,18nm,0.9s
PBMO **Poplar Bluff** 58.12 70 eP P 19 12 44.4 -1.2
comp=Z,21nm,1.0s
OLIL **Olney** 58.13 67 eP P 19 12 44.8 -0.8
comp=Z,56nm,1.0s
W41B **Gary Mavity, V** 58.15 72 P P 19 12 44.2 -1.5
baz=314,SNR=12
S44A **Carbondale** 58.18 68 P P 19 12 44.0 -1.9
baz=313
SIUC **Southern Illin** 58.19 68 eP P 19 12 45.2 -0.8
comp=Z,29nm,0.8s
O47A **Sheridan** 58.20 64 P P 19 12 44.5 -1.6
baz=313
V42A **Cord** 58.22 71 P P 19 12 44.6 -1.7
baz=314
X40A **Basin Creek Fa** 58.27 73 P P 19 12 45.3 -1.3
baz=314,SNR=9.9
BUKO **Buck Lake** 58.31 56 P P 19 12 44.8 -1.9
baz=313
R45A **Skylar, Fairfi** 58.33 67 P P 19 12 45.5 -1.5
baz=313,SNR=12
ARCES **ARCESS Array B** 58.36 352 P P 19 12 45.5 -1.3
comp=Z,4.8nm,1.0s,baz=14,slow=7.4,SNR=11
ARCES PcP PcP 19 13 38.1 +0.9
comp=Z,4.2nm,0.8s,baz=22,slow=4.9,SNR=3.5
T44A **Benton** 58.40 69 P P 19 12 45.7 -1.8
baz=314
X41A **Kaden, Bauxite** 58.46 73 P P 19 12 46.6 -1.3
baz=314,SNR=5.3
W42A **Bald Knob** 58.51 72 P P 19 12 46.9 -1.4
baz=314
LZH **Lanzhou** 58.56 290 ⇓P P 19 12 49.6 +0.7
LZH pP sP 19 13 06.4 +0.2
LZH sP pP 19 13 12.8 +12
LZH ePP **PP** **19 15 00.1 +1.7**
LZH eS **S** **19 20 46.0 -3.7**
LZH sS sS 19 21 13.2 +2.9
LZH SS **SS** **19 24 40.0 -2.2**
LZH pmax pmax
comp=Z,52nm,1.1s
LZH pmax pmax
comp=Z,160nm,5.1s
LZH LR LR
comp=Z,680nm,16.9s
LZH LR LR
comp=Z,520nm,14.9s
LZH LR LR
comp=Z,700nm,18.8s
S45A **Carrier Mills** 58.58 68 P P 19 12 47.1 -1.6
baz=314
833A **Chaparral WMA,** 58.58 83 P P 19 12 47.8 -1.1
baz=316
GTA **Gaotai** 58.61 295 eP P 19 12 48.9 -0.2
GTA pP sP 19 13 05.0 -1.5
GTA sP pP 19 13 12.7 +11
GTA S **S** **19 20 48.3 -1.8**
GTA sS sS 19 21 15.8 +5.1
GTA SS **SS** **19 24 43.4 +0.7**
GTA pmax pmax
comp=Z,20nm,1.1s
GTA pmax pmax
comp=Z,170nm,7.4s
GTA LR LR
comp=Z,500nm,17.8s
GTA LR LR
comp=Z,510nm,16.9s
GTA LR LR
comp=Z,640nm,16.6s
WLAR **White Oak Lake** 58.66 74 eP P 19 12 49.5 +0.2
comp=Z,30nm,0.8s
P47A **Martinsville** 58.66 65 P P 19 12 47.7 -1.6
baz=313,SNR=5.9
BLO **Bloomington** 58.73 65 eP P 19 12 49.6 -0.2
BLO pmax pmax
comp=Z,24nm,0.8s
BLO **Bloomington** 58.73 65 eP P 19 12 49.6 -0.2
comp=Z,24nm,0.8s
Y41A **Eaglette Beard** 58.82 74 P P 19 12 49.0 -1.5
baz=314
R46A **Gibson Southern** 58.83 67 P P 19 12 49.0 -1.4
baz=314
USIN **University of** 58.91 67 eP P 19 12 50.3 -0.7
comp=Z,50nm,0.8s
Q47A **Bedord North L** 58.95 65 P P 19 12 49.7 -1.6
baz=314,SNR=8.0
S46A **Don Dixon Farm** 59.07 67 P P 19 12 50.5 -1.6
baz=314
ACTO **Acton** 59.22 58 P P 19 12 51.6 -1.6
baz=314
PEMO **Pembroke** 59.24 54 P P 19 12 51.6 -1.6
baz=314
R47A **Wooly Knot Far** 59.33 66 P P 19 12 52.4 -1.5
baz=314,SNR=7.8
Y42A **Garnett, Star** 59.35 73 P P 19 12 52.8 -1.3
baz=314
BANO **Bancroft** 59.35 55 P P 19 12 52.6 -1.4
baz=314
U45A **Rockin P Farm,** 59.39 69 P P 19 12 52.8 -1.5
baz=314
T46A **Princeton** 59.41 68 P P 19 12 53.0 -1.5
baz=314
X43A **Marvell** 59.41 72 P P 19 12 53.1 -1.4
baz=314
WCI **Wyandotte Cave** 59.51 66 P P 19 12 54.2 -1.0
baz=314
WCI **Wyandotte Cave** 59.51 66 eP P 19 12 54.9 -0.3
WCI pmax pmax
comp=Z,28nm,0.9s
WCI **Wyandotte Cave** 59.51 66 eP P 19 12 54.9 -0.3
comp=Z,28nm,0.9s
R48A **Northridge Ran** 59.63 65 P P 19 12 54.4 -1.6
baz=314
V45A **Humboldt** 59.70 70 P P 19 12 55.0 -1.5
baz=314
U46A **Springville** 59.72 69 P P 19 12 55.8 -0.9
baz=314
PLVO **Plevna** 59.77 55 P P 19 12 55.6 -1.3
baz=314
PLVO **Plevna** 59.77 55 eP P 19 12 58.2 +1.3
comp=Z,63nm,1.5s
T47A **Sharon Grove** 59.90 67 P P 19 12 56.9 -1.1
baz=314,SNR=9.7
W45A **Hickory Valley** 59.97 70 P P 19 12 58.1 -0.3
baz=314,SNR=5.0
ACSO **Alum Creek Sta** 59.98 62 P P 19 12 57.7 -0.7
baz=314
S48A **Wiedeman Farm,** 60.04 66 P P 19 12 57.9 -0.9
baz=314,SNR=6.8
WVT **Waverly** 60.08 69 P P 19 12 58.1 -1.0
baz=314
WVT **Waverly** 60.08 69 eP P 19 12 59.1 -0.1
WVT pmax pmax
comp=Z,17nm,0.8s
WVT **Waverly** 60.08 69 eP P 19 12 59.1 -0.1
comp=Z,17nm,0.8s
V46A **Holladay** 60.14 69 P P 19 12 58.6 -1.0
baz=314,SNR=9.1
U47A **Clarksville** 60.18 68 P P 19 12 58.8 -1.0
baz=314
TRQ **Mont Tremblant** 60.20 52 eP P 19 12 59.3 -0.7
T48A **Bowling Green** 60.23 67 P P 19 12 59.2 -0.9
baz=314,SNR=7.0
341A **Kurthwood** 60.27 76 P P 19 12 59.8 -0.7
baz=315
OXF **Oxford** 60.29 71 P P 19 12 59.0 -1.6
baz=315,SNR=6.2
OXF **Oxford** 60.29 71 eP P 19 13 00.4 -0.2
OXF pmax pmax
comp=Z,74nm,1.0s
OXF **Oxford** 60.29 71 eP P 19 13 00.4 -0.2
comp=Z,74nm,1.0s
ERPA **Erie** 60.29 59 P P 19 12 59.6 -0.9
baz=314
W46A **Michie** 60.46 70 P P 19 13 00.0 -1.7
baz=315
ALFO **Alfred** 60.46 53 P P 19 13 00.4 -1.2
baz=315,SNR=5.4
V47A **Nunnelly** 60.47 69 P P 19 13 00.9 -1.0
baz=315,SNR=7.8
ALLY **Alegheny Colle** 60.53 59 eP P 19 13 02.8 +0.6
comp=Z,34nm,0.8s
U48A **Cassie Pea, Po** 60.56 67 P P 19 13 01.7 -0.8
baz=315,SNR=14
PLAL **Pickwick Lake** 60.74 70 eP P 19 13 02.6 -1.1
comp=Z,32nm,0.7s
X46A **Booneville** 60.74 70 P P 19 13 02.8 -0.9
baz=315,SNR=10
W47A **Westpoint** 60.83 69 P P 19 13 02.7 -1.6
baz=315,SNR=14
M54A **Oil Creek Stat** 60.89 59 P P 19 13 03.5 -1.1
baz=315
M54A **Oil Creek Stat** 60.89 59 eP P 19 13 05.0 +0.4
comp=Z,35nm,1.3s
V48A **Smith Brothers** 60.94 68 P P 19 13 04.0 -1.0
baz=315,SNR=7.3
Y46A **Houston** 61.05 71 P P 19 13 04.2 -1.6
baz=315,SNR=9.1
N54A **Moraine State** 61.10 60 P P 19 13 04.2 -1.8
baz=315
N54A **Moraine State** 61.10 60 eP P 19 13 06.4 +0.3
comp=Z,74nm,1.5s
X47A **Russellville** 61.19 70 P P 19 13 04.8 -1.9
baz=315
KURK **Kurchatov** 61.26 316 P P 19 13 06.5 -0.4
KURK pmax pmax
comp=Z,14nm,1.2s
KURK **Kurchatov** 61.26 316 eP P 19 13 06.8 -0.1
comp=Z,17nm,0.9s
W48A **Pulaski** 61.30 69 P P 19 13 06.4 -1.1
baz=315,SNR=16
LONY **Lake Ozonia** 61.33 54 P P 19 13 05.6 -1.9
baz=316
LONY **Lake Ozonia** 61.33 54 eP P 19 13 07.3 -0.2
comp=Z,22nm,0.9s
KURBB **Kurchatov Arra** 61.37 316 P P 19 13 07.2 -0.5

comp=Z,6.5nm,0.8s,baz=41,slow=6.6,SNR=33
Y47A UCPARC, Winfie 61.63 70 P **P** 19 13 08.4 -1.4
baz=315,SNR=9.1
X48A Hartselle 61.72 69 P **P** 19 13 08.7 -1.5
baz=315,SNR=7.5
146A Union 61.81 72 P **P** 19 13 10.0 -0.9
baz=316
Z47A Carrollton 62.00 71 P **P** 19 13 10.6 -1.6
baz=316,SNR=7.4
Y48A Jasper 62.02 70 P **P** 19 13 10.6 -1.7
baz=316,SNR=6.0
WMQ Urumqi 62.02 306 P **P** 19 13 13.2 +0.9
WMQ pP pP 19 13 25.2 +0.4
WMQ sP sP 19 13 37.7 +8.0
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,310nm,3.7s
WMQ LR LR
comp=Z,1μm,20.7s
WMQ LR LR
comp=Z,1μm,18.9s
WMQ LR LR
comp=Z,800nm,22.7s
X49A Woodville 62.09 69 P **P** 19 13 11.1 -1.7
baz=315,SNR=6.6
MCWV Mont Chateau 62.10 61 P **P** 19 13 11.7 -1.1
baz=315,SNR=5.3
MCWV Mont Chateau 62.10 61 *e*P **P** 19 13 13.3 +0.5
comp=Z,23nm,0.9s
Z48A Northport 62.18 71 P **P** 19 13 12.0 -1.4
baz=316,SNR=6.5
CD2 Chengdu 62.24 285 *e*P **P** 19 13 13.8 -0.1
CD2 pP sP 19 13 30.7 -0.6
CD2 sP pP 19 13 38.1 +12
CD2 PcS **PcS** 19 17 56.2 -0.7
CD2 S **S** 19 21 34.6 -2.0
CD2 SS **SS** 19 25 39.5 -0.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=Z,620nm,14.4s
CD2 LR LR
comp=Z,510nm,16.4s
TZTN Tazewell 62.25 66 P **P** 19 13 13.2 -0.6
baz=315
TZTN Tazewell 62.25 66 *e*P **P** 19 13 14.1 +0.2
comp=Z,35nm,1.0s
147A Livingston 62.25 72 P **P** 19 13 13.4 -0.4
baz=316
BINY Binghamton 62.34 56 P **P** 19 13 13.5 -0.9
baz=316
BINY Binghamton 62.34 56 *e*P **P** 19 13 15.3 +0.9
comp=Z,34nm,1.3s
O56A Blue Knob Stat 62.35 59 P **P** 19 13 13.7 -0.8
baz=316
O56A Blue Knob Stat 62.35 59 *e*P **P** 19 13 14.8 +0.2
comp=Z,11nm,0.8s
SSPA Standing Stone 62.46 59 P **P** 19 13 14.3 -0.8
baz=316
SSPA Standing Stone 62.46 59 *e*P **P** 19 13 15.7 +0.5
comp=Z,19nm,0.9s
MK31 Makanchi Array 62.50 311 *i* P **P** 19 13 14.5 -0.9
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 62.50 311 *e*P **P** 19 13 14.7 -0.7
MKAR Makanchi Array 62.50 311 P **P** 19 13 14.4 -1.0
comp=Z,2.7nm,0.6s,baz=46,slow=6.4,SNR=18
MKAR Makanchi Array 62.50 311 *e*P **P** 19 13 14.7 -0.7
MKAR pmax pmax
comp=Z,35nm,0.8s
MKAR Makanchi Array 62.50 311 *e*P **P** 19 13 14.7 -0.7
comp=Z,34nm,0.8s
Y49A Blount Mountai 62.51 70 P **P** 19 13 13.9 -1.7
baz=316
MK01 Makanchi Array 62.51 311 *e*P **P** 19 13 14.4 -1.1
X50A Fort Payne 62.52 69 P **P** 19 13 14.6 -1.1
baz=316,SNR=13
MAKZ Makanchi 62.63 312 *e*P **P** 19 13 15.5 -0.8
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 62.63 312 *e*P **P** 19 13 15.5 -0.8
comp=Z,5.6nm,0.8s
ACCN Adirondack Com 62.67 54 *e*P **P** 19 13 16.7 +0.2
comp=Z,27nm,0.9s
LRAL Lakeview Retre 62.75 71 P **P** 19 13 15.8 -1.4
baz=316
LRAL Lakeview Retre 62.75 71 *e*P **P** 19 13 15.3 -1.9
comp=Z,7.3nm,0.9s
TKL Tuckaleechee C 62.75 66 P **P** 19 13 16.2 -1.0
comp=Z,9.2nm,0.9s,baz=297,slow=4.5,SNR=7.1
BVA0 Borovoye Array 62.84 323 *i* P **P** 19 13 17.1 -0.4
BVA0 pmax pmax
comp=Z,17nm,0.6s
BVAR Borovoye Array 62.84 323 P **P** 19 13 17.3 -0.2
comp=Z,18nm,0.5s,baz=52,slow=6.2,SNR=123
BVAR ScS **ScS** 19 23 13.8 +7.6
comp=Z,1.0nm,0.6s,baz=60,slow=5.7,SNR=7.9
BVAR Borovoye Array 62.84 323 P **P** 19 13 17.3 -0.2
BVAR pmax pmax
comp=Z,19nm,0.5s
BVAR pmax pmax
comp=N,1.0nm,0.6s
BRVK Borovoye 62.86 323 *ce*P **P** 19 13 17.6 0.0
BRVK pmax pmax
comp=Z,47nm,1.0s
BRVK Borovoye 62.86 323 *e*P **P** 19 13 17.2 -0.4
comp=Z,14nm,0.7s
Y50A Piedmont 62.88 69 P **P** 19 13 16.7 -1.3
baz=316
Z49A Columbiana 62.91 70 P **P** 19 13 16.9 -1.3
baz=316,SNR=6.2
248A Dixon Mills 62.98 72 P **P** 19 13 17.9 -0.8
baz=316
347A Saraland 63.00 73 P **P** 19 13 18.2 -0.7
baz=316
SVE Sverdlovsk 63.15 330 *e*P **P** 19 13 20.1 +0.6
SVE pmax pmax
comp=Z,19nm,1.0s
149A Jones 63.18 71 P **P** 19 13 18.4 -1.6
baz=316,SNR=8.3
Z50A Ashland 63.22 70 P **P** 19 13 19.0 -1.4
baz=316,SNR=11
N59A State Game Lan 63.37 57 P **P** 19 13 20.2 -1.0
baz=316
N59A State Game Lan 63.37 57 *e*P **P** 19 13 22.1 +0.9
comp=Z,46nm,1.5s
249A Camden 63.43 71 P **P** 19 13 20.2 -1.5
baz=316
BLA Blacksburg 63.53 63 P **P** 19 13 21.8 -0.6
baz=316,SNR=6.3
BLA Blacksburg 63.53 63 *e*P **P** 19 13 22.8 +0.4
BLA pmax pmax
comp=Z,48nm,1.1s
BLA Blacksburg 63.53 63 *e*P **P** 19 13 22.8 +0.4
comp=Z,48nm,1.1s
150A Eclectic 63.63 70 P **P** 19 13 21.3 -1.7
baz=316
GYA Guiyang 63.68 280⇑ *i*P **P** 19 13 25.1 +1.5
GYA pP sP 19 13 42.2 +1.2
GYA PcP **PcP** 19 14 00.4 +0.9
GYA PP **PP** 19 15 47.6 +3.9
GYA ScP 19 17 56.0
GYA S **S** 19 21 52.8 -2.0
GYA SS **SS** 19 26 02.0 -0.6
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=Z,550nm,18.0s
GYA LR LR
comp=Z,520nm,18.6s
GYA LR LR
comp=Z,500nm,18.2s
BG3 Lake Jocassee 63.70 66 *e*P **P** 19 13 23.4 -0.1
comp=Z,16nm,1.0s
MVL Millersville 63.73 58 *e*P **P** 19 13 24.5 +1.0
comp=Z,14nm,0.9s
LUPA Lehigh Univers 63.81 57 *e*P **P** 19 13 25.0 +0.9
comp=Z,1.3nm,0.7s
ODNJ Ogdensburg 63.86 56 *e*P **P** 19 13 25.2 +0.7
comp=Z,19nm,0.8s
TGY Tagaytay City 64.04 260 LR LR 19 39 48.2
comp=Z,88nm,19.2s,baz=108,slow=35

151A Opelika 64.09 70 P **P** 19 13 24.7 -1.3
baz=316
ARU Arti 64.12 331 *c i*P **P** 19 13 24.9 -1.0
ARU *PP **pP** 19 13 38.3 -0.1
ARU 19 13 58.5
ARU S **S** 19 21 58.9 -0.3
ARU SS **SS** 19 26 07.2 -0.5
ARU pmax pmax
comp=Z,22nm,1.2s
ARU MLR MLR
comp=Z,936nm,18.0s
ARU Arti 64.12 331 *e*P **P** 19 13 25.1 -0.8
comp=Z,14nm,0.5s
IP04 Greensprings 64.17 61 *e*P **P** 19 13 27.6 +1.1
comp=Z,49nm,1.3s
IP03 Louisa 64.27 61 *e*P **P** 19 13 27.6 +0.4
comp=Z,54nm,1.3s
IP07 Quail 64.33 61 *e*P **P** 19 13 27.7 +0.1
comp=Z,30nm,0.8s
IP06 Yanceyville 64.35 61 *e*P **P** 19 13 27.9 +0.3
comp=Z,22nm,0.8s
251A Midway 64.36 70 P **P** 19 13 26.4 -1.4
baz=316
KMSC Kings Mountain 64.51 65 P **P** 19 13 27.8 -1.0
baz=317,SNR=13
KMSC Kings Mountain 64.51 65 *e*P **P** 19 13 27.2 -1.6
comp=Z,43nm,0.9s
GOGA Godfrey 64.53 68 P **P** 19 13 27.4 -1.5
baz=317,SNR=9.4
GOGA Godfrey 64.53 68 *e*P **P** 19 13 28.1 -0.9
GOGA pmax pmax
comp=Z,20nm,0.7s
GOGA Godfrey 64.53 68 *e*P **P** 19 13 28.1 -0.9
comp=Z,20nm,0.7s
WES Weston 64.58 53 *e*P **P** 19 13 29.6 +0.5
WES pmax pmax
comp=Z,33nm,0.9s
WES Weston 64.58 53 *e*P **P** 19 13 29.6 +0.5
comp=Z,33nm,0.9s
HODGE Hodges 64.64 66 *e*P **P** 19 13 29.2 -0.4
comp=Z,21nm,0.9s
KLMR Klimovskoe 64.82 343 *e*P **P** 19 13 27.7 -2.6
KLMR pmax pmax
comp=Z,22nm,1.3s
KLMR Klimovskoe 64.82 343 *e*P **P** 19 13 27.8 -2.6
KLMR AMP 19 13 43.3
comp=Z,22nm,1.3s
351A Pinckard 64.83 71 P **P** 19 13 29.4 -1.5
baz=317
352A Blakely 65.08 70 P **P** 19 13 31.0 -1.5
baz=317
OTUK Ortayu 65.80 318 P P 19 13 46.7 +10
OTUK pmax pmax
comp=Z,17nm,1.2s
FINES FINESS Array B 66.21 350 P **P** 19 13 38.6 -0.7
comp=Z,7.4nm,1.0s,baz=9.4,slow=7.3,SNR=12
PDGK Podgornoye 66.41 310 P **P** 19 13 40.9 -0.2
PDGK pmax pmax
comp=Z,25nm,1.1s
NHSC New Hope 66.64 66 P **P** 19 13 41.6 -1.0
baz=318
KMI Kunming 67.06 282 P **P** 19 13 46.7 +1.1
KMI pmax pmax
comp=Z,14nm,0.9s
KMI pmax pmax
comp=Z,130nm,4.9s
KMI LR LR
comp=Z,290nm,9.1s
KMI LR LR
comp=Z,200nm,9.1s
KMI LR LR
comp=Z,220nm,11.7s
NB2 NORSAR Subarra 67.62 358 P **P** 19 13 47.6 -0.8
comp=Z,3.1nm,0.6s,baz=3.8,slow=6.2
NOA NORSAR Array B 67.62 358 P **P** 19 13 47.8 -0.6
comp=Z,1.5nm,0.5s,baz=2.5,slow=7.5,SNR=9.4
NOA NORSAR Array B 67.62 358 P **P** 19 13 47.8 -0.6
NOA pmax pmax
comp=Z,1.0nm,0.7s
KDJ Kajisay 68.42 311 P **P** 19 13 54.6 +0.7
HFS Hagfors 68.44 356 P **P** 19 13 52.3 -1.2
comp=Z,4.8nm,0.5s,baz=29,slow=3.3,SNR=27
TKM2 Tokmak 2 68.54 313 P **P** 19 13 54.8 +0.1
TKM2 pmax pmax
comp=Z,18nm,1.1s
TKM2 Tokmak 2 68.54 313 P **P** 19 13 55.4 +0.7
SNR=15
ULHL Ulahol 68.77 312 P **P** 19 13 56.8 +0.7
SNR=9
USP Ospenovka 68.77 313 P **P** 19 13 55.9 0.0
SNR=23
CHMS Chumysh 68.86 313 P **P** 19 13 57.2 +0.7
SNR=9.5
KBK Karagaybulak 69.04 313 P **P** 19 13 58.7 +0.9
SNR=17
VSU Vasula 69.05 349 *ce*P **P** 19 13 57.1 -0.2
VSU pmax pmax
comp=Z,65nm,1.2s
FRU Bishkek 69.05 313⇓ *i*P **P** 19 13 58.0 +0.3
FRU *i* 19 14 11.0
FRU pmax pmax
comp=Z,60nm,2.0s
FRU1 Bishkek 69.07 313 P **P** 19 13 59.1 +1.3
AAK Ala-Archa 69.26 313 *c i*P **P** 19 13 59.3 +0.2
AAK pmax pmax
comp=Z,24nm,1.0s
AAK Ala-Archa 69.26 313 P **P** 19 14 00.1 +0.9
SNR=23
AAK Ala-Archa 69.26 313 *e*P **P** 19 14 00.0 +0.9
comp=Z,19nm,0.8s
KZA Kyzart 69.36 312 P **P** 19 14 01.1 +1.1
SNR=14
AKTO Aktyubinsk 69.38 328 P **P** 19 13 59.0 -0.4
comp=Z,18nm,0.5s,baz=50,slow=8.3,SNR=51
AKTO Aktyubinsk 69.38 328 P **P** 19 13 59.4 -0.1
AKTO pmax pmax
comp=Z,25nm,0.7s
NRN Naryn 69.51 311 P **P** 19 14 01.9 +1.0
EKS2 Erkin-Say 69.57 314 P **P** 19 14 02.1 +1.1
SNR=29
UCH Uchtor 69.58 313 P **P** 19 14 02.3 +0.9
SNR=11
AB31 Akbulak array 69.73 326 P **P** 19 14 01.6 0.0
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 69.73 326 *e*P **P** 19 14 01.0 -0.6
comp=Z,140nm,0.6s
AML Almayashu 70.03 313 P **P** 19 14 05.4 +1.3
SNR=20
MNAS Manas 70.28 314 P **P** 19 14 05.7 +0.3
MNAS pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 70.54 293 P **P** 19 14 09.3 +1.8
LSA pmax pmax
comp=Z,52nm,1.1s
KKAR Karatay Array 70.66 316 *e*P **P** 19 14 07.6 +0.1
KKAR Karatay Array 70.66 316 *e*P **P** 19 14 07.6 +0.1
OBN Obninsk 70.76 342 *e*P **P** 19 14 06.2 -1.6
OBN *e* 19 14 18.1
OBN *e* 19 16 50.5
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,281nm,17.0s
KSH Kashi 71.03 310 P **P** 19 14 13.6 +3.7
KSH pP sP 19 14 25.5 -2.0
KSH PcP **PcP** 19 14 32.1 +2.1
KSH PP **PP** 19 16 53.6 +6.4
KSH S **S** 19 23 23.4 +0.6
KSH sS SKiKP 19 23 52.6 +5.2
KSH SS **SS** 19 28 00.7 +5.2
KSH pmax pmax
comp=Z,53nm,1.2s
KSH pmax pmax
comp=Z,91nm,3.5s
KSH LR LR
comp=Z,170nm,12.6s
KSH LR LR
comp=Z,570nm,16.6s
KSH LR LR
comp=Z,460nm,14.9s
SFK Sufi-Kurgan 71.80 312 P **P** 19 14 14.5 -0.2
SFK pmax pmax
comp=Z,23nm,1.3s
LPSR Galich'ya Gora 72.65 340 *e*P **P** 19 14 19.4 +0.2
LPSR *e*PP **pP** 19 14 31.6 -0.3
LPSR pmax pmax
comp=Z,10.0nm,0.9s
EKA Eskdalemuir Ar 73.09 6 P **P** 19 14 22.2 +0.4
comp=Z,2.9nm,1.0s,baz=345,slow=5.4,SNR=5.3
CMAI Chiengmai2 73.19 281 P **P** 19 14 25.4 +2.2
comp=Z,170nm,1.7s,comp=Z,62μm
SHL Shillong 73.23 290 *e*P **P** 19 14 23.5 +0.2
VRH Novokhopyorsk 73.33 338 *e*P **P** 19 14 22.5 -0.8
VRH *e*PP **pP** 19 14 35.5 -0.5
VRH pmax pmax
comp=Z,10.0nm,0.6s
BSD Bornholm Skovb 73.40 355 *i* P pP 19 14 36.6 +0.3
comp=Z,1.7nm,0.5s
BSD Bornholm Skovb 73.40 355 *i* P **pP** 19 14 36.6 +0.3
BSD pmax pmax
comp=Z,2.0nm,0.5s
KHON Khomkaen 73.58 276 P **P** 19 14 28.2 +2.9
comp=Z,17nm,1.0s,comp=Z,264nm
VSR Storozhevoye 73.90 339 *e*P **P** 19 14 26.0 -0.6
VSR *e*PP **pP** 19 14 39.0 -0.3
VSR pmax pmax
comp=Z,20nm,0.6s
CMMT Chiang Mai 74.10 280 P **P** 19 14 31.4 +3.1
comp=Z,13nm,1.4s
CHTO Chiang Mai 74.10 280 P **P** 19 14 32.5 +4.2
comp=Z,60nm,1.4s
CHTO Chiang Mai 74.10 280 *e*P **P** 19 14 30.1 +1.8
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 74.10 280 *e*P **P** 19 14 30.1 +1.8
comp=Z,10.0nm,0.9s
CM31 Chiang Mai Arr 74.37 280 *e*P **P** 19 14 31.5 +1.6
CMAR Chiang Mai Arr 74.37 280 P **P** 19 14 29.7 -0.2
comp=Z,6.6nm,0.9s,baz=28,slow=6.6,SNR=23
CM01 Chiang Mai Arr 74.39 280 *e*P **P** 19 14 30.2 +0.2
PHIT Phitsanulok 74.43 278 P **P** 19 14 33.6 +3.4
comp=Z,10nm,1.1s
CHAI Chaiyaphum 74.43 276 P P 19 14 36.2 +5.9
comp=Z,3.9nm,1.1s
GUN Gumba 74.89 296 *e*P **P** 19 14 34.0 +0.8
JIRN Jiri 74.90 295 *e*P **P** 19 14 33.7 +0.4
KKN Kakani 75.31 296 *e*P **P** 19 14 36.2 +0.7
PKI Pulchoki 75.41 296 *e*P **P** 19 14 36.6 +0.4
comp=Z,80nm,1.1s
PKIN Phulchoki 75.41 296 *e*P **P** 19 14 36.6 +0.5
comp=Z,45nm,0.9s
GKN Gorkha 75.51 297 *e*P **P** 19 14 37.5 +1.0
comp=Z,0.7nm,0.3s
DMN Daman 75.55 296 *e*P **P** 19 14 37.8 +0.9
DANN Dangsing 75.73 298 *e*P **P** 19 14 39.4 +1.4
comp=Z,9.6nm,0.9s
SNET Serv Nac Est T 75.74 86 *e*P **P** 19 14 33.6 -4.3
comp=Z,1μm,0.5s
AKASG Malin Array Be 76.26 345 P **P** 19 14 38.8 -1.5
comp=Z,5.4nm,0.4s,baz=16,slow=6.1,SNR=35
AKBB Malin Array Si 76.26 345 *e*P **P** 19 14 38.9 -1.3
AKBB pmax pmax
comp=Z,37nm,1.4s
AKBB Malin Array Si 76.26 345 *e*P **P** 19 14 38.9 -1.3
comp=Z,37nm,1.4s
KOLN Koldanda 76.27 297 *e*P **P** 19 14 41.4 +0.5
comp=Z,59nm,1.0s
UTHA Uthaitani 76.27 278 P **P** 19 14 44.0 +3.2
KIEV Kiev 76.27 345 *e*P **P** 19 14 38.7 -1.6
KIEV pmax pmax
comp=Z,8.0nm,1.1s
KIEV Kiev 76.27 345 *e*P **P** 19 14 38.9 -1.4
comp=Z,39nm,1.5s
AK11 Malin Array Si 76.29 345 *e*P **P** 19 14 39.0 -1.5
PYUN Piuthan 76.34 298 *e*P **P** 19 14 42.0 +0.6
comp=Z,143nm,1.1s
CLL Collm 77.30 356⇓ *i*P **P** 19 14 46.3 +0.2
CLL *i* *PP **pP** 19 14 59.0 +0.2
CLL Collm 77.30 356⇓ *i*P **P** 19 14 46.3 +0.2
CLL *i* pP **pP** 19 14 59.0 +0.2
comp=Z,12nm,0.9s
CLL *es*P **sP** 19 15 05.0 +1.3
CLL *e*S **S** 19 24 30.0 -2.4
CLL *e*PS **PnS** 19 25 21.0 +5.5
CLL *e*SS SS 19 29 48.0 +18
CLL Collm 77.30 356 *e*P **P** 19 14 44.2 -1.9
comp=Z,8.6nm,0.8s
BRG Berggiesshubel 77.69 355 *e*P **P** 19 14 48.0 -0.3
comp=Z,9.7nm,0.8s
BRG *e* 19 14 59.9
comp=Z,27nm,1.2s
BRG *i* pP **pP** 19 15 01.4 +0.4
comp=Z,20nm,1.1s
BRG Berggiesshubel 77.69 355 *e*P **P** 19 14 48.0 -0.3
BRG *e* 19 14 59.9
BRG *i* *PP **pP** 19 15 01.4 +0.4
BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG pmax pmax
comp=Z,27nm,1.2s
BRG pmax pmax
comp=Z,10.0nm,1.0s
OJC Ojcow 77.91 351 *e*P **P** 19 14 49.5 0.0
OJC pmax pmax
comp=Z,11nm,0.8s
OJC Ojcow 77.91 351 *e*P **P** 19 14 49.5 0.0
comp=Z,11nm,0.8s
UPC Upice 77.93 354 *e*P **P** 19 14 49.6 0.0
UPC *e*PCP **PcP** 19 14 57.0 -2.3
UPC *e*pP **pP** 19 15 02.8 +0.4
UPC Upice 77.93 354 *e*P **P** 19 14 49.6 0.0
UPC *e* 19 14 57.0
UPC *e* 19 15 02.8
PVCC Panska Ves 78.00 355 *e*P **P** 19 14 50.8 +0.8
PVCC *e*pP **pP** 19 15 03.5 +0.7
PVCC Panska Ves 78.00 355 *e*P **P** 19 14 50.8 +0.8
PVCC *e* 19 15 03.5
DPC Dobruska-Polom 78.06 354 *e*P **P** 19 14 50.4 0.0
DPC *e*PCP **PcP** 19 14 58.1 -1.9
DPC *e*pP **pP** 19 15 03.6 +0.4
DPC Dobruska-Polom 78.06 354 *e*P **P** 19 14 50.4 0.0
DPC *e* 19 14 56.4
DPC *e* 19 14 58.1
DPC *e* 19 15 03.6
MEM Membach 78.13 0⇑⇑ P **P** 19 14 50.5 -0.2
NKC Novy Kostel 78.39 356 *e*P **P** 19 14 53.2 +1.0
NKC *e*PCP **PcP** 19 14 59.9 -1.5
NKC *e*pP **pP** 19 15 06.5 +0.5
NKC Novy Kostel 78.39 356 *e*P **P** 19 14 53.2 +1.0
NKC *e* 19 14 59.9
NKC *e* 19 15 05.5
OKC Ostrava-Krasne 78.44 352 *e*P **P** 19 14 52.4 0.0
OKC *e*pP **pP** 19 15 05.7 +0.5
OKC Ostrava-Krasne 78.44 352 *e*P **P** 19 14 52.4 0.0
OKC *e* 19 15 05.7
PRU Pruhonice 78.54 355 *e*P **P** 19 14 53.8 +0.8
PRU *e*PCP **PcP** 19 15 00.3 -1.7
PRU *e*pP **pP** 19 15 06.4 +0.6
PRU Pruhonice 78.54 355 *e*P **P** 19 14 53.8 +0.8
PRU *e* 19 15 00.3
PRU *e* 19 15 06.4
STHS Stebnicka Huta 78.56 350 *e*P **P** 19 14 54.5 +1.3
STHS *e* 19 15 06.9
STHS pmax pmax
comp=Z,7.0nm,0.7s
STHS Stebnicka Huta 78.56 350 *e*P **P** 19 14 54.5 +1.3
STHS *e* 19 15 06.9
GOPC GO Pecny, Ondr 78.60 355 *e*P **P** 19 14 52.6 -0.7
GOPC *e*pP **pP** 19 15 06.6 +0.4
GOPC GO Pecny, Ondr 78.60 355 *e*P **P** 19 14 52.6 -0.7
GOPC *e* 19 15 06.6
DOU Dourbes 78.63 1⇑⇑ P **P** 19 14 54.3 +0.8
GOF Gofitskoye 78.70 335⇑ *e*P **P** 19 14 54.6 +0.6
GOF *i* 19 15 07.6
GOF pmax pmax
comp=Z,81nm,1.2s
SORM Soroca 78.89 345⇑ *i*P **P** 19 14 53.7 -1.2
SORM Soroca 78.89 345⇑ P **P** 19 14 53.7 -1.2
GRFO Grafenberg 78.98 357 *e*P **P** 19 14 56.3 +0.8
GRFO pmax pmax
comp=Z,24nm,0.8s
GRFO Grafenberg 78.98 357 *e*P **P** 19 14 56.2 +0.8
comp=Z,24nm,0.8s
LANS Liptovska Anna 79.00 351 *e*P **P** 19 14 56.2 +0.6
LANS *e* 19 15 09.7
LANS Liptovska Anna 79.00 351 *e*P **P** 19 14 56.2 +0.6
LANS *e* 19 15 09.7
WLF Walferdange 79.08 0⇑⇑ P P 19 15 03.7 +7.8
TREC Trest 79.17 354 AMS AMS 19 57 50.0

	comp=Z,500nm,23.9s						
UZH	**Uzhgorod**	**79.23**	**350**	*e*P	**P**	**19 14 55.8**	**-1.0**
UZH				*e*		19 15 01.8	
MAK	**Makhachkala**	**79.35**	**331**	*e*P	**P**	**19 14 55.2**	**-2.3**
MAK				*e**PP	**pP**	**19 15 11.3**	**+0.9**
MAK				*e*		19 18 01.8	
MAK				*e*S	**S**	**19 24 50.4**	**-4.3**
MAK				*e**SS	**ScS**	**19 25 19.1**	**+2.2**
MAK				*e*SS	**SS**	**19 30 01.9**	**+1.0**
MAK				pmax	pmax		
	comp=Z,106nm,1.1s						
MAK				MLR	MLR		
	comp=Z,623nm,19.0s						
KHC	**Kasperske Hory**	**79.44**	**355**	*e*P	**P**	**19 14 58.6**	**+0.6**
KHC				*e*PCP	**PcP**	**19 15 05.5**	**-0.5**
KHC				*e*pP	**pP**	**19 15 11.4**	**+0.6**
KHC	**Kasperske Hory**	**79.44**	**355**	*e*P	**P**	**19 14 58.6**	**+0.6**
KHC				*e*		19 15 05.5	
KHC				*e*		19 15 11.4	
KHC	**Kasperske Hory**	**79.44**	**355**	*e*P	**P**	**19 14 58.2**	**+0.2**
	comp=Z,8.9nm,1.1s						
KECS	**Kecovo**	**79.57**	**351**	*e*P	**P**	**19 14 58.4**	**-0.2**
KECS				*e*		19 15 11.4	
KECS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KECS	**Kecovo**	**79.57**	**351**	*e*P	**P**	**19 14 58.4**	**-0.2**
KECS				*e*		19 15 11.4	
CTA	**Charters Tower**	**79.69**	**218**	P	**P**	**19 14 57.9**	**-1.7**
	comp=Z,9.1nm,1.2s,baz=0.0,slow=15,SNR=3.5						
VYHS	**Vyhne**	**79.71**	**352**	*e*P	**P**	**19 14 59.4**	**-0.1**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VYHS	**Vyhne**	**79.71**	**352**	*e*P	**P**	**19 14 59.3**	**-0.2**
VYHS				*e*		19 15 12.2	
GEC2	**GERESS Array S**	**79.72**	**355**	*e*P	**P**	**19 15 00.4**	**+0.8**
GEC2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GEC2	**GERESS Array S**	**79.72**	**355**	*e*P	**P**	**19 15 00.4**	**+0.8**
	comp=Z,8.8nm,0.9s						
GERES	**GERESS Array B**	**79.72**	**355**	P	**P**	**19 14 59.3**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=17,slow=6.4,SNR=18						
GEA0	**GERESS Array S**	**79.73**	**355**	*e*P	**P**	**19 14 59.4**	**-0.2**
KIV	**Kislovodsk**	**79.82**	**334**	*e*P	**P**	**19 14 58.8**	**-1.4**
KIV				pmax	pmax		
	comp=Z,20nm,1.0s						
KIV	**Kislovodsk**	**79.82**	**334**	*e*P	**P**	**19 15 01.2**	**+1.0**
	comp=Z,15nm,0.8s						
BUR08	**Bucovina Ar. S**	**79.83**	**347**	*e*P	**P**	**19 14 59.9**	**-0.4**
BUR04	**Bucovina Ar. S**	**79.86**	**347**	*e*P	**P**	**19 15 00.1**	**-0.3**
BURAR	**Bucovina Array**	**79.86**	**347**	⇑*i*P	**P**	**19 15 00.1**	**-0.3**
BURAR	**Bucovina Array**	**79.86**	**347**	⇑P	**P**	**19 15 00.1**	**-0.3**
KBZ	**Khabaz**	**79.97**	**334**	P	**P**	**19 15 01.6**	**+0.8**
	comp=Z,7.2nm,0.9s,baz=2.3,slow=2.3,SNR=7.2						
NCK	**Nalchik**	**80.00**	**334**	*e*P	**P**	**19 15 01.4**	**+0.3**
NCK				pmax	pmax		
	comp=Z,29nm,1.0s						
GEYT	**Alibeck**	**80.13**	**321**	P	**P**	**19 15 02.6**	**+0.6**
	comp=Z,10nm,0.9s,baz=343,slow=4.6,SNR=27						
PSZ	**Piszkesteto**	**80.18**	**351**	⇓*i*P	**P**	**19 15 02.5**	**+0.4**
PSZ	**Piszkesteto**	**80.18**	**351**	⇓P	**P**	**19 15 02.5**	**+0.4**
BFO	**Black Forest**	**80.41**	**359**	*e*P	**P**	**19 15 03.4**	**+0.2**
BFO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BFO	**Black Forest**	**80.41**	**359**	*e*P	**P**	**19 15 03.4**	**+0.2**
	comp=Z,10nm,0.9s						
ARCR	**ARCALIA**	**80.50**	**348**	⇓*i*P	**P**	**19 15 04.8**	**+1.1**
CONA	**Conrad Observa**	**80.51**	**354**	*e*P	**P**	**19 15 04.2**	**+0.3**
	comp=Z,3.6nm,0.6s,SNR=6.2						
CONA				*e*pP	**pP**	**19 15 17.6**	**+0.9**
	comp=Z,16nm,0.9s						
LEOM	**Leova**	**80.53**	**345**	⇓*i*P	pP	19 15 17.0	+0.3
ECH	**Echery**	**80.53**	**360**	*e*P	**P**	**19 15 03.7**	**-0.2**
ECH				pmax	pmax		
	comp=Z,18nm,1.0s						
ECH	**Echery**	**80.53**	**360**	*e*P	**P**	**19 15 03.7**	**-0.2**
	comp=Z,18nm,1.0s						
ZEI	**Tsey**	**80.57**	**333**	*e*P	**P**	**19 15 02.5**	**-1.9**
ZEI				pmax	pmax		
	comp=Z,14nm,1.0s						
MOA	**Molln**	**80.68**	**355**	*e*P	**P**	**19 15 05.7**	**+1.0**
	comp=Z,1.2nm,0.6s						
MOA				*e*pP	**pP**	**19 15 18.0**	**+0.5**
	comp=Z,8.8nm,1.1s						
TESR	**Tescani**	**80.74**	**346**	⇑*i*P	**P**	**19 15 04.4**	**-0.6**
CJR	**Cluj-Napoca**	**80.96**	**348**	⇓*i*P	pP	19 15 19.7	+0.6
DRGR		**80.99**	**349**	⇑*i*P	**P**	**19 15 05.8**	**-0.6**
DRGR		**80.99**	**349**	⇑P	**P**	**19 15 05.8**	**-0.6**
ARSA	**Arzberg**	**81.20**	**354**	*e*PcP	**P**	**19 15 08.8**	**+1.3**
	comp=Z,2.4nm,0.5s						
ARSA				*e*pP	**pP**	**19 15 21.3**	**+0.9**
	comp=Z,11nm,1.1s						
WATA	**Walderalm**	**81.32**	**357**	*e*P	**P**	**19 15 08.5**	**+0.2**
	comp=Z,2.9nm,0.5s						
WATA				*i* pP	**pP**	**19 15 22.2**	**+1.0**
	comp=Z,9.6nm,0.9s						
MOTA	**Moosalm**	**81.33**	**357**	*i* P	**P**	**19 15 09.1**	**+0.8**
	comp=Z,3.4nm,0.6s,SNR=6.5						
MOTA				*e*pP	**pP**	**19 15 22.0**	**+0.8**
	comp=Z,5.3nm,0.7s						
VRI	**Vrincioaia**	**81.36**	**346**	⇑*i*P	**P**	**19 15 04.0**	**-4.3**
VRI	**Vrincioaia**	**81.36**	**346**	⇑P	**P**	**19 15 04.0**	**-4.3**
PLOR	**Plostina**	**81.38**	**346**	⇓*i*P	**P**	**19 15 09.2**	**+0.7**
PLOR	**Plostina**	**81.38**	**346**	⇓P	**P**	**19 15 09.2**	**+0.7**
WTTA	**Wattenberg**	**81.39**	**357**	*e*PcP	**P**	**19 15 10.0**	**+1.3**
	comp=Z,4.6nm,0.8s						
WTTA				*i* pP	**pP**	**19 15 22.6**	**+1.0**
	comp=Z,11nm,0.8s						
ODBI	**Odobesti**	**81.41**	**346**	⇑*i*P	pP	19 15 22.9	+1.5
DOPR	**Dopca**	**81.45**	**347**	⇓*i*P	**P**	**19 15 10.3**	**+1.5**
KBA	**Koelnbreinsper**	**81.50**	**355**	*e*P	**P**	**19 15 10.1**	**+0.8**
	comp=Z,14nm,0.6s,SNR=4.8						
KBA				*i* pP	**pP**	**19 15 23.2**	**+1.1**
	comp=Z,28nm,0.7s						
FETA	**Feichten**	**81.67**	**357**	*e*PcP	**P**	**19 15 11.2**	**+1.1**
	comp=Z,8.6nm,1.0s						
FETA				*e*pP	**pP**	**19 15 24.1**	**+1.1**
	comp=Z,17nm,0.9s						
TLCR		**81.69**	**344**	⇑*i*P	**P**	**19 15 10.9**	**+0.9**
TLCR		**81.69**	**344**	⇑P	**P**	**19 15 10.9**	**+0.9**
CFR	**Carcaliu**	**81.81**	**345**	⇓*i*P	**P**	**19 15 11.2**	**+0.6**
CFR	**Carcaliu**	**81.81**	**345**	⇓P	**P**	**19 15 11.2**	**+0.6**
SOKA	**Soboth**	**81.81**	**354**	*e*PcP	**P**	**19 15 11.7**	**+0.9**
	comp=Z,13nm,1.1s,SNR=9.6						
SOKA				*e*pP	**pP**	**19 15 24.5**	**+0.9**
	comp=Z,19nm,0.9s						
GANJ	**Ganja**	**81.82**	**331**	P	P	19 15 01.9	-9.0
MLR	**Muntele Rosu**	**81.84**	**346**	P	**P**	**19 15 11.5**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=8.1,slow=7.1,SNR=9.7						
MLR	**Muntele Rosu**	**81.84**	**346**	⇓*i*P	**P**	**19 15 11.4**	**+0.4**
MLR	**Muntele Rosu**	**81.84**	**346**	⇓P	**P**	**19 15 11.4**	**+0.4**
MLR	**Muntele Rosu**	**81.84**	**346**	*e*P	**P**	**19 15 11.9**	**+0.9**
	comp=Z,18nm,1.2s						
ABTA	**Abfaltersbach**	**81.87**	**356**	*e*P	**P**	**19 15 11.5**	**+0.3**
	comp=Z,8.8nm,1.3s						
ABTA				*e*pP	**pP**	**19 15 24.6**	**+0.6**
	comp=Z,12nm,1.0s						
BATI	**Baumata**	**81.91**	**242**	P	**P**	**19 15 12.3**	**+0.7**
	comp=Z,17nm,0.8s,baz=101,slow=5.2,SNR=3.3						
OBKA	**Obir**	**82.00**	**355**	*e*PcP	**P**	**19 15 12.8**	**+0.9**
	comp=Z,1.3nm,0.4s						
OBKA				*i* pP	**pP**	**19 15 25.7**	**+1.0**
	comp=Z,9.2nm,0.6s						
VOIR		**82.02**	**347**	⇓*i*P	**P**	**19 15 12.7**	**+0.8**
VOIR		**82.02**	**347**	⇓P	**P**	**19 15 12.7**	**+0.8**
FUORN	**Ofenpass-Fuorn**	**82.08**	**358**	*e*P	**P**	**19 15 13.0**	**+0.6**
	comp=Z,10nm,0.7s						
ARR	**Arges**	**82.14**	**347**	⇓*i*P	**P**	**19 15 13.9**	**+1.3**
MTUR	**Matau**	**82.22**	**347**	⇑*i*P	pP	19 15 28.4	+2.5
BZS	**Buzias**	**82.28**	**349**	⇓*i*P	**P**	**19 15 13.3**	**+0.2**
BZS	**Buzias**	**82.28**	**349**	⇓P	**P**	**19 15 13.3**	**+0.2**
HARR	**Harsova**	**82.31**	**345**	⇑*i*P	**P**	**19 15 13.9**	**+0.6**
HARR	**Harsova**	**82.31**	**345**	⇑P	**P**	**19 15 13.9**	**+0.6**
TLB	**Topalu**	**82.40**	**345**	⇑*i*P	**P**	**19 15 13.7**	**-0.1**
TLB	**Topalu**	**82.40**	**345**	⇑P	**P**	**19 15 13.7**	**-0.1**
TIRR	**Tirgusor**	**82.46**	**344**	⇓*i*P	**P**	**19 15 14.7**	**+0.6**
TIRR	**Tirgusor**	**82.46**	**344**	⇓P	**P**	**19 15 14.7**	**+0.6**
TIRR	**Tirgusor**	**82.46**	**344**	*e*P	**P**	**19 15 14.0**	**-0.1**
	comp=Z,26nm,0.8s						
SULR		**82.59**	**346**	⇓*i*P	**P**	**19 15 14.7**	**0.0**
GNI	**Garni**	**82.76**	**332**	P	**P**	**19 15 17.4**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=24,slow=18,SNR=2.4						
GNI	**Garni**	**82.76**	**332**	*e*P	**P**	**19 15 14.8**	**-1.2**
GNI				pmax	pmax		
	comp=Z,17nm,1.2s						
LKRN	**Lenkeran, Azer**	**82.81**	**328**	P	**P**	**19 15 14.4**	**-1.6**
HUMR	**Humele**	**82.92**	**347**	⇓*i*P	**P**	**19 15 15.4**	**-1.1**
SGRR	**Singureni**	**83.08**	**346**	⇓*i*P	**P**	**19 15 13.6**	**-3.7**
NAX	**Nakhchivan**	**83.43**	**331**	P	**P**	**19 15 17.5**	**-1.8**
BNI	**Bardonecchia**	**83.69**	**0**	*e*P	**P**	**19 15 22.4**	**+1.7**
BNI				pmax	pmax		
	comp=Z,48nm,1.5s						
BNI	**Bardonecchia**	**83.69**	**0**	*e*P	**P**	**19 15 22.4**	**+1.7**
	comp=Z,48nm,1.5s						
DIVS	**Divibare**	**83.95**	**350**	*e*P	**P**	**19 15 21.8**	**-0.2**
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**84.66**	**228**	P	**P**	**19 15 24.0**	**-1.5**
	comp=Z,2.3nm,0.7s,baz=33,slow=5.8,SNR=16						
ILGA	**Ilgaz**	**84.74**	**340**	*e*P	**P**	**19 15 25.0**	**-1.2**
	comp=Z,43nm,1.4s						
VTS	**Vitosha**	**85.06**	**348**	⇑*i*P	**P**	**19 15 27.6**	**-0.1**
VTS	**Vitosha**	**85.06**	**348**	⇑P	**P**	**19 15 27.6**	**-0.1**
VTS	**Vitosha**	**85.06**	**348**	*e*P	**P**	**19 15 27.4**	**-0.2**
	comp=Z,9.0nm,0.7s						
PDG	**Podgorica**	**85.68**	**351**	⇓*i*P	pP	19 15 43.4	-0.1
SKO	**Skopje**	**85.89**	**349**	*i* P	**P**	**19 15 31.9**	**+0.3**
BR131	**Keskin Array S**	**86.02**	**339**	*e*P	**P**	**19 15 32.7**	**+0.2**
BRTR	**Keskin Array B**	**86.02**	**339**	P	**P**	**19 15 32.8**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=41,slow=3.3,SNR=16						
BR231	**Keskin MP Arra**	**86.10**	**340**	*e*P	**P**	**19 15 33.0**	**+0.2**
PBRG	**Braganca**	**86.21**	**10**	*e*pP	pP	19 15 46.5	+0.3
VAY	**Valandovo**	**86.40**	**348**	*i* P	**P**	**19 15 35.5**	**+1.5**
KRUS	**Krusevo**	**86.51**	**349**	*i* P	**P**	**19 15 35.0**	**+0.2**
POLO	**Lamas de Olo**	**86.52**	**11**	*e*pP	pP	19 15 47.2	-0.6
PVRL	**Vila Real**	**86.62**	**11**	*e*pP	pP	19 15 47.8	-0.4
PTO	**Porto**	**86.65**	**12**	*e*pP	pP	19 15 48.0	-0.3
MVO	**Moncorvo**	**86.81**	**10**	*e*P	**P**	**19 15 35.7**	**-0.5**
MVO				*e*pP	**pP**	**19 15 49.3**	**+0.1**
OHR	**Ohrid**	**86.82**	**349**	*i* P	**P**	**19 15 37.2**	**+1.0**
BIA	**Bitola**	**86.85**	**349**	*i* P	**P**	**19 15 37.3**	**+0.9**
PVIS	**Viseu**	**87.16**	**11**	*e*P	**P**	**19 15 38.6**	**+0.7**
PVIS				*e*pP	**pP**	**19 15 50.2**	**-0.7**
HYB	**Hyderabad**	**87.28**	**295**	*i* P	**P**	**19 15 38.0**	**-0.8**
HYB				*e*pP	**pP**	**19 15 51.5**	**-0.3**
MTE	**Manteigas**	**87.51**	**11**	*e*pP	pP	19 15 52.5	-0.1
PCAS	**Casmilo, Conde**	**87.73**	**12**	*e*P	**P**	**19 15 43.9**	**+3.3**
PCAS				*e*pP	**pP**	**19 15 52.8**	**-0.8**
AS01	**Alice Springs**	**88.06**	**227**	*e*P	**P**	**19 15 41.3**	**-0.9**
AS31	**Alice Springs**	**88.08**	**227**	*e*P	**P**	**19 15 41.6**	**-0.7**
	comp=Z,1.6nm,0.8s						
ASAR	**Alice Springs**	**88.08**	**227**	P	**P**	**19 15 41.6**	**-0.7**
	comp=Z,5.4nm,0.9s,baz=31,slow=4.8,SNR=19						
PMRV	**Marv??o**	**88.48**	**11**	*e*P	**P**	**19 15 44.4**	**+0.2**
ES19	**SONSECA Array**	**88.58**	**8**	*e*P	**P**	**19 15 44.4**	**-0.3**
ESDC	**Sonseca Array**	**88.59**	**8**	P	**P**	**19 15 44.3**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=355,slow=4.5,SNR=5.5						
PMAFR	**Mafra**	**88.71**	**12**	*e*pP	pP	19 15 57.3	-1.0
TIP	**Timpagrande**	**89.14**	**352**	⇓*i*P	**P**	**19 15 46.9**	**-0.4**
PNCL	**Nicolau / Gran**	**89.64**	**12**	*e*pP	pP	19 16 01.9	-0.7
PBDV	**Barranco-do-Ve**	**90.58**	**12**	*e*P	**P**	**19 15 51.5**	**-2.5**
PBDV				*e*pP	**pP**	**19 16 06.3**	**-0.8**
MMAI	**Mount Meron Ar**	**92.02**	**336**	P	**P**	**19 16 00.6**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=310,slow=9.2,SNR=2.9						
STKA	**Stephens Creek**	**92.10**	**217**	P	**P**	**19 16 00.8**	**-0.1**
	comp=Z,4.9nm,1.0s,baz=347,slow=7.5,SNR=6.4						
ASF	**Jabal al Asfar**	**92.43**	**335**	P	**P**	**19 16 02.9**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=66,slow=2.9,SNR=4.8						
WSAR	**Wadi Sarin**	**92.67**	**314**	P	**P**	**19 16 04.1**	**+0.1**
	comp=Z,8.9nm,1.0s,baz=58,slow=6.6,SNR=4.8						
RPN	**Rapa Nui**	**96.37**	**126**	P	**P**	**19 16 22.6**	**+2.0**
	comp=Z,23nm,0.8s,baz=270,slow=12,SNR=2.5						
TORD	**Torodi Ar. Bea**	**115.35**	**5**	PKP	**PKPdf**	**19 21 33.5**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=17,slow=2.9,SNR=2.3						
TORD				PKKPbc	**PKKPbc**	**19 32 09.4**	**+3.7**
	comp=Z,1.5nm,0.8s,baz=160,slow=3.2,SNR=8.1						
DBIC	**Dimbokro**	**121.09**	**13**	PKP	**PKPdf**	**19 21 44.5**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=63,slow=2.3,SNR=2.4						
KMBO	**Kilima Mbogo**	**123.49**	**322**	PKP	**PKPdf**	**19 21 50.5**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=8.1,slow=7.1,SNR=2.1						
CPUP	**Villa Florida**	**126.16**	**88**	PKP	**PKPdf**	**19 21 52.5**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=325,slow=5.3,SNR=2.9						
PLCA	**Paso Flores**	**127.81**	**110**	PKP	**PKPdf**	**19 21 55.5**	**-1.2**
	comp=Z,4.1nm,1.1s,baz=262,slow=7.1,SNR=2.3						
MATP	**Matopo**	**144.49**	**323**	PKP	**PKPab**	**19 22 26.4**	**-0.2**
	comp=Z,9.0nm,0.8s,baz=9.4,slow=3.0,SNR=23						
BOSA	**Boshof**	**153.13**	**322**	PKPbc	**PKPbc**	**19 22 49.9**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=16,slow=3.5,SNR=11						
SYO	**Syowa Base**	**156.64**	**210**	⇑*e*PKPdf	**PKPdf**	**19 22 44.2**	**-1.1**
SNAA	**Sanae**	**159.44**	**171**	PKPab	**PKPab**	**19 23 22.9**	**-4.1**
	comp=Z,3.0nm,0.9s,baz=295,slow=4.0,SNR=5.6						

IDC ***11*** *19:04:44.5±0.7,51.5°N×173.29°W, h0km, mb4.2/27, mb1 4.3/28, mb1mx4.1/79, mbtmp4.2/28, ML4.4/1, Error ellipse: s-maj=21.1km s-min=12.8km az=174.0*
NEIC ***11*** *19:04:46.7±5.2,51.52°N×173.26°W, h15km±31km, mb4.4/7, Error ellipse: s-maj=13.0km s-min=8.4km az=192.0*
ISCJB ***11*** *19:04:48.4±0.5,51.63°N±0.09°×173.19°W±0.08, h37km, mb4.2/32, Error ellipse: s-maj=13.0km s-min=6.6km az=170.2*

ISC 11 19:04:49.8±0.7, 51.5°N±0.1°×173.28°W±0.07, h37km, n67, σ1.8 s 28/61, mb4.2/32, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**9.97**	**56**	*e*Pn	**Pn**	**19 07 08.6**	**-1.7**
OHAK	**Old Harbor**	**12.94**	**56**	Pn	**Pn**	**19 07 50.7**	**-0.2**
KDAK	**Kodiak Island**	**13.48**	**54**	Pn	**Pn**	**19 07 56.2**	**-2.0**
	baz=258,slow=14,SNR=1.5						
IL1	**Eielson Array**	**19.02**	**36**	*e*P	**Pn**	**19 09 09.1**	**0.0**
ILAR	**Eielson Array**	**19.02**	**36**	P	**P**	**19 09 08.5**	**+0.4**
	1.1nm,0.3s,baz=228,slow=8.9,SNR=4.3						
ILB	**Eielson Array**	**19.02**	**36**	*e*P	**P**	**19 09 08.5**	**+0.4**
EGAK	**Eagle**	**21.20**	**39**	*e*P	**P**	**19 09 31.2**	**-0.6**
	29nm,0.6s						
DAWY	**Dawson**	**21.66**	**42**	*e*P	**P**	**19 09 35.3**	**-1.4**
	27.2nm,0.8s						
WHY	**Whitehorse**	**22.96**	**52**	*e*P	**P**	**19 09 47.9**	**-2.8**
	5.8nm,0.9s						
INK	**Inuvik**	**25.38**	**34**	P	**P**	**19 10 12.8**	**-0.1**
	4.7nm,0.5s,baz=234,slow=9.1,SNR=4.3						
INK	**Inuvik**	**25.38**	**34**	*e*P	**P**	**19 10 09.3**	**-3.6**
	17nm,1.2s						
ASAJ	**Asahikawa**	**30.16**	**273**	P	**P**	**19 10 56.2**	**+0.1**
	6.2nm,0.8s,baz=30,slow=11,SNR=2.6						
ASAJ	**Asahikawa**	**30.16**	**273**	*e*P	**P**	**19 10 52.0**	**-4.0**
	9.0nm,0.9s						
TIXI	**Tiksi**	**32.22**	**330**	P	**P**	**19 11 14.4**	**+0.5**
	3.6nm,1.0s,baz=66,slow=4.7,SNR=3.2						
TIXI				PcP	**PcP**	**19 14 02.8**	**+1.3**
	0.7nm,0.5s,baz=20,slow=1.9,SNR=2.4						
YKA	**Yellowknife Ar**	**32.60**	**47**	P	**P**	**19 11 17.7**	**+0.4**
	0.5nm,0.5s,baz=280,slow=8.1,SNR=3.1						
KDKW	**Coast Env Seat**	**32.73**	**76**	*e*P	**P**	**19 11 21.1**	**+2.5**
GPW	**Glacier Peak**	**33.22**	**75**	*e*P	**P**	**19 11 25.9**	**+2.7**
H11N2	**WAKE ISLAND Hy**	**35.36**	**214**	T	T	19 49 48.6	
	baz=20						
H11N3	**WAKE ISLAND Hy**	**35.37**	**213**	T	T	19 49 53.5	
	baz=20						
H11N1	**WAKE ISLAND Hy**	**35.38**	**214**	T	T	19 49 53.8	
	baz=20						
NEW	**Newport**	**35.56**	**73**	P	**P**	**19 11 43.4**	**+0.1**
	1.6nm,0.6s,baz=299,slow=13						
H11S1	**WAKE ISLAND Hy**	**36.56**	**213**	T	T	19 51 11.7	
	baz=20						
H11S2	**WAKE ISLAND Hy**	**36.58**	**213**	T	T	19 51 17.3	
	baz=20						
H11S3	**WAKE ISLAND Hy**	**36.58**	**213**	T	T	19 51 13.5	
	baz=20						
NVAR	**Mina Array Bea**	**40.09**	**87**	P	**P**	**19 12 22.7**	**+0.9**
	1.1nm,0.8s,baz=290,slow=11,SNR=2.4						
PDAR	**Pinedale Array**	**42.94**	**76**	P	**P**	**19 12 44.3**	**-0.8**
	2.2nm,0.9s,baz=320,slow=3.9,SNR=2.0						
EL2	**El Mirage 2**	**43.03**	**91**	*e*P	P	19 12 40.8	-4.9
KSRS	**Korea Array**	**43.08**	**275**	P	**P**	**19 12 45.5**	**-0.4**
	3.0nm,1.0s,baz=52,slow=7.6,SNR=2.8						
KSAR	**Wonju Array Be**	**43.11**	**275**	P	**P**	**19 12 45.5**	**-0.7**
HWB	**Hans Werner Br**	**44.39**	**92**	*e*P	**P**	**19 12 55.4**	**-1.1**
RSSD	**Black Hills**	**45.47**	**71**	*e*P	**P**	**19 13 04.9**	**-0.4**
SONA0	**Songino Array**	**49.62**	**299**	*e*P	**P**	**19 13 38.6**	**+1.3**
SONM	**Songino Array**	**49.62**	**299**	P	**P**	**19 13 38.6**	**+1.3**
	1.6nm,0.6s,baz=49,slow=6.3,SNR=2.7						
LTX	**Lajitas**	**55.20**	**85**	*e*P	**P**	**19 14 19.1**	**+0.3**
TXAR	**Lajitas Array**	**55.20**	**85**	P	**P**	**19 14 19.1**	**+0.2**
	0.9nm,0.7s,baz=309,slow=7.6,SNR=2.0						
ARA0	**ARCESS Array S**	**58.46**	**352**	*e*P	**P**	**19 14 41.2**	**0.0**
ARCES	**ARCESS Array B**	**58.46**	**352**	P	**P**	**19 14 41.2**	**0.0**
	2.7nm,0.7s,baz=7.6,slow=8.2,SNR=2.4						
KURK	**Kurchatov**	**61.35**	**316**	*e*P	**P**	**19 15 02.2**	**+0.8**
KURBB	**Kurchatov Arra**	**61.45**	**316**	P	**P**	**19 15 02.2**	**+0.1**
	1.1nm,0.6s,baz=43,slow=6.5,SNR=2.8						
MK32	**Makanchi Array**	**62.58**	**311**	*e*P	**P**	**19 15 09.8**	**+0.1**
MKAR	**Makanchi Array**	**62.58**	**311**	P	**P**	**19 15 09.8**	**+0.1**
	1.7nm,0.9s,baz=45,slow=6.3,SNR=2.5						
BVAR	**Borovoye Array**	**62.93**	**323**	P	**P**	**19 15 12.5**	**+0.6**
	3.4nm,0.5s,baz=52,slow=5.9,SNR=6.5						
FIA0	**FINESS Array S**	**66.31**	**350**	*e*P	**P**	**19 15 33.7**	**-0.1**
FINES	**FINESS Array B**	**66.31**	**350**	P	**P**	**19 15 33.7**	**-0.1**
	1.3nm,0.7s,baz=15,slow=5.9,SNR=2.7						
NB200	**NORSAR Array S**	**67.71**	**358**	*e*P	**P**	**19 15 42.8**	**0.0**
NOA	**NORSAR Array B**	**67.71**	**358**	P	**P**	**19 15 42.8**	**0.0**
	1.5nm,0.9s,baz=17,slow=6.5,SNR=2.7						
HFS	**Hagfors**	**68.54**	**356**	P	**P**	**19 15 47.6**	**-0.4**
	4.4nm,0.9s,baz=40,slow=2.5,SNR=6.0						
AKTO	**Aktyubinsk**	**69.47**	**328**	P	**P**	**19 15 54.5**	**+0.6**
	7.5nm,0.8s,baz=27,slow=6.6,SNR=6.8						
LSA	**Lhasa**	**70.60**	**293**	*e*P	**P**	**19 16 00.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**74.41**	**280**	P	**P**	**19 16 24.8**	**+0.8**
	1.4nm,0.7s,baz=18,slow=5.6,SNR=2.6						
AKASG	**Malin Array Be**	**76.36**	**345**	P	**P**	**19 16 34.0**	**-0.6**
	1.5nm,0.4s,baz=17,slow=6.1,SNR=5.3						
AKBB	**Malin Array Si**	**76.36**	**345**	*e*P	**P**	**19 16 31.8**	**-2.9**
	0.3nm,0.6s						
DPC	**Dobruska-Polom**	**78.16**	**354**	*e*P	**P**	**19 16 45.5**	**+0.7**
NKC	**Novy Kostel**	**78.49**	**356**	*e*P	**P**	**19 16 47.9**	**+1.3**
GOPC	**GO Pecny, Ondr**	**78.69**	**355**	*e*P	**P**	**19 16 48.1**	**+0.4**
KHC	**Kasperske Hory**	**79.54**	**355**	*e*P	**P**	**19 16 53.2**	**+0.8**
GERES	**GERESS Array B**	**79.82**	**355**	P	**P**	**19 16 54.4**	**+0.4**
	1.1nm,0.6s,baz=20,slow=4.7,SNR=4.3						
KBZ	**Khabaz**	**80.07**	**334**	P	**P**	**19 16 56.1**	**+0.9**
	4.5nm,0.8s,baz=55,slow=3.7,SNR=4.5						
GEYT	**Alibeck**	**80.22**	**321**	P	**P**	**19 16 56.8**	**+0.6**
	2.9nm,1.0s,baz=351,slow=7.3,SNR=3.6						
WR1	**Warramunga Arr**	**84.62**	**228**	*e*P	**P**	**19 17 18.9**	**-0.4**
	5.7nm,1.1s						
WRA	**Warramunga Arr**	**84.62**	**228**	P	**P**	**19 17 18.9**	**-0.4**
	1.0nm,0.7s,baz=32,slow=5.8,SNR=3.1						
BR101	**Keskin Array S**	**86.12**	**340**	*e*P	**P**	**19 17 28.4**	**+1.5**
BRTR	**Keskin Array B**	**86.12**	**340**	P	**P**	**19 17 28.4**	**+1.5**
	1.5nm,0.8s,baz=63,slow=2.9,SNR=4.0						
ASAR	**Alice Springs**	**88.03**	**227**	P	**P**	**19 17 36.9**	**+0.9**
	1.4nm,0.8s,baz=28,slow=4.4,SNR=3.3						
ESDC	**Sonseca Array**	**88.68**	**8**	P	**P**	**19 17 39.0**	**-0.1**
	0.6nm,0.8s,baz=346,slow=3.5,SNR=3.0						
MATP	**Matopo**	**144.58**	**323**	PKP	**PKPdf**	**19 24 21.9**	**-0.5**
	7.5nm,0.9s,baz=58,slow=3.8,SNR=3.4						
BOSA	**Bo

SVW2	Sparrevohn	2.57	247	*e*Pn	Pn	19 13 02.8	+0.7
TT01	Tatalina	2.57	289	*e*Pn	Pn	19 13 02.9	+0.6
DIV	Divide	2.58	112	*e*Pn	Pn	19 13 02.0	-0.4
HARP	HAARP	2.60	82	*e*Pn	Pn	19 13 03.7	+1.0
CCB	Clear Creek Bu	2.80	26	*e*Pn	Pn	19 13 06.0	+0.6
HDA	Harding Lake	2.81	35	*e*Pn	Pn	19 13 06.2	+0.7
MLY	Manley	2.87	360	*e*Pn	Pn	19 13 07.3	+1.0
EYAK	Cordova Ski Ar	2.89	122	P	Pn	19 13 08.2	+1.7
PS08	TAPS Pump Stn8	2.95	35	*e*Pn	Pn	19 13 08.2	+0.8
COLA	College	3.00	24	*e*Pn	Pn	19 13 08.8	+0.9
MDM	Murphy Dome	3.01	21	*e*Pn	Pn	19 13 09.0	+0.9
RIDG	Independe'e Rid	3.10	57	P	Pn	19 13 11.2	+1.6
ILAR	Eielson Array	3.12	32	P	Pn	19 13 10.5	+0.9
	16nm,0.3s,baz=216,slow=14,SNR=257						
ILAR				S	Sn	19 13 44.4	-1.3
	22nm,0.3s,baz=219,slow=20,SNR=13						
ILB	Eielson Array	3.12	32	*e*Pn	Pn	19 13 10.4	+0.7
IL1	Eielson Array	3.12	32	*e*Pn	Pn	19 13 09.8	+0.2
BMRM	Bremner River	3.16	110	*e*Pn	Pn	19 13 09.4	-0.9
GLM	Gilmore Dome	3.19	26	*e*Pn	Pn	19 13 11.7	+1.1
MENT	Mentasta	3.32	74	*e*Pn	Pn	19 13 12.8	+0.3
DOT	Dot Lake	3.38	61	*e*Pn	Pn	19 13 14.0	+0.8
RAGM	Ragged Mountai	3.42	119	*e*Pn	Pn	19 13 15.9	+2.2
CDD	Cape Douglas	3.56	205	P	Pn	19 13 18.1	+2.3
PS06	TAPS Pump Stn6	3.72	6	*e*Pn	Pn	19 13 19.2	+1.4
KHIT	Khitrov Hills	3.99	112	P	Pn	19 13 21.4	-0.2
IM3	Indian Mountai	4.05	342	*e*Pn	Pn	19 13 23.6	+1.3
BCA3	Beaver Creek A	4.22	74	*e*Pn	Pn	19 13 24.7	+0.1
ISLE	Juniper Island	4.32	108	P	Pn	19 13 25.2	-0.9
KDAK	Kodiak Island	4.51	193	P	Pn	19 13 28.0	-0.5
	1.9nm,0.3s,baz=123,slow=6.0,SNR=11						
KDAK				S	Sn	19 14 15.9	-3.6
	2.5nm,0.3s,baz=57,slow=17,SNR=3.8						
KDAK	Kodiak Island	4.51	193	*e*Pn	Pn	19 13 28.3	-0.3
MESA	MESA	4.69	111	P	Pn	19 13 30.8	-0.4
FYU	Fort Yukon	5.01	26	*e*Pn	Pn	19 13 36.9	+1.5
EGAK	Eagle	5.01	54	P	Pn	19 13 35.7	+0.3
COLD	Coldfoot	5.08	2	*e*Pn	Pn	19 13 38.5	+2.1
DAWY	Dawson	5.47	65	*e*Pn	Pn	19 13 42.2	+0.4
PCA	Pinnacle	5.47	108	*e*Pn	Pn	19 13 41.4	-0.5
BM3	Burnt Mountain	5.87	24	*e*Pn	Pn	19 13 48.6	+1.4
YUK5	Granite Creek	6.21	94	P	Pn	19 13 50.8	-1.2
HYT	Haines Junctio	6.46	96	*e*Pn	Pn	19 13 54.2	-1.2
TOLK	Toolik Lake Re	6.51	4	*e*Pn	Pn	19 13 58.9	+2.9
WHY	Whitehorse	7.74	94	*e*Pn	Pn	19 14 12.3	-0.5
SKAG	Skagway	7.99	103	*e*Pn	Pn	19 14 15.6	-0.5
INK	Inuvik	9.45	42	P	Pn	19 14 34.9	-1.1
	0.4nm,0.3s,baz=257,slow=10,SNR=6.8						
INK				S	Sn	19 16 18.5	-1.8
	0.5nm,0.3s,baz=285,slow=18,SNR=3.8						
YKA	Yellowknife Ar	16.63	73	P	Pn	19 16 11.6	+0.4
	0.0nm,0.3s,baz=286,slow=11,SNR=3.6						
YKB5	Yellowknife Ar	16.63	73	*e*Pn	Pn	19 16 09.9	-1.2
RES	Resolute Bay	22.87	24	P	P	19 17 19.4	-0.5
	0.5nm,0.5s,baz=245,slow=14,SNR=2.4						
NEW	Newport	23.33	111	P	P	19 17 26.3	+1.5
	0.9nm,0.5s,baz=285,slow=12,SNR=3.2						
SEY	Seymchan	25.52	297	P	P	19 17 42.0	-2.4
	0.2nm,0.3s,baz=72,slow=20,SNR=2.5						
NVAR	Mina Array Bea	30.93	125	P	P	19 18 35.0	+1.9
	0.2nm,0.4s,baz=316,slow=7.6,SNR=3.6						
PDAR	Pinedale Array	30.95	110	P	P	19 18 35.3	+2.1
	0.3nm,0.5s,baz=300,slow=3.2,SNR=4.2						
PT2	Point Dume	34.66	129	*e*P	P	19 19 04.4	-0.9
MTLAZ	Mount Logan	34.75	120	*e*P	P	19 19 09.7	+3.3
GCAZ	Grand Canyon	35.45	119	*e*P	P	19 19 09.7	-2.7
PFO	Pinyon Flats O	35.88	127	P	P	19 19 17.6	+1.6
	1.5nm,0.8s,baz=349,slow=10,SNR=2.2						
PFO				LR	LR	19 33 42.5	
	comp=Z,70nm,21.9s,baz=359,slow=36						
LTX	Lajitas	44.79	115	*e*P	P	19 20 31.6	+2.0
TXAR	Lajitas Array	44.79	115	P	P	19 20 31.6	+2.0
	0.2nm,0.7s,baz=312,slow=4.1,SNR=3.4						
SONA0	Songino Array	54.41	306	*e*P	P	19 21 40.0	-2.5
SONM	Songino Array	54.41	306	P	P	19 21 39.9	-2.5
	0.2nm,0.5s,baz=42,slow=9.3,SNR=3.7						
EKA	Eskdalemuir Ar	60.10	21	P	P	19 22 22.9	+0.7
	0.5nm,0.6s,baz=346,slow=5.1,SNR=3.5						
MK32	Makanchi Array	63.41	322	*e*P	P	19 22 44.8	+0.2
MKAR	Makanchi Array	63.41	322	P	P	19 22 44.8	+0.2
	0.2nm,0.5s,baz=26,slow=6.5,SNR=4.4						
AKASG	Malin Array Be	67.47	0	P	P	19 23 10.5	-0.2
	0.1nm,0.3s,baz=359,slow=6.5,SNR=2.8						

IDC ***11*** *19:22:00.1±0.8,51.72N×173.23W,h0km,mb3.9/25, mb1 4.1/27,mb1mx3.9/76,mbtmp3.9/27,ML3.3/2, Error ellipse: s-maj=23.3km s-min=12.4km az=178.0*

ISCJB ***11*** *19:22:03.6±0.6,51.62N±0.10×173.20W±0.07,h37km, mb3.9/27, Error ellipse: s-maj=13.9km s-min=5.7km az=176.1*

NEIC ***11*** *19:22:06.5±0.7,51.73N×173.27W,h46km±5km, ML3.3(AEIC), Error ellipse: s-maj=12.7km s-min=4.5km az=175.0*

ISC 11 19:22:05.6±0.7,**51.7N**±0.1×**173.28W**±0.05,**h37**km,**n49,**
σ0**91**/42,**mb3.9**/27,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	Korovin Flat P	0.77	319	P	Pn	19 22 20.5	+0.7
KOKL	Mount Kliuchef	0.84	318	P	Pn	19 22 21.5	+0.5
KOWE	Korovin West	0.90	318	P	Pn	19 22 22.7	+1.0
GSTD	Great Sitkin T	1.81	282	P	Pn	19 22 35.5	+1.2
ADAG	Mount Adagdak	2.08	279	P	Pn	19 22 38.4	+0.6
TAFP	Tanaga Falls P	2.93	276	P	Pn	19 22 50.0	+0.5
OKAK	Okmok	3.54	56	P	Pn	19 22 58.5	+0.6
OKWE	Okmok W'ng Wal	3.55	58	P	Pn	19 22 59.8	+1.7
OKRE	Okmok R'deer P	3.61	58	P	Pn	19 23 01.5	+2.5
UNV	Unalaska Valle	4.64	60	P	Pn	19 23 14.6	+1.6
KDAK	Kodiak Island	13.39	55	Pn	Pn	19 25 11.1	-1.6
	0.3nm,0.3s,baz=242,slow=15,SNR=2.2						
PETK	Petropavlovsk-	17.71	286	P	Pn	19 26 09.4	+0.4
	0.1nm,0.3s,baz=82,slow=17,SNR=4.5						
ILAR	Eielson Array	18.89	36	P	P	19 26 21.6	-0.9
	0.4nm,0.3s,baz=229,slow=9.0,SNR=43						
SEY	Seymchan	21.39	315	P	P	19 26 49.8	+0.2
	0.8nm,0.6s,baz=113,slow=15,SNR=3.3						
MA2	Magadan	21.53	306	P	P	19 26 52.2	+1.1
	1.0nm,0.3s,baz=128,slow=18,SNR=3.0						
INK	Inuvik	25.24	34	P	P	19 27 27.4	-0.2
	1.4nm,0.6s,baz=236,slow=0.8,SNR=6.4						
TIXI	Tiksi	32.08	330	P	P	19 28 28.5	+0.1
	0.9nm,0.3s,baz=110,slow=10,SNR=3.6						
YKA	Yellowknife Ar	32.49	48	P	P	19 28 31.1	-1.0
	0.2nm,0.7s,baz=274,slow=9.0,SNR=4.2						
KLR	Kul'dur	34.38	288	P	P	19 28 49.5	+0.7
	0.1nm,0.4s,baz=40,slow=7.9,SNR=3.0						
H11N2	WAKE ISLAND Hy	35.49	213	T	T	20 07 04.3	
	baz=21,slow=76,SNR=3.8						
H11N3	WAKE ISLAND Hy	35.50	213	T	T	20 06 59.2	
	baz=21,slow=76,SNR=6.0						
H11N1	WAKE ISLAND Hy	35.51	213	T	T	20 07 03.1	
	baz=21,slow=76,SNR=3.6						
NEW	Newport	35.52	73	P	P	19 28 59.0	+0.3
	1.1nm,0.6s,baz=321,slow=6.5,SNR=2.4						
USRK	Ussuriysk Ar.	36.65	280	P	P	19 29 07.6	-0.6
	2.9nm,1.0s,baz=56,slow=11,SNR=2.9						
H11S1	WAKE ISLAND Hy	36.69	213	T	T	20 08 18.8	
	baz=19						
H11S2	WAKE ISLAND Hy	36.71	213	T	T	20 08 19.9	
	baz=19						
H11S3	WAKE ISLAND Hy	36.71	213	T	T	20 08 18.4	
	baz=19						
NVAR	Mina Array Bea	40.09	87	P	P	19 29 37.8	+0.2
	1.5nm,1.0s,baz=288,slow=7.9,SNR=4.7						
PDAR	Pinedale Array	42.91	76	P	P	19 30 00.6	0.0
	1.3nm,0.9s,baz=292,slow=4.6,SNR=9.2						
SONM	Songino Array	49.54	299	P	P	19 30 53.1	+0.5
	0.5nm,0.4s,baz=51,slow=8.2,SNR=5.5						
TXAR	Lajitas Array	55.19	85	P	P	19 31 33.5	-1.1
	0.6nm,0.8s,baz=121,slow=4.8,SNR=3.7						
ARCES	ARCESS Array B	58.30	352	P	P	19 31 55.3	-0.7
	2.8nm,0.9s,baz=43,slow=4.1,SNR=2.3						
KURK	Kurchatov	61.23	316	P	P	19 32 16.8	+0.5
KURBB	Kurchatov Arra	61.34	316	P	P	19 32 16.8	-0.2
	0.7nm,0.6s,baz=44,slow=6.6,SNR=6.7						
MKAR	Makanchi Array	62.47	311	P	P	19 32 24.2	-0.6
	0.4nm,0.6s,baz=47,slow=6.4,SNR=9.2						
BVAR	Borovoye Array	62.80	323	P	P	19 32 27.0	+0.1
	2.0nm,0.5s,baz=58,slow=6.8,SNR=11						
TGY	Tagaytay City	64.07	260	P	P	19 32 37.5	+1.6
	129nm,0.5s,baz=357,slow=17,SNR=3.3						
FINES	FINESS Array B	66.15	350	P	P	19 32 47.9	-0.7
	1.0nm,0.9s,baz=328,slow=6.8,SNR=3.9						
TAOE	Nuku Hiva Isla	66.72	144	*e*LR	LR	19 32 47.2	
	647nm,26.1s						
HFS	Hagfors	68.38	356	P	P	19 33 02.0	-0.7
	3.0nm,0.9s,baz=344,slow=3.1,SNR=6.2						
AKTO	Aktyubinsk	69.33	328	P	P	19 33 08.7	-0.1
	3.7nm,0.7s,baz=42,slow=7.9,SNR=14						
CMAR	Chiang Mai Arr	74.38	280	P	P	19 33 39.7	+0.1
	0.8nm,0.8s,baz=32,slow=6.9,SNR=6.7						
AKASG	Malin Array Be	76.20	345	P	P	19 33 48.6	-1.0
	0.8nm,0.4s,baz=17,slow=6.1,SNR=5.6						
GERES	GERESS Array B	79.65	355	P	P	19 34 09.3	+0.4
	0.4nm,0.6s,baz=18,slow=4.8,SNR=5.2						
KBZ	Khabaz	79.92	334	P	P	19 34 11.0	+0.7
	2.0nm,0.8s,baz=37,slow=4.8,SNR=4.1						
GEYT	Alibeck	80.09	321	P	P	19 34 11.7	+0.4
	1.0nm,0.9s,baz=29,slow=3.3,SNR=3.3						
BRTR	Keskin Array B	85.97	340	P	P	19 34 42.5	+0.6
	0.8nm,0.8s,baz=54,slow=2.3,SNR=4.3						
ASAR	Alice Springs	88.14	227	P	P	19 34 51.2	-1.1
	0.7nm,0.8s,baz=52,slow=2.1,SNR=6.3						
MATP	Matopo	144.45	323	PKP	PKPab	19 41 36.1	-0.1
	1.4nm,0.6s,baz=358,slow=2.9,SNR=5.6						

ISCJB ***11*** *19:32:56.8±0.5,53.9N±0.1×170.93W±0.09,h200km, mb3.3/11, Error ellipse: s-maj=14.0km s-min=7.3km az=178.6*

NEIC ***11*** *19:32:56.5±0.0,54.71N×171.44W,h26km,ML2.9(AEIC), After AEIC.*

IDC ***11*** *19:32:56.0±4.5,53.53N×170.66W,h190km±42km, mb3.1/12,mb1 3.4/14,mb1mx3.1/75,mbtmp3.7/14,MS3.3/2, Ms1 3.3/2,ms1mx2.9/20, Error ellipse: s-maj=26.9km s-min=14.5km az=5.0*

ISC 11 19:32:57.8±0.7,**53.8N**±0.1×**170.74W**±0.06,**h200**km,**n27,**
σ2**00**/29,**mb3.4**/12,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKAK	Okmok	1.44	99	P	Pn	19 33 31.4	+0.5
OKWE	Okmok W'ng Wal	1.53	102	P	Pn	19 33 32.5	+0.7
OKRE	Okmok R'deer P	1.56	100	P	Pn	19 33 32.9	+0.8
OKSP	Okmok Steeple	1.57	110	P	Pn	19 33 32.3	+0.1
OKTU	Okmok Mt. Tuli	1.67	104	P	Pn	19 33 33.7	+0.6
MSOM	Makushin Julie	2.25	89	P	Pn	19 33 40.3	+1.4
MSOM				S	Sn	19 34 13.5	+2.7
MSW	Makushin Switc	2.35	86	P	Pn	19 33 41.3	+1.4
MSW				S	Sn	19 34 15.8	+3.0
MREP	Makushin Rep't	2.37	89	P	Pn	19 33 41.6	+1.3
MTBL	Makushin Table	2.41	85	P	Pn	19 33 42.5	+1.7
UNV	Unalaska Valle	2.51	88	P	Pn	19 33 42.8	+1.1
KOFP	Korovin Flat P	2.55	234	P	Pn	19 33 42.1	-0.3
ISLZ	Isanotski Laza	4.22	75	P	Pn	19 34 03.6	+1.3
KDAK	Kodiak Island	10.95	62	P	Pn	19 35 27.4	-1.7
	1.3nm,0.3s,baz=164,slow=2.4,SNR=26						
KDAK				S	Sn	19 37 24.1	-6.9
	0.2nm,0.3s,baz=300,slow=20,SNR=3.2						
ILAR	Eielson Array	16.26	38	P	P	19 36 35.0	+0.7
	0.8nm,0.3s,baz=238,slow=9.1,SNR=73						
SEY	Seymchan	21.08	310	P	P	19 37 28.2	+1.9
	0.3nm,0.3s,baz=111,slow=15,SNR=2.9						
INK	Inuvik	22.61	36	P	P	19 37 42.5	+1.3
	2.2nm,0.4s,baz=237,slow=6.1,SNR=17						
INK				LR	LR	19 46 47.2	
	comp=Z,75nm,19.5s,baz=100,slow=36						
YKA	Yellowknife Ar	29.93	51	P	P	19 38 46.9	+0.3
	0.1nm,0.3s,baz=274,slow=9.2,SNR=6.5						
YBH	Yreka Blue Hor	33.82	91	P	P	19 39 19.3	-1.6
	0.4nm,0.3s,baz=281,slow=5.2,SNR=2.8						
USRK	Ussuriysk Ar.	37.81	279	P	P	19 39 55.8	+1.2
	1.7nm,0.7s,baz=31,slow=3.4,SNR=2.7						
MJAR	Matsushiro Arr	38.96	265	LR	LR	20 00 12.7	
	comp=Z,36nm,18.8s,baz=50,slow=42						
PDAR	Pinedale Array	40.95	90	P	P	19 40 20.8	-0.1
	0.3nm,0.5s,baz=276,slow=4.0,SNR=3.9						
ULM	Lac du Bonnet	44.21	63	P	P	19 40 46.4	-0.3
	0.6nm,0.3s,baz=296,slow=3.7,SNR=3.4						
TXAR	Lajitas Array	53.55	89	P	P	19 41 57.7	-0.3
	0.3nm,0.6s,baz=289,slow=3.8,SNR=4.7						
ZALV	Zalesovo Beam	55.79	316	P	P	19 42 14.5	+0.9
	0.4nm,0.6s,baz=84,slow=5.9,SNR=2.5						
HFS	Hagfors	66.33	358	P	P	19 43 24.7	+0.4
	1.5nm,0.8s,baz=79,slow=7.5,SNR=4.9						
WRA	Warramunga Arr	87.28	230	P	P	19 45 18.7	-3.0
	0.4nm,1.0s,baz=37,slow=5.6,SNR=3.0						
ASAR	Alice Springs	90.71	229	P	P	19 45 35.6	-2.0
	0.2nm,0.6s,baz=13,slow=5.2,SNR=4.8						

ISK ***11*** *19:46:47.6,38.91N×43.57E,h5km,ML2.7/7*

ISCJB ***11*** *19:46:48.9±0.5,38.92N±0.02×43.56E±0.04,h4km±5km, Error ellipse: s-maj=4.7km s-min=3.3km az=14.9*

DDA ***11*** *19:46:48.1,38.92N×43.59E,h7km,Ml2.9*

CSEM ***11*** *19:46:48.5±0.2,38.93N×43.59E,h8km,ML2.7, Error ellipse: s-maj=5.2km s-min=3.6km az=91.0*

ISC 11 19:46:48.6±1.1,**38.91N**±0.02×**43.60E**±0.02,**h9**km±9km,
n36,σ0**95**/62,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERCV	ERCIS-VAN	0.23	298	PG	Pg	19 46 52.9	-0.4
ERCV	ERCIS-VAN	0.23	298	*e*Pg	Pg	19 46 52.9	-0.4
CLDR	Caldiran	0.34	47	PG	Pg	19 46 55.0	-0.4
CLDR				SG	Sb	19 47 01.5	-1.2
CLDR	Caldiran	0.34	47	*i* P	Pg	19 46 55.0	-0.4
CLDR				*i* S	Sb	19 47 01.4	-1.2
CLDR	Caldiran	0.34	47	P	Pg	19 46 55.0	-0.4
CLDR				S	Sb	19 47 01.4	-1.2
VANB	Van	0.36	207	PG	Pb	19 46 57.1	0.0
VANB	Van	0.36	207	*e*Pg	Pb	19 46 57.1	0.0
TVAN	Van	0.41	201	*i* P	Pg	19 46 57.1	+0.4
TVAN				*i* S	Sb	19 47 04.5	-0.1
TVAN	Van	0.41	201	P	Pg	19 46 57.1	+0.4
DYDN	Diyadin	0.63	7	*i* P	Pb	19 47 01.0	-1.0
DYDN				*i* S	Sb	19 47 11.2	+0.1
DYDN	Diyadin	0.63	7	P	Pb	19 47 01.0	-1.0
DYDN				S	Sb	19 47 11.2	+0.1
ADCV	BITLIS_Adilcev	0.69	262	*i* P	Pg	19 47 01.4	-0.5
ADCV				*i* S	Sb	19 47 11.7	-0.8
ADCV	BITLIS_Adilcev	0.69	262	P	Pg	19 47 01.4	-0.5
ADCV				S	Sb	19 47 11.7	-0.8
GEVA	Gevas	0.73	215	*i* P	Pg	19 47 02.0	-0.7
GEVA				*i* S	Sb	19 47 13.7	-0.1
GEVA	Gevas	0.73	215	P	Pg	19 47 02.0	-0.7
GEVA				S	Sb	19 47 13.7	-0.1
TUTA	Tutak	0.78	309	*i* P	Pg	19 47 02.6	-1.1
TUTA				*i* S	Sg	19 47 13.7	-0.2
TUTA	Tutak	0.78	309	P	Pg	19 47 02.6	-1.1
TUTA				S	Sg	19 47 13.7	-0.2
AGRB	Hanur-Agry	0.81	325	PG	Pg	19 47 03.9	-0.4
AGRB				SG	Sb	19 47 15.9	-0.2
AGRB	Hanur-Agry	0.81	325	*e*Pg	Pg	19 47 03.9	-0.4
AGRB				*e*Sg	Sb	19 47 15.9	-0.2
BASK	Baskale_VAN	0.92	159	*i* P	Pg	19 47 05.4	-0.9
BASK				*i* S	Sn	19 47 21.6	+0.3
BASK	Baskale_VAN	0.92	159	P	Pg	19 47 05.4	-0.9
BASK				S	Sn	19 47 21.5	+0.3
IGDI	IGDIR	1.02	21	*i* P	Pb	19 47 08.1	-0.4
IGDI				*i* S	Sn	19 47 25.2	+1.4
EKAR	Karacoban	1.24	287	*i* P	Pg	19 47 11.3	-1.1
EKAR				*i* S	Sn	19 47 30.9	+1.6
EKAR	Karacoban	1.24	287	P	Pg	19 47 11.3	-1.1
EKAR				S	Sn	19 47 30.9	+1.6
GURO	Guroymak-BITLI	1.27	254	PN	Pn	19 47 12.1	-0.6
GURO				SN	Sn	19 47 30.7	+0.7
GURO	Guroymak-BITLI	1.27	254	*e*Pn	Pn	19 47 12.1	-0.6
GURO				*e*Sn	Sn	19 47 30.7	+0.7
EATA	Eleskirt	1.28	318	*i* P	Pg	19 47 12.2	-0.9
EATA				*i* S	Sn	19 47 30.6	+0.3
EATA	Eleskirt	1.28	318	P	Pg	19 47 12.2	-0.9
EATA				S	Sn	19 47 30.6	+0.3
DIGO	Kars	1.51	354	*i* P	Pb	19 47 16.2	-0.7
DIGO				*i* S	Sg	19 47 41.7	+4.5
DIGO	Kars	1.51	354	P	Pb	19 47 16.2	-0.7
SRTM	Siirt_Merkez	1.60	236	*i* P	Pb	19 47 18.1	-0.3
SRTM				*i* S	Sb	19 47 38.5	-0.3
SRTM	Siirt_Merkez	1.60	236	P	Pb	19 47 18.1	-0.3
SRTM				S	Sb	19 47 38.5	-0.3
SIRT	Sirnak	1.68	213	PN	Pb	19 47 19.0	-0.7
SIRT	Sirnak	1.68	213	*e*Pn	Pb	19 47 19.0	-0.7
SENK	Senkaya-Erzuru	1.91	330	PN	Pn	19 47 22.1	+0.7
SENK	Senkaya-Erzuru	1.91	330	*e*Pn	Pn	19 47 22.1	+0.7

KRNET ***11*** *19:48:23.4±0.1,41.94N×72.30E,h10km,mb2.4*

SOME ***11*** *19:48:23.2,41.97N×72.23E,h5km*

NNC ***11*** *19:48:25.2±2.2,42.02N×72.15E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=19.4km s-min=14.0km az=102.0*

KNET ***11*** *19:48:27.1±0.9,42.02N×72.51E,h14km±3km,ml1.9, Error ellipse: s-maj=12.6km s-min=3.4km az=4.0*

ISC 11 19:48:23.5±1.1,**41.99N**±0.03×**72.27E**±0.02,**h5**km±11km,
n30,σ1**913**/54,**29C-16D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	Arkit	0.30	231	⇓*i*P	Pg	19 48 28.8	-0.5
	baz=36						
ARK				⇓*i*S	Sg	19 48 33.6	+0.3
	baz=36						
TOKL	Toktogul	0.45	96	⇑*i*P	Pg	19 48 31.8	-0.3
	baz=90						
TOKL				⇑*i*S	Sg	19 48 38.6	+0.6
	baz=90						
MNAS	Manas	0.53	19	⇑P	Pg	19 48 34.6	+0.9
	2.5nm,0.2s						
MNAS				⇓S	Sb	19 48 42.7	-0.8
	10.0nm,0.3s						
MNAS	Manas	0.53	19	⇑*i*P	Pg	19 48 34.6	+0.9
	baz=16						
MNAS				⇑*i*S	Sb	19 48 42.5	-1.0
	baz=16						
ARSB	Arslanbob	0.85	141	⇓*i*P	Pg	19 48 38.3	-1.5
	baz=40						
ARSB				⇓*i*S	Sg	19 48 49.7	-1.1
	baz=40						
AML	Almayashu	1.07	82	⇓P	Pb	19 48 43.6	-1.1
	6.9nm,0.1s,SNR=14						
AML				⇑S	Sb	19 48 58.2	-0.9
	16nm,0.1s						
AML	Almayashu	1.07	82	⇑*i*P	Pb	19 48 43.5	-1.2
	baz=79						
AML				⇑*i*S	Sb	19 48 58.0	-1.2
	baz=79						
EKS2	Erkin-Say	1.30	58	⇓P	Pb	19 48 48.5	-0.1
	1.8nm,0.1s,SNR=6.1						
EKS2	Erkin-Say	1.30	58	⇑*i*P	Pn	19 48 48.0	-0.5
	baz=56						
EKS2				⇑*i*S	Sn	19 49 05.6	-0.8
	baz=56						
IUG	luzhnay	1.68	276	*e*P	Pb	19 48 55.0	0.0
	13nm,0.2s						
IUG				*e*S	Sb	19 49 16.8	+0.4
	49nm,0.4s						
UCH	Uchtor	1.68	81	⇑P	Pb	19 48 55.0	-0.2
	3.4nm,0.2s,SNR=15						
UCH				⇓S	Sb	19 49 17.0	0.0
	1.9nm,0.2s						
UCH	Uchtor	1.68	81	⇑*i*P	Pb	19 48 55.2	-0.1
	baz=79						
UCH				⇑*i*S	Sb	19 49 17.4	+0.4
	baz=79						
KK31	Karatay Array	1.72	311	⇓P	Pb	19 48 54.9	-0.7
	2.2nm,0.2s,baz=130,slow=16,SNR=28						
KK31				S	Sg	19 49 18.3	-0.3
	2.9nm,0.4s,baz=129,slow=29,SNR=7.2						
AAK	Ala-Archa	1.77	68	⇓P	Pg	19 48 57.5	+0.1
	2.0nm,0.3s						
AAK				⇑S	Sg	19 49 24.7	+4.3
	4.1nm,0.6s						
AAK	Ala-Archa	1.77	68	⇓P	Pb	19 48 57.0	+0.4
	5.5nm,0.1s,SNR=8.7						
AAK	Ala-Archa	1.77	68	⇑*i*P	Pb	19 48 56.9	+0.4
	baz=66						
AAK				⇑*i*S	Sg	19 49 20.2	-0.2
	baz=66						
USP	Ospenovka	2.08	51	⇓P	Pb	19 49 01.5	-0.4
	4.4nm,0.2s,SNR=11						
USP	Ospenovka	2.08	51	⇑*i*P	Pb	19 49 01.4	-0.4
	baz=50						
USP				⇑*i*S	Sb	19 49 29.2	+1.2
	baz=50						
CHMS	Chumysh	2.09	60	⇑*i*P	Pb	19 49 01.6	-0.4

mb1 3.9/18,mb1mx3.7/82,mbtmp3.7/18,ML3.1/3,MS3.7/1, Ms1 3.7/1,ms1mx2.5/75,Error ellipse: s-maj=31.3km s-min=15.7km az=172.0

ISCJB ***11*** *20:11:39.2±0.6,51.42N±0.07×173.37W±0.08,h37km, mb3.7/16,Error ellipse: s-maj=9.7km s-min=6.8km az=15.2*

NEIC ***11*** *20:11:43.4±0.0,51.66N×173.47W,h20km,ML3.3(AEIC), After AEIC.*

ISC 11 20:11:41.6±0.8,51.5N±0.1×173.59W±0.06,h37km,n27, σ1§86/30,mb3.7/16,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.80**	**337**	P	**Pn**	**20 11 57.7**	**+1.2**
KOFP				S	**Sn**	**20 12 08.4**	**+1.2**
KOKL	**Mount Kliuchef**	**0.87**	**334**	P	**Pn**	**20 11 58.8**	**+1.4**
KOKL				S	**Sn**	**20 12 11.3**	**+2.4**
KOWE	**Korovin West**	**0.92**	**334**	P	**Pn**	**20 11 59.5**	**+1.4**
OKRE	**Okmok R'deer P**	**3.86**	**57**	P	**Pn**	**20 12 42.5**	**+4.1**
OKER	**Okmok East Rim**	**3.89**	**58**	P	**Pn**	**20 12 43.0**	**+4.2**
OKER				S	**Sn**	**20 13 24.3**	**+1.1**
MSOM	**Makushin Julie**	**4.64**	**58**	P	**Pn**	**20 12 52.6**	**+3.6**
UNV	**Unalaska Valle**	**4.89**	**59**	P	**Pn**	**20 12 53.0**	**+0.6**
KDAK	**Kodiak Island**	**13.63**	**55**	Pn	**Pn**	**20 14 50.3**	**-1.8**
	0.2nm,0.3s,baz=225,slow=15,SNR=2.3						
KDAK				LR	LR	20 19 27.7	
	comp=Z,324nm,20.1s,baz=324,slow=35						
PETK	**Petropavlovsk-**	**17.57**	**286**	P	**P**	**20 15 44.7**	**+0.6**
	0.1nm,0.3s,baz=91,slow=16,SNR=2.8						
ILAR	**Eielson Array**	**19.13**	**36**	P	**P**	**20 15 58.7**	**-2.5**
	0.1nm,0.3s,baz=233,slow=8.5,SNR=19						
COLD	**Coldfoot**	**19.52**	**28**	*eP*	**P**	**20 16 04.4**	**-0.9**
EGAK	**Eagle**	**21.32**	**39**	*eP*	**P**	**20 16 23.2**	**-1.7**
	5.8nm,0.7s						
INK	**Inuvik**	**25.48**	**34**	P	**P**	**20 17 03.3**	**-2.5**
	0.7nm,0.5s,baz=203,slow=4.2,SNR=3.7						
YKA	**Yellowknife Ar**	**32.74**	**47**	P	**P**	**20 18 09.6**	**-0.8**
	0.1nm,0.5s,baz=283,slow=8.2,SNR=2.5						
PDAR	**Pinedale Array**	**43.13**	**76**	P	**P**	**20 19 37.5**	**-0.9**
	0.5nm,0.7s,baz=285,slow=5.7,SNR=5.4						
SONM	**Songino Array**	**49.45**	**299**	P	**P**	**20 20 28.5**	**+0.6**
	0.6nm,0.5s,baz=50,slow=8.1,SNR=6.9						
TXAR	**Lajitas Array**	**55.40**	**85**	P	**P**	**20 21 10.2**	**-1.9**
	0.3nm,0.7s,baz=289,slow=5.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**61.32**	**316**	P	**P**	**20 21 53.2**	**+0.2**
	0.4nm,0.6s,baz=42,slow=6.6,SNR=9.8						
MKAR	**Makanchi Array**	**62.43**	**311**	P	**P**	**20 22 00.2**	**-0.4**
	0.3nm,0.6s,baz=42,slow=6.9,SNR=5.2						
BVAR	**Borovoye Array**	**62.81**	**322**	P	**P**	**20 22 03.4**	**+0.4**
	1.6nm,0.5s,baz=52,slow=5.8,SNR=15						
AKTO	**Aktyubinsk**	**69.37**	**328**	P	**P**	**20 22 45.2**	**+0.1**
	2.5nm,0.7s,baz=46,slow=7.9,SNR=10						
CMAR	**Chiang Mai Arr**	**74.22**	**280**	P	**P**	**20 23 16.9**	**+2.1**
	0.5nm,0.7s,baz=22,slow=5.1,SNR=3.7						
AKASG	**Malin Array Be**	**76.31**	**345**	P	**P**	**20 23 24.9**	**-1.3**
	0.5nm,0.4s,baz=17,slow=6.1,SNR=3.4						
GERES	**GERESS Array B**	**79.80**	**355**	P	**P**	**20 23 45.4**	**-0.4**
	0.5nm,0.7s,baz=358,slow=4.0,SNR=5.6						
GEYT	**Alibeck**	**80.09**	**321**	P	**P**	**20 23 48.1**	**+0.6**
	0.9nm,0.8s,baz=304,slow=3.4,SNR=3.7						
BRTR	**Keskin Array B**	**86.05**	**339**	P	**P**	**20 24 18.4**	**0.0**
	0.7nm,0.8s,baz=48,slow=5.2,SNR=2.7						
ASAR	**Alice Springs**	**87.89**	**227**	P	**P**	**20 24 27.5**	**+0.4**
	0.4nm,0.9s,baz=19,slow=5.9,SNR=3.4						

IDC ***11*** *20:12:49.0±1.2,4.84S×126.08E,h0km,mb3.7/6, mb1 3.9/9,mb1mx3.7/63,mbtmp3.8/9,ML3.6/3,MS3.3/3, Ms1 3.3/3,ms1mx2.7/52,Error ellipse: s-maj=67.5km s-min=19.4km az=77.0*

ISCJB ***11*** *20:12:52.1±0.5,4.72S±0.05×125.91E±0.05,h33km, mb3.8/5,MS3.2/3,Error ellipse: s-maj=7.7km s-min=6.6km az=38.6*

DJA ***11*** *20:12:52.2±1.9,5°S±3°×12°6E±°,h20km±18km,M4.4/13, mB4.4/1,mb4.6/8,MLv4.3/13,Mw(mB)3.6/1*

ISC 11 20:12:54.0±0.8,4.81S±0.08×125.95E±0.08,h35km,n27, σ1§97/24,mb3.8/5,MS3.2/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.50**	**64**	P	**Pn**	**20 13 31.4**	**-0.8**
SANI	**Sanana**	**2.74**	**1**	P	**Pn**	**20 13 32.7**	**-2.9**
MSAI	**Masohi**	**3.30**	**64**	P	**Pn**	**20 13 43.6**	**+0.3**
LBMI	**Labuha**	**4.42**	**20**	P	**Pn**	**20 14 00.1**	**+1.4**
SOEI	**Soe**	**5.19**	**199**	P	**Pn**	**20 14 10.7**	**+1.3**
	100nm,1.0s,0.3nm						
KMSI	**Cibinong**	**5.70**	**340**	P	**Pn**	**20 14 14.4**	**-1.9**
	63nm,0.6s,0.9nm						
APSI	**Ampana**	**5.79**	**312**	P	**Pn**	**20 14 14.9**	**-2.6**
BATI	**Baumata**	**5.82**	**203**	Pn	**Pn**	**20 14 18.6**	**+0.7**
	6.7nm,0.3s,baz=162,slow=20,SNR=17						
BATI	**Baumata**	**5.82**	**203**	P	**Pn**	**20 14 19.0**	**+1.0**
BNSI	**Bone**	**5.84**	**274**	P	**Pn**	**20 14 18.2**	**0.0**
	35nm,0.7s,0.1nm						
TTSI	**Tana Toraja**	**6.37**	**286**	P	**Pn**	**20 14 24.7**	**-0.7**
	18nm,1.0s,0.1nm						
FAKI	**Fak Fak**	**6.55**	**74**	P	**Pn**	**20 14 27.4**	**-0.6**
SWI	**Sorong**	**6.59**	**54**	P	**Pn**	**20 14 28.3**	**-0.2**
	32nm,0.6s						
MRSI	**Marisa**	**6.61**	**323**	P	**Pn**	**20 14 27.1**	**-1.6**
BASI	**Baing, Sumba**	**7.57**	**224**	P	**Pn**	**20 14 45.5**	**+3.6**
MPSI	**Mapaga**	**7.92**	**310**	P	**Pn**	**20 14 44.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**13.21**	**181**	Pn	**Pn**	**20 15 55.6**	**-3.6**
	0.3nm,0.3s,baz=13,slow=12,SNR=7.6						
WRA	**Warramunga Arr**	**17.12**	**152**	Pn	**Pn**	**20 16 46.6**	**-4.1**
	0.1nm,0.3s,baz=329,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**20.25**	**159**	P	**P**	**20 17 26.7**	**+0.1**
	0.2nm,0.4s,baz=336,slow=11,SNR=4.8						
PSI	**Prapat**	**28.04**	**285**	LR	LR	20 31 09.5	
	comp=Z,57nm,19.4s,baz=82,slow=39						
CMAR	**Chiang Mai Arr**	**35.26**	**312**	LR	LR	20 37 58.7	
	comp=Z,30nm,18.2s,baz=226,slow=43						
DZM	**Mont Dzumac**	**42.77**	**118**	LR	LR	20 38 59.4	
	comp=Z,43nm,18.2s,baz=244,slow=37						
SONM	**Songino Array**	**55.17**	**344**	P	**P**	**20 22 25.2**	**+1.9**
	0.7nm,1.0s,baz=144,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**64.23**	**328**	P	**P**	**20 23 25.5**	**-0.1**
	1.3nm,0.7s,baz=132,slow=7.9,SNR=15						
ZALV	**Zalesovo Beam**	**67.89**	**335**	P	**P**	**20 23 49.8**	**+0.9**
	0.3nm,0.3s,baz=134,slow=6.2,SNR=3.4						
KURBB	**Kurchatov Arra**	**68.58**	**330**	P	**P**	**20 23 54.9**	**+1.7**
	1.1nm,0.8s,baz=136,slow=5.4,SNR=12						
BVAR	**Borovoye Array**	**74.10**	**329**	P	**P**	**20 24 27.0**	**+0.4**
	0.5nm,0.8s,baz=117,slow=5.0,SNR=3.6						

IDC 11 20:19:17.5±10.0,5.65S×128.62E,h322km±117km, mb2.5/1,mb1 2.8/5,mb1mx2.5/62,mbtmp3.5/5,Error ellipse: s-maj=147.5km s-min=25.5km az=52.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.68**	**227**	P	Pn	20 20 55.5	0.0
	2.0nm,0.3s,baz=90,slow=7.1,SNR=5.6						
FITZ	**Fitzroy Crossi**	**12.71**	**193**	P	Pn	20 22 08.2	0.0
	0.1nm,0.3s,baz=0.0,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**15.26**	**159**	P	P	20 22 36.0	-0.4
	0.1nm,0.3s,baz=334,slow=13,SNR=9.8						
ASAR	**Alice Springs**	**18.63**	**165**	P	P	20 23 12.8	+0.1
	0.2nm,0.3s,baz=347,slow=12,SNR=8.2						
MKAR	**Makanchi Array**	**66.35**	**327**	P	P	20 29 32.3	0.0
	0.1nm,0.4s,baz=111,slow=6.8,SNR=3.9						

DJA 11 20:20:43.3±1.6,2°S±6°×12°8E±°,h20km±7km,M2.8/3, MLv2.8/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.35**	**343**	P	Pb	20 21 08.0	0.0
LBMI				S	Sn	20 21 24.3	-0.2
SANI	**Sanana**	**1.91**	**267**	P	Pn	20 21 14.9	+0.1
SANI				S	Sn	20 21 39.1	+0.8

IDC ***11*** *20:21:38.9±1.1,51.62N×173.22W,h0km,mb3.7/14, mb1 3.9/17,mb1mx3.6/85,mbtmp3.8/17,ML3.2/3,Error ellipse: s-maj=30.2km s-min=17.1km az=179.0*

ISCJB ***11*** *20:21:42.2±0.7,51.41N±0.07×173.35W±0.07,h37km, mb3.7/14,Error ellipse: s-maj=10.2km s-min=6.2km az=9.7*

NEIC ***11*** *20:21:46.6±0.0,51.83N×173.26W,h10km,ML3.1(AEIC), After AEIC.*

ISC 11 20:21:44.3±0.9,51.5N±0.1×173.43W±0.06,h37km,n30, σ1§29/28,mb3.6/14,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.88**	**332**	P	**Pn**	**20 22 00.6**	**+0.4**
KOKL	**Mount Kliuchef**	**0.95**	**330**	P	**Pn**	**20 22 01.5**	**+0.3**
KOKL				S	**Sn**	**20 22 13.0**	**-0.5**
KOWE	**Korovin West**	**1.00**	**330**	P	**Pn**	**20 22 02.5**	**+0.7**
KOWE				S	**Sn**	**20 22 17.4**	**+2.7**
OKWE	**Okmok W'ng Wal**	**3.73**	**56**	P	**Pn**	**20 22 40.1**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**3.80**	**58**	P	**Pn**	**20 22 41.5**	**+1.3**
OKTU				S	**Sn**	**20 23 23.5**	**-0.1**
OKRE	**Okmok R'deer P**	**3.80**	**56**	P	**Pn**	**20 22 42.3**	**+2.1**
MREP	**Makushin Rep't**	**4.68**	**58**	P	**Pn**	**20 22 55.9**	**+3.6**
UNV	**Unalaska Valle**	**4.82**	**58**	P	**Pn**	**20 22 55.2**	**+1.0**
KDAK	**Kodiak Island**	**13.58**	**54**	Pn	**Pn**	**20 24 52.4**	**-1.6**
	0.2nm,0.3s,baz=131,slow=19,SNR=3.1						
PETK	**Petropavlovsk-**	**17.68**	**287**	P	**P**	**20 25 48.7**	**+0.7**
	0.1nm,0.3s,baz=93,slow=15,SNR=2.5						
ILAR	**Eielson Array**	**19.11**	**36**	P	**P**	**20 26 02.0**	**-1.5**
	0.3nm,0.3s,baz=229,slow=8.9,SNR=32						
INK	**Inuvik**	**25.46**	**34**	P	**P**	**20 27 06.6**	**-1.7**
	0.7nm,0.4s,baz=248,slow=7.8,SNR=4.3						
TIXI	**Tiksi**	**32.20**	**330**	P	**P**	**20 28 08.2**	**0.0**
	0.2nm,0.4s,baz=330,slow=9.1,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**35.28**	**213**	T	T	21 06 47.5	
	baz=21,slow=76,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**35.28**	**213**	T	T	21 06 44.5	
	baz=21,slow=76,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**35.29**	**213**	T	T	21 06 48.0	
	baz=21,slow=76,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**36.48**	**213**	T	T	21 08 05.3	
	baz=313,slow=74,SNR=8.8						
H11S2	**WAKE ISLAND Hy**	**36.49**	**213**	T	T	21 08 06.3	
	baz=17,slow=74,SNR=7.9						
PDAR	**Pinedale Array**	**43.04**	**76**	P	**P**	**20 29 40.5**	**+0.1**
	0.4nm,0.7s,baz=319,slow=4.3,SNR=3.9						
SONM	**Songino Array**	**49.56**	**299**	P	**P**	**20 30 31.8**	**+0.4**
	0.3nm,0.5s,baz=59,slow=6.5,SNR=5.3						
TXAR	**Lajitas Array**	**55.30**	**85**	P	**P**	**20 31 12.9**	**-1.1**
	0.2nm,0.7s,baz=310,slow=7.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**61.42**	**316**	P	**P**	**20 31 56.0**	**-0.3**
	0.3nm,0.5s,baz=40,slow=7.0,SNR=9.5						
MKAR	**Makanchi Array**	**62.53**	**311**	P	**P**	**20 32 04.0**	**0.0**
	0.1nm,0.4s,baz=46,slow=7.0,SNR=4.0						
BVAR	**Borovoye Array**	**62.91**	**322**	P	**P**	**20 32 06.5**	**+0.2**
	1.6nm,0.5s,baz=55,slow=5.9,SNR=11						
ARU	**Arti**	**64.20**	**331**	P	**P**	**20 32 14.9**	**+0.2**
	1.2nm,0.4s,baz=293,slow=7.7,SNR=3.6						
HFS	**Hagfors**	**68.57**	**356**	P	**P**	**20 32 41.6**	**-1.0**
	2.5nm,0.8s,baz=101,slow=4.6,SNR=3.9						
AKTO	**Aktyubinsk**	**69.45**	**328**	P	**P**	**20 32 49.2**	**+0.9**
	1.3nm,0.5s,baz=52,slow=8.6,SNR=4.5						
AKASG	**Malin Array Be**	**76.37**	**345**	P	**P**	**20 33 28.6**	**-0.6**
	0.6nm,0.4s,baz=16,slow=6.2,SNR=4.5						
GERES	**GERESS Array B**	**79.85**	**355**	P	**P**	**20 33 48.3**	**-0.3**
	0.3nm,0.6s,baz=14,slow=8.6,SNR=2.8						
ASAR	**Alice Springs**	**87.94**	**227**	P	**P**	**20 34 30.9**	**+0.9**
	0.5nm,1.0s,baz=24,slow=5.4,SNR=3.3						

IDC ***11*** *20:33:59.1±0.7,51.65N×173.24W,h0km,mb4.3/33, mb1 4.4/36,mb1mx4.3/81,mbtmp4.3/36,ML3.7/3,MS3.6/26, Ms1 3.6/26,ms1mx3.4/75,Error ellipse: s-maj=19.3km s-min=10.6km az=173.0*

ISCJB ***11*** *20:34:02.8±0.3,51.53N±0.05×173.29W±0.04,h37km, mb4.4/59,MS3.7/27,Error ellipse: s-maj=6.6km s-min=3.4km az=168.3*

MOS ***11*** *20:34:03.0±1.0,51.70N×173.35W,h36km,mb4.7/36, Error ellipse: s-maj=12.1km s-min=6.4km az=99.9*

NEIC ***11*** *20:34:05.7±0.5,51.59N×173.34W,h50km±3km,mb4.2/20, ML3.8(AEIC),Error ellipse: s-maj=8.5km s-min=3.2km az=167.0*

ISC 11 20:34:05.0±0.5,51.64N±0.07×173.40W±0.04,h37km, n223,σ1§28/216,mb4.4/69,MS3.6/27,30C-13D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.76**	**326**	P	**Pn**	**20 34 19.9**	**+0.7**
KOKL	**Mount Kliuchef**	**0.84**	**324**	P	**Pn**	**20 34 20.9**	**+0.6**
KOKL				S	**Sn**	**20 34 32.9**	**+1.4**
KOWE	**Korovin West**	**0.89**	**324**	P	**Pn**	**20 34 22.0**	**+1.0**
KOWE				S	**Sn**	**20 34 34.8**	**+2.0**
GSMY	**Great Sitkin M**	**1.69**	**285**	P	**Pn**	**20 34 34.4**	**+2.4**
GSTD	**Great Sitkin T**	**1.75**	**285**	P	**Pn**	**20 34 33.4**	**+0.6**
ADAG	**Mount Adagdak**	**2.02**	**281**	P	**Pn**	**20 34 37.6**	**+1.2**
TAPA	**Tanaga Point A**	**2.75**	**275**	P	**Pn**	**20 34 47.4**	**+0.9**
TAFP	**Tanaga Falls P**	**2.86**	**277**	P	**Pn**	**20 34 49.0**	**+1.0**
TASE	**Tanaga Southea**	**2.89**	**276**	P	**Pn**	**20 34 49.5**	**+1.1**
OKSP	**Okmok Steeple**	**3.52**	**61**	P	**Pn**	**20 34 57.8**	**+0.7**
OKRE	**Okmok R'deer P**	**3.71**	**57**	P	**Pn**	**20 35 01.3**	**+1.7**
OKTU	**Okmok Mt. Tuli**	**3.71**	**60**	P	**Pn**	**20 35 01.1**	**+1.4**
MREP	**Makushin Rep't**	**4.59**	**59**	P	**Pn**	**20 35 13.6**	**+1.8**
MSW	**Makushin Switc**	**4.62**	**58**	P	**Pn**	**20 35 13.6**	**+1.4**
MSW				S	**Sn**	**20 36 05.2**	**+0.8**
MTBL	**Makushin Table**	**4.70**	**58**	P	**Pn**	**20 35 15.1**	**+1.8**
UNV	**Unalaska Valle**	**4.74**	**60**	*e*Pn	**Pn**	**20 35 14.7**	**+1.0**
SPIA	**Saint Paul Isl**	**5.84**	**17**	*e*Pn	**Pn**	**20 35 32.4**	**+3.5**
GAMB	**Gambell**	**12.20**	**4**	*e*Pn	**Pn**	**20 36 58.0**	**+2.1**
KDAK	**Kodiak Island**	**13.48**	**55**	Pn	**Pn**	**20 37 12.1**	**-1.3**
	0.6nm,0.3s,baz=176,slow=14,SNR=3.8						
CAST	**Castle Rocks**	**16.33**	**36**	*e*Pn	**P**	**20 37 55.3**	**+1.5**
	17nm,1.2s						
KTH	**Kantishna Hill**	**16.83**	**36**	*e*P	**P**	**20 37 59.7**	**+0.4**
	24nm,1.2s						
BPAW	**Bear Paw Mtn.**	**17.13**	**35**	*e*Pn	**P**	**20 38 03.0**	**+0.5**
	15nm,1.0s						
PETK	**Petropavlovsk-**	**17.66**	**286**	P	**P**	**20 38 08.9**	**+0.5**
	0.3nm,0.3s,baz=88,slow=16,SNR=5.2						
PETK				LR	LR	20 45 14.4	
	comp=Z,107nm,18.6s,baz=81,slow=38						
MLY	**Manley**	**17.78**	**32**	*e*Pn	**P**	**20 38 10.9**	**+1.2**
	16nm,1.2s						
KLU	**Klutina**	**17.93**	**46**	*e*P	**Pn**	**20 38 10.4**	**-0.7**
	44nm,1.8s						
DHY	**Denali Highway**	**17.96**	**40**	*e*P	**P**	**20 38 12.2**	**+0.4**
	19nm,1.2s						
CCB	**Clear Creek Bu**	**18.58**	**36**	*e*P	**P**	**20 38 15.2**	**-3.2**
	6.7nm,1.0s						
COLA	**College**	**18.69**	**35**	*e*P	**Pn**	**20 38 20.3**	**+0.1**
HDA	**Harding Lake**	**18.77**	**37**	*e*P	**P**	**20 38 19.6**	**-1.0**
	9.3nm,0.8s						
IL1	**Eielson Array**	**18.98**	**36**	*e*P	**P**	**20 38 21.2**	**-1.7**
ILAR	**Eielson Array**	**18.98**	**36**	P	**P**	**20 38 22.1**	**-0.8**
	0.6nm,0.3s,baz=234,slow=9.0,SNR=39						
ILAR				LR	LR	20 46 17.4	
	comp=Z,214nm,18.1s,baz=249,slow=39						
ILB	**Eielson Array**	**18.98**	**36**	*e*P	**P**	**20 38 21.5**	**-1.4**
BILL	**Bilibino**	**19.18**	**337**	*c iP*	**Pn**	**20 38 26.8**	**+0.6**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,161nm,16.0s						
RIDG	**Independ'e Rid**	**19.27**	**40**	*e*P	**P**	**20 38 24.8**	**-1.4**
	comp=Z,23nm,1.4s						
COLD	**Coldfoot**	**19.37**	**28**	*e*P	**Pn**	**20 38 28.0**	**-0.4**
	comp=Z,6.7nm,0.9s						
TOLK	**Toolik Lake Re**	**20.52**	**25**	*e*P	**P**	**20 38 40.0**	**+0.3**
	comp=Z,14nm,0.8s						
FYU	**Fort Yukon**	**20.52**	**33**	*e*P	**P**	**20 38 39.7**	**+0.1**
	comp=Z,30nm,1.2s						
EGAK	**Eagle**	**21.17**	**39**	*e*P	**P**	**20 38 46.1**	**-0.5**
	comp=Z,30nm,0.8s						
SEY	**Seymchan**	**21.38**	**315**	P	**P**	**20 38 49.8**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=102,slow=9.8,SNR=10						
SEY	**Seymchan**	**21.38**	**315**	*e*P	**P**	**20 38 47.6**	**-1.2**
MA2	**Magadan**	**21.51**	**306**	P	**P**	**20 38 50.7**	**+0.5**
	comp=Z,30nm,0.5s,baz=86,slow=10,SNR=5.0						
MA2	**Magadan**	**21.51**	**306**	*e*P	**P**	**20 38 46.5**	**-3.8**
DAWY	**Dawson**	**21.63**	**42**	*e*P	**P**	**20 38 51.4**	**-0.2**
	comp=Z,22nm,1.6s						
INK	**Inuvik**	**25.33**	**34**	P	**P**	**20 39 26.9**	**-0.9**
	comp=Z,10nm,0.9s,baz=231,slow=9.7,SNR=20						
INK	**Inuvik**	**25.33**	**34**	*e*P	**P**	**20 39 26.8**	**-1.0**
INK				pmax	pmax		
	comp=Z,16nm,1.2s						
INK	**Inuvik**	**25.33**	**34**	*e*P	**P**	**20 39 26.8**	**-1.0**
	comp=Z,16nm,1.2s						
YSS	**Yuzh-Sakhalins**	**28.64**	**278**	*i*P	**P**	**20 39 58.8**	**+1.1**
YSS				*e*		20 40 08.7	
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
ASAJ	**Asahikawa**	**30.07**	**273**	P	**P**	**20 40 12.2**	**+1.8**
	comp=Z,16nm,0.9s,baz=31,slow=6.3,SNR=13						
ASAJ	**Asahikawa**	**30.07**	**273**	*e*P	**P**	**20 40 11.5**	**+1.1**
YAK	**Yakutsk**	**31.78**	**311**	*e*P	**P**	**20 40 24.4**	**-0.9**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI	**Tiksi**	**32.09**	**330**	P	**P**	**20 40 28.0**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=112,slow=10.0,SNR=8.0						
TIXI				ScP	**ScP**	**20 47 01.2**	**+4.6**
	comp=Z,1.1nm,0.3s,baz=110,slow=0.4,SNR=4.6						
TIXI				LR	LR	20 54 49.2	
	comp=Z,110nm,18.2s,baz=155,slow=39						
TIXI	**Tiksi**	**32.09**	**330**	*ceP*	**P**	**20 40 25.8**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YKA	**Yellowknife Ar**	**32.58**	**48**	P	**P**	**20 40 31.8**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=281,slow=8.7,SNR=12						
YKA				PcP	**PcP**	**20 43 17.5**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=277,slow=2.9,SNR=4.2						
YKA				ScP	**ScP**	**20 47 04.0**	**+5.5**
	comp=Z,0.2nm,0.6s,baz=299,slow=3.3,SNR=4.2						
YKA				LR	LR	20 54 00.5	
	comp=Z,17nm,18.1s,baz=0.0,slow=37						
B023	**Clatskanie**	**33.01**	**79**	*eP*	**P**	**20 40 40.0**	**+3.8**
KLR	**Kul'dur**	**34.33**	**288**	P	**P**	**20 40 47.9**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=93,slow=7.4						
KLR	**Kul'dur**	**34.33**	**288**	*eP*	**P**	**20 40 47.2**	**-0.5**
ZEA	**Zeya**	**35.13**	**297**	*eP*	**P**	**20 40 53.7**	**-0.8**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**35.40**	**213**	T	T	21 19 01.4	
	baz=21,slow=76,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**35.41**	**213**	T	T	21 19 00.4	
	baz=21,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**35.42**	**213**	T	T	21 18 56.1	
	baz=21,slow=76,SNR=7.5						
YBH	**Yreka Blue Hor**	**35.50**	**86**	LR	LR	20 51 25.8	
	comp=Z,117nm,21.7s,baz=329,slow=30						
USRK	**Ussuriysk Ar.**	**36.59**	**280**	P	**P**	**20 41 07.0**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=50,slow=8.9,SNR=7.0						
USRK				LR	LR	20 56 22.4	
	comp=Z,105nm,20.1s,baz=45,slow=37						
H11S1	**WAKE ISLAND Hy**	**36.60**	**213**	T	T	21 20 21.5	
	baz=20,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**36.62**	**213**	T	T	21 20 23.8	
	baz=20,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**36.62**	**213**	T	T	21 20 23.9	
	baz=20,slow=76,SNR=13						
MJAR	**Matsushiro Arr**	**37.16**	**265**	LR	LR	20 55 51.7	
	comp=Z,72nm,21.1s,baz=85,slow=35						
NVAR	**Mina Array Bea**	**40.17**	**87**	P	**P**	**20 41 36.7**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=290,slow=8.2,SNR=7.5						
BOD	**Bodaibo**	**40.49**	**308**	*eP*	**P**	**20 41 35.9**	**-3.9**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GCMT	**Greycliff**	**41.26**	**72**	*eP*	P	20 41 40.5	-5.9
KSRS	**Korea Array**	**42.99**	**275**	P	**P**	**20 42 01.1**	**+0.6**
	comp=Z,5.7nm,1.0s,baz=66,slow=7.9,SNR=7.8						
KSRS				LR	LR	21 00 58.9	
	comp=Z,52nm,18.1s,baz=54,slow=38						
PDAR	**Pinedale Array**	**42.99**	**76**	P	**P**	**20 42 00.3**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=290,slow=6.1,SNR=12						
PDAR	**Pinedale Array**	**42.99**	**76**	*eP*	**P**	**20 41 58.0**	**-2.7**
KSAR	**Wonju Array Be**	**43.03**	**275**	P	**P**	**20 42 01.1**	**+0.4**
KSAR	**Wonju Array Be**	**43.03**	**275**	P	**P**	**20 42 01.1**	**+0.4**
FCC	**Fort Churchill**	**43.30**	**48**	*eP*	**P**	**20 42 01.0**	**-1.6**
FCC				pmax	pmax		
	comp=Z,7.0nm,1.3s						
FCC	**Fort Churchill**	**43.30**	**48**	*eP*	**P**	**20 42 01.0**	**-1.6**
	comp=Z,6.9nm,1.

	SNR=12						
KBK	**Karagaybulak**	**68.99**	**313**	P	**P**	**20 45 07.3**	**+0.8**
	SNR=7.1						
AAK	**Ala-Archa**	**69.22**	**313***c*	*i* P	**P**	**20 45 08.3**	**+0.4**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AAK	**Ala-Archa**	**69.22**	**313**	P	**P**	**20 45 08.2**	**+0.4**
	SNR=12						
AAK	**Ala-Archa**	**69.22**	**313**	*e*P	**P**	**20 45 08.0**	**+0.1**
	comp=Z,10nm,0.9s						
KZA	**Kyzart**	**69.31**	**312**	P	**P**	**20 45 09.3**	**+0.5**
	SNR=5.6						
AKTO	**Aktyubinsk**	**69.34**	**328**	P	**P**	**20 45 08.4**	**+0.1**
	comp=Z,12nm,0.8s,baz=41,slow=6.6,SNR=39						
EKS2	**Erkin-Say**	**69.52**	**313**	P	**P**	**20 45 10.3**	**+0.6**
	SNR=16						
AML	**Almayashu**	**69.98**	**313**	P	**P**	**20 45 13.6**	**+0.7**
	SNR=13						
LSA	**Lhasa**	**70.48**	**293**	P	**P**	**20 45 17.5**	**+1.3**
OBN	**Obninsk**	**70.73**	**342**	*e*P	**P**	**20 45 14.2**	**-2.5**
OBN				*e*		20 45 38.4	
OBN				*e*		20 47 51.5	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,78nm,13.0s						
KSH	**Kashi**	**70.98**	**310**	P	**P**	**20 45 22.5**	**+3.8**
KSH				S	S	20 54 13.7	-18
LPSR	**Galich'ya Gora**	**72.62**	**340**	*e*P	**P**	**20 45 25.4**	**-2.7**
LPSR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
VRH	**Novokhopyorsk**	**73.30**	**338**	*e*P	**P**	**20 45 31.1**	**-1.1**
VRH				pmax	pmax		
	comp=Z,20nm,1.2s						
RAR	**Rarotonga**	**73.52**	**167**	LR	LR	21 14 09.3	
	comp=Z,41nm,19.2s,baz=360,slow=33						
VSR	**Storozhevoye**	**73.87**	**339**	*e*P	**P**	**20 45 34.7**	**-0.8**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.32**	**280**	P	**P**	**20 45 39.4**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=25,slow=7.0,SNR=15						
CM01	**Chiang Mai Arr**	**74.33**	**280**	*e*P	**P**	**20 45 38.4**	**-0.3**
GUN	**Gumba**	**74.83**	**296**	*e*P	**P**	**20 45 42.3**	**+0.4**
	comp=Z,59nm,0.9s						
JIRN	**Jiri**	**74.85**	**295**	*e*P	**P**	**20 45 42.6**	**+0.5**
	comp=Z,83nm,0.8s						
KKN	**Kakani**	**75.26**	**296**	*e*P	**P**	**20 45 44.6**	**+0.3**
	comp=Z,22nm,0.9s						
PKI	**Pulchoki**	**75.36**	**296**	*e*P	**P**	**20 45 44.9**	**-0.1**
	comp=Z,37nm,1.0s						
PKIN	**Phulchoki**	**75.36**	**296**	*e*P	**P**	**20 45 45.0**	**+0.1**
	comp=Z,28nm,1.1s						
DMN	**Daman**	**75.50**	**296**	*e*P	**P**	**20 45 45.9**	**+0.2**
	comp=Z,30nm,0.9s						
DANN	**Dangsing**	**75.67**	**298**	*e*P	**P**	**20 45 47.5**	**+0.8**
	comp=Z,5.7nm,0.9s						
KOLN	**Koldanda**	**76.21**	**297**	*e*P	**P**	**20 45 50.0**	**+0.3**
	comp=Z,29nm,0.9s						
AKASG	**Malin Array Be**	**76.24**	**345**	P	**P**	**20 45 48.0**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=17,slow=6.0,SNR=13						
AKASG				LR	LR	21 27 14.6	
	comp=Z,38nm,18.4s,baz=25,slow=42						
KIEV	**Kiev**	**76.25**	**345**	*e*P	**P**	**20 45 47.9**	**-1.3**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AK11	**Malin Array Si**	**76.27**	**345**	*e*P	**P**	**20 45 47.8**	**-1.5**
PYUN	**Piuthan**	**76.29**	**298**	*e*P	**P**	**20 45 50.3**	**+0.2**
	comp=Z,52nm,0.9s						
CLL	**Collm**	**77.28**	**356**	*i* P	**P**	**20 45 55.0**	**0.0**
CLL	**Collm**	**77.28**	**356**	*i* P	**P**	**20 45 55.0**	**0.0**
UPC	**Upice**	**77.91**	**354**	*e*P	**P**	**20 45 58.6**	**0.0**
UPC	**Upice**	**77.91**	**354**	*e*P	**P**	**20 45 58.6**	**0.0**
DPC	**Dobruska-Polom**	**78.05**	**354**	*e*P	**P**	**20 45 59.6**	**+0.2**
DPC	**Dobruska-Polom**	**78.05**	**354**	*e*P	**P**	**20 45 59.6**	**+0.2**
NKC	**Novy Kostel**	**78.38**	**356**	*e*P	**P**	**20 46 01.7**	**+0.5**
NKC	**Novy Kostel**	**78.38**	**356**	*e*P	**P**	**20 46 01.7**	**+0.5**
PRU	**Pruhonice**	**78.52**	**355**	*e*P	**P**	**20 46 02.0**	**+0.1**
PRU	**Pruhonice**	**78.52**	**355**	*e*P	**P**	**20 46 02.0**	**+0.1**
MORC	**Moravsky Berou**	**78.53**	**353**⇑	*i*P	**P**	**20 46 01.5**	**-0.6**
MORC	**Moravsky Berou**	**78.53**	**353**⇑	P	**P**	**20 46 01.5**	**-0.6**
SORM	**Soroca**	**78.87**	**345**⇑	*i*P	**P**	**20 46 02.8**	**-1.1**
SORM	**Soroca**	**78.87**	**345**⇑	P	**P**	**20 46 02.8**	**-1.1**
LANS	**Liptovska Anna**	**78.98**	**351**	*e*P	**P**	**20 46 04.9**	**+0.3**
LANS	**Liptovska Anna**	**78.98**	**351**	*e*P	**P**	**20 46 04.9**	**+0.3**
VRAC	**Vranov**	**79.06**	**353**	P	**P**	**20 46 05.4**	**+0.4**
	comp=Z,7.3nm,0.9s,baz=340,slow=5.0,SNR=11						
KHC	**Kasperske Hory**	**79.43**	**355**	*e*P	**P**	**20 46 07.5**	**+0.5**
KHC				*ex*	x	20 46 11.2	
KHC	**Kasperske Hory**	**79.43**	**355**	*e*P	**P**	**20 46 07.5**	**+0.5**
KHC				*e*		20 46 11.2	
KHC	**Kasperske Hory**	**79.43**	**355**	*e*P	**P**	**20 46 07.5**	**+0.5**
	comp=Z,2.1nm,0.8s						
KECS	**Kecovo**	**79.55**	**351**	*e*P	**P**	**20 46 07.3**	**-0.3**
KECS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KECS	**Kecovo**	**79.55**	**351**	*e*P	**P**	**20 46 07.3**	**-0.3**
VYHS	**Vyhne**	**79.69**	**352**	*e*P	**P**	**20 46 08.2**	**-0.2**
VYHS				pmax	pmax		
	comp=Z,29nm,2.7s						
VYHS	**Vyhne**	**79.69**	**352**	*e*P	**P**	**20 46 08.2**	**-0.2**
GERES	**GERESS Array B**	**79.70**	**355**	P	**P**	**20 46 08.5**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=15,slow=5.5,SNR=22						
GEA0	**GERESS Array S**	**79.71**	**355**	*e*P	**P**	**20 46 08.2**	**-0.4**
KIV	**Kislovodsk**	**79.79**	**334**	*e*P	**P**	**20 46 07.8**	**-1.3**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BUR08	**Bucovina Ar. S**	**79.81**	**347**	*e*P	**P**	**20 46 08.2**	**-1.0**
BUR04	**Bucovina Ar. S**	**79.83**	**347**	*e*P	**P**	**20 46 08.8**	**-0.6**
BURAR	**Bucovina Array**	**79.84**	**347**⇓	*i*P	**P**	**20 46 09.3**	**0.0**
BURAR	**Bucovina Array**	**79.84**	**347**⇓	P	**P**	**20 46 09.3**	**0.0**
KBZ	**Khabaz**	**79.94**	**334**	P	**P**	**20 46 10.5**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=45,slow=3.7,SNR=6.9						
PRAR	**RASCA**	**79.94**	**347**⇓	*i*P	**P**	**20 46 09.8**	**0.0**
NCK	**Nalchik**	**79.96**	**334**	*e*P	**P**	**20 46 09.9**	**-0.1**
NCK				pmax	pmax		
	comp=Z,15nm,0.9s						
GEYT	**Alibeck**	**80.09**	**321**	P	**P**	**20 46 11.3**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=343,slow=4.6,SNR=14						
GEYT				LR	LR	21 25 17.6	
	comp=Z,78nm,19.0s,baz=355,slow=38						
PSZ	**Piszkesteto**	**80.16**	**351**⇑	*i*P	**P**	**20 46 11.2**	**+0.1**
PSZ	**Piszkesteto**	**80.16**	**351**⇑	P	**P**	**20 46 11.2**	**+0.1**
ARCR	**ARCALIA**	**80.47**	**348**⇓	*i*P	**P**	**20 46 13.4**	**+0.8**
CONA	**Conrad Observa**	**80.49**	**354**	*e*pP	**P**	**20 46 13.2**	**+0.4**
	comp=Z,5.1nm,0.7s						
ZEI	**Tsey**	**80.53**	**333**	*e*P	**P**	**20 46 12.3**	**-1.0**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DRGR		**80.97**	**349**⇑	*i*P	**P**	**20 46 14.9**	**-0.5**
DRGR		**80.97**	**349**⇑	P	**P**	**20 46 14.9**	**-0.5**
ARSA	**Arzberg**	**81.19**	**354**	*e*pP	**P**	**20 46 16.9**	**+0.4**
	comp=Z,5.2nm,1.1s						
WATA	**Walderalm**	**81.31**	**357**	*e*pP	**P**	**20 46 17.4**	**+0.1**
	comp=Z,2.5nm,0.7s						
MOTA	**Moosalm**	**81.31**	**357**	*e*pP	**P**	**20 46 17.1**	**-0.2**
	comp=Z,8.8nm,1.2s						
VRI	**Vrincioaia**	**81.33**	**346**⇓	*i*P	**P**	**20 46 20.0**	**+2.7**
VRI	**Vrincioaia**	**81.33**	**346**⇓	P	**P**	**20 46 20.0**	**+2.7**
PLOR	**Plostina**	**81.36**	**346**⇑	*i*P	**P**	**20 46 19.7**	**+2.3**
PLOR	**Plostina**	**81.36**	**346**⇑	P	**P**	**20 46 19.7**	**+2.3**
WTTA	**Wattenberg**	**81.38**	**357**	*e*pP	**P**	**20 46 18.0**	**+0.3**
	comp=Z,5.8nm,0.9s						
DAVA	**Damuels**	**81.41**	**358**	*e*pP	**P**	**20 46 18.9**	**+1.1**
	comp=Z,3.4nm,0.9s						
DOPR	**Dopca**	**81.43**	**347**⇑	*i*P	**P**	**20 46 18.7**	**+0.9**
KBA	**Koelnbreinsper**	**81.49**	**355**	*e*pP	**P**	**20 46 18.7**	**+0.4**
	comp=Z,8.9nm,0.7s						
FETA	**Feichten**	**81.65**	**357**	*i* pP	**P**	**20 46 19.6**	**+0.5**
	comp=Z,4.8nm,0.8s						
TLCR		**81.66**	**344**⇑	*i*P	**P**	**20 46 19.5**	**+0.6**
TLCR		**81.66**	**344**⇑	P	**P**	**20 46 19.5**	**+0.6**
RKT	**Rikitea**	**81.72**	**145**	*e*T	T	20 45 28.9	
	comp=Z,2.0nm,0.3s						
CFR	**Carcaliu**	**81.78**	**345**⇑	*i*P	**P**	**20 46 19.5**	**-0.1**
CFR	**Carcaliu**	**81.78**	**345**⇑	P	**P**	**20 46 19.5**	**-0.1**
SOKA	**Soboth**	**81.79**	**354**	*e*pP	**P**	**20 46 19.9**	**+0.2**
	comp=Z,4.5nm,0.8s						
MLR	**Muntele Rosu**	**81.81**	**346**	P	**P**	**20 46 21.1**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=183,slow=2.7,SNR=7.9						
MLR				LR	LR	21 30 35.3	
	comp=Z,7.4nm,18.1s,baz=2.0,slow=42						
MLR	**Muntele Rosu**	**81.81**	**346**⇓	*i*P	**P**	**20 46 17.4**	**-2.6**
ABTA	**Abfaltersbach**	**81.86**	**356**	*e*pP	**P**	**20 46 19.9**	**-0.2**
	comp=Z,4.2nm,1.0s						
VOIR		**82.00**	**347**⇑	*i*P	**P**	**20 46 21.5**	**+0.6**
VOIR		**82.00**	**347**⇑	P	**P**	**20 46 21.5**	**+0.6**
ARR	**Arges**	**82.12**	**347**⇓	*i*P	**P**	**20 46 22.1**	**+0.6**
BZS	**Buzias**	**82.26**	**349**⇑	*i*P	**P**	**20 46 22.0**	**0.0**
BZS	**Buzias**	**82.26**	**349**⇑	P	**P**	**20 46 22.1**	**0.0**
HARR	**Harsova**	**82.29**	**345**⇓	*i*P	**P**	**20 46 22.6**	**+0.3**
HARR	**Harsova**	**82.29**	**345**⇓	P	**P**	**20 46 22.6**	**+0.3**
TIRR	**Tirgusor**	**82.43**	**344**⇓	*i*P	**P**	**20 46 23.5**	**+0.5**
TIRR	**Tirgusor**	**82.43**	**344**⇓	P	**P**	**20 46 23.6**	**+0.5**
GNI	**Garni**	**82.72**	**331**	LR	LR	21 29 54.4	
	comp=Z,33nm,19.3s,baz=260,slow=40						
WRA	**Warramunga Arr**	**84.63**	**228**	P	**P**	**20 46 33.3**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=33,slow=5.9,SNR=4.9						
VTS	**Vitosha**	**85.04**	**348**⇑	*i*P	**P**	**20 46 36.2**	**-0.4**
VTS	**Vitosha**	**85.04**	**348**⇑	P	**P**	**20 46 36.2**	**-0.4**
BR131	**Keskin Array S**	**85.99**	**339**	*e*P	**P**	**20 46 41.7**	**+0.3**
BRTR	**Keskin Array B**	**85.99**	**339**	P	**P**	**20 46 40.2**	**-1.2**
	comp=Z,3.4nm,0.9s,baz=44,slow=3.5,SNR=15						
BRTR				LR	LR	21 32 11.3	
	comp=Z,36nm,18.1s,baz=34,slow=41						
BR231	**Keskin MP Arra**	**86.07**	**340**	*e*P	**P**	**20 46 41.2**	**-0.5**
AS01	**Alice Springs**	**88.03**	**227**	*e*P	**P**	**20 46 50.4**	**-0.7**
ASAR	**Alice Springs**	**88.05**	**227**	P	**P**	**20 46 50.5**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=37,slow=4.4,SNR=11						
ESDC	**Sonseca Array**	**88.59**	**8**	P	**P**	**20 46 52.8**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=352,slow=4.1,SNR=6.5						
IDI	**Anoyia**	**91.96**	**345**	LR	LR	21 33 14.8	
	comp=Z,33nm,20.3s,baz=26,slow=39						
MATP	**Matopo**	**144.45**	**323**	PKP	**PKPab**	**20 53 35.6**	**0.0**
	comp=Z,6.7nm,0.8s,baz=27,slow=4.3,SNR=15						

MAN 11 20:35:06, 9.37N×125.46E, h2km, mb4.5, ML3.4, MS3.2, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BUTP	**Butuan**	**0.43**	**159**	*e*P		Pg	20 35 15.2	+0.9
BUTP				*e*S		Sb	20 35 23.1	-0.2
MSLP	**Maasin**	**0.96**	**322**	*e*P		Pb	20 35 25.0	-0.4
MSLP				*e*S		Sn	20 35 42.8	+2.0
BUKP	**Musuan**	**1.54**	**195**	*e*P		Pn	20 35 34.3	-0.2
BUKP				*e*S		Sg	20 35 58.7	+3.2
TBP	**Tagbilaran**	**1.61**	**281**	*e*P		Pn	20 35 35.4	0.0
TBP				*i* S		Sg	20 35 58.0	+0.3
LLP	**Lapu-Lapu**	**1.75**	**303**⇓	*e*P		Pn	20 35 37.5	+0.2
LLP				*e*S		Sn	20 35 58.5	-1.7
PLP	**Palo**	**1.84**	**345**⇓	*i*P		Pn	20 35 38.5	-0.2
PLP				*i* S		Sb	20 36 04.6	+0.6
OCLP	**Ormoc**	**1.87**	**333**	*e*P		Pn	20 35 39.5	+0.5
BESP	**Borongan**	**2.21**	**359**	*e*P		Pn	20 35 44.8	+1.0
MATI	**Mati**	**2.54**	**162**	*e*P		Pn	20 35 50.0	+1.8
MATI				*e*S		Sb	20 36 23.8	-0.2
PAGZ	**Pagadian**	**2.56**	**234**	*e*P		Pn	20 35 50.2	+1.7

*ISCJB **11** 20:41:00.3±0.7, 21.61N±0.07×143.4E±0.2, h250km, mb3.8/16, Error ellipse: s-maj=22.4km s-min=9.7km az=172.5*
*IDC **11** 20:41:04.4±1.7, 21.69N×143.25E, h269km±16km, mb3.5/17, mb1 3.6/20, mb1mx3.4/70, mbtmp4.2/20, Error ellipse: s-maj=18.3km s-min=9.5km az=79.0*

ISC 11 20:41:02.3±0.7, 21.60N±0.08×143.3E±0.2, h250km, n23, σ0.96/24, mb3.8/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JCJ	**Chichijima**	**5.56**	**350**	P		**Pn**	**20 42 27.2**	**+2.2**
	32nm,0.3s,baz=281,slow=23,SNR=9.9							
JCJ				S		**S**	**20 43 31.8**	**+0.7**
	23nm,0.3s,baz=306,slow=23,SNR=9.3							
MJAR	**Matsushiro Arr**	**15.53**	**345**	P		**P**	**20 44 27.8**	**-0.2**
	1.8nm,0.3s,baz=155,slow=7.0,SNR=28							
MAT	**Matsushiro**	**15.54**	**345**	P		**P**	**20 44 28.6**	**+0.6**
JNU	**Nakatsue**	**15.90**	**319**	P		**Pn**	**20 44 33.9**	**+0.6**
	2.5nm,0.3s,baz=103,slow=4.0,SNR=23							
KSRS	**Korea Array**	**20.66**	**323**	P		**P**	**20 45 22.8**	**-0.5**
	5.8nm,0.5s,baz=146,slow=8.9,SNR=25							
KLR	**Kul'dur**	**29.06**	**344**	P		**P**	**20 46 39.4**	**-0.1**
	0.8nm,0.6s,baz=164,slow=8.6,SNR=32							
SONM	**Songino Array**	**39.48**	**320**	P		**P**	**20 48 08.9**	**+0.1**
	1.0nm,0.4s,baz=128,slow=7.8,SNR=28							
CMAR	**Chiang Mai Arr**	**41.69**	**274**	P		**P**	**20 48 27.5**	**+0.4**
	0.2nm,0.3s,baz=92,slow=6.0,SNR=3.0							
WRA	**Warramunga Arr**	**42.21**	**193**	P		**P**	**20 48 31.8**	**+0.6**
	6.2nm,0.6s,baz=10,slow=7.8,SNR=172							
ASAR	**Alice Springs**	**45.91**	**192**	P		**P**	**20 49 00.8**	**+0.3**
	1.7nm,0.6s,baz=16,slow=12,SNR=43							
STKA	**Stephens Creek**	**53.20**	**182**	P		**P**	**20 49 55.8**	**+0.7**
	2.0nm,0.6s,baz=6.9,slow=7.7,SNR=9.7							
ZALV	**Zalesovo Beam**	**54.35**	**322**	P		**P**	**20 50 02.7**	**-0.5**
	3.7nm,0.5s,baz=105,slow=7.1,SNR=19							
MKAR	**Makanchi Array**	**54.84**	**313**	P		**P**	**20 50 06.6**	**-0.3**
	1.1nm,0.7s,baz=93,slow=8.1,SNR=23							
KURBB	**Kurchatov Arra**	**57.67**	**317**	P		**P**	**20 50 26.1**	**-0.6**
	2.4nm,0.6s,baz=93,slow=7.5,SNR=45							
ILAR	**Eielson Array**	**62.08**	**27**	P		**P**	**20 50 55.6**	**-0.8**
	0.2nm,0.3s,baz=267,slow=4.9,SNR=5.3							
BVAR	**Borovoye Array**	**62.81**	**320**	P		**P**	**20 51 01.2**	**-0.3**
	3.7nm,0.4s,baz=102,slow=7.9,SNR=50							
ARU	**Arti**	**69.41**	**324**	P		**P**	**20 51 42.5**	**-0.6**
	1.5nm,0.3s,baz=342,slow=2.5,SNR=4.4							
YKA	**Yellowknife Ar**	**76.49**	**28**	P		**P**	**20 52 24.5**	**0.0**
	0.3nm,0.4s,baz=292,slow=6.0,SNR=4.8							
ARCES	**ARCESS Array B**	**79.05**	**342**	P		**P**	**20 52 37.1**	**-1.3**
	5.2nm,1.1s,baz=66,slow=6.6,SNR=6.1							
FINES	**FINESS Array B**	**83.31**	**335**	P		**P**	**20 52 59.5**	**-1.5**
	1.8nm,0.5s,baz=66,slow=4.6,SNR=22							
HFS	**Hagfors**	**88.86**	**337**	P		**P**	**20 53 26.0**	**-2.0**
	0.5nm,0.3s,baz=74,slow=6.4,SNR=4.7							
PLCA	**Paso Flores**	**145.61**	**131**	PKPbc		**PKPdf**	**21 00 12.2**	**+1.2**
	2.0nm,0.5s,baz=264,slow=3.7,SNR=15							
LPAZ	**La Paz**	**149.84**	**85**	PKPbc		**PKPbc**	**21 00 25.2**	**+0.8**
	1.4nm,0.5s,baz=17,slow=5.4,SNR=6.2							

MEX 11 20:41:05.2±0.6, 15.84N×93.48W, h104km±5km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PCIG		**0.29**	**119**	*i* P		Pn	20 41 19.3	-0.9
PCIG				*e*S		Sn	20 41 29.4	-2.0
TGIG		**0.99**	**20**	*e*P		Pn	20 41 25.0	-0.9
TGIG				*e*S		Sn	20 41 39.5	-2.0
CCIG	**Comitan**	**1.36**	**71**	*e*P		Pn	20 41 29.3	-0.9
CCIG				*i* S		Sn	20 41 47.1	-2.0
HUIG	**Huatulco**	**2.53**	**269**	*e*P		Pn	20 41 43.2	-1.6
HUIG				*i* S		Sn	20 42 13.4	-1.9
VHO	**Vista Hermosa**	**3.35**	**292**	*i* P		Pn	20 41 55.3	-0.6
VHO				*i* S		Sn	20 42 33.5	-1.6

MAN 11 20:51:25, 9.92N×123.02E, h61km, mb4.0, ML2.8, MS2.4, 3C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SNPH	**Sibulan**	**0.61**	**159**	*i* P		Pn	20 51 37.0	-1.4
SNPH				*i* S		Sn	20 51 46.0	-2.1
GUIM	**Jordan**	**0.82**	**329**	*e*P		Pn	20 51 42.4	+1.7
GUIM				*e*S		Sn	20 51 55.1	+2.7
LLP	**Lapu-Lapu**	**1.01**	**67**⇑	*e*P		Pn	20 51 44.5	+1.2
LLP				*e*S		Sn	20 51 58.6	+1.8
DCPH	**Dipolog City**	**1.37**	**166**⇑	*e*P		Pn	20 51 49.1	+1.1
MSLP	**Maasin**	**1.83**	**83**	*e*P		Pn	20 51 58.5	+4.3
MSLP				*e*S		Sn	20 52 23.5	+7.3

*ISCJB **11** 21:01:22.0±0.6, 8.38S±0.08×118.79E±0.03, h165km, mb2.9/1, Error ellipse: s-maj=11.1km s-min=4.6km az=7.1*
*DJA **11** 21:01:22.9±0.4, 8.5S±5.5×11.9E±, h167km±5km, M3.5/7, MLv3.5/7*
*IDC **11** 21:01:22.3±2.6, 8.12S×118.99E, h165km±22km, mb2.9/2, mb1 3.2/5, mb1mx2.8/60, mbtmp3.6/5, Error ellipse: s-maj=55.7km s-min=14.0km az=46.0*

ISC 11 21:01:22.3±1.0, 8.3S±0.1×118.80E±0.04, h165km, n13, σ0.89/20, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PLAI	**Plampang**	**1.13**	**244**	P		**Pn**	**21 01 51.0**	**+1.4**
PLAI				S		**Sn**	**21 02 11.4**	**+0.8**
WBSI	**Waikabubak, Su**	**1.43**	**156**	P		**Pn**	**21 01 52.9**	**+0.5**
WBSI				S		**Sn**	**21 02 15.1**	**-0.6**
BASI	**Baing, Sumba**	**2.57**	**137**	P		**Pn**	**21 02 05.7**	**+0.7**
BASI				S		**Sn**	**21 02 38.2**	**0.0**
EDFI	**Ende, Flores**	**2.89**	**99**	P		**Pn**	**21 02 10.2**	**+1.2**
EDFI				S		**Sn**	**21 02 45.4**	**+0.2**
MMRI	**Maumere**	**3.41**	**95**	P		**Pn**	**21 02 15.7**	**+0.2**
MMRI				S		**Sn**	**21 02 57.8**	**+1.0**
IGBI	**Denpasar**	**3.65**	**262**	S		**Sn**	**21 03 02.1**	**-0.1**
BNSI	**Bone**	**4.11**	**18**	P		Pn	21 02 28.0	+3.6
JAGI	**Jajag, Banyuwa**	**4.60**	**268**	P		**Pn**	**21 02 30.9**	**+0.1**
JAGI				S		**Sn**	**21 03 23.1**	**-1.2**
BATI	**Baumata**	**5.15**	**112**	P		**Pn**	**21 02 38.1**	**+0.1**
	6.1nm,0.3s,baz=310,slow=19,SNR=19							
BATI				S		**Sn**	**21 03 35.1**	**-2.1**
	5.8nm,0.3s,baz=127,slow=20,SNR=7.3							
FITZ	**Fitzroy Crossi**	**11.77**	**146**	P		**Pn**	**21 04 05.6**	**+0.4**
	0.6nm,0.3s,baz=332,slow=12,SNR=17							
WRA	**Warramunga Arr**	**18.96**	**129**	P		**P**	**21 05 30.8**	**-0.4**
	0.1nm,0.3s,baz=302,slow=12,SNR=15							
WRA				S		**S**	**21 08 58.6**	**+0.8**
	0.1nm,0.3s,baz=310,slow=23,SNR=4.2							
ASAR	**Alice Springs**	**21.02**	**138**	P		**P**	**21 05 53.2**	**0.0**
	1.0nm,0.3s,baz=315,slow=8.9,SNR=18							
MKAR	**Makanchi Array**	**63.77**	**333**	P		**P**	**21 11 36.1**	**-0.5**
	0.1nm,0.5s,baz=151,slow=4.1,SNR=3.1							

*LDG **11** 21:17:51.1±0.4, 36.22N×12.34E, h20km, MI3.3/2, Error ellipse: s-maj=10.3km s-min=3.0km az=8.0*
*ROM **11** 21:17:54.7±1.0, 36.52N×12.69E, h30km, MI3.5/10, Error ellipse: s-maj=14.3km s-min=9.5km az=48.0*
*CSEM **11** 21:17:54.5±0.9, 36.48N×12.83E, h20km, ML3.5, Error ellipse: s-maj=20.1km s-min=12.8km az=177.0*

ISC 11 21:17:52.9±2.5, 36.5N±0.1×12.68E±0.06, h10km, n34, σ1.82/38, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CLTB	**Caltabellotta**	**1.14**	**22**	Pg		**Pb**	**21 18 14.7**	**0.0**
CLTB				Sg		**Sb**	**21 18 30.7**	**+1.2**
	568nm,0.5s							
CLTB	**Caltabellotta**	**1.14**	**22**	Pg		**Pb**	**21 18 14.7**	**0.0**
CLTB				Sg		**Sb**	**21 18 30.7**	**+1.2**
	568nm,0.5s							
CORL	**Corleone**	**1.45**	**20**	Pg		**Pn**	**21 18 19.8**	**+0.5**
	299nm,1.0s							
CORL	**Corleone**	**1.45**	**20**	Pg		**Pn**	**21 18 19.8**	**+0.5**
	299nm,1.0s							
GALF	**Gagliano Caste**	**1.92**	**51**	Pg		**Pn**	**21 18 27.2**	**+1.5**
	140nm,0.5s							
GALF	**Gagliano Caste**	**1.92**	**51**	Pg		**Pn**	**21 18 27.2**	**+1.5**
	140nm,0.5s							
HCRL	**Carlentini**	**2.03**	**67**	Pg		**Pn**	**21 18 26.2**	**-1.0**
HCRL				Sg		**Sn**	**21 18 51.2**	**-1.4**
HCRL	**Carlentini**	**2.03**	**67**	Pg		**Pn**	**21 18 26.2**	**-1.0**
HCRL				Sg		**Sn**	**21 18 51.2**	**-1.4**
MSFR	**San Fratello**	**2.14**	**45**	Pg		**Pn**	**21 18 30.3**	**+1.5**
	109nm,0.4s							
MSFR	**San Fratello**	**2.14**	**45**	Pg		**Pn**	**21 18 30.3**	**+1.5**
	109nm,0.4s							
MUCR	**Ucria**	**2.31**	**48**	Pg		**Pn**	**21 18 32.3**	**+1.1**
	180nm,0.5s							
MUCR	**Ucria**	**2.31**	**48**	Pg		**Pn**	**21 18 32.3**	**+1.1**
	180nm,0.5s							
IFIL	**Filicudi I Eol**	**2.53**	**36**	Pg		**Pn**	**21 18 34.4**	**+0.4**
	1138µm,56.0

ellipse: s-maj=10.3km s-min=7.2km az=67.0

ISC 11 21:31:42.0±0.6, 20°00N±0'03×122°26E±0'06, h175km±5km, n176, σ1♯39/204, mb4.5/84, 4C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.77**	**187**	*eP*	**Pn**	**21 32 16.3**	**+0.1**
SGCP				*eS*	**Sn**	**21 32 41.6**	**-1.1**
APYP	**Conner**	**2.34**	**205**	*eP*	**Pn**	**21 32 22.7**	**+0.2**
APYP				*eS*	**Sn**	**21 32 53.1**	**-0.9**
ABRA	**Dolores**	**2.77**	**212**	*eP*	**Pn**	**21 32 27.6**	**0.0**
ABRA				*eS*	**Sn**	**21 33 03.0**	**0.0**
TWG	**Pinlang**	**3.01**	**339**	*e*Pn	**Pn**	**21 32 28.2**	**-2.3**
TWG				*e*Sn	**Sn**	**21 33 06.5**	**-2.0**
CAUP	**Cauayan**	**3.07**	**188**	*eP*	**Pn**	**21 32 33.4**	**+2.1**
CAUP				*eS*	**Sn**	**21 33 11.1**	**+1.3**
YULB	**Yu-li**	**3.49**	**345**	*e*Pn	**Pn**	**21 32 34.0**	**-2.4**
YULB				*e*Sn	**Sn**	**21 33 18.3**	**-0.8**
TPUB	**Ta-pu**	**3.61**	**335**	*e*Pn	**Pn**	**21 32 36.8**	**-1.2**
TPUB				*e*Sn	**Sn**	**21 33 17.8**	**-4.1**
SSLB	**Suanglung**	**3.96**	**342**	*e*Pn	**Pn**	**21 32 41.0**	**-1.4**
SSLB				*e*Sn	**Sn**	**21 33 28.3**	**-1.4**
NACB	**Ninganchiao**	**4.20**	**352**	*e*Pn	**Pn**	**21 32 44.2**	**-1.1**
NACB				*e*Sn	**Sn**	**21 33 37.8**	**+2.7**
BOLP	**Bolinao**	**4.24**	**212**	*eP*	**Pn**	**21 32 46.9**	**+0.9**
BOLP				*eS*	**Sn**	**21 33 35.9**	**-0.2**
BALP	**Baler**	**4.29**	**189**	*eP*	**Pn**	**21 32 47.1**	**+0.5**
BALP				*eS*	**Sn**	**21 33 39.0**	**+1.7**
YOJ	**Yonaguni jima**	**4.49**	**9**	*e*Pn	**Pn**	**21 32 48.7**	**-0.5**
PCPH	**Palayan**	**4.56**	**194**	⇓*eP*	**Pn**	**21 32 51.5**	**+1.4**
PCPH				*eS*	**Sn**	**21 33 43.4**	**-0.1**
YHNB	**Yeheng**	**4.71**	**350**	*e*Pn	**Pn**	**21 32 51.9**	**-0.3**
YHNB				*e*Sn	**Sn**	**21 33 46.3**	**-1.0**
TATO	**Taipei**	**5.00**	**352**	*e*Pn	**Pn**	**21 32 55.6**	**-0.1**
TATO				*e*Sn	**Sn**	**21 33 54.4**	**+0.7**
QZH	**Quanzhou**	**5.97**	**326**	⇑*iP*	**Pn**	**21 33 07.1**	**-1.4**
QZH				S	**Sn**	**21 34 12.3**	**-4.4**
QZH	comp=N,100nm,0.5s			smax	smax		
QZH	comp=E,71nm,0.3s			smax	smax		
GZH	**Guangzhou**	**8.85**	**292**	P	**Pn**	**21 33 47.1**	**+0.6**
GZH				S	**Sn**	**21 35 20.5**	**-4.7**
GZH	comp=N,72nm,0.8s			smax	smax		
GZH	comp=E,62nm,0.6s			smax	smax		
WHN	**Wuhan**	**12.70**	**327**	⇓P	**Pn**	**21 34 37.9**	**+1.5**
KKM	**Kota Kinabalu** 32nm,1.0s	**15.07**	**204**	*e*Pn	**Pn**	**21 35 04.8**	**-1.6**
JNU	**Nakatsue** 0.4nm,0.3s,baz=53,slow=4.1,SNR=4.4	**15.16**	**29**	P	**P**	**21 35 09.0**	**+0.8**
JNU	**Nakatsue** 77nm,1.4s	**15.16**	**29**	*e*Pn	**P**	**21 35 09.0**	**+0.8**
ENH	**Enshi** 13nm,0.8s	**15.42**	**314**	*e*Pn	**P**	**21 35 13.2**	**+1.9**
KS15	**Wonju Array Si**	**18.05**	**15**	*eP*	**Pn**	**21 35 41.0**	**-0.8**
KSAR	**Wonju Array Be**	**18.05**	**15**	P	**Pn**	**21 35 41.0**	**-0.8**
KSRS	**Korea Array** 1.9nm,0.3s,baz=194,slow=11,SNR=26	**18.07**	**15**	P	**Pn**	**21 35 41.0**	**-1.1**
KS01	**Wonju Array Si**	**18.09**	**15**	*eP*	**Pn**	**21 35 41.5**	**-0.8**
XAN	**Xi'an**	**18.32**	**322**	P	**Pn**	**21 35 44.9**	**-0.3**
XAN	comp=Z,8.0nm,0.7s			pmax	pmax		
XAN	comp=Z,140nm,4.3s			pmax	pmax		
CBIJ	**Chichi jima** 181nm,0.9s	**19.57**	**65**	*eP*	**P**	**21 35 56.7**	**+0.2**
JCJ	**Chichijima** 18nm,0.3s,baz=299,slow=12,SNR=5.6	**19.57**	**65**	P	**P**	**21 35 56.7**	**+0.2**
TNTI	**Ternate** 88nm,1.1s	**19.76**	**165**	*eP*	**P**	**21 35 55.8**	**-2.8**
SBUM	**Sibu** 27nm,0.6s	**20.02**	**211**	*eP*	**P**	**21 36 03.3**	**+1.9**
INU	**Inuyama** 75nm,0.9s	**20.07**	**37**	*eP*	Pn	21 36 03.6	-2.2
LUWI	**Luwuk** 62nm,0.9s	**20.92**	**179**	*eP*	**P**	**21 36 11.8**	**+0.7**
MAJO	**Matsushiro**	**21.60**	**37**	*eP*	**P**	**21 36 18.2**	**+0.1**
MJAR	**Matsushiro Arr** 9.3nm,1.0s,baz=217,slow=9.0,SNR=18	**21.60**	**37**	P	**P**	**21 36 18.2**	**+0.1**
MJB9	**Matsu-Tunnel** 18nm,1.0s	**21.60**	**37**	*eP*	**P**	**21 36 18.5**	**+0.4**
CMAR	**Chiang Mai Arr** 1.2nm,0.8s,baz=72,slow=7.9,SNR=7.6	**22.07**	**270**	P	**P**	**21 36 22.9**	**-0.2**
CMAR	1.0nm,0.5s,baz=68,slow=0.9,SNR=9.0			PcP	**PcP**	**21 40 14.2**	**+0.2**
FAKI	**Fak Fak** 132nm,1.5s	**24.80**	**156**	*eP*	**P**	**21 36 44.5**	**-3.5**
USRK	**Ussuriysk Ar.** 6.1nm,0.7s,baz=196,slow=10,SNR=12	**25.45**	**16**	P	**P**	**21 36 54.0**	**+0.3**
ERM	**Erimo** 122nm,1.4s	**28.18**	**34**	*eP*	**P**	**21 37 18.6**	**+0.6**
BKNI	**Bangkinang** 131nm,0.5s	**28.53**	**229**	*eP*	**P**	**21 37 19.6**	**-1.8**
ASAJ	**Asahikawa** 1.9nm,0.3s,baz=169,slow=5.2,SNR=5.5	**29.42**	**31**	P	**P**	**21 37 29.3**	**+0.3**
ASAJ	**Asahikawa** 7.1nm,0.7s	**29.42**	**31**	*eP*	**P**	**21 37 29.3**	**+0.3**
LSA	**Lhasa** 4.8nm,0.7s	**29.76**	**295**	*eP*	**P**	**21 37 36.1**	**+3.4**
KLR	**Kul'dur** 1.2nm,0.6s,baz=204,slow=8.5,SNR=58	**30.14**	**12**	P	**P**	**21 37 36.1**	**+0.9**
KLR	0.3nm,0.6s,baz=208,slow=4.0,SNR=18			PcP	**PcP**	**21 40 32.1**	**-0.1**
ULN	**Ulaanbaatar** 4.7nm,0.7s	**30.41**	**340**	*eP*	**P**	**21 37 38.1**	**+0.3**
SONA0	**Songino Array**	**30.60**	**339**	*eP*	**P**	**21 37 40.3**	**+0.8**
SONA0				*e*PcP	**PcP**	**21 40 33.0**	**-0.6**
SONA0				*e*ScP	**ScP**	**21 43 55.2**	**-4.6**
SONM	**Songino Array** 2.6nm,0.5s,baz=156,slow=10,SNR=37	**30.60**	**339**	P	**P**	**21 37 40.3**	**+0.8**
SONM	0.5nm,0.3s,baz=169,slow=4.2,SNR=7.2			PcP	**PcP**	**21 40 33.0**	**-0.6**
SONM	0.5nm,0.5s,baz=158,slow=2.4,SNR=4.5			ScP	**ScP**	**21 43 55.2**	**-4.6**
SONA1	**Songino Array**	**30.61**	**339**	*eP*	**P**	**21 37 40.1**	**+0.5**
JIRN	**Jiri** 10.0nm,0.3s	**33.77**	**290**	*eP*	**P**	**21 38 10.0**	**+2.3**
MTN	**Manton Dam** 34nm,1.4s	**33.79**	**164**	*eP*	**P**	**21 38 05.9**	**-1.5**
GUN	**Gumba** 21nm,0.8s	**34.07**	**290**	*eP*	**P**	**21 38 12.4**	**+2.1**
PKI	**Pulchoki** 6.2nm,0.8s	**34.46**	**290**	*eP*	**P**	**21 38 15.0**	**+1.4**
PKIN	**Phulchoki**	**34.47**	**290**	*eP*	**P**	**21 38 14.7**	**+1.1**
KKN	**Kakani**	**34.59**	**290**	*eP*	**P**	**21 38 16.5**	**+1.9**
DMN	**Daman** 3.4nm,0.4s	**34.73**	**290**	*eP*	**P**	**21 38 16.6**	**+0.8**
KOLN	**Koldanda** 10nm,0.8s	**36.07**	**290**	*eP*	**P**	**21 38 27.8**	**+0.6**
PYUN	**Piuthan**	**36.63**	**290**	*eP*	**P**	**21 38 33.9**	**+1.9**
FITZ	**Fitzroy Crossi** 3.7nm,0.7s,baz=336,slow=12,SNR=7.1	**38.01**	**175**	P	**P**	**21 38 41.8**	**-1.5**
COEN	**Coen** 39nm,1.5s	**39.53**	**147**	*eP*	**P**	**21 38 55.1**	**-0.9**
WRAB	**Tennant Creek** 25nm,1.4s	**41.42**	**163**	*eP*	**P**	**21 39 10.8**	**-0.7**
WR1	**Warramunga Arr** 10nm,0.6s	**41.43**	**163**	*eP*	**P**	**21 39 10.4**	**-1.1**
WRA	**Warramunga Arr** 8.1nm,0.7s,baz=344,slow=9.2,SNR=69	**41.43**	**163**	P	**P**	**21 39 10.4**	**-1.1**
WRA	2.2nm,1.0s,baz=343,slow=13,SNR=7.2			S	**S**	**21 45 08.0**	**-5.5**
WB2	**Warramunga Arr**	**41.43**	**163**	*eP*	**P**	**21 39 09.6**	**-1.9**
MK01	**Makanchi Array**	**42.06**	**319**	*eP*	**P**	**21 39 17.9**	**+1.5**
MK31	**Makanchi Array**	**42.08**	**319**	*eP*	**P**	**21 39 18.3**	**+1.7**
MK32	**Makanchi Array**	**42.08**	**319**	*eP*	**P**	**21 39 18.2**	**+1.6**
MK32				*e*PcP	**PcP**	**21 41 08.2**	**+0.3**
MKAR	**Makanchi Array** 7.1nm,0.4s,baz=111,slow=8.5,SNR=214	**42.08**	**319**	P	**P**	**21 39 18.2**	**+1.7**
MKAR	1.5nm,0.7s,baz=103,slow=4.9,SNR=4.9			PcP	**PcP**	**21 41 08.2**	**+0.3**
MKAR	**Makanchi Array** 105nm,0.3s	**42.08**	**319**	*eP*	**P**	**21 39 18.3**	**+1.7**
MKAR				PcP	**PcP**	**21 41 08.2**	**+0.3**
MAKZ	**Makanchi** 14nm,1.2s	**42.28**	**319**	*eP*	**P**	**21 39 19.9**	**+1.7**
PEA0B	**Petropavlovsk-** 48nm,1.3s	**42.84**	**31**	*eP*	**P**	**21 39 22.9**	**+0.3**
PETK	**Petropavlovsk-** 9.4nm,0.7s,baz=201,slow=5.0,SNR=9.5	**42.84**	**31**	P	**P**	**21 39 23.2**	**+0.6**
PEA1	**Petropavlovsk-**	**42.84**	**31**	*eP*	**P**	**21 39 23.2**	**+0.6**
ZAA0	**Zalesovo Array** 3.0nm,0.7s	**44.30**	**329**	*eP*	**P**	**21 39 34.9**	**+0.7**
ZALV	**Zalesovo Beam** 1.9nm,0.3s,baz=112,slow=8.5,SNR=15	**44.30**	**329**	P	**P**	**21 39 34.8**	**+0.5**
ZALV	**Zalesovo Beam**	**44.30**	**329**	*eP*	**P**	**21 39 34.6**	**+0.3**
ZALV				*ep*	**pP**	**21 40 11.0**	**-1.6**
ZAA1	**Zalesovo Array**	**44.31**	**329**	*eP*	**P**	**21 39 34.8**	**+0.5**
AS31	**Alice Springs** 1.5nm,0.5s	**44.87**	**165**	*eP*	**P**	**21 39 39.3**	**+0.2**
ASAR	**Alice Springs** 2.3nm,0.6s,baz=343,slow=7.9,SNR=22	**44.87**	**165**	P	**P**	**21 39 39.0**	**0.0**
ASAR	2.0nm,1.0s,baz=357,slow=22,SNR=10			S	**S**	**21 46 02.1**	**-1.5**
AS01	**Alice Springs**	**44.88**	**165**	*eP*	**P**	**21 39 38.6**	**-0.5**
TKM2	**Tokmak 2** SNR=6.3	**45.19**	**311**	P	**P**	**21 39 44.0**	**+2.3**
KZA	**Kyzart** SNR=6.8	**45.22**	**310**	P	**P**	**21 39 45.2**	**+3.0**
KBK	**Karagaybulak** SNR=8.0	**45.58**	**311**	P	**P**	**21 39 47.1**	**+2.3**
UCH	**Uchtor** SNR=7.6	**45.79**	**310**	P	**P**	**21 39 49.2**	**+2.5**
AAK	**Ala-Archa** 1.4nm,0.5s,baz=133,slow=7.3,SNR=14	**45.90**	**310**	P	**P**	**21 39 49.4**	**+2.2**
KURK	**Kurchatov** 13nm,1.3s	**45.96**	**322**	*eP*	**P**	**21 39 48.2**	**+0.9**
KURBB	**Kurchatov Arra** 5.5nm,0.5s,baz=114,slow=7.7,SNR=90	**45.97**	**322**	P	**P**	**21 39 48.9**	**+1.4**
CTA	**Charters Tower** 7.7nm,0.6s,baz=1.5,slow=9.3,SNR=4.6	**46.26**	**148**	P	**P**	**21 39 50.0**	**0.0**
AML	**Almaysahu** SNR=8.1	**46.36**	**310**	P	**P**	**21 39 53.6**	**+2.6**
KKAR	**Karatay Array**	**48.86**	**310**	*eP*	**P**	**21 40 11.9**	**+2.1**
BVAR	**Borovoye Array** 5.5nm,0.6s,baz=102,slow=7.3,SNR=27	**51.56**	**323**	P	**P**	**21 40 31.3**	**+1.4**
BVAR	1.8nm,0.8s,baz=127,slow=3.8,SNR=3.9			PcP	**PcP**	**21 41 41.7**	**+0.2**
BRVK	**Borovoye** 12nm,0.6s	**51.63**	**323**	*eP*	**P**	**21 40 32.0**	**+1.5**
TIXI	**Tiksi** 5.2nm,0.8s	**51.80**	**3**	*eP*	**P**	**21 40 30.7**	**-0.7**
BBOO	**Buckleboo** 37nm,1.5s	**54.15**	**166**	*eP*	**P**	**21 40 48.5**	**-0.6**
STKA	**Stephens Creek** 3.2nm,0.5s,baz=337,slow=7.3,SNR=12	**54.81**	**160**	P	**P**	**21 40 54.2**	**+0.3**
STKA	**Stephens Creek** 6.9nm,1.8s	**54.81**	**160**	*eP*	**P**	**21 40 54.5**	**+0.5**
ABKAR	**Akbulak array** 47nm,0.9s	**57.10**	**316**	*eP*	**P**	**21 41 11.1**	**+1.0**
GEYT	**Alibeck** 1.5nm,0.7s,baz=64,slow=3.4,SNR=6.7	**57.83**	**303**	P	**P**	**21 41 17.2**	**+1.8**
AKTO	**Aktyubinsk** 1.4nm,0.5s,baz=63,slow=2.3,SNR=4.5	**58.48**	**317**	P	**P**	**21 41 20.3**	**+0.6**
WSAR	**Wadi Sarin** 5.4nm,0.8s,baz=141,slow=17,SNR=7.2	**58.83**	**286**	P	**P**	**21 41 23.2**	**+0.7**
ARU	**Arti** 7.1nm,0.5s	**59.05**	**324**	*eP*	**P**	**21 41 23.8**	**+0.3**
SPIA	**Saint Paul Isl** 33nm,1.3s	**61.23**	**35**	*eP*	**P**	**21 41 39.4**	**+1.2**
GAMB	**Gambell** 8.2nm,1.2s	**61.68**	**27**	*eP*	**P**	**21 41 42.3**	**+1.2**
UNV	**Unalaska Valle** 124nm,1.9s	**63.05**	**39**	*eP*	**P**	**21 41 49.3**	**-1.1**
CHGN	**Chignik** 220nm,1.1s	**67.70**	**36**	*eP*	**P**	**21 42 19.5**	**-0.7**
KBZ	**Khabaz** 3.1nm,0.7s,baz=348,slow=1.5,SNR=7.1	**68.90**	**310**	P	**P**	**21 42 29.0**	**+1.1**
KIV	**Kislovodsk** 10nm,0.8s	**69.02**	**310**	*eP*	**P**	**21 42 29.8**	**+1.0**
CAST	**Castle Rocks** 22nm,0.9s	**70.38**	**28**	*eP*	**P**	**21 42 37.8**	**+1.2**
PPLA	**Purkeypile** 36nm,1.5s	**70.38**	**29**	*eP*	**P**	**21 42 37.9**	**+1.1**
OHAK	**Old Harbor** 301nm,2.0s	**70.44**	**35**	*eP*	**P**	**21 42 37.0**	**0.0**
RAYN	**Ar Rayn** 3.3nm,0.8s	**70.57**	**289**	*eP*	**P**	**21 42 39.1**	**+0.6**
SPU	**Mount Spurr**	**70.62**	**31**	*eP*	**P**	**21 42 38.1**	**-0.1**
KDAK	**Kodiak Island** 282nm,1.9s	**70.75**	**34**	*eP*	**P**	**21 42 39.0**	**+0.1**
LVZ	**Lovozero** 97nm,1.6s	**70.75**	**336**	*eP*	**P**	**21 42 39.1**	**+0.3**
BPAW	**Bear Paw Mtn.** 14nm,1.0s	**70.80**	**28**	*eP*	**P**	**21 42 40.1**	**+1.0**
MLY	**Manley** 12nm,0.9s	**70.80**	**27**	*eP*	**P**	**21 42 40.4**	**+1.2**
KTH	**Kantishna Hill** 51nm,1.8s	**70.89**	**28**	*eP*	**P**	**21 42 40.6**	**+0.8**
TOLK	**Toolik Lake Re** 6.6nm,0.8s	**70.89**	**23**	*eP*	**P**	**21 42 40.1**	**+0.4**
TRF	**Thorofare Moun** 48nm,1.9s	**71.18**	**28**	*eP*	**P**	**21 42 42.1**	**+0.4**
SUA	**Susitna One** 19nm,0.9s	**71.22**	**30**	*eP*	**P**	**21 42 42.1**	**+0.2**
MCK	**McKinley** 22nm,1.0s	**71.74**	**28**	*eP*	**P**	**21 42 45.3**	**+0.5**
RND	**Reindeer** 19nm,0.8s	**71.83**	**28**	*eP*	**P**	**21 42 45.8**	**+0.4**
MDM	**Murphy Dome** 11nm,1.0s	**71.87**	**27**	*eP*	**P**	**21 42 46.5**	**+0.9**
CCB	**Clear Creek Bu** 6.2nm,1.2s	**72.10**	**27**	*eP*	**P**	**21 42 46.9**	**+0.1**
SML	**Sawmill** 18nm,0.8s	**72.31**	**30**	*eP*	**P**	**21 42 48.7**	**+0.5**
ILAR	**Eielson Array** 1.4nm,0.7s,baz=268,slow=4.8,SNR=22	**72.47**	**27**	P	**P**	**21 42 48.1**	**-1.0**
ILB	**Eielson Array**	**72.47**	**27**	*eP*	**P**	**21 42 48.5**	**-0.6**
SCM	**Sheep Creek Mo** 34nm,0.8s	**72.77**	**30**	*eP*	**P**	**21 42 51.9**	**+0.8**
RIDG	**Independ'e Rid** 9.4nm,0.8s	**73.53**	**28**	*eP*	**P**	**21 42 55.7**	**+0.2**
SPA0	**Spitsbergen Ar**	**73.76**	**348**	*eP*	**P**	**21 42 56.8**	**+0.3**
SPITS	**Spitsbergen Ar** 1.8nm,0.5s,baz=29,slow=7.2,SNR=12	**73.76**	**348**	P	**P**	**21 42 56.8**	**+0.3**
ARA0	**ARCESS Array S**	**73.77**	**339**	*eP*	**P**	**21 42 57.0**	**+0.3**
ARCES	**ARCESS Array B** 2.1nm,0.6s,baz=73,slow=9.0,SNR=11	**73.77**	**339**	P	**P**	**21 42 57.0**	**+0.3**
EGAK	**Eagle** 8.3nm,0.7s	**74.86**	**26**	*eP*	**P**	**21 43 03.8**	**+0.7**
FIA0	**FINESS Array S**	**75.55**	**330**	*eP*	**P**	**21 43 06.9**	**-0.1**
FINES	**FINESS Array B** 3.9nm,0.7s,baz=41,slow=6.2,SNR=30	**75.55**	**330**	P	**P**	**21 43 06.9**	**-0.1**
DAWY	**Dawson** 9.4nm,0.8s	**75.80**	**27**	*eP*	**P**	**21 43 09.2**	**+0.8**
BR101	**Keskin Array S**	**76.47**	**308**	*eP*	**P**	**21 43 12.2**	**-0.7**
BRTR	**Keskin Array B** 0.5nm,0.5s,baz=157,slow=2.6,SNR=6.5	**76.47**	**308**	P	**P**	**21 43 12.2**	**-0.7**
AKASG	**Malin Array Be** 1.0nm,0.4s,baz=63,slow=5.7,SNR=5.6	**76.66**	**319**	P	**P**	**21 43 12.3**	**-1.1**
AKBB	**Malin Array Si** 17nm,1.6s	**76.66**	**319**	*eP*	**P**	**21 43 12.3**	**-1.1**
INK	**Inuvik** 14nm,1.5s	**76.71**	**22**	*eP*	**P**	**21 43 13.6**	**+0.2**
HYT	**Haines Junctio**	**77.61**	**30**	*eP*	**P**	**21 43 19.8**	**+1.0**
WHY	**Whitehorse** 8.3nm,0.3s	**78.88**	**29**	*eP*	**P**	**21 43 27.2**	**+1.5**
VRI	**Vrincioaia**	**79.64**	**315**	⇑*iP*	**P**	**21 43 30.6**	**+0.6**
PLOR	**Plostina**	**79.69**	**315**	⇑*iP*	P	21 43 36.2	+5.9
BURAR	**Bucovina Array**	**80.07**	**317**	⇓*iP*	**P**	**21 43 33.2**	**+0.8**
BUR08	**Bucovina Ar. S**	**80.08**	**317**	*eP*	**P**	**21 43 33.2**	**+0.8**
MLR	**Muntele Rosu** 0.7nm,0.6s,baz=120,slow=20,SNR=4.7	**80.27**	**315**	P	**P**	**21 43 34.1**	**+0.6**
MLR	**Muntele Rosu** 31nm,1.9s	**80.27**	**315**	*eP*	**P**	**21 43 34.1**	**+0.6**
ARR	**Arges**	**81.19**	**315**	⇓*iP*	**P**	**21 43 38.7**	**+0.3**
HFS	**Hagfors** 1.8nm,0.6s,baz=131,slow=5.1,SNR=11	**81.69**	**331**	P	**P**	**21 43 40.0**	**-0.6**
DRGR			**81.96**	**317**	⇑*iP*	**P**	**21 43 42.9**	**+0.5**
NB2	**NORSAR Subarra** comp=Z,2.0nm,0.6s,baz=58,slow=5.3	**82.37**	**333**	P	**P**	**21 43 43.5**	**-0.7**
NB200	**NORSAR Array S**	**82.37**	**333**	*eP*	**P**	**21 43 44.0**	**-0.1**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.6s,baz=77,slow=7.8,SNR=5.3	**82.37**	**333**	P	**P**	**21 43 44.0**	**-0.1**
RES	**Resolute Bay** comp=Z,4.9nm,1.1s	**82.61**	**9**	*eP*	**P**	**21 43 45.1**	**+0.1**
VTS	**Vitosha**	**83.11**	**313**	⇓*iP*	**P**	**21 43 49.1**	**+0.6**
VTS	**Vitosha** comp=Z,3.3nm,0.8s	**83.11**	**313**	*eP*	**P**	**21 43 49.1**	**+0.6**
VYHS	**Vyhne**	**83.76**	**319**	*eP*	**P**	**21 43 52.2**	**+0.7**
YKW3	**Yellowknife Ar**	**86.37**	**23**	*eP*	**P**	**21 44 04.2**	**+0.1**
YKA	**Yellowknife Ar** comp=Z,3.2nm,0.6s,baz=308,slow=4.7,SNR=51	**86.41**	**23**	P	**P**	**21 44 04.7**	**+0.4**
YKB5	**Yellowknife Ar**	**86.41**	**23**	*eP*	**P**	**21 44 04.7**	**+0.3**
EKA	**Eskdalemuir Ar** comp=Z,1.3nm,0.8s,baz=45,slow=4.2,SNR=3.5	**91.85**	**332**	P	**P**	**21 44 29.3**	**-0.8**
CVS	**Carmenet Viney**	**96.06**	**46**	*eP*	**P**	**21 44 50.0**	**+0.2**
NIMB	**Iron Mountain**	**96.08**	**45**	*eP*	**P**	**21 44 51.5**	**+1.6**
MINS	**Minaret Summit**	**98.70**	**45**	*eP*	**P**	**21 45 01.8**	**-0.3**
NV01	**Mina Array Sit**	**98.77**	**44**	*eP*	Pdif	21 45 02.1	-0.1
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.7s,baz=289,slow=4.5,SNR=4.1	**98.77**	**44**	P	**P**	**21 45 02.1**	**-0.1**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=234,slow=1.4,SNR=10.0	**113.92**	**43**	PKP	**PKiKP**	**21 50 01.3**	**+0.6**
KOWA	**Kowa** comp=Z,0.9nm,0.4s,baz=87,slow=1.1,SNR=7.9	**117.02**	**299**	PKP	**PKPdf**	**21 50 06.4**	**-0.5**
TKL	**Tuckaleechee C** comp=Z,1.4nm,0.3s,baz=76,slow=4.2,SNR=5.0	**119.39**	**24**	PKP	**PKPdf**	**21 50 10.4**	**-0.6**
SNAA	**Sanae** comp=Z,0.6nm,0.6s,baz=180,slow=6.1,SNR=6.9	**119.58**	**197**	PKP	**PKPdf**	**21 50 09.7**	**-0.6**
SDV	**Santo Domingo** comp=Z,15nm,0.7s,baz=315,slow=1.4,SNR=15	**148.61**	**25**	PKPbc	**PKPdf**	**21 51 06.3**	**+0.6**
SDV	**Santo Domingo**	**148.61**	**25**	*e*PKPdf	**PKPdf**	**21 51 06.2**	**+0.6**
SDV				PKPbc	**PKPdf**	**21 51 06.3**	**+0.6**
SDV				*e*PKPbc	**PKiKP**	**21 51 09.3**	**-1.6**
PCRV	**Puerto La Cruz** comp=Z,9.1nm,0.4s,baz=334,slow=4.3,SNR=12	**149.25**	**13**	PKPbc	**PKPbc**	**21 51 09.4**	**-1.5**

IDC 11 21:33:18.9±3.9, 3°71S×140°34E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.1/44, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=139.0km s-min=31.1km az=88.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=23,slow=12,SNR=14	**17.17**	**199**	P	**Pn**	**21 37 19.1**	**-1.3**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=26,slow=9.3,SNR=2.7	**20.80**	**197**	P		**21 38 02.6**	**+0.7**
MKAR	**Makanchi Array** 0.5nm,0.9s,baz=103,slow=5.1,SNR=3.1	**71.57**	**322**	P	P	**21 44 42.1**	**0.0**

JMA 11 21:37:58.6±0.2, 23°25N×124°98E, h51km, M3.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**1.33**	**318**	P	**Pn**	**21 38 21.7**	**+0.9**
JKRS				S	**Sn**	**21 38 38.2**	**+0.9**
HATJ	**Hateruma jima**	**1.34**	**307**	P	**Pn**	**21 38 21.2**	**+0.2**
HATJ				S	**Sn**	**21 38 38.1**	**+0.4**
JIJ	**Ishigaki jima**	**1.35**	**325**	P	**Pn**	**21 38 21.6**	**+0.5**
JIJ				S	**Sn**	**21 38 37.7**	**-0.2**
JTJ	**Tarama**	**1.41**	**350**	P	**Pn**	**21 38 22.6**	**+0.7**
JTJ				S	**Sn**	**21 38 40.8**	**+1.5**
JISG	**Ishigakijimahi**	**1.47**	**335**	P	**Pn**	**21 38 23.3**	**+0.6**
JISG				S	**Sn**	**21 38 41.6**	**+0.9**
JOGS	**Gusukube**	**1.55**	**14**	P	**Pn**	**21 38 24.4**	**+0.5**
JOGS				*e*S	**Sn**	**21 38 43.8**	**+0.9**
IRIF	**Iriomote-Funau**	**1.57**	**314**	P	**Pn**	**21 38 25.0**	**+0.9**
IRIF				S	**Sn**	**21 38 44.0**	**+0.6**
JIRB	**Irabujima**	**1.58**	**6**	P	**Pn**	**21 38 24.5**	**+0.3**
JIRB				S	**Sn**	**21 38 43.6**	**+0.1**
JMJ	**Miyako jima 2**	**1.58**	**10**	P	**Pn**	**21 38 24.9**	**+0.6**
JMJ				*e*S	**Sn**	**21 38 44.5**	**+0.9**
JIKM	**Ikemajima**	**1.68**	**8**	P	**Pn**	**21 38 26.2**	**+0.6**
JIKM				*e*S	**Sn**	**21 38 47.1**	**+1.0**
YOJ	**Yonaguni jima**	**2.17**	**304**	P	**Pn**	**21 38 33.5**	**+1.2**
YOJ				*e*S	**Sn**	**21 38 58.0**	**0.0**
JYNG	**Yonagunijimaku**	**2.21**	**303**	P	**Pn**	**21 38 33.8**	**+0.9**
JYNG				*e*S	**Sn**	**21 38 59.5**	**+0.4**

*ISCJB **11** 21:43:23.4±0.8, 34°3N±0°1×81°8E±0°2, h10km, mb3.4/5, MS3.8/2, Error ellipse: s-maj=21.9km s-min=12.8km az=147.3*

*IDC **11** 21:43:23.7±1.0, 34°25N×81°66E, h0km, mb3.5/6, mb1 3.6/10, mb1mx3.4/66, mbtmp3.5/10, ML2.9/4, MS3.8/2, Ms1 3.8/2, ms1mx2.7/50, Error ellipse: s-maj=35.2km s-min=17.9km az=51.0*

ISC 11 21:43:25.1±1.0, 34°3N±0°1×81°8E±0°2, h10km, n12, σ2♯02/9, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 0.1nm,0.3s,baz=127,slow=5.1,SNR=3.3	**10.09**	**328**	Pn	**Pn**	**21 45 53.3**	**+3.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=182,slow=13,SNR=16	**12.46**	**2**	Pn	**Pn**	**21 46 22.9**	**+0.4**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=173,slow=11,SNR=2.6	**16.46**	**353**	Pn	**Pn**	**21 47 14.5**	**-1.6**
GEYT	**Alibeck** 0.1nm,0.3s,baz=99,slow=16,SNR=3.5	**19.46**	**287**	P	**Pn**	**21 47 50.9**	**-2.3**
BVAR	**Borovoye Array** 1.6nm,0.6s,baz=149,slow=12,SNR=7.7	**20.39**	**340**	P	Pn	**21 48 03.4**	**-0.6**
CMAR	**Chiang Mai Arr** 2.2nm,0.8s,baz=311,slow=11,SNR=15	**21.97**	**132**	P	**P**	**21 48 19.4**	**+0.1**
AKTO	**Aktyubinsk** 0.8nm,0.7s,baz=133,slow=8.4,SNR=3.9	**23.68**	**320**	P	**P**	**21 48 37.7**	**+0.9**
ASF	**Jabal al Asfar** comp=Z,90nm,

Plg37.0000°, Azm333.0000°; P -2.7340, Plg22.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
IDC ***11*** *22:02:42.4±2.0, 23°.72N×143°.64E, h51km±18km, mb4.5/34, mb1 4.6/40, mb1mx4.5/65, mbtmp4.8/40, ML4.4/6, MS3.8/29, Ms1 3.8/29, ms1mx3.7/57 Error ellipse: s-maj=13.4km s-min=8.8km az=82.0*
JMA ***11*** *22:02:43.2±0.2, 23°.93N×143°.41E, h140km, M5.4*
ISC 11 22:02:40.6±0.4, 23°.81N±0'.04×143°.68E±0'.05, h31km±2km, h31km:pP-P, n484, σ1°34/499, mb4.9/211, MS3.8/34, 17C-15D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**3.12**	**334**	P	**Pn**	**22 03 29.7**	**+2.1**
JHHJ				S	**Sn**	**22 04 05.4**	**+1.6**
CBIJ	**Chichi jima**	**3.54**	**338**	P	**Pn**	**22 03 35.0**	**+1.6**
CBIJ				S	**Sn**	**22 04 14.6**	**+0.4**
CBIJ	**Chichi jima**	**3.54**	**338**	*e*Pn	**Pn**	**22 03 34.9**	**+1.5**
CBIJ				*e*Sn	**Sn**	**22 04 14.6**	**+0.4**
JCJ	**Chichijima**	**3.54**	**338**	P	**Pn**	**22 03 35.4**	**+2.0**
	137nm,0.3s,baz=144,slow=10.0,SNR=46						
JCJ				S	**Sn**	**22 04 14.9**	**+0.7**
	685nm,0.3s,baz=289,slow=23,SNR=20						
SARN	**Sarigan**	**7.34**	**164**	*e*Pn	**Pn**	**22 04 27.7**	**+1.9**
JHJ2	**Mitsune**	**9.87**	**341**	*e*Pn	**Pn**	**22 05 01.6**	**+1.3**
JHJ	**Hachijo jima 2**	**9.88**	**341**	P	**Pn**	**22 05 01.5**	**+1.0**
	44nm,0.3s,baz=233,slow=20,SNR=4.9						
GUMO	**Guam**	**10.23**	**173**	P	**Pn**	**22 05 06.5**	**+1.2**
	3.5nm,0.3s,baz=163,slow=20,SNR=3.0						
GUMO				LR	LR	22 08 00.6	
	comp=Z,196nm,20.8s,baz=4.5,slow=31						
GUMO	**Guam**	**10.23**	**173**	*e*P	Pn	22 05 10.7	+5.4
GUMO	**Guam**	**10.23**	**173**	*e*Pn	Pn	22 05 10.7	+5.4
BSO1	**Boso 1**	**11.06**	**348**	S	**Sn**	**22 07 13.3**	**-5.1**
JOD2	**Odawara 2**	**12.09**	**342**	P	**Pn**	**22 05 30.7**	**0.0**
JOD2				S	**Sn**	**22 07 39.2**	**-5.2**
JYN	**Shimob**	**12.47**	**340**	P	**Pn**	**22 05 37.0**	**+1.1**
JYN				*e*S	**Sn**	**22 07 49.1**	**-4.7**
JRY	**Ryogami san**	**12.85**	**342**	P	**Pn**	**22 05 40.4**	**-0.7**
JRY				*e*S	**Sn**	**22 07 54.8**	**-8.2**
INU	**Inuyama**	**12.87**	**335**	*e*Pn	**Pn**	**22 05 42.2**	**+0.8**
MJAR	**Matsushiro Arr**	**13.54**	**341**	P	**Pn**	**22 05 51.2**	**+0.8**
	3.5nm,0.3s,baz=161,slow=12,SNR=24						
MAJO	**Matsushiro**	**13.54**	**341⇑**	*e*P	**Pn**	**22 05 52.4**	**+1.9**
MAJO	**Matsushiro**	**13.54**	**341**	*e*Pn	**Pn**	**22 05 51.8**	**+1.3**
MAT	**Matsushiro**	**13.54**	**341**	P	**Pn**	**22 05 50.4**	**-0.1**
MAT				*e*S	Sn	22 08 08.6	-11
MJB9	**Matsu-Tunnel**	**13.54**	**341**	*e*Pn	**Pn**	**22 05 51.8**	**+1.3**
JNU	**Nakatsue**	**14.57**	**312**	P	**Pn**	**22 06 06.7**	**+2.1**
	0.3nm,0.3s,baz=165,slow=9.2,SNR=3.9						
JNU				LR	LR	22 11 51.0	
	comp=Z,185nm,18.1s,baz=129,slow=38						
JNU	**Nakatsue**	**14.57**	**312**	*e*Pn	**Pn**	**22 06 06.5**	**+1.8**
ERM	**Erimo**	**18.16**	**359⇑**	*e*P	**P**	**22 06 52.2**	**+1.8**
ERM	**Erimo**	**18.16**	**359**	*e*P	**P**	**22 06 51.6**	**+1.3**
	60nm,1.1s						
TJN	**Taejon**	**18.84**	**315⇑**	*e*P	**Pn**	**22 06 59.1**	**+0.5**
KSRS	**Korea Array**	**19.16**	**319**	P	**Pn**	**22 07 02.6**	**+0.2**
	1.1nm,0.3s,baz=135,slow=12,SNR=27						
KSRS				LR	LR	22 14 42.3	
	comp=Z,346nm,18.1s,baz=132,slow=38						
KS15	**Wonju Array Si**	**19.18**	**319**	*e*P	**Pn**	**22 07 05.6**	**+2.9**
KSAR	**Wonju Array Be**	**19.18**	**319**	P	**Pn**	**22 07 02.7**	**0.0**
KSAR	**Wonju Array Be**	**19.18**	**319**	P	**Pn**	**22 07 02.6**	**0.0**
KS01	**Wonju Array Si**	**19.20**	**319**	*e*P	**Pn**	**22 07 05.0**	**+2.2**
INCN	**Inchon**	**19.97**	**317**	*e*P	**P**	**22 07 08.4**	**-1.9**
	117nm,1.6s						
SHO	**Shikotan**	**20.18**	**7**	P	P	22 07 05.0	-7.4
SHO				*i* S	S	22 10 45.7	-12
SHO				pmax	pmax		
	comp=E,94nm,0.9s						
SHO				pmax	pmax		
	comp=Z,44nm,0.9s						
SHO				pmax	pmax		
	comp=N,26nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**20.25**	**5**	P	**P**	**22 07 08.3**	**-4.9**
YUK				*e*S	**S**	**22 10 51.2**	**-7.6**
YUK				pmax	pmax		
	comp=Z,195nm,0.4s						
ASAJ	**Asahikawa**	**20.27**	**358**	P	Pn	22 07 15.4	-0.2
	comp=Z,8.2nm,0.8s,baz=185,slow=8.2,SNR=4.9						
ASAJ	**Asahikawa**	**20.27**	**358**	*e*P	Pn	22 07 17.0	+1.4
	comp=Z,24nm,0.6s						
YHNB	**Yeheng**	**20.35**	**277**	*e*P	**P**	**22 07 14.8**	**+0.2**
	comp=Z,79nm,1.2s						
YULB	**Yu-li**	**20.51**	**273**	*e*P	Pn	22 07 19.2	+0.6
	comp=Z,32nm,0.9s						
TWG	**Pinlang**	**20.78**	**272**	*e*P	Pn	22 07 23.0	+1.2
	comp=Z,125nm,0.8s						
SSLB	**Suanglung**	**20.79**	**275**	*e*P	Pn	22 07 21.8	-0.1
	comp=Z,74nm,0.8s						
TPUB	**Ta-pu**	**21.13**	**273**	*e*P	**P**	**22 07 21.6**	**-1.5**
	comp=Z,44nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**21.93**	**96**	P	**P**	**22 07 36.7**	**+5.3**
	baz=267,slow=14,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**21.93**	**96**	P	P	22 07 43.5	+12
	baz=267,slow=14,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**21.95**	**96**	P	P	22 07 44.0	+12
	baz=267,slow=14,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**22.10**	**99**	T	T	22 31 12.4	
	SNR=3.5						
USRK	**Ussuriysk Ar.**	**22.48**	**338**	P	**P**	**22 07 39.2**	**+2.0**
	comp=Z,7.0nm,0.8s,baz=176,slow=11,SNR=8.3						
YSS	**Yuzh-Sakhalins**	**23.10**	**358**	*e*P	P	22 07 59.1	+15
YSS				*e*		22 08 23.2	
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS	**Yuzh-Sakhalins**	**23.10**	**358**	*e*P	**P**	**22 07 44.2**	**+0.5**
	comp=Z,34nm,0.8s						
NJ2	**Nanjing**	**23.38**	**296**	*e*P	**P**	**22 07 47.9**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,14nm,0.7s						
TGY	**Tagaytay City**	**23.55**	**250**	LR	LR	22 15 39.6	
	comp=Z,552nm,20.8s,baz=110,slow=33						
MDJ	**Mudanjiang**	**23.73**	**334**	P	**P**	**22 07 50.7**	**+0.8**
MDJ				pP	sP	22 08 02.6	0.0
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,300nm,4.9s						
DAV	**Davao City (W)**	**24.06**	**229**	LR	LR	22 15 26.8	
	comp=Z,679nm,21.6s,baz=45,slow=32						
SNY	**Shenyang**	**24.56**	**322**	⇓P	**P**	**22 07 59.3**	**+1.8**
SNY				pmax	pmax		
	comp=Z,17nm,0.7s						
TIA	**Tai'an**	**26.01**	**304**	P	**P**	**22 08 11.4**	**+0.6**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WHN	**Wuhan**	**26.89**	**291**	⇓P	**P**	**22 08 21.9**	**+3.1**
WHN				sP	sP	22 08 39.9	+8.3
WHN				S	**S**	**22 12 55.6**	**+2.0**
WHN				LR	LR		
	comp=Z,640nm,13.3s						
TYV	**Tymovskoe**	**27.02**	**359**	*e*P	**P**	**22 08 20.8**	**+1.1**
TYV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KLR	**Kul'dur**	**27.05**	**343**	P	**P**	**22 08 21.4**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=153,slow=7.4,SNR=41						
KLR				LR	LR	22 18 22.9	
	comp=Z,14nm,21.0s,baz=156,slow=35						
GRNR	**Gornyy**	**27.50**	**350**	*e*P	P	22 08 34.1	+10
FAKI	**Fak Fak**	**28.81**	**204**	*e*P	**P**	**22 08 34.2**	**-1.8**
	comp=Z,83nm,1.2s						
LBMI	**Labuha**	**28.94**	**215**	P	**P**	**22 08 37.0**	**-0.2**
NKL	**Nikolayevsk**	**29.38**	**356**	*e*P	**P**	**22 08 42.0**	**+1.3**
NKL				pmax	pmax		
	comp=Z,17nm,0.9s						
MYLDM	**Lahad Datu**	**30.51**	**237**	*e*P	**P**	**22 08 52.1**	**+0.9**
	comp=Z,56nm,1.1s						
PETK	**Petropavlovsk-**	**31.13**	**16**	LR	LR	22 20 01.5	
	comp=Z,258nm,21.5s,baz=194,slow=33						
MRSI	**Marisa**	**31.35**	**225**	P	**P**	**22 08 58.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**31.78**	**310**	*e*P	**P**	**22 09 02.8**	**+0.5**
HHC				S	**S**	**22 14 05.0**	**-5.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,87nm,4.1s						
HHC				LR	LR		
	comp=Z,140nm,12.3s						
HHC				LR	LR		
	comp=Z,150nm,12.3s						
HHC				LR	LR		
	comp=Z,120nm,14.8s						
LUWI	**Luwuk**	**31.98**	**222**	*e*P	**P**	**22 09 02.6**	**-1.5**
	comp=Z,72nm,0.8s						
ZEA	**Zeya**	**32.35**	**342**	*e*P	P	22 09 13.4	+6.5
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,44nm,1.0s						
MPSI	**Mapaga**	**32.81**	**228**	P	**P**	**22 09 11.0**	**-0.4**
PMG	**Port Moresby**	**33.19**	**174**	P	**P**	**22 09 13.1**	**-1.5**
	comp=Z,50nm,0.8s,baz=306,slow=14,SNR=13						
PMG				LR	LR	22 21 49.3	
	comp=Z,58nm,21.8s,baz=352,slow=35						
PMG	**Port Moresby**	**33.19**	**174**	*e*P	**P**	**22 09 12.8**	**-1.8**
PMG				pmax	pmax		
	comp=Z,240nm,0.9s						
PMG	**Port Moresby**	**33.19**	**174**	*e*P	**P**	**22 09 13.5**	**-1.1**
	comp=Z,53nm,0.8s						
GYA	**Guiyang**	**33.54**	**282**	⇓*i*P	**P**	**22 09 18.4**	**+0.6**
GYA				pP	sP	22 09 31.6	+0.9
GYA				PP	**PP**	**22 10 32.0**	**-2.0**
GYA				PcP	**PcP**	**22 12 00.4**	**+2.2**
GYA				S	**S**	**22 14 36.8**	**-1.4**
GYA				sS	sS	22 14 58.6	+5.4
GYA				ScP	**ScP**	**22 15 39.0**	**-1.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.6s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,540nm,17.0s						
GYA				LR	LR		
	comp=Z,510nm,17.6s						
GYA				LR	LR		
	comp=Z,480nm,17.2s						
CLNS	**Chul'man**	**35.71**	**342**	*e*P	P	22 09 46.7	+11
CLNS				pmax	pmax		
	comp=E,5.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,6.0nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,14nm,0.9s						
CD2	**Chengdu**	**36.01**	**290**	P	**P**	**22 09 38.0**	**-1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.0s						
MA2	**Magadan**	**36.09**	**6**	P	**P**	**22 09 39.5**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=165,slow=9.8,SNR=5.9						
MA2				LR	LR	22 22 29.2	
	comp=Z,128nm,21.5s,baz=192,slow=33						
MA2	**Magadan**	**36.09**	**6⇑**	*i*P	**P**	**22 09 40.6**	**+1.4**
BNSI	**Bone**	**36.25**	**222**	P	**P**	**22 09 40.8**	**-0.3**
LZH	**Lanzhou**	**36.38**	**299**	⇓P	**P**	**22 09 43.4**	**+1.1**
LZH				pP	sP	22 09 56.1	+0.9
LZH				sP	pP	22 10 02.0	+11
LZH				*e*PP	**PP**	**22 11 08.1**	**+2.8**
LZH				*e*S	**S**	**22 15 20.1**	**-1.7**
LZH				pmax	pmax		
	comp=Z,11nm,0.9s						
LZH				pmax	pmax		
	comp=Z,120nm,5.7s						
LZH				LR	LR		
	comp=Z,200nm,11.2s						
LZH				LR	LR		
	comp=Z,270nm,11.3s						
LZH				LR	LR		
	comp=Z,230nm,12.7s						
HNR	**Honiara**	**36.67**	**152**	LR	LR	22 22 37.7	
	comp=Z,130nm,19.1s,baz=4.0,slow=33						
SBUM	**Sibu**	**37.10**	**240**	*e*P	**P**	**22 09 48.6**	**+0.3**
	comp=Z,9.7nm,0.8s						
KMI	**Kunming**	**37.19**	**281**	P	**P**	**22 09 50.5**	**+1.2**
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
KMI				pmax	pmax		
	comp=Z,120nm,4.7s						
MTKI	**Muara Teweh, K**	**37.24**	**233**	P	**P**	**22 09 49.2**	**-0.4**
COEN	**Coen**	**37.54**	**181**	*e*P	**P**	**22 09 51.6**	**-0.4**
	comp=Z,74nm,1.3s						
ULN	**Ulaanbaatar**	**37.65**	**319⇑**	*e*P	**P**	**22 09 53.7**	**+0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,2.5s						
ULN	**Ulaanbaatar**	**37.65**	**319**	*e*P	**P**	**22 09 53.9**	**+1.0**
	comp=Z,18nm,2.0s						
SKNT	**Sakolnakorn**	**37.73**	**267**	P	**P**	**22 09 54.3**	**+0.5**
	comp=Z,13nm,1.5s						
SONA0	**Songino Array**	**38.03**	**319**	*e*P	**P**	**22 09 55.9**	**-0.3**
SONA1	**Songino Array**	**38.03**	**319**	*e*P	**P**	**22 09 56.4**	**+0.3**
SONM	**Songino Array**	**38.03**	**319**	P	**P**	**22 09 55.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=132,slow=7.5,SNR=4.4						
SONM				LR	LR	22 27 21.7	
	comp=Z,132nm,18.9s,baz=140,slow=39						
SOEI	**Soe**	**38.38**	**212**	*e*P	**P**	**22 09 57.0**	**-2.3**
	comp=Z,20nm,0.8s						
MTN	**Manton Dam**	**38.44**	**200**	*e*P	**P**	**22 09 57.7**	**-1.9**
	comp=Z,73nm,1.5s						
KHON	**Khomkaen**	**38.98**	**267**	P	**P**	**22 10 05.1**	**+0.8**
	comp=Z,12nm,1.0s,comp=Z,305nm						
BATI	**Baumata**	**39.06**	**212**	P	**P**	**22 10 02.9**	**-2.1**
	comp=Z,21nm,0.5s,baz=66,slow=5.5,SNR=9.7						
BATI				LR	LR	22 23 52.4	
	comp=Z,128nm,20.2s,baz=52,slow=33						
BATI	**Baumata**	**39.06**	**212**	P	**P**	**22 10 03.9**	**-1.0**
YAK	**Yakutsk**	**39.38**	**350**	*e*P	P	22 10 15.6	+8.6
YAK				pmax	pmax		
	comp=Z,22nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.5s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
YAK	**Yakutsk**	**39.38**	**350**	*e*P	**P**	**22 10 06.1**	**-0.8**
	comp=N,24nm,0.6s						
SEY	**Seymchan**	**39.54**	**6⇑**	*i*P	**P**	**22 10 10.1**	**+1.7**
CHAI	**Chaiyaphum**	**39.88**	**267**	P	**P**	**22 10 12.0**	**+0.2**
	comp=N,7.6nm,1.1s,comp=N,117nm						
GTA	**Gaotai**	**40.05**	**303**	*e*P	**P**	**22 10 13.6**	**+0.4**
GTA				pP	pP	22 10 24.1	+1.7
GTA				sP	sP	22 10 30.6	+4.5
GTA				pmax	pmax		
	comp=N,2.0nm,0.9s						
BOD	**Bodaibo**	**40.09**	**336**	*e*P	**P**	**22 10 14.1**	**+1.1**
BOD				pmax	pmax		
	comp=Z,11nm,1.9s						
SRAK	**Srakaew**	**40.45**	**264**	P	**P**	**22 10 12.7**	**-3.8**
	comp=Z,58nm,0.8s						
BASI	**Baing, Sumba**	**40.67**	**216**	P	**P**	**22 10 17.7**	**-0.5**
PHIT	**Phitsanulok**	**40.93**	**269**	P	**P**	**22 10 21.3**	**+0.8**
	comp=Z,42nm,1.1s,comp=Z,363nm						
ZAK	**Zakamensk**	**40.98**	**321**	*e*P	**P**	**22 10 19.1**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
PLAI	**Plampang**	**41.15**	**221**	P	**P**	**22 10 20.9**	**-1.3**
LAMP	**Lampang**	**41.29**	**271**	P	**P**	**22 10 25.2**	**+1.8**
	comp=Z,5.5nm,1.1s						
TLY	**Talaya**	**41.34**	**323**	*e*P	**P**	**22 10 24.4**	**+0.9**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,115nm,17.0s						
CMAI	**Chiengmai2**	**41.48**	**274**	P	**P**	**22 10 25.8**	**+0.7**
	comp=Z,310nm,1.0s,comp=Z,13μm						
CMMT	**Chiang Mai**	**41.84**	**272**	P	**P**	**22 10 27.0**	**-1.0**
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**41.84**	**272**	P	**P**	**22 10 28.1**	**+0.1**
	comp=Z,81nm,1.2s						
CHTO	**Chiang Mai**	**41.84**	**272**	*e*P	**P**	**22 10 28.4**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,13nm,0.8s						
CHTO	**Chiang Mai**	**41.84**	**272**	*e*P	**P**	**22 10 28.4**	**+0.4**
	comp=Z,13nm,0.8s						
CM31	**Chiang Mai Arr**	**41.94**	**272**	*e*P	**P**	**22 10 28.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.94**	**272**	P	**P**	**22 10 28.4**	**-0.3**
	comp=Z,6.7nm,0.6s,baz=62,slow=7.6,SNR=40						
CMAR				LR	LR	22 26 30.5	
	comp=Z,148nm,21.9s,baz=90,slow=34						
CMAR	**Chiang Mai Arr**	**41.94**	**272**	*i* P	**P**	**22 10 29.6**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MOY	**Mondy**	**42.83**	**322**	*e*P	P	22 10 53.5	+18
BLJI	**Banyuglugur**	**42.98**	**227**	P	**P**	**22 10 37.5**	**+0.4**
	comp=Z,92nm,1.0s,comp=Z,9μm						
SRDT	**SRDT**	**43.00**	**266**	P	**P**	**22 10 37.0**	**-0.4**
	comp=Z,25nm,0.9s,comp=Z,2μm						
PHET	**Kaeng Krachan**	**43.03**	**263**	P	**P**	**22 10 38.5**	**+0.9**
	comp=Z,13nm,0.8s,comp=Z,136nm						
JAGI	**Jajag, Banyuwa**	**43.15**	**225**	*e*P	**P**	**22 10 36.5**	**-2.0**
	comp=Z,28nm,0.8s						
CTAO	**Charters Tower**	**43.71**	**176**	*e*P	**P**	**22 10 41.2**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,21nm,0.7s						
CTAO	**Charters Tower**	**43.71**	**176**	*e*P	**P**	**22 10 41.2**	**-1.7**
	comp=Z,21nm,0.7s						
WRAB	**Tennant Creek**	**44.42**	**193**	*d*P	**P**	**22 10 46.5**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,73nm,0.7s						
WRAB	**Tennant Creek**	**44.42**	**193**	*e*P	**P**	**22 10 47.1**	**-1.6**
	comp=Z,80nm,0.7s						
WB2	**Warramunga Arr**	**44.43**	**193**	*e*P	**P**	**22 10 47.8**	**-0.9**
WR1	**Warramunga Arr**	**44.43**	**193**	*e*P	**P**	**22 10 47.2**	**-1.5**
	comp=Z,97nm,0.7s						
WR1				*e*PcP	**PcP**	**22 12 31.5**	**-0.6**
WRA	**Warramunga Arr**	**44.43**	**193**	P	**P**	**22 10 47.2**	**-1.6**
	comp=Z,56nm,0.7s,baz=18,slow=9.1,SNR=258						
WRA				PcP	**PcP**	**22 12 31.5**	**-0.6**
	comp=Z,4.0nm,0.7s,baz=4.6,slow=3.6,SNR=4.8						
WRA	**Warramunga Arr**	**44.43**	**193**	*i* P	**P**	**22 10 47.2**	**-1.6**
WRA				pmax	pmax		
	comp=Z,53nm,0.7s						
UGM	**Wanagama**	**45.20**	**230**	*e*P	**P**	**22 10 53.2**	**-1.9**
	comp=Z,334nm,1.5s						
FITZ	**Fitzroy Crossi**	**45.22**	**205**	*e*P	**P**	**22 10 53.8**	**-1.3**
	comp=Z,39nm,0.9s						
KULM	**Kulim**	**45.29**	**253**	*e*P	**P**	**22 10 55.7**	**-0.1**
	comp=Z,44nm,1.2s						
IPM	**Ipoh**	**45.35**	**252**	*e*P	**P**	**22 10 55.9**	**-0.4**
	comp=Z,19nm,0.9s						
BILL	**Bilibino**	**46.37**	**12**	*i* P	**P**	**22 11 03.1**	**-0.4**
BILL				*i*		22 11 13.9	
BILL				*i*		22 12 49.5	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SPIA	**Saint Paul Isl**	**46.94**	**32**	*e*P	**P**	**22 11 09.5**	**+1.3**
	comp=Z,25nm,0.9s						
LSA	**Lhasa**	**46.95**	**289**	P	**P**	**22 11 11.3**	**+2.0**
LSA				pmax	pmax		
	comp=Z,28nm,0.9s						
LSA	**Lhasa**	**46.95**	**289**	*e*P	**P**	**22 11 11.2**	**+2.0**
LSA				pmax	pmax		
	comp=Z,18nm,0.8s						
LSA	**Lhasa**	**46.95**	**289**	*e*P	**P**	**22 11 11.2**	**+2.0**
	comp=Z,18nm,0.8s						
PSI	**Prapat**	**48.00**	**251**	P	**P**	**22 11 16.6**	**-0.5**
	comp=Z,21nm,0.7s,baz=43,slow=6.7,SNR=16						
PSI				LR	LR	22 30 22.9	
	comp=Z,109nm,21.4s,baz=25,slow=35						
PSI	**Prapat**	**48.00**	**251**	*e*P	**P**	**22 11 17.2**	**0.0**
PSI				pmax	pmax		
	comp=Z,30nm,0.9s						
PSI	**Prapat**	**48.00**	**251**	*e*P	**P**	**22 11 17.2**	**0.0**
	comp=Z,30nm,0.9s						
AS01	**Alice Springs**	**48.13**	**192**	*e*P	**P**	**22 11 15.8**	**-2.0**
AS31	**Alice Springs**	**48.14**	**192**	*e*P	**P**	**22 11 16.4**	**-1.4**
	comp=Z,8.3nm,0.6s						
ASAR	**Alice Springs**	**48.14**	**192**	P	**P**	**22 11 16.2**	**-1.7**
	comp=Z,15nm,0.7s,baz=15,slow=11,SNR=134						
MNSI	**Mandailing Nat**	**48.45**	**248**	P	**P**	**22 11 20.0**	**-0.5**
	comp=Z,30nm,1.0s						
TIXI	**Tiksi**	**48.60**	**354⇑**	*i*P	**P**	**22 11 21.5**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TIXI	**Tiksi**	**48.60**	**354**	*e*P	**P**	**22 11 21.4**	**+0.6**
	comp=Z,8.8nm,0.9s						
KCSI	**Kotacane, Aceh**	**48.65**	**253**	P	**P**	**22 11 20.6**	**-1.5**
	comp=Z,25nm,1.0s						
GAMB	**Gambell**	**49.51**	**24**	*e*P	**P**	**22 11 27.8**	**-0.1**
	comp=Z,10nm,1.0s						
WMQ	**Urumqi**	**49.62**	**308**	P	**P**	**22 11 30.7**	**+1.5**
WMQ				pP	pP	22 11 40.0	+1.4
WMQ				sP	sP	22 11 48.7	+6.4
WMQ				pmax	pmax		
	comp=Z,260nm,3.6s						
WMQ				LR	LR		
	comp=Z,250nm,35.1s						
WMQ				LR	LR		
	comp=Z,140nm,24.3s						
GSI	**Gunungsitoli**	**49.91**	**250**	P	**P**	**22 11 30.8**	**-0.9**
GSI	**Gunungsitoli**	**49.91**	**250**	*e*P	**P**	**22 11 30.4**	**-1.3**
	comp=Z,39nm,0.8s						
DGZ	**Jazzator, Alta**	**50.52**	**316**	*c i*P	**P**	**22 11 37.1**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DZM	**Mont Dzumac**	**50.70**	**152**	P	**P**	**22 11 37.5**	**0.0**
	comp=Z,10nm,0.8s,baz=285,slow=2.3,SNR=7.9						
DZM				LR	LR	22 32 22.9	
	comp=Z,69nm,19.1s,baz=33,slow=35						
DZM	**Mont Dzumac**	**50.70**	**152**	*e*P	**P**	**22 11 37.5**	**0.0**
	comp=Z,34nm,1.0s						
SDPT	**Sand Point**	**51.45**	**37**	*e*P	**P**	**22 11 41.8**	**-0.9**
	comp=Z,146nm,1.1s						
JIRN	**Jiri**	**51.54**	**287**	*e*P	**P**	**22 11 45.5**	**+1.2**
	comp=Z,78nm,0.7s						
GUN	**Gumba**	**51.77**	**288**	*e*P	**P**	**22 11 47.0**	**+1.1**
	comp=Z,73nm,0.9s						
PKI	**Pulchoki**	**52.23**	**287**	*e*P	**P**	**22 11 49.9**	**+0.5**
	comp=Z,60nm,1.2s						
PKIN	**Phulchoki**	**52.24**	**287**	*e*P	**P**	**22 11 49.7**	**+0.3**
	comp=Z,22nm,0.8s						
KKN	**Kakani**	**52.31**	**288**	*e*P	**P**	**22 11 50.6**	**+0.8**
	comp=Z,48nm,1.0s						
DMN	**Daman**	**52.49**	**287**	*e*P	**P**	**22 11 51.9**	**+0.7**
	comp=Z,83nm,1.2s						
GKN	**Gorkha**	**52.84**	**288**	*e*P	**P**	**22 11 54.4**	**+0.7**
ZAA0	**Zalesovo Array**	**52.86**	**

KURK **Kurchatov** 56.26 316 *eP* P 22 12 18.1 +0.2
KURBB **Kurchatov Arra** 56.31 316 P P 22 12 18.1 -0.2
comp=Z,16nm,0.7s,baz=93,slow=8.0,SNR=195
BBOO **Buckleboo** 56.77 188 *eP* P 22 12 20.7 -0.9
comp=Z,24nm,0.9s
AFI **Afiamalu** 57.46 126 LR LR 22 31 42.5
comp=Z,95nm,22.0s,baz=327,slow=30
CAST **Castle Rocks** 57.48 29 *eP* P 22 12 27.6 +1.2
comp=Z,21nm,0.9s
BPAW **Bear Paw Mtn.** 58.09 28 *eP* P 22 12 31.6 +0.9
comp=Z,17nm,0.8s
COCO **West Island** 58.11 237 *i* P P 22 12 32.7 +1.3
TRF **Thorofare Moun** 58.28 29 *eP* P 22 12 32.8 +0.6
comp=Z,22nm,0.9s
MLY **Manley** 58.39 27 *eP* P 22 12 34.1 +1.3
comp=Z,21nm,1.1s
KSH **Kashi** 58.45 303 P P 22 12 37.5 +3.7
KSH pP sP 22 12 47.7 +0.7
KSH PcP **PcP** 22 13 26.4 +2.1
KSH PP **PP** 22 14 46.8 +3.6
KSH PcS **PcS** 22 17 26.9 +0.9
KSH S **S** 22 20 35.7 +0.5
KSH sS sS 22 20 57.7 +6.8
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH pmax pmax
comp=Z,87nm,4.9s
KSH LR LR
comp=Z,210nm,6.2s
KSH LR LR
comp=Z,160nm,7.2s
KSH LR LR
comp=Z,280nm,6.3s
PMR **Palmer** 58.51 31 *eP* P 22 12 33.7 +0.1
PMR pmax pmax
comp=Z,31nm,1.0s
PMR **Palmer** 58.51 31 *eP* P 22 12 33.7 +0.1
comp=Z,31nm,1.0s
RND **Reindeer** 58.91 29 *eP* P 22 12 36.6 +0.2
RND pmax pmax
comp=Z,14nm,0.8s
RND **Reindeer** 58.91 29 *eP* P 22 12 36.6 +0.2
comp=Z,14nm,0.8s
SML **Sawmill** 58.91 31 *eP* P 22 12 36.8 +0.3
SML pmax pmax
comp=Z,41nm,0.9s
SML **Sawmill** 58.91 31 *eP* P 22 12 36.8 +0.3
comp=Z,41nm,0.9s
MCK **McKinley** 58.92 29 *eP* P 22 12 36.9 +0.4
MCK pmax pmax
comp=Z,22nm,0.9s
MCK **McKinley** 58.92 29 *eP* P 22 12 36.9 +0.4
comp=Z,22nm,0.9s
CAN **Canberra** 59.02 175 *eP* P 22 12 37.5 0.0
CAN pmax pmax
comp=Z,63nm,1.1s
CAN **Canberra** 59.02 175 *eP* P 22 12 37.5 0.0
comp=Z,62nm,1.1s
COLD **Coldfoot** 59.06 25 *eP* P 22 12 38.9 +1.5
comp=Z,8.1nm,0.9s
FRU **Bishkek** 59.15 307 *eP* P 22 12 48.0 +9.5
AAK **Ala-Archa** 59.26 307‖ *eP* P 22 12 39.7 +0.3
AAK **Ala-Archa** 59.26 307 *eP* P 22 12 40.0 +0.6
comp=Z,9.5nm,1.5s
SCM **Sheep Creek Mo** 59.39 31 *eP* P 22 12 40.8 +1.0
SCM pmax pmax
comp=Z,47nm,0.8s
SCM **Sheep Creek Mo** 59.39 31 *eP* P 22 12 40.8 +1.0
comp=Z,47nm,0.8s
MDM **Murphy Dome** 59.42 27 *eP* P 22 12 41.3 +1.4
comp=Z,60nm,1.9s
CCB **Clear Creek Bu** 59.55 28 *eP* P 22 12 41.1 +0.3
comp=Z,6.6nm,1.0s
COLA **College** 59.57 27 *eP* P 22 12 41.0 +0.1
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA **College** 59.57 27 *eP* P 22 12 41.0 +0.1
comp=Z,6.7nm,0.8s
TOLK **Toolik Lake Re** 59.60 23 P P 22 12 42.4 +1.3
baz=257
TOLK **Toolik Lake Re** 59.60 23 *eP* P 22 12 42.6 +1.4
comp=Z,20nm,1.4s
HDA **Harding Lake** 59.88 28 *eP* P 22 12 42.7 -0.4
comp=Z,73nm,2.0s
IL1 **Eielson Array** 59.96 28 *eP* P 22 12 42.8 -0.8
ILAR **Eielson Array** 59.96 28 P P 22 12 43.1 -0.5
comp=Z,14nm,0.9s,baz=259,slow=5.7,SNR=98
ILAR LR LR 22 35 24.8
comp=Z,73nm,21.4s,baz=276,slow=33
ILB **Eielson Array** 59.96 28 *eP* P 22 12 43.1 -0.5
KLU **Klutina** 60.02 31 *eP* P 22 12 45.1 +0.8
comp=Z,123nm,1.9s
PAX **Paxson** 60.37 30 *eP* P 22 12 47.5 +0.9
PAX pmax pmax
comp=Z,47nm,1.6s
PAX **Paxson** 60.37 30 *eP* P 22 12 47.5 +0.9
comp=Z,46nm,1.6s
BMRM **Bremner River** 60.62 32 *eP* P 22 12 49.5 +1.2
comp=Z,45nm,1.2s
RIDG **Independ'e Rid** 60.73 29 *eP* P 22 12 49.2 +0.3
comp=Z,20nm,1.0s
HYB **Hyderabad** 60.84 277 *i* P P 22 12 51.5 +1.1
FYU **Fort Yukon** 60.88 26 *eP* P 22 12 51.3 +1.5
comp=Z,26nm,1.0s
BVAR **Borovoye Array** 61.38 319 P P 22 12 54.1 +0.6
comp=Z,17nm,0.7s,baz=94,slow=8.0,SNR=113
BVAR LR LR 22 41 05.7
comp=Z,51nm,18.0s,baz=80,slow=38
BRVK **Borovoye** 61.44 319 *c i* P P 22 12 54.2 +0.3
BRVK pmax pmax
comp=Z,24nm,0.9s
BRVK **Borovoye** 61.44 319 *eP* P 22 12 54.2 +0.3
comp=Z,25nm,1.0s
NWAO **Narrogin (SRO)** 61.80 205 *eP* P 22 12 55.9 -0.6
NWAO pmax pmax
comp=Z,31nm,1.1s
NWAO **Narrogin (SRO)** 61.80 205 *eP* P 22 12 55.9 -0.6
comp=Z,31nm,1.1s
KKAR **Karatay Array** 62.12 308 *eP* P 22 12 58.8 +0.1
KKAR **Karatay Array** 62.12 308 *eP* P 22 12 58.8 +0.1
EGAK **Eagle** 62.41 28 *eP* P 22 13 00.7 +0.5
comp=Z,6.1nm,0.8s
DAWY **Dawson** 63.15 29 *eP* P 22 13 06.1 +0.9
comp=Z,13nm,1.0s
HYT **Haines Junctio** 64.09 32 *eP* P 22 13 12.3 +0.8
comp=Z,8.5nm,0.8s
POO **Poona** 64.76 280 *eP* P 22 13 08.0 -8.5
INK **Inuvik** 65.46 24 LR LR 22 40 48.6
comp=Z,61nm,21.7s,baz=330,slow=35
INK **Inuvik** 65.46 24 *eP* P 22 13 20.4 +0.2
INK pmax pmax
comp=Z,7.0nm,0.8s
INK **Inuvik** 65.46 24 *eP* P 22 13 20.4 +0.2
comp=Z,6.6nm,0.8s
TAU **Tasmania Unive** 66.47 177 *eP* P 22 13 27.1 +0.2
TAU pmax pmax
comp=Z,61nm,0.9s
TAU **Tasmania Unive** 66.47 177 *eP* P 22 13 27.1 +0.2
comp=Z,61nm,0.9s
SVE **Sverdlovsk** 66.65 324 *eP* P 22 13 28.3 +0.3
SVE pmax pmax
comp=Z,27nm,1.3s
ARU **Arti** 67.84 323 *c i* P P 22 13 35.6 0.0
ARU *PP pP 22 13 46.3 +1.0
ARU 22 13 57.6
ARU 22 16 03.4
ARU S S 22 22 35.1 +3.4
ARU pmax pmax
comp=Z,39nm,1.7s
ARU **Arti** 67.84 323 *eP* P 22 13 35.5 0.0
comp=Z,27nm,0.9s
SOKR **Solikamsk** 68.23 327 *eP* P 22 13 46.8 +8.9
SOKR pmax pmax
comp=Z,23nm,1.0s
ABKAR **Akbulak array** 68.36 316 *eP* P 22 13 38.7 -0.3
comp=Z,81nm,0.7s
AKTO **Aktyubinsk** 69.33 317 P P 22 13 44.5 -0.5
comp=Z,3.1nm,0.7s,baz=85,slow=14,SNR=9.9
RPZ **Rata Peaks** 71.74 159 P P 22 13 58.0 -1.6
comp=Z,21nm,0.9s,baz=332,slow=4.1,SNR=6.3
GEYT **Alibeck** 72.43 304 P P 22 14 04.6 +0.5
comp=Z,6.0nm,0.9s,baz=64,slow=3.4,SNR=20
SPITS **Spitsbergen Ar** 73.84 350 LR LR 22 52 01.0
comp=Z,33nm,18.3s,baz=110,slow=40
YKW3 **Yellowknife Ar** 74.35 28 *eP* P 22 14 14.8 -0.1
comp=Z,6.9nm,0.9s

YKA **Yellowknife Ar** 74.38 28 P P 22 14 15.1 +0.1
comp=Z,4.6nm,0.7s,baz=292,slow=5.7,SNR=78
YKA LR LR 22 45 32.1
comp=Z,13nm,21.8s,baz=0.0,slow=34
YKB5 **Yellowknife Ar** 74.38 28 *eP* P 22 14 15.2 +0.1
RES **Resolute Bay** 74.92 14 *eP* P 22 14 18.8 +0.8
RES pmax pmax
comp=Z,8.0nm,1.0s
RES **Resolute Bay** 74.92 14 *eP* P 22 14 18.8 +0.8
comp=Z,7.7nm,1.0s
SWID **South Whidbey** 75.19 44 *eP* P 22 14 22.4 +2.4
TMCR **Tamitsa** 75.36 334 *eP* P 22 14 31.9 +11
TMCR pmax pmax
comp=Z,28nm,0.8s
KLMR **Klimovskoe** 76.09 331 *eP* P 22 14 23.4 -1.5
KLMR pmax pmax
comp=Z,25nm,1.5s
KLMR **Klimovskoe** 76.09 331 *eP* P 22 14 23.5 -1.5
KLMR AMP 22 14 37.1
comp=Z,25nm,1.5s
H04A **Detroit Lake** 76.45 47 *epP* pP 22 14 38.2 +1.0
B08A **Colville Reser** 77.01 43 *eP* P 22 14 30.9 +0.4
comp=Z,9.9nm,0.8s
B08A *epP* pP 22 14 40.2 0.0
PPT2 **Papeete2** 77.04 116 *eLR* LR 22 38 29.0
comp=Z,111nm,24.2s
ARA0 **ARCESS Array S** 77.07 341 *eP* P 22 14 30.6 +0.2
ARCES **ARCESS Array B** 77.07 341 P P 22 14 30.6 +0.2
comp=Z,2.7nm,0.8s,baz=74,slow=8.9,SNR=5.7
YBH **Yreka Blue Hor** 77.11 50 P P 22 14 31.8 +0.6
comp=Z,4.2nm,0.8s,baz=13,slow=2.1,SNR=11
YBH LR LR 22 40 54.2
comp=Z,79nm,21.4s,baz=304,slow=30
PMOR **Pomariorio Ree** 77.17 113 *eT* T 23 39 09.0
comp=Z,8.3nm,0.2s
E07A **Sunnyside** 77.33 45 *epP* pP 22 14 38.4 -3.7
J05D **Fort Rock, OR** 77.59 48 P P 22 14 35.0 +1.0
baz=291
PINE **Pine Mountain** 77.61 48 *eP* P 22 14 35.5 +1.3
comp=Z,26nm,0.8s
NEW **Newport** 78.41 42 LR LR 22 41 12.0
comp=Z,88nm,21.4s,baz=29,slow=29
NEW **Newport** 78.41 42 P P 22 14 38.8 +0.5
baz=293
NEW **Newport** 78.41 42 *eP* P 22 14 39.1 +0.8
NEW pmax pmax
comp=Z,11nm,0.9s
NEW **Newport** 78.41 42 *eP* P 22 14 39.1 +0.8
comp=Z,11nm,0.9s
E09A **Wood Farm, Sta** 78.44 44 *eP* P 22 14 39.6 +1.1
comp=Z,11nm,0.9s
E09A *epP* sP 22 14 50.4 -1.5
ORV **Oroville** 78.75 52 *eP* P 22 14 40.8 +0.5
ORV *e*PP pP 22 14 49.9 -0.2
ORV pmax pmax
comp=Z,9.0nm,1.0s
ORV **Oroville** 78.75 52 *eP* P 22 14 40.8 +0.5
comp=Z,9.1nm,1.0s
ORV *epP* pP 22 14 49.9 -0.2
VRH **Novokhopyorsk** 78.89 321 *eP* P 22 14 40.1 -0.7
VRH pmax pmax
comp=Z,10.0nm,0.7s
F10A **Beach Ranch, E** 79.24 45 *epP* pP 22 14 55.4 +2.6
AFDM **Forest Hills D** 79.35 52 *epP* pP 22 14 55.3 +1.8
J08A **Circle Bar Ran** 79.43 47 *eP* P 22 14 45.2 +1.1
comp=Z,14nm,0.9s
BMO **Blue Mountains** 79.62 46 *eP* P 22 14 45.7 +0.6
BMO *e*PP pP 22 14 54.6 -0.4
BMO pmax pmax
comp=Z,8.0nm,1.0s
BMO **Blue Mountains** 79.62 46 *eP* P 22 14 45.7 +0.6
comp=Z,8.2nm,1.0s
BMO *epP* pP 22 14 54.6 -0.4
LPSR **Galich'ya Gora** 79.87 323 *eP* P 22 14 45.8 -0.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN **Obninsk** 79.99 326 *eP* P 22 14 46.4 -0.3
OBN *e* 22 14 56.0
OBN pmax pmax
comp=Z,23nm,1.7s
WALA **Waterton Lakes** 80.04 41 *eP* P 22 14 48.5 +1.2
comp=Z,12nm,1.0s
TBI **Tubuai** 80.06 121 *eLR* LR 22 39 47.5
comp=Z,194nm,30.8s
CMB **Columbia Colle** 80.12 53 *eP* P 22 14 48.4 +0.6
CMB pmax pmax
comp=Z,9.0nm,0.6s
CMB **Columbia Colle** 80.12 53 *eP* P 22 14 48.4 +0.6
comp=Z,9.2nm,0.6s
PAHR **Pah Rah Range** 80.21 51 *epP* pP 22 14 60.0 +1.7
VSR **Storozhevoye** 80.34 322 *eP* P 22 14 47.7 -1.0
VSR pmax pmax
comp=Z,20nm,1.0s
JTMT **Jette** 80.37 42 *eP* P 22 14 50.1 +1.0
comp=Z,13nm,1.1s
JTMT *epP* pP 22 14 59.1 +0.2
WAKR **Walker** 80.63 52 *eP* P 22 14 52.0 +1.2
comp=Z,5.6nm,0.8s
WAKR *epP* pP 22 15 01.3 +0.7
PUL **Pulkovo** 80.65 332‖ *eP* P 22 14 51.5 +1.4
PUL pmax pmax
comp=Z,31nm,0.7s
TBLG **Delisi** 80.81 311 *eP* P 22 14 51.9 +0.5
TBLG pmax pmax
comp=Z,40nm,1.8s
TBLG **Delisi** 80.81 311 *eP* P 22 14 51.9 +0.5
comp=Z,40nm,1.8s
NCK **Nalchik** 80.87 313‖ *eP* P 22 14 52.0 +0.3
NCK pmax pmax
comp=Z,4.0nm,0.2s
ZEI **Tsey** 80.95 313 *eP* P 22 14 51.4 -1.0
ZEI pmax pmax
comp=Z,11nm,0.7s
PAGB **Antelope Grade** 81.11 55 *eP* P 22 14 54.4 +1.3
comp=Z,15nm,0.9s
PAGB *epP* sP 22 15 05.3 -1.4
MFID **Camas Ranch** 81.18 46 *eP* P 22 14 54.5 +1.0
comp=Z,12nm,0.9s
MFID *epP* pP 22 15 04.7 +1.3
KBZ **Khabaz** 81.24 314 P P 22 14 54.0 +0.4
comp=Z,19nm,0.8s,baz=122,slow=3.5,SNR=47
RYN **Ryan** 81.24 52 *eP* P 22 14 55.0 +1.0
comp=Z,6.4nm,0.9s
KIV **Kislovodsk** 81.28 314 *eP* P 22 14 54.6 +0.6
KIV pmax pmax
comp=Z,16nm,1.0s
KIV **Kislovodsk** 81.28 314 *eP* P 22 14 54.1 +0.1
comp=Z,12nm,0.8s
GNI **Garni** 81.44 310 P P 22 14 54.8 -0.2
comp=Z,2.9nm,0.7s,baz=358,slow=4.3,SNR=3.8
GNI **Garni** 81.44 310‖ *eP* P 22 14 55.8 +0.8
GNI pmax pmax
comp=Z,39nm,1.5s
FIA1 **FINESS Array S** 81.48 334 *epP* pP 22 15 05.2 +0.9
FIA1 *epP* sP 22 15 08.6 +0.6
FIA0 **FINESS Array S** 81.48 334 *eP* P 22 14 54.2 -0.3
FIA0 **FINESS Array S** 81.48 334 *eP* P 22 14 54.2 -0.3
FINES **FINESS Array B** 81.48 334 P P 22 14 54.2 -0.3
comp=Z,5.7nm,0.6s,baz=67,slow=5.4,SNR=52
FINES LR LR 22 53 21.3
comp=Z,70nm,18.4s,baz=16,slow=37
NV01 **Mina Array Sit** 81.48 52 *eP* P 22 14 55.8 +0.5
NVAR **Mina Array Bea** 81.48 52 P P 22 14 55.5 +0.1
comp=Z,5.2nm,0.8s,baz=276,slow=5.3,SNR=21
NVAR LR LR 22 43 15.2
comp=Z,147nm,21.8s,baz=88,slow=30
NV11 **Mina Array Sit** 81.59 52 *eP* P 22 14 56.6 +0.8
comp=Z,0.4nm,1.0s
PKM **Mcpherson Peak** 81.76 56 P P 22 14 57.5 +0.6
baz=293
AKH **Akhalkalaki** 81.80 312 *i* P P 22 14 57.8 +0.9
AKH **Akhalkalaki** 81.80 312 *eP* P 22 14 58.0 +1.1
AKH pmax pmax
comp=Z,9.0nm,0.9s
AKH **Akhalkalaki** 81.80 312 *eP* P 22 14 58.0 +1.1
comp=Z,9.4nm,0.9s
VES **Vestal, Richgr** 81.94 54 P P 22 14 57.2 -0.3
baz=294
HLID **Hailey** 82.05 46 P P 22 14 58.7 +0.5
baz=295
HLID **Hailey** 82.05 46 *eP* P 22 14 59.0 +0.8
comp=Z,4.7nm,1.1s
HLID *epP* pP 22 15 09.5 +1.4
LRM **Limekiln Ridge** 82.33 43 *epP* pP 22 15 10.7 +1.2
CWC **Cottonwood Cre** 82.44 54 P P 22 15 00.7 +0.3
baz=294

ISA **Isabella, Lake** 82.46 54 P P 22 15 00.2 -0.2
baz=294
DAC **Darwin (Calif)** 82.87 54 *eP* pP 22 15 14.0 +1.5
DAC **Darwin (Calif)** 82.87 54 *epP* pP 22 15 14.0 +1.5
VSU **Vasula** 82.91 332‖ *eP* P 22 15 01.7 -0.4
VSU pmax pmax
comp=Z,68nm,1.5s
MPMC **Manual Prospec** 83.03 54 P P 22 15 04.1 +0.6
baz=294
EDW2 **Edwards Air Fo** 83.14 55 P P 22 15 04.3 +0.4
baz=294
FURC **Furnace Creek,** 83.33 53 P P 22 15 04.7 +0.1
baz=295
R11A **Troy Canyon, C** 83.46 51 P P 22 15 05.9 +0.4
baz=295
R11A **Troy Canyon, C** 83.46 51 *eP* P 22 15 06.0 +0.4
R11A *epP* pP 22 15 13.1 -2.4
YHB **Horse Butte** 83.61 44 *eP* P 22 15 07.8 +1.5
comp=Z,12nm,1.1s
YHB *epP* sP 22 15 18.6 -1.2
YMR **Madison River** 83.79 44 *eP* P 22 15 09.3 +2.1
comp=Z,13nm,0.9s
YMR *epP* pP 22 15 17.8 +0.7
FFC **Flin Flon** 83.80 32 *eP* P 22 15 07.2 +0.4
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC **Flin Flon** 83.80 32 *eP* P 22 15 07.2 +0.4
comp=Z,8.3nm,0.8s
YHH **Holmes Hill** 83.81 44 *eP* P 22 15 08.8 +1.4
comp=Z,12nm,1.5s
GSC **Goldstone, Bar** 83.85 54 P P 22 15 07.8 +0.2
baz=295
GSC **Goldstone, Bar** 83.85 54 *eP* P 22 15 08.1 +0.5
GSC *e*PP sP 22 15 19.3 -1.8
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC **Goldstone, Bar** 83.85 54 *eP* P 22 15 08.1 +0.5
comp=Z,9.2nm,1.1s
GSC *epP* sP 22 15 19.3 -1.8
SUMG **Summit** 83.85 1 *i* P P 22 15 11.1 +3.9
SUMG **Summit** 83.85 1 *eP* P 22 15 11.1 +3.9
HVU **Hansel Valley** 83.91 47 *eP* P 22 15 08.9 +1.1
HVU *e*PP sP 22 15 19.8 -1.6
HVU pmax pmax
comp=Z,8.0nm,1.1s
HVU **Hansel Valley** 83.91 47 *eP* P 22 15 08.9 +1.1
comp=Z,8.0nm,1.1s
HVU *epP* sP 22 15 19.8 -1.6
BGU **Big Grassy Mou** 84.12 48 *epP* pP 22 15 20.6 +1.7
IMW **Indian Meadow** 84.16 44 *eP* P 22 15 10.7 +1.5
comp=Z,7.1nm,0.9s
IMW *epP* sP 22 15 21.6 -1.2
H17A **Grant Village** 84.16 44 *eP* P 22 15 11.9 +2.7
comp=Z,11nm,1.3s
H17A *epP* sP 22 15 22.2 -0.5
FXWY **Fox Creek** 84.22 45 *eP* P 22 15 10.7 +1.2
comp=Z,4.7nm,1.1s
SPUT **South Promonto** 84.34 47 *eP* P 22 15 10.8 +0.8
comp=Z,5.8nm,1.1s
MOOW **Moose Ponds** 84.35 45 *eP* P 22 15 11.2 +1.1
comp=Z,9.1nm,1.6s
MOOW *epP* sP 22 15 22.2 -1.5
HEC **Hector,Ludlow** 84.40 54 P P 22 15 10.7 +0.4
baz=295
LOHW **Long Hollow** 84.51 45 *eP* P 22 15 12.3 +1.4
comp=Z,5.7nm,1.3s
LOHW *epP* sP 22 15 22.8 -1.6
SHPR **Sheep Range** 84.55 53 *eP* P 22 15 12.2 +1.0
comp=Z,3.3nm,0.8s
DUG **Dugway, Tooele** 84.59 48 P P 22 15 11.4 +0.1
baz=297
DUG **Dugway, Tooele** 84.59 48 *eP* P 22 15 11.8 +0.5
DUG pmax pmax
comp=Z,6.0nm,0.7s
DUG **Dugway, Tooele** 84.59 48 *eP* P 22 15 11.8 +0.5
comp=Z,6.0nm,0.7s
RLMT **Red Lodge** 84.64 43 P P 22 15 12.3 +0.7
baz=298
RLMT **Red Lodge** 84.64 43 *eP* P 22 15 12.6 +1.1
comp=Z,7.0nm,0.8s
HWUT **Hardware Ranch** 84.80 47 *eP* P 22 15 12.8 +0.4
comp=Z,7.4nm,1.0s
PFO **Pinyon Flats O** 84.82 56 P P 22 15 12.8 +0.3
baz=295
PFO **Pinyon Flats O** 84.82 56 *eP* P 22 15 13.0 +0.4
PFO *e*PP pP 22 15 22.3 -0.2
PFO pmax pmax
comp=Z,6.0nm,0.8s
PFO **Pinyon Flats O** 84.82 56 *eP* P 22 15 13.0 +0.4
comp=Z,5.8nm,0.8s
PFO *epP* pP 22 15 22.3 -0.2
XPFO **Piæon Flat** 84.82 56 *eP* P 22 15 13.0 +0.4
comp=Z,6.1nm,0.8s
XPFO *epP* pP 22 15 22.3 -0.2
GMRC **Granite Mounta** 84.92 54 P P 22 15 13.4 +0.3
baz=295
NACGM **Naroch** 84.92 329 *e* P 22 15 11.0 -1.4
FCC **Fort Churchill** 84.95 26 *eP* pP 22 15 23.5 +1.1
FCC **Fort Churchill** 84.95 26 *epP* pP 22 15 23.5 +1.1
CTU **Camp Tracy** 85.09 48 *eP* P 22 15 14.6 +0.7
comp=Z,6.2nm,0.8s
MONP2 **Monument Peak** 85.15 56 P P 22 15 14.5 +0.1
baz=295
JLU **Jordanelle** 85.34 48 *eP* P 22 15 15.9 +0.7
comp=Z,9.5nm,1.0s
CCUT **Cedar City** 85.39 51 *eP* P 22 15 16.5 +1.0
comp=Z,3.6nm,0.9s
MPU **Maple Canyon** 85.48 48 *eP* P 22 15 16.4 +0.6
comp=Z,4.4nm,0.8s
IKP **In-Ko-Pah, Jac** 85.49 56 P P 22 15 16.1 +0.2
baz=295
IRM **Iron Mountain** 85.58 55 P P 22 15 16.9 +0.7
baz=296
PD31 **Pinedale Array** 85.58 45 *eP* P 22 15 15.5 -0.8
PDAR **Pinedale Array** 85.58 45 P P 22 15 15.5 -0.8
comp=Z,0.8nm,0.6s,baz=217,slow=2.0,SNR=11
PDAR LR LR 22 47 22.1
comp=Z,156nm,20.2s,baz=280,slow=31
PDAR **Pinedale Array** 85.58 45 *eP* P 22 15 15.9 -0.4
LCMT **Little Creek M** 85.71 51 *eP* P 22 15 17.7 +0.7
comp=Z,5.2nm,0.8s
LAO **LASA Array** 85.73 40 P P 22 15 17.3 +0.6
baz=300
LAO **LASA Array** 85.73 40 *eP* P 22 15 17.8 +1.0
comp=Z,13nm,1.0s
LAO *epP* sP 22 15 28.8 -1.5
MSU **Marysvale** 85.79 50 *eP* P 22 15 18.4 +1.0
MSU **Marysvale** 85.79 50 *eP* P 22 15 18.4 +1.0
KNB **Kanab** 86.01 51 *eP* P 22 15 19.4 +0.9
KNB pmax pmax
comp=Z,18nm,0.8s
KNB **Kanab** 86.01 51 *eP* P 22 15 19.4 +0.9
comp=Z,18nm,0.8s
AKASG **Malin Array Be** 86.06 325 P P 22 15 16.8 -1.4
comp=Z,1.5nm,0.5s,baz=52,slow=5.2,SNR=12
AKBB **Malin Array Si** 86.06 325 *eP* P 22 15 16.8 -1.4
AKBB pmax pmax
comp=Z,15nm,1.4s
AKBB **Malin Array Si** 86.06 325 *eP* P 22 15 16.8 -1.4
comp=Z,15nm,1.4s
KIEV **Kiev** 86.07 325‖ *eP* P 22 15 16.5 -1.7
KIEV pmax pmax
comp=Z,6.0nm,1.2s
AK11 **Malin Array Si** 86.10 325 *eP* P 22 15 17.3 -1.1
AK11 *epP* pP 22 15 28.9 +0.6
TMUT **Trail Mountain** 86.11 49 *eP* P 22 15 19.6 +0.6
comp=Z,3.2nm,0.8s
Q16A **Castle Valley** 86.31 49 *eP* P 22 15 20.9 +0.9
comp=Z,7.2nm,0.7s
P17A **Butcher Ranch,** 86.34 48 *eP* P 22 15 20.8 +0.7
comp=Z,7.4nm,0.8s
P18A **Preston Nutter** 86.61 48 *eP* P 22 15 22.1 +0.5
comp=Z,5.5nm,0.7s
U15A **North Rim** 86.66 52 *eP* P 22 15 22.8 +0.9
comp=Z,4.9nm,0.8s
U15A *epP* pP 22 15 33.4 +1.6
SRU **San Rafael Swe** 86.66 49 *eP* P 22 15 22.0 +0.3
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU **San Rafael Swe** 86.66 49 *eP* P 22 15 22.0 +0.3
comp=Z,9.1nm,0.7s
NC405 **NORSAR Array S** 86.93 339 *epP* pP 22 15 31.5 -0.8
HFS **Hagfors** 86.96 337 P P 22 15 20.7 -1.7
comp=Z,3.5nm,0.6s,baz=48,slow=2.1,SNR=13
NB2 **NORSAR Subarra** 87.15 339 P P 22 15 22.1 -1.3
comp=Z,3.5nm,0.9s,baz=48,slow=4.6

NB200	NORSAR Array S	87.15	339		*e*P		P		22 15 22.2	-1.2
NOA	NORSAR Array B	87.15	339		P		P		22 15 22.2	-1.2
	comp=Z,5.0nm,0.8s,baz=48,slow=4.8,SNR=9.9									
NOA					LR		LR		22 58 54.9	
	comp=Z,85nm,19.4s,baz=35,slow=39									
SUW	Suwalki	87.15	329		*e*P		P		22 15 22.6	-0.8
SUW					*e*PP		pP		22 15 33.0	-0.4
SUW	Suwalki	87.15	329		*e*P		P		22 15 22.6	-0.8
SUW					*e*pP		pP		22 15 33.0	-0.4
Y14A	Wickenburg	87.27	54		*e*P		P		22 15 25.5	+0.9
	comp=Z,34nm,0.9s									
Y14A					*e*pP		sP		22 15 36.5	-1.6
O20A	White River Ci	87.72	47		P		P		22 15 26.8	+0.1
	baz=300									
O20A	White River Ci	87.72	47		*e*P		P		22 15 27.1	+0.3
	comp=Z,11nm,1.4s									
RAYN	Ar Rayn	87.72	295		*e*P		P		22 15 26.3	-0.6
	comp=Z,13nm,1.0s									
PV09	Paradox Valley	87.91	49		*e*P		P		22 15 28.4	+0.6
SORM	Soroca	87.96	323	⇓	*i*P		P		22 15 24.4	-3.0
SORM	Soroca	87.96	323	⇓	P		P		22 15 24.4	-3.0
PV10	Paradox Valley	88.03	49		*e*P		P		22 15 29.4	+1.0
214A	Organ Pipe Nat	88.31	56		P		P		22 15 30.0	+0.5
	baz=297									
PV01	Paradox Valley	88.47	49		*e*P		P		22 15 30.9	+0.4
MVCO	Mesa Verde	88.97	49		P		P		22 15 33.0	+0.2
	baz=299									
SMCO	Snowmass	89.04	47		*e*P		P		22 15 34.1	+0.8
	comp=Z,4.1nm,0.8s									
FRB	Frobisher Bay	89.14	14		LR		LR		22 56 39.5	
	comp=Z,77nm,21.7s,baz=77,slow=36									
BR101	Keskin Array S	89.22	314		*e*P		P		22 15 32.3	-1.5
BR131	Keskin Array S	89.22	314		*e*P		P		22 15 32.6	-1.2
BR131					*e*pP		sP		22 15 48.1	+0.7
BRTR	Keskin Array B	89.22	314		P		P		22 15 32.3	-1.5
	comp=Z,7.0nm,0.7s,baz=91,slow=3.4,SNR=34									
ULM	Lac du Bonnet	89.44	34		P		P		22 15 33.8	-0.6
	comp=Z,2.1nm,1.0s,baz=342,slow=11,SNR=4.8									
BR231	Keskin MP Arra	89.74	314		*e*P		P		22 15 33.1	-3.1
C31A	Landman Farms,	89.95	36		P		P		22 15 36.5	-0.4
	baz=307									
BUR04	Bucovina Ar. S	89.98	324		*e*P		P		22 15 36.2	-1.0
BURAR	Bucovina Array	89.98	324	⇑	*i*P		P		22 15 36.7	-0.5
BURAR	Bucovina Array	89.98	324	⇑	P		P		22 15 36.7	-0.5
KWP	Kalwaria Pacla	90.08	326		*e*P		P		22 15 37.2	-0.3
KWP					pmax		pmax			
	comp=Z,235nm,1.0s									
KWP	Kalwaria Pacla	90.08	326		*e*P		P		22 15 37.2	-0.3
	comp=Z,235nm,1.0s									
AGMN	Agassiz Nation	90.64	35		P		P		22 15 39.8	-0.3
	baz=308									
AGMN	Agassiz Nation	90.64	35		*e*P		P		22 15 40.3	+0.2
	comp=Z,4.9nm,0.8s									
ANGG	Ammassalik, Gr	90.85	1		*e*P		P		22 15 38.9	-1.8
	comp=Z,1.1nm,0.6s									
SRIG	Santa Rosalia	90.86	60		*e*P		P		22 15 38.3	-3.1
	comp=Z,19nm,0.3s									
DOPR	Dopca	90.86	322	⇓	*i*P		P		22 15 40.9	-0.3
B34A	Aery, Baudette	91.16	34		P		P		22 15 42.2	-0.3
	baz=309									
CRVS	Cervenica-Dubn	91.18	326		*e*P		P		22 15 42.0	-0.6
CRVS	Cervenica-Dubn	91.18	326		*e*P		P		22 15 42.0	-0.6
LAZ	Ladron	91.32	51		*e*P		P		22 15 44.0	+0.2
ANMO	Albuquerque	91.53	51		LR		LR		22 48 53.0	
	comp=Z,114nm,21.3s,baz=216,slow=30									
ANMO	Albuquerque	91.53	51		P		P		22 15 45.4	+0.7
	baz=301									
ANMO	Albuquerque	91.53	51	⇑	*e*P		P		22 15 45.5	+0.7
ANMO					pmax		pmax			
	comp=Z,6.0nm,1.2s									
ANMO	Albuquerque	91.53	51		*e*P		P		22 15 45.7	+0.9
	comp=Z,4.4nm,0.9s									
ANMO					*e*pP		pP		22 15 55.6	+0.8
T25A	Trinidad	91.82	48		P		P		22 15 46.4	+0.3
	baz=302									
T25A	Trinidad	91.82	48		*e*P		P		22 15 47.0	+0.9
	comp=Z,4.9nm,0.9s									
T25A					*e*pP		sP		22 15 58.1	-1.5
DRGR		91.84	324	⇓	*i*P		P		22 15 44.0	-1.8
DRGR		91.84	324	⇓	P		P		22 15 44.0	-1.8
F33A	5 Mile Ranch,	91.91	37		P		P		22 15 45.8	-0.2
	baz=308									
KECS	Kecovo	91.94	326		*e*P		P		22 15 45.4	-0.7
KECS					pmax		pmax			
	comp=Z,3.0nm,1.2s									
KECS	Kecovo	91.94	326		*e*P		P		22 15 45.4	-0.7
C35A	Jirik Farms, M	92.00	35		P		P		22 15 46.0	-0.4
	baz=309									
LANS	Liptovska Anna	92.02	327		*e*P		P		22 15 45.9	-0.6
LANS	Liptovska Anna	92.02	327		*e*P		P		22 15 45.9	-0.6
DPC	Dobruska-Polom	92.74	329		*e*pP		pP		22 16 00.5	+0.7
DPC					*es*P		sP		22 16 05.5	+2.1
DPC					*ex*		x		22 16 09.1	
DPC	Dobruska-Polom	92.74	329		*e*P		pP		22 16 00.5	+0.7
DPC					*e*				22 16 09.1	
VYHS	Vyhne	92.77	327		*e*P		P		22 15 49.6	-0.3
VYHS					pmax		pmax			
	comp=Z,7.0nm,1.6s									
VYHS	Vyhne	92.77	327		*e*P		P		22 15 49.6	-0.3
VYHS					*e*PP		PP		22 19 33.8	+2.3
CLL	Collm	93.56	332		*e*P		P		22 15 53.0	-0.5
CLL	Collm	93.56	332		*e*P		P		22 15 53.0	-0.5
CLL					*e*				22 16 15.0	
GEC2	GERESS Array S	95.01	329		*e*P		P		22 15 59.2	-1.1
GEC2					pmax		pmax			
	comp=Z,9.0nm,1.8s									
GEC2	GERESS Array S	95.01	329		*e*P		P		22 15 59.2	-1.1
	comp=Z,9.1nm,1.8s									
GERES	GERESS Array B	95.01	329		P		P		22 15 59.2	-1.1
	comp=Z,0.8nm,0.9s,baz=42,slow=4.2,SNR=3.5									
TX31	Lajitas Ar. Si	96.45	54		*e*P		P		22 16 07.9	+0.5
LTX	Lajitas	96.45	54		*e*P		P		22 16 07.1	-0.2
LTX	Lajitas	96.45	54		*e*P		P		22 16 07.1	-0.2
TXAR	Lajitas Array	96.45	54		P		P		22 16 07.1	-0.2
	comp=Z,0.7nm,0.8s,baz=264,slow=2.5,SNR=6.1									
TOA1	Torodi Ar. Sit	127.74	311		*e*PKPdf		PKPdf		22 21 42.9	-0.9
TOA0	Torodi Ar. Sit	127.75	311		*e*PKPdf		PKPdf		22 21 42.7	-1.1
TORD	Torodi Ar. Bea	127.75	311		PKP		PKPdf		22 21 42.9	-0.9
	comp=Z,1.7nm,0.8s,baz=15,slow=2.7,SNR=11									
KOWA	Kowa	130.53	317		PKP		PKPdf		22 21 48.4	-0.7
	comp=Z,1.6nm,0.6s,baz=22,slow=0.8,SNR=6.6									
PLCA	Paso Flores	146.76	129		PKPbc		PKPbc		22 22 19.8	0.0
	comp=Z,13nm,0.6s,baz=268,slow=3.4,SNR=47									
PLCA	Paso Flores	146.76	129		*e*PKP2		PKPbc		22 22 19.9	+0.2
PLCA	Paso Flores	146.76	129		*e*PKPdf		PKPbc		22 22 19.9	+0.2
GO05	HualaaæØ	147.19	118		*e*PKPdf		PKPbc		22 22 20.7	-0.3
PTGA	Pitinga	147.57	48		PKPbc		PKPbc		22 22 21.5	-1.1
	comp=Z,3.6nm,0.5s,baz=291,slow=17,SNR=12									
PTGA	Pitinga	147.57	48		*e*PKPdf		PKPbc		22 22 22.4	-0.2
ROC1	El Roble	148.26	115		*e*PKPbc		PKPbc		22 22 24.1	-0.2
MNMC	Minye Minye	148.73	88		*e*PKPdf		PKPdf		22 22 21.7	-0.4
PB11	IPOC Station P	148.83	89		*e*PKPbc		PKPbc		22 22 26.4	+0.4
LPAZ	La Paz	149.25	82		PKP		PKPdf		22 22 23.5	+0.1
	comp=Z,2.0nm,0.8s,baz=44,slow=2.3,SNR=5.4									
LPAZ					PKPbc		PKPbc		22 22 27.4	-0.3
	comp=Z,4.3nm,1.0s,baz=345,slow=1.8,SNR=5.1									
LPAZ	La Paz	149.25	82		*e*PKHKP		PKPpre		22 22 23.9	
LPAZ	La Paz	149.25	82		*e*PKPdf		PKPdf		22 22 23.9	+0.5
PB01	IPOC Station P	149.26	91		*e*PKPbc		PKPbc		22 22 27.4	+0.5
SAML	Samuel	150.38	65		*e*PKPdf		PKPdf		22 22 24.6	+0.1

IDC 11 22:03:58.9±1.6, 11.99N×86.59W, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/49, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=79.7km s-min=14.3km az=49.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	2.33	136	Pn	Pn	22 04 37.9	-0.6
	12nm,0.3s,baz=14,slow=9.3,SNR=25						
JTS				Lg	Lg	22 05 13.4	
	14nm,0.3s,baz=204,slow=23,SNR=5.6						
CMIG	Matias Romero	9.50	303	Pn	Pn	22 06 16.8	-0.3
	0.4nm,0.3s,baz=117,slow=14,SNR=4.2						
TXAR	Lajitas Array	23.47	320	P	P	22 09 09.9	-0.4
	0.9nm,0.7s,baz=136,slow=10,SNR=12						
PDAR	Pinedale Array	36.58	331	P	P	22 11 07.2	+0.3
	0.4nm,0.6s,baz=120,slow=10,SNR=4.5						
ULM	Lac du Bonnet	38.91	351	P	P	22 11 26.0	-0.1
	1.5nm,0.7s,baz=162,slow=12,SNR=4.9						
YKA	Yellowknife Ar	54.28	344	P	P	22 13 26.5	0.0
	0.4nm,0.8s,baz=137,slow=7.9,SNR=7.9						

ISK 11 22:06:37.3, 37.30N×38.64E, h9km, ML2.5/3
ISCJB 11 22:06:38.2±0.6, 37.32N±0.03×38.61E±0.03, h2km±5km, Error ellipse: s-maj=5.0km s-min=4.2km az=143.1
DDA 11 22:06:38.6, 37.34N×38.57E, h10km, Ml2.7
CSEM 11 22:06:38.3±0.2, 37.32N×38.62E, h8km, ML2.5, Error ellipse: s-maj=5.0km s-min=4.1km az=141.0
ISC 11 22:06:38.3±1.0, 37.33N±0.03×38.61E±0.02, h7km±8km, n28, σ0 977/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.20	55	PG	Pg	22 06 41.8	-0.6
URFA				SG	Sg	22 06 45.2	+0.1
URFA	Urfa	0.20	55	*e*Pg	Pg	22 06 41.8	-0.6
URFA				*e*Sg	Sg	22 06 45.2	+0.1
ATAB	Bozova	0.29	300	*i* P	Pg	22 06 43.6	-0.4
ATAB				*i* S	Sg	22 06 47.8	-0.1
ATAB	Bozova	0.29	300	P	Pg	22 06 43.6	-0.4
ATAB				S	Sg	22 06 47.8	-0.1
SURC	SANLIURFA_SURC	0.45	180	*i* P	Pg	22 06 47.5	+0.6
SURC				*i* S	Sb	22 06 54.3	-1.0
SURC	SANLIURFA_SURC	0.45	180	P	Pg	22 06 47.5	+0.6
SURC				S	Sb	22 06 54.3	-1.0
MALT	Malatya	1.00	352	PG	Pb	22 06 57.8	-0.2
MALT				SG	Sb	22 07 11.9	+0.6
MALT	Malatya	1.00	352	*e*Pg	Pb	22 06 57.8	-0.2
MALT				*e*Sg	Sb	22 07 11.9	+0.6
AKCD	Akcadag	1.11	331	*i* P	Pg	22 06 59.6	0.0
AKCD				*i* S	Sn	22 07 15.8	-0.2
AKCD	Akcadag	1.11	331	P	Pg	22 06 59.7	0.0
AKCD				S	Sn	22 07 15.9	-0.2
GAZ	Gaziantep	1.13	263	PN	Pg	22 06 59.8	-0.1
GAZ				SN	Sn	22 07 16.2	-0.2
GAZ	Gaziantep	1.13	263	*e*Pn	Pg	22 06 59.8	-0.1
GAZ				*e*Sn	Sn	22 07 16.2	-0.2
ELZG	Elazig	1.21	14	*i* P	Pn	22 07 02.3	+0.6
ELZG				*i* S	Sn	22 07 18.1	-0.3
ELZG	Elazig	1.21	14	P	Pn	22 07 02.3	+0.6
ELZG				S	Sn	22 07 18.1	-0.3
DIYA	Diyarbakir	1.34	63	*i* P	Pg	22 07 04.4	+0.5
DIYA				*i* S	Sg	22 07 23.3	+2.0
DIYA	Diyarbakir	1.34	63	P	Pg	22 07 04.4	+0.5
DIYA				S	Sg	22 07 23.3	+2.0
KUZU	Kuzuini	1.35	246	*i* P	Pb	22 07 03.6	-0.2
KUZU				*i* S	Sg	22 07 23.5	+1.9
KUZU	Kuzuini	1.35	246	P	Pb	22 07 03.7	-0.2
KUZU				S	Sg	22 07 23.5	+1.9
DYBB	Diyarbakir	1.36	62	PN	Pn	22 07 03.2	-0.6
KMRS	Kahramanmaras	1.38	278	PN	Pn	22 07 03.6	-0.3
KMRS	Kahramanmaras	1.38	278	*i* Pn	Pn	22 07 03.6	-0.3
DIY	Diyarbakir	1.40	66	*e*Pn	Pn	22 07 03.2	-1.1
MAZI	Mazidag	1.47	84	PN	Pn	22 07 04.3	-1.0
MAZI	Mazidag	1.47	84	*e*Pn	Pn	22 07 04.3	-1.0
DARE	Darende-Malaty	1.53	325	PN	Pb	22 07 06.7	-0.3
DARE	Darende-Malaty	1.53	325	*e*Pn	Pb	22 07 06.7	-0.3
PTK	Pertek	1.68	21	PN	Pn	22 07 08.4	+0.1
PTK	Pertek	1.68	21	*e*Pn	Pn	22 07 08.4	+0.1

MAN 11 22:10:10, 9.96N×123.14E, h20km, mb3.7, ML2.5, MS2.0, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.62	171	⇑ *i*P	Pn	22 10 23.5	-0.3
SNPH				*i* S	Sn	22 10 34.2	+1.1
TBP	Tagbilaran	0.76	110	*e*P	Pb	22 10 23.9	-0.7
GUIM	Jordan	0.85	321	*e*P	Pn	22 10 27.0	+0.1
GUIM				*e*S	Sn	22 10 39.2	+0.4
LLP	Lapu-Lapu	0.89	66	⇓ *i*P	Pb	22 10 24.0	-2.7
LLP				*i* S	Sb	22 10 34.8	-3.5
MSLP	Maasin	1.71	84	*e*P	Pn	22 10 38.8	+0.2
MSLP				*e*S	Sb	22 11 01.4	-0.3

IDC 11 22:12:35.8±48.0, 16.36S×176.96W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/40, mbtmp4.3/3, Error ellipse: s-maj=901.5km s-min=156.7km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.59	240	P	P	22 20 17.8	+0.3
	1.6nm,0.5s,baz=101,slow=11,SNR=6.9						
WRA	Warramunga Ar	46.29	259	P	P	22 21 03.5	-0.3
	0.9nm,0.4s,baz=94,slow=7.4,SNR=37						
ASAR	Alice Springs	46.56	253	P	P	22 21 05.4	-0.4
	6.1nm,0.5s,baz=88,slow=8.5,SNR=85						

IDC 11 22:16:26.7±1.5, 34.64N×24.97E, h0km, mb3.6/2, mb1 3.7/7, mb1mx3.4/58, mbtmp3.5/7, ML3.7/4, Error ellipse: s-maj=26.5km s-min=12.0km az=86.0
ISCJB 11 22:16:27.6±1.1, 34.62N±0.05×24.99E±0.03, h8km±5km, mb3.4/2, Error ellipse: s-maj=8.9km s-min=4.6km az=178.3
THE 11 22:16:28.7, 34.70N×24.98E, h0km, ML3.3/8, Error ellipse: s-maj=1.5km s-min=0.5km az=173.0
CSEM 11 22:16:29.0±0.4, 34.69N×24.98E, h10km, ML3.2, Error ellipse: s-maj=7.5km s-min=3.0km az=173.0
ATH 11 22:16:30.1, 34.81N×24.96E, h24km±1km, ML3.2/7, Error ellipse: s-maj=2.7km s-min=0.9km az=357.0
ISC 11 22:16:29.0±1.3, 34.71N±0.05×24.98E±0.02, h12km±8km, n49, σ0 979/73, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.34	337	P	Pg	22 16 36.3	+0.3
SIVA				S	Sg	22 16 40.7	+0.2
SIVA				AML	AML	22 16 42.8	
	comp=N,20169μm,0.2s						
SIVA				AML	AML	22 16 43.2	
	comp=E,32580μm,0.3s						
SIVA	Sivas	0.34	337	P	Pg	22 16 36.2	+0.3
SIVA				S	Sg	22 16 40.7	+0.2
SIVA	Sivas	0.34	337	P	Pg	22 16 36.2	+0.3
SIVA				S	Sb	22 16 41.9	-0.5
IDI	Anoyia	0.59	353	Pg	Pg	22 16 39.9	-0.6
	comp=E,56nm,0.3s,baz=183,slow=10,SNR=194						
IDI				Lg	Lg	22 16 47.2	
	comp=E,344nm,0.3s,baz=252,slow=20,SNR=76						
IACM	Heraklion	0.60	7	P	Pg	22 16 41.4	+0.5
IACM	Heraklion	0.60	7	P	Pg	22 16 41.1	+0.3
IACM				S	Sb	22 16 50.8	+0.8
IACM	Heraklion	0.60	7	P	Pg	22 16 41.1	+0.3
IACM				S	Sb	22 16 50.8	+0.8
LAST	Lasithi	0.61	42	P	Pg	22 16 41.1	+0.1
LAST				S	Sg	22 16 48.3	-0.9
LAST				AML	AML	22 16 51.6	
	comp=N,2756μm,0.3s						
LAST				AML	AML	22 16 53.3	
	comp=E,1779μm,0.3s						
LAST	Lasithi	0.61	42	P	Pg	22 16 41.2	+0.1
LAST				S	Sg	22 16 48.9	-0.3
LAST	Lasithi	0.61	42	P	Pg	22 16 41.2	+0.1
LAST				S	Sb	22 16 51.1	+0.7
GVD	Gavdhos	0.74	281	P	Pb	22 16 44.1	+0.2
GVD				S	Sb	22 16 55.5	+1.5
GVD				AML	AML	22 16 59.0	
	comp=E,5906μm,0.5s						
GVD				AML	AML	22 17 04.3	
	comp=N,5865μm,0.3s						
GVD	Gavdhos	0.74	281	P	Pg	22 16 43.5	+0.1
GVD				S	Sb	22 16 55.0	+1.0
GVD	Gavdhos	0.74	281	P	Pg	22 16 43.5	+0.1
GVD				S	Sb	22 16 55.3	+1.3
NPS	Neapolis	0.76	43	P	Pg	22 16 43.7	-0.2
NPS				S	Sg	22 16 54.2	+0.4
NPS				AML	AML	22 16 56.7	
	comp=N,2339μm,0.3s						
NPS				AML	AML	22 16 59.0	
	comp=E,3752μm,0.4s						
NPS	Neapolis	0.76	43	P	Pg	22 16 43.8	0.0
NPS				S	Sg	22 16 54.1	+0.2
NPS	Neapolis	0.76	43	P	Pg	22 16 43.7	-0.2
NPS				S	Sb	22 16 55.4	+0.8
VAM	Vamos	0.95	318	P	Pg	22 16 46.1	-1.2
VAM				S	Sg	22 16 59.8	+0.1
VAM				AML	AML	22 17 02.1	
	comp=N,6025μm,0.3s						
VAM				AML	AML	22 17 02.1	
	comp=E,5862μm,0.3s						
VAM	Vamos	0.95	318	P	Pg	22 16 46.5	-0.8
VAM				S	Sg	22 16 59.4	-0.3
VAM	Vamos	0.95	318	P	Pg	22 16 46.5	-0.8
VAM				S	Sn	22 17 01.4	-0.1
ZKR	Zakros	1.10	68	P	Pb	22 16 49.7	-0.3
ZKR				S	Sn	22 17 07.0	+1.7
ZKR				AML	AML	22 17 09.7	
	comp=E,1641μm,0.4s						
ZKR				AML	AML	22 17 10.9	
	comp=N,930μm,0.3s						
ZKR	Zakros	1.10	68	P	Pg	22 16 50.2	0.0
ZKR				S	Sn	22 17 05.4	+0.1
ZKR	Zakros	1.10	68	P	Pg	22 16 50.3	0.0
ZKR				S	Sn	22 17 05.4	+0.1
IMMV	Iera Moni Meta	1.11	313	P	Pb	22 16 49.0	-1.1
IMMV				S	Sg	22 17 04.0	-0.9
IMMV				AML	AML	22 17 08.0	
	comp=N,5239μm,0.3s						
IMMV				AML	AML	22 17 09.9	
	comp=E,4695μm,0.5s						
IMMV	Iera Moni Meta	1.11	313	P	Pb	22 16 49.5	-0.7
IMMV				S	Sn	22 17 06.4	+0.8
IMMV	Iera Moni Meta	1.11	313	P	Pb	22 16 49.4	-0.7
IMMV				S	Sn	22 17 06.4	+0.8
THR6	Thira Island,	1.68	12	P	Pn	22 16 58.4	+0.2
THR6	Thira Island,	1.68	12	P	Pn	22 16 58.4	+0.2
THR3	Thira Island,	1.74	11	P	Pn	22 16 58.9	0.0
THR3	Thira Island,	1.74	11	P	Pn	22 16 58.9	0.0
THR5	Thira Island,	1.74	10	P	Pn	22 16 59.0	+0.1
THR5	Thira Island,	1.74	10	P	Pn	22 16 59.0	+0.1
ANAF	Anafi Island	1.77	21	P	Pb	22 17 01.3	-0.2
ANAF	Anafi Island	1.77	21	P	Pb	22 17 00.8	-0.6
ANKY	Antikythira Is	1.79	311	P	Pn	22 17 00.6	+0.8
ANKY	Antikythira Is	1.79	311	P	Pn	22 17 00.7	+0.9
MHLO	Agia Marina, M	2.04	347	P	Pn	22 17 04.0	+0.9
MHLO	Agia Marina, M	2.04	347	P	Pn	22 17 03.9	+0.9
KYTH	Kithira	2.21	315	P	Pn	22 17 06.2	+0.6
KYTH				S	Sn	22 17 35.2	+2.4
VLI	Veliai	2.60	321	P	Pn	22 17 11.9	+1.0
VLI	Veliai	2.60	321	P	Pn	22 17 11.9	+1.0
DID	Didima	3.13	334	P	Pn	22 17 18.1	-0.1
DID	Didima	3.13	334	P	Pn	22 17 18.7	+0.5
BRTR	Keskin Array B	8.53	52	Pn	Pn	22 18 34.9	+2.4
	comp=E,0.1nm,0.3s,baz=230,slow=16,SNR=2.6						
MLR	Muntele Rosu	10.80	4	Pn	Pn	22 19 04.3	+0.9
	comp=E,0.1nm,0.3s,baz=158,slow=12,SNR=3.1						
AKASG	Malin Array Be	16.29	10	Pn	Pn	22 20 16.9	-0.5
	comp=E,0.5nm,0.3s,baz=201,slow=11,SNR=5.6						
GERES	GERESS Array B	16.41	333	Pn	P	22 20 21.6	-0.3
	comp=E,0.1nm,0.3s,baz=154,slow=10,SNR=7.2						
KBZ	Khabaz	16.53	52	Pn	P	22 20 23.9	+0.7
	comp=E,0.1nm,0.3s,baz=228,slow=9.0,SNR=4.6						
TORD	Torodi Ar. Bea	30.08	230	P	P	22 22 37.0	-1.4
	comp=E,0.8nm,0.8s,baz=29,slow=8.0,SNR=6.4						
MKAR	Makanchi Array	44.15	56	P	P	22 24 36.2	-1.2
	comp=E,0.5nm,0.7s,baz=274,slow=7.2,SNR=4.4						

ISCJB 11 22:27:50.3±0.3, 41.05S±0.06×16.82W±0.1, h10km, mb4.7/29, Error ellipse: s-maj=11.0km s-min=8.5km az=28.3
IDC 11 22:27:50.1±0.6, 41.02S×16.88W, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.2/37, mbtmp4.4/14, Error ellipse: s-maj=21.0km s-min=16.4km az=152.0
GCMT 11 22:27:51.3±0.3, 41.41S×16.67W, h18km±1km, MW5.2/85, Moment Tensor Solution. s39,c48; s85,c116; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=6.20±.35; Mθθ 0.69±.29; Mφφ 5.51±.26; Mrθ -4.71±.72; Mrφ 0.82±.18; Mθφ -1.08±.46; Best double couple: M0 7.32700×10^16 NP1: φ 39.00000°, δ 61.00000°, λ -63.00000°. NP2: φ 172.00000°, δ 39.00000°, λ -130.00000°. Principal axes: T 6.0380, Plg12.0000°, Azm109.0000°; N 2.5750, Plg24.0000°, Azm205.0000°; P -8.6160, Plg63.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 11 22:27:51.3±0.3, 41.11S×16.81W, h10km, mb4.8/18 Error ellipse: s-maj=11.0km s-min=9.1km az=148.0
ISC 11 22:27:51.7±0.4, 41.07S±0.09×16.78W±0.09, h10km, n91, σ1 911/77, mb4.8/30, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	30.31	174	P	P	22 34 03.1	+0.3
	baz=341,slow=11						
VNA3	Neumayer Olymp	30.46	175	P	P	22 34 04.4	+0.2
SNAA	Sanae	31.46	172	P	P	22 34 13.0	-0.1
	2.1nm,0.9s,baz=327,slow=12,SNR=4.0						
SNAA	Sanae	31.46	172	*e*P	P	22 34 13.0	-0.1
	22nm,1.9s						
H10S2	ASCENSION HYDR	32.03	4	T	T	23 08 03.2	
	baz=183,slow=75,SNR=110						
H10S3	ASCENSION HYDR	32.04	4	T	T	23 08 03.7	
	baz=183,slow=75,SNR=109						
H10S1	ASCENSION HY

KEST **Kesra** 80.11 21 *e*P P 22 40 02.8 +1.1
21nm,1.1s
ESLA **Sonseca Array** 81.21 10 *e*P P 22 40 08.6 +1.2
8.9nm,1.0s
ESDC **Sonseca Array** 81.21 10 P P 22 40 08.2 +0.7
5.4nm,1.0s,baz=183,slow=5.5,SNR=20
ES19 **SONSECA Array** 81.24 10 *e*P P 22 40 08.5 +0.9
DAVA **Damuels** 91.11 18 *e*P P 22 40 57.4 +1.1
4.7nm,1.0s
MOTA **Moosalm** 91.45 19 *e*P P 22 40 59.1 +1.2
4.4nm,1.1s
WTTA **Wattenberg** 91.51 19 *e*PcP P 22 41 01.0 +2.9
7.1nm,1.5s
KBA **Koelnbreinsper** 91.77 20 P P 22 41 00.6 +1.3
8.2nm,1.5s
H01W2 **Cape Leeuwin H** 91.96 142 T T 00 24 11.6
baz=216,slow=75,SNR=5.8
H01W1 **Cape Leeuwin H** 91.98 142 T T 00 24 10.4
baz=216,slow=75,SNR=6.0
H01W3 **Cape Leeuwin H** 91.98 142 T T 00 24 13.4
baz=216,slow=75,SNR=7.1
BR231 **Keskin MP Arra** 92.29 36 *e*P P 22 41 02.9 +1.1
BR101 **Keskin Array S** 92.58 37 *e*P P 22 41 03.5 +0.2
BR131 **Keskin Array S** 92.58 37 *e*P P 22 41 05.0 +1.8
BRTR **Keskin Array B** 92.58 37 P P 22 41 03.5 +0.2
2.3nm,1.0s,baz=198,slow=7.8,SNR=8.6
PD31 **Pinedale Array** 118.02 304 *e*PKPdf PKPdf 22 46 37.1 -1.5
PDAR **Pinedale Array** 118.02 304 PKP PKPdf 22 46 37.1 -1.5
0.5nm,0.8s,baz=180,slow=2.7,SNR=3.1
CM01 **Chiang Mai Arr** 121.15 92 *e*PKPdf PKPdf 22 46 44.1 -0.9
CM31 **Chiang Mai Arr** 121.16 92 *e*PKPdf PKPdf 22 46 44.6 -0.5
CMAR **Chiang Mai Arr** 121.16 92 PKP PKPdf 22 46 44.6 -0.5
1.4nm,0.8s,baz=236,slow=3.7,SNR=7.4
KURBB **Kurchatov Arra** 123.31 49 PKP PKPdf 22 46 47.8 -0.4
1.2nm,0.9s,baz=240,slow=2.5,SNR=9.2
KURK **Kurchatov** 123.40 49 *e*PKPdf PKPdf 22 46 47.8 -0.5
MK32 **Makanchi Array** 123.88 55 *e*PKPdf PKPdf 22 46 48.0 -1.4
MKAR **Makanchi Array** 123.88 55 PKP PKPdf 22 46 48.0 -1.4
0.5nm,0.8s,baz=252,slow=4.4,SNR=5.2
BMO **Blue Mountains** 123.94 303 *e*PKPdf PKPdf 22 46 49.6 -0.1
RES **Resolute Bay** 126.13 341 PKP PKPdf 22 46 52.4 -0.5
1.5nm,0.9s,baz=316,slow=5.8,SNR=4.2
ZALV **Zalesovo Beam** 128.15 47 PKP PKPdf 22 46 56.5 -0.8
0.6nm,0.5s,baz=211,slow=4.7,SNR=3.5
ZAA1 **Zalesovo Array** 128.15 47 *e*PKPdf PKPdf 22 46 56.5 -0.8
YKA **Yellowknife Ar** 128.86 324 PKP PKPdf 22 46 57.6 -0.8
1.7nm,0.9s,baz=105,slow=2.1,SNR=21
YKB5 **Yellowknife Ar** 128.86 324 *e*PKPdf PKPdf 22 46 57.6 -0.8
YKW3 **Yellowknife Ar** 128.88 324 *e*PKPdf PKPdf 22 46 57.9 -0.6
INK **Inuvik** 137.23 331 *e*PKPdf PKPdf 22 47 14.0 0.0
SONA0 **Songino Array** 139.67 61 *e*PKPdf PKPdf 22 47 16.9 -2.4
SONM **Songino Array** 139.67 61 PKP PKPdf 22 47 16.9 -2.4
1.1nm,0.9s,baz=258,slow=1.3,SNR=6.5
TOLK **Toolik Lake Re** 142.86 334 *e*PKPpre PKPpre 22 47 21.7
IL1 **Eielson Array** 143.14 327 *e*PKPpre PKPpre 22 47 20.8
ILAR **Eielson Array** 143.14 327 PKhKP PKPpre 22 47 20.8
1.5nm,0.9s,baz=81,slow=2.0,SNR=10
ILB **Eielson Array** 143.14 327 *e*PKPpre PKPpre 22 47 20.8
HDA **Harding Lake** 143.26 326 *e*PKPdf PKPdf 22 47 25.3 +0.2
DHY **Denali Highway** 143.77 324 *e*PKPdf PKPdf 22 47 29.0 +2.8
SML **Sawmill** 144.50 322 *e*PKPdf PKPbc 22 47 26.1 +0.1
MLY **Manley** 144.62 328 *e*PKPdf PKPab 22 47 25.7 -0.4
TIXI **Tiksi** 144.93 18 *e*PKPdf PKPab 22 47 26.1 -0.9
TRF **Thorofare Moun** 144.94 325 *e*PKPbc PKPab 22 47 27.3 -0.2
BPAW **Bear Paw Mtn.** 145.03 327 *e*PKPbc PKPbc 22 47 27.0 -0.6
KTH **Kantishna Hill** 145.18 326 *e*PKPbc PKPbc 22 47 28.0 -0.2
SUA **Susitna One** 145.70 322 *e*PKPdf PKPab 22 47 30.5 +0.2
CAST **Castle Rocks** 145.72 326 *e*PKPdf PKPdf 22 47 29.0 -0.3
KS01 **Wonju Array Si** 152.53 86 *e*PKPab PKPab 22 47 56.5 -2.0

IDC ***11*** *22:30:23.9±0.5, 41˚.14S×16˚.77W, h0km, mb4.5/17, mb1 4.6/17, mb1mx4.4/36, mbtmp4.5/17, MS4.7/24, Ms1 4.7/24, ms1mx4.7/27, Error ellipse: s-maj=18.1km s-min=13.9km az=169.0*

MOS ***11*** *22:30:24.9±0.9, 41˚.14S×16˚.75W, h10km, mb5.0/18, MS5.0/5, Error ellipse: s-maj=16.6km s-min=11.7km az=63.8*

ISCJB ***11*** *22:30:25.1±0.2, 41˚.17S±0˚.05×16˚.75W±0˚.07, h10km, mb5.1/72, MS4.8/31, Error ellipse: s-maj=8.1km s-min=6.3km az=36.8*

GCMT ***11*** *22:30:26.6±0.1, 41˚.24S×16˚.64W, h12km, MW5.3/123, Moment Tensor Solution. s75,c103; s123,c222; Duration: 1⁄1 Moment tensor: Scale 10¹⁷Nm; Mrr-1.20±.02; Mθθ0.03±.02; Mϕϕ1.17±.01; Mrθ0.18±.06; Mθϕ-0.01±.01; Mϕr-0.14±.05; Best double couple: Mo1.20500×10¹⁷ NP1:ϕs352.00000°, δ49.00000°, λ-100.00000°. NP2:ϕs188.00000°, δ42.00000°, λ-78.00000°. Principal axes: T 1.1780, Plg3.0000°, Azm89.0000°; N 0.0550, Plg8.0000°, Azm359.0000°; P -1.2330, Plg81.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***11*** *22:30:26.6±0.9, 41˚.15S×16˚.70W, h15km±5km, mb5.3/42 Error ellipse: s-maj=10.6km s-min=7.3km az=161.0*

BJI ***11*** *22:30:26.8, 41˚.005S×16˚.70W, h10km, mB5.5/11, Ms5.5/13, Ms7 5.2/14*

ISC 11 22:30:26.1±0.3, 41˚.09S±0˚.07×16˚.79W±0˚.07, h10km, n261, σ1⁄9˚77/234, mb5.1/72, MS5.0/31, 10C-15D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	29.95	174	P		P	22 36 34.9	+0.9
VNA2	**Neumayer--Watz**	30.29	174	P		P	22 36 37.2	+0.1
	baz=342,slow=11							
VNA3	**Neumayer Olymp**	30.44	175	P		P	22 36 38.6	+0.1
SNAA	**Sanae**	31.44	172	P		P	22 36 47.4	+0.1
SNAA	**Sanae**	31.44	172	P		P	22 36 45.8	-1.5
	5.4nm,1.0s,baz=326,slow=9.8,SNR=6.3							
SNAA				LR		LR	22 46 21.0	
	comp=Z,429nm,20.0s,baz=358,slow=30							
SNAA	**Sanae**	31.44	172	⇑*i*P		P	22 36 47.4	+0.1
SNAA	**Sanae**	31.44	172	*e*P		P	22 36 46.9	-0.5
	49nm,1.9s							
H10S2	**ASCENSION HYDR**	32.05	4	T		T	23 10 40.6	
	baz=183,slow=74,SNR=78							
H10S3	**ASCENSION HYDR**	32.06	4	T		T	23 10 41.0	
	baz=183,slow=74,SNR=86							
H10S1	**ASCENSION HYDR**	32.07	4	T		T	23 10 42.0	
	baz=183,slow=74,SNR=118							
ASCN	**Ascension**	33.09	4	*e*P		P	22 37 01.9	-0.2
	281nm,1.6s							
NVL	**N'lazarevskaya**	33.12	163	*e*P		P	22 37 03.1	+1.2
NVL				pmax		pmax		
	comp=Z,53nm,2.0s							
H10N1	**ASCENSION HYDR**	33.17	4	T		T	23 12 04.3	
	baz=181,slow=73,SNR=20							
H10N3	**ASCENSION HYDR**	33.17	4	T		T	23 12 06.8	
	baz=181,slow=73,SNR=112							
H10N2	**ASCENSION HYDR**	33.18	4	T		T	23 12 05.8	
	baz=181,slow=73,SNR=29							
TRQA	**Tornquist**	34.67	260	P		P	22 37 17.2	+1.4
TRQA	**Tornquist**	34.67	260	*e*P		P	22 37 13.9	-1.9
	comp=Z,32nm,1.2s							
PMSA	**Palmer Station**	35.77	213	*e*P		P	22 37 24.7	-0.2
	comp=Z,93nm,1.4s							
BOSA	**Boshof**	36.35	83	P		P	22 37 29.4	-1.0
	comp=Z,6.9nm,1.0s,baz=228,slow=9.3,SNR=4.2							
BOSA				PcP		PcP	22 39 54.4	-0.5
	comp=Z,3.9nm,0.8s,baz=291,slow=1.6,SNR=5.2							
BOSA				LR		LR	22 49 36.9	
	comp=Z,2μm,18.2s,baz=231,slow=32							
CPUP	**Villa Florida**	36.45	281	P		P	22 37 30.4	-0.7
	comp=Z,9.0nm,1.0s,baz=124,slow=7.4,SNR=12							
CPUP				LR		LR	22 50 36.5	
	comp=Z,3μm,19.6s,baz=123,slow=33							
CPUP	**Villa Florida**	36.45	281	*e*P		P	22 37 31.9	+0.8
CPUP				pmax		pmax		
	comp=Z,14nm,1.1s							
CPUP	**Villa Florida**	36.45	281	*e*P		P	22 37 31.9	+0.8
	comp=Z,14nm,1.1s							
TSUM	**Tsumeb**	36.52	64	*e*P		P	22 37 31.4	-0.5
	comp=Z,23nm,0.8s							
LBTB	**Lobatse**	38.57	79	P		P	22 37 48.4	-0.9
	comp=Z,8.4nm,0.9s,baz=227,slow=9.5,SNR=5.8							
LBTB	**Lobatse**	38.57	79	*e*P		P	22 37 48.5	-0.8
LBTB				pmax		pmax		
	comp=Z,54nm,1.8s							
LBTB	**Lobatse**	38.57	79	*e*P		P	22 37 48.5	-0.8
	comp=Z,54nm,1.8s							
GO09	**Cerro Castillo**	38.92	236	*e*P		P	22 37 52.4	+0.6
	comp=Z,100nm,1.8s							
RCBR	**Riachuelo**	39.05	329	*e*P		P	22 37 49.4	-3.8
	comp=Z,79nm,1.6s							
CHRN	**Cochrane**	39.76	242	*e*P		P	22 38 01.5	+2.6
	comp=Z,12nm,1.1s							
PLCA	**Paso Flores**	40.08	252	P		P	22 38 01.4	-0.2
	comp=Z,19nm,1.1s,baz=147,slow=7.3,SNR=11							
PLCA				LR		LR	22 52 20.1	
	comp=Z,3μm,19.8s,baz=136,slow=33							
PLCA	**Paso Flores**	40.08	252	*e*P		P	22 38 03.1	+1.4
	comp=Z,60nm,1.4s							
SYO	**Syowa Base**	40.40	152	⇓*e*P		P	22 38 00.6	-3.3
SYO	**Syowa Base**	40.40	152	⇓*e*pP		P	22 38 03.8	-0.1
ROC1	**El Roble**	43.44	263	*e*P		P	22 38 30.5	+1.0
	comp=Z,26nm,1.0s							
MATP	**Matopo**	43.46	76	P		P	22 38 28.4	-1.2
	comp=Z,2.8nm,0.8s,baz=228,slow=5.2,SNR=4.4							
MATP				LR		LR	22 53 52.6	
	comp=Z,5μm,19.5s,baz=230,slow=32							
LCO	**Las Campanas**	45.10	268	*i*P		P	22 38 42.7	-0.1
LCO	**Las Campanas**	45.10	268	*e*P		P	22 38 42.7	-0.1
	comp=Z,47nm,1.3s							
LSZ	**Lusaka**	46.57	70	*e*P		P	22 38 54.2	-0.2
LSZ				pmax		pmax		
	comp=Z,9.0nm,0.9s							
LSZ	**Lusaka**	46.57	70	*e*P		P	22 38 54.2	-0.2
	comp=Z,9.2nm,0.9s							
LIC	**Lamto**	48.30	16	*e*P		P	22 39 08.0	+0.4
	comp=Z,154nm,1.6s							
PB04	**IPOC Station P**	48.31	276	*e*P		P	22 39 08.6	+0.6
	comp=Z,113nm,1.2s							
KIC	**Kosan Boka**	48.49	16	*e*P		P	22 39 09.4	+0.3
	comp=Z,46nm,0.8s							
PB01	**IPOC Station P**	48.58	278	*e*P		P	22 39 10.3	+0.4
	comp=Z,77nm,1.6s							
TIC	**Toumodi**	48.71	16	*e*P		P	22 39 11.1	+0.3
DBIC	**Dimbokro**	48.77	16	P		P	22 39 10.9	-0.3
	comp=Z,6.3nm,0.8s,baz=178,slow=8.3,SNR=7.5							
DBIC				LR		LR	22 56 23.2	
	comp=Z,242nm,18.5s,baz=165,slow=32							
DBIC	**Dimbokro**	48.77	16	*e*P		P	22 39 10.8	-0.3
	comp=Z,88nm,1.8s							
MAW	**Mawson**	48.95	150	LR		LR	22 55 41.2	
	comp=Z,1μm,21.6s,baz=262,slow=31							
QSPA	**South Pole Qui**	49.17	180	*e*P		P	22 39 14.5	+0.4
	comp=Z,78nm,1.6s							
LPAZ	**La Paz**	50.51	284	P		P	22 39 24.3	-1.0
	comp=Z,8.7nm,1.2s,baz=109,slow=8.4,SNR=8.9							
LPAZ				LR		LR	22 59 31.2	
	comp=Z,2μm,20.1s,baz=134,slow=35							
LPAZ	**La Paz**	50.51	284	*e*P		P	22 39 24.7	-0.6
LPAZ	**La Paz**	50.51	284	*e*P		P	22 39 24.7	-0.6
	comp=Z,14nm,1.3s							
SAML	**Samuel**	51.95	295	*e*P		P	22 39 36.1	+0.7
	comp=Z,28nm,1.2s							
BBTS	**Babate**	55.46	0	LR		LR	22 59 13.5	
	comp=Z,941nm,18.2s,baz=184,slow=31							
PTGA	**Pitinga**	55.98	304	*e*P		P	22 40 06.2	+1.3
	comp=Z,24nm,1.2s							
KOWA	**Kowa**	56.55	15	P		P	22 40 07.9	-0.9
	comp=Z,9.1nm,1.0s,baz=178,slow=5.9,SNR=18							
KOWA				LR		LR	23 00 22.9	
	comp=Z,380nm,18.3s,baz=201,slow=32							
KOWA	**Kowa**	56.55	15	*e*P		P	22 40 08.9	+0.1
	comp=Z,144nm,1.9s							
TOA0	**Torodi Ar. Sit**	56.61	22	*e*P		P	22 40 08.5	-0.7
TORD	**Torodi Ar. Bea**	56.61	22	P		P	22 40 08.0	-1.2
	comp=Z,5.7nm,0.9s,baz=195,slow=5.7,SNR=21							
TORD				LR		LR	22 59 03.1	
	comp=Z,606nm,21.7s,baz=190,slow=30							
TOA1	**Torodi Ar. Sit**	56.61	22	*e*P		P	22 40 08.0	-1.3
OPO	**Ambohidratompo**	58.55	88	LR		LR	23 01 33.5	
	comp=Z,1μm,21.5s,baz=231,slow=32							
MBAR	**Mbarara**	58.86	60	*e*P		P	22 40 27.0	+1.6
MBAR				pmax		pmax		
	comp=Z,69nm,1.9s							
MBAR	**Mbarara**	58.86	60	*e*P		P	22 40 27.0	+1.6
	comp=Z,69nm,1.9s							
VNDA	**Vanda**	61.67	180	P		P	22 40 42.8	-0.7
	comp=Z,7.4nm,1.2s,baz=197,slow=8.4,SNR=10							
VNDA				LR		LR	23 05 27.3	
	comp=Z,196nm,18.4s,baz=173,slow=34							
VNDA	**Vanda**	61.67	180	*e*P		P	22 40 44.5	+0.9
VNDA				pmax		pmax		
	comp=Z,94nm,1.9s							
VNDA	**Vanda**	61.67	180	*e*P		P	22 40 44.5	+0.9
	comp=Z,94nm,1.9s							
NAI	**Nairobi**	62.42	65	*e*P		P	22 40 47.0	-2.8
NAI				pmax		pmax		
	comp=Z,10.0nm,0.6s							
NAI	**Nairobi**	62.42	65	*e*P		P	22 40 47.0	-2.8
	comp=Z,10nm,0.6s							
KMBO	**Kilima Mbogo**	62.84	65	P		P	22 40 53.1	+0.6
	comp=Z,0.5nm,0.3s,baz=198,slow=8.6,SNR=6.0							
KMBO				LR		LR	23 06 05.7	
	comp=Z,1μm,19.2s,baz=244,slow=34							
KMBO	**Kilima Mbogo**	62.84	65	*e*P		P	22 40 53.1	+0.6
	comp=Z,15nm,1.6s							
CASY	**Casey**	65.59	159	*e*P		P	22 41 09.7	+0.1
	comp=Z,79nm,1.4s							
TAM	**Tamanrasset**	66.85	22	*e*P		P	22 41 19.1	+0.8
TAM				pmax		pmax		
	comp=Z,34nm,1.5s							
TAM	**Tamanrasset**	66.85	22	*e*P		P	22 41 19.1	+0.8
	comp=Z,34nm,1.5s							
PCRV	**Puerto La Cruz**	67.39	308	LR		LR	23 08 55.8	
	comp=Z,1μm,18.8s,baz=146,slow=34							
PRAC	**Prado**	69.11	295	*e*P		P	22 41 32.6	-0.1
	comp=Z,21nm,0.5s							
OTAV	**Otavalo**	69.14	290	*e*P		P	22 41 36.0	+2.6
	comp=Z,42nm,1.5s							
RUSC	**La Rusia**	69.48	298	*e*P		P	22 41 34.0	-1.5
	comp=Z,13nm,1.2s							
ROSC	**El Rosal**	69.54	296	P		P	22 41 35.3	-0.5
	comp=Z,3.0nm,0.4s,baz=137,slow=6.2,SNR=7.6							
ROSC	**El Rosal**	69.54	296	*e*P		P	22 41 38.0	+2.3
	comp=Z,55nm,1.9s							
SDV	**Santo Domingo**	70.11	302	P		P	22 41 39.8	+0.8
	comp=Z,11nm,1.1s,baz=256,slow=5.7,SNR=9.1							
SDV	**Santo Domingo**	70.11	302	*e*P		P	22 41 40.9	+1.9
	comp=Z,24nm,1.3s							
ATD	**Arta Tunnel**	75.85	61	LR		LR	23 11 56.3	
	comp=Z,1μm,21.9s,baz=210,slow=33							
MORF	**Marmelete**	78.37	7	*e*P		P	22 42 27.3	+0.9
MORF				AMb		AMb	22 42 32.3	
	comp=Z,33nm,1.5s							
MORF	**Marmelete**	78.37	7	*e*P		P	22 42 27.4	+0.9
	comp=Z,34nm,1.6s							
MORF	**Marmelete**	78.37	7	*e*P		P	22 42 27.3	+0.9
PBDV	**Barranco-do-Ve**	78.38	7	*e*P		P	22 42 28.7	+2.3
	comp=Z,47nm,1.5s							
PVAQ	**Vaqueiros**	78.56	7	*e*P		P	22 42 28.7	+1.3
	comp=Z,57nm,2.0s							
PCVE	**Castro Verde**	78.75	7	*e*P		P	22 42 30.8	+2.3
MESJ	**Messejana**	78.94	7	*e*P		P	22 42 30.6	+1.1
MESJ				AMb		AMb	22 42 34.8	
	comp=Z,30nm,1.6s							
MESJ	**Messejana**	78.94	7	*e*P		P	22 42 30.6	+1.1
PNCL	**Nicolau / Gran**	79.18	7	*e*P		P	22 42 33.3	+2.5
	comp=Z,34nm,1.7s							
PBAR	**Barrancos**	79.39	8	*e*P		P	22 42 34.3	+2.4
	comp=Z,93nm,1.9s							
KEST	**Kesra**	80.13	21	P		P	22 42 36.6	+0.5
	comp=Z,10.0nm,0.8s,baz=241,slow=2.8,SNR=6.8							
KEST	**Kesra**	80.13	21	*e*P		P	22 42 36.6	+0.5
	comp=Z,18nm,0.9s							
PMTG	**Montargil**	80.16	7	*e*P		P	22 42 36.8	+0.7
	comp=Z,39nm,1.6s							
PMRV	**Marv??o**	80.59	7	*e*P		P	22 42 40.1	+1.6
	comp=Z,64nm,2.0s							
JTS	**JuntasAbangare**	80.76	292	LR		LR	23 18 30.3	
	comp=Z,602nm,19.8s,baz=186,slow=36							
PCAS	**Casmilo, Conde**	81.11	6	*e*P		P	22 42 43.3	+2.1
	comp=Z,57nm,1.6s							
ESDC	**Sonseca Array**	81.23	10	P		P	22 42 41.8	-0.1
	comp=Z,4.5nm,0.9s,baz=184,slow=5.2,SNR=20							
ESDC				LR		LR	23 16 49.3	
	comp=Z,99nm,18.1s,baz=145,slow=34							
ESLA	**Sonseca Array**	81.23	10	*e*P		P	22 42 44.0	+2.1
	comp=Z,17nm,1.3s							
ES19	**SONSECA Array**	81.26	10	*e*P		P	22 42 42.6	+0.5
MTE	**Manteigas**	81.54	7	*e*P		P	22 42 44.6	+1.0
	comp=Z,68nm,1.8s							
MVO	**Moncorvo**	82.35	7	*e*P		P	22 42 49.0	+1.2
	comp=Z,46nm,1.9s							
VAE	**Valguarnera**	83.24	25	LR		LR	23 18 29.3	
	comp=Z,281nm,18.1s,baz=152,slow=35							
RAYN	**Ar Rayn**	86.40	55	*e*P		P	22 43 10.7	+1.9
	comp=Z,24nm,1.6s							
FUORN	**Ofenpass-Fuorn**	90.59	18	*e*P		P	22 43 30.6	+2.2
	comp=Z,61nm,1.9s							
VTS	**Vitosha**	90.79	28	⇓*i*P		P	22 43 31.8	+2.5
VTS	**Vitosha**	90.79	28	⇓P		P	22 43 31.8	+2.5
VTS	**Vitosha**	90.79	28	*e*P		P	22 43 30.4	+1.1
	comp=Z,36nm,1.7s							
DAVA	**Damuels**	91.13	18	*e*P		P	22 43 31.2	+0.5
	comp=Z,19nm,1.4s							
ABTA	**Abfaltersbach**	91.26	20	P		P	22 43 31.6	+0.4
	comp=Z,15nm,1.6s							
ECH	**Echery**	91.42	16	*e*P		P	22 43 34.3	+2.4
ECH				pmax		pmax		
	comp=Z,49nm,1.9s							
ECH	**Echery**	91.42	16	*e*P		P	22 43 34.3	+2.4
	comp=Z,49nm,1.9s							
MOTA	**Moosalm**	91.47	19	P		P	22 43 32.9	+0.6
	comp=Z,8.7nm,1.4s							
RETA	**Reutte**	91.52	18	*e*P		P	22 43 33.0	+0.5
	comp=Z,8.5nm,1.4s							
WTTA	**Wattenberg**	91.53	19	P		P	22 43 34.6	+2.0
	comp=Z,8.3nm,1.1s							
WATA	**Walderalm**	91.58	19	P		P	22 43 34.4	+1.6
	comp=Z,0.7nm,0.5s							
BFO	**Black Forest**	91.77	16	*e*P		P	22 43 34.8	+1.3
BFO				pmax		pmax		
	comp=Z,38nm,1.6s							
BFO	**Black Forest**	91.77	16	*e*P		P	22 43 34.8	+1.3
	comp=Z,38nm,1.6s							
SOKA	**Soboth**	91.87	21	*e*P		P	22 43 34.4	+0.3
	comp=Z,17nm,1.5s							
H01W2	**Cape Leeuwin H**	91.96	142	T		T	00 26 36.1	
	baz=216,slow=75,SNR=14							
H01W1	**Cape Leeuwin H**	91.97	142	T		T	00 26 37.2	
	baz=216,slow=75,SNR=12							
H01W3	**Cape Leeuwin H**	91.97	142	T		T	00 26 37.1	
	baz=216,slow=75,SNR=16							
BR231	**Keskin MP Arra**	92.31	36	*e*P		P	22 43 38.4	+2.0
ARSA	**Arzberg**	92.53	21	*e*P		P	22 43 38.6	+1.6
	comp=Z,11nm,1.4s							
WLF	**Walferdange**	92.60	15	⇓P		P	22 43 38.8	+1.5
	comp=Z,23nm,2.0s							
WLF	**Walferdange**	92.60	15	*e*P		P	22 43 40.5	+3.3
WLF				pmax		pmax		
	comp=Z,40nm,1.4s							
WLF	**Walferdange**	92.60	15	*e*P		P	22 43 40.5	+3.3
	comp=Z,40nm,1.4s							
BR101	**Keskin Array S**	92.60	37	*e*P		P	22 43 37.6	-0.1
BR131	**Keskin Array S**	92.60	37	*e*P		P	22 43 39.3	+1.6
BRTR	**Keskin Array B**	92.60	37	P		P	22 43 37.6	-0.1
	comp=Z,1.9nm,1.0s,baz=169,slow=1.5,SNR=7.8							
BRTR				LR		LR	23 24 42.7	
	comp=Z,187nm,19.9s,baz=200,slow=35							
BRTR	**Keskin Array B**	92.60	37	*i*P		P	22 43 38.7	+1.0
BRTR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
DOU	**Dourbes**	92.72	14	⇓P		P	22 43 40.4	+2.6
BZS	**Buzias**	92.90	26	⇓*i*P		P	22 43 39.1	+0.3
BZS	**Buzias**	92.90	26	⇓P		P	22 43 39.1	+0.3
BCLA	**Clavier**	93.16	14	⇓P		P	22 43 42.4	+2.5
	comp=Z,18nm,2.1s							
CONA	**Conrad Observa**	93.24	21	*e*P		P	22 43 41.3	+0.9
	comp=Z,13nm,1.6s							
MEM	**Membach**	93.47	14	⇑P		P	22 43 45.4	+4.1
GERES	**GERESS Array B**	93.51	20	PP		PP	22 47 25.7	-1.1
	comp=Z,0.3nm,0.7s,baz=160,slow=4.3,SNR=5.8							
ARR	**Arges**	93.72	28	⇓*i*P		P	22 43 44.3	+1.7
VOIR		93.92	28	⇑*i*P		P	22 43 44.3	+0.7
VOIR		93.92	28	⇑P		P	22 43 44.3	+0.7
RKT	**Rikitea**	94.19	234	*e*LR		LR	23 14 06.6	
	comp=Z,679nm,32.8s							
MLR	**Muntele Rosu**	94.29	29	LR		LR	23 25 48.8	
	comp=Z,47nm,19.2s,baz=284,slow=35							
DRGR		94.30	26	⇑*i*P		P	22 43 45.9	+0.6
DRGR		94.30	26	⇑P		P	22 43 45.9	+0.6
PSZ	**Piszkesteto**	94.40	24	*e*P		P	22 43 46.4	+0.7
PSZ				pmax		pmax		
	comp=Z,33nm,1.7s							
PSZ	**Piszkesteto**	94.40	24	*e*P		P	22 43 46.4	+0.7
	comp=Z,33nm,1.7s							
DOPR	**Dopca**	94.50	28	⇑*i*P		P	22 43 48.1	+1.9
WSAR	**Wadi Sarin**	94.70	63	LR		LR	23 24 46.7	
	comp=Z,766nm,19.9s,baz=240,slow=34							
VRAC	**Vranov**	94.70	21	LR		LR	23 23 17.9	
	comp=Z,152nm,19.9s,baz=203,slow=34							
CLL	**Collm**	95.62	18	*e*P		P	22 43 52.0	+0.9
CLL				*e*			22 43 57.0	
CLL	**Collm**	95.62	18	*e*P		P	22 43 52.0	+0.9
CLL				*es*P		sP	22 43 57.0	+1.4
CLL				LmV			23 30 00.0	
	comp=Z,200nm,18.3s							
EKA	**Eskdalemuir Ar**	96.75	8	LR		LR	23 23 10.6	
	comp=Z,137nm,21.9s,baz=245,slow=33							
ANN	**Anapa**	98.35	36	*e*P		P	22 44 00.0	-3.6
ANN				pmax		pmax		
	comp=

ZALV	**Zalesovo Beam**	**128.17**	**47**	PKP	**PKPdf**	**22 49 30.2**	**-1.6**
	comp=E,0.7nm,0.6s,baz=287,slow=6.0,SNR=3.6						
ZAA1	**Zalesovo Array**	**128.17**	**47**	*e*PKPdf	**PKPdf**	**22 49 30.2**	**-1.6**
DGZ	**Jazzator, Alta**	**128.21**	**53**	*i*/PKIKP	**PKPdf**	**22 49 30.4**	**-1.8**
YKA	**Yellowknife Ar**	**128.87**	**324**	PKP	**PKPdf**	**22 49 31.7**	**-1.1**
	comp=E,3.0nm,0.8s,baz=106,slow=2.1,SNR=30						
YKB5	**Yellowknife Ar**	**128.87**	**324**	*e*PKPdf	**PKPdf**	**22 49 30.8**	**-2.0**
YKW3	**Yellowknife Ar**	**128.89**	**324**	*e*PKPdf	**PKPdf**	**22 49 31.9**	**-0.9**
GYA	**Guiyang**	**131.58**	**89**	*e*Pdif	**Pdif**	**22 46 32.0**	**-0.1**
GYA				PKP	**PKPdf**	**22 49 39.0**	**-0.3**
GYA				PP	**PP**	**22 52 02.6**	**+3.5**
GYA				AMB	AMB		
	comp=E,130nm,7.9s						
CD2	**Chengdu**	**131.67**	**82**	PKP	**PKPdf**	**22 49 39.2**	**-0.1**
CD2				PP	**PP**	**22 51 59.3**	**-0.3**
CD2				SKKS		22 58 54.5	
CD2				SS	SS	23 09 35.8	+1.0
CD2				AMB	AMB		
	comp=E,120nm,5.2s						
CD2				LR	LR		
	comp=E,590nm,20.0s						
CD2				LR	LR		
	comp=E,420nm,22.4s						
GTA	**Gaotai**	**132.55**	**70**	*e*PKP	**PKPdf**	**22 49 41.1**	**+0.3**
GTA				PP	**PP**	**22 52 07.6**	**+2.4**
GTA				SKKS		22 58 58.8	
GTA				SS	SS	23 09 48.2	+2.7
GTA				AMB	AMB		
	comp=E,170nm,9.0s						
GTA				LR	LR		
	comp=E,260nm,14.5s						
GTA				LR	LR		
	comp=E,330nm,18.5s						
GTA				LR	LR		
	comp=E,350nm,14.3s						
LZH	**Lanzhou**	**134.10**	**76**	*e*PKP	**PKPdf**	**22 49 40.5**	**-3.3**
LZH				LR	LR		
	comp=E,140nm,17.5s						
LZH				LR	LR		
	comp=E,160nm,19.2s						
LZH				LR	LR		
	comp=E,250nm,20.4s						
XAN	**Xi'an**	**136.99**	**81**	PKP	**PKPdf**	**22 49 55.3**	**+6.2**
MOY	**Mondy**	**137.03**	**54**	*e*PKIKP	**PKPdf**	**22 49 48.3**	**-0.4**
INK	**Inuvik**	**137.24**	**331**	PKP	**PKPdf**	**22 49 47.3**	**-1.1**
	comp=E,3.2nm,0.9s,baz=4.8,slow=4.0,SNR=7.4						
INK	**Inuvik**	**137.24**	**331**	*e*PKPdf	**PKPdf**	**22 49 48.2**	**-0.2**
ZAK	**Zakamensk**	**138.20**	**56**	*e*P	**Pdif**	**22 47 14.9**	**+14**
ZAK				*e*		22 49 40.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TLY	**Talaya**	**138.65**	**54**	*e*PKIKP	**PKPdf**	**22 49 54.5**	**+2.9**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,250nm,15.0s						
SONA0	**Songino Array**	**139.69**	**61**	*e*PKPpre	PKPpre	22 49 44.6	
SONA0				*e*PKPdf	**PKPdf**	**22 49 52.5**	**-1.2**
SONM	**Songino Array**	**139.69**	**61**	PKhKP	PKPpre	22 49 44.6	
	comp=Z,0.2nm,0.4s,baz=231,slow=4.6,SNR=2.8						
SONM				PKP	**PKPdf**	**22 49 52.5**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=212,slow=3.8,SNR=7.2						
SONA1	**Songino Array**	**139.70**	**61**	*e*PKPdf	**PKPdf**	**22 49 52.5**	**-1.3**
ULN	**Ulaanbaatar**	**140.13**	**61**	*i*/PKIKP	**PKPdf**	**22 49 53.6**	**-1.0**
ULN	**Ulaanbaatar**	**140.13**	**61**	*e*PKPdf	**PKPdf**	**22 49 53.0**	**-1.6**
EGAK	**Eagle**	**140.75**	**326**	*e*PKPdf	**PKPdf**	**22 49 56.8**	**+1.9**
HHC	**Hu-ho-hao-te**	**141.48**	**73**	*e*PKP	**PKPdf**	**22 49 53.2**	**-4.0**
HHC				PP	**PP**	**22 53 00.6**	**-0.5**
HHC				SS	SS	23 11 27.8	-4.0
HHC				AMB	AMB		
	comp=Z,100nm,3.7s						
HHC				LR	LR		
	comp=Z,220nm,16.1s						
HHC				LR	LR		
	comp=Z,250nm,14.7s						
HHC				LR	LR		
	comp=Z,200nm,14.5s						
FYU	**Fort Yukon**	**142.00**	**329**	*e*PKPdf	**PKPdf**	**22 49 57.8**	**+0.7**
RIDG	**Independ'e Rid**	**142.52**	**325**	*e*PKPdf	**PKPdf**	**22 49 57.6**	**-0.6**
TOLK	**Toolik Lake Re**	**142.87**	**334**	*e*PKPpre	PKPpre	22 49 55.1	
IL1	**Eielson Array**	**143.15**	**327**	*e*PKPpre	PKPpre	22 49 55.5	
ILAR	**Eielson Array**	**143.15**	**327**	PKhKP	PKPpre	22 49 55.5	
	comp=Z,2.1nm,0.8s,baz=97,slow=1.3,SNR=16						
ILB	**Eielson Array**	**143.15**	**327**	*e*PKPpre	PKPpre	22 49 56.5	
HDA	**Harding Lake**	**143.27**	**326**	*e*PKPpre	PKPpre	22 49 56.9	
COLA	**College**	**143.51**	**327**	*e*PKIKP	**PKPdf**	**22 50 00.5**	**+0.7**
CCB	**Clear Creek Bu**	**143.56**	**327**	*e*PKPpre	PKPpre	22 49 57.7	
NJ2	**Nanjing**	**143.58**	**90**	*e*PKP	**PKPdf**	**22 50 02.6**	**+1.6**
COLD	**Coldfoot**	**143.63**	**332**	*e*PKPdf	PKPbc	22 49 58.7	+1.2
MDM	**Murphy Dome**	**143.64**	**327**	*e*PKPpre	PKPpre	22 49 57.9	
DHY	**Denali Highway**	**143.78**	**324**	*e*PKPdf	**PKPdf**	**22 49 59.6**	**-1.0**
RND	**Reindeer**	**144.34**	**325**	*e*PKIKP	PKPbc	22 50 00.7	+0.8
RND	**Reindeer**	**144.34**	**325**	*e*PKPdf	PKPbc	22 50 00.7	+0.8
SML	**Sawmill**	**144.51**	**322**	*e*PKIKP	**PKPab**	**22 50 00.2**	**0.0**
SML	**Sawmill**	**144.51**	**322**	*e*PKPdf	**PKPab**	**22 50 00.2**	**0.0**
MLY	**Manley**	**144.63**	**328**	*e*PKPdf	**PKPab**	**22 49 59.8**	**-0.8**
BOD	**Bodaibo**	**144.82**	**45**	*e*PKIKP	**PKPab**	**22 50 00.0**	**-1.4**
BOD				pmax	pmax		
	comp=Z,98nm,1.6s						
PMR	**Palmer**	**144.93**	**322**	*e*PKIKP	**PKPbc**	**22 50 00.6**	**-1.1**
PMR	**Palmer**	**144.93**	**322**	*e*PKPbc	**PKPbc**	**22 50 00.6**	**-1.1**
TRF	**Thorofare Moun**	**144.95**	**325**	*e*PKPbc	**PKPbc**	**22 50 01.4**	**-0.5**
TIXI	**Tiksi**	**144.95**	**18**	*d i*PKIKP	**PKPbc**	**22 50 00.2**	**-1.2**
TIXI	**Tiksi**	**144.95**	**18**	*e*PKPdf	**PKPbc**	**22 50 00.2**	**-1.2**
BPAW	**Bear Paw Mtn.**	**145.04**	**327**	*e*PKPbc	**PKPbc**	**22 50 00.7**	**-1.3**
KTH	**Kantishna Hill**	**145.19**	**326**	*e*PKPbc	**PKPbc**	**22 50 02.0**	**-0.6**
RC01	**Rabbit Creek A**	**145.33**	**321**	*e*PKPbc	**PKPbc**	**22 50 03.1**	**+0.1**
SUA	**Susitna One**	**145.71**	**322**	*e*PKPdf	**PKPbc**	**22 50 04.6**	**+0.2**
CAST	**Castle Rocks**	**145.73**	**326**	*e*PKPdf	**PKPdf**	**22 50 02.6**	**-1.2**
PPLA	**Purkeypile**	**145.94**	**325**	*e*PKPdf	**PKPdf**	**22 50 04.3**	**0.0**
SPU	**Mount Spurr**	**146.39**	**322**	*e*PKPdf	**PKPbc**	**22 50 06.0**	**-0.3**
KDAK	**Kodiak Island**	**147.47**	**316**	PKPbc	**PKPbc**	**22 50 09.5**	**+0.1**
	comp=Z,13nm,0.8s,baz=270,slow=6.3,SNR=3.7						
HIA	**Hailar**	**148.66**	**60**	*e*PKP2	**PKPbc**	**22 50 13.0**	**+0.1**
HIA	**Hailar**	**148.66**	**60**	*e*PKPbc	**PKPbc**	**22 50 13.0**	**+0.1**
YAK	**Yakutsk**	**150.98**	**32**	*e*PKIKP	**PKPbc**	**22 50 16.3**	**-1.8**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
CN2	**Changchun**	**152.16**	**72**	*e*PKPbc	**PKPbc**	**22 50 20.3**	**-1.1**
KS15	**Wonju Array Si**	**152.53**	**86**	*ep*PKPdf	**pPKPdf**	**22 50 19.8**	**+0.9**
KS15				*e*PKPab	**PKPab**	**22 50 32.8**	**-0.1**
KSAR	**Wonju Array Be**	**152.53**	**86**	PKIKP	**PKPbc**	**22 50 19.8**	**-2.6**
KSAR	**Wonju Array Be**	**152.53**	**86**	PKPbc	**PKPbc**	**22 50 19.8**	**-2.6**
KSAR				PKPab	**PKPab**	**22 50 32.8**	**-0.1**
KS01	**Wonju Array Si**	**152.54**	**86**	*e*PKPab	**PKPab**	**22 50 32.3**	**-0.6**
KSRS	**Korea Array**	**152.56**	**86**	PKPbc	**PKPbc**	**22 50 19.8**	**-2.7**
	comp=Z,2.3nm,0.8s,baz=268,slow=3.6,SNR=4.8						
KSRS				PKPab	**PKPab**	**22 50 32.8**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=252,slow=3.9,SNR=5.6						
BILL	**Bilibino**	**152.94**	**357**	*i* PKIKP	**PKPdf**	**22 50 14.3**	**-0.8**
BILL				*i*		22 50 21.4	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GAMB	**Gambell**	**152.96**	**336**	*e*PKPbc	**PKPbc**	**22 50 22.4**	**-0.1**
KLR	**Kul'dur**	**156.50**	**59**	PKPab	**PKPab**	**22 50 50.0**	**+0.6**
	comp=Z,0.2nm,0.9s,baz=306,slow=6.3,SNR=3.9						
KLR	**Kul'dur**	**156.50**	**59**	*e*PKIKP	**PKPdf**	**22 50 18.8**	**-1.8**
SEY	**Seymchan**	**157.19**	**13**	*e*PKIKP	**PKPdf**	**22 50 19.5**	**-1.6**
MA2	**Magadan**	**159.92**	**19**	*e*PKIKP	**PKPdf**	**22 50 24.8**	**+0.4**
MAJO	**Matsushiro**	**160.02**	**95**	*e*PKP2	**PKPab**	**22 51 04.7**	**-0.5**
MAJO	**Matsushiro**	**160.02**	**95**	*e*PKPab	**PKPab**	**22 51 04.7**	**-0.5**
MJAR	**Matsushiro Arr**	**160.02**	**95**	PKPab	**PKPab**	**22 51 04.7**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=219,slow=4.3,SNR=3.2						

IDC ***11*** *22:32:59.3±2.2, 49°.61N×114°.64W, h0km, mb1 3.4/2, mb1mx2.9/69, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=38.5km s-min=10.3km az=127.0, British Columbia*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEW	**Newport**	**2.12**	**232**	Pn	Pb	22 33 37.6	-0.9
	2.0nm,0.3s,baz=52,slow=14,SNR=19						
NEW				Lg	Lg	22 34 05.1	
	2.9nm,0.3s,baz=318,slow=22,SNR=11						
I56US	**NEWPORT INFRAS**	**2.12**	**232**	*i*		22 48 50.0	
	baz=49,slow=322,SNR=1.6						
I10CA	**LAC DU BONNET**	**12.02**	**80**	*i*		23 49 30.0	
	baz=273,slow=297,SNR=1.1						
YKA	**Yellowknife Ar**	**12.92**	**0**	Pn	Pn	22 35 59.7	-4.1
	0.1nm,0.3s,baz=181,slow=13,SNR=8.0						
YKA				Sn	Sn	22 38 11.9	-16
	0.0nm,0.3s,baz=177,slow=22,SNR=3.5						
YKA				Lg	Lg	22 39 30.7	
	0.0nm,0.3s,baz=178,slow=29,SNR=3.9						

ISCJB ***11*** *22:46:53.1±0.6, 6°.83N±0°.04×73°.12W±0°.05, h159km±5km, mb3.3/2, Error ellipse: s-maj=8.4km s-min=5.9km az=33.0*
IDC ***11*** *22:46:53.6±4.9, 7°.34N×73°.54W, h119km±115km, mb3.2/2, mb1 3.3/4, mb1mx3.0/42, mbtmp3.7/4, ML2.7/2, Error ellipse: s-maj=192.2km s-min=8.7km az=132.0*
RSNC ***11*** *22:46:55.8±1.0, 6°.78N×73°.15W, h145km±6km, ML3.2*
ISC 11 22:46:53.7±1.0, 6°.84N±0°.05×73°.11W±0°.05, h155km±7km, n19, σ1s07/31, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**198**	*i* P	**Pn**	**22 47 15.3**	**+0.2**
BARC				*e*S	**Sn**	**22 47 30.4**	**-1.0**
BARC				*i*		22 47 32.4	
	comp=Z,365nm,0.4s						
PAMC	**Pamplona, Colo**	**0.64**	**39**	*i* P	**Pn**	**22 47 18.1**	**+1.1**
PAMC				*e*S	**Sn**	**22 47 35.4**	**+0.6**
PAMC				*i*		22 47 38.0	
	comp=Z,99nm,0.6s						
BRRC	**Barranca, Sant**	**0.66**	**294**	*i* P	**Pn**	**22 47 17.2**	**+0.7**
BRRC				*i*		22 47 37.8	
	comp=Z,308nm,0.2s						
RUSC	**La Rusia**	**0.94**	**179**	*e*P	**Pn**	**22 47 19.1**	**0.0**
RUSC				*e*S	**Sn**	**22 47 38.1**	**-0.3**
RUSC				*i*		22 47 39.7	
	comp=Z,194nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	*e*P	**Pn**	**22 47 21.7**	**-0.7**
PTBC				*e*S	**Sn**	**22 47 43.2**	**-1.2**
PTBC				*i*		22 47 50.9	
	comp=Z,229nm,0.5s						
YOPC	**Yopal, Colombi**	**1.62**	**155**	*e*P	**Pn**	**22 47 25.8**	**+0.7**
YOPC				*e*S	**Sn**	**22 47 48.4**	**-0.8**
YOPC				*i*		22 47 50.6	
	comp=Z,111nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P	**Pn**	**22 47 27.8**	**+0.3**
ZARC				*e*S	**Sn**	**22 47 53.3**	**-0.3**
ZARC				*i*		22 48 00.4	
	comp=Z,214nm,0.3s						
NORC	**Norcasia**	**2.16**	**234**	*e*P	**Pn**	**22 47 31.1**	**0.0**
NORC				*e*S	**Sn**	**22 47 58.8**	**-1.1**
CHIC	**Chingaza**	**2.28**	**196**	*e*P	**Pn**	**22 47 33.2**	**+0.4**
CHIC				*e*S	**Sn**	**22 48 02.4**	**-0.6**
CHIC				*i*		22 48 08.0	
	comp=Z,84nm,0.3s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**22 47 34.9**	**+1.5**
	comp=Z,24nm,0.3s,baz=303,slow=9.6,SNR=34						
ROSC				S	**Sn**	**22 48 07.5**	**+3.6**
	comp=Z,33nm,0.3s,baz=15,slow=20,SNR=13						
ROSC	**El Rosal**	**2.32**	**211**	*e*P	**Pn**	**22 47 34.7**	**+1.3**
ROSC				*i*		22 48 11.1	
	comp=Z,171nm,0.4s						
CVER	**Cruz Verde, Cu**	**2.49**	**203**	*e*P	**Pn**	**22 47 36.4**	**+0.9**
CVER				*i*		22 47 38.2	
	comp=Z,74nm,0.4s						
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**	**22 47 36.3**	**+1.0**
HELC				*i*		22 48 13.5	
	comp=Z,88nm,0.3s						
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**22 47 37.8**	**-0.8**
VILC				*e*S	**Sn**	**22 48 11.8**	**-1.4**
VILC				*i*		22 48 18.4	
	comp=Z,47nm,0.4s						
RREF	**El Recreo**	**2.94**	**229**	*e*P	**Pn**	**22 47 42.2**	**+1.0**
RREF				*i*		22 48 26.2	
	comp=Z,106nm,0.2s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**22 47 44.1**	**+0.3**
	comp=Z,11nm,0.3s,baz=235,slow=9.4,SNR=74						
SDV				S	**Sn**	**22 48 22.2**	**-0.4**
	comp=Z,9.0nm,0.3s,baz=279,slow=19,SNR=20						
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**22 47 48.9**	**+0.3**
PRAC				*e*S	**Sn**	**22 48 30.9**	**-0.4**
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**22 55 17.7**	**0.0**
	comp=Z,1.3nm,0.7s,baz=210,slow=7.3,SNR=4.1						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**22 57 05.0**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=136,slow=7.3,SNR=4.9						

NIED ***11*** *22:58:00, 32°.90N×130°.90E, h5km, Mw3.8 Best double couple: M0 6.08000×10^14 NP1:φs76.00000°, δ39.00000°, λ-105.00000°. NP2:φs276.00000°, δ52.00000°, λ-78.00000°.*
ISCJB ***11*** *22:58:07.4±0.4, 32°.86N±0°.04×130°.86E±0°.05, h12km, mb4.0/16, MS4.1/6, Error ellipse: s-maj=6.4km s-min=5.3km az=157.8*
IDC ***11*** *22:58:07.1±0.8, 32°.84N×130°.75E, h0km, mb3.6/10, mb1 3.7/12, mb1mx3.6/75, mbtmp3.6/12, ML3.1/2, MS4.1/6, Ms1 4.1/6, ms1mx3.2/63, Error ellipse: s-maj=18.2km s-min=6.9km az=113.0*
JMA ***11*** *22:58:08.9, 32°.92N×130°.86E, h8km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs93.00000°, δ51.00000°, λ-89.00000°. NP2:φs271.00000°, δ39.00000°, λ-91.00000°. Principal axes: T Plg6.0000°, Azm182.0000°; N Plg1.0000°, Azm272.0000°; P Plg84.0000°, Azm11.0000°;*
JMA Felt IV J1.
NEIC ***11*** *22:58:11.5±3.0, 32°.76N×130°.75E, h31km±21km, mb4.6/7 Error ellipse: s-maj=12.1km s-min=8.2km az=211.0*
ISC 11 22:58:08.7±0.6, 32°.83N±0°.04×130°.86E±0°.05, h12km, n41, σ1s59/42, mb4.0/16, MS4.2/6, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU2	**Izumi 2**	**0.28**	**188**	↑P	**Pb**	**22 58 16.3**	**+0.6**
JIU2				S	**Sb**	**22 58 21.9**	**+1.4**
JNU	**Nakatsue**	**0.29**	**3**	LR	LR	22 58 08.4	
	comp=Z,99nm,19.4s,baz=130,slow=4.5						
JNU				Pg	**Pg**	**22 58 13.2**	**-1.5**
	baz=90,slow=1.0						
JNU				Lg	Lg	22 58 16.3	
	3μm,0.3s,baz=5.7,slow=10,SNR=45						
JNU	**Nakatsue**	**0.29**	**3**	↑P	**Pg**	**22 58 13.3**	**-1.5**
JNU				S	**Sg**	**22 58 16.5**	**-2.3**
JTA	**Tamana**	**0.31**	**296**	↑P	**Pg**	**22 58 14.6**	**-0.4**
JTA				S	**Sg**	**22 58 18.7**	**-0.5**
KSRS	**Korea Array**	**5.21**	**333**	Pn	**Pn**	**22 59 26.9**	**+0.5**
	0.4nm,0.3s,baz=152,slow=15,SNR=3.3						
KSRS				Pg	**Pb**	**22 59 43.0**	**+3.3**
	2.2nm,0.3s,baz=151,slow=16,SNR=14						
KSRS				Lg	Lg	23 00 49.3	
	3.3nm,0.3s,baz=158,slow=30,SNR=7.2						
KS15	**Wonju Array Si**	**5.21**	**333**	*e*Pn	**Pn**	**22 59 26.9**	**+0.4**
KS15				*e*		22 59 44.4	
KSAR	**Wonju Array Be**	**5.21**	**333**	Pn	**Pn**	**22 59 26.9**	**+0.4**
KSAR				Pg	**Pb**	**22 59 43.0**	**+3.2**
KSAR				Lg	Lg	23 00 49.3	
KS01	**Wonju Array Si**	**5.24**	**333**	*e*Pn	**Pn**	**22 59 27.9**	**+1.1**
KS01				*e*Sn	**Sn**	**23 00 25.5**	**-1.6**
INU	**Inuyama**	**5.69**	**62**	*e*Pn	**Pn**	**22 59 34.7**	**+1.6**
MAJO	**Matsushiro**	**7.10**	**56**	*e*Pn	**Pn**	**22 59 54.5**	**+2.2**
MJAR	**Matsushiro Arr**	**7.10**	**56**	Pn	**Pn**	**22 59 54.5**	**+2.1**
	0.7nm,0.3s,baz=240,slow=15,SNR=5.6						
KLR	**Kul'dur**	**16.40**	**2**	Pn	**P**	**23 02 02.6**	**+1.1**
	0.0nm,0.3s,baz=167,slow=9.1,SNR=8.1						
SONA0	**Songino Array**	**23.79**	**316**	*e*P	**P**	**23 03 21.4**	**+0.1**
SONM	**Songino Array**	**23.79**	**316**	P	**P**	**23 03 21.4**	**+0.1**
	1.0nm,0.8s,baz=125,slow=11,SNR=8.4						
SONA1	**Songino Array**	**23.79**	**316**	*e*P	**P**	**23 03 22.5**	**+1.1**
YAK	**Yakutsk**	**29.23**	**359**	LR	LR	23 15 52.3	
	comp=Z,57nm,19.1s,baz=276,slow=36						
MK32	**Makanchi Array**	**39.21**	**305**	*e*P	**P**	**23 05 36.5**	**-0.2**
MKAR	**Makanchi Array**	**39.21**	**305**	P	**P**	**23 05 36.5**	**-0.2**
	0.2nm,0.5s,baz=92,slow=8.5,SNR=4.9						
MAKZ	**Makanchi**	**39.43**	**305**	*e*P	**P**	**23 05 36.5**	**-2.0**
	1.9nm,1.1s						
PSI	**Prapat**	**42.28**	**232**	LR	LR	23 24 32.2	
	comp=Z,740nm,21.5s,baz=250,slow=38						
LEM	**Lembang**	**45.21**	**214**	LR	LR	23 24 58.1	
	comp=Z,584nm,19.8s,baz=216,slow=36						
BVAR	**Borovoye Array**	**47.11**	**314**	P	**P**	**23 06 40.0**	**-0.4**
	0.9nm,0.6s,baz=104,slow=6.1,SNR=5.9						
BVAR				PcP	**PcP**	**23 08 11.4**	**-0.7**
	0.9nm,0.7s,baz=48,slow=4.7,SNR=5.1						
KKAR	**Karatay Array**	**47.74**	**301**	*e*P	**P**	**23 06 46.7**	**+1.1**
WR1	**Warramunga Arr**	**52.58**	**176**	*e*P	**P**	**23 07 21.3**	**-0.9**
	12nm,1.5s						
WRA	**Warramunga Arr**	**52.58**	**176**	P	**P**	**23 07 21.3**	**-1.0**
	0.9nm,1.0s,baz=351,slow=6.2,SNR=4.8						
WRA				LR	LR	23 30 22.0	
	comp=Z,136nm,21.4s,baz=210,slow=37						
ARU	**Arti**	**53.78**	**319**	LR	LR	23 32 11.3	
	comp=Z,153nm,18.3s,baz=250,slow=38						
KTH	**Kantishna Hill**	**55.98**	**32**	*e*P	**P**	**23 07 42.4**	**-4.3**
	34nm,1.9s						
AS31	**Alice Springs**	**56.25**	**177**	*e*P	**P**	**23 07 49.3**	**+0.3**
	1.0nm,0.3s						
ASAR	**Alice Springs**	**56.25**	**177**	P	**P**	**23 07 49.3**	**+0.3**
	0.7nm,0.7s,baz=3.7,slow=7.8,SNR=6.9						
TRF	**Thorofare Moun**	**56.28**	**32**	*e*P	P	23 07 42.3	-6.7
	25nm,1.8s						
ILAR	**Eielson Array**	**57.58**	**30**	P	**P**	**23 08 00.2**	**+2.2**
	0.3nm,0.6s,baz=275,slow=7.8,SNR=4.9						
ILB	**Eielson Array**	**57.58**	**30**	*e*P	**P**	**23 07 57.5**	**-0.5**
INK	**Inuvik**	**61.95**	**25**	P	**P**	**23 08 30.0**	**+2.1**
	0.4nm,0.6s,baz=309,slow=6.5,SNR=2.8						
INK	**Inuvik**	**61.95**	**25**	*e*P	**P**	**23 08 30.0**	**+2.1**
	8.4nm,1.6s						
DZM	**Mont Dzumac**	**64.30**	**143**	LR	LR	23 35 07.3	
	comp=Z,162nm,20.1s,baz=202,slow=34						
FIA0	**FINESS Array S**	**68.29**	**330**	*e*P	**P**	**23 09 07.9**	**-1.3**
FINES	**FINESS Array B**	**68.29**	**330**	P	**P**	**23 09 07.9**	**-1.3**
	0.9nm,0.7s,baz=50,slow=3.2,SNR=6.8						
YKA	**Yellowknife Ar**	**71.61**	**26**	*e*P	**P**	**23 09 29.4**	**-0.2**
	0.2nm,0.7s,baz=303,slow=6.6,SNR=3.1						
YKB5	**Yellowknife Ar**	**71.61**	**26**	*e*P	**P**	**23 09 29.4**	**-0.2**
AKASG	**Malin Array Be**	**72.04**	**319**	P	**P**	**23 09 32.2**	**-0.2**
	1.2nm,0.4s,baz=56,slow=6.5,SNR=9.4						
AKBB	**Malin Array Si**	**72.04**	**319**	*e*P	**P**	**23 09 32.2**	**-0.2**
	7.7nm,1.5s						

JMA 11 23:09:02.0±0.3, 37°.16N×144°.42E, h49km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.75**	**299**	P	Pn	23 09 45.3	+1.7
JIO				S	Sn	23 10 17.4	+1.7
JFK	**Kawauchi**	**2.84**	**275**	P	Pn	23 09 46.0	+1.2
JFK				S	Sn	23 10 18.9	+1.1
OFUJ	**Ofunato**	**2.90**	**312**	P	Pn	23 09 46.8	+1.2
OFUJ				S	Sn	23 10 21.0	+1.8
ONAJ	**Iwakimizuishiy**	**2.90**	**270**	P	Pn	23 09 46.9	+1.3
ONAJ				S	Sn	23 10 19.6	+0.4
JMK	**Ichinoseki**	**3.10**	**306**	P	Pn	23 09 50.3	+2.0
JMK				S	Sn	23 10 26.2	+2.1
JFT	**Otama**	**3.27**	**278**	P	Pn	23 09 53.7	+2.9
JFT				S	Sn	23 10 31.0	+2.5
JOM	**Ohasama**	**3.37**	**314**	P	Pn	23 09 54.2	+2.0
JOM				S	Sn	23 10 32.3	+1.4
BSO1	**Boso 1**	**3.75**	**229**	*e*S	Sn	23 10 40.7	+1.3
JRY	**Ryogami san**	**4.58**	**257**	P	Pn	23 10 09.6	+0.8
JRY				S	Sn	23 11 02.0	+1.2
JCH	**Churui**	**5.51**	**352**	P	Pn	23 10 19.9	-1.5
JCH				*e*S	Sn	23 11 19.0	-4.4
NEM2	**Nemuro 2**	**6.28**	**9**	S	Sn	23 11 34.8	-7.5

JMA 11 23:12:17.7±0.2, 35°.94N×138°.38E, h195km±2km, M2.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNT	**Takato**	**0.21**	**252**	P	Pn	23 12 43.4	-0.2
JRY	**Ryogami san**	**0.43**	**80**	P	Pn	23 12 44.3	+0.3
JRY				S	Sn	23 13 03.7	-0.6
JYN	**Shimob**	**0.46**	**163**	P	Pn	23 12 44.4	+0.2
MAT	**Matsushiro**	**0.62**	**347**	P	Pn	23 12 44.4	-0.3
MAT				S	Sn	23 13 05.0	-0.9
JOD2	**Odawara 2**	**0.89**	**139**	P	Pn	23 12 46.6	+0.3
JOD2				S	Sn	23 13 08.4	+0.1
JAG	**Ashikaga**	**0.99**	**61**	P	Pn	23 12 46.8	-0.1
TK02	**Tokai 2**	**2.05**	**195**	P	Pn	23 12 56.7	+0.5
JIE	**Ise**	**2.06**	**222**	P	Pn

YUK				smax	smax				
	comp=E,3μm,0.2s								
LAGR	**Lagunnoye**	**1.56**	**260**	*e*P	**Pn**	**23 13 35.0**	**+0.2**		
LAGR				*i* S	**Sn**	**23 13 53.6**	**-0.4**		
LAGR	**Lagunnoye**	**1.56**	**260**	*d i*PN	**Pn**	**23 13 35.0**	**+0.2**		
LAGR				*i* S	**Sn**	**23 13 53.6**	**-0.4**		
GRPR	**Tuman**	**1.59**	**257**	*i* P	**Pn**	**23 13 35.3**	**+0.1**		
GRPR				*i* S	**Sn**	**23 13 54.2**	**-0.4**		
GRPR	**Tuman**	**1.59**	**257**	*e*PN	**Pn**	**23 13 35.3**	**+0.1**		
GRPR				*i* S	**Sn**	**23 13 54.2**	**-0.4**		
GLVR	**Golovnino**	**1.84**	**251**	*i* P	**Pn**	**23 13 38.9**	**+0.3**		
GLVR				*i* S	**Sn**	**23 14 00.9**	**+0.2**		
GLVR	**Golovnino**	**1.84**	**251**	*d i*PN	**Pn**	**23 13 38.9**	**+0.3**		
GLVR				*i* S	**Sn**	**23 14 00.9**	**+0.2**		
NEM2	**Nemuro 2**	**1.86**	**238**	P	**Pn**	**23 13 38.2**	**-0.7**		
NEM2				*e*S	**Sn**	**23 13 59.4**	**-1.8**		
JRA	**Rausu**	**2.06**	**259**	P	**Pn**	**23 13 42.6**	**+1.1**		
JRA				*e*S	**Sn**	**23 14 07.3**	**+1.3**		
JNK	**Nakash**	**2.44**	**253**	P	**Pn**	**23 13 47.5**	**+0.8**		
JNK				*e*S	**Sn**	**23 14 15.3**	**0.0**		
JAK	**Akkeshi**	**2.70**	**241**	P	**Pn**	**23 13 50.1**	**-0.3**		
JAK				*e*S	**Sn**	**23 14 19.7**	**-2.2**		
JTKR	**Abashiri--Toko**	**2.91**	**264**	P	**Pn**	**23 13 54.2**	**+1.0**		
JAR	**Ashorobuto**	**3.18**	**252**	P	**Pn**	**23 13 58.5**	**+1.5**		
JAR				*e*S	**Sn**	**23 14 34.8**	**+1.1**		
JMP	**Maruseppu**	**3.30**	**265**	P	**Pn**	**23 13 59.9**	**+1.3**		
JOB	**Onbets**	**3.30**	**245**	P	**Pn**	**23 13 59.3**	**+0.7**		
JOB				*e*S	**Sn**	**23 14 36.4**	**-0.2**		
HRK	**Horoka**	**3.57**	**257**	*e*P	**Pn**	**23 14 04.4**	**+2.0**		
JCH	**Churui**	**3.75**	**244**	P	**Pn**	**23 14 04.6**	**-0.1**		
JCH				*e*S	**Sn**	**23 14 46.2**	**-1.3**		
JKA	**Kamikawa-asahi**	**3.83**	**268**	*e*P	**Pn**	**23 14 07.4**	**+1.6**		
ASAJ	**Asahikawa**	**3.83**	**268**	P	**Pn**	**23 14 07.4**	**+1.6**		
	comp=E,2.3nm,0.3s,baz=58,slow=13,SNR=7.1								
ASAJ				S	Sn	23 15 01.1	+12		
	comp=E,4.5nm,0.3s,baz=165,slow=20,SNR=3.2								
JSE	**Soyaes**	**3.85**	**281**	P	**Pn**	**23 14 07.4**	**+1.3**		
JFR	**Furan**	**4.04**	**255**	P	**Pn**	**23 14 11.1**	**+2.4**		
ERM	**Erimo**	**4.20**	**238**	*e*P	**Pn**	**23 14 13.9**	**+3.1**		
ERM	**Erimo**	**4.20**	**238**	*e*PN	**Pn**	**23 14 13.9**	**+3.1**		
JNBK	**Urakawa-nobuka**	**4.30**	**243**	P	**Pn**	**23 14 12.4**	**+0.1**		
YSS	**Yuzh-Sakhalins**	**4.45**	**307**	*e*P	**Pn**	**23 14 15.6**	**+1.3**		
YSS				AMB	AMB	23 14 16.1			
	comp=E,50nm,0.6s								
YSS				*e*S	**Sn**	**23 15 02.3**	**-2.5**		
YSS				A	A	23 15 08.3			
	comp=E,90nm,0.4s								
YSS	**Yuzh-Sakhalins**	**4.45**	**307**	*i*PN	**Pn**	**23 14 15.1**	**+0.8**		
YSS				*e*S	**Sn**	**23 15 05.2**	**+0.4**		
YSS				pmax	pmax				
	comp=Z,50nm,0.2s								
YSS				smax	smax				
	comp=E,90nm,0.4s								
TYV	**Tymovskoe**	**7.41**	**333**	*e*P	Pn	23 14 58.6	+3.7		
TYV				AMB	AMB	23 14 59.8			
	comp=E,8.0nm,0.7s								
PETK	**Petropavlovsk-**	**10.87**	**33**	P	**Pn**	**23 15 42.9**	**+0.8**		
	comp=E,0.5nm,0.3s,baz=202,slow=9.8,SNR=8.7								
KLR	**Kul'dur**	**12.10**	**299**	*e*PN	Pn	23 16 03.3	+4.4		
H11N2	**WAKE ISLAND Hy**	**29.21**	**141**	T	T	23 50 05.8			
	baz=331,slow=75,SNR=188								
H11N1	**WAKE ISLAND Hy**	**29.23**	**141**	T	T	23 49 52.4			
	baz=331,slow=75,SNR=160								
H11N3	**WAKE ISLAND Hy**	**29.23**	**141**	T	T	23 50 07.1			
	baz=331,slow=75,SNR=164								
H11S1	**WAKE ISLAND Hy**	**30.20**	**143**	T	T	23 51 07.6			
	baz=333,slow=76,SNR=516								
H11S3	**WAKE ISLAND Hy**	**30.21**	**143**	T	T	23 51 04.0			
	baz=333,slow=76,SNR=499								
H11S2	**WAKE ISLAND Hy**	**30.22**	**143**	T	T	23 51 08.9			
	baz=333,slow=76,SNR=363								
ILAR	**Eielson Array**	**40.67**	**37**	P	**P**	**23 20 42.9**	**-0.9**		
	comp=E,0.2nm,0.4s,baz=266,slow=8.4,SNR=9.3								
ILAR	**Eielson Array**	**40.67**	**37**	*e*P	**P**	**23 20 44.2**	**+0.4**		
ILAR	**Eielson Array**	**40.67**	**37**	*e*P	**P**	**23 20 44.2**	**+0.4**		
ZALV	**Zalesovo Beam**	**41.08**	**307**	PcP	**PcP**	**23 22 45.7**	**-0.2**		
	comp=E,0.4nm,0.4s,baz=108,slow=4.8,SNR=3.5								
MKAR	**Makanchi Array**	**44.79**	**297**	P	**P**	**23 21 16.1**	**-1.3**		
	comp=E,0.3nm,0.6s,baz=72,slow=5.8,SNR=6.9								
MKAR				PcP	**PcP**	**23 22 58.2**	**-0.4**		
	comp=E,0.2nm,0.5s,baz=57,slow=5.3,SNR=3.5								
MKAR	**Makanchi Array**	**44.79**	**297**	*e*P	**P**	**23 21 17.5**	**+0.1**		
MKAR	**Makanchi Array**	**44.79**	**297**	*e*P	**P**	**23 21 17.6**	**+0.1**		
INK	**Inuvik**	**45.60**	**31**	P	**P**	**23 21 22.7**	**-0.8**		
	comp=E,0.5nm,0.4s,baz=272,slow=8.3,SNR=5.5								
KURK	**Kurchatov**	**45.65**	**304**	*e*P	**P**	**23 21 22.3**	**-1.8**		
KURK	**Kurchatov**	**45.65**	**304**	P	**P**	**23 21 22.3**	**-1.8**		
KURBB	**Kurchatov Arra**	**45.73**	**304**	P	**P**	**23 21 22.3**	**-2.5**		
	comp=E,0.3nm,0.5s,baz=79,slow=9.2,SNR=4.7								
YKA	**Yellowknife Ar**	**54.99**	**34**	P	**P**	**23 22 34.8**	**+0.3**		
	comp=E,0.5nm,0.5s,baz=302,slow=7.2,SNR=12								
FINES	**FINESS Array B**	**64.58**	**333**	P	**P**	**23 23 37.5**	**-2.8**		
	comp=E,1.3nm,0.6s,baz=54,slow=9.7,SNR=7.1								
FFC	**Flin Flon**	**64.88**	**37**	*e*P	**P**	**23 23 43.9**	**+1.5**		
FFC	**Flin Flon**	**64.88**	**37**	*i* P	**P**	**23 23 43.9**	**+1.5**		
WRA	**Warramunga Arr**	**65.18**	**194**	P	**P**	**23 23 47.1**	**+2.4**		
	comp=E,0.4nm,0.8s,baz=12,slow=6.7,SNR=2.8								
NOA	**NORSAR Array B**	**69.23**	**339**	P	**P**	**23 24 08.6**	**-1.3**		
	comp=E,2.5nm,1.0s,baz=56,slow=4.7,SNR=2.8								
ULM	**Lac du Bonnet**	**70.68**	**38**	P	**P**	**23 24 18.6**	**-0.4**		
	comp=E,1.1nm,0.4s,baz=296,slow=6.1,SNR=4.8								
EKA	**Eskdalemuir Ar**	**77.70**	**344**	P	**P**	**23 24 58.7**	**-1.0**		
	comp=E,0.4nm,0.5s,baz=19,slow=5.3,SNR=4.8								
GERES	**GERESS Array B**	**78.89**	**331**	P	**P**	**23 25 05.6**	**-1.0**		
	comp=E,0.2nm,0.3s,baz=70,slow=8.6,SNR=2.9								
MMAI	**Mount Meron Ar**	**81.54**	**308**	P	**P**	**23 25 21.7**	**+0.7**		
	comp=E,2.5nm,0.7s,baz=38,slow=5.4,SNR=2.5								
TXAR	**Lajitas Array**	**81.85**	**57**	P	**P**	**23 25 23.4**	**+0.6**		
	comp=E,0.4nm,0.5s,baz=301,slow=3.9,SNR=9.0								
TXAR				pP	**pP**	**23 25 41.0**	**+2.3**		
	comp=E,0.3nm,0.6s,baz=294,slow=3.9,SNR=4.9								
TORD	**Torodi Ar. Bea**	**115.05**	**323**	PKP	PKPdf	23 31 43.6	-0.9		
	comp=E,0.2nm,0.5s,baz=8.6,slow=1.3,SNR=4.5								

*NSSP **11** 23:18:35.0, 40˚.90N×42˚.67E, h10km, Ms3.5*
*DDA **11** 23:18:36.4, 40˚.84N×42˚.74E, h4km, Ml3.7*
*CSEM **11** 23:18:37.8±0.1, 40˚.85N×42˚.69E, h2km, ML3.6, Error ellipse: s-maj=4.1km s-min=3.1km az=169.0*
*TIF **11** 23:18:37.2, 40˚.86N×42˚.68E, h11km±1km*
*ISK **11** 23:18:37.0, 40˚.87N×42˚.69E, h9km, ML3.6/8*
*IDC **11** 23:18:37.8±0.8, 40˚.76N×42˚.78E, h0km, mb3.3/3, mb1 3.3/7, mb1mx3.1/58, mbtmp3.2/7, ML2.9/4, MS3.8/1, Ms1 3.8/1, ms1mx2.9/35, Error ellipse: s-maj=14.7km s-min=8.4km az=21.0*

ISC 11 23:18:37.0±1.0, 40˚.85N±0˚.02×42˚.72E±0˚.01, h4km±9km, n103, σ0s87/145, mb3.4/3, 9C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.35**	**128**	PG	**Pb**	**23 18 45.3**	**-0.6**
KARS				SG	**Sb**	**23 18 51.4**	**-0.5**
KARS	**Kars**	**0.35**	**128**	*e*Pg	**Pb**	**23 18 45.3**	**-0.6**
KARS				*e*Sg	**Sb**	**23 18 51.4**	**-0.5**
SENK	**Senkaya-Erzuru**	**0.40**	**224**	PG	**Pg**	**23 18 45.0**	**+0.2**
SENK				SG	**Sg**	**23 18 51.5**	**+1.5**
SENK	**Senkaya-Erzuru**	**0.40**	**224**	*e*Pg	**Pg**	**23 18 45.0**	**+0.2**
SENK				*e*Sg	**Sg**	**23 18 51.5**	**+1.5**
DAGI	**Agillar**	**0.65**	**291**	*i* P	**Pg**	**23 18 50.0**	**+0.4**
DAGI				*i* S	**Sb**	**23 18 59.2**	**-1.2**
EPOS	**Posof**	**0.66**	**1**	*i* P	**Pg**	**23 18 49.4**	**-0.2**
EPOS				*i* S	**Sb**	**23 18 59.4**	**-1.2**
EPOS	**Posof**	**0.66**	**1**	P	**Pg**	**23 18 49.4**	**-0.2**
EPOS				S	**Sb**	**23 18 59.4**	**-1.2**
DIGO	**Kars**	**0.66**	**131**	*i* P	**Pg**	**23 18 48.9**	**-0.9**
DIGO				*i* S	**Sg**	**23 18 59.7**	**+1.3**
DIGO	**Kars**	**0.66**	**131**	P	**Pg**	**23 18 48.9**	**-0.9**
DIGO				S	**Sg**	**23 18 59.7**	**+1.3**
ARTV	**Artvin**	**0.69**	**300**	*i* P	**Pg**	**23 18 49.8**	**-0.4**
ARTV				*i* S	**Sb**	**23 19 00.1**	**-1.5**
ARTV	**Artvin**	**0.69**	**300**	P	**Pg**	**23 18 49.8**	**-0.4**
ARTV				S	**Sb**	**23 19 00.1**	**-1.5**
EAK	**Akyaka**	**0.70**	**103**	*i* P	**Pg**	**23 18 49.7**	**-0.7**
EAK				*i* S	**Sg**	**23 19 00.6**	**+1.1**
EAK	**Akyaka**	**0.70**	**103**	P	**Pg**	**23 18 49.7**	**-0.7**
EAK				S	**Sg**	**23 19 00.6**	**+1.1**
DDEM	**Demirkent**	**0.73**	**274**	*i* P	**Pg**	**23 18 51.2**	**+0.1**
DDEM				*i* S	**Sg**	**23 19 00.8**	**+0.1**
DDEM	**Demirkent**	**0.73**	**274**	P	**Pg**	**23 18 51.2**	**+0.1**
DDEM				S	**Sg**	**23 19 00.8**	**+0.1**
DBAD	**Bademkaya**	**0.79**	**283**	*i* P	**Pg**	**23 18 52.2**	**0.0**
DBAD				*i* S	**Sg**	**23 19 02.3**	**-0.2**
DBAD	**Bademkaya**	**0.79**	**283**	P	**Pg**	**23 18 52.2**	**0.0**
DBAD				S	**Sg**	**23 19 02.3**	**-0.2**
AKH	**Akhalkalaki**	**0.81**	**46**	PG	**Pg**	**23 18 52.9**	**+0.3**
AKH				SG	**Sb**	**23 19 05.1**	**-0.1**
AKH	**Akhalkalaki**	**0.81**	**46**	P	**Pg**	**23 18 52.9**	**+0.3**
AKH				S	**Sb**	**23 19 04.6**	**-0.6**
AKH	**Akhalkalaki**	**0.81**	**46**	P	**Pg**	**23 18 52.9**	**+0.3**
AKH				S	**Sb**	**23 19 04.6**	**-0.6**
AKH				*e*Sg	**Sb**	**23 19 05.1**	**-0.1**
DBOC	**Borcka**	**0.94**	**302**	*i* P	**Pg**	**23 18 55.1**	**+0.1**
DBOC				*i* S	**Sb**	**23 19 07.9**	**-0.7**
DBOC	**Borcka**	**0.94**	**302**	P	**Pg**	**23 18 55.1**	**+0.1**
DBOC				S	**Sb**	**23 19 07.9**	**-0.7**
EATA	**Eleskirt**	**1.00**	**190**	*i* P	**Pg**	**23 18 55.9**	**-0.4**
EATA				*i* S	**Sn**	**23 19 12.5**	**-0.3**
EATA	**Eleskirt**	**1.00**	**190**	P	**Pg**	**23 18 55.8**	**-0.4**
EATA				S	**Sn**	**23 19 12.5**	**-0.3**
HOMI	**Horasan**	**1.01**	**218**	*i* P	**Pg**	**23 18 55.0**	**-1.4**
HOMI				*i* S	**Sg**	**23 19 10.0**	**+0.4**
STE	**Stepanavan**	**1.26**	**83**	⇑P	**Pg**	**23 18 58.5**	**-2.7**
STE				S	**Sg**	**23 19 16.5**	**-1.1**
STEZ	**Stepenevan**	**1.28**	**83**	⇑*i*P	**Pg**	**23 18 58.5**	**-3.2**
STEZ				⇑*i*S	**Sg**	**23 19 16.5**	**-1.8**
AGRB	**Hanur-Agry**	**1.29**	**170**	PN	**Pg**	**23 19 01.6**	**-0.1**
AGRB	**Hanur-Agry**	**1.29**	**170**	*e*Pn	**Pg**	**23 19 01.6**	**-0.1**
KZR	**Kazreti**	**1.39**	**67**	P	**Pg**	**23 19 03.9**	**+0.2**
KZR				S	**Sn**	**23 19 22.1**	**+0.1**
KZR	**Kazreti**	**1.39**	**67**	P	**Pg**	**23 19 03.9**	**+0.2**
KZR				S	**Sn**	**23 19 22.0**	**-0.1**
ERZM	**Erzurum**	**1.40**	**228**	*i* P	**Pn**	**23 19 03.3**	**-0.2**
ERZM	**Erzurum**	**1.40**	**228**	P	**Pn**	**23 19 03.3**	**-0.2**
IGDI	**IGDIR**	**1.40**	**133**	*i* P	**Pn**	**23 19 03.0**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.45**	**126**	PN	**Pn**	**23 19 03.7**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.45**	**126**	*e*Pn	**Pn**	**23 19 03.7**	**-0.3**
EKAR	**Karacoban**	**1.67**	**198**	*i* P	**Pg**	**23 19 08.8**	**-0.2**
EKAR	**Karacoban**	**1.67**	**198**	P	**Pg**	**23 19 08.8**	**-0.2**
GNI	**Garni**	**1.69**	**114**	Pg	**Pn**	**23 19 08.0**	**+0.5**
	17nm,0.3s,baz=105,slow=1.2,SNR=99						
GNI				Lg	Lg	23 19 30.8	
	19nm,0.3s,baz=193,slow=21,SNR=7.6						
GNI	**Garni**	**1.69**	**114**	⇑*i*P	**Pn**	**23 19 07.9**	**+0.4**
GNI				⇑S	**Sg**	**23 19 31.4**	**-0.1**
GNI	**Garni**	**1.69**	**114**	⇑P	**Pn**	**23 19 07.9**	**+0.4**
GNI				S	**Sg**	**23 19 31.4**	**-0.1**
TBLG	**Delisi**	**1.76**	**59**	PN	**Pn**	**23 19 08.3**	**0.0**
TBLG	**Delisi**	**1.76**	**59**	P	**Pb**	**23 19 09.9**	**0.0**
TBLG				S	**Sg**	**23 19 34.4**	**+0.8**
TBLG	**Delisi**	**1.76**	**59**	*e*Pn	**Pn**	**23 19 08.3**	**0.0**
TBLG	**Delisi**	**1.76**	**59**	P	**Pb**	**23 19 09.9**	**0.0**
TBLG				S	**Sg**	**23 19 34.4**	**+0.8**
BTNK	**Botanikuri**	**1.78**	**61**	P	**Pb**	**23 19 09.7**	**-0.5**
BTNK				S	**Sg**	**23 19 34.7**	**+0.5**
BTNK	**Botanikuri**	**1.78**	**61**	P	**Pb**	**23 19 09.7**	**-0.5**
BTNK				S	**Sg**	**23 19 34.7**	**+0.5**
SEAG	**Tbilisi Sea**	**1.82**	**59**	P	**Pb**	**23 19 11.2**	**+0.3**
SEAG				S	**Sg**	**23 19 37.0**	**+1.5**
SEAG	**Tbilisi Sea**	**1.82**	**59**	P	**Pb**	**23 19 11.2**	**+0.3**
SEAG				S	**Sg**	**23 19 37.0**	**+1.5**
ECAT	**Cat-ERZURUM**	**1.82**	**228**	*i* P	**Pb**	**23 19 10.9**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.82**	**228**	P	**Pb**	**23 19 10.9**	**-0.1**
ONI	**Oni**	**1.83**	**17**	P	**Pb**	**23 19 11.0**	**0.0**
ONI				S	**Sg**	**23 19 36.0**	**+0.2**
KOPT	**Kop Dagi**	**1.89**	**245**	*i* P	**Pg**	**23 19 12.8**	**-0.4**
KOPT	**Kop Dagi**	**1.89**	**245**	P	**Pg**	**23 19 12.8**	**-0.4**
CLDR	**Caldiran**	**1.94**	**151**	PN	**Pn**	**23 19 11.6**	**+0.7**
CLDR	**Caldiran**	**1.94**	**151**	*i* P	**Pb**	**23 19 13.3**	**+0.3**
CLDR	**Caldiran**	**1.94**	**151**	*e*Pn	**Pn**	**23 19 11.6**	**+0.7**
CLDR	**Caldiran**	**1.94**	**151**	P	**Pb**	**23 19 13.3**	**+0.3**
BAYB	**BAYBURT**	**1.96**	**253**	*i* P	**Pb**	**23 19 13.2**	**-0.3**
BAYB	**BAYBURT**	**1.96**	**253**	P	**Pb**	**23 19 13.2**	**-0.3**
HYR	**Heyderabad**	**1.98**	**124**	P	**Pb**	**23 19 13.5**	**-0.2**
	SNR=8.4						
BAYT	**Ayd¨–ntepe-Bay**	**2.01**	**258**	PN	**Pn**	**23 19 11.9**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**2.01**	**258**	*e*Pn	**Pn**	**23 19 11.9**	**0.0**
QZX	**Qazax, Azerbai**	**2.02**	**83**	⇓P	**Pb**	**23 19 13.5**	**-0.9**
	SNR=83						
ADCV	**BITLIS_Adilcev**	**2.04**	**180**	*i* P	**Pg**	**23 19 16.0**	**-0.1**
ADCV	**BITLIS_Adilcev**	**2.04**	**180**	P	**Pg**	**23 19 16.0**	**-0.1**
GUDG	**Gudauri**	**2.09**	**39**	P	**Pn**	**23 19 14.2**	**+1.2**
GUDG				S	**Sb**	**23 19 41.9**	**0.0**
GUDG	**Gudauri**	**2.09**	**39**	P	**Pn**	**23 19 14.2**	**+1.2**
GUDG				S	**Sb**	**23 19 41.9**	**0.0**
MACK	**Trabzon**	**2.24**	**273**	*i* P	**Pb**	**23 19 17.2**	**-0.8**
MACK				*i* S	**Sb**	**23 19 46.3**	**+0.3**
MACK	**Trabzon**	**2.24**	**273**	P	**Pb**	**23 19 17.2**	**-0.8**
MACK				S	**Sb**	**23 19 46.3**	**+0.3**
KTUT	**Trabzon**	**2.24**	**275**	PN	**Pn**	**23 19 15.0**	**+0.2**
KTUT	**Trabzon**	**2.24**	**275**	*e*Pn	**Pn**	**23 19 15.0**	**+0.2**
BNGL	**BINGOL**	**2.24**	**213**	*i* P	**Pb**	**23 19 16.9**	**-1.3**
VANB	**Van**	**2.31**	**167**	PN	**Pb**	**23 19 18.2**	**-1.1**
VANB	**Van**	**2.31**	**167**	*e*Pn	**Pb**	**23 19 18.2**	**-1.1**
GDB	**GEDABAY**	**2.31**	**92**	⇑P	**Pb**	**23 19 18.2**	**-1.1**
	SNR=55						
GURO	**Guroymak-BITLI**	**2.35**	**193**	PN	**Pn**	**23 19 17.0**	**+0.4**
GURO	**Guroymak-BITLI**	**2.35**	**193**	*e*Pn	**Pn**	**23 19 17.0**	**+0.4**
VADZ	**Vardenis**	**2.41**	**105**	⇓*i*P	**Pg**	**23 19 23.0**	**-0.2**
VADZ				⇓S	**Sg**	23 20 04.0	+10
VADZ	**Vardenis**	**2.41**	**105**	⇓P	**Pg**	**23 19 23.0**	**-0.2**
EUZM	**Uzumlu**	**2.58**	**245**	*i* P	**Pn**	**23 19 20.5**	**+0.9**
EUZM	**Uzumlu**	**2.58**	**245**	P	**Pn**	**23 19 20.5**	**+0.9**
SBZ	**Shahbuz**	**2.61**	**123**	⇓P	**Pn**	**23 19 21.5**	**+1.4**
	SNR=42						
KELT	**Kelkit**	**2.73**	**256**	*i* P	**Pb**	**23 19 25.6**	**-0.9**
KELT				*i* S	**Sg**	**23 20 02.6**	**-2.2**
KELT	**Kelkit**	**2.73**	**256**	P	**Pb**	**23 19 25.6**	**-0.9**
GANJ	**Ganja**	**2.75**	**93**	⇑P	**Pb**	**23 19 25.4**	**-1.3**
	SNR=41						
KBZ	**Khabaz**	**2.88**	**3**	Pn	**Pb**	**23 19 27.4**	**-1.5**
	1.1nm,0.3s,baz=189,slow=6.7,SNR=19						
PTK	**Pertek**	**3.22**	**234**	PN	**Pn**	**23 19 29.8**	**+1.3**
PTK	**Pertek**	**3.22**	**234**	*e*Pn	**Pn**	**23 19 29.8**	**+1.3**
SIRT	**Sirnak**	**3.35**	**184**	PN	**Pn**	**23 19 31.9**	**+1.7**
SIRT	**Sirnak**	**3.35**	**184**	*e*Pn	**Pn**	**23 19 31.9**	**+1.7**
SEKA	**Sheki**	**3.41**	**82**	⇑P	**Pb**	**23 19 37.0**	**-1.0**
	SNR=5.8						
BRTR	**Keskin Array B**	**7.03**	**264**	Pn	Pn	23 20 26.4	+5.6
	0.1nm,0.3s,baz=56,slow=14,SNR=3.3						
TLCR		**11.06**	**298**	⇓*i*P	**Pn**	**23 21 15.4**	**-0.5**
TIRR	**Tirgusor**	**11.13**	**294**	⇓*i*P	**Pn**	**23 21 15.5**	**-1.4**
CFR	**Cargaliu**	**11.52**	**297**	⇓*i*P	**Pn**	**23 21 22.1**	**0.0**
AKASG	**Malin Array Be**	**13.61**	**321**	Pn	**Pn**	**23 21 51.3**	**+0.7**
	0.3nm,0.3s,baz=135,slow=14,SNR=3.6						
VOIR		**13.69**	**295**	⇓*i*P	**Pn**	**23 21 51.9**	**+0.1**
AKTO	**Aktyubinsk**	**14.34**	**43**	Pn	**Pn**	**23 22 00.4**	**-0.3**
	0.1nm,0.3s,baz=219,slow=9.8,SNR=3.1						
GERES	**GERESS Array B**	**21.97**	**301**	P	**P**	**23 23 33.5**	**+1.7**
	0.3nm,0.5s,baz=96,slow=10,SNR=4.3						
AAK	**Ala-Archa**	**23.71**	**75**	LR	LR	23 35 17.6	
	comp=Z,217nm,18.3s,baz=246,slow=42						
KURBB	**Kurchatov Arra**	**26.61**	**56**	P	**P**	**23 24 18.1**	**+1.9**
	0.6nm,0.7s,baz=266,slow=9.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**45.19**	**244**	P	**P**	**23 26 54.5**	**-0.6**
	0.4nm,0.8s,baz=47,slow=7.7,SNR=3.3						

*ISCJB **11** 23:19:44.9±0.6, 38˚.37N±0˚.04×38˚.35E±0˚.04, h11km±6km, Error ellipse: s-maj=7.5km s-min=5.0km az=2.1*
*CSEM **11** 23:19:44.9±0.2, 38˚.40N×38˚.36E, h10km, ML2.2, Error ellipse: s-maj=5.2km s-min=4.2km az=26.0*
*DDA **11** 23:19:44.8, 38˚.39N×38˚.37E, h7km, Ml2.6*
*ISK **11** 23:19:44.3, 38˚.40N×38˚.33E, h5km, ML2.2/3*

ISC 11 23:19:44.9±1.0, 38˚.40N±0˚.04×38˚.37E±0˚.03, h8km±9km, n16, σ0s49/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.10**	**152**	PG	**Pg**	**23 19 47.2**	**-0.2**
MALT				SG	**Sg**	**23 19 49.3**	**+0.1**
MALT	**Malatya**	**0.10**	**152**	*i* Pg	**Pg**	**23 19 47.2**	**-0.2**
MALT				*i* Sg	**Sg**	**23 19 49.3**	**+0.1**
AKCD	**Akcadag**	**0.37**	**253**	*i* P	**Pg**	**23 19 52.3**	**+0.1**
AKCD				*i* S	**Sg**	**23 19 57.9**	**+0.9**
AKCD	**Akcadag**	**0.37**	**253**	P	**Pg**	**23 19 52.3**	**+0.1**
AKCD				S	**Sg**	**23 19 57.9**	**+0.9**
ELZG	**Elazig**	**0.49**	**79**	*i* P	**Pg**	**23 19 55.1**	**+0.6**
ELZG				*i* S	**Sb**	**23 20 03.1**	**-0.3**
ELZG	**Elazig**	**0.49**	**79**	P	**Pg**	**23 19 55.1**	**+0.6**
ELZG				S	**Sb**	**23 20 03.1**	**-0.3**
HEKM	**Malatya_Hekimh**	**0.57**	**326**	*i* P	**Pg**	**23 19 56.4**	**+0.3**
HEKM				*i* S	**Sb**	**23 20 05.8**	**+0.1**
HEKM	**Malatya_Hekimh**	**0.57**	**326**	P	**Pg**	**23 19 56.4**	**+0.3**
HEKM				S	**Sb**	**23 20 05.8**	**+0.1**
DARE	**Darende-Malaty**	**0.71**	**284**	PG	**Pg**	**23 19 58.1**	**-0.6**
DARE				SG	**Sg**	**23 20 08.2**	**+0.2**
DARE	**Darende-Malaty**	**0.71**	**284**	*e*Pg	**Pg**	**23 19 58.1**	**-0.6**
DARE				*e*Sg	**Sg**	**23 20 08.2**	**+0.2**
KEMA	**Kemaliye**	**0.87**	**6**	*i* P	**Pg**	**23 20 00.9**	**-0.8**
KEMA				*i* S	**Sb**	**23 20 14.8**	**+0.7**
KEMA	**Kemaliye**	**0.87**	**6**	P	**Pg**	**23 20 00.9**	**-0.8**
URFA	**Urfa**	**1.02**	**159**	PG	**Pg**	**23 20 04.5**	**-0.1**
URFA	**Urfa**	**1.02**	**159**	*e*Pg	**Pg**	**23 20 04.5**	**-0.1**
KMRS	**Kahramanmaras**	**1.47**	**233**	PN	**Pb**	**23 20 12.1**	**-0.3**
KMRS	**Kahramanmaras**	**1.47**	**233**	*e*Pn	**Pb**	**23 20 12.1**	**-0.3**

*ISCJB **11** 23:33:21.9±0.5, 67˚.09N±0˚.02×20˚.32E±0˚.08, h0km, Error ellipse: s-maj=4.6km s-min=3.6km az=178.4*
*CSEM **11** 23:33:23.8±0.3, 67˚.14N×20˚.62E, h2km, ML2.5, Error ellipse: s-maj=6.4km s-min=4.7km az=76.0, Mining explosion.*
*UPP **11** 23:33:24.4, 67˚.18N×20˚.65E, h0km, ML2.5, Mining explosion.*
*HEL **11** 23:33:24.9±0.1, 67˚.18N×20˚.66E, h0km, ML1.8, ML2.5(UPP), Explosion*
*NAO **11** 23:33:24.5±1.0, 67˚.16N×20˚.73E, ML2.1*
*BER **11** 23:33:28.2±3.9, 67˚.15N×20˚.72E, h0km, ML2.1(NAO), Suspected explosion*

ISC 11 23:33:22.8±0.8, 67˚.14N±0˚.02×20˚.26E±0˚.04, h0km, n53, σ0s97/75, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.12**	**98**	P	**Pg**	**23 33 25.9**	**+0.8**
DUNU				S	**Sg**	**23 33 27.1**	**+0.5**
DUNU	**Dundret**	**0.12**	**98**	P	**Pg**	**23 33 25.9**	**+0.8**
DUNU				S	**Sg**	**23 33 27.2**	**+0.5**

TWGZ	**Tauwhareparae**	**14.80**	**186**	S	**S**	**23**	**39**	**24.7**	**-1.9**
URZ	**Urewera**	**14.99**	**189**	P	**P**	**23**	**36**	**51.5**	**-2.2**
	5.4nm,0.3s,baz=305,slow=2.8,SNR=15								
URZ	**Urewera**	**14.99**	**189**	P	**P**	**23**	**36**	**53.1**	**-0.6**
URZ	**Urewera**	**14.99**	**189**	S	**S**	**23**	**39**	**25.0**	**-4.9**
MWZ	**Matawai**	**15.01**	**187**	P	**P**	**23**	**36**	**53.3**	**-0.7**
MWZ	**Matawai**	**15.01**	**187**	S	**S**	**23**	**39**	**27.4**	**-2.9**
MUGZ	**Murupara**	**15.25**	**190**	P	**P**	**23**	**36**	**54.9**	**-1.5**
HIZ	**Hauiti**	**15.66**	**195**	P	**P**	**23**	**37**	**04.5**	**+3.8**
RATZ	**Rangitukua**	**15.80**	**192**	P	**P**	**23**	**37**	**01.5**	**-0.7**
NMHZ	**Naumai**	**15.86**	**189**	P	**P**	**23**	**37**	**01.8**	**-0.9**
BKZ	**Black Stump Fm**	**15.97**	**190**	P	**P**	**23**	**37**	**01.9**	**-1.9**
BKZ	**Black Stump Fm**	**15.97**	**190**	S	**S**	**23**	**39**	**41.3**	**-6.1**
TWVZ	**Taurewa**	**16.07**	**193**	P	**P**	**23**	**37**	**04.6**	**-0.2**
NGZ	**Ngauruhoe**	**16.14**	**192**	P	**P**	**23**	**37**	**05.6**	**0.0**
KWHZ	**Kaweka Forest**	**16.23**	**190**	P	**P**	**23**	**37**	**04.6**	**-1.8**
KWHZ	**Kaweka Forest**	**16.23**	**190**	S	**S**	**23**	**39**	**49.6**	**-2.3**
VRZ	**Vera Road**	**16.27**	**195**	P	**P**	**23**	**37**	**08.3**	**+1.6**
MOVZ	**Moawhango**	**16.33**	**192**	P	**P**	**23**	**37**	**06.7**	**-0.7**
BHHZ	**Black Hill Sta**	**16.36**	**191**	P	**P**	**23**	**37**	**05.5**	**-2.2**
MTVZ	**Mangateitei**	**16.36**	**192**	P	**P**	**23**	**37**	**04.2**	**-3.5**
KRHZ	**Kereru**	**16.45**	**190**	P	**P**	**23**	**37**	**06.4**	**-2.2**
PKE	**Pukeiti**	**16.52**	**196**	P	**P**	**23**	**37**	**11.7**	**+2.5**
KAHZ	**Kahuranaki**	**16.53**	**188**	P	**P**	**23**	**37**	**07.7**	**-1.5**
PNHZ	**Pukenui**	**16.75**	**190**	P	**P**	**23**	**37**	**10.1**	**-1.2**
DVHZ	**Dannevirke**	**17.13**	**190**	P	**P**	**23**	**37**	**13.2**	**-1.6**
BFZ	**Birch Farm**	**17.49**	**189**	P	**P**	**23**	**37**	**15.8**	**-2.3**
MRZ	**Mangatainoka R**	**17.58**	**191**	P	**P**	**23**	**37**	**16.7**	**-2.2**
OGWZ	**Otaki Gorge**	**17.80**	**192**	P	**P**	**23**	**37**	**19.6**	**-1.4**
RPZ	**Rata Peaks**	**21.53**	**198**	P	**P**	**23**	**37**	**54.5**	**-0.3**
	8.7nm,0.4s,baz=21,slow=3.2,SNR=9.0								
STKA	**Stephens Creek**	**34.86**	**247**	P	**P**	**23**	**39**	**52.9**	**+1.9**
	2.9nm,0.4s,baz=92,slow=11,SNR=22								
ASAR	**Alice Springs**	**42.06**	**260**	P	**P**	**23**	**40**	**51.1**	**+1.5**
	4.7nm,0.6s,baz=94,slow=8.1,SNR=42								
WRA	**Warramunga Arr**	**42.39**	**266**	P	**P**	**23**	**40**	**53.2**	**+1.0**
	3.9nm,0.7s,baz=90,slow=5.9,SNR=141								
VNDA	**Vanda**	**54.85**	**185**	P	**P**	**23**	**42**	**25.1**	**+1.4**
	1.3nm,0.8s,baz=24,slow=6.5,SNR=8.7								
SNAA	**Sanae**	**85.14**	**179**	P	**P**	**23**	**45**	**22.3**	**-1.5**
	1.5nm,0.5s,baz=194,slow=13,SNR=13								
KURBB	**Kurchatov Arra**	**114.86**	**317**	PKP	**PKPdf**	**23**	**51**	**23.9**	**-0.3**
	0.3nm,0.6s,baz=94,slow=1.3,SNR=4.2								
BVAR	**Borovoye Array**	**120.05**	**319**	PKP	**PKPdf**	**23**	**51**	**33.6**	**-0.5**
	0.2nm,0.3s,baz=149,slow=5.9,SNR=4.2								
AKASG	**Malin Array Be**	**144.54**	**328**	PKP	**PKPdf**	**23**	**52**	**19.1**	**-0.7**
	0.4nm,0.4s,baz=43,slow=3.6,SNR=4.3								
MMAI	**Mount Meron Ar**	**147.46**	**295**	PKPbc	**PKPab**	**23**	**52**	**30.8**	**-2.0**
	1.3nm,0.4s,baz=64,slow=3.4,SNR=6.0								
TORD	**Torodi Ar. Bea**	**169.65**	**190**	PKPab	**PKPab**	**23**	**54**	**07.8**	**-0.9**
	0.9nm,0.9s,baz=157,slow=5.4,SNR=5.7								

NAO **12** *00:04:55.9±1.4,67.°18N×20.°75E,ML2.4*
ISCJB **12** *00:04:56.0±0.4,67.°18N±0.°03×20.°71E±0.°07,h0km, Error ellipse: s-maj=4.4km s-min=3.7km az=144.7*
CSEM **12** *00:04:56.5±0.2,67.°17N×20.°70E,h2km,ML2.6,Error ellipse: s-maj=5.4km s-min=4.5km az=51.0,Mining explosion.*
HEL **12** *00:04:56.9±0.1,67.°18N×20.°68E,h0km,ML1.9, ML2.6(UPP), Explosion*
UPP **12** *00:04:56.3,67.°18N×20.°66E,h0km,ML2.6,Mining explosion.*
BER **12** *00:05:00.2±3.6,67.°10N×20.°92E,h0km,ML2.1, ML2.4(NAO),Suspected explosion*

ISC 12 00:04:55.0±0.7,**67.°11N**±0.°02×**20.°40E**±0.°02,**h0km,n56,** σ1°**00**/78,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**84**	P	**Pg**	**00 04 57.8**	**+1.7**
DUNU				S	**Sg**	**00 04 59.9**	**+2.9**
DUNU	**Dundret**	**0.07**	**84**	P	**Pg**	**00 04 57.9**	**+1.7**
DUNU				S	**Sg**	**00 04 59.9**	**+2.9**
DUNU	**Dundret**	**0.07**	**84**	*i* P	**Pg**	**00 04 57.9**	**+1.7**
DUNU				*i* S	**Sg**	**00 04 59.9**	**+2.9**
MASU	**Masugnsbyn**	**0.71**	**60**	P	**Pg**	**00 05 07.6**	**-0.9**
MASU	**Masugnsbyn**	**0.71**	**60**	P	**Pg**	**00 05 07.6**	**-0.9**
MASU	**Masugnsbyn**	**0.71**	**60**	*i* P	**Pg**	**00 05 07.6**	**-0.9**
RATU	**Laukkuluspa**	**0.78**	**337**	P	**Pg**	**00 05 10.6**	**+0.7**
RATU	**Laukkuluspa**	**0.78**	**337**	P	**Pg**	**00 05 10.6**	**+0.7**
RATU	**Laukkuluspa**	**0.78**	**337**	*i* P	**Pg**	**00 05 10.6**	**+0.7**
ERTU	**Ertsjaerv**	**0.90**	**128**	P	**Pg**	**00 05 12.2**	**0.0**
ERTU	**Ertsjaerv**	**0.90**	**128**	P	**Pg**	**00 05 12.2**	**0.0**
ERTU	**Ertsjaerv**	**0.90**	**128**	*i* P	**Pg**	**00 05 12.2**	**0.0**
NIKU	**Nikkaluokta**	**0.92**	**326**	P	**Pb**	**00 05 13.7**	**-0.1**
NIKU	**Nikkaluokta**	**0.92**	**326**	P	**Pb**	**00 05 13.7**	**-0.1**
NIKU	**Nikkaluokta**	**0.92**	**326**	*eP*	**Pb**	**00 05 13.7**	**-0.1**
PAJU	**Pajala**	**1.06**	**94**	P	**Pg**	**00 05 14.3**	**-1.0**
PAJU	**Pajala**	**1.06**	**94**	P	**Pg**	**00 05 14.3**	**-1.0**
PAJU	**Pajala**	**1.06**	**94**	*eP*	**Pg**	**00 05 14.3**	**-1.0**
LANU	**Lannavaara**	**1.12**	**32**	P	**Pg**	**00 05 15.3**	**-1.1**
LANU	**Lannavaara**	**1.12**	**32**	P	**Pg**	**00 05 15.3**	**-1.1**
LANU	**Lannavaara**	**1.12**	**32**	*eP*	**Pg**	**00 05 15.3**	**-1.1**
KALU	**Kalix**	**1.73**	**135**	P	**Pb**	**00 05 27.2**	**-0.3**
KALU	**Kalix**	**1.73**	**135**	P	**Pb**	**00 05 27.3**	**-0.3**
KALU	**Kalix**	**1.73**	**135**	*eP*	**Pb**	**00 05 27.3**	**-0.3**
HEF	**Hetta**	**1.80**	**42**	*eP*	**Pn**	**00 05 26.7**	**-0.5**
	SNR=50						
HEF				*eS*	**Sn**	**00 05 49.3**	**-1.3**
	SNR=50						
HEF				Sn	**Sn**	**00 05 50.3**	**-0.3**
HEF	**Hetta**	**1.80**	**42**	*eP*	**Pn**	**00 05 26.7**	**-0.5**
HEF				*eS*	**Sn**	**00 05 49.4**	**-1.3**
HEF	**Hetta**	**1.80**	**42**	*eP*	**Pn**	**00 05 26.5**	**-0.7**
	baz=214						
HEF				MSG		00 05 46.4	
	comp=Z,5.9nm,0.2s						
HEF				*eSN*	**Sn**	**00 05 50.3**	**-0.3**
TOF	**Tornio**	**1.88**	**122**	P	**Pb**	**00 05 29.3**	**-0.8**
TOF				Sn	**Sg**	**00 05 54.7**	**-0.5**
TOF	**Tornio**	**1.88**	**122**	*eP*	**Pb**	**00 05 29.3**	**-0.8**
TOF				MSG		00 05 50.8	
	comp=Z,7.8nm,0.2s						
TOF				*eSN*	**Sg**	**00 05 54.7**	**-0.5**
KIF	**Kilpisjarvi**	**1.91**	**4**	Pn	**Pb**	**00 05 30.4**	**-0.1**
KIF				Sn	**Sg**	**00 05 56.2**	**+0.1**
KIF	**Kilpisjarvi**	**1.91**	**4**	*eP*	**Pb**	**00 05 30.4**	**-0.1**
	SNR=50						
KIF				Sg	**Sg**	**00 05 56.1**	**+0.1**
KIF	**Kilpisjarvi**	**1.91**	**4**	*eP*	**Pb**	**00 05 30.4**	**-0.1**
KIF				Pn	**Pb**	**00 05 30.4**	**-0.1**
KIF				Sn	**Sg**	**00 05 56.2**	**+0.1**
KIF				*eS*	**Sb**	**00 05 56.7**	**+1.9**
KIF	**Kilpisjarvi**	**1.91**	**4**	*ePG*	**Pb**	**00 05 30.3**	**-0.1**
	baz=182						
KIF				MSG		00 05 52.6	
	comp=Z,9.9nm,0.2s						
KIF				*eSG*	**Sg**	**00 05 56.1**	**+0.1**
SGF	**Sodankyl**	**2.40**	**79**	Pb	**Pb**	**00 05 36.9**	**-2.1**
SGF				Sg	**Sn**	**00 06 06.6**	**+1.1**
SGF	**Sodankyl**	**2.40**	**79**	*ePB*	**Pb**	**00 05 36.9**	**-2.1**
	baz=266						
SGF				*eSG*	**Sn**	**00 06 06.7**	**+1.1**
MOR8	**Moi Rana**	**2.56**	**251**	*eP*	**Pb**	**00 05 41.9**	**+0.2**
	SNR=50						
MOR8				*eS*	**Sb**	**00 06 13.8**	**+0.2**
	SNR=50						
MOR8	**Moi Rana**	**2.56**	**251**	*eP*	**Pb**	**00 05 41.9**	**+0.2**
MOR8				*eS*	**Sb**	**00 06 13.8**	**+0.2**
MOR8				IAML		00 06 18.6	
	comp=Z,22nm,0.5s						
TRO	**Tromso**	**2.59**	**348**	*eS*	**Sg**	**00 06 16.6**	**-1.4**
TRO				IAML		00 06 21.3	
	comp=Z,16nm,0.4s						
ARA0	**ARCESS Array S**	**3.08**	**36**	Pn	**Pn**	**00 05 45.4**	**+0.6**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**00 06 22.1**	**-0.2**
	baz=215,slow=22						
ARA0	**ARCESS Array S**	**3.08**	**36**	Pn	**Pn**	**00 05 45.4**	**+0.6**
	SNR=50						
ARA0				Sn	**Sn**	**00 06 22.1**	**-0.2**
	SNR=50						
ARA0	**ARCESS Array S**	**3.08**	**36**	Pn	**Pn**	**00 05 45.4**	**+0.6**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**00 06 22.1**	**-0.2**
	baz=215,slow=22						
ARE0	**ARCESS Array S**	**3.08**	**36**	P	**Pn**	**00 05 45.0**	**+0.2**
ARE0	**ARCESS Array S**	**3.08**	**36**	*eP*	**Pn**	**00 05 45.0**	**+0.2**
	baz=216						
VRF	**Varrio**	**3.61**	**76**	*eSG*	**Sb**	**00 06 43.4**	**-0.4**
MSF	**Maaselka**	**3.66**	**105**	Sg	**Sb**	**00 06 46.8**	**+1.4**
MSF	**Maaselka**	**3.66**	**105**	*eSG*	**Sb**	**00 06 46.9**	**+1.4**
KU6	**Riekki**	**3.94**	**102**	S	**Sn**	**00 06 43.5**	**0.0**
KU6	**Riekki**	**3.94**	**102**	*eS*	**Sn**	**00 06 43.5**	**0.0**
VAF	**Ylistaro**	**4.20**	**166**	Sg	**Sg**	**00 07 08.9**	**-0.8**
VAF	**Ylistaro**	**4.20**	**166**	*eSG*	**Sg**	**00 07 08.9**	**-0.8**
FIA0	**FINESS Array S**	**6.20**	**154**	Sn	**Sn**	**00 07 39.0**	**-0.1**
	baz=339,slow=28						
FIA0				Lg	Lg	00 08 09.3	
	baz=343,slow=37						
FIA0	**FINESS Array S**	**6.20**	**154**	Sn	**Sn**	**00 07 39.0**	**-0.1**
	baz=339,slow=28						
FIA0				Lg	Lg	00 08 09.3	
	baz=343,slow=37						
NB2	**NORSAR Subarra**	**7.30**	**218**	Sn	**Sn**	**00 08 05.6**	**-0.6**
NB2				Lg	Lg	00 08 49.5	
NB2	**NORSAR Subarra**	**7.30**	**218**	Sn	**Sn**	**00 08 05.6**	**-0.6**
NB2				Lg	Lg	00 08 49.5	
NRA0	**NORESS Array S**	**7.49**	**215**	Sn	**Sn**	**00 08 10.6**	**-0.3**
	baz=21,slow=28						
NRA0				Lg	Lg	00 08 53.4	
	baz=35,slow=22						
NRA0	**NORESS Array S**	**7.49**	**215**	Sn	**Sn**	**00 08 10.6**	**-0.3**
	baz=21,slow=28						
NRA0				Lg	Lg	00 08 53.4	
	baz=35,slow=22						

ISCJB **12** *00:26:07.9±0.7,29.°87N±0.°07×139.°0E±0.°1,h388km, mb3.3/6, Error ellipse: s-maj=17.1km s-min=7.2km az=158.9*
JMA **12** *00:26:10.3±0.4,30.°11N×139.°70E,h415km,M3.6*
IDC **12** *00:26:10.6±2.5,29.°91N×139.°13E,h408km±27km, mb2.9/7, mb1 3.0/9,mb1mx2.7/58,mbtmp3.7/9,Error ellipse: s-maj=38.1km s-min=16.1km az=84.0*

ISC 12 00:26:08.7±0.8,**29.°92N**±0.°09×**139.°2E**±0.°2,**h388km,n14,** σ0°**92**/14,**mb3.4/6,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.87**	**136**	S	**S**	**00 28 15.9**	**-0.2**
JCJ	**Chichijima**	**3.87**	**136**	S	**S**	**00 28 14.9**	**-0.8**
	baz=287,slow=19						
JIE	**Ise**	**4.92**	**336**	P	Pn	00 27 33.9	+4.7
BSO3	**Boso 3**	**5.00**	**13**	S	**S**	**00 28 35.3**	**-0.3**
JRY	**Ryogami san**	**6.08**	**358**	P	**Pn**	**00 27 42.5**	**+0.8**
JRY				S	**S**	**00 28 55.8**	**-1.7**
MJAR	**Matsushiro Arr**	**6.65**	**353**	P	**P**	**00 27 49.5**	**+0.7**
	0.7nm,0.3s,baz=170,slow=9.9,SNR=4.3						
USRK	**Ussuriysk Ar.**	**15.35**	**340**	P	**Pn**	**00 29 26.7**	**-1.6**
	0.4nm,0.3s,baz=157,slow=13,SNR=4.8						
KLR	**Kul'dur**	**20.09**	**346**	P	**P**	**00 30 15.9**	**+1.3**
	0.2nm,0.6s,baz=154,slow=9.5,SNR=10						
SONM	**Songino Array**	**30.84**	**315**	P	**P**	**00 31 50.9**	**+0.3**
	0.2nm,0.4s,baz=128,slow=8.6,SNR=3.8						
WRA	**Warramunga Arr**	**49.79**	**186**	P	**P**	**00 34 23.9**	**0.0**
	0.2nm,0.3s,baz=2.3,slow=7.7,SNR=11						
ILAR	**Eielson Array**	**56.54**	**30**	P	**P**	**00 35 12.2**	**+0.3**
	0.2nm,1.0s,baz=270,slow=4.5,SNR=4.1						
ARCES	**ARCESS Array B**	**70.00**	**340**	P	**P**	**00 36 38.8**	**-0.3**
	2.6nm,1.0s,baz=76,slow=7.5,SNR=5.5						
FINES	**FINESS Array B**	**74.24**	**333**	P	**P**	**00 37 03.8**	**-0.2**
	2.7nm,1.0s,baz=79,slow=2.1,SNR=4.3						
HFS	**Hagfors**	**79.77**	**336**	P	**P**	**00 37 34.1**	**-0.5**
	4.6nm,1.2s,baz=19,slow=4.9,SNR=3.8						

ISCJB **12** *00:36:51.1±0.5,51.°52N±0.°07×173.°27W±0.°07,h37km, mb3.9/23,MS3.1/2, Error ellipse: s-maj=10.2km s-min=6.4km az=179.3*
IDC **12** *00:36:54.2±1.0,51.°62N×173.°31W,h48km±6km,mb3.7/23, mb1 3.8/26,mb1mx3.7/77,mbtmp4.0/26,MS3.2/2, Ms1 3.2/2,ms1mx2.5/67,Error ellipse: s-maj=21.7km s-min=12.8km az=169.0*
NEIC **12** *00:36:56.2±0.0,51.°91N×173.°27W,h28km,ML3.4(AEIC), After AEIC.*

ISC 12 00:36:53.1±0.7,**51.°5N**±0.°1×**173.°38W**±0.°06,**h37km,n43,** σ0°**97**/42,**mb4.0/23,3C,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.87**	**330**	P	**Pn**	**00 37 08.6**	**-0.2**
KOKL	**Mount Kliuchef**	**0.94**	**328**	P	**Pn**	**00 37 09.8**	**0.0**
KOKL				S	**Sn**	**00 37 20.5**	**-1.6**
KOWE	**Korovin West**	**1.00**	**328**	P	**Pn**	**00 37 10.7**	**+0.2**
UNV	**Unalaska Valle**	**4.79**	**58**	P	**Pn**	**00 38 03.0**	**+0.5**
UNV				S	**Sn**	**00 38 56.2**	**-0.4**
SPIA	**Saint Paul Isl**	**5.95**	**17**	P	**Pn**	**00 38 21.4**	**+3.0**
KDAK	**Kodiak Island**	**13.54**	**54**	P	**Pn**	**00 40 01.9**	**-0.3**
	0.4nm,0.3s,baz=259,slow=5.2,SNR=3.4						
PETK	**Petropavlovsk-**	**17.70**	**286**	P	**P**	**00 40 57.5**	**+0.6**
	0.2nm,0.3s,baz=96,slow=15,SNR=4.1						
ILAR	**Eielson Array**	**19.07**	**36**	P	**P**	**00 41 11.4**	**-0.5**
	0.6nm,0.3s,baz=228,slow=9.0,SNR=64						
SEY	**Seymchan**	**21.47**	**315**	P	**P**	**00 41 39.2**	**+1.4**
	0.5nm,0.3s,baz=143,slow=13,SNR=3.4						
INK	**Inuvik**	**25.42**	**34**	P	**P**	**00 42 15.5**	**-1.2**
	2.9nm,0.7s,baz=253,slow=6.4,SNR=15						
YAK	**Yakutsk**	**31.86**	**312**	LR	LR	00 56 25.7	
	comp=Z,36nm,19.0s,baz=92,slow=37						
YKA	**Yellowknife Ar**	**32.66**	**47**	P	**P**	**00 43 19.9**	**-1.1**
	0.2nm,0.6s,baz=280,slow=9.0,SNR=6.3						
YKA				PcP	**PcP**	**00 46 05.8**	**-0.3**
	0.2nm,0.7s,baz=288,slow=2.9,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**35.31**	**213**	T	T	01 21 46.0	
	baz=20,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**35.32**	**213**	T	T	01 21 44.4	
	baz=20,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**35.33**	**213**	T	T	01 21 44.8	
	baz=20,slow=76,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**36.51**	**213**	T	T	01 23 07.6	
	baz=20,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**36.53**	**213**	T	T	01 23 06.6	
	baz=20,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**36.53**	**213**	T	T	01 23 05.2	
	baz=20,slow=75,SNR=7.2						
USRK	**Ussuriysk Ar.**	**36.62**	**281**	P	**P**	**00 43 55.4**	**-0.1**
	1.7nm,0.8s,baz=57,slow=12,SNR=3.9						
PDAR	**Pinedale Array**	**43.01**	**76**	P	**P**	**00 44 49.0**	**+0.1**
	0.4nm,0.6s,baz=305,slow=3.7,SNR=8.5						
SONM	**Songino Array**	**49.57**	**299**	P	**P**	**00 45 40.4**	**+0.2**
	1.4nm,0.6s,baz=51,slow=7.6,SNR=11						
SONM				pP	**pP**	**00 45 53.3**	**+2.2**
	0.4nm,0.6s,baz=50,slow=5.4,SNR=2.5						
SONM				LR	LR	01 06 45.9	
	comp=Z,23nm,20.9s,baz=73,slow=36						
TXAR	**Lajitas Array**	**55.27**	**85**	P	**P**	**00 46 22.1**	**-0.6**
	0.3nm,0.6s,baz=292,slow=5.3,SNR=6.2						
SCHQ	**Schefferville**	**57.73**	**41**	P	**P**	**00 46 38.9**	**-0.7**
	1.7nm,0.8s,baz=326,slow=6.7,SNR=3.6						
ARCES	**ARCESS Array B**	**58.46**	**352**	P	**P**	**00 46 43.5**	**-1.1**
	1.4nm,0.8s,baz=12,slow=7.7,SNR=5.2						
KURBB	**Kurchatov Arra**	**61.42**	**316**	P	**P**	**00 47 04.7**	**-0.4**
	0.8nm,0.4s,baz=42,slow=6.5,SNR=5.4						
MKAR	**Makanchi Array**	**62.54**	**311**	P	**P**	**00 47 11.7**	**-1.1**
	0.2nm,0.3s,baz=48,slow=6.1,SNR=10						
BVAR	**Borovoye Array**	**62.90**	**323**	P	**P**	**00 47 15.2**	**+0.2**
	3.4nm,0.4s,baz=54,slow=6.1,SNR=40						
BVAR				pP	**pP**	**00 47 28.1**	**+1.9**
	1.1nm,0.5s,baz=54,slow=6.2,SNR=4.7						
FINES	**FINESS Array B**	**66.31**	**350**	P	**P**	**00 47 36.3**	**-0.7**
	1.8nm,0.9s,baz=0.0,slow=7.6,SNR=5.0						
NOA	**NORSAR Array B**	**67.72**	**358**	P	**P**	**00 47 45.5**	**-0.6**
	1.1nm,0.8s,baz=6.5,slow=6.7,SNR=2.8						
HFS	**Hagfors**	**68.55**	**356**	P	**P**	**00 47 50.4**	**-0.9**
	0.8nm,0.4s,baz=348,slow=3.4,SNR=10.0						
AKTO	**Aktyubinsk**	**69.45**	**328**	P	**P**	**00 47 57.1**	**+0.1**
	2.6nm,0.4s,baz=42,slow=8.1,SNR=10						
CMAR	**Chiang Mai Arr**	**74.35**	**280**	P	**P**	**00 48 26.5**	**-0.3**
	0.5nm,0.3s,baz=19,slow=5.7,SNR=2.8						
CMAR				pP	**PcP**	**00 48 41.3**	**-0.1**
	0.5nm,0.3s,baz=30,slow=7.5,SNR=2.0						
AKASG	**Malin Array Be**	**76.36**	**345**	P	**P**	**00 48 36.5**	**-1.4**
	1.4nm,0.4s,baz=17,slow=6.0,SNR=11						
GERES	**GERESS Array B**	**79.82**	**355**	P	**P**	**00 48 57.1**	**-0.2**
	0.7nm,0.6s,baz=17,slow=4.9,SNR=7.1						
GERES				pP	**pP**	**00 49 10.2**	**+1.4**
	0.6nm,0.7s,baz=30,slow=6.2,SNR=3.9						
GEYT	**Alibeck**	**80.19**	**321**	P	**P**	**00 48 59.7**	**+0.4**
	0.3nm,0.4s,baz=328,slow=7.5,SNR=3.9						
DRGR		**81.09**	**349**	⇑*iP*	**P**	**00 49 03.6**	**-0.5**
CFR	**Carcaliu**	**81.90**	**345**	⇑*iP*	**P**	**00 49 08.3**	**+0.1**
TIRR	**Tirgusor**	**82.55**	**344**	⇑*iP*	**P**	**00 49 12.3**	**+0.6**
WRA	**Warramunga Arr**	**84.56**	**228**	P	**P**	**00 49 21.9**	**-0.2**
	0.3nm,0.6s,baz=31,slow=5.6,SNR=5.3						
BRTR	**Keskin Array B**	**86.11**	**339**	P	**P**	**00 49 30.6**	**+0.6**
	1.0nm,0.8s,baz=32,slow=2.5,SNR=4.4						
ASAR	**Alice Springs**	**87.98**	**227**	P	**P**	**00 49 39.6**	**+0.7**
	0.7nm,0.6s,baz=13,slow=4.0,SNR=5.8						
MATP	**Matopo**	**144.55**	**323**	PKP	PKPbc	00 56 24.5	+0.2
	2.9nm,0.5s,baz=5.2,slow=1.2,SNR=12						
BOSA	**Boshof**	**153.19**	**321**	PKPbc	**PKPbc**	**00 56 47.1**	**+0.5**
	1.3nm,0.6s,baz=63,slow=2.3,SNR=3.2						

ISCJB **12** *00:38:21.0±0.7,32.°79N±0.°03×35.°34E±0.°07,h25km±7km, Error ellipse: s-maj=9.4km s-min=4.5km az=12.9*
GII **12** *00:38:23.9±0.1,32.°95N×35.°20E,h12km,MD1.6/3*
GRAL **12** *00:38:25.9±0.2,33.°00N×35.°29E,h16km±2km, MD2.6*

ISC 12 00:38:20.2±1.0,**32.°76N**±0.°03×**35.°42E**±0.°05,**h26km**±8km, **n12,**σ1°**71**/21,**Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLGI	**Bet Lehem HaGe**	**0.19**	**264**	Pg	**Pn**	**00 38 27.8**	**+0.5**
BLGI				Sg	**Sb**	**00 38 30.8**	**+1.1**
MMA0B	**Mount Meron ar**	**0.26**	**358**	Pg	**Pb**	**00 38 27.8**	**+1.0**
MMA0B				Sg	**Sb**	**00 38 31.8**	**+0.4**
MMLI	**Mount Malkishu**	**0.32**	**179**	Pg	**Pb**	**00 38 27.8**	**+0.2**
MMLI				Sg	**Sn**	**00 38 36.3**	**+1.4**
HNTI	**Hanita**	**0.39**	**328**	Pg	**Pb**	**00 38 27.8**	**-0.8**
HNTI				Sg	**Sb**	**00 38 31.1**	**-3.3**
OFRI	**'Ofer**	**0.39**	**250**	Pg	**Pb**	**00 38 27.8**	**-0.8**
OFRI				Sg	**Sb**	**00 38 34.2**	**-0.2**
KSDI	**Kefar Szold**	**0.48**	**25**	Pg	**Pb**	**00 38 27.8**	**-2.4**
KSDI				Sg	**Sb**	**00 38 34.4**	**-2.5**
HMDT	**Nahal Hemdat**	**0.51**	**169**	Pg	**Pb**	**00 38 27.8**	**-2.8**
HMDT				Sg	**Sb**	**00 38 38.9**	**+1.2**
SLTI	**Sal'it**	**0.60**	**212**	Pg	Pb	00 38 27.8	-4.4
SLTI				Sg	**Sb**	**00 38 38.5**	**-1.8**
RCY	**Rachaya**	**0.82**	**25**	*eP*	**Pn**	**00 38 38.0**	**+1.8**
RCY				*eS*	**Sn**	**00 38 47.0**	**-0.5**
DQRL	**Deir Qamar**	**0.96**	**8**	*eP*	**Pn**	**00 38 39.1**	**+1.1**
DQRL				*eS*	**Sb**	**00 38 48.9**	**-1.7**
BHL	**Bhannes**	**1.16**	**10**	*eP*	**Pb**	**00 38 42.5**	**+0.8**
HWQ	**Hawqa**	**1.58**	**16**	*eP*	**Pb**	**00 38 49.6**	**+0.8**

IDC 12 00:39:22.7±4.2,**27.°19S×176.°93W,h204**km±42km, **mb3.0/2,mb1 3.5/4,mb1mx3.1/40,mbtmp3.9/4,Error ellipse: s-maj=82.3km s-min=47.5km az=163.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.23**	**203**	P	Pn	00 40 04.0	+0.3
	71nm,0.3s,baz=37,slow=20,SNR=2.5						
RAO				S	S	00 40 29.9	-5.5
	79nm,0.3s,baz=90,slow=19,SNR=3.6						
URZ	**Urewera**	**12.12**	**203**	P	Pn	00 42 07.7	-1.1
	0.2nm,0.3s,baz=90,slow=20,SNR=1.8						
URZ				S	S	00 44 15.6	-7.9
	0.5nm,0.3s,baz=196,slow=19,SNR=4.9						
ASAR	**Alice Springs**	**44.32**	**263**	P	P	00 47 13.3	+0.5
	0.2nm,0.3s,baz

0.2nm,0.5s,baz=82,slow=8.6,SNR=3.7
KURBB Kurchatov Arra 46.41 309 P P 01 03 51.9 -1.5
0.3nm,0.3s,baz=85,slow=8.1,SNR=3.0
WRA Warramunga Arr 55.83 187 P P 01 05 07.3 +2.9
0.2nm,0.7s,baz=1.8,slow=7.4,SNR=3.4

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*ISCJB **12** 01:08:55.2±0.4,36°.39N±0°.02×27°.90E±0°.03,h61km±7km, Error ellipse: s-maj=4.7km s-min=3.3km az=42.7*
*ATH **12** 01:08:55.0,36°.45N×27°.62E,h25km±2km,ML2.7/3, Error ellipse: s-maj=3.9km s-min=1.1km az=130.0*
*ISK **12** 01:08:55.5,36°.41N×27°.88E,h30km, ML3.4/12*
*DDA **12** 01:08:55.6,36°.46N×27°.89E,h49km, Ml3.5*
*CSEM **12** 01:08:56.0±0.1,36°.39N×27°.93E,h47km±4km, ML2.8, Error ellipse: s-maj=3.4km s-min=2.3km az=142.0*
ISC 12 01:08:56.1±1.2,36°.40N±0°.02×27°.92E±0°.03,h51km±8km, n80,σ1s17/124, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.24**	**137**	P		**Pn**	**01 09 05.0**	**+0.3**
ARG				S		**Sn**	**01 09 11.8**	**+0.8**
ARG				AML		AML	01 09 12.4	
	comp=E,4030μm,0.4s							
ARG				AML		AML	01 09 12.5	
	comp=N,1408μm,0.2s							
ARG	**Arkhangelos**	**0.24**	**137**	P		**Pn**	**01 09 04.8**	**0.0**
ARG				S		**Sn**	**01 09 12.1**	**+1.1**
ARG				AML		AML	01 09 12.2	
	comp=E,4030μm,0.4s							
ARG				AML		AML	01 09 12.5	
	comp=N,1408μm,0.2s							
ARG	**Arkhangelos**	**0.24**	**137**	P		**Pn**	**01 09 04.8**	**0.0**
ARG				S		**Sn**	**01 09 12.1**	**+1.1**
DALY	**Dalyan (Mu¨la**	**0.72**	**54**	PG		**Pn**	**01 09 10.4**	**+0.3**
DALY				SG		**Sn**	**01 09 20.9**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.72**	**54**	*i* P		**Pn**	**01 09 10.3**	**+0.2**
DALY				*i* S		**Sn**	**01 09 21.2**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.72**	**54**	P		**Pn**	**01 09 10.3**	**+0.2**
DALY				*e*Sg		**Sn**	**01 09 20.9**	**+0.6**
DALY				S		**Sn**	**01 09 21.2**	**+0.9**
TURN	**Turunc**	**0.73**	**49**	PG		**Pn**	**01 09 07.0**	**-3.1**
TURN				SG		**Sn**	**01 09 14.1**	**-6.3**
TURN	**Turunc**	**0.73**	**49**	*i* P		**Pn**	**01 09 07.0**	**-3.1**
TURN				*i* S		**Sn**	**01 09 15.3**	**-5.1**
TURN	**Turunc**	**0.73**	**49**	P		**Pn**	**01 09 07.0**	**-3.1**
BDRM	**Kayabasi**	**0.77**	**330**	*i* P		**Pn**	**01 09 10.5**	**-0.3**
BDRM				*i* S		**Sn**	**01 09 22.0**	**+0.5**
BDRM	**Kayabasi**	**0.77**	**330**	P		**Pn**	**01 09 10.5**	**-0.3**
BDRM				S		**Sn**	**01 09 22.0**	**+0.5**
YER	**Yerkesik**	**0.79**	**21**	PG		**Pn**	**01 09 11.2**	**+0.1**
YER	**Yerkesik**	**0.79**	**21**	*e*Pg		**Pn**	**01 09 11.2**	**+0.1**
BODT	**Bodrum**	**0.83**	**324**	PG		**Pn**	**01 09 10.5**	**-1.0**
BODT				SG		**Sn**	**01 09 22.6**	**-0.2**
BODT	**Bodrum**	**0.83**	**324**	*e*Pg		**Pn**	**01 09 10.5**	**-1.0**
BODT				*e*Sg		**Sn**	**01 09 22.6**	**-0.2**
MLSB	**Milas**	**0.91**	**353**	PG		**Pn**	**01 09 12.6**	**0.0**
MLSB				SG		**Sn**	**01 09 24.5**	**-0.2**
MLSB	**Milas**	**0.91**	**353**	*e*Pg		**Pn**	**01 09 12.6**	**0.0**
MLSB				*e*Sg		**Sn**	**01 09 24.5**	**-0.2**
FETY	**Fethiye**	**0.97**	**75**	PG		**Pn**	**01 09 13.5**	**+0.1**
FETY	**Fethiye**	**0.97**	**75**	P		**Pn**	**01 09 11.6**	**-1.8**
FETY	**Fethiye**	**0.97**	**75**	*e*Pg		**Pn**	**01 09 13.5**	**+0.1**
FETY				S		**Sn**	**01 09 26.4**	**+0.3**
KARP	**Karpathos**	**1.05**	**216**	PG		**Pn**	**01 09 14.1**	**-0.4**
KARP				SG		**Sn**	**01 09 28.5**	**+0.4**
KARP	**Karpathos**	**1.05**	**216**	P		**Pn**	**01 09 14.2**	**-0.2**
KARP				S		**Sn**	**01 09 27.1**	**-1.0**
KARP	**Karpathos**	**1.05**	**216**	P		**Pn**	**01 09 14.3**	**-0.2**
KARP				S		**Sn**	**01 09 27.4**	**-0.7**
KARP	**Karpathos**	**1.05**	**216**	*e*Pg		**Pn**	**01 09 14.1**	**-0.4**
KARP				S		**Sn**	**01 09 27.4**	**-0.7**
KARP				*e*Sg		**Sn**	**01 09 28.5**	**+0.4**
AYDN	**Tasoluk**	**1.26**	**358**	*i* P		**Pn**	**01 09 17.6**	**+0.2**
AYDN				*i* S		**Sn**	**01 09 33.4**	**+0.1**
AYDN	**Tasoluk**	**1.26**	**358**	P		**Pn**	**01 09 17.6**	**+0.2**
AYDN				S		**Sn**	**01 09 33.4**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.33**	**36**	*i* P		**Pn**	**01 09 18.7**	**+0.3**
TAVA				*i* S		**Sn**	**01 09 37.1**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.33**	**36**	P		**Pn**	**01 09 18.7**	**+0.3**
TAVA				S		**Sn**	**01 09 37.1**	**+2.1**
KSL	**Kastellorizon**	**1.36**	**100**	P		**Pn**	**01 09 16.9**	**-1.9**
KSL	**Kastellorizon**	**1.36**	**100**	P		**Pn**	**01 09 17.7**	**-1.0**
GCAM	**G?zelcami?**	**1.41**	**337**	PN		**Pn**	**01 09 19.4**	**0.0**
GCAM	**G?zelcami?**	**1.41**	**337**	*i* P		**Pn**	**01 09 19.3**	**0.0**
GCAM				*i* S		**Sn**	**01 09 37.9**	**+1.1**
GCAM	**G?zelcami?**	**1.41**	**337**	*e*Pn		**Pn**	**01 09 19.4**	**0.0**
GCAM				S		**Sn**	**01 09 37.9**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**359**	PN		**Pn**	**01 09 21.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**359**	*e*Pn		**Pn**	**01 09 21.1**	**-0.3**
GOLH	**Golhisar**	**1.56**	**57**	*i* P		**Pn**	**01 09 20.8**	**-0.7**
GOLH				*i* S		**Sn**	**01 09 42.9**	**+2.3**
GOLH	**Golhisar**	**1.56**	**57**	P		**Pn**	**01 09 20.8**	**-0.7**
GOLH				S		**Sn**	**01 09 42.9**	**+2.3**
ELL	**Elmali**	**1.64**	**77**	PN		**Pn**	**01 09 22.7**	**+0.1**
ELL	**Elmali**	**1.64**	**77**	*e*Pn		**Pn**	**01 09 22.7**	**+0.1**
DGB	**¨zmir**	**1.85**	**334**	*i* P		**Pn**	**01 09 25.3**	**0.0**
DGB				*i* S		**Sn**	**01 09 46.8**	**-0.7**
ZKR	**Zakros**	**1.89**	**228**	PN		**Pn**	**01 09 26.6**	**+0.8**
ZKR	**Zakros**	**1.89**	**228**	P		**Pn**	**01 09 25.8**	**0.0**
ZKR				S		**Sn**	**01 09 48.1**	**-0.3**
ZKR	**Zakros**	**1.89**	**228**	P		**Pn**	**01 09 25.5**	**-0.4**
ZKR				S		**Sn**	**01 09 49.3**	**+0.8**
ZKR				AML		AML	01 09 55.3	
	comp=E,204μm,0.4s							
ZKR				AML		AML	01 09 55.6	
	comp=N,95μm,0.4s							
ZKR	**Zakros**	**1.89**	**228**	P		**Pn**	**01 09 25.8**	**0.0**
ZKR	**Zakros**	**1.89**	**228**	*e*Pn		**Pn**	**01 09 26.6**	**+0.8**
ZKR				S		**Sn**	**01 09 49.0**	**+0.5**
APE	**Apeiranthos**	**2.04**	**290**	P		**Pn**	**01 09 28.5**	**+0.6**
KORT	**Korkueli**	**2.04**	**72**	PN		**Pn**	**01 09 28.5**	**+0.4**
KORT	**Korkueli**	**2.04**	**72**	*i* P		**Pn**	**01 09 29.7**	**+1.6**
KORT	**Korkueli**	**2.04**	**72**	*e*Pn		**Pn**	**01 09 28.5**	**+0.4**
KORT	**Korkueli**	**2.04**	**72**	P		**Pn**	**01 09 29.7**	**+1.6**
BRDR	**BURDUR-Merkez**	**2.15**	**52**	*i* P		**Pn**	**01 09 29.0**	**-0.5**
BRDR	**BURDUR-Merkez**	**2.15**	**52**	P		**Pn**	**01 09 29.0**	**-0.5**
ZEY	**¨zmir**	**2.16**	**329**	*i* P		**Pn**	**01 09 29.4**	**-0.1**
ZEY				*i* S		**Sn**	**01 09 54.2**	**-1.0**
NPS	**Neapolis**	**2.19**	**240**	P		**Pn**	**01 09 29.5**	**-0.6**
NPS				S		**Sn**	**01 09 54.4**	**-1.6**
NPS	**Neapolis**	**2.19**	**240**	P		**Pn**	**01 09 29.4**	**-0.6**
NPS				S		**Sn**	**01 09 54.4**	**-1.6**
NPS				AML		AML	01 09 57.8	
	comp=N,229μm,0.6s							
NPS				AML		AML	01 09 58.5	
	comp=E,390μm,0.5s							
NPS	**Neapolis**	**2.19**	**240**	P		**Pn**	**01 09 29.6**	**-0.4**
NPS				S		**Sn**	**01 09 54.7**	**-1.3**
KULA	**Kula-Manisa**	**2.19**	**15**	PN		**Pn**	**01 09 30.0**	**-0.1**
KULA	**Kula-Manisa**	**2.19**	**15**	*e*Pn		**Pn**	**01 09 30.0**	**-0.1**
URLA	**Izmir**	**2.23**	**332**	PN		**Pn**	**01 09 29.5**	**-1.0**
URLA	**Izmir**	**2.23**	**332**	*e*Pn		**Pn**	**01 09 29.5**	**-1.0**
KHAL	**Karahalli**	**2.33**	**32**	*i* P		**Pn**	**01 09 31.7**	**-0.4**
KHAL				*i* S		**Sn**	**01 09 58.8**	**-0.8**
KHAL	**Karahalli**	**2.33**	**32**	P		**Pn**	**01 09 31.7**	**-0.4**
KHAL				S		**Sn**	**01 09 58.8**	**-0.8**
LAST	**Lasithi**	**2.34**	**239**	P		**Pn**	**01 09 32.0**	**-0.1**
LAST				S		**Sn**	**01 09 59.0**	**-0.7**
LAST	**Lasithi**	**2.34**	**239**	P		**Pn**	**01 09 31.8**	**-0.3**
LAST				S		**Sn**	**01 09 58.6**	**-1.1**
CHOS	**Chios island**	**2.48**	**324**	PN		**Pn**	**01 09 34.6**	**+0.5**
CHOS	**Chios island**	**2.48**	**324**	P		**Pn**	**01 09 33.9**	**-0.1**
CHOS	**Chios island**	**2.48**	**324**	P		**Pn**	**01 09 33.9**	**-0.1**
CHOS	**Chios island**	**2.48**	**324**	P		**Pn**	**01 09 33.8**	**-0.3**
CHOS	**Chios island**	**2.48**	**324**	*e*Pn		**Pn**	**01 09 34.6**	**+0.5**
DKL	**Dikili**	**2.79**	**344**	PN		**Pn**	**01 09 38.3**	**+0.1**
DKL	**Dikili**	**2.79**	**344**	*e*Pn		**Pn**	**01 09 38.3**	**+0.1**
SIMA	**Simav-Kutahya**	**2.81**	**17**	PN		**Pn**	**01 09 39.2**	**+0.6**
SIMA	**Simav-Kutahya**	**2.81**	**17**	*e*Pn		**Pn**	**01 09 39.2**	**+0.6**
SIVA	**Sivas**	**2.88**	**242**	P		**Pn**	**01 09 40.1**	**+0.7**
SIVA	**Sivas**	**2.88**	**242**	P		**Pn**	**01 09 40.0**	**+0.5**
SIVA				S		**Sn**	**01 10 12.6**	**-0.3**
PRK	**Paraskevi**	**3.13**	**336**	P		**Pn**	**01 09 43.5**	**+0.6**
PRK	**Paraskevi**	**3.13**	**336**	P		**Pn**	**01 09 43.4**	**+0.6**
PRK				S		**Sn**	**01 10 19.1**	**+0.1**
VAM	**Vamos**	**3.18**	**253**	P		**Pn**	**01 09 43.9**	**+0.4**
IMMV	**Iera Moni Meta**	**3.33**	**255**	P		**Pn**	**01 09 46.0**	**+0.4**
VLI	**Veliai**	**4.03**	**276**	P		**Pn**	**01 09 56.3**	**+1.1**
VLI				S		**Sn**	**01 10 40.7**	**-0.3**

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*ISCJB **12** 01:14:49.8±0.9,36°.75N±0°.08×140°.84E±0°.08,h10km, mb3.5/3,MS3.1/1, Error ellipse: s-maj=13.0km s-min=7.4km az=147.1*
*JMA **12** 01:14:49.4,36°.85N×140°.58E,h9km*
*IDC **12** 01:14:50.7±1.3,36°.80N×140°.75E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.2/61,mbtmp3.3/4,ML3.1/1,MS3.1/1, Ms1 3.1/1,ms1mx2.2/31,Error ellipse: s-maj=28.7km s-min=23.2km az=122.0*
ISC 12 01:14:50.9±1.1,36°.84N±0°.05×140°.59E±0°.05,h10km,n13, σ1s31/10,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.23**	**183**	P		**Pg**	**01 14 54.3**	**-1.2**
JHO				*e*S		**Sg**	**01 14 57.7**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.32**	**33**	P		**Pg**	**01 14 55.7**	**-1.5**
MJAR	**Matsushiro Arr**	**1.93**	**262**	Pn		**Pg**	**01 15 26.7**	**-1.3**
	7.2nm,0.3s,baz=82,slow=15,SNR=31							
MJAR				Sn		**Sg**	**01 15 52.4**	**-0.7**
	14nm,0.3s,baz=83,slow=29,SNR=16							
MAT	**Matsushiro**	**1.94**	**262**	P		**Pg**	**01 15 26.9**	**-1.1**
MAT				S		**Sg**	**01 15 53.4**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.62**	**119**	T		T	01 50 37.1	
	baz=313,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**28.63**	**119**	T		T	01 50 37.7	
	baz=313,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**28.64**	**119**	T		T	01 50 38.4	
	baz=313,slow=75,SNR=8.9							
H11S1	**WAKE ISLAND Hy**	**29.32**	**121**	T		T	01 51 29.6	
	baz=314,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hy**	**29.32**	**121**	T		T	01 51 29.7	
	baz=314,slow=75,SNR=10							
H11S2	**WAKE ISLAND Hy**	**29.33**	**121**	T		T	01 51 29.1	
	baz=314,slow=75,SNR=13							
ILAR	**Eielson Array**	**50.02**	**32**	P		**P**	**01 23 45.8**	**+0.7**
	0.3nm,0.9s,baz=276,slow=8.0,SNR=3.0							
WRA	**Warramunga Arr**	**56.78**	**187**	P		**P**	**01 24 36.1**	**+0.9**
	0.5nm,0.7s,baz=2.4,slow=7.5,SNR=5.9							
WRA				LR		LR	01 48 03.3	
	comp=Z,16nm,21.5s,baz=305,slow=35							
ASAR	**Alice Springs**	**60.51**	**187**	P		**P**	**01 25 02.8**	**+1.6**
	0.2nm,0.3s,baz=2.5,slow=6.5,SNR=3.4							

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*SJA **12** 01:29:40.9±0.4,24°.16S×67°.05W,h201km±6km, ML4.1, MW4.0*
*ISCJB **12** 01:29:41.2±0.3,24°.12S±0°.03×66°.97W±0°.03,h200km, mb4.0/13,Error ellipse: s-maj=5.0km s-min=3.2km az=39.6*
*NEIC **12** 01:29:41.0±0.0,24°.16S×67°.05W,h201km, mb4.1/4, MD4.1(SJA),After SJA.*
*IDC **12** 01:29:43.0±2.0,24°.01S×66°.69W,h197km±16km, mb3.7/12, mb1 3.8/16,mb1mx3.6/38,mbtmp4.2/16,MS2.8/2, Ms1 2.8/2,ms1mx2.5/36,Error ellipse: s-maj=21.5km s-min=13.2km az=54.0*
*GUC **12** 01:29:43.9±0.5,24°.17S×67°.11W,h168km±6km,ML4.8*
ISC 12 01:29:42.0±0.4,24°.17S±0°.04×67°.02W±0°.04,h200km,n64, σ1s66/80,mb4.2/13,10C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.49**	**112**	*i* P		**Pn**	**01 30 15.7**	**-0.1**
SLA				IAML			01 30 17.0	
	comp=Z,1μm,0.4s							
SLA				*i* S		**Sn**	**01 30 41.3**	**-0.7**
SLA	**San Lorenzo**	**1.49**	**112**	↓*i* P		**Pn**	**01 30 16.5**	**+0.7**
SLA				*i* S		**Sn**	**01 30 41.3**	**-0.7**
HJA	**Humahuaca**	**1.76**	**57**	*i* P		**Pn**	**01 30 18.7**	**+0.1**
AZAP	**Zapla**	**1.79**	**92**	*i* P		**Pn**	**01 30 18.6**	**0.0**
AZAP				IAML			01 30 18.8	
	comp=Z,2μm,0.3s							
FSA	**Cafayete**	**2.15**	**154**	*i* P		**Pn**	**01 30 22.1**	**-0.2**
FSA				IAML			01 30 24.4	
	comp=Z,196nm,0.2s							
FSA				*i* S		**Sn**	**01 30 52.7**	**-1.1**
ASTB	**Santa Barbara**	**2.36**	**85**	*i* P		**Pn**	**01 30 24.3**	**-0.2**
PB06	**IPOC Station P**	**2.76**	**301**	↑*i* P		**Pn**	**01 30 30.1**	**+1.0**
PB06				*i* S		**Sn**	**01 31 04.9**	**-0.8**
PB06				IAML			01 31 05.9	
	comp=N,2μm,0.4s							
ALOL	**LOMAS DE OLMED**	**2.80**	**83**	*i* P		**Pn**	**01 30 29.1**	**-0.3**
AHML	**Horco Molle**	**3.02**	**150**	*i* P		**Pn**	**01 30 31.9**	**0.0**
PB14	**IPOC Station P**	**3.12**	**261**	↑*i* P		**Pn**	**01 30 34.2**	**+0.9**
PB14				*i* S		**Sn**	**01 31 12.9**	**-0.5**
PB14				IAML			01 31 19.8	
	comp=E,1μm,0.6s							
PB09	**IPOC Station P**	**3.12**	**319**	↑*i* P		**Pn**	**01 30 34.4**	**+1.0**
PB09				*i* S		**Sn**	**01 31 13.1**	**-0.4**
PB09				IAML			01 31 15.5	
	comp=E,3μm,0.3s							
ANCH	**Antofagasta**	**3.14**	**278**	↑*i* P		**Pn**	**01 30 35.6**	**+2.3**
ANCH				*i* S		**Sn**	**01 31 13.4**	**+0.1**
PB10	**IPOC Station P**	**3.30**	**281**	*e*Pn		**Pn**	**01 30 35.9**	**+0.6**
PB10	**IPOC Station P**	**3.30**	**281**	↑*i* P		**Pn**	**01 30 36.3**	**+1.1**
PB10				*i* S		**Sn**	**01 31 16.1**	**-0.8**
PB10				IAML			01 31 18.6	
	comp=N,892nm,0.5s							
PB04	**IPOC Station P**	**3.41**	**302**	*e*Pn		**Pn**	**01 30 37.1**	**+0.4**
PB04	**IPOC Station P**	**3.41**	**302**	↑*i* P		**Pn**	**01 30 37.2**	**+0.4**
PB04				*i* S		**Sn**	**01 31 17.6**	**-1.9**
PB07	**IPOC Station P**	**3.59**	**312**	↑*i* P		**Pn**	**01 30 39.2**	**+0.2**
PB07				*i* S		**Sn**	**01 31 21.1**	**-2.4**
PB01	**IPOC Station P**	**3.86**	**323**	*e*Pn		**Pn**	**01 30 40.9**	**-1.3**
PB01	**IPOC Station P**	**3.86**	**323**	↑*i* P		**Pn**	**01 30 41.9**	**-0.2**
PB01				*i* S		**Sn**	**01 31 27.1**	**-2.2**
PB02	**IPOC Station P**	**3.88**	**316**	↑*i* P		**Pn**	**01 30 42.3**	**-0.2**
PB08	**IPOC Station P**	**4.47**	**333**	*e*P		**Pn**	**01 30 50.5**	**+0.4**
PB08				*i* S		**Sn**	**01 31 42.2**	**-1.4**
PB11	**IPOC Station P**	**5.02**	**330**	*e*Pn		**Pn**	**01 30 54.9**	**-2.0**
MNMC	**Minye Minye**	**5.56**	**334**	*e*Pn		**Pn**	**01 31 02.8**	**-1.0**
LCO	**Las Campanas**	**5.84**	**214**	*e*Pn		**Pn**	**01 31 06.8**	**-0.6**
LCO				*e*S		**Sn**	**01 32 06.8**	**-8.2**
LPAZ	**La Paz**	**7.91**	**352**	P		**Pn**	**01 31 34.2**	**-0.5**
	comp=N,3.1nm,0.3s,baz=151,slow=7.2,SNR=48							
LPAZ				S		**Sn**	**01 33 00.6**	**-3.8**
	comp=N,0.3nm,0.3s,baz=61,slow=19,SNR=2.8							
LPAZ				LR		LR	01 35 25.4	
	comp=N,40nm,20.8s,baz=217,slow=44							
LPAZ	**La Paz**	**7.91**	**352**	*e*Pn		**Pn**	**01 31 34.5**	**-0.2**
CPUP	**Villa Florida**	**9.03**	**106**	P		**Pn**	**01 31 46.2**	**-2.5**
	comp=N,0.4nm,0.3s,baz=279,slow=10,SNR=8.7							
CPUP	**Villa Florida**	**9.03**	**106**	*e*Pn		**Pn**	**01 31 47.9**	**-0.8**
ROC1	**El Roble**	**9.45**	**201**	*e*Pn		**Pn**	**01 31 54.1**	**-0.2**
SIV	**San Ignacio**	**9.87**	**36**	P		**Pn**	**01 31 56.9**	**-2.8**
	comp=N,2.6nm,0.3s,baz=232,slow=8.2,SNR=48							
SIV				S		Sn	01 33 32.6	-17
	comp=N,0.1nm,0.3s,baz=248,slow=17,SNR=3.4							
GO05	**HualaæØ**	**11.61**	**200**	*e*Pn		**P**	**01 32 23.9**	**-3.4**
TRQA	**Tornquist**	**14.50**	**164**	*e*Pn		**P**	**01 32 58.3**	**-1.0**
NNA	**Nana**	**15.29**	**321**	P		**P**	**01 33 09.4**	**+1.2**
	comp=N,0.6nm,0.3s,baz=150,slow=8.1,SNR=3.6							
SAML	**Samuel**	**15.57**	**14**	*e*Pn		**Pn**	**01 33 09.8**	**-1.5**
	comp=N,4.7nm,0.8s							
SPB	**Sao Paulo**	**17.93**	**92**	*e*Pn		**P**	**01 33 36.5**	**-0.6**
	comp=N,17nm,0.8s							
PTGA	**Pitinga**	**24.28**	**17**	P		**P**	**01 34 40.2**	**-0.9**
	comp=N,2.1nm,0.3s,baz=147,slow=22,SNR=5.5							
VNA3	**Neumayer Olymp**	**57.00**	**161**	P		**P**	**01 39 08.2**	**+1.8**
VNA2	**Neumayer--Watz**	**57.56**	**160**	P		**P**	**01 39 12.0**	**+1.6**
	baz=291,slow=8.0							
SNAA	**Sanae**	**59.20**	**161**	P		**P**	**01 39 22.8**	**+1.1**
SNAA	**Sanae**	**59.20**	**161**	P		**P**	**01 39 23.2**	**+1.5**
	comp=N,4.2nm,0.7s,baz=286,slow=9.0,SNR=13							
SNAA				pP		**PcP**	**01 40 09.4**	**+1.5**
	comp=N,0.9nm,0.5s,baz=278,slow=13,SNR=1.4							
SNAA				LR		LR	02 01 33.1	
	comp=N,15nm,21.8s,baz=327,slow=32							
SNAA	**Sanae**	**59.20**	**161**	*e*P		**P**	**01 39 22.2**	**+0.5**
	comp=N,713nm,1.3s							
TXAR	**Lajitas Array**	**63.80**	**324**	P		**P**	**01 39 55.0**	**+1.9**
	comp=N,0.2nm,0.5s,baz=150,slow=9.3,SNR=3.9							
DBIC	**Dimbokro**	**67.87**	**71**	P		**P**	**01 40 18.3**	**-1.0**
	comp=N,3.0nm,0.6s,baz=221,slow=7.6,SNR=6.8							
KOWA	**Kowa**	**72.53**	**65**	P		**P**	**01 40 46.7**	**-0.8**
	comp=N,1.7nm,0.3s,baz=245,slow=9.1,SNR=18							
KOWA	**Kowa**	**72.53**	**65**	*e*P		**P**	**01 40 47.3**	**-0.2**
	comp=N,3.2nm,0.8s							
SYO	**Syowa Base**	**73.40**	**159**	↑*e*P		**P**	**01 40 49.4**	**-2.3**
TOA0	**Torodi Ar. Sit**	**76.65**	**69**	*e*P		**P**	**01 41 10.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.65**	**69**	P		**P**	**01 41 10.6**	**-0.6**
	comp=N,2.7nm,0.4s,baz=256,slow=5.6,SNR=93							
PDAR	**Pinedale Array**	**77.28**	**329**	P		**P**	**01 41 16.5**	**+2.0**
	comp=N,0.1nm,0.3s,baz=121,slow=8.7,SNR=2.6							
ULM	**Lac du Bonnet**	**78.38**	**342**	P		**P**	**01 41 20.2**	**+0.2**
	comp=N,1.0nm,0.5s,baz=163,slow=8.2,SNR=3.4							
BOSA	**Boshof**	**80.67**	**117**	P		**P**	**01 41 33.4**	**+0.2**
	comp=N,3.8nm,0.5s,baz=260,slow=3.9,SNR=18							
TAM	**Tamanrasset**	**84.49**	**62**	*e*P		**P**	**01 41 52.9**	**0.0**
	comp=N,3.6nm,0.9s							
ESDC	**Sonseca Array**	**86.53**	**44**	P		**P**	**01 42 02.8**	**+0.3**
	comp=N,0.5nm,0.5s,baz=232,slow=4.1,SNR=7.5							
ES19	**SONSECA Array**	**86.59**	**44**	*e*P		**P**	**01 42 03.1**	**+0.3**
MATP	**Matopo**	**86.63**	**111**	P		**P**	**01 42 05.0**	**+1.4**
	comp=N,4.7nm,0.5s,baz=247,slow=5.7,SNR=20							
YKA	**Yellowknife Ar**	**94.28**	**340**	P		**P**	**01 42 39.1**	**+1.2**
	comp=N,0.3nm,0.5s,baz=133,slow=4.5,SNR=16							
ASAR	**Alice Springs**	**128.29**	**205**	PKP		**PKPdf**	**01 48 26.5**	**+1.2**
	comp=N,0.4nm,0.5s,baz=123,slow=1.5,SNR=4.4							
WRA	**Warramunga Arr**	**131.47**	**207**	PKP		**PKPdf**	**01 48 32.7**	**+1.3**
	comp=N,0.4nm,0.4s,baz=156,slow=1.8,SNR=9.2							
WRA				SKPbc		**SKPab**	**01 51 39.2**	**+0.7**
	comp=N,0.8nm,0.7s,baz=150,slow=3.4,SNR=6.1							
BVAR	**Borovoye Array**	**136.94**	**37**	PKP		**PKPdf**	**01 48 41.9**	**+1.3**
	comp=N,0.3nm,0.4s,baz=328,slow=1.9,SNR=3.2							
BVAR				pPKP		**pPKPdf**	**01 49 31.4**	**-1.1**
	comp=N,0.3nm,0.4s,baz=247,slow=1.5,SNR=2.7							
KURBB	**Kurchatov Arra**	**142.53**	**36**	PKhKP		PKPpre	01 48 46.7	
	comp=N,0.3nm,0.5s,baz=302,slow=3.4,SNR=6.5							
ZALV	**Zalesovo Beam**	**143.55**	**28**	PKP		**PKPdf**	**01 48 51.4**	**-1.1**
	comp=N,2.8nm,0.6s,baz=288,slow=3.9,SNR=12							
MKAR	**Makanchi Array**	**146.67**	**40**	PKPbc		**PKPbc**	**01 48 59.6**	**-0.5**
	comp=N,5.8nm,0.7s,baz=328,slow=1.8,SNR=53							
SONM	**Songino Array**	**155.81**	**11**	PKPab		**PKPab**	**01 49 37.9**	**-1.8**
	comp=N,0.3nm,0.4s,baz=331,slow=1.7,SNR=3.6							
LZH	**Lanzhou**	**165.74**	**31**	*e*PKP		**PKPdf**	**01 49 27.3**	**+4.1**
LZH				pPKP		pPKPdf	01 50 09.2	-6.2
LZH				sPKP			01 50 26.1	

ARO 12 01:30:22.9,13°.N±11°.×4°.2E±1°.1,h1km±10km,Ml3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**1.38**	**159**	*e*P		Pn	01 30 46.8	-2.4
LDLD	**Lac de Lave**	**1.94**	**157**	*e*P		Pn	01 30 56.3	-0.8
TDD	**Tadjoura Ara**	**1.95**	**144**	*e*P		Pn	01 30 55.8	-1.3
OBO	**Obock**	**2.07**	**132**	*e*P		Pn	01 30 57.5	-1.2
SGH	**Sud-Ghoubbet**	**2.13**	**156**	*e*P		Pn	01 30 58.7	-0.9
ATD	**Arta Tunnel**	**2.15**	**149**	*e*P		Pn	01 30 58.8	-1.1
ATD	**Arta Tunnel**	**

SABO					Sg		Sg	01 44 51.8 +0.1
SABO	**M.te Sabotino**	**0.64**	**203**	*e*Pg			**Pg**	**01 44 42.4 -1.0**
SABO					*e*Sg		**Sg**	**01 44 51.9 +0.1**
GEPF	**Gemona**	**0.64**	**243**	Pg			**Pg**	**01 44 42.7 -0.7**
GEPF					Sg		**Sb**	**01 44 52.3 -1.0**
	comp=Z,90nm,0.5s							
GEPF	**Gemona**	**0.64**	**243**	Pg			**Pg**	**01 44 42.7 -0.7**
GEPF					Sg		**Sb**	**01 44 52.3 -1.0**
	comp=Z,90nm,0.5s							
LJU	**Ljubljana**	**0.65**	**143**	*i* Pg			**Pg**	**01 44 43.6 +0.1**
LJU				*i* Sg			**Sg**	**01 44 52.7 +0.5**
	comp=Z,34nm,0.1s							
LJU	**Ljubljana**	**0.65**	**143**	*i* Pg			**Pg**	**01 44 43.7 +0.1**
LJU				*i* Sg			**Sg**	**01 44 52.7 +0.5**
	comp=Z,34nm,0.1s							
KBA	**Koelnbreinsper**	**0.67**	**320**	Pg			**Pb**	**01 44 44.2 -0.7**
	comp=Z,1.3nm,0.1s,SNR=14							
KBA					Sg		**Sg**	**01 44 53.1 +0.5**
	comp=Z,11nm,0.1s							
KBA	**Koelnbreinsper**	**0.67**	**320**	*e*Pg			**Pb**	**01 44 44.2 -0.7**
	comp=Z,1.3nm,0.1s,SNR=14							
KBA					*e*Sg		**Sg**	**01 44 53.1 +0.5**
	comp=Z,11nm,0.1s							
JAVS	**Javornik**	**0.68**	**174**	*e*Pg			**Pg**	**01 44 43.2 -0.9**
JAVS					*e*Sg		**Sb**	**01 44 54.0 -0.6**
	comp=Z,26nm,0.1s							
JAVS	**Javornik**	**0.68**	**174**	*e*Pg			**Pg**	**01 44 43.2 -0.9**
JAVS					*e*Sg		**Sb**	**01 44 54.0 -0.6**
	comp=Z,26nm,0.1s							
FUSE	**Fusea**	**0.68**	**257**	*e*Pg			**Pg**	**01 44 43.9 -0.3**
FUSE	**Fusea**	**0.68**	**257**	*e*Pg			**Pg**	**01 44 43.9 -0.3**
ZOU	**Zoufplan**	**0.68**	**269**	*e*Pg			**Pg**	**01 44 44.1 -0.1**
ZOU	**Zoufplan**	**0.68**	**269**	*e*Pg			**Pg**	**01 44 44.1 -0.1**
ZOU	**Zoufplan**	**0.68**	**269**	*e*Pg			**Pg**	**01 44 44.3 +0.1**
VNDS	**Vrh nad Dolski**	**0.69**	**132**	*i* Pg			**Pg**	**01 44 44.3 0.0**
VNDS				*i* Sg			**Sb**	**01 44 54.0 -0.9**
	comp=Z,11nm,0.1s							
VNDS	**Vrh nad Dolski**	**0.69**	**132**	*i* Pg			**Pg**	**01 44 44.3 0.0**
VNDS				*i* Sg			**Sb**	**01 44 54.0 -0.9**
	comp=Z,11nm,0.1s							
GBAS	**Gorenja Brezov**	**0.71**	**152**	*i* Pg			**Pg**	**01 44 44.3 -0.5**
	comp=Z,10.0nm,0.1s							
GBAS	**Gorenja Brezov**	**0.71**	**152**	*i* Pg			**Pg**	**01 44 44.3 -0.5**
	comp=Z,10.0nm,0.1s							
SOKA	**Soboth**	**0.74**	**81**	Pg			**Pg**	**01 44 45.5 +0.1**
	comp=Z,1.2nm,0.1s							
SOKA					Sg		**Sg**	**01 44 55.0 -0.1**
	comp=Z,29nm,0.2s,SNR=14							
SOKA	**Soboth**	**0.74**	**81**	*e*Pg			**Pg**	**01 44 45.5 +0.1**
	comp=Z,1.2nm,0.1s							
SOKA					*e*Sg		**Sg**	**01 44 55.0 -0.1**
	comp=Z,29nm,0.2s,SNR=14							
CLUD	**Cludinico**	**0.76**	**262**	*e*Pg			**Pg**	**01 44 45.3 -0.3**
CLUD	**Cludinico**	**0.76**	**262**	*e*Pg			**Pg**	**01 44 45.3 -0.3**
PERS	**Pernice**	**0.80**	**85**	*i* Pg			**Pg**	**01 44 46.2 -0.1**
PERS					*e*Sg		**Sg**	**01 44 56.8 0.0**
	comp=Z,62nm,0.2s							
PERS	**Pernice**	**0.80**	**85**	*i* Pg			**Pg**	**01 44 46.2 -0.1**
PERS					*e*Sg		**Sg**	**01 44 56.8 0.0**
	comp=Z,62nm,0.2s							
FVI	**Forni Avoltri**	**0.82**	**272**	Pg			**Pg**	**01 44 46.6 -0.1**
	comp=Z,72nm,0.2s							
FVI	**Forni Avoltri**	**0.82**	**272**	Pg			**Pg**	**01 44 46.6 -0.1**
	comp=Z,72nm,0.2s							
PDKS	**Podkum**	**0.88**	**125**	*e*Pg			**Pg**	**01 44 47.8 -0.1**
PDKS	**Podkum**	**0.88**	**125**	*e*Pg			**Pg**	**01 44 47.8 -0.1**
CEY	**Cerknica**	**0.89**	**159**	*e*Pg			**Pg**	**01 44 47.2 -0.9**
CEY					*e*Sg		**Sg**	**01 44 59.7 +0.1**
	comp=Z,27nm,0.2s							
CEY	**Cerknica**	**0.89**	**159**	*e*Pg			**Pg**	**01 44 47.2 -0.9**
CEY					*e*Sg		**Sg**	**01 44 59.7 +0.1**
	comp=Z,27nm,0.2s							
STAL	**STALIGIAL**	**0.92**	**251**	Pg			**Pg**	**01 44 47.7 -1.0**
	comp=Z,32nm,0.2s							
STAL	**STALIGIAL**	**0.92**	**251**	Pg			**Pg**	**01 44 47.7 -1.0**
	comp=Z,32nm,0.2s							
VISS	**Visnje**	**0.98**	**141**	*i* Pg			**Pg**	**01 44 49.5 -0.3**
VISS					*e*Sg		**Sb**	**01 45 03.4 +0.3**
VISS	**Visnje**	**0.98**	**141**	*i* Pg			**Pg**	**01 44 49.5 -0.3**
VISS					*e*Sg		**Sb**	**01 45 03.4 +0.3**
ABTA	**Abfaltersbach**	**1.02**	**281**	Pg			**Pg**	**01 44 50.3 -0.2**
	SNR=16							
ABTA					Sg		**Sb**	**01 45 03.9 -0.4**
	comp=Z,13nm,0.2s							
ABTA	**Abfaltersbach**	**1.02**	**281**	*e*Pg			**Pg**	**01 44 50.3 -0.2**
	SNR=16							
ABTA					*e*Sg		**Sb**	**01 45 03.9 -0.4**
	comp=Z,13nm,0.2s							
SKDS	**Skadanscina**	**1.02**	**178**	*i* Pg			**Pg**	**01 44 49.1 -1.4**
	comp=Z,18nm,0.1s							
SKDS	**Skadanscina**	**1.02**	**178**	*i* Pg			**Pg**	**01 44 49.2 -1.4**
	comp=Z,18nm,0.1s							
GROS	**Grobnik**	**1.07**	**95**	*e*Pg			**Pg**	**01 44 51.1 -0.4**
	comp=Z,14nm,0.1s							
GROS	**Grobnik**	**1.07**	**95**	*e*Pg			**Pg**	**01 44 51.1 -0.4**
	comp=Z,14nm,0.1s							
KNDS	**Knezji Dol**	**1.08**	**164**	*e*Pg			**Pg**	**01 44 50.7 -1.0**
	comp=Z,11nm,0.1s							
KNDS	**Knezji Dol**	**1.08**	**164**	*e*Pg			**Pg**	**01 44 50.7 -1.0**
	comp=Z,11nm,0.1s							
DOBS	**Dobrina**	**1.12**	**111**	*i* Pg			**Pg**	**01 44 52.3 -0.3**
	comp=Z,9.0nm,0.1s							
DOBS	**Dobrina**	**1.12**	**111**	*i* Pg			**Pg**	**01 44 52.3 -0.3**
	comp=Z,9.0nm,0.1s							
LEGS	**Legarje**	**1.12**	**123**	*e*Pg			**Pg**	**01 44 52.2 -0.4**
LEGS					*e*Sg		**Sg**	**01 45 07.0 -0.2**
LEGS	**Legarje**	**1.12**	**123**	*e*Pg			**Pg**	**01 44 52.2 -0.4**
LEGS					*e*Sg		**Sg**	**01 45 07.0 -0.2**
POLC	**Polcenigo**	**1.15**	**242**	Pg			**Pg**	**01 44 52.3 -0.8**
	comp=Z,70nm,0.4s							
POLC	**Polcenigo**	**1.15**	**242**	Pg			**Pg**	**01 44 52.3 -0.8**
	comp=Z,70nm,0.4s							
GBRS	**Gornja Briga**	**1.19**	**150**	*e*Pg			**Pg**	**01 44 53.5 -0.4**
	comp=Z,6.0nm,0.1s							
GBRS	**Gornja Briga**	**1.19**	**150**	*e*Pg			**Pg**	**01 44 53.5 -0.4**
	comp=Z,6.0nm,0.1s							
CESS	**Cesta pri Krsk**	**1.20**	**119**	*e*Pg			**Pn**	**01 44 54.6 +0.7**
CESS	**Cesta pri Krsk**	**1.20**	**119**	*e*Pg			**Pn**	**01 44 54.6 +0.7**
ARSA	**Arzberg**	**1.27**	**57**	Pg			**Pg**	**01 44 55.3 -0.1**
	comp=Z,2.9nm,0.3s,SNR=8.4							
ARSA					Sg		**Sg**	**01 45 11.6 -0.2**
	comp=Z,8.9nm,0.2s,SNR=8.4							
ARSA	**Arzberg**	**1.27**	**57**	*e*Pg			**Pg**	**01 44 55.3 -0.1**
	comp=Z,2.9nm,0.3s,SNR=8.4							
ARSA					*e*Sg		**Sg**	**01 45 11.6 -0.2**
	comp=Z,8.9nm,0.2s,SNR=8.4							
CRES	**Cresnjev**	**1.27**	**125**	*i* Pg			**Pg**	**01 44 55.4 0.0**
	comp=Z,4.0nm,0.1s							
CRES	**Cresnjev**	**1.27**	**125**	*i* Pg			**Pg**	**01 44 55.4 0.0**
	comp=Z,4.0nm,0.1s							
GOLS	**Golise**	**1.28**	**115**	*i* Pg			**Pg**	**01 44 55.4 -0.2**
GOLS					*e*Sg		**Sn**	**01 45 12.5 +0.2**
	comp=Z,15nm,0.2s							
GOLS	**Golise**	**1.28**	**115**	*i* Pg			**Pg**	**01 44 55.4 -0.2**
GOLS					*e*Sg		**Sn**	**01 45 12.5 +0.2**
	comp=Z,15nm,0.2s							
MOA	**Molln**	**1.30**	**9**	Pg			**Pg**	**01 44 55.9 0.0**
	comp=Z,2.8nm,0.1s,SNR=10							
MOA					Sg		**Sn**	**01 45 14.6 +1.8**
	comp=Z,7.8nm,0.3s							
MOA	**Molln**	**1.30**	**9**	*e*Pg			**Pg**	**01 44 55.9 0.0**
	comp=Z,2.8nm,0.1s,SNR=10							
MOA					*e*Sg		**Sn**	**01 45 14.6 +1.8**
	comp=Z,7.8nm,0.3s							
GCIS	**Gornji Cirnik**	**1.35**	**121**	*e*Pg			**Pg**	**01 44 56.6 -0.3**
GCIS					*e*Sg		**Sb**	**01 45 14.0 +0.2**
	comp=Z,8.0nm,0.2s							
GCIS	**Gornji Cirnik**	**1.35**	**121**	*e*Pg			**Pg**	**01 44 56.6 -0.3**
GCIS					*e*Sg		**Sb**	**01 45 14.0 +0.2**
	comp=Z,8.0nm,0.2s							
RISI	**Rein**	**1.35**	**287**	Pg			**Pn**	**01 44 56.3 +0.1**
	comp=Z,64nm,0.5s							
RISI	**Rein**	**1.35**	**287**	Pg			**Pn**	**01 44 56.3 +0.1**
	comp=Z,64nm,0.5s							
BOJS	**Bojanci**	**1.39**	**139**	*e*Pg			**Pb**	**01 44 56.9 -0.2**
	comp=Z,9.0nm,0.2s							
BOJS	**Bojanci**	**1.39**	**139**	*e*Pg			**Pb**	**01 44 56.9 -0.2**
	comp=Z,9.0nm,0.2s							
VARN	**Col Varnada, M**	**1.41**	**247**	*e*Pg			**Pg**	**01 44 57.6 -0.5**
VARN	**Col Varnada, M**	**1.41**	**247**	*e*Pg			**Pg**	**01 44 57.6 -0.5**
OZLJ	**Ozalj**	**1.42**	**132**	*e*Pg			**Pg**	**01 44 57.8 -0.3**
OZLJ					Sg		**Sb**	**01 45 15.7 +0.1**
OZLJ	**Ozalj**	**1.42**	**132**	*e*Pg			**Pg**	**01 44 57.8 -0.3**
OZLJ					Sg		**Sb**	**01 45 15.7 +0.1**
KOGS	**Kog**	**1.58**	**94**	*e*Pg			**Pb**	**01 45 00.2 -0.2**
	comp=Z,9.0nm,0.1s							
KOGS	**Kog**	**1.58**	**94**	*e*Pg			**Pb**	**01 45 00.2 -0.2**
	comp=Z,8.0nm,0.1s							
WTTA	**Wattenberg**	**1.74**	**294**	Pn			**Pb**	**01 45 03.5 +0.3**
WTTA	**Wattenberg**	**1.74**	**294**	Pg			**Pg**	**01 45 03.7 -0.7**
	comp=Z,2.7nm,0.2s,SNR=4.7							
WTTA					Sn		**Sb**	**01 45 24.9 -0.3**
	comp=Z,5.8nm,0.3s							
WTTA					Sg		**Sg**	**01 45 27.5 +0.5**
WTTA	**Wattenberg**	**1.74**	**294**	*e*Pg			**Pg**	**01 45 03.7 -0.7**
	comp=Z,2.7nm,0.2s,SNR=4.7							
WTTA					*e*Sn		**Sb**	**01 45 24.9 -0.3**
	comp=Z,5.8nm,0.3s							
WATA	**Walderalm**	**1.81**	**296**	Pg			**Pb**	**01 45 04.7 +0.4**
	comp=Z,1.8nm,0.1s,SNR=8.9							
WATA					Sg		**Sg**	**01 45 29.9 +0.8**
	comp=Z,2.3nm,0.2s							
WATA	**Walderalm**	**1.81**	**296**	*e*Pg			**Pb**	**01 45 04.7 +0.4**
	comp=Z,1.8nm,0.1s,SNR=8.9							
WATA					Sg		**Sg**	**01 45 29.9 +0.8**
	comp=Z,2.3nm,0.2s							
CONA	**Conrad Observa**	**1.88**	**43**	Pg			**Pg**	**01 45 06.3 -0.7**
	comp=Z,1.5nm,0.2s,SNR=5.5							
CONA					Sg		**Sg**	**01 45 33.1 +1.8**
	comp=Z,3.1nm,0.2s							
CONA	**Conrad Observa**	**1.88**	**43**	*e*Pg			**Pg**	**01 45 06.3 -0.7**
	comp=Z,1.5nm,0.2s,SNR=5.5							
CONA					*e*Sg		**Sg**	**01 45 33.1 +1.8**
	comp=Z,3.1nm,0.2s							
NVLJ	**Novalja**	**2.10**	**162**	*e*Pn			**Pb**	**01 45 09.7 +0.4**
NVLJ					Sn		**Sb**	**01 45 36.3 +0.9**
NVLJ	**Novalja**	**2.10**	**162**	*e*Pn			**Pb**	**01 45 09.6 +0.4**
NVLJ					Sn		**Sb**	**01 45 36.3 +0.9**
MOTA	**Moosalm**	**2.11**	**293**	Pg			**Pg**	**01 45 10.6 -0.8**
	comp=Z,1.4nm,0.3s							
MOTA					Sg		**Sg**	**01 45 40.4 +1.7**
	comp=Z,1.4nm,0.2s							
MOTA	**Moosalm**	**2.11**	**293**	*e*Pg			**Pg**	**01 45 10.6 -0.8**
	comp=Z,1.4nm,0.3s							
MOTA					Sg		**Sg**	**01 45 40.4 +1.7**
	comp=Z,1.4nm,0.2s							
FETA	**Feichten**	**2.27**	**283**	Pg			**Pb**	**01 45 13.0 +0.8**
	comp=Z,0.2nm,0.1s							
FETA					Sg		**Sg**	**01 45 43.9 +0.1**
	comp=Z,0.4nm,0.1s							
FETA	**Feichten**	**2.27**	**283**	*e*Pg			**Pb**	**01 45 13.0 +0.8**
	comp=Z,0.2nm,0.1s							
FETA					*e*Sg		**Sg**	**01 45 43.9 +0.1**
	comp=Z,0.4nm,0.1s							
RETA	**Reutte**	**2.38**	**294**	Pg			**Pg**	**01 45 15.3 -1.2**
	comp=Z,2.3nm,0.3s							
RETA					Sg		**Sg**	**01 45 48.2 +0.9**
	comp=Z,2.1nm,0.3s							
RETA	**Reutte**	**2.38**	**294**	*e*Pg			**Pg**	**01 45 15.3 -1.2**
	comp=Z,2.3nm,0.3s							
RETA					Sg		**Sg**	**01 45 48.2 +0.9**
	comp=Z,2.1nm,0.3s							
KHC	**Kasperske Hory**	**2.58**	**354**	*e*PN			**Pb**	**01 45 15.5 -1.9**
KHC				*e*PG			**Pg**	**01 45 19.5 -0.9**
KHC				*e*SG			**Sg**	**01 45 52.2 -1.6**
	comp=Z,5.1nm,0.3s							
KHC	**Kasperske Hory**	**2.58**	**354**	Pn			**Pb**	**01 45 15.5 -1.9**
DAVA	**Damuels**	**2.89**	**286**	Pg			**Pg**	**01 45 25.9 -0.4**
	comp=Z,0.4nm,0.1s							
DAVA					Sg		**Sg**	**01 46 04.7 +0.9**
	comp=Z,1.4nm,0.3s							
DAVA	**Damuels**	**2.89**	**286**	Pg			**Pg**	**01 45 25.9 -0.4**
	comp=Z,0.4nm,0.1s							
DAVA					*e*Sg		**Sg**	**01 46 04.7 +0.9**
	comp=Z,1.4nm,0.3s							
GOPC	**GO Pecny, Ondr**	**3.39**	**9**	*e*SG			**Sg**	**01 46 18.9 -1.0**
GOPC	**GO Pecny, Ondr**	**3.39**	**9**	Sg			**Sg**	**01 46 18.9 -1.0**
PRU	**Pruhonice**	**3.44**	**6**	*e*SG			**Sg**	**01 46 20.8 -0.8**
PRU	**Pruhonice**	**3.44**	**6**	Sg			**Sg**	**01 46 20.8 -0.8**
NKC	**Novy Kostel**	**3.81**	**345**	*e*SG			**Sg**	**01 46 32.3 -0.8**
NKC	**Novy Kostel**	**3.81**	**345**	Sg			**Sg**	**01 46 32.3 -0.8**
DPC	**Dobruska-Polom**	**4.10**	**22**	*e*SG			**Sg**	**01 46 41.0 -1.5**
DPC	**Dobruska-Polom**	**4.10**	**22**	Sg			**Sg**	**01 46 41.0 -1.5**
BRG	**Berggiesshubel**	**4.31**	**360**	SG			**Sg**	**01 46 48.0 -1.3**
	comp=Z,2.1nm,0.5s							

*ISCJB **12** 01:58:33.9±0.6, 76°.94N±0°.03×19°.0E±0°.1, h11km±4km, mb3.1/6, Error ellipse: s-maj=6.1km s-min=3.6km az=30.2*
*CSEM **12** 01:58:34.8±0.2, 76°.98N×18°.93E, h12km, ML3.8, Error ellipse: s-maj=5.0km s-min=2.9km az=47.0*
*IDC **12** 01:58:34.1±0.6, 77°.00N×18°.75E, h0km, mb3.2/6, mb1 3.5/10, mb1mx3.3/71, mbtmp3.4/10, ML3.3/4, Error ellipse: s-maj=26.3km s-min=8.9km az=72.0*
*NAO **12** 01:58:35.6±0.9, 76°.99N×18°.94E, h15km±9km, ML3.8*
*BER **12** 01:58:38.1±1.4, 77°.03N×18°.83E, h23km±5km, ML3.8, ML3.8(NAO)*

ISC 12 01:58:35.0±1.1, **76°.97N**±0°.03×**18°.85E**±0°.03, **h15**km±8km, **n39**,σ1°**66**/59, **mb3.2**/6, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.75**	**275**	Pg		**Pn**	**01 58 50.9**	**-0.2**
HSP				Lg		Lg	01 59 01.2	
HSPB	**Hornsund (broa**	**0.75**	**274**	*e*P		**Pn**	**01 58 50.7**	**-0.4**
	SNR=68							
HSPB	**Hornsund (broa**	**0.75**	**274**	*e*Pn		**Pn**	**01 58 52.0**	**+0.9**
HSPB				*e*Sg		**Sn**	**01 59 00.9**	**-1.3**
HSPB				Lg		Lg	01 59 01.2	
HSPB				*e*Sn		**Sb**	**01 59 03.4**	**+3.6**
HSPB	**Hornsund (broa**	**0.75**	**274**	*e*P		**Pn**	**01 58 50.7**	**-0.4**
HSPB				Pg		**Pg**	**01 58 50.9**	**+1.2**
HSPB				*e*S		**Sn**	**01 59 01.1**	**-1.1**
HSPB				Lg		Lg	01 59 01.2	
SPA0	**Spitsbergen Ar**	**1.33**	**337**	Pn		**Pb**	**01 58 59.4**	**-0.3**
	baz=155,slow=16							
SPA0				Pg		**Pg**	**01 59 00.3**	**-0.3**
SPA0				Lg		Lg	01 59 17.1	
	baz=157,slow=37							
SPA0	**Spitsbergen Ar**	**1.33**	**337**	Pn		**Pb**	**01 58 59.4**	**-0.3**
	SNR=55							
SPA0	**Spitsbergen Ar**	**1.33**	**337**	Pg		**Pg**	**01 59 00.3**	**-0.3**
	SNR=96							
SPA0				Lg		Lg	01 59 17.1	
	SNR=2.0							
SPA0	**Spitsbergen Ar**	**1.33**	**337**	Pn		**Pb**	**01 58 59.4**	**-0.3**
	baz=155,slow=16							
SPA0				Pg		**Pg**	**01 59 00.3**	**-0.3**
SPA0				Lg		Lg	01 59 17.1	
	baz=157,slow=37							
SPITS	**Spitsbergen Ar**	**1.33**	**337**	Pn		**Pb**	**01 58 59.2**	**-0.4**
	baz=158,slow=16,SNR=892							
SPITS				Sn		**Sb**	**01 59 16.1**	**-0.5**
	baz=152,slow=34,SNR=16							
BRBA	**Barentsburg A**	**1.49**	**320**	Pn		**Pb**	**01 59 01.7**	**-0.7**
	SNR=55							
BRBA	**Barentsburg A**	**1.49**	**320**	Pg		**Pg**	**01 59 03.4**	**-0.3**
	SNR=95							
BRBA				Lg		Lg	01 59 21.5	
	SNR=50							
HOPEN	**Hopen**	**1.49**	**105**	Pn		**Pb**	**01 59 01.9**	**-0.4**
HOPEN				Sn		**Sn**	**01 59 20.2**	**-0.2**
HOPEN				Lg		Lg	01 59 23.0	
HOPEN	**Hopen**	**1.49**	**105**	*e*P		**Pb**	**01 59 01.8**	**-0.6**
	SNR=55							
HOPEN	**Hopen**	**1.49**	**105**	*e*Pg		**Pg**	**01 59 04.2**	**+0.5**
	SNR=95							
HOPEN				*e*S		**Sn**	**01 59 20.4**	**0.0**
	SNR=55							
HOPEN				Lg		Lg	01 59 23.0	
HOPEN	**Hopen**	**1.49**	**105**	*e*P		**Pb**	**01 59 01.8**	**-0.6**
HOPEN				*e*Pg		**Pg**	**01 59 04.2**	**+0.5**
HOPEN				*e*S		**Sn**	**01 59 20.4**	**0.0**
HOPEN				*e*Sg		**Sg**	**01 59 23.3**	**+0.3**
HOPEN				IAML			01 59 25.7	
	comp=Z,3μm,0.2s							
KBS	**Kingsbay**	**2.45**	**327**	Pn		**Pn**	**01 59 14.3**	**0.0**
KBS				Pg		**Pg**	**01 59 20.1**	**-1.7**
KBS				Lg		Lg	01 59 50.3	
KBS	**Kingsbay**	**2.45**	**327**	*e*P		**Pn**	**01 59 14.0**	**-0.3**
	SNR=55							
KBS	**Kingsbay**	**2.45**	**327**	Pn		**Pn**	**01 59 14.3**	**0.0**
KBS	**Kingsbay**	**2.45**	**327**	*e*P		**Pn**	**01 59 14.0**	**-0.3**
KBS				*e*Pg		**Pg**	**01 59 20.1**	**-1.7**
KBS				*e*Sg		**Sb**	**01 59 49.3**	**+0.8**
KBS				IAML			01 59 54.1	
	comp=Z,1μm,0.2s							
BJO	**Bjornoya**	**2.48**	**178**	*e*Pg		**Pg**	**01 59 22.0**	**-0.4**
	SNR=93							
BJO				*e*Sg		**Sg**	**01 59 54.5**	**+0.1**
BJO				Lg		Lg	01 59 55.6	
BJO	**Bjornoya**	**2.48**	**178**	*e*Pg		**Pg**	**01 59 22.0**	**-0.4**
BJO				*e*Sg		**Sg**	**01 59 54.5**	**+0.1**
BJO				IAML			02 00 01.1	
	comp=Z,436nm,0.4s							
BJO1	**Bjornoya**	**2.48**	**179**	Pg		**Pg**	**01 59 21.9**	**-0.5**
BJO1				Lg		Lg	01 59 55.6	
HAMF	**Hammerfest**	**6.50**	**166**	*e*P		**Pn**	**02 00 09.9**	**0.0**
ARA0	**ARCESS Array S**	**7.71**	**162**	Pn		**Pn**	**02 00 26.0**	**-0.5**
	baz=351,slow=14							
ARA0					Sn	**Sn**	**02 01 47.8**	**-5.6**
	baz=2.5,slow=22							
ARA0	**ARCESS Array S**	**7.71**	**162**	Pn		**Pn**	**02 00 26.0**	**-0.5**
	baz=351,slow=14							
ARA0					Sn	**Sn**	**02 01 47.8**	**-5.6**
	baz=2.5,slow=22							
ARCES	**ARCESS Array B**	**7.71**	**162**	Pn		**Pn**	**02 00 26.0**	**-0.5**
	comp=Z,3.4nm,0.3s,baz=349,slow=13,SNR=57							
ARCES					Sn	Sn	02 01 43.1	-10
	comp=Z,2.3nm,0.3s,baz=358,slow=19,SNR=2.6							
FIA0	**FINESS Array S**	**15.78**	**167**	Pn		**Pn**	**02 02 12.9**	**-3.4**
	baz=7.1,slow=12							
FIA0	**FINESS Array S**	**15.78**	**167**	Pn		**Pn**	**02 02 12.9**	**-3.4**
	baz=7.1,slow=12							
FINES	**FINESS Array B**	**15.78**	**167**	Pn		**Pn**	**02 02 12.4**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=8.6,slow=12,SNR=9.5							
FINES					Sn	Sn	02 04 55.9	-15
	comp=Z,0.2nm,0.3s,baz=9.3,slow=27,SNR=3.0							
NOA	**NORSAR Array B**	**16.21**	**193**	Pn		**Pn**	**02 02 21.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=2.0,slow=13,SNR=2.5							
HFS	**Hagfors**	**17.00**	**189**	P		**P**	**02 02 34.8**	**+1.1**
	baz=356,slow=9.3							
HFS	**Hagfors**	**17.00**	**189**	P		**P**	**02 02 33.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=7.6,slow=12,SNR=2.6							
HFS	**Hagfors**	**17.00**	**189**	P		**P**	**02 02 34.8**	**+1.1**
	baz=356,slow=9.3							
AKASG	**Malin Array Be**	**26.67**	**165**	P		**P**	**02 04 15.2**	**+2.4**
	comp=Z,2.2nm,0.4s,baz=352,slow=9.6,SNR=3.2							
KURBB	**Kurchatov Arra**	**34.54**	**104**	P		**P**	**02 05 24.3**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=340,slow=7.5,SNR=2.6							
YKA	**Yellowknife Ar**	**37.81**	**327**	P		**P**	**02 05 49.1**	**-1.0**
	comp=Z,0.2nm,0.9s,baz=11,slow=7.6,SNR=3.4							
YKA					PcP	**PcP**	**02 08 07.3**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=11,slow=3.0,SNR=5.6							
ILAR	**Eielson Array**	**38.22**	**350**	P		**P**	**02 05 53.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=360,slow=6.7,SNR=4.7							
MKAR	**Makanchi Array**	**38.98**	**102**	P		**P**	**02 06 01.8**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=348,slow=7.3,SNR=6.0							
TORD	**Torodi Ar. Bea**	**64.44**	**199**	P		**P**	**02 09 12.2**	**+1.7**
	comp=Z,0.1nm,0.5s,baz=349,slow=7.9,SNR=3.2							

*DDA **12** 02:05:46.5, 40°.84N×42°.74E, h9km, Md3.0*
*CSEM **12** 02:05:47.6±0.2, 40°.83N×42°.70E, h2km, ML2.9, Error ellipse: s-maj=4.2km s-min=3.6km az=158.0*
*ISK **12** 02:05:47.4, 40°.85N×42°.71E, h8km, ML2.9/4*
*TIF **12** 02:05:47.4, 40°.87N×42°.67E, h14km±2km*

ISC 12 02:05:47.5±1.0, **40°.86N**±0°.02×**42°.73E**±0°.02, **h6**km±10km, **n53**,σ1°**14**/88, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KARS	**Kars**	**0.35**	**131**	Pg		**Pb**	**02 05 55.4**	**-0.8**
KARS	**Kars**	**0.35**	**131**	*e*Pg		**Pb**	**02 05 55.4**	**-0.8**
SENK	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.50**	**273**	⇑*iP*	**Pn**	**02 07 54.3**	**-0.5**
PB01				*i* S	**Sn**	**02 08 07.2**	**-0.4**
PB01				IAML		02 08 07.8	
	comp=N,907nm,0.3s						
PB09	**IPOC Station P**	**0.77**	**201**	⇑*iP*	**Pn**	**02 07 56.8**	**-0.1**
PB09				IAML		02 08 14.9	
	comp=E,1μm,0.2s						
PB02	**IPOC Station P**	**0.92**	**254**	⇑*iP*	**Pn**	**02 07 58.6**	**+0.4**
PB02				*i* S	**Sn**	**02 08 15.3**	**+1.6**
PB02				IAML		02 08 16.6	
	comp=E,1μm,0.5s						
PB08	**IPOC Station P**	**0.95**	**348**	⇓*iP*	**Pn**	**02 07 58.4**	**-0.5**
PB08				*i* S	**Sn**	**02 08 14.6**	**-0.2**
PB08				IAML		02 08 15.9	
	comp=N,412nm,0.4s						
PB07	**IPOC Station P**	**1.09**	**233**	⇑*iP*	**Pn**	**02 08 00.3**	**+0.2**
PB07				*i* S	**Sn**	**02 08 18.1**	**+1.2**
PB07				IAML		02 08 23.5	
	comp=N,423nm,0.5s						
PB11	**IPOC Station P**	**1.47**	**333**	*eP*	**Pn**	**02 08 04.2**	**-0.2**
PB11				*i* S	**Sn**	**02 08 24.9**	**+0.5**
PB04	**IPOC Station P**	**1.68**	**221**	*eP*	**Pn**	**02 08 07.6**	**+0.7**
PB04				*eS*	**Sn**	**02 08 30.7**	**+1.6**
PB04				IAML		02 08 38.2	
	comp=E,308nm,0.3s						
PB06	**IPOC Station P**	**1.72**	**200**	⇑*iP*	**Pn**	**02 08 07.7**	**+0.2**
PB06				*i* S	**Sn**	**02 08 30.9**	**+0.8**
PB06				IAML		02 08 35.7	
	comp=E,276nm,0.4s						
PSGC	**Pisagua**	**1.84**	**323**	⇓*iP*	**Pn**	**02 08 08.4**	**-0.4**
PSGC				*i* S	**Sn**	**02 08 32.5**	**+0.1**
MNMC	**Minye Minye**	**2.03**	**342**	⇑*iP*	**Pn**	**02 08 11.5**	**+0.1**
MNMC				*i* S	**Sn**	**02 08 37.8**	**+0.8**
MNMC				IAML		02 08 44.7	
	comp=N,350nm,0.2s						
LPAZ	**La Paz**	**4.82**	**9**	P	**Pn**	**02 08 49.8**	**+1.0**
	comp=N,0.3nm,0.3s,baz=197,slow=8.6,SNR=6.4						
LPAZ				S	**Sn**	**02 09 48.0**	**+4.1**
	comp=N,0.1nm,0.3s,baz=38,slow=20,SNR=1.9						
TORD	**Torodi Ar. Bea**	**77.25**	**70**	P	**P**	**02 19 18.4**	**-1.9**
	comp=N,0.2nm,0.6s,baz=248,slow=5.6,SNR=3.9						
MKAR	**Makanchi Array**	**145.31**	**36**	PKPbc	**PKPbc**	**02 27 02.4**	**-0.2**
	comp=N,0.1nm,0.5s,baz=299,slow=3.9,SNR=2.7						

CSEM ***12*** *02:20:51.5, 38°.38N×38°.33E, h7km, Ml2.0, After DDA*

DDA 12 02:20:51.5, 38°.38N×38°.33E, h7km, Ml2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.33**	**255**	*iP*	Pg	02 20 58.4	+0.4
AKCD				*i* S	Sg	02 21 03.8	+1.3
AKCD	**Akcadag**	**0.33**	**255**	P	Pg	02 20 58.4	+0.4
AKCD				S	Sg	02 21 03.8	+1.4
ELZG	**Elazig**	**0.53**	**77**	*iP*	Pb	02 21 02.5	-0.6
ELZG				*i* S	Sg	02 21 09.3	+0.8
ELZG	**Elazig**	**0.53**	**77**	P	Pb	02 21 02.5	-0.6
ELZG				S	Sg	02 21 09.3	+0.8
KEMA	**Kemaliye**	**0.89**	**8**	*iP*	Pg	02 21 07.2	-1.4
KEMA				*i* S	Sb	02 21 21.4	-0.1
ELBS	**KAHRAMANMARAS**	**0.94**	**267**	*iP*	Pn	02 21 14.4	+3.2
ELBS				*i* S	Sn	02 21 25.2	+0.1
ELBS	**KAHRAMANMARAS**	**0.94**	**267**	P	Pn	02 21 14.4	+3.1
ELBS				S	Sn	02 21 25.2	+0.1

IDC 12 02:21:57.9±4.8, 17°.07S×70°.94W, h119km±29km, mb3.5/5, mb1 3.5/8, mb1mx3.3/42, mbtmp3.9/8, Error ellipse: s-maj=62.5km s-min=22.6km az=21.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.80**	**74**	P	Pn	02 22 43.2	+1.1
	10nm,0.3s,baz=260,slow=8.5,SNR=220						
LPAZ				S	Sn	02 23 16.5	+0.5
	baz=180,slow=20						
SIV	**San Ignacio**	**9.52**	**85**	P	Pn	02 24 10.4	-1.6
	0.4nm,0.3s,baz=289,slow=10.0,SNR=11						
PTGA	**Pitinga**	**19.50**	**35**	P	P	02 26 16.2	+0.3
	1.0nm,0.3s,baz=205,slow=12,SNR=7.0						
CMIG	**Matias Romero**	**41.34**	**324**	P	P	02 29 32.3	+0.1
	1.2nm,0.5s,baz=127,slow=15,SNR=3.0						
DBIC	**Dimbokro**	**69.42**	**76**	P	P	02 32 54.0	+0.3
	0.7nm,0.4s,baz=232,slow=12,SNR=4.3						
KOWA	**Kowa**	**73.11**	**69**	P	P	02 33 15.9	+0.1
	0.6nm,0.5s,baz=236,slow=3.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**77.75**	**72**	P	P	02 33 42.5	+0.2
	2.1nm,0.6s,baz=259,slow=5.2,SNR=33						
YKA	**Yellowknife Ar**	**86.40**	**341**	P	P	02 34 25.6	-0.9
	0.1nm,0.7s,baz=136,slow=4.6,SNR=3.0						
YKA				pP	pP	02 34 52.9	-4.1
	0.1nm,0.7s,baz=133,slow=4.7,SNR=3.4						

DDA ***12*** *02:22:01.6, 40°.84N×42°.72E, h7km, Ml2.9*
CSEM ***12*** *02:22:02.4±0.2, 40°.82N×42°.69E, h2km, ML2.8, Error ellipse: s-maj=4.3km s-min=3.5km az=159.0*
ISK ***12*** *02:22:02.0, 40°.87N×42°.69E, h9km, ML2.8/4*
TIF ***12*** *02:22:02.2, 40°.86N×42°.68E, h16km±2km*

ISC 12 02:22:02.1±1.0, 40°.84N±0°.02×42°.71E±0°.02, h11km±11km, n47, σ0°51/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.35**	**127**	PG	**Pb**	**02 22 10.5**	**0.0**
KARS	**Kars**	**0.35**	**127**	*e*Pg	**Pb**	**02 22 10.5**	**0.0**
SENK	**Senkaya-Erzuru**	**0.39**	**224**	PG	**Pg**	**02 22 10.1**	**+0.2**
SENK				SG	**Sb**	**02 22 16.6**	**-0.6**
SENK	**Senkaya-Erzuru**	**0.39**	**224**	*e*Pg	**Pg**	**02 22 10.1**	**+0.2**
SENK				*e*Sg	**Sb**	**02 22 16.6**	**-0.6**
DAGI	**Agillar**	**0.65**	**292**	*iP*	**Pg**	**02 22 14.9**	**+0.2**
DAGI				*i* S	**Sb**	**02 22 25.0**	**+0.5**
DIGO	**Kars**	**0.66**	**130**	*iP*	**Pg**	**02 22 14.1**	**-0.9**
DIGO	**Kars**	**0.66**	**130**	P	**Pg**	**02 22 14.1**	**-0.9**
EPOS	**Posof**	**0.66**	**1**	*iP*	**Pg**	**02 22 14.4**	**-0.6**
EPOS				*i* S	**Sb**	**02 22 24.4**	**-0.6**
EPOS	**Posof**	**0.66**	**1**	P	**Pg**	**02 22 14.4**	**-0.6**
EPOS				S	**Sb**	**02 22 24.4**	**-0.6**
ARTV	**Artvin**	**0.68**	**300**	*iP*	**Pg**	**02 22 14.9**	**-0.5**
ARTV				*i* S	**Sg**	**02 22 24.7**	**+0.2**
ARTV	**Artvin**	**0.68**	**300**	P	**Pg**	**02 22 14.9**	**-0.5**
ARTV				S	**Sg**	**02 22 24.7**	**+0.2**
EAK	**Akyaka**	**0.70**	**103**	*iP*	**Pg**	**02 22 15.0**	**-0.7**
EAK	**Akyaka**	**0.70**	**103**	P	**Pg**	**02 22 15.0**	**-0.7**
DDEM	**Demirkent**	**0.73**	**274**	*iP*	**Pg**	**02 22 16.1**	**-0.2**
DDEM				*i* S	**Sg**	**02 22 26.1**	**+0.3**
DDEM	**Demirkent**	**0.73**	**274**	P	**Pg**	**02 22 16.0**	**-0.2**
DDEM				S	**Sg**	**02 22 26.1**	**+0.3**
DBAD	**Bademkaya**	**0.79**	**283**	*iP*	**Pg**	**02 22 17.3**	**-0.1**
DBAD				*i* S	**Sb**	**02 22 28.1**	**-0.5**
DBAD	**Bademkaya**	**0.79**	**283**	P	**Pg**	**02 22 17.3**	**-0.1**
DBAD				S	**Sb**	**02 22 28.1**	**-0.5**
AKH	**Akhalkalaki**	**0.82**	**46**	PG	**Pb**	**02 22 18.5**	**0.0**
AKH				SG	**Sb**	**02 22 29.5**	**-0.1**
AKH	**Akhalkalaki**	**0.82**	**46**	P	**Pg**	**02 22 17.9**	**-0.1**
AKH				S	**Sb**	**02 22 30.0**	**+0.4**
AKH	**Akhalkalaki**	**0.82**	**46**	P	**Pg**	**02 22 17.9**	**-0.1**
AKH	**Akhalkalaki**	**0.82**	**46**	*e*Pg	**Pb**	**02 22 18.5**	**0.0**
AKH				*e*Sg	**Sb**	**02 22 29.5**	**-0.1**
AKH				S	**Sb**	**02 22 30.0**	**+0.4**
DBOC	**Borcka**	**0.94**	**303**	*iP*	**Pg**	**02 22 20.0**	**-0.2**
DBOC	**Borcka**	**0.94**	**303**	P	**Pg**	**02 22 20.0**	**-0.2**
EATA	**Eleskirt**	**0.99**	**190**	*iP*	**Pg**	**02 22 21.3**	**+0.1**
EATA	**Eleskirt**	**0.99**	**190**	P	**Pg**	**02 22 21.3**	**+0.1**
AGRB	**Hanur-Agry**	**1.28**	**170**	PN	**Pb**	**02 22 26.4**	**0.0**
AGRB	**Hanur-Agry**	**1.28**	**170**	*e*Pn	**Pb**	**02 22 26.4**	**0.0**
ERZM	**Erzurum**	**1.39**	**228**	*iP*	**Pn**	**02 22 27.4**	**-0.2**
ERZM	**Erzurum**	**1.39**	**228**	P	**Pn**	**02 22 27.4**	**-0.2**
IGDI	**IGDIR**	**1.43**	**132**	*iP*	**Pn**	**02 22 28.3**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.45**	**126**	PN	**Pb**	**02 22 29.6**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.45**	**126**	*e*Pn	**Pb**	**02 22 29.6**	**+0.5**
EKAR	**Karacoban**	**1.66**	**198**	*iP*	**Pg**	**02 22 33.6**	**-0.4**
EKAR	**Karacoban**	**1.66**	**198**	P	**Pg**	**02 22 33.6**	**-0.4**
TBLG	**Delisi**	**1.77**	**59**	PN	**Pb**	**02 22 33.8**	**-0.7**
TBLG	**Delisi**	**1.77**	**59**	P	**Pb**	**02 22 35.0**	**+0.5**
TBLG				S	**Sg**	**02 22 59.4**	**+0.4**
TBLG	**Delisi**	**1.77**	**59**	*e*Pn	**Pb**	**02 22 33.8**	**-0.7**
TBLG	**Delisi**	**1.77**	**59**	P	**Pb**	**02 22 35.1**	**+0.6**
TBLG				S	**Sg**	**02 22 59.4**	**+0.4**
BTNK	**Botanikuri**	**1.79**	**61**	P	**Pb**	**02 22 35.5**	**+0.7**
BTNK				S	**Sg**	**02 23 00.3**	**+0.8**
BTNK	**Botanikuri**	**1.79**	**61**	P	**Pb**	**02 22 35.5**	**+0.7**
BTNK				S	**Sg**	**02 23 00.3**	**+0.8**
ONI	**Oni**	**1.83**	**17**	P	**Pb**	**02 22 36.4**	**+0.7**
ONI				S	**Sg**	**02 23 01.8**	**+0.8**
BAYT	**Ayd¨–ntepe-Bay**	**2.01**	**258**	PN	**Pn**	**02 22 36.9**	**+0.9**
BAYT	**Ayd¨–ntepe-Bay**	**2.01**	**258**	*e*Pn	**Pn**	**02 22 36.9**	**+0.9**
GUDG	**Gudauri**	**2.09**	**39**	P	**Pb**	**02 22 39.9**	**-0.3**
GUDG				S	**Sg**	**02 23 08.7**	**-0.8**
GUDG	**Gudauri**	**2.09**	**39**	P	**Pb**	**02 22 39.9**	**-0.3**
GUDG				S	**Sg**	**02 23 08.7**	**-0.7**
MACK	**Trabzon**	**2.23**	**274**	*iP*	**Pb**	**02 22 41.9**	**-0.6**
MACK	**Trabzon**	**2.23**	**274**	P	**Pb**	**02 22 41.9**	**-0.6**

ISCJB ***12*** *02:25:30.5±0.9, 35°.83N±0°.04×140°.89E±0°.08, h9km±6km, mb3.2/3, Error ellipse: s-maj=11.4km s-min=6.3km az=4.7*
JMA ***12*** *02:25:30.0±0.2, 35°.77N×140°.99E, h12km±1km, M3.3*
JMA Felt I J1.
IDC ***12*** *02:25:32.9±3.0, 36°.10N×140°.70E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.1/63, mbtmp3.1/4, ML2.6/1, Error ellipse: s-maj=65.5km s-min=26.2km az=169.0*

ISC 12 02:25:31.1±1.2, 35°.79N±0°.04×140°.88E±0°.08, h9km±7km, n17, σ1°37/18, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**192**	P	**Pg**	**02 25 33.3**	**-0.1**
CHOJ				S	**Sg**	**02 25 35.6**	**+0.5**
JCN	**Nagara**	**0.67**	**236**	P	**Pb**	**02 25 45.0**	**+0.1**
JCN				S	**Sb**	**02 25 55.8**	**+1.6**
JYT	**Yasato**	**0.71**	**308**	P	**Pg**	**02 25 44.5**	**-0.3**
JYT				S	**Sg**	**02 25 55.3**	**+1.3**
JHO	**Hitachi**	**0.86**	**343**	P	**Pg**	**02 25 46.7**	**-0.9**
JHO				S	**Sg**	**02 25 59.0**	**+0.2**
BSO4	**Boso 4**	**0.91**	**209**	P	**Pb**	**02 25 48.3**	**-0.7**
BSO4				S	**Sn**	**02 26 02.4**	**-0.8**
BSO3	**Boso 3**	**1.03**	**197**	P	**Pb**	**02 25 49.0**	**-2.0**
MJAR	**Matsushiro Arr**	**2.29**	**290**	Pn	**Pn**	**02 26 07.3**	**-1.8**
	2.3nm,0.3s,baz=102,slow=8.6,SNR=11						
MJAR				Sn	**Sn**	**02 26 35.9**	**-1.5**
	1.4nm,0.3s,baz=101,slow=25,SNR=4.7						
MAT	**Matsushiro**	**2.29**	**290**	P	**Pn**	**02 26 08.4**	**-0.7**
MAT				*e*S	**Sn**	**02 26 35.6**	**-1.8**
H11N2	**WAKE ISLAND Hy**	**27.91**	**118**	T	T	03 00 13.5	
	baz=311,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	03 00 17.7	
	baz=311,slow=75,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	03 00 15.9	
	baz=311,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	03 01 04.7	
	baz=312,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	03 01 01.5	
	baz=312,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	03 01 05.1	
	baz=312,slow=75,SNR=22						
MKAR	**Makanchi Array**	**44.42**	**303**	P	**P**	**02 33 44.3**	**+2.1**
	0.3nm,0.7s,baz=87,slow=7.9,SNR=3.0						
KURBB	**Kurchatov Arra**	**46.44**	**309**	P	**P**	**02 33 58.1**	**+0.1**
	0.2nm,0.5s,baz=82,slow=7.6,SNR=2.6						
ILAR	**Eielson Array**	**50.77**	**32**	P	**P**	**02 34 32.8**	**+1.6**
	0.3nm,1.0s,baz=257,slow=5.6,SNR=3.1						

IDC ***12*** *02:25:57.7±3.2, 24°.37S×179°.81E, h491km±34km, mb3.3/4, mb1 3.6/5, mb1mx3.2/42, mbtmp4.2/5, Error ellipse: s-maj=53.3km s-min=25.5km az=165.0*
ISCJB ***12*** *02:25:59.2±1.3, 24°.5S±0°.1×179°.8E±0°.2, h517km, mb3.9/4, Error ellipse: s-maj=23.1km s-min=15.2km az=168.9*

ISC 12 02:25:59.8±1.1, 24°.6S±0°.1×179°.9E±0°.2, h517km, n10, σ1°12/11, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.62**	**279**	P	**P**	**02 28 46.3**	**+1.2**
	0.2nm,0.3s,baz=93,slow=19,SNR=3.2						
URZ	**Urewera**	**13.80**	**189**	P	**P**	**02 28 56.5**	**-0.6**
	0.3nm,0.3s,baz=45,slow=1.4,SNR=2.6						
URZ				S	**S**	**02 31 24.1**	**+0.9**
	0.4nm,0.3s,baz=30,slow=20,SNR=3.5						
STKA	**Stephens Creek**	**34.38**	**249**	P	**P**	**02 32 03.3**	**-0.2**
	2.2nm,0.5s,baz=101,slow=11,SNR=10						
ASAR	**Alice Springs**	**41.84**	**261**	P	**P**	**02 33 03.9**	**-0.6**
	1.9nm,0.7s,baz=93,slow=7.2,SNR=17						
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**02 33 06.5**	**-1.4**
	5.3nm,0.5s,baz=99,slow=8.3,SNR=59						
WRA				ScP	**ScP**	**02 37 53.1**	**+1.8**
	1.3nm,0.9s,baz=98,slow=3.9,SNR=5.7						
TXAR	**Lajitas Array**	**90.89**	**58**	P	**P**	**02 38 09.1**	**+0.6**
	0.3nm,0.6s,baz=217,slow=5.7,SNR=4.9						
HFS	**Hagfors**	**143.23**	**349**	PKhKP	PKPpre	02 44 30.7	
	0.8nm,0.4s,baz=31,slow=3.4,SNR=9.8						
AKASG	**Malin Array Be**	**145.52**	**327**	PKPbc	**PKPdf**	**02 44 38.1**	**-0.5**
	0.4nm,0.4s,baz=45,slow=4.2,SNR=5.1						
MMAI	**Mount Meron Ar**	**147.91**	**293**	PKPbc	**PKPbc**	**02 44 46.9**	**-0.2**
	baz=121,slow=5.6						
BRTR	**Keskin Array B**	**147.93**	**306**	PKPbc	**PKPbc**	**02 44 46.0**	**-1.1**
	baz=116,slow=3.4						

GII ***12*** *02:31:31.6±0.2, 27°.25N×32°.74E, h32km, mb4.2/3, MD4.1/3*
IDC ***12*** *02:31:36.0±1.8, 27°.82N×33°.24E, h0km, mb3.4/4, mb1 3.5/8, mb1mx3.3/62, mbtmp3.5/8, ML3.4/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/36, Error ellipse: s-maj=42.4km s-min=16.1km az=134.0*

ISC 12 02:31:36.5±2.2, 27°.9N±0°.1×32°.95E±0°.09, h10km, n19, σ1°69/23, mb3.3/4, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**2.51**	**44**	Pn	**Pn**	**02 32 17.1**	**-0.2**
EIL				Sn	**Sb**	**02 32 51.3**	**-1.3**
HRFI	**Mount Harif**	**2.83**	**40**	Pn	**Pn**	**02 32 21.7**	**-0.1**
HRFI				Sn	**Sb**	**02 33 00.7**	**-1.1**
PRNI	**Paran**	**3.06**	**35**	Pn	**Pn**	**02 32 25.4**	**+0.5**
PRNI				Sn	**Sb**	**02 33 08.7**	**+0.3**
ZFRI	**Zfri**	**3.31**	**35**	Pn	**Pn**	**02 32 28.7**	**+0.4**
ZFRI				Sn	**Sb**	**02 33 12.9**	**-2.7**
YTIR	**Yattir**	**3.96**	**28**	Pn	**Pn**	**02 32 38.0**	**+0.6**
MZDA	**Masada**	**4.02**	**31**	Pn	**Pn**	**02 32 38.2**	**+0.1**
AMAZ	**Amatzia**	**4.03**	**25**	Pn	**Pn**	**02 32 38.5**	**+0.2**
DSI	**Dead Sea**	**4.25**	**29**	Pn	**Pn**	**02 32 41.9**	**+0.6**
SLTI	**Sal'it**	**4.72**	**22**	Pn	**Pn**	**02 32 48.3**	**+0.6**
HMDT	**Nahal Hemdat**	**4.91**	**26**	Pn	**Pn**	**02 32 51.4**	**+1.1**
MMLI	**Mount Malkishu**	**5.03**	**25**	Pn	**Pn**	**02 32 52.7**	**+0.7**
ASF	**Jabal al Asfar**	**5.49**	**38**	Pn	**Pn**	**02 32 57.8**	**-0.6**
	0.3nm,0.3s,baz=151,slow=18,SNR=4.0						
ASF				Lg	Lg	02 34 28.5	
	1.7nm,0.3s,baz=150,slow=20,SNR=2.8						
MMAI	**Mount Meron Ar**	**5.55**	**22**	Pn	**Pn**	**02 32 59.6**	**+0.4**
	2.3nm,0.3s,baz=202,slow=14,SNR=13						
MMAI				Sn	**Sn**	**02 34 06.1**	**+3.0**
	2.5nm,0.3s,baz=197,slow=25,SNR=2.0						
MMAI				Lg	Lg	02 34 26.9	
	4.2nm,0.3s,baz=198,slow=27,SNR=2.6						
MMAI				LR	LR	02 35 11.8	
	comp=Z,46nm,20.7s,baz=5.0,slow=39						
IDI	**Anoyia**	**10.10**	**319**	Pn	**Pn**	**02 34 03.6**	**+2.0**
	0.8nm,0.3s,baz=141,slow=13,SNR=8.3						
IDI				Sn	**Sn**	**02 35 50.9**	**-4.1**
	0.6nm,0.3s,baz=259,slow=16,SNR=2.2						
BRTR	**Keskin Array B**	**11.84**	**3**	Pn	**Pn**	**02 34 29.1**	**+3.6**
	0.1nm,0.3s,baz=189,slow=14,SNR=5.9						
AKASG	**Malin Array Be**	**22.98**	**354**	P	**P**	**02 36 41.8**	**+0.7**
	0.3nm,0.5s,baz=169,slow=10,SNR=2.9						
TORD	**Torodi Ar. Bea**	**32.62**	**250**	P	P	02 38 11.7	+3.2
	0.2nm,0.9s,baz=60,slow=7.0,SNR=2.4						
KOWA	**Kowa**	**36.80**	**257**	P	P	02 38 48.3	+3.6
	1.1nm,0.6s,baz=55,slow=7.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**41.13**	**44**	P	**P**	**02 39 19.9**	**-0.7**
	0.2nm,0.2s,baz=266,slow=8.3,SNR=2.8						

IDC ***12*** *02:38:46.0±1.0, 11°.45N×85°.74W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.7/50, mbtmp3.7/9, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/42, Error ellipse: s-maj=47.4km s-min=19.6km az=55.0*
ISCJB ***12*** *02:38:48.7±0.9, 11°.4N±0°.2×85°.9W±0°.2, h33km, mb3.6/8, MS3.4/1, Error ellipse: s-maj=36.4km s-min=12.9km az=138.8*

ISC 12 02:38:50.5±0.9, 11°.3N±0°.2×85°.8W±0°.2, h35km, n14, σ0°95/14, mb3.6/8, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.34**	**139**	Pg	**Pn**	**02 39 12.0**	**-0.8**
	49nm,0.3s,baz=357,slow=22,SNR=75						
JTS				Lg	Lg	02 39 31.4	
	72nm,0.3s,baz=344,slow=19,SNR=12						
CMIG	**Matias Romero**	**10.48**	**304**	Pn	**Pn**	**02 41 16.8**	**-1.6**
	0.4nm,0.3s,baz=119,slow=9.0,SNR=4.7						
TXAR	**Lajitas Array**	**24.45**	**320**	P	**P**	**02 44 06.4**	**0.0**
	1.7nm,0.7s,baz=139,slow=9.5,SNR=14						
TXAR				PcP	**PcP**	**02 47 45.5**	**+0.8**
	0.3nm,0.7s,baz=134,slow=2.6,SNR=4.4						
H06E1	**SOCORRO T-PHAS**	**25.32**	**290**	T	T	03 10 06.2	
	SNR=16						
ANMO	**Albuquerque**	**30.09**	**325**	P	**P**	**02 44 57.0**	**0.0**
	0.5nm,0.7s,baz=119,slow=19,SNR=3.3						
PDAR	**Pinedale Array**	**37.52**	**331**	P	**P**	**02 46 02.0**	**+0.5**
	0.4nm,0.9s,baz=116,slow=8.1,SNR=3.5						
NVAR	**Mina Array Bea**	**39.59**	**319**	P	**P**	**02 46 20.6**	**+1.7**
	1.4nm,0.9s,baz=132,slow=7.2,SNR=6.6						
NVAR				PcP	**PcP**	**02 48 26.6**	**+0.8**
	1.1nm,0.6s,baz=123,slow=3.3,SNR=8.9						
ULM	**Lac du Bonnet**	**39.69**	**350**	P	**P**	**02 46 19.0**	**-0.3**
	0.5nm,0.4s,baz=206,slow=12,SNR=3.1						
RPN	**Rapa Nui**	**44.50**	**210**	LR	LR	03 00 13.5	
	comp=Z,43nm,19.5s,baz=54,slow=29						
SCHQ	**Schefferville**	**45.93**	**15**	P	**P**	**02 47 09.6**	**-0.2**
	3.0nm,0.8s,baz=248,slow=7.2,SNR=5.5						
YKA	**Yellowknife Ar**	**55.12**	**344**	P	**P**	**02 48 18.6**	**-0.5**
	0.3nm,0.8s,baz=132,slow=7.6,SNR=7.1						
ILAR	**Eielson Array**	**67.69**	**336**	P	**P**	**02 49 43.3**	**-0.7**
	0.4nm,0.7s,baz=113,slow=3.7,SNR=5.6						
ASAR	**Alice Springs**	**140.29**	**247**	PKP	**PKPdf**	**02 58 17.8**	**+1.2**
	0.3nm,0.6s,baz=117,slow=1.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**150.04**	**351**	PKPbc	**PKPbc**	**02 58 38.6**	**+0.2**
	0.8nm,0.3s,baz=354,slow=2.7,SNR=4.6						

MEX 12 02:42:40.5±1.0, 15°.24N×92°.73W, h108km±10km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.67**	**314**	*iP*	Pn	02 42 57.4	-1.0
PCIG				*i* S	Sn	02 43 10.5	-1.4
CCIG	**Comitan**	**1.18**	**29**	*eP*	Pn	02 43 03.2	-0.6
CCIG				*i* S	Sn	02 43 20.1	-1.1
TGIG		**1.58**	**346**	*eP*	Pn	02 43 06.7	-1.5
TGIG				*eS*	Sn	02 43 26.9	-2.4

IDC ***12*** *02:46:38.4±0.9, 11°.52N×85°.68W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.7/46, mbtmp3.6/9, ML3.5/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/40, Error ellipse: s-maj=48.2km s-min=19.6km az=57.0*
CASC ***12*** *02:46:39.4±1.4, 10°.76N×86°.39W, h0km±7km, MD4.3, ML2.7*

ISC 12 02:46:41.3±0.7, 10°.78N±0°.07×86°.34W±0°.07, h31km, n43, σ1°65/41, mb3.6/8, 6C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAPC	**Finca la Perla**	**0.89**	**91**	⇑*eP*	**Pn**	**02 46 58.2**	**+0.5**
BUEV	**Buena Vista**	**0.92**	**89**	*eP*	**Pn**	**02 46 55.4**	**-2.7**
GB1A	**Borinquen Arri**	**0.93**	**87**	*eP*	**Pn**	**02 46 58.9**	**+0.6**
GPS2	**Hotel Rinc¨‡n**	**0.97**	**91**	*eP*	**Pn**	**02 46 59.1**	**+0.2**
GPS1	**Guardaparques**	**0.97**	**90**	*eP*	**Pn**	**02 46 59.6**	**+0.7**
BUAI	**Buenos Aires**	**0.99**	**84**	⇑*eP*	**Pb**	02 47 07.7	+7.7
LIM1	**Limonal**	**1.07**	**94**	⇑*eP*	**Pn**	**02 47 00.8**	**+0.6**
GUAB	**Guayabo de Bag**	**1.09**	**94**	*eP*	**Pn**	**02 47 01.0**	**+0.5**
COLC	**Colonia**	**1.12**	**96**	⇑*eP*	**Pn**	**02 47 01.5**	**+0.6**
MESS	**Mesas**	**1.13**	**92**	⇑*eP*	**Pn**	**02 47 01.8**	**+0.8**
CUI	**Cuipilapa**	**1.16**	**96**	*eP*	**Pn**	**02 47 02.1**	**+0.

CMAR	**Chiang Mai Arr**	**29.14**	**299**	LR	LR	03 05 18.8	
	comp=Z,18nm,20.0s,baz=270,slow=38						
ASAR	**Alice Springs**	**29.92**	**165**	P	**P**	**02 53 50.0**	**-0.3**
	0.5nm,0.5s,baz=345,slow=7.3,SNR=9.9						
ASAR				PcP	**PcP**	**02 56 51.3**	**+1.8**
	0.2nm,0.4s,baz=345,slow=3.2,SNR=2.5						
MKAR	**Makanchi Array**	**55.63**	**325**	P	**P**	**02 57 15.2**	**-1.3**
	0.4nm,0.7s,baz=116,slow=8.1,SNR=2.6						
MA2	**Magadan**	**57.45**	**15**	LR	LR	03 24 25.3	
	comp=Z,13nm,19.1s,baz=192,slow=38						
WSAR	**Wadi Sarin**	**66.79**	**293**	LR	LR	03 31 14.4	
	comp=Z,15nm,18.7s,baz=44,slow=40						
ARCES	**ARCESS Array B**	**88.58**	**340**	P	**P**	**03 00 33.2**	**+1.4**
	3.3nm,0.9s,baz=64,slow=6.1,SNR=3.1						
SPITS	**Spitsbergen Ar**	**88.71**	**349**	P	P	03 00 34.7	+2.4
	24nm,1.2s,baz=48,slow=6.4,SNR=4.6						
FINES	**FINESS Array B**	**89.92**	**332**	P	**P**	**03 00 38.6**	**+0.5**
	0.9nm,0.8s,baz=79,slow=7.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**121.38**	**289**	PKP	**PKPdf**	**03 06 34.4**	**+1.6**
	0.3nm,0.9s,baz=74,slow=0.4,SNR=3.7						

*ISCJB **12** 02:53:54.8±0.5,50.25°N±0.03°×18.62°E±0.03,h0km, Error ellipse: s-maj=4.9km s-min=2.6km az=4.1*
*VIE **12** 02:53:55.8±1.0,49.82°N×18.81°E,h0km,mb2.2/1, mb2.1/4, Error ellipse: s-maj=10.2km s-min=7.5km az=174.0, Suspected Mining induced.*
*IPEC **12** 02:53:55.8±0.2, 50.22°N×18.72°E,h2km,2km, ML1.7/3, Error ellipse: s-maj=2.4km s-min=1.1km az=166.0*
*CSEM **12** 02:53:55.9±0.3,50.26°N×18.65°E, h2km,ML2.6/6, Error ellipse: s-maj=7.4km s-min=3.7km az=4.0*
*PRU **12** 02:53:56.1,50.25°N×18.64°E, h0km*
ISC 12 02:53:55.6±0.8,**50.17°N**±0.04°×**18.65°E**±0.02,**h0**km,**n31, s0°79/47, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.25**	**60**	*e*Pg	**Pg**	**02 54 00.3**	**-0.1**
CHZP				*i* Sg	**Sg**	**02 54 03.0**	**-0.7**
RAC	**Raciborz**	**0.30**	**254**	*e*Pg	**Pb**	**02 54 04.0**	**0.0**
RAC				*e*Sg	**Sb**	**02 54 10.0**	**+0.5**
OKC	**Ostrava-Krasne**	**0.46**	**225**	*e*PG	**Pb**	**02 54 06.4**	**-0.3**
OKC				*e*SG	**Sb**	**02 54 13.2**	**-0.9**
	comp=Z,15nm,0.4s						
OKC	**Ostrava-Krasne**	**0.46**	**225**	Pg	**Pb**	**02 54 06.4**	**-0.3**
OKC				Sg	**Sb**	**02 54 13.2**	**-0.9**
	15nm,0.4s						
OJC	**Ojcow**	**0.74**	**86**	*e*Pg	**Pg**	**02 54 09.0**	**-0.8**
OJC				*e*Sg	**Sg**	**02 54 18.6**	**-0.8**
OJC	**Ojcow**	**0.74**	**86**	*e*Pg	**Pg**	**02 54 09.0**	**-0.8**
OJC				*e*Sg	**Sg**	**02 54 18.6**	**-0.8**
MORC	**Moravsky Berou**	**0.81**	**242**	*e*Pg	**Pb**	**02 54 12.6**	**-0.1**
MORC				*e*Sg	**Sb**	**02 54 23.4**	**-0.8**
	22nm,0.3s						
LANS	**Liptovska Anna**	**1.15**	**152**	*e*PG	**Pn**	**02 54 18.9**	**-0.1**
LANS				*e*SG	**Sn**	**02 54 35.3**	**-0.1**
NIE	**Niedzica**	**1.31**	**124**	*e*Pg	**Pn**	**02 54 22.7**	**+1.5**
NIE				*e*Sg	**Sn**	**02 54 39.8**	**+0.5**
NIE	**Niedzica**	**1.31**	**124**	*e*Pg	**Pn**	**02 54 22.7**	**+1.5**
NIE				*e*Sg	**Sn**	**02 54 39.8**	**+0.5**
DPC	**Dobruska-Polom**	**1.50**	**278**	*e*PG	**Pn**	**02 54 23.1**	**-0.8**
DPC				*e*SG	**Sg**	**02 54 43.6**	**-0.4**
	comp=Z,11nm,0.4s						
DPC	**Dobruska-Polom**	**1.50**	**278**	Pg	**Pn**	**02 54 23.1**	**-0.8**
DPC				Sg	**Sg**	**02 54 43.6**	**-0.4**
	11nm,0.4s						
VRAC	**Vranov**	**1.59**	**238**	*e*Pn	**Pb**	**02 54 25.8**	**0.0**
VRAC				*e*Sg	**Sg**	**02 54 47.3**	**+0.7**
	8.3nm,0.3s						
KSP	**Ksiaz**	**1.65**	**295**	*e*Pg	**Pg**	**02 54 27.6**	**+0.4**
KSP				*e*Sg	**Sg**	**02 54 48.6**	**0.0**
KSP	**Ksiaz**	**1.65**	**295**	*e*Pg	**Pg**	**02 54 27.6**	**+0.4**
KSP				*e*Sg	**Sg**	**02 54 48.6**	**0.0**
VYHS	**Vyhne**	**1.68**	**176**	*e*Pg	**Pn**	**02 54 26.5**	**+0.2**
VYHS	**Vyhne**	**1.68**	**176**	*e*PG	**Pn**	**02 54 26.5**	**+0.2**
UPC	**Upice**	**1.72**	**282**	*e*SG	**Sg**	**02 54 50.7**	**-0.3**
UPC	**Upice**	**1.72**	**282**	Sg	**Sg**	**02 54 50.7**	**-0.3**
KRUC	**Moravsky**	**1.84**	**234**	*e*Pn	**Pb**	**02 54 29.4**	**-0.7**
KRUC				*e*Sg	**Sg**	**02 54 55.2**	**+0.6**
	3.3nm,0.2s						
STHS	**Stebnicka Huta**	**1.84**	**113**	*e*Pn	**Pb**	**02 54 30.2**	**0.0**
STHS	**Stebnicka Huta**	**1.84**	**113**	*e*PN	**Pb**	**02 54 30.2**	**0.0**
STHS				eLG	Lg	02 55 02.6	
GOPC	**GO Pecny, Ondr**	**2.50**	**266**	*e*SG	**Sb**	**02 55 13.9**	**+1.1**
PRU	**Pruhonice**	**2.65**	**268**	*e*SG	**Sb**	**02 55 18.0**	**+0.9**
	comp=Z,4.8nm,0.4s						
CONA	**Conrad Observa**	**2.90**	**220**	Sg	**Sb**	**02 55 25.8**	**+1.7**
	1.1nm,0.4s						
CONA	**Conrad Observa**	**2.90**	**220**	Sg	**Sb**	**02 55 25.8**	**+1.7**
	1.1nm,0.4s						
BRG	**Berggiesshubel**	**3.09**	**285**	SG	**Sg**	**02 55 34.6**	**-0.1**
	1.9nm,0.5s						
KHC	**Kasperske Hory**	**3.46**	**254**	*e*SG	**Sg**	**02 55 46.0**	**-0.6**
	comp=Z,5.5nm,0.5s						
KHC	**Kasperske Hory**	**3.46**	**254**	Sg	**Sg**	**02 55 46.0**	**-0.6**
	5.5nm,0.5s						
MOA	**Molln**	**3.70**	**233**	Sg	**Sg**	**02 55 52.9**	**-1.6**
	1.8nm,0.4s						
MOA	**Molln**	**3.70**	**233**	Sg	**Sg**	**02 55 52.9**	**-1.6**
	1.8nm,0.4s						

IDC 12 03:00:20.8±9.4,**48.82S**×**165.63E**,**h0**km,**mb3.3**/2, **mb1 3.6**/2,**mb1mx3.5**/34,**mbtmp3.3**/2,**MS3.0**/2,**Ms1 2.9**/2, **ms1mx2.7**/14,**Error ellipse: s-maj=663.1km s-min=102.9km az=47.0**,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**24.78**	**304**	LR	LR	03 13 06.5	
	comp=Z,29nm,21.1s,baz=199,slow=31						
ASAR	**Alice Springs**	**35.41**	**304**	P	P	03 07 17.9	-0.6
	0.4nm,0.7s,baz=137,slow=8.3,SNR=4.9						
WRA	**Warramunga Arr**	**38.21**	**308**	P	P	03 07 42.6	+0.3
	0.2nm,0.7s,baz=140,slow=8.0,SNR=3.1						
H01W1	**Cape Leeuwin H**	**40.03**	**271**	T	T	03 49 29.9	
	baz=132						
H01W2	**Cape Leeuwin H**	**40.04**	**271**	T	T	03 49 17.7	
	baz=132						
H01W3	**Cape Leeuwin H**	**40.04**	**271**	T	T	03 49 12.9	
	baz=132						
PPT	**Papeete**	**47.74**	**65**	LR	LR	03 28 04.5	
	comp=Z,17nm,18.0s,baz=39,slow=35						
H08S2	**Diego Garcia H**	**86.37**	**263**	T	T	04 46 48.0	
	baz=144						
H08S1	**Diego Garcia H**	**86.38**	**263**	T	T	04 46 44.8	
	baz=144						
H08S3	**Diego Garcia H**	**86.39**	**263**	T	T	04 46 49.4	
	baz=144						
TORD	**Torodi Ar. Bea**	**142.02**	**206**	PKP	PKPdf	03 19 54.4	-0.6
	0.2nm,0.7s,baz=150,slow=2.7,SNR=2.2						

*CSEM **12** 03:01:00.9±0.1,40.36°N×33.00E,h5km,ML2.7, Error ellipse: s-maj=2.5km s-min=2.3km az=160.0*
*DDA **12** 03:01:00.8,40.38°N×32.97E, h7km, Ml2.7*
*ISK **12** 03:01:01.1,40.33°N×33.03E, h6km, ML2.7/3*
ISC 12 03:01:01.1±1.0,**40.37N**±0.02°×**32.99E**±0.02,**h10**km±9km, **n27,s0°49/43, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.36**	**69**	*i* P	**Pg**	**03 01 08.3**	**+0.1**
ELDT				*i* S	**Sg**	**03 01 13.3**	**+0.3**
ELDT	**Eldivan**	**0.36**	**69**	P	**Pg**	**03 01 08.3**	**+0.1**
ELDT				S	**Sg**	**03 01 13.3**	**+0.3**
CMDR	**Camlidere-ANKA**	**0.41**	**288**	*i* P	**Pg**	**03 01 08.8**	**-0.5**
CMDR				*i* S	**Sg**	**03 01 14.7**	**-0.1**
CMDR	**Camlidere-ANKA**	**0.41**	**288**	P	**Pg**	**03 01 08.8**	**-0.5**
CMDR				S	**Sg**	**03 01 14.7**	**-0.1**
ANTO	**Ankara**	**0.52**	**197**	PG	**Pg**	**03 01 11.3**	**+0.1**
ANTO				SG	**Sg**	**03 01 18.8**	**+0.8**
ANTO	**Ankara**	**0.52**	**197**	*e*Pg	**Pg**	**03 01 11.3**	**+0.1**
ANTO				*e*Sg	**Sg**	**03 01 18.8**	**+0.8**
CANT	**Cankiri**	**0.54**	**63**	PG	**Pg**	**03 01 11.8**	**+0.2**
BBAL	**Bala**	**0.83**	**173**	*i* P	**Pg**	**03 01 17.0**	**0.0**
BBAL				*i* S	**Sn**	**03 01 30.6**	**-0.6**
BBAL	**Bala**	**0.83**	**173**	P	**Pg**	**03 01 17.0**	**0.0**
BCAM	**Yenicaga**	**0.84**	**303**	*i* P	**Pg**	**03 01 16.6**	**-0.6**
BCAM				*i* S	**Sn**	**03 01 31.9**	**+0.4**
BCAM	**Yenicaga**	**0.84**	**303**	P	**Pg**	**03 01 16.6**	**-0.6**
ILGA	**Ilgaz**	**0.88**	**39**	*i* P	**Pg**	**03 01 17.9**	**-0.2**
ILGA				*i* S	**Sb**	**03 01 30.4**	**-0.1**
ILGA	**Ilgaz**	**0.88**	**39**	P	**Pg**	**03 01 17.9**	**-0.2**
ILGA				S	**Sb**	**03 01 30.4**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**0.92**	**176**	PG	**Pg**	**03 01 18.1**	**-0.7**
AFSR				SG	**Sg**	**03 01 30.9**	**+0.1**
AFSR	**Af˙ar-Bala (A**	**0.92**	**176**	*e*Pg	**Pg**	**03 01 18.1**	**-0.7**
AFSR				*e*Sg	**Sg**	**03 01 30.9**	**+0.1**
CORM	**Corum**	**1.27**	**98**	PN	**Pg**	**03 01 24.9**	**-0.6**
CORM				SN	**Sn**	**03 01 42.6**	**+0.5**
CORM	**Corum**	**1.27**	**98**	*e*Pn	**Pg**	**03 01 24.9**	**-0.6**
CORM				*e*Sn	**Sn**	**03 01 42.6**	**+0.5**
CDAG	**Cicekdag**	**1.29**	**124**	*i* P	**Pn**	**03 01 24.9**	**-0.4**
CDAG				*i* S	**Sg**	**03 01 41.6**	**-1.1**
CDAG	**Cicekdag**	**1.29**	**124**	P	**Pn**	**03 01 24.9**	**-0.4**
CDAG				S	**Sg**	**03 01 41.7**	**-1.1**
MDUB	**Mudurnu**	**1.37**	**275**	PN	**Pg**	**03 01 27.5**	**0.0**
MDUB	**Mudurnu**	**1.37**	**275**	*e*Pn	**Pg**	**03 01 27.5**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.46**	**231**	PN	**Pg**	**03 01 28.7**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.46**	**231**	*e*Pn	**Pg**	**03 01 28.7**	**-0.3**
SERE	**Sereflikochisa**	**1.48**	**162**	PN	**Pn**	**03 01 28.4**	**+0.5**
SERE	**Sereflikochisa**	**1.48**	**162**	*e*Pn	**Pn**	**03 01 28.4**	**+0.5**
YOZ	**Yozgat**	**1.93**	**111**	PN	**Pn**	**03 01 34.7**	**+0.6**
YOZ	**Yozgat**	**1.93**	**111**	*e*Pn	**Pn**	**03 01 34.7**	**+0.6**

IDC 12 03:06:09.4±2.7,**6.06S**×**131.77E**,**h0**km,**mb3.3**/1, **mb1 3.6**/4,**mb1mx3.2**/50,**mbtmp3.4**/4,**ML3.4/2**,**Error ellipse: s-maj=114.1km s-min=28.8km az=80.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.39**	**206**	Pn	Pn	03 09 20.4	-0.4
	baz=32,slow=13						
FITZ				Sn	Sn	03 11 37.5	-13
	baz=90,slow=20						
WRA	**Warramunga Arr**	**14.03**	**170**	Pn	Pn	03 09 29.3	-0.3
	0.2nm,0.3s,baz=352,slow=13,SNR=16						
WRA				Sn	Sn	03 11 55.9	-10
	0.2nm,0.3s,baz=349,slow=25,SNR=5.0						
ASAR	**Alice Springs**	**17.63**	**174**	P	P	03 10 17.2	-0.5
	0.1nm,0.3s,baz=352,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**68.42**	**326**	P	P	03 17 13.2	0.0
	0.2nm,0.5s,baz=113,slow=6.6,SNR=3.9						

*IDC **12** 03:23:32.0±3.4, 24.45°S×179.85°E,h497km±33km, mb3.3/5, mb1 3.5/5,mb1mx3.1/39,mbtmp4.1/5, Error ellipse: s-maj=33.5km s-min=25.0km az=17.0*
*ISCJB **12** 03:23:33.2±1.3,24.5°S±0.1°×179.8°E±0.2, h517km, mb3.7/4, Error ellipse: s-maj=23.5km s-min=15.0km az=171.0*
ISC 12 03:23:34.0±1.3,**24.7°S**±0.1°×**179.9°E**±0.2,**h517**km,**n9, s0°91/9,mb3.8**/4,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.63**	**279**	P	**P**	**03 26 20.0**	**+0.7**
	0.4nm,0.3s,baz=121,slow=16,SNR=4.0						
URZ	**Urewera**	**13.73**	**189**	S	**S**	**03 28 55.8**	**-0.2**
	0.3nm,0.3s,baz=68,slow=19,SNR=3.3						
RPZ	**Rata Peaks**	**20.31**	**199**	P	**P**	**03 27 35.2**	**+0.8**
	12nm,0.9s,baz=353,slow=8.1,SNR=2.9						
STKA	**Stephens Creek**	**34.35**	**249**	P	**P**	**03 29 37.4**	**0.0**
	1.4nm,0.4s,baz=79,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**41.82**	**262**	P	**P**	**03 30 37.8**	**-0.7**
	0.8nm,0.4s,baz=92,slow=8.6,SNR=16						
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**03 30 40.7**	**-1.3**
	2.9nm,0.5s,baz=98,slow=8.3,SNR=14						
WRA				ScP	**ScP**	**03 35 26.6**	**+1.3**
	1.0nm,0.9s,baz=102,slow=4.3,SNR=3.8						
TXAR	**Lajitas Array**	**90.93**	**58**	P	**P**	**03 35 42.8**	**0.0**
	0.4nm,0.8s,baz=210,slow=7.2,SNR=5.4						
HFS	**Hagfors**	**143.30**	**348**	PKhKP	PKPpre	03 42 05.3	
	1.5nm,0.5s,baz=72,slow=4.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**168.39**	**189**	PKPab	**PKPab**	**03 43 53.9**	**-0.4**
	0.3nm,0.8s,baz=151,slow=3.3,SNR=2.7						

*ISCJB **12** 03:25:54.7±0.7,20.86S±0.04°×68.2W±0.1,h177km±13km, mb3.2/1,Error ellipse: s-maj=20.9km s-min=6.8km az=1.7*
*GUC **12** 03:25:55.7±0.6,20.84S×68.29W,h167km±6km, ML3.4*
*IDC **12** 03:25:57.1±8.1,20.74S×67.79W,h170km±29km, mb3.2/1, mb1 3.2/3,mb1mx2.9/39,mbtmp3.6/3,Error ellipse: s-maj=167.8km s-min=26.4km az=65.0*
ISC 12 03:25:54.9±1.0,**20.85S**±0.05°×**68.2W**±0.1,**h171**km±15km, **n13,s0°67/23,7C-2D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.15**	**308**	*i* P	**Pn**	**03 26 23.8**	**+0.4**
PB08				*i* S	**Sn**	**03 26 45.4**	**+0.1**
PB08				IAML		03 26 48.0	
	comp=N,149nm,0.3s						
PB01	**IPOC Station P**	**1.23**	**261**	⇓*i* P	**Pn**	**03 26 23.8**	**+0.1**
PB01				*i* S	**Sn**	**03 26 45.5**	**-0.5**
PB01				IAML		03 26 47.1	
	comp=E,335nm,0.2s						
PB09	**IPOC Station P**	**1.36**	**226**	⇑*i* P	**Pn**	**03 26 26.1**	**+1.1**
PB09				*i* S	**Sn**	**03 26 48.6**	**+0.3**
PB09				IAML		03 26 50.3	
	comp=E,431nm,0.7s						
PB02	**IPOC Station P**	**1.67**	**253**	⇑*i* P	**Pn**	**03 26 28.5**	**+0.6**
PB02				*i* S	**Sn**	**03 26 53.1**	**-0.3**
PB02				IAML		03 26 54.0	
	comp=N,1μm,0.5s						
PB11	**IPOC Station P**	**1.75**	**308**	⇑*i* P	**Pn**	**03 26 29.2**	**+0.3**
PB11				*i* S	**Sn**	**03 26 55.1**	**-0.1**
PB07	**IPOC Station P**	**1.81**	**241**	⇑*i* P	**Pn**	**03 26 30.2**	**+0.7**
PB07				*i* S	**Sn**	**03 26 55.9**	**-0.4**
PB07				IAML		03 26 56.5	
	comp=N,325nm,0.5s						
MNMC	**Minye Minye**	**2.16**	**322**	⇑*i* P	**Pn**	**03 26 34.3**	**+0.7**
MNMC				*i* S	**Sn**	**03 27 03.8**	**+0.4**
MNMC				IAML		03 27 06.3	
	comp=N,374nm,0.3s						
PSGC	**Pisagua**	**2.21**	**304**	⇑*i* P	**Pn**	**03 26 33.6**	**-0.2**
PSGC				*i* S	**Sn**	**03 27 03.1**	**-0.8**
PSGC				IAML		03 27 05.0	
	comp=N,145nm,0.9s						
PB06	**IPOC Station P**	**2.25**	**215**	⇓*i* P	**Pn**	**03 26 35.2**	**+0.8**
PB06				*i* S	**Sn**	**03 27 05.0**	**-0.1**
PB06				IAML		03 27 05.7	
	comp=E,111nm,0.4s						
PB04	**IPOC Station P**	**2.35**	**231**	*e*P	**Pn**	**03 26 36.6**	**+1.1**
PB04				IAML		03 27 07.3	
	comp=E,178nm,0.3s						
LPAZ	**La Paz**	**4.54**	**1**	P	**Pn**	**03 27 04.2**	**+0.9**
	comp=E,1.1nm,0.3s,baz=179,slow=5.0,SNR=21						
LPAZ				S	**Sn**	**03 27 57.1**	**+0.4**
	comp=E,0.3nm,0.3s,baz=233,slow=20,SNR=2.5						
CPUP	**Villa Florida**	**11.35**	**121**	P	**Pn**	**03 28 31.0**	**-1.2**
	comp=E,0.2nm,0.3s,baz=301,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.50**	**70**	P	**P**	**03 37 26.7**	**+0.2**
	comp=E,0.5nm,0.8s,baz=263,slow=5.1,SNR=6.3						

*CNRM **12** 03:27:19.5,36.51°N×7.58W, h30km,MD3.7*
*SFS **12** 03:27:19.0,36.64°N×7.54W, h23km, ML3.1*
*MDD **12** 03:27:20.2±0.8,36.62°N×7.55W, h28km±11km, mbLg3.2/43, Error ellipse: s-maj=7.7km s-min=3.1km az=27.0, PRXIMO*
*CSEM **12** 03:27:20.6±0.2,36.73°N×7.48W, h30km, ML4.0/8, Error ellipse: s-maj=4.6km s-min=2.2km az=28.0*
*INMG **12** 03:27:20.3±1.1,36.59°N×7.59W, h27km±4km, MD3.0, ML3.1, Error ellipse: s-maj=2.5km s-min=1.5km az=63.0*
*IGIL **12** 03:27:20.0,36.59°N×7.58W, h22km, ML3.0*
*ISCJB **12** 03:27:21.0±0.4, 36.85°N±0.03°×7.35W±0.02, h35km, Error ellipse: s-maj=4.0km s-min=1.9km az=27.8*
*LDG **12** 03:27:21.1±0.4,36.88°N×7.33W, h30km, Ml3.2/3, Error ellipse: s-maj=8.2km s-min=4.9km az=39.0*
ISC 12 03:27:19.6±1.2,**36.69N**±0.04°×**7.47W**±0.03,**h35**km,**n176,** σ1°**53**/324,**4C-28D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.66**	**326**	⇓*e*Pg	**Pn**	**03 27 33.2**	**+0.6**
PBDV				*e*Sg	**Sn**	**03 27 42.5**	**+0.7**
PBDV				A	A	03 27 43.6	
	304nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.66**	**326**	P	**Pn**	**03 27 33.2**	**+0.6**
PBDV				S	**Sn**	**03 27 42.5**	**+0.7**
	304nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.66**	**326**	P	**Pn**	**03 27 33.2**	**+0.6**
PBDV				S	**Sn**	**03 27 42.5**	**+0.7**
	304nm,0.1s						
PVAQ	**Vaqueiros**	**0.74**	**344**	⇓*e*P	**Pn**	**03 27 34.5**	**+1.0**
PVAQ				*e*S	**Sn**	**03 27 45.0**	**+1.4**
PVAQ				A	A	03 27 46.0	
	390nm,0.2s						
PVAQ	**Vaqueiros**	**0.74**	**344**	P	**Pn**	**03 27 34.5**	**+1.0**
PVAQ				S	**Sn**	**03 27 45.0**	**+1.4**
	390nm,0.2s						
PVAQ	**Vaqueiros**	**0.74**	**344**	P	**Pn**	**03 27 34.5**	**+1.0**
PVAQ				*e*S	**Sn**	**03 27 45.0**	**+1.4**
	390nm,0.2s						
EGRO	**El Granado**	**0.84**	**359**	⇓P	**Pn**	**03 27 36.4**	**+1.5**
	30nm,0.1s,SNR=18						
EGRO				S	**Sn**	**03 27 48.3**	**+2.2**
	429nm,0.2s,SNR=35						
EGRO	**El Granado**	**0.84**	**359**	P	**Pn**	**03 27 36.4**	**+1.5**
	30nm,0.1s,SNR=18						
EGRO				S	**Sn**	**03 27 48.3**	**+2.2**
	429nm,0.2s,SNR=35						
PCVE	**Castro Verde**	**1.04**	**334**	*e*P	**Pn**	**03 27 38.7**	**+1.0**
PCVE				*e*S	**Sn**	**03 27 52.3**	**+1.2**
PCVE				A	A	03 27 53.7	
	164nm,0.1s						
PCVE	**Castro Verde**	**1.04**	**334**	P	**Pn**	**03 27 38.7**	**+1.0**
PCVE				S	**Sn**	**03 27 52.3**	**+1.2**
	164nm,0.1s						
PCVE	**Castro Verde**	**1.04**	**334**	P	**Pn**	**03 27 38.7**	**+1.0**
PCVE				*e*S	**Sn**	**03 27 52.3**	**+1.2**
	164nm,0.1s						
MORF	**Marmelete**	**1.13**	**303**	*e*P	**Pn**	**03 27 38.5**	**-0.4**
MORF				*e*S	**Sn**	**03 27 52.6**	**-0.7**
MORF				A	AML	03 27 53.6	
	comp=N,186nm,0.1s						
MORF	**Marmelete**	**1.13**	**303**	⇓*e*P	**Pn**	**03 27 38.5**	**-0.4**
MORF				*e*S	**Sn**	**03 27 52.5**	**-0.7**
MORF				A	A	03 28 02.6	
	comp=N,171nm,0.2s						
MORF	**Marmelete**	**1.13**	**303**	P	**Pn**	**03 27 38.5**	**-0.4**
MORF				S	**Sn**	**03 27 52.6**	**-0.7**
	comp=N,186nm,0.1s						
MORF	**Marmelete**	**1.13**	**303**	P	**Pn**	**03 27 38.5**	**-0.4**
MORF				*e*S	**Sn**	**03 27 52.5**	**-0.7**
	comp=N,171nm,0.2s						
PFVI	**Vila Bisbo**	**1.17**	**292**	⇓*e*P	**Pn**	**03 27 38.8**	**-0.7**
PFVI				*e*S	**Sn**	**03 27 53.0**	**-1.3**
PFVI				A	A	03 27 59.1	
	comp=N,71nm,0.1s						
PFVI	**Vila Bisbo**	**1.17**	**292**	⇓P	**Pn**	**03 27 38.9**	**-0.7**
	comp=N,13nm,0.1s,SNR=18						
PFVI				S	**Sn**	**03 27 52.9**	**-1.3**
	comp=N,108nm,0.1s,SNR=7.4						
PFVI	**Vila Bisbo**	**1.17**	**292**	⇓*e*P	**Pn**	**03 27 38.8**	**-0.7**
PFVI				*e*S	**Sn**	**03 27 53.0**	**-1.3**
	comp=N,71nm,0.1s						
EMIN	**Mina Concepcio**	**1.25**	**30**	⇑P	**Pn**	**03 27 41.9**	**+1.3**
	comp=N,0.9nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 27 57.3**	**+1.1**
	comp=N,24nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**1.25**	**30**	P	**Pn**	**03 27 41.9**	**+1.3**
	comp=N,0.9nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 27 57.3**	**+1.1**
	comp=N,24nm,0.1s,SNR=12						
MESJ	**Messejana**	**1.29**	**333**	*e*P	**Pn**	**03 27 42.1**	**+0.9**
MESJ				*e*S	**Sn**	**03 27 58.0**	**+0.7**
MESJ				AML	AML	03 27 59.4	
	comp=N,177nm,0.5s						
MESJ	**Messejana**	**1.29**	**333**	⇓*e*P	**Pn**	**03 27 42.1**	**+0.9**
MESJ				*e*S	**Sn**	**03 27 58.3**	**+1.0**
MESJ				A	A	03 28 00.6	
	comp=N,136nm,0.4s						
MESJ	**Messejana**	**1.29**	**333**	P	**Pn**	**03 27 42.1**	**+0.9**
MESJ				S	**Sn**	**03 27 58.0**	**+0.7**
	comp=N,177nm,0.5s						
MESJ	**Messejana**	**1.29**	**333**	P	**Pn**	**03 27 42.1**	**+0.9**
MESJ				*e*S	**Sn**	**03 27 58.3**	**+1.0**
	comp=N,136nm,0.4s						
ESPR	**Espera**	**1.31**	**82**	P	**Pn**	**03 27 42.5**	**+1.1**
	comp=N,18nm,0.2s,SNR=79						
ESPR				S	**Sn**	**03 27 59.3**	**+1.7**
	comp=N,251nm,0.3s,SNR=10						
ESPR	**Espera**	**1.31**	**82**	P	**Pn**	**03 27 42.5**	**+1.1**
	comp=N,18nm,0.2s,SNR=79						
ESPR				S	**Sn**	**03 27 59.3**	**+1.7**
	comp=N,251nm,0.3s,SNR=10						
PTEO	**Sao Teotonio**	**1.32**	**311**	⇓*e*P	**Pn**	**03 27 41.8**	**+0.3**
PTEO				*e*S	**Sn**	**03 27 57.7**	**-0.1**
PTEO				A	A	03 27 59.0	
	comp=N,78nm,0.3s						
PTEO	**Sao Teotonio**	**1.32**	**311**	P	**Pn**	**03 27 41.8**	**+0.3**
PTEO				S	**Sn**	**03 27 57.7**	**-0.1**
	comp=N,39nm,0.3s						
PTEO	**Sao Teotonio**	**1.32**	**311**	P	**Pn**	**

PMTG	**Montargil**	**2.45**	**346**	⇓	*e*Pn	**Pn**	**03 27 58.2**	**+1.2**
PMTG					*e*Sn	**Sn**	**03 28 26.3**	**+0.6**
	comp=N,57nm,0.2s							
PMST	**Lisbon--Monsan**	**2.45**	**327**	⇓	*e*Pn	**Pn**	**03 27 58.2**	**+1.1**
PMST					*e*Sn	**Sn**	**03 28 26.1**	**+0.2**
PMST	**Lisbon--Monsan**	**2.45**	**327**	⇓	*e*Pn	**Pn**	**03 27 58.2**	**+1.1**
PMST					*e*Sn	**Sn**	**03 28 26.1**	**+0.2**
ALMR	**Almeirim**	**2.61**	**341**		*e*P	**Pn**	**03 28 00.5**	**+1.2**
ALMR					*e*S	**Sn**	**03 28 30.1**	**+0.3**
ALMR					AML	AML	03 28 33.0	
	comp=N,83nm,0.2s							
ALMR	**Almeirim**	**2.61**	**341**		*e*P	**Pn**	**03 28 00.5**	**+1.2**
ALMR					*e*S	**Sn**	**03 28 30.1**	**+0.3**
ALMR	**Almeirim**	**2.61**	**341**		P	**Pn**	**03 28 00.5**	**+1.2**
ALMR					S	**Sn**	**03 28 30.1**	**+0.3**
	comp=N,42nm,0.2s							
ALMR	**Almeirim**	**2.61**	**341**		P	**Pn**	**03 28 00.5**	**+1.2**
ALMR					S	**Sn**	**03 28 30.1**	**+0.3**
	comp=N,42nm,0.2s							
PMAFR	**Mafra**	**2.68**	**328**	⇓	*e*Pn	**Pn**	**03 28 01.3**	**+1.1**
PMAFR					*e*Sn	**Sn**	**03 28 30.8**	**-0.6**
PMAFR					A	A	03 28 32.9	
	comp=N,114nm,0.2s							
PMAFR	**Mafra**	**2.68**	**328**	⇓	P	**Pn**	**03 28 01.3**	**+1.1**
	comp=N,11nm,0.1s,SNR=18							
PMAFR					S	**Sn**	**03 28 31.2**	**-0.2**
	comp=N,84nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**2.68**	**328**		P	**Pn**	**03 28 01.3**	**+1.1**
	comp=N,11nm,0.1s,SNR=18							
PMAFR					*e*Sn	**Sn**	**03 28 30.8**	**-0.6**
	comp=N,114nm,0.2s							
PMAFR					S	**Sn**	**03 28 31.2**	**-0.2**
	comp=N,84nm,0.2s,SNR=7.9							
EGOR	**Sierra Gorda,**	**2.73**	**80**		P	**Pn**	**03 28 02.6**	**+1.6**
	comp=N,1.3nm,0.3s,SNR=7.9							
EGOR					S	**Sn**	**03 28 34.0**	**+1.2**
	comp=N,20nm,0.2s,SNR=7.9							
EGOR	**Sierra Gorda,**	**2.73**	**80**		P	**Pn**	**03 28 02.6**	**+1.6**
	comp=N,1.3nm,0.3s,SNR=7.9							
EGOR					S	**Sn**	**03 28 34.0**	**+1.2**
	comp=N,20nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**2.73**	**57**	⇓	P	**Pn**	**03 28 02.6**	**+1.6**
	comp=N,5.9nm,0.2s,SNR=18							
EADA					S	**Sn**	**03 28 33.9**	**+1.1**
	comp=N,12nm,0.1s,SNR=7.7							
EADA	**Adamuz**	**2.73**	**57**		P	**Pn**	**03 28 02.6**	**+1.6**
	comp=N,5.9nm,0.2s,SNR=18							
EADA					S	**Sn**	**03 28 33.9**	**+1.1**
	comp=N,12nm,0.1s,SNR=7.7							
PMRV	**Marv??o**	**2.73**	**1**	⇓	*e*Pn	**Pn**	**03 28 02.3**	**+1.3**
PMRV					*e*Sn	**Sn**	**03 28 33.3**	**+0.5**
PMRV					A	A	03 28 36.4	
	comp=N,41nm,0.3s							
PMRV	**Marv??o**	**2.73**	**1**		P	**Pn**	**03 28 02.3**	**+1.3**
PMRV					S	**Sn**	**03 28 33.3**	**+0.5**
	comp=N,41nm,0.3s							
PMRV	**Marv??o**	**2.73**	**1**		P	**Pn**	**03 28 02.3**	**+1.3**
PMRV					S	**Sn**	**03 28 33.3**	**+0.5**
	comp=N,41nm,0.3s							
PTOM	**Tomar**	**3.02**	**346**	⇓	*e*Pn	**Pn**	**03 28 06.3**	**+1.5**
PTOM					*e*Sn	**Sn**	**03 28 39.3**	**-0.4**
PTOM					A	A	03 28 41.9	
	comp=N,67nm,0.2s							
PTOM	**Tomar**	**3.02**	**346**		P	**Pn**	**03 28 06.3**	**+1.5**
PTOM					S	**Sn**	**03 28 39.3**	**-0.4**
	comp=N,34nm,0.2s							
PTOM	**Tomar**	**3.02**	**346**		P	**Pn**	**03 28 06.3**	**+1.5**
PTOM					S	**Sn**	**03 28 39.3**	**-0.4**
	comp=N,34nm,0.2s							
ELGU	**Los Guajares,**	**3.09**	**86**		P	**Pn**	**03 28 07.1**	**+1.2**
	comp=N,2.8nm,0.1s,SNR=7.9							
ELGU					S	**Sn**	**03 28 42.5**	**+0.8**
	comp=N,13nm,0.3s,SNR=7.9							
ELGU	**Los Guajares,**	**3.09**	**86**		P	**Pn**	**03 28 07.1**	**+1.2**
	comp=N,2.8nm,0.1s,SNR=7.9							
ELGU					S	**Sn**	**03 28 42.5**	**+0.8**
	comp=N,13nm,0.3s,SNR=7.9							
PCBR	**Castelo Branco**	**3.14**	**360**	⇓	*e*Pn	**Pn**	**03 28 08.0**	**+1.4**
PCBR					*e*Sn	**Sn**	**03 28 43.8**	**+0.9**
PCBR					A	A	03 28 45.3	
	comp=N,18nm,0.1s							
PCBR	**Castelo Branco**	**3.14**	**360**		P	**Pn**	**03 28 08.0**	**+1.4**
PCBR					S	**Sn**	**03 28 43.8**	**+0.9**
	comp=N,8.9nm,0.1s							
PCBR	**Castelo Branco**	**3.14**	**360**		P	**Pn**	**03 28 08.0**	**+1.4**
PCBR					S	**Sn**	**03 28 43.8**	**+0.9**
	comp=N,8.9nm,0.1s							
EQUE	**Quentar**	**3.27**	**80**		P	**Pn**	**03 28 10.5**	**+2.1**
	comp=N,1.1nm,0.2s,SNR=14							
EQUE					S	**Sn**	**03 28 47.0**	**+0.9**
	comp=N,6.1nm,0.3s,SNR=5.3							
EQUE	**Quentar**	**3.27**	**80**		P	**Pn**	**03 28 10.5**	**+2.1**
	comp=N,1.1nm,0.2s,SNR=14							
EQUE					S	**Sn**	**03 28 47.0**	**+0.9**
	comp=N,6.1nm,0.3s,SNR=5.3							
AVE	**Averroes**	**3.39**	**179**		*e*P	**Pn**	**03 28 08.0**	**-2.0**
PCAS	**Casmilo, Conde**	**3.45**	**347**		*e*Pn	**Pn**	**03 28 12.2**	**+1.3**
PCAS					*e*Sn	**Sn**	**03 28 49.5**	**-1.0**
PCAS					A	A	03 28 56.1	
	comp=N,25nm,0.3s							
PCAS	**Casmilo, Conde**	**3.45**	**347**		*e*Pn	**Pn**	**03 28 12.2**	**+1.3**
PCAS					*e*Sn	**Sn**	**03 28 49.5**	**-1.0**
	comp=N,25nm,0.3s							
EPLA	**Plasencia**	**3.54**	**18**		P	**Pn**	**03 28 12.3**	**+0.2**
	comp=N,6.8nm,0.1s,SNR=102							
EPLA					S	**Sn**	**03 28 52.4**	**-0.3**
	comp=N,31nm,0.2s,SNR=19							
EPLA	**Plasencia**	**3.54**	**18**		P	**Pn**	**03 28 12.3**	**+0.2**
	comp=N,6.8nm,0.1s,SNR=102							
EPLA					S	**Sn**	**03 28 52.4**	**-0.3**
	comp=N,31nm,0.2s,SNR=19							
COI	**Coimbra**	**3.59**	**348**		P	**Pn**	**03 28 14.0**	**+1.3**
COI					S	**Sn**	**03 28 53.8**	**0.0**
	comp=N,17nm,0.4s							
COI	**Coimbra**	**3.59**	**348**		P	**Pn**	**03 28 14.0**	**+1.3**
COI					S	**Sn**	**03 28 53.8**	**0.0**
	comp=N,17nm,0.4s							
GORA	**Gorafe**	**3.63**	**76**		P	**Pn**	**03 28 14.5**	**+1.2**
	comp=N,3.0nm,0.2s,SNR=7.9							
GORA					S	**Sn**	**03 28 55.2**	**+0.3**
	comp=N,18nm,0.2s,SNR=7.9							
GORA	**Gorafe**	**3.63**	**76**		P	**Pn**	**03 28 14.5**	**+1.2**
	comp=N,3.0nm,0.2s,SNR=7.9							
GORA					S	**Sn**	**03 28 55.2**	**+0.3**
	comp=N,18nm,0.2s,SNR=7.9							
EQES	**Quesada**	**3.68**	**71**		P	**Pn**	**03 28 15.0**	**+0.9**
	comp=N,0.5nm,0.1s,SNR=26							
EQES					S	**Sn**	**03 28 57.2**	**+0.9**
	comp=N,11nm,0.2s,SNR=6.7							
EQES	**Quesada**	**3.68**	**71**		P	**Pn**	**03 28 15.0**	**+0.9**
	comp=N,0.5nm,0.1s,SNR=26							
EQES					S	**Sn**	**03 28 57.2**	**+0.9**
	comp=N,11nm,0.2s,SNR=6.7							
EBER	**Berja**	**3.68**	**85**		P	**Pn**	**03 28 15.6**	**+1.4**
	comp=N,1.3nm,0.2s,SNR=10							
EBER					S	**Sn**	**03 28 56.6**	**+0.2**
	comp=N,8.1nm,0.3s							
EBER	**Berja**	**3.68**	**85**		P	**Pn**	**03 28 15.6**	**+1.4**
	comp=N,1.3nm,0.2s,SNR=10							
EBER					S	**Sn**	**03 28 56.6**	**+0.2**
	comp=N,8.1nm,0.3s							
MTE	**Manteigas**	**3.70**	**359**	⇓	*e*Pn	**Pn**	**03 28 15.6**	**+1.2**
MTE					*e*Sn	**Sn**	**03 28 56.8**	**0.0**
MTE					A	A	03 28 58.5	
	comp=N,50nm,0.3s							
MTE	**Manteigas**	**3.70**	**359**		P	**Pn**	**03 28 15.6**	**+1.2**
MTE					S	**Sn**	**03 28 56.8**	**0.0**
	comp=N,25nm,0.3s							
MTE	**Manteigas**	**3.70**	**359**		P	**Pn**	**03 28 15.6**	**+1.2**
MTE					S	**Sn**	**03 28 56.8**	**0.0**
	comp=N,25nm,0.3s							
PAB	**San Pablo**	**3.77**	**40**		P	**Pn**	**03 28 16.9**	**+1.7**
	comp=N,3.5nm,0.3s,SNR=7.9							
PAB					S	**Sn**	**03 28 56.8**	**-1.5**
	comp=N,14nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**3.77**	**40**		P	**Pn**	**03 28 16.9**	**+1.7**
	comp=N,3.5nm,0.3s,SNR=7.9							
PAB					S	**Sn**	**03 28 56.8**	**-1.5**
	comp=N,14nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**4.03**	**355**		*e*Pn	**Pn**	**03 28 20.1**	**+1.2**
PVIS					*e*Sn	**Sn**	**03 29 04.3**	**-0.6**
PVIS					A	A	03 29 06.8	
	comp=N,43nm,0.2s							
PVIS	**Viseu**	**4.03**	**355**		P	**Pn**	**03 28 20.1**	**+1.2**
PVIS					S	**Sn**	**03 29 04.3**	**-0.6**
	comp=N,22nm,0.2s							
PVIS	**Viseu**	**4.03**	**355**		P	**Pn**	**03 28 20.1**	**+1.2**
PVIS					S	**Sn**	**03 29 04.3**	**-0.6**
	comp=N,22nm,0.2s							
ESDC	**Sonseca Array**	**4.06**	**42**	⇑	P	**Pn**	**03 28 20.7**	**+1.4**
	comp=N,7.3nm,0.2s,baz=224,slow=13,SNR=18							
ESDC					S	**Sn**	**03 29 04.9**	**-0.7**
	comp=N,15nm,0.3s,baz=225,slow=23,SNR=18							
ESDC	**Sonseca Array**	**4.06**	**42**		P	**Pn**	**03 28 20.7**	**+1.4**
	comp=N,7.3nm,0.2s,SNR=18							
ESDC					S	**Sn**	**03 29 04.9**	**-0.7**
	comp=N,15nm,0.3s,SNR=18							
SESP	**Santiago Espad**	**4.17**	**69**	⇓	P	**Pn**	**03 28 21.6**	**+0.7**
	comp=N,1.0nm,0.2s,SNR=18							
SESP					S	**Sn**	**03 29 08.7**	**+0.2**
	comp=N,23nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**4.17**	**69**		P	**Pn**	**03 28 21.6**	**+0.7**
	comp=N,1.0nm,0.2s,SNR=18							
SESP					S	**Sn**	**03 29 08.7**	**+0.2**
	comp=N,23nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**4.23**	**85**		P	**Pn**	**03 28 22.6**	**+1.0**
	comp=N,1.4nm,0.2s,SNR=7.9							
ENIJ					S	**Sn**	**03 29 08.4**	**-1.4**
	comp=N,6.9nm,0.4s,SNR=7.9							
ENIJ	**Nijar**	**4.23**	**85**		P	**Pn**	**03 28 22.6**	**+1.0**
	comp=N,1.4nm,0.2s,SNR=7.9							
ENIJ					S	**Sn**	**03 29 08.4**	**-1.4**
	comp=N,6.9nm,0.4s,SNR=7.9							
KIB	**El Ksiba**	**4.27**	**164**		*i* P	**Pn**	**03 28 20.0**	**-2.2**
MVO	**Moncorvo**	**4.48**	**4**		*e*Pn	**Pn**	**03 28 26.1**	**+1.1**
MVO					*e*Sn	**Sn**	**03 29 14.7**	**-1.2**
MVO					A	A	03 29 17.7	
	comp=N,39nm,0.2s							
MVO	**Moncorvo**	**4.48**	**4**	⇑	P	**Pn**	**03 28 26.2**	**+1.2**
	comp=N,4.7nm,0.1s,SNR=18							
MVO					S	**Sn**	**03 29 15.0**	**-0.9**
	comp=N,51nm,0.3s,SNR=19							
MVO	**Moncorvo**	**4.48**	**4**		*e*Pn	**Pn**	**03 28 26.1**	**+1.1**
MVO					*e*Sn	**Sn**	**03 29 14.7**	**-1.2**
	comp=N,39nm,0.2s							
MVO					S	**Sn**	**03 29 15.0**	**-0.9**
	comp=N,51nm,0.3s,SNR=19							
PTO	**Porto**	**4.53**	**349**		*e*Sn	**Sn**	**03 29 15.4**	**-1.6**
PTO					A	A	03 29 18.8	
	comp=N,76nm,0.1s							
PTO	**Porto**	**4.53**	**349**		S	**Sn**	**03 29 15.4**	**-1.6**
	comp=N,38nm,0.1s							
PTO	**Porto**	**4.53**	**349**		S	**Sn**	**03 29 15.4**	**-1.6**
	comp=N,38nm,0.1s							
PVRL	**Vila Real**	**4.58**	**358**		*e*Pn	**Pn**	**03 28 27.5**	**+1.1**
PVRL					*e*Sn	**Sn**	**03 29 17.3**	**-1.1**
PVRL					A	A	03 29 20.3	
	comp=N,44nm,0.2s							
PVRL	**Vila Real**	**4.58**	**358**		P	**Pn**	**03 28 27.5**	**+1.1**
PVRL					S	**Sn**	**03 29 17.3**	**-1.1**
	comp=N,22nm,0.2s							
PVRL	**Vila Real**	**4.58**	**358**		P	**Pn**	**03 28 27.5**	**+1.1**
PVRL					S	**Sn**	**03 29 17.3**	**-1.1**
	comp=N,22nm,0.2s							
TZC	**Tazercounte**	**4.60**	**170**		*i* P	**Pn**	**03 28 24.0**	**-2.9**
POLO	**Lamas de Olo**	**4.68**	**357**		*e*Pn	**Pn**	**03 28 29.0**	**+1.2**
POLO					*e*Sn	**Sn**	**03 29 19.8**	**-1.2**
POLO					A	A	03 29 22.4	
	comp=N,18nm,0.3s							
POLO	**Lamas de Olo**	**4.68**	**357**		*e*Pn	**Pn**	**03 28 29.0**	**+1.2**
POLO					*e*Sn	**Sn**	**03 29 19.8**	**-1.2**
	comp=N,18nm,0.3s							
GUD	**Guadarrama**	**4.72**	**32**		P	**Pn**	**03 28 30.3**	**+1.9**
	comp=N,1.4nm,0.2s,SNR=34							
GUD					S	**Sn**	**03 29 21.3**	**-0.7**
	comp=N,10nm,0.4s,SNR=6.5							
GUD	**Guadarrama**	**4.72**	**32**		P	**Pn**	**03 28 30.3**	**+1.9**
	comp=N,1.4nm,0.2s,SNR=34							
GUD					S	**Sn**	**03 29 21.3**	**-0.7**
	comp=N,10nm,0.4s,SNR=6.5							
UCM	**Universidad Co**	**4.90**	**41**		*e*P	**Pn**	**03 28 32.9**	**+2.1**
UCM					*e*S	**Sn**	**03 29 24.6**	**-1.7**
ETOB	**Tobarra**	**5.09**	**66**		P	**Pn**	**03 28 33.7**	**+0.4**
	comp=N,2.3nm,0.2s,SNR=14							
ETOB					S	**Sn**	**03 29 29.0**	**-1.9**
	comp=N,31nm,0.4s,SNR=19							
ETOB	**Tobarra**	**5.09**	**66**		P	**Pn**	**03 28 33.7**	**+0.4**
	comp=N,2.3nm,0.2s,SNR=14							
EMUR	**La Murta**	**5.10**	**75**		P	**Pn**	**03 28 34.7**	**+1.2**
	comp=N,1.9nm,0.4s,SNR=6.6							
EMUR					S	**Sn**	**03 29 30.1**	**-1.1**
	comp=N,13nm,0.6s,SNR=12							
EMUR	**La Murta**	**5.10**	**75**		P	**Pn**	**03 28 34.7**	**+1.2**
	comp=N,1.9nm,0.4s,SNR=6.6							
EMUR					S	**Sn**	**03 29 30.1**	**-1.1**
	comp=N,13nm,0.6s,SNR=12							
PBRG	**Braganca**	**5.14**	**6**		*e*Pn	**Pn**	**03 28 35.1**	**+1.0**
PBRG					*e*Sn	**Sn**	**03 29 30.4**	**-1.7**
PBRG					A	A	03 29 33.3	
	comp=N,12nm,0.2s							
PBRG	**Braganca**	**5.14**	**6**		P	**Pn**	**03 28 35.1**	**+1.0**
PBRG					S	**Sn**	**03 29 30.4**	**-1.7**
	comp=N,5.9nm,0.2s							
PBRG	**Braganca**	**5.14**	**6**		P	**Pn**	**03 28 35.1**	**+1.0**
PBRG					S	**Sn**	**03 29 30.4**	**-1.7**
	comp=N,5.9nm,0.2s							
ELOB	**Lobios**	**5.19**	**355**	⇑	P	**Pn**	**03 28 35.9**	**+1.1**
	comp=N,2.1nm,0.1s,SNR=18							
ELOB					S	**Sn**	**03 29 32.5**	**-1.0**
	comp=N,42nm,0.2s,SNR=34							
ELOB	**Lobios**	**5.19**	**355**		P	**Pn**	**03 28 35.9**	**+1.1**
	comp=N,2.1nm,0.1s,SNR=18							
ELOB					S	**Sn**	**03 29 32.5**	**-1.0**
	comp=N,42nm,0.2s,SNR=34							
CIA	**Chichaoua**	**5.22**	**192**		*i* P	**Pn**	**03 28 33.0**	**-2.3**
ECAL	**Calabor**	**5.27**	**6**		P	**Pn**	**03 28 37.4**	**+1.5**
	comp=N,2.2nm,0.1s,SNR=12							
ECAL					S	**Sn**	**03 29 35.0**	**-0.5**
	comp=N,60nm,0.5s,SNR=18							
ECAL	**Calabor**	**5.27**	**6**		P	**Pn**	**03 28 37.4**	**+1.5**
	comp=N,2.2nm,0.1s,SNR=12							
ECAL					S	**Sn**	**03 29 35.0**	**-0.5**
	comp=N,60nm,0.5s,SNR=18							
PGAV	**Gavieira, Arco**	**5.30**	**354**		*e*Pn	**Pn**	**03 28 37.6**	**+1.2**
PGAV					*e*Sn	**Sn**	**03 29 34.2**	**-2.1**
PGAV					A	A	03 29 39.0	
	comp=N,12nm,0.3s							
PGAV	**Gavieira, Arco**	**5.30**	**354**		*e*Pn	**Pn**	**03 28 37.6**	**+1.2**
PGAV					*e*Sn	**Sn**	**03 29 34.2**	**-2.1**
	comp=N,12nm,0.3s							
AFON	**Font Roja**	**5.84**	**68**		P	**Pn**	**03 28 44.0**	**+0.3**
	comp=N,2.8nm,0.3s,SNR=5.8							
AFON					S	**Sn**	**03 29 48.0**	**-1.4**
	comp=N,11nm,0.3s							
AFON	**Font Roja**	**5.84**	**68**		P	**Pn**	**03 28 44.0**	**+0.3**
	comp=N,2.8nm,0.3s,SNR=5.8							
AFON					S	**Sn**	**03 29 48.0**	**-1.4**
	comp=N,11nm,0.3s							
ETOR	**Torete**	**5.91**	**44**		P	**Pn**	**03 28 46.3**	**+1.6**
	comp=N,2.7nm,0.3s,SNR=25							
ETOR					S	**Sn**	**03 29 48.7**	**-2.4**
	comp=N,8.1nm,0.2s							
ETOR	**Torete**	**5.91**	**44**		P	**Pn**	**03 28 46.3**	**+1.6**
	comp=N,2.7nm,0.3s,SNR=25							
EAGO	**Agolada(Pontev**	**6.12**	**356**		P	**Pn**	**03 28 48.7**	**+1.2**
	comp=N,0.7nm,0.1s,SNR=7.9							
EAGO					S	**Sn**	**03 29 53.3**	**-3.0**
	comp=N,6.8nm,0.2s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.12**	**356**		P	**Pn**	**03 28 48.7**	**+1.2**
	comp=N,0.7nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**6.60**	**54**		P	**Pn**	**03 28 56.6**	**+2.4**
	comp=N,1.1nm,0.3s,SNR=8.4							
EMOS					S	**Sn**	**03 30 06.2**	**-2.0**
	comp=N,2.9nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**6.60**	**54**		P	**Pn**	**03 28 56.6**	**+2.4**
	comp=N,1.1nm,0.3s,SNR=8.4							
EMOS					S	**Sn**	**03 30 06.2**	**-2.0**
	comp=N,2.9nm,0.3s,SNR=7.9							
EPON	**Pontenova**	**6.63**	**2**		P	**Pn**	**03 28 56.6**	**+2.0**
	comp=N,7.8nm,0.8s,SNR=4.0							
EPON					S	**Sn**	**03 30 07.5**	**-1.4**
	comp=N,2.3nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**6.63**	**2**		P	**Pn**	**03 28 56.6**	**+2.0**
	comp=N,7.8nm,0.8s,SNR=4.0							
EPON					S	**Sn**	**03 30 07.5**	**-1.4**
	comp=N,2.3nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**6.83**	**14**		P	**Pn**	**03 28 58.8**	**+1.6**
	comp=N,1.0nm,0.3s,SNR=7.9							
EARI					S	**Sn**	**03 30 11.7**	**-2.0**
	comp=N,3.0nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**6.83**	**14**		P	**Pn**	**03 28 58.8**	**+1.6**
	comp=N,1.0nm,0.3s,SNR=7.9							
EARI					S	**Sn**	**03 30 11.7**	**-2.0**
	comp=N,3.0nm,0.4s,SNR=7.9							
ELAN	**Lanestosa**	**7.23**	**24**		P	**Pn**	**03 29 04.1**	**+1.3**
	comp=N,0.5nm,0.2s,SNR=6.5							
ELAN					S	**Sn**	**03 30 19.9**	**-3.7**
	comp=N,2.7nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**7.23**	**24**		P	**Pn**	**03 29 04.1**	**+1.3**
	comp=N,0.5nm,0.2s,SNR=6.5							
EIBI	**Ibiza**	**7.35**	**69**		P	**Pn**	**03 29 06.5**	**+2.1**
	comp=N,1.9nm,0.3s,SNR=4.0							
EIBI					S	**Sn**	**03 30 23.1**	**-3.4**
	comp=N,4.3nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**7.35**	**69**		P	**Pn**	**03 29 06.5**	**+2.1**
	comp=N,1.9nm,0.3s,SNR=4.0							
ESAC	**San Caprasio**	**7.40**	**45**		P	**Pn**	**03 29 07.8**	**+2.7**
	comp=N,2.7nm,0.2s,SNR=7.9							
ESAC					S	**Sn**	**03 30 26.3**	**-1.5**
	comp=N,6.3nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**7.40**	**45**		P	**Pn**	**03 29 07.8**	**+2.7**
	comp=N,2.7nm,0.2s,SNR=7.9							
ESAC					S	**Sn**	**03 30 26.3**	**-1.5**
	comp=N,6.3nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**7.79**	**36**		P	**Pn**	**03 29 12.2**	**+1.7**
	comp=N,1.3nm,0.2s,SNR=7.9							
IELO					S	**Sn**	**03 30 34.2**	**-3.4**
	comp=N,3.3nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**7.79**	**36**		P	**Pn**	**03 29 12.2**	**+1.7**
	comp=N,1.3nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**7.80**	**36**		P	**Pn**	**03 29 11.9**	**+1.3**
	comp=N,1.0nm,0.1s,SNR=7.9							
EORO					S	**Sn**	**03 30 34.4**	**-3.2**
	comp=N,7.0nm,0.3s,SNR=7.9							
EORO	**Oroz-Betelu**	**7.80**	**36**		P	**Pn**	**03 29 11.9**	**+1.3**
	comp=N,1.0nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**7.96**	**33**		P	**Pn**	**03 29 15.1**	**+2.2**
	comp=N,2.6nm,0.4s,SNR=6.6							
EALK					S	**Sn**	**03 30 38.2**	**-3.5**
	comp=N,16nm,0.5s,SNR=7.9							
EALK	**Alkurruntz**	**7.96**	**33**		P	**Pn**	**03 29 15.1**	**+2.2**
	comp=N,2.6nm,0.4s,SNR=6.6							
SJPF	**Ste Jean**	**8.01**	**35**		*e*P	**Pn**	**03 29 15.8**	**+2.4**
SJPF					*e*Sn	**Sn**	**03 30 34.6**	**-8.1**
	comp=N,0.8nm,0.2s							
SJPF	**Ste Jean**	**8.01**	**35**		P	**Pn**	**03 29 15.8**	**+2.4**
SJPF	**Ste Jean**	**8.01**	**35**		P	**Pn**	**03 29 15.8**	**+2.4**
ATE	**Arette**	**8.23**	**37**		P	**Pn**	**03 29 18.7**	**+2.2**
	comp=N,0.9nm,0.3s,SNR=7.9							
ATE					S	**Sn**	**03 30 44.8**	**-3.5**
	comp=N,3.8nm,0.4s,SNR=7.9							
ATE	**Arette**	**8.23**	**37**		P	**Pn**	**03 29 18.7**	**+2.2**
	comp=N,0.9nm,0.3s,SNR=7.9							
ECHI	**Chisagues Biel**	**8.39**	**42**		P	**Pn**	**03 29 20.2**	**+1.4**
	comp=N,0.2nm,0.1s,SNR=7.9							
ECHI					S	**Sn**	**03 30 47.8**	**-4.6**
	comp=N,3.9nm,0.3s,SNR=7.9							
ECHI	**Chisagues Biel**	**8.39**	**42**		P	**Pn**	**03 29 20.2**	**+1.4**
	comp=N,0.2nm,0.1s,SNR=7.9							
ETOS	**Mallorca**	**8.65**	**66**		S	**Sn**	**03 30 53.5**	**-5.2**
	comp=N,8.5nm,0.8s,SNR=4.0							
EPF	**Esparros**	**8.72**	**41**		*e*P	**Pn**	**03 29 25.4**	**+2.2**
EPF					*e*Sn	Sn	03 30 49.4	-11
	comp=N,4.5nm,0.4s							
EPF	**Esparros**	**8.72**	**41**		P	**Pn**	**03 29 25.4**	**+2.2**
EPF	**Esparros**	**8.72**	**41**		P	**Pn**	**03 29 25.4**	**+2.2**
CSOR	**Sort**	**8.74**	**47**		P	**Pn**	**03 29 25.7**	**+2.2**
	comp=N,2.8nm,0.6s,SNR=7.9							
CSOR					S	**Sn**	**03 30 57.7**	**-3.1**
	comp=N,4.5nm,0.7s,SNR=7.9							
CSOR	**Sort**	**8.74**	**47**		P	**Pn**	**03 29 25.7**	**+2.2**
	comp=N,2.8nm,0.6s,SNR=7.9							
CLLI	**Llivia**	**9.30**	**49**		P	**Pn**	**03 29 33.0**	**+

H10N3	**ASCENSION HYDR**	**56.79**	**164**	T	T	05 10 34.1		
	baz=349							
H10N1	**ASCENSION HYDR**	**56.80**	**164**	T	T	05 10 31.6		
	baz=349							
H10S1	**ASCENSION HYDR**	**57.84**	**165**	T	T	05 11 48.1		
	baz=351							
H10S3	**ASCENSION HYDR**	**57.85**	**165**	T	T	05 11 48.8		
	baz=351							
H10S2	**ASCENSION HYDR**	**57.86**	**165**	T	T	05 11 49.9		
	baz=351							
TXAR	**Lajitas Array**	**59.77**	**281**	P	**P**	**04 10 02.3**	**+0.7**	
	0.3nm,0.7s,baz=76,slow=7.5,SNR=4.5							
MKAR	**Makanchi Array**	**67.65**	**44**	P	**P**	**04 10 53.2**	**0.0**	
	0.2nm,0.7s,baz=320,slow=5.3,SNR=2.9							
ASAR	**Alice Springs**	**151.67**	**38**	PKPbc	**PKPbc**	**04 19 50.6**	**-0.3**	
	0.6nm,0.7s,baz=352,slow=1.9,SNR=6.0							

ISCJB ***12*** *04:01:11.9±0.5, 47°.76N±0°.09×27°.78W±0°.09, h10km,*
mb4.0/31, MS3.4/6, Error ellipse: s-maj=13.6km
s-min=8.1km az=17.7
IDC ***12*** *04:01:12.1±0.6, 47°.76N×27°.67W, h0km, mb4.0/24,*
mb1 4.1/26, mb1mx3.9/71, mbtmp4.0/26, ML4.2/2, MS3.4/6,
Ms1 3.4/6, ms1mx3.0/50, Error ellipse: s-maj=17.4km
s-min=12.0km az=25.0
VIE ***12*** *04:01:13.3, 47°.88N×27°.74W, h0km, mb4.0/10, ML4.8/1*
CSEM ***12*** *04:01:13.5±0.2, 47°.79N×27°.75W, h10km, mb3.8/5, Error*
ellipse: s-maj=11.0km s-min=6.8km az=18.0
NEIC ***12*** *04:01:13.7±0.3, 47°.76N×27°.70W, h10km, mb4.2/1, Error*
ellipse: s-maj=9.6km s-min=6.7km az=20.0

ISC 12 04:01:13.7±0.7,**47.8N**±0.1×**27.68W**±0.09,**h10**km,**n49,**
σ0s96/38,mb4.0/31,MS3.5/6,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**16.96**	**54**	Pn	**P**	**04 05 11.7**	**-1.1**
	baz=252,slow=10,SNR=7.3						
ESDC	**Sonseca Array**	**18.90**	**107**	P	**Pn**	**04 05 35.6**	**+0.7**
	0.6nm,0.3s,baz=293,slow=12,SNR=13						
SCHQ	**Schefferville**	**25.21**	**301**	LR	LR	04 14 21.7	
	comp=Z,87nm,19.8s,baz=44,slow=31						
DAVA	**Damuels**	**25.21**	**77**	*e*P	**P**	**04 06 40.8**	**+1.2**
	0.6nm,0.3s						
RETA	**Reutte**	**25.74**	**76**	*e*P	**P**	**04 06 45.8**	**+1.6**
	0.4nm,0.3s						
NOA	**NORSAR Array B**	**25.80**	**45**	P	**P**	**04 06 45.9**	**+1.3**
	2.2nm,1.1s,baz=267,slow=6.8,SNR=3.4						
FETA	**Feichten**	**25.84**	**77**	*e*P	**P**	**04 06 47.0**	**+1.8**
	1.5nm,0.7s						
MOTA	**Moosalm**	**26.00**	**76**	*e*P	**P**	**04 06 47.7**	**+1.0**
	2.5nm,0.8s						
BRG	**Berggiesshubel**	**27.05**	**68**	*e*(P)	**P**	**04 06 58.7**	**+2.8**
	5.5nm,1.2s						
GERES	**GERESS Array B**	**27.31**	**72**	P	**P**	**04 06 58.5**	**+0.1**
	1.6nm,0.8s,baz=286,slow=9.6,SNR=12						
FRB	**Frobisher Bay**	**27.37**	**321**	P	**P**	**04 06 58.8**	**+0.2**
	2.5nm,0.9s,baz=162,slow=20,SNR=7.0						
FINES	**FINESS Array B**	**32.97**	**45**	P	**P**	**04 07 47.6**	**-0.5**
	2.3nm,0.9s,baz=260,slow=8.3,SNR=3.3						
ARCES	**ARCESS Array B**	**33.58**	**31**	P	**P**	**04 07 52.5**	**-0.9**
	1.5nm,0.6s,baz=259,slow=9.1,SNR=5.9						
MLR	**Muntele Rosu**	**36.29**	**73**	LR	LR	04 23 24.7	
	comp=Z,40nm,18.0s,baz=350,slow=37						
AKASG	**Malin Array Be**	**36.50**	**64**	P	**P**	**04 08 17.1**	**-1.7**
	1.6nm,0.5s,baz=286,slow=8.4,SNR=7.4						
KOWA	**Kowa**	**38.55**	**141**	P	**P**	**04 08 36.4**	**0.0**
	3.5nm,0.7s,baz=333,slow=9.0,SNR=14						
RES	**Resolute Bay**	**38.65**	**337**	P	**P**	**04 08 37.0**	**+0.4**
	3.7nm,1.1s,baz=76,slow=8.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**42.31**	**125**	P	**P**	**04 09 07.0**	**-0.6**
	2.4nm,0.7s,baz=329,slow=7.8,SNR=16						
TKL	**Tuckaleechee C**	**42.70**	**275**	LR	LR	04 25 36.6	
	comp=Z,60nm,19.1s,baz=26,slow=34						
ULM	**Lac du Bonnet**	**43.38**	**300**	P	**P**	**04 09 14.8**	**-1.1**
	1.4nm,0.7s,baz=52,slow=9.4,SNR=4.6						
BRTR	**Keskin Array B**	**43.98**	**77**	P	**P**	**04 09 20.8**	**-0.3**
	1.6nm,0.9s,baz=298,slow=5.9,SNR=7.3						
BRTR				PcP	**PcP**	**04 11 05.6**	**-1.1**
	0.6nm,0.7s,baz=320,slow=3.8,SNR=2.8						
DBIC	**Dimbokro**	**45.34**	**147**	P	**P**	**04 09 32.6**	**+0.6**
	2.2nm,0.9s,baz=323,slow=10,SNR=3.7						
YKA	**Yellowknife Ar**	**47.89**	**321**	P	**P**	**04 09 51.8**	**+0.4**
	0.9nm,1.0s,baz=62,slow=7.8,SNR=10						
INK	**Inuvik**	**51.92**	**333**	P	**P**	**04 10 23.3**	**+1.4**
	1.8nm,0.8s,baz=48,slow=8.7,SNR=6.4						
AKTO	**Aktyubinsk**	**53.14**	**53**	P	**P**	**04 10 31.6**	**+0.3**
	2.1nm,0.6s,baz=295,slow=6.8,SNR=7.6						
WALA	**Waterton Lakes**	**54.19**	**306**	*e*P	**P**	**04 10 39.3**	**+0.1**
	88nm,2.2s						
ABKAR	**Akbulak array**	**54.84**	**53**	*e*P	**P**	**04 10 43.9**	**+0.2**
	2.5nm,1.0s						
PDAR	**Pinedale Array**	**55.28**	**298**	P	**P**	**04 10 46.4**	**-0.8**
	2.1nm,0.9s,baz=49,slow=8.4,SNR=10						
H10N2	**ASCENSION HYDR**	**56.57**	**164**	T	T	05 11 53.6	
	baz=348,slow=76						
H10N3	**ASCENSION HYDR**	**56.58**	**164**	T	T	05 11 54.3	
	baz=348,slow=76						
H10N1	**ASCENSION HYDR**	**56.59**	**164**	T	T	05 11 53.4	
	baz=348,slow=76						
H10S1	**ASCENSION HYDR**	**57.63**	**165**	T	T	05 13 11.9	
	baz=351,slow=75						
H10S3	**ASCENSION HYDR**	**57.64**	**165**	T	T	05 13 13.7	
	baz=351,slow=75						
H10S2	**ASCENSION HYDR**	**57.65**	**165**	T	T	05 13 14.5	
	baz=351,slow=75						
BVAR	**Borovoye Array**	**57.92**	**45**	P	**P**	**04 11 05.9**	**+0.3**
	1.5nm,0.8s,baz=313,slow=5.5,SNR=7.4						
ILAR	**Eielson Array**	**58.28**	**334**	P	**P**	**04 11 08.2**	**+0.3**
	1.0nm,0.8s,baz=45,slow=5.7,SNR=10.0						
TXAR	**Lajitas Array**	**59.84**	**282**	P	**P**	**04 11 19.7**	**+0.3**
	0.7nm,0.7s,baz=66,slow=7.0,SNR=9.1						
GEYT	**Alibeck**	**60.60**	**65**	P	**P**	**04 11 24.4**	**0.0**
	1.1nm,0.3s,baz=309,slow=9.1,SNR=2.6						
JTS	**JuntasAbangare**	**60.66**	**252**	LR	LR	04 33 34.2	
	comp=Z,41nm,21.3s,baz=176,slow=32						
KURK	**Kurchatov**	**63.30**	**43**	P	**P**	**04 11 42.2**	**-0.1**
KURBB	**Kurchatov Arra**	**63.32**	**43**	P	**P**	**04 11 42.2**	**-0.2**
	0.5nm,0.4s,baz=311,slow=7.0,SNR=6.9						
YBH	**Yreka Blue Hor**	**63.56**	**304**	LR	LR	04 37 31.4	
	comp=Z,33nm,18.8s,baz=22,slow=34						
LPIG	**La Paz**	**67.73**	**282**	LR	LR	04 40 31.3	
	comp=Z,28nm,18.5s,baz=54,slow=35						
MKAR	**Makanchi Array**	**67.79**	**44**	P	**P**	**04 12 11.2**	**-0.3**
	0.6nm,0.8s,baz=327,slow=5.8,SNR=6.0						
SEY	**Seymchan**	**69.65**	**360**	P	**P**	**04 12 23.4**	**+0.7**
	0.4nm,0.2s,baz=53,slow=20,SNR=2.8						
SONM	**Songino Array**	**76.75**	**30**	P	**P**	**04 13 05.2**	**+0.1**
	1.4nm,0.8s,baz=312,slow=5.5,SNR=12						
WRA	**Warramunga Arr**	**148.65**	**34**	PKPbc	**PKPbc**	**04 21 00.2**	**-0.9**
	1.2nm,0.8s,baz=344,slow=2.8,SNR=7.7						
VNDA	**Vanda**	**149.90**	**184**	PKPbc	**PKPbc**	**04 21 03.0**	**+0.6**
	1.7nm,1.0s,baz=208,slow=3.4,SNR=2.6						
ASAR	**Alice Springs**	**151.83**	**38**	PKPbc	**PKPbc**	**04 21 08.0**	**-0.7**
	2.1nm,0.7s,baz=345,slow=2.1,SNR=19						

ISCJB ***12*** *04:37:53.5±0.5, 46°.82N±0°.02×11°.18E±0°.04, h10km, Error*
ellipse: s-maj=3.6km s-min=3.4km az=176.6
VIE ***12*** *04:37:53.7±0.2, 46°.81N×11°.18E, h10km±5km, mb0.8/2,*
ML1.6/12, Error ellipse: s-maj=1.3km s-min=1.1km
az=173.0
CSEM ***12*** *04:37:53.7±0.1, 46°.81N×11°.18E, h10km, ML1.5/9, Error*
ellipse: s-maj=2.0km s-min=1.8km az=77.0
ROM ***12*** *04:37:53.0±0.2, 46°.82N×11°.16E, h10km±2km, Md2.5/5,*
Ml1.3/3, Error ellipse: s-maj=3.1km s-min=2.2km az=124.0

ISC 12 04:37:53.7±0.8,**46.81N**±0.02×**11.16E**±0.02,**h10**km,**n37,**
σ1s37/63,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABSI	**Aberstueckl**	**0.14**	**128**	Pg	**Pg**	**04 37 57.2**	**+0.1**
ABSI				Sg	**Sg**	**04 37 59.4**	**0.0**
ABSI	**Aberstueckl**	**0.14**	**128**	Pg	**Pg**	**04 37 57.2**	**+0.1**
ABSI				Sg	**Sg**	**04 37 59.4**	**0.0**
ROSI	**Rosskopf**	**0.21**	**56**	Pg	**Pg**	**04 37 58.1**	**-0.1**
ROSI				Sg	**Sg**	**04 38 01.0**	**-0.2**
ROSI	**Rosskopf**	**0.21**	**56**	Pg	**Pg**	**04 37 58.1**	**-0.1**
ROSI				Sg	**Sg**	**04 38 01.0**	**-0.2**
APPI	**Appiano**	**0.34**	**172**	Pg	**Pb**	**04 38 00.9**	**-1.0**
APPI				Sg	**Sg**	**04 38 05.5**	**+0.5**
	16nm,0.2s						
APPI	**Appiano**	**0.34**	**172**	Pg	**Pb**	**04 38 00.9**	**-1.0**
APPI				Sg	**Sg**	**04 38 05.5**	**+0.5**
	16nm,0.2s						
FETA	**Feichten**	**0.36**	**305**	Pg	**Pn**	**04 38 06.1**	**+0.9**
	8.4nm,0.1s						
FETA				Sg	**Sb**	**04 38 10.8**	**+2.6**
	4.2nm,0.1s						
FETA	**Feichten**	**0.36**	**305**	Pg	**Pb**	**04 38 01.4**	**-1.0**
	6.6nm,0.1s						
FETA				Sg	**Sb**	**04 38 06.6**	**-1.6**
	4.6nm,0.1s						
FETA	**Feichten**	**0.36**	**305**	*e*Pg	**Pb**	**04 38 01.4**	**-1.0**
	6.6nm,0.1s						
FETA				*e*Sg	**Sb**	**04 38 06.5**	**-1.6**
	4.6nm,0.1s						
FETA	**Feichten**	**0.36**	**305**	*e*Pg	**Pn**	**04 38 06.1**	**+0.9**
	8.4nm,0.1s						
FETA				*e*Sg	**Sb**	**04 38 10.8**	**+2.6**
	4.2nm,0.1s						
FETA	**Feichten**	**0.36**	**305**	*e*Sg	Sg	04 38 16.9	+11
	1.8nm,0.1s						
SQTA	**Sankt Quirin**	**0.41**	**4**	Sg	**Sb**	**04 38 12.1**	**+2.6**
SQTA	**Sankt Quirin**	**0.41**	**4**	Pg	**Pb**	**04 38 02.3**	**-0.8**
SQTA				Sg	**Sb**	**04 38 07.6**	**-1.9**
SQTA	**Sankt Quirin**	**0.41**	**4**	*i* Pg	**Pb**	**04 38 02.3**	**-0.8**
SQTA				*e*Sg	**Sb**	**04 38 07.6**	**-1.9**
SQTA	**Sankt Quirin**	**0.41**	**4**	*e*Sg	**Sb**	**04 38 12.1**	**+2.6**
SQTA	**Sankt Quirin**	**0.41**	**4**	*e*Sg	Sg	04 38 18.9	+12
MOSI	**Grossmontoni**	**0.47**	**245**	Pg	**Pg**	**04 38 02.6**	**-0.3**
MOSI				Sg	**Sb**	**04 38 09.6**	**-1.6**
	28nm,0.3s						
MOSI	**Grossmontoni**	**0.47**	**245**	Pg	**Pg**	**04 38 02.6**	**-0.3**
MOSI				Sg	**Sb**	**04 38 09.6**	**-1.6**
	28nm,0.3s						
MOTA	**Moosalm**	**0.53**	**356**	Pg	Pn	**04 38 09.1**	**+1.5**
	1.3nm,0.1s						
MOTA				Sg	**Sn**	**04 38 16.1**	**-0.6**
	4.0nm,0.1s						
MOTA	**Moosalm**	**0.53**	**356**	Pg	**Pb**	**04 38 04.4**	**-0.9**
	0.7nm,0.1s						
MOTA				Sg	**Sb**	**04 38 11.8**	**-1.3**
	4.2nm,0.1s						
MOTA	**Moosalm**	**0.53**	**356**	*e*Pg	**Pb**	**04 38 04.4**	**-0.9**
	0.7nm,0.1s						
MOTA				*e*Sg	**Sb**	**04 38 11.8**	**-1.3**
	4.2nm,0.1s						
MOTA	**Moosalm**	**0.53**	**356**	Pg	Pn	**04 38 09.1**	**+1.5**
	1.3nm,0.1s						
MOTA				*e*Sg	**Sn**	**04 38 16.1**	**-0.6**
	4.0nm,0.1s						
WTTA	**Wattenberg**	**0.55**	**36**	Sg	**Sn**	**04 38 17.0**	**-0.3**
	2.2nm,0.3s						
WTTA	**Wattenberg**	**0.55**	**36**	Pg	**Pb**	**04 38 04.4**	**-1.3**
	0.1nm,0.1s						
WTTA				Sg	**Sg**	**04 38 11.6**	**-0.3**
	0.3nm,0.1s						
WTTA	**Wattenberg**	**0.55**	**36**	*e*Pg	**Pb**	**04 38 04.4**	**-1.3**
	0.1nm,0.1s						
WTTA				*e*Sg	**Sg**	**04 38 11.6**	**-0.3**
	0.3nm,0.1s						
WTTA	**Wattenberg**	**0.55**	**36**	*e*Sg	**Sn**	**04 38 17.0**	**-0.3**
	2.2nm,0.3s						
WATA	**Walderalm**	**0.59**	**28**	Pg	**Pb**	**04 38 05.8**	**-0.5**
	0.4nm,0.1s						
WATA				Sg	**Sg**	**04 38 12.3**	**-0.8**
	0.2nm,0.1s						
WATA	**Walderalm**	**0.59**	**28**	*e*Pg	**Pb**	**04 38 05.8**	**-0.5**
	0.4nm,0.1s						
WATA				Sg	**Sg**	**04 38 12.3**	**-0.8**
	0.2nm,0.1s						
WATA	**Walderalm**	**0.59**	**28**	Sg	**Sn**	**04 38 24.3**	**+6.1**
	2.0nm,0.2s						
RISI	**Rein**	**0.64**	**78**	Pg	**Pg**	**04 38 05.1**	**-1.1**
RISI				Sg	**Sb**	**04 38 15.2**	**-1.1**
	18nm,0.5s						
RISI	**Rein**	**0.64**	**78**	Pg	**Pg**	**04 38 05.1**	**-1.1**
RISI				Sg	**Sb**	**04 38 15.2**	**-1.1**
	18nm,0.5s						
RETA	**Reutte**	**0.73**	**338**	Pg	**Pb**	**04 38 08.3**	**-0.2**
RETA				Sg	**Sb**	**04 38 17.5**	**-1.1**
	0.3nm,0.2s						
RETA	**Reutte**	**0.73**	**338**	*i* Pg	**Pb**	**04 38 08.3**	**-0.2**
RETA				Sg	**Sb**	**04 38 17.5**	**-1.1**
	0.3nm,0.2s						
CTI	**Castel Tesino**	**0.84**	**156**	Pg	**Pb**	**04 38 09.9**	**-0.5**
CTI	**Castel Tesino**	**0.84**	**156**	Pg	**Pb**	**04 38 09.9**	**-0.5**
ABTA	**Abfaltersbach**	**0.93**	**94**	Pg	**Pb**	**04 38 11.6**	**-0.4**
	0.2nm,0.1s						
ABTA				Sg	**Sb**	**04 38 24.3**	**-0.1**
	0.8nm,0.1s						
ABTA	**Abfaltersbach**	**0.93**	**94**	*e*Pg	**Pb**	**04 38 11.6**	**-0.4**
	0.2nm,0.1s						
ABTA				Sg	**Sb**	**04 38 24.3**	**-0.1**
	0.8nm,0.1s						

AZER ***12*** *04:53:09.1±0.1, 40°.89N×48°.38E, h8km, ml3.8*
IDC ***12*** *04:53:10.2±1.0, 40°.85N×48°.38E, h0km, mb3.5/7,*
mb1 3.6/15, mb1mx3.4/65, mbtmp3.5/15, ML3.3/7, MS2.8/2,
Ms1 2.8/2, ms1mx2.4/61, Error ellipse: s-maj=20.0km
s-min=9.2km az=155.0
CSEM ***12*** *04:53:12.7±0.1, 40°.87N×48°.38E, h10km, ML3.8, Error*
ellipse: s-maj=3.7km s-min=3.4km az=35.0
MOS ***12*** *04:53:12.5±1.5, 40°.78N×48°.49E, h20km, mb4.1/2, Error*
ellipse: s-maj=8.6km s-min=5.0km az=119.9
ISCJB ***12*** *04:53:13.2±0.3, 40°.88N±0°.02×48°.39E±0°.02, h17km±3km,*
mb3.5/8, MS2.9/1, Error ellipse: s-maj=2.7km s-min=2.4km
az=38.8

ISC 12 04:53:12.3±0.8,**40.85N**±0°.02×**48.38E**±0°.02,**h16**km±5km,
n105,σ1s73/150,mb3.4/8,38C-21D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IML	**Ismayilli**	**0.16**	**249**	⇑P	**Pg**	**04 53 16.1**	**-0.4**
	SNR=1000						
IML				⇑S	**Sg**	**04 53 19.9**	**+0.6**
PQL	**Pirkuli**	**0.17**	**112**	P	**Pg**	**04 53 16.0**	**-0.7**
	SNR=1000						
PQL				⇓S	**Sb**	**04 53 20.4**	**-0.1**
XNQ	**Khinaliq**	**0.37**	**330**	P	**Pg**	**04 53 19.0**	**-0.9**
	SNR=1000						
XNQ				⇑S	**Sg**	**04 53 24.5**	**-0.7**
ATGJ	**Altiaghaj**	**0.42**	**89**	⇓P	**Pg**	**04 53 20.6**	**-0.2**
ATGJ				⇑S	**Sb**	**04 53 28.1**	**+0.5**
QBL	**Gabala**	**0.42**	**283**	P	**Pg**	**04 53 20.4**	**-0.5**
	SNR=273						
QBL				⇑S	**Sb**	**04 53 27.7**	**+0.1**
SIZA	**Siyzn**	**0.45**	**60**	⇑P	**Pg**	**04 53 21.2**	**-0.1**
SIZA				⇑S	**Sb**	**04 53 28.6**	**+0.2**
KDMR	**Kurdemir**	**0.50**	**198**	⇑P	**Pg**	**04 53 22.7**	**+0.5**
KDMR				⇑S	**Sb**	**04 53 30.9**	**+1.2**
QUBA	**Quba, Azerbaij**	**0.51**	**9**	⇓P	**Pg**	**04 53 22.6**	**+0.2**
QUBA				⇓S	**Sb**	**04 53 30.8**	**+0.7**
GBS	**Qobustan**	**0.53**	**127**	⇓P	**Pb**	**04 53 24.0**	**+0.8**
GBS				⇑S	**Sn**	**04 53 32.8**	**-1.1**
QSAR	**Qusar**	**0.67**	**352**	⇓P	**Pg**	**04 53 25.2**	**-0.2**
QSAR				⇓S	**Sb**	**04 53 34.7**	**0.0**
KSMR	**Kasumkent**	**0.77**	**346**	*i* PG	**Pg**	**04 53 27.0**	**-0.4**
KSMR				*e*S	**Sg**	**04 53 37.7**	**+0.1**
KSMR	**Kasumkent**	**0.77**	**346**	*i* Pg	**Pg**	**04 53 27.0**	**-0.4**
KSMR				*e*Sg	**Sg**	**04 53 37.7**	**+0.1**
ZRD	**Zardab**	**0.78**	**223**	⇓P	**Pb**	**04 53 28.1**	**+0.6**
AKT	**Akhty**	**0.80**	**322**	*i* PG	**Pg**	**04 53 26.6**	**-1.2**
AKT				pmax	pmax		
	comp=Z,1μm,0.4s						
AKT	**Akhty**	**0.80**	**322**	*i* Pg	**Pg**	**04 53 26.6**	**-1.2**
	comp=Z,1μm,0.4s						
SEKA	**Sheki**	**0.96**	**292**	PG	**Pb**	**04 53 29.3**	**-1.4**
SEKA	**Sheki**	**0.96**	**292**	⇓P	**Pb**	**04 53 29.3**	**-1.4**
SEKA				⇓S	**Sg**	**04 53 44.4**	**+0.8**
MNGR	**Mingechevir, A**	**0.99**	**266**	PG	**Pb**	**04 53 30.8**	**-0.2**
MNGR	**Mingechevir, A**	**0.99**	**266**	⇓P	**Pb**	**04 53 30.8**	**-0.2**
	SNR=16						
MNGR				⇓S	**Sn**	**04 53 46.2**	**+1.1**
SAAT	**Saatly**	**0.99**	**178**	⇑P	**Pb**	**04 53 29.8**	**-1.2**
SAAT				⇑S	**Sn**	**04 53 45.7**	**+0.5**
ALIB	**Äli-Bayra**	**1.01**	**152**	⇓P	**Pn**	**04 53 33.5**	**+1.7**
ALIB				⇓S	**Sn**	**04 53 46.7**	**+1.0**
BRDA	**Brd**	**1.09**	**238**	⇑P	**Pb**	**04 53 33.0**	**+0.3**
	SNR=22						
BRDA				⇑S	**Sn**	**04 53 49.9**	**+2.3**
GOBA	**Gobu**	**1.12**	**113**	⇓P	**Pg**	**04 53 35.5**	**+1.6**
GOBA				⇑S	**Sn**	**04 53 49.7**	**+1.3**
DRN	**Derbent**	**1.18**	**358**	*e*PG	**Pn**	**04 53 34.3**	**+0.2**
DRN				*i*		04 53 51.1	
DRN				pmax	pmax		
	comp=Z,416nm,0.7s						
DRN				smax	smax		
	comp=N,1μm,0.7s						
DRN	**Derbent**	**1.18**	**358**	*e*Pg	**Pn**	**04 53 34.3**	**+0.2**
	comp=N,416nm,0.7s						
DRN				*i* Sg	**Sg**	**04 53 51.1**	**+0.7**
	comp=N,1μm,0.7s						
NDR	**Nardaran**	**1.25**	**102**	⇑P	**Pg**	**04 53 36.7**	**+0.4**
NDR				⇑S	**Sg**	**04 53 53.2**	**+0.6**
GALA	**Gala**	**1.42**	**108**	⇓S	**Sg**	**04 53 58.3**	**+0.3**
URKR	**Urkarakh**	**1.43**	**337**	*i* PG	**Pn**	**04 53 38.3**	**+0.6**
URKR				pmax	pmax		
	comp=Z,951nm,0.2s						
URKR	**Urkarakh**	**1.43**	**337**	*i* Pg	**Pn**	**04 53 38.3**	**+0.6**
	comp=Z,951nm,0.2s						
ZKTA	**Zakatala**	**1.54**	**301**	PN	**Pn**	**04 53 39.2**	**0.0**
ZKTA	**Zakatala**	**1.54**	**301**	Pn	**Pn**	**04 53 39.2**	**0.0**
GANJ	**Ganja**	**1.58**	**263**	PN	**Pn**	**04 53 38.8**	**-0.9**
GANJ	**Ganja**	**1.58**	**263**	⇓Pn	**Pn**	**04 53 38.8**	**-0.9**
GANJ				⇑Sn	**Sn**	**04 53 59.7**	**-0.1**
KMKR	**Kumukh**	**1.60**	**323**	*i* PN	**Pn**	**04 53 41.0**	**+0.9**
KMKR				pmax	pmax		
	comp=Z,470nm,0.2s						
KMKR	**Kumukh**	**1.60**	**323**	*i* Pn	**Pn**	**04 53 41.0**	**+0.9**
	comp=Z,470nm,0.2s						
GNBR	**Gunib**	**1.87**	**326**	⇑*i*PN	**Pb**	**04 53 47.2**	**+1.1**
GNBR				pmax	pmax		
	comp=Z,374nm,0.6s						
GNBR	**Gunib**	**1.87**	**326**	*i* Pn	**Pb**	**04 53 47.2**	**+1.1**
	comp=Z,374nm,0.6s						
GDB	**GEDABAY**	**2.00**	**267**	⇑Pn	**Pn**	**04 53 44.9**	**-0.7**
GDB				⇑Sn	**Sn**	**04 54 10.5**	**+0.1**
XNZR	**Khunzakh**	**2.10**	**324**	⇓*e*PN	**Pb**	**04 53 51.6**	**+1.4**
XNZR				*e*		04 54 18.8	
XNZR	**Khunzakh**	**2.10**	**324**	*e*Pn	**Pb**	**04 53 51.6**	**+1.4**
XNZR				*e*Sn	**Sg**	**04 54 18.8**	**-1.2**
LKRN	**Lenkeran, Azer**	**2.16**	**172**	PN	**Pn**	**04 53 47.4**	**-0.2**
LKRN	**Lenkeran, Azer**	**2.16**	**172**	⇑Pn	**Pn**	**04 53 47.4**	**-0.2**
	SNR=4.5						
LKRN				⇑Sn	**Sb**	**04 54 17.6**	**0.0**
LRK	**Lerik**	**2.21**	**181**	Pn	**Pn**	**04 53 48.8**	**+0.4**
	SNR=19						
LRK				⇑Sn	**Sb**	**04 54 18.5**	**-0.6**
MAK	**Makhachkala**	**2.21**	**343**	*e*PN	**Pb**	**04 53 50.6**	**-1.2**
MAK				*e*S	**Sg**	**04 54 22.2**	**-1.0**
MAK				pmax	pmax		
	comp=Z,134nm,0.3s						
MAK				smax	smax		
	comp=N,1μm,0.4s						
MAK				smax	smax		
	comp=N,995nm,0.4s						
MAK				MLR	MLR		
	comp=Z,246nm,14.0s						
MAK	**Makhachkala**	**2.21**	**343**	*e*Pn	**Pb**	**04 53 50.6**	**-1.2**
	comp=Z,134nm,0.3s						
KRNR	**Karanay**	**2.26**	**331**	*e*PN	**Pb**	**04 53 53.5**	**+0.7**
KRNR				*e*S	**Sg**	**04 54 25.5**	**+0.5**
KRNR				pmax	pmax		
	comp=Z,103nm,0.2s						
KRNR	**Karanay**	**2.26**	**331**	*e*Pn	**Pb**	**04 53 53.5**	**+0.7**
	comp=Z,103nm,0.2s						
QZX	**Qazax, Azerbai**	**2.29**	**276**	⇑Pn	**Pn**	**04 53 49.6**	**+0.2**
QZX				⇑Sn	**Sn**	**04 54 19.0**	**+1.7**
ASTR	**Astara**	**2.31**	**172**	⇓Pn	**Pn**	**04 53 49.5**	**-0.2**
ASTR				⇑Sn	**Sb**	**04 54 20.5**	**-1.4**
BTLR	**Botlikh**	**2.43**	**319**	⇑*e*PN	**Pb**	**04 53 57.1**	**+1.5**
BTLR				*e*		04 54 31.4	
BTLR				pmax	pmax		
	comp=Z,144nm,0.5s						
BTLR				smax	smax		
	comp=N,296nm,1.0s						
BTLR	**Botlikh**	**2.43**	**319**	*e*Pn	**Pb**	**04 53 57.1**	**+1.5**
	comp=N,144nm,0.5s						
BTLR				*e*Sb	**Sg**	**04 54 31.4**	**+1.1**
	comp=N,296nm,1.0s						
DBC	**Dubki**	**2.46**	**332**	*e*PN	**Pb**	**04 53 55.2**	**-0.9**
DBC				*e*S	**Sb**	**04 54 26.0**	**-0.2**
DBC	**Dubki**	**2.46**	**332**	*e*Pn	**Pb**	**04 53 55.2**	**-0.9**
DBC				*e*Sn	**Sb**	**04 54 26.0**	**-0.2**
DLMR	**Dylym**	**2.57**	**330**	*e*PN	**Pb**	**04 53 57.5**	**-0.6**
DLMR				*e*S	**Sg**	**04 54 34.5**	**-0.5**
DLMR				pmax	pmax		
	comp=Z,173nm,0.4s						
DLMR	**Dylym**	**2.57**	**330**

AB31	**Akbulak array**	**11.71**	**40**	P	**Pn**	**04 56 00.9**	**+2.3**
AB31	**Akbulak array**	**11.71**	**40**	Pg	**Pn**	**04 56 00.9**	**+2.3**
	comp=Z,0.8nm,0.5s,SNR=16						
AB31				Lg	Lg	04 58 04.8	
	comp=Z,2.4nm,0.8s,SNR=3.3						
AKASG	**Malin Array Be**	**16.56**	**313**	Pn	**Pn**	**04 56 59.8**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=122,slow=12,SNR=3.3						
ARU	**Arti**	**16.95**	**20**	Pn	**Pn**	**04 57 05.5**	**-3.0**
	comp=Z,0.0nm,0.3s,baz=207,slow=6.8,SNR=1.9						
BVAR	**Borovoye Array**	**19.25**	**43**	P	**Pn**	**04 57 36.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=230,slow=12,SNR=6.6						
BVAR				S	**Sn**	**05 01 04.5**	**-7.6**
	comp=Z,0.1nm,0.3s,baz=236,slow=23,SNR=2.7						
AAK	**Ala-Archa**	**19.54**	**76**	P	**Pn**	**04 57 40.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=255,slow=9.6,SNR=4.5						
VYHS	**Vyhne**	**22.26**	**300**	*e*P	**P**	**04 58 13.7**	**+5.3**
VYHS	**Vyhne**	**22.26**	**300**	*e*P	**P**	**04 58 13.7**	**+5.3**
KURBB	**Kurchatov Arra**	**23.05**	**55**	P	**P**	**04 58 17.5**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=257,slow=11,SNR=3.3						
KURK	**Kurchatov**	**23.13**	**55**	P	**P**	**04 58 17.5**	**0.0**
FINES	**FINESS Array B**	**24.68**	**334**	P	**P**	**04 58 31.4**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=134,slow=9.8,SNR=20						
MKAR	**Makanchi Array**	**25.04**	**65**	P	**P**	**04 58 36.3**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=262,slow=9.7,SNR=13						
GERES	**GERESS Array B**	**25.68**	**300**	P	**P**	**04 58 42.9**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=102,slow=9.4,SNR=2.5						
ZALV	**Zalesovo Beam**	**27.59**	**49**	LR	LR	05 13 04.2	
	comp=Z,32nm,18.1s,baz=256,slow=43						
HFS	**Hagfors**	**28.80**	**324**	P	**P**	**04 59 08.3**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=121,slow=10,SNR=5.6						
ARCES	**ARCESS Array B**	**31.16**	**345**	P	**P**	**04 59 30.9**	**+0.9**
	comp=Z,11nm,1.2s,baz=148,slow=9.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**49.14**	**250**	P	**P**	**05 01 58.3**	**-1.2**
	comp=Z,0.5nm,1.0s,baz=42,slow=9.2,SNR=3.0						
YKA	**Yellowknife Ar**	**76.09**	**352**	P	**P**	**05 04 59.5**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=8.0,slow=5.6,SNR=6.4						

IDC ***12*** *04:58:41.8±1.5,51.68N×96.45E, h0km, mb3.7/4, mb1 3.5/8, mb1mx3.2/76, mbtmp3.4/8, ML2.8/4, Error ellipse: s-maj=32.5km s-min=19.6km az=14.0*
MOS ***12*** *04:58:41.6±2.4,51.69N×96.04E, h10km, mb4.0/4, Error ellipse: s-maj=23.8km s-min=11.5km az=176.5*
ISCJB ***12*** *04:58:44.8±0.7,51.9N±0.1×95.94E±0.09, h10km, mb3.5/5, Error ellipse: s-maj=19.8km s-min=7.6km az=168.6*

ISC 12 04:58:43.7±0.8, 51.9N±0.1×95.99E±0.06, h10km, n19, σ1s72/16, mb3.6/5, 1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.61**	**244**	*d i* PN		**Pn**	**04 59 10.1**	**-2.1**
ORL	**Orlik**	**2.44**	**72**	*e* PN		**Pb**	**04 59 25.2**	**-2.6**
ORL				*e*			04 59 57.9	
ORL				pmax		pmax		
	comp=Z,100nm,0.6s							
ORL				smax		smax		
	comp=N,361nm,0.9s							
MOY	**Mondy**	**3.11**	**92**	*e* PN		**Pb**	**04 59 37.4**	**-1.7**
MOY				*e*			05 00 18.2	
MOY				pmax		pmax		
	comp=Z,79nm,0.8s							
MOY				smax		smax		
	comp=N,406nm,0.8s							
ARS	**Arshan**	**3.98**	**87**	*e* PN		**Pb**	**04 59 53.1**	**-0.9**
ARS				*e*			05 00 46.7	
ARS				pmax		pmax		
	comp=Z,101nm,0.7s							
ARS				smax		smax		
	comp=E,483nm,0.5s							
TLY	**Talaya**	**4.75**	**89**	*e* PN		**Pb**	**05 00 06.9**	**-0.2**
TLY				*e*			05 01 07.3	
TLY				pmax		pmax		
	comp=Z,12nm,0.3s							
ZAK	**Zakamensk**	**4.82**	**105**	*e* PN		**Pb**	**05 00 06.5**	**-1.8**
ZAK				*e*			05 01 09.3	
ZAK				pmax		pmax		
	comp=Z,33nm,0.8s							
ZAK				smax		smax		
	comp=E,165nm,1.3s							
IRK	**Irkutsk**	**5.12**	**82**	*e* PN		**Pb**	**05 00 13.5**	**+0.2**
IRK				*e*			05 01 19.4	
IRK				pmax		pmax		
	comp=Z,146nm,0.2s							
IRK				smax		smax		
	comp=N,302nm,0.8s							
TRG	**Tyrgan**	**6.42**	**78**	*e* PN		**Pn**	**05 00 18.1**	**-0.1**
TRG				*e*			05 00 37.2	
TRG				*e*			05 01 57.6	
TRG				pmax		pmax		
	comp=Z,16nm,0.9s							
TRG				smax		smax		
	comp=N,120nm,1.1s							
ZALV	**Zalesovo Beam**	**7.08**	**292**	Pn		Pn	05 00 32.6	+5.4
	comp=N,0.3nm,0.3s,baz=105,slow=14,SNR=3.1							
ZALV				Sn		Sn	05 01 57.5	+10
	comp=N,1.0nm,0.3s,baz=107,slow=19,SNR=3.6							
ZALV				Lg		Lg	05 02 21.2	
	comp=N,1.9nm,0.3s,baz=117,slow=24,SNR=5.8							
SONM	**Songino Array**	**7.84**	**117**	Pg		**Pb**	**05 01 00.2**	**+0.6**
	comp=N,0.2nm,0.3s,baz=302,slow=13,SNR=13							
SONM				Lg		Lg	05 02 43.4	
	comp=N,1.2nm,0.3s,baz=297,slow=29,SNR=7.2							
MKAR	**Makanchi Array**	**10.28**	**246**	Pn		**Pn**	**05 01 12.6**	**+1.5**
	comp=N,0.1nm,0.3s,baz=70,slow=15,SNR=4.7							
MKAR				Sn		Sn	05 03 12.4	+6.1
	comp=N,0.2nm,0.3s,baz=48,slow=20,SNR=4.2							
MKAR				Lg		Lg	05 04 01.7	
	comp=N,0.4nm,0.3s,baz=70,slow=30,SNR=4.2							
KURK	**Kurchatov**	**10.94**	**271**	P		Pn	05 01 25.5	+5.3
KURBB	**Kurchatov Arra**	**11.02**	**270**	Pn		Pn	05 01 25.5	+4.2
	comp=N,0.0nm,0.3s,baz=73,slow=15,SNR=3.9							
KURBB				Sn		Sn	05 03 42.0	+18
	comp=N,0.1nm,0.3s,baz=74,slow=26,SNR=4.1							
KURBB				Lg		Lg	05 04 28.7	
	comp=N,0.1nm,0.3s,baz=323,slow=19,SNR=6.7							
BVAR	**Borovoye Array**	**15.63**	**284**	Pn		**P**	**05 02 25.4**	**-2.7**
	comp=N,0.1nm,0.3s,baz=93,slow=11,SNR=2.6							
AKTO	**Aktyubinsk**	**23.69**	**282**	P		**P**	**05 03 54.9**	**-0.4**
	comp=N,1.1nm,0.5s,baz=90,slow=9.2,SNR=4.3							
BRTR	**Keskin Array B**	**43.84**	**279**	P		**P**	**05 06 50.8**	**+0.9**
	comp=N,0.5nm,0.7s,baz=69,slow=7.9,SNR=2.6							
HFS	**Hagfors**	**43.88**	**314**	P		**P**	**05 06 52.5**	**+2.7**
	comp=N,3.0nm,0.9s,baz=61,slow=12,SNR=3.3							
NOA	**NORSAR Array B**	**44.54**	**316**	P		**P**	**05 06 56.6**	**+1.5**
	comp=N,0.7nm,0.8s,baz=80,slow=7.5,SNR=2.5							
TORD	**Torodi Ar. Bea**	**82.41**	**281**	P		**P**	**05 11 05.6**	**-0.5**
	comp=N,0.3nm,0.6s,baz=26,slow=4.7,SNR=3.0							

MEX 12 04:59:14.9±0.9, 15.18N×93.12W, h88km±11km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCIG		**0.53**	**350**	*e* P		Pn	04 59 28.4	-1.2
PCIG				*e* S		Sn	04 59 39.4	-1.3
CCIG	**Comitan**	**1.45**	**41**	*e* P		Pn	04 59 39.6	-0.5
CCIG				*e* S		Sn	04 59 57.9	-1.2
TGIG		**1.59**	**0**	*i* P		Sn	04 59 41.2	-0.6
TGIG				*i* S			04 59 59.6	-2.5

IDC ***12*** *04:59:25.5±2.5, 19.26S×169.57E, h0km, mb4.2/5, mb1 4.3/6, mb1mx3.9/47, mbtmp4.2/6, ML3.6/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/40, Error ellipse: s-maj=70.0km s-min=36.8km az=139.0*

ISC 12 04:59:31.5±2.4, 19.4S±0.3×169.4E±0.4, h35km, n13, σ1s27/9, mb4.2/5, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.87**	**226**	Pn		**Pn**	**05 00 29.2**	**+0.5**
	3.7nm,0.3s,baz=48,slow=21,SNR=21							
DZM				Sn		**Sn**	**05 01 11.7**	**-1.2**
	4.2nm,0.3s,baz=85,slow=21,SNR=1.7							
DZM				LR		LR	05 01 56.0	
	comp=Z,844nm,18.4s,baz=40,slow=37							
HNR	**Honiara**	**13.50**	**316**	LR		LR	05 07 10.8	
	comp=Z,126nm,19.9s,baz=121,slow=34							
AFI	**Afiamalu**	**18.80**	**76**	LR		LR	05 10 19.4	
	comp=Z,123nm,19.3s,baz=244,slow=35							
URZ	**Urewera**	**19.95**	**162**	LR		LR	05 09 49.0	
	comp=Z,83nm,20.9s,baz=14,slow=31							
CTA	**Charters Tower**	**21.83**	**264**	P		**P**	**05 04 22.8**	**+1.7**
	9.2nm,1.0s,baz=105,slow=12,SNR=3.1							
STKA	**Stephens Creek**	**27.92**	**238**	LR		LR	05 16 13.8	
	comp=Z,90nm,19.0s,baz=31,slow=36							
WRA	**Warramunga Arr**	**33.02**	**263**	P		**P**	**05 06 03.3**	**-0.5**
	1.2nm,0.8s,baz=96,slow=8.5,SNR=5.5							
ASAR	**Alice Springs**	**33.27**	**256**	P		**P**	**05 06 05.0**	**-0.9**
	4.6nm,0.7s,baz=85,slow=9.0,SNR=38							
ASAR				PcP		**PcP**	**05 08 49.4**	**+1.6**
	0.4nm,0.7s,baz=64,slow=4.2,SNR=2.6							
GUMO	**Guam**		**40.74**	**322**	LR	LR	05 22 46.9	
	comp=Z,34nm,18.4s,baz=102,slow=34							
FITZ	**Fitzroy Crossi**	**41.41**	**264**	P		**P**	**05 07 15.1**	**+0.2**
	5.2nm,0.7s,baz=109,slow=8.5							
NWAO	**Narrogin (SRO)**	**48.31**	**243**	LR		LR	05 28 01.6	
	comp=Z,148nm,18.6s,baz=350,slow=35							
SONM	**Songino Array**	**87.45**	**323**	P		**P**	**05 12 14.3**	**-1.1**
	0.8nm,0.9s,baz=127,slow=4.3,SNR=4.6							
GERES	**GERESS Array B**	**144.71**	**332**	PKP		**PKPab**	**05 19 03.0**	**-0.4**
	0.7nm,0.8s,baz=54,slow=1.7,SNR=3.4							

IDC ***12*** *05:03:34.6±0.6, 5.43N×82.55W, h0km, mb4.3/18, mb1 4.6/23, mb1mx4.4/44, mbtmp4.4/23, ML4.2/5, MS4.0/22, Ms1 4.0/22, ms1mx3.8/41, Error ellipse: s-maj=24.6km s-min=11.5km az=56.0*
CASC ***12*** *05:03:36.7±1.5, 5.82N×82.24W, h0km±97km, MD4.4, mb4.7(NEIC)*
ISCJB ***12*** *05:03:36.3±0.2, 5.65N±0.03×82.38W±0.03, h15km, mb4.7/165, MS4.0/19, Error ellipse: s-maj=4.9km s-min=2.8km az=41.9*
BJI ***12*** *05:03:36.0, 5.50N×82.50W, h10km, Ms5.1/1, Ms7 4.9/1*
NEIC ***12*** *05:03:39.9±1.6, 5.42N×82.55W, h31km±12km, mb4.7/158, Error ellipse: s-maj=6.3km s-min=4.0km az=47.0*
GCMT ***12*** *05:03:39.9±0.2, 5.40N×82.61W, h20km±1km, MW5.0/99, Moment Tensor Solution. s41,c55; s99,c143; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.34±.11; Mθθ 0.29±.09; Mϕϕ 0.05±.11; Mrθ 0.57±.19; Mϕθ±.10; Mϕr 0.64±.18; Best double couple: Mo 3.74700×10^16 NP1:ϕs 0.00000°, δ83.00000°, λ171.00000°. NP2: ϕs 91.00000°, δ81.00000°, λ7.00000°. Principal axes: T 4.0020, Plg11.0000°, Azm316.0000°; N -0.5110, Plg79.0000°, Azm142.0000°; P -3.4920, Plg1.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 05:03:37.4±0.4, 5.46N±0.05×82.56W±0.05, h15km, n644, σ1s35/632, mb4.7/165, MS4.0/19, 4C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.73**	**147**	*e* P		Pn	05 04 01.0	-5.9
PTJ1	**Puerto Jim˜ne**	**3.15**	**347**	*e* P		**Pn**	**05 04 23.6**	**-2.8**
BRU2	**Volcan**	**3.32**	**358**	*i* P		**Pn**	**05 04 26.5**	**-2.4**
EDSV	**San Vito**	**3.37**	**353**	*e* P		**Pn**	**05 04 29.2**	**-0.3**
EDPN	**Palmar Norte**	**3.59**	**346**	*e* P		**Pn**	**05 04 30.1**	**-2.5**
EDPN				*e* S		**Sn**	**05 05 12.6**	**-2.2**
EDBA	**Buenos Aires**	**3.75**	**349**	*i* P		**Pn**	**05 04 33.4**	**-1.4**
DRK0	**Durika**	**3.84**	**350**	*e* P		**Pn**	**05 04 33.7**	**-2.4**
EDLM	**Las Mercedes**	**3.93**	**345**	*i* P		**Pn**	**05 04 35.6**	**-1.7**
EDLM				*e* S		**Sn**	**05 05 21.4**	**-1.9**
EDDO	**Dominical**	**3.99**	**341**	*e* P		**Pn**	**05 04 35.2**	**-2.8**
LCR2	**La Lucha 2**	**4.49**	**342**	*i* P		**Pn**	**05 04 42.7**	**-2.5**
BCIP	**Isla Barro Col**	**4.57**	**36**	*e* Pn		**Pn**	**05 04 46.9**	**+0.9**
BCIP	**Isla Barro Col**	**4.57**	**36**	*e* P		**Pn**	**05 04 47.0**	**+0.9**
CVTR	**Volcan Turrial**	**4.69**	**345**	*i* P		**Pn**	**05 04 46.2**	**-1.8**
SJS	**Escuela Geolog**	**4.69**	**342**	*e* P		**Pn**	**05 04 45.2**	**-2.6**
HDC	**Heredia**	**4.77**	**341**	*e* Pn		**Pn**	**05 04 47.1**	**-1.8**
HDC				*e* Sn		**Sn**	**05 05 42.8**	**-1.2**
SRA1	**San Ram˜tn**	**4.98**	**338**	*e* P		**Pn**	**05 04 49.2**	**-2.6**
GRGC	**Isla de Gorgon**	**5.01**	**119**	*e* P		**Pn**	**05 04 48.4**	**-3.7**
SOLC	**Bahia Solano**	**5.18**	**81**	*e* P		**Pn**	**05 04 53.2**	**-1.2**
TUMC	**Tumaco**	**5.26**	**133**	*e* Pn		**Pn**	**05 04 53.5**	**-2.0**
JTS	**JuntasAbangare**	**5.36**	**334**	Pn		**Pn**	**05 04 54.8**	**-2.0**
	64nm,0.3s,baz=173,slow=18,SNR=56							
JTS				Sn		**Sn**	**05 05 56.0**	**-2.3**
	50nm,0.3s,baz=131,slow=23,SNR=19							
AMAS	**Alto Masis**	**5.66**	**335**	*e* P		**Pn**	**05 04 59.8**	**-1.3**
ACAL	**Aguas Claras**	**5.70**	**335**	*e* P		**Pn**	**05 05 00.6**	**-1.0**
CUI	**Cuipilapa**	**5.78**	**334**	*e* P		**Pn**	**05 05 02.2**	**-0.5**
CUI				*e* S		**Sn**	**05 06 07.4**	**-1.3**
COLC	**Colonia**	**5.80**	**333**	*e* P		**Pn**	**05 05 01.7**	**-1.2**
HORNC	**Hornillas**	**5.83**	**334**	*e* P		**Pn**	**05 05 01.9**	**-1.5**
GUAB	**Guayabo de Bag**	**5.85**	**333**	*e* P		**Pn**	**05 05 03.5**	**-0.2**
LIM1	**Limonal**	**5.85**	**333**	*e* P		**Pn**	**05 05 03.6**	**0.0**
MESS	**Mesas**	**5.86**	**334**	*e* P		**Pn**	**05 05 02.3**	**-1.6**
LAPC	**Finca la Perla**	**5.99**	**332**	*e* P		**Pn**	**05 05 05.0**	**-0.6**
BUAI	**Buenos Aires**	**6.04**	**333**	*e* P		Pn	05 05 13.1	+6.8
CAPC	**Capurgana**	**6.06**	**58**	*e* P		**Pn**	**05 05 08.6**	**+2.1**
OTAV	**Otavalo**	**6.61**	**142**	*e* Pn		**Pn**	**05 05 12.0**	**-2.5**
HELC	**Santa Helena**	**7.03**	**84**	*e* Pn		**Pn**	**05 05 20.6**	**+0.3**
HELC				*e* Sn		**Sn**	**05 06 36.5**	**-3.6**
COPN	**Copaltepe**	**7.78**	**329**	*e* P		**Pn**	**05 05 30.3**	**+0.2**
PRAC	**Prado**	**7.84**	**102**	*e* Pn		**Pn**	**05 05 32.1**	**+1.1**
PRAC				*e* Sn		**Sn**	**05 07 01.6**	**+1.9**
ROSC	**El Rosal**	**8.23**	**94**	Pn		**Pn**	**05 05 40.9**	**+4.2**
	8.1nm,0.3s,baz=6.6,slow=7.4,SNR=23							
ROSC	**El Rosal**	**8.23**	**94**	*e* Pn		**Pn**	**05 05 40.7**	**+4.0**
LCND	**La Ca˜–ada**	**9.41**	**326**	*e* P		**Pn**	**05 05 53.7**	**+1.2**
RUSC	**La Rusia**	**9.44**	**347**	*e* Pn		**Pn**	**05 05 57.0**	**+3.6**
TGUH	**Tegucigalpa,Un**	**9.72**	**332**	*e* Pn		**Pn**	**05 06 00.4**	**+3.8**
TGUH	**Tegucigalpa,Un**	**9.72**	**332**	*e* P		**Pn**	**05 05 58.4**	**+1.5**
PAYG	**Puerto Ayora**	**9.83**	**232**	*e* Pn		**Pn**	**05 05 59.3**	**+1.0**
TECA	**Tecapa**	**9.90**	**324**	*e* P		**Pn**	**05 06 01.3**	**+1.8**
PAVA	**Las Pavas**	**10.33**	**323**	*e* P		**Pn**	**05 06 07.7**	**+2.5**
LFRS	**El Faro**	**10.34**	**322**	*e* P		**Pn**	**05 06 07.1**	**+1.8**
LBRS	**Las Brisas**	**10.42**	**323**	*e* P		**Pn**	**05 06 08.7**	**+2.3**
LFU	**La Fuente**	**10.47**	**322**	*e* P		**Pn**	**05 06 09.5**	**+2.4**
SNET	**Serv Nac Est T**	**10.49**	**322**	*e* Pn		**Pn**	**05 06 10.7**	**+3.2**
UEES	**San Salvador**	**10.53**	**322**	*e* P		**Pn**	**05 06 10.0**	**+2.0**
BOQS	**Boqueron**	**10.56**	**322**	*e* P		**Pn**	**05 06 11.3**	**+2.8**
SBLS	**San Blas**	**10.85**	**321**	*e* P		**Pn**	**05 06 15.1**	**+2.6**
RTR	**El Retiro**	**10.91**	**321**	*e* P		**Pn**	**05 06 16.2**	**+3.0**
IXG	**Ixpaco**	**11.64**	**319**	*e* P		**Pn**	**05 06 25.7**	**+2.5**
SDV	**Santo Domingo**	**12.31**	**73**	Pn		**Pn**	**05 06 34.9**	**+2.4**
	2.4nm,0.3s,baz=251,slow=10,SNR=37							
SDV				Sn		**Sn**	**05 08 49.8**	**+0.1**
	2.4nm,0.3s,baz=1.1,slow=18,SNR=4.6							
SDV				LR		LR	05 11 12.3	
	comp=Z,433nm,19.7s,baz=242,slow=37							
SDV	**Santo Domingo**	**12.31**	**73**	*e* Pn		**Pn**	**05 06 34.9**	**+2.4**
SDV				*e* Sn		**Sn**	**05 08 48.8**	**-0.8**
ATAH	**Atahualpa**	**13.18**	**162**	Pn		**Pn**	**05 06 43.5**	**-1.0**
	0.9nm,0.3s,baz=4.8,slow=9.9,SNR=6.4							
ATAH				LR		LR	05 11 11.2	
	comp=Z,2µm,21.4s,baz=337,slow=35							
CMIG	**Matias Romero**	**16.71**	**315**	Pn		**Pn**	**05 07 30.4**	**-0.7**
	0.2nm,0.3s,baz=98,slow=10.0,SNR=8.4							
CMIG				LR		LR	05 12 59.2	
	comp=Z,691nm,19.6s,baz=122,slow=34							
MYIG	**MØrida**	**16.91**	**336**	*e* Pn		**Pn**	**05 07 32.8**	**-0.8**
	345nm,1.4s							
SDDR	**Presa de Saban**	**17.36**	**38**	*e* P		**P**	**05 07 42.1**	**+1.5**
	56nm,1.1s							
SDD	**Santo Domingo**	**17.87**	**43**	*e* Pn		**Pn**	**05 07 43.5**	**-2.0**
	217nm,1.4s							
NNA	**Nana**	**18.24**	**162**	P		**Pn**	**05 07 49.9**	**-0.3**
	0.9nm,0.3s,baz=318,slow=10.0,SNR=15							
NNA				LR		LR	05 14 14.4	
	comp=Z,331nm,20.6s,baz=318,slow=35							
PCRV	**Puerto La Cruz**	**18.36**	**74**	P		**P**	**05 07 52.9**	**+1.2**
	0.7nm,0.3s,baz=288,slow=7.2,SNR=4.6							
SJG	**San Juan**	**20.38**	**51**	P		Pn	05 08 16.2	+0.4
	53nm,0.9s,baz=248,slow=6.6,SNR=14							
SJG				LR		LR	05 15 38.5	
	comp=Z,313nm,21.1s,baz=228,slow=36							
SJG	**San Juan**	**20.38**	**51**	*e* P		Pn	05 08 16.1	+0.4
	137nm,1.2s							
HUMP	**Col San Antoni**	**20.62**	**51**	*e* P		Pn	05 08 18.4	-0.3
	184nm,1.4s							
CBYP	**Canovanas**	**20.69**	**51**	*e* P		Pn	05 08 19.8	+0.2
	120nm,1.3s							
MTP	**Monte Pirata**	**20.83**	**51**	*e* P		**P**	**05 08 19.7**	**+1.1**
	153nm,1.2s							
DWPF	**Disney Wildern**	**22.55**	**3**	P		**P**	**05 08 39.2**	**+2.2**
	baz=183							
857A	**Zephyrhills**	**22.69**	**1**	P		**P**	**05 08 40.1**	**+1.6**
	baz=181							
PTGA	**Pitinga**	**23.39**	**105**	P		**P**	**05 08 46.0**	**+0.2**
	2.7nm,0.7s,baz=238,slow=9.5,SNR=4.2							
PTGA				LR		LR	05 17 58.8	
	comp=Z,416nm,18.6s,baz=284,slow=37							
PTGA	**Pitinga**	**23.39**	**105**	*e* P		**P**	**05 08 49.2**	**+3.4**

	12nm,0.9s							
657A	**Interlachen**	**24.01**	**1**	P		**P**	**05 08 53.0**	**+1.3**
	baz=182							
SAML	**Samuel**	**24.04**	**126**	*e* P		**P**	**05 08 50.5**	**-1.6**
	43nm,0.9s							
556A	**Lake Butler**	**24.41**	**0**	P		**P**	**05 08 56.4**	**+1.0**
	baz=180							
557A	**Orange Park**	**24.44**	**2**	P		**P**	**05 08 56.5**	**+0.9**
	baz=182							
554A	**Perry**	**24.52**	**358**	P		**P**	**05 08 58.0**	**+1.6**
	baz=177							
555A	**McAlpin**	**24.54**	**359**	P		**P**	**05 08 58.4**	**+1.9**
	baz=179							
454A	**Quitman**	**25.14**	**358**	P		**P**	**05 09 03.5**	**+1.5**
	baz=178							
LNIG	**Linares**	**25.24**	**322**	*e* P		**P**	**05 09 03.0**	**+0.1**
	40nm,1.2s							
450A	**Crestview**	**25.50**	**352**	P		**P**	**05 09 06.4**	**+1.2**
	baz=171							
351A	**Pinckard**	**25.84**	**354**	P		**P**	**05 09 09.5**	**+1.2**
	baz=173,SNR=5.5							
ZAIG	**Zacatecas**	**25.87**	**314**	*e* P		**P**	**05 09 11.4**	**+2.3**
LPAZ	**La Paz**	**25.90**	**147**	P		**P**	**05 09 09.7**	**0.0**
	5.6nm,0.7s,baz=357,slow=4.9,SNR=17							
LPAZ				LR		LR	05 20 28.8	
	comp=Z,1µm,20.1s,baz=310,slow=39							
LPAZ	**La Paz**	**25.90**	**147**	*e* P		**P**	**05 09 09.4**	**-0.3**
BRAL	**Brewton**	**25.92**	**351**	*e* P		**P**	**05 09 12.7**	**+3.6**
	253nm,1.8s							
446A	**Poplarville**	**26.00**	**347**	P		**P**	**05 09 10.7**	**+0.9**
	baz=164							
350A	**Dozier**	**26.07**	**353**	P		**P**	**05 09 11.6**	**+1.2**
	baz=171							
349A	**Repton**	**26.12**	**351**	P		**P**	**05 09 12.0**	**+1.1**
	baz=170							
KVTX	**Kingsville**	**26.37**	**328**	*e* P		**P**	**05 09 15.4**	**+2.2**
	59nm,1.1s							
347A	**Saraland**	**26.41**	**348**	P		**P**	**05 09 14.4**	**+0.9**
	baz=167							
250A	**Grady**	**26.61**	**353**	P		**P**	**05 09 16.0**	**+0.7**
	baz=172							
251A	**Midway**	**26.63**	**355**	P		**P**	**05 09 16.0**	**+0.5**
	baz=174,SNR=6.0							
249A	**Camden**	**26.73**	**351**	P		**P**	**05 09 17.3**	**+1.0**
	baz=170							
248A	**Dixon Mills**	**26.94**	**350**	P		**P**	**05 09 19.0**	**+0.8**
	baz=169							
344A	**Westbrook Farm**	**26.97**	**344**	P		**P**	**05 09 19.1**	**+0.5**
	baz=162							
151A	**Opelika**	**27.06**	**355**	P		**P**	**05 09 19.8**	**+0.5**
	baz=174							
247A	**Quitman**	**27.06**	**349**	P		**P**	**05 09 19.8**	**+0.5**
	baz=167							
150A	**Eclectic**	**27.20**	**354**	P		**P**	**05 09 21.1**	**+0.5**
	baz=172							
149A	**Jones**	**27.29**	**352**	P		**P**	**05 09 21.6**	**+0.2**
	baz=171							
148A	**Greensboro**	**27.45**	**351**	P		**P**	**05 09 23.1**	**+0.3**
	baz=169							
244A	**Avery, Jackson**	**27.52**	**345**	P		**P**	**05 09 23.8**	**+0.3**
	baz=162							
MNMC	**Minye Minye**	**27.57**	**153**	*e* P		**P**	**05 09 25.1**	**+0.8**
	25nm,1.1s							
147A	**Livingston**	**27.60**	**350**	P		**P**	**05 09 24.6**	**+0.5**
	baz=168							
146A	**Union**	**27.71**	**348**	P		**P**	**05 09 25.7**	**+0.5**
	baz=166							
LRAL	**Lakeview Retre**	**27.75**	**352**	P		**P**	**05 09 25.9**	**+0.4**
	baz=170,SNR=7.2							
LRAL	**Lakeview Retre**	**27.75**	**352**	*e* P		**P**	**05 09 26.0**	**+0.4**
	14nm,0.9s							
GOGA	**Godfrey**	**27.83**	**358**	P		**P**	**05 09 26.5**	**+0.3**
	baz=178							
Z50A	**Ashland**	**27.83**	**354**	P		**P**	**05 09 26.7**	**+0.4**
	baz=173							
Z49A	**Columbiana**	**27.

baz=161,SNR=5.2
WVT Waverly 30.91 352 P P 05 09 52.5 -1.0
baz=170
WVT Waverly 30.91 352 eP P 05 09 52.7 -0.8
14nm,0.8s
TZTN Tazewell 30.95 358 eP P 05 09 54.1 +0.1
24nm,1.3s
X301 Greenbrier Sit 31.00 344 eP P 05 09 52.1 -2.2
6.6nm,0.8s
WHAR Wooly Hollow 31.02 344 eP P 05 09 53.9 -0.6
12nm,0.8s
LTX Lajitas 31.02 322 eP P 05 09 55.3 +0.5
TXAR Lajitas Array 31.02 322 P P 05 09 55.3 +0.5
0.5nm,0.8s,baz=134,slow=9.0,SNR=5.3
TXAR LR LR 05 22 39.1
comp=Z,181nm,19.5s,baz=0.0,slow=37
TX31 Lajitas Ar. Si 31.02 322 eP P 05 09 55.3 +0.6
U48A Cassie Pea, Po 31.12 354 P P 05 09 54.8 -0.6
baz=172,SNR=5.5
U47A Clarksville 31.14 353 P P 05 09 54.6 -0.9
baz=171
U46A Springville 31.18 351 P P 05 09 55.0 -0.9
baz=169,SNR=8.7
U45A Rockin P Farm, 31.27 350 P P 05 09 55.8 -0.9
baz=168
V42A Cord 31.28 346 P P 05 09 55.7 -1.1
baz=163
W39A Magazine 31.36 342 P P 05 09 57.1 -0.4
baz=158
ABTX Abilene, Hawle 31.38 332 eP P 05 09 57.1 -0.7
4.9nm,0.7s
V41A Mountainview 31.45 345 P P 05 09 57.6 -0.8
baz=162,SNR=8.1
U44A Portageville 31.59 349 P P 05 09 58.7 -0.8
baz=166
U43A Rector 31.60 348 P P 05 09 58.8 -0.8
baz=165
V40A Witts Springs 31.64 344 P P 05 09 59.2 -0.9
baz=160
T47A Sharon Grove 31.66 353 P P 05 09 59.4 -0.8
baz=171,SNR=5.2
BLA Blacksburg 31.67 3 P P 05 10 00.3 +0.1
baz=184
BLA Blacksburg 31.67 3 eP P 05 10 01.0 +0.8
11nm,0.8s
T48A Bowling Green 31.70 354 P P 05 09 59.9 -0.6
baz=173
U42A Revenden 31.76 347 P P 05 10 00.3 -0.8
baz=164,SNR=8.3
T46A Princeton 31.81 352 P P 05 10 00.9 -0.5
baz=170,SNR=13
T45A Paducah 31.90 351 P P 05 10 01.3 -1.0
baz=168
V39A Pettigrew 31.91 343 P P 05 10 01.5 -0.9
baz=159
U41A Viola 31.92 346 P P 05 10 01.5 -1.0
baz=162
T44A Benton 32.13 349 P P 05 10 03.4 -0.8
baz=167
U40A Yellville 32.17 344 P P 05 10 04.1 -0.6
baz=161
S48A Wiedeman Farm, 32.21 355 P P 05 10 04.4 -0.5
baz=174
T43A Greenville 32.26 348 P P 05 10 04.6 -0.8
baz=166,SNR=7.6
U39A Green Forest 32.37 343 P P 05 10 05.4 -1.0
baz=159
T42A Van Buren 32.38 347 P P 05 10 05.5 -1.0
baz=164,SNR=11
S46A Don Dixon Farm 32.42 352 P P 05 10 05.9 -0.9
baz=170
LPIG La Paz 32.49 308 LR LR 05 20 23.8
comp=Z,235nm,19.4s,baz=120,slow=31
S45A Carrier Mills 32.54 351 P P 05 10 06.7 -1.2
baz=169
T41A Mountain View 32.55 346 P P 05 10 07.0 -1.0
baz=163,SNR=7.3
TUL1 Leonard 32.66 340 P P 05 10 08.0 -1.0
baz=155
S44A Carbondale 32.66 350 P P 05 10 08.2 -0.8
baz=168
SIUC Southern Illin 32.68 350 eP P 05 10 08.8 -0.2
28nm,1.0s
USIN University of 32.69 353 eP P 05 10 08.6 -0.6
38nm,0.6s
S43A Fulton Ridge, 32.69 349 P P 05 10 08.1 -1.1
baz=166,SNR=5.9
SPRD Spring Road, M 32.70 7 eP P 05 10 06.2 -3.0
17nm,1.3s
IP04 Greensprings 32.74 7 eP P 05 10 10.8 +1.3
43nm,1.8s
WMOK Wichita Mounta 32.77 335 P P 05 10 09.0 -1.0
baz=149
WMOK Wichita Mounta 32.77 335 eP P 05 10 06.5 -3.5
6.4nm,0.9s
WCI Wyandotte Cave 32.80 355 P P 05 10 09.5 -0.6
baz=173
WCI Wyandotte Cave 32.80 355 eP P 05 10 09.9 -0.3
20nm,0.9s
T40A Mansfield 32.83 345 P P 05 10 09.8 -0.7
baz=162
SPFD Spotsylvania F 32.85 7 eP P 05 10 10.0 -0.5
15nm,0.3s
R47A Wooly Knot Far 32.89 354 P P 05 10 10.4 -0.5
baz=173
R46A Gibon Southern 32.91 353 P P 05 10 10.2 -0.9
baz=171,SNR=5.7
T39A Clever 32.94 344 P P 05 10 10.5 -1.0
baz=160
S42A Caledonia 33.03 348 P P 05 10 11.5 -0.7
baz=165
S41A Jillco Farms, 33.06 347 P P 05 10 11.5 -1.0
baz=163
R45A Skylar, Fairfi 33.10 352 P P 05 10 12.2 -0.5
baz=170,SNR=9.4
FVM French Village 33.16 349 eP P 05 10 12.6 -0.7
17nm,1.0s
R44A Waltonville 33.17 351 P P 05 10 12.9 -0.5
baz=168,SNR=9.3
T38A Diamond 33.21 343 P P 05 10 12.8 -1.0
baz=158
S40A Lebanon 33.25 346 P P 05 10 13.4 -0.7
baz=162,SNR=7.4
R43A Red Bud 33.35 349 P P 05 10 14.4 -0.5
baz=167,SNR=16
CCM Cathedral Cave 33.40 347 P P 05 10 14.5 -0.8
baz=164
CCM Cathedral Cave 33.40 347 eP P 05 10 14.4 -0.9
23nm,0.9s
OLIL Olney 33.51 352 eP P 05 10 15.8 -0.4
44nm,0.8s
Q47A Bedord North L 33.51 355 P P 05 10 15.6 -0.8
baz=173,SNR=9.1
R42A Luebbering 33.52 348 P P 05 10 15.4 -1.1
baz=165,SNR=9.0
S39A Bolivar 33.55 344 P P 05 10 15.8 -1.0
baz=160,SNR=12
S38A Stockton 33.66 344 P P 05 10 16.5 -1.2
baz=159
R41A Rosebud 33.66 347 P P 05 10 16.6 -1.0
baz=164,SNR=12
Q45A Warren Harvey, 33.67 352 P P 05 10 17.1 -0.6
baz=170,SNR=12
MNTX Cornudas Mount 33.74 323 P P 05 10 19.0 +0.5
baz=136,SNR=8.0
MNTX Cornudas Mount 33.74 323 eP P 05 10 19.0 +0.5
6.9nm,1.1s
BLO Bloomington 33.75 354 eP P 05 10 18.2 -0.3
20nm,0.8s
SLM Saint Louis 33.76 349 eP P 05 10 18.1 -0.4
38nm,0.8s
Q44A Meyer Farm, Va 33.80 351 P P 05 10 18.0 -0.8
baz=168,SNR=7.4
R40A Maddies Statio 33.85 346 P P 05 10 19.0 -0.4
baz=162,SNR=6.2
Q43A New Douglas 33.95 350 P P 05 10 19.3 -0.9
baz=167,SNR=6.9
MSTX Muleshoe 34.01 329 P P 05 10 20.4 -0.5
baz=142
MSTX Muleshoe 34.01 329 eP P 05 10 21.3 +0.4
5.8nm,1.0s
P47A Martinsville 34.04 355 P P 05 10 20.1 -0.9
baz=173,SNR=5.2
R39A Chumby, Stover 34.07 345 P P 05 10 20.1 -1.1
baz=161,SNR=5.6
Q42A Golden Eagle 34.08 349 P P 05 10 20.5 -0.8
baz=166,SNR=6.9
R38A Fenwick Farm, 34.18 344 P P 05 10 20.9 -1.3
baz=160
P45A Graceland, Par 34.24 353 P P 05 10 21.6 -1.1
baz=171,SNR=6.6
Q41A Truxton 34.26 348 P P 05 10 22.1 -0.8
baz=165,SNR=11
P46A Rosedale 34.27 354 P P 05 10 21.9 -1.0
baz=172
P44A Sand Creek, Wi 34.30 352 P P 05 10 22.3 -0.9
baz=169,SNR=6.9
Q40A Laux Farm, Aux 34.48 347 P P 05 10 23.7 -1.0
baz=163,SNR=6.9
P43A Skaggs, Pawnee 34.61 351 P P 05 10 25.1 -0.7
baz=168,SNR=8.3
ACSO Alum Creek Sta 34.62 359 P P 05 10 25.2 -0.8
baz=179
ACSO Alum Creek Sta 34.62 359 eP P 05 10 26.1 +0.1
21nm,1.1s
P42A Winchester 34.70 349 P P 05 10 25.6 -1.1
baz=166,SNR=9.1
Q39A Willow Grove F 34.74 346 P P 05 10 25.7 -1.3
baz=162
O47A Sheridan 34.78 355 P P 05 10 25.8 -1.5
baz=174
Q38A Cooks Store, C 34.83 345 P P 05 10 26.8 -1.0
baz=160
O56A Blue Knob Stat 34.84 5 P P 05 10 28.5 +0.6
baz=187
O56A Blue Knob Stat 34.84 5 eP P 05 10 28.4 +0.4
23nm,1.2s
PSUB Penn St. - Bra 34.91 10 eP P 05 10 30.4 +2.0
48nm,1.9s
P41A Barry, Barry 34.92 349 P P 05 10 27.4 -1.1
baz=165
O45A Potomac 34.95 353 P P 05 10 27.5 -1.3
baz=171
O44A Mansfield 34.95 352 P P 05 10 27.7 -1.1
baz=170
P40A Paris 34.99 347 P P 05 10 28.0 -1.2
baz=163,SNR=8.3
SFIN Lafayette 35.01 354 P P 05 10 27.9 -1.4
baz=172
P39B Salisbury 35.11 346 P P 05 10 29.0 -1.2
baz=162,SNR=15
O43A Sugar Creek Fa 35.20 351 P P 05 10 29.7 -1.2
baz=168
O42A Bath 35.24 350 P P 05 10 30.1 -1.2
baz=167
SSPA Standing Stone 35.28 6 P P 05 10 31.7 +0.1
baz=188
SSPA Standing Stone 35.28 6 eP P 05 10 32.2 +0.6
17nm,1.1s
O41A Passleys Farm, 35.31 349 P P 05 10 30.6 -1.3
baz=166,SNR=7.9
R34A Isabella, Hill 35.31 340 P P 05 10 31.8 -0.2
baz=154
N54A Moraine State 35.43 3 P P 05 10 31.2 -1.8
baz=184
P38A Dawn 35.43 345 P P 05 10 31.5 -1.4
baz=161,SNR=5.5
HDIL Hopedale 35.47 351 P P 05 10 32.0 -1.2
baz=168,SNR=11
HDIL Hopedale 35.47 351 eP P 05 10 32.3 -1.0
54nm,0.6s
N46A Monticello 35.48 355 P P 05 10 32.5 -0.8
baz=173
N45A Kentland 35.52 354 P P 05 10 32.3 -1.4
baz=172
O40A La Belle 35.52 348 P P 05 10 32.3 -1.4
baz=164
N44A Piper City 35.54 353 P P 05 10 32.3 -1.6
baz=170
P37A Lathrop 35.61 344 P P 05 10 33.1 -1.4
baz=160
SRIG Santa Rosalia 35.65 311 eP P 05 10 35.9 +0.9
18nm,1.4s
Q34A Chapman 35.77 341 P P 05 10 36.2 +0.3
baz=155
121A Cookes Peak, D 35.78 322 P P 05 10 38.2 +1.9
baz=134,SNR=9.1
O39A Kirksville 35.79 347 P P 05 10 35.0 -1.0
baz=163,SNR=8.9
N43A Stutzman Famil 35.82 351 P P 05 10 35.5 -0.8
baz=169
KSU1 Kansas State U 35.83 341 P P 05 10 35.6 -0.8
baz=156
KSU1 Kansas State U 35.83 341 eP P 05 10 36.0 -0.3
7.1nm,0.8s
N42A Yates City 35.85 350 P P 05 10 35.4 -1.1
baz=167,SNR=11
P36A Good Intent, A 35.88 343 P P 05 10 35.9 -0.9
baz=168,SNR=5.1
N41A Harden Midland 35.88 349 P P 05 10 35.5 -1.3
baz=166
P35A Duane Minner, 36.03 342 P P 05 10 36.7 -1.5
baz=157
O37A Wolven Farm, M 36.10 345 P P 05 10 37.5 -1.2
baz=160
M44A Midewin, Midew 36.11 353 P P 05 10 37.0 -1.8
baz=171
N40A Mertzuake, Sal 36.19 348 P P 05 10 38.0 -1.4
baz=165
BNM Barren Site 36.23 325 eP P 05 10 42.0 +1.8
M43A Waltham Townsh 36.28 352 P P 05 10 38.4 -1.8
baz=169
O36A Bolckow 36.28 344 P P 05 10 38.9 -1.4
baz=159
P34A Walnut Farm, R 36.30 341 P P 05 10 39.7 -0.8
baz=156
N39A Derby Farms, D 36.38 347 P P 05 10 39.7 -1.3
baz=163,SNR=8.1
N38A Joes South For 36.46 346 P P 05 10 40.5 -1.3
baz=162,SNR=14
M41A Milan 36.47 350 P P 05 10 40.5 -1.3
baz=167,SNR=7.9
N37A Lee Faris, Mou 36.67 345 P P 05 10 42.5 -1.0
baz=160
CBKS Cedar Bluff 36.68 337 P P 05 10 43.1 -0.6
baz=151
M40A Post Highland 36.68 349 P P 05 10 42.3 -1.3
baz=165
O35A Humboldt 36.68 343 P P 05 10 42.8 -0.9
baz=157
LAZ Ladron 36.71 325 eP P 05 10 46.0 +1.8
ANMO Albuquerque 36.72 326 P P 05 10 45.3 +1.0
baz=138
ANMO Albuquerque 36.72 326 eP P 05 10 46.0 +1.7
9.5nm,1.1s
O34A Bertice 36.84 342 P P 05 10 44.0 -1.0
baz=156,SNR=7.7
M39A Webster 36.88 348 P P 05 10 44.0 -1.4
baz=164,SNR=6.2
L42A Oliver, Polo 36.94 351 P P 05 10 44.3 -1.5
baz=168,SNR=7.9
L43A Garden Prairie 36.98 352 P P 05 10 44.6 -1.6
baz=170,SNR=5.5
O33A Hebron 37.03 341 P P 05 10 45.9 -0.7
baz=165
M38A Pleasantville 37.05 347 P P 05 10 45.5 -1.3
baz=162,SNR=5.1
BINY Binghamton 37.05 8 P P 05 10 47.5 +0.7
baz=191
L41A Preston 37.14 350 P P 05 10 45.9 -1.7
baz=167,SNR=6.9
N35A Tabor 37.15 343 P P 05 10 46.6 -1.0
baz=158
M37A Trindle Farm, 37.24 346 P P 05 10 47.1 -1.3
baz=161
L40A Anamosa 37.26 349 P P 05 10 47.1 -1.5
baz=166,SNR=12
T25A Trinidad 37.33 331 P P 05 10 50.1 +0.6
baz=142
T25A Trinidad 37.33 331 eP P 05 10 51.5 +2.0
12nm,1.2s
MMNY Mt. Morris Dam 37.35 6 eP P 05 10 49.3 0.0
31nm,1.4s
K43A Burlington 37.44 353 P P 05 10 48.1 -2.0
baz=170
MHTCO State Highway 37.46 330 eP P 05 10 50.0 -0.5
19nm,1.7s
L39A Vinton 37.47 348 P P 05 10 48.7 -1.6
baz=164
M36A Felix, Anita 37.48 345 P P 05 10 49.5 -0.9
baz=160
SCIA State Center 37.52 347 P P 05 10 49.6 -1.1
baz=162
SCIA State Center 37.52 347 eP P 05 10 50.2 -0.6
33nm,1.0s
TUC Tucson 37.53 319 P P 05 10 51.7 +0.5
baz=130
TUC Tucson 37.53 319 eP P 05 10 52.2 +1.1
21nm,1.8s
N33A J Bar K, Exete 37.58 341 P P 05 10 50.5 -0.8
baz=155
K41A Shullsburg 37.63 351 P P 05 10 50.1 -1.5
baz=167
K42A Prairie Point, 37.65 352 P P 05 10 50.1 -1.8
baz=169
L38A Oak Wood Farm, 37.68 347 P P 05 10 50.8 -1.4
baz=163,SNR=6.7
M35A Neola 37.73 344 P P 05 10 51.2 -1.3
baz=158
L37A Phoenix Point, 37.85 346 P P 05 10 52.4 -1.1
baz=162
K40A Colesburg 37.86 350 P P 05 10 52.2 -1.4
baz=166,SNR=6.8
JFWS Jewell Farm 37.92 351 P P 05 10 52.7 -1.4
baz=168,SNR=7.8
JFWS Jewell Farm 37.92 351 eP P 05 10 52.8 -1.4
16nm,0.8s
K39A Oelwein 38.01 349 P P 05 10 53.1 -1.7
baz=165
L36A Harm Buss Farm 38.05 345 P P 05 10 54.2 -1.1
baz=160,SNR=6.6
K38A Parkersburg 38.13 348 P P 05 10 54.2 -1.7
baz=163
J42A Columbus 38.15 352 P P 05 10 54.7 -1.4
baz=169
M33A Taylor Creek F 38.26 342 P P 05 10 56.2 -0.9
baz=156
L35A Bielow Farm, R 38.29 344 P P 05 10 56.0 -1.3
baz=159
J41A Loganville 38.32 351 P P 05 10 55.9 -1.7
baz=168,SNR=7.9
SDCO Great Sand Dun 38.34 330 P P 05 10 59.8 +1.7
baz=141
SDCO Great Sand Dun 38.34 330 eP P 05 10 59.7 +1.6
13nm,1.0s
K37A Belmond 38.43 347 P P 05 10 57.0 -1.4
baz=162,SNR=5.2
X18A Snowflake 38.46 322 eP P 05 11 00.9 +1.9
9.0nm,1.0s
J40A Soldiers Grove 38.47 350 P P 05 10 57.1 -1.7
baz=167,SNR=7.1
K36A Gilmore City 38.50 346 P P 05 10 58.3 -0.7
baz=161
J39A Decorah 38.58 349 P P 05 10 57.9 -1.8
baz=165
I43A Langenfeld Bro 38.59 354 P P 05 10 58.2 -1.6
baz=171,SNR=7.3
214A Organ Pipe Nat 38.67 317 P P 05 11 01.2 +0.5
baz=127
I42A Draeger Farm, 38.69 353 P P 05 10 59.4 -1.2
baz=170
W18A Petrified Fore 38.73 323 P P 05 11 02.9 +1.6
baz=134
L33A Hoskins 38.83 342 P P 05 11 00.6 -1.2
baz=156
I40A Norwalk 38.93 351 P P 05 11 01.2 -1.4
baz=167
K34A Le Mars 38.97 344 P P 05 11 01.5 -1.5
baz=158
I41A Arkdale 38.98 352 P P 05 11 01.8 -1.3
baz=168
S22A 4UR Ranch, Cre 39.01 329 P P 05 11 05.4 +1.6
baz=140
S22A 4UR Ranch, Cre 39.01 329 eP P 05 11 05.6 +1.8
7.4nm,1.0s
I39A Houston 39.05 350 P P 05 11 02.0 -1.6
baz=166,SNR=8.0
H43A Windswept, Lux 39.12 354 P P 05 11 02.8 -1.4
baz=172
J36A Seneca 1, Swea 39.13 346 P P 05 11 03.1 -1.2
baz=161,SNR=14
K33A Hardington 39.15 343 P P 05 11 03.7 -0.8
baz=157
H42A Shiocton 39.25 353 P P 05 11 04.3 -1.0
baz=171
GLMI Grayling 39.25 358 P P 05 11 04.3 -1.0
baz=177
X16A Lo Mia Camp, P 39.30 321 eP P 05 11 07.6 +1.5
9.1nm,1.2s
I38A Scanlan Farm, 39.38 349 P P 05 11 05.4 -1.0
baz=165
OGNE Ogallala 39.41 337 P P 05 11 05.8 -1.0
baz=149
OGNE Ogallala 39.41 337 eP P 05 11 07.9 +1.1
34nm,0.9s
K32A Verdigre 39.49 342 P P 05 11 06.0 -1.4
baz=156
H41A Junction City 39.50 352 P P 05 11 05.7 -1.7
baz=169
MVCO Mesa Verde 39.50 327 P P 05 11 09.6 +1.8
baz=137
MVCO Mesa Verde 39.50 327 eP P 05 11 09.4 +1.6
19nm,0.9s
I37A Lemond, Waseca 39.57 348 P P 05 11 06.3 -1.7
baz=163
H40A Chili 39.61 351 P P 05 11 06.7 -1.6
baz=168
K31A O'Neill 39.70 341 P P 05 11 08.8 -0.4
baz=154
PLVO Plevna 39.72 6 eP P 05 11 08.8 -0.3
11nm,0.8s
ROC1 El Roble 39.76 165 eP P 05 11 09.4 -0.5
32nm,0.9s
I35A Creekview Farm 39.78 346 P P 05 11 08.7 -1.0
baz=160
J33A Davis 39.80 344 P P 05 11 08.5 -1.4
baz=157
113A Mohawk Valley, 39.80 317 eP P 05 11 11.9 +1.9
9.2nm,1.0s
H39A Augusta 39.81 350 P P 05 11 08.4 -1.5
baz=166,SNR=5.0
G43A Wallace 39.90 354 P P 05 11 08.8 -1.8
baz=172
CPUP Villa Florida 39.96 143 P P 05 11 09.5 -1.9
3.4nm,0.8s,baz=324,slow=6.7,SNR=11
CPUP LR LR 05 28 34.3
comp=Z,222nm,19.1s,baz=326,slow=38
CPUP Villa Florida 39.96 143 eP P 05 11 09.6 -1.8
6.0nm,1.0s
G42A Mountain 39.96 354 P P 05 11 09.7 -1.5
baz=171,SNR=6.2
H38A Maiden Rock 39.98 349 P P 05 11 09.8 -1.6
baz=165
WUAZ Wupatki 39.98 322 P P 05 11 13.1 +1.3
baz=132
WUAZ Wupatki 39.98 322 eP P 05 11 13.9 +2.1
8.2nm,0.9s
Y14A Wickenburg 40.00 319 eP P 05 11 13.1 +1.3
49nm,1.6s
ISCO Idaho Springs 40.01 332 P P 05 11 13.5 +1.4
baz=143
ISCO Idaho Springs 40.01 332 eP P 05 11 13.4 +1.3
8.5nm,1.3s
G41A Antigo 40.02 353 P P 05 11 09.9 -1.8
baz=170
ECSD EROS Data Cent 40.08 344 P P 05 11 10.8 -1.5
baz=158,SNR=6.0
ECSD EROS Data Cent 40.08 344 eP P 05 11 10.9 -1.4
21nm,1.6s
J32A Parkston 40.10 343 P P 05 11 10.9 -1.6
baz=156
SMCO Snowmass 40.18 330 eP P 05 11 15.0 +1.4
13nm,0.9s
G40A Rib Lake 40.21 352 P P 05 11 11.5 -1.8
baz=168,SNR=5.9
PV01 Paradox Valley 40.22 328 eP P 05 11 15.4 +1.7
H36A Jessenland, He 40.22 347 P P 05 11 11.7 -1.6
baz=162,SNR=6.0
G39A Holcombe 40.38 351 P P 05 11 13.2 -1.4
baz=167,SNR=11
G38A Ridgeland 40.38 350 P P 05 11 12.9 -1.8
baz=166,SNR=11
PV05 Paradox Valley 40.46 327 eP P 05 11 17.1 +1.3
F41A Three Lakes 40.53 353 P P 05 11 14.4 -1.6
baz=170
H35A Sunnyside Ranc 40.54 347 P P 05 11 14.3 -1.7
baz=161,SNR=12
SPMN Marine on St. 40.61 349 P P 05 11 14.7 -1.8
baz=164,SNR=8.0
SPMN Marine on St. 40.61 349 eP P 05 11 15.2 -1.3
17nm,0.8s
PV10 Paradox Valley 40.64 327 eP P 05 11 18.6 +1.3
GLA Glamis 40.69 317 P P 05 11 17.7 +0.2
baz=126

GLA	Glamis	40.69	317	*e*P	P	05 11 19.2	+1.7
	15nm,1.1s						
H34A	Spellman Lake,	40.73	346	P	P	05 11 16.2	-1.4
	baz=160						
F40A	Park Falls	40.84	352	P	P	05 11 16.9	-1.6
	baz=168,SNR=5.5						
E43A	Lone Tree Farm	40.94	355	P	P	05 11 18.1	-1.3
	baz=173						
F39A	Loretta	40.95	351	P	P	05 11 17.7	-1.7
	baz=167						
G35A	Watkins	40.95	347	P	P	05 11 17.8	-1.6
	baz=162						
PDMCI	Parker Dam,Lak	40.97	319	P	P	05 11 21.1	+1.3
	baz=128						
H33A	Prehn Over Nor	41.00	345	P	P	05 11 18.5	-1.3
	baz=158,SNR=8.0						
H32A	Carlson Farm,	41.02	344	P	P	05 11 18.6	-1.5
	baz=157,SNR=9.6						
N23A	Red Feather La	41.03	333	P	P	05 11 21.5	+1.0
	baz=143						
N23A	Red Feather La	41.03	333	*e*P	P	05 11 22.1	+1.6
	9.6nm,1.1s						
F37A	Hinrichs Farm,	41.06	349	P	P	05 11 18.4	-1.8
	baz=165						
E42A	Champion	41.08	354	P	P	05 11 19.3	-1.1
	baz=172						
U15A	North Rim	41.14	323	*e*P	P	05 11 23.3	+1.8
	11nm,1.2s						
F38A	Pierce - Schro	41.15	350	P	P	05 11 19.6	-1.4
	baz=166						
W13A	Hualapai Mount	41.29	320	*e*P	P	05 11 24.7	+2.0
	10nm,1.1s						
E40A	Wakefield	41.32	352	P	P	05 11 21.1	-1.3
	baz=169,SNR=5.4						
E39A	Mellen	41.35	352	P	P	05 11 21.4	-1.3
	baz=168,SNR=7.3						
F36A	Milaca	41.36	348	P	P	05 11 21.0	-1.7
	baz=163,SNR=6.7						
G33A	Ortonville	41.40	345	P	P	05 11 21.5	-1.6
	baz=159						
BC3	Big Chuckawall	41.47	317	P	P	05 11 24.5	+0.6
	baz=125						
RPN	Rapa Nui	41.47	217	LR	LR	05 24 23.8	
	comp=Z,165nm,18.2s,baz=42,slow=30						
RPN	Rapa Nui	41.47	217	*e*P	P	05 11 23.7	-0.2
	302nm,2.0s						
O20A	White River Ci	41.54	330	P	P	05 11 25.8	+1.2
	baz=140						
O20A	White River Ci	41.54	330	*e*P	P	05 11 26.2	+1.6
	26nm,1.4s						
IRM	Iron Mountain	41.55	318	P	P	05 11 26.1	+1.5
	baz=126						
F35A	Swanville	41.58	347	P	P	05 11 22.8	-1.8
	baz=162,SNR=6.5						
F34A	Alexandria	41.67	347	P	P	05 11 23.9	-1.4
	baz=161						
G32A	Webster	41.73	344	P	P	05 11 24.5	-1.3
	baz=157,SNR=8.6						
D41A	Chassel	41.77	354	P	P	05 11 24.9	-1.2
	baz=171						
KNB	Kanab	41.85	323	*e*P	P	05 11 29.2	+2.0
	9.7nm,1.0s						
E36A	McGregor	41.94	349	P	P	05 11 25.9	-1.6
	baz=164						
F33A	5 Mile Ranch,	41.96	346	P	P	05 11 26.0	-1.7
	baz=159,SNR=5.9						
SRU	San Rafael Swe	41.98	327	*e*P	P	05 11 29.7	+1.6
	16nm,1.0s						
BELC	Belle Mtn. Jos	42.03	317	P	P	05 11 30.0	+1.4
	baz=125						
LCMT	Little Creek M	42.10	322	*e*P	P	05 11 31.7	+2.5
	8.9nm,1.5s						
XPFO	Pigeon Flat	42.13	316	*e*P	P	05 11 30.7	+1.3
	7.4nm,1.0s						
PFO	Pinyon Flats O	42.13	316	P	P	05 11 30.5	+1.1
	baz=124						
PFO	Pinyon Flats O	42.13	316	*e*P	P	05 11 31.1	+1.6
	6.9nm,1.0s						
CPE	Camp Elliot	42.19	315	*e*P	P	05 11 31.9	+2.1
	11nm,0.9s						
Q16A	Castle Valley	42.19	326	*e*P	P	05 11 29.8	-0.2
	24nm,1.9s						
P18A	Preston Nutter	42.20	328	*e*P	P	05 11 31.6	+1.5
	9.8nm,1.1s						
F32A	Veblen	42.20	345	P	P	05 11 28.5	-1.2
	baz=158						
E35A	Pequot Lakes	42.21	348	P	P	05 11 28.5	-1.2
	baz=162						
RWWY	Rawlins	42.24	332	*e*P	P	05 11 30.9	+0.5
	13nm,1.0s						
GMRC	Granite Mounta	42.26	318	P	P	05 11 30.9	+0.4
	baz=126						
E34A	Wadena	42.33	347	P	P	05 11 29.1	-1.6
	baz=161						
P17A	Butcher Ranch,	42.35	327	*e*P	P	05 11 32.7	+1.5
	14nm,0.5s						
D37A	Cotton	42.41	350	P	P	05 11 29.9	-1.4
	baz=165,SNR=5.1						
MSU	Marysvale	42.48	325	*e*P	P	05 11 30.7	-1.6
E33A	Westby DABS, E	42.51	346	P	P	05 11 31.0	-1.2
	baz=160						
CCUT	Cedar City	42.53	323	*e*P	P	05 11 34.9	+2.1
	4.3nm,1.0s						
D36A	Goodland	42.56	349	P	P	05 11 31.0	-1.6
	baz=164						
D35A	Remer	42.63	348	P	P	05 11 31.0	-2.1
	baz=163						
MURC	Murrieta	42.63	316	P	P	05 11 32.9	-0.5
	baz=124						
BBSC	Beaumont Base	42.66	316	*e*P	P	05 11 38.3	+4.6
C40A	Isle Royale Na	42.68	353	P	P	05 11 32.4	-1.1
	baz=170						
K22A	Casper	42.70	334	P	P	05 11 32.5	-1.5
	baz=144,SNR=5.4						
K22A	Casper	42.70	334	*e*P	P	05 11 35.3	+1.3
	14nm,1.3s						
C39A	Grand Marais	42.70	352	P	P	05 11 32.0	-1.7
	baz=169						
C38A	Sawbill Land.	42.76	351	P	P	05 11 32.6	-1.6
	baz=167						
D34A	Park Rapids	42.88	347	P	P	05 11 33.3	-1.9
	baz=161						
RSSD	Black Hills	42.88	337	P	P	05 11 36.8	+1.3
	baz=148						
RSSD	Black Hills	42.88	337	*e*P	P	05 11 36.6	+1.1
	36nm,1.6s						
C37A	Embarrass	42.92	350	P	P	05 11 34.0	-1.5
	baz=166,SNR=5.8						
SHPR	Sheep Range	42.97	320	*e*P	P	05 11 38.1	+1.8
	7.4nm,1.1s						
EYMN	Ely	43.02	351	P	P	05 11 34.7	-1.6
	baz=167						
C36A	Pine Crest Far	43.06	350	P	P	05 11 35.3	-1.3
	baz=165,SNR=6.5						
D33A	AnnSam, Waubun	43.08	347	P	P	05 11 35.2	-1.6
	baz=160						
C35A	Jirik Farms, M	43.21	349	P	P	05 11 36.1	-1.7
	baz=163						
MPU	Maple Canyon	43.22	327	*e*P	P	05 11 39.5	+1.2
	5.1nm,0.9s						
BFSC	Mount Baldy Ra	43.31	316	P	P	05 11 38.8	-0.2
	baz=124						
GSC	Goldstone, Bar	43.33	318	P	P	05 11 39.8	+0.7
	baz=125						
JLU	Jordanelle	43.54	328	*e*P	P	05 11 42.6	+1.7
	17nm,1.5s						
CTU	Camp Tracy	43.76	328	*e*P	P	05 11 43.6	+1.0
	10.0nm,1.1s						
TCUT	Toone Canyon	43.89	328	*e*P	P	05 11 45.3	+1.6
	17nm,0.9s						
EDW2	Edwards Air Fo	43.89	317	P	P	05 11 44.5	+0.9
	baz=124						
DUG	Dugway, Tooele	43.99	326	P	P	05 11 45.2	+0.7
	baz=134						
DUG	Dugway, Tooele	43.99	326	*e*P	P	05 11 45.3	+0.9
	4.6nm,1.1s						
FURC	Furnace Creek,	44.04	319	P	P	05 11 46.2	+1.5
	baz=126						
B34A	Aery, Baudette	44.10	348	P	P	05 11 43.5	-1.5
	baz=163,SNR=8.7						
C31A	Landman Farms,	44.14	345	P	P	05 11 44.0	-1.3
	baz=158						
AGMN	Agassiz Nation	44.17	347	P	P	05 11 44.2	-1.3
	baz=161,SNR=5.6						
AGMN	Agassiz Nation	44.17	347	*e*P	P	05 11 44.6	-0.9
	8.0nm,0.9s						
BTPC	Burnt Peak	44.18	316	*e*P	P	05 11 44.4	-1.7
BW06	Boulder Array	44.18	331	P	P	05 11 46.5	+0.4
	baz=140						
BW06	Boulder Array	44.18	331	*e*P	P	05 11 47.1	+1.0
	5.8nm,1.1s						
PD31	Pinedale Array	44.18	331	*e*P	P	05 11 46.9	+0.9
PDAR	Pinedale Array	44.18	331	P	P	05 11 46.0	0.0
	4.0nm,1.0s,baz=124,slow=11,SNR=22						
PDAR				PcP	PcP	05 13 30.8	0.0
	2.5nm,1.2s,baz=120,slow=5.3,SNR=4.5						
PDAR				LR	LR	05 31 55.9	
	comp=Z,124nm,18.0s,baz=148,slow=38						
PDAR	Pinedale Array	44.18	331	*e*P	P	05 11 46.2	+0.2
MPMC	Manual Prospec	44.22	318	P	P	05 11 46.5	+0.2
	baz=125						
HWUT	Hardware Ranch	44.32	329	*e*P	P	05 11 47.8	+0.7
	20nm,1.1s						
R11A	Troy Canyon, C	44.38	322	P	P	05 11 49.0	+1.3
	baz=129						
R11A	Troy Canyon, C	44.38	322	*e*P	P	05 11 49.4	+1.7
	5.2nm,1.1s						
DAC	Darwin (Calif)	44.41	318	*e*P	P	05 11 49.4	+1.4
	12nm,1.8s						
B32A	Ashes, Strandq	44.41	347	P	P	05 11 46.8	-0.7
	baz=160						
ARVC	Arvin	44.60	316	P	P	05 11 50.3	+1.1
	baz=123						
BGU	Big Grassy Mou	44.62	327	*e*P	P	05 11 50.6	+1.2
	9.1nm,1.1s						
ISA	Isabella, Lake	44.65	317	P	P	05 11 51.1	+1.4
	baz=124						
ISA	Isabella, Lake	44.65	317	*e*P	P	05 11 51.3	+1.6
	4.2nm,1.0s						
A33A	Warroad	44.68	348	P	P	05 11 48.3	-1.3
	baz=162,SNR=6.2						
GRAC	Grapevine Rang	44.68	319	P	P	05 11 51.5	+1.7
	baz=126						
MDND	Maddock	44.69	344	*e*P	P	05 11 49.8	+0.1
	36nm,1.2s						
B31A	Greenbush Farm	44.71	346	P	P	05 11 48.6	-1.2
	baz=158						
CWC	Cottonwood Cre	44.83	318	P	P	05 11 52.1	+0.9
	baz=125						
A32A	Rocking H Ranc	44.90	347	P	P	05 11 49.9	-1.4
	baz=160,SNR=5.4						
HVU	Hansel Valley	45.08	328	*e*P	P	05 11 53.9	+0.7
	20nm,1.7s						
PKM	Mcpheson Peak	45.16	315	P	P	05 11 54.3	+0.4
	baz=122						
VES	Vestal, Richgr	45.16	317	P	P	05 11 54.8	+1.1
	baz=124						
REDW	Red Top Meadow	45.25	331	*e*P	P	05 11 55.5	+0.9
	18nm,1.0s						
CRGC	Crocker Grade	45.28	316	*e*P	P	05 11 52.5	-2.2
SNOW	Snow King Moun	45.28	331	*e*P	P	05 11 55.9	+1.1
	32nm,1.4s						
LOHW	Long Hollow	45.32	331	*e*P	P	05 11 56.0	+0.9
	5.1nm,1.0s						
TPAW	Teton Pass	45.40	331	*e*P	P	05 11 56.1	+0.4
	14nm,1.0s						
MOOW	Moose Ponds	45.49	331	*e*P	P	05 11 57.2	+0.7
	10.0nm,1.2s						
SMMC	Simmler	45.51	316	P	P	05 11 57.5	+1.0
	baz=122						
RCTC	Rector, Farmer	45.53	317	P	P	05 11 57.7	+1.1
	baz=124						
FXWY	Fox Creek	45.55	331	*e*P	P	05 11 57.3	+0.4
	5.2nm,1.0s						
IMW	Indian Meadow	45.70	331	*e*P	P	05 11 59.0	+0.9
	5.6nm,1.0s						
RLMT	Red Lodge	45.87	334	P	P	05 12 00.0	+0.7
	baz=142						
RLMT	Red Lodge	45.87	334	*e*P	P	05 12 00.1	+0.7
	6.6nm,0.7s						
LAO	LASA Array	45.88	337	P	P	05 11 59.7	+0.5
	baz=146,SNR=8.6						
LAO	LASA Array	45.88	337	*e*P	P	05 11 59.8	+0.5
	24nm,1.2s						
H17A	Grant Village	45.90	332	*e*P	P	05 11 59.1	-0.6
	24nm,1.9s						
YPP	Pitchstone Pla	45.91	332	*e*P	P	05 12 00.1	+0.2
	17nm,1.4s						
ULM	Lac du Bonnet	46.02	348	P	P	05 11 58.6	-1.6
	7.6nm,0.7s,baz=160,slow=7.2,SNR=25						
ULM	Lac du Bonnet	46.02	348	*e*P	P	05 11 58.5	-1.8
	9.2nm,0.8s						
NV11	Mina Array Sit	46.03	321	*e*P	P	05 12 02.0	+1.2
	0.8nm,1.0s						
NV01	Mina Array Sit	46.12	320	*e*P	P	05 12 02.1	+0.6
NVAR	Mina Array Bea	46.12	320	P	P	05 12 02.4	+0.9
	5.3nm,0.7s,baz=128,slow=7.2,SNR=46						
NVAR				LR	LR	05 31 36.9	
	comp=Z,278nm,19.1s,baz=266,slow=36						
MDPB	Devils Postpil	46.16	319	*e*P	P	05 12 03.1	+1.2
	12nm,0.8s						
YMR	Madison River	46.29	332	*e*P	P	05 12 04.5	+1.8
	12nm,0.9s						
YHH	Holmes Hill	46.33	332	*e*P	P	05 12 03.6	+0.5
	8.6nm,0.9s						
RYN	Ryan	46.38	321	*e*P	P	05 12 04.7	+1.2
	4.9nm,0.9s						
GCMT	Greycliff	46.56	334	*e*P	P	05 12 05.0	+0.3
QLMT	Earthquake Lak	46.63	332	*e*P	P	05 12 08.0	+2.6
DGMT	Dagmar	46.66	340	P	P	05 12 05.9	+0.5
	baz=150						
BMN	Battle Mountai	46.68	323	*e*P	P	05 12 06.6	+0.8
	9.7nm,1.0s						
WAKR	Walker	46.89	320	*e*P	P	05 12 09.2	+1.7
	9.1nm,0.9s						
YERR	Yerington	47.04	320	*e*P	P	05 12 09.9	+1.2
	8.4nm,0.9s						
HLID	Hailey	47.19	328	P	P	05 12 10.3	+0.5
	baz=134,SNR=8.9						
HLID	Hailey	47.19	328	*e*P	P	05 12 10.7	+1.0
	5.2nm,0.9s						
PLCA	Paso Flores	47.27	168	P	P	05 12 09.1	-1.2
	4.8nm,0.9s,baz=354,slow=7.9,SNR=8.7						
PLCA	Paso Flores	47.27	168	*e*P	P	05 12 11.6	+1.4
	20nm,1.3s						
BOZ	Bozeman (W)	47.30	332	P	P	05 12 11.3	+0.7
	baz=139,SNR=13						
BOZ	Bozeman (W)	47.30	332	*e*P	P	05 12 11.2	+0.7
	14nm,1.1s						
MCMT	McKenzie Canyo	47.31	331	*e*P	P	05 12 11.6	+0.9
PAHR	Pah Rah Range	47.56	321	*e*P	P	05 12 11.5	-1.1
	6.2nm,1.2s						
DLMT	Dillon	47.58	331	*e*P	P	05 12 14.4	+1.7
	6.9nm,1.3s						
MFID	Camas Ranch	47.84	327	*e*P	P	05 12 16.1	+1.4
	11nm,1.4s						
BEKR	Beckworth	48.26	321	*e*P	P	05 12 16.3	-1.8
	19nm,0.7s						
EGMT	Eagleton	48.36	336	P	P	05 12 19.3	+0.7
	baz=143,SNR=6.7						
EGMT	Eagleton	48.36	336	*e*P	P	05 12 19.6	+1.0
	15nm,1.0s						
WVOR	Wild Horse Val	48.76	325	*e*P	P	05 12 23.1	+1.2
	18nm,1.1s						
ORV	Oroville	48.81	320	*e*P	P	05 12 21.6	-0.5
	17nm,1.5s						
J08A	Circle Bar Ran	49.25	326	*e*P	P	05 12 25.5	-0.1
	14nm,1.6s						
MSO	Missoula	49.29	332	P	P	05 12 26.2	+0.4
	baz=137,SNR=7.9						
MSO	Missoula	49.29	332	*e*P	P	05 12 26.6	+0.7
	9.8nm,1.1s						
YBH	Yreka Blue Hor	50.79	321	LR	LR	05 34 43.0	
	comp=Z,225nm,18.5s,baz=142,slow=37						
SCHQ	Schefferville	50.84	12	P	P	05 12 36.1	-1.2
	6.8nm,1.0s,baz=191,slow=4.8,SNR=6.4						
SCHQ				LR	LR	05 33 19.5	
	comp=Z,71nm,21.7s,baz=74,slow=35						
SCHQ	Schefferville	50.84	12	*e*P	P	05 12 36.9	-0.5
	10nm,1.0s						
WALA	Waterton Lakes	50.92	334	*e*P	P	05 12 39.0	+0.8
	7.1nm,0.9s						
E09A	Wood Farm, Sta	51.14	329	*e*P	P	05 12 40.2	+0.5
	11nm,1.1s						
FFC	Flin Flon	51.57	346	*e*P	P	05 12 41.9	-0.8
	21nm,1.7s						
NEW	Newport	51.82	331	LR	LR	05 35 58.0	
	comp=Z,164nm,18.4s,baz=134,slow=38						
NEW	Newport	51.82	331	P	P	05 12 46.0	+1.2
	baz=134						
NEW	Newport	51.82	331	*e*P	P	05 12 46.0	+1.2
	20nm,1.5s						
GBL	Gable Mountain	51.88	328	*e*P	P	05 12 43.6	-1.6
G05D	Wamic, OR	52.02	326	P	P	05 12 48.0	+1.6
	baz=128						
B08A	Colville Reser	52.97	330	*e*P	P	05 12 52.6	-0.8
	26nm,1.9s						
EDM	Edmonton	53.86	338	*e*P	P	05 12 59.8	0.0
	20nm,0.9s						
FCC	Fort Churchill	53.91	353	*e*P	P	05 12 59.3	-0.7
	10nm,1.2s						
LLLB	Lillooet	55.70	331	*e*P	P	05 13 14.3	+1.1
	30nm,1.6s						
RKT	Rikitea	58.52	239	*e*LR	LR	05 30 50.4	
	375nm,28.0s						
TAOE	Nuku Hiva Isla	59.14	256	*e*LR	LR	05 31 04.9	
	217nm,25.5s						
YKA	Yellowknife Ar	61.61	344	P	P	05 13 53.7	-0.4
	3.5nm,0.7s,baz=140,slow=6.6,SNR=109						
YKB5	Yellowknife Ar	61.61	344	*e*P	P	05 13 53.6	-0.5
YKW3	Yellowknife Ar	61.67	344	*e*P	P	05 13 54.1	-0.4
	15nm,1.1s						
RES	Resolute Bay	69.54	357	*e*P	P	05 14 44.6	-0.6
	5.8nm,1.1s						
PPT2	Papeete2	69.98	249	*e*LR	LR	05 36 06.3	
	150nm,22.5s						
TBI	Tubuai	71.23	243	*e*LQ	LQ	05 33 41.3	
	313nm,35.8s						
TBI				*e*LR	LR	05 36 41.5	
	375nm,29.0s						
INK	Inuvik	71.29	342	P	P	05 14 56.2	+0.3
	2.9nm,0.8s,baz=101,slow=3.7,SNR=14						
INK	Inuvik	71.29	342	*e*P	P	05 14 56.9	+1.0
	22nm,1.6s						
SUMG	Summit	72.22	13	*i* P	P	05 15 01.8	-0.1
	15nm,1.1s						
SUMG	Summit	72.22	13	*e*P	P	05 15 01.2	-0.7
	18nm,1.1s						
PNCL	Nicolau / Gran	74.09	52	*e*P	P	05 15 12.5	-0.7
HDA	Harding Lake	74.22	336	*e*P	P	05 15 13.8	+0.3
	16nm,1.4s						
PCAS	Casnelo, Conde	74.31	50	*e*P	P	05 15 17.9	+3.4
IL1	Eielson Array	74.32	336	*e*P	P	05 15 13.9	-0.1
ILAR	Eielson Array	74.32	336	P	P	05 15 14.1	0.0
	1.5nm,0.7s,baz=118,slow=4.3,SNR=22						
ILAR				LR	LR	05 51 21.8	
	comp=Z,76nm,20.1s,baz=129,slow=39						
ILB	Eielson Array	74.32	336	*e*P	P	05 15 13.9	-0.1
PMTG	Montargil	74.42	51	*e*P	P	05 15 18.1	+3.0
RND	Reindeer	74.66	335	*e*P	P	05 15 16.8	+0.6
	21nm,0.8s						
PESTR	Estremoz	74.90	51	*e*P	P	05 15 20.8	+2.9
PESTR	Estremoz	74.90	51	*e*P	P	05 15 17.2	-0.7
	7.6nm,1.1s						
PBAR	Barrancos	75.27	52	*e*P	P	05 15 22.5	+2.5
TOLK	Toolik Lake Re	76.68	340	P	P	05 15 28.6	+1.1
	baz=110						
TIC	Toumodi	77.04	84	*e*PKIKP	P	05 15 30.9	+0.3
LIC	Lamto	77.06	85	*e*PKIKP	P	05 15 31.1	+0.4
	46nm,1.5s						
DBIC	Dimbokro	77.20	84	P	P	05 15 31.5	0.0
	3.9nm,1.0s,baz=267,slow=9.5,SNR=3.4						
DBIC	Dimbokro	77.20	84	*e*P	P	05 15 31.9	+0.4
	6.1nm,1.0s						
KIC	Kosan Boka	77.34	85	*e*PKIKP	P	05 15 30.8	-1.5
	15nm,1.0s						
KOWA	Kowa	77.58	76	P	P	05 15 33.5	-0.1
	1.9nm,0.7s,baz=273,slow=11,SNR=9.8						
ESDC	Sonseca Array	77.76	51	P	P	05 15 35.1	+0.8
	1.4nm,0.8s,baz=272,slow=5.2,SNR=9.8						
ES19	SONSECA Array	77.81	51	*e*P	P	05 15 36.6	+2.1
EKA	Eskdalemuir Ar	79.50	35	P	P	05 15 42.9	-0.5
	1.0nm,0.6s,baz=262,slow=5.0,SNR=5.1						
RAR	Rarotonga	80.12	247	LR	LR	05 42 25.8	
	comp=Z,95nm,20.1s,baz=108,slow=29						
TOA1	Torodi Ar. Sit	83.19	77	*e*P	P	05 16 03.1	-0.7
TOA0	Torodi Ar. Sit	83.20	77	*e*P	P	05 16 03.7	-0.2
TORD	Torodi Ar. Bea	83.20	77	P	P	05 16 03.1	-0.7
	0.9nm,0.6s,baz=290,slow=6.6,SNR=14						
SPA0	Spitsbergen Ar	86.53	12	*e*P	P	05 16 18.6	-0.8
SPITS	Spitsbergen Ar	86.53	12	P	P	05 16 18.6	-0.8
	17nm,1.1s,baz=272,slow=11,SNR=2.7						
SPITS				LR	LR	05 59 19.9	
	comp=Z,58nm,18.0s,baz=50,slow=39						
AFI	Afiamalu	90.54	256	LR	LR	05 49 15.0	
	comp=Z,49nm,18.2s,baz=122,slow=30						
SNAA	Sanae	91.92	162	LR	LR	05 57 37.3	
	comp=Z,34nm,20.6s,baz=127,slow=35						
KURK	Kurchatov	121.74	14	*e*PKPdf	PKPdf	05 22 30.1	-0.8
KURBB	Kurchatov Arra	121.81	14	PKP	PKPdf	05 22 30.1	-1.0
	0.5nm,0.6s,baz=328,slow=2.5,SNR=5.8						
MK32	Makanchi Array	126.27	13	*e*PKPdf	PKPdf	05 22 37.9	-1.9
MKAR	Makanchi Array	126.27	13	PKP	PKPdf	05 22 37.9	-1.9
	0.6nm,0.9s,baz=316,slow=3.3,SNR=4.1						
WMQ	Urumqi	130.17	9	*e*PKP	PKPdf	05 22 47.9	+0.6
KSH	Kashi	131.06	22	*e*PKP	PKPdf	05 22 46.9	-2.3
HHC	Hu-ho-hao-te	132.13	346	*e*PKP	PKPdf	05 22 50.9	-0.3
NJ2	Nanjing	137.49	333	*e*PKP	PKPdf	05 23 02.0	+0.7
LZH	Lanzhou	138.24	352	*e*PKP	PKPdf	05 22 58.7	-4.1
LZH				LR	LR		
	comp=N,120nm,18.4s						
LZH				LR	LR		
	comp=E,150nm,17.2s						
LZH				LR	LR		
	comp=Z,220nm,19.9s						
WR1	Warramunga Arr	141.35	245	*e*PKPdf	PKPdf	05 23 07.4	-1.3
WRA	Warramunga Arr	141.35	245	PKP	PKPdf	05 23 07.4	-1.3
	0.7nm,0.4s,baz=51,slow=32,SNR=2.6						
PYUN	Piuthan	143.84	22	*e*P	PKPdf	05 23 14.4	+1.2
KOLN	Koldanda	144.37	21	*e*P	PKPdf	05 23 13.6	-0.5
KKN	Kakani	144.92	19	*e*P	PKPab	05 23 14.0	-0.1
GUN	Gumba	145.00	18	*e*P	PKPbc	05 23 14.6	0.0
	75nm,1.0s						
DMN	Daman	145.03	19	*e*P	PKPbc	05 23 13.8	-0.8
PKI	Pulchoki	145.17	19	*e*P	PKPbc	05 23 14.6	-0.5
JIRN	Jiri	145.33	18	*e*P	PKPbc	05 23 15.5	-0.2
H01W1	Cape Leeuwin H	146.88	206	T	T	08 07 52.4	
	baz=150,slow=75,SNR=7.1						
H01W2	Cape Leeuwin H	146.89	206	T	T	08 07 55.8	
	baz=150,slow=75,SNR=10						
H01W3	Cape Leeuwin H	146.90	206	T	T	08 07 54.3	
	baz=150,slow=75,SNR=7.7						
CMAR	Chiang Mai Arr	156.19	356	PKP	PKPdf	05 23 33.1	+0.7
	0.6nm,0.3s,baz=300,slow=3.4,SNR=4.6						
CMAR				PKPab	PKPab	05 23 59.9	0.0
	0.7nm,0.3s,baz=340,slow=4.5,SNR=5.7						

MAN 12 05:03:38,10°.05N×123°.11E,h18km,mb3.5,ML2.2,MS1.7, 1D,Cebu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.71	170	⇓*i*P		Pn	05 03 52.7	-0.5
SNPH				*i* S		Sn	05 04 04.2	+0.4
GUIM	Jordan	0.77	318	*e*

	1.6nm,0.6s								
WB2	**Warramunga Arr**	**44.31**	**259**	*e*P	**P**	**05 13 50.3**	**-0.6**
WR1	**Warramunga Arr**	**44.32**	**259**	*e*P	**P**	**05 13 49.9**	**-1.1**
	22nm,1.5s						
WR1				*e*PcP	**PcP**	**05 15 23.7**	**+0.2**
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	**05 13 49.9**	**-1.1**
	2.3nm,0.5s,baz=95,slow=7.0,SNR=26						
WRA				PcP	**PcP**	**05 15 23.7**	**+0.2**
	2.2nm,0.7s,baz=92,slow=3.7,SNR=7.2						
AS01	**Alice Springs**	**44.46**	**254**	*e*P	**P**	**05 13 51.6**	**-0.5**
AS01				*e*PcP	**PcP**	**05 15 24.0**	**0.0**
AS31	**Alice Springs**	**44.51**	**254**	*e*P	**P**	**05 13 52.1**	**-0.3**
	7.4nm,0.6s						
ASAR	**Alice Springs**	**44.51**	**254**	P	**P**	**05 13 52.1**	**-0.3**
	22nm,0.5s,baz=88,slow=8.2,SNR=276						
ASAR				PcP	**PcP**	**05 15 24.2**	**+0.1**
	2.6nm,0.4s,baz=103,slow=4.0,SNR=10						
ASAR				S	**S**	**05 19 44.9**	**-3.9**
	2.8nm,0.9s,baz=83,slow=16,SNR=13						
VNDA	**Vanda**	**60.61**	**185**	P	**P**	**05 15 47.9**	**+1.3**
	1.3nm,0.8s,baz=332,slow=4.9,SNR=5.9						
MJAR	**Matsushiro Arr**	**67.54**	**324**	P	**P**	**05 16 30.4**	**-0.8**
	3.6nm,0.6s,baz=166,slow=6.4,SNR=10						
MAJO	**Matsushiro**	**67.54**	**324**	*e*P	**P**	**05 16 30.4**	**-0.8**
ASAJ	**Asahikawa**	**70.94**	**332**	P	**P**	**05 16 52.9**	**+1.5**
	4.6nm,0.6s,baz=42,slow=3.9,SNR=3.7						
ASAJ	**Asahikawa**	**70.94**	**332**	*e*P	**P**	**05 16 52.6**	**+1.2**
	6.0nm,0.7s						
QSPA	**South Pole Qui**	**72.34**	**180**	*e*P	**P**	**05 17 00.4**	**+0.9**
	8.1nm,0.8s						
PETK	**Petropavlovsk-**	**73.40**	**345**	P	**P**	**05 17 05.4**	**-0.1**
	8.6nm,0.7s,baz=116,slow=7.8,SNR=10						
PEA1	**Petropavlovsk-**	**73.41**	**345**	*e*P	**P**	**05 17 05.4**	**-0.1**
SPIA	**Saint Paul Isl**	**74.94**	**5**	*e*P	**P**	**05 17 13.5**	**-0.6**
	13nm,0.8s						
ISA	**Isabella, Lake**	**77.93**	**46**	*e*P	**P**	**05 17 32.2**	**+1.0**
	7.4nm,0.9s						
AFDM	**Forest Hills D**	**78.07**	**42**	*e*P	**P**	**05 17 32.4**	**+0.7**
	5.2nm,0.9s						
KDAK	**Kodiak Island**	**78.30**	**14**	P	**P**	**05 17 32.3**	**-0.1**
	9.8nm,0.7s,baz=146,slow=2.6,SNR=9.7						
MDPB	**Devils Postpil**	**78.58**	**44**	*e*P	**P**	**05 17 35.8**	**+1.0**
	8.8nm,1.0s						
YBH	**Yreka Blue Hor**	**78.59**	**39**	P	**P**	**05 17 35.5**	**+0.9**
	3.4nm,0.7s,baz=207,slow=14,SNR=8.1						
WAKR	**Walker**	**78.82**	**43**	*e*P	**P**	**05 17 37.2**	**+1.2**
	6.2nm,0.9s						
BTCC	**Brunts Corner**	**78.89**	**50**	*e*P	**P**	**05 17 38.7**	**+2.6**
VCNR	**Virginia City**	**79.12**	**43**	*e*P	**P**	**05 17 38.7**	**+1.2**
	5.5nm,0.8s						
YERR	**Yerington**	**79.21**	**43**	*e*P	**P**	**05 17 38.9**	**+0.8**
	8.8nm,0.7s						
RYN	**Ryan**	**79.49**	**44**	*e*P	**P**	**05 17 40.1**	**+0.7**
	4.9nm,0.9s						
NV01	**Mina Array Sit**	**79.53**	**44**	*e*P	**P**	**05 17 40.3**	**+0.6**
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**05 17 40.1**	**+0.4**
	4.6nm,0.8s,baz=224,slow=8.8,SNR=35						
NV11	**Mina Array Sit**	**79.62**	**44**	*e*P	**P**	**05 17 41.0**	**+0.8**
	0.6nm,1.1s						
KLR	**Kul'dur**	**79.76**	**330**	P	**P**	**05 17 41.2**	**+0.8**
	0.1nm,0.8s,baz=174,slow=3.3,SNR=4.4						
LDFC	**Landfair**	**79.99**	**48**	*e*P	**P**	**05 17 43.3**	**+1.1**
	16nm,1.0s						
MOD	**Modoc Plateau**	**80.16**	**40**	*e*P	**P**	**05 17 43.6**	**+0.7**
	6.2nm,0.6s						
PINE	**Pine Mountain**	**80.85**	**38**	*e*P	**P**	**05 17 46.9**	**+0.3**
	12nm,0.9s						
MA2	**Magadan**	**80.91**	**345**	P	**P**	**05 17 45.4**	**-0.8**
	4.4nm,0.5s,baz=134,slow=8.1,SNR=7.6						
Y14A	**Wickenburg**	**80.96**	**50**	*e*P	**P**	**05 17 48.4**	**+1.3**
	12nm,1.0s						
BMN	**Battle Mountai**	**81.30**	**43**	*e*P	**P**	**05 17 49.7**	**+0.8**
	7.1nm,0.9s						
GAMB	**Gambell**	**81.41**	**3**	*e*P	**P**	**05 17 49.0**	**+0.4**
	7.9nm,0.7s						
WVOR	**Wild Horse Val**	**81.48**	**40**	*e*P	**P**	**05 17 50.6**	**+0.9**
	8.8nm,0.9s						
TUC	**Tucson**	**81.86**	**52**	*e*P	**P**	**05 17 53.6**	**+1.8**
	6.3nm,0.9s						
SUA	**Susitna One**	**82.02**	**13**	*e*P	**P**	**05 17 51.6**	**-0.3**
	16nm,0.8s						
J08A	**Circle Bar Ran**	**82.09**	**40**	*e*P	**P**	**05 17 53.5**	**+0.7**
	12nm,1.2s						
LCMT	**Little Creek M**	**82.25**	**47**	*e*P	**P**	**05 17 55.0**	**+1.2**
	5.0nm,0.9s						
X16A	**Lo Mia Camp, P**	**82.33**	**50**	*e*P	**P**	**05 17 55.6**	**+1.4**
	6.9nm,0.8s						
CCUT	**Cedar City**	**82.43**	**47**	*e*P	**P**	**05 17 56.1**	**+1.4**
	4.7nm,0.9s						
KNB	**Kanab**	**82.55**	**47**	*e*P	**P**	**05 17 56.7**	**+1.3**
	4.4nm,0.9s						
319A	**Douglas**	**82.59**	**54**	*e*P	**P**	**05 17 57.6**	**+2.0**
	12nm,1.1s						
U15A	**North Rim**	**82.65**	**48**	*e*P	**P**	**05 17 57.3**	**+1.3**
	9.9nm,0.9s						
G08A	**Pilot Rock**	**82.87**	**38**	*e*P	**P**	**05 17 57.3**	**+0.7**
	9.9nm,1.1s						
WUAZ	**Wupatki**	**82.88**	**49**	*e*P	**P**	**05 17 58.5**	**+1.5**
	6.6nm,0.9s						
SCM	**Sheep Creek Mo**	**83.12**	**14**	*e*P	**P**	**05 17 57.1**	**-0.4**
	29nm,0.8s						
MDW	**Midway**	**83.15**	**37**	*e*P	**P**	**05 17 59.4**	**+1.5**
SEY	**Seymchan**	**83.50**	**347**	P	**P**	**05 17 58.8**	**-0.5**
	16nm,0.6s,baz=152,slow=5.5,SNR=67						
CAST	**Castle Rocks**	**83.51**	**12**	*e*P	**P**	**05 17 57.6**	**-1.7**
	18nm,0.9s						
BMO	**Blue Mountains**	**83.61**	**39**	*e*P	**P**	**05 18 00.8**	**+0.5**
	2.3nm,0.9s						
MFID	**Camas Ranch**	**83.75**	**41**	*e*P	**P**	**05 17 59.7**	**-1.4**
	17nm,1.6s						
KTH	**Kantishna Hill**	**83.86**	**12**	*e*P	**P**	**05 17 59.5**	**-1.5**
	12nm,0.9s						
D08A	**Wollman Farm,**	**83.88**	**36**	*e*P	**P**	**05 18 02.2**	**+0.7**
	5.7nm,0.8s						
TRF	**Thorofare Moun**	**83.89**	**12**	*e*P	**P**	**05 18 00.3**	**-1.0**
	20nm,0.8s						
RND	**Reindeer**	**84.16**	**13**	*e*P	**P**	**05 18 01.9**	**-0.7**
	21nm,0.8s						
DHY	**Denali Highway**	**84.19**	**14**	*e*P	**P**	**05 18 01.9**	**-1.0**
	10.0nm,1.2s						
MCK	**McKinley**	**84.43**	**13**	*e*P	**P**	**05 18 03.2**	**-0.6**
	16nm,1.1s						
HLID	**Hailey**	**84.71**	**41**	*e*P	**P**	**05 18 06.8**	**+0.9**
	4.9nm,0.8s						
HDA	**Harding Lake**	**85.45**	**13**	*e*P	**P**	**05 18 08.1**	**-0.6**
	8.3nm,0.4s						
CCB	**Clear Creek Bu**	**85.47**	**13**	*e*P	**P**	**05 18 07.7**	**-1.1**
	10nm,1.1s						
MDM	**Murphy Dome**	**85.65**	**13**	*e*P	**P**	**05 18 08.4**	**-1.3**
	11nm,1.1s						
MNTX	**Cornudas Mount**	**85.75**	**55**	*e*P	**P**	**05 18 12.1**	**+1.1**
	2.3nm,0.7s						
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**05 18 09.2**	**-1.1**
	3.2nm,0.4s,baz=223,slow=5.2,SNR=75						
ILB	**Eielson Array**	**85.77**	**13**	*e*P	**P**	**05 18 09.4**	**-0.9**
IL1	**Eielson Array**	**85.78**	**13**	*e*P	**P**	**05 18 09.1**	**-1.2**
XAN	**Xi'an**	**85.86**	**308**	P	**P**	**05 18 12.8**	**+1.3**
TX31	**Lajitas Ar. Si**	**86.19**	**58**	*e*P	**P**	**05 18 14.8**	**+1.6**
LTX	**Lajitas**	**86.19**	**58**	*e*P	**P**	**05 18 14.9**	**+1.7**
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**05 18 14.9**	**+1.7**
	4.0nm,0.8s,baz=218,slow=6.2,SNR=56						
ANMO	**Albuquerque**	**86.25**	**52**	*e*P	**P**	**05 18 14.3**	**+0.8**
	4.7nm,1.2s						
MCMT	**McKenzie Canyo**	**86.32**	**41**	*e*P	**P**	**05 18 14.6**	**+1.0**
TPAW	**Teton Pass**	**86.88**	**42**	*e*P	**P**	**05 18 16.9**	**+0.6**
	3.6nm,0.8s						
REDW	**Red Top Meadow**	**86.88**	**43**	*e*P	**P**	**05 18 17.1**	**+0.7**
	9.1nm,1.2s						
FXWY	**Fox Creek**	**86.90**	**42**	*e*P	**P**	**05 18 17.3**	**+0.8**
	2.7nm,0.8s						
SNOW	**Snow King Moun**	**86.99**	**43**	*e*P	**P**	**05 18 17.9**	**+1.0**
	7.0nm,0.9s						
IMW	**Indian Meadow**	**87.08**	**42**	*e*P	**P**	**05 18 18.5**	**+1.2**
	6.9nm,0.8s						
EGAK	**Eagle**	**87.12**	**15**	*e*P	**P**	**05 18 16.3**	**-0.3**
	8.5nm,1.4s						
MOOW	**Moose Ponds**	**87.13**	**42**	*e*P	**P**	**05 18 17.8**	**+0.3**
	3.0nm,1.0s						
S22A	**4UR Ranch, Cre**	**87.14**	**49**	*e*P	**P**	**05 18 18.8**	**+1.0**
	3.5nm,0.9s						
LOHW	**Long Hollow**	**87.16**	**42**	*e*P	**P**	**05 18 18.4**	**+0.8**
	5.0nm,0.9s						
COLD	**Coldfoot**	**87.28**	**11**	*e*P	**P**	**05 18 17.5**	**+0.1**
	5.6nm,0.8s						
BOZ	**Bozeman (W)**	**87.44**	**40**	*e*P	**P**	**05 18 19.7**	**+0.9**
	4.4nm,1.3s						
BW06	**Boulder Array**	**87.45**	**44**	*e*P	**P**	**05 18 19.4**	**+0.3**
	11nm,1.5s						
PD31	**Pinedale Array**	**87.45**	**44**	*e*P	**P**	**05 18 19.4**	**+0.4**
PDAR	**Pinedale Array**	**87.45**	**44**	P	**P**	**05 18 19.5**	**+0.4**
	2.3nm,0.5s,baz=213,slow=3.5,SNR=37						
H17A	**Grant Village**	**87.54**	**42**	*e*P	**P**	**05 18 21.4**	**+2.0**
	5.5nm,0.8s						
LNIG	**Linares**	**88.05**	**63**	*e*P	**P**	**05 18 21.7**	**-0.3**
	5.7nm,0.9s						
CM01	**Chiang Mai Arr**	**88.46**	**290**	*e*P	**P**	**05 18 25.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**88.49**	**290**	P	**P**	**05 18 25.8**	**+1.6**
	2.1nm,0.8s,baz=116,slow=4.3,SNR=8.1						
SNAA	**Sanae**	**90.80**	**179**	P	**P**	**05 18 33.7**	**-0.2**
SNAA	**Sanae**	**90.80**	**179**	*e*P	**P**	**05 18 33.6**	**-0.3**
	2.6nm,0.6s,baz=192,slow=12,SNR=32						
SNAA	**Sanae**	**90.80**	**179**	*e*P	**P**	**05 18 34.0**	**+0.1**
	26nm,1.9s						
VNA3	**Neumayer Olymp**	**90.96**	**176**	P	**P**	**05 18 34.8**	**+0.2**
LAO	**LASA Array**	**91.29**	**41**	*e*P	**P**	**05 18 37.9**	**+1.4**
	6.3nm,0.8s						
VNA2	**Neumayer--Watz**	**91.39**	**177**	P	**P**	**05 18 36.8**	**+0.2**
	baz=175,slow=3.0						
VNA1	**Neumayer--Stat**	**91.62**	**177**	P	**P**	**05 18 38.3**	**+0.7**
INK	**Inuvik**	**91.79**	**15**	P	**P**	**05 18 37.7**	**-0.5**
	4.0nm,0.8s,baz=227,slow=3.4,SNR=11						
INK	**Inuvik**	**91.79**	**15**	*e*P	**P**	**05 18 37.7**	**-0.5**
	5.7nm,0.9s						
SONA0	**Songino Array**	**93.17**	**319**	*e*P	**P**	**05 18 45.2**	**0.0**
SONM	**Songino Array**	**93.17**	**319**	P	**P**	**05 18 45.2**	**0.0**
	0.4nm,0.5s,baz=135,slow=4.2,SNR=4.1						
YKA	**Yellowknife Ar**	**94.30**	**25**	P	**P**	**05 18 49.3**	**-0.5**
	1.5nm,0.7s,baz=245,slow=4.5,SNR=28						
YKB5	**Yellowknife Ar**	**94.30**	**25**	*e*P	**P**	**05 18 49.2**	**-0.6**
KSU1	**Kansas State U**	**95.10**	**51**	*e*P	**P**	**05 18 55.2**	**+1.1**
	6.8nm,0.6s						
MK32	**Makanchi Array**	**108.75**	**314**	*e*PKiKP	**PKiKP**	**05 23 55.3**	**-1.1**
MKAR	**Makanchi Array**	**108.75**	**314**	PKiKP	**PKiKP**	**05 23 55.3**	**-1.1**
	0.8nm,0.5s,baz=205,slow=1.1,SNR=13						
KURK	**Kurchatov**	**111.44**	**318**	*e*PKiKP	**PKiKP**	**05 24 00.2**	**-1.1**
KURBB	**Kurchatov Arra**	**111.50**	**318**	PKiKP	**PKiKP**	**05 24 00.2**	**-1.2**
	1.1nm,0.7s,baz=95,slow=1.6,SNR=12						
BVAR	**Borovoye Array**	**116.47**	**321**	PKP	**PKPdf**	**05 24 10.3**	**-0.6**
	1.6nm,0.3s,baz=171,slow=1.2,SNR=9.9						
SPITS	**Spitsbergen Ar**	**119.05**	**356**	PKP	**PKPdf**	**05 24 14.6**	**-0.6**
	2.5nm,0.7s,baz=354,slow=13,SNR=3.6						
ARU	**Arti**	**122.49**	**326**	PKP	**PKPdf**	**05 24 21.8**	**-0.6**
	3.5nm,0.3s,baz=343,slow=1.9,SNR=5.9						
ARU	**Arti**	**122.49**	**326**	*e*PKPdf	**PKPdf**	**05 24 22.3**	**-0.1**
AKTO	**Aktyubinsk**	**124.49**	**320**	PKP	**PKPdf**	**05 24 25.6**	**-0.8**
	1.5nm,0.8s,baz=48,slow=4.5,SNR=5.4						
ARA0	**ARCESS Array S**	**126.06**	**350**	*e*PKPdf	**PKPdf**	**05 24 27.9**	**-0.9**
ARCES	**ARCESS Array B**	**126.06**	**350**	PKP	**PKPdf**	**05 24 27.9**	**-0.9**
	7.2nm,1.1s,baz=96,slow=1.1,SNR=10						
GEYT	**Alibeck**	**126.64**	**304**	PKP	**PKPdf**	**05 24 30.6**	**-0.4**
	2.3nm,0.6s,baz=229,slow=1.6,SNR=3.9						
FIA0	**FINESS Array S**	**132.90**	**344**	*e*PKPpre	PKPpre	05 24 35.2	
FIA0				*e*PKPdf	**PKPdf**	**05 24 41.4**	**-0.7**
FINES	**FINESS Array B**	**132.90**	**344**	PKhKP	PKPpre	05 24 35.2	
	1.0nm,0.8s,baz=39,slow=2.4,SNR=3.2						
FINES				PKP	**PKPdf**	**05 24 41.4**	**-0.7**
	2.8nm,0.9s,baz=343,slow=2.0,SNR=4.3						
NB200	**NORSAR Array S**	**136.14**	**353**	*e*PKPdf	**PKPdf**	**05 24 48.9**	**+0.8**
NOA	**NORSAR Array B**	**136.14**	**353**	PKP	**PKPdf**	**05 24 48.9**	**+0.8**
	0.7nm,0.7s,baz=34,slow=4.3,SNR=3.1						
AKASG	**Malin Array Be**	**140.22**	**332**	PKhKP	PKPpre	05 24 48.0	
	0.8nm,0.4s,baz=45,slow=4.1,SNR=11						
AKASG				PKP	**PKPdf**	**05 24 57.1**	**+1.3**
	1.2nm,0.4s,baz=43,slow=3.2,SNR=8.8						
AKBB	**Malin Array Si**	**140.22**	**332**	*e*PKPdf	**PKPdf**	**05 24 55.8**	**-0.1**
AK11	**Malin Array Si**	**140.26**	**332**	*e*PKPpre	PKPpre	05 24 49.4	
AK11				*e*PKPdf	**PKiKP**	**05 24 57.8**	**-0.8**
EKA	**Eskdalemuir Ar**	**142.30**	**4**	PKhKP	PKPpre	05 24 54.9	
	1.9nm,0.6s,baz=346,slow=2.4,SNR=11						
GMM	**Mts of Mourne**	**143.12**	**7**	*e*P	PKPab	05 24 58.5	-0.1
IOMK	**Kirk Michael**	**143.25**	**6**	*e*P	PKPab	05 24 58.7	-0.4
ILGA	**Ilgaz**	**143.69**	**317**	*e*PKPbc	**PKPdf**	**05 25 02.7**	**0.0**
KWP	**Kalwaria Pacla**	**143.75**	**336**	*e*PKPbc	PKPbc	05 25 01.4	+0.3
BUR08	**Bucovina Ar. S**	**144.26**	**332**	*e*PKPbc	**PKPdf**	**05 25 03.9**	**+0.6**
BUR04	**Bucovina Ar. S**	**144.27**	**332**	*e*PKPbc	**PKPab**	**05 25 03.4**	**0.0**
LBWR	**Ladybower, Pea**	**144.31**	**3**	*e*P	PKPbc	05 25 02.4	-0.4
BR101	**Keskin Array S**	**144.39**	**315**	*e*PKPbc	**PKPab**	**05 25 05.1**	**+0.9**
BR131	**Keskin Array S**	**144.39**	**315**	*e*PKPbc	PKPbc	05 25 03.3	-0.4
BRTR	**Keskin Array B**	**144.39**	**315**	PKP	PKPbc	05 25 03.6	-0.1
	4.1nm,0.6s,baz=116,slow=3.5,SNR=28						
STHS	**Stebnicka Huta**	**144.47**	**337**	*e*PKP	**PKPab**	**05 25 04.3**	**+0.4**
FOEL	**Foel Wylfa**	**144.72**	**5**	*e*P	**PKPdf**	**05 25 02.9**	**-0.8**
CRVS	**Cervenica-Dubn**	**144.82**	**337**	*e*PKP	PKPbc	05 25 04.7	+0.2
ANTO	**Ankara**	**144.89**	**316**	*e*PKPdf	**PKPab**	**05 25 05.8**	**-0.2**
BR231	**Keskin MP Arra**	**144.92**	**315**	*e*PKPdf	**PKPdf**	**05 25 03.9**	**-0.8**
HLM1	**Long Mynd**	**145.12**	**4**	*e*P	**PKPdf**	**05 25 05.0**	**+0.6**
CLL	**Collm**	**145.19**	**347**	*i* PKPbc	**PKPbc**	**05 25 05.6**	**+0.1**
	comp=Z,21nm,0.6s						
CLL	**Collm**	**145.19**	**347**	*e*PKPdf	**PKPbc**	**05 25 05.7**	**+0.2**
UPC	**Upice**	**145.20**	**343**	*e*PKP	**PKPbc**	**05 25 06.1**	**+0.5**
DPC	**Dobruska-Polom**	**145.26**	**343**	*e*PKP	**PKPab**	**05 25 06.5**	**-0.5**
LANS	**Liptovska Anna**	**145.33**	**339**	*e*PKP	**PKPab**	**05 25 07.1**	**-0.2**
BRG	**Berggiesshubel**	**145.39**	**346**	*i* PKP	**PKPbc**	**05 25 06.3**	**+0.1**
	comp=Z,10.0nm,0.8s						
MORC	**Moravsky Berou**	**145.41**	**341**	*e*PKPdf	**PKPbc**	**05 25 06.6**	**+0.3**
LPW	**Lampeter**	**145.42**	**6**	*e*P	**PKPdf**	**05 25 05.6**	**+0.7**
PVCC	**Panska Ves**	**145.56**	**345**	*e*PKP	**PKPbc**	**05 25 06.9**	**+0.3**
MCH1	**Michaelchurch**	**145.63**	**5**	*e*P	**PKPdf**	**05 25 06.2**	**+0.9**
MMAI	**Mount Meron Ar**	**145.74**	**303**	PKPbc	**PKPbc**	**05 25 08.0**	**+0.2**
	comp=Z,7.0nm,0.5s,baz=76,slow=6.1,SNR=7.9						
MONM	**Monmouth**	**145.80**	**4**	*e*P	**PKPbc**	**05 25 06.8**	**-0.4**
HGH	**Gray Hill**	**146.00**	**4**	*e*P	**PKPdf**	**05 25 07.0**	**+1.0**
PRU	**Pruhonice**	**146.06**	**345**	*e*PKP	**PKPbc**	**05 25 08.1**	**0.0**
PRU				*ex*	x	05 25 10.3	
GOPC	**GO Pecny, Ondr**	**146.07**	**344**	*e*PKP	**PKPdf**	**05 25 07.3**	**+1.1**
VYHS	**Vyhne**	**146.11**	**339**	*e*PKP	**PKPbc**	**05 25 09.0**	**+0.7**
PSZ	**Piszkesteto**	**146.22**	**337**	*e*PKPbc	**PKPbc**	**05 25 08.7**	**0.0**
BATH	**Bath**	**146.22**	**4**	*e*P	**PKPbc**	**05 25 08.0**	**-0.4**
NKC	**Novy Kostel**	**146.32**	**347**	*e*PKP	**PKPbc**	**05 25 09.2**	**+0.4**
SRO	**Srobarova**	**146.87**	**339**	*e*PKP	**PKPbc**	**05 25 11.0**	**+0.7**
DYA	**Yadsworthy**	**147.09**	**6**	*e*P	**PKPdf**	**05 25 07.8**	**0.0**
KHC	**Kasperske Hory**	**147.10**	**345**	*e*PKP	**PKPbc**	**05 25 11.3**	**+0.4**
KHC				*ex*	x	05 25 14.9	
KHC	**Kasperske Hory**	**147.10**	**345**	*e*PKPdf	**PKPdf**	**05 25 09.1**	**+1.1**
KHC				*e*PKPbc	**PKPbc**	**05 25 11.4**	**+0.4**
KHC				*e*PKPab	**PKPab**	**05 25 14.7**	**+0.4**
GEC2	**GERESS Array S**	**147.33**	**345**	*e*PKPdf	**PKPdf**	**05 25 08.8**	**+0.4**
GEC2				*e*PKPbc	**PKPbc**	**05 25 12.1**	**+0.4**
GEC2				*e*PKPab	**PKPab**	**05 25 15.2**	**-0.1**
GERES	**GERESS Array B**	**147.33**	**345**	PKPbc	**PKPbc**	**05 25 11.4**	**-0.2**
	comp=Z,6.4nm,0.6s,baz=23,slow=3.1,SNR=46						
GEA0	**GERESS Array S**	**147.34**	**345**	*e*PKPdf	**PKPdf**	**05 25 08.3**	**-0.1**
GEA0				*e*PKPbc	**PKPbc**	**05 25 11.8**	**+0.1**
GEA0				*e*PKPab	**PKPab**	**05 25 15.3**	**0.0**
CONA	**Conrad Observa**	**147.57**	**342**	*i* PKiKP	**PKPbc**	**05 25 13.0**	**+0.7**
	comp=Z,12nm,0.8s,SNR=6.1						
WLF	**Walferdange**	**147.88**	**354**	*e*PKPbc	**PKPbc**	**05 25 13.1**	**+0.2**
MOA	**Molln**	**148.10**	**343**	*i* PKPbc	**PKPbc**	**05 25 13.6**	**0.0**
	comp=Z,4.0nm,0.7s						
ARSA	**Arzberg**	**148.27**	**341**	*i* PKPbc	**PKPbc**	**05 25 13.3**	**-0.8**
	comp=Z,7.4nm,1.1s						
BFO	**Black Forest**	**148.91**	**351**	*e*PKPdf	**PKPdf**	**05 25 11.0**	**+0.1**
BFO				*e*PKPbc	**PKPbc**	**05 25 15.3**	**-0.3**
BFO				*e*PKPab	**PKPab**	**05 25 21.4**	**-0.3**
SOKA	**Soboth**	**148.94**	**341**	*i* PKPbc	**PKPbc**	**05 25 15.1**	**-0.6**
	comp=Z,6.4nm,1.1s						
KBA	**Koelnbreinsper**	**149.05**	**344**	*i* PKPbc	**PKPbc**	**05 25 15.5**	**-0.7**
	comp=Z,5.9nm,0.5s						
WATA	**Walderalm**	**149.25**	**346**	*i* PKPbc	**PKPbc**	**05 25 16.3**	**-0.2**
	comp=Z,5.9nm,0.5s						
RETA	**Reutte**	**149.28**	**347**	*i* PKPbc	**PKPbc**	**05 25 16.4**	**-0.2**
	comp=Z,4.0nm,0.4s						
WTTA	**Wattenberg**	**149.30**	**346**	*i* PKiKP	**PKPbc**	**05 25 16.6**	**-0.2**
	comp=Z,6.7nm,0.4s						
DIVS	**Divibare**	**149.31**	**333**	*e*PKPbc	**PKPbc**	**05 25 16.4**	**-0.4**
MOTA	**Moosalm**	**149.35**	**347**	*i* PKPbc	**PKPbc**	**05 25 16.4**	**-0.4**
	comp=Z,3.6nm,0.4s,SNR=5.1						
MYKA	**Terra Mystica**	**149.38**	**343**	*i* PKPbc	**PKPbc**	**05 25 16.2**	**-0.6**
	comp=Z,7.8nm,0.5s						
ABTA	**Abfaltersbach**	**149.58**	**345**	*i* PKPbc	**PKPbc**	**05 25 16.9**	**-0.4**
	comp=Z,11nm,0.6s,SNR=5.3						
DAVA	**Damuels**	**149.65**	**348**	*i* PKPbc	**PKPbc**	**05 25 17.3**	**-0.2**
	comp=Z,14nm,1.2s						
FETA	**Feichten**	**149.74**	**347**	*i* PKiKP	**PKPbc**	**05 25 18.1**	**+0.4**
	comp=Z,7.8nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**150.22**	**347**	*e*PKPbc	**PKPbc**	**05 25 19.4**	**+0.3**
TUE	**Stuetta**	**150.54**	**349**	*e*PKPbc	**PKPbc**	**05 25 19.9**	**+0.2**
IDI	**Anoyia**	**152.63**	**314**	PKPbc	**PKPbc**	**05 25 24.7**	**+0.1**
	comp=Z,14nm,0.8s,baz=11,slow=5.2,SNR=4.9						
ES19	**SONSECA Array**	**157.64**	**10**	*e*PKPab	**PKPab**	**05 25 58.5**	**-0.7**
ESDC	**Sonseca Array**	**157.66**	**11**	PKPab	**PKPab**	**05 25 58.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=339,slow=4.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**175.44**	**186**	PKP	**PKPdf**	**05 25 36.7**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=344,slow=0.8,SNR=6.8						
TORD				PKPab	**PKPab**	**05 27 18.0**	**0.0**
	comp=Z,0.5nm,0.7s,baz=171,slow=4.6,SNR=4.4						
TOA1	**Torodi Ar. Sit**	**175.45**	**186**	*e*PKPdf	**PKPdf**	**05 25 36.7**	**-0.8**
TOA1				*e*PKPab	**PKPab**	**05 27 18.0**	**-0.1**

BJI ***12*** *05:09:49.6,27.10N×54.12E,h20km, mb4.6/26, mB5.0/14, Ms4.6/7, Ms7 4.3/6*
NEIC ***12*** *05:09:52.6±0.0, 26.99N×54.83E, h15km, mb4.7/32, ML4.2(THR), MN4.2(TEH), After THR.*
NEIC Felt at Dubai, United Arab Emirates.
THR ***12*** *05:09:52.0±1.0, 27.03N×54.84E, h6km, ML4.3*
ISCJB ***12*** *05:09:53.2±0.1, 27.21N±0.02×54.73E±0.02, h15km, mb4.5/92, MS3.7/12, Error ellipse: s-maj=2.8km s-min=2.4km az=41.9*
TEH ***12*** *05:09:53.8, 27.12N×54.82E, h19km, ML4.2*
MOS ***12*** *05:09:53.0±1.1, 27.07N×54.79E, h24km, mb4.7/33, Error ellipse: s-maj=7.9km s-min=5.1km az=99.4*
DSN ***12*** *05:09:54.0±0.8, 27.21N×54.66E, h15km, mb4.1/1, ML4.4/8, Error ellipse: s-maj=10.5km s-min=6.5km az=59.0*
CSEM ***12*** *05:09:55.3±0.1, 27.14N×54.74E, h20km, mb4.6/54, Error ellipse: s-maj=4.1km s-min=3.3km az=54.0*
IDC ***12*** *05:09:58.0±2.2, 27.18N×54.77E, h42km±21km, mb4.2/31, mb1 4.2/37, mb1mx4.1/70, mbtmp4.4/37, ML3.9/6, MS3.4/10, Ms1 3.4/10, ms1mx3.1/61, Error ellipse: s-maj=13.5km s-min=10.1km az=155.0*
OMAN ***12*** *05:10:03.8±1.3

CHMN **Cheshme madani** 3.63 40 *e*Pn **Pn** 05 10 53.3 +3.1
CHMN **Cheshme madani** 3.63 40 *e*Pn **Pn** 05 10 53.3 +3.1
ARQ **Araqi** 4.05 158 Pb **Pb** 05 11 06.0 +0.8
SNR=18
ARQ **Araqi** 4.05 158 Pb **Pb** 05 11 06.0 +0.8
SNR=18
IMEH **Mehriz** 4.28 357 *e*Pn **Pn** 05 11 01.3 +2.3
IMEH *e*AMB AMB 05 12 10.2
comp=Z,1µm,0.3s
IMEH **Mehriz** 4.28 357 *e*Pn **Pn** 05 11 01.3 +2.3
SLWS 4.42 240 P **Pn** 05 11 02.9 +2.2
SLWS S **Sn** 05 11 54.6 +2.8
IBAF **Bafgh** 4.52 8 *e*AMB AMB 05 11 06.5
comp=Z,2µm,0.2s
IBAF *e*Pn **Pn** 05 11 03.5 +1.3
BTHS 4.72 231 P **Pn** 05 11 06.2 +1.4
BTHS S **Sn** 05 12 01.2 +2.0
ISAD **Sadrabad** 4.90 348 *e*AMB AMB 05 11 16.1
comp=Z,2µm,0.3s
ISAD *e*Pn **Pn** 05 11 09.9 +2.3
SMDO **Samad** 4.97 143 pPn **Pn** 05 11 11.2 +2.8
SNR=33
SMDO **Samad** 4.97 143 P **Pn** 05 11 11.2 +2.8
SNR=33
SMDO **Samad** 4.97 143 P **Pn** 05 11 11.2 +2.8
SNR=33
BOQSS 5.05 257 P **Pn** 05 11 11.6 +2.2
BOQSS S **Sn** 05 12 08.9 +1.5
ICHK **Chekchek** 5.14 356 *e*Pn **Pn** 05 11 12.6 +1.8
ICHK *e*AMB AMB 05 12 55.9
comp=Z,1µm,0.4s
ICHK **Chekchek** 5.14 356 *e*Pn **Pn** 05 11 12.6 +1.8
WSAR **Wadi Sarin** 5.16 137 P **Pn** 05 11 13.4 +2.5
comp=Z,12nm,0.3s,baz=322,slow=11,SNR=55
WSAR S **Sn** 05 12 10.2 +0.1
comp=Z,12nm,0.3s,baz=156,slow=18,SNR=8.3
WSAR LR LR 05 13 47.4
comp=Z,388nm,20.3s,baz=352,slow=44
WSAR **Wadi Sarin** 5.16 137 pPn **Pn** 05 11 13.3 +2.5
SNR=24
WSAR **Wadi Sarin** 5.16 137 P **Pn** 05 11 13.3 +2.5
SNR=24
IRAM **Ramesheh** 5.16 336 *e*Pn **Pn** 05 11 12.4 +1.3
IRAM *e*AMB AMB 05 11 17.5
comp=Z,1µm,0.3s
IRAM **Ramesheh** 5.16 336 *e*Pn **Pn** 05 11 12.4 +1.3
CHBR **Chabahar** 5.28 105 *e*Pn **Pn** 05 11 13.5 +1.0
CHBR **Chabahar** 5.28 105 *e*Pn **Pn** 05 11 13.5 +1.0
JMDO **Jabal Madar** 5.57 147 pPn **Pn** 05 11 19.8 +3.3
SNR=8.5
JMDO **Jabal Madar** 5.57 147 P **Pn** 05 11 19.8 +3.3
SNR=8.5
JMDO **Jabal Madar** 5.57 147 P **Pn** 05 11 19.8 +3.3
SNR=8.5
ZHSF **Zahedan** 5.80 63 *e*Pn **Pn** 05 11 21.5 +1.7
ZHSF **Zahedan** 5.80 63 *e*Pn **Pn** 05 11 21.5 +1.7
ZHSF **Zahedan** 5.80 63 *e*Pn **Pn** 05 11 21.5 +1.7
IGAR **Gharneh** 5.82 336 *e*Pn **Pn** 05 11 21.6 +1.5
IGAR *e*AMB AMB 05 11 26.9
comp=Z,654nm,0.2s
WBK **Wadi Bani Khal** 5.84 139 pPn **Pn** 05 11 23.0 +2.8
SNR=13
WBK **Wadi Bani Khal** 5.84 139 P **Pn** 05 11 23.0 +2.8
SNR=13
WBK **Wadi Bani Khal** 5.84 139 P **Pn** 05 11 23.0 +2.8
SNR=13
NASN **Na'in** 5.95 343 *e*Pn **Pn** 05 11 23.4 +1.4
NASN **Na'in** 5.95 343 *e*Pn **Pn** 05 11 23.4 +1.4
NASN **Na'in** 5.95 343 *e*Pn **Pn** 05 11 23.4 +1.4
IZEF **Zefreh** 6.17 340 *e*Pn **Pn** 05 11 24.7 -0.3
IZEF *e*AMB AMB 05 11 53.5
comp=Z,448nm,0.4s
IZEF **Zefreh** 6.17 340 *e*Pn **Pn** 05 11 24.7 -0.3
IKOO **Kooshah** 6.42 33 *e*Pn **Pn** 05 11 30.3 +1.8
IKOO *e*AMB AMB 05 13 35.3
comp=E,948nm,0.6s
IKOO **Kooshah** 6.42 33 *e*Pn **Pn** 05 11 30.3 +1.8
TABS **Tabas** 6.82 16 *e*Pn **Pn** 05 11 35.2 +1.5
TABS **Tabas** 6.82 16 *e*Pn **Pn** 05 11 35.2 +1.5
TABS **Tabas** 6.82 16 *e*Pn **Pn** 05 11 35.7 +2.0
SHRT **Shahrakht** 8.04 34 *e*Pn **Pn** 05 11 52.8 +2.2
SHRT **Shahrakht** 8.04 34 *e*Pn **Pn** 05 11 52.8 +2.2
SHRT **Shahrakht** 8.04 34 *e*Pn **Pn** 05 11 52.8 +2.2
SHAO **Shalim** 9.06 175 Pn **Pn** 05 12 05.7 +1.1
SNR=8.5
SHAO **Shalim** 9.06 175 P **Pn** 05 12 05.7 +1.1
SNR=8.5
SHAO **Shalim** 9.06 175 P **Pn** 05 12 05.7 +1.1
SNR=8.5
SHAO **Shalim** 9.06 175 *i* P **Pn** 05 12 05.3 +0.8
SNR=8.5
SHAO **Shalim** 9.06 175 *i* Pn **Pn** 05 12 05.3 +0.8
SNR=8.5
RAYN **Ar Rayn** 9.17 249 P **Pn** 05 12 04.5 -1.4
RAYN **Ar Rayn** 9.17 249 *e*Pn **Pn** 05 12 04.6 -1.4
RAYN *e*Sn **Sn** 05 13 45.3 -3.6
RAYN **Ar Rayn** 9.17 249 *e*Pn **Pn** 05 12 04.6 -1.4
RAYN *e*Sn **Sn** 05 13 45.3 -3.6
GEYT **Alibeck** 11.14 14 P **Pn** 05 12 34.2 +1.2
comp=E,0.3nm,0.3s,baz=206,slow=13,SNR=4.1
GNI **Garni** 15.48 330 P **P** 05 13 37.3 +0.9
comp=E,2.1nm,0.3s,baz=30,slow=0.7,SNR=18
GNI **Garni** 15.48 330 *ce*P **Pn** 05 13 33.1 +1.0
GNI pmax pmax
comp=Z,67nm,0.7s
GNI **Garni** 15.48 330 *e*Pn **P** 05 13 37.6 +1.1
GNI **Garni** 15.48 330 *e*Pn **P** 05 13 37.6 +1.1
ASF **Jabal al Asfar** 16.39 292 P **Pn** 05 13 43.6 -0.2
comp=Z,0.3nm,0.3s,baz=359,slow=8.1,SNR=3.3
EIL **Elat** 17.69 283 P **P** 05 14 01.1 +0.3
comp=Z,0.3nm,0.3s,baz=65,slow=14,SNR=3.0
MMAI **Mount Meron Ar** 17.82 294 P **Pn** 05 14 01.7 0.0
comp=Z,1.5nm,0.3s,baz=96,slow=15,SNR=6.4
MMAI LR LR 05 22 48.4
comp=Z,93nm,18.9s,baz=230,slow=43
ZEI **Tsey** 18.01 333 *e*P **P** 05 14 05.0 +0.5
ZEI pmax pmax
comp=Z,19nm,0.8s
NCK **Nalchik** 18.73 334 *e*P **Pn** 05 14 14.1 +1.5
NCK pmax pmax
comp=Z,12nm,0.8s
NCK **Nalchik** 18.73 334 *e*P **Pn** 05 14 14.1 +1.5
comp=Z,12nm,0.8s
ATD **Arta Tunnel** 19.16 218 LR LR 05 21 39.1
comp=Z,54nm,19.9s,baz=58,slow=37
KBZ **Khabaz** 19.20 333 P **Pn** 05 14 18.1 -0.2
comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=6.6
KIV **Kislovodsk** 19.47 333 *e*P **Pn** 05 14 21.1 -0.6
KIV pmax pmax
comp=Z,36nm,1.1s
KIV **Kislovodsk** 19.47 333 *e*P **P** 05 14 20.3 -0.2
comp=Z,44nm,1.2s
KIV **Kislovodsk** 19.47 333 *e*P **P** 05 14 20.3 -0.2
comp=Z,44nm,1.2s
CSS **Mathiatis** 20.00 298 *e*P **P** 05 14 24.0 -2.3
comp=Z,9.1nm,1.1s
CSS **Mathiatis** 20.00 298 *e*P **P** 05 14 24.0 -2.3
comp=Z,9.1nm,1.1s
KK07 **Karatay Array** 20.41 35 *e*P **P** 05 14 31.2 +0.6
KK07 **Karatay Array** 20.41 35 *e*P **P** 05 14 31.2 +0.6
KK08 **Karatay Array** 20.41 35 *e*P **P** 05 14 30.9 +0.3
KK08 **Karatay Array** 20.41 35 *e*P **P** 05 14 30.9 +0.3
KK03 **Karatay Array** 20.42 35 *e*P **P** 05 14 30.1 -0.6
KK03 **Karatay Array** 20.42 35 *e*P **P** 05 14 30.1 -0.6
KK01 **Karatay Array** 20.42 35 *e*P **P** 05 14 30.5 -0.2
KK01 **Karatay Array** 20.42 35 *e*P **P** 05 14 30.5 -0.2
KK02 **Karatay Array** 20.42 35 *e*P **P** 05 14 30.5 -0.3
KK02 **Karatay Array** 20.42 35 *e*P **P** 05 14 30.5 -0.3
KK06 **Karatay Array** 20.42 35 *e*P **P** 05 14 31.1 +0.4
KK06 **Karatay Array** 20.42 35 *e*P **P** 05 14 31.1 +0.4
KK31 **Karatay Array** 20.42 35 *e*P **P** 05 14 31.2 +0.5
KK31 **Karatay Array** 20.42 35 *e*P **P** 05 14 31.2 +0.5
KK31 **Karatay Array** 20.42 35 *e*P **P** 05 14 31.2 +0.5
KKAR **Karatay Array** 20.42 35 *e*P **P** 05 14 31.3 +0.5
KKAR **Karatay Array** 20.42 35 *e*P **P** 05 14 31.2 +0.5
KKAR **Karatay Array** 20.42 35 *e*P **P** 05 14 31.2 +0.5
KK04 **Karatay Array** 20.42 35 *e*P **P** 05 14 31.0 +0.2
KK04 **Karatay Array** 20.42 35 *e*P **P** 05 14 31.0 +0.2
KK05 **Karatay Array** 20.44 35 *e*P **P** 05 14 31.1 +0.2
KK05 **Karatay Array** 20.44 35 *e*P **P** 05 14 31.1 +0.2
KSH **Kashi** 21.51 50 *e*P **P** 05 14 42.7 +0.1
KSH sP sP 05 14 50.6 +1.2
KSH S **S** 05 18 32.4 -8.3
KSH sS sS 05 18 40.7 -7.4
KSH SS **SnSn** 05 19 06.1 +1.9
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,280nm,6.6s
KSH LR LR
comp=Z,490nm,6.2s
KSH LR LR
comp=Z,140nm,7.2s
KSH LR LR
comp=Z,330nm,6.5s
BRTR **Keskin Array B** 21.66 311 P **P** 05 14 44.3 +0.1
comp=Z,6.7nm,0.7s,baz=132,slow=13,SNR=46
BRTR LR LR 05 25 05.1
comp=Z,140nm,18.0s,baz=124,slow=42
BR101 **Keskin Array S** 21.66 311 *e*P **P** 05 14 44.3 +0.1
BR101 **Keskin Array S** 21.66 311 *e*P **P** 05 14 44.3 +0.1
BR131 **Keskin Array S** 21.66 311 *e*P **P** 05 14 44.4 +0.1
BR131 **Keskin Array S** 21.66 311 *e*P **P** 05 14 44.3 +0.1
AAK **Ala-Archa** 22.29 41 P **P** 05 14 52.1 +1.1
comp=Z,3.2nm,0.7s,baz=185,slow=13,SNR=7.2
AAK LR LR 05 23 56.7
comp=Z,110nm,20.1s,baz=210,slow=38
AAK **Ala-Archa** 22.29 41 *e*P **P** 05 14 51.1 +0.2
comp=Z,5.5nm,0.8s
AAK **Ala-Archa** 22.29 41 *e*P **P** 05 14 51.2 +0.2
comp=Z,5.5nm,0.8s
AAK **Ala-Archa** 22.29 41 *i* P **P** 05 14 51.8 +0.8
SNR=6.4
AAK **Ala-Archa** 22.29 41 *i* P **P** 05 14 51.8 +0.8
SNR=6.4
BR231 **Keskin MP Arra** 22.30 310 *e*P **P** 05 14 44.5 -6.6
BR231 **Keskin MP Arra** 22.30 310 *e*P **P** 05 14 44.5 -6.6
ANTO **Ankara** 22.30 310 *e*P **P** 05 14 47.8 -3.2
ANTO pmax pmax
comp=Z,16nm,1.0s
ANTO **Ankara** 22.30 310 *e*P **P** 05 14 47.8 -3.2
comp=Z,16nm,1.0s
ANTO **Ankara** 22.30 310 *e*P **P** 05 14 47.8 -3.2
comp=Z,16nm,1.0s
AB08 **Akbulak array** 22.45 9 *e*P **P** 05 14 52.1 -0.4
AB07 **Akbulak array** 22.46 9 *e*P **P** 05 14 52.3 -0.2
AB07 **Akbulak array** 22.46 9 *e*P **P** 05 14 52.3 -0.2
AB03 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.2 -0.4
AB03 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.2 -0.4
AB01 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.3 -0.4
AB01 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.3 -0.4
AB31 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.7 0.0
AB31 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.7 0.0
AB31 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.7 0.0
ABKAR **Akbulak array** 22.47 9 *e*P **P** 05 14 52.7 0.0
comp=Z,128nm,0.8s
ABKAR **Akbulak array** 22.47 9 *e*P **P** 05 14 52.7 0.0
comp=Z,128nm,0.8s
AB04 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.2 -0.5
AB04 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.2 -0.5
AB09 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.0 -0.7
AB09 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.0 -0.7
AB02 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.5 -0.2
AB02 **Akbulak array** 22.47 9 *e*P **P** 05 14 52.5 -0.2
FRU **Bishkek** 22.48 41 *e*P **P** 05 14 53.5 +0.6
FRU **Bishkek** 22.48 41 *e*P **P** 05 14 53.5 +0.6
AB06 **Akbulak array** 22.48 9 *e*P **P** 05 14 52.6 -0.2
AB06 **Akbulak array** 22.48 9 *e*P **P** 05 14 52.6 -0.2
AB05 **Akbulak array** 22.49 9 *e*P **P** 05 14 52.7 -0.2
AB05 **Akbulak array** 22.49 9 *e*P **P** 05 14 52.7 -0.2
ISP **Isparta** 23.07 304 *e*P **P** 05 14 57.7 -1.6
ISP **Isparta** 23.07 304 *e*P **P** 05 14 57.6 -1.6
ISP **Isparta** 23.07 304 *e*P **P** 05 14 57.7 -1.6
AKTK **Aktyubinsk** 23.43 5 P **P** 05 15 03.3 +0.7
comp=Z,171nm,18.1s
AKTO **Aktyubinsk** 23.43 5 P **P** 05 15 03.2 +0.7
comp=Z,16nm,0.8s,baz=187,slow=11,SNR=44
AKTO LR LR 05 24 25.9
comp=Z,171nm,18.1s,baz=182,slow=37
KDJ **Kajisay** 23.63 45 P **P** 05 15 06.1 +1.2
KDJ **Kajisay** 23.63 45 *e*P **P** 05 15 05.4 +0.6
comp=Z,15nm,1.4s
KDJ **Kajisay** 23.63 45 *e*P **P** 05 15 05.4 +0.6
comp=Z,15nm,1.4s
PYUN **Piuthan** 24.95 81 *e*P **P** 05 15 19.5 +2.3
comp=Z,45nm,0.7s
KOLN **Koldanda** 25.51 82 *e*P **P** 05 15 24.2 +1.8
comp=Z,36nm,1.0s
DANN **Dangsing** 25.61 80 *e*P **P** 05 15 26.0 +2.7
VRH **Novokhopyorsk** 26.05 341 *e*P **P** 05 15 26.4 -0.3
VRH pmax pmax
comp=Z,40nm,0.6s
VRH **Novokhopyorsk** 26.05 341 *e*P **P** 05 15 26.4 -0.3
comp=Z,40nm,0.6s
IDI **Anoyia** 26.81 295 P **P** 05 15 33.9 0.0
comp=Z,20nm,0.9s,baz=52,slow=4.6,SNR=4.4
IDI **Anoyia** 26.81 295 *e*P **P** 05 15 33.0 -0.9
comp=Z,126nm,1.5s
IDI **Anoyia** 26.81 295 *e*P **P** 05 15 33.0 -0.9
comp=Z,126nm,1.5s
VSR **Storozhevoye** 26.86 338 *e*P **P** 05 15 35.2 +1.2
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR **Storozhevoye** 26.86 338 *e*P **P** 05 15 35.2 +1.2
comp=Z,10.0nm,1.3s
GUN **Gumba** 27.51 81 *e*P **P** 05 15 42.1 +1.5
JIRN **Jiri** 27.81 82 *e*P **P** 05 15 44.5 +1.2
LPSR **Galich'ya Gora** 28.12 339 *e*P **P** 05 15 44.4 -0.9
LPSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR **Galich'ya Gora** 28.12 339 *e*P **P** 05 15 44.4 -0.9
comp=Z,10.0nm,0.7s
BRVK **Borovoye** 28.37 20 *e*P **P** 05 15 47.6 +0.1
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK **Borovoye** 28.37 20 *e*P **P** 05 15 47.6 +0.1
comp=Z,4.7nm,0.7s
BRVK **Borovoye** 28.37 20 *e*P **P** 05 15 47.6 +0.1
comp=Z,4.7nm,0.7s
BVAR **Borovoye Array** 28.37 20 P **P** 05 15 47.7 +0.2
comp=Z,7.4nm,0.8s,baz=210,slow=6.5,SNR=36
BVAR PcP **PcP** 05 19 00.1 +0.2
comp=Z,1.1nm,0.5s,baz=192,slow=4.7,SNR=4.8
MK01 **Makanchi Array** 29.21 41 *e*P **P** 05 15 54.9 -0.3
MK01 **Makanchi Array** 29.21 41 *e*P **P** 05 15 54.8 -0.3
MK31 **Makanchi Array** 29.22 40 *e*P **P** 05 15 55.5 +0.3
MK31 **Makanchi Array** 29.22 40 *e*P **P** 05 15 55.5 +0.3
MK31 **Makanchi Array** 29.22 40 *e*P **P** 05 15 55.5 +0.3
MK32 **Makanchi Array** 29.22 40 *e*P **P** 05 15 55.4 +0.2
MK32 *e*PcP **PcP** 05 19 01.9 -0.2
MK32 **Makanchi Array** 29.22 40 *e*P **P** 05 15 55.4 +0.2
MKAR **Makanchi Array** 29.22 40 P **P** 05 15 55.4 +0.2
comp=Z,0.6nm,0.6s,baz=226,slow=8.0,SNR=8.1
MKAR PcP **PcP** 05 19 01.9 -0.2
comp=Z,0.4nm,0.6s,baz=215,slow=2.3,SNR=5.0
MKAR LR LR 05 29 48.4
comp=Z,82nm,19.2s,baz=249,slow=41
MKAR **Makanchi Array** 29.22 40 *e*P **P** 05 15 55.5 +0.3
comp=Z,32nm,1.6s
MKAR **Makanchi Array** 29.22 40 *e*P **P** 05 15 55.5 +0.3
comp=Z,32nm,1.6s
KURBB **Kurchatov Arra** 29.62 31 P **P** 05 15 59.1 +0.4
comp=Z,3.2nm,0.8s,baz=231,slow=8.7,SNR=27
KURBB PcP **PcP** 05 19 02.8 -0.2
comp=Z,0.9nm,0.6s,baz=226,slow=3.7,SNR=5.4
KURK **Kurchatov** 29.73 31 *ce*P **P** 05 16 00.1 +0.5
KURK pmax pmax
comp=Z,33nm,2.5s
KURK **Kurchatov** 29.73 31 *e*P **P** 05 15 59.1 -0.5
KURK *e*PcP **PcP** 05 19 02.8 -0.5
KURK **Kurchatov** 29.73 31 *e*P **P** 05 16 00.1 +0.5
comp=Z,33nm,2.5s
AKASG **Malin Array Be** 30.59 327 P **P** 05 16 05.6 -1.6
comp=Z,1.5nm,0.6s,baz=133,slow=8.2,SNR=11
AKBB **Malin Array Si** 30.59 327 *e*P **P** 05 16 06.1 -1.1
AKBB pmax pmax
comp=Z,15nm,1.4s
AKBB **Malin Array Si** 30.59 327 *e*P **P** 05 16 06.1 -1.1
comp=Z,15nm,1.4s
AKBB **Malin Array Si** 30.59 327 *e*P **P** 05 16 06.1 -1.1
comp=Z,15nm,1.4s
KIEV **Kiev** 30.59 327 *e*P **P** 05 16 06.6 -0.6
KIEV pmax pmax
comp=Z,4.0nm,1.0s
KIEV **Kiev** 30.59 327 *e*P **P** 05 16 05.7 -1.5
comp=Z,16nm,1.5s
KIEV **Kiev** 30.59 327 *e*P **P** 05 16 06.6 -0.6
comp=Z,4.0nm,1.0s
OBN **Obninsk** 30.99 340 P **P** 05 16 10.9 +0.1
comp=Z,25nm,0.4s,baz=89,slow=23,SNR=3.5
OBN **Obninsk** 30.99 340 *ce*P **P** 05 16 10.4 -0.3
OBN *e* 05 17 14.8
OBN *e*SS SS 05 23 04.4 -23
OBN pmax pmax
comp=Z,14nm,0.4s
OBN MLR MLR
comp=Z,210nm,16.0s
OBN **Obninsk** 30.99 340 *e*P **P** 05 16 10.4 -0.3
comp=Z,14nm,0.4s
WMQ **Urumqi** 31.27 49 P **P** 05 16 14.9 +1.4
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ pmax pmax
comp=Z,520nm,5.5s
WMQ LR LR
comp=Z,430nm,26.3s
WMQ LR LR
comp=Z,190nm,21.5s
SOKR **Solikamsk** 32.51 2 *e*P P 05 16 17.1 -6.9
SOKR pmax pmax
comp=Z,6.0nm,0.6s
KMBO **Kilima Mbogo** 32.78 214 P **P** 05 16 27.2 0.0
comp=Z,1.0nm,0.5s,baz=30,slow=12,SNR=3.5
KMBO LR LR 05 30 00.6
comp=Z,55nm,18.5s,baz=80,slow=37
KMBO **Kilima Mbogo** 32.78 214 *e*P **P** 05 16 27.2 0.0
comp=Z,2.6nm,0.9s
DGZ **Jazzator, Alta** 33.66 39 *e*P **P** 05 16 32.6 -1.9
DGZ pmax pmax
comp=Z,1.0nm,0.9s
DGZ **Jazzator, Alta** 33.66 39 *e*P **P** 05 16 32.6 -1.9
comp=Z,1.0nm,0.9s
ZAA0 **Zalesovo Array** 34.72 31 *e*P **P** 05 16 43.0 -0.3
comp=Z,10nm,0.8s
ZALV **Zalesovo Beam** 34.72 31 P **P** 05 16 43.4 0.0
comp=Z,9.8nm,0.6s,baz=238,slow=9.2,SNR=18
ZALV PcP **PcP** 05 19 16.0 -0.9
comp=Z,1.4nm,0.5s,baz=225,slow=3.2,SNR=4.2
ZALV LR LR 05 32 57.1
comp=Z,102nm,19.0s,baz=54,slow=40
ZALV **Zalesovo Beam** 34.72 31 *e*P **P** 05 16 43.0 -0.4
ZAA1 **Zalesovo Array** 34.72 31 *e*P **P** 05 16 43.4 0.0
ZAA1 *e*PcP **PcP** 05 19 16.0 -0.9
LANS **Liptovska Anna** 35.01 319 *e*P **P** 05 16 46.3 +0.3
LANS **Liptovska Anna** 35.01 319 *e*P **P** 05 16 46.3 +0.3
LANS **Liptovska Anna** 35.01 319 *e*P **P** 05 16 46.3 +0.3
KLMR **Klimovskoe** 35.31 347 *e*P **P** 05 16 45.4 -2.9
KLMR pmax pmax
comp=Z,10.0nm,1.0s
KLMR **Klimovskoe** 35.31 347 *e*P **P** 05 16 45.5 -2.9
KLMR AMP 05 16 48.7
comp=Z,10.0nm,1.0s
SOKA **Soboth** 36.86 313 P **P** 05 17 01.5 -0.4
comp=Z,5.6nm,1.3s
SOKA **Soboth** 36.86 313 *i* P **P** 05 17 01.5 -0.4
comp=Z,5.6nm,1.3s
VSU **Vasula** 36.98 336 *ce*P **P** 05 17 02.3 -0.4
VSU pmax pmax
comp=Z,41nm,1.0s
DPC **Dobruska-Polom** 37.37 319 *e*P **P** 05 17 06.5 +0.4
DPC **Dobruska-Polom** 37.37 319 *e*P **P** 05 17 06.5 +0.4
DPC **Dobruska-Polom** 37.37 319 *e*P **P** 05 17 06.5 +0.4
MOA **Molln** 37.72 314 *i* P **P** 05 17 09.0 -0.1
comp=Z,5.2nm,1.3s
KBA **Koelnbreinsper** 38.08 313 P **P** 05 17 12.0 -0.4
comp=Z,5.1nm,0.8s
KBA **Koelnbreinsper** 38.08 313 *i* P **P** 05 17 12.0 -0.4
comp=Z,5.1nm,0.8s
GEC2 **GERESS Array S** 38.40 316 *e*P **P** 05 17 13.6 -1.3
GEC2 *e* 05 19 27.7
GEC2 pmax pmax
comp=Z,13nm,1.7s
GEC2 **GERESS Array S** 38.40 316 *e*P **P** 05 17 13.6 -1.3
comp=Z,13nm,1.7s
GEC2 *e*PcP **PcP** 05 19 27.6 -0.6
GERES **GERESS Array B** 38.40 316 P **P** 05 17 13.7 -1.3
comp=Z,0.3nm,0.5s,baz=107,slow=8.9,SNR=4.2
GERES PcP **PcP** 05 19 27.7 -0.6
comp=Z,0.5nm,0.5s,baz=129,slow=1.4,SNR=3.6
ABTA **Abfaltersbach** 38.54 312 P **P** 05 17 15.5 -0.6
comp=Z,7.6nm,1.1s
ABTA **Abfaltersbach** 38.54 312 *i* P **P** 05 17 15.5 -0.6
comp=Z,7.6nm,1.1s
KHC **Kasperske Hory** 38.57 316 *e*P **P** 05 17 15.8 -0.5
KHC *e*pP **pP** 05 17 19.0 -2.4
KHC **Kasperske Hory** 38.57 316 *e*P **P** 05 17 15.8 -0.5
KHC *e* 05 17 19.0
KHC **Kasperske Hory** 38.57 316 *e*P **P** 05 17 15.8 -0.5
comp=Z,2.7nm,1.1s
GTA **Gaotai** 39.19 60 *e*P **P** 05 17 22.6 +0.9
GTA pP sP 05 17 28.1 -0.7
GTA sP pP 05 17 31.5 +4.7
GTA pmax pmax
comp=Z,6.0nm,0.8s
WTTA **Wattenberg** 39.25 313 P **P** 05 17 21.4 -0.8
comp=Z,9.0nm,1.0s
WTTA **Wattenberg** 39.25 313 *i* P **P** 05 17 21.4 -0.8
comp=Z,9.0nm,1.0s
WATA **Walderalm** 39.31 313 *i* P **P** 05 17 22.0 -0.7
comp=Z,8.3nm,1.0s
FIA0 **FINESS Array S** 39.39 339 *e*P **P** 05 17 22.4 -0.5
FIA0 **FINESS Array S** 39.39 339 *e*P **P** 05 17 22.4 -0.5
FINES **FINESS Array B** 39.39 339 P **P** 05 17 22.4 -0.5
comp=Z,4.8nm,0.8s,baz=144,slow=8.9,SNR=13
MOTA **Moosalm** 39.62 313 P **P** 05 17 24.1 -1.2
comp=Z,5.1nm,0.8s
MOTA **Moosalm** 39.62 313 *i* P **P** 05 17 24.1 -1.2
comp=Z,5.1nm,0.8s
CLL **Collm** 39.68 319 *e*P **P** 05 17 26.0 +0.5
CLL **Collm** 39.68 319 *e*P **P** 05 17 26.0 +0.5
FETA **Feichten** 39.79 312 P **P** 05 17 25.6 -1.1
comp=Z,7.3nm,0.7s
FETA **Feichten** 39.79 312 *i* P **P** 05 17 25.6 -1.1
comp=Z,7.3nm,0.7s
RETA **Reutte** 39.88 313 P **P** 05 17 25.8 -1.6
comp=Z,3.7nm,0.7s
RETA **Reutte** 39.88 313 *i* P **P** 05 17 25.8 -1.6
comp=Z,3.7nm,0.7s
DAVA **Damuels** 40.42 312 P **P** 05 17 30.7 -1.2
comp=Z,16nm,0.6s
DAVA **Damuels** 40.42 312 *i* P **P** 05 17 30.7 -1.2
comp=Z,16nm,0.6s
CMAR **Chiang Mai Arr** 41.39 92 P **P** 05 17 41.4 +1.3
comp=Z,1.1nm,0.6s,baz=282,slow=8.6,SNR=7.7
BNI **Bardonecchia** 42.17 308 *e*P **P** 05 17 45.1 -1.2
BNI pmax pmax
comp=Z,5.0nm,0.7s
BNI **Bardonecchia** 42.17 308 *e*P **P** 05 17 45.1 -1.2
comp=Z,4.9nm,0.7s
BNI **Bardonecchia** 42.17 308 *e*P **P** 05 17 45.1 -1.2
comp=Z,4.9nm,0.7s
LZH **Lanzhou** 42.32 65 *e*P **P** 05 17 50.2 +2.5
LZH pP sP 05 17 56.5 +1.7
LZH sP pP 05 17 59.4 +6.7
LZH *e*PP **PP** 05 19 30.3 +4.6
LZH *e*S **S** 05 24 09.3 +1.1
LZH pmax pmax
comp=Z,16nm,0.9s
LZH pmax pmax
comp=Z,210nm,6.0s
LZH LR LR
comp=Z,430nm,14.3s
LZH LR LR
comp=Z,270nm,13.2s
LZH LR LR
comp=Z,280nm,13.8s
ECH **Echery** 42.42 313 *e*P **P** 05 17 47.0 -1.1
ECH pmax pmax
comp=Z,6.0nm,1.0s
ECH **Echery** 42.42 313 *e*P **P** 05 17 47.0 -1.1
comp=Z,5.7nm,1.0s
ECH **Echery** 42.42 313 *e*P **P** 05 17 47.0 -1.1
comp=Z,5.7nm,1.0s
CD2 **Chengdu** 42.68 73 *e*P **P** 05 17 51.0 +0.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
KMI **Kunming** 42.85 81 P **P** 05 17 55.2 +3.0
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,140nm,5.1s
HFS **Hagfors** 43.26 331 P **P** 05 17 53.5 -1.2
comp=Z,4.1nm,0.7s,baz=95,slow=12,SNR=5.0

WLF	**Walferdange**	**43.38**	**315**	⇑P		**P**	**05 17 54.6**	**-1.2**
MEM	**Membach**	**43.69**	**316**	⇑P		**P**	**05 17 57.6**	**-0.7**
DOU	**Dourbes**	**44.45**	**315**	⇓P		**P**	**05 18 04.6**	**+0.1**
	comp=Z,6.9nm,1.1s							
NB2	**NORSAR Subarra**	**44.77**	**332**	P		**P**	**05 18 05.5**	**-1.4**
	comp=Z,5.1nm,0.8s,baz=119,slow=7.9							
NB200	**NORSAR Array S**	**44.77**	**332**	*e*P		**P**	**05 18 05.8**	**-1.1**
NOA	**NORSAR Array B**	**44.77**	**332**	P		**P**	**05 18 05.8**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=120,slow=7.5,SNR=9.2							
SONA0	**Songino Array**	**44.91**	**48**	*e*P		**P**	**05 18 08.6**	**+0.3**
SONM	**Songino Array**	**44.91**	**48**	P		**P**	**05 18 08.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=270,slow=8.5,SNR=5.0							
ULN	**Ulaanbaatar**	**45.35**	**48**	*ce*P		**P**	**05 18 09.3**	**-2.5**
ULN				pmax	pmax			
	comp=Z,9.0nm,2.5s							
ARA0	**ARCESS Array S**	**45.77**	**346**	*e*P		**P**	**05 18 14.2**	**-0.5**
ARCES	**ARCESS Array B**	**45.77**	**346**	P		**P**	**05 18 14.2**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=142,slow=6.1,SNR=9.0							
HHC	**Hu-ho-hao-te**	**48.22**	**58**	*e*P		**P**	**05 18 36.5**	**+2.1**
HHC				S		**S**	**05 25 36.6**	**+3.4**
HHC				pmax	pmax			
	comp=Z,13nm,1.0s							
HHC				pmax	pmax			
	comp=Z,100nm,6.3s							
HHC				LR	LR			
	comp=Z,190nm,14.2s							
HHC				LR	LR			
	comp=Z,250nm,14.7s							
HHC				LR	LR			
	comp=Z,190nm,14.3s							
WOL	**Wolverton**	**48.31**	**316**	*e*P		**P**	**05 18 33.9**	**-0.8**
WOL				IAmb	IAmb		05 18 35.0	
	comp=Z,25nm,1.0s							
EDMD	**Edmundbyers**	**49.31**	**320**	*e*P		**P**	**05 18 41.0**	**-1.4**
EDMD				IAmb	IAmb		05 18 42.8	
	comp=Z,16nm,0.8s							
LSZ	**Lusaka**	**49.44**	**215**	LR		LR	05 40 29.4	
	comp=Z,45nm,20.1s,baz=299,slow=37							
MCH1	**Michaelchurch**	**49.49**	**316**	*e*P		**P**	**05 18 42.7**	**-1.1**
MCH1				IAmb	IAmb		05 18 43.4	
	comp=Z,12nm,0.7s							
ES19	**SONSECA Array**	**49.82**	**300**	*e*P		**P**	**05 18 46.4**	**-0.2**
ES19	**SONSECA Array**	**49.82**	**300**	*e*P		**P**	**05 18 46.4**	**-0.2**
ESDC	**Sonseca Array**	**49.87**	**300**	P		**P**	**05 18 46.6**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=67,slow=7.7,SNR=22							
ESY	**Stoneypath**	**49.87**	**322**	*e*P		**P**	**05 18 46.0**	**-0.7**
EKA	**Eskdalemuir Ar**	**50.07**	**321**	P		**P**	**05 18 47.2**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=116,slow=7.8,SNR=8.2							
PAB	**San Pablo**	**50.18**	**300**	*e*P		**P**	**05 18 48.9**	**-0.4**
PAB				pmax	pmax			
	comp=Z,7.0nm,0.8s							
PAB	**San Pablo**	**50.18**	**300**	*e*P		**P**	**05 18 48.9**	**-0.4**
	comp=Z,7.2nm,0.8s							
PAB	**San Pablo**	**50.18**	**300**	*e*P		**P**	**05 18 48.9**	**-0.4**
	comp=Z,7.2nm,0.8s							
BOD	**Bodaibo**	**51.15**	**36**	*e*P		**P**	**05 18 55.0**	**-1.2**
BOD				pmax	pmax			
	comp=Z,8.0nm,1.0s							
TOA0	**Torodi Ar. Sit**	**51.45**	**265**	*e*P		**P**	**05 18 58.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**51.45**	**265**	P		**P**	**05 18 58.7**	**-0.4**
	comp=Z,12nm,0.8s,baz=56,slow=6.9,SNR=85							
TOA1	**Torodi Ar. Sit**	**51.45**	**265**	*e*P		**P**	**05 18 58.7**	**-0.4**
MVO	**Moncorvo**	**52.09**	**302**	*e*P		**P**	**05 19 03.8**	**+0.2**
	comp=Z,17nm,2.2s							
PBAR	**Barrancos**	**52.41**	**299**	*e*P		**P**	**05 19 05.6**	**-0.4**
	comp=Z,25nm,1.5s							
PMRV	**Marv??o**	**52.53**	**300**	*e*P		**P**	**05 19 06.5**	**-0.4**
PCBR	**Castelo Branco**	**52.55**	**301**	*e*P		**P**	**05 19 07.9**	**+0.9**
PVIS	**Viseu**	**52.78**	**302**	*e*P		**P**	**05 19 09.2**	**+0.4**
	comp=Z,18nm,1.6s							
PBEJ	**Beja**	**53.07**	**299**	*e*P		**P**	**05 19 10.9**	**0.0**
PTOM	**Tomar**	**53.29**	**301**	*e*P		**P**	**05 19 12.7**	**+0.2**
SPA0	**Spitsbergen Ar**	**54.03**	**351**	*e*P		**P**	**05 19 17.0**	**-0.4**
SPITS	**Spitsbergen Ar**	**54.03**	**351**	P		**P**	**05 19 17.4**	**0.0**
	comp=Z,3.1nm,0.7s,baz=141,slow=5.4,SNR=3.1							
NJ2	**Nanjing**	**55.18**	**68**	*e*P		**P**	**05 19 25.6**	**-0.8**
NJ2				pmax	pmax			
	comp=Z,25nm,0.5s							
KOWA	**Kowa**	**55.99**	**270**	P		**P**	**05 19 32.2**	**-0.3**
	comp=Z,8.2nm,0.7s,baz=59,slow=8.5,SNR=37							
KOWA	**Kowa**	**55.99**	**270**	*e*P		**P**	**05 19 32.1**	**-0.3**
	comp=Z,9.3nm,0.8s							
CN2	**Changchun**	**58.21**	**53**	*e*P		**P**	**05 19 51.0**	**+3.3**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
TSUM	**Tsumeb**	**58.51**	**222**	*e*P		**P**	**05 19 51.5**	**+1.3**
	comp=Z,6.7nm,1.1s							
LBTB	**Lobatse**	**58.99**	**211**	*e*P		**P**	**05 19 54.4**	**+1.0**
LBTB				pmax	pmax			
	comp=Z,47nm,1.8s							
LBTB	**Lobatse**	**58.99**	**211**	*e*P		**P**	**05 19 54.4**	**+1.0**
	comp=Z,47nm,1.8s							
YAK	**Yakutsk**	**59.37**	**32**	*e*P		**P**	**05 19 54.9**	**-0.5**
YAK				pmax	pmax			
	comp=Z,8.0nm,0.8s							
TIXI	**Tiksi**	**59.50**	**21**	*e*P		**P**	**05 19 55.1**	**-1.1**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.0s							
DBIC	**Dimbokro**	**60.06**	**262**	P		**P**	**05 20 00.8**	**-0.2**
	comp=Z,11nm,0.8s,baz=46,slow=7.3,SNR=16							
DBIC	**Dimbokro**	**60.06**	**262**	*e*P		**P**	**05 20 00.5**	**-0.5**
	comp=Z,9.9nm,0.8s							
KIC	**Kosan Boka**	**60.10**	**261**	*e*P		**P**	**05 20 01.1**	**-0.1**
	comp=Z,32nm,1.0s							
TIC	**Toumodi**	**60.22**	**262**	*e*P		**P**	**05 20 01.5**	**-0.6**
LIC	**Lamto**	**60.42**	**261**	*e*P		**P**	**05 20 03.0**	**-0.4**
	comp=Z,35nm,0.7s							
KLR	**Kul'dur**	**61.67**	**46**	P		**P**	**05 20 10.6**	**-0.9**
	comp=Z,0.3nm,1.0s,baz=290,slow=6.2,SNR=5.8							
KLR	**Kul'dur**	**61.67**	**46**	*e*P		**P**	**05 20 10.9**	**-0.5**
BOSA	**Boshof**	**62.24**	**209**	P		**P**	**05 20 16.1**	**+0.5**
	comp=Z,5.1nm,0.6s,baz=16,slow=6.1,SNR=14							
SUMG	**Summit**	**65.38**	**341**	*i* P		**P**	**05 20 36.7**	**+0.7**
	comp=Z,19nm,1.2s							
SUMG	**Summit**	**65.38**	**341**	*i* P		**P**	**05 20 36.7**	**+0.7**
SUMG				pmax	pmax			
	comp=Z,19nm,1.2s							
SUMG	**Summit**	**65.38**	**341**	*e*P		**P**	**05 20 36.7**	**+0.7**
	comp=Z,13nm,1.1s							
BBTS	**Babate**	**67.07**	**275**	P		**P**	**05 20 47.2**	**-0.1**
	comp=Z,17nm,0.8s,baz=9.5,slow=1.8,SNR=8.1							
SEY	**Seymchan**	**69.55**	**29**	P		**P**	**05 21 01.6**	**-0.4**
	comp=Z,5.8nm,0.6s,baz=283,slow=5.9,SNR=21							
SEY	**Seymchan**	**69.55**	**29**	*e*P		**P**	**05 21 01.9**	**-0.1**
MA2	**Magadan**	**69.93**	**33**	P		**P**	**05 21 03.7**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=242,slow=6.9,SNR=3.7							
MA2	**Magadan**	**69.93**	**33**	*ce*P		**P**	**05 21 03.3**	**-1.1**
BILL	**Bilibino**	**72.70**	**22**	*e*P		**P**	**05 21 20.4**	**-0.7**
BILL				*e*			05 21 35.1	
BILL				*e*PPP		PPP	05 25 45.7	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,105nm,20.0s							
TOLK	**Toolik Lake Re**	**82.86**	**9**	*e*P		**P**	**05 22 18.4**	**+0.7**
	comp=Z,7.6nm,0.6s							
COLD	**Coldfoot**	**84.09**	**10**	*e*P		**P**	**05 22 24.6**	**+0.6**
	comp=Z,4.7nm,0.9s							
SCHQ	**Schefferville**	**84.33**	**330**	P		**P**	**05 22 25.2**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=44,slow=5.6,SNR=11							
SCHQ	**Schefferville**	**84.33**	**330**	*e*P		**P**	**05 22 25.4**	**0.0**
	comp=Z,36nm,1.9s							
INK	**Inuvik**	**84.68**	**3**	P		**P**	**05 22 26.6**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=357,slow=6.2,SNR=12							
INK	**Inuvik**	**84.68**	**3**	*e*P		**P**	**05 22 26.8**	**-0.1**
INK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
INK	**Inuvik**	**84.68**	**3**	*e*P		**P**	**05 22 26.8**	**-0.1**
	comp=Z,3.3nm,0.8s							
MLY	**Manley**	**86.04**	**11**	*e*P		**P**	**05 22 34.2**	**+0.3**
	comp=Z,5.6nm,0.8s							
MDM	**Murphy Dome**	**86.50**	**10**	*e*P		**P**	**05 22 36.2**	**+0.1**
	comp=Z,20nm,1.3s							
BPAW	**Bear Paw Mtn.**	**86.86**	**11**	*e*P		**P**	**05 22 38.1**	**+0.2**
	comp=Z,9.5nm,0.8s							
ILAR	**Eielson Array**	**86.88**	**9**	P		**P**	**05 22 37.0**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=320,slow=4.4,SNR=28							
ILB	**Eielson Array**	**86.88**	**9**	*e*P		**P**	**05 22 37.0**	**-0.9**
CAST	**Castle Rocks**	**87.30**	**12**	*e*P		**P**	**05 22 40.3**	**+0.3**
	comp=Z,9.7nm,0.9s							
EGAK	**Eagle**	**87.58**	**7**	*e*P		**P**	**05 22 41.4**	**+0.1**
	comp=Z,4.4nm,0.8s							
YKA	**Yellowknife Ar**	**90.32**	**355**	P		**P**	**05 22 54.3**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=7.7,slow=5.3,SNR=71							

IDC 12 05:11:31.3±25.0, 24.10S×179.78E, h650km±328km, mb3.0/4, mb1 3.3/4, mb1mx2.8/46, mbtmp4.1/4, Error ellipse: s-maj=247.0km s-min=83.6km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.28**	**271**	P			P	05 17 01.8	+0.3
	3.6nm,0.5s,baz=81,slow=14,SNR=4.0								
ASAR	**Alice Springs**	**41.80**	**261**	P			P	05 18 27.6	+0.5
	1.9nm,0.7s,baz=96,slow=6.6,SNR=9.6								
WRA	**Warramunga Arr**	**42.19**	**266**	P			P	05 18 29.8	-0.4
	2.7nm,0.6s,baz=105,slow=8.5,SNR=19								
TXAR	**Lajitas Array**	**90.71**	**58**	P			P	05 23 27.1	0.0
	0.2nm,0.7s,baz=236,slow=6.4,SNR=3.3								

IDC 12 05:15:09.5±2.6, 54.11N×86.48E, h0km, mb1 3.0/2, mb1mx2.8/73, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=20.9km s-min=13.3km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**261**	*i*				05 20 44.1	
	baz=80,slow=336,SNR=1.5								
ZALV	**Zalesovo Beam**	**0.99**	**261**	Pg	Pg			05 15 27.1	-1.3
	1.1nm,0.3s,baz=81,slow=16,SNR=12								
ZALV				Lg	Lg			05 15 42.7	
	2.0nm,0.3s,baz=80,slow=30,SNR=13								
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn			05 16 40.4	+1.0
	0.1nm,0.3s,baz=53,slow=13,SNR=9.4								
KURBB				Lg	Lg			05 18 20.5	
	0.0nm,0.3s,baz=54,slow=31,SNR=3.6								
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn			05 17 05.1	+0.9
	0.2nm,0.3s,baz=26,slow=14,SNR=8.0								

ISCJB ***12*** *05:18:56.2±0.6, 7.10S±0.05×129.40E±0.06, h150km, mb3.5/4, Error ellipse: s-maj=9.0km s-min=6.3km az=34.4*
DJA ***12*** *05:18:58.8±0.6, 7.5±4.4×12.9E±, h127km±20km, M4.5/6, mB5.5/1, mb4.5/4, MLv4.5/6, Mw(mB)5.0/1*
IDC ***12*** *05:18:59.5±7.2, 7.21S×129.28E, h168km±77km, mb3.3/4, mb1 3.7/8, mb1mx3.3/58, mbtmp4.0/8, Error ellipse: s-maj=67.7km s-min=23.2km az=40.0*

ISC 12 05:18:57.5±0.8, 7.18S±0.06×129.34E±0.06, h150km, n12, σ2ᵍ95/19, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.10**	**113**	P			**Pn**	**05 19 37.7**	**+3.9**
SAUI				S			**Sn**	**05 20 05.9**	**+4.2**
FAKI	**Fak Fak**	**5.12**	**35**	P			**Pn**	**05 20 13.0**	**+0.4**
	40nm,1.1s,0.3nm								
FAKI				S			**Sn**	**05 21 07.0**	**-4.2**
	40nm,1.1s,0.3nm								
SOEI	**Soe**	**5.64**	**243**	P			**Pn**	**05 20 22.5**	**+3.0**
	45nm,1.0s,0.3nm								
SOEI				S			**Sn**	**05 21 24.5**	**+0.9**
	45nm,1.0s,0.3nm								
BATI	**Baumata**	**6.37**	**241**	P			**Pn**	**05 20 31.6**	**+2.4**
	14nm,0.3s,baz=133,slow=3.2,SNR=13								
BATI				S			**Sn**	**05 21 41.2**	**+0.2**
	14nm,0.3s,baz=68,slow=18,SNR=8.1								
BATI	**Baumata**	**6.37**	**241**	P			**Pn**	**05 20 31.2**	**+2.0**
BATI				S			**Sn**	**05 21 42.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**11.44**	**198**	P			**Pn**	**05 21 36.4**	**-0.1**
	0.9nm,0.3s,baz=40,slow=12,SNR=32								
FITZ				S			**Sn**	**05 23 37.7**	**-5.3**
	baz=246,slow=19								
WRA	**Warramunga Arr**	**13.59**	**160**	P			**Pn**	**05 22 04.1**	**-0.2**
	1.4nm,0.3s,baz=333,slow=13,SNR=33								
WRA				S			Sn	05 24 26.9	-7.9
	2.4nm,0.3s,baz=335,slow=22,SNR=12								
ASAR	**Alice Springs**	**16.97**	**166**	P			**Pn**	**05 22 48.0**	**+1.9**
	1.9nm,0.3s,baz=347,slow=10,SNR=135								
ASAR				S			**S**	**05 25 49.1**	**-5.8**
	0.9nm,0.3s,baz=345,slow=26,SNR=6.3								
CMAR	**Chiang Mai Arr**	**39.35**	**311**	P			**P**	**05 26 12.9**	**+0.4**
	0.9nm,0.3s,baz=132,slow=6.4,SNR=4.6								
SONM	**Songino Array**	**58.40**	**342**	P			**P**	**05 28 37.2**	**-0.2**
	0.2nm,0.5s,baz=170,slow=6.1,SNR=2.7								
MKAR	**Makanchi Array**	**68.02**	**327**	P			**P**	**05 29 41.0**	**+0.4**
	0.8nm,0.6s,baz=124,slow=6.9,SNR=13								
KURBB	**Kurchatov Arra**	**72.32**	**329**	P			**P**	**05 30 06.2**	**-0.5**
	0.4nm,0.5s,baz=123,slow=5.0,SNR=7.0								

ISCJB ***12*** *05:20:19.9±0.5, 42.11N±0.02×76.24E±0.02, h1km±4km, Error ellipse: s-maj=3.7km s-min=2.8km az=176.4*
KRNET ***12*** *05:20:20.0±0.1, 42.11N×76.25E, h21km, mb2.6*
NNC ***12*** *05:20:20.4±2.0, 42.18N×76.24E, h1km±15km, mb2.4, mpv2.2, Error ellipse: s-maj=12.9km s-min=6.0km az=165.0*
SOME ***12*** *05:20:20.6, 42.13N×76.23E, h10km*
KNET ***12*** *05:20:21.2±0.3, 42.17N×76.14E, h8km±2km, ml1.7, Error ellipse: s-maj=2.4km s-min=1.8km az=140.0*

ISC 12 05:20:20.3±0.9, 42.13N±0.02×76.24E±0.02, h13km±6km, n49, σ0ᵍ68/91, 34C-20D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.12**	**2**	⇑P			**Pg**	**05 20 23.7**	**0.0**
	75nm,0.1s,SNR=607								
ULHL				⇓S			**Sg**	**05 20 26.3**	**+0.1**
	314nm,0.1s								
ULHL	**Ulahol**	**0.12**	**2**	⇑*i*P			**Pg**	**05 20 23.8**	**0.0**
	baz=57								
ULHL				⇑*i*S			**Sg**	**05 20 26.1**	**-0.1**
	baz=57								
BOOM	**Boomskoye usch**	**0.42**	**329**	⇓*i*P			**Pg**	**05 20 28.4**	**-0.4**
	baz=29								
BOOM				⇓*i*S			**Sg**	**05 20 35.0**	**+0.5**
	baz=29								
KDJ	**Kajisay**	**0.70**	**90**	⇑*i*P			**Pg**	**05 20 33.1**	**-0.9**
	baz=88								
KDJ				⇑*i*S			**Sg**	**05 20 42.6**	**-0.7**
	baz=88								
NRN	**Naryn**	**0.72**	**194**	⇑*i*P			**Pg**	**05 20 33.9**	**-0.4**
	baz=97								
NRN				⇑*i*S			**Sg**	**05 20 43.7**	**-0.1**
	baz=97								
KZA	**Kyzart**	**0.73**	**266**	⇑P			**Pg**	**05 20 34.4**	**-0.2**
	8.7nm,0.2s,SNR=12								
KZA				⇑S			**Sg**	**05 20 44.8**	**+0.4**
	25nm,0.2s								
KZA	**Kyzart**	**0.73**	**266**	⇓*i*P			**Pg**	**05 20 34.3**	**-0.4**
	baz=68								
KZA				⇓*i*S			**Sg**	**05 20 44.4**	**0.0**
	baz=68								
TKM2	**Tokmak 2**	**0.92**	**329**	⇑P			**Pg**	**05 20 37.6**	**-0.6**
	1.4nm,0.4s								
TKM2				⇓S			**Sg**	**05 20 50.1**	**-0.2**
	13nm,0.4s								
TKM2	**Tokmak 2**	**0.92**	**329**	⇓P			**Pg**	**05 20 37.8**	**-0.4**
	2.4nm,0.1s,SNR=50								
TKM2				⇓S			**Sb**	**05 20 50.6**	**+0.1**
	23nm,0.1s								
TKM2	**Tokmak 2**	**0.92**	**329**	⇑*i*P			**Pg**	**05 20 37.7**	**-0.4**
	baz=29								
TKM2				⇑*i*S			**Sb**	**05 20 50.4**	**-0.1**
	baz=29								
KST	**Kastek**	**0.94**	**348**	*e*P			**Pg**	**05 20 38.1**	**-0.3**
	1.6nm,0.2s								
KST				*e*S			**Sb**	**05 20 50.7**	**0.0**
	8.8nm,0.2s								
KST	**Kastek**	**0.94**	**348**	*e*P			**Pg**	**05 20 38.1**	**-0.3**
	baz=47								
KST				*e*S			**Sb**	**05 20 50.8**	**0.0**
	baz=47								
IZV	**Izvestkoviy**	**0.95**	**17**	*e*P			**Pb**	**05 20 38.7**	**0.0**
	11nm,0.1s								
IZV				*e*S			**Sb**	**05 20 51.5**	**+0.3**
	26nm,0.2s								
IZV	**Izvestkoviy**	**0.95**	**17**	*e*P			**Pb**	**05 20 38.7**	**0.0**
	baz=16								
IZV				*e*S			**Sb**	**05 20 51.5**	**+0.3**
	baz=16								
MTBS	**Maitube**	**1.01**	**8**	*e*P			**Pb**	**05 20 39.3**	**-0.4**
	8.5nm,0.1s								
MTBS				*e*S			**Sb**	**05 20 52.7**	**-0.2**
	22nm,0.2s								
MTBS	**Maitube**	**1.01**	**8**	*e*P			**Pb**	**05 20 39.3**	**-0.4**
	baz=7.0								
MTBS				*e*S			**Sb**	**05 20 52.8**	**-0.2**
	baz=7.0								
TNSS	**Tian-Shan**	**1.05**	**30**	*e*P			**Pb**	**05 20 40.5**	**0.0**
	5.9nm,0.3s								
TNSS				*e*S			**Sb**	**05 20 54.5**	**+0.1**
	22nm,0.2s								
TNSS	**Tian-Shan**	**1.05**	**30**	*e*P			**Pb**	**05 20 40.5**	**0.0**
	baz=29								
TNSS				*e*S			**Sb**	**05 20 54.5**	**+0.1**
	baz=29								
KBK	**Karagaybulak**	**1.09**	**299**	⇑P			**Pg**	**05 20 41.3**	**0.0**
	2.8nm,0.1s,SNR=7.8								
KBK				⇑S			**Sg**	**05 20 56.0**	**+0.4**
	20nm,0.1s								
KBK	**Karagaybulak**	**1.09**	**299**	⇑*i*P			**Pb**	**05 20 40.8**	**-0.3**
	baz=0.0								
KBK				⇑*i*S			**Sg**	**05 20 55.5**	**-0.1**
	baz=0.0								
DGS	**Degeres**	**1.16**	**343**	*e*P			**Pb**	**05 20 42.0**	**-0.3**
	1.5nm,0.2s								
DGS				*e*S			**Sb**	**05 20 57.5**	**+0.2**
	13nm,0.2s								
DGS	**Degeres**	**1.16**	**343**	*e*P			**Pn**	**05 20 42.5**	**+0.1**
	baz=43								
DGS				*e*S			**Sg**	**05 20 57.8**	**-0.1**
	baz=43								
MDOK	**Medeo**	**1.20**	**30**	⇑P			**Pn**	**05 20 41.2**	**-1.6**
	2.9nm,0.5s								
MDOK				⇑S			**Sb**	**05 20 58.3**	**0.0**
	10nm,0.7s								
MDOK	**Medeo**	**1.20**	**30**	*e*P			**Pn**	**05 20 42.5**	**-0.3**
	3.9nm,0.2s								
MDOK				*e*S			**Sb**	**05 20 58.2**	**-0.1**
	13nm,0.1s								
MDOK	**Medeo**	**1.20**	**30**	*e*P			**Pn**	**05 20 42.5**	**-0.3**
	baz=29								
MDOK				*e*S			**Sb**	**05 20 58.2**	**-0.1**
	baz=29								
TARG	**Taragay, Kyrgy**	**1.24**	**108**	⇑*i*P			**Pn**	**05 20 42.8**	**-0.8**
	baz=8.0								
TARG				⇑*i*S			**Sb**	**05 20 58.5**	**-1.2**
	baz=8.0								
UCH	**Uchtor**	**1.28**	**275**	⇓P			**Pn**	**05 20 44.1**	**-0.2**
	1.0nm,0.1s,SNR=8.6								
UCH	**Uchtor**	**1.28**	**275**	⇑*i*P			**Pb**	**05 20 44.1**	**-0.2**
	baz=76								
UCH				⇑*i*S			**Sb**	**05 21 01.1**	**0.0**
	baz=76								
AAK	**Ala-Archa**	**1.39**	**292**	⇓P			**Pb**	**05 20 45.9**	**-0.3**
	1.4nm,0.8s								
AAK				⇑S			**Sb**	**05 21 04.1**	**+0.3**
	7.5nm,0.5s								
AAK	**Ala-Archa**	**1.39**	**292**	⇓P			**Pb**	**05 20 46.1**	**0.0**
	2.5nm,0.1s,SNR=10								
AAK	**Ala-Archa**	**1.39**	**292**	⇑*i*P			**Pb**	**05 20 45.9**	**-0.3**
	baz=92								
AAK				⇑*i*S			**Sb**	**05 21 04.1**	**+0.3**
	baz=92								
CHMS	**Chumysh**	**1.40**	**309**	⇓*i*P			**Pb**	**05 20 46.2**	**-0.1**
	baz=9.0								
CHMS				⇓*i*S			**Sb**	**05 21 04.5**	**+0.5**
	baz=9.0								
KTBS	**Karatobe**	**1.62**	**12**	*e*P			**Pb**	**05 20 50.1**	**+0.1**
	2.8nm,0.1s								
KTBS				*e*S			**Sg**	**05 21 11.5**	**-0.8**
	13nm,0.2s								
PRZ	**Przheval'sk**	**1.64**	**77**	⇑*i*P			**Pn**	**05 20 49.0**	**0.0**
	baz=76								
PRZ				⇑*i*S			**Sb**	**05 21 11.9**	**+0.7**
	baz=76								
KUU	**Kurty**	**1.77**	**2**	*e*P			**Pb**	**05 20 52.7**	**+0.2**
	2.6nm,0.2s								
KUU				*e*S			**Sg**	**05 21 15.9**	**-1.2**
	10nm,0.2s								
KUU	**Kurty**	**1.77**	**2**	*e*P			**Pb**	**05 20 52.7**	**+0.2**
	baz=2.0								
KUU				*e*S			**Sg**	**05 21 15.9**	**-1.2**
	baz=2.0								
CHKK	**Chushkaly**	**1.81**	**18**	*e*P			**Pb**	**05 20 53.7**	**+0.4**
	3.9nm,0.2s								
CHKK				*e*S			**Sg**	**05 21 17.4**	**-1.2**
	34nm,0.2s								
CHKK	**Chushkaly**	**1.81**	**18**	*e*P			**Pb**	**05 20 53.7**	**+0.4**
	baz=17								
CHKK				*e*S			**Sg**	**05 21 17.4**	**-1.2**
	baz=17								
SATY	**Saty**	**1.85**	**59**	*e*P			**Pb**	**05 20 54.5**	**+0.4**
	4.2nm,0.1s								
SATY				*e*S			**Sg**	**05 21 18.6**	**-1.3**
	28nm,0.1s								
AML	**Almayashu**	**1.89**	**271**	⇓P			**Pb**	**05 20 55.4**	**+0.6**
	3.6nm,0.2s,SNR=14								
AML	**Almayashu**	**1.89**	**271**	⇑*i*P			**Pb**	**05 20 54.2**	**-0.7**
	baz=

	166nm,0.2s								
KTMS					*e*S		**Sg**	**06 05 13.4**	**+0.7**
	504nm,0.4s								
PDGK	**Podgornoye**	**1.74**	**311**	⇓	Pn		**Pb**	**06 04 57.5**	**-1.4**
	68nm,0.4s								
PDGK					⇓Sn		**Sg**	**06 05 21.8**	**-1.0**
	89nm,0.5s								
UZB	**Uzymbulak**	**1.92**	**300**		*e*P		**Pb**	**06 05 01.1**	**-1.0**
	41nm,0.3s								
UZB					*e*S		**Sg**	**06 05 27.3**	**-1.2**
	134nm,0.1s								
SATY	**Saty**	**2.29**	**293**		*e*P		**Pb**	**06 05 08.4**	**0.0**
	17nm,0.1s								
SATY					*e*S		**Sg**	**06 05 39.6**	**-1.0**
	175nm,0.2s								
KPKS	**Kokpek**	**2.30**	**304**		*e*P		**Pb**	**06 05 07.1**	**-1.3**
	28nm,0.1s								
KPKS					*e*S		**Sb**	**06 05 37.6**	**+0.8**
	600nm,0.2s								
KURS	**Kuram**	**2.63**	**300**		*e*P		**Pb**	**06 05 13.8**	**-0.2**
	5.2nm,0.3s								
KURS					*e*S		**Sg**	**06 05 48.9**	**-2.5**
	32nm,0.3s								
MNBS	**Baschi**	**2.83**	**313**		*e*P		**Pb**	**06 05 17.4**	**-0.1**
	17nm,0.5s								
MNBS					*e*S		**Sg**	**06 05 55.1**	**-2.5**
	204nm,0.3s								
ARXS	**Arharly**	**3.23**	**310**		*e*P		**Pb**	**06 05 25.1**	**+0.8**
	12nm,0.5s								
ARXS					*e*S		**Sg**	**06 06 08.5**	**-2.2**
	53nm,0.5s								
MDOK	**Medeo**	**3.27**	**289**		Pn		**Pn**	**06 05 20.6**	**+2.3**
	7.2nm,0.6s								
MDOK					Lg		Lg	06 06 07.1	
	48nm,0.7s								
MDOK	**Medeo**	**3.27**	**289**		*e*P		**Pb**	**06 05 24.3**	**-0.7**
	4.9nm,0.3s								
MDOK					*e*S		**Sb**	**06 06 07.0**	**+2.0**
	30nm,0.6s								
TNSS	**Tian-Shan**	**3.31**	**286**		*e*P		**Pb**	**06 05 24.7**	**-1.2**
	9.7nm,0.5s								
TNSS					*e*S		**Sb**	**06 06 07.5**	**+1.1**
	38nm,0.8s								
KAPS	**Kapalarasan**	**3.39**	**336**		*e*P		**Pb**	**06 05 24.0**	**-2.9**
	5.5nm,0.4s								
KAPS					*e*S		**Sb**	**06 06 06.0**	**-2.2**
	26nm,0.2s								
IZV	**Izvestkoviy**	**3.55**	**285**		*e*P		**Pb**	**06 05 28.5**	**-1.3**
	9.5nm,0.5s								
IZV					*e*S		**Sb**	**06 06 14.1**	**+1.0**
	98nm,0.6s								
CHKK	**Chushkaly**	**3.56**	**299**		*e*P		**Pb**	**06 05 29.7**	**-0.2**
	14nm,0.3s								
CHKK					*e*S		**Sb**	**06 06 16.3**	**+3.1**
	33nm,0.3s								
MTBS	**Maitube**	**3.70**	**286**		*e*P		**Pb**	**06 05 29.1**	**-3.3**
	6.1nm,0.3s								
MTBS					*e*S		**Sb**	**06 06 15.3**	**-2.0**
	20nm,0.3s								
KUU	**Kurty**	**4.00**	**297**		*e*P		**Pb**	**06 05 37.6**	**+0.2**
	10.0nm,0.4s								
KUU					*e*S		**Sb**	**06 06 30.0**	**+4.1**
	26nm,0.5s								
KST	**Kastek**	**4.02**	**284**		*e*P		**Pb**	**06 05 34.0**	**-3.7**
	2.3nm,0.5s								
KST					*e*S		**Sb**	**06 06 23.6**	**-2.9**
	8.3nm,0.5s								
TKM2	**Tokmak 2**	**4.27**	**282**	⇑	Pn		**Pn**	**06 05 32.7**	**+0.7**
	4.5nm,0.5s								
TKM2				⇑	Lg		Lg	06 06 42.2	
	13nm,0.8s								
MAKZ	**Makanchi**	**4.63**	**6**	⇓	Pn		**Pn**	**06 05 36.9**	**0.0**
	4.4nm,0.4s								
MAKZ				⇓	Sn		**Sn**	**06 06 32.9**	**+2.1**
	5.5nm,0.5s								
MAKZ				⇓	Lg		Lg	06 06 52.5	
	5.5nm,0.5s								
MK31	**Makanchi Array**	**4.65**	**9**	⇓	Pn		**Pn**	**06 05 37.2**	**+0.2**
	1.1nm,0.3s,baz=189,slow=13,SNR=118								
MK31				⇑	Sn		**Sn**	**06 06 33.3**	**+2.2**
	5.1nm,0.5s,baz=165,slow=40,SNR=5.3								
MK31				⇓	Lg		Lg	06 06 51.3	
	5.2nm,0.4s,baz=186,slow=28,SNR=5.4								
AAK	**Ala-Archa**	**5.05**	**277**	⇑	Pg		**Pb**	**06 05 55.0**	**-0.3**
	2.4nm,0.8s								
AAK				⇑	Lg		Lg	06 07 06.7	
	11nm,0.8s								

IDC ***12*** *06:06:38.8±0.4,36.74N×73.20E,h0km,mb5.2/44, mb1 5.3/52,mb1mx5.2/70,mbtmp5.2/52,ML4.6/8,MS5.2/57, Ms1 5.2/57,ms1mx5.1/69,Error ellipse: s-maj=9.9km s-min=8.5km az=1.0*

NNC ***12*** *06:06:39.3±2.2,36.47N×72.87E,h0km,mb6.0,mpv5.7, Error ellipse: s-maj=17.3km s-min=13.4km az=170.0*

NEIC ***12*** *06:06:40.6±0.1,36.74N×73.15E,h11km,mb5.6/179, ME5.6,MS5.5/299,MW5.5,MW5.6,Error ellipse: s-maj=3.5km s-min=2.9km az=196.0,Moment Tensor Solution. s39 Moment tensor: Scale 10**17**Nm; Mrr=1.22; Mθθ-1.14; Mφφ2.36; Mrθ1.01; Mrφ0.15; Mθφ-0.07; Best double couple: M0 2.30000×10**17** NP1:φ217.00000°, δ59.00000°,λ-36.00000°. NP2:φ328.00000°,δ60.00000°, λ-143.00000°. Principal axes: T 2.3700, Plg0.0000°, Azm92.0000°; N -0.1700, Plg44.0000°, Azm2.0000°; P -2.2000, Plg46.0000°, Azm183.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [III] at Kabul, Afghanistan. Also felt at Chitral, Pakistan and at Isfara, Tajikistan.

GCMT ***12*** *06:06:40.6±0.1,36.88N×73.24E,h22km,MW5.7/124, Moment Tensor Solution. s104,c188; s124,c319; Duration: 1ŝ7 Moment tensor: Scale 10**17**Nm; Mrr-2.51±.05; Mθθ-2.22±.05; Mφφ4.73±.04; Mrθ1.37±.09; Mθφ-0.35±.03; Mrr-0.68±.07; Best double couple: M0 4.28900×10**17** NP1:φ324.00000°,δ63.00000°, λ-137.00000°. NP2:φ212.00000°,δ53.00000°, λ-35.00000°. Principal axes: T 4.8260, Plg6.0000°, Azm86.0000°; N -1.0750, Plg41.0000°, Azm351.0000°; P -3.7510, Plg48.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***12*** *06:06:41.6±1.1,36.75N×73.23E,h27km,mb5.7/113, MS5.4/78 Error ellipse: s-maj=4.8km s-min=3.3km az=107.9*

BJI ***12*** *06:06:41.3,36.48N×73.10E,h39km,mb5.3/77,mB5.7/61, ML5.9/4,Ms5.9/84,Ms7 5.7/72*

NEIC ***12*** *06:06:41.0±0.0,36.66N×72.92E,h19km,Moment Tensor Solution. s20 Moment tensor: Scale 10**17**Nm; Mrr-3.28; Mθθ-0.03; Mφφ3.31; Mrθ-0.35; Mθφ-0.38; Mφr1.14; Best double couple: M0 3.50000×10**17** NP1:φ170.00000°, δ55.00000°,λ-94.00000°. NP2:φ357.00000°,δ35.00000°, λ-84.00000°. Principal axes: T 3.5500, Plg9.0000°, Azm263.0000°; N -0.0600, Plg3.0000°, Azm172.0000°; P -3.4900, Plg79.0000°, Azm63.0000°;*

ISCJB ***12*** *06:06:42.8±0.3,36.71N±0.01×73.18E±0.02,h37km±2km, mb5.4/320,MS5.5/402 Error ellipse: s-maj=2.3km s-min=1.8km az=38.7*

ISC 12 06:06:43.4±0.3,36.76N±0.02×73.15E±0.02,h30km±2km, h30km:pP-P,n1374,σ2s05/1298,mb5.5/364,MS5.5/423, 56C-69D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirak Chowk**	**3.09**	**178**	⇓	P	**Pb**	**06 07 35.2**	**-2.5**
CEP	**Cherat**	**3.10**	**199**		P	**Pb**	**06 07 35.5**	**-2.3**
SFK	**Sufi-Kurgan**	**3.27**	**5**	⇑	Pn	**Pb**	**06 07 38.8**	**-1.9**
	7μm,1.3s							
SFK				⇓	Sn	**Sb**	**06 08 23.2**	**+3.1**
	52μm,1.4s							
SFK	**Sufi-Kurgan**	**3.27**	**5**	*i*	PN	**Pb**	**06 07 38.8**	**-1.9**
SFK					pmax	pmax		
	comp=Z,7μm,1.2s							
KSH	**Kashi**	**3.54**	**38**		P	**Pn**	**06 07 33.8**	**-2.7**
KSH					sP	Pb	06 07 44.6	-0.8
KSH					smax	smax		
	comp=Z,20μm,0.6s							
KSH					smax	smax		
	comp=Z,59μm,1.2s							
THW	**Thamme Wali**	**4.12**	**197**		P	**Pn**	**06 07 47.5**	**+3.2**
NRN	**Naryn**	**5.17**	**25**		PN	**Pn**	**06 08 01.3**	**+2.3**
NRN	**Naryn**	**5.17**	**25**		Pn	**Pn**	**06 08 01.3**	**+2.3**
DHRM	**DHARAMSHALA**	**5.19**	**149**	*e*	P	**Pn**	**06 08 01.2**	**+2.0**
DHRM				*e*	S	**Sn**	**06 09 00.2**	**+2.0**
AML	**Almayashu**	**5.38**	**4**		P	**Pn**	**06 08 04.5**	**+2.5**
	SNR=58							
TAS	**Tashkent**	**5.47**	**328**	⇑	Pn	**Pn**	**06 08 05.6**	**+2.8**
	comp=Z,822nm,0.8s							
TAS				⇓	Sn	**Sn**	**06 09 07.1**	**+2.4**
	comp=Z,8μm,1.4s							
TAS				⇓	Lg	Lg	06 09 33.7	
	comp=Z,8μm,1.2s							
TAS	**Tashkent**	**5.47**	**328**		PN	**Pn**	**06 08 05.6**	**+2.8**
TAS							06 09 07.0	
TAS					pmax	pmax		
	comp=Z,822nm,0.8s							
TAS					smax	smax		
	comp=N,8μm,1.4s							
KZA	**Kyzart**	**5.56**	**16**		P	**Pn**	**06 08 06.8**	**+2.4**
	SNR=237							
UCH	**Uchtor**	**5.57**	**11**		P	**Pn**	**06 08 07.4**	**+2.9**
	SNR=228							
MNAS	**Manas**	**5.75**	**355**	⇓	Pn	**Pn**	**06 08 09.7**	**+2.9**
	comp=N,291nm,0.5s							
MNAS				⇓	Lg	Lg	06 09 50.5	
	comp=N,4μm,1.4s							
MNAS	**Manas**	**5.75**	**355**	*i*	PN	**Pn**	**06 08 09.6**	**+2.9**
MNAS					pmax	pmax		
	comp=Z,291nm,0.5s							
EKS2	**Erkin-Say**	**5.92**	**4**		P	**Pn**	**06 08 12.5**	**+3.4**
	SNR=69							
AAK	**Ala-Archa**	**5.97**	**10**		Pn	**Pn**	**06 08 12.8**	**+3.0**
	comp=Z,18nm,0.3s,baz=175,slow=8.6,SNR=70							
AAK					Sn	**Sn**	**06 09 24.2**	**+7.0**
	comp=Z,24nm,0.3s,baz=267,slow=18,SNR=3.9							
AAK					LR	LR	06 10 42.6	
	comp=Z,31μm,21.0s,baz=184,slow=41							
AAK	**Ala-Archa**	**5.97**	**10**	⇑	Pn	**Pn**	**06 08 13.5**	**+3.8**
	comp=Z,387nm,0.7s							
AAK				⇑	Lg	Lg	06 10 00.1	
	comp=Z,608nm,0.8s							
AAK	**Ala-Archa**	**5.97**	**10**	*d*	PN	**Pn**	**06 08 12.7**	**+3.0**
AAK	**Ala-Archa**	**5.97**	**10**		P	**Pn**	**06 08 12.8**	**+3.0**
	SNR=85							
AAK	**Ala-Archa**	**5.97**	**10**		Pn	**Pn**	**06 08 13.2**	**+3.4**
	SNR=140							
AAK	**Ala-Archa**	**5.97**	**10**		P	**Pn**	**06 08 13.2**	**+3.4**
	SNR=140							
AAK	**Ala-Archa**	**5.97**	**10**	*i*	P	**Pn**	**06 08 12.8**	**+3.0**
	SNR=205							
AAK	**Ala-Archa**	**5.97**	**10**	*i*	Pn	**Pn**	**06 08 12.8**	**+3.0**
	SNR=205							
ULHL	**Ulahol**	**5.98**	**23**		P	**Pn**	**06 08 12.7**	**+2.6**
	SNR=45							
KBK	**Karagaybulak**	**6.05**	**13**		P	**Pn**	**06 08 14.7**	**+3.7**
	SNR=12							
TARG	**Taragay, Kyrgy**	**6.14**	**35**	*e*	Pn	**Pn**	**06 08 15.4**	**+3.0**
FRU1	**Bishkek**	**6.15**	**10**		PN	**Pn**	**06 08 16.1**	**+3.8**
FRU	**Bishkek**	**6.17**	**10**	⇑	ePN	**Pn**	**06 08 15.5**	**+3.0**
FRU				*i*			06 09 34.0	
FRU							06 09 52.0	
FRU					pmax	pmax		
	comp=Z,2μm,2.2s							
FRU					pmax	pmax		
	comp=E,900nm,3.5s							
CHMS	**Chumysh**	**6.36**	**11**		P	**Pn**	**06 08 18.0**	**+3.0**
	SNR=74							
TKM2	**Tokmak 2**	**6.44**	**16**	⇑	Pn	**Pn**	**06 08 19.1**	**+2.8**
	comp=E,200nm,0.6s							
TKM2				⇓	Lg	Lg	06 10 10.7	
	comp=E,682nm,0.8s							
TKM2	**Tokmak 2**	**6.44**	**16**		P	**Pn**	**06 08 18.9**	**+2.6**
	SNR=82							
SMLA	**Simla**	**6.53**	**148**	*e*	P	**Pn**	**06 08 19.7**	**+2.3**
SMLA				*e*	S	**Sn**	**06 09 29.2**	**-1.6**
SMLA					IAML		06 09 38.3	
	comp=E,24μm,0.6s							
SMLA					IAML		06 09 38.4	
	comp=N,9μm,0.1s							
USP	**Ospenovka**	**6.59**	**9**		P	**Pn**	**06 08 20.6**	**+2.4**
	SNR=38							
KK06	**Karatay Array**	**6.64**	**343**	*e*	Pn	**Pn**	**06 08 20.9**	**+2.0**
KK06				*e*	Sn	**Sn**	**06 09 38.6**	**+4.9**
KK07	**Karatay Array**	**6.64**	**343**	*e*	Pn	**Pn**	**06 08 21.0**	**+2.0**
KK07				*e*	Sn	**Sn**	**06 09 38.6**	**+4.9**
KK02	**Karatay Array**	**6.66**	**343**	*e*	Pn	**Pn**	**06 08 21.1**	**+2.0**
KK02				*e*	Sn	**Sn**	**06 09 39.5**	**+5.6**
KK31	**Karatay Array**	**6.66**	**343**		Pn	**Pn**	**06 08 20.9**	**+1.9**
	comp=N,160nm,0.5s,baz=172,slow=13,SNR=1650							
KK31				⇑	Pg	Pb	06 08 44.0	+5.7
	comp=N,357nm,0.8s,baz=168,slow=15,SNR=3.7							
KK31				⇓	Sn	**Sn**	**06 09 38.7**	**+4.8**
	comp=N,830nm,0.8s,baz=166,slow=22,SNR=5.2							
KK31				⇓	Lg	Lg	06 10 17.9	
	comp=N,2μm,1.3s							
KK31	**Karatay Array**	**6.66**	**343**	*e*	PN	**Pn**	**06 08 21.0**	**+1.9**
KK31					e		06 09 39.3	
KK31	**Karatay Array**	**6.66**	**343**	*e*	Pn	**Pn**	**06 08 21.0**	**+1.9**
KK31				*e*	Sn	**Sn**	**06 09 39.3**	**+5.4**
KKAR	**Karatay Array**	**6.66**	**343**	*e*	PN	**Pn**	**06 08 21.1**	**+2.0**
KKAR					e		06 09 40.1	
KKAR	**Karatay Array**	**6.66**	**343**	*e*	Pn	**Pn**	**06 08 21.1**	**+2.0**
KKAR				*e*	Sn	**Sn**	**06 09 40.1**	**+6.1**
KK03	**Karatay Array**	**6.66**	**343**	*e*	Pn	**Pn**	**06 08 21.1**	**+2.0**
KK03				*e*	Sn	**Sn**	**06 09 39.3**	**+5.4**
KK01	**Karatay Array**	**6.66**	**343**	*e*	Pn	**Pn**	**06 08 21.0**	**+1.9**
KK01				*e*	Sn	**Sn**	**06 09 39.4**	**+5.4**
KK04	**Karatay Array**	**6.66**	**343**	*e*	Pn	**Pn**	**06 08 21.2**	**+2.0**
KK04				*e*	Sn	**Sn**	**06 09 40.2**	**+6.0**
KK08	**Karatay Array**	**6.66**	**343**	*e*	Pn	**Pn**	**06 08 21.2**	**+2.0**
KK05	**Karatay Array**	**6.67**	**343**	*e*	Pn	**Pn**	**06 08 21.1**	**+1.9**
AAA	**Alma-Ata**	**7.06**	**23**	*e*	PN	**Pb**	**06 08 47.9**	**+2.6**
AAA					pmax	pmax		
	comp=Z,2μm,0.9s							
MDOK	**Medeo**	**7.07**	**24**	⇓	Pn	**Pn**	**06 08 27.7**	**+2.8**
	comp=Z,502nm,1.3s							
MDOK				⇓	Pg	Pb	06 08 53.2	+7.9
	comp=Z,866nm,1.1s							
MDOK				⇓	Lg	Lg	06 10 34.0	
	comp=Z,2μm,1.2s							
KNDC	**Almaty**	**7.09**	**23**	⇓	Pn	**Pn**	**06 08 29.0**	**+3.9**
	comp=Z,330nm,0.8s							
KNDC				⇑	Pg	Pb	06 08 53.3	+7.6
	comp=Z,2μm,1.2s							
KNDC				⇑	Lg	Lg	06 10 33.7	
	comp=Z,6μm,1.4s							
DDI	**Dehra Dun**	**7.61**	**146**	*e*	P	**Pn**	**06 08 33.7**	**+1.5**
DDI				*e*	S	**Sn**	**06 09 55.9**	**-1.7**
DDI					IAML		06 10 01.8	
	comp=N,4μm,0.5s							
DDI					IAML		06 10 05.1	
	comp=E,7μm,0.4s							
PDGK	**Podgornoye**	**8.17**	**35**	⇑	Pn	**Pn**	**06 08 41.7**	**+1.7**
	comp=E,212nm,1.0s							
PDGK				⇑	Pg	Pb	06 09 11.5	+7.4
	comp=E,935nm,1.0s							
PDGK				⇑	Lg	Lg	06 11 09.3	
	comp=E,3μm,1.4s							
PDGK	**Podgornoye**	**8.17**	**35**	*i*	P	**Pn**	**06 08 41.6**	**+1.7**
PDGK					pmax	pmax		
	comp=Z,212nm,1.0s							
JOSI	**Joshimath**	**8.17**	**137**	*e*	P	**Pn**	**06 08 40.9**	**+0.8**
JOSI				*e*	S	**Sn**	**06 10 10.6**	**-0.9**
JOSI					IAML		06 10 24.6	
	comp=N,8μm,0.9s							
JOSI					IAML		06 10 24.7	
	comp=E,9μm,0.1s							
KUDL	**Kundal**	**9.04**	**161**	*e*	P	**Pn**	**06 08 51.4**	**-0.4**
KUDL				*ex*		x	06 10 29.0	
PYUN	**Piuthan**	**11.97**	**133**	*e*	P	**Pn**	**06 09 29.6**	**-2.6**
	comp=E,351nm,0.3s							
MAKZ	**Makanchi**	**12.00**	**30**	*e*	P	**Pn**	**06 09 32.9**	**+0.5**
MAKZ	**Makanchi**	**12.00**	**30**	*e*	Pn	**Pn**	**06 09 32.9**	**+0.5**
GYB1	**ALIBECK ARRAY**	**12.02**	**280**	*e*	Pn	**Pn**	**06 09 31.3**	**-1.3**
GYB2	**ALIBECK ARRAY**	**12.02**	**280**	*e*	Pn	**Pn**	**06 09 31.9**	**-0.6**
GYA2	**ALIBECK ARRAY**	**12.02**	**280**	*e*	Pn	**Pn**	**06 09 31.8**	**-0.8**
GYA2				*e*	Sn	**Sn**	**06 11 49.2**	**+3.5**
GYA1	**ALIBECK ARRAY**	**12.02**	**280**	*e*	Pn	**Pn**	**06 09 31.6**	**-1.1**
GYA1				*e*	Sn	**Sn**	**06 11 48.3**	**+2.5**
GEYT	**Alibeck**	**12.03**	**280**		Pn	**Pn**	**06 09 31.0**	**-1.7**
	comp=E,22nm,0.3s,baz=106,slow=12,SNR=111							
GEYT					Sn	**Sn**	**06 11 44.2**	**-1.5**
	comp=E,6.2nm,0.3s,baz=102,slow=21,SNR=4.3							
GEYT					LR	LR	06 14 58.2	
	comp=E,7μm,21.5s,baz=85,slow=41							
GYA0	**ALIBECK ARRAY**	**12.03**	**280**	*e*	Pn	**Pn**	**06 09 31.6**	**-1.1**
GYA0B	**ALIBECK ARRAY**	**12.03**	**280**	*e*	Pn	**Pn**	**06 09 31.3**	**-1.4**
GYA0B				*e*	Sn	**Sn**	**06 11 48.8**	**+3.0**
GYB3	**ALIBECK ARRAY**	**12.03**	**280**	*e*	Pn	**Pn**	**06 09 32.0**	**-0.7**
GYB3				*e*	Sn	**Sn**	**06 11 49.2**	**+3.4**
GYB5	**ALIBECK ARRAY**	**12.03**	**280**	*e*	Pn	**Pn**	**06 09 31.6**	**-1.2**
GYB4	**ALIBECK ARRAY**	**12.04**	**280**	*e*	Pn	**Pn**	**06 09 31.7**	**-1.2**
MK01	**Makanchi Array**	**12.11**	**31**	*e*	Pn	**Pn**	**06 09 34.1**	**+0.4**
MK31	**Makanchi Array**	**12.12**	**31**	*i*	P	**Pn**	**06 09 34.2**	**+0.2**
MK31					pmax	pmax		
	comp=Z,225nm,1.1s							
MK31	**Makanchi Array**	**12.12**	**31**	*e*	Pn	**Pn**	**06 09 34.3**	**+0.4**
MK32	**Makanchi Array**	**12.12**	**31**	*e*	Pn	**Pn**	**06 09 34.5**	**+0.5**
MKAR	**Makanchi Array**	**12.12**	**31**		Pn	**Pn**	**06 09 34.5**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=213,slow=10,SNR=81							
MKAR					Lg	Lg	06 12 54.9	
	baz=194,slow=26,SNR=2.2							
MKAR					LR	LR	06 15 01.2	
	comp=Z,14μm,20.7s,baz=216,slow=42							
MKAR	**Makanchi Array**	**12.12**	**31**	*e*	P	**Pn**	**06 09 34.2**	**+0.2**
MKAR	**Makanchi Array**	**12.12**	**31**	*e*	Pn	**Pn**	**06 09 34.2**	**+0.2**
DANN	**Dangsing**	**12.25**	**130**	*e*	P	**Pn**	**06 09 34.7**	**-1.4**
KOLN	**Koldanda**	**12.58**	**132**	*e*	P	**Pn**	**06 09 38.3**	**-2.2**
	comp=Z,316nm,0.5s							
GKN	**Gorkha**	**13.04**	**129**	*e*	P	**Pn**	**06 09 44.5**	**-2.3**
WMQ	**Urumqi**	**13.15**	**53**		P	**Pn**	**06 09 47.3**	**-0.7**
WMQ					pP	P	06 09 55.0	-2.8
WMQ					sP		06 10 03.4	
WMQ					S	**Sn**	**06 12 13.4**	**+0.2**
WMQ					sS	S	06 12 26.7	-11
WMQ					pmax	pmax		
	comp=Z,500nm,0.9s							
WMQ					pmax	pmax		
	comp=Z,2μm,3.7s							
WMQ					LR	LR		
	comp=Z,147μm,17.9s							
WMQ					LR	LR		
	comp=Z,86μm,15.1s							
WMQ					LR	LR		
	comp=Z,27μm,28.3s							
KKN	**Kakani**	**13.60**	**128**	*e*	P	**Pn**	**06 09 50.5**	**-3.9**
	comp=Z,793nm,0.8s							
DMN	**Daman**	**13.62**	**129**	*e*	P	**Pn**	**06 09 51.3**	**-3.4**
	comp=Z,1μm,0.9s							
BHJ	**Bhuj**	**13.79**	**194**	*e*	P	**Pn**	**06 09 54.9**	**-1.9**
PKIN	**Pulchoki**	**13.82**	**128**	*e*	P	**Pn**	**06 09 53.7**	**-3.8**
PKI	**Pulchoki**	**13.83**	**128**	*e*	P	**Pn**	**06 09 53.8**	**-3.9**
	comp=Z,735nm,0.8s							
GUN	**Gumba**	**13.90**	**126**	*e*	P	**Pn**	**06 09 54.4**	**-4.3**
	comp=Z,511nm,0.5s							
BHPL	**Bhopal**	**13.97**	**163**		IAmb	IAmb	06 09 56.9	
	comp=Z,196nm,0.9s							
JIRN	**Jiri**	**14.27**	**126**	*e*	P	**Pn**	**06 09 59.6**	**-4.2**
	comp=Z,1μm,0.6s							
KURBB	**Kurchatov Arra**	**14.39**	**14**		Pn	**Pn**	**06 10 02.7**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=205,slow=12,SNR=44							
KURBB					Lg	Lg	06 14 13.6	
	comp=Z,0.2nm,0.3s,baz=192,slow=29,SNR=4.8							
KURK	**Kurchatov**	**14.50**	**14**	*de*	P	**Pn**	**06 10 04.1**	**-2.2**
KURK					pmax	pmax		
	comp=Z,375nm,1.7s							
KURK	**Kurchatov**	**14.50**	**14**	*e*	Pn	**Pn**	**06 10 03.5**	**-2.8**
KURK	**Kurchatov**	**14.50**	**14**		Pn	**Pn**	**06 10 04.5**	**-1.8**
	SNR=44							
KURK	**Kurchatov**	**14.50**	**14**		P	**Pn**	**06 10 04.5**	**-1.8**
	SNR=44							
JBP	**Jabalpur**	**14.77**	**155**	*ex*		Pn	06 10 05.3	-4.9
JBP					AMB	AMB	06 10 07.3	
	comp=Z,377nm,1.3s							
JBP				*ex*		x	06 12 42.1	
AB07	**Akbulak array**	**15.74**	**327**	*e*	Pn	**Pn**	**06 10 19.6**	**-3.2**
AB07				*e*	Sn	Sn	06 13 04.4	-12
AB06	**Akbulak array**	**15.75**	**327**	*e*	Pn	**Pn**	**06 10 19.8**	**-3.2**
AB06				*e*	Sn	**Sn**	**06 13 05.8**	**-11**
AB08	**Akbulak array**	**15.76**	**326**	*e*	Pn	**Pn**	**06 10 20.7**	**-2.3**
AB08				*e*	Sn	**Sn**	**06 13 07.9**	**-8.6**
AB03	**Akbulak array**	**15.76**	**327**	*e*	Pn	**Pn**	**06 10 20.7**	**-2.3**
AB01	**Akbulak array**	**15.76**	**327**	*e*	Pn	**Pn**	**06 10 20.8**	**-2.3**
AB01				*e*	Sn	**Sn**	**06 13 08.3**	**-8.3**
AB31	**Akbulak array**	**15.76**	**327**	⇑	P	**Pn**	**06 10 20.6**	**-2.4**
	comp=Z,57nm,0.5s,baz=138,slow=10,SNR=904							
AB31				⇑	S	**Sn**	**06 13 20.5**	**+3.8**
	comp=Z,163nm,0.8s,baz=142,slow=23,SNR=3.6							
AB31	**Akbulak array**	**15.76**	**327**	*i*	P	**Pn**	**06 10 20.7**	**-2.4**
AB31					pmax	pmax		
	comp=Z,57nm,0.5s							
AB31	**Akbulak array**	**15.76**	**327**	*e*	Pn	**Pn**	**06 10 20.7**	**-2.3**
AB31				*e*	Sn	**Sn**	**06 13 08.4**	**-8.3**
ABKAR	**Akbulak array**	**15.76**	**327**	*e*	Pn	**Pn**	**06 10 20.8**	**-2.3**
	comp=Z,1μm,0.6s							
AB02	**Akbulak array**	**15.76**	**327**	*e*	Pn	**Pn**	**06 10 20.7**	**-2.3**
AB04	**Akbulak array**	**15.77**	**327**	*e*	Pn	**Pn**	**06 10 20.8**	**-2.3**
AB05	**Akbulak array**	**15.78**	**327**	*e*	Pn	**Pn**	**06 10 20.9**	**-2.3**
AB09	**Akbulak array**	**15.78**	**327**	*e*	Pn	**Pn**	**06 10 20.9**	**-2.4**
NGP	**Nagpur**	**16.38**	**160**	*ex*		Pn	**06 10 27.5**	**-3.6**
NGP					IAmb	IAmb	06 10 35.8	
	comp=Z,565nm,0.9s							
NGP				⇑	*ex*	x	06

comp=Z,15µm,8.6s
MDH Madha 18.38 236 *i* P **Pn 06 10 56.7 +0.8**
SNR=6.5
MDH Madha 18.38 236 *i* P **Pn 06 10 56.7 +0.8**
SNR=6.5
WSAR Wadi Sarin 18.40 227 P **Pn 06 10 56.5 +0.3**
comp=Z,1.5nm,0.3s,baz=71,slow=9.8,SNR=38
WSAR LR LR 06 19 33.6
comp=Z,5µm,20.4s,baz=78,slow=42
MSFE Esma-Masafi 18.43 237 *i* P **Pn 06 10 57.9 +1.3**
SNR=7.4
MSFE Esma-Masafi 18.43 237 *i* P **Pn 06 10 57.9 +1.3**
SNR=7.4
BIDO Bidbid 18.48 229 P Pn 06 11 06.0 +8.8
SNR=7.2
BIDO Bidbid 18.48 229 P Pn 06 11 06.0 +8.8
SNR=7.2
RPR Rampur 18.63 162 *e*P **P 06 10 57.8 -0.8**
RPR IAmb IAmb 06 11 01.8
comp=Z,286nm,1.0s
RPR *e*S **Sn 06 14 20.4 -6.1**
RPR IVMs_BB IVMs_BB 06 18 19.3
comp=Z,22µm,9.8s
UOSS Minazif 18.68 236 *e*P **Pn 06 10 60.0 +0.3**
comp=Z,160nm,1.0s
UOSS Minazif 18.68 236 *i* P **Pn 06 11 00.2 +0.5**
SNR=8.6
UOSS Minazif 18.68 236 *i* P **Pn 06 11 00.2 +0.5**
SNR=8.6
WBK Wadi Bani Khal 18.69 225 P **Pn 06 11 05.0 +5.2**
SNR=12
WBK Wadi Bani Khal 18.69 225 P **Pn 06 11 05.0 +5.2**
SNR=12
HATD Hatta, Dubai 18.81 236 P **Pn 06 11 08.0 +6.7**
SNR=10
HATD Hatta, Dubai 18.81 236 P **Pn 06 11 08.0 +6.7**
SNR=10
HATD Hatta, Dubai 18.81 236 *i* P **P 06 11 00.5 0.0**
SNR=13
HATD Hatta, Dubai 18.81 236 *i* P **P 06 11 00.5 0.0**
SNR=13
KLRI Killari 18.86 170 *e*P **P 06 11 00.7 -0.5**
KLRI IAmb IAmb 06 11 09.4
comp=Z,558nm,1.6s
KLRI *e*S **S 06 14 33.7 -0.3**
KLRI IVMs_BB IVMs_BB 06 18 26.3
comp=Z,18µm,8.4s
SMDO Samad 18.88 228 P **Pn 06 11 05.0 +2.8**
SNR=19
SMDO Samad 18.88 228 P **Pn 06 11 05.0 +2.8**
SNR=19
HOQ Hoqain 18.93 231 P **Pn 06 11 09.0 +6.3**
SNR=12
HOQ Hoqain 18.93 231 P **Pn 06 11 09.0 +6.3**
SNR=12
ASHO Ashiyiah 18.96 235 P **Pn 06 11 05.9 +2.9**
SNR=18
ASHO Ashiyiah 18.96 235 P **Pn 06 11 05.9 +2.9**
SNR=18
ASHO Ashiyiah 18.96 235 *i* P **Pn 06 11 03.8 +0.8**
SNR=14
ASHO Ashiyiah 18.96 235 *i* P **Pn 06 11 03.8 +0.8**
SNR=14
ZAA0 Zalesovo Array 19.00 22 *e*P **P 06 11 02.2 -0.3**
comp=Z,793nm,1.3s
ZALV Zalesovo Beam 19.00 22 P **P 06 11 01.8 -0.6**
comp=Z,9.1nm,0.3s,baz=214,slow=11,SNR=239
ZALV S **Sn 06 14 34.0 -1.1**
baz=212,slow=22,SNR=2.7
ZALV Lg Lg 06 16 39.3
baz=191,slow=22,SNR=2.7
ZALV Zalesovo Beam 19.00 22 *e*P **P 06 11 01.5 -1.0**
ZAA1 Zalesovo Array 19.01 22 *e*P **P 06 11 01.8 -0.7**
ZAA1 *e*Sn **Sn 06 14 34.0 -1.2**
NAZ Nazwa, Dubai 19.02 237 P **Pn 06 11 08.0 +4.3**
SNR=9.2
NAZ Nazwa, Dubai 19.02 237 P **Pn 06 11 08.0 +4.3**
SNR=9.2
NAZ Nazwa, Dubai 19.02 237 *i* P **Pn 06 11 03.8 +0.1**
SNR=16
NAZ Nazwa, Dubai 19.02 237 *i* P **Pn 06 11 03.8 +0.1**
SNR=16
SOHO SOHO 19.03 233 *i* P **P 06 11 03.0 +0.1**
SNR=9.0
SOHO SOHO 19.03 233 *i* P **P 06 11 03.0 +0.1**
SNR=9.0
NVS Novosibirsk 19.37 18 *e*P **P 06 11 06.4 0.0**
NVS *e* 06 14 41.8
JMDO Jabal Madar 19.37 226 P **Pn 06 11 13.0 +5.0**
SNR=12
JMDO Jabal Madar 19.37 226 P **Pn 06 11 13.0 +5.0**
SNR=12
SHL Shillong 19.49 120 *e*P **Pn 06 11 10.9 +1.3**
SHL *i* x x 06 14 32.0
ALNE Al Ain 19.59 235 *i* P **Pn 06 11 10.0 -0.6**
SNR=25
ALNE Al Ain 19.59 235 *i* P **Pn 06 11 10.0 -0.6**
SNR=25
ARQ Araqi 19.61 232 P **Pn 06 11 17.0 +6.2**
SNR=20
ARQ Araqi 19.61 232 P **Pn 06 11 17.0 +6.2**
SNR=20
BSY Bisya 19.62 229 P **Pn 06 11 18.0 +6.9**
SNR=24
BSY Bisya 19.62 229 P **Pn 06 11 18.0 +6.9**
SNR=24
AJN Ajban 19.75 237 *i* P **Pn 06 11 11.9 -0.6**
SNR=8.0
AJN Ajban 19.75 237 *i* P **Pn 06 11 11.9 -0.6**
SNR=8.0
HYBB Hyderabad (bro 19.84 165 *e*P **P 06 11 10.3 -1.7**
HYBB IAmb IAmb 06 11 18.0
comp=Z,273nm,1.2s
HYBB *e*S **Sn 06 14 55.5 -0.4**
HYBB IVMs_BB IVMs_BB 06 18 53.7
comp=Z,13µm,9.1s
HYB Hyderabad 19.85 165 *i* P **P 06 11 10.5 -1.5**
comp=Z,212nm,0.8s
HYB *e*S **S 06 14 54.0 0.0**
HYB Hyderabad 19.85 165 *e*P **P 06 11 12.1 +0.1**
AKT Akhty 20.25 291 *e*P Pn 06 11 17.6 -0.8
AKT *e* 06 11 34.4
AKT *e*S **S 06 15 02.1 +0.1**
AKT *e*SS **SnSn 06 15 28.1 +8.1**
AKT pmax pmax
comp=Z,443nm,1.1s
HVS Khovu-Aksy 20.53 39 *d* *i*P **P 06 11 18.7 -0.5**
MAK Makhachkala 20.60 295 *e*P **P 06 11 20.7 +0.8**
MAK *e* 06 11 40.2
MAK *e*S Sn 06 15 12.8 -0.8
MAK pmax pmax
comp=Z,154nm,1.0s
MAK MLR MLR
comp=Z,17µm,13.0s
PVM Polavaram 20.83 157 *e*P **P 06 11 23.6 +1.1**
PVM IAmb IAmb 06 11 28.9
comp=Z,569nm,1.1s
PVM *e*S **S 06 15 06.6 -6.7**
PVM IVMs_BB IVMs_BB 06 19 27.2
comp=Z,11µm,9.7s
NJS Nagarjunasagar 20.85 163 *e*P **P 06 11 23.1 +0.3**
NJS IAmb IAmb 06 11 27.2
comp=Z,306nm,1.1s
NJS *e*S **S 06 15 13.8 0.0**
NJS IVMs_BB IVMs_BB 06 19 48.8
comp=Z,14µm,8.6s
VIS Vishakhapatnam 20.98 152 *i* P **P 06 11 23.7 -0.5**
VIS IAmb IAmb 06 11 25.6
comp=Z,185nm,0.6s
VIS *i* x x 06 15 06.9
GTA Gaotai 21.13 75 ⇑P **P 06 11 26.4 +0.5**
GTA pP pP 06 11 35.8 +1.9
GTA sP sP 06 11 40.2 +2.5
GTA pmax pmax
comp=Z,150nm,1.3s
GTA pmax pmax
comp=Z,2µm,7.1s
GTA LR LR
comp=Z,16µm,12.8s
GTA LR LR
comp=Z,16µm,10.9s
GTA LR LR
comp=Z,17µm,12.4s
GOA Goa 21.19 178 *e*P **P 06 11 26.6 +0.1**
GOA IAmb IAmb 06 11 29.2
comp=Z,332nm,1.2s
SRLM Srisailam 21.20 165 *e*P **P 06 11 27.0 +0.4**
SRLM IAmb IAmb 06 11 31.1
comp=Z,321nm,0.9s
SRLM *e*S **S 06 15 18.7 -2.1**
SRLM IVMs_BB IVMs_BB 06 19 36.3
comp=Z,16µm,11.0s
ADKI Addanki 21.69 162 *e*P **P 06 11 32.1 +0.3**
ADKI IAmb IAmb 06 11 36.7
comp=Z,214nm,0.9s
ADKI *e*S **S 06 15 31.5 +1.1**
ADKI IVMs_BB IVMs_BB 06 20 18.8
comp=Z,11µm,8.2s
SVE Sverdlovsk 21.76 341 ⇑*e*P **P 06 11 32.0 -0.3**
SVE *e*S Sn 06 15 36.8 -4.6
SVE pmax pmax
comp=Z,258nm,1.5s
SVE MLR MLR
comp=Z,40µm,15.0s
GROC Groznyy 21.87 296 *e*P **P 06 11 35.8 +2.2**
GROC *e*S **S 06 15 37.4 +3.8**
GROC pmax pmax
comp=Z,574nm,1.6s
ARU Arti 22.00 338 P **P 06 11 34.7 -0.1**
comp=Z,33nm,0.7s,baz=123,slow=5.8,SNR=38
ARU S Sn 06 15 43.4 -3.6
comp=Z,3.9nm,0.3s,baz=300,slow=20,SNR=2.2
ARU Lg Lg 06 18 23.7
comp=Z,4.7nm,0.3s,baz=108,slow=20,SNR=2.3
ARU LR LR 06 20 42.7
comp=Z,12µm,19.6s,baz=142,slow=38
ARU Arti 22.00 338 ⇓*i*P **P 06 11 34.7 -0.1**
ARU PP **PnPn 06 11 56.4 -0.6**
ARU S **S 06 15 34.9 -0.9**
ARU SS **SnSn 06 16 10.6 +8.0**
ARU pmax pmax
comp=Z,170nm,1.7s
ARU MLR MLR
comp=Z,12µm,14.2s
ARU Arti 22.00 338 *e*P **P 06 11 34.3 -0.6**
comp=Z,288nm,1.2s
ARU LR LR
comp=Z,18µm,20.0s
URV Uravakonda 22.03 169 *e*P **P 06 11 36.0 +0.5**
URV IAmb IAmb 06 11 40.6
comp=Z,1µm,2.0s
URV *e*S **S 06 15 34.9 -2.0**
URV IVMs_BB IVMs_BB 06 20 18.2
comp=Z,9µm,7.4s
GNI Garni 22.46 287 P **P 06 11 42.8 +2.6**
comp=Z,401nm,1.2s,baz=15,slow=2.5,SNR=32
GNI Garni 22.46 287 *d* *i*P **P 06 11 42.5 +2.4**
GNI pmax pmax
comp=Z,143nm,1.3s
GNI Garni 22.46 287 *e*P **P 06 11 44.0 +3.8**
GNI Garni 22.46 287 P **P 06 11 43.8 +3.6**
SNR=127
GNI Garni 22.46 287 P **P 06 11 43.8 +3.6**
SNR=127
GNI Garni 22.46 287 *i* P **P 06 11 42.6 +2.4**
SNR=93
GNI Garni 22.46 287 *i* P **P 06 11 42.6 +2.4**
SNR=93
TBLG Delisi 22.51 292 *e*P **P 06 11 42.3 +1.8**
TBLG pmax pmax
comp=Z,458nm,1.2s
TBLG Delisi 22.51 292 *e*P **P 06 11 42.3 +1.8**
comp=Z,458nm,1.2s
TASB TASBURUN-IGDIR 22.85 287 *e*P **P 06 11 46.4 +2.2**
CLDR Caldiran 23.13 285 *e*P **P 06 11 50.1 +2.8**
ZEI Tsey 23.20 294 *e*P **P 06 11 49.4 +1.5**
ZEI pmax pmax
comp=Z,184nm,1.0s
AKH Akhalkalaki 23.43 291 *e*P **P 06 11 54.4 +4.3**
AKH Akhalkalaki 23.43 291 *e*P **P 06 11 53.0 +2.9**
AKH pmax pmax
comp=Z,428nm,1.1s
AKH Akhalkalaki 23.43 291 *e*P **P 06 11 53.0 +2.9**
comp=Z,428nm,1.1s
NCK Nalchik 23.50 296 ⇑*i*P **P 06 11 51.0 +0.4**
NCK pmax pmax
comp=Z,55nm,1.0s
CUKT Cukurca 23.56 280 *e*P **P 06 11 52.6 +1.2**
VANB Van 23.58 284 *e*P **P 06 11 55.4 +3.8**
SKHT Srikalahasti 23.66 164 *e*P **P 06 11 53.1 +0.9**
SKHT IAmb IAmb 06 12 00.9
comp=Z,230nm,0.9s
SKHT *e*S **S 06 16 06.4 +1.2**
SKHT IVMs_BB IVMs_BB 06 21 07.6
comp=Z,13µm,10.8s
KARS Kars 23.73 289 *e*P **P 06 11 56.3 +3.3**
AGRB Hanur-Agry 23.83 286 *e*P **P 06 11 57.0 +3.0**
KBZ Khabaz 24.03 296 P **P 06 11 56.7 +1.1**
comp=Z,106nm,1.2s,baz=110,slow=9.9,SNR=15
KBZ LR LR 06 23 11.7
comp=Z,6µm,19.0s,baz=90,slow=41
GOF Gofitskoye 24.11 300 ⇑*i*P **P 06 11 58.4 +2.0**
GOF pmax pmax
comp=Z,487nm,1.5s
KIV Kislovodsk 24.21 297 *e*P **P 06 11 58.1 +0.7**
KIV *e*S **S 06 16 12.9 -1.0**
KIV pmax pmax
comp=Z,103nm,1.1s
KIV MLR MLR
comp=Z,5µm,14.0s
KIV Kislovodsk 24.21 297 *e*P **P 06 11 55.2 -2.2**
comp=Z,185nm,0.8s
KIV Kislovodsk 24.21 297 P **P 06 12 00.6 +3.3**
SNR=23
KIV Kislovodsk 24.21 297 P **P 06 12 00.6 +3.3**
SNR=23
KIV Kislovodsk 24.21 297 *i* P **P 06 11 58.2 +0.9**
SNR=18
KIV Kislovodsk 24.21 297 *i* P **P 06 11 58.2 +0.9**
SNR=18
SHAO Shalim 24.22 224 *i* P **P 06 11 59.3 +1.7**
SNR=10
SHAO Shalim 24.22 224 *i* P **P 06 11 59.3 +1.7**
SNR=10
SENK Senkaya-Erzuru 24.29 288 *e*P **P 06 12 04.9 +6.6**
MDRS Chennai 24.43 163 *e*P **P 06 12 00.1 +0.7**
MDRS IAmb IAmb 06 12 13.0
comp=Z,98nm,0.7s
SIRT Sirnak 24.45 281 *e*P **P 06 12 01.7 +2.1**
LZH Lanzhou 24.66 82 ⇓P **P 06 12 03.5 +1.8**
LZH pP pP 06 12 08.4 -1.9
LZH S **S 06 16 20.2 -1.3**
LZH pmax pmax
comp=Z,290nm,1.6s
LZH pmax pmax
comp=Z,3µm,7.6s
LZH LR LR
comp=Z,13µm,14.8s
LZH LR LR
comp=Z,11µm,12.5s
LZH LR LR
comp=Z,12µm,14.0s
MOY Mondy 24.71 44 *e*P **P 06 12 02.9 +1.0**
MOY pmax pmax
comp=Z,246nm,2.5s
SOKR Solikamsk 25.18 340 *d* *i*P **P 06 12 04.6 -1.3**
SOKR S **S 06 16 33.2 +4.3**
SOKR pmax pmax
comp=Z,149nm,2.2s
SOKR MLR MLR
comp=Z,11µm,17.0s
WHFO Wadi Hawf 25.37 227 P **P 06 12 12.0 +3.9**
SNR=11
WHFO Wadi Hawf 25.37 227 P **P 06 12 12.0 +3.9**
SNR=11
RBK Rabkut 25.45 226 P **P 06 12 11.0 +2.3**
SNR=8.5
RBK Rabkut 25.45 226 P **P 06 12 11.0 +2.3**
SNR=8.5
ZAK Zakamensk 25.52 48 *e*P **P 06 12 09.7 +0.4**
ZAK pmax pmax
comp=Z,140nm,1.6s
BAYT Ayd¨ntepe-Bay 25.98 288 *e*P **P 06 12 16.1 +2.6**
CD2 Chengdu 26.02 94 ⇓P **P 06 12 15.0 +1.1**
CD2 pP sP 06 12 27.6 +1.5
CD2 S **S 06 16 42.8 -0.1**
CD2 pmax pmax
comp=Z,140nm,0.9s
CD2 pmax pmax
comp=Z,2µm,5.4s
CD2 LR LR
comp=Z,14µm,11.7s
CD2 LR LR
comp=Z,12µm,13.3s
CD2 LR LR
comp=Z,13µm,12.1s
MAZI Mazidag 26.02 281 *e*P **P 06 12 16.4 +2.5**
DYBB Diyarbakir 26.20 283 *e*P **P 06 12 18.6 +3.2**
TLY Talaya 26.22 46 *e*P **P 06 12 17.1 +1.6**
TLY *e*PPP PPP 06 12 52.4
TLY *e*S **S 06 16 46.4 +0.8**
TLY *e*SSS SSS 06 17 45.6
TLY pmax pmax
comp=Z,118nm,1.6s
TLY MLR MLR
comp=Z,11µm,19.0s
TLY Talaya 26.22 46 *e*P **P 06 12 14.4 -1.0**
comp=Z,80nm,1.2s
TLY LR LR
comp=Z,14µm,19.0s
TLY Talaya 26.22 46 P **P 06 12 17.9 +2.4**
SNR=38
TLY Talaya 26.22 46 P **P 06 12 17.9 +2.4**
SNR=38
SOC Sochi 26.32 295 *e*P **P 06 12 16.4 0.0**
SOC *e**PP **sP 06 12 30.4 +1.7**
SOC *e* 06 12 55.6
SOC *e*S **S 06 16 40.3 -7.0**
SOC pmax pmax
comp=Z,88nm,1.0s
SOC MLR MLR
comp=Z,5µm,19.0s
VRH Novokhopyorsk 26.59 313 *e*P **P 06 12 21.2 +2.5**
VRH pmax pmax
comp=Z,100nm,0.8s
VRH MLR MLR
comp=Z,14µm,20.0s
PTK Pertek 26.67 285 *e*P **P 06 12 22.0 +2.2**
SONA0 Songino Array 26.77 55 *e*P **P 06 12 21.2 +0.6**
SONM Songino Array 26.77 55 P **P 06 12 21.2 +0.6**
comp=Z,28nm,0.8s,baz=254,slow=10.0,SNR=104
SONM Lg Lg 06 20 59.2
comp=Z,3.3nm,0.9s,baz=242,slow=27,SNR=2.0
SONM LR LR 06 23 33.5
comp=Z,16µm,18.1s,baz=258,slow=38
SONM P3KPbc 06 45 00.5
comp=Z,2.7nm,0.9s,baz=117,slow=4.0,SNR=14
SONA1 Songino Array 26.78 55 *e*P **P 06 12 21.0 +0.3**
IRK Irkutsk 26.80 45 *e*P **P 06 12 22.4 +1.8**
IRK *e*S **S 06 17 02.6 +7.9**
IRK pmax pmax
comp=Z,27nm,2.1s
RAYN Ar Rayn 27.19 249 P **P 06 12 24.4 -0.1**
RAYN Ar Rayn 27.19 249 *e*P **P 06 12 24.2 -0.3**
comp=Z,86nm,1.1s
ULN Ulaanbaatar 27.21 55 *d* *e*P **P 06 12 25.2 +0.6**
ULN pmax pmax
comp=Z,104nm,1.7s
ULN Ulaanbaatar 27.21 55 *e*P **P 06 12 25.2 +0.6**
comp=Z,145nm,1.2s
ULN LR LR
comp=Z,12µm,22.0s
ULN Ulaanbaatar 27.21 55 P **P 06 12 26.3 +1.7**
SNR=38
ULN Ulaanbaatar 27.21 55 P **P 06 12 26.3 +1.7**
SNR=38
MALT Malatya 27.48 284 *e*P **P 06 12 29.4 +2.3**
KMI Kunming 27.79 106 P **P 06 12 32.6 +2.5**
KMI pP sP 06 12 44.8 +2.4
KMI S **S 06 17 09.6 -1.7**
KMI pmax pmax
comp=Z,33nm,0.7s
KMI pmax pmax
comp=Z,830nm,4.9s
KMI LR LR
comp=Z,14µm,17.4s
KMI LR LR
comp=Z,7µm,14.6s
KMI LR LR
comp=Z,7µm,12.6s
ANN Anapa 28.04 298 *e*P **P 06 12 32.1 +0.3**
ANN *e* 06 13 20.9
ANN *e*S **S 06 17 15.9 +1.6**
ANN *e*SS **SnSn 06 18 34.4 +4.1**
ANN pmax pmax
comp=Z,185nm,1.4s
ANN MLR MLR
comp=Z,12µm,20.0s
VSR Storozhevoye 28.11 312 *e*P **P 06 12 33.0 +0.6**
VSR pmax pmax
comp=Z,90nm,0.9s
VSR MLR MLR
comp=Z,7µm,12.0s
CMAI Chiengmai2 28.16 119 P **P 06 12 32.3 -1.0**
comp=Z,351nm,0.7s,comp=Z,12µm
DARE Darende-Malaty 28.19 285 *e*P **P 06 12 35.5 +2.2**
VORR Voronezh 28.23 313 P **P 06 12 33.0 -0.4**
TRD Trivandrum 28.33 172 IAmb IAmb 06 12 36.1
comp=Z,17µm,7.3s
TRD *e*P **P 06 12 36.3 +1.7**
MNCI Minicoy 28.34 180 *e*P **P 06 12 35.7 +1.0**
LPSR Galich'ya Gora 28.69 314 *e*P **P 06 12 40.8 +3.3**
LPSR pmax pmax
comp=Z,110nm,0.9s
LPSR MLR MLR
comp=Z,2µm,7.0s
TOKT Tokat 28.72 288 *e*P **P 06 12 38.9 +0.9**
CHTO Chiang Mai 28.84 121 P **P 06 12 40.9 +1.7**
comp=Z,211nm,1.1s,comp=Z,3µm
CHTO Chiang Mai 28.84 121 *e*P **P 06 12 38.8 -0.4**
CHTO pmax pmax
comp=Z,79nm,1.0s
CHTO Chiang Mai 28.84 121 *e*P **P 06 12 38.8 -0.4**
comp=Z,79nm,1.0s
CHTO Chiang Mai 28.84 121 P **P 06 12 41.8 +2.5**
SNR=16
CHTO Chiang Mai 28.84 121 P **P 06 12 41.8 +2.5**
SNR=16
CMMT Chiang Mai 28.85 121 P **P 06 12 39.8 +0.5**
comp=Z,46nm,1.1s,comp=Z,860nm
BTO Baotou 28.90 71 *e*P **P 06 12 40.9 +1.2**
CMAR Chiang Mai Arr 29.09 122 P **P 06 12 41.6 +0.3**
comp=Z,18nm,1.0s,baz=305,slow=9.6,SNR=21
CMAR LR LR 06 25 41.6
comp=Z,2µm,18.3s,baz=336,slow=39
CM01 Chiang Mai Arr 29.13 122 *e*P **P 06 12 42.0 +0.3**
XAN Xi'an 29.18 85 P **P 06 12 42.6 +0.4**
XAN PP **PnPn 06 13 33.8 -1.6**
XAN S **S 06 17 30.8 -1.9**
XAN pmax pmax
comp=Z,47nm,1.0s
XAN pmax pmax
comp=Z,560nm,5.7s
XAN LR LR
comp=Z,10µm,11.2s
XAN LR LR
comp=Z,8µm,10.6s
XAN LR LR
comp=Z,10µm,11.4s
DGPR DIGLIPUR 29.42 138 *e*P **P 06 12 44.5 +0.2**
DGPR IAmb IAmb 06 12 47.2
comp=Z,227nm,1.4s
LAMP Lampang 29.52 121 P **P 06 12 45.2 0.0**
comp=Z,11nm,0.9s,comp=Z,117nm
KOZT Kozan 29.65 283 *e*P **P 06 12 48.9 +2.7**
YOZ Yozgat 29.73 287 *e*P **P 06 12 48.6 +1.5**
HHC Hu-ho-hao-te 30.05 70 *e*P **P 06 12 51.2 +1.3**
HHC pP pP 06 12 58.8 +0.2
HHC sP sP 06 13 06.3 +4.1
HHC PP **PnPn 06 13 49.3 +2.1**
HHC S **S 06 17 47.0 +0.6**
HHC pmax pmax
comp=Z,38nm,1.0s
HHC pmax pmax
comp=Z,620nm,4.7s
HHC LR LR
comp=Z,9µm,13.3s
HHC LR LR
comp=Z,11µm,14.3s
HHC LR LR
comp=Z,15µm,13.0s
NANT Nan 30.07 119 P **P 06 12 48.7 -1.4**
comp=Z,13nm,1.2s,comp=Z,163nm
PALK Pallekele 30.14 165 LR LR 06 25 26.2
comp=Z,11µm,18.2s,baz=317,slow=37
PALK Pallekele 30.14 165 *e*P **P 06 12 51.8 +1.0**
PALK pmax pmax
comp=Z,135nm,1.5s
PALK MLR MLR

comp=Z,7μm,21.0s
PALK Pallekele 30.14 165 *e*P **P 06 12 51.8 +1.0**
comp=Z,135nm,1.5s
PALK LR LR
comp=Z,7μm,21.0s
PALK Pallekele 30.14 165 P **P 06 12 52.9 +2.1**
SNR=5.2
PALK Pallekele 30.14 165 P **P 06 12 52.9 +2.1**
SNR=5.2
PALK Pallekele 30.14 165 *i* P **P 06 12 52.0 +1.2**
SNR=6.8
PALK Pallekele 30.14 165 *i* P **P 06 12 52.0 +1.2**
SNR=6.8
CORM Corum 30.19 288 *e*P **P 06 12 51.7 +0.5**
GYA Guiyang 30.20 100⇑*i*P **P 06 12 52.1 +0.8**
GYA S **S 06 17 43.1 -5.8**
GYA pmax pmax
comp=Z,60nm,0.9s
GYA pmax pmax
comp=Z,460nm,6.5s
GYA LR LR
comp=Z,8μm,12.6s
GYA LR LR
comp=Z,6μm,13.3s
GYA LR LR
comp=Z,9μm,12.6s
SIM Simferopol' **30.40 298***d i*P **P 06 12 55.9 +3.1**
SIM *e* 06 13 59.0
SIM *e*S **S 06 17 53.3 +1.8**
SIM *i* SS **SS 06 19 51.0 -10**
SIM pmax pmax
comp=Z,131nm,1.8s
SIM pmax pmax
comp=Z,220nm,7.3s
BZK Bozkurt 30.52 292 *e*P P 06 12 58.8 +4.9
MOS Moscow 30.57 320 *e*P **P 06 12 52.2 -1.9**
MOS *e* 06 13 53.8
MOS *e*S **S 06 17 53.2 -0.6**
MOS *e*SS **ScP 06 19 33.9 +1.4**
MOS pmax pmax
comp=Z,139nm,1.2s
MOS MLR MLR
comp=E,13μm,13.0s
MOS MLR MLR
comp=Z,14μm,13.0s
PBA Port Blair 30.59 140 *e*P P 06 12 55.4 +0.7
ILGA Ilgaz 30.80 290 *e*P **P 06 12 58.6 +1.9**
comp=Z,151nm,1.4s
ENH Enshi 30.85 91 *e*P **P 06 12 57.9 +0.9**
comp=Z,53nm,0.8s
OBN Obninsk 30.89 318⇓*e*P **P 06 12 57.0 +0.1**
OBN *e* 06 13 59.6
OBN *e*S **S 06 17 53.4 -5.4**
OBN pmax pmax
comp=Z,143nm,1.2s
OBN MLR MLR
comp=Z,5μm,17.0s
OBN Obninsk 30.89 318 *e*P **P 06 12 56.9 +0.1**
comp=Z,118nm,1.0s
PHIT Phitsanulok 30.98 122 P **P 06 12 58.5 +0.4**
comp=Z,26nm,1.1s,comp=Z,414nm
BR101 Keskin Array S 31.00 288 *e*P **P 06 12 59.5 +1.2**
BR131 Keskin Array S 31.00 288 *e*P **P 06 12 59.6 +1.2**
BRTR Keskin Array B 31.00 288 P **P 06 12 59.5 +1.2**
comp=Z,23nm,0.7s,baz=106,slow=9.0,SNR=59
BRTR Keskin Array B 31.00 288 *i* P **P 06 12 59.5 +1.2**
BRTR pmax pmax
comp=Z,26nm,0.7s
MMAI Mount Meron Ar 31.05 274 P **P 06 13 00.3 +1.6**
comp=Z,0.8nm,0.3s,baz=76,slow=9.1,SNR=4.4
MMAI LR LR 06 28 21.3
comp=Z,3μm,19.1s,baz=75,slow=42
TIY Taiyuan 31.14 76 *e*P **P 06 13 01.0 +1.5**
TIY pmax pmax
comp=Z,110nm,1.1s
TIY pmax pmax
comp=Z,750nm,3.9s
TIY LR LR
comp=Z,11μm,12.2s
TIY LR LR
comp=Z,6μm,13.6s
TIY LR LR
comp=Z,8μm,13.7s
SULT Sultanhani-AKS 31.32 285 *e*P **P 06 13 02.3 +1.2**
AFSR Af˙ar-Bala (A 31.48 287 *e*P **P 06 13 02.6 +0.2**
ANTO Ankara 31.63 288 *e*P **P 06 13 05.8 +2.0**
ANTO pmax pmax
comp=Z,103nm,1.5s
ANTO Ankara 31.63 288 *e*P **P 06 13 05.8 +2.0**
comp=Z,103nm,1.5s
ANTO Ankara 31.63 288 P **P 06 13 06.3 +2.5**
SNR=6.3
ANTO Ankara 31.63 288 P **P 06 13 06.3 +2.5**
SNR=6.3
BR231 Keskin MP Arra 31.65 288 *e*P P 06 12 58.4 -5.6
CHBY Cihanbeyli 31.75 286 *e*P **P 06 13 05.7 +0.9**
KLMR Klimovskoe 32.12 329 *e*P **P 06 13 05.9 -1.8**
KLMR *e*S **S 06 18 12.9 -5.1**
KLMR pmax pmax
comp=Z,61nm,0.9s
KLMR Klimovskoe 32.12 329 *e*P **P 06 13 06.0 -1.8**
KLMR AMP 06 13 12.2
comp=Z,61nm,0.9s
KLMR *e*S **S 06 18 13.0 -5.1**
KLMR *e*S **S 06 18 13.0 -5.1**
KLMR LQ LQ 06 23 01.6
KLMR LQ LQ 06 23 01.6
KLMR LR LR 06 25 33.1
SRDT SRDT 32.17 127 P P 06 13 14.0 +5.5
CIT Chita 32.18 49 *e*P **P 06 13 09.8 +1.4**
CIT *e* 06 13 19.0
CIT *e* 06 13 24.2
CIT *e* 06 14 21.0
CIT *e* 06 14 27.8
CIT pmax pmax
comp=Z,316nm,1.7s
EIL Elat 32.57 269 LR LR 06 29 14.3
comp=Z,4μm,18.8s,baz=72,slow=42
SVRH Sivrihisar-ESK 32.66 288 *e*P **P 06 13 13.5 +0.7**
MDUB Mudurnu 32.77 290 *e*P **P 06 13 14.1 +0.3**
CHAI Chaiyaphum 32.95 121 P **P 06 13 15.6 +0.2**
comp=Z,22nm,1.0s
KHON Khomkaen 33.22 120 P **P 06 13 18.0 +0.2**
comp=Z,71nm,0.8s
SUTC Sutluce-Ispart 33.42 284 *e*P **P 06 13 23.5 +4.0**
PHET Kaeng Krachan 33.57 128 P **P 06 13 21.8 +1.0**
comp=Z,44nm,0.8s,comp=Z,330nm
NRIK Noril'sk 33.58 9 LR LR 06 28 50.1
comp=Z,3μm,18.4s,baz=242,slow=40
SKNT Sakolnakorn 33.61 118 P **P 06 13 19.8 -1.4**
comp=Z,80nm,0.9s,comp=Z,2μm
NAYO Nakonayok 33.63 124 P **P 06 13 21.9 +0.6**
comp=Z,79nm,0.9s,comp=Z,969nm
BJT Baijiatuau 33.64 71 *e*P **P 06 13 22.6 +1.3**
BJT pmax pmax
comp=Z,172nm,1.8s
BJT MLR MLR
comp=Z,18μm,18.0s
BJT Baijiatuau 33.64 71 *e*P **P 06 13 22.6 +1.3**
comp=Z,172nm,1.8s
BJT LR LR
comp=Z,18μm,18.0s
BJI Beijing 33.64 71⇑*i*P **P 06 13 22.7 +1.5**
BJI S **S 06 18 43.5 +1.4**
BJI pmax pmax
comp=Z,23nm,0.7s
BJI pmax pmax
comp=Z,620nm,5.7s
BJI LR LR
comp=Z,2μm,16.7s
BJI LR LR
comp=Z,9μm,15.2s
BOD Bodaibo 34.06 39 *e*P **P 06 13 24.2 -0.5**
BOD pmax pmax
comp=Z,106nm,1.3s
AKASG Malin Array Be 34.14 308 P **P 06 13 25.4 -0.1**
comp=Z,17nm,0.9s,baz=82,slow=7.2,SNR=35
AKASG LR LR 06 29 39.7
comp=Z,2μm,18.9s,baz=100,slow=40
KIS Kishinev 34.15 302⇑*i*P **P 06 13 28.0 +2.4**
comp=Z,300nm,1.4s
KIS *i* S **S 06 18 58.0 +8.2**
KIS *i* SS **SS 06 21 10.0 -8.0**
KIS *i* Li 06 23 10.0
KIS *i* LQ LQ 06 24 54.0
KIS *e*LR LR 06 28 56.0
comp=Z,6μm,16.0s
KIS Kishinev 34.15 302⇑*i*P **P 06 13 28.0 +2.4**
KIS *e* 06 14 56.0
KIS *e* 06 16 10.0
KIS *i* S **S 06 18 58.0 +8.2**
KIS pmax pmax
comp=Z,300nm,1.4s
KIEV Kiev 34.15 308 *e*P **P 06 13 24.5 -1.0**
KIEV pmax pmax
comp=Z,38nm,0.9s
KIEV Kiev 34.15 308 *e*P **P 06 13 24.5 -1.0**
comp=Z,38nm,0.9s
KIEV Kiev 34.15 308 *i* P **P 06 13 25.3 -0.2**
SNR=22
KIEV Kiev 34.15 308 *i* P **P 06 13 25.3 -0.2**
SNR=22
AK11 Malin Array Si 34.17 308 *e*P **P 06 13 25.4 -0.3**
SRAK Srakaew 34.33 124 P **P 06 13 31.8 +4.4**
comp=Z,89nm,1.0s,comp=Z,1μm
TIRR Tirgusor 34.47 297 PFAKE 06 13 40.0 +12
TIRR LR LR
comp=Z,4μm,20.0s
SORM Soroca 34.50 304⇑*i*P **P 06 13 29.0 +0.4**
LEOM Leova 34.54 301⇓*i*P **P 06 13 31.2 +2.3**
TMCR Tamitsa 34.57 334 *e*P **P 06 13 28.8 -0.2**
TMCR pmax pmax
comp=Z,136nm,1.1s
CFR Carcaliu 34.64 298⇑*i*P **P 06 13 32.3 +2.5**
WHN Wuhan 34.65 88⇑P **P 06 13 31.2 +1.1**
WHN S **S 06 19 01.2 +3.3**
WHN pmax pmax
comp=Z,180nm,1.2s
WHN LR LR
comp=Z,20μm,12.6s
WHN LR LR
comp=Z,10μm,10.1s
WHN LR LR
comp=Z,13μm,14.5s
TIA Tai'an 35.13 77 P **P 06 13 35.5 +1.3**
TIA S **S 06 19 05.7 +0.5**
TIA pmax pmax
comp=Z,44nm,1.3s
TIA pmax pmax
comp=Z,680nm,2.9s
TIA LR LR
comp=Z,12μm,16.4s
TIA LR LR
comp=Z,5μm,16.1s
TIA LR LR
comp=Z,2μm,12.5s
MICGM Minsk 35.55 315⇓*e*P **P 06 13 38.0 +0.5**
MICGM PM 06 13 40.0
comp=Z,1.3nm,1.0s
MICGM *e*pP sP 06 14 01.0 +11
MICGM *e*sP pP 06 14 13.0 +27
MICGM *e*PP PnPn 06 14 32.0 -25
MICGM *e*PPP PPP 06 15 02.0
MICGM *e*PsP 06 15 50.0
MICGM *e*S **S 06 19 08.0 -3.1**
MICGM *e*sS **ScP 06 19 51.0 +1.2**
MICGM *e*SS SnSn 06 20 48.0 -44
MICGM *e*SSS SSS 06 21 10.0
MICGM *e*ScS ScS 06 23 24.0 -30
MICGM *e*LQ LQ 06 25 12.0
MICGM *e*LR LR 06 27 00.0
MICGM LRM MLR 06 28 36.0
comp=N,20nm,10.0s
MICGM LRM MLR 06 28 36.0
comp=N,22nm,10.0s
MICGM LRM MLR 06 29 26.0
comp=E,17nm,10.0s
MICGM LRM MLR 06 29 26.0
comp=E,19nm,10.0s
MICGM LRM MLR 06 29 32.0
comp=Z,22nm,10.0s
MICGM LRM MLR 06 29 32.0
comp=Z,13nm,10.0s
MNK Minsk 35.55 315⇓*e*P **P 06 13 38.0 +0.5**
MNK *e*PPP PPP 06 15 02.0
MNK *e*S **S 06 19 08.0 -3.1**
MNK MLR MLR
comp=N,22μm,10.0s
MNK MLR MLR
comp=N,20μm,10.0s
MNK MLR MLR
comp=E,19μm,10.0s
MNK MLR MLR
comp=E,17μm,10.0s
MNK MLR MLR
comp=Z,13μm,10.0s
MNK MLR MLR
comp=Z,22μm,10.0s
VRI Vrincioaia 35.60 300⇑*i*P **P 06 13 40.4 +2.2**
TESR Tescani 35.64 301⇑*i*P **P 06 13 40.4 +1.9**
PLOR Plostina 35.66 300⇑*i*P **P 06 13 41.0 +2.3**
HIA Hailar 35.74 55 *e*P **P 06 13 39.2 -0.1**
HIA pmax pmax
comp=Z,62nm,1.1s
HIA MLR MLR
comp=Z,6μm,19.0s
HIA Hailar 35.74 55 *e*P **P 06 13 39.1 -0.1**
comp=Z,62nm,1.1s
HIA LR LR
comp=Z,6μm,19.0s
ISR Istrita 35.77 298⇓*i*P **P 06 13 42.5 +2.9**
UBPT Khong Chiam 35.80 118 P **P 06 13 38.7 -1.4**
comp=Z,58nm,1.7s
JMB Yambol 35.97 294 P **P 06 13 42.9 +1.6**
SURT Suratani 36.15 134 P **P 06 13 43.0 -0.1**
comp=Z,29nm,1.4s,comp=Z,664nm
MLR Muntele Rosu 36.17 299 P **P 06 13 45.0 +1.8**
comp=Z,7.5nm,0.9s,baz=55,slow=6.3,SNR=17
MLR LR LR 06 30 52.9
comp=Z,1μm,20.6s,baz=68,slow=40
MLR Muntele Rosu 36.17 299⇓*i*P **P 06 13 46.0 +2.8**
MLR Muntele Rosu 36.17 299 *e*P **P 06 13 43.9 +0.7**
MLR pmax pmax
comp=Z,159nm,1.3s
MLR MLR MLR
comp=Z,6μm,20.0s
MLR Muntele Rosu 36.17 299 *e*P **P 06 13 43.9 +0.7**
comp=Z,159nm,1.3s
MLR LR LR
comp=Z,6μm,20.0s
NACGM Naroch 36.25 315 *e*P **P 06 13 42.0 -1.5**
NACGM PM 06 13 48.0
comp=Z,0.3nm,0.8s
NACGM *e*PPP PPP 06 15 13.0
NACGM *e*S **S 06 19 23.0 +1.1**
NACGM *e*PcS PcS 06 20 22.0 +26
NACGM *e*SS SnSn 06 21 26.0 -23
NACGM *e*S SnSn 06 21 26.0 -23
NACGM *e*PsP 06 23 32.0
NACGM *e*LQ LQ 06 25 26.0
NACGM *e*LR LR 06 28 00.0
NACGM LRM MLR 06 30 47.0
comp=Z,25nm,18.0s
IDID Didziasalis 36.35 316 *e*P **P 06 13 44.8 +0.4**
IDID IAmb IAmb 06 13 50.1
comp=Z,16nm,0.6s
SZH Strazhica 36.35 295 P **P 06 13 45.5 +0.9**
DOPR Dopca 36.53 300⇑*i*P **P 06 13 48.1 +2.0**
BURAR Bucovina Array 36.60 303⇑*i*P **P 06 13 48.2 +1.4**
BUR04 Bucovina Ar. S 36.60 303 *e*P **P 06 13 47.5 +0.7**
BUR08 Bucovina Ar. S 36.61 303 *e*P **P 06 13 48.0 +1.1**
IIGN Ignalina 36.65 316 *e*P **P 06 13 47.3 +0.3**
IIGN IAmb IAmb 06 13 53.8
comp=Z,24nm,0.8s
QIZ Qiongzhong 36.65 109 P **P 06 13 49.9 +2.5**
QIZ S **S 06 19 28.6 -0.1**
QIZ pmax pmax
comp=Z,35nm,1.8s
QIZ LR LR
comp=Z,9μm,19.6s
QIZ LR LR
comp=Z,7μm,18.8s
QIZ LR LR
comp=Z,3μm,12.4s
QIZ Qiongzhong 36.65 109 PFAKE 06 14 00.0 +13
QIZ LR LR
comp=Z,3μm,22.0s
IZAR Zarasai 36.71 316 *e*P **P 06 13 47.8 +0.4**
IZAR IAmb IAmb 06 13 53.2
comp=Z,50nm,1.2s
ISAL Salakas 36.74 316 *e*P **P 06 13 48.1 +0.3**
ISAL IAmb IAmb 06 13 53.5
comp=Z,22nm,0.9s
VOIR 36.80 299⇓*i*P **P 06 13 49.8 +1.3**
KARP Karpathos 36.88 282 *e*P **P 06 13 49.9 +0.7**
comp=Z,96nm,1.0s
KDZ Kurdzhali 36.94 293 P **P 06 13 45.5 -4.1**
ATD Arta Tunnel 37.07 235 P **P 06 13 53.5 +2.5**
comp=Z,141nm,1.0s,baz=31,slow=6.3,SNR=52
ATD LR LR 06 30 34.3
comp=Z,3μm,21.3s,baz=48,slow=39
ATD Arta Tunnel 37.07 235 *e*P **P 06 13 53.8 +2.7**
comp=Z,479nm,1.3s
ATD LR LR
comp=Z,3μm,21.0s
VSU Vasula 37.07 321*ce*P **P 06 13 50.1 -0.4**
VSU pmax pmax
comp=Z,57nm,1.0s
ARR Arges 37.10 299⇑*i*P **P 06 13 52.1 +1.1**
GZH Guangzhou 37.13 100 P **P 06 13 50.9 -0.5**
GZH S **S 06 19 33.9 -2.1**
GZH LR LR
comp=Z,15μm,13.0s
GZH LR LR
comp=Z,5μm,13.4s
ARCR ARCALIA 37.20 302⇓*i*P **P 06 13 54.3 +2.5**
LVV L'vov 37.40 306 *e*P **P 06 13 53.8 +0.4**
LVV *e**PP **sP 06 14 09.4 +3.5**
LVV *e* 06 15 16.9
LVV *e*S **S 06 19 39.7 +0.1**
LVV *e**SS **sS 06 19 54.5 +0.4**
LVV pmax pmax
comp=N,210nm,1.4s
RZN Rozhen 37.45 293 P **P 06 13 53.6 -0.6**
TRTT Trang 37.58 133 P **P 06 13 54.7 -0.5**
comp=N,30nm,1.6s,comp=N,746nm
LOT Lotru 37.70 299⇑*i*P **P 06 13 57.7 +1.5**
NJ2 Nanjing 37.73 83 *e*P **P 06 13 57.6 +1.2**
NJ2 S **S 06 19 46.5 +1.6**
NJ2 pmax pmax
comp=N,39nm,1.2s
NJ2 pmax pmax
comp=N,770nm,8.1s
NJ2 LR LR
comp=N,11μm,15.2s
NJ2 LR LR
comp=N,6μm,13.0s
NJ2 LR LR
comp=N,5μm,15.2s
PGB Panagyurishte 37.73 294 P **P 06 13 57.6 +1.2**
CJR Cluj-Napoca 37.73 301⇑*i*P **P 06 13 58.0 +1.6**
APE Apeiranthos 37.76 285⇑*i*P **P 06 13 58.2 +1.5**
APE Apeiranthos 37.76 285 *i* P **P 06 13 57.5 +0.8**
APE pmax pmax
comp=Z,46nm,0.9s
BMR Baia Mare 37.76 303⇓*i*P **P 06 13 58.4 +1.9**
LVZ Lovozero 37.87 337*ce*P **P 06 13 57.7 +0.4**
LVZ pmax pmax
comp=Z,28nm,1.0s
LVZ Lovozero 37.87 337 *e*P **P 06 13 56.9 -0.4**
comp=Z,86nm,1.0s
LVZ LR LR
comp=Z,12μm,18.0s
SANT Santorini 37.99 284 *e*P **P 06 13 58.2 -0.4**
comp=Z,152nm,1.2s
DL2 Dalian 37.99 72⇑P **P 06 14 02.4 +3.8**
DL2 PP **PnPn 06 15 30.0 +2.9**
DL2 pmax pmax
comp=Z,74nm,1.2s
DL2 pmax pmax
comp=Z,270nm,9.4s
DL2 LR LR
comp=Z,4μm,16.4s
DL2 LR LR
comp=Z,8μm,16.8s
DL2 LR LR
comp=Z,12μm,16.9s
APA Apatity 38.08 337⇓*i*P **P 06 14 00.0 +1.1**
APA *i* 06 15 30.7
APA *i* 06 16 11.4
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,13μm,18.0s
MMB Musomiste 38.20 293 P **P 06 14 01.1 +0.8**
SUW Suwalki 38.20 313 *e*P **P 06 14 00.8 +0.7**
SUW Suwalki 38.20 313 *e*P **P 06 14 00.8 +0.7**
SUW Suwalki 38.20 313 *e*P **P 06 14 01.4 +1.3**
comp=Z,238nm,1.6s
SUW LR LR
comp=Z,7μm,21.0s
LHMI Lhok Sumawe 38.21 139 PFAKE 06 14 10.0 +9.4
LHMI LR LR
comp=Z,4μm,20.0s
FIA0 FINESS Array S 38.25 325 *e*P **P 06 14 00.5 +0.1**
FIA0 FINESS Array S 38.25 325 *e*P **P 06 14 00.5 +0.1**
FIA1 FINESS Array S 38.25 325 *e*P **P 06 14 00.7 +0.3**
FINES FINESS Array B 38.25 325 P **P 06 14 00.5 +0.1**
comp=Z,52nm,0.9s,baz=108,slow=9.3,SNR=48
FINES LR LR 06 30 33.8
comp=Z,5μm,19.9s,baz=107,slow=38
KWP Kalwaria Pacla 38.26 306 *e*P **P 06 14 02.2 +1.5**
KWP Kalwaria Pacla 38.26 306 *e*P **P 06 14 01.7 +1.0**
KWP MLR MLR
comp=Z,41μm,22.0s
KWP Kalwaria Pacla 38.26 306 *e*P **P 06 14 01.7 +1.0**
comp=Z,2μm,1.4s
KWP LR LR
comp=Z,41μm,22.0s
DRGR 38.34 301⇑*i*P **P 06 14 03.4 +1.9**
TRPA Tarpa 38.39 304 *e*P **P 06 14 03.7 +1.9**
VTS Vitosha 38.42 295⇓*i*P **P 06 14 04.0 +1.6**
VTS Vitosha 38.42 295 *e*P **P 06 14 03.1 +0.7**
VTS pmax pmax
comp=Z,33nm,1.2s
VTS Vitosha 38.42 295 *e*P **P 06 14 03.1 +0.7**
comp=Z,33nm,1.2s
VTS Vitosha 38.42 295 P **P 06 14 02.8 +0.4**
UZH Uzhgorod 38.54 304 *e*P **P 06 14 05.0 +1.9**
UZH *e**PP **sP 06 14 18.0 +2.5**
UZH *e*S **S 06 19 56.0 -0.9**
UZH MLR MLR
comp=Z,3μm,12.0s
KKB Krupnik 38.63 293 P **P 06 14 04.2 +0.3**
SKLT Songkhla 38.65 133 P **P 06 14 04.2 -0.1**
comp=Z,94nm,1.2s
HERR Herculane 38.70 298⇑*i*P **P 06 14 06.2 +1.7**
IDI Anoyia 38.73 283 LR LR 06 34 40.1
comp=Z,860nm,18.2s,baz=44,slow=43
IDI Anoyia 38.73 283⇑*i*P **P 06 14 07.0 +2.1**
MLSI Meulaboh, Aceh 38.75 141 P **P 06 14 03.0 -2.1**
SNY Shenyang 38.90 67⇑P **P 06 14 09.4 +3.2**
SNY S **S 06 19 59.9 -2.5**
SNY pmax pmax
comp=Z,31nm,1.2s
SNY pmax pmax
comp=Z,780nm,3.5s
SNY LR LR
comp=Z,12μm,15.9s
SNY LR LR
comp=Z,5μm,16.1s
SNY LR LR
comp=Z,16μm,13.5s
CRVS Cervenica-Dubn 39.08 305 *e*PP PP 06 15 51.5 +14
VAY Valandovo 39.10 293 *i* P **P 06 14 08.9 +1.1**
BZS Buzias 39.19 300⇓*i*P **P 06 14 10.3 +1.8**
STHS Stebnicka Huta 39.21 306 *e*P **P 06 14 10.8 +2.1**
STHS pmax pmax
comp=Z,11nm,0.9s
STHS Stebnicka Huta 39.21 306 *e*P **P 06 14 10.8 +2.1**
STHS *e*PP **PnPn 06 15 48.1 +6.6**
BEL Belsk 39.51 309 *e*P **P 06 14 15.5 +4.4**
BEL Belsk 39.51 309 *e*P **P 06 14 15.5 +4.4**
CLNS Chul'man 39.55 43 *e*P **P 06 14 12.0 +0.5**
CLNS *e**PP **pP 06 14 20.5 +0.2**
CLNS *e* 06 15 42.8
CLNS *e*PPP PPP 06 16 06.6
CLNS *e* 06 16 19.3
CLNS *e*S **S 06 20 11.4 -0.6**
CLNS pmax pmax
comp=Z,66nm,1.0s
CLNS pmax pmax
comp=E,54nm,1.2s
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax

CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS smax smax
comp=E,564nm,12.6s
CLNS smax smax
comp=N,206nm,11.3s
CLNS MLR MLR
comp=Z,4μm,12.0s
CLNS MLR MLR
comp=E,3μm,11.0s
CLNS MLR MLR
comp=N,2μm,11.0s
KECS Kecovo 39.75 304 *e*P **P 06 14 15.8 +2.6**
KECS pmax pmax
comp=Z,9.0nm,0.8s
KECS Kecovo 39.75 304 *e*P **P 06 14 15.8 +2.6**
KECS *e*PP **PP 06 15 46.1 +1.5**
AGG Agios Georgios 39.75 289 *e*P **P 06 14 13.6 +0.2**
AGG pmax pmax
comp=Z,140nm,1.2s
AGG Agios Georgios 39.75 289 *e*P **P 06 14 13.6 +0.2**
comp=Z,140nm,1.2s
SKO Skopje 39.82 294 *i* P **P 06 14 15.2 +1.4**
NIE Niedzica 39.83 306 *e*P **P 06 14 15.3 +1.4**
NIE Niedzica 39.83 306 *e*P **P 06 14 15.3 +1.4**
SSE Sheshan 39.93 84 P **P 06 14 16.4 +1.6**
SSE S **S 06 20 18.2 +0.1**
SSE pmax pmax
comp=Z,41nm,0.9s
SSE pmax pmax
comp=Z,480nm,5.7s
SSE LR LR
comp=Z,4μm,14.6s
SSE LR LR
comp=Z,2μm,13.3s
CN2 Changchun 39.95 63 ⇑P **P 06 14 15.6 +0.7**
CN2 *e*S **S 06 20 19.2 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,19μm,18.0s
CN2 LR LR
comp=Z,7μm,18.0s
CN2 LR LR
comp=Z,6μm,17.0s
KLNR Kaliningrad 39.99 314*c* *i*P **P 06 14 18.1 +3.1**
KLNR pmax pmax
comp=Z,99nm,0.9s
TPTI 40.00 141 P P **06 14 11.8 -3.8**
KRUS Krusevo 40.07 293 *i* P P 06 14 09.4 -6.6
BIA Bitola 40.08 293 *e*P P 06 14 06.6 -9.5
KCSI Kotacane, Aceh 40.09 140 P **P 06 14 13.4 -2.9**
OJC Ojcow 40.13 307 *e*P **P 06 14 16.9 +0.6**
OJC Ojcow 40.13 307 *e*P **P 06 14 16.9 +0.6**
OJC Ojcow 40.13 307 *e*P **P 06 14 17.2 +0.9**
comp=Z,62nm,1.1s
PSZ Piszkesteto 40.18 303⇑ *i*P P 06 14 11.2 -5.6
PSZ Piszkesteto 40.18 303 *e*P **P 06 14 18.3 +1.5**
PSZ pmax pmax
comp=Z,35nm,1.0s
PSZ Piszkesteto 40.18 303 *e*P **P 06 14 19.1 +2.3**
PSZ Piszkesteto 40.18 303 *e*P **P 06 14 18.3 +1.5**
comp=Z,35nm,1.0s
KULM Kulim 40.19 135 *e*P **P 06 14 17.9 +0.8**
comp=Z,198nm,1.9s
KULM LR LR
comp=Z,3μm,22.0s
LANS Liptovska Anna 40.38 305 *e*P **P 06 14 20.3 +1.8**
LANS Liptovska Anna 40.38 305 *e*P **P 06 14 20.3 +1.8**
QZH Quanzhou 40.41 94⇑ *i*P **P 06 14 23.5 +4.6**
QZH S **S 06 20 26.8 +1.4**
OHR Ohrid 40.45 293 *i* P **P 06 14 14.8 -4.3**
DIVS Divibare 40.52 297 *e*P **P 06 14 19.5 -0.3**
comp=Z,98nm,1.3s
ZEA Zeya 40.62 48 *e*P **P 06 14 21.6 +1.3**
ZEA *e* 06 16 04.0
ZEA *e*S **S 06 20 27.0 -0.9**
ZEA pmax pmax
comp=E,110nm,1.4s
ZEA pmax pmax
comp=N,79nm,1.2s
ZEA pmax pmax
comp=Z,180nm,1.2s
ZEA pmax pmax
comp=Z,400nm,3.0s
ZEA pmax pmax
comp=Z,600nm,10.0s
ZEA smax smax
comp=E,1μm,12.0s
ZEA MLR MLR
comp=E,5μm,12.0s
ZEA MLR MLR
comp=Z,7μm,12.0s
VYHS Vyhne 40.84 304 *e*P **P 06 14 23.5 +1.3**
VYHS pmax pmax
comp=Z,28nm,1.4s
VYHS Vyhne 40.84 304 *e*P **P 06 14 23.5 +1.3**
VYHS *e*PP **PnPn 06 16 02.1 +1.3**
IPM Ipoh 41.06 135 *e*P **P 06 14 24.4 0.0**
comp=Z,355nm,1.9s
IPM LR LR
comp=Z,3μm,22.0s
OKC Ostrava-Krasne 41.21 306 *e*pP pP 06 14 29.9 -4.2
OKC Ostrava-Krasne 41.21 306 *e*P pP 06 14 29.9 -4.2
KEV Kevo 41.21 338 *e*P **P 06 14 25.3 +0.3**
KEV pmax pmax
comp=Z,181nm,1.8s
KEV MLR MLR
comp=Z,6μm,19.0s
KEV Kevo 41.21 338 *e*P **P 06 14 25.3 +0.3**
comp=Z,181nm,1.8s
KEV LR LR
comp=Z,6μm,19.0s
PSI Prapat 41.30 139 LR LR 06 32 37.0
comp=Z,4μm,19.7s,baz=300,slow=38
PSI Prapat 41.30 139 *e*P **P 06 14 25.5 -0.9**
PSI pmax pmax
comp=Z,36nm,1.1s
PSI MLR MLR
comp=Z,4μm,21.0s
PSI Prapat 41.30 139 *e*P **P 06 14 25.5 -0.9**
comp=Z,36nm,1.1s
PSI LR LR
comp=Z,4μm,21.0s
PDG Podgorica 41.33 295⇓ *i*P **P 06 14 26.8 +0.5**
ARA0 ARCESS Array S 41.58 337 *e*P **P 06 14 28.3 +0.3**
ARCES ARCESS Array B 41.58 337 P **P 06 14 28.3 +0.3**
comp=Z,41nm,0.8s,baz=111,slow=8.3,SNR=69
ARCES LR LR 06 32 54.0
comp=Z,11μm,18.1s,baz=118,slow=38
ARCES ARCESS Array B 41.58 337 *e*P **P 06 14 28.4 +0.4**
ARE0 ARCESS Array S 41.58 337 *e*P **P 06 14 28.5 +0.5**
comp=Z,127nm,1.2s
ARE0 LR LR
comp=Z,15μm,19.0s
ARE0 ARCESS Array S 41.58 337 *e*P **P 06 14 28.8 +0.8**
ARE0 IAmb IAmb 06 14 29.5
comp=Z,77nm,1.2s
MORC Moravsky Berou 41.60 306⇑ *i*P **P 06 14 30.2 +1.7**
MORC Moravsky Berou 41.60 306 *e*P **P 06 14 29.7 +1.1**
MORC pmax pmax
comp=Z,135nm,1.0s
MORC Moravsky Berou 41.60 306 *e*P **P 06 14 29.6 +1.1**
comp=Z,136nm,1.0s
GKP Gorka Klasztor 41.69 312 *e*P **P 06 14 30.1 +1.0**
GKP Gorka Klasztor 41.69 312 *e*P **P 06 14 30.1 +1.0**
HEF Hetta 41.70 335 *e*P **P 06 14 29.5 +0.5**
FURI Furi 41.77 237 *e*P **P 06 14 30.6 +0.1**
comp=Z,134nm,1.2s
FURI LR LR
comp=Z,2μm,22.0s
GSI Gunungsitoli 41.88 142 P **P 06 14 31.4 +0.3**
GSI Gunungsitoli 41.88 142 *e*P **P 06 14 32.5 +1.4**
comp=Z,735nm,1.7s
GSI LR LR
comp=Z,5μm,20.0s
INCN Inchon 42.17 72 PFAKE 06 14 40.0 +6.8
INCN LR LR
comp=Z,8μm,18.0s
VRAC Vranov 42.25 306 LR LR 06 33 51.2
comp=Z,3μm,19.6s,baz=90,slow=39
VRAC Vranov 42.25 306⇓ *i*P **P 06 14 34.8 +1.0**
KSP Ksiaz 42.34 308 *e*P **P 06 14 35.9 +1.4**
KSP Ksiaz 42.34 308 *e*P **P 06 14 35.8 +1.4**
DPC Dobruska-Polom 42.35 307 *e*P **P 06 14 35.5 +0.9**
DPC *e*pP **pP 06 14 39.1 -4.4**
DPC *e*S S 06 21 03.5 +10
DPC AMS AMS 06 34 20.0
comp=Z,4μm,12.4s
DPC Dobruska-Polom 42.35 307 *e*P **P 06 14 35.5 +0.9**
DPC *e* 06 14 39.1
DPC *e*S S 06 21 03.5 +10
DPC MLR MLR
comp=Z,4μm,12.4s
BLY Banja Luka 42.41 299⇑ *i*P **P 06 14 35.7 +0.6**
SOP Sopron 42.44 303 *e*P **P 06 14 35.9 +0.6**
UPC Upice 42.54 308 *e*P **P 06 14 37.3 +1.2**
UPC *e*pP **pP 06 14 41.0 -4.0**
UPC *e*S **S 06 21 03.3 +6.8**
UPC AMS AMS 06 34 30.0
comp=Z,6μm,12.4s
UPC Upice 42.54 308 *e*P **P 06 14 37.3 +1.2**
UPC *e* 06 14 41.0
UPC *e*S **S 06 21 03.3 +6.8**
UPC MLR MLR
comp=Z,6μm,12.4s
HAMF Hammerfest 42.63 338 *e*P **P 06 14 37.5 +1.0**
HAMF IAmb IAmb 06 14 38.2
comp=Z,52nm,0.9s
YAK Yakutsk 42.76 35 P **P 06 14 36.8 -0.8**
comp=Z,49nm,0.5s,baz=294,slow=1.9,SNR=12
YAK LR LR 06 33 24.3
comp=Z,15μm,18.8s,baz=269,slow=38
YAK Yakutsk 42.76 35 *e*P **P 06 14 36.2 -1.4**
YAK *e* 06 16 19.0
YAK *e* 06 16 33.6
YAK *e*PPP PPP 06 16 59.1
YAK *e*S **S 06 20 51.2 -8.1**
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,21nm,1.4s
YAK pmax pmax
comp=Z,266nm,2.4s
YAK pmax pmax
comp=N,94nm,2.2s
YAK pmax pmax
comp=E,228nm,2.2s
YAK smax smax
comp=N,438nm,3.3s
YAK smax smax
comp=E,445nm,3.0s
YAK MLR MLR
comp=Z,18μm,16.0s
YAK MLR MLR
comp=E,12μm,18.0s
YAK MLR MLR
comp=N,4μm,12.0s
YAK Yakutsk 42.76 35 *e*P **P 06 14 37.3 -0.3**
comp=N,489nm,1.8s
YAK LR LR
comp=Z,17μm,21.0s
MDJ Mudanjiang 42.77 61 P **P 06 14 39.7 +1.7**
MDJ PP **PP 06 16 18.7 +1.3**
MDJ PcP **PcP 06 16 30.3 +1.2**
MDJ PcS **PcS 06 20 22.4 +1.3**
MDJ pmax pmax
comp=Z,83nm,1.6s
MDJ pmax pmax
comp=Z,580nm,3.9s
MDJ LR LR
comp=Z,23μm,21.5s
MDJ LR LR
comp=Z,4μm,14.7s
MDJ LR LR
comp=Z,14μm,15.9s
MDJ Mudanjiang 42.77 61 *e*P **P 06 14 36.7 -1.3**
comp=Z,101nm,1.2s
MDJ LR LR
comp=Z,3μm,21.0s
YHNB Yeheng 42.77 92 PFAKE 06 14 50.0 +12
YHNB LR LR
comp=Z,4μm,18.0s
TPUB Ta-pu 42.83 95 PFAKE 06 14 50.0 +11
TPUB LR LR
comp=Z,4μm,20.0s
SSLB Suanglung 42.85 94 *e*P **P 06 14 40.5 +1.5**
comp=Z,53nm,0.9s
SSLB LR LR
comp=Z,3μm,20.0s
CONA Conrad Observa 42.88 304 *i* P **P 06 14 40.0 +1.0**
comp=Z,44nm,1.0s,SNR=16
KIF Kilpisjarvi 42.90 335 *e*P **P 06 14 39.0 +0.3**
TREC Trest 42.98 306 *e*P **P 06 14 41.9 +2.2**
TREC AMS AMS 06 36 00.0
comp=Z,4μm,11.6s
TREC Trest 42.98 306 *e*P **P 06 14 41.9 +2.2**
TREC MLR MLR
comp=Z,4μm,11.6s
TJN Taejon 43.04 74 *e*P **P 06 14 40.3 0.0**
BSD Bornholm Skovb 43.06 314 *i* P **P 06 14 41.6 +1.4**
comp=Z,50nm,1.0s
BSD Bornholm Skovb 43.06 314 *i* P **P 06 14 41.6 +1.4**
BSD pmax pmax
comp=Z,50nm,1.0s
BSD MLR MLR
comp=Z,10μm,13.0s
BSD Bornholm Skovb 43.06 314 *e*P **P 06 14 39.6 -0.6**
KS01 Wonju Array Si 43.13 72 *e*P **P 06 14 40.8 -0.3**
KSRS Korea Array 43.16 72 P **P 06 14 41.2 -0.1**
comp=Z,25nm,1.1s,baz=284,slow=7.0,SNR=10.0
KSRS PcP **PcP 06 16 30.1 -0.3**
comp=Z,4.6nm,0.9s,baz=285,slow=3.5,SNR=2.8
KSRS LR LR 06 35 06.1
comp=Z,6μm,18.6s,baz=279,slow=40
NACB Ninganchiao 43.18 93 PFAKE 06 14 50.0 +8.4
NACB LR LR
comp=Z,6μm,18.0s
ARSA Arzberg 43.19 303 *i* P **P 06 14 42.1 +0.7**
comp=Z,11nm,0.9s
YULB Yu-li 43.32 94 PFAKE 06 14 50.0 +7.3
YULB LR LR
comp=Z,4μm,19.0s
MNSI Mandailing Nat 43.34 140 P **P 06 14 43.1 +0.2**
GOPC GO Pecny, Ondr 43.37 307 *e*pP **pP 06 14 47.7 -4.1**
GOPC *ex* x 06 14 52.9
GOPC AMS AMS 06 35 00.0
comp=Z,5μm,11.8s
GOPC GO Pecny, Ondr 43.37 307 *e*P **pP 06 14 47.7 -4.1**
GOPC *e* 06 14 52.9
GOPC MLR MLR
comp=Z,5μm,11.8s
TWG Pinlang 43.42 95 *e*P **P 06 14 46.2 +2.7**
comp=Z,423nm,1.2s
TWG LR LR
comp=Z,13μm,19.0s
PVCC Panska Ves 43.46 308 *e*pP pP 06 14 48.5 -3.9
PVCC Panska Ves 43.46 308 *e*P pP 06 14 48.5 -3.9
PRU Pruhonice 43.52 307 *e*P **P 06 14 45.1 +1.1**
PRU *e*pP **pP 06 14 48.4 -4.5**
PRU AMS AMS 06 34 50.0
comp=Z,5μm,11.4s
PRU Pruhonice 43.52 307 *e*P **P 06 14 45.1 +1.1**
PRU *e* 06 14 48.4
PRU MLR MLR
comp=Z,5μm,11.4s
PERS Pernice 43.55 302 *e*P **P 06 14 45.2 +0.8**
KLR Kul'dur 43.59 54 P **P 06 14 45.0 +0.3**
comp=Z,5.5nm,1.0s,baz=281,slow=7.9,SNR=109
KLR LR LR 06 33 34.6
comp=Z,357nm,20.4s,baz=272,slow=37
SOKA Soboth 43.60 302 *i* P **P 06 14 45.8 +1.0**
comp=Z,31nm,1.0s,SNR=11
BOJS Bojanci 43.63 300 *i* P **P 06 14 46.2 +1.2**
TRO Tromso 43.74 336 IAmb IAmb 06 14 45.3
comp=Z,1μm,3.0s
TRO *e*P **P 06 14 45.4 -0.1**
BRG Berggiesshubel 43.82 308 *i* P **P 06 14 47.2 +0.8**
comp=Z,54nm,1.5s
BRG *i* 06 14 51.4
comp=Z,47nm,0.9s
BRG *i* PP **PP 06 16 29.5 +0.9**
comp=Z,24nm,1.1s
BRG S **S 06 21 08.0 -7.3**
BRG SS **SS 06 24 23.0 -8.5**
comp=N,4μm,12.1s
comp=E,3μm,17.3s
comp=Z,4μm,16.2s
BRG Berggiesshubel 43.82 308 *i* P **P 06 14 47.2 +0.8**
BRG *i* 06 14 51.4
BRG *i* 06 16 29.5
BRG S **S 06 21 08.0 -7.3**
BRG SS **SS 06 24 23.0 -8.5**
BRG pmax pmax
comp=Z,54nm,1.5s
BRG pmax pmax
comp=Z,24nm,1.0s
BRG MLR MLR
comp=N,4μm,12.1s
BRG MLR MLR
comp=E,3μm,17.3s
BRG MLR MLR
comp=Z,4μm,16.2s
TIP Timpagrande 43.91 291⇓ *i*P **P 06 14 48.1 +0.7**
TIP Timpagrande 43.91 291 *e*P **P 06 14 47.9 +0.5**
comp=Z,60nm,1.2s
HFS Hagfors 43.94 322 P **P 06 14 47.2 0.0**
comp=Z,77nm,0.8s,baz=81,slow=9.1,SNR=33
HFS S **S 06 21 17.5 +0.8**
comp=Z,17nm,1.2s,baz=94,slow=10,SNR=3.9
HFS LR LR 06 34 19.6
comp=Z,4μm,21.5s,baz=96,slow=38
MOA Molln 43.95 304 *i* P **P 06 14 48.4 +0.8**
comp=Z,38nm,1.0s,SNR=15
OBKA Obir 43.96 302 *i* P **P 06 14 49.1 +1.4**
comp=Z,34nm,1.3s,SNR=7.5
RGN Rugen 43.99 314 *e*P **P 06 14 49.3 +1.6**
comp=Z,326nm,1.1s
RGN LR LR
comp=Z,7μm,19.0s
YOJ Yonaguni jima 44.18 92 PFAKE 06 15 00.0 +10
YOJ LR LR
comp=Z,3μm,21.0s
GEC2 GERESS Array S 44.19 305 *e*P **P 06 14 50.5 +0.9**
GEC2 pmax pmax
comp=Z,38nm,1.4s
GEC2 MLR MLR
comp=Z,3μm,21.0s
GEC2 GERESS Array S 44.19 305 *e*P **P 06 14 50.5 +0.9**
comp=Z,38nm,1.4s
GEC2 LR LR
comp=Z,3μm,21.0s
GERES GERESS Array B 44.19 305 P **P 06 14 50.2 +0.6**
comp=Z,2.4nm,0.7s,baz=72,slow=8.7,SNR=13
GERES LR LR 06 33 58.2
comp=Z,2μm,19.9s,baz=85,slow=37
GEA0 GERESS Array S 44.19 305 *e*P **P 06 14 50.0 +0.5**
KHC Kasperske Hory 44.24 306 *e*P **P 06 14 50.3 +0.4**
KHC *e*pP **pP 06 14 55.1 -3.7**
KHC *e*S S 06 21 31.2 +10
KHC AMS AMS 06 36 40.0
comp=Z,5μm,12.0s
KHC Kasperske Hory 44.24 306 *e*P **P 06 14 50.3 +0.4**
KHC *e* 06 14 55.1
KHC *e*S S 06 21 31.2 +10
KHC MLR MLR
comp=Z,5μm,12.0s
KHC Kasperske Hory 44.24 306 *e*P **P 06 14 50.6 +0.7**
comp=Z,17nm,1.3s
KHC LR LR
comp=Z,2μm,19.0s
CLL Collm 44.38 309⇓ *i*P **P 06 14 51.1 +0.3**
CLL *i* *PP **sP 06 15 03.9 +0.5**
CLL *e*S **S 06 21 24.0 +0.7**
CLL pmax pmax
comp=Z,31nm,0.9s
CLL Collm 44.38 309⇓ *i*P **P 06 14 51.1 +0.3**
comp=Z,30nm,1.4s
CLL *i* Pmax 06 14 54.6
comp=Z,31nm,0.9s
CLL *i* (pP) **sP 06 15 03.9 +0.5**
CLL *i* pPP 06 16 47.1
CLL *es*PP 06 16 55.0
CLL *i* 06 17 43.9
CLL *e*S **S 06 21 24.0 +0.7**
CLL *e*SS **SS 06 24 42.0 -0.4**
CLL *es*SS 06 25 07.0
CLL *e* 06 25 45.0
CLL LmV 06 36 00.0
comp=Z,4μm,18.0s
CLL Collm 44.38 309 *e*P **P 06 14 51.1 +0.3**
comp=Z,33nm,1.0s
CLL LR LR
comp=Z,4μm,20.0s
JAVS Javornik 44.39 301 *i* P **P 06 14 51.9 +0.7**
CUC Castrocucco 44.40 292 *e*P **P 06 14 52.4 +1.1**
comp=Z,62nm,0.9s
MOR8 Moi Rana 44.45 330 *e*P **P 06 14 51.0 -0.3**
MOR8 IAmb IAmb 06 14 54.5
comp=Z,192nm,1.1s
COP Copenhagen 44.48 315 *i* P P 06 14 56.4 +4.8
comp=Z,88nm,1.0s
COP Copenhagen 44.48 315 *e*P P 06 14 56.4 +4.8
COP pmax pmax
comp=Z,88nm,1.0s
COP MLR MLR
comp=Z,5μm,17.0s
BKNI Bangkinang 44.51 138 PFAKE 06 15 00.0 +7.7
BKNI LR LR
comp=Z,2μm,19.0s
STEI Steigen 44.53 333 *e*P **P 06 14 52.5 +0.7**
STEI IAmb IAmb 06 14 56.2
comp=Z,1μm,2.6s
USRK Ussuriysk Ar. 44.53 61 P **P 06 14 51.9 -0.3**
comp=Z,11nm,0.8s,baz=291,slow=5.2,SNR=14
USRK LR LR 06 36 01.7
comp=Z,5μm,18.9s,baz=273,slow=40
MYKA Terra Mystica 44.55 302 *i* P **P 06 14 53.4 +1.0**
comp=Z,31nm,1.0s
TRI Trieste 44.63 301 *e*P **P 06 14 53.7 +0.7**
TRI pmax pmax
comp=Z,68nm,1.4s
TRI Trieste 44.63 301 *e*P **P 06 14 53.6 +0.7**
comp=Z,68nm,1.4s
KBA Koelnbreinsper 44.68 303 *i* P **P 06 14 55.3 +1.7**
comp=Z,38nm,1.6s
VLA Vladivostok 44.69 63 *i* P **P 06 14 54.1 +0.7**
VLA pmax pmax
comp=Z,40nm,0.8s
NKC Novy Kostel 44.84 307 *e*P **P 06 14 56.5 +1.9**
NKC *e*pP **pP 06 14 59.6 -3.9**
NKC AMS AMS 06 36 10.0
comp=Z,5μm,10.9s
NKC Novy Kostel 44.84 307 *e*P **P 06 14 56.5 +1.9**
NKC MLR MLR
comp=Z,5μm,10.9s
MYKOM Kota Tinggi 44.87 134 *e*P **P 06 14 56.2 +1.0**
comp=Z,77nm,0.9s
TIXI Tiksi 44.89 22 P **P 06 14 54.4 -0.3**
comp=Z,92nm,0.9s,baz=262,slow=4.5,SNR=55
TIXI S **S 06 21 29.9 -0.4**
comp=Z,2.5nm,0.3s,baz=345,slow=11,SNR=6.1
TIXI Tiksi 44.89 22*de*P **P 06 14 54.2 -0.5**
TIXI pmax pmax
comp=Z,22nm,0.8s
TIXI MLR MLR
comp=Z,8μm,14.0s
TIXI Tiksi 44.89 22 *e*P **P 06 14 54.5 -0.3**
TIXI *e*S **S 06 21 29.9 -0.4**
TIXI LR LR
comp=Z,6μm,20.0s
SISI Saibi 44.90 142 P **P 06 14 55.7 +0.3**
NC405 NORSAR Array S 44.98 323 *e*P **P 06 14 54.8 -0.8**
KONS Konsvik 45.03 331 *e*P **P 06 14 54.9 -0.9**
KONS IAmb IAmb 06 14 56.6
comp=Z,445nm,2.2s
NC602 NORSAR Array S 45.04 322 *e*P **P 06 14 55.5 -0.5**
NC602 NORSAR Array S 45.04 322 *e*P **P 06 14 56.7 +0.6**
NC602 IAmb IAmb 06 15 00.0
comp=Z,735nm,1.0s
NC605 NORSAR Array S 45.11 322 *e*P **P 06 14 56.5 -0.1**
NC303 NORSAR Array S 45.16 323 *e*P **P 06 14 57.3 +0.3**
NC303 NORSAR Array S 45.16 323 *e*P **P 06 14 57.3 +0.3**
NC303 IAmb IAmb 06 15 02.0
comp=Z,192nm,0.9s
NB201 NORSAR Array S 45.18 323 *e*P **P 06 14 56.2 -1.0**
NB201 NORSAR Array S 45.18 323 *e*P **P 06 14 56.5 -0.7**
NB201 IAmb IAmb 06 15 00.0
comp=Z,142nm,0.8s
NSS Namsos 45.20 328 *e*P **P 06 14 59.1 +1.9**

NSS IAmb IAmb 06 15 03.3
comp=Z,740nm,2.4s
NB2 NORSAR Subarra 45.22 323 P **P** **06 14 57.2 -0.3**
comp=Z,107nm,1.0s,baz=94,slow=7.9
NB2 NORSAR Subarra 45.22 323 P **P** **06 14 57.2 -0.3**
baz=94,slow=7.9
NB200 NORSAR Array S 45.22 323 *e*P **P** **06 14 57.2 -0.3**
NOA NORSAR Array B 45.22 323 P **P** **06 14 57.2 -0.3**
comp=Z,70nm,0.9s,baz=94,slow=7.6,SNR=33
NOA LR LR 06 34 58.3
comp=Z,4μm,20.4s,baz=95,slow=38
PDSI Padang 45.24 140 P **P** **06 14 58.0 -0.2**
ABTA Abfaltersbach 45.30 303 *i* P **P** **06 14 59.0 +0.6**
comp=Z,14nm,0.8s
NAO01 NORSAR Array S 45.37 322 *e*P **P** **06 14 58.4 -0.2**
NAO01 NORSAR Array S 45.37 322 *e*P **P** **06 14 59.8 +1.2**
NAO01 IAmb IAmb 06 15 03.3
comp=Z,295nm,1.4s
NBO02 NORSAR Array S 45.39 323 *e*P **P** **06 14 58.9 0.0**
NBO00 NORSAR Array S 45.43 323 *e*P **P** **06 14 59.0 -0.1**
NBO00 NORSAR Array S 45.43 323 *e*P **P** **06 14 59.1 -0.1**
NBO00 IAmb IAmb 06 15 03.9
comp=Z,140nm,1.0s
NC204 NORSAR Array S 45.45 323 *e*P **P** **06 14 59.4 0.0**
NC204 NORSAR Array S 45.45 323 *e*P **P** **06 14 58.9 -0.5**
NC204 IAmb IAmb 06 15 04.2
comp=Z,143nm,1.1s
BJO Bjornoya 45.50 342 *e*P **P** **06 15 00.5 +1.0**
BJO IAmb IAmb 06 15 03.1
comp=Z,192nm,1.4s
GRFO Grafenberg 45.69 307 *e*P **P** **06 15 03.0 +1.6**
GRFO pmax pmax
comp=Z,45nm,1.0s
GRFO Grafenberg 45.69 307 *e*P **P** **06 15 03.0 +1.6**
comp=Z,46nm,1.0s
WTTA Wattenberg 45.80 303 *i* P **P** **06 15 03.1 +0.6**
comp=Z,22nm,1.1s
TBLU Trondheim 45.82 326 *e*P **P** **06 15 02.6 +0.5**
TBLU IAmb IAmb 06 15 04.5
comp=Z,179nm,1.4s
WATA Walderalm 45.83 303 *i* P **P** **06 15 02.7 +0.1**
comp=Z,23nm,1.0s
TPRI Tanjung Pinang 45.97 134 P **P** **06 15 04.5 +0.6**
KONO Kongsberg 45.98 321*c e*P **P** **06 15 03.7 +0.2**
KONO pmax pmax
comp=Z,58nm,0.9s
KONO Kongsberg 45.98 321 *e*P **P** **06 15 03.6 +0.1**
comp=Z,67nm,0.9s
KONO LR LR
comp=Z,4μm,18.0s
KONO Kongsberg 45.98 321 *e*P **P** **06 15 02.3 -1.1**
KONO IAmb IAmb 06 15 08.4
comp=Z,259nm,1.6s
MOTA Moosalm 46.14 304 *i* P **P** **06 15 05.0 -0.2**
comp=Z,21nm,0.9s,SNR=5.2
VAE Valguarnera 46.17 289 LR LR 06 36 38.1
comp=Z,554nm,18.8s,baz=96,slow=39
MUD Monsted U'grnd 46.28 316 *i* P **P** **06 15 06.6 +0.8**
MUD Monsted U'grnd 46.28 316 *e*P **P** **06 15 06.6 +0.8**
MUD MLR MLR
comp=Z,11μm,13.0s
DOMB Dombas 46.30 324 *e*P **P** **06 15 04.3 -1.7**
DOMB IAmb IAmb 06 15 10.4
comp=Z,98nm,1.1s
RETA Reutte 46.35 304 *i* P **P** **06 15 06.9 +0.3**
comp=Z,18nm,1.0s,SNR=7.6
GRNR Gornyy 46.40 52 *e*P **P** **06 15 08.3 +1.4**
GRNR *e* 06 17 03.2
GRNR pmax pmax
comp=Z,56nm,0.8s
FETA Feichten 46.45 303 *i* P **P** **06 15 07.0 -0.6**
comp=Z,30nm,1.0s
HOMB Homborsund 46.56 319 *e*P **P** **06 15 08.7 +0.6**
HOMB IAmb IAmb 06 15 12.8
comp=Z,52nm,0.8s
FUORN Ofenpass-Fuorn 46.84 303 *e*P **P** **06 15 10.7 -0.1**
comp=Z,34nm,0.9s
FUORN LR LR
comp=Z,3μm,20.0s
JNU Nakatsue 46.85 77 P **P** **06 15 11.4 +0.6**
comp=Z,88nm,1.0s,baz=0.5,slow=2.4,SNR=15
JNU LR LR 06 35 49.4
comp=Z,3μm,18.2s,baz=288,slow=37
JNU Nakatsue 46.85 77 *e*P **P** **06 15 11.6 +0.9**
comp=Z,236nm,1.4s
JNU LR LR
comp=Z,3μm,19.0s
DAVA Damuels 46.97 304 *i* P **P** **06 15 11.5 -0.1**
comp=Z,62nm,0.9s,SNR=21
MOL Molde 47.02 325 *e*P **P** **06 15 10.7 -0.9**
MOL IAmb IAmb 06 15 14.6
comp=Z,445nm,2.4s
CLTB Caltabellotta 47.04 290 *e*P **P** **06 15 12.2 0.0**
comp=Z,59nm,1.1s
SNART Snartemo 47.24 319 *e*P **P** **06 15 13.0 -0.3**
SNART IAmb IAmb 06 15 18.2
comp=Z,44nm,1.0s
AKN Aaknes 47.27 324 *e*P **P** **06 15 12.9 -0.7**
AKN IAmb IAmb 06 15 14.8
comp=Z,550nm,2.8s
VLC Villacollemand 47.30 299 *e*P **P** **06 15 14.4 +0.4**
comp=Z,88nm,1.1s
HSPB Hornsund (broa 47.33 345 *e*P **P** **06 15 16.7 +2.9**
HSPB *e**PP **pP** **06 15 20.3 -2.5**
ODD1 Odda 47.48 321 *e*P **P** **06 15 13.9 -1.4**
ODD1 IAmb IAmb 06 15 15.2
comp=Z,432nm,2.3s
TUE Stuetta 47.49 303 PFAKE 06 15 30.0 +14
TUE LR LR
comp=Z,3μm,19.0s
TEY Ternei 47.57 59 *e*P **P** **06 15 18.7 +2.6**
TEY pmax pmax
comp=Z,56nm,1.0s
TEY MLR MLR
comp=E,5μm,12.0s
TEY MLR MLR
comp=N,5μm,11.0s
TEY MLR MLR
comp=Z,12μm,11.0s
BLS5 Blasjo 47.58 321 *e*P **P** **06 15 15.8 -0.2**
BLS5 IAmb IAmb 06 15 17.8
comp=Z,33nm,1.1s
SPA0 Spitsbergen Ar 47.64 347 *e*P **P** **06 15 17.0 +0.7**
SPA0 Spitsbergen Ar 47.64 347 *e*P **P** **06 15 16.8 +0.6**
SPA0 IAmb IAmb 06 15 21.8
comp=Z,131nm,1.1s
SPITS Spitsbergen Ar 47.64 347 P **P** **06 15 17.0 +0.7**
comp=Z,49nm,0.9s,baz=76,slow=8.0,SNR=16
SPITS LR LR 06 37 48.1
comp=Z,3μm,18.2s,baz=165,slow=39
SPITS Spitsbergen Ar 47.64 347 P **P** **06 15 17.0 +0.7**
SPITS pmax pmax
comp=Z,35nm,0.9s
SPITS MLR MLR
comp=Z,3μm,18.2s
BFO Black Forest 47.80 305*c e*P **P** **06 15 18.9 +1.0**
BFO Black Forest 47.80 305 *e*P **P** **06 15 18.3 +0.4**
comp=Z,26nm,1.0s
MASI Maura Aman, Be 48.06 139 P **P** **06 15 20.1 -0.2**
BER Bergen 48.11 322 *e*P **P** **06 15 20.1 0.0**
BER IAmb IAmb 06 15 21.5
comp=Z,177nm,1.7s
ASK Askoy 48.17 322 *e*P **P** **06 15 19.2 -1.3**
ASK IAmb IAmb 06 15 20.8
comp=Z,28nm,0.8s
FOO Floro 48.20 323 *e*P **P** **06 15 17.9 -2.9**
FOO IAmb IAmb 06 15 20.8
comp=Z,244nm,1.9s
ECH Echery 48.59 305 *e*P **P** **06 15 24.9 +0.9**
ECH pmax pmax
comp=Z,10.0nm,0.9s
ECH Echery 48.59 305 *e*P **P** **06 15 24.9 +0.9**
comp=Z,10nm,0.9s
NKL Nikolayevsk 48.66 48 *i* P **P** **06 15 25.0 +0.6**
NKL *e*S **S** **06 22 25.0 +0.5**
NKL *e* 06 22 40.0
NKL pmax pmax
comp=N,50nm,1.0s
NKL pmax pmax
comp=E,26nm,1.0s
NKL pmax pmax
comp=Z,150nm,1.0s
NKL pmax pmax
comp=Z,700nm,2.0s
NKL smax smax
comp=N,500nm,9.0s
NKL smax smax
comp=E,1μm,9.0s
NKL MLR MLR
comp=N,2μm,12.0s
NKL MLR MLR
comp=E,8μm,12.0s
NKL MLR MLR
comp=Z,11μm,12.0s
KBS Kingsbay 48.75 347 PFAKE 06 15 40.0 +15
KBS LR LR
comp=Z,7μm,21.0s
KBS Kingsbay 48.75 347 *e*P **P** **06 15 25.6 +0.8**
KBS IAmb IAmb 06 15 26.4
comp=Z,25nm,0.8s
MEM Membach 48.85 309 ⇓P **P** **06 15 26.4 +0.5**
comp=Z,27nm,1.2s
SENIN Lac Senin/Sane 48.90 303 *e*P **P** **06 15 26.4 -0.3**
comp=Z,31nm,0.8s
SENIN LR LR
comp=Z,5μm,20.0s
WLF Walferdange 48.94 308 ⇑P **P** **06 15 27.5 +0.9**
comp=Z,42nm,1.0s
WLF Walferdange 48.94 308 *e*P **P** **06 15 27.7 +1.0**
WLF pmax pmax
comp=Z,50nm,0.9s
WLF MLR MLR
comp=Z,2μm,19.0s
WLF Walferdange 48.94 308 *e*P **P** **06 15 27.7 +1.0**
comp=Z,50nm,0.9s
WLF LR LR
comp=Z,2μm,19.0s
KSM Kuching 49.08 127 *e*P **P** **06 15 28.8 +0.7**
comp=Z,81nm,0.9s
PMBI Palembang 49.25 136 P **P** **06 15 29.5 +0.2**
BCLA Clavier 49.33 309 ⇓P **P** **06 15 29.8 +0.2**
comp=Z,14nm,1.2s
PPBI Pangkal Pinang 49.39 134 P **P** **06 15 31.1 +0.6**
MNAI Manna 49.47 139 PFAKE 06 15 40.0 +9.0
MNAI LR LR
comp=Z,2μm,21.0s
SBUM Sibu 49.59 124 *e*P **P** **06 15 33.1 +1.1**
comp=Z,54nm,1.0s
SBUM LR LR
comp=Z,4μm,22.0s
BNI Bardonecchia 49.64 301 *e*P **P** **06 15 32.2 -0.1**
BNI pmax pmax
comp=Z,78nm,1.3s
BNI Bardonecchia 49.64 301 *e*P **P** **06 15 32.2 -0.1**
comp=Z,78nm,1.3s
KKM Kota Kinabalu 49.77 117 PFAKE 06 15 50.0 +17
KKM LR LR
comp=Z,2μm,19.0s
DOU Dourbes 49.84 308 ⇓P **P** **06 15 34.1 +0.6**
comp=Z,27nm,1.3s
UCC Uccle 49.84 309 PFAKE 06 15 50.0 +17
UCC LR LR
comp=Z,2μm,19.0s
MDSI Maura Dua 50.22 138 P **P** **06 15 34.3 -2.4**
comp=Z,42nm,1.0s
TYV Tymovskoe 50.28 51 *e*P **P** **06 15 38.2 +1.4**
TYV pmax pmax
comp=Z,72nm,1.4s
KMBO Kilima Mbogo 50.30 230 P **P** **06 15 39.5 +1.9**
comp=Z,42nm,1.1s,baz=32,slow=9.2,SNR=75
KMBO LR LR 06 39 45.4
comp=Z,2μm,18.9s,baz=38,slow=40
KMBO Kilima Mbogo 50.30 230 *e*P **P** **06 15 39.5 +1.9**
KMBO *e*pP **P** **06 15 39.5 +1.9**
KMBO Kilima Mbogo 50.30 230 P **P** **06 15 39.8 +2.1**
SNR=51
KMBO Kilima Mbogo 50.30 230 P **P** **06 15 39.8 +2.1**
SNR=51
KMBO Kilima Mbogo 50.30 230 *i* P **P** **06 15 39.5 +1.9**
SNR=44
KMBO Kilima Mbogo 50.30 230 *i* P **P** **06 15 39.5 +1.9**
SNR=44
KEST Kesra 50.59 289 P **P** **06 15 40.3 +0.9**
comp=Z,12nm,0.7s,baz=333,slow=2.2,SNR=10
KEST Kesra 50.59 289 *e*P **P** **06 15 40.4 +0.9**
comp=Z,52nm,1.0s
LWLI Liwa 50.60 139 P **P** **06 15 38.1 -1.7**
STKI Sintang 50.90 127 P **P** **06 15 43.0 +1.1**
SSB Saint Sauveur 51.04 302 *e*P **P** **06 15 42.9 +0.2**
SSB pmax pmax
comp=Z,20nm,0.8s
SSB Saint Sauveur 51.04 302 *e*P **P** **06 15 42.9 +0.2**
comp=Z,20nm,0.8s
MJB9 Matsu-Tunnel 51.24 69 *e*P **P** **06 15 44.4 0.0**
comp=Z,114nm,0.5s
MAJO Matsushiro 51.25 69*c i*P **P** **06 15 44.1 -0.2**
MAJO pmax pmax
comp=Z,27nm,1.1s
MAJO Matsushiro 51.25 69 *e*P **P** **06 15 44.4 +0.1**
comp=Z,248nm,1.8s
MAT Matsushiro 51.25 69 P **P** **06 15 43.6 -0.7**
MAT *e*S S 06 22 47.0 -14
MJAR Matsushiro Arr 51.25 69 P **P** **06 15 44.4 0.0**
comp=Z,41nm,1.2s,baz=289,slow=8.6,SNR=16
MJAR LR LR 06 37 23.7
comp=Z,1μm,21.7s,baz=275,slow=36
KASI Kota Agung 51.26 138 P **P** **06 15 42.2 -2.4**
comp=Z,115nm,0.9s
YSS Yuzh-Sakhalins 51.26 55⇓*e*P **P** **06 15 44.2 0.0**
YSS *e**SP **pP** **06 15 48.0 -5.3**
YSS *e* 06 16 59.3
YSS *e* 06 17 48.4
YSS *e*S **S** **06 23 02.1 +1.2**
YSS *e*PS PKiKP 06 23 11.9 -30
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,7μm,16.0s
YSS MLR MLR
comp=N,7μm,17.0s
YSS Yuzh-Sakhalins 51.26 55 *e*P **P** **06 15 44.6 +0.4**
comp=N,351nm,1.4s
YSS LR LR
comp=Z,2μm,20.0s
LRW Lerwick 51.36 322 *e*P **P** **06 15 44.2 -0.6**
ASAJ Asahikawa 51.95 59 P **P** **06 15 49.3 -0.1**
comp=Z,6.9nm,0.7s,baz=276,slow=8.9,SNR=5.9
ASAJ LR LR 06 40 07.3
comp=Z,20nm,18.6s,baz=200,slow=39
ASAJ Asahikawa 51.95 59 *e*P **P** **06 15 49.2 -0.2**
comp=Z,41nm,1.1s
MYLDM Lahad Datu 52.01 116 *e*P **P** **06 15 50.4 +0.2**
comp=Z,154nm,1.3s
DRUM Mains of Drumt 52.59 318 *e*P **P** **06 15 53.8 -0.2**
DRUM IAmb IAmb 06 15 58.4
comp=Z,68nm,1.0s
DRUM IAMs_20 IAMs_20 06 41 47.2
comp=Z,6μm,21.1s
EDMD Edmundbyers 52.75 315 *e*P **P** **06 15 55.2 0.0**
EDMD IAmb IAmb 06 15 59.6
comp=Z,108nm,1.0s
EDMD IAMs_20 IAMs_20 06 40 13.6
comp=Z,5μm,15.6s
CGJI Cibinong 52.81 138 P **P** **06 15 52.5 -3.6**
MCD Coleburn Disti 52.87 319⇓*e*P **P** **06 15 56.0 0.0**
ESY Stoneypath 52.87 317⇓*e*P **P** **06 15 55.6 -0.5**
LBWR Ladybower, Pea 52.94 314 *e*P **P** **06 15 56.5 -0.1**
LBWR IAMs_20 IAMs_20 06 41 52.2
comp=Z,5μm,14.6s
EDU Dundee 52.95 318⇓*e*P **P** **06 15 56.2 -0.5**
ERM Erimo 52.99 61 PFAKE 06 16 10.0 +13
ERM LR LR
comp=Z,5μm,20.0s
JMIC Jan Mayen 53.05 336 LR LR 06 38 46.8
comp=Z,4μm,18.2s,baz=100,slow=36
MA2 Magadan 53.09 38 P **P** **06 15 57.6 -0.1**
comp=Z,23nm,0.9s,baz=284,slow=9.0,SNR=21
MA2 Magadan 53.09 38*c e*P **P** **06 15 57.9 +0.2**
PBKI Pangkalan Bun 53.15 129 P **P** **06 15 59.7 +1.1**
SEY Seymchan 53.24 34 P **P** **06 15 59.0 +0.3**
comp=Z,32nm,1.0s,baz=280,slow=8.9,SNR=34
SEY Seymchan 53.24 34*c e*P **P** **06 15 59.3 +0.6**
EKA Eskdalemuir Ar 53.30 316 P **P** **06 15 58.9 -0.3**
comp=Z,36nm,0.8s,baz=86,slow=7.0,SNR=20
EKA LR LR 06 39 08.3
comp=Z,4μm,21.0s,baz=60,slow=36
ESK Eskdalemuir 53.33 316 *e*P **P** **06 15 57.2 -2.3**
ESK Eskdalemuir 53.33 316 *e*P **P** **06 15 58.2 -1.3**
ESK IAmb IAmb 06 16 03.8
comp=Z,82nm,1.2s
ESK IAMs_20 IAMs_20 06 41 14.3
comp=Z,5μm,12.7s
KESW Keswick, Cumbr 53.45 315 *e*P **P** **06 16 00.6 +0.2**
KESW IAmb IAmb 06 16 05.0
comp=Z,88nm,1.0s
KESW IAMs_20 IAMs_20 06 40 34.7
comp=Z,5μm,16.5s
COCO West Island 53.55 151*c e*P **P** **06 16 04.3 +2.8**
JHJ Hachijo jima 2 53.75 73 LR LR 06 41 03.3
comp=Z,3μm,18.8s,baz=102,slow=38
HLM1 Long Mynd 53.84 313 *e*P **P** **06 16 02.8 -0.5**
HLM1 IAmb IAmb 06 16 07.7
comp=Z,38nm,1.1s
HLM1 IAMs_20 IAMs_20 06 41 34.9
comp=Z,6μm,16.0s
OLDB Oldbury-Upon-S 53.87 312 *e*P **P** **06 16 03.2 -0.2**
OLDB IAMs_20 IAMs_20 06 41 24.6
comp=Z,5μm,14.5s
MTKI Muara Teweh, K 53.89 125 P **P** **06 16 05.4 +1.3**
PGBU Glenifferbraes 53.92 317 *e*P **P** **06 16 03.9 +0.1**
PGBU IAMs_20 IAMs_20 06 43 15.8
comp=Z,7μm,11.9s
FOEL Foel Wylfa 53.93 313 *e*P **P** **06 16 03.0 -0.9**
FOEL IAmb IAmb 06 16 07.5
comp=Z,62nm,1.2s
FOEL IAMs_20 IAMs_20 06 42 34.0
comp=Z,5μm,13.2s
KAC Achnashellach 53.96 319⇓*e*P **P** **06 16 03.0 -1.0**
MONM Monmouth 53.97 312 *e*P **P** **06 16 03.7 -0.5**
MONM IAmb IAmb 06 16 08.3
comp=Z,104nm,1.2s
MONM IAMs_20 IAMs_20 06 41 52.4
comp=Z,7μm,16.6s
HGH Gray Hill 54.02 312 *e*P **P** **06 16 04.3 -0.3**
MCH1 Michaelchurch 54.04 312 *e*P **P** **06 16 04.5 -0.3**
MCH1 IAmb IAmb 06 16 09.5
comp=Z,86nm,0.8s
MCH1 IAMs_20 IAMs_20 06 42 01.6
comp=Z,7μm,13.9s
LEM Lembang 54.05 136 LR LR 06 41 58.4
comp=Z,1μm,18.6s,baz=280,slow=39
MBAR Mbarara 54.08 236 *e*P **P** **06 16 05.5 -0.2**
MBAR pmax pmax
comp=Z,118nm,1.1s
MBAR MLR MLR
comp=Z,3μm,18.0s
MBAR Mbarara 54.08 236 *e*P **P** **06 16 05.5 -0.2**
comp=Z,118nm,1.1s
MBAR LR LR
comp=Z,3μm,18.0s
KSB Sheil Bridge 54.09 319⇓*e*P **P** **06 16 04.6 -0.4**
KPL Plockton 54.18 319 *e*P **P** **06 16 04.0 -1.6**
KPL Plockton 54.18 319 *e*P **P** **06 16 05.6 -0.1**
KPL IAmb IAmb 06 16 10.0
comp=Z,103nm,1.1s
KPL IAMs_20 IAMs_20 06 40 44.5
comp=Z,8μm,16.9s
YUK Yuzh-Kuril'sk 54.21 58 *e*P P 06 15 59.7 -6.4
YUK pmax pmax
comp=N,300nm,1.3s
YUK pmax pmax
comp=E,319nm,1.3s
YUK pmax pmax
comp=Z,482nm,1.3s
YUK MLR MLR
comp=N,2μm,13.0s
YUK MLR MLR
comp=Z,5μm,15.0s
YUK MLR MLR
comp=E,4μm,13.0s
GAL1 Galloway 54.28 316 *e*P **P** **06 16 05.7 -0.7**
GAL1 IAmb IAmb 06 16 10.8
comp=Z,30nm,1.1s
GAL1 IAMs_20 IAMs_20 06 39 20.4
comp=Z,4μm,18.7s
IOMK Kirk Michael 54.36 315 *e*P **P** **06 16 06.9 -0.1**
IOMK IAmb IAmb 06 16 11.7
comp=Z,87nm,1.0s
IOMK IAMs_20 IAMs_20 06 42 36.0
comp=Z,5μm,12.6s
LPW Lampeter 54.65 312 *e*P **P** **06 16 08.7 -0.4**
LPW IAmb IAmb 06 16 13.7
comp=Z,81nm,1.0s
LPW IAMs_20 IAMs_20 06 42 00.1
comp=Z,8μm,16.9s
CISI Cisompet, Garu 54.76 136 PFAKE 06 16 20.0 +10
CISI LR LR
comp=Z,2μm,20.0s
DAG Danmarks Havn 54.97 344⇓*i*P **P** **06 16 11.4 +0.3**
comp=Z,100nm,1.1s
DAG Danmarks Havn 54.97 344⇓*i*P **P** **06 16 11.4 +0.3**
DAG pmax pmax
comp=Z,100nm,1.1s
DAG MLR MLR
comp=Z,2μm,16.0s
DSB Dublin 55.67 314 *e*P **P** **06 16 16.5 0.0**
comp=Z,25nm,1.1s
DSB LR LR
comp=Z,3μm,20.0s
MPSI Mapaga 56.37 119 P **P** **06 16 23.5 +1.5**
comp=Z,56nm,1.4s,comp=Z,1μm
KBKI Kotabaru 56.48 125 P **P** **06 16 24.2 +1.4**
UGM Wanagama 56.58 134 PFAKE 06 16 40.0 +17
UGM LR LR
comp=Z,3μm,21.0s
SCO Scoresbysund 57.51 337 *i* P **P** **06 16 32.0 +2.7**
comp=Z,53nm,1.2s
SCO Scoresbysund 57.51 337 *e*P **P** **06 16 30.9 +1.6**
SCO pmax pmax
comp=Z,83nm,1.4s
SCO MLR MLR
comp=Z,6μm,18.0s
SCO Scoresbysund 57.51 337 *e*P **P** **06 16 30.9 +1.6**
comp=Z,82nm,1.4s
SCO LR LR
comp=Z,6μm,18.0s
CART Cartagena 57.58 295 *e*P **P** **06 16 30.1 -0.2**
comp=Z,53nm,1.0s
BILL Bilibino 57.62 26 *e*P **P** **06 16 29.1 -1.0**
BILL *e* 06 17 25.1
BILL *e* 06 18 38.6
BILL *e*S **S** **06 24 25.9 0.0**
BILL pmax pmax
comp=Z,21nm,0.9s
BILL MLR MLR
comp=Z,7μm,17.0s
MRSI Marisa 57.72 117 P **P** **06 16 32.9 +1.3**
SKR Severo-Kuril's 58.52 48 *i* P **P** **06 16 38.5 +1.9**
PEA1 Petropavlovsk- 58.58 45 *e*P **P** **06 16 36.7 -0.4**
PEA0B Petropavlovsk- 58.58 45 PFAKE 06 16 50.0 +13
PEA0B LR LR
comp=Z,4μm,21.0s
PETK Petropavlovsk- 58.58 45 P **P** **06 16 36.7 -0.4**
comp=Z,14nm,1.0s,baz=319,slow=3.9,SNR=5.4
PETK LR LR 06 41 28.2
comp=Z,3μm,21.8s,baz=290,slow=36
PETK Petropavlovsk- 58.58 45 P **P** **06 16 36.7 -0.4**
PETK pmax pmax
comp=Z,16nm,1.0s
PETK MLR MLR
comp=Z,3μm,21.8s
MRIV Mauritius Mete 58.64 197 PFAKE 06 16 50.0 +12
MRIV LR LR
comp=Z,2μm,18.0s
TTSI Tana Toraja 58.74 122 P **P** **06 16 38.5 -0.2**
ES19 SONSECA Array 58.80 298 *e*P **P** **06 16 38.8 -0.2**
ESDC Sonseca Array 58.86 298 P **P** **06 16 38.9 -0.5**
comp=Z,16nm,0.7s,baz=57,slow=7.3,SNR=34
ESDC LR LR 06 45 42.7
comp=Z,788nm,18.3s,baz=25,slow=40
ESLA Sonseca Array 58.86 298 *e*P **P** **06 16 39.4 0.0**
comp=Z,29nm,1.0s
PET Petropavlovsk 59.15 45 *e*P **P** **06 16 42.7 +1.7**
PET *e*S **S** **06 24 43.1 -3.1**
PET *e*SS **SS** **06 28 38.0 -2.1**
PET pmax pmax
comp=Z,40nm,1.1s
PET Petropavlovsk 59.15 45 PFAKE 06 16 50.0 +9.0
PET LR LR
comp=Z,5μm,20.0s
JAGI Jajag, Banyuwa 59.18 131 PFAKE 06 16 50.0 +8.3
JAGI LR LR
comp=Z,2μm,22.0s
PAB San Pablo 59.19 298 *e*P **P** **06 16 41.2 -0.4**
PAB pmax pmax
comp=Z,56nm,1.4s
PAB San Pablo 59.19 298 *e*P **P** **06 16 41.2 -0.4**
comp=Z,56nm,1.4s

TAM Tamanrasset 59.23 277 *e*P **P 06 16 42.5 +0.2**
TAM pmax pmax
comp=Z,32nm,1.5s
TAM MLR MLR
comp=Z,2μm,19.0s
TAM Tamanrasset 59.23 277 *e*P **P 06 16 42.5 +0.2**
comp=Z,32nm,1.5s
TAM LR LR
comp=Z,2μm,19.0s
BORG Borgarnes 59.25 330 LR LR 06 42 11.8
comp=Z,4μm,18.7s,baz=77,slow=36
LUWI Luwuk 59.37 118 PFAKE 06 17 00.0 +17
LUWI LR LR
comp=Z,1μm,22.0s
PBRG Braganca 59.93 302 *e*P **P 06 16 47.1 +0.4**
PBRG Braganca 59.93 302 *e*LR LR 06 31 47.1
comp=Z,1μm,18.0s
KAPI Kappang 60.13 123 PFAKE 06 17 00.0 +12
KAPI LR LR
comp=Z,1μm,21.0s
OPO Ambohidratompo 60.24 209 LR LR 06 40 11.7
comp=Z,3μm,21.9s,baz=15,slow=33
MVO Moncorvo 60.39 301 *e*P **P 06 16 51.1 +1.2**
comp=Z,48nm,2.2s
MVO *e*S **S 06 24 59.9 -2.9**
MVO *e*LR LR 06 31 47.1
comp=Z,2μm,20.0s
ABPO Ambohimpanom 60.63 208 *e*P **P 06 16 52.5 +0.8**
ABPO pmax pmax
comp=Z,64nm,1.1s
ABPO MLR MLR
comp=Z,2μm,21.0s
ABPO Ambohimpanom 60.63 208 *e*P **P 06 16 52.5 +0.8**
comp=Z,64nm,1.1s
ABPO LR LR
comp=Z,2μm,21.0s
PVRL Vila Real 60.81 302 *e*P **P 06 16 55.3 +2.6**
POLO Lamas de Olo 60.83 302 *e*P **P 06 16 52.7 -0.2**
comp=Z,11nm,1.4s
POLO *e*S **S 06 25 07.0 -1.5**
POLO *e*LR LR 06 32 12.2
comp=Z,583nm,22.0s
PCAB Cabril 60.84 302 *e*P **P 06 16 53.5 +0.6**
PGAV Gavieira, Arco 60.90 302 *e*P **P 06 16 55.8 +2.4**
comp=Z,45nm,1.7s
PGAV *e*S **S 06 25 07.9 -1.5**
PGAV *e*LR LR 06 32 16.3
comp=Z,993nm,18.0s
MTE Manteigas 61.06 301 *e*P **P 06 16 54.8 +0.3**
comp=Z,65nm,2.0s
MTE Manteigas 61.06 301 *e*PP PP 06 19 12.2 +3.4
MTE *e*S **S 06 25 06.2 -5.3**
MTE *e*LR LR 06 32 12.2
comp=Z,2μm,20.0s
MTE Manteigas 61.06 301 *e*P **P 06 16 54.4 -0.1**
comp=Z,40nm,1.0s
PVIS Viseu 61.17 301 *e*P **P 06 16 55.6 +0.4**
comp=Z,37nm,3.3s
PCBR Castelo Branco 61.26 300 *e*P **P 06 16 55.9 +0.2**
comp=Z,33nm,1.5s
PMRV Marv??o 61.37 299⇓ *e*P **P 06 16 56.5 0.0**
comp=Z,39nm,1.8s
PMRV *e*S **S 06 25 11.9 -3.4**
PMRV *e*LR LR 06 32 37.2
comp=Z,1μm,20.0s
SUMG Summit 61.38 341⇓ *i*P **P 06 16 57.6 +1.1**
comp=Z,168nm,1.0s
SUMG Summit 61.38 341⇓ *i*P **P 06 16 57.6 +1.1**
SUMG pmax pmax
comp=Z,170nm,1.0s
SUMG Summit 61.38 341 *e*P **P 06 16 57.3 +0.8**
comp=Z,173nm,1.0s
PBAR Barrancos 61.67 298⇓ *e*P **P 06 16 58.6 +0.1**
comp=Z,200nm,1.5s
PBAR *e*S **S 06 25 11.4 -7.6**
PESTR Estremoz 61.75 299⇓ *e*P **P 06 16 59.1 0.0**
comp=Z,41nm,2.0s
PESTR *e*S **S 06 25 17.6 -2.6**
PESTR *e*LR LR 06 32 24.7
comp=Z,937nm,18.0s
PESTR Estremoz 61.75 299 *e*P **P 06 17 00.5 +1.4**
comp=Z,50nm,1.8s
PCAS Casmilo, Conde 61.87 301 *e*P **P 06 17 03.3 +3.4**
comp=Z,47nm,1.5s
PCAS Casmilo, Conde 61.87 301 *e*LR LR 06 32 37.2
comp=Z,2μm,18.0s
PTOM Tomar 62.00 300⇓ *e*P **P 06 17 00.8 +0.1**
comp=Z,72nm,1.3s
PMTG Montargil 62.11 299 *e*P **P 06 17 02.0 +0.5**
comp=Z,30nm,1.6s
PMTG Montargil 62.11 299 *e*LR LR 06 33 19.0
comp=Z,1μm,20.0s
ALMR Almeirim 62.32 300 *e*P **P 06 17 03.9 +1.0**
ALMR *e*S **S 06 25 26.1 -1.1**
ALMR AMS AMS 06 46 26.9
comp=E,2μm,22.8s
ALMR Almeirim 62.32 300 *e*P **P 06 17 03.9 +1.0**
ALMR *e*S **S 06 25 26.1 -1.1**
ALMR Almeirim 62.32 300 *e*P **P 06 17 03.9 +1.0**
ALMR *e*S **S 06 25 26.1 -1.1**
PBEJ Beja 62.32 298⇓ *e*P **P 06 17 03.2 +0.3**
comp=E,56nm,1.6s
PVAQ Vaqueiros 62.49 298⇓ *e*P **P 06 17 04.3 +0.3**
comp=E,87nm,1.6s
PVAQ *e*S **S 06 25 22.7 -6.7**
PVAQ *e*LR LR 06 32 28.9
PCVE Castro Verde 62.62 298⇓ *e*P **P 06 17 04.9 0.0**
comp=E,41nm,1.8s
PCVE *e*S **S 06 25 28.1 -2.9**
MESJ Messejana 62.65 298 *e*P **P 06 17 06.0 +0.9**
MESJ *e*S **S 06 25 30.4 -1.0**
MESJ AMS AMS 06 45 02.2
comp=N,2μm,24.3s
MESJ Messejana 62.65 298⇓ *e*P **P 06 17 05.4 +0.3**
comp=N,56nm,1.5s
MESJ Messejana 62.65 298 *e*P **P 06 17 06.0 +0.9**
MESJ *e*S **S 06 25 30.4 -1.0**
PBDV Barranco-do-Ve 62.72 297 *e*P **P 06 17 06.2 +0.6**
comp=N,102nm,1.4s
PBDV *e*S **S 06 25 25.5 -6.8**
PBDV *e*LR LR 06 32 37.2
comp=N,863nm,20.0s
PNCL Nicolau / Gran 62.75 299⇓ *e*P **P 06 17 05.1 -0.6**
comp=N,46nm,1.6s
PNCL *e*S **S 06 25 30.3 -2.3**
PNCL *e*LR LR 06 33 02.3
comp=N,1μm,18.0s
PMAFR Mafra 62.90 300 *e*P **P 06 17 08.5 +1.7**
PMAFR *e*S **S 06 25 31.2 -3.4**
LIS Lisbon 62.91 299 *e*P **P 06 17 07.9 +1.1**
LIS *e*S **S 06 25 33.9 -0.8**
LIS AMS AMS 06 45 11.9
comp=E,2μm,17.4s
LIS Lisbon 62.91 299 *e*P **P 06 17 07.9 +1.1**
LIS *e*S **S 06 25 33.9 -0.8**
PTEO Sao Teotonio 63.14 298 *e*P **P 06 17 10.1 +1.8**
comp=E,77nm,1.3s
MORF Marmelete 63.20 298 *e*P **P 06 17 09.8 +1.0**
MORF *e*S **S 06 25 37.4 -1.1**
MORF AMS AMS 06 45 29.8
comp=N,2μm,21.5s
MORF Marmelete 63.20 298 *e*P **P 06 17 09.3 +0.5**
comp=N,49nm,1.9s
MORF *e*S **S 06 25 35.8 -2.6**
MORF *e*LR LR 06 33 02.3
comp=N,1μm,20.0s
MORF Marmelete 63.20 298 *e*P **P 06 17 09.8 +1.0**
MORF *e*S **S 06 25 37.4 -1.1**
PFVI Vila Bisbo 63.40 298 *e*P **P 06 17 10.1 0.0**
comp=N,89nm,1.5s
PFVI *e*S **S 06 25 38.2 -2.7**
PFVI *e*LR LR 06 33 10.7
comp=N,1μm,20.0s
PFVI Vila Bisbo 63.40 298 *e*P **P 06 17 08.3 -1.8**
comp=N,85nm,1.3s
KULLO Kullorsuaq 64.22 347 *i*P **P 06 17 14.5 -0.3**
comp=N,148nm,1.2s
KULLO Kullorsuaq 64.22 347 *i*P **P 06 17 14.5 -0.3**
KULLO pmax pmax
comp=Z,150nm,1.2s
KULLO MLR MLR
comp=Z,3μm,16.0s
TULEG Thule 64.47 351 *e*P **P 06 17 16.0 -0.5**
comp=Z,189nm,1.5s
TULEG LR LR
comp=Z,1μm,19.0s

ANGG Ammassalik, Gr 64.93 335 *e*P **P 06 17 20.0 +0.5**
comp=Z,91nm,1.0s
ANGG LR LR
comp=Z,4μm,18.0s
BATI Baumata 66.56 124 P **P 06 17 29.8 -1.0**
comp=Z,54nm,0.8s,baz=270,slow=1.0,SNR=6.6
BATI LR LR 06 50 34.6
comp=Z,1μm,21.5s,baz=288,slow=40
SOEI Soe 66.63 123 *e*P **P 06 17 30.4 -1.1**
comp=Z,287nm,1.1s
SOEI *e*pP **pP 06 17 42.3 +1.6**
SOEI LR LR
comp=Z,900nm,20.0s
ILULI Ilulissat 66.72 341⇓ *i*P **P 06 17 31.4 +0.3**
comp=Z,169nm,1.1s
ILULI Ilulissat 66.72 341⇓ *i*P **P 06 17 31.4 +0.3**
ILULI pmax pmax
comp=Z,170nm,1.1s
ILULI MLR MLR
comp=Z,2μm,17.0s
ILULI Ilulissat 66.72 341 *e*P **P 06 17 31.4 +0.3**
comp=Z,139nm,1.0s
ILULI LR LR
comp=Z,2μm,20.0s
LSZ Lusaka 66.89 228 *e*P **P 06 17 33.4 +0.4**
LSZ pmax pmax
comp=Z,65nm,1.4s
LSZ MLR MLR
comp=Z,2μm,19.0s
LSZ Lusaka 66.89 228 *e*P **P 06 17 33.4 +0.4**
comp=Z,65nm,1.4s
LSZ LR LR
comp=Z,2μm,19.0s
LSZ Lusaka 66.89 228 P **P 06 17 33.8 +0.7**
SNR=9.9
LSZ Lusaka 66.89 228 P **P 06 17 33.8 +0.7**
SNR=9.9
TOC2 Torodi Ar. Sit 67.42 270 PFAKE 06 17 50.0 +14
TOC2 LR LR
comp=Z,1μm,19.0s
TOB3 Torodi Ar. Sit 67.45 270 PFAKE 06 17 50.0 +13
TOB3 LR LR
comp=Z,1μm,20.0s
TOA1 Torodi Ar. Sit 67.45 270 *e*P **P 06 17 34.0 -2.5**
TOA1 LR LR
comp=Z,1μm,20.0s
TOA0 Torodi Ar. Sit 67.45 270 *e*P **P 06 17 34.3 -2.3**
TOA0 *e*pP **sP 06 17 47.7 -1.7**
TOA0 LR LR
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 67.45 270 P **P 06 17 34.0 -2.5**
comp=Z,11nm,0.5s,baz=49,slow=5.9,SNR=149
TORD PKPPKP **P'P'df 06 46 01.3 -1.1**
comp=Z,2.0nm,1.1s,baz=265,slow=1.0,SNR=4.7
TORD LR LR 06 49 14.7
comp=Z,697nm,18.2s,baz=60,slow=38
TOA3 Torodi Ar. Sit 67.45 270 PFAKE 06 17 50.0 +13
TOA3 LR LR
comp=Z,1μm,20.0s
TOC7 Torodi Ar. Sit 67.45 270 PFAKE 06 17 50.0 +13
TOC7 LR LR
comp=Z,2μm,20.0s
TOB5 Torodi Ar. Sit 67.46 270 PFAKE 06 17 50.0 +13
TOB5 LR LR
comp=Z,2μm,19.0s
TOC4 Torodi Ar. Sit 67.46 270 PFAKE 06 17 50.0 +13
TOC4 LR LR
comp=Z,1μm,21.0s
TOB4 Torodi Ar. Sit 67.46 270 PFAKE 06 17 50.0 +13
TOB4 LR LR
comp=Z,2μm,20.0s
TOC6 Torodi Ar. Sit 67.47 270 PFAKE 06 17 50.0 +13
TOC6 LR LR
comp=Z,1μm,19.0s
TOC5 Torodi Ar. Sit 67.48 270 PFAKE 06 17 50.0 +13
TOC5 LR LR
comp=Z,2μm,20.0s
GAMB Gambell 67.53 26 *e*P **P 06 17 36.2 0.0**
comp=Z,51nm,1.3s
GAMB LR LR
comp=Z,6μm,18.0s
SFJD Kangerlussuaq 68.14 339 *i*P **P 06 17 39.7 -0.4**
comp=Z,106nm,1.4s
SFJD Kangerlussuaq 68.14 339 *e*P **P 06 17 39.5 -0.5**
SFJD pmax pmax
comp=Z,117nm,1.4s
SFJD MLR MLR
comp=Z,2μm,18.0s
SFJD Kangerlussuaq 68.14 339 *e*P **P 06 17 39.5 -0.5**
comp=Z,117nm,1.4s
SFJD LR LR
comp=Z,2μm,18.0s
RES Resolute Bay 68.56 357 P **P 06 17 42.7 +0.1**
comp=Z,20nm,1.2s,baz=25,slow=9.4,SNR=25
RES Resolute Bay 68.56 357 *e*P **P 06 17 42.4 -0.2**
RES pmax pmax
comp=Z,29nm,1.3s
RES MLR MLR
comp=Z,3μm,18.0s
RES Resolute Bay 68.56 357 *e*P **P 06 17 42.4 -0.2**
comp=Z,29nm,1.3s
RES LR LR
comp=Z,3μm,18.0s
TOLK Toolik Lake Re 70.23 15 P **P 06 17 53.2 0.0**
baz=325,SNR=76
TOLK Toolik Lake Re 70.23 15 *e*P **P 06 17 53.1 0.0**
comp=Z,78nm,0.7s
TOLK LR LR
comp=Z,2μm,21.0s
NRS Narsarsuaq 70.44 333 *e*P **P 06 17 54.8 +0.4**
NRS pmax pmax
comp=Z,100nm,1.2s
NRS MLR MLR
comp=Z,3μm,20.0s
NRS Narsarsuaq 70.44 333 *e*P **P 06 17 54.8 +0.4**
comp=Z,100nm,1.2s
NRS LR LR
comp=Z,3μm,20.0s
MATP Matopo 70.78 224 P **P 06 17 57.2 +0.1**
comp=Z,95nm,1.1s,baz=28,slow=7.1
MATP LR LR 06 50 49.7
comp=Z,1μm,18.9s,baz=45,slow=37
COLD Coldfoot 71.25 16 *e*P **P 06 17 59.3 0.0**
comp=Z,63nm,1.0s
COLD LR LR
comp=Z,3μm,18.0s
KOWA Kowa 71.28 274 P **P 06 17 58.9 -1.3**
comp=Z,21nm,0.9s,baz=59,slow=5.5,SNR=44
KOWA LR LR 06 53 48.5
comp=Z,1μm,19.4s,baz=58,slow=40
KOWA Kowa 71.28 274 *e*P **P 06 17 58.9 -1.3**
KOWA *e*pP **sP 06 18 11.7 -1.5**
KOWA LR LR
comp=Z,2μm,18.0s
PMAR Madeira 71.35 297 *e*P **P 06 18 01.6 +0.9**
comp=Z,166nm,1.4s
PMOZ Porto Moniz, M 71.50 297 *e*S **S 06 27 16.5 -2.0**
PMOZ Porto Moniz, M 71.50 297 *e*LR LR 06 41 33.6
SPIA Saint Paul Isl 72.31 31 *e*P **P 06 18 06.2 +0.4**
comp=Z,34nm,1.0s
SPIA LR LR
comp=Z,3μm,19.0s
FYU Fort Yukon 72.89 15 *e*P **P 06 18 09.8 +0.7**
comp=Z,282nm,1.6s
MLY Manley 72.92 18 *e*P **P 06 18 08.8 -0.5**
comp=Z,52nm,1.2s
MLY LR LR
comp=Z,2μm,20.0s
INK Inuvik 73.36 10 P **P 06 18 11.9 +0.2**
comp=Z,40nm,0.7s,baz=354,slow=7.0,SNR=54
INK Inuvik 73.36 10 P **P 06 18 12.0 +0.2**
INK pmax pmax
comp=Z,40nm,0.7s
INK Inuvik 73.36 10 *e*P **P 06 18 12.0 +0.2**
comp=Z,86nm,1.0s
INK LR LR
comp=Z,2μm,18.0s
MDM Murphy Dome 73.58 17 *e*P **P 06 18 13.2 0.0**
comp=Z,76nm,1.1s
MDM LR LR
comp=Z,2μm,20.0s
BPAW Bear Paw Mtn. 73.61 19 *e*P **P 06 18 13.0 -0.4**
comp=Z,65nm,1.1s
BPAW LR LR
comp=Z,2μm,19.0s
COLA College 73.74 17 *e*P **P 06 18 14.4 +0.3**
COLA pmax pmax
comp=Z,113nm,1.0s
COLA MLR MLR
comp=Z,2μm,20.0s
COLA College 73.74 17 *e*P **P 06 18 14.4 +0.3**
comp=Z,113nm,1.0s
COLA LR LR
comp=Z,2μm,20.0s
CAST Castle Rocks 73.88 19 *e*P **P 06 18 14.9 -0.1**
comp=Z,112nm,1.0s
CAST LR LR
comp=Z,2μm,19.0s
CCB Clear Creek Bu 73.94 17 *e*P **P 06 18 14.8 -0.5**
comp=Z,116nm,1.8s
CCB LR LR
comp=Z,2μm,18.0s
ILAR Eielson Array 74.05 17 P **P 06 18 15.0 -1.0**
comp=Z,20nm,1.1s,baz=320,slow=4.7,SNR=102
ILAR PP **PP 06 21 01.9 +1.1**
comp=Z,5.0nm,0.9s,baz=324,slow=9.0,SNR=4.2
ILAR LR LR 06 55 12.2
comp=Z,3μm,18.2s,baz=318,slow=39
ILB Eielson Array 74.05 17 *e*P **P 06 18 14.7 -1.3**
KTH Kantishna Hill 74.08 19 *e*P **P 06 18 15.8 -0.4**
comp=Z,89nm,1.0s
KTH LR LR
comp=Z,1μm,20.0s
PPLA Purkeypile 74.27 20 *e*P **P 06 18 17.0 -0.5**
comp=Z,337nm,2.0s
PPLA LR LR
comp=Z,3μm,18.0s
TRF Thorofare Moun 74.32 19 *e*P **P 06 18 18.1 +0.3**
comp=Z,25nm,0.7s
TRF LR LR
comp=Z,2μm,19.0s
HDA Harding Lake 74.34 17 *e*P **P 06 18 17.3 -0.4**
comp=Z,35nm,1.1s
HDA LR LR
comp=Z,2μm,21.0s
MCK McKinley 74.43 18 *e*P **P 06 18 18.3 0.0**
MCK pmax pmax
comp=Z,85nm,1.5s
MCK MLR MLR
comp=Z,2μm,19.0s
MCK McKinley 74.43 18 *e*P **P 06 18 18.3 0.0**
comp=Z,85nm,1.5s
MCK LR LR
comp=Z,2μm,19.0s
RND Reindeer 74.72 18 *e*P **P 06 18 19.2 -0.8**
RND pmax pmax
comp=Z,262nm,2.0s
RND MLR MLR
comp=Z,2μm,19.0s
RND Reindeer 74.72 18 *e*P **P 06 18 19.2 -0.8**
comp=Z,262nm,2.0s
RND LR LR
comp=Z,2μm,19.0s
SVW2 Sparrevohn 74.73 22 *e*P **P 06 18 20.0 +0.1**
comp=Z,45nm,1.3s
SVW2 LR LR
comp=Z,3μm,18.0s
EGAK Eagle 75.28 14 *e*P **P 06 18 22.3 -0.8**
comp=Z,103nm,1.4s
EGAK LR LR
comp=Z,3μm,19.0s
DHY Denali Highway 75.37 18 *e*P **P 06 18 23.3 -0.5**
comp=Z,56nm,0.6s
DHY LR LR
comp=Z,2μm,19.0s
DOT Dot Lake 75.66 16 *e*P **P 06 18 24.7 -0.6**
comp=Z,212nm,1.4s
SPU Mount Spurr 75.70 21 *e*P **P 06 18 24.9 -0.7**
SUA Susitna One 75.83 20 *e*P **P 06 18 26.1 -0.4**
comp=Z,42nm,0.8s
SUA LR LR
comp=Z,3μm,20.0s
PAX Paxson 75.92 17 *e*P **P 06 18 26.5 -0.4**
PAX pmax pmax
comp=Z,68nm,1.0s
PAX MLR MLR
comp=Z,2μm,20.0s
PAX Paxson 75.92 17 *e*P **P 06 18 26.5 -0.4**
comp=Z,68nm,1.0s
PAX LR LR
comp=Z,2μm,20.0s
LBTB Lobatse 76.04 224 *e*P **P 06 18 28.5 +0.5**
LBTB pmax pmax
comp=Z,121nm,1.1s
LBTB Lobatse 76.04 224 *e*P **P 06 18 28.5 +0.5**
comp=Z,121nm,1.1s
UNV Unalaska Valle 76.14 32 PFAKE 06 18 40.0 +12
UNV LR LR
comp=Z,4μm,19.0s
PMR Palmer 76.17 19 *e*P **P 06 18 26.5 -1.6**
PMR pmax pmax
comp=Z,98nm,1.4s
PMR MLR MLR
comp=Z,2μm,22.0s
PMR Palmer 76.17 19 *e*P **P 06 18 26.5 -1.6**
comp=Z,98nm,1.4s
PMR LR LR
comp=Z,2μm,22.0s
SML Sawmill 76.19 19 *e*P **P 06 18 28.3 -0.1**
SML pmax pmax
comp=Z,135nm,1.0s
SML MLR MLR
comp=Z,3μm,18.0s
SML Sawmill 76.19 19 *e*P **P 06 18 28.3 -0.1**
comp=Z,135nm,1.0s
SML LR LR
comp=Z,3μm,18.0s
AKUT Akutan 76.25 31 PFAKE 06 18 40.0 +11
AKUT LR LR
comp=Z,2μm,21.0s
DAWY Dawson 76.27 14 *e*P **P 06 18 28.0 -0.8**
comp=Z,65nm,1.0s
DAWY LR LR
comp=Z,2μm,18.0s
MENT Mentasta 76.35 16 *e*P **P 06 18 29.9 +0.7**
comp=Z,18nm,0.8s
MENT LR LR
comp=Z,3μm,19.0s
RC01 Rabbit Creek A 76.42 20 *e*P **P 06 18 29.3 -0.3**
comp=Z,53nm,1.0s
RC01 LR LR
comp=Z,3μm,21.0s
SCM Sheep Creek Mo 76.43 18 *e*P **P 06 18 29.5 -0.3**
SCM pmax pmax
comp=Z,73nm,0.8s
SCM MLR MLR
comp=Z,2μm,18.0s
SCM Sheep Creek Mo 76.43 18 *e*P **P 06 18 29.5 -0.3**
comp=Z,73nm,0.8s
SCM LR LR
comp=Z,2μm,18.0s
DBIC Dimbokro 76.44 268 LR LR 06 55 58.1
comp=Z,1μm,21.9s,baz=44,slow=39
TSUM Tsumeb 76.44 233 *e*P **P 06 18 30.5 0.0**
comp=Z,25nm,0.9s
TSUM LR LR
comp=Z,2μm,18.0s
HARP HAARP 76.48 17 *e*P **P 06 18 30.8 +0.8**
comp=Z,356nm,0.9s
HARP LR LR
comp=Z,2μm,20.0s
KIC Kosan Boka 76.53 268 *e*P **P 06 18 27.3 -3.7**
comp=Z,110nm,1.2s
TIC Toumodi 76.58 268 *e*P **P 06 18 29.0 -2.3**
LIC Lamto 76.83 268 *e*P P 06 18 24.2 -8.5
comp=Z,86nm,1.2s
KLU Klutina 77.08 18 *e*P **P 06 18 33.7 +0.2**
comp=Z,52nm,1.0s
KLU LR LR
comp=Z,2μm,20.0s
BRLK Bradley Lake 77.19 21 *e*P **P 06 18 33.3 -0.7**
comp=Z,416nm,1.9s
GLI Glacier Island 77.30 19 PFAKE 06 18 50.0 +15
GLI LR LR
comp=Z,2μm,19.0s
SEW Seward 77.32 20 PFAKE 06 18 50.0 +15
SEW LR LR
comp=Z,2μm,21.0s
DIV Divide 77.43 18 *e*P **P 06 18 35.5 +0.1**
comp=Z,47nm,1.0s
SDPT Sand Point 77.47 28 PFAKE 06 18 50.0 +14
SDPT LR LR
comp=Z,3μm,19.0s
CHGN Chignik 77.50 27 PFAKE 06 18 50.0 +14
CHGN LR LR

comp=Z,6µm,18.0s
BMRM Bremner River 77.86 18 *e*P P 06 18 38.3 +0.5
comp=Z,60nm,1.0s
BMRM LR LR
comp=Z,2µm,22.0s
EYAK Cordova Ski Ar 77.93 19 *e*P P 06 18 38.8 +0.7
comp=Z,61nm,1.0s
EYAK LR LR
comp=Z,2µm,20.0s
KDAK Kodiak Island 78.30 23 P P 06 18 40.3 +0.1
comp=Z,71nm,1.0s,baz=343,slow=4.4,SNR=23
KDAK Kodiak Island 78.30 23 *e*P P 06 18 40.5 +0.4
comp=Z,122nm,1.1s
KDAK LR LR
comp=Z,4µm,19.0s
RAGM Ragged Mountai 78.34 18 PFAKE 06 18 50.0 +10
RAGM LR LR
comp=Z,4µm,19.0s
OHAK Old Harbor 78.53 24 *e*P P 06 18 41.6 +0.1
comp=Z,246nm,1.4s
OHAK LR LR
comp=Z,3µm,18.0s
BOSA Boshof 79.07 222 P P 06 18 44.7 -0.2
comp=Z,31nm,0.9s,baz=35,slow=5.6,SNR=28
BOSA LR LR 06 54 40.3
comp=Z,1µm,19.4s,baz=34,slow=36
BOSA Boshof 79.07 222 *e*P P 06 18 44.7 -0.2
comp=Z,86nm,1.1s
HYT Haines Junctio 79.58 15 *e*P P 06 18 46.9 -0.5
comp=Z,83nm,1.0s
PCA Pinnacle 79.65 16 *e*P P 06 18 48.5 +0.9
comp=Z,62nm,1.0s
PCA LR LR
comp=Z,3µm,20.0s
WHY Whitehorse 80.25 14 *e*P P 06 18 50.3 -0.6
comp=Z,33nm,1.0s
NWAO Narrogin (SRO) 80.63 144 *e*P P 06 18 52.8 -0.3
NWAO pmax pmax
comp=Z,50nm,0.9s
NWAO MLR MLR
comp=Z,2µm,22.0s
NWAO Narrogin (SRO) 80.63 144 *e*P P 06 18 52.8 -0.3
comp=Z,50nm,0.9s
NWAO LR LR
comp=Z,2µm,22.0s
WR1 Warramunga Arr 80.67 123 *e*P P 06 18 53.8 +0.1
comp=Z,122nm,1.1s
WR1 *e*S S 06 28 59.1 -0.1
WRA Warramunga Arr 80.67 123 P P 06 18 53.8 +0.1
comp=Z,68nm,1.0s,baz=320,slow=4.8,SNR=194
WRA S S 06 28 59.1 -0.1
comp=Z,3.2nm,1.4s,baz=307,slow=12,SNR=6.8
WRA PKKPbc **PKKPbc** 06 37 33.1 +0.2
comp=Z,0.5nm,0.9s,baz=130,slow=2.1,SNR=4.2
WRA LR LR 06 58 49.4
comp=Z,261nm,21.1s,baz=260,slow=39
WRAB Tennant Creek 80.67 123 *d*P P 06 18 53.6 0.0
WRAB pmax pmax
comp=Z,147nm,1.3s
WRAB Tennant Creek 80.67 123 *e*P P 06 18 53.9 +0.3
comp=Z,144nm,1.2s
YKW3 Yellowknife Ar 80.83 4 *e*P P 06 18 53.6 -0.2
comp=Z,269nm,1.6s
YKW3 LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 80.90 4 P P 06 18 54.0 -0.2
comp=Z,19nm,0.6s,baz=348,slow=5.4,SNR=590
YKA S S 06 29 01.1 +0.6
comp=Z,1.3nm,1.0s,baz=352,slow=11,SNR=9.4
YKA PKKPbc **PKKPbc** 06 37 30.0 -2.0
comp=Z,0.4nm,0.8s,baz=165,slow=2.4,SNR=6.8
YKA LR LR 06 58 45.9
comp=Z,178nm,18.7s,baz=0.0,slow=39
YKA Yellowknife Ar 80.90 4 P P 06 18 54.0 -0.2
YKA S S 06 29 01.1 +0.6
YKA pmax pmax
comp=Z,20nm,0.6s
YKA smax smax
comp=N,1.0nm,1.0s
YKA MLR MLR
comp=Z,178nm,18.7s
YKB5 Yellowknife Ar 80.90 4 *e*P P 06 18 53.9 -0.4
BBTS Babate 81.13 282 LR LR 07 02 02.1
comp=Z,977nm,18.2s,baz=61,slow=41
SKAG Skagway 81.27 14 *e*P P 06 18 56.8 +0.5
comp=Z,75nm,1.1s
BESE Bessie Mountai 82.18 14 *e*P P 06 19 01.6 +0.4
comp=Z,83nm,1.2s
SCHQ Schefferville 82.52 338 P P 06 19 02.8 -0.3
comp=Z,26nm,1.0s,baz=52,slow=5.0,SNR=19
SCHQ LR LR 06 55 25.8
comp=Z,2µm,19.6s,baz=38,slow=36
SCHQ Schefferville 82.52 338 *e*P P 06 19 02.7 -0.3
comp=Z,70nm,1.3s
SCHQ LR LR
comp=Z,2µm,20.0s
COEN Coen 82.90 113 PFAKE 06 19 20.0 +15
COEN LR LR
comp=Z,700nm,21.0s
AS31 Alice Springs 83.00 126 *e*P P 06 19 06.0 +0.2
comp=Z,31nm,1.5s
ASAR Alice Springs 83.00 126 P P 06 19 05.8 0.0
comp=Z,30nm,1.0s,baz=319,slow=5.1,SNR=136
ASAR S S 06 29 25.6 +2.4
comp=Z,0.8nm,1.0s,baz=319,slow=11,SNR=4.8
ASAR LR LR 06 59 51.6
comp=Z,468nm,18.7s,baz=306,slow=38
PMG Port Moresby 83.02 107 P P 06 19 06.4 +0.3
comp=Z,70nm,1.0s,baz=338,slow=7.2,SNR=8.8
PMG Port Moresby 83.02 107 *e*P P 06 19 06.7 +0.6
comp=Z,87nm,1.1s
AS01 Alice Springs 83.03 126 *e*P P 06 19 04.5 -1.4
DLBC Dease Lake 83.20 12 *e*P P 06 19 06.8 +0.3
comp=Z,132nm,1.5s
FCC Fort Churchill 84.24 353 *e*P P 06 19 11.8 +0.1
FCC pmax pmax
comp=Z,179nm,1.4s
FCC Fort Churchill 84.24 353 *e*P P 06 19 11.8 +0.1
comp=Z,179nm,1.4s
SUR Sutherland 84.40 222 *e*P P 06 19 13.9 +0.9
comp=Z,67nm,1.2s
FFC Flin Flon 88.79 357 *e*P P 06 19 33.9 -0.1
FFC pmax pmax
comp=Z,153nm,1.4s
FFC MLR MLR
comp=Z,2µm,19.0s
FFC Flin Flon 88.79 357 *e*P P 06 19 33.9 -0.1
comp=Z,153nm,1.4s
FFC LR LR
comp=Z,2µm,19.0s
CTA Charters Tower 89.09 116 P P 06 19 36.2 +0.3
comp=Z,12nm,0.7s,baz=324,slow=5.5,SNR=8.1
CTAO Charters Tower 89.09 116 *e*P P 06 19 35.8 -0.1
CTAO pmax pmax
comp=Z,100nm,1.6s
CTAO Charters Tower 89.09 116 *e*P P 06 19 35.8 -0.1
comp=Z,100nm,1.6s
EDM Edmonton 90.21 4 *e*P P 06 19 41.2 +0.4
EDM pmax pmax
comp=Z,108nm,0.9s
EDM MLR MLR
comp=Z,3µm,18.0s
EDM Edmonton 90.21 4 *e*P P 06 19 41.2 +0.4
comp=Z,108nm,0.9s
EDM LR LR
comp=Z,3µm,18.0s
BBOO Buckleboo 90.76 131 *e*P P 06 19 43.6 +0.1
comp=Z,68nm,1.1s
BBOO LR LR
comp=Z,1µm,21.0s
PKME Peaks-Kenny Pk 91.59 334 P P 06 19 46.8 -0.5
baz=29
LLLB Lillooet 92.00 10 *e*P P 06 19 50.1 +0.9
comp=Z,44nm,1.1s
TRQ Mont Tremblant 92.44 338 *e*P P 06 19 51.2 -0.1
ULM Lac du Bonnet 92.83 353 P P 06 19 52.4 -0.5
comp=Z,22nm,1.1s,baz=357,slow=5.0,SNR=20
ULM LR LR 07 03 42.2
comp=Z,2µm,21.9s,baz=16,slow=37
ULM Lac du Bonnet 92.83 353 *e*P P 06 19 52.4 -0.5
comp=Z,50nm,1.3s
ULM LR LR
comp=Z,2µm,18.0s
HNR Honiara 93.02 99 LR LR 06 59 08.2
comp=Z,274nm,21.4s,baz=304,slow=34
LBNH Lisbon 93.39 336 PFAKE 06 20 10.0 +14
LBNH LR LR
comp=Z,2µm,21.0s
FRNY Flat Rock 93.39 337 PFAKE 06 20 10.0 +14
FRNY LR LR
comp=Z,2µm,19.0s
STKA Stephens Creek 93.56 128 P P 06 19 55.8 -0.6
comp=Z,4.2nm,1.0s,baz=340,slow=2.9,SNR=6.4
STKA LR LR 07 05 47.4
comp=Z,923nm,21.7s,baz=301,slow=38
STKA Stephens Creek 93.56 128 *e*P P 06 19 56.2 -0.2
comp=Z,8.3nm,1.8s
STKA LR LR
comp=Z,200nm,20.0s
A04D Lummi Island 93.74 10 P P 06 19 55.9 -1.2
baz=347
LONY Lake Ozonia 93.89 338 P P 06 19 57.5 -0.5
baz=25
LONY Lake Ozonia 93.89 338 *e*P P 06 19 58.5 +0.5
comp=Z,29nm,1.0s
LONY LR LR
comp=Z,1µm,21.0s
A33A Warroad 94.08 352 P P 06 19 58.3 -0.4
baz=9.2,SNR=26
B06A Marblemount 94.11 10 PFAKE 06 20 10.0 +11
B06A LR LR
comp=Z,3µm,21.0s
A32A Rocking H Ranc 94.21 353 P P 06 19 58.7 -0.6
baz=8.3,SNR=9.3
C40A Isle Royale Na 94.23 348 P P 06 19 58.2 -1.3
baz=14
PLVO Plevna 94.25 339 *e*P P 06 19 59.9 +0.4
comp=Z,37nm,1.4s
A31A Linda, St. Vin 94.26 354 P P 06 19 58.3 -1.2
baz=7.8
B05A Bryant 94.27 10 P P 06 19 59.0 -0.6
baz=348
WALA Waterton Lakes 94.33 5 *e*P P 06 20 00.1 0.0
comp=Z,36nm,1.2s
WALA LR LR
comp=Z,2µm,20.0s
NCB Newcomb 94.37 337 PFAKE 06 20 10.0 +10
NCB LR LR
comp=Z,1µm,19.0s
B34A Aery, Baudette 94.44 352 P P 06 19 59.8 -0.6
baz=9.8,SNR=14
B35A Bob, Littlefor 94.45 351 P P 06 19 59.7 -0.8
baz=10
C39A Grand Marais 94.49 349 P P 06 19 59.9 -0.7
baz=13
B08A Colville Reser 94.53 8 *e*P P 06 20 01.2 +0.3
comp=Z,35nm,1.3s
B08A LR LR
comp=Z,2µm,20.0s
EYMN Ely 94.57 350 P P 06 20 00.7 -0.3
baz=12,SNR=13
EYMN Ely 94.57 350 *e*P P 06 20 01.0 0.0
comp=Z,33nm,1.0s
EYMN LR LR
comp=Z,1µm,19.0s
B32A Ashes, Strandq 94.73 353 P P 06 20 01.1 -0.6
baz=8.3,SNR=12
B33A Robert and Kas 94.75 352 P P 06 20 01.4 -0.4
baz=9.0
AGMN Agassiz Nation 94.76 353 P P 06 20 01.3 -0.5
baz=8.8,SNR=17
AGMN Agassiz Nation 94.76 353 *e*P P 06 20 01.5 -0.3
comp=Z,49nm,1.3s
AGMN LR LR
comp=Z,2µm,22.0s
C38A Sawbill Land. 94.76 350 P P 06 20 01.1 -0.8
baz=12
HRV Adam Dziewonsk 94.80 335 PFAKE 06 20 10.0 +7.9
HRV LR LR
comp=Z,2µm,19.0s
B31A Greenbush Farm 94.80 354 P P 06 20 01.5 -0.5
baz=7.4
NEW Newport 94.86 7 P P 06 20 02.5 +0.1
comp=Z,11nm,1.0s,baz=1.0,slow=5.0,SNR=7.5
NEW Newport 94.86 7 P P 06 20 02.0 -0.4
baz=352,SNR=9.5
NEW Newport 94.86 7 *e*P P 06 20 02.8 +0.4
comp=Z,20nm,1.1s
NEW LR LR
comp=Z,3µm,20.0s
C37A Embarrass 94.88 350 P P 06 20 01.8 -0.6
baz=12
C36A Pine Crest Far 94.94 351 P P 06 20 01.6 -1.1
baz=11
D41A Chassel 94.96 348 P P 06 20 02.0 -0.8
baz=15
E45A Wooded Hills, 95.00 345 P P 06 20 02.5 -0.5
baz=17
SADO Sadowa 95.06 341 *e*P P 06 20 03.4 0.0
comp=Z,31nm,1.3s
SADO LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 95.12 358 P P 06 20 03.0 -0.5
baz=2.1,SNR=7.9
DGMT Dagmar 95.12 358 *e*P P 06 20 04.3 +0.8
comp=Z,70nm,1.6s
DGMT LR LR
comp=Z,3µm,18.0s
C35A Jirik Farms, M 95.14 351 P P 06 20 02.7 -0.9
baz=10
C09A Chrisman Ranch 95.20 8 *e*P P 06 20 04.5 +0.6
comp=Z,23nm,1.0s
C33A Trail 95.28 353 P P 06 20 03.4 -0.8
baz=8.9
C32A Crookston 95.29 353 P P 06 20 03.2 -1.1
baz=8.3
C34A RKJ Ranch, Bem 95.29 352 P P 06 20 03.3 -1.0
baz=9.6
E43A Lone Tree Farm 95.34 346 P P 06 20 03.6 -1.0
baz=16
C31A Landman Farms, 95.43 354 P P 06 20 04.1 -0.8
baz=7.3
E42A Champion 95.46 347 P P 06 20 03.7 -1.4
baz=15
D37A Cotton 95.47 350 P P 06 20 04.1 -1.0
baz=12
MDND Maddock 95.52 355 P P 06 20 05.0 -0.4
baz=5.8
MDND Maddock 95.52 355 PFAKE 06 20 20.0 +15
MDND LR LR
comp=Z,2µm,20.0s
D36A Goodland 95.55 351 P P 06 20 04.8 -0.7
baz=11
EGMT Eagleton 95.56 2 P P 06 20 04.9 -0.7
baz=358,SNR=15
EGMT Eagleton 95.56 2 *e*P P 06 20 06.1 +0.5
comp=Z,61nm,1.4s
EGMT LR LR
comp=Z,2µm,20.0s
E41A Kenton 95.61 348 P P 06 20 05.1 -0.6
baz=14
JTMT Jette 95.61 5 *e*P P 06 20 07.1 +1.1
comp=Z,44nm,1.5s
JTMT LR LR
comp=Z,3µm,19.0s
F44A Big Bay de Noc 95.62 346 P P 06 20 05.1 -0.7
baz=16
F45A CMU Biological 95.71 345 P P 06 20 05.3 -1.0
baz=17
D35A Remer 95.75 351 P P 06 20 05.5 -0.9
baz=10
E40A Wakefield 95.78 348 P P 06 20 06.0 -0.6
baz=14
D08A Wollman Farm, 95.86 8 *e*P P 06 20 07.1 +0.2
comp=Z,24nm,1.2s
D08A LR LR
comp=Z,2µm,21.0s
D34A Park Rapids 95.88 352 P P 06 20 06.4 -0.6
baz=9.4
F43A Flat Rock, Esc 95.90 346 P P 06 20 06.9 -0.2
baz=16
D33A AnnSam, Waubun 95.90 352 P P 06 20 06.5 -0.6
baz=8.8
E39A Mellen 95.95 349 P P 06 20 06.8 -0.6
baz=13
COWI Conover 95.99 348 *e*P P 06 20 07.7 +0.1
comp=Z,25nm,1.3s
COWI LR LR
comp=Z,2µm,20.0s
E36A McGregor 96.21 351 P P 06 20 08.1 -0.4
baz=11
E35A Pequot Lakes 96.31 351 P P 06 20 08.4 -0.6
baz=10.0
YLE Yale 96.33 335 PFAKE 06 20 20.0 +11
YLE LR LR
comp=Z,1µm,21.0s
F40A Park Falls 96.33 348 P P 06 20 08.5 -0.6
baz=13
F41A Three Lakes 96.34 348 P P 06 20 08.4 -0.8
baz=14
GLMI Grayling 96.34 344 P P 06 20 08.6 -0.6
baz=18
GLMI Grayling 96.34 344 PFAKE 06 20 20.0 +11
GLMI LR LR
comp=Z,1µm,19.0s
E08A Dider Farm, El 96.41 8 PFAKE 06 20 20.0 +11
E08A LR LR
comp=Z,3µm,18.0s
E34A Wadena 96.44 352 P P 06 20 09.0 -0.6
baz=9.4
F39A Loretta 96.46 349 P P 06 20 08.9 -0.8
baz=13
E09A Wood Farm, Sta 96.49 8 *e*P P 06 20 09.8 0.0
comp=Z,77nm,1.8s
BINY Binghamton 96.52 337 P P 06 20 09.4 -0.6
baz=24
BINY Binghamton 96.52 337 PFAKE 06 20 20.0 +10
BINY LR LR
comp=Z,1µm,19.0s
E33A Westby DABS, E 96.55 352 P P 06 20 09.8 -0.3
baz=8.7
G43A Wallace 96.55 347 P P 06 20 09.6 -0.5
baz=15
MSO Missoula 96.55 5 P P 06 20 09.6 -0.6
baz=354
MSO Missoula 96.55 5 *e*P P 06 20 10.2 0.0
comp=Z,26nm,1.5s
MSO LR LR
comp=Z,3µm,19.0s
F38A Pierce - Schro 96.56 350 P P 06 20 10.0 -0.1
baz=12
MMNY Mt. Morris Dam 96.60 339 PFAKE 06 20 20.0 +10
MMNY LR LR
comp=Z,2µm,21.0s
E31A Nome 96.67 354 P P 06 20 10.0 -0.6
baz=7.2
G42A Mountain 96.70 347 P P 06 20 10.3 -0.4
baz=15
HRY Holter Researc 96.79 3 *e*P P 06 20 11.8 +0.5
G41A Antigo 96.86 348 P P 06 20 11.0 -0.5
baz=14
F07A Phinny Hill Vi 96.89 9 PFAKE 06 20 20.0 +8.4
F07A LR LR
comp=Z,2µm,19.0s
F36A Milaca 96.89 351 P P 06 20 11.0 -0.6
baz=11
F37A Hinrichs Farm, 96.90 350 P P 06 20 11.4 -0.2
baz=11
PAL Palisades 96.93 336 PFAKE 06 20 20.0 +8.2
PAL LR LR
comp=Z,2µm,18.0s
LAO LASA Array 96.93 360 P P 06 20 11.4 -0.5
baz=0.5
LAO LASA Array 96.93 360 *e*P P 06 20 13.3 +1.5
comp=Z,65nm,1.3s
LAO LR LR
comp=Z,3µm,19.0s
G40A Rib Lake 96.98 348 P P 06 20 11.2 -0.8
baz=13
ODNJ Ogdensburg 97.09 336 PFAKE 06 20 20.0 +7.3
ODNJ LR LR
comp=Z,2µm,20.0s
G39A Holcombe 97.11 349 P P 06 20 12.0 -0.7
baz=13
F10A Beach Ranch, E 97.12 7 *e*P Pdif 06 20 14.8 +1.9
comp=Z,17nm,1.2s
F10A LR LR
comp=Z,3µm,20.0s
F34A Alexandria 97.16 352 P P 06 20 12.2 -0.6
baz=9.3
F33A 5 Mile Ranch, 97.23 353 P P 06 20 12.9 -0.3
baz=8.5
F32A Veblen 97.28 353 P P 06 20 12.9 -0.5
baz=7.8
G38A Ridgeland 97.33 349 P P 06 20 12.7 -0.9
baz=12
F31A Hecla 97.40 354 P P 06 20 12.8 -1.1
baz=6.9
SPMN Marine on St. 97.42 350 P P 06 20 13.5 -0.5
baz=11
SPMN Marine on St. 97.42 350 PFAKE 06 20 30.0 +16
SPMN LR LR
comp=Z,2µm,21.0s
H42A Shiocton 97.43 347 P P 06 20 13.5 -0.5
baz=15
BRNJ Basking Ridge 97.44 336 PFAKE 06 20 30.0 +16
BRNJ LR LR
comp=Z,2µm,20.0s
H41A Junction City 97.52 348 P P 06 20 13.5 -0.9
baz=14
G36A St. Michael 97.53 351 P P 06 20 13.7 -0.8
baz=11
G08A Pilot Rock 97.60 9 PFAKE 06 20 30.0 +15
G08A LR LR
comp=Z,2µm,18.0s
N59A State Game Lan 97.61 337 PFAKE 06 20 30.0 +15
N59A LR LR
comp=Z,2µm,19.0s
H40A Chili 97.64 348 P P 06 20 14.7 -0.3
baz=13
G35A Watkins 97.64 351 P P 06 20 14.6 -0.4
baz=10.0
H39A Augusta 97.72 349 P P 06 20 15.0 -0.4
baz=12
LUPA Lehigh Univers 97.78 336 PFAKE 06 20 30.0 +14
LUPA LR LR
comp=Z,100nm,18.0s
H38A Maiden Rock 97.88 350 P P 06 20 15.8 -0.3
baz=12
G33A Ortonville 97.89 353 P Pdif 06 20 16.1 0.0
baz=8.4
BOZ Bozeman (W) 97.91 3 P P 06 20 15.4 -1.0
baz=356,SNR=5.2
BOZ Bozeman (W) 97.91 3 PFAKE 06 20 30.0 +14
BOZ LR LR
comp=Z,3µm,19.0s
G32A Webster 97.93 353 P P 06 20 16.1 -0.3
baz=7.5
G31A Conde 98.02 354 P P 06 20 16.6 -0.2
baz=7.0
H37A Dierke Farm, C 98.06 350 P P 06 20 16.7 -0.2
baz=11
DLMT Dillon 98.09 4 *e*P Pdif 06 20 18.5 +1.2
comp=Z,37nm,1.6s
I42A Draeger Farm, 98.09 347 P P 06 20 16.5 -0.6
baz=14
I41A Arkdale 98.10 348 P P 06 20 17.0 -0.1
baz=14
H35A Sunnyside Ranc 98.19 351 P P 06 20 17.1 -0.4
baz=9.7
H36A Jessenland, He 98.20 351 P Pdif 06 20 17.6 0.0
baz=10
BMO Blue Mountains 98.22 7 PFAKE 06 20 30.0 +12
BMO LR LR
comp=Z,2µm,19.0s
I05D Terrebonne, OR 98.22 10 P P 06 20 17.5 -0.2
baz=348
M54A Oil Creek Stat 98.23 340 PFAKE 06 20 30.0 +12
M54A LR LR
comp=Z,2µm,20.0s
ALLY Alegheny Colle 98.23 340 PFAKE 06 20 30.0 +12
ALLY LR LR
comp=Z,2µm,19.0s
H34A Spellman Lake, 98.34 352 P P 06 20 18.0 -0.2
baz=8.9
I40A Norwalk 98.39 348 P P 06 20 17.9 -0.5
baz=13
PSUB Penn St. - Bra 98.41 336 PFAKE 06 20 30.0 +11
PSUB LR LR
comp=Z,2µm,18.0s
H33A Prehn Over Nor 98.42 353 P P 06 20 17.9 -0.6
baz=8.2
RLMT Red Lodge 98.47 2 P P 06 20 18.1 -1.0
baz=358
RLMT Red Lodge 98.47 2 PFAKE 06 20 30.0 +11
RLMT LR LR
comp=Z,3µm,20.0s
I38A Scanlan Farm, 98.51 349 P P 06 20 18.7 -0.2
baz=12
AAM Ann Arbor 98.52 343 PFAKE 06 20 30.0 +11
AAM LR LR
comp=Z,2µm,19.0s
SSPA Standing Stone 98.52 338 PFAKE 06 20 30.0 +11

SSPA LR LR
comp=Z,2µm,21.0s
I39A Houston 98.57 349 P Pdif 06 20 19.4 +0.1
baz=12
H32A Carlson Farm, 98.67 353 P **P** **06 20 19.3 -0.4**
baz=7.6
I37A Lemond, Waseca 98.68 350 P Pdif 06 20 19.9 +0.2
baz=11
J42A Columbus 98.69 347 P **P** **06 20 19.4 -0.3**
baz=14
YHH Holmes Hill 98.75 3 PFAKE 06 20 30.0 +10
YHH LR LR
comp=Z,4µm,18.0s
I36A Fitzsimmons Fa 98.76 351 P **P** **06 20 19.7 -0.3**
baz=10
YHB Horse Butte 98.78 3 PFAKE 06 20 30.0 +10
YHB LR LR
comp=Z,2µm,19.0s
H31A Wolsey 98.79 354 P **P** **06 20 19.5 -0.6**
baz=6.8
N54A Moraine State 98.83 340 PFAKE 06 20 30.0 +10
N54A LR LR
comp=Z,3µm,19.0s
SUSD Miller 98.86 354 P **P** **06 20 19.9 -0.7**
baz=6.4
YMR Madison River 98.87 3 PFAKE 06 20 30.0 +9.2
YMR LR LR
comp=Z,3µm,18.0s
J40A Soldiers Grove 98.89 348 P **P** **06 20 19.6 -1.0**
baz=13
I34A Hadley 98.97 352 P **P** **06 20 20.7 -0.3**
baz=8.9
LKWY Lake 98.99 3 PFAKE 06 20 30.0 +8.6
LKWY LR LR
comp=Z,2µm,18.0s
I33A Coleman 99.06 353 P **Pdif** **06 20 21.3 -0.1**
baz=8.1
O56A Blue Knob Stat 99.06 338 P **Pdif** **06 20 21.2 -0.4**
baz=23
O56A Blue Knob Stat 99.06 338 PFAKE 06 20 30.0 +8.4
O56A LR LR
comp=Z,2µm,22.0s
J39A Decorah 99.10 349 P **Pdif** **06 20 21.1 -0.5**
baz=12
K43A Burlington 99.13 346 P **Pdif** **06 20 21.1 -0.6**
baz=15
H17A Grant Village 99.16 3 P **Pdif** **06 20 21.7 -0.4**
baz=357
H17A Grant Village 99.16 3 *e*P **Pdif** **06 20 24.0 +1.9**
comp=Z,17nm,1.4s
H17A LR LR
comp=Z,2µm,19.0s
J38A Wedel Dairy, R 99.23 349 P **Pdif** **06 20 22.7 +0.5**
baz=12
J05D Fort Rock, OR 99.27 11 P **Pdif** **06 20 22.3 -0.2**
baz=348
JFWS Jewell Farm 99.28 348 P **Pdif** **06 20 21.7 -0.7**
baz=13
JFWS Jewell Farm 99.28 348 *e*P **Pdif** **06 20 21.9 -0.5**
JFWS pmax pmax
comp=Z,13nm,1.1s
JFWS MLR MLR
comp=Z,3µm,20.0s
JFWS Jewell Farm 99.28 348 *e*P **Pdif** **06 20 21.9 -0.5**
comp=Z,13nm,1.1s
JFWS LR LR
comp=Z,3µm,20.0s
SDMD Soldier's Deli 99.32 337 PFAKE 06 20 30.0 +7.3
SDMD LR LR
comp=Z,1µm,18.0s
ECSD EROS Data Cent 99.35 352 P **Pdif** **06 20 22.6 -0.1**
baz=8.3
ECSD EROS Data Cent 99.35 352 *e*P **Pdif** **06 20 23.0 +0.2**
comp=Z,21nm,1.3s
ECSD LR LR
comp=Z,2µm,20.0s
RSSD Black Hills 99.46 358 P **Pdif** **06 20 23.2 -0.3**
baz=2.3
RSSD Black Hills 99.46 358 *e*P **Pdif** **06 20 24.0 +0.5**
RSSD pmax pmax
comp=Z,19nm,1.4s
RSSD MLR MLR
comp=Z,3µm,19.0s
RSSD Black Hills 99.46 358 *e*P **Pdif** **06 20 24.0 +0.5**
comp=Z,19nm,1.4s
RSSD LR LR
comp=Z,3µm,19.0s
J36A Seneca 1, Swea 99.48 351 P **Pdif** **06 20 23.2 -0.1**
baz=10
K40A Colesburg 99.63 348 P **Pdif** **06 20 23.3 -0.7**
baz=13
IMW Indian Meadow 99.64 3 PFAKE 06 20 40.0 +16
IMW LR LR
comp=Z,2µm,20.0s
L43A Garden Prairie 99.71 346 P **Pdif** **06 20 23.7 -0.7**
baz=15
J34A George 99.72 352 P **Pdif** **06 20 23.6 -0.8**
baz=8.8
K39A Oelwein 99.75 349 P **Pdif** **06 20 23.2 -1.3**
baz=12
MOOW Moose Ponds 99.80 3 PFAKE 06 20 40.0 +15
MOOW LR LR
comp=Z,3µm,20.0s
J33A Davis 99.80 353 P **Pdif** **06 20 23.6 -1.1**
baz=8.0
J32A Parkston 99.83 353 P **Pdif** **06 20 24.1 -0.7**
baz=7.3
K04D Chiloquin, OR 99.83 11 P **Pdif** **06 20 23.9 -1.1**
baz=348
K38A Parkersburg 99.94 350 P **Pdif** **06 20 24.1 -1.2**
baz=11
M46A Old House Fiel 99.98 344 P **Pdif** **06 20 24.9 -0.7**
baz=16
J31A Geddes 99.99 354 P **Pdif** **06 20 24.6 -0.9**
baz=6.6
L42A Oliver, Polo 100.06 347 P **Pdif** **06 20 24.8 -1.1**
baz=14
SNOW Snow King Moun 100.08 3 PFAKE 06 20 40.0 +14
SNOW LR LR
comp=Z,2µm,19.0s
L41A Preston 100.13 348 P **Pdif** **06 20 25.1 -1.1**
baz=13
REDW Red Top Meadow 100.18 3 PFAKE 06 20 40.0 +13
REDW LR LR
comp=Z,3µm,20.0s
K36A Gilmore City 100.18 351 P **Pdif** **06 20 25.7 -0.7**
baz=10
K35A Storm Lake 100.19 351 P **Pdif** **06 20 25.1 -1.3**
baz=9.4
L40A Anamosa 100.27 348 P **Pdif** **06 20 26.5 -0.3**
baz=13
ACSO Alum Creek Sta 100.31 342 PFAKE 06 20 40.0 +13
ACSO LR LR
comp=Z,1µm,18.0s
K34A Le Mars 100.33 352 P **Pdif** **06 20 26.1 -0.9**
baz=8.7
L39A Vinton 100.33 349 P **Pdif** **06 20 26.2 -0.9**
baz=12
K33A Hardington 100.51 353 P **Pdif** **06 20 26.9 -1.0**
baz=8.0
CAN Canberra 100.51 126 PFAKE 06 20 40.0 +12
CAN LR LR
comp=Z,1µm,20.0s
K32A Verdigre 100.55 353 P **Pdif** **06 20 27.5 -0.6**
baz=7.2
YBH Yreka Blue Hor 100.55 12 PFAKE 06 20 40.0 +12
YBH LR LR
comp=Z,2µm,21.0s
L37A Phoenix Point, 100.59 350 P **Pdif** **06 20 26.9 -1.3**
baz=11
CBN Corbin Frederi 100.59 337 PFAKE 06 20 40.0 +12
CBN LR LR
comp=Z,1µm,20.0s
M04C Macdoel 100.64 11 P **Pdif** **06 20 27.9 -0.7**
baz=348
K31A O'Neill 100.65 354 P **Pdif** **06 20 28.1 -0.5**
baz=6.6
L36A Harm Buss Farm 100.73 351 P **Pdif** **06 20 27.8 -1.1**
baz=9.9
AHID Auburn Hatcher 100.76 3 PFAKE 06 20 40.0 +11
AHID LR LR
comp=Z,2µm,20.0s
BW06 Boulder Array 100.82 2 P **Pdif** **06 20 27.4 -2.1**
baz=358
BW06 Boulder Array 100.82 2 PFAKE 06 20 40.0 +10
BW06 LR LR
comp=Z,700nm,22.0s

PD31 Pinedale Array 100.82 2 *e*Pdif **Pdif** **06 20 29.7 +0.1**
PDAR Pinedale Array 100.82 2 P **Pdif** **06 20 29.4 -0.1**
comp=Z,0.5nm,0.7s,baz=51,slow=1.2,SNR=6.6
PDAR PP **PP** **06 24 36.0 -0.2**
comp=Z,1.7nm,1.0s,baz=20,slow=6.2,SNR=4.2
PDAR Pinedale Array 100.82 2 *e*Pdif **Pdif** **06 20 28.9 -0.6**
M41A Milan 100.82 348 P **Pdif** **06 20 28.1 -1.2**
baz=13
N44A Piper City 100.94 346 P **Pdif** **06 20 28.6 -1.2**
baz=15
M40A Post Highland 100.95 348 P **Pdif** **06 20 28.7 -1.1**
baz=12
IP03 Louisa 100.96 337 PFAKE 06 20 40.0 +10
IP03 LR LR
comp=Z,2µm,18.0s
K22A Casper 100.97 360 PFAKE 06 20 40.0 +10
K22A LR LR
comp=Z,3µm,19.0s
IP01 Cuckoo 100.99 337 PFAKE 06 20 40.0 +10
IP01 LR LR
comp=Z,2µm,22.0s
M39A Webster 100.99 349 P **Pdif** **06 20 28.5 -1.5**
baz=12
N43A Stutzman Famil 101.00 346 P **Pdif** **06 20 29.0 -1.1**
baz=14
IP06 Yanceyville 101.03 337 PFAKE 06 20 40.0 +10
IP06 LR LR
comp=Z,2µm,18.0s
IP05 Hopewell Churc 101.06 337 PFAKE 06 20 40.0 +10
IP05 LR LR
comp=Z,1µm,22.0s
O47A Sheridan 101.06 344 P **Pdif** **06 20 28.9 -1.5**
baz=17
IP07 Quail 101.06 337 PFAKE 06 20 40.0 +10
IP07 LR LR
comp=Z,2µm,18.0s
SFIN Lafayette 101.12 345 P **Pdif** **06 20 29.5 -1.1**
baz=16
SFIN Lafayette 101.12 345 PFAKE 06 20 40.0 +9.4
SFIN LR LR
comp=Z,2µm,19.0s
M38A Pleasantville 101.20 350 P **Pdif** **06 20 29.6 -1.3**
baz=11
N42A Yates City 101.26 347 P **Pdif** **06 20 30.5 -0.7**
baz=14
M37A Trindle Farm, 101.34 350 P **Pdif** **06 20 31.2 -0.4**
baz=10
HDIL Hopedale 101.39 346 PFAKE 06 20 40.0 +8.2
HDIL LR LR
comp=Z,2µm,19.0s
M35A Neola 101.49 351 P **Pdif** **06 20 31.5 -0.8**
baz=9.1
N41A Harden Midland 101.53 348 P **Pdif** **06 20 31.3 -1.1**
baz=13
O44A Mansfield 101.62 346 P **Pdif** **06 20 31.5 -1.3**
baz=15
N39A Derby Farms, D 101.63 349 P **Pdif** **06 20 32.3 -0.5**
baz=12
HVU Hansel Valley 101.65 5 PFAKE 06 20 40.0 +6.8
HVU LR LR
comp=Z,1µm,20.0s
P47A Martinsville 101.80 344 P **Pdif** **06 20 32.7 -0.9**
baz=17
BGNE Belgrade 101.80 353 P **Pdif** **06 20 32.8 -0.9**
baz=7.1
N38A Joes South For 101.82 349 P **Pdif** **06 20 32.8 -1.0**
baz=11
P46A Rosedale 101.88 345 P **Pdif** **06 20 32.7 -1.3**
baz=16
O42A Bath 101.89 347 P **Pdif** **06 20 32.7 -1.3**
baz=14
HWUT Hardware Ranch 101.89 4 *e*Pdif **Pdif** **06 20 34.0 -0.3**
HWUT LR LR
comp=Z,2µm,18.0s
RWWY Rawlins 101.93 0 PFAKE 06 20 50.0 +15
RWWY LR LR
comp=Z,3µm,21.0s
N37A Lee Faris, Mou 101.99 350 P **Pdif** **06 20 32.5 -2.0**
baz=10
O41A Passleys Farm, 102.11 348 P **Pdif** **06 20 33.3 -1.8**
baz=13
N34A Lincoln 102.20 352 P **Pdif** **06 20 33.6 -1.8**
baz=8.5
O39A Kirksville 102.24 349 P **Pdif** **06 20 34.1 -1.6**
baz=12
PHWY Pilot Hill 102.31 359 PFAKE 06 20 50.0 +14
PHWY LR LR
comp=Z,2µm,19.0s
P44A Sand Creek, Wi 102.31 346 P **Pdif** **06 20 34.5 -1.5**
baz=15
BLA Blacksburg 102.44 339 PFAKE 06 20 50.0 +13
BLA LR LR
comp=Z,2µm,20.0s
BGU Big Grassy Mou 102.49 5 PFAKE 06 20 50.0 +13
BGU LR LR
comp=Z,1µm,18.0s
O38A Galt 102.52 350 P **Pdif** **06 20 35.5 -1.4**
baz=11
OGNE Ogallala 102.55 356 PFAKE 06 20 50.0 +13
OGNE LR LR
comp=Z,2µm,21.0s
P41A Barry, Barry 102.57 348 P **Pdif** **06 20 35.7 -1.4**
baz=13
BMN Battle Mountai 102.60 8 PFAKE 06 20 50.0 +13
BMN LR LR
comp=Z,2µm,20.0s
N23A Red Feather La 102.72 359 PFAKE 06 20 50.0 +12
N23A LR LR
comp=Z,3µm,20.0s
R48A Northridge Ran 102.75 343 P **Pdif** **06 20 36.0 -1.9**
baz=17
CTU Camp Tracy 102.80 4 PFAKE 06 20 50.0 +12
CTU LR LR
comp=Z,2µm,18.0s
O34A Beatrice 102.87 352 P **Pdif** **06 20 36.4 -2.0**
baz=8.3
P40A Paris 102.87 348 P **Pdif** **06 20 36.3 -2.2**
baz=12
JLU Jordanelle 102.90 4 PFAKE 06 20 50.0 +11
JLU LR LR
comp=Z,2µm,18.0s
OLIL Olney 102.92 345 PFAKE 06 20 50.0 +11
OLIL LR LR
comp=Z,3µm,20.0s
WCI Wyandotte Cave 103.01 344 PFAKE 06 20 50.0 +11
WCI LR LR
comp=Z,3µm,19.0s
PAHR Pah Rah Range 103.04 10 PFAKE 06 20 50.0 +11
PAHR LR LR
comp=Z,1µm,21.0s
DUG Dugway, Tooele 103.23 5 PFAKE 06 20 50.0 +10
DUG LR LR
comp=Z,1µm,20.0s
NCAT North Carolina 103.29 338 PFAKE 06 20 50.0 +10
NCAT LR LR
comp=Z,2µm,18.0s
SLM Saint Louis 103.43 347 PFAKE 06 20 50.0 +9.1
SLM LR LR
comp=Z,2µm,19.0s
CNNC Cliffs of the 103.47 336 PFAKE 06 20 50.0 +8.8
CNNC LR LR
comp=Z,2µm,19.0s
O20A White River Ci 103.47 1 PFAKE 06 20 50.0 +8.6
O20A LR LR
comp=Z,3µm,19.0s
MPU Maple Canyon 103.48 4 PFAKE 06 20 50.0 +8.6
MPU LR LR
comp=Z,2µm,18.0s
NLU North Lily Min 103.51 4 PFAKE 06 20 50.0 +8.4
NLU LR LR
comp=Z,2µm,18.0s
USIN University of 103.56 345 PFAKE 06 20 50.0 +8.5
USIN LR LR
comp=Z,2µm,21.0s
RUBR Rubicon Trail 103.57 11 PFAKE 06 20 50.0 +8.1
RUBR LR LR
comp=Z,2µm,20.0s
YERR Yerington 103.77 10 PFAKE 06 20 50.0 +7.3
YERR LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 103.81 359 PFAKE 06 20 50.0 +7.0
ISCO LR LR
comp=Z,2µm,19.0s
P18A Preston Nutter 103.93 3 PFAKE 06 21 00.0 +16
P18A LR LR
comp=Z,2µm,20.0s

KSU1 Kansas State U 103.93 352 PFAKE 06 20 50.0 +6.8
KSU1 LR LR
comp=Z,1µm,18.0s
TZTN Tazewell 103.93 341 PFAKE 06 20 50.0 +6.8
TZTN LR LR
comp=Z,2µm,20.0s
P17A Butcher Ranch, 104.06 3 PFAKE 06 21 00.0 +16
P17A LR LR
comp=Z,2µm,19.0s
FVM French Village 104.10 347 PFAKE 06 21 00.0 +16
FVM LR LR
comp=Z,2µm,20.0s
SIUC Southern Illin 104.12 346 PFAKE 06 21 00.0 +16
SIUC LR LR
comp=Z,2µm,20.0s
CCM Cathedral Cave 104.17 347 PFAKE 06 21 00.0 +16
CCM LR LR
comp=Z,2µm,20.0s
SRU San Rafael Swe 104.43 3 PFAKE 06 21 00.0 +14
SRU LR LR
comp=Z,2µm,20.0s
NV01 Mina Array Sit 104.44 9 *e*Pdif **Pdif** **06 20 48.0 +2.3**
NVAR Mina Array Bea 104.44 9 Pdiff **Pdif** **06 20 46.9 +1.2**
comp=Z,0.6nm,0.7s,baz=1.9,slow=2.7,SNR=4.9
NVAR PKiKP **PKiKP** **06 25 00.9 -1.0**
comp=Z,0.5nm,0.7s,baz=1.9,slow=2.7,SNR=3.1
NV11 Mina Array Sit 104.46 9 PFAKE 06 21 00.0 +14
NV11 LR LR
comp=Z,200nm,20.0s
KSCO Kaye Shedlock' 104.50 357 PFAKE 06 21 00.0 +14
KSCO LR LR
comp=Z,3µm,22.0s
CBKS Cedar Bluff 104.52 354 PFAKE 06 21 00.0 +14
CBKS LR LR
comp=Z,2µm,22.0s
Q16A Castle Valley 104.59 3 PFAKE 06 21 00.0 +14
Q16A LR LR
comp=Z,1µm,22.0s
KMSC Kings Mountain 104.63 339 PFAKE 06 21 00.0 +14
KMSC LR LR
comp=Z,2µm,20.0s
Q24A Divide 104.64 359 PFAKE 06 21 00.0 +13
Q24A LR LR
comp=Z,2µm,20.0s
TKL Tuckaleechee C 104.83 341 PFAKE 06 21 00.0 +13
TKL LR LR
comp=Z,2µm,18.0s
PAULI Pauline 105.07 339 PFAKE 06 25 10.0
PAULI LR LR
comp=Z,1µm,19.0s
BG3 Lake Jocassee 105.22 340 PFAKE 06 25 10.0
BG3 LR LR
comp=Z,2µm,20.0s
PBMO Poplar Bluff 105.27 346 PFAKE 06 25 10.0
PBMO LR LR
comp=Z,2µm,20.0s
WVT Waverly 105.36 344 PFAKE 06 25 10.0
WVT LR LR
comp=Z,2µm,19.0s
DZM Mont Dzumac 105.39 106 *e*SS SS 06 40 13.5 +6.2
comp=Z,1µm,35.2s
DZM Mont Dzumac 105.39 106 *e*LR LR 06 55 48.2
comp=Z,1µm,23.6s
PVMO Portageville 105.48 346 PFAKE 06 25 20.0
PVMO LR LR
comp=Z,2µm,19.0s
SDCO Great Sand Dun 105.86 359 PFAKE 06 25 20.0
SDCO LR LR
comp=Z,2µm,21.0s
S22A 4UR Ranch, Cre 105.87 360 PFAKE 06 25 20.0
S22A LR LR
comp=Z,2µm,19.0s
NHSC New Hope 106.17 337 PFAKE 06 25 20.0
NHSC LR LR
comp=Z,2µm,19.0s
HHAR Hobbs 106.35 349 PFAKE 06 25 20.0
HHAR LR LR
comp=Z,3µm,21.0s
LCMT Little Creek M 106.36 5 PFAKE 06 25 20.0
LCMT LR LR
comp=Z,1µm,20.0s
MVCO Mesa Verde 106.39 1 PFAKE 06 25 20.0
MVCO LR LR
comp=Z,2µm,19.0s
T25A Trinidad 106.44 358 PFAKE 06 25 20.0
T25A LR LR
comp=Z,2µm,21.0s
MHTCO State Highway 106.46 358 PFAKE 06 25 20.0
MHTCO LR LR
comp=Z,2µm,20.0s
PLAL Pickwick Lake 106.52 344 PFAKE 06 25 20.0
PLAL LR LR
comp=Z,2µm,22.0s
DAC Darwin (Calif) 106.65 9 PFAKE 06 25 20.0
DAC LR LR
comp=Z,2µm,20.0s
V39A Pettigrew 106.74 349 P **PKiKP** **06 25 04.9 -1.1**
baz=11
GOGA Godfrey 106.86 340 PFAKE 06 25 20.0
GOGA LR LR
comp=Z,2µm,21.0s
TUL1 Leonard 106.97 351 PFAKE 06 25 20.0
TUL1 LR LR
comp=Z,2µm,20.0s
WHAR Wooly Hollow 107.05 348 PFAKE 06 25 20.0
WHAR LR LR
comp=Z,2µm,18.0s
X301 Greenbrier Sit 107.12 348 PFAKE 06 25 20.0
X301 LR LR
comp=Z,2µm,18.0s
ISA Isabella, Lake 107.14 10 P **PKiKP** **06 25 05.8 -0.9**
baz=350
OXF Oxford 107.26 345 PFAKE 06 25 20.0
OXF LR LR
comp=Z,2µm,18.0s
W40A Ferguson Farm, 107.28 348 PFAKE 06 25 20.0
W40A LR LR
comp=Z,2µm,19.0s
OK021 N3530 Road, Sp 107.39 351 PFAKE 06 25 20.0
OK021 LR LR
comp=Z,2µm,21.0s
OK022 N3560 Road, Pr 107.45 351 PFAKE 06 25 20.0
OK022 LR LR
comp=Z,1µm,21.0s
OK020 N3440 Road, Me 107.48 351 PFAKE 06 25 20.0
OK020 LR LR
comp=Z,1µm,21.0s
UALR University of 107.56 348 PFAKE 06 25 20.0
UALR LR LR
comp=Z,2µm,19.0s
MIAR Mount Ida 107.99 349 PFAKE 06 25 20.0
MIAR LR LR
comp=Z,2µm,19.0s
LRAL Lakeview Retre 108.14 343 PFAKE 06 25 20.0
LRAL LR LR
comp=Z,2µm,19.0s
OSI Osito Audit: C 108.14 10 PFAKE 06 25 20.0
OSI LR LR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 108.47 353 PFAKE 06 25 20.0
WMOK LR LR
comp=Z,2µm,19.0s
AMTX Amarillo 108.56 356 PFAKE 06 25 20.0
AMTX LR LR
comp=Z,2µm,18.0s
BLG Laguna Peak, P 108.58 11 P **PKiKP** **06 25 08.3 -1.1**
baz=350
SCZ2 Santa Cruz Isl 108.61 11 P **PKiKP** **06 25 08.0 -1.5**
baz=349
ANMO Albuquerque 108.66 360 PFAKE 06 25 20.0
ANMO LR LR
comp=Z,2µm,19.0s
TIGA Tifton 108.75 339 PFAKE 06 25 20.0
TIGA LR LR
comp=Z,2µm,20.0s
WLAR White Oak Lake 108.76 348 PFAKE 06 25 20.0
WLAR LR LR
comp=Z,2µm,19.0s
X18A Snowflake 109.02 3 PFAKE 06 25 20.0
X18A LR LR
comp=Z,2µm,18.0s
CIS Catalina Islan 109.37 10 P **PKiKP** **06 25 10.3 -0.6**
baz=350
PFO Pinyon Flats O 109.42 8 PFAKE 06 25 20.0
PFO LR LR
comp=Z,2µm,19.0s

XPFO	**Piæon Flat**	**109.42**	**8**	PFAKE			06 25 20.0		
XPFO				LR	LR				
	comp=Z,2µm,19.0s								
350A	**Dozier**	**109.51**	**341**	P		**PKiKP**	**06 25 10.3**	**-0.8**	
	baz=17								
557A	**Orange Park**	**109.52**	**337**	P		**PKiKP**	**06 25 10.8**	**-0.4**	
	baz=21								
Y22D	**IRIS PASSCAL I**	**109.53**	**0**	PFAKE			06 25 20.0		
Y22D				LR	LR				
	comp=Z,3µm,19.0s								
MSTX	**Muleshoe**	**109.53**	**356**	PFAKE			06 25 20.0		
MSTX				LR	LR				
	comp=Z,2µm,19.0s								
VBMS	**Vicksburg**	**109.70**	**345**	PFAKE			06 25 20.0		
VBMS				LR	LR				
	comp=Z,2µm,18.0s								
ABTX	**Abilene, Hawle**	**110.65**	**354**	PFAKE			06 25 30.0		
ABTX				LR	LR				
	comp=Z,3µm,19.0s								
NATX	**Nacogdoches**	**110.89**	**349**	PFAKE			06 25 30.0		
NATX				LR	LR				
	comp=Z,2µm,21.0s								
EPT	**El Paso**	**111.83**	**360**	PFAKE			06 25 30.0		
EPT				LR	LR				
	comp=Z,3µm,21.0s								
SEUS	**St. Eustatius**	**112.00**	**314**	PFAKE			06 25 30.0		
SEUS				LR	LR				
	comp=Z,800nm,21.0s								
SABA	**Saba**	**112.04**	**315**	PFAKE			06 25 30.0		
SABA				LR	LR				
	comp=Z,800nm,19.0s								
JCT	**Junction City**	**112.79**	**353**	PFAKE			06 25 30.0		
JCT				LR	LR				
	comp=Z,2µm,20.0s								
SJG	**San Juan**	**113.26**	**318**	PFAKE			06 25 30.0		
SJG				LR	LR				
	comp=Z,700nm,20.0s								
AGP	**Aguadilla**	**113.55**	**319**	PFAKE			06 25 30.0		
AGP				LR	LR				
	comp=Z,1µm,21.0s								
TXAR	**Lajitas Array**	**114.19**	**357**	PKP		PKPdf	06 25 19.2	-1.0	
	comp=Z,0.3nm,0.7s,baz=346,slow=2.1,SNR=4.3								
TXAR				PKKPab		**PKKPab**	**06 36 06.4**	**-3.9**	
	comp=Z,1.4nm,0.8s,baz=191,slow=4.2,SNR=5.1								
SDD	**Santo Domingo**	**114.95**	**321**	PFAKE			06 25 30.0	+8.3	
SDD				LR	LR				
	comp=Z,500nm,21.0s								
SDDR	**Presa de Saban**	**115.19**	**323**	PFAKE			06 25 30.0	+7.7	
SDDR				LR	LR				
	comp=Z,1µm,22.0s								
HPIG		**116.64**	**359**	*e*PKPdf		**PKPdf**	**06 25 25.5**	**+0.4**	
HPIG				LR	LR				
	comp=Z,2µm,21.0s								
LNIG	**Linares**	**118.28**	**352**	PFAKE			06 25 40.0	+12	
LNIG				LR	LR				
	comp=Z,900nm,19.0s								
SNAA	**Sanae**	**120.24**	**201**	*i* PKIKP		**PKPdf**	**06 25 31.8**	**+1.4**	
MYIG	**MØrida**	**120.37**	**341**	PFAKE			06 25 40.0	+7.9	
MYIG				LR	LR				
	comp=Z,1µm,22.0s								
ZAIG	**Zacatecas**	**120.66**	**355**	*e*PKPdf		**PKPdf**	**06 25 34.1**	**+1.0**	
ZAIG				LR	LR				
	comp=Z,1µm,18.0s								
TEIG	**Tepich**	**120.67**	**340**	PFAKE			06 25 40.0	+7.3	
TEIG				LR	LR				
	comp=Z,1µm,22.0s								
JRQG	**Juriquilla Cam**	**122.53**	**353**	PFAKE			06 25 50.0	+13	
JRQG				LR	LR				
	comp=Z,2µm,20.0s								
LVIG	**Laguna Verde**	**122.97**	**348**	PFAKE			06 25 50.0	+13	
LVIG				LR	LR				
	comp=Z,500nm,19.0s								
PTGA	**Pitinga**	**123.81**	**299**	PFAKE			06 25 50.0	+11	
PTGA				LR	LR				
	comp=Z,800nm,20.0s								
TGUH	**Tegucigalpa,Un**	**126.19**	**336**	*e*PKPdf		**PKPdf**	**06 25 43.6**	**+0.2**	
QSPA	**South Pole Qui**	**126.55**	**180**	*e*PKPdf		**PKPdf**	**06 25 41.5**	**-1.1**	
RUSC	**La Rusia**	**127.11**	**316**	PFAKE			06 26 00.0	+14	
RUSC				LR	LR				
	comp=Z,300nm,21.0s								
SNET	**Serv Nac Est T**	**127.15**	**338**	PFAKE			06 26 00.0	+15	
SNET				LR	LR				
	comp=Z,700nm,20.0s								
SPB	**Sao Paulo**	**127.73**	**267**	PFAKE			06 26 00.0	+14	
SPB				LR	LR				
	comp=Z,900nm,19.0s								
HELC	**Santa Helena**	**128.19**	**319**	PFAKE			06 26 00.0	+12	
HELC				LR	LR				
	comp=Z,1µm,22.0s								
ROSC	**El Rosal**	**128.67**	**317**	PKP		**PKPdf**	**06 25 48.2**	**-0.5**	
	comp=Z,2.3nm,0.4s,baz=165,slow=2.7,SNR=6.5								
ROSC	**El Rosal**	**128.67**	**317**	*e*PKPdf		**PKPdf**	**06 25 49.5**	**+0.7**	
HDC	**Heredia**	**128.81**	**331**	PFAKE			06 26 00.0	+11	
HDC				LR	LR				
	comp=Z,800nm,20.0s								
RREF	**El Recreo**	**129.18**	**318**	*e*P		**PKPdf**	**06 25 50.2**	**+0.2**	
PRAC	**Prado**	**129.91**	**316**	*e*PKPdf		**PKPdf**	**06 25 50.3**	**-0.4**	
PRAC				LR	LR				
	comp=Z,600nm,20.0s								
YOTC	**Yotoco, Valle**	**130.48**	**318**	*e*P		**PKPdf**	**06 25 50.2**	**-1.6**	
SAML	**Samuel**	**131.76**	**294**	*e*PKPdf		**PKPdf**	**06 25 54.3**	**+0.3**	
SAML				LR	LR				
	comp=Z,1µm,22.0s								
PCON	**Cinco Dias**	**131.89**	**317**	*e*P		**PKPdf**	**06 25 54.9**	**-0.2**	
FLOC	**Florencia**	**132.10**	**316**	*e*P		**PKPdf**	**06 25 54.2**	**-0.6**	
OTAV	**Otavalo**	**134.75**	**318**	*e*PKPdf		**PKPdf**	**06 25 58.6**	**-1.7**	
OTAV				LR	LR				
	comp=Z,500nm,20.0s								
CPUP	**Villa Florida**	**136.95**	**269**	PKP		**PKPdf**	**06 26 02.6**	**-0.8**	
	comp=Z,6.6nm,0.9s,baz=43,slow=3.7,SNR=3.1								
CPUP	**Villa Florida**	**136.95**	**269**	*i* P		**PKPdf**	**06 26 01.6**	**-1.7**	
PPT2	**Papeete2**	**137.88**	**75**	*e*SS		SS	06 47 05.2	+3.4	
	comp=Z,1µm,39.0s								
PPT2	**Papeete2**	**137.88**	**75**	*e*LR		LR	07 10 44.3		
	comp=Z,2µm,26.0s								
TAOE	**Nuku Hiva Isla**	**138.98**	**56**	*e*PP		PP	06 29 00.0	+0.4	
	comp=Z,134nm,26.3s								
TAOE	**Nuku Hiva Isla**	**138.98**	**56**	*e*LR		LR	07 11 09.2		
	comp=Z,2µm,23.4s								
LPAZ	**La Paz**	**140.16**	**290**	PKP		**PKPdf**	**06 26 10.2**	**-0.1**	
	comp=Z,2.0nm,0.9s,baz=21,slow=5.3,SNR=5.9								
LPAZ	**La Paz**	**140.16**	**290**	*e*PKIKP		**PKPdf**	**06 26 09.9**	**-0.4**	
LPAZ	**La Paz**	**140.16**	**290**	*e*PKPdf		**PKPdf**	**06 26 09.8**	**-0.4**	
TBI	**Tubuai**	**141.08**	**82**	*e*SS		SS	06 47 40.3	+0.9	
	comp=Z,228nm,31.8s								
TBI	**Tubuai**	**141.08**	**82**	*e*LR		LR	07 12 15.4		
	comp=Z,1µm,23.8s								
MNMC	**Minye Minye**	**142.98**	**288**	PFAKE			06 26 30.0	+15	
MNMC				LR	LR				
	comp=Z,2µm,19.0s								
PB01	**IPOC Station P**	**143.99**	**285**	PFAKE			06 26 30.0	+14	
PB01				LR	LR				
	comp=Z,900nm,20.0s								
TRQA	**Tornquist**	**144.59**	**254**	*e*PKPdf		**PKPab**	**06 26 15.2**	**-0.2**	
TRQA				LR	LR				
	comp=Z,1µm,22.0s								
CYA	**Choya**	**144.65**	**272**	*i* P		**PKPab**	**06 26 14.1**	**-1.8**	
APLL	**PUNTA DE LOS L**	**146.00**	**269**	*i* P		**PKPdf**	**06 26 19.2**	**-0.3**	
PB10	**IPOC Station P**	**146.15**	**283**	*e*PKPdf		**PKPbc**	**06 26 20.6**	**-0.4**	
VCA	**Vinchina**	**146.70**	**273**	*i* P		**PKPbc**	**06 26 22.7**	**0.0**	
ACAN	**Cantantal**	**147.18**	**266**	*i* P		**PKPdf**	**06 26 22.2**	**+0.8**	
AGUA	**GUANDACOL**	**147.23**	**271**	*i* P		**PKPdf**	**06 26 22.4**	**+0.7**	
AMOG	**MOGNA**	**147.77**	**269**	*i* P		**PKPbc**	**06 26 25.1**	**-0.3**	
RTLL	**Cerro Villicun**	**147.89**	**268**	*i* P		**PKPbc**	**06 26 24.6**	**-1.1**	
RTCV	**Cerro Valdivia**	**148.13**	**267**	*i* P		**PKPbc**	**06 26 26.1**	**-0.2**	
ASAL	**Salagasta**	**148.60**	**266**	*i* P		**PKPbc**	**06 26 27.9**	**+0.3**	
AAGR	**Agrelo**	**148.75**	**265**	*i* P		**PKPbc**	**06 26 28.1**	**+0.1**	
LCO	**Las Campanas**	**148.81**	**274**	*e*PKPbc		**PKPbc**	**06 26 28.1**	**-0.3**	
LCO				*e*PKPab		**PKPab**	**06 26 33.1**	**+0.8**	
LCO	**Las Campanas**	**148.81**	**274**	*i* P		**PKPbc**	**06 26 28.2**	**-0.3**	
AUSP	**Uspallata**	**148.92**	**267**	*i* P		**PKPbc**	**06 26 29.1**	**+0.4**	
RFA	**San Rafael**	**148.93**	**262**	*i* P		**PKPbc**	**06 26 28.1**	**-0.2**	
CLCH	**Cerro Calan**	**150.20**	**266**	*i* P		**PKPbc**	**06 26 30.6**	**-0.9**	
PEL	**Peldehue**	**150.25**	**266**	*i* P		**PKPbc**	**06 26 30.9**	**-0.7**	
PEL				*e*P		**PKiKP**	**06 26 31.0**	**-1.4**	
ROCH	**El Roble**	**150.46**	**267**	*e*P		**PKPbc**	**06 26 31.4**	**-0.9**	
ROCH				*i* P		**PKPbc**	**06 26 31.4**	**-0.9**	
ROC1	**El Roble**	**150.46**	**267**	*e*PKPbc		**PKPbc**	**06 26 31.7**	**-0.7**	
ROC1	**El Roble**	**150.46**	**267**	*i* P		**PKPbc**	**06 26 31.5**	**-0.8**	
PLCA	**Paso Flores**	**151.54**	**251**	PKPbc		**PKPbc**	**06 26 34.4**	**0.0**	
	comp=Z,40nm,1.1s,baz=114,slow=2.0,SNR=30								
PLCA	**Paso Flores**	**151.54**	**251**	*e*PKIKP		**PKPbc**	**06 26 33.2**	**-1.2**	
PLCA	**Paso Flores**	**151.54**	**251**	*e*PKPbc		**PKPbc**	**06 26 33.2**	**-1.2**	
PLCA	**Paso Flores**	**151.54**	**251**	*i* P		**PKPbc**	**06 26 34.4**	**0.0**	
GO09	**Cerro Castillo**	**151.56**	**228**	*e*PKPbc		**PKPbc**	**06 26 34.0**	**0.0**	
GO05	**HualaæØ**	**151.74**	**263**	*e*PKPbc		**PKPbc**	**06 26 34.6**	**-0.3**	
RKT	**Rikitea**	**152.22**	**69**	*e*SS		SS	06 49 41.6	-3.7	
	comp=Z,351nm,30.0s								
RKT	**Rikitea**	**152.22**	**69**	*e*LR		LR	07 17 27.8		
	comp=Z,649nm,27.8s								
CHRN	**Cochrane**	**152.67**	**237**	*e*PKPbc		**PKPbc**	**06 26 36.3**	**-0.3**	

IDC ***12*** *06:10:21.4±2.3,51°.59N×173°.34W,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.6/84,mbtmp3.7/8,ML3.9/1,Error ellipse: s-maj=62.2km s-min=26.2km az=11.0*

ISCJB ***12*** *06:10:25.4±1.7,51°.7N±0°.3×173°.3W±0°.2,h37km,mb3.8/7, Error ellipse: s-maj=41.4km s-min=20.3km az=7.1*

ISC 12 06:10:27.1±2.0,51°.7N±0°.4×173°.3W±0°.2,h37km,n8, σ0§42/8,mb3.9/7,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILAR	**Eielson Array**	**18.93**	**36**	P		**P**	**06 14 44.5**	**0.0**
	0.4nm,0.3s,baz=226,slow=8.8,SNR=29							
YKA	**Yellowknife Ar**	**32.52**	**48**	P		**P**	**06 16 54.1**	**+0.1**
	0.1nm,0.5s,baz=272,slow=7.8,SNR=6.5							
PDAR	**Pinedale Array**	**42.91**	**76**	P		**P**	**06 18 22.4**	**+0.1**
	0.2nm,0.6s,baz=305,slow=3.2,SNR=2.4							
TXAR	**Lajitas Array**	**55.19**	**85**	P		**P**	**06 19 56.0**	**-0.1**
	0.4nm,0.9s,baz=309,slow=5.7,SNR=3.9							
ARCES	**ARCESS Array B**	**58.35**	**352**	P		**P**	**06 20 17.9**	**0.0**
	3.9nm,0.9s,baz=14,slow=7.8,SNR=1.7							
MKAR	**Makanchi Array**	**62.51**	**311**	P		**P**	**06 20 46.5**	**-0.1**
	3.3nm,1.0s,baz=46,slow=5.4,SNR=2.0							
BVAR	**Borovoye Array**	**62.85**	**323**	P		**P**	**06 20 49.4**	**+0.6**
	1.2nm,0.5s,baz=53,slow=7.4,SNR=1.5							
AKASG	**Malin Array Be**	**76.26**	**345**	P		**P**	**06 22 10.7**	**-0.7**
	0.4nm,0.3s,baz=12,slow=5.7,SNR=2.6							

IDC 12 06:13:32.6±1.4,36°.27N×73°.07E,h0km,mb3.7/4, mb1 4.1/5,mb1mx3.6/67,mbtmp4.0/5,Error ellipse: s-maj=40.9km s-min=35.3km az=32.0,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BVAR	**Borovoye Array**	**16.86**	**354**	Pn		Pn	06 17 28.7	-1.2
	baz=181,slow=15,SNR=1.9							
BRTR	**Keskin Array B**	**31.09**	**288**	P		P	06 19 54.0	+1.3
	0.7nm,0.7s,baz=102,slow=7.6,SNR=1.5							
TORD	**Torodi Ar. Bea**	**67.38**	**270**	P		P	06 24 29.2	-0.9
	0.6nm,0.7s,baz=44,slow=6.5,SNR=4.1							
WRA	**Warramunga Arr**	**80.46**	**123**	P		P	06 25 47.8	+1.2
	0.9nm,1.1s,baz=318,slow=5.7,SNR=3.0							
YKA	**Yellowknife Ar**	**81.38**	**4**	P		P	06 25 49.0	-1.8
	0.4nm,0.5s,baz=348,slow=5.7,SNR=4.2							

ISCJB ***12*** *06:21:24.8±0.3,36°.55N±0°.02×72°.93E±0°.05,h10km, mb4.1/19,Error ellipse: s-maj=6.0km s-min=2.7km az=154.5*

IDC ***12*** *06:21:24.1±0.9,36°.62N×73°.12E,h0km,mb3.9/13, mb1 4.1/20,mb1mx3.9/73,mbtmp4.0/20,ML3.7/6,Error ellipse: s-maj=18.8km s-min=16.4km az=170.0*

NEIC ***12*** *06:21:25.3±0.5,36°.45N×73°.10E,h10km,mb4.5/5,Error ellipse: s-maj=8.3km s-min=8.0km az=65.0*

NNC ***12*** *06:21:29.8±7.9,36°.64N×73°.16E,h0km,mb4.7,mpv4.3, Error ellipse: s-maj=83.2km s-min=55.7km az=98.0*

ISC 12 06:21:25.8±0.4,36°.56N±0°.04×73°.01E±0°.05,h10km,n93, σ2§35/96,mb4.1/19,4C-6D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.88**	**199**	P		**Pg**	**06 22 21.1**	**+0.2**
CHCP	**Chirah Chowk**	**2.90**	**176**	P		**Pg**	**06 22 22.5**	**+1.0**
SFK	**Sufi-Kurgan**	**3.47**	**6**	⇑Pn		**Pb**	**06 22 25.6**	**-1.9**
	320nm,1.2s							
SFK				⇓Sn		**Sb**	**06 23 08.2**	**-1.7**
	413nm,0.8s							
KBL	**Kabul**	**3.81**	**239**	*e*Pn		**Pn**	**06 22 25.4**	**+0.6**
DHRM	**DHARAMSHALA**	**5.09**	**147**	*e*P		Pn	06 22 44.8	+2.4
DHRM				*e*S		**Sn**	**06 23 42.0**	**+0.7**
AML	**Almayashu**	**5.59**	**5**	P		**Pn**	**06 22 53.9**	**+4.5**
	SNR=6.8							
KZA	**Kyzart**	**5.78**	**17**	P		**Pn**	**06 22 52.4**	**+0.4**
	SNR=6.8							
UCH	**Uchtor**	**5.78**	**11**	P		Pn	06 22 57.9	+5.8
	SNR=12							
MNAS	**Manas**	**5.93**	**356**	⇓Pn		**Pn**	**06 22 57.3**	**+3.5**
	15nm,0.5s							
MNAS				⇑Sn		**Sn**	**06 24 05.7**	**+3.7**
	34nm,0.9s							
EKS2	**Erkin-Say**	**6.12**	**5**	P		Pn	06 23 02.2	+5.8
	SNR=6.0							
AAK	**Ala-Archa**	**6.18**	**10**	Pn		**Pn**	**06 22 59.7**	**+2.4**
	2.6nm,0.3s,baz=155,slow=5.9,SNR=29							
AAK				Sn		Sn	06 24 19.9	+12
	1.0nm,0.3s,baz=3.5,slow=19,SNR=3.8							
AAK	**Ala-Archa**	**6.18**	**10**	⇓Pn		**Pn**	**06 23 01.6**	**+4.3**
	13nm,0.6s							
AAK				⇑Sn		**Sn**	**06 24 11.5**	**+3.5**
	43nm,1.1s							
AAK	**Ala-Archa**	**6.18**	**10**	P		Pn	06 23 02.8	+5.6
	SNR=6.0							
TARG	**Taragay, Kyrgy**	**6.37**	**34**	*e*Pn		**Pn**	**06 23 02.6**	**+2.5**
SMLA	**Simla**	**6.43**	**146**	*e*P		Pn	06 23 03.6	+3.0
SMLA				*e*S		Sn	06 24 19.4	+5.4
SMLA				IAML			06 24 23.0	
	comp=E,1µm,0.8s							
SMLA				IAML			06 24 23.7	
	comp=N,404nm,0.2s							
CHMS	**Chumysh**	**6.57**	**11**	P		Pn	06 23 07.8	+5.3
	SNR=5.8							
TKM2	**Tokmak 2**	**6.66**	**17**	⇓Pn		**Pn**	**06 23 07.0**	**+3.1**
	comp=N,15nm,0.6s							
TKM2				⇓Sn		**Sn**	**06 24 24.5**	**+4.6**
	comp=N,17nm,0.7s							
KK06	**Karatay Array**	**6.80**	**344**	*e*Pn		**Pn**	**06 23 07.5**	**+1.8**
KK07	**Karatay Array**	**6.80**	**344**	*e*Pn		**Pn**	**06 23 07.1**	**+1.4**
KK02	**Karatay Array**	**6.81**	**344**	*e*Pn		**Pn**	**06 23 07.2**	**+1.4**
KK31	**Karatay Array**	**6.81**	**344**	⇑Pn		**Pn**	**06 23 06.6**	**+0.8**
	comp=N,5.1nm,0.4s,baz=146,slow=11,SNR=34							
KK31				⇓Sn		**Sn**	**06 24 27.1**	**+3.6**
	comp=N,16nm,0.7s,baz=152,slow=20							
KK31	**Karatay Array**	**6.81**	**344**	*e*Pn		**Pn**	**06 23 06.9**	**+1.0**
KKAR	**Karatay Array**	**6.81**	**344**	*e*Pn		**Pn**	**06 23 07.0**	**+1.2**
KK03	**Karatay Array**	**6.81**	**344**	*e*Pn		**Pn**	**06 23 07.3**	**+1.4**
KK01	**Karatay Array**	**6.81**	**344**	*e*Pn		**Pn**	**06 23 07.7**	**+1.8**
KK08	**Karatay Array**	**6.82**	**344**	*e*Pn		**Pn**	**06 23 07.4**	**+1.5**
KK08				*e*Sn		**Sn**	**06 24 23.8**	**+0.2**
KK04	**Karatay Array**	**6.82**	**344**	*e*Pn		**Pn**	**06 23 07.3**	**+1.4**
KK05	**Karatay Array**	**6.82**	**344**	*e*Pn		**Pn**	**06 23 08.3**	**+2.3**
DDI	**Dehra Dun**	**7.51**	**144**	*e*P		**Pn**	**06 23 16.8**	**+1.2**
DDI				*e*S		**Sn**	**06 24 45.0**	**+4.2**
DDI				IAML			06 24 49.8	
	comp=N,296nm,0.6s							
DDI				IAML			06 24 50.3	
	comp=E,292nm,0.6s							
JOSI	**Joshimath**	**8.11**	**136**	*e*P		Pn	06 23 27.4	+3.6
JOSI				*e*S		**Sn**	**06 24 58.8**	**+3.2**
JOSI				IAML			06 25 08.9	
	comp=E,2µm,1.0s							
JOSI				IAML			06 25 09.2	
	comp=N,208nm,0.1s							
KUDL	**Kundal**	**8.89**	**160**	*e*P		**Pn**	**06 23 36.3**	**+1.9**
KUDL				*ex*		x	06 25 09.8	
JASL	**Jaisalmer**	**9.77**	**191**	*e*S		**Sn**	**06 25 29.8**	**-6.5**
PYUN	**Piuthan**	**11.93**	**132**	*e*P		**Pn**	**06 24 16.9**	**+0.8**
	comp=N,27nm,0.4s							
GEYT	**Alibeck**	**11.95**	**281**	Pn		**Pn**	**06 24 17.0**	**+0.8**
	comp=N,0.8nm,0.3s,baz=106,slow=11,SNR=3.3							
GEYT				Sn		**Sn**	**06 26 27.6**	**-2.1**
	comp=N,0.4nm,0.3s,baz=99,slow=28,SNR=2.4							
MK31	**Makanchi Array**	**12.35**	**31**	*e*Pn		**Pn**	**06 24 23.7**	**+2.0**
MK32	**Makanchi Array**	**12.35**	**31**	*e*Pn		**Pn**	**06 24 21.7**	**+0.1**
MKAR	**Makanchi Array**	**12.35**	**31**	Pn		**Pn**	**06 24 21.7**	**+0.1**
	comp=N,0.1nm,0.3s,baz=210,slow=14,SNR=4.7							
MKAR	**Makanchi Array**	**12.35**	**31**	*e*Pn		**Pn**	**06 24 23.7**	**+2.1**
KOLN	**Koldanda**	**12.53**	**131**	*e*P		**Pn**	**06 24 25.6**	**+1.1**
	comp=N,12nm,0.3s							
DMN	**Daman**	**13.58**	**128**	*e*P		**Pn**	**06 24 36.4**	**-2.4**
PKI	**Pulchoki**	**13.80**	**127**	*e*P		**Pn**	**06 24 39.2**	**-2.7**
	comp=N,35nm,0.7s							
BHPL	**Bhopal**	**13.81**	**163**	*e*P		**Pn**	**06 24 42.7**	**+0.9**
GUN	**Gumba**	**13.88**	**125**	*e*P		**Pn**	**06 24 41.0**	**-2.0**
	comp=N,51nm,0.7s							
JIRN	**Jiri**	**14.25**	**125**	*e*P		**Pn**	**06 24 45.9**	**-2.2**
	comp=N,60nm,0.5s							
KURBB	**Kurchatov Arra**	**14.61**	**14**	Pn		**Pn**	**06 24 50.0**	**-2.5**
	baz=205,slow=11,SNR=2.4							
KURK	**Kurchatov**	**14.71**	**14**	*e*Pn		**Pn**	**06 24 50.0**	**-3.9**
AB07	**Akbulak array**	**15.85**	**327**	*e*Pn		**Pn**	**06 25 10.0**	**+1.1**
AB06	**Akbulak array**	**15.86**	**327**	*e*Pn		**Pn**	**06 25 10.0**	**+1.0**
AB08	**Akbulak array**	**15.86**	**327**	*e*Pn		**Pn**	**06 25 10.1**	**+1.0**
AB03	**Akbulak array**	**15.86**	**327**	*e*Pn		**Pn**	**06 25 10.1**	**+1.1**
AB01	**Akbulak array**	**15.86**	**327**	*e*Pn		**Pn**	**06 25 09.7**	**+0.6**
AB31	**Akbulak array**	**15.86**	**327**	*e*Pn		**Pn**	**06 25 10.0**	**+0.9**
ABKAR	**Akbulak array**	**15.86**	**327**	*e*Pn		**Pn**	**06 25 06.3**	**-2.8**
	comp=N,42nm,0.6s							
AB02	**Akbulak array**	**15.86**	**327**	*e*Pn		**Pn**	**06 25 06.4**	**-2.8**
AB04	**Akbulak array**	**15.87**	**327**	*e*Pn		**Pn**	**06 25 06.3**	**-2.8**
AB05	**Akbulak array**	**15.88**	**327**	*e*Pn		**Pn**	**06 25 06.3**	**-2.9**
AB09	**Akbulak array**	**15.88**	**327**	*e*Pn		**Pn**	**06 25 07.2**	**-2.1**
NGP	**Nagpur**	**16.23**	**159**	*e*P		**P**	**06 25 15.5**	**-1.7**
BVAR	**Borovoye Array**	**16.57**	**354**	Pn		**Pn**	**06 25 15.8**	**-2.3**
	comp=N,0.3nm,0.3s,baz=172,slow=12,SNR=2.9							
BRVK	**Borovoye**	**16.61**	**354**	*e*Pn		**Pn**	**06 25 16.2**	**-2.4**
	comp=N,25nm,1.5s							
BOK	**Bokaro**	**16.88**	**135**	*e*P		**P**	**06 25 25.5**	**+1.1**
AKTO	**Aktyubinsk**	**17.58**	**327**	P		**Pn**	**06 25 30.9**	**+0.2**
	comp=N,0.4nm,0.3s,baz=126,slow=11,SNR=8.6							
ZAA0	**Zalesovo Array**	**19.23**	**22**	*e*P		**P**	**06 25 48.1**	**-1.9**
	comp=N,21nm,1.0s							
ZALV	**Zalesovo Beam**	**19.23**	**22**	P		**P**	**06 25 47.5**	**-2.4**
	comp=N,0.9nm,0.3s,baz=211,slow=10,SNR=23							
ZALV	**Zalesovo Beam**	**19.23**	**22**	*e*P		**P**	**06 25 47.8**	**-2.1**
ZAA1	**Zalesovo Array**	**19.23**	**22**	*e*P		**P**	**06 25 47.5**	**-2.5**
SHL	**Shillong**	**19.50**	**119**	*e*P		**Pn**	**06 25 57.5**	**+2.9**
GNI	**Garni**	**22.41**	**288**	P		**P**	**06 26 30.6**	**+5.8**
	comp=N,7.1nm,0.7s,baz=168,slow=8.7,SNR=3.1							
KBZ	**Khabaz**	**24.02**	**297**	P		**P**	**06 26 46.8**	**+6.1**
	comp=N,3.8nm,1.0s,baz=167,slow=5.6,SNR=4.0							
SONA0	**Songino Array**	**26.97**	**55**	*e*P		**P**	**06 27 07.0**	**-0.7**
SONM	**Songino Array**	**26.97**	**55**	P		**P**	**06 27 07.0**	**-0.7**
	comp=N,0.4nm,0.4s,baz=251,slow=9.0,SNR=2.6							
BR101	**Keskin Array S**	**30.95**	**288**	*e*P		**P**	**06 27 45.5**	**+2.3**
BRTR	**Keskin Array B**	**30.96**	**288**	P		**P**	**06 27 45.5**	**+2.3**
	comp=N,0.6nm,0.5s,baz=100,slow=7.5,SNR=6.5							
AKASG	**Malin Array Be**	**34.17**	**308**	P		**P**	**06 28 11.1**	**0.0**
	comp=N,0.2nm,0.3s,baz=85,slow=6.1,SNR=4.6							
AKBB	**Malin Array Si**	**34.17**	**308**	*e*P		**P**	**06 28 11.1**	**0.0**
	comp=N,8.3nm,1.1s							
FIA0	**FINESS Array S**	**38.34**	**326**	*e*P		**P**	**06 28 46.7**	**+0.1**
FINES	**FINESS Array B**	**38.34**	**326**	P		**P**	**06 28 46.7**	**+0.1**
	comp=N,2.6nm,0.7s,baz=108,slow=12,SNR=5.1							
IPM	**Ipoh**	**41.00**	**134**	*e*P		**P**	**06 29 04.5**	**-4.8**
	comp=N,219nm,0.6s							
ARA0	**ARCESS Array S**	**41.71**	**337**	*e*P		**P**	**06 29 16.8**	**+2.3**
ARCES	**ARCESS Array B**	**41.71**	**337**	P		**P**	**06 29 16.8**	**+2.3**
	comp=N,4.2nm,0.8s,baz=118,slow=8.7,SNR=7.8							
HFS	**Hagfors**	**44.02**	**322**	P

TIXI	**Tiksi**	**42.12**	**354**	*i* P		**P**	**06 30 02.8**	**+1.0**
TIXI				pmax	pmax				
	comp=Z,2.0nm,0.9s								
DGZ	**Jazzator, Alta**	**45.46**	**312**	*i* P		**P**	**06 30 30.4**	**+1.2**
DGZ				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ZAA1	**Zalesovo Array**	**47.44**	**317**	*e*P		**P**	**06 30 44.2**	**-0.2**
ZAA1				*e*PcP		**PcP**	**06 32 13.9**	**-0.7**
ZALV	**Zalesovo Beam**	**47.44**	**317**	P		**P**	**06 30 44.3**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=101,slow=7.7,SNR=6.9								
ZALV				PcP		**PcP**	**06 32 13.9**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=83,slow=3.6,SNR=6.1								
ZALV	**Zalesovo Beam**	**47.44**	**317**	*e*P		**P**	**06 30 44.4**	**-0.1**
ZALV				*e*PcP		**PcP**	**06 32 14.6**	**0.0**
MK01	**Makanchi Array**	**48.86**	**307**	*e*P		**P**	**06 30 55.7**	**+0.1**
MK31	**Makanchi Array**	**48.87**	**308**	*e*P		**P**	**06 30 56.0**	**+0.4**
MK31	**Makanchi Array**	**48.87**	**308**	*e*P		**P**	**06 30 56.0**	**+0.4**
MK32	**Makanchi Array**	**48.87**	**308**	*e*P		**P**	**06 30 55.4**	**-0.2**
MKAR	**Makanchi Array**	**48.87**	**308**	P		**P**	**06 30 55.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=90,slow=10,SNR=9.5								
MKAR	**Makanchi Array**	**48.87**	**308**	*ce*P		**P**	**06 30 58.2**	**+2.6**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**48.87**	**308**	*e*P		**P**	**06 30 56.0**	**+0.4**
	comp=Z,23nm,0.8s								
WRAB	**Tennant Creek**	**50.55**	**190**	*e*P		**P**	**06 31 08.6**	**0.0**
WRAB				pmax	pmax				
	comp=Z,14nm,0.8s								
WRAB	**Tennant Creek**	**50.55**	**190**	*e*P		**P**	**06 31 08.6**	**0.0**
	comp=Z,14nm,0.8s								
WB2	**Warramunga Arr**	**50.56**	**190**	*e*P		**P**	**06 31 06.5**	**-2.2**
WR1	**Warramunga Arr**	**50.56**	**190**	*e*P		**P**	**06 31 08.3**	**-0.4**
	comp=Z,15nm,0.8s								
WRA	**Warramunga Arr**	**50.56**	**190**	P		**P**	**06 31 08.3**	**-0.4**
	comp=Z,13nm,0.7s,baz=9.2,slow=7.9,SNR=78								
KURK	**Kurchatov**	**51.14**	**313**	*ce*P		**P**	**06 31 13.8**	**+1.1**
KURK				pmax	pmax				
	comp=Z,62nm,1.2s								
KURK	**Kurchatov**	**51.14**	**313**	*e*P		**P**	**06 31 13.1**	**+0.3**
KURBB	**Kurchatov Arra**	**51.20**	**313**	P		**P**	**06 31 12.6**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=86,slow=7.0,SNR=8.9								
TARG	**Taragay, Kyrgy**	**52.61**	**301**	*e*P		**P**	**06 31 25.1**	**+0.6**
	comp=Z,10.0nm,1.2s								
RC01	**Rabbit Creek A**	**53.21**	**34**	*e*pP		pP	06 31 40.2	+4.7
COLD	**Coldfoot**	**53.63**	**26**	*e*P		**P**	**06 31 31.9**	**+0.9**
	comp=Z,5.4nm,1.2s								
TOLK	**Toolik Lake Re**	**54.07**	**25**	*e*P		**P**	**06 31 35.1**	**+0.9**
	comp=Z,8.7nm,1.0s								
AS01	**Alice Springs**	**54.28**	**190**	*e*P		**P**	**06 31 36.0**	**-0.3**
AS31	**Alice Springs**	**54.28**	**190**	*e*P		**P**	**06 31 36.2**	**-0.1**
	comp=Z,2.5nm,0.5s								
ASAR	**Alice Springs**	**54.29**	**190**	P		**P**	**06 31 36.1**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=2.8,slow=5.6,SNR=58								
IL1	**Eielson Array**	**54.73**	**30**	*e*P		**P**	**06 31 38.5**	**-0.6**
ILAR	**Eielson Array**	**54.73**	**30**	P		**P**	**06 31 38.5**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=255,slow=6.5,SNR=18								
ILB	**Eielson Array**	**54.73**	**30**	*e*P		**P**	**06 31 38.6**	**-0.5**
AAK	**Ala-Archa**	**54.87**	**303**	*e*P		**P**	**06 31 41.9**	**+1.2**
AAK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
FYU	**Fort Yukon**	**55.51**	**27**	*e*P		**P**	**06 31 46.2**	**+1.6**
	comp=Z,21nm,1.3s								
BVAR	**Borovoye Array**	**56.06**	**316**	P		**P**	**06 31 49.0**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=94,slow=7.8,SNR=13								
BVAR	**Borovoye Array**	**56.06**	**316**	P		**P**	**06 31 49.0**	**+0.2**
BVAR				pmax	pmax				
	comp=Z,5.0nm,0.8s								
BRVK	**Borovoye**	**56.12**	**316**	*ce*P		**P**	**06 31 50.4**	**+1.2**
BRVK				pmax	pmax				
	comp=Z,56nm,2.5s								
KKAR	**Karatay Array**	**57.65**	**304**	*e*P		**P**	**06 32 00.8**	**+0.6**
KKAR	**Karatay Array**	**57.65**	**304**	*e*P		**P**	**06 32 00.8**	**+0.6**
HYT	**Haines Junctio**	**59.18**	**34**	*e*P		**P**	**06 32 11.1**	**+0.2**
	comp=Z,9.5nm,1.1s								
STKA	**Stephens Creek**	**61.81**	**181**	P		**P**	**06 32 29.1**	**+0.3**
	comp=Z,3.8nm,0.6s,baz=355,slow=7.4,SNR=15								
STKA	**Stephens Creek**	**61.81**	**181**	*e*P		**P**	**06 32 29.1**	**+0.3**
	comp=Z,1.2nm,0.8s								
ARU	**Arti**	**62.23**	**321**	P		**P**	**06 32 31.6**	**+0.1**
	comp=Z,6.0nm,0.2s,baz=93,slow=4.4,SNR=7.7								
ARU	**Arti**	**62.23**	**321**	*c i*P		**P**	**06 32 31.5**	**+0.1**
ARU				S		**S**	**06 40 55.1**	**-0.5**
ARU				pmax	pmax				
	comp=Z,16nm,1.0s								
ABKAR	**Akbulak array**	**63.24**	**313**	*e*P		**P**	**06 32 38.8**	**+0.5**
	comp=Z,36nm,0.8s								
AKTO	**Aktyubinsk**	**64.11**	**315**	P		**P**	**06 32 45.4**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=91,slow=9.3,SNR=5.5								
SPA0	**Spitsbergen Ar**	**67.36**	**350**	*e*P		**P**	**06 33 05.2**	**+0.6**
SPITS	**Spitsbergen Ar**	**67.36**	**350**	P		**P**	**06 33 05.5**	**+0.9**
	comp=Z,9.0nm,0.8s,baz=338,slow=9.9,SNR=4.1								
RES	**Resolute Bay**	**68.88**	**14**	*e*P		**P**	**06 33 14.2**	**+0.1**
RES				*e*S		**S**	**06 42 14.0**	**-2.4**
RES				pmax	pmax				
	comp=Z,5.0nm,1.0s								
RES	**Resolute Bay**	**68.88**	**14**	*e*P		**P**	**06 33 14.2**	**+0.1**
	comp=Z,5.2nm,1.0s								
RES				*e*S		**S**	**06 42 14.0**	**-2.4**
YKW3	**Yellowknife Ar**	**69.11**	**29**	*e*P		**P**	**06 33 15.6**	**-0.2**
	comp=Z,6.5nm,1.0s								
YKA	**Yellowknife Ar**	**69.15**	**29**	P		**P**	**06 33 15.7**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=294,slow=6.3,SNR=46								
KLMR	**Klimovskoe**	**70.08**	**330**	*e*P		**P**	**06 33 19.6**	**-2.2**
KLMR				pmax	pmax				
	comp=Z,17nm,1.5s								
KLMR	**Klimovskoe**	**70.08**	**330**	*e*P		**P**	**06 33 19.7**	**-2.1**
ARA0	**ARCESS Array S**	**70.71**	**341**	*e*P		**P**	**06 33 25.2**	**-0.3**
ARCES	**ARCESS Array B**	**70.71**	**341**	P		**P**	**06 33 25.2**	**-0.3**
	comp=Z,5.1nm,0.9s,baz=57,slow=8.8,SNR=5.7								
VRH	**Novokhopyorsk**	**73.38**	**320**	*e*P		**P**	**06 33 39.2**	**-2.5**
VRH				pmax	pmax				
	comp=Z,70nm,1.4s								
PINE	**Pine Mountain**	**73.94**	**48**	*e*P		**P**	**06 33 47.0**	**+1.5**
	comp=Z,12nm,0.9s								
EDM	**Edmonton**	**74.02**	**37**	*e*P		**P**	**06 33 46.2**	**+0.6**
EDM				pmax	pmax				
	comp=Z,26nm,1.4s								
EDM	**Edmonton**	**74.02**	**37**	*e*P		**P**	**06 33 46.1**	**+0.6**
	comp=Z,26nm,1.4s								
LPSR	**Galich'ya Gora**	**74.23**	**322**	*e*P		**P**	**06 33 48.2**	**+1.5**
LPSR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
NEW	**Newport**	**74.27**	**43**	*e*P		**P**	**06 33 48.1**	**+1.0**
NEW				pmax	pmax				
	comp=Z,10.0nm,1.1s								
NEW	**Newport**	**74.27**	**43**	*e*P		**P**	**06 33 48.1**	**+1.0**
	comp=Z,9.5nm,1.1s								
VSR	**Storozhevoye**	**74.78**	**321**	*e*P		**P**	**06 33 48.7**	**-1.3**
VSR				pmax	pmax				
	comp=Z,10.0nm,1.2s								
FIA0	**FINESS Array S**	**75.32**	**334**	*e*P		**P**	**06 33 52.7**	**-0.2**
FIA0	**FINESS Array S**	**75.32**	**334**	*e*P		**P**	**06 33 52.7**	**-0.2**
FINES	**FINESS Array B**	**75.32**	**334**	P		**P**	**06 33 52.7**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=62,slow=5.9,SNR=17								
ORV	**Oroville**	**75.49**	**53**	*e*P		**P**	**06 33 54.8**	**+0.5**
ORV				pmax	pmax				
	comp=Z,6.0nm,1.0s								
ORV	**Oroville**	**75.49**	**53**	*e*P		**P**	**06 33 54.8**	**+0.5**
	comp=Z,6.3nm,1.0s								
J08A	**Circle Bar Ran**	**75.74**	**48**	*e*P		**P**	**06 33 57.0**	**+1.2**
	comp=Z,5.5nm,0.8s								
BMO	**Blue Mountains**	**75.77**	**46**	*e*P		**P**	**06 33 56.6**	**+0.7**
BMO				pmax	pmax				
	comp=Z,7.0nm,1.2s								
BMO	**Blue Mountains**	**75.77**	**46**	*e*P		**P**	**06 33 56.6**	**+0.7**
	comp=Z,6.7nm,1.2s								
JTMT	**Jette**	**76.19**	**43**	*e*P		**P**	**06 33 58.6**	**+0.3**
	comp=Z,10nm,0.9s								
KBZ	**Khabaz**	**76.20**	**313**	P		**P**	**06 33 58.6**	**+0.4**
	comp=Z,6.2nm,0.9s,baz=85,slow=2.6,SNR=7.1								
KBZ	**Khabaz**	**76.20**	**313**	P		**P**	**06 33 58.6**	**+0.4**
KBZ				pmax	pmax				
	comp=Z,7.0nm,0.9s								
PAHR	**Pah Rah Range**	**76.86**	**52**	*e*P		**P**	**06 34 03.0**	**+0.7**
	comp=Z,5.7nm,0.9s								
CMB	**Columbia Colle**	**76.96**	**54**	*e*P		**P**	**06 34 03.4**	**+0.6**
CMB				pmax	pmax				
	comp=Z,8.0nm,0.9s								
CMB	**Columbia Colle**	**76.96**	**54**	*e*P		**P**	**06 34 03.4**	**+0.6**
	comp=Z,8.4nm,0.9s								
YERR	**Yerington**	**77.30**	**52**	*e*P		**P**	**06 34 05.7**	**+0.9**
	comp=Z,11nm,1.0s								
WAKR	**Walker**	**77.40**	**53**	*e*P		**P**	**06 34 06.5**	**+1.1**
	comp=Z,6.6nm,1.0s								
MFID	**Camas Ranch**	**77.40**	**47**	*e*P		**P**	**06 34 06.4**	**+1.2**
	comp=Z,6.4nm,1.1s								
SUMG	**Summit**	**77.43**	**0**	*e*P		**P**	**06 34 06.3**	**+1.1**
SUMG				pmax	pmax				
	comp=Z,13nm,1.1s								
SUMG	**Summit**	**77.43**	**0**	*e*P		**P**	**06 34 06.3**	**+1.1**
	comp=Z,13nm,1.1s								
RYN	**Ryan**	**77.97**	**52**	*e*P		**P**	**06 34 09.5**	**+1.0**
	comp=Z,7.5nm,1.0s								
PAGB	**Antelope Grade**	**78.15**	**56**	*e*P		**P**	**06 34 10.5**	**+1.1**
	comp=Z,7.8nm,0.8s								
NV01	**Mina Array Sit**	**78.21**	**52**	*e*P		**P**	**06 34 10.5**	**+0.6**
NVAR	**Mina Array Bea**	**78.21**	**52**	P		**P**	**06 34 10.6**	**+0.6**
	comp=Z,5.7nm,0.8s,baz=283,slow=5.7,SNR=32								
HLID	**Hailey**	**78.22**	**46**	*e*P		**P**	**06 34 11.1**	**+1.3**
	comp=Z,3.7nm,1.2s								
LRM	**Limekiln Ridge**	**78.26**	**44**	*e*P		**P**	**06 34 10.9**	**+0.8**
NV11	**Mina Array Sit**	**78.31**	**52**	*e*P		**P**	**06 34 11.2**	**+0.8**
	comp=Z,0.8nm,1.4s								
FFC	**Flin Flon**	**78.82**	**32**	*e*P		**P**	**06 34 12.8**	**+0.1**
FFC				pmax	pmax				
	comp=Z,10.0nm,1.0s								
FFC	**Flin Flon**	**78.82**	**32**	*e*P		**P**	**06 34 12.8**	**+0.1**
	comp=Z,9.7nm,1.0s								
R11A	**Troy Canyon, C**	**80.10**	**51**	*e*P		**P**	**06 34 20.6**	**+0.3**
	comp=Z,3.0nm,0.9s								
H17A	**Grant Village**	**80.14**	**44**	*e*P		**P**	**06 34 23.2**	**+2.8**
	comp=Z,14nm,1.2s								
FXWY	**Fox Creek**	**80.27**	**45**	*e*P		**P**	**06 34 19.9**	**-1.2**
	comp=Z,4.9nm,1.1s								
AKASG	**Malin Array Be**	**80.34**	**324**	P		**P**	**06 34 20.6**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=49,slow=5.5,SNR=13								
AKBB	**Malin Array Si**	**80.34**	**324**	*e*P		**P**	**06 34 20.6**	**-0.4**
AKBB				pmax	pmax				
	comp=Z,8.0nm,1.0s								
AKBB	**Malin Array Si**	**80.34**	**324**	*e*P		**P**	**06 34 20.6**	**-0.4**
	comp=Z,7.7nm,1.0s								
AK11	**Malin Array Si**	**80.38**	**324**	*e*P		**P**	**06 34 20.7**	**-0.5**
MOOW	**Moose Ponds**	**80.39**	**45**	*e*P		**P**	**06 34 22.7**	**+1.0**
	comp=Z,9.4nm,1.5s								
NB2	**NORSAR Subarra**	**80.84**	**338**	P		**P**	**06 34 23.2**	**-0.4**
	comp=Z,5.7nm,1.0s,baz=40,slow=5.6								
NB200	**NORSAR Array S**	**80.84**	**338**	*e*P		**P**	**06 34 23.6**	**-0.1**
NOA	**NORSAR Array B**	**80.84**	**338**	P		**P**	**06 34 23.6**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=41,slow=5.4,SNR=6.8								
DUG	**Dugway, Tooele**	**80.98**	**49**	*e*P		**P**	**06 34 25.6**	**+0.7**
DUG				pmax	pmax				
	comp=Z,10.0nm,1.3s								
DUG	**Dugway, Tooele**	**80.98**	**49**	*e*P		**P**	**06 34 25.6**	**+0.7**
	comp=Z,9.5nm,1.3s								
HWUT	**Hardware Ranch**	**81.03**	**47**	*e*P		**P**	**06 34 26.2**	**+1.0**
	comp=Z,6.2nm,1.0s								
SHPR	**Sheep Range**	**81.34**	**53**	*e*P		**P**	**06 34 27.9**	**+1.0**
	comp=Z,5.3nm,1.0s								
CTU	**Camp Tracy**	**81.40**	**48**	*e*P		**P**	**06 34 28.0**	**+0.8**
	comp=Z,6.8nm,1.2s								
HDB	**Hidalgo Marine**	**81.63**	**55**	*e*P		**P**	**06 34 27.6**	**-0.8**
BW06	**Boulder Array**	**81.65**	**45**	*e*P		**P**	**06 34 28.8**	**+0.3**
	comp=Z,2.9nm,0.9s								
PD31	**Pinedale Array**	**81.65**	**45**	*e*P		**P**	**06 34 28.7**	**+0.2**
PDAR	**Pinedale Array**	**81.65**	**45**	P		**P**	**06 34 28.4**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=257,slow=2.8,SNR=10								
PDAR	**Pinedale Array**	**81.65**	**45**	*e*P		**P**	**06 34 28.2**	**-0.2**
PFO	**Pinyon Flats O**	**81.91**	**56**	*e*P		**P**	**06 34 30.0**	**+0.1**
PFO				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PFO	**Pinyon Flats O**	**81.91**	**56**	*e*P		**P**	**06 34 30.0**	**+0.1**
	comp=Z,10nm,1.0s								
XPFO	**Pæon Flat**	**81.92**	**56**	*e*P		**P**	**06 34 30.0**	**+0.1**
	comp=Z,10nm,1.0s								
CCUT	**Cedar City**	**82.02**	**51**	*e*P		**P**	**06 34 31.5**	**+0.9**
	comp=Z,4.3nm,1.0s								
LCMT	**Little Creek M**	**82.39**	**52**	*e*P		**P**	**06 34 33.1**	**+0.7**
	comp=Z,6.5nm,0.8s								
KNB	**Kanab**	**82.67**	**51**	*e*P		**P**	**06 34 34.8**	**+0.9**
KNB				pmax	pmax				
	comp=Z,12nm,0.9s								
KNB	**Kanab**	**82.67**	**51**	*e*P		**P**	**06 34 34.8**	**+0.9**
	comp=Z,12nm,0.9s								
P17A	**Butcher Ranch,**	**82.72**	**48**	*e*P		**P**	**06 34 34.8**	**+0.7**
	comp=Z,16nm,0.7s								
SWSC	**Sam W. Stewart**	**82.73**	**56**	*e*P		**P**	**06 34 32.6**	**-1.4**
P18A	**Preston Nutter**	**82.95**	**48**	*e*P		**P**	**06 34 37.0**	**+1.5**
	comp=Z,121nm,0.3s								
SRU	**San Rafael Swe**	**83.06**	**49**	*e*P		**P**	**06 34 36.2**	**+0.3**
SRU				pmax	pmax				
	comp=Z,7.0nm,0.6s								
SRU	**San Rafael Swe**	**83.06**	**49**	*e*P		**P**	**06 34 36.2**	**+0.3**
	comp=Z,6.8nm,0.6s								
GLA	**Glamis**	**83.37**	**56**	*e*P		**P**	**06 34 38.2**	**+0.8**
GLA				pmax	pmax				
	comp=Z,7.0nm,0.8s								
GLA	**Glamis**	**83.37**	**56**	*e*P		**P**	**06 34 38.2**	**+0.8**
	comp=Z,7.1nm,0.8s								
K22A	**Casper**	**83.56**	**44**	*e*P		**P**	**06 34 38.9**	**+0.5**
	comp=Z,7.3nm,1.0s								
O20A	**White River Ci**	**83.94**	**47**	*e*P		**P**	**06 34 41.0**	**+0.6**
	comp=Z,11nm,1.2s								
BR101	**Keskin Array S**	**84.19**	**313**	*e*P		**P**	**06 34 41.9**	**+0.3**
BR131	**Keskin Array S**	**84.19**	**313**	*e*P		**P**	**06 34 42.0**	**+0.4**
BRTR	**Keskin Array B**	**84.19**	**313**	P		**P**	**06 34 41.9**	**+0.4**
	comp=Z,5.2nm,0.8s,baz=95,slow=4.4,SNR=22								
BRTR	**Keskin Array B**	**84.19**	**313**	*i* P		**P**	**06 34 42.0**	**+0.4**
BRTR				pmax	pmax				
	comp=Z,5.0nm,0.8s								
Y14A	**Wickenburg**	**84.19**	**54**	*e*P		**P**	**06 34 42.3**	**+0.7**
	comp=Z,11nm,0.8s								
RAYN	**Ar Rayn**	**84.30**	**294**	*e*P		**P**	**06 34 43.1**	**+0.8**
	comp=Z,18nm,0.8s								
PV10	**Paradox Valley**	**84.43**	**49**	*e*P		**P**	**06 34 43.8**	**+0.9**
WUAZ	**Wupatki**	**84.46**	**52**	*e*P		**P**	**06 34 44.0**	**+0.9**
	comp=Z,10nm,1.1s								
ULM	**Lac du Bonnet**	**84.55**	**33**	P		**P**	**06 34 42.5**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=306,slow=4.6,SNR=5.9								
BR231	**Keskin MP Arra**	**84.67**	**313**	*e*P		**P**	**06 34 42.8**	**-1.2**
PV01	**Paradox Valley**	**84.87**	**49**	*e*P		**P**	**06 34 45.4**	**+0.2**
N23A	**Red Feather La**	**84.93**	**45**	*e*P		**P**	**06 34 46.9**	**+1.4**
	comp=Z,11nm,0.9s								
X16A	**Lo Mia Camp, P**	**85.02**	**53**	*e*P		**P**	**06 34 46.8**	**+0.8**
	comp=Z,2.6nm,1.0s								
STHS	**Stebnicka Huta**	**85.13**	**326**	*e*P		**P**	**06 34 44.8**	**-1.2**
STHS	**Stebnicka Huta**	**85.13**	**326**	*e*P		**P**	**06 34 44.8**	**-1.2**
SMCO	**Snowmass**	**85.29**	**47**	*e*P		**P**	**06 34 48.4**	**+0.9**
	comp=Z,7.7nm,1.0s								
ISCO	**Idaho Springs**	**85.78**	**46**	*e*P		**P**	**06 34 50.5**	**+0.7**
ISCO				pmax	pmax				
	comp=Z,3.0nm,0.9s								
ISCO	**Idaho Springs**	**85.78**	**46**	*e*P		**P**	**06 34 50.5**	**+0.7**
	comp=Z,2.5nm,0.9s								
S22A	**4UR Ranch, Cre**	**86.22**	**48**	*e*P		**P**	**06 34 52.7**	**+0.7**
	comp=Z,20nm,2.0s								
Q24A	**Divide**	**86.57**	**46**	*e*P		**P**	**06 34 55.0**	**+1.3**
	comp=Z,5.8nm,0.8s								
CLL	**Collm**	**87.51**	**331**	*e*P		**P**	**06 34 59.0**	**+1.4**
CLL	**Collm**	**87.51**	**331**	*e*P		**P**	**06 34 59.0**	**+1.4**
ANMO	**Albuquerque**	**88.10**	**50**	*ce*P		**P**	**06 35 03.4**	**+2.4**
ANMO				pmax	pmax				
	comp=Z,3.0nm,1.2s								
EKA	**Eskdalemuir Ar**	**89.86**	**341**	P		**P**	**06 35 08.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=21,slow=6.1,SNR=3.2								
WMOK	**Wichita Mounta**	**93.19**	**46**	*e*P		**P**	**06 35 24.8**	**+0.3**
WMOK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
WMOK	**Wichita Mounta**	**93.19**	**46**	*e*P		**P**	**06 35 24.8**	**+0.3**
	comp=Z,3.8nm,0.8s								
LTX	**Lajitas**	**93.34**	**53**	*e*P		**P**	**06 35 26.4**	**+1.0**
LTX	**Lajitas**	**93.34**	**53**	*e*P		**P**	**06 35 26.4**	**+1.0**
TX31	**Lajitas Ar. Si**	**93.34**	**53**	*e*P		**P**	**06 35 26.0**	**+0.6**
TXAR	**Lajitas Array**	**93.34**	**53**	P		**P**	**06 35 26.4**	**+0.9**
	comp=Z,5.5nm,0.9s,baz=300,slow=2.7,SNR=51								
TOA1	**Torodi Ar. Sit**	**122.80**	**313**	*e*PKPdf		**PKPdf**	**06 41 06.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**122.80**	**313**	PKP		**PKPdf**	**06 41 06.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=41,slow=2.3,SNR=3.3								
PLCA	**Paso Flores**	**151.13**	**120**	PKPbc		**PKPbc**	**06 42 04.3**	**+1.1**
	comp=Z,8.1nm,0.8s,baz=258,slow=2.0,SNR=7.6								

*ISCJB **12** 06:29:38.3±1.7,24°.93N±0°.09×122°.52E±0°.07,h16km, Error ellipse: s-maj=14.9km s-min=6.2km az=31.3*
*TAP **12** 06:29:39.6,24°.94N×122°.42E,h9km, ML2.6, D*
*JMA **12** 06:29:43.0±0.1,24°.01N×122.91E,h17km,M2.7*
ISC 12 06:29:34.9±1.7,25°.0N±0°.1×122.73E±0°.06,h16km,n12, σ2s69/16,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.54**	**159**	P		**Pn**		**06 29 51.6**	**+3.8**
JYNG				S		**Sn**		**06 29 57.9**	**+1.4**
YOJ	**Yonaguni jima**	**0.55**	**153**	P		**Pn**		**06 29 52.2**	**+4.1**
YOJ				S		**Sn**		**06 29 58.5**	**+1.6**
EOS1	**EOS1**	**0.68**	**234**	*e*P		**Pb**		**06 29 48.8**	**+0.4**
	baz=214								
EOS1				*e*S		**Sg**		**06 29 55.3**	**-2.0**
	baz=214								
TIPB	**Shuangxi**	**0.82**	**271**	*e*P		**Pb**		**06 29 49.9**	**-0.9**
	baz=273								
NWF	**Wu-fen Shan**	**0.87**	**278**	*e*P		**Pb**		**06 29 51.7**	**0.0**
	baz=282								
TWC	**Suao**	**0.87**	**247**	*e*P		**Pb**		**06 29 51.2**	**-0.5**
	baz=236								
ENA	**Nanau**	**1.04**	**240**	*e*P		**Pb**		**06 29 54.5**	**-0.1**
	baz=229								
ENTT	**Nioudou**	**1.11**	**254**	*e*P		**Pb**		**06 29 55.1**	**-0.5**
	baz=248								
NWLT	**Wulai**	**1.13**	**261**	*e*P		**Pb**		**06 29 55.6**	**-0.5**
	baz=259								
HATJ	**Hateruma jima**	**1.32**	**132**	*e*S		**Sb**		**06 30 08.8**	**-7.2**
JKRS	**Kuro-shima**	**1.36**	**121**	*e*S		**Sn**		**06 30 16.4**	**-0.5**
OWD	**Renai**	**1.73**	**235**	*e*P		**Pb**		**06 30 06.1**	**-0.3**
	baz=229								
OWD				*e*S		**Sn**		**06 30 25.9**	**-0.5**
	baz=229								

*ISCJB **12** 06:34:56.5±0.8,14°.26S±0°.04×75°.51W±0°.06,h65km±6km, mb4.7/65, Error ellipse: s-maj=11.1km s-min=4.7km az=147.4*
*NEIC **12** 06:34:58.5±0.6,14°.31S×75°.57W,h61km±5km,mb4.8/58, ML5.4(ARE), Error ellipse: s-maj=9.2km s-min=4.6km az=58.0*
NEIC Felt [III] at Ica and [II] at Nazca, Palpa, Paracas and Pisco. Also felt at Lima and Mala.
*IDC **12** 06:34:58.5±2.3,14°.21S×75°.59W,h58km±20km,mb4.0/16, mb1 4.2/18,mb1mx4.1/39,mbtmp4.3/18,ML4.3/3,MS3.4/4, Ms1 3.4/4,ms1mx3.2/36,Error ellipse: s-maj=21.8km s-min=13.7km az=54.0*
ISC 12 06:34:57.6±0.9,14°.35S±0°.05×75°.65W±0°.07,h56km±8km, n226,σ1s48/235,mb4.7/65,MS3.9/3,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.62**	**334**	P		**Pn**		**06 35 36.6**	**-1.0**
	534nm,0.3s,baz=145,slow=11,SNR=170								
NNA				LR		LR		06 36 07.4	
	comp=Z,87nm,20.8s,baz=162,slow=27								
NNA				S		**Sn**		**06 36 11.3**	**+3.0**
	1μm,0.3s,baz=88,slow=9.0,SNR=10								
NNA	**Nana**	**2.62**	**334**	*e*Pn		**Pn**		**06 35 37.4**	**-0.2**
NNA				*e*Sn		**Sn**		**06 36 06.7**	**-1.6**
MNMC	**Minye Minye**	**7.50**	**130**	*e*Pn		**Pn**		**06 36 45.1**	**+0.5**
MNMC				*e*Sn		**Sn**		**06 38 06.4**	**-2.0**
LPAZ	**La Paz**	**7.51**	**106**	P		**Pn**		**06 36 49.4**	**+4.3**
	3.0nm,0.3s,baz=277,slow=8.6,SNR=44								

	8.3nm,0.8s						
S43A	**Fulton Ridge,** baz=162	53.40	346	P	P	06 44 11.9	+0.2
TUL1	**Leonard** baz=155	53.50	340	P	P	06 44 11.4	-1.1
TUL1	**Leonard** 8.5nm,0.8s	53.50	340	*e*P	P	06 44 12.1	-0.4
WMOK	**Wichita Mounta**	53.54	336	*e*P	P	06 44 11.6	-1.2
WMOK				*e*PcP	PcP	06 45 19.4	+0.3
S41A	**Jillco Farms,** baz=160	53.84	344	P	P	06 44 13.8	-1.1
MNTX	**Cornudas Mount** baz=144	53.94	328	P	P	06 44 15.1	-0.8
MNTX	**Cornudas Mount** 4.1nm,1.1s	53.94	328	*e*P	P	06 44 15.4	-0.4
S40A	**Lebanon** baz=160	54.05	343	P	P	06 44 15.3	-1.2
CCM	**Cathedral Cave**	54.15	345	*e*P	P	06 44 18.3	+1.2
CCM				*e*PcP	PcP	06 45 21.0	-0.2
S39A	**Bolivar** baz=159	54.37	343	P	P	06 44 18.0	-0.8
Q44A	**Meyer Farm, Va** baz=164	54.43	347	P	P	06 44 17.8	-1.3
P47A	**Martinsville** baz=167	54.47	350	P	P	06 44 17.6	-1.9
S38A	**Stockton** baz=158	54.48	342	P	P	06 44 18.5	-1.1
MSTX	**Muleshoe**	54.56	332	*e*P	P	06 44 19.9	-0.5
MSTX				*e*PcP	PcP	06 45 23.3	+0.2
R40A	**Maddies Statio** baz=160	54.63	344	P	P	06 44 19.6	-1.1
P45A	**Graceland, Par** baz=166	54.77	349	P	P	06 44 20.0	-1.7
R38A	**Fenwick Farm,** baz=158	55.00	342	P	P	06 44 21.9	-1.4
Q38A	**Cooks Store, C** baz=159	55.63	343	P	P	06 44 26.9	-1.0
319A	**Douglas** 10nm,0.8s	55.77	325	*e*P	P	06 44 30.1	+1.0
121A	**Cookes Peak, D** baz=142	55.84	327	P	P	06 44 30.0	+0.2
P39B	**Salisbury** baz=160	55.89	344	P	P	06 44 28.2	-1.5
O41A	**Passleys Farm,** baz=162	56.01	346	P	P	06 44 28.7	-1.8
R34A	**Isabella, Hill** baz=155	56.15	340	P	P	06 44 30.6	-1.1
O40A	**La Belle** baz=161	56.26	345	P	P	06 44 31.1	-1.2
P36A	**Good Intent, A** baz=157	56.70	342	P	P	06 44 34.2	-1.3
P35A	**Duane Minner,** baz=156	56.87	341	P	P	06 44 35.6	-1.1
LAZ	**Ladron**	56.99	329	*e*P	P	06 44 38.4	+0.5
ANMO	**Albuquerque**	57.09	330	P	P	06 44 38.7	+0.1
ANMO	**Albuquerque** baz=144	57.09	330	*e*P	P	06 44 38.5	0.0
TUC	**Tucson** baz=138	57.31	325	P	P	06 44 40.1	0.0
TUC	**Tucson** 3.0nm,0.7s	57.31	325	*e*P	P	06 44 40.5	+0.4
M39A	**Webster** baz=161	57.61	345	P	P	06 44 40.8	-1.1
N36A	**Muff Farm, Cla** baz=158	57.73	343	P	P	06 44 41.5	-1.3
M37A	**Trindle Farm,** baz=159	58.03	344	P	P	06 44 43.7	-1.1
214A	**Organ Pipe Nat** baz=136	58.21	323	P	P	06 44 47.4	+1.0
L36A	**Harm Buss Farm** baz=158	58.84	344	P	P	06 44 49.4	-1.1
M34A	**Aspy Farms, Fr** baz=156	58.85	342	P	P	06 44 49.6	-1.0
SDCO	**Great Sand Dun** baz=146	58.92	333	P	P	06 44 51.7	+0.2
SDCO	**Great Sand Dun** 4.4nm,0.9s	58.92	333	*e*P	P	06 44 51.5	+0.1
M33A	**Taylor Creek F** baz=156	59.10	341	P	P	06 44 51.1	-1.2
L34A	**Svendsen Farm,** baz=156	59.21	342	P	P	06 44 51.7	-1.3
X16A	**Lo Mia Camp, P** 5.3nm,0.8s	59.25	326	*e*P	P	06 44 54.8	+1.1
K36A	**Gilmore City** baz=159	59.28	344	P	P	06 44 52.6	-0.9
Y14A	**Wickenburg** 21nm,0.8s	59.76	324	*e*P	P	06 44 57.8	+0.7
MVCO	**Mesa Verde** baz=143	59.89	330	P	P	06 44 57.4	-0.7
J36A	**Seneca 1, Swea** baz=159	59.90	344	P	P	06 44 56.8	-1.0
I38A	**Scanlan Farm,** baz=161	60.07	346	P	P	06 44 57.1	-1.8
Y12C	**Blythe** baz=136	60.50	323	P	P	06 45 02.0	-0.1
K31A	**O'Neill** baz=154	60.54	341	P	P	06 45 01.8	-0.4
J33A	**Davis** baz=156	60.62	342	P	P	06 45 01.4	-1.3
SWSC	**Sam W. Stewart**	60.69	322	*e*P	P	06 44 59.9	-3.4
ECSD	**EROS Data Cent** baz=157	60.90	343	P	P	06 45 03.5	-1.1
ECSD	**EROS Data Cent** 5.3nm,0.9s	60.90	343	*e*P	P	06 45 03.3	-1.3
H36A	**Jessenland, He** baz=160	60.96	345	P	P	06 45 03.9	-1.1
BC3	**Big Chuckawall** baz=135	60.98	322	P	P	06 45 06.4	+1.0
IRM	**Iron Mountain** baz=135	61.15	323	P	P	06 45 07.3	+0.8
I33A	**Coleman** baz=156	61.24	343	P	P	06 45 05.8	-1.1
SPMN	**Marine on St.** baz=161	61.30	346	P	P	06 45 06.1	-1.1
SPMN	**Marine on St.** 14nm,1.3s	61.30	346	*e*P	P	06 45 06.7	-0.6
H35A	**Sunnyside Ranc** baz=159	61.30	345	P	P	06 45 06.1	-1.2
H34A	**Spellman Lake,** baz=158	61.53	344	P	P	06 45 07.8	-0.9
G36A	**St. Michael** baz=160	61.53	346	P	P	06 45 07.7	-1.1
XPFO	**Piæon Flat** 6.3nm,0.9s	61.54	322	*e*P	P	06 45 10.6	+1.3
PFO	**Pinyon Flats O** 6.0nm,0.9s	61.55	322	*e*P	P	06 45 10.6	+1.3
MTLAZ	**Mount Logan**	61.65	326	*e*P	P	06 45 09.8	-0.3
H33A	**Prehn Over Nor** baz=157	61.81	343	P	P	06 45 09.8	-0.9
H32A	**Carlson Farm,** baz=156	61.84	342	P	P	06 45 10.2	-0.8
KNB	**Kanab** 6.9nm,0.9s	61.94	327	*e*P	P	06 45 12.8	+0.8
F36A	**Milaca** baz=160	62.07	346	P	P	06 45 11.3	-1.1
LCMT	**Little Creek M** 3.8nm,1.1s	62.16	326	*e*P	P	06 45 14.1	+0.7
G33A	**Ortonville** baz=157	62.19	344	P	P	06 45 12.0	-1.2
F34A	**Alexandria** baz=158	62.44	345	P	P	06 45 14.1	-0.7
CCUT	**Cedar City** 6.1nm,0.8s	62.62	327	*e*P	P	06 45 17.8	+1.3
F33A	**5 Mile Ranch,** baz=157	62.75	344	P	P	06 45 16.0	-1.0
SHPR	**Sheep Range** 4.1nm,1.0s	62.84	325	*e*P	P	06 45 18.8	+0.9
E35A	**Pequot Lakes** baz=160	62.93	346	P	P	06 45 17.4	-0.7
E34A	**Wadena** baz=159	63.08	345	P	P	06 45 18.8	-0.4
F31A	**Hecla** baz=155	63.32	343	P	P	06 45 20.1	-0.6
K22A	**Casper** 10nm,1.4s	63.42	335	*e*P	P	06 45 22.0	+0.3
RSSD	**Black Hills** baz=149	63.69	338	P	P	06 45 23.8	+0.2
RSSD	**Black Hills** 6.9nm,1.3s	63.69	338	*e*P	P	06 45 23.7	+0.2
MPMC	**Manual Prospec** baz=134	63.85	323	P	P	06 45 25.3	+0.6
ISA	**Isabella, Lake** baz=133	64.16	322	P	P	06 45 27.1	+0.5
ISA	**Isabella, Lake** 18nm,1.8s	64.16	322	*e*P	P	06 45 27.7	+1.1
DUG	**Dugway, Tooele** baz=140	64.33	329	P	P	06 45 28.4	+0.8
DUG	**Dugway, Tooele** 9.3nm,1.0s	64.33	329	*e*P	P	06 45 28.5	+0.8
R11A	**Troy Canyon, C** baz=136	64.40	326	P	P	06 45 28.9	+0.7
R11A	**Troy Canyon, C** 2.7nm,0.7s	64.40	326	*e*P	P	06 45 29.2	+0.9
CWC	**Cottonwood Cre** baz=134	64.46	323	P	P	06 45 29.5	+0.8
B35A	**Bob, Littlefor** baz=160	64.47	347	P	P	06 45 27.2	-1.1
CRGC	**Crocker Grade**	64.63	321	*e*P	P	06 45 30.3	+0.6
B34A	**Aery, Baudette** baz=160	64.80	346	P	P	06 45 29.6	-0.8
HWUT	**Hardware Ranch** 6.6nm,0.8s	64.81	331	*e*P	P	06 45 30.7	-0.1
PD31	**Pinedale Array**	64.81	333	*e*P	P	06 45 30.7	-0.2
PDAR	**Pinedale Array** 0.9nm,0.9s,baz=108,slow=4.8,SNR=4.6	64.81	333	P	P	06 45 30.7	-0.2
B33A	**Robert and Kas** baz=158	64.82	345	P	P	06 45 30.4	-0.1
AGMN	**Agassiz Nation** baz=158	64.92	345	P	P	06 45 30.9	-0.2
AGMN	**Agassiz Nation** 7.2nm,0.9s	64.92	345	*e*P	P	06 45 30.6	-0.5
C31A	**Landman Farms,** baz=156	64.93	344	P	P	06 45 31.3	+0.1
A33A	**Warroad** baz=159	65.40	346	P	P	06 45 33.9	-0.4
HVU	**Hansel Valley** 6.9nm,1.2s	65.52	330	*e*P	P	06 45 35.4	0.0
A32A	**Rocking H Ranc** baz=158	65.65	345	P	P	06 45 35.6	-0.3
MDPB	**Devils Postpil** 8.2nm,1.2s	65.86	323	*e*P	P	06 45 37.9	+0.1
NV01	**Mina Array Sit**	65.96	324	*e*P	P	06 45 38.8	+0.4
NVAR	**Mina Array Bea** 1.3nm,0.7s,baz=147,slow=6.4,SNR=13	65.96	324	P	P	06 45 39.3	+0.9
ULM	**Lac du Bonnet** 9.5nm,1.0s,baz=158,slow=5.7,SNR=15	66.74	346	P	P	06 45 41.3	-1.5
ULM	**Lac du Bonnet** 11nm,1.0s	66.74	346	*e*P	P	06 45 41.7	-1.1
PAHR	**Pah Rah Range** 7.0nm,0.8s	67.45	325	*e*P	P	06 45 48.8	+1.1
HLID	**Hailey** baz=139	67.65	331	P	P	06 45 49.7	+0.7
HLID	**Hailey** 3.3nm,1.1s	67.65	331	*e*P	P	06 45 49.8	+0.7
BOZ	**Bozeman (W)** baz=142	67.96	334	P	P	06 45 51.1	+0.2
BOZ	**Bozeman (W)** 18nm,1.9s	67.96	334	*e*P	P	06 45 51.0	+0.1
MFID	**Camas Ranch** 11nm,1.0s	68.23	330	*e*P	P	06 45 53.4	+0.9
ORV	**Oroville** 21nm,1.3s	68.55	323	*e*P	P	06 45 55.8	+1.2
SCHQ	**Schefferville** 5.0nm,0.8s,baz=158,slow=3.9,SNR=7.3	69.32	5	P	P	06 45 58.1	-0.8
MSO	**Missoula** baz=140	69.93	333	P	P	06 46 03.8	+0.8
MSO	**Missoula** 28nm,1.9s	69.93	333	*e*P	P	06 46 03.4	+0.4
LHEM	**Herd Peak**	70.34	325	*e*P	P	06 46 05.7	-0.1
F10A	**Beach Ranch, E** 30nm,1.8s	70.79	331	*e*P	P	06 46 08.8	+0.6
SNAA	**Sanae** 8.0nm,1.0s	71.08	161	*e*P	P	06 46 11.0	+1.3
EDM	**Edmonton** 19nm,1.1s	74.68	338	*e*P	P	06 46 30.7	-0.4
QSPA	**South Pole Qui** 11nm,1.0s	75.80	180	*e*P	P	06 46 39.9	+2.3
KOWA	**Kowa** 2.3nm,0.6s,baz=254,slow=8.1,SNR=7.8	76.44	71	P	P	06 46 42.1	+0.1
TOA1	**Torodi Ar. Sit**	81.30	74	*e*P	P	06 47 08.7	0.0
TOA0	**Torodi Ar. Sit**	81.31	74	*e*P	P	06 47 08.6	-0.1
TORD	**Torodi Ar. Bea** 8.6nm,1.0s,baz=261,slow=5.0,SNR=42	81.31	74	P	P	06 47 08.7	0.0
YKA	**Yellowknife Ar** 2.4nm,0.7s,baz=142,slow=6.0,SNR=49	82.43	343	P	P	06 47 12.8	-0.7
YKB5	**Yellowknife Ar**	82.43	343	*e*P	P	06 47 12.7	-0.7
YKW3	**Yellowknife Ar** 4.3nm,0.7s	82.48	343	*e*P	P	06 47 13.2	-0.5
VNDA	**Vanda** 1.9nm,0.9s,baz=133,slow=4.2,SNR=3.7	82.69	191	P	P	06 47 16.6	+1.7
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=256,slow=6.4,SNR=4.2	85.50	47	P	P	06 47 29.9	+0.1
RES	**Resolute Bay** 6.1nm,0.9s	89.67	355	*e*P	P	06 47 48.9	0.0
SUMG	**Summit** 13nm,1.0s	90.13	10	*i* P	P	06 47 51.7	+0.1
SUMG	**Summit** 10nm,0.9s	90.13	10	*e*P	P	06 47 51.8	+0.1
DAWY	**Dawson** 5.2nm,0.8s	91.87	337	*e*P	P	06 47 59.6	+0.1
INK	**Inuvik** 5.2nm,0.9s	92.12	342	*e*P	P	06 48 00.3	-0.2
EGAK	**Eagle** 23nm,1.9s	92.89	337	*e*P	P	06 48 04.2	+0.1
IL1	**Eielson Array**	95.10	336	*e*P	P	06 48 13.3	-0.9
ILAR	**Eielson Array** 1.4nm,0.8s,baz=169,slow=4.5,SNR=20	95.10	336	P	P	06 48 13.3	-1.0
ILB	**Eielson Array**	95.10	336	*e*P	P	06 48 13.2	-1.1
MDM	**Murphy Dome** 8.7nm,0.7s	95.70	336	*e*P	P	06 48 16.7	-0.4
CAST	**Castle Rocks** 30nm,1.8s	96.76	334	*e*P	P	06 48 21.2	-0.7
H11N3	**WAKE ISLAND Hyl** baz=97,slow=74,SNR=5.3	20.22	285	T	T	09 04 44.1	
H11N2	**WAKE ISLAND Hyl** baz=97,slow=74,SNR=5.9	20.24	285	T	T	09 04 34.4	
H11N1	**WAKE ISLAND Hyl** baz=97,slow=74,SNR=3.3	20.24	285	T	T	09 04 43.0	
SEY	**Seymchan** 0.4nm,0.3s,baz=79,slow=6.5,SNR=4.8	121.03	337	PKP	PKPdf	06 53 44.0	+0.4
STKA	**Stephens Creek** 1.0nm,0.7s,baz=68,slow=7.8,SNR=3.4	121.80	217	PKP	PKPdf	06 53 46.7	+0.6
ASAR	**Alice Springs** 1.8nm,0.8s,baz=122,slow=2.3,SNR=12	132.43	218	PKP	PKPdf	06 54 07.3	+0.7
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=308,slow=5.3,SNR=4.2	132.99	27	PKP	PKPdf	06 54 07.8	+1.1
WR1	**Warramunga Arr**	134.93	222	*e*PKPdf	PKPdf	06 54 11.9	+0.6
WRA	**Warramunga Arr** 2.2nm,0.8s,baz=143,slow=1.6,SNR=12	134.93	222	PKP	PKPdf	06 54 11.9	+0.6
ZAA1	**Zalesovo Array**	137.61	17	*e*PKPdf	PKPdf	06 54 15.6	+0.4
ZALV	**Zalesovo Beam** 3.0nm,0.7s,baz=310,slow=2.8,SNR=8.1	137.61	17	PKP	PKPdf	06 54 15.6	+0.4
KURK	**Kurchatov**	138.18	24	*e*PKPdf	PKPdf	06 54 17.3	+0.9
KURBB	**Kurchatov Arra** 1.9nm,0.8s,baz=309,slow=2.6,SNR=14	138.21	25	PKP	PKPdf	06 54 17.3	+0.8
MK32	**Makanchi Array**	142.76	25	*e*PKPdf	PKPdf	06 54 23.0	-1.9
MKAR	**Makanchi Array** 1.2nm,0.8s,baz=324,slow=2.1,SNR=6.2	142.76	25	PKP	PKPdf	06 54 23.0	-1.9
KSH	**Kashi**	144.66	39	PKP	PKPdf	06 54 28.4	-0.2
KSH				sPKP		06 54 52.7	
KSH				PP	PP	06 57 44.8	-0.4
KSH				PKS	PKSdf	06 58 03.7	-0.5
KSH				SKS	SKSdf	07 01 32.3	-1.2
SONA0	**Songino Array**	146.57	357	*e*PKPdf	PKPbc	06 54 33.4	+0.3
SONM	**Songino Array** 8.1nm,0.8s,baz=4.2,slow=2.4,SNR=31	146.57	357	PKPbc	PKPbc	06 54 33.4	+0.3
KSRS	**Korea Array** 5.1nm,0.7s,baz=67,slow=3.4,SNR=12	148.88	322	PKPbc	PKPbc	06 54 39.9	+0.4
KS15	**Wonju Array Si**	148.91	322	*e*PKPdf	PKPdf	06 54 33.8	-1.8
LZH	**Lanzhou**	158.35	1	*e*PKP	PKPdf	06 54 47.4	-1.9
LZH				pPKP	pPKPdf	06 54 58.2	-7.7
LZH				sPKP		06 55 02.1	
CD2	**Chengdu**	163.51	2	PKP	PKPdf	06 54 53.2	-1.6

NNC ***12*** *06:38:44.6±9.5,37.°74N×70.°97E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=72.3km s-min=61.1km az=170.0*

IDC 12 06:38:27.1±4.2,36.°10N×73.°60E,h0km,mb3.3/1, mb1 3.3/5,mb1mx3.1/67,mbtmp3.2/5,ML2.6/4,5C-3D, Error ellipse: s-maj=131.4km s-min=54.5km az=113.0, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan** 14nm,0.7s	3.90	359	⇓Pn	Pn	06 39 31.1	+2.6
SFK				⇑Sn	Sn	06 40 14.1	-1.1
MNAS	**Manas** 1.3nm,0.5s	6.43	353	⇓Pn	Pn	06 40 01.7	-1.4
AAK	**Ala-Archa** 0.4nm,0.3s,baz=154,slow=5.4,SNR=6.9	6.56	6	Pn	Pn	06 40 09.0	+4.1
AAK	**Ala-Archa** 3.2nm,0.9s	6.56	6	⇑Pn	Pn	06 40 09.6	+4.6
AAK				⇑Sn	Sn	06 41 14.8	-5.8
TKM2	2.9nm,1.1s **Tokmak 2** 2.5nm,0.7s	6.98	12	⇓Pn	Pn	06 40 17.7	+6.9
TKM2				⇑Sn	Sn	06 41 30.1	-0.9
KK31	1.4nm,0.6s **Karatay Array** 0.4nm,0.3s,baz=147,slow=11,SNR=15	7.39	342	⇑Pn	Pn	06 40 08.6	-7.5
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=208,slow=9.0,SNR=2.5	12.50	29	Pn	Pn	06 41 28.0	+1.8
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=206,slow=10,SNR=2.9	14.94	12	Pn	Pn	06 41 59.1	-0.4
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=222,slow=12,SNR=3.1	19.48	20	P	P	06 42 54.0	-1.4
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=351,slow=5.5,SNR=5.0	81.52	4	P	P	06 50 46.2	+0.2

ISCJB ***12*** *06:39:26.2±1.1,36.°4N±0.°1×72.°6E±0.°2,h10km,mb3.5/3, Error ellipse: s-maj=28.8km s-min=11.1km az=22.6*

IDC ***12*** *06:39:26.6±1.4,36.°70N×72.°82E,h0km,mb3.6/3, mb1 3.6/7,mb1mx3.3/67,mbtmp3.4/7,ML2.6/3,Error ellipse: s-maj=42.6km s-min=22.9km az=114.0*

ISC 12 06:39:27.4±1.2,36.°4N±0.°1×72.°7E±0.°2,h10km,n9, σ2.960/10,mb3.6/3,1C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas** 1.2nm,0.6s	6.08	359	⇑Sn	Pn	06 40 56.9	-0.5
AAK	**Ala-Archa** 0.5nm,0.3s,baz=192,slow=9.1,SNR=4.3	6.39	12	Pn	Pn	06 41 01.2	-0.5
AAK				Sn	Sn	06 42 16.9	+2.1
KK31	0.3nm,0.3s,baz=145,slow=18,SNR=2.4 **Karatay Array** 1.1nm,0.3s,baz=152,slow=11,SNR=11	6.89	347	⇓Sn	Pn	06 41 08.2	-0.4
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=218,slow=16,SNR=2.5	12.63	32	Pn	Pn	06 42 25.6	-1.5
MKAR				Sn	Sn	06 44 52.0	+4.2
KURBB	0.0nm,0.3s,baz=105,slow=28,SNR=5.2 **Kurchatov Arra** 0.0nm,0.3s,baz=204,slow=11,SNR=2.6	14.83	15	Pn	Pn	06 42 52.1	-5.1
KURBB				Lg	Lg	06 47 08.2	
ZALV	0.0nm,0.3s,baz=130,slow=27,SNR=3.0 **Zalesovo Beam** baz=219,slow=11,SNR=3.9	19.48	22	P	P	06 43 50.1	-4.2
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=51,slow=5.6,SNR=4.2	67.05	270	P	P	06 50 23.0	+1.9
WRA	**Warramunga Arr** 0.8nm,1.2s,baz=324,slow=4.2,SNR=3.0	80.82	123	P	P	06 51 42.6	+1.0
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=350,slow=5.5,SNR=9.9	81.27	3	P	P	06 51 42.6	-0.7

MEX 12 06:44:52.1±0.4,15.°56N×92.°98W,h113km±5km,MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		0.27	302	*e*P	Pn	06 45 06.7	-1.3
PCIG				*e*S	Sn	06 45 18.1	-1.9
CCIG	**Comitan**	1.08	49	*e*P	Pn	06 45 14.2	-0.3
CCIG				*e*S	Sn	06 45 29.9	-1.6
TGIG		1.22	354	*e*P	Pn	06 45 14.7	-1.2
TGIG				*e*S	Sn	06 45 31.3	-2.6

ISCJB ***12*** *06:47:30.2±0.4,36.°68N±0.°03×72.°87E±0.°05,h10km, mb3.9/16,Error ellipse: s-maj=6.0km s-min=4.2km az=163.1*

IDC ***12*** *06:47:30.3±0.8,36.°64N×72.°98E,h0km,mb3.8/14, mb1 3.9/21,mb1mx3.7/74,mbtmp3.8/21,ML3.3/7,Error ellipse: s-maj=18.1km s-min=15.8km az=128.0*

NNC ***12*** *06:47:32.1±5.3,36.°58N×72.°23E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=47.1km s-min=35.7km az=123.0*

NEIC ***12*** *06:47:33.4±3.0,36.°64N×72.°88E,h21km±21km,mb4.5/6, Error ellipse: s-maj=12.3km s-min=8.1km az=175.0*

ISC 12 06:47:32.1±0.7,36.°63N±0.°05×72.°94E±0.°07,h10km,n77, σ1.989/83,mb3.9/16,5C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan** 39nm,0.5s	3.41	7	⇑Pn	Pn	06 48 30.7	+5.2
SFK				⇓Sn	Sb	06 49 15.3	+0.9
KBL	**Kabul** 152nm,0.8s	3.79	238	*e*Pn	Pn	06 48 28.6	-2.3
MNAS	**Manas** 3.8nm,0.4s	5.86	357	⇓Pn	Pn	06 49 00.2	+1.0
MNAS				⇓Sn	Sn	06 50 10.6	+4.2
AAK	11nm,0.7s **Ala-Archa** 0.5nm,0.3s,baz=181,slow=16,SNR=8.0	6.12	11	Pn	Pn	06 49 04.9	+2.2
AAK				Sn	Sn	06 50 07.0	-5.9
AAK	0.5nm,0.3s,baz=158,slow=19,SNR=3.8 **Ala-Archa** 5.2nm,0.6s	6.12	11	Pn	Pn	06 49 04.2	+1.5
AAK				Sn	Sn	06 50 16.7	+3.8
AAK	14nm,1.0s **Ala-Archa**	6.12	11	*e*Pn	Pn	06 48 59.9	-2.9
AAK				*e*Sn	Sn	06 50 06.8	-6.1
TARG	**Taragay, Kyrgy**	6.34	35	*e*Pn	Pn	06 49 05.0	-1.0
KDJ	**Kajisay**	6.40	30	*e*Pn	Pn	06 49 05.3	-1.4
TKM2	**Tokmak 2** 5.0nm,0.5s	6.61	17	⇓Pn	Pn	06 49 12.5	+3.0
TKM2				⇑Sn	Sn	06 50 34.6	+10
KK06	5.6nm,0.9s **Karatay Array**	6.72	345	*e*Pn	Pn	06 49 12.5	+1.7
KK06				*e*Sn	Sn	06 50 26.7	-0.7
KK07	**Karatay Array**	6.72	345	*e*Pn	Pn	06 49 12.5	+1.7
KK07				*e*Sn	Sn	06 50 27.5	+0.1
KK02	**Karatay Array**	6.73	345	*e*Pn	Pn	06 49 12.6	+1.6
KK31	**Karatay Array** 2.1nm,0.3s,baz=160,slow=12,SNR=17	6.73	345	⇑Pn	Pn	06 49 12.4	+1.4
KK31				⇑Sn	Sn	06 50 27.2	-0.5
KK31	7.9nm,0.8s,baz=163,slow=22,SNR=3.5 **Karatay Array**	6.73	345	*e*Pn	Pn	06 49 12.4	+1.4
KK31				*e*Sn	Sn	06 50 27.8	+0.1
KKAR	**Karatay Array**	6.73	345	*e*Pn	Pn	06 49 12.7	+1.7
KKAR				*e*Sn	Sn	06 50 27.8	+0.1
KK03	**Karatay Array**	6.73	345	*e*Pn	Pn	06 49 12.6	+1.6
KK03				*e*Sn	Sn	06 50 26.3	-1.4
KK01	**Karatay Array**	6.73	345	*e*Pn	Pn	06 49 12.7	+1.6
KK01				*e*Sn	Sn	06 50 26.6	-1.2
KK04	**Karatay Array**	6.74	345	*e*Pn	Pn	06 49 12.6	+1.5
KK04				*e*Sn	Sn	06 50 26.6	-1.3
KK08	**Karatay Array**	6.74	345	*e*Pn	Pn	06 49 12.5	+1.4
KK08				*e*Sn	Sn	06 50 27.5	-0.4
KK05	**Karatay Array**	6.74	345	*e*Pn	Pn	06 49 12.3	+1.2
KK05				*e*Sn	Sn	06 50 25.3	-2.6
GEYT	**Alibeck** 0.7nm,0.3s,baz=94,slow=9.4,SNR=4.8	11.88	281	Pn	Pn	06 50 22.9	+1.3
MAKZ	**Makanchi**	12.20	31	*e*Pn	Pn	06 50 22.1	-3.9
MK01	**Makanchi Array**	12.30	32	*e*Pn	Pn	06 50 28.4	+1.1
MK31	**Makanchi Array**	12.32	32	*e*Pn	Pn	06 50 27.2	-0.4
MK32	**Makanchi Array**	12.32	32	*e*Pn	Pn	06 50 29.1	+1.6
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=204,slow=12,SNR=5.3	12.32	32	Pn	Pn	06 50 29.1	+1.6
MKAR	**Makanchi Array**	12.32	32	*e*Pn	Pn	06 50 27.2	-0.4
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=205,slow=10,SNR=4.5	14.56	14	Pn	Pn	06 50 57.1	-1.0
KURK	**Kurchatov**	14.66	14	*e*Pn	Pn	06 50 58.6	-0.9
AB07	**Akbulak array**	15.76	327	*e*Pn	Pn	06 51 11.4	-2.5
AB06	**Akbulak array**	15.77	327	*e*Pn	Pn	06 51 12.1	-2.0
AB08	**Akbulak array**	15.77	327	*e*Pn	Pn	06 51 11.8	-2.4
AB03	**Akbulak array**	15.77	327	*e*Pn	Pn	06 51 12.7	-1.5
AB01	**Akbulak array**	15.77	327	*e*Pn	Pn	06 51 12.7	-1.5
AB31	**Akbulak array** 1.5nm,0.6s,baz=143,slow=12,SNR=15	15.77	327	⇑P	Pn	06 51 10.8	-3.4
AB31				⇓S	Sn	06 54 04.2	-4.8
AB31	5.6nm,1.1s,baz=256,slow=3.2,SNR=16 **Akbulak array**	15.77	327	*e*Pn	Pn	06 51

BRVK	**Borovoye**	**16.53**	**354**	*e*Pn		**Pn**	**06 51 22.6**	**-1.3**
	4.6nm,1.0s							
AKTO	**Aktyubinsk**	**17.49**	**327**	P		**Pn**	**06 51 36.8**	**+0.8**
	0.2nm,0.3s,baz=118,slow=13,SNR=8.3							
ZAA0	**Zalesovo Array**	**19.18**	**22**	*e*P		**P**	**06 51 56.4**	**+0.6**
	6.6nm,0.8s							
ZALV	**Zalesovo Beam**	**19.18**	**22**	P		**P**	**06 51 54.1**	**-1.6**
	0.3nm,0.3s,baz=211,slow=11,SNR=17							
ZALV	**Zalesovo Beam**	**19.18**	**22**	*e*P		**P**	**06 51 53.3**	**-2.4**
ZAA1	**Zalesovo Array**	**19.19**	**22**	*e*P		**P**	**06 51 54.1**	**-1.7**
SONA0	**Songino Array**	**26.98**	**55**	*e*P		**P**	**06 53 15.2**	**+1.1**
SONM	**Songino Array**	**26.98**	**55**	P		**P**	**06 53 15.2**	**+1.1**
	1.0nm,0.8s,baz=245,slow=9.4,SNR=5.2							
CM31	**Chiang Mai Arr**	**29.17**	**121**	*e*P		**P**	**06 53 34.5**	**+0.8**
BR101	**Keskin Array S**	**30.88**	**288**	*e*P		**P**	**06 53 50.5**	**+1.7**
BRTR	**Keskin Array B**	**30.88**	**288**	P		**P**	**06 53 50.5**	**+1.7**
	0.9nm,0.6s,baz=97,slow=6.1,SNR=6.5							
BR231	**Keskin MP Arra**	**31.52**	**288**	*e*P		P	06 53 52.0	-2.5
AKBB	**Malin Array Si**	**34.08**	**308**	*e*P		P	06 54 13.6	-3.0
	23nm,1.8s							
NJ2	**Nanjing**	**37.91**	**83**	*e*P		P	06 54 48.7	-0.9
FIA0	**FINESS Array S**	**38.25**	**326**	*e*P		**P**	**06 54 52.2**	**+0.1**
FINES	**FINESS Array B**	**38.25**	**326**	P		**P**	**06 54 52.2**	**+0.1**
	1.1nm,0.6s,baz=106,slow=10,SNR=4.1							
ARA0	**ARCESS Array S**	**41.63**	**337**	*e*P		**P**	**06 55 19.4**	**-0.6**
ARCES	**ARCESS Array B**	**41.63**	**337**	P		**P**	**06 55 19.4**	**-0.6**
	2.0nm,0.9s,baz=117,slow=9.2,SNR=4.4							
HFS	**Hagfors**	**43.93**	**322**	P		**P**	**06 55 38.3**	**-0.6**
	3.0nm,0.7s,baz=54,slow=7.5,SNR=3.5							
NB2	**NORSAR Subarra**	**45.22**	**323**	P		**P**	**06 55 48.5**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=91,slow=7.9							
NB200	**NORSAR Array S**	**45.22**	**323**	*e*P		**P**	**06 55 48.6**	**-0.5**
NOA	**NORSAR Array B**	**45.22**	**323**	P		**P**	**06 55 48.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=92,slow=7.7,SNR=4.3							
ESDC	**Sonseca Array**	**58.77**	**298**	P		**P**	**06 57 30.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=69,slow=6.9,SNR=4.5							
TOA1	**Torodi Ar. Sit**	**67.28**	**270**	*e*P		**P**	**06 58 25.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**67.28**	**270**	P		**P**	**06 58 25.9**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=49,slow=5.9,SNR=16							
MATP	**Matopo**	**70.57**	**224**	P		**P**	**06 58 48.8**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=50,slow=7.9,SNR=4.8							
INK	**Inuvik**	**73.52**	**10**	P		**P**	**06 59 03.7**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=268,slow=4.3,SNR=4.4							
INK	**Inuvik**	**73.52**	**10**	*e*P		**P**	**06 59 03.7**	**-0.8**
	comp=Z,14nm,1.8s							
ILAR	**Eielson Array**	**74.22**	**17**	P		P	06 59 07.1	-1.7
	comp=Z,0.5nm,1.1s,baz=340,slow=4.9,SNR=3.7							
ILB	**Eielson Array**	**74.22**	**17**	*e*P		P	06 59 06.8	-2.0
WR1	**Warramunga Arr**	**80.75**	**123**	*e*P		**P**	**06 59 45.6**	**-0.3**
	comp=Z,39nm,1.8s							
WRA	**Warramunga Arr**	**80.75**	**123**	P		**P**	**06 59 45.6**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=321,slow=4.7,SNR=7.1							
YKA	**Yellowknife Ar**	**81.03**	**4**	P		**P**	**06 59 45.9**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=349,slow=5.4,SNR=20							
YKB5	**Yellowknife Ar**	**81.03**	**4**	*e*P		**P**	**06 59 45.8**	**-1.0**
ASAR	**Alice Springs**	**83.06**	**126**	P		**P**	**06 59 57.9**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=316,slow=5.5,SNR=4.9							

ISCJB ***12*** *06:48:03.7±1.0,31.65S±0.06×69.76W±0.07, h124km±10km, Error ellipse: s-maj=13.3km s-min=5.2km az=137.5*

GUC ***12*** *06:48:03.8±0.5,31.52S×70.08W, h116km±31km, ML2.3*

SJA ***12*** *06:48:03.6±0.9,31.71S×69.77W, h118km±13km, ML2.3, MW2.9*

ISC 12 06:48:04.4±2.0, 31.67S±0.07×69.75W±0.07, h122km±16km, n13, σ1s 01/25, 2C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.63**	**151**	*e*P		**Pn**	**06 48 23.8**		**-0.1**
AUSP				*e*S		**Sn**	**06 48 38.1**		**-0.4**
RTCV	**Cerro Valdivia**	**1.05**	**101**	*e*P		**Pn**	**06 48 27.3**		**+0.2**
RTCV				*e*S		**Sn**	**06 48 44.3**		**0.0**
RTLL	**Cerro Villicun**	**1.14**	**73**	*e*P		**Pn**	**06 48 27.7**		**-0.4**
RTLL				*e*S		**Sn**	**06 48 45.7**		**-0.3**
RTLL				IAML			06 48 47.0		
	comp=Z,34nm,0.4s								
ASAL	**Salagasta**	**1.20**	**140**	*e*P		**Pn**	**06 48 29.2**		**+0.4**
ASAL				*e*S		**Sn**	**06 48 48.5**		**+1.2**
AMOG	**MOGNA**	**1.30**	**56**	*e*P		**Pn**	**06 48 30.0**		**+0.2**
AMOG				*e*S		**Sn**	**06 48 49.8**		**+0.6**
PEL	**Peldehue**	**1.67**	**208**	⇑*i*P		**Pn**	**06 48 33.6**		**-0.4**
PEL				*i* S		**Sn**	**06 48 56.2**		**-0.3**
PEL				IAML			06 48 56.9		
	comp=N,9.7nm,0.2s								
ROCH	**El Roble**	**1.68**	**219**	⇓*i*P		**Pn**	**06 48 33.3**		**-1.0**
ROCH				*i* S		**Sn**	**06 48 55.6**		**-1.5**
ROCH				IAML			06 48 56.9		
	comp=N,54nm,0.3s								
ROC1	**El Roble**	**1.68**	**219**	*e*P		**Pn**	**06 48 33.3**		**-1.1**
ROC1				*e*S		**Sn**	**06 48 56.4**		**-0.8**
FCH	**Farellones**	**1.71**	**195**	*e*P		**Pn**	**06 48 35.5**		**+0.7**
FCH				*e*S		**Sn**	**06 48 59.4**		**+1.4**
CLCH	**Cerro Calan**	**1.84**	**201**	⇑*i*P		**Pn**	**06 48 36.2**		**+0.1**
CLCH				*i* S		**Sn**	**06 49 00.6**		**+0.3**
CLCH				IAML			06 49 01.8		
	comp=N,32nm,0.4s								
LMEL	**Las Melosas**	**2.20**	**190**	*e*P		**Pn**	**06 48 41.4**		**+0.8**
LMEL				*i* S		**Sn**	**06 49 10.5**		**+2.1**
LMEL				IAML			06 49 16.0		
	comp=N,25nm,0.3s								
ACAN	**Cantantal**	**2.26**	**106**	*e*P		**Pn**	**06 48 39.5**		**-1.7**
ACAN				*e*S		**Sn**	**06 49 08.0**		**-1.4**
AGUA	**GUANDACOL**	**2.44**	**27**	*e*P		**Pn**	**06 48 44.6**		**+1.0**

MEX 12 06:49:46.0±0.4, 17.94N×97.46W, h60km±4km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TPIG	**Tehuac#an**	**0.48**	**11**	*e*P		Pn	06 49 56.9		-1.2
TPIG				*e*S		Sn	06 50 05.0		-1.8
VHO	**Vista Hermosa**	**1.10**	**141**	*e*P		Pn	06 50 04.5		-1.1
VHO				*e*S		Sn	06 50 18.2		-2.0
TLIG	**Tlapa**	**1.12**	**251**	*e*P		Pn	06 50 04.2		-1.5
TLIG				*i* S		Sn	06 50 18.8		-1.7
PNIG	**Pinotepa**	**1.67**	**203**	*e*P		Pn	06 50 11.4		-1.6
PNIG				*i* S		Sn	06 50 32.3		-1.1
HUIG	**Huatulco**	**2.52**	**149**	*i* P		Pn	06 50 23.1		-1.4
HUIG				*i* S		Sn	06 50 51.9		-2.2

ISCJB ***12*** *07:07:43.9±0.6,36.44N±0.05×142.71E±0.06, h15km, mb3.6/12, Error ellipse: s-maj=7.7km s-min=6.4km az=27.2*

IDC ***12*** *07:07:43.0±0.8,36.34N×142.74E, h0km, mb3.7/12, mb1 3.9/15, mb1mx3.7/71, mbtmp3.7/15, ML3.4/3, Error ellipse: s-maj=19.7km s-min=17.6km az=102.0*

JMA ***12*** *07:07:44.0±0.2,36.46N×142.70E, h18km, M3.6*

ISC 12 07:07:45.7±0.8, 36.44N±0.07×142.63E±0.08, h15km, n34, σ0s 99/33, mb3.6/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.61**	**295**	P		**Pn**	**07 08 12.9**		**-0.8**
JHO	**Hitachi**	**1.67**	**276**	P		**Pn**	**07 08 13.7**		**-0.7**
JFK	**Kawauchi**	**1.69**	**304**	P		**Pn**	**07 08 13.8**		**-0.9**
JFK				*e*S		**Sn**	**07 08 35.4**		**-0.6**
JMM	**Marumori**	**2.05**	**315**	P		**Pn**	**07 08 18.6**		**-1.0**
JMM				*e*S		**Sn**	**07 08 44.6**		**-0.2**
JFT	**Otama**	**2.13**	**301**	P		**Pn**	**07 08 20.8**		**0.0**
JFT				*e*S		**Sn**	**07 08 47.7**		**+0.7**
JAG	**Ashikaga**	**2.56**	**271**	P		**Pn**	**07 08 26.7**		**0.0**
JMK	**Ichinoseki**	**2.75**	**336**	P		**Pn**	**07 08 28.3**		**-0.9**
JMK				*e*S		**Sn**	**07 09 01.5**		**-0.6**
JRY	**Ryogami san**	**3.05**	**263**	P		**Pn**	**07 08 33.2**		**-0.2**
JYK	**Kaneyama**	**3.06**	**325**	P		**Pn**	**07 08 33.3**		**-0.2**
JOD2	**Odawara 2**	**3.11**	**249**	P		**Pn**	**07 08 34.6**		**+0.3**
JOM	**Ohasama**	**3.21**	**341**	P		**Pn**	**07 08 34.7**		**-0.9**
MJAR	**Matsushiro Arr**	**3.57**	**273**	Pn		**Pn**	**07 08 41.3**		**+0.8**
	2.6nm,0.3s,baz=87,slow=8.2,SNR=17								
MAT	**Matsushiro**	**3.57**	**273**	P		**Pn**	**07 08 41.2**		**+0.7**
MAT				*e*S		**Sn**	**07 09 20.0**		**-2.5**
MAT	**Matsushiro**	**3.57**	**273**	P		**Pn**	**07 08 41.6**		**+1.1**
ASAJ	**Asahikawa**	**7.67**	**360**	Pn		**Pn**	**07 09 35.9**		**-0.9**
	1.8nm,0.3s,baz=199,slow=24,SNR=5.5								
USRK	**Ussuriysk Ar.**	**11.22**	**317**	Pn		**Pn**	**07 10 28.3**		**+2.8**
	0.3nm,0.3s,baz=134,slow=16,SNR=3.0								
MA2	**Magadan**	**23.74**	**10**	P		**P**	**07 12 57.1**		**-0.1**
	2.4nm,0.4s,baz=177,slow=17,SNR=4.1								
H11N2	**WAKE ISLAND Hy**	**27.00**	**122**	T		T	07 41 32.0		
	baz=314,slow=75,SNR=6.5								
H11N1	**WAKE ISLAND Hy**	**27.01**	**122**	T		T	07 41 38.1		
	baz=314,slow=75,SNR=5.9								
H11N3	**WAKE ISLAND Hy**	**27.02**	**122**	T		T	07 41 40.3		
	baz=314,slow=75,SNR=5.4								
SEY	**Seymchan**	**27.20**	**10**	P		**P**	**07 13 29.5**		**+1.1**
	1.0nm,0.7s,baz=207,slow=14,SNR=4.7								
H11S1	**WAKE ISLAND Hy**	**27.71**	**124**	T		T	07 42 29.0		
	baz=316,slow=76,SNR=5.5								
H11S3	**WAKE ISLAND Hy**	**27.72**	**124**	T		T	07 42 31.0		
	baz=316,slow=76,SNR=4.9								
H11S2	**WAKE ISLAND Hy**	**27.73**	**124**	T		T	07 42 29.5		
	baz=316,slow=76,SNR=3.8								
SONM	**Songino Array**	**28.93**	**305**	P		**P**	**07 13 44.9**		**+0.6**
	0.7nm,0.8s,baz=109,slow=8.0,SNR=5.8								
ZALV	**Zalesovo Beam**	**43.04**	**313**	P		**P**	**07 15 45.0**		**+0.5**
	0.8nm,0.5s,baz=77,slow=6.4,SNR=4.1								
MKAR	**Makanchi Array**	**45.26**	**303**	P		**P**	**07 16 03.0**		**+0.4**
	0.9nm,0.6s,baz=88,slow=8.6,SNR=14								
KURBB	**Kurchatov Arra**	**47.14**	**309**	P		**P**	**07 16 17.4**		**+0.2**
	1.5nm,0.6s,baz=83,slow=7.6,SNR=22								
ILAR	**Eielson Array**	**49.47**	**32**	P		**P**	**07 16 34.3**		**-0.7**
	0.7nm,0.8s,baz=258,slow=6.0,SNR=7.9								
WRA	**Warramunga Arr**	**56.62**	**189**	P		**P**	**07 17 26.8**		**-1.3**
	0.2nm,0.4s,baz=7.1,slow=7.4,SNR=8.6								
ASAR	**Alice Springs**	**60.35**	**189**	P		**P**	**07 17 53.3**		**-0.8**
	0.3nm,0.3s,baz=3.6,slow=6.6,SNR=3.8								
YKA	**Yellowknife Ar**	**63.83**	**30**	P		**P**	**07 18 16.5**		**-0.5**
	0.3nm,0.7s,baz=300,slow=6.5,SNR=7.8								
NVAR	**Mina Array Bea**	**74.56**	**54**	P		**P**	**07 19 25.4**		**+1.2**
	0.3nm,0.6s,baz=279,slow=5.9,SNR=3.7								
TXAR	**Lajitas Array**	**89.70**	**53**	P		**P**	**07 20 43.7**		**+0.1**
	0.2nm,0.6s,baz=307,slow=4.8,SNR=4.0								

IDC 12 07:17:32.3±7.2, 7.65S×128.84E, h169km±78km, mb3.7/2, mb1 3.6/5, mb1mx3.2/51, mbtmp4.1/5, Error ellipse: s-maj=75.0km s-min=24.7km az=35.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.71**	**243**	P		Pn	07 18 55.4		-0.1
	4.3nm,0.3s,baz=102,slow=1.1,SNR=4.7								
BATI				S		Sn	07 20 00.5		-0.3
	6.6nm,0.3s,baz=293,slow=19,SNR=5.2								
WRA	**Warramunga Arr**	**13.33**	**157**	P		Pn	07 20 33.9		-1.3
	0.8nm,0.3s,baz=339,slow=12,SNR=42								
WRA				S		Sn	07 22 54.7		-8.6
	2.4nm,0.3s,baz=337,slow=22,SNR=14								
ASAR	**Alice Springs**	**16.65**	**164**	P		Pn	07 21 16.8		+0.7
	0.5nm,0.3s,baz=340,slow=9.9,SNR=41								
ASAR				S			07 24 16.0		-4.3
	0.6nm,0.3s,baz=323,slow=18,SNR=9.2								
MKAR	**Makanchi Array**	**68.14**	**327**	P		P	07 28 14.3		+0.2
	1.2nm,0.5s,baz=123,slow=7.9,SNR=25								
KURBB	**Kurchatov Arra**	**72.46**	**329**	P		P	07 28 40.2		0.0
	1.2nm,0.5s,baz=128,slow=5.0,SNR=20								

RSNC 12 07:20:35.2±0.9, 5.73N×73.91W, h109km±10km, ML1.4, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.84**	**79**	*e*P		Pn		07 20 55.1	-0.2
RUSC				*e*S		Sn		07 21 09.8	-0.5
RUSC				*i*				07 21 11.5	
	comp=Z,1.7nm,0.2s								
RUSC	**La Rusia**	**0.84**	**79**	*e*P		Pn		07 20 55.1	-0.2
RUSC				*e*S		Sn		07 21 10.3	-0.1
RUSC				*i*				07 21 12.6	
	comp=Z,1.4nm,0.1s								
NORC	**Norcasia**	**0.96**	**260**	*e*P		Pn		07 20 55.6	-0.4
NORC				*e*S		Sn		07 21 12.5	+0.8
NORC	**Norcasia**	**0.96**	**260**	*e*P		Pn		07 20 55.6	-0.4
NORC				*e*S		Sn		07 21 11.3	-0.4
PTBC	**PUERTO BERRIO,**	**0.97**	**326**	*e*P		Pn		07 20 54.8	-1.2
PTBC				*e*S		Sn		07 21 12.1	+0.3
PTBC				*i*				07 21 14.4	
	comp=Z,4.9nm,0.1s								
PTBC	**PUERTO BERRIO,**	**0.97**	**326**	*e*P		Pn		07 20 54.8	-1.2
PTBC				*e*S		Sn		07 21 11.6	-0.2
PTBC				*i*				07 21 14.4	
	comp=Z,5.1nm,0.1s								
BARC	**Barichara**	**1.12**	**40**	*e*S		Sn		07 21 15.1	+0.1
BARC	**Barichara**	**1.12**	**40**	*e*S		Sn		07 21 14.5	-0.5
BRRC	**Barranca, Sant**	**1.38**	**8**	*e*P		Pn		07 21 00.2	-0.4
BRRC				*i*				07 21 01.6	
	comp=Z,13nm,0.1s								
BRRC				*e*S		Sn		07 21 19.9	+0.1
BRRC	**Barranca, Sant**	**1.38**	**8**	*e*P		Pn		07 21 00.2	-0.4
BRRC				*i*				07 21 01.6	
	comp=Z,13nm,0.1s								
BRRC				*e*S		Sn		07 21 20.0	+0.1
HELC	**Santa Helena**	**1.67**	**286**	*e*P		Pn		07 21 04.8	+0.4
HELC				*e*S		Sn		07 21 27.4	+0.8
HELC				*i*				07 21 28.7	
	comp=Z,2.8nm,0.3s								
HELC	**Santa Helena**	**1.67**	**286**	*e*P		Pn		07 21 04.8	+0.4
HELC				*e*S		Sn		07 21 26.4	-0.2
HELC				*i*				07 21 28.7	
	comp=Z,2.9nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.99**	**332**	*e*P		Pn		07 21 06.9	-1.1
ZARC				*e*S		Sn		07 21 32.6	-0.4
ZARC				*i*				07 21 35.3	
	comp=Z,4.9nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.99**	**332**	*e*P		Pn		07 21 07.1	-1.0
ZARC				*e*S		Sn		07 21 32.2	-0.8
ZARC				*i*				07 21 34.6	
	comp=Z,4.3nm,0.3s								

IDC 12 07:23:35.3±1.6, 15.13S×174.96W, h240km±36km, mb3.0/4, mb1 3.3/5, mb1mx3.1/43, mbtmp3.6/5, Error ellipse: s-maj=149.6km s-min=19.1km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.31**	**69**	P		Pn		07 24 31.0	+0.2
	2.2nm,0.3s,baz=159,slow=1.8,SNR=4.6								
AFI				S		S		07 25 14.9	+0.4
	2.0nm,0.3s,baz=228,slow=18,SNR=3.1								
WRA	**Warramunga Arr**	**48.44**	**257**	P		P		07 31 53.8	-0.2
	0.6nm,0.9s,baz=84,slow=7.6,SNR=3.3								
ASAR	**Alice Springs**	**48.76**	**252**	P		P		07 31 56.4	-0.1
	1.7nm,0.5s,baz=88,slow=8.0,SNR=22								
ILAR	**Eielson Array**	**82.48**	**12**	P		P		07 35 30.4	-0.1
	0.2nm,0.4s,baz=210,slow=5.2,SNR=6.3								
PDAR	**Pinedale Array**	**83.07**	**42**	P		P		07 35 34.6	+0.2
	0.2nm,0.5s,baz=124,slow=1.6,SNR=3.1								

IDC 12 07:23:57.7±1.6, 5.01S×146.02E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.5/45, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=67.2km s-min=28.4km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.51**	**166**	Pn		Pn		07 25 07.4	+0.1
	7.6nm,0.3s,baz=286,slow=12,SNR=8.8								
PMG				Sn		Sn		07 25 56.9	-3.6
	7.6nm,0.3s,baz=232,slow=3.8,SNR=5.7								
WRA	**Warramunga Arr**	**18.70**	**216**	P		P		07 28 17.0	-0.9
	0.4nm,0.3s,baz=37,slow=11,SNR=8.4								
ASAR	**Alice Springs**	**21.92**	**211**	P		P		07 28 53.3	+0.4
	0.5nm,0.4s,baz=44,slow=8.3,SNR=7.4								
ILAR	**Eielson Array**	**84.96**	**23**	P		P		07 36 34.8	+0.1
	0.6nm,0.8s,baz=236,slow=4.2,SNR=5.2								
TORD	**Torodi Ar. Bea**	**143.90**	**285**	PKP		PKPdf		07 43 35.2	-1.0
	0.2nm,0.5s,baz=75,slow=3.0,SNR=2.2								

NEIC ***12*** *07:37:55.0±0.8,36.56N×72.91E, h10km, mb4.5/3, Error ellipse: s-maj=10.7km s-min=10.1km az=213.0*

IDC ***12*** *07:37:54.2±1.3,36.72N×73.18E, h0km, mb3.6/6, mb1 3.7/12, mb1mx3.5/72, mbtmp3.6/12, ML3.2/6, MS3.8/3, Ms1 3.8/3, ms1mx3.0/67, Error ellipse: s-maj=27.2km s-min=22.8km az=142.0*

ISCJB ***12*** *07:37:57.2±0.5,36.66N±0.05×72.93E±0.07, h42km, mb3.7/7, MS3.8/3, Error ellipse: s-maj=7.8km s-min=6.9km az=157.3*

NNC ***12*** *07:38:03.6±4.0,37.12N×72.83E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=50.9km s-min=33.6km az=109.0*

ISC 12 07:37:59.1±0.7, 36.72N±0.06×72.99E±0.08, h42km, n56, σ2s 13/55, mb3.5/7, MS3.9/3, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.31**	**7**	⇑Pn		**Pn**		**07 38 53.2**	**+4.5**
	35nm,0.6s								
SFK				⇑Lg		Lg		07 39 37.3	
	74nm,0.5s								
KBL	**Kabul**	**3.88**	**237**	*e*Pn		**Pn**		**07 38 53.2**	**-3.3**
MNAS	**Manas**	**5.77**	**356**	⇑Pn		**Pn**		**07 39 24.6**	**+2.2**
	4.1nm,0.5s								
MNAS				⇑Lg		Lg		07 40 57.2	
	17nm,1.2s								
AAK	**Ala-Archa**	**6.02**	**11**	Pn		**Pn**		**07 39 28.1**	**+2.3**
	0.8nm,0.3s,baz=141,slow=4.5,SNR=9.6								
AAK				Sn		**Sn**		**07 40 28.5**	**-5.1**
	0.7nm,0.3s,baz=0.0,slow=20,SNR=2.3								
AAK	**Ala-Archa**	**6.02**	**11**	⇑Pn		**Pn**		**07 39 27.9**	**+2.1**
	3.1nm,0.7s								
AAK				⇓Lg		Lg		07 40 59.5	
	18nm,1.1s								
AAK	**Ala-Archa**	**6.02**	**11**	*e*Pn		**Pn**		**07 39 28.2**	**+2.4**
AAK				*e*Sn		**Sn**		**07 40 28.9**	**-4.7**
TARG	**Taragay, Kyrgy**	**6.25**	**35**	*e*Pn		**Pn**		**07 39 31.0**	**+1.9**
TKM2	**Tokmak 2**	**6.51**	**17**	⇓Pn		**Pn**		**07 39 34.4**	**+1.9**
	7.1nm,1.0s								
TKM2				⇓Lg		Lg		07 41 17.9	
	16nm,0.9s								
KK06	**Karatay Array**	**6.64**	**344**	*e*Pn		**Pn**		**07 39 36.1**	**+1.9**
KK07	**Karatay Array**	**6.64**	**344**	*e*Pn		**Pn**		**07 39 36.1**	**+1.9**
KK02	**Karatay Array**	**6.66**	**344**	*e*Pn		**Pn**		**07 39 36.3**	**+1.9**
KK31	**Karatay Array**	**6.66**	**344**	Pn		**Pn**		**07 39 36.3**	**+1.9**
	2.1nm,0.5s,baz=154,slow=12,SNR=28								
KK31				⇑Lg		Lg		07 41 21.5	
	13nm,1.0s,baz=165,slow=27								
KK31	**Karatay Array**	**6.66**	**344**	*e*Pn		**Pn**		**07 39 36.3**	**+1.9**
KKAR	**Karatay Array**	**6.66**	**344**	*e*Pn		**Pn**		**07 39 36.3**	**+1.9**
KK03	**Karatay Array**	**6.66**	**344**	*e*Pn		**Pn**		**07 39 36.3**	**+1.9**
KK01	**Karatay Array**	**6.66**	**344**	*e*Pn		**Pn**		**07 39 36.2**	**+1.8**
KK04	**Karatay Array**	**6.66**	**344**	*e*Pn		**Pn**		**07 39 36.3**	**+1.8**
KK08	**Karatay Array**	**6.66**	**344**	*e*Pn		**Pn**		**07 39 36.2**	**+1.8**
KK05	**Karatay Array**	**6.67**	**344**	*e*Pn		**Pn**		**07 39 36.0**	**+1.5**
GEYT	**Alibeck**	**11.90**	**280**	Pn		**Pn**		**07 40 47.5**	**+1.2**
	0.6nm,0.3s,baz=94,slow=7.9,SNR=2.9								
MK32	**Makanchi Array**	**12.22**	**32**	*e*Pn		**Pn**		**07 40 50.7**	**+0.2**
MKAR	**Makanchi Array**	**12.22**	**32**	Pn		**Pn**		**07 40 50.7**	**+0.2**
	0.1nm,0.3s,baz=212,slow=15,SNR=4.8								
KURBB	**Kurchatov Arra**	**14.46**	**14**	Pn		**Pn**		**07 41 17.4**	**-3.6**
	0.0nm,0.3s,baz=207,slow=9.9,SNR=4.0								
KURK	**Kurchatov**	**14.56**	**14**	*e*Pn		Pn		07 41 17.4	-5.0
AB07	**Akbulak array**	**15.70**	**327**	*e*Pn		**Pn**		**07 41 35.5**	**-1.8**
AB06	**Akbulak array**	**15.71**	**327**	*e*Pn		**Pn**		**07 41 36.1**	**-1.3**
AB08	**Akbulak array**	**15.72**	**327**	*e*Pn		**Pn**		**07 41 35.2**	**-2.2**
AB03	**Akbulak array**	**15.72**	**327**	*e*Pn		**Pn**		**07 41 36.0**	**-1.4**
AB01	**Akbulak array**	**15.72**	**327**	*e*Pn		**Pn**		**07 41 36.1**	**-1.4**
AB31	**Akbulak array**	**15.72**	**327**	*e*Pn		**Pn**		**07 41 36.4**	**-1.1**
ABKAR	**Akbulak array**	**15.72**	**327**	*e*Pn		**Pn**		**07 41 36.4**	**-1.1**
	21nm,0.6s								
AB02	**Akbulak array**	**15.72**	**327**	*e*Pn		**Pn**		**07 41 36.4**	**-1.1**
AB04	**Akbulak array**	**15.73**	**327**	*e*Pn		**Pn**		**07 41 36.4**	**-1.2**
AB05	**Akb

KURBB	**Kurchatov Arra**	**20.64**	**49**	P		Pn	07 47 29.2		+1.2
	comp=N,0.5nm,0.8s,baz=247,slow=12,SNR=2.5								
MKAR	**Makanchi Array**	**21.97**	**61**	P		**P**	**07 47 43.7**		**+3.6**
	comp=N,0.9nm,0.8s,baz=254,slow=12,SNR=4.7								
TORD	**Torodi Ar. Bea**	**52.68**	**255**	P		**P**	**07 52 00.4**		**-0.5**
	comp=N,0.2nm,0.4s,baz=53,slow=8.7,SNR=3.0								
YKA	**Yellowknife Ar**	**77.98**	**355**	P		**P**	**07 54 45.3**		**+1.1**
	comp=N,0.1nm,0.4s,baz=14,slow=6.0,SNR=2.9								

IDC ***12*** *07:43:14.1±0.9,50.06N×78.81E, h0km, mb1 2.9/3, mb1mx2.7/73, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=12.2km s-min=6.4km az=57.0*

ISC 12 07:43:08.7±0.9, 50.16N±0.05×79.35E±0.08, h5km, n10, σ1§49/11, 4C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KURBB	**Kurchatov Arra**	**0.70**	**312**	Pg		**Pn**	**07 43 25.3**		**+0.1**
	3.0nm,0.3s,baz=166,slow=19,SNR=73								
KURBB				Lg		Lg	07 43 34.0		
	3.2nm,0.3s,baz=163,slow=28,SNR=31								
MAKZ	**Makanchi**	**3.78**	**151**	⇑Pn		**Pg**	**07 44 22.2**		**+1.0**
	2.1nm,0.7s								
MAKZ				⇑Lg		Lg	07 45 14.8		
	4.3nm,0.8s								
MK31	**Makanchi Array**	**3.90**	**149**	⇑Pn		**Pg**	**07 44 22.5**		**-0.8**
	1.4nm,0.5s,baz=330,slow=12,SNR=12								
MK31				⇓Lg		Lg	07 45 21.5		
	1.2nm,0.3s,baz=320,slow=28,SNR=7.3								
MKAR	**Makanchi Array**	**3.90**	**149**	Pn		**Pb**	**07 44 17.3**		**-0.6**
	0.3nm,0.3s,baz=332,slow=12,SNR=5.9								
MKAR				Pg		**Pg**	**07 44 23.4**		**+0.1**
	0.8nm,0.3s,baz=325,slow=14,SNR=11								
MKAR				Lg		Lg	07 45 20.1		
	1.3nm,0.3s,baz=324,slow=27,SNR=8.5								
I46RU	**ZALESOVO INFRA**	**5.08**	**40**	*i*			08 15 00.0		
	baz=222,slow=337,SNR=1.9								
ZALV	**Zalesovo Beam**	**5.08**	**40**	Pn		**Pb**	**07 44 37.5**		**-0.4**
	1.0nm,0.3s,baz=230,slow=15,SNR=7.6								
BVAR	**Borovoye Array**	**6.28**	**301**	Pn		**Pn**	**07 44 44.4**		**+2.6**
	0.2nm,0.3s,baz=127,slow=14,SNR=3.5								
BVAR				Sn		**Sn**	**07 45 52.5**		**-1.3**
	0.5nm,0.3s,baz=112,slow=23,SNR=6.0								
AAK	**Ala-Archa**	**8.24**	**206**	Sn		**Sn**	**07 46 41.6**		**-0.8**
	0.7nm,0.3s,baz=220,slow=8.7,SNR=4.0								
AAK				Lg		Lg	07 47 34.3		
	0.4nm,0.3s,baz=316,slow=22,SNR=7.8								
AAK	**Ala-Archa**	**8.24**	**206**	Sn		**Sg**	**07 47 34.8**		**+1.8**
	2.9nm,0.6s								
AB31	**Akbulak array**	**12.59**	**273**	⇑Pn		**Pn**	**07 46 06.5**		**-1.8**
	4.2nm,0.4s,baz=9.4,slow=15,SNR=35								

NNC 12 07:45:31.4±4.8, 38.33N×72.22E, h0km, mb3.7, mpv3.3, 4C-2D, Error ellipse: s-maj=36.3km s-min=28.3km az=162.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SFK	**Sufi-Kurgan**	**1.96**	**30**	⇑Pn		Pn	07 46 06.3		+0.2
	14nm,0.3s								
SFK				⇓Sn		Sb	07 46 33.4		+0.2
	15nm,0.3s								
MNAS	**Manas**	**4.16**	**3**	⇓Pn		Pn	07 46 36.3		0.0
	0.8nm,0.3s								
MNAS				⇑Sn		Sn	07 47 27.5		+1.8
	6.2nm,0.5s								
AAK	**Ala-Archa**	**4.64**	**21**	Pn		Pn	07 46 40.9		-2.0
	1.0nm,0.4s								
KK31	**Karatay Array**	**4.95**	**345**	⇑Pn		Pn	07 46 48.1		+1.1
	3.5nm,0.3s,baz=160,slow=12,SNR=34								
KK31				⇑Sn		Sn	07 47 46.2		+1.4
	7.5nm,0.5s,baz=167,slow=23,SNR=16								

IDC ***12*** *07:45:47.1±1.4, 13.43S×166.28E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/45, mbtmp3.9/7, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/42, Error ellipse: s-maj=47.2km s-min=24.3km az=121.0*

ISCJB ***12*** *07:45:51.2±1.1, 13.71S±0.08×166.3E±0.2, h39km, mb3.8/6, Error ellipse: s-maj=29.2km s-min=10.8km az=173.5*

ISC 12 07:45:52.5±1.1, 13.59S±0.10×166.4E±0.2, h39km, n8, σ1§21/9, mb3.8/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DZM	**Mont Dzumac**	**8.43**	**180**	Pn		**Pn**	**07 47 53.3**		**+1.0**
	1.6nm,0.3s,baz=331,slow=18,SNR=8.6								
DZM				Sn		**Sn**	**07 49 24.9**		**-1.4**
	0.2nm,0.3s,baz=127,slow=20,SNR=1.7								
DZM				LR		LR	07 50 54.6		
	comp=Z,291nm,18.1s,baz=330,slow=36								
STKA	**Stephens Creek**	**29.09**	**227**	P		**P**	**07 51 51.0**		**+1.4**
	1.9nm,0.8s,baz=56,slow=11,SNR=5.9								
WRA	**Warramunga Arr**	**31.28**	**254**	P		**P**	**07 52 08.2**		**-0.9**
	0.7nm,0.7s,baz=86,slow=9.4,SNR=5.0								
ASAR	**Alice Springs**	**32.29**	**247**	P		**P**	**07 52 17.4**		**-0.6**
	0.6nm,0.7s,baz=71,slow=10,SNR=6.9								
SONM	**Songino Array**	**81.07**	**324**	P		**P**	**07 58 03.9**		**+0.2**
	0.8nm,0.9s,baz=116,slow=6.6,SNR=4.7								
ILAR	**Eielson Array**	**85.72**	**18**	P		**P**	**07 58 27.4**		**+0.3**
	0.8nm,0.5s,baz=234,slow=5.0,SNR=28								
MKAR	**Makanchi Array**	**95.78**	**317**	P		**P**	**07 59 14.8**		**0.0**
	0.7nm,0.8s,baz=104,slow=5.4,SNR=5.6								
ARCES	**ARCESS Array B**	**118.94**	**345**	PKP		**PKPdf**	**08 04 34.7**		**-1.7**
	1.8nm,0.8s,baz=41,slow=2.9,SNR=5.9								

ISCJB ***12*** *07:56:02.6±1.0, 17.9S±0.3×178.5W±0.2, h579km, mb4.0/14, Error ellipse: s-maj=38.3km s-min=13.4km az=151.4*

IDC ***12*** *07:56:05.8±3.6, 17.92S×178.50W, h607km±42km, mb3.5/14, mb1 3.7/15, mb1mx3.5/41, mbtmp4.4/15, Error ellipse: s-maj=33.9km s-min=18.5km az=147.0*

ISC 12 07:56:03.4±1.1, 17.9S±0.3×178.4W±0.2, h579km, n18, σ0§89/20, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DZM	**Mont Dzumac**	**14.86**	**251**	P		**P**	**07 59 12.5**		**+1.4**
	0.9nm,0.3s,baz=84,slow=18,SNR=9.0								
CTA	**Charters Tower**	**33.48**	**260**	P		**P**	**08 01 55.4**		**-0.7**
	12nm,0.7s,baz=91,slow=10,SNR=9.6								
PMG	**Port Moresby**	**34.48**	**280**	P		**P**	**08 02 05.3**		**+0.9**
	28nm,0.8s,baz=65,slow=6.1,SNR=9.8								
STKA	**Stephens Creek**	**38.67**	**241**	P		**P**	**08 02 38.5**		**-0.1**
	11nm,0.8s,baz=91,slow=9.9,SNR=32								
WRA	**Warramunga Arr**	**44.66**	**259**	P		**P**	**08 03 24.4**		**-1.5**
	9.9nm,0.7s,baz=95,slow=7.4,SNR=144								
WRA				PcP		**PcP**	**08 04 55.0**		**-0.8**
	0.8nm,0.4s,baz=87,slow=3.5,SNR=4.4								
ASAR	**Alice Springs**	**44.83**	**254**	P		**P**	**08 03 26.4**		**-0.7**
	44nm,0.7s,baz=88,slow=8.5,SNR=579								
ASAR				PcP		**PcP**	**08 04 55.8**		**-0.6**
	1.5nm,0.5s,baz=105,slow=3.7,SNR=6.2								
MJAR	**Matsushiro Arr**	**67.89**	**323**	P		**P**	**08 06 04.7**		**-0.4**
	1.4nm,0.6s,baz=183,slow=5.8,SNR=4.5								
PETK	**Petropavlovsk-**	**73.65**	**345**	P		**P**	**08 06 39.0**		**+0.5**
	5.7nm,1.1s,baz=142,slow=5.1,SNR=3.3								
NVAR	**Mina Array Bea**	**79.38**	**44**	P		**P**	**08 07 11.1**		**+0.7**
	1.2nm,0.7s,baz=225,slow=8.5,SNR=11								
ILAR	**Eielson Array**	**85.84**	**13**	P		**P**	**08 07 40.8**		**-1.2**
	0.7nm,1.0s,baz=230,slow=5.1,SNR=5.8								
TXAR	**Lajitas Array**	**85.95**	**58**	P		**P**	**08 07 44.7**		**+1.3**
	1.3nm,0.7s,baz=219,slow=6.4,SNR=18								
PDAR	**Pinedale Array**	**87.31**	**43**	P		**P**	**08 07 49.9**		**+0.1**
	0.7nm,0.7s,baz=206,slow=2.9,SNR=6.8								
CMAR	**Chiang Mai Arr**	**88.89**	**290**	P		**P**	**08 07 57.6**		**+0.3**
	0.8nm,0.3s,baz=102,slow=4.2,SNR=5.1								
SONM	**Songino Array**	**93.54**	**319**	P		**P**	**08 08 19.1**		**+0.8**
	0.3nm,0.6s,baz=117,slow=5.0,SNR=2.4								
YKA	**Yellowknife Ar**	**94.28**	**25**	P		**P**	**08 08 20.2**		**-0.9**
	0.1nm,0.6s,baz=256,slow=4.2,SNR=3.7								
BRTR	**Keskin Array B**	**144.77**	**315**	PKP		**PKPdf**	**08 14 35.5**		**+0.1**
	2.7nm,0.9s,baz=85,slow=2.2,SNR=7.9								
MMAI	**Mount Meron Ar**	**146.14**	**303**	PKPbc		**PKPdf**	**08 14 37.8**		**0.0**
	1.9nm,0.4s,baz=57,slow=5.3,SNR=3.2								
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc		**PKPbc**	**08 14 42.5**		**-0.8**
	0.9nm,0.5s,baz=15,slow=4.1,SNR=8.4								

IDC 12 07:59:26.3±4.0, 36.36N×72.91E, h0km, mb3.4/1, mb1 3.4/5, mb1mx3.2/68, mbtmp3.3/5, ML2.8/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/50, Error ellipse: s-maj=139.7km s-min=49.5km az=118.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
AAK	**Ala-Archa**	**6.39**	**11**	Pn		Pn	08 01 04.6		+2.8
	0.3nm,0.3s,baz=185,slow=4.7,SNR=7.7								
AAK				Sn		Sn	08 02 18.1		+2.6
	0.3nm,0.3s,baz=22,slow=19,SNR=2.7								
MKAR	**Makanchi Array**	**12.56**	**31**	Pn		Pn	08 02 27.0		+0.8
	0.0nm,0.3s,baz=218,slow=14,SNR=2.4								
MKAR				Lg		Lg	08 05 48.9		
	0.1nm,0.3s,baz=192,slow=29,SNR=4.6								
KURBB	**Kurchatov Arra**	**14.82**	**14**	Pn		Pn	08 02 56.8		-0.2
	0.0nm,0.3s,baz=204,slow=11,SNR=3.5								
ZALV	**Zalesovo Beam**	**19.44**	**22**	P		Pn	08 03 54.8		-0.4
	0.3nm,0.3s,baz=225,slow=10.0,SNR=4.9								
VAE	**Valguarnera**	**46.12**	**290**	LR		LR	08 28 57.0		
	comp=Z,86nm,19.1s,baz=322,slow=38								
YKA	**Yellowknife Ar**	**81.30**	**4**	P		P	08 11 44.0		-0.1
	0.2nm,0.6s,baz=349,slow=5.5,SNR=11								

ISCJB ***12*** *08:09:33.9±0.6, 36.49N±0.06×73.1E±0.1, h10km, mb3.6/11, Error ellipse: s-maj=11.7km s-min=8.7km az=5.3*

IDC ***12*** *08:09:33.9±0.8, 36.64N×73.17E, h0km, mb3.7/11, mb1 3.8/18, mb1mx3.7/67, mbtmp3.7/18, ML3.3/6, Error ellipse: s-maj=19.4km s-min=16.9km az=113.0*

NNC ***12*** *08:09:47.7±5.5, 37.21N×73.67E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=60.8km s-min=42.1km az=93.0*

ISC 12 08:09:35.3±0.6, 36.60N±0.05×73.20E±0.09, h10km, n33, σ1§62/26, mb3.8/11, 3C-7D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
CHCP	**Chirah Chowk**	**2.93**	**179**	P		**Pg**	**08 10 32.4**		**+0.9**
CEP	**Cherat**	**2.96**	**201**	P		**Pg**	**08 10 31.9**		**-0.2**
SFK	**Sufi-Kurgan**	**3.42**	**4**	⇑Pn		**Pb**	**08 10 35.2**		**-0.9**
	65nm,0.9s								
SFK				⇑Lg		Lg	08 11 19.3		
	161nm,0.6s								
THW	**Thamme Wali**	**3.98**	**198**	P		**Pb**	**08 10 44.3**		**-1.3**
AML	**Almayashu**	**5.54**	**4**	P		Pn	08 11 01.2		+3.1
	SNR=10								
KZA	**Kyzart**	**5.70**	**16**	P		**Pn**	**08 11 03.1**		**+2.7**
	SNR=13								
UCH	**Uchtor**	**5.71**	**10**	P		**Pn**	**08 11 03.5**		**+2.8**
	SNR=28								
MNAS	**Manas**	**5.91**	**355**	⇓Pn		Pn	08 11 06.7		+3.7
	4.0nm,0.4s								
MNAS				⇓Lg		Lg	08 12 37.2		
	9.9nm,0.6s								
EKS2	**Erkin-Say**	**6.07**	**4**	P		Pb	08 11 13.0		-8.3
	SNR=6.6								
AAK	**Ala-Archa**	**6.12**	**9**	Pn		Pn	08 11 08.9		+3.1
	1.1nm,0.3s,baz=173,slow=6.8,SNR=16								
AAK				Sn		**Sn**	**08 12 14.7**		**-1.3**
	0.4nm,0.3s,baz=186,slow=17,SNR=2.5								
AAK	**Ala-Archa**	**6.12**	**9**	⇓Pn		Pb	08 11 12.0		-10
	5.0nm,0.6s								
AAK				⇓Sn		**Sn**	**08 12 15.4**		**-0.6**
	14nm,0.9s								
AAK				⇑Lg		Lg	08 12 43.2		
	16nm,1.0s								
AAK	**Ala-Archa**	**6.12**	**9**	P		Pb	08 11 12.8		-9.2
	SNR=7.8								
KBK	**Karagaybulak**	**6.20**	**12**	P		Pb	08 11 14.8		-8.7
	SNR=5.8								
TKM2	**Tokmak 2**	**6.58**	**16**	⇓Pn		Pn	08 11 17.3		+4.9
	4.8nm,0.6s								
TKM2				⇓Lg		Lg	08 12 56.7		
	14nm,0.8s								
TKM2	**Tokmak 2**	**6.58**	**16**	P		Pn	08 11 18.0		+5.7
	SNR=9.3								
KK31	**Karatay Array**	**6.82**	**343**	Pn		Pn	08 11 19.4		+4.0
	3.0nm,0.5s,baz=153,slow=12,SNR=49								
KK31				⇓Sn		**Sn**	**08 12 35.6**		**+2.6**
	4.4nm,0.5s,baz=149,slow=25								
GEYT	**Alibeck**	**12.09**	**281**	Pn		**Pn**	**08 12 28.0**		**+0.3**
	0.6nm,0.3s,baz=108,slow=9.3,SNR=3.2								
MKAR	**Makanchi Array**	**12.24**	**31**	Pn		**Pn**	**08 12 30.2**		**+0.6**
	0.1nm,0.3s,baz=210,slow=12,SNR=11								
KURBB	**Kurchatov Arra**	**14.54**	**14**	Pn		**Pn**	**08 12 60.0**		**-1.0**
	0.0nm,0.3s,baz=206,slow=10,SNR=3.4								
KURBB				Lg		Lg	08 17 06.3		
	0.0nm,0.3s,baz=204,slow=30,SNR=3.7								
BVAR	**Borovoye Array**	**16.55**	**354**	Pn		**Pn**	**08 13 23.5**		**-3.8**
	baz=168,slow=7.4,SNR=1.8								
AKTO	**Aktyubinsk**	**17.63**	**326**	P		**Pn**	**08 13 38.5**		**-2.5**
	0.3nm,0.3s,baz=111,slow=3.7,SNR=3.2								
ZALV	**Zalesovo Beam**	**19.14**	**21**	P		**Pn**	**08 13 57.3**		**-2.0**
	0.4nm,0.3s,baz=213,slow=10,SNR=18								
SONM	**Songino Array**	**26.83**	**55**	P		**P**	**08 15 15.6**		**-0.3**
	0.1nm,0.3s,baz=248,slow=12,SNR=2.9								
BRTR	**Keskin Array B**	**31.09**	**288**	P		**P**	**08 15 54.4**		**+0.6**
	0.4nm,0.6s,baz=82,slow=6.7,SNR=2.5								
ARCES	**ARCESS Array B**	**41.74**	**337**	P		**P**	**08 17 25.3**		**+1.1**
	1.7nm,0.8s,baz=96,slow=6.4,SNR=6.8								
HFS	**Hagfors**	**44.09**	**322**	P		**P**	**08 17 43.3**		**0.0**
	2.7nm,0.9s,baz=98,slow=8.9,SNR=2.8								
NOA	**NORSAR Array B**	**45.37**	**323**	P		**P**	**08 17 53.5**		**-0.1**
	1.4nm,0.8s,baz=91,slow=7.6,SNR=4.1								
TORD	**Torodi Ar. Bea**	**67.49**	**270**	P		**P**	**08 20 30.1**		**-1.7**
	0.4nm,0.5s,baz=49,slow=6.0,SNR=8.8								
MATP	**Matopo**	**70.70**	**224**	P		**P**	**08 20 52.8**		**+1.1**
	1.1nm,0.5s,baz=25,slow=4.3,SNR=4.4								
ILAR	**Eielson Array**	**74.19**	**17**	P		**P**	**08 21 11.6**		**-0.2**
	0.4nm,0.9s,baz=308,slow=4.5,SNR=3.3								
WRA	**Warramunga Arr**	**80.55**	**123**	P		**P**	**08 21 49.2**		**+1.2**
	0.7nm,0.7s,baz=322,slow=4.8,SNR=8.7								
YKA	**Yellowknife Ar**	**81.05**	**4**	P		**P**	**08 21 49.7**		**-0.4**
	0.5nm,0.7s,baz=349,slow=5.4,SNR=18								
ASAR	**Alice Springs**	**82.87**	**126**	P		**P**	**08 22 00.5**		**+0.2**
	0.3nm,0.6s,baz=303,slow=4.8,SNR=4.5								

IDC ***12*** *08:26:05.2±0.5, 36.67N×73.18E, h0km, mb4.4/26, mb1 4.4/34, mb1mx4.3/70, mbtmp4.3/34, ML3.5/8, MS3.5/6, Ms1 3.5/6, ms1mx3.0/73, Error ellipse: s-maj=12.6km s-min=10.6km az=128.0*

NEIC ***12*** *08:26:07.2±0.5, 36.67N×73.09E, h10km, mb4.7/12, Error ellipse: s-maj=8.3km s-min=5.8km az=148.0*

ISCJB ***12*** *08:26:09.4±0.2, 36.73N±0.02×73.03E±0.03, h42km, mb4.3/51, MS3.7/6, Error ellipse: s-maj=3.0km s-min=2.2km az=152.2*

MOS ***12*** *08:26:09.2±1.3, 36.70N×73.13E, h33km, mb4.5/23, Error ellipse: s-maj=8.5km s-min=5.0km az=84.8*

BJI ***12*** *08:26:16.0, 36.85N×73.77E, h50km, mb4.4/28, mB4.6/8, ML4.3/5, Ms4.1/10, Ms7 3.9/8*

NNC ***12*** *08:26:18.2±3.8, 37.15N×72.70E, h21km±18km, mb4.6, mpv4.3, Error ellipse: s-maj=22.1km s-min=20.5km az=92.0*

ISC 12 08:26:11.2±0.3, 36.72N±0.04×73.15E±0.04, h42km, n183, σ1§93/211, mb4.4/52, MS3.7/6, 14C-11D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
CHCP	**Chirah Chowk**	**3.06**	**178**	P		**Pn**	**08 27 01.6**		**+4.5**
CEP	**Cherat**	**3.06**	**200**	P		**Pn**	**08 27 01.4**		**+4.1**
CEP				S		Sn	08 27 47.0		+14
SFK	**Sufi-Kurgan**	**3.30**	**5**	⇓Pn		Pn	08 27 06.0		+5.5
	98nm,0.6s								
SFK				⇓Lg		Lg	08 27 51.7		
	466nm,0.8s								
KSH	**Kashi**	**3.57**	**38**	P		**Pn**	**08 27 01.1**		**-3.1**
KSH				pP			08 27 05.1		
KSH				S		**Sn**	**08 27 38.1**		**-7.1**
KSH				pmax		pmax			
	comp=Z,250nm,0.6s								
KSH				smax		smax			
	comp=N,760nm,0.8s								
KSH				smax		smax			
	comp=E,580nm,0.8s								
KBL	**Kabul**	**3.99**	**238**	*e*PN		**Pn**	**08 27 10.5**		**+0.4**
KBL	**Kabul**	**3.99**	**238**	*e*Pn		**Pn**	**08 27 10.5**		**+0.4**
THW	**Thamme Wali**	**4.08**	**197**	P		**Pn**	**08 27 13.9**		**+2.7**
SARP	**Sargodha**	**4.80**	**185**	P		**Pn**	**08 27 24.3**		**+3.3**
DHRM	**DHARAMSHALA**	**5.16**	**149**	*e*P		**Pn**	**08 27 28.5**		**+2.3**
DHRM				*e*S		**Sn**	**08 28 26.4**		**+1.8**
NRN	**Naryn**	**5.20**	**24**	PN		**Pn**	**08 27 28.9**		**+2.1**
MNAS	**Manas**	**5.78**	**355**	⇓Pn		**Pn**	**08 27 36.0**		**+1.4**
	44nm,0.9s								
MNAS				⇓Lg		Lg	08 29 09.3		
	94nm,1.1s								
MNAS	**Manas**	**5.78**	**355**	*i* PN		**Pn**	**08 27 35.9**		**+1.4**
MNAS				pmax		pmax			
	comp=Z,44nm,0.9s								
AAK	**Ala-Archa**	**6.00**	**10**	Pn		**Pn**	**08 27 39.9**		**+2.3**
	comp=Z,2.2nm,0.3s,baz=186,slow=13,SNR=17								
AAK				Sn		**Sn**	**08 28 46.6**		**+1.5**
	comp=Z,1.1nm,0.3s,baz=154,slow=14,SNR=2.9								
AAK				LR		LR	08 30 09.0		
	comp=Z,189nm,19.7s,baz=208,slow=40								
AAK	**Ala-Archa**	**6.00**	**10**	⇑Pn		**Pn**	**08 27 39.5**		**+1.9**
	comp=Z,33nm,0.8s								
AAK				⇓Sn		**Sn**	**08 28 45.6**		**+0.5**
	comp=Z,61nm,1.2s								
AAK				⇓Lg		Lg	08 29 17.2		
	comp=Z,45nm,0.8s								
AAK	**Ala-Archa**	**6.00**	**10**	*d* PN		**Pn**	**08 27 39.5**		**+1.9**
AAK	**Ala-Archa**	**6.00**	**10**	*e*Pn		**Pn**	**08 27 38.9**		**+1.4**
AAK				*e*Sn		**Sn**	**08 28 46.6**		**+1.5**
TARG	**Taragay, Kyrgy**	**6.17**	**34**	*e*Pn		**Pn**	**08 27 41.6**		**+1.5**
FRU	**Bishkek**	**6.21**	**10**	*e*PN		**Pn**	**08 27 44.5**		**+4.2**
FRU				*i*			08 28 06.0		
FRU				*e*S		**Sn**	**08 28 58.0**		**+8.0**
FRU				pmax		pmax			
	comp=Z,55nm,2.0s								
FRU				smax		smax			
	comp=E,330nm,1.9s								
KDJ	**Kajisay**	**6.24**	**29**	*e*Pn		**Pn**	**08 27 41.3**		**+0.5**
KDJ				*e*Sn		**Sn**	**08 28 47.9**		**-3.0**
TKM2	**Tokmak 2**	**6.47**	**16**	⇑Pn		**Pn**	**08 27 45.7**		**+1.6**
	comp=E,44nm,1.1s								
TKM2				⇑Lg		Lg	08 29 32.6		
	comp=E,63nm,1.1s								
SMLA	**Simla**	**6.50**	**148**	*e*P		**Pn**	**08 27 46.4**		**+2.1**
SMLA				*e*S		**Sn**	**08 28 57.1**		**0.0**
SMLA				IAML			08 29 03.7		
	comp=N,734nm,0.7s								
SMLA				IAML			08 29 03.8		
	comp=E,1μm,0.7s								
KK06	**Karatay Array**	**6.68**	**343**	*e*Pn		**Pn**	**08 27 47.4**		**+0.7**
KK06				*e*Sn		**Sn**	**08 29 02.0**		**+0.5**
KK07	**Karatay Array**	**6.68**	**343**	*e*Pn		**Pn**	**08 27 47.5**		**+0.7**
KK07				*e*Sn		**Sn**	**08 29 04.3**		**+2.7**
KK02	**Karatay Array**	**6.69**	**343**	*e*Pn		**Pn**	**08 27 47.8**		**+0.9**
KK02				*e*Sn		**Sn**	**08 29 02.8**		**+0.9**
KK31	**Karatay Array**	**6.69**	**343**	⇓Pn		**Pn**	**08 27 47.7**		**+0.8**
	comp=E,6.1nm,0.4s,baz=161,slow=12,SNR=84								
KK31				⇓Sn		**Sn**	**08 29 01.1**		**-0.8**
	comp=E,22nm,0.7s,baz=168,slow=23,SNR=4.7								
KK31				⇑Lg		Lg	08 29 36.7		
	comp=E,28nm,0.8s,baz=168,slow=23,SNR=4.7								
KK31	**Karatay Array**	**6.69**	**343**	*e*PN		**Pn**	**08 27 47.8**		**+0.8**
KK31	**Karatay Array**	**6.69**	**343**	*e*Pn		**Pn**	**08 27 47.8**		**+0.8**
KK31				*e*Sn		**Sn**	**08 29 03.0**		**+1.1**
KKAR	**Karatay Array**	**6.69**	**343**	*e*PN		**Pn**	**08 27 47.7**		**+0.8**
KKAR	**Karatay Array**	**6.69**	**343**	*e*Pn		**Pn**	**08 27 47.7**		**+0.8**
KKAR				*e*Sn		**Sn**	**08 29 02.8**		**+1.0**
KK03	**Karatay Array**	**6.69**	**343**	*e*Pn		**Pn**	**08 27 47.5**		**+0.5**
KK03				*e*Sn		**Sn**	**08 29 02.9**		**+1.0**
KK01	**Karatay Array**	**6.69**	**343**	*e*Pn		**Pn**	**08 27 47.8**		**+0.8**
KK01				*e*Sn		**Sn**	**08 29 02.7**		**+0.8**
KK08	**Karatay Array**	**6.70**	**343**	*e*Pn		**Pn**	**08 27 47.7**		**+0.7**
KK08				*e*Sn		**Sn**	**08 29 03.2**		**+1.2**
KK04	**Karatay Array**	**6.70**	**343**	*e*Pn		**Pn**	**08 27 47.8**		**+0.7**
KK04				*e*Sn		**Sn**	**08 29 03.1**		**+1.1**
KK05	**Karatay Array**	**6.70**	**343**	*e*Pn		**Pn**	**08 27 47.7**		**+0.7**
KK05				*e*Sn		**Sn**	**08 29 02.0**		**-0.1**
MDOK	**Medeo**	**7.10**	**24**	⇑Pn		Pn	08 27 57.8		+5.2
	comp=E,21nm,0.8s								
MDOK				⇑Lg		Lg	08 29 54.1		
	comp=E,50nm,

	comp=Z,3.7nm,0.7s,baz=142,slow=12,SNR=46								
AB31				⇓S		**Sn**	**08 32 39.6**	**-4.7**	
	comp=Z,5.0nm,0.8s,baz=145,slow=23,SNR=5.7								
AB31	**Akbulak array**	**15.79**	**327**	*e*P		**Pn**	**08 29 47.2**	**-3.3**	
AB31	**Akbulak array**	**15.79**	**327**	*e*Pn		**Pn**	**08 29 47.2**	**-3.3**	
ABKAR	**Akbulak array**	**15.79**	**327**	*e*Pn		**Pn**	**08 29 47.7**	**-2.7**	
	comp=Z,46nm,0.6s								
AB02	**Akbulak array**	**15.79**	**327**	*e*Pn		**Pn**	**08 29 47.2**	**-3.3**	
AB04	**Akbulak array**	**15.80**	**327**	*e*Pn		**Pn**	**08 29 46.9**	**-3.6**	
AB05	**Akbulak array**	**15.80**	**327**	*e*Pn		**Pn**	**08 29 47.2**	**-3.5**	
AB09	**Akbulak array**	**15.81**	**327**	*e*Pn		**Pn**	**08 29 46.9**	**-3.7**	
NGP	**Nagpur**	**16.34**	**160**	*ex*		**Pn**	**08 29 55.7**	**-2.0**	
NGP					IAmb	IAmb	08 30 03.3		
	comp=Z,96nm,1.9s								
BVAR	**Borovoye Array**	**16.42**	**354**		Pn	**Pn**	**08 29 56.1**	**-2.3**	
	comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=7.9								
BRVK	**Borovoye**	**16.46**	**354**	*ce*P		**Pn**	**08 29 58.7**	**-0.2**	
BRVK					pmax	pmax			
	comp=Z,30nm,1.7s								
BRVK	**Borovoye**	**16.46**	**354**	*e*Pn		**Pn**	**08 29 57.6**	**-1.4**	
BRVK				*e*Sn		**Sn**	**08 32 59.2**	**-1.2**	
DGZ	**Jazzator, Alta**	**16.59**	**34**	*e*P		**P**	**08 30 02.5**	**-0.4**	
DGZ					pmax	pmax			
	comp=Z,18nm,1.0s								
BOK	**Bokaro**	**16.92**	**136**	*e*P		**P**	**08 30 06.6**	**+0.1**	
BOK					IAmb	IAmb	08 30 07.6		
	comp=Z,30nm,0.6s								
AKTO	**Aktyubinsk**	**17.51**	**326**	P		**Pn**	**08 30 10.9**	**-1.1**	
	comp=Z,0.3nm,0.3s,baz=128,slow=11,SNR=15								
AKTO	**Aktyubinsk**	**17.51**	**326**	⇑P		**Pn**	**08 30 11.8**	**-0.2**	
	comp=Z,11nm,0.8s								
AKTO				⇓S		**Sn**	**08 33 22.4**	**-3.4**	
	comp=Z,5.1nm,0.9s								
WSAR	**Wadi Sarin**	**18.37**	**227**	P		**Pn**	**08 30 22.9**	**0.0**	
	comp=Z,0.4nm,0.3s,baz=60,slow=13,SNR=6.4								
ZAA0	**Zalesovo Array**	**19.04**	**22**	*e*P		**P**	**08 30 29.0**	**-0.5**	
	comp=Z,27nm,0.9s								
ZALV	**Zalesovo Beam**	**19.04**	**22**	P		**P**	**08 30 29.1**	**-0.4**	
	comp=Z,0.8nm,0.3s,baz=213,slow=11,SNR=31								
ZAA1	**Zalesovo Array**	**19.04**	**21**	*e*P		**P**	**08 30 29.1**	**-0.4**	
NVS	**Novosibirsk**	**19.40**	**18**	*e*P		**P**	**08 30 32.6**	**-0.9**	
NVS				*e*S		**Sn**	**08 34 14.1**	**+2.6**	
NVS					pmax	pmax			
	comp=Z,21nm,1.1s								
NVS					pmax	pmax			
	comp=N,4.0nm,0.8s								
NVS					smax	smax			
	comp=E,17nm,1.7s								
SHL	**Shillong**	**19.47**	**120**	*e*P		**Pn**	**08 30 36.9**	**+0.6**	
SHL					IAmb	IAmb	08 30 37.0		
	comp=Z,9.0nm,0.3s								
HYB	**Hyderabad**	**19.81**	**165**	*i* P		**Pn**	**08 30 40.0**	**-0.1**	
HYB				*e*S		**S**	**08 34 14.5**	**-4.8**	
HVS	**Khovu-Aksy**	**20.56**	**39**	*e*P		Pn	08 30 49.2	+0.5	
HVS					pmax	pmax			
	comp=Z,11nm,0.9s								
GTA	**Gaotai**	**21.14**	**75**	*e*P		**P**	**08 30 53.5**	**+0.8**	
GTA					pP	sP	08 31 06.8	-1.5	
GTA					sP	pP	08 31 14.8	+12	
GTA					pmax	pmax			
	comp=Z,9.0nm,0.9s								
ARU	**Arti**	**22.03**	**338**	P		**P**	**08 31 01.5**	**-0.4**	
	comp=Z,12nm,0.2s,baz=107,slow=11,SNR=6.0								
GNI	**Garni**	**22.48**	**287**	P		**P**	**08 31 07.6**	**+0.6**	
	comp=Z,5.1nm,0.4s,baz=113,slow=7.2,SNR=8.1								
GNI	**Garni**	**22.48**	**287**	*e*P		**P**	**08 31 09.6**	**+2.6**	
GNI					pmax	pmax			
	comp=Z,135nm,1.2s								
GNI	**Garni**	**22.48**	**287**	*e*P		**P**	**08 31 10.4**	**+3.3**	
ZEI	**Tsey**	**23.22**	**294**	*e*P		**P**	**08 31 15.1**	**+0.4**	
ZEI					pmax	pmax			
	comp=Z,9.0nm,1.2s								
NCK	**Nalchik**	**23.52**	**296**	*i* P		**P**	**08 31 18.2**	**+0.8**	
NCK					pmax	pmax			
	comp=Z,12nm,0.9s								
KBZ	**Khabaz**	**24.05**	**296**	P		**P**	**08 31 22.6**	**+0.3**	
	comp=Z,2.8nm,0.9s,baz=83,slow=9.6,SNR=4.8								
NEY	**Neytrino**	**24.12**	**295**	*i* P		**P**	**08 31 24.1**	**+0.9**	
NEY					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KIV	**Kislovodsk**	**24.23**	**297**	*e*P		**P**	**08 31 24.0**	**-0.1**	
KIV					pmax	pmax			
	comp=Z,8.0nm,1.0s								
LZH	**Lanzhou**	**24.66**	**82**	*e*P		**P**	**08 31 30.7**	**+2.5**	
LZH					pP	sP	08 31 44.8	+0.2	
LZH					sP	pP	08 31 52.1	+13	
LZH					pmax	pmax			
	comp=Z,35nm,1.3s								
LZH					pmax	pmax			
	comp=Z,190nm,4.7s								
LZH					LR	LR			
	comp=Z,180nm,12.2s								
LZH					LR	LR			
	comp=Z,140nm,12.1s								
LZH					LR	LR			
	comp=Z,150nm,13.4s								
MOY	**Mondy**	**24.73**	**44**	*e*P		**P**	**08 31 31.6**	**+3.0**	
MOY					pmax	pmax			
	comp=Z,73nm,3.9s								
ZAK	**Zakamensk**	**25.55**	**48**	*e*P		**P**	**08 31 36.7**	**+0.7**	
ZAK					pmax	pmax			
	comp=Z,6.0nm,1.4s								
CD2	**Chengdu**	**26.02**	**94**	*e*P		**P**	**08 31 41.8**	**+1.4**	
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CD2					pmax	pmax			
	comp=Z,120nm,4.8s								
TLY	**Talaya**	**26.24**	**46**	*i* P		**P**	**08 31 43.3**	**+1.1**	
TLY					pmax	pmax			
	comp=Z,2.0nm,0.9s								
SONA0	**Songino Array**	**26.79**	**55**	*e*P		**P**	**08 31 48.1**	**+0.8**	
SONM	**Songino Array**	**26.79**	**55**	P		**P**	**08 31 48.1**	**+0.8**	
	comp=Z,1.4nm,0.7s,baz=248,slow=9.7,SNR=9.9								
SONM					LR	LR	08 42 50.8		
	comp=Z,117nm,18.7s,baz=192,slow=38								
SONA1	**Songino Array**	**26.80**	**55**	*e*P		**P**	**08 31 47.7**	**+0.4**	
RAYN	**Ar Rayn**	**27.18**	**249**	P		**P**	**08 31 51.3**	**+0.3**	
RAYN	**Ar Rayn**	**27.18**	**249**	*e*P		**P**	**08 31 51.2**	**+0.3**	
	comp=Z,3.2nm,0.7s								
ULN	**Ulaanbaatar**	**27.23**	**55**	*ce*P		**P**	**08 31 51.5**	**+0.2**	
ULN					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ULN	**Ulaanbaatar**	**27.23**	**55**	*e*P		**P**	**08 31 53.1**	**+1.9**	
	comp=Z,7.0nm,1.3s								
CMAR	**Chiang Mai Arr**	**29.07**	**122**	P		**P**	**08 32 07.5**	**-0.2**	
	comp=Z,1.2nm,0.3s,baz=315,slow=10,SNR=4.2								
HHC	**Hu-ho-hao-te**	**30.06**	**70**	*e*P		**P**	**08 32 19.4**	**+2.9**	
HHC					S	**S**	**08 37 10.5**	**-1.5**	
HHC					pmax	pmax			
	comp=Z,12nm,1.0s								
HHC					LR	LR			
	comp=Z,150nm,12.6s								
HHC					LR	LR			
	comp=Z,360nm,12.9s								
HHC					LR	LR			
	comp=Z,230nm,14.3s								
OBN	**Obninsk**	**30.91**	**318**	⇑eP		**P**	**08 32 23.0**	**-0.6**	
OBN				*e*			08 33 23.7		
OBN				*e*S		S	08 37 33.9	+9.1	
OBN					pmax	pmax			
	comp=Z,87nm,3.0s								
OBN					MLR	MLR			
	comp=Z,170nm,9.0s								
BR101	**Keskin Array S**	**31.02**	**288**	*e*P		**P**	**08 32 26.5**	**+1.5**	
BR131	**Keskin Array S**	**31.02**	**288**	*e*P		**P**	**08 32 26.6**	**+1.6**	
BRTR	**Keskin Array B**	**31.02**	**288**	P		**P**	**08 32 26.5**	**+1.6**	
	comp=Z,3.3nm,0.6s,baz=106,slow=9.0,SNR=20								
BRTR	**Keskin Array B**	**31.02**	**288**	*i* P		**P**	**08 32 26.5**	**+1.6**	
BRTR					pmax	pmax			
	comp=Z,4.0nm,0.6s								
BR231	**Keskin MP Arra**	**31.66**	**288**	*e*P		**P**	**08 32 27.2**	**-3.4**	
AKASG	**Malin Array Be**	**34.16**	**308**	P		**P**	**08 32 52.2**	**0.0**	
	comp=Z,0.6nm,0.4s,baz=81,slow=7.3,SNR=4.5								
AKASG					LR	LR	08 48 25.0		
	comp=Z,80nm,18.5s,baz=310,slow=39								
HIA	**Hailar**	**35.76**	**55**	*e*P		**P**	**08 33 08.4**	**+2.4**	
HIA					pmax	pmax			
	comp=Z,4.0nm,1.0s								
ATD	**Arta Tunnel**	**37.05**	**235**	P		**P**	**08 33 17.8**	**+0.4**	
	comp=Z,11nm,0.7s,baz=322,slow=9.3,SNR=5.3								
NJ2	**Nanjing**	**37.73**	**83**	*e*P		**P**	**08 33 23.6**	**+0.7**	
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
FIA0	**FINESS Array S**	**38.28**	**325**	*e*P		**P**	**08 33 27.7**	**+0.5**	
FIA0	**FINESS Array S**	**38.28**	**325**	*e*P		**P**	**08 33 27.7**	**+0.5**	
FINES	**FINESS Array B**	**38.28**	**325**	P		**P**	**08 33 27.7**	**+0.5**	
	comp=Z,2.6nm,0.7s,baz=114,slow=8.5,SNR=6.8								
CN2	**Changchun**	**39.97**	**63**	*e*P		**P**	**08 33 42.5**	**+1.0**	
CN2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
ARA0	**ARCESS Array S**	**41.61**	**337**	*e*P		**P**	**08 33 55.0**	**+0.2**	
ARCES	**ARCESS Array B**	**41.61**	**337**	P		**P**	**08 33 55.0**	**+0.2**	
	comp=Z,2.9nm,0.6s,baz=113,slow=8.0,SNR=13								
ARCES	**ARCESS Array B**	**41.61**	**337**	*e*P		**P**	**08 33 55.1**	**+0.4**	
KSRS	**Korea Array**	**43.17**	**72**	LR		LR	08 54 12.8		
	comp=Z,83nm,19.3s,baz=110,slow=39								
KLR	**Kul'dur**	**43.61**	**54**	P		**P**	**08 34 11.7**	**+0.4**	
	comp=Z,0.1nm,0.5s,baz=276,slow=10,SNR=4.8								
HFS	**Hagfors**	**43.97**	**322**	P		**P**	**08 34 14.2**	**+0.3**	
	comp=Z,8.3nm,0.7s,baz=98,slow=10,SNR=11								
TIXI	**Tiksi**	**44.92**	**22**	P		**P**	**08 34 21.4**	**+0.1**	
	comp=Z,3.6nm,0.6s,baz=273,slow=6.1,SNR=11								
TIXI	**Tiksi**	**44.92**	**22**	*e*P		**P**	**08 34 21.5**	**+0.1**	
TIXI					pmax	pmax			
	comp=Z,7.0nm,1.7s								
NB2	**NORSAR Subarra**	**45.25**	**323**	P		**P**	**08 34 23.7**	**-0.4**	
	comp=Z,2.7nm,0.6s,baz=91,slow=7.9								
NB200	**NORSAR Array S**	**45.25**	**323**	*e*P		**P**	**08 34 23.8**	**-0.4**	
NOA	**NORSAR Array B**	**45.25**	**323**	P		**P**	**08 34 23.8**	**-0.4**	
	comp=Z,5.1nm,0.8s,baz=93,slow=7.7,SNR=11								
SPITS	**Spitsbergen Ar**	**47.68**	**347**	P		**P**	**08 34 44.2**	**+1.2**	
	comp=Z,2.7nm,0.7s,baz=120,slow=20,SNR=4.6								
NKL	**Nikolayevsk**	**48.69**	**48**	*e*P		**P**	**08 34 51.2**	**+0.2**	
NKL					pmax	pmax			
	comp=N,5.0nm,0.9s								
NKL					pmax	pmax			
	comp=Z,19nm,0.9s								
KMBO	**Kilima Mbogo**	**50.27**	**230**	P		**P**	**08 35 04.5**	**+0.6**	
	comp=Z,2.9nm,0.7s,baz=39,slow=12,SNR=8.3								
KMBO	**Kilima Mbogo**	**50.27**	**230**	*i* P		**P**	**08 35 05.0**	**+1.1**	
KMBO					pmax	pmax			
	comp=Z,3.0nm,0.6s								
EKA	**Eskdalemuir Ar**	**53.33**	**316**	P		**P**	**08 35 25.5**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=91,slow=7.1,SNR=5.5								
BILL	**Bilibino**	**57.65**	**26**	*e*P		**P**	**08 35 56.2**	**-0.5**	
BILL				*e*			08 36 49.9		
BILL				*e*			08 38 05.7		
BILL				*e*PPP		PPP	08 39 23.3		
BILL					pmax	pmax			
	comp=Z,1.0nm,1.0s								
BILL					MLR	MLR			
	comp=Z,97nm,17.0s								
ES19	**SONSECA Array**	**58.82**	**299**	*e*P		**P**	**08 36 06.0**	**+0.5**	
ESDC	**Sonseca Array**	**58.88**	**298**	P		**P**	**08 36 06.0**	**+0.2**	
	comp=Z,1.9nm,0.7s,baz=56,slow=6.9,SNR=12								
SUMG	**Summit**	**61.41**	**341**	*e*P		**P**	**08 36 23.8**	**+0.7**	
SUMG					pmax	pmax			
	comp=Z,9.0nm,0.8s								
SUMG	**Summit**	**61.41**	**341**	*e*P		**P**	**08 36 23.8**	**+0.7**	
	comp=Z,8.8nm,0.8s								
TOA0	**Torodi Ar. Sit**	**67.45**	**270**	*e*P		**P**	**08 37 01.3**	**-1.7**	
TOA1	**Torodi Ar. Sit**	**67.45**	**270**	*e*P		**P**	**08 37 01.3**	**-1.6**	
TORD	**Torodi Ar. Bea**	**67.45**	**270**	P		**P**	**08 37 01.3**	**-1.6**	
	comp=Z,3.8nm,0.6s,baz=49,slow=5.8,SNR=38								
TOLK	**Toolik Lake Re**	**70.26**	**15**	*e*P		**P**	**08 37 19.8**	**+0.1**	
	comp=Z,6.0nm,0.6s								
MATP	**Matopo**	**70.76**	**224**	P		**P**	**08 37 24.1**	**+0.8**	
	comp=Z,3.1nm,0.5s,baz=46,slow=5.5,SNR=14								
COLD	**Coldfoot**	**71.28**	**16**	*e*P		**P**	**08 37 26.0**	**+0.2**	
	comp=Z,2.7nm,0.8s								
KOWA	**Kowa**	**71.28**	**274**	P		**P**	**08 37 26.2**	**-0.4**	
	comp=Z,2.8nm,0.5s,baz=64,slow=6.1,SNR=9.1								
INK	**Inuvik**	**73.40**	**10**	P		**P**	**08 37 38.1**	**-0.3**	
	comp=Z,2.6nm,0.5s,baz=0.2,slow=4.0,SNR=18								
INK	**Inuvik**	**73.40**	**10**	*e*P		**P**	**08 37 38.6**	**+0.2**	
	comp=Z,3.3nm,0.6s								
CAST	**Castle Rocks**	**73.91**	**19**	*e*P		**P**	**08 37 41.5**	**-0.1**	
	comp=Z,7.6nm,1.2s								
ILAR	**Eielson Array**	**74.08**	**17**	P		**P**	**08 37 41.8**	**-0.7**	
	comp=Z,1.0nm,0.7s,baz=321,slow=3.7,SNR=16								
ILB	**Eielson Array**	**74.08**	**17**	*e*P		**P**	**08 37 41.2**	**-1.3**	
DHY	**Denali Highway**	**75.40**	**18**	*e*P		**P**	**08 37 50.4**	**0.0**	
	comp=Z,35nm,2.0s								
BOSA	**Boshof**	**79.05**	**222**	P		**P**	**08 38 10.7**	**-0.4**	
	comp=Z,3.6nm,0.9s,baz=36,slow=4.1,SNR=4.3								
BOSA	**Boshof**	**79.05**	**222**	P		**P**	**08 38 10.7**	**-0.4**	
BOSA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
WR1	**Warramunga Arr**	**80.65**	**123**	*e*P		**P**	**08 38 19.4**	**-0.5**	
	comp=Z,35nm,1.8s								
WRA	**Warramunga Arr**	**80.65**	**123**	P		**P**	**08 38 19.4**	**-0.5**	
	comp=Z,3.8nm,0.7s,baz=326,slow=5.1,SNR=27								
WRA	**Warramunga Arr**	**80.65**	**123**	*i* P		**P**	**08 38 20.7**	**+0.9**	
WRA					pmax	pmax			
	comp=Z,4.0nm,0.7s								
WRAB	**Tennant Creek**	**80.65**	**123**	*ce*P		**P**	**08 38 21.7**	**+1.9**	
WRAB					pmax	pmax			
	comp=Z,58nm,2.5s								
YKW3	**Yellowknife Ar**	**80.86**	**4**	*e*P		**P**	**08 38 20.4**	**+0.1**	
	comp=Z,3.0nm,0.6s								
YKA	**Yellowknife Ar**	**80.93**	**4**	P		**P**	**08 38 20.9**	**+0.2**	
	comp=Z,2.8nm,0.5s,baz=350,slow=5.5,SNR=130								
YKB5	**Yellowknife Ar**	**80.93**	**4**	*e*P		**P**	**08 38 20.9**	**+0.2**	
ASAR	**Alice Springs**	**82.97**	**126**	P		**P**	**08 38 32.7**	**+0.7**	
	comp=Z,2.7nm,0.9s,baz=313,slow=5.0,SNR=16								
AS01	**Alice Springs**	**83.00**	**126**	*e*P		**P**	**08 38 31.9**	**-0.3**	
FFC	**Flin Flon**	**88.82**	**357**	⇑eP		**P**	**08 39 01.4**	**+0.9**	
PLCA	**Paso Flores**	**151.53**	**251**	PKPbc		**PKPbc**	**08 45 58.9**	**-1.8**	
	comp=Z,4.4nm,1.1s,baz=56,slow=3.6,SNR=4.9								

IDC **12** *08:37:48.8±1.3,36.36N×73.36E, h0km, mb3.8/6, mb1 3.7/12,mb1mx3.5/73,mbtmp3.6/12,ML2.9/6,Error ellipse: s-maj=29.4km s-min=21.0km az=131.0*
NEIC **12** *08:37:50.7±0.8,36.48N×73.03E, h10km, mb4.5/2,Error ellipse: s-maj=11.4km s-min=10.7km az=122.0*
ISCJB **12** *08:37:53.4±0.5,36.63N±0.03×73.10E±0.05, h42km, mb3.8/7,Error ellipse: s-maj=6.1km s-min=4.4km az=16.5*
NNC **12** *08:38:01.9±4.2,37.12N×72.94E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=44.8km s-min=31.1km az=92.0*

ISC 12 08:37:55.0±0.9, 36.54N±0.07×73.17E±0.07, h42km, n52, σ1§77/68, mb3.7/7, 5C-7D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.48**	**4**	⇑Pn		Pn		08 38 51.6	+4.8
	46nm,0.9s								
SFK				⇓Lg		Lg		08 39 33.9	
	75nm,0.7s								
KBL	**Kabul**	**3.91**	**241**	*e*Pn		**Pn**		**08 38 52.4**	**-0.3**
KBL				*e*Sn		**Sn**		**08 39 40.1**	**+2.7**
MNAS	**Manas**	**5.96**	**355**	⇑Pn		**Pn**		**08 39 22.0**	**+1.1**
	3.4nm,0.5s								
MNAS				⇑Sn		**Sn**		**08 40 29.1**	**+1.2**
	7.2nm,0.9s								
MNAS				⇓Lg		Lg		08 40 52.4	
	7.3nm,0.8s								
AAK	**Ala-Archa**	**6.17**	**9**	Pn		**Pn**		**08 39 26.6**	**+2.8**
	0.3nm,0.3s,baz=189,slow=8.1,SNR=4.5								
AAK				Sn		**Sn**		**08 40 32.5**	**-0.6**
	0.4nm,0.3s,baz=186,slow=18,SNR=2.1								
AAK	**Ala-Archa**	**6.17**	**9**	⇓Pn		**Pn**		**08 39 26.3**	**+2.5**
	3.1nm,0.7s								
AAK				⇓Sn		**Sn**		**08 40 35.4**	**+2.3**
	6.4nm,0.9s								
AAK				⇑Lg		Lg		08 40 57.1	
	9.6nm,1.1s								
AAK	**Ala-Archa**	**6.17**	**9**	*e*Pn		**Pn**		**08 39 23.4**	**-0.4**
AAK				*e*Sn		**Sn**		**08 40 32.5**	**-0.6**
AAK				*e*Sn		Sn		08 40 34.8	+1.6
TARG	**Taragay, Kyrgy**	**6.31**	**33**	*e*Pn		**Pn**		**08 39 25.0**	**-0.9**
TARG				*e*Sn		**Sn**		**08 40 36.6**	**-0.3**
KDJ	**Kajisay**	**6.39**	**28**	*e*Pn		**Pn**		**08 39 26.7**	**0.0**
KDJ				*e*Sn		**Sn**		**08 40 38.8**	**+0.4**
TKM2	**Tokmak 2**	**6.64**	**16**	⇑Pn		**Pn**		**08 39 32.8**	**+2.6**
	2.1nm,0.6s								
TKM2				⇓Lg		Lg		08 41 15.4	
	3.3nm,0.8s								
KK06	**Karatay Array**	**6.85**	**344**	*e*Pn		**Pn**		**08 39 33.2**	**+0.3**
KK06				*e*Sn		**Sn**		**08 40 49.6**	**0.0**
KK07	**Karatay Array**	**6.85**	**343**	*e*Pn		**Pn**		**08 39 33.3**	**+0.4**
KK07				*e*Sn		**Sn**		**08 40 50.6**	**+1.0**
KK02	**Karatay Array**	**6.87**	**344**	*e*Pn		**Pn**		**08 39 33.2**	**+0.2**
KK02				*e*Sn		**Sn**		**08 40 48.7**	**-1.2**
KK31	**Karatay Array**	**6.87**	**344**	⇓Pn		**Pn**		**08 39 33.2**	**+0.1**
	0.8nm,0.3s,baz=155,slow=12,SNR=36								
KK31				⇓Sn		**Sn**		**08 40 46.9**	**-3.0**
	2.2nm,0.5s,baz=158,slow=23,SNR=4.0								
KK31	**Karatay Array**	**6.87**	**344**	*e*Pn		**Pn**		**08 39 33.2**	**+0.1**
KK31				*e*Sn		**Sn**		**08 40 49.2**	**-0.8**
KKAR	**Karatay Array**	**6.87**	**344**	*e*Pn		**Pn**		**08 39 33.3**	**+0.2**
KKAR				*e*Sn		**Sn**		**08 40 49.1**	**-0.8**
KK03	**Karatay Array**	**6.87**	**343**	*e*Pn		**Pn**		**08 39 33.4**	**+0.2**
KK03				*e*Sn		**Sn**		**08 40 48.5**	**-1.4**
KK01	**Karatay Array**	**6.87**	**343**	*e*Pn		**Pn**		**08 39 33.3**	**+0.2**
KK01				*e*Sn		**Sn**		**08 40 48.9**	**-1.1**
KK08	**Karatay Array**	**6.87**	**343**	*e*Pn		**Pn**		**08 39 33.5**	**+0.3**
KK08				*e*Sn		**Sn**		**08 40 50.0**	**-0.1**
KK04	**Karatay Array**	**6.87**	**344**	*e*Pn		**Pn**		**08 39 33.4**	**+0.2**
KK04				*e*Sn		**Sn**		**08 40 49.0**	**-1.1**
KK05	**Karatay Array**	**6.88**	**344**	*e*Pn		**Pn**		**08 39 33.1**	**-0.1**
KK05				*e*Sn		**Sn**		**08 40 48.3**	**-1.9**
GEYT	**Alibeck**	**12.08**	**281**	Pn		**Pn**		**08 40 43.7**	**-0.8**
	0.4nm,0.3s,baz=108,slow=9.3,SNR=2.7								
MAKZ	**Makanchi**	**12.18**	**30**	*e*Pn		P		08 40 52.2	-5.3
MK32	**Makanchi Array**	**12.30**	**31**	*e*Pn		**Pn**		**08 40 47.8**	**+0.4**
MKAR	**Makanchi Array**	**12.30**	**31**	Pn		**Pn**		**08 40 47.8**	**+0.4**
	0.0nm,0.3s,baz=225,slow=10.0,SNR=3.1								
KURBB	**Kurchatov Arra**	**14.60**	**14**	Pn		**Pn**		**08 41 16.3**	**-2.3**
	0.0nm,0.3s,baz=201,slow=12,SNR=3.1								
KURK	**Kurchatov**	**14.70**	**14**	*e*Pn		**Pn**		**08 41 16.3**	**-3.7**
AB07	**Akbulak array**	**15.93**	**327**	*e*Pn		**Pn**		**08 41 33.3**	**-2.8**
AB06	**Akbulak array**	**15.94**	**327**	*e*Pn		**Pn**		**08 41 33.1**	**-3.0**
AB08	**Akbulak array**	**15.94**	**327**	*e*Pn		**Pn**		**08 41 33.3**	**-2.8**
AB03	**Akbulak array**	**15.94**	**327**	*e*Pn		**Pn**		**08 41 33.3**	**-2.9**
AB01	**Akbulak array**	**15.95**	**327**	*e*Pn		**Pn**		**08 41 33.3**	**-2.9**
AB31	**Akbulak array**	**15.95**	**327**	*e*Pn		**Pn**		**08 41 33.3**	**-2.9**
ABKAR	**Akbulak array**	**15.95**	**327**	*e*Pn		**Pn**		**08 41 33.3**	**-2.9**
	10nm,0.8s								
AB02	**Akbulak array**	**15.95**	**327**	*e*Pn		**Pn**		**08 41 33.1**	**-3.1**
AB04	**Akbulak array**	**15.95**	**327**	*e*Pn		**Pn**		**08 41 33.2**	**-3.1**
AB05	**Akbulak array**	**15.96**	**327**	*e*Pn		**Pn**		**08 41 33.6**	**-2.8**
AB09	**Akbulak array**	**15.96**	**327**	*e*Pn		**Pn**		**08 41 33.5**	**-2.9**
BVAR	**Borovoye Array**	**16.60**	**354**	Pn		**Pn**		**08 41 42.8**	**-1.7**
	0.0nm,0.3s,baz=163,slow=10,SNR=2.4								
ZALV	**Zalesovo Beam**	**19.20**	**21**	P		**Pn**		**08 42 16.0**	**-0.3**
	0.3nm,0.3s,baz=217,slow=10,SNR=8.9								
ZALV	**Zalesovo Beam**	**19.20**	**21**	*e*P		**P**		**08 42 15.4**	**+0.4**
ZAA1	**Zalesovo Array**	**19.20**	**21**	*e*P		**Pn**		**08 42 16.0**	**-0.3**
BR101	**Keskin Array S**	**31.08**	**288**	*e*P		**P**		**08 44 12.2**	**+2.8**
BRTR	**Keskin Array B**	**31.08**	**288**	P		**P**		**08 44 12.2**	**+2.8**
	0.8nm,0.6s,baz=86,slow=7.9,SNR=3.7								
ARA0	**ARCESS Array S**	**41.78**	**337**	*e*P		**P**		**08 45 40.9**	**+1.0**
ARCES	**ARCESS Array B**	**41.78**	**337**	P		**P**		**08 45 40.9**	**+1.0**
	1.6nm,1.0s,baz=130,slow=9.9,SNR=4.6								
HFS	**Hagfors**	**44.11**	**322**	P		**P**		**08 45 60.0**	**+1.1**
	3.9nm,0.8s,baz=89,slow=6.3,SNR=3.6								
HFS	**Hagfors**	**44.11**	**322**	P		**P**		**08 46 00.0**	**+1.1**
TOA1	**Torodi Ar. Sit**	**67.46**	**270**	*e*P		**

MSFE Esma-Masafi 2.07 145 *e*P Pb 08 41 37.9 -1.5
SNR=12
MDH Madha 2.19 143 P Pn 08 41 39.3 +2.2
NAZ Nazwa, Dubai 2.19 160 P Pb 08 41 40.5 -1.1
NAZ Nazwa, Dubai 2.19 160 P Pb 08 41 40.5 -1.1
UOSS Minazif 2.44 150 *e*Pn Pn 08 41 42.6 +2.2
UOSS *e*Sn Sb 08 42 15.2 -0.2
UOSS Minazif 2.44 150 P Pn 08 41 42.7 +2.2
SNR=7.4
UOSS Minazif 2.44 150 *e*Pn Pn 08 41 42.6 +2.2
UOSS *e*Sn Sb 08 42 15.1 -0.2
UOSS Minazif 2.44 150 *e*P Pn 08 41 42.7 +2.2
SNR=28
HATD Hatta, Dubai 2.51 152 P Pn 08 41 43.9 +2.5
SNR=11
HATD Hatta, Dubai 2.51 152 P Pn 08 41 44.0 +2.5
SNR=11
HATD Hatta, Dubai 2.51 152 *e*P Pn 08 41 44.0 +2.5
SNR=11
ASHO Ashiyiah 2.61 155 P Pn 08 41 45.6 +2.8
SNR=109
ASHO Ashiyiah 2.61 155 P Pn 08 41 45.6 +2.8
SNR=109
ASHO Ashiyiah 2.61 155 *e*P Pn 08 41 45.7 +2.8
SNR=109
NGRK Negar Kerman 3.06 32 *e*Pn Pn 08 41 49.7 +0.3
NGRK Negar Kerman 3.06 32 *e*Pn Pn 08 41 49.7 +0.3
ALNE Al Ain 3.10 165 *i* P Pn 08 41 52.4 +2.7
SNR=8.3
IPAR Pars 3.19 331 *e*Pn Pn 08 41 52.2 +1.1
IPAR *e*AMB AMB 08 43 08.0
comp=N,6μm,0.4s
IPAR Pars 3.19 331 *e*Pn Pn 08 41 52.2 +1.1
SOHO SOHO 3.29 152 *i* P Pn 08 41 53.9 +1.7
SNR=8.2
KRBR Kerman 3.36 30 *e*Pn Pn 08 41 55.6 +2.1
KRBR Kerman 3.36 30 *e*Pn Pn 08 41 55.6 +2.1
TVBK TV Kerman 3.37 30 *e*Pn Pn 08 41 55.2 +1.6
TVBK TV Kerman 3.37 30 *e*Pn Pn 08 41 55.2 +1.6
KHGB Koh Gabri 3.60 23 *e*Pn Pn 08 41 57.9 +1.2
KHGB Koh Gabri 3.60 23 *e*Pn Pn 08 41 57.9 +1.2
CHMN Cheshme madani 3.66 40 *e*Pn Pn 08 42 00.0 +2.4
CHMN Cheshme madani 3.66 40 *e*Pn Pn 08 42 00.0 +2.4
IMEH Mehriz 4.32 357 *e*Pn Pn 08 42 07.9 +1.3
IMEH *e*AMB AMB 08 43 28.4
comp=Z,902nm,0.5s
IMEH Mehriz 4.32 357 *e*Pn Pn 08 42 07.9 +1.3
SLWS 4.40 240 P Pn 08 43 09.2 +1.7
SLWS S Sn 08 43 01.1 +3.2
IBAF Bafgh 4.56 8 *e*Pn Pn 08 42 10.4 +0.6
IBAF Bafgh 4.56 8 *e*Pn Pn 08 42 10.4 +0.6
BTHS 4.70 231 P Pn 08 42 13.0 +1.5
SMDO Samad 4.93 143 P Pn 08 42 17.6 +2.7
SMDO Samad 4.93 143 P Pn 08 42 17.6 +2.7
ISAD Sadrabad 4.94 348 *e*Pn Pn 08 42 16.4 +1.3
ISAD *e*AMB AMB 08 42 23.1
comp=Z,1μm,0.2s
ISAD Sadrabad 4.94 348 *e*Pn Pn 08 42 16.4 +1.3
BOQSS 5.04 258 P Pn 08 42 18.3 +2.0
BOQSS S Sn 08 43 15.2 +1.5
WSAR Wadi Sarin 5.12 137 Pn Pn 08 42 18.4 +0.9
comp=Z,4.4nm,0.3s,baz=328,slow=10,SNR=32
WSAR Sn Sn 08 43 17.0 +1.3
comp=Z,3.4nm,0.3s,baz=318,slow=12,SNR=4.3
WSAR Wadi Sarin 5.12 137 P Pn 08 42 19.7 +2.3
SNR=5.3
WSAR S Sn 08 43 17.0 +1.3
WSAR Wadi Sarin 5.12 137 P Pn 08 42 19.7 +2.3
SNR=5.3
WSAR S Sn 08 43 17.0 +1.3
ICHK Chekchek 5.18 356 *e*Pn Pn 08 42 19.7 +1.3
ICHK *e*AMB AMB 08 44 01.2
comp=Z,453nm,0.3s
ICHK Chekchek 5.18 356 *e*Pn Pn 08 42 19.7 +1.3
CHBR Chabahar 5.26 105 *e*Pn Pn 08 42 21.0 +1.6
CHBR Chabahar 5.26 105 *e*Pn Pn 08 42 21.0 +1.6
NASN Na'in 5.98 343 *e*Pn Pn 08 42 30.6 +1.1
NASN Na'in 5.98 343 *e*Pn Pn 08 42 30.6 +1.1
TABS Tabas 6.85 16 *e*Pn Pn 08 42 42.4 +1.1
TABS Tabas 6.85 16 *e*Pn Pn 08 42 42.4 +1.1
SHRT Shahrakht 8.07 34 *e*Pn Pn 08 42 59.5 +1.5
SHRT Shahrakht 8.07 34 *e*Pn Pn 08 42 59.5 +1.5
RAYN Ar Rayn 9.16 249 *e*Pn Pn 08 43 11.4 -1.5
RAYN *e*Sn Sn 08 44 50.2 -4.9
GEYT Alibeck 11.18 13 Pn Pn 08 43 39.9 -0.6
comp=Z,0.3nm,0.3s,baz=191,slow=7.0,SNR=2.5
ATD Arta Tunnel 19.13 218 LR LR 08 54 17.3
comp=Z,98nm,18.1s,baz=188,slow=42
KBZ Khabaz 19.24 333 P Pn 08 45 24.6 -0.9
comp=Z,0.1nm,0.3s,baz=157,slow=6.3,SNR=2.8
KK07 Karatay Array 20.43 34 *e*P P 08 45 37.8 +0.2
KK07 Karatay Array 20.43 34 *e*P P 08 45 37.8 +0.2
KK08 Karatay Array 20.44 34 *e*P P 08 45 37.8 +0.2
KK08 Karatay Array 20.44 34 *e*P P 08 45 37.8 +0.2
KK03 Karatay Array 20.45 34 *e*P P 08 45 37.7 0.0
KK03 Karatay Array 20.45 34 *e*P P 08 45 37.7 0.0
KK01 Karatay Array 20.45 34 *e*P Pn 08 45 38.2 -1.8
KK01 Karatay Array 20.45 34 *e*P Pn 08 45 38.2 -1.8
KK02 Karatay Array 20.45 34 *e*P Pn 08 45 38.2 -1.8
KK02 Karatay Array 20.45 34 *e*P Pn 08 45 38.2 -1.8
KK06 Karatay Array 20.45 35 *e*P Pn 08 45 39.1 -0.9
KK06 Karatay Array 20.45 35 *e*P Pn 08 45 39.1 -0.9
KK31 Karatay Array 20.45 34 *e*P Pn 08 45 39.1 -0.9
KK31 Karatay Array 20.45 34 *e*P Pn 08 45 39.1 -0.9
KKAR Karatay Array 20.45 34 *e*P Pn 08 45 38.6 -1.4
KKAR Karatay Array 20.45 34 *e*P Pn 08 45 38.6 -1.4
KK04 Karatay Array 20.45 34 *e*P Pn 08 45 38.1 -1.9
KK04 Karatay Array 20.45 34 *e*P Pn 08 45 38.1 -1.9
KK05 Karatay Array 20.47 34 *e*P Pn 08 45 39.4 -0.8
KK05 Karatay Array 20.47 34 *e*P Pn 08 45 39.4 -0.8
BR101 Keskin Array S 21.68 311 *e*P P 08 45 51.4 +0.2
BR101 Keskin Array S 21.68 311 *e*P P 08 45 51.4 +0.2
BRTR Keskin Array B 21.68 311 P P 08 45 51.4 +0.1
comp=Z,1.9nm,0.8s,baz=133,slow=13,SNR=6.3
AAK Ala-Archa 22.31 41 P P 08 45 57.8 -0.1
comp=Z,1.9nm,0.8s,baz=221,slow=9.4,SNR=4.4
AAK LR LR 08 54 57.5
comp=Z,95nm,19.7s,baz=303,slow=38
AAK Ala-Archa 22.31 41 *e*P P 08 45 58.5 +0.5
AAK Ala-Archa 22.31 41 *e*P P 08 45 58.5 +0.5
BR231 Keskin MP Arra 22.32 310 *e*P P 08 45 58.7 +0.6
BR231 Keskin MP Arra 22.32 310 *e*P P 08 45 58.7 +0.6
AB08 Akbulak array 22.49 9 *e*P P 08 45 59.2 -0.4
AB07 Akbulak array 22.50 9 *e*P P 08 45 59.0 -0.6
AB07 Akbulak array 22.50 9 *e*P P 08 45 59.0 -0.6
AB03 Akbulak array 22.50 9 *e*P P 08 45 59.3 -0.4
AB03 Akbulak array 22.50 9 *e*P P 08 45 59.3 -0.4
AB01 Akbulak array 22.51 9 *e*P P 08 45 59.4 -0.4
AB01 Akbulak array 22.51 9 *e*P P 08 45 59.4 -0.4
AB31 Akbulak array 22.51 9 *e*P P 08 45 59.5 -0.3
AB31 Akbulak array 22.51 9 *e*P P 08 45 59.5 -0.3
ABKAR Akbulak array 22.51 9 *e*P P 08 45 59.5 -0.3
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 22.51 9 *e*P P 08 45 59.5 -0.3
comp=Z,1.0nm,0.5s
AB04 Akbulak array 22.51 9 *e*P P 08 45 59.2 -0.6
AB04 Akbulak array 22.51 9 *e*P P 08 45 59.2 -0.6
AB09 Akbulak array 22.51 9 *e*P P 08 45 59.1 -0.7
AB09 Akbulak array 22.51 9 *e*P P 08 45 59.1 -0.7
AB02 Akbulak array 22.51 9 *e*P P 08 45 59.4 -0.4
AB02 Akbulak array 22.51 9 *e*P P 08 45 59.4 -0.4
AB06 Akbulak array 22.52 9 *e*P P 08 45 59.4 -0.5
AB06 Akbulak array 22.52 9 *e*P P 08 45 59.4 -0.5
AB05 Akbulak array 22.52 9 *e*P P 08 45 59.4 -0.6
AB05 Akbulak array 22.52 9 *e*P P 08 45 59.4 -0.6
AKTO Aktyubinsk 23.46 5 P P 08 46 09.9 +0.3
comp=Z,3.2nm,0.6s,baz=195,slow=10,SNR=9.3
AKTO S S 08 50 22.2 +1.0
comp=Z,0.5nm,0.4s,baz=294,slow=20,SNR=3.5
BRVK Borovoye 28.40 20 *e*P P 08 46 54.2 -0.2
comp=Z,3.4nm,1.0s
BRVK Borovoye 28.40 20 *e*P P 08 46 54.2 -0.2
comp=Z,3.4nm,1.0s
BVAR Borovoye Array 28.41 20 P P 08 46 54.0 -0.5
comp=Z,1.6nm,0.6s,baz=205,slow=6.4,SNR=12
BVAR Borovoye Array 28.41 20 P P 08 46 54.0 -0.5
MK01 Makanchi Array 29.24 40 *e*P P 08 47 01.7 -0.2
MK01 Makanchi Array 29.24 40 *e*P P 08 47 01.7 -0.2
MK31 Makanchi Array 29.25 40 *e*P P 08 47 01.9 -0.1
MK31 Makanchi Array 29.25 40 *e*P P 08 47 01.9 -0.1
MK32 Makanchi Array 29.25 40 *e*P P 08 47 01.5 -0.5
MK32 Makanchi Array 29.25 40 *e*P P 08 47 01.5 -0.5
MKAR Makanchi Array 29.25 40 P P 08 47 01.5 -0.5
comp=Z,0.2nm,0.4s,baz=235,slow=8.5,SNR=3.9
MKAR Makanchi Array 29.25 40 *e*P P 08 47 02.0 0.0
comp=Z,6.0nm,0.4s
MKAR Makanchi Array 29.25 40 *e*P P 08 47 02.0 0.0
comp=Z,6.0nm,0.4s
KURBB Kurchatov Arra 29.66 31 P P 08 47 05.5 0.0
comp=Z,2.1nm,1.1s,baz=232,slow=8.6,SNR=12
KURK Kurchatov 29.76 31 *e*P P 08 47 05.5 -1.0
KURK Kurchatov 29.76 31 *e*P P 08 47 05.5 -1.0
AKASG Malin Array Be 30.62 327 P P 08 47 13.9 -0.2
comp=Z,0.2nm,0.3s,baz=135,slow=8.9,SNR=3.1
ZALV Zalesovo Beam 34.75 31 P P 08 47 49.8 -0.4
comp=Z,2.3nm,0.6s,baz=242,slow=12,SNR=6.3
ZAA1 Zalesovo Array 34.76 31 *e*P P 08 47 49.8 -0.4
ZAA1 Zalesovo Array 34.76 31 *e*P P 08 47 49.8 -0.4
FIA0 FINESS Array S 39.42 339 *e*P P 08 48 28.1 -1.7
FINES FINESS Array B 39.42 339 P P 08 48 28.1 -1.7
comp=Z,0.5nm,0.4s,baz=148,slow=11,SNR=6.4
HFS Hagfors 43.29 331 P P 08 49 01.4 -0.1
comp=Z,0.8nm,0.4s,baz=96,slow=14,SNR=3.6
NB200 NORSAR Array S 44.81 332 *e*P P 08 49 14.2 +0.5
NOA NORSAR Array B 44.81 332 P P 08 49 14.2 +0.5
comp=Z,1.1nm,0.7s,baz=122,slow=7.6,SNR=2.9
SONA0 Songino Array 44.93 48 *e*P P 08 49 15.7 +0.7
SONA0 Songino Array 44.93 48 *e*P P 08 49 15.6 +0.7
SONM Songino Array 44.93 48 P P 08 49 15.6 +0.7
comp=Z,0.2nm,0.4s,baz=271,slow=8.5,SNR=2.5
ARA0 ARCESS Array S 45.81 346 *e*P P 08 49 20.7 -0.8
ARCES ARCESS Array B 45.81 346 P P 08 49 20.7 -0.8
comp=Z,1.7nm,0.8s,baz=307,slow=10.0,SNR=3.6
ESDC Sonseca Array 49.89 300 P P 08 49 53.5 -0.2
comp=Z,0.2nm,0.4s,baz=59,slow=9.8,SNR=3.5
EKA Eskdalemuir Ar 50.11 321 P P 08 49 54.6 -0.3
comp=Z,0.2nm,0.3s,baz=99,slow=7.4,SNR=3.6
TOA0 Torodi Ar. Sit 51.45 265 *e*P P 08 50 05.1 -0.5
comp=Z,3.3nm,0.9s
TOA1 Torodi Ar. Sit 51.45 265 *e*P P 08 50 05.0 -0.5
TORD Torodi Ar. Bea 51.45 265 P P 08 50 05.0 -0.6
comp=Z,1.1nm,0.5s,baz=56,slow=7.2,SNR=11
MATP Matopo 53.67 211 LR LR 09 12 45.0
comp=Z,43nm,18.3s,baz=127,slow=36
SPA0 Spitsbergen Ar 54.07 351 *e*P P 08 50 27.1 +3.0
SPITS Spitsbergen Ar 54.07 351 P P 08 50 24.4 +0.2
comp=Z,21nm,1.2s,baz=128,slow=9.3,SNR=3.2
KOWA Kowa 56.00 270 P P 08 50 38.9 0.0
comp=Z,1.8nm,0.5s,baz=50,slow=11,SNR=4.7
BOSA Boshof 62.21 209 P P 08 51 22.6 +0.8
comp=Z,1.1nm,0.5s,baz=165,slow=16,SNR=4.3
ILAR Eielson Array 86.91 9 P P 08 53 42.5 -1.9
comp=Z,3.3nm,0.8s,baz=315,slow=3.3,SNR=4.9
ILB Eielson Array 86.91 9 *e*P P 08 53 45.2 +0.7
WR1 Warramunga Arr 90.03 112 *e*P P 08 53 59.8 -0.2
comp=Z,31nm,1.7s
WRA Warramunga Arr 90.03 112 P P 08 53 59.8 -0.2
comp=Z,0.3nm,0.6s,baz=314,slow=3.9,SNR=4.2
YKA Yellowknife Ar 90.36 355 P P 08 54 00.5 -0.2
comp=Z,0.3nm,0.7s,baz=7.7,slow=5.2,SNR=11
ASAR Alice Springs 91.46 116 P P 08 54 05.4 -1.1
comp=Z,0.4nm,0.8s,baz=302,slow=5.3,SNR=3.1

IDC 12 08:46:14.1±4.7, 36°.16N×73°.03E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.2/69, mbtmpg3.4/4, ML3.1/2, Error ellipse: s-maj=153.6km s-min=35.0km az=129.0, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.57**	**10**	Pn	Pn	08 47 56.4	+4.4
	0.2nm,0.3s,baz=189,slow=18,SNR=2.3						
ZALV	**Zalesovo Beam**	**19.59**	**21**	P	Pn	08 50 44.3	-0.6
	0.4nm,0.3s,baz=211,slow=9.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**67.35**	**270**	P	P	08 57 11.5	+0.2
	0.4nm,0.8s,baz=45,slow=5.1,SNR=2.5						
YKA	**Yellowknife Ar**	**81.49**	**4**	P	P	08 58 32.6	-0.2
	0.1nm,0.6s,baz=351,slow=5.4,SNR=6.4						

NIED ***12*** *08:48:00, 38°.30N×143°.60E, h17km, Mw3.9 Best double couple: M0 8.87000×10^14 NP1:φs 341.00000°, δ69.00000°, λ171.00000°. NP2:φs 75.00000°, δ82.00000°, λ21.00000°.*
IDC ***12*** *08:48:34.4±0.9, 38°.16N×143°.79E, h0km, mb3.8/14, mb1 3.9/20, mb1mx3.7/73, mbtmpg3.8/20, ML3.9/4, MS3.1/2, Ms1 3.1/2, ms1mx2.5/67, Error ellipse: s-maj=21.8km s-min=16.5km az=103.0*
ISCJB ***12*** *08:48:37.4±0.5, 38°.20N±0°.04×143°.69E±0°.05, h33km, mb4.0/17, MS2.9/1, Error ellipse: s-maj=7.3km s-min=4.0km az=44.6*
NEIC ***12*** *08:48:37.6±2.6, 38°.19N×143°.76E, h20km±16km, mb4.6/3, Error ellipse: s-maj=9.6km s-min=5.5km az=112.0*
JMA ***12*** *08:48:38.0±0.2, 38°.26N×143°.63E, h43km, M4.1*
ISC 12 08:48:39.9±0.8, 38°.20N±0°.05×143°.66E±0°.08, h35km, n58, σ1°.83/66, mb4.0/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.79**	**300**	P	Pn	08 49 06.6	-1.6
JIO	**Ouri**	**1.83**	**279**	P	Pn	08 49 07.6	-1.2
JIO				S	Sn	08 49 28.5	-2.3
MIYJ	**Miyakonagasawa**	**1.99**	**314**	P	Pn	08 49 08.9	-2.0
JMK	**Ichinoseki**	**2.05**	**292**	P	Pn	08 49 10.7	-1.2
JOM	**Ohasama**	**2.24**	**305**	P	Pn	08 49 13.3	-1.2
JYK	**Kaneyama**	**2.68**	**286**	P	Pn	08 49 20.0	-0.5
JFT	**Otama**	**2.72**	**256**	P	Pn	08 49 20.7	-0.3
JFT				S	Sn	08 49 51.4	-1.3
JANG	**Nango**	**2.73**	**323**	P	Pn	08 49 20.1	-1.1
JAG	**Ashikaga**	**3.79**	**243**	P	Pn	08 49 35.1	-0.7
JAG				S	Sn	08 50 18.1	-1.1
ERM	**Erimo**	**3.83**	**354**	*e*Pn	Pn	08 49 35.4	-0.8
ERM				*e*Sn	Sn	08 50 17.7	-2.2
JRY	**Ryogami san**	**4.38**	**242**	P	Pn	08 49 43.0	-1.0
JRY				*e*S	Sn	08 50 29.7	-4.1
JCH	**Churui**	**4.41**	**357**	P	Sn	08 49 42.0	-2.3
JCH				S	Sn	08 50 29.6	-4.8
MJAR	**Matsushiro Arr**	**4.65**	**251**	Pn	Pn	08 49 47.9	+0.3
	5.1nm,0.3s,baz=81,slow=18,SNR=42						
MJAR				Sn	Sn	08 50 43.2	+2.9
	3.5nm,0.3s,baz=67,slow=29,SNR=4.9						
MJAR				LR	LR	08 51 55.4	
	comp=Z,210nm,18.6s,baz=85,slow=43						
MAJO	**Matsushiro**	**4.65**	**251**	*e*Pn	Pn	08 49 48.3	+0.7
MAJO				*e*Sn	Sn	08 50 42.2	+1.9
MAT	**Matsushiro**	**4.65**	**251**	P	Pn	08 49 48.2	+0.6
MAT				*e*S	Sn	08 50 39.2	-1.1
MJB9	**Matsu-Tunnel**	**4.65**	**251**	*e*Pn	Pn	08 49 48.2	+0.6
MJB9				*e*Sn	Sn	08 50 42.1	+1.7
ASAJ	**Asahikawa**	**5.96**	**353**	Pn	Pn	08 50 04.4	-1.2
	3.2nm,0.3s,baz=262,slow=6.3,SNR=15						
ASAJ				Sn	Sn	08 51 09.4	-3.1
	1.6nm,0.3s,baz=270,slow=20,SNR=4.5						
ASAJ	**Asahikawa**	**5.96**	**353**	*e*Pn	Pn	08 50 04.8	-0.7
ASAJ				Sn	Sn	08 51 09.4	-3.1
JHJ2	**Mitsune**	**5.97**	**213**	*e*Pn	Pn	08 50 04.1	-1.6
JHJ	**Hachijo jima 2**	**5.97**	**213**	Pn	Pn	08 50 03.2	-2.5
	32nm,0.3s,baz=326,slow=23,SNR=8.0						
JHJ				Sn	Sn	08 51 05.6	-7.4
	62nm,0.3s,baz=254,slow=22,SNR=6.7						
INU	**Inuyama**	**6.04**	**244**	*e*Pn	Pn	08 50 06.6	-0.2
USRK	**Ussuriysk Ar.**	**10.63**	**308**	Pn	Pn	08 51 11.5	+1.9
	0.5nm,0.3s,baz=110,slow=13,SNR=7.3						
KSRS	**Korea Array**	**12.47**	**271**	Pn	Pn	08 51 36.9	+2.1
	0.1nm,0.3s,baz=87,slow=15,SNR=3.7						
KSAR	**Wonju Array Be**	**12.50**	**271**	Pn	Pn	08 51 36.9	+1.7
KLR	**Kul'dur**	**13.97**	**326**	Pn	Pn	08 51 54.7	-0.4
	0.0nm,0.3s,baz=120,slow=9.7,SNR=2.7						
MA2	**Magadan**	**21.87**	**10**	P	P	08 53 28.2	-1.1
	1.1nm,0.4s,baz=194,slow=17,SNR=2.4						
MA2				LR	LR	09 02 52.6	
	comp=Z,45nm,18.3s,baz=126,slow=39						
SEY	**Seymchan**	**25.32**	**9**	P	P	08 54 04.2	+1.2
	1.1nm,0.6s,baz=149,slow=5.9,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**27.30**	**126**	T	T	09 23 07.9	
	baz=317,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.31**	**126**	T	T	09 23 09.4	
	baz=317,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**27.32**	**126**	T	T	09 23 21.9	
	baz=317,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.08**	**128**	T	T	09 23 55.6	
	baz=319,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**28.08**	**128**	T	T	09 24 12.1	
	baz=319,slow=76,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**28.10**	**128**	T	T	09 23 54.0	
	baz=319,slow=76,SNR=3.8						
SONA1	**Songino Array**	**28.65**	**302**	*e*P	P	08 54 34.1	+0.9
SONA1				*e*S	S	08 59 22.6	+3.1
SONA0	**Songino Array**	**28.65**	**302**	*e*P	P	08 54 33.0	-0.3
SONM	**Songino Array**	**28.65**	**302**	P	P	08 54 33.0	-0.3
	1.0nm,0.4s,baz=107,slow=8.2,SNR=8.3						
ZAA1	**Zalesovo Array**	**42.46**	**311**	*e*P	P	08 56 31.8	+0.6
ZALV	**Zalesovo Beam**	**42.46**	**311**	P	P	08 56 31.8	+0.6
	0.9nm,0.4s,baz=88,slow=13,SNR=3.2						
MK01	**Makanchi Array**	**45.02**	**301**	*e*P	P	08 56 52.4	+0.5
MK31	**Makanchi Array**	**45.02**	**302**	*e*P	P	08 56 52.3	+0.4
MK32	**Makanchi Array**	**45.02**	**302**	*e*P	P	08 56 52.6	+0.8
MKAR	**Makanchi Array**	**45.02**	**302**	P	P	08 56 52.6	+0.8
	1.2nm,0.6s,baz=86,slow=9.8,SNR=13						
MKAR	**Makanchi Array**	**45.02**	**302**	*e*P	P	08 56 52.3	+0.4
	15nm,0.6s						
KURK	**Kurchatov**	**46.62**	**308**	*e*P	P	08 57 04.7	+0.3
	6.9nm,0.9s						
KURBB	**Kurchatov Arra**	**46.70**	**307**	P	P	08 57 05.5	+0.5
	1.6nm,0.6s,baz=82,slow=8.0,SNR=20						
ILAR	**Eielson Array**	**47.55**	**33**	P	P	08 57 10.2	-1.2
	0.6nm,1.1s,baz=247,slow=4.7,SNR=2.6						
BVAR	**Borovoye Array**	**51.11**	**312**	P	P	08 57 38.0	-0.8
	0.6nm,0.6s,baz=87,slow=5.9,SNR=5.8						
AAK	**Ala-Archa**	**51.51**	**298**	P	P	08 57 42.0	-0.1
	0.9nm,0.4s,baz=124,slow=7.3,SNR=3.2						
ARU	**Arti**	**56.67**	**319**	P	P	08 58 20.1	+0.7
	1.2nm,0.3s,baz=276,slow=18,SNR=3.2						
ARU	**Arti**	**56.67**	**319**	*e*P	P	08 58 20.1	+0.7
	28nm,2.0s						
WR1	**Warramunga Arr**	**58.50**	**190**	*e*P	P	08 58 32.0	-0.5
	35nm,1.9s						
WRA	**Warramunga Arr**	**58.50**	**190**	P	P	08 58 32.0	-0.5
	0.9nm,0.5s,baz=11,slow=7.3,SNR=5.4						
ABKAR	**Akbulak array**	**58.55**	**310**	*e*P	P	08 58 33.2	+0.5
	0.8nm,0.5s						
YKA	**Yellowknife Ar**	**61.90**	**31**	P	P	08 58 55.7	+0.4
	0.2nm,0.7s,baz=300,slow=6.5,SNR=3.7						
ASAR	**Alice Springs**	**62.22**	**190**	P	P	08 58 58.0	0.0
	0.4nm,0.7s,baz=5.5,slow=6.5,SNR=4.9						
FIA0	**FINESS Array S**	**68.60**	**333**	*e*P	P	08 59 38.9	+0.1
FINES	**FINESS Array B**	**68.60**	**333**	P	P	08 59 38.9	+0.1
	1.2nm,0.7s,baz=70,slow=12,SNR=3.3						
GCAZ	**Grand Canyon**	**78.23**	**53**	*e*P	P	09 00 38.0	+1.7

IDC 12 08:51:22.6±4.8, 36°.18N×72°.97E, h0km, mb3.0/1, mb1 3.2/5, mb1mx3.0/68, mbtmpg3.1/5, ML2.7/4, Error ellipse: s-maj=148.5km s-min=58.4km az=118.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.55**	**10**	Pn	Pn	08 53 04.3	+3.8
	0.4nm,0.3s,baz=169,slow=10.0,SNR=4.3						
AAK				Sn	Sn	08 54 07.2	-8.8
	0.1nm,0.3s,baz=191,slow=18,SNR=1.7						
MKAR	**Makanchi Array**	**12.69**	**30**	Pn	Pn	08 54 25.9	+1.6
	0.0nm,0.3s,baz=210,slow=8.3,SNR=2.3						
KURBB	**Kurchatov Arra**	**14.98**	**14**	Pn	Pn	08 54 54.0	-1.6
	0.0nm,0.3s,baz=206,slow=10.0,SNR=2.2						
ZALV	**Zalesovo Beam**	**19.59**	**21**	P	P	08 55 52.2	0.0
	0.2nm,0.3s,baz=201,slow=10,SNR=4.6						
YKA	**Yellowknife Ar**	**81.48**	**4**	P	P	09 03 41.4	0.0
	0.1nm,0.6s,baz=346,slow=5.2,SNR=2.5						

IDC ***12*** *09:03:57.7±0.9, 17°.62S×168°.06E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.1/42, mbtmpg4.2/14, ML4.0/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/35, Error ellipse: s-maj=30.7km s-min=18.8km az=124.0*
NEIC ***12*** *09:03:58.3±0.4, 17°.69S×168°.24E, h10km, mb4.3/5, Error ellipse: s-maj=13.4km s-min=10.8km az=128.0*
ISCJB ***12*** *09:04:00.3±0.5, 17°.76S±0°.06×168°.13E±0°.09, h32km, mb4.2/17, MS3.6/2, Error ellipse: s-maj=13.3km s-min=7.6km az=17.5*
ISC 12 09:04:01.8±0.5, 17°.76S±0°.08×168°.2E±0°.1, h32km, n55, σ1°.26/60, mb4.3/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.61**	**201**	Pn	Pn	09 05 10.3	+1.0
	7.1nm,0.3s,baz=71,slow=9.3,SNR=55						
DZM				Sn	Sn	09 06 00.6	-1.2
	8.0nm,0.3s,baz=108,slow=20,SNR=13						
DZM				LR	LR	09 06 35.4	
	comp=Z,246nm,20.4s,baz=38,slow=34						
DZM	**Mont Dzumac**	**4.61**	**201**	*e*Pn	Pn	09 05 09.6	+0.2
DZM				*e*Sn	Sn	09 06 00.6	-1.2
HNR	**Honiara**	**11.54**	**315**	LR	LR	09 10 11.7	
	comp=Z,169nm,20.1s,baz=170,slow=33						
RAO	**Raoul Island**	**17.08**	**135**	*e*Pn	Pn	09 07 56.5	-1.7
	2μm,0.5s						
ARMA	**Armidale**	**19.68**	**227**	*e*P	Pn	09 08 30.4	+0.4
	32nm,1.4s						
CTA	**Charters Tower**	**20.91**	**260**	P	P	09 08 41.9	0.0
	10.0nm,1.0s,baz=74,slow=7.4,SNR=3.0						
STKA	**Stephens Creek**	**27.87**	**235**	P	P	09 09 49.6	+0.9
	3.2nm,0.8s,baz=55,slow=8.7,SNR=8.0						
STKA				LR	LR	09 19 32.8	
	comp=Z,126nm,20.1s,baz=34,slow=34						
STKA	**Stephens Creek**	**27.87**	**235**	*e*P	P	09 09 49.1	+0.4
	1.8nm,1.3s						
WR1	**Warramunga Arr**	**32.11**	**261**	*e*P	P	09 10 24.8	-1.8
	8.3nm,1.2s						
WR1				*e*PcP	PcP	09 13 16.6	+1.2
WRA	**Warramunga Arr**	**32.12**	**261**	P	P	09 10 24.8	-1.8
	0.4nm,0.6s,baz=82,slow=6.0,SNR=4.1						
WRA				PcP	PcP	09 13 16.6	+1.2
	0.7nm,0.7s,baz=78,slow=4.3,SNR=5.2						
AS31	**Alice Springs**	**32.58**	**254**	*e*P	P	09 10 29.1	-1.5
	1.8nm,0.9s						
ASAR	**Alice Springs**	**32.59**	**254**	P	P	09 10 29.1	-1.5

6.8nm,1.1s
OBKA Obir 144.02 329 *i* pPKPdf **PKPdf 09 23 36.4 +2.0**
11nm,1.2s
KBA Koelnbreinsper 144.20 330 *i* PKiKP **PKiKP 09 23 37.8 -0.5**
9.6nm,1.5s
MYKA Terra Mystica 144.38 329 *i* pPKPdf **PKPdf 09 23 35.7 +0.7**
5.0nm,0.9s
WATA Walderalm 144.82 332 *i* pPKPdf **PKPdf 09 23 38.1 +2.4**
2.9nm,0.5s
ABTA Abfaltersbach 144.83 331 *i* pPKPbc **PKPdf 09 23 35.8 +0.1**
11nm,0.6s,SNR=5.8
MOTA Moosalm 145.02 333 *i* pPKPbc **PKPdf 09 23 36.9 +0.7**
13nm,1.0s
RETA Reutte 145.06 333 *i* pPKPbc **PKPdf 09 23 37.0 +0.9**
15nm,1.5s
FETA Feichten 145.43 333 *i* pPKPbc **PKPab 09 23 38.5 +1.5**
21nm,0.9s,SNR=8.4
DAVA Damuels 145.59 334 *i* pPKPbc **PKPab 09 23 38.7 +1.1**
30nm,1.3s,SNR=6.4
TORD Torodi Ar. Bea 166.23 252 PKP **PKPdf 09 24 05.4 +0.7**
1.1nm,0.9s,baz=155,slow=1.1,SNR=5.6
TORD PKPab **PKPab 09 25 06.0 +0.2**
0.6nm,1.0s,baz=111,slow=1.1,SNR=2.4
TOA1 Torodi Ar. Sit 166.24 252 *e*PKPdf **PKPdf 09 24 05.4 +0.7**
TOA1 *e*PKPab **PKPab 09 25 06.0 +0.2**

DJA 12 09:06:04.3±1.6, 1°S±5°×13°3E±°, h33km±25km, M3.8/4, MLv3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.35**	**112**	P	Pn	09 06 26.7	-0.1
RKPI				S	Sn	09 06 44.0	+0.4
SWI	**Sorong**	**1.68**	**275**	P	Pn	09 06 31.5	+0.2
SWI				S	Sn	09 06 52.3	+0.6
FAKI	**Fak Fak**	**2.02**	**200**	P	Pn	09 06 36.6	+0.4
FAKI				S	Sn	09 07 00.7	+0.4

*ISCJB **12** 09:10:49.6±0.3, 4°.71N±0°.04×127°.48E±0°.05, h10km, mb4.2/25, MS3.5/9, Error ellipse: s-maj=7.7km s-min=5.5km az=11.5*
*IDC **12** 09:10:49.9±0.6, 4°.69N×127°.41E, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.0/65, mbtmp4.2/20, ML4.4/1, MS3.5/10, Ms1 3.5/10, ms1mx3.1/65, Error ellipse: s-maj=31.7km s-min=13.0km az=73.0*
*DJA **12** 09:10:55.8±1.4, 4°N±10°×12°7E±°, h10km, M4.4/6, mB5.0/2, mb4.4/5, MLv4.3/6, Mw(mB)4.3/2*
*NEIC **12** 09:10:55.7±1.2, 4°.69N×127°.47E, h40km±11km, mb4.6/7, Error ellipse: s-maj=12.3km s-min=5.3km az=72.0*

ISC 12 09:10:51.6±0.6, 4°.69N±0°.06×127°.46E±0°.09, h10km, n65, σ0s91/56, mb4.3/25, MS3.3/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.17**	**243**	P	**Pn**	**09 11 27.5**	**-0.3**
SGSI				S	**Sn**	**09 11 53.2**	**-1.6**
DAV	**Davao City (W)**	**3.01**	**322**	Pn	**Pn**	**09 11 40.4**	**+1.0**
48nm,0.3s,baz=267,slow=2.0,SNR=5.9							
DAV				LR	LR	09 12 51.1	
comp=Z,433nm,21.2s,baz=132,slow=41							
LBMI	**Labuha**	**5.29**	**180**	P	**Pn**	**09 12 11.5**	**+0.7**
84nm,1.0s,2µm0.5nm							
MRSI	**Marisa**	**6.92**	**233**	P	**Pn**	**09 12 34.4**	**+1.2**
APSI	**Ampana**	**8.04**	**226**	P	**Pn**	**09 12 49.5**	**+0.9**
MPSI	**Mapaga**	**8.70**	**240**	P	**Pn**	**09 12 57.7**	**+0.1**
MYLDM	**Lahad Datu**	**8.94**	**273**	*e*Pn	**Pn**	**09 13 03.2**	**+2.3**
SBUM	**Sibu**	**15.37**	**262**	*e*Pn	**Pn**	**09 14 30.9**	**+2.1**
17nm,1.1s							
FITZ	**Fitzroy Crossi**	**22.72**	**184**	P	**P**	**09 15 54.3**	**+0.5**
3.2nm,0.9s,baz=12,slow=10.0,SNR=3.4							
PMG	**Port Moresby**	**24.12**	**126**	LR	LR	09 26 00.5	
comp=Z,97nm,18.2s,baz=284,slow=38							
WR1	**Warramunga Arr**	**25.40**	**165**	*e*P	**P**	**09 16 19.0**	**-0.4**
46nm,1.8s							
WRA	**Warramunga Arr**	**25.40**	**165**	P	**P**	**09 16 19.0**	**-0.4**
0.9nm,0.5s,baz=344,slow=9.9,SNR=14							
WB2	**Warramunga Arr**	**25.40**	**165**	*e*P	**P**	**09 16 19.4**	**0.0**
AS31	**Alice Springs**	**28.88**	**168**	*e*P	**P**	**09 16 50.5**	**-0.2**
1.8nm,1.2s							
ASAR	**Alice Springs**	**28.88**	**168**	P	**P**	**09 16 50.5**	**-0.2**
1.1nm,0.9s,baz=349,slow=6.9,SNR=6.2							
AS01	**Alice Springs**	**28.89**	**168**	*e*P	**P**	**09 16 51.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**31.04**	**298**	P	**P**	**09 17 09.4**	**-0.5**
0.9nm,0.3s,baz=114,slow=6.4,SNR=3.4							
CMAR				LR	LR	09 29 58.4	
comp=Z,48nm,18.5s,baz=164,slow=37							
KS15	**Wonju Array Si**	**32.60**	**1**	*e*P	**P**	**09 17 22.9**	**-0.5**
KSAR	**Wonju Array Be**	**32.60**	**1**	P	**P**	**09 17 23.3**	**0.0**
KSRS	**Korea Array**	**32.61**	**1**	P	**P**	**09 17 23.3**	**-0.1**
1.3nm,0.7s,baz=183,slow=9.2,SNR=3.4							
KSRS				LR	LR	09 34 16.2	
comp=Z,43nm,18.8s,baz=165,slow=43							
HNR	**Honiara**	**35.29**	**113**	LR	LR	09 30 46.1	
comp=Z,36nm,20.4s,baz=267,slow=34							
STKA	**Stephens Creek**	**38.78**	**161**	P	**P**	**09 18 16.4**	**-0.1**
3.5nm,0.9s,baz=351,slow=9.7,SNR=7.0							
STKA	**Stephens Creek**	**38.78**	**161**	*e*P	**P**	**09 18 16.2**	**-0.3**
4.3nm,1.6s							
H11S3	**WAKE ISLAND Hy**	**40.69**	**67**	T	T	10 02 12.1	
baz=253,slow=75,SNR=8.7							
H11S1	**WAKE ISLAND Hy**	**40.70**	**67**	T	T	10 02 10.0	
baz=253,slow=75,SNR=5.8							
H11S2	**WAKE ISLAND Hy**	**40.70**	**67**	T	T	10 02 08.6	
baz=253,slow=75,SNR=7.5							
H11N1	**WAKE ISLAND Hy**	**41.19**	**65**	T	T	10 02 58.5	
baz=259,slow=75							
H11N2	**WAKE ISLAND Hy**	**41.20**	**65**	T	T	10 03 09.5	
baz=259							
H11N3	**WAKE ISLAND Hy**	**41.21**	**65**	T	T	10 03 08.7	
baz=259,slow=75							
KLR	**Kul'dur**	**44.53**	**4**	P	**P**	**09 19 03.5**	**+0.1**
0.2nm,0.7s,baz=213,slow=5.7,SNR=5.8							
PALK	**Pallekele**	**46.56**	**276**	LR	LR	09 39 58.6	
comp=Z,23nm,19.2s,baz=116,slow=38							
SONA0	**Songino Array**	**46.63**	**341**	*e*P	**P**	**09 19 20.9**	**+0.6**
SONM	**Songino Array**	**46.63**	**341**	P	**P**	**09 19 20.9**	**+0.6**
0.9nm,0.8s,baz=171,slow=10,SNR=3.7							
SONA1	**Songino Array**	**46.64**	**341**	*e*P	**P**	**09 19 20.3**	**0.0**
PETK	**Petropavlovsk-**	**54.27**	**22**	P	**P**	**09 20 19.6**	**+1.8**
5.3nm,0.8s,baz=214,slow=2.7,SNR=4.4							
PEA1	**Petropavlovsk-**	**54.27**	**22**	*e*P	**P**	**09 20 19.6**	**+1.8**
MK01	**Makanchi Array**	**57.17**	**325**	*e*P	**P**	**09 20 38.0**	**-0.7**
MK31	**Makanchi Array**	**57.19**	**325**	*e*P	**P**	**09 20 38.9**	**0.0**
MK32	**Makanchi Array**	**57.19**	**325**	*e*P	**P**	**09 20 38.3**	**-0.6**
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**09 20 38.3**	**-0.6**
2.3nm,0.6s,baz=123,slow=8.3,SNR=24							
MKAR				LR	LR	09 45 46.2	
comp=Z,128nm,18.1s,baz=2.0,slow=37							
MKAR	**Makanchi Array**	**57.19**	**325**	*e*P	**P**	**09 20 39.6**	**+0.7**
15nm,0.7s							
ZAA0	**Zalesovo Array**	**60.07**	**332**	*e*P	**P**	**09 20 58.1**	**-0.7**
9.6nm,1.2s							
ZALV	**Zalesovo Beam**	**60.07**	**332**	P	**P**	**09 20 58.1**	**-0.7**
2.8nm,0.8s,baz=109,slow=8.0,SNR=9.4							
ZALV	**Zalesovo Beam**	**60.07**	**332**	*e*P	**P**	**09 20 57.7**	**-1.1**
ZAA1	**Zalesovo Array**	**60.07**	**332**	*e*P	**P**	**09 20 58.1**	**-0.7**
KURK	**Kurchatov**	**61.33**	**327**	*e*P	**P**	**09 21 07.0**	**-0.4**
KURK				*e*P	**P**	**09 21 07.8**	**+0.4**
KURBB	**Kurchatov Arra**	**61.33**	**327**	P	**P**	**09 21 07.0**	**-0.4**
4.8nm,0.8s,baz=125,slow=5.8,SNR=40							
URZ	**Urewera**	**62.75**	**138**	LR	LR	09 48 20.1	
comp=Z,61nm,19.4s,baz=181,slow=36							
KKAR	**Karatay Array**	**63.03**	**316**	*e*P	**P**	**09 21 19.4**	**+0.4**
TIXI	**Tiksi**	**66.88**	**0**	P	**P**	**09 21 42.9**	**-0.6**
1.5nm,0.3s,baz=192,slow=4.2,SNR=3.8							
BVAR	**Borovoye Array**	**66.92**	**327**	P	**P**	**09 21 44.1**	**-0.1**
5.2nm,1.0s,baz=116,slow=6.8,SNR=18							
BRVK	**Borovoye**	**66.99**	**327**	*e*P	**P**	**09 21 44.4**	**-0.2**
47nm,1.3s							
ABKAR	**Akbulak array**	**71.87**	**320**	*e*P	**P**	**09 22 14.4**	**-0.4**
16nm,0.7s							
AKTO	**Aktyubinsk**	**73.36**	**321**	P	**P**	**09 22 23.5**	**-0.2**
1.6nm,0.5s,baz=105,slow=5.9,SNR=6.4							
AKTO				LR	LR	09 55 19.6	
comp=Z,54nm,18.9s,baz=33,slow=36							
ARU	**Arti**	**74.52**	**327**	P	**P**	**09 22 29.7**	**-0.7**
3.2nm,0.7s,baz=96,slow=17,SNR=2.8							
ARU	**Arti**	**74.52**	**327**	*e*P	**P**	**09 22 29.7**	**-0.7**
91nm,1.5s							
ILAR	**Eielson Array**	**83.93**	**25**	P	**P**	**09 23 20.2**	**-1.4**
0.5nm,0.9s,baz=244,slow=5.9,SNR=4.1							
ARA0	**ARCESS Array S**	**89.80**	**340**	*e*P	**P**	**09 23 48.8**	**-1.4**
ARCES	**ARCESS Array B**	**89.80**	**340**	P	**P**	**09 23 48.8**	**-1.4**
1.4nm,0.7s,baz=91,slow=6.1,SNR=6.1							
BR101	**Keskin Array S**	**89.97**	**310**	*e*P	**P**	**09 23 51.5**	**-0.2**
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**09 23 51.5**	**-0.2**
1.1nm,0.8s,baz=111,slow=7.9,SNR=2.8							
AKASG	**Malin Array Be**	**91.61**	**321**	P	**P**	**09 23 57.5**	**-1.4**
0.2nm,0.3s,baz=68,slow=3.3,SNR=3.4							
NOA	**NORSAR Array B**	**98.25**	**334**	LR	LR	10 15 36.9	
comp=Z,29nm,21.6s,baz=355,slow=40							
TORD	**Torodi Ar. Bea**	**123.30**	**289**	PKP	**PKPdf**	**09 29 51.5**	**+1.5**
0.1nm,0.4s,baz=62,slow=2.7,SNR=2.8							
TOA1	**Torodi Ar. Sit**	**123.31**	**289**	*e*PKPdf	**PKPdf**	**09 29 51.5**	**+1.5**

OMAN 12 09:17:29.5±5.4, 27°.23N×56°.20E, h2km±26km, Error ellipse: s-maj=163.8km s-min=25.8km az=98.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.31**	**176**	P	Pb	09 17 54.7	-0.1
SNR=10							
UOSS	**Minazif**	**2.28**	**180**	P	Pn	09 18 08.2	0.0
SNR=14							
FAQ	**Al Faqa, Dubai**	**2.54**	**193**	P	Pn	09 18 11.9	+0.2
ASHO	**Ashiyiah**	**2.54**	**183**	P	Pn	09 18 11.8	-0.1
SNR=36							
BRVK	**Borovoye**	**27.84**	**18**	P	P	09 23 20.5	+0.3
SNR=12							

NNC 12 09:22:10.1±8.2, 34°.28N×75°.52E, h0km, mb3.8, mpv3.6, 7C-4D, Error ellipse: s-maj=102.6km s-min=61.0km az=77.0, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**5.95**	**345**	↑Pn	Pn	09 23 41.3	+1.7
2.9nm,0.6s							
SFK				↑Sn	Sn	09 24 50.5	+1.9
10nm,0.5s							
MNAS	**Manas**	**8.53**	**345**	↑Pn	Pn	09 24 14.8	-0.3
1.2nm,0.4s							
MNAS				↑Sn	Sn	09 25 53.4	+1.3
3.1nm,0.5s							
TKM2	**Tokmak 2**	**8.63**	**0**	↑Pn	Pn	09 24 16.7	+0.3
1.5nm,0.5s							
TKM2				↓Sn	Sn	09 25 57.8	+3.2
1.1nm,0.6s							
KK31	**Karatay Array**	**9.64**	**338**	↓Pn	Pn	09 24 27.4	-2.8
0.3nm,0.3s,baz=159,slow=12,SNR=10							
KK31				↓Sn	Sn	09 26 17.3	-1.8
1.8nm,0.7s,baz=148,slow=23,SNR=5.8							
MAKZ	**Makanchi**	**13.44**	**19**	↑Pn	Pn	09 25 22.8	+0.8
0.8nm,0.7s							
MAKZ				↓Lg	Lg	09 25 55.5	
7.5nm,0.8s							
MK31	**Makanchi Array**	**13.51**	**20**	Pn	Pn	09 25 24.7	+1.6
1.1nm,0.7s,baz=335,slow=13,SNR=8.5							
MK31				↑Lg	Lg	09 25 57.2	
2.8nm,0.8s,baz=339,slow=22,SNR=5.6							

MAN 12 09:32:11, 8°.92N×122°.99E, h6km, mb4.3, ML3.2, MS2.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.49**	**133**	*e*P	Pb	09 32 21.6	-0.5
PAGZ	**Pagadian**	**1.13**	**160**	*e*P	Pg	09 32 29.1	-3.7
GUIM	**Jordan**	**1.74**	**347**	*e*P	Pn	09 32 41.9	+0.2
GUIM				*e*S	Sb	09 33 05.6	+0.1
MSLP	**Maasin**	**2.20**	**57**	*e*P	Pn	09 32 48.9	+0.7
MSLP				*e*S	Sn	09 33 16.7	+1.0
RCP	**Roxas**	**2.63**	**355**	*e*P	Pg	09 33 01.4	-0.2
RCP				*e*S	Sb	09 33 33.1	+1.9

*IDC **12** 09:43:34.8±1.5, 26°.01N×128°.33E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.2/74, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=65.2km s-min=23.9km az=74.0*
*JMA **12** 09:43:35.6±0.3, 26°.04N×128°.75E, h32km, M3.1*

ISC 12 09:43:33.8±1.7, 26°.03N±0°.06×128°.66E±0°.05, h4km±11km, n14, σ1s59/22, mb3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.75**	**311**	P	**Pn**	**09 43 50.3**	**-0.8**
JNTH				S	**Sn**	**09 44 02.2**	**-0.7**
JJT2	**Tamagusuku 2**	**0.83**	**278**	P	**Pn**	**09 43 52.5**	**+0.3**
JJT2				*e*S	**Sn**	**09 44 04.9**	**+0.1**
JOW	**Kunigami**	**0.87**	**337**	P	**Pn**	**09 43 52.2**	**-0.6**
JOW				S	**Sn**	**09 44 03.5**	**-2.4**
JIH	**Iheya**	**1.18**	**328**	P	**Pg**	**09 43 57.0**	**+0.7**
JIH				*e*S	**Sg**	**09 44 12.5**	**+0.9**
JOKE	**Okinoerabujima**	**1.33**	**357**	P	**Pn**	**09 43 59.0**	**-0.1**
JAGN	**Aguni-jima**	**1.39**	**294**	P	**Pg**	**09 44 00.6**	**+0.2**
JAGN				S	**Sg**	**09 44 18.2**	**-0.1**
JKE	**Kume jima 2**	**1.71**	**280**	P	**Pb**	**09 44 04.5**	**-1.2**
JKE				*e*S	**Sg**	**09 44 26.3**	**-2.3**
JTK	**Tokunoshima**	**1.77**	**8**	P	**Pn**	**09 44 04.9**	**-0.2**
JTK				S	**Sn**	**09 44 26.1**	**-2.0**
JMZ	**Minamidaito 2**	**2.32**	**95**	P	**Pn**	**09 44 12.3**	**-0.4**
JMZ				S	**Sn**	**09 44 38.3**	**-3.3**
JNU	**Nakatsue**	**7.33**	**15**	Pn	**Pn**	**09 45 24.1**	**+2.5**
0.5nm,0.3s,baz=198,slow=20,SNR=1.2							
SONM	**Songino Array**	**27.93**	**327**	P	**P**	**09 49 26.3**	**+1.1**
0.2nm,0.4s,baz=138,slow=11,SNR=2.5							
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**09 51 25.2**	**-0.5**
0.4nm,0.6s,baz=88,slow=11,SNR=4.3							
WRA	**Warramunga Arr**	**46.03**	**173**	P	**P**	**09 51 60.0**	**+1.4**
0.3nm,0.7s,baz=349,slow=7.9,SNR=1.9							
ASAR	**Alice Springs**	**49.66**	**174**	P	**P**	**09 52 28.9**	**+2.2**
0.6nm,1.0s,baz=351,slow=11,SNR=2.9							

*ISCJB **12** 09:50:06.0±0.5, 49°.98N±0°.04×18°.55E±0°.03, h0km, Error ellipse: s-maj=5.8km s-min=2.7km az=5.7*
*IPEC **12** 09:50:06.9±0.2, 49°.95N×18°.64E, h0km, ML1.6/3, Error ellipse: s-maj=2.2km s-min=1.1km az=162.0*
*CSEM **12** 09:50:07.0±0.2, 49°.97N×18°.56E, h2km, ML2.6/5, Error ellipse: s-maj=6.3km s-min=2.9km az=3.0*
*PRU **12** 09:50:07.5, 49°.99N×18°.56E, h0km*

ISC 12 09:50:06.4±0.8, 49°.95N±0°.04×18°.54E±0°.02, h0km, n26, σ0s76/45, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**245**	*e*PG	**Pb**	**09 50 13.8**	**-0.5**
OKC				*e*SG	**Sb**	**09 50 19.1**	**-0.4**
OKC	**Ostrava-Krasne**	**0.28**	**245**	Pg	**Pb**	**09 50 13.8**	**-0.5**
OKC				Sg	**Sb**	**09 50 19.1**	**-0.4**
MORC	**Moravsky Berou**	**0.67**	**255**	*e*Pg	**Pb**	**09 50 20.9**	**-0.1**
MORC				*e*Sg	**Sb**	**09 50 29.9**	**-0.9**
16nm,0.3s,baz=76							
OJC	**Ojcow**	**0.86**	**71**	*e*Pg	**Pg**	**09 50 22.8**	**-0.1**
OJC				*e*Sg	**Sg**	**09 50 32.7**	**-1.2**
OJC	**Ojcow**	**0.86**	**71**	*e*Pg	**Pg**	**09 50 22.8**	**-0.1**
OJC				*e*Sg	**Sg**	**09 50 32.7**	**-1.2**
LANS	**Liptovska Anna**	**1.01**	**143**	*e*Pg	**Pg**	**09 50 26.0**	**+0.2**
LANS				*e*Sg	**Sb**	**09 50 40.3**	**-0.3**
LANS	**Liptovska Anna**	**1.01**	**143**	*e*PG	**Pg**	**09 50 25.9**	**+0.2**
LANS	**Liptovska Anna**	**1.01**	**143**	*e*PG	**Pg**	**09 50 26.0**	**+0.2**
LANS				*e*SG	**Sb**	**09 50 40.3**	**-0.3**
NIE	**Niedzica**	**1.27**	**114**	*e*Pg	**Pb**	**09 50 30.9**	**-0.3**
NIE				*e*Sg	**Sn**	**09 50 49.2**	**+0.1**
NIE				*e*Sg	**Sn**	**09 50 49.2**	**+0.1**
NIE	**Niedzica**	**1.27**	**114**	*e*Pg	**Pb**	**09 50 30.9**	**-0.3**
NIE				*e*Sg	**Sn**	**09 50 49.2**	**+0.1**
VRAC	**Vranov**	**1.42**	**244**	*e*Pg	**Pb**	**09 50 34.1**	**+0.3**
VRAC				*e*Sg	**Sn**	**09 50 53.1**	**+0.2**
6.0nm,0.2s,baz=64							
VYHS	**Vyhne**	**1.47**	**172**	*e*Pg	**Pn**	**09 50 34.1**	**-0.2**
VYHS				*e*Sn	**Sg**	**09 50 53.3**	**-0.4**
VYHS	**Vyhne**	**1.47**	**172**	*e*PG	**Pn**	**09 50 34.0**	**-0.2**
VYHS	**Vyhne**	**1.47**	**172**	*e*PG	**Pn**	**09 50 34.1**	**-0.2**
VYHS				*e*SN	**Sg**	**09 50 53.3**	**-0.4**
DPC	**Dobruska-Polom**	**1.48**	**286**	*e*PG	**Pb**	**09 50 35.1**	**+0.3**
DPC				*e*SG	**Sn**	**09 50 55.2**	**+0.8**
comp=Z,8.7nm,0.4s							
DPC	**Dobruska-Polom**	**1.48**	**286**	Pg	**Pb**	**09 50 35.1**	**+0.3**
DPC				Sg	**Sn**	**09 50 55.2**	**+0.8**
8.7nm,0.4s							
KRUC	**Moravsky**	**1.66**	**238**	*e*Pn	**Pb**	**09 50 37.8**	**0.0**
baz=58							
KRUC				*e*Sg	**Sg**	**09 51 00.5**	**+0.9**
4.5nm,0.3s,baz=58							
UPC	**Upice**	**1.71**	**290**	*e*SG	**Sg**	**09 51 02.4**	**+1.0**
comp=Z,4.2nm,0.2s							
UPC	**Upice**	**1.71**	**290**	Sg	**Sg**	**09 51 02.4**	**+1.0**
4.2nm,0.2s							
STHS	**Stebnicka Huta**	**1.84**	**106**	*e*Pn	**Pb**	**09 50 40.4**	**-0.5**
STHS				*e*Sg	**Sg**	**09 51 07.5**	**+2.0**
STHS	**Stebnicka Huta**	**1.84**	**106**	*e*PN	**Pb**	**09 50 40.4**	**-0.5**
STHS				*e*SG	**Sg**	**09 51 07.5**	**+2.0**
STHS				*e*LG	Lg	09 51 10.9	
STHS	**Stebnicka Huta**	**1.84**	**106**	*e*PN	**Pb**	**09 50 40.7**	**-0.2**
STHS				*e*SN	**Sg**	**09 51 07.5**	**+2.0**
STHS				*e*LG	Lg	09 51 11.1	
GOPC	**GO Pecny, Ondr**	**2.42**	**270**	*e*SG	**Sg**	**09 51 23.3**	**-0.9**
GOPC	**GO Pecny, Ondr**	**2.42**	**270**	Sg	**Sg**	**09 51 23.3**	**-0.9**
KHC	**Kasperske Hory**	**3.33**	**258**	*e*SG	**Sg**	**09 51 53.2**	**-0.2**
KHC	**Kasperske Hory**	**3.33**	**258**	Sg	**Sg**	**09 51 53.2**	**-0.2**

IDC 12 09:55:18.2±4.7, 59°.62N×152°.07W, h299km±51km, mb2.5/1, mb1 2.5/3, mb1mx2.2/79, mbtmp2.9/3, Error ellipse: s-maj=131.1km s-min=26.6km az=100.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.86**	**189**	P	Pn	09 56 04.1	+0.2
1.1nm,0.3s,baz=21,slow=11,SNR=26							
KDAK				S	S	09 56 33.7	-6.4
0.3nm,0.3s,baz=141,slow=21,SNR=7.0							
ILAR	**Eielson Array**	**5.71**	**23**	P	Pn	09 56 43.2	-0.7
0.2nm,0.3s,baz=213,slow=13,SNR=12							
ILAR				S	S	09 57 40.2	-13
0.1nm,0.3s,baz=222,slow=16,SNR=4.7							
YKA	**Yellowknife Ar**	**18.18**	**65**	P	P	09 59 10.2	+0.7
0.0nm,0.3s,baz=273,slow=11,SNR=1.7							
NVAR	**Mina Array Bea**	**30.12**	**120**	P	P	10 01 00.6	-0.3
0.2nm,0.7s,baz=340,slow=7.7,SNR=1.8							

*CSEM **12** 09:56:48.9±0.1, 44°.47N×7°.14E, h2km, ML3.4/22, Error ellipse: s-maj=2.5km s-min=1.8km az=64.0*
*ISCJB **12** 09:56:48.3±0.2, 44°.46N±0°.01×7°.11E±0°.02, h8km±2km, Error ellipse: s-maj=2.3km s-min=1.7km az=150.6*
*ROM **12** 09:56:48.0±0.2, 44°.44N×7°.11E, h8km±1km, Md2.8/20, Ml2.8/17, Error ellipse: s-maj=2.8km s-min=1.1km az=61.0*
*LDG **12** 09:56:49.1±0.0, 44°.46N×7°.12E, h6km, Md3.2/2, Ml3.1/24, Error ellipse: s-maj=1.2km s-min=0.8km az=65.0*
*GEN **12** 09:56:49.0, 44°.45N×7°.11E, h7km, ML2.7*
*STR **12** 09:56:49.8±0.1, 44°.43N±0°.01×7°.08E±0°.01, h5km, MLv2.9/21*

ISC 12 09:56:48.4±0.8, 44°.47N±0°.01×7°.14E±0°.01, h11km±4km, n133, σ1s47/223, 1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.04**	**342**	P	**Pg**	**09 56 50.2**	**-0.5**
PZZ				S	**Sg**	**09 56 51.2**	**-1.2**
PZZ	**Stroppo**	**0.04**	**342**	↓*i*Pg	**Pg**	**09 56 50.2**	**-0.5**
PZZ				Sg	**Sg**	**09 56 51.2**	**-1.2**
11µm,0.3s							
DOI	**San Damiano**	**0.09**	**65**	Pg	**Pg**	**09 56 52.1**	**+1.0**
DOI				Sg	**Sg**	**09 56 53.7**	**+0.6**
5µm,0.1s							
DOI	**San Damiano**	**0.09**	**65**	Pg	**Pg**	**09 56 52.1**	**+1.0**
DOI				Sg	**Sg**	**09 56 53.7**	**+0.6**
5µm,0.1s							
STV	**Sant Anna di V**	**0.26**	**148**	P	**Pg**	**09 56 53.5**	**-0.3**
STV				S	**Sg**	**09 56 57.0**	**-0.4**
STV				Sg	**Sg**	**09 56 57.4**	**0.0**
1µm,0.1s							
STV	**Sant Anna di V**	**0.26**	**148**	Pg	**Pg**	**09 56 53.5**	**-0.3**
STV				Sg	**Sg**	**09 56 57.4**	**0.0**
1µm,0.1s							
ENR	**Entracque**	**0.32**	**139**	P	**Pg**	**09 56 55.5**	**+0.7**
ENR				S	**Sg**	**09 56 59.8**	**+0.8**
ENR	**Entracque**	**0.32**	**139**	Pg	**Pg**	**09 56 55.5**	**+0.7**
ENR				Sg	**Sg**	**09 56 59.8**	**+0.8**
3µm,0.1s							
MBDF	**Montbardon**	**0.37**	**315**	*e*Pg	**Pg**	**09 56 56.5**	**+0.7**
SNR=1.0							
MBDF				*e*Sg	**Sg**	**09 57 01.5**	**+0.8**
1µm,0.2s							
MBDF	**Montbardon**	**0.37**	**315**	*e*Pg	**Pg**	**09 56 56.5**	**+0.7**
SNR=1.0							
MBDF				*e*Sg	**Sg**	**09 57 01.5**	**+0.8**
638nm,0.2s							
BHB	**Bricherasio**	**0.39**	**14**	P	**Pb**	**09 56 57.1**	**-0.1**
BHB				Sg	**Sb**	**09 57 02.8**	**-0.4**
1µm,0.3s							
BHB	**Bricherasio**	**0.39**	**14**	Pg	**Pb**	**09 56 57.1**	**-0.1**
BHB				Sg	**Sb**	**09 57 02.8**	**-0.4**
1µm,0.3s							
RRL	**Rocca Remolon**	**0.52**	**332**	Pg	**Pg**	**09 56 58.3**	**-0.2**
RRL				Sg	**Sb**	**09 57 06.7**	**-0.4**
317nm,0.3s						

FRF	**La Foret Royal**	**0.97**	**201**	*e*P	**Pn**	**09 57 08.5 +0.6**
	SNR=1.0					
FRF				*e*Sg	**Sg**	**09 57 19.2 -0.5**
	249nm,0.2s,SNR=1.0					
FRF	**La Foret Royal**	**0.97**	**201**	*e*Pn	**Pb**	**09 57 07.4 +0.2**
FRF	**La Foret Royal**	**0.97**	**201**	*e*P	**Pn**	**09 57 08.5 +0.6**
	SNR=1.0					
FRF				*e*Sg	**Sg**	**09 57 19.2 -0.5**
	124nm,0.2s,SNR=1.0					
LSD	**Lago del Serru**	**0.99**	**360**	P	**Pb**	**09 57 08.1 +0.4**
LSD				S	**Sg**	**09 57 20.1 -0.4**
LSD				Sg	**Sg**	**09 57 20.9 +0.4**
	386nm,0.2s					
LSD	**Lago del Serru**	**0.99**	**360**	Pg	**Pb**	**09 57 08.1 +0.4**
LSD				Sg	**Sg**	**09 57 20.9 +0.4**
	386nm,0.2s					
ORIF	**Oris-en-Rattie**	**1.00**	**297**	*e*Pg	**Pb**	**09 57 08.1 +0.3**
	SNR=1.0					
ORIF				*e*Sg	**Sg**	**09 57 20.8 +0.1**
	72nm,0.2s					
ORIF	**Oris-en-Rattie**	**1.00**	**297**	*e*Pg	**Pb**	**09 57 08.1 +0.3**
	SNR=1.0					
ORIF				*e*Sg	**Sg**	**09 57 20.8 +0.1**
	36nm,0.2s					
PCP	**Piancastagn**	**1.01**	**85**	P	**Pg**	**09 57 07.8 0.0**
PCP				S	**Sg**	**09 57 20.8 -0.2**
PCP				Sg	**Sb**	**09 57 21.8 +0.6**
	99nm,0.2s					
PCP	**Piancastagn**	**1.01**	**85**	Pg	**Pg**	**09 57 07.8 0.0**
PCP				Sg	**Sb**	**09 57 21.8 +0.6**
	99nm,0.2s					
GDM	**Grand'Maison**	**1.03**	**316**	Pg	**Pn**	**09 57 09.1 +0.2**
GDM				Sg	**Sn**	**09 57 23.5 +0.1**
GDM	**Grand'Maison**	**1.03**	**316**	Pg	**Pn**	**09 57 09.1 +0.2**
LPG	**La Plagne**	**1.07**	**345**	*e*Pg	**Pn**	**09 57 09.8 +0.3**
LPG				*e*Sg	**Sb**	**09 57 23.7 +0.7**
	86nm,0.2s					
LPG	**La Plagne**	**1.07**	**345**	*e*Pg	**Pn**	**09 57 09.8 +0.3**
LPG				*e*Sg	**Sb**	**09 57 23.7 +0.7**
	43nm,0.2s					
LPL	**La Plagne**	**1.09**	**345**	*e*Pg	**Pn**	**09 57 10.3 +0.6**
LPL				*e*Sg	**Sb**	**09 57 24.2 +0.6**
	211nm,0.3s					
LPL	**La Plagne**	**1.09**	**345**	*e*Pg	**Pn**	**09 57 10.3 +0.6**
LPL				*e*Sg	**Sb**	**09 57 24.2 +0.6**
	105nm,0.3s					
TRAV	**Traversella**	**1.13**	**22**	Pg	**Pb**	**09 57 10.2 +0.2**
	71nm,0.2s					
TRAV	**Traversella**	**1.13**	**22**	Pg	**Pb**	**09 57 10.2 +0.2**
	71nm,0.2s					
CIRO	**Champorcher**	**1.18**	**15**	Pg	**Pb**	**09 57 09.9 -0.9**
	58nm,0.3s					
CIRO	**Champorcher**	**1.18**	**15**	Pg	**Pb**	**09 57 09.9 -0.9**
	58nm,0.3s					
LMR	**La Mourre**	**1.22**	**202**	*e*Pg	**Pg**	**09 57 11.9 +0.1**
LMR	**La Mourre**	**1.22**	**202**	*e*P	**Pg**	**09 57 12.4 +0.6**
	SNR=1.0					
LMR				*e*Sg	**Sb**	**09 57 27.1 0.0**
	154nm,0.2s,SNR=1.0					
LMR	**La Mourre**	**1.22**	**202**	*e*Pg	**Pg**	**09 57 11.9 +0.1**
LMR	**La Mourre**	**1.22**	**202**	*e*P	**Pg**	**09 57 12.4 +0.6**
	SNR=1.0					
LMR				*e*Sg	**Sb**	**09 57 27.1 0.0**
	77nm,0.2s,SNR=1.0					
SMRF	**Simiane la Rot**	**1.22**	**247**	*e*P	**Pg**	**09 57 13.2 +1.3**
	SNR=1.0					
SMRF				*e*Sg	**Sb**	**09 57 27.1 -0.2**
	136nm,0.3s,SNR=1.0					
SMRF	**Simiane la Rot**	**1.22**	**247**	*e*P	**Pg**	**09 57 13.2 +1.3**
	SNR=1.0					
SMRF				*e*Sg	**Sb**	**09 57 27.1 -0.2**
	68nm,0.3s,SNR=1.0					
MRGE	**Morge**	**1.30**	**358**	Pg	**Pg**	**09 57 13.6 +0.2**
MRGE				Sg	**Sg**	**09 57 30.9 +0.5**
	154nm,0.5s					
MRGE	**Morge**	**1.30**	**358**	Pg	**Pg**	**09 57 13.6 +0.2**
MRGE				Sg	**Sg**	**09 57 30.9 +0.5**
	154nm,0.5s					
LEPF	**PUYLOUBIER**	**1.40**	**228**	Pg	**Pg**	**09 57 15.4 +0.2**
LEPF				Sg	**Sg**	**09 57 34.3 +0.9**
LEPF	**PUYLOUBIER**	**1.40**	**228**	Pg	**Pg**	**09 57 15.5 +0.2**
MMK	**Mattmark**	**1.69**	**20**	Pg	**Pn**	**09 57 18.3 +0.3**
MMK	**Mattmark**	**1.69**	**20**	Pg	**Pn**	**09 57 18.3 +0.3**
VIVF	**Saint-Julien-l**	**1.80**	**283**	*e*P	**Pb**	**09 57 21.4 +0.1**
	SNR=1.0					
VIVF				*e*Sn	**Sn**	**09 57 39.6 -2.5**
VIVF				*e*Sg	**Sb**	**09 57 45.2 +1.4**
	37nm,0.4s,SNR=1.0					
VIVF	**Saint-Julien-l**	**1.80**	**283**	*e*P	**Pb**	**09 57 21.4 +0.1**
	SNR=1.0					
VIVF				*e*Sn	**Sn**	**09 57 39.6 -2.5**
VIVF				*e*Sg	**Sb**	**09 57 45.2 +1.4**
	18nm,0.4s,SNR=1.0					
OG01	**Vacheresse**	**1.89**	**350**	Pg	**Pg**	**09 57 26.6 +2.0**
OG01				Sg	**Sg**	**09 57 52.9 +3.8**
OG01	**Vacheresse**	**1.89**	**350**	Pg	**Pg**	**09 57 26.6 +2.0**
SSB	**Saint Sauveur**	**2.02**	**295**	Pg	**Pg**	**09 57 26.6 -0.4**
SSB				Sg	**Sg**	**09 57 55.1 +2.0**
CABF	**La Chapelle**	**2.27**	**341**	*e*P	**Pn**	**09 57 27.6 +1.8**
	SNR=1.0					
CABF	**La Chapelle**	**2.27**	**341**	*e*Pg	**Pg**	**09 57 31.1 -0.7**
CABF				*e*Sn	**Sn**	**09 57 51.6 -2.2**
CABF				*e*Sg	**Sg**	**09 58 01.8 +0.6**
	39nm,0.6s,SNR=1.0					
CABF	**La Chapelle**	**2.27**	**341**	*e*P	**Pn**	**09 57 27.6 +1.8**
	SNR=1.0					
CABF	**La Chapelle**	**2.27**	**341**	*e*Pg	**Pg**	**09 57 31.1 -0.7**
CABF				*e*Sn	**Sn**	**09 57 51.6 -2.2**
CABF				*e*Sg	**Sg**	**09 58 01.8 +0.6**
	19nm,0.6s,SNR=1.0					
PGF	**Pioggiola**	**2.35**	**144**	*e*Pn	**Pn**	**09 57 27.2 +0.3**
	SNR=1.0					
PGF				*e*Sn	**Sn**	**09 57 54.0 -1.8**
	18nm,0.2s					
PGF	**Pioggiola**	**2.35**	**144**	*e*Pn	**Pn**	**09 57 27.2 +0.3**
	SNR=1.0					
PGF				*e*Sn	**Sn**	**09 57 54.0 -1.8**
	8.9nm,0.2s					
LASF	**Ste Croix**	**2.39**	**262**	*e*P	**Pn**	**09 57 29.0 +1.6**
	SNR=1.0					
LASF				*e*Sn	**Sn**	**09 57 54.3 -2.3**
	8.8nm,0.2s					
LASF	**Ste Croix**	**2.39**	**262**	*e*P	**Pn**	**09 57 29.0 +1.6**
	SNR=1.0					
LASF				*e*Sn	**Sn**	**09 57 54.3 -2.3**
	4.4nm,0.2s					
LBL	**Lubilhac**	**2.87**	**287**	Pn	**Pn**	**09 57 33.4 -0.6**
LBL	**Lubilhac**	**2.87**	**287**	Pn	**Pn**	**09 57 33.4 -0.6**
LOMF	**Lomont**	**2.89**	**356**	Pn	**Pn**	**09 57 34.7 +0.4**
LOMF	**Lomont**	**2.89**	**356**	Pn	**Pn**	**09 57 34.8 +0.4**
SMF	**Signal de Mont**	**3.18**	**314**	*e*P	**Pn**	**09 57 40.6 +2.4**
	SNR=1.0					
SMF				*e*Sg	**Sg**	**09 58 28.5 -1.9**
	11nm,0.3s					
SMF	**Signal de Mont**	**3.18**	**314**	*e*P	**Pn**	**09 57 40.6 +2.4**
	SNR=1.0					
SMF				*e*Sg	**Sg**	**09 58 28.5 -1.9**
	5.7nm,0.3s					
AGO	**Saint Agoulin**	**3.24**	**301**	Pn	**Pn**	**09 57 39.4 +0.3**
AGO	**Saint Agoulin**	**3.24**	**301**	Pn	**Pn**	**09 57 39.5 +0.3**
HINF	**Hinteralfeld**	**3.36**	**357**	*e*P	**Pn**	**09 57 43.0 +2.3**
	SNR=1.0					
HINF				*e*Sn	**Sn**	**09 58 18.2 -2.3**
HINF				*e*Sg	**Sg**	**09 58 35.1 -1.0**
	13nm,0.5s,SNR=1.0					
HINF	**Hinteralfeld**	**3.36**	**357**	*e*P	**Pn**	**09 57 43.0 +2.3**
	SNR=1.0					
HINF				*e*Sn	**Sn**	**09 58 18.2 -2.3**
MOF	**Molkenrain**	**3.39**	**360**	Pn	**Pn**	**09 57 42.7 +1.6**
MOF	**Molkenrain**	**3.39**	**360**	Pn	**Pn**	**09 57 42.7 +1.6**
FELD	**Feldberg im Sc**	**3.46**	**10**	Pn	**Pn**	**09 57 43.6 +1.4**
FELD	**Feldberg im Sc**	**3.46**	**10**	Pn	**Pn**	**09 57 43.7 +1.4**
AVF	**Avril sur Loir**	**3.53**	**313**	*e*P	**Pn**	**09 57 45.7 +2.7**
	SNR=1.0					
AVF				*e*Sg	**Sg**	**09 58 39.7 -1.9**
	7.2nm,0.4s,SNR=1.0					
AVF	**Avril sur Loir**	**3.53**	**313**	*e*P	**Pn**	**09 57 45.7 +2.7**
	SNR=1.0					
AVF				*e*Sg	**Sg**	**09 58 39.7 -1.9**
	3.6nm,0.4s,SNR=1.0					
HAU	**Haudompre**	**3.58**	**352**	*e*P	**Pn**	**09 57 46.8 +3.0**
	SNR=1.0					
HAU				*e*Sn	**Sn**	**09 58 23.3 -2.8**
	13nm,0.4s,SNR=1.0					
HAU	**Haudompre**	**3.58**	**352**	*e*P	**Pn**	**09 57 46.8 +3.0**
	SNR=1.0					

LOR	**Lormes**	**3.62**	**322**	*e*P	**Pn**	**09 57 47.1 +2.8**
	baz=144,SNR=1.0					
LOR				*e*Sn	**Sn**	**09 58 24.2 -2.7**
LOR				*e*Sg	**Sg**	**09 58 43.1 -1.4**
	5.9nm,0.3s					
LOR	**Lormes**	**3.62**	**322**	*e*P	**Pn**	**09 57 47.1 +2.8**
	SNR=1.0					
LOR				*e*Sg	**Sg**	**09 58 43.1 -1.4**
	3.0nm,0.3s					
SSF	**Saint Saulge**	**3.63**	**317**	*e*P	**Pn**	**09 57 47.3 +2.9**
	SNR=1.0					
SSF	**Saint Saulge**	**3.63**	**317**	*e*Pg	**Pg**	**09 57 58.4 +0.5**
SSF				*e*Sn	**Sn**	**09 58 24.5 -2.7**
	7.2nm,0.4s,SNR=1.0					
SSF				*e*Sg	**Sg**	**09 58 43.3 -1.6**
	6.1nm,0.4s					
SSF	**Saint Saulge**	**3.63**	**317**	*e*P	**Pn**	**09 57 47.3 +2.9**
	SNR=1.0					
SSF	**Saint Saulge**	**3.63**	**317**	*e*Pg	**Pg**	**09 57 58.4 +0.5**
CAF	**Calviac**	**3.65**	**279**	*e*P	**Pn**	**09 57 47.2 +2.5**
	SNR=1.0					
CAF	**Calviac**	**3.65**	**279**	*e*P	**Pn**	**09 57 47.2 +2.5**
	SNR=1.0					
BGF	**Bois d'Agland**	**3.67**	**306**	*e*P	**Pn**	**09 57 48.0 +3.0**
	SNR=1.0					
BGF	**Bois d'Agland**	**3.67**	**306**	*e*P	**Pn**	**09 57 48.0 +3.0**
	SNR=1.0					
MTLF	**Montolieu**	**3.73**	**254**	*e*P	**Pn**	**09 57 47.7 +1.9**
	SNR=1.0					
MTLF				*e*Sn	**Sn**	**09 58 26.3 -3.3**
	2.0nm,0.2s,SNR=1.0					
MTLF	**Montolieu**	**3.73**	**254**	*e*P	**Pn**	**09 57 47.7 +1.9**
	SNR=1.0					
TCF	**Toulx Ste Croi**	**3.92**	**299**	*e*P	**Pn**	**09 57 51.5 +3.1**
TCF	**Toulx Ste Croi**	**3.92**	**299**	*e*P	**Pn**	**09 57 51.5 +3.1**
CDF	**Champ du Feu**	**3.95**	**1**	*e*Pn	**Pn**	**09 57 48.4 -0.5**
	SNR=1.0					
CDF	**Champ du Feu**	**3.95**	**1**	*e*P	**Pn**	**09 57 51.4 +2.5**
	SNR=1.0					
CDF	**Champ du Feu**	**3.95**	**1**	*e*Pg	**Pg**	**09 58 02.5 -1.5**
CDF				*e*Sn	**Sn**	**09 58 32.9 -2.3**
	4.2nm,0.3s,SNR=1.0					
CDF	**Champ du Feu**	**3.95**	**1**	*e*Pn	**Pn**	**09 57 48.4 -0.5**
	SNR=1.0					
CDF	**Champ du Feu**	**3.95**	**1**	*e*P	**Pn**	**09 57 51.4 +2.5**
	SNR=1.0					
CDF	**Champ du Feu**	**3.95**	**1**	*e*Pg	**Pg**	**09 58 02.5 -1.5**
CDF				*e*Sn	**Sn**	**09 58 32.9 -2.3**
	2.1nm,0.3s,SNR=1.0					
SFTF	**Sexfontaines**	**4.01**	**340**	*e*P	**Pn**	**09 57 52.8 +3.1**
	baz=155					
SFTF				*e*Sn	**Sn**	**09 58 33.6 -3.0**
	7.3nm,0.3s					
SFTF	**Sexfontaines**	**4.01**	**340**	*e*P	**Pn**	**09 57 52.8 +3.1**
PAGF	**Fort de Pagny**	**4.20**	**347**	*e*P	**Pn**	**09 57 55.5 +3.2**
	baz=173					
PAGF				*e*Sn	**Sn**	**09 58 38.1 -3.3**
	2.0nm,0.4s					
PAGF	**Fort de Pagny**	**4.20**	**347**	*e*P	**Pn**	**09 57 55.5 +3.2**
LDF	**La Druitiere**	**6.49**	**312**	*e*P	**Pn**	**09 58 26.6 +3.0**
LDF	**La Druitiere**	**6.49**	**312**	*e*P	**Pn**	**09 58 26.6 +3.0**
GRR	**Gorron**	**6.77**	**308**	*e*Pn	**Pn**	**09 58 26.5 -1.1**
GRR	**Gorron**	**6.77**	**308**	*e*P	**Pn**	**09 58 31.7 +4.1**
GRR	**Gorron**	**6.77**	**308**	*e*P	**Pn**	**09 58 31.7 +4.1**

MAN 12 10:01:33.9±0.56N×122.99E±0.2,h32km±2km,mb3.8,ML2.6,MS2.1,
1C,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.13**	**340**	*e*P	Pn	10 01 52.5	-0.1
GUIM				*e*S	Sn	10 02 06.2	-0.9
MSLP	**Maasin**	**1.93**	**73**	*e*P	Pn	10 02 04.2	+0.6
MSLP				*e*S	Sn	10 02 25.2	-1.7
RCP	**Roxas**	**2.00**	**353**	*e*P	Pn	10 02 05.9	+1.3
RCP				*e*S	Sn	10 02 29.5	+0.9

IDC ***12*** *10:06:53.2±1.2,3.58S×145.97E,h0km,mb3.8/9,*
mb1 4.1/11,mb1mx3.8/46,mbtmp3.9/11,ML4.0/1,MS3.7/28,
Ms1 3.7/28,ms1mx3.6/43,Error ellipse: s-maj=43.1km
s-min=18.0km az=102.0
ISCJB ***12*** *10:06:55.2±0.7,3.64S±0.08×146.0E±0.2,h25km,mb3.7/9,*
MS3.7/24,Error ellipse: s-maj=25.5km s-min=11.4km
az=5.6
GCMT ***12*** *10:06:56.0±0.4,3.37S×146.22E,h18km±2km,MW4.8/69,*
Moment Tensor Solution. s13,c14; s69,c99; Duration:
0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.45±.15;
Mθθ0.07±.10; Mϕϕ0.38±.12; Mrθ-0.69±.29; Mrϕ 1.56±.08;
Mθϕ0.84±.30; Best double couple: Mo1.93500×10¹⁶
NP1:ϕs182.00000°,δ71.00000°,λ-151.00000°. NP2:
ϕs82.00000°,δ63.00000°,λ-22.00000°. Principal axes: T
1.8060, Plg5.0000°, Azm310.0000°; N 0.2570,
Plg56.0000°, Azm213.0000°; P -2.0640, Plg34.0000°,
Azm44.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.

ISC 12 10:06:56.9±0.9,3.6S±0.1×146.0E±0.3,h25km,n33,
σ0.99/11,mb3.8/8,MS3.8/24,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.87**	**169**	Pn	**Pn**	**10 08 22.2**	**-0.1**
	2.6nm,0.3s,baz=346,slow=8.3,SNR=6.6						
PMG				LR	LR	10 10 30.6	
	comp=Z,358nm,18.1s,baz=354,slow=37						
HNR	**Honiara**	**14.99**	**113**	LR	LR	10 16 14.0	
	comp=Z,193nm,18.2s,baz=279,slow=37						
GUMO	**Guam**	**17.12**	**356**	LR	LR	10 15 30.4	
	comp=Z,205nm,20.3s,baz=146,slow=30						
WRA	**Warramunga Arr**	**19.84**	**214**	P	**P**	**10 11 26.2**	**+0.1**
	0.5nm,0.3s,baz=38,slow=12,SNR=46						
WRA				LR	LR	10 19 20.6	
	comp=Z,222nm,19.8s,baz=45,slow=38						
DAV	**Davao City (W)**	**23.00**	**297**	LR	LR	10 20 45.4	
	comp=Z,56nm,19.2s,baz=128,slow=36						
ASAR	**Alice Springs**	**23.13**	**209**	P	**P**	**10 12 00.9**	**-0.4**
	1.7nm,0.5s,baz=44,slow=7.6,SNR=56						
ASAR				LR	LR	10 21 27.9	
	comp=Z,118nm,20.1s,baz=13,slow=38						
FITZ	**Fitzroy Crossi**	**24.62**	**233**	P	**P**	**10 12 15.0**	**-0.5**
	4.0nm,0.7s,baz=54,slow=8.7,SNR=8.1						
DZM	**Mont Dzumac**	**27.00**	**135**	LR	LR	10 22 00.9	
	comp=Z,240nm,19.0s,baz=316,slow=34						
STKA	**Stephens Creek**	**28.43**	**188**	LR	LR	10 25 12.1	
	comp=Z,214nm,19.0s,baz=12,slow=39						
JHJ	**Hachijo jima 2**	**37.00**	**351**	LR	LR	10 29 10.3	
	comp=Z,122nm,18.2s,baz=106,slow=36						
JNU	**Nakatsue**	**39.25**	**340**	LR	LR	10 29 46.0	
	comp=Z,78nm,18.3s,baz=138,slow=35						
NWAO	**Narrogin (SRO)**	**39.70**	**219**	LR	LR	10 32 15.2	
	comp=Z,231nm,20.4s,baz=294,slow=38						
MJAR	**Matsushiro Anr**	**40.60**	**350**	P	**P**	**10 14 34.1**	**-0.6**
	1.4nm,0.7s,baz=174,slow=7.4,SNR=3.5						
AFI	**Afiamalu**	**42.87**	**107**	LR	LR	10 29 12.1	
	comp=Z,106nm,20.2s,baz=87,slow=31						
KSRS	**Korea Array**	**44.19**	**339**	LR	LR	10 29 59.2	
	comp=Z,91nm,21.2s,baz=170,slow=31						
PSI	**Prapat**	**47.51**	**277**	LR	LR	10 40 39.8	
	comp=Z,55nm,18.7s,baz=294,slow=43						
CMAR	**Chiang Mai Arr**	**51.29**	**297**	LR	LR	10 38 02.8	
	comp=Z,17nm,19.3s,baz=114,slow=36						
PETK	**Petropavlovsk-**	**57.36**	**8**	LR	LR	10 37 28.6	
	comp=Z,15nm,21.3s,baz=198,slow=32						
SONM	**Songino Array**	**61.86**	**331**	P	**P**	**10 17 13.3**	**-0.9**
	0.2nm,0.6s,baz=119,slow=8.4,SNR=2.9						
SONM				LR	LR	10 43 35.8	
	comp=Z,92nm,19.5s,baz=162,slow=36						
VNDA	**Vanda**	**74.34**	**176**	LR	LR	10 48 49.7	
	comp=Z,60nm,18.2s,baz=350,slow=34						
MKAR	**Makanchi Array**	**75.05**	**320**	P	**P**	**10 18 35.8**	**-0.8**
	0.7nm,0.9s,baz=102,slow=6.6,SNR=2.8						
MKAR				LR	LR	10 53 03.5	
	comp=Z,39nm,18.5s,baz=22,slow=37						
ZALV	**Zalesovo Beam**	**76.48**	**328**	LR	LR	10 51 13.1	
	comp=Z,39nm,21.7s,baz=68,slow=35						
KDAK	**Kodiak Island**	**78.28**	**29**	LR	LR	10 46 12.2	
	comp=Z,66nm,21.8s,baz=296,slow=30						
KURBB	**Kurchatov Arra**	**78.75**	**323**	P	**P**	**10 18 58.4**	**+1.1**
	0.3nm,0.2s,baz=100,slow=5.2,SNR=4.7						
AAK	**Ala-Archa**	**78.98**	**315**	LR	LR	10 52 57.6	
	comp=Z,67nm,20.6s,baz=56,slow=35						
ILAR	**Eielson Array**	**83.68**	**23**	P	**P**	**10 19 22.8**	**-0.4**
	0.6nm,0.9s,baz=261,slow=4.0,SNR=4.9						
ILAR				LR	LR	10 49 00.6	
	comp=Z,36nm,21.9s,baz=296,slow=30						
BVAR	**Borovoye Array**	**84.28**	**324**	P	**P**	**10 19 27.9**	**+1.4**
	1.4nm,0.8s,baz=90,slow=8.6,SNR=5.6						
BVAR				LR	LR	10 56 47.7	
	comp=Z,44nm,19.0s,baz=320,slow=36						
GEYT	**Alibeck**	**90.54**	**308**	LR	LR	11 03 33.9	
	comp=Z,51nm,19.1s,baz=0.0,slow=38						
AKTO	**Aktyubinsk**	**91.48**	**320**	LR	LR	11 00 20.1	
	comp=Z,46nm,21.5s,baz=354,slow=35						
YBH	**Yreka Blue Hor**	**93.32**	**49**	LR	LR	10 55 16.0	
	comp=Z,64nm,18.5s,baz=296,slow=31						
NVAR	**Mina Array Bea**	**96.67**	**52**	LR	LR	10 59 18.8	
	comp=Z,45nm,18.4s,baz=92,slow=32						
YKA	**Yellowknife Ar**	**97.52**	**28**	P	Pdif	10 20 29.2	+0.6
	0.1nm,0.7s,baz=270,slow=4.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**143.51**	**287**	PKP	**PKPdf**	**10 26 32.0**	**+1.4**
	0.4nm,0.7s,baz=54,slow=3.1,SNR=2.9						

ISK ***12*** *10:14:54.6,37.57N×35.66E,h7km,ML2.6/3*
ISCJB ***12*** *10:14:55.7±0.5,37.55N±0.03×35.69E±0.04,h7km±6km,*
Error ellipse: s-maj=5.6km s-min=4.2km az=43.7
CSEM ***12*** *10:14:55.7±0.2,37.55N×35.69E,h10km,ML2.6,Error*
ellipse: s-maj=5.1km s-min=3.5km az=82.0
DDA ***12*** *10:14:55.6,37.52N×35.70E,h7km,Ml2.7*

ISC 12 10:14:55.7±0.9,37.55N±0.03×35.67E±0.03,h11km±8km,
n22,σ0.67/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.14**	**121**	PG	**Pg**	**10 14 58.4**	**-0.6**
KOZT	**Kozan**	**0.14**	**121**	*i* Pg	**Pg**	**10 14 58.4**	**-0.6**
AKO	**Adana**	**0.20**	**243**	*i* P	**Pg**	**10 15 00.0**	**0.0**
AKO				*i* S	**Sg**	**10 15 03.9**	**+0.8**
SAIM	**ADANA**	**0.53**	**37**	*i* P	**Pg**	**10 15 06.3**	**+0.2**
SAIM				*i* S	**Sb**	**10 15 14.6**	**-0.3**
SAIM	**ADANA**	**0.53**	**37**	P	**Pg**	**10 15 06.3**	**+0.2**
SAIM				S	**Sb**	**10 15 14.6**	**-0.3**
ANDN	**Andirin**	**0.54**	**87**	*i* P	**Pg**	**10 15 05.4**	**-0.8**
ANDN				*i* S	**Sg**	**10 15 13.7**	**+0.4**
ANDN	**Andirin**	**0.54**	**87**	P	**Pg**	**10 15 05.4**	**-0.8**
ANDN				S	**Sg**	**10 15 13.7**	**+0.4**
CEYT	**Ceyhan**	**0.55**	**174**	PG	**Pg**	**10 15 06.2**	**-0.1**
CEYT				SG	**Sb**	**10 15 14.4**	**-0.7**
CEYT	**Ceyhan**	**0.55**	**174**	*e*Pg	**Pg**	**10 15 06.2**	**-0.1**
CEYT				*e*Sg	**Sb**	**10 15 14.4**	**-0.7**
YAHY	**KAYSERI_Yahyal**	**0.59**	**336**	*i* P	**Pb**	**10 15 08.0**	**-0.2**
YAHY				*i* S	**Sg**	**10 15 15.0**	**-0.2**
YAHY	**KAYSERI_Yahyal**	**0.59**	**336**	P	**Pb**	**10 15 08.0**	**-0.2**
YAHY				S	**Sg**	**10 15 15.0**	**-0.2**
DED	**Mersin**	**0.91**	**230**	*i* P	**Pb**	**10 15 13.6**	**0.0**
DED				*i* S	**Sb**	**10 15 26.1**	**+0.4**
KMRS	**Kahramanmaras**	**0.98**	**92**	PG	**Pg**	**10 15 14.0**	**-0.5**
KMRS	**Kahramanmaras**	**0.98**	**92**	*e*Pg	**Pg**	**10 15 14.0**	**-0.5**
BNN	**Bunyan**	**1.30**	**6**	PN	**Pn**	**10 15 19.4**	**-0.6**
BNN	**Bunyan**	**1.30**	**6**	*e*Pn	**Pn**	**10 15 19.4**	**-0.6**
ELBS	**KAHRAMANMARAS**	**1.39**	**56**	*i* P	**Pb**	**10 15 21.7**	**0.0**
ELBS				*i* S	**Sg**	**10 15 42.3**	**+1.9**
ELBS	**KAHRAMANMARAS**	**1.39**	**56**	P	**Pb**	**10 15 21.7**	**0.0**
ELBS				S	**Sg**	**10 15 42.3**	**+1.9**
YAYL	**Yayladag**	**1.56**	**167**	PN	**Pn**	**10 15 23.6**	**+0.2**
YAYL	**Yayladag**	**1.56**	**167**	*e*Pn	**Pn**	**10 15 23.6**	**+0.2**
DARE	**Darende-Malaty**	**1.75**	**54**	PN	**Pn**	**10 15 26.5**	**+0.4**
DARE	**Darende-Malaty**	**1.75**	**54**	*e*Pn	**Pn**	**10 15 26.5**	**+0.4**

MEX 12 10:15:31.9±0.8,19.20N×102.76W,h30km±32km,MD3.5,
Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZ5V		**0.85**	**290**	*i* P	Pn	10 15 45.2	-2.8
EZ5V				*e*S	Sb	10 15 56.9	-2.5
MMIG	**Aquila**	**1.06**	**212**	*e*P	Pn	10 15 48.0	-2.8
MMIG				*e*S	Sn	10 16 02.2	-2.4
SFJM	**Santa Fe**	**1.31**	**348**	*i* P	Pn	10 15 51.9	-2.5
SFJM				*i* S	Sn	10 16 08.8	-2.2
MOIG	**Morelia**	**1.56**	**72**	*e*P	Pn	10 15 56.1	-1.2
MOIG				*e*S	Sn	10 16 14.4	-2.7
CJM	**Chamela**	**2.18**	**278**	*e*P	Pn	10 16 04.5	-1.6
CJM				*i* S	Sn	10 16 30.2	-2.0
ARIG	**Puente Sto Nin**	**2.46**	**111**	*i* P	Pn	10 16 08.6	-1.4
ARIG				*i* S	Sn	10 16 36.4	-2.7

ISCJB ***12*** *10:17:11.8±0.8,31.54S±0.03×68.76W±0.05,h107km±7km,*
Error ellipse: s-maj=7.3km s-min=4.6km az=19.4
SJA ***12*** *10:17:11.4±1.2,31.53S×68.76W,h103km±4km,ML2.9,*
MW3.4
GUC ***12*** *10:17:12.0±0.6,31.60S×68.92W,h100km,ML3.0*

**ISC 12 10:17:12.3±1.5,31.54S±

0.5nm,0.3s,baz=76,slow=26,SNR=7.4

IDC 12 10:33:13.3±2.1,6°62S×129°98E,h0km,mb3.3/1, mb1 3.7/4,mb1mx3.3/60,mbtmp3.5/4,ML3.7/3,Error ellipse: s-maj=83.5km s-min=27.7km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.17**	**200**	Pn	Pn	10 36 08.6	+0.5
	0.5nm,0.3s,baz=28,slow=13,SNR=24						
FITZ				Sn	Sn	10 38 09.8	-15
	0.2nm,0.3s,baz=225,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**13.90**	**163**	Pn	Pn	10 36 31.5	-0.3
	0.4nm,0.3s,baz=342,slow=14,SNR=24						
WRA				Sn	Sn	10 38 52.4	-15
	0.4nm,0.3s,baz=334,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.36**	**168**	P	Pn	10 37 17.0	-0.3
	0.1nm,0.3s,baz=338,slow=11,SNR=13						
ASAR				S	Sn	10 40 18.0	-13
	0.1nm,0.3s,baz=352,slow=26,SNR=5.7						
MKAR	**Makanchi Array**	**67.90**	**327**	P	P	10 44 13.9	0.0
	0.1nm,0.4s,baz=116,slow=8.0,SNR=4.2						

JMA 12 10:41:21.1±0.1,39°15N×142°35E,h35km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.53**	**263**	P	Pn	10 41 32.0	-0.2
OFUJ				S	Sn	10 41 39.5	-0.5
MIYJ	**Miyakonagasawa**	**0.59**	**316**	P	Pn	10 41 32.7	-0.3
MIYJ				S	Sn	10 41 40.7	-0.8
JTH	**Tanohata**	**0.87**	**335**	P	Pn	10 41 36.5	-0.4
JTH				eS	Sn	10 41 47.7	-0.7
JOM	**Ohasama**	**0.88**	**292**	P	Pn	10 41 37.3	+0.3
JOM				eS	Sn	10 41 48.8	+0.2
JMK	**Ichinoseki**	**0.90**	**258**	P	Pn	10 41 37.4	+0.1
JMK				eS	Sn	10 41 49.2	+0.1
JIO	**Ouri**	**1.05**	**229**	P	Pn	10 41 38.8	-0.4
JKZ	**Kuzumaki**	**1.15**	**317**	P	Pn	10 41 41.4	+0.7
JKZ				eS	Sn	10 41 55.9	+0.7
JRG	**Rokugo**	**1.35**	**281**	P	Pn	10 41 44.6	+1.1
JRG				eS	Sn	10 42 02.6	+2.3
JANG	**Nango**	**1.38**	**332**	P	Pn	10 41 44.8	+0.9
JANG				eS	Sn	10 42 02.0	+1.1

*NNC **12** 10:44:50.6±4.9,48°48N×78°05E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=58.6km s-min=11.5km az=65.0, Suspected Mining explosion.*
*IDC **12** 10:44:52.6±2.9,48°71N×77°81E,h0km,mb1 2.6/2, mb1mx2.5/67,mbtmp2.6/2,ML2.0/2,Error ellipse: s-maj=43.3km s-min=12.7km az=75.0*
ISC 12 10:44:52.1±1.8,48°62N±0°08×77°7E±0°1,h0km,n8, σt^{2}01/9,2C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.08**	**15**	Pn	**Pn**	**10 45 27.7**	**-0.5**
	0.6nm,0.3s,baz=201,slow=16,SNR=25						
KURBB				Lg	Lg	10 45 54.5	
	0.4nm,0.3s,baz=198,slow=29,SNR=12						
KURK	**Kurchatov**	**2.19**	**16**	⇓Pn	**Pn**	**10 45 30.2**	**+0.5**
	4.9nm,0.6s						
KURK				⇓Sn	**Sn**	**10 45 58.8**	**+1.3**
	5.9nm,0.5s						
MAKZ	**Makanchi**	**3.43**	**120**	⇑Pg	**Pn**	**10 45 46.6**	**-0.2**
	1.9nm,0.8s						
MAKZ				⇓Lg	Lg	10 46 32.1	
	2.7nm,0.8s						
MK31	**Makanchi Array**	**3.62**	**119**	⇓Pg	**Pn**	**10 45 49.8**	**+0.3**
	0.7nm,0.6s,baz=310,slow=9.7,SNR=9.8						
MK31				⇑Lg	Lg	10 46 40.1	
	1.3nm,0.5s,baz=308,slow=26,SNR=11						
MKAR	**Makanchi Array**	**3.62**	**119**	Pn	**Pn**	**10 45 49.9**	**+0.4**
	0.2nm,0.3s,baz=302,slow=12,SNR=12						
MKAR				Lg	Lg	10 46 40.3	
	0.5nm,0.3s,baz=303,slow=27,SNR=17						
BVAR	**Borovoye Array**	**6.37**	**316**	Sn	**Sn**	**10 47 40.2**	**-0.5**
	0.1nm,0.3s,baz=132,slow=26,SNR=2.0						
BVAR				Lg	Lg	10 48 07.7	
	0.1nm,0.3s,baz=130,slow=25,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**6.97**	**37**	*i*		11 28 00.0	
	baz=218,slow=326,SNR=1.8						
ZALV	**Zalesovo Beam**	**6.97**	**37**	Pn	**Pn**	**10 46 35.9**	**+0.6**
	0.1nm,0.3s,baz=221,slow=15,SNR=3.2						
ZALV				Sn	**Sn**	**10 47 53.5**	**-1.7**
	0.2nm,0.3s,baz=221,slow=31,SNR=3.4						

MEX 12 10:53:16.7±0.9,17°09N×95°07W,h134km±18km,MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.60**	**270**	*e*P	Pn	10 53 45.3	-1.1
VHO				*i* S	Sn	10 54 07.2	-1.7
HUIG	**Huatulco**	**1.65**	**217**	*i* P	Pn	10 53 44.8	-2.0
HUIG				*e*S	Sn	10 54 08.6	-1.3
TGIG		**1.89**	**99**	*e*P	Pn	10 53 48.9	-0.7
TGIG				*e*S	Sn	10 54 12.5	-2.3
PCIG		**2.25**	**128**	*i* P	Pn	10 53 52.1	-1.8
PCIG				*e*S	Sn	10 54 21.4	-1.1
PNIG	**Pinotepa**	**3.02**	**257**	*e*P	Pn	10 54 00.9	-2.8
PNIG				*i* S	Sn	10 54 33.7	-2.7

*ISK **12** 10:53:38.9,39°00N×41°11E,h12km,ML2.7/3*
*CSEM **12** 10:53:38.7±0.3,39°03N×41°09E,h8km,MD2.7, Error ellipse: s-maj=6.6km s-min=4.7km az=72.0*
*ISCJB **12** 10:53:39.2±0.8,39°03N±0°04×41°08E±0°06,h10km±5km, Error ellipse: s-maj=8.3km s-min=5.9km az=157.2*
*DDA **12** 10:53:39.4,39°05N×41°21E,h7km,Md2.7*
ISC 12 10:53:39.1±1.0,39°04N±0°03×41°11E±0°05,h11km±7km, n17,σt^{2}55/29,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGL	**BINGOL**	**0.09**	**160**	*i* P	**Pg**	**10 53 41.8**	**-0.1**
BNGL				*i* S	**Sg**	**10 53 44.7**	**+0.7**
ECAT	**Cat-ERZURUM**	**0.57**	**350**	*i* P	**Pg**	**10 53 50.5**	**+0.1**
ECAT				*i* S	**Sb**	**10 53 59.9**	**+0.3**
ECAT	**Cat-ERZURUM**	**0.57**	**350**	P	**Pg**	**10 53 50.5**	**+0.1**
ECAT				S	**Sb**	**10 53 59.9**	**+0.3**
EKAR	**Karacoban**	**0.77**	**74**	P	**Pg**	**10 53 53.6**	**-0.5**
EKAR				*i* S	**Sn**	**10 54 08.4**	**+0.5**
EKAR	**Karacoban**	**0.77**	**74**	P	**Pg**	**10 53 53.6**	**-0.5**
GURO	**Guroymak-BITLI**	**0.87**	**124**	PG	**Pb**	**10 53 56.4**	**+0.1**
GURO				SG	**Sg**	**10 54 07.3**	**0.0**
GURO	**Guroymak-BITLI**	**0.87**	**124**	*e*Pg	**Pb**	**10 53 56.4**	**+0.1**
GURO				*e*Sg	**Sg**	**10 54 07.3**	**0.0**
ERZM	**Erzurum**	**0.89**	**13**	*i* P	**Pg**	**10 53 55.3**	**-1.0**
ERZM				*i* S	**Sb**	**10 54 09.3**	**+0.7**
ERZM	**Erzurum**	**0.89**	**13**	P	**Pg**	**10 53 55.3**	**-1.0**
ERZM				S	**Sb**	**10 54 09.3**	**+0.7**
SRTM	**Siirt_Merkez**	**1.23**	**148**	*i* P	**Pb**	**10 54 01.5**	**-0.9**
SRTM				*i* S	**Sn**	**10 54 19.6**	**+0.7**
SRTM	**Siirt_Merkez**	**1.23**	**148**	P	**Pb**	**10 54 01.5**	**-0.9**
SRTM				S	**Sn**	**10 54 19.6**	**+0.7**
PTK	**Pertek**	**1.35**	**264**	PN	**Pn**	**10 54 03.7**	**-0.3**
PTK	**Pertek**	**1.35**	**264**	*e*Pn	**Pn**	**10 54 03.7**	**-0.3**
AGRB	**Hanur-Agry**	**1.56**	**69**	PN	**Pb**	**10 54 07.8**	**-0.2**
AGRB				SN	**Sn**	**10 54 27.7**	**+0.5**
AGRB	**Hanur-Agry**	**1.56**	**69**	*e*Pn	**Pb**	**10 54 07.8**	**-0.2**
AGRB				*e*Sn	**Sn**	**10 54 27.7**	**+0.5**
MAZI	**Mazidag**	**1.66**	**198**	PN	**Pn**	**10 54 08.2**	**-0.1**
MAZI	**Mazidag**	**1.66**	**198**	*e*Pn	**Pn**	**10 54 08.2**	**-0.1**

*ISCJB **12** 10:57:41.5±1.2,71°40N±0°10×9°1W±0°6,h10km,Error ellipse: s-maj=30.8km s-min=6.8km az=156.5*
*BER **12** 10:57:44.9±0.7,71°27N×8°91W,h10km,ML3.0*
ISC 12 10:57:41.4±1.2,71°40N±0°10×9°0W±0°2,h10km,n5, σt^{2}09/10,4C,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.41**	**154**	⇑*i*P	**Pb**	**10 57 51.2**	**+0.5**
JNW				*e*S	**Sb**	**10 57 55.9**	**-1.1**
JNW				IAML		10 57 57.7	
	comp=Z,1μm,0.2s						
JMIC	**Jan Mayen**	**0.44**	**159**	⇑*i*P	**Pb**	**10 57 51.3**	**0.0**
JMIC				*e*S	**Sg**	**10 57 56.1**	**+0.3**
JMIC				IAML		10 57 58.1	
	comp=Z,2μm,0.4s						
JNE	**Jan Mayen East**	**0.47**	**151**	⇑*i*P	**Pb**	**10 57 51.9**	**+0.2**
JNE				*e*S	**Sg**	**10 57 56.5**	**-0.1**
JNE				IAML		10 57 57.7	
	comp=Z,2μm,0.1s						
JMI	**Jan Mayen**	**0.48**	**170**	⇑*i*P	**Pb**	**10 57 51.8**	**-0.1**
JMI				*e*S	**Sg**	**10 57 57.2**	**+0.3**
JMI				IAML		10 57 58.7	
	comp=Z,607nm,0.3s						
DAG	**Danmarks Havn**	**6.01**	**338**	*i* P	**Pn**	**10 59 11.6**	**+1.4**
DAG				*i* S	**Sn**	**11 00 16.8**	**-2.1**

IDC 12 11:06:56.4±0.8,18°53N×145°87E,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.6/63,mbtmp3.8/8,Error ellipse: s-maj=32.7km s-min=19.8km az=98.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.87**	**197**	P	P	11 14 32.2	+0.2
	3.2nm,0.7s,baz=18,slow=9.6,SNR=56						
ASAR	**Alice Springs**	**43.53**	**196**	P	P	11 15 01.6	-0.5
	0.6nm,0.4s,baz=11,slow=6.4,SNR=23						
MKAR	**Makanchi Array**	**58.70**	**314**	P	P	11 16 56.8	+0.8
	0.2nm,0.5s,baz=81,slow=8.9,SNR=1.7						
KURBB	**Kurchatov Arra**	**61.55**	**318**	P	P	11 17 15.7	+0.3
	0.7nm,0.4s,baz=94,slow=7.2,SNR=5.4						
ILAR	**Eielson Array**	**63.73**	**26**	P	P	11 17 30.1	+0.4
	0.9nm,1.1s,baz=253,slow=7.3,SNR=4.2						
BVAR	**Borovoye Array**	**66.71**	**320**	P	P	11 17 48.4	-0.9
	0.7nm,0.5s,baz=79,slow=7.5,SNR=4.6						
YKA	**Yellowknife Ar**	**78.06**	**28**	P	P	11 18 55.8	-1.0
	0.1nm,0.4s,baz=284,slow=5.2,SNR=2.6						
NVAR	**Mina Array Bea**	**83.11**	**52**	P	P	11 19 25.8	+1.0
	0.7nm,0.6s,baz=266,slow=6.9,SNR=6.6						

*ISCJB **12** 11:07:41.9±1.1,35°53N±0°07×140°17E±0°08,h10km, mb3.5/2,Error ellipse: s-maj=9.7km s-min=9.4km az=163.1*
*JMA **12** 11:07:43.3,35°58N×140°07E,h4km,M2.9*
JMA Felt I J1.
*IDC **12** 11:07:44.5±2.5,35°23N×139°56E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.1/67,mbtmp3.4/2,Error ellipse: s-maj=70.7km s-min=13.8km az=60.0*
ISC 12 11:07:43.5±1.3,35°58N±0°08×140°06E±0°08,h10km,n8, σt^{2}82/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.65**	**9**	P	**Pg**	**11 07 56.3**	**+0.2**
JHU	**Hanno**	**0.69**	**293**	P	**Pg**	**11 07 57.1**	**+0.3**
JHU				S	**Sb**	**11 08 06.8**	**-0.4**
JOD2	**Odawara 2**	**0.86**	**248**	P	**Pb**	**11 08 00.2**	**-0.3**
JOD2				*e*S	**Sb**	**11 08 12.3**	**+0.3**
JAG	**Ashikaga**	**0.97**	**330**	P	**Pg**	**11 08 02.0**	**-0.2**
MJAR	**Matsushiro Arr**	**1.78**	**303**	Pg	**Pn**	**11 08 14.8**	**+0.5**
	3.9nm,0.3s,baz=138,slow=14,SNR=26						
MJAR				Lg	Lg	11 08 37.7	
	3.9nm,0.3s,baz=151,slow=10,SNR=7.6						
MAT	**Matsushiro**	**1.78**	**303**	P	**Pn**	**11 08 15.0**	**+0.6**
MAT				S	**Sb**	**11 08 38.4**	**-0.3**
WRA	**Warramunga Arr**	**55.49**	**187**	P	**P**	**11 17 16.9**	**-1.7**
	0.7nm,0.9s,baz=2.3,slow=7.6,SNR=4.6						
ASAR	**Alice Springs**	**59.22**	**187**	P	**P**	**11 17 46.1**	**+1.2**
	0.3nm,0.8s,baz=5.7,slow=9.2,SNR=5.2						

*IDC **12** 11:25:54.9±0.6,29°83N×139°92E,h0km,mb4.1/20, mb1 4.2/23,mb1mx4.0/67,mbtmp4.0/23,ML3.0/2,MS3.6/18, Ms1 3.6/18,ms1mx3.3/56,Error ellipse: s-maj=17.8km s-min=14.5km az=74.0*
*ISCJB **12** 11:25:57.8±0.3,29°78N±0°04×139°84E±0°06,h33km, mb4.2/39,MS3.6/15,Error ellipse: s-maj=8.6km s-min=4.3km az=149.5*
*NEIC **12** 11:25:58.6±1.8,29°79N×139°87E,h24km±12km,mb4.7/10, Error ellipse: s-maj=7.2km s-min=5.4km az=67.0*
*MOS **12** 11:25:58.0±1.0,29°85N×139°78E,h31km,mb4.5/27,Error ellipse: s-maj=13.8km s-min=6.2km az=102.8*
ISC 12 11:25:60.0±0.5,29°80N±0°07×139°89E±0°08,h35km,n105, σt^{2}83/93,mb4.2/39,MS3.5/15,7C,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.37**	**143**	*e*Pn	**Pn**	**11 26 49.0**	**-1.1**
CBIJ				*e*Sn	**Sn**	**11 27 27.9**	**-0.9**
JCJ	**Chichijima**	**3.37**	**143**	Pn	**Pn**	**11 26 49.0**	**-1.2**
	152nm,0.3s,baz=341,slow=3.7,SNR=39						
JCJ				Sn	**Sn**	**11 27 27.9**	**-0.9**
	64nm,0.3s,baz=278,slow=23,SNR=6.1						
MJAR	**Matsushiro Arr**	**6.87**	**349**	Pn	**Pn**	**11 27 38.3**	**+0.1**
	0.3nm,0.3s,baz=141,slow=16,SNR=4.5						
MJAR				LR	LR	11 30 25.6	
	comp=Z,321nm,19.0s,baz=150,slow=40						
MAJO	**Matsushiro**	**6.87**	**349**	*i* P	**Pn**	**11 27 36.5**	**-1.7**
MAJO	**Matsushiro**	**6.87**	**349**	*e*Pn	**Pn**	**11 27 38.2**	**0.0**
MAT	**Matsushiro**	**6.87**	**349**	P	Pn	11 27 45.1	+6.9
JNU	**Nakatsue**	**8.38**	**296**	LR	LR	11 31 03.8	
	comp=Z,607nm,18.6s,baz=108,slow=37						
KSRS	**Korea Array**	**12.55**	**311**	Pn	**Pn**	**11 28 56.0**	**+0.1**
	0.1nm,0.3s,baz=115,slow=11,SNR=2.7						
KSRS				LR	LR	11 33 23.4	
	comp=Z,216nm,18.9s,baz=116,slow=36						
KS15	**Wonju Array Si**	**12.57**	**310**	*e*Pn	**Pn**	**11 28 56.0**	**-0.2**
KSAR	**Wonju Array Be**	**12.57**	**310**	P	**Pn**	**11 28 56.0**	**-0.2**
KSAR	**Wonju Array Be**	**12.57**	**310**	Pn	**Pn**	**11 28 56.0**	**-0.2**
GUMO	**Guam**	**16.78**	**163**	LR	LR	11 34 35.2	
	comp=Z,106nm,20.2s,baz=113,slow=31						
YSS	**Yuzh-Sakhalins**	**17.27**	**7**	⇑*e*P	**Pn**	**11 29 58.8**	**+0.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**20.37**	**345**	P	**P**	**11 30 32.6**	**-0.8**
	comp=Z,0.1nm,0.8s,baz=174,slow=5.4,SNR=5.0						
KLR	**Kul'dur**	**20.37**	**345**	*i* P	**P**	**11 30 33.4**	**0.0**
TYV	**Tymovskoe**	**21.14**	**5**	*e*P	**P**	**11 30 41.9**	**+0.2**
TYV				*e*		11 34 36.2	
TYV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TYV				pmax	pmax		
	comp=Z,100nm,3.4s						
TYV				MLR	MLR		
	comp=Z,400nm,21.0s						
NKL	**Nikolayevsk**	**23.34**	**1**	*e*P	**P**	**11 31 04.4**	**-0.5**
NKL				pmax	pmax		
	comp=N,16nm,1.1s						
NKL				pmax	pmax		
	comp=Z,38nm,1.1s						
ZEA	**Zeya**	**25.63**	**343**	*e*P	**P**	**11 31 26.1**	**+0.1**
ZEA				pmax	pmax		
	comp=Z,28nm,1.2s						
DAV	**Davao City (W)**	**26.31**	**214**	LR	LR	11 39 57.8	
	comp=Z,133nm,21.8s,baz=328,slow=32						
H11N2	**WAKE ISLAND Hy**	**26.44**	**106**	T	T	11 59 07.2	
	baz=298,slow=75,SNR=65						
H11N1	**WAKE ISLAND Hy**	**26.44**	**106**	T	T	11 59 04.5	
	baz=298,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy**	**26.45**	**106**	T	T	11 59 13.2	
	baz=298,slow=75,SNR=58						
PETK	**Petropavlovsk-**	**26.70**	**24**	LR	LR	11 44 47.5	
	comp=Z,82nm,18.6s,baz=216,slow=42						
H11S3	**WAKE ISLAND Hy**	**26.85**	**109**	T	T	12 00 07.7	
	baz=302,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**26.86**	**109**	T	T	11 59 44.2	
	baz=302,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy**	**26.87**	**109**	T	T	11 59 48.8	
	baz=302,slow=75,SNR=19						
MA2	**Magadan**	**30.68**	**11**	⇑*e*P	**P**	**11 32 11.0**	**0.0**
ULN	**Ulaanbaatar**	**30.98**	**315**	*i* P	**P**	**11 32 12.1**	**-1.9**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONA0	**Songino Array**	**31.38**	**314**	*e*P	**P**	**11 32 18.1**	**+0.6**
SONM	**Songino Array**	**31.38**	**314**	P	**P**	**11 32 18.1**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=133,slow=8.3,SNR=3.7						
SONM				LR	LR	11 43 59.9	
	comp=Z,83nm,18.8s,baz=198,slow=35						
YAK	**Yakutsk**	**32.93**	**351**	*i* P	**P**	**11 32 30.5**	**-0.2**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SEY	**Seymchan**	**34.12**	**10**	P	**P**	**11 32 40.7**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=205,slow=6.3,SNR=12						
SEY	**Seymchan**	**34.12**	**10**	*ce*P	**P**	**11 32 41.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**38.85**	**263**	P	**P**	**11 33 23.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=57,slow=6.6,SNR=2.6						
CMAR				LR	LR	11 49 23.8	
	comp=Z,117nm,20.4s,baz=31,slow=36						
BILL	**Bilibino**	**41.32**	**15**	*e*P	**P**	**11 33 40.6**	**-1.3**
BILL				*e*		11 35 23.4	
BILL				*e*PPP	PPP	11 35 45.3	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TIXI	**Tiksi**	**42.33**	**355**	*ce*P	**P**	**11 33 49.8**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
BATI	**Baumata**	**42.73**	**204**	LR	LR	11 51 23.3	
	comp=Z,18nm,21.3s,baz=24,slow=36						
ZALV	**Zalesovo Beam**	**46.13**	**318**	LR	LR	11 51 59.0	
	comp=Z,44nm,19.3s,baz=76,slow=34						
PSI	**Prapat**	**47.19**	**243**	LR	LR	11 53 38.8	
	comp=Z,34nm,19.5s,baz=35,slow=35						
MK01	**Makanchi Array**	**47.20**	**308**	*e*P	**P**	**11 34 29.8**	**+0.5**
MK31	**Makanchi Array**	**47.21**	**308**	*e*P	**P**	**11 34 29.9**	**+0.5**
MK31	**Makanchi Array**	**47.21**	**308**	*e*P	**P**	**11 34 29.9**	**+0.5**
MK32	**Makanchi Array**	**47.21**	**308**	*e*P	**P**	**11 34 30.0**	**+0.7**
MKAR	**Makanchi Array**	**47.21**	**308**	P	**P**	**11 34 30.0**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=97,slow=8.9,SNR=11						
MKAR				LR	LR	11 53 35.3	
	comp=Z,46nm,19.0s,baz=63,slow=35						
MKAR	**Makanchi Array**	**47.21**	**308**	*e*P	**P**	**11 34 29.5**	**+0.1**
	comp=Z,9.6nm,0.9s						
KURK	**Kurchatov**	**49.66**	**313**	*i* P	**P**	**11 34 47.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURK	**Kurchatov**	**49.66**	**313**	*e*P	**P**	**11 34 48.2**	**+0.1**
KURBB	**Kurchatov Arra**	**49.72**	**313**	P	**P**	**11 34 48.2**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=96,slow=7.6,SNR=4.2						
WRAB	**Tennant Creek**	**49.73**	**187**	*e*P	**P**	**11 34 49.5**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,35nm,1.7s						
WR1	**Warramunga Arr**	**49.74**	**187**	*e*P	**P**	**11 34 49.1**	**+0.1**
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**49.74**	**187**	P	**P**	**11 34 49.1**	**+0.1**
	comp=Z,5.8nm,0.9s,baz=6.2,slow=7.9,SNR=24						
AS01	**Alice Springs**	**53.46**	**187**	*e*P	**P**	**11 35 17.0**	**+0.2**
AS31	**Alice Springs**	**53.47**	**187**	*e*P	**P**	**11 35 16.4**	**-0.5**
	comp=Z,1.5nm,1.3s						
ASAR	**Alice Springs**	**53.47**	**187**	P	**P**	**11 35 15.9**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=3.1,slow=7.9,SNR=6.6						
BVAR	**Borovoye Array**	**54.69**	**316**	P	**P**	**11 35 24.7**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=87,slow=9.1,SNR=5.3						
BVAR				LR	LR	11 57 20.5	
	comp=Z,39nm,19.5s,baz=34,slow=34						
BRVK	**Borovoye**	**54.76**	**316**	*ce*P	**P**	**11 35 26.2**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,20nm,2.5s						
MDM	**Murphy Dome**	**55.77**	**29**	*e*P	**P**	**11 35 33.2**	**+0.1**
	comp=Z,15nm,1.5s						
ILAR	**Eielson Array**	**56.34**	**30**	P	**P**	**11 35 36.4**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=258,slow=6.3,SNR=13						
ILB	**Eielson Array**	**56.34**	**30**	*e*P	**P**	**11 35 36.4**	**-0.7**
ARU	**Arti**	**61.05**	**321**	*c i*P	**P**	**11 36 08.5**	**-1.5**
ARU						11 36 50.6	
ARU						11 38 21.5	
ARU				S	**S**	**11 44 23.8**	**-2.5**
ARU				pmax	pmax		
	comp=Z,16nm,2.5s						
INK	**Inuvik**	**61.43**	**25**	P	**P**	**11 36 12.8**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=337,slow=4.8,SNR=4.8						
INK	**Inuvik**	**61.43**	**25**	*e*P	**P**	**11 36 12.7**	**+0.4**
INK				pmax	pmax		
	comp=Z,12nm,1.6s						
INK	**Inuvik**	**61.43**	**25**	*e*P	**P**	**11 36 12.7**	**+0.4**
	comp=Z,12nm,1.6s						
RES	**Resolute Bay**	**69.91**	**13**	P	**P**	**11 37 06.9**	**0.0**
	comp=Z,4.8nm,0.9s,baz=318,slow=6.1,SNR=19						
RES	**Resolute Bay**	**69.91**	**13**	*e*P	**P**	**11 37 07.2**	**+0.3**
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RES	**Resolute Bay**	**69.91**	**13**	*e*P	**P**	**11 37 07.2**	**+0.3**
	comp=Z,5.8nm,0.9s						
ARA0	**ARCESS Array S**	**70.33**	**340**	*e*P	**P**	**11 37 09.5**	**-0.1**
ARCES	**ARCESS Array B**	**70.33**	**340**	P	**P**	**11 37 09.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=75,slow=10,SNR=6.2						
YKA	**Yellowknife Ar**	**70.73**	**28**	P	**P**	**11 37 12.0**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=293,slow=5.8,SNR=12						
YKA	**Yellowknife Ar**	**70.73**	**28**	P	**P**	**11 37 12.0**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKB5	**Yellowknife Ar**	**70.73**	**28**	*e*P	**P**	**11 37 12.0**	**-0.1**
BEVT	**Boeing Everett**	**73.38**	**44**	*e*P	**P**	**11 37 30.1**	**+1.9**
FIA0	**FINESS Array S**	**74.63**	**333**	*e*P	**P**	**11 37 34.6**	**-0.7**
FIA0	**FINESS Array S**	**74.63**	**333**	*e*P	**P**	**11 37 34.6**	**-0.7**
FINES	**FINESS Array B**	**74.63**	**333**	P	**P**	**11 37 34.6**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=67,slow=5.0,SNR=5.7						
FINES	**FINESS Array B**	**74.63**	**333**	*ce*P	**P**	**11 37 34.5**	**-0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**74.73**	**312**	*e*P	**P**	**11 37 37.0**	**+0.6**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YBH	**Yreka Blue Hor**	**75.87**	**50**	LR	LR	12 03 22.3	
	comp=Z,93nm,20.7s,baz=302,slow=30						
**AK

Ms1 3.3/5,**ms1mx2.9**/53,**Error ellipse: s-maj=223.4km s-min=75.1km az=145.0,North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR 6.14 203**			T	T	11 39 14.1	
	baz=21,slow=74,SNR=41						
H10N1	**ASCENSION HYDR 6.16 203**			T	T	11 39 20.0	
	baz=21,slow=74,SNR=62						
H10N3	**ASCENSION HYDR 6.16 203**			T	T	11 39 18.2	
	baz=21,slow=74,SNR=34						
H10S1	**ASCENSION HYDR 7.23 201**			T	T	11 41 07.5	
	baz=22						
H10S2	**ASCENSION HYDR 7.25 200**			T	T	11 41 05.1	
	baz=22						
H10S3	**ASCENSION HYDR 7.25 201**			T	T	11 41 04.4	
	baz=22						
DBIC	**Dimbokro**	**11.34**	**39**	Pn	Pn	11 34 40.9	-0.1
	baz=216,slow=14						
DBIC				LR	LR	11 38 26.7	
	comp=Z,130nm,20.2s,baz=196,slow=34						
KOWA	**Kowa**	**18.35**	**26**	P	Pn	11 36 13.8	0.0
	0.2nm,0.3s,baz=202,slow=12,SNR=6.0						
KOWA				LR	LR	11 42 21.5	
	comp=Z,85nm,20.6s,baz=209,slow=34						
TORD	**Torodi Ar. Bea**	**20.43**	**42**	P	P	11 36 36.8	+0.1
	2.1nm,0.7s,baz=224,slow=11,SNR=18						
TORD				LR	LR	11 43 51.6	
	comp=Z,91nm,19.1s,baz=265,slow=35						
CPUP	**Villa Florida**	**49.63**	**237**	LR	LR	12 00 20.4	
	comp=Z,30nm,18.2s,baz=58,slow=34						
LPAZ	**La Paz**	**56.88**	**252**	LR	LR	12 05 58.1	
	comp=Z,32nm,18.9s,baz=42,slow=36						
FINES	**FINES Array B**	**69.81**	**18**	P	P	11 43 09.7	0.0
	2.0nm,0.8s,baz=237,slow=5.9,SNR=3.7						

IDC ***12*** *12:05:51.0±1.4,32.66N×86.07E,h0km,mb3.3/4, mb1 3.6/7,mb1mx3.3/74,mbtmp3.5/7,ML2.4/2,Error ellipse: s-maj=45.5km s-min=23.3km az=59.0*

ISCJB ***12*** *12:05:53.7±1.1,32.7N±0.1×86.1E±0.3,h33km,mb3.3/4, Error ellipse: s-maj=35.2km s-min=13.9km az=150.7*

ISC 12 12:05:55.9±1.2,32.7N±0.2×86.1E±0.2,h35km,n7,σ1§19/7, mb3.4/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.38**	**349**	Pn	**Pn**	**12 09 16.1**	**-0.7**
	0.0nm,0.3s,baz=161,slow=12,SNR=7.5						
CMAR	**Chiang Mai Arr**	**18.28**	**138**	Pn	**P**	**12 10 05.1**	**-1.6**
	baz=319,slow=9.5,SNR=2.5						
KURBB	**Kurchatov Arra**	**18.77**	**345**	P	**P**	**12 10 11.6**	**-0.2**
	0.0nm,0.3s,baz=158,slow=11,SNR=12						
SONM	**Songino Array**	**21.54**	**40**	P	**P**	**12 10 43.1**	**+1.0**
	0.8nm,0.9s,baz=231,slow=11,SNR=5.4						
AKASG	**Malin Array Be**	**44.94**	**311**	P	**P**	**12 14 07.8**	**+0.6**
	0.2nm,0.3s,baz=76,slow=8.0,SNR=4.2						
WRA	**Warramunga Arr**	**69.75**	**132**	P	**P**	**12 17 03.7**	**+1.1**
	0.4nm,0.8s,baz=326,slow=6.3,SNR=3.1						
YKA	**Yellowknife Ar**	**83.69**	**10**	P	**P**	**12 18 20.3**	**-0.3**
	0.2nm,0.8s,baz=343,slow=4.8,SNR=6.5						

AUST ***12*** *12:06:51.0±0.0,33.15S×138.31E,h17km,Error ellipse: s-maj=0.2km s-min=0.2km az=302.0*

IDC ***12*** *12:06:54.0±5.9,32.65S×138.36E,h0km,mb1 3.2/3, mb1mx3.1/45,mbtmp3.0/3,ML3.0/3,Error ellipse: s-maj=69.0km s-min=21.0km az=15.0*

ISC 12 12:06:48.7±0.8,33.17S±0.06×138.20E±0.05,h10km,n9, σ2§17/16,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**0.66**	**114**	P	**Pb**	**12 07 02.0**	**-0.3**
	baz=0.6,SNR=442						
HTT				S	**Sb**	**12 07 10.8**	**-0.7**
	baz=0.6						
BBOO	**Buckleboo**	**1.84**	**281**	P	**Pg**	**12 07 24.3**	**+0.3**
	baz=1.9,SNR=69						
BBOO				S	**Sg**	**12 07 48.6**	**+0.8**
	baz=1.9,SNR=12						
STKA	**Stephens Creek**	**3.14**	**67**	Pn	**Pn**	**12 07 40.9**	**+2.5**
	1.5nm,0.3s,baz=249,slow=15,SNR=32						
STKA				Lg	Lg	12 08 23.9	
	3.7nm,0.3s,baz=340,slow=18,SNR=5.0						
STKA	**Stephens Creek**	**3.14**	**67**	P	**Pn**	**12 07 40.8**	**+2.5**
	baz=3.0,SNR=16						
STKA				S	**Sn**	**12 08 17.2**	**+1.3**
	baz=3.0						
ARPS	**Mount Arapiles**	**4.67**	**141**	P	**Pn**	**12 08 00.7**	**+1.5**
	baz=4.6,SNR=23						
ARPS				S	**Sn**	**12 08 52.0**	**-1.6**
	baz=4.6						
CMSA	**Cobar Meteorol**	**6.54**	**78**	P	**Pn**	**12 08 26.2**	**+1.2**
	baz=6.4						
CMSA				S	**Sn**	**12 09 37.2**	**-2.5**
	baz=6.4						
TOO	**Toolangi**	**7.40**	**128**	P	**Pn**	**12 08 37.4**	**+0.6**
	baz=7.3						
ASAR	**Alice Springs**	**10.20**	**337**	Pn	**Pn**	**12 09 16.7**	**+1.5**
	0.1nm,0.3s,baz=160,slow=11,SNR=9.8						
ASAR				Sn	**Sn**	**12 11 05.5**	**-4.2**
	0.1nm,0.3s,baz=157,slow=22,SNR=5.6						
WRA	**Warramunga Arr**	**13.62**	**344**	Pn	**Pn**	**12 10 02.8**	**+0.8**
	0.1nm,0.3s,baz=169,slow=12,SNR=2.7						
WRA				Sn	**Sn**	**12 12 29.9**	**-3.5**
	0.1nm,0.3s,baz=169,slow=23,SNR=3.3						

IDC ***12*** *12:10:19.0±0.9,37.46N×24.19W,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.4/68,mbtmp3.6/8,Error ellipse: s-maj=26.5km s-min=22.7km az=110.0*

CSEM ***12*** *12:10:21.5,36.84N×24.23W,h10km,ML4.1,After PDA*

PDA ***12*** *12:10:21.5±1.1,36.84N×24.23W,h10km,MD4.2,ML4.1, Error ellipse: s-maj=6.5km s-min=4.3km az=53.0*

ISC 12 12:10:20.8±1.6,37.03N±0.07×24.32W±0.06,h26km±12km, n61,σ1§02/72,mb3.6/9,2C-2D,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.59**	**267**	*e*P	**Pb**	**12 10 32.6**	**0.0**
PSMN				*e*S	**Sb**	**12 10 40.8**	**+0.1**
PSMN				A	A	12 10 43.9	
	2μm,0.2s						
PSMN	**Pico do Norte,**	**0.59**	**267**	*e*P	**Pb**	**12 10 32.6**	**0.0**
PSMN				*e*S	**Sb**	**12 10 40.8**	**+0.1**
PSMA	**Santa Maria**	**0.65**	**267**	*e*P	**Pn**	**12 10 33.3**	**-0.9**
PSMA				*e*S	**Sb**	**12 10 41.8**	**-0.3**
PSMA				A	A	12 10 47.2	
	2μm,0.3s						
BART	**Pico Bartolome**	**1.00**	**318**	↓*i*P	**Pn**	**12 10 39.3**	**+0.1**
BART				*e*S	**Sb**	**12 10 53.4**	**+1.0**
BART				A	A	12 11 04.8	
	986nm,0.5s						
BART	**Pico Bartolome**	**1.00**	**318**	↓*i*P	**Pn**	**12 10 39.3**	**+0.1**
BART				*e*S	**Sb**	**12 10 53.4**	**+1.0**
PCALD	**Caldeiras da R**	**1.20**	**310**	*e*P	**Pn**	**12 10 42.1**	**+0.2**
PCALD				*e*S	**Sb**	**12 10 57.7**	**-0.3**
PCALD				A	A	12 11 00.6	
	412nm,0.4s						
PCALD	**Caldeiras da R**	**1.20**	**310**	*e*P	**Pn**	**12 10 42.1**	**+0.2**
PCALD				*e*S	**Sb**	**12 10 57.7**	**-0.3**
CMLA	**Cha da Macela**	**1.20**	**308**	*e*P	**Pn**	**12 10 42.3**	**+0.4**
CMLA				*e*S	**Sb**	**12 10 57.8**	**-0.2**
CMLA				A	A	12 11 01.1	
	2μm,0.3s						
CMLA	**Cha da Macela**	**1.20**	**308**	*e*P	**Pn**	**12 10 42.3**	**+0.4**
CMLA				*e*S	**Sb**	**12 10 57.8**	**-0.2**
GRON	**Grota Negra**	**1.21**	**308**	*e*P	**Pn**	**12 10 41.0**	**-1.1**
GRON				*e*S	**Sn**	**12 10 56.0**	**-1.6**
GRON				A	A	12 10 59.3	
	223nm,0.2s						
PDA	**Ponta Delgada**	**1.28**	**304**	↑*i*P	**Pn**	**12 10 43.1**	**+0.1**
PDA				*e*S	**Sn**	**12 10 59.4**	**+0.1**
PDA				A	A	12 11 05.9	
	357nm,0.5s						
PDA	**Ponta Delgada**	**1.28**	**304**	↑*i*P	**Pn**	**12 10 43.1**	**+0.1**
PDA				*e*S	**Sn**	**12 10 59.4**	**+0.1**
PSET	**Sete Cidades**	**1.36**	**306**	*e*P	**Pn**	**12 10 44.5**	**+0.4**
PSET				*e*S	**Sn**	**12 11 01.7**	**+0.3**
PSET				A	A	12 11 05.1	
	621nm,0.4s						
PSET	**Sete Cidades**	**1.36**	**306**	*e*P	**Pn**	**12 10 44.5**	**+0.4**
PSET				*e*S	**Sn**	**12 11 01.7**	**+0.3**
ADH	**Angra Heroismo**	**2.82**	**306**	*e*P	**Pn**	**12 11 05.3**	**+1.2**
ADH				*e*S	**Sn**	**12 11 38.2**	**+1.0**
ADH				A	A	12 11 41.8	
	160nm,0.5s						
ADH	**Angra Heroismo**	**2.82**	**306**	*e*P	**Pn**	**12 11 05.3**	**+1.2**
ADH				*e*S	**Sn**	**12 11 38.2**	**+1.0**
PID	**Ribeirinha**	**3.32**	**296**	*e*P	**Pn**	**12 11 11.3**	**+0.2**
PID	**Ribeirinha**	**3.32**	**296**	*e*P	**Pn**	**12 11 11.3**	**+0.2**
PGRA	**Graciosa**	**3.51**	**306**	*e*P	**Pn**	**12 11 15.1**	**+1.5**
PGRA				*e*S	**Sn**	**12 11 54.5**	**+0.2**
PGRA				A	A	12 11 58.4	
	69nm,0.3s						
PGRA	**Graciosa**	**3.51**	**306**	*e*P	**Pn**	**12 11 15.1**	**+1.5**
PGRA				*e*S	**Sn**	**12 11 54.5**	**+0.2**
ROSA	**Rosais**	**3.53**	**300**	*e*P	**Pn**	**12 11 14.8**	**+0.9**
ROSA				*e*S	**Sn**	**12 11 54.0**	**-0.7**
ROSA				A	A	12 11 58.0	
	85nm,0.4s						
ROSA	**Rosais**	**3.53**	**300**	*e*P	**Pn**	**12 11 14.8**	**+0.9**
ROSA				*e*S	**Sn**	**12 11 54.0**	**-0.7**
PICO	**Pico**	**3.56**	**296**	*e*P	**Pn**	**12 11 15.2**	**+0.8**
PICO				*e*S	**Sn**	**12 11 54.6**	**-1.2**
PICO				A	A	12 11 59.6	
	262nm,0.5s						
PICO	**Pico**	**3.56**	**296**	*e*P	**Pn**	**12 11 15.2**	**+0.8**
PICO				*e*S	**Sn**	**12 11 54.6**	**-1.2**
PCAN	**Candelaria**	**3.59**	**295**	*e*P	**Pn**	**12 11 15.3**	**+0.5**
PCAN				*e*S	**Sn**	**12 11 54.9**	**-1.5**
PCAN				A	A	12 12 00.1	
	226nm,0.5s						
PCAN	**Candelaria**	**3.59**	**295**	*e*P	**Pn**	**12 11 15.3**	**+0.5**
PCAN				*e*S	**Sn**	**12 11 54.9**	**-1.5**
HOR	**Horta**	**3.72**	**295**	*e*P	**Pn**	**12 11 17.1**	**+0.6**
HOR				*e*S	**Sn**	**12 11 58.3**	**-1.2**
HOR				A	A	12 12 00.2	
	325nm,0.3s						
HOR	**Horta**	**3.72**	**295**	*e*P	**Pn**	**12 11 17.1**	**+0.6**
HOR				*e*S	**Sn**	**12 11 58.3**	**-1.2**
CALA	**Caldeira**	**3.80**	**295**	*e*P	**Pn**	**12 11 17.8**	**+0.2**
CALA				*e*S	**Sn**	**12 12 00.4**	**-1.1**
CALA	**Caldeira**	**3.80**	**295**	*e*P	**Pn**	**12 11 17.8**	**+0.2**
CALA				*e*S	**Sn**	**12 12 00.4**	**-1.1**
PCED	**Cedros**	**3.81**	**296**	*e*P	**Pn**	**12 11 18.4**	**+0.6**
PCED				*e*S	**Sn**	**12 12 00.4**	**-1.4**
PCED				A	A	12 12 07.7	
	163nm,0.4s						
PCED	**Cedros**	**3.81**	**296**	*e*P	**Pn**	**12 11 18.4**	**+0.6**
PCED				*e*S	**Sn**	**12 12 00.4**	**-1.4**
PMOZ	**Porto Moniz, M**	**7.20**	**124**	*e*P	Pn	12 12 00.3	-4.2
PMOZ				*e*S	Sn	12 13 08.8	-17
PMPS	**Porto Santo**	**7.66**	**119**	*e*P	Pn	12 12 06.0	-4.6
PMPS				*e*S	Sn	12 13 16.0	-21
PNCL	**Nicolau / Gran**	**12.58**	**80**	*e*S	Sn	12 15 19.2	-18
MESJ	**Messejana**	**12.83**	**82**	*e*P	**P**	**12 13 31.2**	**-0.8**
MESJ				*e*S	Sn	12 15 28.0	-17
PMTG	**Montargil**	**12.85**	**76**	*e*P	**P**	**12 13 29.8**	**-2.5**
PMTG				*e*S	Sn	12 15 26.4	-17
PCVE	**Castro Verde**	**12.98**	**82**	*e*S	Sn	12 15 30.7	-16
PBDV	**Barranco-do-Ve**	**13.09**	**84**	*e*S	Sn	12 15 33.1	-17
PBEJ	**Beja**	**13.10**	**81**	*e*S	Sn	12 15 32.4	-18
PVAQ	**Vaqueiros**	**13.24**	**83**	*e*S	Sn	12 15 36.3	-17
PGAV	**Gavieira, Arco**	**13.34**	**63**	*e*S	Sn	12 15 36.6	-19
PCAB	**Cabril**	**13.44**	**65**	*e*S	Sn	12 15 38.9	-19
PMRV	**Marv??o**	**13.53**	**75**	*e*S	Sn	12 15 41.1	-19
PBAR	**Barrancos**	**13.76**	**80**	*e*S	Sn	12 15 47.8	-18
MVO	**Moncorvo**	**14.05**	**68**	*e*S	Sn	12 15 54.1	-19
EKA	**Eskdalemuir Ar**	**23.28**	**31**	P	**P**	**12 15 24.6**	**-1.6**
	0.8nm,0.6s,baz=225,slow=8.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**33.27**	**129**	P	**P**	**12 16 59.5**	**+3.3**
	0.2nm,0.6s,baz=324,slow=6.6,SNR=2.4						
ARCES	**ARCESS Array B**	**42.02**	**24**	P	**P**	**12 18 07.0**	**-2.5**
	1.2nm,0.7s,baz=262,slow=7.0,SNR=4.2						
RCBR	**Riachuelo**	**43.99**	**197**	P	P	12 18 31.9	+5.9
	66nm,0.9s,baz=171,slow=2.6,SNR=4.0						
H10N2	**ASCENSION HYDR 45.57 166**			T	T	13 07 40.0	
	baz=348,slow=75,SNR=3.4						
H10N3	**ASCENSION HYDR 45.58 166**			T	T	13 07 40.7	
	baz=348,slow=75,SNR=3.9						
H10N1	**ASCENSION HYDR 45.59 166**			T	T	13 07 39.6	
	baz=348,slow=75						
H10S1	**ASCENSION HYDR 46.62 167**			T	T	13 08 23.8	
	baz=350						
H10S3	**ASCENSION HYDR 46.63 167**			T	T	13 08 23.5	
	baz=350						
H10S2	**ASCENSION HYDR 46.64 167**			T	T	13 08 20.1	
	baz=350						
YKA	**Yellowknife Ar**	**58.04**	**327**	P	**P**	**12 20 11.4**	**+0.3**
	0.3nm,0.7s,baz=68,slow=7.3,SNR=7.6						
TXAR	**Lajitas Array**	**65.07**	**289**	P	**P**	**12 21 01.1**	**+1.9**
	0.6nm,1.1s,baz=62,slow=5.9,SNR=5.0						
KURBB	**Kurchatov Arra**	**69.58**	**42**	P	**P**	**12 21 27.5**	**+0.3**
	0.3nm,0.5s,baz=309,slow=5.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**70.82**	**36**	P	**P**	**12 21 34.6**	**-0.2**
	0.5nm,0.3s,baz=328,slow=5.1,SNR=2.4						
MKAR	**Makanchi Array**	**73.83**	**43**	P	**P**	**12 21 53.3**	**+0.3**
	0.2nm,0.5s,baz=316,slow=5.4,SNR=2.6						

IDC 12 12:11:09.7±1.7,1.47N×123.70E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.1/64,mbtmp3.2/3,Error ellipse: s-maj=181.1km s-min=24.9km az=70.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.70**	**154**	P	P	12 16 23.8	+0.4
	0.4nm,0.6s,baz=332,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**26.88**	**159**	P	P	12 16 52.3	-0.2
	0.3nm,0.5s,baz=335,slow=6.9,SNR=8.0						
SONM	**Songino Array**	**48.56**	**344**	P	P	12 19 54.7	-0.2
	0.3nm,0.8s,baz=152,slow=9.5,SNR=2.6						

CSEM ***12*** *12:12:31.7±0.5,44.32N×18.51E,h2km,ML1.6,Error ellipse: s-maj=17.7km s-min=8.7km az=18.0*

BEO 12 12:12:31.8±1.5,44.27N×18.43E,h4km±8km,M1.6/4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAPS	**Han Pijesak,Bl**	**0.42**	**116**	*e*Pg	Pg	12 12 38.0	-1.8
HAPS				*e*Sg	Sg	12 12 45.3	0.0
HAPS	**Han Pijesak,Bl**	**0.42**	**116**	*e*Pg	Pg	12 12 38.0	-1.8
HAPS				*e*Sg	Sg	12 12 45.3	0.0
BBLS	**Lazići**	**0.81**	**120**	*e*Pg	Pg	12 12 47.5	+0.2
BBLS				*e*Sg	Sg	12 12 58.7	+0.9
BBLS	**Lazići**	**0.81**	**120**	*e*Pg	Pg	12 12 47.5	+0.2
BBLS				*e*Sg	Sg	12 12 58.7	+0.9
TEKS	**Tekeris**	**0.83**	**70**	*e*Pg	Pg	12 12 46.6	-1.2
TEKS				*e*Sg	Sg	12 12 59.1	+0.4
TEKS	**Tekeris**	**0.83**	**70**	*e*Pg	Pg	12 12 46.6	-1.2
DIVS	**Divibare**	**1.14**	**98**	*e*Pg	Pg	12 12 52.4	-1.2
DIVS				*e*Sg	Sg	12 13 07.2	-1.1
DIVS	**Divibare**	**1.14**	**98**	*e*Pg	Pg	12 12 52.4	-1.2
DIVS				*e*Sg	Sg	12 13 07.2	-1.1

CSEM ***12*** *12:12:51.2,45.55N×13.86E,h0km,ML1.0,Suspected Mining explosion. After LJU*

LJU 12 12:12:51.1,45.54N×13.82E,h0km,ML1.0 Artificial, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKDS	**Skadanscina**	**0.14**	**86**	*i* Pg	Pg	12 12 54.1	+0.4
SKDS				*i* Sg	Sg	12 12 55.9	+0.4
	comp=Z,52nm,0.1s						
SKDS	**Skadanscina**	**0.14**	**86**	*i* Pg	Pg	12 12 54.1	+0.4
SKDS				*i* Sg	Sg	12 12 55.9	+0.4
	comp=Z,52nm,0.1s						
JAVS	**Javornik**	**0.40**	**26**	*i* Pg	Pg	12 12 58.6	0.0
JAVS				*i* Sg	Sg	12 13 04.5	+0.7
	comp=Z,2.0nm,0.1s						
JAVS	**Javornik**	**0.40**	**26**	*i* Pg	Pg	12 12 58.6	-0.1
JAVS				*i* Sg	Sg	12 13 04.5	+0.7
	comp=Z,2.0nm,0.1s						
KNDS	**Knezji Dol**	**0.40**	**91**	*e*Pg	Pg	12 12 58.9	+0.2
KNDS				*i* Sg	Sg	12 13 05.0	+1.2
	comp=Z,8.0nm,0.2s						
KNDS	**Knezji Dol**	**0.40**	**91**	*e*Pg	Pg	12 12 58.9	+0.2
KNDS				*i* Sg	Sg	12 13 05.0	+1.2
	comp=Z,8.0nm,0.2s						
CEY	**Cerknica**	**0.47**	**65**	*i* Pg	Pg	12 12 59.9	-0.2
	comp=Z,11nm,0.2s						
CEY	**Cerknica**	**0.47**	**65**	*i* Pg	Pg	12 12 59.9	-0.2
	comp=Z,11nm,0.2s						
VOJS	**Vojsko**	**0.50**	**5**	*i* Pg	Pg	12 13 00.6	0.0
VOJS	**Vojsko**	**0.50**	**5**	*i* Pg	Pg	12 13 00.6	0.0
GBAS	**Gorenja Brezov**	**0.59**	**48**	*e*Pg	Pg	12 13 01.8	-0.6
GBAS	**Gorenja Brezov**	**0.59**	**48**	*e*Pg	Pg	12 13 01.8	-0.6
CRNS	**Crni Vrh**	**0.62**	**30**	*i* Pg	Pg	12 13 02.6	-0.5
CRNS				*e*Sg	Sg	12 13 11.6	+0.4
	comp=Z,5.0nm,0.2s						
CRNS	**Crni Vrh**	**0.62**	**30**	*i* Pg	Pg	12 13 02.6	-0.5
CRNS				*e*Sg	Sg	12 13 11.6	+0.4
	comp=Z,4.0nm,0.2s						
GBRS	**Gornja Briga**	**0.70**	**90**	*i* Pg	Pg	12 13 04.5	+0.1
GBRS	**Gornja Briga**	**0.70**	**90**	*i* Pg	Pg	12 13 04.6	+0.2
NVLJ	**Novalja**	**1.23**	**142**	*e*Pn	Pn	12 13 15.3	-0.2
NVLJ				Sg	Sn	12 13 34.7	+2.0
NVLJ	**Novalja**	**1.23**	**142**	*e*Pn	Pb	12 13 15.3	+0.2

NIED ***12*** *12:32:00,44.80N×148.00E,h110km,Mw5.6 Best double couple: M0 2.56000×10^17 NP1:φs5.00000°, δ13.00000°,λ66.00000°. NP2:φs210.00000°,δ79.00000°, λ95.00000°.*

MOS ***12*** *12:32:45.9±1.0,45.24N×147.64E,h123km,mb5.4/133, MS4.5/23,Error ellipse: s-maj=5.4km s-min=3.9km az=91.5*

MOS Felt (IV) at Malokuril'skoye; (III) at Yuzhno-Kuril'sk.

ISCJB ***12*** *12:32:46.4±0.2,45.17N±0.02×147.70E±0.02, h126km±1km,mb5.6/567,Error ellipse: s-maj=2.7km s-min=1.6km az=156.9*

NEIC ***12*** *12:32:46.4±0.4,45.24N×147.61E,h110km±3km, mb5.7/296,MW5.6,MW5.5,Error ellipse: s-maj=2.3km s-min=1.5km az=153.0,Moment Tensor Solution. s19 Moment tensor: Scale 10^17Nm; Mrr0.08; Mθθ0.61; Mφφ-0.69; Mrθ-0.73; Mθφ0.36; Mφr-2.50; Best double couple: M0 2.70000×10^17 NP1:φs198.00000°,δ88.00000°, λ104.00000°. NP2:φs297.00000°,δ15.00000°,λ9.00000°. Principal axes: T 2.5500, Plg45.0000°, Azm122.0000°; N 0.3000, Plg14.0000°, Azm17.0000°; P -2.8500, Plg41.0000°, Azm275.0000°;*

NEIC Recorded [2 JMA] in eastern Hokkaido.

GCMT ***12*** *12:32:46.4±0.1,45.09N×147.87E,h125km,MW5.6/135, Moment Tensor Solution. s110,c194; s135,c308; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr0.22±.04; Mθθ0.97±.04; Mφφ-1.19±.04; Mrθ-1.16±.03; Mθφ0.09±.04; Mφr-2.63±.03; Best double couple: M0 3.04500×10^17 NP1:φs207.00000°,δ86.00000°, λ107.00000°. NP2:φs310.00000°,δ18.00000°,λ13.00000°. Principal axes: T 2.7850, Plg46.0000°, Azm135.0000°; N 0.5200, Plg17.0000°, Azm26.0000°; P -3.3050, Plg39.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***12*** *12:32:47.0,45.16N×147.72E,h134km,mb5.9/84, mB5.9/56*

IDC ***12*** *12:32:47.2±0.4,45.26N×147.68E,h119km±2km,mb5.1/49, mb1 5.1/58,mb1mx5.1/66,mbtmp5.5/58,MS4.3/51, Ms1 4.3/51,ms1mx4.2/71,Error ellipse: s-maj=7.5km s-min=6.9km az=108.0*

SKHL ***12*** *12:32:47.0±0.1,44.97N×148.00E,h126km±6km,mb6.2/10, mbh6.3/4,Ms5.0/4,msh6.2/10*

SKHL Felt (III) at Yushno-Kurilsk,Kurilsk,Gorny,Reidovo,(IV) at Malokurilskoe, Goryachie Kluch.

JMA ***12*** *12:32:48.4±0.7,44.79N×147.96E,h120km,M5.5*

JMA Felt II J1.

NEIC ***12*** *12:32:49.0±0.0,45.04N×147.54E,h130km,Moment Tensor Solution. s24 Moment tensor: Scale 10^17Nm; Mrr0.19; Mθθ0.32; Mφφ-0.51; Mrθ-0.98; Mθφ0.01; Mφr-2.05; Best double couple: M0 2.30000×10^17 NP1:φs206.00000°, δ87.00000°,λ98.00000°. NP2:φs318.00000°,δ9.00000°, λ22.00000°. Principal axes: T 2.2300, Plg47.0000°, Azm124.0000°; N 0.1600, Plg8.0000°, Azm25.0000°; P -2.3900, Plg41.0000°, Azm288.0000°;*

ISC 12 12:32:47.5±0.2,45.15N±0.03×147.74E±0.02,h124km±1km, h124km:pP-P,n1887,σ1§30/2183,mb5.6/598,39C-105D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.13**	**46**	*i* P	**Pn**	**12 33 03.9**	**-0.5**
KUR				AMB	AMB	12 33 04.8	
	8μm,0.5s						
KUR				AMB	AMB	12 33 04.8	
	5μm,0.5s						
KUR				AMB	AMB	12 33 04.8	
	31μm,0.5s						
KUR				*i* S	**Sn**	**12 33 16.6**	**-0.5**
KUR				A	A	12 33 18.0	
	60μm,0.5s						
KUR				A	A	12 33 18.0	
	62μm,0.5s						
KUR	**Kuril'sk**	**0.13**	**46**	*c i* PN	**Pn**	**12 33 03.9**	**-0.5**
KUR				*i* S	**Sn**	**12 33 16.6**	**-0.5**
KUR				pmax	pmax		
	comp=E,5μm,0.5s						
KUR				pmax	pmax		
	comp=Z,31μm,0.5s						
KUR				pmax	pmax		
	comp=N,8μm,0.2s						
KUR				smax	smax		
	comp=E,62μm,0.6s						
KUR				smax	smax		
	comp=N,60μm,0.5s						
SHO	**Shikotan**	**1.43**	**207**	*e*P	**Pn**	**12 33 12.6**	**-1.7**
SHO				AMB	AMB	12 33 13.6	
	comp=N,16μm,0.9s						
SHO				*e*S	**Sn**	**12 33 31.1**	**-3.6**
SHO				A	A	12 33 47.3	
	comp=N,53μm,0.4s						
SHO				A	A	12 33 47.3	
	comp=N,17μm,0.4s						
SHO	**Shikotan**	**1.43**	**207**	*c i* PN	**Pn**	**12 33 12.3**	**-2.0**
SHO				*i* S	**Sn**	**12 33 31.1**	**-3.6**
SHO				pmax	pmax		
	comp=N,5μm,0.9s						
SHO				pmax	pmax		
	comp=Z,16μm,0.9s						
SHO				pmax	pmax		
	comp=E,4μm,0.8s						
SHO				smax	smax		
	comp=N,53nm,0.4s						
SHO				smax	smax		
	comp=E,17nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.74**	**231**	*i* P	**Pn**	**12 33 18.7**	**+0.8**
YUK				AMB	AMB	12

GLVR *i* S **Sn** **12 33 51.6 +2.2**
JRA **Rausu** **2.22 238** ⇑P **Pn** **12 33 24.8 +0.9**
NEM2 **Nemuro 2** **2.28 220** P **Pn** **12 33 23.6 -1.0**
NEM2 *e*S **Sn** **12 33 50.4 -2.7**
JNK **Nakash** **2.67 235** ⇑P **Pn** **12 33 30.6 +1.1**
JTKR **Abashiri--Toko** **2.98 248** ⇑P **Pn** **12 33 35.0 +1.5**
JAK **Akkeshi** **3.07 227** ⇓P **Pn** **12 33 34.4 -0.3**
JAR **Ashorobuto** **3.40 238** ⇓P **Pn** **12 33 40.7 +1.6**
JSE **Soyaes** **3.66 269** ⇑P **Pn** **12 33 45.1 +2.7**
JKK2 **Kamakawa 2** **3.79 252** P **Pn** **12 33 46.5 +2.3**
ASAJ **Asahikawa** **3.81 256** P **Pn** **12 33 47.3 +2.8**
comp=N,193nm,0.3s,baz=153,slow=30,SNR=21.87
ASAJ S **Sn** **12 34 31.7 +3.0**
comp=N,86nm,0.3s,baz=24,slow=16,SNR=5.9
YSS **Yuzh-Sakhalins** **3.91 299** *e*P **Pn** **12 33 49.1 +3.3**
YSS AMB AMB 12 33 50.0
comp=N,2μm,2.0s
YSS AMB AMB 12 33 50.0
comp=N,3μm,2.0s
YSS AMB AMB 12 33 50.0
comp=N,2μm,2.0s
YSS AMB AMB 12 33 50.2
comp=N,590nm,1.0s
YSS AMB AMB 12 33 50.2
comp=N,1μm,1.0s
YSS AMB AMB 12 33 50.2
comp=N,1μm,1.0s
YSS *e*S **Sn** **12 34 36.8 +5.7**
YSS A A 12 34 40.9
comp=N,2μm,1.0s
YSS A A 12 34 40.9
comp=N,4μm,1.0s
YSS A A 12 34 41.1
comp=N,15μm,3.0s
YSS A A 12 34 41.1
comp=N,26μm,3.0s
YSS AMS AMS 12 35 20.0
comp=N,9μm,5.0s
YSS AMS AMS 12 35 20.0
comp=N,10μm,5.0s
YSS **Yuzh-Sakhalins** **3.91 299** α *i*PN **Pn** **12 33 49.2 +3.4**
YSS pmax pmax
comp=Z,2μm,2.4s
YSS pmax pmax
comp=N,2μm,2.1s
YSS pmax pmax
comp=E,3μm,2.3s
YSS pmax pmax
comp=Z,1μm,1.0s
YSS pmax pmax
comp=N,590nm,1.4s
YSS pmax pmax
comp=E,1μm,1.3s
YSS MLR MLR
comp=Z,10μm,6.0s
YSS MLR MLR
comp=N,9μm,4.0s
YSS **Yuzh-Sakhalins** **3.91 299** *e*Pn **Pn** **12 33 48.8 +3.0**
JCH **Churui** **4.05 233** ⇓P **Pn** **12 33 47.9 +0.2**
JCH *e*S **Sn** **12 34 33.3 -1.1**
JFR **Furan** **4.20 244** ⇓P **Pn** **12 33 51.8 +2.1**
JYG **Yagishiri** **4.55 263** ⇓P **Pn** **12 33 57.5 +3.2**
JYG *e*S **Sn** **12 34 52.6 +6.3**
ERM **Erimo** **4.57 228** *e*P **Pn** **12 33 54.6 0.0**
ERM **Erimo** **4.57 228** *ce*PN **Pn** **12 33 54.6 0.0**
ERM pmax pmax
comp=Z,3μm,1.0s
ERM **Erimo** **4.57 228** *e*Pn **Pn** **12 33 55.6 +1.0**
JNBK **Urakawa-nobuka** **4.61 233** ⇓P **Pn** **12 33 54.5 -0.7**
JNBK *e*S **Sn** **12 34 46.4 -1.4**
JEW **Eniwo** **5.09 245** ⇓P **Pn** **12 34 03.7 +2.1**
JSK **Shakotan** **5.51 254** P **Pn** **12 34 09.8 +2.5**
UGL **Uglegorsk** **5.52 318** *i* P **Pn** **12 34 10.7 +3.4**
UGL AMB AMB 12 34 11.8
comp=Z,3μm,3.0s
UGL AMB AMB 12 34 11.8
comp=Z,3μm,3.0s
UGL AMB AMB 12 34 11.8
comp=Z,4μm,3.0s
UGL AMB AMB 12 34 12.0
comp=Z,800nm,0.7s
UGL *e*S **Sn** **12 35 14.9 +5.4**
UGL A A 12 35 21.4
comp=Z,35μm,4.0s
UGL A A 12 35 21.4
comp=Z,32μm,4.0s
UGL A A 12 35 21.4
comp=Z,34μm,4.0s
UGL A A 12 35 29.2
comp=Z,2μm,1.0s
JKB **Kayabe** **5.86 239** ⇓P **Pn** **12 34 11.6 -0.4**
JKB *e*S **Sn** **12 35 15.1 -2.8**
JOT **Ohata** **6.16 235** P **Pn** **12 34 14.4 -1.6**
JOT *e*S **Sn** **12 35 20.1 -5.1**
JANG **Nango** **6.61 226** P **Pn** **12 34 18.9 -3.2**
JANG *e*S **Sn** **12 35 27.9 -8.1**
TYV **Tymovskoe** **6.66 331** *e*P **Pn** **12 34 25.8 +3.1**
TYV AMB AMB 12 34 26.9
comp=Z,3μm,3.0s
TYV AMB AMB 12 34 26.9
comp=Z,400nm,1.0s
TYV *e*S **Sn** **12 35 40.8 +3.7**
TYV A A 12 35 45.5
comp=Z,4μm,3.0s
TYV A A 12 35 45.5
comp=Z,3μm,3.0s
TYV A A 12 35 45.5
comp=Z,176nm,2.0s
TYV **Tymovskoe** **6.66 331** *e*PN **Pn** **12 34 25.8 +3.1**
TYV pmax pmax
comp=Z,3μm,3.2s
TYV pmax pmax
comp=Z,399nm,1.0s
JOSM **Okushiri--Mats** **6.73 246** P **Pn** **12 34 24.3 +0.6**
TEY **Ternei** **7.88 273** *e*P **Pn** **12 34 42.0 +2.8**
TEY AMB AMB 12 34 42.4
comp=Z,3μm,1.0s
TEY AMB AMB 12 34 42.4
comp=Z,12μm,3.0s
TEY AMB AMB 12 34 42.4
comp=Z,13μm,3.0s
TEY *e*S **Sn** **12 36 10.4 +3.7**
TEY A A 12 36 13.0
comp=Z,5μm,5.0s
TEY AMS AMS 12 37 48.0
comp=Z,5μm,9.0s
TEY AMS AMS 12 37 48.0
comp=Z,4μm,9.0s
TEY **Ternei** **7.88 273** *i* PN **Pn** **12 34 42.0 +2.8**
TEY *e*S **Sn** **12 36 10.4 +3.7**
TEY pmax pmax
comp=E,12μm,3.0s
TEY pmax pmax
comp=Z,13μm,3.0s
TEY pmax pmax
comp=Z,3μm,1.2s
TEY smax smax
comp=N,5μm,5.0s
TEY MLR MLR
comp=E,4μm,8.0s
TEY MLR MLR
comp=N,5μm,11.0s
TEY MLR MLR
comp=Z,10μm,8.0s
SKR **Severo-Kuril's** **7.90 42** *e*P **Pn** **12 34 38.9 -0.5**
SKR AMB AMB 12 34 42.1
comp=Z,1μm,0.7s
SKR AMB AMB 12 35 01.3
comp=Z,6μm,5.0s
SKR *e*S **Sn** **12 36 05.0 -2.0**
SKR A A 12 36 22.4
comp=Z,12μm,6.0s
SKR AMS AMS 12 37 44.3
comp=Z,4μm,14.0s
SKR **Severo-Kuril's** **7.90 42** ⇓ *i*PN **Pn** **12 34 39.5 +0.1**
SKR *e*S **Sn** **12 36 10.2 +3.2**
SKR pmax pmax
comp=Z,3μm,0.9s
SKR pmax pmax
comp=Z,2μm,0.7s
SKR smax smax
comp=E,817nm,0.8s
SKR smax smax
comp=N,633nm,1.0s
SKR MLR MLR
comp=Z,3μm,13.0s
SKR MLR MLR
comp=Z,4μm,14.0s
PAU **Pauzhetka** **8.75 40** *e*P **Pn** **12 34 49.6 -1.2**
OKH **Okha** **8.97 341** *i* P **Pn** **12 34 57.6 +3.7**
OKH AMB AMB 12 34 59.6
comp=Z,1μm,5.0s
OKH *i* S **Sn** **12 36 37.9 +4.8**
OKH A A 12 36 50.2
comp=Z,4μm,8.0s
OKH AMS AMS 12 41 27.2
comp=Z,2μm,14.0s
OKH **Okha** **8.97 341** ⇓ *i*PN **Pn** **12 34 57.1 +3.2**
OKH pmax pmax
comp=Z,1μm,5.1s
OKH MLR MLR
comp=Z,2μm,14.0s
NKL **Nikolayevsk** **9.24 333** *e*P **Pn** **12 34 59.5 +2.0**
NKL AMB AMB 12 35 02.0
comp=Z,400nm,1.0s
NKL AMB AMB 12 35 02.0
comp=Z,480nm,1.0s
NKL AMB AMB 12 35 02.0
comp=Z,550nm,1.0s
NKL AMB AMB 12 35 04.0
comp=Z,2μm,6.0s
NKL AMB AMB 12 35 04.0
comp=Z,2μm,6.0s
NKL *e*S **Sn** **12 36 42.0 +2.4**
NKL A A 12 36 56.0
comp=Z,2μm,10.0s
NKL A A 12 36 56.0
comp=Z,4μm,10.0s
NKL A A 12 36 56.0
comp=Z,6μm,10.0s
NKL AMS AMS 12 40 04.0
comp=Z,2μm,12.0s
NKL AMS AMS 12 40 04.0
comp=Z,2μm,12.0s
NKL **Nikolayevsk** **9.24 333** *e*S **Sn** **12 36 42.0 +2.4**
NKL pmax pmax
comp=N,400nm,1.0s
NKL pmax pmax
comp=E,480nm,1.0s
NKL pmax pmax
comp=Z,550nm,1.0s
NKL pmax pmax
comp=N,2μm,5.0s
NKL pmax pmax
comp=Z,2μm,6.0s
NKL smax smax
comp=N,2μm,10.0s
NKL smax smax
comp=E,4μm,10.0s
NKL smax smax
comp=Z,6μm,10.0s
NKL MLR MLR
comp=N,2μm,12.0s
NKL MLR MLR
comp=Z,2μm,12.0s
JSD **Sado** **10.03 228** P **Pn** **12 35 06.1 -2.2**
JHK **Hiroka** **10.26 223** P **Pn** **12 35 08.6 -2.7**
PEA0B **Petropavlovsk-** **10.29 36** *e*Pn **Pn** **12 35 10.8 -0.8**
PETK **Petropavlovsk-** **10.29 36** P **Pn** **12 35 10.7 -1.0**
comp=Z,29nm,0.3s,baz=187,slow=8.9,SNR=363.3
PETK ScP **ScP** **12 44 27.3 -0.4**
comp=Z,0.3nm,0.3s,baz=132,slow=4.6,SNR=6.3
PEA1 **Petropavlovsk-** **10.30 36** *e*Pn **Pn** **12 35 10.7 -1.0**
JKT **Katashina** **10.54 220** P **Pn** **12 35 13.0 -2.2**
PET **Petropavlovsk** **10.64 38** *e*P **Pn** **12 35 14.2 -2.1**
PET AMB AMB 12 35 16.2
comp=Z,198nm,0.8s
PET AMB AMB 12 35 18.4
comp=Z,2μm,3.0s
PET *e*S **Sn** **12 37 09.5 -3.9**
PET A A 12 37 56.2
comp=Z,2μm,6.0s
PET A A 12 37 56.2
comp=Z,3μm,6.0s
PET AMS AMS 12 39 55.4
comp=Z,3μm,12.0s
PET **Petropavlovsk** **10.64 38** ⇓ *i*PN **Pn** **12 35 14.6 -1.7**
PET *e*S **Sn** **12 37 12.6 -0.8**
PET pmax pmax
comp=Z,198nm,0.8s
PET MLR MLR
comp=Z,3μm,12.0s
PET MLR MLR
comp=Z,3μm,12.0s
PET **Petropavlovsk** **10.64 38** *e*Pn **Pn** **12 35 13.6 -2.7**
JAG **Ashikaga** **10.73 219** P **Pn** **12 35 14.2 -3.5**
MJB9 **Matsu-Tunnel** **11.21 223** *e*Pn **Pn** **12 35 21.4 -2.7**
MAJO **Matsushiro** **11.21 223** *c i*PN **Pn** **12 35 21.8 -2.4**
MAJO **Matsushiro** **11.21 223** *e*Pn **Pn** **12 35 21.8 -2.4**
MAJO *e*Sn **Sn** **12 37 21.6 -6.0**
MAT **Matsushiro** **11.21 223** P **Pn** **12 35 21.2 -2.9**
MAT S **Sn** **12 37 21.8 -5.8**
MJAR **Matsushiro Arr** **11.21 223** P **Pn** **12 35 21.6 -2.5**
comp=Z,5.9nm,0.3s,baz=27,slow=13,SNR=133
MJAR S **Sn** **12 37 21.6 -6.0**
comp=Z,2.7nm,0.3s,baz=4.4,slow=18,SNR=2.6
MJAR LR LR 12 39 56.0
comp=Z,813nm,20.4s,baz=35,slow=38
MJAR ScP **ScP** **12 44 28.7 -0.6**
comp=Z,0.1nm,0.3s,baz=167,slow=0.6,SNR=7.8
USRK **Ussuriysk Ar.** **11.26 271** P **Pn** **12 35 25.6 +1.0**
comp=Z,6.7nm,0.3s,baz=87,slow=12,SNR=164
USRK ScP **ScP** **12 44 29.4 +0.2**
comp=Z,0.3nm,0.3s,baz=18,slow=0.6,SNR=5.8
VLA **Vladivostok** **11.57 266** *e*P **Pn** **12 35 28.7 -0.1**
VLA **Vladivostok** **11.57 266** *d i*PN **Pn** **12 35 28.7 -0.1**
KLR **Kul'dur** **11.62 296** P **Pn** **12 35 32.4 +3.0**
comp=Z,0.2nm,0.3s,baz=104,slow=12,SNR=466
KLR LR LR 12 40 36.0
comp=Z,144nm,18.9s,baz=122,slow=41
KLR ScP **ScP** **12 44 30.3 +0.7**
comp=Z,0.0nm,0.3s,baz=102,slow=0.7,SNR=17
EKMR **Ekimchan** **12.50 315** *e*P **Pn** **12 35 43.8 +2.9**
EKMR AMB AMB 12 35 45.0
comp=Z,640nm,1.0s
EKMR AMB AMB 12 35 45.0
comp=Z,780nm,1.0s
EKMR AMB AMB 12 35 45.0
comp=Z,1μm,1.0s
JAO **Obara** **12.70 223** P **Pn** **12 35 41.2 -2.4**
INU **Inuyama** **12.75 224** *e*Pn **Pn** **12 35 42.0 -2.2**
MDJ **Mudanjiang** **12.88 274** P **Pn** **12 35 45.5 -0.4**
MDJ sP sP 12 36 18.5
MDJ S **Sn** **12 38 07.7 -0.1**
MDJ PcP **PcP** **12 41 08.6 -1.4**
MDJ ScP **ScP** **12 44 30.1 -1.5**
MDJ PcS **PcS** **12 44 43.4 -0.9**
MDJ ScS **ScS** **12 48 07.1 -0.8**
MDJ pmax pmax
comp=Z,210nm,1.1s
MDJ pmax pmax
comp=Z,2μm,12.5s
MDJ **Mudanjiang** **12.88 274** *e*Pn **Pn** **12 35 46.9 +1.0**
JFM **Mihama** **13.12 227** P **Pn** **12 35 48.2 -0.9**
JHJ **Hachijo jima 2** **13.49 210** P **Pn** **12 35 54.8 +0.9**
comp=Z,51nm,0.3s,baz=256,slow=22,SNR=5.6
JHJ S Sn 12 38 12.9 -10
comp=Z,97nm,0.3s,baz=258,slow=23,SNR=10
JHJ LR LR 12 41 13.2
comp=Z,494nm,20.9s,baz=128,slow=37
MA2 **Magadan** **14.57 6** P **Pn** **12 36 07.6 +0.2**
comp=Z,2.1nm,0.3s,baz=170,slow=8.6,SNR=82
MA2 S **Sn** **12 38 47.3 -0.9**
baz=123,slow=17,SNR=1.6
MA2 ScP **ScP** **12 44 33.4 -0.7**
baz=148,slow=4.0,SNR=5.7
MA2 **Magadan** **14.57 6** *c i*P **Pn** **12 36 08.7 +1.3**
BMKR **Bomnak** **15.43 315** *e*P **Pn** **12 36 18.8 +0.5**
BMKR AMB AMB 12 36 22.0
comp=Z,992nm,1.0s
ZEA **Zeya** **15.81 310** *e*P **P** **12 36 24.0 -0.2**
ZEA AMB AMB 12 36 26.2
comp=Z,450nm,1.0s
ZEA AMB AMB 12 36 26.2
comp=Z,500nm,1.0s
ZEA AMB AMB 12 36 26.2
comp=Z,92nm,1.0s
ZEA AMB AMB 12 36 28.0
comp=Z,4μm,5.0s
ZEA AMB AMB 12 36 28.0
comp=Z,3μm,5.0s
ZEA AMB AMB 12 36 28.0
comp=Z,6μm,5.0s
ZEA *e*S **Sn** **12 39 12.0 -6.2**
ZEA A A 12 39 34.0
comp=Z,3μm,14.0s
ZEA AMS AMS 12 43 57.0
comp=Z,2μm,12.0s
ZEA AMS AMS 12 43 57.0
comp=Z,2μm,12.0s
ZEA **Zeya** **15.81 310** *d i*P **P** **12 36 24.8 +0.6**
ZEA *e*S **Sn** **12 39 20.0 +1.8**
ZEA pmax pmax
comp=N,450nm,1.0s
ZEA pmax pmax
comp=E,500nm,1.2s
ZEA pmax pmax
comp=Z,92nm,1.2s
ZEA pmax pmax
comp=E,3μm,5.0s
ZEA pmax pmax
comp=Z,6μm,5.0s
ZEA pmax pmax
comp=N,4μm,6.0s
ZEA smax smax
comp=N,3μm,14.0s
ZEA MLR MLR
comp=E,2μm,12.0s
ZEA MLR MLR
comp=Z,2μm,12.0s
CN2 **Changchun** **15.96 273** ⇑P **Pn** **12 36 24.2 -0.7**
CN2 *es*P sP 12 37 01.3 -2.3
CN2 *e*S **Sn** **12 39 15.9 -6.1**
KROS **Kirovskiy** **16.26 312** *e*P **P** **12 36 30.2 +1.0**
KROS AMB AMB 12 36 33.0
comp=Z,37nm,0.8s
KROS AMB AMB 12 36 33.0
comp=Z,100nm,0.8s
KROS AMB AMB 12 36 33.0
comp=Z,82nm,0.8s
KSRS **Korea Array** **16.73 250** P **Pn** **12 36 33.4 -1.0**
comp=Z,2.2nm,0.3s,baz=58,slow=12,SNR=116
KSRS S **S** **12 39 41.9 -0.4**
baz=68,slow=35,SNR=2.4
KSRS PcP **PcP** **12 41 16.7 +1.2**
baz=70,slow=0.9,SNR=6.2
KSRS LR LR 12 42 20.2
comp=Z,1μm,20.8s,baz=50,slow=34
KSRS ScP **ScP** **12 44 39.6 +1.1**
comp=Z,0.2nm,0.3s,baz=42,slow=0.8,SNR=30
KS01 **Wonju Array Si** **16.73 250** *e*Pn **Pn** **12 36 32.6 -1.8**
KS15 **Wonju Array Si** **16.76 250** *e*Pn **Pn** **12 36 33.3 -1.4**
KSAR **Wonju Array Be** **16.76 250** P **Pn** **12 36 33.4 -1.3**
KSAR S **Sn** **12 39 41.9 +0.7**
KSAR **Wonju Array Be** **16.76 250** P **Pn** **12 36 33.4 -1.3**
KSAR S **Sn** **12 39 41.9 +0.7**
KSAR ScP **ScP** **12 44 39.6 +1.0**
INCN **Inchon** **17.57 252** *e*P **P** **12 36 44.0 +0.2**
comp=Z,626nm,1.0s
INCN **Inchon** **17.57 252** P **Pn** **12 36 45.4 +0.8**
SNR=28
TJN **Taejon** **17.71 247** *de*P **P** **12 36 45.7 +0.4**
JNU **Nakatsue** **17.71 233** P **P** **12 36 45.2 -0.2**
comp=Z,7.5nm,0.3s,baz=51,slow=4.6,SNR=34
JNU S **Sn** **12 40 04.0 -0.1**
comp=Z,0.1nm,0.3s,baz=150,slow=22,SNR=2.0
JNU **Nakatsue** **17.71 233** *e*P **P** **12 36 45.6 +0.2**
comp=Z,790nm,0.9s
JNU *e*S **Sn** **12 40 04.0 -0.1**
SNY **Shenyang** **17.82 268** ⇓P **Pn** **12 36 47.0 -0.5**
SNY S **S** **12 40 05.3 +0.3**
SNY pmax pmax
comp=Z,740nm,1.0s
SNY pmax pmax
comp=Z,4μm,3.7s
SNY LR LR
comp=Z,1μm,11.4s
SNY LR LR
comp=Z,2μm,12.1s
SNY LR LR
comp=Z,2μm,12.8s
SEY **Seymchan** **18.02 7** P **P** **12 36 48.6 +0.1**
comp=Z,3.2nm,0.3s,baz=177,slow=9.4,SNR=112
SEY S **S** **12 40 08.8 +0.1**
comp=Z,0.2nm,0.3s,baz=8.4,slow=21,SNR=2.2
SEY LR LR 12 43 36.7
comp=Z,770nm,19.8s,baz=160,slow=36
SEY ScP **ScP** **12 44 40.6 -0.1**
comp=Z,0.1nm,0.3s,baz=349,slow=3.2,SNR=4.7
SEY **Seymchan** **18.02 7** *d i*P **P** **12 36 46.8 -1.7**
CLNS **Chul'man** **18.43 318** *e*P **Pn** **12 36 54.6 -0.1**
CLNS pmax pmax
comp=Z,368nm,0.9s
CLNS pmax pmax
comp=E,261nm,1.1s
CLNS pmax pmax
comp=N,283nm,1.1s
CBIJ **Chichi jima** **18.55 196** *e*P **P** **12 36 52.9 -1.7**
comp=N,1μm,1.7s
CBIJ *e*S **S** **12 40 14.4 -5.3**
JCJ **Chichijima** **18.55 196** P **P** **12 36 54.9 +0.3**
comp=N,16nm,0.3s,baz=60,slow=7.5,SNR=4.7
JCJ S **S** **12 40 14.4 -5.3**
comp=N,20nm,0.3s,baz=296,slow=23,SNR=6.5
SMY **Shemya** **18.83 57** *e*P **P** **12 36 56.4 -1.0**
SMY pmax pmax
comp=Z,1μm,1.5s
SMY **Shemya** **18.83 57** *e*P **P** **12 36 56.4 -1.0**
comp=Z,1μm,1.5s
HIA **Hailar** **19.41 292** *d i*P **P** **12 37 01.5 -2.3**
HIA pmax pmax
comp=Z,62nm,1.1s
HIA **Hailar** **19.41 292** *e*P **P** **12 37 02.3 -1.5**
comp=Z,889nm,1.2s
YAK **Yakutsk** **19.90 335** P **P** **12 37 08.0 -0.9**
comp=Z,0.1nm,0.3s,baz=176,slow=0.3,SNR=89
YAK S **S** **12 40 41.0 -4.8**
comp=Z,0.0nm,0.3s,baz=40,slow=23,SNR=2.6
YAK ScP **ScP** **12 44 44.9 -0.1**
comp=Z,0.0nm,0.3s,baz=284,slow=1.4,SNR=14
YAK LR LR 12 45 05.5
comp=Z,1μm,19.7s,baz=94,slow=37
YAK **Yakutsk** **19.90 335** *d i*P **P** **12 37 07.6 -1.3**
YAK *e*S **S** **12 40 41.4 -4.4**
YAK pmax pmax
comp=Z,634nm,1.0s
YAK pmax pmax
comp=N,301nm,1.0s
YAK pmax pmax
comp=E,231nm,1.1s
YAK smax smax
comp=N,2μm,2.8s
YAK smax smax
comp=E,2μm,2.4s
YAK **Yakutsk** **19.90 335** *e*P **P** **12 37 07.5 -1.4**
comp=E,714nm,0.9s
YAK *e*S **S** **12 40 41.0 -4.8**
DL2 **Dalian** **20.32 261** ⇓P **P** **12 37 14.4 +0.8**
DL2 S **S** **12 40 52.9 -1.7**
DL2 ScP **ScP** **12 44 46.9 +0.5**
DL2 ScS **ScS** **12 48 28.2 -1.1**
DL2 pmax pmax
comp=E,730nm,1.1s
DL2 pmax pmax
comp=E,1μm,6.8s
CIT **Chita** **23.47 299** *e*P **P** **12 37 42.3 -3.4**
CIT *e* 12 38 03.5
CIT pmax pmax
comp=Z,251nm,1.3s
BJI **Beijing** **23.70 269** ⇓ *i*P **P** **12 37 48.3 +0.5**
BJI pP **pP** **12 38 15.5 +2.7**
BJI S **S** **12 41 55.4 +1.9**
BJI pmax pmax
comp=Z,490nm,1.8s
BJI pmax pmax
comp=Z,4μm,5.7s
BJT **Baijiatuau** **23.71 269** *e*P **P** **12 37 48.4 +0.5**
BJT pmax pmax
comp=Z,278nm,1.0s
BJT **Baijiatuau** **23.71 269** *e*P **P** **12 37 48.4 +0.5**
comp=Z,278nm,1.0s
JOW **Kunigami** **24.02 227** *e*P **P** **12 37 51.2 +0.5**
comp=Z,1μm,1.1s
BOD **Bodaibo** **24.24 314** *e*P **P** **12 37 49.9 -2.6**
BOD *e* 12 38 19.1
BOD *e* 12 48 39.2
BOD pmax pmax
comp=Z,44nm,1.1s

TIA **Tai'an** 24.75 260 P **P** 12 37 58.1 +0.7
TIA sP **sP** 12 38 42.2 +4.0
TIA S **S** 12 42 11.3 +0.8
TIA pmax pmax
comp=Z,440nm,1.1s
TIA LR LR
comp=Z,1µm,18.2s
TIA LR LR
comp=Z,680nm,8.4s
BILL Bilibino 24.90 16 *e*P **P** 12 37 57.2 -1.2
BILL *e**PP **pP** 12 38 25.8 +1.0
BILL *e* 12 38 37.9
BILL *e**SP **sP** 12 38 40.5 +1.2
BILL *e* 12 41 30.5
BILL *e*S **S** 12 42 12.9 +0.7
BILL pmax pmax
comp=Z,25nm,1.0s
BILL MLR MLR
comp=Z,1µm,16.0s
SSE Sheshan 25.02 245 P **P** 12 38 01.4 +1.6
SSE pP **pP** 12 38 27.2 +0.9
SSE sP **sP** 12 38 40.9 +0.3
SSE S **S** 12 42 16.1 +1.4
SSE pmax pmax
comp=Z,210nm,1.1s
SSE pmax pmax
comp=Z,930nm,4.0s
SSE LR LR
comp=Z,320nm,20.6s
NJ2 Nanjing 25.93 250 *e*P **P** 12 38 09.0 +0.9
NJ2 pP **pP** 12 38 37.7 +3.1
NJ2 S **S** 12 42 31.8 +2.7
NJ2 sS **sS** 12 43 17.2 +1.4
NJ2 pmax pmax
comp=Z,590nm,1.0s
NJ2 pmax pmax
comp=Z,2µm,3.5s
NJ2 LR LR
comp=Z,2µm,17.6s
NJ2 LR LR
comp=Z,930nm,10.8s
NJ2 LR LR
comp=Z,1µm,12.7s
HHC Hu-ho-hao-te 26.66 274 *e*P **P** 12 38 16.0 +1.3
HHC S **S** 12 42 35.6 -5.1
HHC pmax pmax
comp=Z,370nm,1.1s
TIY Taiyuan 27.32 267 *e*P **P** 12 38 22.2 +1.6
TIY pP **pP** 12 38 50.1 +2.8
TIY sP **sP** 12 39 05.7 +4.1
TIY S **S** 12 42 50.7 -0.5
TIY sS **sS** 12 43 39.8 +1.8
TIY pmax pmax
comp=Z,220nm,0.9s
TIY LR LR
comp=Z,720nm,8.1s
TIY LR LR
comp=Z,410nm,6.9s
TIY LR LR
comp=Z,730nm,15.6s
BTO Baotou 27.84 274 *e*P **P** 12 38 25.6 +0.4
ULN Ulaanbaatar 27.91 290 *de*P **P** 12 38 25.0 -0.8
ULN pmax pmax
comp=Z,34nm,0.9s
ULN Ulaanbaatar 27.91 290 *e*P **P** 12 38 25.1 -0.8
comp=Z,120nm,1.1s
ULN Ulaanbaatar 27.91 290 P **P** 12 38 25.2 -0.6
SNR=27
TIXI Tiksi 28.08 347 P **P** 12 38 24.2 -2.7
comp=Z,5.8nm,0.4s,baz=141,slow=8.7,SNR=27
TIXI ScP **ScP** 12 45 06.7 -0.5
comp=Z,28nm,1.0s,baz=104,slow=4.5,SNR=16
TIXI Tiksi 28.08 347 *de*P **P** 12 38 23.9 -3.0
TIXI pmax pmax
comp=Z,18nm,1.1s
TIXI Tiksi 28.08 347 *e*P **P** 12 38 24.2 -2.7
TIXI *e*P **P** 12 38 24.3 -2.6
SONA1 Songino Array 28.34 290 *e*P **P** 12 38 28.9 -0.8
SONA0 Songino Array 28.35 290 *e*P **P** 12 38 28.7 -1.0
SONA0 *e* 12 51 08.1
SONM Songino Array 28.35 290 P **P** 12 38 28.7 -1.0
comp=Z,27nm,0.8s,baz=88,slow=8.4,SNR=103
SONM ScP **ScP** 12 45 09.2 +0.6
comp=Z,6.4nm,0.9s,baz=133,slow=3.0,SNR=5.5
SONM LR LR 12 51 08.1
comp=Z,2µm,19.6s,baz=86,slow=39
SARN Sarigan 28.41 184 *e*P **P** 12 38 28.5 -1.8
SPIA Saint Paul Isl 28.49 50 *e*P **P** 12 38 30.4 -0.2
comp=Z,111nm,1.0s
IRK Irkutsk 29.19 300 *e*P **P** 12 38 35.2 -1.8
IRK *e* 12 39 05.0
IRK pmax pmax
comp=Z,127nm,1.6s
GAMB Gambell 29.33 36 *e*P **P** 12 38 37.7 -0.3
comp=Z,19nm,1.0s
YHNB Yeheng 29.52 235 *e*P **P** 12 38 41.5 +1.2
comp=Z,85nm,0.9s
TLY Talaya 29.62 299 *d*/P **P** 12 38 39.5 -1.3
TLY *e* 12 39 41.2
TLY pmax pmax
comp=Z,57nm,1.5s
TLY MLR MLR
comp=Z,542nm,11.0s
TLY Talaya 29.62 299 *e*P **P** 12 38 39.8 -1.0
comp=Z,137nm,1.6s
TLY Talaya 29.62 299 P **P** 12 38 39.8 -1.0
SNR=28
NACB Ninganchiao 29.78 234 *e*P **P** 12 38 43.4 +1.0
comp=Z,92nm,1.1s
WHN Wuhan 29.88 252 ⇓P **P** 12 38 43.9 +0.7
WHN sP **sP** 12 39 26.2 +1.9
WHN S **S** 12 43 32.5 +1.3
WHN pmax pmax
comp=Z,430nm,0.8s
WHN LR LR
comp=Z,2µm,8.1s
WHN LR LR
comp=Z,2µm,16.8s
WHN LR LR
comp=Z,2µm,13.8s
H11N2 WAKE ISLAND Hy 29.91 142 T T 13 09 54.7
baz=333,slow=75,SNR=698
H11N1 WAKE ISLAND Hy 29.92 142 T T 13 09 53.1
baz=333,slow=75,SNR=136
H11N3 WAKE ISLAND Hy 29.93 142 T T 13 09 51.0
baz=333,slow=75,SNR=742
ZAK Zakamensk 29.98 296 *e*P **P** 12 38 42.0 -2.1
ZAK *e* 12 39 14.0
ZAK *e* 12 41 44.1
ZAK pmax pmax
comp=Z,43nm,1.5s
SSLB Suanglung 30.45 235 *e*P **P** 12 38 49.5 +1.2
comp=Z,70nm,0.9s
YULB Yu-li 30.56 234 *e*P **P** 12 38 49.5 +0.2
comp=Z,77nm,1.0s
H11S1 WAKE ISLAND Hy 30.91 143 T T 13 10 47.7
baz=334,slow=76,SNR=125
H11S3 WAKE ISLAND Hy 30.91 143 T T 13 10 50.4
baz=334,slow=76,SNR=150
H11S2 WAKE ISLAND Hy 30.92 143 T T 13 11 07.2
baz=334,slow=76,SNR=492
QZH Quanzhou 30.97 239 ⇓*i*P **P** 12 38 54.4 +1.5
QZH S **S** 12 43 49.2 +0.8
QZH pmax pmax
comp=Z,140nm,2.1s
QZH pmax pmax
comp=Z,2µm,3.8s
QZH LR LR
comp=Z,460nm,7.6s
QZH LR LR
comp=Z,1µm,8.5s
QZH LR LR
comp=Z,730nm,8.2s
TPUB Ta-pu 31.01 234 *e*P **P** 12 38 53.8 +0.5
comp=Z,528nm,0.9s
TWG Pinlang 31.13 233 *e*P **P** 12 38 54.1 -0.2
comp=Z,1µm,1.1s
MOY Mondy 31.26 299 *e*P **P** 12 38 53.6 -1.8
MOY pmax pmax
comp=Z,67nm,2.5s
GUMO Guam 31.55 185 LR LR 12 50 21.2
comp=Z,143nm,19.9s,baz=6.5,slow=33
XAN Xi'an 31.62 263 P **P** 12 38 59.2 +0.6
XAN pP pP 12 39 26.5 +1.0
XAN sP sP 12 39 41.6 +1.8
XAN PP **PP** 12 40 10.9 -1.3
XAN S **S** 12 43 59.9 +1.4
XAN sS sS 12 44 47.8 +2.3
XAN SS **SnSn** 12 45 59.7 +1.2
XAN pmax pmax
comp=Z,250nm,1.3s
ENH Enshi 33.37 257 *e*P **P** 12 39 14.0 +0.2
comp=Z,402nm,0.9s
LZH Lanzhou 34.16 270 ⇓P **P** 12 39 22.5 +1.6
LZH pP pP 12 39 50.1 +2.1
LZH sP sP 12 40 05.5 +3.3
LZH PP **PP** 12 40 42.4 +1.9
LZH S **S** 12 44 38.2 +0.1
LZH sS sS 12 45 26.1 +0.7
LZH SS **SnSn** 12 46 55.0 -5.1
LZH pmax pmax
comp=Z,1µm,1.4s
LZH pmax pmax
comp=Z,1µm,8.1s
LZH LR LR
comp=Z,1µm,13.4s
LZH LR LR
comp=Z,520nm,13.9s
LZH LR LR
comp=Z,1µm,15.2s
GTA Gaotai 35.49 278 ⇓P **P** 12 39 33.5 +1.3
GTA pP pP 12 40 00.5 +1.0
GTA sP sP 12 40 15.9 +2.2
GTA PP **PP** 12 40 54.2 -0.9
GTA PcP **PcP** 12 42 00.8 +2.0
GTA S **S** 12 45 00.3 +1.9
GTA ScP **ScP** 12 45 34.0 +0.9
GTA PcS **PcS** 12 45 47.1 +0.9
GTA sS sS 12 45 49.0 +3.1
GTA SS **SnSn** 12 47 23.3 -8.7
GTA ScS **ScS** 12 49 38.7 +0.6
GTA pmax pmax
comp=Z,230nm,1.2s
GTA pmax pmax
comp=Z,2µm,6.7s
GTA LR LR
comp=Z,780nm,12.1s
GTA LR LR
comp=Z,1µm,11.2s
GTA LR LR
comp=Z,670nm,13.5s
GZH Guangzhou 35.59 243 P **P** 12 39 28.7 -4.3
GZH S **S** 12 44 53.2 -6.5
GZH pmax pmax
comp=Z,850nm,4.3s
HVS Khovu-Aksy 35.85 299 *e*P **P** 12 39 33.7 -1.4
HVS pmax pmax
comp=Z,79nm,1.2s
MCO Taipa Grande 36.16 242 P **P** 12 39 39.0 +1.2
SVW2 Sparrevohn 36.26 43 *e*P **P** 12 39 39.2 +0.9
comp=Z,63nm,1.0s
CD2 Chengdu 36.98 263 ⇓*i*P **P** 12 39 45.8 +1.0
CD2 pP pP 12 40 14.8 +2.5
CD2 sP sP 12 40 30.1 +3.7
CD2 PP **PnPn** 12 41 12.6 -0.7
CD2 S **S** 12 45 21.3 +0.3
CD2 pmax pmax
comp=Z,2µm,4.0s
CD2 LR LR
comp=Z,1µm,20.9s
CD2 LR LR
comp=Z,1µm,22.8s
CD2 LR LR
comp=Z,2µm,27.8s
GYA Guiyang 37.69 254 ⇓*i*P **P** 12 39 50.9 0.0
GYA pP pP 12 40 22.0 +3.6
GYA sP sP 12 40 37.8 +5.3
GYA PP **PP** 12 41 19.3 0.0
GYA PcP **PcP** 12 42 07.2 +1.6
GYA S **S** 12 45 29.7 -2.2
GYA ScP **ScP** 12 45 41.8 +0.4
GYA SS **SS** 12 48 14.0 -8.2
GYA ScS **ScS** 12 49 49.5 -1.1
GYA pmax pmax
comp=Z,290nm,0.9s
GYA pmax pmax
comp=Z,530nm,6.5s
GYA LR LR
comp=Z,2µm,16.6s
GYA LR LR
comp=Z,1µm,17.3s
GYA LR LR
comp=Z,1µm,17.6s
OHAK Old Harbor 37.70 50 *e*P **P** 12 39 49.8 -0.6
comp=Z,259nm,1.1s
PPLA Purkeypile 37.84 40 *e*P **P** 12 39 52.9 +1.1
comp=Z,275nm,1.5s
CAST Castle Rocks 37.88 39 *e*P **P** 12 39 52.8 +0.8
comp=Z,48nm,0.9s
SPU Mount Spurr 37.96 43 *e*P **P** 12 39 53.4 +0.6
KDAK Kodiak Island 38.00 49 ScP **ScP** 12 45 41.5 -0.4
comp=Z,68nm,1.1s,baz=316,slow=7.9,SNR=6.9
KDAK Kodiak Island 38.00 49 *e*P **P** 12 39 52.1 -0.9
KDAK Kodiak Island 38.00 49 *e*P **P** 12 39 52.3 -0.7
KDAK *e*S **S** 12 45 42.0 +6.3
KDAK pmax pmax
comp=Z,269nm,1.0s
KDAK Kodiak Island 38.00 49 *e*P **P** 12 39 52.3 -0.7
comp=Z,269nm,1.0s
KDAK *e*S **S** 12 45 42.0 +6.3
BPAW Bear Paw Mtn. 38.36 38 *e*P **P** 12 39 56.4 +0.3
comp=Z,52nm,0.9s
BPAW *e*S **S** 12 45 43.5 +2.4
TGY Tagaytay City 38.38 225 P **P** 12 39 57.5 +0.8
comp=Z,423nm,0.7s,baz=356,slow=1.7,SNR=12
KTH Kantishna Hill 38.40 39 *e*P **P** 12 39 56.9 +0.5
comp=Z,116nm,1.0s
MLY Manley 38.47 37 *e*P **P** 12 39 57.5 +0.5
comp=Z,161nm,1.7s
MLY *e*S **S** 12 45 44.3 +1.5
SUA Susitna One 38.58 43 *e*P **P** 12 39 57.5 -0.4
comp=Z,244nm,2.0s
BRLK Bradley Lake 38.66 45 *e*P **P** 12 39 58.1 -0.5
comp=Z,55nm,0.7s
BRLK *e*S **S** 12 45 44.2 -1.4
TRF Thorofare Moun 38.69 39 *e*P **P** 12 39 59.4 +0.5
comp=Z,57nm,0.9s
COLD Coldfoot 38.75 33 *e*P **P** 12 39 59.1 -0.1
comp=Z,43nm,1.0s
COLD *e*S **S** 12 45 45.8 -1.1
TOLK Toolik Lake Re 39.07 31 P **P** 12 40 01.7 -0.2
baz=266
TOLK Toolik Lake Re 39.07 31 *e*P **P** 12 40 01.8 -0.1
comp=Z,214nm,1.9s
TOLK *e*S **S** 12 45 47.0 -4.7
RC01 Rabbit Creek A 39.09 43 *e*P **P** 12 40 01.9 -0.2
comp=Z,93nm,1.0s
PATS Pohnpei 39.26 163 *e*P **P** 12 40 05.0 +1.1
comp=Z,306nm,0.9s
MCK McKinley 39.28 39 *e*P **P** 12 40 03.3 -0.4
MCK McKinley 39.28 39 *e*P **P** 12 40 03.3 -0.4
MCK pmax pmax
comp=Z,62nm,1.0s
MCK McKinley 39.28 39 *e*P **P** 12 40 03.3 -0.4
comp=Z,62nm,1.0s
RND Reindeer 39.33 39 *e*P **P** 12 40 04.0 -0.2
RND pmax pmax
comp=Z,81nm,1.2s
RND Reindeer 39.33 39 *e*P **P** 12 40 04.0 -0.2
comp=Z,81nm,1.2s
SEW Seward 39.34 45 *e*P **P** 12 40 04.0 -0.2
comp=Z,60nm,0.8s
PMR Palmer 39.34 42 *e*P **P** 12 40 03.9 -0.2
PMR Palmer 39.34 42 *e*P **P** 12 40 03.9 -0.2
PMR pmax pmax
comp=Z,52nm,1.2s
PMR Palmer 39.34 42 *e*P **P** 12 40 03.9 -0.2
comp=Z,52nm,1.2s
MDM Murphy Dome 39.54 37 *e*P **P** 12 40 05.9 +0.1
comp=Z,66nm,1.0s
SML Sawmill 39.70 42 *e*P **P** 12 40 07.1 -0.1
SML pmax pmax
comp=Z,172nm,0.9s
SML Sawmill 39.70 42 *e*P **P** 12 40 07.1 -0.1
comp=Z,172nm,0.9s
COLA College 39.70 37 *e*P **P** 12 40 07.4 +0.4
COLA College 39.70 37 *e*P **P** 12 40 07.5 +0.4
COLA pmax pmax
comp=Z,148nm,1.0s
COLA College 39.70 37 *e*P **P** 12 40 07.5 +0.4
comp=Z,148nm,1.0s
CCB Clear Creek Bu 39.73 37 *e*P **P** 12 40 07.2 -0.2
comp=Z,50nm,1.1s
DHY Denali Highway 40.02 40 *e*P **P** 12 40 09.5 -0.5
comp=Z,40nm,0.9s
DGZ Jazzator, Alta 40.10 299 *d*/P **P** 12 40 10.6 -0.2
DGZ pmax pmax
comp=Z,10.0nm,0.9s
HDA Harding Lake 40.11 38 *e*P **P** 12 40 09.9 -0.7
comp=Z,68nm,1.0s
IL1 Eielson Array 40.12 37 *e*P **P** 12 40 10.0 -0.6
ILAR Eielson Array 40.12 37 P **P** 12 40 10.1 -0.5
comp=Z,38nm,1.0s,baz=259,slow=6.0,SNR=99
ILAR pP **pP** 12 40 37.5 -0.9
comp=Z,89nm,1.1s,baz=282,slow=7.4,SNR=8.2
ILAR ScP **ScP** 12 45 48.7 -1.2
comp=Z,11nm,0.9s,baz=288,slow=4.0,SNR=15
ILAR S **S** 12 46 07.6 +0.3
comp=Z,2.6nm,0.9s,baz=289,slow=15,SNR=5.2
ILAR LR LR 12 58 43.2
comp=Z,420nm,18.4s,baz=279,slow=39
ILB Eielson Array 40.12 37 *e*P **P** 12 40 10.0 -0.5
ILB *e*pP **pP** 12 40 37.5 -0.9
ILB *e*S **S** 12 46 07.6 +0.3
ILB *e* 12 58 43.2
SCM Sheep Creek Mo 40.17 42 *e*P **P** 12 40 11.1 0.0
SCM pmax pmax
comp=Z,110nm,1.1s
SCM Sheep Creek Mo 40.17 42 *e*P **P** 12 40 11.1 0.0
comp=Z,110nm,1.1s
ZAA1 Zalesovo Array 40.51 306 *e*P **P** 12 40 12.0 -1.8
ZAA1 *e*pP **pP** 12 40 41.2 -0.4
ZAA1 *e*PcP **PcP** 12 42 14.6 +0.7
ZAA0 Zalesovo Array 40.51 306 *e*P **P** 12 40 12.1 -1.8
comp=Z,53nm,1.4s
ZALV Zalesovo Beam 40.51 306 P **P** 12 40 12.0 -1.9
comp=Z,3.0nm,0.3s,baz=56,slow=5.8,SNR=18
ZALV pP **pP** 12 40 41.2 -0.4
comp=Z,15nm,0.9s,baz=74,slow=5.3,SNR=4.8
ZALV PcP **PcP** 12 42 14.6 +0.7
comp=Z,41nm,0.8s,baz=74,slow=3.1,SNR=18
ZALV ScP **ScP** 12 45 51.5 -0.1
comp=Z,39nm,0.9s,baz=72,slow=4.8,SNR=22
FYU Fort Yukon 40.71 34 *e*P **P** 12 40 16.3 +0.9
comp=Z,428nm,1.8s
QIZ Qiongzhong 40.77 243 P **P** 12 40 17.3 +0.8
QIZ sP **sP** 12 40 59.2 +0.9
QIZ S **S** 12 46 17.7 -0.3
QIZ pmax pmax
comp=Z,88nm,1.4s
QIZ LR LR
comp=Z,800nm,14.1s
QIZ LR LR
comp=Z,600nm,12.3s
QIZ Qiongzhong 40.77 243 *e*P **P** 12 40 17.0 +0.5
comp=Z,149nm,1.2s
KLU Klutina 40.88 42 *e*P **P** 12 40 17.3 +0.3
comp=Z,74nm,0.8s
PAX Paxson 40.90 40 *e*P **P** 12 40 18.3 +1.1
PAX pmax pmax
comp=Z,36nm,1.0s
PAX Paxson 40.90 40 *e*P **P** 12 40 18.2 +1.1
comp=Z,36nm,1.0s
DIV Divide 41.00 43 *e*P **P** 12 40 18.3 +0.4
comp=Z,83nm,1.0s
RIDG Independ'e Rid 41.09 39 *e*P **P** 12 40 17.7 -0.9
comp=Z,58nm,0.8s
EYAK Cordova Ski Ar 41.10 44 *e*P **P** 12 40 19.4 +0.8
comp=Z,242nm,2.0s
HARP HAARP 41.11 41 *e*P **P** 12 40 19.6 +0.8
comp=Z,94nm,1.0s
NVS Novosibirsk 41.19 308 ⇑*i*P **P** 12 40 17.8 -1.6
NVS *e*PPP PPP 12 42 03.7
NVS *e*SSS SSS 12 50 11.5
NVS pmax pmax
comp=N,3.0nm,1.2s
NVS pmax pmax
comp=E,29nm,1.2s
NVS pmax pmax
comp=Z,35nm,1.2s
KMI Kunming 41.24 256 P **P** 12 40 21.5 +1.0
KMI pP pP 12 40 52.2 +3.8
KMI sP sP 12 41 06.7 +4.3
KMI PP **PnPn** 12 42 01.8 -1.9
KMI S **S** 12 46 24.7 -0.5
KMI sS sS 12 47 17.3 +3.7
KMI SS **SS** 12 49 26.5 -6.6
KMI pmax pmax
comp=Z,600nm,1.1s
KMI pmax pmax
comp=Z,2µm,4.0s
KMI LR LR
comp=Z,520nm,11.0s
KMI LR LR
comp=Z,540nm,12.2s
KMI LR LR
comp=Z,460nm,15.0s
BMRM Bremner River 41.59 43 *e*P **P** 12 40 23.0 +0.3
comp=Z,77nm,0.9s
RAGM Ragged Mountai 41.65 44 *e*P **P** 12 40 23.9 +0.7
comp=Z,98nm,1.2s
MENT Mentasta 41.70 40 *e*P **P** 12 40 24.2 +0.6
comp=Z,40nm,1.0s
WMQ Urumqi 41.99 290 P **P** 12 40 26.0 -0.2
WMQ pP pP 12 40 56.8 +2.6
WMQ PP **PP** 12 42 06.4 +0.8
WMQ PcP **PcP** 12 42 19.5 +0.4
WMQ S **S** 12 46 39.3 +3.7
WMQ pmax pmax
comp=Z,160nm,0.9s
WMQ pmax pmax
comp=Z,2µm,5.5s
WMQ LR LR
comp=Z,4µm,13.1s
WMQ LR LR
comp=Z,2µm,15.9s
WMQ LR LR
comp=Z,2µm,27.5s
ZSN Zaisan 42.45 296 *i* P **P** 12 40 27.0 -2.9
comp=Z,18nm,1.0s
EGAK Eagle 42.56 37 *e*P **P** 12 40 30.2 -0.3
comp=Z,99nm,1.1s
DAWY Dawson 43.43 38 *e*P **P** 12 40 37.9 +0.3
comp=Z,19nm,0.8s
PCA Pinnacle 43.87 43 *e*P **P** 12 40 41.5 +0.4
comp=Z,60nm,1.1s
SEM Semipalatinsk 44.25 302 *i* P **P** 12 40 42.1 -2.3
comp=Z,281nm,1.4s
MK31 Makanchi Array 44.32 297 *e*P **P** 12 40 44.3 -0.6
MK31 Makanchi Array 44.32 297 *e*P **P** 12 40 44.2 -0.6
MK32 Makanchi Array 44.32 297 *e*P **P** 12 40 44.2 -0.7
MK32 *e*PcP **PcP** 12 42 27.0 +0.1
MK32 *e* 12 59 33.3
MK32 *e* 13 18 36.2
MKAR Makanchi Array 44.32 297 P **P** 12 40 44.2 -0.7
comp=Z,16nm,0.6s,baz=79,slow=7.9,SNR=79
MKAR PcP **PcP** 12 42 27.0 +0.1
comp=Z,28nm,0.8s,baz=65,slow=5.8,SNR=4.3
MKAR ScP **ScP** 12 46 06.9 -0.2
comp=Z,3.1nm,0.7s,baz=57,slow=4.6,SNR=4.9
MKAR LR LR 12 59 33.3
comp=Z,1µm,21.5s,baz=70,slow=36
MKAR P4KPbc 13 18 36.2
comp=Z,0.4nm,0.7s,baz=67,slow=3.4,SNR=5.4
MKAR Makanchi Array 44.32 297 *e*P **P** 12 40 44.3 -0.7
MKAR 12 42 27.0
MKAR pmax pmax
comp=Z,172nm,0.8s
MKAR Makanchi Array 44.32 297 *e*P **P** 12 40 44.2 -0.7
comp=Z,172nm,0.8s
MKAR PcP **PcP** 12 42 27.0 +0.1
MKAR *e* 13 18 36.2
MK01 Makanchi Array 44.33 297 *e*P **P** 12 40 44.2 -0.8
MAKZ Makanchi 44.52 297 *e*P **P** 12 40 45.8 -0.7
MAKZ pmax pmax
comp=Z,29nm,0.8s
MAKZ Makanchi 44.52 297 *e*P **P** 12 40 45.8 -0.7
comp=Z,29nm,0.8s
INK Inuvik 44.99 31 ScP **ScP** 12 46 09.3 -0.1
comp=Z,9.4nm,1.0s,baz=288,slow=7.2,SNR=3.7
INK S **S** 12 47 16.8 -1.7
comp=Z,4.2nm,1.0s,baz=90,slow=28,SNR=4.1
INK Inuvik 44.99 31 *e*P **P** 12 40 49.9 +0.1
INK Inuvik 44.99 31 *e*P **P** 12 40 50.0 +0.1
INK *e*S **S** 12 47 16.8 -1.7
INK pmax pmax
comp=Z,49nm,0.8s

INK **Inuvik** 44.99 31 *e*P P 12 40 50.0 +0.1
comp=Z,49nm,0.8s
INK *e*S S 12 47 16.8 -1.7
HYT **Haines Junctio** 45.01 42 *e*P P 12 40 50.7 +0.5
comp=Z,190nm,1.0s
KURK **Kurchatov** 45.11 303 *de*P P 12 40 49.6 -1.4
KURK pmax pmax
comp=Z,62nm,1.4s
KURK **Kurchatov** 45.11 303 *e*P P 12 40 49.6 -1.4
comp=Z,55nm,0.9s
KURK *e*P P 12 40 50.3 -0.7
KURK *e*PcP PcP 12 42 29.6 +0.2
KURK *e* 13 18 39.0
KURK **Kurchatov** 45.11 303 P P 12 40 49.7 -1.4
SNR=24
KURBB **Kurchatov Arra** 45.20 303 P P 12 40 50.3 -1.4
comp=Z,12nm,0.3s,baz=74,slow=8.2,SNR=160
KURBB PcP PcP 12 42 29.6 -0.1
comp=Z,33nm,0.8s,baz=72,slow=3.4,SNR=9.3
KURBB ScP ScP 12 46 10.3 -0.3
comp=Z,16nm,1.1s,baz=70,slow=3.4,SNR=11
KURBB P4KPbc 13 18 39.0
comp=Z,0.7nm,0.9s,baz=71,slow=3.4,SNR=5.5
JOHN **Johnston Islan** 45.55 114 *e*P P 12 40 55.2 +0.3
comp=Z,700nm,1.0s
SKNT **Sakolnakorn** 46.04 247 P P 12 40 58.7 0.0
comp=Z,170nm,1.2s,comp=Z,2µm
WHY **Whitehorse** 46.29 42 *e*P P 12 41 01.4 +1.0
comp=Z,65nm,1.3s
UBPT **Khong Chiam** 46.33 244 P P 12 41 01.4 +0.4
comp=Z,223nm,1.4s
SKAG **Skagway** 46.44 43 *e*P P 12 41 02.7 +1.4
comp=Z,36nm,1.1s
LSA **Lhasa** 46.58 271 P P 12 41 05.3 +1.9
LSA pmax pmax
comp=Z,210nm,1.0s
LSA **Lhasa** 46.58 271 *e*P P 12 41 05.5 +2.1
LSA pmax pmax
comp=Z,178nm,1.0s
LSA **Lhasa** 46.58 271 *e*P P 12 41 05.5 +2.1
comp=Z,178nm,1.0s
LSA **Lhasa** 46.58 271 P P 12 41 05.4 +2.1
BESE **Bessie Mountai** 46.95 44 *e*P P 12 41 06.3 +0.9
comp=Z,82nm,1.2s
SIT **Sitka** 47.23 46 *e*P P 12 41 08.8 +1.4
SIT **Sitka** 47.23 46 *e*P P 12 41 08.8 +1.4
SIT pmax pmax
comp=Z,147nm,1.2s
SIT **Sitka** 47.23 46 *e*P P 12 41 08.8 +1.4
comp=Z,147nm,1.2s
CMAI **Chiengmai2** 47.24 254 P P 12 41 09.8 +1.5
comp=Z,2µm,1.2s,comp=Z,32µm
KHON **Khomkaen** 47.26 247 P P 12 41 09.4 +1.2
comp=Z,193nm,0.9s,comp=Z,3µm
MYLDM **Lahad Datu** 47.28 221 *e*P P 12 41 10.0 +1.6
comp=Z,139nm,1.1s
TDK **Taldyqorghan** 47.53 296 *i*P P 12 41 09.1 -1.0
comp=Z,779nm,1.2s
KKM **Kota Kinabalu** 47.63 225 *e*P P 12 41 12.7 +1.5
comp=Z,60nm,1.0s
LAMP **Lampang** 47.82 252 P P 12 41 14.0 +1.5
comp=Z,113nm,0.9s,comp=Z,848nm
JAY **Jayapura** 47.86 189 P P 12 41 14.1 +1.2
comp=Z,679nm,1.0s
UZB **Uzynbulak** 47.97 293 *i*P P 12 41 11.1 -2.6
comp=Z,377nm,1.5s
UZB *i*pP pP 12 41 41.0 -1.3
UZB *i*sP sP 12 41 55.9 -0.2
GENI **Genyem** 48.00 190 P P 12 41 15.7 +1.8
comp=Z,156nm,1.1s
KPKS **Kokpek** 48.05 294 *i*P P 12 41 11.7 -2.5
comp=Z,201nm,1.4s
CMMT **Chiang Mai** 48.08 253 P P 12 41 14.4 -0.2
comp=Z,311nm,1.2s,comp=Z,4µm
CHTO **Chiang Mai** 48.08 253 P P 12 41 15.5 +0.9
comp=Z,1µm,1.1s,comp=Z,16µm
CHTO **Chiang Mai** 48.08 253 *e*P P 12 41 15.8 +1.3
CHTO pmax pmax
comp=Z,263nm,1.0s
CHTO **Chiang Mai** 48.08 253 *e*P P 12 41 15.8 +1.3
comp=Z,263nm,1.0s
CHTO **Chiang Mai** 48.08 253 P P 12 41 15.8 +1.3
SNR=107
SWI **Sorong** 48.09 202 P P 12 41 14.7 +0.1
CHAI **Chaiyaphum** 48.12 248 P P 12 41 15.6 +0.7
comp=Z,137nm,0.9s,comp=Z,1µm
PHIT **Phitsanulok** 48.23 250 P P 12 41 17.0 +1.3
comp=Z,160nm,1.0s,comp=Z,1µm
CM31 **Chiang Mai Arr** 48.33 253 *e*P P 12 41 18.2 +1.7
CM31 *e*PcP PcP 12 42 42.7 +1.4
CM31 *e* 13 02 49.0
CM31 **Chiang Mai Arr** 48.33 253 P P 12 41 17.1 +0.6
CMAR **Chiang Mai Arr** 48.33 253 P P 12 41 18.0 +1.5
comp=Z,64nm,0.8s,baz=38,slow=7.4,SNR=348
CMAR PcP PcP 12 42 42.7 +1.4
comp=Z,15nm,0.8s,baz=40,slow=1.8,SNR=6.7
CMAR ScP ScP 12 46 25.1 +0.9
comp=Z,24nm,1.0s,baz=21,slow=3.8,SNR=27
CMAR LR LR 13 02 49.0
comp=Z,413nm,18.8s,baz=55,slow=37
CM01 **Chiang Mai Arr** 48.34 253 *e*P P 12 41 17.8 +1.2
SATY **Saty** 48.41 294 *i*P P 12 41 15.7 -1.3
comp=Z,682nm,1.6s
SHL **Shillong** 48.54 266 *i*P P 12 41 19.0 +0.7
comp=Z,72nm,1.0s
SHL IAmb IAmb 12 41 20.4
comp=Z,580nm,1.2s
SHL *e*S S 12 48 10.0 -0.5
BRZS **Berezniki** 48.90 304 ⇓*i*P P 12 41 18.6 -1.9
comp=Z,86nm,1.2s
BVA0 **Borovoye Array** 48.95 309 *i*P P 12 41 19.1 -1.7
BVA0 pmax pmax
comp=Z,62nm,1.5s
BVAR **Borovoye Array** 48.95 309 P P 12 41 19.7 -1.2
comp=Z,4.5nm,0.3s,baz=54,slow=8.2,SNR=35
BVAR PcP PcP 12 42 43.8 +0.8
comp=Z,47nm,1.0s,baz=64,slow=3.4,SNR=9.7
BVAR ScP ScP 12 46 26.3 -0.1
comp=Z,19nm,1.1s,baz=72,slow=4.8,SNR=8.7
BVAR LR LR 13 04 55.9
comp=Z,441nm,19.3s,baz=74,slow=40
CRAG **Craig** 48.95 48 *e*P P 12 41 21.8 +1.1
comp=Z,113nm,1.0s
LBMI **Labuha** 48.99 207 P P 12 41 22.1 +0.6
BRVK **Borovoye** 49.00 309 *e*P P 12 41 19.8 -1.3
BRVK **Borovoye** 49.00 309 *de*P P 12 41 19.8 -1.3
BRVK pmax pmax
comp=Z,61nm,1.2s
BRVK **Borovoye** 49.00 309 *e*P P 12 41 20.0 -1.2
comp=Z,59nm,0.9s
BRVK **Borovoye** 49.00 309 P P 12 41 19.9 -1.3
SNR=24
MDOK **Medeo** 49.24 294 *i*P P 12 41 20.9 -2.5
comp=Z,315nm,1.4s
RABL **Rabaul** 49.27 174 *e*P P 12 41 24.4 +0.8
comp=Z,362nm,0.8s
AAA **Alma-Ata** 49.31 294 *i*P P 12 41 23.6 -0.2
comp=Z,312nm,1.4s
KUU **Kurty** 49.36 295 *i*P P 12 41 21.7 -2.4
comp=Z,257nm,1.2s
DLBC **Dease Lake** 49.37 43 *e*P P 12 41 25.0 +1.0
comp=Z,54nm,1.1s
SRAK **Srakaew** 49.47 246 P P 12 41 23.7 -1.5
comp=Z,942nm,1.0s,comp=Z,8µm
FAKI **Fak Fak** 49.80 200 P P 12 41 26.5 -1.2
OPA **Opana** 49.90 99 *e*P P 12 41 29.4 +0.9
OPA pmax pmax
comp=Z,649nm,1.0s
OPA **Opana** 49.90 99 *e*P P 12 41 29.4 +0.9
comp=Z,649nm,1.0s
MRSI **Marisa** 49.98 215 P P 12 41 29.4 +0.4
comp=Z,162nm,1.2s,comp=Z,2µm
KIP **Kipapa** 50.07 100 *i*P P 12 41 30.0 +0.3
KIP **Kipapa** 50.07 100 *e*P P 12 41 30.3 +0.6
comp=Z,563nm,1.1s
HON **Honolulu** 50.15 100 *e*P P 12 41 30.9 +0.7
HON pmax pmax
comp=Z,321nm,1.0s
HON **Honolulu** 50.15 100 *e*P P 12 41 30.9 +0.7
comp=Z,321nm,1.0s
BMNS **Besmoynak** 50.16 295 *i*P P 12 41 28.6 -1.8
comp=Z,451nm,1.5s
BMNS *i*pP pP 12 41 58.4 -0.7
BMNS *i*sP sP 12 42 13.2 +0.3
ULHL **Ulahol** 50.20 294 P P 12 41 31.6 +0.8
SNR=8.8
DIB **Dawson Inlet,** 50.22 50 *e*P P 12 41 31.5 +1.1
comp=Z,71nm,0.8s
CHBT **CHBT** 50.23 245 P P 12 41 32.8 +1.9
comp=Z,438nm,0.9s
BTLS **Baital** 50.27 298 *i*P P 12 41 28.6 -2.4
comp=Z,126nm,1.5s
TKM2 **Tokmak 2** 50.30 295 P P 12 41 31.9 +0.5
SNR=71
CHMS **Chumysh** 50.80 295 P P 12 41 35.0 +0.1
SNR=27
SANI **Sanana** 50.82 209 P P 12 41 34.5 -0.8
comp=Z,81nm,1.7s
USP **Ospenovka** 50.83 296 P P 12 41 35.8 +0.5
SNR=78
KBK **Karagaybulak** 50.84 295 P P 12 41 36.1 +0.6
SNR=54
KZA **Kyzart** 50.93 294 P P 12 41 37.7 +1.3
SNR=100
MPSI **Mapaga** 50.96 217 P P 12 41 36.4 +0.1
comp=Z,54nm,1.1s,comp=Z,974nm
FRU **Bishkek** 50.97 295 ⇓*i*P P 12 41 36.0 -0.2
FRU *e* 12 42 05.0
FRU pmax pmax
comp=Z,380nm,2.0s
LUWI **Luwuk** 51.05 213 P P 12 41 33.2 -3.8
LUWI **Luwuk** 51.05 213 *e*P P 12 41 35.5 -1.4
comp=Z,331nm,1.9s
MSAI **Masohi** 51.11 204 P P 12 41 38.0 +0.5
SRDT **SRDT** 51.14 249 P P 12 41 38.0 +0.3
comp=Z,214nm,0.9s,comp=Z,4µm
AAK **Ala-Archa** 51.14 295 LR LR 13 03 56.7
comp=Z,282nm,20.8s,baz=48,slow=37
AAK **Ala-Archa** 51.14 295 *d*iP P 12 41 37.9 +0.2
AAK pmax pmax
comp=Z,120nm,1.4s
AAK **Ala-Archa** 51.14 295 P P 12 41 38.0 +0.2
SNR=40
AAK **Ala-Archa** 51.14 295 *e*P P 12 41 37.9 +0.2
comp=Z,140nm,1.4s
AAK **Ala-Archa** 51.14 295 P P 12 41 38.1 +0.4
SNR=32
AAK **Ala-Archa** 51.14 295 *i*P P 12 41 37.8 +0.1
SNR=46
JIRN **Jiri** 51.29 272 *e*P P 12 41 40.6 +1.3
comp=Z,4µm,1.3s
UCH **Uchtor** 51.33 294 P P 12 41 39.8 +0.3
SNR=20
GUN **Gumba** 51.36 273 *e*P P 12 41 40.8 +1.0
comp=Z,2µm,1.1s
APSI **Ampana** 51.36 214 P P 12 41 39.2 -0.2
comp=Z,126nm,0.8s,comp=Z,2µm
KHLH **Kahului Airpor** 51.53 99 *e*P P 12 41 41.8 +1.2
comp=Z,577nm,0.9s
EKS2 **Erkin-Say** 51.59 295 P P 12 41 41.5 +0.6
SNR=55
HLK **Haleakala** 51.75 99 *e*P P 12 41 43.8 +1.2
comp=Z,591nm,1.3s
KSH **Kashi** 51.75 291 P P 12 41 46.6 +4.4
KSH pP pP 12 42 16.6 +5.4
KSH PcP PcP 12 42 56.3 +2.5
KSH PP PP 12 43 47.7 +6.9
KSH S S 12 48 57.0 +2.4
KSH sS sS 12 49 49.2 +4.7
KSH ScS ScS 12 51 18.8 -1.2
KSH pmax pmax
comp=Z,170nm,1.2s
KSH pmax pmax
comp=Z,830nm,8.5s
KSH LR LR
comp=Z,450nm,12.6s
KSH LR LR
comp=Z,570nm,8.0s
KSH LR LR
comp=Z,1µm,18.4s
PHET **Kaeng Krachan** 51.86 247 P P 12 41 45.1 +2.0
comp=Z,154nm,0.9s,comp=Z,1µm
KKN **Kakani** 51.86 273 *e*P P 12 41 44.4 +1.1
comp=Z,4µm,1.7s
PKI **Pulchoki** 51.90 273 *e*P P 12 41 44.7 +1.0
comp=Z,2µm,1.4s
PKIN **Phulchoki** 51.90 273 *e*P P 12 41 44.9 +1.2
comp=Z,560nm,0.9s
AML **Almayashu** 51.91 295 P P 12 41 44.6 +0.9
SNR=48
DMN **Daman** 52.09 273 *e*P P 12 41 46.4 +1.3
comp=Z,1µm,0.9s
GKN **Gorkha** 52.19 273 *e*P P 12 41 47.0 +1.4
MHA **Mahukona** 52.37 99 *e*P P 12 41 47.6 +0.8
MHA **Mahukona** 52.37 99 *e*P P 12 41 47.6 +0.8
SVE **Sverdlovsk** 52.42 316 ⇓*e*P P 12 41 45.5 -1.2
SVE *e*S S 12 48 59.0 -3.9
SVE pmax pmax
comp=Z,68nm,1.3s
DANN **Dangsing** 52.60 274 *e*P P 12 41 50.5 +1.7
HPAH **Hawaii Prepara** 52.62 99 *e*P P 12 41 49.2 +0.4
comp=Z,328nm,0.9s
KKH **Kailua Kona** 52.64 100 *e*P P 12 41 49.6 +0.8
KKH **Kailua Kona** 52.64 100 *e*P P 12 41 49.6 +0.8
SBUM **Sibu** 52.73 227 *e*P P 12 41 50.6 +1.1
comp=Z,53nm,1.0s
KHLU **Kalu'u** 52.77 100 *e*P P 12 41 50.4 +0.4
comp=Z,462nm,0.9s
POHA **Pohakuloa** 52.91 99 *e*P P 12 41 51.6 +0.4
comp=Z,1µm,0.9s
SOKR **Solikamsk** 52.96 320 *c*iP P 12 41 47.9 -2.7
SOKR pmax pmax
comp=Z,34nm,0.9s
SOKR MLR MLR
comp=Z,578nm,23.0s
MLOA **Mauna Loa Obse** 53.03 99 *e*P P 12 41 52.9 +0.6
comp=Z,474nm,0.9s
DZA **Taraz** 53.03 297 *i*P P 12 41 51.1 -0.4
comp=Z,928nm,1.2s
HMH **Humu'ula Sheep** 53.05 99 *e*P P 12 41 53.3 +1.1
comp=Z,508nm,1.0s
MWH **Moku'aweowe** 53.05 99 *e*P P 12 41 52.7 +0.2
comp=Z,346nm,0.9s
KOLN **Koldanda** 53.06 274 *e*P P 12 41 53.4 +1.3
comp=Z,2µm,1.3s
MLH **Mauna Loa** 53.19 99 *e*P P 12 41 54.0 +0.8
MLH **Mauna Loa** 53.19 99 *e*P P 12 41 54.0 +0.8
comp=Z,602nm,0.9s
PYUN **Piuthan** 53.29 275 *e*P P 12 41 55.2 +1.4
comp=Z,3µm,1.1s
KKO **Keanakako'i** 53.34 99 *e*P P 12 41 54.9 +0.8
comp=Z,299nm,1.0s
PUH **Pauahi** 53.39 99 *e*P P 12 41 54.8 +0.3
comp=Z,404nm,0.9s
KK31 **Karatay Array** 53.44 297 *i*P P 12 41 54.2 -0.3
KK31 pmax pmax
comp=Z,7.0nm,0.4s
KKAR **Karatay Array** 53.44 297 *e*P P 12 41 54.4 -0.1
KKAR **Karatay Array** 53.44 297 *e*P P 12 41 54.4 -0.1
STCH **Steam Cracks** 53.45 99 *e*P P 12 41 55.1 +0.2
comp=Z,396nm,0.9s
NPOC **North of Pu'u** 53.45 99 *e*P P 12 41 55.1 +0.3
comp=Z,476nm,1.0s
SPITS **Spitsbergen Ar** 53.49 349 P P 12 41 52.8 -1.6
comp=Z,11nm,1.0s,baz=23,slow=11,SNR=9.2
SPITS PcP PcP 12 42 59.8 +0.2
comp=Z,28nm,1.1s,baz=38,slow=7.3,SNR=4.2
SPITS LR LR 13 04 50.1
comp=Z,227nm,21.8s,baz=5.0,slow=36
RES **Resolute Bay** 53.51 17 ScP ScP 12 46 46.0 +0.3
comp=Z,8.9nm,0.9s,baz=305,slow=5.1,SNR=5.5
RES **Resolute Bay** 53.51 17 *e*P P 12 41 52.6 -1.9
RES pmax pmax
comp=Z,29nm,0.8s
RES **Resolute Bay** 53.51 17 *e*P P 12 41 52.6 -1.9
comp=Z,29nm,0.8s
HULD **Heiheiahulu Di** 53.53 99 *e*P P 12 41 55.9 +0.4
comp=Z,676nm,1.3s
ARU **Arti** 53.62 316 ScP ScP 12 46 44.7 -1.8
comp=Z,8.8nm,0.2s,baz=134,slow=6.0,SNR=3.5
ARU LR LR 13 07 27.6
comp=Z,431nm,19.8s,baz=70,slow=39
ARU **Arti** 53.62 316 *d*iP P 12 41 53.7 -1.9
ARU *PP pP 12 42 24.6 -0.1
ARU 12 42 59.8
ARU S S 12 49 17.8 -1.4
ARU SS SKiKP 12 52 58.5 +1.8
ARU pmax pmax
comp=Z,112nm,1.7s
ARU **Arti** 53.62 316 *e*P P 12 41 53.9 -1.7
comp=Z,87nm,1.2s
BKB **Balikpapan** 53.70 219 P P 12 41 57.1 +0.5
comp=Z,478nm,1.1s,comp=Z,4µm
KDI **Kendari** 53.78 212 P P 12 41 58.2 +1.0
BOK **Bokaro** 53.89 268 *e*P P 12 41 58.9 +0.9
TTSI **Tana Toraja** 54.04 215 P P 12 41 57.6 -1.5
IUG **Iuzhnay** 54.24 296 *i*P P 12 41 58.1 -2.3
comp=Z,1µm,1.2s
PMG **Port Moresby** 54.30 181 P P 12 42 01.9 +1.0
comp=Z,17nm,0.6s,baz=54,slow=4.6,SNR=9.8
PMG LR LR 13 03 42.6
comp=Z,181nm,21.4s,baz=354,slow=34
PMG **Port Moresby** 54.30 181 *e*P P 12 42 01.8 +1.0
comp=Z,160nm,1.8s
MTKI **Muara Teweh, K** 54.34 222 P P 12 42 02.1 +0.8
comp=Z,248nm,1.1s
YKW3 **Yellowknife Ar** 54.37 34 *e*P P 12 42 01.1 +0.2
comp=Z,35nm,0.9s
YKA **Yellowknife Ar** 54.41 34 P P 12 42 01.3 +0.2
comp=Z,21nm,0.8s,baz=300,slow=6.9,SNR=128
YKA pP pP 12 42 29.0 -1.3
comp=Z,21nm,0.7s,baz=300,slow=6.9,SNR=7.3
YKA ScP ScP 12 46 50.2 +0.4
comp=Z,3.1nm,1.0s,baz=296,slow=5.0,SNR=4.1
YKA S S 12 49 31.0 +1.3
comp=Z,1.9nm,1.1s,baz=297,slow=13,SNR=4.3
YKA LR LR 13 06 12.8
comp=Z,22nm,20.8s,baz=0.0,slow=37
CHM **Chimkent** 54.42 297 *i*P P 12 42 01.2 -0.4
comp=Z,940nm,1.2s
KSM **Kuching** 54.56 228 *e*P P 12 42 04.2 +1.3
comp=Z,146nm,1.2s
STKI **Sintang** 55.15 226 P P 12 42 08.5 +1.4
comp=Z,100nm,1.3s,comp=Z,6µm
BNSI **Bone** 55.16 214 P P 12 42 08.1 +1.0
comp=Z,37nm,0.7s
SURT **Suratani** 55.35 245 P P 12 42 09.2 +0.6
comp=Z,61nm,1.2s,comp=Z,783nm
HNR **Honiara** 55.43 165 P P 12 42 09.4 +0.4
comp=Z,69nm,0.8s,baz=176,slow=6.6,SNR=3.6
HNR LR LR 13 03 28.7
comp=Z,369nm,20.7s,baz=342,slow=33
HNR **Honiara** 55.43 165 P P 12 42 08.0 -1.0
HNR **Honiara** 55.43 165 *e*P P 12 42 09.4 +0.4
HNR *e*P P 12 42 10.1 +1.0
DDI **Dehra Dun** 55.43 280 *e*P P 12 42 10.2 +1.1
DHRM **DHARAMSHALA** 55.52 283 *e*P P 12 42 09.5 -0.4
SKLT **Songkhla** 55.56 242 P P 12 42 15.3 +5.2
comp=Z,56nm,1.2s,comp=Z,884nm
SMLA **Simla** 55.57 281 *e*P P 12 42 10.6 +0.5
TRTT **Trang** 55.63 243 P P 12 42 11.2 +0.6
comp=Z,53nm,1.4s,comp=Z,764nm
KBKI **Kotabaru** 55.83 219 P P 12 42 11.5 -0.5
DGPR **DIGLIPUR** 56.13 253 *e*P P 12 42 13.5 -0.6
TULEG **Thule** 56.38 10 *e*P P 12 42 12.9 -2.2
comp=Z,44nm,1.1s
PKDT **Phuket** 56.45 244 P P 12 42 17.1 +0.7
comp=Z,125nm,1.1s,comp=Z,1µm
AB31 **Akbulak array** 56.52 308 *i*P P 12 42 15.2 -1.3
AB31 pmax pmax
comp=Z,26nm,0.4s
ABKAR **Akbulak array** 56.52 308 *e*P P 12 42 15.5 -1.0
comp=Z,701nm,1.0s
LVZ **Lovozero** 56.70 335 *ce*P P 12 42 15.6 -1.9
LVZ pmax pmax
comp=Z,36nm,1.0s
LVZ **Lovozero** 56.70 335 *e*P P 12 42 15.7 -1.9
comp=Z,41nm,1.1s
AKTO **Aktyubinsk** 56.95 310 P P 12 42 18.3 -1.2
comp=Z,26nm,1.0s,baz=63,slow=5.5,SNR=27
AKTO LR LR 13 06 52.9
comp=Z,556nm,21.8s,baz=51,slow=36
KULM **Kulim** 57.01 240 *e*P P 12 42 21.4 +1.0
comp=Z,159nm,0.9s
LLLB **Lillooet** 57.21 49 *e*P P 12 42 22.1 +0.7
comp=Z,70nm,1.0s
APA **Apatity** 57.28 335 ⇓*i*P P 12 42 18.6 -3.0
APA *i**PP pP 12 42 44.4 -6.6
APA *i*S S 12 49 58.0 -10
APA pmax pmax
comp=Z,20nm,1.0s
PBA **Port Blair** 57.35 252 *e*P P 12 42 22.6 -0.1
IPM **Ipoh** 57.41 239 *e*P P 12 42 23.6 +0.4
comp=Z,63nm,0.9s
KEV **Kevo** 57.56 339 *e*P P 12 42 21.9 -1.5
KEV pmax pmax
comp=Z,59nm,1.4s
KEV **Kevo** 57.56 339 *e*P P 12 42 21.9 -1.5
comp=Z,59nm,1.4s
A04D **Lummi Island** 57.79 52 P P 12 42 25.2 -0.2
baz=304
NLWA **Neilton Lookou** 57.87 53 *e*P P 12 42 27.4 +1.3
comp=Z,157nm,0.9s
MYKOM **Kota Tinggi** 57.88 235 *e*P P 12 42 28.3 +1.8
comp=Z,203nm,1.0s
TMCR **Tamitsa** 57.96 331 *e*P P 12 42 24.5 -1.8
TMCR pmax pmax
comp=Z,101nm,1.0s
ARA0 **ARCESS Array S** 58.09 339 *e*P P 12 42 25.3 -1.9
ARA0 *e*PcP PcP 12 43 17.9 +0.3
ARA0 *e* 13 11 25.6
ARCES **ARCESS Array B** 58.09 339 P P 12 42 25.3 -1.9
comp=Z,8.1nm,0.5s,baz=48,slow=7.8,SNR=35
ARCES PcP PcP 12 43 17.9 +0.3
comp=Z,14nm,0.8s,baz=38,slow=4.6,SNR=5.6
ARCES LR LR 13 11 25.6
comp=Z,333nm,18.3s,baz=40,slow=40
ARE0 **ARCESS Array S** 58.09 339 *e*P P 12 42 25.8 -1.4
comp=Z,185nm,1.8s
ARE0 **ARCESS Array S** 58.09 339 *e*P P 12 42 24.8 -2.4
ARE0 IAmb IAmb 12 42 27.4
comp=Z,85nm,1.4s
TPRI **Tanjung Pinang** 58.20 234 P P 12 42 30.4 +1.7
comp=Z,256nm,1.1s,comp=Z,25µm
B05A **Bryant** 58.38 52 P P 12 42 30.1 +0.6
baz=304,SNR=15
B06A **Marblemount** 58.58 51 *e*P P 12 42 31.2 +0.3
comp=Z,110nm,1.2s
SOEI **Soe** 58.60 207 P P 12 42 30.5 -1.0
SOEI **Soe** 58.60 207 *e*P P 12 42 31.6 0.0
comp=Z,65nm,0.8s
COEN **Coen** 58.97 185 *e*P P 12 42 34.9 +1.0
comp=Z,58nm,1.0s
D05A **Enumclaw** 59.05 53 *e*P P 12 42 35.3 +1.1
comp=Z,118nm,1.0s
F04D **Rainier, OR** 59.09 54 P P 12 42 35.2 +0.7
baz=305
KBL **Kabul** 59.12 289 *e*P P 12 42 34.6 -0.5
KBL pmax pmax
comp=Z,275nm,0.9s
KBL **Kabul** 59.12 289 *e*P P 12 42 34.6 -0.5
comp=Z,275nm,0.9s
BATI **Baumata** 59.22 208 P P 12 42 35.1 -0.6
comp=Z,20nm,0.5s,baz=346,slow=2.7,SNR=3.7
C06D **Leavenworth** 59.24 51 P P 12 42 36.2 +0.7
baz=305,SNR=8.5
DSRI **Dabo** 59.31 233 P P 12 42 38.4 +2.0
comp=Z,575nm,1.1s,comp=Z,6µm
HEF **Hetta** 59.36 339 *e*P P 12 42 34.0 -2.0
LHMI **Lhok Sumawe** 59.37 244 P P 12 42 38.7 +1.9
LHMI **Lhok Sumawe** 59.37 244 *e*P P 12 42 37.9 +1.1
comp=Z,120nm,0.9s
KULLO **Kullorsuaq** 59.40 8 *i*P P 12 42 33.6 -2.5
KULLO **Kullorsuaq** 59.40 8 *i*P P 12 42 33.6 -2.5
G03D **McMinnville, O** 59.44 55 P P 12 42 37.9 +1.0
baz=305
KLMR **Klimovskoe** 59.48 327 *e*P P 12 42 33.3 -3.6
KLMR *e* 12 43 20.9
KLMR pmax pmax
comp=Z,92nm,1.5s
KLMR **Klimovskoe** 59.48 327 *e*P P 12 42 33.4 -3.5
KLMR AMP 12 42 37.3
comp=Z,92nm,1.5s
KLMR *e*pP pP 12 43 09.3 +2.7
KLMR *e*PcP sP 12 43 20.9 +0.7
TRO **Tromso** 59.57 342 *e*P P 12 42 33.8 -3.6
TRO IAmb IAmb 12 42 37.0
comp=Z,133nm,1.3s
KIF **Kilpisjarvi** 59.62 340 *e*P P 12 42 35.3 -2.4
MTN **Manton Dam** 59.64 199 *e*P P 12 42 39.2 +0.7
comp=Z,83nm,0.8s
VIS **Vishakhapatnam** 59.66 265 *e*P P 12 42 38.5 -0.3
LTY **Liberty** 59.74 52 *e*P P 12 42 39.4 +0.3
comp=Z,112nm,1.4s
COR **Corvallis** 59.77 56 *e*P P 12 42 40.8 +1.6
COR pmax pmax
comp=Z,294nm,0.9s
COR **Corvallis** 59.77 56 *e*P P 12 42 40.8 +1.6
comp=Z,294nm,0.9s
KNTN **Kanton** 59.79 131 *e*P P 12 42 39.8 +0.2

comp=Z,165nm,0.9s
PPBI Pangkal Pinang 59.84 230 P P 12 42 41.4 +1.4
B08A Colville Reser 59.85 50 *eP* **P 12 42 40.1 +0.4**
comp=Z,152nm,1.4s
WTV Waterville 59.89 51 *eP* **P 12 42 40.3 +0.3**
PSI Prapat 60.01 240 P **P 12 42 42.1 +0.8**
comp=Z,90nm,0.9s,baz=8.4,slow=4.9,SNR=58
PSI LR LR 13 11 02.7
comp=Z,133nm,18.2s,baz=18,slow=38
PSI Prapat 60.01 240 *eP* **P 12 42 41.8 +0.5**
PSI pmax pmax
comp=Z,98nm,0.9s
PSI Prapat 60.01 240 *eP* **P 12 42 41.8 +0.5**
comp=Z,98nm,0.9s
PSI *e* 13 11 02.7
EDM Edmonton 60.09 43 *eP* **P 12 42 41.3 0.0**
EDM Edmonton 60.09 43 *eP* **P 12 42 41.3 0.0**
EDM pmax pmax
comp=Z,152nm,1.0s
EDM Edmonton 60.09 43 *eP* **P 12 42 41.3 0.0**
comp=Z,152nm,1.0s
KEBM Edson Butte 60.15 58 *eP* **P 12 42 42.4 +0.5**
KCSI Kotacane, Aceh 60.16 242 P **P 12 42 40.8 -1.5**
comp=Z,38nm,1.1s
WBSI Waikabubak, Su 60.22 213 P **P 12 42 39.4 -3.2**
BHPL Bhopal 60.23 274 *eP* **P 12 42 42.2 -0.4**
H04A Detroit Lake 60.37 55 *eP* **P 12 42 44.0 +0.7**
comp=Z,193nm,1.0s
NGP Nagpur 60.43 271 *eP* **P 12 42 44.3 +0.3**
MLSI Meulaboh, Aceh 60.45 244 P **P 12 42 43.8 -0.4**
comp=Z,227nm,0.9s
FUNA Funafuti 60.46 144 *eP* **P 12 42 45.0 +0.9**
comp=Z,198nm,1.4s
SRBI Singaraja 60.52 218 P **P 12 42 45.1 +0.6**
comp=Z,177nm,1.2s,comp=Z,2μm
G05D Wamic, OR 60.55 54 P **P 12 42 45.7 +1.2**
baz=306,SNR=14
E07A Sunnyside 60.60 52 *eP* **P 12 42 45.7 +0.8**
comp=Z,101nm,1.0s
ABJI Asem Bagus 60.69 219 P **P 12 42 45.1 -0.6**
BKNI Bangkinang 60.70 237 P **P 12 42 47.6 +1.7**
BKNI Bangkinang 60.70 237 *eP* **P 12 42 46.9 +1.1**
comp=Z,409nm,1.0s
TPTI 60.74 242 P **P 12 42 44.4 -1.7**
C09A Chrisman Ranch 60.75 50 *eP* **P 12 42 45.9 0.0**
comp=Z,157nm,1.3s
I04A Tendick Farm, 60.75 56 P **P 12 42 46.9 +0.9**
baz=306
D08A Wollman Farm, 60.83 51 *eP* **P 12 42 46.7 +0.3**
comp=Z,46nm,0.8s
G06A Carlson Farm, 60.94 54 *eP* **P 12 42 48.0 +0.8**
comp=Z,128nm,1.3s
F07A Phinny Hill Vi 60.95 53 *eP* **P 12 42 48.0 +0.8**
comp=Z,238nm,0.8s
L02D Cave Junction, 61.01 58 P **P 12 42 48.6 +1.0**
baz=306,SNR=8.1
I05D Terrebonne, OR 61.06 55 P **P 12 42 48.9 +0.8**
baz=306,SNR=16
E08A Dider Farm, El 61.09 52 *eP* **P 12 42 48.8 +0.7**
comp=Z,86nm,0.9s
NEW Newport 61.10 49 P **P 12 42 48.7 +0.5**
baz=307,SNR=48
NEW Newport 61.10 49 *eP* **P 12 42 48.5 +0.3**
NEW pmax pmax
comp=Z,90nm,0.9s
NEW Newport 61.10 49 *eP* **P 12 42 48.5 +0.3**
comp=Z,90nm,0.9s
HUMO Hull Mountain 61.13 57 *eP* **P 12 42 49.5 +1.1**
comp=Z,132nm,1.6s
PVM Polavaram 61.18 266 *eP* **P 12 42 50.0 +0.9**
PVM IAmb IAmb 12 42 51.1
comp=Z,231nm,1.0s
PVM *eS* **S 12 51 00.2 +1.2**
KRMB Red Mountain 61.19 59 *eP* **P 12 42 50.0 +0.9**
comp=Z,123nm,1.4s
MNSI Mandailing Nat 61.20 238 P **P 12 42 48.5 -0.7**
PMBI Palembang 61.22 231 P **P 12 42 51.4 +2.0**
comp=Z,524nm,1.0s
J04D Umpqua Nationa 61.26 56 P **P 12 42 50.4 +0.9**
baz=306,SNR=7.3
GMJI Gumukmas 61.47 219 P **P 12 42 50.3 -0.6**
SDSI Sungai Dareh 61.48 235 P **P 12 42 52.4 +1.3**
E09A Wood Farm, Sta 61.58 52 *eP* **P 12 42 52.1 +0.6**
comp=Z,155nm,1.0s
PINE Pine Mountain 61.62 55 *eP* **P 12 42 53.5 +1.5**
comp=Z,198nm,0.9s
KHMM Horse Mountain 61.69 59 *eP* **P 12 42 54.0 +1.6**
comp=Z,168nm,1.1s
KHMM *epP* **pP 12 43 24.1 +1.8**
J05D Fort Rock, OR 61.74 56 P **P 12 42 54.3 +1.5**
baz=307,SNR=29
RPR Rampur 61.76 269 *eP* **P 12 42 53.8 +0.8**
RPR IAmb IAmb 12 42 54.7
comp=Z,281nm,0.9s
RPR *eS* **S 12 51 08.3 +2.0**
YBH Yreka Blue Hor 61.79 58 P **P 12 42 54.2 +1.2**
comp=Z,59nm,0.9s,baz=349,slow=4.7,SNR=96
YBH *pP* **pP 12 43 22.7 -0.2**
comp=Z,27nm,0.9s,baz=199,slow=3.5,SNR=4.5
YBH LR LR 13 04 59.1
comp=Z,125nm,21.8s,baz=308,slow=31
YBH Yreka Blue Hor 61.79 58 *eP* **P 12 42 54.3 +1.2**
comp=Z,104nm,1.1s
YBH *pP* **pP 12 43 22.7 -0.2**
K04D Chiloquin, OR 61.83 57 P **P 12 42 54.4 +1.0**
baz=307,SNR=8.2
G08A Pilot Rock 61.86 53 *eP* **P 12 42 54.1 +0.7**
comp=Z,60nm,1.1s
M02C Callahan 61.91 59 P **P 12 42 55.3 +1.4**
baz=307,SNR=13
PWJI Pagerwojo 61.99 221 P **P 12 42 54.3 -0.2**
GSI Gunungsitoli 62.02 240 P **P 12 42 55.3 +0.6**
GSI Gunungsitoli 62.02 240 *eP* **P 12 42 55.7 +1.0**
comp=Z,277nm,1.6s
PDSI Padang 62.03 236 P **P 12 42 54.6 -0.3**
KMRM Mail Ridge 62.09 60 *eP* **P 12 42 56.1 +1.1**
comp=Z,81nm,0.9s
N02D Trinity Center 62.25 59 P **P 12 42 57.4 +1.3**
baz=307,SNR=23
I07A Izee 62.27 54 *eP* **P 12 42 56.9 +0.7**
comp=Z,44nm,1.1s
K05A Summer Lake 62.28 56 *eP* **P 12 42 57.9 +1.5**
comp=Z,266nm,1.0s
M04C Macdoel 62.28 58 P **P 12 42 57.4 +1.0**
baz=307,SNR=27
WALA Waterton Lakes 62.32 47 *eP* **P 12 42 57.1 +0.6**
comp=Z,93nm,0.9s
SRSP Sriramsagar 62.38 270 *eP* **P 12 42 57.5 +0.3**
SRSP IAmb IAmb 12 42 58.5
comp=Z,612nm,0.9s
SRSP *eS* **S 12 51 14.7 +0.5**
F10A Beach Ranch, E 62.42 52 *eP* **P 12 42 57.7 +0.6**
comp=Z,51nm,0.8s
KCPM Cahto Peak 62.49 60 *eP* **P 12 42 58.6 +0.8**
comp=Z,102nm,0.9s
SUMG Summit 62.50 2 *iP* **P 12 42 56.6 -1.0**
comp=Z,75nm,1.1s
SUMG Summit 62.50 2 *iP* **P 12 42 56.6 -1.0**
SUMG pmax pmax
comp=Z,75nm,1.1s
SUMG Summit 62.50 2 *eP* **P 12 42 56.4 -1.2**
comp=Z,66nm,1.0s
WDC Whiskeytown Da 62.59 59 *eP* **P 12 42 58.6 +0.4**
WDC pmax pmax
comp=Z,85nm,1.0s
WDC Whiskeytown Da 62.59 59 *eP* **P 12 42 58.6 +0.4**
comp=Z,85nm,1.0s
KLI Kotabumi 62.79 230 P **P 12 43 00.2 +0.4**
comp=Z,133nm,0.5s,comp=Z,4μm
MASI Maura Aman, Be 62.81 233 P **P 12 43 00.8 +0.8**
comp=Z,443nm,1.0s,comp=Z,4μm
MDSI Maura Dua 62.84 231 P **P 12 43 00.1 -0.1**
JMIC Jan Mayen 62.92 351 *eP* **P 12 43 01.5 +1.6**
JMIC IAmb IAmb 12 43 02.4
comp=Z,647nm,1.5s
JTMT Jette 62.93 49 *eP* **P 12 43 01.5 +0.9**
comp=Z,78nm,1.0s
LEM Lembang 63.00 226 P **P 12 43 01.6 +0.2**
comp=Z,64nm,0.8s,baz=26,slow=11,SNR=13
BMO Blue Mountains 63.06 53 *eP* **P 12 43 02.0 +0.6**
BMO pmax pmax
comp=Z,42nm,0.9s
BMO Blue Mountains 63.06 53 *eP* **P 12 43 02.0 +0.6**
comp=Z,42nm,0.9s
MOD Modoc Plateau 63.13 57 *eP* **P 12 43 02.7 +0.7**
comp=Z,91nm,0.9s
SISI Saibi 63.18 237 P **P 12 43 02.2 -0.2**

O03D Paynes Creek 63.21 59 P **P 12 43 02.6 +0.2**
baz=308,SNR=63
HOPS Hopland Field 63.22 61 *eP* **P 12 43 03.3 +0.8**
comp=Z,139nm,1.3s
HYB Hyderabad 63.24 268 *iP* **P 12 43 03.5 +0.6**
comp=Z,346nm,0.8s
HYB *eS* **S 12 51 28.0 +3.1**
HYB Hyderabad 63.24 268 *eP* **P 12 43 02.3 -0.5**
HYBB Hyderabad (bro 63.24 268 *eP* **P 12 43 03.2 +0.3**
HYBB IAmb IAmb 12 43 04.2
comp=Z,267nm,0.9s
HYBB *eS* **S 12 51 24.9 0.0**
NJS Nagarjunasagar 63.28 267 *eP* **P 12 43 03.6 +0.5**
NJS IAmb IAmb 12 43 04.7
comp=Z,364nm,0.9s
NJS *eS* **S 12 51 26.1 +0.6**
ADKI Addanki 63.29 266 *eP* **P 12 43 04.4 +1.2**
ADKI IAmb IAmb 12 43 05.5
comp=Z,365nm,0.9s
ADKI *eS* **S 12 51 24.7 -0.8**
J08A Circle Bar Ran 63.31 55 *eP* **P 12 43 04.0 +0.8**
comp=Z,119nm,1.0s
LWLI Liwa 63.35 230 P **P 12 43 02.7 -1.0**
comp=Z,246nm,0.9s
MOR8 Moi Rana 63.36 341 *eP* **P 12 42 59.6 -3.3**
MOR8 IAmb IAmb 12 43 00.3
comp=Z,89nm,1.2s
KASI Kota Agung 63.54 230 P **P 12 43 03.1 -1.6**
STOK Stokkvaagen 63.55 341 *eP* **P 12 43 01.4 -2.7**
STOK IAmb IAmb 12 43 06.2
comp=Z,1μm,2.2s
MOS Moscow 63.57 324 *eP* **P 12 43 01.9 -2.6**
MOS *e* 12 43 36.8
MOS *e* 12 52 40.0
MOS pmax pmax
comp=Z,80nm,1.4s
PUL Pulkovo 63.61 330 *eP* **P 12 43 04.6 0.0**
PUL Pulkovo 63.61 330 *eP* **P 12 43 04.6 0.0**
PUL pmax pmax
comp=Z,102nm,0.4s
MSO Missoula 63.69 49 P **P 12 43 06.0 +0.5**
baz=309,SNR=124
MSO Missoula 63.69 49 *eP* **P 12 43 06.0 +0.5**
comp=Z,118nm,0.9s
WVOR Wild Horse Val 63.78 55 *eP* **P 12 43 07.0 +0.8**
WVOR *e*PP **pP 12 43 37.5 +1.2**
WVOR pmax pmax
comp=Z,116nm,1.0s
WVOR Wild Horse Val 63.78 55 *eP* **P 12 43 07.0 +0.8**
comp=Z,116nm,1.0s
WVOR *epP* **pP 12 43 37.5 +1.2**
FIA1 FINESS Array S 63.82 333 *eP* **P 12 43 04.2 -1.8**
FIA1 *eP* **P 12 43 04.4 -1.6**
FIA0 FINESS Array S 63.82 333 *eP* **P 12 43 04.2 -1.8**
FIA0 FINESS Array S 63.82 333 *eP* **P 12 43 04.2 -1.8**
FINES FINESS Array B 63.82 333 P **P 12 43 04.2 -1.8**
comp=Z,26nm,0.5s,baz=41,slow=6.7,SNR=125
FINES LR LR 13 12 06.9
comp=Z,500nm,21.5s,baz=56,slow=37
ORV Oroville 63.84 59 *eP* **P 12 43 06.4 -0.1**
ORV pmax pmax
comp=Z,61nm,0.9s
ORV Oroville 63.84 59 *eP* **P 12 43 06.4 -0.1**
comp=Z,61nm,0.9s
SRLM Srisailam 63.88 267 *eP* **P 12 43 07.4 +0.3**
SRLM IAmb IAmb 12 43 08.5
comp=Z,415nm,1.0s
SRLM *eS* **S 12 51 33.8 +0.9**
GEYT Alibeck 64.14 299 P **P 12 43 09.1 +0.5**
comp=Z,83nm,1.1s,baz=28,slow=3.5,SNR=88
GEYT *pP* **pP 12 43 36.8 -1.9**
comp=Z,3.6nm,0.3s,baz=46,slow=47,SNR=2.0
GEYT LR LR 13 13 58.8
comp=Z,519nm,18.2s,baz=20,slow=39
KLRI Killari 64.19 270 *eP* **P 12 43 09.3 +0.2**
KLRI IAmb IAmb 12 43 10.2
comp=Z,633nm,0.9s
KLRI *eS* **S 12 51 35.6 -1.1**
FFC Flin Flon 64.33 37 *eP* **P 12 43 09.7 +0.3**
FFC Flin Flon 64.33 37 *eP* **P 12 43 09.8 +0.3**
FFC pmax pmax
comp=Z,79nm,1.1s
FFC Flin Flon 64.33 37 *eP* **P 12 43 09.8 +0.4**
comp=Z,79nm,1.1s
BEKR Beckworth 64.34 59 *eP* **P 12 43 10.5 +0.4**
comp=Z,126nm,0.9s
OBN Obninsk 64.44 324 *iP* **P 12 43 06.6 -3.5**
OBN *e*PP **pP 12 43 39.9 -0.3**
OBN *e* 12 45 36.6
OBN *eS* **S 12 51 37.1 -1.6**
OBN pmax pmax
comp=Z,37nm,0.9s
SCO Scoresbysund 64.44 356 *iP* **P 12 43 08.1 -1.8**
comp=Z,125nm,1.7s
SCO Scoresbysund 64.44 356 *eP* **P 12 43 09.1 -0.8**
SCO pmax pmax
comp=Z,96nm,1.6s
SCO Scoresbysund 64.44 356 *eP* **P 12 43 09.1 -0.8**
comp=Z,96nm,1.6s
AFDM Forest Hills D 64.54 60 *eP* **P 12 43 11.4 +0.3**
comp=Z,102nm,1.3s
FCC Fort Churchill 64.61 31 *eP* **P 12 43 11.0 -0.1**
FCC Fort Churchill 64.61 31 *eP* **P 12 43 11.1 -0.1**
FCC *eS* **S 12 51 40.6 0.0**
FCC pmax pmax
comp=Z,93nm,1.3s
FCC Fort Churchill 64.61 31 *eP* **P 12 43 11.1 -0.1**
comp=Z,93nm,1.3s
FCC *eS* **S 12 51 40.5 0.0**
VRH Novokhopyorsk 64.76 318 *eP* **P 12 43 10.9 -1.4**
VRH pmax pmax
comp=Z,40nm,1.5s
MFID Camas Ranch 64.78 53 *eP* **P 12 43 13.3 +0.5**
comp=Z,49nm,0.8s
HRY Holter Researc 64.88 48 *eP* **P 12 43 14.1 +0.8**
SKHT Srikalahasti 64.91 264 *eP* **P 12 43 15.1 +1.3**
SKHT IAmb IAmb 12 43 16.1
comp=Z,378nm,1.0s
SKHT *eS* **S 12 51 47.4 +1.9**
CTAO Charters Tower 64.93 182 *eP* **P 12 43 14.1 +0.4**
CTAO pmax pmax
comp=Z,27nm,0.8s
CTAO Charters Tower 64.93 182 *eP* **P 12 43 14.1 +0.4**
comp=Z,27nm,0.8s
RUBR Rubicon Trail 64.97 59 *eP* **P 12 43 14.9 +0.7**
comp=Z,142nm,0.9s
MDRS Chennai 64.99 263 *eP* **P 12 43 16.0 +1.7**
RDG13 Poverty Ridge 65.01 61 *eP* **P 12 43 14.6 +0.4**
comp=Z,157nm,1.2s
PAHR Pah Rah Range 65.03 58 *eP* **P 12 43 14.8 +0.3**
comp=Z,132nm,1.1s
EGMT Eagleton 65.12 46 P **P 12 43 15.3 +0.5**
baz=311,SNR=86
EGMT Eagleton 65.12 46 *eP* **P 12 43 15.3 +0.5**
comp=Z,150nm,0.9s
LPSR Galich'ya Gora 65.12 320 *eP* **P 12 43 13.1 -1.5**
LPSR pmax pmax
comp=Z,40nm,1.0s
LRM Limekiln Ridge 65.12 49 *eP* **P 12 43 15.7 +0.6**
VCNR Virginia City 65.13 59 *eP* **P 12 43 16.0 +0.8**
comp=Z,85nm,0.9s
NSS Namsos 65.30 341 *eP* **P 12 43 14.9 -0.7**
NSS IAmb IAmb 12 43 17.2
comp=Z,305nm,2.5s
DLMT Dillon 65.34 50 *eP* **P 12 43 16.7 +0.3**
comp=Z,67nm,0.9s
LCCM Lewis and Clar 65.42 49 *eP* **P 12 43 17.6 +0.7**
CMB Columbia Colle 65.47 60 *eP* **P 12 43 17.8 +0.6**
CMB pmax pmax
comp=Z,100nm,0.9s
CMB Columbia Colle 65.47 60 *eP* **P 12 43 17.8 +0.6**
comp=Z,100nm,0.9s
HLID Hailey 65.49 52 P **P 12 43 18.3 +0.9**
baz=310,SNR=86
HLID Hailey 65.49 52 *eP* **P 12 43 18.1 +0.8**
comp=Z,58nm,1.0s
MCMT McKenzie Canyo 65.54 50 *eP* **P 12 43 18.0 +0.2**
YERR Yerington 65.57 59 *eP* **P 12 43 18.9 +0.9**
comp=Z,204nm,1.1s
SAO San Andreas Ge 65.61 62 *eP* **P 12 43 18.3 +0.2**
SAO pmax pmax
comp=Z,51nm,1.0s
SAO San Andreas Ge 65.61 62 *eP* **P 12 43 18.3 +0.2**
comp=Z,51nm,1.0s
BHJ Bhuj 65.68 279 *eP* **P 12 43 20.1 +1.4**

BOZ Bozeman (W) 65.71 49 P **P 12 43 19.5 +0.7**
baz=310,SNR=172
BOZ Bozeman (W) 65.71 49 *eP* **P 12 43 19.4 +0.7**
BOZ Bozeman (W) 65.71 49 *eP* **P 12 43 19.4 +0.7**
BOZ pmax pmax
comp=Z,118nm,0.8s
BOZ Bozeman (W) 65.71 49 *eP* **P 12 43 19.4 +0.7**
comp=Z,118nm,0.8s
BGMT Barton Gulch 65.72 50 *eP* **P 12 43 19.8 +0.8**
WAKR Walker 65.75 59 *eP* **P 12 43 20.1 +0.9**
comp=Z,113nm,1.0s
URV Uravakonda 65.81 267 *eP* **P 12 43 20.0 +0.4**
URV IAmb IAmb 12 43 20.9
comp=Z,171nm,0.9s
URV *eS* **S 12 51 56.9 +0.3**
POO Poona 65.82 272 *eP* **P 12 43 20.4 +0.7**
VSU Vasula 65.83 330 *ceP* **P 12 43 18.1 -0.9**
VSU pmax pmax
comp=Z,272nm,1.2s
BMN Battle Mountai 65.86 56 *eP* **P 12 43 20.7 +0.9**
BMN pmax pmax
comp=Z,91nm,0.8s
BMN Battle Mountai 65.86 56 *eP* **P 12 43 20.7 +0.9**
comp=Z,91nm,0.8s
WRAB Tennant Creek 65.90 194 *cP* **P 12 43 19.4 -0.5**
WRAB pmax pmax
comp=Z,60nm,1.4s
WRAB Tennant Creek 65.90 194 *eP* **P 12 43 19.8 -0.1**
comp=Z,64nm,1.3s
WR1 Warramunga Arr 65.91 194 *eP* **P 12 43 19.4 -0.6**
comp=Z,82nm,1.4s
WR1 *e* 13 14 23.1
WRA Warramunga Arr 65.91 194 P **P 12 43 19.4 -0.6**
comp=Z,16nm,0.5s,baz=12,slow=6.7,SNR=253
WRA PKPPKP **P'P'df 13 11 59.6 +6.4**
comp=Z,2.2nm,0.9s,baz=189,slow=3.3,SNR=5.7
WRA LR LR 13 14 23.1
comp=Z,40nm,18.3s,baz=60,slow=38
VSR Storozhevoye 65.95 319 *eP* **P 12 43 19.0 -0.9**
VSR pmax pmax
comp=Z,60nm,1.1s
COMI Craters of Moo 66.01 52 *eP* **P 12 43 22.2 +1.4**
RYN Ryan 66.23 59 *eP* **P 12 43 22.9 +0.7**
comp=Z,106nm,0.9s
QLMT Earthquake Lak 66.31 50 *eP* **P 12 43 23.4 +0.8**
QLMT *epP* **PcP 12 43 51.2 -0.4**
PMPB Monarch Peak 66.36 62 *eP* **P 12 43 23.8 +0.8**
comp=Z,93nm,1.2s
NV01 Mina Array Sit 66.49 59 *eP* **P 12 43 24.5 +0.5**
NV01 *epP* **PcP 12 43 52.5 -0.1**
NVAR Mina Array Bea 66.49 59 P **P 12 43 24.6 +0.7**
comp=Z,75nm,0.8s,baz=286,slow=6.8,SNR=445
NVAR pP **PcP 12 43 52.5 -0.1**
comp=Z,46nm,0.7s,baz=289,slow=6.7,SNR=10
NVAR PKPPKP **P'P'df 13 11 54.5 -2.3**
comp=Z,0.8nm,0.9s,baz=151,slow=5.0,SNR=5.8
YHB Horse Butte 66.49 50 *eP* **P 12 43 24.9 +1.0**
comp=Z,101nm,0.8s
MDPB Devils Postpil 66.53 60 *eP* **P 12 43 24.9 +0.7**
comp=Z,82nm,1.0s
NV11 Mina Array Sit 66.58 59 *eP* **P 12 43 25.0 +0.6**
comp=Z,8.2nm,1.0s
CRMT Chrome Mountai 66.59 49 *eP* **P 12 43 25.3 +0.7**
GCMT Greycliff 66.62 48 *eP* **P 12 43 25.6 +1.1**
YHH Holmes Hill 66.65 49 *eP* **P 12 43 25.7 +0.8**
comp=Z,71nm,0.8s
YMR Madison River 66.67 50 *eP* **P 12 43 25.9 +1.0**
comp=Z,81nm,0.9s
MLAC Mammoth, Mammo 66.67 60 P **P 12 43 26.4 +1.2**
baz=310,SNR=24
MCID Moose Creek 66.86 50 *eP* **P 12 43 27.8 +1.6**
PAGB Antelope Grade 67.01 62 *eP* **P 12 43 27.8 +0.8**
comp=Z,167nm,1.0s
H17A Grant Village 67.06 50 P **P 12 43 29.8 +2.4**
baz=311,SNR=77
H17A Grant Village 67.06 50 *eP* **P 12 43 29.7 +2.2**
comp=Z,134nm,1.0s
IMW Indian Meadow 67.19 50 *eP* **P 12 43 29.6 +1.3**
comp=Z,78nm,0.9s
MAK Makhachkala 67.20 308 *eP* **P 12 43 25.6 -2.4**
MAK *e*PP **pP 12 43 57.8 -0.5**
MAK *eS* **S 12 52 08.8 -3.8**
MAK *e*SS **sS 12 53 05.5 +0.8**
MAK pmax pmax
comp=Z,353nm,1.2s
RCTC Rector, Farmer 67.27 61 P **P 12 43 28.5 -0.1**
baz=310,SNR=10
RLMT Red Lodge 67.28 48 P **P 12 43 29.7 +0.9**
baz=312,SNR=64
RLMT Red Lodge 67.28 48 *eP* **P 12 43 29.7 +0.9**
comp=Z,156nm,1.4s
FXWY Fox Creek 67.31 51 *eP* **P 12 43 30.0 +0.9**
comp=Z,49nm,0.8s
SFJD Kangerlussuaq 67.31 8 *iP* **P 12 43 27.9 -0.4**
SFJD Kangerlussuaq 67.31 8 *eP* **P 12 43 28.8 +0.5**
SFJD pmax pmax
comp=Z,19nm,1.0s
SFJD Kangerlussuaq 67.31 8 *eP* **P 12 43 28.8 +0.5**
comp=Z,19nm,1.0s
MOOW Moose Ponds 67.39 50 *eP* **P 12 43 30.8 +1.2**
comp=Z,100nm,1.1s
TIN Tinemaha, Big 67.41 60 P **P 12 43 30.6 +1.0**
baz=310,SNR=33
SMMC Simmler 67.44 62 P **P 12 43 30.6 +0.9**
baz=310,SNR=20
TPAW Teton Pass 67.45 51 *eP* **P 12 43 30.7 +0.7**
comp=Z,145nm,0.9s
LOHW Long Hollow 67.56 50 *eP* **P 12 43 31.8 +1.2**
comp=Z,229nm,1.6s
HVU Hansel Valley 67.56 53 *eP* **P 12 43 31.4 +0.8**
HVU pmax pmax
comp=Z,83nm,0.9s
HVU Hansel Valley 67.56 53 *eP* **P 12 43 31.4 +0.8**
comp=Z,83nm,0.9s
SNOW Snow King Moun 67.58 51 *eP* **P 12 43 32.3 +1.5**
comp=Z,108nm,1.1s
DGMT Dagmar 67.59 43 P **P 12 43 30.8 +0.4**
baz=314,SNR=28
REDW Red Top Meadow 67.59 51 *eP* **P 12 43 31.9 +1.1**
comp=Z,116nm,1.0s
VES Vestal, Richgr 67.67 61 P **P 12 43 30.9 -0.2**
baz=310,SNR=28
MLI Malad Range 67.76 52 *eP* **P 12 43 32.7 +0.8**
LAO LASA Array 67.80 46 P **P 12 43 32.8 +0.9**
baz=313,SNR=59
LAO LASA Array 67.80 46 *eP* **P 12 43 32.6 +0.7**
comp=Z,119nm,0.9s
PKM Mcpherson Peak 67.83 62 P **P 12 43 33.1 +0.7**
baz=310,SNR=34
AHID Auburn Hatcher 67.85 51 *eP* **P 12 43 33.0 +0.6**
comp=Z,77nm,1.1s
GOA Goa 67.88 270 *eP* **P 12 43 33.2 +0.5**
BEI Bear River Ran 67.90 52 *eP* **P 12 43 33.8 +1.1**
CWC Cottonwood Cre 67.90 60 P **P 12 43 33.3 +0.5**
baz=311
BGU Big Grassy Mou 67.98 54 *eP* **P 12 43 33.9 +0.7**
comp=Z,26nm,0.8s
GRAC Grapevine Rang 67.98 59 P **P 12 43 34.2 +1.0**
baz=311,SNR=66
LTU Little Mountai 67.98 53 *eP* **P 12 43 34.0 +0.8**
GROC Groznyy 67.98 309 *eP* **P 12 43 32.8 -0.2**
GROC *e* 12 43 57.8
GROC *e*SP **sP 12 44 18.7 +2.0**
GROC *eS* **SKiKP 12 53 16.7 +0.8**
GROC pmax pmax
comp=Z,78nm,1.0s
IZAR Zarasai 68.05 329 *eP* **P 12 43 31.9 -1.2**
IZAR IAmb IAmb 12 43 33.3
comp=Z,14nm,0.7s
SPUT South Promonto 68.05 53 *eP* **P 12 43 34.5 +0.8**
comp=Z,98nm,1.0s
DOMB Dombas 68.12 340 *eP* **P 12 43 32.3 -1.2**
DOMB IAmb IAmb 12 43 33.5
comp=Z,133nm,1.5s
ISA Isabella, Lake 68.16 61 P **P 12 43 34.0 -0.3**
baz=311,SNR=56
ISA Isabella, Lake 68.16 61 *eP* **P 12 43 33.8 -0.5**
ISA pmax pmax
comp=Z,66nm,1.0s
ISA Isabella, Lake 68.16 61 *eP* **P 12 43 33.8 -0.5**
comp=Z,66nm,1.0s
R11A Troy Canyon, C 68.17 57 P **P 12 43 35.0 +0.5**
baz=311,SNR=116
R11A Troy Canyon, C 68.17 57 *eP* **P 12 43 35.0 +0.5**
comp=Z,82nm,1.1s
SBC Santa Barbara 68.18 63 P **P 12 43 34.9 +0.5**

baz=311,SNR=5.1
IDID Didziasalis 68.20 328 *e*P **P** **12 43 32.8 -1.3**
IDID IAmb IAmb 12 43 34.2
comp=Z,35nm,1.1s
GOF Gofitskoye 68.21 312 ||*i*P **P** **12 43 34.5 +0.1**
GOF *e*S **S** **12 52 26.9 +2.3**
GOF pmax pmax
comp=Z,516nm,1.3s
GOF smax smax
comp=E,99nm,1.4s
ISAL Salakas 68.23 329 *e*P **P** **12 43 33.1 -1.2**
ISAL IAmb IAmb 12 43 34.5
comp=Z,35nm,1.1s
NC303 NORSAR Array S 68.25 339 *e*P **P** **12 43 33.3 -1.0**
NC303 NORSAR Array S 68.25 339 *e*P **P** **12 43 32.8 -1.5**
NC303 IAmb IAmb 12 43 33.4
comp=Z,432nm,1.7s
NC405 NORSAR Array S 68.26 339 *e*P **P** **12 43 32.5 -2.0**
ARVC Arvin 68.29 62 P **P** **12 43 35.0 -0.1**
baz=311,SNR=27
DAC Darwin (Calif) 68.31 60 *e*P **P** **12 43 35.6 +0.2**
DAC pmax pmax
comp=Z,110nm,1.3s
DAC Darwin (Calif) 68.31 60 *e*P **P** **12 43 35.6 +0.2**
comp=Z,110nm,1.3s
HWUT Hardware Ranch 68.36 52 *e*P **P** **12 43 36.5 +0.9**
comp=Z,148nm,1.3s
NC204 NORSAR Array S 68.36 339 *e*P **P** **12 43 34.1 -1.0**
NC204 NORSAR Array S 68.36 339 *e*P **P** **12 43 33.8 -1.3**
NC204 IAmb IAmb 12 43 35.3
comp=Z,306nm,1.5s
IIGN Ignalina 68.37 328 *e*P **P** **12 43 33.9 -1.2**
IIGN IAmb IAmb 12 43 35.4
comp=Z,36nm,1.0s
NAIU Northern Antel 68.37 53 *e*P **P** **12 43 36.3 +0.6**
MICGM Minsk 68.38 327 ||*e*P P 12 43 45.0 +10
MICGM PM 12 43 46.0
comp=Z,0.2nm,1.0s
MNK Minsk 68.38 327 ||*e*P P 12 43 45.0 +10
MNK pmax pmax
comp=Z,170nm,1.0s
MSVF Nonsavu 68.39 149 *e*P **P** **12 43 36.9 +1.2**
MSVF pmax pmax
comp=Z,75nm,1.0s
MSVF Nonsavu 68.39 149 *e*P **P** **12 43 36.9 +1.2**
comp=Z,75nm,1.0s
NB201 NORSAR Array S 68.42 339 *e*P **P** **12 43 33.2 -2.2**
NB201 NORSAR Array S 68.42 339 *e*P **P** **12 43 33.3 -2.2**
NB201 IAmb IAmb 12 43 34.7
comp=Z,123nm,1.0s
NB2 NORSAR Subarra 68.45 339 P **P** **12 43 34.0 -1.7**
comp=Z,26nm,0.6s,baz=32,slow=6.5
NB2 NORSAR Subarra 68.45 339 P **P** **12 43 34.0 -1.7**
baz=32,slow=6.5
NB200 NORSAR Array S 68.45 339 *e*P **P** **12 43 34.3 -1.4**
NB200 *e* 13 17 58.6
NOA NORSAR Array B 68.45 339 P **P** **12 43 34.3 -1.4**
comp=Z,42nm,1.0s,baz=32,slow=6.6,SNR=91
NOA LR LR 13 17 58.6
comp=Z,362nm,19.9s,baz=30,slow=40
AKN Aaknes 68.48 341 *e*P **P** **12 43 35.3 -0.5**
AKN IAmb IAmb 12 43 38.5
comp=Z,448nm,2.1s
MCU Monte Cristo P 68.48 53 *e*P **P** **12 43 37.3 +0.7**
NACGM Naroch 68.50 328 *e* **P** **12 43 33.0 -2.9**
MPMC Manual Prospec 68.51 60 P **P** **12 43 37.2 +0.5**
baz=311,SNR=137
SCZ2 Santa Cruz Isl 68.52 63 P **P** **12 43 36.7 +0.3**
baz=311
NBO02 NORSAR Array S 68.53 339 *e*P **P** **12 43 34.7 -1.5**
FSU Fish Springs 68.56 55 *e*P **P** **12 43 37.6 +0.8**
HFS Hagfors 68.57 337 P **P** **12 43 34.9 -1.4**
comp=Z,23nm,0.5s,baz=39,slow=5.7,SNR=67
HFS LR LR 13 18 36.1
comp=Z,209nm,18.9s,baz=29,slow=40
NBO00 NORSAR Array S 68.57 339 *e*P **P** **12 43 35.2 -1.1**
NBO00 NORSAR Array S 68.57 339 *e*P **P** **12 43 35.1 -1.3**
NBO00 IAmb IAmb 12 43 37.6
comp=Z,171nm,1.2s
DUG Dugway, Tooele 68.58 54 P **P** **12 43 37.8 +0.9**
baz=312,SNR=131
DUG Dugway, Tooele 68.58 54 *e*P **P** **12 43 37.8 +0.9**
DUG pmax pmax
comp=Z,134nm,0.9s
DUG Dugway, Tooele 68.58 54 *e*P **P** **12 43 37.8 +0.9**
comp=Z,134nm,0.9s
DUG *e*P **P** **12 43 37.9 +1.0**
NC605 NORSAR Array S 68.63 339 *e*P **P** **12 43 35.4 -1.2**
FURC Furnace Creek, 68.63 60 P **P** **12 43 37.9 +0.9**
baz=311,SNR=146
NC602 NORSAR Array S 68.63 339 IAmb IAmb 12 43 35.0
comp=Z,1μm,1.8s
NC602 *e*P **P** **12 43 35.0 -1.6**
OSI Osito Audit: C 68.69 62 P **P** **12 43 38.3 +0.7**
baz=311,SNR=12
OSI Osito Audit: C 68.69 62 *e*P **P** **12 43 38.2 +0.7**
comp=Z,130nm,0.9s
OSI *e*pP **pP** **12 44 08.4 +0.4**
BW06 Boulder Array 68.69 50 P **P** **12 43 38.1 +0.3**
baz=312,SNR=68
BW06 Boulder Array 68.69 50 *e*P **P** **12 43 38.0 +0.3**
comp=Z,77nm,0.9s
PD31 Pinedale Array 68.69 50 *e*P **P** **12 43 38.1 +0.4**
PD31 *e*pP **pP** **12 44 06.8 -1.4**
PD31 *e*S **S** **12 52 31.8 +0.8**
PD31 *e* 13 15 37.7
PDAR Pinedale Array 68.69 50 P **P** **12 43 38.0 +0.2**
comp=Z,50nm,0.8s,baz=272,slow=2.0,SNR=424
PDAR pP **pP** **12 44 06.8 -1.4**
comp=Z,22nm,0.7s,baz=270,slow=1.2,SNR=6.7
PDAR S **S** **12 52 31.8 +0.8**
comp=Z,0.5nm,0.9s,baz=163,slow=1.5,SNR=4.0
PDAR PKPPKP **P'P'df** **13 11 47.7 -5.4**
comp=Z,1.0nm,0.9s,baz=116,slow=3.4,SNR=6.7
PDAR LR LR 13 15 37.7
comp=Z,153nm,18.5s,baz=322,slow=37
NAO01 NORSAR Array S 68.70 339 *e*P **P** **12 43 36.0 -1.2**
NAO01 NORSAR Array S 68.70 339 *e*P **P** **12 43 35.8 -1.4**
NAO01 IAmb IAmb 12 43 37.2
comp=Z,68nm,0.6s
PALK Pallekele 68.73 259 *i*P **P** **12 43 39.0 +1.0**
PALK Pallekele 68.73 259 *e*P **P** **12 43 38.7 +0.7**
comp=Z,205nm,1.0s
PALK Pallekele 68.73 259 *i*P **P** **12 43 38.3 +0.2**
SNR=38
TCUT Toone Canyon 68.77 53 *e*P **P** **12 43 39.1 +0.8**
comp=Z,115nm,0.8s
LRMC Laurel Mtn Rad 68.77 61 P **P** **12 43 38.1 -0.1**
baz=311,SNR=7.3
BLG Laguna Peak, P 68.80 63 P **P** **12 43 38.2 0.0**
baz=311,SNR=13
CTU Camp Tracy 68.86 53 *e*P **P** **12 43 39.4 +0.7**
comp=Z,55nm,0.8s
EDW2 Edwards Air Fo 68.97 61 P **P** **12 43 40.0 +0.6**
baz=311,SNR=127
DZM Mont Dzumac 69.03 161 P **P** **12 43 41.8 +2.2**
comp=Z,130nm,0.9s,baz=33,slow=7.6,SNR=45
DZM Mont Dzumac 69.03 161 *e*P **P** **12 43 41.8 +2.2**
comp=Z,416nm,1.1s
DZM Mont Dzumac 69.03 161 *e*LR LR 13 04 26.8
comp=Z,729nm,35.7s
DZM Mont Dzumac 69.03 161 *e*P **P** **12 43 41.9 +2.2**
comp=Z,165nm,0.9s
SNCC San Nicolas Is 69.07 64 P **P** **12 43 40.2 +0.3**
baz=311,SNR=5.8
SNCC San Nicolas Is 69.07 64 *e*P **P** **12 43 40.5 +0.6**
comp=Z,147nm,0.9s
JLU Jordanelle 69.09 53 *e*P **P** **12 43 40.9 +0.7**
comp=Z,134nm,1.4s
KIV Kislovodsk 69.15 312 *e*P **P** **12 43 40.9 +0.6**
KIV Kislovodsk 69.15 312 *e*P **P** **12 43 40.9 +0.6**
KIV *e**PP **pP** **12 44 12.9 +2.1**
KIV *e**SP **sP** **12 44 26.3 +2.1**
KIV *e*S **S** **12 52 36.1 +0.2**
KIV pmax pmax
comp=Z,76nm,2.5s
KIV pmax pmax
comp=Z,308nm,1.0s
KIV MLR MLR
comp=Z,574nm,17.0s
KIV Kislovodsk 69.15 312 *e*P **P** **12 43 41.2 +0.9**
comp=Z,366nm,1.1s
KIV Kislovodsk 69.15 312 P **P** **12 43 41.1 +0.8**
SNR=52
KIV Kislovodsk 69.15 312 *i*P **P** **12 43 41.1 +0.8**
SNR=32

NLU North Lily Min 69.16 54 *e*P **P** **12 43 41.4 +0.8**
comp=Z,96nm,0.9s
DECC Green Verdugo 69.17 62 P **P** **12 43 40.9 +0.3**
baz=311,SNR=9.8
KBZ Khabaz 69.19 311 P **P** **12 43 41.1 +0.7**
comp=Z,106nm,1.0s,baz=59,slow=3.8,SNR=97
KBZ LR LR 13 18 43.8
comp=Z,758nm,18.9s,baz=46,slow=40
AFI Afiamalu 69.28 138 P **P** **12 43 41.4 +0.1**
comp=Z,52nm,0.8s,baz=9.0,slow=5.5,SNR=8.5
AFI LR LR 13 08 14.5
comp=Z,364nm,21.4s,baz=336,slow=31
AFI Afiamalu 69.28 138 *e*P **P** **12 43 41.6 +0.3**
AFI Afiamalu 69.28 138 *e*P **P** **12 43 41.6 +0.3**
AFI *e* 12 43 41.7
AFI *e* 13 08 14.5
ZEI Tsey 69.29 310 *e*P **P** **12 43 37.8 -3.6**
ZEI pmax pmax
comp=Z,109nm,0.9s
PASC Pasadena Art C 69.31 62 *e*P **P** **12 43 41.6 +0.2**
comp=Z,96nm,1.1s
MWC Mount Wilson 69.36 62 *e*P **P** **12 43 42.1 +0.2**
MWC pmax pmax
comp=Z,171nm,1.3s
MWC Mount Wilson 69.36 62 *e*P **P** **12 43 42.1 +0.2**
comp=Z,171nm,1.3s
SHOC Shoshone, Teco 69.36 60 P **P** **12 43 42.0 +0.4**
baz=312,SNR=16
MPU Maple Canyon 69.38 54 *e*P **P** **12 43 42.7 +0.7**
comp=Z,97nm,0.8s
GSC Goldstone, Bar 69.43 60 P **P** **12 43 42.6 +0.4**
baz=312,SNR=70
GSC Goldstone, Bar 69.43 60 *e*P **P** **12 43 42.5 +0.4**
GSC pmax pmax
comp=Z,95nm,1.0s
GSC Goldstone, Bar 69.43 60 *e*P **P** **12 43 42.5 +0.4**
comp=Z,95nm,1.0s
FMP Fort Macarthur 69.55 63 P **P** **12 43 43.1 +0.3**
baz=311
TBLG Delisi 69.55 309 *e*P **P** **12 43 43.7 +1.0**
TBLG pmax pmax
comp=Z,372nm,1.0s
TBLG Delisi 69.55 309 *e*P **P** **12 43 43.7 +1.0**
comp=Z,372nm,1.0s
HYA Hoyanger 69.56 341 *e*P **P** **12 43 42.1 -0.3**
HYA IAmb IAmb 12 43 43.3
comp=Z,63nm,1.0s
RRX Edison Barstow 69.59 61 P **P** **12 43 43.7 +0.6**
baz=312,SNR=5.6
BFSC Mount Baldy Ra 69.60 62 P **P** **12 43 43.5 +0.1**
baz=311,SNR=71
NEY Neytrino 69.61 311 *i*P **P** **12 43 41.7 -1.6**
NEY pmax pmax
comp=Z,21nm,1.1s
AS01 Alice Springs 69.62 193 *e*P **P** **12 43 43.7 +0.5**
AS31 Alice Springs 69.63 194 *e*P **P** **12 43 44.0 +0.7**
comp=Z,6.8nm,0.6s
ASAR Alice Springs 69.63 194 P **P** **12 43 43.6 +0.4**
comp=Z,25nm,0.9s,baz=10,slow=6.2,SNR=149
ASAR LR LR 13 11 19.9
comp=Z,39nm,21.7s,baz=10.0,slow=33
ASAR PKPPKP **P'P'df** **13 11 49.9 +3.0**
comp=Z,2.2nm,0.9s,baz=182,slow=2.9,SNR=12
SHPR Sheep Range 69.64 59 *e*P **P** **12 43 44.3 +0.7**
comp=Z,134nm,1.2s
CIS Catalina Islan 69.67 63 P **P** **12 43 43.8 +0.1**
baz=311,SNR=17
SCI2 San Clemente I 69.87 63 P **P** **12 43 45.0 +0.2**
baz=312,SNR=6.2
TUQ Turquoise Moun 69.88 60 P **P** **12 43 45.6 +0.6**
baz=312,SNR=35
CCUT Cedar City 70.02 57 *e*P **P** **12 43 46.8 +0.9**
comp=Z,109nm,1.3s
HEC Hector,Ludlow 70.03 61 P **P** **12 43 46.5 +0.6**
baz=312,SNR=128
BBRC Big Bear Solar 70.04 61 P **P** **12 43 46.4 +0.3**
baz=312,SNR=19
KONO Kongsberg 70.06 339*ce*P **P** **12 43 45.4 -0.1**
KONO pmax pmax
comp=Z,24nm,1.1s
KONO Kongsberg 70.06 339 *e*P **P** **12 43 45.4 -0.1**
comp=Z,39nm,1.2s
MSU Marysvale 70.07 55 *e*P **P** **12 43 47.3 +1.1**
MSU Marysvale 70.07 55 *e*P **P** **12 43 47.3 +1.1**
BORG Borgarnes 70.11 355 LR LR 13 15 18.2
comp=Z,69nm,18.3s,baz=16,slow=36
ARGU Argyle Ridge 70.13 53 *e*P **P** **12 43 47.6 +1.0**
ULM Lac du Bonnet 70.14 38 P **P** **12 43 45.8 -0.3**
comp=Z,7.5nm,0.4s,baz=312,slow=6.3,SNR=31
ULM pP **pP** **12 44 15.2 -1.5**
comp=Z,21nm,0.7s,baz=308,slow=6.5,SNR=7.2
ULM LR LR 13 15 32.2
comp=Z,176nm,19.5s,baz=310,slow=37
ULM Lac du Bonnet 70.14 38 *e*P **P** **12 43 45.8 -0.3**
comp=Z,20nm,0.7s
ULM pP **pP** **12 44 15.2 -1.5**
SZCU Shurtz Canyon 70.15 56 *e*P **P** **12 43 47.8 +1.0**
comp=Z,50nm,0.9s
MDND Maddock 70.21 41 P **P** **12 43 47.0 +0.4**
baz=316,SNR=5.3
MDND Maddock 70.21 41 *e*P **P** **12 43 47.4 +0.7**
comp=Z,137nm,0.9s
EIDS Eidsvold 70.24 177 *e*P **P** **12 43 48.7 +1.8**
comp=Z,66nm,1.1s
P17A Butcher Ranch, 70.25 54 *e*P **P** **12 43 48.1 +0.8**
comp=Z,144nm,1.0s
MURC Murrieta 70.31 62 P **P** **12 43 47.7 +0.2**
baz=312,SNR=38
Q16A Castle Valley 70.38 54 *e*P **P** **12 43 48.9 +0.9**
comp=Z,100nm,1.1s
MTPU Mount Pierson 70.38 56 *e*P **P** **12 43 49.5 +1.2**
comp=Z,78nm,0.8s
ASK Askoy 70.39 341 *e*P **P** **12 43 46.9 -0.6**
ASK IAmb IAmb 12 43 48.2
comp=Z,84nm,1.4s
K22A Casper 70.41 49 P **P** **12 43 48.3 +0.1**
baz=314,SNR=47
K22A Casper 70.41 49 *e*P **P** **12 43 48.2 +0.1**
comp=Z,248nm,1.6s
P18A Preston Nutter 70.43 53 *e*P **P** **12 43 49.2 +0.7**
comp=Z,91nm,1.1s
LCMT Little Creek M 70.45 57 *e*P **P** **12 43 49.4 +0.9**
comp=Z,85nm,0.9s
AKH Akhalkalaki 70.45 309 ||*i*P **P** **12 43 50.0 +1.5**
AKH Akhalkalaki 70.45 309 *e*P **P** **12 43 49.7 +1.2**
AKH pmax pmax
comp=Z,133nm,1.2s
AKH Akhalkalaki 70.45 309 *e*P **P** **12 43 49.7 +1.2**
comp=Z,133nm,1.2s
TRD Trivandrum 70.47 262 *e*P **P** **12 43 49.4 +0.7**
DEVC Devers 70.47 61 *e*P **P** **12 43 47.5 -1.0**
GMRC Granite Mounta 70.47 60 P **P** **12 43 49.2 +0.5**
baz=312,SNR=78
SUW Suwalki 70.52 329 *e*P **P** **12 43 47.1 -1.3**
SUW Suwalki 70.52 329 *e*P **P** **12 43 47.3 -1.1**
SUW *e* 12 44 09.4
SUW pmax pmax
comp=Z,86nm,1.0s
SUW Suwalki 70.52 329 *e*P **P** **12 43 47.3 -1.1**
comp=Z,86nm,1.0s
SUW *e*PcP **PcP** **12 44 09.4 +0.5**
A31A Linda, St. Vin 70.53 39 P **P** **12 43 48.1 -0.4**
baz=317
ODD1 Odda 70.56 340 *e*P **P** **12 43 48.6 0.0**
ODD1 IAmb IAmb 12 43 50.0
comp=Z,57nm,1.3s
LDFC Landfair 70.61 60 *e*P **P** **12 43 49.1 -0.4**
comp=Z,263nm,1.0s
SRU San Rafael Swe 70.62 54 *e*P **P** **12 43 50.0 +0.5**
SRU *e*S **S** **12 52 55.7 +2.2**
SRU pmax pmax
comp=Z,186nm,0.9s
SRU San Rafael Swe 70.62 54 *e*P **P** **12 43 50.0 +0.5**
comp=Z,186nm,0.9s
SRU *e*S **S** **12 52 55.7 +2.2**
GNI Garni 70.62 308 P **P** **12 43 49.9 +0.4**
comp=Z,117nm,1.1s,baz=147,slow=0.8,SNR=52
GNI LR LR 13 16 46.7
comp=Z,184nm,18.3s,baz=51,slow=37
GNI Garni 70.62 308*de*P **P** **12 43 51.2 +1.7**
GNI pmax pmax
comp=Z,889nm,1.5s
GNI Garni 70.62 308 *e*P **P** **12 43 49.9 +0.4**
GNI *e*P **P** **12 43 50.8 +1.3**
GNI *e* 13 16 46.7
GNI Garni 70.62 308 *i*P **P** **12 43 51.2 +1.7**
SNR=31

RSSD Black Hills 70.69 46 P **P** **12 43 50.0 +0.2**
baz=315
RSSD Black Hills 70.69 46 *e*P **P** **12 43 50.1 +0.2**
RSSD pmax pmax
comp=Z,71nm,0.9s
RSSD Black Hills 70.69 46 *e*P **P** **12 43 50.1 +0.2**
comp=Z,71nm,0.9s
B31A Greenbush Farm 70.69 40 P **P** **12 43 49.6 0.0**
baz=317,SNR=8.8
AKASG Malin Array Be 70.70 324 P **P** **12 43 48.4 -1.2**
comp=Z,12nm,0.4s,baz=38,slow=6.6,SNR=98
AKASG PKPPKP P'P'df 13 11 40.3 -8.8
comp=Z,0.4nm,0.3s,baz=236,slow=3.2,SNR=7.2
AKASG LR LR 13 16 17.7
comp=Z,167nm,20.9s,baz=55,slow=37
AKBB Malin Array Si 70.70 324 *e*P **P** **12 43 48.4 -1.2**
AKBB pmax pmax
comp=Z,37nm,0.8s
AKBB Malin Array Si 70.70 324 *e*P **P** **12 43 48.4 -1.2**
comp=Z,37nm,0.8s
AKBB *e* 13 16 17.7
PKCU Pink Cliffs 70.71 56 *e*P **P** **12 43 51.2 +1.0**
comp=Z,56nm,1.1s
KIEV Kiev 70.72 324*d i*P **P** **12 43 48.3 -1.3**
KIEV pmax pmax
comp=Z,40nm,1.0s
KIEV Kiev 70.72 324 *e*P **P** **12 43 48.2 -1.3**
comp=Z,36nm,0.8s
KIEV Kiev 70.72 324 *i*P **P** **12 43 48.5 -1.2**
SNR=20
AK11 Malin Array Si 70.75 324 *e*P **P** **12 43 48.5 -1.3**
PFO Pinyon Flats O 70.76 62 P **P** **12 43 50.5 +0.1**
baz=312,SNR=69
PFO Pinyon Flats O 70.76 62 *e*P **P** **12 43 50.4 +0.1**
PFO pmax pmax
comp=Z,94nm,1.1s
PFO Pinyon Flats O 70.76 62 *e*P **P** **12 43 50.4 0.0**
comp=Z,94nm,1.1s
XPFO Pizeon Flat 70.76 62 *e*P **P** **12 43 50.4 0.0**
comp=Z,92nm,1.0s
BELC Belle Mtn. Jos 70.79 61 P **P** **12 43 50.4 -0.2**
baz=312,SNR=66
MMU Miners Mountai 70.79 55 *e*P **P** **12 43 51.0 +0.4**
109C Camp Elliot, M 70.83 63 P **P** **12 43 50.8 +0.1**
baz=312,SNR=10
CPE Camp Elliot 70.83 63 *e*P **P** **12 43 51.1 +0.4**
comp=Z,154nm,1.0s
A32A Rocking H Ranc 70.85 39 P **P** **12 43 50.3 -0.2**
baz=318,SNR=10.0
SOC Sochi 70.96 313*d i*P **P** **12 43 51.2 0.0**
SOC *e* 12 46 28.9
SOC *e*PPP PPP 12 48 14.2
SOC *e*S **S** **12 52 53.8 -3.0**
SOC *e*SSS SSS 13 00 41.2
SOC pmax pmax
comp=Z,214nm,1.3s
KLNR Kaliningrad 71.11 331 *i*P **P** **12 43 50.6 -1.3**
KLNR pmax pmax
comp=Z,113nm,1.0s
C31A Landman Farms, 71.12 40 P **P** **12 43 52.0 -0.1**
baz=317,SNR=18
NEE2 Needles Airpor 71.12 60 P **P** **12 43 52.6 +0.2**
baz=312,SNR=8.7
O20A White River Ci 71.21 52 P **P** **12 43 53.2 +0.1**
baz=314,SNR=48
O20A White River Ci 71.21 52 *e*P **P** **12 43 53.4 +0.3**
comp=Z,127nm,1.3s
IRM Iron Mountain 71.21 60 P **P** **12 43 53.6 +0.6**
baz=312,SNR=132
SOFL Sornfelli, Far 71.22 348 *e*P **P** **12 43 49.9 -2.7**
B32A Ashes, Strandq 71.22 39 P **P** **12 43 52.2 -0.5**
baz=318,SNR=7.4
BAR Barrett 71.25 62 *e*P **P** **12 43 53.4 +0.2**
comp=Z,84nm,1.0s
ANN Anapa 71.26 315 *e*P **P** **12 43 50.9 -2.1**
ANN *e*S **S** **12 52 55.6 -4.6**
ANN pmax pmax
comp=Z,288nm,1.4s
MONP2 Monument Peak 71.26 62 P **P** **12 43 53.7 +0.1**
baz=312,SNR=39
A33A Warroad 71.32 38 P **P** **12 43 52.9 -0.4**
baz=318,SNR=6.8
W13A Hualapai Mount 71.35 59 *e*P **P** **12 43 54.4 +0.4**
comp=Z,73nm,1.1s
BC3 Big Chuckawall 71.35 61 P **P** **12 43 54.2 +0.2**
baz=312,SNR=71
U15A North Rim 71.41 57 *e*P **P** **12 43 55.3 +0.9**
comp=Z,106nm,1.0s
AGMN Agassiz Nation 71.59 39 P **P** **12 43 54.5 -0.5**
baz=318,SNR=15
AGMN Agassiz Nation 71.59 39 *e*P **P** **12 43 54.6 -0.4**
comp=Z,37nm,0.9s
SWSC Sam W. Stewart 71.61 62 P **P** **12 43 55.5 +0.2**
baz=312,SNR=12
IKP In-Ko-Pah, Jac 71.62 62 P **P** **12 43 55.9 +0.4**
baz=312,SNR=43
C32A Crookston 71.64 40 P **P** **12 43 54.7 -0.5**
baz=318
D31A Mcclaflin, Tow 71.67 41 P **P** **12 43 55.2 -0.3**
baz=318
PDMCI Parker Dam,Lak 71.72 60 P **P** **12 43 56.5 +0.5**
baz=313,SNR=66
B33A Robert and Kas 71.73 39 P **P** **12 43 55.3 -0.5**
baz=318,SNR=10
CLDR Caldiran 71.78 307 *e*P **P** **12 43 57.1 +0.6**
SNART Snartemo 71.81 339 *e*P **P** **12 43 55.7 -0.4**
SNART IAmb IAmb 12 43 56.7
comp=Z,43nm,1.2s
PV09 Paradox Valley 71.83 54 *e*P **P** **12 43 57.5 +0.5**
Y12C Blythe 71.86 60 P **P** **12 43 57.5 +0.6**
baz=313,SNR=56
Y12C Blythe 71.86 60 *e*P **P** **12 43 57.5 +0.6**
comp=Z,137nm,0.9s
PHWY Pilot Hill 71.92 49 *e*P **P** **12 43 57.6 +0.1**
comp=Z,155nm,1.9s
D32A Dogwood Acres, 71.93 41 P **P** **12 43 56.7 -0.3**
baz=318,SNR=9.3
N23A Red Feather La 71.94 50 P **P** **12 43 58.5 +0.9**
baz=315,SNR=52
N23A Red Feather La 71.94 50 *e*P **P** **12 43 58.3 +0.8**
comp=Z,193nm,1.5s
E31A Nome 71.95 41 P **P** **12 43 57.1 -0.1**
baz=318,SNR=30
PV10 Paradox Valley 71.97 54 *e*P **P** **12 43 58.6 +0.9**
B34A Aery, Baudette 71.99 38 P **P** **12 43 56.7 -0.6**
baz=319,SNR=12
AGRB Hanur-Agry 71.99 308 *e*P **P** **12 43 59.3 +1.5**
C33A Trail 72.03 39 P **P** **12 43 57.1 -0.5**
baz=318,SNR=11
LRW Lerwick 72.04 344 *e*P **P** **12 43 57.1 -0.3**
PV05 Paradox Valley 72.14 54 *e*P **P** **12 43 59.4 +0.7**
GLA Glamis 72.15 61 P **P** **12 43 59.3 +0.6**
baz=313,SNR=68
GLA Glamis 72.15 61 *e*P **P** **12 43 59.2 +0.6**
GLA pmax pmax
comp=Z,131nm,1.0s
GLA Glamis 72.15 61 *e*P **P** **12 43 59.2 +0.6**
comp=Z,131nm,1.0s
F31A Hecla 72.30 42 P **P** **12 43 58.9 -0.3**
baz=318,SNR=16
E32A Braaten, Kindr 72.31 41 P **P** **12 43 58.9 -0.3**
baz=318
PV01 Paradox Valley 72.40 53 *e*P **P** **12 44 00.8 +0.4**
BSD Bornholm Skovb 72.43 334 *i*P **P** **12 43 58.7 -1.1**
comp=Z,91nm,1.1s
BSD Bornholm Skovb 72.43 334 *i*P **P** **12 43 58.7 -1.1**
BSD pmax pmax
comp=Z,91nm,1.1s
BSD Bornholm Skovb 72.43 334 *e*P **P** **12 43 59.1 -0.7**
D33A AnnSam, Waubun 72.46 40 P **P** **12 43 59.7 -0.5**
baz=319
B35A Bob, Littlefor 72.48 38 P **P** **12 43 59.7 -0.6**
baz=320,SNR=13
C34A RKJ Ranch, Bem 72.50 39 P **P** **12 43 59.8 -0.6**
baz=319,SNR=6.6
WUAZ Wupatki 72.57 57 P **P** **12 44 02.1 +0.9**
baz=314,SNR=55
WUAZ Wupatki 72.57 57 *e*P **P** **12 44 02.1 +0.9**
comp=Z,82nm,1.0s
SMCO Snowmass 72.58 52 *e*P **P** **12 44 02.0 +0.5**
comp=Z,64nm,0.8s
Y14A Wickenburg 72.67 59 *e*P **P** **12 44 02.3 +0.6**
comp=Z,438nm,1.0s
COP Copenhagen 72.70 335 *i*P **P** **12 44 01.5 +0.1**
comp=Z,69nm,0.8s
COP Copenhagen 72.70 335 *i*P **P** **12 44 01.5 +0.1**
COP pmax pmax

comp=Z,69nm,0.8s
SIM Simferopol' 72.78 317 eP P 12 44 02.3 +0.2
SIM Simferopol' 72.78 317 i P P 12 44 02.2 +0.2
SIM pmax pmax
comp=Z,165nm,1.0s
G31A Conde 72.78 42 P P 12 44 01.9 -0.3
baz=318,SNR=5.8
F32A Veblen 72.82 41 P P 12 44 01.9 -0.5
baz=318,SNR=8.7
E33A Westby DABS, E 72.87 40 P P 12 44 02.5 -0.1
baz=319,SNR=19
C35A Jirik Farms, M 72.88 38 P P 12 44 02.0 -0.6
baz=320,SNR=11
ISCO Idaho Springs 72.89 51 P P 12 44 04.1 +0.8
baz=315,SNR=56
ISCO Idaho Springs 72.89 51 eP P 12 44 04.1 +0.8
ISCO pmax pmax
comp=Z,84nm,1.1s
ISCO Idaho Springs 72.89 51 eP P 12 44 04.1 +0.8
comp=Z,84nm,1.1s
BAYT Ayd¨-ntepe-Bay 72.98 310 eP P 12 44 04.6 +1.0
113A Mohawk Valley, 72.99 61 eP P 12 44 03.5 -0.1
comp=Z,104nm,1.3s
SUSD Miller 73.00 43 P P 12 44 03.3 -0.2
baz=317,SNR=8.8
BANOM Banah 73.07 290 P P 12 44 04.8 +0.6
SNR=25
BANOM Banah 73.07 290 i P P 12 44 04.7 +0.6
SNR=71
MVCO Mesa Verde 73.08 54 P P 12 44 04.8 +0.5
baz=314,SNR=72
MVCO Mesa Verde 73.08 54 eP P 12 44 04.8 +0.5
comp=Z,85nm,0.9s
SHME Shamm 73.09 290 i P P 12 44 04.6 +0.3
SNR=43
G32A Webster 73.10 42 P P 12 44 03.8 -0.2
baz=318,SNR=8.8
BEL Belsk 73.13 329 eP P 12 44 04.4 +0.4
BEL Belsk 73.13 329 eP P 12 44 04.4 +0.4
H31A Wolsey 73.20 43 P P 12 44 04.3 -0.3
baz=318,SNR=14
F33A 5 Mile Ranch, 73.23 41 P P 12 44 04.5 -0.3
baz=319,SNR=28
E34A Wadena 73.24 40 P P 12 44 04.4 -0.4
baz=319
COCO West Island 73.25 232 i P P 12 44 08.2 +3.1
CUKT Cukurca 73.26 306 eP P 12 44 04.6 -0.7
X16A Lo Mia Camp, P 73.28 58 eP P 12 44 06.5 +1.1
comp=Z,110nm,0.9s
WSAR Wadi Sarin 73.30 286 P P 12 44 06.3 +0.8
comp=Z,59nm,1.0s,baz=60,slow=4.6,SNR=18
WSAR LR LR 13 19 53.1
comp=Z,284nm,21.5s,baz=68,slow=39
WSAR Wadi Sarin 73.30 286 P P 12 44 07.0 +1.5
D35A Remer 73.31 39 P P 12 44 04.5 -0.7
baz=320,SNR=8.2
C36A Pine Crest Far 73.33 38 P P 12 44 04.8 -0.5
baz=320,SNR=8.3
BIDO Bidbid 73.45 287 P P 12 44 07.7 +1.3
SNR=26
MDH Madha 73.49 289 i P P 12 44 06.5 -0.1
SNR=20
WBK Wadi Bani Khal 73.49 286 P P 12 44 08.8 +2.2
SNR=7.4
I31A Royce, Wessing 73.50 44 P P 12 44 06.1 -0.3
baz=318
LVV L'vov 73.51 326⇑ iP P 12 44 06.4 +0.1
LVV eS S 12 53 25.2 -0.5
MSFE Esma-Masafi 73.54 289 i P P 12 44 07.7 +0.8
SNR=23
E35A Pequot Lakes 73.55 40 P P 12 44 06.2 -0.4
baz=320,SNR=5.4
D36A Goodland 73.63 38 P P 12 44 06.3 -0.8
baz=320,SNR=5.6
C37A Embarrass 73.64 38 P P 12 44 06.5 -0.6
baz=321,SNR=11
G33A Ortonville 73.64 42 P P 12 44 07.2 0.0
baz=319,SNR=16
S22A 4UR Ranch, Cre 73.66 53 P P 12 44 08.7 +0.9
baz=315,SNR=86
S22A 4UR Ranch, Cre 73.66 53 eP P 12 44 08.1 +0.3
comp=Z,76nm,1.0s
H32A Carlson Farm, 73.69 43 P P 12 44 07.1 -0.4
baz=318,SNR=25
KIS Kishinev 73.69 321⇑ iP P 12 44 06.0 -1.4
comp=Z,400nm,1.5s
KIS epP pP 12 44 31.0 -7.2
KIS LRM MLR 13 21 20.0
comp=Z,400nm,20.0s
KIS Kishinev 73.69 321α iP P 12 44 06.0 -1.4
KIS e 12 44 23.0
KIS e 12 47 00.0
KIS pmax pmax
comp=Z,400nm,1.5s
KIS pmax pmax
comp=Z,900nm,2.0s
KIS MLR MLR
comp=Z,400nm,20.0s
Q24A Divide 73.73 51 P P 12 44 08.7 +0.5
baz=316,SNR=35
Q24A Divide 73.73 51 eP P 12 44 08.7 +0.5
comp=Z,60nm,0.9s
F34A Alexandria 73.74 40 P P 12 44 07.4 -0.3
baz=319,SNR=7.5
SIRT Sirnak 73.75 307 eP P 12 44 08.9 +0.8
EYMN Ely 73.76 37 P P 12 44 07.4 -0.5
baz=321,SNR=11
EYMN Ely 73.76 37 eP P 12 44 07.5 -0.4
comp=Z,84nm,1.4s
UOSS Minazif 73.79 289 eP P 12 44 08.6 +0.3
comp=Z,417nm,1.0s
UOSS Minazif 73.79 289 P P 12 44 08.7 +0.3
UOSS Minazif 73.79 289 i P P 12 44 08.7 +0.3
SNR=68
W18A Petrified Fore 73.81 56 P P 12 44 09.2 +0.6
baz=314
SMDO Samad 73.82 286 P P 12 44 10.1 +1.4
SNR=15
H33A Prehn Over Nor 73.88 42 P P 12 44 08.5 -0.1
baz=319,SNR=16
HATD Hatta, Dubai 73.92 289 P P 12 44 10.1 +0.9
SNR=52
HATD Hatta, Dubai 73.92 289 i P P 12 44 10.0 +0.9
SNR=96
J31A Geddes 73.95 44 P P 12 44 08.9 -0.1
baz=318,SNR=16
HOQ Hoqain 73.96 287 P P 12 44 10.1 +0.7
SNR=12
D37A Cotton 73.97 38 P P 12 44 08.3 -0.8
baz=320,SNR=5.3
G34A Benson 73.98 41 P P 12 44 09.1 -0.1
baz=319,SNR=9.5
OGNE Ogallala 73.99 48 P P 12 44 09.8 +0.4
baz=317,SNR=27
OGNE Ogallala 73.99 48 eP P 12 44 09.8 +0.4
comp=Z,234nm,0.8s
OGNE epP pP 12 44 39.3 -0.9
F35A Swanville 74.01 40 P P 12 44 08.8 -0.4
baz=320
I32A Karley and Nic 74.03 43 P P 12 44 08.9 -0.6
baz=318,SNR=5.2
C38A Sawbill Land. 74.03 37 P P 12 44 08.9 -0.5
baz=321,SNR=9.5
ASHO Ashiyiah 74.06 289 P P 12 44 11.0 +1.0
SNR=47
ASHO Ashiyiah 74.06 289 i P P 12 44 10.7 +0.7
SNR=69
X18A Snowflake 74.09 57 eP P 12 44 11.1 +0.9
comp=Z,59nm,0.9s
E36A McGregor 74.10 39 P P 12 44 09.4 -0.4
baz=320,SNR=16
SOHO SOHO 74.11 288 i P P 12 44 10.2 0.0
SNR=50
NAZ Nazwa, Dubai 74.12 289 P P 12 44 11.0 +0.7
SNR=14
NAZ Nazwa, Dubai 74.12 289 i P P 12 44 11.0 +0.7
SNR=27
214A Organ Pipe Nat 74.14 61 P P 12 44 10.8 +0.5
baz=314,SNR=51
KWP Kalwaria Pacla 74.18 326 eP P 12 44 10.6 +0.4
KWP Kalwaria Pacla 74.18 326 eP P 12 44 10.6 +0.4
KWP Kalwaria Pacla 74.18 326 eP P 12 44 09.6 -0.7
comp=Z,3µm,1.3s
JMDO Jabal Madar 74.24 286 P P 12 44 12.6 +1.6
SNR=9.5
J32A Parkston 74.33 44 P P 12 44 10.8 -0.4
baz=318,SNR=11

I33A Coleman 74.33 43 P P 12 44 11.1 -0.1
baz=319,SNR=16
LEOM Leova 74.34 321⇑ iP P 12 44 12.1 +0.9
H34A Spellman Lake, 74.35 42 P P 12 44 11.2 -0.1
baz=319,SNR=8.2
SDCO Great Sand Dun 74.40 52 P P 12 44 12.9 +0.8
baz=316,SNR=69
SDCO Great Sand Dun 74.40 52 eP P 12 44 12.3 +0.2
comp=Z,46nm,1.1s
K31A O'Neill 74.44 45 P P 12 44 11.9 0.0
baz=318,SNR=19
E37A Wrenshall 74.44 38 P P 12 44 11.3 -0.5
baz=321
C39A Grand Marais 74.44 36 P P 12 44 10.9 -0.8
baz=322
PTK Pertek 74.46 310 eP P 12 44 13.7 +1.4
F36A Milaca 74.48 39 P P 12 44 11.4 -0.6
baz=320,SNR=8.8
G35A Watkins 74.53 40 P P 12 44 12.2 -0.2
baz=320,SNR=6.2
BSY Bisya 74.60 287 P P 12 44 14.4 +1.2
SNR=28
DIKM Dikmen 74.63 314 eP P 12 44 13.4 +0.4
KVT Kavak 74.65 313 eP P 12 44 13.7 +0.6
ECSD EROS Data Cent 74.65 43 P P 12 44 12.9 -0.2
baz=319,SNR=58
ECSD EROS Data Cent 74.65 43 eP P 12 44 12.9 -0.2
comp=Z,98nm,1.1s
ARQ Aragi 74.66 288 P P 12 44 16.0 +2.5
SNR=16
ALNE Al Ain 74.69 289 i P P 12 44 14.4 +0.7
SNR=47
BUR08 Bucovina Ar. S 74.74 324 eP P 12 44 13.5 -0.2
BUR04 Bucovina Ar. S 74.76 324 eP P 12 44 13.4 -0.3
BURAR Bucovina Array 74.76 324⇓ iP P 12 44 13.8 +0.1
H35A Sunnyside Ranc 74.77 41 P P 12 44 13.9 +0.2
baz=320,SNR=32
E38A The Farm, Brul 74.78 38 P P 12 44 13.1 -0.6
baz=321
I34A Hadley 74.78 42 P P 12 44 13.7 -0.2
baz=319,SNR=9.2
J33A Davis 74.80 43 P P 12 44 13.6 -0.3
baz=319,SNR=5.1
K32A Verdigre 74.80 44 P P 12 44 13.5 -0.4
baz=318
OJC Ojcow 74.81 328 eP P 12 44 13.9 +0.1
OJC Ojcow 74.81 328 eP P 12 44 13.9 +0.1
OJC Ojcow 74.81 328 eP P 12 44 13.3 -0.5
comp=Z,242nm,1.6s
G36A St. Michael 74.86 40 P P 12 44 13.8 -0.4
baz=320
AJN Ajban 74.86 290 i P P 12 44 14.8 +0.2
SNR=7.5
STHS Stebnicka Huta 74.92 327 eP P 12 44 15.2 +0.7
STHS pmax pmax
comp=Z,43nm,1.1s
STHS Stebnicka Huta 74.92 327 eP P 12 44 15.2 +0.7
F37A Hinrichs Farm, 74.99 39 P P 12 44 14.4 -0.5
baz=321
TESR Tescani 75.01 322⇓ iP P 12 44 15.0 -0.1
BZK Bozkurt 75.04 315 eP P 12 44 15.8 +0.5
KSCO Kaye Shedlock' 75.07 49 P P 12 44 15.8 +0.1
baz=317,SNR=10
KSCO Kaye Shedlock' 75.07 49 eP P 12 44 15.9 +0.2
comp=Z,121nm,1.2s
TLCR 75.08 320⇑ iP P 12 44 16.2 +0.8
TUC Tucson 75.13 59 P P 12 44 16.7 +0.6
baz=314
TUC Tucson 75.13 59 eP P 12 44 16.8 +0.6
TUC pmax pmax
comp=Z,77nm,1.1s
TUC Tucson 75.13 59 eP P 12 44 16.8 +0.6
comp=Z,77nm,1.1s
F38A Pierce - Schro 75.14 39 P P 12 44 15.7 -0.1
baz=321,SNR=20
UZH Uzhgorod 75.14 326 eP P 12 44 14.8 -1.0
UZH Uzhgorod 75.14 326 eP P 12 44 14.0 -1.8
UZH e 12 44 24.0
UZH eS S 12 53 40.0 -3.9
UZH e 12 54 39.6
CRVS Cervenica-Dubn 75.25 327 eP P 12 44 16.3 -0.1
CRVS Cervenica-Dubn 75.25 327 eP P 12 44 16.3 -0.1
L32A Elgin 75.27 45 P P 12 44 16.3 -0.4
baz=318
H36A Jessenland, He 75.28 41 P P 12 44 16.9 +0.3
baz=320,SNR=7.6
NIE Niedzica 75.28 328 eP P 12 44 17.2 +0.6
NIE Niedzica 75.28 328 eP P 12 44 17.2 +0.6
ARMA Armidale 75.29 177 eP P 12 44 18.7 +2.0
comp=Z,90nm,1.1s
SPMN Marine on St. 75.29 40 P P 12 44 16.2 -0.5
baz=321,SNR=5.8
SPMN Marine on St. 75.29 40 eP P 12 44 16.4 -0.3
comp=Z,72nm,1.4s
MHTCO State Highway 75.29 52 eP P 12 44 18.1 +0.9
comp=Z,184nm,1.4s
J34A George 75.31 43 P P 12 44 16.4 -0.4
baz=319,SNR=8.0
K33A Hardington 75.31 44 P P 12 44 16.9 0.0
baz=319
I35A Creekview Farm 75.34 42 P P 12 44 16.7 -0.3
baz=320,SNR=16
PETR Petresti 75.37 321⇓ iP P 12 44 18.6 +1.5
E39A Mellen 75.39 37 P P 12 44 16.7 -0.6
baz=322,SNR=14
CFR Carcaliu 75.39 321⇓ iP P 12 44 17.5 +0.3
ODBI Odobesti 75.42 322⇑ iP P 12 44 18.9 +1.5
BMR Baia Mare 75.42 325⇓ iP P 12 44 17.9 +0.5
T25A Trinidad 75.44 52 P P 12 44 18.4 +0.4
baz=316,SNR=66
T25A Trinidad 75.44 52 eP P 12 44 18.4 +0.4
comp=Z,76nm,0.9s
TRPA Tarpa 75.45 326⇓ eP P 12 44 18.1 +0.6
VRI Vrincioaia 75.48 322⇓ iP P 12 44 18.6 +0.8
KPL Plockton 75.49 345 eP P 12 44 17.0 -0.6
L33A Hoskins 75.51 44 P P 12 44 17.6 -0.4
baz=319
PLOR Plostina 75.53 322⇓ iP P 12 44 18.6 +0.5
ARCR ARCALIA 75.54 324⇓ iP P 12 44 18.8 +0.7
KSP Ksiaz 75.56 331 eP P 12 44 17.9 -0.1
KSP e 12 47 41.9
KSP Ksiaz 75.56 331 eP P 12 44 18.0 -0.1
F39A Loretta 75.59 38 P P 12 44 18.1 -0.3
baz=322,SNR=13
J35A Milford 75.60 42 P P 12 44 18.2 -0.3
baz=320
E40A Wakefield 75.62 37 P P 12 44 18.6 0.0
baz=322,SNR=25
BGNE Belgrade 75.64 45 P P 12 44 18.4 -0.4
baz=318,SNR=7.8
BGNE Belgrade 75.64 45 eP P 12 44 18.6 -0.2
comp=Z,109nm,0.9s
I36A Fitzsimmons Fa 75.67 41 P P 12 44 18.6 -0.3
baz=320,SNR=7.1
D41A Chassel 75.69 36 P P 12 44 19.0 0.0
baz=323,SNR=6.1
K34A Le Mars 75.69 43 P P 12 44 18.7 -0.4
baz=319,SNR=13
DARE Darende-Malaty 75.72 311 eP P 12 44 20.4 +1.0
OKC Ostrava-Krasne 75.73 329 eP P 12 44 19.5 +0.4
OKC Ostrava-Krasne 75.73 329 eP P 12 44 19.5 +0.4
H37A Dierke Farm, C 75.74 40 P P 12 44 19.2 -0.1
baz=321,SNR=8.0
G38A Ridgeland 75.76 39 P P 12 44 18.6 -0.8
baz=321,SNR=8.3
LANS Liptovska Anna 75.81 328 eP P 12 44 20.4 +0.7
LANS Liptovska Anna 75.81 328 eP P 12 44 20.4 +0.7
TIRR Tirgusor 75.82 320⇓ iP P 12 44 20.2 +0.5
TIRR Tirgusor 75.82 320 eP P 12 44 19.9 +0.2
TIRR pmax pmax
comp=Z,145nm,1.2s
TIRR Tirgusor 75.82 320 eP P 12 44 19.9 +0.2
comp=Z,144nm,1.2s
LAZ Ladron 75.84 55 eP P 12 44 21.3 +1.0
ANMO Albuquerque 75.85 55 P P 12 44 21.2 +0.9
baz=316
ANMO Albuquerque 75.85 55 ceP P 12 44 21.0 +0.7
ANMO pmax pmax
comp=Z,45nm,1.1s
ANMO Albuquerque 75.85 55 eP P 12 44 21.0 +0.7
comp=Z,47nm,0.9s
ILGA Ilgaz 75.86 315 eP P 12 44 21.9 +1.6
comp=Z,690nm,1.4s
HARR Harsova 75.86 320⇑ iP P 12 44 20.3 +0.4
TLB Topalu 75.89 320⇓ iP P 12 44 20.7 +0.6
F40A Park Falls 75.93 38 P P 12 44 19.8 -0.5

baz=322,SNR=8.0
UPC Upice 75.94 331 eP P 12 44 20.3 0.0
UPC Upice 75.94 331 eP P 12 44 20.3 0.0
H38A Maiden Rock 75.95 40 P P 12 44 20.1 -0.4
baz=321
I37A Lemond, Waseca 75.95 41 P P 12 44 20.7 +0.2
baz=320,SNR=26
KECS Kecovo 75.97 327 eP P 12 44 20.7 +0.2
KECS pmax pmax
comp=Z,26nm,1.3s
KECS Kecovo 75.97 327 eP P 12 44 20.7 +0.2
G39A Holcombe 75.97 39 P P 12 44 19.8 -0.7
baz=322,SNR=6.7
DOPR Dopca 75.98 323⇓ iP P 12 44 22.0 +1.3
M33A Taylor Creek F 75.99 44 P P 12 44 20.5 -0.3
baz=319,SNR=11
E41A Kenton 76.00 37 P P 12 44 20.4 -0.3
baz=323,SNR=14
MORC Moravsky Berou 76.00 329⇓ iP P 12 44 20.9 +0.2
MORC Moravsky Berou 76.00 329 eP P 12 44 20.7 0.0
MORC pmax pmax
comp=Z,496nm,1.3s
MORC Moravsky Berou 76.00 329 eP P 12 44 20.7 0.0
comp=Z,496nm,1.3s
CORM Corum 76.04 313 eP P 12 44 20.9 -0.3
J36A Seneca 1, Swea 76.04 42 P P 12 44 20.7 -0.3
baz=320,SNR=9.6
K35A Storm Lake 76.08 43 P P 12 44 20.7 -0.6
baz=320,SNR=7.8
L34A Svendsen Farm, 76.10 44 P P 12 44 20.9 -0.5
baz=319,SNR=11
PGOR Pogoanele 76.11 321⇓ iP P 12 44 22.9 +1.5
MLR Muntele Rosu 76.12 322 P P 12 44 22.2 +0.6
comp=Z,6.0nm,0.4s,baz=18,slow=6.1,SNR=34
MLR LR LR 13 19 57.9
comp=Z,133nm,20.7s,baz=40,slow=37
MLR Muntele Rosu 76.12 322⇓ iP P 12 44 22.0 +0.4
MLR Muntele Rosu 76.12 322 eP P 12 44 21.7 +0.1
MLR pmax pmax
comp=Z,227nm,1.4s
MLR Muntele Rosu 76.12 322 eP P 12 44 21.7 +0.1
comp=Z,227nm,1.4s
ISR Istrita 76.15 321⇓ iP P 12 44 22.5 +0.9
CJR Cluj-Napoca 76.15 324⇓ iP P 12 44 22.6 +1.0
SCHQ Schefferville 76.17 20 P P 12 44 21.7 +0.2
comp=Z,28nm,0.8s,baz=357,slow=5.7,SNR=26
SCHQ LR LR 13 20 37.1
comp=Z,157nm,19.6s,baz=340,slow=38
SCHQ Schefferville 76.17 20 eP P 12 44 21.6 0.0
comp=Z,65nm,1.2s
SCHQ e 13 20 37.1
LPM Los Pinos Moun 76.20 55 eP P 12 44 23.1 +0.9
LPM epP pP 12 44 53.5 +0.2
Y22E IRIS PASSCAL I 76.20 56 P P 12 44 23.5 +1.2
baz=316
Y22D IRIS PASSCAL I 76.20 56 P P 12 44 23.5 +1.2
baz=316
COWI Conover 76.21 37 eP P 12 44 21.5 -0.5
comp=Z,21nm,0.9s
COWI eS S 12 53 54.7 -1.2
CLL Collm 76.27 333⇓ iP P 12 44 21.5 -0.6
CLL e 12 44 32.0
CLL eS S 12 53 57.0 +0.8
CLL pmax pmax
comp=Z,290nm,2.0s
CLL Collm 76.27 333⇓ iP P 12 44 21.5 -0.6
comp=Z,290nm,2.0s
CLL epPcP PcP 12 44 32.0 -1.6
CLL e 12 44 39.0
CLL eS S 12 53 57.0 +0.8
CLL eSKSac SKSac 12 54 20.0 -1.5
CLL e 12 55 21.0
CLL eSSS 12 59 42.0
CLL eSSS SSS 13 02 18.0
CLL eSSSS 13 02 54.0
CLL e 13 03 48.0
CLL LmH 13 16 00.0
comp=N,400nm,21.5s
CLL LmH 13 16 00.0
comp=E,600nm,20.3s
CLL LmV 13 20 00.0
comp=Z,400nm,18.9s
CLL Collm 76.27 333 eP P 12 44 20.6 -1.6
comp=Z,386nm,2.0s
BNM Barren Site 76.31 55 eP P 12 44 23.8 +0.8
BRG Berggiesshubel 76.33 332 i P P 12 44 22.1 -0.5
comp=Z,149nm,2.0s
BRG i sP sP 12 45 05.5 -1.2
comp=Z,38nm,1.6s
BRG ePP PP 12 47 32.9 +18
comp=Z,43nm,1.5s
BRG Berggiesshubel 76.33 332 i P P 12 44 22.0 -0.5
BRG i *SP sP 12 45 05.5 -1.2
BRG pmax pmax
comp=Z,149nm,2.0s
M34A Aspy Farms, Fr 76.35 44 P P 12 44 22.4 -0.3
baz=319,SNR=12
L35A Bielow Farm, R 76.39 43 P P 12 44 22.4 -0.6
baz=320,SNR=7.2
H39A Augusta 76.40 39 P P 12 44 22.5 -0.5
baz=322,SNR=6.8
G40A Rib Lake 76.41 38 P P 12 44 22.7 -0.4
baz=322,SNR=15
I38A Scanlan Farm, 76.42 40 P P 12 44 22.7 -0.4
baz=321,SNR=5.5
J37A Redenius Farm, 76.42 41 P P 12 44 23.0 -0.2
baz=321,SNR=7.7
DRGR 76.45 325⇑ iP P 12 44 23.8 +0.4
E42A Champion 76.46 36 P P 12 44 23.0 -0.4
baz=323,SNR=12
N33A J Bar K, Exete 76.49 45 P P 12 44 22.7 -0.9
baz=319
F41A Three Lakes 76.51 37 P P 12 44 23.5 -0.1
baz=323,SNR=19
K36A Gilmore City 76.52 42 P P 12 44 23.5 -0.3
baz=320,SNR=8.0
VOIR 76.55 322⇓ iP P 12 44 24.8 +0.9
VYHS Vyhne 76.59 328 eP P 12 44 24.3 +0.3
VYHS pmax pmax
comp=Z,96nm,1.6s
VYHS Vyhne 76.59 328 eP P 12 44 24.3 +0.3
PSZ Piszkesteto 76.66 327⇓ iP P 12 44 25.2 +0.7
PSZ Piszkesteto 76.66 327 eP P 12 44 24.8 +0.3
PSZ pmax pmax
comp=Z,162nm,1.3s
PSZ Piszkesteto 76.66 327⇓ eP P 12 44 24.9 +0.4
PSZ Piszkesteto 76.66 327 eP P 12 44 24.8 +0.4
comp=Z,162nm,1.3s
319A Douglas 76.70 59 eP P 12 44 25.9 +0.8
comp=Z,219nm,0.9s
VRAC Vranov 76.74 330 LR LR 13 20 21.7
comp=Z,206nm,20.2s,baz=18,slow=37
VRAC Vranov 76.74 330⇓ iP P 12 44 25.6 +0.8
CBKS Cedar Bluff 76.75 48 P P 12 44 24.6 -0.6
baz=318,SNR=5.9
CBKS Cedar Bluff 76.75 48 eP P 12 44 24.9 -0.2
CBKS e*PP pP 12 44 57.5 +1.4
CBKS pmax pmax
comp=Z,38nm,0.8s
CBKS Cedar Bluff 76.75 48 eP P 12 44 24.9 -0.2
comp=Z,38nm,0.8s
CBKS epP pP 12 44 57.5 +1.4
121A Cookes Peak, D 76.78 57 P P 12 44 26.6 +1.1
baz=316,SNR=65
ARR Arges 76.78 323⇓ iP P 12 44 26.4 +1.2
K37A Belmond 76.80 42 P P 12 44 24.9 -0.4
baz=321,SNR=22
M35A Neola 76.81 44 P P 12 44 25.3 -0.1
baz=320,SNR=7.9
KMRS Kahramanmaras 76.81 310 eP P 12 44 26.0 +0.5
L36A Harm Buss Farm 76.82 43 P P 12 44 25.1 -0.3
baz=320,SNR=8.5
H40A Chili 76.84 39 P P 12 44 25.1 -0.4
baz=322,SNR=12
STKA Stephens Creek 76.86 185 P P 12 44 26.3 +0.8
comp=Z,35nm,1.0s,baz=346,slow=7.3,SNR=39
STKA LR LR 13 18 58.6
comp=Z,61nm,19.6s,baz=15,slow=36
STKA Stephens Creek 76.86 185 eP P 12 44 26.2 +0.8
comp=Z,5.5nm,0.8s
STKA e 13 18 58.6
GOPC GO Pecny, Ondr 76.86 331 eP P 12 44 25.9 +0.4
GOPC epPCP PcP 12 44 36.6 +0.4
GOPC ex x 12 47 52.5
GOPC GO Pecny, Ondr 76.86 331 eP P 12 44 25.9 +0.4
GOPC e 12 44 36.6

PRU Pruhonice 76.88 331 eP P 12 44 25.8 +0.2
PRU ex x 12 47 53.0
PRU Pruhonice 76.88 331 eP P 12 44 25.8 +0.2
BR101 Keskin Array S 76.88 314 eP P 12 44 26.5 +0.5
BR101 e 13 24 23.9
BR131 Keskin Array S 76.88 314 eP P 12 44 26.7 +0.7
BRTR Keskin Array B 76.89 314 P P 12 44 26.5 +0.5
comp=Z,64nm,0.9s,baz=74,slow=4.4,SNR=154
BRTR LR LR 13 24 23.9
comp=Z,130nm,18.4s,baz=38,slow=40
E43A Lone Tree Farm 76.89 35 P P 12 44 25.4 -0.3
baz=324,SNR=5.9
N34A Lincoln 76.89 45 P P 12 44 25.0 -0.9
baz=319,SNR=5.8
G41A Antigo 76.90 37 P P 12 44 25.3 -0.5
baz=323
EKA Eskdalemuir Ar 76.91 343 P P 12 44 25.1 -0.5
comp=Z,17nm,0.7s,baz=20,slow=5.0,SNR=35
EKA LR LR 13 23 16.4
comp=Z,151nm,21.0s,baz=10.0,slow=39
O33A Hebron 76.92 46 P P 12 44 24.9 -1.1
baz=319,SNR=11
ESK Eskdalemuir 76.93 343 eP P 12 44 25.4 -0.4
I39A Houston 76.93 40 P P 12 44 25.3 -0.7
baz=322,SNR=10
LOT Lotru 77.09 323 ⇓iP P 12 44 27.2 +0.2
SMOL Smolenice 77.10 329 eP P 12 44 27.3 +0.4
SMOL Smolenice 77.10 329 eP P 12 44 27.3 +0.4
SGRR Singureni 77.10 321 ⇓iP P 12 44 27.3 +0.4
DEV Deva 77.10 324 ⇓iP P 12 44 27.5 +0.6
E44A Grand Marais A 77.13 35 P P 12 44 26.0 -1.1
baz=324
H41A Junction City 77.17 38 P P 12 44 26.7 -0.6
baz=322
G42A Mountain 77.20 37 P P 12 44 27.0 -0.5
baz=323,SNR=11
ANTO Ankara 77.21 314 eP P 12 44 28.6 +0.9
ANTO pmax pmax
comp=Z,285nm,1.0s
ANTO Ankara 77.21 314 eP P 12 44 28.6 +0.9
comp=Z,285nm,1.0s
ANTO Ankara 77.21 314 P P 12 44 28.8 +1.1
SNR=26
BR231 Keskin MP Arra 77.24 314 eP P 12 44 27.1 -0.8
BR231 eP P 12 44 29.1 +1.2
L37A Phoenix Point, 77.24 42 P P 12 44 27.5 -0.3
baz=321,SNR=25
F43A Flat Rock, Esc 77.25 36 P P 12 44 27.4 -0.4
baz=324,SNR=8.5
M36A Felix, Anita 77.25 43 P P 12 44 27.7 -0.2
baz=320,SNR=12
J39A Decorah 77.25 40 P P 12 44 26.9 -0.9
baz=322,SNR=11
PRD Provadia 77.26 320 iP P 12 44 28.6 +0.8
MODS Modra-Piesok 77.27 329 eP P 12 44 27.8 0.0
MODS Modra-Piesok 77.27 329 eP P 12 44 27.8 0.0
O34A Beatrice 77.29 45 P P 12 44 27.2 -0.9
baz=319,SNR=22
N35A Tabor 77.30 44 P P 12 44 28.0 -0.1
baz=320,SNR=14
HUMR Humele 77.30 322 ⇓iP P 12 44 28.1 +0.1
K38A Parkersburg 77.30 41 P P 12 44 27.5 -0.6
baz=321
SIRR Siria 77.30 325 ⇑iP P 12 44 28.9 +0.8
I40A Norwalk 77.31 39 P P 12 44 27.7 -0.5
baz=322,SNR=7.2
HSIG 77.33 62 eP P 12 44 28.3 -0.1
HSIG epP pP 12 44 59.4 -0.1
SRO Srobarova 77.35 328 eP P 12 44 29.0 +0.8
SRO Srobarova 77.35 328 eP P 12 44 29.0 +0.8
BUD Budapest 77.35 327 ⇓eP P 12 44 29.0 +0.7
NKC Novy Kostel 77.37 332 eP P 12 44 28.1 -0.3
NKC Novy Kostel 77.37 332 eP P 12 44 28.1 -0.3
F44A Big Bay de Noc 77.45 35 P P 12 44 28.5 -0.4
baz=324
ZST Bratislava 77.48 329 eP P 12 44 28.5 -0.5
ZST pmax pmax
comp=Z,125nm,1.4s
ZST Bratislava 77.48 329 eP P 12 44 28.5 -0.5
G43A Wallace 77.50 37 P P 12 44 29.1 -0.1
baz=324,SNR=9.1
I41A Arkdale 77.51 39 P P 12 44 28.7 -0.5
baz=322
MDUB Mudurnu 77.55 316 eP P 12 44 29.3 -0.4
L38A Oak Wood Farm, 77.60 42 P P 12 44 29.4 -0.4
baz=321,SNR=9.6
O35A Humboldt 77.61 45 P P 12 44 29.0 -0.9
baz=320
E45A Wooded Hills, 77.64 34 P P 12 44 29.3 -0.6
baz=325
J40A Soldiers Grove 77.64 40 P P 12 44 29.0 -1.0
baz=322
M37A Trindle Farm, 77.65 43 P P 12 44 30.0 -0.1
baz=321
K39A Oelwein 77.66 41 P P 12 44 29.2 -0.9
baz=322,SNR=8.5
SCIA State Center 77.66 42 P P 12 44 30.1 0.0
baz=321,SNR=12
SCIA State Center 77.66 42 eP P 12 44 30.5 +0.3
SCIA epP pP 12 45 00.3 -0.9
N36A Muff Farm, Cla 77.67 44 P P 12 44 30.1 0.0
baz=320,SNR=7.3
P34A Walnut Farm, R 77.70 46 P P 12 44 29.5 -0.9
baz=319,SNR=20
SRIG Santa Rosalia 77.70 64 eP P 12 44 30.9 +0.3
H42A Shiocton 77.74 38 P P 12 44 29.9 -0.6
baz=323
BZS Buzias 77.85 325 ⇓iP P 12 44 31.2 +0.1
SZH Strazhica 77.87 321 iP P 12 44 30.9 -0.4
GULT Gulveren 77.92 316 eP P 12 44 31.9 +0.2
KHC Kasperske Hory 77.94 331 eP P 12 44 31.9 +0.3
KHC epPCP PcP 12 44 42.6 +1.7
KHC ex x 12 47 46.6
KHC Kasperske Hory 77.94 331 eP P 12 44 31.9 +0.3
KHC e 12 44 42.6
KHC Kasperske Hory 77.94 331 eP P 12 44 31.9 +0.3
comp=Z,55nm,1.1s
J41A Loganville 78.00 39 P P 12 44 31.2 -0.7
baz=322,SNR=7.0
K40A Colesburg 78.01 40 P P 12 44 31.3 -0.7
baz=322,SNR=7.3
F45A CMU Biological 78.05 35 P P 12 44 31.5 -0.7
baz=325
M38A Pleasantville 78.05 42 P P 12 44 32.2 -0.1
baz=321,SNR=19
I42A Draeger Farm, 78.06 38 P P 12 44 31.8 -0.5
baz=323,SNR=5.3
L39A Vinton 78.07 41 P P 12 44 32.1 -0.3
baz=322,SNR=20
N37A Lee Faris, Mou 78.07 43 P P 12 44 32.5 0.0
baz=321
EPT El Paso 78.08 57 eP P 12 44 33.3 +0.5
comp=Z,86nm,1.0s
SULT Sultanhani-AKS 78.09 313 eP P 12 44 33.3 +0.6
H43A Windswept, Lux 78.09 37 P P 12 44 32.1 -0.4
baz=324
SOP Sopron 78.11 329 ⇓eP P 12 44 33.3 +0.8
Q34A Chapman 78.12 46 P P 12 44 32.0 -0.7
baz=319,SNR=6.1
P35A Duane Minner, 78.12 45 P P 12 44 32.0 -0.8
baz=320,SNR=9.7
GEC2 GERESS Array S 78.14 331 eP P 12 44 32.6 -0.2
GEC2 pmax pmax
comp=Z,88nm,1.3s
GEC2 GERESS Array S 78.14 331 eP P 12 44 32.6 -0.2
comp=Z,88nm,1.3s
GERES GERESS Array B 78.14 331 P P 12 44 32.5 -0.2
comp=Z,12nm,0.8s,baz=42,slow=4.2,SNR=88
GERES GERESS Array B 78.14 331 P P 12 44 32.6 -0.2
GERES pmax pmax
comp=Z,12nm,0.8s
KSU1 Kansas State U 78.15 46 P P 12 44 32.1 -0.7
baz=320,SNR=5.1
KSU1 Kansas State U 78.15 46 eP P 12 44 32.3 -0.6
comp=Z,129nm,1.5s
GEA0 GERESS Array S 78.15 331 eP P 12 44 32.1 -0.7
CONA Conrad Observa 78.16 329 iP P 12 44 33.6 +0.7
comp=Z,148nm,1.4s,SNR=48
O36A Bolckow 78.19 44 P P 12 44 32.9 -0.1
baz=320,SNR=10
JMB Yambol 78.21 320 iP P 12 44 33.3 +0.2
GRFO Grafenberg 78.24 333 eP P 12 44 32.7 -0.5
GRFO pmax pmax
comp=Z,204nm,1.3s
GRFO Grafenberg 78.24 333 eP P 12 44 32.6 -0.5
comp=Z,204nm,1.3s

JFWS Jewell Farm 78.25 40 P P 12 44 32.5 -0.9
baz=322
JFWS Jewell Farm 78.25 40 eP P 12 44 32.8 -0.5
JFWS e*PP pP 12 45 05.8 +1.3
JFWS Jewell Farm 78.25 40 eP P 12 44 32.8 -0.5
JFWS epP pP 12 45 05.8 +1.3
F46A Macinaw City C 78.28 35 P P 12 44 33.1 -0.3
baz=325
ADVT Abdulvahap 78.30 317 eP P 12 44 34.0 +0.4
BBOO Buckleboo 78.31 190 eP P 12 44 34.5 +1.0
comp=Z,37nm,0.9s
I43A Langenfeld Bro 78.40 38 P P 12 44 33.7 -0.5
baz=324
CAVI Cavuskoy 78.42 316 eP P 12 44 35.0 +0.6
R34A Isabella, Hill 78.43 47 P P 12 44 33.8 -0.6
baz=319,SNR=7.9
J42A Columbus 78.43 39 P P 12 44 33.8 -0.5
baz=323,SNR=7.1
P36A Good Intent, A 78.46 45 P P 12 44 34.0 -0.5
baz=320
K41A Shullsburg 78.46 40 P P 12 44 33.8 -0.8
baz=322
L40A Anamosa 78.47 41 P P 12 44 34.0 -0.6
baz=322,SNR=9.0
M39A Webster 78.49 42 P P 12 44 34.5 -0.2
baz=322,SNR=27
N38A Joes South For 78.52 43 P P 12 44 34.7 -0.1
baz=321,SNR=14
O37A Wolven Farm, M 78.56 44 P P 12 44 35.0 -0.2
baz=321,SNR=6.3
AMTX Amarillo 78.60 52 P P 12 44 36.1 +0.6
baz=318
AMTX Amarillo 78.60 52 eP P 12 44 36.2 +0.7
comp=Z,152nm,0.9s
ARMT Armutlu 78.62 317 eP P 12 44 35.5 +0.1
EDRB Edirne 78.62 319 eP P 12 44 35.3 -0.1
MSTX Muleshoe 78.66 53 P P 12 44 36.0 +0.1
baz=317,SNR=27
MSTX Muleshoe 78.66 53 eP P 12 44 36.1 +0.1
comp=Z,94nm,1.1s
J43A Natural Harves 78.69 38 P P 12 44 36.1 +0.3
baz=323
K42A Prairie Point, 78.76 39 P P 12 44 35.5 -0.7
baz=323,SNR=6.0
L41A Preston 78.80 40 P P 12 44 35.7 -0.7
baz=322,SNR=6.5
MOA Molln 78.80 330 iP P 12 44 36.6 +0.3
comp=Z,91nm,2.3s,SNR=24
MNTX Cornudas Mount 78.80 56 P P 12 44 37.2 +0.6
baz=317,SNR=108
MNTX Cornudas Mount 78.80 56 eP P 12 44 37.2 +0.6
comp=Z,81nm,1.0s
N39A Derby Farms, D 78.80 42 P P 12 44 36.1 -0.3
baz=322,SNR=19
M40A Post Highland 78.85 41 P P 12 44 36.3 -0.4
baz=322,SNR=13
ARSA Arzberg 78.86 329 iP P 12 44 37.1 +0.4
comp=Z,100nm,1.4s,SNR=31
SHAO Shalim 78.90 284 P P 12 44 38.0 +0.7
SNR=7.1
SHAO Shalim 78.90 284 iP P 12 44 38.1 +0.8
SNR=12
P37A Lathrop 78.91 44 P P 12 44 36.9 -0.1
baz=321,SNR=20
O38A Galt 78.92 43 P P 12 44 37.0 0.0
baz=321,SNR=13
BEBN Eben Emael 78.94 337 ⇓P P 12 44 36.7 -0.3
R35A Emporia Munici 78.95 46 P P 12 44 37.0 -0.2
baz=320,SNR=6.8
MEM Membach 79.02 336 ⇓P P 12 44 36.9 -0.5
comp=Z,59nm,1.7s
BEHE Becsehely 79.05 328 ⇓eP P 12 44 37.7 0.0
GLMI Grayling 79.12 35 P P 12 44 38.1 0.0
baz=325
GLMI Grayling 79.12 35 eP P 12 44 38.8 +0.7
comp=Z,67nm,0.8s
L42A Oliver, Polo 79.23 40 P P 12 44 37.8 -0.9
baz=323
N40A Mertquake, Sal 79.23 42 P P 12 44 38.6 -0.1
baz=322,SNR=13
PGB Panagyurishte 79.23 321 iP P 12 44 39.3 +0.5
K43A Burlington 79.27 38 P P 12 44 38.2 -0.7
baz=324
O39A Kirksville 79.27 43 P P 12 44 38.8 -0.1
baz=322,SNR=13
P38A Dawn 79.28 44 P P 12 44 38.9 -0.1
baz=321,SNR=18
UCC Uccle 79.30 337 ⇓P P 12 44 38.4 -0.6
M41A Milan 79.33 41 P P 12 44 38.8 -0.5
baz=322,SNR=5.2
SHUT Suhut-Afyon 79.34 315 eP P 12 44 40.4 +0.9
KDZ Kurdzhali 79.38 320 iP P 12 44 40.5 +0.9
BCLA Clavier 79.39 337 ⇑P P 12 44 39.3 0.0
Q37A Longview Farm, 79.40 45 P P 12 44 39.1 -0.6
baz=321,SNR=5.6
L43A Garden Prairie 79.50 39 P P 12 44 39.4 -0.8
baz=323
DSB Dublin 79.51 345 eP P 12 44 39.6 -0.4
comp=Z,54nm,0.8s
SOKA Soboth 79.52 329 iP P 12 44 40.6 +0.2
comp=Z,213nm,1.2s,SNR=61
PERS Pernice 79.52 329 eP P 12 44 40.1 -0.2
SNF Seneffe 79.59 337 ⇓P P 12 44 40.0 -0.4
comp=Z,62nm,1.5s
VTS Vitosha 79.62 322 ⇓iP P 12 44 41.7 +0.7
VTS Vitosha 79.62 322 eP P 12 44 40.6 -0.4
VTS Vitosha 79.62 322 eP P 12 44 40.6 -0.4
VTS eP P 12 44 41.5 +0.4
VTS Vitosha 79.62 322 iP P 12 44 41.4 +0.4
VTS Vitosha 79.62 322 P P 12 44 40.6 -0.4
M42A Sheffield 79.62 40 P P 12 44 40.1 -0.8
baz=323
ERIK Erikli-Kesan 79.65 319 eP P 12 44 41.5 +0.5
RZN Rozhen 79.67 320 iP P 12 44 41.8 +0.4
ALN Alexandroupoli 79.69 319 eP P 12 44 41.5 +0.3
ALN Alexandroupoli 79.69 319 P P 12 44 40.7 -0.5
O40A La Belle 79.69 42 P P 12 44 41.3 0.0
baz=322,SNR=33
STU Stuttgart 79.69 334 eP P 12 44 41.1 0.0
STU pmax pmax
comp=Z,165nm,1.2s
STU Stuttgart 79.69 334 eP P 12 44 41.0 0.0
comp=Z,165nm,1.2s
N41A Harden Midland 79.71 41 P P 12 44 41.0 -0.4
baz=322,SNR=10
Q38A Cooks Store, C 79.75 44 P P 12 44 41.3 -0.3
baz=321,SNR=37
DIVS Divibare 79.76 325 eP P 12 44 41.4 -0.3
comp=Z,103nm,1.0s
P39B Salisbury 79.76 43 P P 12 44 41.5 -0.1
baz=322,SNR=11
ENEZ Enez 79.77 319 P P 12 44 41.4 -0.2
KBA Koelnbreinsper 79.78 330 iP P 12 44 41.8 0.0
comp=Z,245nm,1.2s,SNR=98
DOBS Dobrina 79.81 328 iP P 12 44 41.5 -0.3
WLF Walferdange 79.82 336 ⇓P P 12 44 42.2 +0.4
comp=Z,94nm,1.5s
WLF Walferdange 79.82 336 eP P 12 44 42.4 +0.6
WLF pmax pmax
comp=Z,113nm,1.1s
WLF Walferdange 79.82 336 eP P 12 44 42.4 +0.6
comp=Z,113nm,1.1s
OBKA Obir 79.84 329 iP P 12 44 42.2 +0.1
comp=Z,52nm,0.9s,SNR=15
DOU Dourbes 79.87 337 ⇑P P 12 44 41.1 -0.9
comp=Z,38nm,1.7s
L44A Lake County Fo 79.88 39 P P 12 44 41.7 -0.5
baz=324
GELI Tayfur-Gelibol 79.88 318 eP P 12 44 42.1 -0.2
ISP Isparta 79.91 314 eP P 12 44 42.8 +0.2
ISP pmax pmax
comp=Z,98nm,1.0s
ISP Isparta 79.91 314 eP P 12 44 42.8 +0.2
comp=Z,98nm,1.0s
SUTC Sutluce-Ispart 79.94 314 eP P 12 44 43.1 +0.3
N42A Yates City 80.00 41 P P 12 44 42.6 -0.3
baz=323,SNR=14
Q39A Willow Grove F 80.00 44 P P 12 44 42.9 0.0
baz=321,SNR=56
M43A Waltham Townsh 80.00 40 P P 12 44 42.2 -0.7
baz=323
MYKA Terra Mystica 80.06 330 iP P 12 44 42.9 -0.3
comp=Z,120nm,1.4s,SNR=31
P40A Paris 80.07 43 P P 12 44 43.5 +0.2
baz=322,SNR=27
CAN Canberra 80.10 179 eP P 12 44 44.9 +1.6

CAN pmax pmax
comp=Z,38nm,1.0s
CAN Canberra 80.10 179 eP P 12 44 44.9 +1.6
comp=Z,38nm,1.0s
BHL Bhannes 80.15 309 eP P 12 44 44.3 +0.3
O41A Passleys Farm, 80.16 42 P P 12 44 43.7 -0.1
baz=322,SNR=20
WATA Walderalm 80.17 331 iP P 12 44 44.3 +0.5
comp=Z,288nm,1.2s,SNR=36
MMB Musomiste 80.19 321 iP P 12 44 44.8 +0.8
R38A Fenwick Farm, 80.21 45 P P 12 44 43.2 -0.8
baz=321,SNR=25
WTTA Wattenberg 80.21 331 iP P 12 44 44.6 +0.5
comp=Z,210nm,1.4s,SNR=49
WHFO Wadi Hawf 80.24 285 P P 12 44 45.0 +0.4
SNR=5.7
KKB Krupnik 80.26 321 iP P 12 44 44.8 +0.5
WMOK Wichita Mounta 80.30 50 P P 12 44 44.9 +0.2
baz=319,SNR=66
WMOK Wichita Mounta 80.30 50 eP P 12 44 44.9 +0.2
WMOK pmax pmax
comp=Z,60nm,0.9s
WMOK Wichita Mounta 80.30 50 eP P 12 44 44.9 +0.2
comp=Z,60nm,0.9s
N43A Stutzman Famil 80.30 40 P P 12 44 44.1 -0.4
baz=323
RETA Reutte 80.31 332 iP P 12 44 44.8 +0.3
comp=Z,182nm,1.2s,SNR=66
KAVA Kavala 80.31 320 eP P 12 44 44.3 -0.3
KAVA Kavala 80.31 320 P P 12 44 44.3 -0.3
MOTA Moosalm 80.32 332 iP P 12 44 45.2 +0.5
comp=Z,254nm,1.1s,SNR=70
NVR Nevrokopi 80.33 321 P P 12 44 45.0 +0.3
BLY Banja Luka 80.34 327 ⇑iP P 12 44 44.9 +0.2
BLY Banja Luka 80.34 327 eP P 12 44 44.8 +0.2
comp=Z,42nm,1.0s
DQRL Deir Qamar 80.35 308 eP P 12 44 45.9 +0.9
BFO Black Forest 80.35 334 iP P 12 44 44.8 +0.1
BFO Black Forest 80.35 334 eP P 12 44 44.4 -0.3
comp=Z,121nm,1.2s
RCY Rachaya 80.36 308 eP P 12 44 45.9 +0.7
ABTA Abfaltersbach 80.36 331 iP P 12 44 44.3 -0.6
comp=Z,82nm,1.2s,SNR=22
EZN Ezine 80.41 318 eP P 12 44 44.3 -0.8
EZN Ezine 80.41 318 eP P 12 44 44.3 -0.8
EZN Ezine 80.41 318 P P 12 44 44.3 -0.8
P41A Barry, Barry 80.43 42 P P 12 44 45.1 -0.1
baz=322,SNR=6.4
M44A Midewin, Midew 80.45 39 P P 12 44 45.0 -0.3
baz=324,SNR=7.7
O42A Bath 80.47 41 P P 12 44 45.1 -0.4
baz=323
Q40A Laux Farm, Aux 80.48 43 P P 12 44 45.3 -0.2
baz=322,SNR=16
SHBL Chebaa 80.52 308 eP P 12 44 46.1 +0.1
R39A Chumby, Stover 80.54 44 P P 12 44 45.4 -0.4
baz=322,SNR=28
HDIL Hopedale 80.55 40 P P 12 44 45.8 0.0
baz=323,SNR=11
HDIL Hopedale 80.55 40 eP P 12 44 46.2 +0.4
comp=Z,158nm,0.8s
CSS Mathiatis 80.63 311 eP P 12 44 46.6 +0.2
comp=Z,35nm,1.1s
CSS Mathiatis 80.63 311 P P 12 44 46.6 +0.2
SRS Serrai 80.64 321 eP P 12 44 45.1 -1.2
SRS Serrai 80.64 321 eP P 12 44 45.1 -1.2
SRS Serrai 80.64 321 P P 12 44 45.1 -1.2
PLE Pljevlja 80.64 325 ⇓iP P 12 44 46.4 0.0
S38A Stockton 80.64 45 P P 12 44 45.5 -0.9
baz=321,SNR=21
OK020 N3440 Road, Me 80.71 48 eP P 12 44 47.4 +0.6
comp=Z,49nm,1.0s
FETA Feichten 80.73 332 iP P 12 44 47.1 +0.2
comp=Z,132nm,1.1s,SNR=49
ASF Jabal al Asfar 80.74 307 P P 12 44 48.4 +1.2
comp=Z,78nm,1.1s,baz=346,slow=2.3,SNR=40
ASF LR LR 13 27 08.9
comp=Z,194nm,18.1s,baz=1.5,slow=40
OK021 N3530 Road, Sp 80.75 48 eP P 12 44 47.3 +0.3
comp=Z,75nm,1.0s
O43A Sugar Creek Fa 80.76 41 P P 12 44 46.7 -0.3
baz=323
DAVA Damuels 80.78 332 iP P 12 44 47.3 +0.1
comp=Z,158nm,1.2s,SNR=43
IVA Berane 80.81 324 ⇓iP P 12 44 46.8 -0.5
TRI Trieste 80.81 329 eP P 12 44 46.1 -1.0
TRI pmax pmax
comp=Z,131nm,1.1s
TRI Trieste 80.81 329 eP P 12 44 46.1 -1.0
comp=Z,131nm,1.1s
ECH Echery 80.81 335 eP P 12 44 46.7 -0.5
ECH pmax pmax
comp=Z,103nm,1.1s
ECH Echery 80.81 335 eP P 12 44 46.7 -0.5
comp=Z,103nm,1.1s
OK022 N3560 Road, Pr 80.83 48 eP P 12 44 47.8 +0.3
comp=Z,105nm,1.0s
P42A Winchester 80.84 42 P P 12 44 47.2 -0.2
baz=323,SNR=13
S39A Bolivar 80.88 45 P P 12 44 46.9 -0.8
baz=321,SNR=33
N44A Piper City 80.89 40 P P 12 44 47.4 -0.2
baz=324,SNR=6.4
PRK Paraskevi 80.89 318 P P 12 44 47.3 -0.4
SKO Skopje 80.89 323 eP P 12 44 47.9 +0.3
SKO Skopje 80.89 323 eP P 12 44 47.9 +0.3
SKO Skopje 80.89 323 P P 12 44 47.9 +0.3
SKO Skopje 80.89 323 iP P 12 44 48.5 +0.9
T38A Diamond 80.90 46 P P 12 44 47.8 -0.1
baz=321,SNR=44
KNT Kendrikon 80.91 321 P P 12 44 47.8 0.0
Q41A Truxton 80.91 43 P P 12 44 48.1 +0.3
baz=322,SNR=38
VAY Valandovo 80.92 321 eP P 12 44 47.6 -0.2
VAY Valandovo 80.92 321 eP P 12 44 47.6 -0.2
VAY Valandovo 80.92 321 P P 12 44 47.6 -0.2
VAY Valandovo 80.92 321 iP P 12 44 48.6 +0.7
R40A Maddies Statio 80.93 44 P P 12 44 47.7 -0.3
baz=322,SNR=33
MMAI Mount Meron Ar 80.95 308 P P 12 44 49.0 +0.8
comp=Z,115nm,0.9s,baz=40,slow=6.6,SNR=52
MMAI LR LR 13 24 57.8
comp=Z,138nm,20.6s,baz=10.0,slow=39
KOME Kolasin 80.98 324 ⇓iP P 12 44 47.8 -0.4
TUL1 Leonard 81.00 47 P P 12 44 48.4 0.0
baz=320,SNR=12
TUL1 Leonard 81.00 47 eP P 12 44 48.7 +0.4
comp=Z,99nm,1.2s
PVY Plav 81.01 324 ⇓iP P 12 44 48.2 -0.2
N45A Kentland 81.12 39 P P 12 44 48.8 -0.1
baz=324
P43A Skaggs, Pawnee 81.18 41 P P 12 44 49.0 -0.2
baz=323,SNR=5.9
M46A Old House Fiel 81.18 38 P P 12 44 49.0 -0.2
baz=325
LPIG La Paz 81.20 65 P P 12 44 50.2 +0.7
comp=Z,65nm,0.8s,baz=15,slow=0.6,SNR=20
LPIG pP pP 12 45 19.7 -1.2
comp=Z,51nm,0.8s,baz=203,slow=2.1,SNR=3.4
LPIG LR LR 13 11 56.1
comp=Z,90nm,21.4s,baz=316,slow=29
FUORN Ofenpass-Fuorn 81.23 332 eP P 12 44 50.1 +0.4
comp=Z,233nm,1.1s
O44A Mansfield 81.25 40 P P 12 44 49.1 -0.4
baz=324
HORT Hortiatis 81.27 321 P P 12 44 44.2 -5.6
Q42A Golden Eagle 81.28 42 P P 12 44 49.9 +0.1
baz=323,SNR=16
NKME Niksic 81.28 324 ⇓iP P 12 44 49.4 -0.4
GRG Griva 81.30 321 eP P 12 44 49.9 +0.1
GRG Griva 81.30 321 eP P 12 44 49.9 +0.1
GRG Griva 81.30 321 P P 12 44 49.9 +0.1
PLG Polygyros 81.30 320 P P 12 44 49.7 -0.2
R41A Rosebud 81.36 43 P P 12 44 50.0 -0.2
baz=322,SNR=27
S40A Lebanon 81.36 44 P P 12 44 49.8 -0.4
baz=322,SNR=37
T39A Clever 81.37 45 P P 12 44 49.9 -0.4
baz=321,SNR=11
ABTX Abilene, Hawle 81.41 52 P P 12 44 50.8 +0.2
baz=319,SNR=18
ABTX Abilene, Hawle 81.41 52 eP P 12 44 51.0 +0.4
comp=Z,128nm,1.3s
ABTX epP pP 12 45 23.0 +1.1
URLA Izmir 81.43 317 eP P 12 44 49.5 -1.1
PDG Podgorica 81.44 324 ⇓iP P 12 44 50.4 -0.1

TTG	Podgorica	81.44	324	⇓iP	P	12 44 50.4	-0.1
TTG	Podgorica	81.44	324	eP	P	12 44 49.8	-0.7
TTG				pmax	pmax		
	comp=Z,266nm,1.0s						
TTG	Podgorica	81.44	324	eP	P	12 44 49.8	-0.7
	comp=Z,266nm,1.0s						
KRUS	Krusevo	81.46	322	iP	P	12 44 51.0	+0.2
CEME	Cevo	81.48	324	⇓iP	P	12 44 50.0	-0.8
RAR	Rarotonga	81.49	132	LR	LR	13 14 01.7	
	comp=Z,223nm,20.7s,baz=294,slow=30						
O45A	Potomac	81.51	40	P	P	12 44 51.0	0.0
	baz=324,SNR=15						
TX31	Lajitas Ar. Si	81.53	57	eP	P	12 44 51.8	+0.4
LTX	Lajitas	81.53	57	eP	P	12 44 51.9	+0.5
LTX	Lajitas	81.53	57	eP	P	12 44 51.9	+0.5
TXAR	Lajitas Array	81.53	57	P	P	12 44 51.9	+0.5
	comp=Z,92nm,0.8s,baz=296,slow=4.2,SNR=862						
TXAR				pP	pP	12 45 21.9	-0.8
	comp=Z,74nm,0.9s,baz=298,slow=3.5,SNR=7.0						
TXAR				PKKPbc	PKKPbc	13 03 24.8	+3.4
	comp=Z,1.2nm,0.8s,baz=134,slow=5.4,SNR=11						
PAIG	Paliouri	81.55	320	eP	P	12 44 50.9	-0.3
PAIG	Paliouri	81.55	320	eP	P	12 44 50.9	-0.3
PAIG	Paliouri	81.55	320	P	P	12 44 50.9	-0.3
FETY	Fethiye	81.56	314	eP	P	12 44 50.4	-0.9
FETY	Fethiye	81.56	314	P	P	12 44 50.4	-0.9
YER	Yerkesik	81.57	315	eP	P	12 44 51.9	+0.5
YER	Yerkesik	81.57	315	eP	P	12 44 51.9	+0.5
YER	Yerkesik	81.57	315	P	P	12 44 51.9	+0.5
CCM	Cathedral Cave	81.62	43	P	P	12 44 51.5	0.0
	baz=322						
CCM	Cathedral Cave	81.62	43	eP	P	12 44 51.5	0.0
CCM				pmax	pmax		
	comp=Z,71nm,0.9s						
CCM	Cathedral Cave	81.62	43	eP	P	12 44 51.5	0.0
	comp=Z,72nm,0.9s						
DALY	Dalyan (Mu˜la	81.63	315	eP	P	12 44 52.2	+0.6
SLM	Saint Louis	81.64	42	eP	P	12 44 51.5	-0.1
SLM				e*PP	pP	12 45 22.1	-0.9
SLM	Saint Louis	81.64	42	eP	P	12 44 51.5	-0.1
SLM				epP	pP	12 45 22.1	-0.9
Q43A	New Douglas	81.65	42	P	P	12 44 51.6	-0.1
	baz=323						
R42A	Luebbering	81.66	43	P	P	12 44 51.7	0.0
	baz=323,SNR=13						
TRQ	Mont Tremblant	81.66	28	eP	P	12 44 51.9	+0.2
HHAR	Hobbs	81.67	46	eP	P	12 44 51.6	-0.2
	comp=Z,74nm,1.4s						
HHAR				eS	S	12 54 52.2	-1.9
DRME	Dracevica, Mon	81.67	324	⇓iP	P	12 44 51.7	0.0
TUE	Stuetta	81.67	332	eP	P	12 44 51.7	-0.3
	comp=Z,133nm,1.1s						
SFIN	Lafayette	81.69	39	P	P	12 44 51.6	-0.2
	baz=324						
SFIN	Lafayette	81.69	39	eP	P	12 44 51.9	0.0
SFIN				epP	pP	12 45 22.3	-1.0
BUM	Brajici-Budva	81.69	324	⇓iP	P	12 44 51.7	-0.3
T40A	Mansfield	81.70	45	P	P	12 44 51.5	-0.6
	baz=322,SNR=24						
BIA	Bitola	81.72	322	iP	P	12 44 52.5	+0.4
P44A	Sand Creek, Wi	81.73	41	P	P	12 44 52.1	-0.1
	baz=324,SNR=15						
SLBS	Sierra La Lagu	81.73	65	eP	P	12 44 53.3	+0.9
	comp=Z,104nm,1.0s						
HCY	Herceg Novi	81.74	325	⇓iP	P	12 44 51.5	-0.6
S41A	Jillco Farms,	81.74	44	P	P	12 44 51.9	-0.3
	baz=322,SNR=20						
RAYN	Ar Rayn	81.79	295	eP	P	12 44 53.6	+0.8
	comp=Z,370nm,1.5s						
PLVO	Plevna	81.82	30	eP	P	12 44 52.6	+0.2
	comp=Z,36nm,0.8s						
U39A	Green Forest	81.82	46	P	P	12 44 52.5	-0.2
	baz=321,SNR=52						
ULC	Ulcinj	81.83	324	⇓iP	P	12 44 52.3	-0.3
OHR	Ohrid	81.87	322	iP	P	12 44 52.8	-0.1
FNA	Florina	81.89	322	P	P	12 44 52.2	-0.8
Q44A	Meyer Farm, Va	82.00	41	P	P	12 44 53.5	-0.1
	baz=324,SNR=12						
S42A	Caledonia	82.06	43	P	P	12 44 53.9	0.0
	baz=323,SNR=31						
FVM	French Village	82.07	43	eP	P	12 44 54.3	+0.4
FVM				e*PP	pP	12 45 24.3	-1.0
FVM	French Village	82.07	43	eP	P	12 44 54.3	+0.4
FVM				epP	pP	12 45 24.3	-1.0
R43A	Red Bud	82.07	42	P	P	12 44 53.6	-0.3
	baz=323,SNR=5.9						
TIR	Tirane	82.07	323	⇓iP	P	12 44 54.2	+0.3
TIR	Tirane	82.07	323	eP	P	12 44 54.1	+0.2
TIR				pmax	pmax		
	comp=Z,258nm,1.0s						
TIR	Tirane	82.07	323	eP	P	12 44 54.1	+0.2
	comp=Z,258nm,1.0s						
HPIG		82.08	60	eP	P	12 44 54.8	+0.4
	comp=Z,102nm,0.9s						
P45A	Graceland, Par	82.09	40	P	P	12 44 53.7	-0.3
	baz=324,SNR=7.9						
BODT	Bodrum	82.11	316	eP	P	12 44 53.5	-0.7
BODT	Bodrum	82.11	316	P	P	12 44 53.5	-0.7
U40A	Yellville	82.16	45	P	P	12 44 54.1	-0.3
	baz=322,SNR=55						
V39A	Pettigrew	82.16	46	P	P	12 44 54.1	-0.4
	baz=321,SNR=34						
T41A	Mountain View	82.16	44	P	P	12 44 54.0	-0.4
	baz=322,SNR=27						
O47A	Sheridan	82.22	39	P	P	12 44 54.0	-0.6
	baz=325,SNR=5.7						
P46A	Rosedale	82.26	40	P	P	12 44 54.8	0.0
	baz=324,SNR=11						
FYTO	Fytoko, Volos	82.31	320	eP	P	12 44 54.3	-0.8
FYTO	Fytoko, Volos	82.31	320	P	P	12 44 54.3	-0.8
NEST	Nestorio	82.33	322	P	P	12 44 55.1	-0.3
Q45A	Warren Harvey,	82.41	41	P	P	12 44 55.8	+0.1
	baz=324,SNR=12						
SENIN	Lac Senin/Sane	82.42	334	eP	P	12 44 55.8	0.0
	comp=Z,104nm,1.1s						
NWAO	Narrogin (SRO)	82.50	206	eP	P	12 44 56.6	+0.7
NWAO				pmax	pmax		
	comp=Z,48nm,1.0s						
NWAO	Narrogin (SRO)	82.50	206	eP	P	12 44 56.5	+0.7
	comp=Z,48nm,1.0s						
R44A	Waltonville	82.50	42	P	P	12 44 56.1	0.0
	baz=324,SNR=7.7						
T42A	Van Buren	82.50	44	P	P	12 44 56.0	-0.2
	baz=323,SNR=24						
OLIL	Olney	82.56	41	eP	P	12 44 57.0	+0.5
OLIL				epP	pP	12 45 26.6	-1.2
S43A	Fulton Ridge,	82.56	43	P	P	12 44 56.4	-0.1
	baz=323,SNR=18						
W39A	Magazine	82.59	47	P	P	12 44 56.6	0.0
	baz=321,SNR=27						
V40A	Witts Springs	82.60	46	P	P	12 44 56.5	-0.3
	baz=322,SNR=17						
SMIA	Simia	82.61	320	P	P	12 44 55.1	-1.7
U41A	Viola	82.63	45	P	P	12 44 56.6	-0.3
	baz=322,SNR=11						
P47A	Martinsville	82.78	39	P	P	12 44 57.4	-0.2
	baz=325						
R45A	Skylar, Fairfi	82.83	41	P	P	12 44 57.7	-0.2
	baz=324						
T43A	Greenville	82.85	43	P	P	12 44 58.2	+0.2
	baz=323,SNR=18						
S44A	Carbondale	82.86	42	P	P	12 44 58.2	+0.2
	baz=324,SNR=10						
SIUC	Southern Illin	82.86	42	eP	P	12 44 57.6	-0.4
SIUC				epP	pP	12 45 27.6	-1.9
LKR	Lokris	82.89	320	P	P	12 44 56.6	-1.6
AGG	Agios Georgios	82.90	320	eP	P	12 44 57.0	-1.2
AGG				pmax	pmax		
	comp=Z,151nm,1.0s						
AGG	Agios Georgios	82.90	320	eP	P	12 44 57.0	-1.2
	comp=Z,151nm,1.0s						
JCT	Junction City	82.93	54	P	P	12 44 58.8	+0.2
	baz=319,SNR=54						
JCT	Junction City	82.93	54	eP	P	12 44 58.8	+0.2
JCT				pmax	pmax		
	comp=Z,121nm,1.0s						
JCT	Junction City	82.93	54	eP	P	12 44 58.8	+0.2
	comp=Z,121nm,1.0s						
BLO	Bloomington	82.93	39	eP	P	12 44 58.6	+0.2
BLO				e*PP	pP	12 45 30.0	+0.2
BLO	Bloomington	82.93	39	eP	P	12 44 58.6	+0.2
BLO				epP	pP	12 45 30.0	+0.2
X39A	Fountain Ranch	82.95	47	P	P	12 44 59.0	+0.4
	baz=321,SNR=44						
V41A	Mountainview	82.95	45	P	P	12 44 58.3	-0.3

	baz=322,SNR=21						
W40A	Ferguson Farm,	82.96	46	P	P	12 44 58.8	+0.3
	baz=322,SNR=14						
W40A	Ferguson Farm,	82.96	46	eP	P	12 44 58.7	+0.2
	comp=Z,91nm,1.1s						
U42A	Revenden	82.97	44	P	P	12 44 58.4	-0.2
	baz=323,SNR=8.4						
PBMO	Poplar Bluff	83.02	43	eP	P	12 44 59.1	+0.2
	comp=Z,247nm,1.6s						
JAN	Janina	83.04	322	P	P	12 44 58.9	-0.1
LONY	Lake Ozonia	83.06	29	P	P	12 44 59.0	+0.1
	baz=332						
WHTX	Lake Whitney,	83.10	51	P	P	12 44 59.7	+0.3
	baz=320,SNR=20						
WHTX	Lake Whitney,	83.10	51	eP	P	12 44 59.9	+0.6
	comp=Z,117nm,0.9s						
WHTX				epP	pP	12 45 29.6	-1.2
VILL	Villia	83.14	319	P	P	12 44 57.8	-1.7
Q47A	Bedord North L	83.16	40	P	P	12 44 59.8	+0.2
	baz=325,SNR=11						
T44A	Benton	83.18	43	P	P	12 44 59.9	+0.2
	baz=323,SNR=8.5						
S45A	Carrier Mills	83.19	42	P	P	12 44 59.7	0.0
	baz=324						
MIAR	Mount Ida	83.20	47	P	P	12 45 00.1	+0.3
	baz=322,SNR=52						
MIAR	Mount Ida	83.20	47	eP	P	12 45 00.1	+0.3
MIAR				pmax	pmax		
	comp=Z,69nm,0.8s						
MIAR	Mount Ida	83.20	47	eP	P	12 45 00.1	+0.3
	comp=Z,69nm,0.8s						
ERPA	Erie	83.23	34	P	P	12 44 59.8	0.0
	baz=328						
ERPA	Erie	83.23	34	eP	P	12 45 00.1	+0.3
	comp=Z,47nm,0.6s						
R46A	Gibon Southern	83.26	41	P	P	12 45 00.1	+0.1
	baz=324						
X301	Greenbrier Sit	83.26	46	eP	P	12 45 00.0	-0.1
	comp=Z,73nm,1.3s						
WHAR	Wooly Hollow	83.28	46	eP	P	12 45 00.1	-0.1
	comp=Z,150nm,1.3s						
DSF	Desfina	83.30	320	eP	P	12 44 58.8	-1.6
DSF	Desfina	83.30	320	P	P	12 44 58.8	-1.6
V42A	Cord	83.32	45	P	P	12 45 00.1	-0.3
	baz=323,SNR=16						
SGD	Sagiada	83.35	322	P	P	12 45 00.2	-0.3
VLC	Villacollemand	83.35	331	eP	P	12 45 00.7	+0.2
	comp=Z,137nm,1.0s						
U43A	Rector	83.36	44	P	P	12 45 00.7	+0.1
	baz=323,SNR=5.9						
DSL	Palaion Diasel	83.36	321	eP	P	12 44 58.8	-1.8
DSL	Palaion Diasel	83.36	321	P	P	12 44 58.8	-1.8
KARP	Karpathos	83.38	315	eP	P	12 45 00.9	+0.2
	comp=Z,146nm,1.1s						
KARP	Karpathos	83.38	315	P	P	12 44 59.4	-1.4
USIN	University of	83.38	41	eP	P	12 45 01.2	+0.5
USIN				epP	pP	12 45 31.6	-0.6
W41B	Gary Mavity, V	83.39	46	P	P	12 45 00.9	+0.2
	baz=322,SNR=28						
PMOR	Pomariorio Ree	83.45	119	eP	P	12 45 01.8	+0.6
PMOR	Pomariorio Ree	83.45	119	eT	T	14 16 15.4	
	comp=Z,70nm,0.3s						
KALE	Kalithea	83.50	320	eP	P	12 44 58.8	-2.6
KALE	Kalithea	83.50	320	P	P	12 44 58.8	-2.6
MMNY	Mt. Morris Dam	83.50	32	eP	P	12 45 01.3	0.0
MMNY				epP	pP	12 45 31.6	-1.1
SERG	Sergoula	83.52	320	P	P	12 44 58.6	-2.8
THAL	Thalero	83.55	319	P	P	12 44 59.7	-1.8
SANT	Santorini	83.56	317	eP	P	12 45 00.3	-1.4
	comp=Z,157nm,1.2s						
ALLY	Alegheny Colle	83.57	34	eP	P	12 45 02.4	+0.8
	comp=Z,82nm,0.5s						
EFP	Efpalio	83.57	320	P	P	12 45 01.4	-0.3
S46A	Don Dixon Farm	83.59	41	P	P	12 45 01.8	0.0
	baz=324,SNR=5.7						
ACSO	Alum Creek Sta	83.60	37	P	P	12 45 01.5	-0.3
	baz=327,SNR=6.5						
ACSO	Alum Creek Sta	83.60	37	eP	P	12 45 02.1	+0.3
ACSO				epP	pP	12 45 31.9	-1.4
X40A	Basin Creek Fa	83.63	46	P	P	12 45 02.4	+0.3
	baz=322,SNR=31						
R47A	Wooly Knot Far	83.64	40	P	P	12 45 02.1	+0.1
	baz=325,SNR=10						
UALR	University of	83.65	46	eP	P	12 45 02.7	+0.5
	comp=Z,21nm,0.9s						
W42A	Bald Knob	83.67	45	P	P	12 45 02.1	-0.1
	baz=322						
T45A	Paducah	83.69	42	P	P	12 45 02.4	+0.1
	baz=324						
NCB	Newcomb	83.75	29	eP	P	12 45 02.9	+0.3
NCB				epP	pP	12 45 30.6	-3.4
V43A	Jonesboro	83.75	44	P	P	12 45 03.2	+0.6
	baz=323						
PDO	Prodromos	83.76	321	P	P	12 45 02.5	-0.1
Y40A	Okolona	83.77	47	P	P	12 45 03.0	+0.3
	baz=322,SNR=5.9						
GUR	Goura	83.77	320	P	P	12 44 58.8	-4.1
KLV	Kalavryta, Ach	83.78	320	eP	P	12 45 01.1	-1.7
KLV	Kalavryta, Ach	83.78	320	P	P	12 45 01.1	-1.7
X41A	Kaden, Bauxite	83.79	46	P	P	12 45 02.9	+0.1
	baz=322						
BNI	Bardonecchia	83.79	333	eP	P	12 45 03.3	+0.4
BNI				pmax	pmax		
	comp=Z,83nm,1.0s						
BNI	Bardonecchia	83.79	333	eP	P	12 45 03.2	+0.4
	comp=Z,83nm,1.0s						
VAH	Vaihoa	83.79	119	eP	P	12 45 03.4	+0.5
	comp=Z,136nm,1.1s						
WCI	Wyandotte Cave	83.80	40	P	P	12 45 02.8	0.0
	baz=325						
WCI	Wyandotte Cave	83.80	40	eP	P	12 45 03.4	+0.6
WCI				e*PP	pP	12 45 33.2	-1.1
WCI	Wyandotte Cave	83.80	40	eP	P	12 45 03.4	+0.6
WCI				epP	pP	12 45 33.2	-1.1
AQU	L'Aquila	83.82	328	eP	P	12 45 03.7	+0.8
AQU				pmax	pmax		
	comp=Z,414nm,1.4s						
AQU	L'Aquila	83.82	328	eP	P	12 45 03.7	+0.8
	comp=Z,414nm,1.4s						
R48A	Northridge Ran	83.85	40	P	P	12 45 03.3	+0.2
	baz=325						
TAOE	Nuku Hiva Isla	83.87	109	eLR	LR	13 10 49.2	
	comp=Z,1µm,34.1s						
M54A	Oil Creek Stat	83.88	34	P	P	12 45 03.3	+0.1
	baz=329,SNR=7.5						
M54A	Oil Creek Stat	83.88	34	eP	P	12 45 03.8	+0.5
M54A				epP	pP	12 45 32.4	-2.3
U44B	Burton Farm, H	83.89	43	P	P	12 45 03.8	+0.5
	baz=324						
VT1	Waterbury	83.93	28	eP	P	12 45 04.2	+0.8
	comp=Z,42nm,1.3s						
VT1				epP	pP	12 45 37.2	+2.3
435B	Jarrell	83.94	52	P	P	12 45 03.9	+0.2
	baz=320						
MATE	Matera	83.97	325	⇓iP	P	12 45 03.3	-0.3
T46A	Princeton	84.02	42	P	P	12 45 04.5	+0.6
	baz=324,SNR=24						
V44A	Blytheville	84.04	44	P	P	12 45 04.6	+0.5
	baz=323						
DRO	Drossia	84.05	320	P	P	12 45 03.8	-0.3
RLS	Riolos of Patr	84.07	320	P	P	12 45 03.4	-0.8
WLAR	White Oak Lake	84.11	47	eP	P	12 45 05.6	+1.1
	comp=Z,123nm,1.0s						
WLAR				epP	pP	12 45 36.5	+0.5
U45A	Rockin P Farm,	84.17	43	P	P	12 45 04.9	+0.2
	baz=324						
ZKR	Zakros	84.19	315	eP	P	12 45 02.7	-2.2
ZKR	Zakros	84.19	315	P	P	12 45 02.7	-2.2
X42A	Stuttgart	84.19	46	P	P	12 45 05.0	+0.2
	baz=322						
N54A	Moraine State	84.21	34	P	P	12 45 05.1	+0.2
	baz=328,SNR=7.0						
N54A	Moraine State	84.21	34	eP	P	12 45 05.5	+0.6
	comp=Z,45nm,1.1s						
N54A				epP	pP	12 45 35.3	-1.1
Y41A	Eaglette Beard	84.22	47	P	P	12 45 05.6	+0.6
	baz=322,SNR=8.4						
W43A	Forest City	84.23	45	P	P	12 45 05.3	+0.3
	baz=323						
SSB	Saint Sauveur	84.25	335	eP	P	12 45 05.4	+0.4
SSB				pmax	pmax		
	comp=Z,65nm,0.9s						
SSB	Saint Sauveur	84.25	335	eP	P	12 45 05.4	+0.4
	comp=Z,65nm,0.9s						
LBNH	Lisbon	84.28	27	P	P	12 45 05.1	-0.1
	baz=333						

Z40A	Long Farm, Mag	84.30	48	P	P	12 45 06.3	+0.9
	baz=322,SNR=15						
NPS	Neapolis	84.37	316	P	P	12 45 02.9	-2.9
VLS	Valsamata	84.37	321	P	P	12 45 04.0	-1.8
S48A	Wiedeman Farm,	84.37	40	P	P	12 45 06.0	+0.2
	baz=325,SNR=9.0						
PPT	Papeete	84.39	122	LR	LR	13 18 06.8	
	comp=Z,309nm,19.1s,baz=314,slow=32						
PPT2	Papeete2	84.40	122	eP	P	12 45 06.8	+0.7
	comp=Z,100nm,1.3s						
PPT2	Papeete2	84.40	122	eS	S	12 55 17.3	-4.7
	comp=Z,280nm,22.8s						
PPT2	Papeete2	84.40	122	eLR	LR	13 11 15.1	
	comp=Z,2µm,35.2s,baz=323						
PPT2	Papeete2	84.40	122	eT	T	14 17 32.8	
	comp=Z,15nm,0.3s						
T47A	Sharon Grove	84.44	41	P	P	12 45 06.6	+0.5
	baz=325,SNR=14						
U46A	Springville	84.44	42	P	P	12 45 06.4	+0.3
	baz=324						
ACCN	Adirondack Com	84.46	29	eP	P	12 45 06.5	+0.4
ACCN				epP	pP	12 45 39.5	+1.9
PAE	Paea	84.46	122	eP	P	12 45 06.7	+0.5
	comp=Z,16nm,1.2s						
PAE	Paea	84.46	122	eT	T	14 17 34.0	
	comp=Z,4.2nm,0.3s						
LAST	Lasithi	84.52	316	P	P	12 45 06.1	-0.5
TIAR	Tiarei	84.52	121	eP	P	12 45 07.3	+0.7
	comp=Z,48nm,1.1s						
TIAR	Tiarei	84.52	121	eT	T	14 17 41.8	
	comp=Z,7.9nm,0.3s						
V45A	Humboldt	84.56	43	P	P	12 45 06.9	+0.2
	baz=324						
X43A	Marvell	84.59	45	P	P	12 45 07.5	+0.6
	baz=323						
Z41A	Richland Creek	84.61	47	P	P	12 45 07.4	+0.4
	baz=322						
CCAR	Cane Creek	84.62	46	eP	P	12 45 08.4	+1.4
CCAR				epP	pP	12 45 39.7	+1.1
W44A	Shelby Farms P	84.63	44	P	P	12 45 07.4	+0.3
	baz=323						
T48A	Bowling Green	84.67	41	P	P	12 45 07.3	+0.1
	baz=325,SNR=6.7						
Y42A	Garnett, Star	84.67	46	P	P	12 45 07.8	+0.5
	baz=322,SNR=8.4						
BINY	Binghamton	84.68	31	P	P	12 45 07.0	-0.3
	baz=331						
140A	Cam and Jess,	84.69	48	P	P	12 45 08.3	+0.9
	baz=322,SNR=8.7						
IDI	Anoyia	84.70	316	P	P	12 45 06.7	-0.8
	comp=Z,62nm,0.4s,baz=41,slow=10,SNR=114						
IDI	Anoyia	84.70	316	⇓iP	P	12 45 06.6	-0.9
IDI	Anoyia	84.70	316	eP	P	12 45 06.7	-0.8
	comp=Z,176nm,1.0s						
TVO	Taravao	84.75	122	eP	P	12 45 08.4	+0.6
	comp=Z,46nm,1.3s						
TVO	Taravao	84.75	122	eT	T	14 17 47.8	
	comp=Z,1.2nm,0.3s						
833A	Chaparral WMA,	84.78	55	P	P	12 45 08.5	+0.6
	baz=319,SNR=6.8						
WVT	Waverly	84.79	42	P	P	12 45 08.1	+0.3
	baz=324						
WVT	Waverly	84.79	42	eP	P	12 45 08.1	+0.3
WVT				pmax	pmax		
	comp=Z,52nm,0.8s						
WVT	Waverly	84.79	42	eP	P	12 45 08.1	+0.3
	comp=Z,52nm,0.8s						
NATX	Nacogdoches	84.79	49	P	P	12 45 09.0	+1.1
	baz=321,SNR=17						
NATX	Nacogdoches	84.79	49	eP	P	12 45 09.4	+1.5
	comp=Z,217nm,0.9s						
NATX				epP	pP	12 45 39.2	-0.3
U47A	Clarksville	84.79	42	P	P	12 45 08.3	+0.4
	baz=325,SNR=10						
CUC	Castrocucco	84.89	325	eP	P	12 45 07.4	-1.0
	comp=Z,52nm,1.0s						
PYL	PYLOS	84.90	319	eP	P	12 45 07.0	-1.4
PYL	PYLOS	84.90	319	P	P	12 45 07.0	-1.4
V46A	Holladay	84.92	42	P	P	12 45 08.7	+0.1
	baz=324,SNR=15						
W45A	Hickory Valley	84.92	44	P	P	12 45 08.8	+0.3
	baz=324						
SIVA	Sivas	84.96	316	P	P	12 45 08.6	-0.1
X44A	Crenshaw	84.97	45	P	P	12 45 09.1	+0.3
	baz=323						
IMMV	Iera Moni Meta	85.01	317	P	P	12 45 07.3	-1.7
Z42A	Norrel Spur, H	85.04	47	P	P	12 45 09.8	+0.7
	baz=322,SNR=8.5						
Y43A	Makayla and Ka	85.05	45	P	P	12 45 09.7	+0.6
	baz=323						
240A	Hunter Patters	85.06	49	P	P	12 45 10.0	+0.8
	baz=322,SNR=7.1						
141A	Papa Simpson,	85.06	48	P	P	12 45 10.2	+0.9
	baz=322,SNR=12						
U48A	Cassie Pea, Po	85.09	41	P	P	12 45 09.5	+0.2
	baz=325,SNR=11						
V47A	Nunnelly	85.18	42	P	P	12 45 10.0	+0.1
	baz=325,SNR=16						
TIP	Timpagrande	85.19	324	⇓iP	P	12 45 10.3	+0.4
TIP	Timpagrande	85.19	324	eP	P	12 45 09.6	-0.3
TIP				eP	P	12 45 10.0	0.0
TIP	Timpagrande	85.19	324	P	P	12 45 09.6	-0.3
SSPA	Standing Stone	85.31	33	P	P	12 45 10.5	+0.1
	baz=330						
SSPA	Standing Stone	85.31	33	eP	P	12 45 11.0	+0.6
	comp=Z,21nm,0.9s						
OXF	Oxford	85.33	44	P	P	12 45 10.8	+0.2
	baz=324,SNR=15						
OXF	Oxford	85.33	44	eP	P	12 45 10.6	0.0
OXF				e*PP	pP	12 45 41.6	-0.6
OXF				eS	S	12 55 32.9	+2.0
OXF	Oxford	85.33	44	eP	P	12 45 10.6	0.0
OXF				epP	pP	12 45 41.6	-0.6
OXF				eS	S	12 55 32.9	+2.0
W46A	Michie	85.33	43	P	P	12 45 10.4	-0.2
	baz=324						
O56A	Blue Knob Stat	85.37	34	P	P	12 45 10.9	+0.2
	baz=329,SNR=8.4						
O56A	Blue Knob Stat	85.37	34	eP	P	12 45 11.4	+0.6
	comp=Z,32nm,0.6s						
Y44A	Strider, Charl	85.37	45	P	P	12 45 11.4	+0.6
	baz=323,SNR=11						
MCWV	Mont Chateau	85.38	35	P	P	12 45 11.2	+0.4
	baz=329						
MCWV	Mont Chateau	85.38	35	eP	P	12 45 11.6	+0.9
MCWV				epP	pP	12 45 41.7	-0.7
X45A	UM Field Stati	85.41	44	P	P	12 45 11.0	0.0
	baz=324						
Z43A	Armstrong Fami	85.45	46	P	P	12 45 11.6	+0.5
	baz=323						
241A	Mo Tay, Goldon	85.51	48	P	P	12 45 12.4	+0.9
	baz=322,SNR=6.8						
V48A	Smith Brothers	85.58	42	P	P	12 45 11.9	+0.1
	baz=325,SNR=9.5						
PLAL	Pickwick Lake	85.60	43	eP	P	12 45 11.8	-0.1
PLAL				epP	pP	12 45 41.8	-1.7
142A	Monroe	85.61	47	P	P	12 45 12.9	+0.9
	baz=322,SNR=5.7						
W47A	Westpoint	85.61	42	P	P	12 45 12.1	+0.1
	baz=324,SNR=10						
X46A	Booneville	85.70	44	P	P	12 45 12.4	0.0
	baz=324						
143A	Socs Landing,	85.77	47	P	P	12 45 13.5	+0.7
	baz=323						
Y45A	Yeager Farm, C	85.78	45	P	P	12 45 13.4	+0.6
	baz=324,SNR=10						
Z44A	Pea Ridge, Bel	85.81	46	P	P	12 45 13.7	+0.8
	baz=323						
N59A	State Game Lan	85.87	32	P	P	12 45 13.3	+0.1
	baz=331						
N59A	State Game Lan	85.87	32	eP	P	12 45 13.6	+0.3
N59A				epP	pP	12 45 44.3	-0.6
242A	Grayson	85.88	47	P	P	12 45 14.1	+0.7
	baz=322,SNR=6.6						
341A	Kurthwood	85.92	49	P	P	12 45 14.1	+0.6
	baz=322						
W48A	Pulaski	86.02	42	P	P	12 45 14.2	+0.2
	baz=325,SNR=18						
X47A	Russelville	86.08	43	P	P	12 45 14.1	-0.2
	baz=324						
Z45A	Winona	86.10	45	P	P	12 45 15.1	+0.7
	baz=324						
Y46A	Houston	86.11	44	P	P	12 45 14.8	+0.4
	baz=324,SNR=22						
PAGS	Pennsylvania G	86.11	33	eP	P	12 45 14.8	+0.4
PAGS				epP	pP	12 45 44.0	-1.9
KVTX	Kingsville	86.23	54	eP	P	12 45 15.6	+0.5

comp=Z,65nm,0.8s
144A Alexander Plac 86.32 46 P P 12 45 16.3 +0.8
baz=323
243A Waterproof 86.38 47 P P 12 45 16.7 +0.9
baz=323,SNR=6.4
TZTN Tazewell 86.42 39 P P 12 45 16.3 +0.4
baz=327,SNR=6.7
TZTN Tazewell 86.42 39 eP P 12 45 16.6 +0.6
comp=Z,39nm,0.8s
MVL Millersville 86.45 32 eP P 12 45 16.5 +0.5
MVL epP pP 12 45 46.6 -1.0
X48A Hartselle 86.53 43 P P 12 45 16.2 -0.3
baz=325,SNR=7.7
Y47A UCPARC, Winfie 86.58 43 P P 12 45 16.8 0.0
baz=324
145A Houston Renfro 86.60 46 P P 12 45 17.7 +0.9
baz=324
VBMS Vicksburg 86.60 46 P P 12 45 17.7 +0.9
baz=323
VBMS Vicksburg 86.60 46 eP P 12 45 17.8 +0.9
comp=Z,298nm,1.2s
Z46A Louisville 86.62 45 P P 12 45 17.9 +0.9
baz=324,SNR=7.0
244A Avery, Jackson 86.66 46 P P 12 45 17.9 +0.7
baz=323,SNR=11
343A Vidalia 86.78 48 P P 12 45 18.9 +1.2
baz=323
442A Mamou 86.80 48 P P 12 45 19.1 +1.2
baz=322
X49A Woodville 86.82 42 P P 12 45 17.9 0.0
baz=325,SNR=14
Y48A Jasper 86.90 43 P P 12 45 17.9 -0.4
baz=325,SNR=7.5
146A Union 87.01 45 P P 12 45 20.0 +1.2
baz=324,SNR=11
ZAIG Zacatecas 87.04 60 eP P 12 45 20.0 +0.5
Z47A Carrollton 87.05 44 P P 12 45 19.1 +0.1
baz=324,SNR=9.9
TKL Tuckaleechee C 87.06 40 P P 12 45 18.9 -0.2
comp=Z,34nm,1.0s,baz=328,slow=1.3,SNR=18
TKL pP pP 12 45 50.4 -0.4
comp=Z,49nm,0.7s,baz=192,slow=1.1,SNR=11
TKL LR LR 13 27 09.7
comp=Z,137nm,18.1s,baz=338,slow=38
TKL Tuckaleechee C 87.06 40 eP P 12 45 19.2 +0.1
TKL e*PP pP 12 45 50.4 -0.4
TKL Tuckaleechee C 87.06 40 eP P 12 45 19.2 +0.1
TKL epP pP 12 45 50.4 -0.4
TKL e 13 27 09.7
245A Little AP, Sta 87.07 46 P P 12 45 20.1 +1.0
baz=324,SNR=12
344A Westbrook Farm 87.10 47 P P 12 45 20.5 +1.2
baz=323,SNR=5.8
Z48A Northport 87.15 44 P P 12 45 19.2 -0.3
baz=325
X50A Fort Payne 87.18 42 P P 12 45 19.6 -0.1
baz=326,SNR=6.2
BLA Blacksburg 87.22 37 P P 12 45 20.0 +0.2
baz=328,SNR=6.4
BLA Blacksburg 87.22 37 eP P 12 45 20.1 +0.2
BLA e*PP pP 12 45 50.4 -1.1
BLA Blacksburg 87.22 37 eP P 12 45 20.1 +0.2
BLA epP pP 12 45 50.4 -1.1
Y49A Blount Mountai 87.31 42 P P 12 45 19.9 -0.5
baz=325,SNR=10
LNIG Linares 87.32 57 eP P 12 45 19.7 -0.8
comp=Z,19nm,1.0s
147A Livingston 87.37 44 P P 12 45 21.2 +0.6
baz=324,SNR=20
IP04 Greensprings 87.42 35 eP P 12 45 21.4 +0.7
comp=Z,27nm,0.9s
246A Jackson Lee, B 87.47 45 P P 12 45 22.1 +1.0
baz=324
IP03 Louisa 87.52 34 eP P 12 45 21.9 +0.7
IP03 epP pP 12 45 52.1 -0.8
CVRD Centerville Ro 87.56 34 eP P 12 45 21.9 +0.5
CVRD epP pP 12 45 51.7 -1.4
SPRD Spring Road, M 87.57 34 eP P 12 45 21.6 +0.2
SPRD epP pP 12 45 51.5 -1.6
345A Thompson Farm, 87.58 46 P P 12 45 22.8 +1.1
baz=324,SNR=5.3
IP07 Quail 87.60 35 eP P 12 45 21.8 +0.2
IP07 epP pP 12 45 52.4 -0.9
VAE Valguarnera 87.61 325 LR LR 13 27 57.6
comp=Z,140nm,19.6s,baz=322,slow=38
Y50A Piedmont 87.61 42 P P 12 45 21.8 +0.1
baz=326,SNR=14
247A Quitman 87.70 45 P P 12 45 23.3 +1.1
baz=324,SNR=6.5
LRAL Lakeview Retre 87.70 43 P P 12 45 22.0 -0.2
baz=325,SNR=8.0
LRAL Lakeview Retre 87.70 43 eP P 12 45 22.1 -0.1
LRAL epP pP 12 45 53.5 -0.4
148A Greensboro 87.74 44 P P 12 45 22.5 +0.1
baz=325
IP05 Hopewell Churc 87.78 34 eP P 12 45 22.8 +0.4
IP05 epP pP 12 45 53.5 -0.7
Z49A Columbiana 87.80 43 P P 12 45 22.6 0.0
baz=325,SNR=10
VSL Villasalto 87.80 329 eP P 12 45 22.9 +0.3
comp=Z,120nm,1.3s
346A Big Creek Wild 87.80 46 P P 12 45 23.3 +0.6
baz=324
445A Amite 87.88 47 P P 12 45 23.7 +0.7
baz=323
BG3 Lake Jocassee 87.99 39 eP P 12 45 24.2 +0.6
comp=Z,78nm,0.7s
Z50A Ashland 88.04 42 P P 12 45 24.0 +0.2
baz=326,SNR=46
248A Dixon Mills 88.10 44 P P 12 45 24.8 +0.7
baz=325
149A Jones 88.16 43 P P 12 45 24.8 +0.5
baz=325,SNR=9.8
347A Saraland 88.26 45 P P 12 45 25.8 +1.0
baz=324,SNR=6.5
446A Poplarville 88.33 46 P P 12 45 25.6 +0.5
baz=324
NCAT North Carolina 88.45 37 eP P 12 45 26.6 +0.9
NCAT epP pP 12 45 56.4 -1.1
249A Camden 88.50 44 P P 12 45 26.7 +0.7
baz=325,SNR=13
150A Eclectic 88.52 43 P P 12 45 26.2 +0.2
baz=325,SNR=13
348A Jackson 88.57 45 P P 12 45 27.2 +0.9
baz=324
KMSC Kings Mountain 88.58 38 P P 12 45 26.2 -0.1
baz=328,SNR=8.9
KMSC Kings Mountain 88.58 38 eP P 12 45 26.6 +0.3
KMSC epP pP 12 45 56.1 -2.0
KMSC eS S 12 55 59.1 -3.0
PAULI Pauline 88.63 39 eP P 12 45 26.6 +0.1
PAULI epP pP 12 45 57.1 -1.2
250A Grady 88.92 43 P P 12 45 28.4 +0.5
baz=325,SNR=5.8
TBI Tubuai 88.92 125 eS S 12 56 00.7 -4.5
comp=Z,229nm,29.0s
TBI Tubuai 88.92 125 eLR LR 13 13 26.0
comp=Z,1μm,34.5s,baz=320
TBI Tubuai 88.92 125 eT T 14 23 08.4
comp=Z,12nm,0.3s
151A Opelika 88.92 42 P P 12 45 27.8 -0.1
baz=326,SNR=5.7
HODGE Hodges 88.93 39 eP P 12 45 28.9 +0.9
HODGE epP pP 12 45 58.7 -1.1
349A Repton 88.98 44 P P 12 45 29.1 +0.9
baz=325
448A Bay Minette 88.98 45 P P 12 45 29.2 +0.9
baz=324
GOGA Godfrey 89.06 41 P P 12 45 29.0 +0.4
baz=327,SNR=7.6
GOGA Godfrey 89.06 41 eP P 12 45 29.5 +0.9
GOGA e*PP pP 12 45 01.6 +1.2
GOGA Godfrey 89.06 41 eP P 12 45 29.5 +0.9
GOGA epP pP 12 46 01.6 +1.2
BRAL Brewton 89.19 44 P P 12 45 29.9 +0.7
baz=325
251A Midway 89.24 43 P P 12 45 29.6 +0.2
baz=326,SNR=6.1
SNZO South Karori 89.40 160 eP P 12 45 30.3 +0.7
comp=Z,148nm,1.0s
THZ Tophouse 89.41 161 eP P 12 45 30.4 +0.6
comp=Z,39nm,0.7s
450A Crestview 89.72 44 P P 12 45 32.5 +0.8
baz=325
351A Pinckard 89.82 43 P P 12 45 32.8 +0.7
baz=326

JRQG Juriquilla Cam 89.88 60 eP P 12 45 33.8 +0.9
comp=Z,140nm,1.0s
451A Vernon 90.29 44 P P 12 45 35.3 +0.9
baz=326
452A Marianna 90.37 43 P P 12 45 35.9 +1.2
baz=326
FOZ Fox Glacier 90.45 164 eP P 12 45 36.1 +1.7
comp=Z,111nm,1.2s
PBRG Braganca 90.47 341 eP P 12 45 33.9 -1.2
comp=Z,30nm,1.5s
TIGA Tifton 90.65 42 P P 12 45 37.1 +1.1
baz=327
TIGA Tifton 90.65 42 eP P 12 45 37.0 +1.0
TIGA epP pP 12 46 09.7 +1.8
PGAV Gavieira, Arco 90.66 342 eP P 12 45 34.9 -1.1
comp=Z,41nm,1.2s
OXZ Oxford 90.71 163 eP P 12 45 37.0 +1.3
comp=Z,141nm,1.0s
PCAB Cabril 90.85 342 eP P 12 45 35.7 -1.1
comp=Z,73nm,1.4s
POLO Lamas de Olo 91.12 342⇓eP P 12 45 37.1 -1.0
comp=Z,39nm,1.4s
KEST Kesra 91.13 327 P P 12 45 38.1 -0.1
comp=Z,21nm,0.8s,baz=84,slow=0.9,SNR=13
KEST LR LR 13 32 46.4
comp=Z,509nm,18.5s,baz=339,slow=40
KEST Kesra 91.13 327 eP P 12 45 38.4 +0.1
comp=Z,159nm,1.7s
KEST e 13 32 46.4
MVO Moncorvo 91.15 341 eP P 12 45 37.0 -1.2
comp=Z,57nm,1.6s
PVRL Vila Real 91.20 342 eP P 12 45 37.8 -0.6
comp=Z,86nm,1.6s
LBZ Lake Benmore 91.35 164 eP P 12 45 40.8 +2.1
comp=Z,98nm,1.1s
PVIS Viseu 91.77 342 eP P 12 45 40.0 -1.1
comp=Z,40nm,1.6s
ES19 SONSECA Array 91.77 338 eP P 12 45 40.6 -0.5
ESDC Sonseca Array 91.81 339 P P 12 45 40.8 -0.6
comp=Z,3.0nm,0.5s,baz=14,slow=4.1,SNR=32
ESDC PP PP 12 49 19.9 -0.9
comp=Z,0.3nm,0.3s,baz=25,slow=7.0,SNR=4.3
ESDC LR LR 13 34 28.5
comp=Z,194nm,18.6s,baz=30,slow=40
ESLA Sonseca Array 91.81 339 eP P 12 45 40.9 -0.4
comp=Z,68nm,1.6s
MTE Manteigas 92.00 341⇓eP P 12 45 41.3 -0.9
comp=Z,57nm,1.3s
MTE Manteigas 92.00 341 eP P 12 45 41.6 -0.6
comp=Z,35nm,1.0s
PAB San Pablo 92.03 339 eP P
PAB pmax pmax 12 45 42.1 -0.3
comp=Z,97nm,1.9s
PAB San Pablo 92.03 339 eP P 12 45 42.1 -0.3
comp=Z,98nm,1.9s
555A McAlpin 92.04 42 P P 12 45 42.7 +0.2
baz=327
ATD Arta Tunnel 92.17 289 P P 12 45 44.3 +1.0
comp=Z,55nm,0.9s,baz=329,slow=4.2,SNR=18
ATD LR LR 13 33 12.7
comp=Z,156nm,18.5s,baz=66,slow=39
PCBR Castelo Branco 92.51 341 eP P 12 45 43.5 -1.0
comp=Z,29nm,1.5s
PCAS Casmilo, Conde 92.54 342⇓eP P 12 45 43.2 -1.4
comp=Z,59nm,1.5s
PMRV Marv??o 92.89 341 eP P 12 45 45.0 -1.2
comp=Z,29nm,1.4s
PTOM Tomar 92.94 342 eP P 12 45 45.0 -1.4
comp=Z,27nm,1.1s
LVIG Laguna Verde 93.08 58 eP P 12 45 47.6 +0.2
comp=Z,47nm,1.1s
PMTG Montargil 93.42 341 eP P 12 45 47.1 -1.6
comp=Z,35nm,1.5s
PESTR Estremoz 93.47 341 eP P 12 45 47.4 -1.5
comp=Z,31nm,1.4s
PESTR Estremoz 93.47 341 eP P 12 45 47.5 -1.5
comp=Z,26nm,1.6s
PBAR Barrancos 94.00 340⇓eP P 12 45 50.2 -1.1
comp=Z,65nm,1.7s
PBEJ Beja 94.33 341 eP P 12 45 52.2 -0.7
comp=Z,34nm,1.5s
PNCL Nicolau / Gran 94.40 341 eP P 12 45 51.9 -1.3
comp=Z,23nm,1.0s
MESJ Messejana 94.59 341 eP P 12 45 53.4 -0.7
MESJ AMb AMB 12 45 55.0
comp=Z,41nm,0.8s
MESJ Messejana 94.59 341 eP P 12 45 52.9 -1.2
comp=Z,44nm,1.6s
MESJ Messejana 94.59 341 eP P 12 45 53.4 -0.7
PCVE Castro Verde 94.75 341 eP P 12 45 53.3 -1.5
comp=Z,26nm,1.3s
PVAQ Vaqueiros 94.89 341 eP P 12 45 54.5 -0.9
comp=Z,27nm,1.8s
PTEO Sao Teotonio 94.99 341⇓eP P 12 45 54.8 -1.1
comp=Z,80nm,1.6s
MORF Marmelete 95.20 341 eP P 12 45 56.1 -0.8
MORF AMb AMB 12 45 58.8
comp=Z,60nm,1.4s
MORF Marmelete 95.20 341 eP P 12 45 55.9 -1.0
comp=Z,61nm,1.7s
MORF Marmelete 95.20 341 eP P 12 45 56.1 -0.8
PFVI Vila Bisbo 95.41 341⇓eP P 12 45 57.0 -0.8
comp=Z,48nm,1.7s
RKT Ikitea 97.61 115 eLR LR 13 17 15.7
comp=Z,880nm,35.5s,baz=317
TOA1 Torodi Ar. Sit 114.33 323 ePKiKP PKiKP 12 51 12.2 -0.6
TORD Torodi Ar. Bea 114.34 323 PKiKP PKiKP 12 51 12.2 -0.6
comp=Z,2.4nm,0.6s,baz=18,slow=1.9,SNR=20
TORD SKP 12 54 36.0
comp=Z,4.3nm,0.9s,baz=3.1,slow=3.4,SNR=5.0
TORD PKKPbc PKKPbc 13 01 52.6 +1.8
comp=Z,4.1nm,1.0s,baz=224,slow=3.1,SNR=10
KOWA Kowa 115.34 330 PKP PKPdf 12 51 14.2 -0.6
comp=Z,3.5nm,0.7s,baz=30,slow=2.2,SNR=9.2
KOWA SKP 12 54 38.2
comp=Z,6.5nm,0.9s,baz=334,slow=2.3,SNR=4.5
KOWA PKKPbc PKKPbc 13 01 48.1 +0.7
comp=Z,2.2nm,0.7s,baz=197,slow=6.4,SNR=5.6
SDV Santo Domingo 116.09 43 PKP PKPdf 12 51 16.0 -0.5
comp=Z,3.8nm,0.7s,baz=342,slow=9.6,SNR=4.5
LSZ Lusaka 121.45 280 PKKPbc PKKPbc 13 01 26.9 +1.4
comp=Z,5.2nm,0.6s,baz=206,slow=3.9,SNR=9.2
VNDA Vanda 122.70 176 PKP PKPdf 12 51 27.4 +0.4
comp=Z,2.0nm,0.7s,baz=308,slow=4.3,SNR=9.7
VNDA pPKP pPKPdf 12 51 59.6 -0.6
comp=Z,9.5nm,0.8s,baz=323,slow=3.7,SNR=12
VNDA PKKPbc PKKPbc 13 01 23.7 +2.0
comp=Z,0.9nm,0.8s,baz=355,slow=3.2,SNR=3.7
VNDA Vanda 122.70 176 ePKPpre PKPdf 12 51 27.9 +1.0
VNDA ePKPdf PKPdf 12 51 28.1 +1.2
DBIC Dimbokro 122.86 327 PKP PKPdf 12 51 28.8 -0.4
comp=Z,10nm,0.9s,baz=39,slow=1.9,SNR=15
DBIC SKP 12 54 52.9
comp=Z,7.9nm,0.9s,baz=30,slow=4.6,SNR=4.6
DBIC PKKPbc PKKPbc 13 01 22.2 +2.1
comp=Z,4.8nm,0.8s,baz=186,slow=3.9,SNR=8.6
DBIC Dimbokro 122.86 327 ePKPdf PKPdf 12 51 28.5 -0.7
TIC Toumodi 122.94 327 ePKIKP PKPdf 12 51 28.8 -0.6
TIC Toumodi 122.94 327 ePKP2 PKKPbc 13 01 21.7 +1.9
KIC Kosan Boka 123.09 327 ePKIKP PKPdf 12 51 28.8 -0.9
comp=Z,20nm,0.9s
KIC Kosan Boka 123.09 327 ePKP2 PKKPbc 13 01 20.8 +1.6
comp=Z,14nm,1.0s
LIC Lamto 123.33 327 ePKIKP PKPdf 12 51 29.3 -0.8
comp=Z,60nm,1.4s
LIC Lamto 123.33 327 ePKP2 PKKPbc 13 01 20.0 +1.7
comp=Z,23nm,1.2s
MATP Matopo 124.70 275 PKP PKPdf 12 51 33.1 +0.4
comp=Z,10nm,0.9s,baz=68,slow=1.0,SNR=19
MATP PKKPbc PKKPab 13 01 15.1 +1.0
comp=Z,3.8nm,1.0s,baz=253,slow=6.5,SNR=5.2
ATAH Atahualpa 125.02 61 SKP SKPdf 12 54 59.0 +1.4
comp=Z,12nm,0.8s,baz=265,slow=2.4,SNR=5.4
PTGA Pitinga 129.46 37 PKP PKPdf 12 51 41.5 -0.3
comp=Z,6.0nm,0.8s,baz=12,slow=3.5,SNR=9.3
PTGA SKPbc SKPab 12 54 51.4 0.0
comp=Z,46nm,0.9s,baz=347,slow=5.1,SNR=27
PTGA Pitinga 129.46 37 ePKPdf PKPdf 12 51 42.1 +0.3
PTGA e 12 54 51.3
BOSA Boshof 132.12 270 PKP PKPdf 12 51 45.5 -1.0
comp=Z,6.9nm,1.0s,baz=282,slow=2.2,SNR=6.8
BOSA PP PP 12 54 06.8 -3.5
comp=Z,14nm,1.0s,baz=45,slow=6.5,SNR=8.8
BOSA SKPbc SKPbc 12 55 01.9 +0.5
comp=Z,25nm,1.0s,baz=39,slow=4.0,SNR=12
SAML Samuel 135.16 46 ePKPdf PKPdf 12 51 52.5 0.0
SYO Syowa Base 137.60 211⇑ePKPdf PKPdf 12 51 56.6 +1.3

LPAZ La Paz 138.39 58 PKhKP PKPpre 12 51 52.9
comp=Z,1.3nm,0.6s,baz=343,slow=6.4,SNR=4.1
LPAZ PKP PKiKP 12 52 00.6 -0.7
comp=Z,1.5nm,0.6s,baz=224,slow=9.2,SNR=5.5
LPAZ SKPbc SKPbc 12 55 21.6 -0.6
comp=Z,6.1nm,0.9s,baz=328,slow=4.9,SNR=8.9
LPAZ La Paz 138.39 58 PKPpre PKPpre 12 51 52.9
LPAZ ePKPdf PKPdf 12 51 58.2 -1.0
SIV San Ignacio 142.17 49 PKhKP PKPpre 12 52 00.1
comp=Z,2.9nm,0.5s,baz=356,slow=2.9,SNR=13
SIV PKP PKPdf 12 52 06.8 +1.5
comp=Z,7.6nm,0.9s,baz=292,slow=1.8,SNR=14
SIV SKPbc SKPbc 12 55 30.8 -0.6
comp=Z,22nm,0.9s,baz=328,slow=1.4,SNR=14
HJA Humahuaca 145.29 62 *i* P PKPab 12 52 12.5 +1.2
LCO Las Campanas 145.73 75 *e*PKPdf PKPab 12 52 12.5 -0.2
ASTB Santa Barbara 146.42 62 *i* P PKPbc 12 52 14.2 0.0
ALOL LOMAS DE OLMED 146.62 61 *i* P PKPab 12 52 16.0 0.0
NVL N'lazarevskaya 146.62 205 *e*PKP2 PKPbc 12 52 12.3 -0.8
NVL pmax pmax
comp=Z,45nm,0.9s
FSA Cafayete 146.99 66 *i* P PKPbc 12 52 14.8 -1.0
VCA Vinchina 147.26 72 *i* P PKPbc 12 52 17.1 +0.7
AGUA GUANDACOL 147.54 74 *i* P PKPbc 12 52 18.1 +1.0
ROC1 El Roble 147.85 81 *e*PKPdf PKPdf 12 52 16.1 +1.2
ROC1 El Roble 147.85 81 *i* P PKPbc 12 52 17.3 -0.7
GO05 HualaæØ 148.29 85 *e*PKPbc PKPbc 12 52 18.5 -0.3
AMOG MOGNA 148.43 76 *i* P PKPbc 12 52 19.6 +0.2
AUSP Uspallata 148.56 79 *i* P PKPbc 12 52 20.5 +0.6
RTLL Cerro Villicun 148.67 76 *i* P PKPbc 12 52 19.6 -0.4
CYA Choya 148.67 69 *i* P PKPbc 12 52 20.0 -0.1
RTCV Cerro Valdivia 148.94 77 *i* P PKPbc 12 52 20.3 -0.3
ASAL Salagasta 149.15 79 *i* P PKPbc 12 52 21.9 +0.7
ARCO CERRO ARCO 149.23 79 *i* P PKPbc 12 52 21.9 +0.4
APLL PUNTA DE LOS L 149.43 73⇑*i* P PKPbc 12 52 21.9 0.0
AAGR Agrelo 149.44 80 *i* P PKPbc 12 52 22.2 +0.4
SNAA Sanae 149.91 198 PKP PKPbc 12 52 22.1 +0.3
SNAA Sanae 149.91 198 PKPbc PKPbc 12 52 22.0 +0.2
comp=Z,16nm,0.8s,baz=194,slow=3.7,SNR=61
SNAA PKPab PKPab 12 52 28.8 +0.9
comp=Z,24nm,1.0s,baz=213,slow=8.1,SNR=23
SNAA Sanae 149.91 198 *e*PKP2 PKPbc 12 52 21.7 -0.1
MRA San Martin 151.21 75 *i* P PKPbc 12 52 25.9 -0.2
VNA2 Neumayer--Watz 151.44 197 PKP PKPbc 12 52 25.7 +0.4
baz=129,slow=1.4
VNA3 Neumayer Olymp 151.63 195 PKP PKPbc 12 52 25.8 +0.1
PLCA Paso Flores 151.81 95 PKP PKPdf 12 52 20.9 +0.3
comp=Z,8.9nm,1.1s,baz=6.5,slow=3.9,SNR=6.9
PLCA PKPbc PKiKP 12 52 27.6 +0.1
comp=Z,61nm,0.8s,baz=293,slow=2.6,SNR=104
PLCA Paso Flores 151.81 95 PKIKP PKPdf 12 52 21.0 +0.3
PLCA pmax pmax
comp=Z,9.0nm,1.1s
VNA1 Neumayer--Stat 151.84 197 PKP PKPbc 12 52 26.8 +0.6
CHRN Cochrane 152.22 109 *e*PKPbc PKPbc 12 52 28.6 +0.8
CHRN Cochrane 152.22 109 *i* P PKPbc 12 52 28.1 +0.4
CPUP Villa Florida 152.50 55 PKP PKPdf 12 52 22.4 +0.3
comp=Z,3.0nm,1.0s,baz=343,slow=2.4,SNR=3.7
CPUP PKPbc PKPbc 12 52 29.0 -0.1
comp=Z,2.7nm,0.6s,baz=3.9,slow=1.4,SNR=6.8
CPUP PKPab PKPab 12 52 39.2 -0.6
comp=Z,38nm,1.1s,baz=279,slow=1.7,SNR=7.0
CPUP Villa Florida 152.50 55 *e*PKPdf PKPdf 12 52 24.4 +2.3
CPUP PKPab PKPab 12 52 39.2 -0.6
GO09 Cerro Castillo 152.86 118 *e*PKPbc PKPbc 12 52 29.4 +0.3

*ISCJB **12** 12:59:05.2±0.2,36°.72N±0°.02×73°.03E±0°.04,h42km, mb4.1/26,MS3.9/1,Error ellipse: s-maj=4.4km s-min=2.9km az=153.4*
*IDC **12** 12:59:07.8±2.4,36°.75N×72°.99E,h47km±22km,mb3.8/18, mb1 4.0/25,mb1mx3.7/75,mbtmp4.1/25,ML3.7/7, Error ellipse: s-maj=16.8km s-min=12.6km az=10.0*
*NNC **12** 12:59:08.8±2.8,36°.96N×72°.51E,h0km,mb4.5,mpv4.3, Error ellipse: s-maj=22.1km s-min=21.1km az=120.0*
*MOS **12** 12:59:08.5±1.3,36°.83N×73°.07E,h63km,mb4.4/12,Error ellipse: s-maj=11.3km s-min=5.5km az=88.7*
*NEIC **12** 12:59:09.8±0.6,36°.87N×73°.00E,h67km±5km,mb4.5/8, Error ellipse: s-maj=6.3km s-min=4.2km az=156.0*
*BJI **12** 12:59:11.2,36°.90N×73°.53E,h61km,mb4.1/6,mB4.7/4, ML4.0/5,Ms4.1/1*

ISC 12 12:59:07.2±0.4,36°.74N±0°.04×73°.11E±0°.05,h42km,n151,
σ2s05/156,mb4.1/26,16C-7D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.07**	**199**	P	**Pn**	**12 59 57.4**	**+4.1**
CHCP	**Chirah Chowk**	**3.07**	**178**	P	Pn	12 59 58.5	+5.3
SFK	**Sufi-Kurgan**	**3.29**	**5**	⇓Pn	Pn	13 00 02.0	+5.6
	190nm,0.8s						
SFK				⇓Lg	Lg	13 00 47.2	
	224nm,0.7s						
KSH	**Kashi**	**3.58**	**38**	P	**Pn**	**12 59 57.6**	**-2.7**
KSH				pP		13 00 00.5	
KSH				pmax	pmax		
	comp=Z,290nm,0.6s						
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.8s						
KBL	**Kabul**	**3.97**	**238**	*e*PN	**Pn**	**13 00 09.8**	**+4.0**
KBL	**Kabul**	**3.97**	**238**	*e*Pn	Pn	**13 00 09.8**	**+4.0**
THW	**Thamme Wali**	**4.09**	**196**	P	Pn	**13 00 10.9**	**+3.7**
SARP	**Sargodha**	**4.81**	**184**	P	Pn	**13 00 19.9**	**+2.8**
DHRM	**DHARAMSHALA**	**5.19**	**149**	*e*P	**Pn**	**13 00 23.9**	**+1.4**
DHRM				*e*S	**Sn**	**13 01 23.8**	**+2.5**
AML	**Almayashu**	**5.41**	**5**	P	**Pn**	**13 00 27.0**	**+1.4**
	SNR=6.1						
KZA	**Kyzart**	**5.59**	**17**	P	**Pn**	**13 00 31.4**	**+3.3**
	SNR=18						
UCH	**Uchtor**	**5.59**	**11**	P	**Pn**	**13 00 30.1**	**+1.9**
	SNR=51						
MNAS	**Manas**	**5.76**	**356**	⇑Pn	**Pn**	**13 00 32.5**	**+2.2**
	12nm,0.4s						
MNAS				⇓Sn	**Sn**	**13 01 40.0**	**+4.8**
	25nm,0.7s						
MNAS				⇑Lg	Lg	13 02 01.8	
	42nm,0.9s						
EKS2	**Erkin-Say**	**5.94**	**5**	P	**Pn**	**13 00 35.8**	**+3.1**
	SNR=19						
AAK	**Ala-Archa**	**5.99**	**10**	P	**Pn**	**13 00 35.7**	**+2.3**
	4.0nm,0.3s,baz=140,slow=4.9,SNR=16						
AAK				S	**Sn**	**13 01 41.9**	**+1.1**
	1.7nm,0.3s,baz=187,slow=17,SNR=2.5						
AAK	**Ala-Archa**	**5.99**	**10**	Pn	**Pn**	**13 00 36.6**	**+3.2**
	23nm,0.7s						
AAK				Sn	**Sn**	**13 01 47.3**	**+6.5**
	39nm,1.3s						
AAK				Lg	Lg	13 02 15.6	
	20nm,1.0s						
AAK	**Ala-Archa**	**5.99**	**10**	PN	**Pn**	**13 00 36.6**	**+3.2**
AAK				pmax	pmax		
	comp=Z,23nm,0.7s						
AAK	**Ala-Archa**	**5.99**	**10**	P	**Pn**	**13 00 35.7**	**+2.3**
	SNR=13						
ULHL	**Ulahol**	**6.01**	**23**	P	Pn	13 00 39.0	+5.2
	SNR=5.4						
KBK	**Karagaybulak**	**6.08**	**13**	P	Pn	13 00 41.6	+6.9
	SNR=12						
FRU	**Bishkek**	**6.20**	**10**	*e*PN	Pn	13 00 41.0	+4.8
FRU				*i*		13 01 56.0	
FRU				pmax	pmax		
	comp=Z,70nm,1.9s						
FRU				pmax	pmax		
	comp=E,290nm,2.0s						
CHMS	**Chumysh**	**6.38**	**11**	P	**Pn**	**13 00 40.7**	**+2.0**
	SNR=11						
TKM2	**Tokmak 2**	**6.47**	**16**	⇑Pn	**Pn**	**13 00 41.1**	**+1.0**
	comp=E,12nm,0.5s						
TKM2				⇓Lg	Lg	13 02 30.0	
	comp=E,12nm,0.8s						
TKM2	**Tokmak 2**	**6.47**	**16**	P	**Pn**	**13 00 42.1**	**+2.1**
	SNR=31						
SMLA	**Simla**	**6.53**	**148**	*e*P	**Pn**	**13 00 41.9**	**+1.2**
SMLA				*e*S	**Sn**	**13 01 53.4**	**-0.4**
SMLA				IAML		13 01 59.2	
	comp=N,328nm,0.0s						
SMLA				IAML		13 02 00.5	
	comp=E,640nm,0.4s						
USP	**Ospenovka**	**6.61**	**9**	P	Pn	13 00 47.5	+5.7
	SNR=5.4						
KK06	**Karatay Array**	**6.66**	**343**	*e*Pn	**Pn**	**13 00 43.5**	**+1.1**
KK07	**Karatay Array**	**6.66**	**343**	*e*Pn	**Pn**	**13 00 43.6**	**+1.2**

KK02	**Karatay Array**	**6.67**	**343**	*e*Pn		**Pn**	13 00 43.8	+1.2
KK31	**Karatay Array**	**6.67**	**343**	Pn		**Pn**	13 00 43.7	+1.1
	comp=E,4.3nm,0.3s,baz=159,slow=12,SNR=54							
KK31				⇓Sn		**Sn**	13 01 57.2	0.0
	comp=E,14nm,0.8s,baz=161,slow=24							
KK31				⇑Lg		Lg	13 02 31.7	
	comp=E,12nm,0.6s,baz=166,slow=25							
KK31	**Karatay Array**	**6.67**	**343**	*e*PN		**Pn**	13 00 43.7	+1.1
KK31	**Karatay Array**	**6.67**	**343**	*e*Pn		**Pn**	13 00 43.7	+1.1
KKAR	**Karatay Array**	**6.67**	**343**	*e*PN		**Pn**	13 00 44.1	+1.5
KKAR	**Karatay Array**	**6.67**	**343**	*e*Pn		**Pn**	13 00 44.1	+1.5
KK03	**Karatay Array**	**6.67**	**343**	*e*Pn		**Pn**	13 00 43.6	+1.0
KK01	**Karatay Array**	**6.67**	**343**	*e*Pn		**Pn**	13 00 43.6	+1.0
KK04	**Karatay Array**	**6.67**	**343**	*e*Pn		**Pn**	13 00 43.6	+1.0
KK08	**Karatay Array**	**6.67**	**343**	*e*Pn		**Pn**	13 00 43.6	+1.0
KK05	**Karatay Array**	**6.68**	**343**	*e*Pn		**Pn**	13 00 43.8	+1.1
MDOK	**Medeo**	**7.10**	**24**	⇑Pn		**Pn**	13 00 52.9	+4.3
	comp=E,14nm,0.8s							
MDOK				⇓Lg		Lg	13 02 53.5	
	comp=E,49nm,1.5s							
DDI	**Dehra Dun**	**7.61**	**146**	*e*P		**Pn**	13 00 57.5	+1.9
DDI				*e*S		**Sn**	13 02 18.0	-2.5
DDI				IAML			13 02 25.0	
	comp=N,274nm,0.4s							
DDI				IAML			13 02 26.6	
	comp=E,260nm,0.2s							
PYUN	**Piuthan**	**11.98**	**133**	*e*P		**Pn**	13 01 52.9	-2.7
	comp=E,23nm,0.3s							
GYA2	**ALIBECK ARRAY**	**11.99**	**280**	*e*Pn		**Pn**	13 01 56.3	+0.8
GEYT	**Alibeck**	**12.00**	**280**	P		**Pn**	13 01 53.3	-2.3
	comp=E,1.1nm,0.3s,baz=101,slow=13,SNR=4.5							
GEYT				S		**Sn**	13 04 03.9	-4.1
	comp=E,0.3nm,0.3s,baz=80,slow=16,SNR=2.7							
GYA0	**ALIBECK ARRAY**	**12.00**	**280**	*e*Pn		**Pn**	13 01 56.8	+1.2
GYA0B	**ALIBECK ARRAY**	**12.00**	**280**	*e*Pn		**Pn**	13 01 56.4	+0.8
GYA1	**ALIBECK ARRAY**	**12.00**	**280**	*e*Pn		**Pn**	13 01 57.4	+1.8
GYB3	**ALIBECK ARRAY**	**12.00**	**280**	*e*Pn		**Pn**	13 01 54.3	-1.3
GYB5	**ALIBECK ARRAY**	**12.00**	**280**	*e*Pn		**Pn**	13 01 56.6	+0.9
GYB4	**ALIBECK ARRAY**	**12.01**	**280**	*e*Pn		**Pn**	13 01 56.7	+0.9
MAKZ	**Makanchi**	**12.04**	**31**	*e*P		**Pn**	13 01 57.6	+1.6
MAKZ	**Makanchi**	**12.04**	**31**	*e*Pn		**Pn**	13 01 57.6	+1.6
MK01	**Makanchi Array**	**12.14**	**31**	*e*Pn		**Pn**	13 01 58.5	+1.0
MK31	**Makanchi Array**	**12.15**	**31**	*ce*P		**Pn**	13 01 58.3	+0.6
MK31				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MK31	**Makanchi Array**	**12.15**	**31**	*e*Pn		**Pn**	13 01 59.1	+1.5
MK32	**Makanchi Array**	**12.15**	**31**	*e*Pn		**Pn**	13 01 58.8	+1.1
MKAR	**Makanchi Array**	**12.15**	**31**	P		**Pn**	13 01 58.8	+1.1
	comp=Z,0.2nm,0.3s,baz=206,slow=15,SNR=15							
MKAR	**Makanchi Array**	**12.15**	**31**	*e*P		**Pn**	13 01 59.2	+1.5
MKAR	**Makanchi Array**	**12.15**	**31**	*e*Pn		**Pn**	13 01 59.1	+1.5
DANN	**Dangsing**	**12.27**	**130**	*e*P		**Pn**	13 01 57.7	-1.8
KOLN	**Koldanda**	**12.59**	**132**	*e*P		**Pn**	13 02 01.5	-2.4
GKN	**Gorkha**	**13.06**	**129**	*e*P		**Pn**	13 02 07.3	-2.9
KKN	**Kakani**	**13.61**	**127**	*e*P		**Pn**	13 02 14.0	-3.8
	comp=Z,27nm,0.5s							
DMN	**Daman**	**13.63**	**128**	*e*P		**Pn**	13 02 14.1	-4.0
	comp=Z,20nm,0.5s							
PKI	**Pulchoki**	**13.85**	**128**	*e*P		**Pn**	13 02 16.9	-4.2
	comp=Z,25nm,0.7s							
GUN	**Gumba**	**13.92**	**126**	*e*P		**Pn**	13 02 17.6	-4.5
	comp=Z,39nm,0.7s							
BHPL	**Bhopal**	**13.96**	**163**	*e*P		**Pn**	13 02 24.1	+1.7
BHPL				IAmb		IAmb	13 02 30.5	
	comp=Z,32nm,1.4s							
JIRN	**Jiri**	**14.29**	**126**	*e*P		**Pn**	13 02 22.9	-4.3
	comp=Z,48nm,0.4s							
KURBB	**Kurchatov Array**	**14.42**	**14**	P		**Pn**	13 02 27.5	-0.9
	comp=Z,0.0nm,0.3s,baz=206,slow=11,SNR=8.9							
KURK	**Kurchatov**	**14.53**	**14**	*ce*P		**Pn**	13 02 30.0	+0.2
KURK				pmax	pmax			
	comp=Z,32nm,2.5s							
KURK	**Kurchatov**	**14.53**	**14**	*e*Pn		**Pn**	13 02 27.5	-2.3
KURK				*e*Pn		P	13 02 30.0	-5.7
AB07	**Akbulak array**	**15.74**	**327**	*e*Pn		**Pn**	13 02 44.1	-1.7
AB06	**Akbulak array**	**15.75**	**327**	*e*Pn		**Pn**	13 02 44.2	-1.7
AB08	**Akbulak array**	**15.76**	**327**	*e*Pn		**Pn**	13 02 44.3	-1.7
AB03	**Akbulak array**	**15.76**	**327**	*e*Pn		**Pn**	13 02 44.4	-1.6
AB01	**Akbulak array**	**15.76**	**327**	*e*Pn		**Pn**	13 02 44.4	-1.7
AB31	**Akbulak array**	**15.76**	**327**	⇑P		**Pn**	13 02 43.4	-2.6
	comp=Z,2.0nm,0.5s,baz=142,slow=12,SNR=37							
AB31				⇑S		**Sn**	13 05 36.5	-3.0
	comp=Z,2.8nm,0.7s,baz=147,slow=23,SNR=7.2							
AB31	**Akbulak array**	**15.76**	**327**	*e*P		**Pn**	13 02 44.4	-1.6
AB31	**Akbulak array**	**15.76**	**327**	*e*Pn		**Pn**	13 02 44.4	-1.6
ABKAR	**Akbulak array**	**15.76**	**327**	*e*Pn		**Pn**	13 02 44.3	-1.7
	comp=Z,51nm,0.5s							
AB02	**Akbulak array**	**15.76**	**327**	*e*Pn		**Pn**	13 02 44.4	-1.6
AB04	**Akbulak array**	**15.77**	**327**	*e*Pn		**Pn**	13 02 44.4	-1.7
AB05	**Akbulak array**	**15.77**	**327**	*e*Pn		**Pn**	13 02 44.5	-1.8
AB09	**Akbulak array**	**15.78**	**327**	*e*Pn		**Pn**	13 02 44.3	-1.9
NGP	**Nagpur**	**16.37**	**160**	*e*P		**P**	13 02 56.5	+0.2
BVAR	**Borovoye Array**	**16.40**	**354**	P		**Pn**	13 02 54.1	-0.1
	comp=Z,0.4nm,0.3s,baz=257,slow=39,SNR=3.8							
BRVK	**Borovoye**	**16.44**	**354**	*ce*P		**Pn**	13 02 54.4	-0.3
BRVK				pmax	pmax			
	comp=Z,14nm,1.2s							
DGZ	**Jazzator, Alta**	**16.60**	**34**	*i* P		**Pn**	13 02 56.7	-0.2
DGZ				pmax	pmax			
	comp=Z,10.0nm,0.7s							
BOK	**Bokaro**	**16.95**	**136**	*e*P		**P**	13 03 02.0	-0.8
BOK				IAmb		IAmb	13 03 03.4	
	comp=Z,24nm,0.6s							
AKTO	**Aktyubinsk**	**17.48**	**326**	P		**P**	13 03 08.1	-0.3
	comp=Z,0.4nm,0.3s,baz=133,slow=12,SNR=12							
AKTO	**Aktyubinsk**	**17.48**	**326**	⇑P		**P**	13 03 08.0	-0.3
	comp=Z,8.4nm,0.8s							
AKTO				⇓S		**Sn**	13 06 15.8	-5.2
	comp=Z,5.8nm,1.1s							
POO	**Poona**	**18.15**	**178**	*e*P		**P**	13 03 14.5	-1.6
POO				IAmb		IAmb	13 03 24.2	
	comp=Z,14nm,0.9s							
ZAA0	**Zalesovo Array**	**19.04**	**22**	*e*P		**P**	13 03 25.0	-0.5
	comp=Z,17nm,0.9s							
ZALV	**Zalesovo Beam**	**19.04**	**22**	P		**P**	13 03 25.0	-0.5
	comp=Z,1.2nm,0.3s,baz=214,slow=10,SNR=49							
ZALV	**Zalesovo Beam**	**19.04**	**22**	*e*P		**P**	13 03 24.9	-0.6
ZAA1	**Zalesovo Array**	**19.04**	**22**	*e*P		**P**	13 03 25.0	-0.5
NVS	**Novosibirsk**	**19.40**	**18**	*e*P		**Pn**	13 03 30.6	-0.2
NVS				pmax	pmax			
	comp=N,5.0nm,1.0s							
NVS				pmax	pmax			
	comp=Z,14nm,1.0s							
SHL	**Shillong**	**19.51**	**120**	*e*P		**P**	13 03 29.6	-1.4
HYB	**Hyderabad**	**19.84**	**165**	*e*P		**P**	13 03 33.0	-1.5
HVS	**Khovu-Aksy**	**20.57**	**39**	*i* P		**P**	13 03 40.0	-2.3
HVS				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MAK	**Makhachkala**	**20.58**	**295**	*e*P		Pn	13 03 47.0	+2.2
MAK				*e**PP		sP	13 04 05.2	+7.2
MAK				*e**SS		sS	13 08 06.7	+20
MAK				pmax	pmax			
	comp=Z,353nm,1.3s							
MAK				MLR	MLR			
	comp=Z,524nm,20.0s							
GTA	**Gaotai**	**21.17**	**75**	*e*P		**P**	13 03 51.8	+2.9
GTA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SVE	**Sverdlovsk**	**21.77**	**341**	*e*P		**P**	13 03 57.6	+2.6
ARU	**Arti**	**22.00**	**338**	P		**P**	13 03 56.7	-0.9
	comp=Z,6.9nm,0.2s,baz=129,slow=18,SNR=3.4							
ARU	**Arti**	**22.00**	**338**	*c i*P		**P**	13 03 59.5	+1.9
ARU							13 04 18.7	
ARU				S		**S**	13 07 57.2	-0.6
ARU				SS		**SnSn**	13 08 27.3	+1.6
ARU				pmax	pmax			
	comp=Z,11nm,1.2s							
ARU	**Arti**	**22.00**	**338**	*e*P		**P**	13 03 56.7	-0.9
	comp=Z,18nm,1.4s							
GNI	**Garni**	**22.44**	**287**	*ce*P		**P**	13 04 08.7	+6.1
GNI				pmax	pmax			
	comp=Z,72nm,1.7s							
MOY	**Mondy**	**24.75**	**44**	*e*P		**P**	13 04 27.6	+2.9
ZAK	**Zakamensk**	**25.56**	**48**	*e*P		**P**	13 04 32.4	+0.3
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
SONA0	**Songino Array**	**26.81**	**55**	*e*P		**P**	13 04 43.5	+0.1
SONM	**Songino Array**	**26.81**	**55**	P		**P**	13 04 43.5	+0.1
	comp=Z,1.2nm,0.8s,baz=230,slow=8.3,SNR=6.0							
SONA1	**Songino Array**	**26.82**	**55**	*e*P		**P**	13 04 43.0	-0.5
CMAR	**Chiang Mai Arr**	**29.11**	**122**	P		**P**	13 05 06.2	+2.2
	comp=Z,0.8nm,0.6s,baz=309,slow=10,SNR=7.5							
BR101	**Keskin Array S**	**30.98**	**288**	*e*P		**P**	13 05 20.6	0.0
BRTR	**Keskin Array B**	**30.98**	**288**	P		**P**	13 05 20.6	0.0
	comp=Z,0.9nm,0.6s,baz=100,slow=8.9,SNR=4.7							
BRTR	**Keskin Array B**	**30.98**	**288**	*e*P		**P**	13 05 21.0	+0.4
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**34.13**	**308**	P		**P**	13 05 46.3	-1.5
	comp=Z,0.1nm,0.3s,baz=107,slow=9.6,SNR=2.5							
AKBB	**Malin Array Si**	**34.13**	**308**	*e*P		**P**	13 05 46.3	-1.5
AKBB				pmax	pmax			
	comp=Z,32nm,2.0s							
AKBB	**Malin Array Si**	**34.13**	**308**	*e*P		**P**	13 05 46.3	-1.5
	comp=Z,32nm,2.0s							
FIA0	**FINESS Array S**	**38.24**	**325**	*e*P		**P**	13 06 23.3	+0.5
FIA0	**FINESS Array S**	**38.24**	**325**	*e*P		**P**	13 06 23.3	+0.5
FINES	**FINESS Array B**	**38.24**	**325**	P		**P**	13 06 23.3	+0.5
	comp=Z,2.1nm,0.7s,baz=118,slow=11,SNR=5.8							
FINES	**FINESS Array B**	**38.24**	**325**	*e*P		**P**	13 06 24.8	+2.0
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ARA0	**ARCESS Array S**	**41.58**	**337**	*e*P		**P**	13 06 50.8	+0.3
ARCES	**ARCESS Array B**	**41.58**	**337**	P		**P**	13 06 50.8	+0.3
	comp=Z,3.2nm,0.8s,baz=108,slow=7.9,SNR=8.7							
VRAC	**Vranov**	**42.24**	**306**	P		**P**	13 06 55.7	-0.4
	comp=Z,2.8nm,0.6s,baz=304,slow=22,SNR=3.0							
HFS	**Hagfors**	**43.93**	**322**	P		**P**	13 07 09.4	-0.2
	comp=Z,3.5nm,0.7s,baz=102,slow=12,SNR=6.9							
TIXI	**Tiksi**	**44.92**	**22**	*ce*P		**P**	13 07 17.4	+0.1
TIXI				*e*			13 09 04.4	
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TIXI	**Tiksi**	**44.92**	**22**	*e*P		**P**	13 07 17.1	-0.2
	comp=Z,4.1nm,0.9s							
NB2	**NORSAR Subarra**	**45.22**	**323**	P		**P**	13 07 19.7	-0.2
	comp=Z,2.3nm,0.7s,baz=93,slow=7.9							
NB200	**NORSAR Array S**	**45.22**	**323**	*e*P		**P**	13 07 19.1	-0.8
NOA	**NORSAR Array B**	**45.22**	**323**	P		**P**	13 07 19.1	-0.8
	comp=Z,2.3nm,0.8s,baz=95,slow=7.7,SNR=4.8							
NOA	**NORSAR Array B**	**45.22**	**323**	*e*P		**P**	13 07 22.6	+2.7
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
YSS	**Yuzh-Sakhalins**	**51.30**	**55**	⇑*e*P		**P**	13 08 03.9	-3.0
YSS				pmax	pmax			
	comp=Z,11nm,1.7s							
ESDC	**Sonseca Array**	**58.84**	**298**	P		**P**	13 09 01.8	+0.2
	comp=Z,0.5nm,0.5s,baz=53,slow=7.6,SNR=5.6							
TOA1	**Torodi Ar. Sit**	**67.42**	**270**	*e*P		**P**	13 09 57.2	-1.5
TOA0	**Torodi Ar. Sit**	**67.42**	**270**	*e*P		**P**	13 09 57.1	-1.5
TORD	**Torodi Ar. Bea**	**67.42**	**270**	P		**P**	13 09 57.2	-1.5
	comp=Z,0.8nm,0.5s,baz=49,slow=5.8,SNR=15							
TOLK	**Toolik Lake Re**	**70.26**	**15**	*e*P		**P**	13 10 15.7	+0.1
	comp=Z,12nm,1.4s							
MATP	**Matopo**	**70.75**	**224**	P		**P**	13 10 19.6	+0.3
	comp=Z,1.5nm,0.5s,baz=30,slow=3.7,SNR=7.0							
KOWA	**Kowa**	**71.25**	**274**	P		**P**	13 10 21.7	-0.6
	comp=Z,1.0nm,0.6s,baz=94,slow=8.3,SNR=2.7							
ILAR	**Eielson Array**	**74.08**	**17**	P		**P**	13 10 37.8	-0.7
	comp=Z,0.8nm,0.9s,baz=324,slow=5.3,SNR=7.4							
ILB	**Eielson Array**	**74.08**	**17**	*e*P		**P**	13 10 37.8	-0.7
WR1	**Warramunga Arr**	**80.69**	**123**	*e*P		**P**	13 11 16.4	+0.4
	comp=Z,31nm,1.8s							
WRA	**Warramunga Ar**	**80.69**	**123**	P		**P**	13 11 16.4	+0.4
	comp=Z,1.5nm,0.6s,baz=322,slow=4.7,SNR=25							
YKA	**Yellowknife Ar**	**80.92**	**4**	P		**P**	13 11 16.6	+0.1
	comp=Z,1.4nm,0.5s,baz=349,slow=5.4,SNR=54							
AS31	**Alice Springs**	**83.01**	**126**	*e*P		**P**	13 11 27.9	-0.2
	comp=Z,3.8nm,1.3s							
ASAR	**Alice Springs**	**83.01**	**126**	P		**P**	13 11 27.9	-0.2
	comp=Z,1.1nm,0.9s,baz=314,slow=5.2,SNR=18							
ASAR	**Alice Springs**	**83.01**	**126**	P		**P**	13 11 28.0	-0.2
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
AS01	**Alice Springs**	**83.04**	**126**	*e*P		**P**	13 11 27.9	-0.4
FFC	**Flin Flon**	**88.81**	**357**	⇑*e*P		**P**	13 11 56.9	+0.5

IDC 12 13:12:30.4±557.0, 47.58N×50.12E, h0km, Error ellipse: s-maj=213.6km s-min=117.7km az=51.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**5.92**	**59**	*i*			13 49 18.4	
	baz=245,slow=326,SNR=5.7							
I43RU	**DUBNA INFRASON**	**12.08**	**324**	*i*			14 26 10.0	
	baz=132,slow=330,SNR=1.0							
I46RU	**ZALESOVO INFRA**	**22.68**	**61**	*i*			15 32 00.0	
	baz=265,slow=326,SNR=2.2							
I34MN	**SONGINO INFRAS**	**37.17**	**68**	*i*			17 00 10.0	
	baz=288,slow=330,SNR=0.4							

MEX 12 13:18:09.6±0.5, 14.73N×93.28W, h17km±25km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PCIG		**0.97**	**3**	*i* P		Pb	13 18 24.7	-3.3
PCIG				*i* S		Sb	13 18 36.3	-4.2
CCIG	**Comitan**	**1.89**	**35**	*e*P		Pn	13 18 38.9	-2.4
CCIG				*i* S		Sn	13 19 00.4	-4.5
TGIG		**2.04**	**4**	*e*P		Pn	13 18 40.2	-3.0
TGIG				*i* S		Sn	13 19 04.9	-3.5

ISCJB ***12*** *13:28:26.4±0.9, 38°.23N±0°.07×38°.11E±0°.05, h11km±6km, Error ellipse: s-maj=11.6km s-min=5.2km az=18.9*
DDA ***12*** *13:28:26.2, 38°.26N×38°.13E, h7km, Ml2.5*
ISK ***12*** *13:28:26.6, 38°.33N×38°.14E, h13km, ML2.2/3*
CSEM ***12*** *13:28:26.4±0.3, 38°.27N×38°.10E, h12km, ML2.5, Error ellipse: s-maj=7.8km s-min=5.3km az=45.0*

ISC 12 13:28:26.6±1.0, 38°.28N±0°.05×38°.11E±0°.03, h11km±7km, n15, σ0°55/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.15**	**276**	*i* P		**Pg**	13 28 30.0	-0.1
AKCD				*i* S		**Sg**	13 28 32.7	+0.1
AKCD	**Akcadag**	**0.15**	**276**	P		**Pg**	13 28 30.0	-0.1
AKCD				S		**Sg**	13 28 32.7	+0.1
MALT	**Malatya**	**0.25**	**83**	PG		**Pg**	13 28 31.9	+0.1
MALT				SG		**Sg**	13 28 35.8	+0.5
MALT	**Malatya**	**0.25**	**83**	*i* Pg		**Pg**	13 28 31.9	+0.1
MALT				*i* Sg		**Sg**	13 28 35.8	+0.5
DARE	**Darende-Malaty**	**0.57**	**301**	PG		**Pg**	13 28 38.2	+0.5
DARE				SG		**Sg**	13 28 46.4	+1.1
HEKM	**Malatya_Hekimh**	**0.61**	**349**	*i* P		**Pg**	13 28 38.6	+0.1
HEKM				*i* S		**Sb**	13 28 49.0	+0.9
HEKM	**Malatya_Hekimh**	**0.61**	**349**	P		**Pg**	13 28 38.6	+0.1
HEKM				S		**Sb**	13 28 49.0	+0.9
URFA	**Urfa**	**1.01**	**146**	PG		**Pn**	13 28 46.9	+0.1
URFA	**Urfa**	**1.01**	**146**	*e*Pg		**Pn**	13 28 46.9	+0.1
KEMA	**Kemaliye**	**1.03**	**17**	*i* P		**Pb**	13 28 45.3	-1.2
KEMA				*i* S		**Sn**	13 29 01.5	0.0
KEMA	**Kemaliye**	**1.03**	**17**	P		**Pb**	13 28 45.3	-1.2
KEMA				S		**Sn**	13 29 01.5	0.0
CUKAN	**kangal_SIVAS**	**1.15**	**334**	*i* P		**Pn**	13 28 48.7	-0.1
CUKAN				*i* S		**Sb**	13 29 03.7	+0.1
CUKAN	**kangal_SIVAS**	**1.15**	**334**	P		**Pn**	13 28 48.7	-0.1
CUKAN				S		**Sb**	13 29 03.7	+0.1
PTK	**Pertek**	**1.18**	**58**	PN		**Pb**	13 28 48.6	-0.4
PTK				SN		**Sn**	13 29 04.9	-0.4
PTK	**Pertek**	**1.18**	**58**	*e*Pn		**Pb**	13 28 48.6	-0.4
PTK				*e*Sn		**Sn**	13 29 04.9	-0.4

ISCJB ***12*** *13:30:14.3±0.5, 67°.60N±0°.03×21°.01E±0°.08, h0km, Error ellipse: s-maj=4.6km s-min=3.4km az=155.4*
CSEM ***12*** *13:30:14.9±0.1, 67°.62N×21°.01E, h2km, ML2.7, Error ellipse: s-maj=2.9km s-min=2.2km az=59.0, Mining explosion.*
UPP ***12*** *13:30:15.4, 67°.65N×20°.98E, h0km, ML2.7, Mining explosion.*
HEL ***12*** *13:30:16.0±0.0, 67°.64N×20°.97E, h0km, ML1.6, ML2.7(UPP), Explosion*

ISC 12 13:30:15.2±0.8, 67.64N±0°.02×20.99E±0°.02, h0km, n38, σ0°64/53, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.40**	**323**	P		**Pg**	13 30 23.0	+0.1
KUA				S		**Sg**	13 30 28.5	+0.4
KUA	**Kurravaara**	**0.40**	**323**	P		**Pg**	13 30 23.0	+0.1
KUA				S		**Sg**	13 30 28.5	+0.4
KUA	**Kurravaara**	**0.40**	**323**	*i* P		**Pg**	13 30 23.0	+0.1
KUA				*i* S		**Sg**	13 30 28.5	+0.4
MASU	**Masugnsbyn**	**0.43**	**114**	P		**Pg**	13 30 23.7	+0.4
MASU	**Masugnsbyn**	**0.43**	**114**	P		**Pg**	13 30 23.8	+0.4
MASU	**Masugnsbyn**	**0.43**	**114**	*i* P		**Pg**	13 30 23.8	+0.4
DUNU	**Dundret**	**0.54**	**198**	P		**Pg**	13 30 25.9	+0.4
DUNU	**Dundret**	**0.54**	**198**	P		**Pg**	13 30 25.9	+0.4
DUNU	**Dundret**	**0.54**	**198**	*i* P		**Pg**	13 30 25.9	+0.4
LANU	**Lannavaara**	**0.56**	**42**	P		**Pg**	13 30 25.7	-0.2
LANU				S		**Sg**	13 30 33.9	+0.7
LANU	**Lannavaara**	**0.56**	**42**	*e*P		**Pg**	13 30 25.7	-0.2
LANU				*e*S		**Sg**	13 30 33.9	+0.7
RATU	**Laukkuluspa**	**0.56**	**290**	P		**Pg**	13 30 26.0	+0.1
RATU	**Laukkuluspa**	**0.56**	**290**	P		**Pg**	13 30 26.0	+0.1
RATU	**Laukkuluspa**	**0.56**	**290**	*i* P		**Pg**	13 30 26.0	+0.1
NIKU	**Nikkaluokta**	**0.78**	**288**	P		**Pg**	13 30 29.8	-0.2
NIKU	**Nikkaluokta**	**0.78**	**288**	P		**Pg**	13 30 29.8	-0.2
NIKU	**Nikkaluokta**	**0.78**	**288**	*i* P		**Pg**	13 30 29.8	-0.2
PAJU	**Pajala**	**1.03**	**126**	P		**Pg**	13 30 34.5	-0.3
PAJU	**Pajala**	**1.03**	**126**	P		**Pg**	13 30 34.6	-0.3
PAJU	**Pajala**	**1.03**	**126**	*e*P		**Pg**	13 30 34.6	-0.3
ERTU	**Ertsjaerv**	**1.18**	**156**	P		**Pg**	13 30 37.5	-0.3
ERTU	**Ertsjaerv**	**1.18**	**156**	P		**Pg**	13 30 37.5	-0.3
ERTU	**Ertsjaerv**	**1.18**	**156**	*e*P		**Pg**	13 30 37.5	-0.3
HEF	**Hetta**	**1.27**	**51**	P		**Pg**	13 30 38.6	-0.9
HEF				Sb		**Sg**	13 30 56.1	+0.2
HEF	**Hetta**	**1.27**	**51**	*e*P		**Pg**	13 30 38.6	-0.9
	baz=235							
HEF				MSG			13 30 54.6	
	comp=Z,3.3nm,0.2s							
HEF				*e*SB		**Sg**	13 30 56.1	+0.2
KIF	**Kilpisjarvi**	**1.38**	**357**	Pg		**Pg**	13 30 41.4	-0.1
KIF				Sb		**Sb**	13 30 59.6	-0.2
KIF	**Kilpisjarvi**	**1.38**	**357**	*e*PG		**Pg**	13 30 41.4	-0.1
KIF				MSG			13 30 58.8	
	comp=Z,6.6nm,0.2s							
KIF				*e*SB		**Sb**	13 30 59.6	-0.2
HARU	**Harads**	**1.48**	**180**	P		**Pn**	13 30 41.7	-1.3
HARU	**Harads**	**1.48**	**180**	P		**Pn**	13 30 41.7	-1.3
HARU	**Harads**	**1.48**	**180**	*e*P		**Pn**	13 30 41.7	-1.3
KALU	**Kalix**	**2.02**	**151**	Sg		**Sb**	13 31 18.5	+0.3
KALU	**Kalix**	**2.02**	**151**	*e*SG		**Sb**	13 31 18.6	+0.3
TOF	**Tornio**	**2.04**	**138**	Pb		**Pn**	13 30 52.2	+1.5
TOF				Sg		**Sb**	13 31 19.1	+0.1
TOF	**Tornio**	**2.04**	**138**	*e*PB		**Pn**	13 30 52.2	+1.5
	baz=330							
TOF				MSG			13 31 15.9	
	comp=Z,3.2nm,0.2s							
TOF				*e*SG		**Sb**	13 31 19.1	+0.1
SGF	**Sodankyl**	**2.14**	**93**	Pb		**Pb**	13 30 53.7	-1.0
SGF				Sb		**Sb**	13 31 20.9	-0.8
SGF	**Sodankyl**	**2.14**	**93**	*e*PB		**Pb**	13 30 53.7	-1.0
	baz=283							
SGF				*e*SB		**Sb**	13 31 20.9	-0.8
ARE0	**ARCESS Array S**	**2

JMA Felt II J1.

*IDC **12** 13:38:53.5±4.2,36°.68N×140°.46E,h48^{km}±38^{km},mb3.2/6, mb1 3.4/6,mb1mx3.1/65,mbtmp3.5/6 Error ellipse: s-maj=32.0km s-min=21.3km az=77.0*

ISC 12 13:38:47.9±1.0,36.71N±0.06×140.60E±0.06,h10^{km}±7^{km}, n20,σ0°79/22,mb3.5/6,5C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.10**	**194**	⇑P	**Pg**	**13 38 50.7**	**+0.1**
JHO				S	**Sg**	**13 38 52.3**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.42**	**22**	⇑P	**Pb**	**13 38 56.9**	**-0.6**
ONAJ				S	**Sb**	**13 39 03.1**	**-0.9**
JYT	**Yasato**	**0.58**	**214**	⇓P	**Pg**	**13 38 59.4**	**+0.2**
JYT				S	**Sg**	**13 39 06.9**	**0.0**
JSB	**Shiboa**	**0.60**	**295**	⇑P	**Pb**	**13 39 00.7**	**+0.1**
JSB				S	**Sb**	**13 39 09.1**	**-0.1**
JFK	**Kawauchi**	**0.69**	**18**	⇑P	**Pb**	**13 39 01.6**	**-0.5**
JFK				S	**Sb**	**13 39 11.0**	**-0.7**
JFT	**Otama**	**0.83**	**345**	⇑P	**Pb**	**13 39 04.5**	**0.0**
JFT				S	**Sb**	**13 39 15.6**	**-0.2**
MJAR	**Matsushiro Arr**	**1.93**	**266**	P	**Pn**	**13 39 21.9**	**+1.0**
	9.1nm,0.3s,baz=86,slow=15,SNR=99						
MJAR				S	**Sn**	**13 39 43.8**	**-1.4**
	25nm,0.3s,baz=330,slow=11,SNR=14						
MAT	**Matsushiro**	**1.93**	**266**	P	**Pb**	**13 39 22.1**	**-1.2**
MAT				S	**Sb**	**13 39 47.2**	**-0.3**
SONM	**Songino Array**	**27.43**	**305**	P	**P**	**13 44 33.9**	**0.0**
	0.3nm,0.3s,baz=101,slow=7.6,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**28.55**	**119**	T	T	14 14 28.8	
	baz=312,slow=75,SNR=71						
H11N1	**WAKE ISLAND Hy**	**28.56**	**119**	T	T	14 14 29.3	
	baz=312,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**28.57**	**119**	T	T	14 14 30.0	
	baz=312,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**29.24**	**121**	T	T	14 15 21.2	
	baz=314,slow=76,SNR=265						
H11S3	**WAKE ISLAND Hy**	**29.24**	**121**	T	T	14 15 21.1	
	baz=314,slow=76,SNR=207						
H11S2	**WAKE ISLAND Hy**	**29.26**	**121**	T	T	14 15 20.0	
	baz=314,slow=76,SNR=133						
ZALV	**Zalesovo Beam**	**41.65**	**313**	P	**P**	**13 46 36.2**	**0.0**
	0.6nm,0.5s,baz=92,slow=7.2,SNR=3.3						
KURBB	**Kurchatov Arra**	**45.69**	**308**	P	**P**	**13 47 08.9**	**+0.1**
	0.5nm,0.6s,baz=82,slow=7.9,SNR=8.4						
ILAR	**Eielson Array**	**50.11**	**32**	P	**P**	**13 47 44.0**	**+1.1**
	0.4nm,0.8s,baz=270,slow=7.8,SNR=4.2						
WRA	**Warramunga Arr**	**56.66**	**187**	P	**P**	**13 48 29.9**	**-1.5**
	0.3nm,0.5s,baz=3.1,slow=7.3,SNR=4.7						
ASAR	**Alice Springs**	**60.38**	**187**	P	**P**	**13 48 58.6**	**+1.2**
	0.3nm,0.9s,baz=18,slow=12,SNR=3.4						

IDC 12 13:40:27.4±1.8,49°.38S×123°.18E,h0^{km},mb3.5/3, mb1 3.8/3,mb1mx3.5/42,mbtmp3.5/3,Error ellipse: s-maj=73.8km s-min=47.8km az=110.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.94**	**332**	T	T	13 59 23.3	
	baz=160,slow=74,SNR=4.9						
H01W2	**Cape Leeuwin H**	**15.94**	**332**	T	T	13 59 20.4	
	baz=160,slow=74,SNR=4.8						
H01W3	**Cape Leeuwin H**	**15.95**	**332**	T	T	13 59 21.0	
	baz=160,slow=74,SNR=5.2						
ASAR	**Alice Springs**	**27.02**	**22**	P	P	13 46 11.1	-0.1
	0.5nm,0.8s,baz=188,slow=10,SNR=14						
ASAR				PcP	PcP	13 49 31.4	-1.3
	0.3nm,0.5s,baz=191,slow=1.8,SNR=7.9						
WRA	**Warramunga Arr**	**30.70**	**21**	P	P	13 46 43.9	0.0
	0.2nm,0.5s,baz=198,slow=8.0,SNR=3.9						
WRA				PcP	PcP	13 49 40.3	-1.6
	0.4nm,1.0s,baz=211,slow=3.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**70.89**	**336**	P	P	13 51 46.5	+0.4
	0.6nm,0.6s,baz=188,slow=6.0,SNR=5.2						
ILAR	**Eielson Array**	**133.12**	**36**	PKP	PKPdf	13 59 43.6	+0.1
	0.3nm,0.6s,baz=262,slow=3.0,SNR=4.4						
YKA	**Yellowknife Ar**	**146.32**	**45**	PKPbc	PKPab	14 00 09.2	-0.3
	0.4nm,0.4s,baz=269,slow=2.9,SNR=10						

*IDC **12** 13:58:16.7±1.2,36°.57N×72°.89E,h0^{km},mb3.4/4, mb1 3.5/10,mb1mx3.3/68,mbtmp3.3/10,ML3.0/4,MS3.7/1, Ms1 3.7/1,ms1mx2.6/50,Error ellipse: s-maj=28.5km s-min=20.3km az=103.0*

*ISCJB **12** 13:58:20.9±1.0,36°.51N±0°.07×72°.9E±0°.2,h42^{km},mb3.3/4, MS3.7/1,Error ellipse: s-maj=18.6km s-min=10.1km az=3.0*

*NNC **12** 13:58:26.1±4.7,38°.04N×76°.76E,h0^{km},mb3.8,mpv3.5, Error ellipse: s-maj=47.8km s-min=34.0km az=56.0*

ISC 12 13:58:22.4±1.2,36°.5N±0°.1×72°.8E±0°.2,h42^{km},n14, σ2§46/14,mb3.4/4,5C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.55**	**8**	⇑Pn	**Pn**	**13 59 18.3**	**+3.1**
	18nm,0.5s						
SFK				⇑Lg	Lg	14 00 04.9	
	22nm,0.4s						
MNAS	**Manas**	**5.99**	**358**	⇓Pn	**Pn**	**13 59 49.8**	**+1.2**
	1.8nm,0.5s						
MNAS				⇓Sn	**Sn**	**14 00 56.8**	**+0.9**
	2.5nm,0.6s						
MNAS				⇑Lg	Lg	14 01 21.9	
	6.2nm,0.9s						
AAK	**Ala-Archa**	**6.26**	**11**	Pn	**Pn**	**13 59 52.1**	**-0.2**
	0.4nm,0.3s,baz=139,slow=7.0,SNR=5.9						
AAK				Sn	**Sn**	**14 01 04.8**	**+2.1**
	0.2nm,0.3s,baz=299,slow=13,SNR=3.1						
KK31	**Karatay Array**	**6.84**	**346**	⇑Pn	Pn	14 00 07.1	+7.0
	1.2nm,0.5s,baz=140,slow=12,SNR=8.1						
KK31				⇑Sn	Sn	14 01 29.8	+13
	5.3nm,0.8s,baz=130,slow=19						
KK31				⇓Lg	Lg	14 02 04.2	
	5.2nm,0.7s,baz=134,slow=35						
MKAR	**Makanchi Array**	**12.47**	**31**	Pn	**Pn**	**14 01 17.4**	**+0.2**
	0.0nm,0.3s,baz=206,slow=12,SNR=3.0						
KURBB	**Kurchatov Arra**	**14.70**	**14**	Pn	**Pn**	**14 01 43.2**	**-4.2**
	baz=205,slow=9.7,SNR=3.0						
BVAR	**Borovoye Array**	**16.62**	**355**	Pn	**Pn**	**14 02 07.3**	**-4.7**
	baz=170,slow=12,SNR=2.1						
AKTO	**Aktyubinsk**	**17.55**	**327**	P	**Pn**	**14 02 23.1**	**-0.6**
	0.2nm,0.3s,baz=145,slow=12,SNR=4.8						
ZALV	**Zalesovo Beam**	**19.34**	**22**	P	**P**	**14 02 41.0**	**-2.9**
	0.1nm,0.3s,baz=212,slow=11,SNR=5.3						
SONM	**Songino Array**	**27.12**	**55**	P	**P**	**14 04 01.3**	**-0.2**
	0.1nm,0.3s,baz=257,slow=11,SNR=2.0						
PETK	**Petropavlovsk-**	**58.94**	**45**	LR	LR	14 34 54.6	
	comp=Z,55nm,19.5s,baz=171,slow=37						
TORD	**Torodi Ar. Bea**	**67.20**	**270**	P	**P**	**14 09 13.2**	**+0.8**
	0.3nm,0.5s,baz=53,slow=7.1,SNR=4.9						
WRA	**Warramunga Arr**	**80.74**	**123**	P	**P**	**14 10 31.9**	**+0.5**
	0.4nm,0.9s,baz=305,slow=7.9,SNR=3.0						
YKA	**Yellowknife Ar**	**81.17**	**3**	P	**P**	**14 10 33.4**	**+0.3**
	0.3nm,0.6s,baz=348,slow=5.6,SNR=6.7						

*ISCJB **12** 14:01:01.6±0.5,50°.27N±0°.04×18°.74E±0°.03,h0^{km},Error ellipse: s-maj=5.3km s-min=2.7km az=7.3*

*WAR **12** 14:01:02.8,50°.27N×18°.83E,h1^{km},Mw2.6*

*CSEM **12** 14:01:02.2±0.3,50°.29N×18°.77E,h1^{km},Error ellipse: s-maj=6.9km s-min=3.5km az=14.0*

*PRU **12** 14:01:02.9,50°.27N×18°.76E,h0^{km}*

ISC 12 14:01:02.5±0.8,50°.21N±0°.04×18°.77E±0°.02,h0^{km},n28, σ0°61/48,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.16**	**61**	*e*Pg	**Pg**	**14 01 05.4**	**-0.2**
CHZP				*e*Sg	**Sg**	**14 01 07.4**	**-0.3**
CHZP	**Chorzow**	**0.16**	**61**	*e*Pg	**Pg**	**14 01 05.4**	**-0.2**
CHZP				*e*Sg	**Sg**	**14 01 07.4**	**-0.3**
OKC	**Ostrava-Krasne**	**0.55**	**227**	*e*PG	**Pb**	**14 01 14.7**	**-0.3**
OKC				*e*SG	**Sb**	**14 01 23.6**	**+0.2**
	comp=Z,16nm,0.4s						
OKC	**Ostrava-Krasne**	**0.55**	**227**	Pg	**Pb**	**14 01 14.7**	**-0.3**
OKC				Sg	**Sb**	**14 01 23.6**	**+0.2**
	16nm,0.4s						
OJC	**Ojcow**	**0.66**	**89**	*e*Pg	**Pg**	**14 01 14.7**	**-0.4**
OJC				*e*Sg	**Sg**	**14 01 24.4**	**+0.8**
OJC	**Ojcow**	**0.66**	**89**	*e*Pg	**Pg**	**14 01 14.7**	**-0.4**
OJC				*e*Sg	**Sg**	**14 01 24.4**	**+0.8**
OJC	**Ojcow**	**0.66**	**89**	*e*Pg	**Pg**	**14 01 14.7**	**-0.4**
OJC				*e*Sg	**Sg**	**14 01 24.4**	**+0.8**
MORC	**Moravsky Berou**	**0.90**	**242**	*e*Pg	**Pg**	**14 01 20.5**	**+0.7**
MORC				*e*Sg	**Sb**	**14 01 33.8**	**+0.2**
LANS	**Liptovska Anna**	**1.15**	**157**	*e*Pg	**Pn**	**14 01 25.7**	**-0.2**
LANS				*e*Sg	**Sn**	**14 01 42.2**	**-0.2**
LANS	**Liptovska Anna**	**1.15**	**157**	*e*PG	**Pn**	**14 01 25.7**	**-0.2**
LANS				*e*SG	**Sn**	**14 01 42.2**	**-0.2**
NIE	**Niedzica**	**1.27**	**128**	*e*Pg	**Pb**	**14 01 27.1**	**-0.2**
NIE				*e*Sg	**Sn**	**14 01 45.9**	**+0.6**
NIE	**Niedzica**	**1.27**	**128**	*e*Pg	**Pb**	**14 01 27.1**	**-0.2**
NIE				*e*Sg	**Sn**	**14 01 45.9**	**+0.6**
DPC	**Dobruska-Polom**	**1.58**	**276**	*e*PG	**Pn**	**14 01 31.4**	**-0.3**
DPC				*e*SG	**Sb**	**14 01 53.2**	**+0.2**
	comp=Z,16nm,0.6s						
DPC	**Dobruska-Polom**	**1.58**	**276**	Pg	**Pn**	**14 01 31.4**	**-0.3**
DPC				Sg	**Sb**	**14 01 53.2**	**+0.2**
	16nm,0.6s						
VRAC	**Vranov**	**1.68**	**238**	*e*Pn	**Pb**	**14 01 34.0**	**-0.2**
VRAC				*e*Sg	**Sg**	**14 01 56.7**	**+0.4**
KSP	**Ksiaz**	**1.70**	**293**	*e*Pg	**Pb**	**14 01 34.5**	**-0.1**
KSP				*e*Sg	**Sg**	**14 01 57.3**	**+0.2**
KSP	**Ksiaz**	**1.70**	**293**	*e*Pg	**Pb**	**14 01 34.5**	**-0.1**
KSP				*e*Sg	**Sg**	**14 01 57.3**	**+0.2**
KSP	**Ksiaz**	**1.70**	**293**	*e*Pg	**Pb**	**14 01 34.5**	**-0.1**
KSP				*e*Sg	**Sg**	**14 01 57.3**	**+0.2**
VYHS	**Vyhne**	**1.72**	**179**	*e*Pn	**Pn**	**14 01 33.8**	**+0.2**
VYHS				*e*Sn	**Sn**	**14 01 55.5**	**-0.8**
VYHS	**Vyhne**	**1.72**	**179**	*e*PN	**Pn**	**14 01 33.8**	**+0.2**
VYHS				*e*SN	**Sn**	**14 01 55.5**	**-0.8**
VYHS				*e*LG	Lg	14 02 02.5	
UPC	**Upice**	**1.79**	**281**	*e*SG	**Sg**	**14 02 00.7**	**+0.7**
	comp=Z,8.0nm,0.4s						
UPC	**Upice**	**1.79**	**281**	Sg	**Sg**	**14 02 00.7**	**+0.7**
	8.0nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.58**	**265**	*e*SG	**Sb**	**14 02 23.6**	**+1.6**
GOPC	**GO Pecny, Ondr**	**2.58**	**265**	Sg	**Sb**	**14 02 23.6**	**+1.6**
PRU	**Pruhonice**	**2.73**	**267**	*e*SG	**Sg**	**14 02 29.0**	**-1.2**
PRU	**Pruhonice**	**2.73**	**267**	Sg	**Sg**	**14 02 29.0**	**-1.2**
KHC	**Kasperske Hory**	**3.54**	**254**	*e*SG	**Sg**	**14 02 55.4**	**-0.8**
KHC	**Kasperske Hory**	**3.54**	**254**	Sg	**Sg**	**14 02 55.4**	**-0.8**

*DDA **12** 14:01:03.5,36°.36N×27°.88E,h7^{km},Md2.8*

*ISK **12** 14:01:04.4,36°.41N×27°.96E,h5^{km},ML3.2/10*

*THE **12** 14:01:05.7,36°.45N×27°.97E,h16^{km}±1^{km},ML2.4/2,Error ellipse: s-maj=1.7km s-min=0.7km az=144.0*

*CSEM **12** 14:01:05.7±0.2,36°.41N×27°.96E,h5^{km},ML2.4,Error ellipse: s-maj=3.5km s-min=2.8km az=160.0*

*ISCJB **12** 14:01:05.6±0.5,36°.41N±0°.02×27°.93E±0°.03,h8^{km}±4^{km}, Error ellipse: s-maj=3.9km s-min=3.7km az=172.6*

*ATH **12** 14:01:06.0,36°.35N×27°.93E,h23^{km}±1^{km},ML2.4/2,Error ellipse: s-maj=3.8km s-min=1.7km az=38.0*

ISC 12 14:01:05.6±1.0,36°.43N±0°.02×27°.96E±0°.02,h5^{km}±10^{km}, n60,σ1°35/87,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.25**	**147**	P	**Pg**	**14 01 11.5**	**+1.0**
ARG				S	**Sg**	**14 01 14.9**	**+1.2**
ARG				AML	AML	14 01 16.8	
	comp=E,1250μm,0.4s						
ARG				AML	AML	14 01 19.0	
	comp=N,1202μm,0.3s						
ARG	**Arkhangelos**	**0.25**	**147**	P	**Pg**	**14 01 11.5**	**+1.0**
ARG				S	**Sg**	**14 01 15.2**	**+1.5**
ARG	**Arkhangelos**	**0.25**	**147**	P	**Pg**	**14 01 11.5**	**+1.0**
ARG				S	**Sg**	**14 01 15.7**	**+2.0**
DALY	**Dalyan (Mu¨la**	**0.68**	**55**	PG	**Pg**	**14 01 18.8**	**+0.1**
DALY				SG	**Sb**	**14 01 29.8**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.68**	**55**	*i* P	**Pg**	**14 01 18.4**	**-0.3**
DALY				*i* S	**Sb**	**14 01 30.6**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.68**	**55**	P	**Pg**	**14 01 18.5**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.68**	**55**	*e*Pg	**Pg**	**14 01 18.8**	**+0.1**
DALY				*e*Sg	**Sb**	**14 01 29.8**	**0.0**
DALY				S	**Sb**	**14 01 30.6**	**+0.8**
TURN	**Turunc**	**0.68**	**49**	PG	Pg	14 01 14.1	-4.7
TURN				SG	**Sg**	**14 01 21.2**	**-6.4**
TURN	**Turunc**	**0.68**	**49**	*i* P	Pg	14 01 14.1	-4.7
TURN				*i* S	**Sg**	**14 01 21.5**	**-6.2**
NISR	**Nisiros**	**0.70**	**286**	P	**Pb**	**14 01 20.7**	**+0.4**
NISR				S	**Sg**	**14 01 29.0**	**+0.9**
NISR	**Nisiros**	**0.70**	**286**	P	**Pb**	**14 01 20.1**	**-0.2**
NISR				S	**Sb**	**14 01 29.3**	**-0.9**
YER	**Yerkesik**	**0.75**	**20**	PG	**Pg**	**14 01 20.1**	**0.0**
YER	**Yerkesik**	**0.75**	**20**	*e*Pg	**Pg**	**14 01 20.1**	**0.0**
YER	**Yerkesik**	**0.75**	**20**	P	**Pg**	**14 01 19.9**	**-0.2**
BDRM	**Kayabasi**	**0.76**	**327**	*i* P	**Pg**	**14 01 20.3**	**0.0**
BDRM				*i* S	**Sb**	**14 01 32.5**	**+0.4**
BDRM	**Kayabasi**	**0.76**	**327**	P	**Pg**	**14 01 20.3**	**0.0**
BDRM				S	**Sb**	**14 01 32.5**	**+0.4**
BODT	**Bodrum**	**0.82**	**321**	PG	**Pg**	**14 01 21.6**	**+0.2**
BODT	**Bodrum**	**0.82**	**321**	P	**Pg**	**14 01 20.8**	**-0.6**
BODT	**Bodrum**	**0.82**	**321**	*e*Pg	**Pg**	**14 01 21.6**	**+0.2**
BODT	**Bodrum**	**0.82**	**321**	P	**Pg**	**14 01 20.8**	**-0.6**
BODT				S	**Sg**	**14 01 31.9**	**-0.2**
MLSB	**Milas**	**0.88**	**350**	PG	**Pg**	**14 01 23.1**	**+0.5**
MLSB				SG	**Sb**	**14 01 36.0**	**+0.4**
MLSB	**Milas**	**0.88**	**350**	*e*Pg	**Pg**	**14 01 23.1**	**+0.5**
MLSB				*e*Sg	**Sb**	**14 01 36.0**	**+0.4**
YKAV	**Yalikavak-Bodr**	**0.89**	**322**	PG	**Pg**	**14 01 22.9**	**+0.2**
YKAV	**Yalikavak-Bodr**	**0.89**	**322**	*e*Pg	**Pg**	**14 01 22.9**	**+0.2**
FETY	**Fethiye**	**0.93**	**77**	PG	**Pg**	**14 01 23.1**	**-0.4**
FETY	**Fethiye**	**0.93**	**77**	P	**Pg**	**14 01 22.8**	**-0.7**
FETY	**Fethiye**	**0.93**	**77**	*e*Pg	**Pg**	**14 01 23.1**	**-0.4**
FETY				S	**Sg**	**14 01 35.1**	**-0.4**
FETY	**Fethiye**	**0.93**	**77**	P	**Pg**	**14 01 22.1**	**-1.4**
FETY				S	**Sg**	**14 01 35.1**	**-0.4**
KARP	**Karpathos**	**1.09**	**217**	PG	**Pg**	**14 01 25.9**	**-0.6**
KARP	**Karpathos**	**1.09**	**217**	P	**Pg**	**14 01 25.9**	**-0.6**
KARP				S	**Sg**	**14 01 38.8**	**-1.8**
KARP				AML	AML	14 01 44.6	
	comp=E,679μm,0.2s						
KARP				AML	AML	14 01 46.0	
	comp=N,520μm,0.2s						
KARP	**Karpathos**	**1.09**	**217**	*e*Pg	**Pg**	**14 01 25.9**	**-0.6**
KARP				S	**Sg**	**14 01 40.1**	**-0.6**
KARP	**Karpathos**	**1.09**	**217**	P	**Pg**	**14 01 25.5**	**-1.0**
KARP				S	**Sg**	**14 01 40.1**	**-0.6**
AYDN	**Tasoluk**	**1.23**	**357**	*i* P	**Pn**	**14 01 28.6**	**-1.1**
AYDN				*i* S	**Sg**	**14 01 44.9**	**-0.5**
AYDN	**Tasoluk**	**1.23**	**357**	P	**Pn**	**14 01 28.5**	**-1.1**
AYDN				S	**Sg**	**14 01 44.9**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.29**	**36**	*i* P	**Pn**	**14 01 30.1**	**-0.4**
TAVA				*i* S	**Sn**	**14 01 48.8**	**+0.6**
TAVA	**DENIZLI_Tavas**	**1.29**	**36**	P	**Pn**	**14 01 30.1**	**-0.4**
TAVA				S	**Sn**	**14 01 48.8**	**+0.6**
AKAS	**Kas**	**1.34**	**98**	PN	**Pg**	**14 01 31.4**	**0.0**
AKAS	**Kas**	**1.34**	**98**	*e*Pn	**Pg**	**14 01 31.4**	**0.0**
GCAM	**G?zelcaml?**	**1.40**	**336**	PN	**Pb**	**14 01 32.4**	**+0.1**
GCAM	**G?zelcaml?**	**1.40**	**336**	*i* P	**Pg**	**14 01 35.4**	**+2.9**
GCAM	**G?zelcaml?**	**1.40**	**336**	*e*Pn	**Pb**	**14 01 32.4**	**+0.1**
GCAM	**G?zelcaml?**	**1.40**	**336**	P	**Pg**	**14 01 35.4**	**+2.9**
GOLH	**Golhisar**	**1.52**	**57**	*i* P	**Pn**	**14 01 33.2**	**-0.4**
GOLH				*i* S	**Sg**	**14 01 56.4**	**+2.0**
GOLH	**Golhisar**	**1.52**	**57**	P	**Pn**	**14 01 33.2**	**-0.4**
GOLH				S	**Sg**	**14 01 56.4**	**+2.0**
ELL	**Elmali**	**1.60**	**78**	PN	**Pb**	**14 01 35.2**	**-0.6**
ELL	**Elmali**	**1.60**	**78**	*e*Pn	**Pb**	**14 01 35.2**	**-0.6**
ZKR	**Zakros**	**1.93**	**228**	PN	**Pb**	**14 01 39.9**	**-1.4**
ZKR	**Zakros**	**1.93**	**228**	P	**Pn**	**14 01 39.7**	**+0.6**
ZKR	**Zakros**	**1.93**	**228**	P	**Pn**	**14 01 39.2**	**+0.1**
ZKR	**Zakros**	**1.93**	**228**	*e*Pn	**Pb**	**14 01 39.9**	**-1.4**
KORT	**Korkueli**	**2.00**	**73**	PN	**Pn**	**14 01 41.2**	**+0.9**
KORT	**Korkueli**	**2.00**	**73**	*e*Pn	**Pn**	**14 01 41.2**	**+0.9**
APE	**Apeiranthos**	**2.06**	**289**	PN	**Pn**	**14 01 41.4**	**+0.5**
APE	**Apeiranthos**	**2.06**	**289**	*e*Pn	**Pn**	**14 01 41.4**	**+0.5**
KULA	**Kula-Manisa**	**2.16**	**15**	PN	**Pn**	**14 01 43.5**	**+1.1**
KULA	**Kula-Manisa**	**2.16**	**15**	*e*Pn	**Pn**	**14 01 43.5**	**+1.1**
KHAL	**Karahalli**	**2.29**	**32**	*i* P	**Pn**	**14 01 44.7**	**+0.5**
KHAL				*i* S	**Sn**	**14 02 13.9**	**+0.9**
KHAL	**Karahalli**	**2.29**	**32**	P	**Pn**	**14 01 44.7**	**+0.5**
KHAL				S	**Sn**	**14 02 13.9**	**+0.9**
LAST	**Lasithi**	**2.38**	**239**	P	**Pn**	**14 01 43.5**	**-2.0**
LAST	**Lasithi**	**2.38**	**239**	P	**Pn**	**14 01 44.3**	**-1.1**

*BJI **12** 14:01:35.0,34°.26N×72°.60E,h18^{km},mb4.4/4,ML4.1/3,*

Ms4.0/3,Ms7.3,8/2

*IDC **12** 14:01:59.9±0.7,36°.69N×73°.03E,h0^{km},mb3.8/12, mb1 3.8/19,mb1mx3.7/69,mbtmp3.7/19,ML3.1/7,MS4.2/1, Ms1 4.2/1,ms1mx2.6/62,Error ellipse: s-maj=16.4km s-min=13.2km az=91.0*

*ISCJB **12** 14:02:03.0±0.4,36°.52N±0°.04×72°.99E±0°.06,h42^{km}, mb3.6/12,MS4.2/1,Error ellipse: s-maj=7.8km s-min=4.5km az=159.8*

*NEIC **12** 14:02:09.7±1.8,36°.91N×72°.99E,h78^{km}±16^{km},mb4.1/2, Error ellipse: s-maj=16.8km s-min=10.7km az=198.0*

*NNC **12** 14:02:09.6±4.0,37°.05N×72°.90E,h0^{km},mb4.2,mpv3.8, Error ellipse: s-maj=39.1km s-min=28.7km az=98.0*

ISC 12 14:02:05.3±0.6,36°.60N±0°.06×73°.05E±0°.07,h42^{km},n51, σ2§08/52,mb3.7/12,9C-5D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.43**	**6**	⇑Pn	**Pn**	**14 03 00.1**	**+3.7**
	68nm,0.7s						
SFK				⇑Lg	Lg	14 03 45.3	
	70nm,0.5s						
KSH	**Kashi**	**3.72**	**37**	Pn	**Pn**	**14 02 56.7**	**-3.6**
KSH				smax	smax		
	comp=N,180nm,0.8s						
KSH				smax	smax		
	comp=E,190nm,0.7s						
AML	**Almayashu**	**5.55**	**5**	P	Pn	14 03 31.2	+5.5
	SNR=7.4						
KZA	**Kyzart**	**5.73**	**17**	P	**Pn**	**14 03 31.0**	**+2.8**
	SNR=9.4						
UCH	**Uchtor**	**5.74**	**11**	P	**Pn**	**14 03 29.6**	**+1.3**
	SNR=12						
MNAS	**Manas**	**5.90**	**356**	⇓Pn	**Pn**	**14 03 32.3**	**+2.0**
	5.7nm,0.5s						
MNAS				⇓Sn	**Sn**	**14 04 39.4**	**+2.7**
	8.7nm,0.6s						
MNAS				⇑Lg	Lg	14 05 03.2	
	19nm,1.0s						
EKS2	**Erkin-Say**	**6.08**	**5**	P	**Pn**	**14 03 34.7**	**+1.9**
	SNR=7.1						
AAK	**Ala-Archa**	**6.13**	**10**	Pn	**Pn**	**14 03 34.9**	**+1.4**
	0.4nm,0.3s,baz=141,slow=4.2,SNR=18						
AAK				Sn	**Sn**	**14 04 46.4**	**+3.9**
	0.6nm,0.3s,baz=313,slow=19,SNR=2.0						
AAK				Lg	Lg	14 05 10.6	
	0.4nm,0.3s,baz=25,slow=14,SNR=2.4						
AAK	**Ala-Archa**	**6.13**	**10**	⇑Pn	**Pn**	**14 03 34.1**	**+0.5**
	6.0nm,0.7s						
AAK				⇓Sn	**Sn**	**14 04 40.6**	**-1.9**
	12nm,0.8s						
AAK				⇑Lg	Lg	14 05 10.8	
	8.1nm,0.8s						
AAK	**Ala-Archa**	**6.13**	**10**	P	**Pn**	**14 03 35.2**	**+1.7**
	SNR=7.9						
KBK	**Karagaybulak**	**6.23**	**13**	P	Pn	14 03 39.9	+5.1
	SNR=6.5						
CHMS	**Chumysh**	**6.53**	**11**	P	**Pn**	**14 03 43.2**	**+4.4**
	SNR=6.4						
TKM2	**Tokmak 2**	**6.61**	**16**	⇓Pn	**Pn**	**14 03 42.0**	**+1.9**
	5.6nm,0.6s						
TKM2				⇑Sn	**Sn**	**14 04 58.7**	**+4.4**
	5.3nm,0.8s						
TKM2				⇑Lg	Lg	14 05 27.3	
	9.7nm,0.8s						
TKM2	**Tokmak 2**	**6.61**	**16**	P	Pn	14 03 45.1	+5.0
	SNR=7.0						
KK31	**Karatay Array**	**6.79**	**344**	⇑Pn	**Pn**	**14 03 42.7**	**+0.3**
	1.3nm,0.3s,baz=156,slow=12,SNR=20						
KK31				⇓Sn	**Sn**	**14 04 55.7**	**-2.5**
	5.2nm,0.6s,baz=159,slow=22						
KK31				⇑Lg	Lg	14 05 31.9	
	18nm,1.1s						
KKAR	**Karatay Array**	**6.79**	**344**	*e*Pn	**Pn**	**14 03 42.3**	**0.0**
PYUN	**Piuthan**	**11.93**	**132**	*e*P	**Pn**	**14 04 52.6**	**-0.3**
GEYT	**Alibeck**	**11.98**	**281**	Pn	**Pn**	**14 04 52.9**	**-0.6**
	0.3nm,0.3s,baz=110,slow=14,SNR=2.1						
MAKZ	**Makanchi**	**12.18**	**30**	*e*Pn	**Pn**	**14

CEP				S		Sg	14 06 54.0	+3.6
SFK	**Sufi-Kurgan**	**3.40**	**5**	⇑Pn		**Pb**	**14 06 13.6**	**-2.2**
	83nm,0.5s							
SFK				⇑Lg		Lg	14 07 00.5	
	145nm,0.4s							
KSH	**Kashi**	**3.67**	**37**	P		**Pn**	**14 06 09.9**	**-2.3**
KSH				pP		Pb	14 06 13.2	-7.0
KSH				S		Sn	14 06 43.1	-12
KSH				pmax		pmax		
	comp=Z,140nm,0.6s							
KSH				smax		smax		
	comp=N,470nm,0.5s							
KSH				smax		smax		
	comp=E,620nm,0.8s							
KBL	**Kabul**	**3.92**	**239**	*e*Pn		**Pb**	**14 06 21.6**	**-2.9**
THW	**Thamme Wali**	**3.98**	**197**	P		**Pb**	**14 06 23.4**	**-2.1**
SARP	**Sargodha**	**4.70**	**185**	P		Pb	14 06 32.9	-4.9
MNAS	**Manas**	**5.88**	**356**	⇑Pn		**Pn**	**14 06 46.8**	**+4.2**
	9.4nm,0.5s							
MNAS				⇑Sn		**Sn**	**14 07 51.6**	**+1.4**
	25nm,0.6s							
MNAS				⇑Lg		Lg	14 08 15.6	
	35nm,1.0s							
AAK	**Ala-Archa**	**6.10**	**10**	Pn		**Pn**	**14 06 47.7**	**+2.0**
	1.3nm,0.3s,baz=175,slow=10,SNR=10							
AAK				Sn		**Sn**	**14 08 01.4**	**+5.8**
	0.8nm,0.3s,baz=48,slow=12,SNR=4.0							
AAK				Lg		Lg	14 08 24.0	
	1.0nm,0.3s,baz=276,slow=19,SNR=3.2							
AAK				LR		LR	14 09 29.5	
	comp=Z,117nm,19.9s,baz=192,slow=42							
AAK	**Ala-Archa**	**6.10**	**10**	⇑Pn		**Pn**	**14 06 47.5**	**+1.8**
	16nm,0.9s							
AAK				⇑Sn		**Sn**	**14 08 00.6**	**+4.9**
	44nm,1.1s							
AAK				Lg		Lg	14 08 24.5	
	30nm,0.9s							
TKM2	**Tokmak 2**	**6.58**	**16**	⇓Pn		**Pn**	**14 06 55.8**	**+3.5**
	11nm,0.6s							
TKM2				⇓Sn		**Sn**	**14 08 10.6**	**+3.2**
	13nm,0.8s							
TKM2				⇑Lg		Lg	14 08 43.5	
	43nm,0.9s							
KK31	**Karatay Array**	**6.78**	**344**	⇓Pn		**Pn**	**14 06 58.1**	**+3.3**
	2.4nm,0.3s,baz=175,slow=15,SNR=14							
KK31				⇑Sn		**Sn**	**14 08 09.9**	**-2.2**
	8.9nm,0.6s,baz=166,slow=22							
KK31				⇓Lg		Lg	14 08 42.8	
	18nm,0.8s,baz=171,slow=27							
KKAR	**Karatay Array**	**6.78**	**344**	*e*Pn		**Pn**	**14 06 55.9**	**+1.1**
PYUN	**Piuthan**	**11.90**	**133**	*e*P		**Pn**	**14 08 05.8**	**+0.6**
	18nm,0.3s							
PYUN				*e*S		**Sn**	**14 10 11.3**	**-6.9**
GEYT	**Alibeck**	**12.03**	**281**	Pn		**Pn**	**14 08 06.6**	**-0.1**
	0.5nm,0.3s,baz=98,slow=11,SNR=3.5							
GEYT				Sn		**Sn**	**14 10 17.8**	**-3.2**
	0.3nm,0.3s,baz=103,slow=20,SNR=3.2							
GEYT				LR		LR	14 13 47.8	
	comp=Z,60nm,18.5s,baz=350,slow=43							
MAKZ	**Makanchi**	**12.13**	**30**	*e*Pn		**Pn**	**14 08 07.5**	**-0.7**
MK01	**Makanchi Array**	**12.24**	**31**	*e*Pn		**Pn**	**14 08 09.8**	**+0.2**
MK31	**Makanchi Array**	**12.25**	**31**	*e*Pn		**Pn**	**14 08 09.2**	**-0.6**
MKAR	**Makanchi Array**	**12.25**	**31**	Pn		**Pn**	**14 08 10.0**	**+0.2**
	0.2nm,0.3s,baz=200,slow=14,SNR=6.3							
MKAR				LR		LR	14 13 35.9	
	comp=Z,86nm,19.5s,baz=218,slow=41							
MKAR	**Makanchi Array**	**12.25**	**31**	*e*Pn		**Pn**	**14 08 09.2**	**-0.6**
WMQ	**Urumqi**	**13.25**	**53**	P		**Pn**	**14 08 23.2**	**-0.3**
WMQ				LR		LR		
	comp=N,370nm,20.5s							
WMQ				LR		LR		
	comp=E,320nm,21.5s							
KKN	**Kakani**	**13.54**	**127**	*e*P		**Pn**	**14 08 27.9**	**+0.3**
	14nm,0.5s							
PKI	**Pulchoki**	**13.77**	**127**	*e*P		**Pn**	**14 08 28.9**	**-2.0**
	29nm,0.8s							
JIRN	**Jiri**	**14.21**	**125**	*e*P		**Pn**	**14 08 36.3**	**-0.7**
	46nm,0.4s							
KURBB	**Kurchatov Arra**	**14.53**	**14**	Pn		**Pn**	**14 08 40.3**	**-0.5**
	0.1nm,0.3s,baz=204,slow=11,SNR=5.0							
KURBB				Lg		Lg	14 12 51.5	
	baz=205,slow=34,SNR=4.1							
KURK	**Kurchatov**	**14.64**	**14**	*e*Pn		**Pn**	**14 08 43.2**	**+0.9**
KURK				Lg		Lg	14 12 51.5	
ABKAR	**Akbulak array**	**15.86**	**327**	*e*Pn		**Pn**	**14 08 56.4**	**-2.2**
	22nm,0.6s							
BVAR	**Borovoye Array**	**16.52**	**354**	Pn		**Pn**	**14 09 04.2**	**-2.7**
	0.1nm,0.3s,baz=160,slow=9.4,SNR=2.7							
BRVK	**Borovoye**	**16.56**	**354**	*e*Pn		**Pn**	**14 09 05.6**	**-1.8**
	5.2nm,0.8s							
AKTO	**Aktyubinsk**	**17.58**	**327**	P		**Pn**	**14 09 19.5**	**-0.7**
	0.1nm,0.3s,baz=133,slow=16,SNR=4.6							
AKTO				LR		LR	14 16 33.3	
	comp=Z,121nm,19.5s,baz=352,slow=39							
ZAA0	**Zalesovo Array**	**19.14**	**21**	*e*P		**P**	**14 09 36.7**	**-1.8**
	10nm,0.8s							
ZALV	**Zalesovo Beam**	**19.14**	**21**	P		**P**	**14 09 36.9**	**-1.5**
	0.5nm,0.3s,baz=211,slow=11,SNR=24							
ZALV	**Zalesovo Beam**	**19.14**	**21**	*e*P		**P**	**14 09 36.5**	**-1.9**
HYB	**Hyderabad**	**19.72**	**164**	*i* P		**Pn**	**14 09 49.0**	**+2.5**
GTA	**Gaotai**	**21.19**	**74**	*e*P		**P**	**14 10 01.5**	**+0.5**
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
LZH	**Lanzhou**	**24.70**	**82**	*e*P		**P**	**14 10 38.1**	**+1.3**
LZH				pP		sP	14 10 52.9	+12
LZH				sP		pP	14 11 00.2	+20
LZH				*e*PP		**PnPn**	**14 11 16.5**	**+8.1**
LZH				pmax		pmax		
	comp=Z,56nm,1.1s							
LZH				LR		LR		
	comp=N,160nm,11.3s							
LZH				LR		LR		
	comp=E,130nm,12.2s							
LZH				LR		LR		
	comp=Z,130nm,13.3s							
CD2	**Chengdu**	**26.04**	**94**	*e*P		**P**	**14 10 49.3**	**+0.6**
SONM	**Songino Array**	**26.87**	**55**	P		**P**	**14 10 56.4**	**+0.1**
	0.3nm,0.4s,baz=14,slow=41,SNR=5.0							
CMAR	**Chiang Mai Arr**	**29.04**	**122**	P		**P**	**14 11 15.8**	**+0.2**
	0.2nm,0.5s,baz=310,slow=10,SNR=3.6							
HHC	**Hu-ho-hao-te**	**30.12**	**70**	*e*P		**P**	**14 11 26.3**	**+1.1**
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
BRTR	**Keskin Array B**	**31.02**	**288**	P		**P**	**14 11 33.3**	**+0.1**
	0.5nm,0.5s,baz=99,slow=8.9,SNR=3.1							
BR231	**Keskin MP Arra**	**31.67**	**288**	*e*P		**P**	**14 11 41.6**	**+2.7**
AKASG	**Malin Array Be**	**34.20**	**308**	P		**P**	**14 12 01.4**	**+0.6**
	0.2nm,0.3s,baz=108,slow=8.8,SNR=3.7							
FINES	**FINESS Array B**	**38.34**	**325**	P		**P**	**14 12 36.8**	**+0.7**
	1.2nm,0.6s,baz=108,slow=13,SNR=4.5							
ARCES	**ARCESS Array B**	**41.69**	**337**	P		**P**	**14 13 03.5**	**-0.2**
	3.5nm,0.9s,baz=98,slow=5.3,SNR=6.4							
HFS	**Hagfors**	**44.03**	**322**	P		**P**	**14 13 22.1**	**-0.7**
	3.3nm,0.7s,baz=112,slow=9.8,SNR=4.8							
TIXI	**Tiksi**	**45.03**	**22**	*e*P		**P**	**14 13 29.4**	**-1.2**
	3.8nm,0.8s							
NB2	**NORSAR Subarra**	**45.31**	**323**	P		**P**	**14 13 34.8**	**+1.7**
	comp=Z,1.2nm,0.7s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**45.31**	**323**	P		**P**	**14 13 33.5**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=94,slow=7.7,SNR=6.0							
EKA	**Eskdalemuir Ar**	**53.38**	**316**	P		**P**	**14 14 35.6**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=85,slow=7.9,SNR=3.6							
ESDC	**Sonseca Array**	**58.91**	**299**	P		**P**	**14 15 14.0**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=44,slow=7.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**67.42**	**270**	P		**P**	**14 16 09.6**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=53,slow=5.7,SNR=12							
MATP	**Matopo**	**70.67**	**224**	P		**P**	**14 16 32.1**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=17,slow=5.2,SNR=4.1							
ILAR	**Eielson Array**	**74.19**	**17**	P		**P**	**14 16 50.1**	**-1.7**
	comp=Z,0.6nm,0.9s,baz=306,slow=5.7,SNR=4.8							
ILAR				LR		LR	14 52 22.0	
	comp=Z,52nm,18.3s,baz=243,slow=38							
WRA	**Warramunga Arr**	**80.62**	**123**	P		**P**	**14 17 28.8**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=322,slow=4.9,SNR=11							
YKA	**Yellowknife Ar**	**81.03**	**4**	P		**P**	**14 17 29.1**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=348,slow=5.4,SNR=17							
ASAR	**Alice Springs**	**82.94**	**126**	P		**P**	**14 17 40.9**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=307,slow=5.1,SNR=10							
STKA	**Stephens Creek**	**93.50**	**128**	LR		LR	15 06 17.8	
	comp=Z,29nm,18.9s,baz=205,slow=39							

MEX 12 14:31:21.2±0.7, 17.08N×95.21W, h130km±14km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.46**	**270**	*e*P	Pn	14 31 48.3	-0.8
VHO				*e*S	Sn	14 32 08.3	-2.0
HUIG	**Huatulco**	**1.57**	**214**	*i* P	Pn	14 31 48.4	-1.7
HUIG				*i* S	Sn	14 32 10.5	-1.6
TGIG		**2.02**	**98**	*i* P	Pn	14 31 54.2	-1.3
TGIG				*i* S	Sn	14 32 19.7	-1.9
PCIG		**2.35**	**125**	*e*P	Pn	14 31 58.1	-1.4
PCIG				*e*S	Sn	14 32 27.5	-1.4

IDC ***12*** *15:54:49.7±4.7, 8.34S×116.29E, h114km±50km, mb3.0/5, mb1 3.2/6, mb1mx3.0/57, mbtmp3.5/6, Error ellipse: s-maj=74.3km s-min=13.0km az=50.0*
ISCJB ***12*** *15:54:50.5±0.5, 8.67S±0.08×116.10E±0.04, h134km±6km, mb3.4/4, Error ellipse: s-maj=14.0km s-min=7.1km az=8.3*
DJA ***12*** *15:54:52.5±0.4, 9˚S±6˚×11˚6E±˚, h111km±4km, M3.9/8, mb4.1/1, MLv3.9/8*

ISC 12 15:54:50.6±0.8, 8.75S±0.09×116.13E±0.05, h134km±8km, n18, σ2917/26, mb3.5/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.91**	**275**	P	**Pn**	**15 55 13.7**	**+0.7**
DNP				S	**Sn**	**15 55 30.8**	**+0.8**
IGBI	**Denpasar**	**0.97**	**266**	P	**Pn**	**15 55 14.1**	**+0.5**
IGBI				S	**Sn**	**15 55 30.5**	**-0.5**
SRBI	**Singaraja**	**1.12**	**306**	P	**Pn**	**15 55 14.6**	**-0.4**
SRBI				S	**Sn**	**15 55 31.9**	**-1.7**
PLAI	**Plampang**	**1.63**	**93**	P	**Pn**	**15 55 21.7**	**+1.3**
PLAI				S	**Sn**	**15 55 43.4**	**+0.2**
JAGI	**Jajag, Banyuwa**	**1.97**	**278**	P	**Pn**	**15 55 24.2**	**-0.2**
JAGI				S	**Sn**	**15 55 48.7**	**-1.7**
ABJI	**Asem Bagus**	**2.10**	**297**	P	**Pn**	**15 55 29.9**	**+3.9**
GMJI	**Gumukmas**	**2.70**	**280**	P	**Pn**	**15 55 33.5**	**+0.1**
BLJI	**Banyuglugur**	**2.70**	**292**	P	**Pn**	**15 55 34.6**	**+1.1**
WBSI	**Waikabubak, Su**	**3.34**	**106**	P	**Pn**	**15 55 40.9**	**-0.9**
WBSI				S	**Sn**	**15 56 18.3**	**-3.1**
PWJI	**Pagerwojo**	**4.34**	**279**	P	**Pn**	**15 55 55.1**	**+0.2**
BNSI	**Bone**	**5.86**	**43**	P	**Pn**	**15 56 17.0**	**+1.7**
TTSI	**Tana Toraja**	**6.76**	**33**	P	**Pn**	**15 56 29.0**	**+1.7**
FITZ	**Fitzroy Crossi**	**13.11**	**136**	P	**Pn**	**15 57 54.3**	**+2.5**
	0.1nm,0.3s,baz=333,slow=10,SNR=6.6						
FITZ				S	**Sn**	**16 00 12.1**	**-4.3**
	0.2nm,0.3s,baz=204,slow=19,SNR=4.2						
WRA	**Warramunga Arr**	**20.83**	**124**	P	**P**	**15 59 23.5**	**+1.8**
	0.1nm,0.4s,baz=297,slow=13,SNR=6.7						
WRA				S	**S**	**16 03 11.6**	**+4.6**
	0.3nm,0.8s,baz=317,slow=28,SNR=2.8						
ASAR	**Alice Springs**	**22.57**	**133**	P	**P**	**15 59 42.1**	**+2.3**
	0.4nm,0.4s,baz=308,slow=9.2,SNR=27						
KSRS	**Korea Array**	**47.27**	**13**	P	**P**	**16 03 09.4**	**-0.9**
	1.0nm,0.7s,baz=195,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**57.00**	**352**	P	**P**	**16 04 21.0**	**-1.3**
	0.4nm,0.4s,baz=177,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**62.98**	**335**	P	**P**	**16 05 00.9**	**-2.1**
	0.2nm,0.5s,baz=147,slow=7.2,SNR=5.3						

IDC ***12*** *16:25:31.5±2.0, 9.55S×114.00E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/57, mbtmp3.7/9, ML3.2/1, MS3.2/1, Ms1 3.1/1, ms1mx2.4/44, Error ellipse: s-maj=119.6km s-min=15.5km az=51.0*
DJA ***12*** *16:25:38.3±0.4, 10˚S±3˚×11˚4E±˚, h10km, M4.1/5, MLv4.1/5*

ISC 12 16:25:32.4±2.9, 9.88S±0.06×113.67E±0.05, h12km±20km, n28, σ1913/36, mb3.8/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.48**	**19**	P	**Pn**	**16 25 59.1**	**+0.3**
JAGI				S	**Sn**	**16 26 15.7**	**-2.4**
GMJI	**Gumukmas**	**1.61**	**352**	P	**Pb**	**16 26 02.5**	**+0.5**
GMJI				S	**Sn**	**16 26 21.7**	**+0.4**
IGBI	**Denpasar**	**1.80**	**54**	P	**Pn**	**16 26 03.2**	**0.0**
IGBI				S	**Sn**	**16 26 23.4**	**-2.6**
DNP	**Denpasar**	**1.93**	**52**	P	**Pn**	**16 26 06.5**	**+1.4**
DNP				S	**Sn**	**16 26 29.4**	**+0.1**
BLJI	**Banyuglugur**	**2.12**	**358**	P	**Pb**	**16 26 11.5**	**+0.8**
BLJI				S	**Sn**	**16 26 35.3**	**+1.4**
ABJI	**Asem Bagus**	**2.14**	**15**	P	**Pb**	**16 26 11.6**	**+0.5**
ABJI				S	**Sb**	**16 26 38.0**	**+0.3**
SRBI	**Singaraja**	**2.34**	**41**	P	**Pn**	**16 26 12.4**	**+1.6**
SRBI				S	**Sn**	**16 26 38.9**	**-0.6**
PWJI	**Pagerwojo**	**2.60**	**315**	P	**Pb**	**16 26 18.6**	**-0.4**
PWJI				S	**Sb**	**16 26 50.7**	**-0.3**
KMMI	**Kalianget**	**2.82**	**6**	P	**Pb**	**16 26 21.5**	**-1.3**
KMMI				S	**Pb**	**16 26 21.5**	**-1.3**
PCJI	**Pacitan**	**2.97**	**304**	P	**Pb**	**16 26 26.0**	**+0.7**
GRJI	**Gresik**	**3.17**	**338**	P	**Pb**	**16 26 27.9**	**-0.8**
UGM	**Wanagama**	**3.67**	**302**	P	**Pb**	**16 26 35.6**	**-1.6**
PLAI	**Plampang**	**4.19**	**76**	P	**Pn**	**16 26 38.6**	**+2.5**
CISI	**Cisompet, Garu**	**6.23**	**291**	P	Pn	16 27 13.9	+10
FITZ	**Fitzroy Crossi**	**14.20**	**126**	Pn	**Pn**	**16 28 51.9**	**-1.6**
	0.1nm,0.3s,baz=304,slow=11,SNR=3.8						
FITZ				Sn	Sn	16 31 15.2	-16
	0.2nm,0.3s,baz=186,slow=18,SNR=5.1						
WRA	**Warramunga Arr**	**22.32**	**119**	P	**P**	**16 30 29.6**	**-0.6**
	0.6nm,0.6s,baz=292,slow=12,SNR=17						
ASAR	**Alice Springs**	**23.69**	**128**	P	**P**	**16 30 45.0**	**+0.7**
	1.2nm,0.5s,baz=303,slow=8.2,SNR=58						
CMAR	**Chiang Mai Arr**	**31.68**	**333**	P	**P**	**16 31 56.8**	**+0.8**
	0.2nm,0.3s,baz=161,slow=8.4,SNR=4.4						
STKA	**Stephens Creek**	**33.88**	**134**	P	**P**	**16 32 16.2**	**+1.1**
	1.0nm,0.5s,baz=307,slow=8.3,SNR=5.9						
STKA				LR	LR	16 47 50.4	
	comp=Z,37nm,18.4s,baz=21,slow=40						
JIRN	**Jiri**	**45.83**	**325**	*e*P	**P**	**16 33 55.2**	**+0.2**
	9.0nm,0.4s						
GUN	**Gumba**	**46.20**	**325**	*e*P	**P**	**16 33 58.2**	**+0.4**
	8.1nm,0.5s						
DMN	**Daman**	**46.41**	**324**	*e*P	**P**	**16 33 59.6**	**+0.2**
	6.6nm,0.5s						
KOLN	**Koldanda**	**47.41**	**323**	*e*P	**P**	**16 34 07.2**	**0.0**
	8.0nm,0.5s						
PYUN	**Piuthan**	**48.02**	**323**	*e*P	**P**	**16 34 12.6**	**+0.7**
SONM	**Songino Array**	**57.82**	**354**	P	**P**	**16 35 23.1**	**-0.7**
	1.2nm,0.3s,baz=174,slow=8.7,SNR=19						
MKAR	**Makanchi Array**	**62.99**	**336**	P	**P**	**16 35 58.9**	**-0.2**
	0.7nm,0.5s,baz=149,slow=7.4,SNR=25						
KURBB	**Kurchatov Arra**	**67.55**	**337**	P	**P**	**16 36 28.3**	**-0.2**
	0.1nm,0.4s,baz=156,slow=5.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**68.12**	**342**	P	**P**	**16 36 31.2**	**-0.8**
	0.3nm,0.4s,baz=180,slow=6.3,SNR=2.9						

IDC 12 16:34:19.0±3.3, 4.35S×152.10E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/44, mbtmp3.7/4, MS4.5/1, Ms1 4.5/1, ms1mx2.7/39, Error ellipse: s-maj=105.4km s-min=30.8km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.02**	**224**	Sn	Sn	16 37 26.5	+2.7
	1.5nm,0.3s,baz=176,slow=19,SNR=5.7						
WRA	**Warramunga Arr**	**23.23**	**227**	P	P	16 39 28.8	+0.7
	1.1nm,0.3s,baz=50,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**26.02**	**221**	P	P	16 39 54.5	+0.4
	0.2nm,0.4s,baz=51,slow=9.0,SNR=9.5						
FITZ	**Fitzroy Crossi**	**29.27**	**240**	P	P	16 40 22.7	-0.5
	4.5nm,1.2s,baz=34,slow=7.6,SNR=2.0						
RAO	**Raoul Island**	**37.68**	**134**	LR	LR	16 53 04.5	
	comp=Z,747nm,21.9s,baz=82,slow=30						
MKAR	**Makanchi Array**	**79.53**	**319**	P	P	16 46 29.1	+1.2
	0.6nm,1.0s,baz=119,slow=7.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**149.51**	**289**	PKPbc	PKPdf	16 54 08.7	+1.8
	0.3nm,0.7s,baz=90,slow=1.2,SNR=5.2						

IDC 12 16:59:00.7±1.4, 7.40S×122.02E, h482km±14km, mb2.7/2, mb1 2.7/6, mb1mx2.5/54, mbtmp3.5/6, Error ellipse: s-maj=120.8km s-min=20.0km az=57.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.22**	**150**	P	P	17 00 12.8	+0.9
	2.2nm,0.3s,baz=146,slow=3.6,SNR=5.5						
BATI				S	S	17 01 09.9	+0.1
	2.7nm,0.3s,baz=38,slow=19,SNR=8.1						
FITZ	**Fitzroy Crossi**	**11.20**	**162**	P	P	17 01 30.8	0.0
	baz=354,slow=10						
WRA	**Warramunga Arr**	**17.26**	**137**	P	P	17 02 34.2	-0.8
	0.1nm,0.3s,baz=316,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**19.79**	**146**	P	P	17 02 58.5	0.0
	0.1nm,0.3s,baz=324,slow=8.4,SNR=12						
STKA	**Stephens Creek**	**30.43**	**146**	P	P	17 04 33.0	+0.2
	0.4nm,0.3s,baz=337,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**64.47**	**331**	P	P	17 08 49.1	+0.1
	0.2nm,0.5s,baz=147,slow=7.4,SNR=5.5						

ISCJB ***12*** *17:34:36.4±0.3, 14.89N±0.04×93.22W±0.04, h67km, mb4.2/38, Error ellipse: s-maj=7.2km s-min=3.3km az=34.6*
IDC ***12*** *17:34:36.4±2.4, 15.04N×92.79W, h58km±22km, mb3.8/11, mb1 4.1/14, mb1mx3.8/45, mbtmp4.1/14, ML4.0/3, MS3.3/8, Ms1 3.3/8, ms1mx3.1/37, Error ellipse: s-maj=35.6km s-min=13.3km az=48.0*
MEX ***12*** *17:34:38.0±0.8, 14.88N×93.24W, h11km±8km, MD3.9*
NEIC ***12*** *17:34:39.8±0.6, 14.99N×92.92W, h88km±5km, mb4.4/32, MD3.9(MEX), Error ellipse: s-maj=12.9km s-min=4.6km az=223.0*
CASC ***12*** *17:34:40.9±0.5, 15.12N×92.85W, h20km±999km, ML4.2, mb4.4(NEIC)*

ISC 12 17:34:37.3±0.5, 14.96N±0.05×93.21W±0.04, h67km, n85, σ1864/91, mb4.3/38, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.74**	**359**	*e*P	**Pn**	**17 34 51.9**	**-0.5**
PCIG				*i* S	**Sn**	**17 35 02.5**	**-1.1**
PCIG		**0.74**	**359**	*e*Pn	**Pn**	**17 34 51.9**	**-0.5**
PCIG				*e*Sn	**Sn**	**17 35 02.5**	**-1.1**
CCIG	**Comitan**	**1.67**	**38**	*e*P	**Pn**	**17 35 05.0**	**+0.4**
CCIG				*i* S	**Sn**	**17 35 26.4**	**+1.2**
CCIG	**Comitan**	**1.67**	**38**	*e*Pn	**Pn**	**17 35 05.0**	**+0.4**
CCIG				*e*Sn	**Sn**	**17 35 26.4**	**+1.2**
TGIG		**1.81**	**3**	*e*P	**Pn**	**17 35 06.1**	**-0.2**
TGIG				*i* S	**Sn**	**17 35 30.0**	**+1.6**
CMIG	**Matias Romero**	**2.66**	**323**	P	**Pn**	**17 35 18.4**	**+0.5**
	14nm,0.3s,baz=146,slow=14,SNR=122						
CMIG				S	**Sn**	**17 35 48.8**	**-0.2**
	69nm,0.3s,baz=114,slow=17,SNR=7.5						
CMIG				LR	LR	17 36 44.8	
	comp=Z,233nm,20.3s,baz=150,slow=45						
IXG	**Ixpaco**	**2.78**	**106**	*e*P	**Pn**	**17 35 20.8**	**+1.2**
HUIG	**Huatulco**	**2.91**	**286**	*i* P	**Pn**	**17 35 21.4**	**+0.2**
HUIG				*i* S	**Sn**	**17 35 55.4**	**+0.3**
SBLS	**San Blas**	**3.65**	**107**	*e*P	**Pn**	**17 35 32.9**	**+1.3**
SBLS				*e*S	**Sn**	**17 36 14.0**	**+0.4**
SNJE	**San Jose**	**3.66**	**107**	*e*P	**Pn**	**17 35 33.0**	**+1.4**
BOQS	**Boqueron**	**4.00**	**107**	*e*P	**Pn**	**17 35 37.7**	**+1.4**
BOQS				*e*S	**Sn**	**17 36 21.9**	**-0.2**
SNET	**Serv Nac Est T**	**4.06**	**108**	IAML		17 36 45.5	
	comp=Z,934nm,0.3s						
LBRS	**Las Brisas**	**4.22**	**106**	*e*P	**Pn**	**17 35 40.4**	**+1.3**
LFRS	**El Faro**	**4.24**	**108**	*e*P	**Pn**	**17 35 40.9**	**+1.5**
TECA	**Tecapa**	**4.79**	**107**	*e*P	**Pn**	**17 35 49.2**	**+2.0**
LVIG	**Laguna Verde**	**5.64**	**328**	*e*Pn	**Pn**	**17 35 58.3**	**-0.2**
JTS	**JuntasAbangare**	**9.30**	**119**	P	Pn	17 36 43.0	-5.7
	comp=Z,1.2nm,0.3s,baz=330,slow=18,SNR=1.9						
JTS				S	**Sn**	**17 38 30.2**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=152,slow=24,SNR=4.5						
JCT	**Junction City**	**16.59**	**340**	*e*P	**P**	**17 38 28.5**	**+1.4**
	comp=Z,8.1nm,0.9s						
LTX	**Lajitas**	**17.26**	**328**	*e*Pn	**P**	**17 38 36.8**	**+2.2**
TXAR	**Lajitas Array**	**17.26**	**328**	P	**P**	**17 38 36.8**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=152,slow=12,SNR=26						
TX31	**Lajitas Ar. Si**	**17.26**	**328**	*e*Pn	**P**	**17 38 36.9**	**+2.4**
MIAR	**Mount Ida**	**19.50**	**359**	*e*P	**P**	**17 38 58.1**	**-1.0**
	comp=Z,26nm,1.0s						
MNTX	**Cornudas Mount**	**20.03**	**328**	*e*P	**P**	**17 39 06.7**	**+1.9**
	comp=Z,2.7nm,0.8s						
PLAL	**Pickwick Lake**	**20.46**	**12**	*e*P	**P**	**17 39 11.0**	**+1.6**
	comp=Z,12nm,0.8s						
MSTX	**Muleshoe**	**20.81**	**337**	*e*P	**P**	**17 39 13.9**	**+0.6**
	comp=Z,11nm,0.8s						
PRAC	**Prado**	**21.23**	**120**	*e*P	**P**	**17 39 19.8**	**+1.9**
	comp=Z,17nm,0.5s						
AMTX	**Amarillo**	**21.25**	**340**	*e*P	**P**	**17 39 18.8**	**+0.7**
	comp=Z,19nm,0.6s			

comp=Z,10nm,1.1s
CPUP Villa Florida 53.87 139 P **P 17 43 52.8 -1.0**
comp=Z,1.4nm,0.6s,baz=307,slow=6.4,SNR=5.7
INK Inuvik 59.19 344 *e*P **P 17 44 31.4 +0.4**
comp=Z,7.4nm,0.8s
IL1 Eielson Array 61.50 337 *e*P **P 17 44 48.0 +1.2**
ILAR Eielson Array 61.50 337 P **P 17 44 47.4 +0.6**
comp=Z,0.9nm,0.6s,baz=140,slow=5.0,SNR=17
ILB Eielson Array 61.50 337 *e*P **P 17 44 48.1 +1.3**
RND Reindeer 61.67 335 *e*P **P 17 44 49.5 +1.4**
comp=Z,8.1nm,0.8s
BORG Borgarnes 68.86 26 LR LR 18 13 59.8
comp=Z,24nm,20.6s,baz=166,slow=34
NOA NORSAR Array B 83.86 28 LR LR 18 23 11.2
comp=Z,23nm,18.4s,baz=65,slow=35
ARA0 ARCESS Array S 85.59 18 *e*P **P 17 47 07.4 -0.6**
ARCES ARCESS Array B 85.59 18 P **P 17 47 07.4 -0.6**
comp=Z,5.8nm,1.1s,baz=292,slow=4.8,SNR=5.3
FIA0 FINESS Array S 90.12 25 *e*P **P 17 47 29.0 -0.8**
FINES FINESS Array B 90.12 25 P **P 17 47 29.0 -0.8**
comp=Z,0.4nm,0.5s,baz=260,slow=4.0,SNR=3.8
WR1 Warramunga Arr 134.48 257 *e*PKPdf **PKPdf 17 53 48.5 -0.2**
WRA Warramunga Arr 134.49 257 PKP **PKPdf 17 53 48.5 -0.2**
comp=Z,0.5nm,0.7s,baz=89,slow=2.6,SNR=6.1
ASAR Alice Springs 134.87 251 PKP **PKPdf 17 53 48.8 -0.6**
comp=Z,0.3nm,0.8s,baz=90,slow=2.8,SNR=4.0
CMAR Chiang Mai Arr 144.70 340 PKP **PKPab 17 54 06.6 +0.5**
comp=Z,3.4nm,0.8s,baz=336,slow=3.2,SNR=23

BJI ***12*** *17:55:08.6,2˚.86N×126˚.90E,h34km,mb4.6/51,mB5.1/32, Ms4.6/17,Ms7 4.3/13*
MOS ***12*** *17:55:11.6± 1.1,3˚.03N×127˚.11E,h62km,mb5.0/27,Error ellipse: s-maj=17.0km s-min=6.4km az=112.5*
DJA ***12*** *17:55:13.9± 0.4,3˚N± 3˚×12˚7E± ˚,h68km± 4km,M4.8/16, mb4.9/16,mB5.1/6,MLv4.9/7,Mw(mB)4.5/6*
IDC ***12*** *17:55:15.8± 2.8,2˚.96N×127˚.12E,h84km± 25km,mb4.2/25, mb1 4.3/26,mb1mx4.1/54,mbtmp4.6/26,MS3.4/25, Ms1 3.4/25,ms1mx3.3/48,Error ellipse: s-maj=21.8km s-min=10.1km az=75.0*
MAN ***12*** *17:55:15,3˚.10N×126˚.81E,h124km,mb5.5,ML4.5,MS4.7*
NEIC ***12*** *17:55:15.8± 0.7,2˚.94N×127˚.04E,h87km± 6km,mb4.9/28, Error ellipse: s-maj=8.4km s-min=4.5km az=63.0*
ISCJB ***12*** *17:55:15.5± 0.2,3˚.02N± 0˚.02×127˚.11E± 0˚.03,h100km, mb4.6/90,Error ellipse: s-maj=4.5km s-min=2.9km az=168.2*

ISC 12 17:55:17.4± 0.3,3˚.06N± 0˚.03×127˚.09E± 0˚.05,h100km,n207, σ1891/210,mb4.6/89,16C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.68**	**292**	P	**Pn**	**17 55 41.9**	**-4.1**
SGSI				S	**Sn**	**17 56 02.6**	**-5.1**
TNTI	**Ternate**	**2.29**	**173**	*e*Pn	**Pn**	**17 55 50.2**	**-3.6**
GSPH	**General Santos**	**3.69**	**325**	⇑ *i*P	**Pn**	**17 56 08.6**	**-4.1**
GSPH				*i* S	**Sn**	**17 56 49.2**	**-6.1**
LBMI	**Labuha**	**3.69**	**174**	P	**Pn**	**17 56 10.2**	**-2.3**
LBMI				S	**Sn**	**17 56 53.6**	**-1.6**
MATI	**Mati**	**3.95**	**348**	*e*P	**Pn**	**17 56 14.3**	**-1.7**
MATI				*e*S	**Sn**	**17 56 59.2**	**-2.2**
KMSI	**Cibinong**	**3.97**	**232**	P	**Pn**	**17 56 14.7**	**-1.5**
KMSI				S	**Sn**	**17 57 04.0**	**+2.2**
DAV	**Davao City (W)**	**4.26**	**339**	P	**Pn**	**17 56 21.6**	**+1.4**
	63nm,0.3s,baz=221,slow=3.9,SNR=3.6						
DAV				S	**Sn**	**17 57 04.9**	**-4.0**
	35nm,0.3s,baz=95,slow=16,SNR=6.3						
KCP	**Kidapawan**	**4.40**	**333**	‖ *e*P	**Pn**	**17 56 19.5**	**-2.7**
CTBH	**Cotabato--PC H**	**5.01**	**326**	‖ *e*P	**Pn**	**17 56 27.2**	**-3.2**
CTBH				*i* S	**Sn**	**17 57 22.2**	**-4.9**
SANI	**Sanana**	**5.19**	**192**	P	Pn	17 56 27.9	-4.9
SANI				S	Sn	17 57 21.6	-10
BUKP	**Musuan**	**5.20**	**337**	*e*P	**Pn**	**17 56 29.4**	**-3.6**
BUKP				*e*S	**Sn**	**17 57 26.6**	**-5.1**
SWI	**Sorong**	**5.70**	**133**	P	**Pn**	**17 56 37.4**	**-2.3**
	53nm,0.5s,1μm0.6nm						
SWI				S	**Sn**	**17 57 40.7**	**-3.2**
	53nm,0.5s,1μm0.6nm						
MRSI	**Marisa**	**5.75**	**244**	P	**Pn**	**17 56 39.4**	**-1.0**
	188nm,0.6s,2μm1.3nm						
MRSI				S	**Sn**	**17 57 41.8**	**-3.3**
	188nm,0.6s,2μm1.3nm						
LUWI	**Luwuk**	**5.94**	**227**	P	**Pn**	**17 56 43.2**	**+0.3**
LUWI	**Luwuk**	**5.94**	**227**	*e*Pn	**Pn**	**17 56 40.0**	**-2.9**
BUTP	**Butuan**	**6.05**	**346**	*e*P	**Pn**	**17 56 43.9**	**-0.6**
BUTP				*e*S	**Sn**	**17 57 54.0**	**+1.6**
MSAI	**Masohi**	**6.62**	**164**	P	**Pn**	**17 56 53.4**	**+1.2**
APSI	**Ampana**	**6.72**	**234**	P	**Pn**	**17 56 53.5**	**-0.1**
	208nm,0.8s,2μm0.9nm						
APSI				S	**Sn**	**17 58 11.6**	**+2.9**
	208nm,0.8s,2μm0.9nm						
MPSI	**Mapaga**	**7.68**	**250**	P	**Pn**	**17 57 07.2**	**+0.5**
	41nm,0.7s,1μm0.2nm						
FAKI	**Fak Fak**	**7.86**	**139**	*e*Pn	**Pn**	**17 57 07.9**	**-1.2**
KDI	**Kendari**	**8.28**	**213**	P	**Pn**	**17 57 11.6**	**-3.2**
	92nm,0.8s,1μm						
MYLDM	**Lahad Datu**	**8.83**	**284**	*e*Pn	**Pn**	**17 57 20.0**	**-2.2**
TTSI	**Tana Toraja**	**9.47**	**230**	P	**Pn**	**17 57 31.7**	**+0.8**
	31nm,0.8s						
KKM	**Kota Kinabalu**	**11.24**	**286**	*e*Pn	**Pn**	**17 57 56.0**	**+0.8**
MTKI	**Muara Teweh, K**	**12.82**	**252**	P	**Pn**	**17 58 16.4**	**+0.3**
	25nm,0.9s,1μm						
SOEI	**Soe**	**13.04**	**192**	P	P	17 58 19.8	-5.8
SOEI	**Soe**	**13.04**	**192**	*e*Pn	P	17 58 19.6	-6.0
BATI	**Baumata**	**13.61**	**194**	P	**P**	**17 58 28.1**	**-3.7**
	2.1nm,0.3s,baz=349,slow=5.2,SNR=4.7						
BATI	**Baumata**	**13.61**	**194**	P	**P**	**17 58 32.4**	**+0.5**
GENI	**Genyem**	**14.22**	**113**	P	**Pn**	**17 58 33.2**	**-1.2**
SBUM	**Sibu**	**14.87**	**268**	*e*Pn	**Pn**	**17 58 41.7**	**-0.9**
PLAI	**Plampang**	**15.02**	**218**	P	**P**	**17 58 44.5**	**-3.0**
STKI	**Sintang**	**15.89**	**260**	P	**P**	**17 58 55.8**	**-1.4**
MTN	**Manton Dam**	**16.30**	**166**	*e*Pn	**Pn**	**17 58 56.6**	**-3.9**
	60nm,0.6s						
KSM	**Kuching**	**16.85**	**265**	*e*Pn	**Pn**	**17 59 03.8**	**-3.5**
	68nm,1.3s						
JAGI	**Jajag, Banyuwa**	**17.25**	**228**	*e*Pn	**Pn**	**17 59 09.0**	**-3.3**
	30nm,0.9s						
GUMO	**Guam**	**20.44**	**58**	LR	LR	18 06 47.5	
	comp=Z,50nm,20.7s,baz=132,slow=34						
TWG	**Pinlang**	**20.50**	**344**	*e*P	**P**	**17 59 45.2**	**-2.3**
	90nm,0.6s						
YULB	**Yu-li**	**20.98**	**345**	*e*P	**P**	**17 59 49.3**	**-3.4**
	97nm,1.7s						
FITZ	**Fitzroy Crossi**	**21.07**	**184**	P	**P**	**17 59 51.0**	**-2.7**
	16nm,0.5s,baz=19,slow=11,SNR=35						
TPUB	**Ta-pu**	**21.07**	**343**	*e*P	**P**	**17 59 51.4**	**-2.4**
	134nm,1.7s						
SSLB	**Suanglung**	**21.45**	**344**	*e*P	**P**	**17 59 56.3**	**-1.5**
	32nm,1.2s						
PMG	**Port Moresby**	**23.52**	**122**	LR	LR	18 10 41.7	
	comp=Z,133nm,18.2s,baz=304,slow=40						
WRAB	**Tennant Creek**	**23.93**	**163**	*c e*P	**P**	**18 00 20.6**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,70nm,1.5s						
WRAB	**Tennant Creek**	**23.93**	**163**	*e*P	**P**	**18 00 20.8**	**-1.7**
	comp=Z,75nm,0.8s						
WR1	**Warramunga Arr**	**23.94**	**163**	*e*P	**P**	**18 00 20.7**	**-1.8**
WRA	**Warramunga Arr**	**23.94**	**163**	P	**P**	**18 00 20.7**	**-1.8**
	comp=Z,29nm,0.5s,baz=339,slow=11,SNR=170						
WB2	**Warramunga Arr**	**23.94**	**163**	*e*P	**P**	**18 00 19.5**	**-3.0**
MDSI	**Maura Dua**	**24.09**	**252**	P	**P**	**18 00 25.5**	**+1.6**
	comp=Z,24nm,1.0s						
RABL	**Rabaul**	**26.07**	**106**	*e*P	**P**	**18 00 42.0**	**+0.1**
	comp=Z,15nm,0.6s						
SKNT	**Sakolnakorn**	**26.58**	**303**	P	**P**	**18 00 46.8**	**+0.3**
	comp=Z,20nm,1.1s						
SRAK	**Srakaew**	**27.02**	**295**	P	**P**	**18 00 45.6**	**-4.8**
	comp=Z,65nm,0.9s,comp=Z,464nm						
AS31	**Alice Springs**	**27.38**	**166**	*e*P	**P**	**18 00 52.3**	**-1.2**
	comp=Z,4.4nm,0.7s						
ASAR	**Alice Springs**	**27.38**	**166**	P	**P**	**18 00 52.1**	**-1.5**
	comp=Z,6.2nm,0.8s,baz=347,slow=6.9,SNR=112						
ASAR				LR	LR	18 12 48.2	
	comp=Z,111nm,18.9s,baz=8.5,slow=39						
AS01	**Alice Springs**	**27.39**	**166**	*e*P	**P**	**18 00 52.2**	**-1.5**
CHAI	**Chaiyaphum**	**27.81**	**299**	P	**P**	**18 00 56.7**	**-0.8**
	comp=Z,5.0nm,1.1s						
PSI	**Prapat**	**28.13**	**270**	LR	LR	18 13 34.4	
	comp=Z,93nm,20.7s,baz=95,slow=39						
PHIT	**Phitsanulok**	**29.71**	**300**	P	**P**	**18 01 15.9**	**+1.5**
	comp=Z,10nm,0.9s						
NJ2	**Nanjing**	**29.86**	**346**	*e*P	**P**	**18 01 15.6**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
UTHA	**Uthaitani**	**29.92**	**296**	P	**P**	**18 01 15.9**	**-0.3**
	comp=Z,5.2nm,0.6s						
JNU	**Nakatsue**	**30.12**	**6**	LR	LR	18 12 48.9	
	comp=Z,34nm,21.9s,baz=159,slow=35						
NANT	**Nan**	**30.19**	**303**	P	**P**	**18 01 18.7**	**+0.1**
	comp=Z,4.3nm,0.6s						
LAMP	**Lampang**	**30.97**	**302**	P	**P**	**18 01 27.5**	**+2.1**
	comp=Z,3.4nm,0.9s						
PAYA	**Payo**	**31.15**	**303**	P	**P**	**18 01 27.2**	**+0.2**
	comp=Z,3.7nm,1.0s						
CM01	**Chiang Mai Arr**	**31.50**	**301**	*e*P	**P**	**18 01 28.0**	**-2.1**
CM31	**Chiang Mai Arr**	**31.52**	**301**	*e*P	**P**	**18 01 29.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**31.52**	**301**	P	**P**	**18 01 30.6**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=118,slow=7.8,SNR=18						
CMAR				PcP	**PcP**	**18 04 19.6**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=349,slow=0.9,SNR=2.4						
CMAR				LR	LR	18 14 48.2	
	comp=Z,18nm,21.0s,baz=120,slow=37						
CMMT	**Chiang Mai**	**31.68**	**302**	P	**P**	**18 01 30.2**	**-1.5**
	comp=Z,14nm,1.5s						
CHTO	**Chiang Mai**	**31.68**	**302**	P	**P**	**18 01 31.3**	**-0.4**
	comp=Z,64nm,1.3s						
CHTO	**Chiang Mai**	**31.68**	**302**	*e*P	**P**	**18 01 30.9**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	**Chiang Mai**	**31.68**	**302**	*e*P	**P**	**18 01 30.9**	**-0.8**
	comp=Z,9.2nm,0.8s						
KMI	**Kunming**	**32.11**	**315**	P	**P**	**18 01 36.1**	**+0.5**
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI				pmax	pmax		
	comp=Z,83nm,4.4s						
KMI				LR	LR		
	comp=Z,170nm,6.2s						
KMI				LR	LR		
	comp=Z,180nm,5.6s						
KMI				LR	LR		
	comp=Z,130nm,9.1s						
KSAR	**Wonju Array Be**	**34.23**	**1**	P	**P**	**18 01 53.3**	**-0.3**
KSAR	**Wonju Array Be**	**34.23**	**1**	P	**P**	**18 01 53.2**	**-0.3**
KSRS	**Korea Array**	**34.24**	**1**	P	**P**	**18 01 53.2**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=177,slow=9.4,SNR=8.7						
KSRS				LR	LR	18 15 25.9	
	comp=Z,28nm,21.6s,baz=204,slow=35						
TIA	**Tai'an**	**34.25**	**346**	P	**P**	**18 01 54.9**	**+1.0**
TIA				pmax	pmax		
	comp=Z,17nm,1.0s						
MJAR	**Matsushiro Arr**	**34.86**	**16**	LR	LR	18 13 55.6	
	comp=Z,60nm,21.4s,baz=185,slow=32						
HNR	**Honiara**	**35.01**	**111**	LR	LR	18 17 06.4	
	comp=Z,44nm,18.8s,baz=220,slow=38						
XAN	**Xi'an**	**35.18**	**333**	P	**P**	**18 02 00.9**	**-1.0**
XAN				pP	pP	18 02 08.1	-17
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,94nm,5.2s						
CD2	**Chengdu**	**35.40**	**324**	*e*P	**P**	**18 02 04.0**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
BBOO	**Buckleboo**	**36.67**	**167**	*e*P	**P**	**18 02 13.9**	**-0.7**
	comp=Z,31nm,0.8s						
STKA	**Stephens Creek**	**37.38**	**159**	P	**P**	**18 02 19.9**	**-0.7**
	comp=Z,44nm,0.7s,baz=334,slow=8.7,SNR=129						
STKA	**Stephens Creek**	**37.38**	**159**	*e*P	**P**	**18 02 20.0**	**-0.6**
STKA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
STKA	**Stephens Creek**	**37.38**	**159**	*e*P	**P**	**18 02 20.0**	**-0.6**
	comp=Z,10nm,0.8s						
BJT	**Baijiatuau**	**38.10**	**346**	*e*P	**P**	**18 02 27.7**	**+1.1**
BJT				pmax	pmax		
	comp=Z,77nm,1.1s						
BJT	**Baijiatuau**	**38.10**	**346**	*e*P	**P**	**18 02 27.7**	**+1.1**
	comp=Z,77nm,1.1s						
BJI	**Beijing**	**38.12**	**346**	⇑ *i*P	**P**	**18 02 27.6**	**+0.9**
BJI				pmax	pmax		
	comp=Z,83nm,1.2s						
BJI				pmax	pmax		
	comp=Z,430nm,3.2s						
LZH	**Lanzhou**	**39.26**	**330**	*e*P	**P**	**18 02 37.7**	**+1.1**
LZH				pP	pP	18 02 47.6	-12
LZH				sP	sP	18 02 51.4	-20
LZH				*e*PP	**PnPn**	**18 04 14.0**	**+1.7**
LZH				pmax	pmax		
	comp=Z,35nm,1.5s						
LZH				pmax	pmax		
	comp=Z,150nm,8.7s						
LZH				LR	LR		
	comp=Z,160nm,14.0s						
LZH				LR	LR		
	comp=Z,170nm,10.3s						
LZH				LR	LR		
	comp=Z,200nm,13.7s						
HHC	**Hu-ho-hao-te**	**40.15**	**342**	*e*P	**P**	**18 02 44.8**	**+1.0**
HHC				S	**S**	**18 08 45.7**	**+2.6**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.0s						
HHC				LR	LR		
	comp=Z,160nm,13.7s						
HHC				LR	LR		
	comp=Z,170nm,13.3s						
HHC				LR	LR		
	comp=Z,140nm,13.5s						
SHL	**Shillong**	**40.57**	**307**	⇑ *i*P	**P**	**18 02 47.0**	**-0.6**
CN2	**Changchun**	**40.60**	**358**	*e*P	**P**	**18 02 50.9**	**+3.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ARMA	**Armidale**	**40.71**	**147**	*e*P	**P**	**18 02 48.9**	**+0.4**
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**41.20**	**5**	P	**P**	**18 02 53.0**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=207,slow=6.1,SNR=3.9						
USRK				LR	LR	18 20 25.5	
	comp=Z,18nm,21.8s,baz=117,slow=37						
MDJ	**Mudanjiang**	**41.45**	**3**	P	**P**	**18 02 55.9**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,11nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,240nm,4.1s						
LSA	**Lhasa**	**43.15**	**312**	P	**P**	**18 03 09.0**	**+0.1**
LSA				pmax	pmax		
	comp=Z,12nm,1.2s						
LSA	**Lhasa**	**43.15**	**312**	*e*P	**P**	**18 03 09.2**	**+0.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LSA	**Lhasa**	**43.15**	**312**	*e*P	**P**	**18 03 09.2**	**+0.3**
	comp=Z,7.9nm,0.8s						
GTA	**Gaotai**	**43.86**	**329**	*e*P	**P**	**18 03 14.2**	**+0.2**
GTA				pP	pP	18 03 23.2	-14
GTA				sP	sP	18 03 27.4	-21
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
YSS	**Yuzh-Sakhalins**	**45.79**	**15**	⇑ *e*P	**P**	**18 03 30.3**	**+1.3**
YSS				pmax	pmax		
	comp=Z,18nm,2.5s						
DZM	**Mont Dzumac**	**45.85**	**125**	LR	LR	18 24 54.1	
	comp=Z,45nm,18.3s,baz=358,slow=39						
JIRN	**Jiri**	**46.06**	**306**	*e*P	**P**	**18 03 31.2**	**-0.8**
KLR	**Kul'dur**	**46.17**	**4**	*i* P	**P**	**18 03 31.1**	**-0.9**
GUN	**Gumba**	**46.41**	**306**	*e*P	**P**	**18 03 34.0**	**-0.7**
	comp=Z,44nm,0.8s						
PKI	**Pulchoki**	**46.65**	**306**	*e*P	**P**	**18 03 35.3**	**-1.3**
PKIN	**Phulchoki**	**46.67**	**306**	*e*P	**P**	**18 03 35.9**	**-0.7**
KKN	**Kakani**	**46.85**	**306**	*e*P	**P**	**18 03 36.9**	**-1.0**
	comp=Z,55nm,1.2s						
DMN	**Daman**	**46.91**	**306**	*e*P	**P**	**18 03 37.6**	**-0.9**
	comp=Z,51nm,1.0s						
ULN	**Ulaanbaatar**	**47.87**	**342**	*c e*P	**P**	**18 03 46.6**	**+1.2**
ULN				pmax	pmax		
	comp=Z,46nm,1.7s						
ULN	**Ulaanbaatar**	**47.87**	**342**	*e*P	**P**	**18 03 46.7**	**+1.2**
	comp=Z,48nm,1.4s						
SONA0	**Songino Array**	**48.05**	**341**	*e*P	**P**	**18 03 47.8**	**+1.1**
SONA0				*e*		18 25 04.7	
SONM	**Songino Array**	**48.05**	**341**	P	**P**	**18 03 47.8**	**+1.1**
	comp=Z,4.7nm,0.7s,baz=163,slow=8.9,SNR=32						
SONM				LR	LR	18 25 04.7	
	comp=Z,48nm,21.6s,baz=172,slow=37						
SONA1	**Songino Array**	**48.05**	**341**	*e*P	**P**	**18 03 47.8**	**+1.0**
KOLN	**Koldanda**	**48.20**	**305**	*e*P	**P**	**18 03 47.8**	**-0.6**
DANN	**Dangsing**	**48.30**	**306**	*e*P	**P**	**18 03 48.7**	**-0.6**
PYUN	**Piuthan**	**48.83**	**305**	*e*P	**P**	**18 03 52.8**	**-0.4**
	comp=Z,130nm,1.1s						
HYB	**Hyderabad**	**49.69**	**290**	*i* P	**P**	**18 03 58.5**	**-1.2**
NKL	**Nikolayevsk**	**51.18**	**10**	*e*P	**P**	**18 04 08.9**	**-1.3**
ZAK	**Zakamensk**	**51.27**	**341**	*e*P	**P**	**18 04 11.9**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
TLY	**Talaya**	**52.28**	**342**	*e*P	**P**	**18 04 20.1**	**+1.6**
TLY				pmax	pmax		
	comp=Z,23nm,1.6s						
TLY	**Talaya**	**52.28**	**342**	*e*P	**P**	**18 04 20.2**	**+1.7**
	comp=Z,34nm,1.6s						
IRK	**Irkutsk**	**52.58**	**343**	*e*P	**P**	**18 04 20.8**	**+0.1**
IRK				pmax	pmax		
	comp=Z,30nm,2.2s						
MOY	**Mondy**	**53.13**	**340**	*e*P	**P**	**18 04 26.7**	**+1.8**
MOY				pmax	pmax		
	comp=Z,44nm,1.8s						
WMQ	**Urumqi**	**53.48**	**325**	P	**P**	**18 04 26.8**	**-0.8**
WMQ				pP	pP	18 04 34.8	-17
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,760nm,10.1s						
WMQ				LR	LR		
	comp=Z,220nm,21.1s						
WMQ				LR	LR		
	comp=Z,270nm,27.5s						
WMQ				LR	LR		
	comp=Z,240nm,32.3s						
HVS	**Khovu-Aksy**	**55.50**	**335**	*e*P	**P**	**18 04 43.2**	**+1.1**
HVS				pmax	pmax		
	comp=Z,45nm,1.3s						
BOD	**Bodaibo**	**55.58**	**352**	⇑ *i*P	**P**	**18 04 43.3**	**+0.9**
BOD				pmax	pmax		
	comp=Z,12nm,1.4s						
PETK	**Petropavlovsk-**	**55.91**	**22**	P	**P**	**18 04 46.2**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=183,slow=5.3,SNR=13						
PEA1	**Petropavlovsk-**	**55.92**	**22**	*e*P	**P**	**18 04 46.2**	**+1.3**
DGZ	**Jazzator, Alta**	**57.35**	**331**	*d i*P	**P**	**18 04 56.0**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MK01	**Makanchi Array**	**58.29**	**325**	*e*P	**P**	**18 05 01.9**	**0.0**
MK31	**Makanchi Array**	**58.31**	**325**	*e*P	**P**	**18 05 01.8**	**-0.1**
MK31	**Makanchi Array**	**58.31**	**325**	*e*P	**P**	**18 05 01.8**	**-0.1**
MK32	**Makanchi Array**	**58.31**	**325**	*e*P	**P**	**18 05 02.0**	**+0.1**
MK32				*e*		18 32 31.2	
MKAR	**Makanchi Array**	**58.31**	**325**	P	**P**	**18 05 02.0**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=119,slow=7.6,SNR=92						
MKAR				LR	LR	18 32 31.2	
	comp=Z,59nm,18.8s,baz=63,slow=38						
MKAR	**Makanchi Array**	**58.31**	**325**	*e*P	**P**	**18 05 01.8**	**-0.1**
	comp=Z,24nm,0.6s						
MAKZ	**Makanchi**	**58.50**	**325**	*e*P	**P**	**18 05 03.3**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MAKZ	**Makanchi**	**58.50**	**325**	*e*P	**P**	**18 05 03.3**	**0.0**
	comp=Z,7.8nm,1.2s						
KSH	**Kashi**	**58.77**	**315**	P	P	18 05 10.1	+4.7
KSH				sP	pP	18 05 23.9	-6.1
KSH				PcS	**PcS**	**18 09 59.1**	**+3.0**
KSH				S	S	18 13 12.1	+9.0
KSH				sS	pS	18 13 29.2	-1.3
KSH				ScS	**ScS**	**18 14 52.7**	**+6.6**
KSH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,200nm,5.8s						
KSH				LR	LR		
	comp=Z,260nm,5.1s						
KSH				LR	LR		
	comp=Z,160nm,6.3s						
KSH				LR	LR		
	comp=Z,170nm,6.2s						
YAK	**Yakutsk**	**58.87**	**1**	*e*P	**P**	**18 05 05.2**	**-0.2**
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,18nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK	**Yakutsk**	**58.87**	**1**	*e*P	**P**	**18 05 06.5**	**+1.1**
	comp=E,14nm,0.8s						
MA2	**Magadan**	**59.27**	**14**	*c e*P	**P**	**18 05 09.9**	**+1.6**
ZAA0	**Zalesovo Array**	**61.35**	**333**	*e*P	**P**	**18 05 22.8**	**+0.3**
	comp=E,22nm,1.4s						
ZALV	**Zalesovo Beam**	**61.35**	**333**	P	**P**	**18 05 22.8**	**+0.2**
	comp=E,3.5nm,0.7s,baz=116,slow=6.8,SNR=19						
ZALV				LR	LR	18 33 24.5	
	comp=E,41nm,19.7s,baz=64,slow=37						
ZALV	**Zalesovo Beam**	**61.35**	**333**	*e*P	**P**	**18 05 22.3**	**-0.3**
ZALV	**Zalesovo Beam**	**61.35**	**333**	*e*P	**P**	**18 05 22.3**	**-0.3**
ZAA1	**Zalesovo Array**	**61.35**	**333**	*e*P	**P**	**18 05 22.8**	**+0.2**
ZAA1				*e*		18 33 24.5	
KURBB	**Kurchatov Arra**	**62.50**	**327**	P	**P**	**18 05 30.3**	**0.0**
	comp=E,7.6nm,0.6s,baz=131,slow=6.6,SNR=109						
KURK	**Kurchatov**	**62.50**	**328**	*c e*P	**P**	**18 05 31.0**	**+0.7**
KURK				pmax	pmax		
	comp=Z,19nm,0.8s						
KURK	**Kurchatov**	**62.50**	**328**	*e*P	**P**	**18 05 30.3**	**0.0**
SEY	**Seymchan**	**62.60**	**13**	*c e*P	**P**	**18 05 33.0**	**+2.2**
NVS	**Novosibirsk**	**62.63**	**333**	*e*P	**P**	**18 05 31.4**	**+0.3**
NVS				pmax	pmax		
	comp=N,13nm,1.7s						
NVS				pmax	pmax		
	comp=E,17nm,1.7s						
NVS				pmax	pmax		
	comp=Z,21nm,1.7s						
AFI	**Afiamalu**	**62.90**	**107**	LR	LR	18 29 47.6	
	comp=Z,24nm,21.8s,baz=89,slow=33						
BVAR	**Borovoye Array**	**68.08**	**327**	P	**P**	**18 06 07.0**	**+0.7**
	comp=Z,11nm,1.0s,baz=126,slow=9.2,SNR=34						
**B

comp=Z,1.0nm,1.0s
KIV Kislovodsk 83.86 314 *e*P P **18 07 34.7 -1.6**
KIV pmax pmax
comp=Z,6.0nm,1.1s
PPT Papeete 84.56 108 LR LR 18 41 43.5
comp=Z,22nm,21.5s,baz=360,slow=33
VRH Novokhopyorsk 84.73 321 *e*P P **18 07 39.2 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.8s
ILAR Eielson Array 85.55 25 P P **18 07 45.0 +0.8**
comp=Z,0.1nm,0.4s,baz=241,slow=6.0,SNR=3.8
KLMR Klimovskoe 86.17 331 *e*P P **18 07 45.8 -1.5**
KLMR pmax pmax
comp=Z,16nm,1.5s
KLMR Klimovskoe 86.17 331 *e*P P **18 07 45.9 -1.4**
KLMR AMP 18 07 53.3
comp=Z,16nm,1.5s
VSR Storozhevoye 86.34 321 *e*P P **18 07 47.5 -0.9**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 86.47 322 *e*P P **18 07 50.7 +1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 87.82 325⇑ *e*P P **18 07 54.4 -1.0**
OBN *e* 18 11 18.6
OBN *e*S **SKSac 18 18 22.6 +8.2**
OBN pmax pmax
comp=Z,10.0nm,1.3s
ASF Jabal al Asfar 88.56 302 P P **18 08 01.4 +1.8**
comp=Z,3.4nm,0.7s,baz=27,slow=9.0,SNR=5.2
MMAI Mount Meron Ar 89.77 303 P P **18 08 06.1 +0.8**
comp=Z,1.4nm,0.5s,baz=88,slow=8.9,SNR=3.7
KMBO Kilima Mbogo 89.90 269 P P **18 08 06.5 0.0**
comp=Z,0.8nm,0.3s,baz=37,slow=20,SNR=2.5
BR101 Keskin Array S 90.73 310 *e*P P **18 08 10.9 +1.3**
BR101 *e* 18 54 36.1
BRTR Keskin Array B 90.73 310 P P **18 08 10.9 +1.3**
comp=Z,2.0nm,0.9s,baz=93,slow=4.9,SNR=7.0
BRTR LR LR 18 54 36.1
comp=Z,14nm,19.1s,baz=22,slow=39
BRTR Keskin Array B 90.73 310 *i* P P **18 08 11.0 +1.3**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ARA0 ARCESS Array S 91.20 340 *e*P P **18 08 10.7 -0.3**
ARCES ARCESS Array B 91.20 340 P P **18 08 10.7 -0.3**
comp=Z,3.7nm,0.9s,baz=79,slow=6.3,SNR=7.4
BR231 Keskin MP Arra 91.38 310 *e*P P **18 08 12.0 -0.6**
SYO Syowa Base 91.93 201⇑ *e*P P **18 08 14.0 -0.3**
FIA0 FINESS Array S 92.59 332 *e*P P **18 08 17.2 -0.4**
FIA0 FINESS Array S 92.59 332 *e*P P **18 08 17.2 -0.4**
FIA0 *e* 18 53 48.7
FINES FINESS Array B 92.59 332 P P **18 08 17.2 -0.4**
comp=Z,1.2nm,0.7s,baz=46,slow=5.5,SNR=5.5
FINES LR LR 18 53 48.7
comp=Z,78nm,18.6s,baz=174,slow=38
FINES FINESS Array B 92.59 332 *i* P P **18 08 20.0 +2.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 92.64 321 P P **18 08 17.4 -0.6**
comp=Z,0.3nm,0.3s,baz=71,slow=5.2,SNR=4.5
AKASG LR LR 18 53 02.3
comp=Z,17nm,19.4s,baz=305,slow=37
AKASG Malin Array Be 92.64 321 *i* P P **18 08 19.2 +1.2**
MLR Muntele Rosu 95.63 316 LR LR 18 58 02.7
comp=Z,16nm,18.9s,baz=64,slow=39
BUR08 Bucovina Ar. S 95.75 318 *e*P P **18 08 33.3 +0.7**
HFS Hagfors 98.78 332 LR LR 19 01 14.7
comp=Z,74nm,19.5s,baz=22,slow=40
MATP Matopo 99.11 250 LR LR 18 49 22.0
comp=Z,12nm,18.1s,baz=172,slow=33
NOA NORSAR Array B 99.55 334 LR LR 18 56 55.0
comp=Z,31nm,18.2s,baz=65,slow=37
TOA0 Torodi Ar. Sit 123.47 288 *e*PKPdf **PKPdf 18 14 05.0 +0.9**
TORD Torodi Ar. Bea 123.47 288 PKP **PKPdf 18 14 04.8 +0.7**
comp=Z,1.0nm,0.8s,baz=52,slow=1.6,SNR=6.8
TOA1 Torodi Ar. Sit 123.47 288 *e*PKPdf **PKPdf 18 14 04.8 +0.7**
BG3 Lake Jocassee 132.81 34 *e*PKPdf **PKPdf 18 14 21.4 0.0**
CPUP Villa Florida 156.47 170 PKPab **PKPab 18 15 30.4 +0.2**
comp=Z,0.9nm,0.8s,baz=135,slow=1.4,SNR=2.8

*ISCJB **12** 18:07:36.5±0.3, 43.83N±0.03×105.21W±0.05, h0km, mb4.5/1, MS3.2/1, Error ellipse: s-maj=4.9km s-min=4.4km az=43.9*
*IDC **12** 18:07:36.1±2.3, 43.52N×105.32W, h0km, mb4.3/1, mb1 3.8/4, mb1mx3.4/58, mbtmp3.6/4, ML3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/62, Error ellipse: s-maj=55.0km s-min=8.7km az=151.0*
*NEIC **12** 18:07:38.4±0.3, 43.81N×105.25W, h0km, MN2.9, Error ellipse: s-maj=4.1km s-min=3.7km az=142.0, Suspected Mining explosion.*
NEIC 57 km [35 miles] SSE of Gillette.
ISC 12 18:07:37.4±0.8, 43.79N±0.05×105.31W±0.05, h0km, n51, σ1°59/52, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**70**	*e*Pg	**Pg**	**18 07 56.2**	**0.0**
K22A	**Casper**	**1.44**	**218**	*e*Pn	**Pn**	**18 08 03.9**	**-1.0**
PHWY	**Pilot Hill**	**2.49**	**183**	*e*Pn	**Pn**	**18 08 20.1**	**+0.6**
RWWY	**Rawlins**	**2.52**	**214**	*e*Pn	**Pn**	**18 08 21.8**	**+1.9**
N23A	**Red Feather La**	**2.93**	**189**	*e*Pn	**Pn**	**18 08 26.6**	**+1.1**
LAO	**LASA Array**	**2.97**	**348**	*e*Pn	**Pn**	**18 08 26.6**	**+0.8**
RLMT	**Red Lodge**	**3.13**	**297**	*e*Pn	**Pn**	**18 08 29.4**	**+1.2**
PD31	**Pinedale Array**	**3.27**	**253**	*e*Pn	**Pn**	**18 08 30.2**	**+0.1**
PDAR	**Pinedale Array**	**3.27**	**253**	Pn	**Pn**	**18 08 31.2**	**+1.2**
	2.9nm,0.3s,baz=80,slow=16,SNR=41						
PDAR				Lg	Lg	18 09 15.7	
	7.4nm,0.3s,baz=98,slow=18,SNR=4.2						
BW06	**Boulder Array**	**3.27**	**253**	*e*Pn	**Pn**	**18 08 31.7**	**+1.6**
GCMT	**Greycliff**	**3.69**	**304**	*e*Pn	**Pn**	**18 08 37.3**	**+1.5**
OGNE	**Ogallala**	**3.74**	**138**	*e*Pn	**Pn**	**18 08 38.9**	**+2.5**
H17A	**Grant Village**	**3.84**	**281**	*e*Pn	**Pn**	**18 08 41.2**	**+3.2**
LOHW	**Long Hollow**	**3.84**	**269**	*e*Pn	**Pn**	**18 08 39.3**	**+1.3**
MOOW	**Moose Ponds**	**3.94**	**271**	*e*Pn	**Pn**	**18 08 41.0**	**+1.7**
SNOW	**Snow King Moun**	**3.97**	**267**	*e*Pn	**Pn**	**18 08 43.4**	**+3.7**
ISCO	**Idaho Springs**	**3.99**	**183**	*e*Pn	**Pn**	**18 08 41.6**	**+1.5**
YFT	**Old Faithful**	**4.03**	**281**	*e*Pn	**Pn**	**18 08 41.9**	**+1.2**
REDW	**Red Top Meadow**	**4.05**	**266**	*e*Pn	**Pn**	**18 08 40.2**	**-0.7**
IMW	**Indian Meadow**	**4.07**	**273**	*e*Pn	**Pn**	**18 08 44.1**	**+2.9**
YHH	**Holmes Hill**	**4.10**	**286**	*e*Pn	**Pn**	**18 08 42.0**	**+0.4**
TPAW	**Teton Pass**	**4.11**	**268**	*e*Pn	**Pn**	**18 08 43.1**	**+1.4**
FXWY	**Fox Creek**	**4.15**	**270**	*e*Pn	**Pn**	**18 08 44.4**	**+2.2**
AHID	**Auburn Hatcher**	**4.35**	**258**	*e*Pn	**Pn**	**18 08 46.1**	**+1.1**
DGMT	**Dagmar**	**4.75**	**9**	*e*Pn	**Pn**	**18 08 52.0**	**+1.8**
SMCO	**Snowmass**	**4.77**	**196**	*e*Pn	**Pn**	**18 08 53.0**	**+2.1**
Q24A	**Divide**	**4.82**	**178**	*e*Pn	**Pn**	**18 08 52.5**	**+1.0**
BOZ	**Bozeman (W)**	**4.85**	**294**	*e*Pn	**Pn**	**18 08 53.7**	**+1.9**
HWUT	**Hardware Ranch**	**5.10**	**247**	*e*Pn	**Pn**	**18 08 56.4**	**+1.1**
KSCO	**Kaye Shedlock'**	**5.18**	**156**	*e*Pn	**Pn**	**18 08 57.0**	**+0.7**
TCUT	**Toone Canyon**	**5.24**	**241**	*e*Pn	**Pn**	**18 08 58.6**	**+1.4**
MCMT	**McKenzie Canyo**	**5.51**	**283**	*e*Pn	**Pn**	**18 09 02.0**	**+1.1**
P18A	**Preston Nutter**	**5.56**	**223**	*e*Pn	**Pn**	**18 09 02.4**	**+0.7**
HVU	**Hansel Valley**	**5.85**	**252**	*e*Pn	**Pn**	**18 09 07.3**	**+1.8**
P17A	**Butcher Ranch,**	**5.93**	**225**	*e*Pn	**Pn**	**18 09 08.9**	**+2.3**
P17A				*e*Sg	**Sg**	**18 10 45.5**	**-2.3**
PV09	**Paradox Valley**	**6.02**	**210**	*e*Pn	**Pn**	**18 09 09.5**	**+1.5**
MPU	**Maple Canyon**	**6.04**	**234**	*e*Pn	**Pn**	**18 09 09.6**	**+1.5**
SDCO	**Great Sand Dun**	**6.04**	**181**	*e*Pn	**Pn**	**18 09 10.0**	**+1.7**
PV01	**Paradox Valley**	**6.16**	**205**	*e*Pn	**Pn**	**18 09 11.8**	**+1.9**
ECSD	**EROS Data Cent**	**6.30**	**88**	*e*Pn	**Pn**	**18 09 12.3**	**+0.8**
TMUT	**Trail Mountain**	**6.30**	**227**	*e*Pn	**Pn**	**18 09 13.5**	**+1.6**
Q16A	**Castle Valley**	**6.57**	**224**	*e*Pn	**Pn**	**18 09 16.6**	**+1.2**
MVCO	**Mesa Verde**	**7.01**	**201**	*e*Pn	**Pn**	**18 09 22.9**	**+1.5**
AGMN	**Agassiz Nation**	**7.97**	**52**	*e*Pn	**Pn**	**18 09 34.1**	**-0.3**
I10CA	**LAC DU BONNET**	**9.02**	**41**	*i*		19 00 35.0	
	baz=221,slow=309,SNR=11						
ULM	**Lac du Bonnet**	**9.12**	**42**	Pn	**Pn**	**18 09 49.5**	**-0.7**
	0.9nm,0.3s,baz=231,slow=11,SNR=11						
ULM				Sn	**Sn**	**18 11 32.2**	**-1.3**
	0.6nm,0.3s,baz=181,slow=8.3,SNR=3.0						
ULM				Lg	Lg	18 12 19.1	
	0.9nm,0.3s,baz=119,slow=20,SNR=5.3						
ULM	**Lac du Bonnet**	**9.12**	**42**	*e*Pn	**Pn**	**18 09 49.9**	**-0.3**
ULM				Sn	**Sn**	**18 11 32.2**	**-1.3**
ULM				Lg	Lg	18 12 19.1	
YKA	**Yellowknife Ar**	**19.51**	**347**	P	**P**	**18 12 06.1**	**+0.2**
	0.1nm,0.3s,baz=158,slow=10,SNR=4.1						
SDV	**Santo Domingo**	**46.03**	**129**	LR	LR	18 36 40.7	
	comp=Z,31nm,19.8s,baz=284,slow=38						
ARA0	**ARCESS Array S**	**61.38**	**18**	*e*P	**P**	**18 17 54.2**	**-0.4**
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**18 17 54.3**	**-0.4**
	3.3nm,0.9s,baz=324,slow=9.0,SNR=5.0						

IDC 12 18:38:02.3±999.0, 52.62N×3.25W, h0km, Error ellipse: s-maj=3856.0km s-min=378.4km az=62.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**23.50**	**64**	*i*		21 00 20.0	
	baz=279,slow=315,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**37.19**	**68**	*i*		22 25 30.0	
	baz=296,slow=332,SNR=0.5						
I46RU	**ZALESOVO INFRA**	**49.34**	**51**	*i*		23 42 50.0	
	baz=307,slow=332,SNR=0.9						

MAN 12 18:44:39, 10.19N×125.25E, h33km, mb4.5, ML3.3, MS3.2, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.39**	**261**	*e*P	Pn	18 44 49.8	+1.5
MSLP				*e*S	Sn	18 44 56.3	+1.9
PLP	**Palo**	**1.00**	**345**⇑	*i*P	Pn	18 44 57.1	+0.3
PLP				*i*S	Sn	18 45 09.6	-0.2
OCLP	**Ormoc**	**1.06**	**324**	*e*P	Pn	18 44 57.2	-0.4
OCLP				*e*S	Sn	18 45 11.7	+0.5

*IDC **12** 18:56:23.9±1.6, 35.81N×140.91E, h0km, mb3.3/5, mb1 3.4/7, mb1mx3.2/66, mbtmp3.3/7, ML3.1/2, Error ellipse: s-maj=41.2km s-min=20.9km az=60.0*
*ISCJB **12** 18:56:26.7±0.8, 35.90N±0.05×140.97E±0.08, h31km, mb3.3/5, Error ellipse: s-maj=9.9km s-min=6.5km az=151.1*
*JMA **12** 18:56:28.5±0.1, 35.87N×140.84E, h34km±1km, M3.1*
ISC 12 18:56:28.3±1.0, 35.89N±0.05×140.91E±0.08, h31km, n17, σ0s65/16, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.19**	**191**	P	**Pn**	**18 56 34.6**	**-0.4**
CHOJ				S	**Sb**	**18 56 38.9**	**+0.2**
JYT	**Yasato**	**0.67**	**301**	P	**Pb**	**18 56 40.7**	**-0.8**
JYT				S	**Sb**	**18 56 49.6**	**-0.9**
JHO	**Hitachi**	**0.77**	**339**	P	**Pn**	**18 56 42.8**	**-0.2**
JHO				S	**Sb**	**18 56 53.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.27**	**287**	Pn	**Pn**	**18 57 03.8**	**+0.1**
	1.5nm,0.3s,baz=97,slow=9.3,SNR=21						
MJAR				Sn	**Sn**	**18 57 30.8**	**+0.1**
	2.0nm,0.3s,baz=344,slow=25,SNR=6.6						
MAT	**Matsushiro**	**2.28**	**287**	P	**Pn**	**18 57 04.8**	**+1.1**
MAT				*e*S	**Sn**	**18 57 30.3**	**-0.4**
ASAJ	**Asahikawa**	**8.32**	**8**	Pn	**Pn**	**18 58 26.7**	**0.0**
	0.4nm,0.3s,baz=197,slow=6.8,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	19 31 21.0	
	baz=311,slow=75,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	19 31 23.7	
	baz=311,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**27.96**	**118**	T	T	19 31 21.7	
	baz=311,slow=75,SNR=1.7						
SONM	**Songino Array**	**28.10**	**306**	P	**P**	**19 02 18.7**	**+1.4**
	0.2nm,0.4s,baz=107,slow=7.7,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	19 32 09.3	
	baz=312,slow=75,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	19 32 09.3	
	baz=312,slow=75,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	19 32 13.1	
	baz=312,slow=75,SNR=4.6						
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**19 04 36.1**	**+0.2**
	0.2nm,0.6s,baz=89,slow=8.8,SNR=3.2						
KURBB	**Kurchatov Arra**	**46.39**	**309**	P	**P**	**19 04 51.5**	**-0.1**
	0.4nm,0.8s,baz=85,slow=7.7,SNR=3.5						
WRA	**Warramunga Arr**	**55.87**	**187**	P	**P**	**19 06 02.4**	**-0.6**
	0.3nm,0.8s,baz=3.3,slow=7.5,SNR=5.1						
ASAR	**Alice Springs**	**59.60**	**187**	P	**P**	**19 06 29.1**	**0.0**
	0.6nm,1.0s,baz=9.8,slow=10,SNR=4.2						

*STR **12** 19:00:41.8±0.6, 50.30N±0.03×7.30E±0.06, h8km±4km, MLv2.9/13*
*CSEM **12** 19:00:41.5±0.1, 50.30N×7.41E, h12km, ML3.2/22, Error ellipse: s-maj=1.9km s-min=1.6km az=24.0*
*BGR **12** 19:00:42.3±0.2, 50.37N×7.44E, h10km, ML2.6/17, Error ellipse: s-maj=4.4km s-min=2.2km az=21.0*
*LDG **12** 19:00:42.4±0.1, 50.31N×7.40E, h12km, Md3.4/3, Ml3.1/26, Error ellipse: s-maj=1.3km s-min=1.2km az=52.0*
*BNS **12** 19:00:42.6±1.2, 50.34N×7.42E, h9km±6km, ML2.5*
*UCC **12** 19:00:42.0, 50.31N×7.40E, h10km, ML2.4*
*PRU **12** 19:00:46.2, 50.43N×7.74E, h17km*
ISC 12 19:00:42.4±0.7, 50.32N±0.01×7.366E±0.010, h17km±4km, n261, σ2s02/440, 10C-16D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGG	**Burgeitz**	**0.12**	**189**⇑	*i*P*	**Pg**	**19 00 45.9**	**-0.2**
BGG				S*	**Sg**	**19 00 48.2**	**-0.3**
BGG	**Burgeitz**	**0.12**	**189**	Pb	**Pg**	**19 00 45.9**	**-0.2**
BGG				Sb	**Sg**	**19 00 48.2**	**-0.3**
BHE	**Schloss Buerre**	**0.12**	**284**⇓	P*	**Pg**	**19 00 46.2**	**+0.1**
BHE				S*	**Sg**	**19 00 48.5**	**-0.1**
	876nm,0.1s						
BHE	**Schloss Buerre**	**0.12**	**284**	Pb	**Pg**	**19 00 46.2**	**+0.1**
BHE				Sb	**Sg**	**19 00 48.5**	**-0.1**
	876nm,0.1s						
KOE	**Koeppel**	**0.26**	**66**⇓	*i*P*	**Pg**	**19 00 47.2**	**-0.9**
KOE				S*	**Sg**	**19 00 50.1**	**-1.9**
KOE	**Koeppel**	**0.26**	**66**	Pb	**Pg**	**19 00 47.2**	**-0.9**
KOE				Sb	**Sg**	**19 00 50.1**	**-1.9**
AHRW	**Bad Neuenahr-A**	**0.29**	**320**⇓	*i*P*	**Pg**	**19 00 48.7**	**+0.1**
AHRW				S*	**Sg**	**19 00 52.4**	**-0.4**
AHRW	**Bad Neuenahr-A**	**0.29**	**320**	Pb	**Pg**	**19 00 48.7**	**+0.1**
AHRW				Sb	**Sg**	**19 00 52.4**	**-0.4**
FSH	**Hochheid**	**0.30**	**214**⇑	*i*P*	**Pg**	**19 00 48.8**	**0.0**
FSH				S*	**Sg**	**19 00 52.9**	**-0.2**
FSH	**Hochheid**	**0.30**	**214**	Pb	**Pg**	**19 00 48.8**	**0.0**
FSH				Sb	**Sg**	**19 00 52.9**	**-0.2**
FACH	**Fachingen**	**0.40**	**85**⇓	*i*P*	**Pg**	**19 00 49.6**	**-1.0**
FACH				S*	**Sg**	**19 00 54.0**	**-2.2**
FACH	**Fachingen**	**0.40**	**85**	Pb	**Pg**	**19 00 49.6**	**-1.0**
FACH				Sb	**Sg**	**19 00 54.0**	**-2.2**
STB	**Steinbach**	**0.43**	**309**	P*	**Pg**	**19 00 51.5**	**+0.4**
STB				S*	**Sg**	**19 00 57.0**	**-0.1**
STB	**Steinbach**	**0.43**	**309**	Pb	**Pg**	**19 00 51.5**	**+0.4**
STB				Sb	**Sg**	**19 00 57.0**	**-0.1**
HILG	**Hillesheim**	**0.44**	**266**	P*	**Pg**	**19 00 52.3**	**+1.0**
HILG				S*	**Sb**	**19 00 59.3**	**+1.2**
HILG	**Hillesheim**	**0.44**	**266**	Pb	**Pg**	**19 00 52.3**	**+1.0**
HILG				Sb	**Sb**	**19 00 59.3**	**+1.2**
ABH	**Alteburg**	**0.46**	**165**⇑	*i*P*	**Pg**	**19 00 51.5**	**-0.1**
ABH				S*	**Sg**	**19 00 56.9**	**-1.0**
ABH	**Alteburg**	**0.46**	**165**	Pb	**Pg**	**19 00 51.5**	**-0.1**
ABH				Sb	**Sg**	**19 00 56.9**	**-1.0**
WBS	**Wahnbachtalspe**	**0.49**	**354**⇓	P*	**Pg**	**19 00 52.0**	**-0.2**
WBS				S*	**Sg**	**19 00 57.6**	**-1.1**
	162nm,0.1s						
BIW	**Bindweide**	**0.51**	**36**⇑	*i*P*	**Pg**	**19 00 51.2**	**-1.3**
BIW				S*	**Sg**	**19 00 57.4**	**-2.0**
BIW	**Bindweide**	**0.51**	**36**	Pb	**Pg**	**19 00 51.2**	**-1.3**
BIW				Sb	**Sg**	**19 00 57.4**	**-2.0**
LOH	**Wallersheim-Lo**	**0.55**	**255**⇓	*e*P*	**Pg**	**19 00 53.5**	**+0.1**
LOH				S*	**Sg**	**19 01 01.3**	**+0.6**
	152nm,0.2s						
LOH	**Wallersheim-Lo**	**0.55**	**255**	Pb	**Pg**	**19 00 53.5**	**+0.1**
LOH				Sb	**Sg**	**19 01 01.3**	**+0.6**
	152nm,0.2s						
OLFT	**Oleftalsperre**	**0.63**	**286**⇓	P*	**Pg**	**19 00 55.0**	**+0.2**
OLFT				*e*Sg	**Sg**	**19 01 04.0**	**+0.8**
OLFT				SmS		19 01 06.7	
OLFT	**Oleftalsperre**	**0.63**	**286**	Pb	**Pg**	**19 00 55.0**	**+0.2**
OLFT				Sg	**Sg**	**19 01 04.0**	**+0.8**
OLFT				S	**Sn**	**19 01 06.7**	**+0.4**
BNS	**Bensberg**	**0.65**	**349**⇑	*e*Pg	**Pg**	**19 00 54.9**	**-0.3**
BNS	**Bensberg**	**0.65**	**349**	Pg	**Pg**	**19 00 54.9**	**-0.3**
RUP	**Ruppelstein**	**0.65**	**198**	P*	**Pg**	**19 00 55.1**	**-0.1**
RUP				PmP		19 00 56.4	
RUP				SmS		19 01 07.1	
RUP	**Ruppelstein**	**0.65**	**198**	Pb	**Pg**	**19 00 55.1**	**-0.1**
RUP	**Ruppelstein**	**0.65**	**198**	P	**Pg**	**19 00 56.4**	**+1.1**
RUP				S	**Sb**	**19 01 07.1**	**+2.8**
HOBG	**Hohbusch**	**0.66**	**358**⇑	*e*Pg	**Pg**	**19 00 54.9**	**-0.5**
HOBG	**Hohbusch**	**0.66**	**358**	Pg	**Pg**	**19 00 54.9**	**-0.5**
BLI	**Bleialf**	**0.70**	**263**⇓	*i*P*	**Pg**	**19 00 56.0**	**-0.1**
BLI				PmP		19 00 57.4	
BLI				S*	**Sg**	**19 01 04.7**	**-0.6**
BLI	**Bleialf**	**0.70**	**263**	Pb	**Pg**	**19 00 56.0**	**-0.1**
BLI	**Bleialf**	**0.70**	**263**	P	**Pg**	**19 00 57.4**	**+1.3**
BLI				Sb	**Sg**	**19 01 04.7**	**-0.6**
TNS	**Taunus Mts**	**0.70**	**98**⇓	*i*P*	**Pg**	**19 00 55.0**	**-1.2**
TNS				PmP		19 00 57.0	
TNS				*e*Sg	**Sg**	**19 01 05.5**	**0.0**
TNS				SmS		19 01 06.1	
TNS	**Taunus Mts**	**0.70**	**98**	Pb	**Pg**	**19 00 55.0**	**-1.2**
TNS	**Taunus Mts**	**0.70**	**98**	P	**Pg**	**19 00 57.0**	**+0.8**
TNS				Sg	**Sg**	**19 01 05.5**	**0.0**
TNS				S	**Sb**	**19 01 06.1**	**+0.4**
RIVT	**Riveris**	**0.73**	**212**⇑	P*	**Pg**	**19 00 55.5**	**-1.1**
RIVT	**Riveris**	**0.73**	**212**	Pb	**Pg**	**19 00 55.5**	**-1.1**
KLL	**Kalltalsperre**	**0.75**	**296**⇓	*e*Pg	**Pg**	**19 00 56.9**	**-0.1**
KLL	**Kalltalsperre**	**0.75**	**296**	Pg	**Pg**	**19 00 56.9**	**-0.1**
GSH	**Grosshau**	**0.75**	**304**⇓	P*	**Pg**	**19 00 57.2**	**+0.1**
GSH				PmP		19 00 57.7	
GSH				*e*Sg	**Sg**	**19 01 07.4**	**+0.3**
	64nm,0.2s						
GSH				SmS		19 01 09.0	
	64nm,0.2s						
GSH	**Grosshau**	**0.75**	**304**	Pb	**Pg**	**19 00 57.2**	**+0.1**
GSH	**Grosshau**	**0.75**	**304**	P	**Pg**	**19 00 57.7**	**+0.6**
GSH				Sg	**Sg**	**19 01 07.4**	**+0.3**
	64nm,0.2s						
GSH				S	**Sb**	**19 01 09.0**	**+1.9**
	64nm,0.2s						
PLH	**Pulheim**	**0.77**	**333**	Pg	**Pg**	**19 00 57.4**	**0.0**
PLH				*e*Sg	**Sg**	**19 01 07.2**	**-0.3**
	370nm,0.2s						
PLH	**Pulheim**	**0.77**	**333**	Pg	**Pg**	**19 00 57.4**	**0.0**
PLH				Sg	**Sg**	**19 01 07.2**	**-0.3**
	370nm,0.2s						
DREG	**Dreilaegerbach**	**0.80**	**296**⇓	*e*Pg	**Pb**	**19 00 58.0**	**+0.1**
DREG	**Dreilaegerbach**	**0.80**	**296**	Pg	**Pb**	**19 00 58.0**	**+0.1**
IMS	**Imsbach**	**0.81**	**154**⇑	P*	**Pb**	**19 00 57.6**	**-0.4**
IMS				SmS		19 01 09.3	
IMS	**Imsbach**	**0.81**	**154**	Pb	**Pb**	**19 00 57.6**	**-0.4**
IMS				S	**Sb**	**19 01 09.6**	**+0.9**
LKLB	**Kalborn**	**0.84**	**255**⇓	P	**Pb**	**19 00 58.1**	**-0.4**
LKLB				S	**Sb**	**19 01 08.8**	**-0.8**
	comp=E,87nm,0.2s						
LKLB	**Kalborn**	**0.84**	**255**	P	**Pb**	**19 00 58.1**	**-0.4**
LKLB				S	**Sb**	**19 01 08.7**	**-0.8**
	comp=E,87nm,0.2s						
LVIA	**Vianden**	**0.84**	**243**	P	**Pb**	**19 00 57.9**	**-0.7**
LVIA				S	**Sb**	**19 01 10.5**	**+0.8**
LVIA	**Vianden**	**0.84**	**243**	P	**Pb**	**19 00 57.9**	**-0.7**
LVIA				S	**Sb**	**19 01 10.4**	**+0.8**
JUE	**Julich**	**0.85**	**314**	*e*Pg	**Pg**	**19 01 00.0**	**+1.1**
JUE	**Julich**	**0.85**	**314**	Pg	**Pg**	**19 01 00.0**	**+1.1**
MEM	**Membach**	**0.91**	**289**⇓	P	**Pb**	**19 00 59.8**	**0.0**
MEM				S	**Sb**	**19 01 13.2**	**+1.4**
	comp=N,56nm,0.3s						
MEM	**Membach**	**0.91**	**289**⇑	P*	**Pb**	**19 01 00.0**	**+0.2**
MEM				*e*Sg	**Sb**	**19 01 12.7**	**+1.0**
MEM	**Membach**	**0.91**	**289**	Pb	**Pb**	**19 01 00.0**	**+0.2**
MEM				Sg	**Sb**	**19 01 12.7**	**+1.0**
MEM				S	**Sb**	**19 01 13.1**	**+1.4**
	comp=N,56nm,0.3s						
ENTS	**Ennepetalsperr**	**0.92**	**2**	*e*Pg	**Pb**	**19 00 59.4**	**-0.5**
ENTS				Pg	**Pb**	**19 00 59.4**	**-0.5**
ENTS				*e*Sg	**Sb**	**19 01 11.4**	**-0.5**
ENTS	**Ennepetalsperr**	**0.92**	**2**	Pg	**Pb**	**19 00 59.4**	**-0.5**
ENTS				Sg	**Sb**	**19 01 11.4**	**-0.5**
WBB	**Darmstadt**	**0.96**	**119**	P	**Pb**	**19 01 01.0**	**+0.3**
WBB	**Darmstadt**	**0.96**	**119**	P	**Pb**	**19 01 01.0**	**+0.3**
DUP	**Duppenweiler**	**0.99**	**203**	P*	**Pb**	**19 01 00.5**	**-0.6**
DUP				S*	**Sb**	**19 01 14.4**	**+0.6**
DUP	**Duppenweiler**	**0.99**	**203**	Pb	**Pb**	**19 01 00.5**	**-0.6**
DUP				Sb	**Sb**	**19 01 14.4**	**+0.6**
HGN	**Heimansgroeve**	**1.02**	**296**	*e*Pg	**Pb**	**19 01 01.7**	**+0.2**
HGN				*e*Sg	**Sb**	**19 01 16.0**	**+1.4**
HGN	**Heimansgroeve**	**1.02**	**296**	*e*Pg	**Pb**	**19 01 02.1**	**+0.5**
	comp=N,72nm,0.1s,baz=107						
HGN				*e*Sg	**Sb**	**19 01 14.3**	**-0.4**
HGN	**Heimansgroeve**	**1.02**	**296**	*e*Pg	**Pb**	**19 01 02.1**	**+0.5**
	comp=N,72nm,0.1s						
HGN				Sg	**Sb**	**19 01 16.0**	**+1.4**
WLF	**Walferdange**	**1.02**	**230**	P	**Pb**	**19 01 00.6**	**-1.1**
WLF				S	**Sb**	**19 01 14.7

comp=N,89nm,0.3s,SNR=1.0
GIVF Givet 1.65 263 *e*Pn **Pn 19 01 09.8 -0.8**
SNR=1.0
GIVF Givet 1.65 263 *e*P **Pn 19 01 11.9 +1.3**
GIVF Givet 1.65 263 *e*Pg **Pb 19 01 13.6 +1.3**
GIVF *e*Sn **Sn 19 01 29.7 -1.7**
SNR=1.0
GIVF *e*Sg **Sb 19 01 35.5 +2.7**
comp=N,44nm,0.3s,SNR=1.0
BMRD Maredsous 1.67 270 P **Pn 19 01 11.4 +0.5**
BMRD S **Sb 19 01 34.8 +1.4**
BMRD Maredsous 1.67 270 P **Pn 19 01 11.3 +0.5**
BMRD S **Sb 19 01 34.7 +1.4**
WTSB Winterswijk 1.68 348 *e*Pg **Pn 19 01 12.5 +1.4**
WTSB *e*Sg **Sb 19 01 34.0 +0.2**
WTSB Winterswijk 1.68 348 *e*Pn **Pn 19 01 12.7 +1.6**
WTSB *e*Pg **Pg 19 01 15.2 +0.5**
comp=N,60nm,0.4s
WTSB *e*Sg **Sn 19 01 32.9 +0.6**
WTSB Winterswijk 1.68 348 *e*Pn **Pn 19 01 12.7 +1.6**
WTSB Winterswijk 1.68 348 *e*Pg **Pg 19 01 15.2 +0.5**
comp=N,60nm,0.4s
WTSB Sg **Sb 19 01 34.0 +0.2**
SIND Sindeldorf 1.75 123 P **Pn 19 01 11.6 -0.4**
SIND Pg **Pb 19 01 14.9 +0.8**
SIND Sindeldorf 1.75 123 P **Pn 19 01 11.6 -0.4**
UBBA Unterbreizbach 1.75 73 *e*Pg **Pn 19 01 13.3 +1.3**
UBBA *e*Sg **Sn 19 01 35.0 +1.1**
UBBA Unterbreizbach 1.75 73 Pg **Pn 19 01 13.3 +1.3**
UBBA Sg **Sn 19 01 35.0 +1.1**
DOU Dourbes 1.79 264 P **Pn 19 01 13.0 +0.3**
DOU S **Sb 19 01 38.3 +1.3**
comp=N,30nm,0.2s
DOU Dourbes 1.79 264 P **Pn 19 01 12.9 +0.3**
DOU S **Sb 19 01 38.3 +1.3**
comp=N,30nm,0.2s
OPP Oppenau 1.91 163 Pg **Pb 19 01 17.3 +0.5**
OPP Oppenau 1.91 163 Pg **Pb 19 01 17.3 +0.5**
WLS Welschbruch 1.91 180 Pg **Pn 19 01 17.3 +3.0**
WLS Welschbruch 1.91 180 Pg **Pn 19 01 17.3 +3.0**
CDF Champ du Feu 1.91 182 *e*Pn **Pn 19 01 12.6 -1.8**
SNR=1.0
CDF Champ du Feu 1.91 182 *e*Pg **Pn 19 01 17.2 +2.8**
CDF *e*Sg **Sb 19 01 42.4 +1.8**
comp=N,50nm,0.3s,SNR=1.0
CDF Champ du Feu 1.91 182 *e*Pn **Pn 19 01 12.6 -1.8**
SNR=1.0
CDF Champ du Feu 1.91 182 *e*Pg **Pn 19 01 17.2 +2.8**
CDF *e*Sg **Sb 19 01 42.4 +1.8**
comp=N,25nm,0.3s,SNR=1.0
BAIF Baives 2.05 264 *e*Pn **Pn 19 01 15.3 -0.8**
SNR=1.0
BAIF Baives 2.05 264 *e*P **Pn 19 01 17.7 +1.6**
BAIF Baives 2.05 264 *e*Pg **Pb 19 01 20.8 +1.7**
BAIF *e*Sg **Sb 19 01 47.4 +3.1**
comp=N,70nm,0.3s
BAIF Baives 2.05 264 *e*Pn **Pn 19 01 15.3 -0.8**
SNR=1.0
BAIF Baives 2.05 264 *e*P **Pn 19 01 17.7 +1.6**
BAIF Baives 2.05 264 *e*Pg **Pb 19 01 20.8 +1.7**
BAIF *e*Sg **Sb 19 01 47.4 +3.1**
comp=N,35nm,0.3s
PAGF Fort de Pagny 2.07 212 *e*Pn **Pn 19 01 15.0 -1.4**
baz=33
PAGF Fort de Pagny 2.07 212 *e*Pg **Pb 19 01 20.8 +1.3**
baz=30
PAGF *e*Sn **Sn 19 01 39.1 -2.7**
PAGF *e*Sg **Sb 19 01 47.8 +2.8**
comp=N,3.4nm,0.2s,baz=24
PAGF Fort de Pagny 2.07 212 *e*Pn **Pn 19 01 15.0 -1.4**
PAGF Fort de Pagny 2.07 212 *e*Pg **Pb 19 01 20.8 +1.3**
PAGF *e*Sg **Sb 19 01 47.8 +2.8**
comp=N,1.7nm,0.2s
BFO Black Forest 2.09 162 P **Pn 19 01 16.2 -0.6**
BFO *e*Sg **Sb 19 01 47.0 +1.3**
BFO Black Forest 2.09 162 P **Pn 19 01 16.2 -0.6**
BFO Sg **Sb 19 01 47.0 +1.3**
ECH Echery 2.11 184 *e*Pn **Pn 19 01 16.3 -0.7**
ECH Echery 2.11 184 Pn **Pn 19 01 16.3 -0.7**
ECH Echery 2.11 184 Pg **Pb 19 01 20.8 +0.5**
ECH Sg **Sg 19 01 50.7 +0.3**
ECH Echery 2.11 184 Pg **Pb 19 01 20.9 +0.5**
BSKQ Steenkerk 2.12 280 P **Pn 19 01 20.0 +2.8**
BSKQ Steenkerk 2.12 280 P **Pn 19 01 19.9 +2.8**
THEF They Montfort 2.29 204 Pg **Pb 19 01 23.7 +0.5**
THEF They Montfort 2.29 204 Pg **Pb 19 01 23.7 +0.5**
MEZF Maizieres J'vi 2.37 221 *e*Pn **Pn 19 01 18.5 -2.0**
baz=37,SNR=1.0
MEZF Maizieres J'vi 2.37 221 *e*Pg **Pb 19 01 26.0 +1.4**
baz=41,SNR=1.0
MEZF *e*Sn **Sn 19 01 45.7 -3.5**
baz=34,SNR=1.0
MEZF *e*Sg **Sb 19 01 56.7 +3.2**
comp=N,21nm,0.3s,baz=51,SNR=1.0
MEZF Maizieres J'vi 2.37 221 *e*Pn **Pn 19 01 18.5 -2.0**
SNR=1.0
MEZF Maizieres J'vi 2.37 221 *e*Pg **Pb 19 01 26.0 +1.4**
SNR=1.0
MEZF *e*Sg **Sb 19 01 56.7 +3.2**
comp=N,11nm,0.3s,SNR=1.0
KIZ Kirchzarten 2.40 171 Pg **Pb 19 01 26.8 +1.7**
KIZ Sg **Sb 19 01 58.1 +3.7**
KIZ Kirchzarten 2.40 171 Pg **Pb 19 01 26.8 +1.7**
KIZ Sg **Sb 19 01 58.1 +3.7**
HAU Haudompre 2.41 196 *e*Pn **Pn 19 01 20.3 -0.9**
SNR=1.0
HAU Haudompre 2.41 196 *e*Pg **Pb 19 01 26.3 +0.9**
HAU *e*Sg **Sb 19 01 57.6 +2.7**
comp=N,34nm,0.4s,SNR=1.0
HAU Haudompre 2.41 196 *e*Pn **Pn 19 01 20.3 -0.9**
SNR=1.0
HAU Haudompre 2.41 196 *e*Pg **Pb 19 01 26.3 +0.9**
HAU *e*Sg **Sb 19 01 57.6 +2.7**
comp=N,17nm,0.4s,SNR=1.0
CLZ Clausthal 2.43 50 *e*Pn **Pn 19 01 19.8 -1.6**
CLZ *e*Pg **Pb 19 01 25.3 -0.4**
CLZ *e*Sg **Sb 19 01 57.4 +2.0**
CLZ Clausthal 2.43 50 Pn **Pn 19 01 19.8 -1.6**
MOF Molkenrain 2.48 184 Pg **Pb 19 01 28.5 +1.9**
MOF Molkenrain 2.48 184 Pg **Pb 19 01 28.3 +1.8**
MOF Sg **Sb 19 02 01.5 +4.7**
MOF Molkenrain 2.48 184 Pg **Pb 19 01 28.4 +1.8**
FELD Feldberg im Sc 2.48 170 P **Pn 19 01 21.7 -0.5**
FELD Pg **Pb 19 01 28.6 +1.9**
FELD Feldberg im Sc 2.48 170 Pn **Pn 19 01 21.7 -0.5**
FELD Feldberg im Sc 2.48 170 Pn **Pn 19 01 21.7 -0.5**
GUT Gutenstein 2.53 152 P **Pn 19 01 22.4 -0.4**
GUT Gutenstein 2.53 152 P **Pn 19 01 22.4 -0.4**
HINF Hinteralfeld 2.53 188 *e*Pn **Pn 19 01 21.6 -1.2**
SNR=1.0
HINF Hinteralfeld 2.53 188 *e*Pg **Pb 19 01 29.0 +1.6**
SNR=1.0
HINF *e*Sn **Sn 19 01 49.4 -3.9**
SNR=1.0
HINF *e*Sg **Sb 19 02 00.9 +2.6**
comp=N,24nm,0.2s,SNR=1.0
HINF Hinteralfeld 2.53 188 *e*Pn **Pn 19 01 21.6 -1.2**
SNR=1.0
HINF Hinteralfeld 2.53 188 *e*Pg **Pb 19 01 29.0 +1.6**
SNR=1.0
HINF *e*Sg **Sb 19 02 00.9 +2.6**
comp=N,12nm,0.2s,SNR=1.0
GRFO Grafenberg 2.57 103 *e*Pg **Pb 19 01 29.6 +1.6**
GRFO *e*Sg **Sb 19 02 03.4 +4.1**
GRFO Grafenberg 2.57 103 Pg **Pb 19 01 29.6 +1.6**
GRFO Sg **Sb 19 02 03.4 +4.1**
GRA1 Grafenberg Arr 2.57 103 Pn **Pn 19 01 23.1 -0.1**
GRA1 Grafenberg Arr 2.57 103 Pg **Pb 19 01 29.4 +1.4**
GRA1 Sg **Sb 19 02 02.9 +3.6**
GRF Grafenberg Arr 2.57 103 *e*Pn **Pn 19 01 23.1 -0.1**
GRF Pg **Pb 19 01 29.4 +1.4**
GRF *e*Sg **Sb 19 02 02.9 +3.6**
SFTF Sexfontaines 2.61 217 *e*Pn **Pn 19 01 22.3 -1.6**
SFTF Sexfontaines 2.61 217 *e*Pg **Pb 19 01 30.5 +1.7**
baz=43
SFTF *e*Sg **Sb 19 02 04.4 +3.8**
comp=N,12nm,0.2s,baz=28
SFTF Sexfontaines 2.61 217 *e*Pn **Pn 19 01 22.3 -1.6**
SFTF Sexfontaines 2.61 217 *e*Pg **Pb 19 01 30.5 +1.7**
SFTF *e*Sg **Sb 19 02 04.4 +3.8**
comp=N,5.8nm,0.2s
ENDD Endenburg 2.62 174 P **Pn 19 01 23.6 -0.4**
ENDD Pg **Pb 19 01 30.6 +1.7**
SLE Schleitheim 2.67 163 P **Pn 19 01 24.4 -0.3**
SLE Schleitheim 2.67 163 P **Pn 19 01 24.4 -0.3**
MOX Moxa 2.73 82 *e*Sg **Sb 19 02 05.6 +1.5**
MOX Moxa 2.73 82 Sg **Sb 19 02 05.6 +1.5**
WIMM Wimmelburg 2.88 64 *e*Sg **Sb 19 02 08.8 +0.5**
WIMM Wimmelburg 2.88 64 Sg **Sb 19 02 08.8 +0.5**
LOMF Lomont 3.00 187 Pn **Pn 19 01 27.2 -2.0**
LOMF Lomont 3.00 187 Pg **Pb 19 01 37.7 +2.4**
LOMF Sg **Sg 19 02 19.0 +0.4**
LOMF Lomont 3.00 187 Pn **Pn 19 01 27.3 -2.0**
LOMF Lomont 3.00 187 Pg **Pb 19 01 37.8 +2.4**
MANZ Manzenberg 3.07 94 *e*Pn **Pn 19 01 30.3 +0.1**
MANZ *e*Pg **Pb 19 01 38.6 +2.0**
MANZ Manzenberg 3.07 94 Pn **Pn 19 01 30.3 +0.1**
ROTZ Rotzenmuhle 3.17 98 *e*Pn **Pn 19 01 32.8 +1.2**
ROTZ *e*Pg **Pb 19 01 39.9 +1.6**
ROTZ *e*Sg **Sb 19 02 19.3 +2.6**
ROTZ Rotzenmuhle 3.17 98 Pn **Pn 19 01 32.8 +1.2**
GUNZ Gunzen 3.18 87 *e*Sg **Sb 19 02 20.7 +3.7**
GUNZ Gunzen 3.18 87 Sg **Sb 19 02 20.7 +3.7**
WERN Wernitzgruen 3.21 89 *e*Pn **Pn 19 01 31.7 -0.5**
WERN Wernitzgruen 3.21 89 Pn **Pn 19 01 31.7 -0.5**
NKC Novy Kostel 3.26 90 *e*PG **Pb 19 01 41.7 +1.8**
NKC *ex* x 19 01 45.3
NKC *e*SG **Sb 19 02 23.2 +3.9**
comp=N,11nm,0.4s
NKC Novy Kostel 3.26 90 Pg **Pb 19 01 41.7 +1.8**
NKC Sg **Sb 19 02 23.2 +3.9**
comp=N,11nm,0.4s
CLL Collm 3.71 72 *e*Pg **Pb 19 01 50.0 +2.6**
CLL *e*Sg **Sb 19 02 35.0 +2.9**
comp=Z,12nm,0.8s
WET Wettzell 3.77 106 *e*Pn **Pn 19 01 40.2 +0.4**
WET *e*Sg **Sb 19 02 40.0 +6.2**
WET Wettzell 3.77 106 Pn **Pn 19 01 40.2 +0.4**
WET Sg **Sb 19 02 40.0 +6.2**
CABF La Chapelle 3.81 193 *e*Pn **Pn 19 01 38.4 -2.1**
SNR=1.0
CABF *e*Sn **Sn 19 02 19.6 -5.3**
comp=Z,3.6nm,0.3s,SNR=1.0
CABF *e*Sg **Sb 19 02 41.6 +6.4**
comp=Z,5.7nm,0.4s
CABF La Chapelle 3.81 193 *e*Pn **Pn 19 01 38.4 -2.1**
SNR=1.0
CABF *e*Sg **Sb 19 02 41.6 +6.4**
comp=Z,2.8nm,0.4s
LOR Lormes 3.84 219 *e*Pn **Pn 19 01 39.4 -1.3**
baz=46,SNR=1.0
LOR *e*Sn **Sn 19 02 21.1 -4.3**
comp=Z,9.0nm,0.2s,baz=32,SNR=1.0
LOR *e*Sg **Sb 19 02 42.5 +6.7**
comp=Z,8.8nm,0.3s,baz=23
LOR Lormes 3.84 219 *e*Pn **Pn 19 01 39.4 -1.3**
SNR=1.0
LOR *e*Sg **Sb 19 02 42.5 +6.7**
comp=Z,4.4nm,0.3s
MOTA Moosalm 3.87 139 Pn **Pn 19 01 42.1 +0.8**
comp=Z,0.5nm,0.1s
MOTA Sn **Sn 19 02 24.5 -2.0**
comp=Z,0.8nm,0.1s
MOTA Moosalm 3.87 139 *i* Pn **Pn 19 01 42.1 +0.8**
comp=Z,0.5nm,0.1s
MOTA *i* Sn **Sn 19 02 24.5 -2.0**
comp=Z,0.8nm,0.1s
FETA Feichten 3.99 145 Pn **Pn 19 01 44.3 +1.4**
comp=Z,0.2nm,0.1s
FETA Sn **Sn 19 02 29.2 -0.2**
comp=Z,0.1nm,0.1s
FETA Feichten 3.99 145 *i* Pn **Pn 19 01 44.3 +1.4**
comp=Z,0.2nm,0.1s
FETA *i* Sn **Sn 19 02 29.2 -0.2**
comp=Z,0.1nm,0.1s
WATA Walderalm 4.08 135 Pn **Pn 19 01 45.0 +0.8**
comp=Z,1.0nm,0.1s
WATA Sn **Sn 19 02 29.0 -2.7**
comp=Z,1.2nm,0.1s
WATA Walderalm 4.08 135 *i* Pn **Pn 19 01 45.0 +0.8**
comp=Z,1.0nm,0.1s
WATA *e*Sn **Sn 19 02 29.0 -2.7**
comp=Z,1.2nm,0.1s
SSF Saint Saulge 4.15 220 *e*Pn **Pn 19 01 43.4 -1.6**
SNR=1.0
SSF *e*Sn **Sn 19 02 28.5 -4.5**
comp=Z,3.5nm,0.2s,SNR=1.0
SSF *e*Sg **Sg 19 02 52.8 -2.7**
comp=Z,7.9nm,0.4s
SSF Saint Saulge 4.15 220 *e*Pn **Pn 19 01 43.4 -1.6**
SNR=1.0
SSF *e*Sg **Sg 19 02 52.8 -2.7**
comp=Z,4.0nm,0.4s
WTTA Wattenberg 4.16 136 Pn **Pn 19 01 46.0 +0.6**
comp=Z,0.4nm,0.1s
WTTA Wattenberg 4.16 136 *i* Pn **Pn 19 01 46.0 +0.6**
comp=Z,0.4nm,0.1s
KHC Kasperske Hory 4.20 104 *e*PN **Pn 19 01 46.4 +0.6**
KHC *ex* x 19 01 49.8
KHC *e*PG **Pb 19 01 59.2 +3.3**
KHC *e*SN **Sn 19 02 32.1 -2.4**
KHC *e*SG **Sb 19 02 52.7 +6.3**
comp=Z,2.2nm,0.3s
KHC Kasperske Hory 4.20 104 Pn **Pn 19 01 46.4 +0.6**
KHC Sn **Sn 19 02 32.1 -2.4**
KHC Sg **Sb 19 02 52.7 +6.3**
comp=Z,2.2nm,0.3s
BRG Berggiesshubel 4.23 80 SG **Sg 19 02 56.0 -2.0**
comp=Z,3.8nm,0.6s
SMF Signal de Mont 4.36 214 *e*Pn **Pn 19 01 45.5 -2.5**
SNR=1.0
SMF *e*Sn **Sn 19 02 33.8 -4.6**
SNR=1.0
SMF *e*Sg **Sg 19 02 58.9 -3.5**
comp=Z,4.8nm,0.3s,SNR=1.0
SMF Signal de Mont 4.36 214 *e*Pn **Pn 19 01 45.5 -2.5**
SNR=1.0
SMF *e*Sg **Sg 19 02 58.9 -3.5**
comp=Z,2.4nm,0.3s,SNR=1.0
HYF Humbligny 4.37 227 *e*Pg Pb 19 02 03.2 +4.4
HYF *e*Sg **Sg 19 02 58.9 -3.8**
HYF Humbligny 4.37 227 *e*Pg Pb 19 02 03.2 +4.4
GEC2 GERESS Array S 4.38 107 *e*Pn **Pn 19 01 48.5 +0.2**
GEC2 *e*Sn **Sn 19 02 36.2 -2.8**
GEC2 *e*Sg **Sg 19 03 02.9 0.0**
GEC2 GERESS Array S 4.38 107 Pn **Pn 19 01 48.5 +0.2**
GEC2 Sn **Sn 19 02 36.2 -2.8**
GEC2 Sg **Sg 19 03 02.9 0.0**
RJOB Jochberg 4.41 124 *e*Pn **Pn 19 01 49.8 +1.1**
RJOB *e*Sn **Sn 19 02 38.0 -1.7**
RJOB Jochberg 4.41 124 Pn **Pn 19 01 49.8 +1.1**
RJOB Sn **Sn 19 02 38.0 -1.7**
AVF Avril sur Loir 4.43 219 *e*Pn **Pn 19 01 47.5 -1.3**
SNR=1.0
AVF *e*Sn **Sn 19 02 34.1 -5.8**
comp=Z,4.0nm,0.5s,SNR=1.0
AVF *e*Sg **Sg 19 03 00.7 -3.8**
comp=Z,3.1nm,0.4s
AVF Avril sur Loir 4.43 219 *e*Pn **Pn 19 01 47.5 -1.3**
SNR=1.0
PRU Pruhonice 4.63 91 *e*SG **Sg 19 03 06.2 -4.6**
PRU Pruhonice 4.63 91 Sg **Sg 19 03 06.2 -4.6**
BGF Bois d'Agland 4.82 220 *e*Pn **Pn 19 01 52.8 -1.4**
SNR=1.0
BGF Bois d'Agland 4.82 220 *e*P **Pn 19 01 57.1 +2.9**
BGF *e*Sn **Sn 19 02 44.0 -5.7**
comp=Z,10nm,0.4s,SNR=1.0
BGF *e*Sg **Sg 19 03 13.5 -3.6**
comp=Z,24nm,0.4s
BGF Bois d'Agland 4.82 220 *e*Pn **Pn 19 01 52.8 -1.4**
SNR=1.0
BGF Bois d'Agland 4.82 220 *e*P **Pn 19 01 57.1 +2.9**
BGF *e*Sg **Sg 19 03 13.5 -3.6**
comp=Z,12nm,0.4s
KBA Koelnbreinsper 5.12 127 Pn **Pn 19 02 00.1 +1.6**
comp=Z,0.7nm,0.1s
KBA Sn **Sn 19 02 54.2 -3.1**
comp=Z,1.2nm,0.1s
KBA Koelnbreinsper 5.12 127 *i* Pn **Pn 19 02 00.1 +1.6**
comp=Z,0.7nm,0.1s
KBA *i* Sn **Sn 19 02 54.2 -3.1**
comp=Z,1.2nm,0.1s
MOA Molln 5.17 116 Pn **Pn 19 02 00.1 +1.1**
comp=Z,1.8nm,0.2s
MOA Sn **Sn 19 02 54.6 -3.6**
comp=Z,2.5nm,0.3s
MOA Molln 5.17 116 *i* Pn **Pn 19 02 00.1 +1.1**
comp=Z,1.8nm,0.2s
MOA *i* Sn **Sn 19 02 54.6 -3.6**
comp=Z,2.5nm,0.3s
LDF La Druitiere 5.18 253 *e*Pn **Pn 19 01 59.3 +0.1**
SNR=1.0
LDF *e*Sn **Sn 19 02 54.0 -4.5**
LDF *e*Sg **Sg 19 03 24.2 -4.4**
comp=Z,5.0nm,0.3s,SNR=1.0
LDF La Druitiere 5.18 253 *e*Pn **Pn 19 01 59.3 +0.1**
SNR=1.0
TCF Toulx Ste Croi 5.30 222 *e*Pn **Pn 19 02 00.5 -0.4**
SNR=1.0
TCF *e*Sn **Sn 19 02 56.9 -4.7**
TCF *e*Sg **Sg 19 03 29.3 -3.3**
comp=Z,3.1nm,0.3s
TCF Toulx Ste Croi 5.30 222 *e*Pn **Pn 19 02 00.5 -0.4**
SNR=1.0
TCF *e*Sg **Sg 19 03 29.3 -3.3**
comp=Z,1.5nm,0.3s
FLN La Foliniere 5.34 256 *e*Pn **Pn 19 02 01.3 -0.1**
baz=73
FLN *e*Sn **Sn 19 02 57.4 -5.1**
SNR=1.0
FLN *e*Sg **Sg 19 03 29.2 -4.6**
comp=Z,14nm,0.7s,baz=75,SNR=1.0
FLN La Foliniere 5.34 256 *e*Pn **Pn 19 02 01.3 -0.1**
GRR Gorron 5.71 253 *e*Sn **Sn 19 03 06.2 -5.4**
comp=Z,2.5nm,0.2s,SNR=1.0
GRR *e*Sg **Sg 19 03 42.2 -3.4**
comp=Z,2.9nm,0.3s
DPC Dobruska-Polom 5.74 86 *e*SG **Sg 19 03 42.1 -4.3**
ARSA Arzberg 6.21 117 *i* Sn **Sn 19 03 20.4 -3.4**
comp=Z,0.4nm,0.2s
MFF Saint Martin d 6.23 236 *e*Sn **Sn 19 03 18.3 -6.0**
comp=Z,3.9nm,0.6s,SNR=1.0
MTLF Montolieu 7.82 209 *e*Pn **Pn 19 02 33.0 -2.5**

DDA ***12*** *19:00:48.9,36°.83N×29°.07E,h29km,MI2.0*
CSEM ***12*** *19:00:49.3±0.2,36°.82N×29°.07E,h20km,ML2.8,Error ellipse: s-maj=9.4km s-min=5.7km az=169.0*
ISCJB ***12*** *19:00:50.0±1.0,36°.90N±0°.05×29°.05E±0°.06,h7km,Error ellipse: s-maj=8.0km s-min=7.3km az=27.4*
ISK ***12*** *19:00:50.4,36°.76N×28°.96E,h17km,ML2.8/2*
ISC 12 19:00:47.5±1.3,36°.91N±0°.07×29°.22E±0°.05,h7km,n12,σ2s12/19,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.29**	**202**	PG	**Pb**	**19 00 54.9**	**-0.2**
FETY	**Fethiye**	**0.29**	**202**	P	**Pb**	**19 00 55.1**	**0.0**
FETY				S	**Sb**	**19 00 59.4**	**-0.8**
GOLH	**Golhisar**	**0.43**	**39**	*i* P	**Pn**	**19 01 00.6**	**+0.4**
GOLH	**Golhisar**	**0.43**	**39**	P	**Pn**	**19 01 00.6**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.47**	**259**	PG	**Pb**	**19 00 56.5**	**-1.5**
DALY				SG	**Sg**	**19 01 00.8**	**-1.8**
DALY	**Dalyan (Mu¨la**	**0.47**	**259**	*i* P	**Pb**	**19 00 56.5**	**-1.5**
DALY				*i* S	**Sg**	**19 01 01.2**	**-1.4**
DALY	**Dalyan (Mu¨la**	**0.47**	**259**	*e*Pg	**Pb**	**19 00 56.5**	**-1.5**
DALY				*e*Sg	**Sg**	**19 01 00.8**	**-1.8**
DALY				S	**Sg**	**19 01 01.2**	**-1.4**
TURN	**Turunc**	**0.50**	**266**	PG	**Pn**	**19 01 02.2**	**+1.2**
TURN				SG	**Sb**	**19 01 10.8**	**+4.7**
TURN	**Turunc**	**0.50**	**266**	*i* P	**Pn**	**19 01 02.4**	**+1.3**
TURN	**Turunc**	**0.50**	**266**	*e*Pg	**Pn**	**19 01 02.2**	**+1.2**
TURN				*e*Sg	**Sb**	**19 01 10.8**	**+4.7**
YER	**Yerkesik**	**0.79**	**287**	PG	**Pn**	**19 01 03.7**	**-1.4**
YER	**Yerkesik**	**0.79**	**287**	*e*Pg	**Pn**	**19 01 03.7**	**-1.4**

IDC ***12*** *19:04:31.2±5.3,33°.91N×22°.48E,h0km,mb3.9/3, mb1 3.7/5,mb1mx3.3/61,mbtmp3.7/5,ML3.7/2,Error ellipse: s-maj=94.2km s-min=42.7km az=20.0*
ATH ***12*** *19:04:45.7,34°.96N×23°.08E,h41km±2km,ML3.1/4,Error ellipse: s-maj=2.7km s-min=1.0km az=175.0*
ISCJB ***12*** *19:04:46.7±1.1,35°.00N±0°.09×23°.15E±0°.08,h71km±7km, mb3.6/3,Error ellipse: s-maj=17.5km s-min=5.7km az=36.3*
CSEM ***12*** *19:04:47.2±0.3,34°.97N×23°.13E,h30km,ML3.1,Error ellipse: s-maj=7.0km s-min=2.3km az=30.0*
THE ***12*** *19:04:47.2,34°.95N×23°.13E,h21km±2km,ML3.1/5,Error ellipse: s-maj=2.1km s-min=1.0km az=247.0*
ISC 12 19:04:47.8±1.4,34°.99N±0°.07×23°.17E±0°.07,h57km±11km, n84,σ0s75/97,mb3.7/3,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.77**	**101**	P	**Pn**	**19 05 02.5**	**-0.3**
GVD				S	**Sn**	**19 05 15.7**	**+2.0**
GVD				AML	AML	19 05 17.6	
	comp=N,3024μm,0.4s						
GVD				AML	AML	19 05 17.8	
	comp=E,2873μm,0.3s						
GVD	**Gavdhos**	**0.77**	**101**	P	**Pn**	**19 05 02.3**	**-0.5**
GVD				S	**Sn**	**19 05 13.5**	**-0.3**
GVD	**Gavdhos**	**0.77**	**101**	P	**Pn**	**19 05 02.2**	**-0.5**
GVD				S	**Sn**	**19 05 13.5**	**-0.3**
IMMV	**Iera Moni Meta**	**0.82**	**55**	P	**Pn**	**19 05 02.5**	**-0.8**
IMMV				S	**Sn**	**19 05 17.0**	**+2.2**
IMMV				AML	AML	19 05 20.5	
	comp=N,2408μm,0.6s						
IMMV				AML	AML	19 05 21.3	
	comp=E,3492μm,0.7s						
IMMV	**Iera Moni Meta**	**0.82**	**55**	P	**Pn**	**19 05 02.8**	**-0.6**
IMMV				S	**Sn**	**19 05 15.3**	**+0.5**
IMMV	**Iera Moni Meta**	**0.82**	**55**	P	**Pn**	**19 05 02.6**	**-0.8**
IMMV				S	**Sn**	**19 05 15.3**	**+0.5**
ANKY	**Antikythira Is**	**0.88**	**7**	P	**Pn**	**19 05 04.5**	**+0.3**
ANKY				S	**Sn**	**19 05 16.7**	**+0.4**
ANKY				AML	AML	19 05 22.9	
	comp=N,1871μm,0.7s						
ANKY				AML	AML	19 05 23.9	
	comp=E,1248μm,0.6s						
ANKY	**Antikythira Is**	**0.88**	**7**	P	**Pn**	**19 05 04.0**	**-0.2**
ANKY				S	**Sn**	**19 05 17.2**	**+0.9**
ANKY	**Antikythira Is**	**0.88**	**7**	P	**Pn**	**19 05 04.0**	**-0.2**
ANKY				S	**Sn**	**19 05 17.2**	**+0.9**
VAM	**Vamos**	**0.94**	**63**	P	**Pn**	**19 05 05.0**	**0.0**
VAM				S	**Sn**	**19 05 18.0**	**+0.3**
VAM				AML	AML	19 05 24.5	
	comp=N,1698μm,0.5s						
VAM				AML	AML	19 05 24.8	
	comp=E,1188μm,0.6s						
VAM	**Vamos**	**0.94**	**63**	P	**Pn**	**19 05 04.9**	**-0.1**
VAM				S	**Sn**	**19 05 18.4**	**+0.7**
VAM	**Vamos**	**0.94**	**63**	P	**Pn**	**19 05 04.8**	**-0.2**
VAM				S	**Sn**	**19 05 18.8**	**+1.1**
KYTH	**Kithira**	**1.28**	**356**	P	**Pn**	**19 05 10.3**	**+0.8**
SIVA	**Sivas**	**1.35**	**88**	P	**Pn**	**19 05 10.7**	**+0.3**
SIVA	**Sivas**	**1.35**	**88**	P	**Pn**	**19 05 10.5**	**+0.1**
SIVA				S	**Sn**	**19 05 28.6**	**+1.3**
SIVA	**Sivas**	**1.35**	**88**	P	**Pn**	**19 05 10.5**	**+0.1**
SIVA				S	**Sn**	**19 05 28.6**	**+1.3**
IDI	**Anoyia**	**1.45**	**78**	Pn	**Pn**	**19 05 11.8**	**0.0**
	comp=E,6.0nm,0.3s,baz=221,slow=12,SNR=83						
VLI	**Velia**i	**1.74**	**354**	P	**Pn**	**19 05 15.0**	**-0.6**
VLI	**Velia**i	**1.74**	**354**	P	**Pn**	**19 05 15.2**	**-0.5**
VLI	**Velia**i	**1.74**	**354**	P	**Pn**	**19 05 16.4**	**+0.7**
LAST	**Lasithi**	**1.91**	**84**	P	**Pn**	**19 05 18.3**	**+0.3**
LAST	**Lasithi**	**1.91**	**84**	P	**Pn**	**19 05 18.3**	**+0.3**
MHLO	**Agia Marina, M**	**1.97**	**30**	P	**Pn**	**19 05 19.1**	**+0.2**
MHLO	**Agia Marina, M**	**1.97**	**30**	P	**Pn**	**19 05 18.7**	**-0.2**
MHLO	**Agia Marina, M**	**1.97**	**30**	P	**Pn**	**19 05 18.7**	**-0.2**
NPS	**Neapolis**	**2.02**	**82**	P	**Pn**	**19 05 20.9**	**+1.3**
NPS	**Neapolis**	**2.02**	**82**	P	**Pn**	**19 05 20.4**	**+0.8**
MHLA	**Plaka, Milos I**	**2.03**	**30**	P	**Pn**	**19 05 19.3**	**-0.3**
MHLA	**Plaka, Milos I**	**2.03**	**30**	P	**Pn**	**19 05 19.6**	**0.0**
THR6	**Thira Island,**	**2.27**	**52**	P	**Pn**	**19 05 22.3**	**-0.6**
THR6	**Thira Island,**	**2.27**	**52**	P	**Pn**	**19 05 22.3**	**-0.6**
THR5	**Thira Island,**	**2.28**	**51**	P	**Pn**	**19 05 22.2**	**-0.8**
THR5	**Thira Island,**	**2.28**	**51**	P	**Pn**	**19 05 22.2**	**-0.8**
THR3	**Thira Island,**	**2.31**	**51**	P	**Pn**	**19 05 22.8**	**-0.6**
THR3	**Thira Island,**	**2.31**	**51**	P	**Pn**	**19 05 22.8**	**-0.6**
KRND	**KRANIDI**	**2.39**	**360**	P	**Pn**	**19 05 25.4**	**+0.8**
KRND	**KRANIDI**	**2.39**	**360**	P	**Pn**	**19 05 25.0**	**+0.5**
ITM	**Ithomi**	**2.41**	**336**	P	**Pn**	**19 05 25.4**	**+0.6**
ITM	**Ithomi**	**2.41**	**336**	P	**Pn**	**19 05 24.9**	**+0.1**
ZKR	**Zakros**	**2.51**	**86**	P	**Pn**	**19 05 27.0**	**+0.9**
ZKR	**Zakros**	**2.51**	**86**	P	**Pn**	**19 05 26.9**	**+0.7**
DID	**Didima**	**2.51**	**1**	P	**Pn**	**19 05 26.1**	**-0.2**
DID	**Didima**	**2.51**	**1**	P	**Pn**	**19 05 26.2**	**-0.1**
DID	**Didima**	**2.51**	**1**	P	**Pn**	**19 05 26.2**	**-0.1**
ANAF	**Anafi Island**	**2.52**	**56**	P	**Pn**	**19 05 25.7**	**-0.7**

ANAF	**Anafi Island**	**2.52**	**56**	P	**Pn**	**19 05 26.4**	**0.0**
TRIP	**Tripoli**	**2.63**	**344**	P	**Pn**	**19 05 26.9**	**-1.1**
TRIP	**Tripoli**	**2.63**	**344**	P	**Pn**	**19 05 27.4**	**-0.6**
VLY	**Voula,Athens**	**2.90**	**10**	P	**Pn**	**19 05 31.1**	**-0.5**
VLY	**Voula,Athens**	**2.90**	**10**	P	**Pn**	**19 05 31.5**	**-0.1**
LOUT	**Loutraki**	**3.00**	**357**	P	**Pn**	**19 05 31.8**	**-1.1**
LOUT	**Loutraki**	**3.00**	**357**	P	**Pn**	**19 05 32.4**	**-0.5**
ATHU	**Athens Univers**	**3.01**	**9**	P	**Pn**	**19 05 32.4**	**-0.7**
ATHU	**Athens Univers**	**3.01**	**9**	P	**Pn**	**19 05 33.0**	**-0.1**
GUR	**Goura**	**3.02**	**348**	P	**Pn**	**19 05 33.8**	**+0.6**
GUR	**Goura**	**3.02**	**348**	P	**Pn**	**19 05 33.5**	**+0.3**
LTK	**Loutraki**	**3.03**	**357**	P	**Pn**	**19 05 33.5**	**+0.2**
LTK	**Loutraki**	**3.03**	**357**	P	**Pn**	**19 05 33.6**	**+0.2**
THAL	**Thalero**	**3.07**	**353**	P	**Pn**	**19 05 33.4**	**-0.4**
THAL	**Thalero**	**3.07**	**353**	P	**Pn**	**19 05 33.7**	**-0.1**
KLV	**Kalavryta, Ach**	**3.16**	**345**	P	**Pn**	**19 05 34.3**	**-0.8**
KLV	**Kalavryta, Ach**	**3.16**	**345**	P	**Pn**	**19 05 34.7**	**-0.4**
VILL	**Villia**	**3.17**	**2**	P	**Pn**	**19 05 35.7**	**+0.4**
DRO	**Drossia**	**3.18**	**339**	P	**Pn**	**19 05 35.5**	**0.0**
DRO	**Drossia**	**3.18**	**339**	P	**Pn**	**19 05 35.4**	**0.0**
VIL2	**Platees**	**3.22**	**1**	P	**Pn**	**19 05 35.8**	**-0.1**
EREA	**Eretria**	**3.48**	**10**	P	**Pn**	**19 05 39.0**	**-0.5**
EREA	**Eretria**	**3.48**	**10**	P	**Pn**	**19 05 39.5**	**0.0**
TRIZ	**Trizonia**	**3.48**	**346**	P	**Pn**	**19 05 39.7**	**+0.2**
TRIZ	**Trizonia**	**3.48**	**346**	P	**Pn**	**19 05 39.7**	**+0.2**
KALE	**Kalithea**	**3.50**	**347**	P	**Pn**	**19 05 39.6**	**-0.1**
KALE	**Kalithea**	**3.50**	**347**	P	**Pn**	**19 05 39.8**	**+0.1**
EFP	**Efpalio**	**3.58**	**344**	P	**Pn**	**19 05 40.6**	**-0.2**
EFP	**Efpalio**	**3.58**	**344**	P	**Pn**	**19 05 40.8**	**0.0**
PDO	**Prodromos**	**3.94**	**337**	P	**Pn**	**19 05 45.7**	**0.0**
PDO	**Prodromos**	**3.94**	**337**	P	**Pn**	**19 05 45.8**	**0.0**
AGG	**Agios Georgios**	**4.08**	**351**	P	**Pn**	**19 05 48.1**	**+0.3**
AGG	**Agios Georgios**	**4.08**	**351**	P	**Pn**	**19 05 48.1**	**+0.3**
STON	**Ston**	**8.95**	**333**	*e*Pn	Pn	19 06 48.8	-5.5
STON				Sn	Sn	19 08 20.9	-13
NVLJ	**Novalja**	**11.49**	**329**	*e*Pn	**Pn**	**19 07 25.4**	**-3.6**
AKASG	**Malin Array Be**	**16.31**	**14**	P	**P**	**19 08 36.6**	**+1.6**
	comp=E,0.7nm,0.3s,baz=210,slow=9.7,SNR=4.8						
HFS	**Hagfors**	**25.90**	**349**	P	**P**	**19 10 13.3**	**-0.8**
	comp=E,1.7nm,0.7s,baz=175,slow=19,SNR=3.7						
MKAR	**Makanchi Array**	**45.23**	**56**	P	**P**	**19 12 58.9**	**-0.5**
	comp=E,0.3nm,0.3s,baz=265,slow=8.0,SNR=22						
ZALV	**Zalesovo Beam**	**46.30**	**46**	P	**P**	**19 13 06.7**	**-0.9**
	comp=E,0.7nm,0.3s,baz=273,slow=7.7,SNR=4.8						

DDA ***12*** *19:16:08.9,38.˝75N×43.˝55E,h7km,Ml2.8*
ISK ***12*** *19:16:08.6,38.˝77N×43.˝52E,h8km,ML2.7/7*
ISCJB ***12*** *19:16:09.4±0.6,38.˝77N±0.˝03×43.˝54E±0.˝06,h12km±4km, Error ellipse: s-maj=8.3km s-min=4.6km az=21.5*
CSEM ***12*** *19:16:09.1±0.3,38.˝79N×43.˝52E,h15km,ML2.7, Error ellipse: s-maj=7.4km s-min=4.7km az=93.0*

ISC 12 19:16:10.0±0.9, 38.˝76N±0.˝02×43.˝51E±0.˝03, h18km±6km, n30,σ1ˢ30/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
VANB	**Van**	**0.19**	**210**	PG		**Pg**	**19 16 14.4**	**-0.5**
VANB				SG		**Sg**	**19 16 19.5**	**+1.4**
VANB	**Van**	**0.19**	**210**	*e*Pg		**Pg**	**19 16 14.4**	**-0.5**
VANB				*e*Sg		**Sg**	**19 16 19.5**	**+1.4**
TVAN	**Van**	**0.24**	**200**	*i* P		**Pg**	**19 16 14.5**	**-1.2**
TVAN				*i* S		**Sb**	**19 16 19.5**	**-0.6**
TVAN	**Van**	**0.24**	**200**	P		**Pg**	**19 16 14.5**	**-1.2**
TVAN				S		**Sb**	**19 16 19.5**	**-0.6**
ERCV	**ERCIS-VAN**	**0.29**	**333**	PG		**Pg**	**19 16 15.1**	**-1.4**
ERCV	**ERCIS-VAN**	**0.29**	**333**	*e*Pg		**Pg**	**19 16 15.1**	**-1.4**
CLDR	**Caldiran**	**0.50**	**39**	PG		**Pg**	**19 16 18.4**	**-1.7**
CLDR	**Caldiran**	**0.50**	**39**	*i* P		**Pg**	**19 16 18.5**	**-1.7**
CLDR				*i* S		**Sb**	**19 16 27.3**	**-0.1**
CLDR	**Caldiran**	**0.50**	**39**	*e*Pg		**Pg**	**19 16 18.4**	**-1.7**
CLDR				S		**Sb**	**19 16 27.3**	**-0.1**
GEVA	**Gevas**	**0.57**	**219**	*i* P		**Pg**	**19 16 19.9**	**-1.5**
GEVA				*i* S		**Sb**	**19 16 29.4**	**-0.1**
GEVA	**Gevas**	**0.57**	**219**	P		**Pg**	**19 16 19.9**	**-1.5**
GEVA				S		**Sb**	**19 16 29.4**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.62**	**275**	*i* P		**Pb**	**19 16 22.2**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.62**	**275**	P		**Pb**	**19 16 22.2**	**-0.2**
TUTA	**Tutak**	**0.84**	**320**	*i* P		**Pb**	**19 16 25.4**	**-0.8**
TUTA				*i* S		**Sb**	**19 16 37.8**	**+0.5**
TUTA	**Tutak**	**0.84**	**320**	P		**Pb**	**19 16 25.4**	**-0.8**
TUTA				S		**Sb**	**19 16 37.8**	**+0.5**
AGRB	**Hanur-Agry**	**0.91**	**334**	PG		**Pg**	**19 16 26.2**	**-1.5**
AGRB	**Hanur-Agry**	**0.91**	**334**	*e*Pg		**Pg**	**19 16 26.2**	**-1.5**
GURO	**Guroymak-BITLI**	**1.18**	**260**	PN		**Pg**	**19 16 30.6**	**-2.2**
GURO	**Guroymak-BITLI**	**1.18**	**260**	*e*Pn		**Pg**	**19 16 30.6**	**-2.2**
IGDI	**IGDIR**	**1.19**	**22**	*i* P		**Pn**	**19 16 31.9**	**0.0**
IGDI				*i* S		**Sn**	**19 16 51.8**	**+4.1**
HAKT	**HAKKARI**	**1.21**	**173**	*i* P		**Pb**	**19 16 31.3**	**-1.3**
HAKT	**HAKKARI**	**1.21**	**173**	P		**Pb**	**19 16 31.3**	**-1.3**
SRTM	**Siirt_Merkez**	**1.47**	**239**	*i* P		**Pb**	**19 16 36.4**	**-0.4**
SRTM	**Siirt_Merkez**	**1.47**	**239**	P		**Pb**	**19 16 36.4**	**-0.4**
CUKT	**Cukurca**	**1.51**	**177**	PN		**Pn**	**19 16 36.7**	**+0.4**
CUKT	**Cukurca**	**1.51**	**177**	*i* P		**Pb**	**19 16 37.4**	**-0.2**
CUKT	**Cukurca**	**1.51**	**177**	*e*Pn		**Pn**	**19 16 36.7**	**+0.4**
CUKT	**Cukurca**	**1.51**	**177**	P		**Pb**	**19 16 37.4**	**-0.2**
SIRT	**Sirnak**	**1.52**	**214**	PN		**Pn**	**19 16 36.7**	**+0.3**
SIRT	**Sirnak**	**1.52**	**214**	*e*Pn		**Pn**	**19 16 36.7**	**+0.3**

KRSC 12 19:33:13.7±0.4, 56.˝09N×162.˝61E, h33km±8km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KBTR	**Krutoberegovo**	**0.17**	**45**	*e*P		Pb	19 33 20.2	+0.3
KBTR				*e*S		Sb	19 33 25.1	+1.0
SMKR	**Semkarok**	**0.80**	**308**	*e*P		Pn	19 33 28.9	+0.2
SMKR				*e*S		Sb	19 33 40.2	+0.4
BDR	**Baidarnaya**	**0.91**	**302**	*e*P		Pb	19 33 31.0	-0.1
BDR				*e*S		Sb	19 33 44.2	+1.2
SRKR	**Sorokina**	**0.98**	**306**	*e*P		Pb	19 33 32.0	-0.2
SRKR				*e*S		Sb	19 33 45.3	+0.5
CIRR	**Tsirk**	**1.04**	**272**	*e*P		Pb	19 33 32.8	-0.5
LGNR	**Loginova**	**1.07**	**270**	*e*P		Pb	19 33 33.6	-0.3
LGNR				*e*S		Sb	19 33 47.7	-0.1
KLY	**Klyuchi**	**1.11**	**282**	*e*P		Pn	19 33 32.0	-0.9
KLY				*e*S		Sn	19 33 45.2	-1.9
KRSR	**Krestovskiy**	**1.15**	**277**	*e*P		Pn	19 33 33.7	+0.2
KRSR				*e*S		Sn	19 33 48.3	+0.1
BZWR	**Bezymyannyi-We**	**1.19**	**265**	*e*P		Pb	19 33 35.1	-0.7
BZMR	**Bezymyannaya**	**1.20**	**263**	*e*P		Pb	19 33 35.1	-0.8
KPT	**Kopyto**	**1.34**	**266**	*e*P		Pb	19 33 37.4	-0.9
KMNR	**Kamenistaya**	**1.38**	**257**	*e*P		Pb	19 33 38.3	-0.6
KOZ	**Kozyrevsk**	**1.53**	**270**	*e*P		Pb	19 33 41.2	-0.3
KOZ				*e*S		Sb	19 34 01.6	+1.1
TUMD	**Tumrok D**	**1.54**	**235**	*e*P		Pb	19 33 40.2	-1.3
TUMD				*e*S		Sb	19 33 59.7	-0.9
TUMR	**Tumrok**	**1.61**	**241**	*e*P		Pb	19 33 41.9	-1.0
TUMR				*e*S		Sb	19 34 02.6	-0.3
KZV	**Kizimen**	**1.64**	**234**	*e*P		Pb	19 33 42.3	-1.0
BKI	**Bering**	**2.10**	**114**	*e*P		Pb	19 33 49.3	-1.8
BKI				*e*S		Sb	19 34 15.4	-1.4
ESO	**Esso**	**2.20**	**267**	*e*P		Pb	19 33 51.1	-1.7
OSSR	**Ossora**	**3.18**	**4**	*e*P		Pn	19 34 05.0	+3.8
SPN	**Mys Shipunski**	**3.36**	**208**	*e*P		Pn	19 34 07.0	+3.3
SDLR	**Sedlovina**	**3.55**	**219**	*e*P		Pn	19 34 10.1	+3.5
GNL	**Ganaly**	**3.61**	**230**	*e*P		Pb	19 34 12.4	-4.4
AVH	**Avacha**	**3.62**	**220**	*e*P		Pn	19 34 10.8	+3.4
UGLR	**Uglovaya**	**3.63**	**219**	*e*P		Pn	19 34 10.7	+3.1

ISCJB ***12*** *19:37:35.8±0.3,34.˝98S±0.˝03×71.˝66W±0.˝05,h75km±2km, mb4.6/32, Error ellipse: s-maj=6.6km s-min=4.1km az=25.2*
SJA ***12*** *19:37:35.7±0.6,34.˝97S×71.˝68W,h72km±3km,ML4.6, MW4.9*
GUC ***12*** *19:37:36.4±0.7,34.˝97S×71.˝66W,h70km±5km,ML4.9*
NEIC ***12*** *19:37:36.0±0.0,34.˝97S×71.˝66W,h70km, mb4.9/29, ML4.9(GUC), After GUC.*
NEIC Felt [V] at Curico, Iloca, Molina, Pelarco, Pichilemu, Rancagua and Romeral and [IV] in much of Maule. Felt as far as Santiago.
IDC ***12*** *19:37:36.6±0.4,34.˝91S×71.˝56W,h65km±3km,mb4.2/13, mb1 4.3/14,mb1mx4.1/38,mbtmp4.5/14,MS3.6/16, Ms1 3.6/16,ms1mx3.4/38, Error ellipse: s-maj=17.7km s-min=12.5km az=77.0*
ISC 12 19:37:36.2±0.3, 34.˝96S±0.˝04×71.˝65W±0.˝05, h66km±2km,

h66km:pP-P,n482,σ1ˢ04/320,mb4.8/32,4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GO05	**HualaæØ**	**0.23**	**258**	*e*Pn		**Pn**	**19 37 47.6**	**+1.0**
GO05	**HualaæØ**	**0.23**	**258**	*e*P		**Pn**	**19 37 47.5**	**+1.0**
GO05				*e*S		**Sn**	**19 37 55.5**	**+1.4**
GO05	**HualaæØ**	**0.23**	**258**	↓*i* P		**Pn**	**19 37 47.2**	**+0.6**
GO05				*i* S		**Sn**	**19 37 54.9**	**+0.7**
COCH	**Cobquecura**	**1.49**	**218**	*e*P		**Pn**	**19 38 01.2**	**+0.4**
COCH	**Cobquecura**	**1.49**	**218**	↓*i* P		**Pn**	**19 38 01.0**	**+0.2**
COCH				*i* S		**Sn**	**19 38 19.0**	**-0.5**
ANTU	**Antumapu**	**1.62**	**32**	↓*i* P		**Pn**	**19 38 03.4**	**+0.7**
ANTU				*i* S		**Sn**	**19 38 23.5**	**+0.7**
ANTU				IAML			19 38 24.4	
	comp=E,35μm,0.4s							
LMEL	**Las Melosas**	**1.63**	**48**	↑*i* P		**Pn**	**19 38 03.8**	**+0.8**
LMEL				*i* S		**Sn**	**19 38 23.9**	**+0.6**
LMEL				IAML			19 38 27.6	
	comp=N,18μm,0.7s							
CCHI	**Chillan**	**1.67**	**192**	*e*P		**Pn**	**19 38 04.4**	**+1.0**
CLCH	**Cerro Calan**	**1.81**	**31**	↑*i* P		**Pn**	**19 38 05.7**	**+0.3**
CLCH				*i* S		**Sn**	**19 38 27.8**	**+0.4**
CLCH				IAML			19 38 28.9	
	comp=E,19μm,0.4s							
FCH	**Farellones**	**1.98**	**35**	↑*i* P		**Pn**	**19 38 08.5**	**+0.6**
FCH				*i* S		**Sn**	**19 38 32.6**	**+0.7**
FCH				IAML			19 38 34.0	
	comp=N,8μm,0.2s							
ROC1	**El Roble**	**2.05**	**15**	*e*Pn		**Pn**	**19 38 09.1**	**+0.4**
RFA	**San Rafael**	**2.63**	**87**	*e*P		**Pn**	**19 38 18.0**	**+1.7**
RFA				IAML			19 38 41.9	
	comp=Z,2μm,0.6s							
AVIZ	**Vizcacheras**	**2.99**	**61**	*e*P		**Pn**	**19 38 23.5**	**+2.1**
AAGR	**Agrelo**	**3.00**	**52**	*e*P		**Pn**	**19 38 23.6**	**+2.2**
ARCO	**CERRO ARCO**	**3.10**	**48**	*e*P		**Pn**	**19 38 24.8**	**+1.9**
ARCO				IAML			19 38 48.4	
	comp=Z,1μm,0.5s							
AUSP	**Uspallata**	**3.32**	**35**	*e*P		**Pn**	**19 38 28.3**	**+2.3**
ASAL	**Salagasta**	**3.33**	**46**	*e*P		**Pn**	**19 38 27.9**	**+2.0**
RTLS	**Leoncito**	**3.72**	**33**	*e*P		**Pn**	**19 38 33.5**	**+2.0**
RTLS				IAML			19 39 43.7	
	comp=Z,970nm,0.6s							
RTCV	**Cerro Valdivia**	**4.04**	**41**	*e*P		**Pn**	**19 38 36.7**	**+1.0**
RTLL	**Cerro Villicun**	**4.50**	**37**	*e*P		**Pn**	**19 38 42.4**	**+0.5**
AMOG	**MOGNA**	**4.81**	**34**	*e*P		**Pn**	**19 38 46.7**	**+0.5**
PLCA	**Paso Flores**	**5.83**	**172**	P		**Pn**	**19 39 02.0**	**+1.9**
	comp=Z,71nm,0.3s,baz=356,slow=11,SNR=1043							
PLCA					LR	LR	19 41 43.8	
	comp=Z,290nm,20.2s,baz=16,slow=42							
PLCA	**Paso Flores**	**5.83**	**172**	*e*Pn		**Pn**	**19 39 01.6**	**+1.6**
PLCA	**Paso Flores**	**5.83**	**172**	*e*P		**Pn**	**19 39 01.8**	**+1.7**
PLCA				IAML			19 39 02.7	
	comp=Z,439nm,0.3s							
LCO	**Las Campanas**	**5.99**	**8**	*e*Pn		**Pn**	**19 39 00.8**	**-1.7**
TRQA	**Tornquist**	**8.38**	**114**	*e*Pn		**Pn**	**19 39 35.4**	**+0.5**
CHRN	**Cochrane**	**12.30**	**183**	*e*Pn		**Pn**	**19 40 27.3**	**-1.0**
PB01	**IPOC Station P**	**14.00**	**8**	*e*Pn		**Pn**	**19 40 51.5**	**+0.1**
CPUP	**Villa Florida**	**15.02**	**59**	P		**Pn**	**19 41 01.6**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=259,slow=11,SNR=4.1							
CPUP	**Villa Florida**	**15.02**	**59**	*e*Pn		**Pn**	**19 41 02.6**	**-2.0**
PB11	**IPOC Station P**	**15.24**	**7**	*e*Pn		**Pn**	**19 41 07.2**	**-0.5**
MNMC	**Minye Minye**	**15.87**	**7**	*e*Pn		**Pn**	**19 41 16.1**	**+0.3**
	comp=Z,180nm,0.8s							
GO09	**Cerro Castillo**	**16.31**	**182**	*e*Pn		**Pn**	**19 41 20.9**	**0.0**
	comp=Z,56nm,0.8s							
LPAZ	**La Paz**	**18.86**	**11**	P		**Pn**	**19 41 52.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=172,slow=8.9,SNR=17							
LPAZ	**La Paz**	**18.86**	**11**	*e*P		**Pn**	**19 41 54.0**	**+1.1**
	comp=Z,23nm,0.7s							
EFI	**East Falkland**	**19.36**	**154**	*e*P		**P**	**19 41 55.5**	**-0.7**
	comp=Z,114nm,1.4s							
SIV	**San Ignacio**	**21.14**	**29**	P		**P**	**19 42 15.2**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=205,slow=7.6,SNR=14							
SIV					LR	LR	19 51 35.7	
	comp=Z,157nm,20.1s,baz=256,slow=40							
NNA	**Nana**	**23.35**	**347**	LR		LR	19 50 00.7	
	comp=Z,112nm,18.4s,baz=188,slow=32							
SPB	**Sao Paulo**	**23.91**	**68**	*e*P		**P**	**19 42 42.7**	**-1.3**
	comp=Z,33nm,0.8s							
SAML	**Samuel**	**27.03**	**19**	*e*P		**P**	**19 43 12.9**	**+0.6**
	comp=Z,10nm,1.1s							
ATAH	**Atahualpa**	**28.38**	**346**	LR		LR	19 53 11.6	
	comp=Z,85nm,19.1s,baz=189,slow=33							
BDFB	**Brasilia**	**28.63**	**54**	*e*P		**P**	**19 43 25.4**	**-1.2**
	comp=Z,12nm,0.7s							
RPN	**Rapa Nui**	**33.06**	**273**	LR		LR	19 53 18.9	
	comp=Z,85nm,21.7s,baz=131,slow=28							
OTAV	**Otavalo**	**35.59**	**348**	*e*P		**P**	**19 44 27.0**	**-1.0**
	comp=Z,14nm,1.4s							
PTGA	**Pitinga**	**35.76**	**20**	P		**P**	**19 44 28.8**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=287,slow=20,SNR=3.1							
PTGA					pP	**pP**	**19 44 44.8**	**-0.3**
	comp=Z,20nm,0.8s,baz=202,slow=9.8,SNR=15							
PTGA					LR	LR	20 01 17.4	
	comp=Z,66nm,18.2s,baz=184,slow=40							
PTGA	**Pitinga**	**35.76**	**20**	*e*P		**P**	**19 44 28.2**	**-0.6**
PTGA					*e*pP	**pP**	**19 44 44.0**	**-1.1**
RUSC	**La Rusia**	**40.66**	**358**	*e*P		**P**	**19 45 11.2**	**+0.6**
RUSC					*e*pP	**pP**	**19 45 28.1**	**+1.1**
HELC	**Santa Helena**	**41.09**	**354**	*e*P		**P**	**19 45 13.6**	**-0.4**
HELC					*e*pP	**pP**	**19 45 32.7**	**+2.3**
SDV	**Santo Domingo**	**43.62**	**1**	LR		LR	20 04 23.8	
	comp=Z,20nm,0.5s							
SDV	**Santo Domingo**	**43.62**	**1**	*e*P		**P**	**19 45 34.1**	**-0.2**
	comp=Z,20nm,0.5s							
VNA3	**Neumayer Olymp**	**48.35**	**158**	P		**P**	**19 46 11.4**	**+0.6**
VNA1	**Neumayer--Stat**	**48.67**	**157**	P		**P**	**19 46 13.8**	**+0.7**
VNA2	**Neumayer--Watz**	**49.01**	**157**	P		**P**	**19 46 16.4**	**+0.6**
	baz=294,slow=9.6							
SNAA	**Sanae**	**50.58**	**158**	P		**P**	**19 46 28.3**	**+0.5**
SNAA	**Sanae**	**50.58**	**158**	P		**P**	**19 46 28.3**	**+0.5**
	comp=Z,13nm,0.8s,baz=284,slow=6.9,SNR=22							
SNAA					LR	LR	20 06 09.7	
	comp=Z,66nm,19.5s,baz=303,slow=34							
SNAA	**Sanae**	**50.58**	**158**	*e*P		**P**	**19 46 27.5**	**-0.2**
	comp=Z,20nm,1.0s							
QSPA	**South Pole Qui**	**55.28**	**180**	*e*P		**P**	**19 47 04.1**	**+1.5**
	comp=Z,43nm,1.0s							
VNDA	**Vanda**	**63.22**	**191**	P		**P**	**19 47 59.1**	**+2.1**
	comp=Z,2.4nm,0.8s,baz=124,slow=6.7,SNR=9.2							
VNDA	**Vanda**	**63.22**	**191**	*e*P		**P**	**19 47 57.8**	**+0.8**
	comp=Z,31nm,2.0s							
SYO	**Syowa Base**	**64.86**	**158**	↑*e*P		**P**	**19 48 04.6**	**-3.2**
251A	**Midway**	**67.94**	**347**	pP		pP	19 48 44.4	-1.1
	baz=168							
249A	**Camden**	**68.15**	**346**	pP		pP	19 48 46.1	-0.8
	baz=166							
151A	**Opelika**	**68.35**	**348**	pP		pP	19 48 46.8	-1.3
	baz=168							
247A	**Quitman**	**68.54**	**345**	pP		pP	19 48 48.4	-0.9
	baz=165							
150A	**Eclectic**	**68.55**	**347**	pP		pP	19 48 48.3	-1.1
	baz=167							
149A	**Jones**	**68.69**	**346**	pP		pP	19 48 49.1	-1.2
	baz=167							
245A	**Little AP, Sta**	**68.81**	**343**	pP		pP	19 48 49.5	-1.5
	baz=164							
GOGA	**Godfrey**	**68.91**	**349**	*e*P		**P**	**19 48 33.6**	**-0.3**
GOGA					*e*pP	**pP**	**19 48 50.9**	**-0.7**
341A	**Kurthwood**	**68.98**	**340**	pP		pP	19 48 50.7	-1.4
	baz=161							
LRAL	**Lakeview Retre**	**69.16**	**346**	pP		pP	19 48 51.9	-1.3
	baz=167							
LRAL	**Lakeview Retre**	**69.16**	**346**	*e*P		**P**	**19 48 35.6**	**+0.3**
LRAL					*e*pP	**pP**	**19 48 52.3**	**-0.8**
Z50A	**Ashland**	**69.17**	**347**	pP		pP	19 48 51.5	-1.8
	baz=168							
Z49A	**Columbiana**	**69.22**	**347**	pP		pP	19 48 52.1	-1.5
	baz=167							
145A	**Houston Renfro**	**69.37**	**344**	pP		pP	19 48 53.2	-1.3
	baz=164							
242A	**Grayson**	**69.40**	**341**	pP		pP	19 48 53.9	-0.7
	baz=162							
Z47A	**Carrollton**	**69.53**	**345**	pP		pP	19 48 55.0	-0.4
	baz=166							
HODGE	**Hodges**	**69.55**	**351**	*e*P		**P**	**19 48 38.5**	**+0.7**
HODGE					*e*pP	**pP**	**19 48 55.2**	**-0.3**
Z48A	**Northport**	**69.60**	**346**	pP		pP	19 48 55.4	-0.5
	baz=166							
Z46A	**Louisville**	**69.71**	**345**	pP		pP	19 48 56.5	0.0
	baz=165							
Y50A	**Piedmont**	**69.75**	**348**	pP		pP	19 48 57.2	+0.4
	baz=168							
NATX	**Nacogdoches**	**69.81**	**339**	pP		pP	19 48 57.1	-0.1
	baz=160							
142A	**Monroe**	**69.81**	**342**	pP		pP	19 48 58.1	+0.9
	baz=162							
Y49A	**Blount Mountai**	**69.84**	**347**	pP		pP	19 48 58.2	+0.8
	baz=167							
Y48A	**Jasper**	**70.04**	**346**	pP		pP	19 48 58.6	0.0
	baz=167							
Z45A	**Winona**	**70.05**	**344**	pP		pP	19 48 58.2	-0.4
	baz=164							
Y47A	**UCPARC, Winfie**	**70.17**	**346**	pP		pP	19 48 59.3	0.0
	baz=166							
JCT	**Junction City**	**70.29**	**334**	pP		pP	19 49 00.1	-0.2
	baz=156							
JCT	**Junction City**	**70.29**	**334**	*e*P		**P**	**19 48 42.5**	**0.0**
JCT					*e*pP	**pP**	**19 48 59.7**	**-0.6**
X50A	**Fort Payne**	**70.29**	**348**	pP		pP	19 49 00.0	-0.2
	baz=168							
KMSC	**Kings Mountain**	**70.33**	**352**	pP		pP	19 48 59.7	-0.6
	baz=172							
KMSC	**Kings Mountain**	**70.33**	**352**	*e*P		**P**	**19 48 42.1**	**-0.5**
KMSC					*e*pP	**pP**	**19 49 00.1**	**-0.3**
Y46A	**Houston**	**70.36**	**345**	pP		pP	19 48 59.9	-0.6
	baz=165							
BG3	**Lake Jocassee**	**70.39**	**350**	*e*P		**P**	**19 48 42.7**	**-0.3**
BG3					*e*pP	**pP**	**19 49 00.8**	**+0.1**
X49A	**Woodville**	**70.46**	**347**	pP		pP	19 49 00.8	-0.4
	baz=167							
Y45A	**Yeager Farm, C**	**70.49**	**344**	pP		pP	19 49 01.1	-0.2
	baz=165							
X48A	**Hartselle**	**70.54**	**347**	pP		pP	19 49 01.1	-0.5
	baz=167							
LTX	**Lajitas**	**70.73**	**331**	*e*P		**P**	**19 48 46.4**	**+1.1**
TXAR	**Lajitas Array**	**70.73**	**331**	P		**P**	**19 48 46.4**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=150,slow=8.8,SNR=7.2							
TXAR					pP	**pP**	**19 49 03.7**	**+0.6**
	comp=Z,2.6nm,0.5s,baz=154,slow=8.9,SNR=16							
TXAR					LR	LR	20 15 24.6	
	comp=Z,56nm,18.1s,baz=0.0,slow=32							
TX31	**Lajitas Ar. Si**	**70.73**	**331**	*e*P		**P**	**19 48 46.4**	**+1.1**
TX31					*e*pP	**pP**	**19 49 03.5**	**+0.4**
TX31					*e*pP	**PcP**	**19 49 03.8**	**-2.0**
X47A	**Russelville**	**70.76**	**346**	pP		pP	19 49 02.4	-0.6
	baz=166							
Z40A	**Long Farm, Mag**	**70.86**	**341**	pP		pP	19 49 03.0	-0.6
	baz=161							
WHTX	**Lake Whitney,**	**70.88**	**337**	pP		pP	19 49 03.1	-0.7
	baz=158							
X46A	**Booneville**	**70.95**	**345**	pP		pP	19 49 03.7	-0.4
	baz=165							
X45A	**UM Field Stati**	**70.99**	**345**	pP		pP	19 49 03.4	-1.0
	baz=165							
OXF	**Oxford**	**71.08**	**345**	pP		pP	19 49 03.8	-1.1
	baz=165							
OXF	**Oxford**	**71.08**	**345**	*e*P		**P**	**19 48 47.1**	**0.0**
OXF					*e*pP	**pP**	**19 49 05.2**	**+0.3**
TKL	**Tuckaleechee C**	**71.16**	**350**	pP		pP	19 49 05.1

R47A **Wooly Knot Far** 74.18 348 pP pP 19 49 21.9 -1.5
baz=167
R46A **Gibon Southern** 74.28 347 pP pP 19 49 22.8 -1.2
baz=167
T40A **Mansfield** 74.32 343 pP pP 19 49 23.0 -1.3
baz=162
T39A **Clever** 74.42 342 pP pP 19 49 24.3 -0.5
baz=162
R45A **Skylar, Fairfi** 74.50 346 pP pP 19 49 24.0 -1.2
baz=166
MSTX **Muleshoe** 74.51 334 pP pP 19 49 24.6 -1.0
baz=154
MSTX **Muleshoe** 74.51 334 eP **P** **19 49 07.4 -0.2**
MSTX epP **pP** **19 49 25.6 0.0**
S42A **Caledonia** 74.52 344 pP pP 19 49 24.3 -1.1
baz=164
S41A **Jillco Farms,** 74.56 344 pP pP 19 49 24.8 -0.8
baz=163
MCWV **Mont Chateau** 74.63 353 pP pP 19 49 25.5 -0.5
baz=173
FVM **French Village** 74.64 345 eP **P** **19 49 08.2 +0.1**
FVM epP **pP** **19 49 25.4 -0.7**
T38A **Diamond** 74.66 341 pP pP 19 49 25.3 -0.9
baz=161
MVL **Millersville** 74.72 356 eP **P** **19 49 08.8 +0.3**
MVL epP **pP** **19 49 26.9 +0.5**
S40A **Lebanon** 74.75 343 pP pP 19 49 25.7 -1.0
baz=162
LIC **Lamto** 74.78 71 eP **P** **19 49 09.6 0.0**
LIC epP **pP** **19 49 26.4 -1.1**
R43A **Red Bud** 74.81 345 pP pP 19 49 26.4 -0.7
baz=165
319A **Douglas** 74.88 327 eP **P** **19 49 10.0 +0.2**
319A epP **pP** **19 49 28.9 +1.1**
CCM **Cathedral Cave** 74.89 344 pP pP 19 49 26.6 -1.0
baz=164
CCM **Cathedral Cave** 74.89 344 eP **P** **19 49 10.1 +0.5**
CCM epP **pP** **19 49 27.2 -0.3**
AMTX **Amarillo** 74.94 335 pP pP 19 49 27.0 -1.1
baz=155
AMTX **Amarillo** 74.94 335 eP **P** **19 49 09.2 -0.9**
AMTX epP **pP** **19 49 29.1 +1.1**
PAGS **Pennsylvania G** 74.97 356 eP **P** **19 49 10.0 +0.1**
PAGS epP **pP** **19 49 28.1 +0.2**
R42A **Luebbering** 75.00 345 pP pP 19 49 27.2 -1.0
baz=164
S39A **Bolivar** 75.03 342 pP pP 19 49 27.3 -1.1
baz=162
TIC **Toumodi** 75.05 71 ePKP2 **P** **19 49 10.7 -0.4**
TIC epP **pP** **19 49 28.5 -0.6**
Q45A **Warren Harvey,** 75.06 347 pP pP 19 49 27.4 -1.1
baz=166
KIC **Kosan Boka** 75.09 71 ePKP2 **P** **19 49 10.9 -0.4**
KIC epP **pP** **19 49 28.7 -0.6**
S38A **Stockton** 75.12 342 pP pP 19 49 27.4 -1.5
baz=161
O56A **Blue Knob Stat** 75.13 355 pP pP 19 49 28.0 -1.0
baz=174
O56A **Blue Knob Stat** 75.13 355 eP **P** **19 49 11.7 +0.7**
O56A epP **pP** **19 49 29.4 +0.5**
R41A **Rosebud** 75.15 344 pP pP 19 49 27.9 -1.2
baz=163
DBIC **Dimbokro** 75.19 71 P **P** **19 49 12.1 +0.2**
comp=Z,4.8nm,0.6s,baz=222,slow=4.8,SNR=9.9
DBIC pP **pP** **19 49 29.6 -0.3**
comp=Z,3.4nm,0.6s,baz=207,slow=7.0,SNR=3.7
DBIC LR LR 20 19 15.1
comp=Z,33nm,20.6s,baz=208,slow=33
DBIC **Dimbokro** 75.19 71 eP **P** **19 49 12.1 +0.2**
comp=Z,38nm,1.8s
DBIC epP **pP** **19 49 29.6 -0.3**
Q44A **Meyer Farm, Va** 75.23 346 pP pP 19 49 28.3 -1.2
baz=165
R40A **Maddies Statio** 75.35 343 pP pP 19 49 29.4 -0.8
baz=163
SSPA **Standing Stone** 75.44 355 pP pP 19 49 30.0 -0.7
baz=175
SSPA **Standing Stone** 75.44 355 epP pP 19 49 30.6 0.0
ACSO **Alum Creek Sta** 75.55 351 eP **P** **19 49 12.5 -0.8**
ACSO epP **pP** **19 49 30.6 -0.7**
Q42A **Golden Eagle** 75.55 345 pP pP 19 49 31.1 -0.3
baz=164
R39A **Chumby, Stover** 75.56 343 pP pP 19 49 30.6 -0.8
baz=162
P46A **Rosedale** 75.59 348 pP pP 19 49 30.5 -1.0
baz=167
P45A **Graceland, Par** 75.60 347 pP pP 19 49 30.5 -1.0
baz=166
N59A **State Game Lan** 75.60 357 pP pP 19 49 30.7 -0.9
baz=176
N59A **State Game Lan** 75.60 357 epP pP 19 49 32.6 +1.0
PAL **Palisades** 75.62 358 pP pP 19 49 30.8 -0.9
baz=178
R38A **Fenwick Farm,** 75.65 342 pP pP 19 49 31.0 -0.9
baz=161
P44A **Sand Creek, Wi** 75.70 347 pP pP 19 49 31.3 -0.9
baz=166
ODNJ **Ogdensburg** 75.72 358 epP pP 19 49 32.5 +0.3
Q41A **Truxton** 75.75 344 pP pP 19 49 31.6 -0.9
baz=164
N54A **Moraine State** 75.94 354 pP pP 19 49 32.9 -0.7
baz=173
N54A **Moraine State** 75.94 354 eP **P** **19 49 15.1 -0.5**
N54A epP **pP** **19 49 33.1 -0.4**
Q40A **Laux Farm, Aux** 75.98 344 pP pP 19 49 32.6 -1.2
baz=163
O47A **Sheridan** 76.02 349 pP pP 19 49 32.8 -1.2
baz=168
P43A **Skaggs, Pawnee** 76.05 346 pP pP 19 49 33.1 -1.1
baz=165
P42A **Winchester** 76.16 345 pP pP 19 49 33.6 -1.2
baz=164
Q39A **Willow Grove F** 76.24 343 pP pP 19 49 34.2 -1.0
baz=162
O45A **Potomac** 76.29 347 pP pP 19 49 34.5 -1.1
baz=166
SFIN **Lafayette** 76.31 348 pP pP 19 49 34.8 -0.9
baz=167
Q38A **Cooks Store, C** 76.31 343 pP pP 19 49 34.7 -1.0
baz=162
TUC **Tucson** 76.34 327 pP pP 19 49 35.2 -1.0
baz=148
P41A **Barry, Barry** 76.40 345 pP pP 19 49 35.6 -0.6
baz=164
M54A **Oil Creek Stat** 76.45 354 pP pP 19 49 35.7 -0.8
baz=173
M54A **Oil Creek Stat** 76.45 354 eP **P** **19 49 17.5 -0.9**
M54A epP **pP** **19 49 36.1 -0.4**
P40A **Paris** 76.48 344 pP pP 19 49 35.7 -0.9
baz=163
P39B **Salisbury** 76.60 343 pP pP 19 49 36.3 -1.0
baz=162
O43A **Sugar Creek Fa** 76.63 346 pP pP 19 49 36.4 -1.1
baz=165
R34A **Isabella, Hill** 76.66 340 pP pP 19 49 36.7 -1.0
baz=159
N46A **Monticello** 76.75 348 pP pP 19 49 37.4 -0.8
baz=167
ANMO **Albuquerque** 76.78 331 P **P** **19 49 21.5 +0.8**
comp=Z,0.7nm,0.5s,baz=278,slow=7.9,SNR=2.8
ANMO pP **pP** **19 49 38.9 +0.2**
comp=Z,2.0nm,0.6s,baz=328,slow=6.7,SNR=3.9
ANMO **Albuquerque** 76.78 331 pP pP 19 49 37.4 -1.3
baz=151
ANMO **Albuquerque** 76.78 331 eP **P** **19 49 20.1 -0.5**
ANMO epP **pP** **19 49 38.8 +0.1**
O41A **Passleys Farm,** 76.78 345 pP pP 19 49 37.3 -1.0
baz=164
N45A **Kentland** 76.84 348 pP pP 19 49 37.6 -1.0
baz=167
QUA2 **Belchertown** 76.87 359 eP **P** **19 49 20.5 -0.2**
QUA2 epP **pP** **19 49 39.2 +0.4**
HDIL **Hopedale** 76.88 346 pP pP 19 49 37.8 -1.1
baz=165
BINY **Binghamton** 76.89 357 pP pP 19 49 37.9 -1.0
baz=176
N44A **Piper City** 76.90 347 pP pP 19 49 37.9 -1.1
baz=166
P38A **Dawn** 76.92 343 pP pP 19 49 38.3 -0.8
baz=162
214A **Organ Pipe Nat** 76.98 325 pP pP 19 49 38.4 -1.4
baz=146
O40A **La Belle** 77.01 344 pP pP 19 49 38.6 -1.0
baz=163
ERPA **Erie** 77.09 354 pP pP 19 49 38.6 -1.4
baz=173
ERPA **Erie** 77.09 354 eP **P** **19 49 21.3 -0.7**
ERPA epP **pP** **19 49 39.8 -0.2**
P37A **Lathrop** 77.09 342 pP pP 19 49 39.1 -1.0
baz=161
HRV **Adam Dziewonsk** 77.09 0 pP pP 19 49 39.1 -0.9
baz=180
M46A **Old House Fiel** 77.19 349 pP pP 19 49 39.3 -1.3
baz=168
N43A **Stutzman Famil** 77.23 346 pP pP 19 49 39.6 -1.3
baz=165
O39A **Kirksville** 77.28 344 pP pP 19 49 39.5 -1.7
baz=163
N42A **Yates City** 77.29 346 pP pP 19 49 39.7 -1.5
baz=165
TRY **Troy** 77.34 358 eP **P** **19 49 24.1 +0.7**
TRY epP **pP** **19 49 41.9 +0.5**
O38A **Galt** 77.38 343 pP pP 19 49 40.2 -1.5
baz=162
M44A **Midewin, Midew** 77.46 347 pP pP 19 49 40.7 -1.4
baz=166
P35A **Duane Minner,** 77.47 341 pP pP 19 49 40.9 -1.3
baz=160
MMNY **Mt. Morris Dam** 77.53 355 eP **P** **19 49 24.6 +0.2**
comp=Z,30nm,1.3s
M43A **Waltham Townsh** 77.67 347 pP pP 19 49 42.5 -0.8
baz=166
N40A **Mertquake, Sal** 77.67 345 pP pP 19 49 42.1 -1.2
baz=163
O36A **Bolckow** 77.75 342 pP pP 19 49 42.7 -1.1
baz=161
N39A **Derby Farms, D** 77.87 344 pP pP 19 49 43.4 -1.1
baz=163
M41A **Milan** 77.92 346 pP pP 19 49 43.9 -0.8
baz=164
T25A **Trinidad** 77.93 334 pP pP 19 49 44.4 -0.8
baz=153
T25A **Trinidad** 77.93 334 eP **P** **19 49 28.1 +0.9**
T25A epP **pP** **19 49 46.8 +1.6**
N38A **Joes South For** 77.96 343 pP pP 19 49 44.1 -0.9
baz=162
ACCN **Adirondack Com** 77.99 358 epP pP 19 49 44.9 -0.1
MHTCO **State Highway** 78.03 334 eP **P** **19 49 29.1 +1.4**
MHTCO epP **pP** **19 49 46.8 +1.1**
M40A **Post Highland** 78.16 345 pP pP 19 49 45.1 -1.0
baz=164
N37A **Lee Faris, Mou** 78.16 343 pP pP 19 49 45.0 -1.1
baz=161
L44A **Lake County Fo** 78.20 348 pP pP 19 49 45.0 -1.2
baz=166
O34A **Beatrice** 78.26 341 pP pP 19 49 45.4 -1.2
baz=159
W18A **Petrified Fore** 78.27 329 pP pP 19 49 46.5 -0.6
baz=149
HNH **Hanover** 78.30 360 epP pP 19 49 47.6 +0.9
L42A **Oliver, Polo** 78.35 346 pP pP 19 49 46.2 -0.9
baz=165
L43A **Garden Prairie** 78.35 347 pP pP 19 49 46.4 -0.7
baz=166
M39A **Webster** 78.37 344 pP pP 19 49 46.8 -0.4
baz=163
N36A **Muff Farm, Cla** 78.40 342 pP pP 19 49 46.9 -0.5
baz=161
O33A **Hebron** 78.41 340 pP pP 19 49 46.6 -0.9
baz=159
M38A **Pleasantville** 78.54 344 pP pP 19 49 47.4 -0.8
baz=162
L41A **Preston** 78.59 346 pP pP 19 49 47.4 -1.0
baz=164
NCB **Necomb** 78.59 358 epP pP 19 49 49.0 +0.6
L40A **Anamosa** 78.72 345 pP pP 19 49 48.9 -0.2
baz=164
M37A **Trindle Farm,** 78.73 343 pP pP 19 49 48.8 -0.4
baz=162
K43A **Burlington** 78.78 348 pP pP 19 49 48.8 -0.7
baz=166
LBNH **Lisbon** 78.83 360 pP pP 19 49 49.0 -0.7
baz=180
LBNH **Lisbon** 78.83 360 eP **P** **19 49 32.1 +0.5**
LBNH epP **pP** **19 49 50.5 +0.8**
SDCO **Great Sand Dun** 78.87 333 pP pP 19 49 49.9 -0.5
baz=152
SDCO **Great Sand Dun** 78.87 333 eP **P** **19 49 33.4 +1.1**
SDCO epP **pP** **19 49 51.7 +1.3**
M36A **Felix, Anita** 78.96 342 pP pP 19 49 49.8 -0.7
baz=161
SCIA **State Center** 79.01 344 pP pP 19 49 50.0 -0.7
baz=162
K42A **Prairie Point,** 79.04 347 pP pP 19 49 50.1 -0.8
baz=165
K41A **Shullsburg** 79.06 346 pP pP 19 49 50.2 -0.8
baz=165
IKP **In-Ko-Pah, Jac** 79.15 323 pP pP 19 49 50.6 -1.2
baz=144
WVL **Waterville** 79.17 1 eP **P** **19 49 33.8 +0.4**
WVL epP **pP** **19 49 52.1 +0.6**
SWSC **Sam W. Stewart** 79.23 323 pP pP 19 49 51.5 -0.7
baz=144
LONY **Lake Ozonia** 79.25 358 pP pP 19 49 51.7 -0.3
baz=178
LONY **Lake Ozonia** 79.25 358 eP **P** **19 49 33.7 -0.2**
LONY epP **pP** **19 49 52.2 +0.2**
K40A **Colesburg** 79.32 346 pP pP 19 49 51.4 -1.0
baz=164
L37A **Phoenix Point,** 79.34 343 pP pP 19 49 51.4 -1.1
baz=162
BOSA **Boshof** 79.34 117 P **P** **19 49 35.6 +0.4**
comp=Z,15nm,0.6s,baz=235,slow=3.6,SNR=43
BOSA pP **pP** **19 49 52.9 -0.4**
comp=Z,7.2nm,0.8s,baz=188,slow=5.4,SNR=4.6
BOSA LR LR 20 22 05.8
comp=Z,21nm,19.1s,baz=204,slow=34
JFWS **Jewell Farm** 79.34 346 pP pP 19 49 51.6 -0.9
baz=165
FRNY **Flat Rock** 79.44 359 eP **P** **19 49 35.6 +0.7**
FRNY epP **pP** **19 49 52.9 -0.2**
J43A **Natural Harves** 79.46 348 pP pP 19 49 52.2 -1.0
baz=166
K39A **Oelwein** 79.48 345 pP pP 19 49 52.4 -0.9
baz=163
J42A **Columbus** 79.52 347 pP pP 19 49 52.4 -1.1
baz=166
MVCO **Mesa Verde** 79.56 331 pP pP 19 49 52.8 -1.4
baz=150
SADO **Sadowa** 79.65 355 eP **P** **19 49 36.1 +0.1**
SADO epP **pP** **19 49 53.7 -0.5**
J41A **Loganville** 79.73 346 pP pP 19 49 53.6 -1.1
baz=165
PLVO **Plevna** 79.78 356 eP **P** **19 49 37.8 +1.1**
PLVO epP **pP** **19 49 55.2 +0.3**
Q24A **Divide** 79.82 334 pP pP 19 49 54.2 -1.4
baz=153
PKME **Peaks-Kenny Pk** 79.88 2 pP pP 19 49 54.2 -1.2
baz=182
I43A **Langenfeld Bro** 79.90 348 pP pP 19 49 54.1 -1.4
baz=166
IRM **Iron Mountain** 79.90 325 pP pP 19 49 54.5 -1.4
baz=145
J40A **Soldiers Grove** 79.91 346 pP pP 19 49 54.2 -1.4
baz=164
K36A **Gilmore City** 79.99 343 pP pP 19 49 54.7 -1.5
baz=161
I42A **Draeger Farm,** 80.04 347 pP pP 19 49 54.7 -1.6
baz=166
J39A **Decorah** 80.05 345 pP pP 19 49 54.9 -1.4
baz=163
XPFO **Piæon Flat** 80.09 323 eP **P** **19 49 39.0 0.0**
XPFO epP **pP** **19 49 57.7 +0.7**
PFO **Pinyon Flats O** 80.10 323 pP pP 19 49 55.4 -1.7
baz=144
PFO **Pinyon Flats O** 80.10 323 eP **P** **19 49 39.0 0.0**
PFO epP **pP** **19 49 57.8 +0.7**
BELC **Belle Mtn. Jos** 80.19 324 pP pP 19 49 55.8 -1.8
baz=144
J38A **Wedel Dairy, R** 80.19 345 pP pP 19 49 55.2 -1.9
baz=163
I41A **Arkdale** 80.38 347 pP pP 19 49 56.5 -1.6
baz=165
H43A **Windswept, Lux** 80.40 348 pP pP 19 49 57.3 -0.9
baz=167
J37A **Redenius Farm,** 80.42 344 pP pP 19 49 57.6 -0.8
baz=162
I39A **Houston** 80.50 346 pP pP 19 49 58.2 -0.7
baz=164
J36A **Seneca 1, Swea** 80.62 343 pP pP 19 49 59.0 -0.5
baz=161
GMRC **Granite Mounta** 80.66 325 pP pP 19 49 59.4 -0.7
baz=145
SMCO **Snowmass** 80.68 333 eP **P** **19 49 44.2 +1.9**
SMCO epP **pP** **19 50 01.6 +1.2**
ISCO **Idaho Springs** 80.73 334 pP pP 19 49 59.8 -0.7
baz=152
KOWA **Kowa** 80.75 65 P **P** **19 49 43.1 +0.4**
comp=Z,7.6nm,0.5s,baz=236,slow=5.9,SNR=31
KOWA pP **pP** **19 50 00.6 -0.2**
comp=Z,4.4nm,0.7s,baz=210,slow=5.5,SNR=4.7
KOWA LR LR 20 26 03.2
comp=Z,27nm,19.0s,baz=212,slow=36
KOWA **Kowa** 80.75 65 eP **P** **19 49 43.0 +0.4**
comp=Z,32nm,1.5s
KOWA epP **pP** **19 50 00.3 -0.5**
KOWA epP **pP** **19 50 00.6 -0.2**
KOWA e 20 26 03.2
BBRC **Big Bear Solar** 80.85 323 eP **P** **19 49 43.2 +0.2**
I38A **Scanlan Farm,** 80.85 345 pP pP 19 50 00.9 +0.2
baz=163
TRQ **Mont Tremblant** 80.85 358 eP **P** **19 49 44.4 +1.8**
TRQ epP **pP** **19 50 00.6 -0.1**
CIS **Catalina Islan** 80.90 322 pP pP 19 50 00.9 -0.4
baz=143
H40A **Chili** 81.02 347 pP pP 19 50 01.3 -0.3
baz=165
HEC **Hector,Ludlow** 81.02 324 pP pP 19 50 01.2 -0.8
baz=144
I37A **Lemond, Waseca** 81.06 344 pP pP 19 50 02.1 +0.2
baz=162
K31A **O'Neill** 81.09 340 pP pP 19 50 01.9 -0.1
baz=158
DLAC **Del Amo** 81.10 322 eP **P** **19 49 44.6 +0.5**
BFSC **Mount Baldy Ra** 81.19 323 pP pP 19 50 02.3 -0.7
baz=143
KNB **Kanab** 81.20 328 eP **P** **19 49 46.5 +1.7**
KNB epP **pP** **19 50 03.9 +0.9**
F45A **CMU Biological** 81.25 350 pP pP 19 50 02.7 -0.1
baz=169
H39A **Augusta** 81.25 346 pP pP 19 50 02.3 -0.5
baz=164
G42A **Mountain** 81.26 348 pP pP 19 50 01.9 -1.0
baz=166
I35A **Creekview Farm** 81.27 343 pP pP 19 50 02.1 -0.8
baz=161
H38A **Maiden Rock** 81.45 345 pP pP 19 50 03.1 -0.7
baz=163
J32A **Parkston** 81.54 341 pP pP 19 50 03.7 -0.7
baz=159
ECSD **EROS Data Cent** 81.56 342 pP pP 19 50 03.8 -0.7
baz=160
ECSD **EROS Data Cent** 81.56 342 eP **P** **19 49 46.8 +0.5**
ECSD epP **pP** **19 50 04.3 -0.2**
G40A **Rib Lake** 81.61 347 pP pP 19 50 03.9 -0.8
baz=165
LBTB **Lobatse** 81.61 115 eP **P** **19 49 47.8 +0.3**
comp=Z,12nm,0.7s
F43A **Flat Rock, Esc** 81.63 349 pP pP 19 50 04.3 -0.5
baz=167
J31A **Geddes** 81.71 340 pP pP 19 50 04.5 -0.8
baz=158
H36A **Jessenland, He** 81.71 344 pP pP 19 50 04.9 -0.4
baz=162
G39A **Holcombe** 81.81 346 pP pP 19 50 05.1 -0.6
baz=164
N23A **Red Feather La** 81.81 334 pP pP 19 50 05.5 -0.7
baz=152
SHPR **Sheep Range** 81.83 326 eP **P** **19 49 48.2 +0.1**
comp=Z,10nm,1.4s
G38A **Ridgeland** 81.83 346 pP pP 19 50 05.2 -0.7
baz=163
E45A **Wooded Hills,** 81.86 351 pP pP 19 50 05.5 -0.5
baz=169
H35A **Sunnyside Ranc** 82.03 344 pP pP 19 50 06.6 -0.4
baz=161
SPMN **Marine on St.** 82.08 345 eP **P** **19 49 48.7 -0.3**
SPMN epP **pP** **19 50 06.7 -0.5**
E43A **Lone Tree Farm** 82.14 349 pP pP 19 50 06.8 -0.7
baz=167
F40A **Park Falls** 82.22 347 pP pP 19 50 07.0 -1.0
baz=165
H34A **Spellman Lake,** 82.23 343 pP pP 19 50 07.5 -0.5
baz=160
G36A **St. Michael** 82.30 344 pP pP 19 50 07.5 -0.9
baz=162
E42A **Champion** 82.33 349 pP pP 19 50 07.2 -1.3
baz=167
F39A **Loretta** 82.36 347 pP pP 19 50 08.0 -0.7
baz=164
H33A **Prehn Over Nor** 82.48 342 pP pP 19 50 08.5 -0.8
baz=160
E41A **Kenton** 82.54 348 pP pP 19 50 08.7 -0.8
baz=166
F38A **Pierce - Schro** 82.59 346 pP pP 19 50 09.2 -0.7
baz=163
E40A **Wakefield** 82.69 347 pP pP 19 50 10.6 +0.3
baz=165
ISA **Isabella, Lake** 82.73 323 pP pP 19 50 11.1 +0.1
baz=143
G34A **Benson** 82.73 343 pP pP 19 50 10.3 -0.3
baz=160
H31A **Wolsey** 82.74 341 pP pP 19 50 10.5 -0.2
baz=158
E39A **Mellen** 82.74 347 pP pP 19 50 10.4 -0.3
baz=164
F36A **Milaca** 82.84 345 pP pP 19 50 10.6 -0.5
baz=162
D41A **Chassel** 83.05 348 pP pP 19 50 12.0 -0.2
baz=166
F35A **Swanville** 83.07 344 pP pP 19 50 12.1 -0.3
baz=161
URZ **Urewera** 83.25 228 LR LR 20 20 37.4
comp=Z,45nm,19.0s,baz=1.0,slow=31
E36A **McGregor** 83.41 345 pP pP 19 50 13.7 -0.4
baz=162
F33A **5 Mile Ranch,** 83.45 343 pP pP 19 50 13.8 -0.6
baz=160
TIN **Tinemaha, Big** 83.72 324 eP **P** **19 49 57.6 -0.2**
D37A **Cotton** 83.85 346 pP pP 19 50 16.0 -0.3
baz=163
DUG **Dugway, Tooele** 83.86 330 pP pP 19 50 16.1 -0.7
baz=147
RSSD **Black Hills** 84.04 337 pP pP 19 50 17.5 -0.2
baz=154
C39A **Grand Marais** 84.05 348 pP pP 19 50 17.1 -0.2
baz=165
D35A **Remer** 84.11 345 pP pP 19 50 17.8 +0.1
baz=162
C38A **Sawbill Land.** 84.16 347 pP pP 19 50 18.0 +0.1
baz=164
TOA0 **Torodi Ar. Sit** 84.24 70 eP **P** **19 50 00.7 -0.2**
TOA0 epP **pP** **19 50 18.5 -0.6**
TOA0 epP **pP** **19 50 18.6 -0.5**
TORD **Torodi Ar. Bea** 84.24 70 P **P** **19 50 00.8 -0.1**
comp=Z,7.8nm,0.7s,baz=256,slow=3.8,SNR=50
TORD pP **pP** **19 50 18.9 -0.2**
comp=Z,4.4nm,0.8s,baz=254,slow=4.2,SNR=6.0
TORD LR LR 20 25 03.8
comp=Z,43nm,20.5s,baz=200,slow=34
TOA1 **Torodi Ar. Sit** 84.24 70 eP **P** **19 50 00.8 -0.1**
TOA1 epP **pP** **19 50 18.9 -0.2**
TOA1 e 20 25 03.8
C37A **Embarrass** 84.35 346 pP pP 19 50 18.4 -0.5
baz=163
C36A **Pine Crest Far** 84.51 346 pP pP 19 50 19.4 -0.3
baz=163
HWUT **Hardware Ranch** 84.54 331 eP **P** **19 50 03.0 +1.0**
HWUT epP **pP** **19 50 20.9 +0.6**
D33A **AnnSam, Waubun** 84.57 344 pP pP 19 50 19.7 -0.3
baz=160
C35A **Jirik Farms, M** 84.69 345 pP pP 19 50 20.6 0.0
baz=162
BW06 **Boulder Array** 84.76 333 pP pP 19 50 21.2 -0.2
baz=150
PD31 **Pinedale Array** 84.76 333 eP **P** **19 50 03.5 +0.3**
PD31 epP **pP** **19 50 21.1 -0.3**
PDAR **Pinedale Array** 84.76 333 P **P** **19 50 03.5 +0.3**
comp=Z,0.9nm,0.7s,baz=123,slow=5.5,SNR=6.9
PDAR pP **pP** **19 50 21.1 -0.3**
comp=Z,1.5nm,0.8s,baz=165,slow=3.3,SNR=8.0
PDAR **Pinedale Array** 84.76 333 eP **P** **19 50 03.0 -0.2**
PDAR epP **pP** **19 50 21.4 0.0**
HVU **Hansel Valley** 85.17 330 eP **P** **19 50 05.8 +0.7**
HVU epP **pP** **19 50 23.6 +0.2**
B35A **Bob, Littlefor** 85.26 345 pP pP 19 50 23.4 -0.1
baz=162
B34A **Aery, Baudette** 85.58 345 pP pP 19 50 25.2 +0.1
baz=161
C31A **Landman Farms,** 85.63 343 pP pP 19 50 25.5 +0.1

baz=159
AGMN Agassiz Nation 85.67 344 *e*P **P** 19 50 07.5 +0.3
AGMN *e*pP **pP** 19 50 25.5 0.0
B32A Ashes, Strandq 85.91 344 pP pP 19 50 26.5 -0.2
baz=160
MDND Maddock 86.15 342 pP pP 19 50 28.0 +0.1
baz=157
A33A Warroad 86.16 345 pP pP 19 50 28.5 +0.5
baz=161
MATP Matopo 86.44 112 P **P** 19 50 12.7 +0.7
comp=Z,8.3nm,0.6s,baz=241,slow=4.4,SNR=35
MATP LR LR 20 24 28.3
comp=Z,43nm,18.5s,baz=215,slow=32
RLMT Red Lodge 86.69 334 pP pP 19 50 30.4 -0.6
baz=150
RLMT Red Lodge 86.69 334 *e*P **P** 19 50 12.7 +0.1
RLMT *e*pP **pP** 19 50 31.5 +0.5
YHH Holmes Hill 86.98 333 *e*P **P** 19 50 15.7 +1.5
comp=Z,6.0nm,0.9s
YHH *e*pP **pP** 19 50 33.5 +1.1
ORV Oroville 87.27 324 *e*P **P** 19 50 17.5 +2.2
comp=Z,13nm,1.3s
HLID Hailey 87.33 330 pP pP 19 50 33.6 -0.5
baz=146
HLID Hailey 87.33 330 *e*P **P** 19 50 17.2 +1.5
comp=Z,3.9nm,1.0s
ULM Lac du Bonnet 87.51 345 P **P** 19 50 15.8 -0.3
comp=Z,2.7nm,0.8s,baz=196,slow=7.6,SNR=4.8
ULM pP **pP** 19 50 33.7 -0.8
comp=Z,5.5nm,0.8s,baz=197,slow=7.1,SNR=7.6
ULM Lac du Bonnet 87.51 345 *e*P **P** 19 50 16.2 0.0
comp=Z,6.1nm,0.8s
ULM pP **pP** 19 50 33.7 -0.8
MCMT McKenzie Canyo 87.77 332 *e*P **P** 19 50 18.9 +1.0
MCMT *e*pP **pP** 19 50 37.7 +1.5
DGMT Dagmar 87.99 339 pP pP 19 50 36.8 -0.1
baz=154
J08A Circle Bar Ran 88.87 328 *e*P **P** 19 50 24.4 +1.5
comp=Z,13nm,1.1s
LSZ Lusaka 89.20 108 *e*P **P** 19 50 25.6 +0.3
comp=Z,4.3nm,0.8s
EGMT Eagleton 89.36 336 pP pP 19 50 43.2 -0.3
baz=150
TAM Tamanrasset 92.95 64 *e*P **P** 19 50 43.2 +0.7
comp=Z,11nm,1.7s
YKA Yellowknife Ar 103.07 341 Pdiff **Pdif** 19 51 26.5 -0.3
comp=Z,0.1nm,0.7s,baz=142,slow=4.3,SNR=5.3
ASAR Alice Springs 116.85 206 PKP **PKPdf** 19 56 12.6 -1.1
comp=Z,0.6nm,0.5s,baz=129,slow=1.7,SNR=17
ASAR PKKP **PKKPdf** 20 06 58.0 -6.6
comp=Z,0.2nm,0.7s,baz=334,slow=3.3,SNR=4.5
AS31 Alice Springs 116.85 206 *e*PKPdf **PKPdf** 19 56 12.6 -1.1
MLR Muntele Rosu 118.81 53 PKP **PKPdf** 19 56 15.3 -1.4
comp=Z,0.3nm,0.5s,baz=281,slow=5.2,SNR=4.0
WR1 Warramunga Arr 120.07 208 *e*PKPdf **PKPdf** 19 56 19.5 -0.4
WRA Warramunga Arr 120.08 208 PKP **PKPdf** 19 56 19.5 -0.4
comp=Z,1.7nm,0.5s,baz=158,slow=1.7,SNR=58
MMAI Mount Meron Ar 120.78 69 PKP **PKPdf** 19 56 21.2 +0.4
comp=Z,1.8nm,0.7s,baz=166,slow=1.2,SNR=2.3
BR231 Keskin MP Arra 121.44 61 *e*PKPdf **PKPdf** 19 56 22.1 +0.1
BR101 Keskin Array S 122.02 61 *e*PKPdf **PKPdf** 19 56 22.9 -0.2
BR101 *ep*PKPdf **pPKPdf** 19 56 42.1 -0.1
BRTR Keskin Array B 122.02 61 PKP **PKPdf** 19 56 22.9 -0.2
comp=Z,2.0nm,0.7s,baz=198,slow=3.4,SNR=12
BRTR pPKP **pPKPdf** 19 56 42.1 -0.1
comp=Z,0.9nm,0.7s,baz=198,slow=2.9,SNR=3.5
AK11 Malin Array Si 122.56 48 *e*PKPdf **PKPdf** 19 56 22.6 -0.9
AK11 *ep*PKPdf **pPKPdf** 19 56 41.6 -1.1
AKASG Malin Array Be 122.60 48 PKP **PKPdf** 19 56 22.8 -0.8
comp=Z,1.1nm,0.5s,baz=258,slow=2.6,SNR=13
AKASG pPKP **pPKPdf** 19 56 41.6 -1.2
comp=Z,1.5nm,0.6s,baz=259,slow=2.8,SNR=6.9
AKBB Malin Array Si 122.60 48 *e*PKPdf **PKPdf** 19 56 22.8 -0.8
AKBB *ep*PKPdf **pPKPdf** 19 56 41.6 -1.2
FIA0 FINESS Array S 123.60 35 *ep*PKPdf pPKPdf 19 56 44.0 -0.4
FINES FINESS Array B 123.60 35 pPKP pPKPdf 19 56 44.0 -0.4
comp=Z,3.5nm,0.9s,baz=259,slow=8.9,SNR=3.7
FITZ Fitzroy Crossi 124.73 200 PKP **PKPdf** 19 56 28.1 -0.7
comp=Z,2.0nm,0.7s,baz=223,slow=7.5,SNR=4.4
H11N3 WAKE ISLAND Hyl 126.50 270 T T 22 15 44.5
baz=115,slow=78,SNR=6.6
H11N1 WAKE ISLAND Hyl 126.52 270 T T 22 15 49.8
baz=115,slow=78,SNR=11
H11N2 WAKE ISLAND Hyl 126.52 270 T T 22 15 49.9
baz=115,slow=78,SNR=8.0
PEA1 Petropavlovsk- 141.05 313 *e*PKPdf **PKPdf** 19 57 00.2 +1.9
PETK Petropavlovsk- 141.05 313 PKP **PKPdf** 19 57 00.2 +1.9
comp=Z,7.3nm,0.6s,baz=160,slow=8.1,SNR=88
ABKAR Akbulak array 142.02 53 *e*PKPpre PKPpre 19 56 55.1
GSI Gunungsitoli 145.04 161 *e*PKPbc **PKPdf** 19 57 07.3 +0.7
KSM Kuching 146.63 184 *e*PKPdf **PKPbc** 19 57 11.1 +0.1
PSI Prapat 146.82 163 PKPbc **PKPbc** 19 57 11.1 -0.6
comp=Z,25nm,0.8s,baz=180,slow=2.0,SNR=19
PSI Prapat 146.82 163 *e*PKPdf **PKPbc** 19 57 11.2 -0.4
SBUM Sibu 147.45 187 *e*PKPdf **PKPbc** 19 57 13.3 0.0
BRVK Borovoye 147.69 44 *e*PKPbc **PKPbc** 19 57 13.4 +0.7
BVAR Borovoye Array 147.76 44 PKP **PKPdf** 19 57 11.3 +1.4
comp=Z,8.9nm,0.8s,baz=298,slow=3.1,SNR=36
BVAR PKPbc **PKiKP** 19 57 13.9 -0.9
comp=Z,6.2nm,0.7s,baz=290,slow=2.7,SNR=36
BVAR pPKPbc **pPKPbc** 19 57 32.3 +0.4
comp=Z,5.6nm,0.7s,baz=302,slow=2.7,SNR=9.3
HYB Hyderabad 148.23 116 *i* PKP **PKPbc** 19 57 15.5 +0.3
HYB *ep*PKP **sPKPbc** 19 57 42.0 +0.7
LHMI Lhok Sumawe 148.59 158 *e*PKPbc **PKPbc** 19 57 16.6 +0.4
IPM Ipoh 148.92 166 *e*PKPbc **PKPbc** 19 57 16.9 -0.2
KULM Kulim 149.63 165 *e*PKPbc **PKPbc** 19 57 18.7 -0.2
KKAR Karatay Array 149.71 63 *e*PKPbc **PKPbc** 19 57 18.3 +0.1
YAK Yakutsk 149.74 340 *e*PKPbc **PKPbc** 19 57 17.6 0.0
KKM Kota Kinabalu 150.32 196 *e*PKPbc **PKPbc** 19 57 20.8 +0.1
AAK Ala-Archa 152.66 64 *e*PKPbc **PKPbc** 19 57 26.3 +1.0
KURBB Kurchatov Arra 153.34 45 PKPbc **PKPbc** 19 57 26.8 +0.5
comp=Z,4.8nm,0.6s,baz=298,slow=2.9,SNR=32
KURBB pPKPbc **pPKPbc** 19 57 45.5 +0.2
comp=Z,6.0nm,0.7s,baz=298,slow=2.9,SNR=13
KURK Kurchatov 153.35 45 *e*PKPbc **PKPbc** 19 57 26.2 0.0
KURK *ep*PKPdf **pPKPbc** 19 57 45.5 +0.2
KSH Kashi 153.91 70 PKPbc **PKPdf** 19 57 20.4 +0.4
KSH pPKP pPKPdf 19 57 38.2 -1.0
KSH sPKP 19 57 44.7
KSH PKS **PKSdf** 20 00 53.4 -1.0
KSH PP **PP** 20 01 15.4 -1.4
KSH SKS **SKSdf** 20 04 22.4 +1.2
KSH SS **SS** 20 20 47.7 -2.1
KSH AMB AMB
comp=Z,270nm,6.4s
KSH LR LR
comp=Z,150nm,12.2s
KSH LR LR
comp=Z,200nm,13.2s
KSH LR LR
comp=Z,99nm,12.7s
ZAA1 Zalesovo Array 154.85 34 *e*PKPdf **PKPdf** 19 57 20.1 -0.5
ZAA1 *e*PKPbc **PKiKP** 19 57 29.6 +0.2
ZAA1 *e*PKPab **pPKPbc** 19 57 48.4 0.0
ZAA0 Zalesovo Array 154.86 34 *e*PKPbc **PKPbc** 19 57 29.6 +0.3
ZALV Zalesovo Beam 154.86 34 PKP **PKPdf** 19 57 20.1 -0.5
comp=Z,0.6nm,0.6s,baz=305,slow=5.2,SNR=4.8
ZALV PKPbc **PKiKP** 19 57 29.6 +0.2
comp=Z,2.1nm,0.6s,baz=276,slow=3.2,SNR=9.5
ZALV pPKPbc **pPKPbc** 19 57 48.4 0.0
comp=Z,5.3nm,0.8s,baz=296,slow=3.7,SNR=7.8
MK32 Makanchi Array 157.14 51 *e*PKPdf **PKPdf** 19 57 24.1 +0.2
MK32 *e*PKPab **PKPab** 19 57 53.7 -1.3
MK32 *ep*PKPab **pPKPab** 19 58 13.1 -0.4
MKAR Makanchi Array 157.14 51 PKP **PKPdf** 19 57 24.1 +0.2
comp=Z,0.8nm,0.8s,baz=286,slow=0.5,SNR=6.4
MKAR PKPab **PKPab** 19 57 53.7 -1.3
comp=Z,1.4nm,0.7s,baz=319,slow=1.9,SNR=7.8
MKAR pPKPab **pPKPab** 19 58 13.1 -0.4
comp=Z,1.8nm,0.8s,baz=289,slow=3.5,SNR=4.9
MK01 Makanchi Array 157.15 51 *e*PKPdf **PKPdf** 19 57 23.9 -0.1
CM01 Chiang Mai Arr 161.53 151 *e*PKPdf **PKPdf** 19 57 29.8 -0.1
CMAR Chiang Mai Arr 161.56 151 PKP **PKPdf** 19 57 30.2 +0.3
comp=Z,0.6nm,0.6s,baz=235,slow=2.1,SNR=5.7
CMAR pPKP **pPKPdf** 19 57 49.6 +0.5
comp=Z,0.8nm,0.8s,baz=253,slow=1.9,SNR=2.8
CMAR PKPab **PKPab** 19 58 14.7 -0.1
comp=Z,0.5nm,0.4s,baz=222,slow=6.2,SNR=5.5
WMQ Urumqi 161.79 55 PKP **PKPdf** 19 57 29.0 -0.5
KSRS Korea Array 164.00 285 PKPab **PKPab** 19 58 26.1 +0.9
comp=Z,1.3nm,0.8s,baz=108,slow=4.0,SNR=4.3
KSAR Wonju Array Be 164.03 285 PKPab **PKPab** 19 58 26.1 +0.7
CN2 Changchun 164.12 309 *e*PKP **PKPdf** 19 57 35.8 +4.2
SONA0 **Songino Array 167.06 6** *e*PKPab **PKPab** 19 58 39.1 +0.8
SONA0 *ep*PKPab **pPKPab** 19 58 55.8 -1.1
SONM Songino Array 167.06 6 PKPab **PKPab** 19 58 39.1 +0.8
comp=Z,0.3nm,0.8s,baz=347,slow=4.6,SNR=3.6
SONM pPKPab **pPKPab** 19 58 55.8 -1.1
comp=Z,1.4nm,1.0s,baz=328,slow=3.1,SNR=6.6
NJ2 Nanjing 170.76 255 *e*PKP **PKPdf** 19 57 35.0 -1.8
GYA Guiyang 171.40 170 *e*PKP **PKPdf** 19 57 37.2 -0.3
GYA sPKP 19 58 01.0
GYA PKPab **PKPab** 19 59 00.8 +2.7
GYA PKS **PKSdf** 20 01 08.4 -1.6
GYA PP **PP** 20 02 52.6 +4.7
GYA AMB AMB
comp=Z,120nm,8.2s
GTA Gaotai 171.87 54 *e*PKP **PKPdf** 19 57 37.6 +0.3
HHC Hu-ho-hao-te 173.59 338 *e*PKP **PKPdf** 19 57 37.4 -0.5
CD2 Chengdu 174.41 135 PKP **PKPdf** 19 57 38.0 -0.5
LZH Lanzhou 176.16 72 *e*PKP **PKPdf** 19 57 34.5 -4.4
LZH LR LR
comp=Z,170nm,17.5s
LZH LR LR
comp=Z,150nm,18.2s
LZH LR LR
comp=Z,210nm,20.2s

*ISCJB **12** 19:45:42.6±0.6, 6°.83N±0°.03×73°.12W×0°.04, h157km±5km, mb3.3/2, Error ellipse: s-maj=7.2km s-min=5.1km az=26.3*
*IDC **12** 19:45:42.2±0.8, 6°.93N×73°.18W, h155km±15km, mb3.0/2, mb1 3.4/5, mb1mx3.1/50, mbtmp3.7/5, Error ellipse: s-maj=38.7km s-min=8.1km az=131.0*
*RSNC **12** 19:45:44.3±1.2, 6°.79N×73°.13W, h149km±6km, ML3.4*

ISC 12 19:45:42.1±0.8, 6°.82N±0°.04×73°.11W±0°.05, h159km±6km, n26,σ1°07/41, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**198**	*i* P			**Pn**	**19 46 04.2**	**+0.3**
BARC				*e*S			**Sn**	**19 46 19.3**	**-1.2**
BARC				*i*				19 46 22.0	
	comp=Z,554nm,0.3s								
PAMC	**Pamplona, Colo**	**0.66**	**38**	*e*P			**Pn**	**19 46 07.0**	**+1.1**
PAMC				*e*S			**Sn**	**19 46 24.2**	**+0.1**
BRRC	**Barranca, Sant**	**0.66**	**296**	*i* P			**Pn**	**19 46 06.1**	**+0.8**
BRRC				*e*S			**Sn**	**19 46 23.5**	**+0.4**
BRRC				*i*				19 46 25.7	
	comp=Z,594nm,0.1s								
RUSC	**La Rusia**	**0.92**	**178**	*i* P			**Pn**	**19 46 08.0**	**+0.3**
RUSC				*e*S			**Sn**	**19 46 26.9**	**-0.4**
RUSC				*i*				19 46 27.9	
	comp=Z,144nm,0.3s								
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	*e*P			**Pn**	**19 46 10.6**	**-0.4**
PTBC				*e*S			**Sn**	**19 46 32.0**	**-1.2**
PTBC				*i*				19 46 39.6	
	comp=Z,457nm,0.3s								
OCAC	**Ocana**	**1.43**	**352**	*e*P			**Pn**	**19 46 13.2**	**+1.4**
OCAC				*e*S			**Sn**	**19 46 36.0**	**+1.4**
YOPC	**Yopal, Colombi**	**1.61**	**155**	*e*P			**Pn**	**19 46 14.5**	**+0.9**
YOPC				*e*S			**Sn**	**19 46 38.1**	**+0.2**
YOPC				*i*				19 46 41.5	
	comp=Z,85nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P			**Pn**	**19 46 16.6**	**+0.4**
ZARC				*e*S			**Sn**	**19 46 42.3**	**-0.2**
ZARC				*i*				19 46 48.0	
	comp=Z,284nm,0.3s								
NORC	**Norcasia**	**2.15**	**235**	*e*P			**Pn**	**19 46 20.0**	**+0.4**
NORC				*e*S			**Sn**	**19 46 47.5**	**-1.0**
CHIC	**Chingaza**	**2.26**	**196**	*e*P			**Pn**	**19 46 22.1**	**+0.9**
CHIC				*e*S			**Sn**	**19 46 51.2**	**-0.3**
CHIC				*i*				19 46 59.4	
	comp=Z,135nm,0.3s								
ROSC	**El Rosal**	**2.31**	**212**	P			**Pn**	**19 46 23.7**	**+1.9**
	comp=Z,22nm,0.3s,baz=113,slow=1.6,SNR=16								
ROSC				S			**Sn**	**19 46 53.5**	**+1.2**
	comp=Z,68nm,0.3s,baz=182,slow=20,SNR=7.6								
ROSC	**El Rosal**	**2.31**	**212**	*e*P			**Pn**	**19 46 23.6**	**+1.9**
ROSC				*e*S			**Sn**	**19 46 53.0**	**+0.7**
ROSC				*i*				19 47 01.5	
	comp=Z,261nm,0.4s								
CVER	**Cruz Verde, Cu**	**2.48**	**203**	*e*P			**Pn**	**19 46 25.3**	**+1.4**
HELC	**Santa Helena**	**2.48**	**256**	*e*P			**Pn**	**19 46 25.8**	**+1.9**
HELC				*e*S			**Sn**	**19 46 56.8**	**+0.8**
HELC				*i*				19 47 03.0	
	comp=Z,153nm,0.2s								
VILC	**Villavicencio,**	**2.75**	**192**	*e*P			**Pn**	**19 46 27.7**	**+0.8**
VILC				*i*				19 47 05.9	
	comp=Z,92nm,0.3s								
RREF	**El Recreo**	**2.93**	**230**	*e*P			**Pn**	**19 46 31.2**	**+1.6**
RREF				*i*				19 47 16.8	
	comp=Z,222nm,0.3s								
DBBC	**Dabeiba**	**3.08**	**274**	*e*P			**Pn**	**19 46 31.9**	**+1.0**
CODC	**Agust`n Codaz**	**3.11**	**354**	*e*P			**Pn**	**19 46 31.9**	**+0.7**
CODC				*i*				19 47 16.4	
	comp=Z,156nm,0.3s								
TOLC	**Tolima**	**3.13**	**225**	*e*P			**Pn**	**19 46 33.5**	**+1.8**
SDV	**Santo Domingo**	**3.20**	**50**	P			**Pn**	**19 46 33.6**	**+1.1**
	comp=Z,6.1nm,0.3s,baz=227,slow=3.7,SNR=23								
SDV				S			**Sn**	**19 47 11.0**	**-0.6**
	comp=Z,7.9nm,0.3s,baz=30,slow=19,SNR=13								
SDV	**Santo Domingo**	**3.20**	**50**	*e*P			**Pn**	**19 46 33.6**	**+1.1**
SDV				*i*				19 47 16.1	
	comp=Z,22nm,0.4s								
PRAC	**Prado**	**3.56**	**210**	*e*P			**Pn**	**19 46 37.0**	**0.0**
PRAC				*e*S			**Sn**	**19 47 19.9**	**+0.3**
ATAH	**Atahualpa**	**14.83**	**201**	P			**P**	**19 49 05.8**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=21,slow=14,SNR=2.7								
TXAR	**Lajitas Array**	**36.47**	**312**	P			**P**	**19 52 30.4**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=134,slow=9.1,SNR=2.4								
YKA	**Yellowknife Ar**	**63.27**	**340**	P			**P**	**19 55 54.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=132,slow=6.5,SNR=11								
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc			**PKPbc**	**20 05 15.2**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=106,slow=2.6,SNR=4.5								

MEX 12 19:46:49.7±0.8, 17°.10N×99°.92W, h11km±15km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.24**	**166**	*e*P			Pb	19 46 55.6	-0.4
ACX				*i* S			Sg	19 46 60.0	+2.0
CAIG	**El Cayaco**	**0.34**	**261**	*i* P			Pg	19 46 55.9	-0.6
CAIG				*i* S			Sg	19 47 01.3	+0.3
MEIG	**Mezcala**	**0.87**	**19**	*i* P			Pg	19 47 03.7	-2.8
MEIG				*i* S			Sg	19 47 14.8	-3.2
ARIG	**Puente Sto Nin**	**1.24**	**341**	*e*P			Pn	19 47 09.0	-4.0
ARIG				*e*S			Sb	19 47 25.0	-4.3
PLIG	**Platanillo**	**1.35**	**17**	*e*P			Pn	19 47 11.4	-3.1
PLIG				*e*S			Sb	19 47 27.3	-4.9
TLIG	**Tlapa**	**1.37**	**70**	*e*P			Pn	19 47 11.7	-3.2
TLIG				*i* S			Sb	19 47 28.3	-4.7
ZIIG	**Zihuatanejo**	**1.56**	**289**	*e*P			Pn	19 47 13.8	-3.6
ZIIG				*i* S			Sn	19 47 32.4	-5.2

MEX 12 19:47:51.1±0.5, 16°.00N×98°.24W, h4km±3km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**15**	*i* P			Pg	19 47 58.5	-0.5
PNIG				*i* S			Sg	19 48 04.9	+0.6
TLIG	**Tlapa**	**1.59**	**349**	*e*P			Pn	19 48 16.4	-3.8
TLIG				*e*S			Sn	19 48 36.5	-4.8
ACX	**Acapulco**	**1.78**	**299**	*i* P			Pn	19 48 18.2	-4.5
ACX				*e*S			Sn	19 48 40.1	-5.7
VHO	**Vista Hermosa**	**1.80**	**53**	*e*P			Pn	19 48 20.1	-3.0
VHO				*i* S			Sn	19 48 41.9	-4.7
HUIG	**Huatulco**	**2.06**	**96**	*e*P			Pn	19 48 24.0	-2.6
HUIG				*i* S			Sn	19 48 47.9	-4.9
MEIG	**Mezcala**	**2.33**	**326**	*e*P			Pn	19 48 27.7	-2.7
MEIG				*i* S			Sn	19 48 55.1	-4.3
PLIG	**Platanillo**	**2.67**	**333**	*e*P			Pn	19 48 33.0	-2.0
PLIG				*i* S			Sn	19 49 04.0	-4.0
ARIG	**Puente Sto Nin**	**3.04**	**319**	*e*P			Pn	19 48 37.9	-2.1
ARIG				*e*S			Sn	19 49 13.3	-3.6

*ISCJB **12** 20:05:50.2±0.4, 22°.10N±0°.02×121°.44E±0°.02, h25km±3km, Error ellipse: s-maj=4.2km s-min=3.1km az=170.9*
*TAP **12** 20:05:50.3, 22°.14N×121°.37E, h15km, ML3.7, B*
*JMA **12** 20:05:50.7±0.7, 22°.40N×121°.59E, h0km±4km, M3.6*

ISC 12 20:05:50.1±1.0, 22°.10N±0°.04×121°.46E±0°.03, h31km±7km,

n79,σ1°43/147, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.10**	**123**	P			**Pb**	**20 05 55.6**	**-0.1**
LAY	baz=120			S			**Sb**	**20 05 59.6**	**+0.2**
TSEB	**Hengchuen, Pin**	**0.55**	**249**	S			**Sb**	**20 06 09.6**	**+0.4**
TAW	**Tawu**	**0.58**	**297**	P			**Pb**	**20 06 00.2**	**-1.7**
TAW	baz=296			*e*S			**Sb**	**20 06 08.7**	**-1.3**
TWH	**Lutao**	**0.61**	**2**	*e*P			**Pb**	**20 06 01.7**	**-0.7**
TWH	baz=11			*e*S			**Sb**	**20 06 09.8**	**-1.1**
TWK1	**Hengchun**	**0.62**	**256**	P			**Pb**	**20 06 01.7**	**-0.9**
TWK1	baz=248			*e*S			**Sb**	**20 06 10.1**	**-1.1**
EAST	**Anshuo**	**0.63**	**297**	P			**Pb**	**20 06 01.1**	**-1.8**
EAST	baz=296			*e*S			**Sb**	**20 06 10.0**	**-1.4**
HEN	**Hengchun**	**0.67**	**262**	P			**Pb**	**20 06 02.9**	**-0.6**
HEN	baz=256			S			**Sb**	**20 06 11.6**	**-1.0**
ECL	**Taimali**	**0.68**	**317**	*e*P			**Pb**	**20 06 02.4**	**-1.2**
ECL	baz=320			*e*S			**Sb**	**20 06 11.2**	**-1.6**
TTN	**Taitung**	**0.71**	**336**	*e*P			**Pb**	**20 06 03.3**	**-0.8**
TTN	baz=342			*e*S			**Sb**	**20 06 12.8**	**-0.9**
TWG	**Pinlang**	**0.80**	**334**	*e*P			**Pb**	**20 06 05.3**	**-0.4**
SCZT	**Fangliau**	**0.82**	**290**	P			**Pb**	**20 06 04.2**	**-1.7**
SCZT	baz=288			*e*S			**Sb**	**20 06 15.9**	**-0.8**
SSPT	**Xinbi**	**0.91**	**295**	*e*P			**Pb**	**20 06 06.6**	**-0.8**
SSD	baz=294 **Sandimen**	**1.00**	**310**	*e*P			**Pn**	**20 06 08.5**	**+0.5**
CHKT	baz=311 **Chengkung**	**1.00**	**355**	*e*P			**Pn**	**20 06 08.9**	**+0.8**
CHKT				*e*S			**Sn**	**20 06 22.2**	**+1.1**
WLCH	**Liuqiu**	**1.03**	**284**	*e*P			**Pb**	**20 06 08.6**	**-0.8**
TWP	baz=282 **Hsiaoliuchiu**	**1.04**	**284**	*e*P			**Pb**	**20 06 08.6**	**-1.0**
SGLT	baz=282 **Jiouru**	**1.09**	**305**	*e*P			**Pn**	**20 06 09.5**	**+0.2**
FULB	baz=305 **Fuli**	**1.11**	**352**	*e*P			**Pb**	**20 06 10.7**	**-0.1**
FULB	baz=356			*e*S			**Sn**	**20 06 25.6**	**+1.7**
ELDTW	baz=356 **Lidau**	**1.16**	**340**	*e*P			**Pb**	**20 06 11.3**	**-0.4**
KAU	baz=343 **Kaohsiung**	**1.16**	**294**	*e*P			**Pn**	**20 06 10.6**	**+0.3**
KAU	baz=293			*e*S			**Sb**	**20 06 25.3**	**-1.1**
SLGT	**Liugui**	**1.17**	**320**	*e*P			**Pn**	**20 06 10.7**	**+0.3**
SLGT	baz=321			*e*S			**Sn**	**20 06 26.0**	**+0.8**
TWM1	baz=321 **Shoushan**	**1.20**	**307**	*e*P			**Pb**	**20 06 11.7**	**-0.6**
TWM1	baz=307			*e*S			**Sn**	**20 06 27.3**	**+1.2**
STYT	**Tauyuan**	**1.24**	**329**	*e*P			**Pb**	**20 06 12.4**	**-0.7**
STYT	baz=331			*e*S			**Sn**	**20 06 28.1**	**+0.9**
TWF1	baz=331 **Yuli**	**1.26**	**353**	*e*P			**Pb**	**20 06 12.7**	**-0.6**
SGST	baz=357 **Jiashian**	**1.27**	**321**	P			**Pb**	**20 06 13.2**	**-0.3**
SGST	baz=322			*e*S			**Sb**	**20 06 28.6**	**-0.9**
CHN1	**Nanshi**	**1.38**	**322**	*e*P			**Pb**	**20 06 14.4**	**-1.0**
CHN1	baz=323			*e*S			**Sb**	**20 06 31.6**	**-1.0**
WTP	**Ta-pu**	**1.38**	**326**	*e*P			**Pb**	**20 06 14.1**	**+0.7**
WTP	baz=327			*e*S			**Sb**	**20 06 31.4**	**-1.4**
EHY	**Hungye**	**1.41**	**355**	*e*P			**Pb**	**20 06 15.2**	**-0.7**
EHY	baz=358			*e*S			**Sb**	**20 06 33.1**	**-0.4**
YUS	**Yu-Shan**	**1.46**	**342**	*e*P			**Pb**	**20 06 15.7**	**+0.8**
YUS	baz=343			*e*S			**Sb**	**20 06 33.8**	**-1.7**
ALS	**Alishan**	**1.53**	**337**	*e*P			**Pn**	**20 06 16.3**	**+0.6**
ALS	baz=339			*e*S			**Sb**	**20 06 35.4**	**-1.9**
EGFH	**Guangfu**	**1.56**	**359**	*e*P			**Pb**	**20 06 17.3**	**-1.2**
EGFH	baz=2.0			*e*S			**Sb**	**20 06 37.0**	**-0.9**
SCLT	**Jiali**	**1.58**	**313**	*e*P			**Pn**	**20 06 16.9**	**+0.9**
SCLT	baz=313			*e*S			**Sn**	**20 06 36.3**	**+0.8**
CHN5	**Tsauling**	**1.66**	**334**	*e*P			**Pb**	**20 06 18.5**	**-1.6**
CHN5	baz=336			*e*S			**Sb**	**20 06 38.8**	**-1.9**
CHY	**Chiayi**	**1.69**	**326**	*e*P			**Pn**	**20 06 18.3**	**+0.8**
CHY	baz=327			*e*S			**Sn**	**20 06 39.2**	**+1.1**
CHN8	**Yiju**	**1.69**	**317**	*e*P			**Pn**	**20 06 18.7**	**+1.1**
CHN8	baz=318			*e*S			**Sn**	**20 06 39.0**	**+0.8**
ESL	baz=318 **Shilin**	**1.71**	**359**	*e*P			**Pn**	**20 06 18.9**	**+1.1**
ESL	baz=2.0			*e*S			**Sb**	**20 06 40.6**	**-1.4**
WLGB	baz=2.0 **Puzi**	**1.74**	**322**	*e*P			**Pn**	**20 06 19.8**	**+1.5**
WLGB	baz=323			*e*S			**Sn**	**20 06 40.5**	**+1.1**
WGK	baz=323 **Gukeng**	**1.78**	**333**	*e*P			**Pn**	**20 06 20.1**	**+1.3**
WGK	baz=334			*e*S			**Sn**	**20 06 41.5**	**+1.0**
WDLH	baz=334 **Douliu**	**1.80**	**332**	*e*P			**Pn**	**20 06 20.4**	**+1.4**
WDLH	baz=333			S			**Sn**	**20 06 41.9**	**+1.1**
ENLB	**Shoufeng**	**1.80**	**4**	*e*P			**Pb**	**20 06 20.9**	**-1.6**
ENLB	baz=6.0			*e*S			**Sb**	**20 06 43.0**	**-1.8**
WJS	**Zhushan**	**1.84**	**339**	*e*P			**Pn**	**20 06 21.0**	**+1.4**
WJS	baz=340			*e*S			**Sb**	**20 06 43.4**	**-2.5**
SMLT	**Sun Moon Lake**	**1.85**	**344**	*e*P			**Pn**	**20 06 21.3**	**+1.4**
SMLT	baz=346			*e*S			**Sn**	**20 06 43.5**	**+1.2**
OWD	baz=346 **Renai**	**1.87**	**352**	*e*P			**Pn**	**20 06 21.6**	**+1.5**
OWD	baz=354			*e*S			**Sb**	**20 06 44.3**	**-2.4**
TYC	baz=354 **Yuchr**	**1.88**	**343**	P			**Pn**	**20 06 21.6**	**+1.4**
TYC	baz=345			S			**Sb**	**20 06 44.6**	**-2.3**
WNT	baz=345 **Mingjian**	**1.91**	**338**	*e*P			**Pn**	**20 06 21.9**	**+1.3**
WNT	baz=340			*e*S			**Sn**	**20 06 44.9**	**+1.3**
WSF	baz=340 **Szhu**	**1.91**	**324**	*e*P			**Pn**	**20 06 21.6**	**+1.0**
WSF	baz=324			*e*S			**S

baz=6.0
TWD eS Sb 20 06 47.7 -2.0
baz=6.0
DPDB Guoxing 1.99 346 eP Pn 20 06 23.4 +1.6
baz=347
DPDB eS Sn 20 06 47.1 +1.5
baz=347
WDGT Dungji 2.02 305 eP Pn 20 06 22.7 +0.6
baz=305
WDGT eS Sn 20 06 46.8 +0.5
baz=305
WHF Hehuan Shan 2.05 355 eP Pn 20 06 24.2 +1.4
baz=357
WHF eS Sn 20 06 48.8 +1.3
baz=357
WCHH Zhanghua 2.14 337 eP Pn 20 06 24.9 +1.2
baz=338
WCHH eS Sn 20 06 50.8 +1.6
baz=338
TWT Tachien 2.16 353 eP Pn 20 06 25.8 +1.5
baz=354
TWT eS Sn 20 06 51.3 +1.3
baz=354
TCU Taichung 2.16 341 eP Pn 20 06 25.8 +1.8
baz=342
TCU eS Sn 20 06 51.3 +1.4
baz=342
PNG Penghu 2.29 310 eP Pn 20 06 26.9 +1.2
baz=310
PNG eS Sn 20 06 53.3 +0.5
baz=310
NNSH Datong 2.32 358 eP Pn 20 06 28.2 +1.8
NNSH eS Sn 20 06 55.8 +1.8
TWQ1 Liyutan 2.33 344 P Pn 20 06 28.0 +1.6
baz=346
TWQ1 S Sn 20 06 55.5 +1.6
baz=346
NNS Nan Shan 2.33 358 eP Pn 20 06 28.3 +1.7
NNS eS Sn 20 06 56.5 +2.2
ENA Nanau 2.33 6 eP Pn 20 06 28.1 +1.7
baz=8.0
ENA eS Sn 20 06 56.2 +2.1
baz=8.0
ENAH Nanao 2.36 8 eS Sn 20 06 57.2 +2.5
baz=10.0
PTSB Yuanli 2.44 344 P Pn 20 06 29.6 +1.8
baz=345
PTSB S Sn 20 06 58.2 +1.6
baz=345
NMLH Miaoli 2.50 346 eP Pn 20 06 30.7 +1.9
baz=347
NMLH eS Sn 20 06 59.9 +1.6
baz=347
TWC Suao 2.53 8 eP Pn 20 06 31.5 +2.4
baz=10.0
TWC eS Sn 20 07 01.4 +2.7
baz=10.0
ENTT Nioudou 2.53 2 eP Pn 20 06 31.0 +1.8
baz=4.0
ENTT eS Sn 20 07 01.2 +2.2
baz=4.0
NSTT Nanjuang 2.56 351 eP Pn 20 06 31.3 +1.8
baz=352
NSTT eS Sn 20 07 01.4 +1.9
baz=352
LIOB Emei 2.57 351 eP Pn 20 06 31.6 +1.9
baz=352
LIOB eS Sn 20 07 01.7 +1.8
baz=352
TWE Neicheng 2.62 4 eP Pn 20 06 32.7 +2.3
baz=6.0
TWE eS Sn 20 07 03.5 +2.5
baz=6.0
NWLT Wulai 2.67 1 eP Pn 20 06 33.1 +2.0
baz=2.0
NWLT eS Sn 20 07 04.0 +1.7
baz=2.0
JYNG Yonagunijimaku 2.71 30 eS Sn 20 07 02.4 -1.0
WLTB Daxi 2.75 356 eP Pn 20 06 34.1 +2.0
baz=357
WLTB eS Sn 20 06 57.5 +1.5
baz=357
TIPB Shuangxi 2.88 7 eP Pn 20 06 36.2 +2.2
baz=8.0
TIPB eS Sn 20 07 09.8 +2.2
baz=8.0
HATJ Hateruma jima 2.91 47 P Pn 20 06 35.4 +1.1
HATJ eS Sn 20 07 07.5 -0.8
YM04 YM04 3.04 1 eP Pn 20 06 38.4 +2.2
baz=2.0
YM04 eS Sn 20 07 13.3 +1.7
baz=2.0
YM10 YM10 3.05 2 eP Pn 20 06 38.6 +2.3
baz=3.0
YM10 eS Sn 20 07 13.4 +1.7
baz=3.0
IRIF Iriomote-Funau 3.06 43 P Pn 20 06 37.5 +1.2
IRIF S Sn 20 07 11.9 +0.1
JKRS Kuro-shima 3.17 47 P Pn 20 06 39.3 +1.4
JKRS S Sn 20 07 14.5 -0.2
JIJ Ishigaki jima 3.35 47 P Pn 20 06 41.1 +0.8
JIJ S Sn 20 07 17.4 -1.6
JISG Ishigakijimahi 3.61 46 P Pn 20 06 44.6 +0.7
JISG eS Sn 20 07 24.7 -0.8
JTJ Tarama 3.91 49 P Pn 20 06 49.4 +1.3
JTJ S Sn 20 07 32.5 -0.5
JIRB Irabujima 4.36 51 P Pn 20 06 55.5 +1.2
JIRB S Sn 20 07 43.3 -0.8

*IDC **12** 20:05:50.4±1.0, 36°.68N×73°.04E, h0km, mb3.6/7, mb1 3.8/12, mb1mx3.5/75, mbtmp3.7/12, ML3.1/5, MS3.5/3, Ms1 3.5/3, ms1mx2.7/63, Error ellipse: s-maj=22.8km s-min=21.6km az=160.0*
*ISCJB **12** 20:05:53.7±0.6, 36°.57N±0°.05×73°.12E±0°.10, h42km, mb3.5/7, MS3.4/3, Error ellipse: s-maj=12.5km s-min=5.3km az=152.0*
*NNC **12** 20:06:06.3±5.4, 37°.39N×73°.79E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=59.9km s-min=38.8km az=85.0*
ISC 12 20:05:55.9±0.8, 36°.57N±0°.07×73°.11E±0°.09, h42km, n26, σ1§86/27, mb3.6/7, MS3.1/3, 6C-5D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.45**	**5**	⇑Pn		**Pn**	**20 06 51.2**	**+3.9**
	51nm,0.7s							
SFK				⇑Lg		Lg	20 07 32.3	
	43nm,0.6s							
MNAS	**Manas**	**5.93**	**356**	⇓Pn		**Pn**	**20 07 25.3**	**+4.0**
	3.8nm,0.6s							
MNAS				⇓Sn		**Sn**	**20 08 28.0**	**0.0**
	5.4nm,1.0s							
MNAS				⇑Lg		Lg	20 08 52.1	
	6.2nm,0.8s							
AAK	**Ala-Archa**	**6.16**	**10**	Pn		**Pn**	**20 07 24.3**	**-0.1**
	0.2nm,0.3s,baz=153,slow=2.3,SNR=6.4							
AAK	**Ala-Archa**	**6.16**	**10**	⇑Pn		**Pn**	**20 07 27.3**	**+2.9**
	4.9nm,0.6s							
AAK				⇓Sn		**Sn**	**20 08 29.7**	**-3.8**
	7.3nm,1.1s							
AAK				⇑Lg		Lg	20 08 55.4	
	5.7nm,0.9s							
KK31	**Karatay Array**	**6.83**	**344**	⇓Pn		**Pn**	**20 07 36.1**	**+2.7**
	3.6nm,0.7s,baz=154,slow=12,SNR=20							
KK31				⇓Sn		**Sn**	**20 08 49.9**	**0.0**
	4.2nm,0.7s,baz=147,slow=26							
KK31				⇑Lg		Lg	20 09 22.8	
	3.9nm,0.7s							
PYUN	**Piuthan**	**11.87**	**133**	eP		**Pn**	**20 08 43.5**	**+0.8**
GEYT	**Alibeck**	**12.03**	**281**	Pn		**Pn**	**20 08 43.1**	**-1.6**
	0.3nm,0.3s,baz=94,slow=12,SNR=4.6							
MKAR	**Makanchi Array**	**12.30**	**31**	Pn		**Pn**	**20 08 48.7**	**+0.4**
	0.0nm,0.3s,baz=212,slow=7.1,SNR=4.0							
KKN	**Kakani**	**13.51**	**127**	eP		**Pn**	**20 09 03.5**	**-1.6**
	5.6nm,0.5s							
DMN	**Daman**	**13.52**	**128**	eP		**Pn**	**20 09 03.7**	**-1.6**
	8.8nm,0.7s							
PKIN	**Phulchoki**	**13.73**	**127**	eP		**Pn**	**20 09 07.2**	**-1.0**
	8.1nm,0.6s							
PKI	**Pulchoki**	**13.74**	**127**	eP		**Pn**	**20 09 07.0**	**-1.4**
	4.4nm,0.3s							
JIRN	**Jiri**	**14.19**	**125**	eP		**Pn**	**20 09 13.5**	**-1.0**
KURBB	**Kurchatov Arra**	**14.58**	**14**	Pn		**Pn**	**20 09 18.4**	**-0.9**
	0.1nm,0.3s,baz=205,slow=11,SNR=5.6							
BVAR	**Borovoye Array**	**16.57**	**354**	Pn		**P**	**20 09 47.2**	**+0.2**
	0.1nm,0.3s,baz=146,slow=10,SNR=3.4							
AKTO	**Aktyubinsk**	**17.61**	**327**	P		**Pn**	**20 09 57.1**	**-0.9**
	0.3nm,0.3s,baz=138,slow=11,SNR=6.4							
ZALV	**Zalesovo Beam**	**19.19**	**21**	P		**P**	**20 10 14.9**	**-0.9**
	0.2nm,0.3s,baz=221,slow=10,SNR=14							
ARU	**Arti**	**22.16**	**338**	LR		LR	20 19 14.1	
	comp=Z,69nm,18.1s,baz=310,slow=36							
SONM	**Songino Array**	**26.90**	**55**	P		**P**	**20 11 33.5**	**+0.6**
	0.3nm,0.7s,baz=264,slow=10,SNR=2.9							
SONM				LR		LR	20 23 30.2	
	comp=Z,49nm,19.2s,baz=17,slow=39							
NOA	**NORSAR Array B**	**45.35**	**323**	P		**P**	**20 14 10.0**	**+0.3**
	1.2nm,0.9s,baz=84,slow=8.1,SNR=3.1							
JHJ	**Hachijo jima 2**	**53.83**	**73**	LR		LR	20 39 44.4	
	comp=Z,117nm,19.5s,baz=98,slow=38							
TORD	**Torodi Ar. Bea**	**67.42**	**270**	P		**P**	**20 16 47.2**	**-0.2**
	0.2nm,0.4s,baz=46,slow=6.9,SNR=3.8							
INK	**Inuvik**	**73.55**	**10**	P		**P**	**20 17 23.1**	**-0.8**
	1.0nm,0.9s,baz=280,slow=4.3,SNR=3.9							
WRA	**Warramunga Arr**	**80.59**	**123**	P		**P**	**20 18 05.9**	**+1.7**
	0.7nm,0.9s,baz=317,slow=4.5,SNR=5.6							
YKA	**Yellowknife Ar**	**81.08**	**4**	P		**P**	**20 18 06.2**	**+0.1**
	0.4nm,0.5s,baz=349,slow=5.0,SNR=6.2							
ASAR	**Alice Springs**	**82.91**	**126**	P		**P**	**20 18 17.9**	**+1.6**
	0.3nm,0.7s,baz=308,slow=5.9,SNR=4.6							

*IDC **12** 20:08:20.7±2.5, 43°.10N×105°.06W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.3/65, mbtmp3.6/4, ML2.9/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/32, Error ellipse: s-maj=46.9km s-min=8.3km az=155.0*
*ISCJB **12** 20:08:25.2±0.5, 43°.67N±0°.03×105°.14W±0°.06, h0km, mb4.4/1, Error ellipse: s-maj=6.0km s-min=4.6km az=167.3*
*NEIC **12** 20:08:29.6±0.6, 43°.57N×105°.46W, h0km, ML3.7, MN2.9, Error ellipse: s-maj=7.8km s-min=4.0km az=68.0, Suspected Mining explosion.*
NEIC 68 km [42 miles] ENE of Midwest.
ISC 12 20:08:25.5±0.8, 43°.70N±0°.05×105°.05W±0°.06, h0km, n71, σ1§61/67, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**0.84**	**60**	ePg		**Pn**	**20 08 45.1**	**+0.3**
K22A	**Casper**	**1.51**	**226**	ePg		**Pn**	**20 08 50.5**	**-3.4**
PHWY	**Pilot Hill**	**2.42**	**187**	ePn		**Pn**	**20 09 07.1**	**+0.5**
RWWY	**Rawlins**	**2.57**	**219**	ePn		**Pn**	**20 09 08.5**	**-0.1**
N23A	**Red Feather La**	**2.88**	**194**	ePn		**Pn**	**20 09 13.6**	**+0.6**
RLMT	**Red Lodge**	**3.34**	**297**	ePn		**Pn**	**20 09 18.2**	**-0.9**
PD31	**Pinedale Array**	**3.43**	**256**	ePn		**Pn**	**20 09 20.2**	**-0.2**
PD31				eLg		Lg	20 10 03.3	
PD31				*e*			20 10 32.5	
PDAR	**Pinedale Array**	**3.43**	**256**	Pn		**Pn**	**20 09 18.4**	**-2.0**
	22nm,0.3s,baz=83,slow=18,SNR=44							
PDAR				Lg		Lg	20 10 03.3	
	37nm,0.3s,baz=80,slow=33,SNR=10							
PDAR				LR		LR	20 10 32.5	
	comp=Z,92nm,20.4s,baz=80,slow=40							
PDAR	**Pinedale Array**	**3.43**	**256**	ePn		**Pn**	**20 09 20.2**	**-0.2**
PDAR				Lg		Lg	20 10 03.3	
BW06	**Boulder Array**	**3.43**	**256**	ePn		**Pn**	**20 09 20.2**	**-0.2**
OGNE	**Ogallala**	**3.55**	**140**	ePn		**Pg**	**20 09 33.1**	**-0.3**
GCMT	**Greycliff**	**3.90**	**304**	ePn		**Pn**	**20 09 28.2**	**+1.4**
ISCO	**Idaho Springs**	**3.92**	**186**	ePn		**Pn**	**20 09 27.8**	**+0.6**
LOHW	**Long Hollow**	**4.04**	**271**	ePn		**Pn**	**20 09 29.5**	**+0.8**
H17A	**Grant Village**	**4.05**	**282**	ePn		**Pn**	**20 09 29.4**	**+0.5**
MOOW	**Moose Ponds**	**4.13**	**273**	ePn		**Pn**	**20 09 29.6**	**-0.5**
SNOW	**Snow King Moun**	**4.16**	**269**	ePn		**Pn**	**20 09 30.8**	**+0.4**
YNR	**Norris Junctio**	**4.17**	**286**	ePn		**Pn**	**20 09 32.0**	**+1.3**
YPP	**Pitchstone Pla**	**4.20**	**280**	ePn		**Pn**	**20 09 31.4**	**+0.4**
REDW	**Red Top Meadow**	**4.24**	**267**	ePn		**Pn**	**20 09 32.2**	**+0.7**
YFT	**Old Faithful**	**4.24**	**282**	ePn		**Pn**	**20 09 32.2**	**+0.6**
IMW	**Indian Meadow**	**4.27**	**275**	ePn		**Pn**	**20 09 32.2**	**+0.2**
O20A	**White River Ci**	**4.29**	**215**	ePn		**Pn**	**20 09 33.1**	**+1.0**
TPAW	**Teton Pass**	**4.29**	**269**	ePn		**Pn**	**20 09 33.1**	**+0.8**
YHH	**Holmes Hill**	**4.31**	**287**	ePn		**Pn**	**20 09 34.3**	**+1.7**
FXWY	**Fox Creek**	**4.34**	**271**	ePn		**Pn**	**20 09 31.7**	**-1.2**
YMR	**Madison River**	**4.37**	**285**	ePn		**Pn**	**20 09 34.3**	**+1.0**
AHID	**Auburn Hatcher**	**4.52**	**260**	ePn		**Pn**	**20 09 34.2**	**-1.2**
YHB	**Horse Butte**	**4.54**	**285**	ePn		**Pn**	**20 09 37.1**	**+1.4**
QLMT	**Earthquake Lak**	**4.72**	**286**	ePn		**Pn**	**20 09 38.1**	**0.0**
SMCO	**Snowmass**	**4.75**	**198**	ePb		**Pb**	**20 09 49.5**	**-0.3**
KSCO	**Kaye Shedlock'**	**5.03**	**158**	ePn		**Pn**	**20 09 42.5**	**+0.3**
BOZ	**Bozeman (W)**	**5.07**	**294**	ePn		**Pn**	**20 09 44.5**	**+1.7**
HWUT	**Hardware Ranch**	**5.24**	**249**	ePn		**Pn**	**20 09 43.7**	**-1.6**
TCUT	**Toone Canyon**	**5.37**	**243**	ePn		**Pn**	**20 09 47.9**	**+0.8**
EGMT	**Eagleton**	**5.43**	**324**	ePn		Pn	20 09 54.2	+6.5
MDND	**Maddock**	**5.63**	**41**	ePn		Pb	20 09 58.8	-5.7
P18A	**Preston Nutter**	**5.63**	**225**	ePn		**Pn**	**20 09 50.6**	**-0.1**
JLU	**Jordanelle**	**5.68**	**239**	ePn		**Pn**	**20 09 51.6**	**+0.3**
SDCO	**Great Sand Dun**	**5.96**	**183**	ePn		**Pn**	**20 09 57.9**	**+2.7**
P17A	**Butcher Ranch,**	**6.01**	**227**	ePn		**Pn**	**20 09 56.0**	**+0.2**
PV09	**Paradox Valley**	**6.04**	**212**	ePn		**Pn**	**20 09 57.1**	**+0.7**
S22A	**4UR Ranch, Cre**	**6.10**	**193**	ePn		**Pn**	**20 09 59.7**	**+2.5**
MPU	**Maple Canyon**	**6.14**	**235**	ePn		**Pn**	**20 09 56.8**	**-0.9**
SRU	**San Rafael Swe**	**6.16**	**224**	ePn		**Pn**	**20 09 57.6**	**-0.3**
TMUT	**Trail Mountain**	**6.38**	**229**	ePn		**Pn**	**20 10 01.1**	**+0.1**
PV05	**Paradox Valley**	**6.40**	**210**	ePn		**Pn**	**20 10 00.6**	**-0.6**
MHTCO	**State Highway**	**6.57**	**178**	ePb		Pb	20 10 13.9	-6.8
T25A	**Trinidad**	**6.57**	**176**	ePn		Pb	20 10 13.6	-7.2
Q16A	**Castle Valley**	**6.64**	**226**	ePn		**Pn**	**20 10 04.5**	**0.0**
DUG	**Dugway, Tooele**	**6.77**	**241**	ePn		**Pn**	**20 10 05.0**	**-1.2**
HLID	**Hailey**	**6.80**	**272**	ePn		**Pn**	**20 10 07.3**	**+0.7**
MVCO	**Mesa Verde**	**7.00**	**203**	ePn		**Pn**	**20 10 12.0**	**+2.5**
JTMT	**Jette**	**7.62**	**305**	ePn		**Pn**	**20 10 18.6**	**+0.7**
MFID	**Camas Ranch**	**7.84**	**272**	ePn		**Pn**	**20 10 19.0**	**-1.9**
WALA	**Waterton Lakes**	**8.14**	**314**	ePn		**Pn**	**20 10 29.6**	**+4.7**
CCUT	**Cedar City**	**8.81**	**229**	ePn		**Pn**	**20 10 30.5**	**-3.8**
I10CA	**LAC DU BONNET**	**8.96**	**40**	*i*			21 02 50.0	
	baz=220,slow=312,SNR=3.2							
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn		**Pn**	**20 10 36.2**	**-1.3**
	1.8nm,0.3s,baz=231,slow=12,SNR=13							
ULM				Sn		**Sn**	**20 12 22.7**	**+2.6**
	0.6nm,0.3s,baz=291,slow=19,SNR=2.2							
ULM				Lg		Lg	20 13 12.9	
	0.5nm,0.3s,baz=129,slow=9.8,SNR=3.0							
U15A	**North Rim**	**9.14**	**220**	ePn		**Pn**	**20 10 39.6**	**+0.7**
WUAZ	**Wupatki**	**9.52**	**213**	ePn		**Pn**	**20 10 46.3**	**+2.4**
BELC	**Belle Mtn. Jos**	**12.90**	**225**	eSn		**Sn**	**20 13 53.9**	**-0.6**
ALVY	**Alvey**	**12.98**	**278**	ePn		**Pn**	**20 11 31.1**	**+0.1**
YBH	**Yreka Blue Hor**	**13.14**	**267**	LR		LR	20 16 57.3	
	comp=Z,109nm,18.8s,baz=89,slow=39							
ALPC	**Antelope**	**13.65**	**233**	ePn		**Pn**	**20 11 38.8**	**-1.6**
DGR	**Domenigoni Val**	**13.70**	**227**	ePn		**Pn**	**20 11 40.5**	**-0.5**
PTRM	**Twissleman Ran**	**14.16**	**241**	ePn		**Pn**	**20 11 46.8**	**-0.5**
PTRM				eSn		**Sn**	**20 14 29.3**	**+4.2**
DPP	**Dos Picos Cty**	**14.17**	**225**	ePn		**Pn**	**20 11 50.9**	**+3.4**
SBC	**Santa Barbara**	**14.65**	**236**	ePn		**Pn**	**20 11 56.2**	**+2.2**
YKA	**Yellowknife Ar**	**19.64**	**347**	P		**P**	**20 12 56.8**	**+1.4**
	0.2nm,0.6s,baz=178,slow=12,SNR=5.4							
ARCES	**ARCESS Array B**	**61.40**	**18**	P		**P**	**20 18 40.1**	**-2.7**
	2.9nm,0.9s,baz=327,slow=9.7,SNR=3.8							

*NEIC **12** 20:20:51.0±0.2, 16°.42S×175°.90W, mb4.5/22, Error ellipse: s-maj=10.2km s-min=6.3km az=142.0*
*IDC **12** 20:20:51.4±0.7, 16°.32S×175°.97W, h358km±6km, mb3.8/21, mb1 3.9/21, mb1mx3.8/43, mbtmp4.4/21, Error ellipse: s-maj=15.1km s-min=10.2km az=143.0*
ISC 12 20:20:50.0±0.4, 16°.37S±0°.09×175°.71W±0°.08, h350km, n115, σ1§34/117, mb4.3/40, 7C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**4.52**	**58**	P		**Pn**	**20 22 04.4**	**-0.2**
	42nm,0.3s,baz=96,slow=3.7,SNR=13							
AFI				S		**S**	**20 23 00.9**	**-3.9**
	20nm,0.3s,baz=82,slow=22,SNR=8.7							
AFI	**Afiamalu**	**4.52**	**58**	ePn		**Pn**	**20 22 02.5**	**-2.1**
AFI				S		**S**	**20 23 00.9**	**-3.9**
MSVF	**Nonsavu**	**6.12**	**256**	ePn		**Pn**	**20 22 23.4**	**+1.2**
URZ	**Urewera**	**22.70**	**195**	P		**P**	**20 25 19.4**	**-3.1**
	12nm,0.6s,baz=247,slow=2.9,SNR=7.5							
WHZ	**Wether Hill Ro**	**32.45**	**201**	*eP*		**P**	**20 26 48.8**	**+0.1**
	50nm,1.0s							
CAN	**Canberra**	**36.68**	**232**	*eP*		**P**	**20 27 23.6**	**-1.2**
	15nm,0.7s							
PMG	**Port Moresby**	**36.80**	**276**	P		**P**	**20 27 25.9**	**-0.1**
	30nm,1.0s,baz=48,slow=8.2,SNR=5.1							
STKA	**Stephens Creek**	**41.62**	**240**	P		**P**	**20 28 04.4**	**-0.9**
	2.7nm,0.5s,baz=84,slow=7.2,SNR=9.7							
STKA				PcP		**sP**	**20 29 55.5**	**+1.1**
	1.7nm,0.7s,baz=91,slow=4.4,SNR=3.3							
STKA	**Stephens Creek**	**41.62**	**240**	*eP*		**P**	**20 28 04.5**	**-0.9**
	1.0nm,0.9s							
STKA				PcP		**sP**	**20 29 55.5**	**+1.1**
WB2	**Warramunga Arr**	**47.45**	**258**	*eP*		**P**	**20 28 49.6**	**-1.5**
WR1	**Warramunga Arr**	**47.46**	**258**	*eP*		**P**	**20 28 48.9**	**-2.3**
	33nm,1.8s							
WRA	**Warramunga Arr**	**47.46**	**258**	P		**P**	**20 28 48.9**	**-2.3**
	1.4nm,0.3s,baz=96,slow=6.0,SNR=80							
AS01	**Alice Springs**	**47.65**	**253**	*eP*		**P**	**20 28 50.8**	**-1.9**
AS31	**Alice Springs**	**47.69**	**253**	*eP*		**P**	**20 28 51.4**	**-1.6**
	3.6nm,0.6s							
ASAR	**Alice Springs**	**47.70**	**253**	P		**P**	**20 28 51.3**	**-1.7**
	11nm,0.5s,baz=87,slow=8.0,SNR=144							
ASAR				pP		**pP**	**20 30 04.8**	**+0.5**
	2.8nm,0.7s,baz=86,slow=7.8,SNR=2.1							
ASAR				S		**S**	**20 35 17.6**	**-4.5**
	1.0nm,0.8s,baz=88,slow=14,SNR=6.7							
VNDA	**Vanda**	**62.19**	**185**	P		**P**	**20 30 36.5**	**+1.7**
	6.8nm,0.9s,baz=7.3,slow=6.9,SNR=16							
VNDA	**Vanda**	**62.19**	**185**	*eP*		**P**	**20 30 36.4**	**+1.5**
	6.6nm,0.8s							
MJAR	**Matsushiro Arr**	**68.27**	**321**	P		**P**	**20 31 12.8**	**-1.3**
	4.3nm,0.9s,baz=158,slow=6.0,SNR=7.4							
MAJO	**Matsushiro**	**68.28**	**321**	*eP*		**P**	**20 31 12.8**	**-1.3**
JNU	**Nakatsue**	**70.86**	**315**	P		**P**	**20 31 29.2**	**-0.8**
	5.9nm,0.7s,baz=94,slow=15,SNR=4.0							
JNU	**Nakatsue**	**70.86**	**315**	*eP*		**P**	**20 31 29.2**	**-0.8**
	60nm,1.5s							
ASAJ	**Asahikawa**	**71.22**	**330**	P		**P**	**20 31 32.0**	**+0.3**
	8.5nm,0.8s,baz=228,slow=5.3,SNR=8.8							
ASAJ	**Asahikawa**	**71.22**	**330**	*eP*		**P**	**20 31 32.4**	**+0.7**
	10.0nm,0.9s							
PETK	**Petropavlovsk-**	**72.90**	**344**	P		**P**	**20 31 41.1**	**-0.3**
	8.0nm,0.7s,baz=136,slow=7.8,SNR=8.0							
PEA1	**Petropavlovsk-**	**72.91**	**344**	*eP*		**P**	**20 31 41.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**73.25**	**332**	*eP*		**P**	**20 31 44.0**	**+0.4**
	24nm,1.1s							
HCOM	**Corn Cob Canyo**	**73.45**	**43**	*eP*		**P**	**20 31 45.9**	**+0.9**
QSPA	**South Pole Qui**	**73.67**	**180**	*eP*		**P**	**20 31 46.9**	**+0.8**
	26nm,1.1s							
CRGC	**Crocker Grade**	**73.83**	**45**	*eP*		**P**	**20 31 51.4**	**+4.0**
CHFC	**Chilao Flat St**	**74.50**	**47**	*eP*		**P**	**20 31 51.9**	**+0.6**
CHFC				ePcP		**P**	**20 31 54.2**	**+2.9**
KSRS	**Korea Array**	**75.31**	**317**	P		**P**	**20 31 56.4**	**+0.7**
	2.0nm,0.8s,baz=138,slow=6.3,SNR=6.0							
KSAR	**Wonju Array Be**	**75.33**	**317**	P		**P**	**20 31 56.4**	**+0.6**
KS01	**Wonju Array Si**	**75.35**	**317**	*eP*		**P**	**20 31 56.4**	**+0.6**
YBH	**Yreka Blue Hor**	**75.72**	**38**	P		**P**	**20 31 59.6**	**+1.6**
	1.2nm,0.4s,baz=180,slow=8.1,SNR=6.0							
NV01	**Mina Array Sit**	**76.55**	**43**	*eP*		**P**	**20 32 04.2**	**+1.4**
NVAR	**Mina Array Bea**	**76.55**	**43**	P		**P**	**20 32 04.2**	**+1.4**
	0.7nm,0.6s,baz=229,slow=9.8,SNR=4.3							
TUC	**Tucson**	**78.73**	**51**	*eP*		**P**	**20 32 17.0**	**+2.3**
	4.4nm,0.8s							
X16A	**Lo Mia Camp, P**	**79.23**	**49**	*eP*		**P**	**20 32 19.8**	**+2.2**
	4.2nm,0.8s							
RVC	**Mount Rainier-**	**79.34**	**34**	*eP*		**P**	**20 32 17.7**	**0.0**
SRU	**San Rafael Swe**	**82.11**	**45**	*eP*		**P**	**20 32 34.1**	**+1.5**
	3.9nm,0.9s							
MNTX	**Cornudas Mount**	**82.59**	**54**	*eP*		**P**	**20 32 36.6**	**+1.6**
	5.8nm,0.8s							
SEY	**Seymchan**	**82.90**	**346**	P		**P**	**20 32 35.2**	**-0.5**
	9.6nm,0.8s,baz=131,slow=19,SNR=46							
LTX	**Lajitas**	**83.00**	**57**	*eP*		**P**	**20 32 39.1**	**+1.9**
TX31	**Lajitas Ar. Si**	**83.00**	**57**	*eP*		**P**	**20 32 38.9**	**+1.7**
TXAR	**Lajitas Array**	**83.00**	**57**	P		**P**	**20 32 39.1**	**+1.9**
	2.5nm,0.9s,baz=217,slow=6.8,SNR=18							
ANMO	**Albuquerque**	**83.13**	**51**	P		**P**	**20 32 39.4**	**+1.4**
	3.1nm,0.6s,baz=90,slow=4.0,SNR=4.6							
ANMO	**Albuquerque**	**83.13**	**51**	*eP*		**P**	**20 32 39.6**	**+1.7**
	3.0nm,0.8s							
DOT	**Dot Lake**	**83.46**	**14**	*eP*		**P**	**20 32 38.4**	**-0.3**
	18nm,1.0s							
CCB	**Clear Creek Bu**	**83.55**	**12**	*eP*		**P**	**20 32 38.5**	**-0.5**
	9.5nm,0.6s							
COLA	**College**	**83.74**	**12**	*eP*		**P**	**20 32 39.7**	**-0.3**
	19nm,0.7s							
MDM	**Murphy Dome**	**83.75**	**11**	*eP*		**P**	**20 32 39.8**	**-0.3**
	8.8nm,1.0s							
ILAR	**Eielson Array**	**83.84**	**12**	P		**P**	**20 32 40.0**	**-0.5**
	2.9nm,0.5s,baz=218,slow=5.5,SNR=60							
ILB	**Eielson Array**	**83.84**	**12**	*eP*		**P**	**20 32 40.0**	**-0.5**
IL1	**Eielson Array**	**83.84**	**12**	*eP*		**P**	**20 32 39.8**	**-0.7**
PD31	**Pinedale Array**	**84.48**	**43**	*eP*		**P**	**20 32 44.3**	**-0.2**
PDAR	**Pinedale Array**	**84.48**	**43**	P		**P**	**20 32 44.3**	**-0.2**
	0.4nm,0.6s,baz=164,slow=2.0,SNR=4.3							
LNIG	**Linares**	**84.84**	**62**	*eP*		**P**	**20 32 47.0**	**+0.5**
	8.7nm,0.9s							
DAWY	**Dawson**	**84.92**	**15**	*eP*		**P**	**20 32 46.2**	**+0.2**
	4.9nm,0.9s							
EGAK	**Eagle**	**85.09**	**14**	*eP*		**P**	**20 32 47.6**	**+0.9**
	23nm,1.9s							
HHC	**Hu-ho-hao-te**	**88.07**	**314**	*eP*		**P**	**20 33 03.1**	**+1.4**
INK	**Inuvik**	**89.75**	**14**	P		**P**	**20 33 08.3**	**-0.4**
	0.6nm,0.5s,baz=214,slow=3.6,SNR=3.4							
CM01	**Chiang Mai Arr**	**90.79**	**289**	*eP*		**P**	**20 33 15.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**90.81**	**289**	P		**P**	**20 33 14.5**	**-0.4**
	0.7nm,0.7s,baz=116,slow=2.9,SNR=6

KOWA	**Kowa**	**171.78**	**102**	PKPab	**PKPab**	**20**	**41**	**42.7 +0.3**
	comp=Z,2.8nm,0.8s,baz=256,slow=6.4,SNR=10							
TOA0	**Torodi Ar. Sit**	**175.93**	**142**	*e*PKPdf	**PKPdf**	**20**	**40**	**17.8 -1.7**
TORD	**Torodi Ar. Bea**	**175.93**	**142**	PKP	**PKPdf**	**20**	**40**	**18.2 -1.2**
	comp=Z,0.8nm,0.8s,baz=267,slow=0.6,SNR=5.6							
TORD				PKPab	**PKPab**	**20**	**42**	**01.6 +1.1**
	comp=Z,1.9nm,0.8s,baz=259,slow=3.8,SNR=9.9							
TOA1	**Torodi Ar. Sit**	**175.93**	**142**	*e*PKPdf	**PKPdf**	**20**	**40**	**18.2 -1.2**
TOA1				*e*PKPab	**PKPab**	**20**	**42**	**01.6 +1.1**

IDC ***12*** *21:01:30.6±2.1,36°.87N×72°.51E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.2/70, mbtmp3.4/6, ML2.8/3, Error ellipse: s-maj=63.7km s-min=24.6km az=141.0*
NNC ***12*** *21:01:40.4±5.3, 37°.13N×72°.40E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=51.6km s-min=40.2km az=98.0*
ISC 12 21:01:34.1±3.2, 36.7N±0.2×72.7E±0.2, h10km, n11, σ2s 04/11, mb3.4/3, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.37**	**11**	⇑Pn		**Pn**	**21 02 29.2**	**+2.2**
	21nm,0.8s							
SFK				⇓Lg		Lg	21 03 14.0	
	23nm,0.4s							
MNAS	**Manas**	**5.78**	**359**	⇓Pn		**Pn**	**21 03 04.1**	**+4.0**
	1.5nm,0.5s							
MNAS				⇑Sn		**Sn**	**21 04 06.1**	**-0.5**
	3.5nm,0.7s							
AAK	**Ala-Archa**	**6.09**	**13**	Pn		**Pn**	**21 03 04.1**	**-0.3**
	0.2nm,0.3s,baz=207,slow=4.5,SNR=5.9							
AAK				Lg		Lg	21 04 47.8	
	0.3nm,0.3s,baz=119,slow=19,SNR=2.7							
AAK	**Ala-Archa**	**6.09**	**13**	⇑Pn		**Pn**	**21 03 06.3**	**+1.9**
	2.3nm,0.6s							
AAK				⇓Sn		**Sn**	**21 04 13.9**	**-0.3**
	6.4nm,1.4s							
KK31	**Karatay Array**	**6.61**	**346**	⇓Pn		**Pn**	**21 03 11.4**	**0.0**
	0.7nm,0.4s,baz=162,slow=12							
KK31				⇓Sn		**Sn**	**21 04 25.4**	**-1.4**
	2.1nm,0.6s,baz=172,slow=24							
MKAR	**Makanchi Array**	**12.36**	**32**	Pn		**Pn**	**21 04 29.5**	**-0.6**
	0.0nm,0.3s,baz=202,slow=11,SNR=2.8							
AKTO	**Aktyubinsk**	**17.32**	**327**	P		**Pn**	**21 05 35.6**	**-0.3**
	0.0nm,0.3s,baz=132,slow=18,SNR=2.0							
ZALV	**Zalesovo Beam**	**19.19**	**22**	P		**P**	**21 05 55.4**	**-2.4**
	0.3nm,0.3s,baz=205,slow=8.9,SNR=8.0							
SONM	**Songino Array**	**27.10**	**55**	P		P	21 07 15.2	-1.9
	0.3nm,0.6s,baz=258,slow=6.9,SNR=3.4							
TORD	**Torodi Ar. Bea**	**67.08**	**270**	P		P	21 12 25.5	-2.5
	0.3nm,0.5s,baz=49,slow=5.7,SNR=6.0							
YKA	**Yellowknife Ar**	**80.97**	**3**	P		P	21 13 45.0	-3.4
	0.2nm,0.5s,baz=352,slow=5.4,SNR=4.5							

IDC ***12*** *21:10:18.3±1.0, 31°.94N×141°.72E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.5/74, mbtmp3.6/7, ML2.8/2, MS2.4/1, Ms1 2.4/1, ms1mx2.1/64, Error ellipse: s-maj=31.0km s-min=18.9km az=73.0*
ISCJB ***12*** *21:10:20.3±0.8, 31°.9N±0°.1×141°.7E±0°.1, h26km, mb3.7/6, Error ellipse: s-maj=21.2km s-min=10.4km az=137.5*
ISC 12 21:10:22.3±1.0, 32°.0N±0°.1×141°.6E±0°.1, h26km, n10, σ0s 82/10, mb3.8/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.92**	**308**	Pn		**Pn**	**21 10 53.5**	**+0.1**
	21nm,0.3s,baz=80,slow=22,SNR=6.1							
JHJ				Sn		**Sn**	**21 11 16.3**	**-0.4**
	30nm,0.3s,baz=60,slow=20,SNR=4.4							
MJAR	**Matsushiro Arr**	**5.37**	**330**	Pn		**Pn**	**21 11 42.0**	**+1.3**
	0.9nm,0.3s,baz=158,slow=11,SNR=8.2							
KSRS	**Korea Array**	**12.51**	**300**	LR		LR	21 17 43.0	
	comp=Z,21nm,21.9s,baz=350,slow=35							
KLR	**Kul'dur**	**18.79**	**340**	P		**P**	**21 14 38.1**	**-1.4**
	0.0nm,0.3s,baz=0.0,slow=20,SNR=2.9							
MKAR	**Makanchi Array**	**47.09**	**306**	P		**P**	**21 18 52.5**	**+0.6**
	0.6nm,0.6s,baz=91,slow=9.9,SNR=9.5							
KURBB	**Kurchatov Arra**	**49.37**	**312**	P		**P**	**21 19 09.6**	**+0.2**
	1.1nm,0.6s,baz=100,slow=29,SNR=10							
WRA	**Warramunga Arr**	**52.06**	**189**	P		**P**	**21 19 29.5**	**-0.5**
	1.0nm,0.5s,baz=4.9,slow=7.5,SNR=27							
ILAR	**Eielson Array**	**53.76**	**30**	P		**P**	**21 19 41.6**	**-0.4**
	0.3nm,0.8s,baz=254,slow=6.5,SNR=3.0							
ASAR	**Alice Springs**	**55.78**	**189**	P		**P**	**21 19 57.6**	**+0.5**
	0.3nm,0.5s,baz=7.0,slow=7.7,SNR=9.9							
TXAR	**Lajitas Array**	**93.10**	**53**	P		**P**	**21 23 34.5**	**+0.1**
	0.3nm,0.7s,baz=297,slow=4.8,SNR=4.0							

NIED ***12*** *21:17:00.38°.60N×144°.60E, h5km, Mw3.6 Best double couple: M0 2.61000×10^14 NP1:φs 33.00000°, δ34.00000°, λ-75.00000°. NP2:φs 195.00000°, δ57.00000°, λ-100.00000°.*
IDC ***12*** *21:17:00.8±1.1, 38°.50N×144°.92E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.3/81, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=35.6km s-min=22.4km az=98.0*
ISCJB ***12*** *21:17:03.7±0.7, 38°.67N±0°.04×144°.75E±0°.06, h35km, mb3.6/4, Error ellipse: s-maj=6.8km s-min=5.3km az=41.4*
JMA ***12*** *21:17:05.4±0.1, 38°.59N×144°.61E, h44km, M3.5*
ISC 12 21:17:05.6±1.1, 38°.65N±0°.06×144°.74E±0°.08, h35km, n18, σ1s 53/31, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.44**	**281**	P		**Pn**	**21 17 42.6**	**-0.3**
OFUJ				*e*S		**Sn**	**21 18 10.4**	**-1.1**
MIYJ	**Miyakonagasawa**	**2.46**	**293**	P		**Pn**	**21 17 43.1**	**0.0**
MIYJ				*e*S		**Sn**	**21 18 10.9**	**-1.0**
JTH	**Tanohata**	**2.58**	**301**	P		**Pn**	**21 17 45.0**	**+0.2**
JTH				*e*S		**Sn**	**21 18 14.7**	**-0.2**
JMK	**Ichinoseki**	**2.77**	**277**	P		**Pn**	**21 17 47.5**	**+0.1**
JMK				*e*S		**Sn**	**21 18 18.7**	**-0.9**
JOM	**Ohasama**	**2.81**	**288**	P		**Pn**	**21 17 48.2**	**+0.2**
JOM				*e*S		**Sn**	**21 18 20.1**	**-0.5**
JYK	**Kaneyama**	**3.44**	**276**	P		**Pn**	**21 17 57.8**	**+1.2**
JYK				*e*S		**Sn**	**21 18 36.2**	**+0.1**
JFT	**Otama**	**3.66**	**253**	P		**Pn**	**21 17 59.6**	**-0.1**
JFT				S		**Sn**	**21 18 40.5**	**-1.0**
JNBK	**Urakawa-nobuka**	**3.93**	**338**	P		**Pn**	**21 18 04.1**	**+0.7**
JNBK				*e*S		**Sn**	**21 18 48.8**	**+0.5**
JCH	**Churui**	**4.10**	**346**	P		**Pn**	**21 18 05.3**	**-0.4**
JCH				*e*S		**Sn**	**21 18 50.4**	**-2.0**
NEM2	**Nemuro 2**	**4.77**	**9**	P		**Pn**	**21 18 13.3**	**-1.6**
NEM2				*e*S		**Sn**	**21 19 05.0**	**-4.0**
JRY	**Ryogami san**	**5.34**	**242**	P		**Pn**	**21 18 21.9**	**-1.0**
JRY				*e*S		**Sn**	**21 19 18.6**	**-4.6**
JTKR	**Abashiri--Toko**	**5.35**	**354**	P		**Pn**	**21 18 22.6**	**-0.3**
JTKR				*e*S		**Sn**	**21 19 20.7**	**-2.6**
MJAR	**Matsushiro Arr**	**5.60**	**250**	Pn		**Pn**	**21 18 26.1**	**-0.3**
	0.6nm,0.3s,baz=52,slow=10,SNR=8.0							
ASAJ	**Asahikawa**	**5.70**	**344**	Pn		**Pn**	**21 18 29.1**	**+1.5**
	0.6nm,0.3s,baz=157,slow=12,SNR=7.5							
ASAJ				Sn		**Sn**	**21 19 31.4**	**-0.4**
	0.3nm,0.3s,baz=45,slow=20,SNR=3.4							
ILAR	**Eielson Array**	**46.71**	**33**	P		**P**	**21 25 31.3**	**+0.7**
	0.4nm,0.8s,baz=267,slow=6.0,SNR=3.4							
KURBB	**Kurchatov Arra**	**47.10**	**307**	P		**P**	**21 25 36.0**	**+2.1**
	0.5nm,0.6s,baz=80,slow=8.5,SNR=6.2							
WRA	**Warramunga Arr**	**59.09**	**191**	P		**P**	**21 27 01.8**	**-0.6**
	1.1nm,0.9s,baz=12,slow=7.3,SNR=4.7							
ASAR	**Alice Springs**	**62.81**	**191**	P		**P**	**21 27 27.7**	**0.0**
	0.3nm,0.7s,baz=11,slow=5.9,SNR=3.0							

IDC ***12*** *21:25:56.2±1.2, 38°.88N×71°.41E, h0km, mb3.7/6, mb1 3.7/13, mb1mx3.5/72, mbtmp3.6/13, ML3.2/7, Error ellipse: s-maj=22.1km s-min=12.6km az=150.0*
NNC ***12*** *21:25:56.8±2.3, 38°.97N×71°.05E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=18.4km s-min=14.2km az=2.0*
ISCJB ***12*** *21:26:00.8±0.7, 39°.01N±0°.06×71°.26E±0°.05, h34km, mb3.6/6, Error ellipse: s-maj=9.2km s-min=4.5km az=149.4*
KRNET ***12*** *21:26:00.5±0.1, 39°.20N×71°.53E, mb3.9*
ISC 12 21:26:01.6±0.9, 39.02N±0°.07×71°.25E±0°.05, h34km, n45, σ2s 02/69, mb3.7/6, 20C-25D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.01**	**60**	⇑Pn		**Pn**	**21 26 32.9**	**-0.5**
	66nm,0.4s							
SFK				⇓Lg		Lg	21 27 06.0	
	508nm,0.4s							
SFK	**Sufi-Kurgan**	**2.01**	**60**	⇓*i*P		**Pn**	**21 26 32.6**	**-0.7**
	baz=61							
SFK				⇓*i*S		**Sn**	**21 26 56.9**	**-0.5**
	baz=61							
ARSB	**Arslanbob**	**2.66**	**29**	⇓*e*P		**Pn**	**21 26 42.9**	**+0.7**
	baz=27							
ARSB				⇓*i*S		**Sn**	**21 27 16.6**	**+3.2**
	baz=27							
TAS	**Tashkent**	**2.76**	**328**	⇑*i*P		**Pb**	**21 26 48.0**	**-2.2**
	baz=22							
TAS				⇑*e*S		**Sb**	**21 27 22.3**	**-1.3**
	baz=22							
ARK	**Arkit**	**2.83**	**11**	⇑*e*P		**Pn**	**21 26 45.2**	**+0.6**
	baz=8.0							
ARK				⇑*i*S		**Sn**	**21 27 20.7**	**+3.1**
	baz=8.0							
TOKL	**Toktogul**	**3.17**	**22**	⇓*i*P		**Pn**	**21 26 50.5**	**+1.3**
	baz=20							
TOKL				⇓*i*S		**Sn**	**21 27 28.6**	**+2.7**
	baz=20							
MNAS	**Manas**	**3.60**	**15**	⇓Pn		**Pn**	**21 26 56.5**	**+1.4**
	10nm,0.4s							
MNAS				⇑Sn		**Sn**	**21 27 39.4**	**+3.0**
	30nm,0.4s							
MNAS	**Manas**	**3.60**	**15**	⇓*i*P		**Pn**	**21 26 56.7**	**+1.6**
	baz=12							
MNAS				⇓*i*S		**Sn**	**21 27 38.0**	**+1.5**
	baz=12							
AML	**Almayashu**	**3.63**	**30**	P		**Pn**	**21 26 57.5**	**+1.8**
	SNR=103							
AML	**Almayashu**	**3.63**	**30**	⇓*i*P		**Pn**	**21 26 56.8**	**+1.1**
	baz=29							
AML				⇓*i*S		**Sn**	**21 27 37.6**	**0.0**
	baz=29							
UCH	**Uchtor**	**4.06**	**37**	P		**Pn**	**21 27 03.7**	**+2.0**
	SNR=79							
UCH	**Uchtor**	**4.06**	**37**	⇓*i*P		**Pn**	**21 27 03.4**	**+1.7**
	baz=36							
UCH				⇓*i*S		**Sn**	**21 27 47.1**	**-1.2**
	baz=36							
EKS2	**Erkin-Say**	**4.12**	**27**	P		**Pn**	**21 27 04.6**	**+2.4**
	SNR=51							
KK31	**Karatay Array**	**4.12**	**352**	Pn		**Pn**	**21 27 03.1**	**+0.9**
	4.8nm,0.3s,baz=172,slow=13,SNR=114							
KK31				Lg		Lg	21 28 04.0	
	50nm,0.5s,baz=174,slow=18,SNR=6.4							
KZA	**Kyzart**	**4.32**	**44**	P		**Pn**	**21 27 07.3**	**+2.0**
	SNR=33							
KZA	**Kyzart**	**4.32**	**44**	⇑*i*P		**Pn**	**21 27 07.2**	**+2.0**
	baz=43							
KZA				⇑*i*S		**Sn**	**21 27 55.1**	**+0.5**
	baz=43							
NRN	**Naryn**	**4.37**	**55**	⇓*i*P		**Pn**	**21 27 06.5**	**+0.7**
	baz=55							
NRN				⇓*i*S		**Sn**	**21 27 55.0**	**-0.7**
	baz=55							
AAK	**Ala-Archa**	**4.38**	**33**	Pn		**Pn**	**21 27 07.7**	**+1.9**
	7.0nm,0.3s,baz=180,slow=5.9,SNR=91							
AAK				Sn		**Sn**	**21 27 57.3**	**+1.6**
	3.1nm,0.3s,baz=90,slow=9.1,SNR=3.0							
AAK	**Ala-Archa**	**4.38**	**33**	⇓Pn		**Pn**	**21 27 07.7**	**+1.9**
	1.9nm,0.3s							
AAK				⇓Sn		**Sn**	**21 28 02.1**	**+6.4**
	32nm,0.8s							
AAK	**Ala-Archa**	**4.38**	**33**	P		**Pn**	**21 27 08.0**	**+2.2**
	SNR=27							
AAK	**Ala-Archa**	**4.38**	**33**	⇑*i*P		**Pn**	**21 27 07.3**	**+1.5**
	baz=32							
AAK				⇑*e*S		**Sn**	**21 27 54.3**	**-1.4**
	baz=32							
FRU1	**Bishkek**	**4.58**	**33**	⇑*i*P		**Pn**	**21 27 10.3**	**+1.8**
	baz=32							
FRU1				⇑*i*S		**Sn**	**21 27 59.7**	**-0.8**
	baz=32							
KBK	**Karagaybulak**	**4.59**	**36**	P		**Pn**	**21 27 11.3**	**+2.5**
	SNR=12							
KBK	**Karagaybulak**	**4.59**	**36**	⇓*i*P		**Pn**	**21 27 09.7**	**+0.9**
	baz=36							
KBK				⇓*i*S		**Sn**	**21 28 00.4**	**-0.7**
	baz=36							
CHMS	**Chumysh**	**4.78**	**33**	P		**Pn**	**21 27 13.1**	**+1.9**
	SNR=19							
CHMS	**Chumysh**	**4.78**	**33**	⇓*i*P		**Pn**	**21 27 13.2**	**+1.9**
	baz=32							
CHMS				⇓*i*S		**Sn**	**21 28 05.0**	**-0.5**
	baz=32							
USP	**Ospenovka**	**4.91**	**29**	P		**Pn**	**21 27 14.7**	**+1.7**
	SNR=9.1							
USP	**Ospenovka**	**4.91**	**29**	⇑*i*P		**Pn**	**21 27 14.2**	**+1.2**
	baz=28							
USP				⇑*i*S		**Sn**	**21 28 07.7**	**-0.9**
	baz=28							
TKM2	**Tokmak 2**	**5.11**	**39**	⇑Pn		**Pn**	**21 27 17.3**	**+1.4**
	12nm,0.7s							
TKM2				⇑Sn		**Sn**	**21 28 19.7**	**+6.0**
	6.5nm,0.5s							
TKM2				⇓Lg		Lg	21 28 43.3	
	11nm,0.7s							
TKM2	**Tokmak 2**	**5.11**	**39**	P		**Pn**	**21 27 17.6**	**+1.8**
	SNR=22							
TKM2	**Tokmak 2**	**5.11**	**39**	⇑*e*P		**Pn**	**21 27 17.4**	**+1.5**
	baz=38							
TKM2				⇑*i*S		**Sn**	**21 28 12.6**	**-1.1**
	baz=38							
GEYT	**Alibeck**	**10.35**	**268**	Pn		**Pn**	**21 28 25.8**	**-1.9**
	0.1nm,0.3s,baz=81,slow=9.2,SNR=2.4							
GEYT				Sn		**Sn**	**21 30 25.4**	**+2.8**
	0.6nm,0.3s,baz=130,slow=14,SNR=4.0							
MKAR	**Makanchi Array**	**11.22**	**43**	Pn		**Pn**	**21 28 40.7**	**+1.2**
	0.1nm,0.3s,baz=235,slow=14,SNR=9.9							
KURBB	**Kurchatov Arra**	**12.70**	**22**	Pn		**Pn**	**21 28 57.6**	**-2.0**
	0.0nm,0.3s,baz=213,slow=13,SNR=4.2							
AB31	**Akbulak array**	**13.05**	**325**	⇓P		**Pn**	**21 29 02.9**	**-1.5**
	0.5nm,0.3s							
AB31				⇑S		**Sn**	**21 31 28.3**	**0.0**
	2.0nm,0.5s							
BVAR	**Borovoye Array**	**14.03**	**358**	Pn		**Pn**	**21 29 14.5**	**-3.2**
	0.2nm,0.3s,baz=167,slow=11,SNR=3.5							
AKTO	**Aktyubinsk**	**14.76**	**325**	Pn		**Pn**	**21 29 26.5**	**-1.3**
	0.3nm,0.3s,baz=114,slow=12,SNR=3.9							
AKTO				Sn		**Sn**	**21 32 06.5**	**-3.6**
	0.2nm,0.3s,baz=168,slow=19,SNR=2.9							
AKTO	**Aktyubinsk**	**14.76**	**325**	⇑P		**Pn**	**21 29 25.2**	**-2.6**
	6.1nm,0.9s							
AKTO				⇓S		**Sn**	**21 32 08.4**	**-1.7**
	9.0nm,1.1s							
ZALV	**Zalesovo Beam**	**17.57**	**27**	P		**Pn**	**21 30 04.1**	**+0.5**
	0.4nm,0.3s,baz=218,slow=11,SNR=8.8							
ARCES	**ARCESS Array B**	**38.91**	**336**	P		**P**	**21 33 25.2**	**+1.6**
	1.0nm,0.8s,baz=111,slow=9.8,SNR=3.0							
HFS	**Hagfors**	**41.24**	**320**	P		**P**	**21 33 44.3**	**+1.3**
	0.8nm,0.5s,baz=104,slow=12,SNR=6.5							
KLR	**Kul'dur**	**43.54**	**56**	P		**P**	**21 34 01.1**	**-0.8**
	0.1nm,0.5s,baz=282,slow=9.3,SNR=5.2							
TORD	**Torodi Ar. Bea**	**65.99**	**268**	P		**P**	**21 36 45.5**	**+0.6**
	1.4nm,0.5s,baz=48,slow=5.7,SNR=21							
KOWA	**Kowa**	**69.64**	**272**	P		**P**	**21 37 08.9**	**+1.0**
	1.3nm,0.5s,baz=54,slow=9.6,SNR=4.7							
YKA	**Yellowknife Ar**	**78.73**	**3**	P		**P**	**21 38 00.5**	**+0.5**
	0.2nm,0.5s,baz=352,slow=5.5,SNR=6.3							

IDC 12 21:26:36.8±2.1, 7°.44S×114°.29E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/58, mbtmp3.6/6, Error ellipse: s-maj=130.4km s-min=18.4km az=54.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.07**	**125**	P		P	21 31 44.2	0.0
	1.6nm,0.7s,baz=301,slow=12,SNR=21							
ASAR	**Alice Springs**	**24.79**	**133**	P		P	21 32 00.8	0.0
	0.4nm,0.5s,baz=309,slow=8.5,SNR=8.1							
STKA	**Stephens Creek**	**35.18**	**137**	P		P	21 33 32.7	0.0
	0.6nm,0.3s,baz=321,slow=11,SNR=4.7							
SONM	**Songino Array**	**55.48**	**354**	P		P	21 36 13.8	+0.2
	0.4nm,0.6s,baz=171,slow=8.7,SNR=3.6							
MKAR	**Makanchi Array**	**61.03**	**335**	P		P	21 36 52.4	+0.1
	0.5nm,0.6s,baz=150,slow=7.1,SNR=8.0							
KURBB	**Kurchatov Arra**	**65.58**	**336**	P		P	21 37 21.9	-0.5
	0.1nm,0.3s,baz=146,slow=6.3,SNR=4.2							

JMA 12 21:37:31.2±0.2, 38°.54N×144°.57E, h39km, M3.5, Off east coast of Honshu

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

OFUJ	**Ofunato**	**2.33**	**284**	P		**Pn**	**21 38 08.5**	**+1.5**
OFUJ				*e*S		Sn	21 38 36.4	+2.0
MIYJ	**Miyakonagasawa**	**2.38**	**297**	P		**Pn**	**21 38 08.8**	**+1.2**
MIYJ				*e*S		Sn	21 38 37.0	+1.4
JMK	**Ichinoseki**	**2.65**	**280**	P		**Pn**	**21 38 13.3**	**+1.9**
JMK				*e*S		Sn	21 38 44.4	+2.1
JOM	**Ohasama**	**2.72**	**291**	P		**Pn**	**21 38 14.1**	**+1.8**
JOM				*e*S		Sn	21 38 46.0	+2.1
JYK	**Kaneyama**	**3.31**	**278**	P		**Pn**	**21 38 22.8**	**+2.3**
JYK				*e*S		Sn	21 39 02.1	+3.4
JFT	**Otama**	**3.50**	**254**	P		**Pn**	**21 38 25.5**	**+2.5**
JFT				*e*S		Sn	21 39 05.9	+2.8
JCH	**Churui**	**4.17**	**348**	P		**Pn**	**21 38 30.9**	**-1.4**
JCH				*e*S		Sn	21 39 15.5	-4.3
NEM2	**Nemuro 2**	**4.90**	**10**	P		**Pn**	**21 38 39.1**	**-3.2**
NEM2				*e*S		Sn	21 39 30.2	-7.5
JRY	**Ryogami san**	**5.17**	**243**	P		**Pn**	**21 38 47.6**	**+1.5**
JRY				*e*S		Sn	21 39 44.6	+0.1
JTKR	**Abashiri--Toko**	**5.45**	**355**	P		**Pn**	**21 38 48.2**	**-1.6**
JTKR				*e*S		Sn	21 39 46.2	-5.0

ISCJB ***12*** *21:43:34.5±0.2, 2°.75N±0°.03×99°.08E±0°.03, h173km±2km, mb4.1/34, Error ellipse: s-maj=5.9km s-min=3.8km az=143.1*
NEIC ***12*** *21:43:35.8±0.4, 2°.73N×99°.15E, h171km±4km, mb4.4/16, Error ellipse: s-maj=8.3km s-min=5.4km az=51.0*
IDC ***12*** *21:43:35.3±0.4, 2°.67N×99°.07E, h167km±3km, mb3.7/21, mb1 3.8/22, mb1mx3.6/61, mbtmp4.2/22, Error ellipse: s-maj=14.3km s-min=9.3km az=53.0*
DJA ***12*** *21:43:36.0±0.2, 3°N±2°×9°E±°, h163km±3km, M4.3/13, mb4.2/6, MLv4.3/13*
ISC 12 21:43:35.9±0.5, 2.75N±0°.04×99°.09E±0°.04, h173km±4km, n95, σ1s 35/120, mb4.1/38, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.17**	**287**	P		**Pn**	**21 43 58.6**	**-0.4**
	baz=233,slow=5.1							
PSI				S		**Sn**	**21 44 15.2**	**-1.6**
	133nm,0.3s,baz=163,slow=20,SNR=58							
PSI	**Prapat**	**0.17**	**287**	*e*Pn		**Pn**	**21 43 58.8**	**-0.3**
PSI				*e*Sn		**Sn**	**21 44 16.4**	**-0.3**
TSI	**Tuntungan**	**0.91**	**325**	P		**Pn**	**21 44 02.3**	**+0.1**
TSI				S		**Sn**	**21 44 20.9**	**-1.6**
KCSI	**Kotacane, Aceh**	**1.52**	**300**	P		**Pn**	**21 44 07.0**	**-0.5**
KCSI				S		**Sn**	**21 44 30.0**	**-1.9**
TPTI		**1.97**	**285**	P		**Pn**	**21 44 12.0**	**-0.1**
TPTI				S		**Sn**	**21 44 38.0**	**-2.2**
MNSI	**Mandailing Nat**	**2.01**	**166**	P		**Pn**	**21 44 12.8**	**+0.2**
MNSI				S		**Sn**	**21 44 40.5**	**-0.6**
GSI	**Gunungsitoli**	**2.08**	**226**	P		**Pn**	**21 44 13.0**	**-0.5**
GSI				S		**Sn**	**21 44 40.6**	**-2.0**
GSI	**Gunungsitoli**	**2.08**	**226**	*e*Pn		**Pn**	**21 44 12.9**	**-0.5**
GSI				*e*Sn		**Sn**	**21 44 41.1**	**-1.3**
IPM	**Ipoh**	**2.59**	**48**	*e*Pn		**Pn**	**21 44 18.4**	**-0.8**
IPM				*e*Sn		**Sn**	**21 44 51.3**	**-1.7**
KULM	**Kulim**	**2.96**	**32**	*e*Pn		**Pn**	**21 44 22.8**	**-1.0**
MLSI	**Meulaboh, Aceh**	**3.07**	**299**	P		**Pn**	**21 44 25.0**	**-0.1**
MLSI				S		**Sn**	**21 45 00.8**	**-2.6**
BKNI	**Bangkinang**	**3.10**	**141**	P		**Pn**	**21 44 25.7**	**+0.2**
BKNI				S		**Sn**	**21 45 04.8**	**+0.6**
BKNI	**Bangkinang**	**3.10**	**141**	*e*Pn		**Pn**	**21 44 25.3**	**-0.2**
LHMI	**Lhok Sumawe**	**3.25**	**319**	P		**Pn**	**21 44 27.6**	**+0.2**
LHMI				S		**Sn**	**21 45 06.9**	**-0.7**
LHMI	**Lhok Sumawe**	**3.25**	**319**	*e*Pn		**Pn**	**21 44 27.9**	**+0.4**
LHMI				*e*Sn		**Sn**	**21 45 05.1**	**-2.5**
PDSI	**Padang**	**3.89**	**159**	P		**Pn**	**21 44 34.9**	**-0.6**
PDSI				S		**Sn**	**21 45 20.3**	**-1.8**
SKLT	**Songkhla**	**4.65**	**19**	P		**Pn**	**21 44 44.1**	**-1.1**
MYKOM	**Kota Tinggi**	**4.86**	**101**	*e*Pn		**Pn**	**21 44 47.0**	**-0.8**
TRTT	**Trang**	**5.09**	**7**	P		**Pn**	**21 44 49.2**	**-1.7**
	51nm,0.7s,478nm0.2nm							
PKDT	**Phuket**	**5.16**	**352**	P		**Pn**	**21 44 50.4**	**-1.5**
	26nm,0.9s,351nm0.1nm							
SURT	**Suratani**	**6.17**	**357**	P		**Pn**	**21 45 03.6**	**-1.5**
	12nm,1.3s,186nm0.1nm							
MASI	**Maura Aman, Be**	**6.65**	**152**	P		**Pn**	**21 45 10.6**	**-0.9**
	97nm,0.8s,0.5nm							
PBA	**Port Blair**	**10.85**	**325**	*e*P		Pn	21 46 03.1	-3.7
PBA	

SONA1	Songino Array	45.36	7	*e*P	P	P	21 51 37.5 +0.4
MK01	Makanchi Array	46.21	344	*e*P	P	P	21 51 43.5 -0.1
MK31	Makanchi Array	46.24	344	*e*P	P	P	21 51 43.8 0.0
MKAR	Makanchi Array	46.24	344	P	P	P	21 51 43.8 0.0
	comp=Z,0.8nm,0.5s,baz=158,slow=8.7,SNR=22						
MKAR				pP		pP	21 52 23.1 +1.1
	comp=Z,2.5nm,0.7s,baz=153,slow=8.2,SNR=7.9						
MKAR	Makanchi Array	46.24	344	*e*P	P	P	21 51 43.8 0.0
	comp=Z,18nm,1.1s						
MAKZ	Makanchi	46.34	344	*e*P	P	P	21 51 44.7 +0.2
	comp=Z,2.6nm,0.6s						
COEN	Coen	46.76	112	*e*P	P	P	21 51 47.7 -0.6
	comp=Z,42nm,1.6s						
CN2	Changchun	47.08	26	*e*P	P	P	21 51 52.1 +1.8
PMG	Port Moresby	49.40	105	P	P	P	21 52 08.2 -0.3
	comp=Z,13nm,0.8s,baz=330,slow=14,SNR=3.6						
BBOO	Buckleboo	49.74	138	*e*P	P	P	21 52 09.5 -1.3
	comp=Z,28nm,1.6s						
USRK	Ussuriysk Ar.	50.48	30	P	P	P	21 52 18.3 +2.1
	comp=Z,2.1nm,0.9s,baz=232,slow=4.7,SNR=3.5						
KURBB	Kurchatov Arra	50.76	343	P	P	P	21 52 18.2 0.0
	comp=Z,1.0nm,0.6s,baz=162,slow=6.9,SNR=13						
KURBB				PcP	PcP	PcP	21 53 33.1 +0.5
	comp=Z,0.5nm,0.5s,baz=155,slow=3.3,SNR=4.5						
GEYT	Alibeck	51.27	318	P	P	P	21 52 22.6 +0.3
	comp=Z,2.4nm,0.6s,baz=134,slow=8.5,SNR=9.6						
ZAA0	Zalesovo Array	52.36	349	*e*P	P	P	21 52 29.3 -0.7
	comp=Z,7.3nm,1.5s						
ZALV	Zalesovo Beam	52.36	349	P	P	P	21 52 30.2 +0.2
	comp=Z,2.1nm,0.4s,baz=168,slow=6.6,SNR=13						
ZALV				pP	pP	pP	21 53 09.2 0.0
	comp=Z,1.5nm,0.6s,baz=171,slow=7.1,SNR=2.9						
ZALV	Zalesovo Beam	52.36	349	*e*P	P	P	21 52 29.6 -0.3
STKA	Stephens Creek	53.03	134	P	P	P	21 52 34.0 -1.4
	comp=Z,3.2nm,0.6s,baz=309,slow=7.5,SNR=11						
STKA	Stephens Creek	53.03	134	*e*P	P	P	21 52 34.1 -1.2
	comp=Z,0.8nm,0.8s						
BVAR	Borovoye Array	55.44	339	P	P	P	21 52 51.8 -0.5
	comp=Z,1.3nm,0.6s,baz=145,slow=10,SNR=9.1						
RAYN	Ar Rayn	55.72	297	*e*P	P	P	21 52 55.3 +0.3
	comp=Z,11nm,1.9s						
ABKAR	Akbulak array	57.07	330	*e*P	P	P	21 53 03.7 -0.2
	comp=Z,17nm,0.7s						
BRTR	Keskin Array B	69.48	311	P	P	P	21 54 25.4 -0.6
	comp=Z,1.2nm,0.6s,baz=126,slow=6.7,SNR=8.3						
TIXI	Tiksi	71.35	10	*e*P	P	P	21 54 35.9 -0.6
	comp=Z,22nm,2.0s						
SEY	Seymchan	71.61	23	P	P	P	21 54 38.6 +0.4
	comp=Z,0.8nm,0.3s,baz=214,slow=15,SNR=5.0						
MATP	Matopo	72.85	248	P	P	P	21 54 47.1 +0.5
	comp=Z,2.0nm,0.6s,baz=123,slow=17,SNR=6.3						
AKASG	Malin Array Be	75.20	322	P	P	P	21 54 58.6 -0.8
	comp=Z,0.2nm,0.3s,baz=94,slow=4.2,SNR=4.2						
VRI	Vrincioaia	75.78	317	⇑*i*P	P	P	21 55 02.8 -0.1
TESR	Tescani	75.96	317	⇑*i*P	P	P	21 55 03.4 -0.4
BURAR	Bucovina Array	77.12	318	⇓*i*P	P	P	21 55 11.1 +0.6
BUR04	Bucovina Ar. S	77.12	318	*e*P	P	P	21 55 11.2 +0.7
BUR08	Bucovina Ar. S	77.14	318	*e*P	P	P	21 55 11.6 +1.0
BOSA	Boshof	77.18	240	P	P	P	21 55 12.2 +1.0
	comp=Z,1.3nm,0.6s,baz=38,slow=4.7,SNR=5.5						
FIA1	FINESS Array S	79.51	332	*e*P	P	P	21 55 22.6 -0.5
FINES	FINESS Array B	79.51	332	P	P	P	21 55 22.9 -0.2
	comp=Z,1.6nm,0.6s,baz=114,slow=5.1,SNR=7.7						
ARCES	ARCESS Array B	81.72	340	P	P	P	21 55 34.9 +0.1
	comp=Z,2.3nm,1.0s,baz=90,slow=1.2,SNR=3.9						
HFS	Hagfors	85.33	330	P	P	P	21 55 53.9 +0.6
	comp=Z,0.8nm,0.4s,baz=157,slow=4.1,SNR=7.9						
ULM	Lac du Bonnet	125.66	12	PKP	PKPdf	PKPdf	22 02 15.3 -1.5
	comp=Z,1.0nm,0.4s,baz=168,slow=1.7,SNR=4.6						
TXAR	Lajitas Array	141.36	33	PKhKP	PKPpre		22 02 42.0
	comp=Z,0.1nm,0.4s,baz=214,slow=0.3,SNR=3.4						
TXAR				PKP	PKPdf	PKPdf	22 02 48.2 +1.2
	comp=Z,0.3nm,0.5s,baz=64,slow=0.3,SNR=4.8						
CPUP	Villa Florida	147.41	222	PKPbc	PKPbc	PKPbc	22 03 00.1 -0.1
	comp=Z,1.2nm,0.8s,baz=102,slow=9.3,SNR=3.5						

GCMT 12 21:48:16.0±0.4, 24.76S×176.84W, h23km, MW4.9/63, Moment Tensor Solution. s31,c36; s63,c71; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.01±.17; Mθθ1.88±.14; Mϕϕ1.14±.11; Mrθ0.41±.21; Mθϕ-0.35±.09; Mϕr-0.47±.18; **Best double couple:** M☐2.58500×10^16 **NP1:**ϕs297.00000°,δ51.00000°, λ-85.00000°. **NP2:**ϕs109.00000°,δ39.00000°, λ-96.00000°. **Principal axes:** T 2.0800, Plg6.0000°, Azm23.0000°; N 1.0190, Plg4.0000°, Azm114.0000°; P -3.0890, Plg83.0000°, Azm235.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.58	276	*e*LR	LR	21 55 51.6	
	183nm,31.6s						
PPT2	Papeete2	26.37	80	*e*LR	LR	22 00 25.0	
	344nm,29.0s,baz=250						

CSEM ***12*** *21:50:56.9±0.1, 44.73N×4.38E, h15km, ML2.4/21 Error ellipse: s-maj=1.7km s-min=1.6km az=145.0*
STR ***12*** *21:50:58.0±0.3, 44.76N±0.02×4.40E±0.02, h5km, MLv2.6/10*
LDG ***12*** *21:50:57.9±0.0, 44.73N×4.39E, h6km, Md2.6/3, Ml2.4/27, Error ellipse: s-maj=0.7km s-min=0.6km az=15.0*
MDD ***12*** *21:50:59.0±0.3, 44.73N×4.43E, h15km±4km, mbLg2.0/3, Error ellipse: s-maj=3.2km s-min=2.8km az=151.0, PRXIMO*
ISC 12 21:50:57.5±0.8, 44.73N±0.01×4.39E±0.01, h17km±6km, n131, σ1s13/184, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIVF	Saint-Julien-l	0.24	57	*e*Pg	Pg	21 51 02.7	-0.3
	SNR=1.0						
VIVF				*e*Sg	Sg	21 51 05.7	-1.1
	43nm,0.2s,SNR=1.0						
VIVF	Saint-Julien-l	0.24	57	Pg	Pg	21 51 02.7	-0.3
VIVF				Lg	Lg	21 51 05.7	
	22nm,0.2s						
VIVF	Saint-Julien-l	0.24	57	Pg	Pg	21 51 02.7	-0.3
VIVF				*e*Sg	Sg	21 51 05.7	-1.1
	22nm,0.2s,SNR=1.0						
SSB	Saint Sauveur	0.56	11	Pg	Pg	21 51 08.5	-0.2
SSB				Sg	Sg	21 51 15.9	-0.4
OG26	St.-Nazaire-De	0.67	102	Pg	Pb	21 51 11.3	+0.6
OG26				Sg	Sg	21 51 19.1	-0.4
OG26	St.-Nazaire-De	0.67	102	Pg	Pb	21 51 11.3	+0.6
LASF	Ste Croix	0.75	211	*e*Pg	Pg	21 51 12.2	0.0
LASF	Ste Croix	0.75	211	*e*P	Pn	21 51 13.6	+0.3
LASF				*e*Sg	Sg	21 51 22.2	0.0
	31nm,0.3s,SNR=1.0						
LASF	Ste Croix	0.75	211	Pg	Pg	21 51 12.2	0.0
LASF				Lg	Lg	21 51 22.2	
	16nm,0.3s						
LASF	Ste Croix	0.75	211	Pg	Pg	21 51 12.2	0.0
LASF	Ste Croix	0.75	211	*e*P	Pn	21 51 13.6	+0.3
LASF				*e*Sg	Sg	21 51 22.2	0.0
	16nm,0.3s,SNR=1.0						
LBL	Lubilhac	0.96	302	Pg	Pb	21 51 16.1	+0.5
LBL				Sg	Sb	21 51 28.9	+0.9
LBL	Lubilhac	0.96	302	Pg	Pb	21 51 16.1	+0.5
ORIF	Oris-en-Rattie	1.08	79	*e*Pg	Pb	21 51 18.1	+0.4
ORIF	Oris-en-Rattie	1.08	79	*e*P	Pg	21 51 20.0	+1.6
	SNR=1.0						
ORIF				*e*Sn	Sn	21 51 33.0	+0.6
	SNR=1.0						
ORIF	Oris-en-Rattie	1.08	79	Pg	Pb	21 51 18.1	+0.4
ORIF				Lg	Lg	21 51 33.0	
ORIF	Oris-en-Rattie	1.08	79	Pg	Pb	21 51 18.1	+0.4
ORIF	Oris-en-Rattie	1.08	79	*e*P	Pg	21 51 20.0	+1.6
	SNR=1.0						
ORIF				*e*Sn	Sn	21 51 33.0	+0.6
	SNR=1.0						
SMRF	Simiane la Rot	1.13	131	*e*Pn	Pb	21 51 18.4	-0.2
	SNR=1.0						
SMRF	Simiane la Rot	1.13	131	*e*P	Pg	21 51 20.2	+0.8
SMRF				*e*Sg	Sb	21 51 34.0	+1.0
	8.7nm,0.3s,SNR=1.0						
SMRF	Simiane la Rot	1.13	131	Pg	Pb	21 51 18.4	-0.2
SMRF				Lg	Lg	21 51 34.0	
	8.7nm,0.3s						
SMRF	Simiane la Rot	1.13	131	Pg	Pb	21 51 18.4	-0.2
SMRF	Simiane la Rot	1.13	131	*e*P	Pg	21 51 20.2	+0.8
SMRF				*e*Sg	Sb	21 51 34.0	+1.0
	4.3nm,0.3s,SNR=1.0						
PYM	Petit Puy Mans	1.42	317	Pg	Pb	21 51 24.6	+1.1
PYM	Petit Puy Mans	1.42	317	Pg	Pb	21 51 24.6	+1.1
PYM	Petit Puy Mans	1.42	317	Sg	Sg	21 51 43.1	-0.2
AGO	Saint Agoulin	1.60	327	Pg	Pg	21 51 28.0	-0.2
AGO	Saint Agoulin	1.60	327	Pg	Pg	21 51 28.1	-0.2
AGO	Saint Agoulin	1.60	327	Sg	Sg	21 51 48.4	-0.6
CAF	Calviac	1.67	278	*e*Pn	Pn	21 51 26.3	+0.4
	SNR=1.0						
CAF	Calviac	1.67	278	*e*Pg	Pg	21 51 29.7	+0.1
CAF				*e*Sg	Sb	21 51 50.5	+2.1
	6.1nm,0.2s,SNR=1.0						
CAF	Calviac	1.67	278	Pn	Pn	21 51 26.3	+0.4
CAF				Pg	Pg	21 51 29.7	+0.1
CAF				Lg	Lg	21 51 50.5	
	3.1nm,0.2s						
CAF	Calviac	1.67	278	Pn	Pn	21 51 26.3	+0.4
CAF	Calviac	1.67	278	Pg	Pg	21 51 29.7	+0.1
CAF				*e*Sg	Sb	21 51 50.5	+2.1
	3.0nm,0.2s,SNR=1.0						
MBDF	Montbardon	1.70	89	*e*Sg	Sb	21 51 51.2	+1.8
	1.8nm,0.3s,SNR=1.0						
MBDF	Montbardon	1.70	89	Lg	Lg	21 51 51.2	
	0.9nm,0.3s						
MBDF	Montbardon	1.70	89	*e*Sg	Sb	21 51 51.2	+1.8
	0.9nm,0.3s,SNR=1.0						
LPL	La Plagne	1.84	64	*e*Pn	Pn	21 51 28.5	+0.1
	SNR=1.0						
LPL	La Plagne	1.84	64	*e*Pg	Pg	21 51 32.5	-0.3
LPL				*e*Sg	Sg	21 51 56.0	-0.7
	2.4nm,0.3s,SNR=1.0						
LPL	La Plagne	1.84	64	Pn	Pn	21 51 28.5	+0.1
LPL				Pg	Pg	21 51 32.5	-0.3
LPL				Lg	Lg	21 51 56.0	
	1.2nm,0.3s						
LPL	La Plagne	1.84	64	Pn	Pn	21 51 28.5	+0.1
LPL	La Plagne	1.84	64	Pg	Pg	21 51 32.5	-0.3
LPL				*e*Sg	Sg	21 51 56.0	-0.7
	1.2nm,0.3s,SNR=1.0						
LPG	La Plagne	1.84	64	*e*Pn	Pn	21 51 29.5	+1.0
	SNR=1.0						
LPG	La Plagne	1.84	64	*e*Pg	Pg	21 51 32.7	-0.2
LPG				*e*Sg	Sg	21 51 56.5	-0.3
	4.0nm,0.4s,SNR=1.0						
LPG	La Plagne	1.84	64	Pn	Pn	21 51 29.5	+1.0
LPG				Pg	Pg	21 51 32.7	-0.2
LPG				Lg	Lg	21 51 56.5	
	0.0nm,0.4s						
LPG	La Plagne	1.84	64	Pn	Pn	21 51 29.5	+1.0
LPG	La Plagne	1.84	64	Pg	Pg	21 51 32.7	-0.2
LPG				*e*Sg	Sg	21 51 56.5	-0.3
	2.0nm,0.4s,SNR=1.0						
SMF	Signal de Mont	1.96	349	*e*Pn	Pn	21 51 29.9	0.0
	SNR=1.0						
SMF	Signal de Mont	1.96	349	*e*Pg	Pb	21 51 34.4	+1.7
SMF				*e*Sn	Sn	21 51 53.4	-0.6
	SNR=1.0						
SMF				*e*Sg	Sg	21 51 59.5	-1.0
	4.2nm,0.2s,SNR=1.0						
SMF	Signal de Mont	1.96	349	Pn	Pn	21 51 29.9	0.0
SMF				Pg	Pb	21 51 34.4	+1.7
SMF				Sn	Sn	21 51 53.4	-0.6
SMF				Lg	Lg	21 51 59.5	
	2.1nm,0.2s						
SMF	Signal de Mont	1.96	349	Pn	Pn	21 51 29.9	0.0
SMF	Signal de Mont	1.96	349	Pg	Pb	21 51 34.4	+1.7
SMF				Sn	Sn	21 51 53.4	-0.6
SMF				*e*Sg	Sg	21 51 59.5	-1.0
	2.1nm,0.2s,SNR=1.0						
FRF	La Foret Royal	2.00	125	*e*Pn	Pn	21 51 30.1	-0.3
	SNR=1.0						
FRF				*e*Sn	Sn	21 51 54.4	-0.6
	SNR=1.0						
FRF				*e*Sg	Sg	21 52 00.9	-0.9
	3.2nm,0.3s,SNR=1.0						
FRF	La Foret Royal	2.00	125	Pn	Pn	21 51 30.1	-0.3
FRF				Sn	Sn	21 51 54.4	-0.6
FRF				Lg	Lg	21 52 00.9	
	1.6nm,0.3s						
FRF	La Foret Royal	2.00	125	Pn	Pn	21 51 30.1	-0.3
FRF				Sn	Sn	21 51 54.4	-0.6
FRF				Lg	Lg	21 52 00.9	
	1.6nm,0.3s						
LMR	La Mourre	2.07	132	*e*Pn	Pn	21 51 31.2	-0.1
	SNR=1.0						
LMR	La Mourre	2.07	132	*e*Pg	Pg	21 51 36.4	-0.7
LMR				*e*Sn	Sn	21 51 55.8	-0.9
	SNR=1.0						
LMR				*e*Sg	Sg	21 52 02.8	-1.2
	2.5nm,0.2s,SNR=1.0						
LMR	La Mourre	2.07	132	Pn	Pn	21 51 31.2	-0.1
LMR				Pg	Pg	21 51 36.4	-0.7
LMR				Sn	Sn	21 51 55.8	-0.9
LMR				Lg	Lg	21 52 02.8	
	1.2nm,0.2s						
LMR	La Mourre	2.07	132	Pn	Pn	21 51 31.2	-0.1
LMR	La Mourre	2.07	132	Pg	Pg	21 51 36.4	-0.7
LMR				Sn	Sn	21 51 55.8	-0.9
LMR				*e*Sg	Sg	21 52 02.8	-1.2
	1.2nm,0.2s,SNR=1.0						
MTLF	Montolieu	2.09	229	*e*Pn	Pn	21 51 31.7	0.0
MTLF	Montolieu	2.09	229	*e*Pg	Pb	21 51 36.5	+1.6
MTLF				*e*Sg	Sg	21 52 03.7	-1.1
	11nm,0.2s,SNR=1.0						
MTLF	Montolieu	2.09	229	Pn	Pn	21 51 31.7	0.0
MTLF				Pg	Pb	21 51 36.5	+1.6
MTLF				Lg	Lg	21 52 03.7	
	5.7nm,0.2s						
MTLF	Montolieu	2.09	229	Pn	Pn	21 51 31.7	0.0
MTLF	Montolieu	2.09	229	Pg	Pb	21 51 36.5	+1.6
MTLF				*e*Sg	Sg	21 52 03.7	-1.1
	5.7nm,0.2s,SNR=1.0						
RJF	Les Rejaudoux	2.12	287	*e*Pg	Pb	21 51 37.0	+1.6
	SNR=1.0						
RJF				*e*Sg	Sg	21 52 04.5	-1.2
	8.3nm,0.2s,SNR=1.0						
RJF	Les Rejaudoux	2.12	287	Pg	Pb	21 51 37.0	+1.6
RJF				Lg	Lg	21 52 04.5	
	4.2nm,0.2s						
RJF	Les Rejaudoux	2.12	287	Pg	Pb	21 51 37.0	+1.6
RJF				*e*Sg	Sg	21 52 04.5	-1.2
	4.2nm,0.2s,SNR=1.0						
BGF	Bois d'Agland	2.13	330	*e*Pn	Pn	21 51 32.1	-0.1
BGF	Bois d'Agland	2.13	330	*e*Pg	Pb	21 51 37.5	+1.9
	SNR=1.0						
BGF				*e*Sg	Sg	21 52 05.3	-0.7
	8.3nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	2.13	330	Pn	Pn	21 51 32.1	-0.1
BGF				Pg	Pb	21 51 37.5	+1.9
BGF				Lg	Lg	21 52 05.3	
	4.2nm,0.4s						
BGF	Bois d'Agland	2.13	330	Pn	Pn	21 51 32.1	-0.1
BGF	Bois d'Agland	2.13	330	Pg	Pb	21 51 37.5	+1.9
BGF				*e*Sg	Sg	21 52 05.3	-0.7
	4.2nm,0.4s,SNR=1.0						
AVF	Avril sur Loir	2.19	341	*e*Pn	Pn	21 51 32.8	-0.2
	SNR=1.0						
AVF	Avril sur Loir	2.19	341	*e*Pg	Pg	21 51 38.8	-0.7
	SNR=1.0						
AVF				*e*Sg	Sg	21 52 06.5	-1.4
	4.0nm,0.4s,SNR=1.0						
AVF	Avril sur Loir	2.19	341	Pn	Pn	21 51 32.8	-0.2
AVF				Pg	Pg	21 51 38.8	-0.7
AVF				Lg	Lg	21 52 06.5	
	0.0nm,0.4s						
AVF	Avril sur Loir	2.19	341	Pn	Pn	21 51 32.8	-0.2
TCF	Toulx Ste Croi	2.19	316	*e*Pg	Pg	21 51 39.1	-0.4
	SNR=1.0						
TCF				*e*Sg	Sg	21 52 06.7	-1.2
	3.5nm,0.2s,SNR=1.0						
TCF	Toulx Ste Croi	2.19	316	Pg	Pg	21 51 39.1	-0.4
TCF				Lg	Lg	21 52 06.7	
	1.8nm,0.2s						
TCF	Toulx Ste Croi	2.19	316	Pg	Pg	21 51 39.1	-0.4
TCF				*e*Sg	Sg	21 52 06.7	-1.2
	1.8nm,0.2s,SNR=1.0						
CABF	La Chapelle	2.23	32	*e*Pn	Pn	21 51 33.7	0.0
CABF	La Chapelle	2.23	32	*e*Pg	Pg	21 51 39.4	-0.9
	SNR=1.0						
CABF				*e*Sn	Sn	21 51 59.8	-1.0
	7.0nm,0.3s,SNR=1.0						
CABF				*e*Sg	Sg	21 52 07.9	-1.3
	6.4nm,0.3s						
CABF	La Chapelle	2.23	32	Pn	Pn	21 51 33.7	0.0
CABF				Pg	Pg	21 51 39.4	-0.9
CABF				Sn	Sn	21 51 59.8	-1.0
	0.0nm,0.3s						
CABF				Lg	Lg	21 52 07.9	
	3.2nm,0.3s						
CABF	La Chapelle	2.23	32	Pn	Pn	21 51 33.7	0.0
CABF	La Chapelle	2.23	32	Pg	Pg	21 51 39.4	-0.9
CABF				*e*Sn	Sn	21 51 59.8	-1.0
	3.5nm,0.3s,SNR=1.0						
CABF				*e*Sg	Sg	21 52 07.9	-1.3
	3.2nm,0.3s						
SBF	Sospel	2.35	110	*e*Sn	Sn	21 52 03.0	-0.8
	3.9nm,0.3s,SNR=1.0						
SBF				*e*Sg	Sg	21 52 12.2	-0.8
	2.6nm,0.2s						
SBF	Sospel	2.35	110	Sn	Sn	21 52 03.0	-0.8
	1.9nm,0.3s						
SBF				Lg	Lg	21 52 12.2	
	1.3nm,0.2s						
SBF	Sospel	2.35	110	*e*Sn	Sn	21 52 03.0	-0.8
	2.0nm,0.3s,SNR=1.0						
SBF				Lg	Lg	21 52 12.2	
	1.3nm,0.2s						
SSF	Saint Saulge	2.42	345	*e*Pg	Pb	21 51 42.5	+2.0
	SNR=1.0						
SSF				*e*Sg	Sg	21 52 13.7	-1.5
	2.9nm,0.3s,SNR=1.0						
SSF	Saint Saulge	2.42	345	Pg	Pb	21 51 42.5	+2.0
SSF				Lg	Lg	21 52 13.7	
	1.4nm,0.3s						
SSF	Saint Saulge	2.42	345	Pg	Pb	21 51 42.5	+2.0
SSF				*e*Sg	Sg	21 52 13.7	-1.5
	1.5nm,0.3s,SNR=1.0						
SJAF	Saint Jean de	2.49	207	Pg	Pg	21 51 44.4	-0.9
	0.2nm,0.1s,SNR=7.9						
SJAF				Lg	Lg	21 52 16.8	
	1.0nm,0.2s,SNR=7.9						
SJAF	Saint Jean de	2.49	207	Pg	Pg	21 51 44.4	-0.9
	0.2nm,0.1s,SNR=7.9						
SJAF				Lg	Lg	21 52 16.8	
	1.0nm,0.2s,SNR=7.9						
EJON	La Jonquera	2.52	206	Lg	Lg	21 52 17.0	
	0.6nm,0.3s,SNR=7.9						
EJON	La Jonquera	2.52	206	Lg	Lg	21 52 17.0	
	0.6nm,0.3s,SNR=7.9						
LOR	Lormes	2.57	352	*e*Pn	Pn	21 51 38.2	-0.1
LOR	Lormes	2.57	352	*e*Pg	Pg	21 51 45.5	-1.3
	baz=170,SNR=1.0						
LOR				*e*Sg	Sg	21 52 18.3	-1.8
	4.0nm,0.2s,baz=177,SNR=1.0						
LOR	Lormes	2.57	352	Pn	Pn	21 51 38.2	-0.1
LOR				Pg	Pg	21 51 45.5	-1.3
LOR				Lg	Lg	21 52 18.3	
	0.0nm,0.2s						
LOR	Lormes	2.57	352	Pn	Pn	21 51 38.2	-0.1
CLLI	Llivia	2.85	219	Pg	Pg	21 51 51.1	-1.0
	1.2nm,0.4s,SNR=5.6						
CLLI				Lg	Lg	21 52 27.3	
	1.4nm,0.1s,SNR=10						
CLLI	Llivia	2.85	219	Pg	Pg	21 51 51.1	-1.0
	1.2nm,0.4s,SNR=5.6						
CLLI				Lg	Lg	21 52 27.3	
	1.4nm,0.1s,SNR=10						
CFON	Fontmartina	3.29	206	Pg	Pg	21 51 59.3	-1.2
	0.6nm,0.1s,SNR=7.9						
CFON				Lg	Lg	21 52 42.9	
	2.5nm,0.3s,SNR=7.9						
CFON	Fontmartina	3.29	206	Pg	Pg	21 51 59.3	-1.2
	0.6nm,0.1s,SNR=7.9						
CFON				Lg	Lg	21 52 42.9	
	2.5nm,0.3s,SNR=7.9						
CSOR	Sort	3.33	226	Pg	Pg	21 52 00.4	-1.0
	0.5nm,0.3s,SNR=8.5						
CSOR				Lg	Lg	21 52 43.3	
	5.7nm,0.4s,SNR=7.9						
CSOR	Sort	3.33	226	Pg	Pg	21 52 00.4	-1.0
	0.5nm,0.3s,SNR=8.5						
CSOR				Lg	Lg	21 52 43.3	
	5.7nm,0.4s,SNR=7.9						
EPF	Esparros	3.38	241	*e*Pn	Pn	21 51 49.4	-0.1
EPF	Esparros	3.38	241	*e*P	Pn	21 51 52.7	+3.2
EPF	Esparros	3.38	241	*e*Pg	Pg	21 52 00.7	-1.6
EPF				*e*Sg	Sg	21 52 44.7	-1.5
	1.9nm,0.2s,SNR=1.0						
EPF	Esparros	3.38	241	Pn	Pn	21 51 49.4	-0.1
EPF				Pg	Pg	21 52 00.7	-1.6
EPF				Lg	Lg	21 52 44.7	
	0.9nm,0.2s						
EPF	Esparros	3.38	241	Pn	Pn	21 51 49.4	-0.1
EPF	Esparros	3.38	241	*e*P	Pn	21 51 52.7	+3.2
EPF	Esparros	3.38	241	Pg	Pg	21 52 00.7	-1.6
EPF				*e*Sg	Sg	21 52 44.7	-1.5
	0.9nm,0.2s,SNR=1.0						
EMIR	Miracle	3.50	218	Lg	Lg	21 52 49.2	
	0.3nm,0.1s,SNR=7.9						
EMIR	Miracle	3.50	218	Lg	Lg	21 52 49.2	
	0.3nm,0.1s,SNR=7.9						
SFTF	Sexfontaines	3.51	7	*e*Sg	Sg	21 52 48.1	-2.0
	2.6nm,0.3s						
SFTF	Sexfontaines	3.51	7	Lg	Lg	21 52 48.1	
	2.6nm,0.3s						
SFTF	Sexfontaines	3.51	7	*e*Sg	Sg	21 52 48.1	-2.0
	1.3nm,0.3s						
HINF	Hinteralfeld	3.53	28	*e*Sg	Sg	21 52 48.5	-2.4
	2.6nm,0.2s,SNR=1.0						
HINF	Hinteralfeld	3.53	28	Lg	Lg	21 52 48.5	
	1.3nm,0.2s						
HINF	Hinteralfeld	3.53	28

ISCJB ***12*** *22:05:14.4±0.4,20.˝18N±0.˝04×145.˝14E±0.˝08,h150km, mb4.2/39,Error ellipse: s-maj=10.7km s-min=6.2km az=171.9*
NEIC ***12*** *22:05:17.6±1.5,20.˝14N×145.˝10E,h169km±12km,mb4.4/9, Error ellipse: s-maj=11.0km s-min=7.5km az=101.0*
IDC ***12*** *22:05:18.0±0.8,20.˝14N×145.˝12E,h170km±7km,mb3.9/33, mb1 4.0/36,mb1mx3.9/72,mbtmp4.4/36,Error ellipse: s-maj=12.2km s-min=8.8km az=99.0*

ISC 12 22:05:16.7±0.5,20.˝28N±0.˝06×145.˝11E±0.˝10,h150km,n62, σ1ᵖ50/80,mb4.3/39,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**7.30**	**339**	P	**Pn**	**22 07 02.2**	**+1.5**
CBIJ				S	**Sn**	**22 08 21.2**	**-1.1**
JCJ	**Chichijima**	**7.30**	**339**	P	**Pn**	**22 07 02.2**	**+1.5**
	20nm,0.3s,baz=188,slow=18,SNR=4.4						
JCJ				S	**Sn**	**22 08 21.2**	**-1.1**
	33nm,0.3s,baz=107,slow=19,SNR=7.1						
MJAR	**Matsushiro Arr**	**17.29**	**341**	P	**P**	**22 09 08.6**	**+0.4**
	1.7nm,0.3s,baz=157,slow=9.4,SNR=24						
MAJO	**Matsushiro**	**17.30**	**341**	*e*P	**P**	**22 09 08.9**	**+0.7**
	10nm,0.6s						
MAJO				S	**S**	**22 12 16.8**	**-4.0**
MAT	**Matsushiro**	**17.30**	**341**	P	**P**	**22 09 08.4**	**+0.2**
JNU	**Nakatsue**	**18.01**	**318**	P	**P**	**22 09 17.7**	**+1.7**
	0.5nm,0.3s,baz=126,slow=14,SNR=4.8						
KSRS	**Korea Array**	**22.73**	**323**	P	**P**	**22 10 06.6**	**+0.8**
	10.0nm,0.6s,baz=149,slow=8.9,SNR=45						
KSAR	**Wonju Array Be**	**22.74**	**322**	P	**P**	**22 10 06.6**	**+0.6**
ASAJ	**Asahikawa**	**23.87**	**356**	P	**P**	**22 10 18.7**	**+2.5**
	3.7nm,0.6s,baz=247,slow=8.3,SNR=7.7						
USRK	**Ussuriysk Ar.**	**26.24**	**338**	P	**P**	**22 10 39.1**	**+1.4**
	2.7nm,0.7s,baz=156,slow=5.7,SNR=6.1						
USRK				PP	**PnPn**	**22 11 23.1**	**-3.2**
	4.5nm,0.8s,baz=152,slow=11,SNR=6.6						
KLR	**Kul'dur**	**30.80**	**343**	P	**P**	**22 11 18.6**	**+0.5**
	0.9nm,0.5s,baz=162,slow=6.7,SNR=42						
KLR				PcP	**PcP**	**22 14 11.1**	**-0.5**
	0.1nm,0.6s,baz=182,slow=2.3,SNR=4.1						
WRA	**Warramunga Arr**	**41.34**	**195**	P	**P**	**22 12 45.4**	**-2.5**
	1.2nm,0.4s,baz=7.5,slow=8.1,SNR=32						
WRA				pP	**pP**	**22 13 23.5**	**+2.6**
	1.9nm,0.9s,baz=13,slow=9.5,SNR=3.5						
SONM	**Songino Array**	**41.57**	**321**	P	**P**	**22 12 50.0**	**+0.3**
	2.1nm,0.5s,baz=129,slow=7.5,SNR=40						
SONM				PcP	**PcP**	**22 14 43.4**	**-0.7**
	0.9nm,0.9s,baz=131,slow=3.6,SNR=4.0						
FITZ	**Fitzroy Crossi**	**42.65**	**208**	P	**P**	**22 12 57.1**	**-1.5**
	8.7nm,0.4s,baz=27,slow=14,SNR=41						
FITZ				pP	**pP**	**22 13 34.6**	**+2.8**
	2.6nm,0.8s,baz=8.1,slow=7.1,SNR=1.2						
SEY	**Seymchan**	**42.92**	**5**	P	**P**	**22 13 01.7**	**+1.6**
	0.9nm,0.4s,baz=190,slow=8.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**43.48**	**276**	P	**P**	**22 13 06.1**	**+0.7**
	2.9nm,0.9s,baz=65,slow=6.7,SNR=21						
CMAR				PcP	**PP**	**22 14 50.4**	**+0.9**
	0.5nm,0.3s,baz=80,slow=1.9,SNR=3.8						
ASAR	**Alice Springs**	**45.02**	**195**	P	**P**	**22 13 15.6**	**-1.9**
	0.8nm,0.6s,baz=11,slow=7.4,SNR=8.3						
ASAR				pP	**pP**	**22 13 53.3**	**+2.3**
	0.5nm,0.7s,baz=13,slow=8.6,SNR=2.3						
PSI	**Prapat**	**48.24**	**255**	P	**P**	**22 13 42.7**	**-0.2**
	3.4nm,0.4s,baz=53,slow=8.1,SNR=6.3						
STKA	**Stephens Creek**	**51.96**	**184**	P	**P**	**22 14 08.5**	**-1.9**
	1.1nm,0.7s,baz=350,slow=11,SNR=2.8						
TIXI	**Tiksi**	**52.25**	**354**	P	**P**	**22 14 12.1**	**+0.1**
	3.0nm,0.5s,baz=194,slow=3.5,SNR=8.8						
JIRN	**Jiri**	**53.91**	**290**	*e*P	**P**	**22 14 26.0**	**+0.6**
	65nm,0.7s						
GUN	**Gumba**	**54.16**	**290**	*e*P	**P**	**22 14 27.7**	**+0.6**
	14nm,0.6s						
PKI	**Pulchoki**	**54.61**	**290**	*e*P	**P**	**22 14 30.2**	**-0.2**
	11nm,0.4s						
PKIN	**Phulchoki**	**54.62**	**290**	*e*P	**P**	**22 14 30.7**	**+0.3**
KKN	**Kakani**	**54.70**	**290**	*e*P	**P**	**22 14 31.1**	**+0.2**
	24nm,0.8s						
DMN	**Daman**	**54.88**	**290**	*e*P	**P**	**22 14 32.3**	**+0.1**
	7.9nm,0.4s						
DANN	**Dangsing**	**55.98**	**291**	*e*P	**P**	**22 14 40.5**	**+0.4**
KOLN	**Koldanda**	**56.18**	**290**	*e*P	**P**	**22 14 41.5**	**0.0**
	31nm,0.8s						
ZALV	**Zalesovo Beam**	**56.43**	**322**	P	**P**	**22 14 42.1**	**-0.4**
	6.0nm,0.7s,baz=106,slow=6.5,SNR=19						
ZALV				PcP	**sP**	**22 15 35.9**	**+1.9**
	1.0nm,0.5s,baz=112,slow=3.2,SNR=3.0						
PYUN	**Piuthan**	**56.68**	**291**	*e*P	**P**	**22 14 45.2**	**+0.2**
	41nm,0.8s						
MKAR	**Makanchi Array**	**56.98**	**313**	P	**P**	**22 14 46.9**	**+0.4**
	2.6nm,0.6s,baz=88,slow=7.6,SNR=36						
MKAR				PcP	**sP**	**22 15 38.9**	**+0.9**
	1.7nm,0.7s,baz=80,slow=5.9,SNR=4.9						
KDAK	**Kodiak Island**	**58.36**	**34**	P	**P**	**22 14 55.3**	**-0.6**
	6.9nm,0.7s,baz=238,slow=8.0,SNR=5.2						
KURK	**Kurchatov**	**59.73**	**318**	*e*P	**P**	**22 15 05.0**	**-0.5**
	22nm,0.6s						
KURBB	**Kurchatov Arra**	**59.78**	**317**	P	**P**	**22 15 05.7**	**-0.2**
	5.5nm,0.5s,baz=92,slow=7.6,SNR=121						
BPAW	**Bear Paw Mtn.**	**60.61**	**27**	*e*P	**P**	**22 15 11.7**	**+0.5**
	1.4nm,0.6s						
KSH	**Kashi**	**61.51**	**305**	P	**P**	**22 15 21.5**	**+3.5**
KSH				pP	pP	22 15 35.8	-18
KSH				S	S	22 23 19.1	-8.8
ILAR	**Eielson Array**	**62.49**	**27**	P	**P**	**22 15 22.9**	**-1.0**
	2.8nm,0.7s,baz=252,slow=4.9,SNR=47						
ILAR				pP	**pP**	**22 16 00.4**	**+0.9**
	0.7nm,0.8s,baz=286,slow=3.9,SNR=2.3						
BVAR	**Borovoye Array**	**64.91**	**320**	P	**P**	**22 15 39.6**	**-0.4**
	6.0nm,0.5s,baz=95,slow=7.4,SNR=107						
BRVK	**Borovoye**	**64.97**	**320**	*e*P	**P**	**22 15 39.8**	**-0.6**
	16nm,0.9s						
KKAR	**Karatay Array**	**65.34**	**309**	*e*P	**P**	**22 15 43.0**	**+0.1**
	7.2nm,0.7s						
INK	**Inuvik**	**68.15**	**23**	P	**P**	**22 16 00.2**	**0.0**
	4.1nm,0.7s,baz=293,slow=5.0,SNR=19						
INK	**Inuvik**	**68.15**	**23**	*e*P	**P**	**22 15 59.6**	**-0.6**
	4.8nm,1.0s						
ARU	**Arti**	**71.47**	**324**	*e*P	**P**	**22 16 19.7**	**-1.0**
	3.7nm,0.6s						
ABKAR	**Akbulak array**	**71.81**	**317**	*e*P	**P**	**22 16 22.2**	**-0.7**
	4.0nm,0.6s						
AKTO	**Aktyubinsk**	**72.82**	**318**	P	**P**	**22 16 28.1**	**-0.8**
	1.4nm,0.6s,baz=82,slow=11,SNR=10						
GEYT	**Alibeck**	**75.53**	**305**	P	**P**	**22 16 45.2**	**+0.4**
	5.0nm,0.8s,baz=98,slow=3.1,SNR=13						
YKA	**Yellowknife Ar**	**76.86**	**28**	P	**P**	**22 16 51.7**	**-0.2**
	4.0nm,0.6s,baz=291,slow=5.5,SNR=60						
RES	**Resolute Bay**	**78.03**	**14**	P	**P**	**22 16 58.5**	**+0.4**
	3.4nm,0.8s,baz=340,slow=5.0,SNR=18						
RES	**Resolute Bay**	**78.03**	**14**	*e*P	**P**	**22 16 58.3**	**+0.2**
	2.3nm,0.8s						
ARCES	**ARCESS Array B**	**80.83**	**342**	P	**P**	**22 17 12.9**	**-0.5**
	2.1nm,0.6s,baz=69,slow=6.6,SNR=12						
NVAR	**Mina Array Bea**	**82.61**	**52**	P	**P**	**22 17 24.0**	**+0.3**
	2.7nm,0.8s,baz=273,slow=5.9,SNR=9.1						
NVAR				pP	**pP**	**22 18 03.8**	**+2.7**
	0.7nm,0.7s,baz=274,slow=6.7,SNR=2.7						
KBZ	**Khabaz**	**84.64**	**315**	P	**P**	**22 17 32.3**	**-1.2**
	3.5nm,0.9s,baz=86,slow=7.6,SNR=5.3						
FINES	**FINESS Array B**	**85.23**	**335**	P	**P**	**22 17 34.4**	**-1.7**
	7.9nm,0.5s,baz=64,slow=5.0,SNR=65						
PDAR	**Pinedale Array**	**87.12**	**45**	P	**P**	**22 17 46.2**	**+0.1**
	0.3nm,0.6s,baz=242,slow=1.9,SNR=2.0						
HFS	**Hagfors**	**90.72**	**338**	P	**P**	**22 18 00.3**	**-2.0**
	1.8nm,0.5s,baz=72,slow=4.7,SNR=6.6						
NOA	**NORSAR Array B**	**90.91**	**339**	P	**P**	**22 18 02.3**	**-0.9**
	1.5nm,1.1s,baz=45,slow=4.7,SNR=3.9						
FRB	**Frobisher Bay**	**92.23**	**14**	P	**P**	**22 18 08.6**	**-0.6**
	0.4nm,0.3s,baz=225,slow=14,SNR=3.7						
BRTR	**Keskin Array B**	**92.62**	**314**	P	**P**	**22 18 09.9**	**-1.8**
	1.1nm,0.8s,baz=75,slow=5.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**131.03**	**310**	PKP	**PKPdf**	**22 24 07.8**	**-3.6**
	0.4nm,0.4s,baz=21,slow=1.2,SNR=15						
TORD				PP	**PP**	**22 26 31.4**	**+2.1**
	0.8nm,0.9s,baz=44,slow=5.2,SNR=4.1						
KOWA	**Kowa**	**134.00**	**316**	PKP	**PKPdf**	**22 24 16.3**	**-0.7**
	0.7nm,0.4s,baz=16,slow=1.5,SNR=4.0						
LPAZ	**La Paz**	**148.23**	**88**	PKP	**PKPdf**	**22 24 42.2**	**-0.9**
	2.8nm,0.6s,baz=300,slow=3.6,SNR=10						
LPAZ				PKPbc	**PKPbc**	**22 24 46.2**	**-0.4**
	2.8nm,0.6s,baz=270,slow=1.0,SNR=10						
SAML	**Samuel**	**150.46**	**72**	*e*PKPdf	**PKPdf**	**22 24 44.8**	**-1.2**
SAML				*e*PKPbc	**PKPbc**	**22 24 50.0**	**-1.4**
SAML				*e*PKPab	**PKiKP**	**22 24 56.5**	**+4.4**

NDI 12 22:07:21.9±2.1,29.˝04N×76.˝97E,h10km,ML3.6, Northern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHGR	**Bahadurgarh**	**0.35**	**184**	*e*P	Pg	22 07 28.8	-0.1
BHGR				*e*S	Sg	22 07 34.0	+0.5
DDI	**Dehra Dun**	**1.59**	**36**	*e*P	Pn	22 07 49.7	-0.5
DDI				*e*S	Sn	22 08 09.7	-1.1
DDI				IAML		22 08 11.5	
	comp=N,620nm,0.4s						
DDI				IAML		22 08 12.4	
	comp=E,799nm,0.5s						
SMLA	**Simla**	**2.09**	**5**	*e*P	Pn	22 07 56.8	-0.2
SMLA				*e*S	Sn	22 08 23.9	+0.9
JOSI	**Joshimath**	**2.71**	**55**	*e*P	Pn	22 08 07.0	+1.2
JOSI				*e*S	Sn	22 08 39.6	+0.9
JOSI				IAML		22 08 49.0	
	comp=N,426nm,0.4s						
JOSI				IAML		22 08 50.1	
	comp=E,608nm,1.0s						
DHRM	**DHARAMSHALA**	**3.25**	**350**	*e*P	Pn	22 08 13.5	+0.3
DHRM				*e*S	Sn	22 08 51.7	-0.4
DHRM				IAML		22 09 03.8	
DHRM				IAML		22 09 04.0	
	comp=E,204nm,0.1s						

ISCJB ***12*** *22:08:07.7±0.6,24.˝90N±0.˝03×122.˝44E±0.˝03,h9km±3km, Error ellipse: s-maj=5.8km s-min=3.3km az=24.5*
TAP ***12*** *22:08:08.4,24.˝92N×122.˝39E,h19km,ML2.8,C*
JMA ***12*** *22:08:08.1±0.1,24.˝84N×122.˝41E,h4km,M2.9*

ISC 12 22:08:07.7±1.2,24.˝89N±0.˝04×122.˝43E±0.˝03,h9km±11km, n30,σ0ᵖ48/55,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.41**	**286**	P	**Pb**	**22 08 16.7**	**-0.5**
	baz=283						
TWB1				*e*S	**Sb**	**22 08 22.6**	**-0.9**
	baz=283						
EOS1	**EOS1**	**0.44**	**218**	*e*P	**Pb**	**22 08 17.5**	**0.0**
	baz=224						
EOS1				*e*S	**Sb**	**22 08 24.4**	**+0.2**
	baz=224						
TIPB	**Shuangxi**	**0.55**	**278**	*e*P	**Pg**	**22 08 18.3**	**0.0**
	baz=275						
TIPB				*e*S	**Sb**	**22 08 26.4**	**-1.1**
	baz=275						
TWC	**Suao**	**0.59**	**242**	P	**Pg**	**22 08 19.7**	**+0.5**
	baz=237						
TWC				S	**Sg**	**22 08 27.5**	**+0.5**
	baz=237						
NWF	**Wu-fen Shan**	**0.61**	**287**	P	**Pb**	**22 08 20.4**	**-0.2**
	baz=285						
NWF				S	**Sb**	**22 08 28.7**	**-0.6**
	baz=285						
WFSB	**Wu-fen Shan**	**0.61**	**287**	P	**Pb**	**22 08 20.4**	**-0.1**
	baz=284						
WFSB				S	**Sb**	**22 08 28.6**	**-0.7**
	baz=284						
JYNG	**Yonaguni jima**	**0.65**	**133**	P	**Pg**	**22 08 20.3**	**+0.1**
JYNG				*e*S	**Sg**	**22 08 28.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.69**	**129**	P	**Pg**	**22 08 20.8**	**-0.1**
YOJ				*e*S	**Sg**	**22 08 29.6**	**-0.3**
TWE	**Neicheng**	**0.71**	**256**	P	**Pg**	**22 08 21.8**	**+0.4**
	baz=245						
TWE				*e*S	**Sb**	**22 08 31.4**	**-0.7**
	baz=245						
NANB	**Nanao**	**0.77**	**233**	*e*P	**Pg**	**22 08 22.6**	**+0.1**
	baz=229						
NANB				*e*S	**Sb**	**22 08 33.1**	**-0.7**
	baz=229						
ENA	**Nanau**	**0.78**	**233**	P	**Pg**	**22 08 23.0**	**+0.3**
	baz=229						
ENA				S	**Sg**	**22 08 32.9**	**+0.2**
	baz=229						
YM07	**YM07**	**0.78**	**291**	*e*P	**Pg**	**22 08 22.1**	**-0.7**
	baz=290						
YM08	**YM08**	**0.81**	**291**	*e*P	**Pg**	**22 08 23.6**	**+0.2**
	baz=290						
ENTT	**Nioudou**	**0.82**	**252**	*e*P	**Pb**	**22 08 24.3**	**+0.2**
	baz=248						
ENTT				*e*S	**Sb**	**22 08 35.2**	**-0.1**
	baz=248						
YM10	**YM10**	**0.83**	**289**	*e*P	**Pg**	**22 08 24.0**	**+0.4**
	baz=287						
TWY	**Chenhua**	**0.84**	**297**	*e*P	**Pb**	**22 08 24.9**	**+0.5**
	baz=295						
TWY				*e*S	**Sb**	**22 08 35.9**	**+0.1**
	baz=295						
NWLT	**Wulai**	**0.85**	**262**	*e*P	**Pg**	**22 08 24.3**	**+0.3**
	baz=259						
NWLT				*e*S	**Sb**	**22 08 35.5**	**-0.5**
	baz=259						
YHNB	**Yeheng**	**0.98**	**257**	*e*P	**Pb**	**22 08 27.0**	**+0.1**
	baz=263						
YHNB				*e*S	**Sb**	**22 08 39.9**	**-0.1**
	baz=263						
NACB	**Ninganchiao**	**1.04**	**227**	*e*P	**Pg**	**22 08 27.6**	**-0.1**
	baz=224						
NACB				*e*S	**Sb**	**22 08 41.2**	**-0.4**
	baz=224						
NNSB	**Datong**	**1.05**	**244**	*e*P	**Pg**	**22 08 27.6**	**-0.4**
	baz=228						
NNSB				*e*S	**Sb**	**22 08 42.0**	**-0.1**
	baz=228						
NNSH	**Datong**	**1.05**	**244**	*e*P	**Pg**	**22 08 27.8**	**-0.2**
	baz=229						
NNSH				*e*S	**Sg**	**22 08 41.3**	**-0.4**
	baz=229						
NNS	**Nan Shan**	**1.06**	**245**	*e*P	**Pg**	**22 08 28.1**	**0.0**
	baz=229						
NNS				*e*S	**Sg**	**22 08 41.6**	**-0.2**
	baz=229						
WHF	**Hehuan Shan**	**1.29**	**235**	*e*P	**Pg**	**22 08 32.8**	**+0.2**
	baz=232						
WHF				*e*S	**Sg**	**22 08 49.1**	**-0.3**
	baz=232						
IRIF	**Iriomote-Funau**	**1.31**	**115**	P	**Pn**	**22 08 32.8**	**+0.6**
CHGB	**Renai**	**1.41**	**234**	*e*P	**Pb**	**22 08 34.2**	**-0.1**
	baz=231						
CHGB				*e*S	**Sg**	**22 08 52.7**	**-0.4**
	baz=231						
OWD	**Renai**	**1.47**	**231**	P	**Pb**	**22 08 34.9**	**-0.5**
	baz=228						
OWD				*e*S	**Sb**	**22 08 54.0**	**-0.2**
	baz=228						
SMLT	**Sun Moon Lake**	**1.72**	**234**	*e*P	**Pb**	**22 08 39.1**	**-0.4**
	baz=231						
SMLT				*e*S	**Sb**	**22 09 00.6**	**-0.6**
	baz=231						
TYC	**Yuchr**	**1.74**	**236**	*e*P	**Pb**	**22 08 39.2**	**-0.5**
	baz=233						
TYC				*e*S	**Sb**	**22 09 01.0**	**-0.7**
	baz=233						
YULB	**Yu-li**	**1.81**	**215**	*e*P	**Pn**	**22 08 39.9**	**+0.7**
	baz=213						
YULB				*e*S	**Sb**	**22 09 02.9**	**-1.0**
	baz=213						
ALS	**Alishan**	**2.02**	**227**	*e*P	**Pn**	**22 08 43.2**	**+0.9**
	baz=209						

KRSC 12 22:24:53.0±1.7,48.˝88N×156.˝52E,h6km±19km,ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.82**	**352**	*e*S	Sn	22 25 47.5	-0.6
PAU	**Pauzhetka**	**2.59**	**4**	*e*P	Pn	22 25 37.6	+2.2
PAU				*e*S	Sb	22 26 10.8	-1.1
KDTR	**Khodutka, Kamc**	**3.09**	**18**	*e*S	Sb	22 26 25.4	-0.9
ASAK	**Asacha**	**3.61**	**14**	*e*P	Pn	22 25 52.9	+3.4
MTVR	**Mutnovka**	**3.75**	**16**	*e*P	Pn	22 25 54.2	+2.7
MTVR				*e*S	Sn	22 26 39.7	+3.6
RUS	**Russkaya**	**3.77**	**19**	*e*P	Pn	22 25 54.1	+2.5
UGLR	**Uglovaya**	**4.57**	**18**	*e*P	Pn	22 26 06.4	+3.8
AVH	**Avacha**	**4.60**	**17**	*e*P	Pn	22 26 08.1	+5.0
KBTR	**Krutoberegovo**	**8.28**	**25**	*e*P	Pn	22 26 58.1	+4.7

DJA 12 22:37:57.5±0.9,11.˚S±6.˚×11.˚4E±.˚,h10km,M3.6/7, MLv3.6/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**2.07**	**34**	P	Pn	22 38 31.7	-0.6
JAGI	**Jajag, Banyuwa**	**2.07**	**5**	P	Pn	22 38 32.3	-0.1
JAGI				S	Sn	22 38 59.4	+1.1
DNP	**Denpasar**	**2.22**	**33**	P	Pn	22 38 33.0	-1.4
DNP				S	Sb	22 39 03.9	-1.5
GMJI	**Gumukmas**	**2.32**	**347**	P	Pn	22 38 35.6	-0.2
GMJI				S	Sn	22 39 04.6	+0.1
ABJI	**Asem Bagus**	**2.75**	**5**	P	Pn	22 38 42.5	+0.8
PWJI	**Pagerwojo**	**3.31**	**319**	P	Pn	22 38 48.3	-1.0

BJI ***12*** *22:38:06.4,19.˚18S×169.˚42E,h250km,mb4.4/16, mB4.9/11*
ISCJB ***12*** *22:38:07.8±0.2,18.˚83S±0.˚05×169.˚21E±0.˚04,h246km, mb4.6/62,Error ellipse: s-maj=6.7km s-min=5.3km az=154.8*
NEIC ***12*** *22:38:10.4±0.8,18.˚84S×169.˚24E,h262km±7km,mb4.8/40, Error ellipse: s-maj=6.3km s-min=4.9km az=170.0*
IDC ***12*** *22:38:10.4±0.7,18.˚84S×169.˚21E,h263km±5km,mb4.1/23, mb1 4.3/25,mb1mx4.1/45,mbtmp4.8/25,Error ellipse: s-maj=9.8km s-min=8.5km az=128.0*

ISC 12 22:38:08.9±0.4,18.˚81S±0.˚06×169.˚29E±0.˚06,h246km, n118,σ1ᵖ19/130,mb4.7/62,3C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.20**	**219**	P	**Pn**	**22 39 15.7**	**+0.7**
	30nm,0.3s,baz=61,slow=16,SNR=84						
DZM				S	**S**	**22 40 08.8**	**+1.4**
	21nm,0.3s,baz=343,slow=19,SNR=1.7						
DZM	**Mont Dzumac**	**4.20**	**219**	*e*Pn	**Pn**	**22 39 15.6**	**+0.7**
	99nm,0.2s						
MSVF	**Nonsavu**	**8.39**	**84**	*e*Pn	**Pn**	**22 40 08.5**	**+1.2**
HNR	**Honiara**	**13.00**	**315**	P	**P**	**22 41 06.6**	**-0.2**
	33nm,0.3s,baz=214,slow=3.2,SNR=23						
HNR	**Honiara**	**13.00**	**315**	*e*P	**Pn**	**22 41 06.0**	**+1.0**
HNR	**Honiara**	**13.00**	**315**	*e*Pn	**P**	**22 41 06.2**	**-0.7**
OUZ	**Omahuta**	**16.78**	**168**	*e*P	**Pn**	**22 41 50.5**	**+0.2**
	74nm,1.0s						
EIDS	**Eidsvold**	**18.08**	**246**	*e*P	**Pn**	**22 42 04.3**	**-1.4**
	31nm,1.4s						
ARMA	**Armidale**	**19.75**	**231**	*e*P	**P**	**22 42 22.3**	**+1.6**
	24nm,1.4s						
URZ	**Urewera**	**20.54**	**162**	P	**P**	**22 42 29.8**	**+1.0**
	9.2nm,0.6s,baz=342,slow=6.4,SNR=5.2						
URZ				S	**S**	**22 46 04.9**	**+1.2**
	7.3nm,0.8s,baz=330,slow=20,SNR=2.0						
URZ	**Urewera**	**20.54**	**162**	*e*P	**P**	**22 42 28.8**	**-0.1**
	82nm,1.5s						
URZ				S	**S**	**22 46 04.9**	**+1.2**
BKZ	**Black Stump Fm**	**21.22**	**164**	*e*P	**P**	**22 42 36.5**	**+0.6**
	93nm,1.7s						
CTA	**Charters Tower**	**21.76**	**263**	P	**P**	**22 42 41.3**	**+0.2**
	28nm,1.0s,baz=96,slow=12,SNR=18						
CTAO	**Charters Tower**	**21.76**	**263**	*e*P	**P**	**22 42 41.8**	**+0.7**
	67nm,1.3s						
BFZ	**Birch Farm**	**22.60**	**166**	*e*P	**P**	**22 42 47.3**	**-1.3**
	95nm,1.4s						
SNZO	**South Karori**	**22.90**	**169**	*e*P	**P**	**22 42 51.4**	**+0.1**
THZ	**Tophouse**	**23.08**	**173**	*e*P	**P**	**22 42 53.2**	**+0.1**
	153nm,1.9s						
PMG	**Port Moresby**	**23.39**	**291**	P	**P**	**22 42 56.5**	**+0.5**
	53nm,0.8s,baz=114,slow=8.6,SNR=15						
RPZ	**Rata Peaks**	**24.87**	**177**	P	**P**	**22 43 08.7**	**-0.5**
	15nm,1.0s,baz=346,slow=4.2,SNR=3.6						
LBZ	**Lake Benmore**	**25.51**	**179**	*e*P	**P**	**22 43 14.1**	**-0.8**
	64nm,1.4s						
STKA	**Stephens Creek**	**28.11**	**237**	P	**P**	**22 43 38.6**	**+0.3**
	4.8nm,0.5s,baz=62,slow=8.9,SNR=23						
STKA				pP	**pP**	**22 44 27.5**	**+0.8**
	14nm,0.8s,baz=54,slow=10,SNR=5.5						
BBOO	**Buckleboo**	**32.85**	**238**	*e*P	**P**	**22 44 18.3**	**-1.5**
	9.4nm,1.0s						
WB2	**Warramunga Arr**	**32.95**	**262**	*e*P	**P**	**22 44 19.6**	**-1.2**
WRAB	**Tennant Creek**	**32.95**	**262**	*e*P	**P**	**22 44 19.7**	**-1.1**
	26nm,1.0s						
WRA	**Warramunga Arr**	**32.96**	**262**	P	**P**	**22 44 19.7**	**-1.2**
	3.5nm,0.3s,baz=83,slow=6.7,SNR=161						
WRA				pP	**pP**	**22 45 12.7**	**+2.5**
	3.0nm,1.0s,baz=93,slow=9.4,SNR=3.0						
WRA				S	**S**	**22 49 18.2**	**-2.5**
	5.0nm,1.1s,baz=92,slow=15,SNR=7.4						
AS01	**Alice Springs**	**33.24**	**255**	*e*P	**P**	**22 44 22.5**	**-0.8**
AS31	**Alice Springs**	**33.28**	**255**	*e*P	**P**	**22 44 23.2**	**-0.5**
	46nm,0.3s						
ASAR	**Alice Springs**	**33.28**	**255**	P	**P**	**22 44 22.6**	**-1.1**
	56nm,0.5s,baz=82,slow=8.8,SNR=788						
ASAR				pP	**pP**	**22 45 16.1**	**+3.1**
	13nm,0.8s,baz=83,slow=8.9,SNR=5.0						
ASAR				S	**S**	**22 49 22.8**	**-2.8**
	0.2nm,0.3s,baz=76,slow=16,SNR=5.5						
MTN	**Manton Dam**	**37.13**	**273**	*e*P	**P**	**22 44 56.3**	**-0.2**
	92nm,1.3s						
GUMO	**Guam**	**40.20**	**321**	P	**P**	**22 45 19.8**	**-2.0**
	120nm,1.0s,baz=177,slow=5.8,SNR=2.6						
FITZ	**Fitzroy Crossi**	**41.33**	**264**	P	**P**	**22 45 31.0**	**-0.2**
	27nm,0.8s,baz=91,slow=5.5,SNR=13						
BATI	**Baumata**	**44.

	1.6nm,1.0s,baz=139,slow=4.5,SNR=5.6								
SONA1	**Songino Array**	**86.91**	**323**	*e*P		**P**	**22 50 25.8**	**-0.4**
YBH	**Yreka Blue Hor**	**86.96**	**44**	P		**P**	**22 50 27.1**	**+0.6**
	4.3nm,0.5s,baz=225,slow=7.1,SNR=11								
ISA	**Isabella, Lake**	**87.17**	**51**	*e*P		**P**	**22 50 27.7**	**+0.1**
	8.6nm,0.8s								
CAST	**Castle Rocks**	**87.33**	**16**	*e*P		**P**	**22 50 25.9**	**-1.7**
	22nm,1.8s								
MDPB	**Devils Postpil**	**87.59**	**49**	*e*P		**P**	**22 50 30.5**	**+0.8**
	28nm,1.2s								
WAKR	**Walker**	**87.71**	**48**	*e*P		**P**	**22 50 30.9**	**+0.7**
	27nm,1.6s								
DAC	**Darwin (Calif)**	**88.08**	**51**	*e*P		**P**	**22 50 32.2**	**+0.2**
	16nm,1.4s								
GSC	**Goldstone, Bar**	**88.26**	**52**	*e*P		**P**	**22 50 32.1**	**-0.6**
	17nm,1.4s								
PAHR	**Pah Rah Range**	**88.28**	**47**	*e*P		**P**	**22 50 32.0**	**-0.8**
	28nm,1.0s								
NVAR	**Mina Array Bea**	**88.48**	**48**	P		**P**	**22 50 33.6**	**-0.3**
	1.2nm,0.4s,baz=226,slow=7.4,SNR=13								
SLBS	**Sierra La Lagu**	**89.35**	**65**	*e*P		**P**	**22 50 38.6**	**+0.6**
	25nm,1.1s								
Y12C	**Blythe**	**89.36**	**54**	*e*P		**P**	**22 50 38.4**	**+0.6**
	25nm,1.4s								
LDFC	**Landfair**	**89.44**	**53**	*e*P		**P**	**22 50 39.0**	**+0.7**
	34nm,1.0s								
113A	**Mohawk Valley,**	**89.56**	**55**	*e*P		**P**	**22 50 39.1**	**+0.4**
SNAA	**Sanae**	**89.59**	**182**	P		**P**	**22 50 36.4**	**-1.9**
SNAA	**Sanae**	**89.59**	**182**	P		**P**	**22 50 36.2**	**-2.1**
	1.9nm,0.8s,baz=185,slow=11,SNR=7.4								
ILAR	**Eielson Array**	**89.81**	**17**	P		**P**	**22 50 37.2**	**-1.9**
	1.6nm,0.7s,baz=238,slow=5.2,SNR=17								
ILAR				pP		**pP**	**22 51 39.0**	**+0.1**
	0.8nm,0.9s,baz=241,slow=5.1,SNR=2.6								
ILB	**Eielson Array**	**89.81**	**17**	*e*P		**P**	**22 50 37.3**	**-1.8**
IL1	**Eielson Array**	**89.81**	**17**	*e*P		**P**	**22 50 36.8**	**-2.3**
SHPR	**Sheep Range**	**89.97**	**51**	*e*P		**P**	**22 50 41.2**	**+0.5**
	16nm,1s								
VNA3	**Neumayer Olymp**	**90.18**	**180**	P		**P**	**22 50 38.3**	**-2.7**
W13A	**Hualapai Mount**	**90.37**	**53**	*e*P		**P**	**22 50 43.0**	**+0.3**
HSIG		**90.41**	**60**	*e*P		**P**	**22 50 42.6**	**-0.2**
J08A	**Circle Bar Ran**	**90.49**	**44**	*e*P		**P**	**22 50 43.7**	**+0.7**
	33nm,1.8s								
Y14A	**Wickenburg**	**90.60**	**54**	*e*P		**P**	**22 50 43.9**	**+0.3**
G08A	**Pilot Rock**	**91.01**	**42**	*e*P		**P**	**22 50 46.1**	**+0.8**
	14nm,1.1s								
EGAK	**Eagle**	**91.51**	**19**	*e*P		**P**	**22 50 46.4**	**-0.6**
	4.9nm,0.7s								
LCMT	**Little Creek M**	**91.58**	**51**	*e*P		**P**	**22 50 48.6**	**+0.4**
	9.3nm,0.9s								
KNB	**Kanab**	**91.89**	**52**	*e*P		**P**	**22 50 50.8**	**+1.1**
	8.0nm,0.9s								
U15A	**North Rim**	**92.07**	**52**	*e*P		**P**	**22 50 51.2**	**+0.5**
WUAZ	**Wupatki**	**92.43**	**53**	*e*P		**P**	**22 50 52.5**	**+0.3**
	9.5nm,1.0s								
319A	**Douglas**	**92.60**	**58**	*e*P		**P**	**22 50 53.7**	**+0.7**
	16nm,0.8s								
HLID	**Hailey**	**93.27**	**45**	*e*P		**P**	**22 50 56.4**	**+0.5**
	7.4nm,1.4s								
MNTX	**Cormudas Mount**	**95.84**	**59**	*e*P		**P**	**22 51 07.5**	**-0.2**
	4.7nm,1.3s								
INK	**Inuvik**	**96.13**	**18**	P		**P**	**22 51 07.2**	**-0.9**
	3.5nm,1.1s,baz=220,slow=7.0,SNR=7.2								
PDAR	**Pinedale Array**	**96.29**	**47**	P		**P**	**22 51 10.2**	**+0.4**
	0.4nm,0.6s,baz=203,slow=5.6,SNR=3.4								
TX31	**Lajitas Ar. Si**	**96.52**	**61**	*e*P		**P**	**22 51 11.6**	**+0.6**
TXAR	**Lajitas Array**	**96.52**	**61**	P		**P**	**22 51 11.2**	**+0.2**
	0.7nm,0.8s,baz=230,slow=5.4,SNR=8.5								
WMQ	**Urumqi**	**96.95**	**314**	P		**P**	**22 51 13.6**	**+1.1**
WMQ				LR		LR			
	comp=N,200nm,17.5s								
YKA	**Yellowknife Ar**	**100.27**	**27**	P		**Pdif**	**22 51 27.4**	**+0.7**
	1.0nm,0.6s,baz=254,slow=4.6,SNR=16								
YKA				PP		**PP**	**22 55 32.9**	**-3.4**
	0.3nm,0.9s,baz=240,slow=7.9,SNR=4.5								
MKAR	**Makanchi Array**	**101.47**	**316**	P		**Pdif**	**22 51 31.9**	**-0.6**
	0.3nm,0.8s,baz=209,slow=2.6,SNR=4.1								
BVAR	**Borovoye Array**	**110.12**	**321**	PKiKP		**PKiKP**	**22 56 09.6**	**-1.4**
	0.4nm,0.5s,baz=153,slow=3.2,SNR=4.4								
SDV	**Santo Domingo**	**121.22**	**91**	PKhKP		PKPpre	22 56 26.7		
	2.4nm,0.5s,baz=321,slow=6.5,SNR=3.3								
ARCES	**ARCESS Array B**	**124.67**	**345**	PKP		**PKPdf**	**22 56 36.7**	**-1.7**
	1.1nm,0.5s,baz=88,slow=2.3,SNR=17								
FINES	**FINESS Array B**	**130.21**	**338**	PKP		**PKPdf**	**22 56 48.8**	**-0.4**
	2.7nm,1.1s,baz=128,slow=9.0,SNR=3.0								
FINES				SKPab		**SKPbc**	**22 59 47.4**	**-1.5**
	1.8nm,0.9s,baz=95,slow=4.4,SNR=4.1								
AKASG	**Malin Array Be**	**135.18**	**325**	SKP		**SKPbc**	**23 00 04.8**	**-1.5**
	0.6nm,0.4s,baz=48,slow=4.3,SNR=5.6								
EKA	**Eskdalemuir Ar**	**143.09**	**353**	PKhKP		PKPpre	22 57 08.4		
	0.3nm,0.4s,baz=22,slow=4.0,SNR=4.0								
CONA	**Conrad Observa**	**143.80**	**329**	*i* PKPdf		**PKPdf**	**22 57 14.1**	**-0.7**
	3.8nm,1.4s								
KHC	**Kasperske Hory**	**143.98**	**333**	*e*PKP		PKPab	22 57 12.6	-0.4	
GERES	**GERESS Array B**	**144.14**	**332**	PKP		**PKPab**	**22 57 13.5**	**-0.2**
	1.6nm,0.7s,baz=38,slow=3.3,SNR=14								
ARSA	**Arzberg**	**144.44**	**329**	*i* PKPdf		PKPbc	22 57 15.2	+0.2	
	3.7nm,1.1s								
IDI	**Anoyia**	**144.53**	**305**	PKP		**PKPab**	**22 57 13.8**	**-1.8**
	5.0nm,0.5s,baz=14,slow=4.2,SNR=8.5								
MOA	**Molln**	**144.61**	**331**	*i* PKPdf		**PKPab**	**22 57 15.0**	**-0.5**
	5.1nm,0.6s								
SOKA	**Soboth**	**145.08**	**329**	*e*PKPdf		**PKPdf**	**22 57 15.8**	**-1.2**
	4.9nm,1.2s								
KBA	**Koelnbreinsper**	**145.60**	**330**	*e*PKPab		**PKPdf**	**22 57 17.7**	**-0.4**
	3.5nm,0.8s								
BCLA	**Clavier**	**145.98**	**342**	⇑PKP		**PKPdf**	**22 57 18.6**	**+0.3**
ABTA	**Abfaltersbach**	**146.24**	**331**	*e*PKPbc		**PKPdf**	**22 57 18.8**	**-0.2**
	5.9nm,1.2s								
WLF	**Walferdange**	**146.38**	**340**	⇑PKP		**PKPdf**	**22 57 19.6**	**+0.6**
WLF	**Walferdange**	**146.38**	**340**	*e*PKPbc		**PKPbc**	**22 57 20.7**	**0.0**
MOTA	**Moosalm**	**146.41**	**333**	*i* PKPbc		**PKPdf**	**22 57 20.2**	**+0.8**
	6.1nm,1.0s								
RETA	**Reutte**	**146.45**	**333**	*e*PKPbc		**PKPdf**	**22 57 20.0**	**+0.7**
	1.9nm,0.5s								
SQTA	**Sankt Quirin**	**146.46**	**333**	*i* PKPab		**PKPbc**	**22 57 20.6**	**-0.6**
	0.1nm,0.5s								
DOU	**Dourbes**	**146.47**	**342**	⇑PKP		**PKPdf**	**22 57 20.0**	**+0.8**
FETA	**Feichten**	**146.83**	**333**	*e*PKPbc		**PKPbc**	**22 57 21.4**	**-0.9**
	3.6nm,0.5s								
DAVA	**Damuels**	**146.98**	**334**	*e*PKPbc		**PKPbc**	**22 57 21.6**	**-1.2**
	3.1nm,0.7s								
TORD	**Torodi Ar. Bea**	**166.81**	**247**	PKP		**PKPdf**	**22 57 44.7**	**-1.1**
	1.0nm,0.9s,baz=54,slow=0.4,SNR=5.5								
TORD				PKPab		**pPKPdf**	**22 58 48.6**	**-0.5**
	0.7nm,1.0s,baz=12,slow=1.4,SNR=3.2								

NIED **12** *22:46:00,37.˚40N×141.˚30E,h29km,Mw3.6 Best double couple: M₀2.90000×10¹⁴ NP1:φs30.00000°,δ10.00000°, λ-95.00000°. NP2:φs214.00000°,δ80.00000°, λ-89.00000°.*
JMA **12** *22:46:02.4±0.1,37.˚39N×141.˚28E,h33km±1km,M3.9*
JMA Felt II J1.
IDC **12** *22:46:05.9±3.0,37.˚38N×141.˚23E,h70km±26km,mb3.5/13, mb1 3.6/16,mb1mx3.4/72,mbtmp3.7/16,MS2.2/1, Ms1 2.2/1,ms1mx2.1/53,Error ellipse: s-maj=24.3km s-min=21.6km az=60.0*

ISC 12 22:45:59.8±1.3,37.˚36N±0.˚04×141.˚39E±0.˚05,h18km±5km, n33,σ1s26/38,mb3.8/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.41**	**272**		P	**Pn**	**22 46 10.3**	**-0.5**
JFK					S	**Sb**	**22 46 15.6**	**+1.1**
ONAJ	**Iwakimizuishiy**	**0.54**	**242**		P	**Pn**	**22 46 12.3**	**-0.2**
ONAJ					S	**Sb**	**22 46 19.1**	**+1.1**
JMM	**Marumori**	**0.70**	**317**		P	**Pn**	**22 46 14.2**	**-0.5**
JMM					S	**Sg**	**22 46 22.7**	**-0.1**
JFT	**Otama**	**0.85**	**281**		P	**Pn**	**22 46 17.2**	**+0.3**
JFT					S	**Sg**	**22 46 27.4**	**-0.3**
JHO	**Hitachi**	**0.99**	**222**		S	**Pb**	**22 46 18.8**	**+0.4**
JHO					S	**Sb**	**22 46 31.0**	**-0.1**
JIO	**Ouri**	**1.10**	**358**		P	**Pn**	**22 46 20.8**	**+0.6**
JIO					S	**Sb**	**22 46 33.7**	**-0.5**
JOU	**Okura**	**1.16**	**331**		S	**Sn**	**22 46 36.3**	**-0.2**
JSB	**Shiboa**	**1.24**	**252**		P	**Pg**	**22 46 23.6**	**-0.1**
JSB					S	**Sg**	**22 46 39.0**	**-0.8**
JFY	**Yanaizu**	**1.34**	**273**		P	**Pb**	**22 46 24.3**	**-0.1**
JFY					S	**Sn**	**22 46 40.6**	**-0.4**
JYS	**Shirataka**	**1.36**	**310**		P	**Pb**	**22 46 24.6**	**-0.1**
JYS					S	**Sb**	**22 46 41.7**	**0.0**
MJAR	**Matsushiro Arr**	**2.67**	**253**		P	**Pn**	**22 46 43.8**	**+1.8**
	4.2nm,0.3s,baz=78,slow=16,SNR=38							
MJAR					S	**Sb**	**22 47 18.0**	**-1.6**
	4.3nm,0.3s,baz=36,slow=16,SNR=5.3							
MJAR					LR	LR	22 47 46.2	
	comp=Z,46nm,18.2s,baz=55,slow=40							
MAT	**Matsushiro**	**2.67**	**253**		P	**Pn**	**22 46 43.9**	**+2.0**
MAT					S	**Sn**	**22 47 12.9**	**-1.0**
USRK	**Ussuriysk Ar.**	**9.87**	**317**		P	**Pn**	**22 48 24.6**	**+3.9**
	0.2nm,0.3s,baz=116,slow=20,SNR=2.8							
KSRS	**Korea Array**	**10.71**	**275**		P	**Pn**	**22 48 35.0**	**+2.7**
	baz=61,slow=16,SNR=2.8							
SONM	**Songino Array**	**27.59**	**303**		P	**P**	**22 51 45.0**	**-1.0**
	0.4nm,0.5s,baz=102,slow=9.6,SNR=2.8							
H11N2	**WAKE ISLAND Hy**	**28.33**	**121**		T	T	23 22 02.8	
	baz=314,slow=75,SNR=57							
H11N1	**WAKE ISLAND Hy**	**28.34**	**121**		T	T	23 22 02.8	
	baz=314,slow=75,SNR=75							
H11N3	**WAKE ISLAND Hy**	**28.35**	**121**		T	T	23 22 03.5	
	baz=314,slow=75,SNR=53							
H11S1	**WAKE ISLAND Hy**	**29.05**	**123**		T	T	23 22 52.7	
	baz=316,slow=75,SNR=42							
H11S3	**WAKE ISLAND Hy**	**29.05**	**123**		T	T	23 23 04.0	
	baz=316,slow=75,SNR=44							
H11S2	**WAKE ISLAND Hy**	**29.07**	**123**		T	T	23 22 45.4	
	baz=316,slow=75,SNR=36							
ZALV	**Zalesovo Beam**	**41.69**	**312**		P	**P**	**22 53 47.3**	**+0.2**
	1.0nm,0.4s,baz=107,slow=8.5,SNR=7.0							
MKAR	**Makanchi Array**	**43.93**	**302**		P	**P**	**22 54 05.7**	**+0.2**
	1.1nm,0.6s,baz=88,slow=9.9,SNR=13							
KURBB	**Kurchatov Arra**	**45.79**	**308**		P	**P**	**22 54 19.9**	**-0.2**
	1.2nm,0.4s,baz=81,slow=7.7,SNR=20							
ILAR	**Eielson Array**	**49.23**	**33**		P	**P**	**22 54 48.0**	**+1.3**
	0.3nm,0.7s,baz=246,slow=6.5,SNR=2.5							
AAK	**Ala-Archa**	**50.32**	**298**		P	**P**	**22 54 53.8**	**-1.7**
	3.2nm,0.6s,baz=90,slow=3.0,SNR=8.7							
WRA	**Warramunga Arr**	**57.38**	**188**		P	**P**	**22 55 47.9**	**+0.9**
	0.6nm,1.0s,baz=4.8,slow=7.1,SNR=4.2							
FINES	**FINESS Array B**	**68.52**	**332**		P	**P**	**22 57 00.3**	**-0.4**
	0.8nm,0.6s,baz=54,slow=7.1,SNR=4.6							
HFS	**Hagfors**	**73.79**	**336**		P	**P**	**22 57 32.2**	**-0.4**
	2.3nm,0.9s,baz=64,slow=6.6,SNR=5.3							
NOA	**NORSAR Array B**	**73.88**	**337**		P	**P**	**22 57 33.2**	**0.0**
	0.8nm,0.7s,baz=39,slow=6.2,SNR=2.6							
AKASG	**Malin Array Be**	**74.03**	**322**		P	**P**	**22 57 33.0**	**-1.2**
	0.4nm,0.4s,baz=45,slow=6.9,SNR=3.9							
PDAR	**Pinedale Array**	**77.45**	**45**		P	**P**	**22 57 53.6**	**-0.7**
	0.2nm,0.5s,baz=354,slow=3.6,SNR=3.1							
GERES	**GERESS Array B**	**82.43**	**328**		P	**P**	**22 58 18.2**	**-2.7**
	0.4nm,0.6s,baz=55,slow=3.7,SNR=2.9							

DDA **12** *22:50:55.8,40.˚84N×42.˚72E,h7km,Ml2.9*
CSEM **12** *22:50:56.4±0.2,40.˚82N×42.˚70E,h2km,ML2.5,Error ellipse: s-maj=5.1km s-min=3.6km az=163.0*
TIF **12** *22:50:56.0,40.˚87N×42.˚66E,h15km±2km*
ISK **12** *22:50:56.4,40.˚85N×42.˚71E,h6km,ML2.5/4*

ISC 12 22:50:56.4±1.0,40.˚84N±0.˚02×42.˚71E±0.˚02,h7km±12km, n42,σ0s69/62,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.35**	**128**		PG	**Pb**	**22 51 04.4**	**-0.7**
KARS	**Kars**	**0.35**	**128**		*e*Pg	**Pb**	**22 51 04.4**	**-0.7**
SENK	**Senkaya-Erzuru**	**0.39**	**224**		PG	**Pg**	**22 51 04.0**	**-0.1**
SENK					SG	**Sg**	**22 51 10.7**	**+1.5**
SENK	**Senkaya-Erzuru**	**0.39**	**224**		*e*Pg	**Pg**	**22 51 04.0**	**-0.1**
SENK					*e*Sg	**Sg**	**22 51 10.7**	**+1.5**
DAGI	**Agillar**	**0.65**	**291**		*i* P	**Pg**	**22 51 08.9**	**0.0**
DAGI					*i* S	**Sb**	**22 51 19.0**	**-0.4**
EPOS	**Posof**	**0.66**	**1**		*i* P	**Pg**	**22 51 08.4**	**-0.7**
EPOS					*i* S	**Sb**	**22 51 18.8**	**-1.0**
EPOS	**Posof**	**0.66**	**1**		P	**Pg**	**22 51 08.4**	**-0.7**
EPOS					S	**Sb**	**22 51 18.8**	**-1.0**
DIGO	**Kars**	**0.66**	**130**		*i* P	**Pg**	**22 51 07.3**	**-1.8**
DIGO	**Kars**	**0.66**	**130**		P	**Pg**	**22 51 07.3**	**-1.8**
ARTV	**Artvin**	**0.68**	**300**		*i* P	**Pg**	**22 51 08.8**	**-0.8**
ARTV					*i* S	**Sg**	**22 51 18.9**	**+0.4**
ARTV	**Artvin**	**0.68**	**300**		P	**Pg**	**22 51 08.8**	**-0.8**
ARTV					S	**Sg**	**22 51 18.9**	**+0.4**
EAK	**Akyaka**	**0.70**	**103**		*i* P	**Pg**	**22 51 08.9**	**-0.9**
EAK					*i* S	**Sg**	**22 51 19.8**	**+0.9**
EAK	**Akyaka**	**0.70**	**103**		P	**Pg**	**22 51 08.9**	**-0.9**
EAK					S	**Sg**	**22 51 19.8**	**+0.9**
DDEM	**Demirkent**	**0.73**	**274**		*i* P	**Pg**	**22 51 10.0**	**-0.4**
DDEM					*i* S	**Sg**	**22 51 20.0**	**+0.1**
DDEM	**Demirkent**	**0.73**	**274**		P	**Pg**	**22 51 10.0**	**-0.4**
DDEM					S	**Sg**	**22 51 20.0**	**+0.1**
DBAD	**Bademkaya**	**0.79**	**283**		*i* P	**Pg**	**22 51 11.2**	**-0.3**
DBAD	**Bademkaya**	**0.79**	**283**		P	**Pg**	**22 51 11.2**	**-0.3**
BGD	**Bogdanovka**	**0.79**	**58**		P	**Pg**	**22 51 11.7**	**+0.1**
BGD					S	**Sb**	**22 51 23.6**	**-0.1**
BGD	**Bogdanovka**	**0.79**	**58**		P	**Pg**	**22 51 11.7**	**+0.1**
BGD					S	**Sb**	**22 51 23.7**	**0.0**
AKH	**Akhalkalaki**	**0.82**	**46**		PG	**Pb**	**22 51 12.8**	**-0.3**
AKH	**Akhalkalaki**	**0.82**	**46**		P	**Pg**	**22 51 12.3**	**+0.2**
AKH					S	**Sg**	**22 51 23.0**	**+0.3**
AKH	**Akhalkalaki**	**0.82**	**46**		P	**Pg**	**22 51 11.9**	**-0.2**
AKH	**Akhalkalaki**	**0.82**	**46**		*e*Pg	**Pb**	**22 51 12.8**	**-0.3**
AKH					S	**Sb**	**22 51 23.9**	**-0.5**
DBOC	**Borcka**	**0.94**	**303**		*i* P	**Pg**	**22 51 13.8**	**-0.5**
DBOC	**Borcka**	**0.94**	**303**		P	**Pg**	**22 51 13.8**	**-0.5**
HOMI	**Horasan**	**1.01**	**218**		*i* P	**Pg**	**22 51 15.2**	**-0.5**
AGRB	**Hanur-Agry**	**1.28**	**170**		PN	**Pg**	**22 51 21.3**	**+0.3**
AGRB	**Hanur-Agry**	**1.28**	**170**		*e*Pn	**Pg**	**22 51 21.3**	**+0.3**
ERZM	**Erzurum**	**1.39**	**228**		*i* P	**Pn**	**22 51 22.6**	**+0.1**
ERZM	**Erzurum**	**1.39**	**228**		P	**Pn**	**22 51 22.6**	**+0.1**
TBLG	**Delisi**	**1.77**	**59**		PN	**Pn**	**22 51 28.0**	**+0.6**
TBLG	**Delisi**	**1.77**	**59**		P	**Pb**	**22 51 28.7**	**-0.4**
TBLG					S	**Sg**	**22 51 52.7**	**-0.4**
TBLG	**Delisi**	**1.77**	**59**		*e*Pn	**Pn**	**22 51 28.0**	**+0.6**
TBLG	**Delisi**	**1.77**	**59**		P	**Pb**	**22 51 29.0**	**-0.1**
TBLG					S	**Sg**	**22 51 53.3**	**+0.2**
BTNK	**Botanikuri**	**1.78**	**61**		P	**Pb**	**22 51 29.5**	**+0.1**
BTNK					S	**Sg**	**22 51 54.3**	**+0.6**
ONI	**Oni**	**1.83**	**17**		P	**Pb**	**22 51 30.0**	**-0.2**
ONI					S	**Sb**	**22 51 53.8**	**+0.3**
BAYB	**BAYBURT**	**1.96**	**253**		*i* P	**Pb**	**22 51 32.2**	**-0.3**
BAYB	**BAYBURT**	**1.96**	**253**		P	**Pb**	**22 51 32.2**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**2.01**	**258**		PN	**Pb**	**22 51 32.6**	**-0.7**
BAYT	**Ayd¨–ntepe-Bay**	**2.01**	**258**		*e*Pn	**Pb**	**22 51 32.6**	**-0.7**
GUDG	**Gudauri**	**2.09**	**39**		P	**Pn**	**22 51 32.9**	**+0.8**
GUDG	**Gudauri**	**2.09**	**39**		P	**Pn**	**22 51 33.1**	**+1.0**
GUDG					S	**Sb**	**22 52 02.2**	**+1.1**

NNC 12 22:53:24.0±3.5,37.˚02N×72.˚54E,h0km,mb3.9,mpv3.6, 3C-3D,Error ellipse: s-maj=40.9km s-min=25.7km az=90.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.09**	**14**	⇓Pn	P	Pn	22 54 14.4	+0.1
	50nm,0.7s							
SFK				⇑Lg		Lg	22 54 58.5	
	114nm,1.1s							
MNAS	**Manas**	**5.46**	**360**	⇓Pn	P	Pn	22 54 45.2	-1.7
	1.5nm,0.4s							
MNAS				⇑Sn		Sn	22 55 53.2	+2.8
	4.6nm,0.6s							
MNAS				⇑Lg		Lg	22 56 18.2	
	9.9nm,1.1s							
AAK	**Ala-Archa**	**5.81**	**14**	Pn	P	Pn	22 54 52.2	+0.5
	4.9nm,1.1s							
AAK				Sn		Sn	22 56 01.4	+2.3
	2.6nm,0.7s							
KK31	**Karatay Array**	**6.27**	**346**	Pn	P	Pn	22 54 58.0	+0.1
	1.7nm,0.4s,baz=149,slow=12,SNR=12							
KK31				⇓Sn		Sn	22 56 10.9	+0.6
	6.3nm,0.8s,baz=157,slow=24,SNR=5.2							

ISK **12** *22:56:19.3,38.˚71N×43.˚06E,h4km,ML2.6/4*
ISCJB **12** *22:56:20.6±0.5,38.˚71N±0.˚03×43.˚07E±0.˚04,h9km±5km, Error ellipse: s-maj=5.6km s-min=4.6km az=33.7*
CSEM **12** *22:56:20.2±0.2,38.˚71N×43.˚07E,h10km,ML2.6,Error ellipse: s-maj=5.6km s-min=5.1km az=71.0*
DDA **12** *22:56:20.1,38.˚70N×43.˚09E,h7km,Ml2.4*

ISC 12 22:56:20.5±1.0,38.71N±0.˚02×43.˚08E±0.˚02,h8km±9km, n27,σ0s99/43,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**114**		PG	**Pb**	**22 56 26.6**	**-1.0**
VANB					SG	**Sb**	**22 56 31.9**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.30**	**290**		*i* P	**Pg**	**22 56 26.7**	**+0.2**
ADCV					*i* S	**Sb**	**22 56 32.0**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.30**	**290**		P	**Pg**	**22 56 26.7**	**+0.2**
ADCV					S	**Sb**	**22 56 32.0**	**-1.3**
TVAN	**Van**	**0.31**	**124**		*i* P	**Pg**	**22 56 26.5**	**-0.2**
TVAN					*i* S	**Sg**	**22 56 32.1**	**+1.2**
TVAN	**Van**	**0.31**	**124**		P	**Pg**	**22 56 26.5**	**-0.2**
TVAN					S	**Sg**	**22 56 32.1**	**+1.2**
ERCV	**ERCIS-VAN**	**0.37**	**33**	PG		**Pg**	**22 56 27.8**	**-0.1**
ERCV	**ERCIS-VAN**	**0.37**	**33**	*e*Pg		**Pg**	**22 56 27.8**	**-0.1**
GEVA	**Gevas**	**0.39**	**182**	*i* P		**Pg**	**22 56 27.0**	**-1.2**
GEVA				*i* S		**Sg**	**22 56 34.2**	**+0.8**
GEVA	**Gevas**	**0.39**	**182**	P		**Pg**	**22 56 27.0**	**-1.2**
GEVA				S		**Sg**	**22 56 34.2**	**+0.8**
TUTA	**Tutak**	**0.73**	**344**	*i* P		**Pg**	**22 56 34.1**	**-0.4**
TUTA				*i* S		**Sb**	**22 56 45.0**	**-0.8**
TUTA	**Tutak**	**0.73**	**344**	P		**Pg**	**22 56 34.1**	**-0.4**
TUTA				S		**Sb**	**22 56 45.0**	**-0.8**
CLDR	**Caldiran**	**0.79**	**56**	PG		**Pg**	**22 56 34.7**	**-1.0**
CLDR	**Caldiran**	**0.79**	**56**	*i* P		**Pg**	**22 56 34.7**	**-1.0**
CLDR				*i* S		**Sb**	**22 56 46.6**	**-0.9**
CLDR	**Caldiran**	**0.79**	**56**	P		**Pg**	**22 56 34.7**	**-1.0**
CLDR				S		**Sb**	**22 56 46.6**	**-0.9**
GURO	**Guroymak-BITLI**	**0.83**	**260**	PG		**Pg**	**22 56 35.3**	**-1.3**
GURO	**Guroymak-BITLI**	**0.83**	**260**	*e*Pg		**Pg**	**22 56 35.3**	**-1.3**
AGRB	**Hanur-Agry**	**0.87**	**356**	PG		**Pg**	**22 56 36.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.87**	**356**	*e*Pg		**Pg**	**22 56 36.9**	**-0.4**
EKAR	**Karacoban**	**0.96**	**305**	*i* P		**Pn**	**22 56 40.9**	**+0.3**
EKAR				*i* S		**Sn**	**22 56 55.4**	**+0.8**
EKAR	**Karacoban**	**0.96**	**305**	P		**Pn**	**22 56 40.9**	**+0.3**
EKAR				S		**Sn**	**22 56 55.4**	**+0.8**
SRTM	**Siirt_Merkez**	**1.16**	**232**	*i* P		**Pg**	**22 56 41.5**	**-1.2**
SRTM				*i* S		**Sn**	**22 57 01.4**	**+2.3**
SRTM	**Siirt_Merkez**	**1.16**	**232**	P		**Pg**	**22 56 41.5**	**-1.2**
SRTM				S		**Sn**	**22 57 01.4**	**+2.3**
SIRT	**Sirnak**	**1.30**	**203**	PN		**Pg**	**22 56 45.3**	**-0.2**
SIRT	**Sirnak**	**1.30**	**203**	*e*Pn		**Pg**	**22 56 45.3**	**-0.2**
CUKT	**Cukurca**	**1.51**	**164**	PN		**Pb**	**22 56 48.6**	**-0.3**
CUKT	**Cukurca**	**1.51**	**164**	*e*Pn		**Pb**	**22 56 48.6**	**-0.3**

ISCJB **12** *23:05:54.8±0.6,35.˚97N±0.˚03×27.˚33E±0.˚03,h5km±5km, Error ellipse: s-maj=5.6km s-min=3.4km az=141.4*
ATH **12** *23:05:54.7,35.˚96N×27.˚37E,h29km±2km,ML2.8/6,Error ellipse: s-maj=2.7km s-min=1.1km az=102.0*
CSEM **12** *23:05:55.4±0.2,35.˚98N×27.˚31E,h12km,ML2.8,Error ellipse: s-maj=6.1km s

GOLH				S	Sb	23 07 02.7	+1.1
ELL	Elmali	2.22	69	PN	Pn	23 06 32.8	+1.3
ELL	Elmali	2.22	69	*e*Pn	Pn	23 06 32.8	+1.3
BRDR	BURDUR-Merkez	2.78	51	*i* P	Pb	23 06 43.7	-0.4
BRDR	BURDUR-Merkez	2.78	51	P	Pb	23 06 43.7	-0.4

ISCJB ***12*** *23:11:21.9±0.4, 19°.70S±0°.04×69°.21W±0°.07, h109km±4km, mb3.7/7, Error ellipse: s-maj=11.1km s-min=6.3km az=167.6*
GUC ***12*** *23:11:24.2±0.5, 19°.76S×69°.34W, h94km±2km, ML4.3*
IDC ***12*** *23:11:26.5±3.4, 19°.54S×68°.95W, h127km±24km, mb3.6/8, mb1 3.7/11, mb1mx3.5/40, mbtmp4.0/11, Error ellipse: s-maj=32.0km s-min=17.5km az=37.0*

ISC 12 23:11:23.0±0.6, 19.71S±0.04×69.24W±0.07, h101km±5km, n21, σ1.05/31, mb3.8/7, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.39**	**262**	*e*P	**Pn**	**23 11 38.4**	**0.0**
PB11				*e*S	**Sn**	**23 11 49.5**	**-0.4**
PB11				IAML		23 11 51.0	
	comp=N,17μm,0.2s						
PB08	**IPOC Station P**	**0.44**	**169**	*e*P	**Pn**	**23 11 39.6**	**+0.6**
PB08				*e*S	**Sn**	**23 11 51.6**	**+0.7**
PB08				IAML		23 11 52.1	
	comp=E,13μm,0.2s						
MNMC	**Minye Minye**	**0.67**	**330**	*e*P	**Pn**	**23 11 41.4**	**+0.8**
MNMC				*e*S	**Sn**	**23 11 54.4**	**+0.7**
MNMC				IAML		23 11 55.8	
	comp=N,29μm,0.5s						
PSGC	**Pisagua**	**0.84**	**278**	*e*P	**Pn**	**23 11 41.8**	**-0.2**
PSGC				*e*S	**Sn**	**23 11 55.5**	**-0.6**
PB01	**IPOC Station P**	**1.35**	**190**	*e*P	**Pn**	**23 11 48.0**	**+0.4**
PB01				*e*S	**Sn**	**23 12 06.4**	**+0.2**
PB01				IAML		23 12 07.2	
	comp=E,6μm,0.5s						
PB12	**IPOC Station P**	**1.50**	**317**	*e*P	**Pn**	**23 11 49.4**	**0.0**
PB12				*e*S	**Sn**	**23 12 09.1**	**-0.3**
PB12				IAML		23 12 12.7	
	comp=N,5μm,0.3s						
PB09	**IPOC Station P**	**2.08**	**180**	*e*P	**Pn**	**23 11 58.2**	**+1.5**
PB09				*e*S	**Sn**	**23 12 21.8**	**-0.7**
LPAZ	**La Paz**	**3.56**	**17**	P	**Pn**	**23 12 19.7**	**+2.8**
	comp=N,3.2nm,0.3s,baz=199,slow=6.9,SNR=135						
LPAZ				S	**Sn**	**23 12 57.8**	**-0.7**
	comp=N,0.2nm,0.3s,baz=185,slow=11,SNR=1.9						
SIV	**San Ignacio**	**8.61**	**66**	P	**Pn**	**23 13 23.5**	**-1.4**
	comp=N,1.9nm,0.3s,baz=262,slow=13,SNR=59						
CPUP	**Villa Florida**	**12.79**	**123**	P	**Pn**	**23 14 20.1**	**-0.9**
	comp=N,0.0nm,0.3s,baz=289,slow=12,SNR=3.7						
PTGA	**Pitinga**	**20.93**	**27**	P	**P**	**23 15 55.7**	**-2.1**
	comp=N,2.8nm,0.3s,baz=205,slow=13,SNR=14						
TXAR	**Lajitas Array**	**58.99**	**325**	P	**P**	**23 21 12.4**	**+0.2**
	comp=N,0.3nm,0.8s,baz=131,slow=5.2,SNR=3.2						
DBIC	**Dimbokro**	**68.54**	**74**	P	**P**	**23 22 14.5**	**-0.7**
	comp=N,3.4nm,0.9s,baz=220,slow=5.6,SNR=5.5						
KOWA	**Kowa**	**72.60**	**67**	P	**P**	**23 22 39.0**	**-0.9**
	comp=N,0.5nm,0.4s,baz=243,slow=9.2,SNR=4.2						
ULM	**Lac du Bonnet**	**73.52**	**343**	P	**P**	**23 22 44.1**	**-0.5**
	comp=N,0.7nm,0.4s,baz=171,slow=5.2,SNR=4.3						
NVAR	**Mina Array Bea**	**73.90**	**322**	P	**P**	**23 22 48.7**	**+1.4**
	comp=N,0.2nm,0.4s,baz=128,slow=5.9,SNR=2.3						
TORD	**Torodi Ar. Bea**	**77.06**	**71**	P	**P**	**23 23 04.4**	**-1.2**
	comp=N,0.6nm,0.3s,baz=252,slow=5.3,SNR=25						
TORD				pP	**pP**	**23 23 32.1**	**+0.6**
	comp=N,0.8nm,0.6s,baz=250,slow=5.4,SNR=3.1						
YKA	**Yellowknife Ar**	**89.40**	**341**	P	**P**	**23 24 08.4**	**+0.5**
	comp=N,1.7nm,0.7s,baz=133,slow=4.6,SNR=42						
YKA				pP	**pP**	**23 24 35.3**	**+0.9**
	comp=N,0.5nm,0.7s,baz=136,slow=4.8,SNR=3.4						
ASAR	**Alice Springs**	**131.34**	**209**	PKP	**PKPdf**	**23 30 25.2**	**+1.0**
	comp=N,0.3nm,0.3s,baz=98,slow=6.6,SNR=5.7						
WRA	**Warramunga Arr**	**134.32**	**212**	PKP	**PKPdf**	**23 30 30.8**	**+0.9**
	comp=N,0.2nm,0.6s,baz=152,slow=1.9,SNR=6.7						
SONM	**Songino Array**	**151.72**	**6**	PKPbc	**PKPbc**	**23 31 05.2**	**-0.7**
	comp=N,0.3nm,0.5s,baz=294,slow=1.4,SNR=3.6						

ISK ***12*** *23:32:08.6, 39°.09N×42°.30E, h16km, ML2.4/3*
ISCJB ***12*** *23:32:09.6±0.5, 39°.09N±0°.03×42°.37E±0°.04, h5km±7km, Error ellipse: s-maj=4.9km s-min=4.8km az=40.0*
CSEM ***12*** *23:32:09.1±0.3, 39°.11N×42°.37E, h10km, ML2.7, Error ellipse: s-maj=8.0km s-min=5.6km az=108.0*
DDA ***12*** *23:32:09.7, 39°.06N×42°.35E, h7km, Ml2.7*

ISC 12 23:32:09.0±1.1, 39.11N±0.02×42.38E±0.03, h10km±9km, n17, σ0.79/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.28**	**301**	*i* P	**Pg**	**23 32 15.4**	**+0.5**
EKAR				*i* S	**Sb**	**23 32 20.9**	**-0.4**
EKAR	**Karacoban**	**0.28**	**301**	P	**Pg**	**23 32 15.4**	**+0.5**
EKAR				S	**Sb**	**23 32 20.9**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.41**	**138**	*i* P	**Pg**	**23 32 17.3**	**+0.2**
ADCV				*i* S	**Sb**	**23 32 23.8**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.41**	**138**	P	**Pg**	**23 32 17.3**	**+0.2**
ADCV				S	**Sb**	**23 32 23.8**	**-0.9**
TUTA	**Tutak**	**0.45**	**49**	*i* P	**Pg**	**23 32 17.0**	**-0.9**
TUTA				*i* S	**Sb**	**23 32 26.0**	**0.0**
TUTA	**Tutak**	**0.45**	**49**	P	**Pg**	**23 32 17.0**	**-0.9**
TUTA				S	**Sb**	**23 32 26.0**	**0.0**
GURO	**Guroymak-BITLI**	**0.62**	**206**	PG	**Pg**	**23 32 20.4**	**-0.7**
GURO				SG	**Sg**	**23 32 28.8**	**-0.4**
GURO	**Guroymak-BITLI**	**0.62**	**206**	*e*Pg	**Pg**	**23 32 20.4**	**-0.7**
GURO				*e*Sg	**Sg**	**23 32 28.8**	**-0.4**
AGRB	**Hanur-Agry**	**0.67**	**46**	PG	**Pb**	**23 32 23.2**	**+0.4**
AGRB				SG	**Sb**	**23 32 33.6**	**+1.4**
AGRB	**Hanur-Agry**	**0.67**	**46**	*e*Pg	**Pb**	**23 32 23.2**	**+0.4**
AGRB				*e*Sg	**Sb**	**23 32 33.6**	**+1.4**
GEVA	**Gevas**	**0.96**	**146**	*i* P	**Pg**	**23 32 26.8**	**-0.7**
GEVA				*i* S	**Sb**	**23 32 41.0**	**+0.4**
GEVA	**Gevas**	**0.96**	**146**	P	**Pg**	**23 32 26.8**	**-0.7**
GEVA				S	**Sb**	**23 32 41.0**	**+0.4**
BNGL	**BINGOL**	**0.97**	**261**	*i* P	**Pb**	**23 32 27.9**	**-0.2**
BNGL				*i* S	**Sn**	**23 32 41.4**	**-1.4**
SRTM	**Siirt_Merkez**	**1.17**	**198**	*i* P	**Pn**	**23 32 33.1**	**+1.5**
SRTM				*i* S	**Sn**	**23 32 47.9**	**+0.2**
SRTM	**Siirt_Merkez**	**1.17**	**198**	P	**Pn**	**23 32 33.1**	**+1.5**
SRTM				S	**Sn**	**23 32 47.9**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.45**	**359**	PN	**Pn**	**23 32 35.1**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.45**	**359**	*e*Pn	**Pn**	**23 32 35.1**	**-0.4**

IDC ***12*** *23:36:20.7±1.3, 43°.23N×104°.94W, h0km, mb2.3/1, mb1 3.0/4, mb1mx2.9/64, mbtmp2.7/4, ML1.4/1, Error ellipse: s-maj=21.0km s-min=10.7km az=156.0*
ISCJB ***12*** *23:36:21.7±0.8, 44°.19N±0°.06×105°.54W±0°.10, h0km, Error ellipse: s-maj=10.7km s-min=8.2km az=35.1*
NEIC ***12*** *23:36:22.8±0.8, 44°.11N×105°.51W, h0km, MN2.4, Error ellipse: s-maj=15.3km s-min=10.1km az=164.0, Suspected Mining explosion.*
NEIC 16 km [10 miles] S of Gillette.

ISC 12 23:36:24.0±1.0, 44.03N±0.05×105.55W±0.05, h0km, n11, σ2.92/13, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.10**	**85**	*e*Pn	**Pb**	**23 36 44.9**	**-1.1**
K22A	**Casper**	**1.55**	**208**	*e*Pn	**Pn**	**23 36 52.3**	**-0.7**
K22A				*e*S	**Sg**	**23 37 14.6**	**+0.9**
RLMT	**Red Lodge**	**2.87**	**294**	*e*Pn	**Pn**	**23 37 08.6**	**-2.6**
BW06	**Boulder Array**	**3.18**	**248**	*e*Pn	**Pn**	**23 37 16.5**	**+1.0**
BW06				*e*S	**Sg**	**23 38 05.4**	**-0.7**
PDAR	**Pinedale Array**	**3.18**	**248**	Pn	**Pb**	**23 37 19.4**	**-2.1**
	1.5nm,0.3s,baz=79,slow=15,SNR=22						
PDAR				Lg	Lg	23 38 05.7	
	2.5nm,0.3s,baz=82,slow=31,SNR=13						
GCMT	**Greycliff**	**3.41**	**303**	*e*Pn	**Pn**	**23 37 17.2**	**-1.5**
GCMT				*e*Pg	**Pb**	**23 37 26.0**	**+0.5**
GCMT				*e*S	**Sg**	**23 38 12.2**	**-1.5**
I10CA	**LAC DU BONNET**	**8.96**	**43**	*i*		00 34 20.0	
	baz=220,slow=320,SNR=1.3						
ULM	**Lac du Bonnet**	**9.06**	**43**	Pn	**Pn**	**23 38 34.0**	**-2.0**
	0.1nm,0.3s,baz=228,slow=12,SNR=2.3						
ULM				Lg	Lg	23 41 08.6	
	0.2nm,0.3s,baz=270,slow=20,SNR=2.7						
TXAR	**Lajitas Array**	**14.74**	**174**	Pn	Pn	23 39 39.6	-14
	0.0nm,0.3s,baz=351,slow=16,SNR=2.3						
YKA	**Yellowknife Ar**	**19.24**	**347**	P	**Pn**	**23 40 56.0**	**+5.5**
	0.1nm,0.9s,baz=154,slow=10.0,SNR=2.3						
YKA	**Yellowknife Ar**	**19.24**	**347**	P	**Pn**	**23 40 56.0**	**+5.5**

IDC 12 23:38:51.8±15.0, 7.08S×154.71E, h160km±147km, mb3.4/7, mb1 3.7/7, mb1mx3.4/47, mbtmp3.8/7, MS3.0/2, Ms1 2.9/2, ms1mx2.7/21, Error ellipse: s-maj=61.4km s-min=41.1km az=141.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.82**	**252**	LR	LR	23 43 20.0	
	comp=Z,94nm,19.9s,baz=84,slow=34						
WRA	**Warramunga Arr**	**23.53**	**235**	P	P	23 43 48.0	+0.2
	3.0nm,0.7s,baz=58,slow=9.7,SNR=26						
ASAR	**Alice Springs**	**25.90**	**228**	P	P	23 44 09.3	+0.1
	1.6nm,0.6s,baz=62,slow=8.8,SNR=17						
STKA	**Stephens Creek**	**27.54**	**205**	P	P	23 44 23.3	-0.4
	1.4nm,0.6s,baz=22,slow=13,SNR=3.6						
STKA				LR	LR	23 54 42.5	
	comp=Z,33nm,20.6s,baz=25,slow=34						
MKAR	**Makanchi Array**	**83.28**	**319**	P	P	23 51 00.4	-0.3
	0.3nm,0.8s,baz=108,slow=5.3,SNR=2.7						
ILAR	**Eielson Array**	**83.56**	**22**	P	P	23 51 01.7	0.0
	0.3nm,0.6s,baz=250,slow=5.9,SNR=7.6						
INK	**Inuvik**	**89.90**	**21**	P	P	23 51 32.6	+0.3
	0.8nm,0.9s,baz=316,slow=5.2,SNR=4.1						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	P	23 52 02.7	-0.3
	0.2nm,0.7s,baz=263,slow=4.7,SNR=6.3						
TORD	**Torodi Ar. Bea**	**152.78**	**285**	PKPbc	PKPbc	23 58 31.0	+0.1
	0.5nm,0.8s,baz=65,slow=2.1,SNR=4.1						

ISCJB ***12*** *23:44:29.5±0.4, 24°.41N±0°.03×122°.93E±0°.02, h86km±4km, Error ellipse: s-maj=4.3km s-min=2.5km az=176.8*
TAP ***12*** *23:44:29.2, 24°.44N×122°.96E, h93km, ML3.7, C*
JMA ***12*** *23:44:29.2±0.2, 24°.41N×122°.92E, h94km±2km, M3.3*

ISC 12 23:44:29.3±1.3, 24.40N±0.04×122.94E±0.02, h92km±7km, n87, σ1.02/151, 9C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.05**	**8**	P	**Pn**	**23 44 42.6**	**+0.4**
JYNG				S	**Sn**	**23 44 51.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.09**	**49**	P	**Pn**	**23 44 42.6**	**+0.4**
	baz=57						
YOJ				S	**Sn**	**23 44 52.0**	**+0.2**
	baz=57						
YOJ	**Yonaguni jima**	**0.09**	**49**	P	**Pn**	**23 44 42.6**	**+0.4**
YOJ				S	**Sn**	**23 44 51.9**	**+0.2**
IRIF	**Iriomote-Funau**	**0.72**	**95**	P	**Pn**	**23 44 46.6**	**+0.4**
IRIF				S	**Sn**	**23 44 59.0**	**+0.2**
HATJ	**Hateruma jima**	**0.86**	**113**	P	**Pn**	**23 44 48.6**	**+1.0**
HATJ				S	**Sn**	**23 45 02.0**	**+0.7**
JKRS	**Kuro-shima**	**0.99**	**99**	P	**Pn**	**23 44 49.8**	**+0.8**
JKRS				S	**Sn**	**23 45 04.4**	**+0.6**
TWC	**Suao**	**1.01**	**282**	P	**Pn**	**23 44 49.2**	**0.0**
	baz=285						
TWC				*e*S	**Sn**	**23 45 03.3**	**-0.9**
	baz=285						
ENAH	**Nanao**	**1.03**	**273**	*e*P	**Pn**	**23 44 49.6**	**+0.1**
	baz=270						
ENAH				*e*S	**Sn**	**23 45 04.9**	**+0.4**
	baz=270						
TWB1	**Santiao Chiao**	**1.05**	**305**	*e*P	**Pn**	**23 44 49.9**	**+0.2**
	baz=295						
NANB	**Nanao**	**1.08**	**272**	*e*P	**Pn**	**23 44 50.2**	**+0.1**
	baz=269						
NANB				*e*S	**Sn**	**23 45 05.2**	**-0.5**
	baz=269						
ENA	**Nanau**	**1.09**	**272**	*e*P	**Pn**	**23 44 50.4**	**+0.3**
	baz=269						
ENA				*e*S	**Sn**	**23 45 05.3**	**-0.6**
	baz=269						
JIJ	**Ishigaki jima**	**1.10**	**92**	P	**Pn**	**23 44 50.5**	**+0.2**
JIJ				S	**Sn**	**23 45 05.8**	**-0.2**
ILA	**Ilan**	**1.14**	**289**	*e*P	**Pn**	**23 44 50.9**	**+0.1**
	baz=285						
TIPB	**Shuangxi**	**1.16**	**299**	*e*P	**Pn**	**23 44 50.1**	**-0.9**
	baz=290						
TIPB				*e*S	**Sn**	**23 45 05.3**	**-2.1**
	baz=290						
NWF	**Wu-fen Shan**	**1.25**	**303**	*e*P	**Pn**	**23 44 52.7**	**+0.7**
	baz=292						
NWF				*e*S	**Sn**	**23 45 09.3**	**+0.1**
	baz=292						
WFSB	**Wu-fen Shan**	**1.25**	**303**	*e*P	**Pn**	**23 44 52.6**	**+0.6**
	baz=293						
WFSB				*e*S	**Sn**	**23 45 09.0**	**-0.1**
	baz=293						
NACB	**Ninganchiao**	**1.25**	**260**	*e*P	**Pn**	**23 44 51.9**	**-0.1**
	baz=257						
NACB				*e*S	**Sn**	**23 45 08.0**	**-1.1**
	baz=257						
JISG	**Ishigakijimahi**	**1.26**	**81**	P	**Pn**	**23 44 52.3**	**+0.1**
JISG				S	**Sn**	**23 45 09.1**	**-0.4**
TWD	**Chiawan**	**1.27**	**256**	P	**Pn**	**23 44 52.1**	**-0.2**
	baz=253						
TWD				*e*S	**Sn**	**23 45 08.6**	**-0.9**
	baz=253						
ENTT	**Nioudou**	**1.27**	**281**	*e*P	**Pn**	**23 44 53.1**	**+0.8**
	baz=278						
ENTT				*e*S	**Sn**	**23 45 09.9**	**+0.2**
	baz=278						
HWA	**Hwalien**	**1.29**	**251**	*e*P	**Pn**	**23 44 52.8**	**+0.2**
	baz=242						
HWA				*e*S	**Sn**	**23 45 10.1**	**+0.1**
	baz=242						
ENLB	**Shoufeng**	**1.32**	**248**	*e*P	**Pn**	**23 44 52.8**	**-0.1**
	baz=240						
ENLB				*e*S	**Sn**	**23 45 10.6**	**-0.1**
	baz=240						
NWLT	**Wulai**	**1.36**	**286**	*e*P	**Pn**	**23 44 53.9**	**+0.5**
	baz=283						
NWLT				*e*S	**Sn**	**23 45 11.1**	**-0.6**
	baz=283						
NNSB	**Datong**	**1.42**	**271**	P	**Pn**	**23 44 54.5**	**+0.3**
	baz=269						
NNSB				*e*S	**Sn**	**23 45 11.7**	**-1.4**
	baz=269						
NNSH	**Datong**	**1.42**	**271**	*e*P	**Pn**	**23 44 54.5**	**+0.3**
	baz=269						
NNSH				*e*S	**Sn**	**23 45 12.6**	**-0.5**
	baz=269						
YM07	**YM07**	**1.42**	**303**	*e*P	**Pn**	**23 44 53.6**	**-0.6**
	baz=292						
YM07				*e*S	**Sn**	**23 45 11.3**	**-1.8**
	baz=292						
NNS	**Nan Shan**	**1.43**	**272**	*e*P	**Pn**	**23 44 54.8**	**+0.4**
	baz=269						
NNS				*e*S	**Sn**	**23 45 12.4**	**-0.9**
	baz=269						
TATO	**Taipei**	**1.44**	**294**	*e*P	**Pn**	**23 44 54.4**	**0.0**
	baz=283						
TATO				*e*S	**Sn**	**23 45 12.0**	**-1.3**
	baz=283						
YHNB	**Yeheng**	**1.45**	**281**	P	**Pn**	**23 44 55.3**	**+0.7**
	baz=278						
YHNB				*e*S	**Sn**	**23 45 13.1**	**-0.6**
	baz=278						
YM08	**YM08**	**1.45**	**303**	*e*P	**Pn**	**23 44 54.9**	**+0.3**
	baz=292						
YM08				*e*S	**Sn**	**23 45 13.0**	**-0.7**
	baz=292						
YM10	**YM10**	**1.46**	**301**	P	**Pn**	**23 44 55.2**	**+0.5**
	baz=292						
YM10				*e*S	**Sn**	**23 45 13.2**	**-0.7**
	baz=292						
YM04	**YM04**	**1.48**	**301**	*e*P	**Pn**	**23 44 55.6**	**+0.7**
	baz=291						
YM04				*e*S	**Sn**	**23 45 13.7**	**-0.5**
	baz=291						
YM03	**YM03**	**1.49**	**302**	*e*P	**Pn**	**23 44 55.3**	**+0.2**
	baz=288						
ESL	**Shilin**	**1.50**	**247**	*e*P	**Pn**	**23 44 54.8**	**-0.3**
	baz=240						
ESL				*e*S	**Sn**	**23 45 13.1**	**-1.5**
	baz=240						
TWS1	**Kuangyinshan**	**1.55**	**297**	*e*P	**Pn**	**23 44 56.3**	**+0.6**
	baz=287						
TWS1				*e*S	**Sn**	**23 45 15.7**	**0.0**
	baz=287						
WHF	**Hehuan Shan**	**1.55**	**261**	*e*P	**Pn**	**23 44 56.3**	**+0.1**
	baz=252						
WHF				*e*S	**Sn**	**23 45 15.9**	**-0.6**
	baz=252						
NTST	**Danshui**	**1.55**	**300**	*e*P	**Pn**	**23 44 55.9**	**+0.2**
	baz=289						
EGFH	**Guangfu**	**1.56**	**242**	P	**Pn**	**23 44 55.8**	**-0.2**
	baz=236						
EGFH				*e*S	**Sn**	**23 45 15.5**	**-0.6**
	baz=236						
TWT	**Tachien**	**1.61**	**265**	*e*P	**Pn**	**23 44 57.7**	**+0.9**
	baz=263						
TWT				*e*S	**Sn**	**23 45 17.9**	**+0.3**
	baz=263						
JTJ	**Tarama**	**1.62**	**81**	P	**Pn**	**23 44 57.0**	**+0.3**
JTJ				S	**Sn**	**23 45 17.4**	**-0.1**
TDCB	**Techi**	**1.63**	**265**	P	**Pn**	**23 44 57.9**	**+0.9**
	baz=263						
TDCB				*e*S	**Sn**	**23 45 17.5**	**-0.4**
	baz=263						
CHGB	**Renai**	**1.65**	**258**	*e*P	**Pn**	**23 44 57.6**	**+0.4**
	baz=249						
CHGB				*e*S	**Sn**	**23 45 17.9**	**-0.4**
	baz=249						
HGSD	**Ruisui**	**1.66**	**237**	*e*P	**Pn**	**23 44 56.9**	**-0.2**
	baz=235						
OWD	**Renai**	**1.67**	**255**	*e*P	**Pn**	**23 44 57.6**	**+0.2**
	baz=253						
OWD				*e*S	**Sn**	**23 45 17.8**	**-1.0**
	baz=253						
NCU	**National Centr**	**1.69**	**290**	*e*P	**Pn**	**23 45 00.5**	**+3.0**
	baz=287						
EHY	**Hungye**	**1.73**	**239**	*e*P	**Pn**	**23 44 57.8**	**-0.2**
	baz=246						
EHY				*e*S	**Sn**	**23 45 17.9**	**-2.0**
	baz=246						
LIOB	**Emei**	**1.77**	**278**	*e*P	**Pn**	**23 44 59.5**	**+0.9**
	baz=276						
LIOB				*e*S	**Sn**	**23 45 20.9**	**0.0**
	baz=276						
NSTT	**Nanjuang**	**1.78**	**278**	P	**Pn**	**23 44 59.6**	**+0.9**
	baz=275						
NSTT				*e*S	**Sn**	**23 45 21.2**	**+0.2**
	baz=275						
YULB	**Yu-li**	**1.81**	**237**	P	**Pn**	**23 44 59.1**	**0.0**
	baz=231						
TWF1	**Yuli**	**1.83**	**235**	P	**Pn**	**23 44 59.5**	**+0.1**
	baz=230						
TWF1				*e*S	**Sn**	**23 45 20.8**	**-1.5**
	baz=230						
DPDB	**Guoxing**	**1.87**	**259**	*e*P	**Pn**	**23 45 00.8**	**+0.8**
	baz=254						
DPDB				*e*S	**Sn**	**23 45 23.8**	**+0.4**
	baz=254						
SSLB	**Suanglung**	**1.91**	**252**	*e*P	**Pn**	**23 45 01.0**	**+0.5**
	baz=242						
FULB	**Fuli**	**1.93**	**232**	P	**Pn**	**23 45 00.3**	**-0.3**
	baz=224						
FULB				*e*S	**Sn**	**23 45 23.4**	**-1.0**
	baz=224						
SMLT	**Sun Moon Lake**	**1.93**	**255**	*e*P	**Pn**	**23 45 01.6**	**+0.8**
	baz=250						
SMLT				S	**Sn**	**23 45 24.8**	**0.0**
	baz=250						
CHKT	**Chengkung**	**1.94**	**228**	*e*P	**Pn**	**23 45 00.3**	**-0.5**
	baz=222						
CHKT				*e*S	**Sn**	**23 45 22.8**	**-2.0**
	baz=222						
NMLH	**Miaoli**	**1.96**	**274**	*e*P	**Pn**	**23 45 02.0**	**+0.9**
	baz=271						
TYC	**Yuchr**	**1.96**	**256**	*e*P	**Pn**	**23 45 02.0**	**+0.9**
	baz=250						
TYC				*e*S	**Sn**	**23 45 25.7**	**+0.4**
	baz=250						
TWQ1	**Liyutan**	**1.98**	**269**	*e*P	**Pn**	**23 45 02.4**	**+1.1**
	baz=275						
TWQ1				*e*S	**Sn**	**23 45 25.6**	**-0.1**
	baz=275						
YUS	**Yu-Shan**	**2.03**	**244**	*e*P	**Pn**	**23 45 03.2**	**+0.7**
	baz=242						
YUS				S	**Sn**	**23 45 26.9**	**-0.8**
	baz=242						
JIRB	**Irabujima**	**2.08**	**78**	P	**Pn**	**23 45 02.6**	**0.0**
JIRB				*e*S	**Sn**	**23 45 27.2**	**-0.8**
TCU	**Taichung**	**2.08**	**263**	*e*P	**Pn**	**23 45 03.4**	**+0.8**
	baz=271						
WJS	**Zhushan**	**2.10**	**254**	*e*P	**Pn**	**23 45 03.9**	**+1.0**
	baz=251						
WJS				*e*S	**Sn**	**23 45 30.7**	**+2.1**
	baz=251						
WNT	**Mingjian**	**2.12**	**256**	*e*P	**Pn**	**23 45 04.8**	**+1.6**
	baz=246						
ELDTW	**Lidau**	**2.13**	**236**	*e*P	**Pn**	**23 45 03.4**	**-0.1**
	baz=228						
ALS	**Alishan**	**2.14**	**246**	*e*P	**Pn**	**23 45 04.9**	**+1.1**
	baz=238						
ALS				*e*S	**Sn**	**23 45 30.2**	**+0.2**
	baz=238						
TWH	**Lutao**	**2.15**	**219**	P	**Pn**	**23 45 03.4**	**-0.2**
	baz=213						
WCHH	**Zhanghua**	**2.20**	**262**	*e*P	**Pn**	**23 45 05.3**	**+1.2**
	baz=268						
CHN5	**Tsauling**	**2.22**	**249**	*e*P	**Pn**	**23 45 06.2**	**+1.6**
	baz=240						
CHN5				*e*S	**Sn**	**23 45 32.8**	**+1.4**
	baz=240						
WDLH	**Douliu**	**2.31**	**253**	*e*P	**Pn**	**23 45 07.5**	**+1.9**
	baz=242						
WDLH				*e*S	**Sn**	**23 45 35.2**	**+1.8**
	baz=242						
TWGBT	**Beinan**	**2.32**	**228**	*e*P	**Pn**	**23 45 05.8**	**0.0**
	baz=235						
TWGBT				*e*S	**Sn**	**23 45 32.1**	**-1.7**
	baz=235						
TWG	**Pinlang**	**2.33**	**228**	*e*P	**Pn**	**23 45 05.8**	**-0.1**
	baz=235						
TWG				*e*S	**Sn**	**23 45 31.9**	**-2.0**
	baz=235						
STYT	**Tauyuan**	**2.35**	**239**	*e*P	**Pn**	**23 45 07.5**	**+1.3**
	baz=237						
STYT				*e*S	**Sn**	**23 45 35.4**	**+0.8**
	baz=237						
TPUB	**Ta-pu**	**2.38**	**243**	*e*P	**Pn**	**23 45 08.3**	**+1.6**
	baz=241						
TPUB				*e*S	**Sn**	**23 45 36.7**	**+1.5**
	baz=241						
RLNB	**Erlin**	**2.41**	**258**	*e*P	**Pn**	**23 45 08.1**	**+1.1**
	baz=256						
RLNB				*e*S	**Sn**	**23 45 37.1**	**+1.2**

ellipse: s-maj=9.6km s-min=5.6km az=52.0

ISC 12 23:49:02.4-0.6,**11°80S**-0°08×**90°69W**-0°10,**h10**km,**n386**, σ0**86**/378,**mb4.8**/82,**MS3.4**/12,**Southeast of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**11.06**	**2**	*e*Pn	**Pn**	**23 51 43.9**	**+3.0**
ATAH	**Atahualpa**	**12.98**	**70**	LR	LR	23 55 58.9	
	comp=Z,478nm,21.5s,baz=280,slow=32						
NNA	**Nana**	**13.55**	**92**	LR	LR	23 56 07.9	
	comp=Z,286nm,18.7s,baz=273,slow=31						
OTAV	**Otavalo**	**17.05**	**46**	*e*Pn	**P**	**23 53 01.9**	**-1.5**
	57nm,1.5s						
OTAV				S	**Sn**	**23 56 08.7**	**-2.9**
HORQ	**Saladito**	**20.64**	**43**	*e*P	**P**	**23 53 41.9**	**-0.8**
YOTC	**Yotoco, Valle**	**21.20**	**43**	*e*P	**P**	**23 53 47.8**	**-0.8**
MNMC	**Minye Minye**	**21.58**	**112**	*e*P	**P**	**23 53 54.4**	**+1.5**
	61nm,1.3s						
PB11	**IPOC Station P**	**21.72**	**114**	*e*P	**P**	**23 53 56.5**	**+2.3**
	48nm,1.1s						
PRAC	**Prado**	**22.01**	**46**	*e*P	**P**	**23 53 59.1**	**+1.9**
	34nm,1.2s						
PB01	**IPOC Station P**	**22.30**	**117**	*e*P	**P**	**23 54 03.0**	**+2.7**
	149nm,1.8s						
LPAZ	**La Paz**	**22.33**	**104**	P	**P**	**23 54 03.5**	**+2.2**
	8.6nm,0.9s,baz=284,slow=9.2,SNR=21						
LPAZ				LR	LR	00 01 13.3	
	comp=Z,74nm,19.4s,baz=260,slow=32						
LPAZ	**La Paz**	**22.33**	**104**	*e*P	**P**	**23 54 03.4**	**+2.2**
	18nm,1.1s						
RREF	**El Recreo**	**22.54**	**43**	*e*P	**P**	**23 54 03.9**	**+0.3**
ROSC	**El Rosal**	**23.20**	**45**	P	**P**	**23 54 11.7**	**+1.5**
	3.9nm,0.3s,baz=233,slow=20,SNR=12						
ROSC				LR	LR	00 01 55.5	
	comp=Z,72nm,18.2s,baz=256,slow=33						
ROSC	**El Rosal**	**23.20**	**45**	*e*P	**P**	**23 54 15.0**	**+4.8**
RPN	**Rapa Nui**	**23.22**	**226**	LR	LR	00 00 39.4	
	comp=Z,202nm,20.2s,baz=76,slow=30						
HELC	**Santa Helena**	**23.39**	**41**	*e*P	**P**	**23 54 11.8**	**-0.2**
	97nm,1.7s						
PTBC	**PUERTO BERRIO,**	**24.35**	**42**	*e*P	**P**	**23 54 22.4**	**+1.6**
RUSC	**La Rusia**	**24.81**	**46**	*e*P	**P**	**23 54 26.6**	**+1.1**
	9.4nm,1.1s						
RUSC	**La Rusia**	**24.81**	**46**	*e*P	**P**	**23 54 26.7**	**+1.1**
BARC	**Barichara**	**25.24**	**44**	*e*P	**P**	**23 54 30.2**	**+1.0**
BRRC	**Barranca, Sant**	**25.26**	**43**	*e*P	**P**	**23 54 28.9**	**-0.2**
SAML	**Samuel**	**27.20**	**87**	*e*P	**P**	**23 54 46.7**	**0.0**
	16nm,1.1s						
SDV	**Santo Domingo**	**28.64**	**45**	P	**P**	**23 55 01.4**	**+1.7**
	1.9nm,0.6s,baz=249,slow=14,SNR=3.0						
SDV				LR	LR	00 05 07.3	
	comp=Z,98nm,18.3s,baz=238,slow=34						
CMIG	**Matias Romero**	**29.00**	**352**	LR	LR	00 03 60.0	
	comp=Z,320nm,19.8s,baz=212,slow=31						
SIV	**San Ignacio**	**29.04**	**102**	P	**P**	**23 55 04.7**	**+1.6**
	2.2nm,1.0s,baz=287,slow=15,SNR=6.4						
PTGA	**Pitinga**	**32.41**	**72**	*e*P	**P**	**23 55 31.8**	**-1.1**
	19nm,1.3s						
PLCA	**Paso Flores**	**33.83**	**152**	P	**P**	**23 55 45.8**	**+0.7**
	4.4nm,1.1s,baz=327,slow=12,SNR=3.6						
PLCA				LR	LR	00 07 15.6	
	comp=Z,47nm,18.3s,baz=3.5,slow=32						
PLCA	**Paso Flores**	**33.83**	**152**	*e*P	**P**	**23 55 45.8**	**+0.7**
	27nm,1.5s						
CPUP	**Villa Florida**	**34.56**	**120**	P	**P**	**23 55 53.7**	**+2.3**
	5.9nm,1.0s,baz=292,slow=8.8,SNR=6.7						
CPUP	**Villa Florida**	**34.56**	**120**	*e*P	**P**	**23 55 50.8**	**-0.7**
	7.2nm,1.0s						
553A	**Crawfordville**	**42.18**	**8**	P	**P**	**23 56 56.7**	**+1.3**
	baz=189						
TXAR	**Lajitas Array**	**42.77**	**343**	P	**P**	**23 57 00.6**	**+0.2**
	1.5nm,1.0s,baz=162,slow=10,SNR=6.8						
TXAR				LR	LR	00 11 51.5	
	comp=Z,56nm,19.1s,baz=0.0,slow=32						
TX31	**Lajitas Ar. Si**	**42.77**	**343**	*e*P	**P**	**23 57 01.4**	**+1.0**
435B	**Jarrell**	**42.85**	**351**	*e*P	**P**	**23 57 01.0**	**0.0**
	12nm,1.1s						
JCT	**Junction City**	**42.94**	**348**	P	**P**	**23 57 02.7**	**+1.0**
	baz=167						
JCT	**Junction City**	**42.94**	**348**	*e*P	**P**	**23 57 01.7**	**0.0**
	11nm,0.9s						
342A	**Flagon Creek P**	**42.96**	**358**	P	**P**	**23 57 03.2**	**+1.5**
	baz=178						
344A	**Westbrook Farm**	**43.01**	**360**	P	**P**	**23 57 03.9**	**+1.7**
	baz=180						
352A	**Blakely**	**43.39**	**7**	P	**P**	**23 57 06.1**	**+0.9**
	baz=188						
NATX	**Nacogdoches**	**43.48**	**355**	P	**P**	**23 57 06.9**	**+0.9**
	baz=174						
NATX	**Nacogdoches**	**43.48**	**355**	*e*P	**P**	**23 57 06.8**	**+0.8**
	43nm,1.4s						
245A	**Little AP, Sta**	**43.59**	**1**	P	**P**	**23 57 07.8**	**+0.9**
	baz=181						
244A	**Avery, Jackson**	**43.59**	**0**	P	**P**	**23 57 08.2**	**+1.3**
	baz=180						
247A	**Quitman**	**43.65**	**3**	P	**P**	**23 57 08.4**	**+1.1**
	baz=183						
249A	**Camden**	**43.66**	**4**	P	**P**	**23 57 08.5**	**+1.1**
	baz=185						
240A	**Hunter Patters**	**43.69**	**356**	P	**P**	**23 57 09.0**	**+1.3**
	baz=176						
VBMS	**Vicksburg**	**43.77**	**0**	*e*P	**P**	**23 57 08.9**	**+0.6**
	29nm,0.9s						
251A	**Midway**	**43.94**	**6**	P	**P**	**23 57 10.0**	**+0.3**
	baz=188						
149A	**Jones**	**44.30**	**5**	P	**P**	**23 57 13.3**	**+0.7**
	baz=186						
151A	**Opelika**	**44.37**	**6**	P	**P**	**23 57 13.7**	**+0.5**
	baz=188						
150A	**Eclectic**	**44.38**	**6**	P	**P**	**23 57 13.9**	**+0.7**
	baz=187						
LRAL	**Lakeview Retre**	**44.72**	**4**	P	**P**	**23 57 16.7**	**+0.8**
	baz=185						
LRAL	**Lakeview Retre**	**44.72**	**4**	*e*P	**P**	**23 57 16.1**	**+0.2**
	23nm,1.2s						
Z49A	**Columbiana**	**44.92**	**5**	P	**P**	**23 57 18.1**	**+0.6**
	baz=186,SNR=5.7						
ABTX	**Abilene, Hawle**	**44.99**	**349**	P	**P**	**23 57 18.9**	**+0.7**
	baz=168						
ABTX	**Abilene, Hawle**	**44.99**	**349**	*e*P	**P**	**23 57 18.9**	**+0.7**
	18nm,1.3s						
Z48A	**Northport**	**45.02**	**4**	P	**P**	**23 57 18.8**	**+0.5**
	baz=184						
Z50A	**Ashland**	**45.03**	**6**	P	**P**	**23 57 18.8**	**+0.3**
	baz=187						
Y45A	**Yeager Farm, C**	**45.42**	**1**	P	**P**	**23 57 21.7**	**+0.2**
	baz=182						
Y46A	**Houston**	**45.46**	**2**	P	**P**	**23 57 22.4**	**+0.6**
	baz=183						
Y41A	**Eaglette Beard**	**45.46**	**358**	P	**P**	**23 57 22.8**	**+1.0**
	baz=178						
MNTX	**Cornudas Mount**	**45.49**	**342**	P	**P**	**23 57 23.5**	**+1.5**
	baz=160						
MNTX	**Cornudas Mount**	**45.49**	**342**	*e*P	**P**	**23 57 22.3**	**+0.2**
	15nm,1.8s						
Y47A	**UCPARC, Winfie**	**45.53**	**3**	P	**P**	**23 57 22.8**	**+0.5**
	baz=184						
Y48A	**Jasper**	**45.58**	**4**	P	**P**	**23 57 23.2**	**+0.4**
	baz=185						
Y49A	**Blount Mountai**	**45.59**	**5**	P	**P**	**23 57 22.9**	**+0.1**
	baz=186						
Y40A	**Okolona**	**45.62**	**357**	P	**P**	**23 57 23.7**	**+0.6**
	baz=177						
Y50A	**Piedmont**	**45.68**	**6**	P	**P**	**23 57 23.8**	**+0.3**
	baz=187						
X45A	**UM Field Stati**	**45.98**	**1**	P	**P**	**23 57 25.9**	**0.0**
	baz=182						
OXF	**Oxford**	**46.07**	**1**	P	**P**	**23 57 27.0**	**+0.3**
	baz=182						
OXF	**Oxford**	**46.07**	**1**	*e*P	**P**	**23 57 26.5**	**-0.1**
	18nm,1.0s						
X48A	**Hartselle**	**46.13**	**4**	P	**P**	**23 57 27.5**	**+0.4**
	baz=185						
X47A	**Russelville**	**46.14**	**3**	P	**P**	**23 57 27.6**	**+0.5**
	baz=184						
X46A	**Booneville**	**46.14**	**2**	P	**P**	**23 57 27.5**	**+0.3**
	baz=183						
X39A	**Fountain Ranch**	**46.17**	**356**	P	**P**	**23 57 28.1**	**+0.7**
	baz=176						
MIAR	**Mount Ida**	**46.17**	**357**	P	**P**	**23 57 28.0**	**+0.6**
	baz=176						
MIAR	**Mount Ida**	**46.17**	**357**	*e*P	**P**	**23 57 27.3**	**-0.1**
	10nm,1.2s						
X49A	**Woodville**	**46.24**	**5**	P	**P**	**23 57 28.6**	**+0.7**
	baz=186						
X50A	**Fort Payne**	**46.25**	**6**	P	**P**	**23 57 28.6**	**+0.5**
	baz=187						
HODGE	**Hodges**	**46.47**	**10**	*e*P	**P**	**23 57 29.4**	**-0.4**
	11nm,1.2s						
PLAL	**Pickwick Lake**	**46.59**	**3**	*e*P	**P**	**23 57 30.3**	**-0.4**
	14nm,1.3s						
W41B	**Gary Mavity, V**	**46.74**	**358**	P	**P**	**23 57 32.3**	**+0.5**
	baz=178,SNR=5.2						
W41B	**Gary Mavity, V**	**46.74**	**358**	*e*P	**P**	**23 57 32.0**	**+0.2**
	19nm,1.4s						
X301	**Greenbrier Sit**	**46.81**	**358**	*e*P	**P**	**23 57 33.5**	**+1.1**
W48A	**Pulaski**	**46.82**	**4**	P	**P**	**23 57 33.0**	**+0.5**
	baz=185,SNR=6.1						
W39A	**Magazine**	**46.83**	**357**	P	**P**	**23 57 33.5**	**+0.9**
	baz=176,SNR=6.6						
W39A	**Magazine**	**46.83**	**357**	*e*P	**P**	**23 57 32.6**	**+0.1**
	19nm,1.3s						
WHAR	**Wooly Hollow**	**46.86**	**358**	*e*P	**P**	**23 57 33.8**	**+1.0**
	22nm,1.2s						
W47A	**Westpoint**	**46.89**	**3**	P	**P**	**23 57 33.3**	**+0.3**
	baz=184						
WMOK	**Wichita Mounta**	**46.91**	**351**	P	**P**	**23 57 33.5**	**+0.3**
	baz=169						
WMOK	**Wichita Mounta**	**46.91**	**351**	*e*P	**P**	**23 57 33.7**	**+0.4**
	12nm,1.4s						
MSTX	**Muleshoe**	**46.95**	**346**	P	**P**	**23 57 34.3**	**+0.7**
	baz=164						
MSTX	**Muleshoe**	**46.95**	**346**	*e*P	**P**	**23 57 34.5**	**+0.8**
	30nm,1.5s						
121A	**Cooks Peak, D**	**47.02**	**340**	P	**P**	**23 57 35.6**	**+1.3**
	baz=157						
V41A	**Mountainview**	**47.35**	**358**	P	**P**	**23 57 37.2**	**+0.6**
	baz=178,SNR=14						
V42A	**Cord**	**47.35**	**359**	P	**P**	**23 57 36.3**	**-0.3**
	baz=179						
CPCT	**Cooper Cave**	**47.35**	**7**	*e*P	**P**	**23 57 36.7**	**0.0**
	23nm,1.3s						
V40A	**Witts Springs**	**47.39**	**358**	P	**P**	**23 57 37.4**	**+0.4**
	baz=177,SNR=5.7						
V40A	**Witts Springs**	**47.39**	**358**	*e*P	**P**	**23 57 37.8**	**+0.8**
	11nm,1.1s						
V46A	**Holladay**	**47.41**	**3**	P	**P**	**23 57 36.9**	**-0.1**
	baz=184,SNR=9.7						
OK022	**N3560 Road, Pr**	**47.42**	**353**	*e*P	**P**	**23 57 37.4**	**+0.3**
V48A	**Smith Brothers**	**47.42**	**4**	P	**P**	**23 57 37.6**	**+0.4**
	baz=185						
V39A	**Pettigrew**	**47.46**	**357**	P	**P**	**23 57 38.0**	**+0.5**
	baz=176,SNR=8.0						
V47A	**Nunnelly**	**47.46**	**3**	P	**P**	**23 57 37.3**	**-0.2**
	baz=184,SNR=5.3						
OK021	**N3530 Road, Sp**	**47.49**	**353**	*e*P	**P**	**23 57 37.3**	**-0.4**
KMSC	**Kings Mountain**	**47.52**	**10**	P	**P**	**23 57 38.1**	**+0.1**
	baz=192						
KMSC	**Kings Mountain**	**47.52**	**10**	*e*P	**P**	**23 57 38.0**	**+0.1**
	11nm,1.0s						
TKL	**Tuckaleechee C**	**47.65**	**8**	P	**P**	**23 57 39.1**	**+0.1**
	7.2nm,1.1s,baz=175,slow=8.4,SNR=5.5						
TKL				LR	LR	00 14 04.0	
	comp=Z,35nm,20.9s,baz=307,slow=32						
TKL	**Tuckaleechee C**	**47.65**	**8**	*e*P	**P**	**23 57 39.8**	**+0.8**
	16nm,1.1s						
TUL1	**Leonard**	**47.70**	**354**	P	**P**	**23 57 39.2**	**-0.1**
	baz=173						
TUL1	**Leonard**	**47.70**	**354**	*e*P	**P**	**23 57 38.7**	**-0.6**
	12nm,0.9s						
WVT	**Waverly**	**47.75**	**3**	P	**P**	**23 57 39.7**	**0.0**
	baz=184						
WVT	**Waverly**	**47.75**	**3**	*e*P	**P**	**23 57 38.4**	**-1.3**
	21nm,1.4s						
TUC	**Tucson**	**47.89**	**337**	*e*P	**P**	**23 57 41.7**	**+0.7**
	4.6nm,1.0s						
U42A	**Revenden**	**47.89**	**359**	P	**P**	**23 57 41.0**	**+0.2**
	baz=179,SNR=5.0						
U41A	**Viola**	**47.90**	**359**	P	**P**	**23 57 41.0**	**+0.2**
	baz=178						
HHAR	**Hobbs**	**47.92**	**356**	*e*P	**P**	**23 57 40.9**	**-0.1**
	12nm,1.1s						
U40A	**Yellville**	**47.94**	**358**	P	**P**	**23 57 41.7**	**+0.5**
	baz=177,SNR=9.0						
U39A	**Green Forest**	**47.99**	**357**	P	**P**	**23 57 42.1**	**+0.5**
	baz=176,SNR=9.1						
TZTN	**Tazewell**	**48.55**	**8**	P	**P**	**23 57 45.9**	**0.0**
	baz=189						
T42A	**Van Buren**	**48.57**	**360**	P	**P**	**23 57 45.9**	**-0.2**
	baz=180,SNR=9.7						
T41A	**Mountain View**	**48.59**	**359**	P	**P**	**23 57 46.6**	**+0.3**
	baz=179,SNR=9.5						
T43A	**Greenville**	**48.62**	**0**	P	**P**	**23 57 46.5**	**+0.1**
	baz=181						
T39A	**Clever**	**48.63**	**357**	P	**P**	**23 57 46.9**	**+0.4**
	baz=177,SNR=5.9						
T47A	**Sharon Grove**	**48.64**	**4**	P	**P**	**23 57 46.9**	**+0.3**
	baz=185						
T46A	**Princeton**	**48.65**	**3**	P	**P**	**23 57 46.9**	**+0.2**
	baz=184						
T38A	**Diamond**	**48.69**	**356**	P	**P**	**23 57 47.3**	**+0.3**
	baz=176,SNR=11						
T40A	**Mansfield**	**48.72**	**358**	P	**P**	**23 57 47.3**	**+0.1**
	baz=178,SNR=6.1						
T48A	**Bowling Green**	**48.82**	**5**	P	**P**	**23 57 48.0**	**+0.1**
	baz=186						
ANMO	**Albuquerque**	**48.84**	**343**	P	**P**	**23 57 47.6**	**-0.8**
	4.0nm,1.2s,baz=141,slow=14,SNR=3.8						
S43A	**Fulton Ridge,**	**49.11**	**1**	P	**P**	**23 57 49.8**	**-0.5**
	baz=181						
S40A	**Lebanon**	**49.17**	**358**	P	**P**	**23 57 50.6**	**0.0**
	baz=178,SNR=5.8						
S44A	**Carbondale**	**49.25**	**2**	P	**P**	**23 57 51.0**	**-0.2**
	baz=182						
S45A	**Carrier Mills**	**49.26**	**2**	P	**P**	**23 57 51.2**	**-0.1**
	baz=183						
S38A	**Stockton**	**49.26**	**357**	P	**P**	**23 57 51.5**	**+0.1**
	baz=176,SNR=6.9						
S39A	**Bolivar**	**49.29**	**357**	P	**P**	**23 57 51.9**	**+0.3**
	baz=177,SNR=8.7						
S46A	**Don Dixon Farm**	**49.30**	**3**	P	**P**	**23 57 51.6**	**0.0**
	baz=184						
S42A	**Caledonia**	**49.31**	**360**	P	**P**	**23 57 51.6**	**-0.2**
	baz=180						
S48A	**Wiedeman Farm,**	**49.39**	**5**	P	**P**	**23 57 52.0**	**-0.3**
	baz=186						
FVM	**French Village**	**49.52**	**0**	*e*P	**P**	**23 57 52.9**	**-0.5**
	35nm,1.9s						
X18A	**Snowflake**	**49.57**	**339**	*e*P	**P**	**23 57 54.7**	**+0.7**
	9.9nm,1.6s						
USIN	**University of**	**49.58**	**3**	*e*P	**P**	**23 57 53.9**	**+0.1**
	39nm,1.2s						
CCM	**Cathedral Cave**	**49.60**	**359**	P	**P**	**23 57 53.7**	**-0.2**
	baz=179						
CCM	**Cathedral Cave**	**49.60**	**359**	*e*P	**P**	**23 57 53.8**	**-0.1**
	17nm,1.4s						
BLA	**Blacksburg**	**49.70**	**11**	P	**P**	**23 57 54.7**	**-0.1**
	baz=193						
R44A	**Waltonville**	**49.81**	**2**	P	**P**	**23 57 55.5**	**0.0**
	baz=182						
R42A	**Luebbering**	**49.82**	**360**	P	**P**	**23 57 55.7**	**+0.2**
	baz=180						
R43A	**Red Bud**	**49.82**	**1**	P	**P**	**23 57 55.6**	**+0.1**
	baz=181						
R46A	**Gibson Southern**	**49.84**	**3**	P	**P**	**23 57 55.9**	**+0.1**
	baz=184						
R40A	**Maddies Statio**	**49.85**	**358**	P	**P**	**23 57 55.8**	**0.0**
	baz=178,SNR=8.3						
R45A	**Skylar, Fairfi**	**49.88**	**2**	P	**P**	**23 57 56.3**	**+0.2**
	baz=183						
R39A	**Chumby, Stover**	**49.90**	**358**	P	**P**	**23 57 56.2**	**0.0**
	baz=177,SNR=5.9						
WCI	**Wyandotte Cave**	**49.94**	**5**	P	**P**	**23 57 56.4**	**-0.1**
	baz=186						
R47A	**Wooly Knot Far**	**49.98**	**4**	P	**P**	**23 57 56.6**	**-0.3**
	baz=185						
W18A	**Petrified Fore**	**50.03**	**340**	P	**P**	**23 57 58.7**	**+1.2**
	baz=156						
W18A	**Petrified Fore**	**50.03**	**340**	*e*P	**P**	**23 57 57.8**	**+0.2**
	7.1nm,1.0s						
R35A	**Emporia Munici**	**50.13**	**354**	P	**P**	**23 57 58.3**	**+0.4**
	baz=173						
R48A	**Northridge Ran**	**50.14**	**5**	P	**P**	**23 57 58.1**	**+0.1**
	baz=186						
SLM	**Saint Louis**	**50.17**	**0**	*e*P	**P**	**23 57 58.0**	**-0.3**
	61nm,1.5s						
R34A	**Isabella, Hill**	**50.21**	**353**	P	**P**	**23 57 59.2**	**+0.6**
	baz=172						
T25A	**Trinidad**	**50.36**	**346**	*e*P	**P**	**23 57 57.1**	**-2.9**
	11nm,1.3s						
IKP	**In-Ko-Pah, Jac**	**50.44**	**332**	P	**P**	**23 58 02.3**	**+1.8**
	baz=147						
Q42A	**Golden Eagle**	**50.45**	**0**	P	**P**	**23 58 00.5**	**+0.1**
	baz=180						
Q44A	**Meyer Farm, Va**	**50.46**	**2**	P	**P**	**23 58 00.3**	**-0.2**
	baz=182						
Q45A	**Warren Harvey,**	**50.49**	**3**	P	**P**	**23 58 00.6**	**-0.1**
	baz=183,SNR=7.0						
Q41A	**Truxton**	**50.49**	**359**	P	**P**	**23 58 00.9**	**+0.2**
	baz=179,SNR=11						
Q40A	**Laux Farm, Aux**	**50.55**	**359**	P	**P**	**23 58 01.1**	**0.0**
	baz=178						
Q38A	**Cooks Store, C**	**50.57**	**357**	P	**P**	**23 58 01.5**	**+0.2**
	baz=176,SNR=8.3						
Q39A	**Willow Grove F**	**50.63**	**358**	P	**P**	**23 58 01.6**	**-0.1**
	baz=177,SNR=12						
Q47A	**Bedord North L**	**50.63**	**4**	P	**P**	**23 58 01.4**	**-0.3**
	baz=186						
Q34A	**Chapman**	**50.79**	**354**	P	**P**	**23 58 03.2**	**+0.2**
	baz=172						
KSU1	**Kansas State U**	**50.94**	**354**	*e*P	**P**	**23 58 03.8**	**-0.3**
	20nm,1.3s						
WUAZ	**Wupatki**	**50.97**	**338**	P	**P**	**23 58 05.9**	**+1.4**
	baz=154						
BC3	**Big Chuckawall**	**50.99**	**333**	P	**P**	**23 58 06.3**	**+1.7**
	baz=148						
P44A	**Sand Creek, Wi**	**51.04**	**2**	P	**P**	**23 58 04.8**	**0.0**
	baz=183						
CBKS	**Cedar Bluff**	**51.05**	**351**	*e*P	**P**	**23 58 04.7**	**-0.3**
	14nm,0.9s						
P39B	**Salisbury**	**51.06**	**358**	P	**P**	**23 58 04.9**	**-0.1**
	baz=178						
P40A	**Paris**	**51.08**	**359**	P	**P**	**23 58 04.9**	**-0.2**
	baz=178						
DPP	**Dos Picos Cty**	**51.11**	**331**	*e*P	**P**	**23 58 06.3**	**+0.7**
P42A	**Winchester**	**51.12**	**0**	P	**P**	**23 58 05.3**	**-0.1**
	baz=181						
P45A	**Graceland, Par**	**51.14**	**3**	P	**P**	**23 58 05.3**	**-0.3**
	baz=184						
P43A	**Skaggs, Pawnee**	**51.19**	**1**	P	**P**	**23 58 05.7**	**-0.2**
	baz=182						
P47A	**Martinsville**	**51.19**	**4**	P	**P**	**23 58 05.5**	**-0.5**
	baz=186						
P41A	**Barry, Barry**	**51.21**	**360**	P	**P**	**23 58 06.0**	**-0.1**
	baz=180						
P38A	**Dawn**	**51.23**	**357**	P	**P**	**23 58 06.1**	**-0.1**
	baz=177						
P37A	**Lathrop**	**51.24**	**356**	P	**P**	**23 58 05.7**	**-0.6**
	baz=176						
IRM	**Iron Mountain**	**51.28**	**334**	P	**P**	**23 58 08.2**	**+1.4**
	baz=149						
P36A	**Good Intent, A**	**51.33**	**356**	P	**P**	**23 58 06.7**	**-0.2**
	baz=174						
PFO	**Pinyon Flats O**	**51.40**	**332**	P	**P**	**23 58 09.3**	**+1.5**
	baz=147						
O41A	**Passleys Farm,**	**51.65**	**360**	P	**P**	**23 58 09.1**	**-0.2**
	baz=180						
O40A	**La Belle**	**51.67**	**359**	P	**P**	**23 58 09.2**	**-0.3**
	baz=179,SNR=14						
O44A	**Mansfield**	**51.73**	**2**	P	**P**	**23 58 09.7**	**-0.3**
	baz=183						
KSCO	**Kaye Shedlock'**	**51.76**	**348**	*e*P	**P**	**23 58 10.9**	**+0.5**
	7.9nm,0.8s						
O37A	**Wolven Farm, M**	**51.80**	**357**	P	**P**	**23 58 10.0**	**-0.5**
	baz=176						
O45A	**Potomac**	**51.86**	**3**	P	**P**	**23 58 10.2**	**-0.7**
	baz=184						
O47A	**Sheridan**	**51.94**	**4**	P	**P**	**23 58 10.8**	**-0.7**
	baz=186						
O33A	**Hebron**	**52.01**	**353**	P	**P**	**23 58 11.9**	**-0.2**
	baz=172						
O34A	**Beatrice**	**52.02**	**354**	P	**P**	**23 58 12.1**	**-0.1**
	baz=173						
SFIN	**Lafayette**	**52.02**	**3**	P	**P**	**23 58 11.2**	**-0.9**
	baz=185						
HDIL	**Hopedale**	**52.11**	**1**	P	**P**	**23 58 12.6**	**-0.2**
	baz=182						
HDIL	**Hopedale**	**52.11**	**1**	*e*P	**P**	**23 58 11.9**	**-0.9**
	24nm,1.2s						
CIS	**Catalina Islan**	**52.14**	**330**	P	**P**	**23 58 15.5**	**+2.3**
	baz=145						
N41A	**Harden Midland**	**52.24**	**360**	P	**P**	**23 58 13.3**	**-0.5**
	baz=180						
ACSO	**Alum Creek Sta**	**52.26**	**7**	P	**P**	**23 58 14.2**	**+0.3**
	baz=190,SNR=7.3						
ACSO	**Alum Creek Sta**	**52.26**	**7**	*e*P	**P**	**23 58 14.7**	**+0.8**
	32nm,1.0s						
HEC	**Hector,Ludlow**	**52.37**	**333**	P	**P**	**23 58 16.5**	**+1.5**
	baz=148						
N42A	**Yates City**	**52.37**	**1**	P	**P**	**23 58 14.3**	**-0.4**
	baz=181						
N38A	**Joes South For**	**52.38**	**358**	P	**P**	**23 58 14.3**	**-0.5**
	baz=177						
N44A	**Piper City**	**52.38**	**2**	P	**P**	**23 58 14.3**	**-0.5**
	baz=183						
MTLAZ	**Mount Logan**	**52.39**	**337**	*e*P	**P**	**23 58 17.0**	**+1.7**
N37A	**Lee Faris, Mou**	**52.39**	**357**	P	**P**	**23 58 14.5**	**-0.4**
	baz=176						
N40A	**Mertquake, Sal**	**52.42**	**359**	P	**P**	**23 58 14.7**	**-0.4**
	baz=179						
N39A	**Derby Farms, D**	**52.44**	**358**	P	**P**	**23 58 14.6**	**-0.6**
	baz=178						
N45A	**Kentland**	**52.46**	**3**	P	**P**	**23 58 14.6**	**-0.9**
	baz=184						
BFSC	**Mount Baldy Ra**	**52.47**	**332**	P	**P**	**23 58 18.0**	**+2.2**
	baz=146						
N35A	**Tabor**	**52.59**	**355**	P	**P**	**23 58 16.3**	**-0.1**
	baz=174						
N34A	**Lincoln**	**52.65**	**354**	P	**P**	**23 58 16.8**	**0.0**
	baz=173						
TUQ	**Turquoise Moun**	**52.70**	**334**	P	**P**	**23 58 19.4**	**+1.9**
	baz=149						
PV04	**Paradox Valley**	**52.76**	**342**	*e*P	**P**	**23 58 19.0**	**+1.1**
	31nm,1.1s						
M41A	**Milan**	**52.91**	**0**	P	**P**	**23 58 18.0**	**-0.7**
	baz=180,SNR=5.6						
M40A	**Post Highland**	**52.94**	**359**	P	**P**	**23 58 18.5**	**-0.4**
	baz=179						
M44A	**Midewin, Midew**	**52.98**	**2**	P	**P**	**23 58 18.6**	**-0.6**
	baz=183						
M43A	**Waltham Townsh**	**52.99**	**2**	P	**P**	**23 58 18.8**	**-0.5**
	baz=182						
M38A	**

baz=183
N23A **Red Feather La** 54.30 346 P P 23 58 29.0 -0.3
baz=162
K42A **Prairie Point,** 54.33 1 P P 23 58 28.4 -0.7
baz=182
WLHM **Little Horse** 54.35 332 *e*P P 23 58 30.4 +0.6
K37A **Belmond** 54.37 357 P P 23 58 28.6 -0.8
baz=177
K33A **Hardington** 54.45 354 P P 23 58 30.0 0.0
baz=173
JFWS **Jewell Farm** 54.45 0 P P 23 58 29.2 -0.7
baz=181
ERPA **Erie** 54.55 10 P P 23 58 30.5 -0.2
baz=193
ERPA **Erie** 54.55 10 *e*P P 23 58 30.7 0.0
31nm,1.2s
K32A **Verdigre** 54.60 353 P P 23 58 31.2 0.0
baz=171
J42A **Columbus** 54.87 1 P P 23 58 32.3 -0.7
baz=182
J38A **Wedel Dairy, R** 54.88 358 P P 23 58 32.4 -0.7
baz=178
J41A **Loganville** 54.90 1 P P 23 58 32.7 -0.5
baz=181
J37A **Redenius Farm,** 54.91 357 P P 23 58 33.1 -0.2
baz=177
J40A **Soldiers Grove** 54.93 360 P P 23 58 33.5 +0.1
baz=180
J36A **Seneca 1, Swea** 54.96 357 P P 23 58 33.4 -0.4
baz=176
R11A **Troy Canyon, C** 55.06 336 P P 23 58 35.6 +0.9
baz=150
I39A **Houston** 55.39 359 P P 23 58 36.0 -0.8
baz=179
BINY **Binghamton** 55.41 13 P P 23 58 36.2 -0.8
baz=198
I40A **Norwalk** 55.42 0 P P 23 58 36.6 -0.5
baz=180
I42A **Draeger Farm,** 55.45 2 P P 23 58 36.5 -0.7
baz=182
I43A **Langenfeld Bro** 55.47 2 P P 23 58 36.7 -0.7
baz=183
ECSD **EROS Data Cent** 55.53 355 P P 23 58 37.4 -0.4
baz=179
ECSD **EROS Data Cent** 55.53 355 *e*P P 23 58 37.6 -0.2
6.6nm,1.1s
JLU **Jordanelle** 55.57 341 *e*P P 23 58 38.2 -0.2
3.1nm,0.8s
I38A **Scanlan Farm,** 55.59 359 P P 23 58 38.0 -0.3
baz=178
I41A **Arkdale** 55.60 1 P P 23 58 37.6 -0.6
baz=181
I37A **Lemond, Waseca** 55.60 358 P P 23 58 38.0 -0.3
baz=177
DUG **Dugway, Tooele** 55.66 340 P P 23 58 39.1 +0.2
baz=154
H37A **Dierke Farm, C** 56.15 358 P P 23 58 41.4 -0.8
baz=178
H40A **Chili** 56.15 0 P P 23 58 41.5 -0.7
baz=180
H41A **Junction City** 56.16 1 P P 23 58 41.3 -1.0
baz=181
H36A **Jessenland, He** 56.19 357 P P 23 58 41.9 -0.6
baz=176
H39A **Augusta** 56.21 359 P P 23 58 41.7 -0.9
baz=179
H38A **Maiden Rock** 56.23 359 P P 23 58 42.1 -0.6
baz=178
NV01 **Mina Array Sit** 56.24 334 *e*P P 23 58 43.4 0.0
NVAR **Mina Array Bea** 56.24 334 P P 23 58 43.4 0.0
2.0nm,0.9s,baz=148,slow=6.9,SNR=6.7
H35A **Sunnyside Ranc** 56.35 356 P P 23 58 42.9 -0.8
baz=175
H32A **Carlson Farm,** 56.37 354 P P 23 58 43.5 -0.3
baz=172
H34A **Spellman Lake,** 56.39 356 P P 23 58 43.4 -0.5
baz=174
H33A **Prehn Over Nor** 56.48 355 P P 23 58 44.1 -0.5
baz=173
G38A **Ridgeland** 56.71 359 P P 23 58 45.1 -1.1
baz=179
G41A **Antigo** 56.76 1 P P 23 58 45.7 -0.9
baz=182
SPMN **Marine on St.** 56.79 358 P P 23 58 46.2 -0.6
baz=178
SPMN **Marine on St.** 56.79 358 *e*P P 23 58 45.8 -1.0
29nm,1.6s
G40A **Rib Lake** 56.80 0 P P 23 58 46.4 -0.5
baz=181
G39A **Holcombe** 56.82 360 P P 23 58 46.7 -0.3
baz=180
G36A **St. Michael** 56.83 357 P P 23 58 47.0 0.0
baz=177
RSSD **Black Hills** 56.96 349 *e*P P 23 58 48.4 +0.1
14nm,1.7s
BW06 **Boulder Array** 56.99 344 P P 23 58 48.8 +0.3
baz=158
PD31 **Pinedale Array** 56.99 344 *e*P P 23 58 49.3 +0.7
PDAR **Pinedale Array** 56.99 344 P P 23 58 47.5 -1.0
2.3nm,1.1s,baz=142,slow=5.1,SNR=8.3
PDAR LR LR 00 21 15.6
comp=Z,60nm,19.9s,baz=272,slow=34
PDAR **Pinedale Array** 56.99 344 *e*P P 23 58 47.6 -0.9
HVU **Hansel Valley** 57.06 340 *e*P P 23 58 47.8 -1.2
5.3nm,1.5s
SADO **Sadowa** 57.27 10 P P 23 58 49.5 -0.7
6.2nm,0.9s,baz=204,slow=6.2,SNR=3.7
F37A **Hinrichs Farm,** 57.28 358 P P 23 58 49.7 -0.5
baz=178
F39A **Loretta** 57.45 360 P P 23 58 51.0 -0.4
baz=180
F36A **Milaca** 57.45 358 P P 23 58 50.8 -0.7
baz=177
F43A **Flat Rock, Esc** 57.45 3 P P 23 58 50.9 -0.5
baz=184
F40A **Park Falls** 57.45 0 P P 23 58 50.8 -0.6
baz=181
F34A **Alexandria** 57.48 356 P P 23 58 51.4 -0.2
baz=175
F35A **Swanville** 57.50 357 P P 23 58 51.4 -0.4
baz=176
F38A **Pierce - Schro** 57.50 359 P P 23 58 51.4 -0.4
baz=179
F46A **Macinaw City C** 57.55 5 P P 23 58 52.1 -0.1
baz=187
F33A **5 Mile Ranch,** 57.59 355 P P 23 58 51.9 -0.6
baz=174
F44A **Big Bay de Noc** 57.63 4 P P 23 58 52.6 -0.1
baz=185
FFD **Franklin Falls** 57.69 16 *e*P P 23 58 52.2 -1.0
34nm,1.5s
E39A **Mellen** 57.91 0 P P 23 58 54.5 -0.1
baz=180
E40A **Wakefield** 57.98 1 P P 23 58 54.8 -0.4
baz=181
E43A **Lone Tree Farm** 58.00 3 P P 23 58 54.3 -1.0
baz=184
E42A **Champion** 58.02 2 P P 23 58 54.2 -1.2
baz=183
LONY **Lake Ozonia** 58.02 14 P P 23 58 54.8 -0.7
baz=199
LONY **Lake Ozonia** 58.02 14 *e*P P 23 58 54.1 -1.4
11nm,1.2s
TPAW **Teton Pass** 58.05 343 *e*P P 23 58 54.8 -1.3
5.8nm,1.1s
E36A **McGregor** 58.09 358 P P 23 58 55.4 -0.6
baz=177
E45A **Wooded Hills,** 58.10 4 P P 23 58 54.9 -1.1
baz=186
FXWY **Fox Creek** 58.21 343 *e*P P 23 58 56.9 -0.2
8.1nm,1.3s
E33A **Westby DABS, E** 58.23 356 P P 23 58 56.4 -0.5
baz=174
LBNH **Lisbon** 58.33 16 P P 23 58 55.6 -2.0
baz=202
D41A **Chassel** 58.62 2 P P 23 58 59.4 -0.3
baz=183
D35A **Remer** 58.69 357 P P 23 59 00.3 +0.2
baz=176
D37A **Cotton** 58.71 359 P P 23 59 00.1 -0.2
baz=178
D36A **Goodland** 58.75 358 P P 23 58 59.8 -0.8
baz=177
HLID **Hailey** 59.20 340 P P 23 59 04.7 +0.8
baz=153
HLID **Hailey** 59.20 340 *e*P P 23 59 05.6 +1.7
4.9nm,1.1s
C38A **Sawbill Land.** 59.25 360 P P 23 59 03.5 -0.5
baz=180
C37A **Embarrass** 59.28 359 P P 23 59 03.9 -0.3
baz=178
C35A **Jirik Farms, M** 59.30 357 P P 23 59 04.4 +0.1
baz=176
C36A **Pine Crest Far** 59.32 358 P P 23 59 04.2 -0.2
baz=178
C39A **Grand Marais** 59.35 0 P P 23 59 04.4 -0.3
baz=181
MDND **Maddock** 59.91 353 P P 23 59 08.5 -0.1
baz=170
MDND **Maddock** 59.91 353 *e*P P 23 59 07.9 -0.6
25nm,0.9s
B35A **Bob, Littlefor** 59.95 358 P P 23 59 08.3 -0.6
baz=177
AGMN **Agassiz Nation** 60.01 356 P P 23 59 08.8 -0.4
baz=174
AGMN **Agassiz Nation** 60.01 356 *e*P P 23 59 08.4 -0.7
8.2nm,1.1s
B34A **Aery, Baudette** 60.12 357 P P 23 59 09.5 -0.5
baz=176
B32A **Ashes, Strandq** 60.15 356 P P 23 59 10.2 +0.1
baz=174
A33A **Warroad** 60.61 356 P P 23 59 13.2 -0.1
baz=175
YBH **Yreka Blue Hor** 60.88 333 P P 23 59 14.1 -1.3
2.8nm,1.0s,baz=118,slow=15,SNR=2.9
L02D **Cave Junction,** 61.62 333 P P 23 59 21.6 +1.3
baz=143
ULM **Lac du Bonnet** 61.95 356 P P 23 59 21.4 -0.9
8.6nm,0.9s,baz=191,slow=6.1,SNR=11
ULM **Lac du Bonnet** 61.95 356 *e*P P 23 59 21.8 -0.6
MSO **Missoula** 61.97 342 P P 23 59 23.1 +0.4
baz=154
NEW **Newport** 64.23 341 P P 23 59 37.5 -0.2
baz=181
A04D **Lummi Island** 66.58 338 P P 23 59 51.6 -1.1
baz=146
EDM **Edmonton** 67.61 345 *e*P P 23 59 59.7 +0.4
35nm,1.2s
SCHQ **Schefferville** 69.37 14 P P 00 00 09.1 -1.1
6.8nm,1.1s,baz=230,slow=5.2,SNR=3.9
SCHQ **Schefferville** 69.37 14 *e*P P 00 00 10.1 -0.1
FCC **Fort Churchill** 70.37 358 *e*P P 00 00 16.1 -0.1
14nm,1.1s
YKA **Yellowknife Ar** 76.37 349 P P 00 00 51.0 -0.5
1.0nm,1.0s,baz=151,slow=5.4,SNR=11
YKB5 **Yellowknife Ar** 76.37 349 *e*P P 00 00 51.0 -0.5
AFI **Afiamalu** 78.70 258 LR LR 00 26 47.4
comp=Z,21nm,21.6s,baz=78,slow=29
VNDA **Vanda** 82.27 192 P P 00 01 22.1 -1.6
1.3nm,1.0s,baz=187,slow=8.1,SNR=2.4
EGAK **Eagle** 85.21 341 *e*P P 00 01 39.0 +0.1
8.5nm,1.0s
ILAR **Eielson Array** 87.14 339 P P 00 01 48.0 -0.3
1.1nm,1.1s,baz=151,slow=2.6,SNR=5.0
ILB **Eielson Array** 87.14 339 *e*P P 00 01 48.0 -0.3
DBIC **Dimbokro** 87.29 83 P P 00 01 49.7 -0.5
2.7nm,0.9s,baz=237,slow=3.4,SNR=4.8
DBIC **Dimbokro** 87.29 83 *e*P P 00 01 48.9 -1.3
3.7nm,0.9s
KOWA **Kowa** 89.74 75 LR LR 00 41 31.8
comp=Z,49nm,18.8s,baz=180,slow=35
H11S2 **WAKE ISLAND Hyl** 105.47 286 T T 02 00 50.9
baz=98,slow=75,SNR=9.4
H11S1 **WAKE ISLAND Hyl** 105.48 286 T T 02 00 55.4
baz=98,slow=75,SNR=5.7
H11S3 **WAKE ISLAND Hyl** 105.49 286 T T 02 00 52.2
baz=98,slow=75,SNR=11
AS31 **Alice Springs** 123.93 231 *e*PKPdf PKPdf 00 08 00.3 -1.6
ASAR **Alice Springs** 123.93 231 PKP PKPdf 00 08 00.3 -1.6
0.8nm,0.9s,baz=120,slow=3.3,SNR=3.9
WR1 **Warramunga Arr** 125.60 235 *e*PKPdf PKPdf 00 08 05.5 +0.4
WRA **Warramunga Arr** 125.60 235 PKP PKPdf 00 08 05.5 +0.4
1.9nm,0.8s,baz=119,slow=1.9,SNR=12
KURK **Kurchatov** 140.22 11 *e*PKPdf PKPdf 00 08 30.1 -1.4
KURBB **Kurchatov Arra** 140.29 11 PKP PKPdf 00 08 30.1 -1.6
0.4nm,0.6s,baz=85,slow=7.0,SNR=5.0
MK31 **Makanchi Array** 144.62 8 *e*PKPdf PKPab 00 08 37.8 -0.3
MK32 **Makanchi Array** 144.62 8 *e*PKPdf PKPab 00 08 37.7 -0.4
MKAR **Makanchi Array** 144.62 8 PKP PKPab 00 08 37.7 -0.4
0.8nm,0.9s,baz=344,slow=2.6,SNR=6.8
MKAR **Makanchi Array** 144.62 8 *e*PKPdf PKPab 00 08 36.8 -1.3
UOSS **Minazif** 146.08 63 *e*PKPdf PKPbc 00 08 43.5 -0.1
WSAR **Wadi Sarin** 148.68 65 PKPbc PKPdf 00 08 48.7 +1.6
3.5nm,0.7s,baz=284,slow=4.2,SNR=3.8

IDC ***13*** *00:30:25.6±0.8, 28°.07N×51°.82E, h0km, mb3.8/15, mb1 3.8/18, mb1mx3.6/64, mbtmp3.8/18, ML3.4/3, Error ellipse: s-maj=19.1km s-min=14.7km az=152.0*
THR ***13*** *00:30:26.1±0.5, 27°.88N×51°.74E, h29km±6km, ML3.6*
TEH ***13*** *00:30:26.0, 27°.84N×51°.71E, h5km, ML3.4*
ISCJB ***13*** *00:30:27.3±0.4, 27°.98N±0°.03×51°.78E±0°.04, h26km, mb3.7/15, Error ellipse: s-maj=6.1km s-min=3.8km az=141.0*
CSEM ***13*** *00:30:29.7±0.3, 28°.06N×51°.81E, h30km, ML3.6, Error ellipse: s-maj=13.0km s-min=5.3km az=49.0*
DSN ***13*** *00:30:34.3±0.8, 27°.82N×52°.25E, h15km, ML3.5/9, Error ellipse: s-maj=16.7km s-min=5.7km az=18.0*
OMAN ***13*** *00:30:34.5±0.8, 27°.69N×51°.91E, h33km±33km, Error ellipse: s-maj=54.3km s-min=6.7km az=328.0*

ISC 13 00:30:29.2±0.6**, 28°.00N**±0°.05×**51°.83E**±0°.05**, h26**km**, n53,**
σ1s**12**/64**, mb3.9**/15**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
AHBU	**AHRAM**	**0.98**	**331**	*e*Pg	**Pn**	**00 30 45.7**	**-1.6**
AHBU				*e*Sg	**Sb**	**00 30 59.8**	**-0.3**
GHIR	**Ghir-Karzin**	**1.06**	**74**	*e*Pg	**Pn**	**00 30 47.0**	**-1.5**
GHIR	**Ghir-Karzin**	**1.06**	**74**	*e*Pg	**Pn**	**00 30 47.7**	**-0.8**
GHIR				*e*Sg	**Sn**	**00 31 03.5**	**+1.1**
GHIR	**Ghir-Karzin**	**1.06**	**74**	*e*Pg	**Pn**	**00 30 47.7**	**-0.8**
GHIR				*e*Sg	**Sn**	**00 31 03.5**	**+1.1**
GHIR				AML	AML	00 31 08.3	
	comp=E,1μm,0.5s						
GHIR				AML	AML	00 31 08.5	
	comp=N,1μm,0.4s						
IMEH	**Mehriz**	**4.15**	**35**	*e*Pn	**Pn**	**00 31 33.7**	**+2.5**
IMEH				*e*AMB	AMB	00 32 57.5	
	comp=Z,482nm,0.4s						
SHME	**Shamm**	**4.31**	**116**	*i* P	**Pn**	**00 31 33.4**	**+0.3**
	SNR=11						
AJN	**Ajban**	**4.44**	**140**	*i* P	**Pn**	**00 31 36.2**	**+1.2**
	SNR=7.7						
BANOM	**Banah**	**4.49**	**116**	P	**Pn**	**00 31 36.3**	**+0.7**
	SNR=51						
BANOM				S	**Sn**	**00 32 26.7**	**-0.4**
BANOM	**Banah**	**4.49**	**116**	P	**Pn**	**00 31 36.3**	**+0.7**
	SNR=51						
BANOM				S	**Sn**	**00 32 26.7**	**-0.4**
BANOM	**Banah**	**4.49**	**116**	*i* P	**Pn**	**00 31 36.3**	**+0.7**
	SNR=51						
BANOM				S	**Sn**	**00 32 24.8**	**-2.3**
NAZ	**Nazwa, Dubai**	**4.56**	**130**	P	**Pn**	**00 31 38.5**	**+1.9**
NAZ	**Nazwa, Dubai**	**4.56**	**130**	P	**Pn**	**00 31 38.4**	**+1.9**
	SNR=7.9						
NAZ	**Nazwa, Dubai**	**4.56**	**130**	*i* P	**Pn**	**00 31 38.4**	**+1.9**
	SNR=7.9						
MSFE	**Esma-Masafi**	**4.68**	**123**	P	**Pn**	**00 31 39.2**	**+0.9**
	SNR=27						
MSFE				S	**Sn**	**00 32 31.4**	**-0.4**
MSFE	**Esma-Masafi**	**4.68**	**123**	*i* P	**Pn**	**00 31 39.2**	**+0.9**
	SNR=27						
MSFE				S	**Sn**	**00 32 29.5**	**-2.3**
KRBR	**Kerman**	**4.75**	**64**	*e*Pn	**Pn**	**00 31 40.2**	**+0.8**
KRBR	**Kerman**	**4.75**	**64**	*e*Pn	**Pn**	**00 31 40.2**	**+0.8**
ICHK	**Chekchek**	**4.78**	**27**	*e*Pn	**Pn**	**00 31 40.8**	**+1.0**
ICHK				*e*Sn	**Sn**	**00 32 35.5**	**+1.0**
ICHK				*e*AMB	AMB	00 32 38.2	
	comp=Z,364nm,0.3s						
MDH	**Madha**	**4.82**	**123**	*i* P	**Pn**	**00 31 40.7**	**+0.5**
	SNR=14						
IBAF	**Bafgh**	**4.83**	**41**	*e*Pn	**Pn**	**00 31 41.5**	**+1.1**
IBAF				*e*AMB	AMB	00 33 08.7	
	comp=Z,176nm,0.3s						
UOSS	**Minazif**	**4.96**	**127**	P	**Pn**	**00 31 42.6**	**+0.5**
	SNR=31						
UOSS	**Minazif**	**4.96**	**127**	*i* P	**Pn**	**00 31 42.3**	**+0.2**
	SNR=10						
HATD	**Hatta, Dubai**	**4.99**	**128**	P	**Pn**	**00 31 44.0**	**+1.5**
	SNR=10						
HATD	**Hatta, Dubai**	**4.99**	**128**	*i* P	**Pn**	**00 31 44.0**	**+1.5**
	SNR=10						
ASHO	**Ashiyiah**	**5.03**	**130**	P	**Pn**	**00 31 43.9**	**+0.9**
	SNR=11						
ASHO	**Ashiyiah**	**5.03**	**130**	P	**Pn**	**00 31 43.9**	**+0.9**
	SNR=11						
ASHO	**Ashiyiah**	**5.03**	**130**	*i* P	**Pn**	**00 31 43.7**	**+0.6**
	SNR=11						
ALNE	**Al Ain**	**5.28**	**137**	*i* P	**Pn**	**00 31 47.4**	**+0.9**
	SNR=13						
SOHO	**SOHO**	**5.72**	**131**	*i* P	**Pn**	**00 31 52.8**	**+0.4**
	SNR=16						
BSY	**Bisya**	**7.14**	**136**	P	**Pn**	**00 32 13.1**	**+1.0**
	SNR=6.9						
BSYO	**Bisya**	**7.17**	**136**	P	**Pn**	**00 32 13.1**	**+0.6**
	SNR=6.9						
WSAR	**Wadi Sarin**	**7.75**	**126**	Pn	**Pn**	**00 32 20.5**	**0.0**
	comp=Z,2.2nm,0.3s,baz=336,slow=8.0,SNR=36						
WSAR				Sn	**Sn**	**00 33 44.7**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=3.0						
WSAR	**Wadi Sarin**	**7.75**	**126**	P	**Pn**	**00 32 20.5**	**0.0**
	SNR=33						
WSAR				S	**Sn**	**00 33 45.0**	**-2.5**
SNGE	**Sanandaj**	**8.04**	**333**	*e*Pn	**Pn**	**00 32 24.1**	**-0.4**
SNGE	**Sanandaj**	**8.04**	**333**	*e*Pn	**Pn**	**00 32 24.1**	**-0.4**
GEYT	**Alibeck**	**11.21**	**26**	Pn	**Pn**	**00 33 08.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=203,slow=14,SNR=2.7						
BRTR	**Keskin Array B**	**19.06**	**313**	P	**P**	**00 34 50.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=137,slow=17,SNR=4.1						
BVAR	**Borovoye Array**	**28.53**	**24**	P	**P**	**00 36 23.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=218,slow=9.1,SNR=3.8						
KURBB	**Kurchatov Arra**	**30.32**	**35**	P	**P**	**00 36 38.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=235,slow=8.6,SNR=4.6						
MKAR	**Makanchi Array**	**30.34**	**44**	P	**P**	**00 36 38.5**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=233,slow=8.7,SNR=12						
ZALV	**Zalesovo Beam**	**35.40**	**34**	P	**P**	**00 37 21.6**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=240,slow=8.4,SNR=4.7						
FINES	**FINESS Array B**	**37.60**	**340**	P	**P**	**00 37 41.0**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=147,slow=8.7,SNR=14						
HFS	**Hagfors**	**41.20**	**332**	P	**P**	**00 38 10.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=111,slow=7.9,SNR=15						
NOA	**NORSAR Array B**	**42.72**	**332**	P	**P**	**00 38 22.9**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=127,slow=8.4,SNR=4.2						
CMAR	**Chiang Mai Arr**	**44.09**	**92**	P	**P**	**00 38 35.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=203,slow=8.7,SNR=5.2						
ARCES	**ARCESS Array B**	**44.28**	**347**	P	**P**	**00 38 35.4**	**-0.9**
	comp=Z,3.1nm,0.9s,baz=335,slow=8.0,SNR=5.0						
SONM	**Songino Array**	**46.33**	**49**	P	**P**	**00 38 53.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=268,slow=8.6,SNR=3.3						
EKA	**Eskdalemuir Ar**	**47.69**	**321**	P	**P**	**00 39 02.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=106,slow=7.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**48.88**	**263**	P	**P**	**00 39 13.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=54,slow=7.8,SNR=16						
MATP	**Matopo**	**53.17**	**208**	P	**P**	**00 39 46.2**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=53,slow=10,SNR=3.9						
KOWA	**Kowa**	**53.35**	**268**	P	**P**	**00 39 47.1**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=68,slow=13,SNR=5.7						
DBIC	**Dimbokro**	**57.57**	**260**	P	**P**	**00 40 17.6**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=64,slow=5.6,SNR=4.0						

DDA ***13*** *00:31:21.0, 38°.69N×43°.19E, h7km, Ml2.9*
CSEM ***13*** *00:31:20.8±0.2, 38°.72N×43°.16E, h15km, ML2.9, Error ellipse: s-maj=5.5km s-min=5.0km az=59.0*
ISK ***13*** *00:31:20.2, 38°.71N×43°.12E, h11km, ML2.6/5*
ISCJB ***13*** *00:31:21.2±0.5, 38°.74N±0°.03×43°.15E±0°.04, h9km±5km, Error ellipse: s-maj=4.8km s-min=4.5km az=40.3*

ISC 13 00:31:21.4±0.9**, 38°.71N**±0°.03×**43°.15E**±0°.02**, h15**km±7**km,**
n28, σ0s**90**/41**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
VANB	**Van**	**0.21**	**121**		PG	**Pb**	**00 31 26.9**	**-0.2**
VANB					SG	**Sg**	**00 31 31.3**	**+1.5**
VANB	**Van**	**0.21**	**121**	*e*Pg	**Pb**	**00 31 26.9**	**-0.2**
VANB				*e*Sg	**Sg**	**00 31 31.3**	**+1.5**
TVAN	**Van**	**0.27**	**131**	*i* P	**Pg**	**00 31 26.8**	**-0.5**
TVAN				*i* S	**Sb**	**00 31 32.0**	**-0.4**
TVAN	**Van**	**0.27**	**131**	P	**Pg**	**00 31 26.8**	**-0.5**
TVAN				S	**Sb**	**00 31 32.0**	**-0.4**
ERCV	**ERCIS-VAN**	**0.35**	**25**	PG	**Pg**	**00 31 27.7**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.35**	**287**	*i* P	**Pg**	**00 31 28.2**	**-0.5**
ADCV				*i* S	**Sb**	**00 31 34.5**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.35**	**287**	P	**Pg**	**00 31 28.2**	**-0.5**
ADCV				S	**Sb**	**00 31 34.5**	**-0.3**
GEVA	**Gevas**	**0.40**	**191**	*i* P	**Pg**	**00 31 28.4**	**-1.1**
GEVA				*i* S	**Sg**	**00 31 34.9**	**-0.2**
GEVA	**Gevas**	**0.40**	**191**	P	**Pg**	**00 31 28.5**	**-1.1**
GEVA				S	**Sg**	**00 31 34.9**	**-0.2**
CLDR	**Caldiran**	**0.74**	**53**	PG	**Pg**	**00 31 35.1**	**-0.8**
CLDR	**Caldiran**	**0.74**	**53**	*i* P	**Pg**	**00 31 35.0**	**-0.8**
CLDR				*i* S	**Sb**	**00 31 45.9**	**-0.2**
CLDR	**Caldiran**	**0.74**	**53**	P	**Pg**	**00 31 35.0**	**-0.8**
CLDR				S	**Sb**	**00 31 45.9**	**-0.2**
TUTA	**Tutak**	**0.74**	**339**	*i* P	**Pg**	**00 31 35.3**	**-0.7**
TUTA	**Tutak**	**0.74**	**339**	P	**Pg**	**00 31 35.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.88**	**352**	PG	**Pg**	**00 31 37.4**	**-1.1**
AGRB	**Hanur-Agry**	**0.88**	**352**	*e*Pg	**Pg**	**00 31 37.4**	**-1.1**
GURO	**Guroymak-BITLI**	**0.89**	**260**	PG	**Pg**	**00 31 37.3**	**-1.4**
GURO	**Guroymak-BITLI**	**0.89**	**260**	*e*Pg	**Pg**	**00 31 37.3**	**-1.4**
EKAR	**Karacoban**	**1.01**	**303**	*i* P	**Pn**	**00 31 41.8**	**+0.6**
EKAR	**Karacoban**	**1.01**	**303**	P	**Pn**	**00 31 41.8**	**+0.6**
SRTM	**Siirt_Merkez**	**1.20**	**234**	*i* P	**Pg**	**00 31 44.6**	**0.0**
SRTM				*i* S	**Sn**	**00 32 00.8**	**+1.0**
SRTM	**Siirt_Merkez**	**1.20**	**234**	P	**Pg**	**00 31 44.6**	**0.0**
SRTM				S	**Sn**	**00 32 00.8**	**+1.0**
HAKT	**HAKKARI**	**1.23**	**159**	*i* P	**Pn**	**00 31 43.0**	**-1.2**
HAKT				*i* S	**Sn**	**00 32 02.8**	**+2.3**
HAKT	**HAKKARI**	**1.23**	**159**	P	**Pn**	**00 31 43.0**	**-1.2**
SIRT	**Sirnak**	**1.33**	**205**	PN	**Pn**	**00 31 45.2**	**-0.2**
SIRT	**Sirnak**	**1.33**	**205**	*e*Pn	**Pn**	**00 31 45.2**	**-0.2**
CUKT	**Cukurca**	**1.50**	**166**	PN	**Pn**	**00 31 47.6**	**-0.2**
CUKT	**Cukurca**	**1.50**	**166**	*e*Pn	**Pn**	**00 31 47.6**	**-0.2**

IDC ***13*** *00:39:36.8±2.1, 1°.60N×126°.50E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/52, mbtmp3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/40, Error ellipse: s-maj=173.8km s-min=26.3km az=65.0*
ISCJB ***13*** *00:39:47.2±1.2, 1°.8N±0°.1×127°.3E±0°.2, h103km, mb3.5/3, Error ellipse: s-maj=23.9km s-min=11.9km az=157.5*
DJA ***13*** *00:39:49.2±1.5, 2°.N±7°×12°.7E±1°.2, h105km±18km, M3.9/6, MLv3.9/6*

ISC 13 00:39:48.3±1.4**, 1°.71N**±0°.08×**127°.2E**±0°.1**, h103**km**, n9,**
σ2s**16**/8**, mb3.6**/3**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.36**	**172**	P	**Pn**	**00 40 27.8**	**+2.1**
SGSI	**Sangihe**	**2.55**	**320**	P	**Pn**	**00 40 28.9**	**+0.7**
KMSI	**Cibinong**	**3.37**	**250**	P	**Pn**	**00 40 41.2**	**+2.1**
SANI	**Sanana**	**3.91**	**197**	P	**Pn**	**00 40 47.1**	**+0.7**
SANI				S	**Sn**	**00 41 28.8**	**-2.6**
WRA	**Warramunga Arr**	**22.64**	**162**	P	**P**	**00 44 39.3**	**-1.7**
	1.4nm,0.4s,baz=339,slow=10,SNR=28						
PMG	**Port Moresby**	**22.79**	**119**	LR	LR	00 56 14.7	
	comp=Z,47nm,18.3s,baz=162,slow=43						
ASAR	**Alice Springs**	**26.07**	**166**	P	**P**	**00 45 14.2**	**+1.7**
	0.3nm,0.3s,baz=348,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**59.45**	**326**	P	**P**	**00 49 39.6**	**-0.8**
	0.3nm,0.6s,baz=127,slow=7.9,SNR=4.9						
SPITS	**Spitsbergen Ar**	**92.53**	**349**	LR	LR	01 40 27.6	
	comp=Z,18nm,18.5s,baz=200,slow=40						

JMA ***13*** *00:53:02.8±0.3, 43°.55N×147°.44E, h23km, M3.8*
SKHL ***13*** *00:53:04.3±0.3, 43°.62N×147°.55E, h42km±2km, mb4.4/2*

ISC 13 00:53:02.9±3.9**, 43°.6N**±0°.1×**147°.5E**±0°.1**, h27**km±26**km,** **n13,**
σ0s**84**/19**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.28**	**290**	*e*P	**Pn**	**00 53 24.9**	**-0.1**
YUK					AMB	AMB	00 53 28.3	
	153nm,0.3s							
YUK					AMB	AMB	00 53 28.3	
	157nm,0.3s							

YUK					AMB	AMB	00 53 28.3		
	330nm,0.3s								
YUK					*e*S	**Sn**	**00 53 40.5**	**-0.8**	
YUK					A	A	00 53 45.7		
	800nm,0.3s								
YUK					A	A	00 53 45.7		
	105nm,0.3s								
NEM2	**Nemuro 2**	**1.32**	**260**	P		**Pn**	**00 53 25.1**	**-0.5**	
NEM2				*e*S		**Sn**	**00 53 41.4**	**-0.9**	
GRPR	**Tuman**	**1.33**	**288**	*e*P		**Pn**	**00 53 25.8**	**+0.1**	
GRPR				*e*S		**Sn**	**00 53 41.8**	**-0.7**	
LAGR	**Lagunnoye**	**1.34**	**290**	*e*P		**Pn**	**00 53 26.6**	**+0.8**	
LAGR				*e*S		**Sb**	**00 53 43.5**	**-0.5**	
KUR	**Kuril'sk**	**1.65**	**8**	*e*P		**Pn**	**00 53 30.3**	**+0.2**	
KUR					AMB	AMB	00 53 30.8		
	60nm,0.4s								
KUR				*i* S		**Sn**	**00 53 49.5**	**-0.9**	
KUR				A		A	00 53 52.4		
	310nm,0.2s								
KUR				A		A	00 53 52.4		
	120nm,0.2s								
JRA	**Rausu**	**1.77**	**282**	P		**Pn**	**00 53 32.1**	**+0.3**	
JNK	**Nakash**	**2.04**	**270**	P		**Pn**	**00 53 35.5**	**0.0**	
JAK	**Akkeshi**	**2.15**	**255**	P		**Pn**	**00 53 37.2**	**+0.2**	
JAK				*e*S		**Sn**	**00 54 02.1**	**-0.7**	
JTKR	**Abashiri--Toko**	**2.65**	**279**	P		**Pn**	**00 53 45.1**	**+1.3**	
JAR	**Ashorobuto**	**2.75**	**265**	P		**Pn**	**00 53 46.6**	**+1.3**	
JOB	**Onbets**	**2.79**	**257**	*e*S		**Sn**	**00 54 19.2**	**+0.8**	
JCH	**Churui**	**3.20**	**253**	*e*S		**Sn**	**00 54 28.5**	**-0.3**	
YSS	**Yuzh-Sakhalins**	**4.75**	**317**	*e*P		**Pn**	**00 54 14.2**	**+1.5**	

NIED ***13*** *00:58:00,37.60N×141.80E,h29km,Mw3.6 Best double couple: M0 2.51000×10^14 NP1:φ=219.00000°,δ=4.00000°, λ=150.00000°. NP2:φ=339.00000°,δ=88.00000°,λ=87.00000°.*
JMA ***13*** *00:58:44.5±0.1,37.59N×141.82E,h24km±2km,M3.8*
IDC ***13*** *00:58:48.4±4.3,37.59N×141.76E,h49km±43km,mb3.2/6, mb1 3.5/7,mb1mx3.2/65,mbtmp3.4/7,ML3.3/1,MS2.1/1, Ms1 2.1/1,ms1mx1.9/24,Error ellipse: s-maj=33.5km s-min=26.5km az=101.0*

ISC 13 00:58:43.3±2.1,37.60N±0.05×141.85E±0.07,h10km±12km, n22,σ1§18/26,mb3.5/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.81**	**253**	P	**Pb**	**00 58 59.3**	**-0.1**
JFK				*e*S	**Sg**	**00 59 09.2**	**-0.2**
JMM	**Marumori**	**0.88**	**288**	P	**Pg**	**00 59 00.5**	**+0.4**
JMM				S	**Sg**	**00 59 11.5**	**0.0**
JIO	**Ouri**	**0.94**	**335**	P	**Pb**	**00 59 01.7**	**+0.1**
JIO				*e*S	**Sb**	**00 59 13.1**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.97**	**239**	P	**Pb**	**00 59 01.6**	**-0.6**
ONAJ				*e*S	**Sb**	**00 59 13.2**	**-2.0**
JFT	**Otama**	**1.20**	**266**	P	**Pb**	**00 59 06.1**	**0.0**
JFT				*e*S	**Sb**	**00 59 21.5**	**-0.2**
JOU	**Okura**	**1.20**	**310**	P	**Pn**	**00 59 06.2**	**0.0**
JOU				S	**Sb**	**00 59 21.7**	**-0.1**
JMK	**Ichinoseki**	**1.43**	**340**	P	**Pn**	**00 59 09.4**	**+0.1**
JMK				*e*S	**Sn**	**00 59 27.1**	**-1.1**
JYS	**Shirataka**	**1.54**	**294**	P	**Pb**	**00 59 11.6**	**-0.2**
JYS				S	**Sb**	**00 59 31.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.10**	**251**	P	**Pn**	**00 59 33.6**	**+1.4**
	3.6nm,0.3s,baz=79,slow=16,SNR=14						
MJAR				S	**Sn**	**01 00 11.6**	**+2.3**
	2.2nm,0.3s,baz=54,slow=38,SNR=3.3						
MJAR				LR	LR	01 00 40.0	
	comp=Z,32nm,19.5s,baz=60,slow=37						
MAT	**Matsushiro**	**3.10**	**251**	P	**Pn**	**00 59 33.7**	**+1.5**
MAT				*e*S	**Sb**	**01 00 12.8**	**-3.5**
SONM	**Songino Array**	**27.76**	**303**	P	**P**	**01 04 31.9**	**-0.2**
	0.6nm,0.8s,baz=94,slow=6.8,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	01 34 10.4	
	baz=315,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	01 34 09.7	
	baz=315,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**28.17**	**122**	T	T	01 34 12.1	
	baz=315,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	01 35 03.4	
	baz=316,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	01 35 03.4	
	baz=316,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	01 35 04.1	
	baz=316,slow=76,SNR=26						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**01 06 51.4**	**-0.3**
	0.7nm,0.9s,baz=91,slow=9.5,SNR=5.1						
ILAR	**Eielson Array**	**48.83**	**33**	P	**P**	**01 07 29.2**	**+0.9**
	0.5nm,0.9s,baz=267,slow=6.3,SNR=4.1						
WRA	**Warramunga Arr**	**57.67**	**188**	P	**P**	**01 08 33.5**	**-0.4**
	0.6nm,0.9s,baz=4.8,slow=7.1,SNR=3.6						
YKA	**Yellowknife Ar**	**63.14**	**30**	P	**P**	**01 09 09.9**	**-0.9**
	0.2nm,0.7s,baz=304,slow=6.6,SNR=4.8						
TXAR	**Lajitas Array**	**89.50**	**53**	P	**P**	**01 11 41.7**	**+0.7**
	0.1nm,0.4s,baz=310,slow=3.7,SNR=3.6						

IDC ***13*** *01:03:28.9±8.1,36.32N×73.54E,h0km,mb1 3.5/7, mb1mx3.2/72,mbtmp3.5/7,ML3.1/6,Error ellipse: s-maj=110.6km s-min=35.5km az=157.0*
NNC ***13*** *01:03:36.8±6.6,36.71N×72.88E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=69.3km s-min=46.7km az=106.0*

ISC 13 01:03:34.9±2.3,36.4N±0.2×73.2E±0.1,h42km,n10, σ1§99/13,2C-4D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.63**	**4**	⇓P*n*	**Pn**	**01 04 31.5**	**+2.6**
	35nm,0.6s						
SFK				⇓S*n*	**Sn**	**01 05 12.8**	**+2.1**
	70nm,0.9s						
AAK	**Ala-Archa**	**6.33**	**9**	P*n*	**Pn**	**01 05 06.4**	**+0.6**
	0.3nm,0.3s,baz=184,slow=12,SNR=5.3						
AAK	**Ala-Archa**	**6.33**	**9**	⇓P*n*	**Pn**	**01 05 05.7**	**-0.1**
	15nm,1.4s						
AAK				⇑S*n*	**Sn**	**01 06 18.4**	**+1.6**
	20nm,1.4s						
KK31	**Karatay Array**	**7.03**	**344**	⇓P*n*	**Pn**	**01 05 14.8**	**-0.5**
	0.5nm,0.3s,baz=156,slow=12,SNR=22						
KK31				⇑S*n*	**Sn**	**01 06 31.5**	**-2.3**
	6.1nm,0.7s,baz=158,slow=22						
GEYT	**Alibeck**	**12.14**	**282**	P*n*	**Pn**	**01 06 26.4**	**+1.1**
	0.4nm,0.3s,baz=94,slow=9.2,SNR=4.3						
MKAR	**Makanchi Array**	**12.42**	**30**	P*n*	**Pn**	**01 06 26.9**	**-2.1**
	0.0nm,0.3s,baz=212,slow=9.4,SNR=2.2						
KURBB	**Kurchatov Arra**	**14.74**	**13**	P*n*	**Pn**	**01 06 57.5**	**-3.0**
	0.1nm,0.3s,baz=199,slow=11,SNR=2.9						
BVAR	**Borovoye Array**	**16.76**	**354**	P*n*	**Pn**	**01 07 24.5**	**-2.0**
	0.1nm,0.3s,baz=154,slow=10,SNR=3.2						
AKTO	**Aktyubinsk**	**17.82**	**327**	P	**P**	**01 07 40.5**	**+0.6**
	0.1nm,0.3s,baz=134,slow=7.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**19.34**	**21**	P	**P**	**01 07 55.9**	**-0.6**
	baz=203,slow=11,SNR=5.3						

NIED ***13*** *01:08:00,37.60N×142.10E,h26km,Mw3.5 Best double couple: M0 2.00000×10^14 NP1:φ=231.00000°,δ44.00000°, λ=-95.00000°. NP2:φ=58.00000°,δ46.00000°,λ=-86.00000°.*
IDC ***13*** *01:08:24.4±0.8,37.44N×142.61E,h0km,mb3.4/7, mb1 3.6/10,mb1mx3.5/68,mbtmp3.4/10,ML3.0/3,Error ellipse: s-maj=24.4km s-min=19.1km az=104.0*
JMA ***13*** *01:08:28.0±0.1,37.60N×142.14E,h31km±3km,M3.9*

ISC 13 01:08:25.1±2.4,37.54N±0.05×142.18E±0.06,h6km±14km, n24,σ1§28/34,mb3.6/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.05**	**261**	P	**Pb**	**01 08 46.4**	**+0.7**
JFK				S	**Sg**	**01 08 59.5**	**+0.6**
JIO	**Ouri**	**1.12**	**325**	P	**Pb**	**01 08 46.9**	**0.0**
JIO				S	**Sg**	**01 09 00.2**	**-1.0**
JMM	**Marumori**	**1.15**	**287**	P	**Pb**	**01 08 47.4**	**+0.1**
JMM				S	**Sb**	**01 09 01.4**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.18**	**249**	P	**Pb**	**01 08 48.4**	**+0.4**
ONAJ				S	**Sb**	**01 09 03.2**	**-0.4**
JOU	**Okura**	**1.45**	**305**	P	**Pb**	**01 08 52.6**	**+0.1**
JOU				S	**Sn**	**01 09 09.9**	**-1.4**
JFT	**Otama**	**1.47**	**270**	P	**Pb**	**01 08 53.3**	**+0.6**
JFT				S	**Sn**	**01 09 11.4**	**-0.2**
JMK	**Ichinoseki**	**1.60**	**332**	P	**Pn**	**01 08 53.9**	**0.0**
JMK				S	**Sn**	**01 09 12.5**	**-2.3**
JYS	**Shirataka**	**1.81**	**293**	P	**Pn**	**01 08 57.6**	**+0.9**
JFY	**Yanaizu**	**1.97**	**267**	P	**Pb**	**01 09 01.0**	**-0.4**
JFY				S	**Sn**	**01 09 25.4**	**+1.3**
JYK	**Kaneyama**	**1.99**	**314**	P	**Pn**	**01 09 00.0**	**+0.8**
JOM	**Ohasama**	**2.05**	**340**	P	**Pn**	**01 09 00.7**	**+0.6**
JOM				S	**Sn**	**01 09 24.8**	**-1.2**
JRG	**Rokugo**	**2.21**	**327**	P	**Pn**	**01 09 03.5**	**+1.1**
MJAR	**Matsushiro Arr**	**3.33**	**254**	P*n*	**Pb**	**01 09 23.2**	**-1.3**
	2.0nm,0.3s,baz=70,slow=14,SNR=7.1						
MJAR				S*n*	**Sb**	**01 10 05.8**	**+0.5**
	1.5nm,0.3s,baz=81,slow=32,SNR=4.5						
MAT	**Matsushiro**	**3.33**	**254**	P	**Pb**	**01 09 22.0**	**-2.5**
MAT				*e*S	**Sb**	**01 10 02.7**	**-2.6**
JHJ	**Hachijo jima 2**	**4.83**	**205**	S*n*	**Sn**	**01 10 32.8**	**-1.7**
	15nm,0.3s,baz=55,slow=16,SNR=2.8						
ASAJ	**Asahikawa**	**6.58**	**3**	P*n*	**Pn**	**01 10 03.7**	**+1.4**
	0.7nm,0.3s,baz=58,slow=19,SNR=3.0						
USRK	**Ussuriysk Ar.**	**10.18**	**314**	P*n*	Pn	01 10 57.1	+5.4
	0.2nm,0.3s,baz=130,slow=14,SNR=4.7						
MKAR	**Makanchi Array**	**44.37**	**302**	P	**P**	**01 16 38.6**	**+2.4**
	0.2nm,0.6s,baz=82,slow=10,SNR=2.8						
KURBB	**Kurchatov Arra**	**46.17**	**308**	P	**P**	**01 16 52.5**	**+2.2**
	0.4nm,0.4s,baz=78,slow=8.6,SNR=5.8						
ILAR	**Eielson Array**	**48.74**	**33**	P	**P**	**01 17 10.3**	**+0.2**
	0.2nm,0.7s,baz=255,slow=5.5,SNR=3.6						
WRA	**Warramunga Arr**	**57.65**	**189**	P	**P**	**01 18 15.7**	**-0.5**
	0.7nm,0.6s,baz=5.6,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**61.38**	**189**	P	**P**	**01 18 41.9**	**+0.1**
	0.4nm,0.8s,baz=19,slow=8.8,SNR=4.2						
YKA	**Yellowknife Ar**	**63.06**	**30**	P	**P**	**01 18 52.0**	**-0.7**
	0.2nm,0.8s,baz=298,slow=7.4,SNR=2.9						
TXAR	**Lajitas Array**	**89.33**	**53**	P	**P**	**01 21 22.1**	**-0.7**
	0.3nm,0.8s,baz=267,slow=3.6,SNR=3.1						

GUC 13 01:20:49.7±0.6,34.64S×72.00W,h12km±9km,ML3.5, 3C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.25**	**360**	⇓*i*P	Pg	01 20 54.8	-0.1
CHPI				*i* S	Sg	01 20 58.8	+0.5
GO05	**HualaæØ**	**0.38**	**171**	⇑*i*P	Pg	01 20 57.5	+0.3
GO05				*i* S	Sg	01 21 02.8	+0.5
GO05				IAML		01 21 02.9	
	comp=E,10μm,0.4s						
NICH	**Los Niches**	**0.73**	**120**	⇑*i*P	Pb	01 21 04.3	-0.2
NICH				*i* S	Sb	01 21 14.7	+0.3
LMEL	**Las Melosas**	**1.69**	**63**	⇑*i*P	Pb	01 21 20.1	-0.7
LMEL				*i* S	Sb	01 21 42.7	+0.7
LMEL				IAML		01 21 44.2	
	comp=N,1μm,0.3s						
CLCH	**Cerro Calan**	**1.74**	**45**	*e*P	Pn	01 21 20.7	+0.8
CLCH				*e*S	Sb	01 21 43.5	+0.1
CLCH				IAML		01 21 47.1	
	comp=E,599nm,0.6s						
PEL	**Peldehue**	**1.85**	**37**	*e*P	Pn	01 21 22.0	+0.6
PEL				*i* S	Sb	01 21 46.6	0.0
FCH	**Farellones**	**1.93**	**48**	*e*P	Pb	01 21 24.2	-0.9
FCH				*i* S	Sb	01 21 50.0	+0.7
FCH				IAML		01 21 52.7	
	comp=E,473nm,0.4s						

MAN 13 01:32:27,10.26N×123.26E,h5km,mb4.8,ML3.7,MS3.6, 4C-2D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.70**	**85**	⇑*e*P	Pb	01 32 41.3	-0.4
LLP				*i* S	Sb	01 32 52.4	+0.7
GUIM	**Jordan**	**0.75**	**299**	*e*P	Pb	01 32 42.0	-0.5
GUIM				*e*S	Sb	01 32 53.3	+0.2
TBP	**Tagbilaran**	**0.82**	**133**	*e*P	Pb	01 32 43.5	-0.3
SNPH	**Sibulan**	**0.91**	**181**	⇓*i*P	Pg	01 32 44.8	+0.3
SNPH				*i* S	Sb	01 32 57.2	-0.6
JAP	**San Jose, Anti**	**1.38**	**291**	⇑*e*P	Pg	01 32 54.7	+1.3
RCP	**Roxas**	**1.39**	**339**	⇑*e*P	Pn	01 32 53.0	-0.1
OCLP	**Ormoc**	**1.55**	**59**	*e*P	Pb	01 32 56.0	-0.1
OCLP				*e*S	Sg	01 33 19.8	+3.0
MSLP	**Maasin**	**1.58**	**94**	*e*P	Pb	01 32 56.9	+0.1
MSLP				*e*S	Sg	01 33 20.2	+2.2
DCPH	**Dipolog City**	**1.67**	**177**	⇑*e*P	Pn	01 32 55.8	-1.1
DCPH				*e*S	Sn	01 33 18.2	-0.6
PLP	**Palo**	**1.92**	**62**	⇓*e*P	Pn	01 33 00.8	+0.5
PLP				*i* S	Sn	01 33 25.7	+0.8
OTRP	**Odiongan**	**2.41**	**330**	*e*P	Pn	01 33 08.7	+1.5
CNP	**Catarman**	**2.63**	**32**	*e*P	Pb	01 33 14.4	-0.2
BUKP	**Musuan**	**2.96**	**143**	*e*P	Pn	01 33 16.4	+1.6
BUKP				*e*S	Sb	01 33 55.2	-1.7

NSSP ***13*** *01:33:08.0,39.03N×43.67E,h5km,Ms3.6*
DDA ***13*** *01:33:08.7,39.03N×43.71E,h5km,Ml3.6*
ISK ***13*** *01:33:08.5,39.07N×43.71E,h5km,ML3.4/5*
CSEM ***13*** *01:33:09.7±0.1,39.08N×43.70E±0.02,h2km,ML3.4, Error ellipse: s-maj=4.0km s-min=2.9km az=150.0*

ISC 13 01:33:09.7±1.0,39.06N±0.02×43.70E±0.02,h4km±9km, n72,σ1§27/112,9C-18D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.19**	**63**	PG	**Pg**	**01 33 12.7**	**-0.8**
CLDR				SG	**Sg**	**01 33 16.3**	**+0.3**
CLDR	**Caldiran**	**0.19**	**63**	*i* P	**Pg**	**01 33 12.6**	**-0.9**
CLDR				*i* S	**Sg**	**01 33 16.5**	**+0.5**
CLDR	**Caldiran**	**0.19**	**63**	*e*Pg	**Pg**	**01 33 12.7**	**-0.8**
CLDR				S	**Sg**	**01 33 16.5**	**+0.5**
ERCV	**ERCIS-VAN**	**0.28**	**262**	PG	**Pg**	**01 33 14.9**	**-0.3**
ERCV				SG	**Sg**	**01 33 20.3**	**+1.3**
ERCV	**ERCIS-VAN**	**0.28**	**262**	*e*Pg	**Pg**	**01 33 14.9**	**-0.3**
ERCV				*e*Sg	**Sg**	**01 33 20.3**	**+1.3**
DYDN	**Diyadin**	**0.48**	**359**	*i* P	**Pg**	**01 33 19.2**	**+0.1**
DYDN				*i* S	**Sb**	**01 33 28.3**	**-0.3**
DYDN	**Diyadin**	**0.48**	**359**	P	**Pg**	**01 33 19.2**	**+0.1**
DYDN				S	**Sb**	**01 33 28.3**	**-0.3**
VANB	**Van**	**0.52**	**208**	PG	**Pb**	**01 33 20.9**	**-0.6**
VANB				SG	**Sb**	**01 33 30.8**	**+1.4**
VANB	**Van**	**0.52**	**208**	*e*Pg	**Pb**	**01 33 20.9**	**-0.6**
TVAN	**Van**	**0.58**	**204**	*i* P	**Pg**	**01 33 20.9**	**+0.2**
TVAN				*i* S	**Sb**	**01 33 30.5**	**-0.6**
TVAN	**Van**	**0.58**	**204**	P	**Pg**	**01 33 21.0**	**+0.2**
TVAN				S	**Sb**	**01 33 30.5**	**-0.6**
AGRB	**Hanur-Agry**	**0.75**	**314**	PG	**Pg**	**01 33 24.5**	**+0.3**
AGRB	**Hanur-Agry**	**0.75**	**314**	*e*Pg	**Pg**	**01 33 24.5**	**+0.3**
TUTA	**Tutak**	**0.77**	**297**	*i* P	**Pg**	**01 33 24.4**	**-0.1**
TUTA				*i* S	**Sg**	**01 33 35.5**	**+1.0**
TUTA	**Tutak**	**0.77**	**297**	P	**Pg**	**01 33 24.4**	**-0.1**
TUTA				S	**Sg**	**01 33 35.5**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.80**	**252**	*i* P	**Pg**	**01 33 24.5**	**-0.6**
ADCV				*i* S	**Sg**	**01 33 36.6**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.80**	**252**	P	**Pg**	**01 33 24.5**	**-0.6**
ADCV				S	**Sg**	**01 33 36.6**	**+1.2**
IGDI	**IGDIR**	**0.86**	**20**	*i* P	**Pb**	**01 33 26.5**	**-0.8**
IGDI				*i* S	**Sn**	**01 33 40.5**	**-1.2**
GEVA	**Gevas**	**0.90**	**214**	*i* P	**Pg**	**01 33 25.9**	**-1.0**
GEVA				*i* S	**Sb**	**01 33 40.2**	**-0.1**
GEVA	**Gevas**	**0.90**	**214**	P	**Pg**	**01 33 25.9**	**-1.0**
GEVA				S	**Sb**	**01 33 40.2**	**-0.1**
BASK	**Baskale_VAN**	**1.03**	**166**	*i* P	**Pg**	**01 33 26.8**	**-2.7**
BASK				*i* S	**Sg**	**01 33 42.8**	**-0.1**
BASK	**Baskale_VAN**	**1.03**	**166**	P	**Pg**	**01 33 26.8**	**-2.7**
BASK				S	**Sg**	**01 33 42.8**	**-0.1**
ARRZ	**Ararat**	**1.11**	**44**	*e*P	**Pn**	**01 33 35.0**	**+2.9**
ARRZ				*e*S	**Sn**	**01 33 53.0**	**+5.1**
HYR	**Heyderabad**	**1.11**	**53**	⇓P	**Pg**	**01 33 30.6**	**-0.4**
EATA	**Eleskirt**	**1.23**	**311**	*i* P	**Pg**	**01 33 33.2**	**-0.1**
EATA				*i* S	**Sn**	**01 33 51.2**	**-0.1**
EATA	**Eleskirt**	**1.23**	**311**	P	**Pg**	**01 33 33.2**	**-0.1**
EATA				S	**Sn**	**01 33 51.2**	**-0.1**
EKAR	**Karacoban**	**1.29**	**279**	*i* P	**Pn**	**01 33 33.2**	**-1.5**
EKAR	**Karacoban**	**1.29**	**279**	P	**Pn**	**01 33 33.2**	**-1.5**
GNI	**Garni**	**1.36**	**36**	⇑*i*P	**Pn**	**01 33 34.7**	**-0.9**
GNI				⇑*i*S	**Sn**	**01 33 53.5**	**-0.6**
GNI	**Garni**	**1.36**	**36**	⇑P	**Pn**	**01 33 34.7**	**-0.9**
GNI				S	**Sn**	**01 33 53.5**	**-0.6**
GURO	**Guroymak-BITLI**	**1.40**	**249**	P*n*	**Pn**	**01 33 35.1**	**-1.0**
GURO	**Guroymak-BITLI**	**1.40**	**249**	*e*P*n*	**Pn**	**01 33 35.1**	**-1.0**
NAX	**Nakhchivan**	**1.40**	**85**	⇓P	**Pn**	**01 33 35.4**	**-0.7**
NAX				⇓S	**Sg**	**01 33 56.8**	**+2.0**
SBZ	**Shahbuz**	**1.48**	**76**	⇓P	**Pn**	**01 33 36.5**	**-0.7**
SBZ				⇑S	**Sg**	**01 33 58.7**	**+1.4**
HAKT	**HAKKARI**	**1.50**	**180**	*i* P	**Pn**	**01 33 36.1**	**-1.5**
HAKT				*i* S	**Sg**	**01 34 01.3**	**+3.5**
HAKT	**HAKKARI**	**1.50**	**180**	P	**Pn**	**01 33 36.1**	**-1.5**
HAKT				S	**Sg**	**01 34 01.3**	**+3.5**
YOVA	**Hakkari_Y'…kse**	**1.54**	**162**	*i* P	**Pn**	**01 33 37.7**	**-0.5**
YOVA				*i* S	**Sg**	**01 34 01.4**	**+2.2**
YOVA	**Hakkari_Y'…kse**	**1.54**	**162**	P	**Pn**	**01 33 37.7**	**-0.5**
YOVA				S	**Sg**	**01 34 01.4**	**+2.2**
EAK	**Akyaka**	**1.63**	**358**	*i* P	**Pg**	**01 33 41.2**	**+0.3**
EAK	**Akyaka**	**1.63**	**358**	P	**Pg**	**01 33 41.2**	**+0.3**
KARS	**Kars**	**1.64**	**343**	PN	**Pn**	**01 33 39.0**	**-0.5**
KARS	**Kars**	**1.64**	**343**	*e*Pn	**Pn**	**01 33 39.0**	**-0.5**
SRTM	**Siirt_Merkez**	**1.75**	**233**	*i* P	**Pb**	**01 33 41.7**	**-0.8**
SRTM	**Siirt_Merkez**	**1.75**	**233**	P	**Pb**	**01 33 41.7**	**-0.8**
ORD	**Ordubad**	**1.79**	**93**	⇓P*n*	**Pn**	**01 33 41.7**	**+0.2**
ORD				⇓S	**Sg**	**01 34 08.3**	**+1.0**
CUKT	**Cukurca**	**1.81**	**182**	PN	**Pn**	**01 33 42.2**	**+0.4**
CUKT	**Cukurca**	**1.81**	**182**	*e*Pn	**Pn**	**01 33 42.2**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.83**	**326**	PN	**Pn**	**01 33 41.9**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.83**	**326**	*e*Pn	**Pn**	**01 33 41.9**	**-0.2**
SIRT	**Sirnak**	**1.84**	**213**	PN	**Pn**	**01 33 42.7**	**+0.5**
SIRT	**Sirnak**	**1.84**	**213**	*e*Pn	**Pn**	**01 33 42.7**	**+0.5**
SIRN	**S¨–rnak**	**1.86**	**213**	*i* P	**Pb**	**01 33 44.2**	**-0.1**
SIRN	**S¨–rnak**	**1.86**	**213**	P	**Pb**	**01 33 44.2**	**-0.1**
BNGL	**BINGOL**	**1.99**	**268**	*i* P	**Pb**	**01 33 45.6**	**-1.0**
BNGL				*i* S	**Sg**	**01 34 14.5**	**+0.9**
ECAT	**Cat-ERZURUM**	**2.18**	**285**	*i* P	**Pb**	**01 33 49.0**	**-0.9**
ECAT				*i* S	**Sg**	**01 34 21.4**	**+1.6**
ECAT	**Cat-ERZURUM**	**2.18**	**285**	P	**Pb**	**01 33 49.0**	**-0.9**
BTMN	**Batman**	**2.23**	**239**	*i* P	**Pb**	**01 33 50.4**	**-0.3**
BTMN				*i* S	**Sb**	**01 34 17.8**	**-0.9**
BTMN	**Batman**	**2.23**	**239**	P	**Pb**	**01 33 50.4**	**-0.3**
BTMN				S	**Sb**	**01 34 17.8**	**-0.9**
GDB	**GEDABAY**	**2.29**	**43**	⇓P	**Pn**	**01 33 47.2**	**-0.9**
QZX	**Qazax, Azerbai**	**2.38**	**32**	⇓P	**Pn**	**01 33 48.4**	**-1.1**
QZX				⇓S	**Sn**	**01 34 17.1**	**-2.0**
GANJ	**Ganja**	**2.57**	**51**	⇓P	**Pn**	**01 33 50.9**	**-1.2**
GANJ				⇑S	**Sn**	**01 34 24.4**	**+0.6**
TBLG	**Delisi**	**2.79**	**16**	PN	**Pn**	**01 33 55.6**	**+0.5**
TBLG	**Delisi**	**2.79**	**16**	*e*Pn	**Pn**	**01 33 55.6**	**+0.5**
BRDA	**Brd**	**2.94**	**65**	⇓P	**Pn**	**01 33 57.0**	**-0.2**
BRDA				⇓S	**Sb**	**01 34 35.6**	**-3.4**
SEKA	**Sheki**	**3.44**	**50**	⇓P	**Pn**	**01 34 04.3**	**+0.2**
LRK	**Lerik**	**3.65**	**95**	⇓P	**Pn**	**01 34 08.1**	**+1.0**
LRK				⇓S	**Sn**	**01 34 52.9**	**+2.2**
GLBA	**Clilabad**	**3.65**	**86**	⇑P	**Pn**	**01 34 07.5**	**+0.5**
QBL	**Gabala**	**3.70**	**58**	⇓P	**Pn**	**01 34 08.0**	**+0.4**
IML	**Ismayilli**	**3.86**	**62**	⇑P	**Pn**	**01 34 10.4**	**+0.5**
LKRN	**Lenkeran, Azer**	**3.98**	**93**	⇓P	**Pn**	**01 34 10.9**	**-0.6**
LKRN				⇓S	**Sn**	**01 35 01.3**	**+2.7**
ASTR	**Astara**	**4.01**	**96**	⇑P	**Pn**	**01 34 12.8**	**+0.9**
PQL	**Pirkuli**	**4.14**	**64**	⇓P	**Pn**	**01 34 15.4**	**+1.5**

MAN 13 01:46:35,10.33N×123.27E,h26km,mb3.9,ML2.7,MS2.3, 1D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.69**	**91**	*e*P	Pn	01 46 49.5	+0.4
LLP				*e*S	Sn	01 47 00.6	+1.6
GUIM	**Jordan**	**0.72**	**294**	*e*P	Pn	01 46 49.8	+0.2
GUIM				*e*S	Sn	01 47 01.6	+1.7
TBP	**Tagbilaran**	**0.87**	**137**	*e*P	Pn	01 46 51.9	+0.3
TBP				*i* S	Sn	01 47 04.7	+1.3
RCP	**Roxas**	**1.32**

*WEL **13** 02:11:29.4, 38°6S±0.7°, 9×17°6E±°, h99km±1km*
*NEIC **13** 02:11:29.6±0.0, 38°60S×176°48E, h99km, ML4.9(WEL), After WEL.*
NEIC Felt at Reporoa, Rerewhakaaitu, Rotorua, Taihape, Tikokino, Waipawa, Wairoa and Whataupoko.

ISC 13 02:11:28.8±0.7, 38°67S±0.0°, 3×176°47E±0.0°, 3, h108km±4km, n252, σ1℘01/257, mb4.2/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALRZ	**Allen Road**	**0.14**	**318**	Pn	**Pn**	**02 11 43.1**	**-0.7**
ALRZ	**Allen Road**	**0.14**	**318**	P	**Pn**	**02 11 43.2**	**-0.7**
ALRZ	**Allen Road**	**0.14**	**318**	S	**Sn**	**02 11 53.9**	**-1.2**
MRHZ	**Matea Rd**	**0.17**	**194**	P	**Pn**	**02 11 43.7**	**-0.3**
MRHZ	**Matea Rd**	**0.17**	**194**	S	**Sn**	**02 11 54.2**	**-1.1**
PRRZ	**Plateau Road**	**0.18**	**341**	Pn	**Pn**	**02 11 43.3**	**-0.6**
PRRZ	**Plateau Road**	**0.18**	**341**	P	**Pn**	**02 11 43.3**	**-0.6**
WPRZ	**Whakapapataran**	**0.28**	**302**	Pn	**Pn**	**02 11 43.9**	**-0.4**
WPRZ	**Whakapapataran**	**0.28**	**302**	P	**Pn**	**02 11 43.9**	**-0.4**
MUGZ	**Murupara**	**0.30**	**51**	P	**Pn**	**02 11 43.6**	**-0.7**
MUGZ	**Murupara**	**0.30**	**51**	S	**Sn**	**02 11 54.1**	**-1.9**
HRRZ	**Handcock Road**	**0.31**	**333**	Pn	**Pn**	**02 11 43.9**	**-0.6**
HRRZ	**Handcock Road**	**0.31**	**333**	P	**Pn**	**02 11 43.9**	**-0.6**
RRRZ	**Republican Roa**	**0.33**	**6**	Pn	**Pn**	**02 11 43.8**	**-0.7**
RRRZ	**Republican Roa**	**0.33**	**6**	P	**Pn**	**02 11 43.8**	**-0.7**
RRRZ	**Republican Roa**	**0.33**	**6**	S	**Sn**	**02 11 54.7**	**-1.6**
MTHZ	**Maungataniwha**	**0.34**	**122**	P	**Pn**	**02 11 44.5**	**-0.1**
MTHZ	**Maungataniwha**	**0.34**	**122**	S	**Sn**	**02 11 55.9**	**-0.6**
HATZ	**Hinemaiaia**	**0.37**	**233**	Pn	**Pn**	**02 11 44.6**	**0.0**
HATZ	**Hinemaiaia**	**0.37**	**233**	P	**Pn**	**02 11 44.7**	**0.0**
HATZ	**Hinemaiaia**	**0.37**	**233**	S	**Sn**	**02 11 55.4**	**-1.2**
HSRZ	**Hossack Road**	**0.40**	**334**	P	**Pn**	**02 11 44.4**	**-0.4**
WHTZ	**Whakaora**	**0.40**	**270**	Pn	**Pn**	**02 11 45.0**	**+0.2**
WHTZ	**Whakaora**	**0.40**	**270**	P	**Pn**	**02 11 45.1**	**+0.2**
RTZ	**Ruatahuna**	**0.41**	**83**	P	**Pn**	**02 11 44.5**	**-0.4**
RTZ	**Ruatahuna**	**0.41**	**83**	S	**Sn**	**02 11 55.7**	**-1.3**
GRRZ	**Galatos Road**	**0.42**	**319**	P	**Pn**	**02 11 44.8**	**-0.2**
HLRZ	**Highlands Stat**	**0.43**	**348**	P	**Pn**	**02 11 44.7**	**-0.3**
TARZ	**Mount Tarawera**	**0.43**	**4**	Pn	**Pn**	**02 11 44.4**	**-0.7**
TARZ	**Mount Tarawera**	**0.43**	**4**	P	**Pn**	**02 11 44.5**	**-0.7**
BKZ	**Black Stump Fm**	**0.50**	**178**	P	**Pn**	**02 11 45.7**	**+0.2**
BKZ	**Black Stump Fm**	**0.50**	**178**	S	**Sn**	**02 11 57.6**	**-0.4**
NMHZ	**Naumai**	**0.50**	**148**	Pn	**Pn**	**02 11 46.5**	**+1.0**
NMHZ	**Naumai**	**0.50**	**148**	P	**Pn**	**02 11 46.6**	**+1.0**
MKRZ	**Makatiti**	**0.53**	**360**	Pn	**Pn**	**02 11 45.5**	**-0.3**
MKRZ	**Makatiti**	**0.53**	**360**	P	**Pn**	**02 11 45.7**	**-0.1**
KUTZ	**Kaahu Road**	**0.54**	**289**	Pn	**Pn**	**02 11 45.6**	**0.0**
KUTZ	**Kaahu Road**	**0.54**	**289**	P	**Pn**	**02 11 45.7**	**0.0**
UTU	**Utuhina**	**0.54**	**336**	Pn	**Pn**	**02 11 45.4**	**-0.2**
UTU	**Utuhina**	**0.54**	**336**	P	**Pn**	**02 11 45.5**	**-0.2**
RAHZ	**Arahi**	**0.54**	**117**	P	**Pn**	**02 11 46.2**	**+0.5**
RAHZ	**Arahi**	**0.54**	**117**	S	**Sn**	**02 11 59.0**	**+0.5**
OMRZ	**Omania**	**0.57**	**352**	Pn	**Pn**	**02 11 45.2**	**-0.7**
OMRZ	**Omania**	**0.57**	**352**	P	**Pn**	**02 11 45.3**	**-0.7**
RITZ	**Rihia Road**	**0.57**	**237**	Pn	**Pn**	**02 11 46.5**	**+0.6**
RITZ	**Rihia Road**	**0.57**	**237**	P	**Pn**	**02 11 46.6**	**+0.6**
WATZ	**Wairara**	**0.58**	**266**	Pn	**Pn**	**02 11 46.0**	**+0.1**
WATZ	**Wairara**	**0.58**	**266**	P	**Pn**	**02 11 46.1**	**+0.1**
RATZ	**Rangitukua**	**0.58**	**250**	Pn	**Pn**	**02 11 46.2**	**+0.2**
RATZ	**Rangitukua**	**0.58**	**250**	P	**Pn**	**02 11 46.2**	**+0.2**
EDRZ	**Edgecumbe**	**0.60**	**21**	Pn	**Pn**	**02 11 45.3**	**-1.0**
EDRZ	**Edgecumbe**	**0.60**	**21**	P	**Pn**	**02 11 45.3**	**-1.0**
NGRZ	**Ngongotaha**	**0.61**	**330**	P	**Pn**	**02 11 46.0**	**-0.3**
URZ	**Urewera**	**0.65**	**51**	P	**Pn**	**02 11 45.5**	**-1.0**
	588nm,0.3s,baz=238,slow=5.9,SNR=2084						
URZ				LR	LR	02 11 49.5	
	comp=Z,39nm,19.9s,baz=92,slow=31						
URZ				S	**Sn**	**02 11 57.5**	**-2.3**
	3μm,0.3s,baz=40,slow=18,SNR=164						
URZ	**Urewera**	**0.65**	**51**	P	**Pn**	**02 11 45.7**	**-0.8**
LIRZ	**Lichensteins R**	**0.67**	**354**	P	**Pn**	**02 11 46.1**	**-0.7**
KARZ	**Kaharoa**	**0.67**	**345**	Pn	**Pn**	**02 11 46.2**	**-0.6**
KARZ	**Kaharoa**	**0.67**	**345**	P	**Pn**	**02 11 46.2**	**-0.6**
KATZ	**Kakaramea**	**0.68**	**243**	Pn	**Pn**	**02 11 47.2**	**+0.3**
KATZ	**Kakaramea**	**0.68**	**243**	P	**Pn**	**02 11 47.2**	**+0.3**
SNGZ	**Shannon Statio**	**0.69**	**100**	Pn	**Pn**	**02 11 47.3**	**+0.4**
SNGZ	**Shannon Statio**	**0.69**	**100**	P	**Pn**	**02 11 47.3**	**+0.4**
MARZ	**Manawahe**	**0.70**	**13**	Pn	**Pn**	**02 11 46.3**	**-0.8**
MARZ	**Manawahe**	**0.70**	**13**	P	**Pn**	**02 11 46.1**	**-0.9**
ARHZ	**Aropaoanui**	**0.72**	**145**	Pn	**Pn**	**02 11 48.1**	**+1.0**
ARHZ	**Aropaoanui**	**0.72**	**145**	P	**Pn**	**02 11 48.1**	**+1.0**
WHHZ	**Waihua**	**0.72**	**124**	P	**Pn**	**02 11 47.9**	**+0.8**
KWHZ	**Kaweka Forest**	**0.76**	**183**	P	**Pn**	**02 11 48.4**	**+0.9**
RAGZ	**Rawiri**	**0.76**	**77**	Pn	**Pn**	**02 11 47.4**	**-0.1**
RAGZ	**Rawiri**	**0.76**	**77**	P	**Pn**	**02 11 47.5**	**-0.1**
KRVZ	**Karewarewa**	**0.77**	**236**	P	**Pn**	**02 11 48.5**	**+0.8**
MCHZ	**McNeill Hill**	**0.79**	**167**	Pn	**Pn**	**02 11 49.0**	**+1.2**
MCHZ	**McNeill Hill**	**0.79**	**167**	P	**Pn**	**02 11 49.1**	**+1.2**
OTVZ	**Oturere**	**0.80**	**232**	Pn	**Pn**	**02 11 48.3**	**+0.3**
TLZ	**Tolley Road**	**0.81**	**295**	Pn	**Pn**	**02 11 47.5**	**-0.4**
TLZ	**Tolley Road**	**0.81**	**295**	P	**Pn**	**02 11 48.2**	**+0.3**
WTVZ	**West Tongariro**	**0.82**	**237**	Pn	**Pn**	**02 11 48.7**	**+0.6**
WTVZ	**West Tongariro**	**0.82**	**237**	P	**Pn**	**02 11 48.8**	**+0.6**
OPRZ	**Ohinepanea**	**0.83**	**5**	Pn	**Pn**	**02 11 46.9**	**-1.2**
OPRZ	**Ohinepanea**	**0.83**	**5**	P	**Pn**	**02 11 47.2**	**-0.9**
NGZ	**Ngauruhoe**	**0.84**	**233**	Pn	**Pn**	**02 11 49.2**	**+0.8**
NGZ	**Ngauruhoe**	**0.84**	**233**	P	**Pn**	**02 11 49.2**	**+0.8**
TUVZ	**Tukino**	**0.87**	**226**	Pn	**Pn**	**02 11 49.4**	**+0.7**
TUVZ	**Tukino**	**0.87**	**226**	P	**Pn**	**02 11 49.4**	**+0.7**
BHHZ	**Black Hill Sta**	**0.88**	**201**	Pn	**Pn**	**02 11 49.3**	**+0.7**
BHHZ	**Black Hill Sta**	**0.88**	**201**	P	**Pn**	**02 11 49.3**	**+0.7**
COVZ	**Chateau Observ**	**0.90**	**233**	P	**Pn**	**02 11 49.4**	**+0.5**
COVZ	**Chateau Observ**	**0.90**	**233**	P	**Pn**	**02 11 49.6**	**+0.7**
MWZ	**Matawai**	**0.90**	**68**	Pn	**Pn**	**02 11 48.1**	**-0.7**
MWZ	**Matawai**	**0.90**	**68**	P	**Pn**	**02 11 48.5**	**-0.4**
TWVZ	**Taurewa**	**0.90**	**243**	Pn	**Pn**	**02 11 49.4**	**+0.5**
TWVZ				Sn	**Sn**	**02 12 03.8**	**-0.3**
TWVZ	**Taurewa**	**0.90**	**243**	P	**Pn**	**02 11 49.4**	**+0.5**
TWVZ	**Taurewa**	**0.90**	**243**	P	**Pn**	**02 11 49.4**	**+0.5**
WHRZ	**Whale Island**	**0.91**	**26**	P	**Pn**	**02 11 48.4**	**-0.4**
WHVZ	**Whangaehu Hut**	**0.92**	**226**	Pn	**Pn**	**02 11 49.6**	**+0.3**
WHVZ	**Whangaehu Hut**	**0.92**	**228**	P	**Pn**	**02 11 49.9**	**+0.7**
KMRZ	**Kaimai**	**0.92**	**333**	P	**Pn**	**02 11 48.8**	**-0.2**
FWVZ	**Far West T-bar**	**0.92**	**230**	Pn	**Pn**	**02 11 49.6**	**+0.3**
FWVZ	**Far West T-bar**	**0.92**	**230**	P	**Pn**	**02 11 49.9**	**+0.6**
MOVZ	**Moawhango**	**0.92**	**217**	Pn	**Pn**	**02 11 49.5**	**+0.4**
MOVZ				Sn	**Sn**	**02 12 03.9**	**-0.5**
MOVZ	**Moawhango**	**0.92**	**217**	P	**Pn**	**02 11 49.6**	**+0.4**
DRZ	**Dome Shelter**	**0.93**	**229**	Pn	**Pn**	**02 11 50.1**	**+0.7**
DRZ	**Dome Shelter**	**0.93**	**229**	P	**Pn**	**02 11 50.1**	**+0.7**
WNVZ	**Wahianoa**	**0.94**	**226**	Pn	**Pn**	**02 11 50.0**	**+0.6**
TGRZ	**Tauranga**	**0.95**	**350**	Pn	**Pn**	**02 11 48.9**	**-0.4**
TGRZ	**Tauranga**	**0.95**	**350**	P	**Pn**	**02 11 48.9**	**-0.4**
KRHZ	**Kereru**	**0.98**	**184**	P	**Pn**	**02 11 50.3**	**+0.7**
KNZ	**Kokohu**	**1.00**	**111**	Pn	**Pn**	**02 11 49.8**	**0.0**
KNZ	**Kokohu**	**1.00**	**111**	P	**Pn**	**02 11 50.1**	**+0.3**
RIGZ	**Rimuhau**	**1.01**	**92**	P	**Pn**	**02 11 50.2**	**+0.2**
MTVZ	**Mangateitei**	**1.06**	**227**	Pn	**Pn**	**02 11 51.3**	**+0.8**
MTVZ	**Mangateitei**	**1.06**	**227**	P	**Pn**	**02 11 51.3**	**+0.8**
PKVZ	**Pokaka**	**1.07**	**234**	Pn	**Pn**	**02 11 51.4**	**+0.8**
PKVZ	**Pokaka**	**1.07**	**234**	P	**Pn**	**02 11 51.4**	**+0.8**
CKHZ	**Cape Kidnapper**	**1.09**	**155**	Pn	**Pn**	**02 11 51.8**	**+1.0**
CKHZ	**Cape Kidnapper**	**1.09**	**155**	P	**Pn**	**02 11 51.8**	**+1.0**
TKGZ	**Te Karaka**	**1.11**	**78**	Pn	**Pn**	**02 11 51.3**	**+0.3**
TKGZ	**Te Karaka**	**1.11**	**78**	P	**Pn**	**02 11 51.4**	**+0.5**
PRGZ	**Paritu Road**	**1.14**	**103**	Pn	**Pn**	**02 11 51.5**	**+0.2**
PRGZ	**Paritu Road**	**1.14**	**103**	P	**Pn**	**02 11 51.5**	**+0.2**
KAHZ	**Kahuranaki**	**1.17**	**164**	Pn	**Pn**	**02 11 52.6**	**+1.0**
KAHZ	**Kahuranaki**	**1.17**	**164**	P	**Pn**	**02 11 52.6**	**+1.0**
RUGZ	**Raukumara Rang**	**1.18**	**54**	P	**Pn**	**02 11 51.0**	**-1.0**
TOZ	**Tahuroa Road**	**1.21**	**321**	Pn	**Pn**	**02 11 51.5**	**-0.5**
TOZ	**Tahuroa Road**	**1.21**	**321**	P	**Pn**	**02 11 52.2**	**+0.2**
MHGZ	**Mahia Peninsul**	**1.22**	**114**	Pn	**Pn**	**02 11 52.8**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.22**	**114**	P	**Pn**	**02 11 52.8**	**+0.6**
PNHZ	**Pukenui**	**1.26**	**189**	P	**Pn**	**02 11 53.0**	**+0.3**
HIZ	**Hauiti**	**1.27**	**277**	Pn	**Pn**	**02 11 52.9**	**+0.1**
HIZ	**Hauiti**	**1.27**	**277**	P	**Pn**	**02 11 53.6**	**+0.8**
WIZ	**White Island**	**1.27**	**27**	P	**Pn**	**02 11 52.0**	**-0.8**
TWGZ	**Tauwhareparae**	**1.29**	**68**	Pn	**Pn**	**02 11 53.2**	**+0.2**
TWGZ	**Tauwhareparae**	**1.29**	**68**	P	**Pn**	**02 11 53.2**	**+0.2**
TWGZ	**Tauwhareparae**	**1.29**	**68**	P	**Pn**	**02 11 53.2**	**+0.2**
CNGZ	**Carnagh Statio**	**1.38**	**83**	Pn	**Pn**	**02 11 54.4**	**+0.4**
CNGZ	**Carnagh Statio**	**1.38**	**83**	P	**Pn**	**02 11 54.4**	**+0.4**
HAZ	**Te Kaha**	**1.38**	**49**	P	**Pn**	**02 11 53.0**	**-1.0**
WPHZ	**Waipukurau**	**1.39**	**181**	Pn	**Pn**	**02 11 54.6**	**+0.4**
WPHZ	**Waipukurau**	**1.39**	**181**	P	**Pn**	**02 11 54.6**	**+0.4**
PXZ	**Pawanui**	**1.39**	**167**	Pn	**Pn**	**02 11 54.5**	**+0.3**
PXZ				Sn	**Sn**	**02 12 13.1**	**-0.3**
PXZ	**Pawanui**	**1.39**	**167**	P	**Pn**	**02 11 54.8**	**+0.6**
VRZ	**Vera Road**	**1.41**	**251**	Pn	**Pn**	**02 11 55.4**	**+1.1**
VRZ	**Vera Road**	**1.41**	**251**	P	**Pn**	**02 11 55.5**	**+1.1**
TSZ	**Takapari Road**	**1.44**	**196**	Pn	**Pn**	**02 11 54.8**	**0.0**
TSZ	**Takapari Road**	**1.44**	**196**	P	**Pn**	**02 11 55.1**	**+0.3**
PKGZ	**Pakihiroa**	**1.49**	**59**	P	**Pn**	**02 11 55.2**	**-0.2**
PUZ	**Puketiti**	**1.53**	**68**	Pn	**Pn**	**02 11 55.3**	**-0.5**
PUZ	**Puketiti**	**1.53**	**68**	P	**Pn**	**02 11 55.5**	**-0.3**
WAZ	**Wanganui**	**1.58**	**226**	Pn	**Pn**	**02 11 57.7**	**+1.3**
WAZ	**Wanganui**	**1.58**	**226**	P	**Pn**	**02 11 57.7**	**+1.3**
PRHZ	**Porangahau**	**1.60**	**175**	Pn	**Pn**	**02 11 57.0**	**+0.3**
PRHZ	**Porangahau**	**1.60**	**175**	P	**Pn**	**02 11 57.0**	**+0.3**
DVHZ	**Dannevirke**	**1.64**	**188**	Pn	**Pn**	**02 11 57.1**	**-0.2**
DVHZ				Sn	**Sn**	**02 12 18.0**	**-0.9**
DVHZ	**Dannevirke**	**1.64**	**188**	P	**Pn**	**02 11 57.1**	**-0.2**
MHEZ	**Mangahewa**	**1.72**	**256**	P	**Pn**	**02 12 00.3**	**+2.1**
WMGZ	**Waiomatatini S**	**1.75**	**62**	Pn	**Pn**	**02 11 58.2**	**-0.4**
WMGZ	**Waiomatatini S**	**1.75**	**62**	P	**Pn**	**02 11 58.2**	**-0.4**
OHWZ	**Ohakea**	**1.77**	**210**	P	**Pn**	**02 11 59.7**	**+0.9**
ANWZ	**Angora Road**	**1.79**	**180**	P	**Pn**	**02 11 59.3**	**+0.3**
LREZ	**Lake Rotokare**	**1.79**	**243**	P	**Pn**	**02 12 00.5**	**+1.4**
POWZ	**Post Office Ro**	**1.80**	**197**	Pn	**Pn**	**02 11 59.1**	**-0.1**
POWZ	**Post Office Ro**	**1.80**	**197**	P	**Pn**	**02 11 59.2**	**-0.1**
MXZ	**Matakaoa Point**	**1.82**	**53**	Pn	**Pn**	**02 11 59.4**	**-0.1**
MXZ	**Matakaoa Point**	**1.82**	**53**	P	**Pn**	**02 11 59.5**	**+0.1**
DREZ	**Durham Road**	**1.84**	**253**	Pn	**Pn**	**02 12 01.4**	**+1.7**
DREZ	**Durham Road**	**1.84**	**253**	P	**Pn**	**02 12 01.4**	**+1.7**
MKAZ	**Moumakai**	**1.87**	**326**	Pn	**Pn**	**02 11 59.7**	**-0.3**
MKAZ	**Moumakai**	**1.87**	**326**	P	**Pn**	**02 12 00.4**	**+0.3**
PRWZ	**Pori Road**	**1.92**	**191**	Pn	**Pn**	**02 12 00.7**	**0.0**
PRWZ	**Pori Road**	**1.92**	**191**	P	**Pn**	**02 12 00.8**	**+0.1**
NEZ	**North Egmont**	**1.94**	**251**	Pn	**Pn**	**02 12 02.8**	**+1.7**
PKE	**Pukeiti**	**2.00**	**254**	Pn	**Pn**	**02 12 03.1**	**+1.3**
PKE	**Pukeiti**	**2.00**	**254**	P	**Pn**	**02 12 03.2**	**+1.5**
KBAZ	**Karaka Road Bo**	**2.01**	**321**	P	**Pn**	**02 12 02.4**	**+0.6**
KUZ	**Kuaotunu**	**2.01**	**343**	Pn	**Pn**	**02 12 01.4**	**-0.5**
KUZ	**Kuaotunu**	**2.01**	**343**	P	**Pn**	**02 12 01.6**	**-0.2**
KHEZ	**Kahui Hut**	**2.01**	**251**	Pn	**Pn**	**02 12 03.5**	**+1.6**
BFZ	**Birch Farm**	**2.02**	**185**	Pn	**Pn**	**02 12 01.6**	**-0.3**
BFZ	**Birch Farm**	**2.02**	**185**	P	**Pn**	**02 12 01.6**	**-0.3**
ETAZ	**East Tamaki Re**	**2.10**	**324**	Pn	**Pn**	**02 12 03.5**	**+0.5**
ETAZ	**East Tamaki Re**	**2.10**	**324**	P	**Pn**	**02 12 03.5**	**+0.5**
MRZ	**Mangatainoka R**	**2.10**	**199**	Pn	**Pn**	**02 12 02.3**	**-0.7**
MRZ	**Mangatainoka R**	**2.10**	**199**	P	**Pn**	**02 12 02.5**	**-0.5**
WIAZ	**Waiheke Island**	**2.15**	**330**	P	**Pn**	**02 12 03.9**	**+0.3**
TIWZ	**Tintock**	**2.15**	**192**	Pn	**Pn**	**02 12 03.3**	**-0.3**
TIWZ	**Tintock**	**2.15**	**192**	P	**Pn**	**02 12 03.4**	**-0.3**
AWAZ	**Awhitu Peninsu**	**2.16**	**317**	P	**Pn**	**02 12 04.2**	**+0.5**
CPWZ	**Castlepoint**	**2.25**	**185**	Pn	**Pn**	**02 12 05.0**	**+0.2**
CPWZ	**Castlepoint**	**2.25**	**185**	P	**Pn**	**02 12 05.0**	**+0.2**
WTAZ	**Waiatarua**	**2.29**	**319**	P	**Pn**	**02 12 06.2**	**+0.7**
HOWZ	**Holdsworth Sta**	**2.34**	**198**	Pn	**Pn**	**02 12 05.3**	**-0.9**
HOWZ	**Holdsworth Sta**	**2.34**	**198**	P	**Pn**	**02 12 05.2**	**-0.9**
OGWZ	**Otaki Gorge**	**2.37**	**205**	Pn	**Pn**	**02 12 05.9**	**-0.5**
OGWZ	**Otaki Gorge**	**2.37**	**205**	P	**Pn**	**02 12 05.9**	**-0.5**
ABAZ	**Army Bay**	**2.44**	**327**	P	**Pn**	**02 12 08.0**	**+0.7**
TMWZ	**Te Maipa**	**2.48**	**190**	Pn	**Pn**	**02 12 07.0**	**-0.8**
TMWZ	**Te Maipa**	**2.48**	**190**	P	**Pn**	**02 12 07.1**	**-0.8**
KIW	**Kapiti Island**	**2.50**	**208**	Pn	**Pn**	**02 12 07.3**	**-0.8**
KIW	**Kapiti Island**	**2.50**	**208**	P	**Pn**	**02 12 07.3**	**-0.8**
GRZ	**Great Barrier**	**2.54**	**341**	P	**Pn**	**02 12 08.8**	**+0.1**
MTW	**Mount Morrison**	**2.59**	**196**	Pn	**Pn**	**02 12 08.1**	**-1.2**
MTW	**Mount Morrison**	**2.59**	**196**	P	**Pn**	**02 12 08.1**	**-1.2**
CAW	**Cannon Point**	**2.66**	**203**	Pn	**Pn**	**02 12 09.2**	**-1.1**
CAW	**Cannon Point**	**2.66**	**203**	P	**Pn**	**02 12 09.2**	**-1.1**
TRWZ	**Traveller**	**2.79**	**192**	Pn	**Pn**	**02 12 10.8**	**-1.1**
TRWZ	**Traveller**	**2.79**	**192**	P	**Pn**	**02 12 10.9**	**-1.1**
PAWZ	**Paruwai Farm**	**2.83**	**196**	Pn	**Pn**	**02 12 10.9**	**-1.5**
PAWZ	**Paruwai Farm**	**2.83**	**196**	P	**Pn**	**02 12 10.9**	**-1.5**
MSWZ	**Moikau Station**	**2.90**	**198**	Pn	**Pn**	**02 12 11.7**	**-1.7**
MSWZ	**Moikau Station**	**2.90**	**198**	P	**Pn**	**02 12 11.7**	**-1.7**
WEL	**Wellington**	**2.92**	**206**	Pn	**Pn**	**02 12 12.3**	**-1.3**
BHW	**Baring Head**	**3.00**	**204**	Pn	**Pn**	**02 12 13.0**	**-1.6**
BHW	**Baring Head**	**3.00**	**204**	P	**Pn**	**02 12 13.0**	**-1.6**
PLWZ	**Palliser**	**3.04**	**197**	Pn	**Pn**	**02 12 13.5**	**-1.8**
PLWZ	**Palliser**	**3.04**	**197**	P	**Pn**	**02 12 13.5**	**-1.8**
TCW	**Tory Channel**	**3.05**	**213**	Pn	**Pn**	**02 12 13.8**	**-1.5**
TCW	**Tory Channel**	**3.05**	**213**	P	**Pn**	**02 12 13.8**	**-1.5**
WCZ	**Waipu Caves**	**3.21**	**328**	P	**Pn**	**02 12 18.2**	**+0.7**
TUWZ	**Tuamarina**	**3.37**	**214**	Pn	**Pn**	**02 12 18.0**	**-1.6**
TUWZ	**Tuamarina**	**3.37**	**214**	P	**Pn**	**02 12 18.0**	**-1.6**
NNZ	**Nelson**	**3.48**	**222**	Pn	**Pn**	**02 12 19.5**	**-1.6**
NNZ	**Nelson**	**3.48**	**222**	P	**Pn**	**02 12 19.3**	**-1.8**
BSWZ	**Blackbirch Sta**	**3.63**	**212**	Pn	**Pn**	**02 12 21.4**	**-1.8**
BSWZ	**Blackbirch Sta**	**3.63**	**212**	P	**Pn**	**02 12 21.4**	**-1.8**
QRZ	**Quartz Range**	**3.72**	**233**	Pn	**Pn**	**02 12 22.9**	**-1.4**
QRZ	**Quartz Range**	**3.72**	**233**	P	**Pn**	**02 12 22.9**	**-1.3**
THZ	**Tophouse**	**4.12**	**220**	Pn	**Pn**	**02 12 27.9**	**-1.8**
THZ	**Tophouse**	**4.12**	**220**	P	**Pn**	**02 12 28.0**	**-1.7**
OUZ	**Omahuta**	**4.14**	**325**	P	**Pn**	**02 12 30.8**	**+0.8**
KHZ	**Kahutara**	**4.36**	**210**	Pn	**Pn**	**02 12 30.4**	**-2.4**
KHZ	**Kahutara**	**4.36**	**210**	P	**Pn**	**02 12 30.5**	**-2.4**
LTZ	**Lake Taylor**	**5.20**	**216**	Pn	**Pn**	**02 12 41.1**	**-3.2**
OXZ	**Oxford**	**5.73**	**214**	Pn	Pn	02 12 47.2	-4.2
MQZ	**McQueen's Vall**	**5.80**	**209**	Pn	Pn	02 12 47.8	-4.5
WVZ	**Waitaha Valley**	**6.18**	**223**	Pn	**Pn**	**02 12 56.8**	**-0.8**
RPZ	**Rata Peaks**	**6.49**	**217**	P	**Pn**	**02 12 59.0**	**-2.6**
	2.4nm,0.3s,baz=310,slow=1.7,SNR=9.0						
RPZ				S	**Sn**	**02 14 08.6**	**-5.5**
	24nm,0.3s,baz=133,slow=23,SNR=28						
CTZ	**Chatham Island**	**7.26**	**136**	Pn	**Pn**	**02 13 13.1**	**+0.9**
LBZ	**Lake Benmore**	**7.40**	**218**	Pn	**Pn**	**02 13 11.5**	**-2.6**
TUZ	**Tuapeka**	**8.87**	**213**	Pn	**Pn**	**02 13 31.1**	**-2.8**
STKA	**Stephens Creek**	**29.14**	**273**	LR	LR	02 27 53.4	
	comp=Z,40nm,20.1s,baz=195,slow=34						
ASAR	**Alice Springs**	**39.01**	**280**	P	**P**	**02 18 46.5**	**+1.5**
	11nm,0.8s,baz=127,slow=8.8,SNR=88						
WRA	**Warramunga Arr**	**40.79**	**285**	P	**P**	**02 19 00.6**	**+1.0**
	1.7nm,0.7s,baz=127,slow=7.1,SNR=16						
KSRS	**Korea Array**	**87.96**	**323**	P	**P**	**02 24 08.1**	**+1.8**
	1.6nm,0.6s,baz=138,slow=5.1,SNR=4.9						
KSAR	**Wonju Array Be**	**87.97**	**323**	P	**P**	**02 24 08.1**	**+1.7**
KURK	**Kurchatov**	**123.25**	**311**	PKP	**PKPdf**	**02 30 11.7**	**-0.5**
KURBB	**Kurchatov Arra**	**123.27**	**311**	PKP	**PKPdf**	**02 30 11.7**	**-0.6**
	0.4nm,0.6s,baz=116,slow=2.5,SNR=4.1						
KBZ	**Khabaz**	**145.06**	**293**	PKPbc	**PKPbc**	**02 30 52.9**	**+0.3**
	3.7nm,0.8s,baz=101,slow=2.9,SNR=6.5						
ARCES	**ARCESS Array B**	**145.41**	**343**	PKPbc	**PKPdf**	**02 30 52.8**	**0.0**
	2.3nm,0.6s,baz=43,slow=4.0,SNR=13						
MMAI	**Mount Meron Ar**	**148.11**	**272**	PKPbc	**PKPbc**	**02 31 03.0**	**+1.1**
	1.6nm,0.6s,baz=94,slow=5.8,SNR=3.9						
FINES	**FINES Array B**	**150.78**	**331**	PKPbc	**PKPbc**	**02 31 06.9**	**-0.5**
	4.4nm,0.9s,baz=60,slow=5.0,SNR=9.0						
FINES				PKPab	**PKPab**	**02 31 14.4**	**-0.6**
	0.8nm,0.5s,baz=56,slow=4.8,SNR=6.1						
BRTR	**Keskin Array B**	**151.30**	**284**	PKPbc	**PKPbc**	**02 31 09.3**	**-0.3**
	1.5nm,0.8s,baz=154,slow=5.9,SNR=5.9						
BRTR				PKPab	**PKPab**	**02 31 18.0**	**-0.1**
	1.6nm,0.8s,baz=123,slow=3.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**154.16**	**192**	PKPbc	**PKPbc**	**02 31 17.4**	**+1.0**
	0.3nm,0.7s,baz=156,slow=3.0,SNR=3.9						

MAN 13 02:31:03, 18°04N×120°46E, h37km, mb4.3, ML3.1, MS2.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.46**	**148**	*eP*	Pn	02 31 15.0	+2.0
ABRA				*eS*	Sn	02 31 23.9	+3.9
APYP	**Conner**	**0.77**	**103**	*eP*	Pn	02 31 18.9	+1.6
APYP				*eS*	Sn	02 31 30.2	+2.5
BALP	**Baler**	**2.53**	**155**	*eP*	Pn	02 31 43.9	+2.4

*EAF **13** 02:39:52.6±3.4, 10°88S×43°48E, h0km±999km, MD4.6*
*ISCJB **13** 02:39:53.8±0.2, 10°90S±0°04×43°25E±0°04, h10km, mb4.5/74, MS4.1/38, Error ellipse: s-maj=6.0km s-min=5.3km az=168.8*
*MOS **13** 02:39:53.8±1.1, 10°84S×43°21E, h10km, mb4.8/33, MS4.0/5, Error ellipse: s-maj=10.9km s-min=7.2km az=96.5*
*IDC **13** 02:39:53.9±0.6, 10°97S×43°37E, h0km, mb4.1/28, mb1 4.3/31, mb1mx4.1/65, mbtmp4.2/31, ML4.8/4, MS4.1/37, Ms1 4.1/37, ms1mx3.9/60, Error ellipse: s-maj=16.2km s-min=12.7km az=129.0*
*GCMT **13** 02:39:55.7±0.3, 10°88S×43°33E, h53km±3km, MW4.9/69, Moment Tensor Solution. s15,c18; s69,c93; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.61±.25; Mθθ 0.09±.18; Mφφ 0.51±.18; Mrθ-0.15±.11; Mθφ-2.36

GNI pmax pmax
comp=Z,77nm,1.7s
DBIC Dimbokro 50.95 288 P **P 02 48 58.4 +1.1**
comp=Z,4.0nm,1.1s,baz=92,slow=8.8,SNR=5.0
DBIC LR LR 03 09 56.2
comp=Z,195nm,19.1s,baz=98,slow=35
DBIC Dimbokro 50.95 288 *eP* **P 02 48 58.3 +1.1**
DBIC pmax pmax
comp=Z,7.0nm,1.0s
DBIC Dimbokro 50.95 288 *eP* **P 02 48 58.3 +1.1**
comp=Z,7.4nm,1.0s
LIC Lamto 50.97 287 *eP* **P 02 48 57.1 -0.2**
comp=Z,33nm,1.2s
TIC Toumodi 51.10 288 *eP* **P 02 48 59.5 +1.2**
BR101 Keskin Array S 51.23 351 *eP* **P 02 49 00.4 +1.5**
BRTR Keskin Array B 51.23 351 P **P 02 49 00.4 +1.5**
comp=Z,0.5nm,0.7s,baz=180,slow=7.9,SNR=3.4
BR231 Keskin MP Arra 51.49 350 *eP* **P 02 49 00.5 -0.4**
KOWA Kowa 53.22 297 P **P 02 49 15.7 +1.7**
comp=Z,2.0nm,0.9s,baz=131,slow=5.1,SNR=4.6
KOWA LR LR 03 12 12.6
comp=Z,342nm,19.6s,baz=116,slow=36
KOWA Kowa 53.22 297 *eP* **P 02 49 15.7 +1.7**
comp=Z,20nm,1.4s
AGG Agios Georgios 53.42 340 *eP* **P 02 49 13.4 -1.7**
AGG pmax pmax
comp=Z,77nm,1.1s
AGG Agios Georgios 53.42 340 *eP* **P 02 49 13.4 -1.7**
comp=Z,77nm,1.1s
ZEI Tsey 53.52 1 *eP* **P 02 49 17.7 +1.8**
ZEI pmax pmax
comp=Z,13nm,0.6s
KBZ Khabaz 54.45 360 P **P 02 49 23.8 +1.3**
comp=Z,1.6nm,0.9s,baz=217,slow=20,SNR=2.4
KIV Kislovodsk 54.68 360 *eP* **P 02 49 24.5 +0.2**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,59nm,16.0s
PYUN Piuthan 54.69 44 *eP* **P 02 49 24.5 -0.3**
KOLN Koldanda 54.90 45 *eP* **P 02 49 26.0 -0.4**
VAE Valguarnera 55.26 332 LR LR 03 13 49.7
comp=Z,88nm,19.2s,baz=145,slow=37
DANN Dangsing 55.38 44 *eP* **P 02 49 29.8 -0.1**
comp=Z,2.0nm,0.9s
DMN Daman 55.85 46 *eP* **P 02 49 33.1 -0.2**
PKIN Phulchoki 56.04 46 *eP* **P 02 49 34.2 -0.4**
PKI Pulchoki 56.04 46 *eP* **P 02 49 34.4 -0.3**
KKN Kakani 56.08 46 *eP* **P 02 49 34.8 -0.1**
KEST Kesra 56.41 327 LR LR 03 14 45.6
comp=Z,184nm,21.5s,baz=48,slow=37
GUN Gumba 56.58 46 *eP* **P 02 49 38.5 -0.1**
comp=Z,58nm,1.1s
JIRN Jiri 56.65 46 *eP* **P 02 49 38.8 -0.3**
PSI Prapat 57.09 79 LR LR 03 09 09.7
comp=Z,354nm,21.9s,baz=252,slow=31
CFR Carcaliu 57.54 347 ||| *iP* **P 02 49 46.4 +1.9**
SYO Syowa Base 58.01 182 ||| *eP* **P 02 49 46.0 -1.6**
SYO Syowa Base 58.01 182 ||| *e*PcP **PcP 02 50 39.0 -0.5**
MAW Mawson 58.05 171 LR LR 03 10 45.7
comp=Z,160nm,19.8s,baz=42,slow=32
VOIR 58.50 345 ||| *iP* **P 02 49 52.3 +0.8**
VRI Vrincioaia 58.50 347 ⇑ *iP* P 02 50 00.2 +8.8
ARR Arges 58.55 345 ||| *iP* **P 02 49 55.7 +4.0**
KSH Kashi 58.75 29 P **P 02 49 53.1 -0.3**
KSH sP sP 02 50 00.1 +2.3
KSH PP **PP 02 52 01.1 -2.4**
KSH S **S 02 57 53.3 -5.3**
KSH sS pS 02 58 01.4 -1.2
KSH ScS **ScS 02 59 38.4 -5.3**
KSH pmax pmax
comp=Z,9.0nm,1.3s
KSH pmax pmax
comp=Z,200nm,5.7s
KSH LR LR
comp=Z,170nm,7.0s
KSH LR LR
comp=Z,190nm,6.5s
KSH LR LR
comp=Z,140nm,6.5s
KKAR Karatay Array 59.33 23 *eP* **P 02 49 54.7 -2.5**
KKAR Karatay Array 59.33 23 *eP* **P 02 49 54.7 -2.5**
DRGR 60.37 344 ⇑ *iP* P 02 50 13.4 +9.1
BURAR Bucovina Array 60.50 346 ⇑ *iP* P 02 50 11.1 +5.9
BUR04 Bucovina Ar. S 60.51 346 *eP* **P 02 50 05.7 +0.4**
AAK Ala-Archa 60.56 26 *i P* **P 02 50 05.2 -0.7**
AAK pmax pmax
comp=Z,16nm,2.3s
UTHA Uthaitani 61.60 66 P **P 02 50 14.8 +1.6**
comp=Z,4.1nm,1.0s
ABKAR Akbulak array 61.77 12 *eP* **P 02 50 14.1 +0.4**
comp=Z,78nm,1.0s
CM01 Chiang Mai Arr 62.27 62 *eP* **P 02 50 17.7 0.0**
CM31 Chiang Mai Arr 62.28 62 *eP* **P 02 50 17.6 -0.1**
CMAR Chiang Mai Arr 62.28 62 P **P 02 50 17.6 -0.1**
comp=Z,5.6nm,0.7s,baz=253,slow=8.1,SNR=24
CMAR LR LR 03 13 17.6
comp=Z,177nm,20.9s,baz=244,slow=32
CMAR Chiang Mai Arr 62.28 62*ceP* **P 02 50 18.7 +1.0**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 62.42 62 *eP* **P 02 50 19.6 +0.9**
CHTO pmax pmax
comp=Z,27nm,1.2s
CHTO Chiang Mai 62.42 62 *eP* **P 02 50 19.6 +0.9**
comp=Z,26nm,1.2s
CMMT Chiang Mai 62.42 62 P **P 02 50 18.2 -0.5**
comp=Z,20nm,1.2s
AKTO Aktyubinsk 62.52 11 P **P 02 50 18.4 -0.3**
comp=Z,1.5nm,0.7s,baz=227,slow=6.3,SNR=7.3
AKTO LR LR 03 21 23.0
comp=Z,80nm,18.6s,baz=200,slow=40
KECS Kecovo 62.53 343 *eP* P 02 50 28.3 +9.5
KECS *e* 02 50 36.7
KECS Kecovo 62.53 343 *e* P 02 50 28.3 +9.5
KECS *e* 02 50 36.6
AKASG Malin Array Be 62.63 350 P **P 02 50 19.3 -0.1**
comp=Z,0.1nm,0.2s,baz=167,slow=5.5,SNR=2.5
AKBB Malin Array Si 62.63 350 *eP* **P 02 50 19.3 -0.1**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 62.63 350 *eP* **P 02 50 19.3 -0.1**
comp=Z,4.1nm,0.8s
SOKA Soboth 62.70 339 *eP* P 02 50 29.5 +9.4
comp=Z,5.8nm,1.7s
CMAI Chiengmai2 62.96 61 P **P 02 50 24.0 +1.6**
ARSA Arzberg 63.02 339 *eP* P 02 50 31.8 +10
comp=Z,4.3nm,1.0s
VYHS Vyhne 63.03 342 *eP* P 02 50 36.8 +15
VYHS *e* 02 50 43.4
VYHS Vyhne 63.03 342 *e* P 02 50 36.8 +15
VYHS *e* 02 50 43.4
STHS Stebnicka Huta 63.17 344 *eP* P 02 50 35.3 +12
STHS *e* 02 50 40.6
STHS Stebnicka Huta 63.17 344 *e* P 02 50 35.3 +12
STHS *e* 02 50 40.6
CONA Conrad Observa 63.49 340 *eP* P 02 50 34.6 +9.3
comp=Z,5.8nm,1.0s
KBA Koelnbreinsper 63.66 338 *eP* P 02 50 37.3 +11
comp=Z,5.1nm,1.1s
MOA Molln 63.97 339 *eP* P 02 50 39.1 +11
comp=Z,10nm,1.3s
BBTS Babate 64.46 292 LR LR 03 19 00.8
comp=Z,237nm,20.0s,baz=118,slow=36
FETA Feichten 64.62 336 *eP* P 02 50 43.8 +11
comp=Z,4.6nm,1.0s
RETA Reutte 64.99 336 *eP* P 02 50 45.3 +10
comp=Z,6.4nm,1.6s
GERES GERESS Array B 65.02 339 P **P 02 50 36.2 +0.9**
comp=Z,0.5nm,0.7s,baz=131,slow=4.1,SNR=5.0
DAVA Damuels 65.18 336 *eP* P 02 50 45.2 +8.7
comp=Z,6.4nm,1.4s
KHC Kasperske Hory 65.30 339 *eP* P 02 50 53.3 +16
KHC Kasperske Hory 65.30 339 *eP* P 02 50 53.3 +16
DPC Dobruska-Polom 65.44 341 *eP* P 02 50 52.4 +14
DPC *ex* x 02 50 59.1
DPC Dobruska-Polom 65.44 341 *eP* P 02 50 52.4 +14
DPC *e* 02 50 59.1
OBN Obninsk 66.08 356 *i P* **P 02 50 38.8 -3.1**
OBN *i* 02 51 15.7
OBN *i* 02 53 05.1
OBN pmax pmax
comp=Z,3.0nm,0.9s
ES19 SONSECA Array 66.73 322 *eP* **P 02 50 49.0 +2.5**
ESDC Sonseca Array 66.75 322 P **P 02 50 47.0 +0.3**
comp=Z,0.4nm,0.6s,baz=125,slow=5.5,SNR=5.9
MAKZ Makanchi 67.15 28 *eP* **P 02 50 49.6 +0.6**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 67.15 28 *eP* **P 02 50 49.6 +0.6**
comp=Z,8.7nm,0.8s
MK01 Makanchi Array 67.27 28 *eP* **P 02 50 48.8 -1.0**
MK31 Makanchi Array 67.29 28 *eP* **P 02 50 50.2 +0.3**
MK31 Makanchi Array 67.29 28 *eP* **P 02 50 50.1 +0.3**
MK32 Makanchi Array 67.29 28 *eP* **P 02 50 50.2 +0.3**
MKAR Makanchi Array 67.29 28 P **P 02 50 50.2 +0.3**
comp=Z,0.9nm,0.7s,baz=210,slow=6.7,SNR=8.8
MKAR LR LR 03 18 39.1
comp=Z,60nm,21.3s,baz=209,slow=35
MKAR Makanchi Array 67.29 28 *eP* **P 02 50 50.1 +0.3**
comp=Z,33nm,0.6s
BRVK Borovoye 67.87 17 *i P* **P 02 50 53.7 +0.4**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 67.87 17 P **P 02 50 53.3 -0.1**
comp=Z,1.5nm,0.8s,baz=222,slow=9.7,SNR=4.5
BVAR LR LR 03 21 57.7
comp=Z,90nm,19.6s,baz=208,slow=37
WMQ Urumqi 67.89 33 P **P 02 50 55.2 +1.4**
WMQ pP sP 02 50 59.4 +1.1
WMQ sP pP 02 51 02.5 +5.5
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ pmax pmax
comp=Z,600nm,5.1s
WMQ LR LR
comp=Z,150nm,20.7s
WMQ LR LR
comp=Z,150nm,19.3s
KMI Kunming 68.20 57 P **P 02 50 57.0 +0.7**
KMI pmax pmax
comp=Z,10.0nm,1.3s
ARU Arti 68.37 9*c iP* **P 02 50 55.1 -1.3**
ARU 02 51 19.0
ARU 02 53 21.9
ARU S **S 02 59 57.2 -0.4**
ARU SS **SS 03 04 19.4 -2.0**
ARU pmax pmax
comp=Z,6.0nm,1.7s
KURBB Kurchatov Arra 68.63 23 P **P 02 50 58.0 -0.1**
comp=Z,2.3nm,1.1s,baz=225,slow=6.5,SNR=10
KURK Kurchatov 68.74 23*ceP* **P 02 50 59.0 +0.1**
KURK pmax pmax
comp=Z,20nm,1.2s
KURK Kurchatov 68.74 23 *eP* **P 02 50 59.4 +0.6**
NWAO Narrogin (SRO) 70.75 121 LR LR 03 15 14.7
comp=Z,182nm,21.5s,baz=178,slow=30
CD2 Chengdu 71.45 52 *eP* **P 02 51 16.5 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
KLMR Klimovskoe 71.67 358 *eP* **P 02 51 14.7 -1.8**
KLMR pmax pmax
comp=Z,14nm,1.4s
KLMR Klimovskoe 71.67 358 *eP* **P 02 51 14.8 -1.8**
KLMR AMP 02 51 18.9
comp=Z,14nm,1.4s
GYA Guiyang 71.97 57 ⇑ *iP* P 02 51 19.7 +0.4
GYA PP **PP 02 54 02.4 +3.0**
GYA S **S 03 00 40.2 -1.0**
GYA SKS **SKSac 03 01 19.8 -4.2**
GYA SS **SS 03 05 19.0 +0.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=Z,490nm,17.6s
GYA LR LR
comp=Z,420nm,18.3s
GYA LR LR
comp=Z,440nm,18.6s
GTA Gaotai 72.60 43 P **P 02 51 23.8 +0.9**
GTA pP PcP 02 51 34.0 -6.4
GTA sP sP 02 51 38.0 +11
GTA S **S 03 00 49.5 +1.5**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,150nm,6.0s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,190nm,15.2s
GTA LR LR
comp=Z,230nm,16.2s
FIA0 FINESS Array S 73.45 352 *eP* **P 02 51 26.3 -0.9**
FIA0 FINESS Array S 73.45 352 *eP* **P 02 51 26.3 -0.9**
FINES FINESS Array B 73.45 352 P **P 02 51 26.3 -0.9**
comp=Z,2.3nm,0.8s,baz=31,slow=4.4,SNR=3.8
FINES FINESS Array B 73.45 352 *iP* **P 02 51 29.2 +2.0**
FINES pmax pmax
comp=Z,1.0nm,0.8s
ZAA0 Zalesovo Array 73.67 24 *eP* **P 02 51 28.5 -0.2**
comp=Z,3.3nm,0.6s
ZALV Zalesovo Beam 73.67 24 P **P 02 51 27.1 -1.6**
comp=Z,0.9nm,0.6s,baz=242,slow=6.4,SNR=6.4
ZALV LR LR 03 25 04.9
comp=Z,32nm,19.4s,baz=250,slow=37
ZALV Zalesovo Beam 73.67 24 *eP* **P 02 51 28.0 -0.6**
ZALV Zalesovo Beam 73.67 24 *eP* **P 02 51 28.0 -0.6**
ZAA1 Zalesovo Array 73.67 24 *eP* **P 02 51 27.1 -1.6**
LZH Lanzhou 73.80 47 *eP* **P 02 51 31.5 +1.4**
LZH pP sP 02 51 36.4 +1.9
LZH sP PcP 02 51 39.6 -6.0
LZH pmax pmax
comp=Z,18nm,1.0s
HFS Hagfors 74.71 345 LR LR 03 28 42.1
comp=Z,51nm,18.4s,baz=53,slow=39
NB200 NORSAR Array S 76.12 345 *eP* **P 02 51 44.7 +1.9**
NOA NORSAR Array B 76.12 345 P **P 02 51 44.7 +1.9**
comp=Z,1.5nm,1.0s,baz=148,slow=3.7,SNR=2.4
NOA LR LR 03 27 27.0
comp=Z,17nm,21.8s,baz=5.0,slow=38
EKA Eskdalemuir Ar 76.60 335 P **P 02 51 46.0 +0.5**
comp=Z,0.0nm,0.2s,baz=94,slow=19,SNR=3.8
XAN Xi'an 76.71 51 P **P 02 51 47.3 +0.6**
XAN pP PcP 02 51 59.0 +0.9
XAN pmax pmax
comp=Z,9.0nm,0.9s
BATI Baumata 78.83 98 LR LR 03 21 29.9
comp=Z,77nm,18.8s,baz=289,slow=32
LVZ Lovozero 78.92 357 *i P* **P 02 51 57.7 -0.6**
LVZ pmax pmax
comp=Z,15nm,1.7s
ZAK Zakamensk 80.32 34 *eP* **P 02 52 08.2 +1.9**
ZAK pmax pmax
comp=Z,3.0nm,1.6s
SONA0 Songino Array 80.88 38 *eP* **P 02 52 09.4 -0.1**
SONM Songino Array 80.88 38 P **P 02 52 09.4 -0.1**
comp=Z,0.5nm,0.7s,baz=253,slow=4.1,SNR=4.6
ARA0 ARCESS Array S 81.27 354 *eP* **P 02 52 11.9 +1.0**
ARCES ARCESS Array B 81.27 354 P **P 02 52 11.9 +1.0**
comp=Z,0.6nm,0.5s,baz=159,slow=3.6,SNR=4.2
ARCES ARCESS Array B 81.27 354 P **P 02 52 11.9 +1.0**
ARCES pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 81.29 38 *i P* **P 02 52 11.1 -0.6**
ULN pmax pmax
comp=Z,1.0nm,1.1s
HHC Hu-ho-hao-te 81.29 46 *eP* **P 02 52 13.8 +2.0**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,180nm,5.4s
NJ2 Nanjing 83.87 56 *eP* **P 02 52 26.6 +1.3**
NJ2 pmax pmax
comp=Z,15nm,0.6s
DAV Davao City (W) 83.90 82 LR LR 03 25 18.3
comp=Z,83nm,19.7s,baz=348,slow=32
BJI Beijing 84.29 48 P **P 02 52 28.5 +1.3**
BJI pmax pmax
comp=Z,14nm,0.4s
VNDA Vanda 85.27 169 LR LR 03 26 12.2
comp=Z,78nm,20.7s,baz=244,slow=33
ASAR Alice Springs 86.29 113 P **P 02 52 37.2 -0.6**
comp=Z,1.6nm,0.8s,baz=270,slow=4.9,SNR=8.4
ASAR LR LR 03 26 41.4
comp=Z,251nm,18.9s,baz=272,slow=33
AS31 Alice Springs 86.29 113 *eP* **P 02 52 37.2 -0.6**
comp=Z,7.4nm,1.8s
AS01 Alice Springs 86.33 113 *eP* **P 02 52 38.3 +0.4**
WR1 Warramunga Arr 87.36 110 *eP* **P 02 52 42.9 -0.1**
comp=Z,44nm,1.6s
WRA Warramunga Arr 87.36 110 P **P 02 52 42.9 -0.1**
comp=Z,0.8nm,0.6s,baz=264,slow=3.1,SNR=11
WRA LR LR 03 26 49.6
comp=Z,96nm,20.1s,baz=310,slow=32
STKA Stephens Creek 91.28 123 LR LR 03 27 12.9
comp=Z,143nm,19.6s,baz=209,slow=31
KSRS Korea Array 92.44 52 LR LR 03 34 12.8
comp=Z,110nm,20.5s,baz=264,slow=35
JNU Nakatsue 93.98 57 LR LR 03 34 48.9
comp=Z,83nm,20.2s,baz=290,slow=35
CPUP Villa Florida 94.45 242 LR LR 03 32 01.0
comp=Z,191nm,19.2s,baz=102,slow=33
USRK Ussuriysk Ar. 96.69 46 LR LR 03 37 49.8
comp=Z,96nm,18.1s,baz=294,slow=36
KLR Kul'dur 97.27 41 *i* P P **02 53 24.3 -3.9**
TIXI Tiksi 98.98 19 *i* P P **02 53 35.3 0.0**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
DZM Mont Dzumac 115.37 121 *e*LR LR 03 33 28.3
comp=Z,164nm,22.2s
ILAR Eielson Array 125.83 5 PKIP **PKPdf 02 58 56.0 -0.7**
comp=Z,0.5nm,1.0s,baz=222,slow=3.6,SNR=3.4
ILAR Eielson Array 125.83 5 PKIKP **PKPdf 02 58 56.0 -0.7**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILB Eielson Array 125.83 5 *e*PKPdf **PKPdf 02 58 56.0 -0.7**
YKA Yellowknife Ar 126.15 347 PKP **PKPdf 02 58 58.0 +0.7**
comp=Z,0.1nm,0.3s,baz=28,slow=3.2,SNR=3.6
YKA Yellowknife Ar 126.15 347 PKIKP **PKPdf 02 58 58.0 +0.7**
YKA Yellowknife Ar 126.15 347 PKP **PKPdf 02 58 58.0 +0.7**
YKB5 Yellowknife Ar 126.15 347 *e*PKPdf **PKPdf 02 58 58.0 +0.7**
LRAL Lakeview Retre 129.44 304 *e*PKPdf **PKPdf 02 59 03.9 -0.6**
PD31 Pinedale Array 140.45 328 *e*PKPdf **PKPdf 02 59 26.6 +1.5**
PDAR Pinedale Array 140.45 328 PKP **PKPdf 02 59 26.6 +1.5**
comp=Z,0.2nm,0.6s,baz=114,slow=1.8,SNR=3.4
SDCO Great Sand Dun 141.32 319 P PKPdf 02 59 36.2 +9.3
baz=54
ANMO Albuquerque 143.53 316 P **PKPdf 02 59 37.3 +6.5**
baz=56
LTX Lajitas 144.13 305 *e*PKIKP **PKPdf 02 59 34.4 +2.5**
LTX Lajitas 144.13 305 *e*PKPdf **PKPdf 02 59 34.4 +2.5**
TXAR Lajitas Array 144.13 305 PKP **PKPdf 02 59 34.4 +2.5**
comp=Z,0.7nm,0.8s,baz=73,slow=2.3,SNR=3.8
MNTX Cornudas Mount 144.43 310 P PKPdf 02 59 40.6 +8.4
baz=61
MNTX Cornudas Mount 144.43 310 *e*PKPdf **PKPdf 02 59 31.8 -0.4**
W18A Petrified Fore 145.62 319 P PKPab 02 59 46.6 +12
baz=52
121A Cookes Peak, D 145.77 313 P PKPab 02 59 47.2 +12
baz=58
U15A North Rim 146.36 323 *e*PKPdf **PKPab 02 59 38.8 +1.1**
WUAZ Wupatki 146.41 321 P PKPab 02 59 45.8 +8.0
baz=49
TUC Tucson 148.00 316 P **PKPab 02 59 51.4 +7.3**
baz=54
NV01 Mina Array Sit 148.06 332 *e*PKPbc **PKPab 02 59 44.9 +0.6**
NVAR Mina Array Bea 148.06 332 PKPbc **PKPbc 02 59 41.4 -0.2**
comp=Z,0.5nm,0.7s,baz=228,slow=2.3,SNR=3.3
PDMCI Parker Dam,Lak 148.91 322 P **PKPab 02 59 52.9 +5.4**
baz=47
PPT2 Papeete2 148.92 156 *e*LR LR 03 49 00.2
comp=Z,57nm,23.0s
GMRC Granite Mounta 149.47 324 P **PKPab 02 59 55.3 +5.4**
baz=44
Y12C Blythe 149.52 322 P **PKPab 02 59 55.6 +5.6**
baz=47
MPMC Manual Prospec 149.53 328 P **PKPab 02 59 53.9 +3.7**
baz=40
IRM Iron Mountain 149.62 323 P **PKPab 02 59 54.9 +4.5**
baz=45
HEC Hector,Ludlow 149.82 325 P **PKPab 02 59 56.7 +5.3**
baz=43
BC3 Big Chuckawall 150.15 322 P **PKPab 02 59 57.4 +4.7**
baz=46
GLA Glamis 150.18 321 P **PKPab 02 59 56.9 +4.1**
baz=47
ISA Isabella, Lake 150.34 329 P **PKPab 02 59 56.4 +3.1**
baz=38
TPFO Pinon Flats 150.78 324 P **PKPab 02 59 58.7 +3.4**
baz=44
MONP2 Monument Peak 151.26 322 P **PKPab 03 00 00.2 +2.7**
baz=45
PKM Mcpherson Peak 151.62 330 P **PKPab 03 00 00.8 +2.0**
baz=37
TAOE Nuku Hiva Isla 160.01 170 *e*LR LR 03 54 05.4
comp=Z,86nm,26.1s

IDC 13 02:42:34.6±1.4, 28°.91N×107°.00E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/76, mbtmp3.4/5, ML3.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/56, Error ellipse: s-maj=85.6km s-min=24.3km az=60.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**18.91**	**359**	P	Pn	02 46 57.7	+0.3
	0.1nm,0.3s,baz=177,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**26.28**	**320**	P	P	02 48 12.1	+0.4
	0.5nm,0.7s,baz=124,slow=10,SNR=6.1						
ZALV	**Zalesovo Beam**	**29.80**	**333**	P	P	02 48 41.9	-1.1
	0.4nm,0.4s,baz=120,slow=8.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**30.50**	**323**	P	P	02 48 49.5	+0.3
	0.2nm,0.4s,baz=123,slow=9.9,SNR=4.5						
GUMO	**Guam**	**38.25**	**105**	LR	LR	03 05 38.5	
	comp=Z,28nm,20.9s,baz=107,slow=36						
WRA	**Warramunga Arr**	**55.27**	**148**	P	P	02 52 09.9	-0.1
	0.6nm,0.9s,baz=336,slow=8.4,SNR=5.4						
BORG	**Borgarnes**	**78.39**	**340**	LR	LR	03 34 22.0	
	comp=Z,40nm,18.5s,baz=177,slow=40						

GUC 13 02:56:38.7±0.4, 36°.23S×73°.07W, h27km±3km, ML3.6, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.25**	**66** ⇑	*iP*	Pb	02 56 44.7	-0.4
COCH				*i* S	Sb	02 56 49.0	-0.5
COCH				IAML		02 56 49.9	
	comp=E,24μm,0.4s						
CCSP	**San Pedro de C**	**0.61**	**183** ⇑	*iP*	Pb	02 56 49.8	-1.0
CCSP				*i* S	Sb	02 56 58.0	-1.2
CCSP				IAML		02 57 01.6	
	comp=N,5μm,0.3s						
CCHI	**Chillan**	**0.88**	**115** ⇑	*iP*	Pn	02 56 54.0	-1.3
CCHI				*i* S	Sn	02 57 10.9	+3.6
CCHI				IAML		02 57 19.6	
	comp=E,4μm,0.3s						
GO05	**HualaæØ**	**1.53**	**38** ||| *iP*	Pn	02 57 04.3	-0.1
GO05				*i* S	Sn	02 57 23.4	0.0
GO05				IAML		02 57 38.1	
	comp=E,956nm,0.7s						
LMEL	**Las Melosas**	**3.35**	**46**	*eP*	Pn	02 57 30.4	+1.0

MEX 13 03:00:03.1±0.5, 14°.86N×93°.21W, h16km±21km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.84**	**360**	*iP*	Pb	03 00 16.2	-3.2
PCIG				*i* S	Sb	03 00 26.7	-3.8
CCIG	**Comitan**	**1.76**	**36**	*eP*	Pn	03 00 29.8	-3.2
CCIG				*i* S	Sn	03 00 49.3	-5.9
TGIG		**1.91**	**3**	*eP*	Pn	03 00 31.6	-3.5
TGIG				*i* S	Sn	03 00 53.3	-5.7

*ISCJB **13** 03:00:25.7±0.9, 10°.5S×0°.1×124°.18E±0°.09, h19km, mb3.5/2, Error ellipse: s-maj=22.3km s-min=7.2km az=28.6*
*IDC **13** 03:00:25.9±1.5, 10°.29S×124°.18E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/51, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=39.9km s-min=11.3km az=6.0*
*DJA **13** 03:00:28.2±1.6, 10°.S±15°×12°.4E±°, h10km, M3.3/4, MLv3.3/4*

ISC 13 03:00:27.4±1.1, 10°.4S±0°.2×124°.1E±0°.1, h19km, n8, σ1§29/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.52**	**295**	Pg	**Pb**	**03 00 36.4**	**-1.5**

baz=134,slow=10.0

BATI				Lg		Lg	03 00 42.3	
	380nm,0.3s,baz=37,slow=20,SNR=50							
BATI	**Baumata**	**0.52**	**295**	P		**Pb**	**03 00 36.2**	**-1.7**
SOEI	**Soe**	**0.68**	**11**	P		Pn	03 00 44.7	+2.5
BASI	**Baing, Sumba**	**3.51**	**273**	P		**Pn**	**03 01 21.8**	**+0.8**
BASI				S		**Sn**	**03 02 02.8**	**+0.8**
WRA	**Warramunga Arr**	**13.65**	**135**	Pn		**Pn**	**03 03 40.9**	**+0.8**
	0.1nm,0.3s,baz=310,slow=14,SNR=5.7							
WRA				Sn		**Sn**	**03 06 10.1**	**-1.2**
	0.2nm,0.3s,baz=310,slow=23,SNR=5.2							
ASAR	**Alice Springs**	**16.13**	**146**	Pn		**P**	**03 04 15.9**	**-0.6**
	0.1nm,0.3s,baz=318,slow=12,SNR=7.6							
MKAR	**Makanchi Array**	**68.11**	**330**	P		**P**	**03 11 27.1**	**+1.0**
	0.6nm,0.6s,baz=136,slow=7.8,SNR=7.2							
KURBB	**Kurchatov Arra**	**72.56**	**332**	P		**P**	**03 11 53.7**	**+0.5**
	0.2nm,0.6s,baz=143,slow=5.0,SNR=3.7							

SJA 13 03:00:30.8±1.1,31°.65S×67°.39W,h118km±8km,ML3.6, MW3.8,1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.98**	**289**	*eP*	Pn	03 00 53.0	+0.5
RTLL				IAML		03 00 53.4	
	comp=Z,879nm,0.4s						
RTCV	**Cerro Valdivia**	**1.00**	**257**	*eP*	Pn	03 00 53.6	+0.9
RTCV				*eS*	Sn	03 01 10.2	+0.9
SJA	**San Juan**	**1.01**	**277**	*eP*	Pn	03 00 53.8	+1.1
SJA				*eS*	Sn	03 01 10.6	+1.3
AMOG	**MOGNA**	**1.18**	**307**	*eP*	Pn	03 00 55.6	+1.0
AMOG				⇓*eS*	Sn	03 01 12.8	+0.3
APLL	**PUNTA DE LOS L**	**1.45**	**31**	*eP*	Pn	03 00 59.0	+1.4
APLL				*eS*	Sn	03 01 19.1	+1.1
ASAL	**Salagasta**	**1.54**	**232**	*eP*	Pn	03 00 60.0	+1.3
MRA	**San Martin**	**1.61**	**119**	*eP*	Pn	03 01 01.0	+1.5
MRA				*eS*	Sn	03 01 22.0	+0.6
RTLS	**Leoncito**	**1.63**	**264**	*eP*	Pn	03 01 01.3	+1.4
RTLS				IAML		03 01 01.5	
	comp=Z,550nm,0.2s						
ARCO	**CERRO ARCO**	**1.77**	**227**	*eP*	Pn	03 01 02.7	+1.3
AUSP	**Uspallata**	**1.79**	**251**	*eP*	Pn	03 01 03.1	+1.3
AAGR	**Agrelo**	**1.88**	**220**	*eP*	Pn	03 01 04.0	+1.2
AVIZ	**Vizcacheras**	**2.05**	**207**	*eP*	Pn	03 01 06.1	+1.2
AVIZ				*eS*	Sn	03 01 31.3	+0.3
CYA	**Choya**	**3.48**	**24**	*eP*	Pn	03 01 23.6	+0.1

*NEIC **13** 03:01:03.6±0.0,41°.45S×174°.31E,h64km,ML3.9(WEL), After WEL.*
NEIC Felt [IV] at Hataitai, Havelock, Karori, Kelburn, Newtown and Wellington; [III] at Eastbourne and Ngaio.

WEL 13 03:01:02.3,41°.5S±1°×177°.4E±°,h70km±2km,ML3.3/1, ML3.9/38,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.25**	**348**	Pn	Pn	03 01 13.2	+0.1
TCW				Sn	Sn	03 01 20.1	-1.0
TCW	**Tory Channel**	**0.25**	**348**	P	Pn	03 01 13.2	+0.1
TCW	**Tory Channel**	**0.25**	**348**	S	Sn	03 01 20.1	-1.0
TUWZ	**Tuamarina**	**0.30**	**275**	Pn	Pn	03 01 13.4	-0.1
TUWZ	**Tuamarina**	**0.30**	**275**	P	Pn	03 01 13.4	0.0
TUWZ	**Tuamarina**	**0.30**	**275**	S	Sn	03 01 20.2	-1.4
CMWZ	**Cape Campbell**	**0.31**	**198**	Pn	Pn	03 01 14.8	+1.2
CMWZ	**Cape Campbell**	**0.31**	**198**	P	Pn	03 01 17.1	+3.5
CMWZ	**Cape Campbell**	**0.31**	**198**	S	Sn	03 01 23.2	+1.4
WEL	**Wellington**	**0.36**	**62**	Pn	Pn	03 01 14.6	+0.7
BHW	**Baring Head**	**0.40**	**84**	Pn	Pn	03 01 14.8	+0.6
BHW	**Baring Head**	**0.40**	**84**	P	Pn	03 01 14.8	+0.6
BHW	**Baring Head**	**0.40**	**84**	S	Sn	03 01 22.8	-0.1
BSWZ	**Blackbirch Sta**	**0.44**	**233**	Pn	Pn	03 01 14.9	+0.4
CAW	**Cannon Point**	**0.65**	**58**	Pn	Pn	03 01 17.2	+0.6
CAW				Sn	Sn	03 01 26.0	-1.1
CAW	**Cannon Point**	**0.65**	**58**	P	Pn	03 01 17.2	+0.6
CAW	**Cannon Point**	**0.65**	**58**	S	Sn	03 01 27.6	+0.4
MSWZ	**Moikau Station**	**0.68**	**87**	Pn	Pn	03 01 17.7	+0.7
MSWZ	**Moikau Station**	**0.68**	**87**	P	Pn	03 01 17.7	+0.7
MSWZ	**Moikau Station**	**0.68**	**87**	S	Sn	03 01 28.2	+0.3
PLWZ	**Palliser**	**0.69**	**100**	Pn	Pn	03 01 18.0	+0.8
PLWZ	**Palliser**	**0.69**	**100**	P	Pn	03 01 18.0	+0.8
PLWZ	**Palliser**	**0.69**	**100**	S	Sn	03 01 28.5	+0.3
KIW	**Kapiti Island**	**0.73**	**36**	P	Pn	03 01 18.2	+0.7
NNZ	**Nelson**	**0.76**	**288**	Pn	Pn	03 01 17.8	-0.1
NNZ	**Nelson**	**0.76**	**288**	P	Pn	03 01 17.8	-0.1
PAWZ	**Paruwai Farm**	**0.82**	**85**	Pn	Pn	03 01 19.1	+0.5
PAWZ	**Paruwai Farm**	**0.82**	**85**	P	Pn	03 01 19.1	+0.5
OGWZ	**Otaki Gorge**	**0.89**	**45**	Pn	Pn	03 01 20.0	+0.6
OGWZ	**Otaki Gorge**	**0.89**	**45**	P	Pn	03 01 20.1	+0.6
MTW	**Mount Morrison**	**0.92**	**72**	Pn	Pn	03 01 20.2	+0.4
MTW	**Mount Morrison**	**0.92**	**72**	P	Pn	03 01 20.2	+0.4
TRWZ	**Traveller**	**1.01**	**87**	Pn	Pn	03 01 21.5	+0.5
TRWZ	**Traveller**	**1.01**	**87**	P	Pn	03 01 21.5	+0.5
HOWZ	**Holdsworth Sta**	**1.04**	**58**	Pn	Pn	03 01 21.6	+0.2
HOWZ	**Holdsworth Sta**	**1.04**	**58**	P	Pn	03 01 21.6	+0.2
THZ	**Tophouse**	**1.12**	**254**	Pn	Pn	03 01 22.3	-0.1
THZ	**Tophouse**	**1.12**	**254**	P	Pn	03 01 22.4	+0.1
KHZ	**Kahutara**	**1.13**	**212**	Pn	Pn	03 01 23.2	+0.8
KHZ	**Kahutara**	**1.13**	**212**	P	Pn	03 01 23.3	+0.8
TMWZ	**Te Maipa**	**1.22**	**74**	Pn	Pn	03 01 23.8	+0.2
TMWZ	**Te Maipa**	**1.22**	**74**	P	Pn	03 01 23.8	+0.2
MRZ	**Mangatainoka R**	**1.23**	**50**	Pn	Pn	03 01 23.9	+0.2
MRZ	**Mangatainoka R**	**1.23**	**50**	P	Pn	03 01 23.9	+0.2
TIWZ	**Tintock**	**1.35**	**60**	Pn	Pn	03 01 25.3	0.0
TIWZ	**Tintock**	**1.35**	**60**	P	Pn	03 01 25.3	0.0
OHWZ	**Ohakea**	**1.45**	**31**	P	Pn	03 01 27.9	+1.4
CPWZ	**Castlepoint**	**1.50**	**69**	Pn	Pn	03 01 27.6	+0.3
CPWZ	**Castlepoint**	**1.50**	**69**	P	Pn	03 01 27.6	+0.3
QRZ	**Quartz Range**	**1.51**	**294**	Pn	Pn	03 01 27.8	+0.5
QRZ	**Quartz Range**	**1.51**	**294**	P	Pn	03 01 27.8	+0.5
POWZ	**Post Office Ro**	**1.51**	**46**	Pn	Pn	03 01 27.4	0.0
POWZ	**Post Office Ro**	**1.51**	**46**	P	Pn	03 01 27.5	+0.1
PRWZ	**Pori Road**	**1.52**	**54**	Pn	Pn	03 01 27.7	+0.1
PRWZ	**Pori Road**	**1.52**	**54**	P	Pn	03 01 27.7	+0.1
BFZ	**Birch Farm**	**1.63**	**62**	Pn	Pn	03 01 28.6	-0.4
BFZ	**Birch Farm**	**1.63**	**62**	P	Pn	03 01 28.6	-0.4
WAZ	**Wanganui**	**1.77**	**16**	Pn	Pn	03 01 32.9	+2.1
WAZ	**Wanganui**	**1.77**	**16**	P	Pn	03 01 33.0	+2.2
DVHZ	**Dannevirke**	**1.80**	**51**	Pn	Pn	03 01 30.8	-0.5
DVHZ	**Dannevirke**	**1.80**	**51**	P	Pn	03 01 30.8	-0.4
TSZ	**Takapari Road**	**1.86**	**42**	Pn	Pn	03 01 31.9	-0.2
TSZ	**Takapari Road**	**1.86**	**42**	P	Pn	03 01 32.0	-0.1
ANWZ	**Angora Road**	**1.90**	**59**	P	Pn	03 01 31.9	-0.6
DSZ	**Denniston Nort**	**1.93**	**260**	Pn	Pn	03 01 33.0	0.0
DSZ	**Denniston Nort**	**1.93**	**260**	P	Pn	03 01 33.1	+0.1
LREZ	**Lake Rotokare**	**1.99**	**1**	P	Pn	03 01 35.5	+2.1
LTZ	**Lake Taylor**	**2.03**	**229**	Pn	Pn	03 01 34.5	0.0
LTZ	**Lake Taylor**	**2.03**	**229**	P	Pn	03 01 34.5	0.0
PNHZ	**Pukenui**	**2.09**	**43**	Pn	Pn	03 01 34.8	-0.4
PNHZ	**Pukenui**	**2.09**	**43**	P	Pn	03 01 34.8	-0.4
PRHZ	**Porangahau**	**2.10**	**56**	Pn	Pn	03 01 34.6	-0.8
PRHZ	**Porangahau**	**2.10**	**56**	P	Pn	03 01 34.6	-0.8
WPHZ	**Waipukurau**	**2.11**	**50**	Pn	Pn	03 01 35.0	-0.5
WPHZ	**Waipukurau**	**2.11**	**50**	P	Pn	03 01 35.1	-0.4
KHEZ	**Kahui Hut**	**2.17**	**353**	Pn	Pn	03 01 38.1	+1.7
PKE	**Pukeiti**	**2.27**	**353**	Pn	Pn	03 01 39.2	+1.5
PKE	**Pukeiti**	**2.27**	**353**	P	Pn	03 01 39.2	+1.6
PKVZ	**Pokaka**	**2.29**	**20**	Pn	Pn	03 01 39.1	+1.1
PKVZ	**Pokaka**	**2.29**	**20**	P	Pn	03 01 39.1	+1.1
MOVZ	**Moawhango**	**2.31**	**28**	Pn	Pn	03 01 38.4	+0.1
MOVZ	**Moawhango**	**2.31**	**28**	P	Pn	03 01 38.4	+0.2
WNVZ	**Wahianoa**	**2.33**	**25**	Pn	Pn	03 01 39.4	+0.8
VRZ	**Vera Road**	**2.35**	**8**	Pn	Pn	03 01 40.3	+1.6
VRZ	**Vera Road**	**2.35**	**8**	P	Pn	03 01 40.4	+1.7
BHHZ	**Black Hill Sta**	**2.36**	**34**	Pn	Pn	03 01 39.0	+0.2
BHHZ	**Black Hill Sta**	**2.36**	**34**	P	Pn	03 01 39.1	+0.2
WHVZ	**Whangaehu Hut**	**2.37**	**24**	P	Pn	03 01 40.0	+0.9
KRHZ	**Kereru**	**2.38**	**41**	P	Pn	03 01 38.5	-0.6
FWVZ	**Far West T-bar**	**2.38**	**23**	Pn	Pn	03 01 40.1	+0.8
FWVZ	**Far West T-bar**	**2.38**	**23**	P	Pn	03 01 40.4	+1.0
PXZ	**Pawanui**	**2.38**	**54**	P	Pn	03 01 38.4	-0.7
TUVZ	**Tukino**	**2.40**	**25**	Pn	Pn	03 01 40.4	+0.9
TUVZ	**Tukino**	**2.40**	**25**	P	Pn	03 01 40.5	+1.0
NGZ	**Ngauruhoe**	**2.47**	**23**	P	Pn	03 01 41.6	+1.1
OTVZ	**Oturere**	**2.50**	**24**	Pn	Pn	03 01 41.7	+0.8
TWVZ	**Taurewa**	**2.52**	**20**	Pn	Pn	03 01 41.7	+0.6
TWVZ	**Taurewa**	**2.52**	**20**	P	Pn	03 01 41.9	+0.8
WTVZ	**West Tongariro**	**2.52**	**23**	Pn	Pn	03 01 42.0	+0.9
WTVZ	**West Tongariro**	**2.52**	**23**	P	Pn	03 01 42.1	+0.9
OXZ	**Oxford**	**2.53**	**222**	Pn	Pn	03 01 40.0	-1.1
OXZ	**Oxford**	**2.53**	**222**	P	Pn	03 01 40.1	-1.1
KAHZ	**Kahuranaki**	**2.54**	**50**	Pn	Pn	03 01 40.4	-0.9
KAHZ	**Kahuranaki**	**2.54**	**50**	P	Pn	03 01 40.5	-0.9
KRVZ	**Karewarewa**	**2.56**	**23**	Pn	Pn	03 01 42.6	+1.0
KRVZ	**Karewarewa**	**2.56**	**23**	P	Pn	03 01 42.6	+1.0
MQZ	**McQueen's Vall**	**2.57**	**208**	Pn	Pn	03 01 40.4	-1.3
MQZ	**McQueen's Vall**	**2.57**	**208**	P	Pn	03 01 40.4	-1.3
KWHZ	**Kaweka Forest**	**2.58**	**39**	P	Pn	03 01 41.5	-0.3
KWHZ	**Kaweka Forest**	**2.58**	**39**	P	Pn	03 01 41.5	-0.3
MCHZ	**McNeill Hill**	**2.69**	**43**	Pn	Pn	03 01 42.7	-0.6
MCHZ	**McNeill Hill**	**2.69**	**43**	P	Pn	03 01 42.5	-0.8
BKZ	**Black Stump Fm**	**2.81**	**36**	Pn	Pn	03 01 44.5	-0.5
BKZ	**Black Stump Fm**	**2.81**	**36**	P	Pn	03 01 44.4	-0.6
HIZ	**Hauiti**	**2.96**	**8**	Pn	Pn	03 01 48.3	+1.2
HIZ	**Hauiti**	**2.96**	**8**	P	Pn	03 01 48.4	+1.4
ARHZ	**Aropaoanui**	**2.98**	**44**	Pn	Pn	03 01 46.6	-0.6
ARHZ	**Aropaoanui**	**2.98**	**44**	P	Pn	03 01 46.9	-0.4
NMHZ	**Naumai**	**3.02**	**39**	Pn	Pn	03 01 47.1	-0.7
NMHZ	**Naumai**	**3.02**	**39**	P	Pn	03 01 47.2	-0.6
WVZ	**Waitaha Valley**	**3.13**	**238**	Pn	Pn	03 01 48.7	-0.5
WVZ	**Waitaha Valley**	**3.13**	**238**	P	Pn	03 01 48.7	-0.5
MTHZ	**Maungataniwha**	**3.23**	**37**	P	Pn	03 01 49.8	-0.9
RPZ	**Rata Peaks**	**3.32**	**226**	Pn	Pn	03 01 50.9	-0.9
RPZ	**Rata Peaks**	**3.32**	**226**	P	Pn	03 01 50.9	-0.9
MUGZ	**Murupara**	**3.51**	**33**	P	Pn	03 01 52.7	-1.8
MHGZ	**Mahia Peninsul**	**3.56**	**51**	Pn	Pn	03 01 53.6	-1.6
MHGZ	**Mahia Peninsul**	**3.56**	**51**	P	Pn	03 01 53.7	-1.5
PRGZ	**Paritu Road**	**3.71**	**48**	P	Pn	03 01 55.5	-1.6
RIGZ	**Rimuhau**	**3.80**	**45**	P	Pn	03 01 56.3	-2.1
URZ	**Urewera**	**3.84**	**35**	Pn	Pn	03 01 57.0	-1.9
URZ	**Urewera**	**3.84**	**35**	P	Pn	03 01 57.0	-1.9
FOZ	**Fox Glacier**	**3.94**	**237**	Pn	Pn	03 01 59.2	-1.0
FOZ	**Fox Glacier**	**3.94**	**237**	P	Pn	03 01 59.1	-1.1
MWZ	**Matawai**	**3.96**	**39**	Pn	Pn	03 01 58.8	-1.9
MWZ	**Matawai**	**3.96**	**39**	P	Pn	03 01 58.6	-2.1
LBZ	**Lake Benmore**	**4.23**	**225**	Pn	Pn	03 02 03.2	-1.1
LBZ	**Lake Benmore**	**4.23**	**225**	P	Pn	03 02 03.5	-0.8
TWGZ	**Tauwhareparae**	**4.31**	**42**	P	Pn	03 02 03.7	-1.7
RUGZ	**Raukumara Rang**	**4.33**	**38**	P	Pn	03 02 04.2	-1.6
KBAZ	**Karaka Road Bo**	**4.37**	**6**	P	Pn	03 02 05.9	-0.3
MKAZ	**Moumakai**	**4.39**	**9**	P	Pn	03 02 07.3	+0.8
ODZ	**Otahua Downs**	**4.49**	**216**	Pn	Pn	03 02 06.4	-1.4
ODZ	**Otahua Downs**	**4.49**	**216**	P	Pn	03 02 06.5	-1.4
HAZ	**Te Kaha**	**4.55**	**37**	P	Pn	03 02 07.7	-0.9
PKGZ	**Pakihiroa**	**4.58**	**40**	P	Pn	03 02 07.3	-1.9
WIAZ	**Waiheke Island**	**4.70**	**8**	P	Pn	03 02 11.9	+1.3
WMGZ	**Waiomatatini S**	**4.80**	**42**	P	Pn	03 02 09.4	-2.6
JCZ	**Jackson Bay**	**4.86**	**236**	Pn	Pn	03 02 11.3	-1.6
JCZ	**Jackson Bay**	**4.86**	**236**	P	Pn	03 02 11.5	-1.4
TUZ	**Tuapeka**	**5.65**	**216**	P	Pn	03 02 23.4	-0.2
SYZ	**Scrubby Hill**	**6.32**	**215**	Pn	Pn	03 02 32.6	-0.1
CTZ	**Chatham Island**	**7.05**	**112**	Pn	Pn	03 02 43.1	+0.3
CTZ	**Chatham Island**	**7.05**	**112**	P	Pn	03 02 43.2	+0.4

*GUC **13** 03:13:10.6±0.7,23°.47S×69°.55W,h75km±6km,ML3.8*
*IDC **13** 03:13:26.9±5.0,22°.17S×68°.76W,h0km,mb4.1/1, mb1 3.7/2,mb1mx3.3/34,mbtmp3.6/2,ML3.0/1,Error ellipse: s-maj=147.4km s-min=57.0km az=72.0*

ISC 13 03:13:10.6±3.1,23°.49S±0°.06×69°.5W±0°.1,h19km±8km,n11, σ0°.67/17,7C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.78**	**357**	⇑*iP*	**Pn**	**03 13 27.4**	**+0.7**
PB06				*i* S	**Sn**	**03 13 39.4**	**+1.4**
PB06				IAML		03 13 40.7	
	comp=E,6μm,0.2s						
PB10	**IPOC Station P**	**0.94**	**268**	⇓*iP*	**Pn**	**03 13 28.9**	**+0.1**
PB10				*i* S	**Sn**	**03 13 42.5**	**+0.8**
PB10				IAML		03 13 46.6	
	comp=E,5μm,0.5s						
PB04	**IPOC Station P**	**1.28**	**333**	⇑*iP*	**Pn**	**03 13 33.1**	**-0.5**
PB04				*i* S	**Sb**	**03 13 50.3**	**-0.1**
PB04				IAML		03 13 54.0	
	comp=E,1μm,0.2s						
PB14	**IPOC Station P**	**1.39**	**215**	⇑*iP*	**Pn**	**03 13 35.1**	**-0.2**
PB14				*i* S	**Sn**	**03 13 53.3**	**+0.1**
PB14				IAML		03 13 54.4	
	comp=E,2μm,0.5s						
PB09	**IPOC Station P**	**1.70**	**9**	⇑*iP*	**Pn**	**03 13 40.5**	**+1.0**
PB09				*i* S	**Sb**	**03 14 02.2**	**-0.4**
PB09				IAML		03 14 10.4	
	comp=N,4μm,0.3s						
PB07	**IPOC Station P**	**1.78**	**349**	⇑*iP*	**Pn**	**03 13 40.2**	**-0.4**
PB07				*i* S	**Sn**	**03 14 02.7**	**-0.1**
PB07				IAML		03 14 13.8	
	comp=E,775nm,0.4s						
PB02	**IPOC Station P**	**2.18**	**351**	⇑*iP*	**Pn**	**03 13 45.5**	**-0.5**
PB02				*i* S	**Sn**	**03 14 12.4**	**-0.2**
PB02				IAML		03 14 19.5	
	comp=E,710nm,0.3s						
PB01	**IPOC Station P**	**2.43**	**1**	⇑*iP*	**Pn**	**03 13 49.1**	**-0.4**
PB01				*i* S	**Sn**	**03 14 18.9**	**+0.1**
PB01				IAML		03 14 26.9	
	comp=E,506nm,0.3s						
LPAZ	**La Paz**	**7.28**	**11**	Pn	**Pn**	**03 14 55.8**	**-0.8**
	comp=E,0.2nm,0.3s,baz=201,slow=8.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**78.56**	**70**	P	P	03 25 24.6	+13
	comp=E,0.9nm,0.5s,baz=254,slow=5.4,SNR=17						
MKAR	**Makanchi Array**	**147.56**	**37**	PKPbc	PKPab	03 33 08.0	+12
	comp=E,0.5nm,0.7s,baz=318,slow=1.9,SNR=4.6						

*ISN **13** 03:22:52.6±1.1,38°.50N×43°.56E,h0km,ML4.0*
*CSEM **13** 03:23:13.9±0.2,38°.43N×43°.49E,h2km,ML3.8,Error ellipse: s-maj=4.6km s-min=3.9km az=72.0*
*DDA **13** 03:23:13.7,38°.45N×43°.65E,h7km,Ml3.8*
*ISK **13** 03:23:13.5,38°.46N×43°.66E,h5km,ML3.7/5*
*IDC **13** 03:23:16.4±1.6,38°.57N×43°.76E,h0km,mb3.4/3, mb1 3.4/4,mb1mx3.1/61,mbtmp3.3/4,ML1.7/1,Error ellipse: s-maj=30.4km s-min=19.9km az=128.0*

ISC 13 03:23:14.1±1.1,38°.45N±0°.02×43°.64E±0°.02,h2km±9km, n61,σ1°.85/87,mb3.4/3,12C-18D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.20**	**294**	*i* P	**Pg**	**03 23 18.2**	**+0.2**
TVAN				*i* S	**Sg**	**03 23 21.6**	**+0.9**
TVAN	**Van**	**0.20**	**294**	P	**Pg**	**03 23 18.2**	**+0.2**
VANB	**Van**	**0.25**	**307**	PG	**Pg**	**03 23 18.0**	**-0.9**
VANB				SG	**Sg**	**03 23 21.5**	**-0.6**
VANB	**Van**	**0.25**	**307**	*ePg*	**Pg**	**03 23 18.0**	**-0.9**
VANB				*eSg*	**Sg**	**03 23 21.5**	**-0.6**
GEVA	**Gevas**	**0.47**	**254**	*i* P	**Pg**	**03 23 23.2**	**0.0**
GEVA				*i* S	**Sb**	**03 23 33.3**	**+0.6**
ERCV	**ERCIS-VAN**	**0.62**	**338**	PG	**Pg**	**03 23 25.9**	**-0.1**
ERCV	**ERCIS-VAN**	**0.62**	**338**	*ePg*	**Pg**	**03 23 25.9**	**-0.1**
CLDR	**Caldiran**	**0.73**	**17**	PG	**Pg**	**03 23 27.2**	**-0.9**
CLDR	**Caldiran**	**0.73**	**17**	*i* P	**Pg**	**03 23 26.9**	**-1.2**
CLDR				*i* S	**Sb**	**03 23 39.1**	**-1.1**
CLDR	**Caldiran**	**0.73**	**17**	*ePg*	**Pg**	**03 23 27.2**	**-0.9**
CLDR				S	**Sb**	**03 23 39.1**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.80**	**297**	*i* P	**Pg**	**03 23 29.4**	**-0.1**
ADCV				*i* S	**Sb**	**03 23 42.1**	**-0.2**
HAKT	**HAKKARI**	**0.89**	**176**	*i* P	**Pg**	**03 23 30.7**	**-0.4**
HAKT				*i* S	**Sn**	**03 23 45.6**	**-1.8**
HAKT	**HAKKARI**	**0.89**	**176**	P	**Pg**	**03 23 30.7**	**-0.4**
YOVA	**Hakkari_Y˙˙˙kse**	**1.00**	**149**	*i* P	**Pg**	**03 23 32.9**	**-0.4**
YOVA				*i* S	**Sn**	**03 23 47.3**	**-2.8**
YOVA	**Hakkari_Y˙˙˙kse**	**1.00**	**149**	P	**Pg**	**03 23 32.9**	**-0.4**
YOVA				S	**Sn**	**03 23 47.3**	**-2.8**
DYDN	**Diyadin**	**1.10**	**2**	*i* P	**Pg**	**03 23 34.5**	**-0.7**
DYDN				*i* S	**Sn**	**03 23 50.6**	**-1.9**
DYDN	**Diyadin**	**1.10**	**2**	P	**Pg**	**03 23 34.5**	**-0.7**
DYDN				S	**Sn**	**03 23 50.6**	**-1.9**
TUTA	**Tutak**	**1.15**	**326**	*i* P	**Pb**	**03 23 34.9**	**-2.0**
TUTA	**Tutak**	**1.15**	**326**	P	**Pb**	**03 23 34.9**	**-2.0**
CUKT	**Cukurca**	**1.20**	**181**	PN	**Pg**	**03 23 37.0**	**-0.1**
CUKT	**Cukurca**	**1.20**	**181**	*ePn*	**Pg**	**03 23 37.0**	**-0.1**
AGRB	**Hanur-Agry**	**1.23**	**336**	PN	**Pg**	**03 23 37.7**	**-0.1**
AGRB	**Hanur-Agry**	**1.23**	**336**	*ePn*	**Pg**	**03 23 37.7**	**-0.1**
GURO	**Guroymak-BITLI**	**1.27**	**275**	PN	**Pg**	**03 23 38.3**	**-0.1**
GURO	**Guroymak-BITLI**	**1.27**	**275**	*ePn*	**Pg**	**03 23 38.3**	**-0.1**
SIRT	**Sirnak**	**1.34**	**225**	PN	**Pg**	**03 23 40.1**	**+0.4**
SIRT	**Sirnak**	**1.34**	**225**	*ePn*	**Pg**	**03 23 40.1**	**+0.4**
HYR	**Heyderabad**	**1.58**	**36**	⇓P	**Pg**	**03 23 43.9**	**-0.6**
HYR				⇓S	**Sg**	**03 24 05.9**	**+0.9**
NAX	**Nakhchivan**	**1.62**	**63**	⇓P	**Pg**	**03 23 44.2**	**-1.0**
NAX				⇓S	**Sg**	**03 24 08.3**	**+2.0**
SBZ	**Shahbuz**	**1.77**	**57**	⇑P	**Pg**	**03 23 47.1**	**-0.9**
SBZ				⇓S	**Sg**	**03 24 14.3**	**+3.3**
GNI	**Garni**	**1.90**	**26**	Pn	**Pg**	**03 23 49.5**	**-1.1**
	17nm,0.3s,baz=276,slow=1.6,SNR=55						
GNI				Lg	Lg	03 24 21.0	
	12nm,0.3s,baz=180,slow=20,SNR=10						
ORD	**Ordubad**	**1.91**	**75**	⇓P	**Pg**	**03 23 50.0**	**-0.6**
ORD				⇓S	**Sg**	**03 24 18.0**	**+2.7**
KARS	**Kars**	**2.22**	**349**	PN	**Pn**	**03 23 51.3**	**-0.8**
KARS	**Kars**	**2.22**	**349**	*ePn*	**Pn**	**03 23 51.3**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.34**	**335**	PN	**Pn**	**03 23 53.7**	**0.0**
SENK	**Senkaya-Erzuru**	**2.34**	**335**	*ePn*	**Pn**	**03 23 53.7**	**0.0**
GDB	**GEDABAY**	**2.80**	**35**	⇓P	**Pn**	**03 24 00.7**	**+0.7**
GDB				⇓S	**Sb**	**03 24 37.6**	**-2.1**
BGD	**Bogdanovka**	**2.81**	**359**	P	**Pg**	**03 24 06.3**	**-1.8**
QZX	**Qazax, Azerbai**	**2.93**	**27**	⇓P	**Pn**	**03 24 02.5**	**+0.8**
QZX				⇓S	**Sb**	**03 24 40.4**	**-3.0**
AKH	**Akhalkalaki**	**2.96**	**358**	PN	**Pn**	**03 24 02.4**	**+0.1**
AKH	**Akhalkalaki**	**2.96**	**358**	P	**Pg**	**03 24 08.6**	**-2.3**
AKH	**Akhalkalaki**	**2.96**	**358**	*ePn*	**Pn**	**03 24 02.4**	**+0.1**
GANJ	**Ganja**	**3.02**	**43**	⇓P	**Pb**	**03 24 04.9**	**-3.7**
GANJ				⇓S	**Sb**	**03 24 45.7**	**-0.3**
TBLG	**Delisi**	**3.39**	**14**	PN	**Pn**	**03 24 08.8**	**+0.8**
TBLG	**Delisi**	**3.39**	**14**	P	**Pb**	**03 24 15.1**	**+0.2**
TBLG				S	**Sg**	**03 25 04.6**	**+1.7**
TBLG	**Delisi**	**3.39**	**14**	*ePn*	**Pn**	**03 24 08.8**	**+0.8**
DDFL	**Dedoflistskaro**	**3.55**	**32**	P	**Pg**	**03 24 24.6**	**+2.4**
LRK	**Lerik**	**3.69**	**85**	⇓P	**Pb**	**03 24 14.1**	**+1.8**
LRK				⇓S	**Sb**	**03 25 01.8**	**-3.6**
GLBA	**Clilabad**	**3.80**	**76**	⇓P	**Pn**	**03 24 15.8**	**+2.2**
GLBA				⇓S	**Sb**	**

LRK				⇑S		**Sb**	**03 25 58.8**	**-4.1**
GLBA	**Clilabad**	**3.75**	**76**	⇓P		Pb	03 25 15.0	-4.9
SEKA	**Sheki**	**3.85**	**43**	⇑P		Pb	03 25 16.9	-4.8
SEKA				⇓S		**Sb**	**03 26 05.0**	**-3.8**
LKRN	**Lenkeran, Azer**	**3.99**	**85**	⇓P		**Pn**	**03 25 18.3**	**+3.2**
ASTR	**Astara**	**4.00**	**87**	⇑P		**Pn**	**03 25 18.3**	**+3.1**
IML	**Ismayilli**	**4.18**	**55**	⇓P		**Pn**	**03 25 20.8**	**+3.1**
XNQ	**Khinaliq**	**4.37**	**50**	⇑P		**Pn**	**03 25 23.2**	**+2.7**
XNQ				⇑S		**Sb**	**03 26 16.7**	**-7.1**
PQL	**Pirkuli**	**4.45**	**57**	⇑P		**Pn**	**03 25 24.3**	**+2.8**
PQL				⇑S		**Sb**	**03 26 18.2**	**-7.6**
GBS	**Qobustan**	**4.56**	**61**	⇑P		**Pn**	**03 25 26.0**	**+3.0**
QSAR	**Qusar**	**4.66**	**47**	⇓P		**Pn**	**03 25 26.9**	**+2.6**
QSAR				⇓S		**Sn**	**03 26 22.5**	**+3.7**
ATGJ	**Altiaghaj**	**4.71**	**58**	⇓P		**Pn**	**03 25 27.9**	**+2.9**
KBZ	**Khabaz**	**5.31**	**354**	Pn		Pn	03 25 37.5	+4.4
	0.1nm,0.3s,baz=184,slow=18,SNR=1.9							
KVAR	**Kislovodsk Arr**	**5.55**	**353**	LR		LR	03 28 19.9	
	comp=Z,177nm,18.5s,baz=200,slow=45							
BRTR	**Keskin Array B**	**7.93**	**282**	Pn		Pn	03 26 16.1	+6.8
	0.1nm,0.3s,baz=108,slow=15,SNR=2.9							
MMAI	**Mount Meron Ar**	**8.65**	**234**	Pn		Pn	03 26 26.2	+7.0
	0.9nm,0.3s,baz=64,slow=16,SNR=3.2							
MMAI				LR		LR	03 29 27.3	
	comp=Z,34nm,18.7s,baz=15,slow=35							
IDI	**Anoyia**	**15.38**	**264**	LR		LR	03 34 38.3	
	comp=Z,52nm,18.3s,baz=120,slow=40							
VOIR		**15.51**	**303**	⇑ *i* P		**P**	**03 27 59.0**	**+1.7**
AKASG	**Malin Array Be**	**15.97**	**325**	Pn		**P**	**03 28 00.3**	**-1.9**
	0.5nm,0.3s,baz=126,slow=9.6,SNR=4.4							
BURAR	**Bucovina Array**	**16.29**	**310**	⇓ *i* P		P	03 28 11.6	+5.7
WSAR	**Wadi Sarin**	**19.82**	**136**	P		**Pn**	**03 28 49.6**	**+3.3**
	0.4nm,0.3s,baz=309,slow=6.5,SNR=4.3							
ARU	**Arti**	**20.53**	**24**	P		Pn	03 28 56.3	+1.9
	5.5nm,0.2s,baz=238,slow=7.8,SNR=5.0							
ARU				LR		LR	03 39 10.2	
	comp=Z,29nm,20.9s,baz=230,slow=44							
BVAR	**Borovoye Array**	**23.47**	**43**	P		**P**	**03 29 27.4**	**+3.8**
	0.5nm,0.5s,baz=254,slow=5.4,SNR=2.0							
GERES	**GERESS Array B**	**23.92**	**305**	P		**P**	**03 29 32.7**	**+4.6**
	0.3nm,0.6s,baz=115,slow=9.0,SNR=3.7							
FINES	**FINESS Array B**	**25.49**	**340**	P		**P**	**03 29 44.6**	**+2.4**
	2.4nm,1.0s,baz=156,slow=14,SNR=2.6							
KURBB	**Kurchatov Arra**	**27.39**	**52**	P		**P**	**03 30 01.4**	**+2.0**
	1.0nm,0.6s,baz=263,slow=9.0,SNR=9.1							
MKAR	**Makanchi Array**	**29.36**	**61**	P		**P**	**03 30 19.8**	**+2.7**
	0.5nm,0.7s,baz=258,slow=6.1,SNR=4.2							
ZALV	**Zalesovo Beam**	**31.88**	**47**	P		P	03 30 43.2	+3.9
	0.6nm,0.4s,baz=257,slow=13,SNR=2.6							
EKA	**Eskdalemuir Ar**	**35.41**	**314**	P		P	03 31 15.0	+5.1
	0.3nm,0.6s,baz=101,slow=8.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**44.90**	**247**	P		P	03 32 33.8	+4.8
	0.4nm,0.8s,baz=45,slow=9.1,SNR=4.8							
SEY	**Seymchan**	**64.18**	**29**	P		**P**	**03 34 51.4**	**+2.9**
	0.7nm,0.4s,baz=342,slow=19,SNR=4.4							
SUR	**Sutherland**	**73.62**	**200**	LR		LR	04 09 11.1	
	comp=Z,12nm,20.7s,baz=348,slow=36							

*ISCJB **13** 03:41:41.6±0.6, 16°.2S±0°.1×173°.8W±0°.1, h79km, mb3.7/9, Error ellipse: s-maj=19.9km s-min=12.0km az=144.4*
*IDC **13** 03:41:43.1±2.8, 16°.21S×173°.74W, h80km±26km, mb3.5/9, mb1 3.9/11, mb1mx3.7/45, mbtmp4.0/11, Error ellipse: s-maj=31.2km s-min=15.8km az=141.0*

ISC 13 03:41:42.8±0.7, 16°.1S±0°.1×173°.7W±0°.1, h79km, n13, σ1§17/14, mb3.7/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.88**	**40**	P		**Pn**	**Pn**	**03 42 28.2**	**+1.5**
	13nm,0.3s,baz=88,slow=3.5,SNR=7.8								
AFI				S		**Sn**	**Sn**	**03 42 57.4**	**-3.1**
	97nm,0.3s,baz=32,slow=22,SNR=18								
RAR	**Rarotonga**	**14.12**	**113**	P		**Pn**	**Pn**	**03 44 59.0**	**-0.2**
	1.6nm,0.3s,baz=253,slow=10.0,SNR=3.8								
URZ	**Urewera**	**23.48**	**198**	P		**P**	**P**	**03 46 45.1**	**-0.4**
	6.8nm,0.8s,baz=337,slow=7.7,SNR=3.3								
STKA	**Stephens Creek**	**43.43**	**241**	P		**P**	**P**	**03 49 37.7**	**-0.3**
	0.9nm,0.6s,baz=59,slow=12,SNR=3.1								
WRA	**Warramunga Arr**	**49.40**	**257**	P		**P**	**P**	**03 50 24.6**	**-0.4**
	0.4nm,0.6s,baz=98,slow=6.0,SNR=4.5								
ASAR	**Alice Springs**	**49.62**	**252**	P		**P**	**P**	**03 50 26.1**	**-0.6**
	1.2nm,0.7s,baz=88,slow=8.2,SNR=13								
NVAR	**Mina Array Bea**	**75.06**	**42**	P		**P**	**P**	**03 53 17.6**	**+1.2**
	0.8nm,0.7s,baz=224,slow=9.1,SNR=5.5								
TXAR	**Lajitas Array**	**81.25**	**56**	P		**P**	**P**	**03 53 51.3**	**+0.5**
	0.9nm,1.0s,baz=224,slow=5.2,SNR=5.6								
PDAR	**Pinedale Array**	**83.00**	**42**	P		**P**	**P**	**03 54 00.2**	**+0.5**
	1.6nm,0.8s,baz=201,slow=3.2,SNR=14								
ILAR	**Eielson Array**	**83.22**	**11**	P		**P**	**P**	**03 54 00.2**	**+0.2**
	0.5nm,0.8s,baz=232,slow=6.3,SNR=9.0								
YKA	**Yellowknife Ar**	**90.88**	**23**	P		**P**	**P**	**03 54 37.6**	**+0.4**
	0.1nm,0.4s,baz=239,slow=4.6,SNR=3.7								
BRTR	**Keskin Array B**	**146.54**	**320**	PKPbc		**PKPbc**	**PKPbc**	**04 01 15.2**	**-0.4**
	0.9nm,0.8s,baz=46,slow=2.3,SNR=4.9								
TORD	**Torodi Ar. Bea**	**174.64**	**123**	PKPab		**PKPab**	**PKPab**	**04 03 17.8**	**-0.5**
	0.7nm,0.9s,baz=240,slow=4.4,SNR=3.4								

*ISK **13** 03:41:43.9, 39°.19N×44°.02E, h28km, ML2.7/3*
*CSEM **13** 03:41:44.9±0.5, 39°.07N×43°.86E, h20km, ML2.7, Error ellipse: s-maj=12.9km s-min=12.0km az=23.0*
*DDA **13** 03:41:44.0, 38°.93N×43°.74E, h7km, Ml2.0*
*ISCJB **13** 03:41:45.6±1.8, 39°.06N±0°.06×43°.9E±0°.1, h23km±12km, Error ellipse: s-maj=16.8km s-min=9.4km az=167.2*

ISC 13 03:41:44.3±1.3, 39°.01N±0°.04×43°.75E±0°.05, h15km±10km, n12, σ1§03/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.19**	**43**	PG		**Pg**	**Pg**	**03 41 49.0**	**0.0**
CLDR				SG		**Sb**	**Sb**	**03 41 53.2**	**-0.1**
CLDR	**Caldiran**	**0.19**	**43**	*i* P		**Pg**	**Pg**	**03 41 49.0**	**0.0**
CLDR				*i* S		**Sb**	**Sb**	**03 41 53.8**	**+0.5**
CLDR	**Caldiran**	**0.19**	**43**	P		**Pg**	**Pg**	**03 41 49.0**	**0.0**
CLDR				*e*Sg		**Sb**	**Sb**	**03 41 53.2**	**-0.1**
VANB	**Van**	**0.50**	**215**	PG		**Pn**	**Pn**	**03 42 00.0**	**+2.9**
TVAN	**Van**	**0.55**	**209**	*i* P		**Pg**	**Pg**	**03 41 53.7**	**-1.5**
TVAN				*i* S		**Sn**	**Sn**	**03 42 05.9**	**-1.0**
TVAN	**Van**	**0.55**	**209**	P		**Pg**	**Pg**	**03 41 53.7**	**-1.5**
TVAN				S		**Sn**	**Sn**	**03 42 05.9**	**-1.0**
AGRB	**Hanur-Agry**	**0.82**	**314**	PG		**Pn**	**Pn**	**03 42 01.0**	**-0.6**
AGRB				SG		**Sn**	**Sn**	**03 42 13.0**	**-0.6**
AGRB	**Hanur-Agry**	**0.82**	**314**	*e*Pg		**Pn**	**Pn**	**03 42 01.0**	**-0.6**
AGRB				*e*Sg		**Sn**	**Sn**	**03 42 13.0**	**-0.6**
TUTA	**Tutak**	**0.83**	**299**	*i* P		**Pg**	**Pg**	**03 42 00.8**	**+0.3**
TUTA				*i* S		**Sn**	**Sn**	**03 42 13.2**	**-0.7**
TUTA	**Tutak**	**0.83**	**299**	P		**Pg**	**Pg**	**03 42 00.8**	**+0.3**
TUTA				S		**Sn**	**Sn**	**03 42 13.2**	**-0.7**
GURO	**Guroymak-BITLI**	**1.42**	**252**	PN		**Pg**	**Pg**	**03 42 12.2**	**+0.6**
GURO	**Guroymak-BITLI**	**1.42**	**252**	*e*Pn		**Pg**	**Pg**	**03 42 12.2**	**+0.6**

*ISCJB **13** 03:47:52.9±0.9, 35°.32N±0°.03×27°.95E±0°.03, h8km±6km, mb3.5/9, MS3.5/4, Error ellipse: s-maj=4.8km s-min=4.4km az=172.6*
*IDC **13** 03:47:53.0±0.8, 35°.30N×27°.90E, h0km, mb3.7/9, mb1 3.7/16, mb1mx3.5/68, mbtmp3.6/16, ML3.4/7, MS3.1/7, Ms1 3.1/7, ms1mx2.7/62, Error ellipse: s-maj=16.8km s-min=13.1km az=162.0*
*ISK **13** 03:47:53.7, 35°.25N×27°.76E, h28km, ML3.8/10*
*ATH **13** 03:47:54.5, 35°.40N×27°.86E, h9km±4km, ML3.3/3, Error ellipse: s-maj=6.8km s-min=1.5km az=322.0*
*CSEM **13** 03:47:54.5±0.3, 35°.47N×27°.89E, h2km, ML3.2, Error ellipse: s-maj=8.2km s-min=3.9km az=160.0*
*THE **13** 03:47:55.8, 35°.53N×27°.81E, h0km±3km, ML3.2/2, Error ellipse: s-maj=8.8km s-min=1.8km az=146.0*
*DDA **13** 03:48:16.4, 35°.55N×27°.97E, h5km, Ml3.7*

ISC 13 03:47:54.1±1.3, 35°.39N±0°.04×27°.84E±0°.03, h7km±9km, n98, σ1§06/119, mb3.6/9, MS3.4/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.57**	**286**	PG		**Pb**	**Pb**	**03 48 05.9**	**-0.6**
KARP				SG		**Sb**	**Sb**	**03 48 14.9**	**-0.1**
KARP	**Karpathos**	**0.57**	**286**	P		**Pb**	**Pb**	**03 48 06.0**	**-0.6**
KARP				S		**Sb**	**Sb**	**03 48 13.5**	**-1.5**
KARP				AML	AML	03 48 18.5			
	comp=N,7652μm,0.9s								
KARP				AML	AML	03 48 21.0			
	comp=E,4877μm,0.3s								
KARP	**Karpathos**	**0.57**	**286**	P		**Pb**	**Pb**	**03 48 06.0**	**-0.6**
KARP				S		**Sb**	**Sb**	**03 48 13.8**	**-1.2**
KARP				*e*Sg		**Sb**	**Sb**	**03 48 14.9**	**-0.1**
KARP	**Karpathos**	**0.57**	**286**	P		**Pb**	**Pb**	**03 48 05.7**	**-0.9**
KARP				S		**Sb**	**Sb**	**03 48 14.6**	**-0.4**
ARG	**Arkhangelos**	**0.86**	**16**	P		**Pg**	**Pg**	**03 48 10.4**	**-0.3**
ARG				S		**Sb**	**Sb**	**03 48 23.7**	**+0.5**
ARG				AML	AML	03 48 28.1			
	comp=N,3887μm,0.4s								
ARG				AML	AML	03 48 28.2			
	comp=E,4992μm,0.3s								
ARG	**Arkhangelos**	**0.86**	**16**	P		**Pg**	**Pg**	**03 48 09.5**	**-1.1**
ARG				S		**Sb**	**Sb**	**03 48 22.9**	**-0.2**
ARG	**Arkhangelos**	**0.86**	**16**	P		**Pg**	**Pg**	**03 48 09.5**	**-1.1**
ARG				S		**Sb**	**Sb**	**03 48 22.3**	**-0.8**
NISR	**Nisiros**	**1.35**	**335**	P		**Pn**	**Pn**	**03 48 19.1**	**-0.3**
NISR	**Nisiros**	**1.35**	**335**	P		**Pn**	**Pn**	**03 48 19.0**	**-0.4**
NISR	**Nisiros**	**1.35**	**335**	P		**Pn**	**Pn**	**03 48 19.0**	**-0.4**
ZKR	**Zakros**	**1.35**	**259**	P		**Pg**	**Pg**	**03 48 20.0**	**-0.1**
ZKR				S		**Sn**	**Sn**	**03 48 40.9**	**+3.1**
ZKR				AML	AML	03 48 50.1			
	comp=E,3818μm,0.9s								
ZKR				AML	AML	03 48 51.6			
	comp=N,1109μm,0.7s								
ZKR	**Zakros**	**1.35**	**259**	P		**Pg**	**Pg**	**03 48 20.2**	**+0.1**
ZKR				S		**Sn**	**Sn**	**03 48 40.1**	**+2.4**
ZKR	**Zakros**	**1.35**	**259**	P		**Pg**	**Pg**	**03 48 20.1**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.57**	**25**	PN		**Pn**	**Pn**	**03 48 22.6**	**+0.1**
DALY	**Dalyan (Mu¨la**	**1.57**	**25**	*i* P		**Pn**	**Pn**	**03 48 22.7**	**+0.2**
DALY				*i* S		**Sg**	**Sg**	**03 48 48.4**	**+3.7**
DALY	**Dalyan (Mu¨la**	**1.57**	**25**	*e*Pn		**Pn**	**Pn**	**03 48 22.6**	**+0.1**
FETY	**Fethiye**	**1.60**	**39**	PN		**Pn**	**Pn**	**03 48 22.9**	**0.0**
FETY	**Fethiye**	**1.60**	**39**	P		**Pn**	**Pn**	**03 48 21.4**	**-1.5**
FETY	**Fethiye**	**1.60**	**39**	*e*Pn		**Pn**	**Pn**	**03 48 22.9**	**0.0**
FETY	**Fethiye**	**1.60**	**39**	P		**Pn**	**Pn**	**03 48 21.4**	**-1.5**
TURN	**Turunc**	**1.61**	**22**	PN		**Pn**	**Pn**	**03 48 20.3**	**-2.6**
TURN	**Turunc**	**1.61**	**22**	*i* P		**Pn**	**Pn**	**03 48 20.1**	**-2.8**
TURN				*i* S		**Sn**	**Sn**	**03 48 43.9**	**0.0**
TURN	**Turunc**	**1.61**	**22**	*e*Pn		**Pn**	**Pn**	**03 48 20.3**	**-2.6**
TURN				S		**Sn**	**Sn**	**03 48 43.9**	**0.0**
AKAS	**Kas**	**1.67**	**59**	PN		**Pn**	**Pn**	**03 48 23.4**	**-0.5**
AKAS	**Kas**	**1.67**	**59**	*i* P		**Pn**	**Pn**	**03 48 22.3**	**-1.6**
AKAS	**Kas**	**1.67**	**59**	P		**Pn**	**Pn**	**03 48 22.3**	**-1.6**
AKAS	**Kas**	**1.67**	**59**	*e*Pn		**Pn**	**Pn**	**03 48 23.4**	**-0.5**
BDRM	**Kayabasi**	**1.70**	**349**	*i* P		**Pn**	**Pn**	**03 48 23.6**	**-0.7**
BDRM				*i* S		**Sg**	**Sg**	**03 48 47.7**	**-1.2**
BDRM	**Kayabasi**	**1.70**	**349**	P		**Pn**	**Pn**	**03 48 23.6**	**-0.7**
BDRM				S		**Sg**	**Sg**	**03 48 47.7**	**-1.2**
BODT	**Bodrum**	**1.72**	**346**	PN		**Pn**	**Pn**	**03 48 23.8**	**-0.8**
BODT				SN		**Sn**	**Sn**	**03 48 46.6**	**-0.3**
BODT	**Bodrum**	**1.72**	**346**	P		**Pn**	**Pn**	**03 48 23.1**	**-1.5**
BODT	**Bodrum**	**1.72**	**346**	*e*Pn		**Pn**	**Pn**	**03 48 23.8**	**-0.8**
BODT				*e*Sn		**Sn**	**Sn**	**03 48 46.6**	**-0.3**
BODT	**Bodrum**	**1.72**	**346**	P		**Pn**	**Pn**	**03 48 23.1**	**-1.5**
YER	**Yerkesik**	**1.78**	**12**	PN		**Pn**	**Pn**	**03 48 25.5**	**+0.1**
YER	**Yerkesik**	**1.78**	**12**	P		**Pn**	**Pn**	**03 48 24.9**	**-0.5**
YER	**Yerkesik**	**1.78**	**12**	*e*Pn		**Pn**	**Pn**	**03 48 25.5**	**+0.1**
YER				S		**Sn**	**Sn**	**03 48 47.9**	**-0.5**
YER	**Yerkesik**	**1.78**	**12**	P		**Pn**	**Pn**	**03 48 24.9**	**-0.5**
YER				S		**Sn**	**Sn**	**03 48 47.9**	**-0.5**
YKAV	**Yalikavak-Bodr**	**1.79**	**346**	PN		**Pn**	**Pn**	**03 48 25.5**	**0.0**
YKAV	**Yalikavak-Bodr**	**1.79**	**346**	*e*Pn		**Pn**	**Pn**	**03 48 25.5**	**0.0**
NPS	**Neapolis**	**1.82**	**267**	P		**Pb**	**Pb**	**03 48 28.1**	**+0.2**
NPS	**Neapolis**	**1.82**	**267**	P		**Pb**	**Pb**	**03 48 28.3**	**+0.4**
NPS	**Neapolis**	**1.82**	**267**	P		**Pg**	**Pg**	**03 48 28.4**	**-0.7**
MLSB	**Milas**	**1.90**	**359**	PN		**Pn**	**Pn**	**03 48 27.2**	**+0.1**
MLSB	**Milas**	**1.90**	**359**	*e*Pn		**Pn**	**Pn**	**03 48 27.2**	**+0.1**
LAST	**Lasithi**	**1.94**	**264**	P		**Pg**	**Pg**	**03 48 30.7**	**-0.6**
LAST	**Lasithi**	**1.94**	**264**	P		**Pb**	**Pb**	**03 48 30.1**	**+0.2**
LAST	**Lasithi**	**1.94**	**264**	P		**Pb**	**Pb**	**03 48 30.1**	**+0.2**
ELL	**Elmali**	**2.16**	**50**	PN		**Pn**	**Pn**	**03 48 30.9**	**+0.2**
ELL	**Elmali**	**2.16**	**50**	*e*Pn		**Pn**	**Pn**	**03 48 30.9**	**+0.2**
THR6	**Thira Island,**	**2.20**	**297**	P		**Pn**	**Pn**	**03 48 32.0**	**+0.8**
THR6	**Thira Island,**	**2.20**	**297**	P		**Pn**	**Pn**	**03 48 32.0**	**+0.8**
TAVA	**DENIZLI_Tavas**	**2.25**	**22**	*i* P		**Pn**	**Pn**	**03 48 31.7**	**-0.2**
TAVA				*i* S		**Sg**	**Sg**	**03 49 08.9**	**+2.6**
TAVA	**DENIZLI_Tavas**	**2.25**	**22**	P		**Pn**	**Pn**	**03 48 31.7**	**-0.2**
AYDN	**Tasoluk**	**2.27**	**1**	*i* P		**Pn**	**Pn**	**03 48 32.5**	**+0.4**
AYDN				*i* S		**Sb**	**Sb**	**03 49 03.8**	**0.0**
AYDN	**Tasoluk**	**2.27**	**1**	P		**Pn**	**Pn**	**03 48 32.5**	**+0.4**
AYDN				S		**Sb**	**Sb**	**03 49 03.8**	**0.0**
GOLH	**Golhisar**	**2.31**	**37**	*i* P		**Pn**	**Pn**	**03 48 32.8**	**0.0**
GOLH	**Golhisar**	**2.31**	**37**	P		**Pn**	**Pn**	**03 48 32.8**	**0.0**
GCAM	**G?zelcaml?**	**2.36**	**348**	PN		**Pn**	**Pn**	**03 48 33.8**	**+0.5**
GCAM	**G?zelcaml?**	**2.36**	**348**	*i* P		**Pn**	**Pn**	**03 48 32.8**	**-0.5**
GCAM	**G?zelcaml?**	**2.36**	**348**	P		**Pn**	**Pn**	**03 48 32.8**	**-0.5**
GCAM	**G?zelcaml?**	**2.36**	**348**	*e*Pn		**Pn**	**Pn**	**03 48 33.8**	**+0.5**
IDI	**Anoyia**	**2.41**	**268**	Pn		**Pb**	**Pb**	**03 48 36.0**	**-1.9**
	comp=N,5.0nm,0.3s,baz=76,slow=20,SNR=32								
IDI				Sn		**Sb**	**Sb**	**03 49 06.6**	**-1.3**
	comp=N,3.8nm,0.3s,baz=198,slow=9.5,SNR=4.2								
IDI				LR		LR	LR	03 49 43.1	
	comp=N,125nm,21.5s,baz=114,slow=45								
DENT	**Denizli**	**2.55**	**22**	PN		**Pn**	**Pn**	**03 48 36.4**	**+0.4**
DENT	**Denizli**	**2.55**	**22**	*e*Pn		**Pn**	**Pn**	**03 48 36.4**	**+0.4**
KORT	**Korkueli**	**2.59**	**51**	PN		**Pn**	**Pn**	**03 48 36.9**	**+0.2**
KORT	**Korkueli**	**2.59**	**51**	*e*Pn		**Pn**	**Pn**	**03 48 36.9**	**+0.2**
URLA	**Izmir**	**3.13**	**342**	PN		**Pn**	**Pn**	**03 48 44.1**	**+0.2**
URLA	**Izmir**	**3.13**	**342**	*e*Pn		**Pn**	**Pn**	**03 48 44.1**	**+0.2**
KULA	**Kula-Manisa**	**3.19**	**12**	PN		**Pn**	**Pn**	**03 48 45.6**	**+0.8**
KULA	**Kula-Manisa**	**3.19**	**12**	*e*Pn		**Pn**	**Pn**	**03 48 45.6**	**+0.8**
ISP	**Isparta**	**3.25**	**41**	PN		**Pn**	**Pn**	**03 48 46.2**	**+0.5**
ISP	**Isparta**	**3.25**	**41**	*e*Pn		**Pn**	**Pn**	**03 48 46.2**	**+0.5**
SUTC	**Sutluce-Ispart**	**3.29**	**50**	PN		**Pn**	**Pn**	**03 48 47.5**	**+1.2**
SUTC	**Sutluce-Ispart**	**3.29**	**50**	*e*Pn		**Pn**	**Pn**	**03 48 47.5**	**+1.2**
SIMA	**Simav-Kutahya**	**3.80**	**14**	PN		**Pn**	**Pn**	**03 48 54.1**	**+0.9**
SIMA	**Simav-Kutahya**	**3.80**	**14**	*e*Pn		**Pn**	**Pn**	**03 48 54.1**	**+0.9**
SHUT	**Suhut-Afyon**	**3.83**	**34**	PN		**Pn**	**Pn**	**03 48 55.1**	**+1.4**
SHUT	**Suhut-Afyon**	**3.83**	**34**	*e*Pn		**Pn**	**Pn**	**03 48 55.1**	**+1.4**
BRTR	**Keskin Array B**	**6.32**	**45**	Pn		**Pn**	**Pn**	**03 49 29.1**	**+1.2**
	comp=N,0.2nm,0.3s,baz=214,slow=15,SNR=6.6								
BRTR				Sn		**Sn**	**Sn**	**03 50 40.6**	**+0.1**
	comp=N,0.3nm,0.3s,baz=208,slow=28,SNR=5.2								
MMAI	**Mount Meron Ar**	**6.70**	**109**	Pn		**Pn**	**Pn**	**03 49 31.9**	**-1.2**
	comp=N,3.3nm,0.3s,baz=300,slow=13,SNR=14								
MMAI				Sn		**Sn**	**Sn**	**03 50 47.2**	**-2.5**
	comp=N,2.1nm,0.3s,baz=276,slow=13,SNR=3.5								
MMAI				LR		LR	LR	03 53 13.0	
	comp=N,36nm,18.6s,baz=280,slow=48								
EIL	**Elat**	**8.28**	**132**	Pn		**Pn**	**Pn**	**03 49 53.1**	**-1.5**
	comp=N,0.3nm,0.3s,baz=107,slow=19,SNR=2.2								
EIL				Sn		**Sn**	**Sn**	**03 51 28.2**	**-0.3**
	comp=N,1.2nm,0.3s,baz=20,slow=10,SNR=5.1								
MLR	**Muntele Rosu**	**10.19**	**352**	Pn		**Pn**	**Pn**	**03 50 22.9**	**+2.0**
	comp=N,0.1nm,0.3s,baz=203,slow=8.2,SNR=5.9								
KVAR	**Kislovodsk Arr**	**14.27**	**49**	LR		LR	LR	03 57 00.1	
	comp=N,51nm,18.1s,baz=194,slow=38								
AKASG	**Malin Array Be**	**15.34**		Pn		**Pn**	**Pn**	**03 51 32.3**	**+1.3**
	comp=N,0.5nm,0.3s,baz=198,slow=12,SNR=4.1								
GERES	**GERESS Array B**	**17.01**	**327**	P		**P**	**P**	**03 51 54.8**	**+0.3**
	comp=N,0.1nm,0.3s,baz=143,slow=12,SNR=11								
ESDC	**Sonseca Array**	**25.50**	**289**	P		**P**	**P**	**03 53 22.6**	**-0.7**
	comp=N,0.6nm,0.5s,baz=82,slow=9.4,SNR=12								
FINES	**FINESS Array B**	**26.10**	**358**	P		**P**	**P**	**03 53 28.8**	**+0.5**
	comp=N,1.8nm,0.8s,baz=176,slow=4.2,SNR=3.4								
HFS	**Hagfors**	**26.41**	**344**	P		**P**	**P**	**03 53 31.6**	**+0.5**
	comp=N,1.2nm,0.6s,baz=193,slow=12,SNR=3.9								
ARU	**Arti**	**29.59**	**35**	LR		LR	LR	04 07 12.1	
	comp=N,43nm,18.7s,baz=322,slow=39								
TORD	**Torodi Ar. Bea**	**32.35**	**233**	P		**P**	**P**	**03 54 24.2**	**-0.1**
	comp=N,1.3nm,0.6s,baz=36,slow=8.2,SNR=18								
KURBB	**Kurchatov Arra**	**39.27**	**51**	P		**P**	**P**	**03 55 24.2**	**+0.9**
	comp=N,0.6nm,0.8s,baz=273,slow=9.1,SNR=5.3								
DBIC	**Dimbokro**	**41.45**	**234**	P		**P**	**P**	**03 55 41.1**	**-0.6**
	comp=N,1.1nm,0.5s,baz=41,slow=5.7,SNR=3.6								
MKAR	**Makanchi Array**	**41.82**	**57**	P		**P**	**P**	**03 55 44.0**	**-0.5**
	comp=N,0.6nm,0.7s,baz=272,slow=6.0,SNR=7.0								
ZALV	**Zalesovo Beam**	**43.26**	**46**	LR		LR	LR	04 15 30.0	
	comp=N,27nm,19.5s,baz=58,slow=38								
MATP	**Matopo**	**55.51**	**179**	LR		LR	LR	04 22 13.1	
	comp=N,46nm,18.3s,baz=232,slow=37								
SONM	**Songino Array**	**57.64**	**51**	P		**P**	**P**	**03 57 45.2**	**+0.1**
	comp=N,0.5nm,0.8s,baz=260,slow=8.1,SNR=3.6								
YKA	**Yellowknife Ar**	**77.89**	**343**	P		**P**	**P**	**03 59 52.8**	**+0.6**
	comp=N,0.1nm,0.5s,baz=31,slow=4.9,SNR=2.7								
YBH	**Yreka Blue Hor**	**98.64**	**338**	LR		LR	LR	04 47 08.5	
	comp=N,44nm,21.4s,baz=108,slow=36								

*HLW **13** 03:52:10.9, 36°.05N×27°.48E, h10km±12km, Md3.9, Ml3.2*
*ATH **13** 03:52:10.7, 35°.98N×27°.34E, h30km±2km, ML3.4/6, Error ellipse: s-maj=3.0km s-min=1.2km az=98.0*
*ISK **13** 03:52:10.1, 36°.05N×27°.22E, h12km, ML3.5/4*

*CSEM **13** 03:52:10.8±0.2, 36°.01N×27°.28E, h10km, ML3.4, Error ellipse: s-maj=4.9km s-min=3.3km az=119.0*
*ISCJB **13** 03:52:11.5±0.5, 35°.94N±0°.03×27°.33E±0°.03, h28km±4km, mb3.2/5, Error ellipse: s-maj=5.2km s-min=3.3km az=136.2*
*THE **13** 03:52:11.1, 35°.99N×27°.33E, h4km±2km, ML3.4/5, Error ellipse: s-maj=2.5km s-min=0.9km az=124.0*
*IDC **13** 03:52:13.1±2.7, 35°.89N×27°.36E, h38km±27km, mb3.2/5, mb1 3.3/9, mb1mx3.1/68, mbtmp3.3/9, ML3.3/4, Error ellipse: s-maj=30.0km s-min=14.2km az=156.0*
*DDA **13** 03:52:40.4, 35°.91N×27°.15E, h21km, Ml3.3*

ISC 13 03:52:11.5±1.0, 35°.98N±0°.02×27°.36E±0°.02, h26km±8km, n88, σ1§63/127, mb3.1/5, Dodecanese Islands

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

MMAI	**Mount Meron Ar**	**7.27**	**112**	Pn	**Pn**	**03 53 56.0**	**-0.1**
	comp=N,1.7nm,0.3s,baz=307,slow=12,SNR=5.2						
RSH		**7.30**	**131**	P	**Pn**	**03 53 55.8**	**-0.7**
	baz=132						
RSH		**7.30**	**131**	P	**Pn**	**03 53 55.8**	**-0.7**
HNKL	**Nakhl**	**8.21**	**135**	P	**Pn**	**03 54 08.3**	**-0.6**
	baz=136						
HNKL				S	**Sn**	**03 55 33.6**	**-7.2**
	baz=136						
EIL	**Elat**	**8.97**	**132**	Pn	**Pn**	**03 54 23.6**	**+4.2**
	comp=N,0.1nm,0.3s,baz=270,slow=3.0,SNR=4.0						
EIL				Sn	**Sn**	**03 56 00.1**	**+0.6**
	comp=N,1.4nm,0.3s,baz=325,slow=15,SNR=7.2						
GERES	**GERESS Array B**	**16.30**	**326**	Pn	**P**	**03 56 01.8**	**+0.4**
	comp=N,0.1nm,0.3s,baz=132,slow=18,SNR=2.5						
ESDC	**Sonseca Array**	**24.94**	**288**	P	**P**	**03 57 32.6**	**-0.1**
	comp=N,0.3nm,0.6s,baz=84,slow=9.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**32.40**	**232**	P	**P**	**03 58 39.0**	**-0.2**
	comp=N,0.8nm,0.6s,baz=34,slow=9.2,SNR=18						
KURBB	**Kurchatov Arra**	**39.21**	**52**	P	**P**	**03 59 37.2**	**-0.1**
	comp=N,0.2nm,0.6s,baz=272,slow=8.3,SNR=2.5						
DBIC	**Dimbokro**	**41.48**	**233**	P	**P**	**03 59 55.9**	**-0.6**
	comp=N,1.3nm,0.8s,baz=27,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**41.83**	**57**	P	**P**	**04 00 00.0**	**+1.0**
	comp=N,0.1nm,0.5s,baz=261,slow=8.6,SNR=3.1						

IDC 13 03:54:41.3±5.0, 51°.86N×171°.89W, h0km, mb3.4/4, mb1 3.8/6, mb1mx3.3/87, mbtmp3.5/6, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/38, Error ellipse: s-maj=91.2km s-min=49.5km az=88.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**12.59**	**54**	Pn		Pn	03 57 44.7	+3.3
	0.2nm,0.3s,baz=258,slow=1.8,SNR=10							
ILAR	**Eielson Array**	**18.25**	**35**	P		P	03 58 57.1	+1.2
	0.2nm,0.3s,baz=229,slow=9.3,SNR=12							
INK	**Inuvik**	**24.63**	**34**	P		P	04 00 01.9	-1.0
	0.5nm,0.6s,baz=244,slow=8.9,SNR=5.4							
YKA	**Yellowknife Ar**	**31.74**	**48**	P		P	04 01 06.8	+0.3
	0.1nm,0.3s,baz=274,slow=8.9,SNR=3.4							
MJAR	**Matsushiro Arr**	**38.12**	**266**	LR		LR	04 17 29.1	
	comp=Z,19nm,19.7s,baz=340,slow=36							
PDAR	**Pinedale Array**	**42.03**	**77**	P		P	04 02 35.5	+0.9
	0.5nm,0.6s,baz=302,slow=5.3,SNR=6.0							
TXAR	**Lajitas Array**	**54.32**	**87**	P		P	04 04 08.9	-0.6
	0.3nm,0.6s,baz=316,slow=5.2,SNR=4.1							

IDC 13 03:55:52.9±1.5, 5°.85N×126°.00E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.5/76, mbtmp3.9/6, Error ellipse: s-maj=112.8km s-min=17.8km az=68.0
ISCJB 13 03:56:05.5±0.6, 5°.62N±0°.03×126°.37E±0°.07, h100km, mb3.8/6, Error ellipse: s-maj=9.7km s-min=4.8km az=179.0
DJA 13 03:56:06.1±1.1, 6°N±18°×12°6E±°, h11km±21km, M4.5/7, mB5.4/1, mb4.4/7, MLv4.5/6, Mw(mB)4.9/1
ISC 13 03:56:06.0±0.9, 5°.68N±0°.05×126°.33E±0°.09, h100km, n16, σ1s73/22, mb3.9/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.26**	**357**	*e*P		**Pn**	**03 56 30.8**	**+1.3**
MATI				*e*S		**Sn**	**03 56 48.8**	**+1.7**
GSPH	**General Santos**	**1.43**	**287**	⇑*i*P		**Pn**	**03 56 29.2**	**-2.3**
SGSI	**Sangihe**	**2.13**	**202**	P		**Pn**	**03 56 39.3**	**-1.0**
SGSI				S		**Sn**	**03 57 04.6**	**-2.0**
BUKP	**Musuan**	**2.52**	**330**	*e*P		**Pn**	**03 56 46.9**	**+1.4**
BUKP				*e*S		**Sn**	**03 57 17.9**	**+2.1**
LBMI	**Labuha**	**6.38**	**169**	P		**Pn**	**03 57 38.6**	**+1.1**
LBMI				S		**Sn**	**03 58 49.5**	**+0.5**
MRSI	**Marisa**	**6.78**	**220**	P		**Pn**	**03 57 43.2**	**+0.3**
LUWI	**Luwuk**	**7.56**	**208**	P		**Pn**	**03 57 54.2**	**+0.6**
	56nm,0.9s,2μm0.3nm							
SANI	**Sanana**	**7.69**	**183**	P		**Pn**	**03 57 55.6**	**+0.4**
APSI	**Ampana**	**8.04**	**216**	P		**Pn**	**03 58 00.6**	**+0.5**
APSI				S		**Sn**	**03 59 31.7**	**+2.2**
MPSI	**Mapaga**	**8.33**	**231**	P		**Pn**	**03 58 04.6**	**+0.6**
MPSI				S		**Sn**	**03 59 39.1**	**+2.7**
FITZ	**Fitzroy Crossi**	**23.64**	**182**	P		**P**	**04 01 07.8**	**-0.5**
	2.0nm,0.6s,baz=316,slow=9.5							
WRA	**Warramunga Arr**	**26.65**	**163**	P		**P**	**04 01 35.6**	**0.0**
	0.8nm,0.4s,baz=342,slow=10.0,SNR=14							
ASAR	**Alice Springs**	**30.09**	**166**	P		**P**	**04 02 06.4**	**+0.2**
	1.3nm,0.6s,baz=345,slow=7.3,SNR=14							
STKA	**Stephens Creek**	**40.08**	**160**	P		**P**	**04 03 32.7**	**+0.9**
	0.8nm,0.4s,baz=334,slow=6.0,SNR=5.7							
MKAR	**Makanchi Array**	**55.74**	**325**	P		**P**	**04 05 29.3**	**-3.1**
	0.6nm,0.4s,baz=114,slow=6.5,SNR=9.2							
KURBB	**Kurchatov Arra**	**59.90**	**327**	P		**P**	**04 05 58.1**	**-3.2**
	0.8nm,0.5s,baz=128,slow=7.1,SNR=10							

MAN 13 04:03:46, 17°.05N×120°.43E, h32km, mb4.6, ML3.5, MS3.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.66**	**24**	*e*P		Pb	04 04 00.5	+1.4
ABRA				*e*S		Sn	04 04 12.8	+4.4
BOLP	**Bolinao**	**0.83**	**217**	*e*P		Pb	04 04 02.1	+0.2
BOLP				*e*S		Sb	04 04 15.4	+2.6
APYP	**Conner**	**1.12**	**44**	*e*P		Pn	04 04 05.8	+0.3
APYP				*e*S		Sb	04 04 20.8	-0.4
CAUP	**Cauayan**	**1.34**	**94**	*e*P		Pb	04 04 10.0	-0.6
CAUP				*e*S		Sb	04 04 29.9	+2.6
SCZP	**Santa Cruz**	**1.36**	**202**	*e*P		Pn	04 04 09.0	+0.2
SCZP				*e*S		Sb	04 04 26.9	-1.0
PCPH	**Palayan**	**1.61**	**156**	⇑*e*P		Pn	04 04 11.8	-0.4
PCPH				*e*S		Sb	04 04 33.5	-1.6
BALP	**Baler**	**1.70**	**140**	*e*P		Pn	04 04 13.9	+0.4

IDC 13 04:05:27.5±1.4, 34°.88N×16°.62W, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.5/77, mbtmp3.7/10, MS2.8/1, Ms1 2.9/1, ms1mx2.3/54, Error ellipse: s-maj=44.5km s-min=17.7km az=81.0
CSEM 13 04:05:28.6±0.1, 34°.93N×16°.45W, h30km, mb4.5, Error ellipse: s-maj=5.2km s-min=3.3km az=128.0
MDD 13 04:05:29.4±0.8, 34°.88N×16°.34W, h25km, mb4.5/32, Error ellipse: s-maj=15.8km s-min=3.6km az=121.0, PRXIMO
LDG 13 04:05:30.0±0.2, 34°.94N×16°.50W, h30km, Ml3.8/2, Error ellipse: s-maj=6.0km s-min=1.8km az=116.0
IGIL 13 04:05:30.4, 34°.93N×16°.50W, h31km, ML3.8
PDA 13 04:05:30.0, 34°.93N×16°.50W, h29km, ML3.8
INMG 13 04:05:33.0±1.7, 34°.91N×16°.34W, h10km, ML3.8, Error ellipse: s-maj=7.3km s-min=1.4km az=116.0
CNRM 13 04:05:36.8, 35°.02N×15°.92W, h30km, MD4.2
ISC 13 04:05:27.6±0.6, 34°.84N±0°.05×16°.29W±0°.05, h10km, n221, σ2s53/255, mb3.8/10, 8C-1D, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**1.78**	**181**	⇓*i*Pn		**Pn**	**04 05 59.3**	**+0.9**
PMPS				*e*Sn		**Sn**	**04 06 18.5**	**-2.5**
PMPS				A		A	04 06 23.4	
	559nm,0.3s							
PMPS				*e*T		T	04 07 47.8	
PMPS	**Porto Santo**	**1.78**	**181**	P		**Pn**	**04 05 59.3**	**+0.9**
PMPS				S		**Sn**	**04 06 18.5**	**-2.5**
	280nm,0.3s							
PMPS	**Porto Santo**	**1.78**	**181**	P		**Pn**	**04 05 59.3**	**+0.9**
PMPS				S		**Sn**	**04 06 18.5**	**-2.5**
	280nm,0.3s							
PMOZ	**Porto Moniz, M**	**2.15**	**201**	⇑*e*Pn		**Pn**	**04 06 03.6**	**0.0**
PMOZ				*e*Sn		**Sn**	**04 06 27.7**	**-2.7**
PMOZ				A		A	04 06 32.8	
	2μm,0.3s							
PMOZ				*e*T		T	04 08 12.7	
PMOZ	**Porto Moniz, M**	**2.15**	**201**	⇑P		**Pn**	**04 06 03.5**	**-0.1**
	416nm,0.4s,SNR=18							
PMOZ				S		**Sn**	**04 06 27.5**	**-2.9**
	2μm,0.3s,SNR=7.9							
PMOZ	**Porto Moniz, M**	**2.15**	**201**	⇑*e*Pn		**Pn**	**04 06 03.6**	**0.0**
PMOZ				*e*Sn		**Sn**	**04 06 27.7**	**-2.7**
	2μm,0.3s							
PMAR	**Madeira**	**2.18**	**194**	⇑*i*Pn		**Pn**	**04 06 04.2**	**+0.2**
PMAR				*e*Sn		**Sn**	**04 06 27.9**	**-3.2**
PMAR				A		A	04 06 30.7	
	2μm,0.2s							
PMAR				*e*T		T	04 08 12.5	
PMAR	**Madeira**	**2.18**	**194**	P		**Pn**	**04 06 04.2**	**+0.2**
PMAR				S		**Sn**	**04 06 27.9**	**-3.2**
	1μm,0.2s							
PMAR	**Madeira**	**2.18**	**194**	P		**Pn**	**04 06 04.2**	**+0.2**
PMAR				S		**Sn**	**04 06 27.9**	**-3.2**
	1μm,0.2s							
FUL	**Funchal**	**2.25**	**193**	⇑*i*Pn		**Pn**	**04 06 05.0**	**+0.2**
FUL				*e*Sn		**Sn**	**04 06 29.2**	**-3.3**
FUL				A		A	04 06 33.0	
	2μm,0.2s							
FUL				*e*T		T	04 08 12.6	
FUL	**Funchal**	**2.25**	**193**	P		**Pn**	**04 06 05.0**	**+0.2**
FUL				S		**Sn**	**04 06 29.2**	**-3.3**
	1μm,0.2s							
EFAM	**Famara**	**6.16**	**157**	P		**Pn**	**04 06 59.3**	**+0.7**
	8.5nm,0.2s,SNR=7.9							
EFAM				S		**Sn**	**04 08 03.5**	**-5.6**
	3.7nm,0.1s,SNR=7.9							
EFAM	**Famara**	**6.16**	**157**	P		**Pn**	**04 06 59.3**	**+0.7**
	8.5nm,0.2s,SNR=7.9							
EFAM				S		**Sn**	**04 08 03.5**	**-5.6**
	3.7nm,0.1s,SNR=7.9							
EBAJ	**Bajamar**	**6.28**	**180**	P		**Pn**	**04 07 00.4**	**+0.1**
	0.6nm,0.3s,SNR=7.9							
EBAJ				S		Sn	04 08 05.9	-6.3
	12nm,0.4s,SNR=7.9							
EBAJ	**Bajamar**	**6.28**	**180**	P		**Pn**	**04 07 00.4**	**+0.1**
	0.6nm,0.3s,SNR=7.9							
EBAJ				S		Sn	04 08 05.9	-6.3
	12nm,0.4s,SNR=7.9							
TBT	**Taburiente**	**6.30**	**193**	P		**Pn**	**04 06 58.5**	**-2.0**
	2.8nm,0.3s,SNR=7.9							
TBT				S		Sn	04 08 04.5	-8.0
	24nm,0.4s,SNR=7.9							
TBT	**Taburiente**	**6.30**	**193**	P		**Pn**	**04 06 58.5**	**-2.0**
	2.8nm,0.3s,SNR=7.9							
TBT				S		Sn	04 08 04.5	-8.0
	24nm,0.4s,SNR=7.9							
EHIG	**Higuera**	**6.40**	**192**	S		**Sn**	**04 08 10.4**	**-4.7**
	50nm,0.3s,SNR=7.9							
EHIG	**Higuera**	**6.40**	**192**	S		**Sn**	**04 08 10.4**	**-4.7**
	50nm,0.3s,SNR=7.9							
PFVI	**Vila Bisbo**	**6.46**	**67**	*e*Pn		**Pn**	**04 07 03.1**	**+0.3**
PFVI				*e*Sn		Sn	04 08 09.2	-7.4
PFVI				A		A	04 08 21.7	
	36nm,0.3s							
PFVI	**Vila Bisbo**	**6.46**	**67**	⇑P		**Pn**	**04 07 03.1**	**+0.3**
	14nm,0.1s,SNR=18							
PFVI				S		**Sn**	**04 08 10.1**	**-6.5**
	18nm,0.3s,SNR=6.4							
PFVI	**Vila Bisbo**	**6.46**	**67**	P		**Pn**	**04 07 03.1**	**+0.3**
	14nm,0.1s,SNR=18							
PFVI				*e*Sn		Sn	04 08 09.2	-7.4
	36nm,0.3s							
PFVI				S		**Sn**	**04 08 10.1**	**-6.5**
	18nm,0.3s,SNR=6.4							
CFUE	**Fuerteventura**	**6.49**	**161**	⇑P		**Pn**	**04 07 03.1**	**-0.1**
	8.6nm,0.2s,SNR=18							
CFUE				S		Sn	04 08 10.1	-7.2
	63nm,0.2s,SNR=7.9							
CFUE	**Fuerteventura**	**6.49**	**161**	P		**Pn**	**04 07 03.1**	**-0.1**
	8.6nm,0.2s,SNR=18							
CFUE				S		Sn	04 08 10.1	-7.2
	63nm,0.2s,SNR=7.9							
CRAJ	**Montana Rajada**	**6.56**	**182**	P		**Pn**	**04 07 04.2**	**-0.2**
	0.7nm,0.1s,SNR=5.4							
CRAJ				S		**Sn**	**04 08 14.9**	**-4.5**
	48nm,0.2s,SNR=7.9							
CRAJ	**Montana Rajada**	**6.56**	**182**	P		**Pn**	**04 07 04.2**	**-0.2**
	0.7nm,0.1s,SNR=5.4							
CRAJ				S		**Sn**	**04 08 14.9**	**-4.5**
	48nm,0.2s,SNR=7.9							
CCAN	**Las Canadas**	**6.61**	**182**	P		**Pn**	**04 07 03.3**	**-1.7**
	0.8nm,0.2s,SNR=7.9							
CCAN				S		Sn	04 08 14.2	-6.3
	1.4nm,0.8s,SNR=7.9							
CCAN	**Las Canadas**	**6.61**	**182**	P		**Pn**	**04 07 03.3**	**-1.7**
	0.8nm,0.2s,SNR=7.9							
CCAN				S		Sn	04 08 14.2	-6.3
	1.4nm,0.8s,SNR=7.9							
MORF	**Marmelete**	**6.65**	**66**	*e*P		**Pn**	**04 07 05.6**	**+0.2**
MORF				*e*S		**Sn**	**04 08 14.9**	**-6.4**
MORF				AML		AML	04 08 18.2	
	comp=N,64nm,0.3s							
MORF	**Marmelete**	**6.65**	**66**	*e*Pn		**Pn**	**04 07 06.2**	**+0.8**
MORF				*e*Sn		Sn	04 08 13.8	-7.6
MORF				A		A	04 08 28.1	
	comp=N,28nm,0.1s							
MORF	**Marmelete**	**6.65**	**66**	P		**Pn**	**04 07 06.2**	**+0.8**
MORF				S		Sn	04 08 13.8	-7.6
	comp=N,28nm,0.1s							
MORF	**Marmelete**	**6.65**	**66**	P		**Pn**	**04 07 06.2**	**+0.8**
MORF				S		Sn	04 08 13.8	-7.6
	comp=N,28nm,0.1s							
CFTV	**Fuerteventura**	**6.68**	**163**	P		**Pn**	**04 07 05.4**	**-0.4**
	comp=N,1.6nm,0.2s,SNR=7.9							
CFTV				S		Sn	04 08 13.5	-8.5
	comp=N,2.2nm,0.3s,SNR=7.9							
CFTV	**Fuerteventura**	**6.68**	**163**	P		**Pn**	**04 07 05.4**	**-0.4**
	comp=N,1.6nm,0.2s,SNR=7.9							
CFTV				S		Sn	04 08 13.5	-8.4
	comp=N,2.2nm,0.3s,SNR=7.9							
PTEO	**Sao Teotonio**	**6.68**	**64**	*e*Pn		**Pn**	**04 07 05.8**	**0.0**
PTEO				*e*Sn		Sn	04 08 14.2	-7.8
PTEO				A		A	04 08 27.8	
	comp=N,30nm,0.5s							
PTEO	**Sao Teotonio**	**6.68**	**64**	P		**Pn**	**04 07 05.8**	**0.0**
PTEO				S		Sn	04 08 14.2	-7.8
	comp=N,15nm,0.5s							
PTEO	**Sao Teotonio**	**6.68**	**64**	P		**Pn**	**04 07 05.8**	**0.0**
PTEO				S		Sn	04 08 14.2	-7.8
	comp=N,15nm,0.5s							
EGOM	**La Gomera**	**6.71**	**187**	P		Pn	04 07 00.8	-5.3
	comp=N,1.6nm,0.1s,SNR=6.4							
EGOM				S		Sn	04 08 14.2	-8.4
	comp=N,61nm,0.4s,SNR=5.3							
EGOM	**La Gomera**	**6.71**	**187**	P		Pn	04 07 00.8	-5.3
	comp=N,1.6nm,0.1s,SNR=6.4							
EGOM				S		Sn	04 08 14.2	-8.4
	comp=N,61nm,0.4s,SNR=5.3							
EOSO	**Osorio**	**6.78**	**175**	P		**Pn**	**04 07 06.2**	**-1.0**
	comp=N,2.5nm,0.2s,SNR=7.9							
EOSO				S		Sn	04 08 17.6	-6.9
	comp=N,25nm,0.5s,SNR=7.7							
EOSO	**Osorio**	**6.78**	**175**	P		**Pn**	**04 07 06.2**	**-1.0**
	comp=N,2.5nm,0.2s,SNR=7.9							
EOSO				S		Sn	04 08 17.6	-6.9
	comp=N,25nm,0.5s,SNR=7.7							
PMST	**Lisbon--Monsan**	**6.90**	**54**	*e*Pn		**Pn**	**04 07 07.7**	**-1.0**
PMST				*e*Sn		Sn	04 08 18.8	-8.5
PMST				A		A	04 08 22.9	
	comp=N,37nm,0.4s							
PMST	**Lisbon--Monsan**	**6.90**	**54**	*e*Pn		**Pn**	**04 07 07.7**	**-1.0**
PMST				*e*Sn		Sn	04 08 18.8	-8.5
	comp=N,37nm,0.4s							
LIS	**Lisbon**	**6.91**	**54**	*e*P		**Pn**	**04 07 08.1**	**-0.8**
LIS				*e*S		Sn	04 08 19.6	-7.9
LIS				AML		AML	04 08 22.1	
	comp=N,117nm,0.3s							
LIS	**Lisbon**	**6.91**	**54**	*e*Pn		**Pn**	**04 07 08.5**	**-0.4**
LIS				*e*Sn		Sn	04 08 19.5	-8.0
LIS				A		A	04 08 22.2	
	comp=N,52nm,0.6s							
LIS	**Lisbon**	**6.91**	**54**	P		**Pn**	**04 07 08.5**	**-0.4**
LIS				S		Sn	04 08 19.5	-8.0
	comp=N,52nm,0.6s							
LIS	**Lisbon**	**6.91**	**54**	*e*Pn		**Pn**	**04 07 08.5**	**-0.4**
LIS				*e*Sn		Sn	04 08 19.5	-8.0
	comp=N,52nm,0.6s							
PMAFR	**Mafra**	**6.95**	**52**	*e*Pn		**Pn**	**04 07 08.9**	**-0.6**
PMAFR				*e*Sn		Sn	04 08 20.4	-8.2
PMAFR				A		A	04 08 29.1	
	comp=N,66nm,0.2s							
PMAFR	**Mafra**	**6.95**	**52**	P		**Pn**	**04 07 08.8**	**-0.6**
	comp=N,3.3nm,0.2s,SNR=20							
PMAFR				S		Sn	04 08 20.7	-7.9
	comp=N,3.4nm,0.4s							
PMAFR	**Mafra**	**6.95**	**52**	P		**Pn**	**04 07 08.8**	**-0.7**
	comp=N,3.3nm,0.2s,SNR=20							
PMAFR				*e*Sn		Sn	04 08 20.4	-8.2
	comp=N,66nm,0.2s							
PMAFR				S		Sn	04 08 20.7	-7.9
	comp=N,3.4nm,0.4s							
PNCL	**Nicolau / Gran**	**7.05**	**60**	*e*Pn		**Pn**	**04 07 10.0**	**-0.8**
PNCL				*e*Sn		Sn	04 08 22.8	-8.2
PNCL				A		A	04 08 27.8	
	comp=N,23nm,0.4s							
PNCL	**Nicolau / Gran**	**7.05**	**60**	*e*Pn		**Pn**	**04 07 10.0**	**-0.8**
PNCL				*e*Sn		Sn	04 08 22.8	-8.2
	comp=N,23nm,0.4s							
CIA	**Chichaoua**	**7.10**	**115**	*i*P		**Pn**	**04 07 16.0**	**+4.4**
CIA				*i*S		**Sn**	**04 08 29.0**	**-3.4**
MESJ	**Messejana**	**7.16**	**63**	*e*P		**Pn**	**04 07 12.1**	**-0.2**
MESJ				*e*S		Sn	04 08 25.9	-8.0
MESJ				AML		AML	04 08 35.3	
	comp=N,28nm,0.4s							
MESJ	**Messejana**	**7.16**	**63**	*e*Pn		**Pn**	**04 07 12.4**	**0.0**
MESJ				*e*Sn		Sn	04 08 25.4	-8.4
MESJ				A		A	04 08 38.3	
	comp=N,15nm,0.4s							
MESJ	**Messejana**	**7.16**	**63**	P		**Pn**	**04 07 12.4**	**0.0**
MESJ				S		Sn	04 08 25.4	-8.4
	comp=N,15nm,0.4s							
MESJ	**Messejana**	**7.16**	**63**	P		**Pn**	**04 07 12.4**	**0.0**
MESJ				S		Sn	04 08 25.4	-8.4
	comp=N,15nm,0.4s							
CTIG	**El Hierro**	**7.17**	**192**	P		**Pn**	**04 07 12.7**	**+0.2**
	comp=N,0.7nm,0.2s,SNR=7.9							
CTIG				S		**Sn**	**04 08 28.5**	**-5.5**
	comp=N,35nm,0.2s,SNR=7.9							
CTIG	**El Hierro**	**7.17**	**192**	P		**Pn**	**04 07 12.6**	**+0.2**
	comp=N,0.7nm,0.2s,SNR=7.9							
CTIG				S		**Sn**	**04 08 28.5**	**-5.5**
	comp=N,35nm,0.2s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**7.18**	**68**	*e*Pn		**Pn**	**04 07 13.2**	**+0.6**
PBDV				*e*Sn		Sn	04 08 27.3	-7.0
PBDV				A		A	04 08 36.8	
	comp=N,22nm,0.4s							
PBDV	**Barranco-do-Ve**	**7.18**	**68**	P		**Pn**	**04 07 13.2**	**+0.6**
PBDV				S		Sn	04 08 27.3	-7.0
	comp=N,22nm,0.4s							
PBDV	**Barranco-do-Ve**	**7.18**	**68**	P		**Pn**	**04 07 13.2**	**+0.6**
PBDV				S		Sn	04 08 27.3	-7.0
	comp=N,22nm,0.4s							
PCVE	**Castro Verde**	**7.22**	**65**	*e*Pn		**Pn**	**04 07 13.9**	**+0.7**
PCVE				*e*Sn		Sn	04 08 27.1	-8.2
PCVE				A		A	04 08 39.6	
	comp=N,16nm,0.2s							
PCVE	**Castro Verde**	**7.22**	**65**	P		**Pn**	**04 07 13.9**	**+0.7**
PCVE				S		Sn	04 08 27.1	-8.2
	comp=N,16nm,0.2s							
PCVE	**Castro Verde**	**7.22**	**65**	P		**Pn**	**04 07 13.9**	**+0.7**
PCVE				S		Sn	04 08 27.1	-8.2
	comp=N,16nm,0.2s							
CCUM	**Cumbre, El Hie**	**7.23**	**192**	S		**Sn**	**04 08 29.7**	**-5.8**
	comp=N,1.5nm,0.1s,SNR=7.9							
CHIE	**El Hierro**	**7.24**	**192**	P		**Pn**	**04 07 12.9**	**-0.5**
	comp=N,0.4nm,0.2s,SNR=4.0							
CHIE				S		Sn	04 08 28.1	-7.6
	comp=N,4.0nm,0.3s,SNR=7.9							
CHIE	**El Hierro**	**7.24**	**192**	P		**Pn**	**04 07 12.9**	**-0.5**
	comp=N,0.4nm,0.2s,SNR=4.0							
CHIE				S		Sn	04 08 28.1	-7.5
	comp=N,4.0nm,0.3s,SNR=7.9							
CJUL	**El Julon, El H**	**7.25**	**193**	S		**Sn**	**04 08 30.3**	**-6.0**
	comp=N,197nm,0.5s,SNR=7.9							
CMCL	**Mercadel, El H**	**7.26**	**192**	S		Sn	04 08 29.5	-6.9
	comp=N,48nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**7.39**	**67**	*e*Pn		**Pn**	**04 07 16.0**	**+0.5**
PVAQ				*e*Sn		**Sn**	**04 08 33.5**	**-5.9**
PVAQ				A		A	04 08 39.6	
	comp=N,24nm,0.5s							
PVAQ	**Vaqueiros**	**7.39**	**67**	P		**Pn**	**04 07 16.0**	**+0.5**
PVAQ				S		**Sn**	**04 08 33.5**	**-5.9**
	comp=N,24nm,0.5s							
PVAQ	**Vaqueiros**	**7.39**	**67**	P		**Pn**	**04 07 16.0**	**+0.5**
PVAQ				S		**Sn**	**04 08 33.5**	**-5.9**
	comp=N,24nm,0.5s							
PSMN	**Pico do Norte,**	**7.44**	**289**	*e*S		Sn	04 08 23.8	-17
PSMN				*e*T		T	04 14 24.9	
PSMN	**Pico do Norte,**	**7.44**	**289**	*e*S		Sn	04 08 23.8	-17
PSMA	**Santa Maria**	**7.49**	**289**	*e*P		Pn	04 07 12.4	-4.5
	comp=N,152nm,1.3s							
PSMA				*e*S		Sn	04 08 27.5	-14
PSMA				*e*T		T	04 14 26.4	
PBEJ	**Beja**	**7.49**	**62**	*e*Pn		**Pn**	**04 07 16.6**	**-0.3**
PBEJ				*e*Sn		Sn	04 08 32.9	-9.0
PBEJ				A		A	04 08 42.7	
	comp=N,20nm,0.5s							
PBEJ	**Beja**	**7.49**	**62**	P		**Pn**	**04 07 16.6**	**-0.3**
PBEJ				S		Sn	04 08 32.9	-9.0
	comp=N,9.9nm,0.5s							
PBEJ	**Beja**	**7.49**	**62**	P		**Pn**	**04 07 16.6**	**-0.3**
PBEJ				S		Sn	04 08 32.9	-9.0
	comp=N,9.9nm,0.5s							
ALMR	**Almeirim**	**7.52**	**53**	*e*P		**Pn**	**04 07 16.0**	**-1.3**
ALMR				*e*S		Sn	04 08 33.4	-9.2
ALMR				AML		AML	04 08 41.8	
	comp=N,125nm,0.5s							
ALMR	**Almeirim**	**7.52**	**53**	*e*P		**Pn**	**

COI	**Coimbra**	**8.23**	**47**	P		**Pn**	**04 07 26.2**	**-0.8**
COI				S		Sn	04 08 50.8	-9.3
EMIN	**Mina Concepcio** comp=N,4.4nm,0.3s,SNR=30	**8.29**	**67**	P		**Pn**	**04 07 28.1**	**+0.2**
EMIN				S		Sn	04 08 53.9	-7.6
EMIN	**Mina Concepcio** comp=N,9.8nm,0.2s	**8.29**	**67**	P		**Pn**	**04 07 28.1**	**+0.2**
EMIN	comp=N,4.4nm,0.3s,SNR=30			S		Sn	04 08 53.9	-7.7
EBAD	**Badajoz** comp=N,9.8nm,0.2s	**8.40**	**60**	P		**Pn**	**04 07 28.8**	**-0.5**
EBAD	comp=N,2.5nm,0.3s,SNR=20			S		Sn	04 08 55.2	-9.0
EBAD	**Badajoz** comp=N,7.8nm,0.3s	**8.40**	**60**	P		**Pn**	**04 07 28.8**	**-0.5**
EBAD	comp=N,2.5nm,0.3s,SNR=20			S		Sn	04 08 55.2	-9.0
PMRV	**Marv??o** comp=N,7.8nm,0.3s	**8.45**	**55**	*e*Pn		**Pn**	**04 07 28.6**	**-1.4**
PMRV				*e*Sn		Sn	04 08 54.0	-11
PMRV	**Marv??o** comp=N,24nm,0.3s	**8.45**	**55**	P		**Pn**	**04 07 28.6**	**-1.4**
PMRV				S		Sn	04 08 54.0	-11
PMRV	**Marv??o** comp=N,24nm,0.3s	**8.45**	**55**	P		**Pn**	**04 07 28.6**	**-1.4**
PMRV				S		Sn	04 08 54.0	-11
PCBR	**Castelo Branco**	**8.61**	**52**	*e*Pn		**Pn**	**04 07 31.0**	**-1.2**
PCBR				*e*Sn		Sn	04 08 58.4	-11
PCBR	**Castelo Branco**	**8.61**	**52**	P		**Pn**	**04 07 31.0**	**-1.2**
PCBR				S		Sn	04 08 58.4	-11
PCBR	**Castelo Branco**	**8.61**	**52**	P		**Pn**	**04 07 31.0**	**-1.2**
PCBR				S		Sn	04 08 58.4	-11
TZC	**Tazercounte**	**8.61**	**105**	*i* P		**Pn**	**04 07 35.0**	**+2.6**
TZC				*i* S		**Sn**	**04 09 04.0**	**-5.7**
ESPR	**Espera** comp=N,15nm,0.3s,SNR=18	**8.71**	**74**	⇑P		**Pn**	**04 07 35.0**	**+1.4**
ESPR	comp=N,24nm,0.3s			S		Sn	04 09 03.8	-7.9
ESPR	**Espera** comp=N,15nm,0.3s,SNR=18	**8.71**	**74**	P		**Pn**	**04 07 35.0**	**+1.4**
ESPR	comp=N,24nm,0.3s			S		Sn	04 09 03.8	-7.9
KIB	**El Ksiba**	**8.83**	**102**	*i* P		**Pn**	**04 07 40.0**	**+4.6**
KIB				*i* S		**Sn**	**04 09 10.0**	**-5.0**
PVIS	**Viseu**	**8.86**	**46**	*e*Pn		**Pn**	**04 07 34.4**	**-1.3**
PVIS				*e*Sn		Sn	04 09 05.0	-11
PVIS	**Viseu**	**8.86**	**46**	P		**Pn**	**04 07 34.4**	**-1.3**
PVIS				S		Sn	04 09 05.0	-11
PVIS	**Viseu**	**8.86**	**46**	P		**Pn**	**04 07 34.4**	**-1.3**
PVIS				S		Sn	04 09 05.0	-11
MTE	**Manteigas**	**8.88**	**49**	*e*Pn		**Pn**	**04 07 35.1**	**-0.9**
MTE				*e*Sn		Sn	04 09 05.6	-10
MTE	**Manteigas**	**8.88**	**49**	P		**Pn**	**04 07 35.1**	**-0.9**
MTE				S		Sn	04 09 05.6	-10
MTE	**Manteigas**	**8.88**	**49**	P		**Pn**	**04 07 35.1**	**-0.9**
MTE				S		Sn	04 09 05.6	-10
EJIF	**Jimena Fronter** comp=N,3.6nm,0.2s,SNR=7.9	**8.95**	**77**	P		**Pn**	**04 07 39.8**	**+2.9**
EJIF	comp=N,16nm,0.7s,SNR=7.9			S		**Sn**	**04 09 12.6**	**-5.2**
EJIF	**Jimena Fronter** comp=N,3.6nm,0.2s,SNR=7.9	**8.95**	**77**	P		**Pn**	**04 07 39.8**	**+2.9**
EJIF	comp=N,16nm,0.7s,SNR=7.9			S		**Sn**	**04 09 12.6**	**-5.2**
PVRL	**Vila Real**	**9.32**	**44**	*e*Pn		**Pn**	**04 07 40.6**	**-1.4**
PVRL				*e*Sn		Sn	04 09 16.8	-10
PVRL	**Vila Real**	**9.32**	**44**	P		**Pn**	**04 07 40.6**	**-1.4**
PVRL				S		Sn	04 09 16.8	-10
PVRL	**Vila Real**	**9.32**	**44**	P		**Pn**	**04 07 40.6**	**-1.4**
PVRL				S		Sn	04 09 16.8	-10
ECAB	**El Cabril** comp=N,11nm,0.5s,SNR=53	**9.33**	**67**	P		**Pn**	**04 07 42.1**	**0.0**
ECAB	comp=N,11nm,0.5s			S		Sn	04 09 18.8	-8.4
ECAB	**El Cabril** comp=N,11nm,0.5s,SNR=53	**9.33**	**67**	P		**Pn**	**04 07 42.2**	**0.0**
ECAB	comp=N,11nm,0.5s			S		Sn	04 09 18.8	-8.3
POLO	**Lamas de Olo**	**9.34**	**43**	*e*Pn		**Pn**	**04 07 41.3**	**-1.0**
POLO				*e*Sn		Sn	04 09 16.7	-11
POLO	**Lamas de Olo**	**9.34**	**43**	*e*Pn		**Pn**	**04 07 41.3**	**-1.0**
POLO				*e*Sn		Sn	04 09 16.7	-11
PCAB	**Cabril**	**9.44**	**41**	*e*Pn		**Pn**	**04 07 42.2**	**-1.4**
PCAB				*e*Sn		Sn	04 09 18.6	-11
PCAB	**Cabril**	**9.44**	**41**	P		**Pn**	**04 07 42.2**	**-1.4**
PCAB				S		Sn	04 09 18.6	-11
PCAB	**Cabril**	**9.44**	**41**	P		**Pn**	**04 07 42.2**	**-1.4**
PCAB				S		Sn	04 09 18.6	-11
PGAV	**Gavieira, Arco**	**9.49**	**39**	*e*Pn		**Pn**	**04 07 44.0**	**-0.4**
PGAV				*e*Sn		Sn	04 09 20.4	-11
PGAV	**Gavieira, Arco**	**9.49**	**39**	*e*Pn		**Pn**	**04 07 44.0**	**-0.4**
PGAV				*e*Sn		Sn	04 09 20.4	-11
ELOB	**Lobios** comp=N,2.4nm,0.3s,SNR=9.0	**9.53**	**40**	P		**Pn**	**04 07 44.2**	**-0.7**
ELOB	comp=N,2.7nm,0.4s,SNR=7.9			S		Sn	04 09 22.2	-10
ELOB	**Lobios** comp=N,2.4nm,0.3s,SNR=9.0	**9.53**	**40**	P		**Pn**	**04 07 44.2**	**-0.7**
ELOB	comp=N,2.7nm,0.4s,SNR=7.9			S		Sn	04 09 22.2	-10
EPLA	**Plasencia** comp=N,4.2nm,0.4s,SNR=17	**9.64**	**54**	P		**Pn**	**04 07 44.5**	**-1.9**
EPLA	comp=N,6.7nm,0.6s,SNR=11			S		Sn	04 09 24.0	-11
EPLA	**Plasencia** comp=N,4.2nm,0.4s,SNR=17	**9.64**	**54**	P		**Pn**	**04 07 44.5**	**-1.9**
EPLA	comp=N,6.7nm,0.6s,SNR=11			S		Sn	04 09 24.0	-11
MVO	**Moncorvo**	**9.65**	**46**	*e*Pn		**Pn**	**04 07 44.9**	**-1.7**
MVO				*e*Sn		Sn	04 09 22.7	-12
MVO	**Moncorvo** comp=N,4.3nm,0.4s,SNR=15	**9.65**	**46**	P		**Pn**	**04 07 45.4**	**-1.2**
MVO	comp=N,3.9nm,0.4s,SNR=7.4			S		Sn	04 09 24.4	-11
MVO	**Moncorvo**	**9.65**	**46**	*e*Pn		**Pn**	**04 07 44.9**	**-1.7**
MVO	**Moncorvo** comp=N,4.3nm,0.4s,SNR=15	**9.65**	**46**	P		**Pn**	**04 07 45.4**	**-1.2**
MVO				*e*Sn		Sn	04 09 22.7	-12
MVO	comp=N,3.9nm,0.4s,SNR=7.4			S		Sn	04 09 24.4	-11
EADA	**Adamuz** comp=N,6.9nm,0.5s,SNR=25	**9.99**	**67**	P		**Pn**	**04 07 51.4**	**+0.2**
EADA	comp=N,4.8nm,0.4s,SNR=4.8			S		**Sn**	**04 09 37.1**	**-6.3**
EADA	**Adamuz** comp=N,6.9nm,0.5s,SNR=25	**9.99**	**67**	P		**Pn**	**04 07 51.4**	**+0.2**
EADA	comp=N,4.8nm,0.4s,SNR=4.8			S		**Sn**	**04 09 37.1**	**-6.3**
EGOR	**Sierra Gorda,** comp=N,0.4nm,0.1s,SNR=7.9	**10.12**	**74**	P		**Pn**	**04 07 55.3**	**+2.2**
EGOR	comp=N,4.4nm,0.8s,SNR=7.9			S		**Sn**	**04 09 40.7**	**-6.1**
EGOR	**Sierra Gorda,** comp=N,0.4nm,0.1s,SNR=7.9	**10.12**	**74**	P		**Pn**	**04 07 55.3**	**+2.2**
EGOR	comp=N,4.4nm,0.8s,SNR=7.9			S		**Sn**	**04 09 40.7**	**-6.1**
EAGO	**Agolada(Pontev** comp=N,1.4nm,0.2s,SNR=7.9	**10.20**	**36**	P		**Pn**	**04 07 52.9**	**-1.1**
EAGO	comp=N,2.9nm,0.1s,SNR=7.9			S		Sn	04 09 37.4	-11
EAGO	**Agolada(Pontev** comp=N,1.4nm,0.2s,SNR=7.9	**10.20**	**36**	P		**Pn**	**04 07 52.9**	**-1.1**
EAGO	comp=N,2.9nm,0.1s,SNR=7.9			S		Sn	04 09 37.4	-11
PBRG	**Braganca**	**10.22**	**44**	*e*Pn		**Pn**	**04 07 52.9**	**-1.4**
PBRG				*e*Sn		Sn	04 09 39.6	-9.4
PBRG	**Braganca**	**10.22**	**44**	P		**Pn**	**04 07 52.9**	**-1.4**
PBRG				S		Sn	04 09 39.6	-9.4
PBRG	**Braganca**	**10.22**	**44**	P		**Pn**	**04 07 52.9**	**-1.4**
PBRG				S		Sn	04 09 39.6	-9.4
ECAL	**Calabor** comp=N,6.3nm,0.3s,SNR=15	**10.31**	**44**	P		**Pn**	**04 07 54.8**	**-0.8**
ECAL	comp=N,8.1nm,0.4s,SNR=5.0			S		Sn	04 09 42.2	-9.1
ECAL	**Calabor** comp=N,6.3nm,0.3s,SNR=15	**10.31**	**44**	P		**Pn**	**04 07 54.8**	**-0.8**
ECAL	comp=N,8.1nm,0.4s,SNR=5.0			S		Sn	04 09 42.2	-9.1
PICO	**Pico** comp=N,73nm,0.7s	**10.41**	**294**	*e*P		**Pn**	**04 07 55.0**	**-2.0**
PICO	**Pico** comp=N,73nm,0.7s	**10.41**	**294**	*e*P		**Pn**	**04 07 55.0**	**-2.0**
PCAN	**Candelaria** comp=N,148nm,1.0s	**10.45**	**294**	*e*P		**Pn**	**04 07 55.5**	**-1.9**
PCAN	**Candelaria** comp=N,148nm,1.0s	**10.45**	**294**	*e*P		**Pn**	**04 07 55.5**	**-1.9**
ELGU	**Los Guajares,** comp=N,0.9nm,0.2s,SNR=7.9	**10.47**	**75**	P		**Pn**	**04 07 59.3**	**+1.5**
ELGU				S		Sn	04 09 48.7	-6.6
ELGU	**Los Guajares,** comp=N,0.9nm,0.2s,SNR=7.9	**10.47**	**75**	P		**Pn**	**04 07 59.3**	**+1.5**
ELGU				S		Sn	04 09 48.7	-6.6
PAB	**San Pablo** comp=N,0.9nm,0.2s,SNR=7.9	**10.61**	**60**	P		**Pn**	**04 07 58.9**	**-0.9**
PAB	comp=N,1.2nm,0.3s,SNR=7.9			S		Sn	04 09 49.6	-9.1
PAB	**San Pablo** comp=N,0.9nm,0.2s,SNR=7.9	**10.61**	**60**	P		**Pn**	**04 07 58.9**	**-0.9**
PAB	comp=N,1.2nm,0.3s,SNR=7.9			S		Sn	04 09 49.6	-9.1
EQUE	**Quentar** comp=N,3.6nm,0.5s,SNR=11	**10.67**	**74**	P		**Pn**	**04 08 02.7**	**+2.2**
EQUE	comp=N,9.7nm,0.5s,SNR=5.6			S		**Sn**	**04 09 54.0**	**-6.1**
EQUE	**Quentar** comp=N,3.6nm,0.5s,SNR=11	**10.67**	**74**	P		**Pn**	**04 08 02.7**	**+2.2**
EQUE	comp=N,9.7nm,0.5s,SNR=5.6			S		**Sn**	**04 09 54.0**	**-6.1**
ESDC	**Sonseca Array** comp=N,1.9nm,0.3s,baz=251,slow=13,SNR=52	**10.94**	**60**	Pn		**Pn**	**04 08 02.7**	**-1.5**
ESDC	comp=N,1.6nm,0.3s,baz=257,slow=24,SNR=8.3			Sn		Sn	04 09 56.6	-10
ESDC	comp=N,47nm,21.0s,baz=300,slow=32			LR		LR	04 11 26.1	
ESDC	**Sonseca Array** comp=N,1.2nm,0.2s,baz=251,slow=13,SNR=28	**10.94**	**60**	P		**Pn**	**04 08 03.3**	**-0.9**
ESDC	comp=N,0.9nm,0.3s,baz=248,slow=13,SNR=4.2			S		Sn	04 09 55.9	-11
ESDC	**Sonseca Array** comp=N,1.2nm,0.2s,SNR=28	**10.94**	**60**	P		**Pn**	**04 08 03.3**	**-0.9**
ESDC	comp=N,0.9nm,0.3s,SNR=4.2			S		Sn	04 09 55.9	-11
GORA	**Gorafe** comp=N,1.6nm,0.1s,SNR=7.9	**11.03**	**72**	P		**Pn**	**04 08 06.8**	**+1.4**
GORA	comp=N,1.6nm,0.1s,SNR=7.9			S		**Sn**	**04 10 02.7**	**-6.1**
GORA	**Gorafe** comp=N,1.6nm,0.1s,SNR=7.9	**11.03**	**72**	P		**Pn**	**04 08 06.8**	**+1.4**
GORA	comp=N,1.6nm,0.1s,SNR=7.9			S		**Sn**	**04 10 02.7**	**-6.1**
EPON	**Pontenova** comp=N,0.3nm,0.3s,SNR=7.7	**11.05**	**37**	P		**Pn**	**04 08 04.0**	**-1.6**
EPON	comp=N,2.4nm,0.7s,SNR=5.0			S		Sn	04 09 58.0	-11
EPON	**Pontenova** comp=N,0.3nm,0.3s,SNR=7.7	**11.05**	**37**	P		**Pn**	**04 08 04.1**	**-1.6**
EPON	comp=N,2.4nm,0.7s,SNR=5.0			S		Sn	04 09 58.0	-11
EBER	**Berja** comp=N,3.0nm,0.4s,SNR=5.6	**11.06**	**75**	P		**Pn**	**04 08 09.0**	**+3.0**
EBER	comp=N,6.7nm,0.4s,SNR=7.9			S		**Sn**	**04 10 03.7**	**-6.2**
EBER	**Berja** comp=N,3.0nm,0.4s,SNR=5.6	**11.06**	**75**	P		**Pn**	**04 08 09.0**	**+3.0**
EBER	comp=N,6.7nm,0.4s,SNR=7.9			S		**Sn**	**04 10 03.7**	**-6.2**
EQES	**Quesada** comp=N,3.1nm,0.5s,SNR=14	**11.06**	**71**	P		**Pn**	**04 08 06.7**	**+0.7**
EQES				S		Sn	04 10 01.9	-7.9
EQES	**Quesada** comp=N,5.3nm,0.2s,SNR=9.1	**11.06**	**71**	P		**Pn**	**04 08 06.7**	**+0.7**
EQES	comp=N,3.1nm,0.5s,SNR=14			S		Sn	04 10 01.9	-7.9
GUD	**Guadarrama** comp=N,1.7nm,0.4s,SNR=6.2	**11.21**	**55**	P		**Pn**	**04 08 07.1**	**-0.9**
GUD	comp=N,1.0nm,0.3s,SNR=5.8			S		Sn	04 10 03.5	-10
GUD	**Guadarrama** comp=N,1.7nm,0.4s,SNR=6.2	**11.21**	**55**	P		**Pn**	**04 08 07.1**	**-0.9**
SESP	**Santiago Espad** comp=N,1.3nm,0.2s,SNR=7.9	**11.54**	**70**	P		**Pn**	**04 08 13.1**	**+0.7**
SESP	comp=N,6.1nm,0.3s,SNR=7.9			S		Sn	04 10 13.9	-7.5
EARI	**Arriondas** comp=N,1.9nm,0.4s,SNR=6.9	**12.05**	**42**	P		**Pn**	**04 08 19.1**	**-0.3**
EARI	comp=N,0.1nm,0.3s,SNR=7.9			S		Sn	04 10 24.1	-10
ETOB	**Tobarra** comp=N,2.9nm,0.8s,SNR=11	**12.41**	**68**	P		**Pn**	**04 08 24.4**	**0.0**
ETOB	comp=N,1.1nm,0.2s,SNR=5.4			S		Sn	04 10 35.3	-7.5
ETOR	**Torete** comp=N,3.6nm,0.4s,SNR=22	**12.73**	**58**	P		**Pn**	**04 08 27.9**	**-0.8**
ETOR	comp=N,5.0nm,0.4s,SNR=9.6			S		Sn	04 10 39.3	-11
ELAN	**Lanestosa** comp=N,0.1nm,0.1s,SNR=7.9	**13.03**	**46**	P		**Pn**	**04 08 32.8**	**+0.1**
ELAN	comp=N,0.5nm,0.3s,SNR=7.9			S		Sn	04 10 47.8	-10
EMOS	**Mosqueruela** comp=N,0.2nm,0.1s,SNR=7.9	**13.69**	**62**	P		**Pn**	**04 08 42.6**	**+0.6**
EMOS	comp=N,1.4nm,0.5s,SNR=7.9			S		Sn	04 11 04.9	-9.3
IELO	**Elcoad** comp=N,0.8nm,0.2s,SNR=7.9	**14.18**	**51**	P		**Pn**	**04 08 47.2**	**-1.3**
IELO	comp=N,0.7nm,0.7s,SNR=7.9			S		Sn	04 11 14.3	-11
SJPF	**Ste Jean**	**14.32**	**50**	*e*Pn		**Pn**	**04 08 49.2**	**-1.1**
SJPF	comp=N,2.7nm,0.4s			*e*Sn		Sn	04 11 18.9	-10
SJPF	**Ste Jean** comp=N,1.4nm,0.4s	**14.32**	**50**	P		**Pn**	**04 08 49.2**	**-1.1**
SJPF				S		Sn	04 11 18.9	-10
SJPF	**Ste Jean** comp=N,1.4nm,0.4s	**14.32**	**50**	*e*Pn		**Pn**	**04 08 49.2**	**-1.1**
SJPF				*e*Sn		Sn	04 11 18.9	-10
ATE	**Arette** comp=N,1.4nm,0.2s,SNR=7.9	**14.64**	**51**	P		**Pn**	**04 08 54.3**	**-0.4**
ATE	comp=N,0.9nm,0.4s,SNR=7.9			S		Sn	04 11 26.6	-10
EPF	**Esparros**	**15.29**	**53**	*e*Pn		**Pn**	**04 09 02.4**	**-1.1**
EPF	comp=N,1.4nm,0.3s			*e*Sn		Sn	04 11 42.3	-11
EPF	**Esparros**	**15.29**	**53**	P		**Pn**	**04 09 02.4**	**-1.1**
EPF	comp=N,0.7nm,0.3s			S		Sn	04 11 42.3	-11
EPF	**Esparros** comp=N,0.7nm,0.3s	**15.29**	**53**	*e*Pn		**Pn**	**04 09 02.4**	**-1.1**
EPF	comp=N,0.7nm,0.3s			*e*Sn		Sn	04 11 42.3	-11
QUIF	**Quistinic**	**16.33**	**33**	*e*Pn		**Pn**	**04 09 14.9**	**-1.9**
QUIF	**Quistinic**	**16.33**	**33**	P		**Pn**	**04 09 14.9**	**-1.9**
QUIF	**Quistinic**	**16.33**	**33**	*e*Pn		**Pn**	**04 09 14.9**	**-1.9**
SGMF	**Saint Gilles**	**16.85**	**33**	*e*Pn		**Pn**	**04 09 22.5**	**-1.0**
SGMF	**Saint Gilles**	**16.85**	**33**	P		**Pn**	**04 09 22.5**	**-1.0**
SGMF	**Saint Gilles**	**16.85**	**33**	*e*Pn		**Pn**	**04 09 22.5**	**-1.0**
RJF	**Les Rejaudoux**	**17.13**	**47**	*e*Pn		**Pn**	**04 09 27.3**	**+0.2**
RJF	**Les Rejaudoux**	**17.13**	**47**	P		**Pn**	**04 09 27.3**	**+0.2**
RJF	**Les Rejaudoux**	**17.13**	**47**	*e*Pn		**Pn**	**04 09 27.3**	**+0.2**
EKA	**Eskdalemuir Ar** comp=N,0.1nm,0.3s,baz=199,slow=24,SNR=2.7	**22.42**	**20**	P		**P**	**04 10 29.8**	**+3.6**
KOWA	**Kowa** comp=N,1.6nm,0.6s,baz=338,slow=12,SNR=8.4	**23.08**	**148**	P		**P**	**04 10 37.6**	**+4.1**
TORD	**Torodi Ar. Bea** comp=N,0.7nm,0.6s,baz=321,slow=9.7,SNR=17	**27.04**	**139**	P		**P**	**04 11 13.1**	**+2.9**
DBIC	**Dimbokro** comp=N,1.5nm,0.8s,baz=329,slow=10,SNR=3.4	**29.95**	**157**	P		**P**	**04 11 39.4**	**+3.3**
FINES	**FINESS Array B** comp=N,3.0nm,1.1s,baz=252,slow=12,SNR=3.3	**37.74**	**32**	P		**P**	**04 12 46.8**	**+3.6**
AKTO	**Aktyubinsk** comp=N,0.2nm,0.4s,baz=252,slow=6.4,SNR=3.7	**54.58**	**49**	P		**P**	**04 14 58.2**	**+2.2**
YKA	**Yellowknife Ar** comp=N,0.2nm,0.7s,baz=69,slow=7.3,SNR=4.4	**63.36**	**329**	P		**P**	**04 15 57.0**	**+0.4**
KURBB	**Kurchatov Arra** comp=N,0.9nm,0.9s,baz=301,slow=7.2,SNR=7.0	**66.77**	**44**	P		**P**	**04 16 20.8**	**+1.8**
MKAR	**Makanchi Array** comp=N,0.6nm,0.7s,baz=309,slow=4.5,SNR=5.6	**70.80**	**46**	P		**P**	**04 16 46.0**	**+1.8**
SONM	**Sonin Array** comp=N,0.7nm,0.7s,baz=305,slow=5.1,SNR=5.4	**83.05**	**55**	P		**P**	**04 17 55.3**	**+2.0**
WRA	**Warramunga Arr** comp=N,0.6nm,0.7s,baz=250,slow=1.6,SNR=4.2	**150.13**	**68**	PKPbc		**PKPbc**	**04 25 20.4**	**+1.3**

IDC ***13*** *04:15:02.4±0.5, 19°.51N×68°.11W, h0km, mb4.1/18, mb1 4.3/23, mb1mx4.1/55, mbtmp4.2/23, ML3.8/5, MS3.6/27, Ms1 3.6/27, ms1mx3.5/50, Error ellipse: s-maj=16.1km s-min=11.6km az=63.0*

ISCJB ***13*** *04:15:04.2±0.9, 19°.46N±0°.02×68°.13W±0°.02, h20km±7km, mb4.4/81, MS3.6/22, Error ellipse: s-maj=4.4km s-min=2.4km az=138.9*

RSPR ***13*** *04:15:05.8, 19°.49N×68°.19W, h72km±7km, MD4.6/12*

NEIC ***13*** *04:15:07.0±1.3, 19°.38N×68°.07W, h31km±11km, mb4.5/71, MW4.5, MD4.6(RSPR), Error ellipse: s-maj=4.9km s-min=3.5km az=214.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^15Nm; Mrr-0.10; Mθθ-0.44; Mφφ0.54; Mrθ-2.17; Mrφ 7.01; Mθφ0.59; Best double couple: M=7.40000×10^15 NP1:φs179.00000°, δ73.00000°, λ-175.00000°. NP2:φs87.00000°, δ85.00000°, λ-17.00000°. Principal axes: T 7.2300, Plg8.0000°, Azm134.0000°; N 0.2900, Plg73.0000°, Azm252.0000°; P -7.5100, Plg15.0000°, Azm42.0000°;*

NEIC Felt at Higuey and Santo Domingo. Also felt at San Juan, Puerto Rico.

ISC 13 04:15:06.4±2.5, 19°.46N±0°.04×68°.13W±0°.04, h29km±19km, n417, σ1§26/419, mb4.5/81, MS3.6/22, 36C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.23**	**150**	⇑*e*P		**Pn**	**04 15 25.4**	**-2.3**
IDE	**Isla Desecheo**	**1.23**	**150**	⇑*e*P		**Pn**	**04 15 25.4**	**-2.3**
IDE				*e*S		**Sn**	**04 15 43.9**	**+0.4**
DR12	**Loma Pena Alta**	**1.36**	**241**	⇑*i*P		**Pn**	**04 15 27.9**	**-1.6**
DR12	**Loma Pena Alta**	**1.36**	**241**	*i* Pu		**Pn**	**04 15 27.9**	**-1.6**
AGPR	**Aguadilla, PR**	**1.38**	**135**	⇑*e*P		**Pn**	**04 15 29.1**	**-0.7**
AGPR	**Aguadilla, PR**	**1.38**	**135**	⇑*e*P		**Pn**	**04 15 29.1**	**-0.7**
AGPR				*e*S		**Sn**	**04 15 47.7**	**+0.6**
IMPR	**Mona Island, P**	**1.39**	**172**	⇑*e*P		**Pn**	**04 15 29.4**	**-0.5**
IMPR	**Mona Island, P**	**1.39**	**172**	*e*S		**Sn**	**04 15 47.0**	**-0.2**
AGP	**Aguadilla**	**1.40**	**138**	*e*Pn		**Pn**	**04 15 26.9**	**-3.2**
AGP				*e*Sn		**Sn**	**04 15 46.1**	**-1.6**
MPR	**Mayaguez**	**1.56**	**143**	⇑*e*P		**Pn**	**04 15 32.0**	**-0.1**
MPR				*e*S		**Sn**	**04 15 52.4**	**+1.0**
MPR	**Mayaguez**	**1.56**	**143**	⇑*e*P		**Pn**	**04 15 32.0**	**-0.1**
LSP	**Las Mesas**	**1.61**	**142**	⇑*e*P		**Pn**	**04 15 32.9**	**-0.2**
LSP	**Las Mesas**	**1.61**	**142**	⇑*e*P		**Pn**	**04 15 32.9**	**-0.2**
LSP				*e*S		**Sn**	**04 15 52.7**	**-0.2**
AOPR	**Arecibo Observ**	**1.71**	**130**	⇑*e*P		**Pn**	**04 15 33.4**	**-0.9**
AOPR	**Arecibo Observ**	**1.71**	**130**	⇑*e*P		**Pn**	**04 15 33.4**	**-0.9**
AOPR				*e*S		**Sn**	**04 15 56.0**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.74**	**146**	⇑*e*P		**Pn**	**04 15 34.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.74**	**146**	⇑*e*P		**Pn**	**04 15 34.4**	**-0.3**
CRPR				*e*S		**Sn**	**04 15 56.2**	**+0.3**
EMPR	**Esperanza - Ma**	**1.80**	**122**	⇑*e*P		**Pn**	**04 15 34.9**	**-0.7**
EMPR	**Esperanza - Ma**	**1.80**	**122**	⇑*e*P		**Pn**	**04 15 34.9**	**-0.7**
EMPR				*e*S		**Sn**	**04 15 57.9**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.89**	**141**	⇑*e*P		**Pn**	**04 15 36.8**	**0.0**
GBPR	**Guanica, Bosqu**	**1.89**	**141**	⇑*e*P		**Pn**	**04 15 36.8**	**0.0**
SDD	**Santo Domingo**	**1.96**	**240**	*e*Pn		**Pn**	**04 15 38.2**	**+0.5**
SDD				*e*Sn		**Sn**	**04 15 59.7**	**-1.6**
CELP	**Cerrillos**	**2.01**	**133**	⇑*i*P		**Pn**	**04 15 37.6**	**-0.9**
CELP	**Cerrillos**	**2.01**	**133**	*i* Pu		**Pn**	**04 15 37.6**	**-0.9**
SJG	**San Juan**	**2.31**	**125**	⇑*e*P		**Pn**	**04 15 41.8**	**-0.7**
SJG	**San Juan** 106nm,0.3s,baz=298,slow=9.4,SNR=156	**2.31**	**125**	Pn		**Pn**	**04 15 41.0**	**-1.5**
SJG	220nm,0.3s,baz=325,slow=16,SNR=12			Sn		**Sn**	**04 16 11.0**	**+1.0**
SJG	comp=Z,2μm,18.3s,baz=290,slow=41			LR		LR	04 16 36.9	
SJG	**San Juan**	**2.31**	**125**	⇑*e*P		**Pn**	**04 15 41.8**	**-0.7**
SJG	**San Juan**	**2.31**	**125**	*e*P		**Pn**	**04 15 42.9**	**+0.4**
CBYP	**Canovanas**	**2.46**	**118**	⇑*e*P		**Pn**	**04 15 43.7**	**-0.9**
CBYP	**Canovanas**	**2.46**	**118**	⇑*e*P		**Pn**	**04 15 43.7**	**-0.9**
HUMP	**Col San Antoni**	**2.53**	**121**	⇑*e*P		**Pn**	**04 15 44.7**	**-0.9**
HUMP	**Col San Antoni**	**2.53**	**121**	⇑*e*P		**Pn**	**04 15 45.6**	**+0.1**
HUMP	**Col San Antoni**	**2.53**	**121**	⇑*e*P		**Pn**	**04 15 44.7**	**-0.9**
MTP	**Monte Pirata**	**2.79**	**119**	⇑*e*P		**Pn**	**04 15 48.3**	**-1.0**
MTP	**Monte Pirata**	**2.79**	**119**	⇑*e*P		**Pn**	**04 15 48.3**	**-1.0**
CUPR	**Culebra, Puert**	**2.93**	**113**	⇑*e*P		**Pn**	**04 15 50.8**	**-0.3**
CUPR	**Culebra, Puert**	**2.93**	**113**	⇑*e*P		**Pn**	**04 15 50.8**	**-0.3**
SDDR	**Presa de Saban**	**3.02**	**262**	⇑*e*P		**Pn**	**04 15 53.6**	**+1.2**
SDDR	**Presa de Saban**	**3.02**	**262**	⇑*e*P		**Pn**	**04 15 53.6**	**+1.2**
STVI	**Saint Thomas**	**3.20**	**110**	⇑*e*P		**Pn**	**04 15 54.3**	**-0.5**
STVI	**Saint Thomas**	**3.20**	**110**	⇑*e*P		**Pn**	**04 15 54.3**	**-0.5**
GRTK	**Grand Turk**	**3.48**	**307**	*e*Pn		**Pn**	**04 15 57.4**	**-1.2**
TBVI	**Tortola**	**3.48**	**107**	⇑*e*P		**Pn**	**04 15 58.1**	**-0.6**
TBVI	**Tortola**	**3.48**	**107**	⇑*e*P		**Pn**	**04 15 58.1**	**-0.6**
ABV	**Anegada**	**3.67**	**101**	⇑*e*P		**Pn**	**04 16 00.8**	**-0.4**
ABVI	**Anegada Island**	**3.67**	**101**	⇑*e*P		**Pn**	**04 16 00.8**	**-0.4**
LGNH	**LØogne**	**

baz=145
BLA **Blacksburg** 20.70 331 *e*P P 04 19 43.9 -0.5
20nm,0.6s
BLA *e* 04 19 54.4
349A **Repton** 20.86 308 P P 04 19 47.5 +1.4
baz=120
Z50A **Ashland** 21.00 314 P P 04 19 48.5 +0.8
baz=127
249A **Camden** 21.13 310 P P 04 19 49.5 +0.5
baz=122,SNR=6.0
149A **Jones** 21.23 312 P P 04 19 50.6 +0.6
baz=124
TKL **Tuckaleechee C** 21.23 323 P P 04 19 51.3 +1.2
5.3nm,0.9s,baz=161,slow=10,SNR=3.6
TKL S S 04 23 41.3 -3.4
5.4nm,0.6s,baz=77,slow=18,SNR=5.3
TKL LR LR 04 29 38.1
comp=Z,137nm,18.0s,baz=152,slow=41
TKL **Tuckaleechee C** 21.23 323 *e*P P 04 19 54.1 +4.0
50nm,1.8s
TKL S S 04 23 41.3 -3.4
SDMD **Soldier's Deli** 21.26 341 *e*P P 04 19 50.8 +0.4
6.0nm,0.6s
Y50A **Piedmont** 21.26 316 P P 04 19 51.1 +0.6
baz=128
Z49A **Columbiana** 21.38 313 P P 04 19 51.9 +0.2
baz=125,SNR=7.0
CPCT **Cooper Cave** 21.52 321 P P 04 19 53.6 +0.4
X50A **Fort Payne** 21.56 317 P P 04 19 53.4 -0.3
baz=130
PTGA **Pitinga** 21.60 157 P P 04 19 53.5 -0.8
7.3nm,0.9s,baz=337,slow=12,SNR=6.1
PTGA LR LR 04 27 46.7
comp=Z,208nm,21.3s,baz=340,slow=35
PTGA **Pitinga** 21.60 157 *e*P P 04 19 54.6 +0.3
14nm,0.9s
LRAL **Lakeview Retre** 21.61 312 P P 04 19 54.5 +0.3
baz=124,SNR=6.9
LRAL **Lakeview Retre** 21.61 312 *e*P P 04 19 55.2 +1.0
21nm,1.1s
OTAV **Otavalo** 21.61 209 *e*P P 04 19 56.0 +1.2
32nm,1.0s
Y49A **Blount Mountai** 21.69 315 P P 04 19 54.2 -0.9
baz=127
TZTN **Tazewell** 21.75 325 P P 04 19 55.0 -0.7
baz=138
TZTN **Tazewell** 21.75 325 *e*P P 04 19 56.4 +0.7
21nm,1.1s
148A **Greensboro** 21.80 311 P P 04 19 55.9 -0.4
baz=122,SNR=7.6
347A **Saraland** 21.89 307 P P 04 19 56.5 -0.8
baz=118
X49A **Woodville** 22.03 317 P P 04 19 58.9 +0.2
baz=128
Z48A **Northport** 22.19 313 P P 04 20 00.6 +0.1
baz=124
Y48A **Jasper** 22.23 314 P P 04 20 00.8 0.0
baz=126
247A **Quitman** 22.26 308 P P 04 20 02.3 +1.1
baz=120
147A **Livingston** 22.32 310 P P 04 20 02.0 +0.2
baz=121
N59A **State Game Lan** 22.36 345 P P 04 20 02.6 +0.3
baz=161
N59A **State Game Lan** 22.36 345 *e*P P 04 20 03.7 +1.4
9.3nm,0.6s
Z47A **Carrollton** 22.45 312 P P 04 20 02.5 -0.7
baz=123
X48A **Hartselle** 22.46 315 P P 04 20 03.3 -0.1
baz=127
346A **Big Creek Wild** 22.59 306 P P 04 20 04.8 +0.1
baz=117
246A **Jackson Lee, B** 22.62 308 P P 04 20 05.7 +0.6
baz=119
SSPA **Standing Stone** 22.70 340 P P 04 20 07.3 +1.4
baz=156
SSPA **Standing Stone** 22.70 340 *e*P P 04 20 08.2 +2.4
45nm,1.1s
W48A **Pulaski** 22.81 317 P P 04 20 07.5 +0.5
baz=128
146A **Union** 22.87 309 P P 04 20 08.5 +0.8
baz=120
X47A **Russellville** 23.05 315 P P 04 20 09.2 -0.2
baz=126,SNR=7.1
Z46A **Louisville** 23.07 311 P P 04 20 09.6 -0.2
baz=121
V48A **Smith Brothers** 23.12 318 P P 04 20 10.8 +0.6
baz=130
HRV **Adam Dziewonsk** 23.16 354 P P 04 20 10.9 +0.4
baz=172
W47A **Westpoint** 23.31 316 P P 04 20 12.4 +0.4
baz=128
Y46A **Houston** 23.38 312 P P 04 20 12.5 -0.2
baz=123,SNR=6.0
PLAL **Pickwick Lake** 23.46 315 *e*P P 04 20 14.0 +0.4
13nm,0.8s
X46A **Booneville** 23.56 314 P P 04 20 15.6 +1.0
baz=125
344A **Westbrook Farm** 23.59 305 P P 04 20 15.0 +0.1
baz=115
V47A **Nunnelly** 23.61 318 P P 04 20 15.6 +0.5
baz=129
BINY **Binghamton** 23.63 345 P P 04 20 16.9 +1.7
baz=161
T48A **Bowling Green** 23.76 322 P P 04 20 16.7 +0.3
baz=133
VBMS **Vicksburg** 23.76 307 P P 04 20 17.1 +0.6
baz=117
244A **Avery, Jackson** 23.81 306 P P 04 20 17.1 +0.1
baz=116
Y45A **Yeager Farm, C** 23.85 311 P P 04 20 16.8 -0.5
baz=122
U47A **Clarksville** 23.86 319 P P 04 20 17.8 +0.5
baz=130
V46A **Holladay** 23.98 317 P P 04 20 17.7 -0.9
baz=128
WVT **Waverly** 24.00 318 P P 04 20 18.3 -0.4
baz=129
WVT **Waverly** 24.00 318 *e*P P 04 20 18.7 +0.1
4.6nm,0.6s
X45A **UM Field Stati** 24.04 313 P P 04 20 18.9 -0.2
baz=123
OXF **Oxford** 24.10 313 P P 04 20 20.0 +0.3
baz=123
ACSO **Alum Creek Sta** 24.32 332 P P 04 20 22.6 +1.0
baz=144
WCI **Wyandotte Cave** 24.47 324 P P 04 20 24.6 +1.6
baz=135
542A **Morse** 24.53 300 P P 04 20 25.0 +1.4
baz=110
T46A **Princeton** 24.61 319 P P 04 20 25.8 +1.5
baz=130
442A **Mamou** 24.64 302 P P 04 20 25.5 +0.9
baz=112
143A **Socs Landing,** 24.65 307 P P 04 20 26.2 +1.5
baz=117
S46A **Don Dixon Farm** 24.92 321 P P 04 20 28.8 +1.7
baz=132
242A **Grayson** 24.95 305 P P 04 20 29.0 +1.6
baz=115
Q47A **Bedord North L** 25.05 325 P P 04 20 29.9 +1.7
baz=136
R46A **Gibon Southern** 25.16 322 P P 04 20 30.6 +1.3
baz=133
Y42A **Garnett, Star** 25.45 309 P P 04 20 32.7 +0.8
baz=118
341A **Kurthwood** 25.46 303 P P 04 20 33.5 +1.4
baz=112
241A **Mo Tay, Goldon** 25.52 304 P P 04 20 33.1 +0.5
baz=114
R45A **Skylar, Fairfi** 25.66 321 P P 04 20 34.8 +1.1
baz=132
LONY **Lake Ozonia** 25.66 349 P P 04 20 35.1 +1.4
baz=166
141A **Papa Simpson,** 25.75 305 P P 04 20 35.8 +1.1
baz=115
U43A **Rector** 25.81 315 P P 04 20 35.7 +0.6
baz=125
S44A **Carbondale** 25.86 319 P P 04 20 37.2 +1.5
baz=129
Z41A **Richland Creek** 25.95 307 P P 04 20 38.3 +1.8
baz=116
P46A **Rosedale** 25.96 325 P P 04 20 38.4 +1.9
baz=135
W42A **Bald Knob** 25.98 312 P P 04 20 37.8 +1.1
baz=121
Q45A **Warren Harvey,** 25.99 322 P P 04 20 38.4 +1.6
baz=133

PBMO **Poplar Bluff** 26.06 316 *e*P P 04 20 38.7 +1.2
Y41A **Eaglette Beard** 26.08 308 P P 04 20 39.0 +1.3
baz=117
R44A **Waltonville** 26.11 320 P P 04 20 38.9 +1.0
baz=130
T43A **Greenville** 26.15 317 P P 04 20 38.6 +0.4
baz=126
V42A **Cord** 26.16 313 P P 04 20 39.0 +0.6
baz=122
P45A **Graceland, Par** 26.19 324 P P 04 20 39.7 +1.1
baz=134
140A **Cam and Jess,** 26.28 305 P P 04 20 40.7 +1.2
baz=114
S43A **Fulton Ridge,** 26.30 318 P P 04 20 40.4 +0.8
baz=127
U42A **Revenden** 26.36 314 P P 04 20 40.6 +0.5
baz=124
WLAR **White Oak Lake** 26.37 308 *e*P P 04 20 42.5 +2.3
18nm,1.0s
W41B **Gary Mavity, V** 26.44 311 P P 04 20 41.1 +0.3
baz=120,SNR=5.4
SFIN **Lafayette** 26.44 326 P P 04 20 41.6 +0.8
baz=137
Q44A **Meyer Farm, Va** 26.50 321 P P 04 20 41.7 +0.4
baz=131
WHAR **Wooly Hollow** 26.52 311 *e*P P 04 20 43.5 +1.8
30nm,1.3s
X40A **Basin Creek Fa** 26.53 309 P P 04 20 42.2 +0.6
baz=118
X301 **Greenbrier Sit** 26.58 311 *e*P P 04 20 43.4 +1.3
10nm,0.9s
N46A **Monticello** 26.63 327 P P 04 20 44.3 +1.7
baz=138
Y40A **Okolona** 26.64 308 P P 04 20 44.0 +1.3
baz=117
T42A **Van Buren** 26.64 316 P P 04 20 43.6 +0.9
baz=125
P44A **Sand Creek, Wi** 26.64 323 P P 04 20 44.5 +1.9
baz=133
R43A **Red Bud** 26.64 319 P P 04 20 44.2 +1.5
baz=129
V41A **Mountainview** 26.68 313 P P 04 20 44.2 +1.1
baz=121
O45A **Potomac** 26.68 325 P P 04 20 45.2 +2.2
baz=135
NATX **Nacogdoches** 26.80 302 P P 04 20 45.2 +1.0
baz=111
U41A **Viola** 26.81 314 P P 04 20 45.4 +1.1
baz=123,SNR=7.8
S42A **Caledonia** 26.88 318 P P 04 20 45.2 +0.4
baz=127
N45A **Kentland** 27.00 326 P P 04 20 47.6 +1.7
baz=136
O44A **Mansfield** 27.02 324 P P 04 20 47.1 +1.1
baz=134
W40A **Ferguson Farm,** 27.03 311 P P 04 20 47.0 +0.7
baz=119
T41A **Mountain View** 27.09 315 P P 04 20 47.9 +1.1
baz=124
MIAR **Mount Ida** 27.10 309 P P 04 20 47.8 +1.0
baz=117
MIAR **Mount Ida** 27.10 309 *e*P P 04 20 51.2 +4.3
7.2nm,1.0s
V40A **Wiss Springs** 27.16 312 P P 04 20 48.0 +0.5
baz=120,SNR=5.5
R42A **Luebbering** 27.18 318 P P 04 20 49.1 +1.5
baz=127
P43A **Skaggs, Pawnee** 27.27 322 P P 04 20 48.9 +0.5
baz=131
CCM **Cathedral Cave** 27.33 318 P P 04 20 48.5 -0.4
baz=126
CCM **Cathedral Cave** 27.33 318 *e*P P 04 20 49.3 +0.4
15nm,1.4s
S41A **Jillco Farms,** 27.39 316 P P 04 20 49.5 0.0
baz=125,SNR=8.6
Q42A **Golden Eagle** 27.41 320 P P 04 20 50.9 +1.3
baz=129
U40A **Yellville** 27.46 313 P P 04 20 51.2 +1.1
baz=121
X39A **Fountain Ranch** 27.48 308 P P 04 20 51.1 +0.8
baz=116
W39A **Magazine** 27.55 310 P P 04 20 52.4 +1.5
baz=118
R41A **Rosebud** 27.56 318 P P 04 20 51.4 +0.4
baz=126
T40A **Mansfield** 27.65 315 P P 04 20 52.3 +0.5
baz=123
M44A **Midewin, Midew** 27.67 327 P P 04 20 52.3 +0.4
baz=136
P42A **Winchester** 27.72 321 P P 04 20 53.2 +0.8
baz=130
V39A **Pettigrew** 27.75 311 P P 04 20 53.8 +1.0
baz=119
Q41A **Truxton** 27.86 319 P P 04 20 54.9 +1.2
baz=128
S40A **Lebanon** 27.89 316 P P 04 20 54.2 +0.3
baz=124
U39A **Green Forest** 27.91 312 P P 04 20 54.9 +0.7
baz=120
R40A **Maddies Statio** 28.12 317 P P 04 20 56.2 +0.2
baz=125
T39A **Clever** 28.17 314 P P 04 20 56.5 +0.1
baz=122
L44A **Lake County Fo** 28.18 328 P P 04 20 57.7 +1.3
baz=138
HHAR **Hobbs** 28.18 312 *e*P P 04 20 57.4 +0.9
20nm,1.5s
M43A **Waltham Townsh** 28.19 326 P P 04 20 57.9 +1.4
baz=135
P41A **Barry, Barry** 28.21 320 P P 04 20 57.0 +0.3
baz=129
ATAH **Atahualpa** 28.29 202 LR LR 04 33 45.5
comp=Z,165nm,20.8s,baz=30,slow=40
O41A **Passleys Farm,** 28.38 321 P P 04 20 58.6 +0.3
baz=130
Q40A **Laux Farm, Aux** 28.41 318 P P 04 20 58.7 +0.1
baz=126
S39A **Bolivar** 28.48 315 P P 04 20 59.0 -0.2
baz=123
R39A **Chumby, Stover** 28.64 316 P P 04 21 00.9 +0.3
baz=124
SAML **Samuel** 28.64 170 *e*P P 04 20 57.4 -3.4
4.6nm,0.9s
P40A **Paris** 28.72 319 P P 04 21 01.7 +0.4
baz=127
T38A **Diamond** 28.80 313 P P 04 21 02.8 +0.8
baz=120
435B **Jarell** 28.87 299 P P 04 21 03.3 +0.6
baz=106
O40A **La Belle** 28.97 320 P P 04 21 03.7 +0.2
baz=128
WHTX **Lake Whitney,** 29.12 301 P P 04 21 05.4 +0.5
baz=108
P39B **Salisbury** 29.13 319 P P 04 21 05.8 +0.9
baz=126
R38A **Fenwick Farm,** 29.14 315 P P 04 21 05.9 +0.9
baz=123
N40A **Mertquake, Sal** 29.28 322 P P 04 21 07.5 +1.3
baz=130
TUL1 **Leonard** 29.33 310 P P 04 21 06.9 +0.2
baz=117
Q38A **Cooks Store, C** 29.38 317 P P 04 21 07.5 +0.4
baz=124
L41A **Preston** 29.46 325 P P 04 21 08.8 +1.0
baz=133
JFWS **Jewell Farm** 29.91 326 P P 04 21 13.1 +1.4
baz=135
M39A **Webster** 30.00 322 P P 04 21 13.1 +0.5
baz=130
L39A **Vinton** 30.32 323 P P 04 21 16.4 +1.0
baz=131
J40A **Soldiers Grove** 30.50 326 P P 04 21 17.7 +0.7
baz=134
M38A **Pleasantville** 30.56 321 P P 04 21 18.4 +0.8
baz=128
JCT **Junction City** 30.64 297 P P 04 21 18.8 +0.3
baz=104
JCT **Junction City** 30.64 297 *e*P P 04 21 19.2 +0.8
9.1nm,1.0s
L38A **Oak Wood Farm,** 30.88 323 P P 04 21 21.4 +1.0
baz=130
ABTX **Abilene, Hawle** 31.07 301 P P 04 21 22.4 +0.1
baz=107
ABTX **Abilene, Hawle** 31.07 301 *e*P P 04 21 23.4 +1.2
20nm,1.4s
WMOK **Wichita Mounta** 31.09 306 P P 04 21 22.2 -0.1
baz=112,SNR=6.2
WMOK **Wichita Mounta** 31.09 306 *e*P P 04 21 22.9 +0.5

4.6nm,0.9s
H40A **Chili** 31.20 329 P P 04 21 24.0 +0.8
baz=136
F41A **Three Lakes** 31.42 331 P P 04 21 26.3 +1.3
baz=140
R34A **Isabella, Hill** 31.46 313 P P 04 21 25.8 +0.2
baz=118
M36A **Felix, Anita** 31.55 320 P P 04 21 26.9 +0.6
baz=126
Q34A **Chapman** 31.55 314 P P 04 21 26.9 +0.5
baz=120
I38A **Scanlan Farm,** 31.78 326 P P 04 21 29.0 +0.7
baz=133
K36A **Gilmore City** 32.05 322 P P 04 21 31.8 +1.1
baz=128
G39A **Holcombe** 32.06 329 P P 04 21 31.5 +0.8
baz=136
H38A **Maiden Rock** 32.19 327 P P 04 21 33.2 +1.3
baz=134
E40A **Wakefield** 32.31 331 P P 04 21 34.3 +1.4
baz=139
F39A **Loretta** 32.39 330 P P 04 21 35.0 +1.4
baz=137
E39A **Mellen** 32.56 331 P P 04 21 36.2 +1.1
baz=138
AMTX **Amarillo** 33.38 304 P P 04 21 41.7 -0.8
baz=109
CBKS **Cedar Bluff** 33.43 312 P P 04 21 43.6 +0.7
baz=116
H35A **Sunnyside Ranc** 33.56 325 P P 04 21 44.3 +0.4
baz=130
F36A **Milaca** 33.64 327 P P 04 21 45.5 +1.0
baz=133
TXAR **Lajitas Array** 33.71 294 P P 04 21 44.5 -1.0
2.5nm,0.7s,baz=108,slow=9.0,SNR=17
TXAR LR LR 04 39 21.6
comp=Z,142nm,20.2s,baz=0.0,slow=43
TX31 **Lajitas Ar. Si** 33.71 294 *e*P P 04 21 46.4 +0.9
J33A **Davis** 33.94 321 P P 04 21 46.9 -0.3
baz=126
E36A **McGregor** 33.96 328 P P 04 21 48.1 +0.8
baz=134
MSTX **Muleshoe** 33.97 302 P P 04 21 47.9 +0.2
baz=106
MSTX **Muleshoe** 33.97 302 *e*P P 04 21 48.2 +0.5
13nm,1.1s
ECSD **EROS Data Cent** 33.97 322 P P 04 21 48.0 +0.5
baz=126
ECSD **EROS Data Cent** 33.97 322 *e*P P 04 21 48.0 +0.5
6.6nm,0.9s
D36A **Goodland** 34.38 329 P P 04 21 50.8 -0.1
baz=135
H33A **Prehn Over Nor** 34.62 323 P P 04 21 53.6 +0.6
baz=122
C36A **Pine Crest Far** 34.64 330 P P 04 21 53.6 +0.5
baz=136
K31A **O'Neill** 34.64 319 P P 04 21 54.6 +1.3
baz=122
G33A **Ortonville** 34.76 324 P P 04 21 54.9 +0.6
baz=128
H32A **Carlson Farm,** 34.91 322 P P 04 21 56.2 +0.6
baz=126
B35A **Bob, Littlefor** 35.48 330 P P 04 22 00.8 +0.3
baz=135
LPAZ **La Paz** 35.52 180 P P 04 22 03.5 +1.8
0.9nm,0.6s,baz=321,slow=7.1,SNR=4.6
KSCO **Kaye Shedlock'** 35.56 311 P P 04 22 01.6 +0.2
baz=113
MNTX **Cornudas Mount** 35.57 298 P P 04 22 02.1 +0.7
baz=101,SNR=11
MNTX **Cornudas Mount** 35.57 298 *e*P P 04 22 02.5 +1.0
18nm,1.4s
D33A **AnnSam, Waubun** 35.69 327 P P 04 22 03.0 +0.7
baz=131
SIV **San Ignacio** 35.90 168 P P 04 22 05.8 +1.5
1.1nm,0.9s,baz=18,slow=19,SNR=3.3
B34A **Aery, Baudette** 36.01 330 P P 04 22 05.7 +0.8
baz=134
F31A **Hecla** 36.18 324 P P 04 22 06.9 +0.5
baz=127
T25A **Trinidad** 36.20 307 P P 04 22 07.3 +0.3
baz=109
T25A **Trinidad** 36.20 307 *e*P P 04 22 08.6 +1.5
8.3nm,1.0s
MHTCO **State Highway** 36.41 307 *e*P P 04 22 11.1 +2.3
10nm,0.8s
AGMN **Agassiz Nation** 36.47 328 P P 04 22 09.1 +0.3
baz=132
AGMN **Agassiz Nation** 36.47 328 *e*P P 04 22 08.9 0.0
4.3nm,0.6s
A33A **Warroad** 36.67 330 P P 04 22 10.8 +0.1
baz=134
B32A **Ashes, Strandq** 36.87 328 P P 04 22 12.1 -0.2
baz=132
C31A **Landman Farms,** 37.09 326 P P 04 22 14.5 +0.3
baz=129
BNM **Barren Site** 37.11 301 *e*P P 04 22 16.4 +1.5
ANMO **Albuquerque** 37.16 303 P P 04 22 15.7 +0.5
baz=104
ANMO **Albuquerque** 37.16 303 *e*P P 04 22 16.6 +1.3
8.4nm,1.4s
SDCO **Great Sand Dun** 37.22 307 P P 04 22 16.6 +0.8
baz=109,SNR=17
SDCO **Great Sand Dun** 37.22 307 *e*P P 04 22 17.1 +1.4
10nm,1.0s
121A **Cookes Peak, D** 37.73 298 P P 04 22 19.4 -0.6
baz=100
ULM **Lac du Bonnet** 37.81 331 P P 04 22 19.4 -0.8
2.1nm,0.7s,baz=151,slow=10.0,SNR=3.9
ULM LR LR 04 36 46.5
comp=Z,97nm,20.6s,baz=80,slow=34
ISCO **Idaho Springs** 38.00 310 P P 04 22 23.4 +1.0
baz=111,SNR=7.5
ISCO **Idaho Springs** 38.00 310 *e*P P 04 22 23.8 +1.3
5.5nm,1.0s
S22A **4UR Ranch, Cre** 38.22 307 P P 04 22 24.6 +0.3
baz=108,SNR=5.4
S22A **4UR Ranch, Cre** 38.22 307 *e*P P 04 22 24.9 +0.6
6.0nm,1.1s
PHWY **Pilot Hill** 38.46 313 *e*P P 04 22 27.1 +0.8
19nm,1.6s
RSSD **Black Hills** 38.72 318 P P 04 22 28.4 +0.1
baz=118
SMCO **Snowmass** 38.78 309 *e*P P 04 22 30.6 +1.6
25nm,1.8s
LPIG **La Paz** 39.33 285 LR LR 04 40 55.8
comp=Z,74nm,19.2s,baz=87,slow=40
MVCO **Mesa Verde** 39.34 305 P P 04 22 32.9 -0.7
baz=106
MVCO **Mesa Verde** 39.34 305 *e*P P 04 22 35.0 +1.4
6.0nm,1.0s
PV01 **Paradox Valley** 39.65 307 *e*P P 04 22 38.2 +2.0
K22A **Casper** 39.72 314 P P 04 22 36.1 -0.5
baz=114
K22A **Casper** 39.72 314 *e*P P 04 22 37.7 +1.1
6.3nm,0.8s
W18A **Petrified Fore** 39.82 302 P P 04 22 36.4 -1.1
baz=102
O20A **White River Ci** 40.02 310 P P 04 22 40.1 +1.0
baz=109
PV05 **Paradox Valley** 40.04 306 *e*P P 04 22 40.4 +1.1
PV10 **Paradox Valley** 40.07 307 *e*P P 04 22 41.2 +1.5
PV09 **Paradox Valley** 40.18 307 *e*P P 04 22 42.0 +1.4
TUC **Tucson** 40.20 297 P P 04 22 41.2 +0.6
baz=98
DGMT **Dagmar** 40.99 323 P P 04 22 47.0 +0.1
baz=122
WUAZ **Wupatki** 41.21 302 P P 04 22 50.4 +1.3
baz=101
WUAZ **Wupatki** 41.21 302 *e*P P 04 22 51.5 +2.4
8.1nm,1.1s
LAO **LASA Array** 41.29 320 P P 04 22 50.4 +1.1
baz=118
LAO **LASA Array** 41.29 320 *e*P P 04 22 50.5 +1.1
10.0nm,0.8s
P18A **Preston Nutter** 41.33 308 *e*P P 04 22 51.7 +1.6
6.0nm,0.9s
P17A **Butcher Ranch,** 41.65 308 *e*P P 04 22 54.5 +1.9
8.8nm,1.2s
PD31 **Pinedale Array** 41.84 313 *e*P P 04 22 55.5 +1.3
PDAR **Pinedale Array** 41.84 313 P P 04 22 54.4 +0.2
1.1nm,0.7s,baz=113,slow=11,SNR=8.1
214A **Organ Pipe Nat** 41.86 296 P P 04 22 54.5 +0.2
baz=96
TMUT **Trail Mountain** 41.95 308 *e*P P 04 22 57.0 +1.8
7.6nm,1.0s
MPU **Maple Canyon** 42.46 308 *e*P P 04 23 00.9 +1.7
RLMT **Red Lodge** 42.52 316 P P 04 23 00.2 +0.5

baz=113,SNR=9.4
RLMT Red Lodge 42.52 316 *e*P **P 04 23 00.3 +0.6**
49nm,1.8s
CTU Camp Tracy 42.74 309 *e*P **P 04 23 03.1 +1.7**
5.4nm,0.9s
LOHW Long Hollow 42.85 314 *e*P **P 04 23 03.3 +0.9**
10.0nm,1.0s
HWUT Hardware Ranch 42.87 311 *e*P **P 04 23 02.9 +0.4**
6.0nm,0.9s
SNOW Snow King Moun 42.90 314 *e*P **P 04 23 04.4 +1.6**
15nm,1.3s
REDW Red Top Meadow 42.94 313 *e*P **P 04 23 04.0 +0.9**
11nm,1.0s
MOOW Moose Ponds 42.99 314 *e*P **P 04 23 04.7 +1.2**
5.6nm,0.9s
TPAW Teton Pass 43.05 314 *e*P **P 04 23 04.3 +0.3**
8.3nm,1.0s
GCMT Greycliff 43.05 317 *e*P **P 04 23 04.9 +1.1**
FXWY Fox Creek 43.15 314 *e*P **P 04 23 06.1 +1.3**
31nm,2.0s
CCUT Cedar City 43.19 304 *e*P **P 04 23 07.3 +2.1**
16nm,1.5s
DUG Dugway, Tooele 43.38 308 P **P 04 23 06.4 -0.2**
baz=105
YMR Madison River 43.47 315 *e*P **P 04 23 09.4 +2.1**
8.7nm,1.1s
BGU Big Grassy Mou 43.73 309 *e*P **P 04 23 10.9 +1.4**
7.2nm,1.0s
QLMT Earthquake Lak 43.84 315 *e*P **P 04 23 13.1 +2.8**
EGMT Eagleton 44.03 320 P **P 04 23 12.1 +0.4**
baz=116
EGMT Eagleton 44.03 320 *e*P **P 04 23 13.5 +1.8**
IRM Iron Mountain 44.06 299 P **P 04 23 12.9 +0.8**
baz=97
LDFC Landfair 44.16 301 *e*P **P 04 23 15.2 +2.3**
17nm,1.0s
BOZ Bozeman (W) 44.25 316 P **P 04 23 14.2 +0.7**
baz=112,SNR=5.5
BOZ Bozeman (W) 44.25 316 *e*P **P 04 23 14.8 +1.4**
8.2nm,1.0s
BC3 Big Chuckawall 44.26 299 P **P 04 23 13.3 -0.4**
baz=96
SHPR Sheep Range 44.41 303 *e*P **P 04 23 17.8 +2.8**
20nm,1.8s
GMRC Granite Mounta 44.56 300 P **P 04 23 17.1 +1.0**
baz=97
MCMT McKenzie Canyo 44.78 315 *e*P **P 04 23 18.5 +0.6**
2.8nm,1.0s
HRY Holter Researc 44.79 318 *e*P **P 04 23 19.0 +1.2**
DLMT Dillon 44.80 316 *e*P **P 04 23 19.6 +1.7**
9.4nm,1.2s
TUQ Turquoise Moun 44.86 301 P **P 04 23 20.4 +1.8**
baz=98
MONP2 Monument Peak 44.99 297 P **P 04 23 21.6 +1.8**
baz=95,SNR=6.1
R11A Troy Canyon, C 45.07 305 P **P 04 23 21.2 +1.0**
baz=101
SHOC Shoshone, Teco 45.21 302 P **P 04 23 21.8 +0.6**
baz=98
HLID Hailey 45.46 313 P **P 04 23 24.1 +0.9**
baz=107
HLID Hailey 45.46 313 *e*P **P 04 23 24.5 +1.3**
14nm,1.6s
GSC Goldstone, Bar 45.56 301 P **P 04 23 25.6 +1.5**
baz=97
GSC Goldstone, Bar 45.56 301 *e*P **P 04 23 26.9 +2.8**
25nm,1.7s
109C Camp Elliot, M 45.57 297 P **P 04 23 25.3 +1.3**
baz=95
MURC Murrieta 45.70 298 P **P 04 23 26.0 +0.9**
baz=95
FURC Furnace Creek, 45.76 302 P **P 04 23 27.2 +1.7**
baz=98
BFSC Mount Baldy Ra 46.14 299 P **P 04 23 30.3 +1.6**
baz=96
MSO Missoula 46.18 317 P **P 04 23 29.4 +0.5**
baz=110
MPMC Manual Prospec 46.21 302 P **P 04 23 29.9 +0.6**
baz=97
GRAC Grapevine Rang 46.24 303 P **P 04 23 30.7 +1.4**
baz=98
EDW2 Edwards Air Fo 46.48 300 P **P 04 23 33.5 +2.2**
baz=96,SNR=6.1
CPUP Villa Florida 46.71 167 P **P 04 23 35.2 +2.4**
1.5nm,0.9s,baz=358,slow=9.7,SNR=3.2
CPUP LR LR 04 42 35.1
comp=Z,62nm,19.9s,baz=340,slow=35
ISA Isabella, Lake 46.96 301 P **P 04 23 36.6 +1.7**
baz=96
NVAR Mina Array Bea 47.19 305 P **P 04 23 38.0 +1.1**
4.1nm,0.9s,baz=106,slow=6.6,SNR=16
NVAR LR LR 04 44 09.8
comp=Z,138nm,20.9s,baz=268,slow=37
ARVC Arvin 47.19 300 P **P 04 23 38.5 +1.7**
baz=96
VES Vestal, Richgr 47.47 301 P **P 04 23 40.3 +1.4**
baz=96
PKM Mcpherson Peak 47.97 300 P **P 04 23 44.1 +1.1**
baz=95
NEW Newport 48.70 318 P **P 04 23 48.4 +0.2**
baz=109,SNR=6.3
SFJD Kangerlussuaq 48.84 9 LR LR 04 43 41.5
comp=Z,71nm,18.3s,baz=175,slow=35
YKA Yellowknife Ar 53.49 335 P **P 04 24 23.2 -0.7**
1.7nm,1.1s,baz=115,slow=7.4,SNR=12
BORG Borgarnes 54.82 22 LR LR 04 45 21.2
comp=Z,33nm,19.7s,baz=169,slow=33
ESDC Sonseca Array 58.14 55 P **P 04 24 57.8 +0.1**
1.4nm,0.7s,baz=274,slow=7.1,SNR=13
ESDC LR LR 04 44 47.7
comp=Z,44nm,21.1s,baz=255,slow=31
PLCA Paso Flores 59.92 182 P **P 04 25 09.2 -0.7**
2.5nm,1.1s,baz=8.3,slow=10,SNR=5.4
RPN Rapa Nui 61.15 222 LR LR 04 46 02.9
comp=Z,17nm,22.0s,baz=38,slow=30
KOWA Kowa 61.23 84 LR LR 04 47 07.4
comp=Z,76nm,21.9s,baz=266,slow=32
TIC Toumodi 62.48 93 *e*P **P 04 25 27.3 -0.5**
LIC Lamto 62.61 93 *e*P **P 04 25 27.3 +0.7**
23nm,1.0s
DBIC Dimbokro 62.63 93 P **P 04 25 28.8 0.0**
2.9nm,0.7s,baz=282,slow=6.2,SNR=6.8
DBIC LR LR 04 49 54.2
comp=Z,32nm,21.1s,baz=243,slow=33
KIC Kosan Boka 62.84 93 *e*P **P 04 25 29.4 -0.8**
12nm,0.9s
DAWY Dawson 64.49 333 *e*P **P 04 25 39.9 -0.4**
3.3nm,0.6s
EGAK Eagle 65.34 333 *e*P **P 04 25 46.6 +0.8**
5.4nm,0.8s
TORD Torodi Ar. Bea 66.93 84 P **P 04 25 56.9 +0.1**
1.8nm,0.9s,baz=292,slow=7.3,SNR=9.3
TORD LR LR 04 57 27.7
comp=Z,41nm,18.0s,baz=250,slow=38
ILAR Eielson Array 67.79 333 P **P 04 26 01.1 -0.2**
3.4nm,0.9s,baz=103,slow=4.8,SNR=30
ILAR LR LR 04 56 25.4
comp=Z,101nm,19.2s,baz=104,slow=37
NOA NORSAR Array B 68.03 31 LR LR 04 53 36.5
comp=Z,28nm,18.9s,baz=305,slow=34
COLA College 68.20 333 *e*P **P 04 26 03.5 -0.5**
6.4nm,0.9s
TOLK Toolik Lake Re 68.93 337 P **P 04 26 08.7 +0.2**
baz=90
HFS Hagfors 69.28 32 LR LR 04 53 46.2
comp=Z,61nm,19.3s,baz=297,slow=34
KTH Kantishna Hill 69.57 332 *e*P **P 04 26 12.6 0.0**
11nm,1.0s
BPAW Bear Paw Mtn. 69.57 332 *e*P **P 04 26 12.0 -0.6**
1.2nm,0.9s
SPITS Spitsbergen Ar 69.96 13 LR LR 04 53 27.0
comp=Z,40nm,21.7s,baz=185,slow=33
ARCES ARCESS Array B 73.21 22 P **P 04 26 35.1 +0.8**
4.4nm,1.0s,baz=306,slow=4.1,SNR=11
FINES FINESS Array B 75.10 30 P **P 04 26 46.6 +1.1**
2.0nm,0.8s,baz=254,slow=7.1,SNR=4.6
FINES LR LR 04 55 45.2
comp=Z,32nm,20.7s,baz=308,slow=33
BRTR Keskin Array B 86.43 49 P **P 04 27 46.5 -0.2**
1.0nm,0.8s,baz=270,slow=3.7,SNR=5.1
BRTR LR LR 05 03 55.1
comp=Z,13nm,18.8s,baz=303,slow=34
AKTO Aktyubinsk 95.82 31 LR LR 05 09 55.3
comp=Z,52nm,18.9s,baz=328,slow=34
CD2 Chengdu 129.32 9 PKP **PKPdf 04 34 11.8 -1.0**
STKA Stephens Creek 150.59 239 PKPab **PKPab 04 35 01.6 -1.3**
2.6nm,0.8s,baz=99,slow=6.2,SNR=4.6
ASAR Alice Springs 159.09 255 PKPab **PKPab 04 35 40.1 +0.7**
0.4nm,0.5s,baz=104,slow=4.4,SNR=4.6

MAN 13 04:22:10,10.32N×123.23E,h18km,mb4.5,ML3.4,MS3.2, 4C-2D,Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.70**	**296**	*e*P	Pb	04 22 23.6	0.0
GUIM				*e*S	Sg	04 22 33.7	+0.6
LLP	**Lapu-Lapu**	**0.73**	**90**↑	*e*P	Pg	04 22 24.3	0.0
LLP				*e*S	Sn	04 22 37.3	+1.2
TBP	**Tagbilaran**	**0.88**	**135**	*e*P	Pb	04 22 26.9	+0.1
SNPH	**Sibulan**	**0.97**	**179**↑	*i*P	Pb	04 22 28.3	+0.1
SNPH				*i* S	Sb	04 22 41.0	+0.3
RCP	**Roxas**	**1.32**	**339**↑	*e*P	Pn	04 22 33.9	+0.2
JAP	**San Jose, Anti**	**1.33**	**289**↓	*e*P	Pg	04 22 36.1	+0.4
OCLP	**Ormoc**	**1.54**	**62**	*e*P	Pb	04 22 38.2	+0.1
OCLP				*e*S	Sb	04 22 56.9	-0.4
MSLP	**Maasin**	**1.62**	**96**	*e*P	Pb	04 22 40.1	+0.8
MSLP				*e*S	Sg	04 23 02.6	+0.4
DCPH	**Dipolog City**	**1.73**	**176**↓	*e*P	Pn	04 22 39.8	+0.7
DCPH				*i* S	Sb	04 23 02.2	-0.3
PLP	**Palo**	**1.92**	**64**↑	*i*P	Pb	04 22 43.2	-1.3

*CSEM **13** 04:45:39.9ₒ0.3,37.17N×53.16E,h10km,ML3.7,Error ellipse: s-maj=7.7km s-min=5.2km az=56.0*

TEH 13 04:45:39.4,37.11N×53.23E,h14km,ML3.7,9C-5D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.78**	**141**	*e*Pg	Pn	04 45 56.0	-0.1
IGLO				*e*Sg	Sn	04 46 07.1	-0.6
IGLO				*e*AMB	AMB	04 46 10.6	
	comp=Z,39μm,0.2s						
IALA	**Alasht**	**1.08**	**198**	*e*Pg	Pn	04 46 01.6	+1.2
IALA				*e*Sg	Sn	04 46 18.0	+2.7
IALA				*e*AMB	AMB	04 46 18.9	
	comp=Z,23μm,0.1s						
IALA	**Alasht**	**1.08**	**198**	*e*Pg	Pn	04 46 01.6	+1.2
IALA				*e*Sg	Sn	04 46 18.0	+2.7
IPRN	**Peran**	**1.13**	**220**	*e*Pg	Pg	04 46 01.6	+0.5
IPRN				*e*AMB	AMB	04 46 19.4	
	comp=Z,21μm,0.1s						
ISHM	**Shahmirzad**	**1.31**	**178**	*e*AMB	AMB	04 46 24.7	
	comp=Z,30μm,0.1s						
ISHM				*e*Pn	Pg	04 46 04.8	+0.2
IFIR	**Firoozkooh**	**1.52**	**195**	*e*AMB	AMB	04 46 34.3	
	comp=Z,14μm,0.1s						
IFIR				*e*Pn	Pg	04 46 09.0	+0.4
IANJ	**Anjilo**	**1.73**	**161**	*e*Pn	Pg	04 46 12.2	-0.5
IANJ				*e*AMB	AMB	04 46 37.5	
	comp=Z,5μm,0.2s						
IANJ	**Anjilo**	**1.73**	**161**	*e*Pn	Pg	04 46 12.2	-0.5
ILAS	**Lasjerd**	**1.74**	**187**	*e*Pn	Pg	04 46 12.9	0.0
ILAS				*e*AMB	AMB	04 46 38.5	
	comp=E,22μm,0.1s						
ILAS	**Lasjerd**	**1.74**	**187**	*e*Pn	Pg	04 46 12.9	0.0
IMND	**Minoodasht**	**1.75**	**85**	*e*Pn	Pb	04 46 11.9	+0.7
IMND				*e*AMB	AMB	04 46 41.1	
	comp=Z,3μm,0.1s						
IMND	**Minoodasht**	**1.75**	**85**	*e*Pn	Pb	04 46 11.9	+0.7
DAMV	**Damavand**	**1.79**	**215**	*e*Pg	Pb	04 46 12.9	+0.7
IDMV	**Damavand**	**1.81**	**213**	*e*Pn	Pb	04 46 13.1	+0.6
IDMV				*e*AMB	AMB	04 46 41.4	
	comp=Z,3μm,0.1s						
IDMV	**Damavand**	**1.81**	**213**	*e*Pn	Pb	04 46 13.1	+0.6
MRVT	**Maraveh tapeh**	**2.34**	**76**	*e*Pn	Pn	04 46 17.8	+0.3
IVRN	**Varamin**	**2.44**	**210**	*e*Pn	Pb	04 46 21.5	-1.5
IVRN				*e*AMB	AMB	04 47 05.5	
	comp=Z,6μm,0.1s						
IVRN	**Varamin**	**2.44**	**210**	*e*Pn	Pb	04 46 21.5	-1.5
IGZV	**Ghazvin**	**2.52**	**254**	*e*Pn	Pn	04 46 18.9	-1.2
IGZV				*e*AMB	AMB	04 47 11.1	
	comp=Z,893nm,0.1s						
IGZV	**Ghazvin**	**2.52**	**254**	*e*Pn	Pn	04 46 18.9	-1.2
BJRD	**Bojnurd**	**3.38**	**79**	*e*Pn	Pn	04 46 31.8	0.0
ZNJK	**Zanjan**	**3.67**	**264**	*e*Pn	Pn	04 46 36.5	+0.6
ASTR	**Astara**	**3.80**	**294**	↑P	Pn	04 46 36.1	-1.3
ASTR				↓S	Sn	04 47 20.0	-1.8
LKRN	**Lenkeran, Azer**	**3.86**	**296**	↑S	Sn	04 47 21.9	-1.5
IKLH	**Kolahrood**	**4.02**	**200**	*e*Pn	Pn	04 46 43.8	+3.1
IKLH				*e*AMB	AMB	04 47 55.9	
	comp=Z,694nm,0.2s						
IKLH	**Kolahrood**	**4.02**	**200**	*e*Pn	Pn	04 46 43.8	+3.1
LRK	**Lerik**	**4.16**	**293**	↑P	Pn	04 46 42.8	+0.3
LRK				↑S	Sn	04 47 27.9	-3.1
NASN	**Na'in**	**4.32**	**185**	*e*Pn	Pn	04 46 47.6	+2.7
GLBA	**Clilabad**	**4.36**	**301**	↓P	Pn	04 46 45.4	+0.2
GLBA				↑S	Sn	04 47 34.4	-1.3
GRMI	**Germi**	**4.54**	**293**	*e*Pn	Pn	04 46 47.5	-0.3
TABS	**Tabas**	**4.70**	**136**	*e*Pn	Pn	04 46 52.3	+2.4
GBS	**Qobustan**	**4.78**	**317**	↓S	Sn	04 47 47.5	+1.3
PQL	**Pirkuli**	**5.15**	**317**	↑P	Pn	04 46 56.6	+0.5
PQL				↓S	Sn	04 47 55.9	+0.5
QUBA	**Quba, Azerbaij**	**5.61**	**321**	↓S	Sn	04 48 07.6	+1.1
XNQ	**Khinaliq**	**5.66**	**317**	↑P	Pn	04 47 04.8	+1.6
XNQ				↑S	Sn	04 48 08.8	-1.3
QSAR	**Qusar**	**5.84**	**320**	↑S	Sn	04 48 10.2	-2.1

*IDC **13** 04:49:33.0ₒ0.7,55.33S×27.84W,h0km,mb4.6/10, mb1 4.6/11,mb1mx4.3/28,mbtmp4.6/11, ML4.7/1,MS3.7/19, Ms1 3.7/19,ms1mx3.7/30,Error ellipse: s-maj=23.4km s-min=18.2km az=28.0*

*ISCJB **13** 04:49:34.8ₒ0.3,55.38S±0.06×27.91W±0.09,h26km, mb4.8/27,MS3.8/19,Error ellipse: s-maj=9.3km s-min=7.0km az=32.4*

*NEIC **13** 04:49:38.2ₒ0.2,55.40S×27.90W,h35km,mb4.8/20,Error ellipse: s-maj=10.0km s-min=6.4km az=189.0*

ISC 13 04:49:36.8ₒ0.4,55.41S±0.09×27.98W±0.07,h26km,n100, σ0ₒ94/89,mb4.8/27,MS3.8/19,1C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.05**	**279**	*e*Pn	**Pn**	**04 50 50.2**	**-0.5**
HOPE				*e*Sn	**Sn**	**04 51 46.6**	**-1.5**
VNA1	**Neumayer--Stat**	**17.56**	**158**	P	**P**	**04 53 39.8**	**-0.4**
VNA3	**Neumayer Olymp**	**17.75**	**161**	P	**Pn**	**04 53 41.7**	**0.0**
VNA2	**Neumayer--Watz**	**17.95**	**158**	P	**Pn**	**04 53 44.2**	**0.0**
	baz=315,slow=14						
SNAA	**Sanae**	**19.51**	**156**	P	**P**	**04 54 00.8**	**-1.0**
SNAA	**Sanae**	**19.51**	**156**	*e*P	**P**	**04 54 00.9**	**-0.8**
	2.3nm,0.3s,baz=300,slow=11,SNR=72						
SNAA	**Sanae**	**19.51**	**156**	*e*P	**P**	**04 54 00.6**	**-1.1**
	14nm,0.6s						
SNAA				*e*S	S	04 57 29.1	-11
GO09	**Cerro Castillo**	**26.46**	**260**	*e*P	**P**	**04 55 10.8**	**-0.6**
	47nm,1.7s						
TRQA	**Tornquist**	**28.66**	**293**	*e*P	**P**	**04 55 31.8**	**+0.5**
	24nm,1.8s						
PLCA	**Paso Flores**	**31.45**	**280**	LR	LR	05 08 03.9	
	comp=Z,95nm,21.4s,baz=150,slow=35						
SYO	**Syowa Base**	**32.36**	**142**	*e*P	**P**	**04 56 00.2**	**-3.3**
SYO	**Syowa Base**	**32.36**	**142**	*e*pP	pP	04 56 09.2	-2.0
CPUP	**Villa Florida**	**36.05**	**312**	P	**P**	**04 56 35.1**	**-0.8**
	4.6nm,0.7s,baz=146,slow=6.4,SNR=13						
CPUP				ScP	**ScP**	**05 02 46.5**	**+0.6**
	1.9nm,1.0s,baz=207,slow=6.8,SNR=3.3						
CPUP				LR	LR	05 09 20.6	
	comp=Z,118nm,20.2s,baz=148,slow=33						
CPUP	**Villa Florida**	**36.05**	**312**	*e*P	**P**	**04 56 35.9**	**-0.1**
	21nm,1.4s						
CPUP				*e*ScP	**ScP**	**05 02 46.5**	**+0.6**
ROC1	**El Roble**	**37.31**	**289**	*e*P	**P**	**04 56 45.4**	**-1.5**
	12nm,0.8s						
MAW	**Mawson**	**40.93**	**144**	LR	LR	05 13 58.1	
	comp=Z,63nm,18.6s,baz=248,slow=36						
SHEL	**Horse Pasture**	**42.92**	**32**	*e*P	**P**	**04 57 32.4**	**-0.9**
	127nm,1.4s						
PB01	**IPOC Station P**	**46.20**	**301**	*e*P	**P**	**04 58 00.7**	**+1.2**
	13nm,0.7s						
BOSA	**Boshof**	**46.25**	**77**	P	**P**	**04 57 59.0**	**-0.9**
	1.7nm,0.8s,baz=218,slow=16,SNR=3.3						
BOSA				LR	LR	05 13 26.6	
	comp=Z,133nm,19.0s,baz=212,slow=31						
SIV	**San Ignacio**	**46.81**	**314**	LR	LR	05 16 24.0	
	comp=Z,95nm,20.7s,baz=184,slow=34						
VNDA	**Vanda**	**47.19**	**183**	P	**P**	**04 58 08.8**	**+2.3**
	3.4nm,0.7s,baz=262,slow=2.4,SNR=3.9						
VNDA	**Vanda**	**47.19**	**183**	*e*P	**P**	**04 58 08.6**	**+2.1**
	37nm,2.0s						
PB11	**IPOC Station P**	**47.37**	**302**	*e*P	**P**	**04 58 09.8**	**+1.1**
	27nm,1.0s						
H10S2	**ASCENSION HYDR**	**47.52**	**18**	T	T	05 49 18.4	
	baz=190,slow=75,SNR=6.0						
H10S3	**ASCENSION HYDR**	**47.52**	**18**	T	T	05 49 21.5	
	baz=190,slow=75,SNR=5.0						
H10S1	**ASCENSION HYDR**	**47.54**	**18**	T	T	05 49 21.2	
	baz=190,slow=75,SNR=9.4						
MNMC	**Minye Minye**	**47.88**	**302**	*e*P	**P**	**04 58 14.4**	**+1.5**
	17nm,0.7s						
H10N1	**ASCENSION HYDR**	**48.64**	**18**	T	T	05 50 46.3	
	baz=189,slow=75,SNR=8.0						
H10N3	**ASCENSION HYDR**	**48.64**	**18**	T	T	05 50 44.2	
	baz=189,slow=75,SNR=11						
H10N2	**ASCENSION HYDR**	**48.65**	**18**	T	T	05 50 47.5	
	baz=189,slow=75,SNR=11						
LBTB	**Lobatse**	**49.26**	**74**	*e*P	**P**	**04 58 22.5**	**-0.7**
	19nm,1.7s						
LPAZ	**La Paz**	**49.64**	**306**	P	**P**	**04 58 27.8**	**+1.0**
	9.4nm,0.6s,baz=135,slow=5.1,SNR=42						
LPAZ				LR	LR	05 18 30.8	
	comp=Z,60nm,21.9s,baz=128,slow=35						
LPAZ	**La Paz**	**49.64**	**306**	*e*P	**P**	**04 58 28.0**	**+1.2**
	11nm,0.7s						
TSUM	**Tsumeb**	**49.77**	**62**	*e*P	**P**	**04 58 27.4**	**+0.2**
	8.6nm,1.3s						
SAML	**Samuel**	**54.03**	**315**	*e*P	**P**	**04 58 58.7**	**-0.2**
	9.4nm,0.9s						
MATP	**Matopo**	**54.52**	**74**	P	**P**	**04 59 01.7**	**-0.8**
	3.4nm,0.9s,baz=225,slow=11,SNR=5.4						
MATP				LR	LR	05 17 08.8	
	comp=Z,52nm,21.2s,baz=202,slow=30						
PTGA	**Pitinga**	**60.39**	**322**	*e*P	**P**	**04 59 43.4**	**-0.3**
	8.2nm,1.3s						
LIC	**Lamto**	**64.30**	**25**	*e*P	**P**	**05 00 09.4**	**-0.4**
	31nm,0.7s						
KIC	**Kosan Boka**	**64.50**	**26**	*e*P	**P**	**05 00 10.5**	**-0.7**
	24nm,1.1s						
TIC	**Toumodi**	**64.71**	**25**	*e*P	**P**	**05 00 12.0**	**-0.5**
DBIC	**Dimbokro**	**64.77**	**26**	P	**P**	**05 00 12.4**	**-0.5**
	5.1nm,0.6s,baz=168,slow=8.2,SNR=13						
DBIC				LR	LR	05 21 29.5	
	comp=Z,68nm,19.7s,baz=203,slow=30						
DBIC	**Dimbokro**	**64.77**	**26**	*e*P	**P**	**05 00 12.2**	**-0.7**
	6.0nm,0.7s						
OPO	**Ambohidratompo**	**66.51**	**89**	LR	LR	05 24 33.1	
	comp=Z,53nm,20.3s,baz=348,slow=32						
OTAV	**Otavalo**	**68.93**	**304**	*e*P	**P**	**05 00 41.0**	**+1.0**
	4.4nm,0.9s						
PRAC	**Prado**	**70.37**	**309**	*e*P	**P**	**05 00 48.9**	**+0.6**
	57nm,1.9s						
ROSC	**El Rosal**	**71.13**	**310**	LR	LR	05 35 29.5	
	comp=Z,36nm,18.3s,baz=282,slow=39						
PCRV	**Puerto La Cruz**	**72.17**	**322**	P	**P**	**05 00 59.7**	**+0.5**
	21nm,1.1s,baz=60,slow=8.1,SNR=4.1						
KOWA	**Kowa**	**72.52**	**24**	P	**P**	**05 01 01.7**	**+0.5**
	2.8nm,0.6s,baz=182,slow=6.9,SNR=13						
KOWA				LR	LR	05 26 20.7	
	comp=Z,53nm,19.5s,baz=205,slow=30						
TOA0	**Torodi Ar. Sit**	**72.72**	**30**	*e*P	**P**	**05 01 02.5**	**+0.1**
	9.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.72**	**30**	P	**P**	**05 01 02.2**	**-0.2**
	8.4nm,0.9s,baz=199,slow=6.2,SNR=37						
TORD				LR	LR	05 28 43.5	
	comp=Z,78nm,18.1s,baz=230,slow=32						
TOA1	**Torodi Ar. Sit**	**72.72**	**30**	*e*P	**P**	**05 01 02.2**	**-0.2**
SDV	**Santo Domingo**	**73.24**	**316**	P	**P**	**05 01 05.6**	**-0.1**
	7.4nm,0.8s,baz=211,slow=5.9,SNR=8.4						
SDV				LR	LR	05 35 08.3	
	comp=Z,144nm,18.8s,baz=90,slow=37						
SDV	**Santo Domingo**	**73.24**	**316**	*e*P	**P**	**05 01 06.3**	**+0.5**
	7.4nm,0.8s						
SVB	**Belmont**	**73.93**	**326**	*e*P	**P**	**05 01 09.1**	**-0.4**
	262nm,1.8s						
KMBO	**Kilima Mbogo**	**75.23**	**70**	LR	LR	05 31 29.5	
	comp=Z,82nm,19.0s,baz=108,slow=34						
JTS	**JuntasAbangare**	**80.79**	**303**	LR	LR	05 40 02.8	
	comp=Z,39nm,19.3s,baz=325,slow=38						
ATD	**Arta Tunnel**	**88.83**	**68**	LR	LR	05 38 52.7	
	comp=Z,31nm,21.1s,baz=58,slow=33						
PPT	**Papeete**	**92.21**	**234**	LR	LR	05 35 47.4	
	comp=Z,41nm,19.5s,baz=284,slow=30						
RAR	**Rarotonga**	**93.39**	**224**	LR	LR	05 36 31.3	
	comp=Z,33nm,19.9s,baz=175,slow=30						
KEST	**Kesra**	**96.23**	**30**	LR	LR	05 43 23.1	
	comp=Z,58nm,20.2s,baz=247,slow=34						
NV01	**Mina Array Sit**	**120.73**	**294**	*e*PKPdf	**PKPdf**	**05 08 24.8**	**-1.2**
NVAR	**Mina Array Bea**	**120.73**	**294**	PKP	**PKPdf**	**05 08 24.8**	**-1.2**
	0.3nm,0.5s,baz=143,slow=3.2,SNR=3.1						
FIA0	**FINESS Array S**	**124.02**	**28**	*e*PKPdf	**PKPdf**	**05 08 30.9**	**-0.2**
FINES	**FINESS Array B**	**124.02**	**28**	PKP	**PKPdf**	**05 08 30.9**	**-0.2**
	1.0nm,0.5s,baz=180,slow=1.9,SNR=7.8						
KSH	**Kashi**	**128.82**	**74**	*e*PKP	**PKPdf**	**05 08 42.3**	**+1.0**
ARA0	**ARCESS Array S**	**130.51**	**22**	*e*PKPdf	**PKPdf**	**05 08 42.9**	**-0.5**
ARCES	**ARCESS Array B**	**130.51**	**22**	PKP	**PKPdf**	**05 08 42.9**	**-0.5**
	2.3nm,1.0s,baz=358,slow=2.8,SNR=4.7						
YKA	**Yellowknife Ar**	**135.40**	**319**	PKP	**PKPdf**	**05 08 52.4**	**-0.3**
	0.5nm,0.6s,baz=126,slow=2.2,SNR=9.6						
YKB5	**Yellowknife Ar**	**135.40**	**319**	*e*PKPdf	**PKPdf**	**05 08 52.5**	**-0.2**
GYA	**Guiyang**	**136.32**	**113**	*e*Pdif	**Pdif**	**05 06 00.4**	**-0.6**
GYA				PKP	**PKPdf**	**05 08 56.0**	**+0.2**
GYA				PP	**PP**	**05 11 40.4**	**+3.6**
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
KURBB	**Kurchatov Arra**	**137.43**	**65**	PKP	**PKPdf**	**05 08 58.2**	**+1.3**
	0.2nm,0.6s,baz=242,slow=2.8,SNR=3.0						
KURK	**Kurchatov**	**137.53**	**64**	*e*PKPdf	**PKPdf**	**05 08 58.2**	**+1.1**
WMQ	**Urumqi**	**138.21**	**78**	*e*PKP	**PKPdf**	**05 08 58.9**	**+0.2**
CD2	**Chengdu**	**138.26**	**106**	PKP	**PKPdf**	**05 08 59.4**	**+0.2**
HYT	**Haines Junctio**	**144.05**	**308**	*e*PKPbc	PKPbc	05 09 06.9	+0.2
PCA	**Pinnacle**	**145.01**	**306**	*e*PKPbc	**PKPdf**	**05 09 11.3**	**+1.0**
INK	**Inuvik**	**145.02**	**321**	PKPbc	**PKPdf**	**05 09 10.0**	**0.0**
	20nm,0.9s,baz=96,slow=3.4,SNR=73						
INK	**Inuvik**	**145.02**	**321**	*e*PKPbc	**PKPdf**	**05 09 09.8**	**-0.1**
DAWY	**Dawson**	**145.03**	**313**	*e*PKPdf	**PKPbc**	**05 09 12.8**	**-0.1**
NJ2	**Nanjing**	**147.05**	**121**	*e*PKPbc	**PKPbc**	**05 09 16.5**	**-0.2**
DOT	**Dot Lake**	**147.89**	**311**	*e*PKPbc	**PKPbc**	**05 09 19.0**	**+0.9**
KLU	**Klutina**	**148.10**	**307**	*e*PKPbc	**PKPbc**	**05 09 19.9**	**+1.2**
RIDG	**Independ'e Rid**	**148.25**	**311**	*e*PKPbc	**PKPbc**	**05 09 20.0**	**+0.9**
PAX	**Paxson**	**148.32**	**309**	*e*PKPbc	**PKPbc**	**05 09 19.8**	**+0.5**
IL1	**Eielson Array**	**149.35**	**313**	*e*PKPbc	**PKPbc**	**05 09 21.7**	**0.0**
ILAR	**Eielson Array**	**149.35**	**313**	PKPbc	**PKPbc**	**05 09 21.9**	**+0.1**
	5.5nm,0.8s,baz=127,slow=2.4,SNR=58						
ILB	**Eielson Array**	**149.35**	**313**	*e*PKPbc	**PKPbc**	**05 09 21.9

DSTT	**Stowe**	**0.84**	**285**	*e*P	Pn	05 10 01.9	+2.0
DBCT	**Belle View Cho**	**0.88**	**285**	*e*P	Pn	05 10 01.6	+1.1
DBCT	**Belle View Cho**	**0.88**	**285**	*e*P	Pn	05 10 02.6	+2.1
DBCT				*e*S	Sn	05 10 15.4	+2.8
DSHT	**Scott's Head**	**0.90**	**281**	*e*P	Pn	05 10 02.8	+2.1
MDN	**Morne-Daniel**	**0.94**	**288**	*e*P	Pn	05 10 02.4	+1.2
MDN	**Morne-Daniel**	**0.94**	**288**	*e*P	Pn	05 10 03.4	+2.2
MDN				*e*S	Sn	05 10 15.8	+1.9
MDMP	**Dominica, Moor**	**1.07**	**301**	*e*P	Pn	05 10 04.4	+1.5
MDMP				*e*S	Sn	05 10 18.8	+1.9
BBL	**Barber's Block**	**1.08**	**297**	*e*P	Pn	05 10 05.2	+2.1
BBL				*e*S	Sn	05 10 20.0	+2.6
MDPO	**Dominica; Chan**	**1.09**	**300**	*e*P	Pn	05 10 04.5	+1.3
MDPO				*e*S	Sn	05 10 18.9	+1.4
MDPV	**Dominica, Penn**	**1.09**	**303**	*e*S	Sn	05 10 19.9	+2.4
SLW	**Petit Monier**	**1.11**	**204**	*e*P	Pn	05 10 04.3	+0.9
MGG	**Marie-Galante**	**1.20**	**317**	*e*P	Pn	05 10 06.2	+1.6
MGG				*e*S	Sn	05 10 22.6	+2.5
SLB	**Belfond**	**1.32**	**205**	*e*P	Pn	05 10 07.5	+1.2
SLB				*e*S	Sn	05 10 24.8	+1.7
DEG	**La Desirade**	**1.39**	**336**	*e*P	Pn	05 10 08.4	+1.2
MCLT	**Moule a Chique**	**1.40**	**199**	*e*P	Pn	05 10 09.1	+1.8
MCLT				*e*S	Sn	05 10 27.9	+3.1
TBG	**Guadaloupe-3**	**1.40**	**306**	*e*P	Pn	05 10 08.7	+1.5
TBG				*e*S	Sn	05 10 26.3	+1.6
PHG	**Guadaloupe-2**	**1.50**	**311**	*e*P	Pn	05 10 10.7	+2.0
SSG	**Sans Toucher**	**1.57**	**312**	*e*P	Pn	05 10 11.3	+1.6
LZG	**Guadaloupe-1**	**1.67**	**311**	*e*P	Pn	05 10 13.6	+2.6
SVV	**Soufriere Volc**	**1.86**	**203**	*e*P	Pn	05 10 15.4	+1.9
SVV				*e*S	Sn	05 10 37.3	+1.4
SVCV	**St. Vincent, C**	**1.87**	**201**	*e*P	Pn	05 10 14.6	+0.9
SVCV				*e*S	Sn	05 10 37.9	+1.6
SVB	**Belmont**	**1.91**	**204**	*e*P	Pn	05 10 15.6	+1.3
SVB				*e*S	Sn	05 10 39.5	+2.2

IDC 13 05:23:33.5±3.2, 6°13S×146°71E, h0km, mb2.8/1, mb1 3.5/3, mb1mx3.1/52, mbtmp3.3/3, ML2.5/2, Error ellipse: s-maj=62.0km s-min=38.9km az=82.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.28**	**172**	Pn	Pn	05 24 26.4	+0.2
	4.6nm,0.3s,baz=358,slow=16,SNR=4.7						
PMG				Sn	Sn	05 25 06.8	+0.8
	4.8nm,0.3s,baz=346,slow=16,SNR=4.5						
WRA	**Warramunga Arr**	**18.25**	**220**	P	Pn	05 27 47.5	-0.8
	0.1nm,0.3s,baz=44,slow=12,SNR=6.8						
ASAR	**Alice Springs**	**21.34**	**214**	P	P	05 28 22.1	-0.4
	0.4nm,0.8s,baz=48,slow=9.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**144.84**	**284**	PKP	PKPdf	05 43 13.8	+0.2
	0.8nm,0.7s,baz=87,slow=3.9,SNR=5.4						

*IDC **13** 05:24:19.4±8.2, 32°.06S×179°.87E, h350km±94km, mb2.7/2, mb1 3.1/3, mb1mx2.9/42, mbtmp3.7/3, Error ellipse: s-maj=105.7km s-min=45.3km az=1.0*
*ISCJB **13** 05:24:23.3±1.0, 32°.32S±0°.07×179°.7E±0°.2, h400km, mb2.9/2, Error ellipse: s-maj=23.4km s-min=9.0km az=6.3*
*WEL **13** 05:24:27.6±0.9, 32°.S±18°×17°.9E±2°.6, h342km±32km*

ISC 13 05:24:25.6±1.8, 32°.5S±0°.1×179°.5E±0°.2, h400km, n57, σ1§36/58, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.19**	**191**	P	**Pn**	**05 25 51.6**	**+2.2**
MXZ	**Matakaoa Point**	**5.19**	**191**	S	**S**	**05 26 55.8**	**-1.9**
WMGZ	**Waiomatatini S**	**5.42**	**189**	P	**Pn**	**05 25 52.4**	**+0.5**
HAZ	**Te Kaha**	**5.47**	**195**	P	**Pn**	**05 25 52.3**	**0.0**
HAZ	**Te Kaha**	**5.47**	**195**	S	**S**	**05 27 01.5**	**-1.7**
PKGZ	**Pakihiroa**	**5.54**	**195**	P	**Pn**	**05 25 55.6**	**+2.3**
RUGZ	**Raukumara Rang**	**5.70**	**195**	P	**Pn**	**05 25 56.4**	**+1.5**
TWGZ	**Tauwhareparae**	**5.84**	**192**	P	**Pn**	**05 25 57.5**	**+1.1**
MWZ	**Matawai**	**6.08**	**195**	P	**Pn**	**05 25 59.1**	**0.0**
URZ	**Urewera**	**6.11**	**198**	P	**Pn**	**05 25 58.7**	**-0.5**
	8.0nm,0.3s,baz=272,slow=5.5,SNR=38						
URZ				S	**S**	**05 27 14.2**	**-1.5**
	7.4nm,0.3s,baz=319,slow=23,SNR=19						
URZ	**Urewera**	**6.11**	**198**	P	**Pn**	**05 25 56.7**	**-2.6**
URZ	**Urewera**	**6.11**	**198**	S	**S**	**05 27 13.2**	**-2.5**
TKGZ	**Te Karaka**	**6.12**	**193**	P	**Pn**	**05 25 58.5**	**-0.9**
TOZ	**Tahuroa Road**	**6.21**	**211**	P	**Pn**	**05 25 57.0**	**-3.3**
RIGZ	**Rimuhau**	**6.39**	**193**	P	**Pn**	**05 26 03.1**	**+0.7**
MUGZ	**Murupara**	**6.41**	**200**	P	**Pn**	**05 26 01.4**	**-1.2**
MUGZ	**Murupara**	**6.41**	**200**	S	**S**	**05 27 22.7**	**+0.9**
HRRZ	**Handcock Road**	**6.48**	**203**	P	**Pn**	**05 26 06.4**	**+3.0**
RTZ	**Ruatahuna**	**6.48**	**198**	P	**Pn**	**05 26 04.6**	**+1.1**
ALRZ	**Allen Road**	**6.62**	**202**	P	**Pn**	**05 26 07.0**	**+2.1**
TLZ	**Tolley Road**	**6.70**	**208**	P	**Pn**	**05 26 04.8**	**-1.1**
KNZ	**Kokohu**	**6.72**	**192**	P	**P**	**05 26 06.5**	**0.0**
RAHZ	**Arahi**	**6.74**	**196**	P	**P**	**05 26 06.6**	**-0.2**
RAHZ	**Arahi**	**6.74**	**196**	S	**S**	**05 27 29.9**	**+1.4**
MTHZ	**Maungataniwha**	**6.74**	**198**	P	**P**	**05 26 07.2**	**+0.3**
MHGZ	**Mahia Peninsul**	**6.80**	**191**	P	**P**	**05 26 08.0**	**+0.5**
NMHZ	**Naumai**	**6.98**	**198**	P	**P**	**05 26 10.1**	**+0.5**
ARHZ	**Aropaoanui**	**7.09**	**196**	P	**P**	**05 26 10.6**	**-0.1**
BKZ	**Black Stump Fm**	**7.13**	**199**	P	**P**	**05 26 10.8**	**-0.4**
BKZ	**Black Stump Fm**	**7.13**	**199**	S	**S**	**05 27 36.6**	**+0.1**
HIZ	**Hauiti**	**7.14**	**211**	P	**P**	**05 26 15.8**	**+4.5**
MCHZ	**McNeill Hill**	**7.34**	**197**	P	**P**	**05 26 14.5**	**+1.0**
WTVZ	**West Tongariro**	**7.37**	**205**	P	**P**	**05 26 15.0**	**+1.0**
KWHZ	**Kaweka Forest**	**7.39**	**199**	P	**P**	**05 26 13.7**	**-0.4**
KWHZ	**Kaweka Forest**	**7.39**	**199**	S	**S**	**05 27 43.1**	**+1.2**
NGZ	**Ngauruhoe**	**7.42**	**204**	P	**P**	**05 26 15.9**	**+1.4**
CKHZ	**Cape Kidnapper**	**7.45**	**195**	P	**P**	**05 26 15.8**	**+1.1**
TUVZ	**Tukino**	**7.48**	**204**	P	**P**	**05 26 15.8**	**+0.6**
FWVZ	**Far West T-bar**	**7.51**	**204**	P	**P**	**05 26 16.4**	**+0.8**
BHHZ	**Black Hill Sta**	**7.55**	**201**	P	**P**	**05 26 15.6**	**-0.4**
BHHZ	**Black Hill Sta**	**7.55**	**201**	S	**S**	**05 27 45.1**	**-0.2**
MOVZ	**Moawhango**	**7.58**	**203**	P	**P**	**05 26 15.9**	**-0.3**
MOVZ	**Moawhango**	**7.58**	**203**	S	**S**	**05 27 45.9**	**0.0**
PNHZ	**Pukenui**	**7.91**	**199**	P	**Pn**	**05 26 18.8**	**-0.7**
TSZ	**Takapari Road**	**8.11**	**200**	P	**Pn**	**05 26 21.3**	**-0.4**
PRHZ	**Porangahau**	**8.13**	**196**	P	**P**	**05 26 22.4**	**+0.2**
DVHZ	**Dannevirke**	**8.28**	**198**	P	**P**	**05 26 23.7**	**-0.2**
ANWZ	**Angora Road**	**8.35**	**196**	P	**P**	**05 26 25.4**	**+0.7**
PRWZ	**Pori Road**	**8.57**	**199**	P	**P**	**05 26 27.9**	**+0.7**
BFZ	**Birch Farm**	**8.62**	**197**	P	**Pn**	**05 26 26.7**	**-0.8**
MRZ	**Mangatainoka R**	**8.78**	**200**	P	**Pn**	**05 26 28.7**	**-0.6**
HOWZ	**Holdsworth Sta**	**9.01**	**200**	P	**Pn**	**05 26 31.6**	**-0.4**
TMWZ	**Te Maipa**	**9.11**	**198**	P	**P**	**05 26 33.0**	**-0.1**
MTW	**Mount Morrison**	**9.26**	**199**	P	**Pn**	**05 26 35.0**	**+0.1**
ASAR	**Alice Springs**	**40.95**	**270**	P	**P**	**05 31 31.9**	**+0.5**
	0.1nm,0.3s,baz=103,slow=8.0,SNR=2.4						
WRA	**Warramunga Arr**	**42.13**	**276**	P	**P**	**05 31 40.4**	**-0.5**
	0.4nm,0.4s,baz=112,slow=8.0,SNR=8.4						
FINES	**FINESS Array B**	**146.29**	**337**	PKPbc	**PKPdf**	**05 43 16.6**	**-0.7**
	3.6nm,1.1s,baz=48,slow=2.1,SNR=4.9						

MEX 13 05:52:24.8±0.5, 14°.93N×93°.18W, h54km±12km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.77**	**357**	*i* P	Pn	05 52 38.2	-1.5
PCIG				*i* S	Sn	05 52 48.6	-1.9
CCIG	**Comitan**	**1.68**	**37**	*e*P	Pn	05 52 51.1	-0.9
CCIG				*i* S	Sn	05 53 10.7	-1.8
TGIG		**1.84**	**2**	*e*P	Pn	05 52 52.4	-1.6
TGIG				*e*S	Sn	05 53 13.5	-2.7

IDC 13 06:22:15.0±554.0, 53°.71N×127°.97E, h0km, Error ellipse: s-maj=312.3km s-min=177.7km az=151.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**9.87**	**163**	*i*		07 22 45.0	
	baz=347,slow=334,SNR=2.8						
I44RU	**PETROPAVLOVSK**	**17.69**	**80**	*i*		08 10 30.0	
	baz=285,slow=336,SNR=0.5						
I30JP	**ISUMI INFRASON**	**20.34**	**150**	*i*		08 30 00.0	
	baz=336,slow=328,SNR=0.4						

IDC 13 06:26:40.1±17.0, 22°.06S×66°.98W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/32, mbtmp3.8/2, Error ellipse: s-maj=715.1km s-min=59.9km az=18.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**75.86**	**69**	P	P	06 38 28.6	-0.2
	0.5nm,0.4s,baz=254,slow=5.5,SNR=13						
YKA	**Yellowknife Ar**	**92.31**	**340**	P	P	06 39 51.4	-0.4
	0.3nm,0.6s,baz=129,slow=4.7,SNR=8.8						
MKAR	**Makanchi Array**	**145.00**	**38**	PKPbc	PKPbc	06 46 18.6	0.0
	0.5nm,0.6s,baz=318,slow=3.7,SNR=7.0						

*ISCJB **13** 06:41:40.3±0.6, 67°.80N±0°.03×20°.28E±0°.10, h0km, Error ellipse: s-maj=5.4km s-min=3.7km az=170.2*
*UPP **13** 06:41:40.8, 67°.82N×20°.21E, h0km, ML2.5, Suspected Mining explosion.*
*CSEM **13** 06:41:40.5±0.3, 67°.80N×20°.27E, h2km, ML2.5, Error ellipse: s-maj=6.1km s-min=5.3km az=58.0, Mining explosion.*
*HEL **13** 06:41:41.4±0.0, 67°.82N×20°.21E, h0km, ML1.7, ML2.5(UPP), Explosion*

ISC 13 06:41:40.9±0.9, 67°.83N±0°.02×20°.23E±0°.03, h0km, n38, σ0§96/53, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**17**	P	**Pg**	**06 41 43.8**	**+0.3**
KUA				S	**Sg**	**06 41 45.8**	**+0.6**
KUA	**Kurravaara**	**0.14**	**17**	P	**Pg**	**06 41 43.8**	**+0.3**
KUA				S	**Sg**	**06 41 45.8**	**+0.6**
KUA	**Kurravaara**	**0.14**	**17**	*i* P	**Pg**	**06 41 43.8**	**+0.3**
KUA				*i* S	**Sg**	**06 41 45.8**	**+0.6**
RATU	**Laukkuluspa**	**0.24**	**270**	P	**Pg**	**06 41 45.5**	**0.0**
RATU	**Laukkuluspa**	**0.24**	**270**	P	**Pg**	**06 41 45.5**	**0.0**
RATU	**Laukkuluspa**	**0.24**	**270**	*i* P	**Pg**	**06 41 45.5**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**276**	P	**Pg**	**06 41 49.4**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**276**	P	**Pg**	**06 41 49.4**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**276**	*i* P	**Pg**	**06 41 49.4**	**-0.2**
LANU	**Lannavaara**	**0.70**	**70**	P	**Pg**	**06 41 54.2**	**-0.1**
LANU				S	**Sg**	**06 42 03.7**	**+0.4**
LANU	**Lannavaara**	**0.70**	**70**	P	**Pg**	**06 41 54.2**	**-0.1**
LANU	**Lannavaara**	**0.70**	**70**	*e*P	**Pg**	**06 41 54.1**	**-0.1**
LANU				*e*S	**Sg**	**06 42 03.7**	**+0.4**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**06 41 54.4**	**-0.2**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**06 41 54.4**	**-0.2**
DUNU	**Dundret**	**0.72**	**169**	*i* P	**Pg**	**06 41 54.4**	**-0.2**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pg**	**06 41 55.4**	**-0.2**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pg**	**06 41 55.5**	**-0.2**
MASU	**Masugnsbyn**	**0.77**	**118**	*i* P	**Pg**	**06 41 55.5**	**-0.2**
KIF	**Kilpisjarvi**	**1.20**	**10**	Pb	**Pb**	**06 42 04.3**	**-0.2**
KIF				Sb	**Sg**	**06 42 20.0**	**+0.5**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PB	**Pb**	**06 42 04.3**	**-0.2**
KIF				MSG		06 42 19.3	
	comp=Z,8.4nm,0.2s						
KIF				*e*SB	**Sg**	**06 42 20.0**	**+0.5**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**06 42 06.1**	**-1.0**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**06 42 06.1**	**-1.0**
PAJU	**Pajala**	**1.37**	**125**	*e*P	**Pg**	**06 42 06.1**	**-1.0**
HEF	**Hetta**	**1.41**	**64**	P	**Pn**	**06 42 04.9**	**-2.9**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**06 42 05.0**	**-2.9**
HEF				MSG		06 42 23.4	
	comp=Z,4.8nm,0.2s						
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**06 42 08.0**	**-0.8**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**06 42 08.0**	**-0.8**
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	**Pn**	**06 42 08.0**	**-0.8**
KALU	**Kalix**	**2.33**	**147**	Pb	**Pn**	**06 42 21.4**	**+1.1**
KALU				Sb	**Sb**	**06 42 51.7**	**-1.2**
KALU	**Kalix**	**2.33**	**147**	*e*PB	**Pn**	**06 42 21.5**	**+1.1**
KALU				*e*SB	**Sb**	**06 42 51.7**	**-1.2**
TOF	**Tornio**	**2.38**	**136**	Pb	**Pn**	**06 42 22.5**	**+1.5**
TOF				Sb	**Sb**	**06 42 53.3**	**-1.1**
TOF	**Tornio**	**2.38**	**136**	*e*PB	**Pn**	**06 42 22.6**	**+1.5**
TOF				MSG		06 42 50.4	
	comp=Z,4.0nm,0.2s						
TOF				*e*SB	**Sb**	**06 42 53.4**	**-1.1**
SGF	**Sodankyl**	**2.44**	**96**	P	**Pn**	**06 42 23.1**	**+1.2**
SGF				Sg	**Sb**	**06 42 56.8**	**+0.8**
SGF	**Sodankyl**	**2.44**	**96**	*e*P	**Pn**	**06 42 23.1**	**+1.2**
	baz=278						
SGF				*e*SG	**Sb**	**06 42 56.9**	**+0.8**
ARE0	**ARCESS Array S**	**2.58**	**46**	P	**Pn**	**06 42 24.4**	**+0.5**
ARE0				Sb	**Sb**	**06 42 58.9**	**-1.3**
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P	**Pn**	**06 42 24.4**	**+0.5**
ARE0				*e*SB	**Sb**	**06 42 58.9**	**-1.3**
KU6	**Riekki**	**4.21**	**111**	Pg	**Pb**	**06 42 56.7**	**+1.0**
KU6	**Riekki**	**4.21**	**111**	*e*PG	**Pb**	**06 42 56.8**	**+1.0**
	baz=301						

*IDC **13** 06:50:00.2±1.4, 37°.89N×13°.83E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.2/61, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=25.0km s-min=9.5km az=55.0*
*ISCJB **13** 06:50:02.7±0.3, 37°.68N±0°.03×14°.04E±0°.03, h29km, mb3.6/2, Error ellipse: s-maj=4.3km s-min=3.0km az=24.1*
*CSEM **13** 06:50:02.6±0.2, 37°.69N×14°.03E, h36km±2km, ML3.9/7, Error ellipse: s-maj=5.7km s-min=3.5km az=16.0*
*LDG **13** 06:50:02.1, 37°.69N×14°.02E, h42km*
*ROM **13** 06:50:02.4±0.1, 37°.69N×14°.04E, h36km±1km, Ml3.7/21, Error ellipse: s-maj=2.6km s-min=1.9km az=23.0*

ISC 13 06:50:02.4±0.8, 37°.72N±0°.03×14°.04E±0°.02, h29km, n75, σ1§67/95, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RESU	**Resuttano**	**0.08**	**172**	Pg	**Pb**	**06 50 08.0**	**+0.5**
RESU				Sg	**Sb**	**06 50 13.9**	**+2.9**
	24µm,0.9s						
RESU	**Resuttano**	**0.08**	**172**	Pg	**Pb**	**06 50 08.0**	**+0.5**
RESU				Sg	**Sb**	**06 50 13.9**	**+2.9**
	24µm,0.9s						
ALJA	**Alia**	**0.23**	**277**	Pg	**Pn**	**06 50 09.2**	**-0.7**
ALJA				Sg	**Sb**	**06 50 15.4**	**+2.1**
	6µm,0.4s						
ALJA	**Alia**	**0.23**	**277**	Pg	**Pn**	**06 50 09.2**	**-0.7**
ALJA				Sg	**Sb**	**06 50 15.4**	**+2.1**
	6µm,0.4s						
GIB	**Gibilmanna**	**0.27**	**357**	Pg	**Pn**	**06 50 09.9**	**-0.6**
GIB				Sg	**Sn**	**06 50 17.0**	**+1.3**
	13µm,0.8s						
GIB	**Gibilmanna**	**0.27**	**357**	Pg	**Pn**	**06 50 09.9**	**-0.6**
GIB				Sg	**Sn**	**06 50 17.0**	**+1.3**
	13µm,0.8s						
PLLN	**Pollina**	**0.28**	**16**	Pg	**Pn**	**06 50 10.1**	**-0.5**
PLLN				Sg	**Sn**	**06 50 17.3**	**+1.4**
	9µm,0.7s						
PLLN	**Pollina**	**0.28**	**16**	Pg	**Pn**	**06 50 10.1**	**-0.5**
PLLN				Sg	**Sn**	**06 50 17.3**	**+1.4**
	9µm,0.7s						
MCT	**Mte Cammarata**	**0.34**	**255**	Pg	**Pn**	**06 50 11.4**	**-0.1**
MCT	**Mte Cammarata**	**0.34**	**255**	Pg	**Pn**	**06 50 11.4**	**-0.1**
CAGR	**Agira**	**0.38**	**105**	Pg	**Pn**	**06 50 12.2**	**+0.3**
CAGR	**Agira**	**0.38**	**105**	Pg	**Pn**	**06 50 12.2**	**+0.3**
VAE	**Valguarnera**	**0.38**	**130**	Pg	**Pn**	**06 50 11.8**	**-0.2**
	57nm,0.3s,baz=152,slow=13,SNR=28						
VAE				Lg	Lg	06 50 20.2	
	142nm,0.3s,baz=27,slow=9.0,SNR=21						
GALF	**Gagliano Caste**	**0.41**	**91**	Pg	**Pn**	**06 50 12.3**	**-0.1**
	4µm,0.6s						
GALF	**Gagliano Caste**	**0.41**	**91**	Pg	**Pn**	**06 50 12.3**	**-0.1**
	4µm,0.6s						
ECNV	**Catenanuova**	**0.55**	**103**	Pg	**Pn**	**06 50 14.4**	**+0.2**
	5µm,0.9s						
ECNV	**Catenanuova**	**0.55**	**103**	Pg	**Pn**	**06 50 14.4**	**+0.2**
	5µm,0.9s						
SOLUN	**Solunto**	**0.55**	**313**	Pg	**Pn**	**06 50 13.8**	**-0.4**
SOLUN				Sg	**Sn**	**06 50 23.3**	**+0.9**
	4µm,0.9s						
SOLUN	**Solunto**	**0.55**	**313**	Pg	**Pn**	**06 50 13.8**	**-0.4**
SOLUN				Sg	**Sn**	**06 50 23.3**	**+0.9**
	4µm,0.9s						
CLTB	**Caltabellotta**	**0.67**	**258**	Pg	**Pn**	**06 50 16.5**	**+0.5**
	4µm,0.5s						
CLTB	**Caltabellotta**	**0.67**	**258**	Pg	**Pn**	**06 50 16.5**	**+0.5**
	4µm,0.5s						
MPG	**Monte Pellegri**	**0.70**	**309**	Pg	**Pn**	**06 50 16.2**	**-0.1**
MPG				Sg	**Sn**	**06 50 27.4**	**+1.3**
	1µm,1.0s						
MPG	**Monte Pellegri**	**0.70**	**309**	Pg	**Pn**	**06 50 16.2**	**-0.1**
MPG				Sg	**Sn**	**06 50 27.4**	**+1.3**
	1µm,1.0s						
MUCR	**Ucria**	**0.73**	**64**	Pg	**Pn**	**06 50 17.1**	**+0.3**
	2µm,0.5s						
MUCR	**Ucria**	**0.73**	**64**	Pg	**Pn**	**06 50 17.1**	**+0.3**
	2µm,0.5s						
HVZN	**Vizzini**	**0.76**	**135**	Pg	**Pb**	**06 50 16.3**	**-0.8**
HVZN				Sg	**Sn**	**06 50 28.4**	**+0.6**
	15µm,0.8s						
HVZN	**Vizzini**	**0.76**	**135**	Pg	**Pb**	**06 50 16.3**	**-0.8**
HVZN				Sg	**Sn**	**06 50 28.4**	**+0.6**
	15µm,0.8s						
CRJA	**Costa Raja**	**0.83**	**276**	Pg	**Pb**	**06 50 19.0**	**+0.8**
CRJA	**Costa Raja**	**0.83**	**276**	Pg	**Pb**	**06 50 19.0**	**+0.8**
MMGO	**Monte Magaggia**	**0.85**	**266**	Pg	**Pb**	**06 50 18.2**	**-0.3**
	309nm,0.5s						
MMGO	**Monte Magaggia**	**0.85**	**266**	Pg	**Pb**	**06 50 18.2**	**-0.3**
	309nm,0.5s						
MFNL	**Monte Finestre**	**0.89**	**275**	Pg	**Pb**	**06 50 19.7**	**+0.4**
MFNL	**Monte Finestre**	**0.89**	**275**	Pg	**Pb**	**06 50 19.7**	**+0.4**
HCRL	**Carlentini**	**0.90**	**119**	Pg	**Pn**	**06 50 18.0**	**-1.1**
	4µm,0.4s						
HCRL	**Carlentini**	**0.90**	**119**	Pg	**Pn**	**06 50 18.0**	**-1.1**
	4µm,0.4s						
NOV	**Novara**	**0.92**	**70**	Pg	**Pb**	**06 50 20.2**	**+0.5**
	2µm,0.5s						
NOV	**Novara**	**0.92**	**70**	Pg	**Pb**	**06 50 20.2**	**+0.5**
	2µm,0.5s						
IFIL	**Filicudi I Eol**	**0.94**	**26**	Pg	**Pn**	**06 50 19.2**	**-0.4**
	113µm,24.0s						
IFIL	**Filicudi I Eol**	**0.94**	**26**	Pg	**Pn**	**06 50 19.2**	**-0.4**
	113µm,24.0s						
MEU	**Monte Lauro**	**0.94**	**131**	Pg	**Pn**	**06 50 18.0**	**-1.7**
	2µm,0.2s						
MEU	**Monte Lauro**	**0.94**	**131**	Pg	**Pn**	**06 50 18.0**	**-1.7**
	2µm,0.2s						
HMDC	**Modica**	**0.96**	**142**	Pg	**Pn**	**06 50 19.1**	**-0.9**
HMDC				Sg	**Sb**	**06 50 32.9**	**0.0**
	5µm,0.4s						
HMDC	**Modica**	**0.96**	**142**	Pg	**Pn**	**06 50 19.1**	**-0.9**
HMDC				Sg	**Sb**	**06 50 32.9**	**0.0**
	5µm,0.4s						
MMME	**Mongiuffi-Meli**	**0.98**	**77**	Pg	**Pb**	**06 50 20.7**	**-0.1**
	2µm,0.8s						
MMME	**Mongiuffi-Meli**	**0.98**	**77**	Pg	**Pb**	**06 50 20.7**	**-0.1**
	2µm,0.8s						
LLI	**Lipari**	**1.02**	**44**	Pg	**Pn**	**06 50 20.8**	**+0.1**
	6µm,0.3s						
LLI	**Lipari**	**1.02**	**44**	Pg	**Pn**	**06 50 20.8**	**+0.1**
	6µm,0.3s						
MTGR	**Montagna Grand**	**1.03**	**280**	Pg	**Pb**	**06 50 21.2**	**-0.4**
	293nm,0.4s						
MTGR	**Montagna Grand**	**1.03**	**280**	Pg	**Pb**	**06 50 21.2**	**-0.4**
	293nm,0.4s						
MILZ	**Milazzo**	**1.09**	**59**	Pg	**Pb**	**06 50 22.9**	**+0.4**
	950nm,0.5s						
MILZ	**Milazzo**	**1.09**	**59**	Pg	**Pb**	**06 50 22.9**	**+0.4**
	950nm,0.5s						
MPNC	**Port Mandanici**	**1.12**	**67**	Pg	**Pb**	**06 50 23.2**	**+0.1**
	2µm,0.6s						
MPNC	**Port Mandanici**	**1.12**	**67**	Pg	**Pb**	**06 50 23.2**	**+0.1**
	2µm,0.6s						
HAVL	**Avola**	**1.15**	**131**	Pg	**Pn**	**06 50 21.8**	**-0.7**
	6µm,0.3s						
HAVL	**Avola**	**1.15**	**131**	Pg	**Pn**	**06 50 21.8**	**-0.7**
	6µm,0.3s						
ATN	**Antennamare**	**1.21**	**68**	Pg	**Pb**	**06 50 24.3**	**-0.3**
	949nm,0.6s						
ATN	**Antennamare**	**1.21**	**68**	Pg	**Pb**	**06 50 24.3**	**-0.3**
	949nm,0.6s						
MSRU	**Castanea**	**1.28**	**65**	Pg	**Pb**	**06 50 24.9**	**-0.9**
	1µm,0.8s						
MSRU	**Castanea**	**1.28**	**65**	Pg	**Pb**	**06 50 24.9**	**-0.9**
	1µm,0.8s						
SOI	**Samo**	**1.63**	**77**	Pg	**Pn**	**06 50 29.9**	**+0.8**
	415nm,0.7s						
SOI	**Samo**	**1.63**	**77**	Pg	**Pn**	**06 50 29.9**	**+0.8**
	415nm,0.7s						
CET2	**Cetraro**	**2.34**	**39**	Pg	**Pn**	**06 50 39.2**	**+0.2**
	158nm,0.6s						
CET2	**Cetraro**	**2.34**	**39**	Pg	**Pn**	**06 50 39.2**	**+0.2**
	158nm,0.6s						
KEST	**Kesra**	**4.26**	**244**	Pn	**Pn**	**06 51 06.1**	**+0.7**
	0.

		4.2nm,0.5s							
ZALV	**Zalesovo Beam**		**5.24**	**41**	Pn	**Pn**	**07 30 01.2**	**+2.8**
	1.0nm,0.3s,baz=230,slow=12,SNR=12								
ZALV					Lg	Lg	07 31 28.3		
	0.4nm,0.3s,baz=220,slow=32,SNR=3.9								
I46RU	**ZALESOVO INFRA**		**5.24**	**41**	*i*		08 00 40.0		
	baz=224,slow=316,SNR=3.4								
BVA0	**Borovoye Array**		**6.10**	**302**	⇑Sn	**Sn**	**07 31 23.2**	**+2.4**
	3.0nm,0.6s								
BVA0					⇑Lg	Lg	07 31 55.4		
	4.0nm,0.7s								
BVAR	**Borovoye Array**		**6.10**	**302**	Pn	**Pn**	**07 30 08.4**	**-1.9**
	0.2nm,0.3s,baz=120,slow=15,SNR=2.7								
BVAR					Sn	**Sn**	**07 31 17.3**	**-3.5**
	0.9nm,0.3s,baz=113,slow=22,SNR=11								
BVAR					Lg	Lg	07 31 50.0		
	0.7nm,0.3s,baz=123,slow=29,SNR=4.9								
BRVK	**Borovoye**		**6.17**	**302**	⇑Sn	**Sn**	**07 31 23.2**	**+0.6**
	3.7nm,0.6s								
BRVK					⇑Lg	Lg	07 31 56.5		
	3.5nm,0.6s								
AAK	**Ala-Archa**		**8.12**	**204**	Lg	Lg	07 32 48.2		
	0.1nm,0.3s,baz=319,slow=20,SNR=3.4								

CSEM ***13*** *07:29:22.8±0.2, 38°.59N×44°.03E, h2km, ML3.5, Error ellipse: s-maj=5.3km s-min=4.1km az=129.0*
DDA ***13*** *07:29:22.7, 38°.62N×44°.02E, h7km, Ml3.2*
NSSP ***13*** *07:29:22.3, 38°.55N×44°.03E, h7km, Ms3.4*
ISK ***13*** *07:29:22.5, 38°.66N×43°.94E, h5km, ML3.5/9*

ISC 13 07:29:22.9±1.2, 38°.61N±0°.02×43°.99E±0°.02, h1km±10km, n61, σ1s23/82, 6C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.47**	**260**	*i* P	**Pg**	**07 29 31.7**	**-0.2**
TVAN	**Van**	**0.47**	**260**	P	**Pg**	**07 29 31.7**	**-0.2**
VANB	**Van**	**0.47**	**268**	PG	**Pg**	**07 29 31.7**	**-0.3**
VANB				SG	**Sb**	**07 29 39.9**	**-1.8**
VANB	**Van**	**0.47**	**268**	*e*Pg	**Pg**	**07 29 31.7**	**-0.3**
VANB				*e*Sg	**Sb**	**07 29 39.9**	**-1.8**
CLDR	**Caldiran**	**0.54**	**354**	PG	**Pg**	**07 29 32.1**	**-1.2**
CLDR				SG	**Sg**	**07 29 40.9**	**+0.7**
CLDR	**Caldiran**	**0.54**	**354**	*i* P	**Pg**	**07 29 32.0**	**-1.2**
CLDR				*i* S	**Sb**	**07 29 41.3**	**-2.4**
CLDR	**Caldiran**	**0.54**	**354**	*e*Pg	**Pg**	**07 29 32.1**	**-1.2**
CLDR				*e*Sg	**Pg**	**07 29 40.9**	**+0.7**
CLDR				S	**Sb**	**07 29 41.3**	**-2.4**
BASK	**Baskale_VAN**	**0.56**	**179**	*i* P	**Pg**	**07 29 30.9**	**-2.7**
BASK	**Baskale_VAN**	**0.56**	**179**	P	**Pg**	**07 29 30.9**	**-2.7**
GEVA	**Gevas**	**0.79**	**248**	*i* P	**Pg**	**07 29 36.6**	**-1.5**
GEVA				*i* S	**Sb**	**07 29 50.9**	**0.0**
GEVA	**Gevas**	**0.79**	**248**	P	**Pg**	**07 29 36.6**	**-1.5**
GEVA				S	**Sb**	**07 29 50.9**	**0.0**
DYDN	**Diyadin**	**0.96**	**346**	*i* P	**Pg**	**07 29 40.7**	**-0.7**
DYDN				*i* S	**Sn**	**07 29 58.2**	**-0.1**
DYDN	**Diyadin**	**0.96**	**346**	P	**Pg**	**07 29 40.7**	**-0.7**
DYDN				S	**Sn**	**07 29 58.2**	**-0.1**
ADCV	**BITLIS_Adilcev**	**1.01**	**282**	*i* P	**Pg**	**07 29 42.4**	**0.0**
ADCV	**BITLIS_Adilcev**	**1.01**	**282**	P	**Pg**	**07 29 42.4**	**0.0**
YOVA	**Hakkari_Y`…kse**	**1.05**	**167**	*i* P	**Pg**	**07 29 42.3**	**-0.7**
YOVA	**Hakkari_Y`…kse**	**1.05**	**167**	P	**Pg**	**07 29 42.3**	**-0.7**
HAKT	**HAKKARI**	**1.07**	**192**	*i* P	**Pg**	**07 29 41.6**	**-1.9**
HAKT	**HAKKARI**	**1.07**	**192**	P	**Pg**	**07 29 41.6**	**-1.9**
TUTA	**Tutak**	**1.21**	**311**	*i* P	**Pb**	**07 29 46.1**	**-0.7**
TUTA	**Tutak**	**1.21**	**311**	P	**Pb**	**07 29 46.1**	**-0.7**
AGRB	**Hanur-Agry**	**1.24**	**321**	PN	**Pg**	**07 29 45.9**	**-0.8**
AGRB				SN	**Sn**	**07 30 03.6**	**-1.5**
IGDI	**IGDIR**	**1.26**	**3**	*i* P	**Pn**	**07 29 47.5**	**-0.2**
HYR	**Heyderabad**	**1.29**	**31**	P	**Pg**	**07 29 47.7**	**0.0**
	SNR=37								
NAX	**Nakhchivan**	**1.30**	**64**	⇓P	**Pg**	**07 29 46.7**	**-1.1**
	SNR=14								
NAX				⇓S	**Sn**	**07 30 06.6**	**+0.2**
ARRZ	**Ararat**	**1.36**	**23**	*e*P	**Pb**	**07 29 51.0**	**+1.8**
ARRZ				*e*S	**Sn**	**07 30 11.0**	**+3.2**
CUKT	**Cukurca**	**1.39**	**193**	PN	**Pg**	**07 29 50.7**	**+1.1**
CUKT	**Cukurca**	**1.39**	**193**	*i* P	**Pg**	**07 29 49.9**	**+0.3**
CUKT	**Cukurca**	**1.39**	**193**	P	**Pg**	**07 29 49.9**	**+0.3**
CUKT	**Cukurca**	**1.39**	**193**	*e*Pn	**Pg**	**07 29 50.7**	**+1.1**
SBZ	**Shahbuz**	**1.45**	**57**	P	**Pn**	**07 29 49.3**	**-1.1**
	SNR=54								
ORD	**Ordubad**	**1.59**	**78**	⇓P	**Pn**	**07 29 51.0**	**-1.4**
	SNR=34								
ORD				⇓S	**Sb**	**07 30 14.7**	**+0.7**
EKAR	**Karacoban**	**1.64**	**294**	*i* P	**Pg**	**07 29 54.6**	**+0.3**
EKAR	**Karacoban**	**1.64**	**294**	P	**Pg**	**07 29 54.6**	**+0.3**
GNI	**Garni**	**1.64**	**20**	⇓*i*P	**Pb**	**07 29 54.0**	**-0.2**
GNI				⇑*i*S	**Sg**	**07 30 16.1**	**+0.4**
GNI	**Garni**	**1.64**	**20**	⇓P	**Pb**	**07 29 54.0**	**-0.2**
GNI				S	**Sg**	**07 30 16.1**	**+0.4**
SIRT	**Sirnak**	**1.65**	**228**	PN	**Pb**	**07 29 54.1**	**-0.1**
SIRT				SN	**Sg**	**07 30 17.3**	**+1.3**
SIRT	**Sirnak**	**1.65**	**228**	*e*Pn	**Pb**	**07 29 54.1**	**-0.1**
SIRT				*e*Sn	**Sg**	**07 30 17.3**	**+1.3**
SIRN	**S¨–rnak**	**1.67**	**229**	*i* P	**Pg**	**07 29 55.3**	**+0.3**
SIRN	**S¨–rnak**	**1.67**	**229**	P	**Pg**	**07 29 55.3**	**+0.3**
EATA	**Eleskirt**	**1.71**	**317**	*i* P	**Pb**	**07 29 55.1**	**-0.3**
EATA	**Eleskirt**	**1.71**	**317**	P	**Pb**	**07 29 55.1**	**-0.3**
SRTM	**Siirt_Merkez**	**1.74**	**250**	*i* P	**Pb**	**07 29 55.6**	**-0.2**
SRTM	**Siirt_Merkez**	**1.74**	**250**	P	**Pb**	**07 29 55.6**	**-0.2**
GRS	**Goris**	**2.03**	**63**	⇑*i*P	**Pg**	**07 30 04.0**	**+2.2**
GRS				⇓*i*S	**Sg**	**07 30 32.0**	**+4.0**
KARS	**Kars**	**2.14**	**341**	PN	**Pn**	**07 30 00.0**	**+0.1**
KARS	**Kars**	**2.14**	**341**	*e*Pn	**Pn**	**07 30 00.0**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.33**	**327**	PN	**Pn**	**07 30 02.2**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.33**	**327**	*e*Pn	**Pn**	**07 30 02.2**	**-0.4**
GDB	**GEDABAY**	**2.51**	**32**	⇑P	**Pn**	**07 30 04.8**	**-0.2**
QZX	**Qazax, Azerbai**	**2.67**	**23**	⇓P	**Pn**	**07 30 07.2**	**+0.1**
	SNR=5.1								
QZX				⇑S	**Sb**	**07 30 42.4**	**-2.3**
GANJ	**Ganja**	**2.71**	**41**	⇑P	**Pn**	**07 30 07.4**	**-0.3**
	SNR=11								
GANJ				⇑S	**Sb**	**07 30 44.6**	**-1.5**
AKH	**Akhalkalaki**	**2.82**	**352**	PN	**Pn**	**07 30 10.0**	**+0.6**
AKH	**Akhalkalaki**	**2.82**	**352**	*e*Pn	**Pn**	**07 30 10.0**	**+0.6**
MAZI	**Mazidag**	**3.03**	**249**	PN	**Pn**	**07 30 13.1**	**+1.0**
MAZI	**Mazidag**	**3.03**	**249**	*e*Pn	**Pn**	**07 30 13.1**	**+1.0**
LRK	**Lerik**	**3.40**	**88**	⇓P	**Pn**	**07 30 16.1**	**-1.2**
	SNR=11								
BAYT	**Ayd¨–ntepe-Bay**	**3.47**	**302**	PN	**Pn**	**07 30 18.9**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**3.47**	**302**	*e*Pn	**Pn**	**07 30 18.9**	**+0.6**
PTK	**Pertek**	**3.61**	**276**	PN	**Pn**	**07 30 21.5**	**+1.3**
PTK	**Pertek**	**3.61**	**276**	*e*Pn	**Pn**	**07 30 21.5**	**+1.3**

NSSP ***13*** *07:39:11.6, 38°.50N×43°.95E, h6km, Ms3.2*
ISK ***13*** *07:39:12.6, 38°.63N×44°.12E, h5km, ML3.3/6*
CSEM ***13*** *07:39:13.4±0.4, 38°.57N×44°.10E, h2km, ML3.1, Error ellipse: s-maj=10.4km s-min=5.4km az=87.0*
DDA ***13*** *07:39:13.3, 38°.56N×44°.06E, h7km, Ml3.1*
ISCJB ***13*** *07:39:14.3±0.6, 38°.56N±0°.03×44°.08E±0°.06, h10km, Error ellipse: s-maj=6.7km s-min=3.7km az=179.8*

ISC 13 07:39:15.2±0.8, 38°.57N±0°.02×44°.04E±0°.03, h10km, n54, σ1s76/66, 4C-1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.50**	**265**	*i* P	**Pg**	**07 39 23.7**	**-1.3**
TVAN	**Van**	**0.50**	**265**	P	**Pg**	**07 39 23.7**	**-1.3**
VANB	**Van**	**0.51**	**273**	PG	**Pg**	**07 39 23.8**	**-1.3**
VANB				SG	**Sb**	**07 39 33.6**	**-0.2**
VANB	**Van**	**0.51**	**273**	*e*Pg	**Pg**	**07 39 23.8**	**-1.3**
VANB				*e*Sg	**Sb**	**07 39 33.6**	**-0.2**
BASK	**Baskale_VAN**	**0.52**	**183**	*i* P	**Pg**	**07 39 22.6**	**-2.8**
BASK				*i* S	**Sg**	**07 39 31.8**	**-0.4**
BASK	**Baskale_VAN**	**0.52**	**183**	P	**Pg**	**07 39 22.6**	**-2.8**
BASK				S	**Sg**	**07 39 31.8**	**-0.4**
CLDR	**Caldiran**	**0.58**	**350**	PG	**Pg**	**07 39 24.0**	**-2.5**
CLDR				SG	**Sg**	**07 39 32.2**	**-1.9**
CLDR	**Caldiran**	**0.58**	**350**	*i* P	**Pg**	**07 39 24.2**	**-2.2**
CLDR	**Caldiran**	**0.58**	**350**	*e*Pg	**Pg**	**07 39 24.0**	**-2.5**
CLDR	**Caldiran**	**0.58**	**350**	P	**Pg**	**07 39 24.2**	**-2.2**
CLDR				*e*Sg	**Sg**	**07 39 32.2**	**-1.9**
GEVA	**Gevas**	**0.81**	**252**	*i* P	**Pg**	**07 39 28.7**	**-2.2**
GEVA	**Gevas**	**0.81**	**252**	P	**Pg**	**07 39 28.7**	**-2.2**
YOVA	**Hakkari_Y`…kse**	**1.00**	**169**	*i* P	**Pg**	**07 39 32.6**	**-1.9**
YOVA	**Hakkari_Y`…kse**	**1.00**	**169**	P	**Pg**	**07 39 32.6**	**-1.9**
DYDN	**Diyadin**	**1.01**	**344**	*i* P	**Pg**	**07 39 33.0**	**-1.6**
DYDN	**Diyadin**	**1.01**	**344**	P	**Pg**	**07 39 33.0**	**-1.6**
HAKT	**HAKKARI**	**1.05**	**195**	*i* P	**Pg**	**07 39 33.3**	**-2.0**
HAKT				*i* S	**Sn**	**07 39 56.2**	**+5.2**
HAKT	**HAKKARI**	**1.05**	**195**	P	**Pg**	**07 39 33.3**	**-2.0**
ADCV	**BITLIS_Adilcev**	**1.06**	**283**	*i* P	**Pg**	**07 39 33.9**	**-1.6**
ADCV				*i* S	**Sn**	**07 39 53.2**	**+2.1**
ADCV	**BITLIS_Adilcev**	**1.06**	**283**	P	**Pg**	**07 39 33.9**	**-1.6**
TUTA	**Tutak**	**1.26**	**311**	*i* P	**Pn**	**07 39 37.7**	**-1.5**
TUTA	**Tutak**	**1.26**	**311**	P	**Pn**	**07 39 37.7**	**-1.5**
AGRB	**Hanur-Agry**	**1.29**	**321**	PN	**Pn**	**07 39 38.4**	**-1.1**
AGRB	**Hanur-Agry**	**1.29**	**321**	*e*Pn	**Pn**	**07 39 38.4**	**-1.1**
IGDI	**IGDIR**	**1.29**	**1**	*i* P	**Pn**	**07 39 38.4**	**-1.0**
IGDI				*i* S	**Sg**	**07 39 59.5**	**+2.7**
CUKT	**Cukurca**	**1.37**	**195**	PN	**Pg**	**07 39 40.3**	**-1.1**
CUKT	**Cukurca**	**1.37**	**195**	*i* P	**Pn**	**07 39 38.5**	**-2.0**
CUKT	**Cukurca**	**1.37**	**195**	P	**Pn**	**07 39 38.5**	**-2.0**
CUKT	**Cukurca**	**1.37**	**195**	*e*Pn	**Pg**	**07 39 40.3**	**-1.1**
SIRT	**Sirnak**	**1.66**	**230**	PN	**Pb**	**07 39 45.4**	**-0.4**
SIRT	**Sirnak**	**1.66**	**230**	*e*Pn	**Pb**	**07 39 45.4**	**-0.4**
GNI	**Garni**	**1.67**	**19**	⇑*i*P	**Pg**	**07 39 46.0**	**-1.2**
GNI				⇑*i*S	**Sg**	**07 40 09.9**	**+1.2**
GNI	**Garni**	**1.67**	**19**	⇑P	**Pg**	**07 39 46.0**	**-1.2**
SIRN	**S¨–rnak**	**1.68**	**231**	*i* P	**Pg**	**07 39 47.3**	**0.0**
EKAR	**Karacoban**	**1.69**	**294**	*i* P	**Pg**	**07 39 46.6**	**-0.9**
EKAR	**Karacoban**	**1.69**	**294**	P	**Pg**	**07 39 46.6**	**-0.9**
EATA	**Eleskirt**	**1.76**	**317**	*i* P	**Pb**	**07 39 47.2**	**-0.6**
EATA	**Eleskirt**	**1.76**	**317**	P	**Pb**	**07 39 47.2**	**-0.6**
SRTM	**Siirt_Merkez**	**1.77**	**251**	*i* P	**Pb**	**07 39 47.4**	**-0.3**
SRTM				*i* S	**Sg**	**07 40 14.2**	**+2.3**
SRTM	**Siirt_Merkez**	**1.77**	**251**	P	**Pb**	**07 39 47.4**	**-0.3**
DIGO	**Kars**	**1.91**	**345**	*i* P	**Pb**	**07 39 49.8**	**-0.4**
GRS	**Goris**	**2.01**	**62**	⇑*i*P	**Pg**	**07 39 54.0**	**+0.2**
GRS				⇓*i*S	**Sg**	**07 40 24.0**	**+4.2**
EAK	**Akyaka**	**2.14**	**351**	*i* P	**Pb**	**07 39 54.1**	**0.0**
KARS	**Kars**	**2.18**	**340**	PN	**Pn**	**07 39 50.1**	**-1.6**
KARS	**Kars**	**2.18**	**340**	*e*Pn	**Pn**	**07 39 50.1**	**-1.6**
BTMN	**Batman**	**2.29**	**254**	*i* P	**Pn**	**07 39 51.7**	**-1.3**
BTMN	**Batman**	**2.29**	**254**	P	**Pn**	**07 39 51.7**	**-1.3**
SENK	**Senkaya-Erzuru**	**2.38**	**327**	PN	**Pn**	**07 39 53.6**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.38**	**327**	*e*Pn	**Pn**	**07 39 53.6**	**-0.8**
ERZM	**Erzurum**	**2.47**	**303**	*i* P	**Pg**	**07 40 01.4**	**-1.1**
MAZI	**Mazidag**	**3.05**	**250**	PN	**Pn**	**07 40 04.8**	**+1.3**
MAZI	**Mazidag**	**3.05**	**250**	*e*Pn	**Pn**	**07 40 04.8**	**+1.3**
PTK	**Pertek**	**3.65**	**276**	PN	**Pn**	**07 40 13.8**	**+1.9**
PTK	**Pertek**	**3.65**	**276**	*e*Pn	**Pn**	**07 40 13.8**	**+1.9**

IDC ***13*** *07:49:22.4±1.5, 22°.63S×173°.40E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/38, mbtmp3.9/5, ML3.8/1, MS3.4/14, Ms1 3.4/14, ms1mx3.3/35, Error ellipse: s-maj=58.2km s-min=27.4km az=158.0*
ISCJB ***13*** *07:49:27.2±0.6, 22°.54S±0°.09×173°.26E±0°.07, h44km, mb4.3/8, MS3.5/10, Error ellipse: s-maj=13.0km s-min=8.8km az=169.0*
NEIC ***13*** *07:49:30.0±0.9, 22°.53S×173°.22E, h54km±10km, mb4.4/3, Error ellipse: s-maj=12.1km s-min=8.6km az=155.0*

ISC 13 07:49:29.3±0.7, 22°.5S±0°.1×173°.25E±0°.07, h44km, n34, σ1s57/22, mb3.9/8, MS3.5/10, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.32**	**273**	Pn	**Pn**	**07 51 00.7**	**+0.7**
	2.2nm,0.3s,baz=104,slow=10,SNR=14						
DZM				Sn	**Sn**	**07 52 15.1**	**+4.1**
	0.4nm,0.3s,baz=117,slow=18,SNR=3.0						
DZM				LR	LR	07 52 58.6	
	comp=Z,170nm,20.6s,baz=96,slow=34						
DZM	**Mont Dzumac**	**6.32**	**273**	*e*Pn	**Pn**	**07 51 00.3**	**+0.3**
	11nm,0.2s						
DZM				*e*Sn	**Sn**	**07 52 08.7**	**-2.3**
	7.1nm,0.2s						
DZM				*e*LR	LR	07 52 30.0	
	386nm,25.1s						
DZM	**Mont Dzumac**	**6.32**	**273**	*e*Pn	**Pn**	**07 51 00.8**	**+0.8**
DZM				*e*Sn	**Sn**	**07 52 14.1**	**+3.1**
MSVF	**Nonsavu**	**6.56**	**44**	*e*Pn	**Pn**	**07 51 03.7**	**+0.4**
RAO	**Raoul Island**	**10.39**	**132**	*e*Pn	**Pn**	**07 51 58.4**	**+2.6**
OUZ	**Omahuta**	**12.66**	**179**	*e*Pn	**Pn**	**07 52 25.2**	**-1.4**
LHI	**Lord Howe Isla**	**15.48**	**232**	*e*Pn	**Pn**	**07 53 05.0**	**+0.3**
	57nm,0.9s						
URZ	**Urewera**	**16.03**	**169**	LR	LR	07 57 50.1	
	comp=Z,209nm,20.8s,baz=360,slow=32						
AFI	**Afiamalu**	**16.59**	**61**	LR	LR	07 58 18.5	
	comp=Z,159nm,18.3s,baz=248,slow=32						
HNR	**Honiara**	**18.23**	**313**	LR	LR	07 59 50.3	
	comp=Z,108nm,20.8s,baz=122,slow=34						
RPZ	**Rata Peaks**	**21.21**	**184**	LR	LR	08 01 48.0	
	comp=Z,162nm,19.5s,baz=6.0,slow=35						
RAR	**Rarotonga**	**25.06**	**92**	LR	LR	08 02 25.1	
	comp=Z,34nm,20.5s,baz=268,slow=31						
STKA	**Stephens Creek**	**29.57**	**245**	P	**P**	**07 55 29.4**	**-0.7**
	1.4nm,0.7s,baz=85,slow=11,SNR=3.2						
STKA				LR	LR	08 06 24.3	
	comp=Z,138nm,18.6s,baz=31,slow=34						
STKA	**Stephens Creek**	**29.57**	**245**	*e*P	**P**	**07 55 29.4**	**-0.7**
	0.3nm,0.8s						
STKA				*e*ScS	ScS	08 06 24.3	+17
PPT2	**Papeete2**	**35.20**	**89**	*e*LR	LR	08 05 44.9	
	92nm,24.5s						
AS31	**Alice Springs**	**36.13**	**260**	*e*P	**P**	**07 56 27.4**	**-0.1**
	1.4nm,0.9s						
ASAR	**Alice Springs**	**36.13**	**260**	P	**P**	**07 56 27.4**	**-0.1**
	1.5nm,0.9s,baz=85,slow=8.6,SNR=8.0						
ASAR				LR	LR	08 11 07.7	
	comp=Z,97nm,18.8s,baz=98,slow=36						
WR1	**Warramunga Arr**	**36.29**	**267**	*e*P	**P**	**07 56 28.6**	**-0.3**
	6.6nm,1.1s						
WRA	**Warramunga Arr**	**36.29**	**267**	P	**P**	**07 56 28.6**	**-0.3**
	1.1nm,0.8s,baz=96,slow=8.5,SNR=7.0						
WRA				LR	LR	08 11 07.5	
	comp=Z,44nm,19.1s,baz=135,slow=36						
H11S2	**WAKE ISLAND Hy**	**41.26**	**351**	T	T	08 41 10.2	
	baz=171,slow=76,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**41.27**	**351**	T	T	08 41 10.8	
	baz=171,slow=76,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**41.28**	**351**	T	T	08 41 11.8	
	baz=171,slow=76,SNR=6.8						
TAOE	**Nuku Hiva Isla**	**46.68**	**81**	*e*LR	LR	08 10 56.7	
	60nm,25.1s						
MMRI	**Maumere**	**50.80**	**277**	*e*P	**P**	**07 58 24.0**	**-1.7**
	132nm,0.9s						
UWB	**Uwekahuna B**	**51.80**	**39**	*e*P	**P**	**07 58 32.6**	**-0.5**
	62nm,1.2s						
VNDA	**Vanda**	**55.33**	**183**	LR	LR	08 21 15.2	
	comp=Z,44nm,18.1s,baz=355,slow=35						
MJAR	**Matsushiro Arr**	**67.42**	**330**	LR	LR	08 30 09.6	
	comp=Z,17nm,18.2s,baz=265,slow=36						
JNU	**Nakatsue**	**68.52**	**323**	LR	LR	08 28 31.2	
	comp=Z,16nm,19.7s,baz=116,slow=34						
PETK	**Petropavlovsk-**	**76.52**	**350**	LR	LR	08 32 34.3	
	comp=Z,35nm,18.7s,baz=78,slow=34						
ILAR	**Eielson Array**	**92.29**	**16**	P	**P**	**08 02 34.0**	**-0.2**
	0.5nm,0.9s,baz=216,slow=4.5,SNR=4.7						
PDAR	**Pinedale Array**	**96.13**	**46**	LR	LR	08 41 31.7	
	comp=Z,34nm,18.2s,baz=46,slow=33						
EKA	**Eskdalemuir Ar**	**147.12**	**356**	PKPbc	**PKPbc**	**08 09 07.2**	**0.0**
	1.3nm,0.8s,baz=16,slow=3.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**167.69**	**222**	PKPab	**PKPab**	**08 10 37.2**	**-0.6**
	0.6nm,0.9s,baz=120,slow=2.6,SNR=2.5						
TOA1	**Torodi Ar. Sit**	**167.70**	**222**	*e*PKPab	**PKPab**	**08 10 37.2**	**-0.7**

IDC 13 08:13:46.4±501.0, 50°.65N×143°.28E, h0km, Error ellipse: s-maj=183.2km s-min=138.3km az=58.0, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I44RU	**PETROPAVLOVSK-**	**9.26**	**69**	*i*		09 10 50.0	
	baz=258,slow=339,SNR=2.4						
I45RU	**USSURIYSK INFR**	**10.01**	**234**	*i*		09 16 50.0	
	baz=44,slow=338,SNR=1.7						
I30JP	**ISUMI INFRASON**	**15.49**	**189**	*i*		09 52 40.0	
	baz=6.5,slow=331,SNR=0.4						

DJA 13 08:23:32.5±1.3, 3°.7N±14°.4×99°.4E±1°.4, h10km, M3.5/4, MLv3.5/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.91**	**66**	P	Pn	08 24 18.5	-0.4
TPTI		**3.44**	**87**	P	Pn	08 24 25.6	-0.6
TPTI				S	Sn	08 25 06.9	-0.2
KCSI	**Kotacane, Aceh**	**4.05**	**84**	P	Pn	08 24 35.7	+1.1
KCSI				S	Sn	08 25 24.1	+1.9
GSI	**Gunungsitoli**	**4.21**	**115**	P	Pn	08 24 36.9	0.0

NNC 13 08:28:06.5±4.5, 36°.66N×72°.09E, h0km, mb3.5, mpv3.2, 4C-2D, Error ellipse: s-maj=39.5km s-min=31.2km az=120.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.53**	**18**	⇓Pn	Pn	08 29 02.1	-0.7
	13nm,0.8s						
SFK				⇑Sn	Sn	08 29 46.5	+1.2
	11nm,0.7s						
MNAS	**Manas**	**5.83**	**3**	⇑Pn	Pn	08 29 36.0	+1.7
	1.7nm,0.7s						
MNAS				⇑Sn	Sn	08 30 42.4	+0.5
	2.9nm,1.2s						
KK31	**Karatay Array**	**6.55**	**350**	⇓Pn	Pn	08 29 44.2	+0.1
	0.4nm,0.5s,baz=168,slow=13,SNR=5.4						
KK31				⇑Sn	Sn	08 31 01.6	+2.1
	0.9nm,0.7s,baz=172,slow=25						

IDC ***13*** *08:29:08.9±1.3, 3°.27S×101°.87E, h0km, mb4.0/9, mb1 4.0/9, mb1mx3.8/57, mbtmp4.0/9, Error ellipse: s-maj=68.5km s-min=16.3km az=52.0*
ISCJB ***13*** *08:29:15.1±0.4, 3°.33S±0°.05×101°.81E±0°.05, h66km±4km, mb4.2/18, Error ellipse: s-maj=10.6km s-min=4.0km az=44.1*
DJA ***13*** *08:29:15.5±0.6, 3°.5S±3°×10°.2E±°, h26km±5km, M4.4/14, mB5.3/2, mb4.5/6, MLv4.4/14, Mw(mB)4.7/2*
NEIC ***13*** *08:29:16.4±1.0, 3°.43S×101°.74E, h63km±7km, mb4.5/10, Error ellipse: s-maj=17.9km s-min=5.3km az=54.0*

ISC 13 08:29:15.9±1.0, 3°.37S±0°.06×101°.80E±0°.05, h55km±9km, n58, σ0s91/62, mb4.3/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.50**	**63**	P	**Pn**	**08 29 26.7**	**-0.8**
MASI				S	**Sn**	**08 29 36.1**	**+0.2**
KRJI	**Kerinci**	**1.31**	**345**	P	**Pn**	**08 29 38.4**	**+0.4**
MNAI	**Manna**	**1.52**	**131**	P	**Pn**	**08 29 41.0**	**+0.2**
MNAI	**Manna**	**1.52**	**131**	*e*Pn	**Pn**	**08 29 41.0**	**+0.2**
MNAI				*e*Sn	**Sn**	**08 29 59.1**	**-0.4**
PPSI	**Pulau Pagai**	**1.88**	**289**	P	**Pn**	**08 29 46.5**	**+0.9**
PPSI				S	**Sn**	**08 30 09.1**	**+0.8**
SDSI	**Sungai Dareh**	**2.44**	**351**	P	**Pn**	**08 29 53.8**	**+0.4**
MDSI	**Maura Dua**	**2.62**	**115**	P	**Pn**	**08 29 56.9**	**+1.1**
PDSI	**Padang**	**2.78**	**331**	P	**Pn**	**08 29 58.6**	**+0.6**
PDSI				S	**Sn**	**08 30 29.0**	**-1.3**
LWLI	**Liwa**	**2.79**	**126**	P	**Pn**	**08 30 00.0**	**+1.8**
LWLI				S	**Sn**	**08 30 32.3**	**+1.5**
SISI	**Saibi**	**3.38**	**307**	P	**Pn**	**08 30 06.4**	**+0.2**
KASI	**Kota Agung**	**3.44**	**129**	P	**Pn**	**08 30 08.3**	**+1.3**
KASI				S	**Sn**	**08 30 45.2**	**-1.4**
DSRI	**Dabo**	**3.99**	**44**	P	**Pn**	**08 30 15.3**	**+0.7**
PPBI	**Pangkal Pinang**	**4.50**	**75**	P	**Pn**	**08 30 21.6**	**+0.1**
CGJI	**Cibinong**	**5.05**	**130**	P	**Pn**	**08 30 29.5**

1.0nm,0.3s,baz=182,slow=13,SNR=13
MK31 ⇑Sn Sn 08 51 59.2 -12
2.3nm,0.4s,baz=189,slow=24,SNR=4.4
MKAR Makanchi Array 7.58 2 Pn **Pn 08 50 48.0 +3.0**
0.6nm,0.3s,baz=180,slow=13,SNR=43
MKAR Sn **Sn 08 52 06.4 -4.6**
2.2nm,0.3s,baz=190,slow=24,SNR=15
MAKZ Makanchi 7.60 360 ⇓Pn **Pn 08 50 47.3 +2.2**
5.7nm,0.6s
MAKZ ⇑Pg **Pb 08 51 06.1 -0.1**
4.1nm,0.6s
MAKZ ⇓Sn Sn 08 51 58.5 -13
5.9nm,0.5s
KURBB Kurchatov Arra 11.67 349 Pn **Pn 08 51 41.5 +0.7**
0.1nm,0.3s,baz=169,slow=10,SNR=3.1
ZALV Zalesovo Beam 14.87 7 Pn **Pn 08 52 24.5 -0.1**
0.2nm,0.3s,baz=185,slow=16,SNR=3.1
BVAR Borovoye Array 15.96 334 Pn **Pn 08 52 39.0 +0.1**
0.2nm,0.3s,baz=144,slow=12,SNR=2.5
BRTR Keskin Array B 36.97 287 P **P 08 56 02.9 -1.1**
1.1nm,0.6s,baz=87,slow=8.1,SNR=5.2
TORD Torodi Ar. Bea 74.34 274 P **P 09 00 30.8 -1.7**
0.4nm,0.7s,baz=53,slow=4.9,SNR=2.8
YKA Yellowknife Ar 77.77 8 P **P 09 00 51.6 +0.4**
0.1nm,0.5s,baz=340,slow=5.8,SNR=4.7

IDC ***13*** *08:49:38.0±2.5, 39°.63N×144°.56E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.3/68, mbtmp3.5/5, ML3.0/2, MS2.4/1, Ms1 2.4/1, ms1mx2.0/60, Error ellipse: s-maj=63.1km s-min=28.0km az=79.0*
ISCJB ***13*** *08:49:40.5±0.9, 39°.76N±0°.04×144°.35E±0°.07, h23km, mb3.5/3, Error ellipse: s-maj=8.4km s-min=4.2km az=36.8*
JMA ***13*** *08:49:42.1±0.2, 39°.76N×144°.33E, h42km, M3.2*
ISC 13 08:49:41.2±1.3, 39°.72N±0°.06×144°.43E±0°.08, h23km, n18, σ1§29/30, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.99**	**277**	P	**Pn**	**08 50 12.7**	**-0.7**
JTH				S	**Sn**	**08 50 35.9**	**-1.7**
MIYJ	**Miyakonagasawa**	**2.02**	**267**	P	**Pn**	**08 50 13.7**	**-0.1**
MIYJ				S	**Sn**	**08 50 36.6**	**-1.8**
JANG	**Nango**	**2.33**	**287**	P	**Pn**	**08 50 17.6**	**-0.5**
JANG				S	**Sn**	**08 50 42.9**	**-3.2**
JOM	**Ohasama**	**2.44**	**265**	P	**Pn**	**08 50 20.0**	**+0.4**
JOM				*e*S	**Sn**	**08 50 47.9**	**-0.7**
JMK	**Ichinoseki**	**2.60**	**254**	P	**Pn**	**08 50 22.1**	**+0.3**
JMK				*e*S	**Sn**	**08 50 51.8**	**-0.9**
JNBK	**Urakawa-nobuka**	**2.86**	**334**	P	**Pn**	**08 50 27.0**	**+1.6**
JNBK				*e*S	**Sn**	**08 50 59.6**	**+0.5**
JCH	**Churui**	**3.01**	**345**	P	**Pn**	**08 50 27.6**	**+0.2**
JCH				*e*S	**Sn**	**08 51 01.7**	**-1.0**
JOT	**Ohata**	**3.07**	**304**	P	**Pn**	**08 50 28.8**	**+0.6**
JOT				S	**Sn**	**08 51 03.3**	**-0.9**
JYK	**Kaneyama**	**3.26**	**257**	P	**Pn**	**08 50 31.9**	**+1.1**
JYK				S	**Sn**	**08 51 08.4**	**-0.5**
JAK	**Akkeshi**	**3.28**	**3**	P	**Pn**	**08 50 31.5**	**+0.3**
JAK				S	**Sn**	**08 51 08.7**	**-0.8**
JAR	**Ashorobuto**	**3.61**	**352**	P	**Pn**	**08 50 35.1**	**-0.6**
JAR				S	**Sn**	**08 51 16.3**	**-1.3**
NEM2	**Nemuro 2**	**3.78**	**15**	P	**Pn**	**08 50 37.6**	**-0.4**
NEM2				*e*S	**Sn**	**08 51 18.3**	**-3.4**
ASAJ	**Asahikawa**	**4.61**	**343**	Pn	**Pn**	**08 50 50.8**	**+1.5**
	0.4nm,0.3s,baz=190,slow=11,SNR=2.6						
ASAJ				Sn	**Sn**	**08 51 42.7**	**+0.6**
	0.7nm,0.3s,baz=205,slow=4.2,SNR=3.6						
MJAR	**Matsushiro Arr**	**5.84**	**239**	Pn	**Pn**	**08 51 06.9**	**+0.6**
	0.8nm,0.3s,baz=77,slow=13,SNR=8.8						
JNU	**Nakatsue**	**12.74**	**243**	LR	LR	08 57 46.6	
	comp=Z,16nm,20.1s,baz=138,slow=38						
MKAR	**Makanchi Array**	**44.76**	**300**	P	**P**	**08 57 53.8**	**+1.0**
	0.5nm,0.9s,baz=88,slow=6.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**46.27**	**306**	P	**P**	**08 58 05.8**	**+1.2**
	0.2nm,0.4s,baz=81,slow=8.7,SNR=5.4						
WRA	**Warramunga Arr**	**60.09**	**191**	P	**P**	**08 59 46.3**	**-0.2**
	0.9nm,1.1s,baz=10.0,slow=7.0,SNR=5.3						

DJA 13 09:06:39.1±2.0, 1°S±7°×13°3E±°, h23km±19km, M3.8/4, MLv3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**1.33**	**111**	P	Pn	09 07 01.8	-0.5
RKPI				S	Sn	09 07 19.7	+0.4
SWI	**Sorong**	**1.68**	**276**	P	Pn	09 07 07.7	+0.6
SWI				S	Sn	09 07 28.4	+0.5
FAKI	**Fak Fak**	**1.99**	**200**	P	Pn	09 07 11.5	+0.2

NSSP ***13*** *09:07:42.4, 38°.30N×44°.07E, h5km, Ms3.2*
ISK ***13*** *09:07:43.4, 38°.52N×44°.20E, h2km, ML3.2/5*
CSEM ***13*** *09:07:45.2±0.7, 38°.48N×44°.10E, h2km, ML3.2, Error ellipse: s-maj=18.4km s-min=11.6km az=105.0*
ISC 13 09:07:45.5±1.2, 38°.52N±0°.04×44°.02E±0°.05, h6km, n16, σ1§71/22, 3C, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.50**	**279**	PG	**Pb**	**09 07 55.9**	**-0.9**
VANB				SG	**Sb**	**09 08 05.8**	**+1.4**
VANB	**Van**	**0.50**	**279**	*e*Pg	**Pb**	**09 07 55.9**	**-0.9**
VANB				*e*Sg	**Sb**	**09 08 05.8**	**+1.4**
CLDR	**Caldiran**	**0.63**	**353**	PG	**Pg**	**09 07 56.9**	**-0.8**
CLDR				SG	**Sb**	**09 08 06.9**	**-1.4**
CLDR	**Caldiran**	**0.63**	**353**	*e*Pg	**Pg**	**09 07 56.9**	**-0.8**
CLDR				*e*Sg	**Sb**	**09 08 06.9**	**-1.4**
CUKT	**Cukurca**	**1.31**	**194**	PN	**Pb**	**09 08 09.5**	**-1.1**
CUKT	**Cukurca**	**1.31**	**194**	*e*Pn	**Pb**	**09 08 09.5**	**-1.1**
AGRB	**Hanur-Agry**	**1.32**	**323**	PN	**Pg**	**09 08 10.9**	**-0.1**
AGRB	**Hanur-Agry**	**1.32**	**323**	*e*Pn	**Pg**	**09 08 10.9**	**-0.1**
GURO	**Guroymak-BITLI**	**1.56**	**272**	PN	**Pg**	**09 08 15.3**	**-0.1**
GURO	**Guroymak-BITLI**	**1.56**	**272**	*e*Pn	**Pg**	**09 08 15.3**	**-0.1**
SIRT	**Sirnak**	**1.61**	**231**	PN	**Pg**	**09 08 15.6**	**-0.7**
SIRT	**Sirnak**	**1.61**	**231**	*e*Pn	**Pg**	**09 08 15.6**	**-0.7**
GNI	**Garni**	**1.73**	**19**	⇑*i*P	**Pg**	**09 08 18.6**	**0.0**
GNI				⇑*i*S	**Sg**	**09 08 44.8**	**+3.8**
GNI	**Garni**	**1.73**	**19**	⇑P	**Pg**	**09 08 18.6**	**0.0**
GNI				S	**Sg**	**09 08 44.8**	**+3.8**
SENK	**Senkaya-Erzuru**	**2.42**	**328**	PN	**Pb**	**09 08 27.1**	**-2.4**
SENK	**Senkaya-Erzuru**	**2.42**	**328**	*e*Pn	**Pb**	**09 08 27.1**	**-2.4**

IDC 13 09:23:37.1±4.4, 20°.92S×169°.09E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/37, mbtmp3.6/4, ML3.2/1, MS2.8/3, Ms1 2.8/3, ms1mx2.6/42, Error ellipse: s-maj=197.3km s-min=28.3km az=147.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.72**	**245**	Pn	Pn	09 24 22.4	+0.3
	3.8nm,0.3s,baz=115,slow=14,SNR=68						
DZM				Sn	Sn	09 24 52.1	-3.7
	4.7nm,0.3s,baz=98,slow=19,SNR=4.8						
DZM				LR	LR	09 25 08.5	
	comp=Z,86nm,19.1s,baz=140,slow=34						
AFI	**Afiamalu**	**19.53**	**72**	LR	LR	09 34 18.5	
	comp=Z,27nm,20.3s,baz=312,slow=33						
STKA	**Stephens Creek**	**26.87**	**240**	LR	LR	09 38 51.2	
	comp=Z,30nm,18.3s,baz=23,slow=34						
WRA	**Warramunga Arr**	**32.55**	**265**	P	P	09 30 10.0	-0.2
	0.7nm,0.9s,baz=98,slow=7.9,SNR=5.1						
ASAR	**Alice Springs**	**32.62**	**259**	P	P	09 30 10.4	-0.4
	0.7nm,0.8s,baz=88,slow=9.8,SNR=4.7						
ILAR	**Eielson Array**	**91.87**	**17**	P	P	09 36 45.9	-0.8
	0.3nm,0.6s,baz=238,slow=5.2,SNR=5.7						
EKA	**Eskdalemuir Ar**	**145.15**	**352**	PKPbc	PKPbc	09 43 15.2	-0.6
	1.0nm,0.6s,baz=15,slow=2.9,SNR=5.8						
GERES	**GERESS Array B**	**145.89**	**331**	PKPbc	PKPbc	09 43 18.4	-0.1
	0.4nm,0.2s,baz=60,slow=4.7,SNR=3.8						

MAN 13 09:27:12, 12°.74N×125°.55E, h25km, mb4.3, ML3.1, MS2.9, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.13**	**185**	*e*P	Pn	09 27 32.1	-0.2
BESP				*e*S	Sb	09 27 47.3	0.0
PLP	**Palo**	**1.66**	**200**	⇓*e*P	Pn	09 27 39.7	+0.1
PLP				*i* S	Sb	09 28 01.8	-0.6
OCLP	**Ormoc**	**1.91**	**209**	*e*P	Pb	09 27 44.7	-1.5
MSLP	**Maasin**	**2.67**	**195**	*e*P	Pb	09 27 56.4	-2.8
RCP	**Roxas**	**2.98**	**247**	⇑*e*P	Pn	09 27 58.7	+1.0

BJI ***13*** *09:28:35.4, 36°.48N×70°.59E, h82km, mb4.6/9, mB4.8/4, Ms3.9/2, Ms7 3.8/2*
ISCJB ***13*** *09:28:37.4±0.4, 36°.43N±0°.03×70°.58E±0°.05, h100km, mb4.0/10, Error ellipse: s-maj=5.2km s-min=3.8km az=175.4*
NEIC ***13*** *09:28:37.1±0.6, 36°.27N×70°.64E, h106km±6km, mb4.3/2, Error ellipse: s-maj=7.3km s-min=5.4km az=154.0*
IDC ***13*** *09:28:39.5±5.8, 36°.38N×70°.93E, h102km±45km, mb3.4/6, mb1 3.4/11, mb1mx3.2/65, mbtmp3.7/11, Error ellipse: s-maj=47.3km s-min=25.0km az=52.0*
NNC ***13*** *09:28:39.5±2.8, 36°.81N×70°.37E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=23.1km s-min=18.2km az=156.0*
ISC 13 09:28:38.5±0.7, 36°.42N±0°.06×70°.48E±0°.07, h100km, n53, σ1§32/77, mb4.0/10, 7C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.21**	**212**	*e*Pn	**Pn**	**09 29 12.3**	**-1.8**
KBL				*e*Sn	**Sn**	**09 29 40.5**	**-0.7**
SFK	**Sufi-Kurgan**	**4.30**	**33**	⇑P	**Pn**	**09 29 43.0**	**+0.9**
	9.2nm,0.3s						
SFK				⇑S	**Sn**	**09 30 32.7**	**+1.4**
	20nm,0.3s						
KSH	**Kashi**	**5.33**	**53**	P	Pn	09 29 50.0	-5.8
KSH				S	Sn	09 30 42.8	-13
KSH				smax	smax		
	comp=N,140nm,0.6s						
KSH				smax	smax		
	comp=E,110nm,0.7s						
MNAS	**Manas**	**6.26**	**14**	⇑P	**Pn**	**09 30 09.3**	**+0.9**
	2.9nm,0.5s						
MNAS				⇓S	**Sn**	**09 31 18.4**	**-0.1**
	14nm,0.4s						
KK07	**Karatay Array**	**6.66**	**0**	*e*Pn	**Pn**	**09 30 14.6**	**+0.9**
KK07				*e*Sn	**Sn**	**09 31 30.4**	**+2.3**
KK06	**Karatay Array**	**6.67**	**0**	*e*Pn	**Pn**	**09 30 14.8**	**+0.9**
KK06				*e*Sn	**Sn**	**09 31 28.0**	**-0.3**
KK03	**Karatay Array**	**6.67**	**0**	*e*Pn	**Pn**	**09 30 14.8**	**+0.8**
KK03				*e*Sn	**Sn**	**09 31 28.2**	**-0.3**
KK02	**Karatay Array**	**6.68**	**0**	*e*Pn	**Pn**	**09 30 14.8**	**+0.9**
KK02				*e*Sn	**Sn**	**09 31 28.7**	**+0.2**
KK31	**Karatay Array**	**6.68**	**0**	⇓P	**Pn**	**09 30 14.7**	**+0.8**
	1.8nm,0.3s,baz=181,slow=13,SNR=45						
KK31				⇑S	**Sn**	**09 31 28.0**	**-0.5**
	3.4nm,0.3s,baz=191,slow=25,SNR=7.0						
KK31	**Karatay Array**	**6.68**	**0**	*e*Pn	**Pn**	**09 30 14.9**	**+0.9**
KK31				*e*Sn	**Sn**	**09 31 28.6**	**+0.1**
KKAR	**Karatay Array**	**6.68**	**0**	*e*Pn	**Pn**	**09 30 14.8**	**+0.9**
KKAR				*e*Sn	**Sn**	**09 31 28.3**	**-0.2**
KK08	**Karatay Array**	**6.68**	**0**	*e*Pn	**Pn**	**09 30 14.6**	**+0.6**
KK08				*e*Sn	**Sn**	**09 31 28.2**	**-0.3**
KK01	**Karatay Array**	**6.68**	**0**	*e*Pn	**Pn**	**09 30 14.9**	**+0.9**
KK01				*e*Sn	**Sn**	**09 31 29.1**	**+0.5**
KK04	**Karatay Array**	**6.68**	**0**	*e*Pn	**Pn**	**09 30 14.7**	**+0.7**
KK04				*e*Sn	**Sn**	**09 31 29.2**	**+0.6**
KK05	**Karatay Array**	**6.69**	**0**	*e*Pn	**Pn**	**09 30 14.8**	**+0.7**
KK05				*e*Sn	**Sn**	**09 31 29.4**	**+0.6**
AAK	**Ala-Archa**	**6.94**	**25**	P	**Pn**	**09 30 17.6**	**-0.1**
	1.2nm,0.3s,baz=209,slow=7.3,SNR=14						
AAK				S	**Sn**	**09 31 34.3**	**-0.9**
	1.7nm,0.3s,baz=132,slow=21,SNR=15						
AAK	**Ala-Archa**	**6.94**	**25**	⇓P	**Pn**	**09 30 18.1**	**+0.4**
	2.5nm,0.5s						
AAK				⇑S	**Sn**	**09 31 33.9**	**-1.3**
	5.2nm,0.4s						
AAK	**Ala-Archa**	**6.94**	**25**	*e*Pn	**Pn**	**09 30 17.4**	**-0.3**
AAK				*e*Sn	**Sn**	**09 31 33.8**	**-1.3**
TKM2	**Tokmak 2**	**7.60**	**30**	⇓P	**Pn**	**09 30 25.9**	**-0.8**
	4.9nm,0.5s						
TKM2				⇑S	**Sn**	**09 31 51.1**	**-0.1**
	5.8nm,0.8s						
TARG	**Taragay, Kyrgy**	**7.78**	**45**	*e*Pn	**Pn**	**09 30 28.0**	**-1.3**
MAKZ	**Makanchi**	**13.46**	**36**	*e*Pn	**Pn**	**09 31 43.1**	**-2.3**
MK31	**Makanchi Array**	**13.60**	**37**	*e*Pn	**Pn**	**09 31 46.0**	**-1.2**
MKAR	**Makanchi Array**	**13.60**	**37**	P	**Pn**	**09 31 46.3**	**-0.9**
	0.1nm,0.3s,baz=222,slow=14,SNR=8.0						
MKAR	**Makanchi Array**	**13.60**	**37**	*e*Pn	**Pn**	**09 31 46.0**	**-1.2**
AB07	**Akbulak array**	**14.94**	**332**	*e*Pn	**Pn**	**09 32 04.9**	**+0.6**
AB08	**Akbulak array**	**14.95**	**332**	*e*Pn	**Pn**	**09 32 04.8**	**+0.4**
AB06	**Akbulak array**	**14.95**	**332**	*e*Pn	**Pn**	**09 32 05.2**	**+0.8**
AB03	**Akbulak array**	**14.95**	**332**	*e*Pn	**Pn**	**09 32 05.3**	**+0.8**
AB01	**Akbulak array**	**14.96**	**332**	*e*Pn	**Pn**	**09 32 05.3**	**+0.8**
AB31	**Akbulak array**	**14.96**	**332**	⇑P	**Pn**	**09 32 05.3**	**+0.8**
	0.7nm,0.5s,baz=153,slow=12,SNR=2.5						
AB31				⇓S	**Sn**	**09 34 47.2**	**-2.2**
	0.8nm,0.6s,baz=157,slow=24,SNR=3.8						
AB31	**Akbulak array**	**14.96**	**332**	*e*Pn	**Pn**	**09 32 05.0**	**+0.5**
ABKAR	**Akbulak array**	**14.96**	**332**	*e*Pn	**Pn**	**09 32 05.1**	**+0.5**
	15nm,0.4s						
ABKAR				*e*Sn	**Sn**	**09 34 43.5**	**-6.0**
AB02	**Akbulak array**	**14.96**	**332**	*e*Pn	**Pn**	**09 32 05.2**	**+0.6**
AB02				*e*Sn	**Sn**	**09 34 47.8**	**-1.7**
AB04	**Akbulak array**	**14.96**	**332**	*e*Pn	**Pn**	**09 32 05.4**	**+0.8**
AB04				*e*Sn	**Sn**	**09 34 47.8**	**-1.7**
AB09	**Akbulak array**	**14.97**	**332**	*e*Pn	**Pn**	**09 32 05.2**	**+0.5**
AB05	**Akbulak array**	**14.97**	**332**	*e*Pn	**Pn**	**09 32 05.4**	**+0.7**
AB05				*e*Sn	**Sn**	**09 34 48.4**	**-1.4**
WMQ	**Urumqi**	**15.09**	**55**	P	**Pn**	**09 32 05.3**	**-1.0**
KURBB	**Kurchatov Arra**	**15.34**	**20**	P	**Pn**	**09 32 09.1**	**-0.2**
	0.0nm,0.3s,baz=209,slow=10,SNR=5.2						
BVAR	**Borovoye Array**	**16.60**	**360**	P	**P**	**09 32 26.3**	**+0.4**
	0.2nm,0.3s,baz=148,slow=14,SNR=3.3						
AKTO	**Aktyubinsk**	**16.64**	**331**	P	**P**	**09 32 28.3**	**+2.0**
	0.2nm,0.3s,baz=133,slow=10,SNR=4.5						
AKTO				S	**Sn**	**09 35 27.5**	**-2.7**
	0.1nm,0.3s,baz=217,slow=20,SNR=2.9						
ZAA0	**Zalesovo Array**	**20.16**	**25**	*e*P	**P**	**09 33 05.2**	**+0.5**
	5.4nm,0.6s						
ZALV	**Zalesovo Beam**	**20.16**	**25**	P	**P**	**09 33 04.0**	**-0.7**
	6.0nm,0.5s,baz=222,slow=11,SNR=22						
ZALV	**Zalesovo Beam**	**20.16**	**25**	*e*P	**P**	**09 33 03.9**	**-0.8**
GTA	**Gaotai**	**23.29**	**74**	*e*P	**P**	**09 33 37.3**	**-0.3**
GTA				pP	pP	09 33 57.3	-0.6
GTA				sP	sP	09 34 09.3	-1.0
GTA				S	**S**	**09 37 45.5**	**+3.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,130nm,4.3s						
GTA				LR	LR		
	comp=N,150nm,18.1s						
GTA				LR	LR		
	comp=E,150nm,17.6s						
GTA				LR	LR		
	comp=Z,140nm,14.7s						
LZH	**Lanzhou**	**26.84**	**81**	*e*P	**P**	**09 34 10.3**	**+0.5**
LZH				pP	pP	09 34 29.6	-2.3
LZH				sP	sP	09 34 39.5	-4.1
LZH				pmax	pmax		
	comp=Z,16nm,0.6s						
CD2	**Chengdu**	**28.15**	**92**	*e*P	**P**	**09 34 20.3**	**-1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
KMI	**Kunming**	**29.79**	**103**	P	**P**	**09 34 35.4**	**-0.7**
KMI				pmax	pmax		
	comp=Z,12nm,1.2s						
HHC	**Hu-ho-hao-te**	**32.18**	**69**	*e*P	**P**	**09 34 56.1**	**-0.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,63nm,5.1s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**09 36 14.4**	**+2.7**
	2.9nm,0.9s,baz=113,slow=7.0,SNR=2.8						
INK	**Inuvik**	**74.05**	**9**	P	**P**	**09 40 04.3**	**+1.3**
	0.9nm,0.8s,baz=325,slow=5.1,SNR=4.6						
YKA	**Yellowknife Ar**	**81.34**	**2**	P	**P**	**09 40 44.0**	**+0.4**
	0.2nm,0.5s,baz=350,slow=5.3,SNR=11						
WRA	**Warramunga Arr**	**82.31**	**122**	P	**P**	**09 40 48.4**	**-0.9**
	0.2nm,0.3s,baz=324,slow=4.9,SNR=7.7						
ASAR	**Alice Springs**	**84.55**	**125**	P	**P**	**09 40 60.0**	**-0.8**
	0.2nm,0.6s,baz=323,slow=4.7,SNR=4.2						

ISCJB ***13*** *09:43:06.5±0.2, 7°.33S±0°.04×123°.68E±0°.06, h600km±3km, mb4.0/29, Error ellipse: s-maj=9.1km s-min=6.2km az=159.5*
IDC ***13*** *09:43:07.1±0.6, 7°.28S×123°.68E, h588km±8km, mb3.5/20, mb1 3.6/22, mb1mx3.4/59, mbtmp4.5/22, Error ellipse: s-maj=16.9km s-min=9.0km az=74.0*
DJA ***13*** *09:43:07.3±0.3, 7°.5S±3°×12°.4E±°, h583km±4km, M4.5/18, mb4.7/14, mB4.9/8, MLv4.6/18, Mw(mB)4.2/8*
NEIC ***13*** *09:43:07.3±0.3, 7°.33S×123°.68E, h595km±4km, mb4.3/11, Error ellipse: s-maj=14.0km s-min=5.8km az=59.0*
ISC 13 09:43:07.2±0.5, 7°.34S±0°.07×123°.68E±0°.08, h590km±6km, n94, σ0§80/103, mb4.0/29, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.93**	**228**	P	**P**	**09 44 20.0**	**-0.3**
MMRI				S	**S**	**09 45 19.1**	**-0.6**
MMRI	**Maumere**	**1.93**	**228**	*e*P	**P**	**09 44 20.3**	**+0.1**
MMRI				*e*S	**S**	**09 45 19.9**	**+0.2**
BBSI	**Bau Bau**	**2.14**	**329**	P	**P**	**09 44 23.4**	**+2.2**
EDFI	**Ende, Flores**	**2.42**	**234**	P	**P**	**09 44 21.9**	**-0.7**
EDFI				S	**S**	**09 45 22.3**	**-1.6**
SOEI	**Soe**	**2.47**	**167**	P	**P**	**09 44 22.0**	**-0.8**
SOEI				S	**S**	**09 45 24.4**	**0.0**
SOEI	**Soe**	**2.47**	**167**	*e*P	**P**	**09 44 23.3**	**+0.5**
SOEI				*e*S	**S**	**09 45 25.0**	**+0.5**
BATI	**Baumata**	**2.85**	**180**	P	**P**	**09 44 25.8**	**+1.0**
	145nm,0.3s,baz=98,slow=6.2,SNR=76						
BATI				S	**S**	**09 45 28.0**	**+0.2**
	58nm,0.3s,baz=163,slow=19,SNR=9.0						
BATI	**Baumata**	**2.85**	**180**	P	**P**	**09 44 25.0**	**+0.3**
BATI				S	**S**	**09 45 28.0**	**+0.2**
BSSI	**Bau Bau, Buton**	**3.38**	**290**	P	**P**	**09 44 28.0**	**+0.2**
KDI	**Kendari**	**3.52**	**342**	P	**P**	**09 44 28.9**	**+0.2**
WSI	**Waingapu**	**4.07**	**235**	P	**P**	**09 44 32.4**	**0.0**
BASI	**Baing, Sumba**	**4.20**	**227**	P	**P**	**09 44 33.9**	**+0.6**
BNSI	**Bone**	**4.60**	**309**	P	**P**	**09 44 37.3**	**+1.0**
WBSI	**Waikabubak, Su**	**4.82**	**241**	P	**P**	**09 44 37.7**	**-0.4**
NLAI	**Namlea**	**5.30**	**40**	P	**P**	**09 44 42.1**	**+0.1**
	258nm,0.4s,6μm3.1nm						
SANI	**Sanana**	**5.73**	**24**	P	**P**	**09 44 45.4**	**-0.2**
	238nm,0.7s,2μm0.9nm						
TTSI	**Tana Toraja**	**5.74**	**318**	P	**P**	**09 44 47.1**	**+1.5**
	81nm,1.0s,918nm0.3nm						
PLAI	**Plampang**	**6.03**	**255**	P	**P**	**09 44 47.7**	**-0.4**
	42nm,0.7s,0.4nm						
LUWI	**Luwuk**	**6.32**	**352**	*e*P	**P**	**09 44 51.5**	**+0.9**
APSI	**Ampana**	**6.70**	**342**	P	**P**	**09 44 54.9**	**+0.8**
	150nm,1.1s,2μm						
LBMI	**Labuha**	**7.67**	**30**	P	**P**	**09 45 03.0**	**-0.1**
	343nm,0.6s,4μm						
KMSI	**Cibinong**	**7.86**	**2**	P	**P**	**09 45 05.9**	**+1.0**
	857nm,0.7s,11μm						
MRSI	**Marisa**	**7.95**	**347**	P	**P**	**09 45 05.9**	**+0.1**
	197nm,0.6s,2μm						
MPSI	**Mapaga**	**8.51**	**334**	P	**P**	**09 45 11.6**	**+0.5**
	51nm,0.9s						
IGBI	**Denpasar**	**8.58**	**260**	P	**P**	**09 45 11.0**	**-0.8**
	146nm,0.8s						
MTN	**Manton Dam**	**9.15**	**127**	*e*P	**P**	**09 45 17.6**	**+0.3**
SWI	**Sorong**	**9.92**	**50**	P	**P**	**09 45 24.4**	**-0.6**
	99nm,1.0s,1μm						
MBWA	**Marble Bar**	**14.26**	**195**	*e*P	**P**	**09 46 08.7**	**0.0**
SBUM	**Sibu**	**15.01**	**310**	*e*P	**P**	**09 46 17.1**	**+1.2**
	26nm,1.3s						
WRA	**Warramunga Arr**	**16.24**	**142**	P	**P**	**09 46 27.2**	**-0.1**
	4.8nm,0.3s,baz=314,slow=13,SNR=266						
WRAB	**Tennant Creek**	**16.24**	**141**	*e*P	**P**	**09 46 27.3**	**+0.1**
	45nm,0.8s						
AS31	**Alice Springs**	**18.97**	**150**	*e*P	**P**	**09 46 52.5**	**+0.4**
	6.7nm,0.6s						
ASAR	**Alice Springs**	**18.97**	**150**	P	**P**	**09 46 52.6**	**+0.5**
	2.6nm,0.3s,baz=329,slow=9.1,SNR=210						
ASAR				PcP	**PcP**	**09 50 47.4**	**-0.5**
	0.2nm,0.3s,baz=7.5,slow=1.3,SNR=6.0						
ASAR				ScP	**ScP**	**09 53 27.6**	**-1.0**
	0.2nm,0.3s,baz=346,slow=2.2,SNR=9.1						
AS01	**Alice Springs**	**19.00**	**150**	*e*P	**P**	**09 46 52.6**	**+0.3**
NWAO	**Narrogin (SRO)**	**26.16**	**192**	P	**P**	**09 47 56.4**	**+0.4**
	4.3nm,0.4s,baz=296,slow=8.0,SNR=6.7						
BBOO	**Buckleboo**	**27.83**	**157**	*e*P	**P**	**09 48 11.0**	**+0.3**
	11nm,0.5s						
STKA	**Stephens Creek**	**29.58**	**148**	P	**P**	**09 48 26.5**	**+0.7**
	13nm,0.5s,baz=318,slow=9.3,SNR=56						
CMAR	**Chiang Mai Arr**	**35.39**	**317**	P	**P**	**09 49 15.4**	**+0.4**
	1.4nm,0.5s,baz=148,slow=6.2,SNR=5.8						
CMAR				PcP	**PcP**	**09 51 27.9**	**-0.2**
	1.1nm,0.5s,baz=150,slow=2.5,SNR=5.0						
CD2	**Chengdu**	**42.55**	**334**	*e*P	**P**	**09 50 13.6**	**+1.2**
XAN	**Xi'an**

KBZ	**Khabaz**	**88.41**	**314**	P		**P**	**09 54 57.2**	**-0.2**	
	1.3nm,0.4s,baz=150,slow=7.4,SNR=3.7								
YKA	**Yellowknife Ar**	**110.76**	**25**	PKiKP		**PKiKP**	**10 00 32.3**	**-1.1**	
	0.3nm,0.5s,baz=287,slow=2.1,SNR=13								
PDAR	**Pinedale Array**	**121.53**	**44**	PKP		**PKPdf**	**10 00 54.8**	**-0.3**	
	0.2nm,0.5s,baz=35,slow=3.6,SNR=5.1								
TORD	**Torodi Ar. Bea**	**122.72**	**281**	PKP		**PKPdf**	**10 00 57.4**	**-0.4**	
	1.8nm,0.7s,baz=16,slow=2.3,SNR=12								
TXAR	**Lajitas Array**	**130.44**	**58**	PKP		**PKPdf**	**10 01 12.9**	**+0.6**	
	0.3nm,0.7s,baz=238,slow=1.1,SNR=3.9								
TXAR				SKPbc		**SKPbc**	**10 03 41.3**	**-0.3**	
	0.3nm,0.7s,baz=273,slow=2.1,SNR=5.1								
SCHQ	**Schefferville**	**131.89**	**8**	PKP		**PKPdf**	**10 01 13.6**	**-0.6**	
	1.1nm,0.4s,baz=12,slow=3.1,SNR=8.3								
GOGA	**Godfrey**	**143.88**	**40**	*e*PKPbc	PKPbc		10 01 35.6	-0.4	
PAULI	**Pauline**	**143.97**	**37**	*e*PKPbc	PKPbc		10 01 36.0	-0.3	
KMSC	**Kings Mountain**	**144.03**	**36**	*e*PKPbc	PKPbc		10 01 35.9	-0.5	
HODGE	**Hodges**	**144.10**	**38**	*e*PKPbc	PKPbc		10 01 36.3	-0.3	
CPUP	**Villa Florida**	**146.52**	**178**	PKPbc	PKPbc		**10 01 43.8**	**-0.1**	
	1.0nm,0.6s,baz=139,slow=2.8,SNR=5.3								

ISN ***13*** *09:53:03.7±1.4, 32.˚26N×46.˚97E, h5km±63km, ML3.5*
CSEM ***13*** *09:53:06.4±0.2, 32.˚39N×46.˚86E, h2km, ML3.5, Error ellipse: s-maj=5.1km s-min=4.4km az=144.0*

TEH 13 09:53:06.5, 32.˚51N×46.˚95E, h10km, ML3.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**1.26**	**36**	*e*Pg		Pg	09 53 31.7	+1.0
IKFM				*e*AMB		AMB	09 53 57.8	
	comp=Z,99nm,0.2s							
IKFM	**Kafar-mosalman**	**1.26**	**36**	*e*Pg		Pg	09 53 31.7	+1.0
SHGR	**Shooshtar-Gavs**	**1.62**	**104**	*e*Pg		Pg	09 53 38.3	+0.8
NSR	**Nassriya**	**1.65**	**205**	*e*Pg		Pn	09 53 34.0	-1.5
	SNR=9.0							
NSR				*e*Sg		Sn	09 53 56.0	-0.7
	SNR=9.0							
IKOM	**Komasi**	**1.73**	**16**	*e*Pn		Pg	09 53 39.7	+0.1
IKOM				*e*Sg		Sg	09 54 04.8	+2.7
IKOM				*e*AMB		AMB	09 54 08.5	
	comp=Z,10μm,0.2s							
IKOM	**Komasi**	**1.73**	**16**	*e*Pn		Pg	09 53 39.7	+0.1
IKOM				*e*Sg		Sg	09 54 04.8	+2.7
IGHG	**Ghaleghazi**	**1.84**	**350**	*e*Pn		Pn	09 53 35.7	-2.8
IGHG				*e*Sg		Sg	09 54 09.0	+3.1
IGHG				*e*AMB		AMB	09 54 19.0	
	comp=Z,8μm,0.4s							
IVIS	**Veis**	**2.02**	**358**	*e*Pn		Pb	09 53 43.3	0.0
IVIS				*e*AMB		AMB	09 54 14.8	
	comp=Z,4μm,0.2s							
IVIS	**Veis**	**2.02**	**358**	*e*Pn		Pb	09 53 43.3	0.0
BHD	**Baghdad**	**2.29**	**290**	*e*Pn		Pn	09 53 45.0	+0.6
	SNR=3.0							
BHD				*i* Sn		Sn	09 54 14.0	+1.3
	SNR=3.0							
SNGE	**Sanandaj**	**2.60**	**7**	*e*Pn		Pb	09 53 52.1	-1.2
KHMZ	**Khomeyn**	**2.81**	**63**	*e*Pn		Pb	09 53 54.7	-2.2
ASAO	**Ashtian**	**3.27**	**51**	*e*Pn		Pb	09 54 01.9	-3.0
ASAO				*e*Sg		Sg	09 54 51.8	0.0
IRAZ	**Razeghan**	**3.80**	**40**	*e*AMB		AMB	09 54 28.8	
	comp=Z,797nm,0.4s							
IRAZ				*e*Pn		Pn	09 54 09.1	+3.7
QAM	**Ghamsar**	**3.97**	**70**	*e*Pn		Pn	09 54 11.1	+3.5
QAM				*e*AMB		AMB	09 55 04.2	
	comp=Z,796nm,0.2s							
IKLH	**Kolahrood**	**3.98**	**77**	*e*Pn		Pn	09 54 10.7	+2.9
IKLH				*e*AMB		AMB	09 54 12.6	
	comp=Z,498nm,0.2s							
IKLH	**Kolahrood**	**3.98**	**77**	*e*Pn		Pn	09 54 10.7	+2.9
GHVR	**GHOM**	**4.13**	**60**	*e*Pn		Pn	09 54 12.7	+3.0
ZNJK	**Zanjan**	**4.39**	**19**	*e*Pn		Pn	09 54 16.8	+3.3
IZEF	**Zefreh**	**4.55**	**84**	*e*Pn		Pn	09 54 18.2	+2.5
IZEF				*e*AMB		AMB	09 54 19.1	
	comp=Z,173nm,0.1s							
IZEF	**Zefreh**	**4.55**	**84**	*e*Pn		Pn	09 54 18.2	+2.5
IVRN	**Varamin**	**4.69**	**57**	*e*Pn		Pn	09 54 20.0	+2.6
IVRN				*e*AMB		AMB	09 54 22.1	
	comp=Z,324nm,0.1s							
IVRN	**Varamin**	**4.69**	**57**	*e*Pn		Pn	09 54 20.0	+2.6
IGZV	**Ghazvin**	**4.72**	**34**	*e*Pn		Pn	09 54 20.0	+2.1
IGZV				*e*AMB		AMB	09 54 36.9	
	comp=Z,301nm,0.2s							
IGZV	**Ghazvin**	**4.72**	**34**	*e*Pn		Pn	09 54 20.0	+2.1
CHTH	**Charan**	**4.84**	**44**	*e*Pn		Pn	09 54 23.0	+3.3
NASN	**Na'in**	**4.95**	**85**	*e*Pn		Pn	09 54 23.5	+2.3
DAMV	**Damavand**	**5.20**	**52**	*e*Pn		Pn	09 54 27.4	+2.8
RTB	**Rutbah**	**5.62**	**277**	*e*Pn		Pn	09 54 30.0	-0.2
	SNR=3.0							

IDC ***13*** *10:02:39.4±0.6, 34.˚46N×26.˚48E, h0km, mb4.2/28, mb1 4.2/36, mb1mx4.1/69, mbtmp4.2/36, ML3.8/6, MS3.3/4, Ms1 3.3/4, ms1mx2.7/64, Error ellipse: s-maj=15.9km s-min=10.9km az=166.0*
ISK ***13*** *10:02:40.2, 34.˚24N×26.˚64E, h5km, ML3.9/6*
MOS ***13*** *10:02:40.6±1.1, 34.˚42N×26.˚35E, h20km, mb4.3/27, Error ellipse: s-maj=10.7km s-min=5.4km az=67.1*
ISCJB ***13*** *10:02:41.6±0.6, 34.˚24N±0.˚02×26.˚61E±0.˚02, h29km±5km, mb4.1/43, MS3.6/2, Error ellipse: s-maj=3.8km s-min=2.4km az=26.7*
ATH ***13*** *10:02:41.8, 34.˚31N×26.˚57E, h27km±1km, ML3.8/11, Error ellipse: s-maj=2.1km s-min=1.5km az=11.0*
NEIC ***13*** *10:02:41.7±0.0, 34.˚31N×26.˚57E, h27km, mb4.3/7, ML3.8(THE), ML3.8(ATH), After ATH.*
CSEM ***13*** *10:02:42.9±0.2, 34.˚32N×26.˚59E, h20km, mb4.3/31, Error ellipse: s-maj=6.3km s-min=3.6km az=8.0*
HLW ***13*** *10:02:43.1, 34.˚35N×26.˚63E, h10km±29km, MI3.7*
THE ***13*** *10:02:44.3, 34.˚45N×26.˚49E, h0km±2km, ML3.6/3, Error ellipse: s-maj=4.8km s-min=1.1km az=143.0*
GII ***13*** *10:02:48.4±0.0, 33.˚96N×27.˚23E, h1km*
DDA ***13*** *10:03:08.8, 34.˚36N×26.˚38E, h20km, MI3.6*

ISC 13 10:02:42.4±1.1, 34.˚28N±0.˚03×26.˚50E±0.˚03, h25km±8km, n339, σ1°69/379, mb4.2/43, 7C-6D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZKR	**Zakros**	**0.86**	**345**	PG		**Pb**	**10 02 58.6**	**-0.2**
ZKR				SG		**Sn**	**10 03 12.2**	**+1.3**
ZKR	**Zakros**	**0.86**	**345**	P		**Pb**	**10 02 57.3**	**-1.5**
ZKR				S		**Sn**	**10 03 11.7**	**+0.8**
ZKR				AML		AML	10 03 17.7	
	comp=E,12760μm,0.6s							
ZKR				AML		AML	10 03 20.9	
	comp=N,5093μm,0.5s							
ZKR	**Zakros**	**0.86**	**345**	P		**Pb**	**10 02 57.9**	**-0.9**
ZKR	**Zakros**	**0.86**	**345**	*e*Pg		**Pb**	**10 02 58.6**	**-0.2**
ZKR				S		**Sb**	**10 03 09.9**	**-0.1**
ZKR	**Zakros**	**0.86**	**345**	P		**Pb**	**10 02 57.7**	**-1.1**
ZKR				S		**Sb**	**10 03 09.9**	**-0.1**
LAST	**Lasithi**	**1.22**	**317**	P		**Pn**	**10 03 04.5**	**+0.5**
LAST				S		**Sb**	**10 03 23.7**	**+3.6**
LAST				AML		AML	10 03 37.8	
	comp=E,4203μm,0.8s							
LAST				AML		AML	10 03 37.9	
	comp=N,5351μm,0.6s							
LAST	**Lasithi**	**1.22**	**317**	P		**Pb**	**10 03 04.8**	**-0.1**
LAST				S		**Sb**	**10 03 21.6**	**+1.5**
LAST	**Lasithi**	**1.22**	**317**	P		**Pb**	**10 03 04.7**	**-0.1**
LAST				S		**Sb**	**10 03 21.6**	**+1.5**
NPS	**Neapolis**	**1.22**	**324**	P		**Pb**	**10 03 04.7**	**-0.1**
NPS				S		**Sb**	**10 03 22.1**	**+1.8**
NPS				AML		AML	10 03 27.4	
	comp=E,8757μm,0.6s							
NPS				AML		AML	10 03 31.6	
	comp=N,5279μm,0.5s							
NPS	**Neapolis**	**1.22**	**324**	P		**Pb**	**10 03 04.9**	**0.0**
NPS				S		**Sb**	**10 03 21.6**	**+1.4**
NPS	**Neapolis**	**1.22**	**324**	P		**Pb**	**10 03 04.8**	**-0.1**
NPS				S		**Sb**	**10 03 21.6**	**+1.4**
KARP	**Karpathos**	**1.38**	**23**	PN		**Pb**	**10 03 06.9**	**-0.6**
KARP	**Karpathos**	**1.38**	**23**	P		**Pb**	**10 03 08.2**	**+0.7**
KARP				AML		AML	10 03 42.8	
	comp=E,4434μm,0.6s							
KARP				AML		AML	10 03 45.6	
	comp=N,5402μm,1.0s							
KARP	**Karpathos**	**1.38**	**23**	*e*Pn		**Pb**	**10 03 06.9**	**-0.6**
KARP				*e*Sn		**Sn**	**10 03 18.9**	**-4.7**
KARP	**Karpathos**	**1.38**	**23**	*e*Pn		**Pb**	**10 03 06.9**	**-0.6**
KARP	**Karpathos**	**1.38**	**23**	P		**Pb**	**10 03 07.4**	**-0.1**
KARP				*e*Sn		**Sn**	**10 03 18.9**	**-4.7**
KARP	**Karpathos**	**1.38**	**23**	P		**Pb**	**10 03 07.7**	**+0.2**
IACM	**Heraklion**	**1.56**	**311**	P		**Pn**	**10 03 09.3**	**+0.8**
IACM				AML		AML	10 04 00.6	
	comp=E,21936μm,0.8s							
IACM				AML		AML	10 04 01.8	
	comp=N,13404μm,0.6s							
IACM	**Heraklion**	**1.56**	**311**	P		**Pb**	**10 03 09.7**	**-0.9**
SIVA	**Sivas**	**1.57**	**298**	P		**Pb**	**10 03 12.5**	**+1.7**
SIVA				AML		AML	10 03 56.7	
	comp=E,6827μm,0.6s							
SIVA				AML		AML	10 04 11.1	
	comp=N,5247μm,0.7s							
SIVA	**Sivas**	**1.57**	**298**	P		**Pb**	**10 03 11.5**	**+0.7**
SIVA	**Sivas**	**1.57**	**298**	P		**Pb**	**10 03 11.8**	**+1.0**
IDI	**Anoyia**	**1.66**	**308**	Pn		**Pb**	**10 03 12.5**	**+0.1**
	comp=N,16nm,0.3s,baz=146,slow=8.8,SNR=37							
IDI				Sn		**Sn**	**10 03 29.7**	**-1.0**
	comp=N,42nm,0.3s,baz=294,slow=9.2,SNR=14							
IDI	**Anoyia**	**1.66**	**308**	*e*Pn		**Pn**	**10 03 11.2**	**+1.1**
IDI				*e*Sn		**Sn**	**10 03 28.4**	**-2.2**
IDI	**Anoyia**	**1.66**	**308**	*e*Pn		**Pn**	**10 03 11.2**	**+1.1**
IDI				*e*Sn		**Sn**	**10 03 28.4**	**-2.2**
GVD	**Gavdhos**	**2.07**	**286**	PN		**Pb**	**10 03 18.4**	**-0.8**
GVD	**Gavdhos**	**2.07**	**286**	P		**Pb**	**10 03 19.0**	**-0.2**
GVD				S		**Sb**	**10 03 42.8**	**-1.7**
GVD				AML		AML	10 04 05.4	
	comp=N,1749μm,0.7s							
GVD				AML		AML	10 04 05.7	
	comp=E,2771μm,0.5s							
GVD	**Gavdhos**	**2.07**	**286**	P		**Pb**	**10 03 18.3**	**-0.9**
GVD				S		**Sb**	**10 03 43.3**	**-1.2**
GVD	**Gavdhos**	**2.07**	**286**	P		**Pb**	**10 03 18.3**	**-0.9**
ANAF	**Anafi Island**	**2.16**	**344**	P		**Pb**	**10 03 19.4**	**-1.4**
ANAF				S		**Sb**	**10 03 43.0**	**-1.9**
ANAF	**Anafi Island**	**2.16**	**344**	P		**Pn**	**10 03 18.7**	**+1.9**
ANAF				S		**Sn**	**10 03 44.8**	**+2.0**
VAM	**Vamos**	**2.20**	**301**	P		**Pn**	**10 03 19.5**	**+2.0**
VAM				AML		AML	10 04 16.2	
	comp=N,1599μm,1.3s							
VAM				AML		AML	10 04 22.6	
	comp=E,1176μm,1.1s							
VAM	**Vamos**	**2.20**	**301**	P		**Pn**	**10 03 19.4**	**+2.0**
SANT	**Santorini**	**2.25**	**338**	*e*Pn		**Pn**	**10 03 18.7**	**+0.6**
SANT	**Santorini**	**2.25**	**338**	*e*Pn		**Pn**	**10 03 18.7**	**+0.6**
THR6	**Thira Island,**	**2.26**	**337**	P		**Pn**	**10 03 19.0**	**+0.9**
THR6	**Thira Island,**	**2.26**	**337**	P		**Pn**	**10 03 19.1**	**+0.9**
THR6	**Thira Island,**	**2.26**	**337**	P		**Pn**	**10 03 19.1**	**+0.9**
THR9	**Santorini-Faro**	**2.27**	**336**	P		**Pn**	**10 03 20.4**	**+2.0**
THR9	**Santorini-Faro**	**2.27**	**336**	P		**Pn**	**10 03 20.1**	**+1.7**
THT1	**Athinios (Pele**	**2.28**	**338**	P		**Pn**	**10 03 18.7**	**+0.3**
THT1	**Athinios (Pele**	**2.28**	**338**	P		**Pn**	**10 03 19.2**	**+0.8**
THR3	**Thira Island,**	**2.31**	**337**	P		**Pn**	**10 03 18.5**	**-0.3**
THR3	**Thira Island,**	**2.31**	**337**	P		**Pn**	**10 03 19.4**	**+0.6**
THR7	**Fira-Santorini**	**2.31**	**338**	P		**Pn**	**10 03 19.6**	**+0.6**
THR7	**Fira-Santorini**	**2.31**	**338**	P		**Pn**	**10 03 19.9**	**+1.0**
THR2	**Thira island,**	**2.33**	**338**	P		**Pn**	**10 03 19.4**	**+0.2**
THR2	**Thira island,**	**2.33**	**338**	P		**Pn**	**10 03 20.0**	**+0.8**
THR5	**Thira Island,**	**2.33**	**337**	P		**Pn**	**10 03 19.9**	**+0.7**
THR5	**Thira Island,**	**2.33**	**337**	P		**Pn**	**10 03 20.0**	**+0.8**
THR5	**Thira Island,**	**2.33**	**337**	P		**Pn**	**10 03 20.0**	**+0.8**
ARG	**Arkhangelos**	**2.35**	**34**	P		**Pb**	**10 03 22.7**	**-1.3**
ARG	**Arkhangelos**	**2.35**	**34**	P		**Pn**	**10 03 21.3**	**+1.9**
ARG	**Arkhangelos**	**2.35**	**34**	P		**Pn**	**10 03 21.3**	**+1.9**
IMMV	**Iera Moni Meta**	**2.38**	**300**	PN		**Pb**	**10 03 22.4**	**-2.2**
IMMV	**Iera Moni Meta**	**2.38**	**300**	P		**Pb**	**10 03 23.6**	**-1.1**
IMMV				AML		AML	10 04 10.9	
	comp=N,1574μm,0.9s							
IMMV				AML		AML	10 04 30.4	
	comp=E,1998μm,0.8s							
IMMV	**Iera Moni Meta**	**2.38**	**300**	*e*Pn		**Pb**	**10 03 22.4**	**-2.2**
IMMV	**Iera Moni Meta**	**2.38**	**300**	P		**Pb**	**10 03 22.7**	**-1.9**
NISR	**Nisiros**	**2.38**	**12**	P		**Pn**	**10 03 19.6**	**-0.3**
NISR	**Nisiros**	**2.38**	**12**	P		**Pn**	**10 03 20.2**	**+0.3**
APE	**Apeiranthos**	**2.89**	**344**	PN		**Pn**	**10 03 29.2**	**+2.2**
APE	**Apeiranthos**	**2.89**	**344**	*e*P		**Pn**	**10 03 27.9**	**+0.9**
APE	**Apeiranthos**	**2.89**	**344**	P		**Pn**	**10 03 27.1**	**+0.1**
APE				S		**Sn**	**10 04 01.4**	**+0.5**
APE				AML		AML	10 04 02.2	
	comp=N,509μm,0.5s							
APE				AML		AML	10 04 04.4	
	comp=E,399μm,0.3s							
APE	**Apeiranthos**	**2.89**	**344**	P		**Pn**	**10 03 27.8**	**+0.8**
APE	**Apeiranthos**	**2.89**	**344**	*e*Pn		**Pn**	**10 03 29.2**	**+2.2**
APE				S		**Sn**	**10 04 02.0**	**+1.0**
APE	**Apeiranthos**	**2.89**	**344**	P		**Pn**	**10 03 27.9**	**+0.9**
MHLO	**Agia Marina, M**	**2.95**	**325**	P		**Pn**	**10 03 28.8**	**+1.1**
MHLO				AML		AML	10 04 25.2	
	comp=E,2656μm,1.1s							
MHLO				AML		AML	10 04 28.4	
	comp=N,2876μm,0.9s							
MHLO	**Agia Marina, M**	**2.95**	**325**	P		**Pn**	**10 03 29.2**	**+1.5**
SLUM	**Salum**	**2.98**	**202**	P		**Pn**	**10 03 30.3**	**+2.1**
	baz=204							
SLUM				S		**Sn**	**10 04 03.4**	**+0.2**
	baz=204							
SLUM	**Salum**	**2.98**	**202**	P		**Pn**	**10 03 30.3**	**+2.1**
DALY	**Dalyan (Mu˘la**	**3.08**	**34**	PN		**Pn**	**10 03 30.3**	**+0.8**
DALY	**Dalyan (Mu˘la**	**3.08**	**34**	*i* P		**Pn**	**10 03 30.1**	**+0.6**
DALY	**Dalyan (Mu˘la**	**3.08**	**34**	P		**Pn**	**10 03 30.1**	**+0.6**
TURN	**Turunc**	**3.10**	**33**	PN		**Pn**	**10 03 28.2**	**-1.6**
TURN	**Turunc**	**3.10**	**33**	*i* P		**Pn**	**10 03 26.9**	**-2.9**
TURN	**Turunc**	**3.10**	**33**	P		**Pn**	**10 03 26.9**	**-2.9**
TURN	**Turunc**	**3.10**	**33**	*e*Pn		**Pn**	**10 03 28.2**	**-1.6**
FETY	**Fethiye**	**3.16**	**41**	PN		**Pn**	**10 03 31.6**	**+1.0**
FETY	**Fethiye**	**3.16**	**41**	P		**Pn**	**10 03 29.9**	**-0.7**
FETY	**Fethiye**	**3.16**	**41**	*e*Pn		**Pn**	**10 03 31.6**	**+1.0**
YER	**Yerkesik**	**3.20**	**26**	PN		**Pn**	**10 03 32.0**	**+0.8**
YER	**Yerkesik**	**3.20**	**26**	*e*Pn		**Pn**	**10 03 32.0**	**+0.8**
AKAS	**Kas**	**3.20**	**52**	*i* P		**Pn**	**10 03 30.6**	**-0.7**
AKAS				*i* S		**Sn**	**10 04 06.7**	**-2.1**
AKAS	**Kas**	**3.20**	**52**	P		**Pn**	**10 03 30.6**	**-0.7**
AKAS				S		**Sn**	**10 04 06.7**	**-2.1**
AYDN	**Tasoluk**	**3.56**	**18**	*i* P		**Pn**	**10 03 37.0**	**+0.9**
AYDN	**Tasoluk**	**3.56**	**18**	P		**Pn**	**10 03 37.0**	**+0.9**
ELL	**Elmali**	**3.71**	**48**	PN		**Pn**	**10 03 39.6**	**+1.3**
ELL	**Elmali**	**3.71**	**48**	*e*Pn		**Pn**	**10 03 39.6**	**+1.3**
TAVA	**DENIZLI_Tavas**	**3.73**	**31**	*i* P		**Pn**	**10 03 38.5**	**-0.1**
TAVA	**DENIZLI_Tavas**	**3.73**	**31**	P		**Pn**	**10 03 38.5**	**-0.1**
VLI	**Veliai**	**3.79**	**311**	P		**Pn**	**10 03 38.5**	**-0.7**
VLI	**Veliai**	**3.79**	**311**	P		**Pn**	**10 03 40.0**	**+0.8**
GOLH	**Golhisar**	**3.86**	**39**	*i* P		**Pn**	**10 03 40.6**	**+0.3**
GOLH	**Golhisar**	**3.86**	**39**	P		**Pn**	**10 03 40.6**	**+0.3**
KORT	**Korkueli**	**4.15**	**48**	PN		**Pn**	**10 03 45.6**	**+1.3**
KORT	**Korkueli**	**4.15**	**48**	*i* P		**Pn**	**10 03 45.8**	**+1.5**
KORT				*i* S		**Sn**	**10 04 32.9**	**+0.8**
KORT	**Korkueli**	**4.15**	**48**	*e*Pn		**Pn**	**10 03 45.6**	**+1.3**
KORT				S		**Sn**	**10 04 32.9**	**+0.8**
DID	**Didima**	**4.17**	**322**	P		**Pn**	**10 03 44.0**	**-0.5**
DID	**Didima**	**4.17**	**322**	P		**Pn**	**10 03 45.4**	**+0.9**
VLY	**Voula,Athens**	**4.18**	**329**	P		**Pn**	**10 03 45.9**	**+1.3**
VLY	**Voula,Athens**	**4.18**	**329**	P		**Pn**	**10 03 46.4**	**+1.7**
DYR	**Agios Nikonas**	**4.20**	**307**	P		**Pn**	**10 03 47.3**	**+2.4**
DYR	**Agios Nikonas**	**4.20**	**307**	P		**Pn**	**10 03 47.4**	**+2.4**
BRDR	**BÜRDUR-Merkez**	**4.47**	**39**	*i* P		**Pn**	**10 03 46.8**	**-1.9**
BRDR	**BÜRDUR-Merkez**	**4.47**	**39**	P		**Pn**	**10 03 46.8**	**-1.9**
EREA	**Eretria**	**4.62**	**334**	P		**Pn**	**10 03 53.1**	**+2.3**
EREA	**Eretria**	**4.62**	**334**	P		**Pn**	**10 03 53.0**	**+2.3**
PYL	**PYLOS**	**4.67**	**305**	P		**Pn**	**10 03 51.4**	**0.0**
PYL	**PYLOS**	**4.67**	**305**	P		**Pn**	**10 03 52.7**	**+1.3**
ITM	**Ithomi**	**4.71**	**309**	P		**Pn**	**10 03 52.1**	**+0.2**
ITM	**Ithomi**	**4.71**	**309**	P		**Pn**	**10 03 53.3**	**+1.4**
KHAL	**Karahalli**	**4.74**	**30**	*i* P		**Pn**	**10 03 51.9**	**-0.6**
KHAL	**Karahalli**	**4.74**	**30**	P		**Pn**	**10 03 51.8**	**-0.6**
SUTC	**Sutluce-Ispart**	**4.85**	**48**	PN		**Pn**	**10 03 55.8**	**+1.9**
KEPZ	**Antalya-Kepez**	**4.91**	**56**	*i* P		**Pn**	**10 03 54.4**	**-0.3**
KEPZ	**Antalya-Kepez**	**4.91**	**56**	P		**Pn**	**10 03 54.4**	**-0.3**
AMT	**Artemida-Makis**	**5.06**	**311**	P		**Pn**	**10 03 58.1**	**+1.3**
AMT	**Artemida-Makis**	**5.06**	**311**	P		**Pn**	**10 03 58.8**	**+2.0**
BAGO	**Egridir - ISPA**	**5.08**	**42**	*i* P		**Pn**	**10 03 58.1**	**+1.2**
KLV	**Kalavryta, Ach**	**5.15**	**318**	P		**Pn**	**10 03 58.4**	**+0.4**
KLV	**Kalavryta, Ach**	**5.15**	**318**	P		**Pn**	**10 03 59.4**	**+1.5**
DSF	**Desfina**	**5.22**	**323**	P		**Pn**	**10 04 03.1**	**+4.2**
DSF	**Desfina**	**5.22**	**323**	P		**Pn**	**10 04 02.3**	**+3.3**
DRO	**Drossia**	**5.33**	**315**	P		**Pn**	**10 04 02.1**	**+1.6**
DRO	**Drossia**	**5.33**	**315**	P		**Pn**	**10 04 02.7**	**+2.2**
LAKA	**Lakka**	**5.38**	**319**	P		**Pn**	**10 04 03.1**	**+2.0**
LAKA	**Lakka**	**5.38**	**319**	P		**Pn**	**10 04 03.5**	**+2.4**
KALE	**Kalithea**	**5.40**	**321**	P		**Pn**	**10 04 06.0**	**+4.6**
KALE	**Kalithea**	**5.40**	**321**	P		**Pn**	**10 04 05.1**	**+3.6**
TRIZ	**Trizonia**	**5.42**	**320**	P		**Pn**	**10 04 05.3**	**+3.6**
TRIZ	**Trizonia**	**5.42**	**320**	P		**Pn**	**10 04 04.8**	**+3.2**
AXAR	**Agios Charalam**	**5.44**	**326**	P		**Pn**	**10 04 06.7**	**+4.7**
AXAR	**Agios Charalam**	**5.44**	**326**	P		**Pn**	**10 04 05.6**	**+3.7**
SERG	**Sergoula**	**5.46**	**320**	P		**Pn**	**10 04 06.1**	**+3.8**
SERG	**Sergoula**	**5.46**	**320**	P		**Pn**	**10 04 05.5**	**+3.2**
EFP	**Efpalio**	**5.55**	**319**	P		**Pn**	**10 04 05.5**	**+2.0**
EFP	**Efpalio**	**5.55**	**319**	P		**Pn**	**10 04 05.9**	**+2.4**
CSS	**Mathiatis**	**5.67**	**81**	*e*Pn		**Pn**	**10 04 05.2**	**0.0**
CSS	**Mathiatis**	**5.67**	**81**	*e*Pn		**Pn**	**10 04 05.2**	**0.0**
TEKE	**Tekeli-Mersin**	**5.73**	**69**	PN		**Pn**	**10 04 07.2**	**+1.4**
AGG	**Agios Georgios**	**5.80**	**326**	*e*P		**Pn**	**10 04 09.3**	**+2.4**
AGG	**Agios Georgios**	**5.80**	**326**	P		**Pn**	**10 04 08.2**	**+1.3**
AGG	**Agios Georgios**	**5.80**	**326**	*e*Pn		**Pn**	**10 04 09.3**	**+2.4**
AGG	**Agios Georgios**	**5.80**	**326**	P		**Pn**	**10 04 08.9**	**+2.0**
AGG	**Agios Georgios**	**5.80**	**326**	*e*Pn		**Pn**	**10 04 09.3**	**+2.4**
LFK	**Lefkose**	**5.87**	**78**	PN		**Pn**	**10 04 08.9**	**+1.0**
LFK	**Lefkose**	**5.87**	**78**	*e*Pn		**Pn**	**10 04 08.9**	**+1.0**
AKKU	**Akkuyu-Mersin**	**6.07**	**70**	PN		**Pn**	**10 04 11.9**	**+1.3**
TEVE	**Tevekalti-Mers**	**6.07**	**67**	PN		**Pn**	**10 04 12.3**	**+1.7**
TEVE	**Tevekalti-Mers**	**6.07**	**67**	*e*Pn		**Pn**	**10 04 12.3**	**+1.7**
PDO	**Prodromos**	**6.08**	**317**	P		**Pn**	**10 04 11.7**	**+1.1**
PDO	**Prodromos**	**6.08**	**317**	P		**Pn**	**10 04 12.7**	**+2.0**
VLS	**Valsamata**	**6.16**	**311**	P		**Pn**	**10 04 13.4**	**+1.6**
VLS	**Valsamata**	**6.16**	**311**	P		**Pn**	**10 04 14.2**	**+2.4**
KOT	**Kottamia**	**6.27**	**132**	P		**Pn**	**10 04 13.5**	**+0.2**
	baz=133							
HSAF	**As Saff**	**6.33**	**136**	P		**Pn**	**10 04 14.0**	**-0.1**
	baz=137							
THL	**Klokotos Trika**	**6.38**	**327**	P		**Pn**	**10 04 15.3**	**+0.5**
THL	**Klokotos Trika**	**6.38**	**327**	P		**Pn**	**10 04 16.5**	**+1.7**
HHAG	**Hagoal**	**6.42**	**131**	P		**Pn**	**10 04 16.1**	**+0.7**
	baz=131							
HHAG				S		**Sn**	**10 05 23.3**	**-4.5**
	baz=131							
EREN	**Erenkoy**	**6.43**	**77**	PN		**Pn**	**10 04 17.0**	**+1.6**
GLL	**Jalalah**	**6.45**	**135**	P		**Pn**	**10 04 15.2**	**-0.6**
	baz=136							
KPRO	**Kipourio**	**6.99**	**326**	P		**Pn**	**10 04 26.6**

OBN pmax pmax
comp=Z,9.0nm,0.8s
ESDC Sonseca Array 24.86 291 P P 10 08 03.8 +0.8
comp=Z,0.3nm,0.3s,baz=90,slow=9.7,SNR=6.2
GEYT Alibeck 25.74 73 P P 10 08 11.4 +0.4
comp=Z,3.3nm,0.5s,baz=275,slow=8.8,SNR=6.4
GYA1 ALIBECK ARRAY 25.74 73 *eP* **P 10 08 13.9 +2.9**
comp=Z,6.9nm,0.8s
GYA1 ALIBECK ARRAY 25.74 73 *eP* **P 10 08 13.9 +2.9**
comp=Z,6.9nm,0.8s
GYA2 ALIBECK ARRAY 25.74 73 *eP* **P 10 08 13.7 +2.7**
comp=Z,7.8nm,0.8s
GYA2 ALIBECK ARRAY 25.74 73 *eP* **P 10 08 13.7 +2.7**
comp=Z,7.8nm,0.8s
GYB1 ALIBECK ARRAY 25.75 73 *eP* **P 10 08 13.9 +2.8**
comp=Z,8.0nm,1.0s
GYB1 ALIBECK ARRAY 25.75 73 *eP* **P 10 08 13.9 +2.8**
comp=Z,8.9nm,1.0s
FIA0 FINESS Array S 27.18 360 *eP* **P 10 08 21.9 -1.8**
FIA0 FINESS Array S 27.18 360 *eP* **P 10 08 21.9 -1.8**
FINES FINESS Array B 27.18 360 P **P 10 08 21.9 -1.8**
comp=Z,4.2nm,0.7s,baz=163,slow=12,SNR=11
FIA1 FINESS Array S 27.18 360 *eP* **P 10 08 21.8 -1.9**
HFS Hagfors 27.19 346 P **P 10 08 22.3 -1.5**
comp=Z,1.7nm,0.5s,baz=128,slow=11,SNR=7.5
KLMR Klimovskoe 27.89 14 *eP* **P 10 08 27.2 -2.8**
KLMR pmax pmax
comp=Z,11nm,0.8s
KLMR Klimovskoe 27.89 14 *eP* **P 10 08 27.3 -2.8**
KLMR AMP 10 08 29.3
comp=Z,11nm,0.8s
AKTK Aktyubinsk 28.06 45 P **P 10 08 31.8 +0.1**
comp=Z,59nm,18.3s
AKTO Aktyubinsk 28.06 45 P **P 10 08 31.8 +0.1**
comp=Z,2.5nm,0.7s,baz=252,slow=8.5,SNR=7.8
AKTO LR LR 10 21 24.7
comp=Z,58nm,18.3s,baz=255,slow=40
NB200 NORSAR Array S 28.54 344 *eP* **P 10 08 35.0 -0.9**
NOA NORSAR Array B 28.54 344 P **P 10 08 35.0 -0.9**
comp=Z,1.3nm,0.8s,baz=153,slow=8.6,SNR=3.1
NOA NORSAR Array B 28.54 344 P **P 10 08 35.0 -0.9**
NOA pmax pmax
comp=Z,1.0nm,0.8s
AB08 Akbulak array 28.79 49 *eP* **P 10 08 38.4 +0.2**
AB08 Akbulak array 28.79 49 *eP* **P 10 08 38.4 +0.2**
AB09 Akbulak array 28.79 49 *eP* **P 10 08 38.4 +0.2**
AB09 Akbulak array 28.79 49 *eP* **P 10 08 38.4 +0.2**
AB04 Akbulak array 28.80 49 *eP* **P 10 08 38.9 +0.6**
AB04 Akbulak array 28.80 49 *eP* **P 10 08 38.9 +0.6**
AB03 Akbulak array 28.80 49 *eP* **P 10 08 39.1 +0.8**
AB03 Akbulak array 28.80 49 *eP* **P 10 08 39.1 +0.8**
AB01 Akbulak array 28.81 49 *eP* **P 10 08 38.6 +0.3**
AB31 Akbulak array 28.81 49 *eP* **P 10 08 38.7 +0.4**
AB31 Akbulak array 28.81 49 *eP* **P 10 08 38.7 +0.4**
ABKAR Akbulak array 28.81 49 *eP* **P 10 08 38.5 +0.1**
comp=Z,0.2nm,0.3s
AB02 Akbulak array 28.81 49 *eP* **P 10 08 39.0 +0.7**
AB05 Akbulak array 28.81 49 *eP* **P 10 08 39.3 +0.9**
AB05 Akbulak array 28.81 49 *eP* **P 10 08 39.3 +0.9**
AB07 Akbulak array 28.81 49 *eP* **P 10 08 39.0 +0.6**
AB07 Akbulak array 28.81 49 *eP* **P 10 08 39.0 +0.6**
AB06 Akbulak array 28.82 49 *eP* **P 10 08 38.7 +0.2**
AB06 Akbulak array 28.82 49 *eP* **P 10 08 38.7 +0.2**
EKA Eskdalemuir Ar 29.39 325 P **P 10 08 42.7 -0.7**
comp=Z,0.6nm,0.4s,baz=118,slow=10,SNR=5.8
TOA1 Torodi Ar. Sit 30.80 233 *eP* **P 10 08 58.0 +1.7**
TOA0 Torodi Ar. Sit 30.80 233 *eP* **P 10 08 58.2 +1.9**
comp=Z,5.8nm,1.4s
TORD Torodi Ar. Bea 30.80 233 P **P 10 08 58.0 +1.7**
comp=Z,1.8nm,0.7s,baz=43,slow=8.5,SNR=15
ARU Arti 31.13 35*c i* **P P 10 08 58.0 -0.8**
ARU 10 09 56.8
ARU S **S 10 14 04.0 +1.2**
ARU SS **SnSn 10 15 41.0 -4.1**
ARU pmax pmax
comp=Z,11nm,2.5s
KOWA Kowa 33.86 242 P **P 10 09 25.1 +2.0**
comp=Z,0.6nm,0.3s,baz=56,slow=11,SNR=3.0
KKAR Karatay Array 35.13 62 *eP* **P 10 09 35.3 +1.4**
KKAR Karatay Array 35.13 62 *eP* **P 10 09 35.2 +1.4**
KKAR Karatay Array 35.13 62 *eP* **P 10 09 35.2 +1.4**
ARA0 ARCESS Array S 35.31 359 *eP* **P 10 09 33.5 -1.6**
ARCES ARCESS Array B 35.31 359 P **P 10 09 33.5 -1.6**
comp=Z,3.8nm,0.6s,baz=179,slow=8.9,SNR=18
BRVK Borovoye 36.12 45‖ *eP* **P 10 09 42.8 +0.6**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
BVAR Borovoye Array 36.17 45 P **P 10 09 43.1 +0.4**
comp=Z,2.0nm,0.7s,baz=253,slow=4.5,SNR=7.6
AAK Ala-Archa 38.07 63 P **P 10 10 00.0 +0.9**
comp=Z,2.2nm,0.7s,baz=253,slow=7.3,SNR=4.3
AAK Ala-Archa 38.07 63‖ *eP* **P 10 10 00.6 +1.5**
AAK pmax pmax
comp=Z,2.0nm,0.9s
DBIC Dimbokro 39.91 234 P **P 10 10 15.9 +1.4**
comp=Z,1.4nm,0.4s,baz=355,slow=8.1,SNR=3.8
DBIC Dimbokro 39.91 234 P **P 10 10 16.0 +1.4**
DBIC pmax pmax
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 40.83 50 P **P 10 10 22.5 +0.7**
comp=Z,5.9nm,0.7s,baz=276,slow=8.8,SNR=28
KURK Kurchatov 40.89 50*ce* *eP* **P 10 10 23.0 +0.7**
KURK pmax pmax
comp=Z,48nm,2.5s
KURK Kurchatov 40.89 50 *eP* **P 10 10 23.1 +0.8**
MK31 Makanchi Array 43.35 56 *eP* **P 10 10 43.2 +0.7**
MK31 Makanchi Array 43.35 56 *eP* **P 10 10 43.2 +0.7**
MK32 Makanchi Array 43.35 56 *eP* **P 10 10 43.2 +0.7**
MKAR Makanchi Array 43.35 56 P **P 10 10 43.2 +0.7**
comp=Z,3.2nm,0.5s,baz=273,slow=7.3,SNR=22
MKAR Makanchi Array 43.35 56 *eP* **P 10 10 43.2 +0.7**
comp=Z,30nm,0.6s
MK01 Makanchi Array 43.35 56 *eP* **P 10 10 43.1 +0.5**
NVS Novosibirsk 43.94 44 *eP* **P 10 10 48.7 +1.6**
SPITS Spitsbergen Ar 44.22 357 P **P 10 10 48.1 -1.0**
comp=Z,6.2nm,0.9s,baz=156,slow=6.4,SNR=8.0
ZAA0 Zalesovo Array 44.83 46 *eP* **P 10 10 54.4 +0.2**
comp=Z,6.9nm,0.6s
ZAA1 Zalesovo Array 44.83 46 *eP* **P 10 10 54.4 +0.2**
ZALV Zalesovo Beam 44.83 46 P **P 10 10 54.4 +0.2**
comp=Z,7.9nm,0.5s,baz=268,slow=9.0,SNR=24
ZALV Zalesovo Beam 44.83 46 *eP* **P 10 10 54.2 0.0**
ZALV Zalesovo Beam 44.83 46 *eP* **P 10 10 54.2 0.0**
SFJD Kangerlussuaq 53.98 332 LR LR 10 35 49.8
comp=Z,125nm,18.9s,baz=162,slow=37
ZAK Zakamensk 56.50 48 *eP* **P 10 12 23.2 +0.8**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
SONA0 Songino Array 59.19 51 *eP* **P 10 12 42.5 +1.1**
SONM Songino Array 59.19 51 P **P 10 12 42.5 +1.1**
comp=Z,2.3nm,0.5s,baz=284,slow=8.2,SNR=18
SONA1 Songino Array 59.19 51 *eP* **P 10 12 42.4 +0.9**
ULN Ulaanbaatar 59.60 50‖ *eP* **P 10 12 44.9 +0.6**
ULN pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 61.60 21 P **P 10 12 56.4 -0.9**
comp=Z,0.7nm,0.4s,baz=15,slow=1.4,SNR=4.8
TIXI Tiksi 61.60 21‖ *eP* **P 10 12 57.1 -0.2**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 61.60 21 *eP* **P 10 12 56.4 -0.9**
TIXI *eS* **S 10 21 18.6 +1.2**
SCHQ Schefferville 64.57 320 P **P 10 13 17.3 +0.1**
comp=Z,2.2nm,0.4s,baz=66,slow=6.0,SNR=10
SCHQ Schefferville 64.57 320 *eP* **P 10 13 17.4 +0.1**
comp=Z,17nm,1.5s
CMAR Chiang Mai Arr 65.58 84 P **P 10 13 25.1 +0.7**
comp=Z,1.0nm,0.5s,baz=295,slow=8.6,SNR=6.7
HIA Hailar 66.86 45‖ *eP* **P 10 13 33.6 +1.4**
HIA pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 73.64 15 *eP* **P 10 14 10.8 -2.5**
BILL *e* 10 14 28.8
BILL *e* 10 17 05.0
BILL *e*PPP PPP 10 18 42.7
BILL pmax pmax
comp=Z,1.0nm,1.2s
KLR Kul'dur 73.70 41 P **P 10 14 14.5 +0.5**
comp=Z,0.1nm,0.7s,baz=296,slow=7.1,SNR=5.1
KLR Kul'dur 73.70 41‖ *eP* **P 10 14 15.3 +1.3**
INK Inuvik 76.64 352 P **P 10 14 30.0 -0.5**
comp=Z,0.5nm,0.5s,baz=13,slow=13,SNR=5.7
INK Inuvik 76.64 352 *eP* **P 10 14 30.0 -0.5**
comp=Z,12nm,1.8s
USRK Ussuriysk Ar. 76.68 45 P **P 10 14 31.4 +0.2**
comp=Z,3.2nm,0.5s,baz=281,slow=5.9,SNR=8.8
KSAR Wonju Array Be 77.92 53 P **P 10 14 37.2 -1.1**
KSAR Wonju Array Be 77.92 53 P **P 10 14 37.2 -1.1**
KSRS Korea Array 77.94 53 P **P 10 14 37.2 -1.2**
comp=Z,0.8nm,0.7s,baz=314,slow=5.1,SNR=3.4
YKA Yellowknife Ar 78.62 343 P **P 10 14 41.4 -0.3**
comp=Z,0.6nm,0.8s,baz=30,slow=5.2,SNR=9.6
ILAR Eielson Array 81.14 357 P **P 10 14 55.2 -0.2**
comp=Z,0.5nm,0.8s,baz=340,slow=4.1,SNR=5.3
ASAJ Asahikawa 82.73 41 P **P 10 15 04.8 +0.7**
comp=Z,1.1nm,0.2s,baz=81,slow=18,SNR=4.0
MAJO Matsushiro 85.08 49 *eP* **P 10 15 17.0 +0.7**
MAJO Matsushiro 85.08 49 *eP* **P 10 15 16.9 +0.7**
MJAR Matsushiro Arr 85.08 49 P **P 10 15 17.0 +0.7**
comp=Z,1.4nm,0.8s,baz=294,slow=6.5,SNR=3.9
MJAR Matsushiro Arr 85.08 49 P **P 10 15 17.0 +0.7**
MJAR pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 115.39 98 PKP **PKPdf 10 21 22.4 0.0**
comp=Z,0.4nm,0.9s,baz=320,slow=2.0,SNR=4.3

IDC 13 10:05:51.6±3.3, 54.35N×86.78E, h0km, mb1 3.7/2, mb1mx3.1/74, mbtmp3.7/2, ML3.3/2, Error ellipse: s-maj=30.8km s-min=17.9km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**252**	*i*		10 14 30.0	
	baz=72,slow=329,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.22**	**252**	Pg	Pg	10 06 13.6	-1.5
	6.7nm,0.3s,baz=67,slow=16,SNR=49						
ZALV				Lg	Lg	10 06 31.6	
	2.7nm,0.3s,baz=50,slow=23,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.27**	**237**	Pn	Pn	10 07 26.2	+0.9
	0.4nm,0.3s,baz=55,slow=14,SNR=11						
MKAR	**Makanchi Array**	**8.09**	**202**	Pn	Pn	10 07 51.3	+1.1
	0.7nm,0.3s,baz=24,slow=12,SNR=36						
BVAR	**Borovoye Array**	**9.82**	**269**	Pn	Pn	10 08 16.7	+2.8
	0.3nm,0.3s,baz=82,slow=15,SNR=4.4						

IDC ***13*** *10:06:58.4±1.3, 42.02N×126.85W, h0km, mb3.7/7, mb1 3.8/11, mb1mx3.6/76, mbtmp3.6/11, ML3.4/4, MS3.7/25, Ms1 3.7/25, ms1mx3.4/66, Error ellipse: s-maj=24.8km s-min=11.7km az=28.0*

ISCJB ***13*** *10:07:00.4±0.4, 42.11N±0.03×126.78W±0.04, h10km, mb4.0/16, MS3.7/20, Error ellipse: s-maj=4.9km s-min=3.4km az=143.0*

NEIC ***13*** *10:07:02.2±0.6, 42.11N×126.82W, h10km, mb4.2/22, Error ellipse: s-maj=7.9km s-min=4.4km az=63.0*

NEIC Felt at Coos Bay.

ISC 13 10:07:02.0±0.7, 42.13N±0.06×126.82W±0.06, h10km, n148, σ1§69/129, mb4.2/16, MS3.7/20, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBO	**Bosley Butte**	**1.93**	**87**	*e*Pn	**Pn**	**10 07 31.8**	**-3.2**
KBO				*e*Sg	**Sg**	**10 08 07.3**	**+3.3**
KEBM	**Edson Butte**	**1.98**	**67**	*e*Pn	**Pn**	**10 07 33.6**	**-2.0**
KRMB	**Red Mountain**	**2.25**	**105**	*e*Pn	Pn	10 07 35.4	-4.2
KRMB				*e*Sn	**Sn**	**10 08 04.4**	**-3.0**
L02D	**Cave Junction,**	**2.39**	**88**	P	**Pn**	**10 07 38.1**	**-3.1**
	baz=271,SNR=51						
JCC	**Jacoby Creek,**	**2.47**	**121**	*e*Pn	Pn	10 07 37.1	-5.2
KHMM	**Horse Mountain**	**2.63**	**117**	*e*Pn	Pn	10 07 40.4	-4.3
HUMO	**Hull Mountain**	**2.90**	**79**	*e*Pn	**Pn**	**10 07 46.0**	**-2.2**
HUMO				*e*Sn	**Sn**	**10 08 23.0**	**-0.1**
KMRM	**Mail Ridge**	**3.02**	**128**	*e*Pn	**Pn**	**10 07 49.8**	**-0.2**
M02C	**Callahan**	**3.05**	**103**	P	**Pn**	**10 07 47.0**	**-3.4**
	baz=286,SNR=54						
YBH	**Yreka Blue Hor**	**3.09**	**96**	Pn	**Pn**	**10 07 49.0**	**-1.9**
	6.7nm,0.3s,baz=298,slow=13,SNR=56						
YBH				LR	LR	10 08 16.8	
	comp=Z,412nm,19.3s,baz=322,slow=25						
YBH				Sn	**Sn**	**10 08 27.8**	**-0.1**
	0.1nm,0.3s,baz=162,slow=3.2,SNR=1.6						
YBH	**Yreka Blue Hor**	**3.09**	**96**	*e*Pn	**Pn**	**10 07 48.9**	**-2.1**
YBH				*e*Sn	**Sn**	**10 08 30.0**	**+2.1**
KCPM	**Cahto Peak**	**3.46**	**134**	*e*Pn	**Pn**	**10 07 56.4**	**+0.3**
KCPM				*e*Sn	**Sn**	**10 08 36.7**	**-0.4**
COR	**Corvallis**	**3.55**	**45**	*e*Pn	**Pn**	**10 07 57.5**	**+0.4**
WDC	**Whiskeytown Da**	**3.57**	**114**	*e*Pn	**Pn**	**10 07 54.0**	**-3.4**
I04A	**Tendick Farm,**	**3.63**	**61**	P	**Pn**	**10 07 57.6**	**-0.8**
	baz=244,SNR=7.7						
I04A				S	**Sn**	**10 08 42.5**	**+1.2**
	baz=244						
J04D	**Umpqua Nationa**	**3.64**	**71**	P	**Pn**	**10 07 58.0**	**-0.6**
	baz=254,SNR=7.7						
IRO	**Indian Ridge**	**3.83**	**59**	*e*Pn	**Pn**	**10 08 01.7**	**+0.5**
H04A	**Detroit Lake**	**4.23**	**51**	*e*Pn	**Pn**	**10 08 06.4**	**-0.2**
K05A	**Summer Lake**	**4.42**	**80**	*e*Pn	**Pn**	**10 08 08.7**	**-0.7**
GDXM	**Geysers**	**4.52**	**136**	*e*Pn	**Pn**	**10 08 09.3**	**-1.3**
PINE	**Pine Mountain**	**4.62**	**67**	*e*Pn	Pn	10 08 07.8	-4.3
ORV	**Oroville**	**4.78**	**121**	*e*Pn	**Pn**	**10 08 12.4**	**-1.7**
TDH	**Tom, Dick, Har**	**4.82**	**47**	*e*Pn	**Pn**	**10 08 15.9**	**+1.2**
E03A	**Lebam**	**4.99**	**27**	*e*Pn	**Pn**	**10 08 18.6**	**+1.6**
G05D	**Wamic, OR**	**5.06**	**50**	P	**Pn**	**10 08 18.3**	**+0.3**
	baz=233,SNR=14						
BEKR	**Beckworth**	**5.38**	**113**	*e*Pn	**Pn**	**10 08 23.2**	**+0.6**
G06A	**Carlson Farm,**	**5.45**	**53**	*e*Pn	**Pn**	**10 08 23.6**	**+0.3**
AFDM	**Forest Hills D**	**5.47**	**124**	*e*Pn	**Pn**	**10 08 24.1**	**+0.5**
LOY	**Loyalton**	**5.56**	**114**	*e*Pn	**Pn**	**10 08 26.9**	**+1.9**
JCHM	**Cahill Ridge**	**5.74**	**142**	*e*Pn	**Pn**	**10 08 25.7**	**-1.5**
JCHM				*e*Pg	**Pg**	**10 08 51.6**	**-0.3**
JCHM				*e*Sn	**Sn**	**10 09 37.8**	**+4.7**
LON	**Longmire**	**5.84**	**36**	*e*Pn	**Pn**	**10 08 30.0**	**+1.3**
WVOR	**Wild Horse Val**	**6.07**	**84**	*e*Pn	**Pn**	**10 08 30.7**	**-1.3**
D05A	**Enumclaw**	**6.12**	**33**	*e*Pn	**Pn**	**10 08 34.1**	**+1.7**
PAHR	**Pah Rah Range**	**6.13**	**111**	*e*Pn	**Pn**	**10 08 34.7**	**+2.0**
CMB	**Columbia Colle**	**6.40**	**128**	*e*Pn	**Pn**	**10 08 36.9**	**+0.4**
G08A	**Pilot Rock**	**6.51**	**58**	*e*Pn	**Pn**	**10 08 39.4**	**+1.5**
E07A	**Sunnyside**	**6.67**	**46**	*e*Pn	**Pn**	**10 08 40.6**	**+0.6**
E07A				*e*Sn	**Sn**	**10 09 49.4**	**-6.7**
WAKR	**Walker**	**6.70**	**120**	*e*Pn	**Pn**	**10 08 42.3**	**+1.6**
WAKR				*e*Sn	**Sn**	**10 09 49.8**	**-7.3**
LTY	**Liberty**	**6.74**	**38**	*e*Pn	**Pn**	**10 08 42.5**	**+1.4**
KVN	**Kaiserville**	**7.31**	**112**	*e*Pn	**Pn**	**10 08 48.1**	**-0.9**
B06A	**Marblemount**	**7.41**	**29**	*e*Pn	**Pn**	**10 08 49.3**	**-0.8**
BMO	**Blue Mountains**	**7.43**	**65**	*e*Pn	**Pn**	**10 08 50.9**	**+0.3**
NV01	**Mina Array Sit**	**7.48**	**117**	*e*Pn	**Pn**	**10 08 50.3**	**-1.1**
NVAR	**Mina Array Bea**	**7.48**	**117**	Pn	**Pn**	**10 08 50.0**	**-1.4**
	baz=289,slow=14,SNR=3.2						
NVAR				LR	LR	10 11 58.8	
	comp=Z,734nm,18.7s,baz=86,slow=40						
B08A	**Colville Reser**	**8.16**	**38**	*e*Pn	**Pn**	**10 09 01.6**	**+1.1**
LLLB	**Lillooet**	**9.14**	**20**	*e*Pn	**Pn**	**10 09 12.5**	**-1.4**
ISA	**Isabella, Lake**	**9.16**	**132**	*e*Pn	**Pn**	**10 09 13.7**	**-0.6**
NEW	**Newport**	**9.19**	**45**	Pn	**Pn**	**10 09 15.8**	**+1.3**
	0.1nm,0.3s,baz=240,slow=16,SNR=1.7						
NEW				LR	LR	10 12 59.1	
	comp=Z,775nm,18.4s,baz=234,slow=39						
NEW	**Newport**	**9.19**	**45**	*e*Pn	**Pn**	**10 09 13.9**	**-0.6**
BBB	**Bella Bella**	**10.10**	**355**	LR	LR	10 12 27.3	
	comp=Z,180nm,18.2s,baz=214,slow=32						
MSO	**Missoula**	**10.33**	**59**	*e*Pn	**Pn**	**10 09 29.8**	**-0.5**
BGU	**Big Grassy Mou**	**10.41**	**92**	*e*Pn	**Pn**	**10 09 32.3**	**+0.9**
HVU	**Hansel Valley**	**10.47**	**87**	*e*Pn	**Pn**	**10 09 32.8**	**+0.6**
MCMT	**McKenzie Canyo**	**10.50**	**70**	*e*Pn	**Pn**	**10 09 33.3**	**+0.5**
DUG	**Dugway, Tooele**	**10.73**	**96**	*e*Pn	**Pn**	**10 09 35.6**	**-0.3**
DLMT	**Dillon**	**10.78**	**68**	*e*Pn	**Pn**	**10 09 37.1**	**+0.6**
LRM	**Limekiln Ridge**	**10.99**	**66**	*e*Pn	**Pn**	**10 09 38.1**	**-1.4**
CCUT	**Cedar City**	**11.31**	**109**	*e*Pn	**Pn**	**10 09 44.5**	**+0.7**
WALA	**Waterton Lakes**	**11.38**	**48**	*e*Pn	**Pn**	**10 09 46.8**	**+2.1**
HWUT	**Hardware Ranch**	**11.39**	**88**	*e*Pn	**Pn**	**10 09 45.2**	**+0.4**
TCRU	**Three Creeks R**	**11.51**	**103**	*e*Pn	**Pn**	**10 09 48.6**	**+1.9**
AHID	**Auburn Hatcher**	**11.63**	**82**	*e*Pn	**Pn**	**10 09 48.1**	**-0.1**
HRY	**Holter Researc**	**11.65**	**62**	*e*Pn	**Pn**	**10 09 49.7**	**+1.3**
YHB	**Horse Butte**	**11.66**	**72**	*e*Pn	**Pn**	**10 09 48.2**	**-0.4**
FXWY	**Fox Creek**	**11.68**	**77**	*e*Pn	**Pn**	**10 09 48.9**	**-0.1**
TPAW	**Teton Pass**	**11.73**	**78**	*e*Pn	**Pn**	**10 09 50.2**	**+0.5**
YHH	**Holmes Hill**	**11.90**	**72**	*e*Pn	**Pn**	**10 09 53.1**	**+1.0**
KNB	**Kanab**	**11.94**	**111**	*e*Pn	**Pn**	**10 09 54.9**	**+2.4**
LOHW	**Long Hollow**	**11.99**	**77**	*e*Pn	**Pn**	**10 09 53.9**	**+0.8**
TMUT	**Trail Mountain**	**12.18**	**98**	*e*Pn	**Pn**	**10 09 57.0**	**+1.2**
DBD	**Des Bee Dove**	**12.26**	**98**	*e*Pn	Pn	10 10 04.1	+7.3
DBD				*e*Sn	Sn	10 12 05.3	-8.3
W13A	**Hualapai Mount**	**12.30**	**121**	*e*Pn	**Pn**	**10 09 59.7**	**+2.3**
Q16A	**Castle Valley**	**12.33**	**100**	*e*Pn	**Pn**	**10 10 00.0**	**+2.3**
U15A	**North Rim**	**12.61**	**112**	*e*Pn	**Pn**	**10 10 01.2**	**-0.5**
SRU	**San Rafael Swe**	**12.74**	**98**	*e*Pn	**Pn**	**10 10 03.7**	**+0.4**
PDAR	**Pinedale Array**	**12.77**	**81**	Pn	**Pn**	**10 10 04.8**	**+1.0**
	0.1nm,0.3s,baz=263,slow=14,SNR=2.9						
PDAR				LR	LR	10 15 14.6	
	comp=Z,447nm,21.0s,baz=281,slow=39						
P18A	**Preston Nutter**	**12.79**	**96**	*e*Pn	**Pn**	**10 10 06.1**	**+1.9**
RLMT	**Red Lodge**	**13.06**	**71**	*e*Pn	**Pn**	**10 10 04.8**	**-3.0**
RLMT				*e*Sn	**Sn**	**10 12 33.6**	**+0.5**
Y14A	**Wickenburg**	**13.60**	**122**	*e*Pn	**Pn**	**10 10 16.2**	**+1.2**
113A	**Mohawk Valley,**	**13.94**	**128**	*e*Pn	**Pn**	**10 10 18.7**	**-0.9**
X16A	**Lo Mia Camp, P**	**14.31**	**118**	*e*Pn	**Pn**	**10 10 25.4**	**+0.6**
PV01	**Paradox Valley**	**14.51**	**100**	*e*Pn	**Pn**	**10 10 27.6**	**0.0**
X18A	**Snowflake**	**15.24**	**114**	*e*Pn	**Pn**	**10 10 38.7**	**+1.3**
	8.3nm,1.2s						
PHWY	**Pilot Hill**	**15.97**	**86**	*e*Pn	**Pn**	**10 10 45.9**	**-1.1**
	10.0nm,1.4s						
TUC	**Tucson**	**16.07**	**122**	*e*Pn	**Pn**	**10 10 48.0**	**-0.2**
	9.1nm,1.6s						
ISCO	**Idaho Springs**	**16.18**	**91**	*e*Pn	**Pn**	**10 10 48.8**	**-0.9**
	9.1nm,1.5s						
SDCO	**Great Sand Dun**	**16.91**	**98**	*e*Pn	**Pn**	**10 10 59.7**	**+0.7**
	19nm,1.4s						
LAZ	**Ladron**	**17.25**	**110**	*e*P	**P**	**10 11 06.8**	**+2.1**
319A	**Douglas**	**17.65**	**122**	*e*P	**P**	**10 11 09.9**	**+0.9**
	17nm,1.2s						
BNM	**Barren Site**	**17.74**	**110**	*e*Pn	**Pn**	**10 11 09.8**	**+0.5**
MHTCO	**State Highway**	**17.74**	**99**	*e*Pn	**Pn**	**10 11 10.0**	**+0.7**
	20nm,1.9s						
T25A	**Trinidad**	**17.95**	**99**	*e*Pn	**Pn**	**10 11 11.8**	**0.0**
	18nm,1.4s						
T25A				*e*Sn	**Sn**	**10 14 30.1**	**-1.9**
MNTX	**Cornudas Mount**	**20.00**	**114**	*e*P	Pn	10 11 37.0	+0.6
	11nm,1.5s						
MSTX	**Muleshoe**	**20.57**	**105**	*e*P	**P**	**10 11 41.1**	**+0.1**
	24nm,2.0s						
FFC	**Flin Flon**	**20.61**	**44**	*e*P	**P**	**10 11 41.6**	**+0.4**
	40nm,1.8s						
CBKS	**Cedar Bluff**	**20.83**	**90**	*e*P	**P**	**10 11 45.0**	**+1.2**
	21nm,1.5s						
BGNE	**Belgrade**	**21.36**	**82**	*e*P	**P**	**10 11 50.2**	**+0.8**
	23nm,0.9s						
YKA	**Yellowknife Ar**	**21.64**	**15**	P	**P**	**10 11 51.7**	**-0.6**
	1.4nm,0.8s,baz=205,slow=11,SNR=18						
ECSD	**EROS Data Cent**	**22.12**	**76**	*e*P	**P**	**10 11 57.7**	**+0.2**
	9.1nm,1.0s						
DIV	**Divide**	**22.21**	**335**	*e*P	**P**	**10 12 01.2**	**+2.7**
	22nm,1.4s						
KLU	**Klutina**	**22.54**	**336**	*e*P	**P**	**10 12 03.3**	**+1.3**
	16nm,1.2s						
LPIG	**La Paz**	**22.61**	**138**	LR	LR	10 19 56.8	
	comp=Z,92nm,18.8s,baz=326,slow=34						
LTX	**Lajitas**	**22.63**	**117**	*e*P	**P**	**10 12 02.0**	**-1.3**
TX31	**Lajitas Ar. Si**	**22.63**	**117**	*e*P	**P**	**10 12 02.9**	**-0.4**
TXAR	**Lajitas Array**	**22.63**	**117**	P	**P**	**10 12 02.0**	**-1.3**
	0.8nm,0.9s,baz=293,slow=8.0,SNR=8.0						
ULM	**Lac du Bonnet**	**22.78**	**58**	P	**P**	**10 12 04.8**	**+0.3**
	4.0nm,0.9s,baz=261,slow=11,SNR=4.8						
ULM				LR	LR	10 21 32.3	
	comp=Z,196nm,18.2s,baz=252,slow=38						
ULM	**Lac du Bonnet**	**22.78**	**58**	*e*P	**P**	**10 12 04.4**	**-0.1**
	16nm,1.3s						
MENT	**Mentasta**	**23.09**	**340**	*e*P	**P**	**10 12 09.4**	**+1.7**
	14nm,1.3s						
WMOK	**Wichita Mounta**	**23.10**	**99**	*e*P	**P**	**10 12 09.2**	**+1.2**
	4.4nm,1.1s						
ABTX	**Abilene, Hawle**	**23.50**	**105**	*e*P	**P**	**10 12 12.2**	**+0.1**
	15nm,1.6s						
SPU	**Mount Spurr**	**24.40**	**330**	*e*P	**P**	**10 12 20.1**	**-0.3**
JCT	**Junction City**	**24.57**	**109**	*e*P	**P**	**10 12 20.7**	**-1.4**
	19nm,1.8s						
IL1	**Eielson Array**	**25.41**	**340**	*e*P	**P**	**10 12 29.2**	**-0.2**
ILAR	**Eielson Array**	**25.41**	**340**	P	**P**	**10 12 28.8**	**-0.6**
	3.1nm,1.1s,baz=154,slow=7.8,SNR=16						
ILAR				LR	LR	10 20 44.7	
	comp=Z,126nm,19.2s,baz=146,slow=32						
ILB	**Eielson Array**	**25.41**	**340**	*e*P	**P**	**10 12 29.4**	**+0.1**
MLY	**Manley**	**26.65**	**337**	*e*P	**P**	**10 12 40.7**	**0.0**
	6.0nm,1.2s						
TKL	**Tuckaleechee C**	**33.84**	**87**	LR	LR	10 28 28.8	
	comp=Z,188nm,19.8s,baz=324,slow=38						
RES	**Resolute Bay**	**35.70**	**14**	LR	LR	10 27 30.0	
	comp=Z,41nm,18.8s,baz=350,slow=34						
FRB	**Frobisher Bay**	**39.41**	**37**	LR	LR	10 31 18.8	
	comp=Z,208nm,21.3s,baz=96,slow=37						
SCHQ	**Schefferville**	**40.50**	**50**	LR	LR	10 31 38.3	
	comp=Z,182nm,21.4s,baz=342,slow=36						
JTS	**JuntasAbangare**	**48.41**	**119**	LR	LR	10 39 03.8	
	comp=Z,43nm,20.4s,baz=29,slow=40						
PETK	**Petropavlovsk-**	**49.79**	**310**	LR	LR	10 33 41.0	
	comp=Z,

mb1 4.2/29,mb1mx4.1/62,mbtmp4.2/29,ML4.2/6,MS3.7/33, Ms1 3.7/33,ms1mx3.5/64,Error ellipse: s-maj=13.5km s-min=11.4km az=166.0

NEIC ***13*** *10:44:48.8±0.0,35°.33N×31°.41E,h9km,mb4.4/13, ML4.5(ISK),After ISK.*

ISK ***13*** *10:44:48.9,35°.33N×31°.41E,h11km,ML4.5/47*

DDA ***13*** *10:44:50.9,35°.61N×31°.54E,h16km,Ml4.5*

MOS ***13*** *10:44:50.0±1.9,35°.21N×31°.39E,h33km,mb4.4/29,Error ellipse: s-maj=6.8km s-min=3.9km az=91.7*

ISCJB ***13*** *10:44:51.8±0.2,35°.34N±0°.01×31°.36E±0°.01,h51km±2km, mb4.2/41,MS3.7/23,Error ellipse: s-maj=2.5km s-min=1.7km az=38.7*

NIC ***13*** *10:44:52.9±0.1,35°.44N×31°.34E,h50km,mb4.4,ML4.2*

CSEM ***13*** *10:44:53.5±0.1,35°.39N×31°.39E,h49km±1km,mb4.3/30, Error ellipse: s-maj=2.9km s-min=2.0km az=30.0*

HLW ***13*** *10:44:55.5,35°.22N×31°.20E,h11km±23km,Ml3.9*

GII ***13*** *10:44:56.1±0.1,35°.25N×31°.41E,h32km,mb4.2/6, MD4.1/6*

THE ***13*** *10:44:57.3,35°.57N×30°.95E,h8km±27km,ML4.1/4,Error ellipse: s-maj=37.6km s-min=2.2km az=104.0*

ISC 13 10:44:52.3±2.3,35°.40N±0°.03×31°.33E±0°.02,h32km±16km, n571,σ1§63/644,mb4.2/41,MS3.7/23,19C-18D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.98**	**122**	**P**		**Pn**		**10 45 10.7**	**+0.9**
	baz=304								
PPCY	**Paphos**	**0.98**	**122**	P		**Pn**		**10 45 10.7**	**+0.9**
ALFC	**Alefka**	**1.07**	**103**	P		**Pn**		**10 45 11.6**	**+0.6**
	baz=285								
ALFC				S		**Sn**		**10 45 26.5**	**+1.7**
ALFC	**Alefka**	**1.07**	**103**	P		**Pn**		**10 45 11.6**	**+0.6**
ALFC				S		**Sn**		**10 45 26.5**	**+1.7**
LEF	**Lefka**	**1.31**	**102**	PN		**Pn**		**10 45 12.1**	**-2.2**
LEF				SN		**Sn**		**10 45 29.0**	**-1.7**
LEF	**Lefka**	**1.31**	**102**	**eP**		**Pn**		**10 45 12.1**	**-2.2**
LEF	**Lefka**	**1.31**	**102**	**eP**		**Pn**		**10 45 12.1**	**-2.2**
LEF	**Lefka**	**1.31**	**102**	P		**Pn**		**10 45 12.7**	**-1.6**
LEF				*e*Sn		**Sn**		**10 45 29.0**	**-1.7**
LEF				S		**Sn**		**10 45 30.5**	**-0.2**
AKDN	**Akdeniz- K¨–br**	**1.34**	**94**	PN		**Pn**		**10 45 13.3**	**-1.5**
AKDN				SN		**Sn**		**10 45 31.5**	**0.0**
AKDN	**Akdeniz- K¨–br**	**1.34**	**94**	**e**Pn		**Pn**		**10 45 13.3**	**-1.5**
AKDN				*e*Sn		**Sn**		**10 45 31.5**	**0.0**
SZAC	**Souni**	**1.43**	**116**	P		**Pn**		**10 45 16.6**	**+0.6**
	baz=298								
SZAC				S		**Sn**		**10 45 35.6**	**+1.9**
SZAC	**Souni**	**1.43**	**116**	P		**Pn**		**10 45 16.6**	**+0.6**
SZAC				S		**Sn**		**10 45 35.6**	**+1.9**
KEPZ	**Antalya-Kepez**	**1.51**	**8**	*i* P		**Pn**		**10 45 16.0**	**-1.1**
KEPZ				*i* S		**Sn**		**10 45 33.5**	**-2.3**
KEPZ	**Antalya-Kepez**	**1.51**	**8**	P		**Pn**		**10 45 16.0**	**-1.1**
KEPZ				S		**Sn**		**10 45 33.5**	**-2.3**
BOZY	**Bozyazi-Mersin**	**1.51**	**62**	PN		**Pn**		**10 45 16.3**	**-0.8**
BOZY	**Bozyazi-Mersin**	**1.51**	**62**	**e**Pn		**Pn**		**10 45 16.3**	**-0.8**
MAMC	**Mammari**	**1.56**	**98**	P		**Pn**		**10 45 18.3**	**+0.5**
	baz=280								
MAMC	**Mammari**	**1.56**	**98**	P		**Pn**		**10 45 18.3**	**+0.5**
KSL	**Kastellorizon**	**1.60**	**298**	**e**Pn		**Pn**		**10 45 19.9**	**+1.6**
KSL	**Kastellorizon**	**1.60**	**298**	P		**Pn**		**10 45 19.9**	**+1.6**
AKAS	**Kas**	**1.63**	**301**	PN		**Pn**		**10 45 19.7**	**+0.9**
AKAS	**Kas**	**1.63**	**301**	**e**Pn		**Pn**		**10 45 19.7**	**+0.9**
AKAS	**Kas**	**1.63**	**301**	**e**Pn		**Pn**		**10 45 19.7**	**+0.9**
TEKE	**Tekeli-Mersin**	**1.63**	**63**	PN		**Pn**		**10 45 18.1**	**-0.6**
TEKE				SN		**Sn**		**10 45 38.9**	**+0.3**
TEKE	**Tekeli-Mersin**	**1.63**	**63**	**e**Pn		**Pn**		**10 45 18.1**	**-0.6**
TEKE				*e*Sn		**Sn**		**10 45 38.9**	**+0.3**
CSS	**Mathiatis**	**1.70**	**104**	**e**Pn		**Pn**		**10 45 19.7**	**+0.1**
CSS				*e*Sn		**Sn**		**10 45 39.4**	**-0.9**
CSS	**Mathiatis**	**1.70**	**104**	P		**Pn**		**10 45 20.4**	**+0.7**
	baz=286								
CSS				S		**Sn**		**10 45 41.6**	**+1.3**
CSS	**Mathiatis**	**1.70**	**104**	Pn		**Pn**		**10 45 20.0**	**+0.3**
CSS	**Mathiatis**	**1.70**	**104**	P		**Pn**		**10 45 20.4**	**+0.7**
CSS				Sn		**Sn**		**10 45 40.3**	**0.0**
CSS				S		**Sn**		**10 45 41.6**	**+1.3**
CSS	**Mathiatis**	**1.70**	**104**	Pn		**Pn**		**10 45 20.0**	**+0.3**
CSS				Sn		**Sn**		**10 45 40.3**	**0.0**
ELL	**Elmali**	**1.77**	**320**	PN		**Pn**		**10 45 21.8**	**+1.1**
ELL	**Elmali**	**1.77**	**320**	*e*P		**Pn**		**10 45 21.8**	**+1.1**
ELL	**Elmali**	**1.77**	**320**	**e**Pn		**Pn**		**10 45 21.8**	**+1.1**
ELL	**Elmali**	**1.77**	**320**	**e**Pn		**Pn**		**10 45 21.8**	**+1.1**
KORT	**Korkueli**	**1.78**	**334**	PN		**Pn**		**10 45 22.0**	**+0.9**
KORT	**Korkueli**	**1.78**	**334**	*i* P		**Pn**		**10 45 22.0**	**+2.1**
KORT				*i* S		Sn		10 45 52.6	+10
KORT	**Korkueli**	**1.78**	**334**	**e**Pn		**Pn**		**10 45 21.8**	**+0.9**
KORT	**Korkueli**	**1.78**	**334**	P		**Pn**		**10 45 22.0**	**+1.1**
AKIN	**Ak¨–nc¨–lar- K**	**1.79**	**102**	PN		**Pn**		**10 45 20.3**	**-0.7**
AKIN	**Ak¨–nc¨–lar- K**	**1.79**	**102**	**e**Pn		**Pn**		**10 45 20.3**	**-0.7**
LFK	**Lefkose**	**1.81**	**93**	PN		**Pn**		**10 45 19.7**	**-1.5**
LFK	**Lefkose**	**1.81**	**93**	**e**Pn		**Pn**		**10 45 19.7**	**-1.5**
LFK	**Lefkose**	**1.81**	**93**	**e**Pn		**Pn**		**10 45 19.7**	**-1.5**
OREN	**Orenkoy-Mersin**	**1.91**	**65**	PN		**Pn**		**10 45 22.2**	**-0.3**
OREN	**Orenkoy-Mersin**	**1.91**	**65**	**e**Pn		**Pn**		**10 45 22.2**	**-0.3**
AKK1	**Akkuyu-Mersin**	**1.94**	**67**	PN		**Pn**		**10 45 22.2**	**-0.8**
AKK1	**Akkuyu-Mersin**	**1.94**	**67**	**e**Pn		**Pn**		**10 45 22.2**	**-0.8**
AKK2	**Akkuyu-Mersin**	**1.95**	**67**	PN		**Pn**		**10 45 22.7**	**-0.4**
AKK2	**Akkuyu-Mersin**	**1.95**	**67**	**e**Pn		**Pn**		**10 45 22.7**	**-0.4**
AKKU	**Akkuyu-Mersin**	**1.96**	**67**	PN		**Pn**		**10 45 22.5**	**-0.7**
AKKU				SN		**Sn**		**10 45 46.9**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.96**	**67**	**e**Pn		**Pn**		**10 45 22.5**	**-0.7**
AKKU				*e*Sn		**Sn**		**10 45 46.9**	**+0.2**
GULN	**MERSIN_Gulnar**	**1.96**	**66**	*i* P		**Pn**		**10 45 22.8**	**-0.5**
GULN				*i* S		**Sn**		**10 45 46.6**	**-0.1**
GULN	**MERSIN_Gulnar**	**1.96**	**66**	P		**Pn**		**10 45 22.8**	**-0.5**
GULN				S		**Sn**		**10 45 46.7**	**-0.1**
TEPE	**Tepekoy-Mersin**	**1.99**	**65**	PN		**Pn**		**10 45 23.2**	**-0.5**
TEPE	**Tepekoy-Mersin**	**1.99**	**65**	**e**Pn		**Pn**		**10 45 23.2**	**-0.5**
TEVE	**Tevekalti-Mers**	**2.00**	**58**	PN		**Pn**		**10 45 23.9**	**0.0**
TEVE	**Tevekalti-Mers**	**2.00**	**58**	**e**Pn		**Pn**		**10 45 23.9**	**0.0**
YESI	**Yesilovacik-Me**	**2.04**	**67**	PN		**Pn**		**10 45 24.2**	**-0.1**
YESI				SN		**Sn**		**10 45 49.5**	**+0.8**
YESI	**Yesilovacik-Me**	**2.04**	**67**	**e**Pn		**Pn**		**10 45 24.2**	**-0.1**
YESI				*e*Sn		**Sn**		**10 45 49.5**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.09**	**353**	PN		**Pn**		**10 45 26.3**	**+1.2**
SUTC	**Sutluce-Ispart**	**2.09**	**353**	**e**Pn		**Pn**		**10 45 26.3**	**+1.2**
FETY	**Fethiye**	**2.20**	**305**	PN		**Pn**		**10 45 27.5**	**+1.0**
FETY	**Fethiye**	**2.20**	**305**	**e**Pn		**Pn**		**10 45 27.0**	**+0.5**
FETY	**Fethiye**	**2.20**	**305**	P		**Pn**		**10 45 27.0**	**+0.5**
FETY	**Fethiye**	**2.20**	**305**	**e**Pn		**Pn**		**10 45 27.5**	**+1.0**
FETY	**Fethiye**	**2.20**	**305**	P		**Pn**		**10 45 27.0**	**+0.5**
GOLH	**Golhisar**	**2.32**	**323**	*i* P		**Pn**		**10 45 30.4**	**+2.1**
GOLH				*i* S		Sn		10 46 10.7	+15
GOLH	**Golhisar**	**2.32**	**323**	P		**Pn**		**10 45 30.4**	**+2.1**
EREN	**Erenkoy**	**2.32**	**86**	PN		**Pn**		**10 45 26.9**	**-1.3**
EREN	**Erenkoy**	**2.32**	**86**	**e**Pn		**Pn**		**10 45 26.9**	**-1.3**
BRDR	**BURDUR-Merkez**	**2.50**	**336**	*i* P		**Pn**		**10 45 33.8**	**+3.0**
BRDR	**BURDUR-Merkez**	**2.50**	**336**	P		**Pn**		**10 45 33.8**	**+3.0**
KIZK	**Mersin**	**2.52**	**64**	PN		**Pn**		**10 45 31.2**	**+0.2**
KIZK	**Mersin**	**2.52**	**64**	*i* P		**Pn**		**10 45 32.1**	**+1.2**
KIZK				*i* S		**Sn**		**10 46 00.1**	**-0.6**
KIZK	**Mersin**	**2.52**	**64**	P		**Pn**		**10 45 32.2**	**+1.2**
KIZK				S		**Sn**		**10 46 00.1**	**-0.6**
DALY	**Dalyan (Mu¨la**	**2.58**	**304**	PN		**Pn**		**10 45 32.9**	**+1.2**
DALY	**Dalyan (Mu¨la**	**2.58**	**304**	*i* P		**Pn**		**10 45 33.0**	**+1.2**
DALY	**Dalyan (Mu¨la**	**2.58**	**304**	P		**Pn**		**10 45 33.0**	**+1.2**
BAGO	**Egridir - ISPA**	**2.62**	**351**	*i* P		**Pn**		**10 45 35.0**	**+2.6**
TURN	**Turunc**	**2.65**	**304**	PN		**Pn**		**10 45 37.1**	**+4.4**
TURN	**Turunc**	**2.65**	**304**	*i* P		**Pn**		**10 45 36.7**	**+4.0**
TURN	**Turunc**	**2.65**	**304**	P		**Pn**		**10 45 36.7**	**+4.0**
TURN	**Turunc**	**2.65**	**304**	**e**Pn		**Pn**		**10 45 37.1**	**+4.4**
DOGA	**KONYA_Doganhis**	**2.71**	**6**	*i* P		**Pn**		**10 45 34.8**	**+1.1**
DOGA	**KONYA_Doganhis**	**2.71**	**6**	P		**Pn**		**10 45 34.8**	**+1.1**
ARG	**Arkhangelos**	**2.73**	**288**	P		**Pn**		**10 45 34.8**	**+1.0**
	baz=105								
ARG	**Arkhangelos**	**2.73**	**288**	P		**Pn**		**10 45 34.8**	**+1.0**
ARG				S		**Sn**		**10 46 04.3**	**-1.3**
ARG	**Arkhangelos**	**2.73**	**288**	P		**Pn**		**10 45 34.7**	**+1.0**
ARG				S		**Sn**		**10 46 04.3**	**-1.3**
TAVA	**DENIZLI_Tavas**	**2.83**	**317**	*i* P		**Pn**		**10 45 37.6**	**+2.3**
TAVA	**DENIZLI_Tavas**	**2.83**	**317**	P		**Pn**		**10 45 37.6**	**+2.3**
DENT	**Denizli**	**2.99**	**322**	PN		**Pn**		**10 45 39.1**	**+1.7**
DENT	**Denizli**	**2.99**	**322**	**e**Pn		**Pn**		**10 45 39.1**	**+1.7**
KZIL	**AFYON_Kizioren**	**3.00**	**342**	*i* P		**Pn**		**10 45 39.8**	**+2.1**
KZIL				*i* S		**Sn**		**10 46 10.6**	**-2.1**
KZIL	**AFYON_Kizioren**	**3.00**	**342**	P		**Pn**		**10 45 39.8**	**+2.1**
KZIL				S		**Sn**		**10 46 10.6**	**-2.1**
YER	**Yerkesik**	**3.01**	**306**	PN		**Pn**		**10 45 39.5**	**+1.8**
YER	**Yerkesik**	**3.01**	**306**	*e*P		**Pn**		**10 45 39.5**	**+1.8**
YER	**Yerkesik**	**3.01**	**306**	*e*Pn		**Pn**		**10 45 39.5**	**+1.8**
YER	**Yerkesik**	**3.01**	**306**	P		**Pn**		**10 45 39.5**	**+1.8**
YER	**Yerkesik**	**3.01**	**306**	P		**Pn**		**10 45 39.5**	**+1.8**
KERG	**Konya-Eregli**	**3.02**	**48**	*i* P		**Pn**		**10 45 39.2**	**+1.3**
KERG				*i* S		**Sn**		**10 46 14.6**	**+1.5**
KERG	**Konya-Eregli**	**3.02**	**48**	P		**Pn**		**10 45 39.2**	**+1.3**
KERG				S		**Sn**		**10 46 14.6**	**+1.5**
KDHN	**Kadinhani**	**3.17**	**11**	*i* P		**Pn**		**10 45 40.3**	**+0.3**
KDHN				*i* S		**Sn**		**10 46 18.4**	**+1.5**
KDHN	**Kadinhani**	**3.17**	**11**	P		**Pn**		**10 45 40.3**	**+0.3**
KDHN				S		**Sn**		**10 46 18.4**	**+1.5**
SHUT	**Suhut-Afyon**	**3.20**	**349**	PN		**Pn**		**10 45 42.2**	**+1.7**
SHUT	**Suhut-Afyon**	**3.20**	**349**	**e**Pn		**Pn**		**10 45 42.2**	**+1.7**
DED	**Mersin**	**3.21**	**60**	*i* P		**Pn**		**10 45 40.2**	**-0.2**
KHL	**Karahalli**	**3.25**	**334**	PN		**Pn**		**10 45 42.6**	**+1.5**
KHL	**Karahalli**	**3.25**	**334**	**e**Pn		**Pn**		**10 45 42.6**	**+1.5**
SULT	**Sultanhani-AKS**	**3.30**	**32**	PN		**Pn**		**10 45 42.6**	**+0.9**
SULT	**Sultanhani-AKS**	**3.30**	**32**	**e**Pn		**Pn**		**10 45 42.6**	**+0.9**
KHAL	**Karahalli**	**3.31**	**334**	*i* P		**Pn**		**10 45 43.9**	**+2.0**
KHAL	**Karahalli**	**3.31**	**334**	P		**Pn**		**10 45 43.9**	**+2.0**
BOLV	**Bolvadin**	**3.32**	**355**	*i* P		**Pn**		**10 45 45.0**	**+2.9**
BOLV	**Bolvadin**	**3.32**	**355**	P		**Pn**		**10 45 45.0**	**+2.9**
KARP	**Karpathos**	**3.40**	**274**	**e**Pn		**Pn**		**10 45 44.6**	**+1.5**
KARP				*e*Sn		**Sn**		**10 46 23.5**	**+1.0**
KARP	**Karpathos**	**3.40**	**274**	P		**Pn**		**10 45 44.7**	**+1.5**
KARP				S		**Sn**		**10 46 21.9**	**-0.5**
CHBY	**Cihanbeyli**	**3.41**	**21**	PN		**Pn**		**10 45 44.0**	**+0.7**
CHBY	**Cihanbeyli**	**3.41**	**21**	**e**Pn		**Pn**		**10 45 44.0**	**+0.7**
MLSB	**Milas**	**3.43**	**304**	PN		**Pn**		**10 45 45.4**	**+1.9**
MLSB	**Milas**	**3.43**	**304**	**e**Pn		**Pn**		**10 45 45.4**	**+1.9**
KRTS	**Karatas**	**3.48**	**69**	PN		**Pn**		**10 45 44.3**	**+0.1**
KRTS	**Karatas**	**3.48**	**69**	**e**Pn		**Pn**		**10 45 44.3**	**+0.1**
KRTD	**Karatas-Adana**	**3.52**	**69**	PN		**Pn**		**10 45 44.8**	**+0.1**
KRTD	**Karatas-Adana**	**3.52**	**69**	**e**Pn		**Pn**		**10 45 44.8**	**+0.1**
BDRM	**Kayabasi**	**3.55**	**299**	*i* P		**Pn**		**10 45 46.8**	**+1.6**
BDRM	**Kayabasi**	**3.55**	**299**	P		**Pn**		**10 45 46.8**	**+1.6**
AYDN	**Tasoluk**	**3.58**	**310**	*i* P		**Pn**		**10 45 46.8**	**+1.3**
AYDN	**Tasoluk**	**3.58**	**310**	P		**Pn**		**10 45 46.8**	**+1.3**
BODT	**Bodrum**	**3.65**	**298**	PN		**Pn**		**10 45 46.7**	**+0.3**
BODT	**Bodrum**	**3.65**	**298**	**e**Pn		**Pn**		**10 45 46.3**	**-0.1**
BODT				*e*Sn		**Sn**		**10 46 25.8**	**-2.5**
BODT	**Bodrum**	**3.65**	**298**	P		**Pn**		**10 45 46.3**	**-0.1**
BODT	**Bodrum**	**3.65**	**298**	**e**Pn		**Pn**		**10 45 46.7**	**+0.3**
BODT				S		**Sn**		**10 46 25.8**	**-2.5**
BODT	**Bodrum**	**3.65**	**298**	P		**Pn**		**10 45 46.3**	**-0.1**
BODT				S		**Sn**		**10 46 25.8**	**-2.5**
YKAV	**Yalikavak-Bodr**	**3.69**	**299**	PN		**Pn**		**10 45 48.5**	**+1.4**
YKAV	**Yalikavak-Bodr**	**3.69**	**299**	**e**Pn		**Pn**		**10 45 48.5**	**+1.4**
YURE	**YUREGIR**	**3.76**	**67**	PN		**Pn**		**10 45 48.9**	**+0.8**
YURE	**YUREGIR**	**3.76**	**67**	*i* P		**Pn**		**10 45 48.7**	**+0.6**
YURE	**YUREGIR**	**3.76**	**67**	P		**Pn**		**10 45 48.7**	**+0.6**
KULA	**Kula-Manisa**	**3.77**	**326**	PN		**Pn**		**10 45 50.4**	**+2.2**
KULA	**Kula-Manisa**	**3.77**	**326**	**e**Pn		**Pn**		**10 45 50.4**	**+2.2**
AKSY	**AKSARAY - Alti**	**3.78**	**30**	*i* P		**Pn**		**10 45 48.9**	**+0.5**
AKSY	**AKSARAY - Alti**	**3.78**	**30**	P		**Pn**		**10 45 48.9**	**+0.5**
BHL	**Bhannes**	**3.87**	**112**	**e**P		**Pn**		**10 45 50.0**	**+0.5**
DQRL	**Deir Qamar**	**3.89**	**115**	**e**P		**Pn**		**10 45 50.1**	**+0.2**
AKO	**Adana**	**3.90**	**57**	*i* P		**Pn**		**10 45 52.0**	**+2.0**
CEYT	**Ceyhan**	**3.92**	**65**	PN		**Pn**		**10 45 50.5**	**+0.4**
CEYT	**Ceyhan**	**3.92**	**65**	**e**Pn		**Pn**		**10 45 50.5**	**+0.4**
HNTI	**Hanita**	**3.94**	**125**	Pn		**Pn**		**10 45 51.5**	**+1.0**
HNTI				Sn		**Sn**		**10 46 33.9**	**-1.7**
HNTI	**Hanita**	**3.94**	**125**	Pn		**Pn**		**10 45 51.5**	**+1.0**
HNTI				Sn		**Sn**		**10 46 33.9**	**-1.7**
YAYL	**Yayladag**	**3.94**	**79**	PN		**Pn**		**10 45 50.5**	**-0.1**
YAYL	**Yayladag**	**3.94**	**79**	*i* P		**Pn**		**10 45 51.2**	**+0.6**
YAYL				*i* S		**Sn**		**10 46 32.3**	**-3.5**
YAYL	**Yayladag**	**3.94**	**79**	**e**Pn		**Pn**		**10 45 50.5**	**-0.1**
YAYL	**Yayladag**	**3.94**	**79**	P		**Pn**		**10 45 51.2**	**+0.6**
YAYL				S		**Sn**		**10 46 32.3**	**-3.5**
HWQ	**Hawqa**	**3.96**	**105**	**e**P		**Pn**		**10 45 51.6**	**+0.7**
SERE	**Sereflikochisa**	**3.96**	**26**	PN		**Pn**		**10 45 52.1**	**+1.2**
SERE	**Sereflikochisa**	**3.96**	**26**	**e**Pn		**Pn**		**10 45 52.1**	**+1.2**
KKUL	**Konya-Kulu**	**3.97**	**18**	*i* P		**Pn**		**10 45 53.6**	**+2.6**
KKUL	**Konya-Kulu**	**3.97**	**18**	P		**Pn**		**10 45 53.6**	**+2.6**
GCAM	**G?zelcami?**	**4.01**	**306**	PN		**Pn**		**10 45 52.9**	**+1.4**
GCAM	**G?zelcami?**	**4.01**	**306**	*i* P		**Pn**		**10 45 52.7**	**+1.2**
GCAM	**G?zelcami?**	**4.01**	**306**	**e**Pn		**Pn**		**10 45 52.9**	**+1.4**
SVRH	**Sivrihisar-ESK**	**4.04**	**2**	PN		**Pn**		**10 45 53.3**	**+1.4**
SVRH	**Sivrihisar-ESK**	**4.04**	**2**	**e**Pn		**Pn**		**10 45 53.3**	**+1.4**
OFRI	**'Ofer**	**4.11**	**131**	Pn		**Pn**		**10 45 53.9**	**+1.0**
OFRI				Sn		**Sn**		**10 46 38.8**	**-1.2**
OFRI	**'Ofer**	**4.11**	**131**	Pn		**Pn**		**10 45 53.9**	**+1.0**
OFRI				Sn		**Sn**		**10 46 38.8**	**-1.2**
SIMA	**Simav-Kutahya**	**4.12**	**334**	PN		**Pn**		**10 45 55.2**	**+2.1**
SIMA	**Simav-Kutahya**	**4.12**	**334**	**e**Pn		**Pn**		**10 45 55.2**	**+2.1**
ESKT	**Eskisehir**	**4.13**	**355**	PN		**Pn**		**10 45 54.5**	**+1.3**
ESKT	**Eskisehir**	**4.13**	**355**	*i* P		**Pn**		**10 45 51.9**	**-1.3**
ESKT	**Eskisehir**	**4.13**	**355**	**e**Pn		**Pn**		**10 45 54.5**	**+1.3**
SEYT	**Eskypehyr**	**4.13**	**355**	P		**Pn**		**10 45 51.9**	**-1.2**
MMA0B	**Mount Meron ar**	**4.13**	**124**	Pn		**Pn**		**10 45 53.2**	**0.0**
MMA0B				Sn		**Sn**		**10 46 38.8**	**-1.7**
MMA0B	**Mount Meron ar**	**4.13**	**124**	Pn		**Pn**		**10 45 53.2**	**0.0**
MMA0B				Sn		**Sn**		**10 46 38.8**	**-1.7**
MMAI	**Mount Meron Ar**	**4.13**	**124**	Pn		**Pn**		**10 45 53.0**	**-0.2**
	39nm,0.3s,baz=308,slow=12,SNR=70								
MMAI				Sn		**Sn**		**10 46 40.1**	**-0.3**
	59nm,0.3s,baz=315,slow=20,SNR=6.8								
BLGI	**Bet Lehem HaGe**	**4.17**	**129**	Pn		**Pn**		**10 45 54.5**	**+0.9**
BLGI	**Bet Lehem HaGe**	**4.17**	**129**	Pn		**Pn**		**10 45 54.5**	**+0.9**
KOZT	**Kozan**	**4.18**	**59**	PN		**Pn**		**10 45 53.8**	**+0.1**
KOZT	**Kozan**	**4.18**	**59**	**e**Pn		**Pn**		**10 45 53.8**	**+0.1**
RCY	**Rachaya**	**4.18**	**116**	**e**P		**Pn**		**10 45 53.9**	**0.0**
DEMI	**Demirci**	**4.19**	**331**	*i* P		**Pn**		**10 45 55.5**	**+1.5**
DEMI	**Demirci**	**4.19**	**331**	P		**Pn**		**10 45 55.5**	**+1.5**
SHBL	**Chebaa**	**4.19**	**118**	**e**P		**Pn**		**10 45 54.1**	**+0.1**
ZKR	**Zakros**	**4.19**	**268**	**e**Pn		**Pn**		**10 45 55.5**	**+1.5**
ZKR				*e*Sn		**Sn**		**10 46 40.4**	**-1.4**
ZKR	**Zakros**	**4.19**	**268**	P		**Pn**		**10 45 55.5**	**+1.5**
ZKR				S		**Sn**		**10 46 40.4**	**-1.4**
ZKR	**Zakros**	**4.19**	**268**	P		**Pn**		**10 45 55.5**	**+1.5**
ZKR				S		**Sn**		**10 46 40.4**	**-1.4**
YAHY	**KAYSERI_Yahyal**	**4.21**	**49**	*i* P		**Pn**		**10 45 56.9**	**+2.6**
YAHY	**KAYSERI_Yahyal**	**4.21**	**49**	P		**Pn**		**10 45 56.9**	**+2.6**
KSDI	**Kefar Szold**	**4.21**	**120**	Pn		**Pn**		**10 45 54.3**	**+0.1**
KSDI				Sn		**Sn**		**10 46 40.7**	**-1.5**
KSDI	**Kefar Szold**	**4.21**	**120**	Pn		**Pn**		**10 45 54.3**	**+0.1**
KSDI				Sn		**Sn**		**10 46 40.7**	**-1.5**
AFSR	**Af¨ar-Bala (A**	**4.27**	**18**	PN		**Pn**		**10 45 56.9**	**+1.8**
AFSR	**Af¨ar-Bala (A**	**4.27**	**18**	**e**Pn		**Pn**		**10 45 56.9**	**+1.8**
TVSB	**Tavsanli**	**4.30**	**340**	PN		**Pn**		**10 45 57.8**	**+2.2**
TVSB	**Tavsanli**	**4.30**	**340**	**e**Pn		**Pn**		**10 45 57.8**	**+2.2**
SLTI	**Sal'it**	**4.42**	**135**	Pn		**Pn**		**10 45 58.0**	**+1.0**
SLTI				Sn		**Sn**		**10 46 45.8**	**-1.5**
SLTI	**Sal'it**	**4.42**	**135**	Pn		**Pn**		**10 45 58.0**	**+1.0**
SLTI				Sn		**Sn**		**10 46 45.8**	**-1.5**
KSHT	**Keshet**	**4.43**	**122**	Pn		**Pn**		**10 45 58.9**	**+1.6**
KSHT	**Keshet**	**4.43**	**122**	Pn		**Pn**		**10 45 58.9**	**+1.6**
DGR	**¨zmir**	**4.44**	**308**	*i* P		**Pn**		**10 45 58.1**	**+0.7**
MMLI	**Mount Malkishu**	**4.51**	**130**	Pn		**Pn**		**10 45 58.8**	**+0.5**
MMLI				Sn		**Sn**		**10 46 48.7**	**-1.0**
MMLI	**Mount Malkishu**	**4.51**	**130**	Pn		**Pn**		**10 45 58.8**	**+0.5**
MMLI				Sn		**Sn**		**10 46 48.7**	**-1.0**
BORA	**Eskisehir**	**4.52**	**351**	*i* P		**Pn**		**10 45 59.9**	**+1.3**
BORA	**Eskisehir**	**4.52**	**351**	P		**Pn**		**10 45 59.9**	**+1.3**
BR231	**Keskin MP Arra**	**4.58**	**14**	**e**Pn		**Pn**		**10 46 00.1**	**+0.8**
BR231				*e*Sn		**Sn**		**10 46 50.4**	**-1.1**
BR231	**Keskin MP Arra**	**4.58**	**14**	**e**Pn		**Pn**		**10 46 00.1**	**+0.8**
BR231				*e*Sn		**Sn**		**10 46 50.4**	**-1.1**
ANDN	**Andirin**	**4.59**	**60**	*i* P		**Pn**		**10 45 59.4**	**-0.1**
ANDN	**Andirin**	**4.59**	**60**	P		**Pn**		**10 45 59.4**	**-0.1**
SAIM	**ADANA**	**4.60**	**55**	*i* P		**Pn**		**10 46 00.6**	**+0.9**
SAIM	**ADANA**	**4.60**	**55**	P		**Pn**		**10 46 00.6**	**+0.9**
ANTO	**Ankara**	**4.61**	**14**	PN		**Pn**		**10 46 01.8**	**+2.1**
ANTO	**Ankara**	**4.61**	**14**	*e*P		**Pn**		**10 46 01.5**	**+1.8**
ANTO				*e*				10 46 57.0	
ANTO	**Ankara**	**4.61**	**14**	**e**Pn		**Pn**		**10 46 01.5**	**+1.8**
ANTO				*e*Sn		**Sn**		**10 46 57.0**	**+4.9**
ANTO	**Ankara**	**4.61**	**14**	**e**P		**Pn**		**10 46 01.5**	**+1.8**
ANTO				*e*S		**Sn**		**10 46 57.0**	**+4.9**
KAMA	**Osmaniye**	**4.67**	**66**	*i* P		**Pn**		**10 46 00.2**	**-0.3**
NPS	**Neapolis**	**4.67**	**270**	P		**Pn**		**10 46 02.5**	**+1.9**
NPS				S		**Sn**		**10 46 53.4**	**-0.3**
NPS	**Neapolis**	**4.67**	**270**	P		**Pn**		**10 46 02.

HBST	**Basata**	**6.81**	**154**	P		**Pn**	**10 46 30.9**	**+1.0**
	baz=152								
HBST	**Basata**	**6.81**	**154**	P		**Pn**	**10 46 30.9**	**+1.0**
KEMA	**Kemaliye**	**6.89**	**54**	*i* P		**Pn**	**10 46 27.5**	**-3.6**
AGG	**Agios Georgios**	**8.04**	**299**	*e*P		Pn	10 46 53.4	+6.7
AGG	**Agios Georgios**	**8.04**	**299**	*e*Pn		Pn	10 46 53.4	+6.7
TIRR	**Tirgusor**	**9.31**	**347**⇓	*i*P		**Pn**	**10 47 08.2**	**+4.0**
TIRR	**Tirgusor**	**9.31**	**347** ⇓	P		**Pn**	**10 47 08.2**	**+4.0**
VTS	**Vitosha**	**9.56**	**321**⇓	*i*P		Pn	10 47 15.7	+8.0
VTS	**Vitosha**	**9.56**	**321**	*e*P		**Pn**	**10 47 07.5**	**-0.2**
VTS	**Vitosha**	**9.56**	**321**	*e*Pn		**Pn**	**10 47 07.5**	**-0.2**
VTS	**Vitosha**	**9.56**	**321**	*e*P		**Pn**	**10 47 07.5**	**-0.2**
SIM	**Simferopol'**	**9.77**	**12**	*e*P		**Pn**	**10 47 14.9**	**+4.5**
SIM	comp=Z,42nm,0.7s				pmax	pmax			
SIM	comp=Z,300nm,15.0s				MLR	MLR			
CFR	**Carcaliu**	**10.06**	**347**⇑	*i*P		**Pn**	**10 47 18.7**	**+4.3**
CFR	**Carcaliu**	**10.06**	**347** ⇑	P		**Pn**	**10 47 18.7**	**+4.3**
MLR	**Muntele Rosu**	**10.88**	**340**	Pn		**Pn**	**10 47 29.6**	**+3.9**
MLR	comp=Z,0.1nm,0.3s,baz=151,slow=13,SNR=5.4				LR	LR	10 52 35.3		
MLR	comp=Z,76nm,19.1s,baz=158,slow=44	**10.88**	**340**⇓	*i*P		Pn	10 47 33.2	+7.5
MLR	**Muntele Rosu**	**10.88**	**340**	*e*Pn		**Pn**	**10 47 29.8**	**+4.1**
VRI	**Vrincioaia**	**11.02**	**343**⇑	*i*P		Pn	10 47 34.2	+6.6
VRI	**Vrincioaia**	**11.02**	**343** ⇑	P		Pn	10 47 34.2	+6.6
PLOR	**Plostina**	**11.02**	**343**⇓	*i*P		Pn	10 47 34.0	+6.4
PLOR	**Plostina**	**11.02**	**343** ⇓	P		Pn	10 47 34.0	+6.4
VOIR		**11.10**	**336**⇓	*i*P		Pn	10 47 35.5	+6.7
VOIR		**11.10**	**336** ⇓	P		Pn	10 47 35.5	+6.7
ARR	**Arges**	**11.18**	**335**⇓	*i*P		Pn	10 47 35.8	+6.0
DOPR	**Dopca**	**11.47**	**339**⇑	*i*P		Pn	10 47 40.8	+7.0
GNI	**Garni**	**11.62**	**62**	Pn		Pn	10 47 40.9	+4.9
GNI	comp=Z,0.7nm,0.3s,baz=326,slow=16,SNR=3.0				LR	LR	10 52 51.6		
GNI	comp=Z,269nm,18.7s,baz=263,slow=42	**11.62**	**62**⇓	*e*P		**Pn**	**10 47 37.7**	**+1.7**
GNI	**Garni**	**11.62**	**62**	*e*P		**Pn**	**10 47 37.7**	**+1.7**
NEY	**Neytrino**	**11.79**	**45**⇓	*e*P		**Pn**	**10 47 40.7**	**+2.4**
NEY	**Neytrino**	**11.79**	**45**	*e*P		**Pn**	**10 47 40.7**	**+2.4**
KBZ	**Khabaz**	**12.19**	**44**	Pn		**Pn**	**10 47 46.1**	**+2.6**
KBZ	comp=Z,0.1nm,0.3s,baz=259,slow=14,SNR=3.1				LR	LR	10 53 27.6		
TIP	**Timpagrande**	**12.20**	**292**	*e*Pn		**Pn**	**10 47 42.1**	**-1.7**
TIP	comp=Z,214nm,19.5s,baz=242,slow=43				*e*Sn	**Sn**	**10 49 56.2**	**-2.4**
KIV	**Kislovodsk**	**12.22**	**42**	*e*P		**Pn**	**10 47 46.9**	**+2.9**
KIV	comp=Z,16nm,1.0s				pmax	pmax			
KIV	comp=Z,39nm,10.0s				MLR	MLR			
KIV	**Kislovodsk**	**12.22**	**42**	*e*P		**Pn**	**10 47 46.9**	**+2.9**
KVAR	comp=Z,39nm,10.0s **Kislovodsk Arr**	**12.22**	**42**	Pn		**Pn**	**10 47 47.2**	**+3.1**
KVAR	baz=205,slow=21,SNR=3.2				LR	LR	10 53 30.3		
ZEI	comp=Z,156nm,18.9s,baz=224,slow=43 **Tsey**	**12.23**	**49**	*e*P		P	10 47 50.5	-5.9
ZEI	comp=Z,11nm,1.5s				pmax	pmax			
BURAR	**Bucovina Array**	**13.03**	**341**⇓	*i*P		**P**	**10 48 07.4**	**+2.3**
BURAR	**Bucovina Array**	**13.03**	**341** ⇓	P		**P**	**10 48 07.4**	**+2.3**
BUR04	**Bucovina Ar. S**	**13.03**	**341**	*e*Pn		**Pn**	**10 47 56.8**	**+1.7**
BUR04	**Bucovina Ar. S**	**13.03**	**341**	*e*Pn		**Pn**	**10 47 56.8**	**+1.7**
DRGR		**13.09**	**333**⇓	*i*P		**P**	**10 48 08.5**	**+2.7**
DRGR		**13.09**	**333** ⇓	P		**P**	**10 48 08.5**	**+2.7**
CUC	**Castrocucco**	**13.11**	**295**	*e*Pn		**Pn**	**10 47 55.2**	**-1.0**
CUC	**Castrocucco**	**13.11**	**295**	*e*Pn		**Pn**	**10 47 55.2**	**-1.0**
GOF	**Gofitskoye**	**13.14**	**39**⇑	*e*P		**Pn**	**10 48 01.2**	**+4.6**
VAE	**Valguarnera**	**13.78**	**284**	Sn		**Sn**	**10 50 31.9**	**-5.3**
CLTB	comp=Z,1.9nm,0.3s,baz=94,slow=14,SNR=3.2 **Caltabellotta**	**14.73**	**284**	*e*Pn		**Pn**	**10 48 18.6**	**+0.2**
CLTB	**Caltabellotta**	**14.73**	**284**	*e*Pn		**Pn**	**10 48 18.6**	**+0.2**
UZH	**Uzhgorod**	**14.81**	**336**	*e*P		**P**	**10 48 24.0**	**-0.7**
UZH	**Uzhgorod**	**14.81**	**336**	*e*P		**P**	**10 48 24.0**	**-0.7**
CRVS	**Cervenica-Dubn**	**15.32**	**335**	*e*P		**P**	**10 48 33.3**	**+2.8**
CRVS	**Cervenica-Dubn**	**15.32**	**335**	*e*P		**P**	**10 48 33.3**	**+2.8**
CRVS	**Cervenica-Dubn**	**15.32**	**335**	*e*P		**P**	**10 48 33.3**	**+2.8**
KIEV	**Kiev**	**15.36**	**355**⇑	*e*P		**P**	**10 48 29.9**	**-0.9**
KIEV	**Kiev**	**15.36**	**355**	*e*Pn		**Pn**	**10 48 28.4**	**+1.9**
KIEV	comp=Z,20nm,1.2s **Kiev**	**15.36**	**355**	*e*Pn		**Pn**	**10 48 28.4**	**+1.9**
KIEV	comp=Z,20nm,1.2s **Kiev**	**15.36**	**355**	*e*P		**P**	**10 48 29.9**	**-0.9**
AKASG	**Malin Array Be**	**15.37**	**355**	Pn		**Pn**	**10 48 24.8**	**-1.8**
AKASG	comp=Z,1.1nm,0.3s,baz=176,slow=9.6,SNR=10				LR	LR	10 55 19.0		
AKBB	comp=Z,140nm,21.1s,baz=325,slow=42 **Malin Array Si**	**15.37**	**355**	*e*P		**Pn**	**10 48 28.4**	**+1.8**
AKBB	comp=Z,23nm,1.3s				pmax	pmax			
AKBB	**Malin Array Si**	**15.37**	**355**	*e*Pn		**Pn**	**10 48 28.4**	**+1.8**
AKBB	comp=Z,23nm,1.3s **Malin Array Si**	**15.37**	**355**	*e*Pn		**Pn**	**10 48 28.4**	**+1.8**
STHS	comp=Z,23nm,1.3s **Stebnicka Huta**	**15.84**	**335**	*e*P		**P**	**10 48 38.3**	**+2.1**
STHS	**Stebnicka Huta**	**15.84**	**335**	*e*P		**P**	**10 48 38.3**	**+2.1**
STHS	**Stebnicka Huta**	**15.84**	**335**	*e*P		**P**	**10 48 38.3**	**+2.1**
VYHS	**Vyhne**	**16.02**	**329**	*e*P		**P**	**10 48 40.0**	**+1.8**
VYHS	**Vyhne**	**16.02**	**329**	*e*P		**P**	**10 48 40.0**	**+1.8**
VYHS	**Vyhne**	**16.02**	**329**	*e*P		**P**	**10 48 40.0**	**+1.8**
SOKA	**Soboth**	**16.64**	**318**	P		**P**	**10 48 45.8**	**+0.7**
SOKA	comp=Z,3.8nm,0.8s **Soboth**	**16.64**	**318**	*e*P		**P**	**10 48 45.8**	**+0.7**
VSR	comp=Z,3.8nm,0.8s **Storozhevoye**	**16.79**	**17**⇑	*e*P		**P**	**10 48 47.1**	**+0.4**
VSR	**Storozhevoye**	**16.79**	**17**	*e*P		**P**	**10 48 47.1**	**+0.4**
VRH	**Novokhopyorsk**	**17.48**	**22**	*e*P		**P**	**10 48 54.5**	**+0.2**
VRH	comp=Z,30nm,1.2s				pmax	pmax			
VRH	**Novokhopyorsk**	**17.48**	**22**	*e*P		**P**	**10 48 54.5**	**+0.2**
VRAC	comp=Z,30nm,1.2s **Vranov**	**17.61**	**327**	P		**P**	**10 48 56.5**	**+0.7**
VRAC	comp=Z,0.2nm,0.3s,baz=95,slow=12,SNR=2.0				LR	LR	10 56 27.7		
KBA	comp=Z,211nm,20.3s,baz=132,slow=40 **Koelnbreinsper**	**17.81**	**316**	P		**Pn**	**10 48 56.5**	**-1.2**
KBA	comp=Z,16nm,1.2s **Koelnbreinsper**	**17.81**	**316**	*e*Pn		**Pn**	**10 48 56.5**	**-1.2**
KEST	comp=Z,16nm,1.2s **Kesra**	**17.89**	**277**	P		**P**	**10 48 59.6**	**+0.6**
LPSR	comp=Z,0.5nm,0.3s,baz=53,slow=7.8,SNR=4.6 **Galich'ya Gora**	**18.02**	**15**	*e*P		**P**	**10 49 00.4**	**+0.1**
LPSR	comp=Z,10.0nm,1.1s				pmax	pmax			
GEA0	**GERESS Array S**	**18.68**	**321**	*e*P		**Pn**	**10 49 08.2**	**0.0**
GEA0	**GERESS Array S**	**18.68**	**321**	*e*P		**Pn**	**10 49 08.2**	**0.0**
GEC2	**GERESS Array S**	**18.68**	**321**	*e*P		**Pn**	**10 49 08.3**	**+0.1**
GEC2	comp=Z,7.0nm,0.9s				pmax	pmax			
GEC2	**GERESS Array S**	**18.68**	**321**	*e*P		**Pn**	**10 49 08.3**	**+0.1**
GEC2	comp=Z,6.5nm,0.9s **GERESS Array S**	**18.68**	**321**	*e*P		**Pn**	**10 49 08.3**	**+0.1**
GERES	comp=Z,6.5nm,0.9s **GERESS Array B**	**18.68**	**321**	P		**P**	**10 49 06.9**	**-0.8**
GERES	comp=Z,0.7nm,0.3s,baz=130,slow=12,SNR=14				LR	LR	10 57 40.5		
WTTA	comp=Z,166nm,18.1s,baz=112,slow=42 **Wattenberg**	**18.89**	**315**	*e*P		**Pn**	**10 49 14.2**	**+3.3**
KHC	comp=Z,14nm,1.3s **Kasperske Hory**	**18.93**	**322**	*e*P		**Pn**	**10 49 11.2**	**+0.1**
KHC	**Kasperske Hory**	**18.93**	**322**	*e*P		**Pn**	**10 49 11.1**	**-0.1**
KHC	comp=Z,3.0nm,0.9s				pmax	pmax			
KHC	**Kasperske Hory**	**18.93**	**322**	*e*P		**Pn**	**10 49 11.1**	**-0.1**
KHC	comp=Z,3.4nm,0.9s **Kasperske Hory**	**18.93**	**322**	*e*P		**Pn**	**10 49 11.1**	**-0.1**
WATA	comp=Z,3.4nm,0.9s **Walderalm**	**18.96**	**315**	P		**Pn**	**10 49 11.6**	**-0.1**
WATA	comp=Z,5.4nm,0.5s **Walderalm**	**18.96**	**315**	*i* Pn		**Pn**	**10 49 11.6**	**-0.1**
MOTA	comp=Z,5.4nm,0.5s **Moosalm**	**19.24**	**314**	P		**P**	**10 49 14.3**	**+0.4**
MOTA	comp=Z,3.8nm,0.6s **Moosalm**	**19.24**	**314**	*e*P		**P**	**10 49 14.3**	**+0.4**
FETA	comp=Z,3.8nm,0.6s **Feichten**	**19.30**	**313**	P		**Pn**	**10 49 15.7**	**0.0**
FETA	comp=Z,21nm,1.2s **Feichten**	**19.30**	**313**	*e*Pn		**Pn**	**10 49 15.7**	**0.0**
FUORN	comp=Z,21nm,1.2s **Ofenpass-Fuorn**	**19.39**	**312**	*e*P		**Pn**	**10 49 17.0**	**+0.1**
FUORN	comp=Z,24nm,1.4s **Ofenpass-Fuorn**	**19.39**	**312**	*e*P		**Pn**	**10 49 17.0**	**+0.1**
	comp=Z,24nm,1.4s								

RETA	**Reutte**	**19.51**	**314**	P		**P**	**10 49 17.1**	**+0.3**
RETA	comp=Z,5.9nm,0.5s **Reutte**	**19.51**	**314**	*i* P		**P**	**10 49 17.1**	**+0.3**
DAVA	comp=Z,5.9nm,0.5s **Damuels**	**19.93**	**313**	P		**P**	**10 49 21.7**	**+0.2**
DAVA	comp=Z,11nm,0.5s **Damuels**	**19.93**	**313**	*e*P		**P**	**10 49 21.7**	**+0.2**
OBN	comp=Z,11nm,0.5s **Obninsk**	**20.04**	**9**	*i* P		Pn	10 49 24.5	+0.2
OBN	comp=Z,10.0nm,1.1s				pmax	pmax			
OBN	**Obninsk**	**20.04**	**9**	*i* P		Pn	10 49 24.5	+0.2
CLL	comp=Z,10.0nm,1.1s **Collm**	**20.65**	**326**	*e*P		Pn	10 49 32.0	+0.5
CLL	**Collm**	**20.65**	**326**	*e*P		Pn	10 49 31.0	-0.5
CLL	**Collm**	**20.65**	**326**	*e*P		Pn	10 49 32.0	+0.5
MOS	**Moscow**	**20.79**	**10**	*e*P		**P**	**10 49 30.8**	**+0.3**
SENIN	**Lac Senin/Sane**	**21.13**	**309**	*e*P		**P**	**10 49 34.3**	**-0.2**
SENIN	comp=Z,36nm,1.8s **Lac Senin/Sane**	**21.13**	**309**	*e*P		**P**	**10 49 34.3**	**-0.2**
BFO	comp=Z,36nm,1.8s **Black Forest**	**21.35**	**314**	*i* P		**P**	**10 49 39.7**	**+3.0**
BFO	**Black Forest**	**21.35**	**314**	*i* P		**P**	**10 49 39.7**	**+3.0**
GEYT	**Alibeck**	**21.61**	**75**	P		**P**	**10 49 39.8**	**+0.2**
ECH	comp=Z,9.9nm,0.9s,baz=287,slow=11,SNR=7.5 **Echery**	**21.99**	**313**	*e*P		**P**	**10 49 42.8**	**-0.7**
ECH	comp=Z,11nm,1.2s				pmax	pmax			
ECH	**Echery**	**21.99**	**313**	*e*P		**P**	**10 49 42.8**	**-0.7**
ECH	comp=Z,11nm,1.2s **Echery**	**21.99**	**313**	*e*P		**P**	**10 49 42.8**	**-0.7**
AKTK	comp=Z,11nm,1.2s **Aktyubinsk**	**24.47**	**44**	P		**P**	**10 50 07.0**	**-1.2**
AKTO	comp=Z,100nm,18.4s **Aktyubinsk**	**24.47**	**44**	P		**P**	**10 50 07.0**	**-1.2**
AKTO	comp=Z,5.0nm,0.8s,baz=248,slow=7.6,SNR=12				LR	LR	11 01 13.3		
AB08	comp=Z,100nm,18.4s,baz=255,slow=40 **Akbulak array**	**25.08**	**48**	*e*P		**P**	**10 50 12.1**	**-1.6**
AB08	**Akbulak array**	**25.08**	**48**	*e*P		**P**	**10 50 12.1**	**-1.6**
AB09	**Akbulak array**	**25.09**	**48**	*e*P		**P**	**10 50 12.3**	**-1.4**
AB09	**Akbulak array**	**25.09**	**48**	*e*P		**P**	**10 50 12.3**	**-1.4**
AB04	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 12.7**	**-1.1**
AB04	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 12.7**	**-1.1**
AB03	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 12.3**	**-1.6**
AB03	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 12.3**	**-1.6**
AB01	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 12.2**	**-1.6**
AB01	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 12.2**	**-1.6**
AB31	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 14.0**	**+0.1**
AB31	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 14.0**	**+0.1**
AB31	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 14.0**	**+0.1**
ABKAR	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 14.0**	**+0.1**
ABKAR	comp=Z,31nm,0.7s **Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 14.0**	**+0.1**
AB02	comp=Z,31nm,0.7s **Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 12.5**	**-1.4**
AB07	**Akbulak array**	**25.10**	**48**	*e*P		**P**	**10 50 12.4**	**-1.5**
AB05	**Akbulak array**	**25.11**	**48**	*e*P		**P**	**10 50 12.6**	**-1.3**
AB05	**Akbulak array**	**25.11**	**48**	*e*P		**P**	**10 50 12.6**	**-1.3**
AB06	**Akbulak array**	**25.12**	**48**	*e*P		**P**	**10 50 12.5**	**-1.5**
AB06	**Akbulak array**	**25.12**	**48**	*e*P		**P**	**10 50 12.5**	**-1.5**
TAM	**Tamanrasset**	**25.73**	**248**	*e*P		**P**	**10 50 22.6**	**+2.6**
TAM	comp=Z,15nm,1.1s				pmax	pmax			
TAM	**Tamanrasset**	**25.73**	**248**	*e*P		**P**	**10 50 22.6**	**+2.6**
TAM	comp=Z,15nm,1.1s **Tamanrasset**	**25.73**	**248**	*e*P		**P**	**10 50 22.6**	**+2.6**
KLMR	comp=Z,15nm,1.1s **Klimovskoe**	**26.01**	**9**	*e*P		**P**	**10 50 24.7**	**+2.8**
KLMR	comp=Z,17nm,1.3s				pmax	pmax			
KLMR	**Klimovskoe**	**26.01**	**9**	*e*P		**P**	**10 50 24.8**	**+2.8**
KLMR	comp=Z,17nm,1.3s				AMP		10 50 30.1		
FIA0	**FINESS Array S**	**26.27**	**354**	*e*P		**P**	**10 50 22.4**	**-2.0**
FIA0	**FINESS Array S**	**26.27**	**354**	*e*P		**P**	**10 50 22.4**	**-2.0**
FIA1	**FINESS Array S**	**26.27**	**354**	*e*P		**P**	**10 50 22.2**	**-2.1**
FINES	**FINESS Array B**	**26.27**	**354**	P		**P**	**10 50 22.4**	**-1.9**
FINES	comp=Z,2.2nm,0.4s,baz=156,slow=11,SNR=14				LR	LR	11 02 29.0		
FINES	comp=Z,128nm,19.0s,baz=178,slow=41 **FINESS Array B**	**26.27**	**354**	*i* P		**P**	**10 50 22.3**	**-2.1**
FINES	comp=Z,2.0nm,0.4s				pmax	pmax			
WSAR	**Wadi Sarin**	**26.62**	**110**	LR		LR	11 03 24.6		
HFS	comp=Z,152nm,21.9s,baz=313,slow=42 **Hagfors**	**27.26**	**341**	P		**P**	**10 50 32.1**	**-1.1**
HFS	comp=Z,1.6nm,0.6s,baz=152,slow=6.5,SNR=6.4				LR	LR	11 04 12.1		
HFS	comp=Z,195nm,18.3s,baz=136,slow=43 **Hagfors**	**27.26**	**341**	P		**P**	**10 50 32.1**	**-1.1**
HFS	comp=Z,4.0nm,1.0s				pmax	pmax			
HFS	comp=Z,195nm,18.3s				MLR	MLR			
ARU	**Arti**	**27.98**	**33**	P		**P**	**10 50 38.4**	**-1.4**
ARU	comp=Z,7.0nm,0.3s,baz=252,slow=9.6,SNR=3.3				LR	LR	11 03 02.9		
ARU	comp=Z,57nm,19.1s,baz=222,slow=39 **Arti**	**27.98**	**33***d*	*i*P		**P**	**10 50 42.1**	**+2.3**
ARU							10 51 26.6		
ARU					S	**S**	**10 55 23.1**	**+1.4**
ARU	comp=Z,14nm,1.2s				pmax	pmax			
ESDC	**Sonseca Array**	**28.19**	**289**	P		**P**	**10 50 41.0**	**-1.0**
ESDC	comp=Z,0.7nm,0.5s,baz=86,slow=9.6,SNR=6.0 **Sonseca Array**	**28.19**	**289**	*e*P		**P**	**10 50 41.0**	**-1.0**
NB2	**NORSAR Subarra**	**28.70**	**340**	P		**P**	**10 50 43.5**	**-2.6**
NB200	comp=Z,1.3nm,0.8s,baz=144,slow=9.3 **NORSAR Array S**	**28.70**	**340**	*e*P		**P**	**10 50 44.4**	**-1.8**
NOA	**NORSAR Array B**	**28.70**	**340**	P		**P**	**10 50 44.4**	**-1.8**
NOA	comp=Z,0.7nm,0.6s,baz=147,slow=10,SNR=3.7				LR	LR	11 04 32.4		
EKA	comp=Z,100nm,19.8s,baz=145,slow=42 **Eskdalemuir Ar**	**30.90**	**321**	P		**P**	**10 51 03.5**	**-2.2**
KK08	comp=Z,0.7nm,0.4s,baz=121,slow=10,SNR=5.2 **Karatay Array**	**31.06**	**64**	*e*P		**P**	**10 51 06.8**	**-0.5**
KK03	**Karatay Array**	**31.07**	**64**	*e*P		**P**	**10 51 06.8**	**-0.5**
KK07	**Karatay Array**	**31.07**	**64**	*e*P		**P**	**10 51 06.8**	**-0.5**
KK01	**Karatay Array**	**31.07**	**64**	*e*P		**P**	**10 51 06.9**	**-0.5**
KK01	**Karatay Array**	**31.07**	**64**	*e*P		**P**	**10 51 06.9**	**-0.5**
KK04	**Karatay Array**	**31.07**	**64**	*e*P		**P**	**10 51 07.0**	**-0.4**
KK04	**Karatay Array**	**31.07**	**64**	*e*P		**P**	**10 51 07.0**	**-0.4**
KK02	**Karatay Array**	**31.08**	**64**	*e*P		**P**	**10 51 07.0**	**-0.4**
KK02	**Karatay Array**	**31.08**	**64**	*e*P		**P**	**10 51 07.0**	**-0.4**
KK31	**Karatay Array**	**31.08**	**64**	*e*P		**P**	**10 51 06.9**	**-0.5**
KK31	**Karatay Array**	**31.08**	**64**	*e*P		**P**	**10 51 06.8**	**-0.5**
KK31	**Karatay Array**	**31.08**	**64**	*e*P		**P**	**10 51 06.9**	**-0.5**
KKAR	**Karatay Array**	**31.08**	**64**	*e*P		**P**	**10 51 06.9**	**-0.5**
KKAR	**Karatay Array**	**31.08**	**64**	*e*P		**P**	**10 51 06.9**	**-0.5**
KKAR	**Karatay Array**	**31.08**	**64**	*e*P		**P**	**10 51 06.9**	**-0.5**
KK05	**Karatay Array**	**31.09**	**64**	*e*P		**P**	**10 51 07.2**	**-0.3**
KK05	**Karatay Array**	**31.09**	**64**	*e*P		**P**	**10 51 07.2**	**-0.3**
KK06	**Karatay Array**	**31.09**	**64**	*e*P		**P**	**10 51 07.0**	**-0.5**
KK06	**Karatay Array**	**31.09**	**64**	*e*P		**P**	**10 51 07.0**	**-0.5**
BRVK	**Borovoye**	**32.51**	**45**⇑	*e*P		**P**	**10 51 22.7**	**+2.9**
BRVK	comp=Z,4.0nm,1.0s				pmax	pmax			
BVAR	**Borovoye Array**	**32.56**	**45**	LR		LR	11 07 11.8		
AAK	comp=Z,137nm,18.9s,baz=258,slow=41 **Ala-Archa**	**34.01**	**64**⇓	*e*P		**P**	**10 51 32.8**	**-0.5**
AAK	comp=Z,2.0nm,0.5s				pmax	pmax			
AAK	**Ala-Archa**	**34.01**	**64**	*e*P		**P**	**10 51 33.2**	**0.0**
ARA0	comp=Z,5.0nm,1.2s **ARCESS Array S**	**34.34**	**356**	*e*P		**P**	**10 51 33.7**	**-1.8**
ARCES	**ARCESS Array B**	**34.34**	**356**	P		**P**	**10 51 33.7**	**-1.8**
ARCES	comp=Z,0.9nm,0.4s,baz=174,slow=7.6,SNR=14				LR	LR	11 04 40.9		
TOA1	comp=Z,337nm,20.4s,baz=228,slow=35 **Torodi Ar. Sit**	**34.71**	**238**	*e*P		**P**	**10 51 39.9**	**+0.6**
TOA1				*e*PcP		**PcP**	**10 54 12.3**	**-0.5**
TOA0	**Torodi Ar. Sit**	**34.71**	**238**	*e*P		**P**	**10 51 40.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**34.71**	**238**	P		**P**	**10 51 39.9**	**+0.5**
TORD	comp=Z,2.6nm,0.9s,baz=35,slow=8.5,SNR=14				PcP	**PcP**	**10 54 12.3**	**-0.5**
TORD	comp=Z,0.5nm,0.8s,baz=110,slow=0.7,SNR=2.2				LR	LR	11 07 55.7		
KMBO	comp=Z,144nm,21.8s,baz=25,slow=40 **Kilima Mbogo**	**36.76**	**170**	LR		LR	11 10 30.0		
KURBB	comp=Z,54nm,18.4s,baz=86,slow=42 **Kurchatov Arra**	**37.05**	**51**	P		**P**	**10 51 57.9**	**-1.1**
KURK	comp=Z,1.3nm,0.4s,baz=265,slow=8.6,SNR=10 **Kurchatov**	**37.11**	**51***d*	*i*P		**P**	**10 52 02.3**	**+2.7**
KURK					pmax	pmax			

KURK	comp=Z,26nm,1.2s **Kurchatov**	**37.11**	**51**	*e*P		**P**	**10 51 57.9**	**-1.6**
KOWA	**Kowa**	**37.92**	**246**	P		**P**	**10 52 06.9**	**+0.1**
KOWA	comp=Z,1.9nm,0.6s,baz=46,slow=8.8,SNR=5.8				LR	LR	11 09 10.7		
MAKZ	comp=Z,77nm,19.5s,baz=31,slow=39 **Makanchi**	**39.20**	**57**	*e*P		**P**	**10 52 16.6**	**-0.7**
MAKZ	comp=Z,5.0nm,1.1s				pmax	pmax			
MAKZ	**Makanchi**	**39.20**	**57**	*e*P		**P**	**10 52 16.6**	**-0.7**
MK31	comp=Z,4.9nm,1.1s **Makanchi Array**	**39.41**	**57**	*e*P		**P**	**10 52 18.3**	**-0.7**
MK31	**Makanchi Array**	**39.41**	**57**	*e*P		**P**	**10 52 18.3**	**-0.7**
MK32	**Makanchi Array**	**39.41**	**57**	*e*P		**P**	**10 52 18.0**	**-1.0**
MKAR	**Makanchi Array**	**39.41**	**57**	P		**P**	**10 52 18.0**	**-1.0**
MKAR	comp=Z,4.3nm,0.6s,baz=278,slow=6.7,SNR=58				LR	LR	11 10 57.2		
MKAR	comp=Z,155nm,20.0s,baz=240,slow=40 **Makanchi Array**	**39.41**	**57***ce*	P		**P**	**10 52 18.2**	**-0.8**
MKAR	comp=Z,4.0nm,0.6s				pmax	pmax			
MKAR	**Makanchi Array**	**39.41**	**57**	*e*P		**P**	**10 52 18.3**	**-0.8**
MK01	comp=Z,37nm,0.6s **Makanchi Array**	**39.42**	**57**	*e*P		**P**	**10 52 18.3**	**-0.8**
ZAA1	**Zalesovo Array**	**41.19**	**46**	*e*P		**P**	**10 52 32.1**	**-1.5**
ZALV	**Zalesovo Beam**	**41.19**	**46**	P		**P**	**10 52 32.1**	**-1.5**
ZALV	comp=Z,1.1nm,0.4s,baz=278,slow=10.0,SNR=4.3				LR	LR	11 10 00.4		
SPITS	comp=Z,44nm,19.8s,baz=248,slow=37 **Spitsbergen Ar**	**43.36**	**356**	P		**P**	**10 52 49.8**	**-1.2**
SPITS	comp=Z,7.0nm,0.8s,baz=134,slow=7.1,SNR=8.3				LR	LR	11 11 43.0		
WMQ	comp=Z,64nm,18.4s,baz=195,slow=37 **Urumqi**	**43.49**	**61**	P		**P**	**10 52 54.6**	**+2.0**
DBIC	**Dimbokro**	**43.82**	**238**	P		**P**	**10 52 55.4**	**0.0**
DBIC	comp=Z,3.5nm,0.6s,baz=20,slow=9.3,SNR=6.6				LR	LR	11 13 20.0		
TIC	comp=Z,117nm,20.1s,baz=22,slow=39 **Toumodi**	**43.95**	**238**	*e*P		**P**	**10 52 56.4**	**-0.1**
KIC	**Kosan Boka**	**43.96**	**237**	*e*P		**P**	**10 52 56.5**	**-0.1**
PYUN	comp=Z,21nm,0.8s **Piuthan**	**44.12**	**85**	*e*P		**P**	**10 52 57.7**	**-0.3**
LIC	**Lamto**	**44.26**	**238**	*e*P		**P**	**10 52 59.0**	**+0.1**
DANN	comp=Z,45nm,1.6s **Dangsing**	**44.65**	**84**	*e*P		**P**	**10 53 02.3**	**0.0**
KOLN	**Koldanda**	**44.74**	**85**	*e*P		**P**	**10 53 02.2**	**-0.8**
DMN	**Daman**	**46.03**	**84**	*e*P		**P**	**10 53 12.8**	**-0.4**
KKN	comp=Z,16nm,0.7s **Kakani**	**46.10**	**84**	*e*P		**P**	**10 53 13.0**	**-0.7**
PKIN	**Phulchoki**	**46.28**	**84**	*e*P		**P**	**10 53 14.4**	**-0.8**
PKI	**Pulchoki**	**46.29**	**84**	*e*P		**P**	**10 53 14.8**	**-0.6**
GUN	**Gumba**	**46.54**	**83**	*e*P		**P**	**10 53 16.9**	**-0.4**
JIRN	**Jiri**	**46.89**	**83**	*e*P		**P**	**10 53 19.7**	**-0.4**
TLY	**Talaya**	**52.71**	**48**⇑	*e*P		**P**	**10 54 04.6**	**+1.0**
TLY	comp=Z,2.0nm,1.2s				pmax	pmax			
ZAK	**Zakamensk**	**52.77**	**50**	*e*P		**P**	**10 54 02.0**	**-2.1**
ZAK	comp=Z,2.0nm,1.2s				pmax	pmax			
GTA	**Gaotai**	**53.36**	**64**	*e*P		P	10 54 14.0	+5.3
GTA					pP	sP	10 54 25.6	+3.3
GTA					sP	pP	10 54 30.9	+12
GTA					S	**S**	**11 01 46.4**	**+7.8**
SONA0	**Songino Array**	**55.39**	**

VVK	**Vomvokou**	**0.18**	**157**	P	**Pg**	**10 59 41.4**	**0.0**
VVK				S	**Sg**	**10 59 45.0**	**+0.9**
EFP	**Efpalio**	**0.21**	**138**	P	**Pg**	**10 59 42.3**	**+0.2**
EFP				AML	AML	10 59 46.9	
	comp=E,92556µm,0.5s						
EFP				S	**Sg**	**10 59 46.9**	**+1.9**
EFP				AML	AML	10 59 47.8	
EFP	**Efpalio**	**0.21**	**138**	P	**Pg**	**10 59 42.0**	**0.0**
EFP				S	**Sg**	**10 59 45.2**	**+0.2**
EFP	**Efpalio**	**0.21**	**138**	P	**Pg**	**10 59 42.0**	**0.0**
EFP				S	**Sg**	**10 59 45.2**	**+0.2**
UPR	**University Cam**	**0.30**	**171**	P	**Pg**	**10 59 44.0**	**+0.3**
UPR	**University Cam**	**0.30**	**171**	P	**Pg**	**10 59 43.6**	**-0.1**
UPR	**University Cam**	**0.30**	**171**	P	**Pg**	**10 59 43.7**	**0.0**
SERG	**Sergoula**	**0.31**	**123**	P	**Pg**	**10 59 43.6**	**-0.3**
SERG				S	**Sb**	**10 59 49.5**	**-0.9**
SERG				AML	AML	10 59 49.5	
	comp=E,47193µm,0.3s						
SERG				AML	AML	10 59 49.9	
	comp=N,61350µm,0.4s						
SERG	**Sergoula**	**0.31**	**123**	P	**Pg**	**10 59 43.6**	**-0.3**
SERG				S	**Sb**	**10 59 49.1**	**-1.3**
SERG	**Sergoula**	**0.31**	**123**	P	**Pg**	**10 59 43.6**	**-0.3**
SERG				S	**Sg**	**10 59 48.5**	**+0.5**
EVR	**Evrytania**	**0.34**	**11**	P	**Pg**	**10 59 44.1**	**-0.3**
EVR				S	**Sg**	**10 59 49.6**	**+0.7**
EVR				AML	AML	10 59 50.1	
	comp=E,68537µm,0.3s						
EVR				AML	AML	10 59 52.8	
	comp=N,72489µm,0.6s						
EVR	**Evrytania**	**0.34**	**11**	P	**Pg**	**10 59 43.9**	**-0.5**
EVR				S	**Sg**	**10 59 49.1**	**+0.2**
EVR	**Evrytania**	**0.34**	**11**	P	**Pg**	**10 59 43.6**	**-0.8**
EVR				S	**Sg**	**10 59 49.1**	**+0.2**
TRIZ	**Trizonia**	**0.35**	**129**	P	**Pg**	**10 59 44.3**	**-0.3**
TRIZ				S	**Sb**	**10 59 50.5**	**-0.9**
TRIZ	**Trizonia**	**0.35**	**129**	P	**Pg**	**10 59 44.2**	**-0.3**
TRIZ				S	**Sb**	**10 59 50.1**	**-1.3**
KALE	**Kalithea**	**0.38**	**121**	P	**Pg**	**10 59 44.6**	**-0.5**
KALE				S	**Sb**	**10 59 51.6**	**-0.7**
KALE				AML	AML	10 59 52.1	
	comp=E,38747µm,0.6s						
KALE				AML	AML	10 59 52.1	
	comp=N,45696µm,0.5s						
KALE	**Kalithea**	**0.38**	**121**	P	**Pg**	**10 59 44.8**	**-0.3**
KALE				S	**Sb**	**10 59 51.1**	**-1.3**
KALE	**Kalithea**	**0.38**	**121**	P	**Pg**	**10 59 44.8**	**-0.3**
KALE				S	**Sb**	**10 59 51.0**	**-1.3**
LAKA	**Lakka**	**0.40**	**150**	P	**Pg**	**10 59 45.0**	**-0.4**
LAKA				S	**Sb**	**10 59 53.0**	**+0.2**
LAKA				AML	AML	10 59 59.0	
	comp=E,7428µm,0.6s						
LAKA				AML	AML	11 00 00.2	
	comp=N,4229µm,0.7s						
LAKA	**Lakka**	**0.40**	**150**	P	**Pg**	**10 59 45.1**	**-0.4**
LAKA				S	**Sb**	**10 59 52.1**	**-0.8**
PDO	**Prodromos**	**0.42**	**272**	P	**Pg**	**10 59 44.9**	**-1.0**
PDO				S	**Sg**	**10 59 52.8**	**+1.3**
PDO				AML	AML	10 59 55.5	
	comp=N,45384µm,0.4s						
PDO				AML	AML	10 59 55.8	
	comp=E,27092µm,0.4s						
PDO	**Prodromos**	**0.42**	**272**	P	**Pg**	**10 59 45.1**	**-0.8**
PDO				S	**Sg**	**10 59 51.6**	**0.0**
PDO	**Prodromos**	**0.42**	**272**	P	**Pg**	**10 59 44.9**	**-1.0**
PDO				S	**Sg**	**10 59 51.1**	**-0.5**
RLS	**Riolos of Patr**	**0.56**	**201**	P	**Pg**	**10 59 48.2**	**-0.3**
RLS				S	**Sg**	**10 59 56.2**	**+0.3**
RLS				AML	AML	11 00 00.1	
	comp=E,31466µm,0.5s						
RLS				AML	AML	11 00 03.0	
	comp=N,11718µm,0.5s						
RLS	**Riolos of Patr**	**0.56**	**201**	P	**Pg**	**10 59 48.2**	**-0.3**
RLS				S	**Sg**	**10 59 56.3**	**+0.3**
RLS	**Riolos of Patr**	**0.56**	**201**	P	**Pg**	**10 59 48.1**	**-0.5**
RLS				S	**Sb**	**10 59 57.7**	**+0.1**
DRO	**Drossia**	**0.63**	**181**	P	**Pg**	**10 59 49.2**	**-0.7**
DRO				S	**Sb**	**11 00 00.0**	**+0.4**
DRO				AML	AML	11 00 02.6	
	comp=E,20890µm,0.5s						
DRO				AML	AML	11 00 04.4	
	comp=N,15313µm,0.5s						
DRO	**Drossia**	**0.63**	**181**	P	**Pg**	**10 59 49.3**	**-0.5**
DRO				S	**Sb**	**10 59 59.3**	**-0.3**
DRO	**Drossia**	**0.63**	**181**	P	**Pg**	**10 59 49.1**	**-0.7**
DRO				S	**Sb**	**10 59 59.5**	**-0.1**
KLV	**Kalavryta, Ach**	**0.64**	**148**	P	**Pg**	**10 59 48.9**	**-1.0**
KLV				S	**Sb**	**10 59 58.8**	**-1.0**
KLV				AML	AML	11 00 03.2	
	comp=E,4549µm,0.7s						
KLV				AML	AML	11 00 03.7	
	comp=N,4612µm,0.4s						
KLV	**Kalavryta, Ach**	**0.64**	**148**	P	**Pg**	**10 59 49.2**	**-0.7**
KLV				S	**Sb**	**10 59 58.8**	**-1.0**
KLV	**Kalavryta, Ach**	**0.64**	**148**	P	**Pg**	**10 59 49.0**	**-1.0**
AGG	**Agios Georgios**	**0.64**	**47**	P	**Pg**	**10 59 49.1**	**-0.9**
AGG				S	**Sg**	**10 59 59.3**	**+0.8**
AGG				AML	AML	11 00 00.5	
	comp=E,61873µm,0.6s						
AGG				AML	AML	11 00 00.7	
	comp=N,64131µm,0.4s						
AGG	**Agios Georgios**	**0.64**	**47**	P	**Pg**	**10 59 49.2**	**-0.9**
AGG				S	**Sg**	**10 59 58.8**	**+0.2**
AGG	**Agios Georgios**	**0.64**	**47**	P	**Pg**	**10 59 49.2**	**-0.9**
AGG				S	**Sg**	**10 59 58.8**	**+0.2**
DSF	**Desfina**	**0.65**	**105**	P	**Pg**	**10 59 48.6**	**-1.6**
DSF				S	**Sb**	**10 59 59.7**	**-0.5**
DSF				AML	AML	11 00 01.2	
	comp=N,16880µm,0.2s						
DSF				AML	AML	11 00 02.1	
	comp=E,6751µm,0.3s						
DSF	**Desfina**	**0.65**	**105**	P	**Pg**	**10 59 49.2**	**-1.1**
DSF				S	**Sb**	**10 59 59.4**	**-0.9**
DSF	**Desfina**	**0.65**	**105**	P	**Pg**	**10 59 49.0**	**-1.3**
DSF				S	**Sb**	**10 59 59.4**	**-0.9**
DSL	**Palaion Diasel**	**0.74**	**318**	P	**Pg**	**10 59 49.5**	**-2.3**
DSL				S	**Sg**	**11 00 01.3**	**-0.1**
DSL	**Palaion Diasel**	**0.74**	**318**	P	**Pg**	**10 59 51.2**	**-0.6**
DSL				S	**Sg**	**11 00 01.2**	**-0.3**
DSL	**Palaion Diasel**	**0.74**	**318**	P	**Pg**	**10 59 49.7**	**-2.1**
DSL				S	**Sg**	**11 00 01.2**	**-0.3**
VTN	**Vitineika**	**0.79**	**213**	P	**Pb**	**10 59 53.5**	**+0.1**
VTN	**Vitineika**	**0.79**	**213**	P	**Pg**	**10 59 52.9**	**+0.1**
GUR	**Goura**	**0.81**	**143**	P	**Pg**	**10 59 52.0**	**-1.3**
GUR				S	**Sb**	**11 00 04.0**	**-0.8**
GUR				AML	AML	11 00 08.4	
	comp=N,15956µm,0.4s						
GUR				AML	AML	11 00 09.0	
	comp=E,6370µm,0.6s						
GUR	**Goura**	**0.81**	**143**	P	**Pg**	**10 59 52.3**	**-0.9**
GUR				S	**Sb**	**11 00 04.2**	**-0.6**
GUR	**Goura**	**0.81**	**143**	P	**Pg**	**10 59 52.0**	**-1.3**
GUR				S	**Sb**	**11 00 05.5**	**+0.7**
KFL	**Anninata**	**0.88**	**237**	P	**Pg**	**10 59 53.5**	**-0.9**
KFL	**Anninata**	**0.88**	**237**	P	**Pg**	**10 59 53.6**	**-0.9**
KFL	**Anninata**	**0.88**	**237**	P	**Pg**	**10 59 53.5**	**-0.9**
THAL	**Thalero**	**0.92**	**126**	P	**Pg**	**10 59 55.2**	**-0.1**
THAL	**Thalero**	**0.92**	**126**	P	**Pg**	**10 59 54.9**	**-0.4**
THAL	**Thalero**	**0.92**	**126**	P	**Pg**	**10 59 54.8**	**-0.5**
PROD	**Prodromos**	**0.98**	**109**	P	**Pg**	**10 59 55.6**	**-0.8**
PROD	**Prodromos**	**0.98**	**109**	P	**Pg**	**10 59 55.6**	**-0.8**
VLS	**Valsamata**	**0.98**	**246**	P	**Pb**	**10 59 53.9**	**-2.7**
VLS	**Valsamata**	**0.98**	**246**	P	**Pb**	**10 59 54.7**	**-2.0**
VLS	**Valsamata**	**0.98**	**246**	P	**Pb**	**10 59 54.7**	**-2.0**
LKR	**Lokris**	**1.00**	**86**	P	**Pb**	**10 59 54.5**	**-2.5**
LKR	**Lokris**	**1.00**	**86**	P	**Pb**	**10 59 55.2**	**-1.8**
LKR	**Lokris**	**1.00**	**86**	P	**Pb**	**10 59 55.0**	**-2.0**
THL	**Klokotos Trika**	**1.00**	**13**	P	**Pb**	**10 59 56.0**	**-1.0**
THL	**Klokotos Trika**	**1.00**	**13**	P	**Pb**	**10 59 55.8**	**-1.3**
THL				S	**Sb**	**11 00 10.2**	**-0.1**
THL	**Klokotos Trika**	**1.00**	**13**	P	**Pb**	**10 59 55.7**	**-1.3**
THL				S	**Sb**	**11 00 10.2**	**-0.1**
AMT	**Artemida-Makis**	**1.05**	**181**	P	**Pb**	**10 59 57.1**	**-0.8**
AMT	**Artemida-Makis**	**1.05**	**181**	P	**Pb**	**10 59 57.1**	**-0.8**
AMT	**Artemida-Makis**	**1.05**	**181**	P	**Pb**	**10 59 57.0**	**-0.9**
LTK	**Loutraki**	**1.13**	**119**	P	**Pb**	**10 59 58.9**	**-0.3**
LTK	**Loutraki**	**1.13**	**119**	P	**Pb**	**10 59 58.6**	**-0.6**
LTK				S	**Sn**	**11 00 14.9**	**0.0**
LTK	**Loutraki**	**1.13**	**119**	P	**Pg**	**10 59 59.7**	**+0.5**
LTK				S	**Sn**	**11 00 14.9**	**0.0**
LOUT	**Loutraki**	**1.15**	**121**	P	**Pb**	**10 59 59.0**	**-0.5**
LOUT	**Loutraki**	**1.15**	**121**	P	**Pb**	**10 59 58.9**	**-0.6**
LOUT				S	**Sn**	**11 00 15.8**	**+0.3**
LOUT	**Loutraki**	**1.15**	**121**	P	**Pg**	**10 59 59.9**	**+0.2**
LOUT				S	**Sn**	**11 00 15.8**	**+0.3**
SMIA	**Simia**	**1.20**	**75**	P	**Pg**	**11 00 00.5**	**-0.1**
SMIA				S	**Sn**	**11 00 16.7**	**0.0**
SMIA	**Simia**	**1.20**	**75**	P	**Pg**	**11 00 00.5**	**-0.1**
SMIA				S	**Sn**	**11 00 16.7**	**0.0**
FYTO	**Fytoko, Volos**	**1.25**	**49**	P	**Pn**	**11 00 00.5**	**-0.6**
FYTO	**Fytoko, Volos**	**1.25**	**49**	P	**Pn**	**11 00 00.4**	**-0.7**
FYTO				S	**Sg**	**11 00 18.6**	**+0.6**
FYTO	**Fytoko, Volos**	**1.25**	**49**	P	**Pn**	**11 00 00.1**	**-1.0**
FYTO				S	**Sg**	**11 00 18.6**	**+0.6**
JAN	**Janina**	**1.27**	**328**	P	**Pb**	**11 00 02.0**	**+0.4**
JAN	**Janina**	**1.27**	**328**	P	**Pn**	**11 00 01.2**	**-0.2**
JAN	**Janina**	**1.27**	**328**	P	**Pn**	**11 00 01.0**	**-0.4**
VLX	**Vlachokerasia**	**1.32**	**157**	P	**Pn**	**11 00 01.6**	**-0.5**
VLX	**Vlachokerasia**	**1.32**	**157**	P	**Pn**	**11 00 01.6**	**-0.5**
MES3	**Kyparissia**	**1.33**	**182**	P	**Pg**	**11 00 03.7**	**+0.5**
MES3	**Kyparissia**	**1.33**	**182**	P	**Pg**	**11 00 03.0**	**-0.2**
NEO	**Neokhori**	**1.37**	**58**	P	**Pn**	**11 00 02.7**	**-0.1**
NEO	**Neokhori**	**1.37**	**58**	P	**Pn**	**11 00 02.6**	**-0.3**
NEO	**Neokhori**	**1.37**	**58**	P	**Pn**	**11 00 02.5**	**-0.3**
XOR	**Xorichti**	**1.38**	**55**	P	**Pn**	**11 00 02.6**	**-0.4**
XOR				S	**Sg**	**11 00 22.4**	**+0.2**
XOR				AML	AML	11 00 27.0	
	comp=N,8063µm,0.5s						
XOR				AML	AML	11 00 27.0	
	comp=E,3983µm,0.5s						
XOR	**Xorichti**	**1.38**	**55**	P	**Pn**	**11 00 02.7**	**-0.3**
XOR				S	**Sg**	**11 00 22.1**	**-0.1**
XOR	**Xorichti**	**1.38**	**55**	P	**Pn**	**11 00 02.5**	**-0.4**
KPRO	**Kipourio**	**1.40**	**349**	P	**Pn**	**11 00 01.7**	**-1.5**
KPRO	**Kipourio**	**1.40**	**349**	P	**Pn**	**11 00 02.2**	**-1.0**
KPRO	**Kipourio**	**1.40**	**349**	P	**Pn**	**11 00 02.1**	**-1.1**
ITM	**Ithomi**	**1.41**	**173**	P	**Pb**	**11 00 03.6**	**-0.4**
ITM	**Ithomi**	**1.41**	**173**	P	**Pb**	**11 00 03.7**	**-0.4**
ITM	**Ithomi**	**1.41**	**173**	P	**Pn**	**11 00 03.4**	**+0.1**
IGT	**Igoumenitsa**	**1.44**	**312**	P	**Pg**	**11 00 05.5**	**+0.2**
IGT	**Igoumenitsa**	**1.44**	**312**	P	**Pb**	**11 00 04.5**	**0.0**
IGT	**Igoumenitsa**	**1.44**	**312**	P	**Pn**	**11 00 04.1**	**+0.4**
SKIA	**Skiathos**	**1.48**	**66**	P	**Pn**	**11 00 03.8**	**-0.4**
SKIA	**Skiathos**	**1.48**	**66**	P	**Pn**	**11 00 04.2**	**0.0**
SKIA	**Skiathos**	**1.48**	**66**	P	**Pn**	**11 00 04.2**	**0.0**
SGD	**Sagiada**	**1.55**	**312**	P	**Pb**	**11 00 06.6**	**+0.3**
SGD	**Sagiada**	**1.55**	**312**	P	**Pb**	**11 00 06.6**	**+0.3**
DID	**Didima**	**1.61**	**132**	P	**Pn**	**11 00 06.7**	**-0.6**
DID	**Didima**	**1.61**	**132**	P	**Pn**	**11 00 06.3**	**+0.3**
DID				S	**Sg**	**11 00 28.6**	**-0.7**
DID	**Didima**	**1.61**	**132**	P	**Pn**	**11 00 06.3**	**+0.3**
DID				S	**Sg**	**11 00 28.6**	**-0.7**
LIT	**Litokhoron**	**1.63**	**21**	P	**Pn**	**11 00 06.2**	**-0.1**
LIT	**Litokhoron**	**1.63**	**21**	P	**Pn**	**11 00 06.4**	**+0.1**
LIT				S	**Sb**	**11 00 28.2**	**-0.1**
LIT	**Litokhoron**	**1.63**	**21**	P	**Pn**	**11 00 06.3**	**0.0**
LIT				S	**Sb**	**11 00 28.2**	**-0.1**
KRND	**KRANIDI**	**1.65**	**136**	P	**Pb**	**11 00 07.4**	**-0.6**
KRND	**KRANIDI**	**1.65**	**136**	P	**Pb**	**11 00 07.4**	**-0.6**
KRND	**KRANIDI**	**1.65**	**136**	P	**Pb**	**11 00 07.5**	**-0.5**
ATH	**Athens Observa**	**1.68**	**111**	P	**Pb**	**11 00 07.7**	**-0.9**
ATH				S	**Sg**	**11 00 31.2**	**-0.5**
ATH	**Athens Observa**	**1.68**	**111**	P	**Pb**	**11 00 07.7**	**-0.9**
ATH				S	**Sg**	**11 00 31.2**	**-0.5**
PYL	**PYLOS**	**1.69**	**180**	P	**Pg**	**11 00 09.3**	**-0.6**
PYL	**PYLOS**	**1.69**	**180**	P	**Pb**	**11 00 08.4**	**-0.3**
PYL	**PYLOS**	**1.69**	**180**	P	**Pb**	**11 00 08.4**	**-0.3**
KZN	**Kozani**	**1.72**	**1**	P	**Pn**	**11 00 08.4**	**+0.7**
KZN	**Kozani**	**1.72**	**1**	P	**Pn**	**11 00 08.1**	**+0.5**
KZN				S	**Sb**	**11 00 31.0**	**0.0**
KZN	**Kozani**	**1.72**	**1**	P	**Pn**	**11 00 07.5**	**-0.1**
KZN				S	**Sb**	**11 00 31.0**	**0.0**
EREA	**Eretria**	**1.74**	**95**	P	**Pn**	**11 00 07.7**	**-0.2**
EREA	**Eretria**	**1.74**	**95**	P	**Pn**	**11 00 08.1**	**+0.3**
EREA	**Eretria**	**1.74**	**95**	P	**Pn**	**11 00 08.1**	**+0.3**
MES2	**Methoni**	**1.76**	**180**	P	**Pb**	**11 00 10.2**	**+0.3**
MES2	**Methoni**	**1.76**	**180**	P	**Pb**	**11 00 09.5**	**-0.4**
PTL	**Penteli**	**1.77**	**107**	P	**Pn**	**11 00 08.6**	**+0.4**
PTL	**Penteli**	**1.77**	**107**	P	**Pn**	**11 00 08.7**	**+0.4**
PTL	**Penteli**	**1.77**	**107**	P	**Pn**	**11 00 08.7**	**+0.4**
VLY	**Voula,Athens**	**1.79**	**114**	P	**Pn**	**11 00 08.8**	**+0.3**
VLY	**Voula,Athens**	**1.79**	**114**	P	**Pn**	**11 00 08.9**	**+0.4**
VLY	**Voula,Athens**	**1.79**	**114**	P	**Pn**	**11 00 08.9**	**+0.4**
DYR	**Agios Nikonas**	**1.88**	**165**	P	**Pb**	**11 00 12.1**	**0.0**
DYR	**Agios Nikonas**	**1.88**	**165**	P	**Pb**	**11 00 11.4**	**-0.6**
NEST	**Nestorio**	**1.90**	**344**	P	**Pb**	**11 00 11.6**	**-0.8**
NEST	**Nestorio**	**1.90**	**344**	P	**Pn**	**11 00 11.0**	**+0.9**
NEST	**Nestorio**	**1.90**	**344**	P	**Pb**	**11 00 12.4**	**0.0**
PAIG	**Paliouri**	**2.02**	**48**	P	**Pn**	**11 00 11.0**	**-0.8**
PAIG	**Paliouri**	**2.02**	**48**	P	**Pn**	**11 00 11.7**	**0.0**
VLI	**Veliai**	**2.10**	**152**	P	**Pn**	**11 00 12.8**	**+0.1**
VLI	**Veliai**	**2.10**	**152**	P	**Pn**	**11 00 13.2**	**+0.5**
VLI	**Veliai**	**2.10**	**152**	P	**Pn**	**11 00 13.2**	**+0.5**
FNA	**Florina**	**2.21**	**353**	P	**Pn**	**11 00 15.6**	**+1.2**
FNA	**Florina**	**2.21**	**353**	P	**Pn**	**11 00 15.2**	**+0.8**
FNA	**Florina**	**2.21**	**353**	P	**Pn**	**11 00 15.6**	**+1.2**
PLG	**Polygyros**	**2.23**	**36**	P	**Pn**	**11 00 12.9**	**-1.6**
PLG	**Polygyros**	**2.23**	**36**	P	**Pn**	**11 00 14.0**	**-0.6**
PLG	**Polygyros**	**2.23**	**36**	P	**Pn**	**11 00 14.0**	**-0.6**
THE	**Thessaloniki**	**2.26**	**25**	P	**Pn**	**11 00 15.8**	**+0.9**
THE	**Thessaloniki**	**2.26**	**25**	P	**Pn**	**11 00 15.6**	**+0.7**
HORT	**Hortiatis**	**2.27**	**27**	P	**Pn**	**11 00 15.7**	**+0.4**
HORT	**Hortiatis**	**2.27**	**27**	P	**Pn**	**11 00 15.7**	**+0.4**
HORT	**Hortiatis**	**2.27**	**27**	P	**Pn**	**11 00 14.6**	**-0.7**
GRG	**Griva**	**2.42**	**12**	P	**Pn**	**11 00 17.5**	**+0.2**
GRG	**Griva**	**2.42**	**12**	P	**Pn**	**11 00 17.5**	**+0.2**
BIA	**Bitola**	**2.45**	**353**	*e*Pn	**Pb**	**11 00 19.8**	**-1.9**
OUR	**Ouranopolis**	**2.47**	**44**	P	**Pn**	**11 00 17.1**	**-0.8**
OUR	**Ouranopolis**	**2.47**	**44**	P	**Pn**	**11 00 17.8**	**-0.1**
SOH	**Sokhos**	**2.56**	**29**	P	**Pn**	**11 00 18.6**	**-0.6**
SOH	**Sokhos**	**2.56**	**29**	P	**Pn**	**11 00 19.3**	**+0.1**
SOH	**Sokhos**	**2.56**	**29**	P	**Pn**	**11 00 19.3**	**+0.1**
OHR	**Ohrid**	**2.62**	**345**	*i* Pn	**Pb**	**11 00 22.5**	**-2.2**
OHR				*e*Sn	**Sn**	**11 00 54.2**	**+2.3**
KNT	**Kendrikon**	**2.73**	**19**	P	**Pn**	**11 00 21.7**	**+0.3**
KNT	**Kendrikon**	**2.73**	**19**	P	**Pn**	**11 00 22.1**	**+0.7**
KNT	**Kendrikon**	**2.73**	**19**	P	**Pn**	**11 00 22.1**	**+0.7**
KRUS	**Krusevo**	**2.81**	**353**	*i* Pn	**Pn**	**11 00 24.6**	**+2.0**
VAY	**Valandovo**	**2.81**	**13**	*i* Pn	**Pn**	**11 00 23.6**	**+1.1**
VAY				*e*Sn	**Sn**	**11 00 58.1**	**+1.6**
SRS	**Serrai**	**2.91**	**29**	P	**Pn**	**11 00 23.7**	**-0.2**
SRS	**Serrai**	**2.91**	**29**	P	**Pn**	**11 00 23.7**	**-0.2**
TIR	**Tirane**	**3.11**	**333**	ǁ*i*P	**Pn**	**11 00 26.5**	**-0.1**
TIR	**Tirane**	**3.11**	**333**	ǁ*i*P	**Pn**	**11 00 26.5**	**-0.1**
NVR	**Nevrokopi**	**3.21**	**30**	P	**Pn**	**11 00 28.7**	**+0.6**
NVR	**Nevrokopi**	**3.21**	**30**	P	**Pn**	**11 00 28.7**	**+0.6**
APE	**Apeiranthos**	**3.37**	**115**	⇑*i*P	**Pb**	**11 00 34.0**	**-3.5**
APE	**Apeiranthos**	**3.37**	**115**	⇑*i*P	**Pb**	**11 00 34.0**	**-3.5**
SKO	**Skopje**	**3.39**	**356**	*e*Pn	**Pn**	**11 00 32.0**	**+1.5**
ULC	**Ulcinj**	**3.87**	**331**	*e*Pn	**Pn**	**11 00 38.5**	**+1.3**
ULC				*e*Sn	**Sn**	**11 01 24.9**	**+2.2**
ULC	**Ulcinj**	**3.87**	**331**	*e*Pn	**Pn**	**11 00 38.5**	**+1.3**
ULC				*e*Sn	**Sn**	**11 01 24.9**	**+2.2**
TIP	**Timpagrande**	**3.92**	**280**	⇑*i*P	**Pn**	**11 00 38.3**	**+0.4**
TIP	**Timpagrande**	**3.92**	**280**	⇑*i*P	**Pn**	**11 00 38.3**	**+0.4**
DRME	**Dracevica, Mon**	**4.09**	**332**	ǁ*i*Pn	**Pn**	**11 00 41.8**	**+1.7**
DRME				*e*Sn	**Sn**	**11 01 30.4**	**+2.4**
DRME	**Dracevica, Mon**	**4.09**	**332**	ǁ*i*Pn	**Pn**	**11 00 41.8**	**+1.7**
DRME				*e*Sn	**Sn**	**11 01 30.4**	**+2.4**
IDI	**Anoyia**	**4.15**	**141**	Pn	**Pn**	**11 00 44.9**	**+3.8**
	comp=E,1.8nm,0.3s,baz=326,slow=16,SNR=4.5						
IDI				Sn	**Sb**	**11 01 37.0**	**-4.0**
	comp=E,2.7nm,0.3s,baz=139,slow=9.1,SNR=2.5						
VTS	**Vitosha**	**4.16**	**15**	⇑*i*P	**Pn**	**11 00 43.0**	**+1.8**
VTS	**Vitosha**	**4.16**	**15**	⇑*i*P	**Pn**	**11 00 43.0**	**+1.8**
BARS	**Barje**	**4.23**	**1**	*e*Pn	**Pn**	**11 00 43.2**	**+1.2**
PDG	**Podgorica**	**4.28**	**335**	ǁ*i*P	**Pn**	**11 00 42.2**	**-0.5**
PDG	**Podgorica**	**4.28**	**335**	ǁ*i*P	**Pn**	**11 00 42.2**	**-0.5**
PDG	**Podgorica**	**4.28**	**335**	⇑*i*Pn	**Pn**	**11 00 43.8**	**+1.1**
PDG				*e*Sn	**Sn**	**11 01 34.5**	**+1.9**
TTG	**Podgorica**	**4.28**	**335**	⇑*i*Pn	**Pn**	**11 00 43.8**	**+1.1**
TTG				*e*Sn	**Sn**	**11 01 34.5**	**+1.9**
BUM	**Brajici-Budva**	**4.29**	**331**	ǁ*i*Pn	**Pn**	**11 00 44.1**	**+1.1**
BUM				*e*Sn	**Sn**	**11 01 35.3**	**+2.1**
BUM	**Brajici-Budva**	**4.29**	**331**	ǁ*i*Pn	**Pn**	**11 00 44.1**	**+1.1**
BUM				*e*Sn	**Sn**	**11 01 35.3**	**+2.1**
CEME	**Cevo**	**4.50**	**333**	ǁ*i*Pn	**Pn**	**11 00 46.4**	**+0.6**
CEME				*e*Sn	**Sn**	**11 01 40.0**	**+1.8**
CEME	**Cevo**	**4.50**	**333**	ǁ*i*Pn	**Pn**	**11 00 46.4**	**+0.6**
CEME				*e*Sn	**Sn**	**11 01 40.0**	**+1.8**
BEY	**Berane**	**4.50**	**343**	*e*Pn	**Pn**	**11 00 47.6**	**+1.7**
BEY				*e*Sn	**Sn**	**11 01 40.0**	**+1.7**
IVA	**Berane**	**4.50**	**343**	*e*Pn	**Pn**	**11 00 47.6**	**+1.7**
IVA				*e*Sn	**Sn**	**11 01 40.0**	**+1.7**
HCY	**Herceg Novi**	**4.58**	**328**	⇑*i*Pn	**Pn**	**11 00 47.8**	**+1.0**
HCY				*e*Sn	**Sn**	**11 01 41.8**	**+1.8**
HCY	**Herceg Novi**	**4.58**	**328**	⇑*i*Pn	**Pn**	**11 00 47.8**	**+1.0**
HCY				*e*Sn	**Sn**	**11 01 41.8**	**+1.8**
KOME	**Kolasin**	**4.58**	**339**	ǁ*i*Pn	**Pn**	**11 00 48.5**	**+1.5**
KOME				*e*Sn	**Sn**	**11 01 41.9**	**+1.7**
KOME	**Kolasin**	**4.58**	**339**	ǁ*i*Pn	**Pn**	**11 00 48.5**	**+1.5**
KOME				*e*Sn	**Sn**	**11 01 41.9**	**+1.7**
NKME	**Niksic**	**4.68**	**334**	ǁ*i*Pn	**Pn**	**11 00 49.4**	**+1.1**
NKME				*e*Sn	**Sn**	**11 01 44.4**	**+1.8**
NKME	**Niksic**	**4.68**	**334**	ǁ*i*Pn	**Pn**	**11 00 49.4**	**+1.1**
NKME				*e*Sn	**Sn**	**11 01 44.4**	**+1.8**
SJES	**Sjenica**	**4.86**	**345**	*e*Pn	**Pn**	**11 00 54.7**	**+3.9**
BOVS	**Bovan**	**5.04**	**360**	*e*Pn	**Pn**	**11 00 53.7**	**+0.4**
PLE	**Pljevlja**	**5.06**	**340**	⇑*i*Pn	**Pn**	**11 00 54.5**	**+0.9**
PLE				*e*Sn	**Sn**	**11 01 52.8**	**+0.7**
PLE	**Pljevlja**	**5.06**	**340**	⇑*i*Pn	**Pn**	**11 00 54.5**	**+0.9**
PLE				*e*Sn	**Sn**	**11 01 52.8**	**+0.7**
IVAS	**Ivanjica**	**5.13**	**347**	*e*Pn	**Pn**	**11 00 57.3**	**+2.9**
ZAGS	**Zajecar**	**5.24**	**4**	*e*Pn	**Pn**	**11 00 56.2**	**+0.3**
STON	**Ston**	**5.26**	**326**	*e*Pn	**Pn**	**11 00 54.1**	**-2.1**
STON				Sn	**Sn**	**11 01 52.8**	**-4.1**
GRUS	**Gruza**	**5.35**	**352**	*e*Pn	**Pn**	**11 00 58.9**	**+1.4**
BBLS	**Lazići**	**5.56**	**342**	*e*Pn	**Pn**	**11 01 01.8**	**+1.4**
DIVS	**Divibare**	**5.66**	**347**	*e*Pn	**Pn**	**11 01 02.7**	**+0.9**
TRUS	**Trudelj**	**5.72**	**350**	*e*Pn	**Pn**	**11 01 03.9**	**+1.4**
KUBS	**Kucevo**	**5.82**	**360**	*e*Pn	**Pn**	**11 01 05.9**	**+2.0**
HERR	**Herculane**	**6.31**	**4**	ǁ*i*P	**Pn**	**11 01 11.2**	**+0.6**
BZS	**Buzias**	**7.03**	**359**	ǁ*i*P	**Pn**	**11 01 22.0**	**+1.5**
BZS	**Buzias**	**7.03**	**359**	ǁ*i*P	**Pn**	**11 01 22.0**	**+1.5**
BLY	**Banja Luka**	**7.03**	**333**	⇑*i*P	**Pn**	**11 01 21.3**	**+0.8**
BLY	**Banja Luka**	**7.03**	**333**	⇑*i*P	**

CUKAN	kangal_SIVAS	1.26	188	*i*	P		Pb	11 51 27.8	0.0
CUKAN	kangal_SIVAS	1.26	188		P		Pb	11 51 27.8	0.0
KELT	Kelkit	1.27	109	*i*	P		Pb	11 51 27.7	-0.3
KELT				*i*	S		Sb	11 51 45.3	+0.4
KELT	Kelkit	1.27	109		P		Pb	11 51 27.7	-0.3
KELT					S		Sb	11 51 45.3	+0.4
KEMA	Kemaliye	1.44	154	*i*	P		Pb	11 51 30.8	0.0
KEMA	Kemaliye	1.44	154		P		Pb	11 51 30.8	0.0
BAYT	Ayd¯–ntepe-Bay	1.88	95	PN			Pb	11 51 37.9	-0.4
BAYT				SN			Sg	11 52 03.8	+0.4
BAYT	Ayd¯–ntepe-Bay	1.88	95	*e*Pn			Pb	11 51 37.9	-0.4
BAYT				*e*Sn			Sg	11 52 03.8	+0.4
BAYB	BAYBURT	1.99	98	*i*	P		Pg	11 51 40.9	-0.2
BAYB				*i*	S		Sg	11 52 06.7	-0.2
BAYB	BAYBURT	1.99	98		P		Pg	11 51 40.9	-0.2
BAYB					S		Sg	11 52 06.7	-0.2
YOZ	Yozgat	2.04	244	PN			Pn	11 51 38.6	-0.2
YOZ	Yozgat	2.04	244	*e*Pn			Pn	11 51 38.6	-0.2
PTK	Pertek	2.13	141	PN			Pb	11 51 42.1	-0.5
PTK	Pertek	2.13	141	*e*Pn			Pb	11 51 42.1	-0.5

*ISCJB **13** 12:15:45.1±0.5,24.84N±0.04×122.42E±0.02, h6km±4km, Error ellipse: s-maj=6.4km s-min=2.6km az=15.0*
*JMA **13** 12:15:45.0±0.1,24.82N×122.41E, h2km±2km, M2.6*
*TAP **13** 12:15:46.0,24.85N×122.34E, h13km, ML2.7, D*

ISC 13 12:15:44.9±1.1,24.84N±0.05×122.39E±0.02, h9km±10km, n26, σ0°37/43, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40**	**295**	P	**Pg**	**12 15 53.4**	**+0.6**
	baz=297						
TWB1				*e*S	**Sb**	**12 15 60.0**	**-0.4**
	baz=297						
EGS		**0.42**	**271**	*e*P	**Pb**	**12 15 54.3**	**-0.1**
	baz=269						
TIPB	**Shuangxi**	**0.53**	**284**	P	**Pg**	**12 15 55.4**	**+0.2**
	baz=284						
TIPB				S	**Sb**	**12 16 03.8**	**-0.3**
	baz=284						
TWC	**Suao**	**0.54**	**245**	*i* P	**Pb**	**12 15 56.4**	**-0.1**
	baz=241						
TWC				*e*S	**Sb**	**12 16 04.1**	**-0.3**
	baz=241						
NWF	**Wu-fen Shan**	**0.60**	**293**	P	**Pb**	**12 15 57.7**	**+0.1**
	baz=293						
NWF				*e*S	**Sb**	**12 16 06.4**	**+0.3**
	baz=293						
WFSB	**Wu-fen Shan**	**0.60**	**293**	P	**Pb**	**12 15 57.7**	**+0.1**
	baz=293						
WFSB				*e*S	**Sb**	**12 16 06.5**	**+0.4**
	baz=293						
JYNG	**Yonagunijimaku**	**0.64**	**127**	P	**Pg**	**12 15 57.1**	**-0.1**
JYNG				S	**Sg**	**12 16 05.5**	**-0.1**
ENAH	**Nanao**	**0.66**	**234**	P	**Pb**	**12 15 58.8**	**+0.3**
	baz=230						
TWE	**Neicheng**	**0.67**	**260**	*e*P	**Pb**	**12 15 58.9**	**+0.2**
	baz=257						
TWE				*e*S	**Sb**	**12 16 07.7**	**-0.4**
	baz=257						
YOJ	**Yonaguni jima**	**0.68**	**124**	*e*P	**Pg**	**12 15 57.8**	**-0.2**
	baz=121						
YOJ	**Yonaguni jima**	**0.68**	**124**	P	**Pg**	**12 15 57.8**	**-0.2**
YOJ				*e*S	**Sg**	**12 16 06.5**	**-0.4**
NANB	**Nanao**	**0.71**	**235**	P	**Pb**	**12 15 59.7**	**+0.2**
	baz=232						
NANB				S	**Sb**	**12 16 09.7**	**+0.4**
	baz=232						
ENA	**Nanau**	**0.72**	**235**	*e*P	**Pb**	**12 16 00.0**	**+0.4**
	baz=232						
ENA				*e*S	**Sb**	**12 16 09.6**	**+0.1**
	baz=232						
YM07	**YM07**	**0.78**	**296**	*e*P	**Pg**	**12 15 59.3**	**-0.6**
	baz=296						
ENTT	**Nioudou**	**0.78**	**255**	P	**Pb**	**12 16 00.9**	**+0.4**
	baz=253						
ENTT				S	**Sb**	**12 16 11.1**	**-0.1**
	baz=253						
YM08	**YM08**	**0.81**	**296**	*e*P	**Pb**	**12 16 01.3**	**+0.2**
	baz=296						
NWLT	**Wulai**	**0.81**	**266**	P	**Pb**	**12 16 01.5**	**+0.4**
	baz=264						
NWLT				S	**Sb**	**12 16 12.3**	**+0.2**
	baz=264						
YM10	**YM10**	**0.82**	**293**	*e*P	**Pg**	**12 16 00.9**	**+0.2**
	baz=293						
YM03	**YM03**	**0.84**	**294**	*e*P	**Pn**	**12 16 02.4**	**-0.6**
	baz=294						
NNSH	**Datong**	**1.00**	**246**	P	**Pb**	**12 16 04.7**	**+0.2**
	baz=244						
NNSH				S	**Sn**	**12 16 18.7**	**-0.9**
	baz=244						
TWD	**Chiawan**	**1.05**	**224**	*e*P	**Pn**	**12 16 05.9**	**+0.2**
	baz=221						
IRIF	**Iriomote-Funau**	**1.32**	**112**	P	**Pn**	**12 16 09.4**	**-0.1**
IRIF				*e*S	**Sb**	**12 16 26.3**	**-0.5**
HATJ	**Hateruma jima**	**1.51**	**121**	P	**Pn**	**12 16 12.4**	**+0.4**
HATJ				*e*S	**Sn**	**12 16 31.9**	**+0.1**
JKRS	**Kuro-shima**	**1.59**	**112**	P	**Pb**	**12 16 14.3**	**-0.2**
JKRS				*e*S	**Sb**	**12 16 34.6**	**0.0**
JIJ	**Ishigaki jima**	**1.66**	**106**	P	**Pn**	**12 16 14.5**	**+0.3**
JIJ				S	**Sn**	**12 16 36.3**	**+0.6**
JISG	**Ishigakijimahi**	**1.76**	**98**	P	**Pn**	**12 16 16.2**	**+0.6**

IDC 13 12:25:12.9±7.0,50.20N×176.92E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.3/76, mbtmp3.6/6, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/59, Error ellipse: s-maj=185.4km s-min=24.2km az=170.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**17.62**	**312**	LR	LR	12 36 22.0	
	comp=Z,22nm,20.1s,baz=90,slow=38						
KDAK	**Kodiak Island**	**19.34**	**55**	P	P	12 29 38.8	-0.7
	0.2nm,0.3s,baz=258,slow=9.0,SNR=3.4						
ILAR	**Eielson Array**	**23.87**	**39**	P	P	12 30 26.9	-0.8
	0.7nm,1.1s,baz=251,slow=7.4,SNR=4.5						
YKA	**Yellowknife Ar**	**38.00**	**45**	P	P	12 32 33.5	+1.4
	0.2nm,0.6s,baz=279,slow=9.0,SNR=5.1						
SONM	**Songino Array**	**44.72**	**295**	P	P	12 33 29.4	+1.7
	0.2nm,0.5s,baz=49,slow=6.5,SNR=5.1						
KURBB	**Kurchatov Arra**	**57.93**	**312**	P	P	12 35 05.7	-0.8
	0.6nm,0.8s,baz=43,slow=6.7,SNR=6.8						
BVAR	**Borovoye Array**	**59.99**	**318**	P	P	12 35 19.8	-1.0
	1.4nm,0.4s,baz=65,slow=8.1,SNR=6.8						

IDC 13 12:30:47.1±2.5,53.73N×169.38E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.2/72, mbtmp3.4/5, ML2.3/1, Error ellipse: s-maj=62.8km s-min=27.4km az=1.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.01**	**270**	Pn	Pn	12 32 31.6	+0.6
	0.3nm,0.3s,baz=82,slow=17,SNR=7.3						
PETK				Sn	Sn	12 33 45.5	-5.9
	0.3nm,0.3s,baz=317,slow=27,SNR=3.7						
ILAR	**Eielson Array**	**24.39**	**46**	P	P	12 36 06.5	-0.3
	0.2nm,0.4s,baz=256,slow=7.3,SNR=5.5						
TIXI	**Tiksi**	**25.04**	**331**	P	P	12 36 11.9	-0.5
	0.9nm,0.3s,baz=108,slow=9.6,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**34.00**	**184**	T	T	13 13 21.5	
	baz=3.1,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**34.01**	**184**	T	T	13 13 23.2	
	baz=3.1,slow=76,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**34.01**	**184**	T	T	13 13 20.9	
	baz=3.1,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**35.22**	**184**	T	T	13 14 54.7	
	baz=359						
H11S3	**WAKE ISLAND Hy**	**35.23**	**184**	T	T	13 14 54.3	
	baz=359						
H11S2	**WAKE ISLAND Hy**	**35.24**	**184**	T	T	13 15 00.2	
	baz=359						
YKA	**Yellowknife Ar**	**38.82**	**46**	P	P	12 38 13.5	+0.3
	0.1nm,0.5s,baz=292,slow=8.0,SNR=3.0						
TXAR	**Lajitas Array**	**65.19**	**74**	P	P	12 41 30.2	0.0
	0.2nm,0.5s,baz=308,slow=5.7,SNR=4.4						

*IDC **13** 12:41:23.6±0.7,25.71N×144.93E, h0km, mb4.0/17, mb1 4.1/19, mb1mx3.8/70, mbtmp4.0/19, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.4/59, Error ellipse: s-maj=22.4km s-min=18.2km az=72.0*
*ISCJB **13** 12:41:24.1±0.4,25.71N±0.07×144.69E±0.07, h10km, mb4.1/23, MS4.0/1, Error ellipse: s-maj=11.7km s-min=6.5km az=35.4*
*NEIC **13** 12:41:25.7±0.3,25.71N×144.72E, h10km, mb4.8/6, Error ellipse: s-maj=10.9km s-min=7.9km az=50.0*

ISC 13 12:41:25.7±0.6,25.7N±0.1×144.69E±0.09, h10km, n44, σ0°98/49, mb4.2/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.62**	**302**	*e*Pn	**Pn**	**12 42 06.0**	**-2.2**
CBIJ				*e*Sn	**Sn**	**12 42 40.2**	**+0.1**
JCJ	**Chichijima**	**2.62**	**302**	Pn	**Pb**	**12 42 11.9**	**-0.9**
	18nm,0.3s,baz=108,slow=20,SNR=4.3						
JCJ				Sn	**Sn**	**12 42 39.4**	**-0.7**
	50nm,0.3s,baz=95,slow=24,SNR=12						
GUMO	**Guam**	**12.08**	**179**	LR	LR	12 48 25.0	
	comp=Z,32nm,19.4s,baz=116,slow=35						
MJAR	**Matsushiro Arr**	**12.12**	**334**	Pn	**Pn**	**12 44 19.5**	**+1.1**
	0.5nm,0.3s,baz=160,slow=11,SNR=7.9						
MAJO	**Matsushiro**	**12.12**	**334**	*e*Pn	**Pn**	**12 44 19.5**	**+1.0**
WAKE	**Wake Island**	**21.27**	**103**	*e*P	**P**	**12 46 12.6**	**+0.2**
	158nm,0.8s						
SONA0	**Songino Array**	**37.25**	**316**	*e*P	**P**	**12 48 39.4**	**+1.7**
SONM	**Songino Array**	**37.25**	**316**	P	**P**	**12 48 39.4**	**+1.7**
	0.4nm,0.6s,baz=129,slow=7.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**42.83**	**270**	P	**P**	**12 49 24.4**	**+0.2**
	0.6nm,0.6s,baz=78,slow=7.9,SNR=4.5						
WR1	**Warramunga Arr**	**46.50**	**193**	*e*P	**P**	**12 49 53.0**	**-0.3**
	26nm,1.4s						
WRA	**Warramunga Arr**	**46.50**	**193**	P	**P**	**12 49 53.0**	**-0.3**
	1.0nm,0.4s,baz=18,slow=8.4,SNR=23						
AS31	**Alice Springs**	**50.20**	**193**	*e*P	**P**	**12 50 22.0**	**+0.1**
	1.4nm,1.1s						
ASAR	**Alice Springs**	**50.20**	**193**	P	**P**	**12 50 21.6**	**-0.3**
	0.4nm,0.8s,baz=13,slow=14,SNR=6.2						
ZALV	**Zalesovo Beam**	**51.98**	**320**	P	**P**	**12 50 34.4**	**-0.6**
	0.5nm,0.3s,baz=90,slow=5.9,SNR=3.7						
ZALV				PcP	**PcP**	**12 51 47.2**	**-0.1**
	0.9nm,0.5s,baz=129,slow=3.9,SNR=5.1						
ZAA1	**Zalesovo Array**	**51.98**	**320**	*e*P	**P**	**12 50 34.4**	**-0.6**
ZAA1				*e*PcP	**PcP**	**12 51 47.2**	**-0.1**
MK01	**Makanchi Array**	**53.06**	**310**	*e*P	**P**	**12 50 44.1**	**+0.9**
MK31	**Makanchi Array**	**53.07**	**310**	*e*P	**P**	**12 50 44.5**	**+1.3**
MK32	**Makanchi Array**	**53.07**	**310**	*e*P	**P**	**12 50 44.0**	**+0.8**
MK32				*e*PcP	**PcP**	**12 51 50.9**	**-0.7**
MKAR	**Makanchi Array**	**53.07**	**310**	P	**P**	**12 50 44.0**	**+0.8**
	0.6nm,0.6s,baz=88,slow=9.2,SNR=8.9						
MKAR				PcP	**PcP**	**12 51 50.9**	**-0.7**
	0.6nm,0.7s,baz=84,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	**53.07**	**310**	*e*P	**P**	**12 50 44.5**	**+1.3**
	11nm,1.1s						
MKAR				PcP	**PcP**	**12 51 50.9**	**-0.7**
KURK	**Kurchatov**	**55.53**	**315**	*e*P	**P**	**12 51 02.4**	**+1.3**
KURBB	**Kurchatov Arra**	**55.59**	**315**	P	**P**	**12 51 02.4**	**+0.9**
	2.2nm,0.7s,baz=90,slow=7.6,SNR=19						
ILAR	**Eielson Array**	**57.84**	**28**	P	**P**	**12 51 16.0**	**-1.2**
	0.6nm,0.8s,baz=259,slow=5.7,SNR=5.2						
BVAR	**Borovoye Array**	**60.56**	**318**	P	**P**	**12 51 37.2**	**+1.0**
	1.7nm,0.6s,baz=109,slow=5.2,SNR=6.5						
ARU	**Arti**	**66.87**	**323**	P	**P**	**12 52 17.9**	**+0.1**
	1.6nm,0.5s,baz=98,slow=14,SNR=3.4						
ABKAR	**Akbulak array**	**67.64**	**315**	*e*P	**P**	**12 52 23.7**	**+0.8**
	0.4nm,0.3s						
GEYT	**Alibeck**	**72.12**	**304**	P	**P**	**12 52 52.2**	**+1.5**
	2.7nm,0.4s,baz=74,slow=7.7,SNR=3.3						
YKA	**Yellowknife Ar**	**72.27**	**29**	P	**P**	**12 52 50.0**	**-1.0**
	0.2nm,0.6s,baz=293,slow=5.6,SNR=4.7						
LON	**Longmire**	**74.00**	**46**	*e*P	**P**	**12 53 01.7**	**0.0**
NV01	**Mina Array Sit**	**79.58**	**52**	*e*P	**P**	**12 53 33.6**	**+0.1**
NVAR	**Mina Array Bea**	**79.58**	**52**	P	**P**	**12 53 33.2**	**-0.4**
	0.3nm,0.6s,baz=273,slow=5.8,SNR=3.6						
FIA0	**FINESS Array S**	**80.15**	**335**	*e*P	**P**	**12 53 35.9**	**0.0**
FINES	**FINESS Array B**	**80.15**	**335**	P	**P**	**12 53 35.9**	**0.0**
	1.2nm,0.5s,baz=53,slow=5.4,SNR=4.9						
KBZ	**Khabaz**	**80.57**	**314**	P	**P**	**12 53 39.2**	**+0.8**
	2.4nm,0.7s,baz=96,slow=7.0,SNR=6.1						
BOZ	**Bozeman (W)**	**80.93**	**44**	*e*P	**P**	**12 53 40.7**	**+0.1**
	17nm,0.7s						
PFO	**Pinyon Flats O**	**82.99**	**56**	LR	LR	13 25 58.3	
	comp=Z,65nm,18.6s,baz=356,slow=32						
JLU	**Jordanelle**	**83.38**	**48**	*e*P	**P**	**12 53 55.2**	**+1.5**
	7.1nm,0.6s						
HFS	**Hagfors**	**85.54**	**338**	P	**P**	**12 54 02.9**	**-1.0**
	1.7nm,0.8s,baz=46,slow=4.2,SNR=4.2						
NB200	**NORSAR Array S**	**85.69**	**339**	*e*P	**P**	**12 54 02.9**	**-1.8**
NOA	**NORSAR Array B**	**85.69**	**339**	P	**P**	**12 54 02.8**	**-1.8**
	0.5nm,0.6s,baz=127,slow=11,SNR=2.6						
TOA1	**Torodi Ar. Sit**	**127.16**	**313**	*e*PKPdf	**PKPdf**	**13 00 30.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**127.16**	**313**	PKP	**PKPdf**	**13 00 30.8**	**-0.4**
	0.2nm,0.5s,baz=37,slow=2.4,SNR=3.7						
LPAZ	**La Paz**	**148.03**	**79**	PKPbc	**PKPbc**	**13 01 12.2**	**-0.9**
	1.2nm,0.6s,baz=272,slow=2.7,SNR=5.1						
LPAZ	**La Paz**	**148.03**	**79**	*e*PKPbc	**PKPbc**	**13 01 13.4**	**+0.4**

*KRSC **13** 12:42:11.3±1.4,51.32N×159.83E, h49km±23km, ML3.8*
*MOS **13** 12:42:14.3±1.3,51.44N×159.73E, h53km, mb4.1/3, Error ellipse: s-maj=17.2km s-min=5.7km az=106.0*
*IDC **13** 12:42:16.6±5.2,51.61N×159.77E, h59km±36km, mb3.4/5, mb1 3.4/5, mb1mx3.0/74, mbtmp3.6/5, Error ellipse: s-maj=66.3km s-min=31.0km az=85.0*

ISC 13 12:42:12.9±1.9,51.42N±0.06×159.78E±0.07, h28km±12km, n45, σ1°10/56, mb3.7/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.13**	**291**	PN	**Pn**	**12 42 32.5**	**-0.4**
KDTR				S	**Sn**	**12 42 48.1**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.13**	**291**	*e*P	**Pn**	**12 42 32.5**	**-0.4**
KDTR				*e*S	**Sn**	**12 42 48.1**	**+0.7**
RUS	**Russkaya**	**1.28**	**323**	PN	**Pn**	**12 42 35.2**	**+0.2**
RUS				S	**Sb**	**12 42 52.7**	**+0.3**
RUS	**Russkaya**	**1.28**	**323**	*e*P	**Pn**	**12 42 35.2**	**+0.2**
RUS				*e*S	**Sb**	**12 42 52.7**	**+0.3**
MTVR	**Mutnovka**	**1.45**	**318**	PN	**Pn**	**12 42 37.9**	**+0.4**
MTVR				S	**Sb**	**12 42 57.8**	**+0.4**
MTVR	**Mutnovka**	**1.45**	**318**	*e*P	**Pn**	**12 42 37.9**	**+0.4**
MTVR				*e*S	**Sb**	**12 42 57.8**	**+0.4**
ASAK	**Asacha**	**1.51**	**310**	PN	**Pn**	**12 42 39.0**	**+0.8**
ASAK	**Asacha**	**1.51**	**310**	*e*P	**Pn**	**12 42 39.0**	**+0.8**
SPN	**Mys Shipunski**	**1.69**	**5**	PN	**Pn**	**12 42 41.5**	**+0.9**
SPN				S	**Sb**	**12 43 03.6**	**-0.5**
SPN	**Mys Shipunski**	**1.69**	**5**	*e*P	**Pn**	**12 42 41.5**	**+0.9**
SPN				*e*S	**Sb**	**12 43 03.6**	**-0.5**
DALK	**Dalny**	**1.73**	**339**	PN	**Pn**	**12 42 42.0**	**+0.8**
DALK	**Dalny**	**1.73**	**339**	*e*P	**Pn**	**12 42 42.0**	**+0.8**
KRMR	**Karymshinskiy**	**1.74**	**325**	PN	**Pn**	**12 42 42.1**	**+0.8**
KRMR	**Karymshinskiy**	**1.74**	**325**	*e*P	**Pn**	**12 42 42.1**	**+0.8**
PET	**Petropavlovsk**	**1.75**	**337**	*e*PN	**Pn**	**12 42 42.6**	**+1.2**
PET	**Petropavlovsk**	**1.75**	**337**	*e*P	**Pn**	**12 42 42.7**	**+1.3**
PET				*e*S	**Sb**	**12 43 05.8**	**0.0**
PAU	**Pauzhetka**	**1.86**	**273**	PN	**Pn**	**12 42 43.1**	**+0.2**
PAU	**Pauzhetka**	**1.86**	**273**	*e*P	**Pn**	**12 42 43.1**	**+0.2**
UGLR	**Uglovaya**	**1.89**	**342**	PN	**Pb**	**12 42 45.3**	**-1.4**
UGLR	**Uglovaya**	**1.89**	**342**	*e*P	**Pb**	**12 42 45.3**	**-1.4**
SDLR	**Sedlovina**	**1.94**	**344**	PN	**Pn**	**12 42 45.5**	**+1.3**
SDLR	**Sedlovina**	**1.94**	**344**	*e*P	**Pn**	**12 42 45.5**	**+1.3**
SMAR	**Somma**	**1.94**	**342**	PN	**Pb**	**12 42 46.3**	**-1.4**
SMAR	**Somma**	**1.94**	**342**	*e*P	**Pb**	**12 42 46.3**	**-1.4**
AVH	**Avacha**	**1.96**	**341**	PN	**Pb**	**12 42 47.4**	**-0.5**
AVH	**Avacha**	**1.96**	**341**	*e*P	**Pb**	**12 42 47.4**	**-0.5**
KOK	**Koryaka**	**2.00**	**340**	PN	**Pn**	**12 42 46.1**	**+1.1**
KOK	**Koryaka**	**2.00**	**340**	*e*P	**Pn**	**12 42 46.1**	**+1.1**
KRX	**Arik**	**2.06**	**341**	PN	**Pb**	**12 42 49.2**	**-0.5**
KRX	**Arik**	**2.06**	**341**	*e*P	**Pb**	**12 42 49.2**	**-0.5**
PETK	**Petropavlovsk-**	**2.12**	**324**	P	**Pn**	**12 42 47.5**	**+1.0**
	18nm,0.3s,baz=122,slow=16,SNR=46						
PETK				S	**Sb**	**12 43 18.4**	**+1.9**
	3.9nm,0.3s,baz=132,slow=20,SNR=3.9						
PETK				LR	LR	12 43 50.1	
	comp=Z,107nm,19.7s,baz=77,slow=48						
APC	**Apacha**	**2.21**	**314**	PN	**Pn**	**12 42 49.2**	**+1.5**
APC	**Apacha**	**2.21**	**314**	*e*P	**Pn**	**12 42 49.2**	**+1.5**
SKR	**Severo-Kuril's**	**2.42**	**254**	*e*PN	**Pb**	**12 42 55.8**	**0.0**
SKR				*e*S	**Sb**	**12 43 26.4**	**+1.2**
SKR				pmax	pmax		
	comp=Z,69nm,0.7s						
SKR				smax	smax		
	comp=E,296nm,1.3s						
SKR				smax	smax		
	comp=N,250nm,1.0s						
GNL	**Ganaly**	**2.54**	**335**	PN	**Pn**	**12 42 54.9**	**+2.5**
GNL	**Ganaly**	**2.54**	**335**	*e*P	**Pn**	**12 42 54.9**	**+2.5**
KBTR	**Krutoberegovo**	**5.13**	**19**	PN	**Pn**	**12 43 29.4**	**+1.6**
KBTR	**Krutoberegovo**	**5.13**	**19**	*e*P	**Pn**	**12 43 29.4**	**+1.6**
TIXI	**Tiksi**	**24.54**	**337**	P	**P**	**12 47 29.3**	**-0.4**
	comp=N,4.1nm,0.7s,baz=132,slow=8.7,SNR=13						
KURK	**Kurchatov**	**48.47**	**303**	P	**P**	**12 50 51.5**	**-1.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**48.57**	**303**	P	**P**	**12 50 51.5**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=62,slow=7.6,SNR=3.7						
MKAR	**Makanchi Array**	**48.72**	**297**	P	**P**	**12 50 53.6**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=60,slow=8.5,SNR=3.2						
AKASG	**Malin Array Be**	**69.95**	**329**	P	**P**	**12 53 20.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=34,slow=6.3,SNR=4.6						
AKASG	**Malin Array Be**	**69.95**	**329**	P	**P**	**12 53 20.9**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**78.15**	**204**	P	**P**	**12 54 10.2**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=21,slow=5.4,SNR=4.0						

*CSEM **13** 12:56:27.4±0.2,50.48N×4.93E, h2km, ML1.6, Error ellipse: s-maj=7.8km s-min=4.2km az=151.0, Mining explosion.*

UCC 13 12:56:27.6,50.48N×4.93E, h0km, ML1.6, Mining explosion., Belgium

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGES	**Gesves**	**0.14**	**135**	P	Pg	12 56 30.0	-0.3
BGES				S	Sg	12 56 32.0	-0.1
BGES	**Gesves**	**0.14**	**135**	P	Pg	12 56 29.9	-0.4
BGES				S	Sg	12 56 32.0	-0.1
BMRD	**Maredsous**	**0.21**	**210**	P	Pg	12 56 32.5	+0.9
BMRD				S	Sg	12 56 34.8	+0.5
BMRD	**Maredsous**	**0.21**	**210**	P	Pg	12 56 32.4	+0.8
BMRD				S	Sg	12 56 34.7	+0.4
BCLA	**Clavier**	**0.25**	**105**	P	Pg	12 56 31.9	-0.4
BCLA				S	Sg	12 56 35.0	-0.5
BCLA	**Clavier**	**0.25**	**105**	P	Pg	12 56 31.9	-0.4
BCLA				S	Sg	12 56 35.0	-0.5
RCHB	**Rochefort**	**0.38**	**150**	P	Pg	12 56 34.6	-0.2
RCHB	**Rochefort**	**0.38**	**150**	P	Pg	12 56 34.6	-0.3
DOU	**Dourbes**	**0.44**	**209**	P	Pg	12 56 35.9	-0.2
DOU				S	Sg	12 56 41.1	-0.7
DOU	**Dourbes**	**0.44**	**209**	P	Pg	12 56 35.8	-0.3
DOU				S	Sg	12 56 41.1	-0.7
BLCH	**La Chartreuse**	**0.45**	**70**	P	Pb	12 56 37.7	-0.8
BLCH	**La Chartreuse**	**0.45**	**70**	P	Pb	12 56 37.6	-0.9
BRQR	**Ronquı˜ıre**	**0.47**	**285**	P	Pg	12 56 36.3	-0.2
BRQR	**Ronquı˜ıre**	**0.47**	**285**	P	Pg	12 56 36.3	-0.2
HGN	**Heimansgroeve**	**0.70**	**66**	*e*Pg	Pg	12 56 39.9	-1.0
HGN				*e*Sg	Sg	12 56 48.7	-1.3
HGN	**Heimansgroeve**	**0.70**	**66**	*e*Pg	Pg	12 56 39.9	-1.1
HGN				*e*Sg	Sg	12 56 48.7	-1.2
MEM	**Membach**	**0.70**	**79**	P	Pg	12 56 41.0	0.0
MEM	**Membach**	**0.70**	**79**	P	Pg	12 56 41.0	+0.1
MEM	**Membach**	**0.70**	**79**	P	Pg	12 56 41.0	0.0

*IDC **13** 13:08:07.4±1.4,3.93S×151.37E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/46, mbtmp3.7/8, ML1.8/1, MS3.3/15, Ms1 3.3/15, ms1mx3.2/37, Error ellipse: s-maj=51.1km s-min=21.4km az=119.0*
*ISCJB **13** 13:08:09.8±1.2,3.9S±0.2×151.2E±0.3, h21km, mb3.6/7, MS3.3/12, Error ellipse: s-maj=44.2km s-min=14.5km az=26.7*

ISC 13 13:08:11.1±1.3,3.9S±0.2×151.3E±0.3, h21km, n22, σ1°51/9, mb3.6/7, MS3.2/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.86**	**216**	Pn	**Pn**	**13 09 51.3**	**+0.7**
	1.2nm,0.3s,baz=63,slow=10,SNR=4.7						
PMG				LR	LR	13 12 29.4	
	comp=Z,213nm,21.5s,baz=27,slow=38						
HNR	**Honiara**	**10.24**	**123**	LR	LR	13 14 44.3	
	comp=Z,302nm,18.3s,baz=306,slow=39						
GUMO	**Guam**	**18.46**	**340**	LR	LR	13 19 23.2	
	comp=Z,65nm,19.8s,baz=89,slow=36						
WRA	**Warramunga Arr**	**22.98**	**225**	P	**P**	**13 13 14.0**	**-0.6**
	2.2nm,1.0s,baz=47,slow=9.6,SNR=6.7						
ASAR	**

baz=330,slow=76,SNR=99
H08N3 Diego Garcia H 8.03 152 T T 13 59 17.1
baz=330,slow=76,SNR=118
H08N1 Diego Garcia H 8.04 152 T T 13 59 15.6
baz=330,slow=76,SNR=101
PALK Pallekele 14.93 64 Pn **Pn 13 52 50.7 +0.4**
1.2nm,0.3s,baz=295,slow=8.0,SNR=7.4
PALK LR LR 13 57 27.4
comp=Z,71nm,20.0s,baz=296,slow=33
KMBO Kilima Mbogo 30.01 266 LR LR 14 04 45.8
comp=Z,58nm,21.3s,baz=96,slow=31
CMAR Chiang Mai Arr 35.77 59 P **P 13 56 17.2 -1.3**
0.1nm,0.3s,baz=237,slow=9.6,SNR=2.5
CMAR LR LR 14 10 09.9
comp=Z,23nm,18.0s,baz=241,slow=35
MMAI Mount Meron Ar 43.83 320 LR LR 14 13 44.6
comp=Z,34nm,18.5s,baz=210,slow=33
MKAR Makanchi Array 47.69 14 P **P 13 57 56.1 +0.3**
0.3nm,0.7s,baz=193,slow=6.0,SNR=3.6
KURBB Kurchatov Arra 50.58 9 P **P 13 58 17.8 0.0**
0.6nm,0.9s,baz=207,slow=8.0,SNR=6.4
ZALV Zalesovo Beam 54.95 13 P **P 13 58 49.5 -0.6**
0.7nm,0.7s,baz=213,slow=6.9,SNR=3.2
H01W3 Cape Leeuwin H 56.39 134 T T 14 59 45.6
baz=294
H01W2 Cape Leeuwin H 56.39 134 T T 14 59 48.7
baz=294
H01W1 Cape Leeuwin H 56.41 134 T T 14 59 47.3
baz=294
SONM Songino Array 57.85 30 P **P 13 59 11.8 +0.8**
0.1nm,0.3s,baz=221,slow=5.7,SNR=2.4
JNU Nakatsue 67.70 54 LR LR 14 31 34.0
comp=Z,18nm,18.8s,baz=108,slow=38
WRA Warramunga Arr 68.85 112 P **P 14 00 24.6 +0.2**
1.6nm,0.8s,baz=288,slow=6.1,SNR=6.3
ASAR Alice Springs 69.08 116 P **P 14 00 25.9 +0.2**
1.0nm,0.8s,baz=286,slow=6.0,SNR=10
TXAR Lajitas Array 148.81 344 PKPbc **PKPbc 14 09 07.7 -0.1**
0.8nm,0.8s,baz=60,slow=1.8,SNR=9.6

IDC 13 14:04:50.9±1.6, 3°67'S×150°68'E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/42, mbtmp3.6/5, ML1.5/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/30, Error ellipse: s-maj=61.5km s-min=24.3km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.69**	**211**	Pn		Pn	14 06 32.3	+1.9
	0.6nm,0.3s,baz=316,slow=12,SNR=3.9							
HNR	**Honiara**	**10.84**	**122**	LR		LR	14 11 16.3	
	comp=Z,118nm,19.6s,baz=318,slow=36							
WRA	**Warramunga Arr**	**22.70**	**223**	P		P	14 09 54.5	+0.1
	1.3nm,1.1s,baz=50,slow=10,SNR=4.1							
DZM	**Mont Dzumac**	**23.84**	**141**	LR		LR	14 17 25.3	
	comp=Z,103nm,20.3s,baz=28,slow=32							
ASAR	**Alice Springs**	**25.65**	**218**	P		P	14 10 21.1	-1.4
	1.1nm,1.0s,baz=49,slow=8.3,SNR=5.4							
MJAR	**Matsushiro Arr**	**41.67**	**345**	LR		LR	14 28 14.0	
	comp=Z,13nm,21.5s,baz=55,slow=34							
CMAR	**Chiang Mai Arr**	**55.48**	**295**	P		P	14 14 27.4	-0.6
	0.3nm,0.3s,baz=96,slow=4.0,SNR=4.8							
ILAR	**Eielson Array**	**81.92**	**23**	P		P	14 17 11.9	-0.3
	0.5nm,0.6s,baz=242,slow=5.9,SNR=8.5							
TORD	**Torodi Ar. Bea**	**147.94**	**289**	PKPbc		PKPbc	14 24 40.2	+0.9
	0.6nm,0.8s,baz=63,slow=2.1,SNR=3.2							

IDC 13 14:21:11.8±29.0, 23°15'S×175°05'W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/38, mbtmp4.1/4, MS3.3/4, Ms1 3.3/4, ms1mx2.7/36, Error ellipse: s-maj=526.1km s-min=147.7km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**9.70**	**19**	LR		LR	14 26 18.8	
	comp=Z,46nm,20.2s,baz=176,slow=32							
CTA	**Charters Tower**	**36.04**	**267**	P		P	14 28 15.4	+0.3
	2.6nm,0.3s,baz=97,slow=12							
STKA	**Stephens Creek**	**39.21**	**248**	P		P	14 28 41.8	-0.1
	0.9nm,0.4s,baz=95,slow=11,SNR=4.1							
ASAR	**Alice Springs**	**46.64**	**259**	P		P	14 29 42.3	0.0
	0.9nm,0.6s,baz=100,slow=7.1,SNR=28							
WRA	**Warramunga Arr**	**47.00**	**264**	P		P	14 29 44.5	-0.6
	0.8nm,0.3s,baz=102,slow=8.5,SNR=114							
LEM	**Lembang**	**75.73**	**269**	LR		LR	15 03 01.7	
	comp=Z,44nm,21.9s,baz=220,slow=33							
SNAA	**Sanae**	**85.28**	**178**	LR		LR	15 10 12.1	
	comp=Z,17nm,18.1s,baz=206,slow=34							
PLCA	**Paso Flores**	**85.47**	**132**	LR		LR	15 03 50.6	
	comp=Z,19nm,21.8s,baz=194,slow=30							

*CSEM **13** 14:26:57.4±0.4, 36°.28N×45°.83E, h2km, ML3.3, Error ellipse: s-maj=13.0km s-min=8.0km az=21.0*
*ISN **13** 14:26:57.0±1.0, 36°.33N×45°.90E, h0km±425km, ML3.4*
*TEH **13** 14:27:01.2, 36°.32N×45°.84E, h14km, ML3.4*
*DDA **13** 14:27:35.5, 36°.51N×45°.42E, h53km, Ml3.3*
ISC 13 14:26:59.9±1.9, 36°.29N±0°.04×45°.57E±0°.05, h12km±17km, n22, σ1°36/33, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YOVA	**Hakkari_Y`...kse**	**1.65**	**322**	*i* P		**Pb**	**14 27 29.7**	**-0.7**
YOVA				*i* S		**Sg**	**14 27 55.6**	**+2.6**
YOVA	**Hakkari_Y`...kse**	**1.65**	**322**	P		**Pb**	**14 27 29.7**	**-0.7**
YOVA				S		**Sg**	**14 27 55.6**	**+2.6**
IBST	**Bostanabad**	**1.76**	**37**	*e*Pn		**Pn**	**14 27 29.2**	**-1.3**
IBST				*e*Sg		**Sn**	**14 27 52.2**	**-0.8**
IBST				*e*AMB		AMB	14 27 55.6	
	comp=Z,3μm,0.2s							
ILIN	**Lien**	**1.78**	**140**	*e*Pn		**Pn**	**14 27 29.5**	**-1.2**
ILIN				*e*AMB		AMB	14 28 01.8	
	comp=Z,2μm,0.2s							
CUKT	**Cukurca**	**1.84**	**302**	*i* P		**Pn**	**14 27 31.0**	**-0.4**
CUKT				*i* S		**Sg**	**14 27 58.0**	**-1.1**
CUKT	**Cukurca**	**1.84**	**302**	P		**Pn**	**14 27 31.0**	**-0.4**
CUKT				S		**Sg**	**14 27 58.0**	**-1.1**
SNGE	**Sanandaj**	**1.88**	**129**	*e*Pg		**Pn**	**14 27 30.4**	**-1.6**
HAKT	**HAKKARI**	**1.96**	**311**	*i* P		**Pn**	**14 27 33.5**	**+0.4**
HAKT				*i* S		**Sg**	**14 28 01.5**	**-1.3**
HAKT	**HAKKARI**	**1.96**	**311**	P		**Pn**	**14 27 33.5**	**+0.4**
HAKT				S		**Sg**	**14 28 01.5**	**-1.3**
ISHB	**Shabestar**	**1.99**	**1**	*e*Pn		**Pn**	**14 27 32.6**	**-1.0**
ISHB				*e*AMB		AMB	14 28 06.4	
	comp=Z,3μm,0.2s							
ITBZ	**Tabriz**	**2.00**	**13**	*e*Pn		**Pn**	**14 27 33.3**	**-0.3**
ITBZ				*e*AMB		AMB	14 27 35.6	
	comp=Z,2μm,0.1s							
ITBZ				*e*Sg		**Sb**	**14 28 01.0**	**-0.1**
IVIS	**Veis**	**2.05**	**149**	*e*Pn		**Pn**	**14 27 34.2**	**-0.1**
IVIS				*e*Sg		**Sb**	**14 28 02.7**	**+0.1**
IVIS				*e*AMB		AMB	14 28 10.1	
	comp=Z,3μm,0.2s							
IGHG	**Ghaleghazi**	**2.12**	**157**	*e*Pn		**Pn**	**14 27 36.2**	**+0.8**
IGHG				*e*AMB		AMB	14 28 13.8	
	comp=Z,4μm,0.4s							
IMRD	**Marand**	**2.42**	**3**	*e*Pn		**Pn**	**14 27 40.8**	**+1.3**
IMRD				*e*AMB		AMB	14 28 20.9	
	comp=Z,2μm,0.2s							
ZNJK	**Zanjan**	**2.54**	**80**	*e*Pg		**Pn**	**14 27 42.9**	**+1.7**
IKOM	**Komasi**	**2.64**	**142**	*e*Pn		**Pn**	**14 27 45.7**	**+3.2**
IKOM				*e*AMB		AMB	14 28 30.4	
	comp=Z,2μm,0.3s							
SIRN	**S¯¯rnak**	**2.80**	**296**	*e*P		**Pn**	**14 27 46.0**	**+1.4**
SIRN				*i* S		**Sb**	**14 28 25.5**	**+1.3**
SIRN	**S¯¯rnak**	**2.80**	**296**	P		**Pn**	**14 27 46.0**	**+1.4**
GRMI	**Germi**	**3.12**	**36**	*e*Pn		**Pn**	**14 27 51.0**	**+1.9**
IKFM	**Kafar-mosalman**	**3.33**	**145**	*e*Pn		**Pn**	**14 27 52.0**	**+0.1**
IKFM				*e*AMB		AMB	14 27 55.1	
	comp=Z,99nm,0.1s							
SRTM	**Siirt_Merkez**	**3.37**	**301**	*e*P		**Pn**	**14 27 52.9**	**+0.4**
SRTM				*i* S		**Sg**	**14 28 47.2**	**-0.9**
SRTM	**Siirt_Merkez**	**3.37**	**301**	P		**Pn**	**14 27 52.8**	**+0.4**

IDC 13 14:40:10.4±1.1, 30°73'N×98°93'E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.4/74, mbtmp3.6/8, ML3.0/1, Error ellipse: s-maj=42.5km s-min=17.8km az=57.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.22**	**180**	Pg		Pg	14 44 04.9	
	0.1nm,0.3s,baz=357,slow=18,SNR=2.9							
SONM	**Songino Array**	**18.01**	**16**	P		P	14 44 23.0	+0.1
	0.1nm,0.3s,baz=199,slow=13,SNR=5.4							
MKAR	**Makanchi Array**	**20.56**	**326**	P		P	14 44 51.0	+0.3
	0.7nm,0.5s,baz=126,slow=11,SNR=8.6							
KSRS	**Korea Array**	**24.87**	**67**	P		P	14 45 34.2	-0.4
	1.0nm,0.6s,baz=258,slow=11,SNR=5.4							
KURBB	**Kurchatov Arra**	**25.03**	**328**	P		P	14 45 36.1	+0.1
	0.5nm,0.6s,baz=142,slow=9.6,SNR=7.5							
ZALV	**Zalesovo Beam**	**25.34**	**340**	P		P	14 45 38.6	-0.2
	1.2nm,0.5s,baz=154,slow=11,SNR=6.1							
ARCES	**ARCESS Array B**	**55.78**	**336**	P		P	14 49 48.4	-0.3
	5.8nm,1.1s,baz=93,slow=8.5,SNR=3.4							
WRA	**Warramunga Arr**	**60.80**	**141**	P		P	14 50 24.4	-0.1
	0.4nm,0.9s,baz=320,slow=9.7,SNR=3.4							
ASAR	**Alice Springs**	**63.65**	**144**	P		P	14 50 43.6	+0.1
	0.4nm,1.0s,baz=323,slow=5.9,SNR=3.2							

*IDC **13** 14:41:52.5±2.7, 13°.75S×167°.79E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/46, mbtmp3.7/6, MS3.4/2, Ms1 3.4/2, ms1mx2.7/33, Error ellipse: s-maj=83.7km s-min=31.1km az=123.0*
ISC 13 14:41:58.2±2.9, 13°.7S±0°.4×167°.7E±0°.5, h35km, n9, σ1°36/7, mb3.6/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**29.97**	**229**	P		**P**	**14 48 04.5**	**+1.1**
	2.3nm,0.6s,baz=54,slow=8.7,SNR=12							
WRA	**Warramunga Arr**	**32.50**	**254**	P		**P**	**14 48 24.6**	**-1.2**
	0.3nm,0.6s,baz=84,slow=9.0,SNR=5.6							
ASAR	**Alice Springs**	**33.44**	**248**	P		**P**	**14 48 33.0**	**-1.0**
	0.9nm,0.5s,baz=74,slow=9.9,SNR=42							
JHJ	**Hachijo jima 2**	**53.69**	**331**	LR		LR	15 11 54.7	
	comp=Z,16nm,21.1s,baz=114,slow=34							
CMAR	**Chiang Mai Arr**	**74.95**	**294**	P		**P**	**14 53 37.1**	**+0.8**
	0.3nm,0.7s,baz=125,slow=5.6,SNR=3.9							
SONM	**Songino Array**	**81.96**	**323**	P		**P**	**14 54 15.5**	**+0.9**
	0.1nm,0.4s,baz=123,slow=5.3,SNR=3.0							
SNAA	**Sanae**	**94.56**	**183**	LR		LR	15 37 06.5	
	comp=Z,38nm,18.7s,baz=176,slow=35							
MKAR	**Makanchi Array**	**96.79**	**316**	P		**P**	**14 55 24.9**	**-0.6**
	0.2nm,0.6s,baz=96,slow=6.2,SNR=3.6							
ARCES	**ARCESS Array B**	**119.41**	**346**	PKP		**PKPdf**	**15 00 42.1**	**-1.3**
	1.9nm,0.8s,baz=60,slow=1.8,SNR=6.6							

MEX 13 14:44:18.4±0.5, 14°.87N×93°.25W, h32km±21km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.83**	**2**	*e*P		Pn	14 44 31.6	-2.2
PCIG				*i* S		Sn	14 44 42.4	-2.5
TGIG		**1.90**	**4**	*i* P		Pn	14 44 46.7	-2.0
TGIG				*i* S		Sn	14 45 08.8	-2.8

*ISCJB **13** 14:53:02.7±0.5, 6°.83N±0°.04×73°.11W±0°.05, h156km±4km, mb3.0/3, Error ellipse: s-maj=8.9km s-min=5.7km az=30.2*
*IDC **13** 14:53:03.3±0.7, 6°.79N×72°.99W, h158km±11km, mb2.8/3, mb1 3.3/5, mb1mx3.0/44, mbtmp3.4/5, Error ellipse: s-maj=33.1km s-min=7.6km az=131.0*
*RSNC **13** 14:53:04.5±0.9, 6°.76N×73°.12W, h146km±5km, ML3.0*
ISC 13 14:53:03.3±0.8, 6°.79N±0°.04×73°.09W±0°.05, h153km±6km, n28, σ0°97/37, mb3.0/3, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**206**	*i* P		**Pn**	**14 53 24.2**	**-0.1**
BARC				*e*S		**Sn**	**14 53 39.4**	**-0.9**
BARC				*i*			14 53 40.1	
	comp=Z,346nm,0.2s							
PAMC	**Pamplona, Colo**	**0.67**	**35**	*i* P		**Pn**	**14 53 27.1**	**+0.7**
PAMC				*e*S		**Sn**	**14 53 43.9**	**-0.3**
BRRC	**Barranca, Sant**	**0.70**	**297**	*i* P		**Pn**	**14 53 26.2**	**+0.1**
BRRC				*e*S		**Sn**	**14 53 43.1**	**-0.3**
BRRC				*i*			14 53 44.4	
	comp=Z,340nm,0.1s							
RUSC	**La Rusia**	**0.89**	**180**	*i* P		**Pn**	**14 53 28.0**	**-0.1**
RUSC				*e*S		**Sn**	**14 53 46.0**	**-1.0**
RUSC				*i*			14 53 48.3	
	comp=Z,199nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.39**	**260**	*e*P		**Pn**	**14 53 30.8**	**-1.2**
PTBC				*i*			14 53 53.0	
	comp=Z,121nm,0.2s							
OCAC	**Ocana**	**1.46**	**351**	*e*P		**Pn**	**14 53 33.4**	**+0.6**
YOPC	**Yopal, Colombi**	**1.57**	**155**	*e*P		**Pn**	**14 53 34.7**	**+0.7**
YOPC				*i*			14 53 37.4	
	comp=Z,74nm,0.1s							
ZARC	**Zaragoza, Cauc**	**1.89**	**292**	*e*P		**Pn**	**14 53 37.1**	**-0.3**
ZARC				*e*S		**Sn**	**14 54 03.0**	**-0.5**
ZARC				*i*			14 54 11.0	
	comp=Z,151nm,0.3s							
NORC	**Norcasia**	**2.15**	**236**	*e*P		**Pn**	**14 53 40.1**	**-0.3**
NORC				*e*S		**Sn**	**14 54 07.8**	**-1.2**
CHIC	**Chingaza**	**2.24**	**197**	*e*P		**Pn**	**14 53 42.0**	**+0.2**
CHIC				*e*S		**Sn**	**14 54 10.2**	**-1.4**
CHIC				*i*			14 54 14.6	
	comp=Z,68nm,0.4s							
ROSC	**El Rosal**	**2.30**	**212**	P		**Pn**	**14 53 44.1**	**+1.6**
	comp=Z,11nm,0.3s,baz=309,slow=22,SNR=30							
ROSC				S		**Sn**	**14 54 14.5**	**+1.9**
	comp=Z,28nm,0.3s,baz=59,slow=20,SNR=14							
CVER	**Cruz Verde, Cu**	**2.46**	**204**	*e*P		**Pn**	**14 53 45.5**	**+0.9**
CVER				*i*			14 54 24.8	
	comp=Z,60nm,0.3s							
HELC	**Santa Helena**	**2.50**	**256**	*e*P		**Pn**	**14 53 44.6**	**-0.3**
HELC				*i*			14 54 23.1	
	comp=Z,107nm,0.4s							
VILC	**Villavicencio,**	**2.73**	**193**	*e*P		**Pn**	**14 53 47.8**	**+0.2**
RREF	**El Recreo**	**2.93**	**230**	*e*P		**Pn**	**14 53 50.9**	**+0.3**
DBBC	**Dabeiba**	**3.11**	**274**	*e*P		**Pn**	**14 53 52.4**	**+0.1**
DBBC				*i*			14 54 31.1	
	comp=Z,20nm,0.2s							
TOLC	**Tolima**	**3.12**	**226**	*e*P		**Pn**	**14 53 53.5**	**+0.9**
CODC	**Agust`>n Codaz**	**3.14**	**354**	*e*P		**Pn**	**14 53 52.6**	**0.0**
CODC				*i*			14 54 37.2	
	comp=Z,44nm,0.8s							
SDV	**Santo Domingo**	**3.20**	**49**	P		**Pn**	**14 53 54.1**	**+0.6**
	comp=Z,11nm,0.3s,baz=243,slow=11,SNR=49							
SDV				S		**Sn**	**14 54 31.1**	**-1.2**
	comp=Z,5.6nm,0.3s,baz=63,slow=19,SNR=14							
SDV	**Santo Domingo**	**3.20**	**49**	*e*P		**Pn**	**14 53 53.9**	**+0.4**
SDV				*i*			14 54 40.2	
	comp=Z,13nm,0.6s							
PRAC	**Prado**	**3.54**	**210**	*e*P		**Pn**	**14 53 57.5**	**-0.3**
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P		**Pn**	**14 54 06.7**	**-0.7**
YOTC				*i*			14 55 04.8	
	comp=Z,11nm,0.3s							
JTS	**JuntasAbangare**	**12.24**	**287**	S		**Sn**	**14 58 11.4**	**+3.2**
	comp=Z,4.4nm,0.3s,baz=181,slow=22,SNR=9.1							
TXAR	**Lajitas Array**	**36.51**	**312**	P		**P**	**14 59 54.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=112,slow=7.3,SNR=2.8							
PDAR	**Pinedale Array**	**48.12**	**324**	P		**P**	**15 01 27.9**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=119,slow=3.5,SNR=2.3							
YKA	**Yellowknife Ar**	**63.30**	**340**	P		**P**	**15 03 15.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=132,slow=6.8,SNR=9.0							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPbc**	**15 12 33.5**	**-0.9**
	comp=Z,0.4nm,1.0s,baz=116,slow=3.4,SNR=6.5							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc		**PKPbc**	**15 12 36.6**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=108,slow=2.8,SNR=6.2							

*ATH **13** 14:55:51.7, 40°.19N×19°.49E, h6km±1km, ML3.5/8, Error ellipse: s-maj=2.5km s-min=1.2km az=104.0*
*IDC **13** 14:55:52.9±1.0, 40°.14N×19°.76E, h0km, mb3.6/10, mb1 3.7/12, mb1mx3.5/61, mbtmp3.6/12, ML4.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.4/59, Error ellipse: s-maj=21.2km s-min=19.0km az=63.0*
*TIR **13** 14:55:53.3, 40°.15N×19°.78E, h21km, ML3.5*
*THE **13** 14:55:53.2, 40°.19N×19°.62E, h0km, ML3.4/6, Error ellipse: s-maj=1.1km s-min=0.5km az=280.0*
*BEO **13** 14:55:54.5±0.5, 40°.01N×19°.55E, h9km±3km, M3.6/1*
*CSEM **13** 14:55:55.7±0.1, 40°.13N×19°.74E, h2km, ML3.5, Error ellipse: s-maj=4.0km s-min=2.2km az=56.0*
*PDG **13** 14:55:56.0±0.6, 40°.12N×19°.74E, h10km±1km, ML3.3/8, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
ISC 13 14:55:54.1±1.0, 40°.04N±0°.02×19°.70E±0°.02, h7km±7km, n212, σ1°60/294, mb3.6/9, 30C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SRN	**Sarande**	**0.28**	**124**	*i* Pg		**Pb**	**14 56 01.2**	**-0.3**
SRN				*i* Sg		**Sb**	**14 56 07.1**	**+0.7**
VLO	**Vlora**	**0.46**	**340**	*i* Pg		**Pg**	**14 56 02.1**	**-0.8**
VLO				*i* SG		**Sg**	**14 56 09.6**	**+0.7**
VLO	**Vlora**	**0.46**	**340**	*i* Pg		**Pg**	**14 56 02.1**	**-0.8**
VLO				*i* Sg		**Sg**	**14 56 09.6**	**+0.7**
SGD	**Sagiada**	**0.59**	**136**	P		**Pn**	**14 56 07.7**	**-1.2**
SGD	**Sagiada**	**0.59**	**136**	P		**Pb**	**14 56 07.4**	**+0.6**
SGD	**Sagiada**	**0.59**	**136**	P		**Pb**	**14 56 07.3**	**+0.5**
IGT	**Igoumenitsa**	**0.70**	**136**	*e*Pg		**Pb**	**14 56 09.1**	**+0.4**
IGT	**Igoumenitsa**	**0.70**	**136**	P		**Pb**	**14 56 09.0**	**+0.3**
IGT				S		**Sn**	**14 56 22.4**	**+0.8**
IGT				AML		AML	14 56 26.7	
	comp=E,4140μm,0.4s							
IGT				AML		AML	14 56 30.6	
	comp=N,4807μm,0.4s							
IGT	**Igoumenitsa**	**0.70**	**136**	P		**Pb**	**14 56 09.1**	**+0.4**
IGT				S		**Sn**	**14 56 21.8**	**+0.2**
IGT	**Igoumenitsa**	**0.70**	**136**	P		**Pb**	**14 56 09.1**	**+0.4**
IGT				S		**Sn**	**14 56 21.8**	**+0.2**
JAN	**Janina**	**0.97**	**113**	P		**Pn**	**14 56 14.2**	**+0.1**
JAN				S		**Sn**	**14 56 28.4**	**+0.3**
JAN				AML		AML	14 56 34.0	
	comp=N,7570μm,0.6s							
JAN				AML		AML	14 56 34.4	
	comp=E,9301μm,0.6s							
JAN	**Janina**	**0.97**	**113**	P		**Pn**	**14 56 14.0**	**-0.1**
JAN				S		**Sn**	**14 56 29.1**	**+1.0**
JAN	**Janina**	**0.97**	**113**	P		**Pn**	**14 56 13.6**	**-0.5**
JAN				S		**Sn**	**14 56 29.1**	**+1.0**
KBN	**Korca**	**1.02**	**55**	*i* PN		**Pg**	**14 56 11.9**	**-1.7**
KBN				*i* SN		**Sn**	**14 56 30.1**	**+0.7**
NEST	**Nestorio**	**1.10**	**70**	P		**Pg**	**14 56 14.1**	**-1.1**
NEST				S		**Sn**	**14 56 32.6**	**+1.1**
NEST				AML		AML	14 56 38.2	
	comp=N,2144μm,0.6s							
NEST				AML		AML	14 56 39.0	
	comp=E,2252μm,0.5s							
NEST	**Nestorio**	**1.10**	**70**	P		**Pg**	**14 56 14.3**	**-0.9**
NEST				S		**Sb**	**14 56 30.4**	**+0.3**
NEST	**Nestorio**	**1.10**	**70**	P		**Pg**	**14 56 14.3**	**-0.9**
NEST				S		**Sb**	**14 56 30.4**	**+0.3**
KPRO	**Kipourio**	**1.28**	**93**	P		**Pg**	**14 56 17.5**	**-1.2**
KPRO	**Kipourio**	**1.28**	**93**	P		**Pb**	**14 56 18.3**	**-0.3**
KPRO				S		**Sn**	**14 56 38.2**	**+2.3**
KPRO	**Kipourio**	**1.28**	**93**	P		**Pg**	**14 56 18.1**	**-0.6**
KPRO				S		**Sn**	**14 56 38.2**	**+2.3**
TIR	**Tirane**	**1.31**	**6**	*e*Pg		**Pb**	**14 56 19.8**	**+0.7**
TIR				*e*Sg		**Sn**	**14 56 39.0**	**+2.4**
TIR	**Tirane**	**1.31**	**6**	⇑*i*P		**Pg**	**14 56 18.7**	**-0.5**
TIR	**Tirane**	**1.31**	**6**	⇑*i*P		**Pg**	**14 56 18.7**	**-0.5**
TIR	**Tirane**	**1.31**	**6**	*e*Pg		**Pb**	**14 56 19.8**	**+0.7**
TIR				S		**Sn**	**14 56 38.8**	**+2.2**
OHR	**Ohrid**	**1.36**	**38**	*i* Pn		**Pg**	**14 56 17.6**	**-2.5**
OHR				*i* Sn		**Sn**	**14 56 39.6**	**+1.8**
LKD2	**Lefkada island**	**1.45**	**149**	P		**Pg**	**14 56 23.3**	**+1.8**
LKD2				S		**Sn**	**14 56 45.1**	**+5.0**
LKD2				AML		AML	14 56 51.3	
	comp=N,2226μm,0.5s							
LKD2				AML		AML	14 56 53.8	
	comp=E,1972μm,0.6s							
LKD2	**Lefkada island**	**1.45**	**149**	P		**Pb**	**14 56 23.1**	**+1.6**
LKD2				S		**Sn**	**14 56 44.5**	**+4.4**
LKD2	**Lefkada island**	**1.45**	**149**	P		**Pb**	**14 56 21.9**	**+0.4**
LKD2				S		**Sn**	**14 56 44.5**	**+4.4**
FNA	**Florina**	**1.48**	**59**	*i* PN		**Pn**	**14 56 21.2**	**0.0**
FNA				*i* SN		**Sn**	**14 56 44.4**	**+3.6**
FNA	**Florina**	**1.48**	**59**	*e*Pg		**Pn**	**14 56 21.3**	**0.0**
FNA				*e*Sg		**Sn**	**14 56 44.1**	**+3.2**
FNA	**Florina**	**1.48**	**59**	P		**Pn**	**14 56 19.9**	**-1.6**
FNA				S		**Sn**	**14 56 43.2**	**+2.4**
FNA				AML		AML	14 56 49.2	
	comp=E,2741μm,0.7s							
FNA				AML		AML	14 56 51.5	
	comp=N,4521μm,0.9s							
FNA	**Florina**	**1.48**	**59**	P		**Pn**	**14 56 20.3**	**-0.9**
FNA	**Florina**	**1.48**	**59**	*i* Pn		**Pn**	**14 56 21.2**	**0.0**
FNA				S		**Sg**	**14 56 40.9**	**-0.8**
FNA				*e*Sg		**Sn**	**14 56 44.1**	**+3.2**
FNA	**Florina**	**1.48**	**59**	P		**Pn**	**14 56 20.1**	**-1.1**
FNA				S		**Sg**	**14 56 40.9**	**-0.8**
BIA	**Bitola**	**1.58**	**51**	*i* Pn		**Pn**	**14 56 23.1**	**+0.5**
KZN	**Kozani**	**1.61**	**80**	P		**Pb**	**14 56 24.3**	**+0.1**
KZN				S		**Sg**	**14 56 48.9**	**+3.1**
KZN				AML		AML	14 56 53.9	
	comp=N,2036μm,0.4s							
KZN				AML		AML	14 56 55.2	
	comp=E,3665μm,0.7s							
KZN	**Kozani**	**1.61**	**80**	P		**Pg**	**14 56 24.4**	**-0.5**
KZN				S		**Sg**	**14 56 48.8**	**+3.0**
PHP	**Peshkopia**	**1.74**	**

RLS	**Riolos of Patr**	**2.41**	**145**	P		**Pb**	**14 56 36.6**	**-1.2**
TTG	**Podgorica**	**2.41**	**352**	⇑*i*Pn		**Pn**	**14 56 35.5**	**+1.6**
TTG				*e*Sn		**Sn**	**14 57 06.0**	**+2.3**
TIP	**Timpagrande**	**2.43**	**250**	⇑*i*P		**Pg**	**14 56 39.3**	**-1.3**
TIP	**Timpagrande**	**2.43**	**250**	⇑*i*P		**Pg**	**14 56 39.3**	**-1.3**
SERG	**Sergoula**	**2.45**	**131**	P		**Pb**	**14 56 38.3**	**-0.1**
SERG	**Sergoula**	**2.45**	**131**	P		**Pb**	**14 56 37.9**	**-0.5**
TRIZ	**Trizonia**	**2.49**	**131**	P		**Pb**	**14 56 38.9**	**-0.2**
TRIZ	**Trizonia**	**2.49**	**131**	P		**Pb**	**14 56 38.5**	**-0.6**
KALE	**Kalithea**	**2.51**	**130**	P		**Pb**	**14 56 39.2**	**-0.4**
KALE	**Kalithea**	**2.51**	**130**	P		**Pb**	**14 56 38.8**	**-0.7**
LAKA	**Lakka**	**2.52**	**135**	P		**Pb**	**14 56 38.7**	**-1.0**
LAKA	**Lakka**	**2.52**	**135**	P		**Pb**	**14 56 38.6**	**-1.1**
VAY	**Valandovo**	**2.53**	**59**	*i*Pn		**Pn**	**14 56 37.6**	**+2.1**
HCY	**Herceg Novi**	**2.57**	**340**	⇓*i*Pn		**Pn**	**14 56 38.1**	**+2.0**
HCY				*e*Sn		**Sn**	**14 57 10.4**	**+2.7**
HCY	**Herceg Novi**	**2.57**	**340**	⇓*i*Pn		**Pn**	**14 56 38.1**	**+2.0**
HCY				*e*Sn		**Sn**	**14 57 10.4**	**+2.7**
CEME	**Cevo**	**2.57**	**347**	⇑*i*Pn		**Pn**	**14 56 37.4**	**+1.2**
CEME				*e*Sn		**Sn**	**14 57 10.2**	**+2.4**
CEME	**Cevo**	**2.57**	**347**	⇑*i*Pn		**Pn**	**14 56 37.4**	**+1.2**
CEME				*e*Sn		**Sn**	**14 57 10.2**	**+2.4**
FYTO	**Fytoko, Volos**	**2.58**	**103**	P		**Pn**	**14 56 37.7**	**+1.5**
FYTO	**Fytoko, Volos**	**2.58**	**103**	P		**Pn**	**14 56 38.3**	**+2.1**
DRO	**Drossia**	**2.61**	**142**	P		**Pb**	**14 56 39.0**	**-2.1**
DRO	**Drossia**	**2.61**	**142**	P		**Pb**	**14 56 39.4**	**-1.8**
HORT	**Hortiatis**	**2.66**	**77**	P		**Pn**	**14 56 38.3**	**+0.9**
HORT	**Hortiatis**	**2.66**	**77**	P		**Pn**	**14 56 38.8**	**+1.4**
KNT	**Kendrikon**	**2.68**	**64**	P		**Pn**	**14 56 39.3**	**+1.6**
KNT	**Kendrikon**	**2.68**	**64**	P		**Pn**	**14 56 39.1**	**+1.4**
DSF	**Desfina**	**2.73**	**126**	P		**Pn**	**14 56 41.4**	**-1.8**
DSF	**Desfina**	**2.73**	**126**	P		**Pn**	**14 56 41.5**	**-1.8**
KLV	**Kalavryta, Ach**	**2.76**	**135**	P		**Pb**	**14 56 41.6**	**-2.2**
KLV	**Kalavryta, Ach**	**2.76**	**135**	P		**Pb**	**14 56 41.7**	**-2.1**
NKME	**Niksic**	**2.78**	**349**	⇑*i*Pn		**Pn**	**14 56 40.5**	**+1.4**
NKME				*e*Sn		**Sn**	**14 57 14.8**	**+1.9**
NKME	**Niksic**	**2.78**	**349**	⇑*i*Pn		**Pn**	**14 56 40.5**	**+1.4**
NKME				*e*Sn		**Sn**	**14 57 14.8**	**+1.9**
KOME	**Kolasin**	**2.81**	**357**	⇓*i*Pn		**Pn**	**14 56 41.0**	**+1.5**
KOME				*e*Sn		**Sn**	**14 57 15.8**	**+2.1**
KOME	**Kolasin**	**2.81**	**357**	⇓*i*Pn		**Pn**	**14 56 41.0**	**+1.5**
KOME				*e*Sn		**Sn**	**14 57 15.8**	**+2.1**
NKY	**Niksic**	**2.82**	**349**	⇑*i*Pn		**Pn**	**14 56 41.8**	**+2.1**
NKY				*e*Sn		**Sn**	**14 57 16.0**	**+2.0**
NKY	**Niksic**	**2.82**	**349**	⇑*i*Pn		**Pn**	**14 56 41.8**	**+2.1**
NKY				*e*Sn		**Sn**	**14 57 16.0**	**+2.0**
BEY	**Berane**	**2.83**	**3**	*e*Pn		**Pn**	**14 56 40.9**	**+1.1**
BEY				*e*Sn		**Sn**	**14 57 15.9**	**+1.6**
IVA	**Berane**	**2.83**	**3**	*e*Pn		**Pn**	**14 56 40.9**	**+1.1**
IVA				*e*Sn		**Sn**	**14 57 15.9**	**+1.6**
TREB	**Trebinje**	**2.86**	**340**	*e*Pn		**Pn**	**14 56 38.7**	**-1.4**
PLG	**Polygyros**	**2.89**	**82**	P		**Pn**	**14 56 43.2**	**+2.7**
PLG	**Polygyros**	**2.89**	**82**	P		**Pn**	**14 56 42.9**	**+2.4**
SOH	**Sokhos**	**2.90**	**73**	P		**Pn**	**14 56 42.1**	**+1.4**
SOH	**Sokhos**	**2.90**	**73**	P		**Pn**	**14 56 42.3**	**+1.6**
LKR	**Lokris**	**2.91**	**117**	P		**Pn**	**14 56 42.6**	**+1.8**
LKR	**Lokris**	**2.91**	**117**	P		**Pn**	**14 56 43.3**	**+2.5**
GUR	**Goura**	**2.94**	**135**	P		**Pb**	**14 56 44.4**	**-2.5**
GUR	**Goura**	**2.94**	**135**	P		**Pb**	**14 56 44.4**	**-2.5**
AMT	**Artemida-Makis**	**2.96**	**147**	P		**Pb**	**14 56 44.2**	**-2.9**
AMT	**Artemida-Makis**	**2.96**	**147**	P		**Pb**	**14 56 44.4**	**-2.7**
SKIA	**Skiathos**	**3.04**	**105**	P		**Pn**	**14 56 44.4**	**+1.8**
SKIA	**Skiathos**	**3.04**	**105**	P		**Pn**	**14 56 45.0**	**+2.4**
PAIG	**Paliouri**	**3.06**	**91**	P		**Pn**	**14 56 42.8**	**-0.1**
PAIG	**Paliouri**	**3.06**	**91**	P		**Pn**	**14 56 44.1**	**+1.2**
SRS	**Serrai**	**3.15**	**69**	*e*Pn		**Pn**	**14 56 45.7**	**+1.5**
SRS				*e*Sn		**Sn**	**14 57 25.9**	**+3.8**
SRS	**Serrai**	**3.15**	**69**	*e*Pn		**Pn**	**14 56 45.7**	**+1.5**
SRS				*e*Sn		**Sn**	**14 57 25.9**	**+3.8**
BARS	**Barje**	**3.20**	**29**	*e*Pn		**Pn**	**14 56 45.2**	**+0.4**
BARS				*e*Sn		**Sn**	**14 57 24.8**	**+1.7**
BARS	**Barje**	**3.20**	**29**	*e*Pn		**Pn**	**14 56 45.2**	**+0.4**
BARS				*e*Sn		**Sn**	**14 57 24.8**	**+1.7**
STON	**Ston**	**3.20**	**333**	*e*Pn		**Pn**	**14 56 43.2**	**-1.6**
STON				Sn		**Sn**	**14 57 20.7**	**-2.5**
STON	**Ston**	**3.20**	**333**	*e*Pn		**Pn**	**14 56 43.1**	**-1.6**
STON				Sn		**Sn**	**14 57 20.7**	**-2.5**
SJES	**Sjenica**	**3.23**	**4**	*e*Pn		**Pn**	**14 56 47.6**	**+2.4**
SJES				*e*Sn		**Sn**	**14 57 24.7**	**+0.7**
SJES	**Sjenica**	**3.23**	**4**	*e*Pn		**Pn**	**14 56 47.6**	**+2.4**
SJES				*e*Sn		**Sn**	**14 57 24.7**	**+0.7**
PLE	**Pljevlja**	**3.29**	**356**	⇑*i*Pn		**Pn**	**14 56 47.5**	**+1.3**
PLE				*e*Sn		**Sn**	**14 57 26.9**	**+1.2**
PLE	**Pljevlja**	**3.29**	**356**	⇑*i*Pn		**Pn**	**14 56 47.5**	**+1.3**
PLE				*e*Sn		**Sn**	**14 57 26.9**	**+1.2**
MS1	**Monte Sant'Ang**	**3.30**	**301**	*e*Pn		**Pn**	**14 56 48.0**	**+1.8**
SELS	**Selova**	**3.35**	**18**	*e*Pn		**Pn**	**14 56 47.6**	**+0.7**
SELS				*e*Sn		**Sn**	**14 57 28.1**	**+1.2**
NVR	**Nevrokopi**	**3.42**	**66**	P		**Pn**	**14 56 49.0**	**+1.1**
NVR	**Nevrokopi**	**3.42**	**66**	P		**Pn**	**14 56 49.3**	**+1.4**
IVAS	**Ivanjica**	**3.55**	**5**	*e*Pn		**Pn**	**14 56 48.5**	**-1.1**
IVAS	**Ivanjica**	**3.55**	**5**	*e*Pn		**Pn**	**14 56 48.5**	**-1.1**
VTS	**Vitosha**	**3.67**	**45**	⇓*i*P		**Pn**	**14 56 53.3**	**+1.9**
VTS	**Vitosha**	**3.67**	**45**	⇓*i*P		**Pn**	**14 56 53.3**	**+1.9**
DID	**Didima**	**3.75**	**131**	P		**Pn**	**14 56 53.7**	**+1.3**
DID	**Didima**	**3.75**	**131**	P		**Pn**	**14 56 54.7**	**+2.4**
BBLS	**Lazići**	**3.83**	**357**	*e*Pn		**Pn**	**14 56 54.7**	**+1.2**
BBLS				*e*Sn		**Sn**	**14 57 37.3**	**-1.5**
BBLS	**Lazići**	**3.83**	**357**	*e*Pn		**Pn**	**14 56 54.7**	**+1.2**
BBLS				*e*Sn		**Sn**	**14 57 37.3**	**-1.5**
BOVS	**Bovan**	**3.89**	**22**	*e*Pn		**Pn**	**14 56 55.1**	**+0.8**
BOVS	**Bovan**	**3.89**	**22**	*e*Pn		**Pn**	**14 56 55.1**	**+0.8**
ZAPS	**Zavoj**	**3.91**	**33**	*e*Pn		**Pn**	**14 56 55.0**	**+0.5**
ZAPS	**Zavoj**	**3.91**	**33**	*e*Pn		**Pn**	**14 56 55.0**	**+0.5**
GRUS	**Gruza**	**3.92**	**11**	*e*Pn		**Pn**	**14 56 54.5**	**-0.2**
GRUS	**Gruza**	**3.92**	**11**	*e*Pn		**Pn**	**14 56 54.5**	**-0.2**
DIVS	**Divibare**	**4.06**	**3**	*e*Pn		**Pn**	**14 56 55.8**	**-0.9**
DIVS				*e*Sn		**Sn**	**14 57 45.0**	**+0.5**
DIVS	**Divibare**	**4.06**	**3**	*e*Pn		**Pn**	**14 56 56.0**	**-0.7**
DIVS				*e*Sn		**Sn**	**14 57 45.0**	**+0.5**
HAPS	**Han Pijesak,Bl**	**4.08**	**352**	*e*Pn		**Pn**	**14 56 55.8**	**-1.2**
TRUS	**Trudelj**	**4.21**	**7**	*e*Pn		**Pn**	**14 56 59.3**	**+0.6**
TRUS	**Trudelj**	**4.21**	**7**	*e*Pn		**Pn**	**14 56 59.3**	**+0.6**
ZAGS	**Zajecar**	**4.22**	**26**	*e*Pn		**Pn**	**14 56 59.0**	**+0.3**
ZAGS	**Zajecar**	**4.22**	**26**	*e*Pn		**Pn**	**14 56 59.0**	**+0.3**
TEKS	**Tekeris**	**4.51**	**358**	*e*Pn		**Pn**	**14 57 02.5**	**-0.3**
TEKS	**Tekeris**	**4.51**	**358**	*e*Pn		**Pn**	**14 57 02.5**	**-0.3**
UDBI	**Udbina**	**5.35**	**328**	*e*Pn		**Pn**	**14 57 15.9**	**+1.5**
UDBI				Sn		**Sn**	**14 58 13.7**	**-2.5**
UDBI	**Udbina**	**5.35**	**328**	*e*Pn		**Pn**	**14 57 15.9**	**+1.5**
UDBI				Sn		**Sn**	**14 58 13.7**	**-2.5**
BZS	**Buzias**	**5.75**	**14**	⇑*i*P		**Pn**	**14 57 19.9**	**+0.1**
BZS	**Buzias**	**5.75**	**14**	⇑*i*P		**Pn**	**14 57 19.9**	**+0.1**
NVLJ	**Novalja**	**5.76**	**323**	*e*Pn		**Pn**	**14 57 20.1**	**+0.1**
NVLJ				Sn		**Sn**	**14 58 22.2**	**-4.2**
NVLJ	**Novalja**	**5.76**	**323**	*e*Pn		**Pn**	**14 57 20.0**	**+0.1**
IDI	**Anoyia**	**6.28**	**137**	Sn		**Sn**	**14 58 35.1**	**-4.2**
	comp=N,1.4nm,0.3s,baz=96,slow=10,SNR=2.8							
ARR	**Arges**	**6.45**	**33**	⇓*i*P		**Pn**	**14 57 29.9**	**+0.5**
ARR	**Arges**	**6.45**	**33**	⇓*i*P		**Pn**	**14 57 29.9**	**+0.5**
VOIR		**6.68**	**34**	⇑*i*P		**Pn**	**14 57 35.0**	**+2.4**
VOIR		**6.68**	**34**	⇑*i*P		**Pn**	**14 57 35.0**	**+2.4**
CEY	**Cerknica**	**6.88**	**328**	*e*Pn		**Pn**	**14 57 34.9**	**-0.5**
DRGR		**7.10**	**17**	⇑*i*P		**Pn**	**14 57 40.1**	**+1.8**
DRGR		**7.10**	**17**	⇑*i*P		**Pn**	**14 57 40.1**	**+1.8**
MLR	**Muntele Rosu**	**7.13**	**38**	Pn		**Pn**	**14 57 42.9**	**+4.1**
	comp=N,0.1nm,0.3s,baz=272,slow=18,SNR=3.6							
OBKA	**Obir**	**7.48**	**332**	Pn		**Pn**	**14 57 44.2**	**+0.6**
	comp=N,2.1nm,0.4s							
OBKA	**Obir**	**7.48**	**332**	*e*Pn		**Pn**	**14 57 44.2**	**+0.6**
	comp=N,2.1nm,0.4s							
OBKA				*e*Sn		**Sn**	**14 59 07.1**	**-1.5**
	comp=N,7.8nm,0.6s							
TLB	**Topalu**	**7.67**	**51**	⇑*i*P		**Pn**	**14 57 49.4**	**+3.3**
TLB	**Topalu**	**7.67**	**51**	⇑*i*P		**Pn**	**14 57 49.4**	**+3.3**
VRI	**Vrincioaia**	**7.78**	**39**	⇓*i*P		**Pn**	**14 57 50.1**	**+2.5**
VRI	**Vrincioaia**	**7.78**	**39**	⇓*i*P		**Pn**	**14 57 50.1**	**+2.5**
WATA	**Walderalm**	**9.37**	**324**	Pn		**Pn**	**14 58 09.4**	**-0.1**
	comp=N,3.9nm,0.5s							
WATA	**Walderalm**	**9.37**	**324**	*e*Pn		**Pn**	**14 58 09.4**	**-0.1**
	comp=N,3.9nm,0.5s							
FETA	**Feichten**	**9.54**	**320**	Pn		**Pn**	**14 58 12.9**	**+1.0**
	comp=N,2.1nm,0.5s							
FETA	**Feichten**	**9.54**	**320**	*e*Pn		**Pn**	**14 58 12.9**	**+1.0**
	comp=N,2.1nm,0.5s							
FETA				Sn		**Sn**	**15 00 03.9**	**+4.4**
	comp=N,1.2nm,0.6s							
MOTA	**Moosalm**	**9.59**	**322**	Pn		**Pn**	**14 58 13.5**	**+0.9**
	comp=N,4.7nm,0.5s							
MOTA	**Moosalm**	**9.59**	**322**	*e*Pn		**Pn**	**14 58 13.5**	**+0.9**
	comp=N,4.7nm,0.5s							
GERES	**GERESS Array B**	**9.79**	**336**	Pn		**Pn**	**14 58 14.8**	**-0.5**
	comp=N,0.2nm,0.3s,baz=153,slow=13,SNR=8.4							
GERES				LR		LR	15 03 13.5	
	comp=N,66nm,19.1s,baz=100,slow=45							
ESDC	**Sonseca Array**	**18.16**	**276**	P		**Pn**	**15 00 06.3**	**-0.5**
	comp=N,0.4nm,0.3s,baz=59,slow=12,SNR=3.9							
HFS	**Hagfors**	**20.46**	**351**	P		**P**	**15 00 32.0**	**0.0**
	comp=N,1.4nm,0.6s,baz=152,slow=12,SNR=3.7							
NB2	**NORSAR Subarra**	**21.67**	**349**	P		**P**	**15 00 45.7**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=155,slow=10							
NOA	**NORSAR Array B**	**21.67**	**349**	P		**P**	**15 00 45.5**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=151,slow=9.2,SNR=4.2							
FINES	**FINESS Array B**	**21.79**	**8**	P		**P**	**15 00 44.5**	**-1.7**
	comp=Z,2.5nm,0.9s,baz=186,slow=13,SNR=5.7							
ARCES	**ARCESS Array B**	**29.72**	**4**	P		**P**	**15 01 58.7**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=182,slow=9.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**31.12**	**216**	P		**P**	**15 02 14.7**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=24,slow=12,SNR=3.2							
KURBB	**Kurchatov Arra**	**41.66**	**55**	P		**P**	**15 03 41.9**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=287,slow=9.1,SNR=2.8							
MKAR	**Makanchi Array**	**44.90**	**60**	P		**P**	**15 04 08.3**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=284,slow=7.2,SNR=30							
ZALV	**Zalesovo Beam**	**44.95**	**49**	P		**P**	**15 04 08.6**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=269,slow=8.9,SNR=6.7							
YKA	**Yellowknife Ar**	**71.42**	**339**	P		**P**	**15 07 13.8**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=38,slow=6.0,SNR=3.5							
KSRS	**Korea Array**	**78.64**	**50**	P		**P**	**15 07 55.9**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=307,slow=5.2,SNR=4.0							
ASAR	**Alice Springs**	**122.98**	**94**	PKP		**PKPdf**	**15 14 50.5**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=304,slow=1.6,SNR=6.4							

*DDA **13** 15:09:04.6, 41°.35N×35°.86E, h16km, MI3.4*
*ISK **13** 15:09:04.4, 41°.43N×35°.98E, h12km, ML2.7/7*
*ISCJB **13** 15:09:05.4±0.5, 41°.40N±0°.03×35°.84E±0°.03, h12km, Error ellipse: s-maj=4.6km s-min=3.2km az=12.9*
*CSEM **13** 15:09:05.4±0.3, 41°.39N×35°.85E, h15km, ML3.4, Error ellipse: s-maj=7.3km s-min=4.9km az=32.0*

ISC 13 15:09:04.5±0.8, 41°.39N±0°.03×35°.86E±0°.02, h12km, n42, σ0s82/65, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SAMS	**Samsun-Alacam**	**0.25**	**96**	*i* P		**Pb**	**15 09 10.6**	**-0.3**
SAMS				*i* S		**Sg**	**15 09 15.3**	**+2.1**
SAMS	**Samsun-Alacam**	**0.25**	**96**	P		**Pb**	**15 09 10.6**	**-0.3**
SAMS				S		**Sg**	**15 09 15.3**	**+2.1**
HAVZ	**Havza**	**0.33**	**199**	*i* P		**Pg**	**15 09 10.6**	**-0.6**
HAVZ				*i* S		**Sg**	**15 09 15.3**	**-0.3**
HAVZ	**Havza**	**0.33**	**199**	P		**Pg**	**15 09 10.6**	**-0.6**
HAVZ				S		**Sg**	**15 09 15.3**	**-0.3**
KVT	**Kavak**	**0.34**	**155**	PG		**Pg**	**15 09 11.2**	**-0.1**
KVT				SG		**Sb**	**15 09 17.8**	**0.0**
KVT	**Kavak**	**0.34**	**155**	*e*Pg		**Pg**	**15 09 11.2**	**-0.1**
KVT				*e*Sg		**Sb**	**15 09 17.8**	**0.0**
DIKM	**Dikmen**	**0.52**	**300**	PG		**Pb**	**15 09 16.0**	**+0.4**
DIKM	**Dikmen**	**0.52**	**300**	*e*Pg		**Pb**	**15 09 16.0**	**+0.4**
BOYT	**Boyabat**	**0.72**	**273**	*i* P		**Pg**	**15 09 17.6**	**-0.8**
BOYT				*i* S		**Sb**	**15 09 29.3**	**+0.5**
BOYT	**Boyabat**	**0.72**	**273**	P		**Pg**	**15 09 17.6**	**-0.8**
BOYT				S		**Sb**	**15 09 29.3**	**+0.5**
SNOP	**Sinop**	**0.80**	**323**	PG		**Pn**	**15 09 21.2**	**-0.4**
SNOP	**Sinop**	**0.80**	**323**	*e*Pg		**Pn**	**15 09 21.2**	**-0.4**
SINO	**SINOP_Merkez**	**0.80**	**322**	*i* P		**Pn**	**15 09 20.9**	**-0.7**
SINO	**SINOP_Merkez**	**0.80**	**322**	P		**Pn**	**15 09 20.9**	**-0.7**
ERBA	**Erbaa**	**0.98**	**136**	*i* P		**Pg**	**15 09 22.9**	**-0.4**
ERBA				*i* S		**Sn**	**15 09 38.4**	**+0.5**
ERBA	**Erbaa**	**0.98**	**136**	P		**Pg**	**15 09 22.9**	**-0.4**
ERBA				S		**Sn**	**15 09 38.4**	**+0.5**
CTAK	**Corum_Osmancik**	**1.09**	**228**	*i* P		**Pb**	**15 09 25.2**	**-0.3**
CTAK				*i* S		**Sn**	**15 09 41.2**	**+0.2**
CTAK	**Corum_Osmancik**	**1.09**	**228**	P		**Pb**	**15 09 25.2**	**-0.3**
CTAK				S		**Sn**	**15 09 41.2**	**+0.2**
TOKT	**Tokat**	**1.19**	**154**	PN		**Pg**	**15 09 27.6**	**+0.3**
TOKT	**Tokat**	**1.19**	**154**	*e*Pn		**Pg**	**15 09 27.6**	**+0.3**
COAL	**Corum-Alaca**	**1.31**	**211**	*i* P		**Pn**	**15 09 28.1**	**-0.6**
COAL				*i* S		**Sg**	**15 09 47.8**	**+1.1**
COAL	**Corum-Alaca**	**1.31**	**211**	P		**Pn**	**15 09 28.1**	**-0.6**
COAL				S		**Sg**	**15 09 47.8**	**+1.1**
BZK	**Bozkurt**	**1.50**	**293**	PN		**Pb**	**15 09 32.5**	**+0.2**
BZK	**Bozkurt**	**1.50**	**293**	*e*Pn		**Pb**	**15 09 32.5**	**+0.2**
CORM	**Corum**	**1.52**	**218**	PN		**Pg**	**15 09 33.2**	**-0.6**
CORM	**Corum**	**1.52**	**218**	*e*Pn		**Pg**	**15 09 33.2**	**-0.6**
ORDU	**Ordu-Boztepe**	**1.56**	**104**	*i* P		**Pb**	**15 09 33.0**	**-0.3**
ORDU				*i* S		**Sg**	**15 09 55.0**	**+0.3**
ORDU	**Ordu-Boztepe**	**1.56**	**104**	P		**Pb**	**15 09 33.0**	**-0.3**
ORDU				S		**Sg**	**15 09 55.0**	**+0.3**
SVSK	**Karacayir**	**1.71**	**149**	PN		**Pn**	**15 09 34.6**	**+0.6**
SVSK	**Karacayir**	**1.71**	**149**	*e*Pn		**Pn**	**15 09 34.6**	**+0.6**
YOZ	**Yozgat**	**1.79**	**193**	PN		**Pb**	**15 09 36.8**	**-0.6**
YOZ	**Yozgat**	**1.79**	**193**	*e*Pn		**Pb**	**15 09 36.8**	**-0.6**
GRSN	**GIRESUNGRSN**	**1.88**	**103**	*i* P		**Pn**	**15 09 36.8**	**+0.4**
GRSN				*i* S		**Sb**	**15 10 01.4**	**-0.8**
GRSN	**GIRESUNGRSN**	**1.88**	**103**	P		**Pn**	**15 09 36.8**	**+0.4**
GRSN				S		**Sb**	**15 10 01.4**	**-0.8**
CUSAR	**Sarkisla-SIVAS**	**1.99**	**171**	*i* P		**Pb**	**15 09 39.6**	**-1.1**
CUSAR				*i* S		**Sb**	**15 10 06.3**	**+0.8**
CUSAR	**Sarkisla-SIVAS**	**1.99**	**171**	P		**Pb**	**15 09 39.6**	**-1.1**
CUSAR				S		**Sb**	**15 10 06.3**	**+0.8**
CDAG	**Cicekdag**	**2.09**	**213**	*i* P		**Pb**	**15 09 42.6**	**+0.1**
CDAG				*i* S		**Sg**	**15 10 11.4**	**-0.4**
CDAG	**Cicekdag**	**2.09**	**213**	P		**Pb**	**15 09 42.6**	**+0.1**
SUSE	**Susehri**	**2.13**	**123**	*i* P		**Pb**	**15 09 41.6**	**-1.6**
SUSE				*i* S		**Sb**	**15 10 10.5**	**+0.8**
SUSE	**Susehri**	**2.13**	**123**	P		**Pb**	**15 09 41.6**	**-1.6**
KELT	**Kelkit**	**2.86**	**114**	*i* P		**Pb**	**15 09 55.1**	**-0.5**
KELT				*i* S		**Sg**	**15 10 33.7**	**-2.7**
YAYL	**Yayladag**	**5.35**	**178**	*i* PG		**Pb**	**15 10 39.5**	**+1.6**

IDC 13 15:10:51.4±496.0, 26°.44S×45°.11E, h0km, Error ellipse: s-maj=213.7km s-min=145.6km az=169.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I33MG	**ANTANANARIVO I**	**7.67**	**16**	*i*			15 59 10.0	
	baz=194,slow=313,SNR=1.1							
I47ZA	**BOSHOF INFRASO**	**17.76**	**258**	*i*			16 58 50.0	
	baz=84,slow=310,SNR=1.0							
I32KE	**NAIROBI INFRAS**	**26.29**	**341**	*i*			17 52 30.0	
	baz=164,slow=308,SNR=1.5							
I35NA	**TSUMEB INFRASO**	**26.35**	**280**	*i*			17 52 00.0	
	baz=111,slow=318,SNR=0.6							

*DJA **13** 15:28:57.0±0.6, 3°.5S×14°.0E±°, h49km±18km, M5.0/4, mB6.0/1, mb5.4/2, MLv4.8/4, Mw(mB)5.6/1*
*ISCJB **13** 15:29:09.8±1.0, 2°.92S±0°.06×140°.22E±0°.08, h10km, mb3.5/2, Error ellipse: s-maj=11.9km s-min=7.5km az=20.0*
*IDC **13** 15:29:25.8±3.9, 4°.06S×139°.34E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.2/45, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=170.0km s-min=31.0km az=90.0*

ISC 13 15:29:11.1±1.3, 2°.87S±0°.07×140°.25E±0°.08, h10km, n5, σ0s89/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GENI	**Genyem**	**0.29**	**343**	P		**Pg**	**15 29 16.2**	**-0.7**
GENI				S		**Sg**	**15 29 21.7**	**+0.8**
JAY	**Jayapura**	**0.58**	**52**	P		**Pg**	**15 29 21.8**	**-0.5**
JAY				S		**Sb**	**15 29 31.7**	**+0.2**
WRA	**Warramunga Arr**	**17.92**	**198**	Pn		**Pn**	**15 33 20.1**	**-0.5**
	0.2nm,0.3s,baz=16,slow=12,SNR=17							
ASAR	**Alice Springs**	**21.56**	**196**	P		**P**	**15 34 01.8**	**+0.8**
	0.7nm,0.7s,baz=25,slow=11,SNR=8.9							
ZALV	**Zalesovo Beam**	**72.86**	**329**	P		P	15 40 59.8	+20
	0.4nm,0.3s,baz=126,slow=7.3,SNR=2.7							

*NIED **13** 15:39:00, 38°.20N×141°.80E, h50km, Mw3.6 Best double couple: M0 3.14000×10^14 NP1:φs164.00000°, δ47.00000°, λ60.00000°. NP2:φs24.00000°, δ51.00000°, λ118.00000°.*
*IDC **13** 15:39:23.0±1.7, 38°.41N×142°.57E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/66, mbtmp3.6/9, ML3.2/3, MS2.2/1, Ms1 2.2/1, ms1mx1.9/53, Error ellipse: s-maj=41.9km s-min=19.6km az=70.0*
*ISCJB **13** 15:39:31.2±0.8, 38°.23N±0°.03×141°.89E±0°.08, h60km±6km, mb3.5/6, Error ellipse: s-maj=10.4km s-min=4.8km az=17.9*
*JMA **13** 15:39:32.8, 38°.25N×141°.78E, h55km±1km, M3.9*
JMA Felt I J1.

ISC 13 15:39:32.3±1.5, 38°.23N±0°.04×141°.87E±0°.09, h46km±12km, n31, σ1s24/40, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JIO	**Ouri**	**0.47**	**299**	P		**Pn**	**15 39 43.4**	**+0.4**
JIO				S		**Sn**	**15 39 50.9**	**+0.4**
OFUJ	**Ofunato**	**0.87**	**350**	P		**Pn**	**15 39 48.5**	**+0.3**
OFUJ				S		**Sn**	**15 39 59.8**	**0.0**
JMK	**Ichinoseki**	**0.89**	**325**	P		**Pn**	**15 39 48.7**	**+0.3**
JMK				S		**Sn**	**15 39 59.9**	**-0.3**
JMM	**Marumori**	**0.92**	**248**	P		**Pn**	**15 39 48.7**	**-0.2**
JMM				S		**Sn**	**15 40 00.4**	**-0.6**
JOU	**Okura**	**0.96**	**279**	P		**Pn**	**15 39 49.4**	**0.0**
JOU				S		**Sn**	**15 40 01.6**	**-0.4**
JFK	**Kawauchi**	**1.17**	**223**	P		**Pn**	**15 39 52.4**	**+0.2**
JFK				S		**Sn**	**15 40 07.1**	**+0.1**
JOM	**Ohasama**	**1.33**	**340**	P		**Pn**	**15 39 54.9**	**+0.5**
JOM				S		**Sn**	**15 40 11.4**	**+0.5**
JYK	**Kaneyama**	**1.37**	**301**	P		**Pn**	**15 39 55.0**	**0.0**
JYK				S		**Sn**	**15 40 11.6**	**-0.4**
JFT	**Otama**	**1.40**	**240**	P		**Pn**	**15 39 56.0**	**+0.5**

ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**15 58 17.5**	**+2.0**
	comp=Z,18nm,0.3s,baz=318,slow=7.3,SNR=36						
ROSC				S	**Sn**	**15 58 48.0**	**+2.2**
	comp=Z,66nm,0.3s,baz=0.0,slow=20,SNR=19						
HELC	**Santa Helena**	**2.47**	**255**	*e*P	**Pn**	**15 58 17.6**	**+0.3**
HELC				*e*S	**Sn**	**15 58 49.1**	**0.0**
HELC				*i*		15 58 55.5	
	comp=Z,110nm,0.2s						
CVER	**Cruz Verde, Cu**	**2.48**	**202**	*e*P	**Pn**	**15 58 18.6**	**+1.0**
CVER				*i*		15 58 57.4	
	comp=Z,124nm,0.3s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	**Pn**	**15 58 21.1**	**+0.4**
VILC				*i*		15 59 00.7	
	comp=Z,94nm,0.6s						
RREF	**El Recreo**	**2.92**	**229**	*e*P	**Pn**	**15 58 23.4**	**+0.2**
RREF				*i*		15 59 09.4	
	comp=Z,149nm,0.3s						
CODC	**Agust˙›n Codaz**	**3.10**	**354**	*e*P	**Pn**	**15 58 25.1**	**+0.3**
CODC				*i*		15 59 14.3	
	comp=Z,127nm,0.6s						
TOLC	**Tolima**	**3.12**	**224**	*e*P	**Pn**	**15 58 26.0**	**+0.6**
SDV	**Santo Domingo**	**3.21**	**50**	P	**Pn**	**15 58 26.9**	**+0.5**
	comp=Z,28nm,0.3s,baz=233,slow=10,SNR=179						
SDV				S	**Sn**	**15 59 04.5**	**-0.8**
	comp=Z,12nm,0.3s,baz=98,slow=22,SNR=10						
SDV	**Santo Domingo**	**3.21**	**50**	*e*P	**Pn**	**15 58 26.9**	**+0.5**
SDV				*i*		15 58 27.7	
	comp=Z,55nm,0.2s						
PRAC	**Prado**	**3.56**	**210**	*e*P	**Pn**	**15 58 30.8**	**0.0**
PRAC				*e*S	**Sn**	**15 59 12.6**	**-0.6**
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**16 04 27.2**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=126,slow=12,SNR=2.7						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**16 06 00.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=136,slow=9.6,SNR=2.4						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**16 07 47.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=132,slow=6.9,SNR=7.4						
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPbc**	**16 17 05.9**	**-1.2**
	comp=Z,0.6nm,1.1s,baz=125,slow=2.9,SNR=2.6						
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKPbc**	**16 17 08.7**	**-1.4**
	comp=Z,0.6nm,0.9s,baz=103,slow=3.2,SNR=3.9						

IDC 13 16:06:52.0±7.2,**6˚21S**×**145˚72E**,**h75**km±70km,**mb2.8**/1,
mb1 3.2/3,**mb1mx2.9**/46,**mbtmp3.3**/3,**ML3.3**/1,**MS2.8**/1,
Ms1 2.8/1,**ms1mx2.4**/6,**Error ellipse: s-maj=53.1km**
s-min=49.5km az=177.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.48**	**156**	P	Pn	16 07 42.1	-1.8
	4.2nm,0.3s,baz=1.3,slow=5.7,SNR=22						
PMG				S	Sn	16 08 25.3	+1.3
	0.5nm,0.3s,baz=258,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**17.57**	**218**	P	P	16 10 53.1	+1.0
	0.1nm,0.3s,baz=48,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**20.75**	**212**	P	P	16 11 25.9	-0.9
	0.4nm,0.4s,baz=42,slow=9.5,SNR=19						
DAV	**Davao City (W)**	**24.04**	**303**	LR	LR	16 23 33.8	
	comp=Z,18nm,18.1s,baz=293,slow=42						
TORD	**Torodi Ar. Bea**	**143.91**	**284**	PKP	PKPdf	16 26 19.7	-0.2
	0.3nm,0.6s,baz=58,slow=1.6,SNR=2.5						

TIR ***13*** *16:11:03.6,41˚79N×19˚46E,h38km,ML3.4*
CSEM ***13*** *16:11:04.9±0.1,41˚74N×19˚42E,h30km,ML3.0,Error ellipse: s-maj=3.1km s-min=2.5km az=155.0*
ROM ***13*** *16:11:04.1±0.7,41˚66N×19˚24E,h10km,Ml3.3/17,Error ellipse: s-maj=11.6km s-min=2.6km az=100.0*
PDG ***13*** *16:11:04.3±0.5,41˚76N×19˚40E,h29km,MD3.1/4, ML3.0/8,Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
BEO ***13*** *16:11:06.3±0.3,41˚88N×19˚78E,h3km,6km,M2.8/6*

ISC 13 16:11:04.6±0.9,**41˚75N**±0˚02×**19˚43E**±0˚02,**h30**km±7km,
n142,σ0**98**/208,**14C-27D**,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.25**	**327**	⇓*i*Pg	**Pn**	**16 11 11.7**	**-0.6**
ULC				*e*Sg	**Sb**	**16 11 16.4**	**+0.2**
ULC	**Ulcinj**	**0.25**	**327**	⇓*i*Pg	**Pn**	**16 11 11.7**	**-0.6**
ULC				*e*Sg	**Sb**	**16 11 16.4**	**+0.2**
PUK	**Puka**	**0.45**	**50**	*i* Pg	**Pb**	**16 11 13.5**	**-0.9**
PUK				*i* Sg	**Sb**	**16 11 21.4**	**+0.3**
PUK	**Puka**	**0.45**	**50**	*i* Pg	**Pb**	**16 11 13.5**	**-0.9**
PUK				*i* Sg	**Sb**	**16 11 21.4**	**+0.3**
DRME	**Dracevica, Mon**	**0.47**	**337**	⇓*i*Pg	**Pn**	**16 11 14.6**	**-0.7**
DRME				*e*Sg	**Sn**	**16 11 22.4**	**-0.2**
DRME	**Dracevica, Mon**	**0.47**	**337**	⇓*i*Pg	**Pn**	**16 11 14.6**	**-0.7**
DRME				*e*Sg	**Sn**	**16 11 22.4**	**-0.2**
TIR	**Tirane**	**0.52**	**141**	*i* PG	**Pn**	**16 11 15.6**	**-0.3**
TIR				*i* SG	**Sn**	**16 11 24.0**	**+0.2**
TIR	**Tirane**	**0.52**	**141**	*e*Pg	**Pb**	**16 11 15.3**	**0.0**
TIR				*e*Sg	**Sn**	**16 11 24.3**	**+0.6**
TIR	**Tirane**	**0.52**	**141**	⇑*i*P	**Pb**	**16 11 15.4**	**+0.1**
TIR	**Tirane**	**0.52**	**141**	P	**Pb**	**16 11 15.5**	**+0.1**
TIR				S	**Sn**	**16 11 24.5**	**+0.8**
BUM	**Brajici-Budva**	**0.68**	**324**	⇓*i*Pg	**Pn**	**16 11 18.0**	**-0.2**
BUM				*e*Sg	**Sn**	**16 11 28.4**	**+0.6**
BUM	**Brajici-Budva**	**0.68**	**324**	⇓*i*Pg	**Pn**	**16 11 18.0**	**-0.2**
BUM				*e*Sg	**Sn**	**16 11 28.4**	**+0.6**
PDG	**Podgorica**	**0.69**	**349**	*e*Pg	**Pb**	**16 11 17.6**	**-0.6**
PDG				*e*Sg	**Sn**	**16 11 28.2**	**+0.2**
PDG	**Podgorica**	**0.69**	**349**	⇑*i*P	**Pb**	**16 11 17.6**	**-0.6**
PDG	**Podgorica**	**0.69**	**349**	⇑*i*P	**Pb**	**16 11 17.6**	**-0.6**
PDG				S	**Sn**	**16 11 28.3**	**+0.2**
TTG	**Podgorica**	**0.69**	**349**	⇓*i*Pg	**Pb**	**16 11 17.6**	**-0.6**
TTG				*e*Sg	**Sn**	**16 11 28.8**	**+0.8**
PHP	**Peshkopia**	**0.76**	**95**	*i* Pg	**Pb**	**16 11 18.2**	**-1.2**
PHP				*i* SG	**Sn**	**16 11 30.3**	**+0.5**
PHP	**Peshkopia**	**0.76**	**95**	*i* Pg	**Pb**	**16 11 18.2**	**-1.2**
PHP				*i* Sg	**Sn**	**16 11 30.3**	**+0.5**
CEME	**Cevo**	**0.88**	**335**	⇓*i*Pg	**Pn**	**16 11 20.6**	**-0.4**
CEME				*e*Sg	**Sn**	**16 11 34.9**	**+2.1**
CEME	**Cevo**	**0.88**	**335**	⇓*i*Pg	**Pn**	**16 11 20.6**	**-0.4**
CEME				*e*Sg	**Sn**	**16 11 34.9**	**+2.1**
PVY	**Plav**	**0.93**	**25**	⇓*i*Pg	**Pb**	**16 11 22.0**	**-0.3**
PVY				*e*Sg	**Sn**	**16 11 36.0**	**+1.9**
PVY	**Plav**	**0.93**	**25**	⇓*i*Pg	**Pb**	**16 11 22.0**	**-0.3**
PVY				*e*Sg	**Sn**	**16 11 36.0**	**+1.9**
HCY	**Herceg Novi**	**0.98**	**315**	⇓*i*Pg	**Pb**	**16 11 22.9**	**-0.2**
HCY				*e*Sg	**Sb**	**16 11 37.5**	**+1.8**
HCY	**Herceg Novi**	**0.98**	**315**	⇓*i*Pg	**Pb**	**16 11 22.9**	**-0.2**
HCY				*e*Sg	**Sb**	**16 11 35.9**	**+0.2**
NKME	**Niksic**	**1.08**	**341**	⇓*i*Pg	**Pb**	**16 11 24.0**	**-0.7**
NKME				*e*Sg	**Sb**	**16 11 39.9**	**+1.5**
NKME	**Niksic**	**1.08**	**341**	⇓*i*Pg	**Pb**	**16 11 24.0**	**-0.7**
NKME				*e*Sg	**Sb**	**16 11 39.9**	**+1.5**
PEJK	**Peje**	**1.09**	**35**	P	**Pb**	**16 11 24.5**	**-0.5**
PEJK				S	**Sb**	**16 11 39.7**	**+0.8**
KOME	**Kolasin**	**1.10**	**3**	⇓*i*Pg	**Pb**	**16 11 24.8**	**-0.3**
KOME				*e*Sg	**Sb**	**16 11 41.0**	**+1.8**
KOME	**Kolasin**	**1.10**	**3**	⇓*i*Pg	**Pb**	**16 11 24.8**	**-0.3**
KOME				*e*Sg	**Sb**	**16 11 41.0**	**+1.8**
NKY	**Niksic**	**1.11**	**343**	⇓*i*Pg	**Pb**	**16 11 24.7**	**-0.6**
NKY				*e*Sg	**Sb**	**16 11 40.8**	**+1.4**
NKY	**Niksic**	**1.11**	**343**	⇓*i*Pg	**Pb**	**16 11 24.7**	**-0.6**
NKY				*e*Sg	**Sb**	**16 11 40.8**	**+1.4**
ZATK	**Zatriq**	**1.13**	**51**	P	**Pb**	**16 11 25.0**	**-0.6**
BEY	**Berane**	**1.17**	**17**	⇓*i*Pg	**Pb**	**16 11 25.8**	**-0.5**
BEY	**Berane**	**1.17**	**17**	P	**Pb**	**16 11 26.2**	**-0.1**
BEY				*e*Sg	**Sb**	**16 11 42.8**	**+1.6**
IVA	**Berane**	**1.17**	**17**	⇓*i*Pg	**Pb**	**16 11 25.8**	**-0.5**
IVA				*e*Sg	**Sb**	**16 11 42.8**	**+1.6**
OHR	**Ohrid**	**1.21**	**121**	*i* Pg	**Pb**	**16 11 26.9**	**0.0**
OHR				*i* Sg	**Sb**	**16 11 42.7**	**+0.4**
TREB	**Trebinje**	**1.25**	**321**	⇑*i*Pg	**Pn**	**16 11 26.4**	**+0.3**
TREB				*e*Sg	**Sb**	**16 11 44.0**	**+0.5**
KRUS	**Krusevo**	**1.42**	**105**	*i* Pn	**Pb**	**16 11 29.5**	**-1.0**
KRUS				*i* Sn	**Sb**	**16 11 48.0**	**-0.2**
SKO	**Skopje**	**1.52**	**81**	*i* Pn	**Pn**	**16 11 30.5**	**+0.8**
SKO				*i* Sn	**Sb**	**16 11 50.2**	**-0.8**
KBN	**Korca**	**1.52**	**137**	*i* PN	**Pb**	**16 11 31.7**	**-0.5**
KBN				*i* SN	**Sb**	**16 11 52.7**	**+1.5**
KBN	**Korca**	**1.52**	**137**	*i* Pn	**Pb**	**16 11 31.7**	**-0.5**
KBN				*i* Sn	**Sb**	**16 11 52.7**	**+1.5**
	baz=138						
SJES	**Sjenica**	**1.56**	**15**	*e*Pn	**Pb**	**16 11 32.3**	**-0.7**
SJES				*e*Sn	**Sb**	**16 11 52.8**	**+0.4**
SJES	**Sjenica**	**1.56**	**15**	*e*Pn	**Pb**	**16 11 32.3**	**-0.7**
SJES				*e*Sn	**Sb**	**16 11 52.8**	**+0.4**
PLE	**Pljevlja**	**1.58**	**359**	⇑*i*Pg	**Pb**	**16 11 31.8**	**-1.4**
PLE				*e*Sg	**Sb**	**16 11 52.4**	**-0.4**
PLE	**Pljevlja**	**1.58**	**359**	⇑*i*Pg	**Pb**	**16 11 31.8**	**-1.4**
PLE				*e*Sg	**Sb**	**16 11 52.4**	**-0.4**
SMRK	**Smrekonice**	**1.58**	**44**	P	**Pn**	**16 11 26.8**	**-3.8**
BIA	**Bitola**	**1.60**	**116**	*i* Pn	**Pb**	**16 11 32.9**	**-0.7**
BIA				*e*Sn	**Sb**	**16 11 53.2**	**-0.2**
MESG	**Mesagne**	**1.66**	**226**	Pn	**Pn**	**16 11 31.2**	**-0.4**
MESG				Sn	**Sn**	**16 11 50.9**	**-1.0**
MESG	**Mesagne**	**1.66**	**226**	Pn	**Pn**	**16 11 31.2**	**-0.4**
MESG				Sn	**Sn**	**16 11 50.9**	**-1.0**
STON	**Ston**	**1.70**	**312**	*e*Pn	**Pn**	**16 11 31.6**	**-0.6**
STON				Sn	**Sb**	**16 11 56.4**	**+0.1**
STON	**Ston**	**1.70**	**312**	*e*Pn	**Pn**	**16 11 31.8**	**-0.4**
STON				*e*Sn	**Sn**	**16 11 53.9**	**+1.0**
FNA	**Florina**	**1.76**	**123**	*i* PN	**Pn**	**16 11 33.8**	**+0.8**
FASA	**Fasano**	**1.82**	**240**	*e*Pn	**Pn**	**16 11 33.6**	**-0.2**
IVAS	**Ivanjica**	**1.90**	**16**	*e*Pn	**Pb**	**16 11 38.5**	**-0.2**
IVAS				*e*Sn	**Sn**	**16 11 59.2**	**+1.2**
IVAS	**Ivanjica**	**1.90**	**16**	*e*Pn	**Pb**	**16 11 38.5**	**-0.2**
IVAS				*e*Sn	**Sn**	**16 11 59.2**	**+1.2**
SRN	**Sarande**	**1.92**	**167**	*i* PN	**Pn**	**16 11 35.7**	**+0.6**
SRN				*i* SN	**Sn**	**16 11 58.0**	**-0.2**
SRN	**Sarande**	**1.92**	**167**	*i* Pn	**Pn**	**16 11 35.7**	**+0.6**
SRN				*i* Sn	**Sn**	**16 11 58.0**	**-0.2**
SELS	**Selova**	**1.93**	**40**	*e*Pn	**Pn**	**16 11 35.2**	**-0.2**
SELS				*e*Sn	**Sn**	**16 11 58.1**	**-0.5**
BAI	**Bari**	**2.02**	**252**	Sn	**Sn**	**16 11 59.0**	**-1.8**
BARS	**Barje**	**2.07**	**58**	*e*Pn	**Pn**	**16 11 38.2**	**+1.0**
BARS				*e*Sn	**Sn**	**16 12 01.0**	**-1.0**
BARS	**Barje**	**2.07**	**58**	*e*Pn	**Pn**	**16 11 38.2**	**+1.0**
BARS				*e*Sn	**Sn**	**16 12 01.0**	**-1.0**
BBLS	**Lazići**	**2.12**	**360**	*e*Pn	**Pb**	**16 11 41.1**	**-1.2**
BBLS	**Lazići**	**2.12**	**360**	*e*Pn	**Pn**	**16 11 38.1**	**+0.1**
BBLS				*e*Sn	**Sn**	**16 12 04.0**	**+0.8**
MATE	**Matera**	**2.33**	**243**	⇑*i*P	**Pn**	**16 11 40.0**	**-0.8**
MATE	**Matera**	**2.33**	**243**	Pn	**Pn**	**16 11 40.9**	**+0.1**
	44nm,0.5s						
GRUS	**Gruza**	**2.34**	**23**	*e*Pn	**Pn**	**16 11 42.1**	**+1.2**
GRUS	**Gruza**	**2.34**	**23**	*e*Pn	**Pn**	**16 11 42.1**	**+1.2**
HAPS	**Han Pijesak,Bl**	**2.36**	**352**	⇑*i*Pn	**Pn**	**16 11 41.4**	**0.0**
HAPS				*e*Sn	**Sn**	**16 12 10.0**	**+0.6**
DIVS	**Divibare**	**2.38**	**10**	*e*Pn	**Pn**	**16 11 43.6**	**+1.9**
DIVS	**Divibare**	**2.38**	**10**	*e*Pn	**Pn**	**16 11 42.0**	**+0.3**
DIVS				*e*Sn	**Sn**	**16 12 10.2**	**+0.3**
VAY	**Valandovo**	**2.40**	**99**	*e*Pn	**Pn**	**16 11 42.2**	**+0.4**
TRUS	**Trudelj**	**2.57**	**16**	*e*Pn	**Pn**	**16 11 46.5**	**+2.3**
TRUS	**Trudelj**	**2.57**	**16**	*e*Pn	**Pn**	**16 11 46.5**	**+2.3**
MS1	**Monte Sant'Ang**	**2.61**	**270**	*e*Pn	**Pn**	**16 11 44.3**	**-0.4**
TEKS	**Tekeris**	**2.80**	**1**	*e*Pn	**Pn**	**16 11 47.7**	**+0.4**
TEKS				*e*Sn	**Sn**	**16 12 20.2**	**+0.2**
ZAPS	**Zavoj**	**2.82**	**56**	*e*Pn	**Pn**	**16 11 48.5**	**+0.9**
ZAPS	**Zavoj**	**2.82**	**56**	*e*Pn	**Pn**	**16 11 48.5**	**+0.9**
VTS	**Vitosha**	**2.93**	**72**	⇑*i*P	**Pn**	**16 11 49.7**	**+0.4**
VTS	**Vitosha**	**2.93**	**72**	⇑*i*P	**Pn**	**16 11 49.7**	**+0.4**
VTS				S	**Sn**	**16 12 24.1**	**+0.6**
SALB	**San Lorenzo Be**	**3.00**	**232**	Pn	**Pn**	**16 11 49.6**	**-0.5**
TIP	**Timpagrande**	**3.28**	**219**	⇑*i*P	**Pn**	**16 11 53.6**	**-0.3**
TIP	**Timpagrande**	**3.28**	**219**	S	**Sn**	**16 12 31.5**	**-0.4**
TIP	**Timpagrande**	**3.28**	**219**	S	**Sn**	**16 12 31.5**	**-0.4**
CDRU	**Civita di Ruta**	**3.36**	**249**	Pn	**Pn**	**16 11 55.2**	**+0.1**
CDRU	**Civita di Ruta**	**3.36**	**249**	Pn	**Pn**	**16 11 55.2**	**+0.1**
BLY	**Banja Luka**	**3.42**	**332**	⇑*i*P	**Pn**	**16 11 53.8**	**-2.0**
BLY	**Banja Luka**	**3.42**	**332**	⇑*i*P	**Pn**	**16 11 53.8**	**-2.0**
BLY	**Banja Luka**	**3.42**	**332**	*e*Pn	**Pn**	**16 11 55.5**	**-0.3**
BLY				*e*Sn	**Sn**	**16 12 35.6**	**+0.4**
SGG	**Gregorio Mates**	**3.81**	**266**	Pn	**Pn**	**16 12 03.2**	**+1.1**
SGG	**Gregorio Mates**	**3.81**	**266**	Pn	**Pn**	**16 12 02.9**	**+1.1**
HERR	**Herculane**	**3.81**	**34**	⇑*i*P	**Pn**	**16 11 59.7**	**-1.5**
UDBI	**Udbina**	**3.86**	**317**	*e*Pn	**Pn**	**16 12 03.1**	**+1.2**
UDBI				Sn	**Sn**	**16 12 47.6**	**+1.4**
UDBI	**Udbina**	**3.86**	**317**	*e*Pn	**Pn**	**16 12 03.1**	**+1.2**
UDBI				Sn	**Sn**	**16 12 47.6**	**+1.4**
VAGA	**Valle Agricola**	**3.91**	**267**	Pn	**Pn**	**16 12 04.1**	**+1.5**
VAGA	**Valle Agricola**	**3.91**	**267**	Pn	**Pn**	**16 12 04.1**	**+1.5**
LPEL	**Lama dei Pelig**	**3.93**	**276**	Pn	**Pn**	**16 12 03.6**	**+0.8**
	35nm,0.5s						
LPEL	**Lama dei Pelig**	**3.93**	**276**	Pn	**Pn**	**16 12 03.6**	**+0.8**
	35nm,0.5s						
CERA	**Filignano**	**4.05**	**270**	Pn	**Pn**	**16 12 06.0**	**+1.4**
	72nm,1.1s						
CERA	**Filignano**	**4.05**	**270**	Pn	**Pn**	**16 12 06.0**	**+1.4**
	72nm,1.1s						
BZS	**Buzias**	**4.18**	**22**	⇓*i*P	**Pn**	**16 12 06.0**	**-0.2**
BZS	**Buzias**	**4.18**	**22**	⇓*i*P	**Pn**	**16 12 06.0**	**-0.2**
BZS				S	**Sn**	**16 12 51.1**	**-2.9**
VVLD	**Villa Vallelon**	**4.34**	**274**	Pn	**Pn**	**16 12 09.2**	**+0.6**
	90nm,2.1s						
VVLD	**Villa Vallelon**	**4.34**	**274**	Pn	**Pn**	**16 12 09.2**	**+0.6**
	90nm,2.1s						
NVLJ	**Novalja**	**4.36**	**312**	*e*Pn	**Pn**	**16 12 08.6**	**-0.2**
NVLJ				Sn	**Sn**	**16 12 56.8**	**-1.7**
NVLJ	**Novalja**	**4.36**	**312**	*e*Pn	**Pn**	**16 12 08.5**	**-0.2**
NVLJ				Sn	**Sn**	**16 12 56.8**	**-1.7**
TERO	**Teramo**	**4.41**	**283**	Pn	**Pn**	**16 12 10.1**	**+0.6**
	29nm,0.7s						
TERO	**Teramo**	**4.41**	**283**	Pn	**Pn**	**16 12 10.1**	**+0.6**
	29nm,0.7s						
CAMP	**Campotosto**	**4.54**	**282**	Pn	**Pn**	**16 12 11.9**	**+0.5**
	49nm,1.3s						
CAMP	**Campotosto**	**4.54**	**282**	Pn	**Pn**	**16 12 11.9**	**+0.5**
	49nm,1.3s						
SMA1	**SAN MARTINO**	**4.61**	**283**	Pn	**Pn**	**16 12 13.0**	**+0.7**
	32nm,0.2s						
SMA1	**SAN MARTINO**	**4.61**	**283**	Pn	**Pn**	**16 12 13.0**	**+0.7**
	32nm,0.2s						
FIAM	**Fiamignano**	**4.73**	**278**	Pn	**Pn**	**16 12 15.2**	**+1.3**
	43nm,1.2s						
FIAM	**Fiamignano**	**4.73**	**278**	Pn	**Pn**	**16 12 15.2**	**+1.3**
	43nm,1.2s						
NRCA	**Norcia**	**4.81**	**285**	Pn	**Pn**	**16 12 15.8**	**+0.8**
	34nm,0.1s						
NRCA	**Norcia**	**4.81**	**285**	Pn	**Pn**	**16 12 15.8**	**+0.8**
	34nm,0.1s						
OZLJ	**Ozalj**	**4.81**	**325**	*e*Pn	**Pn**	**16 12 15.6**	**+0.6**
OZLJ	**Ozalj**	**4.81**	**325**	*e*Pn	**Pn**	**16 12 15.5**	**+0.6**
LNSS	**Leonessa**	**4.82**	**282**	Pn	**Pn**	**16 12 16.1**	**+0.9**
	42nm,0.4s						
LNSS	**Leonessa**	**4.82**	**282**	Pn	**Pn**	**16 12 16.1**	**+0.9**
	42nm,0.4s						
CRES	**Cresnjev**	**4.99**	**326**	*e*Pn	**Pn**	**16 12 17.3**	**0.0**
CRES				*e*Sn	**Sn**	**16 13 12.8**	**-1.1**
CESI	**CESI - Serrava**	**4.99**	**287**	Pn	**Pn**	**16 12 18.1**	**+0.6**
	5.0nm,0.3s						
CESI	**CESI - Serrava**	**4.99**	**287**	Pn	**Pn**	**16 12 18.1**	**+0.6**
	5.0nm,0.3s						
SNTG	**Esanatoglia**	**5.03**	**290**	Pn	**Pn**	**16 12 18.1**	**+0.2**
	47nm,1.6s						
SNTG	**Esanatoglia**	**5.03**	**290**	Pn	**Pn**	**16 12 18.1**	**+0.2**
	47nm,1.6s						
FRON	**Frontone**	**5.25**	**292**	Pn	**Pn**	**16 12 21.2**	**+0.2**
	16nm,0.8s						
FRON	**Frontone**	**5.25**	**292**	Pn	**Pn**	**16 12 21.2**	**+0.2**
	16nm,0.8s						
MPAG	**Monte Paganucc**	**5.26**	**293**	Pn	**Pn**	**16 12 21.2**	**0.0**
	3µm,13.0s						
MPAG	**Monte Paganucc**	**5.26**	**293**	Pn	**Pn**	**16 12 21.2**	**0.0**
	3µm,13.0s						
FSSB	**Fossombrone**	**5.27**	**294**	Pn	**Pn**	**16 12 21.3**	**+0.1**
	76nm,1.5s						
FSSB	**Fossombrone**	**5.27**	**294**	Pn	**Pn**	**16 12 21.3**	**+0.1**
	76nm,1.5s						
MURB	**Monte Urbino**	**5.32**	**289**	Pn	**Pn**	**16 12 23.0**	**+1.0**
	45nm,0.3s						
MURB	**Monte Urbino**	**5.32**	**289**	Pn	**Pn**	**16 12 23.0**	**+1.0**
	45nm,0.3s						
CEY	**Cerknica**	**5.39**	**319**	*e*Pn	**Pn**	**16 12 23.1**	**+0.2**
CEY				*e*Sn	**Sn**	**16 13 22.6**	**-1.2**
PIEI	**Pieia**	**5.39**	**292**	Pn	**Pn**	**16 12 22.9**	**0.0**
	31nm,1.6s						
PIEI	**Pieia**	**5.39**	**292**	Pn	**Pn**	**16 12 22.9**	**0.0**
	31nm,1.6s						
VOIR		**5.50**	**46**	⇓*i*P	**Pn**	**16 12 24.7**	**+0.2**
VOIR		**5.50**	**46**	⇓*i*P	**Pn**	**16 12 24.7**	**+0.2**
MGAB	**Montegabbione**	**5.55**	**285**	Pn	**Pn**	**16 12 25.8**	**+0.7**
	33nm,1.2s						
MGAB	**Montegabbione**	**5.55**	**285**	Pn	**Pn**	**16 12 25.8**	**+0.7**
	33nm,1.2s						
DRGR		**5.56**	**24**	⇓*i*P	**Pn**	**16 12 24.8**	**-0.5**
DRGR		**5.56**	**24**	S	**Sn**	**16 13 24.6**	**-3.7**
DRGR		**5.56**	**24**	⇓*i*P	**Pn**	**16 12 24.8**	**-0.5**

ISCJB ***13*** *16:11:36.5±0.9,19˚86S±0˚09×169˚8E±0˚1,h250km, mb3.8/11,Error ellipse: s-maj=16.7km s-min=11.3km az=30.0*
IDC ***13*** *16:11:37.2±2.0,19˚87S×169˚83E,h242km±17km, mb3.6/11,mb1 3.6/14,mb1mx3.5/42,mbtmp4.2/14,Error ellipse: s-maj=19.9km s-min=19.3km az=161.0*

ISC 13 16:11:37.9±1.0,**19˚9S**±0˚1×**169˚8E**±0˚1,**h250**km,**n16**,
σ0**˚77**/17,**mb3.9**/11,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.82**	**235**	P	**Pn**	**16 12 39.2**	**-0.5**
	0.7nm,0.3s,baz=122,slow=22,SNR=9.5						
DZM				S	**Sn**	**16 13 28.1**	**-0.6**
	2.5nm,0.3s,baz=124,slow=18,SNR=2.9						
HNR	**Honiara**	**14.08**	**316**	P	**P**	**16 14 47.2**	**-0.5**
	1.7nm,0.3s,baz=211,slow=5.9,SNR=3.0						
URZ	**Urewera**	**19.39**	**162**	P	**P**	**16 15 45.3**	**0.0**
	0.2nm,0.3s,baz=168,slow=5.4,SNR=3.4						
CTA	**Charters Tower**	**22.12**	**265**	P	**P**	**16 16 13.9**	**+0.7**
	2.7nm,0.4s,baz=82,slow=12,SNR=20						
PMG	**Port Moresby**	**24.22**	**292**	P	**P**	**16 16 31.9**	**-0.3**
	5.9nm,0.7s,baz=89,slow=5.9,SNR=5.1						
STKA	**Stephens Creek**	**27.96**	**239**	P	**P**	**16 17 06.6**	**+1.0**
	1.5nm,0.6s,baz=62,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**33.30**	**264**	P	**P**	**16 17 51.9**	**-0.6**
	2.0nm,0.3s,baz=82,slow=6.0,SNR=59						
ASAR	**Alice Springs**	**33.49**	**257**	P	**P**	**16 17 54.1**	**0.0**
	7.7nm,0.6s,baz=87,slow=9.0,SNR=163						
FITZ	**Fitzroy Crossi**	**41.70**	**265**	P	**P**	**16 19 03.5**	**+0.7**
	2.9nm,0.5s,baz=104,slow=12,SNR=11						
MJAR	**Matsushiro Ant**	**63.56**	**332**	P	**P**	**16 21 41.4**	**-0.6**
	2.4nm,1.0s,baz=177,slow=8.5,SNR=4.7						
ASAJ	**Asahikawa**	**68.38**	**339**	P	**P**	**16 22 13.8**	**+1.4**
	1.4nm,0.8s,baz=121,slow=16,SNR=4.7						
CMAR	**Chiang Mai Arr**	**79.24**	**294**	P	**P**	**16 23 16.9**	**+0.9**
	0.6nm,0.7s,baz=128,slow=4.6,SNR=5.9						
SONM	**Songino Array**	**88.04**	**323**	P	**P**	**16 24 00.5**	**+0.6**
	0.5nm,0.7s,baz=154,slow=5.1,SNR=4.5						
ILAR	**Eielson Array**	**90.68**	**17**	P	**P**	**16 24 10.8**	**-0.9**
	0.3nm,0.7s,baz=234,slow=5.2,SNR=3.2						
EKA	**Eskdalemuir Ar**	**144.20**	**353**	PKP	**PKPab**	**16 30 41.4**	**-0.7**
	0.3nm,0.4s,baz=358,slow=3.6,SNR=2.8						
**GERES

3.0nm,0.3s,baz=22,slow=15,SNR=3.7
GUMO S **S** **16 52 51.8 -0.3**
8.0nm,0.3s,baz=336,slow=20,SNR=3.2
MJAR Matsushiro Arr 18.66 341 P **P** **16 54 30.6 +1.3**
0.3nm,0.3s,baz=163,slow=8.9,SNR=5.5
KSRS Korea Array 24.08 323 P **P** **16 55 24.5 +1.4**
1.0nm,0.7s,baz=149,slow=9.3,SNR=3.4
ASAJ Asahikawa 25.14 355 P **P** **16 55 35.0 +2.4**
1.5nm,0.6s,baz=214,slow=13,SNR=4.2
WRA Warramunga Arr 40.33 197 P **P** **16 57 43.6 -0.4**
0.8nm,0.6s,baz=20,slow=8.3,SNR=22
FITZ Fitzroy Crossi 41.87 209 P **P** **16 57 55.7 -0.9**
7.0nm,1.1s,baz=45,slow=10,SNR=5.8
SONM Songino Array 42.91 321 P **P** **16 58 05.0 +0.1**
0.2nm,0.3s,baz=122,slow=7.5,SNR=2.5
ASAR Alice Springs 43.99 196 P **P** **16 58 12.9 -0.8**
0.4nm,0.6s,baz=14,slow=8.2,SNR=5.2
CMAR Chiang Mai Arr 44.23 277 P **P** **16 58 16.7 +1.0**
0.3nm,0.6s,baz=74,slow=8.0,SNR=4.0
MKAR Makanchi Array 58.27 314 P **P** **16 59 58.6 -0.9**
0.2nm,0.4s,baz=122,slow=5.2,SNR=3.4
KURBB Kurchatov Arra 61.10 318 P **P** **17 00 17.2 -1.5**
0.2nm,0.3s,baz=95,slow=7.7,SNR=4.8
ILAR Eielson Array 63.32 26 P **P** **17 00 33.4 +0.2**
0.2nm,0.5s,baz=233,slow=5.5,SNR=3.9
BVAR Borovoye Array 66.25 320 P **P** **17 00 51.3 -0.9**
0.3nm,0.4s,baz=94,slow=7.8,SNR=4.3
YKA Yellowknife Ar 77.66 28 P **P** **17 02 01.0 +1.2**
0.3nm,0.5s,baz=294,slow=5.6,SNR=4.7
NVAR Mina Array Bea 82.89 52 P **P** **17 02 27.4 -1.0**
0.6nm,0.6s,baz=272,slow=4.4,SNR=4.0
FINES FINESS Array B 86.60 335 P **P** **17 02 43.9 -2.3**
0.6nm,0.4s,baz=30,slow=3.5,SNR=6.0

IDC ***13*** *16:58:26.1±0.8, 1.74N×122.66E, h0km, mb3.8/8, mb1 3.8/9, mb1mx3.6/52, mbtmp3.8/9, ML3.8/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/52, Error ellipse: s-maj=53.2km s-min=15.9km az=69.0*
DJA ***13*** *16:58:27.7±1.1, 2.7N±5.5×12.3E±°, h14km±5km, M3.8/6, MLv3.8/6*
ISCJB ***13*** *16:58:29.7±0.5, 1.79N±0.04×122.57E±0.06, h38km, mb4.0/10, MS2.6/1, Error ellipse: s-maj=9.4km s-min=6.0km az=169.6*
NEIC ***13*** *16:58:32.7±2.2, 1.64N×122.47E, h50km±24km, mb4.2/1, Error ellipse: s-maj=32.1km s-min=12.5km az=66.0*
ISC 13 16:58:31.5±0.8, 1.76N±0.07×122.56E±0.07, h38km, n20, σ1§14/21, mb4.0/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.41**	**206**	P			**Pn**	**16 58 53.7**	**-1.0**
MRSI				S			**Sn**	**16 59 12.8**	**+0.7**
KMSI	**Cibinong**	**1.84**	**130**	P			**Pn**	**16 58 59.2**	**-1.4**
KMSI				S			**Sn**	**16 59 22.5**	**-0.2**
LUWI	**Luwuk**	**2.79**	**176**	P			**Pn**	**16 59 13.2**	**-0.4**
LUWI				S			**Sn**	**16 59 48.3**	**+2.3**
LUWI	**Luwuk**	**2.79**	**176**	*e*P			**Pn**	**16 59 14.6**	**+1.0**
APSI	**Ampana**	**2.80**	**199**	P			**Pn**	**16 59 13.2**	**-0.6**
MPSI	**Mapaga**	**3.01**	**242**	P			**Pn**	**16 59 15.4**	**-1.3**
DAV	**Davao City (W)**	**6.08**	**30**	LR			LR	17 02 15.9	
	comp=Z,81nm,21.3s,baz=0.5,slow=38								
KAPI	**Kappang**	**7.29**	**203**	Pn			**Pn**	**17 00 13.4**	**-2.1**
FITZ	**Fitzroy Crossi**	**19.96**	**171**	P			**P**	**17 02 59.6**	**-1.0**
	0.2nm,0.3s,baz=350,slow=11,SNR=4.0								
WRA	**Warramunga Arr**	**24.46**	**152**	P			**P**	**17 03 46.4**	**-0.8**
	2.4nm,1.0s,baz=331,slow=10,SNR=18								
GUMO	**Guam**	**25.00**	**61**	LR			LR	17 12 38.9	
	comp=Z,19nm,20.9s,baz=108,slow=34								
ASAR	**Alice Springs**	**27.57**	**157**	P			**P**	**17 04 14.8**	**-0.4**
	0.6nm,0.8s,baz=344,slow=16,SNR=3.9								
ASAJ	**Asahikawa**	**45.78**	**20**	P			**P**	**17 06 49.5**	**+0.1**
	1.9nm,0.7s,baz=212,slow=9.1,SNR=3.0								
ULN	**Ulaanbaatar**	**47.85**	**346**	*e*P			**P**	**17 07 07.0**	**+1.3**
	1.0nm,0.4s								
SONM	**Songino Array**	**47.99**	**345**	P			**P**	**17 07 06.5**	**-0.3**
	0.3nm,0.7s,baz=152,slow=8.9,SNR=2.6								
MKAR	**Makanchi Array**	**56.90**	**328**	P			**P**	**17 08 14.0**	**+1.2**
	1.2nm,0.6s,baz=130,slow=8.4,SNR=18								
ZALV	**Zalesovo Beam**	**60.55**	**335**	P			**P**	**17 08 37.8**	**-0.1**
	0.3nm,0.3s,baz=145,slow=6.4,SNR=3.1								
KURBB	**Kurchatov Arra**	**61.24**	**330**	P			**P**	**17 08 43.6**	**+0.9**
	2.0nm,0.8s,baz=118,slow=5.7,SNR=23								
KURK	**Kurchatov**	**61.25**	**330**	*e*P			**P**	**17 08 43.6**	**+0.9**
	27nm,0.5s								
BVAR	**Borovoye Array**	**66.76**	**329**	P			**P**	**17 09 19.5**	**+0.5**
	0.5nm,0.5s,baz=127,slow=9.2,SNR=3.7								

SJA 13 16:58:39.2±1.4, 30.03S×72.01W, h41km±999km, ML3.1, MW3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.52**	**49**	*e*P			Pn	16 59 05.2	+1.0
RTLS	**Leoncito**	**2.92**	**128**	*e*P			Pn	16 59 25.4	+2.0
RTLS				*e*S			Sn	17 00 00.4	+2.9
RTLS				IAML				17 00 05.4	
	comp=Z,65nm,0.4s								
ROC1	**El Roble**	**3.06**	**164**	*e*P			Pn	16 59 27.5	+2.2
AGUA	**GUANDACOL**	**3.10**	**81**	*e*P			Pn	16 59 28.3	+2.5
AUSP	**Uspallata**	**3.14**	**135**	*e*P			Pn	16 59 28.5	+2.1
AMOG	**MOGNA**	**3.17**	**108**	*e*P			Pn	16 59 29.9	+3.3
RTCV	**Cerro Valdivia**	**3.50**	**122**	*e*P			Pn	16 59 34.2	+3.1
VCA	**Vinchina**	**3.56**	**70**	*e*P			Pn	16 59 36.0	+3.9
VCA				IAML				17 00 25.5	
	comp=Z,29nm,0.3s								
ASAL	**Salagasta**	**3.73**	**134**	*e*P			Pn	16 59 37.3	+3.0
ARCO	**CERRO ARCO**	**3.84**	**138**	*e*P			Pn	16 59 39.3	+3.2
ARCO				IAML				16 59 46.5	
	comp=Z,25nm,0.3s								

ISCJB ***13*** *17:09:37.6±0.7, 20.86S±0.05×67.43W±0.10, h212km±8km, mb3.3/4, Error ellipse: s-maj=14.8km s-min=7.7km az=5.9*
GUC ***13*** *17:09:39.0±0.5, 20.88S×67.75W, h222km±7km, ML4.1*
IDC ***13*** *17:09:42.4±4.5, 20.46S×67.01W, h224km±31km, mb3.3/4, mb1 3.6/6, mb1mx3.2/37, mbtmp3.9/6, Error ellipse: s-maj=52.5km s-min=18.8km az=17.0*
ISC 13 17:09:38.4±1.1, 20.86S±0.06×67.4W±0.1, h205km±9km, n23, σ1§11/33, mb3.4/4, 5C-4D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.79**	**293**	‖ *e*P			**Pn**	**17 10 16.5**	**+0.8**
PB08				*e*S			**S**	**17 10 44.9**	**+0.7**
PB08				IAML				17 10 48.1	
	comp=E,245nm,0.2s								
PB09	**IPOC Station P**	**1.95**	**241**	‖ *e*P			**Pn**	**17 10 17.7**	**+0.7**
PB09				*e*S			**S**	**17 10 47.1**	**+0.5**
PB09				IAML				17 10 50.0	
	comp=N,1μm,0.5s								
PB01	**IPOC Station P**	**1.96**	**264**	‖ *e*P			**Pn**	**17 10 17.0**	**0.0**
PB01				*e*S			**S**	**17 10 46.2**	**-0.3**
PB01				IAML				17 10 48.6	
	comp=N,626nm,0.2s								
PB02	**IPOC Station P**	**2.37**	**259**	‖ *e*P			**Pn**	**17 10 21.4**	**0.0**
PB02				*i* S			**S**	**17 10 53.3**	**-1.0**
PB02				IAML				17 10 54.4	
	comp=N,939nm,0.3s								
PB11	**IPOC Station P**	**2.38**	**297**	*e*P			**Pn**	**17 10 21.9**	**+0.3**
PB11				*e*S			**S**	**17 10 54.5**	**-0.1**
MNMC	**Minye Minye**	**2.69**	**309**	‖ *e*P			**Pn**	**17 10 25.9**	**+0.8**
MNMC				*e*S			**S**	**17 11 01.7**	**+0.8**
MNMC				IAML				17 11 05.8	
	comp=E,599nm,0.2s								
PSGC	**Pisagua**	**2.85**	**296**	‖ *e*P			**Pn**	**17 10 26.3**	**-0.5**
PSGC				*e*S			**S**	**17 11 02.4**	**-1.4**
PSGC				IAML				17 11 03.7	
	comp=E,236nm,0.6s								
PB04	**IPOC Station P**	**2.95**	**240**	‖ *e*P			**Pn**	**17 10 27.8**	**-0.1**
PB04				*e*S			**S**	**17 11 05.2**	**-0.8**
PB12	**IPOC Station P**	**3.55**	**309**	*e*P			**Pn**	**17 10 34.3**	**-0.8**
PB12				*e*S			**S**	**17 11 16.6**	**-2.2**
PB12				IAML				17 11 21.2	
	comp=E,586nm,0.4s								
LPAZ	**La Paz**	**4.60**	**351**	P			**Pn**	**17 10 50.0**	**+1.4**
LPAZ	comp=E,4.9nm,0.3s,baz=157,slow=5.8,SNR=59			S			**S**	**17 11 41.8**	**-1.6**
	baz=66,slow=20,SNR=1.1								
LPAZ	**La Paz**	**4.60**	**351**	‖ *e*P			**Pn**	**17 10 49.8**	**+1.2**
PB14	**IPOC Station P**	**4.66**	**216**	*e*P			**Pn**	**17 10 48.0**	**-1.0**
GO02	**Mina Guanaco**	**4.73**	**205**	‖ *i*P			**Pn**	**17 10 49.1**	**-0.8**
SIV	**San Ignacio**	**7.72**	**52**	P			**Pn**	**17 11 25.8**	**-2.4**
	comp=E,7.7nm,0.3s,baz=257,slow=9.8,SNR=127								
SIV				S			S	17 12 47.1	-8.3
	baz=307,slow=20,SNR=2.9								
TXAR	**Lajitas Array**	**60.93**	**324**	P			**P**	**17 19 31.3**	**+1.3**
	comp=E,0.2nm,0.8s,baz=140,slow=4.4,SNR=2.6								
ULM	**Lac du Bonnet**	**75.15**	**342**	P			**P**	**17 20 58.5**	**+0.6**
	comp=E,1.1nm,0.5s,baz=150,slow=8.1,SNR=3.2								
TORD	**Torodi Ar. Bea**	**75.82**	**70**	P			**P**	**17 21 01.6**	**-0.8**
	comp=E,0.4nm,0.5s,baz=242,slow=5.4,SNR=5.1								
YKA	**Yellowknife Ar**	**91.06**	**340**	P			**P**	**17 22 18.7**	**-0.3**
	comp=E,0.3nm,0.6s,baz=129,slow=4.5,SNR=7.1								
ASAR	**Alice Springs**	**131.12**	**206**	PKP			**PKPdf**	**17 28 27.1**	**+0.5**
	comp=E,0.2nm,0.5s,baz=127,slow=1.9,SNR=6.9								
WRA	**Warramunga Arr**	**134.20**	**209**	PKP			**PKPdf**	**17 28 33.7**	**+1.3**
	comp=E,0.8nm,0.9s,baz=150,slow=1.8,SNR=6.0								
MKAR	**Makanchi Array**	**144.29**	**36**	PKP			**PKPdf**	**17 28 49.8**	**-0.2**
	comp=E,1.0nm,0.7s,baz=350,slow=2.6,SNR=11								
KLR	**Kul'dur**	**147.83**	**336**	PKPbc			**PKPab**	**17 29 00.0**	**-2.0**
	comp=E,0.0nm,0.4s,baz=69,slow=8.6,SNR=3.4								
SONM	**Songino Array**	**152.63**	**9**	PKPbc			**PKPbc**	**17 29 12.0**	**+1.3**
	comp=E,0.2nm,0.4s,baz=19,slow=1.1,SNR=3.1								

DHMR ***13*** *17:12:10.6±1.4, 11.60N×42.86E, h6km±14km, ML3.7*
ISCJB ***13*** *17:12:15.3±0.7, 11.66N±0.05×42.89E±0.06, h5km±7km, Error ellipse: s-maj=11.0km s-min=6.9km az=38.1*
ARO ***13*** *17:12:15.3, 11.6N±0.1×42.8E±0.2, h10km, Ml3.8*
ISC 13 17:12:14.6±0.9, 11.65N±0.05×42.85E±0.05, h12km±7km, n14, σ1§77/22, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**0.12**	**180**	*e*P			**Pg**	**17 12 18.2**	**+0.4**
ATD	**Arta Tunnel**	**0.12**	**180**	*e*P			**Pg**	**17 12 18.2**	**+0.4**
ATD				*e*S			**Sg**	**17 12 20.5**	**+0.4**
TDD	**Tadjoura Ara**	**0.16**	**21**	*e*P			**Pg**	**17 12 19.4**	**+0.9**
SGH	**Sud-Ghoubbet**	**0.30**	**225**	*e*P			**Pb**	**17 12 20.9**	**-1.1**
MCAD	**Moucha**	**0.37**	**77**	*e*P			**Pb**	**17 12 22.6**	**-0.5**
ATA	**Atar**	**0.40**	**119**	*e*P			**Pb**	**17 12 23.1**	**-0.5**
OBO	**Obock**	**0.55**	**52**	*e*P			**Pb**	**17 12 25.6**	**-0.5**
ADEN	**Aden**	**2.37**	**62**	*i* P			**Pn**	**17 12 52.9**	**-0.4**
ADEN				*i* S			**Sb**	**17 13 24.1**	**-2.3**
ADEN				AML			AML	17 13 34.7	
	comp=E,577nm,0.3s								
UDYN	**Al 'Udayn**	**2.55**	**25**	*i* P			**Pn**	**17 12 55.0**	**-0.9**
UDYN				*i* S			**Sb**	**17 13 30.9**	**-0.9**
DHBB	**Dhamar BB**	**3.27**	**27**	*i* P			**Pn**	**17 13 05.8**	**-0.1**
DHBB				*i* S			**Sb**	**17 13 49.6**	**-3.1**
BDHA	**Al Bayda'**	**3.52**	**49**	*i* P			**Pn**	**17 13 08.4**	**-0.9**
BDHA				*i* S			**Sn**	**17 13 54.1**	**+3.1**
BDHA				AML			AML	17 14 09.6	
	comp=N,393nm,0.4s								
ANKE	**Ethiopia-Afar**	**3.68**	**237**	*e*P			**Pb**	**17 13 17.5**	**-2.3**
ANKE				*e*S			**Sb**	**17 14 06.1**	**+1.6**
ANKE	**Ethiopia-Afar**	**3.68**	**237**	*e*P			**Pb**	**17 13 17.5**	**-2.3**
ANKE				*e*S			**Sb**	**17 14 06.1**	**+1.6**
HAJJ	**Hajjah**	**4.09**	**10**	*i* P			**Pn**	**17 13 17.1**	**-0.1**
HAJJ				*i* S			**Sn**	**17 14 08.2**	**+3.2**

IDC ***13*** *17:20:07.9±1.1, 11.97N×142.18E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.3/56, mbtmp3.5/6, ML3.4/1, MS2.8/1, Ms1 3.0/1, ms1mx2.4/26, Error ellipse: s-maj=30.8km s-min=21.5km az=99.0*
ISCJB ***13*** *17:20:12.3±0.8, 11.9N±0.1×142.2E±0.1, h50km, mb3.4/5, MS2.8/1, Error ellipse: s-maj=22.0km s-min=10.4km az=144.4*
ISC 13 17:20:14.2±1.1, 11.9N±0.2×142.3E±0.1, h50km, n7, σ1§12/7, mb3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.03**	**57**	Pn			**Pn**	**17 20 58.4**	**-1.2**
	4.7nm,0.3s,baz=236,slow=13,SNR=2.6								
GUMO				Sn			**Sn**	**17 21 36.1**	**+1.4**
	6.4nm,0.3s,baz=61,slow=19,SNR=2.4								
WRA	**Warramunga Arr**	**32.62**	**194**	P			**P**	**17 26 40.9**	**-0.5**
	0.4nm,0.6s,baz=18,slow=9.3,SNR=5.9								
ASAR	**Alice Springs**	**36.31**	**193**	P			**P**	**17 27 14.2**	**+0.9**
	0.3nm,0.6s,baz=23,slow=12,SNR=9.2								
CMAR	**Chiang Mai Arr**	**42.24**	**284**	LR			LR	17 44 44.5	
	comp=Z,12nm,19.3s,baz=155,slow=35								
MKAR	**Makanchi Array**	**60.95**	**317**	P			**P**	**17 30 22.9**	**+0.6**
	0.1nm,0.5s,baz=99,slow=7.5,SNR=3.6								
KURBB	**Kurchatov Arra**	**64.27**	**321**	P			**P**	**17 30 44.2**	**-0.1**
	0.2nm,0.4s,baz=110,slow=6.2,SNR=3.6								
BVAR	**Borovoye Array**	**69.67**	**322**	P			**P**	**17 31 18.4**	**-0.1**
	0.3nm,0.5s,baz=92,slow=6.3,SNR=2.8								

MEX 13 17:49:10.3±0.5, 25.15N×106.87W, h11km±6km, MD3.9, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.99**	**168**	*e*P			Pn	17 49 40.4	-3.5
MAIG				*e*S			Sn	17 50 04.5	-4.4
HPIG		**2.08**	**31**	*e*P			Pn	17 49 42.2	-3.2
HPIG				*e*S			Sn	17 50 07.0	-4.5
ZAIG	**Zacatecas**	**4.60**	**120**	*i* P			Pn	17 50 18.3	-1.8
ZAIG				*i* S			Sn	17 51 10.6	-3.0

JMA ***13*** *17:52:21.5, 23.91N×121.71E, h54km±1km, M2.8*
ISCJB ***13*** *17:52:22.3±0.2, 23.92N±0.01×121.79E±0.02, h51km±4km, Error ellipse: s-maj=2.6km s-min=1.8km az=41.4*
TAP ***13*** *17:52:22.3, 23.94N×121.73E, h52km, ML3.5, C*
ISC 13 17:52:22.9±1.2, 23.92N±0.02×121.78E±0.02, h46km±6km, n82, σ0§80/155, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.16**	**263**	P			**Pn**	**17 52 30.8**	**+0.1**
	baz=253								
ENLB				S			**Sn**	**17 52 37.5**	**+1.5**
	baz=253								
HWA	**Hwalien**	**0.17**	**289**	*e*P			**Pn**	**17 52 31.0**	**+0.3**
	baz=288								
HWA				*e*S			**Sn**	**17 52 38.0**	**+1.9**
	baz=288								
TWD	**Chiawan**	**0.23**	**314**	P			**Pn**	**17 52 30.7**	**-0.4**
	baz=310								
TWD				S			**Sn**	**17 52 37.4**	**+0.5**
	baz=310								
ESL	**Shilin**	**0.33**	**251**	P			**Pn**	**17 52 31.4**	**-0.7**
	baz=252								
ESL				S			**Sn**	**17 52 37.8**	**-0.7**
	baz=252								
EGFH	**Guangfu**	**0.41**	**232**	*e*P			**Pn**	**17 52 32.4**	**-0.5**
	baz=235								
EGFH				*e*S			**Sn**	**17 52 39.4**	**-0.6**
	baz=235								
ENA	**Nanau**	**0.50**	**356**	P			**Pn**	**17 52 33.4**	**-0.7**
	baz=5.0								
ENA				S			**Sn**	**17 52 41.5**	**-0.4**
	baz=5.0								
WHF	**Hehuan Shan**	**0.52**	**295**	P			**Pn**	**17 52 33.5**	**-1.1**
	baz=293								
WHF				*e*S			**Sn**	**17 52 41.7**	**-1.2**
	baz=293								
ENAH	**Nanao**	**0.53**	**3**	P			**Pn**	**17 52 34.0**	**-0.3**
	baz=4.0								
ENAH				S			**Sn**	**17 52 42.7**	**+0.3**
	baz=4.0								
OWD	**Renai**	**0.55**	**273**	P			**Pn**	**17 52 34.1**	**-0.6**
	baz=275								
OWD				S			**Sn**	**17 52 42.0**	**-1.2**
	baz=275								
EHY	**Hungye**	**0.59**	**225**	*e*P			**Pn**	**17 52 34.9**	**-0.3**
	baz=225								
NNS	**Nan Shan**	**0.63**	**325**	‖ *i*P			**Pn**	**17 52 34.9**	**-0.9**
	baz=327								
NNS				*e*S			**Sn**	**17 52 44.7**	**-0.3**
	baz=327								
TWT	**Tachien**	**0.64**	**301**	P			**Pn**	**17 52 35.6**	**-0.4**
	baz=296								
TWT				S			**Sn**	**17 52 45.1**	**-0.2**
	baz=296								
TWC	**Suao**	**0.69**	**6**	P			**Pn**	**17 52 36.1**	**-0.3**
	baz=10.0								
TWC				S			**Sn**	**17 52 46.2**	**+0.2**
	baz=10.0								
TWF1	**Yuli**	**0.72**	**218**	P			**Pn**	**17 52 36.0**	**-0.9**
	baz=220								
ENTT	**Nioudou**	**0.74**	**345**	*i* P			**Pn**	**17 52 36.4**	**-0.7**
	baz=348								
ENTT				*e*S			**Sn**	**17 52 46.5**	**-0.8**
	baz=348								
DPDB	**Guoxing**	**0.79**	**278**	P			**Pn**	**17 52 37.2**	**-0.6**
	baz=273								
DPDB				*e*S			**Sn**	**17 52 48.0**	**-0.5**
	baz=273								
TWE	**Neicheng**	**0.80**	**353**	P			**Pn**	**17 52 37.3**	**-0.6**
	baz=348								
TWE				*e*S			**Sn**	**17 52 48.4**	**-0.4**
	baz=348								
SMLT	**Sun Moon Lake**	**0.80**	**267**	*i* P			**Pn**	**17 52 37.6**	**-0.5**
	baz=264								
SMLT				*e*S			**Sn**	**17 52 49.0**	**0.0**
	baz=264								
TYC	**Yuchr**	**0.84**	**269**	*e*P			**Pn**	**17 52 37.8**	**-0.7**
	baz=267								
TYC				*e*S			**Sn**	**17 52 49.0**	**-0.7**
	baz=267								
FULB	**Fuli**	**0.85**	**212**	P			**Pn**	**17 52 38.4**	**-0.2**
	baz=216								
FULB				*e*S			**Sn**	**17 52 50.4**	**+0.5**
	baz=216								
YUS	**Yu-Shan**	**0.87**	**240**	P			**Pn**	**17 52 38.9**	**-0.4**
	baz=232								
YUS				*e*S			**Sn**	**17 52 49.9**	**-1.2**
	baz=232								
NWLT	**Wulai**	**0.89**	**344**	*e*P			**Pn**	**17 52 38.4**	**-0.7**
	baz=352								
NWLT				*e*S			**Sn**	**17 52 49.6**	**-1.3**
	baz=352								
CHKT	**Chengkung**	**0.90**	**205**	*e*P			**Pn**	**17 52 38.3**	**-1.0**
	baz=194								
CHKT				*e*S			**Sn**	**17 52 50.3**	**-0.9**
	baz=194								
NTC	**Toucheng**	**0.93**	**3**	*e*P			**Pn**	**17 52 39.6**	**0.0**
	baz=5.0								
NTC				*e*S			**Sn**	**17 52 53.1**	**+1.2**
	baz=5.0								
WJS	**Zhushan**	**0.96**	**264**	*e*P			**Pn**	**17 52 40.5**	**+0.3**
	baz=263								
WJS				*e*S			**Sn**	**17 52 53.5**	**+0.7**
	baz=263								
ALS	**Alishan**	**0.98**	**245**	*e*P			**Pn**	**17 52 40.5**	**-0.1**
	baz=237								
NSTT	**Nanjuang**	**1.00**	**315**	P			**Pn**	**17 52 40.6**	**0.0**
	baz=318								
NSTT				*e*S			**Sn**	**17 52 53.8**	**+0.2**
	baz=318								
LIOB	**Emei**	**1.00**	**316**	*e*P			**Pn**	**17 52 40.7**	**0.0**
	baz=319								
LIOB				*e*S			**Sn**	**17 52 54.4**	**+0.8**
	baz=319								
WNT	**Mingjian**	**1.00**	**268**	*e*P			**Pn**	**17 52 40.9**	**+0.3**
	baz=266								
WNT				*e*S			**Sn**	**17 52 54.2**	**+0.6**
	baz=266								
ELDTW	**Lidau**	**1.01**	**224**	*e*P			**Pn**	**17 52 39.7**	**-1.1**
	baz=216								
TWQ1	**Liyutan**	**1.01**	**295**	P			**Pn**	**17 52 40.5**	**-0.3**
	baz=295								
TWQ1				*e*S			**Sn**	**17 52 53.8**	**0.0**
	baz=295								
TCU	**Taichung**	**1.03**	**283**	*e*P			**Pn**	**17 52 41.3**	**+0.3**
	baz=282								
TCU				*e*S			**Sn**	**17 52 55.0**	**+0.7**
	baz=282								
WLTB	**Daxi**	**1.04**	**333**	*e*P			**Pn**	**17 52 41.0**	**-0.1**
	baz=344								
WLTB				*e*S			**Sn**	**17 52 54.8**	**+0.2**
	baz=344								
TIPB	**Shuangxi**	**1.05**	**2**	P			**Pn**	**17 52 40.4**	**-0.9**
	baz=351								
TIPB				*e*S			**Sn**	**17 52 54.4**	**-0.4**
	baz=351								
NSY	**Sanyi**	**1.05**	**298**	*e*P			**Pn**	**17 52 41.2**	**-0.1**
	baz=298								
NSY				*e*S			**Sn**	**17 52 54.9**	**+0.1**
	baz=298								
CHN5	**Tsauling**	**1.06**	**252**	*e*P			**Pn**	**17 52 41.5**	**+0.1**
	baz=251								
CHN5				*e*S			**Sn**	**17 52 55.9**	**+0.7**
	baz=251								
TWA	**Mucha**	**1.07**	**351**	P			**Pn**	**17 52 41.2**	**-0.3**
	baz=353								
TWA				*e*S			**Sn**	**17 52 55.0**	**-0.3**
	baz=353								
NMLH	**Miaoli**	**1.09**	**304**	*e*P			**Pn**	**17 52 41.6**	**-0.2**
	baz=293								
NMLH				*e*S			**Sn**	**17 52 56.6**	**+0.9**
	baz=293								
TWB1	**Santiao Chiao**	**1.10**	**10**	*e*P			**Pn**	**17 52 41.6**	**-0.3**
	baz=25								
PTSB	**Yuanli**	**1.11**	**298**	P			**Pn**	**17 52 42.0**	**0.0**
	baz=298								
PTSB				*e*S			**Sn**	**17 52 56.8**	**+0.6**
	baz=298								
WCHH	**Zhanghua**	**1.12**	**278**	*e*P			**Pn**	**17 52 42.2**	**0.0**
	baz=277								
WCHH				*e*S			**Sn**	**17 52 57.5**	**+0.8**
	baz=277								
WGK	**Gukeng**	**1.14**	**258**	P			**Pn**	**17 52 42.6**	**+0.2**
	baz=247								
WGK				*e*S			**Sn**	**17 52 57.6**	**+0.7**
	baz=247								
TAP	**Taipei**	**1.14**	**348**	*e*S			**Sn**	**17 52 57.1**	**+0.1**
	baz=349								
NWF	**Wu-fen Shan**	**1.14**	**0**	*e*P			**Pn**	**17 52 42.6**	**0.0**
	baz=350	

baz=250
CHN1 Nanshi 1.36 238 *e*P **Pn** 17 52 46.3 +0.8
baz=236
CHN1 *e*S **Sn** 17 53 04.3 +1.9
baz=236
WTCT Ta-ch'eng 1.37 268 *e*P **Pn** 17 52 45.5 -0.1
baz=267
WTCT *e*S **Sn** 17 53 02.9 +0.3
baz=267
SGST Jiashian 1.38 233 *e*P **Pn** 17 52 46.3 +0.5
baz=231
SGST *e*S **Sn** 17 53 04.9 +2.0
baz=231
SLGT Liugui 1.39 229 *e*P **Pn** 17 52 46.9 +0.9
baz=227
SLGT *e*S **Sn** 17 53 04.3 +1.1
baz=227
WLGB Puzi 1.42 252 *e*P **Pn** 17 52 46.2 -0.2
baz=240
WLGB *e*S **Sn** 17 53 05.1 +1.1
baz=240
WSF Szhu 1.45 259 P **Pn** 17 52 46.6 -0.1
baz=258
WSF *e*S **Sn** 17 53 05.1 +0.5
baz=258
ECL Taimali 1.52 210 *e*P **Pn** 17 52 46.2 -1.5
baz=203
ECL *e*S **Sn** 17 53 04.1 -2.2
baz=203
CHN8 Yiju 1.55 249 *e*S **Sn** 17 53 07.5 +0.5
baz=247
SSD Sandimen 1.57 222 *e*P **Pn** 17 52 48.9 +0.4
baz=220
SSD *e*S **Sn** 17 53 08.5 +0.9
baz=220
EAST Anshuo 1.75 209 *e*P **Pn** 17 52 50.5 -0.4
baz=198
EAST *e*S **Sn** 17 53 12.0 -0.1
baz=198
IRIF Iriomote-Funau 1.83 77 P **Pn** 17 52 51.9 0.0
IRIF S **Sn** 17 53 14.8 +0.9
HATJ Hateruma jima 1.86 85 P **Pn** 17 52 52.5 +0.2
HATJ S **Sn** 17 53 14.9 +0.3
SCZT Fangliau 1.88 215 *e*P **Pn** 17 52 53.7 +1.2
baz=204
SCZT *e*S **Sn** 17 53 17.1 +2.1
baz=204
LAY Lan-yu 1.89 186 *e*P **Pn** 17 52 51.1 -1.6
baz=177
LAY *e*S **Sn** 17 53 13.7 -1.6
baz=177
WDGT Dungji 2.05 252 *e*P **Pn** 17 52 54.1 -0.8
baz=250
WDGT *e*S **Sn** 17 53 18.5 -0.9
baz=250
JKRS Kuro-shima 2.06 81 P **Pn** 17 52 55.6 +0.5
JKRS *e*S **Sn** 17 53 20.6 +0.9
PNG Penghu 2.07 261 *e*P **Pn** 17 52 54.2 -0.9
baz=259
PNG *e*S **Sn** 17 53 19.2 -0.5
baz=259
JIJ Ishigaki jima 2.21 78 P **Pn** 17 52 56.8 -0.3
JIJ S **Sn** 17 53 22.0 -1.2
JISG Ishigakijimahi 2.41 74 P **Pn** 17 52 59.5 -0.3
JISG S **Sn** 17 53 27.1 -1.0
JTJ Tarama 2.76 74 P **Pn** 17 53 05.7 +1.0
JTJ S **Sn** 17 53 37.7 +0.8
KNM Kinmen 3.09 280 *e*P **Pn** 17 53 09.7 +0.4
baz=278
KNM *e*S **Sn** 17 53 45.2 +0.2
baz=278
JIRB Irabujima 3.23 73 S **Sn** 17 53 49.2 +0.9

BJI ***13*** *18:01:40.9, 13˚.83N× 145˚.62E, h107km, mb4.5/33, mB5.1/24*

ISCJB ***13*** *18:01:42.9±0.5, 13˚.91N±0˚.03× 145˚.35E±0˚.04, h111km±4km, mb4.6/108, Error ellipse: s-maj=7.2km s-min=4.8km az=0.7*

MOS ***13*** *18:01:42.7±0.9, 13˚.96N× 145˚.38E, h110km, mb4.7/20, Error ellipse: s-maj=14.3km s-min=6.6km az=96.9*

IDC ***13*** *18:01:43.1±0.7, 13˚.96N× 145˚.41E, h97km±5km, mb4.0/27, mb1 4.1/27, mb1mx4.0/61, mbtmp4.3/27, MS3.0/5, Ms1 3.0/5, ms1mx2.7/60, Error ellipse: s-maj=16.9km s-min=9.3km az=86.0*

NEIC ***13*** *18:01:44.3±0.5, 13˚.92N× 145˚.32E, h109km±4km, mb4.8/78, Error ellipse: s-maj=5.1km s-min=3.3km az=95.0*

NEIC Felt [II] at Tamuning. Also felt at Dededo, Santa Rita and Yigo.

ISC 13 18:01:43.9±0.5, 13˚.96N±0˚.04× 145˚.38E±0˚.07, h104km±4km, h104km: pP-P, n201, s0s98/214, mb4.7/108, 4C-6D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.62**	**233**	P	**Pn**	**18 02 01.5**	**+0.6**
	2μm,0.3s,baz=338,slow=23,SNR=987						
GUMO				S	**Sn**	**18 02 13.6**	**-0.2**
	3μm,0.3s,baz=21,slow=17,SNR=23						
GUMO	**Guam**	**0.62**	**233**	*e*P	**Pn**	**18 02 01.5**	**+0.6**
GUMO				*e*		18 02 11.9	
GUMO	**Guam**	**0.62**	**233**	*e*Pn	**Pn**	**18 02 01.5**	**+0.6**
GUMO				*e*Sn	**Sn**	**18 02 11.9**	**-1.9**
ANA2	**Anatahan**	**2.39**	**8**	*e*Pn	**Pn**	**18 02 21.0**	**-0.7**
SARN	**Sarigan**	**2.75**	**8**	*e*Pn	**Pn**	**18 02 29.6**	**+3.1**
SARN				*e*Sn	**Sn**	**18 02 56.0**	**-3.3**
CBIJ	**Chichi jima**	**13.41**	**348**	*e*Pn	**Pn**	**18 04 46.5**	**-3.5**
PATS	**Pohnpei**	**14.55**	**118**	*e*Pn	**Pn**	**18 05 03.6**	**-1.3**
RABL	**Rabaul**	**19.25**	**159**	*e*P	**Pn**	**18 06 02.1**	**-0.2**
	105nm,0.6s						
JOW	**Kunigami**	**20.49**	**311**	*e*P	**P**	**18 06 13.7**	**+0.1**
	41nm,1.5s						
DAV	**Davao City (W)**	**20.63**	**253**	LR	LR	18 13 39.5	
	comp=Z,19nm,21.4s,baz=308,slow=35						
H11S3	**WAKE ISLAND Hy**	**20.95**	**75**	T	T	18 28 04.9	
	baz=261,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**20.96**	**75**	T	T	18 28 33.3	
	baz=261,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**20.96**	**75**	T	T	18 28 34.0	
	baz=261,slow=75,SNR=16						
WAKE	**Wake Island**	**21.05**	**73**	*e*P	**P**	**18 06 20.7**	**+0.9**
	548nm,1.5s						
FAKI	**Fak Fak**	**21.23**	**219**	*e*P	**P**	**18 06 21.2**	**-0.5**
	29nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**21.36**	**72**	T	T	18 29 36.4	
	baz=257,slow=75,SNR=33						
H11N2	**WAKE ISLAND Hy**	**21.37**	**71**	T	T	18 29 35.8	
	baz=257,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**21.38**	**72**	T	T	18 29 37.5	
	baz=257,slow=75,SNR=40						
INU	**Inuyama**	**22.59**	**342**	*e*P	**P**	**18 06 36.5**	**+0.7**
	26nm,1.1s						
JNU	**Nakatsue**	**23.20**	**328**	P	**P**	**18 06 42.8**	**+0.9**
	18nm,0.8s,baz=144,slow=2.0,SNR=17						
JNU	**Nakatsue**	**23.20**	**328**	*e*P	**P**	**18 06 42.5**	**+0.6**
	26nm,0.9s						
PMG	**Port Moresby**	**23.28**	**176**	P	**P**	**18 06 42.4**	**-0.3**
	19nm,0.7s,baz=12,slow=4.8,SNR=8.8						
PMG	**Port Moresby**	**23.28**	**176**	*c i*P	**P**	**18 06 42.2**	**-0.5**
PMG				pmax	pmax		
	comp=Z,72nm,0.7s						
PMG	**Port Moresby**	**23.28**	**176**	*e*P	**P**	**18 06 42.0**	**-0.7**
	comp=Z,18nm,0.6s						
MJAR	**Matsushiro Arr**	**23.39**	**345**	P	**P**	**18 06 43.0**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=176,slow=11,SNR=12						
MJAR				LR	LR	18 14 49.3	
	comp=Z,36nm,21.2s,baz=165,slow=34						
MAJO	**Matsushiro**	**23.39**	**345**	*e*P	**P**	**18 06 43.7**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,26nm,1.8s						
MAJO	**Matsushiro**	**23.39**	**345**	*e*P	**P**	**18 06 43.6**	**+0.2**
	comp=Z,13nm,1.2s						
MAJO				*e*		18 14 49.3	
MAT	**Matsushiro**	**23.39**	**345**	P	**P**	**18 06 43.8**	**+0.3**
MJB9	**Matsu-Tunnel**	**23.39**	**345**	*e*P	**P**	**18 06 43.4**	**-0.1**
	comp=Z,14nm,1.2s						
COEN	**Coen**	**27.82**	**185**	*e*P	**P**	**18 07 22.7**	**-1.0**
	comp=Z,26nm,1.4s						
KSRS	**Korea Array**	**28.09**	**330**	P	**P**	**18 07 26.4**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=145,slow=9.0,SNR=15						
KSRS				LR	LR	18 18 04.3	
	comp=Z,22nm,19.5s,baz=145,slow=35						
KSAR	**Wonju Array Be**	**28.10**	**329**	P	**P**	**18 07 26.4**	**+0.4**
KSAR	**Wonju Array Be**	**28.10**	**329**	P	**P**	**18 07 26.4**	**+0.4**
KS01	**Wonju Array Si**	**28.12**	**330**	*e*P	**P**	**18 07 26.2**	**0.0**
MTN	**Manton Dam**	**30.14**	**209**	*e*P	**P**	**18 07 42.3**	**-1.9**
	comp=Z,227nm,1.9s						
ASAJ	**Asahikawa**	**30.15**	**356**	P	**P**	**18 07 44.6**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=194,slow=9.9,SNR=6.0						
ASAJ	**Asahikawa**	**30.15**	**356**	*e*P	**P**	**18 07 44.5**	**+0.5**
	comp=Z,3.6nm,0.8s						
NJ2	**Nanjing**	**30.20**	**311**	*e*P	**P**	**18 07 44.0**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**32.24**	**342**	P	**P**	**18 08 02.7**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=102,slow=7.4,SNR=5.8						
YSS	**Yuzh-Sakhalins**	**32.97**	**357**	*e*P	**P**	**18 08 08.3**	**-0.4**
YSS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**32.97**	**357**	*e*P	**P**	**18 08 08.3**	**-0.4**
	comp=Z,6.9nm,1.0s						
CTAO	**Charters Tower**	**33.85**	**179**	*e*P	**P**	**18 08 16.7**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,67nm,1.9s						
CTAO	**Charters Tower**	**33.85**	**179**	*e*P	**P**	**18 08 16.6**	**+0.1**
	comp=Z,67nm,1.9s						
WRAB	**Tennant Creek**	**35.39**	**198**	*de*P	**P**	**18 08 29.4**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,19nm,0.7s						
WRAB	**Tennant Creek**	**35.39**	**198**	*e*P	**P**	**18 08 29.5**	**-0.4**
	comp=Z,19nm,0.7s						
WB2	**Warramunga Arr**	**35.39**	**198**	*e*P	**P**	**18 08 28.0**	**-2.0**
WR1	**Warramunga Arr**	**35.40**	**198**	*e*P	**P**	**18 08 29.6**	**-0.3**
	comp=Z,26nm,0.9s						
WR1				*e*PcP	**PcP**	**18 10 58.7**	**+0.8**
WR1				*e*ScP	**ScP**	**18 14 34.6**	**+0.2**
WRA	**Warramunga Arr**	**35.40**	**198**	P	**P**	**18 08 29.6**	**-0.3**
	comp=Z,13nm,0.6s,baz=25,slow=8.5,SNR=87						
WRA				PcP	**PcP**	**18 10 58.7**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=16,slow=3.5,SNR=4.4						
WRA				ScP	**ScP**	**18 14 34.6**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=15,slow=4.1,SNR=5.6						
KLR	**Kul'dur**	**36.91**	**345**	*e*P	**P**	**18 08 42.0**	**-0.6**
AS01	**Alice Springs**	**39.03**	**197**	*e*P	**P**	**18 09 00.4**	**-0.2**
AS31	**Alice Springs**	**39.04**	**197**	*e*P	**P**	**18 09 00.7**	**-0.1**
	comp=Z,3.3nm,0.6s						
ASAR	**Alice Springs**	**39.04**	**197**	P	**P**	**18 09 00.6**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=25,slow=7.1,SNR=116						
ASAR				PcP	**PcP**	**18 11 08.4**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=11,slow=5.8,SNR=2.8						
HHC	**Hu-ho-hao-te**	**39.82**	**319**	*e*P	**P**	**18 09 07.8**	**+0.6**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,69nm,5.9s						
PEA0B	**Petropavlovsk-**	**40.26**	**11**	*e*P	**P**	**18 09 11.5**	**+1.0**
	comp=Z,36nm,1.3s						
PETK	**Petropavlovsk-**	**40.26**	**11**	P	**P**	**18 09 11.2**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=156,slow=7.2,SNR=9.9						
PEA1	**Petropavlovsk-**	**40.27**	**11**	*e*P	**P**	**18 09 11.2**	**+0.6**
PET	**Petropavlovsk**	**40.38**	**12**	*e*P	**P**	**18 09 11.7**	**+0.3**
PET				pmax	pmax		
	comp=Z,39nm,1.7s						
PET	**Petropavlovsk**	**40.38**	**12**	*e*P	**P**	**18 09 11.7**	**+0.3**
	comp=Z,39nm,1.7s						
HIA	**Hailar**	**41.02**	**334**	*e*P	**P**	**18 09 17.7**	**+0.8**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HIA	**Hailar**	**41.02**	**334**	*e*P	**P**	**18 09 17.7**	**+0.8**
	comp=Z,9.7nm,0.9s						
DZM	**Mont Dzumac**	**41.34**	**150**	P	**P**	**18 09 21.3**	**+1.5**
	comp=Z,8.2nm,0.9s,baz=315,slow=7.1,SNR=5.0						
DZM	**Mont Dzumac**	**41.34**	**150**	*e*P	**P**	**18 09 20.9**	**+1.1**
	comp=Z,101nm,1.9s						
CD2	**Chengdu**	**41.73**	**301**	P	**P**	**18 09 22.0**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MBWA	**Marble Bar**	**43.04**	**216**	*e*P	**P**	**18 09 33.3**	**-0.3**
	comp=Z,116nm,1.9s						
LZH	**Lanzhou**	**43.18**	**308**	*e*P	**P**	**18 09 36.6**	**+1.8**
LZH				pP	pP	18 10 00.5	+1.6
LZH				sP	sP	18 10 13.8	+3.1
LZH				pmax	pmax		
	comp=Z,15nm,0.7s						
ARMA	**Armidale**	**44.53**	**172**	*e*P	**P**	**18 09 45.1**	**-0.3**
	comp=Z,53nm,1.8s						
IPM	**Ipoh**	**44.71**	**262**	*e*P	**P**	**18 09 45.5**	**-1.6**
	comp=Z,20nm,1.3s						
CM01	**Chiang Mai Arr**	**44.71**	**282**	*e*P	**P**	**18 09 45.8**	**-1.3**
CM01				*e*PcP	**PcP**	**18 11 28.8**	**+0.9**
CM31	**Chiang Mai Arr**	**44.72**	**282**	*e*ScP	**ScP**	**18 15 10.8**	**-0.1**
CM31				*e*		18 27 32.7	
CMAR	**Chiang Mai Arr**	**44.72**	**282**	P	**P**	**18 09 48.2**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=84,slow=5.7,SNR=7.9						
CMAR				PcP	**PcP**	**18 11 29.6**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=94,slow=2.6,SNR=6.0						
CMAR				ScP	**ScP**	**18 15 10.8**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=107,slow=1.3,SNR=4.8						
CMAR				LR	LR	18 27 32.7	
	comp=Z,12nm,21.5s,baz=25,slow=35						
MA2	**Magadan**	**45.71**	**4**	P	**P**	**18 09 54.4**	**0.0**
	comp=Z,12nm,0.8s,baz=183,slow=6.8,SNR=44						
MA2	**Magadan**	**45.71**	**4**	*e*P	**P**	**18 09 54.0**	**-0.4**
STKA	**Stephens Creek**	**45.72**	**184**	P	**P**	**18 09 53.9**	**-0.8**
	comp=Z,7.4nm,0.8s,baz=0.1,slow=8.3,SNR=19						
STKA	**Stephens Creek**	**45.72**	**184**	*e*P	**P**	**18 09 54.0**	**-0.8**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STKA	**Stephens Creek**	**45.72**	**184**	*e*P	**P**	**18 09 54.0**	**-0.7**
	comp=Z,1.9nm,0.9s						
ULN	**Ulaanbaatar**	**46.36**	**325**	*e*P	**P**	**18 10 02.4**	**+2.5**
ULN				*i* *PP	**pP**	**18 10 27.0**	**+2.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ULN	**Ulaanbaatar**	**46.36**	**325**	*e*P	**P**	**18 09 58.2**	**-1.7**
	comp=Z,14nm,2.0s						
SONA0	**Songino Array**	**46.72**	**324**	*e*P	**P**	**18 10 03.9**	**+1.3**
SONA0				*e*ScP	**ScP**	**18 15 18.3**	**-0.5**
SONM	**Songino Array**	**46.72**	**324**	P	**P**	**18 10 03.9**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=142,slow=8.1,SNR=8.1						
SONM				ScP	**ScP**	**18 15 18.3**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=132,slow=4.2,SNR=3.6						
SONA1	**Songino Array**	**46.72**	**324**	*e*P	**P**	**18 10 03.4**	**+0.8**
GTA	**Gaotai**	**47.30**	**311**	*e*P	**P**	**18 10 08.5**	**+1.2**
GTA				pP	pP	18 10 33.5	+1.8
GTA				sP	sP	18 10 45.6	+2.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BBOO	**Buckleboo**	**47.35**	**191**	*e*P	**P**	**18 10 07.2**	**-0.3**
	comp=Z,26nm,0.6s						
GSI	**Gunungsitoli**	**48.90**	**259**	*e*P	**P**	**18 10 19.0**	**-0.8**
	comp=Z,21nm,1.4s						
SEY	**Seymchan**	**49.16**	**4**	*e*P	**P**	**18 10 21.2**	**+0.2**
YAK	**Yakutsk**	**49.30**	**350**	*e*P	**P**	**18 10 20.7**	**-1.4**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s						
YAK	**Yakutsk**	**49.30**	**350**	*e*P	**P**	**18 10 20.7**	**-1.4**
	comp=Z,16nm,0.7s						
BOD	**Bodaibo**	**49.75**	**339**	*e*P	**P**	**18 10 25.1**	**-0.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ZAK	**Zakamensk**	**49.81**	**326**	*e*P	**P**	**18 10 26.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TLY	**Talaya**	**50.31**	**327**	*e*P	**P**	**18 10 28.6**	**-1.3**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TLY	**Talaya**	**50.31**	**327**	*e*P	**P**	**18 10 28.6**	**-1.3**
	comp=Z,5.7nm,0.7s						
LSA	**Lhasa**	**52.27**	**297**	*e*P	**P**	**18 10 46.6**	**+1.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LSA	**Lhasa**	**52.27**	**297**	*e*P	**P**	**18 10 46.6**	**+1.1**
	comp=Z,2.6nm,0.6s						
UNV	**Unalaska Valle**	**54.75**	**33**	*e*P	**P**	**18 11 03.5**	**+0.9**
	comp=Z,440nm,1.9s						
BILL	**Bilibino**	**55.72**	**9**	*e*P	**P**	**18 11 07.7**	**-1.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TAU	**Tasmania Unive**	**56.62**	**178**	*e*P	**P**	**18 11 16.6**	**+0.6**
TAU				pmax	pmax		
	comp=Z,45nm,1.5s						
TAU	**Tasmania Unive**	**56.62**	**178**	*e*P	**P**	**18 11 16.6**	**+0.6**
	comp=Z,45nm,1.5s						
WMQ	**Urumqi**	**57.24**	**313**	P	**P**	**18 11 21.9**	**+1.2**
GAMB	**Gambell**	**57.95**	**21**	*e*P	**P**	**18 11 26.1**	**+1.0**
	comp=Z,21nm,1.9s						
TIXI	**Tiksi**	**58.52**	**354**	*e*P	**P**	**18 11 27.9**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	**Tiksi**	**58.52**	**354**	*e*P	**P**	**18 11 28.9**	**-0.1**
	comp=Z,12nm,2.0s						
BKZ	**Black Stump Fm**	**60.31**	**152**	*e*P	**P**	**18 11 41.4**	**-0.4**
	comp=Z,90nm,1.8s						
THZ	**Tophouse**	**60.99**	**157**	*e*P	**P**	**18 11 47.8**	**+1.4**
	comp=Z,93nm,1.7s						
SNZO	**South Karori**	**61.31**	**155**	*e*P	**P**	**18 11 47.3**	**-1.2**
	comp=Z,65nm,1.2s						
BFZ	**Birch Farm**	**61.44**	**154**	*e*P	**P**	**18 11 49.0**	**-0.4**
	comp=Z,108nm,1.3s						
MK01	**Makanchi Array**	**61.56**	**316**	*e*P	**P**	**18 11 48.8**	**-1.4**
MK01				*ep*P	**pP**	**18 12 16.2**	**+0.4**
MK31	**Makanchi Array**	**61.57**	**316**	*e*P	**P**	**18 11 50.1**	**-0.2**
MK31				*e**PP	**pP**	**18 12 16.0**	**+0.1**
MK31	**Makanchi Array**	**61.57**	**316**	*e*P	**P**	**18 11 50.1**	**-0.2**
MK31				*ep*P	**pP**	**18 12 16.0**	**+0.1**
MK32	**Makanchi Array**	**61.57**	**316**	*e*P	**P**	**18 11 50.5**	**+0.2**
MKAR	**Makanchi Array**	**61.57**	**316**	P	**P**	**18 11 50.5**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=88,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**61.57**	**316**	*e*P	**P**	**18 11 50.0**	**-0.3**
MKAR				*ep*P	**pP**	**18 12 15.9**	**0.0**
ZALV	**Zalesovo Beam**	**61.61**	**324**	P	**P**	**18 11 49.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=120,slow=8.5,SNR=3.5						
ZALV	**Zalesovo Beam**	**61.61**	**324**	*e*P	**P**	**18 11 50.4**	**0.0**
ZALV	**Zalesovo Beam**	**61.61**	**324**	*e*P	**P**	**18 11 50.4**	**0.0**
ZAA1	**Zalesovo Array**	**61.61**	**324**	*e*P	**P**	**18 11 49.9**	**-0.5**
MAKZ	**Makanchi**	**61.78**	**316**	*e*P	**P**	**18 11 51.9**	**+0.1**
MAKZ				*e**PP	**pP**	**18 12 18.3**	**+0.9**
MAKZ	**Makanchi**	**61.78**	**316**	*e*P	**P**	**18 11 51.9**	**+0.1**
MAKZ				*ep*P	**pP**	**18 12 18.3**	**+0.9**
RPZ	**Rata Peaks**	**62.01**	**159**	LR	LR	18 40 25.5	
	comp=Z,51nm,18.3s,baz=356,slow=38						
RPZ	**Rata Peaks**	**62.01**	**159**	*e*P	**P**	**18 11 52.7**	**-0.4**
	comp=Z,168nm,2.0s						
RPZ				*e*		18 40 25.5	
OXZ	**Oxford**	**62.01**	**158**	*e*P	**P**	**18 11 52.1**	**-1.1**
	comp=Z,201nm,2.0s						
OHAK	**Old Harbor**	**62.97**	**32**	*e*P	**P**	**18 12 00.8**	**+1.4**
	comp=Z,207nm,1.9s						
SVW2	**Sparrevohn**	**63.12**	**28**	*e*P	**P**	**18 12 01.5**	**+1.1**
	comp=Z,20nm,1.6s						
KDAK	**Kodiak Island**	**63.49**	**32**	*e*P	**P**	**18 12 03.7**	**+0.9**
	comp=Z,117nm,1.5s						
KURK	**Kurchatov**	**64.62**	**320**	*e*P	**P**	**18 12 09.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURK	**Kurchatov**	**64.62**	**320**	*e*P	**P**	**18 12 09.9**	**-0.5**
KURK				*ep*P	**pP**	**18 12 36.6**	**+0.5**
KURBB	**Kurchatov Arra**	**64.66**	**320**	P	**P**	**18 12 10.4**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=100,slow=7.2,SNR=15						
BRLK	**Bradley Lake**	**64.90**	**30**	*e*P	**P**	**18 12 11.8**	**-0.2**
	comp=Z,9.5nm,0.8s						
PPLA	**Purkeypile**	**65.24**	**27**	*e*P	**P**	**18 12 15.2**	**+0.8**
	comp=Z,43nm,1.8s						
KSH	**Kashi**	**65.41**	**307**	*e*P	**P**	**18 12 20.5**	**+4.6**
KSH				pmax	pmax		
	comp=Z,84nm,4.4s						
SUA	**Susitna One**	**65.45**	**28**	*e*P	**P**	**18 12 16.1**	**+0.4**
	comp=Z,6.6nm,1.0s						
CAST	**Castle Rocks**	**65.45**	**26**	*e*P	**P**	**18 12 15.7**	**+0.1**
	comp=Z,5.9nm,0.6s						
RC01	**Rabbit Creek A**	**65.81**	**29**	*e*P	**P**	**18 12 17.7**	**-0.1**
	comp=Z,8.8nm,0.7s						
KTH	**Kantishna Hill**	**65.98**	**26**	*e*P	**P**	**18 12 19.5**	**+0.5**
	comp=Z,21nm,1.4s						
BPAW	**Bear Paw Mtn.**	**66.13**	**25**	*e*P	**P**	**18 12 20.7**	**+0.8**
	comp=Z,5.9nm,0.8s						
PMR	**Palmer**	**66.22**	**28**	*e*P	**P**	**18 12 20.2**	**-0.3**
PMR				pmax	pmax		
	comp=Z,41nm,1.9s						
PMR	**Palmer**	**66.22**	**28**	*e*P	**P**	**18 12 20.2**	**-0.3**
	comp=Z,41nm,1.9s						
TRF	**Thorofare Moun**	**66.23**	**26**	*e*P	**P**	**18 12 21.0**	**+0.2**
	comp=Z,30nm,1.8s						
MLY	**Manley**	**66.52**	**25**	*e*P	**P**	**18 12 22.4**	**0.0**
	comp=Z,6.0nm,1.0s						
SML	**Sawmill**	**66.65**	**28**	*e*P	**P**	**18 12 23.4**	**+0.1**
SML				pmax	pmax		
	comp=Z,17nm,0.9s						
SML	**Sawmill**	**66.65**	**28**	*e*P	**P**	**18 12 23.4**	**+0.1**
	comp=Z,17nm,0.9s						
RND	**Reindeer**	**66.83**	**27**	*e*P	**P**	**18 12 24.4**	**-0.1**
RND				pmax	pmax		
	comp=Z,23nm,1.7s						
RND	**Reindeer**	**66.83**	**27**	*e*P	**P**	**18 12 24.4**	**-0.1**
	comp=Z,23nm,1.7s						
MCK	**McKinley**	**66.89**	**26**	*e*P	**P**	**18 12 25.3**	**+0.5**
MCK				pmax	pmax		
	comp=Z,18nm,1.5s						
MCK	**McKinley**	**66.89**	**26**	*e*P	**P**	**18 12 25.3**	**+0.5**
	comp=Z,18nm,1.5s						
GLI	**Glacier Island**	**67.01**	**29**	*e*P	**P**	**18 12 25.3**	**-0.3**
	comp=Z,47nm,1.4s						
SCM	**Sheep Creek Mo**	**67.12**	**28**	*e*P	**P**	**18 12 27.0**	**+0.7**
SCM				pmax	pmax		
	comp=Z,21nm,1.0s						
SCM	**Sheep Creek Mo**	**67.12**	**28**	*e*P	**P**	**18 12 27.0**	**+0.7**
	comp=Z,21nm,1.0s						
DHY	**Denali Highway**	**67.39**	**27**	*e*P	**P**	**18 12 28.8**	**+0.6**
	comp=Z,10nm,1.4s						
COLD	**Coldfoot**	**67.42**	**22**	*e*P	**P**	**18 12 28.5**	**+0.5**
	comp=Z,18nm,1.9s						
MDM	**Murphy Dome**	**67.52**	**25**	*e*P	**P**	**18 12 29.5**	**+0.8**
	comp=Z,10nm,1.4s						
CCB	**Clear Creek Bu**	**67.61**	**25**	*e*P	**P**	**18 12 28.0**	**-1.3**
	comp=Z,12nm,1.7s						
DIV	**Divide**	**67.69**	**29**	*e*P	**P**	**18 12 29.6**	**-0.4**
	comp=Z,11nm,1.1s						
KLU	**Klutina**	**67.70**	**29**	*e*P	**P**	**18 12 30.9**	**+1.0**
	comp=Z,11nm,1.2s						
HDA	**Harding Lake**	**67.91**	**26**	*e*P	**P**	**18 12 31.7**	**+0.6**
	comp=Z,9.5nm,1.1s						
IL1	**Eielson Array**	**68.02**	**25**	*e*P	**P**	**18 12 30.4**	**-1.5**
ILAR	**Eielson Array**	**68.02**	**25**	P	**P**	**18 12 30.9**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=252,slow=5.5,SNR

comp=Z,15nm,1.8s
RES **Resolute Bay** **84.08 13** *e*P **P** **18 14 02.9 +0.2**
comp=Z,15nm,1.8s
NV01 **Mina Array Sit** **86.30 51** *e*P **P** **18 14 13.4 -1.4**
NVAR **Mina Array Bea** **86.30 51** P **P** **18 14 16.9 +2.0**
comp=Z,1.3nm,0.6s,baz=279,slow=5.5,SNR=6.2
ARA0 **ARCESS Array S** **86.89 342** *e*P **P** **18 14 15.8 -1.0**
ARCES **ARCESS Array B** **86.89 342** P **P** **18 14 15.8 -1.0**
comp=Z,5.5nm,1.0s,baz=54,slow=6.2,SNR=4.5
HLID **Hailey** **87.73 46** *e*P **P** **18 14 22.9 +1.2**
comp=Z,2.4nm,0.9s
FIA0 **FINESS Array S** **91.03 335** *e*P **P** **18 14 34.8 -1.6**
FIA0 **FINESS Array S** **91.03 335** *e*P **P** **18 14 34.8 -1.6**
FINES **FINESS Array B** **91.03 335** P **P** **18 14 34.8 -1.6**
comp=Z,1.1nm,0.4s,baz=73,slow=4.1,SNR=15
FINES **FINESS Array B** **91.03 335** *i* P **P** **18 14 35.5 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
PD31 **Pinedale Array** **91.35 45** *e*P **P** **18 14 38.7 +0.1**
PDAR **Pinedale Array** **91.35 45** P **P** **18 14 37.9 -0.8**
comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=3.9
HFS **Hagfors** **96.64 338** P **P** **18 15 01.2 -0.9**
comp=Z,2.4nm,0.9s,baz=108,slow=9.3,SNR=3.8
TOA1 **Torodi Ar. Sit** **135.06 305** *e*PKPdf **PKPdf** **18 20 52.0 -0.1**
TORD **Torodi Ar. Bea** **135.06 305** PKP **PKPdf** **18 20 52.0 -0.1**
comp=Z,0.4nm,0.5s,baz=12,slow=1.7,SNR=3.8
DBIC **Dimbokro** **144.04 303** PKP **PKPab** **18 21 06.4 +0.4**
comp=Z,1.5nm,0.5s,baz=8.2,slow=2.5,SNR=4.7
DBIC **Dimbokro** **144.04 303** *e*PKIKP **PKPab** **18 21 06.2 +0.2**
DBIC **Dimbokro** **144.04 303** *e*PKPdf **PKPab** **18 21 06.2 +0.2**
LPAZ **La Paz** **147.59 98** PKPbc **PKPbc** **18 21 17.6 -0.4**
comp=Z,2.8nm,0.8s,baz=301,slow=4.2,SNR=7.9
LPAZ **La Paz** **147.59 98** *e*PKIKP **PKPdf** **18 21 14.5 -0.6**
LPAZ **La Paz** **147.59 98** *e*PKPdf **PKPdf** **18 21 14.5 -0.6**

IDC 13 18:12:03.5±1.6, 25°.52N×109°.69W, h0km, mb3.0/2, mb1 3.3/4, mb1mx3.2/56, mbtmp2.9/4, ML3.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/8, Error ellipse: s-maj=32.8km s-min=17.7km az=131.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.52**	**202**	Pn	Pn	18 12 31.5	-0.4
	13nm,0.3s,baz=56,slow=7.8,SNR=5.4						
LPIG				Sn	Sg	18 12 49.3	-3.0
	14nm,0.3s,baz=253,slow=19,SNR=10						
LPIG				LR	LR	18 13 07.9	
	comp=Z,233nm,18.1s,baz=330,slow=42						
TXAR	**Lajitas Array**	**6.56**	**53**	Pn	Pn	18 13 41.7	+0.4
	0.1nm,0.3s,baz=233,slow=13,SNR=4.1						
TXAR				Sn	Sn	18 14 56.5	-0.5
	0.8nm,0.3s,baz=231,slow=17,SNR=4.2						
TXAR				Lg	Lg	18 15 30.2	
	2.1nm,0.3s,baz=247,slow=28,SNR=10						
ANMO	**Albuquerque**	**9.80**	**16**	Lg	Lg	18 17 12.6	
	0.1nm,0.3s,baz=166,slow=19,SNR=4.6						
ANMO				LR	LR	18 17 50.7	
	comp=Z,119nm,18.9s,baz=350,slow=35						
PDAR	**Pinedale Array**	**17.21**	**0**	Pn	Pn	18 16 06.2	+0.7
	0.1nm,0.3s,baz=164,slow=10,SNR=2.3						
PDAR				LR	LR	18 22 31.1	
	comp=Z,76nm,21.2s,baz=144,slow=36						
TKL	**Tuckaleechee C**	**24.43**	**59**	LR	LR	18 28 06.9	
	comp=Z,72nm,18.9s,baz=350,slow=39						
YKA	**Yellowknife Ar**	**37.11**	**356**	P	P	18 19 15.8	+0.4
	0.1nm,0.4s,baz=175,slow=8.1,SNR=3.7						
ILAR	**Eielson Array**	**45.93**	**339**	P	P	18 20 28.1	+0.4
	0.1nm,0.5s,baz=133,slow=8.0,SNR=3.6						

*ISCJB **13** 18:13:12.2±0.7, 56°.11S±0°.10×28°.1W±0°.2, h112km, mb4.4/4, Error ellipse: s-maj=16.4km s-min=8.6km az=40.2*
*NEIC **13** 18:13:13.0±2.1, 56°.03S×27°.71W, h102km±19km, mb4.9/3, Error ellipse: s-maj=25.5km s-min=13.0km az=64.0*
*IDC **13** 18:13:15.3±14.0, 56°.06S×27°.66W, h121km±122km, mb3.5/2, mb1 3.8/3, mb1mx3.4/31, mbtmp4.1/3, ML4.6/1, Error ellipse: s-maj=71.2km s-min=36.3km az=112.0*
ISC 13 18:13:14.0±0.7, 56°.1S±0°.1×28°.0W±0°.1, h112km, n21, σ1§08/19, mb4.4/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.18**	**287**	*e*Pn	**Pn**	**18 14 29.7**	**+0.5**
HOPE				*e*Sn	**Sn**	**18 15 25.6**	**-2.1**
VNA3	**Neumayer Olymp**	**17.13**	**160**	P	**P**	**18 17 04.8**	**-1.3**
VNA2	**Neumayer--Watz**	**17.35**	**157**	P	**P**	**18 17 07.7**	**-0.7**
	baz=318,slow=13						
SNAA	**Sanae**	**18.91**	**155**	P	**P**	**18 17 24.7**	**-1.0**
SNAA	**Sanae**	**18.91**	**155**	P	**P**	**18 17 24.6**	**-1.0**
	1.7nm,0.3s,baz=301,slow=12,SNR=48						
SNAA	**Sanae**	**18.91**	**155**	*e*P	**P**	**18 17 24.8**	**-0.8**
	10nm,0.6s						
VNDA	**Vanda**	**46.53**	**183**	P	**P**	**18 21 30.5**	**+1.0**
	1.1nm,0.6s,baz=184,slow=4.7,SNR=6.7						
VNDA	**Vanda**	**46.53**	**183**	*e*P	**P**	**18 21 30.9**	**+1.4**
PB11	**IPOC Station P**	**47.71**	**302**	*e*P	**P**	**18 21 41.6**	**+2.1**
	29nm,1.4s						
H10S2	**ASCENSION HYDR**	**48.16**	**18**	T	T	19 13 53.7	
	baz=187						
H10S3	**ASCENSION HYDR**	**48.16**	**18**	T	T	19 13 47.3	
	baz=187						
H10S1	**ASCENSION HYDR**	**48.17**	**18**	T	T	19 13 56.2	
	baz=187						
RCBR	**Riachuelo**	**50.50**	**350**	*e*P	**P**	**18 22 00.0**	**-0.6**
	41nm,1.3s						
TORD	**Torodi Ar. Bea**	**73.30**	**30**	P	**P**	**18 24 33.2**	**+0.1**
	0.4nm,0.5s,baz=199,slow=7.0,SNR=4.7						
TOA1	**Torodi Ar. Sit**	**73.31**	**30**	*e*P	**P**	**18 24 33.2**	**+0.1**
YKA	**Yellowknife Ar**	**135.88**	**318**	PKP	**PKPdf**	**18 32 19.6**	**-0.4**
	0.1nm,0.3s,baz=134,slow=4.5,SNR=3.8						
INK	**Inuvik**	**145.53**	**321**	PKPbc	**PKPdf**	**18 32 37.0**	**-0.2**
	0.8nm,0.6s,baz=100,slow=1.9,SNR=6.8						
INK	**Inuvik**	**145.53**	**321**	*e*PKPdf	**PKPdf**	**18 32 37.0**	**-0.2**
ILAR	**Eielson Array**	**149.79**	**312**	PKPbc	**PKPbc**	**18 32 49.0**	**-0.2**
	0.9nm,0.8s,baz=129,slow=1.9,SNR=9.9						
SONA0	**Songino Array**	**151.18**	**87**	*e*PKPbc	**PKPbc**	**18 32 52.4**	**-0.8**
SONM	**Songino Array**	**151.18**	**87**	PKPbc	**PKPbc**	**18 32 52.4**	**-0.8**
	0.5nm,0.5s,baz=215,slow=4.4,SNR=7.2						

*NEIC **13** 18:23:42.0±0.1, 23°.73S×179°.98E, mb5.0/202, Error ellipse: s-maj=4.0km s-min=2.7km az=142.0*
*ISCJB **13** 18:23:41.5±0.3, 23°.67S±0°.02×179°.94E±0°.02, h534km±4km, mb4.8/244, Error ellipse: s-maj=3.9km s-min=3.1km az=140.3*
*MOS **13** 18:23:41.5±0.8, 23°.67S×179°.96E, h535km, mb5.0/38, Error ellipse: s-maj=9.1km s-min=8.3km az=140.2*
*IDC **13** 18:23:42.4±0.4, 23°.68S×180°.00W, h538km±4km, mb4.2/33, mb1 4.3/34, mb1mx4.2/48, mbtmp5.0/34, Error ellipse: s-maj=9.1km s-min=8.2km az=163.0*
*GCMT **13** 18:23:42.0±0.6, 23°.79S×179°.92W, h563km±3km, MW5.3/49, Moment Tensor Solution. s49,c68; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.34±.03; Mθθ-0.29±.06; Mϕϕ-0.05±.06; Mrθ-0.16±.06; Mϕθ-0.46±.05; Mϕr-0.79±.05; Best double couple: M0 0.97500×10^17 NP1: ϕs198.00000°, δ78.00000°, λ62.00000°. NP2: ϕs87.00000°, δ30.00000°, λ156.00000°. Principal axes: T 0.9760, Plg49.0000°, Azm78.0000°; N -0.0010, Plg27.0000°, Azm204.0000°; P -0.9750, Plg28.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s.*
*WEL **13** 18:23:44.1±1.0, 24°.S-8°×18°.0W±3°.2, h566km±17km*
ISC 13 18:23:42.1±0.3, 23°.68S±0°.04×179°.96W±0°.04, h539km±3km, h540km; pP-P, n669, σ1§25/758, mb4.9/243, 31C-18D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**5.83**	**162**	P	**P**	**18 25 19.5**	**+1.0**
RIZ	**Raoul Island**	**5.83**	**162**	S	**S**	**18 26 35.1**	**-2.3**
RAO	**Raoul Island**	**5.84**	**162**	P	**P**	**18 25 19.1**	**+0.5**
	362nm,0.3s,baz=15,slow=20,SNR=7.8						
RAO				S	**S**	**18 26 36.9**	**-0.7**
	58nm,0.3s,baz=107,slow=20,SNR=2.7						
RAO	**Raoul Island**	**5.84**	**162**	*e*P	**P**	**18 25 19.1**	**+0.5**
RAO				*e*S	**S**	**18 26 34.0**	**-3.6**
RAO	**Raoul Island**	**5.84**	**162**	*e*P	**P**	**18 25 19.1**	**+0.5**
RAO				*e*S	**S**	**18 26 34.0**	**-3.6**
GLKZ	**Green Lake**	**5.85**	**162**	S	**S**	**18 26 38.1**	**+0.4**
GLKZ	**Green Lake**	**5.85**	**162**	P	**P**	**18 25 18.7**	**+0.1**
MSVF	**Nonsavu**	**6.21**	**342**	*e*P	**P**	**18 25 23.1**	**+0.8**
MSVF				*e*S	**S**	**18 26 42.8**	**-1.4**
MSVF	**Nonsavu**	**6.21**	**342**	*e*P	**P**	**18 25 23.1**	**+0.8**
MSVF				*e*S	**S**	**18 26 42.8**	**-1.4**
NIUE	**Niue**	**10.41**	**66**	P	**P**	**18 26 04.3**	**+0.2**
	baz=10,SNR=11						
AFI	**Afiamalu**	**12.43**	**40**	P	**P**	**18 26 21.7**	**-3.5**
	5.4nm,0.3s,baz=269,slow=23,SNR=7.6						
AFI				S	**S**	**18 28 32.5**	**-7.0**
	7.6nm,0.3s,baz=335,slow=23,SNR=7.2						
DZM	**Mont Dzumac**	**12.64**	**275**	P	**P**	**18 26 28.0**	**+0.6**
	0.9nm,0.3s,baz=75,slow=22,SNR=8.1						
DZM				ScP	**ScP**	**18 34 01.8**	**+1.2**
	0.6nm,0.3s,baz=130,slow=4.4,SNR=3.7						
DZM	**Mont Dzumac**	**12.64**	**275**	*e*P	**P**	**18 26 29.2**	**+1.8**
	132nm,1.2s						
DZM	**Mont Dzumac**	**12.64**	**275**	*e*P	**P**	**18 26 28.5**	**+1.1**
DZM				ScP	**ScP**	**18 34 01.8**	**+1.2**
OUZ	**Omahuta**	**12.79**	**205**	*e*P	**P**	**18 26 30.1**	**+1.4**
OUZ	**Omahuta**	**12.79**	**205**	P	**P**	**18 26 29.9**	**+1.3**
WIAZ	**Waiheke Island**	**13.73**	**197**	P	**P**	**18 26 39.8**	**+1.4**
MKZ	**Matakaoa Point**	**13.91**	**186**	*e*P	**P**	**18 26 39.5**	**-0.8**
MKAZ	**Moumakai**	**14.02**	**196**	P	**P**	**18 26 42.2**	**+0.9**
WMGZ	**Waiomatatini S**	**14.16**	**185**	P	**P**	**18 26 44.0**	**+1.2**
WMGZ	**Waiomatatini S**	**14.16**	**185**	S	**S**	**18 29 11.1**	**-0.6**
HAZ	**Te Kaha**	**14.16**	**187**	P	**P**	**18 26 42.7**	**-0.1**
HAZ	**Te Kaha**	**14.16**	**187**	S	**S**	**18 29 09.1**	**-2.7**
PKGZ	**Pakihiroa**	**14.26**	**186**	P	**P**	**18 26 44.5**	**+0.6**
PKGZ	**Pakihiroa**	**14.26**	**186**	S	**S**	**18 29 10.2**	**-3.6**
RUGZ	**Raukumara Rang**	**14.38**	**188**	P	**P**	**18 26 44.4**	**-0.8**
RUGZ	**Raukumara Rang**	**14.38**	**188**	S	**S**	**18 29 13.9**	**-2.3**
PUZ	**Puketiti**	**14.42**	**186**	P	**P**	**18 26 47.0**	**+1.5**
TOZ	**Tahuroa Road**	**14.53**	**194**	P	**P**	**18 26 47.1**	**+0.4**
TWGZ	**Tauwhareparae**	**14.55**	**186**	P	**P**	**18 26 47.0**	**0.0**
TWGZ	**Tauwhareparae**	**14.55**	**186**	S	**S**	**18 29 20.0**	**+0.6**
URZ	**Urewera**	**14.74**	**189**	P	**P**	**18 26 45.0**	**-3.9**
	2.7nm,0.3s,baz=272,slow=3.5,SNR=22						
URZ				S	**S**	**18 29 18.2**	**-4.7**
	4.0nm,0.3s,baz=148,slow=22,SNR=15						
URZ	**Urewera**	**14.74**	**189**	P	**P**	**18 26 46.1**	**-2.8**
URZ	**Urewera**	**14.74**	**189**	S	**S**	**18 29 18.6**	**-4.3**
MWZ	**Matawai**	**14.76**	**188**	P	**P**	**18 26 47.7**	**-1.4**
CNGZ	**Carnagh Statio**	**14.84**	**186**	P	**P**	**18 26 51.2**	**+1.4**
RAGZ	**Rawiri**	**14.94**	**188**	P	**P**	**18 26 50.4**	**-0.6**
MUGZ	**Murupara**	**15.01**	**190**	P	**P**	**18 26 50.2**	**-1.4**
MUGZ	**Murupara**	**15.01**	**190**	S	**S**	**18 29 24.0**	**-3.9**
FUNA	**Funafuti**	**15.09**	**357**	*e*P	**P**	**18 26 51.6**	**-1.2**
	102nm,0.8s						
TLZ	**Tolley Road**	**15.10**	**194**	P	**P**	**18 26 50.3**	**-2.3**
MTHZ	**Maungataniwha**	**15.37**	**189**	P	**P**	**18 26 53.0**	**-2.4**
HIZ	**Hauiti**	**15.43**	**195**	*e*P	**P**	**18 26 55.5**	**-0.5**
	410nm,2.0s						
HIZ	**Hauiti**	**15.43**	**195**	P	**P**	**18 26 56.5**	**+0.5**
RATZ	**Rangitukua**	**15.57**	**193**	P	**P**	**18 26 57.5**	**+0.1**
BKZ	**Black Stump Fm**	**15.73**	**190**	*e*P	**P**	**18 26 55.5**	**-3.5**
	63nm,1.7s						
BKZ				*e*S	**S**	**18 29 36.4**	**-4.1**
BKZ	**Black Stump Fm**	**15.73**	**190**	P	**P**	**18 26 55.7**	**-3.4**
TWVZ	**Taurewa**	**15.83**	**193**	P	**P**	**18 27 00.1**	**-0.1**
MCHZ	**McNeill Hill**	**15.97**	**189**	P	**P**	**18 26 59.5**	**-1.9**
TUVZ	**Tukino**	**15.98**	**192**	P	**P**	**18 27 00.1**	**-1.5**
FWVZ	**Far West T-bar**	**15.98**	**193**	P	**P**	**18 27 01.3**	**-0.6**
KWHZ	**Kaweka Forest**	**15.99**	**190**	P	**P**	**18 27 00.4**	**-1.4**
VRZ	**Vera Road**	**16.04**	**195**	P	**P**	**18 27 03.8**	**+1.7**
PKVZ	**Pokaka**	**16.06**	**193**	P	**P**	**18 27 01.2**	**-1.2**
MOVZ	**Moawhango**	**16.09**	**192**	P	**P**	**18 27 02.4**	**-0.3**
BHHZ	**Black Hill Sta**	**16.11**	**191**	P	**P**	**18 27 00.7**	**-2.2**
KRHZ	**Kereru**	**16.21**	**190**	P	**P**	**18 27 02.5**	**-1.3**
KAHZ	**Kahuranaki**	**16.29**	**189**	P	**P**	**18 27 02.5**	**-2.0**
LREZ	**Lake Rotokare**	**16.44**	**196**	P	**P**	**18 27 06.0**	**+0.1**
PXZ	**Pawanui**	**16.52**	**189**	P	**P**	**18 27 05.4**	**-1.3**
BFZ	**Birch Farm**	**17.25**	**190**	*e*P	**P**	**18 27 11.7**	**-1.7**
	59nm,1.1s						
BFZ				*e*S	**S**	**18 30 05.8**	**+0.1**
SNZO	**South Karori**	**18.14**	**193**	*e*P	**P**	**18 27 20.1**	**-1.3**
	61nm,1.3s						
RAR	**Rarotonga**	**18.82**	**86**	*e*P	**P**	**18 27 27.7**	**-0.3**
RAR				pmax	pmax		
	comp=Z,194nm,1.7s						
RAR	**Rarotonga**	**18.82**	**86**	*e*P	**P**	**18 27 27.7**	**-0.3**
	comp=Z,194nm,1.7s						
THZ	**Tophouse**	**18.99**	**197**	*e*P	**P**	**18 27 29.4**	**+0.1**
	comp=Z,68nm,1.4s						
KHZ	**Kahutara**	**19.45**	**195**	*e*P	**P**	**18 27 32.1**	**-1.3**
	comp=Z,132nm,1.8s						
LTZ	**Lake Taylor**	**20.11**	**197**	*e*P	**P**	**18 27 38.3**	**-1.2**
	comp=Z,42nm,0.6s						
OXZ	**Oxford**	**20.68**	**197**	*e*P	**P**	**18 27 44.8**	**+0.2**
	comp=Z,59nm,0.6s						
MQZ	**McQueen's Vall**	**20.88**	**195**	*e*P	**P**	**18 27 45.7**	**-0.7**
	comp=Z,178nm,2.0s						
RPZ	**Rata Peaks**	**21.31**	**198**	P	**P**	**18 27 51.3**	**+1.0**
	comp=Z,20nm,0.5s,baz=17,slow=0.4,SNR=21						
RPZ	**Rata Peaks**	**21.31**	**198**	*e*P	**P**	**18 27 50.5**	**+0.2**
	comp=Z,64nm,1.4s						
FOZ	**Fox Glacier**	**21.52**	**201**	*e*P	**P**	**18 27 50.8**	**-1.3**
	comp=Z,181nm,1.8s						
LBZ	**Lake Benmore**	**22.17**	**199**	*e*P	**P**	**18 27 56.0**	**-2.1**
	comp=Z,72nm,1.7s						
KNTN	**Kanton**	**22.26**	**22**	*e*P	**P**	**18 27 58.5**	**-0.7**
	comp=Z,96nm,0.9s						
ODZ	**Otahua Downs**	**22.64**	**197**	*e*P	**P**	**18 28 02.1**	**-0.2**
	comp=Z,72nm,1.6s						
WKZ	**Wanaka**	**22.93**	**200**	*e*P	**P**	**18 28 04.0**	**-0.9**
	comp=Z,128nm,1.8s						
MLZ	**Mavora Lakes**	**23.70**	**201**	*e*P	**P**	**18 28 11.7**	**-0.1**
	comp=Z,146nm,2.0s						
HNR	**Honiara**	**23.87**	**303**	P	**P**	**18 28 12.2**	**-1.3**
	comp=Z,135nm,0.7s,baz=175,slow=3.4,SNR=8.4						
HNR	**Honiara**	**23.87**	**303**	*e*P	**P**	**18 28 12.0**	**-1.5**
DCZ	**Deep Cove**	**24.12**	**203**	*e*P	**P**	**18 28 14.7**	**-0.7**
	comp=Z,89nm,1.7s						
ARMA	**Armidale**	**26.14**	**249**	P	**P**	**18 28 35.6**	**+2.0**
	baz=26,SNR=8.9						
ARMA	**Armidale**	**26.14**	**249**	*e*P	**P**	**18 28 34.6**	**+1.0**
	comp=Z,26nm,0.8s						
EIDS	**Eidsvold**	**26.38**	**260**	P	**P**	**18 28 36.5**	**+0.8**
	baz=26,SNR=30						
EIDS	**Eidsvold**	**26.38**	**260**	*e*P	**P**	**18 28 36.4**	**+0.8**
	comp=Z,55nm,1.0s						
MGCD	**Mangrove Creek**	**27.08**	**243**	P	**P**	**18 28 43.8**	**+2.1**
	baz=27,SNR=9.9						
RMQ	**Roma**	**28.44**	**258**	P	**P**	**18 28 55.7**	**+2.0**
	baz=28,SNR=24						
CNB	**Canberra Magne**	**28.99**	**239**	P	**P**	**18 29 00.3**	**+1.8**
	baz=29,SNR=8.7						
PAE	**Paea**	**29.01**	**84**	*e*P	**P**	**18 28 59.4**	**+0.7**
	comp=Z,52nm,1.6s						
PPT2	**Papeete2**	**29.03**	**84**	*e*P	**P**	**18 29 00.0**	**+1.0**
	comp=Z,113nm,1.2s						
PPT	**Papeete**	**29.04**	**84**	P	**P**	**18 28 59.5**	**+0.4**
	comp=Z,64nm,0.8s,baz=66,slow=15,SNR=4.3						
PPT	**Papeete**	**29.04**	**84**	*e*P	**P**	**18 28 59.2**	**+0.2**
PPT	**Papeete**	**29.04**	**84**	*e*P	**P**	**18 28 59.2**	**+0.2**
PPTF	**Pamatai, Papee**	**29.04**	**84**	*e*P	**P**	**18 28 57.3**	**-1.8**
	comp=Z,117nm,1.0s						
TIAR	**Tiarei**	**29.25**	**84**	*e*P	**P**	**18 29 02.0**	**+1.1**
	comp=Z,43nm,1.0s						
TVO	**Taravao**	**29.27**	**84**	*e*P	**P**	**18 29 01.8**	**+0.7**
	comp=Z,26nm,0.8s						
CAN	**Canberra**	**29.28**	**240**	*e*P	**P**	**18 29 01.4**	**+0.4**
CAN				pmax	pmax		
	comp=Z,39nm,1.0s						
CAN	**Canberra**	**29.28**	**240**	*e*P	**P**	**18 29 01.4**	**+0.4**
	comp=Z,39nm,1.0s						
YNG	**Young**	**29.52**	**242**	P	**P**	**18 29 04.7**	**+1.7**
	baz=30,SNR=6.4						
MILA	**Mila**	**29.65**	**236**	P	**P**	**18 29 05.7**	**+1.5**
	baz=30,SNR=7.5						
CMSA	**Cobar Meteorol**	**31.33**	**248**	P	**P**	**18 29 19.1**	**+0.5**
	baz=31,SNR=39						
PMOR	**Pomariorio Ree**	**31.40**	**80**	*e*P	**P**	**18 29 20.1**	**+0.8**
	comp=Z,110nm,1.1s						
CTA	**Charters Tower**	**31.51**	**270**	P	**P**	**18 29 21.1**	**+0.8**
	comp=Z,67nm,0.4s,baz=96,slow=11,SNR=249						
CTA				ScP	**ScP**	**18 34 50.9**	**+2.0**
	comp=Z,7.9nm,0.9s,baz=96,slow=5.7,SNR=4.7						
CTAO	**Charters Tower**	**31.51**	**270**	*e*P	**P**	**18 29 20.9**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,166nm,1.0s						
CTAO	**Charters Tower**	**31.51**	**270**	*e*P	**P**	**18 29 20.9**	**+0.6**
	comp=Z,166nm,1.0s						
VAH	**Vaihoa**	**31.56**	**81**	*e*P	**P**	**18 29 21.2**	**+0.5**
	comp=Z,118nm,1.2s						
QLP	**Quilpie**	**32.48**	**257**	P	**P**	**18 29 29.2**	**+0.7**
	baz=33,SNR=16						
TOO	**Toolangi**	**32.60**	**237**	P	**P**	**18 29 30.4**	**+1.1**
	baz=33,SNR=19						
RABL	**Rabaul**	**33.15**	**301**	*e*P	**P**	**18 29 33.6**	**-0.7**
	comp=Z,28nm,0.6s						
XMAS	**Kiritimati**	**33.67**	**44**	*e*P	**P**	**18 29 39.4**	**+0.8**
	comp=Z,77nm,0.8s						
MTSU	**Mount Surprise**	**33.77**	**273**	P	**P**	**18 29 40.3**	**+0.9**
	baz=34,SNR=30						
PMG	**Port Moresby**	**34.46**	**289**	P	**P**	**18 29 45.9**	**+0.6**
	comp=Z,161nm,0.9s,baz=112,slow=4.8,SNR=48						
PMG				ScP	**ScP**	**18 35 00.6**	**+1.3**
	comp=Z,8.0nm,0.8s,baz=218,slow=6.1,SNR=3.8						
PMG	**Port Moresby**	**34.46**	**289**	*d* P	**P**	**18 29 45.7**	**+0.5**
PMG				pmax	pmax		
	comp=Z,854nm,1.0s						
PMG	**Port Moresby**	**34.46**	**289**	*e*P	**P**	**18 29 45.2**	**0.0**
	comp=Z,175nm,0.9s						
PMG				*e*ScP	**ScP**	**18 35 00.7**	**+1.3**
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**18 29 49.2**	**+1.0**
	comp=Z,13nm,0.6s,baz=91,slow=10,SNR=41						
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**18 29 49.0**	**+0.7**
	baz=35,SNR=40						
STKA	**Stephens Creek**	**34.84**	**248**	*e*P	**P**	**18 29 48.4**	**+0.2**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**34.84**	**248**	*e*P	**P**	**18 29 48.4**	**+0.2**
	comp=Z,5.8nm,0.9s						
ARPS	**Mount Arapiles**	**35.26**	**239**	P	**P**	**18 29 52.6**	**+0.9**
	baz=35,SNR=9.3						
COEN	**Coen**	**36.12**	**279**	P	**P**	**18 30 00.0**	**+1.0**
	baz=36,SNR=11						
COEN	**Coen**	**36.12**	**279**	*e*P	**P**	**18 29 59.6**	**+0.6**
	comp=Z,54nm,1.0s						
PATS	**Pohnpei**	**37.02**	**322**	*e*P	**P**	**18 30 07.2**	**+0.8**
	comp=Z,445nm,1.7s						
HTT	**Hallett**	**37.20**	**245**	P	**P**	**18 30 07.7**	**0.0**
	baz=37,SNR=23						
QIS	**Mount Isa**	**37.51**	**267**	P	**P**	**18 30 10.5**	**+0.1**
	baz=38,SNR=8.6						
MANU	**Manus Island**	**38.25**	**299**	*e*P	**P**	**18 30 16.4**	**-0.1**
	comp=Z,37nm,0.9s						
BBOO	**Buckleboo**	**39.56**	**247**	P	**P**	**18 30 26.5**	**-0.5**
	baz=40,SNR=37						
BBOO	**Buckleboo**	**39.56**	**247**	*e*P	**P**	**18 30 26.4**	**-0.5**
	comp=Z,37nm,0.8s						
TAOE	**Nuku Hiva Isla**	**40.80**	**76**	*e*P	**P**	**18 30 37.3**	**+0.2**
	comp=Z,150nm,0.8s						
AS01	**Alice Springs**	**42.07**	**260**	*e*P	**P**	**18 30 46.8**	**-0.2**
AS01				*e*pP	**pP**	**18 32 24.0**	**+0.6**
AS31	**Alice Springs**	**42.11**	**260**	*e*P	**P**	**18 30 47.2**	**-0.2**
	comp=Z,22nm,1.0s						
AS31				*e*pP	**pP**	**18 32 23.9**	**+0.2**
AS31				*e*ScP	**ScP**	**18 35 31.2**	**+2.5**
AS31				*e*S	**S**	**18 36 22.7**	**-5.5**
ASAR	**Alice Springs**	**42.11**	**260**	P	**P**	**18 30 47.8**	**+0.4**
	comp=Z,80nm,0.9s,baz=97,slow=7.5,SNR=319						
ASAR				pP	**pP**	**18 32 23.9**	**+0.1**
	comp=Z,8.2nm,0.9s,baz=92,slow=8.9,SNR=4.6						
ASAR				ScP	**ScP**	**18 35 30.9**	**+2.2**
	comp=Z,18nm,0.9s,baz=108,slow=4.0,SNR=31						
ASAR				S	**S**	**18 36 26.4**	**-1.8**
	comp=Z,2.3nm,1.0s,baz=93,slow=15,SNR=4.1						
ASAR				SS	**ScS**	**18 39 50.0**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=93,slow=6.7,SNR=7.3						
WRAB	**Tennant Creek**	**42.45**	**266**	*d* P	**P**	**18 30 49.5**	**-0.5**
WRAB				*i* *PP	**pP**	**18 32 26.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,82nm,0.8s						
WR1	**Warramunga Arr**	**42.46**	**266**	*e*P	**P**	**18 30 49.1**	**-1.0**
	comp=Z,116nm,0.9s						
WR1				*e*ScP	**ScP**	**18 35 31.8**	**+1.6**
WR1				*e*S	**S**	**18 36 29.7**	**-3.6**
WRA	**Warramunga Arr**	**42.46**	**266**	P	**P**	**18 30 49.1**	**-1.0**
	comp=Z,65nm,0.8s,baz=91,slow=8.5,SNR=384						
WRA				ScP	**ScP**	**18 35 31.8**	**+1.6**
	comp=Z,12nm,0.9s

comp=Z,97nm,1.1s
JOW Kunigami 70.88 312 eP P 18 34 05.2 +0.2
comp=Z,24nm,0.9s
LEM Lembang 71.21 271 P P 18 34 07.8 +0.3
comp=Z,59nm,0.8s,baz=30,slow=3.9,SNR=9.8
MJAR Matsushiro Arr 71.74 326 P P 18 34 09.0 -0.9
comp=Z,7.4nm,0.9s,baz=168,slow=5.9,SNR=18
MJAR Matsushiro Arr 71.74 326 P P 18 34 09.0 -0.9
MAJO Matsushiro 71.74 326 *c iP* **P 18 34 10.4 +0.5**
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 71.74 326 eP P 18 34 10.1 +0.2
comp=Z,14nm,0.9s
MAT Matsushiro 71.74 326 P P 18 34 09.1 -0.8
MJB9 Matsu-Tunnel 71.75 326 eP P 18 34 10.1 +0.2
comp=Z,14nm,0.9s
KSM Kuching 72.11 280 eP P 18 34 12.0 -0.5
comp=Z,55nm,1.0s
JNU Nakatsue 73.39 319 P P 18 34 19.4 0.0
comp=Z,18nm,1.1s,baz=71,slow=5.1,SNR=5.4
JNU Nakatsue 73.39 319 eP P 18 34 18.9 -0.6
comp=Z,22nm,1.1s
TWG Pinlang 73.62 305 eP P 18 34 20.1 -0.8
comp=Z,316nm,1.6s
ERM Erimo 73.73 332 eP P 18 34 21.3 +0.1
ERM pmax pmax
comp=Z,243nm,1.9s
ERM Erimo 73.73 332 eP P 18 34 21.2 +0.1
comp=Z,243nm,1.9s
YULB Yu-li 73.78 305 eP P 18 34 21.6 -0.3
comp=Z,61nm,1.5s
NACB Ninganchiao 74.01 306 eP P 18 34 22.6 -0.5
comp=Z,107nm,1.3s
TPUB Ta-pu 74.23 305 eP P 18 34 24.0 -0.4
comp=Z,121nm,1.7s
SSLB Suanglung 74.26 305 eP P 18 34 23.7 -0.9
comp=Z,36nm,1.0s
TATO Taipei 74.55 307 eP P 18 34 26.3 +0.1
comp=Z,144nm,1.1s
ASAJ Asahikawa 75.69 333 P P 18 34 34.2 +2.1
comp=Z,8.8nm,0.8s,baz=219,slow=7.9,SNR=16
ASAJ Asahikawa 75.69 333 eP P 18 34 34.3 +2.2
comp=Z,11nm,0.9s
ASAJ *epP* **pP 18 36 25.1 -0.8**
TJN Taejon 77.72 319 *ceP* **P 18 34 45.5 +2.1**
YSS Yuzh-Sakhalins 77.96 335 *‖eP* **P 18 34 45.8 +1.4**
YSS *e* 18 36 40.1
YSS pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 77.96 335 eP P 18 34 45.8 +1.4
comp=Z,24nm,1.0s
YSS *epP* **pP 18 36 39.6 +0.6**
MAW Mawson 77.97 200 eP P 18 34 45.2 +1.0
MAW pmax pmax
comp=Z,8.0nm,1.2s
MAW Mawson 77.97 200 eP P 18 34 45.2 +1.0
comp=Z,7.7nm,1.2s
UNV Unalaska Valle 78.08 8 eP P 18 34 45.5 +0.7
comp=Z,574nm,2.0s
MYKOM Kota Tinggi 78.09 277 eP P 18 34 46.6 +0.7
comp=Z,41nm,1.3s
KSRS Korea Array 78.11 320 P P 18 34 47.0 +1.5
comp=Z,4.5nm,0.8s,baz=135,slow=5.7,SNR=17
KS15 Wonju Array Si 78.12 320 eP P 18 34 46.8 +1.3
KSAR Wonju Array Be 78.12 320 P P 18 34 47.0 +1.5
KSAR Wonju Array Be 78.12 320 P P 18 34 47.0 +1.5
KS01 Wonju Array Si 78.14 320 eP P 18 34 46.8 +1.2
PEA0B Petropavlovsk- 78.90 346 eP P 18 34 49.9 +0.6
comp=Z,44nm,1.3s
PETK Petropavlovsk- 78.90 346 P P 18 34 49.2 -0.1
comp=Z,9.6nm,0.9s,baz=88,slow=8.3,SNR=8.6
PETK Petropavlovsk- 78.90 346 eP P 18 34 49.0 -0.3
PETK Petropavlovsk- 78.90 346 eP P 18 34 49.0 -0.3
PEA1 Petropavlovsk- 78.90 346 eP P 18 34 49.2 -0.1
COCO West Island 79.06 261 eP P 18 34 50.2 -0.8
COCO pmax pmax
comp=Z,937nm,1.9s
COCO West Island 79.06 261 eP P 18 34 50.2 -0.8
comp=Z,937nm,1.9s
PMSA Palmer Station 79.09 157 eP P 18 34 50.3 0.0
comp=Z,36nm,1.0s
NJ2 Nanjing 80.55 311 eP P 18 35 00.0 +1.6
NJ2 pmax pmax
comp=Z,17nm,0.8s
USRK Ussuriysk Ar. 80.60 327 P P 18 34 59.4 +1.0
comp=Z,7.9nm,0.8s,baz=102,slow=2.7,SNR=12
SCZ2 Santa Cruz Isl 81.09 47 P P 18 35 02.8 +1.6
baz=234
TYV Tymovskoe 81.22 337 eP P 18 35 02.9 +1.5
TYV *eS* **S 18 44 22.1 -5.0**
TYV pmax pmax
comp=Z,12nm,1.2s
TYV pmax pmax
comp=Z,200nm,5.9s
TYV smax smax
comp=E,400nm,6.9s
SCI2 San Clemente I 81.24 48 P P 18 35 03.5 +1.5
baz=234
SBC Santa Barbara 81.31 47 P P 18 35 03.8 +1.5
baz=234
PKM Mcpherson Peak 81.50 46 P P 18 35 05.2 +1.6
baz=233
CIS Catalina Islan 81.57 48 P P 18 35 05.0 +1.3
baz=234
SAO San Andreas Ge 81.58 44 eP P 18 35 05.0 +1.3
SAO pmax pmax
comp=Z,25nm,0.9s
SAO San Andreas Ge 81.58 44 eP P 18 35 05.0 +1.3
comp=Z,25nm,0.9s
SMMC Simmler 81.64 46 P P 18 35 05.6 +1.6
baz=233
PMPB Monarch Peak 81.65 45 eP P 18 35 05.8 +1.7
comp=Z,53nm,1.1s
PAGB Antelope Grade 81.72 45 eP P 18 35 06.2 +1.7
comp=Z,16nm,1.0s
IPM Ipoh 81.77 279 eP P 18 35 05.1 -0.1
comp=Z,14nm,0.8s
RDG13 Poverty Ridge 81.80 43 eP P 18 35 06.6 +1.7
comp=Z,40nm,0.8s
FMP Fort Macarthur 81.83 48 P P 18 35 06.4 +1.4
baz=234
OSI Osito Audit: C 82.07 47 eP P 18 35 07.1 +0.8
comp=Z,48nm,1.2s
MDJ Mudanjiang 82.11 326 P P 18 35 06.0 -0.2
MDJ pmax pmax
comp=Z,17nm,0.9s
MDJ pmax pmax
comp=Z,170nm,4.1s
MDJ Mudanjiang 82.11 326 eP P 18 35 06.7 +0.5
comp=Z,13nm,0.9s
PASC Pasadena Art C 82.17 48 eP P 18 35 06.8 +0.1
comp=Z,19nm,0.8s
109C Camp Elliot, M 82.18 49 P P 18 35 07.9 +1.1
baz=235
CPE Camp Elliot 82.18 49 eP P 18 35 07.7 +0.9
comp=Z,24nm,1.0s
MWC Mount Wilson 82.29 48 eP P 18 35 08.0 +0.4
MWC pmax pmax
comp=Z,28nm,1.1s
MWC Mount Wilson 82.29 48 eP P 18 35 08.0 +0.4
comp=Z,28nm,1.1s
ARVC Arvin 82.30 46 P P 18 35 08.6 +1.2
baz=234
KMRM Mail Ridge 82.35 40 eP P 18 35 09.3 +1.7
comp=Z,118nm,1.3s
BAR Barrett 82.36 49 eP P 18 35 08.5 +0.7
comp=Z,61nm,1.9s
KULM Kulim 82.45 279 eP P 18 35 08.3 -0.3
comp=Z,33nm,1.2s
MURC Murrieta 82.52 48 P P 18 35 09.9 +1.3
baz=235,SNR=5.4
VES Vestal, Richgr 82.55 46 P P 18 35 09.7 +1.1
baz=234
BFSC Mount Baldy Ra 82.57 48 P P 18 35 10.1 +1.2
baz=235,SNR=6.8
MONP2 Monument Peak 82.65 49 P P 18 35 11.1 +1.6
baz=236,SNR=27
SLBS Sierra La Lagu 82.66 60 eP P 18 35 11.1 +1.5
comp=Z,36nm,0.8s
SRIG Santa Rosalia 82.71 56 eP P 18 35 10.8 +1.2
EDW2 Edwards Air Fo 82.71 47 P P 18 35 10.8 +1.3
baz=234,SNR=15
IKP In-Ko-Pah, Jac 82.74 50 P P 18 35 11.5 +1.7
baz=236,SNR=15
KHMM Horse Mountain 82.76 39 eP P 18 35 12.1 +2.3
comp=Z,221nm,1.9s
ISA Isabella, Lake 82.84 46 P P 18 35 11.6 +1.4
baz=234,SNR=27
ISA Isabella, Lake 82.84 46 eP P 18 35 11.3 +1.1
ISA pmax pmax
comp=Z,38nm,0.9s
ISA Isabella, Lake 82.84 46 eP P 18 35 11.3 +1.1
comp=Z,38nm,0.9s
WHN Wuhan 82.90 308 P P 18 35 11.9 +1.4
PSI Prapat 82.99 276 P P 18 35 10.6 -1.0
comp=Z,6.4nm,0.6s,baz=196,slow=10,SNR=7.4
PSI Prapat 82.99 276 eP P 18 35 10.3 -1.2
PSI pmax pmax
comp=Z,15nm,1.0s
PSI Prapat 82.99 276 eP P 18 35 10.3 -1.2
comp=Z,15nm,1.0s
CMB Columbia Colle 83.02 43 eP P 18 35 11.8 +0.8
CMB pmax pmax
comp=Z,33nm,0.9s
CMB Columbia Colle 83.02 43 eP P 18 35 11.8 +0.8
comp=Z,33nm,0.9s
PFO Pinyon Flats O 83.03 49 P P 18 35 12.4 +1.2
baz=236,SNR=6.2
PFO Pinyon Flats O 83.03 49 eP P 18 35 12.2 +0.9
PFO pmax pmax
comp=Z,29nm,1.4s
PFO Pinyon Flats O 83.03 49 eP P 18 35 12.2 +0.9
comp=Z,29nm,1.4s
XPFO Piæon Flat 83.03 49 eP P 18 35 12.3 +1.1
comp=Z,31nm,1.4s
SWSC Sam W. Stewart 83.12 50 P P 18 35 13.0 +1.5
baz=236,SNR=11
AFDM Forest Hills D 83.21 42 eP P 18 35 12.7 +0.8
comp=Z,34nm,1.0s
SYO Syowa Base 83.23 193 *‖eP* **P 18 35 08.6 -2.9**
SYO Syowa Base 83.23 193 *‖ePcP* **PcP 18 35 15.0 +0.4**
ORV Oroville 83.26 42 eP P 18 35 12.9 +0.8
ORV pmax pmax
comp=Z,27nm,0.9s
ORV Oroville 83.26 42 eP P 18 35 12.9 +0.8
comp=Z,27nm,0.9s
WDC Whiskeytown Da 83.27 40 eP P 18 35 13.5 +1.4
WDC pmax pmax
comp=Z,43nm,1.1s
WDC Whiskeytown Da 83.27 40 eP P 18 35 13.5 +1.4
comp=Z,43nm,1.1s
N02D Trinity Center 83.42 40 P P 18 35 14.7 +1.8
baz=231
O03D Paynes Creek 83.53 41 P P 18 35 14.7 +1.2
baz=232,SNR=8.6
CWC Cottonwood Cre 83.56 46 P P 18 35 15.0 +1.1
baz=234
RCWM Renegade Canyo 83.56 46 eP P 18 35 14.1 +0.3
BELC Belle Mtn. Jos 83.57 49 P P 18 35 15.4 +1.5
baz=236,SNR=25
M02C Callahan 83.60 39 P P 18 35 15.9 +2.0
baz=231,SNR=5.8
MDPB Devils Postpil 83.61 44 eP P 18 35 14.9 +0.7
comp=Z,88nm,1.2s
GSI Gunungsitoli 83.62 274 eP P 18 35 14.7 +0.2
comp=Z,16nm,0.9s
MPMC Manual Prospec 83.72 46 P P 18 35 15.9 +1.1
baz=235,SNR=19
CN2 Changchun 83.74 324 eP P 18 35 15.5 +1.1
CN2 pmax pmax
comp=Z,10.0nm,1.2s
GSC Goldstone, Bar 83.75 47 P P 18 35 15.9 +1.2
baz=235,SNR=14
GSC Goldstone, Bar 83.75 47 eP P 18 35 15.7 +1.0
GSC pmax pmax
comp=Z,28nm,0.9s
GSC Goldstone, Bar 83.75 47 eP P 18 35 15.7 +1.0
comp=Z,28nm,0.9s
BC3 Big Chuckawall 83.75 49 P P 18 35 16.4 +1.6
baz=236,SNR=13
DAC Darwin (Calif) 83.78 46 eP P 18 35 16.0 +1.0
DAC pmax pmax
comp=Z,10.0nm,1.0s
DAC Darwin (Calif) 83.78 46 eP P 18 35 16.0 +1.0
comp=Z,9.5nm,1.0s
NKL Nikolayevsk 83.80 337 eP P 18 35 14.8 +0.4
NKL pmax pmax
comp=Z,22nm,1.0s
HEC Hector,Ludlow 83.80 48 P P 18 35 16.4 +1.4
baz=236,SNR=14
TIN Tinemaha, Big 83.81 45 P P 18 35 16.4 +1.3
baz=234
TIN Tinemaha, Big 83.81 45 eP P 18 35 17.4 +2.3
TIN Tinemaha, Big 83.81 45 eP P 18 35 17.4 +2.3
GLA Glamis 83.86 50 P P 18 35 17.3 +2.0
baz=237,SNR=20
GLA Glamis 83.86 50 eP P 18 35 17.1 +1.8
GLA pmax pmax
comp=Z,50nm,0.9s
GLA Glamis 83.86 50 eP P 18 35 17.1 +1.8
comp=Z,50nm,0.9s
YBH Yreka Blue Hor 83.89 39 P P 18 35 16.7 +1.4
comp=Z,11nm,0.9s,baz=204,slow=2.4,SNR=13
YBH Yreka Blue Hor 83.89 39 eP P 18 35 16.7 +1.4
YBH pmax pmax
comp=Z,12nm,0.9s
YBH Yreka Blue Hor 83.89 39 eP P 18 35 16.7 +1.4
comp=Z,12nm,0.9s
WAKR Walker 83.90 43 eP P 18 35 17.0 +1.4
comp=Z,45nm,1.1s
BEKR Beckworth 84.14 42 eP P 18 35 16.6 -0.1
comp=Z,43nm,0.5s
GMRC Granite Mounta 84.24 48 P P 18 35 18.6 +1.4
baz=236,SNR=19
IRM Iron Mountain 84.24 49 P P 18 35 19.0 +1.9
baz=236,SNR=34
YERR Yerington 84.31 43 eP P 18 35 17.9 +0.4
comp=Z,41nm,1.1s
HUMO Hull Mountain 84.31 38 eP P 18 35 18.9 +1.6
comp=Z,46nm,1.2s
GRAC Grapevine Rang 84.34 46 P P 18 35 19.1 +1.5
baz=235
KLR Kul'dur 84.36 331 P P 18 35 18.4 +1.1
comp=Z,0.3nm,1.0s,baz=68,slow=2.9,SNR=8.3
KLR Kul'dur 84.36 331 *‖eP* **P 18 35 18.9 +1.6**
TRTT Trang 84.37 281 P P 18 35 18.6 +0.4
comp=Z,10nm,1.2s
FURC Furnace Creek, 84.37 46 P P 18 35 19.6 +1.9
baz=235
TUQ Turquoise Moun 84.42 48 P P 18 35 19.2 +1.1
baz=236
M04C Macdoel 84.43 40 P P 18 35 19.6 +1.6
baz=231
Y12C Blythe 84.45 50 P P 18 35 19.9 +1.7
baz=237,SNR=9.4
Y12C Blythe 84.45 50 eP P 18 35 19.5 +1.3
comp=Z,28nm,0.9s
113A Mohawk Valley, 84.45 51 eP P 18 35 19.5 +1.3
comp=Z,29nm,1.1s
113A *epP* **pP 18 37 18.2 +3.1**
SKNT Sakolnakorn 84.52 291 P P 18 35 19.0 +0.2
comp=Z,25nm,1.0s
RYN Ryan 84.55 44 eP P 18 35 19.5 +0.8
comp=Z,39nm,1.7s
HSIG 84.56 55 eP P 18 35 19.3 +0.5
NV01 Mina Array Sit 84.57 44 eP P 18 35 19.9 +1.0
NVAR Mina Array Bea 84.57 44 P P 18 35 19.9 +1.0
comp=Z,6.7nm,0.7s,baz=219,slow=7.6,SNR=32
PAHR Pah Rah Range 84.65 42 eP P 18 35 19.5 +0.3
comp=Z,12nm,0.8s
NV11 Mina Array Sit 84.67 44 eP P 18 35 20.0 +0.7
214A Organ Pipe Nat 84.70 52 P P 18 35 21.1 +1.7
baz=238
LDFC Landfair 84.78 48 eP P 18 35 21.5 +1.6
comp=Z,96nm,1.0s
SNAA Sanae 84.88 179 P P 18 35 19.4 -0.4
SNAA Sanae 84.88 179 P P 18 35 18.9 -0.8
comp=Z,4.7nm,0.6s,baz=297,slow=14,SNR=20
SNAA Sanae 84.88 179 eP P 18 35 19.9 +0.2
SNAA pmax pmax
comp=Z,40nm,1.7s
SNAA Sanae 84.88 179 eP P 18 35 19.9 +0.2
comp=Z,40nm,1.7s
NEE2 Needles Airpor 84.94 49 P P 18 35 21.9 +1.4
baz=237
PDMCI Parker Dam,Lak 85.02 49 P P 18 35 22.6 +1.7
baz=237,SNR=14
VNA3 Neumayer Olymp 85.09 177 P P 18 35 20.0 -0.7
J04D Umpqua Nationa 85.19 38 P P 18 35 23.4 +1.7
baz=231
MOD Modoc Plateau 85.41 40 eP P 18 35 24.1 +1.3
comp=Z,39nm,1.3s
VNA2 Neumayer--Watz 85.51 178 P P 18 35 22.7 0.0
baz=183,slow=3.9
SHPR Sheep Range 85.53 47 eP P 18 35 24.4 +0.9
comp=Z,15nm,1.1s
K05A Summer Lake 85.57 39 eP P 18 35 24.9 +1.3
Y14A Wickenburg 85.62 50 eP P 18 35 25.0 +1.1
comp=Z,52nm,0.9s
W13A Hualapai Mount 85.63 49 eP P 18 35 25.4 +1.3
comp=Z,22nm,1.2s
J05D Fort Rock, OR 85.72 39 P P 18 35 25.8 +1.6
baz=232
H04A Detroit Lake 86.05 37 eP P 18 35 26.5 +0.9
PINE Pine Mountain 86.20 38 eP P 18 35 28.1 +1.6
comp=Z,75nm,1.4s
R11A Troy Canyon, C 86.27 45 P P 18 35 27.7 +0.7
baz=236
R11A Troy Canyon, C 86.27 45 eP P 18 35 27.8 +0.8
comp=Z,7.1nm,1.1s
I05D Terrebonne, OR 86.31 38 P P 18 35 28.4 +1.5
baz=232
ENH Enshi 86.35 305 eP P 18 35 28.0 +0.6
comp=Z,28nm,1.0s
ENH *epP* **pP 18 37 26.6 +1.6**
TUC Tucson 86.36 52 P P 18 35 29.6 +2.2
baz=239
TUC Tucson 86.36 52 eP P 18 35 29.0 +1.6
TUC pmax pmax
comp=Z,37nm,0.9s
TUC Tucson 86.36 52 eP P 18 35 29.0 +1.6
comp=Z,37nm,0.9s
MA2 Magadan 86.38 346 P P 18 35 27.2 +0.5
comp=Z,4.7nm,0.8s,baz=141,slow=4.4,SNR=16
MA2 Magadan 86.38 346 *‖eP* **P 18 35 27.0 +0.2**
BMN Battle Mountai 86.41 43 eP P 18 35 28.5 +0.9
BMN pmax pmax
comp=Z,19nm,0.9s
BMN Battle Mountai 86.41 43 eP P 18 35 28.5 +0.9
comp=Z,19nm,0.9s
PHET Kaeng Krachan 86.55 286 P P 18 35 31.1 +2.5
comp=Z,9.9nm,1.0s
GYA Guiyang 86.67 301 eP P 18 35 30.0 +0.9
GYA pP pP 18 37 30.4 +3.5
GYA sP sP 18 38 24.6 +3.2
GYA PP **PP 18 39 05.3 +3.7**
GYA SKS **SKSac 18 45 03.0 -1.8**
GYA pmax pmax
comp=Z,20nm,1.0s
WVOR Wild Horse Val 86.72 41 eP P 18 35 30.1 +1.1
WVOR pmax pmax
comp=Z,36nm,1.2s
WVOR Wild Horse Val 86.72 41 eP P 18 35 30.1 +1.1
comp=Z,36nm,1.2s
SVW2 Sparrevohn 86.76 12 eP P 18 35 29.9 +1.4
comp=Z,48nm,2.0s
LVP Lakeview Peak 86.80 36 eP P 18 35 32.5 +3.2
BJT Baijiatuan 86.89 316 eP P 18 35 30.0 +0.4
BJT pmax pmax
comp=Z,7.0nm,0.7s
BJT Baijiatuan 86.89 316 eP P 18 35 30.0 +0.4
comp=Z,7.4nm,0.7s
X16A Lo Mia Camp, P 86.97 50 eP P 18 35 31.1 +0.7
comp=Z,17nm,0.9s
319A Douglas 86.99 54 eP P 18 35 32.0 +1.5
comp=Z,59nm,1.0s
LCMT Little Creek M 87.09 47 eP P 18 35 32.0 +1.1
comp=Z,16nm,0.9s
I07A Izee 87.20 39 eP P 18 35 32.7 +1.5
comp=Z,19nm,0.9s
G06A Carlson Farm, 87.26 37 eP P 18 35 32.2 +0.8
comp=Z,24nm,0.9s
CCUT Cedar City 87.30 47 eP P 18 35 33.2 +1.2
comp=Z,17nm,1.0s
J08A Circle Bar Ran 87.36 40 eP P 18 35 33.1 +1.1
comp=Z,48nm,1.1s
KNB Kanab 87.38 48 eP P 18 35 33.6 +1.3
KNB pmax pmax
comp=Z,26nm,1.0s
KNB Kanab 87.38 48 eP P 18 35 33.6 +1.3
comp=Z,26nm,1.0s
U15A North Rim 87.43 48 eP P 18 35 33.8 +1.1
comp=Z,37nm,0.9s
SZCU Shurtz Canyon 87.51 47 eP P 18 35 34.5 +1.5
comp=Z,15nm,1.0s
SPU Mount Spurr 87.53 13 eP P 18 35 31.4 -0.8
LON Longmire 87.56 36 eP P 18 35 33.7 +1.0
LON pmax pmax
comp=Z,14nm,0.9s
LON Longmire 87.56 36 eP P 18 35 33.7 +1.0
comp=Z,14nm,0.9s
WUAZ Wupatki 87.59 49 P P 18 35 34.8 +1.5
baz=239
WUAZ Wupatki 87.59 49 eP P 18 35 34.4 +1.1
comp=Z,20nm,1.1s
SRDT SRDT 87.60 287 P P 18 35 35.0 +1.5
comp=Z,20nm,1.2s
HPIG 87.61 59 eP P 18 35 34.7 +1.0
comp=Z,24nm,0.9s
PHIT Phitsanulok 87.68 290 P P 18 35 36.0 +2.1
comp=Z,9.8nm,1.0s
D05A Enumclaw 87.73 35 eP P 18 35 35.2 +1.8
comp=Z,87nm,1.1s
PGC Sidney 87.91 34 eP P 18 35 34.9 +0.8
comp=Z,105nm,1.5s
RC01 Rabbit Creek A 87.95 14 eP P 18 35 34.1 0.0
comp=Z,24nm,1.0s
PKCU Pink Cliffs 87.95 47 eP P 18 35 35.7 +0.6
comp=Z,22nm,0.9s
MOIG Morelia 88.02 68 eP P 18 35 36.7 +1.0
BBB Bella Bella 88.05 29 P P 18 35 35.8 +1.0
comp=Z,22nm,0.9s,baz=131,slow=20,SNR=3.1
BBB Bella Bella 88.05 29 eP P 18 35 35.9 +1.2
comp=Z,223nm,1.9s
F07A Phinny Hill Vi 88.05 37 eP P 18 35 35.9 +0.9
comp=Z,18nm,0.5s
SUA Susitna One 88.06 14 eP P 18 35 34.7 -0.1
comp=Z,18nm,0.8s
X18A Snowflake 88.08 51 eP P 18 35 36.7 +1.1
comp=Z,11nm,0.8s
NANT Nan 88.13 291 P P 18 35 37.8 +1.9
comp=Z,3.8nm,1.1s
ZAIG Zacatecas 88.22 64 eP P 18 35 38.0 +1.4
G08A Pilot Rock 88.23 38 eP P 18 35 37.1 +1.2
A04D Lummi Island 88.33 34 P P 18 35 37.8 +1.7
baz=230
B05A Bryant 88.36 34 P P 18 35 37.5 +1.2
baz=231
MTPU Mount Pierson 88.36 47 eP P 18 35 38.4 +1.3
comp=Z,21nm,0.9s
GLI Glacier Island 88.38 15 eP P 18 35 35.9 -0.2
comp=Z,30nm,0.8s
PLCA Paso Flores 88.39 134 P P 18 35 38.1 +1.1
comp=Z,7.7nm,1.1s,baz=240,slow=3.6,SNR=5.8
PLCA Paso Flores 88.39 134 eP P 18 35 38.2 +1.3
PLCA pmax pmax
comp=Z,20nm,1.4s
PLCA Paso Flores 88.39 134 eP P 18 35 38.2 +1.3
comp=Z,20nm,1.4s
TCRU Three Creeks R 88.48 46 eP P 18 35 38.6 +1.1
comp=Z,16nm,0.4s
LTY Liberty 88.48 36 eP P 18 35 37.9 +0.9
comp=Z,18nm,0.9s
E07A Sunnyside 88.50 37 eP P 18 35 38.5 +1.4
comp=Z,30nm,0.9s
PMR Palmer 88.53 14 eP P 18 35 36.6 -0.2
PMR pmax pmax
comp=Z,11nm,0.9s
PMR Palmer 88.53 14 eP P 18 35 36.6 -0.2
comp=Z,11nm,0.9s
W18A Petrified Fore 88.53 51 P P 18 35 39.1 +1.3
baz=240
W18A Petrified Fore 88.53 51 eP P 18 35 39.0 +1.3
comp=Z,22nm,1.3s
MDW Midway 88.58 37 eP P 18 35 37.5 +0.1
MDW Midway 88.58 37 eP P 18 35 37.5 +0.1
MSU Marysvale 88.61 47 eP P 18 35 38.6 +0.6
MSU Marysvale 88.61 47 eP P 18 35 38.6 +0.6
121A Cookes Peak, D 88.66 54 P P 18 35 40.3 +1.9
baz=241
C06D Leavenworth 88.77 35 P P 18 35 39.5 +1.2
baz=232
B06A Marblemount 88.83 35 eP P 18 35 38.6 +0.1
comp=Z,59nm,1.7s
E08A Dider Farm, El 88.89 37 eP P 18 35 39.5 +0.7
comp=Z,28nm,1.2s
DIV Divide 88.92 16 eP P 18 35 39.4 +0.6
comp=Z,27nm,1.3s
MFID Camas Ranch 88.97 41 eP P 18 35 40.0 +0.6
comp=Z,27nm,0.9s
SEY Seymchan 89.07 348 P P 18 35 39.5 +0.3

comp=Z,1.9nm,0.7s,baz=144,slow=5.4,SNR=9.9
SEY Seymchan 89.07 348⇑ *e*P P 18 35 39.8 +0.6
PAYA Payao 89.08 292 P P 18 35 42.2 +1.8
BMRM Bremner River 89.08 16 *e*P P 18 35 39.7 +0.2
comp=Z,15nm,1.0s
DUG Dugway, Tooele 89.08 45 P P 18 35 41.1 +1.0
baz=238
DUG Dugway, Tooele 89.08 45 *e*P P 18 35 39.6 -0.5
DUG pmax pmax
comp=Z,16nm,1.3s
DUG Dugway, Tooele 89.08 45 *e*P P 18 35 39.6 -0.5
comp=Z,16nm,1.3s
SCM Sheep Creek Mo 89.15 15 *e*P P 18 35 39.9 +0.1
SCM pmax pmax
comp=Z,19nm,1.0s
SCM Sheep Creek Mo 89.15 15 *e*P P 18 35 39.9 +0.1
comp=Z,19nm,1.0s
KMI Kunming 89.20 298 P P 18 35 42.3 +1.2
KMI pmax pmax
comp=Z,12nm,1.0s
EPT El Paso 89.25 55 *e*P P 18 35 41.9 +0.8
comp=Z,36nm,1.0s
D08A Wollman Farm, 89.31 37 *e*P P 18 35 41.6 +0.8
comp=Z,18nm,1.0s
EFI East Falkland 89.37 148 *e*P P 18 35 41.8 +0.7
EFI pmax pmax
comp=Z,182nm,1.8s
EFI East Falkland 89.37 148 *e*P P 18 35 41.8 +0.7
comp=Z,182nm,1.8s
E09A Wood Farm, Sta 89.42 37 *e*P P 18 35 42.1 +0.8
comp=Z,17nm,1.0s
NLU North Lily Min 89.44 45 *e*P P 18 35 42.9 +1.0
comp=Z,11nm,1.0s
CM01 Chiang Mai Arr 89.46 290 *e*P P 18 35 43.8 +1.7
CM01 *e*pP **pP** 18 37 41.5 +0.7
CM31 Chiang Mai Arr 89.49 290 *e*P P 18 35 44.1 +1.8
CM31 *e*pP **pP** 18 37 39.5 -1.4
CM31 *e*PP **PP** 18 39 22.6 -1.2
CM31 *e*PKKPdf **PKKPbc** 18 53 14.3 +0.8
CMAR Chiang Mai Arr 89.49 290 P P 18 35 44.2 +1.9
comp=Z,7.0nm,0.9s,baz=134,slow=3.1,SNR=42
CMAR pP **pP** 18 37 41.2 +0.3
comp=Z,1.0nm,0.9s,baz=141,slow=4.5,SNR=4.9
CMAR PP **PP** 18 39 22.6 -1.2
comp=Z,1.8nm,1.0s,baz=131,slow=5.9,SNR=7.4
CMAR PKKPbc **PKKPbc** 18 53 14.3 +0.8
comp=Z,0.9nm,0.7s,baz=285,slow=4.8,SNR=8.6
Q16A Castle Valley 89.49 47 *e*P P 18 35 43.3 +1.2
comp=Z,20nm,0.9s
CAST Castle Rocks 89.55 12 *e*P P 18 35 39.6 -2.0
comp=Z,11nm,0.9s
F10A Beach Ranch, E 89.62 38 *e*P P 18 35 42.8 +0.4
comp=Z,16nm,0.9s
CHTO Chiang Mai 89.64 291 *e*P P 18 35 44.4 +1.4
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO Chiang Mai 89.64 291 *e*P P 18 35 44.4 +1.4
comp=Z,16nm,1.0s
TMUT Trail Mountain 89.66 46 *e*P P 18 35 44.2 +1.2
comp=Z,45nm,0.8s
MPU Maple Canyon 89.76 46 *e*P P 18 35 44.4 +1.0
comp=Z,19nm,0.9s
B08A Colville Reser 89.87 36 *e*P P 18 35 43.1 -0.3
comp=Z,13nm,1.1s
KTH Kantishna Hill 89.90 13 *e*P P 18 35 42.3 -1.0
comp=Z,7.9nm,1.0s
HLID Hailey 89.91 41 P P 18 35 45.0 +1.2
baz=236
HLID Hailey 89.91 41 *e*P P 18 35 44.6 +0.8
comp=Z,17nm,1.0s
SPUT South Promonto 89.91 44 *e*P P 18 35 45.5 +1.5
comp=Z,34nm,1.1s
TRF Thorofare Moun 89.94 13 *e*P P 18 35 42.8 -0.7
comp=Z,10nm,0.8s
LLLB Lillooet 89.94 33 *e*P P 18 35 43.9 +0.2
comp=Z,17nm,1.1s
HVU Hansel Valley 89.96 44 *e*P P 18 35 44.9 +0.7
HVU pmax pmax
comp=Z,21nm,0.9s
HVU Hansel Valley 89.96 44 *e*P P 18 35 44.9 +0.7
comp=Z,21nm,0.9s
SRU San Rafael Swe 90.02 47 *e*P P 18 35 45.5 +0.9
SRU pmax pmax
comp=Z,38nm,0.9s
SRU San Rafael Swe 90.02 47 *e*P P 18 35 45.5 +0.9
comp=Z,38nm,0.9s
CTU Camp Tracy 90.04 45 *e*P P 18 35 45.1 +0.6
comp=Z,25nm,0.9s
LAZ Ladron 90.04 52 *e*P P 18 35 46.0 +1.2
Y22E IRIS PASSCAL I 90.04 53 P P 18 35 45.7 +1.0
baz=241
MNTX Cornudas Mount 90.06 55 P P 18 35 46.1 +1.4
baz=242
MNTX Cornudas Mount 90.06 55 *e*P P 18 35 45.4 +0.7
comp=Z,15nm,0.9s
MNTX *e*pP **pP** 18 37 45.2 +1.8
P17A Butcher Ranch, 90.06 46 *e*P P 18 35 45.5 +0.8
comp=Z,31nm,1.1s
JLU Jordanelle 90.18 45 *e*P P 18 35 46.3 +1.0
comp=Z,14nm,0.9s
RND Reindeer 90.19 13 *e*P P 18 35 44.3 -0.3
RND pmax pmax
comp=Z,14nm,1.0s
RND Reindeer 90.19 13 *e*P P 18 35 44.3 -0.3
comp=Z,14nm,1.0s
LTX Lajitas 90.28 58 *e*P P 18 35 47.4 +1.5
LTX *e*'PP **pP** 18 37 46.4 +1.8
LTX Lajitas 90.28 58 *e*P P 18 35 47.4 +1.5
LTX *e*pP **pP** 18 37 46.4 +1.8
TX31 Lajitas Ar. Si 90.28 58 *e*P P 18 35 47.1 +1.2
TX31 *e*pP **pP** 18 37 46.9 +2.3
TXAR Lajitas Array 90.28 58 P P 18 35 47.4 +1.5
comp=Z,13nm,0.7s,baz=214,slow=6.5,SNR=118
TXAR pP **pP** 18 37 46.4 +1.8
comp=Z,0.9nm,0.9s,baz=205,slow=5.5,SNR=3.7
BNM Barren Site 90.29 53 *e*P P 18 35 47.0 +1.0
LPM Los Pinos Moun 90.37 52 *e*P P 18 35 47.2 +0.9
MVCO Mesa Verde 90.45 49 P P 18 35 47.3 +0.7
baz=240
TCUT Toone Canyon 90.48 45 *e*P P 18 35 47.8 +1.1
comp=Z,48nm,0.9s
HWUT Hardware Ranch 90.63 44 *e*P P 18 35 47.6 +0.3
comp=Z,12nm,0.8s
PV10 Paradox Valley 90.65 48 *e*P P 18 35 48.4 +0.8
ANMO Albuquerque 90.79 52 P P 18 35 48.9 +0.7
comp=Z,13nm,1.1s,baz=46,slow=6.2,SNR=14
ANMO Albuquerque 90.79 52 P P 18 35 49.3 +1.0
baz=241
ANMO Albuquerque 90.79 52⇑ *e*P P 18 35 48.9 +0.7
ANMO pmax pmax
comp=Z,14nm,1.1s
ANMO Albuquerque 90.79 52 *e*P P 18 35 48.8 +0.5
comp=Z,13nm,1.0s
MENT Mentasta 90.97 16 *e*P P 18 35 48.6 +0.4
comp=Z,5.3nm,0.8s
CD2 Chengdu 90.99 303 *e*P P 18 35 49.6 +0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CCB Clear Creek Bu 91.51 13 *e*P P 18 35 50.0 -0.5
comp=Z,4.7nm,0.9s
AHID Auburn Hatcher 91.53 43 *e*P P 18 35 53.0 +1.5
comp=Z,16nm,0.9s
MDM Murphy Dome 91.69 13 *e*P P 18 35 50.7 -0.7
comp=Z,5.0nm,1.0s
LNIG Linares 91.70 64 *e*P P 18 35 51.9 -0.5
comp=Z,14nm,1.0s
ILAR Eielson Array 91.81 14 P P 18 35 51.6 -0.3
comp=Z,1.1nm,0.8s,baz=226,slow=5.4,SNR=7.7
ILB Eielson Array 91.81 14 *e*P P 18 35 51.2 -0.8
S22A 4UR Ranch, Cre 91.87 49 P P 18 35 54.3 +1.1
baz=241
S22A 4UR Ranch, Cre 91.87 49 *e*P P 18 35 54.1 +0.9
comp=Z,17nm,1.0s
MSO Missoula 91.98 39 P P 18 35 54.4 +1.2
baz=237
REDW Red Top Meadow 92.00 43 *e*P P 18 35 54.3 +0.7
comp=Z,13nm,1.0s
BILL Bilibino 92.02 355 *e*P P 18 35 52.6 -0.2
BILL pmax pmax
comp=Z,2.0nm,1.0s
FXWY Fox Creek 92.03 43 *e*P P 18 35 55.0 +1.2
comp=Z,17nm,1.7s
O20A White River Ci 92.06 47 P P 18 35 54.6 +0.7
baz=240
O20A White River Ci 92.06 47 *e*P P 18 35 54.4 +0.5
comp=Z,13nm,1.0s
MOOW Moose Ponds 92.26 43 *e*P P 18 35 55.4 +0.6
comp=Z,15nm,1.8s
SMCO Snowmass 92.45 48 *e*P P 18 35 56.2 +0.2
comp=Z,7.8nm,0.8s
BW06 Boulder Array 92.51 44 P P 18 35 57.2 +1.2
baz=240
BW06 Boulder Array 92.51 44 *e*P P 18 35 56.2 +0.2
comp=Z,6.8nm,0.8s
PD31 Pinedale Array 92.51 44 *e*P P 18 35 56.2 +0.2
PD31 *e*PP **PP** 18 39 46.0 -1.1
PDAR Pinedale Array 92.51 44 P P 18 35 56.5 +0.5
comp=Z,4.9nm,0.8s,baz=213,slow=3.7,SNR=38
PDAR PP **PP** 18 39 46.0 -1.1
comp=Z,1.2nm,0.9s,baz=225,slow=4.0,SNR=6.3
PDAR Pinedale Array 92.51 44 *e*P P 18 35 55.8 -0.2
PDAR *e*pP **pP** 18 37 56.0 +1.1
PDAR PP **PP** 18 39 46.0 -1.1
SDCO Great Sand Dun 92.79 50 P P 18 35 58.0 +0.6
baz=242
SDCO Great Sand Dun 92.79 50 *e*P P 18 35 57.9 +0.5
comp=Z,7.7nm,0.8s
DAWY Dawson 93.01 17 *e*P P 18 35 57.8 +0.3
comp=Z,5.4nm,0.9s
MSTX Muleshoe 93.05 54 P P 18 35 59.6 +1.1
baz=243
MSTX Muleshoe 93.05 54 *e*P P 18 35 58.8 +0.3
comp=Z,55nm,1.9s
MSTX *e*pP **pP** 18 37 58.8 +1.3
EGAK Eagle 93.14 16 *e*P P 18 35 58.1 +0.1
comp=Z,4.7nm,0.8s
WALA Waterton Lakes 93.21 37 *e*P P 18 35 59.3 +0.4
comp=Z,43nm,1.6s
LZH Lanzhou 93.27 308 *e*P P 18 36 01.3 +1.8
LZH sP sP 18 38 51.3 -1.4
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.5s
T25A Trinidad 93.28 51 P P 18 36 00.2 +0.5
baz=243
T25A Trinidad 93.28 51 *e*P P 18 35 59.8 +0.1
comp=Z,6.0nm,0.8s
Q24A Divide 93.60 49 P P 18 36 01.9 +0.7
baz=242
Q24A Divide 93.60 49 *e*P P 18 36 01.8 +0.6
comp=Z,10nm,0.8s
ISCO Idaho Springs 93.67 48 P P 18 36 02.1 +0.6
baz=242
JCT Junction City 93.80 58 P P 18 36 02.2 +0.3
baz=245
JCT Junction City 93.80 58 *e*P P 18 36 01.9 0.0
JCT pmax pmax
comp=Z,8.0nm,0.8s
JCT Junction City 93.80 58 *e*P P 18 36 01.9 0.0
comp=Z,7.7nm,0.8s
RLMT Red Lodge 93.87 42 P P 18 36 02.9 +0.8
baz=240
RLMT Red Lodge 93.87 42 *e*P P 18 36 02.2 0.0
comp=Z,33nm,1.2s
N23A Red Feather La 93.96 47 P P 18 36 03.6 +0.9
baz=242
ABTX Abilene, Hawle 94.83 57 P P 18 36 07.2 +0.6
baz=245
ULN Ulaanbaatar 96.59 320*c e*P P 18 36 13.7 -0.6
ULN pmax pmax
comp=Z,10.0nm,3.6s
RSSD Black Hills 96.69 45 P P 18 36 15.7 +0.8
baz=244
RSSD Black Hills 96.69 45 *e*P P 18 36 14.6 -0.3
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 96.69 45 *e*P P 18 36 14.6 -0.3
comp=Z,4.1nm,0.8s
SONA0 Songino Array 96.97 319 *e*P P 18 36 16.7 +0.8
SONA0 *e*PP **PP** 18 40 16.9 -4.0
SONA0 *e*PKKPbc **PKKPbc** 18 52 54.8 -0.7
SONA1 Songino Array 96.97 319 *e*P P 18 36 16.0 +0.1
SONM Songino Array 96.97 319 P P 18 36 16.7 +0.8
comp=Z,0.6nm,0.9s,baz=130,slow=3.7,SNR=4.9
SONM PP **PP** 18 40 16.9 -4.0
comp=Z,1.0nm,1.0s,baz=143,slow=8.7,SNR=5.2
SONM PKKPbc **PKKPbc** 18 52 54.8 -0.7
comp=Z,0.6nm,0.6s,baz=218,slow=1.7,SNR=5.0
INK Inuvik 97.81 16 P Pdif 18 36 18.9 -0.1
comp=Z,0.7nm,0.8s,baz=234,slow=9.0,SNR=4.4
INK Inuvik 97.81 16 *e*P Pdif 18 36 18.9 -0.1
INK pmax pmax
comp=Z,14nm,1.8s
INK Inuvik 97.81 16 *e*Pdif Pdif 18 36 18.9 -0.1
comp=Z,14nm,1.8s
YKA Yellowknife Ar 100.15 25 P **Pdif** 18 36 29.9 +0.4
comp=Z,0.2nm,0.8s,baz=240,slow=4.1,SNR=4.4
YKA PP **PP** 18 40 41.9 -2.4
comp=Z,0.8nm,0.9s,baz=239,slow=7.2,SNR=7.7
YKB5 Yellowknife Ar 100.15 25 *e*Pdif **Pdif** 18 36 29.9 +0.4
YKB5 *e*PP **PP** 18 40 41.9 -2.4
RES Resolute Bay 111.35 17 PKiKP **PKiKP** 18 41 13.1 -0.9
comp=Z,0.8nm,0.7s,baz=261,slow=5.6,SNR=3.9
ZALV Zalesovo Beam 111.81 321 PKiKP **PKiKP** 18 41 14.5 -0.8
comp=Z,0.8nm,0.6s,baz=52,slow=1.3,SNR=4.0
ZALV SKP 18 44 00.4
comp=Z,0.3nm,0.3s,baz=355,slow=3.3,SNR=4.4
ZAA1 Zalesovo Array 111.81 321 *e*PKiKP **PKiKP** 18 41 14.5 -0.8
ZAA1 *e*SKPdf **SKiKP** 18 44 00.4 +0.6
MK32 Makanchi Array 112.04 313 *e*PKiKP **PKiKP** 18 41 15.2 -0.9
MK32 *e*SKPdf **SKPdf** 18 44 00.0 -0.5
MK32 *e*PKKPbc **PKKPbc** 18 52 09.3 -0.9
MK32 *e*PKKPab **PKKPab** 18 52 20.1 +1.1
MKAR Makanchi Array 112.04 313 PKiKP **PKiKP** 18 41 15.2 -0.9
comp=Z,1.0nm,0.7s,baz=117,slow=9.3,SNR=12
MKAR SKP 18 44 00.0
comp=Z,1.0nm,0.8s,baz=57,slow=4.5,SNR=5.6
MKAR PKKPbc **PKKPbc** 18 52 09.3 -0.9
comp=Z,0.8nm,0.8s,baz=290,slow=3.4,SNR=7.3
MKAR PKKPab **PKKPab** 18 52 20.1 +1.1
comp=Z,1.2nm,0.7s,baz=277,slow=3.9,SNR=10
KURK Kurchatov 115.07 317 *i*PKIKP **PKPdf** 18 41 21.3 -0.4
KURK pmax pmax
comp=Z,13nm,2.5s
KURK Kurchatov 115.07 317 *e*SKPdf **SKPdf** 18 44 05.8 -0.3
KURBB Kurchatov Arra 115.12 316 PKP **PKPdf** 18 41 20.9 -0.9
comp=Z,1.5nm,0.6s,baz=96,slow=1.9,SNR=18
KURBB SKP 18 44 05.8
comp=Z,1.3nm,0.9s,baz=99,slow=1.8,SNR=7.1
KSH Kashi 115.18 304 *e*PKP **PKPdf** 18 41 22.8 +0.3
AAK Ala-Archa 116.80 307 *i*PKIKP **PKPdf** 18 41 27.6 +2.0
KKAR Karatay Array 119.76 307 *e*PKIKP **PKPdf** 18 41 30.4 -0.6
KKAR Karatay Array 119.76 307 *e*PKPdf **PKPdf** 18 41 30.4 -0.6
BVAR Borovoye Array 120.30 319 PKP **PKPdf** 18 41 31.2 -0.6
comp=Z,1.6nm,0.4s,baz=107,slow=1.5,SNR=17
BRVK Borovoye 120.37 319 *i*PKIKP **PKPdf** 18 41 32.1 +0.2
BRVK pmax pmax
comp=Z,17nm,2.5s
BOSA Boshof 122.61 206 PKP **PKPdf** 18 41 37.6 +0.4
comp=Z,3.3nm,0.8s,baz=30,slow=1.7,SNR=5.5
SPITS Spitsbergen Ar 124.91 356 PKP **PKPdf** 18 41 39.6 -0.4
comp=Z,4.3nm,0.7s,baz=238,slow=8.3,SNR=6.3
ARU Arti 126.73 324 PKP **PKPdf** 18 41 44.3 +0.3
comp=Z,3.3nm,0.5s,baz=96,slow=1.7,SNR=7.7
ARU Arti 126.73 324 *i*PKIKP **PKPdf** 18 41 44.2 +0.3
ARU 18 43 47.7
ARU 18 48 04.7
MATP Matopo 128.12 215 PKP **PKPdf** 18 41 47.5 -0.5
comp=Z,2.7nm,0.7s,baz=98,slow=15,SNR=9.4
AKTO Aktyubinsk 128.17 316 PKP **PKPdf** 18 41 47.4 +0.5
comp=Z,2.5nm,0.7s,baz=77,slow=4.9,SNR=7.0
GEYT Alibeck 128.89 300 SKPbc SKPbc 18 44 20.2
comp=Z,6.1nm,0.9s,baz=225,slow=1.3,SNR=16
ARA0 ARCESS Array S 131.68 348 *e*PKPdf **PKPdf** 18 41 52.7 -0.4
ARA0 *e*SKPbc **SKPbc** 18 44 28.4 0.0
ARCES ARCESS Array B 131.68 348 PKP **PKPdf** 18 41 52.7 -0.3
comp=Z,4.2nm,0.7s,baz=17,slow=1.2,SNR=9.6
ARCES SKP 18 44 28.4
comp=Z,7.9nm,0.9s,baz=28,slow=5.5,SNR=7.6
FIA0 FINESS Array S 138.25 342 *e*PKHKP PKPpre 18 41 57.8
FIA0 *e* 18 42 05.7
FIA0 FINESS Array S 138.25 342 *e*PKPpre PKPpre 18 41 57.8
FIA0 *e*PKPdf **PKPdf** 18 42 05.7 +0.3
FIA0 *e*SKPbc **SKPbc** 18 44 49.2 0.0
FINES FINESS Array B 138.25 342 PKhKP PKPpre 18 41 57.8
comp=Z,5.9nm,1.1s,baz=134,slow=5.5,SNR=3.9
FINES PKP **PKPdf** 18 42 05.7 +0.3
comp=Z,1.3nm,0.6s,baz=44,slow=1.4,SNR=6.5
FINES SKP 18 44 49.2
comp=Z,8.3nm,0.9s,baz=49,slow=3.2,SNR=11
FINES FINESS Array B 138.25 342*c i*PKIKP PKPdf 18 42 13.3 +7.9
FINES pmax pmax
comp=Z,1.0nm,0.8s
NB2 NORSAR Subarra1 141.87 351 PKP PKPpre 18 42 08.1
comp=Z,1.0nm,0.7s,baz=16,slow=3.2
NB200 NORSAR Array S 141.87 351 *e*PKPpre PKPpre 18 42 08.2
NB200 *e*SKPbc **SKPbc** 18 44 58.6 -0.1
NOA NORSAR Array B 141.87 351 PKhKP PKPpre 18 42 08.2
comp=Z,2.6nm,0.8s,baz=16,slow=4.6,SNR=7.5
NOA SKPbc **SKPbc** 18 44 58.6 -0.1
comp=Z,2.4nm,0.9s,baz=15,slow=4.2,SNR=4.5
HFS Hagfors 142.34 349 PKhKP PKPpre 18 42 08.9
comp=Z,5.8nm,0.6s,baz=48,slow=2.1,SNR=25
ANN Anapa 143.04 314 *i*PKIKP PKPab 18 42 12.3 +0.2
ANN pmax pmax
comp=Z,37nm,1.5s
AKASG Malin Array Be 144.81 327 PKP **PKPdf** 18 42 16.7 -0.7
comp=Z,2.1nm,0.5s,baz=42,slow=4.1,SNR=22
AKASG pPKP **pPKPdf** 18 44 23.7 -0.5
comp=Z,1.2nm,0.6s,baz=42,slow=4.3,SNR=3.8
AKASG SKPbc **SKPbc** 18 45 06.1 +0.2
comp=Z,10nm,0.9s,baz=46,slow=2.7,SNR=19
AKBB Malin Array Si 144.81 327 *e*PKIKP **PKPdf** 18 42 16.9 -0.5
AKBB *e* 18 44 23.7
AKBB Malin Array Si 144.81 327 *e*PKPdf **PKPdf** 18 42 16.9 -0.5
AKBB *ep*PKPdf **pPKPdf** 18 44 23.7 -0.5
AKBB *e*SKPbc **SKiKP** 18 45 06.6 +0.1
KIEV Kiev 144.82 327⇑ *e*PKIKP **PKPdf** 18 42 17.2 -0.2
KIEV Kiev 144.82 327 *e*PKPdf **PKPdf** 18 42 16.7 -0.7
AK11 Malin Array Si 144.85 327 *e*PKPdf **PKPdf** 18 42 17.1 -0.4
SIM Simferopol' 145.13 316 *e*PKP2 **PKPab** 18 42 21.5 +1.4
SIM pmax pmax
comp=Z,13nm,1.0s
ASF Jabal al Asfar 146.49 293 PKPbc **PKPbc** 18 42 22.9 -0.6
comp=Z,3.3nm,0.8s,baz=198,slow=2.8,SNR=3.8
ASF pPKPbc pPKPab 18 44 26.6 -1.1
comp=Z,5.2nm,1.0s,baz=330,slow=2.8,SNR=3.7
BR101 Keskin Array S 147.48 307 *e*PKPbc **PKPbc** 18 42 25.4 -0.5
BR101 *ep*PKPdf **pPKPdf** 18 44 28.6 -0.7
BR131 Keskin Array S 147.48 307 *e*PKPbc **PKPbc** 18 42 25.3 -0.7
BRTR Keskin Array B 147.48 307 PKPbc **PKPbc** 18 42 25.4 -0.5
comp=Z,1.3nm,0.7s,baz=144,slow=5.7,SNR=10
BRTR pPKPbc **pPKPdf** 18 44 28.6 -0.7
comp=Z,1.1nm,0.8s,baz=114,slow=2.8,SNR=3.8
MMAI Mount Meron Ar 147.65 295 PKPbc **PKPbc** 18 42 27.6 +1.1
comp=Z,5.7nm,0.4s,baz=73,slow=5.6,SNR=19
MMAI pPKPbc **pPKPdf** 18 44 29.2 -0.5
comp=Z,8.4nm,0.9s,baz=67,slow=2.8,SNR=6.3
BR231 Keskin MP Arra 148.06 308 *e*PKPdf **PKPdf** 18 42 21.2 -2.2
BR231 *e*PKPbc **PKPbc** 18 42 25.8 -1.6
BR231 *e*PKPab **PKPab** 18 42 31.3 -0.9
TLCR 148.29 320⇑ *i*P **PKPbc** 18 42 27.6 0.0
TLCR 148.29 320⇑ PKP2 **PKPbc** 18 42 27.6 0.0
EKA Eskdalemuir Ar 148.30 3 PKPbc **PKPbc** 18 42 26.7 -0.6
comp=Z,2.8nm,0.5s,baz=337,slow=2.7,SNR=19
EKA pPKPbc **pPKPbc** 18 44 33.0 +0.5
comp=Z,2.0nm,0.8s,baz=26,slow=3.4,SNR=5.2
KWP Kalwaria Pacla 148.60 331 *e*PKP **PKPbc** 18 42 28.9 +0.6
KWP Kalwaria Pacla 148.60 331 *e*PKP2 **PKPbc** 18 42 28.6 +0.3
KWP Kalwaria Pacla 148.60 331 *e*PKPbc **PKPbc** 18 42 28.6 +0.3
CFR Carcaliu 148.69 320⇓ *i*P **PKPbc** 18 42 28.9 +0.3
CFR Carcaliu 148.69 320⇓ PKP2 **PKPbc** 18 42 28.9 +0.3
TESR Tescani 148.76 323 *i*P **PKPbc** 18 42 28.5 -0.2
BUR08 Bucovina Ar. S 148.80 326 *e*PKPbc **PKPbc** 18 42 29.9 +1.0
BUR04 Bucovina Ar. S 148.81 326 *e*PKPbc **PKPbc** 18 42 29.6 +0.6
BURAR Bucovina Array 148.81 326⇓ *i*P **PKPbc** 18 42 30.0 +1.0
BURAR Bucovina Array 148.81 326⇓ PKP2 **PKPbc** 18 42 30.0 +1.0
TLB Topalu 149.07 319⇓ *i*P **PKPbc** 18 42 29.5 0.0
VRI Vrancioaia 149.10 322⇑ *i*P **PKPbc** 18 42 30.1 +0.5
PLOR Plostina 149.16 322⇑ *i*P **PKPbc** 18 42 29.4 -0.4
OJC Ojcow 149.36 335 *e*PKP **PKPbc** 18 42 30.6 +0.5
OJC Ojcow 149.36 335 *e*PKPbc **PKPbc** 18 42 30.3 +0.3
CRVS Cervenica-Dubn 149.69 331 *e*PKP **PKPbc** 18 42 31.6 +0.7
DOPR Dopca 149.78 324⇓ *i*P **PKPbc** 18 42 32.2 +1.0
NIE Niedzica 149.79 333 *e*PKP **PKPbc** 18 42 32.3 +1.1
KSP Ksiaz 150.10 339 *e*PKP **PKPbc** 18 42 32.3 +0.5
KSP Ksiaz 150.10 339 *e*PKIKP **PKPbc** 18 42 32.3 +0.5
CJR Cluj-Napoca 150.24 326⇓ *i*P **PKPbc** 18 42 33.2 +0.9
CJR Cluj-Napoca 150.24 326⇓ PKIKP **PKPbc** 18 42 33.2 +0.9
OKC Ostrava-Krasne 150.30 336⇑ *e*PKP **PKPbc** 18 42 32.9 +0.6
OKC Ostrava-Krasne 150.30 336 *e*PKIKP **PKPbc** 18 42 32.9 +0.6
VOIR 150.30 323⇓ *i*P **PKPbc** 18 42 33.0 +0.5
VOIR 150.30 323⇓ PKIKP **PKPbc** 18 42 33.0 +0.5
LANS Liptovska Anna 150.34 334 *e*PKIKP **PKPbc** 18 42 33.7 +1.3
LANS Liptovska Anna 150.34 334 *e*PKP **PKPbc** 18 42 33.7 +1.3
UPC Upice 150.48 339⇑ *e*PKP **PKPbc** 18 42 33.3 +0.6
UPC *e*PKPAB **PKPab** 18 42 39.1 -2.6
UPC *ep*PKP **pPKPab** 18 44 45.0 +2.4
UPC Upice 150.48 339 *e*PKIKP **PKPbc** 18 42 33.3 +0.6
UPC *e* 18 42 39.1
DPC Dobruska-Polom 150.51 339⇑ *e*PKP **PKPbc** 18 42 33.6 +0.8
DPC *ep*PKP **pPKPab** 18 44 44.1 +1.4
DPC Dobruska-Polom 150.51 339 *e*PKIKP **PKPbc** 18 42 33.6 +0.8
MORC Moravsky Berou 150.57 337⇓ *i*P **PKPbc** 18 42 33.8 +0.8
MORC Moravsky Berou 150.57 337⇑ PKIKP **PKPbc** 18 42 33.8 +0.8
MORC Moravsky Berou 150.57 337 *e*PKPbc **PKPbc** 18 42 33.1 +0.2
ARR Arges 150.57 323⇑ *i*P **PKPdf** 18 42 28.3 +1.2
CLL Collm 150.66 343⇑ *i*PKIKP **PKPbc** 18 42 33.3 +0.3
CLL *e* 18 42 43.0
CLL pmax pmax
comp=Z,22nm,0.9s
CLL Collm 150.66 343⇑ *i*PKPbc **PKPbc** 18 42 33.3 +0.3
comp=Z,22nm,0.9s
CLL *e*PKPab **PKPab** 18 42 43.0 +0.6
CLL *ep*PKPab **pPKPab** 18 44 44.0 +0.8
CLL *e* 18 44 50.0
CLL Collm 150.66 343 *e*PKPdf **PKPdf** 18 42 27.2 +0.3
CLL *e*PKPbc **PKPbc** 18 42 32.9 -0.2
BRG Berggiesshubel 150.79 342 *e*PKP **PKPbc** 18 42 33.8 +0.4
comp=Z,11nm,0.7s
BRG *e* 18 42 55.1
comp=Z,9.1nm,1.2s
BRG *ep*PKP **pPKPab** 18 44 45.5 +1.7
comp=Z,14nm,1.3s
BRG Berggiesshubel 150.79 342 *e*PKIKP **PKPbc** 18 42 33.8 +0.4
BRG pmax pmax
comp=Z,11nm,0.7s
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG pmax pmax
comp=Z,14nm,1.3s
HUMR Humele 150.90 322⇑ *i*P **PKPbc** 18 42 33.1 -0.7
PVCC Panska Ves 150.91 341⇑ *e*PKP **PKPbc** 18 42 34.5 +0.8
PVCC Panska Ves 150.91 341 *e*PKIKP **PKPbc** 18 42 34.5 +0.8
VYHS Vyhne 151.11 334 *e*PKIKP **PKPbc** 18 42 34.8 +0.6
VYHS Vyhne 151.11 334 *e*PKP **PKPbc** 18 42 34.8 +0.6
GOPC GO Pecny, Ondr 151.39 340⇑ *e*PKP **PKPbc** 18 42 35.4 +0.6
GOPC *ep*PKP **pPKPab** 18 44 46.4 +0.1
GOPC GO Pecny, Ondr 151.39 340 *e*PKIKP **PKPbc** 18 42 35.4 +0.6
PRU Pruhonice 151.40 340⇑ *e*PKP **PKPbc** 18 42 35.4 +0.6
PRU Pruhonice 151.40 340 *e*PKIKP **PKPbc** 18 42 35.4 +0.6
MODS Modra-Piesok 151.82 335 *e*PKIKP **PKPbc** 18 42 36.4 +0.6
MODS Modra-Piesok 151.82 335 *e*PKP **PKPbc** 18 42 36.4 +0.6
BZS Buzias 151.99 327⇓ *i*P **PKPbc** 18 42 36.5 +0.3
BZS Buzias 151.99 327⇓ PKIKP **PKPbc** 18 42 36.5 +0.3
KHC Kasperske Hory 152.45 341⇑ *e*PKP **PKPbc** 18 42 37.5 +0.3
KHC *ep*PKP **pPKPab** 18 44 49.3 -1.4
KHC Kasperske Hory 152.45 341 *e*PKIKP **PKPbc** 18 42 37.5 +0.3
MDVR Moldovita 152.52 325⇑ *i*P **PKPbc** 18 42 37.4 -0.1
GERES GERESS Array B 152.67 340 PKPbc **PKPbc** 18 42 37.8 0.0
comp=Z,1.8nm,0.8s,baz=38,slow=2.4,SNR=12
GERES PKPab **PKPab** 18 42 48.9 -2.2
comp=Z,0.3nm,0.3s,baz=42,slow=3.1,SNR=3.6
GERES PKPbc **pPKPbc** 18 44 44.7 +1.0
comp=Z,1.2nm,0.7s,baz=20,slow=4.3,SNR=2.5
GEA0 GERESS Array S 152.67 340 *e*PKPdf **PKPdf** 18 42 29.7 -0.5
GEA0 *e*PKPbc **PKPbc** 18 42 37.2 -0.6
VTS Vitosha 153.09 320⇑ *i*P **PKPab** 18 42 55.1 +1.9
VTS Vitosha 153.09 320 *e*PKP2 **PKPab** 18 42 54.6 +1.4
VTS Vitosha 153.09 320 *e*PKPab **PKPab** 18 42 54.6 +1.4
PCAB Cabril 160.80 19 *e*PKPab **PKPab** 18 43 27.6 +1.2
PBRG Braganca 161.06 16 *e*PKPab **PKPab** 18 43 28.4 +0.8
MVO Moncorvo 161.59 17 *e*PKPdf **PKPdf** 18 42 42.1 +0.7
MVO Moncorvo 161.59 17 *e*PKPab **PKPab** 18 43 31.0 +1.1
LIC Lamto 161.97 164 *e*PKIKP **PKPdf** 18 42 41.7 -0.8
comp=Z,33nm,1.4s
MTE Manteigas 162.15 19 *e*PKPdf **PKPdf** 18 42 42.0 0.0
KIC Kosan Boka 162.17 164 *e*PKIKP **PKPdf** 18 42 42.1 -0.7
comp=Z,18nm,1.1s
KIC Kosan Boka 162.17 164 *e*P **PKPab** 18 43 33.4 +0.4
comp=Z,22nm,0.9s
TIC Toumodi 162.37 163 *e*PKIKP **PKPdf** 18 42 42.5 -0.5
DBIC Dimbokro 162.44 164 PKP **PKPdf** 18 42 42.8 -0.2

comp=Z,3.6nm,0.7s,baz=28,slow=0.1,SNR=6.2
DBIC PKPab **PKPab** **18 43 34.0 -0.1**
comp=Z,4.9nm,0.9s,baz=200,slow=6.1,SNR=4.2
DBIC **Dimbokro** **162.44 164** *e*PKIKP **PKPdf** **18 42 40.2 -2.8**
DBIC *e* 18 43 34.8
DBIC **Dimbokro** **162.44 164** *e*PKPdf **PKPdf** **18 42 40.2 -2.8**
DBIC *e*PKPab **PKPab** **18 43 34.8 +0.7**
PCBR **Castelo Branco** **162.68 20** *e*PKPdf **PKPdf** **18 42 43.4 +0.9**
ES19 **SONSECA Array** **163.69 11** *e*PKPab **PKPab** **18 43 38.5 -0.6**
ESDC **Sonseca Array** **163.70 11** PKPab **PKPab** **18 43 38.5 -0.7**
comp=Z,2.6nm,0.9s,baz=346,slow=3.7,SNR=12
PNCL **Nicolau / Gran** **163.86 25** *e*PKPdf **PKPdf** **18 42 44.8 +1.2**
PNCL **Nicolau / Gran** **163.86 25** *e*PKPab **PKPab** **18 43 40.1 +0.2**
PBAR **Barrancos** **164.34 21** *e*PKPdf **PKPdf** **18 42 44.7 +0.7**
PBAR **Barrancos** **164.34 21** *e*PKPab **PKPab** **18 43 42.5 +0.5**
TOA0 **Torodi Ar. Sit** **169.40 189** *e*PKPdf **PKPdf** **18 42 47.3 -1.1**
TOA0 *e*PKPdf **PKPdf** **18 42 47.5 -0.9**
TOA0 *e*PKPab **PKPab** **18 44 03.7 -1.1**
TOA0 *e*PKPab **PKPab** **18 44 04.3 -0.5**
TORD **Torodi Ar. Bea** **169.40 189** PKP **PKPdf** **18 42 47.6 -0.8**
comp=Z,4.1nm,1.1s,baz=330,slow=0.5,SNR=14
TORD PKPab **PKPab** **18 44 03.8 -1.0**
comp=Z,3.9nm,0.9s,baz=180,slow=4.0,SNR=14
TOA1 **Torodi Ar. Sit** **169.41 189** *e*PKPdf **PKPdf** **18 42 47.6 -0.8**
TOA1 *e*PKPab **PKPab** **18 44 03.8 -1.0**
KOWA **Kowa** **170.09 157** PKP **PKPdf** **18 42 47.5 -1.3**
comp=Z,2.5nm,0.9s,baz=300,slow=1.8,SNR=5.9
KOWA PKPab **PKPab** **18 44 07.9 0.0**
comp=Z,2.0nm,0.6s,baz=265,slow=12,SNR=4.8

IDC ***13*** *18:24:11.1±2.0, 1°.23S×133°.21E, h0km, mb3.2/3, mb1 3.7/5, mb1mx3.3/61, mbtmp3.5/5, ML3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/20, Error ellipse: s-maj=91.2km s-min=21.8km az=80.0*
DJA ***13*** *18:24:12.3±1.6, 1°.S±6°×13°.3E±°, h14km±16km, M4.2/5, MLv4.2/5*
ISCJB ***13*** *18:24:14.6±0.8, 1°.11S±0°.07×132°.92E±0°.05, h33km, mb3.2/3, MS3.1/1, Error ellipse: s-maj=10.3km s-min=6.8km az=16.5*
ISC 13 18:24:15.8±1.1,**1°.11S**±0°.08×**132°.92E**±0°.06,**h35**km,**n10, σ1§77/12, mb3.3/3, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**1.31**	**108**	P	**Pn**	**18 24 36.2**	**-1.5**
RKPI				S	**Sn**	**18 24 53.9**	**-0.1**
SWI	**Sorong**	**1.68**	**278**	P	**Pn**	**18 24 40.9**	**-1.8**
SWI				S	**Sn**	**18 25 02.7**	**-0.4**
FAKI	**Fak Fak**	**1.92**	**201**	P	**Pn**	**18 24 45.0**	**-1.1**
FAKI				S	**Sn**	**18 25 10.3**	**+1.3**
KMPI	**Kaimana, Papua**	**2.65**	**163**	P	**Pn**	**18 24 56.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.34**	**203**	P	**Pn**	**18 28 28.0**	**+0.5**
	0.1nm,0.3s,baz=14,slow=8.3,SNR=2.2						
WRA	**Warramunga Arr**	**18.77**	**176**	P	**P**	**18 28 29.7**	**-2.4**
	0.2nm,0.3s,baz=355,slow=12,SNR=16						
ASAR	**Alice Springs**	**22.44**	**178**	P	**P**	**18 29 10.5**	**-1.4**
	0.9nm,0.8s,baz=4.3,slow=10,SNR=7.8						
JHJ	**Hachijo jima 2**	**34.66**	**10**	LR	LR	18 42 35.7	
	comp=Z,36nm,19.3s,baz=99,slow=32						
MKAR	**Makanchi Array**	**65.06**	**324**	P	**P**	**18 34 55.1**	**+2.3**
	0.2nm,0.7s,baz=116,slow=6.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**69.15**	**326**	P	**P**	**18 35 21.0**	**+2.4**
	0.2nm,0.7s,baz=124,slow=5.7,SNR=3.4						

GUC 13 18:31:55.4±0.4,**20°.90S×68°.80W, h127**km±2km,**ML3.8, 4C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.66**	**257**	⇑*e*P	Pn	18 32 15.6	+0.4
PB01				*e*S	Sn	18 32 31.0	+0.8
PB01				IAML		18 32 32.6	
	comp=N,3μm,0.2s						
PB08	**IPOC Station P**	**0.82**	**336**	*e*P	Pn	18 32 17.8	+0.9
PB08				*e*S	Sn	18 32 34.3	+1.1
PB08				IAML		18 32 35.4	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	**0.98**	**205**	⇑*e*P	Pn	18 32 18.4	+0.4
PB09				*e*S	Sn	18 32 36.0	+0.8
PB09				IAML		18 32 38.7	
	comp=E,4μm,0.4s						
PB07	**IPOC Station P**	**1.30**	**231**	⇑*e*P	Pn	18 32 21.8	+0.5
PB07				*e*S	Sn	18 32 42.1	+1.2
PB07				IAML		18 32 44.6	
	comp=N,843nm,0.3s						
PB11	**IPOC Station P**	**1.39**	**325**	⇓*e*P	Pn	18 32 23.2	+1.0
PB11				*e*S	Sn	18 32 44.0	+1.4
PSGC	**Pisagua**	**1.79**	**316**	⇓*e*P	Pn	18 32 27.5	+0.7
PSGC				*e*S	Sn	18 32 51.9	+1.1
MNMC	**Minye Minye**	**1.91**	**337**	*e*P	Pn	18 32 30.0	+1.5
MNMC				*e*S	Sn	18 32 56.4	+2.7
MNMC				IAML		18 32 57.9	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**1.93**	**202**	⇑*e*P	Pn	18 32 28.6	+0.1
PB06				*e*S	Sn	18 32 53.8	-0.1
PB06				IAML		18 32 54.2	
	comp=E,846nm,0.5s						

ISCJB ***13*** *18:34:55.3±0.5, 37°.34N±0°.04×71°.96E±0°.06, h130km, mb3.0/2, Error ellipse: s-maj=6.7km s-min=4.7km az=154.4*
IDC ***13*** *18:34:58.2±5.4, 37°.60N×71°.79E, h117km±36km, mb3.0/2, mb1 3.2/7, mb1mx2.9/73, mbtmp3.6/7, Error ellipse: s-maj=69.0km s-min=17.4km az=147.0*
NNC ***13*** *18:35:00.9±1.6, 37°.97N×71°.66E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=14.8km s-min=8.4km az=153.0*
KNET ***13*** *18:35:30.9±2.1, 40°.11N×73°.24E, h0km±9km, ml2.4, Error ellipse: s-maj=21.7km s-min=13.9km az=81.0*
ISC 13 18:34:57.2±1.0,**37°.45N**±0°.08×**71°.91E**±0°.07,**h130**km,**n27, σ1§67/28, 8C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.84**	**26**	⇑P	**Pn**	**18 35 43.6**	**+1.6**
	17nm,0.3s						
SFK				⇓S	**Sn**	**18 36 15.7**	**-0.8**
	43nm,0.3s						
AML	**Almayashu**	**4.87**	**16**	P	**Pn**	**18 36 09.8**	**+0.9**
	SNR=53						
MNAS	**Manas**	**5.05**	**5**	⇓P	**Pn**	**18 36 12.2**	**+1.1**
	5.0nm,0.3s						
MNAS				⇓S	**Sn**	**18 37 06.2**	**-2.3**
	16nm,0.4s						
UCH	**Uchtor**	**5.17**	**22**	P	**Pn**	**18 36 13.9**	**+0.9**
	SNR=24						
EKS2	**Erkin-Say**	**5.40**	**15**	P	**Pn**	**18 36 17.2**	**+1.5**
	SNR=15						
AAK	**Ala-Archa**	**5.55**	**20**	P	**Pn**	**18 36 19.0**	**+1.4**
	6.7nm,0.3s,baz=180,slow=7.2,SNR=101						
AAK				S	**Sn**	**18 37 18.7**	**-1.7**
	1.3nm,0.3s,baz=297,slow=21,SNR=14						
AAK	**Ala-Archa**	**5.55**	**20**	⇑P	**Pn**	**18 36 18.8**	**+1.1**
	7.4nm,0.3s						
AAK				⇓S	**Sn**	**18 37 19.3**	**-1.1**
	16nm,0.8s						
AAK	**Ala-Archa**	**5.55**	**20**	P	**Pn**	**18 36 19.1**	**+1.4**
	SNR=26						
KK31	**Karatay Array**	**5.75**	**350**	⇑P	**Pn**	**18 36 21.6**	**+1.4**
	2.8nm,0.4s,baz=209,slow=7.3,SNR=27						
KK31				⇑S	**Sn**	**18 37 22.4**	**-2.6**
	2.2nm,0.3s,baz=51,slow=61,SNR=4.4						
TKM2	**Tokmak 2**	**6.15**	**26**	⇑P	**Pn**	**18 36 26.4**	**+0.6**
	4.3nm,0.8s						
TKM2				⇑S	**Sn**	**18 37 36.8**	**+1.8**
	2.7nm,0.7s						
GEYT	**Alibeck**	**10.94**	**277**	P	**Pn**	**18 37 29.7**	**-0.4**
	1.3nm,0.3s,baz=98,slow=10,SNR=13						
GEYT				S	**Sn**	**18 39 29.1**	**-1.6**
	0.7nm,0.3s,baz=45,slow=28,SNR=5.4						
MKAR	**Makanchi Array**	**12.09**	**36**	P	**Pn**	**18 37 44.6**	**-0.6**
	0.1nm,0.3s,baz=222,slow=15,SNR=7.4						
PYUN	**Piuthan**	**13.18**	**132**	*e*P	Pn	18 37 56.5	-3.1
KOLN	**Koldanda**	**13.78**	**131**	*e*P	Pn	18 38 05.3	-2.1
KURBB	**Kurchatov Arra**	**13.99**	**18**	P	**Pn**	**18 38 06.8**	**-2.8**
	0.0nm,0.3s,baz=204,slow=12,SNR=3.2						
GKN	**Gorkha**	**14.25**	**128**	*e*P	Pn	18 38 11.4	-1.9
AB31	**Akbulak array**	**14.64**	**327**	⇑P	**Pn**	**18 38 18.7**	**+0.9**
	0.3nm,0.5s,baz=146,slow=11,SNR=8.8						
AB31				⇑S	**Sn**	**18 40 58.4**	**-1.2**
	0.8nm,0.5s,baz=146,slow=24,SNR=5.4						
KKN	**Kakani**	**14.81**	**127**	*e*P	Pn	18 38 17.3	-3.1
DMN	**Daman**	**14.83**	**128**	*e*P	Pn	18 38 18.3	-2.3
PKIN	**Phulchoki**	**15.03**	**127**	*e*P	Pn	18 38 20.2	-3.0
PKI	**Pulchoki**	**15.04**	**127**	*e*P	Pn	18 38 19.8	-3.6
GUN	**Gumba**	**15.11**	**125**	*e*P	**Pn**	**18 38 21.6**	**-2.7**
	6.0nm,0.4s						
JIRN	**Jiri**	**15.49**	**125**	*e*P	**Pn**	**18 38 26.5**	**-2.4**
	16nm,0.4s						
BVAR	**Borovoye Array**	**15.61**	**357**	P	**Pn**	**18 38 29.6**	**-0.3**
	0.1nm,0.3s,baz=173,slow=13,SNR=2.9						
ZALV	**Zalesovo Beam**	**18.75**	**24**	P	**P**	**18 39 06.2**	**+0.4**
	0.3nm,0.3s,baz=216,slow=11,SNR=7.9						
TORD	**Torodi Ar. Bea**	**66.47**	**269**	P	**P**	**18 45 34.8**	**+1.9**
	0.2nm,0.4s,baz=51,slow=6.7,SNR=3.8						
YKA	**Yellowknife Ar**	**80.26**	**3**	P	**P**	**18 46 55.0**	**+2.0**
	0.1nm,0.5s,baz=348,slow=5.5,SNR=2.8						

NIED ***13*** *18:39:00, 39°.40N×143°.90E, h11km, Mw3.8 Best double couple: M0 6.65000×10^14 NP1:ϕs181.00000°, δ37.00000°, λ74.00000°. NP2:ϕs21.00000°, δ54.00000°, λ102.00000°.*
ISCJB ***13*** *18:39:22.7±0.4, 39°.49N±0°.03×143°.76E±0°.04, h11km, mb3.8/16, Error ellipse: s-maj=5.1km s-min=3.5km az=36.9*
JMA ***13*** *18:39:22.3±0.1, 39°.43N×143°.91E, h31km, M4.0*
IDC ***13*** *18:39:22.3±0.8, 39°.36N×143°.67E, h0km, mb3.7/14, mb1 3.8/16, mb1mx3.7/70, mbtmp3.7/16, ML3.4/2, MS2.5/1, Ms1 2.5/1, ms1mx2.0/67, Error ellipse: s-maj=20.9km s-min=16.4km az=121.0*
NEIC ***13*** *18:39:24.4±4.1, 39°.48N×143°.63E, h7km±27km, mb4.4/4, Error ellipse: s-maj=12.5km s-min=9.1km az=120.0*
ISC 13 18:39:24.3±0.6,**39°.47N**±0°.05×**143°.76E**±0°.06,**h11**km,**n72, σ1§34/75, mb3.8/16, 1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.50**	**275**	P	**Pn**	**18 39 49.7**	**-1.5**
MIYJ				*e*S	**Sn**	**18 40 10.2**	**-0.5**
JTH	**Tanohata**	**1.53**	**288**	P	**Pn**	**18 39 50.1**	**-1.5**
JTH				*e*S	**Sn**	**18 40 10.8**	**-0.7**
OFUJ	**Ofunato**	**1.67**	**257**	P	**Pn**	**18 39 52.0**	**-1.4**
JOM	**Ohasama**	**1.91**	**271**	P	**Pn**	**18 39 55.8**	**-0.9**
JOM				*e*S	**Sn**	**18 40 20.2**	**-0.6**
JANG	**Nango**	**1.94**	**298**	P	**Pn**	**18 39 56.2**	**-1.0**
JMK	**Ichinoseki**	**2.04**	**256**	P	**Pn**	**18 39 57.4**	**-1.1**
JMK				*e*S	**Sn**	**18 40 22.3**	**-1.7**
ERM	**Erimo**	**2.58**	**350**	*e*Pn	**Pn**	**18 40 06.1**	**+0.1**
JYK	**Kaneyama**	**2.70**	**259**	P	**Pn**	**18 40 07.0**	**-0.6**
JOT	**Ohata**	**2.81**	**314**	P	**Pn**	**18 40 08.6**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.91**	**345**	*e*S	**Sn**	**18 40 44.9**	**-0.4**
JCH	**Churui**	**3.15**	**355**	*e*S	**Sn**	**18 40 49.1**	**-2.3**
JFT	**Otama**	**3.32**	**235**	P	**Pn**	**18 40 15.3**	**-0.9**
JAK	**Akkeshi**	**3.59**	**11**	P	**Pn**	**18 40 18.5**	**-1.3**
JAK				*e*S	**Sn**	**18 40 59.4**	**-2.8**
JEW	**Eniwo**	**3.79**	**333**	*e*S	**Sn**	**18 41 04.8**	**-2.3**
JFR	**Furan**	**3.79**	**347**	*e*S	**Sn**	**18 41 05.9**	**-1.3**
JAR	**Ashorobuto**	**3.82**	**0**	P	**Pn**	**18 40 21.4**	**-1.6**
JAR				*e*S	**Sn**	**18 41 03.9**	**-4.0**
ASAJ	**Asahikawa**	**4.72**	**350**	Pn	**Pn**	**18 40 36.0**	**+0.6**
	1.2nm,0.3s,baz=184,slow=14,SNR=20						
ASAJ				Sn	**Sn**	**18 41 30.6**	**+0.5**
	1.6nm,0.3s,baz=233,slow=32,SNR=7.0						
ASAJ	**Asahikawa**	**4.72**	**350**	*e*Pn	**Pn**	**18 40 36.0**	**+0.6**
MJAR	**Matsushiro Arr**	**5.27**	**238**	Pn	**Pn**	**18 40 42.7**	**-0.3**
	1.7nm,0.3s,baz=39,slow=12,SNR=39						
MAJO	**Matsushiro**	**5.27**	**238**	*e*Pn	**Pn**	**18 40 43.3**	**+0.3**
MAT	**Matsushiro**	**5.27**	**238**	P	**Pn**	**18 40 42.9**	**-0.1**
MAT				*e*S	**Sn**	**18 41 44.1**	**+0.4**
MJB9	**Matsu-Tunnel**	**5.27**	**238**	*e*Pn	**Pn**	**18 40 43.5**	**+0.5**
INU	**Inuyama**	**6.76**	**235**	*e*Pn	**Pn**	**18 41 04.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**9.97**	**302**	Pn	**Pn**	**18 41 50.2**	**+2.9**
	0.3nm,0.3s,baz=87,slow=13,SNR=6.3						
JNU	**Nakatsue**	**12.17**	**243**	*e*Pn	**Pn**	**18 42 15.5**	**-2.0**
CBIJ	**Chichi jima**	**12.41**	**187**	*e*Pn	**Pn**	**18 42 20.3**	**-0.6**
KSRS	**Korea Array**	**12.58**	**266**	Pn	**Pn**	**18 42 26.5**	**+3.4**
	0.1nm,0.3s,baz=83,slow=14,SNR=3.7						
KSRS				LR	LR	18 46 35.4	
	comp=Z,24nm,20.9s,baz=40,slow=34						
MA2	**Magadan**	**20.61**	**10**	P	Pn	18 44 05.5	0.0
	1.8nm,0.5s,baz=191,slow=8.1,SNR=11						
SEY	**Seymchan**	**24.06**	**10**	P	**P**	**18 44 40.1**	**+0.9**
	0.6nm,0.5s,baz=194,slow=7.2,SNR=9.6						
HHC	**Hu-ho-hao-te**	**24.57**	**284**	*e*P	**P**	**18 44 43.3**	**-1.0**
WHN	**Wuhan**	**25.59**	**259**	⇓P	**P**	**18 44 53.3**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.00**	**128**	T	T	19 14 28.9	
	baz=319						
H11N1	**WAKE ISLAND Hy**	**28.01**	**128**	T	T	19 14 26.5	
	baz=319						
H11N3	**WAKE ISLAND Hy**	**28.02**	**128**	T	T	19 14 40.3	
	baz=319						
SONA1	**Songino Array**	**28.07**	**300**	*e*P	**P**	**18 45 16.2**	**+0.5**
SONM	**Songino Array**	**28.07**	**300**	P	**P**	**18 45 15.5**	**-0.3**
	0.7nm,0.6s,baz=89,slow=8.6,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**28.82**	**130**	T	T	19 15 37.4	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**28.82**	**130**	T	T	19 15 38.5	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**28.83**	**130**	T	T	19 15 36.8	
	baz=322						
CD2	**Chengdu**	**33.57**	**268**	*e*P	**P**	**18 46 03.5**	**-0.8**
GTA	**Gaotai**	**33.68**	**284**	P	**P**	**18 46 06.0**	**+0.6**
GTA				pP	sP	18 46 11.3	+1.2
GTA				sP	pP	18 46 14.3	+5.5
GTA				S	**S**	**18 51 29.1**	**+0.7**
GTA				sS	sS	18 51 39.0	+5.1
GAMB	**Gambell**	**35.67**	**32**	*e*P	**P**	**18 46 21.0**	**-1.0**
	25nm,2.0s						
WMQ	**Urumqi**	**41.44**	**295**	P	**P**	**18 47 12.0**	**+1.1**
ZAA0	**Zalesovo Array**	**41.69**	**310**	*e*P	**P**	**18 47 11.9**	**-0.7**
	1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**41.69**	**310**	P	**P**	**18 47 12.1**	**-0.6**
	1.4nm,0.4s,baz=96,slow=7.6,SNR=7.5						
ZALV				PcP	**PcP**	**18 49 08.1**	**-1.0**
	0.7nm,0.6s,baz=92,slow=3.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**41.69**	**310**	*e*P	**P**	**18 47 12.7**	**0.0**
RSO	**Redoubt South**	**43.85**	**40**	*e*P	**P**	**18 47 31.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**43.91**	**255**	P	**P**	**18 47 30.1**	**-1.0**
	0.4nm,0.8s,baz=47,slow=7.0,SNR=5.6						
SPU	**Mount Spurr**	**44.18**	**39**	*e*P	**P**	**18 47 36.5**	**+3.7**
MK01	**Makanchi Array**	**44.43**	**300**	*e*P	**P**	**18 47 35.0**	**-0.1**
MK31	**Makanchi Array**	**44.43**	**300**	*e*P	**P**	**18 47 35.0**	**0.0**
MKAR	**Makanchi Array**	**44.43**	**300**	P	**P**	**18 47 35.0**	**-0.1**
	1.3nm,0.8s,baz=82,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**44.43**	**300**	*e*P	**P**	**18 47 35.0**	**-0.1**
	8.2nm,0.7s						
MAKZ	**Makanchi**	**44.64**	**301**	*e*P	**P**	**18 47 36.3**	**-0.4**
	3.3nm,1.2s						
KURBB	**Kurchatov Arra**	**46.00**	**306**	P	**P**	**18 47 47.0**	**-0.4**
	1.8nm,0.8s,baz=80,slow=8.3,SNR=15						
ILAR	**Eielson Array**	**46.45**	**34**	P	**P**	**18 47 50.6**	**-0.1**
	0.2nm,0.6s,baz=268,slow=6.3,SNR=3.3						
JIRN	**Jiri**	**48.66**	**274**	*e*P	**P**	**18 48 09.3**	**+0.5**
GUN	**Gumba**	**48.77**	**275**	*e*P	**P**	**18 48 09.8**	**+0.1**
KKN	**Kakani**	**49.30**	**275**	*e*P	**P**	**18 48 13.6**	**0.0**
	12nm,0.7s						
DANN	**Dangsing**	**50.19**	**276**	*e*P	**P**	**18 48 20.6**	**+0.1**
BVAR	**Borovoye Array**	**50.33**	**311**	P	**P**	**18 48 20.6**	**-0.2**
	0.6nm,0.5s,baz=70,slow=7.8,SNR=5.2						
KOLN	**Koldanda**	**50.60**	**276**	*e*P	**P**	**18 48 23.5**	**0.0**
	6.7nm,0.8s						
PYUN	**Piuthan**	**50.91**	**277**	*e*P	**P**	**18 48 26.2**	**+0.4**
WRA	**Warramunga Arr**	**59.76**	**190**	P	**P**	**18 49 27.2**	**-2.0**
	0.5nm,0.7s,baz=9.1,slow=7.1,SNR=6.1						
YKA	**Yellowknife Ar**	**60.77**	**31**	P	**P**	**18 49 35.0**	**-0.7**
	0.3nm,0.7s,baz=299,slow=6.4,SNR=5.6						
ASAR	**Alice Springs**	**63.48**	**190**	P	**P**	**18 49 53.5**	**-0.8**
	0.3nm,0.9s,baz=13,slow=12,SNR=4.0						
MCMT	**McKenzie Canyo**	**71.50**	**47**	*e*P	**P**	**18 50 46.6**	**+1.3**
NVAR	**Mina Array Bea**	**72.06**	**55**	P	**P**	**18 50 51.0**	**+2.3**
	0.4nm,0.5s,baz=261,slow=4.2,SNR=3.0						
HFS	**Hagfors**	**72.61**	**336**	P	**P**	**18 50 51.5**	**+0.2**
	1.8nm,0.7s,baz=111,slow=7.9,SNR=4.5						
RPV	**Rancho Palos V**	**74.80**	**59**	*e*P	**P**	**18 51 07.4**	**+2.8**
GSC	**Goldstone, Bar**	**74.90**	**57**	*e*P	**P**	**18 51 06.1**	**+0.8**
EML	**El Monte Cty P**	**76.36**	**59**	*e*P	**P**	**18 51 15.0**	**+1.5**

NIED ***13*** *18:56:00, 26°.70N×145°.00E, h5km, Mw4.1 Best double couple: Ms1.65000×10^15 NP1:ϕs263.00000°, δ19.00000°, λ-91.00000°. NP2:ϕs84.00000°, δ71.00000°, λ-90.00000°.*
BJI ***13*** *18:56:23.3, 25°.43N×145°.56E, h36km, mb4.5/24, mB5.0/14, Ms4.7/5, Ms7 4.4/1*
IDC ***13*** *18:56:24.2±0.6, 25°.71N×144°.95E, h0km, mb4.1/24, mb1 4.2/28, mb1mx4.0/72, mbtmp4.1/28, ML3.8/4, MS2.7/6, Ms1 2.8/6, ms1mx2.6/56, Error ellipse: s-maj=17.5km s-min=15.8km az=72.0*
JMA ***13*** *18:56:25.0±0.2, 26°.72N×144°.99E, h0km, M4.6*
NEIC ***13*** *18:56:26.0±0.8, 25°.75N×144°.93E, h12km±4km, mb4.7/17, Error ellipse: s-maj=6.9km s-min=5.2km az=74.0*
ISCJB ***13*** *18:56:27.6±2.7, 26°.09N±0°.09×144°.89E±0°.05, h20km±16km, mb4.4/54, Error ellipse: s-maj=15.1km s-min=7.1km az=173.4*
MOS ***13*** *18:56:27.1±0.8, 25°.74N×144°.96E, h31km, mb4.5/23, Error ellipse: s-maj=14.8km s-min=7.1km az=110.9*
ISC 13 18:56:30.4±2.3,**26°.21N**±0°.08×**144°.91E**±0°.07,**h23**km±15km, **n137, σ1§69/133, mb4.5/54, 9C-4D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**2.48**	**280**	P	**Pn**	**18 57 08.3**	**-1.1**
JHHJ				*e*S	**Sn**	**18 57 39.9**	**+0.9**
CBIJ	**Chichi jima**	**2.59**	**291**	P	**Pn**	**18 57 08.4**	**-2.5**
CBIJ				*e*S	**Sn**	**18 57 40.3**	**-1.4**
CBIJ	**Chichi jima**	**2.59**	**291**	*e*Pn	**Pn**	**18 57 09.2**	**-1.7**
CBIJ				*e*Sn	**Sn**	**18 57 41.1**	**-0.6**
JCJ	**Chichijima**	**2.59**	**291**	Pn	**Pn**	**18 57 09.1**	**-1.8**
	40nm,0.3s,baz=274,slow=22,SNR=10						
JCJ				Sn	**Sn**	**18 57 40.2**	**-1.5**
	83nm,0.3s,baz=279,slow=23,SNR=12						
JHJ2	**Mitsune**	**8.18**	**328**	*e*Pn	**Pn**	**18 58 30.2**	**+2.5**
JHU	**Hanno**	**10.75**	**335**	P	**Pn**	**18 59 03.3**	**+0.4**
JHU				*e*S	**Sn**	**19 00 58.6**	**-4.0**
JHO	**Hitachi**	**11.01**	**341**	*e*S	**Sn**	**19 01 03.8**	**-5.1**
JAG	**Ashikaga**	**11.20**	**337**	P	**Pn**	**18 59 10.5**	**+1.5**
INU	**Inuyama**	**11.35**	**325**	*e*Pn	**Pn**	**18 59 14.8**	**+3.6**
MJAR	**Matsushiro Arr**	**11.78**	**333**	Pn	**Pn**	**18 59 17.6**	**+0.7**
	1.0nm,0.3s,baz=162,slow=11,SNR=12						
MJAR				Sn	**Sn**	**19 01 27.1**	**-0.6**
	0.3nm,0.3s,baz=131,slow=18,SNR=5.0						
MJAR				LR	LR	19 02 59.3	
	comp=Z,12nm,21.5s,baz=85,slow=32						
MAJO	**Matsushiro**	**11.78**	**333**	⇓*e*P	**Pn**	**18 59 18.0**	**+1.0**
MAJO	**Matsushiro**	**11.78**	**333**	*e*Pn	**Pn**	**18 59 18.0**	**+1.0**
MAJO				*e*Sn	**Sn**	**19 01 27.1**	**-0.6**
MAT	**Matsushiro**	**11.78**	**333**	P	**Pn**	**18 59 17.5**	**+0.5**
MAT				*e*S	**Sn**	**19 01 26.2**	**-1.6**
MJB9	**Matsu-Tunnel**	**11.79**	**333**	*e*Pn	**Pn**	**18 59 18.0**	**+0.9**
JFT	**Otama**	**11.92**	**342**	*e*S	**Sn**	**19 01 27.4**	**-3.9**
JMM	**Marumori**	**12.13**	**344**	*e*S	**Sn**	**19 01 31.6**	**-4.7**
GUMO	**Guam**	**12.55**	**180**	LR	LR	19 02 40.1	
	comp=Z,16nm,20.1s,baz=70,slow=31						
ERM	**Erimo**	**15.83**	**355**	*e*P	**P**	**19 00 14.3**	**-1.0**
ERM				pmax	pmax		
	comp=Z,109nm,1.7s						
ERM	**Erimo**	**15.83**	**355**	*e*Pn	**P**	**19 00 14.3**	**-1.0**
	comp=Z,109nm,1.7s						
ASAJ	**Asahikawa**	**17.97**	**355**	P	**P**	**19 00 42.1**	**+3.1**
	comp=Z,0.5nm,0.3s,baz=213,slow=6.5,SNR=8.2						
ASAJ	**Asahikawa**	**17.97**	**355**	*e*P	**P**	**19 00 42.4**	**+3.4**
	comp=Z,3.2nm,0.7s						
KSRS	**Korea Array**	**18.24**	**312**	P	**P**	**19 00 43.8**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=148,slow=9.0,SNR=3.9						
KSRS				LR	LR	19 06 42.9	
	comp=Z,23nm,20.8s,baz=90,slow=33						
KSAR	**Wonju Array Be**	**18.26**	**312**	P	**P**	**19 00 43.8**	**+1.5**
KSAR	**Wonju Array Be**	**18.26**	**312**	P	**P**	**19 00 43.8**	**+1.5**
USRK	**Ussuriysk Ar.**	**20.78**	**333**	P	Pn	19 01 14.0	+1.8
	comp=Z,5.2nm,1.0s,baz=125,slow=15,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**21.23**	**103**	T	T	19 23 11.3	
	baz=291,slow=74,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**21.23**	**103**	T	T	19 23 05.3	
	baz=291

AS01	**Alice Springs**	**50.70**	**193**	*e*P		P	19 05 22.1	-6.2
AS31	**Alice Springs**	**50.71**	**193**	*e*P		P	19 05 22.3	-6.1
	comp=Z,4.3nm,1.8s							
ASAR	**Alice Springs**	**50.71**	**193**	P		P	19 05 22.2	-6.2
	comp=Z,0.5nm,0.7s,baz=9.1,slow=8.8,SNR=10							
ZAA0	**Zalesovo Array**	**51.75**	**319**	*e*P		**P**	**19 05 35.8**	**-0.1**
	comp=Z,2.9nm,0.9s							
ZALV	**Zalesovo Beam**	**51.75**	**319**	P		**P**	**19 05 36.3**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=107,slow=6.4,SNR=14							
ZALV				PcP		**PcP**	**19 06 48.0**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=118,slow=3.7,SNR=9.2							
ZAA1	**Zalesovo Array**	**51.75**	**319**	*e*P		**P**	**19 05 36.3**	**+0.5**
ZAA1				*e*PcP		**PcP**	**19 06 48.0**	**-0.9**
MK01	**Makanchi Array**	**52.91**	**310**	*e*P		**P**	**19 05 44.6**	**0.0**
MK01				*e*PcP		**PcP**	**19 06 52.6**	**-0.9**
MK31	**Makanchi Array**	**52.91**	**310**	*e*P		**P**	**19 05 44.8**	**+0.2**
MK31				*e*			19 06 51.8	
MK31	**Makanchi Array**	**52.91**	**310**	*e*P		**P**	**19 05 44.8**	**+0.2**
MK31				*e*PcP		**PcP**	**19 06 51.8**	**-1.7**
MK32	**Makanchi Array**	**52.91**	**310**	*e*P		**P**	**19 05 45.2**	**+0.5**
MK32				*e*PcP		**PcP**	**19 06 52.9**	**-0.6**
MKAR	**Makanchi Array**	**52.91**	**310**	P		**P**	**19 05 45.2**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=93,slow=8.6,SNR=21							
MKAR				PcP		**PcP**	**19 06 52.9**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=84,slow=6.2,SNR=6.2							
MKAR	**Makanchi Array**	**52.91**	**310**	*e*P		**P**	**19 05 45.0**	**+0.3**
MKAR				*e*			19 06 51.7	
MKAR				pmax		pmax		
	comp=Z,12nm,0.8s							
MKAR	**Makanchi Array**	**52.91**	**310**	*e*P		**P**	**19 05 45.0**	**+0.3**
	comp=Z,12nm,0.8s							
MKAR				*e*PcP		**PcP**	**19 06 51.7**	**-1.8**
MAKZ	**Makanchi**	**53.13**	**310**	*e*P		**P**	**19 05 46.7**	**+0.4**
MAKZ				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MAKZ	**Makanchi**	**53.13**	**310**	*e*P		**P**	**19 05 46.7**	**+0.4**
	comp=Z,2.4nm,0.8s							
KURK	**Kurchatov**	**55.34**	**315**	*de*P		**P**	**19 06 02.4**	**+0.2**
KURK				pmax		pmax		
	comp=Z,32nm,1.2s							
KURK	**Kurchatov**	**55.34**	**315**	*e*P		**P**	**19 06 02.6**	**+0.4**
	comp=Z,7.8nm,0.9s							
KURBB	**Kurchatov Arra**	**55.40**	**315**	P		**P**	**19 06 03.0**	**+0.3**
	comp=Z,6.4nm,0.8s,baz=90,slow=7.7,SNR=68							
TOLK	**Toolik Lake Re**	**56.97**	**23**	*e*P		**P**	**19 06 15.8**	**+2.1**
	comp=Z,15nm,1.8s							
ILAR	**Eielson Array**	**57.33**	**28**	P		**P**	**19 06 16.5**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=250,slow=6.0,SNR=11							
ILB	**Eielson Array**	**57.33**	**28**	*e*P		**P**	**19 06 16.1**	**-0.1**
IL1	**Eielson Array**	**57.33**	**28**	*e*P		**P**	**19 06 15.7**	**-0.5**
KSH	**Kashi**	**58.12**	**302**	P		**P**	**19 06 25.8**	**+3.4**
KSH				sP		sP	19 06 39.9	+7.5
KSH				PcP		**PcP**	**19 07 16.1**	**+2.2**
KSH				S		**S**	**19 14 25.8**	**+3.3**
KSH				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KSH				pmax		pmax		
	comp=Z,170nm,6.3s							
KSH				LR		LR		
	comp=Z,120nm,8.4s							
KSH				LR		LR		
	comp=Z,89nm,7.0s							
KSH				LR		LR		
	comp=Z,120nm,8.0s							
AAK	**Ala-Archa**	**58.76**	**306**↑	*e*P		**P**	**19 06 31.5**	**+4.7**
AAK				pmax		pmax		
	comp=Z,2.0nm,1.4s							
BVAR	**Borovoye Array**	**60.34**	**318**	P		**P**	**19 06 37.9**	**+0.6**
	comp=Z,3.9nm,0.7s,baz=88,slow=7.3,SNR=24							
BRVK	**Borovoye**	**60.40**	**318**↑	*e*P		**P**	**19 06 38.7**	**+1.0**
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.7s							
BRVK	**Borovoye**	**60.40**	**318**	*e*P		**P**	**19 06 38.1**	**+0.4**
	comp=Z,2.7nm,0.8s							
KKAR	**Karatay Array**	**61.57**	**307**	*e*P		**P**	**19 06 46.1**	**+0.2**
KKAR	**Karatay Array**	**61.57**	**307**	*e*P		**P**	**19 06 46.1**	**+0.2**
INK	**Inuvik**	**62.82**	**24**	P		**P**	**19 06 53.0**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=348,slow=2.6,SNR=4.8							
KBL	**Kabul**	**64.59**	**298**	*e*P		**P**	**19 07 05.3**	**-1.1**
KBL				pmax		pmax		
	comp=Z,36nm,0.6s							
KBL	**Kabul**	**64.59**	**298**	*e*P		**P**	**19 07 05.3**	**-1.1**
	comp=Z,36nm,0.6s							
RAO	**Raoul Island**	**65.67**	**145**	*e*P		P	19 07 02.9	-10
RAO				pmax		pmax		
	comp=Z,434nm,0.4s							
RAO	**Raoul Island**	**65.67**	**145**	*e*P		P	19 07 02.9	-10
	comp=Z,434nm,0.4s							
ARU	**Arti**	**66.61**	**323**	P		**P**	**19 07 19.2**	**+0.5**
	comp=Z,3.9nm,0.5s,baz=87,slow=3.5,SNR=11							
ARU	**Arti**	**66.61**	**323**	*d i*P		**P**	**19 07 18.7**	**0.0**
ARU							19 07 45.4	
ARU							19 09 41.8	
ARU				S		**S**	**19 16 09.2**	**+0.7**
ARU				SS		**SS**	**19 20 25.7**	**+0.3**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ARU	**Arti**	**66.61**	**323**	*e*P		**P**	**19 07 18.1**	**-0.6**
	comp=Z,5.7nm,0.6s							
ABKAR	**Akbulak array**	**67.45**	**315**	*e*P		**P**	**19 07 23.7**	**-0.5**
	comp=Z,30nm,0.6s							
AKTO	**Aktyubinsk**	**68.36**	**317**	P		**P**	**19 07 29.6**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=85,slow=8.6,SNR=8.6							
YKA	**Yellowknife Ar**	**71.75**	**29**	P		**P**	**19 07 50.6**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=294,slow=5.5,SNR=4.1							
YKA	**Yellowknife Ar**	**71.75**	**29**	*i* P		**P**	**19 07 50.5**	**0.0**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
WALA	**Waterton Lakes**	**77.51**	**41**	*e*pP		**P**	**19 08 28.0**	**+3.6**
NV01	**Mina Array Sit**	**79.14**	**53**	*e*P		**P**	**19 08 32.8**	**-0.9**
NVAR	**Mina Array Bea**	**79.14**	**53**	P		**P**	**19 08 33.4**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=288,slow=5.2,SNR=5.5							
FIA0	**FINESS Array S**	**79.80**	**335**	*e*P		**P**	**19 08 36.6**	**+0.1**
FIA0	**FINESS Array S**	**79.80**	**335**	*e*P		**P**	**19 08 36.6**	**+0.1**
FINES	**FINESS Array B**	**79.80**	**335**	P		**P**	**19 08 36.6**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=77,slow=4.8,SNR=12							
KBZ	**Khabaz**	**80.38**	**314**	P		**P**	**19 08 39.9**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=110,slow=3.9,SNR=18							
KIV	**Kislovodsk**	**80.42**	**314**	*e*P		**P**	**19 08 42.0**	**+1.7**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.0s							
FMP	**Fort Macarthur**	**81.14**	**57**	*e*P		**P**	**19 08 43.8**	**-0.4**
YHH	**Holmes Hill**	**81.31**	**44**	*e*P		P	19 08 38.2	-7.2
	comp=Z,7.1nm,0.9s							
HWB	**Hans Werner Br**	**82.44**	**57**	*e*P		**P**	**19 08 49.6**	**-1.6**
EML	**El Monte City P**	**82.59**	**57**	*e*P		**P**	**19 08 47.7**	**-4.2**
PDAR	**Pinedale Array**	**83.11**	**46**	P		**P**	**19 08 54.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=336,slow=2.0,SNR=3.1							
MTPU	**Mount Pierson**	**83.62**	**51**	*e*P		P	19 08 50.3	-7.4
	comp=Z,12nm,0.9s							
AKASG	**Malin Array Be**	**84.75**	**325**	P		**P**	**19 09 01.4**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=46,slow=5.6,SNR=5.4							
AKASG	**Malin Array Be**	**84.75**	**325**	*ce*P		**P**	**19 09 01.3**	**-1.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKBB	**Malin Array Si**	**84.75**	**325**	*e*P		**P**	**19 09 01.1**	**-1.6**
AKBB				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AKBB	**Malin Array Si**	**84.75**	**325**	*e*P		**P**	**19 09 01.1**	**-1.6**
	comp=Z,5.2nm,0.9s							
KIEV	**Kiev**	**84.77**	**325**↓	*e*P		**P**	**19 09 02.2**	**-0.5**
KIEV				pmax		pmax		
	comp=Z,4.0nm,0.9s							
HFS	**Hagfors**	**85.18**	**338**	P		**P**	**19 09 04.1**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=76,slow=6.1,SNR=9.7							
NB2	**NORSAR Subarra**	**85.31**	**339**	P		**P**	**19 09 04.2**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=40,slow=5.3							
NB200	**NORSAR Array S**	**85.31**	**339**	*e*P		**P**	**19 09 04.8**	**-0.5**
NOA	**NORSAR Array B**	**85.31**	**339**	P		**P**	**19 09 04.8**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=41,slow=4.8,SNR=6.2							
BR101	**Keskin Array S**	**88.38**	**314**	*e*P		**P**	**19 09 19.2**	**-1.6**
BRTR	**Keskin Array B**	**88.38**	**314**	P		**P**	**19 09 19.2**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=84,slow=3.7,SNR=6.2							
BRTR	**Keskin Array B**	**88.38**	**314**	*ce*P		**P**	**19 09 19.6**	**-1.2**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BR231	**Keskin MP Arra**	**88.87**	**314**	*e*P		**P**	**19 09 19.7**	**-3.4**
LTX	**Lajitas**	**94.15**	**55**	*e*P		**P**	**19 09 46.8**	**-1.0**
LTX	**Lajitas**	**94.15**	**55**	*e*P		**P**	**19 09 46.8**	**-1.0**
TXAR	**Lajitas Array**	**94.16**	**55**	P		**P**	**19 09 46.8**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=263,slow=4.5,SNR=2.9							
TOA1	**Torodi Ar. Sit**	**126.98**	**313**	*e*PKPdf		**PKPdf**	**19 15 31.5**	**-1.8**
TORD	**Torodi Ar. Bea**	**126.98**	**313**	PKP		**PKPdf**	**19 15 31.5**	**-1.8**
	comp=Z,0.7nm,1.1s,baz=356,slow=1.9,SNR=3.1							
LPAZ	**La Paz**	**147.75**	**79**	PKPbc		**PKPdf**	**19 16 11.2**	**-0.7**

comp=Z,3.2nm,0.5s,baz=302,slow=3.1,SNR=8.3

ISCJB ***13*** *19:04:33.9±0.5, 6.73°S±0.05°, 100.67°E±0.05, h33km, mb3.9/7, Error ellipse: s-maj=8.2km s-min=6.2km az=44.3*
NEIC ***13*** *19:04:36.1±2.7, 6.71°S×100.70°E, h34km±20km, mb4.5/2, Error ellipse: s-maj=12.8km s-min=8.7km az=45.0*
DJA ***13*** *19:04:40.3±0.8, 6°S×12.5°×10°1E±°, h93km±74km, M4.8/9, mB5.2/1, mb5.2/2, MLv4.5/9, Mw(mB)4.5/1*
IDC ***13*** *19:04:43.8±1.8, 5.84°S×102.65°E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.4/58, mbtmp3.8/5, Error ellipse: s-maj=62.5km s-min=23.4km az=33.0*

ISC 13 19:04:35.3±0.7, 6.73°S±0.06°×100.69°E±0.07, h35km, n41, σ2°58/42, mb4.0/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**3.26**	**44**	P		**Pn**	**Pn**	**19 05 24.2**	**+0.2**
MNAI	**Manna**	**3.26**	**44**	*e*Pn		**Pn**	**Pn**	**19 05 24.9**	**+0.9**
LWLI	**Liwa**	**3.76**	**63**	P		**Pn**	**Pn**	**19 05 31.5**	**+0.6**
LWLI				S		S	**Sn**	**19 06 10.8**	**-3.3**
MASI	**Maura Aman, Be**	**3.88**	**24**	P		**Pn**	**Pn**	**19 05 32.7**	**+0.1**
KASI	**Kota Agung**	**3.97**	**73**	P		**Pn**	**Pn**	**19 05 34.1**	**+0.4**
KASI				S		S	**Sn**	**19 06 14.1**	**-5.0**
PPSI	**Pulau Pagai**	**4.00**	**350**	P		**Pn**	**Pn**	**19 05 36.1**	**+2.0**
MDSI	**Maura Dua**	**4.13**	**57**	P		**Pn**	**Pn**	**19 05 37.1**	**+1.2**
MDSI				S		S	**Sn**	**19 06 19.4**	**-3.6**
KLI	**Kotabumi**	**4.54**	**66**	P		**Pn**	**Pn**	**19 05 42.0**	**+0.4**
CGJI	**Cibinong**	**4.97**	**89**	P		**Pn**	**Pn**	**19 05 48.7**	**+1.2**
SISI	**Saibi**	**5.60**	**343**	P		**Pn**	**Pn**	**19 05 56.0**	**-0.1**
PDSI	**Padang**	**5.78**	**358**	P		**Pn**	**Pn**	**19 05 59.8**	**+1.1**
	50nm,0.4s,2µm								
XMIS	**Christmas Isla**	**6.16**	**128**	*e*Pn		**Pn**	**Pn**	**19 06 04.8**	**+1.0**
XMIS				*e*Sn		**Sn**	**Sn**	**19 07 05.2**	**-8.0**
COCO	**West Island**	**6.62**	**215**	*e*Pn		Pn	**Pn**	19 06 12.0	+1.8
COCO				*e*Sn		**Sn**	**Sn**	**19 07 19.5**	**-5.0**
LEM	**Lembang**	**6.88**	**91**	Pg		**Pn**	**Pn**	**19 06 15.4**	**+1.5**
	12nm,0.3s,baz=162,slow=20,SNR=7.4								
LEM				Lg		Lg	Lg	19 07 24.0	
	baz=288,slow=20,SNR=1.9								
LEM	**Lembang**	**6.88**	**91**	P		**Pn**	**Pn**	**19 06 15.3**	**+1.4**
CISI	**Cisompet, Garu**	**7.12**	**97**	*e*Pn		**Pn**	**Pn**	**19 06 16.2**	**-0.9**
CISI				*e*Sn		Sn	Sn	19 07 19.8	-17
GSI	**Gunungsitoli**	**8.56**	**339**	*e*Pn		**Pn**	**Pn**	**19 06 39.0**	**+2.2**
GSI				*e*Sn		**Sn**	**Sn**	**19 08 05.0**	**-7.3**
UGM	**Wanagama**	**9.83**	**97**	*e*Pn		**Pn**	**Pn**	**19 06 53.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**26.82**	**117**	P		**P**	**P**	**19 10 15.8**	**+3.2**
	4.5nm,1.0s,baz=288,slow=13,SNR=1.7								
H08S2	**Diego Garcia H**	**27.99**	**266**	T		T	T	19 43 21.3	
	baz=93								
H08S3	**Diego Garcia H**	**28.00**	**266**	T		T	T	19 43 19.6	
	baz=93								
H08S1	**Diego Garcia H**	**28.00**	**266**	T		T	T	19 43 24.7	
	baz=93								
WRA	**Warramunga Arr**	**35.19**	**115**	P		**P**	**P**	**19 11 28.7**	**+2.3**
	0.7nm,0.9s,baz=291,slow=10,SNR=7.5								
WR1	**Warramunga Arr**	**35.19**	**115**	*e*P		**P**	**P**	**19 11 28.7**	**+2.3**
WRAB	**Tennant Creek**	**35.20**	**115**	*e*P		**P**	**P**	**19 11 24.8**	**-1.6**
	2.5nm,0.8s								
WB2	**Warramunga Arr**	**35.20**	**115**	*e*P		**P**	**P**	**19 11 28.8**	**+2.4**
ASAR	**Alice Springs**	**36.07**	**121**	P		**P**	**P**	**19 11 36.0**	**+2.1**
	0.5nm,0.6s,baz=295,slow=9.1,SNR=7.7								
YHNB	**Yeheng**	**37.15**	**32**	*e*P		**P**	**P**	**19 11 44.2**	**+1.1**
BBOO	**Buckleboo**	**41.86**	**133**	*e*P		**P**	**P**	**19 12 21.3**	**-0.9**
CTA	**Charters Tower**	**46.11**	**111**	P		**P**	**P**	**19 12 57.8**	**+1.3**
	3.5nm,0.8s,baz=300,slow=9.7,SNR=3.6								
MAJO	**Matsushiro**	**55.57**	**36**	*e*P		**P**	**P**	**19 14 09.3**	**+1.8**
	5.0nm,0.6s								
MJB9	**Matsu-Tunnel**	**55.57**	**36**	*e*P		**P**	**P**	**19 14 09.4**	**+1.9**
MKAR	**Makanchi Array**	**55.74**	**345**	P		P	P	19 14 20.0	+12
	0.1nm,0.5s,baz=168,slow=7.4,SNR=2.8								
AB08	**Akbulak array**	**66.10**	**332**	*e*P		**P**	**P**	**19 15 19.1**	**+0.3**
AB03	**Akbulak array**	**66.10**	**332**	*e*P		**P**	**P**	**19 15 18.6**	**-0.2**
AB01	**Akbulak array**	**66.10**	**332**	*e*P		**P**	**P**	**19 15 19.3**	**+0.4**
AB31	**Akbulak array**	**66.10**	**332**	*e*P		**P**	**P**	**19 15 19.5**	**+0.7**
ABKAR	**Akbulak array**	**66.10**	**332**	*e*P		**P**	**P**	**19 15 19.1**	**+0.3**
AB04	**Akbulak array**	**66.11**	**332**	*e*P		**P**	**P**	**19 15 19.6**	**+0.7**
AB05	**Akbulak array**	**66.12**	**332**	*e*P		**P**	**P**	**19 15 19.1**	**+0.1**
OT3	**Othello 3**	**127.52**	**34**	*e*PKPdf		**PKPdf**	**PKPdf**	**19 23 38.2**	**+1.4**

ISCJB ***13*** *19:07:06.4±0.7, 36°43N±0.06°×73°0E±0°1, h42km, mb3.0/2, Error ellipse: s-maj=13.7km s-min=5.7km az=153.6*
IDC ***13*** *19:07:07.9±4.8, 36°52N×73°29E, h50km±38km, mb2.9/2, mb1 3.1/9, mb1mx2.9/70, mbtmp3.2/9, ML2.8/7, Error ellipse: s-maj=43.4km s-min=27.8km az=149.0*
NNC ***13*** *19:07:08.4±4.9, 36°61N×72°30E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=47.3km s-min=34.1km az=112.0*

ISC 13 19:07:07.8±1.0, 36°38N±0°08×72°95E±0°10, h42km, n20, σ2°97/26, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.66**	**7**	⇑Pn		**Pn**	**Pn**	**19 08 05.2**	**+3.1**
	14nm,0.5s								
SFK				⇑Sn		**Sn**	**Sn**	**19 08 49.4**	**+5.3**
	41nm,0.6s								
MNAS	**Manas**	**6.11**	**357**	⇑Pn		**Pn**	**Pn**	**19 08 38.8**	**+3.1**
	2.2nm,0.5s								
MNAS				⇓Sn		**Sn**	**Sn**	**19 09 45.7**	**+1.3**
	4.3nm,0.7s								
AAK	**Ala-Archa**	**6.37**	**10**	P		**Pn**	**Pn**	**19 08 38.6**	**-0.6**
	0.2nm,0.3s,baz=129,slow=7.7,SNR=4.1								
AAK				S		**Sn**	**Sn**	**19 09 46.3**	**-4.4**
	baz=172,slow=14,SNR=1.9								
AAK	**Ala-Archa**	**6.37**	**10**	Pn		**Pn**	**Pn**	**19 08 41.2**	**+2.0**
	1.7nm,0.5s								
AAK				⇑Sn		**Sn**	**Sn**	**19 09 53.9**	**+3.2**
	5.1nm,0.8s								
TKM2	**Tokmak 2**	**6.85**	**17**	⇑Pn		**Pn**	**Pn**	**19 08 46.1**	**+0.2**
	4.3nm,1.2s								
TKM2				⇑Sn		**Sn**	**Sn**	**19 10 09.1**	**+6.5**
	6.0nm,0.9s								
KK31	**Karatay Array**	**6.98**	**345**	⇓Pn		**Pn**	**Pn**	**19 08 47.8**	**+0.4**
	0.7nm,0.3s,baz=159,slow=14,SNR=9.6								
KK31				⇓Sn		**Sn**	**Sn**	**19 10 03.0**	**-2.5**
	1.4nm,0.5s,baz=170,slow=22								
PYUN	**Pinihan**	**11.84**	**131**	*e*P		**Pn**	**Pn**	**19 09 57.8**	**+3.6**
GEYT	**Alibeck**	**11.94**	**282**	P		**Pn**	**Pn**	**19 09 57.6**	**+2.2**
	0.3nm,0.3s,baz=87,slow=9.4,SNR=4.6								
KOLN	**Koldanda**	**12.45**	**131**	*e*P		**Pn**	**Pn**	**19 10 03.2**	**+0.6**
MKAR	**Makanchi Array**	**12.53**	**31**	P		**Pn**	**Pn**	**19 10 01.4**	**-2.0**
	0.0nm,0.3s,baz=211,slow=13,SNR=3.3								
KKN	**Kakani**	**13.50**	**126**	*e*P		**Pn**	**Pn**	**19 10 18.7**	**+1.8**
DMN	**Daman**	**13.51**	**127**	*e*P		**Pn**	**Pn**	**19 10 16.4**	**-0.7**
PKIN	**Phulchoki**	**13.72**	**126**	*e*P		**Pn**	**Pn**	**19 10 20.6**	**+0.6**
	1.9nm,0.3s								
JIRN	**Jiri**	**14.19**	**124**	*e*P		**Pn**	**Pn**	**19 10 27.5**	**+1.1**
	7.6nm,0.4s								
KURBB	**Kurchatov Arra**	**14.80**	**14**	P		**Pn**	**Pn**	**19 10 30.8**	**-3.4**
	0.0nm,0.3s,baz=203,slow=11,SNR=3.2								
BVAR	**Borovoye Array**	**16.75**	**355**	P		**Pn**	**Pn**	**19 10 57.6**	**-1.5**
	0.1nm,0.3s,baz=156,slow=7.9,SNR=2.7								
AKTO	**Aktyubinsk**	**17.71**	**327**	P		**Pn**	**Pn**	**19 11 09.9**	**-1.1**
	0.0nm,0.3s,baz=126,slow=14,SNR=2.6								
ZALV	**Zalesovo Beam**	**19.41**	**21**	P		**P**	**P**	**19 11 27.4**	**-2.8**
	0.1nm,0.3s,baz=214,slow=10,SNR=5.7								
SONM	**Songino Array**	**27.12**	**55**	P		**P**	**P**	**19 12 42.3**	**-4.6**
	0.2nm,0.4s,baz=251,slow=8.8,SNR=2.2								
YKA	**Yellowknife Ar**	**81.28**	**4**	P		**P**	**P**	**19 19 18.3**	**-0.9**
	0.1nm,0.6s,baz=347,slow=5.6,SNR=3.1								

BJI ***13*** *19:07:08.0, 2.10°N×129.04°E, h222km, mb4.4/34, mB4.7/22*
ISCJB ***13*** *19:07:14.6±0.5, 2.72°N±0.03°×128.55°E±0.04, h230km±4km, mb4.5/106, Error ellipse: s-maj=6.1km s-min=3.9km az=153.8*
NEIC ***13*** *19:07:15.9±0.8, 2.71°N×128.55°E, h230km±8km, mb4.8/72, Error ellipse: s-maj=6.0km s-min=3.9km az=58.0*
IDC ***13*** *19:07:16.0±1.3, 2.70°N×128.64°E, h233km±12km, mb4.0/26, mb1 4.0/27, mb1mx3.8/54, mbtmp4.5/27, Error ellipse: s-maj=13.9km s-min=6.7km az=77.0*
DJA ***13*** *19:07:16.7±0.4, 3°N±3°×12°8E±°, h212km±3km, M4.7/25, mb4.7/25, mB5.0/7, MLv5.1/9, Mw(mB)4.3/7*

ISC 13 19:07:16.0±0.7, 2.71°N±0.04°×128.46°E±0.05, h231km±6km, n178, σ1°21/200, mb4.6/104, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.08**	**288**	P		**Pn**	**Pn**	**19 08 07.8**	**-0.5**
SGSI				S		S	**S**	**19 08 46.9**	**-2.5**
LBMI	**Labuha**	**3.46**	**196**	P		**Pn**	**Pn**	**19 08 13.3**	**+0.6**
LBMI				S		S	**S**	**19 08 57.6**	**+0.3**
KMSI	**Cibinong**	**4.95**	**245**	P		**Pn**	**Pn**	**19 08 30.6**	**-0.1**
KMSI				S		S	**S**	**19 09 28.6**	**-1.3**
DAV	**Davao City (W)**	**5.20**	**327**	S		S	**S**	**19 09 33.4**	**-2.0**
	36nm,0.3s,baz=240,slow=20,SNR=3.0								
SANI	**Sanana**	**5.33**	**208**	P		**Pn**	**Pn**	**19 08 33.8**	**-1.6**
	1µm,0.7s,17µm4.8nm								
NLAI	**Namlea**	**6.06**	**193**	P		**Pn**	**Pn**	**19 08 45.4**	**+0.8**
	205nm,0.5s,3µm0.9nm								
FAKI	**Fak Fak**	**6.75**	**146**	*e*Pn		**Pn**	**Pn**	**19 08 52.8**	**-0.6**
LUWI	**Luwuk**	**6.80**	**237**	P		**Pn**	**Pn**	**19 08 54.4**	**+0.4**
	206nm,0.4s,5µm3.6nm								
LUWI				S		S	**S**	**19 10 11.8**	**-0.4**
	206nm,0.4s,5µm3.6nm								
LUWI	**Luwuk**	**6.80**	**237**	*e*Pn		**Pn**	**Pn**	**19 08 52.6**	**-1.3**
LUWI				*e*S		S	**S**	**19 10 07.4**	**-4.8**
MRSI	**Marisa**	**6.88**	**251**	P		**Pn**	**Pn**	**19 08 56.3**	**+1.2**
	39nm,0.5s,563nm0.2nm								
APSI	**Ampana**	**7.70**	**242**	P		**Pn**	**Pn**	**19 09 05.5**	**0.0**
	226nm,0.5s,3µm1.1nm								
KDI	**Kendari**	**8.83**	**221**	P		Pn	Pn	19 09 27.1	+7.2
MPSI	**Mapaga**	**8.88**	**255**	P		**Pn**	**Pn**	**19 09 20.6**	**0.0**
MYLDM	**Lahad Datu**	**10.23**	**284**	*e*Pn		**Pn**	**Pn**	**19 09 39.7**	**+1.8**
TTSI	**Tana Toraja**	**10.36**	**237**	P		**Pn**	**Pn**	**19 09 40.0**	**+0.6**
	93nm,1.1s,740nm								
BNSI	**Bone**	**10.93**	**230**	P		**Pn**	**Pn**	**19 09 47.7**	**+1.0**
	65nm,1.0s								
KAPI	**Kappang**	**11.60**	**229**	*e*Pn		**Pn**	**Pn**	**19 09 54.1**	**-1.0**
KKM	**Kota Kinabalu**	**12.65**	**286**	*e*Pn		**Pn**	**Pn**	**19 10 09.5**	**+1.1**
GENI	**Genyem**	**12.83**	**114**	P		**P**	**P**	**19 10 14.0**	**+0.9**
	373nm,1.0s,4µm								
SOEI	**Soe**	**13.07**	**199**	P		**P**	**P**	**19 10 16.0**	**+0.2**
	127nm,0.8s								
SOEI	**Soe**	**13.07**	**199**	*e*Pn		**Pn**	**Pn**	**19 10 14.4**	**+0.9**
JAY	**Jayapura**	**13.29**	**113**	P		**P**	**P**	**19 10 19.3**	**+1.1**
	746nm,0.9s								
KBKI	**Kotabaru**	**13.66**	**244**	P		**P**	**P**	**19 10 21.6**	**-0.6**
	36nm,1.6s								
BATI	**Baumata**	**13.69**	**200**	P		**P**	**P**	**19 10 21.9**	**-0.7**
	28nm,0.3s,baz=77,slow=3.3,SNR=32								
MTKI	**Muara Teweh, K**	**14.04**	**255**	P		**P**	**P**	**19 10 26.7**	**+0.3**
	58nm,0.9s,998nm								
PLAI	**Plampang**

comp=Z,8.0nm,0.6s
XAN pmax pmax
comp=Z,86nm,5.7s
CD2 Chengdu 36.49 323 *e*P **P 19 14 00.5 +1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
STKA Stephens Creek 36.59 161 P **P 19 13 59.8 -0.3**
5.8nm,0.3s,baz=335,slow=9.2,SNR=56
STKA Stephens Creek 36.59 161 *e*P **P 19 13 59.7 -0.5**
1.9nm,1.1s
NWAO Narrogin (SRO) 37.00 196 *e*P **P 19 14 03.7 +0.2**
172nm,2.0s
BJT Baijiatuan 38.78 345 *e*P **P 19 14 19.4 +1.1**
6.8nm,0.6s
BJI Beijing 38.80 345 *e*P **P 19 14 18.8 +0.3**
BJI pmax pmax
comp=Z,14nm,0.6s
ARMA Armidale 39.68 148 *e*P **P 19 14 24.7 -1.4**
36nm,1.6s
LZH Lanzhou 40.26 329 *e*P **P 19 14 32.9 +2.1**
LZH pP pP 19 15 21.3 +2.2
LZH sP sP 19 15 42.3 -3.1
LZH pmax pmax
comp=Z,17nm,0.6s
LZH pmax pmax
comp=Z,82nm,4.1s
HHC Hu-ho-hao-te 40.92 340 *e*P **P 19 14 39.3 +3.2**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,39nm,5.1s
USRK Ussuriysk Ar. 41.44 4 P **P 19 14 40.0 -0.1**
2.8nm,0.7s,baz=175,slow=6.0,SNR=4.5
ASAJ Asahikawa 43.09 15 P **P 19 14 53.1 -0.3**
1.7nm,0.4s,baz=201,slow=3.6,SNR=4.7
ASAJ Asahikawa 43.09 15 *e*P **P 19 14 53.3 -0.1**
3.9nm,1.0s
LSA Lhasa 44.41 311 *e*P **P 19 15 06.6 +1.9**
5.8nm,0.6s
DZM Mont Dzumac 44.54 126 P **P 19 15 04.3 -1.1**
9.0nm,1.0s,baz=301,slow=18,SNR=4.6
DZM Mont Dzumac 44.54 126 *e*P **P 19 15 06.3 +0.9**
38nm,1.3s
GTA Gaotai 44.86 328 ⇓P **P 19 15 08.8 +1.1**
GTA pP pP 19 15 57.6 +0.7
GTA pmax pmax
comp=Z,8.0nm,1.0s
JIRN Jiri 47.37 306 *e*P **P 19 15 29.1 +1.4**
41nm,0.4s
GUN Gumba 47.72 306 *e*P **P 19 15 31.5 +1.1**
44nm,0.6s
PKI Pulchoki 47.97 305 *e*P **P 19 15 32.8 +0.6**
4.9nm,0.3s
PKIN Phulchoki 47.98 305 *e*P **P 19 15 33.0 +0.7**
6.3nm,0.3s
KKN Kakani 48.16 306 *e*P **P 19 15 34.7 +1.1**
DMN Daman 48.23 305 *e*P **P 19 15 35.1 +1.0**
19nm,0.7s
ULN Ulaanbaatar 48.63 341 *e*P **P 19 15 37.5 +0.7**
3.9nm,0.7s
SONA0 Songino Array 48.82 340 *e*P **P 19 15 38.5 +0.3**
SONM Songino Array 48.82 340 P **P 19 15 38.5 +0.3**
2.1nm,0.7s,baz=153,slow=8.0,SNR=13
SONA1 Songino Array 48.83 340 *e*P **P 19 15 38.3 +0.1**
KOLN Koldanda 49.52 305 *e*P **P 19 15 45.2 +1.3**
DANN Dangsing 49.61 306 *e*P **P 19 15 46.1 +1.4**
2.9nm,0.9s
PYUN Piuthan 50.15 305 *e*P **P 19 15 49.9 +1.3**
46nm,0.7s
WMQ Urumqi 54.55 325 P **P 19 16 21.8 +1.3**
WMQ pP pP 19 17 08.8 -2.8
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,380nm,4.5s
PEA0B Petropavlovsk- 55.74 21 *e*P **P 19 16 28.8 +0.2**
53nm,1.4s
PETK Petropavlovsk- 55.74 21 P **P 19 16 29.0 +0.3**
3.9nm,0.8s,baz=206,slow=6.2,SNR=8.6
PETK Petropavlovsk- 55.74 21 *e*P **P 19 16 28.7 0.0**
PEA1 Petropavlovsk- 55.74 21 *e*P **P 19 16 29.0 +0.3**
MK01 Makanchi Array 59.36 325 *e*P **P 19 16 54.1 +0.1**
MK01 *e*PcP **PcP 19 17 38.9 -0.5**
MK31 Makanchi Array 59.38 325 *e*P **P 19 16 54.5 +0.4**
MK32 Makanchi Array 59.38 325 *e*P **P 19 16 54.6 +0.4**
MK32 *e*PcP **PcP 19 17 38.4 -1.1**
MK32 *e*ScP **ScP 19 21 17.9 -0.1**
MKAR Makanchi Array 59.38 325 P **P 19 16 54.6 +0.4**
3.6nm,0.5s,baz=117,slow=8.4,SNR=59
MKAR PcP **PcP 19 17 38.4 -1.1**
0.9nm,0.7s,baz=111,slow=5.3,SNR=5.9
MKAR ScP **ScP 19 21 17.9 -0.1**
0.6nm,0.9s,baz=142,slow=5.4,SNR=4.2
MKAR Makanchi Array 59.38 325 *e*P **P 19 16 54.3 +0.1**
30nm,0.4s
MKAR PcP **PcP 19 17 38.4 -1.1**
MKAR ScP **ScP 19 21 17.9 -0.1**
MAKZ Makanchi 59.57 325 *e*P **P 19 16 55.7 +0.2**
3.8nm,0.6s
THZ Tophouse 59.84 143 *e*P **P 19 16 57.3 -0.2**
153nm,1.8s
LBZ Lake Benmore 59.88 147 *e*P **P 19 16 58.0 +0.5**
129nm,1.9s
KSH Kashi 59.98 315 *e*P **P 19 17 00.8 +2.2**
KSH PcP **PcP 19 17 45.1 +2.9**
KSH PcS **PcS 19 21 41.5 -3.4**
KSH S **S 19 24 50.9 -1.7**
KSH pmax pmax
comp=Z,5.0nm,1.3s
KSH pmax pmax
comp=Z,77nm,6.7s
KSH LR LR
comp=N,77nm,7.2s
KSH LR LR
comp=E,110nm,10.0s
KSH LR LR
comp=Z,86nm,9.3s
KDJ Kajisay 60.26 318 *e*P **P 19 17 01.8 +1.4**
18nm,1.1s
KHZ Kahutara 60.61 143 *e*P **P 19 17 01.9 -0.6**
132nm,1.8s
URZ Urewera 60.62 137 *e*P **P 19 17 02.0 -0.7**
32nm,1.2s
BKZ Black Stump Fm 60.67 138 *e*P **P 19 17 02.9 -0.2**
58nm,1.6s
AAK Ala-Archa 62.27 318 *e*P **P 19 17 14.9 +1.0**
2.0nm,1.0s
ZAA0 Zalesovo Array 62.28 333 *e*P **P 19 17 12.4 -1.1**
1.7nm,0.7s
ZALV Zalesovo Beam 62.28 333 P **P 19 17 12.8 -0.7**
1.3nm,0.4s,baz=117,slow=6.6,SNR=8.3
ZALV Zalesovo Beam 62.28 333 *e*P **P 19 17 12.6 -0.8**
ZAA1 Zalesovo Array 62.28 333 *e*P **P 19 17 12.8 -0.7**
KBL Kabul 63.51 307 *e*P **P 19 17 21.5 -0.8**
4.1nm,1.0s
KURBB Kurchatov Arra 63.53 327 P **P 19 17 21.6 -0.1**
6.6nm,0.5s,baz=127,slow=6.0,SNR=138
KURK Kurchatov 63.53 327 *e*P **P 19 17 21.6 -0.1**
8.9nm,0.6s
KKAR Karatay Array 65.15 317 *e*P **P 19 17 32.7 +0.2**
TIXI Tiksi 68.84 0 *e*P **P 19 17 53.8 -1.2**
3.6nm,0.4s
BVAR Borovoye Array 69.11 327 P **P 19 17 57.5 +0.4**
4.5nm,0.8s,baz=122,slow=6.7,SNR=29
BRVK Borovoye 69.19 327 *e*P **P 19 17 56.9 -0.7**
4.7nm,0.6s
GEYT Alibeck 72.88 309 P **P 19 18 20.9 +0.8**
1.5nm,0.6s,baz=212,slow=5.3,SNR=5.8
ABKAR Akbulak array 74.03 321 *e*P **P 19 18 25.5 -1.0**
13nm,0.7s
AKTO Aktyubinsk 75.53 322 P **P 19 18 34.7 -0.3**
1.3nm,0.7s,baz=90,slow=8.7,SNR=4.5
SVW2 Sparrevohn 80.86 29 *e*P **P 19 19 05.6 +1.5**
30nm,1.6s
OHAK Old Harbor 81.37 33 *e*P **P 19 19 07.8 +1.0**
193nm,1.8s
KDAK Kodiak Island 81.83 32 *e*P **P 19 19 09.7 +0.6**
177nm,1.9s
VNDA Vanda 82.20 173 *e*P **P 19 19 11.3 +0.6**
19nm,1.6s
RAYN Ar Rayn 82.47 293 *e*P **P 19 19 12.5 -0.8**
3.8nm,1.1s
PPLA Purkeypile 82.75 27 *e*P **P 19 19 14.5 +0.5**
37nm,1.8s
CAST Castle Rocks 82.87 26 *e*P **P 19 19 15.7 +1.2**
3.8nm,0.7s
BRLK Bradley Lake 82.96 30 *e*P **P 19 19 15.0 -0.1**
68nm,1.8s
SUA Susitna One 83.23 29 *e*P **P 19 19 15.6 -0.9**
9.2nm,0.9s
KTH Kantishna Hill 83.40 26 *e*P **P 19 19 17.7 +0.4**
55nm,1.9s
RC01 Rabbit Creek A 83.67 29 *e*P **P 19 19 18.8 +0.2**
46nm,1.8s
COLD Coldfoot 84.16 23 *e*P **P 19 19 21.8 +0.8**
15nm,1.8s
RND Reindeer 84.31 27 *e*P **P 19 19 21.6 -0.3**
35nm,1.9s
SML Sawmill 84.41 28 *e*P **P 19 19 22.5 +0.2**
12nm,0.9s
TOLK Toolik Lake Re 84.56 21 *e*P **P 19 19 23.9 +0.9**
28nm,2.0s
CCB Clear Creek Bu 84.88 25 *e*P **P 19 19 25.6 +1.0**
16nm,1.9s
SCM Sheep Creek Mo 84.89 28 *e*P **P 19 19 24.6 -0.1**
72nm,1.8s
DHY Denali Highway 84.95 27 *e*P **P 19 19 25.9 +0.7**
20nm,1.8s
IL1 Eielson Array 85.28 25 *e*P **P 19 19 25.5 -1.0**
ILAR Eielson Array 85.28 25 P **P 19 19 25.4 -1.2**
0.3nm,0.5s,baz=243,slow=5.2,SNR=5.5
KLU Klutina 85.54 29 *e*P **P 19 19 28.3 +0.3**
21nm,1.6s
PAX Paxson 85.81 27 *e*P **P 19 19 30.0 +0.7**
20nm,2.0s
HARP HAARP 85.94 28 *e*P **P 19 19 31.6 +1.7**
76nm,1.9s
BMRM Bremner River 86.16 29 *e*P **P 19 19 32.5 +1.5**
17nm,1.3s
SPITS Spitsbergen Ar 91.81 349 P **P 19 19 56.2 -1.0**
11nm,1.0s,baz=110,slow=2.4,SNR=3.1
ARA0 ARCESS Array S 92.00 340 *e*P **P 19 19 57.0 -1.2**
ARCES ARCESS Array B 92.00 340 P **P 19 19 57.0 -1.2**
1.6nm,0.6s,baz=82,slow=5.9,SNR=12
FIA0 FINESS Array S 93.54 332 *e*P **P 19 20 03.9 -1.5**
FINES FINESS Array B 93.54 332 P **P 19 20 03.9 -1.5**
2.3nm,0.9s,baz=132,slow=2.1,SNR=2.9
YKA Yellowknife Ar 99.70 25 P **Pdif 19 20 31.7 -1.5**
0.2nm,0.6s,baz=289,slow=3.8,SNR=3.0
HFS Hagfors 99.72 333 P **Pdif 19 20 31.7 -1.7**
1.0nm,0.5s,baz=99,slow=7.4,SNR=6.2
TORD Torodi Ar. Bea 124.88 288 PKP **PKPdf 19 25 49.5 0.0**
0.4nm,0.4s,baz=55,slow=1.8,SNR=11
TOA1 Torodi Ar. Sit 124.88 288 *e*PKPdf **PKPdf 19 25 49.5 0.0**

*ISCJB **13** 19:14:25.6±1.1,36.˚25S±0.˚05×70.˚9W±0.˚1,h156km±17km, Error ellipse: s-maj=19.4km s-min=6.4km az=17.9*
*SJA **13** 19:14:25.6±1.2,36.˚24S×70.˚79W,h156km±17km,ML3.1, MW3.3*
*GUC **13** 19:14:27.7±0.7,36.˚18S×70.˚93W,h157km±8km,ML3.8*
ISC 13 19:14:25.1±2.0,**36.˚26S**±0.˚05×**70.˚82W**±0.˚09, **h164**km±18km,**n17**,σ0:**99**/24,**5C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.07**	**251**	*e*P		**Pn**	**19 14 52.6**	**+0.8**
CCHI				*e*S		**Sn**	**19 15 12.4**	**+0.2**
CCHI	**Chillan**	**1.07**	**251**	*e*P		**Pn**	**19 14 52.7**	**+1.0**
CCHI				*e*S		**Sn**	**19 15 11.9**	**-0.3**
CCHI				IAML			19 15 14.2	
	comp=N,1μm,0.4s							
NICH	**Los Niches**	**1.30**	**345**	⇓*i*P		**Pn**	**19 14 54.8**	**+0.9**
NICH				*i* S		**Sn**	**19 15 15.4**	**-0.6**
GO05	**HualaæØ**	**1.54**	**324**	*e*P		**Pn**	**19 14 56.5**	**+0.3**
GO05				*e*S		**Sn**	**19 15 19.2**	**-1.0**
GO05	**HualaæØ**	**1.54**	**324**	⇑*e*P		**Pn**	**19 14 56.7**	**+0.5**
GO05				*i* S		**Sn**	**19 15 18.5**	**-1.7**
GO05				IAML			19 15 21.5	
	comp=N,547nm,0.2s							
COCH	**Cobquecura**	**1.59**	**274**	*e*P		**Pn**	**19 14 57.8**	**+1.2**
COCH	**Cobquecura**	**1.59**	**274**	⇑*i*P		**Pn**	**19 14 57.9**	**+1.2**
COCH				*e*S		**Sn**	**19 15 20.2**	**-0.8**
COCH				IAML			19 15 21.3	
	comp=E,280nm,0.3s							
CANA	**Caviahue**	**1.63**	**187**	*e*P		**Pn**	**19 14 57.4**	**+0.2**
RFA	**San Rafael**	**2.43**	**53**	*e*P		**Pn**	**19 15 06.5**	**+0.3**
RFA				IAML			19 15 07.1	
	comp=Z,105nm,0.6s							
LMEL	**Las Melosas**	**2.46**	**12**	⇑*i*P		**Pn**	**19 15 07.9**	**+1.2**
LMEL				IAML			19 14 44.9	
	comp=N,705nm,0.3s							
ANTU	**Antumapu**	**2.69**	**3**	*e*S		**Sn**	**19 15 43.2**	**-0.4**
ANTU				IAML			19 15 45.6	
	comp=E,647nm,0.3s							
TMU	**Temuco**	**2.84**	**209**	⇑*i*P		**Pn**	**19 15 11.4**	**+0.4**
TMU				*i* S		**Sn**	**19 15 45.5**	**-1.2**
TMU				IAML			19 15 46.9	
	comp=E,141nm,0.3s							
PEL	**Peldehue**	**3.12**	**2**	⇑*i*P		**Pn**	**19 15 14.8**	**+0.2**
PEL				*i* S		**Sn**	**19 15 51.4**	**-1.5**
PEL				IAML			19 15 54.6	
	comp=E,144nm,0.3s							
ROC1	**El Roble**	**3.28**	**357**	*e*P		**Pn**	**19 15 17.0**	**+0.1**
ROCH	**El Roble**	**3.29**	**357**	IAML			19 16 00.5	
	comp=E,382nm,0.2s							
AAGR	**Agrelo**	**3.57**	**28**	*e*P		**Pn**	**19 15 21.9**	**+1.5**
ARCO	**CERRO ARCO**	**3.75**	**25**	*e*P		**Pn**	**19 15 23.7**	**+0.9**
ARCO				IAML			19 16 21.7	
	comp=Z,18nm,0.4s							

*ISCJB **13** 19:16:02.8±0.3,4.˚74S±0.˚04×102.˚01E±0.˚03,h37km, mb4.5/35, Error ellipse: s-maj=6.7km s-min=3.2km az=31.4*
*NEIC **13** 19:16:06.6±0.5,4.˚61S×102.˚15E,h55km±4km,mb4.7/20, Error ellipse: s-maj=7.0km s-min=3.8km az=51.0*
*IDC **13** 19:16:06.6±0.8,4.˚59S×102.˚22E,h54km±4km,mb4.0/22, mb1 4.0/23,mb1mx3.8/65,mbtmp4.3/23,MS3.1/1, Ms1 3.1/1,ms1mx2.4/56, Error ellipse: s-maj=23.2km s-min=8.5km az=45.0*
*DJA **13** 19:16:07.4±0.8,5.˚S±4.˚×10.˚2E±.˚, h27km±7km,M4.7/18, mb4.9/2,MLv4.5/18*
ISC 13 19:16:04.6±0.4,**4.˚65S**±0.˚05×**102.˚13E**±0.˚05,**h37**km,**n115**, σ1:**91**/127,**mb4.4**/35,**1D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.87**	**71**	P		**Pn**	**19 16 22.3**	**+2.0**
MNAI				S		**Sn**	**19 16 32.9**	**+1.1**
MNAI	**Manna**	**0.87**	**71**	*e*Pn		**Pn**	**19 16 22.1**	**+1.8**
MASI	**Maura Aman, Be**	**1.50**	**4**	P		**Pn**	**19 16 32.5**	**+3.5**
LWLI	**Liwa**	**1.95**	**101**	P		**Pn**	**19 16 37.6**	**+2.2**
LWLI				S		**Sn**	**19 16 59.6**	**+0.9**
MDSI	**Maura Dua**	**2.04**	**86**	P		**Pn**	**19 16 38.6**	**+2.1**
MDSI				S		**Sn**	**19 17 01.9**	**+1.1**
KASI	**Kota Agung**	**2.51**	**110**	P		**Pn**	**19 16 45.3**	**+2.4**
KASI				S		**Sn**	**19 17 13.8**	**+1.5**
KLI	**Kotabumi**	**2.72**	**95**	P		**Pn**	**19 16 47.8**	**+2.0**
PPSI	**Pulau Pagai**	**2.83**	**311**	P		**Pn**	**19 16 52.0**	**+4.8**
PMBI	**Palembang**	**3.14**	**57**	P		**Pn**	**19 16 53.4**	**+1.9**
BLSI	**Bandar Lampung**	**3.18**	**103**	P		**Pn**	**19 16 54.0**	**+1.8**
JMBI	**JAMBI**	**3.35**	**27**	P		**Pn**	**19 16 58.0**	**+3.5**
SDSI	**Sungai Dareh**	**3.75**	**349**	P		**Pn**	**19 17 04.9**	**+4.9**
CGJI	**Cibinong**	**4.05**	**119**	P		**Pn**	**19 17 05.9**	**+1.9**
PDSI	**Padang**	**4.07**	**336**	P		**Pn**	**19 17 08.3**	**+3.9**
SBJI	**Serang**	**4.24**	**110**	P		**Pn**	**19 17 08.7**	**+2.0**
SISI	**Saibi**	**4.48**	**317**	P		**Pn**	**19 17 14.1**	**+4.0**
PPBI	**Pangkal Pinang**	**4.70**	**58**	P		**Pn**	**19 17 15.7**	**+2.7**
DSRI	**Dabo**	**4.80**	**31**	P		**Pn**	**19 17 17.7**	**+3.2**
SKJI	**Sukabumi**	**4.99**	**118**	P		**Pn**	**19 17 19.1**	**+2.1**
BKNI	**Bangkinang**	**5.06**	**347**	P		**Pn**	**19 17 22.1**	**+4.1**
LEM	**Lembang**	**5.87**	**112**	P		**Pn**	**19 17 32.0**	**+2.8**
	1.8nm,0.3s,baz=322,slow=19,SNR=2.0							
LEM				S		**Sn**	**19 18 37.8**	**+2.4**
	1.7nm,0.3s,baz=159,slow=18,SNR=3.6							
CISI	**Cisompet, Garu**	**6.35**	**117**	P		**Pn**	**19 17 37.5**	**+1.8**
CISI	**Cisompet, Garu**	**6.35**	**117**	*e*Pn		**Pn**	**19 17 37.1**	**+1.3**
CISI				*e*Sn		**Sn**	**19 18 40.7**	**-6.4**
MYKOM	**Kota Tinggi**	**6.62**	**15**	*e*Pn		**Pn**	**19 17 41.6**	**+2.2**
GSI	**Gunungsitoli**	**7.46**	**322**	*e*Pn		**Pn**	**19 17 53.3**	**+2.3**
GSI				*e*Sn		**Sn**	**19 19 09.7**	**-4.7**
PSI	**Prapat**	**8.06**	**337**	LR		LR	19 21 34.3	
	comp=Z,124nm,20.6s,baz=130,slow=41							
UGM	**Wanagama**	**8.95**	**112**	*e*Pn		**Pn**	**19 18 14.0**	**+2.6**
UGM				*e*Sn		Sn	19 19 39.1	-12

IPM Ipoh 9.13 353 *e*Pn Pn 19 18 19.4 +5.5
COCO West Island 9.15 215 *e*Pn **Pn 19 18 16.8 +2.8**
COCO *e*Sn Sn 19 19 47.8 -8.0
KULM Kulim 9.98 351 *e*Pn **Pn 19 18 26.6 +1.1**
JAGI Jajag, Banyuwa 12.53 108 *e*Pn **Pn 19 19 00.8 +0.4**
MYLDM Lahad Datu 19.04 59 *e*P **Pn 19 20 24.9 +0.1**
40nm,1.4s
BATI Baumata 22.05 106 P **P 19 20 57.2 +0.9**
55nm,1.0s,baz=90,slow=20,SNR=4.1
SOEI Soe 22.53 104 *e*P **P 19 21 01.6 -0.1**
129nm,1.6s
CM01 Chiang Mai Arr 23.13 352 *e*P **P 19 21 06.7 -1.0**
CM31 Chiang Mai Arr 23.17 352 *e*P **P 19 21 08.7 +0.6**
CMAR Chiang Mai Arr 23.17 352 P **P 19 21 08.1 0.0**
5.6nm,0.9s,baz=184,slow=8.5,SNR=36
CHTO Chiang Mai 23.52 352 *e*P **P 19 21 11.1 -0.4**
9.1nm,1.4s
FITZ Fitzroy Crossi 26.59 122 P **P 19 21 40.1 +0.5**
2.9nm,0.6s,baz=308,slow=7.8,SNR=9.4
FITZ Fitzroy Crossi 26.59 122 *e*P **P 19 21 40.1 +0.5**
96nm,2.0s
KMI Kunming 29.59 1 P P 19 22 12.1 +5.5
H08S2 Diego Garcia H 29.61 263 T T 19 52 42.1
baz=87,slow=76,SNR=22
H08S3 Diego Garcia H 29.62 263 T T 19 52 43.4
baz=87
H08S1 Diego Garcia H 29.63 263 T T 19 52 44.0
baz=87,slow=76,SNR=6.6
H01W3 Cape Leeuwin H 32.08 161 T T 19 56 26.9
baz=339,slow=76,SNR=4.2
H01W2 Cape Leeuwin H 32.09 161 T T 19 56 29.6
baz=339,slow=76,SNR=4.3
H01W1 Cape Leeuwin H 32.09 161 T T 19 56 25.4
baz=339,slow=76,SNR=4.0
WR1 Warramunga Arr 34.84 119 *e*P **P 19 22 52.8 +0.3**
69nm,1.9s
WR1 *e*S **S 19 28 16.6 -4.7**
WRA Warramunga Arr 34.84 119 P **P 19 22 52.8 +0.3**
1.1nm,0.8s,baz=322,slow=11,SNR=44
WRA S **S 19 28 16.6 -4.7**
0.6nm,0.8s,baz=321,slow=14,SNR=3.6
WRAB Tennant Creek 34.85 119 *e*P **P 19 22 53.1 +0.5**
30nm,1.6s
CD2 Chengdu 35.39 2 *e*P **P 19 22 59.0 +2.0**
JIRN Jiri 35.61 335 *e*P **P 19 23 01.1 +1.7**
23nm,0.4s
LSA Lhasa 35.74 344 *e*P **P 19 22 58.3 -2.2**
3.7nm,1.1s
PKI Pulchoki 35.87 334 *e*P **P 19 23 02.8 +1.3**
2.4nm,0.3s
PKIN Phulchoki 35.88 334 *e*P **P 19 23 02.8 +1.2**
2.8nm,0.4s
GUN Gumba 35.96 335 *e*P **P 19 23 04.1 +1.7**
34nm,0.5s
AS31 Alice Springs 35.99 125 *e*P **P 19 23 02.8 +0.4**
1.9nm,0.3s
ASAR Alice Springs 35.99 125 P **P 19 23 03.0 +0.7**
0.8nm,0.4s,baz=295,slow=7.6,SNR=16
ASAR PcP **PcP 19 25 29.8 +1.2**
0.3nm,0.7s,baz=315,slow=2.2,SNR=2.4
ASAR S **S 19 28 35.7 -3.2**
0.5nm,0.8s,baz=299,slow=14,SNR=3.1
AS01 Alice Springs 36.03 125 *e*P **P 19 23 03.6 +0.9**
DMN Daman 36.03 334 *e*P **P 19 23 04.3 +1.4**
KKN Kakani 36.11 334 *e*P **P 19 23 04.9 +1.4**
11nm,0.7s
KOLN Koldanda 36.85 332 *e*P **P 19 23 11.4 +1.6**
PYUN Piuthan 37.42 332 *e*P **P 19 23 16.9 +2.3**
8.8nm,0.6s
NJ2 Nanjing 39.81 22 *e*P **P 19 23 34.8 +0.4**
LZH Lanzhou 40.55 2 *e*P **P 19 23 42.3 +1.7**
LZH pP sP 19 23 57.3 +1.5
LZH sP pP 19 24 02.6 +11
GTA Gaotai 43.89 357 *e*P **P 19 24 08.0 +0.2**
GTA pP sP 19 24 21.8 -1.2
GTA sP pP 19 24 28.0 +9.4
STKA Stephens Creek 45.81 131 P **P 19 24 23.4 +0.2**
2.1nm,0.5s,baz=314,slow=7.0,SNR=8.4
STKA Stephens Creek 45.81 131 *e*P **P 19 24 24.1 +1.0**
6.7nm,1.9s
HHC Hu-ho-hao-te 46.09 10 *e*P **P 19 24 28.3 +3.1**
KSAR Wonju Array Be 48.25 28 P **P 19 24 41.5 -0.4**
KSRS Korea Array 48.28 28 P **P 19 24 41.5 -0.6**
1.2nm,0.6s,baz=222,slow=7.2,SNR=6.4
WMQ Urumqi 49.97 346 P P 19 24 56.9 +1.8
WMQ pP sP 19 25 10.0 -0.5
WMQ sP pP 19 25 18.3 +12
KSH Kashi 50.13 334 P **P 19 24 56.5 0.0**
KSH pP sP 19 25 10.4 -1.4
KSH PP **PP 19 26 53.8 +1.8**
KSH S **S 19 32 00.3 -5.4**
KSH sS sS 19 32 27.3 +3.5
KSH Kashi 50.13 334 SS SS 19 35 31.3 -8.3
KDJ Kajisay 51.80 336 *e*P **P 19 25 10.4 +1.3**
33nm,1.5s
SONA0 Songino Array 52.39 4 *e*P **P 19 25 14.2 +0.9**
SONA0 *e*PcP **PcP 19 26 23.9 0.0**
SONM Songino Array 52.39 4 P **P 19 25 14.2 +0.9**
4.7nm,0.7s,baz=183,slow=9.3,SNR=44
SONM pP **sP 19 25 27.9 -0.7**
3.0nm,0.7s,baz=185,slow=9.9,SNR=11
SONM PcP **PcP 19 26 23.9 0.0**
0.5nm,0.4s,baz=200,slow=3.8,SNR=4.1
SONA1 Songino Array 52.40 4 *e*P **P 19 25 14.2 +0.8**
SONA1 *e*PcP **PcP 19 26 24.5 +0.5**
ULN Ulaanbaatar 52.47 4 *e*P **P 19 25 14.6 +0.7**
4.3nm,1.2s
MK01 Makanchi Array 54.12 343 *e*P **P 19 25 26.1 +0.2**
MK31 Makanchi Array 54.15 343 *e*P **P 19 25 26.8 +0.6**
MK32 Makanchi Array 54.15 343 *e*P **P 19 25 26.5 +0.4**
MKAR Makanchi Array 54.15 343 P **P 19 25 26.5 +0.4**
3.8nm,0.6s,baz=152,slow=8.4,SNR=52
MKAR pP **sP 19 25 39.8 -1.7**
2.8nm,0.7s,baz=147,slow=7.7,SNR=9.6
MKAR Makanchi Array 54.15 343 *e*P **P 19 25 26.8 +0.6**
27nm,0.5s
MAKZ Makanchi 54.25 343 *e*P **P 19 25 27.3 +0.5**
3.0nm,1.1s
USRK Ussuriysk Ar. 55.54 26 P **P 19 25 35.0 -1.1**
2.7nm,0.5s,baz=207,slow=4.2,SNR=8.8
USRK pP **sP 19 25 49.8 -1.8**
2.8nm,0.8s,baz=252,slow=7.2,SNR=3.1
KURBB Kurchatov Arra 58.68 343 P **P 19 25 58.7 +0.4**
2.1nm,0.8s,baz=162,slow=6.7,SNR=17
KURBB pP **sP 19 26 12.1 -1.6**
1.7nm,0.6s,baz=157,slow=6.5,SNR=11
KURK Kurchatov 58.74 343 *e*P **P 19 25 58.7 0.0**
ZAA0 Zalesovo Array 60.16 348 *e*P **P 19 26 08.0 -0.4**
6.8nm,0.9s
ZALV Zalesovo Beam 60.16 348 P **P 19 26 08.4 0.0**
3.9nm,0.5s,baz=174,slow=5.1,SNR=26
ZALV pP **sP 19 26 22.2 -1.7**
6.2nm,0.7s,baz=169,slow=5.8,SNR=11
ZALV Zalesovo Beam 60.16 348 *e*P **P 19 26 08.3 -0.1**
ZAA1 Zalesovo Array 60.16 348 *e*P **P 19 26 08.4 0.0**
ASAJ Asahikawa 60.63 32 P **P 19 26 10.8 -1.0**
0.9nm,0.4s,baz=256,slow=8.3,SNR=6.1
ASAJ Asahikawa 60.63 32 *e*P **P 19 26 11.2 -0.7**
14nm,1.8s
BVAR Borovoye Array 63.39 339 P **P 19 26 30.0 -0.2**
1.4nm,0.5s,baz=144,slow=8.5,SNR=19
BRVK Borovoye 63.45 339 *e*P **P 19 26 30.3 -0.3**
4.7nm,1.4s
ABKAR Akbulak array 64.97 331 *e*P **P 19 26 40.8 +0.2**
33nm,0.6s
AKTO Aktyubinsk 66.69 331 P **P 19 26 51.1 -0.6**
0.7nm,0.4s,baz=76,slow=4.2,SNR=3.8
YAK Yakutsk 69.78 13 *e*P **P 19 27 09.7 -1.1**
11nm,0.8s
ARU Arti 70.47 336 P **P 19 27 14.8 -0.3**
1.4nm,0.4s,baz=163,slow=0.9,SNR=4.1
ARU Arti 70.47 336 *e*P **P 19 27 15.8 +0.6**
16nm,1.8s
SYO Syowa Base 76.08 199⇓*e*P **P 19 27 46.6 -1.4**
BOSA Boshof 76.27 242 P **P 19 27 50.3 +0.1**
0.7nm,0.5s,baz=217,slow=10,SNR=2.0
BR101 Keskin Array S 76.67 312 *e*P **P 19 27 51.4 -0.8**
BRTR Keskin Array B 76.67 312 P **P 19 27 51.4 -0.8**
0.9nm,0.9s,baz=133,slow=5.4,SNR=4.1
BR231 Keskin MP Arra 77.34 312 *e*P **P 19 27 54.0 -1.9**
TIXI Tiksi 78.13 8 P **P 19 27 58.1 -1.4**
1.1nm,0.5s,baz=239,slow=4.3,SNR=6.9
TIXI pP **pP 19 28 13.0 +2.1**
1.4nm,0.6s,baz=260,slow=1.4,SNR=2.9
TIXI Tiksi 78.13 8 *e*P **P 19 27 57.9 -1.6**
3.6nm,1.2s

FIA0	**FINESS Array S**	**87.43 332**	*e*P		**P**	**19 28 47.8**	**-0.1**
FINES	**FINESS Array B**	**87.43 332**	P		**P**	**19 28 47.8**	**-0.1**
	1.1nm,0.7s,baz=103,slow=6.0,SNR=2.6						
FINES			pP		**sP**	**19 29 04.6**	**+0.8**
	2.2nm,0.9s,baz=114,slow=9.2,SNR=1.6						
ARA0	**ARCESS Array S**	**89.67 340**	*e*P		**P**	**19 28 57.9**	**-0.5**
ARCES	**ARCESS Array B**	**89.67 340**	P		**P**	**19 28 57.9**	**-0.5**
	1.1nm,0.8s,baz=72,slow=5.2,SNR=4.0						
SPITS	**Spitsbergen Ar**	**93.64 348**	P		**P**	**19 29 15.8**	**-0.8**
	10.0nm,1.0s,baz=162,slow=11,SNR=3.3						
LTX	**Lajitas**	**145.37 42**	*e*PKPdf	**PKPdf**		**19 35 40.0**	**+0.5**
LTX			*ep*PKPab	sPKPab		19 35 54.9	-0.6
TXAR	**Lajitas Array**	**145.37 42**	PKPbc	**PKPdf**		**19 35 40.0**	**+0.5**
	1.2nm,0.5s,baz=283,slow=1.1,SNR=17						
TXAR			pPKPbc	sPKPab		19 35 54.9	-0.6
	1.0nm,0.6s,baz=272,slow=1.2,SNR=6.2						

ISCJB ***13*** *19:32:50.5±0.4,8.°63S±0.°05×118.°36E±0.°03,h152km, mb3.5/5, Error ellipse: s-maj=7.9km s-min=4.5km az=11.9*
DJA ***13*** *19:32:52.6±0.3,9.°3S±3.°×11.°8E±, h114km±4km, M4.0/13, mb4.0/1, MLv4.0/13*
IDC ***13*** *19:32:52.7±2.5,8.°40S×118.°64E,h147km±18km, mb3.2/5, mb1 3.3/8, mb1mx3.1/56, mbtmp3.7/8, Error ellipse: s-maj=45.7km s-min=9.7km az=50.0*
ISC 13 19:32:51.8±0.7, 8.°71S±0.°06×118.°35E±0.°04, h152km, n19, σ2s09/31, mb3.5/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.58**	**258**	P	**Pn**	**19 33 11.9**	**-1.9**
PLAI				S	**Sn**	**19 33 26.5**	**-4.0**
WBSI	**Waikabubak, Su**	**1.38**	**132**	P	**Pn**	**19 33 18.8**	**-1.6**
WBSI				S	**Sn**	**19 33 38.9**	**-3.4**
BASI	**Baing, Sumba**	**2.66**	**124**	P	**Pn**	**19 33 35.5**	**+0.4**
BASI				S	**Sn**	**19 34 08.0**	**-0.5**
DNP	**Denpasar**	**3.10**	**270**	P	**Pn**	**19 33 40.2**	**-0.4**
SRBI	**Singaraja**	**3.16**	**281**	P	**Pn**	**19 33 40.4**	**-1.0**
SRBI				S	**Sn**	**19 34 19.0**	**-0.7**
IGBI	**Denpasar**	**3.17**	**268**	P	**Pn**	**19 33 42.3**	**+0.9**
IGBI				S	**Sn**	**19 34 19.5**	**-0.2**
BSSI	**Bau Bau, Buton**	**3.32**	**40**	P	**Pn**	**19 33 42.2**	**-1.2**
BSSI				S	**Sn**	**19 34 20.9**	**-2.5**
JAGI	**Jajag, Banyuwa**	**4.16**	**273**	P	**Pn**	**19 33 53.6**	**-0.6**
BNSI	**Bone**	**4.62**	**22**	P	**Pn**	**19 34 00.4**	**0.0**
GMJI	**Gumukmas**	**4.87**	**275**	P	**Pn**	**19 34 03.2**	**-0.4**
BATI	**Baumata**	**5.45**	**106**	P	**Pn**	**19 34 11.1**	**-0.3**
	7.9nm,0.3s,baz=290,slow=18,SNR=12						
BATI				S	**Sn**	**19 35 10.5**	**-2.9**
	7.3nm,0.3s,baz=273,slow=17,SNR=3.1						
BATI	**Baumata**	**5.45**	**106**	P	**Pn**	**19 34 11.3**	**0.0**
BATI				S	**Sn**	**19 35 13.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.72**	**144**	P	**Pn**	**19 35 35.0**	**+0.5**
	0.2nm,0.3s,baz=295,slow=15,SNR=5.1						
FITZ				S	**Sn**	**19 37 38.3**	**-5.8**
	1.1nm,0.3s,baz=168,slow=20,SNR=15						
WRA	**Warramunga Arr**	**19.08**	**128**	P	**P**	**19 37 03.9**	**+1.0**
	0.4nm,0.3s,baz=301,slow=12,SNR=23						
WRA				S	**S**	**19 40 31.5**	**+0.2**
	0.1nm,0.3s,baz=305,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**21.05**	**137**	P	**P**	**19 37 26.2**	**+2.2**
	1.6nm,0.5s,baz=309,slow=9.1,SNR=39						
ASAR				S	**S**	**19 41 12.7**	**+2.9**
	0.4nm,0.9s,baz=305,slow=22,SNR=2.6						
ASAR				ScP	**ScP**	**19 44 51.1**	**+3.6**
	0.3nm,0.5s,baz=348,slow=2.1,SNR=6.2						
STKA	**Stephens Creek**	**31.59**	**140**	P	**P**	**19 39 02.7**	**+2.5**
	0.8nm,0.4s,baz=312,slow=8.8,SNR=3.3						
SONM	**Songino Array**	**57.29**	**350**	P	**P**	**19 42 23.4**	**-0.3**
	0.2nm,0.4s,baz=166,slow=8.4,SNR=3.9						
MKAR	**Makanchi Array**	**63.91**	**333**	P	**P**	**19 43 08.0**	**-0.5**
	0.2nm,0.6s,baz=145,slow=5.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**68.54**	**339**	P	**P**	**19 43 37.7**	**0.0**
	0.4nm,0.4s,baz=147,slow=6.6,SNR=2.3						

BJI ***13*** *19:43:27.9, 13.°53S×167.°39E, h193km, mb4.5/21, mB4.8/13*
WEL ***13*** *19:43:31.0, 13.°08S×166.°97E, h186km*
NEIC ***13*** *19:43:31.6±0.2, 13.°08S×166.°97E, mb4.9/57, Error ellipse: s-maj=5.9km s-min=4.1km az=89.0*
IDC ***13*** *19:43:32.3±1.7, 13.°14S×167.°01E, h196km±15km, mb3.9/22, mb1 4.0/24, mb1mx3.9/48, mbtmp4.4/24, MS3.1/2, Ms1 3.1/2, ms1mx2.6/37, Error ellipse: s-maj=15.5km s-min=9.1km az=85.0*
ISCJB ***13*** *19:43:33.6±1.2, 13.°18S±0.°04×166.°93E±0.°05, h221km±11km, mb4.6/81, Error ellipse: s-maj=8.0km s-min=5.0km az=154.6*
ISC 13 19:43:31.5±0.6, 13.°15S±0.°05×167.°08E±0.°07, h189km±4km, n185, σ1s30/212, mb4.8/82, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.91**	**297**	P	**Pn**	**19 45 23.8**	**+0.2**
	3.5nm,0.3s,baz=249,slow=14,SNR=2.6						
HNR	**Honiara**	**7.91**	**297**	P	**Pn**	**19 45 26.0**	**+2.4**
HNR	**Honiara**	**7.91**	**297**	*e*Pn	**Pn**	**19 45 23.1**	**-0.5**
DZM	**Mont Dzumac**	**8.90**	**184**	P	**Pn**	**19 45 39.2**	**+2.6**
	5.0nm,0.3s,baz=17,slow=17,SNR=20						
DZM				S	**Sn**	**19 47 17.3**	**+1.1**
	1.1nm,0.3s,baz=139,slow=19,SNR=3.0						
DZM				LR	LR	19 48 29.5	
	comp=Z,106nm,19.2s,baz=58,slow=33						
DZM	**Mont Dzumac**	**8.90**	**184**	*e*Pn	**Pn**	**19 45 40.2**	**+3.6**
DZM				*e*Sn	**Sn**	**19 47 15.4**	**-0.8**
MSVF	**Nonsavu**	**11.52**	**115**	*e*Pn	**P**	**19 46 15.2**	**-1.4**
EIDS	**Eidsvold**	**19.36**	**229**	*e*P	**P**	**19 47 43.7**	**+0.9**
	24nm,1.3s						
CTA	**Charters Tower**	**21.10**	**248**	P	**P**	**19 48 01.1**	**-0.4**
	6.1nm,0.7s,baz=84,slow=11,SNR=8.7						
CTAO	**Charters Tower**	**21.10**	**248**	*e*P	**P**	**19 48 01.7**	**+0.2**
	8.1nm,0.8s						
ARMA	**Armidale**	**22.34**	**217**	*e*P	**P**	**19 48 14.5**	**+0.5**
	56nm,1.7s						
HIZ	**Hauiti**	**26.19**	**166**	*e*P	**P**	**19 48 51.0**	**+2.4**
	371nm,1.9s						
MXZ	**Matakaoa Point**	**26.30**	**160**	*e*P	**P**	**19 48 50.6**	**+1.0**
	37nm,0.5s						
HAZ	**Te Kaha**	**26.30**	**161**	P	**P**	**19 48 51.7**	**+2.1**
RUGZ	**Raukumara Rang**	**26.46**	**161**	P	**P**	**19 48 51.7**	**+0.5**
PKGZ	**Pakihiroa**	**26.52**	**160**	P	**P**	**19 48 52.2**	**+0.6**
URZ	**Urewera**	**26.56**	**162**	P	**P**	**19 48 52.1**	**+0.3**
	8.5nm,0.4s,baz=230,slow=0.7,SNR=9.3						
WMGZ	**Waiomatatini S**	**26.57**	**160**	P	**P**	**19 48 52.9**	**+0.9**
PUZ	**Puketiti**	**26.75**	**160**	P	**P**	**19 48 53.4**	**-0.2**
TWGZ	**Tauwhareparae**	**26.75**	**161**	P	**P**	**19 48 55.2**	**+1.5**
MWZ	**Matawai**	**26.75**	**162**	P	**P**	**19 48 54.0**	**+0.3**
TWVZ	**Taurewa**	**26.86**	**165**	P	**P**	**19 48 56.9**	**+2.1**
WTVZ	**West Tongariro**	**26.94**	**165**	P	**P**	**19 48 59.1**	**+3.6**
NGZ	**Ngauruhoe**	**27.00**	**165**	P	**P**	**19 48 59.8**	**+3.7**
COVZ	**Chateau Observ**	**27.01**	**165**	P	**P**	**19 48 59.0**	**+2.9**
PKVZ	**Pokaka**	**27.05**	**166**	P	**P**	**19 48 59.4**	**+3.3**
FWVZ	**Far West T-bar**	**27.06**	**165**	P	**P**	**19 48 59.2**	**+2.5**
WHVZ	**Whangaehu Hut**	**27.10**	**165**	P	**P**	**19 49 00.1**	**+3.1**
TUVZ	**Tukino**	**27.10**	**165**	P	**P**	**19 48 59.8**	**+2.9**
RAHZ	**Arahi**	**27.16**	**163**	P	**P**	**19 48 57.8**	**+0.5**
BKZ	**Black Stump Fm**	**27.22**	**164**	*e*P	**P**	**19 48 58.5**	**+0.6**
	22nm,0.6s						
BKZ	**Black Stump Fm**	**27.22**	**164**	P	**P**	**19 48 58.6**	**+0.7**
MOVZ	**Moawhango**	**27.26**	**165**	P	**P**	**19 48 59.9**	**+1.7**
BHHZ	**Black Hill Sta**	**27.41**	**165**	P	**P**	**19 49 00.9**	**+1.3**
KWHZ	**Kaweka Forest**	**27.45**	**164**	P	**P**	**19 49 01.2**	**+1.3**
CAN	**Canberra**	**27.46**	**213**	*e*P	**P**	**19 49 00.5**	**+0.5**
	30nm,1.4s						
MCHZ	**McNeill Hill**	**27.54**	**164**	P	**P**	**19 49 01.9**	**+1.3**
KRHZ	**Kereru**	**27.64**	**164**	P	**P**	**19 49 02.2**	**+0.6**
CKHZ	**Cape Kidnapper**	**27.84**	**163**	P	**P**	**19 49 03.9**	**+0.6**
PNHZ	**Pukenui**	**27.85**	**164**	P	**P**	**19 49 04.2**	**+0.8**
KAHZ	**Kahuranaki**	**27.91**	**164**	P	**P**	**19 49 04.7**	**+0.6**
TSZ	**Takapari Road**	**27.93**	**165**	P	**P**	**19 49 05.3**	**+1.2**
QRZ	**Quartz Range**	**27.98**	**171**	P	**P**	**19 49 08.4**	**+3.8**
PXZ	**Pawanui**	**28.13**	**164**	P	**P**	**19 49 06.3**	**+0.4**
DVHZ	**Dannevirke**	**28.20**	**165**	P	**P**	**19 49 07.1**	**+0.5**
PRHZ	**Porangahau**	**28.29**	**164**	P	**P**	**19 49 07.7**	**+0.4**
ANWZ	**Angora Road**	**28.43**	**165**	P	**P**	**19 49 09.2**	**+0.7**
BFZ	**Birch Farm**	**28.59**	**165**	*e*P	**P**	**19 49 10.1**	**+0.2**
	35nm,0.6s						
BFZ	**Birch Farm**	**28.59**	**165**	P	**P**	**19 49 09.6**	**-0.3**
DSZ	**Denniston Nort**	**28.79**	**173**	P	**P**	**19 49 16.2**	**+4.4**
CPWZ	**Castlepoint**	**28.79**	**166**	P	**P**	**19 49 11.1**	**-0.6**
SNZO	**South Karori**	**28.84**	**168**	*e*P	**P**	**19 49 12.4**	**+0.3**
	86nm,1.2s						
THZ	**Tophouse**	**28.96**	**171**	*e*P	**P**	**19 49 14.4**	**+1.1**
	49nm,1.1s						
THZ				*ep*P	**pP**	**19 49 53.0**	**+1.0**
KHZ	**Kahutara**	**29.70**	**170**	*e*P	**P**	**19 49 20.4**	**+0.7**
	97nm,1.6s						
KHZ				*ep*P	**pP**	**19 49 59.1**	**+0.6**
LTZ	**Lake Taylor**	**29.87**	**172**	*e*P	**P**	**19 49 21.7**	**+0.4**
	27nm,0.7s						
STKA	**Stephens Creek**	**29.90**	**227**	P	**P**	**19 49 21.9**	**+0.2**
	8.8nm,0.5s,baz=50,slow=8.9,SNR=32						
STKA				PcP	**PcP**	**19 52 19.2**	**-0.6**
	2.9nm,0.6s,baz=83,slow=2.9,SNR=6.2						
STKA	**Stephens Creek**	**29.90**	**227**	*e*P	**P**	**19 49 21.6**	**-0.1**
	1.9nm,0.6s						
STKA				*e*PcP	**PcP**	**19 52 19.3**	**-0.6**
FOZ	**Fox Glacier**	**30.37**	**176**	*e*P	**P**	**19 49 27.5**	**+1.9**
	95nm,1.5s						
OXZ	**Oxford**	**30.38**	**173**	*e*P	**P**	**19 49 28.0**	**+2.3**
	24nm,0.6s						
RPZ	**Rata Peaks**	**30.65**	**174**	P	**P**	**19 49 28.7**	**+0.5**
	9.0nm,0.5s,baz=298,slow=3.1,SNR=11						
MQZ	**McQueen's Vall**	**30.83**	**172**	*e*P	**P**	**19 49 30.5**	**+0.9**
	104nm,1.5s						
MQZ	**McQueen's Vall**	**30.83**	**172**	P	**P**	**19 49 28.9**	**-0.7**
JCZ	**Jackson Bay**	**30.86**	**178**	P	**P**	**19 49 32.0**	**+2.0**
LBZ	**Lake Benmore**	**31.25**	**176**	*e*P	**P**	**19 49 33.7**	**+0.4**
	67nm,1.5s						
WKZ	**Wanaka**	**31.62**	**177**	*e*P	**P**	**19 49 37.6**	**+1.0**
	149nm,1.8s						
ODZ	**Otahua Downs**	**31.93**	**175**	*e*P	**P**	**19 49 40.8**	**+1.5**
	120nm,1.9s						
WR1	**Warramunga Arr**	**32.06**	**253**	*e*P	**P**	**19 49 39.7**	**-1.1**
	38nm,1.8s						
WR1				*e*PcP	**PcP**	**19 52 24.8**	**-1.0**
WR1				*e*ScP	**ScP**	**19 55 51.6**	**0.0**
WRA	**Warramunga Arr**	**32.06**	**253**	P	**P**	**19 49 39.7**	**-1.1**
	0.9nm,0.6s,baz=84,slow=8.8,SNR=6.1						
WRA				PcP	**PcP**	**19 52 24.8**	**-1.0**
	0.6nm,0.6s,baz=94,slow=7.4,SNR=4.4						
WRA				ScP	**ScP**	**19 55 51.7**	**0.0**
	0.6nm,1.0s,baz=69,slow=3.8,SNR=4.7						
MLZ	**Mavora Lakes**	**32.12**	**179**	*e*P	**P**	**19 49 42.8**	**+1.8**
	65nm,1.6s						
DCZ	**Deep Cove**	**32.21**	**180**	*e*P	**P**	**19 49 43.5**	**+1.8**
	120nm,2.0s						
WHZ	**Wether Hill Ro**	**32.65**	**179**	*e*P	**P**	**19 49 45.4**	**-0.1**
	86nm,1.6s						
AS01	**Alice Springs**	**33.05**	**247**	*e*P	**P**	**19 49 48.4**	**-1.0**
AS01				*ep*P	**pP**	**19 50 26.9**	**-1.6**
AS31	**Alice Springs**	**33.09**	**247**	*e*P	**P**	**19 49 48.6**	**-1.1**
	1.9nm,1.2s						
ASAR	**Alice Springs**	**33.09**	**247**	P	**P**	**19 49 48.8**	**-1.0**
	2.0nm,0.5s,baz=71,slow=9.7,SNR=42						
ASAR				PcP	**PcP**	**19 52 27.9**	**-0.8**
	1.0nm,0.7s,baz=61,slow=1.9,SNR=6.0						
ASAR				ScP	**ScP**	**19 55 55.4**	**+0.2**
	2.0nm,0.9s,baz=87,slow=3.4,SNR=10.0						
TAU	**Tasmania Unive**	**34.22**	**206**	*e*P	**P**	**19 49 58.7**	**-0.5**
	94nm,1.8s						
BBOO	**Buckleboo**	**34.42**	**230**	*e*P	**P**	**19 50 00.3**	**-0.8**
	76nm,1.6s						
MBWA	**Marble Bar**	**45.80**	**253**	*e*P	**P**	**19 51 34.5**	**-0.3**
	61nm,1.4s						
NWAO	**Narrogin (SRO)**	**49.41**	**238**	LR	LR	20 12 57.3	
	comp=Z,25nm,19.1s,baz=154,slow=36						
NWAO	**Narrogin (SRO)**	**49.41**	**238**	*e*P	**P**	**19 52 01.8**	**-0.6**
	147nm,1.8s						
NWAO				*e*		20 12 57.3	
KKM	**Kota Kinabalu**	**54.00**	**288**	*e*P	**P**	**19 52 36.8**	**+0.1**
	31nm,1.1s						
UGM	**Wanagama**	**55.76**	**269**	*e*P	**P**	**19 52 49.0**	**-0.2**
	1μm,1.9s						
MJAR	**Matsushiro Arr**	**56.42**	**332**	P	**P**	**19 52 52.2**	**-1.4**
	0.8nm,0.9s,baz=262,slow=22,SNR=4.1						
MAJO	**Matsushiro**	**56.43**	**332**	*e*P	**P**	**19 52 52.8**	**-0.7**
	22nm,1.4s						
MJB9	**Matsu-Tunnel**	**56.43**	**332**	*e*P	**P**	**19 52 52.8**	**-0.7**
	36nm,1.7s						
TPUB	**Ta-pu**	**58.12**	**308**	*e*P	**P**	**19 53 05.1**	**-0.5**
	148nm,2.0s						
SSLB	**Suanglung**	**58.14**	**309**	*e*P	**P**	**19 53 05.3**	**-0.5**
	96nm,2.0s						
YHNB	**Yeheng**	**58.32**	**310**	*e*P	**P**	**19 53 07.3**	**+0.2**
	133nm,1.8s						
ASAJ	**Asahikawa**	**61.20**	**340**	P	**P**	**19 53 26.6**	**+0.4**
	1.8nm,0.8s,baz=126,slow=17,SNR=2.7						
ASAJ	**Asahikawa**	**61.20**	**340**	*e*P	**P**	**19 53 27.6**	**+1.4**
	7.4nm,1.3s						
KSRS	**Korea Array**	**62.34**	**325**	P	**P**	**19 53 34.0**	**+0.1**
	0.6nm,0.4s,baz=58,slow=16,SNR=3.6						
KS15	**Wonju Array Si**	**62.35**	**325**	*e*P	**P**	**19 53 33.3**	**-0.7**
KSAR	**Wonju Array Be**	**62.35**	**325**	P	**P**	**19 53 34.0**	**0.0**
KS01	**Wonju Array Si**	**62.37**	**325**	*e*P	**P**	**19 53 36.0**	**+1.9**
NJ2	**Nanjing**	**64.42**	**315**	*e*P	**P**	**19 53 45.8**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,18nm,0.6s						
VNDA	**Vanda**	**64.43**	**181**	P	**P**	**19 53 47.3**	**+0.2**
	3.1nm,0.6s,baz=349,slow=8.2,SNR=20						
VNDA	**Vanda**	**64.43**	**181**	*e*P	**P**	**19 53 48.0**	**+0.9**
	23nm,1.6s						
VNDA				*e*PcP	**PcP**	**19 54 18.4**	**-1.3**
PEA0B	**Petropavlovsk-**	**66.48**	**354**	*e*P	**P**	**19 54 02.1**	**+1.6**
	91nm,1.8s						
PETK	**Petropavlovsk-**	**66.48**	**354**	P	**P**	**19 54 00.9**	**+0.5**
	3.0nm,0.8s,baz=131,slow=4.2,SNR=7.9						
PETK	**Petropavlovsk-**	**66.48**	**354**	*e*P	**P**	**19 54 01.7**	**+1.2**
PEA1	**Petropavlovsk-**	**66.48**	**354**	*e*P	**P**	**19 54 00.9**	**+0.4**
MDJ	**Mudanjiang**	**66.81**	**332**	P	**P**	19 53 55.5	-7.2
KLR	**Kul'dur**	**69.49**	**336**	P	**P**	**19 54 19.5**	**+0.1**
	0.1nm,0.6s,baz=168,slow=2.6,SNR=5.8						
GSI	**Gunungsitoli**	**70.37**	**276**	*e*P	**P**	**19 54 25.2**	**-0.3**
	14nm,0.8s						
KMI	**Kunming**	**73.32**	**301**	P	**P**	**19 54 44.0**	**+0.9**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MA2	**Magadan**	**73.66**	**351**	P	**P**	**19 54 43.9**	**-0.1**
	1.0nm,0.3s,baz=169,slow=7.1,SNR=5.4						
CM01	**Chiang Mai Arr**	**74.12**	**294**	*e*P	**P**	**19 54 47.8**	**+0.2**
CM31	**Chiang Mai Arr**	**74.14**	**294**	*e*P	**P**	**19 54 48.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P	**P**	**19 54 47.5**	**-0.3**
	2.2nm,0.9s,baz=122,slow=4.6,SNR=11						
CHTO	**Chiang Mai**	**74.26**	**294**	*e*P	**P**	**19 54 48.5**	**+0.1**
	8.2nm,1.4s						
HHC	**Hu-ho-hao-te**	**74.27**	**319**	*e*P	**P**	**19 54 49.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
HIA	**Hailar**	**74.83**	**330**	*e*P	**P**	**19 54 51.2**	**+0.2**
	4.2nm,0.7s						
CD2	**Chengdu**	**74.91**	**307**	*e*P	**P**	**19 54 51.8**	**-0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
SEY	**Seymchan**	**76.70**	**353**	P	**P**	**19 55 02.2**	**+0.9**
	8.5nm,0.8s,baz=156,slow=5.5,SNR=37						
LZH	**Lanzhou**	**77.13**	**312**	*e*P	**P**	**19 55 07.9**	**+3.4**
LZH				pP	pP	19 55 50.6	+0.5
LZH				sP	sP	19 56 07.9	-2.3
LZH				pmax	pmax		
	comp=Z,15nm,0.5s						
LZH				pmax	pmax		
	comp=Z,81nm,4.0s						
GAMB	**Gambell**	**78.41**	**9**	*e*P	**P**	**19 55 11.2**	**+0.5**
	4.1nm,0.8s						
BRLK	**Bradley Lake**	**80.14**	**20**	*e*P	**P**	**19 55 21.2**	**+0.9**
	50nm,1.5s						
YAK	**Yakutsk**	**80.47**	**343**	P	**P**	**19 55 22.2**	**+0.3**
	7.6nm,0.3s,baz=217,slow=2.6,SNR=4.4						
YAK	**Yakutsk**	**80.47**	**343**	*e*P	**P**	**19 55 21.8**	**-0.1**
	8.8nm,0.6s						
ULN	**Ulaanbaatar**	**80.76**	**324**	*e*P	**P**	**19 55 24.4**	**+0.4**
	3.4nm,0.9s						
SONA0	**Songino Array**	**81.12**	**324**	*e*P	**P**	**19 55 25.9**	**0.0**
SONM	**Songino Array**	**81.12**	**324**	P	**P**	**19 55 25.9**	**0.0**
	1.2nm,0.8s,baz=137,slow=5.5,SNR=8.4						
SONA1	**Songino Array**	**81.12**	**324**	*e*P	**P**	**19 55 26.3**	**+0.4**
GTA	**Gaotai**	**81.44**	**314**	*e*P	**P**	**19 55 28.8**	**+1.0**
GTA				pP	pP	19 56 11.9	-2.0
GTA				sP	sP	19 56 30.8	-3.0
GTA				S	**S**	**20 05 24.6**	**+1.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,72nm,5.4s						
GTA				LR	LR		
	comp=N,170nm,18.1s						
GTA				LR	LR		
	comp=E,230nm,18.5s						
GTA				LR	LR		
	comp=Z,63nm,15.7s						
SUA	**Susitna One**	**81.47**	**19**	*e*P	**P**	**19 55 27.6**	**+0.2**
	14nm,1.2s						
RC01	**Rabbit Creek A**	**81.51**	**20**	*e*P	**P**	**19 55 28.1**	**+0.7**
	17nm,1.4s						
PPLA	**Purkeypile**	**82.11**	**18**	*e*P	**P**	**19 55 30.7**	**-0.1**
	30nm,1.6s						
CAST	**Castle Rocks**	**82.55**	**17**	*e*P	**P**	**19 55 32.9**	**+0.1**
	4.8nm,0.7s						
SCM	**Sheep Creek Mo**	**82.85**	**20**	*e*P	**P**	**19 55 35.0**	**+0.5**
SCM				*ep*P	**pP**	**19 56 21.0**	**+0.3**
KTH	**Kantishna Hill**	**82.99**	**18**	*e*P	**P**	**19 55 34.8**	**-0.4**
	14nm,1.4s						
KLU	**Klutina**	**83.08**	**21**	*e*P	**P**	**19 55 36.4**	**+0.7**
	25nm,1.7s						
TRF	**Thorofare Moun**	**83.10**	**18**	*e*P	**P**	**19 55 35.8**	**-0.1**
	23nm,1.7s						
BMRM	**Bremner River**	**83.18**	**22**	*e*P	**P**	**19 55 36.0**	**-0.2**
	34nm,1.7s						
RND	**Reindeer**	**83.50**	**18**	*e*P	**P**	**19 55 37.8**	**0.0**
	11nm,1.1s						
RND				*ep*P	**pP**	**19 56 24.5**	**+0.4**
MCK	**McKinley**	**83.72**	**18**	*e*P	**P**	**19 55 38.5**	**-0.3**
	14nm,1.3s						
DHY	**Denali Highway**	**83.72**	**19**	*e*P	**P**	**19 55 38.8**	**-0.2**
DHY				*ep*P	**pP**	**19 56 25.5**	**+0.1**
DIB	**Dawson Inlet,**	**83.77**	**32**	*e*P	**P**	**19 55 40.3**	**+1.1**
	76nm,1.5s						
H02S1	**DAWSON INLET T**	**83.77**	**32**	T	T	21 27 37.4	
	SNR=3.9						
CCB	**Clear Creek Bu**	**84.72**	**18**	*e*P	**P**	**19 55 43.7**	**-0.1**
	3.4nm,0.8s						
CCB				*ep*P	**pP**	**19 56 29.7**	**-0.5**
HDA	**Harding Lake**	**84.81**	**18**	*e*P	**P**	**19 55 44.4**	**+0.1**
HDA				*ep*P	**pP**	**19 56 30.0**	**-0.7**
MDM	**Murphy Dome**	**84.82**	**17**	*e*P	**P**	**19 55 43.8**	**-0.6**
	14nm,1.4s						
PASC	**Pasadena Art C**	**85.05**	**53**	*e*P	**P**	**19 55 47.6**	**+1.4**
	12nm,0.4s						
IL1	**Eielson Array**	**85.09**	**18**	*e*P	**P**	**19 55 45.0**	**-0.7**
IL1				*ep*P	**pP**	**19 56 30.9**	**-1.2**
ILAR	**Eielson Array**	**85.09**	**18**	P	**P**	**19 55 45.0**	**-0.7**
	3.2nm,0.7s,baz=238,slow=5.1,SNR=39						
ILB	**Eielson Array**	**85.09**	**18**	*e*P	**P**	**19 55 45.2**	**-0.4**
ILB				*ep*P	**pP**	**19 56 31.4**	**-0.7**
CHFC	**Chilao Flat St**	**85.23**	**53**	*e*P	**P**	**19 55 47.3**	**+0.1**
CLC	**China Lake**	**86.05**	**52**	*e*P	**P**	**19 55 54.5**	**+3.4**
LVP	**Lakeview Peak**	**86.33**	**41**	*e*P	**P**	**19 55 51.2**	**-1.1**
TIXI	**Tiksi**	**88.39**	**349**	P	**P**	**19 56 01.4**	**-0.1**
	1.0nm,0.8s,baz=79,slow=2.0,SNR=4.6						
SYO	**Syowa Base**	**90.16**	**197**	*i*eX	**P**	**19 56 06.4**	**-3.5**
FLU	**Fool Peak**	**91.23**	**50**	*e*P	**P**	**19 56 17.1**	**+1.4**
WMQ	**Urumqi**	**91.49**	**315**	P	**P**	**19 56 16.8**	**+0.2**
SNAA	**Sanae**	**95.11**	**183**	P	**P**	**19 56 33.5**	**+0.7**
	3.1nm,0.9s,baz=176,slow=15,SNR=3.8						
MK01	**Makanchi Array**	**95.92**	**317**	*e*P	**P**	**19 56 37.1**	**+0.2**
MK01				*ep*P	**pP**	**19 57 22.2**	**-1.6**
MK32	**Makanchi Array**	**95.94**	**317**	*e*P	**P**	**19 56 36.8**	**-0.2**
MK32				*e*PKKPbc	**PKKPbc**	**20 13 24.1**	**-2.4**
MKAR	**Makanchi Array**	**95.94**	**317**	P	**P**	**19 56 36.8**	**-0.2**
	0.9nm,0.6s,baz=90,slow=5.9,SNR=9.9						
MKAR				PKKP	**PKKPbc**	**20 13 24.1**	**-2.4**
	0.5nm

SHO				AMB	AMB	19 47 19.9	
	comp=E,63nm,0.4s						
SHO				*i* S	**Sn**	**19 47 49.6**	**-1.1**
SHO				A	A	19 47 51.3	
	comp=E,216nm,0.5s						
SHO				A	A	19 47 51.3	
	comp=E,519nm,0.5s						
SHO	**Shikotan**	**2.77**	**235***d*	*i* PN	**Pn**	**19 47 17.6**	**+1.3**
SHO				*i* S	**Sn**	**19 47 49.9**	**-0.8**
SHO				pmax	pmax		
	comp=Z,63nm,0.3s						
SHO				pmax	pmax		
	comp=N,16nm,0.2s						
SHO				pmax	pmax		
	comp=E,14nm,0.1s						
SHO				smax	smax		
	comp=N,216nm,0.3s						
SHO				smax	smax		
	comp=E,519nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.27**	**245**	*e*P	**Pn**	**19 47 25.8**	**+3.1**
YUK				AMB	AMB	19 47 31.9	
	comp=E,30nm,0.3s						
YUK				AMB	AMB	19 47 31.9	
	comp=E,51nm,0.3s						
YUK				AMB	AMB	19 47 31.9	
	comp=E,103nm,0.3s						
YUK				*i* S	**Sn**	**19 48 04.3**	**+2.2**
YUK				A	A	19 48 06.0	
	comp=E,201nm,0.5s						
YUK				A	A	19 48 06.0	
	comp=E,391nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.27**	**245***c*	*i* PN	**Pn**	**19 47 25.8**	**+3.1**
YUK				*i* S	**Sn**	**19 48 04.6**	**+2.5**
YUK				pmax	pmax		
	comp=Z,103nm,0.2s						
YUK				pmax	pmax		
	comp=N,30nm,0.1s						
YUK				pmax	pmax		
	comp=E,51nm,0.3s						
YUK				smax	smax		
	comp=N,205nm,0.1s						
YUK				smax	smax		
	comp=E,391nm,0.5s						
LAGR	**Lagunnoye**	**3.31**	**246**	*e*S	**Sn**	**19 48 05.4**	**+2.4**
GRPR	**Tuman**	**3.35**	**245**	*e*P	**Pn**	**19 47 26.8**	**+3.1**
GRPR				*e*S	**Sn**	**19 48 05.6**	**+1.7**
GRPR	**Tuman**	**3.35**	**245**	*e*PN	**Pn**	**19 47 26.8**	**+3.1**
GRPR				*e*S	**Sn**	**19 48 05.6**	**+1.7**
GLVR	**Golovnino**	**3.63**	**243**	*e*P	**Pn**	**19 47 29.7**	**+2.4**
GLVR				*e*S	**Sn**	**19 48 12.6**	**+2.2**
GLVR	**Golovnino**	**3.63**	**243**	*e*PN	**Pn**	**19 47 29.7**	**+2.4**
GLVR				*i* S	**Sn**	**19 48 12.6**	**+2.2**
NEM2	**Nemuro 2**	**3.70**	**237**	P	**Pn**	**19 47 29.8**	**+1.6**
NEM2				*e*S	**Sn**	**19 48 10.7**	**-1.3**
JRA	**Rausu**	**3.79**	**248**	P	**Pn**	**19 47 32.1**	**+2.7**
JNK	**Nakash**	**4.21**	**245**	P	**Pn**	**19 47 37.3**	**+2.4**
JAK	**Akkeshi**	**4.54**	**239**	P	**Pn**	**19 47 40.9**	**+1.7**
JAK				*e*S	**Sn**	**19 48 30.4**	**-1.2**
JTKR	**Abashiri--Toko**	**4.58**	**253**	P	**Pn**	**19 47 42.1**	**+2.4**
JAR	**Ashorobuto**	**4.96**	**246**	P	**Pn**	**19 47 47.5**	**+2.8**
JOB	**Onbets**	**5.12**	**242**	*e*S	**Sn**	**19 48 44.6**	**-0.7**
YSS	**Yuzh-Sakhalins**	**5.22**	**289**	*e*P	**Pn**	**19 47 48.1**	**-0.1**
YSS				AMB	AMB	19 47 49.2	
	comp=E,10.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.22**	**289**⇑	*e*PN	**Pn**	**19 47 48.1**	**-0.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JSE	**Soyaes**	**5.25**	**267**	P	**Pn**	**19 47 50.6**	**+2.1**
JKK2	**Kamakawa 2**	**5.40**	**255**	P	**Pn**	**19 47 53.3**	**+2.7**
JKA	**Kamikawa-asahi**	**5.43**	**258**	*e*P	**Pn**	**19 47 53.9**	**+3.0**
ASAJ	**Asahikawa**	**5.43**	**258**	P	**Pn**	**19 47 53.9**	**+3.0**
	comp=Z,1.5nm,0.3s,baz=82,slow=14,SNR=23						
ASAJ				S	**Sn**	**19 48 56.8**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=131,slow=19,SNR=2.0						
ASAJ	**Asahikawa**	**5.43**	**258**	P	**Pn**	**19 47 53.8**	**+2.9**
JCH	**Churui**	**5.57**	**241**	P	**Pn**	**19 47 54.5**	**+1.7**
JCH				*e*S	**Sn**	**19 48 53.9**	**-2.1**
MYR	**Moyori**	**5.80**	**239**	*e*P	**Pn**	**19 47 57.5**	**+1.7**
JBT2	**Biratori 2**	**6.11**	**246**	P	**Pn**	**19 48 03.0**	**+3.0**
JNBK	**Urakawa-nobuka**	**6.13**	**241**	P	**Pn**	**19 48 00.8**	**+0.6**
JNB	**Noboribetsu**	**7.12**	**248**	P	**Pn**	**19 48 14.6**	**+1.2**
JNB				*e*S	**Sn**	**19 49 31.4**	**-1.7**
JKB	**Kayabe**	**7.41**	**244**	P	**Pn**	**19 48 17.1**	**-0.3**
JKB				*e*S	**Sn**	**19 49 35.7**	**-4.5**
JSH	**Shimam**	**7.70**	**252**	P	**Pn**	**19 48 23.0**	**+1.9**
JYM2	**Yakumo 2**	**7.72**	**248**	P	**Pn**	**19 48 22.6**	**+1.1**
JTM	**Tenmabayashi**	**8.03**	**237**	P	**Pn**	**19 48 26.4**	**+0.8**
JTM				*e*S	**Sn**	**19 49 49.7**	**-5.4**
JANG	**Nango**	**8.04**	**233**	P	**Pn**	**19 48 25.5**	**-0.3**
JANG				*e*S	Sn	19 49 49.5	-5.8
JTH	**Tanohata**	**8.15**	**230**	*e*S	Sn	19 49 52.3	-5.6
JOSM	**Okushiri--Mats**	**8.32**	**250**	P	**Pn**	**19 48 30.4**	**+0.9**
OFUJ	**Ofunato**	**8.88**	**227**	P	**Pn**	**19 48 38.0**	**+1.1**
OFUJ				*e*S	**Sn**	**19 50 11.9**	**-3.6**
PETK	**Petropavlovsk-**	**9.14**	**31**	P	**Pn**	**19 48 37.9**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=198,slow=11,SNR=5.6						
JRG	**Rokugo**	**9.20**	**232**	P	**Pn**	**19 48 42.6**	**+1.4**
JRG				*e*S	**Sn**	**19 50 19.9**	**-3.4**
JIO	**Ouri**	**9.52**	**225**	*e*S	Sn	19 50 25.9	-5.0
USRK	**Ussuriysk Ar.**	**12.84**	**271**	P	**P**	**19 49 29.8**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=96,slow=17,SNR=2.3						
MA2	**Magadan**	**14.12**	**2**	P	P	19 49 41.2	-6.7
	comp=Z,0.5nm,0.3s,baz=162,slow=20,SNR=2.9						
SEY	**Seymchan**	**17.54**	**4**	P	**Pn**	**19 50 23.8**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=191,slow=8.3,SNR=13						
KSRS	**Korea Array**	**18.33**	**252**	P	**Pn**	**19 50 39.5**	**+3.1**
	baz=55,slow=12,SNR=4.2						
TIXI	**Tiksi**	**28.11**	**346**	P	**P**	**19 52 05.5**	**-3.4**
	comp=Z,0.8nm,0.3s,baz=143,slow=9.4,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**29.25**	**146**	T	T	20 23 35.7	
	baz=335,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**29.26**	**146**	T	T	20 23 37.2	
	baz=335,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**29.27**	**146**	T	T	20 23 35.4	
	baz=335,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**30.28**	**147**	T	T	20 25 02.4	
	baz=335,slow=76,SNR=90						
H11S3	**WAKE ISLAND Hy**	**30.29**	**147**	T	T	20 24 60.0	
	baz=335,slow=76,SNR=43						
H11S2	**WAKE ISLAND Hy**	**30.30**	**147**	T	T	20 24 59.1	
	baz=335,slow=76,SNR=39						
ILAR	**Eielson Array**	**38.89**	**38**	P	**P**	**19 53 42.9**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=266,slow=7.9,SNR=6.4						
MKAR	**Makanchi Array**	**45.58**	**297**	P	**P**	**19 54 36.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=60,slow=6.6,SNR=4.2						
KURK	**Kurchatov**	**46.24**	**303**	*e*P	**P**	**19 54 41.9**	**+0.4**
KURK	**Kurchatov**	**46.24**	**303**	P	**P**	**19 54 41.9**	**+0.4**
KURBB	**Kurchatov Arra**	**46.33**	**303**	P	**P**	**19 54 41.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=68,slow=8.6,SNR=3.0						
YKA	**Yellowknife Ar**	**53.23**	**35**	P	**P**	**19 55 35.5**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=298,slow=7.0,SNR=5.8						
FINES	**FINESS Array B**	**64.23**	**334**	P	**P**	**19 56 48.8**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=12,slow=9.8,SNR=6.5						
GEYT	**Alibeck**	**65.35**	**300**	P	**P**	**19 56 58.5**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=87,slow=3.0,SNR=3.2						
PDAR	**Pinedale Array**	**67.25**	**52**	P	**P**	**19 57 12.2**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=319,slow=5.9,SNR=2.7						
NOA	**NORSAR Array B**	**68.69**	**340**	P	**P**	**19 57 17.8**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=61,slow=10,SNR=3.0						
AKASG	**Malin Array Be**	**71.35**	**325**	P	**P**	**19 57 34.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=36,slow=6.1,SNR=3.6						
EKA	**Eskdalemuir Ar**	**77.01**	**345**	P	**P**	**19 58 07.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=21,slow=6.2,SNR=4.4						
GERES	**GERESS Array B**	**78.59**	**332**	P	**P**	**19 58 16.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=41,slow=6.5,SNR=5.3						
TXAR	**Lajitas Array**	**80.01**	**58**	P	**P**	**19 58 27.1**	**+2.6**
	comp=Z,0.6nm,0.5s,baz=292,slow=3.8,SNR=7.1						

ISCJB ***13*** *19:58:42.3±0.6,37.78N±0.03×23.93E±0.03,h7km±3km, Error ellipse: s-maj=4.7km s-min=4.1km az=13.0*
CSEM ***13*** *19:58:42.5±0.1,37.79N×23.93E,h10km,ML2.9, Error ellipse: s-maj=2.4km s-min=2.1km az=2.0*
ATH ***13*** *19:58:42.1,37.80N×23.94E,h21km±1km, ML2.9/10, Error ellipse: s-maj=1.8km s-min=1.0km az=299.0*
THE ***13*** *19:58:43.0,37.80N×23.92E,h10km, ML2.9/14, Error ellipse: s-maj=0.6km s-min=0.4km az=335.0*

ISC 13 19:58:42.3±0.9, 37.79N±0.02×23.94E±0.02, h12km±5km, n70, σ0.50/109, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLY	**Voula,Athens**	**0.13**	**299**	P	**Pg**	**19 58 45.6**	**+0.1**
VLY				S	**Sg**	**19 58 46.3**	**-1.5**
VLY				AML	AML	19 58 47.9	
	comp=N,10313μm,0.2s						
VLY				AML	AML	19 58 48.1	
	comp=E,13082μm,0.2s						
VLY	**Voula,Athens**	**0.13**	**299**	P	**Pg**	**19 58 45.9**	**+0.4**
VLY				S	**Sg**	**19 58 47.8**	**0.0**
VLY	**Voula,Athens**	**0.13**	**299**	P	**Pg**	**19 58 45.9**	**+0.4**
VLY				S	**Sg**	**19 58 47.7**	**0.0**
ATHU	**Athens Univers**	**0.21**	**325**	P	**Pg**	**19 58 47.3**	**+0.4**
ATHU				S	**Sg**	**19 58 49.2**	**-0.8**
ATHU	**Athens Univers**	**0.21**	**325**	P	**Pg**	**19 58 47.3**	**+0.4**
ATHU				S	**Sg**	**19 58 50.2**	**+0.2**
ATH	**Athens Observa**	**0.25**	**316**	P	**Pb**	**19 58 48.4**	**-0.4**
ATH				S	**Sg**	**19 58 51.1**	**+0.1**
ATH				AML	AML	19 58 51.8	
	comp=N,6536μm,0.2s						
ATH				AML	AML	19 58 52.2	
	comp=E,12201μm,0.3s						
ATH	**Athens Observa**	**0.25**	**316**	P	**Pg**	**19 58 48.0**	**+0.5**
ATH				S	**Sg**	**19 58 51.6**	**+0.6**
ATH	**Athens Observa**	**0.25**	**316**	P	**Pg**	**19 58 48.0**	**+0.5**
ATH				S	**Sg**	**19 58 51.4**	**+0.4**
PTL	**Penteli**	**0.26**	**347**	P	**Pb**	**19 58 48.8**	**-0.2**
PTL				S	**Sg**	**19 58 51.5**	**+0.1**
PTL				AML	AML	19 58 52.3	
	comp=E,8061μm,0.2s						
PTL				AML	AML	19 58 52.4	
	comp=N,8145μm,0.1s						
PTL	**Penteli**	**0.26**	**347**	P	**Pb**	**19 58 48.4**	**-0.6**
PTL				S	**Sg**	**19 58 51.9**	**+0.4**
PTL	**Penteli**	**0.26**	**347**	P	**Pg**	**19 58 48.2**	**+0.4**
PTL				S	**Sg**	**19 58 51.7**	**+0.2**
KARY	**Karystos**	**0.46**	**58**	P	**Pb**	**19 58 52.1**	**-0.3**
KARY				S	**Sb**	**19 58 58.7**	**-0.5**
KARY	**Karystos**	**0.46**	**58**	P	**Pb**	**19 58 52.1**	**-0.3**
KARY				S	**Sb**	**19 58 58.7**	**-0.5**
VILL	**Villia**	**0.62**	**307**	P	**Pg**	**19 58 54.6**	**+0.3**
VILL				S	**Sb**	**19 59 03.1**	**-0.7**
VILL	**Villia**	**0.62**	**307**	P	**Pb**	**19 58 54.8**	**-0.3**
VILL				S	**Sb**	**19 59 03.1**	**-0.7**
EREA	**Eretria**	**0.63**	**360**	P	**Pb**	**19 58 54.9**	**-0.4**
EREA				AML	AML	19 59 04.5	
	comp=N,1449μm,0.3s						
EREA				AML	AML	19 59 04.6	
	comp=E,1794μm,0.2s						
EREA				S	**Sb**	**19 59 04.7**	**+0.7**
EREA	**Eretria**	**0.63**	**360**	P	**Pg**	**19 58 54.7**	**+0.2**
EREA				S	**Sb**	**19 59 03.7**	**-0.3**
EREA	**Eretria**	**0.63**	**360**	P	**Pg**	**19 58 54.7**	**+0.2**
EREA				S	**Sb**	**19 59 03.7**	**-0.3**
VIL2	**Platees**	**0.68**	**309**	P	**Pg**	**19 58 55.2**	**-0.2**
VIL2				S	**Sg**	**19 59 03.2**	**-1.0**
KRND	**KRANIDI**	**0.75**	**237**	P	**Pg**	**19 58 56.5**	**-0.2**
KRND				AML	AML	19 59 08.2	
	comp=E,923μm,0.3s						
KRND				S	**Sn**	**19 59 09.0**	**-1.0**
KRND				AML	AML	19 59 09.2	
	comp=N,1002μm,0.3s						
KRND	**KRANIDI**	**0.75**	**237**	P	**Pg**	**19 58 56.7**	**0.0**
KRND				S	**Sb**	**19 59 07.8**	**+0.4**
KRND	**KRANIDI**	**0.75**	**237**	P	**Pg**	**19 58 56.7**	**0.0**
KRND				S	**Sb**	**19 59 07.8**	**+0.4**
SERI	**Serifos**	**0.77**	**145**	P	**Pb**	**19 58 57.9**	**+0.4**
SERI	**Serifos**	**0.77**	**145**	P	**Pg**	**19 58 57.5**	**+0.4**
LOUT	**Loutraki**	**0.79**	**285**	P	**Pg**	**19 58 57.7**	**+0.3**
LOUT				S	**Sg**	**19 59 08.1**	**+0.3**
LOUT	**Loutraki**	**0.79**	**285**	P	**Pg**	**19 58 57.5**	**0.0**
LOUT				S	**Sb**	**19 59 08.2**	**-0.4**
LOUT	**Loutraki**	**0.79**	**285**	P	**Pg**	**19 58 57.8**	**+0.3**
LOUT				S	**Sb**	**19 59 09.0**	**+0.4**
LTK	**Loutraki**	**0.80**	**287**	P	**Pb**	**19 58 58.2**	**0.0**
LTK				S	**Sn**	**19 59 10.2**	**-1.2**
LTK				AML	AML	19 59 10.2	
	comp=E,2231μm,0.4s						
LTK				AML	AML	19 59 10.9	
	comp=N,2276μm,0.4s						
LTK	**Loutraki**	**0.80**	**287**	P	**Pg**	**19 58 58.0**	**+0.2**
LTK				S	**Sb**	**19 59 09.3**	**+0.3**
LTK	**Loutraki**	**0.80**	**287**	P	**Pg**	**19 58 58.0**	**+0.2**
LTK				S	**Sb**	**19 59 09.3**	**+0.3**
THAL	**Thalero**	**1.04**	**284**	P	**Pg**	**19 59 02.5**	**+0.3**
THAL				S	**Sg**	**19 59 16.0**	**+0.3**
THAL	**Thalero**	**1.04**	**284**	P	**Pg**	**19 59 02.3**	**+0.1**
THAL				S	**Sg**	**19 59 16.1**	**+0.3**
THAL	**Thalero**	**1.04**	**284**	P	**Pg**	**19 59 02.3**	**+0.1**
THAL				S	**Sn**	**19 59 17.4**	**+0.3**
LKR	**Lokris**	**1.13**	**320**	P	**Pb**	**19 59 03.7**	**-0.2**
LKR				AML	AML	19 59 21.6	
	comp=N,1118μm,0.2s						
LKR				AML	AML	19 59 21.7	
	comp=E,1007μm,0.2s						
LKR	**Lokris**	**1.13**	**320**	P	**Pb**	**19 59 03.6**	**-0.2**
LKR				S	**Sn**	**19 59 19.9**	**+0.4**
LKR	**Lokris**	**1.13**	**320**	P	**Pb**	**19 59 03.6**	**-0.2**
LKR				S	**Sn**	**19 59 19.9**	**+0.4**
SMIA	**Simia**	**1.23**	**332**	P	**Pb**	**19 59 05.5**	**0.0**
SMIA				S	**Sn**	**19 59 22.3**	**+0.4**
SMIA	**Simia**	**1.23**	**332**	P	**Pb**	**19 59 05.5**	**0.0**
SMIA				S	**Sn**	**19 59 22.3**	**+0.4**
GUR	**Goura**	**1.27**	**277**	P	**Pn**	**19 59 06.0**	**0.0**
GUR				AML	AML	19 59 25.7	
	comp=N,739μm,0.4s						
GUR				AML	AML	19 59 25.8	
	comp=E,640μm,0.5s						
GUR	**Goura**	**1.27**	**277**	P	**Pn**	**19 59 06.0**	**0.0**
GUR				S	**Sg**	**19 59 23.5**	**+0.3**
GUR	**Goura**	**1.27**	**277**	P	**Pn**	**19 59 05.8**	**-0.2**
GUR				S	**Sg**	**19 59 23.6**	**+0.3**
DSF	**Desfina**	**1.27**	**300**	P	**Pn**	**19 59 05.9**	**-0.1**
DSF				AML	AML	19 59 27.2	
	comp=N,1098μm,0.3s						
DSF				AML	AML	19 59 27.9	
	comp=E,710μm,0.2s						
DSF	**Desfina**	**1.27**	**300**	P	**Pn**	**19 59 06.0**	**0.0**
DSF				S	**Sn**	**19 59 23.1**	**0.0**
DSF	**Desfina**	**1.27**	**300**	P	**Pn**	**19 59 05.7**	**-0.3**
DSF				S	**Sn**	**19 59 23.1**	**0.0**
VLX	**Vlachokerasia**	**1.31**	**252**	P	**Pb**	**19 59 07.0**	**+0.1**
VLX	**Vlachokerasia**	**1.31**	**252**	P	**Pb**	**19 59 06.9**	**+0.1**
VLI	**Veliai**	**1.33**	**217**	P	**Pn**	**19 59 05.4**	**-1.4**
VLI				AML	AML	19 59 30.0	
	comp=N,838μm,0.5s						
VLI				AML	AML	19 59 31.8	
	comp=E,820μm,0.7s						
VLI	**Veliai**	**1.33**	**217**	P	**Pn**	**19 59 06.4**	**-0.4**
AXAR	**Agios Charalam**	**1.40**	**314**	P	**Pg**	**19 59 10.6**	**+1.4**
AXAR	**Agios Charalam**	**1.40**	**314**	P	**Pg**	**19 59 09.5**	**+0.3**
SKIA	**Skiathos**	**1.42**	**345**	P	**Pn**	**19 59 07.8**	**-0.2**
SKIA	**Skiathos**	**1.42**	**345**	P	**Pn**	**19 59 08.2**	**+0.2**
KLV	**Kalavryta, Ach**	**1.44**	**281**	P	**Pn**	**19 59 07.5**	**-0.8**
KLV	**Kalavryta, Ach**	**1.44**	**281**	P	**Pn**	**19 59 08.2**	**0.0**
APE	**Apeiranthos**	**1.46**	**119**	P	**Pb**	**19 59 09.9**	**+0.5**
APE	**Apeiranthos**	**1.46**	**119**	P	**Pb**	**19 59 09.6**	**+0.2**
KALE	**Kalithea**	**1.54**	**293**	P	**Pn**	**19 59 09.5**	**-0.2**
KALE	**Kalithea**	**1.54**	**293**	P	**Pn**	**19 59 09.9**	**+0.2**
TRIZ	**Trizonia**	**1.58**	**292**	P	**Pn**	**19 59 10.6**	**+0.4**
TRIZ	**Trizonia**	**1.58**	**292**	P	**Pn**	**19 59 10.7**	**+0.6**
SERG	**Sergoula**	**1.61**	**293**	P	**Pn**	**19 59 10.7**	**+0.1**
SERG	**Sergoula**	**1.61**	**293**	P	**Pn**	**19 59 11.0**	**+0.4**
NEO	**Neokhori**	**1.61**	**340**	P	**Pn**	**19 59 09.3**	**-1.4**
NEO	**Neokhori**	**1.61**	**340**	P	**Pn**	**19 59 10.3**	**-0.3**
EFP	**Efpalio**	**1.72**	**292**	P	**Pn**	**19 59 13.0**	**+0.9**
EFP	**Efpalio**	**1.72**	**292**	P	**Pn**	**19 59 13.0**	**+0.9**
DRO	**Drossia**	**1.77**	**276**	P	**Pn**	**19 59 13.1**	**+0.3**
DRO	**Drossia**	**1.77**	**276**	P	**Pn**	**19 59 13.4**	**+0.6**
AMT	**Artemida-Makis**	**1.79**	**262**	P	**Pb**	**19 59 14.3**	**-0.7**
AMT	**Artemida-Makis**	**1.79**	**262**	P	**Pn**	**19 59 14.1**	**+1.1**

IDC 13 20:02:18.7±13.0, 15.39S×165.18E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/50, mbtmp3.8/4, ML3.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/29, Error ellipse: s-maj=226.4km s-min=35.7km az=51.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.75**	**170**	Pn	Pn	20 03 58.9	-0.3
	0.9nm,0.3s,baz=124,slow=12,SNR=18						
DZM				Sn	Sn	20 05 18.9	+2.0
	0.3nm,0.3s,baz=317,slow=22,SNR=1.6						
STKA	**Stephens Creek**	**27.04**	**228**	P	P	20 08 03.0	+0.2
	1.3nm,0.4s,baz=53,slow=11,SNR=11						
WRA	**Warramunga Arr**	**29.71**	**257**	P	P	20 08 27.1	+0.2
	0.5nm,0.9s,baz=90,slow=10,SNR=1.8						
ASAR	**Alice Springs**	**30.55**	**249**	P	P	20 08 34.0	-0.3
	0.4nm,0.5s,baz=77,slow=9.5,SNR=9.9						
JNU	**Nakatsue**	**58.32**	**326**	LR	LR	20 38 21.2	
	comp=Z,14nm,18.0s,baz=66,slow=37						
KSRS	**Korea Array**	**63.18**	**327**	LR	LR	20 40 04.9	
	comp=Z,17nm,18.4s,baz=82,slow=36						

ISCJB ***13*** *20:13:40.9±0.6,38.07N±0.03×42.50E±0.03,h3km±8km, Error ellipse: s-maj=4.7km s-min=4.2km az=28.9*
ISK ***13*** *20:13:40.3,38.03N×42.45E,h6km,ML2.5/4*
CSEM ***13*** *20:13:41.0±0.2,38.06N×42.52E,h8km,MD2.5, Error ellipse: s-maj=3.5km s-min=3.3km az=124.0*
DDA ***13*** *20:13:41.1,38.09N×42.51E,h7km,Md2.5*

ISC 13 20:13:41.0±1.0, 38.06N±0.02×42.51E±0.02, h10km±9km, n24, σ0.48/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRTM	**Siirt_Merkez**	**0.47**	**262**	*i* P	**Pg**	**20 13 50.2**	**0.0**
SRTM				*i* S	**Sg**	**20 13 57.1**	**+0.6**
SRTM	**Siirt_Merkez**	**0.47**	**262**	P	**Pg**	**20 13 50.2**	**0.0**
SRTM				S	**Sg**	**20 13 57.1**	**+0.6**
GEVA	**Gevas**	**0.50**	**60**	*i* P	**Pg**	**20 13 50.2**	**-0.6**
GEVA				*i* S	**Sg**	**20 13 58.3**	**+0.9**
GEVA	**Gevas**	**0.50**	**60**	P	**Pg**	**20 13 50.2**	**-0.6**
GEVA				S	**Sg**	**20 13 58.3**	**+0.9**
SIRT	**Sirnak**	**0.56**	**186**	PG	**Pg**	**20 13 51.0**	**-1.0**
SIRT				SG	**Sg**	**20 13 58.9**	**-0.5**
SIRT	**Sirnak**	**0.56**	**186**	*e*Pg	**Pg**	**20 13 51.0**	**-1.0**
SIRT				*e*Sg	**Sg**	**20 13 58.9**	**-0.5**
SIRN	**S¨¨rnak**	**0.57**	**188**	*i* P	**Pg**	**20 13 52.5**	**+0.4**
SIRN				*i* S	**Sb**	**20 14 01.2**	**-0.2**
SIRN	**S¨¨rnak**	**0.57**	**188**	P	**Pg**	**20 13 52.5**	**+0.4**
SIRN				S	**Sb**	**20 14 01.2**	**-0.2**
GURO	**Guroymak-BITLI**	**0.62**	**322**	PG	**Pg**	**20 13 52.6**	**-0.4**
GURO				SG	**Sg**	**20 14 01.3**	**+0.2**
GURO	**Guroymak-BITLI**	**0.62**	**322**	*e*Pg	**Pg**	**20 13 52.6**	**-0.4**
GURO				*e*Sg	**Sg**	**20 14 01.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.76**	**13**	*i* P	**Pg**	**20 13 55.5**	**-0.3**
ADCV				*i* S	**Sb**	**20 14 06.9**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.76**	**13**	P	**Pg**	**20 13 55.5**	**-0.3**
ADCV				S	**Sb**	**20 14 06.9**	**-0.2**
BTMN	**Batman**	**1.00**	**261**	*i* P	**Pb**	**20 14 00.7**	**+0.3**
BTMN				*i* S	**Sn**	**20 14 15.2**	**-0.2**
BTMN	**Batman**	**1.00**	**261**	P	**Pb**	**20 14 00.7**	**+0.3**
BTMN				S	**Sn**	**20 14 15.2**	**-0.2**
HAKT	**HAKKARI**	**1.07**	**118**	*i* P	**Pb**	**20 14 01.9**	**+0.1**
HAKT				*i* S	**Sn**	**20 14 17.8**	**+0.3**
HAKT	**HAKKARI**	**1.07**	**118**	P	**Pb**	**20 14 02.0**	**+0.1**
HAKT				S	**Sn**	**20 14 17.8**	**+0.3**
CUKT	**Cukurca**	**1.19**	**133**	PN	**Pg**	**20 14 03.9**	**0.0**
CUKT	**Cukurca**	**1.19**	**133**	*e*Pn	**Pg**	**20 14 03.9**	**0.0**
AGRB	**Hanur-Agry**	**1.56**	**14**	PN	**Pb**	**20 14 09.8**	**-0.3**
AGRB	**Hanur-Agry**	**1.56**	**14**	*e*Pn	**Pb**	**20 14 09.8**	**-0.3**
MAZI	**Mazidag**	**1.74**	**250**	PN	**Pn**	**20 14 11.1**	**-0.4**
MAZI	**Mazidag**	**1.74**	**250**	*e*Pn	**Pn**	**20 14 11.1**	**-0.4**
PTK	**Pertek**	**2.58**	**290**	PN	**Pn**	**20 14 23.7**	**+0.5**
PTK	**Pertek**	**2.58**	**290**	*e*Pn	**Pn**	**20 14 23.7**	**+0.5**

IDC ***13*** *20:25:02.8±2.1,22.67S×174.28E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.8/38,mbtmp3.7/7,ML3.0/1,MS3.1/4, Ms1 3.1/4,ms1mx2.7/46, Error ellipse: s-maj=82.5km s-min=28.6km az=161.0*

ISC 13 20:25:09.5±1.6, 22.66S±0.4×174.10E±0.1, h35km, n14, σ2.69/11, mb3.9/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.03**	**273**	Pn	**Pn**	**20 26 51.0**	**+1.0**
	0.3nm,0.3s,baz=120,slow=18,SNR=1.3						
DZM				Sn	**Sn**	**20 28 06.6**	**-2.1**
	0.3nm,0.3s,baz=295,slow=23,SNR=1.4						
URZ	**Urewera**	**15.80**	**171**	LR	LR	20 32

σ1ꝑ59/12, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.00**	**26**	Pn	**Pb**	**20 58 01.6**	**-1.4**
GTA				Pg	**Pg**	**20 58 04.6**	**-2.3**
GTA				Sn	**Sn**	**20 58 35.3**	**+2.1**
GTA				Sg	**Sb**	**20 58 40.5**	**+0.8**
GTA				smax	smax		
	comp=N,28nm,0.9s						
GTA				smax	smax		
	comp=E,25nm,0.8s						
LZH	**Lanzhou**	**4.65**	**96**	Pg	**Pg**	**20 58 37.3**	**-1.3**
LZH				Sg	**Sg**	**20 59 39.9**	**+1.0**
LZH				smax	smax		
	comp=N,91nm,0.7s						
LZH				smax	smax		
	comp=E,79nm,0.8s						
LZH				LR	LR		
	comp=N,110nm,4.5s						
LZH				LR	LR		
	comp=E,130nm,4.1s						
LZH				LR	LR		
	comp=Z,170nm,4.7s						
WMQ	**Urumqi**	**10.66**	**315**	*e*P	**Pn**	**20 59 42.9**	**+0.5**
SONM	**Songino Array**	**12.67**	**26**	Pn	**Pn**	**21 00 10.9**	**+1.1**
	0.7nm,0.3s,baz=208,slow=14,SNR=16						
MKAR	**Makanchi Array**	**15.50**	**315**	Pn	**Pn**	**21 00 46.0**	**-2.1**
	0.1nm,0.3s,baz=121,slow=14,SNR=4.3						
ZALV	**Zalesovo Beam**	**19.55**	**336**	P	**Pn**	**21 01 39.5**	**+1.1**
	0.1nm,0.3s,baz=139,slow=13,SNR=4.6						
KURBB	**Kurchatov Array**	**19.77**	**321**	P	**Pn**	**21 01 41.2**	**+0.1**
	0.1nm,0.3s,baz=128,slow=11,SNR=3.3						
KSRS	**Korea Array**	**23.73**	**79**	P	**P**	**21 02 21.2**	**-0.6**
	0.9nm,0.4s,baz=269,slow=8.8,SNR=4.2						

ISCJB ***13*** *21:01:33.2±0.6,48.89N±0.05×156.31E±0.09, h34km, mb3.8/13, MS2.7/1, Error ellipse: s-maj=10.4km s-min=3.8km az=34.1*
MOS ***13*** *21:01:34.3±0.9,48.89N×156.27E, h55km, mb4.1/8, Error ellipse: s-maj=17.3km s-min=5.0km az=76.8*
KRSC ***13*** *21:01:36.0±2.0, 49.04N×157.20E, h40km±27km, ML4.8*
SKHL ***13*** *21:01:37.1±0.3, 49.00N×156.37E, h63km±1km, mb4.5/6*
IDC ***13*** *21:01:39.1±2.5, 49.06N×155.91E, h84km±20km, mb3.5/12, mb1 3.7/16, mb1mx3.4/81, mbtmp3.8/16, MS2.9/2, Ms1 2.9/2, ms1mx2.4/51, Error ellipse: s-maj=25.0km s-min=11.7km az=147.0*

ISC 13 21:01:34.3±0.8, 48.89N±0.07×156.47E±0.08, h34km, n76, σ2ꝑ01/83, mb3.9/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.81**	**353**	*e*P	**Pn**	**21 02 03.7**	**+0.7**
SKR				AMB	AMB	21 02 03.9	
	220nm,0.4s						
SKR				*e*S	**Sn**	**21 02 23.8**	**-1.0**
SKR				A	A	21 02 24.8	
	860nm,0.5s						
SKR				A	A	21 02 24.8	
	1μm,0.5s						
SKR	**Severo-Kuril's**	**1.81**	**353**	*e*PN	**Pn**	**21 02 03.7**	**+0.7**
SKR				*e*S	**Sn**	**21 02 23.8**	**-1.0**
SKR				pmax	pmax		
	comp=Z,221nm,0.3s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR				smax	smax		
	comp=N,856nm,0.4s						
PAU	**Pauzhetka**	**2.59**	**5**	*e*P	**Pn**	**21 02 15.5**	**+1.7**
PAU				*e*S	**Sn**	**21 02 44.0**	**-0.1**
PAU	**Pauzhetka**	**2.59**	**5**	PN	**Pn**	**21 02 15.5**	**+1.7**
PAU				S	**Sn**	**21 02 44.2**	**+0.1**
PAU	**Pauzhetka**	**2.59**	**5**	*e*P	**Pn**	**21 02 15.5**	**+1.7**
PAU				*e*S	**Sn**	**21 02 44.2**	**+0.1**
KDTR	**Khodutka, Kamc**	**3.10**	**19**	*e*P	**Pn**	**21 02 22.2**	**+1.4**
KDTR				*e*S	**Sn**	**21 02 56.3**	**-0.3**
ASAK	**Asacha**	**3.62**	**14**	PN	**Pn**	**21 02 29.8**	**+1.9**
ASAK				S	**Sn**	**21 03 10.0**	**+0.5**
ASAK	**Asacha**	**3.62**	**14**	*e*P	**Pn**	**21 02 29.8**	**+1.9**
ASAK				*e*S	**Sn**	**21 03 10.0**	**+0.5**
MTVR	**Mutnovka**	**3.76**	**16**	*e*S	**Sn**	**21 03 12.7**	**-0.4**
RUS	**Russkaya**	**3.78**	**19**	*e*P	**Pn**	**21 02 31.2**	**+1.1**
RUS	**Russkaya**	**3.78**	**19**	PN	**Pn**	**21 02 31.2**	**+1.1**
RUS				S	**Sn**	**21 03 11.9**	**-1.5**
RUS	**Russkaya**	**3.78**	**19**	*e*P	**Pn**	**21 02 31.2**	**+1.1**
RUS				*e*S	**Sn**	**21 03 11.9**	**-1.5**
APC	**Apacha**	**4.07**	**6**	PN	**Pn**	**21 02 35.5**	**+1.5**
APC	**Apacha**	**4.07**	**6**	*e*P	**Pn**	**21 02 35.5**	**+1.5**
KRMR	**Karymshinskiy**	**4.09**	**14**	PN	**Pn**	**21 02 36.7**	**+2.4**
KRMR				S	**Sn**	**21 03 21.6**	**+0.7**
KRMR	**Karymshinskiy**	**4.09**	**14**	*e*P	**Pn**	**21 02 36.7**	**+2.4**
KRMR				*e*S	**Sn**	**21 03 21.6**	**+0.7**
PETK	**Petropavlovsk-**	**4.30**	**10**	P	**Pn**	**21 02 39.6**	**+2.4**
	comp=N,9.0nm,0.3s,baz=171,slow=12,SNR=232						
PETK				S	**Sn**	**21 03 29.8**	**+3.7**
	comp=N,1.4nm,0.3s,baz=171,slow=19,SNR=2.8						
PET	**Petropavlovsk**	**4.37**	**18**	*e*P	**Pn**	**21 02 40.1**	**+2.0**
PET				AMB	AMB	21 02 40.3	
	comp=N,40nm,0.5s						
PET				*e*S	**Sn**	**21 03 27.4**	**-0.4**
PET				A	A	21 03 29.4	
	comp=N,220nm,0.5s						
PET				A	A	21 03 29.4	
	comp=N,180nm,0.5s						
PET	**Petropavlovsk**	**4.37**	**18**	*e*PN	**Pn**	**21 02 40.1**	**+2.0**
PET				*e*S	**Sn**	**21 03 27.4**	**-0.4**
PET				pmax	pmax		
	comp=Z,40nm,0.5s						
PET				smax	smax		
	comp=E,200nm,0.6s						
PET				smax	smax		
	comp=N,200nm,0.7s						
PET				smax	smax		
	comp=E,181nm,0.5s						
PET				smax	smax		
	comp=N,222nm,0.4s						
PET	**Petropavlovsk**	**4.37**	**18**	*e*P	**Pn**	**21 02 40.3**	**+2.2**
PET				*e*S	**Sn**	**21 03 27.2**	**-0.6**
UGLR	**Uglovaya**	**4.58**	**18**	PN	**Pn**	**21 02 43.4**	**+2.3**
UGLR	**Uglovaya**	**4.58**	**18**	*i* P	**Pn**	**21 02 43.4**	**+2.3**
AVH	**Avacha**	**4.61**	**17**	*e*P	**Pn**	**21 02 44.5**	**+2.9**
AVH	**Avacha**	**4.61**	**17**	PN	**Pn**	**21 02 44.5**	**+2.9**
AVH				S	**Sn**	**21 03 36.6**	**+2.6**
AVH	**Avacha**	**4.61**	**17**	*i* P	**Pn**	**21 02 44.5**	**+2.9**
AVH				*e*S	**Sn**	**21 03 36.6**	**+2.6**
KOK	**Koryaka**	**4.62**	**16**	*e*P	**Pn**	**21 02 44.8**	**+3.1**
KOK	**Koryaka**	**4.62**	**16**	PN	**Pn**	**21 02 44.8**	**+3.1**
KOK	**Koryaka**	**4.62**	**16**	*e*P	**Pn**	**21 02 44.8**	**+3.1**
SMAR	**Somma**	**4.62**	**18**	PN	**Pn**	**21 02 44.0**	**+2.1**
SMAR	**Somma**	**4.62**	**18**	*e*P	**Pn**	**21 02 44.0**	**+2.1**
SDLR	**Sedlovina**	**4.65**	**18**	PN	**Pn**	**21 02 43.8**	**+1.6**
SDLR	**Sedlovina**	**4.65**	**18**	*e*P	**Pn**	**21 02 43.8**	**+1.6**
KRX	**Arik**	**4.69**	**16**	PN	**Pn**	**21 02 45.3**	**+2.7**
KRX				S	**Sn**	**21 03 36.0**	**+0.2**
KRX	**Arik**	**4.69**	**16**	*e*P	**Pn**	**21 02 45.3**	**+2.7**
KRX				*e*S	**Sn**	**21 03 36.0**	**+0.2**
SPN	**Mys Shipunski**	**4.78**	**27**	*e*P	**Pn**	**21 02 46.0**	**+2.2**
SPN	**Mys Shipunski**	**4.78**	**27**	PN	**Pn**	**21 02 46.0**	**+2.2**
SPN	**Mys Shipunski**	**4.78**	**27**	*e*P	**Pn**	**21 02 46.0**	**+2.2**
SPN				*e*S	**Sn**	**21 03 36.8**	**-1.1**
GNL	**Ganaly**	**4.90**	**10**	PN	**Pn**	**21 02 48.5**	**+2.9**
GNL	**Ganaly**	**4.90**	**10**	*e*P	**Pn**	**21 02 48.5**	**+2.9**
TUMR	**Tumrok**	**6.79**	**18**	PN	**Pn**	**21 03 15.1**	**+3.5**
TUMR	**Tumrok**	**6.79**	**18**	*e*P	**Pn**	**21 03 15.1**	**+3.5**
KUR	**Kuril'sk**	**6.92**	**241**	*e*P	**Pn**	**21 03 16.0**	**+2.9**
KUR				AMB	AMB	21 03 23.0	
	comp=N,17nm,0.3s						
KUR	**Kuril'sk**	**6.92**	**241**	*e*PN	Pn	21 03 24.4	+11
KUR				pmax	pmax		
	comp=Z,17nm,0.3s						
KBTR	**Krutoberegovo**	**8.29**	**25**	PN	**Pn**	**21 03 32.6**	**+0.7**
KBTR	**Krutoberegovo**	**8.29**	**25**	*e*P	**Pn**	**21 03 32.6**	**+0.7**
KBTR				*e*S	**Sn**	**21 04 58.8**	**-5.4**
SHO	**Shikotan**	**8.34**	**237**	*e*P	Pn	21 03 38.7	+6.1
SHO				AMB	AMB	21 03 43.6	
	comp=Z,18nm,0.6s						
SHO	**Shikotan**	**8.34**	**237**	*e*PN	Pn	21 03 38.7	+6.1
SHO				pmax	pmax		
	comp=Z,39nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.41**	**263**	*e*P	**Pn**	**21 03 49.4**	**+2.1**
YSS				AMB	AMB	21 03 50.0	
	comp=Z,20nm,1.0s						
YSS				*e*rx	rx	21 04 01.6	
YSS	**Yuzh-Sakhalins**	**9.41**	**263**	*e*PN	**Pn**	**21 03 49.4**	**+2.1**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
JKA	**Kamikawa-asahi**	**10.68**	**249**	*e*P	**Pn**	**21 04 05.4**	**+0.7**
ASAJ	**Asahikawa**	**10.68**	**249**	P	**Pn**	**21 04 05.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=81,slow=16,SNR=6.7						
EKMR	**Ekimchan**	**15.37**	**295**	*e*P	**Pn**	**21 05 07.4**	**-1.0**
EKMR				AMB	AMB	21 05 12.0	
	comp=Z,6.0nm,0.5s						
KLR	**Kul'dur**	**16.19**	**281**	P	**Pn**	**21 05 17.5**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=84,slow=9.0,SNR=8.2						
USRK	**Ussuriysk Ar.**	**17.45**	**264**	P	**Pn**	**21 05 31.9**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=58,slow=9.7,SNR=3.4						
USRK				LR	LR	21 11 18.0	
	comp=Z,48nm,19.2s,baz=17,slow=34						
MJAR	**Matsushiro Arr**	**18.17**	**234**	P	**P**	**21 05 42.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=28,slow=8.2,SNR=6.8						
KSRS	**Korea Array**	**23.60**	**252**	P	**P**	**21 06 40.9**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=46,slow=10,SNR=5.8						
TIXI	**Tiksi**	**26.13**	**341**	LR	LR	21 18 26.1	
	comp=Z,23nm,19.3s,baz=263,slow=39						
H11N2	**WAKE ISLAND Hy**	**30.27**	**160**	T	T	21 40 17.6	
	baz=341,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**30.29**	**160**	T	T	21 40 21.6	
	baz=341,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.29**	**160**	T	T	21 40 21.3	
	baz=341,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**31.42**	**161**	T	T	21 41 52.3	
	baz=345,slow=76,SNR=265						
H11S3	**WAKE ISLAND Hy**	**31.43**	**161**	T	T	21 41 56.5	
	baz=345,slow=76,SNR=306						
H11S2	**WAKE ISLAND Hy**	**31.43**	**161**	T	T	21 41 42.5	
	baz=345,slow=76,SNR=218						
ILAR	**Eielson Array**	**33.46**	**40**	P	**P**	**21 08 10.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=244,slow=7.9,SNR=9.6						
INK	**Inuvik**	**38.63**	**34**	P	**P**	**21 08 54.6**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=294,slow=6.6,SNR=12						
YKA	**Yellowknife Ar**	**47.85**	**39**	P	**P**	**21 10 08.7**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=297,slow=7.5,SNR=16						
MKAR	**Makanchi Array**	**47.97**	**297**	P	P	21 10 05.8	-3.7
	comp=Z,0.5nm,0.7s,baz=51,slow=6.1,SNR=7.1						
KURK	**Kurchatov**	**48.07**	**303**	*e*P	P	21 10 06.7	-3.4
KURK	**Kurchatov**	**48.07**	**303**	P	P	21 10 06.7	-3.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
RES	**Resolute Bay**	**48.08**	**20**	P	**P**	**21 10 09.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=357,slow=8.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**48.17**	**303**	P	P	21 10 06.7	-4.2
	comp=Z,0.8nm,0.5s,baz=69,slow=8.5,SNR=6.7						
BVAR	**Borovoye Array**	**51.25**	**309**	P	P	21 10 30.7	-3.5
	comp=Z,0.3nm,0.4s,baz=69,slow=8.9,SNR=3.6						
NVAR	**Mina Array Bea**	**59.46**	**65**	P	**P**	**21 11 34.6**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=294,slow=8.8,SNR=3.0						
TXAR	**Lajitas Array**	**74.49**	**63**	P	**P**	**21 13 10.3**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=298,slow=5.0,SNR=19						
EKA	**Eskdalemuir Ar**	**74.75**	**348**	P	**P**	**21 13 07.9**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=21,slow=5.2,SNR=3.7						
GERES	**GERESS Array B**	**77.48**	**336**	P	**P**	**21 13 23.5**	**-2.5**
	comp=Z,0.3nm,0.4s,baz=25,slow=7.6,SNR=2.8						

ISCJB ***13*** *21:05:16.9±0.5, 43.63N±0.05×105.14W±0.05, h0km, mb3.9/4, Error ellipse: s-maj=7.1km s-min=4.7km az=152.8*
IDC ***13*** *21:05:16.8±2.4, 43.48N×105.29W, h0km, mb3.9/4, mb1 3.8/7, mb1mx3.4/74, mbtmp3.6/7, ML2.6/2, Error ellipse: s-maj=61.4km s-min=8.6km az=152.0*
NEIC ***13*** *21:05:18.3±0.4, 43.63N×105.18W, h0km, MN2.9, Error ellipse: s-maj=7.7km s-min=4.8km az=146.0, Suspected Mining explosion.*
NEIC 77 km [48 miles] SSE of Gillette.

ISC 13 21:05:17.4±0.8, 43.58N±0.05×105.09W±0.04, h0km, n25, σ1ꝑ55/32, mb3.8/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**54**	*e*Pg	**Pn**	**21 05 37.8**	**-0.2**
RSSD				*e*S	**Sb**	**21 05 48.2**	**-1.5**
K22A	**Casper**	**1.40**	**229**	*e*Pn	**Pn**	**21 05 43.8**	**-0.6**
BW06	**Boulder Array**	**3.37**	**258**	*e*Pn	**Pn**	**21 06 11.8**	**+0.3**
BW06				*e*S	**Sb**	**21 06 57.4**	**-2.3**
PDAR	**Pinedale Array**	**3.37**	**258**	Pn	**Pn**	**21 06 11.4**	**0.0**
	7.9nm,0.3s,baz=75,slow=15,SNR=42						
PDAR				Pg	**Pb**	**21 06 18.8**	**+0.7**
	15nm,0.3s,baz=80,slow=17,SNR=14						
PDAR				Lg	Lg	21 06 56.0	
	24nm,0.3s,baz=57,slow=25,SNR=4.8						
RLMT	**Red Lodge**	**3.37**	**299**	*e*Pn	**Pn**	**21 06 10.7**	**-0.8**
RLMT				*e*S	**Sn**	**21 06 56.0**	**+3.7**
OGNE	**Ogallala**	**3.47**	**138**	Pn	**Pn**	**21 06 14.9**	**+2.0**
ISCO	**Idaho Springs**	**3.80**	**186**	*e*Pn	**Pn**	**21 06 19.0**	**+2.5**
ISCO				*e*S	**Sg**	**21 07 17.8**	**-1.6**
GCMT	**Greycliff**	**3.94**	**306**	*e*Pn	**Pn**	**21 06 19.2**	**-0.1**
GCMT				*e*S	**Sn**	**21 07 05.2**	**-1.1**
H17A	**Grant Village**	**4.04**	**284**	*e*Pn	**Pn**	**21 06 22.3**	**+1.5**
O20A	**White River Ci**	**4.17**	**215**	*e*Pn	**Pn**	**21 06 22.7**	**+0.2**
YNR	**Norris Junctio**	**4.18**	**288**	*e*Pn	**Pn**	**21 06 24.7**	**+2.0**
YFT	**Old Faithful**	**4.24**	**284**	*e*Pn	**Pn**	**21 06 25.6**	**+2.1**
YFT				*e*S	**Sb**	**21 07 26.3**	**+1.6**
YMR	**Madison River**	**4.37**	**286**	*e*Pn	**Pn**	**21 06 26.3**	**+1.0**
AHID	**Auburn Hatcher**	**4.47**	**262**	*e*Pn	**Pn**	**21 06 27.2**	**+0.6**
DGMT	**Dagmar**	**4.93**	**7**	*e*Pn	**Pn**	**21 06 36.3**	**+3.5**
HWUT	**Hardware Ranch**	**5.17**	**250**	*e*Pn	**Pn**	**21 06 36.8**	**+0.5**
	9.3nm,0.5s						
TCUT	**Toone Canyon**	**5.29**	**244**	*e*Pn	**Pn**	**21 06 38.3**	**+0.4**
SRU	**San Rafael Swe**	**6.05**	**224**	*e*Pn	**Pn**	**21 06 49.4**	**+1.0**
	13nm,0.4s						
DUG	**Dugway, Tooele**	**6.68**	**242**	*e*Pn	**Pn**	**21 06 57.8**	**+0.9**
	3.7nm,0.4s						
ULM	**Lac du Bonnet**	**9.18**	**40**	Pn	**Pn**	**21 07 31.0**	**0.0**
	0.6nm,0.3s,baz=239,slow=11,SNR=3.5						
ULM				Lg	Lg	21 10 05.3	
	0.3nm,0.3s,baz=74,slow=4.2,SNR=2.0						
YKA	**Yellowknife Ar**	**19.75**	**347**	P	**P**	**21 09 48.1**	**-0.5**
	0.0nm,0.3s,baz=153,slow=9.7,SNR=2.7						
ARCES	**ARCESS Array B**	**61.53**	**18**	P	**P**	**21 15 34.9**	**-0.7**
	2.8nm,0.8s,baz=342,slow=7.6,SNR=1.7						
ZALV	**Zalesovo Beam**	**82.48**	**354**	P	**P**	**21 17 40.0**	**-1.4**
	0.5nm,0.4s,baz=22,slow=8.1,SNR=2.5						
SONM	**Songino Array**	**84.83**	**339**	P	**P**	**21 17 54.3**	**+0.5**
	0.2nm,0.5s,baz=30,slow=4.0,SNR=2.1						
MKAR	**Makanchi Array**	**89.78**	**355**	P	**P**	**21 18 17.1**	**-0.5**
	0.4nm,0.9s,baz=8.5,slow=2.9,SNR=2.6						

IDC ***13*** *21:07:39.7±1.5, 39.89N×51.53E, h0km, mb3.6/6, mb1 3.6/13, mb1mx3.4/71, mbtmp3.5/13, ML3.0/5, MS2.9/2, Ms1 3.1/2, ms1mx2.3/63, Error ellipse: s-maj=31.0km s-min=11.4km az=179.0*
AZER ***13*** *21:07:43.6±0.0, 39.55N×51.33E, h32km, ml3.4*
CSEM ***13*** *21:07:44.3±0.2, 39.53N×51.34E, h20km, ML3.4, Error ellipse: s-maj=5.8km s-min=3.2km az=65.0*

ISC 13 21:07:41.8±1.5, 39.60N±0.04×51.58E±0.05, h31km±12km, n52, σ1ꝑ71/77, mb3.5/6, 28C-25D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.36**	**307**	⇑P	**Pb**	**21 08 06.4**	**-0.2**
GALA				⇓S	**Sb**	**21 08 24.7**	**+1.1**
NDR	**Nardaran**	**1.56**	**309**	⇓P	**Pb**	**21 08 10.0**	**-0.1**
NDR				⇓S	**Sb**	**21 08 28.9**	**-0.5**
GOBA	**Gobu**	**1.62**	**300**	⇓P	**Pb**	**21 08 10.3**	**-0.8**
GOBA				⇓S	**Sn**	**21 08 29.6**	**+1.4**
ALIB	**Äli-Bayra**	**2.01**	**281**	⇑P	**Pn**	**21 08 14.6**	**+1.0**
ALIB				⇓S	**Sn**	**21 08 38.5**	**+0.8**
GBS	**Qobustan**	**2.23**	**296**	⇑P	**Pn**	**21 08 17.1**	**-1.3**
GBS				⇑S	**Sn**	**21 08 43.4**	**+0.3**
LKRN	**Lenkeran, Azer**	**2.35**	**249**	⇑P	**Pn**	**21 08 19.5**	**+1.3**
LKRN				⇑S	**Sn**	**21 08 46.5**	**+0.5**
ATGJ	**Altiaghaj**	**2.38**	**303**	⇑P	**Pn**	**21 08 21.1**	**+2.3**
ATGJ				⇑S	**Sn**	**21 08 48.5**	**+1.6**
ASTR	**Astara**	**2.40**	**245**	⇑P	**Pn**	**21 08 20.1**	**+1.1**
ASTR				⇑S	**Sn**	**21 08 47.4**	**+0.1**
GLBA	**Clilabad**	**2.49**	**263**	⇓P	**Pn**	**21 08 21.7**	**+1.5**
GLBA				⇓S	**Sn**	**21 08 49.4**	**-0.1**
SIZA	**Siyzn**	**2.52**	**307**	⇑P	**Pn**	**21 08 23.5**	**+2.8**
SIZA				⇓S	**Sn**	**21 08 53.7**	**+3.3**
PQL	**Pirkuli**	**2.57**	**298**	⇑P	**Pn**	**21 08 23.7**	**+2.2**
PQL				⇓S	**Sn**	**21 08 54.2**	**+2.4**
LRK	**Lerik**	**2.69**	**250**	⇑P	**Pn**	**21 08 24.1**	**+1.0**
LRK				⇓S	**Sn**	**21 08 54.3**	**-0.4**
KDMR	**Kurdemir**	**2.72**	**288**	⇓S	**Sn**	**21 08 56.0**	**+0.9**
IML	**Ismayilli**	**2.86**	**296**	⇓P	**Pn**	**21 08 27.0**	**+1.7**
IML				⇓S	**Sn**	**21 08 58.7**	**0.0**
QUBA	**Quba, Azerbaij**	**2.93**	**308**	⇓P	**Pn**	**21 08 28.6**	**+2.3**
QUBA				⇓S	**Sn**	**21 09 02.8**	**+2.3**
GRMI	**Germi**	**2.97**	**256**	*e*Pn	**Pn**	**21 08 28.0**	**+1.1**
GRMI				*e*Sg	**Sn**	**21 09 00.9**	**-0.6**
XNQ	**Khinaliq**	**3.06**	**302**	⇑P	**Pn**	**21 08 30.0**	**+1.8**
XNQ				⇑S	**Sn**	**21 09 04.5**	**+0.7**
ZRD	**Zardab**	**3.07**	**284**	⇓P	**Pn**	**21 08 29.4**	**+1.3**
ZRD				⇑S	**Sn**	**21 09 05.0**	**+1.3**
QBL	**Gabala**	**3.16**	**296**	⇓P	**Pn**	**21 08 30.7**	**+1.3**
QBL				⇑S	**Sn**	**21 09 05.0**	**-1.1**
QSAR	**Qusar**	**3.17**	**308**	⇑P	**Pn**	**21 08 31.7**	**+2.2**
BRDA	**Brd**	**3.44**	**282**	⇑P	**Pn**	**21 08 34.8**	**+1.5**
BRDA				⇓S	**Sn**	**21 09 13.7**	**+0.7**
CHTH	**Charan**	**3.70**	**186**	*e*Pn	**Pn**	**21 08 39.7**	**+2.6**
SEKA	**Sheki**	**3.71**	**297**	⇓P	**Pn**	**21 08 37.9**	**+0.9**
SEKA				⇑S	**Sn**	**21 09 19.2**	**-0.4**
ZNJK	**Zanjan**	**3.71**	**219**	*e*Pn	**Pn**	**21 08 36.8**	**-0.4**
ZNJK				*e*Sg	**Sn**	**21 09 19.8**	**-0.1**
THKV	**Tehran--Karaj**	**3.72**	**189**	*e*Pn	**Pn**	**21 08 39.3**	**+2.0**
DAMV	**Damavand**	**3.98**	**175**	*e*Pn	**Pn**	**21 08 44.8**	**+3.9**
GANJ	**Ganja**	**4.16**	**286**	⇓P	**Pn**	**21 08 44.1**	**+0.9**
GANJ				⇑S	**Sn**	**21 09 28.4**	**-2.4**
ORD	**Ordubad**	**4.38**	**263**	⇑P	**Pn**	**21 08 47.5**	**+1.2**
DDFL	**Dedoflistskaro**	**4.55**	**296**	P	**Pn**	**21 08 51.1**	**+2.6**
GDB	**GEDABAY**	**4.60**	**286**	⇑P	**Pn**	**21 08 50.6**	**+1.3**
SBZ	**Shahbuz**	**4.66**	**269**	⇓P	**Pn**	**21 08 51.4**	**+1.2**
SBZ				⇓S	**Sn**	**21 09 43.7**	**+0.4**
NAX	**Nakhchivan**	**4.73**	**267**	⇑P	**Pn**	**21 08 52.2**	**+1.2**
NAX				⇑S	**Sn**	**21 09 44.4**	**-0.5**
QZX	**Qazax, Azerbai**	**4.96**	**289**	⇑P	**Pn**	**21 08 54.9**	**+0.8**
QZX				⇓S	**Sn**	**21 09 48.3**	**-2.1**
DGRG	**David-gareji**	**5.07**	**293**	P	**Pn**	**21 08 56.0**	**+0.2**
HYR	**Heyderabad**	**5.19**	**273**	⇓S	**Sn**	**21 09 55.5**	**-0.7**
GNI	**Garni**	**5.29**	**278**	Pn	Pn	21 09 04.0	+5.3
	0.4nm,0.3s,baz=63,slow=18,SNR=3.3						
GNI				Sn	**Sn**	**21 10 01.6**	**+2.9**
	1.3nm,0.3s,baz=74,slow=9.8,SNR=7.4						
GNI				Lg	Lg	21 10 29.1	
	1.7nm,0.3s,baz=300,slow=23,SNR=3.7						
GEYT	**Alibeck**	**5.38**	**106**	Pn	**Pn**	**21 09 02.1**	**+2.2**
	1.3nm,0.3s,baz=285,slow=15,SNR=13						
GEYT				Sn	**Sn**	**21 10 01.7**	**+0.9**
	1.4nm,0.3s,baz=282,slow=28,SNR=5.2						
KBZ	**Khabaz**	**7.69**	**305**	Pn	**Pn**	**21 09 32.5**	**+0.9**
	0.1nm,0.3s,baz=114,slow=3.6,SNR=7.8						
KBZ				Sn	**Sn**	**21 10 54.2**	**-3.4**
	0.2nm,0.3s,baz=306,slow=16,SNR=3.3						
KVAR	**Kislovodsk Ar**	**7.93**	**306**	Pn	**Pn**	**21 09 35.5**	**+0.5**
	baz=96,slow=16,SNR=5.0						
AB31	**Akbulak array**	**11.35**	**29**	⇓Pn	Pn	21 10 17.7	-4.0
	0.2nm,0.3s,baz=213,slow=14,SNR=7.7						
AB31				⇑Sn	**Sn**	**21 12 21.2**	**-6.1**
	0.5nm,0.3s,baz=214,slow=24,SNR=5.9						
AKTO	**Aktyubinsk**	**11.75**	**21**	Pn	**Pn**	**21 10 26.2**	**-1.0**
	0.7nm,0.3s,baz=227,slow=9.3,SNR=6.4						
MMAI	**Mount Meron Ar**	**14.59**	**248**	LR	LR	21 18 29.0	
	comp=Z,25nm,20.6s,baz=310,slow=44						
ARU	**Arti**	**17.46**	**13**	P	**Pn**	**21 11 40.1**	**-2.6**
	0.0nm,0.3s,baz=249,slow=14,SNR=2.7						
BVAR	**Borovoye Array**	**18.61**	**38**	P	**P**	**21 11 55.9**	**-0.5**
	0.3nm,0.3s,baz=230,slow=10,SNR=9.2						
AKASG	**Malin Array Be**	**19.20**	**313**	P	**P**	**21 12 02.4**	**-0.5**
	1.3nm,0.3s,baz=116,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**23.41**	**62**	P	**P**	**21

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.98**	**60**	P	**Pn**	**21 27 49.5**	**+2.6**
	384nm,0.3s,baz=154,slow=1.1,SNR=195						
AFI				S	**Sn**	**21 28 20.8**	**-1.1**
	408nm,0.3s,baz=162,slow=22,SNR=17						
AFI				LR	LR	21 28 23.9	
	comp=Z,67nm,19.8s,baz=157,slow=27						
DZM	**Mont Dzumac**	**19.27**	**247**	P	**P**	**21 31 20.9**	**+2.6**
	0.3nm,0.3s,baz=76,slow=19,SNR=3.1						
URZ	**Urewera**	**23.93**	**197**	P	**P**	**21 32 04.8**	**-1.2**
	5.0nm,0.4s,baz=342,slow=3.2,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**38.50**	**330**	T	T	22 14 58.8	
	baz=146,slow=75,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**38.51**	**330**	T	T	22 15 05.1	
	baz=146,slow=75,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**38.52**	**330**	T	T	22 15 04.7	
	baz=146,slow=75,SNR=1.8						
STKA	**Stephens Creek**	**43.16**	**240**	P	**P**	**21 34 52.2**	**-0.1**
	2.4nm,0.6s,baz=96,slow=14,SNR=4.9						
WRA	**Warramunga Arr**	**48.88**	**257**	P	**P**	**21 35 36.6**	**-0.7**
	2.1nm,0.4s,baz=96,slow=6.7,SNR=124						
WRA				PcP	**PcP**	**21 37 00.3**	**-0.1**
	0.5nm,0.7s,baz=98,slow=3.5,SNR=4.6						
ASAR	**Alice Springs**	**49.16**	**252**	P	**P**	**21 35 38.9**	**-0.6**
	7.2nm,0.4s,baz=87,slow=7.8,SNR=98						
ASAR				PcP	**PcP**	**21 37 00.9**	**-0.5**
	0.8nm,0.5s,baz=97,slow=3.9,SNR=3.3						
VNDA	**Vanda**	**63.24**	**186**	P	**P**	**21 37 18.7**	**+0.1**
	2.9nm,1.0s,baz=17,slow=6.7,SNR=6.6						
TXAR	**Lajitas Array**	**81.45**	**56**	P	**P**	**21 39 07.5**	**-0.3**
	0.3nm,0.7s,baz=224,slow=7.6,SNR=3.4						
ILAR	**Eielson Array**	**82.68**	**12**	P	**P**	**21 39 12.1**	**-1.2**
	0.4nm,0.5s,baz=219,slow=6.3,SNR=7.7						
PDAR	**Pinedale Array**	**82.95**	**42**	P	**P**	**21 39 14.8**	**-0.8**
	0.7nm,0.9s,baz=158,slow=4.3,SNR=4.5						
YKA	**Yellowknife Ar**	**90.53**	**24**	P	**P**	**21 39 50.9**	**-0.7**
	0.2nm,0.6s,baz=231,slow=4.7,SNR=3.1						
CMAR	**Chiang Mai Arr**	**91.69**	**289**	P	**P**	**21 39 58.5**	**+0.4**
	0.8nm,0.7s,baz=91,slow=2.8,SNR=7.0						
BRTR	**Keskin Array B**	**145.56**	**320**	PKPbc	**PKPdf**	**21 46 27.4**	**-0.9**
	1.6nm,0.7s,baz=79,slow=2.3,SNR=10						
GERES	**GERESS Array B**	**146.03**	**350**	PKPbc	**PKPdf**	**21 46 28.3**	**-0.5**
	0.2nm,0.4s,baz=29,slow=3.0,SNR=4.0						
MMAI	**Mount Meron Ar**	**147.82**	**308**	PKPbc	**PKPdf**	**21 46 35.0**	**+2.8**
	0.3nm,0.3s,baz=111,slow=3.2,SNR=3.2						

*ISCJB **13** 21:30:57.6±0.2, 15°.84S±0°.04×70°.51W±0°.05, h200km, mb4.5/41, Error ellipse: s-maj=7.4km s-min=4.4km az=145.9*

*NEIC **13** 21:30:58.0±0.5, 15°.81S×70°.47W, h178km±6km, mb4.7/31, Error ellipse: s-maj=9.0km s-min=7.1km az=66.0*

NEIC Felt [III] at Arequipa, Juliaca and Puno.

*IDC **13** 21:30:60.0±1.0, 15°.74S×70°.36W, h189km±7km, mb4.1/11, mb1 4.2/16, mb1mx3.9/47, mbtmp4.5/16, MS3.2/2, Ms1 3.2/2, ms1mx2.7/35, Error ellipse: s-maj=18.5km s-min=11.1km az=32.0*

ISC 13 21:30:59.7±0.5, 15°.84S±0°.07×70°.56W±0°.07, h200km, n255, σ1$34/260, mb4.6/41, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.09**	**235**	P	**Pn**	**21 31 26.5**	**-3.9**
LPAZ	**La Paz**	**2.38**	**101**	P	**Pn**	**21 31 41.7**	**-1.2**
	130nm,0.3s,baz=289,slow=8.9,SNR=1130						
LPAZ				S	**Sn**	**21 32 13.1**	**-3.4**
	50nm,0.3s,baz=209,slow=22,SNR=16						
LPAZ				LR	LR	21 32 31.4	
	comp=Z,186nm,18.2s,baz=119,slow=41						
MNMC	**Minye Minye**	**3.40**	**164**	*e*Pn	**Pn**	**21 31 52.7**	**-1.7**
PB11	**IPOC Station P**	**3.99**	**168**	*e*Pn	**Pn**	**21 31 58.8**	**-2.7**
PB01	**IPOC Station P**	**5.27**	**169**	*e*Pn	**Pn**	**21 32 14.8**	**-2.9**
PB04	**IPOC Station P**	**6.47**	**177**	*e*Pn	**Pn**	**21 32 30.6**	**-2.6**
NNA	**Nana**	**7.20**	**301**	P	**Pn**	**21 32 45.1**	**+2.4**
	2.5nm,0.3s,baz=162,slow=13,SNR=4.7						
NNA				S	**Sn**	**21 33 58.9**	**-5.6**
	1.9nm,0.3s,baz=12,slow=8.9,SNR=3.7						
NNA	**Nana**	**7.20**	**301**	Pn	**Pn**	**21 32 41.0**	**-1.7**
NNA				*e*Sn	**Sn**	**21 33 59.2**	**-5.2**
PB10	**IPOC Station P**	**7.63**	**180**	*e*Pn	**Pn**	**21 32 45.4**	**-2.7**
PB10				*e*Sn	Sn	21 34 06.7	-7.7
SIV	**San Ignacio**	**9.13**	**92**	P	**Pn**	**21 33 04.9**	**-2.9**
	2.0nm,0.3s,baz=289,slow=9.4,SNR=18						
SAML	**Samuel**	**9.94**	**47**	*e*Pn	**Pn**	**21 33 15.9**	**-2.4**
CPUP	**Villa Florida**	**16.15**	**132**	P	**Pn**	**21 34 36.8**	**+0.9**
	0.1nm,0.3s,baz=348,slow=7.2,SNR=4.7						
OTAV	**Otavalo**	**17.78**	**333**	*e*Pn	**Pn**	**21 34 56.2**	**+0.5**
	18nm,0.8s						
OTAV	**Otavalo**	**17.78**	**333**	*e*P	**Pn**	**21 34 57.7**	**+2.0**
CMBC	**Cumbal**	**18.16**	**336**	*e*P	**Pn**	**21 35 01.7**	**+1.6**
PTGA	**Pitinga**	**18.33**	**36**	P	**P**	**21 34 58.4**	**-0.5**
	16nm,0.3s,baz=212,slow=12,SNR=44						
SOTA	**Rioblanco**	**18.84**	**341**	*e*P	**Pn**	**21 35 06.4**	**-1.8**
PCON	**Cinco Dias**	**18.95**	**342**	*e*P	**Pn**	**21 35 07.7**	**-2.0**
POPC	**Popayan, Colom**	**19.24**	**341**	*e*P	**P**	**21 35 10.3**	**+1.0**
MARP	**Paez Belalcaza**	**19.32**	**344**	*e*P	**P**	**21 35 09.7**	**-0.6**
TUMC	**Tumaco**	**19.32**	**335**	*e*P	**Pn**	**21 35 13.6**	**+0.2**
	86nm,0.7s						
HORQ	**Saladito**	**20.12**	**342**	*e*P	**P**	**21 35 19.0**	**+0.2**
YOTC	**Yotoco, Valle**	**20.51**	**343**	*e*P	**P**	**21 35 21.6**	**-1.2**
YOPC	**Yopal, Colombi**	**21.14**	**355**	*e*P	**P**	**21 35 30.3**	**+0.8**
RREF	**El Recreo**	**21.15**	**347**	*e*P	**P**	**21 35 27.6**	**-2.5**
RUSC	**La Rusia**	**21.74**	**353**	*e*P	**P**	**21 35 32.7**	**-3.4**
	5.2nm,0.7s						
RUSC	**La Rusia**	**21.74**	**353**	*e*P	**P**	**21 35 32.3**	**-3.8**
PTBC	**PUERTO BERRIO,**	**22.57**	**350**	*e*P	**P**	**21 35 36.3**	**-7.1**
ZARC	**Zaragoza, Cauc**	**23.57**	**349**	*e*P	**P**	**21 35 48.9**	**-3.5**
SDV	**Santo Domingo**	**24.57**	**360**	P	**P**	**21 36 02.7**	**+1.0**
	5.4nm,0.3s,baz=153,slow=11,SNR=7.4						
SDV	**Santo Domingo**	**24.57**	**360**	*e*P	**P**	**21 36 01.7**	**0.0**
	13nm,0.9s						
SDV	**Santo Domingo**	**24.57**	**360**	*e*P	**P**	**21 36 00.8**	**-0.8**
PLCA	**Paso Flores**	**24.80**	**180**	P	**P**	**21 36 04.8**	**+1.4**
	3.2nm,0.8s,baz=5.9,slow=10,SNR=6.8						
PLCA	**Paso Flores**	**24.80**	**180**	*e*P	**P**	**21 36 03.1**	**-0.3**
	14nm,1.4s						
JTS	**JuntasAbangare**	**29.62**	**330**	LR	LR	21 50 39.0	
	comp=Z,116nm,18.5s,baz=170,slow=40						
SVB	**Belmont**	**30.36**	**18**	*e*P	**P**	**21 36 51.8**	**-1.3**
	90nm,1.2s						
FDF	**Fort de France**	**31.77**	**17**	*e*P	**P**	**21 37 04.1**	**-1.3**
	151nm,0.6s						
MPR	**Mayaguez**	**34.01**	**6**	*e*P	**P**	**21 37 25.2**	**+0.4**
	130nm,1.6s						
MTP	**Monte Pirata**	**34.08**	**9**	*e*P	**P**	**21 37 23.9**	**-1.5**
	72nm,1.5s						
CBYP	**Canovanas**	**34.21**	**8**	*e*P	**P**	**21 37 25.1**	**-1.5**
	66nm,1.0s						
ANWB	**Willy Bob**	**34.40**	**15**	*e*P	**P**	**21 37 24.7**	**-3.5**
	86nm,0.9s						
STVI	**Saint Thomas**	**34.42**	**9**	*e*P	**P**	**21 37 26.9**	**-1.4**
	54nm,1.2s						
SMRT	**St. Maarten**	**34.48**	**13**	*e*P	**P**	**21 37 25.8**	**-3.0**
	50nm,0.6s						
249A	**Camden**	**50.13**	**342**	P	**P**	**21 39 34.5**	**-0.2**
	baz=159						
151A	**Opelika**	**50.13**	**344**	P	**P**	**21 39 34.3**	**-0.5**
	baz=161						
150A	**Eclectic**	**50.40**	**343**	P	**P**	**21 39 36.7**	**0.0**
	baz=160						
248A	**Dixon Mills**	**50.43**	**341**	P	**P**	**21 39 37.2**	**+0.2**
	baz=158						
345A	**Thompson Farm,**	**50.48**	**338**	P	**P**	**21 39 37.6**	**+0.3**
	baz=155						
GOGA	**Godfrey**	**50.50**	**346**	P	**P**	**21 39 38.2**	**+0.7**
	baz=164						
247A	**Quitman**	**50.67**	**340**	P	**P**	**21 39 39.1**	**+0.3**
	baz=157						
Z50A	**Ashland**	**50.98**	**343**	P	**P**	**21 39 40.6**	**-0.5**
	baz=161						
343A	**Vidalia**	**51.04**	**337**	P	**P**	**21 39 40.6**	**-0.9**
	baz=154						
LRAL	**Lakeview Retre**	**51.08**	**342**	P	**P**	**21 39 41.6**	**-0.2**
	baz=160						
245A	**Little AP, Sta**	**51.09**	**339**	P	**P**	**21 39 41.7**	**-0.2**
	baz=156						
Z49A	**Columbiana**	**51.09**	**343**	P	**P**	**21 39 41.9**	**0.0**
	baz=160						
145A	**Houston Renfro**	**51.62**	**339**	P	**P**	**21 39 45.9**	**+0.1**
	baz=156						
Y49A	**Blount Mountai**	**51.68**	**343**	P	**P**	**21 39 46.1**	**-0.2**
	baz=160						
KMSC	**Kings Mountain**	**51.73**	**349**	P	**P**	**21 39 46.3**	**-0.2**
	baz=167						
Y47A	**UCPARC, Winfie**	**52.14**	**342**	P	**P**	**21 39 49.0**	**-0.7**
	baz=159						
X48A	**Hartselle**	**52.42**	**343**	P	**P**	**21 39 51.4**	**-0.3**
	baz=160						
Y46A	**Houston**	**52.44**	**341**	P	**P**	**21 39 51.5**	**-0.4**
	baz=158						
240A	**Hunter Patters**	**52.55**	**335**	P	**P**	**21 39 54.0**	**+1.3**
	baz=152						
NATX	**Nacogdoches**	**52.68**	**334**	P	**P**	**21 39 55.0**	**+1.4**
	baz=150						
Z42A	**Norrel Spur, H**	**52.94**	**337**	P	**P**	**21 39 55.1**	**-0.4**
	baz=154						
W48A	**Pulaski**	**53.03**	**343**	P	**P**	**21 39 55.8**	**-0.3**
	baz=160						
OXF	**Oxford**	**53.19**	**341**	P	**P**	**21 39 56.9**	**-0.5**
	baz=157						
W47A	**Westpoint**	**53.32**	**343**	P	**P**	**21 39 58.4**	**+0.1**
	baz=159						
Y42A	**Garnett, Star**	**53.39**	**338**	P	**P**	**21 39 59.8**	**+1.1**
	baz=154						
X44A	**Crenshaw**	**53.42**	**340**	P	**P**	**21 39 59.8**	**+0.8**
	baz=156						
Z40A	**Long Farm, Mag**	**53.48**	**336**	P	**P**	**21 40 00.3**	**+0.9**
	baz=152						
WHTX	**Lake Whitney,**	**54.10**	**332**	P	**P**	**21 40 05.3**	**+1.3**
	baz=148						
WVT	**Waverly**	**54.21**	**343**	P	**P**	**21 40 03.8**	**-0.9**
	baz=159						
WVT	**Waverly**	**54.21**	**343**	*e*P	**P**	**21 40 03.4**	**-1.3**
	4.1nm,0.8s						
U48A	**Cassie Pea, Po**	**54.22**	**344**	P	**P**	**21 40 04.4**	**-0.4**
	baz=161						
U47A	**Clarksville**	**54.35**	**343**	P	**P**	**21 40 06.0**	**+0.3**
	baz=160						
X40A	**Basin Creek Fa**	**54.35**	**337**	P	**P**	**21 40 06.2**	**+0.4**
	baz=153						
MIAR	**Mount Ida**	**54.68**	**337**	P	**P**	**21 40 08.3**	**+0.1**
	baz=152						
MIAR	**Mount Ida**	**54.68**	**337**	*e*P	**P**	**21 40 08.8**	**+0.6**
	5.8nm,0.9s						
T48A	**Bowling Green**	**54.74**	**345**	P	**P**	**21 40 08.5**	**-0.1**
	baz=161						
W41B	**Gary Mavity, V**	**54.75**	**338**	P	**P**	**21 40 08.7**	**0.0**
	baz=154						
X39A	**Fountain Ranch**	**54.86**	**336**	P	**P**	**21 40 10.1**	**+0.6**
	baz=152,SNR=8.7						
X301	**Greenbrier Sit**	**54.87**	**338**	*e*P	**P**	**21 40 10.2**	**+0.8**
	8.8nm,0.9s						
WHAR	**Wooly Hollow**	**54.87**	**338**	*e*P	**P**	**21 40 10.1**	**+0.6**
	7.5nm,0.9s						
V42A	**Cord**	**55.03**	**339**	P	**P**	**21 40 10.5**	**0.0**
	baz=155						
W40A	**Ferguson Farm,**	**55.07**	**338**	P	**P**	**21 40 11.4**	**+0.5**
	baz=159						
W40A	**Ferguson Farm,**	**55.07**	**338**	*e*P	**P**	**21 40 11.9**	**+1.1**
	18nm,1.0s						
TXAR	**Lajitas Array**	**55.13**	**324**	P	**P**	**21 40 12.8**	**+1.3**
	0.5nm,0.5s,baz=151,slow=9.1,SNR=8.7						
V41A	**Mountainview**	**55.27**	**339**	P	**P**	**21 40 11.9**	**-0.5**
	baz=154,SNR=8.1						
W39A	**Magazine**	**55.34**	**337**	P	**P**	**21 40 13.5**	**+0.7**
	baz=152,SNR=6.9						
U42A	**Revenden**	**55.47**	**340**	P	**P**	**21 40 12.7**	**-1.0**
	baz=156,SNR=7.5						
V40A	**Witts Springs**	**55.52**	**338**	P	**P**	**21 40 13.9**	**-0.3**
	baz=154,SNR=5.3						
PBMO	**Poplar Bluff**	**55.60**	**341**	*e*P	**P**	**21 40 14.2**	**-0.4**
	21nm,0.5s						
U41A	**Viola**	**55.69**	**339**	P	**P**	**21 40 14.7**	**-0.6**
	baz=155,SNR=8.7						
T43A	**Greenville**	**55.83**	**341**	P	**P**	**21 40 15.8**	**-0.5**
	baz=153,SNR=7.0						
V39A	**Pettigrew**	**55.86**	**337**	P	**P**	**21 40 16.8**	**+0.2**
	baz=153,SNR=12						
S45A	**Carrier Mills**	**55.87**	**343**	P	**P**	**21 40 16.1**	**-0.4**
	baz=159						
U40A	**Yellville**	**56.03**	**338**	P	**P**	**21 40 17.5**	**-0.2**
	baz=154,SNR=6.4						
T42A	**Van Buren**	**56.04**	**340**	P	**P**	**21 40 17.1**	**-0.7**
	baz=156,SNR=6.9						
S44A	**Carbondale**	**56.08**	**342**	P	**P**	**21 40 17.4**	**-0.7**
	baz=158,SNR=12						
SIUC	**Southern Illin**	**56.09**	**342**	*e*P	**P**	**21 40 17.3**	**-0.8**
	26nm,0.6s						
S43A	**Fulton Ridge,**	**56.21**	**341**	P	**P**	**21 40 18.4**	**-0.6**
	baz=157						
T41A	**Mountain View**	**56.27**	**340**	P	**P**	**21 40 19.3**	**-0.2**
	baz=155,SNR=7.5						
U39A	**Green Forest**	**56.28**	**338**	P	**P**	**21 40 19.1**	**-0.4**
	baz=153						
HHAR	**Hobbs**	**56.36**	**337**	*e*P	**P**	**21 40 20.8**	**+0.8**
	6.3nm,0.9s						
S42A	**Caledonia**	**56.62**	**341**	P	**P**	**21 40 21.2**	**-0.7**
	baz=156,SNR=5.3						
T40A	**Mansfield**	**56.63**	**339**	P	**P**	**21 40 21.8**	**-0.1**
	baz=154,SNR=6.6						
TUL1	**Leonard**	**56.74**	**336**	P	**P**	**21 40 23.0**	**+0.2**
	baz=151						
S41A	**Jillco Farms,**	**56.76**	**340**	P	**P**	**21 40 22.5**	**-0.4**
	baz=155,SNR=9.0						
T39A	**Clever**	**56.81**	**338**	P	**P**	**21 40 23.2**	**-0.1**
	baz=154						
R43A	**Red Bud**	**56.82**	**342**	P	**P**	**21 40 23.1**	**-0.1**
	baz=158						
WMOK	**Wichita Mounta**	**57.01**	**332**	P	**P**	**21 40 25.5**	**+0.8**
	baz=147,SNR=5.7						
WMOK	**Wichita Mounta**	**57.01**	**332**	*e*P	**P**	**21 40 25.5**	**+0.8**
	4.4nm,0.6s						
CCM	**Cathedral Cave**	**57.02**	**341**	*e*P	**P**	**21 40 25.0**	**+0.3**
	9.5nm,0.9s						
S40A	**Lebanon**	**57.02**	**339**	P	**P**	**21 40 24.4**	**-0.3**
	baz=155,SNR=12						
R42A	**Luebbering**	**57.09**	**341**	P	**P**	**21 40 24.9**	**-0.2**
	baz=157,SNR=11						
T38A	**Diamond**	**57.16**	**337**	P	**P**	**21 40 25.5**	**-0.2**
	baz=152,SNR=7.8						
R41A	**Rosebud**	**57.29**	**341**	P	**P**	**21 40 26.1**	**-0.4**
	baz=156,SNR=20						
S39A	**Bolivar**	**57.39**	**339**	P	**P**	**21 40 26.8**	**-0.5**
	baz=154,SNR=12						
R40A	**Maddies Statio**	**57.57**	**340**	P	**P**	**21 40 28.2**	**-0.3**
	baz=155,SNR=11						
Q42A	**Golden Eagle**	**57.59**	**342**	P	**P**	**21 40 28.6**	**0.0**
	baz=157						
Q41A	**Truxton**	**57.84**	**341**	P	**P**	**21 40 29.7**	**-0.7**
	baz=156,SNR=7.3						
R39A	**Chumby, Stover**	**57.85**	**339**	P	**P**	**21 40 30.4**	**-0.1**
	baz=154,SNR=7.2						
MNTX	**Cornudas Mount**	**57.88**	**325**	P	**P**	**21 40 32.8**	**+1.9**
	baz=140						
BINY	**Binghamton**	**57.97**	**355**	P	**P**	**21 40 31.7**	**+0.5**
	baz=174						
R38A	**Fenwick Farm,**	**58.04**	**338**	P	**P**	**21 40 31.7**	**-0.1**
	baz=153,SNR=6.2						
Q40A	**Laux Farm, Aux**	**58.15**	**340**	P	**P**	**21 40 32.6**	**+0.1**
	baz=155						
P42A	**Wiesester**	**58.15**	**342**	P	**P**	**21 40 32.5**	**0.0**
	baz=157						
MSTX	**Muleshoe**	**58.27**	**329**	P	**P**	**21 40 34.6**	**+0.9**
	baz=143						
P41A	**Barry, Barry**	**58.45**	**342**	P	**P**	**21 40 34.0**	**-0.5**
	baz=157,SNR=5.2						
P40A	**Paris**	**58.62**	**341**	P	**P**	**21 40 35.5**	**-0.3**
	baz=156						
O41A	**Passleys Farm,**	**58.80**	**342**	P	**P**	**21 40 36.2**	**-0.8**
	baz=157						
P39B	**Salisbury**	**58.81**	**340**	P	**P**	**21 40 36.7**	**-0.4**
	baz=155,SNR=6.8						
R35A	**Emporia Munici**	**59.01**	**337**	P	**P**	**21 40 38.6**	**+0.1**
	baz=151						
O40A	**La Belle**	**59.11**	**341**	P	**P**	**21 40 38.6**	**-0.5**
	baz=156						
P38A	**Dawn**	**59.20**	**339**	P	**P**	**21 40 39.4**	**-0.4**
	baz=154						
N42A	**Yates City**	**59.21**	**343**	P	**P**	**21 40 38.9**	**-0.9**
	baz=158						
N41A	**Harden Midland**	**59.34**	**342**	P	**P**	**21 40 39.4**	**-1.2**
	baz=157						
R34A	**Isabella, Hill**	**59.39**	**336**	P	**P**	**21 40 41.2**	**+0.1**
	baz=150,SNR=6.1						
P37A	**Lathrop**	**59.45**	**339**	P	**P**	**21 40 41.3**	**-0.2**
	baz=153,SNR=5.1						
M43A	**Waltham Townsh**	**59.48**	**344**	P	**P**	**21 40 41.0**	**-0.6**
	baz=159						
N40A	**Mertquake, Sal**	**59.72**	**342**	P	**P**	**21 40 42.6**	**-0.6**
	baz=156						
P36A	**Good Intent, A**	**59.78**	**338**	P	**P**	**21 40 43.5**	**-0.2**
	baz=152						
Q34A	**Chapman**	**59.81**	**336**	P	**P**	**21 40 44.3**	**+0.3**
	baz=150						
KSU1	**Kansas State U**	**59.84**	**337**	P	**P**	**21 40 44.3**	**+0.2**
	baz=151						
M41A	**Milan**	**59.86**	**343**	P	**P**	**21 40 44.1**	**-0.1**
	baz=158						
P35A	**Duane Minner,**	**59.99**	**337**	P	**P**	**21 40 45.1**	**-0.1**
	baz=151						
N39A	**Derby Farms, D**	**59.99**	**341**	P	**P**	**21 40 44.8**	**-0.4**
	baz=155						
L43A	**Garden Prairie**	**60.12**	**344**	P	**P**	**21 40 45.3**	**-0.7**
	baz=160						
O36A	**Bolckow**	**60.14**	**339**	P	**P**	**21 40 45.7**	**-0.5**
	baz=153						
LONY	**Lake Ozonia**	**60.28**	**357**	P	**P**	**21 40 47.0**	**0.0**
	baz=175						
P34A	**Walnut Farm, R**	**60.31**	**337**	P	**P**	**21 40 47.2**	**-0.2**
	baz=151,SNR=5.5						
L41A	**Preston**	**60.49**	**343**	P	**P**	**21 40 48.3**	**-0.3**
	baz=158						
M38A	**Pleasantville**	**60.70**	**341**	P	**P**	**21 40 49.9**	**0.0**
	baz=155						
N36A	**Muff Farm, Cla**	**60.75**	**339**	P	**P**	**21 40 50.4**	**+0.1**
	baz=153						
CBKS	**Cedar Bluff**	**60.85**	**334**	P	**P**	**21 40 52.0**	**+0.9**
	baz=148						
ANMO	**Albuquerque**	**60.94**	**327**	P	**P**	**21 40 54.1**	**+2.2**
	baz=140						
ANMO	**Albuquerque**	**60.94**	**327**	*e*P	**P**	**21 40 55.2**	**+3.3**
	1.9nm,0.6s						
L39A	**Vinton**	**60.98**	**342**	P	**P**	**21 40 51.4**	**-0.4**
	baz=156						
N35A	**Tabor**	**61.03**	**338**	P	**P**	**21 40 52.3**	**+0.2**
	baz=152						
J43A	**Natural Harves**	**61.17**	**345**	P	**P**	**21 40 51.9**	**-1.1**
	baz=160						
JFWS	**Jewell Farm**	**61.20**	**344**	P	**P**	**21 40 52.6**	**-0.7**
	baz=158						
K40A	**Colesburg**	**61.25**	**343**	P	**P**	**21 40 53.0**	**-0.6**
	baz=157						
M36A	**Felix, Anita**	**61.26**	**339**	P	**P**	**21 40 53.7**	**-0.1**
	baz=153						
L38A	**Oak Wood Farm,**	**61.28**	**341**	P	**P**	**21 40 53.8**	**0.0**
	baz=155						
N34A	**Lincoln**	**61.32**	**338**	P	**P**	**21 40 54.0**	**-0.1**
	baz=151						
L37A	**Phoenix Point,**	**61.52**	**341**	P	**P**	**21 40 55.2**	**-0.3**
	baz=154						
M35A	**Neola**	**61.58**	**339**	P	**P**	**21 40 56.1**	**+0.2**
	baz=152						
J39A	**Decorah**	**62.00**	**343**	P	**P**	**21 40 58.2**	**-0.4**
	baz=157						
K37A	**Belmond**	**62.06**	**341**	P	**P**	**21 40 58.9**	**-0.2**
	baz=155						
L35A	**Bielow Farm, R**	**62.10**	**339**	P	**P**	**21 40 59.8**	**+0.4**
	baz=153						
K36A	**Gilmore City**	**62.21**	**340**	P	**P**	**21 41 00.2**	**+0.2**
	baz=154						
I39A	**Houston**	**62.43**	**343**	P	**P**	**21 41 01.4**	**0.0**
	baz=157						
J37A	**Redenius Farm,**	**62.53**	**341**	P	**P**	**21 41 02.1**	**0.0**
	baz=155						
SDCO	**Great Sand Dun**	**62.61**	**329**	P	**P**	**21 41 04.8**	**+1.6**
	baz=142						
SDCO	**Great Sand Dun**	**62.61**	**329**	*e*P	**P**	**21 41 04.9**	**+1.7**
	5.8nm,0.6s						
J36A	**Seneca 1, Swea**	**62.79**	**341**	P	**P**	**21 41 04.2**	**+0.3**
	baz=154						
I38A	**Scanlan Farm,**	**62.83**	**343**	P	**P**	**21 41 03.9**	**-0.1**
	baz=156						
H40A	**Chili**	**62.83**	**344**	P	**P**	**21 41 03.8**	**-0.2**
	baz=158						
I37A	**Lemond, Waseca**	**63.12**	**342**	P	**P**	**21 41 06.3**	**+0.3**
	baz=155						
J33A	**Davis**	**63.66**	**339**	P	**P**	**21 41 10.0**	**+0.4**
	baz=151						
MVCO	**Mesa Verde**	**63.73**	**327**	P	**P**	**21 41 11.8**	**+1.4**
	baz=139						
H36A	**Jessenland, He**	**63.79**	**342**	P	**P**	**21 41 10.3**	**-0.1**
	baz=155						
ECSD	**EROS Data Cent**	**63.90**	**339**	P	**P**	**21 41 11.5**	**+0.4**
	baz=152						
ECSD	**EROS Data Cent**	**63.90**	**339**	*e*P	**P**	**21 41 11.2**	**+0.1**
	16nm,1.4s						
F40A	**Park Falls**	**63.97**	**345**	P	**P**	**21 41 11.0**	**-0.5**
	baz=159						
J32A	**Parkston**	**64.02**	**338**	P	**P**	**21 41 12.2**	**+0.3**
	baz=151						
H35A	**Sunnyside Ranc**	**64.18**	**341**	P	**P**	**21 41 13.0**	**+0.1**
	baz=154						
I33A	**Coleman**	**64.24**	**339**	P	**P**	**21 41 13.8**	**+0.4**
	baz=152						
ISCO	**Idaho Springs**	**64.28**	**331**	P	**P**	**21 41 16.1**	**+2.1**
	baz=142						
ISCO	**Idaho Springs**	**64.28**	**331**	*e*P	**P**	**21 41 16.9**	**+2.8**
	2.4nm,0.7s						
SMCO	**Snowmass**	**64.45**	**329**	*e*P	**P**	**21 41 18.9**	**+3.6**
	5.9nm,0.8s						
H34A	**Spellman Lake,**	**64.45**	**340**	P	**P**	**21 41 15.0**	**+0.3**
	baz=153						
I32A	**Karley and Nic**	**64.45**	**339**	P	**P**	**21 41 15.8**	**+1.1**
	baz=151						
H33A	**Prehn Over Nor**	**64.78**	**340**	P	**P**	**21 41 17.7**	**+0.8**
	baz=152						
F36A	**Milaca**	**64.84**	**342**	P	**P**	**21 41 17.5**	**+0.4**
	baz=156

27nm,0.6s
TIC Toumodi 68.61 76 *e*PKP1 **P** **21 41 41.5 -0.2**
CWC Cottonwood Cre 68.67 320 P **P** **21 41 42.8 +1.0**
baz=130
DBIC Dimbokro 68.77 76 P **P** **21 41 42.2 -0.5**
9.9nm,0.3s,baz=232,slow=6.5,SNR=45
DBIC Dimbokro 68.77 76 *e*P **P** **21 41 42.0 -0.7**
KIC Kosan Boka 68.78 77 *e*PKP1 **P** **21 41 41.9 -0.8**
28nm,0.4s
ULM Lac du Bonnet 69.48 343 P **P** **21 41 46.4 +0.1**
11nm,0.6s,baz=153,slow=5.9,SNR=34
ULM Lac du Bonnet 69.48 343 *e*P **P** **21 41 46.3 0.0**
NV11 Mina Array Sit 70.01 322 *e*P **P** **21 41 50.1 +0.2**
LAO LASA Array 70.03 335 P **P** **21 41 51.0 +1.2**
baz=143
DGMT Dagmar 70.68 337 P **P** **21 41 55.2 +1.5**
baz=146
KOWA Kowa 72.33 69 P **P** **21 42 03.7 -0.5**
4.4nm,0.5s,baz=240,slow=4.8,SNR=13
KOWA Kowa 72.33 69 *e*P **P** **21 42 03.8 -0.4**
TOA0 Torodi Ar. Sit 77.03 72 *e*P **P** **21 42 30.6 -0.5**
TORD Torodi Ar. Bea 77.03 72 P **P** **21 42 30.4 -0.7**
7.5nm,0.5s,baz=262,slow=4.9,SNR=71
TORD pP **pP** **21 43 18.7 -0.5**
2.9nm,1.0s,baz=256,slow=5.2,SNR=3.7
EDM Edmonton 78.00 335 *e*P **P** **21 42 36.7 +1.0**
ESDC Sonseca Array 82.96 46 P **P** **21 43 02.9 +0.4**
1.4nm,0.6s,baz=252,slow=5.7,SNR=14
ES19 SONSECA Array 83.02 46 *e*P **P** **21 43 03.1 +0.3**
TAM Tamanrasset 83.73 64 *e*P **P** **21 43 08.0 +1.1**
2.2nm,0.6s
YKA Yellowknife Ar 85.36 341 P **P** **21 43 15.6 +1.7**
3.9nm,0.6s,baz=136,slow=5.1,SNR=99
INK Inuvik 95.12 341 P **P** **21 44 01.2 +1.7**
1.0nm,0.5s,baz=112,slow=2.1,SNR=8.1
ASAR Alice Springs 134.03 212 PKP **PKPdf** **21 49 55.4 +1.3**
0.4nm,0.7s,baz=157,slow=2.6,SNR=3.4
WRA Warramunga Arr 136.83 215 PKP **PKPdf** **21 49 59.9 +0.5**
1.1nm,0.9s,baz=133,slow=1.6,SNR=7.4
ZALV Zalesovo Beam 137.40 21 PKP **PKPdf** **21 49 59.9 +0.6**
2.3nm,0.6s,baz=291,slow=2.9,SNR=12
ZALV SKP 21 53 18.7
3.4nm,1.0s,baz=305,slow=5.2,SNR=11
MKAR Makanchi Array 141.77 30 PKhKP PKPpre 21 50 03.6
0.2nm,0.5s,baz=332,slow=3.2,SNR=5.8
MKAR PKP **PKiKP** **21 50 10.2 -0.2**
0.5nm,0.7s,baz=347,slow=2.6,SNR=5.6
MKAR SKPbc **SKiKP** **21 53 29.9 +2.2**
0.7nm,0.7s,baz=335,slow=2.0,SNR=10
KSH Kashi 142.47 44 *e*PKP **PKPdf** **21 50 11.1 +2.0**
KSH PP **PP** **21 53 23.1 +4.7**
USRK Ussuriysk Ar. 145.88 331 PKPbc **PKPab** **21 50 18.1 +1.6**
2.7nm,1.0s,baz=359,slow=1.9,SNR=4.5
MJAR Matsushiro Arr 147.17 314 PKPbc **PKPbc** **21 50 20.6 +0.9**
2.1nm,0.8s,baz=87,slow=2.6,SNR=5.2
SONM Songino Array 148.00 4 PKPbc **PKPab** **21 50 23.5 -1.3**
2.6nm,0.6s,baz=321,slow=1.7,SNR=25

IDC ***13*** *22:04:07.9±11.0, 37.88N×140.51E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.1/58, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=198.2km s-min=32.8km az=116.0*
ISCJB ***13*** *22:04:14.2±0.8, 37.17N±0.06×140.56E±0.07, h93km±5km, mb3.3/3, Error ellipse: s-maj=12.8km s-min=6.2km az=140.5*
JMA ***13*** *22:04:15.4±0.1, 37.15N×140.52E, h83km±1km, M3.1*
JMA Felt I J1.

ISC 13 22:04:15.0±1.2, 37.17N±0.07×140.58E±0.06, h88km±8km, n23, σ0.88/27, mb3.4/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.19**	**110**	P	**Pn**	**22 04 27.9**	**+0.2**
ONAJ				S	**Sn**	**22 04 37.2**	**+0.1**
JFK	**Kawauchi**	**0.31**	**50**	P	**Pn**	**22 04 28.5**	**+0.3**
JFK				S	**Sn**	**22 04 38.2**	**+0.1**
JFT	**Otama**	**0.40**	**331**	P	**Pn**	**22 04 28.9**	**+0.1**
JFT				S	**Sn**	**22 04 39.2**	**+0.2**
JMM	**Marumori**	**0.72**	**14**	P	**Pn**	**22 04 31.9**	**+0.5**
JMM				S	**Sn**	**22 04 43.8**	**+0.1**
JFY	**Yanaizu**	**0.74**	**289**	P	**Pn**	**22 04 31.5**	**-0.1**
JFY				S	**Sn**	**22 04 43.7**	**-0.4**
JYS	**Shirataka**	**1.13**	**339**	P	**Pn**	**22 04 36.7**	**+0.7**
JKT	**Katashina**	**1.14**	**250**	P	**Pn**	**22 04 36.7**	**+0.5**
JAG	**Ashikaga**	**1.17**	**231**	P	**Pn**	**22 04 36.6**	**+0.1**
JAG				S	**Sn**	**22 04 52.2**	**-0.4**
JNS	**Sasagawa**	**1.20**	**303**	P	**Pn**	**22 04 36.5**	**-0.3**
JOU	**Okura**	**1.20**	**3**	P	**Pn**	**22 04 37.7**	**+0.8**
JHK	**Hiroka**	**1.25**	**274**	P	**Pn**	**22 04 37.6**	**+0.2**
JHK				S	**Sn**	**22 04 54.0**	**-0.4**
JIO	**Ouri**	**1.42**	**25**	P	**Pn**	**22 04 40.0**	**+0.4**
JIO				S	**Sn**	**22 04 58.6**	**+0.4**
MJAR	**Matsushiro Arr**	**2.00**	**253**	Pn	**Pn**	**22 04 46.9**	**-0.2**
MJAR	2.0nm,0.3s,baz=62,slow=7.7,SNR=9.9			Sn	**Sn**	**22 05 15.2**	**+3.7**
	1.8nm,0.3s,baz=312,slow=16,SNR=2.9						
MAT	**Matsushiro**	**2.00**	**253**	P	**Pn**	**22 04 47.8**	**+0.7**
MAT				S	**Sn**	**22 05 11.5**	**-0.1**
SONM	**Songino Array**	**27.16**	**304**	P	**P**	**22 09 49.9**	**-0.1**
	0.4nm,0.7s,baz=97,slow=10,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**28.79**	**120**	T	T	22 40 15.4	
	baz=313,slow=75,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**28.80**	**120**	T	T	22 40 16.5	
	baz=313,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.81**	**120**	T	T	22 40 16.4	
	baz=313,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**29.50**	**122**	T	T	22 41 08.3	
	baz=314,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.50**	**122**	T	T	22 41 07.2	
	baz=314,slow=76,SNR=7.7						
H11S2	**WAKE ISLAND Hy**	**29.51**	**122**	T	T	22 41 11.4	
	baz=314,slow=76,SNR=8.1						
MKAR	**Makanchi Array**	**43.48**	**302**	P	**P**	**22 12 08.6**	**-0.8**
	0.4nm,0.7s,baz=90,slow=9.0,SNR=5.0						
KURBB	**Kurchatov Arra**	**45.39**	**308**	P	**P**	**22 12 24.0**	**-0.5**
	0.5nm,0.5s,baz=82,slow=8.2,SNR=7.9						

NNC 13 22:23:03.1±5.7, 36.79N×72.06E, h0km, mb3.8, mpv3.4, 7C-3D, Error ellipse: s-maj=53.2km s-min=39.3km az=115.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.42**	**19**	⇑Pn	Pn	22 23 58.5	+0.6
	23nm,0.6s						
SFK				⇓Sn	Sn	22 24 40.9	+1.7
	26nm,0.6s						
MNAS	**Manas**	**5.70**	**3**	⇑Pn	Pn	22 24 29.0	-0.2
	1.8nm,0.5s						
MNAS				⇑Sn	Sn	22 25 35.2	-0.2
	2.8nm,0.7s						
AAK	**Ala-Archa**	**6.14**	**17**	⇓Pn	Pn	22 24 33.9	-1.3
	3.4nm,1.1s						
AAK				⇑Sn	Sn	22 25 46.7	+0.5
	3.9nm,1.2s						
KK31	**Karatay Array**	**6.42**	**350**	⇓Pn	Pn	22 24 41.6	+2.6
	0.3nm,0.2s,baz=169,slow=16,SNR=7.5						
KK31				⇑Sn	Sn	22 25 55.7	+2.8
	1.5nm,0.5s,baz=177,slow=22						
TKM2	**Tokmak 2**	**6.70**	**23**	⇑Pn	Pn	22 24 40.4	-2.7
	1.8nm,0.7s						
TKM2				⇑Sn	Sn	22 26 00.0	-0.1
	8.1nm,0.8s						

IDC 13 22:30:25.8±1.1, 21.47N×45.62W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.5/61, mbtmp3.8/5, MS3.3/9, Ms1 3.3/9, ms1mx3.0/60, Error ellipse: s-maj=34.2km s-min=28.2km az=44.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**16.08**	**247**	T	T	22 50 17.0	
	SNR=5.5						
SJG	**San Juan**	**19.60**	**264**	LR	LR	22 40 59.4	
	comp=Z,72nm,18.8s,baz=95,slow=32						
PTGA	**Pitinga**	**26.14**	**214**	LR	LR	22 44 33.5	
	comp=Z,45nm,20.3s,baz=64,slow=32						
SDV	**Santo Domingo**	**27.14**	**246**	LR	LR	22 46 09.0	
	comp=Z,59nm,19.8s,baz=92,slow=35						
BBTS	**Babate**	**28.44**	**99**	LR	LR	22 44 37.6	
	comp=Z,87nm,21.1s,baz=353,slow=30						
ROSC	**El Rosal**	**32.37**	**243**	LR	LR	22 51 28.6	
	comp=Z,26nm,18.4s,baz=44,slow=39						
TKL	**Tuckaleechee C**	**36.13**	**301**	LR	LR	22 50 26.0	
	comp=Z,76nm,18.5s,baz=30,slow=33						
KOWA	**Kowa**	**40.08**	**93**	LR	LR	22 51 15.3	
	comp=Z,56nm,19.9s,baz=218,slow=31						
DBIC	**Dimbokro**	**42.03**	**104**	LR	LR	22 52 30.5	
	comp=Z,45nm,21.6s,baz=266,slow=32						
H10N3	**ASCENSION HYDR**	**42.21**	**130**	T	T	23 23 09.2	
	baz=314,slow=75,SNR=71						
H10N2	**ASCENSION HYDR**	**42.21**	**130**	T	T	23 23 05.9	
	baz=314,slow=75,SNR=71						
H10N1	**ASCENSION HYDR**	**42.23**	**130**	T	T	23 23 07.1	
	baz=314,slow=75,SNR=119						
H10S3	**ASCENSION HYDR**	**42.87**	**132**	T	T	23 23 56.1	
	baz=315,slow=75,SNR=23						
H10S1	**ASCENSION HYDR**	**42.87**	**132**	T	T	23 23 56.3	
	baz=315,slow=75,SNR=19						
H10S2	**ASCENSION HYDR**	**42.89**	**132**	T	T	23 23 57.4	
	baz=315,slow=75,SNR=24						
LPAZ	**La Paz**	**43.53**	**212**	P	P	22 38 32.0	-0.2
	2.6nm,1.0s,baz=39,slow=6.5,SNR=6.4						
TORD	**Torodi Ar. Bea**	**45.78**	**92**	P	P	22 38 49.5	-0.1
	0.4nm,0.8s,baz=303,slow=9.2,SNR=2.8						
TORD				LR	LR	22 55 35.3	
	comp=Z,45nm,20.8s,baz=300,slow=33						
PDAR	**Pinedale Array**	**56.80**	**308**	P	P	22 40 12.2	-0.1
	1.9nm,1.0s,baz=90,slow=7.4,SNR=7.1						
YKA	**Yellowknife Ar**	**61.49**	**330**	P	P	22 40 43.6	-0.4
	0.6nm,0.8s,baz=98,slow=7.4,SNR=9.8						
ILAR	**Eielson Array**	**75.48**	**334**	P	P	22 42 12.1	+0.5
	1.7nm,1.0s,baz=68,slow=4.6,SNR=13						

IDC ***13*** *22:32:15.6±2.1, 44.56N×152.23E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/66, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=53.0km s-min=32.9km az=70.0*
ISCJB ***13*** *22:32:20.0±1.7, 44.5N±0.2×151.8E±0.3, h37km, mb3.6/5, Error ellipse: s-maj=33.9km s-min=30.5km az=43.5*

ISC 13 22:32:22.1±1.9, 44.5N±0.2×151.9E±0.2, h37km, n6, σ1.58/6, mb3.7/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.71**	**270**	Pn	**Pn**	**22 33 57.0**	**-0.9**
	0.9nm,0.3s,baz=49,slow=13,SNR=8.9						
SONM	**Songino Array**	**31.37**	**293**	P	**P**	**22 38 41.5**	**+2.3**
	0.1nm,0.3s,baz=86,slow=9.2,SNR=2.9						
MKAR	**Makanchi Array**	**47.27**	**299**	P	**P**	**22 40 51.3**	**-0.2**
	0.6nm,0.6s,baz=69,slow=7.3,SNR=8.5						
KURBB	**Kurchatov Arra**	**48.04**	**305**	P	**P**	**22 40 56.4**	**-1.0**
	0.2nm,0.4s,baz=72,slow=8.0,SNR=3.9						
FINES	**FINESS Array B**	**65.73**	**335**	P	**P**	**22 43 01.8**	**-0.7**
	2.4nm,0.9s,baz=45,slow=6.1,SNR=5.2						
WRA	**Warramunga Arr**	**66.10**	**198**	P	**P**	**22 43 05.3**	**0.0**
	0.8nm,1.0s,baz=16,slow=6.5,SNR=4.7						

NEIC 13 23:05:16.3±0.0, 40.62S×176.20E, h19km, ML4.1(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.07**	**148**	P*	Pg	23 05 19.6	-0.3
PRWZ	**Pori Road**	**0.18**	**291**	P*	Pg	23 05 21.1	-0.1
PRWZ				S*	Sg	23 05 25.3	+0.8
POWZ	**Post Office Ro**	**0.40**	**305**	P*	Pg	23 05 24.5	-0.1
MRZ	**Mangatainoka R**	**0.47**	**265**	P*	Pg	23 05 25.6	-0.3
PRHZ	**Porangahau**	**0.49**	**43**	P*	Pg	23 05 26.0	-0.2
TMWZ	**Te Maipa**	**0.54**	**206**	P*	Pg	23 05 27.5	+0.3
HOWZ	**Holdsworth Sta**	**0.59**	**242**	P*	Pb	23 05 27.9	0.0
PNHZ	**Pukenui**	**0.71**	**0**	P*	Pb	23 05 29.9	-0.1
MTW	**Mount Morrison**	**0.75**	**224**	P*	Pb	23 05 30.1	-0.6

MOS ***13*** *23:06:41.7±1.0, 15.09N×92.85W, h44km, mb5.5/78, MS4.9/13, Error ellipse: s-maj=7.8km s-min=4.1km az=102.5*
CASC ***13*** *23:06:43.3±1.7, 15.14N×93.17W, h102km±67km, MD5.4, ML4.7, mb5.5(NEIC)*
NEIC ***13*** *23:06:43.6±0.2, 14.96N×93.03W, h49km, mb5.5/290, MW5.5, MD5.2(MEX), MD5.7(SNET), Error ellipse: s-maj=4.9km s-min=3.0km az=34.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^17 Nm; Mrr0.98; Mθθ-0.28; Mϕϕ-0.70; Mrθ1.56; Mθϕ0.23; Mϕr-0.99; Best double couple: M0 2.10000×10^17 NP1:ϕs127.00000°, δ78.00000°, λ82.00000°. NP2:ϕs341.00000°, δ14.00000°, λ124.00000°. Principal axes: T 2.2000, Plg56.0000°, Azm26.0000°; N -0.3400, Plg8.0000°, Azm128.0000°; P -1.8700, Plg33.0000°, Azm223.0000°;*
NEIC Felt [V] at Tapachula and [III] at Tuxtla Gutierrez. Also felt at San Cristobal de Las Casas and Tonala. Felt [III] at Quetzaltenango, Guatemala. Also felt at Alta Verapaz, Amatitlan, Antigua Guatemala, Huehuetenango, San Cristobal Verapaz, San Pedro La Laguna, Santa Catarina Pinula and Santa Cruz La Laguna. Felt [II] at San Salvador, El Salvador.
GCMT ***13*** *23:06:43.6±0.2, 14.95N×93.34W, h57km±1km, MW5.5/118, Moment Tensor Solution. s106,c185; s118,c216; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr1.21±.03; Mθθ-1.29±.03; Mϕϕ0.08±.03; Mrθ1.56±.03; Mθϕ0.45±.03; Mϕr-1.25±.03; Best double couple: M0 2.40000×10^17 NP1:ϕs125.00000°, δ74.00000°, λ102.00000°. NP2:ϕs267.00000°, δ20.00000°, λ53.00000°. Principal axes: T 2.3760, Plg59.0000°, Azm52.0000°; N 0.0510, Plg12.0000°, Azm302.0000°; P -2.4240, Plg28.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MEX ***13*** *23:06:44.1±0.6, 14.77N×93.32W, h29km±9km, MD5.2*
IDC ***13*** *23:06:45.6±2.9, 15.14N×92.70W, h68km±24km, mb4.6/29, mb1 4.8/31, mb1mx4.7/49, mbtmp4.9/31, MS4.8/36, Ms1 4.8/36, ms1mx4.7/40, Error ellipse: s-maj=17.6km s-min=9.8km az=57.0*
ISCJB ***13*** *23:06:46.3±0.3, 15.18N±0.02×92.95W±0.02, h89km±2km, mb5.3/310, Error ellipse: s-maj=3.3km s-min=1.8km az=138.6*

ISC 13 23:06:44.6±0.5, 15.08N±0.03×93.13W±0.03, h62km±4km, h62km:pP-P, n1369, σ1.82/1407, mb5.4/336, 28C-13D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.63**	**352**	*i* P	**Pn**	**23 06 58.9**	**+0.8**
PCIG				*e*S	**Sn**	**23 07 10.4**	**+2.5**
PCIG		**0.63**	**352**	*i* P	**Pn**	**23 06 58.9**	**+0.8**
PCIG				*e*S	**Sn**	**23 07 10.4**	**+2.5**
THIG		**0.85**	**101**	*i* P	**Pn**	**23 07 00.4**	**-0.4**
THIG				*i* S	**Sn**	**23 07 13.3**	**+0.6**
THIG		**0.85**	**101**	*i* P	**Pn**	**23 07 00.4**	**-0.4**
THIG				*i* S	**Sn**	**23 07 13.3**	**+0.6**
CCIG	**Comitan**	**1.53**	**38**	*e*P	**Pn**	**23 07 13.5**	**+3.6**
CCIG				*e*S	**Sn**	**23 07 34.6**	**+5.7**
CCIG	**Comitan**	**1.53**	**38**	*e*P	**Pn**	**23 07 13.5**	**+3.6**
CCIG				*e*S	**Sn**	**23 07 34.6**	**+5.7**
TGIG		**1.69**	**0**	*e*P	**Pn**	**23 07 14.6**	**+2.6**
TGIG				*e*S	**Sn**	**23 07 37.0**	**+4.4**
TGIG		**1.69**	**0**	*e*P	**Pn**	**23 07 14.6**	**+2.6**
TGIG				*e*S	**Sn**	**23 07 37.0**	**+4.4**
CMIG	**Matias Romero**	**2.62**	**320**	P	**Pn**	**23 07 24.6**	**+0.1**
	377nm,0.3s,baz=146,slow=10,SNR=1718			S	**Sn**	**23 07 55.8**	**+0.6**
CMIG	2μm,0.3s,baz=266,slow=17,SNR=10.0						
IXG	**Ixpaco**	**2.74**	**109**	*e*P	**Pn**	**23 07 26.8**	**+0.5**
HUIG	**Huatulco**	**2.96**	**284**	*e*P	**Pn**	**23 07 25.7**	**-3.4**
HUIG				*i* S	**Sn**	**23 07 58.3**	**-5.1**
HUIG	**Huatulco**	**2.96**	**284**	*e*P	**Pn**	**23 07 25.7**	**-3.4**
HUIG				*i* S	**Sn**	**23 07 58.3**	**-5.1**
TUIG	**Tuzandepetl**	**3.19**	**337**	*i* S	**Sn**	**23 08 11.6**	**+2.5**
MRL	**Marmol**	**3.32**	**90**	*e*P	**Pn**	**23 07 32.8**	**-1.5**
RTR	**El Retiro**	**3.57**	**109**	*e*P	**Pn**	**23 07 38.5**	**+0.8**
SBLS	**San Blas**	**3.61**	**109**	*e*P	**Pn**	**23 07 39.2**	**+0.9**
MTO3	**Montecristo**	**3.71**	**100**	*e*P	**Pn**	**23 07 40.5**	**+0.9**
MTO3				*e*S	**Sn**	**23 08 25.7**	**+3.5**
BOQS	**Boqueron**	**3.96**	**109**	*e*P	**Pn**	**23 07 43.9**	**+0.9**
COLS	**Colinas**	**3.97**	**110**	*e*P	**Pn**	**23 07 44.1**	**+1.1**
COLS				*e*S	**Sn**	**23 08 30.6**	**+2.1**
VHO	**Vista Hermosa**	**3.99**	**300**	*e*P	**Pn**	**23 07 41.7**	**-1.8**
VHO				*e*S	**Sn**	**23 08 28.1**	**-1.1**
VHO	**Vista Hermosa**	**3.99**	**300**	*e*P	**Pn**	**23 07 41.7**	**-1.8**
VHO				*e*S	**Sn**	**23 08 28.1**	**-1.1**
UEES	**San Salvador**	**4.00**	**109**	*e*P	**Pn**	**23 07 45.2**	**+1.8**
SNET	**Serv Nac Est T**	**4.02**	**110**	*e*P	**Pn**	**23 07 44.7**	**+0.9**
SNET				IAML		23 08 44.1	
	comp=Z,11μm,0.4s						
OPAM	**San Salvador**	**4.04**	**109**	*e*P	**Pn**	**23 07 46.1**	**+2.1**
LFU	**La Fuente**	**4.11**	**108**	*e*P	**Pn**	**23 07 45.6**	**+0.7**
LBRS	**Las Brisas**	**4.18**	**108**	*e*P	**Pn**	**23 07 47.2**	**+1.3**
LFRS	**El Faro**	**4.20**	**110**	*e*P	**Pn**	**23 07 46.9**	**+0.7**
SNVI	**San Vicente**	**4.41**	**109**	*e*P	**Pn**	**23 07 50.3**	**+1.3**
CAHU	**Cacacuatique**	**4.94**	**105**	*e*P	**Pn**	**23 07 58.8**	**+2.3**
PNIG	**Pinotepa**	**4.99**	**286**	*e*P	**Pn**	**23 07 55.0**	**-1.9**
PNIG				*e*S	**Sn**	**23 08 49.0**	**-4.3**
PNIG	**Pinotepa**	**4.99**	**286**	*e*P	**Pn**	**23 07 55.0**	**-1.9**
PNIG				*e*S	**Sn**	**23 08 49.0**	**-4.3**
TPIG	**Tehuac#an**	**5.24**	**310**	*e*P	**Pn**	**23 08 00.7**	**+0.1**
TPIG				*e*S	**Sn**	**23 09 00.3**	**+0.5**
TPIG	**Tehuac#an**	**5.24**	**310**	*e*P	**Pn**	**23 08 00.7**	**+0.1**
TPIG				*e*S	**Sn**	**23 09 00.3**	**+0.5**
LCND	**La Ca˜–ada**	**5.38**	**108**	*e*P	**Pn**	**23 08 03.4**	**+1.1**
CNCH	**Conchagua**	**5.44**	**109**	*e*P	**Pn**	**23 08 04.1**	**+0.9**
LVIG	**Laguna Verde**	**5.59**	**326**	*e*P	**Pn**	**23 08 03.5**	**-1.5**
LVIG				*i* S	**Sn**	**23 09 07.2**	**-0.8**
LVIG	**Laguna Verde**	**5.59**	**326**	*e*Pn	**Pn**	**23 08 03.6**	**-1.5**
LVIG				*i* S	**Sn**	**23 09 07.2**	**-0.8**
TGUH	**Tegucigalpa,Un**	**5.76**	**99**	*e*Pn	**Pn**	**23 08 08.9**	**+1.4**
TGUH	**Tegucigalpa,Un**	**5.76**	**99**	*e*P	**Pn**	**23 08 09.4**	**+1.9**
TLIG	**Tlapa**	**5.78**	**296**	*e*P	**Pn**	**23 08 05.7**	**-2.1**
TLIG				*e*S	**Sn**	**23 09 11.2**	**-1.6**
TLIG	**Tlapa**	**5.78**	**296**	*e*P	**Pn**	**23 08 05.7**	**-2.1**
TLIG				*e*S	**Sn**	**23 09 11.2**	**-1.6**
CRIN	**San Cristobal**	**6.36**	**111**	*e*P	**Pn**	**23 08 17.6**	**+1.8**
CRIN				*e*S	**Sn**	**23 09 27.8**	**+0.7**
MYIG	**MØrida**	**6.68**	**28**	*e*Pn	**Pn**	**23 08 22.5**	**+2.5**
CNGN	**Cerro Negro**	**6.75**	**112**	*e*P	**Pn**	**23 08 22.6**	**+1.4**
CNGN				*e*S	**Sn**	**23 09 40.1**	**+3.4**
MEIG	**Mezcala**	**6.84**	**295**	*e*P	**Pn**	**23 08 20.9**	**-1.5**
MEIG				*i* S	**Sn**	**23 09 37.4**	**-1.5**
MEIG	**Mezcala**	**6.84**	**295**	*e*P	**Pn**	**23 08 20.9**	**-1.5**
MEIG				*i* S	**Sn**	**23 09 37.4**	**-1.5**
ESTN	**Estel**	**6.85**	**106**	*e*P	**Pn**	**23 08 24.0**	**+1.5**
MOMN	**Momotombo**	**6.93**	**112**	*e*P	**Pn**	**23 08 24.2**	**+0.6**
COPN	**Copaltepe**	**6.98**	**114**	*e*P	**Pn**	**23 08 24.6**	**+0.4**
CAIG	**El Cayaco**	**7.14**	**287**	*e*P	**Pn**	**23 08 25.2**	**-1.2**
CAIG				*i* S	**Sn**	**23 09 42.9**	**-3.2**
CAIG	**El Cayaco**	**7.14**	**287**	*e*P	**Pn**	**23 08 25.2**	**-1.2**
CAIG				*i* S	**Sn**	**23 09 42.9**	**-3.2**
UNM	**Universidad Na**	**7.16**	**307**	*e*P	**Pn**	**23 08 30.8**	**+3.9**
UNM	**Universidad Na**	**7.16**	**307**	*e*Pn	**Pn**	**23 08 30.8**	**+3.9**
TISN	**Laguna Tiscapa**	**7.28**	**113**	*e*P	**Pn**	**23 08 29.3**	**+0.9**
MGAN	**Managua**	**7.30**	**113**	*e*P	**Pn**	**23 08 29.6**	**+1.0**
MGAN				AML	AML	23 09 56.7	
	comp=N,161nm,0.7s						
AZVM	**Cuida Lopez Ma**	**7.39**	**308**	*i* P	**Pn**	**23 08 30.6**	**+0.5**
AZVM				*i* S	**Sn**	**23 09 52.4**	**-0.3**
CUI	**Cuipilapa**	**8.92**	**119**	*e*P	**Pn**	**23 08 52.5**	**+1.6**
MOIG	**Morelia**	**8.95**	**302**	*e*Pn	**Pn**	**23 08 54.7**	**+3.3**
ESPN	**Las Esperanzas**	**9.05**	**107**	*e*P	**Pn**	**23 08 53.5**	**+1.0**
JTS	**JuntasAbangare**	**9.29**	**120**	P	**Pn**	**23 08 56.4**	**+0.5**
	comp=N,23nm,0.3s,baz=358,slow=8.6,SNR=41						
JTS				S	**Sn**	**23 10 41.2**	**+2.3**
	comp=N,9.6nm,0.3s,baz=16,slow=12,SNR=2.9						
JTS	**JuntasAbangare**	**9.29**	**120**	*e*P	**Pn**	**23 08 56.1**	**+0.2**
JTS				S	**Sn**	**23 10 41.2**	**+2.3**
JTS				pmax	pmax		
	comp=Z,289nm,0.8s						
JTS	**JuntasAbangare**	**9.29**	**120**	*e*Pn	**Pn**	**23 08 56.1**	**+0.2**
	comp=Z,289nm,0.8s						
JTS				*e*Sn	**Sn**	**23 10 35.4**	**-3.5**
JTS				S	**Sn**	**23 10 41.2**	**+2.3**
JCR	**Jicaral**	**9.39**	**123**	*e*P	**Pn**	**23 08 58.9**	**+1.5**
SRA1	**San Ram˜‡n**	**9.79**	**119**	*e*P	**Pn**	**23 09 03.1**	**+0.3**
SRA1				*e*S	**Sn**	**23 10 52.9**	**+1.6**
CGA2	**Cerro Gallo 2**	**9.84**	**120**	*e*P	**Pn**	**23 09 04.5**	**+1.0**
CGA2				*e*S	**Sn**	**23 10 57.2**	**+4.6**
HDC	**Heredia**	**10.14**	**119**	*e*Pn	**Pn**	**23 09 09.4**	**+1.8**
HDC				*e*Sn	Sn	23 11 21.0	+21
LCR2	**La Lucha 2**	**10.37**	**120**	*e*P	**Pn**	**23 09 11.7**	**+0.9**
LCR2				*e*S	**Sn**	**23 11 06.6**	**+0.9**
CVTR	**Volcan Turrial**	**10.44**	**118**	*e*P	**Pn**	**23 09 13.5**	**+1.6**
URSC	**Urasca**	**10.51**	**119**	*e*P	**Pn**	**23 09 14.4**	**+1.7**
URSC				*e*S	**Sn**	**23 11 12.1**	**+3.0**
BUS	**Buena Vista**	**10.67**	**120**	*e*P	**Pn**	**23 09 15.5**	**+0.3**
BUS				*e*S	**Sn**	**23 11 17.9**	**+4.6**
DRK0	**Durika**	**11.26**	**120**	*e*P	**Pn**	**23 09 23.0**	**+0.1**
LNIG	**Linares**	**11.44**	**330**	*e*Pn	**Pn**	**23 09 26.0**	**+0.8**
PTJ1	**Puerto Jim˜nez**	**11.61**	**123**	*e*P	**Pn**	**23 09 31.7**	**+4.2**
PTJ1				*e*S	**Sn**	**23 11 41.7**	**+6.1**
ZAIG	**Zacatecas**	**11.76**	**312**	*e*Pn	**Pn**	**23 09 32.3**	**+2.5**
WBCY	**West Bay, Gran**	**11.99**	**67**	*e*Pn	**Pn**	**23 09 35.4**	**+2.7**
FSCY	**Frank Sound, G**	**12.16**	**68**	*e*Pn	**Pn**	**23 09 37.

JCT eSn Sn 23 13 25.8 -9.0
449A **Pace** 16.52 18 P P 23 10 33.8 -0.1
baz=200,SNR=14
857A **Zephyrhills** 16.56 36 P Pn 23 10 32.8 0.0
baz=219,SNR=22
346A **Big Creek Wild** 16.58 11 P P 23 10 34.4 -0.1
baz=192,SNR=25
HPIG 16.60 317 ePn P 23 10 36.1 +1.0
comp=Z,348nm,1.6s
552A **Lynn Haven** 16.63 24 P P 23 10 34.5 -0.6
baz=207
NATX **Nacogdoches** 16.66 355 P P 23 10 35.2 -0.3
baz=175,SNR=13
NATX **Nacogdoches** 16.66 355 ePn P 23 10 35.0 -0.5
comp=Z,937nm,1.6s
NATX eSn Sn 23 13 27.0 -11
450A **Crestview** 16.76 20 P P 23 10 36.1 -0.6
baz=202,SNR=11
347A **Saraland** 16.78 14 P P 23 10 36.7 -0.1
baz=195,SNR=20
243A **Waterproof** 16.79 5 P P 23 10 37.3 +0.3
baz=185,SNR=18
959A **Okeechobee** 16.82 41 P Pn 23 10 35.8 -0.2
baz=224
241A **Mo Tay, Goldon** 16.87 1 P P 23 10 38.3 +0.5
baz=180,SNR=8.9
451A **Vernon** 16.89 22 P P 23 10 38.6 +0.6
baz=205,SNR=9.7
240A **Hunter Patters** 16.89 358 P P 23 10 38.2 +0.1
baz=178,SNR=8.7
DWPF **Disney Wildern** 16.91 38 P P 23 10 37.8 -0.4
baz=222
DWPF **Disney Wildern** 16.91 38 ePn Pn 23 10 36.7 -0.4
comp=Z,2µm,1.7s
DWPF eSn Sn 23 13 35.4 -8.8
242A **Grayson** 16.93 3 P P 23 10 38.9 +0.5
baz=183,SNR=26
348A **Jackson** 16.95 15 P P 23 10 40.0 +1.3
baz=197,SNR=21
BRAL **Brewton** 16.96 18 P P 23 10 39.9 +1.2
baz=200,SNR=21
BRAL **Brewton** 16.96 18 ePn Pn 23 10 35.9 -1.8
comp=Z,899nm,1.2s
655A **Horseshoe Beac** 17.01 31 P P 23 10 39.2 -0.1
baz=214,SNR=31
858A **St. Cloud** 17.02 38 P P 23 10 39.6 +0.1
baz=222,SNR=9.0
244A **Avery, Jackson** 17.03 7 P P 23 10 40.0 +0.4
baz=188,SNR=30
553A **Crawfordville** 17.04 27 P P 23 10 39.8 +0.2
baz=209,SNR=58
349A **Repton** 17.09 18 P P 23 10 41.6 +1.5
baz=199,SNR=44
245A **Little AP, Sta** 17.13 9 P P 23 10 41.1 +0.4
baz=190,SNR=9.1
757A **Oxford** 17.17 35 P P 23 10 40.7 -0.5
baz=218,SNR=28
859A **Kempfer Cattle** 17.19 39 P P 23 10 40.9 -0.5
baz=223,SNR=11
TXAR **Lajitas Array** 17.20 327 P P 23 10 43.9 +2.3
comp=Z,2.0nm,0.3s,baz=148,slow=14,SNR=472
TXAR LR LR 23 18 35.0
comp=Z,862nm,19.4s,baz=0.0,slow=41
TX31 **Lajitas Ar. Si** 17.20 327 ePn P 23 10 43.7 +2.0
VBMS **Vicksburg** 17.23 7 P P 23 10 42.6 +0.9
baz=188,SNR=12
VBMS **Vicksburg** 17.23 7 ePn P 23 10 43.7 +2.0
comp=Z,479nm,1.0s
246A **Jackson Lee, B** 17.25 12 P P 23 10 41.9 -0.1
baz=193
656A **Willston** 17.26 33 P P 23 10 41.9 -0.3
baz=216,SNR=38
554A **Perry** 17.28 29 P P 23 10 43.0 +0.6
baz=212,SNR=35
WHTX **Lake Whitney,** 17.29 348 P P 23 10 43.4 +0.9
baz=166,SNR=45
WHTX **Lake Whitney,** 17.29 348 ePn P 23 10 44.0 +1.5
comp=Z,253nm,0.9s
WHTX eSn Sn 23 13 40.0 -14
452A **Marianna** 17.31 24 P P 23 10 44.1 +1.4
baz=206,SNR=41
247A **Quitman** 17.39 13 P P 23 10 44.5 +0.9
baz=194,SNR=26
350A **Dozier** 17.41 20 P P 23 10 45.1 +1.2
baz=202,SNR=27
142A **Monroe** 17.43 3 P P 23 10 45.2 +1.3
baz=183,SNR=15
141A **Papa Simpson,** 17.45 1 P P 23 10 45.3 +1.1
baz=180
140A **Cam and Jess,** 17.49 359 P P 23 10 46.2 +1.5
baz=178,SNR=19
351A **Pinckard** 17.53 22 P P 23 10 45.2 +0.1
baz=204,SNR=16
143A **Socs Landing,** 17.62 5 P P 23 10 46.8 +0.7
baz=185,SNR=13
248A **Dixon Mills** 17.64 15 P P 23 10 47.3 +1.0
baz=197,SNR=15
144A **Alexander Plac** 17.65 8 P P 23 10 47.5 +1.1
baz=188,SNR=5.3
555A **McAlpin** 17.65 30 P P 23 10 47.6 +1.2
baz=214,SNR=56
453A **Whigham** 17.66 26 P P 23 10 48.4 +1.9
baz=209,SNR=45
758A **Lake Helen** 17.68 37 P P 23 10 47.6 +0.9
baz=220,SNR=13
145A **Houston Renfro** 17.69 9 P P 23 10 48.1 +1.3
baz=190,SNR=8.0
249A **Camden** 17.69 17 P P 23 10 48.4 +1.5
baz=199,SNR=51
657A **Interlachen** 17.78 34 P P 23 10 49.2 +1.3
baz=218,SNR=28
556A **Lake Butler** 17.83 32 P Pn 23 10 49.7 +1.2
baz=215,SNR=112
454A **Quitman** 17.84 28 P Pn 23 10 50.2 +1.7
baz=211,SNR=40
GTBY **Guantanamo Bay** 17.84 72 ePn Pn 23 10 49.0 +0.3
comp=Z,409nm,1.3s
146A **Union** 17.87 11 P Pn 23 10 50.3 +1.4
baz=192,SNR=10
250A **Grady** 17.95 19 P Pn 23 10 50.8 +0.9
baz=202,SNR=50
352A **Blakely** 17.97 23 P Pn 23 10 51.5 +1.4
baz=206,SNR=39
658A **Bunnell** 17.99 36 P Pn 23 10 50.7 +0.2
baz=219,SNR=9.9
SLBS **Sierra La Lagu** 18.01 301 eP Pn 23 10 56.1 +5.3
comp=Z,87nm,1.1s
147A **Livingston** 18.07 13 P Pn 23 10 52.4 +1.1
baz=195,SNR=59
Z40A **Long Farm, Mag** 18.10 359 P Pn 23 10 53.0 +1.3
baz=179,SNR=11
Z41A **Richland Creek** 18.10 1 P Pn 23 10 53.0 +1.2
baz=181,SNR=34
353A **Camilla** 18.13 25 P Pn 23 10 53.2 +1.1
baz=208,SNR=55
Z43A **Armstrong Fami** 18.13 5 P Pn 23 10 52.3 +0.2
baz=186,SNR=7.1
455A **Stateville** 18.14 29 P Pn 23 10 53.4 +1.3
baz=212,SNR=18
Z42A **Norrel Spur, H** 18.15 3 P Pn 23 10 53.4 +1.1
baz=183,SNR=22
557A **Orange Park** 18.20 33 P Pn 23 10 53.7 +0.8
baz=217,SNR=24
148A **Greensboro** 18.21 15 P Pn 23 10 53.6 +0.7
baz=197,SNR=16
Z44A **Pea Ridge, Bel** 18.28 7 P Pn 23 10 54.8 +0.9
baz=188,SNR=31
251A **Midway** 18.34 21 P Pn 23 10 55.1 +0.4
baz=204,SNR=48
149A **Jones** 18.37 17 P Pn 23 10 55.4 +0.4
baz=199,SNR=18
Z46A **Louisville** 18.43 11 P Pn 23 10 56.5 +0.8
baz=192,SNR=34
ABTX **Abilene, Hawle** 18.45 342 P Pn 23 10 57.1 +1.2
baz=160,SNR=66
ABTX **Abilene, Hawle** 18.45 342 eP Pn 23 10 57.3 +1.4
comp=Z,197nm,0.8s
ABTX eSn Sn 23 14 13.9 -7.5
Z45A **Winona** 18.48 9 P Pn 23 10 56.8 +0.5
baz=190,SNR=14
LPIG **La Paz** 18.49 302 P Pn 23 10 59.4 +2.9
comp=Z,11nm,0.3s,baz=216,slow=3.8,SNR=6.4
LPIG LR LR 23 17 49.8
comp=Z,1µm,18.0s,baz=122,slow=35
WLAR **White Oak Lake** 18.53 0 eP Pn 23 10 58.1 +1.3
comp=Z,239nm,0.9s
150A **Eclectic** 18.61 19 P Pn 23 10 58.3 +0.5
baz=202,SNR=136

456A **Hilliard** 18.61 31 P Pn 23 10 57.3 -0.6
baz=215
Z47A **Carrollton** 18.62 13 P Pn 23 10 58.1 +0.2
baz=195,SNR=63
Y42A **Garnett, Star** 18.72 3 P Pn 23 10 59.4 +0.3
baz=184,SNR=13
LRAL **Lakeview Retre** 18.72 16 P Pn 23 10 59.5 +0.3
baz=198,SNR=38
LRAL **Lakeview Retre** 18.72 16 eP Pn 23 10 59.3 +0.1
comp=Z,132nm,0.9s
LRAL eS S 23 14 17.0 -11
Y41A **Eaglette Beard** 18.73 1 P Pn 23 10 59.4 +0.1
baz=181,SNR=50
457A **Yulee** 18.77 33 P Pn 23 11 00.5 +0.7
baz=216,SNR=5.5
151A **Opelika** 18.77 21 P Pn 23 10 59.9 +0.1
baz=204,SNR=59
253A **Americus** 18.79 24 P Pn 23 11 00.1 0.0
baz=207,SNR=18
CCAR **Cane Creek** 18.80 4 eP Pn 23 11 01.2 +1.1
comp=Z,1µm,1.8s
Y40A **Okolona** 18.85 360 P Pn 23 11 00.8 +0.1
baz=179,SNR=22
Y43A **Makayla and Ka** 18.86 6 P Pn 23 11 00.9 0.0
baz=186,SNR=7.5
Z48A **Northport** 18.91 15 P Pn 23 11 01.0 -0.4
baz=196,SNR=18
Y45A **Yeager Farm, C** 18.98 9 P Pn 23 11 02.2 -0.1
baz=190,SNR=29
Y44A **Strider, Charl** 18.99 7 P Pn 23 11 02.1 -0.3
baz=188,SNR=14
Z49A **Columbiana** 19.00 17 P Pn 23 11 02.8 +0.2
baz=199,SNR=79
Y46A **Houston** 19.12 11 P Pn 23 11 03.1 -0.9
baz=192,SNR=173
Z50A **Ashland** 19.24 19 P Pn 23 11 04.6 -0.8
baz=201,SNR=25
X40A **Basin Creek Fa** 19.33 1 P Pn 23 11 05.7 -0.8
baz=181,SNR=25
Y47A **UCPARC, Winfie** 19.34 13 P P 23 11 05.4 +0.4
baz=195,SNR=34
X41A **Kaden, Bauxite** 19.34 2 P Pn 23 11 06.0 -0.6
baz=182,SNR=26
X39A **Fountain Ranch** 19.37 358 P Pn 23 11 06.1 -0.8
baz=177,SNR=23
MIAR **Mount Ida** 19.39 359 P Pn 23 11 06.6 -0.5
baz=178,SNR=208
MIAR **Mount Ida** 19.39 359 eP P 23 11 06.1 +0.6
MIAR pmax pmax
comp=Z,416nm,1.1s
MIAR **Mount Ida** 19.39 359 eP P 23 11 06.1 +0.6
comp=Z,416nm,1.1s
MIAR eS S 23 14 26.3 -15
HELC **Santa Helena** 19.41 115 eP P 23 11 05.8 -0.5
comp=Z,150nm,1.0s
HELC **Santa Helena** 19.41 115 eP P 23 11 05.1 -1.1
ZARC **Zaragoza, Cauc** 19.43 111 eP P 23 11 03.8 -2.3
X42A **Stuttgart** 19.44 4 P P 23 11 05.9 -0.2
baz=184
X43A **Marvell** 19.46 6 P Pn 23 11 07.3 -0.7
baz=186,SNR=34
Y48A **Jasper** 19.51 15 P P 23 11 07.2 +0.4
baz=197,SNR=13
X44A **Crenshaw** 19.52 7 P Pn 23 11 07.8 -1.0
baz=188,SNR=20
X45A **UM Field Stati** 19.56 9 P P 23 11 07.5 +0.2
baz=190,SNR=16
UALR **University of** 19.63 2 eP Pn 23 11 09.3 -0.7
comp=Z,193nm,0.8s
UALR eS S 23 14 36.5 -10
OXF **Oxford** 19.64 9 P P 23 11 08.1 -0.1
baz=190,SNR=14
OXF **Oxford** 19.64 9 eP P 23 11 08.6 +0.4
OXF eS S 23 14 37.7 -8.8
OXF pmax pmax
comp=Z,503nm,1.1s
OXF **Oxford** 19.64 9 eP P 23 11 08.6 +0.4
comp=Z,503nm,1.1s
OXF eS S 23 14 37.7 -8.8
Y49A **Blount Mountai** 19.66 17 P P 23 11 09.2 +0.7
baz=199,SNR=19
X46A **Booneville** 19.82 11 P P 23 11 10.0 -0.2
baz=193,SNR=32
YOTC **Yotoco, Valle** 19.86 122 eP P 23 11 11.1 +0.1
Y50A **Piedmont** 19.89 18 P P 23 11 11.6 +0.6
baz=201,SNR=24
HORQ **Saladito** 19.93 124 eP P 23 11 12.4 +0.6
X47A **Russelville** 19.93 13 P P 23 11 11.5 +0.1
baz=195,SNR=12
LGNH **LØogne** 19.94 77 eP Pn 23 11 12.7 -1.0
MNTX **Cornudas Mount** 19.98 328 P Pn 23 11 13.4 -0.7
baz=143,SNR=113
MNTX **Cornudas Mount** 19.98 328 eP Pn 23 11 13.9 -0.3
comp=Z,76nm,0.9s
W41B **Gary Mavity, V** 20.03 2 P P 23 11 12.9 +0.5
baz=182,SNR=33
W40A **Ferguson Farm,** 20.03 0 P P 23 11 13.3 +0.9
baz=180,SNR=21
W40A **Ferguson Farm,** 20.03 0 eP Pn 23 11 13.6 -1.1
comp=Z,873nm,1.6s
W39A **Magazine** 20.04 358 P Pn 23 11 13.6 -1.2
baz=178,SNR=45
W43A **Forest City** 20.04 6 P P 23 11 11.1 -1.5
baz=186
X48A **Hartselle** 20.06 15 P P 23 11 12.5 -0.3
baz=197,SNR=52
X301 **Greenbrier Sit** 20.09 2 eP Pn 23 11 14.1 -1.2
comp=Z,188nm,1.2s
WHAR **Wooly Hollow** 20.14 2 eP P 23 11 14.6 +1.0
comp=Z,522nm,1.5s
W42A **Bald Knob** 20.16 4 P P 23 11 14.3 +0.4
baz=184,SNR=6.9
PTBC **PUERTO BERRIO,** 20.19 113 eP P 23 11 11.8 -2.7
W44A **Shelby Farms P** 20.20 8 P P 23 11 12.9 -1.3
baz=189
RREF **El Recreo** 20.20 118 eP P 23 11 15.8 +0.6
WMOK **Wichita Mounta** 20.23 346 P P 23 11 15.2 +0.6
baz=164,SNR=23
WMOK **Wichita Mounta** 20.23 346 eP P 23 11 15.0 +0.3
WMOK eS S 23 14 56.5 -1.8
WMOK **Wichita Mounta** 20.23 346 eP P 23 11 14.9 +0.3
WMOK eS S 23 14 56.5 -1.8
GOGA **Godfrey** 20.25 24 P P 23 11 14.6 -0.1
baz=207,SNR=77
GOGA **Godfrey** 20.25 24 eP P 23 11 15.7 +0.9
GOGA eS S 23 14 55.8 -2.8
GOGA pmax pmax
comp=Z,131nm,0.7s
GOGA **Godfrey** 20.25 24 eP P 23 11 15.7 +0.9
comp=Z,131nm,0.7s
GOGA eS S 23 14 55.8 -2.8
NORC **Norcasia** 20.28 116 eP P 23 11 15.1 -0.3
X49A **Woodville** 20.30 16 P P 23 11 15.3 -0.1
baz=199,SNR=74
W45A **Hickory Valley** 20.31 9 P P 23 11 15.6 +0.2
baz=191,SNR=14
PLAL **Pickwick Lake** 20.34 12 eP P 23 11 16.1 +0.4
comp=Z,214nm,1.0s
TOLC **Tolima** 20.39 119 eP Pn 23 11 18.4 -1.0
W46A **Michie** 20.42 11 P P 23 11 17.3 +0.6
baz=193,SNR=39
X50A **Fort Payne** 20.44 18 P P 23 11 17.1 +0.1
baz=201,SNR=35
POPC **Popayan, Colom** 20.46 126 eP P 23 11 17.8 +0.2
HBAR **Harrisburg** 20.51 6 eP P 23 11 18.6 +0.9
HBAR eS S 23 15 00.5 -3.2
EPT **El Paso** 20.62 326 eP Pn 23 11 21.4 -0.5
comp=Z,106nm,1.0s
CMBC **Cumbal** 20.63 132 eP Pn 23 11 23.7 +1.3
V41A **Mountainview** 20.64 2 P P 23 11 19.3 +0.2
baz=182,SNR=53
V40A **Witts Springs** 20.64 1 P P 23 11 19.4 +0.2
baz=181,SNR=57
V39A **Pettigrew** 20.68 359 P P 23 11 20.2 +0.6
baz=178,SNR=75
OTAV **Otavalo** 20.68 134 eP P 23 11 21.4 +1.2
comp=Z,61nm,1.1s
W47A **Westpoint** 20.69 13 P P 23 11 18.8 -0.8
baz=195,SNR=30
V42A **Cord** 20.70 4 P P 23 11 19.5 -0.2
baz=184,SNR=39
MSTX **Muleshoe** 20.73 337 P Pn 23 11 21.6 -1.5
baz=153,SNR=87
MSTX **Muleshoe** 20.73 337 eP P 23 11 21.6 +1.4
comp=Z,190nm,0.8s
W48A **Pulaski** 20.74 14 P P 23 11 19.5 -0.6
baz=197,SNR=21

V43A **Jonesboro** 20.75 6 P P 23 11 19.6 -0.6
baz=187
SOTA **Rioblanco** 20.76 127 eP P 23 11 21.1 0.0
GCUF **Volcan Galeras** 20.79 130 eP P 23 11 21.1 -0.3
PCON **Cinco Dias** 20.81 126 eP P 23 11 21.7 +0.1
URIC **Uribia, Colomb** 20.83 97 eP P 23 11 17.8 -3.5
MARP **Paez Belalcaza** 20.84 124 eP P 23 11 23.1 +1.3
V44A **Blytheville** 20.87 7 P P 23 11 20.1 -1.3
baz=188
TUL1 **Leonard** 20.88 354 P P 23 11 21.9 +0.2
baz=173,SNR=41
TUL1 **Leonard** 20.88 354 eP P 23 11 22.9 +1.2
comp=Z,337nm,1.0s
TUL1 eS S 23 15 04.7 -6.5
V45A **Humboldt** 20.91 10 P P 23 11 20.7 -1.3
baz=191
GNAR **Gosnell** 20.99 7 eP P 23 11 23.7 +1.0
comp=Z,7µm,1.2s
SWET **Sewanee** 21.07 17 eP P 23 11 23.2 -0.5
comp=Z,1.3nm,0.4s
SWET eS S 23 15 09.4 -5.5
ROSC **El Rosal** 21.11 117 P P 23 11 26.1 +1.4
comp=Z,96nm,1.0s,baz=62,slow=2.4,SNR=63
ROSC **El Rosal** 21.11 117 eP P 23 11 26.1 +1.4
comp=Z,378nm,1.6s
ROSC **El Rosal** 21.11 117 eP P 23 11 25.7 +1.0
V46A **Holladay** 21.12 11 P P 23 11 23.0 -1.2
baz=193,SNR=42
HHAR **Hobbs** 21.13 358 eP P 23 11 24.6 +0.3
comp=Z,264nm,1.2s
AMTX **Amarillo** 21.17 340 P P 23 11 26.5 +1.7
baz=156
AMTX **Amarillo** 21.17 340 eP P 23 11 26.6 +1.7
comp=Z,685nm,0.6s
AMTX eS S 23 15 16.9 -0.2
U40A **Yellville** 21.19 1 P P 23 11 25.3 +0.3
baz=180,SNR=60
U41A **Viola** 21.21 3 P P 23 11 24.9 -0.2
baz=183,SNR=58
U39A **Green Forest** 21.22 359 P P 23 11 25.1 -0.2
baz=179,SNR=50
PRAC **Prado** 21.22 120 eP P 23 11 25.8 +0.2
comp=Z,194nm,0.9s
PRAC **Prado** 21.22 120 eP P 23 11 25.7 +0.2
SDDR **Presa de Saban** 21.24 76 eP P 23 11 26.4 +0.7
comp=Z,905nm,2.0s
U42A **Revenden** 21.25 4 P P 23 11 25.3 -0.3
baz=185,SNR=56
V47A **Nunnelly** 21.27 13 P P 23 11 24.9 -0.9
baz=195,SNR=43
RGRS **Roger Stewart** 21.29 31 eP P 23 11 27.5 +1.5
comp=Z,4µm,1.1s
BARC **Barichara** 21.31 111 eP P 23 11 23.1 -3.6
V48A **Smith Brothers** 21.34 14 P P 23 11 25.8 -0.8
baz=196,SNR=14
U43A **Rector** 21.34 6 P P 23 11 26.2 -0.4
baz=187
GLAT **Glass** 21.38 9 eP P 23 11 28.7 +1.7
CSU **Charleston Sou** 21.41 31 eP P 23 11 29.6 +2.2
U44B **Burton Farm, H** 21.44 8 P P 23 11 27.0 -0.6
baz=190
HODGE **Hodges** 21.45 25 eP P 23 11 29.4 +1.7
comp=Z,179nm,0.9s
NHSC **New Hope** 21.45 31 P P 23 11 28.6 +0.8
baz=216,SNR=18
NHSC **New Hope** 21.45 31 eP P 23 11 30.1 +2.3
comp=Z,2µm,1.1s
WVT **Waverly** 21.49 12 P P 23 11 26.9 -1.2
baz=194
WVT **Waverly** 21.49 12 eP P 23 11 28.2 0.0
WVT pmax pmax
comp=Z,166nm,1.1s
WVT **Waverly** 21.49 12 eP P 23 11 28.2 0.0
comp=Z,166nm,1.1s
UTMT **University of** 21.52 9 eP P 23 11 28.6 +0.2
comp=Z,472nm,1.0s
HSIG 21.53 313 eP P 23 11 29.6 +1.0
U45A **Rockin P Farm,** 21.54 10 P P 23 11 26.5 -2.2
baz=191
SRIG **Santa Rosalia** 21.55 308 eP P 23 11 31.4 +2.5
U44A **Portageville** 21.56 8 P P 23 11 27.7 -1.2
baz=189
U46A **Springville** 21.65 11 P P 23 11 28.7 -1.1
baz=193,SNR=11
RUSC **La Rusia** 21.70 113 eP P 23 11 29.9 -1.3
comp=Z,78nm,1.2s
RUSC **La Rusia** 21.70 113 eP P 23 11 27.1 -4.1
CPCT **Cooper Cave** 21.71 19 eP P 23 11 31.0 +0.5
CHIC **Chingaza** 21.72 117 eP P 23 11 31.7 +0.4
PBMO **Poplar Bluff** 21.75 6 eP P 23 11 30.2 -0.6
comp=Z,200nm,1.0s
GRTK **Grand Turk** 21.83 70 eP P 23 11 32.5 +0.6
comp=Z,987nm,1.5s
FLOC **Florencia** 21.85 126 eP P 23 11 32.4 +0.1
T39A **Clever** 21.86 359 P P 23 11 31.4 -0.7
baz=179,SNR=82
T38A **Diamond** 21.89 358 P P 23 11 32.2 -0.2
baz=177,SNR=76
121A **Cookes Peak, D** 21.90 325 P P 23 11 35.6 +2.8
baz=139,SNR=102
U47A **Clarksville** 21.91 13 P P 23 11 32.2 -0.4
baz=195,SNR=14
T41A **Mountain View** 21.91 3 P P 23 11 32.1 -0.6
baz=183,SNR=6.0
JSC **Jenkinsville** 21.92 27 eP P 23 11 33.5 +0.8
JSC pmax pmax
comp=Z,287nm,1.2s
JSC **Jenkinsville** 21.92 27 eP P 23 11 33.5 +0.8
comp=Z,287nm,1.2s
T42A **Van Buren** 21.94 4 P P 23 11 31.9 -1.0
baz=185,SNR=40
319A **Douglas** 21.94 320 eP P 23 11 36.2 +3.0
comp=Z,483nm,1.0s
T40A **Mansfield** 21.99 1 P P 23 11 33.0 -0.5
baz=181,SNR=62
VILC **Villavicencio,** 22.02 118 eP P 23 11 35.7 +1.5
T43A **Greenville** 22.06 6 P P 23 11 32.2 -2.0
baz=187,SNR=23
U48A **Cassie Pea, Po** 22.14 14 P P 23 11 33.6 -1.6
baz=197,SNR=8.1
TKL **Tuckaleechee C** 22.14 21 P P 23 11 34.9 -0.3
comp=Z,9.9nm,0.6s,baz=196,slow=11,SNR=18
TKL LR LR 23 22 02.4
comp=Z,3µm,18.6s,baz=197,slow=42
TKL **Tuckaleechee C** 22.14 21 eP P 23 11 35.0 -0.2
TKL pmax pmax
comp=Z,179nm,1.1s
TKL **Tuckaleechee C** 22.14 21 eP P 23 11 35.0 -0.2
comp=Z,179nm,1.1s
T44A **Benton** 22.14 8 P P 23 11 33.7 -1.5
baz=189
T45A **Paducah** 22.21 10 P P 23 11 33.8 -2.1
baz=191
SJAC **San Juan de Ar** 22.24 120 eP P 23 11 37.7 +1.1
T46A **Princeton** 22.37 11 P P 23 11 35.7 -1.9
baz=193,SNR=16
S40A **Lebanon** 22.44 1 P P 23 11 37.7 -0.7
baz=181,SNR=63
S41A **Jilico Farms,** 22.45 3 P P 23 11 37.6 -1.0
baz=183,SNR=39
T47A **Sharon Grove** 22.47 13 P P 23 11 36.7 -2.0
baz=195,SNR=9.3
S38A **Stockton** 22.47 358 P P 23 11 38.2 -0.5
baz=178,SNR=60
S39A **Bolivar** 22.52 360 P P 23 11 38.8 -0.4
baz=179,SNR=89
YOPC **Yopal, Colombi** 22.53 113 eP P 23 11 40.4 +0.7
BNM **Barren Site** 22.57 330 eP P 23 11 42.5 +2.4
S43A **Fulton Ridge,** 22.57 6 P P 23 11 37.9 -1.9
baz=187,SNR=22
KMSC **Kings Mountain** 22.62 26 P P 23 11 40.1 -0.2
baz=210,SNR=14
KMSC **Kings Mountain** 22.62 26 eP P 23 11 41.6 +1.4
comp=Z,299nm,1.3s
Y22D **IRIS PASSCAL I** 22.65 329 P P 23 11 42.9 +2.1
baz=143
Y22D **IRIS PASSCAL I** 22.65 329 eP P 23 11 45.4 +4.6
comp=Z,564nm,1.0s
Y22E **IRIS PASSCAL I** 22.65 329 P P 23 11 43.3 +2.5
baz=143
S42A **Caledonia** 22.70 5 P P 23 11 39.1 -2.0
baz=186,SNR=23
LPM **Los Pinos Moun** 22.70 330 eP P 23 11 43.7 +2.3
T48A **Bowling Green** 22.75 14 P P 23 11 39.5 -2.1
baz=197
S44A **Carbondale** 22.79 8 P P 23 11 40.5 -1.5
baz=189,SNR=17

SIUC	**Southern Illin**	22.81	8	*e*P		P	23 11 41.4	-0.8
	comp=Z,338nm,0.9s							
SIUC				*e*Sn		S	23 15 55.9	+9.1
SDV	**Santo Domingo**	22.84	103	P		P	23 11 39.1	-3.9
	comp=Z,29nm,0.6s,baz=306,slow=3.2,SNR=14							
SDV				LR		LR	23 21 34.1	
	comp=Z,1μm,20.5s,baz=294,slow=40							
SDV	**Santo Domingo**	22.84	103	*e*P		P	23 11 39.6	-3.4
	comp=Z,54nm,0.7s							
SDV	**Santo Domingo**	22.84	103	*e*P		P	23 11 39.0	-3.9
S45A	**Carrier Mills**	22.87	9	P		P	23 11 41.1	-1.8
	baz=191							
FVM	**French Village**	22.94	5	*e*P		P	23 11 42.1	-1.5
FVM				pmax		pmax		
	comp=Z,82nm,1.1s							
FVM	**French Village**	22.94	5	*e*P		P	23 11 42.0	-1.5
	comp=Z,82nm,1.1s							
CCM	**Cathedral Cave**	22.95	4	P		P	23 11 42.2	-1.5
	baz=184							
CCM	**Cathedral Cave**	22.95	4	*e*P		P	23 11 42.4	-1.3
CCM				*e*S		S	23 15 44.5	-4.6
CCM				pmax		pmax		
	comp=Z,84nm,0.8s							
CCM	**Cathedral Cave**	22.95	4	*e*P		P	23 11 42.4	-1.3
	comp=Z,84nm,0.8s							
CCM				*e*S		S	23 15 44.5	-4.6
LAZ	**Ladron**	23.02	329	*e*P		P	23 11 47.1	+2.5
S46A	**Don Dixon Farm**	23.02	11	P		P	23 11 42.4	-2.1
	baz=193							
TZTN	**Tazewell**	23.02	20	P		P	23 11 43.4	-1.1
	baz=204,SNR=8.5							
TZTN	**Tazewell**	23.02	20	*e*P		P	23 11 42.6	-1.9
	comp=Z,267nm,0.8s							
R38A	**Fenwick Farm,**	23.03	358	P		P	23 11 43.5	-1.0
	baz=178,SNR=65							
ANMO	**Albuquerque**	23.13	331	P		P	23 11 47.6	+1.8
	comp=Z,41nm,0.8s,baz=325,slow=12,SNR=94							
ANMO	**Albuquerque**	23.13	331	P		P	23 11 47.4	+1.6
	baz=146							
ANMO	**Albuquerque**	23.13	331	*c i*P		P	23 11 47.0	+1.2
ANMO				pmax		pmax		
	comp=Z,44nm,0.8s							
ANMO	**Albuquerque**	23.13	331	*e*P		P	23 11 47.4	+1.6
	comp=Z,306nm,1.8s							
ANMO				LR		LR		
	comp=Z,906nm,20.0s							
R40A	**Maddies Statio**	23.14	2	P		P	23 11 44.5	-1.0
	baz=182,SNR=35							
R39A	**Chumby, Stover**	23.14	0	P		P	23 11 44.5	-1.1
	baz=180,SNR=40							
R41A	**Rosebud**	23.18	3	P		P	23 11 44.5	-1.4
	baz=184,SNR=48							
R42A	**Luebbering**	23.20	5	P		P	23 11 44.6	-1.6
	baz=185,SNR=17							
R43A	**Red Bud**	23.28	6	P		P	23 11 45.0	-1.9
	baz=188,SNR=22							
USIN	**University of**	23.30	11	*e*P		P	23 11 46.2	-0.9
	comp=Z,417nm,1.4s							
R35A	**Emporia Munici**	23.31	354	P		P	23 11 46.4	-0.9
	baz=172,SNR=19							
S48A	**Wiedeman Farm,**	23.35	14	P		P	23 11 45.7	-1.8
	baz=197							
R44A	**Waltonville**	23.36	8	P		P	23 11 46.4	-1.2
	baz=190,SNR=13							
R34A	**Isabella, Hill**	23.42	352	P		P	23 11 47.5	-0.8
	baz=170,SNR=28							
TUC	**Tucson**	23.51	320	P		P	23 11 51.2	+2.0
	baz=133							
TUC	**Tucson**	23.51	320	*e*P		P	23 11 51.4	+2.2
TUC				pmax		pmax		
	comp=Z,207nm,1.1s							
TUC	**Tucson**	23.51	320	*e*P		P	23 11 51.4	+2.2
	comp=Z,208nm,1.1s							
R45A	**Skylar, Fairfi**	23.52	10	P		P	23 11 48.0	-1.2
	baz=192,SNR=14							
R46A	**Gibon Southern**	23.57	11	P		P	23 11 47.0	-2.6
	baz=193							
SLM	**Saint Louis**	23.61	6	*e*P		P	23 11 49.3	-0.6
SLM				pmax		pmax		
	comp=Z,285nm,1.1s							
SLM	**Saint Louis**	23.61	6	*e*P		P	23 11 49.3	-0.6
	comp=Z,285nm,1.1s							
Q37A	**Longview Farm,**	23.73	357	P		P	23 11 50.2	-0.9
	baz=177,SNR=13							
WCI	**Wyandotte Cave**	23.84	13	P		P	23 11 49.9	-2.2
	baz=196							
WCI	**Wyandotte Cave**	23.84	13	*e*P		P	23 11 50.6	-1.5
WCI				pmax		pmax		
	comp=Z,150nm,0.9s							
WCI	**Wyandotte Cave**	23.84	13	*e*P		P	23 11 50.6	-1.5
	comp=Z,150nm,0.9s							
Q40A	**Laux Farm, Aux**	23.84	2	P		P	23 11 49.9	-2.2
	baz=182,SNR=22							
Q41A	**Truxton**	23.84	4	P		P	23 11 51.1	-0.9
	baz=184,SNR=52							
R47A	**Wooly Knot Far**	23.85	13	P		P	23 11 50.7	-1.5
	baz=196,SNR=9.6							
Q42A	**Golden Eagle**	23.85	5	P		P	23 11 51.2	-1.0
	baz=186,SNR=20							
Q43A	**New Douglas**	23.96	7	P		P	23 11 52.0	-1.1
	baz=188,SNR=13							
OLIL	**Olney**	23.98	10	*e*P		P	23 11 53.1	-0.2
	comp=Z,211nm,0.9s							
Q34A	**Chapman**	23.99	353	P		P	23 11 53.0	-0.4
	baz=171,SNR=18							
Q44A	**Meyer Farm, Va**	24.01	8	P		P	23 11 51.8	-1.8
	baz=190,SNR=12							
KSU1	**Kansas State U**	24.13	353	P		P	23 11 54.2	-0.4
	baz=172,SNR=11							
KSU1	**Kansas State U**	24.13	353	*e*P		P	23 11 54.6	0.0
	comp=Z,158nm,0.9s							
Q45A	**Warren Harvey,**	24.13	10	P		P	23 11 53.2	-1.4
	baz=192,SNR=8.4							
T25A	**Trinidad**	24.15	338	P		P	23 11 57.9	+2.7
	baz=152,SNR=169							
T25A	**Trinidad**	24.15	338	*e*P		P	23 11 58.0	+2.8
	comp=Z,612nm,1.2s							
MHTCO	**State Highway**	24.25	337	*e*P		P	23 11 59.2	+3.1
	comp=Z,1μm,1.6s							
CNNC	**Cliffs of the**	24.30	32	P		P	23 11 55.4	-0.8
	baz=218,SNR=5.3							
CNNC	**Cliffs of the**	24.30	32	*e*P		P	23 11 56.9	+0.7
	comp=Z,532nm,1.5s							
P39B	**Salisbury**	24.32	1	P		P	23 11 55.1	-1.3
	baz=181,SNR=57							
CBKS	**Cedar Bluff**	24.35	347	P		P	23 11 57.3	+0.5
	baz=164,SNR=9.8							
CBKS	**Cedar Bluff**	24.35	347	*e*P		P	23 11 57.1	+0.3
CBKS				pmax		pmax		
	comp=Z,155nm,0.9s							
CBKS	**Cedar Bluff**	24.35	347	*e*P		P	23 11 57.1	+0.3
	comp=Z,155nm,0.9s							
P40A	**Paris**	24.38	2	P		P	23 11 55.6	-1.3
	baz=182,SNR=83							
Q46A	**CEJHS Indians,**	24.39	11	P		P	23 11 55.1	-1.9
	baz=193							
P37A	**Lathrop**	24.44	358	P		P	23 11 56.9	-0.6
	baz=177,SNR=21							
P38A	**Dawn**	24.46	359	P		P	23 11 56.9	-0.8
	baz=179,SNR=36							
Q47A	**Bedord North L**	24.49	13	P		P	23 11 56.9	-1.0
	baz=195,SNR=7.7							
P35A	**Duane Minner,**	24.49	355	P		P	23 11 57.7	-0.3
	baz=173,SNR=52							
P36A	**Good Intent, A**	24.52	356	P		P	23 11 57.6	-0.6
	baz=175,SNR=11							
P42A	**Winchester**	24.54	5	P		P	23 11 57.7	-0.7
	baz=186							
P41A	**Barry, Barry**	24.57	4	P		P	23 11 57.3	-1.4
	baz=184,SNR=18							
214A	**Organ Pipe Nat**	24.59	317	P		P	23 12 00.8	+1.8
	baz=129,SNR=29							
214A	**Organ Pipe Nat**	24.59	317	*e*P		P	23 12 00.5	+1.5
	comp=Z,642nm,1.2s							
P34A	**Walnut Farm, R**	24.59	353	P		P	23 11 58.8	-0.1
	baz=171,SNR=27							
X18A	**Snowflake**	24.59	325	*e*P		P	23 12 02.1	+2.9
	comp=Z,221nm,1.1s							
P44A	**Sand Creek, Wi**	24.62	8	P		P	23 11 57.8	-1.3
	baz=190							
P43A	**Skaggs, Pawnee**	24.67	7	P		P	23 11 58.5	-1.1
	baz=188,SNR=6.2							
BLO	**Bloomington**	24.70	12	*e*P		P	23 11 59.3	-0.6
BLO				pmax		pmax		
	comp=Z,110nm,0.8s							
BLO	**Bloomington**	24.70	12	*e*P		P	23 11 59.3	-0.6
	comp=Z,110nm,0.8s							
BLA	**Blacksburg**	24.77	25	P		P	23 11 59.8	-0.8
	baz=210							
BLA	**Blacksburg**	24.77	25	*e*P		P	23 12 02.1	+1.5
BLA				pmax		pmax		
	comp=Z,158nm,1.0s							
BLA	**Blacksburg**	24.77	25	*e*P		P	23 12 02.1	+1.5
	comp=Z,158nm,1.0s							
P45A	**Graceland, Par**	24.81	10	P		P	23 12 00.2	-0.7
	baz=192,SNR=12							
W18A	**Petrified Fore**	24.92	326	P		P	23 12 04.5	+2.4
	baz=139,SNR=7.9							
W18A	**Petrified Fore**	24.92	326	*e*P		P	23 12 04.8	+2.6
	comp=Z,130nm,1.2s							
O38A	**Galt**	24.95	359	P		P	23 12 01.3	-0.9
	baz=179,SNR=8.2							
O40A	**La Belle**	24.97	2	P		P	23 12 01.2	-1.2
	baz=183,SNR=17							
VWCC	**Virginia Weste**	24.98	25	*e*P		P	23 12 03.0	+0.5
P46A	**Rosedale**	24.99	11	P		P	23 12 00.7	-1.8
	baz=193							
O37A	**Wolven Farm, M**	25.01	358	P		P	23 12 02.0	-0.7
	baz=178,SNR=9.3							
O36A	**Bolckow**	25.01	357	P		P	23 12 01.8	-0.9
	baz=176,SNR=8.9							
O41A	**Passleys Farm,**	25.02	4	P		P	23 12 01.1	-1.7
	baz=185,SNR=17							
P47A	**Martinsville**	25.05	13	P		P	23 12 01.3	-1.8
	baz=196							
O39A	**Kirksville**	25.09	1	P		P	23 12 01.8	-1.6
	baz=181							
AGP	**Aguadilla**	25.10	79	*e*P		P	23 12 04.2	+0.5
	comp=Z,1μm,1.8s							
SDCO	**Great Sand Dun**	25.10	336	P		P	23 12 06.4	+2.5
	baz=151,SNR=19							
SDCO	**Great Sand Dun**	25.10	336	*e*P		P	23 12 06.5	+2.6
	comp=Z,198nm,1.4s							
SDCO				LR		LR		
	comp=Z,1μm,20.0s							
O42A	**Bath**	25.17	5	P		P	23 12 02.2	-1.9
	baz=187							
O34A	**Beatrice**	25.20	354	P		P	23 12 04.2	-0.2
	baz=172,SNR=35							
O33A	**Hebron**	25.21	352	P		P	23 12 04.6	+0.1
	baz=170,SNR=5.9							
O35A	**Humboldt**	25.21	355	P		P	23 12 03.3	-1.2
	baz=174							
KSCO	**Kaye Shedlock'**	25.26	342	P		P	23 12 06.0	+0.8
	baz=158,SNR=11							
KSCO	**Kaye Shedlock'**	25.26	342	*e*P		P	23 12 06.8	+1.6
	comp=Z,753nm,1.8s							
O44A	**Mansfield**	25.31	8	P		P	23 12 03.7	-1.7
	baz=190							
O43A	**Sugar Creek Fa**	25.33	7	P		P	23 12 04.0	-1.7
	baz=188							
X16A	**Lo Mia Camp, P**	25.36	323	*e*P		P	23 12 08.8	+2.6
	comp=Z,150nm,1.2s							
O45A	**Potomac**	25.52	10	P		P	23 12 05.9	-1.4
	baz=192							
HDIL	**Hopedale**	25.60	7	P		P	23 12 06.7	-1.3
	baz=188,SNR=8.5							
HDIL	**Hopedale**	25.60	7	*e*P		P	23 12 06.4	-1.7
	comp=Z,161nm,0.8s							
N37A	**Lee Faris, Mou**	25.60	358	P		P	23 12 07.4	-0.7
	baz=177,SNR=9.9							
N41A	**Haen Midland**	25.61	4	P		P	23 12 06.9	-1.3
	baz=185,SNR=18							
N38A	**Joes South For**	25.62	360	P		P	23 12 07.5	-0.7
	baz=180,SNR=9.8							
S22A	**4UR Ranch, Cre**	25.64	334	P		P	23 12 11.0	+2.2
	baz=148,SNR=35							
S22A	**4UR Ranch, Cre**	25.64	334	*e*P		P	23 12 11.5	+2.7
	comp=Z,274nm,1.8s							
N36A	**Muff Farm, Cla**	25.69	357	P		P	23 12 08.3	-0.6
	baz=176							
N39A	**Derby Farms, D**	25.71	1	P		P	23 12 07.8	-1.3
	baz=181,SNR=6.8							
113A	**Mohawk Valley,**	25.72	317	*e*P		P	23 12 11.4	+2.2
	comp=Z,151nm,1.1s							
N40A	**Mertquake, Sal**	25.75	3	P		P	23 12 08.2	-1.2
	baz=183,SNR=14							
SFIN	**Lafayette**	25.75	11	P		P	23 12 07.2	-2.2
	baz=193							
SFIN	**Lafayette**	25.75	11	*e*P		P	23 12 07.8	-1.6
	comp=Z,95nm,0.9s							
N35A	**Tabor**	25.78	356	P		P	23 12 08.7	-1.0
	baz=174							
O47A	**Sheridan**	25.79	12	P		P	23 12 08.1	-1.6
	baz=195							
N42A	**Yates City**	25.80	5	P		P	23 12 08.7	-1.1
	baz=187							
N34A	**Lincoln**	25.83	354	P		P	23 12 09.6	-0.6
	baz=172							
N33A	**J Bar K, Exete**	25.84	352	P		P	23 12 10.1	-0.1
	baz=170							
MVCO	**Mesa Verde**	25.93	331	P		P	23 12 13.9	+2.5
	baz=144,SNR=68							
MVCO	**Mesa Verde**	25.93	331	*e*P		P	23 12 13.5	+2.2
	comp=Z,330nm,1.4s							
MVCO				LR		LR		
	comp=Z,2μm,19.0s							
Y14A	**Wickenburg**	25.98	320	*e*P		P	23 12 13.8	+2.1
	comp=Z,926nm,1.3s							
N44A	**Piper City**	25.99	9	P		P	23 12 09.5	-2.0
	baz=191,SNR=8.8							
N43A	**Stutzman Famil**	26.00	7	P		P	23 12 09.8	-1.8
	baz=188,SNR=20							
SJG	**San Juan**	26.02	80	P		P	23 12 09.2	-2.9
	comp=Z,16nm,0.6s,baz=254,slow=6.4,SNR=5.6							
SJG				PcP		PcP	23 15 39.3	+0.3
	comp=Z,8.1nm,0.4s,baz=264,slow=2.3,SNR=4.2							
SJG				LR		LR	23 23 23.1	
	comp=Z,712nm,19.2s,baz=258,slow=39							
Q24A	**Divide**	26.04	338	P		P	23 12 14.5	+2.0
	baz=153,SNR=11							
Q24A	**Divide**	26.04	338	*e*P		P	23 12 14.7	+2.2
	comp=Z,77nm,1.1s							
WUAZ	**Wupatki**	26.11	325	P		P	23 12 15.5	+2.5
	baz=137,SNR=18							
WUAZ	**Wupatki**	26.11	325	*e*P		P	23 12 15.7	+2.8
	comp=Z,648nm,1.9s							
N45A	**Kentland**	26.14	10	P		P	23 12 11.6	-1.3
	baz=192							
M37A	**Trindle Farm,**	26.24	358	P		P	23 12 13.4	-0.5
	baz=178,SNR=16							
M38A	**Pleasantville**	26.25	360	P		P	23 12 12.7	-1.1
	baz=180,SNR=47							
M40A	**Post Highland**	26.27	3	P		P	23 12 12.8	-1.3
	baz=183,SNR=21							
M41A	**Milan**	26.30	4	P		P	23 12 13.0	-1.4
	baz=185,SNR=9.1							
CBYP	**Canovanas**	26.31	79	*e*P		P	23 12 12.4	-2.3
	comp=Z,175nm,1.6s							
N46A	**Monticello**	26.32	11	P		P	23 12 13.5	-1.1
	baz=194							
M39A	**Webster**	26.32	2	P		P	23 12 12.8	-1.7
	baz=182,SNR=14							
M36A	**Felix, Anita**	26.32	357	P		P	23 12 13.8	-0.8
	baz=176,SNR=12							
IP07	**Quail**	26.39	28	*e*P		P	23 12 17.4	+2.2
	comp=Z,71nm,1.1s							
M35A	**Neola**	26.39	356	P		P	23 12 14.5	-0.7
	baz=174,SNR=12							
IP06	**Yanceyville**	26.42	28	*e*P		P	23 12 16.8	+1.4
	comp=Z,31nm,1.0s							
IP05	**Hopewell Churc**	26.44	28	*e*P		P	23 12 16.9	+1.3
	comp=Z,283nm,1.6s							
M42A	**Sheffield**	26.44	6	P		P	23 12 13.9	-1.8
	baz=187							
ATAH	**Atahualpa**	26.46	146	P		P	23 12 17.4	+0.8
	comp=Z,29nm,0.8s,baz=327,slow=6.6,SNR=16							
ATAH				LR		LR	23 20 45.9	
	comp=Z,2μm,21.4s,baz=326,slow=32							
IP01	**Cuckoo**	26.47	28	*e*P		P	23 12 17.8	+1.8
	comp=Z,86nm,1.1s							
IP03	**Louisa**	26.48	28	*e*P		P	23 12 19.1	+3.1
	comp=Z,38nm,0.8s							
IP04	**Greensprings**	26.50	27	*e*P		P	23 12 19.2	+3.0
	comp=Z,37nm,0.8s							
M34A	**Aspy Farms, Fr**	26.50	354	P		P	23 12 16.0	-0.2
	baz=172							
M43A	**Waltham Townsh**	26.51	7	P		P	23 12 15.5	-0.7
	baz=189,SNR=15							
SPRD	**Spring Road, M**	26.54	28	*e*P		P	23 12 18.8	+2.2
	comp=Z,153nm,1.6s							
ACSO	**Alum Creek Sta**	26.58	18	P		P	23 12 15.5	-1.5
	baz=202							
ACSO	**Alum Creek Sta**	26.58	18	*e*P		P	23 12 15.5	-1.5
	comp=Z,141nm,0.9s							
M44A	**Midewin, Midew**	26.58	9	P		P	23 12 14.8	-2.1
	baz=191							
MTP	**Monte Pirata**	26.59	80	*e*P		P	23 12 14.9	-2.4
	comp=Z,131nm,1.1s							
BGNE	**Belgrade**	26.59	352	P		P	23 12 16.5	-0.5
	baz=169							
GLA	**Glamis**	26.60	316	P		P	23 12 19.0	+1.7
	baz=127,SNR=13							
GLA	**Glamis**	26.60	316	*e*P		P	23 12 19.6	+2.3
GLA				pmax		pmax		
	comp=Z,132nm,1.0s							
GLA	**Glamis**	26.60	316	*e*P		P	23 12 19.6	+2.3
	comp=Z,132nm,1.0s							
M33A	**Taylor Creek F**	26.63	353	P		P	23 12 17.2	-0.2
	baz=171							
M45A	**Boilermakers S**	26.71	10	P		P	23 12 17.1	-0.9
	baz=192							
PV01	**Paradox Valley**	26.72	332	*e*P		P	23 12 21.3	+2.9
SCIA	**State Center**	26.73	360	P		P	23 12 17.3	-0.9
	baz=180,SNR=13							
SCIA	**State Center**	26.73	360	*e*P		P	23 12 17.9	-0.4
	comp=Z,94nm,0.8s							
Y12C	**Blythe**	26.83	318	P		P	23 12 20.9	+1.7
	baz=129,SNR=7.7							
Y12C	**Blythe**	26.83	318	*e*P		P	23 12 21.9	+2.6
	comp=Z,47nm,1.0s							
M46A	**Old House Fiel**	26.89	11	P		P	23 12 18.2	-1.5
	baz=194							
OGNE	**Ogallala**	26.91	345	P		P	23 12 21.5	+1.5
	baz=161,SNR=7.8							
OGNE	**Ogallala**	26.91	345	*e*P		P	23 12 21.7	+1.7
OGNE				LR		LR		
	comp=Z,982nm,20.0s							
PV05	**Paradox Valley**	26.91	331	*e*P		P	23 12 22.7	+2.5
CBN	**Corbin Frederi**	26.92	28	P		P	23 12 17.4	-2.5
	baz=215							
CBN	**Corbin Frederi**	26.92	28	*e*P		P	23 12 21.0	+1.1
	comp=Z,261nm,1.5s							
SMCO	**Snowmass**	26.92	336	*e*P		P	23 12 22.7	+2.2
	comp=Z,139nm,1.1s							
PDMCI	**Parker Dam,Lak**	26.93	319	P		P	23 12 21.4	+1.3
	baz=130,SNR=21							
L34A	**Svendsen Farm,**	26.94	355	P		P	23 12 19.3	-0.8
	baz=173							
L40A	**Anamosa**	26.94	3	P		P	23 12 18.9	-1.2
	baz=184,SNR=22							
ISCO	**Idaho Springs**	26.95	338	P		P	23 12 22.3	+1.7
	baz=153,SNR=42							
ISCO	**Idaho Springs**	26.95	338	*e*P		P	23 12 22.8	+2.2
ISCO				pmax		pmax		
	comp=Z,211nm,1.8s							
ISCO	**Idaho Springs**	26.95	338	*e*P		P	23 12 22.8	+2.2
	comp=Z,211nm,1.8s							
L37A	**Phoenix Point,**	26.96	359	P		P	23 12 19.2	-1.1
	baz=178,SNR=9.4							
L36A	**Harm Buss Farm**	26.96	357	P		P	23 12 19.4	-0.9
	baz=176,SNR=13							
L38A	**Oak Wood Farm,**	26.97	0	P		P	23 12 19.0	-1.4
	baz=180,SNR=23							
L39A	**Vinton**	26.97	2	P		P	23 12 19.0	-1.4
	baz=182							
L42A	**Oliver, Polo**	27.00	6	P		P	23 12 19.1	-1.5
	baz=187,SNR=12							
L41A	**Preston**	27.00	4	P		P	23 12 18.9	-1.7
	baz=185							
L35A	**Bielow Farm, R**	27.02	356	P		P	23 12 19.4	-1.5
	baz=175							
PV04	**Paradox Valley**	27.08	332	*e*P		P	23 12 24.4	+2.7
MCWV	**Mont Chateau**	27.11	23	P		P	23 12 20.5	-1.2
	baz=209							
PV10	**Paradox Valley**	27.13	332	*e*P		P	23 12 24.3	+2.1
L32A	**Elgin**	27.16	352	P		P	23 12 21.6	-0.5
	baz=170							
STVI	**Saint Thomas**	27.17	79	*e*P		P	23 12 21.1	-1.3
	comp=Z,462nm,1.6s							
SWSC	**Sam W. Stewart**	27.20	315	P		P	23 12 23.4	+0.8
	baz=126,SNR=8.5							
L33A	**Hoskins**	27.23	353	P		P	23 12 21.8	-0.9
	baz=171							
IKP	**In-Ko-Pah, Jac**	27.24	314	P		P	23 12 25.5	+2.4
	baz=125,SNR=8.9							
PV09	**Paradox Valley**	27.27	332	*e*P		P	23 12 26.2	+2.7
L43A	**Garden Prairie**	27.27	7	P		P	23 12 22.7	-0.4
	baz=189							
U15A	**North Rim**	27.28	325	*e*P		P	23 12 26.4	+2.7
	comp=Z,79nm,1.2s							
W13A	**Hualapai Mount**	27.30	321	*e*P		P	23 12 26.3	+2.6
	comp=Z,36nm,1.2s							
L44A	**Lake County Fo**	27.38	8	P		P	23 12 23.4	-0.6
	baz=191							
BC3	**Big Chuckawall**	27.38	316	P		P	23 12 26.2	+1.8
	baz=127,SNR=41							
K38A	**Parkersburg**	27.48	1	P		P	23 12 23.5	-1.4
	baz=180,SNR=9.5							
IRM	**Iron Mountain**	27.49	318	P		P	23 12 27.2	+2.0
	baz=128,SNR=23							
K36A	**Gilmore City**	27.49	358	P		P	23 12 23.4	-1.6
	baz=177,SNR=7.0							
NEE2	**Needles Airpor**	27.53	319	P		P	23 12 25.2	-0.4
	baz=130							
K41A	**Shullsburg**	27.54	5	P		P	23 12 22.6	-2.9
	baz=186,SNR=14							
K39A	**Oelwein**	27.55	2	P		P	23 12 24.0	-1.6
	baz=182,SNR=10							
K40A	**Colesburg**	27.58	3	P		P	23 12 24.4	-1.4
	baz=184,SNR=15							
K37A	**Belmond**	27.60	359	P		P	23 12 24.2	-1.8
	baz=179,SNR=7.9							
MONP2	**Monument Peak**	27.60	314	P		P	23 12 28.5	+2.1
	baz=125,SNR=8.4							
K35A	**Storm Lake**	27.61	357	P		P	23 12 25.4	-0.8
	baz=175							
K34A	**Le Mars**	27.63	355	P		P	23 12 25.7	-0.6
	baz=174,SNR=7.1							
K33A	**Hardington**	27.63	354	P		P	23 12 26.3	-0.1
	baz=172							
BAR	**Barrett**	27.65	313	*e*P		P	23 12 28.9	+2.2
	comp=Z,57nm,1.5s							
K42A	**Prairie Point,**	27.80	6	P		P	23 12 27.8	0.0
	baz=188							
K32A	**Verdigre**	27.80	352	P		P	23 12 27.3	-0.6
	baz=170,SNR=5.0							
K43A	**Burlington**	27.84	8	P		P	23 12 26.7	-1.5
	baz=190							
JFWS	**Jewell Farm**	27.85	5	P		P	23 12 26.9	-1.4

baz=181,SNR=10
J36A Seneca 1, Swea 28.18 358 P P 23 12 29.9 -1.2
baz=177,SNR=6.2
J39A Decorah 28.19 2 P P 23 12 29.7 -1.5
baz=183,SNR=16
N54A Moraine State 28.21 21 P P 23 12 30.2 -1.2
baz=207
N54A Moraine State 28.21 21 eP P 23 12 32.5 +1.0
comp=Z,93nm,1.1s
GMRC Granite Mounta 28.21 318 P P 23 12 33.4 +1.7
baz=129,SNR=26
PCRV Puerto La Cruz 28.21 97 LR LR 23 24 13.2
comp=Z,2µm,21.8s,baz=302,slow=38
J34A George 28.21 356 P P 23 12 30.0 -1.5
baz=174
LCMT Little Creek M 28.23 324 eP P 23 12 34.9 +2.9
comp=Z,45nm,1.4s
PHWY Pilot Hill 28.23 340 eP P 23 12 32.8 +0.7
comp=Z,73nm,1.4s
O20A White River Ci 28.24 335 P P 23 12 34.4 +2.4
baz=148,SNR=14
O20A White River Ci 28.24 335 eP P 23 12 32.8 +0.8
comp=Z,140nm,1.3s
J35A Milford 28.25 357 P P 23 12 30.2 -1.6
baz=176,SNR=8.2
J40A Soldiers Grove 28.30 4 P P 23 12 30.4 -1.8
baz=185
J41A Loganville 28.32 5 P P 23 12 30.7 -1.7
baz=186,SNR=7.8
AAM Ann Arbor 28.33 15 P P 23 12 29.9 -2.6
baz=199
J33A Davis 28.34 354 P P 23 12 31.1 -1.4
baz=172
J42A Columbus 28.35 6 P P 23 12 31.6 -1.2
baz=188
SRU San Rafael Swe 28.41 331 eP P 23 12 36.3 +2.8
SRU pmax pmax
comp=Z,218nm,1.7s
SRU San Rafael Swe 28.41 331 eP P 23 12 36.3 +2.8
comp=Z,218nm,1.7s
MTPU Mount Pierson 28.41 327 eP P 23 12 36.0 +2.3
comp=Z,62nm,1.2s
J32A Parkston 28.49 353 P P 23 12 33.4 -0.5
baz=170
J43A Natural Harves 28.49 7 P P 23 12 31.8 -2.2
baz=189
J31A Geddes 28.53 351 P P 23 12 34.2 -0.1
baz=168
MURC Murrieta 28.53 315 P P 23 12 34.6 +0.1
baz=125,SNR=6.1
SZCU Shurtz Canyon 28.57 325 eP P 23 12 38.4 +3.4
comp=Z,105nm,1.4s
Q16A Castle Valley 28.57 330 eP P 23 12 37.9 +2.9
comp=Z,263nm,1.9s
HEC Hector,Ludlow 28.67 318 P P 23 12 37.1 +1.3
baz=126
CCUT Cedar City 28.68 325 eP P 23 12 38.8 +2.7
comp=Z,68nm,1.3s
P18A Preston Nutter 28.69 332 eP P 23 12 38.8 +2.6
comp=Z,182nm,1.7s
I39A Houston 28.71 2 P P 23 12 34.8 -1.1
baz=183,SNR=14
ECSD EROS Data Cent 28.71 355 P P 23 12 35.4 -0.6
baz=173,SNR=31
ECSD EROS Data Cent 28.71 355 eP P 23 12 35.5 -0.5
comp=Z,39nm,0.8s
SSPA Standing Stone 28.72 25 P P 23 12 34.0 -2.0
baz=212
SSPA Standing Stone 28.72 25 eP P 23 12 34.7 -1.3
comp=Z,36nm,1.0s
BBRC Big Bear Solar 28.72 316 P P 23 12 37.0 +0.6
baz=126
I35A Creekview Farm 28.73 357 P P 23 12 34.0 -2.0
baz=176
TUQ Turquoise Moun 28.78 319 P P 23 12 36.0 -0.8
baz=129
P17A Butcher Ranch, 28.80 331 eP P 23 12 39.6 +2.6
comp=Z,249nm,1.7s
I40A Norwalk 28.80 4 P P 23 12 35.7 -1.0
baz=185
M54A Oil Creek Stat 28.80 21 P P 23 12 34.8 -2.0
baz=208
M54A Oil Creek Stat 28.80 21 eP P 23 12 36.3 -0.5
comp=Z,88nm,0.8s
MVL Millersville 28.84 27 eP P 23 12 39.4 +2.4
comp=Z,70nm,1.2s
I37A Lemond, Waseca 28.84 360 P P 23 12 35.7 -1.3
baz=179
I36A Fitzsimmons Fa 28.86 359 P P 23 12 35.8 -1.4
baz=178
I38A Scanlan Farm, 28.88 1 P P 23 12 36.5 -0.9
baz=181,SNR=9.3
TMUT Trail Mountain 28.88 330 eP P 23 12 39.7 +1.8
comp=Z,78nm,1.3s
I42A Draeger Farm, 28.94 6 P P 23 12 36.2 -1.8
baz=188,SNR=9.6
I34A Hadley 28.96 356 P P 23 12 36.9 -1.3
baz=174
TCRU Three Creeks R 28.97 328 eP P 23 12 40.5 +1.9
comp=Z,60nm,1.3s
SHPR Sheep Range 29.00 321 eP P 23 12 41.4 +2.6
comp=Z,59nm,1.4s
I41A Arkdale 29.02 5 P P 23 12 40.3 +1.7
baz=186,SNR=5.4
I43A Langenfeld Bro 29.02 7 P P 23 12 37.0 -1.7
baz=190
I33A Coleman 29.04 355 P P 23 12 37.8 -1.1
baz=172
I32A Karley and Nic 29.09 354 P P 23 12 38.2 -1.1
baz=171
SCI2 San Clemente I 29.14 312 P P 23 12 40.4 +0.5
baz=122
RWWY Rawlins 29.18 338 eP P 23 12 42.5 +2.0
RWWY epP pP 23 12 56.3 +0.8
comp=Z,100nm,0.8s
BFSC Mount Baldy Ra 29.21 315 P P 23 12 42.0 +1.4
baz=125,SNR=12
I31A Royce, Wessing 29.22 352 P P 23 12 39.9 -0.5
baz=169
ERPA Erie 29.23 20 P P 23 12 38.5 -2.1
baz=206
GSC Goldstone, Bar 29.27 318 P P 23 12 43.6 +2.5
baz=128
GSC Goldstone, Bar 29.27 318 eP P 23 12 43.6 +2.5
GSC pmax pmax
comp=Z,24nm,1.3s
GSC Goldstone, Bar 29.27 318 eP P 23 12 43.6 +2.5
comp=Z,24nm,1.3s
CIS Catalina Islan 29.27 313 P P 23 12 41.5 +0.4
baz=123
SHOC Shoshone, Teco 29.30 319 P P 23 12 41.4 +0.2
baz=129
FMP Fort Macarthur 29.36 314 P P 23 12 40.4 -1.3
baz=123
H37A Dierke Farm, C 29.41 0 P P 23 12 40.9 -1.2
baz=180
H36A Jessenland, He 29.41 359 P P 23 12 40.6 -1.6
baz=178
MWC Mount Wilson 29.47 315 eP P 23 12 45.4 +2.3
MWC pmax pmax
comp=Z,43nm,1.2s
MWC Mount Wilson 29.47 315 eP P 23 12 45.4 +2.3
comp=Z,43nm,1.2s
H38A Maiden Rock 29.51 1 P P 23 12 41.9 -1.1
baz=181,SNR=14
PASC Pasadena Art C 29.53 315 eP P 23 12 45.2 +1.9
comp=Z,61nm,1.3s
H40A Chili 29.54 4 P P 23 12 41.9 -1.4
baz=185,SNR=6.6
H39A Augusta 29.55 3 P P 23 12 42.1 -1.2
baz=183,SNR=15
H32A Carlson Farm, 29.56 354 P P 23 12 42.8 -0.7
baz=171,SNR=10
H35A Sunnyside Ranc 29.56 358 P P 23 12 42.4 -1.1
baz=176,SNR=6.0
H34A Spellman Lake, 29.58 356 P P 23 12 42.7 -0.9
baz=175
H41A Junction City 29.59 5 P P 23 12 42.2 -1.5
baz=187
H42A Shiocton 29.59 7 P P 23 12 43.1 -0.6
baz=189
MPU Maple Canyon 29.65 330 eP P 23 12 46.3 +1.8
comp=Z,86nm,1.4s
H43A Windswept, Lux 29.65 8 P P 23 12 42.6 -1.6
baz=190
H31A Wolsey 29.66 352 P P 23 12 43.4 -0.9
baz=169
H33A Prehn Over Nor 29.67 355 P P 23 12 43.2 -1.2
baz=173
DECC Green Verdugo 29.68 315 P P 23 12 45.0 +0.3
baz=124
SUSD Miller 29.68 352 P P 23 12 44.4 -0.1
baz=168
LUPA Lehigh Univers 29.76 28 eP P 23 12 46.6 +1.3
comp=Z,3.6nm,1.0s
K22A Casper 29.80 340 P P 23 12 47.0 +1.3
baz=153,SNR=12
K22A Casper 29.80 340 eP P 23 12 47.7 +1.9
comp=Z,55nm,0.8s
EDW2 Edwards Air Fo 29.80 316 P P 23 12 46.3 +0.5
baz=125,SNR=5.1
NLU North Lily Min 29.81 330 eP P 23 12 49.1 +3.1
comp=Z,194nm,1.8s
N59A State Game Lan 29.84 27 P P 23 12 44.2 -1.8
baz=215
N59A State Game Lan 29.84 27 eP P 23 12 46.0 0.0
comp=Z,39nm,1.2s
LRMC Laurel Mtn Rad 29.95 317 P P 23 12 47.7 +0.5
baz=127
SNCC San Nicolas Is 29.98 312 P P 23 12 48.2 +0.8
baz=121
SNCC San Nicolas Is 29.98 312 eP P 23 12 49.4 +2.1
comp=Z,107nm,1.3s
G38A Ridgeland 30.02 2 P P 23 12 46.0 -1.4
baz=182,SNR=20
JLU Jordanelle 30.02 331 eP P 23 12 50.7 +2.8
comp=Z,85nm,1.6s
FURC Furnace Creek, 30.02 320 P P 23 12 49.0 +1.4
baz=129
SPMN Marine on St. 30.05 0 P P 23 12 46.6 -1.2
baz=180,SNR=20
SPMN Marine on St. 30.05 0 eP P 23 12 47.0 -0.8
comp=Z,67nm,1.0s
G36A St. Michael 30.07 359 P P 23 12 47.6 -0.3
baz=179
G35A Watkins 30.07 358 P P 23 12 48.5 +0.6
baz=177
BLG Laguna Peak, P 30.11 314 P P 23 12 48.6 +0.2
baz=123
G34A Benson 30.14 356 P P 23 12 47.5 -1.1
baz=175
OSI Osito Audit: C 30.15 315 P P 23 12 49.7 +0.9
baz=124
G33A Ortonville 30.15 355 P P 23 12 47.5 -1.1
baz=174,SNR=11
G39A Holcombe 30.16 3 P P 23 12 47.3 -1.4
baz=184,SNR=15
MPMC Manual Prospec 30.17 318 P P 23 12 51.4 +2.2
baz=128,SNR=20
G40A Rib Lake 30.20 4 P P 23 12 47.2 -1.9
baz=185
BRNJ Basking Ridge 30.20 29 eP P 23 12 48.4 -0.7
comp=Z,35nm,0.9s
G41A Antigo 30.22 6 P P 23 12 47.9 -1.4
baz=187
CTU Camp Tracy 30.23 331 eP P 23 12 51.9 +2.2
comp=Z,60nm,1.1s
G32A Webster 30.31 354 P P 23 12 49.4 -0.7
baz=172
G42A Mountain 30.33 7 P P 23 12 48.7 -1.6
baz=189
G31A Conde 30.36 353 P P 23 12 49.2 -1.3
baz=170
DUG Dugway, Tooele 30.36 329 P P 23 12 52.3 +1.6
baz=140,SNR=8.0
DUG Dugway, Tooele 30.36 329 eP P 23 12 51.8 +1.1
DUG pmax pmax
comp=Z,146nm,1.8s
DUG MLR MLR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 30.36 329 eP P 23 12 51.8 +1.1
comp=Z,146nm,1.8s
DUG LR LR
comp=Z,2µm,20.0s
DAC Darwin (Calif) 30.37 319 eP P 23 12 53.2 +2.3
DAC pmax pmax
comp=Z,26nm,1.1s
DAC Darwin (Calif) 30.37 319 eP P 23 12 53.2 +2.3
comp=Z,26nm,1.1s
RSSD Black Hills 30.40 344 P P 23 12 51.4 +0.3
baz=159
RSSD Black Hills 30.40 344 eP P 23 12 52.7 +1.5
RSSD pmax pmax
comp=Z,60nm,0.7s
RSSD Black Hills 30.40 344 eP P 23 12 52.7 +1.5
comp=Z,60nm,0.7s
TCUT Toone Canyon 30.42 332 eP P 23 12 53.4 +2.1
comp=Z,646nm,1.5s
G43A Wallace 30.43 8 P P 23 12 49.2 -2.0
baz=190
SCZ2 Santa Cruz Isl 30.45 313 P P 23 12 51.2 -0.2
baz=122
R11A Troy Canyon, C 30.50 324 P P 23 12 54.8 +2.7
baz=133,SNR=23
R11A Troy Canyon, C 30.50 324 eP P 23 12 54.9 +2.9
comp=Z,58nm,1.5s
ODNJ Ogdensburg 30.50 28 eP P 23 12 52.1 +0.4
comp=Z,53nm,1.4s
ARVC Arvin 30.51 316 P P 23 12 53.1 +1.2
baz=124
MMNY Mt. Morris Dam 30.51 22 eP P 23 12 52.0 +0.2
comp=Z,115nm,1.7s
GLMI Grayling 30.52 12 P P 23 12 50.4 -1.5
baz=196
GLMI Grayling 30.52 12 eP P 23 12 52.1 +0.3
comp=Z,53nm,0.8s
F37A Hinrichs Farm, 30.55 1 P P 23 12 51.5 -0.7
baz=181
ISA Isabella, Lake 30.58 317 P P 23 12 55.1 +2.5
baz=126,SNR=6.6
ISA Isabella, Lake 30.58 317 eP P 23 12 55.6 +3.0
ISA pmax pmax
comp=Z,20nm,1.1s
ISA Isabella, Lake 30.58 317 eP P 23 12 55.6 +3.0
comp=Z,20nm,1.1s
GRAC Grapevine Rang 30.67 320 P P 23 12 54.8 +1.4
baz=129,SNR=5.9
F34A Alexandria 30.67 357 P P 23 12 52.2 -1.0
baz=176
F36A Milaca 30.69 359 P P 23 12 52.0 -1.4
baz=179,SNR=11
F35A Swanville 30.71 358 P P 23 12 52.9 -0.7
baz=177
F41A Three Lakes 30.75 6 P P 23 12 52.7 -1.3
baz=187
PAL Palisades 30.76 29 P P 23 12 52.6 -1.4
baz=218
CWC Cottonwood Cre 30.78 318 P P 23 12 54.6 +0.1
baz=127
F33A 5 Mile Ranch, 30.78 356 P P 23 12 53.0 -1.2
baz=174
F39A Loretta 30.80 3 P P 23 12 52.7 -1.7
baz=184
F38A Pierce - Schro 30.80 2 P P 23 12 53.1 -1.3
baz=182,SNR=12
BINY Binghamton 30.80 25 P P 23 12 53.3 -1.2
baz=213
BINY Binghamton 30.80 25 eP P 23 12 53.6 -0.9
comp=Z,60nm,1.0s
F40A Park Falls 30.85 4 P P 23 12 53.8 -1.0
baz=185,SNR=6.8
HWUT Hardware Ranch 30.88 332 eP P 23 12 57.5 +2.1
comp=Z,270nm,1.9s
HWUT LR LR
comp=Z,1µm,20.0s
F31A Hecla 30.99 353 P P 23 12 54.9 -1.2
baz=170
BW06 Boulder Array 31.00 336 P P 23 12 57.7 +1.2
baz=148,SNR=9.5
BW06 Boulder Array 31.00 336 eP P 23 12 57.9 +1.5
comp=Z,70nm,1.3s
PD31 Pinedale Array 31.00 336 eP P 23 12 57.9 +1.5
PDAR Pinedale Array 31.00 336 P P 23 12 57.8 +1.4
comp=Z,12nm,0.9s,baz=128,slow=9.6,SNR=56
PDAR PcP PcP 23 15 54.0 +2.7
comp=Z,3.5nm,0.8s,baz=140,slow=5.1,SNR=3.9
PDAR Pinedale Array 31.00 336 eP P 23 12 57.0 +0.6
PDAR PcP PcP 23 15 54.0 +2.7
BGU Big Grassy Mou 31.02 330 eP P 23 12 58.0 +1.3
comp=Z,41nm,1.2s
SPUT South Promonto 31.05 331 eP P 23 12 58.0 +1.2
comp=Z,72nm,1.1s
PKM Mcpherson Peak 31.05 314 P P 23 12 58.7 +1.8
baz=123,SNR=9.2
F43A Flat Rock, Esc 31.07 8 P P 23 12 55.2 -1.5
baz=191,SNR=6.7
VES Vestal, Richgr 31.08 316 P P 23 12 58.7 +1.7
baz=125,SNR=5.5
COWI Conover 31.11 5 eP P 23 12 55.9 -1.2
comp=Z,26nm,0.8s
F45A CMU Biological 31.18 10 P P 23 12 57.0 -0.7
baz=194
E39A Mellen 31.28 3 P P 23 12 56.9 -1.7
baz=185
F44A Big Bay de Noc 31.31 9 P P 23 12 57.9 -1.0
baz=192
E36A McGregor 31.34 360 P P 23 12 57.9 -1.3
baz=180,SNR=14
NNA Nana 31.36 148 eP P 23 12 58.9 -0.8
NNA pmax pmax
comp=Z,19nm,0.4s
NNA Nana 31.36 148 eP P 23 12 58.9 -0.8
comp=Z,19nm,0.4s
E34A Wadena 31.39 357 P P 23 12 58.0 -1.6
baz=176,SNR=13
E40A Wakefield 31.39 4 P P 23 12 58.0 -1.5
baz=186,SNR=13
E37A Wrenshall 31.40 1 P P 23 12 58.2 -1.4
baz=181
F46A Macinaw City C 31.40 11 P P 23 12 57.2 -2.5
baz=195
E35A Pequot Lakes 31.40 358 P P 23 12 59.0 -0.7
baz=178,SNR=7.6
SMMC Simmler 31.41 315 P P 23 12 58.6 -1.3
baz=123
E33A Westby DABS, E 31.42 356 P P 23 12 58.6 -1.3
baz=174
E38A The Farm, Brul 31.46 2 P P 23 12 58.5 -1.6
baz=183,SNR=12
E41A Kenton 31.48 6 P P 23 12 57.6 -2.8
baz=188
E42A Champion 31.56 7 P P 23 12 58.7 -2.4
baz=189
HVU Hansel Valley 31.57 331 eP P 23 13 04.0 +2.6
HVU pmax pmax
comp=Z,537nm,2.0s
HVU Hansel Valley 31.57 331 eP P 23 13 04.0 +2.6
comp=Z,537nm,2.0s
E32A Braaten, Kindr 31.59 355 P P 23 12 59.7 -1.6
baz=173
AHID Auburn Hatcher 31.62 334 eP P 23 13 03.9 +2.0
comp=Z,244nm,1.4s
E43A Lone Tree Farm 31.62 8 P P 23 13 00.2 -1.4
baz=191
E31A Nome 31.64 354 P P 23 13 00.4 -1.3
baz=171
PAGB Antelope Grade 31.81 315 eP P 23 13 06.8 +3.3
comp=Z,121nm,1.6s
SADO Sadowa 31.88 19 P P 23 13 02.8 -1.1
comp=Z,5.9nm,0.7s,baz=308,slow=1.7,SNR=4.1
SADO LR LR 23 27 13.9
comp=Z,3µm,22.0s,baz=212,slow=39
E45A Wooded Hills, 31.89 10 P P 23 13 02.0 -2.0
baz=194
D35A Remer 31.92 359 P P 23 13 03.0 -1.2
baz=178,SNR=10.0
D37A Cotton 31.99 1 P P 23 13 03.2 -1.6
baz=181,SNR=28
D36A Goodland 32.00 360 P P 23 13 03.4 -1.5
baz=180
REDW Red Top Meadow 32.01 335 eP P 23 13 07.7 +2.4
comp=Z,645nm,1.3s
D33A AnnSam, Waubun 32.05 357 P P 23 13 04.2 -1.2
baz=175
SNOW Snow King Moun 32.05 335 eP P 23 13 08.3 +2.6
comp=Z,454nm,1.0s
NV11 Mina Array Sit 32.06 321 eP P 23 13 08.8 +3.0
comp=Z,5.0nm,1.0s
D31A Mcclaflin, Tow 32.10 354 P P 23 13 04.6 -1.2
baz=172
D41A Chassel 32.11 6 P P 23 13 04.5 -1.4
baz=188
LOHW Long Hollow 32.12 336 eP P 23 13 08.6 +2.3
comp=Z,168nm,1.1s
D32A Dogwood Acres, 32.13 355 P P 23 13 04.5 -1.5
baz=173
MDPB Devils Postpil 32.14 319 eP P 23 13 04.7 -1.9
comp=Z,38nm,1.0s
NV01 Mina Array Sit 32.15 321 eP P 23 13 09.1 +2.5
NVAR Mina Array Bea 32.15 321 P P 23 13 09.8 +3.2
comp=Z,32nm,0.6s,baz=133,slow=8.4,SNR=242
NVAR PcP PcP 23 15 55.4 +0.9
comp=Z,3.0nm,0.9s,baz=203,slow=24,SNR=3.2
NVAR LR LR 23 28 17.5
comp=Z,2µm,18.1s,baz=230,slow=40
TPAW Teton Pass 32.16 335 eP P 23 13 08.4 +1.7
comp=Z,388nm,1.3s
MOOW Moose Ponds 32.29 336 eP P 23 13 09.9 +2.1
comp=Z,151nm,1.2s
FXWY Fox Creek 32.31 335 eP P 23 13 10.0 +2.0
comp=Z,112nm,1.2s
RYN Ryan 32.41 321 eP P 23 13 11.8 +3.0
comp=Z,42nm,1.1s
PMPB Monarch Peak 32.45 316 eP P 23 13 12.2 +3.1
comp=Z,108nm,1.1s
IMW Indian Meadow 32.49 336 eP P 23 13 11.7 +2.1
comp=Z,103nm,1.1s
C34A RKJ Ranch, Bem 32.51 358 P P 23 13 07.8 -1.6
baz=177
C35A Jirik Farms, M 32.53 359 P P 23 13 08.0 -1.6
baz=178,SNR=18
C37A Embarrass 32.56 1 P P 23 13 07.9 -1.9
baz=182
C38A Sawbill Land. 32.58 2 P P 23 13 08.1 -1.9
baz=183
C36A Pine Crest Far 32.59 0 P P 23 13 08.8 -1.2
baz=180,SNR=15
C33A Trail 32.66 357 P P 23 13 09.1 -1.6
baz=175
C39A Grand Marais 32.74 4 P P 23 13 10.4 -1.0
baz=185
YPP Pitchstone Pla 32.75 336 eP P 23 13 14.8 +3.0
comp=Z,92nm,1.5s
H17A Grant Village 32.77 337 P P 23 13 13.6 +1.6
baz=148,SNR=19
H17A Grant Village 32.77 337 eP P 23 13 14.7 +2.7
comp=Z,248nm,1.6s
C32A Crookston 32.77 356 P P 23 13 09.6 -2.0
baz=174
EYMN Ely 32.80 2 P P 23 13 10.8 -1.1
baz=183
EYMN Ely 32.80 2 eP P 23 13 09.7 -2.3
comp=Z,20nm,0.9s
C31A Landman Farms, 32.84 354 P P 23 13 11.8 -0.5
baz=172,SNR=28
BMN Battle Mountai 32.84 325 eP P 23 13 15.3 +2.7
BMN pmax pmax
comp=Z,65nm,1.2s
BMN Battle Mountai 32.84 325 eP P 23 13 15.3 +2.7
comp=Z,65nm,1.2s
WAKR Walker 32.89 320 eP P 23 13 16.1 +3.0
comp=Z,71nm,1.4s
C40A Isle Royale Na 32.91 5 P P 23 13 11.3 -1.5
baz=187
RLMT Red Lodge 32.91 339 P P 23 13 14.2 +1.0
baz=150
YFT Old Faithful 32.91 336 eP P 23 13 16.0 +2.8
comp=Z,134nm,1.2s
YFT ePcP PcP 23 15 58.3 +1.8
NCB Newcomb 33.00 25 eP P 23 13 14.6 +0.9
NCB epP pP 23 13 30.2 +1.3
HRV Adam Dziewonsk 33.04 30 P P 23 13 13.4 -0.6
baz=220
YERR Yerington 33.07 321 eP P 23 13 17.9 +3.3
comp=Z,153nm,1.8s
YNR Norris Junctio 33.08 337 eP P 23 13 16.9 +2.2
comp=Z,99nm,1.3s
MDND Maddock 33.11 352 P P 23 13 14.5 -0.2
baz=168,SNR=7.9
MDND Maddock 33.11 352 eP P 23 13 15.3 +0.6
comp=Z,150nm,0.8s
YMR Madison River 33.15 336 eP P 23 13 18.2 +3.0
comp=Z,242nm,1.2s
B33A Robert and Kas 33.16 357 P P 23 13 13.4 -1.7
baz=176
B35A Bob, Littlefor 33.19 359 P P 23 13 13.6 -1.7
baz=179,SNR=11
AGMN Agassiz Nation 33.20 357 P P 23 13 14.6 -0.8
baz=175,SNR=18
AGMN Agassiz Nation 33.20 357 eP P 23 13 14.6 -0.8
comp=Z,41nm,0.9s
AGMN ePcP PcP 23 15 56.4 -0.5
YHH Holmes Hill 33.20 337 eP P 23 13 18.3 +2.5
comp=Z,99nm,1.3s

CMB	**Columbia Colle**	**33.21**	**319**	*e*P		**P**	**23**	**13**	**17.0 +1.3**
CMB				pmax		pmax			
	comp=Z,16nm,0.9s								
CMB	**Columbia Colle**	**33.21**	**319**	*e*P		**P**	**23**	**13**	**17.0 +1.3**
	comp=Z,16nm,0.9s								
YHB	**Horse Butte**	**33.31**	**336**	*e*P		**P**	**23**	**13**	**20.4 +3.7**
	comp=Z,121nm,1.5s								
B34A	**Aery, Baudette**	**33.34**	**358**	P		**P**	**23**	**13**	**15.4 -1.2**
	baz=177,SNR=14								
B32A	**Ashes, Strandq**	**33.34**	**356**	P		**P**	**23**	**13**	**15.8 -0.8**
	baz=174,SNR=14								
LAO	**LASA Array**	**33.36**	**344**	P		**P**	**23**	**13**	**17.3 +0.4**
	baz=156								
LAO	**LASA Array**	**33.36**	**344**	*e*P		**P**	**23**	**13**	**17.2 +0.2**
	comp=Z,75nm,0.9s								
LONY	**Lake Ozonia**	**33.38**	**24**	P		**P**	**23**	**13**	**15.5 -1.6**
	baz=214								
LONY	**Lake Ozonia**	**33.38**	**24**	*e*P		**P**	**23**	**13**	**17.2 +0.2**
	comp=Z,43nm,1.1s								
B31A	**Greenbush Farm**	**33.46**	**355**	P		**P**	**23**	**13**	**17.0 -0.6**
	baz=172,SNR=9.1								
VCNR	**Virginia City**	**33.51**	**321**	*e*P		**P**	**23**	**13**	**21.6 +3.1**
	comp=Z,23nm,1.0s								
PAHR	**Pah Rah Range**	**33.61**	**322**	*e*P		**P**	**23**	**13**	**22.0 +2.7**
	comp=Z,43nm,1.2s								
GCMT	**Greycliff**	**33.63**	**339**	*e*P		**P**	**23**	**13**	**21.5 +2.1**
HLID	**Hailey**	**33.71**	**332**	P		**P**	**23**	**13**	**22.1 +2.0**
	baz=141,SNR=36								
HLID	**Hailey**	**33.71**	**332**	*e*P		**P**	**23**	**13**	**22.4 +2.3**
	comp=Z,235nm,1.7s								
A33A	**Warroad**	**33.82**	**357**	P		**P**	**23**	**13**	**19.8 -0.9**
	baz=176,SNR=22								
A32A	**Rocking H Ranc**	**33.86**	**356**	P		**P**	**23**	**13**	**20.2 -0.9**
	baz=174								
MCMT	**McKenzie Canyo**	**34.03**	**335**	*e*P		**P**	**23**	**13**	**26.2 +3.3**
AFDM	**Forest Hills D**	**34.12**	**320**	*e*P		**P**	**23**	**13**	**26.1 +2.5**
	comp=Z,51nm,1.6s								
MFID	**Camas Ranch**	**34.27**	**330**	*e*P		**P**	**23**	**13**	**26.9 +2.0**
	comp=Z,184nm,1.8s								
DLMT	**Dillon**	**34.37**	**335**	*e*P		**P**	**23**	**13**	**27.0 +1.2**
	comp=Z,343nm,1.3s								
DGMT	**Dagmar**	**34.52**	**347**	P		**P**	**23**	**13**	**27.9 +0.9**
	baz=161,SNR=8.3								
DGMT	**Dagmar**	**34.52**	**347**	*e*P		**P**	**23**	**13**	**27.7 +0.8**
	comp=Z,61nm,0.8s								
LRM	**Limekiln Ridge**	**34.69**	**336**	*e*P		**P**	**23**	**13**	**31.0 +2.4**
ORV	**Oroville**	**34.81**	**320**	*e*P		**P**	**23**	**13**	**32.4 +3.0**
ORV				pmax		pmax			
	comp=Z,27nm,1.2s								
ORV	**Oroville**	**34.81**	**320**	*e*P		**P**	**23**	**13**	**32.4 +3.0**
	comp=Z,27nm,1.2s								
WVOR	**Wild Horse Val**	**34.99**	**326**	*e*P		**P**	**23**	**13**	**32.8 +1.6**
WVOR				pmax		pmax			
	comp=Z,141nm,1.5s								
WVOR	**Wild Horse Val**	**34.99**	**326**	*e*P		**P**	**23**	**13**	**32.8 +1.6**
	comp=Z,141nm,1.5s								
ULM	**Lac du Bonnet**	**35.15**	**357**	P		**P**	**23**	**13**	**30.7 -1.5**
	comp=Z,16nm,0.7s,baz=172,slow=9.4,SNR=40								
ULM				PcP		**PcP**	**23**	**16**	**02.3 -0.1**
	comp=Z,18nm,0.8s,baz=183,slow=2.9,SNR=3.6								
ULM				LR		LR	23	31	09.2
	comp=Z,1µm,20.5s,baz=165,slow=42								
ULM	**Lac du Bonnet**	**35.15**	**357**	*e*P		**P**	**23**	**13**	**30.8 -1.5**
ULM							23	16	02.3
ULM				pmax		pmax			
	comp=Z,35nm,1.0s								
ULM	**Lac du Bonnet**	**35.15**	**357**	*e*P		**P**	**23**	**13**	**30.8 -1.4**
	comp=Z,35nm,1.0s								
ULM				PcP		**PcP**	**23**	**16**	**02.3 -0.1**
HRY	**Holter Researc**	**35.20**	**337**	*e*P		**P**	**23**	**13**	**34.9 +2.1**
O03D	**Paynes Creek**	**35.43**	**321**	P		**P**	**23**	**13**	**35.8 +0.9**
	baz=127,SNR=5.9								
MOD	**Modoc Plateau**	**35.56**	**324**	*e*P		**P**	**23**	**13**	**37.2 +1.1**
	comp=Z,58nm,1.2s								
EGMT	**Eagleton**	**35.61**	**341**	P		**P**	**23**	**13**	**38.1 +1.8**
	baz=152,SNR=5.9								
EGMT	**Eagleton**	**35.61**	**341**	*e*P		**P**	**23**	**13**	**37.6 +1.2**
	comp=Z,383nm,1.5s								
BMO	**Blue Mountains**	**36.05**	**330**	*e*P		**P**	**23**	**13**	**41.1 +0.9**
BMO				pmax		pmax			
	comp=Z,151nm,1.6s								
BMO	**Blue Mountains**	**36.05**	**330**	*e*P		**P**	**23**	**13**	**41.1 +0.9**
	comp=Z,151nm,1.6s								
MSO	**Missoula**	**36.10**	**336**	P		**P**	**23**	**13**	**42.1 +1.4**
	baz=144,SNR=31								
MSO	**Missoula**	**36.10**	**336**	*e*P		**P**	**23**	**13**	**42.3 +1.6**
	comp=Z,286nm,1.5s								
PKME	**Peaks-Kenny Pk**	**36.19**	**29**	P		**P**	**23**	**13**	**41.3 +0.1**
	baz=221								
M04C	**Macdoel**	**36.37**	**323**	P		**P**	**23**	**13**	**43.8 +0.8**
	baz=129								
N02D	**Trinity Center**	**36.39**	**321**	P		**P**	**23**	**13**	**43.1 0.0**
	baz=127								
KMRM	**Mail Ridge**	**36.58**	**319**	*e*P		**P**	**23**	**13**	**47.8 +3.0**
	comp=Z,74nm,1.1s								
M02C	**Callahan**	**36.73**	**321**	P		**P**	**23**	**13**	**46.2 +0.2**
	baz=127								
K04D	**Chiloquin, OR**	**36.84**	**324**	P		**P**	**23**	**13**	**48.2 +1.2**
	baz=130								
YBH	**Yreka Blue Hor**	**36.85**	**322**	LR		LR	23	30	14.9
	comp=Z,2µm,20.8s,baz=148,slow=38								
YBH	**Yreka Blue Hor**	**36.85**	**322**	*e*P		**P**	**23**	**13**	**47.7 +0.7**
YBH				pmax		pmax			
	comp=Z,124nm,1.9s								
YBH	**Yreka Blue Hor**	**36.85**	**322**	*e*P		**P**	**23**	**13**	**47.7 +0.7**
	comp=Z,124nm,1.9s								
KHMM	**Horse Mountain**	**36.96**	**320**	*e*P		**P**	**23**	**13**	**49.8 +1.7**
	comp=Z,67nm,1.0s								
J05D	**Fort Rock, OR**	**36.98**	**325**	P		**P**	**23**	**13**	**49.2 +1.0**
	baz=131								
JTMT	**Jette**	**36.99**	**336**	*e*P		**P**	**23**	**13**	**50.0 +1.8**
	comp=Z,150nm,1.2s								
J04D	**Umpqua Nationa**	**37.44**	**324**	P		**P**	**23**	**13**	**52.8 +0.7**
	baz=130								
L02D	**Cave Junction,**	**37.64**	**322**	P		**P**	**23**	**13**	**54.6 +1.0**
	baz=127								
I05D	**Terrebonne, OR**	**37.73**	**326**	P		**P**	**23**	**13**	**55.5 +1.1**
	baz=132								
WALA	**Waterton Lakes**	**37.93**	**338**	*e*P		**P**	**23**	**13**	**57.8 +1.8**
	comp=Z,145nm,1.4s								
I04A	**Tendick Farm,**	**37.96**	**325**	P		**P**	**23**	**13**	**57.4 +1.0**
	baz=130								
SAML	**Samuel**	**38.09**	**127**	*e*P		**P**	**23**	**13**	**55.5 -2.2**
	comp=Z,64nm,1.1s								
SAML				*e*PcP		**PcP**	**23**	**16**	**11.7 -0.2**
G05D	**Wamic, OR**	**38.33**	**327**	P		**P**	**23**	**14**	**01.3 +1.9**
	baz=133								
NEW	**Newport**	**38.55**	**334**	LR		LR	23	32	07.9
	comp=Z,840nm,20.8s,baz=144,slow=39								
NEW	**Newport**	**38.55**	**334**	P		**P**	**23**	**14**	**02.2 +0.9**
	baz=141,SNR=12								
NEW	**Newport**	**38.55**	**334**	*e*P		**P**	**23**	**14**	**02.3 +1.1**
NEW				pmax		pmax			
	comp=Z,45nm,1.0s								
NEW	**Newport**	**38.55**	**334**	*e*P		**P**	**23**	**14**	**02.3 +1.1**
	comp=Z,45nm,1.0s								
G03D	**McMinnville, O**	**39.34**	**326**	P		**P**	**23**	**14**	**09.3 +1.5**
	baz=130								
LPAZ	**La Paz**	**39.76**	**141**	P		**P**	**23**	**14**	**11.1 -1.2**
	comp=Z,9.7nm,0.8s,baz=341,slow=9.3,SNR=40								
LPAZ				LR		LR	23	31	13.5
	comp=Z,597nm,19.3s,baz=320,slow=37								
LPAZ	**La Paz**	**39.76**	**141**	*e*P		**P**	**23**	**14**	**11.3 -1.0**
LPAZ				pmax		pmax			
	comp=Z,12nm,0.9s								
LPAZ	**La Paz**	**39.76**	**141**	*e*P		**P**	**23**	**14**	**11.3 -1.0**
	comp=Z,12nm,0.9s								
F04D	**Rainier, OR**	**39.77**	**327**	P		**P**	**23**	**14**	**13.3 +1.9**
	baz=131								
C06D	**Leavenworth**	**39.98**	**331**	P		**P**	**23**	**14**	**14.5 +1.3**
	baz=136								
FFC	**Flin Flon**	**40.16**	**352**	*e*P		**P**	**23**	**14**	**14.6 +0.1**
FFC				pmax		pmax			
	comp=Z,104nm,1.7s								
FFC	**Flin Flon**	**40.16**	**352**	*e*P		**P**	**23**	**14**	**14.6 +0.1**
	comp=Z,104nm,1.7s								
B05A	**Bryant**	**40.80**	**330**	P		**P**	**23**	**14**	**20.3 +0.5**
	baz=134								
MNMC	**Minye Minye**	**41.14**	**145**	*e*P		**P**	**23**	**14**	**23.4 +0.1**
	comp=Z,74nm,0.9s								
EDM	**Edmonton**	**41.27**	**342**	*e*P		**P**	**23**	**14**	**24.8 +1.1**
EDM				pmax		pmax			
	comp=Z,128nm,0.7s								
EDM	**Edmonton**	**41.27**	**342**	*e*P		**P**	**23**	**14**	**24.8 +1.1**
	comp=Z,128nm,0.7s								
A04D	**Lummi Island**	**41.40**	**330**	P		**P**	**23**	**14**	**25.0 +0.2**
	baz=134								

PB11	**IPOC Station P**	**41.61**	**146**	*e*P		**P**	**23**	**14**	**26.4 -0.6**
	comp=Z,51nm,0.9s								
LLLB	**Lillooet**	**42.37**	**333**	*e*P		**P**	**23**	**14**	**34.6 +1.9**
	comp=Z,156nm,1.4s								
PB01	**IPOC Station P**	**42.75**	**147**	*e*P		**P**	**23**	**14**	**35.4 -0.8**
	comp=Z,30nm,1.3s								
FCC	**Fort Churchill**	**43.62**	**359**	*e*P		**P**	**23**	**14**	**41.6 -1.0**
FCC				pmax		pmax			
	comp=Z,39nm,1.1s								
FCC	**Fort Churchill**	**43.62**	**359**	*e*P		**P**	**23**	**14**	**41.6 -1.0**
	comp=Z,39nm,1.1s								
SCHQ	**Schefferville**	**44.61**	**21**	P		**P**	**23**	**14**	**49.7 -0.9**
	comp=Z,5.2nm,0.9s,baz=240,slow=6.4,SNR=13								
SCHQ				PcP		**PcP**	**23**	**16**	**32.8 +0.2**
	comp=Z,24nm,0.8s,baz=233,slow=3.4,SNR=7.7								
SCHQ				LR		LR	23	34	30.6
	comp=Z,3µm,22.0s,baz=220,slow=38								
SCHQ	**Schefferville**	**44.61**	**21**	*e*P		**P**	**23**	**14**	**51.0 +0.3**
	comp=Z,34nm,0.8s								
SCHQ				PcP		**PcP**	**23**	**16**	**32.8 +0.2**
LCO	**Las Campanas**	**48.90**	**154**	*e*P		**P**	**23**	**15**	**24.3 -0.5**
	comp=Z,29nm,0.9s								
YKA	**Yellowknife Ar**	**49.73**	**347**	P		**P**	**23**	**15**	**30.3 -0.1**
	comp=Z,27nm,0.6s,baz=154,slow=7.4,SNR=216								
YKA				PcP		**PcP**	**23**	**16**	**50.6 +0.1**
	comp=Z,4.7nm,0.6s,baz=151,slow=3.5,SNR=5.3								
YKA				LR		LR	23	41	22.2
	comp=Z,28nm,18.1s,baz=180,slow=42								
YKA				P4KPbc			23	53	03.5
	comp=Z,0.5nm,0.7s,baz=148,slow=4.5,SNR=9.5								
YKW3	**Yellowknife Ar**	**49.80**	**347**	*e*P		**P**	**23**	**15**	**31.0 +0.2**
	comp=Z,41nm,0.7s								
DLBC	**Dease Lake**	**51.23**	**336**	*e*P		**P**	**23**	**15**	**44.8 +3.0**
	comp=Z,254nm,1.1s								
FRB	**Frobisher Bay**	**51.52**	**14**	LR		LR	23	39	01.0
	comp=Z,1µm,20.7s,baz=20,slow=38								
ROC1	**El Roble**	**52.25**	**156**	*e*P		**P**	**23**	**15**	**51.5 +1.5**
	comp=Z,30nm,1.0s								
TAOE	**Nuku Hiva Isla**	**52.32**	**246**	*e*S		**S**	**23**	**23**	**17.8 +5.9**
	comp=Z,534nm,27.9s								
TAOE				*e*LQ		LQ	23	28	51.0
	comp=Z,5µm,32.3s								
TAOE				*e*LR		LR	23	30	38.4
	comp=Z,3µm,27.4s,baz=66								
TAOE	**Nuku Hiva Isla**	**52.32**	**246**	*e*T		T	00	11	05.3
	comp=Z,388nm,0.3s								
GO05	**HualaæØ**	**53.73**	**158**	*e*P		**P**	**23**	**15**	**59.5 -0.9**
	comp=Z,33nm,0.8s								
CPUP	**Villa Florida**	**53.91**	**139**	P		**P**	**23**	**15**	**59.9 -2.0**
	comp=Z,21nm,0.9s,baz=328,slow=7.4,SNR=33								
CPUP				LR		LR	23	40	21.8
	comp=Z,439nm,18.2s,baz=336,slow=38								
CPUP	**Villa Florida**	**53.91**	**139**	*e*P		**P**	**23**	**15**	**59.9 -2.0**
	comp=Z,33nm,1.0s								
SKAG	**Skagway**	**54.01**	**335**	*e*P		**P**	**23**	**16**	**04.2 +2.0**
	comp=Z,86nm,1.4s								
WHY	**Whitehorse**	**54.56**	**336**	*e*P		**P**	**23**	**16**	**08.0 +1.6**
	comp=Z,47nm,1.0s								
HYT	**Haines Junctio**	**55.69**	**335**	*e*P		**P**	**23**	**16**	**16.4 +1.9**
	comp=Z,89nm,1.3s								
RKT	**Rikitea**	**55.84**	**228**	*e*S		**S**	**23**	**24**	**05.2 +6.3**
	comp=Z,729nm,30.5s								
RKT				*e*SS		**SS**	**23**	**27**	**43.2 -2.4**
	comp=Z,238nm,29.8s								
RKT				*e*LR		LR	23	32	35.8
	comp=Z,5µm,27.5s,baz=44								
RKT	**Rikitea**	**55.84**	**228**	*e*T		T	00	15	44.0
	comp=Z,21nm,0.3s								
DAWY	**Dawson**	**58.27**	**338**	*e*P		**P**	**23**	**16**	**33.5 +0.8**
	comp=Z,19nm,1.0s								
BMRM	**Bremner River**	**58.72**	**333**	*e*P		**P**	**23**	**16**	**38.2 +2.3**
	comp=Z,86nm,1.3s								
SFJD	**Kangerlussuaq**	**58.83**	**18**	LR		LR	23	44	07.7
	comp=Z,1µm,19.1s,baz=231,slow=38								
SPB	**Sao Paulo**	**58.93**	**130**	*e*P		**P**	**23**	**16**	**35.3 -2.4**
	comp=Z,38nm,1.2s								
EYAK	**Cordova Ski Ar**	**59.03**	**333**	*e*P		**P**	**23**	**16**	**40.5 +2.6**
	comp=Z,76nm,1.2s								
INK	**Inuvik**	**59.10**	**344**	*e*P		**P**	**23**	**16**	**39.4 +1.2**
INK				pmax		pmax			
	comp=Z,127nm,1.0s								
INK	**Inuvik**	**59.10**	**344**	*e*P		**P**	**23**	**16**	**39.4 +1.2**
	comp=Z,127nm,1.0s								
DIV	**Divide**	**59.30**	**333**	*e*P		**P**	**23**	**16**	**40.9 +1.0**
	comp=Z,71nm,1.1s								
EGAK	**Eagle**	**59.31**	**338**	*e*P		**P**	**23**	**16**	**40.5 +0.7**
	comp=Z,61nm,1.1s								
EGAK				*e*pP		**pP**	**23**	**16**	**55.5 -0.7**
MENT	**Mentasta**	**59.31**	**336**	*e*P		**P**	**23**	**16**	**41.5 +1.6**
	comp=Z,55nm,1.3s								
PLCA	**Paso Flores**	**59.35**	**160**	P		**P**	**23**	**16**	**39.2 -1.2**
	comp=Z,19nm,0.9s,baz=360,slow=8.2,SNR=32								
PLCA				LR		LR	23	37	27.8
	comp=Z,550nm,18.4s,baz=16,slow=31								
PLCA	**Paso Flores**	**59.35**	**160**	*e*P		**P**	**23**	**16**	**39.7 -0.7**
PLCA				pmax		pmax			
	comp=Z,30nm,1.0s								
PLCA	**Paso Flores**	**59.35**	**160**	*e*P		**P**	**23**	**16**	**39.7 -0.7**
	comp=Z,30nm,1.0s								
KLU	**Klutina**	**59.53**	**334**	*e*P		**P**	**23**	**16**	**43.4 +2.0**
	comp=Z,79nm,1.0s								
RES	**Resolute Bay**	**59.62**	**359**	*e*P		**P**	**23**	**16**	**41.5 -0.2**
RES				pmax		pmax			
	comp=Z,47nm,0.8s								
RES	**Resolute Bay**	**59.62**	**359**	*e*P		**P**	**23**	**16**	**41.5 -0.2**
	comp=Z,47nm,0.8s								
HARP	**HAARP**	**59.63**	**335**	*e*P		**P**	**23**	**16**	**44.4 +2.3**
	comp=Z,122nm,1.0s								
DOT	**Dot Lake**	**59.80**	**336**	*e*P		**P**	**23**	**16**	**44.8 +1.6**
	comp=Z,302nm,1.1s								
DOT				*e*pP		**pP**	**23**	**16**	**60.0 +0.4**
PAX	**Paxson**	**60.03**	**335**	*e*P		**P**	**23**	**16**	**46.2 +1.3**
PAX				pmax		pmax			
	comp=Z,69nm,0.9s								
PAX	**Paxson**	**60.03**	**335**	*e*P		**P**	**23**	**16**	**46.2 +1.3**
	comp=Z,69nm,0.9s								
SCM	**Sheep Creek Mo**	**60.28**	**334**	*e*P		**P**	**23**	**16**	**48.2 +1.6**
SCM				pmax		pmax			
	comp=Z,58nm,1.1s								
SCM	**Sheep Creek Mo**	**60.28**	**334**	*e*P		**P**	**23**	**16**	**48.2 +1.6**
	comp=Z,58nm,1.1s								
RCBR	**Riachuelo**	**60.38**	**106**	P		**P**	**23**	**16**	**48.0 0.0**
RCBR	**Riachuelo**	**60.38**	**106**	*e*P		**P**	**23**	**16**	**48.7 +0.6**
	comp=Z,168nm,1.0s								
TRQA	**Tornquist**	**60.40**	**152**	P		**P**	**23**	**16**	**47.1 -0.5**
TRQA	**Tornquist**	**60.40**	**152**	*e*P		**P**	**23**	**16**	**45.7 -1.9**
	comp=Z,58nm,1.6s								
SML	**Sawmill**	**60.71**	**333**	*e*P		**P**	**23**	**16**	**50.8 +1.4**
SML				pmax		pmax			
	comp=Z,93nm,1.2s								
SML	**Sawmill**	**60.71**	**333**	*e*P		**P**	**23**	**16**	**50.8 +1.4**
	comp=Z,93nm,1.2s								
DHY	**Denali Highway**	**60.85**	**335**	*e*P		**P**	**23**	**16**	**50.9 +0.4**
	comp=Z,35nm,1.2s								
PMR	**Palmer**	**60.97**	**333**	*e*P		**P**	**23**	**16**	**52.5 +1.4**
PMR				pmax		pmax			
	comp=Z,60nm,1.1s								
PMR	**Palmer**	**60.97**	**333**	*e*P		**P**	**23**	**16**	**52.5 +1.4**
	comp=Z,60nm,1.1s								
RC01	**Rabbit Creek A**	**61.03**	**332**	*e*P		**P**	**23**	**16**	**53.1 +1.5**
	comp=Z,81nm,0.9s								
RC01				*e*pP		**pP**	**23**	**17**	**08.0 -0.1**
BRLK	**Bradley Lake**	**61.07**	**331**	*e*P		**P**	**23**	**16**	**53.4 +1.5**
	comp=Z,97nm,1.0s								
KDAK	**Kodiak Island**	**61.23**	**328**	*i* P		**P**	**23**	**16**	**54.2 +1.2**
HDA	**Harding Lake**	**61.28**	**336**	*e*P		**P**	**23**	**16**	**54.2 +0.9**
	comp=Z,131nm,1.4s								
IL1	**Eielson Array**	**61.42**	**337**	*e*P		**P**	**23**	**16**	**54.0 -0.2**
ILAR	**Eielson Array**	**61.42**	**337**	P		**P**	**23**	**16**	**55.0 +0.8**
	comp=Z,16nm,0.7s,baz=155,slow=4.7,SNR=172								
ILAR				LR		LR	23	46	49.9
	comp=Z,634nm,20.0s,baz=137,slow=39								
ILB	**Eielson Array**	**61.42**	**337**	*e*P		**P**	**23**	**16**	**55.0 +0.8**
KIP	**Kipapa**	**61.58**	**286⇑**	*e*P		**P**	**23**	**16**	**59.4 +3.4**
KIP				pmax		pmax			
	comp=Z,263nm,1.2s								
RND	**Reindeer**	**61.59**	**335**	*e*P		**P**	**23**	**16**	**57.0 +1.5**
RND				pmax		pmax			
	comp=Z,209nm,1.0s								
RND	**Reindeer**	**61.59**	**335**	*e*P		**P**	**23**	**16**	**57.0 +1.5**
	comp=Z,209nm,1.0s								
SUA	**Susitna One**	**61.63**	**333**	*e*P		**P**	**23**	**16**	**57.3 +1.5**
	comp=Z,70nm,1.0s								
FYU	**Fort Yukon**	**61.69**	**339**	*e*P		**P**	**23**	**16**	**57.7 +1.8**
FYU				*e*pP		**pP**	**23**	**17**	**13.2 +0.8**
CCB	**Clear Creek Bu**	**61.72**	**336**	*e*P		**P**	**23**	**16**	**56.3 +0.1**
	comp=Z,26nm,1.0s								

MCK	**McKinley**	**61.77**	**335**	*e*P		**P**	**23**	**16**	**57.8 +1.3**
MCK				pmax		pmax			
	comp=Z,105nm,1.0s								
MCK	**McKinley**	**61.77**	**335**	*e*P		**P**	**23**	**16**	**57.8 +1.3**
	comp=Z,105nm,1.0s								
PMOR	**Pomariorio Ree**	**61.83**	**244**	*e*T		T	00	23	18.7
	comp=Z,13nm,0.3s								
COLA	**College**	**61.84**	**337**	*e*P		**P**	**23**	**16**	**57.8 +0.9**
COLA				*e*PP		**pP**	**23**	**17**	**12.9 -0.5**
COLA				pmax		pmax			
	comp=Z,81nm,1.0s								
COLA	**College**	**61.84**	**337**	*e*P		**P**	**23**	**16**	**57.8 +0.9**
	comp=Z,81nm,1.0s								
COLA				*e*pP		**pP**	**23**	**17**	**12.9 -0.5**
MDM	**Murphy Dome**	**62.02**	**337**	*e*P		**P**	**23**	**16**	**58.8 +0.6**
	comp=Z,105nm,1.7s								
SPU	**Mount Spurr**	**62.11**	**332**	*e*P		**P**	**23**	**17**	**00.0 +1.1**
TRF	**Thorofare Moun**	**62.20**	**335**	*e*P		**P**	**23**	**17**	**00.8 +1.1**
	comp=Z,154nm,1.0s								
TRF				*e*pP		**pP**	**23**	**17**	**15.7 -0.5**
KTH	**Kantishna Hill**	**62.50**	**335**	*e*P		**P**	**23**	**17**	**02.4 +0.9**
	comp=Z,92nm,1.0s								
KULLO	**Kullorsuaq**	**62.72**	**10⇑**	*i*P		**P**	**23**	**17**	**03.6 +0.9**
	comp=Z,81nm,1.1s								
KULLO	**Kullorsuaq**	**62.72**	**10⇑**	*i*P		**P**	**23**	**17**	**03.6 +0.9**
KULLO				pmax		pmax			
	comp=Z,81nm,1.1s								
BPAW	**Bear Paw Mtn.**	**62.74**	**335**	*e*P		**P**	**23**	**17**	**03.9 +0.9**
	comp=Z,85nm,1.0s								
TULEG	**Thule**	**62.77**	**6**	*e*P		**P**	**23**	**17**	**03.7 +0.7**
	comp=Z,177nm,1.8s								
PPLA	**Purkeypile**	**62.79**	**334**	*e*P		**P**	**23**	**17**	**04.3 +0.7**
	comp=Z,137nm,1.3s								
CAST	**Castle Rocks**	**62.94**	**334**	*e*P		**P**	**23**	**17**	**04.9 +0.5**
	comp=Z,87nm,1.0s								
MLY	**Manley**	**63.02**	**336**	*e*P		**P**	**23**	**17**	**05.9 +1.0**
	comp=Z,100nm,1.0s								
SVW2	**Sparrevohn**	**63.70**	**331**	*e*P		**P**	**23**	**17**	**09.9 +0.5**
	comp=Z,87nm,1.0s								
COLD	**Coldfoot**	**63.73**	**339**	*e*P		**P**	**23**	**17**	**11.5 +1.9**
	comp=Z,116nm,1.4s								
CHGN	**Chignik**	**63.91**	**326**	*e*P		**P**	**23**	**17**	**11.4 +0.6**
	comp=Z,115nm,1.0s								
TOLK	**Toolik Lake Re**	**64.14**	**340**	P		**P**	**23**	**17**	**13.5 +1.2**
	baz=116,SNR=31								
TOLK	**Toolik Lake Re**	**64.14**	**340**	*e*P		**P**	**23**	**17**	**13.8 +1.5**
	comp=Z,123nm,1.5s								
PPT2	**Papeete2**	**64.43**	**242**	*e*SS		SS	23	30	07.7 +6.9
	comp=Z,510nm,27.2s								
CHRN	**Cochrane**	**64.72**	**165**	*e*P		**P**	**23**	**17**	**16.0 -0.2**
	comp=Z,5,4nm,0.8s								
SUMG	**Summit**	**65.50**	**16**	*i* P		**P**	**23**	**17**	**22.5 +1.1**
	comp=Z,32nm,1.0s								
SUMG	**Summit**	**65.50**	**16**	*i* P		**P**	**23**	**17**	**22.5 +1.1**
SUMG				pmax		pmax			
	comp=Z,32nm,1.0s								
SUMG	**Summit**	**65.50**	**16**	*e*P		**P**	**23**	**17**	**21.7 +0.3**
	comp=Z,252nm,2.0s								
FALS	**False Pass**	**66.47**	**324**	*e*P		**P**	**23**	**17**	**28.4 +1.0**
	comp=Z,139nm,0.7s								
TBI	**Tubuai**	**67.03**	**236**	*e*LR		LR	23	37	41.6
	comp=Z,2µm,29.5s,baz=56								
TBI	**Tubuai**	**67.03**	**236**	*e*T		T	00	29	44.4
	comp=Z,20nm,0.3s								
BORG	**Borgarnes**	**68.72**	**26**	LR		LR	23	46	57.5
	comp=Z,906nm,21.9s,baz=271,slow=35								
PMOZ	**Porto Moniz, M**	**70.30**	**60

BILL	**Bilibino**	**80.06**	**338**	*c*	*i*P		**P**	**23 18 48.4**	**+1.1**
BILL					*e*			23 19 04.5	
BILL					*e*			23 21 49.6	
BILL					*e*S		**S**	**23 28 46.9**	**+0.4**
BILL					*e*SS		**SS**	**23 33 58.5**	**+1.4**
BILL						pmax	pmax		
	comp=Z,73nm,0.8s								
BILL						MLR	MLR		
	comp=Z,727nm,23.0s								
FOO	**Floro**	**80.71**	**29**		*e*P		**P**	**23 18 51.7**	**+0.8**
FOO						IAmb	IAmb	23 18 57.1	
	comp=Z,238nm,2.1s								
SUE	**Sulen**	**80.71**	**29**		*e*P		**P**	**23 18 55.1**	**+4.2**
SUE						IAmb	IAmb	23 18 56.9	
	comp=Z,84nm,1.6s								
ASCN	**Ascension**	**81.32**	**101**		*e*P		**P**	**23 18 54.8**	**-0.3**
	comp=Z,287nm,1.2s								
AKN	**Aaknes**	**81.45**	**28**		*e*P		**P**	**23 18 55.3**	**+0.4**
AKN						IAmb	IAmb	23 19 03.4	
	comp=Z,735nm,2.8s								
BLS5	**Blasjo**	**81.95**	**31**		*e*P		**P**	**23 18 57.5**	**-0.1**
BLS5						IAmb	IAmb	23 19 00.1	
	comp=Z,172nm,2.2s								
LOF	**Lofoten**	**82.19**	**21**		*e*P		**P**	**23 19 00.9**	**+2.3**
LOF						IAmb	IAmb	23 19 06.0	
	comp=Z,167nm,1.5s								
DOMB	**Dombas**	**82.42**	**28**		*e*P		**P**	**23 18 59.9**	**0.0**
DOMB						IAmb	IAmb	23 19 04.0	
	comp=Z,34nm,1.1s								
KONS	**Konsvik**	**82.62**	**23**		*e*P		**P**	**23 19 03.0**	**+2.2**
KONS						IAmb	IAmb	23 19 06.0	
	comp=Z,27nm,0.8s								
STOK	**Stokkvaagen**	**82.64**	**23**		*e*P		**P**	**23 19 02.9**	**+1.9**
STOK						IAmb	IAmb	23 19 05.8	
	comp=Z,151nm,1.6s								
NSS	**Namsos**	**82.86**	**25**		*e*P		**P**	**23 19 00.1**	**-2.0**
STEI	**Steigen**	**82.86**	**21**		*e*P		**P**	**23 19 03.9**	**+1.9**
STEI						IAmb	IAmb	23 19 04.5	
	comp=Z,31nm,0.8s								
AFI	**Afiamalu**	**82.94**	**254**		LR		LR	23 46 09.3	
	comp=Z,560nm,21.9s,baz=70,slow=28								
MOR8	**Moi Rana**	**83.24**	**23**		*e*P		**P**	**23 19 05.0**	**+0.9**
MOR8						IAmb	IAmb	23 19 06.8	
	comp=Z,54nm,1.1s								
HOMB	**Homborsund**	**83.31**	**31**		*e*P		**P**	**23 19 04.8**	**+0.3**
HOMB						IAmb	IAmb	23 19 06.2	
	comp=Z,15nm,1.1s								
TRO	**Tromso**	**83.39**	**19**		*e*P		**P**	**23 19 06.6**	**+1.9**
TRO						IAmb	IAmb	23 19 07.2	
	comp=Z,354nm,1.7s								
KONO	**Kongsberg**	**83.42**	**30**		*e*P		**P**	**23 19 07.9**	**+2.8**
KONO						pmax	pmax		
	comp=Z,158nm,1.9s								
KONO	**Kongsberg**	**83.42**	**30**		*e*P		**P**	**23 19 07.9**	**+2.8**
	comp=Z,158nm,1.9s								
KONO	**Kongsberg**	**83.42**	**30**		*e*P		**P**	**23 19 04.7**	**-0.4**
KONO						IAmb	IAmb	23 19 08.9	
	comp=Z,271nm,2.2s								
NC204	**NORSAR Array S**	**83.44**	**28**		*e*P		**P**	**23 19 06.1**	**+0.8**
NC204						IAmb	IAmb	23 19 09.0	
	comp=Z,736nm,2.4s								
DOU	**Dourbes**	**83.44**	**40**	⇑	P		**P**	**23 19 04.7**	**-0.7**
NBO00	**NORSAR Array S**	**83.52**	**28**		*e*P		**P**	**23 19 05.6**	**-0.1**
NBO00						IAmb	IAmb	23 19 09.2	
	comp=Z,52nm,0.8s								
NAO01	**NORSAR Array S**	**83.64**	**29**		*e*P		**P**	**23 19 06.9**	**+0.6**
NAO01						IAmb	IAmb	23 19 09.2	
	comp=Z,255nm,1.6s								
NB2	**NORSAR Subarra**	**83.72**	**28**		P		**P**	**23 19 06.4**	**-0.3**
	comp=Z,69nm,1.4s,baz=290,slow=5.3								
NB2	**NORSAR Subarra**	**83.72**	**28**		P		**P**	**23 19 06.4**	**-0.3**
	baz=290,slow=5.3								
NOA	**NORSAR Array B**	**83.72**	**28**		P		**P**	**23 19 06.6**	**-0.1**
	comp=Z,6.4nm,0.8s,baz=296,slow=5.1,SNR=23								
NOA						LR	LR	23 55 26.0	
	comp=Z,780nm,21.5s,baz=290,slow=35								
NOA	**NORSAR Array B**	**83.72**	**28**		P		**P**	**23 19 06.6**	**-0.1**
NOA						pmax	pmax		
	comp=Z,8.0nm,0.8s								
NOA						MLR	MLR		
	comp=Z,780nm,21.5s								
NC303	**NORSAR Array S**	**83.73**	**28**		*e*P		**P**	**23 19 06.0**	**-0.7**
NC303						IAmb	IAmb	23 19 09.9	
	comp=Z,196nm,1.8s								
NB201	**NORSAR Array S**	**83.75**	**28**		*e*P		**P**	**23 19 05.7**	**-1.2**
NB201						IAmb	IAmb	23 19 09.8	
	comp=Z,557nm,2.1s								
BCLA	**Clavier**	**83.80**	**40**	⇑	P		**P**	**23 19 05.6**	**-1.6**
	comp=Z,9.0nm,1.2s								
OSL	**Oslo**	**83.86**	**29**		*e*P		**P**	**23 19 07.0**	**-0.3**
OSL						IAmb	IAmb	23 19 10.2	
	comp=Z,55nm,1.1s								
NC602	**NORSAR Array S**	**83.98**	**29**		*e*P		**P**	**23 19 07.3**	**-0.7**
NC602						IAmb	IAmb	23 19 10.7	
	comp=Z,408nm,1.2s								
MEM	**Membach**	**84.17**	**39**	⇑	P		**P**	**23 19 08.8**	**-0.4**
	comp=Z,4.7nm,0.7s								
MUD	**Monsted U'grnd**	**84.22**	**33**		*e*P		**P**	**23 19 08.0**	**-1.3**
KIF	**Kilpisjarvi**	**84.27**	**19**		*e*P		**P**	**23 19 09.6**	**+0.4**
HAMF	**Hammerfest**	**84.35**	**17**		*e*P		**P**	**23 19 11.0**	**+1.4**
HAMF						IAmb	IAmb	23 19 11.4	
	comp=Z,102nm,1.3s								
WLF	**Walferdange**	**84.53**	**40**	⇑	P		**P**	**23 19 11.3**	**+0.3**
	comp=Z,11nm,1.7s								
WLF	**Walferdange**	**84.53**	**40**		*e*P		**P**	**23 19 10.2**	**-0.8**
WLF						pmax	pmax		
	comp=Z,15nm,1.0s								
WLF	**Walferdange**	**84.53**	**40**		*e*P		**P**	**23 19 10.2**	**-0.8**
	comp=Z,15nm,1.0s								
SSB	**Saint Sauveur**	**84.72**	**45**		*e*P		**P**	**23 19 13.8**	**+1.7**
SSB						pmax	pmax		
	comp=Z,33nm,1.8s								
SSB	**Saint Sauveur**	**84.72**	**45**		*e*P		**P**	**23 19 13.8**	**+1.7**
	comp=Z,33nm,1.8s								
HFS	**Hagfors**	**85.19**	**29**		P		**P**	**23 19 13.7**	**-0.4**
	comp=Z,7.1nm,0.7s,baz=266,slow=5.5,SNR=11								
HFS						LR	LR	23 55 58.6	
	comp=Z,970nm,21.4s,baz=286,slow=35								
ARCES	**ARCESS Array B**	**85.46**	**18**		P		**P**	**23 19 15.3**	**0.0**
	comp=Z,28nm,0.7s,baz=298,slow=4.4,SNR=119								
ARCES						LR	LR	23 57 32.6	
	comp=Z,842nm,21.9s,baz=308,slow=36								
ARCES	**ARCESS Array B**	**85.46**	**18**		*e*P		**P**	**23 19 15.5**	**+0.2**
ARCES	**ARCESS Array B**	**85.46**	**18**		*e*P		**P**	**23 19 15.5**	**+0.2**
ARE0	**ARCESS Array S**	**85.46**	**18**		*e*P		**P**	**23 19 16.1**	**+0.9**
ARE0	**ARCESS Array S**	**85.46**	**18**		*e*P		**P**	**23 19 16.0**	**+0.8**
ARE0						IAmb	IAmb	23 19 16.5	
	comp=Z,44nm,0.8s								
HEF	**Hetta**	**85.47**	**19**		*e*P		**P**	**23 19 15.5**	**+0.1**
KOWA	**Kowa**	**85.48**	**76**		LR		LR	23 52 45.4	
	comp=Z,517nm,21.7s,baz=282,slow=32								
KOWA	**Kowa**	**85.48**	**76**		*e*P		**P**	**23 19 14.7**	**-1.7**
	comp=Z,78nm,1.6s								
ECH	**Echery**	**85.59**	**41**		*e*P		**P**	**23 19 14.3**	**-2.1**
ECH						pmax	pmax		
	comp=Z,22nm,1.3s								
ECH	**Echery**	**85.59**	**41**		*e*P		**P**	**23 19 14.3**	**-2.1**
	comp=Z,22nm,1.3s								
KEV	**Kevo**	**85.78**	**18**		*e*P		**P**	**23 19 17.6**	**+0.8**
KEV						pmax	pmax		
	comp=Z,43nm,0.7s								
KEV	**Kevo**	**85.78**	**18**		*e*P		**P**	**23 19 17.6**	**+0.8**
	comp=Z,43nm,0.7s								
BNI	**Bardonecchia**	**86.23**	**44**		*e*P		**P**	**23 19 18.1**	**-1.7**
BNI						pmax	pmax		
	comp=Z,19nm,1.3s								
BNI	**Bardonecchia**	**86.23**	**44**		*e*P		**P**	**23 19 18.1**	**-1.7**
	comp=Z,19nm,1.3s								
SENIN	**Lac Senin/Sane**	**86.25**	**43**		*e*P		**P**	**23 19 18.8**	**-1.2**
	comp=Z,13nm,1.0s								
BFO	**Black Forest**	**86.30**	**41**		*e*P		**P**	**23 19 19.1**	**-0.8**
BFO	**Black Forest**	**86.30**	**41**		*e*P		**P**	**23 19 19.1**	**-0.8**
TIC	**Toumodi**	**86.48**	**84**		*e*P		**P**	**23 19 18.7**	**-2.7**
LIC	**Lamto**	**86.58**	**85**		*e*P		**P**	**23 19 19.8**	**-2.1**
	comp=Z,79nm,0.9s								
DBIC	**Dimbokro**	**86.63**	**84**		P		**P**	**23 19 19.6**	**-2.5**
	comp=Z,10nm,0.9s,baz=266,slow=4.3,SNR=16								
DBIC						LR	LR	23 56 56.8	
	comp=Z,148nm,19.5s,baz=272,slow=35								
DBIC	**Dimbokro**	**86.63**	**84**		*e*P		**P**	**23 19 20.2**	**-1.9**
DBIC						pmax	pmax		
	comp=Z,109nm,2.0s								
DBIC	**Dimbokro**	**86.63**	**84**		*e*P		**P**	**23 19 20.2**	**-1.9**
	comp=Z,109nm,2.0s								
STU	**Stuttgart**	**86.71**	**40**		*e*P		**P**	**23 19 21.3**	**-0.6**
STU						pmax	pmax		
	comp=Z,19nm,0.8s								
STU	**Stuttgart**	**86.71**	**40**		*e*P		**P**	**23 19 21.3**	**-0.6**
	comp=Z,19nm,0.8s								
KIC	**Kosan Boka**	**86.82**	**84**		*e*P		**P**	**23 19 20.8**	**-2.3**
	comp=Z,44nm,0.9s								
SEY	**Seymchan**	**87.32**	**335**		P		**P**	**23 19 25.6**	**+1.1**
	comp=Z,12nm,0.9s,baz=93,slow=4.8,SNR=30								
SEY	**Seymchan**	**87.32**	**335**	⇑	*e*P		**P**	**23 19 25.3**	**+0.8**
TUE	**Stuetta**	**87.56**	**42**		*e*P		**P**	**23 19 24.4**	**-1.8**
	comp=Z,26nm,1.4s								
DAVA	**Damuels**	**87.63**	**42**		*e*P		**P**	**23 19 25.7**	**-0.8**
	comp=Z,13nm,1.1s								
GRFO	**Grafenberg**	**87.64**	**39**		*e*P		**P**	**23 19 25.0**	**-1.3**
GRFO						pmax	pmax		
	comp=Z,49nm,1.7s								
GRFO	**Grafenberg**	**87.64**	**39**		*e*P		**P**	**23 19 25.0**	**-1.3**
	comp=Z,49nm,1.7s								
FUORN	**Ofenpass-Fuorn**	**88.10**	**42**		*e*P		**P**	**23 19 28.3**	**-0.6**
	comp=Z,63nm,1.9s								
CLL	**Collm**	**88.12**	**37**		*e*P		**P**	**23 19 28.0**	**-0.6**
CLL	**Collm**	**88.12**	**37**		*e*P		**P**	**23 19 28.0**	**-0.6**
CLL					*e*			23 20 10.0	
CLL					*e*PP		**PP**	**23 22 58.0**	**+2.3**
CLL					*e*SKKSac		**S**	**23 30 00.0**	**-7.8**
CLL					*e*PS		**PS**	**23 31 18.0**	**-0.3**
CLL					*e*SS		**SS**	**23 36 06.0**	**+9.3**
CLL					*e*SSS		SSS	23 39 30.0	
RETA	**Reutte**	**88.13**	**41**		*e*P		**P**	**23 19 27.9**	**-0.9**
	comp=Z,9.6nm,1.0s								
FETA	**Feichten**	**88.27**	**42**		*e*P		**P**	**23 19 28.8**	**-0.8**
	comp=Z,6.7nm,1.0s								
MOTA	**Moosalm**	**88.39**	**41**		*e*P		**P**	**23 19 29.1**	**-1.0**
	comp=Z,1.8nm,0.6s								
PET	**Petropavlovsk**	**88.65**	**325**		*e*P		P	23 19 40.6	+10
PET					*e*S		S	23 30 23.4	+11
PET						MLR	MLR		
	comp=Z,400nm,18.0s								
BRG	**Berggiesshubel**	**88.83**	**37**		*e*P		**P**	**23 19 31.6**	**-0.4**
	comp=Z,4.8nm,0.9s								
BRG	**Berggiesshubel**	**88.83**	**37**		S		**S**	**23 30 15.0**	**+0.4**
BRG					SS		SS	23 36 23.0	+16
BRG	**Berggiesshubel**	**88.83**	**37**		*e*P		**P**	**23 19 31.6**	**-0.4**
BRG					S		**S**	**23 30 15.0**	**+0.4**
BRG						pmax	pmax		
	comp=Z,5.0nm,0.9s								
BRG						MLR	MLR		
	comp=N,778nm,26.8s								
BRG						MLR	MLR		
	comp=E,581nm,24.7s								
BRG						MLR	MLR		
	comp=Z,1μm,27.8s								
APA	**Apatity**	**88.97**	**18**	⇓	*i*P		**P**	**23 19 31.2**	**-1.0**
APA						pmax	pmax		
	comp=Z,11nm,1.0s								
TIXI	**Tiksi**	**88.98**	**348**		*c i*P		**P**	**23 19 31.9**	**-0.3**
TIXI						pmax	pmax		
	comp=Z,101nm,2.5s								
TIXI	**Tiksi**	**88.98**	**348**		*e*P		**P**	**23 19 31.9**	**-0.3**
	comp=Z,63nm,1.3s								
VLC	**Villacollemand**	**89.03**	**44**		*e*P		**P**	**23 19 32.3**	**-0.7**
	comp=Z,6.4nm,0.9s								
LVZ	**Lovozero**	**89.12**	**17**		*de*P		**P**	**23 19 33.3**	**+0.3**
LVZ						pmax	pmax		
	comp=Z,51nm,1.7s								
LVZ	**Lovozero**	**89.12**	**17**		*e*P		**P**	**23 19 33.2**	**+0.3**
	comp=Z,43nm,1.0s								
PETK	**Petropavlovsk-**	**89.14**	**325**		P		**P**	**23 19 34.7**	**+1.4**
	comp=Z,2.9nm,0.7s,baz=64,slow=9.8,SNR=2.9								
KHC	**Kasperske Hory**	**89.28**	**39**		*e*P		**P**	**23 19 33.2**	**-1.0**
KHC					*ex*		x	23 19 46.5	
KHC					*ex*		x	23 20 14.0	
KHC					*e*SKS		**SKSac**	**23 30 03.9**	**+4.9**
KHC	**Kasperske Hory**	**89.28**	**39**		*e*P		**P**	**23 19 33.2**	**-1.0**
KHC					*e*			23 19 46.5	
KHC					*e*			23 30 03.9	
KHC	**Kasperske Hory**	**89.28**	**39**		*e*P		**P**	**23 19 33.4**	**-0.7**
	comp=Z,3.1nm,1.1s								
GEC2	**GERESS Array S**	**89.47**	**39**		*e*P		**P**	**23 19 34.4**	**-0.7**
GEC2	**GERESS Array S**	**89.47**	**39**		*e*P		**P**	**23 19 34.4**	**-0.7**
GERES	**GERESS Array B**	**89.47**	**39**		P		**P**	**23 19 33.6**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=329,slow=2.3,SNR=22								
GERES						LR	LR	23 56 37.8	
	comp=Z,864nm,22.0s,baz=286,slow=34								
GEA0	**GERESS Array S**	**89.47**	**39**		*e*P		**P**	**23 19 33.8**	**-1.3**
ABTA	**Abfaltersbach**	**89.51**	**41**		*e*P		**P**	**23 19 33.8**	**-1.5**
	comp=Z,3.4nm,0.7s								
PRU	**Pruhonice**	**89.53**	**38**		*e*P		**P**	**23 19 35.1**	**-0.1**
PRU	**Pruhonice**	**89.53**	**38**		*e*P		**P**	**23 19 35.1**	**-0.1**
MA2	**Magadan**	**89.64**	**333**		*ce*P		**P**	**23 19 36.5**	**+0.9**
	comp=Z,3.4nm,0.2s,baz=62,slow=5.4,SNR=15								
MA2	**Magadan**	**89.64**	**333**		*ce*P		**P**	**23 19 36.3**	**+0.7**
KBA	**Koelnbreinsper**	**89.91**	**41**		*e*P		**P**	**23 19 36.6**	**-0.7**
	comp=Z,4.2nm,1.1s								
FINES	**FINESS Array B**	**89.99**	**25**		P		**P**	**23 19 36.3**	**-0.8**
	comp=Z,7.9nm,0.7s,baz=292,slow=1.9,SNR=23								
FIA1	**FINESS Array S**	**89.99**	**25**		*e*P		**P**	**23 19 37.5**	**+0.4**
	comp=Z,98nm,1.8s								
UPC	**Upice**	**90.19**	**37**		*e*P		**P**	**23 19 38.2**	**-0.1**
UPC	**Upice**	**90.19**	**37**		*e*P		**P**	**23 19 38.2**	**-0.1**
MOA	**Molln**	**90.20**	**40**		*e*P		**P**	**23 19 37.0**	**-1.4**
	comp=Z,3.7nm,1.1s								
DPC	**Dobruska-Polom**	**90.43**	**37**		*e*P		**P**	**23 19 38.7**	**-0.8**
DPC					*e*S		**S**	**23 30 29.3**	**-0.3**
DPC	**Dobruska-Polom**	**90.43**	**37**		*e*P		**P**	**23 19 38.7**	**-0.8**
DPC					*e*			23 30 29.3	
OBKA	**Obir**	**90.90**	**41**		*e*PcP		**P**	**23 19 42.2**	**+0.4**
	comp=Z,6.7nm,1.1s								
KEST	**Kesra**	**91.11**	**53**		P		**P**	**23 19 42.8**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=224,slow=2.1,SNR=6.7								
KEST						LR	LR	23 56 16.0	
	comp=Z,282nm,21.7s,baz=277,slow=33								
SOKA	**Soboth**	**91.14**	**41**		*e*PcP		**P**	**23 19 43.1**	**+0.2**
	comp=Z,4.9nm,0.9s								
CONA	**Conrad Observa**	**91.15**	**39**		*e*P		**P**	**23 19 41.7**	**-1.2**
	comp=Z,2.2nm,0.8s								
TOA0	**Torodi Ar. Sit**	**91.19**	**76**		*e*P		**P**	**23 19 41.0**	**-2.6**
TORD	**Torodi Ar. Bea**	**91.19**	**76**		P		**P**	**23 19 40.6**	**-3.0**
	comp=Z,1.4nm,0.8s,baz=292,slow=4.8,SNR=12								
TORD						LR	LR	23 56 07.8	
	comp=Z,506nm,22.0s,baz=275,slow=33								
ARSA	**Arzberg**	**91.22**	**40**		*e*P		**P**	**23 19 41.6**	**-1.5**
	comp=Z,2.0nm,0.7s								
MORC	**Moravsky Berou**	**91.39**	**37**		*e*P		**P**	**23 19 43.5**	**-0.5**
MORC						pmax	pmax		
	comp=Z,41nm,1.4s								
MORC	**Moravsky Berou**	**91.39**	**37**		*e*P		**P**	**23 19 43.5**	**-0.5**
	comp=Z,41nm,1.4s								
MODS	**Modra-Piesok**	**91.83**	**39**		*e*P		**P**	**23 19 46.3**	**+0.3**
MODS	**Modra-Piesok**	**91.83**	**39**		*e*P		**P**	**23 19 46.3**	**+0.3**
TAM	**Tamanrasset**	**91.98**	**66**		*e*P		**P**	**23 19 46.4**	**-1.0**
TAM						pmax	pmax		
	comp=Z,6.0nm,1.0s								
TAM	**Tamanrasset**	**91.98**	**66**		*e*P		**P**	**23 19 46.4**	**-1.0**
	comp=Z,6.4nm,1.0s								
TMCR	**Tamitsa**	**92.65**	**19**		*e*P		**P**	**23 19 48.4**	**-1.0**
VYHS	**Vyhne**	**92.71**	**38**		*e*P		**P**	**23 19 49.6**	**-0.5**
VYHS	**Vyhne**	**92.71**	**38**		*e*P		**P**	**23 19 49.6**	**-0.5**
LANS	**Liptovska Anna**	**92.79**	**37**		*e*P		**P**	**23 19 51.5**	**+1.0**
LANS	**Liptovska Anna**	**92.79**	**37**		*e*P		**P**	**23 19 51.5**	**+1.0**
PSZ	**Piszkesteto**	**93.60**	**38**		*e*P		**P**	**23 19 54.9**	**+0.6**
PSZ	**Piszkesteto**	**93.60**	**38**		*e*P		**P**	**23 19 54.9**	**+0.6**
NACGM	**Naroch**	**93.85**	**30**		*e*		**P**	**23 19 54.0**	**-1.1**
NACGM					*e*LR		LR	23 54 12.0	
CRVS	**Cervenica-Dubn**	**94.07**	**37**		*e*P		**P**	**23 19 56.8**	**+0.5**
CRVS	**Cervenica-Dubn**	**94.07**	**37**		*e*P		**P**	**23 19 56.8**	**+0.5**
VAE	**Valguarnera**	**94.30**	**50**		LR		LR	23 56 55.4	
	comp=Z,930nm,21.6s,baz=330,slow=32								
UZH	**Uzhgorod**	**94.68**	**37**		*e*P		**P**	**23 19 57.1**	**-2.0**
UZH					*e*			23 20 06.9	
UZH					*e*			23 20 17.9	
KLMR	**Klimovskoe**	**95.45**	**21**		*e*P		**P**	**23 19 58.4**	**-3.8**
KLMR						pmax	pmax		
	comp=Z,27nm,1.5s								
KLMR	**Klimovskoe**	**95.45**	**21**		*e*P		**P**	**23 19 58.5**	**-3.8**
KLMR						AMP		23 20 03.1	
	comp=Z,27nm,1.5s								
KLMR						LQ	LQ	23 55 48.7	
KLMR						LQ	LQ	23 55 48.7	
KLMR						LR	LR	23 57 17.7	
BZS	**Buzias**	**95.72**	**40**	⇑	*i*P		**P**	**23 20 04.1**	**+0.2**
BZS	**Buzias**	**95.72**	**40**	⇑	P		**P**	**23 20 04.1**	**+0.2**
DRGR		**95.82**	**38**	⇓	*i*P		**P**	**23 20 04.5**	**+0.1**
DRGR		**95.82**	**38**	⇓	P		**P**	**23 20 04.5**	**+0.1**
YAK	**Yakutsk**	**96.09**	**341**		*e*P		**P**	**23 20 05.2**	**0.0**
YAK						pmax	pmax		
	comp=Z,14nm,1.2s								
YAK						pmax	pmax		
	comp=E,3.0nm,1.3s								
YAK						pmax	pmax		
	comp=N,4.0nm,1.6s								
MDVR	**Moldovita**	**96.17**	**41**	⇑	*i*P		**P**	**23 20 06.0**	**-0.1**
BURAR	**Bucovina Array**	**96.89**	**37**	⇓	*i*P		**P**	**23 20 09.3**	**0.0**
BURAR	**Bucovina Array**	**96.89**	**37**	⇓	P		**P**	**23 20 09.3**	**0.0**
KIEV	**Kiev**	**97.42**	**33**	⇓	*e*P		**P**	**23 20 11.2**	**-0.2**
KIEV						pmax	pmax		
	comp=Z,2.0nm,1.0s								
AKASG	**Malin Array Be**	**97.42**	**33**		P		**P**	**23 20 09.0**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=292,slow=5.1,SNR=5.0								
AKASG						LR	LR	00 03 43.8	
	comp=Z,398nm,21.5s,baz=300,slow=35								
AKASG	**Malin Array Be**	**97.42**	**33**	*ce*	P		**P**	**23 20 11.3**	**-0.2**
NKL	**Nikolayevsk**	**97.89**	**331**		*e*P		**P**	**23 20 12.0**	**-1.5**
VOIR		**97.91**	**39**	⇑	*i*P		Pdif	23 20 15.8	+1.8
VOIR		**97.91**	**39**	⇑	P		Pdif	23 20 15.8	+1.8
VTS	**Vitosha**	**98.17**	**42**	⇓	*i*P		**P**	**23 20 15.0**	**-0.3**
VTS	**Vitosha**	**98.17**	**42**	⇓	P		**P**	**23 20 15.0**	**-0.3**
OBN	**Obninsk**	**98.22**	**27**		*i*P		**P**	**23 20 14.5**	**-0.4**
OBN						pmax	pmax		
	comp=Z,20nm,1.6s								
OBN						MLR	MLR		
	comp=Z,596nm,20.0s								
MOS	**Moscow**	**98.25**	**26**		*e*P		**P**	**23 20 14.0**	**-1.1**
MOS					*e*			23 30 49.3	
MOS						pmax	pmax		
	comp=Z,42nm,1.5s								
MOS						MLR	MLR		
	comp=N,900nm,21.0s								
MOS						MLR	MLR		
	comp=E,900nm,21.0s								
MOS						MLR	MLR		
	comp=Z,1μm,21.0s								
MLR	**Muntele Rosu**	**98.42**	**38**		LR		LR	00 02 27.1	
	comp=Z,134nm,21.9s,baz=318,slow=34								
MLR	**Muntele Rosu**	**98.42**	**38**	⇓	*i*P		**P**	**23 20 15.8**	**-0.5**
MLR	**Muntele Rosu**	**98.42**	**38**	⇓	P		**P**	**23 20 15.8**	**-0.5**
SOKR	**Solikamsk**	**101.69**	**15**		*e*P		**Pdif**	**23 20 28.2**	**-2.1**
SOKR						pmax	pmax		
	comp=Z,23nm,1.3s								
SOKR						MLR	MLR		
	comp=Z,841nm,23.0s								
VSR	**Storozhevoye**	**102.00**	**28**	⇑	*e*P		**Pdif**	**23 20 32.6**	**+0.7**
ARU	**Arti**	**104.92**	**16**		P		**Pdif**	**23 20 45.1**	**+0.3**
ARU	**Arti**	**104.92**	**16**		*e*Pdif		**Pdif**	**23 20 44.7**	**-0.1**
DZM	**Mont Dzumac**	**105.00**	**251**		*e*LR		LR	23 55 29.2	
	comp=Z,1μm,23.6s								
BRTR	**Keskin Array B**	**106.34**	**40**		PKiKP		**PKiKP**	**23 25 03.6**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=266,slow=2.3,SNR=5.6								
BRVK	**Borovoye**	**110.65**	**11**	⇑	*i*PKiKP		**PKiKP**	**23 25 12.0**	**+1.7**
BRVK	**Borovoye**	**110.65**	**11**		*e*PKP		**PKiKP**	**23 25 11.4**	**+1.1**
BVAR	**Borovoye Array**	**110.70**	**11**		PKiKP		**PKiKP**	**23 25 10.3**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=0.0,slow=1.5,SNR=5.9								
BVAR						PP	**PP**	**23 25 48.1**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=326,slow=3.8,SNR=3.6								
ZALV	**Zalesovo Beam**	**111.23**	**1**		PKiKP		**PKiKP**	**23 25 10.4**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=310,slow=3.0,SNR=6.2								
ZALV						PP	**PP**	**23 25 49.7**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=349,slow=6.0,SNR=5.9								
**

LZH	Lanzhou	126.64	343	*e*PKP		**PKPdf**	23 25 42.3	+0.6	
LZH				SKS		**SKSdf**	23 32 42.4	-6.2	
LZH				AMB		AMB			
	comp=Z,190nm,5.9s								
LZH				LR		LR			
	comp=Z,320nm,16.4s								
LZH				LR		LR			
	comp=Z,450nm,19.0s								
LZH				LR		LR			
	comp=Z,590nm,19.7s								
XAN	**Xi'an**	**126.83**	**337**	PKP		**PKPdf**	**23 25 41.3**	**-0.6**	
XAN				AMB		AMB			
	comp=Z,140nm,4.3s								
WHN	**Wuhan**	**127.49**	**330**	PKP		**PKPdf**	**23 25 43.0**	**-0.2**	
STKA	**Stephens Creek**	**127.62**	**241**	PKP		**PKPdf**	**23 25 43.1**	**-0.3**	
	comp=Z,12nm,0.9s,baz=32,slow=2.2,SNR=6.2								
KMBO	**Kilima Mbogo**	**129.11**	**79**	PKP		**PKPdf**	**23 25 47.5**	**+0.5**	
	comp=Z,2.7nm,0.7s,baz=62,slow=2.2,SNR=7.4								
KMBO	**Kilima Mbogo**	**129.11**	**79**	*e*PKIKP		**PKPdf**	**23 25 48.1**	**+1.1**	
KMBO	**Kilima Mbogo**	**129.11**	**79**	*e*PKPdf		**PKPdf**	**23 25 48.1**	**+1.1**	
KMBO	**Kilima Mbogo**	**129.11**	**79**	P		**PKPdf**	**23 25 48.7**	**+1.7**	
SHME	**Shamm**	**129.35**	**36**	*i* P		**PKPdf**	**23 25 47.0**	**+0.1**	
	SNR=11								
NAZ	**Nazwa, Dubai**	**129.88**	**38**	P		**PKPdf**	**23 25 47.7**	**-0.2**	
	SNR=7.4								
NAZ	**Nazwa, Dubai**	**129.88**	**38**	*i* P		**PKPdf**	**23 25 46.4**	**-1.5**	
	SNR=13								
MSFE	**Esma-Masafi**	**129.89**	**37**	*i* P		**PKPdf**	**23 25 46.9**	**-1.1**	
	SNR=7.8								
ENH	**Enshi**	**129.93**	**334**	*e*PKPdf		**PKPdf**	**23 25 47.8**	**-0.1**	
MDH	**Madha**	**130.02**	**37**	*i* P		**PKPdf**	**23 25 47.1**	**-1.1**	
	SNR=5.9								
HATD	**Hatta, Dubai**	**130.28**	**38**	P		**PKPdf**	**23 25 48.1**	**-0.6**	
	SNR=9.9								
HATD	**Hatta, Dubai**	**130.28**	**38**	*i* P		**PKPdf**	**23 25 48.1**	**-0.6**	
	SNR=16								
ASHO	**Ashiyiah**	**130.34**	**38**	P		**PKPdf**	**23 25 48.3**	**-0.6**	
ASHO				S		**SKPbc**	**23 29 12.0**	**+5.0**	
ASHO	**Ashiyiah**	**130.34**	**38**	*i* P		**PKPdf**	**23 25 47.8**	**-1.0**	
	SNR=9.3								
ALNE	**Al Ain**	**130.63**	**39**	*i* P		**PKPdf**	**23 25 48.5**	**-0.9**	
	SNR=11								
SOHO	**SOHO**	**131.04**	**38**	*i* P		**PKPdf**	**23 25 48.8**	**-1.3**	
	SNR=6.2								
CD2	**Chengdu**	**131.48**	**341**	PKP		**PKPdf**	**23 25 50.0**	**-0.9**	
CD2				sPKP			23 26 13.0		
CD2				SKKS			23 34 59.0		
CD2				SS		**SS**	**23 45 39.3**	**+2.2**	
CD2				AMB		AMB			
	comp=Z,160nm,5.6s								
CD2				LR		LR			
	comp=Z,830nm,20.8s								
CD2				LR		LR			
	comp=Z,590nm,18.9s								
CD2				LR		LR			
	comp=Z,460nm,17.9s								
DHRM	**DHARAMSHALA**	**131.86**	**12**	*e*P		**PKPdf**	**23 25 50.8**	**-1.0**	
DHRM				IAMs_20	IAMs_20	00 10 36.2			
	comp=Z,300nm,8.4s								
BIDO	**Bidbid**	**132.44**	**37**	P		**PKPdf**	**23 25 52.8**	**0.0**	
	SNR=5.6								
WSAR	**Wadi Sarin**	**132.95**	**36**	PKP		**PKPdf**	**23 25 53.5**	**-0.3**	
	comp=Z,6.3nm,0.5s,baz=259,slow=1.1,SNR=17								
SMLA	**Simla**	**133.12**	**11**	*e*P		**PKPdf**	**23 25 53.9**	**+0.1**	
DDI	**Dehra Dun**	**134.07**	**11**	*e*P		**PKPdf**	**23 25 55.1**	**-0.7**	
GYA	**Guiyang**	**134.45**	**335**	*e*Pdif		**Pdif**	**23 22 55.0**	**-1.9**	
GYA				PKP		**PKPdf**	**23 25 56.0**	**-0.7**	
GYA				PP		**PP**	**23 28 32.0**	**+4.0**	
GYA				AMB		AMB			
	comp=Z,130nm,8.2s								
WRAB	**Tennant Creek**	**134.58**	**257**	*e*PKIKP		**PKPdf**	**23 25 56.7**	**-0.2**	
WRAB	**Tennant Creek**	**134.58**	**257**	*e*PKPdf		**PKPdf**	**23 25 56.6**	**-0.2**	
WRA	**Warramunga Arr**	**134.59**	**257**	PKP		**PKPdf**	**23 25 57.2**	**+0.3**	
	comp=Z,4.3nm,0.9s,baz=66,slow=1.6,SNR=5.8								
WRA				PKKP		**PKKPdf**	**23 35 43.0**	**+0.8**	
	comp=Z,0.4nm,0.6s,baz=283,slow=1.8,SNR=5.4								
WRA	**Warramunga Arr**	**134.59**	**257**	*c i*PKIKP		**PKPdf**	**23 26 02.7**	**+5.8**	
WRA				pmax		pmax			
	comp=Z,4.0nm,0.7s								
ASAR	**Alice Springs**	**134.98**	**252**	PKP		**PKPdf**	**23 25 58.6**	**+1.0**	
	comp=Z,3.3nm,0.8s,baz=111,slow=1.9,SNR=5.2								
LSA	**Lhasa**	**135.29**	**355**	PKP		**PKPdf**	**23 26 00.8**	**+2.2**	
LSA	**Lhasa**	**135.29**	**355**	*e*PKIKP		**PKPdf**	**23 25 59.3**	**+0.7**	
LSA	**Lhasa**	**135.29**	**355**	*e*PKPdf		**PKPdf**	**23 25 59.3**	**+0.7**	
LSA	**Lhasa**	**135.29**	**355**	*i* P		**PKPdf**	**23 25 58.7**	**+0.1**	
	SNR=6.5								
DANN	**Dangsing**	**136.72**	**4**	*e*P		PKPpre	23 25 48.3		
PYUN	**Piuthan**	**136.91**	**5**	*e*P		PKPpre	23 25 48.6		
KMI	**Kunming**	**137.15**	**339**	PKP		**PKPdf**	**23 25 58.8**	**-3.1**	
KMI				PP		**PP**	**23 28 47.0**	**+2.0**	
KMI				SS		SS	23 46 48.3	+2.4	
KMI				AMB		AMB			
	comp=Z,130nm,3.1s								
KMI				LR		LR			
	comp=Z,390nm,21.5s								
KMI				LR		LR			
	comp=Z,200nm,19.9s								
KMI				LR		LR			
	comp=Z,490nm,22.3s								
GUN	**Gumba**	**137.26**	**1**	*e*P		PKPpre	23 25 51.2		
KOLN	**Koldanda**	**137.29**	**4**	*e*P		PKPpre	23 25 50.4		
KKN	**Kakani**	**137.36**	**2**	*e*P		PKPpre	23 25 51.5		
PKIN	**Phulchoki**	**137.57**	**2**	*e*P		PKPpre	23 25 51.4		
PKI	**Pulchoki**	**137.58**	**2**	*e*P		PKPpre	23 25 51.3		
BHJ	**Bhuj**	**138.34**	**24**	*e*P		**PKPdf**	**23 26 03.6**	**-0.2**	
BHJ				IAMs_20	IAMs_20	00 17 17.4			
	comp=Z,395nm,14.6s								
SHL	**Shillong**	**139.31**	**353**	*e*P		**PKPdf**	**23 26 02.7**	**-3.1**	
SHL	**Shillong**	**139.31**	**353**	*e*P		**PKPdf**	**23 26 07.0**	**+1.3**	
BHPL	**Bhopal**	**140.81**	**14**	*e*P		**PKPdf**	**23 26 07.4**	**-1.0**	
BHPL				IAmb		IAmb	23 26 10.8		
	comp=Z,49nm,1.6s								
BOK	**Bokaro**	**141.35**	**1**	*e*P		**PKPdf**	**23 26 09.3**	**0.0**	
BOK				IAmb		IAmb	23 26 12.8		
	comp=Z,16nm,0.8s								
ABPO	**Ambohimpanom**	**141.95**	**102**	*i* PKIKP		**PKPdf**	**23 26 10.7**	**+0.1**	
SOEI	**Soe**	**143.13**	**274**	*e*PKPdf		**PKPdf**	**23 26 13.2**	**+0.4**	
NGP	**Nagpur**	**143.19**	**12**	*ex*		PKPab	23 26 07.3	-0.9	
CMAI	**Chiengmai2**	**143.21**	**341**	P		PKPbc	23 26 10.4	+0.5	
POO	**Poona**	**144.22**	**21**	*e*P		PKPbc	23 26 12.6	-0.2	
CMMT	**Chiang Mai**	**144.28**	**340**	P		**PKPab**	**23 26 11.0**	**-1.5**	
	comp=Z,28nm,1.5s								
CHTO	**Chiang Mai**	**144.28**	**340**	*e*PKIKP		**PKPab**	**23 26 11.9**	**-0.6**	
CHTO	**Chiang Mai**	**144.28**	**340**	*e*PKPdf		**PKPab**	**23 26 11.9**	**-0.6**	
LAMP	**Lampang**	**144.32**	**339**	P		PKPbc	23 26 12.9	-0.1	
	comp=Z,14nm,0.7s,comp=Z,127nm								
CMAR	**Chiang Mai Arr**	**144.62**	**340**	PKP		PKPbc	23 26 13.9	0.0	
	comp=Z,31nm,0.8s,baz=347,slow=4.0,SNR=146								
SRSP	**Sriramsagar**	**145.18**	**14**	*e*PKPbc		**PKPbc**	**23 26 14.3**	**-1.4**	
PHIT	**Phitsanulok**	**145.26**	**337**	P		**PKPdf**	**23 26 16.3**	**0.0**	
	comp=Z,144nm,0.9s								
RPR	**Rampur**	**145.46**	**13**	*e*PKPab		**PKPbc**	**23 26 15.9**	**-0.7**	
KLRI	**Killari**	**145.54**	**17**	*e*PKPbc		**PKPdf**	**23 26 16.0**	**-0.8**	
CHAI	**Chaiyaphum**	**145.79**	**333**	P		**PKPbc**	**23 26 17.8**	**+0.1**	
	comp=Z,26nm,0.9s								
KAPI	**Kappang**	**146.16**	**284**	*e*PKPbc		**PKPab**	**23 26 19.8**	**+0.1**	
HYBB	**Hyderabad (bro**	**146.68**	**15**	*e*PKPbc		**PKPdf**	**23 26 19.3**	**+0.5**	
HYB	**Hyderabad**	**146.69**	**15**	*i* PKP		**PKPdf**	**23 26 19.0**	**+0.3**	
	comp=Z,96nm,0.8s								
HYB				*es*PKP			23 26 52.0		
HYB				*e*PP		**PP**	**23 29 40.0**	**-2.5**	
HYB	**Hyderabad**	**146.69**	**15**	*e*P		**PKPdf**	**23 26 18.7**	**-0.1**	
HYB				IAmb		IAmb	23 26 21.1		
	comp=Z,114nm,0.3s								
GOA	**Goa**	**147.00**	**24**	*e*P		**PKPdf**	**23 26 16.4**	**-2.9**	
GOA				IAMs_20	IAMs_20	00 12 17.7			
	comp=Z,612nm,1.0s								
VIS	**Vishakhapatnam**	**147.22**	**6**	*e*P		**PKPdf**	**23 26 19.2**	**-0.4**	
PVM	**Polavaram**	**147.46**	**9**	*e*PKPbc		**PKPbc**	**23 26 21.4**	**-1.1**	
NJS	**Nagarjunasagar**	**147.69**	**14**	*e*PKPbc		**PKPbc**	**23 26 21.8**	**-1.4**	
SRLM	**Srisailam**	**148.03**	**15**	*e*PKPbc		**PKPbc**	**23 26 23.6**	**-0.5**	
MBWA	**Marble Bar**	**148.23**	**254**	*e*PKPbc		**PKPbc**	**23 26 24.1**	**-0.4**	
ADKI	**Addanki**	**148.53**	**13**	*e*PKPbc		**PKPbc**	**23 26 24.2**	**-1.1**	
URV	**Uravakonda**	**148.69**	**18**	*e*PKPbc		**PKPbc**	**23 26 25.1**	**-0.8**	
SKHT	**Srikalahasti**	**150.50**	**14**	*e*PKPdf		**PKPdf**	**23 26 25.1**	**+0.2**	
SKHT				*e*PKPbc		**PKPbc**	**23 26 29.5**	**-0.8**	
MDRS	**Chennai**	**151.28**	**14**	*e*P		**PKPdf**	**23 26 23.9**	**-2.2**	
MDRS				IAMs_20	IAMs_20	00 07 56.4			
	comp=Z,384nm,16.8s								
DGPR	**DIGLIPUR**	**151.29**	**348**	*e*P		**PKPdf**	**23 26 27.9**	**+1.8**	
DGPR				IAmb		IAmb	23 26 35.2		
	comp=Z,124nm,0.5s								
KSM	**Kuching**	**151.57**	**303**	*e*PKPdf		**PKPdf**	**23 26 27.0**	**+0.4**	
KSM				*e*PKPbc		**PKiKP**	**23 26 33.7**	**+0.4**	
PBA	**Port Blair**	**152.81**	**347**	*e*P		PKPdf	23 26 27.1	-1.3	
PBA				IAMs_20	IAMs_20	00 12 40.9			
	comp=Z,285nm,5.8s								
TRD	**Trivandrum**	**154.59**	**23**	*e*P		**PKPdf**	**23 26 28.0**	**-3.0**	
KULM	**Kulim**	**155.59**	**325**	*e*PKPdf		**PKPdf**	**23 26 31.6**	**-0.8**	
IPM	**Ipoh**	**156.04**	**323**	*e*PKPdf		**PKPdf**	**23 26 33.0**	**0.0**	
IPM				*e*PKPab		**PKPab**	**23 27 00.6**	**+0.3**	
PALK	**Pallekele**	**156.97**	**16**	*e*PKIKP		**PKPdf**	**23 26 34.1**	**-0.1**	
PALK	**Pallekele**	**156.97**	**16**	*e*PKPdf		**PKPdf**	**23 26 34.1**	**-0.1**	
GSI	**Gunungsitoli**	**160.58**	**326**	*e*PKPdf		**PKPdf**	**23 26 39.1**	**+0.6**	

IDC ***13*** *23:11:25.4±2.2,25.°74S×177.°30W,h129km±18km, mb4.3/8, mb1 4.5/10,mb1mx3.9/49,mbtmp4.8/10,MS3.7/2, Ms1 3.7/2,ms1mx3.1/33,Error ellipse: s-maj=21.2km s-min=16.9km az=73.0*

ISCJB ***13*** *23:11:26.6±0.6,25.°84S±0.°06×177.°3W±0.°1,h160km, mb4.3/14,Error ellipse: s-maj=15.1km s-min=9.0km az=5.3*

NEIC ***13*** *23:11:26.1±1.4,25.°69S×177.°28W,h139km±13km,mb4.6/5, Error ellipse: s-maj=17.0km s-min=12.7km az=120.0*

ISC 13 23:11:28.7±0.7,25.°97S±0.°08×177.°3W±0.°1,h160km,n35, σ1§37/34,mb4.3/14,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.31**	**189**	P		**Pn**		**23 12 19.5**	**-0.8**
	240nm,0.3s,baz=112,slow=17,SNR=8.6								
RAO				LR		LR		23 12 56.3	
	comp=Z,518nm,19.3s,baz=122,slow=26								
RAO				S		**Sn**		**23 13 00.7**	**+0.2**
	744nm,0.3s,baz=94,slow=22,SNR=9.2								
MSVF	**Nonsavu**	**9.25**	**331**	*e*Pn		**Pn**		**23 13 40.9**	**+2.0**
	97nm,1.4s								
AFI	**Afiamalu**	**13.08**	**25**	P		Pn		23 14 23.7	-5.1
	16nm,0.3s,baz=9.7,slow=9.6,SNR=9.6								
AFI				S		Sn		23 16 37.7	-16
	5.3nm,0.3s,baz=243,slow=23,SNR=4.8								
URZ	**Urewera**	**13.12**	**200**	P		**P**		**23 14 32.3**	**-1.0**
	5.4nm,0.3s,baz=281,slow=1.8,SNR=17								
URZ				S		Sn		23 16 40.3	-14
	5.8nm,0.3s,baz=102,slow=21,SNR=11								
CTA	**Charters Tower**	**33.94**	**272**	P		**P**		**23 17 58.0**	**+1.0**
	16nm,0.8s,baz=105,slow=12,SNR=18								
CTAO	**Charters Tower**	**33.94**	**272**	*e*P		**P**		**23 17 57.7**	**+0.7**
	81nm,0.7s								
STKA	**Stephens Creek**	**36.27**	**251**	P		**P**		**23 18 16.9**	**+0.1**
	3.5nm,0.5s,baz=97,slow=12,SNR=12								
COEN	**Coen**	**38.85**	**280**	*e*P		**P**		**23 18 39.7**	**+1.1**
	2.2nm,0.5s								
BBOO	**Buckleboo**	**40.92**	**249**	*e*P		**P**		**23 18 53.9**	**-1.6**
	11nm,0.7s								
ASAR	**Alice Springs**	**44.12**	**262**	P		**P**		**23 19 20.7**	**-0.8**
	3.4nm,0.4s,baz=96,slow=7.4,SNR=43								
WRAB	**Tennant Creek**	**44.70**	**267**	*e*P		**P**		**23 19 24.7**	**-1.4**
	6.7nm,0.3s								
WRA	**Warramunga Arr**	**44.71**	**267**	P		**P**		**23 19 25.3**	**-0.9**
	10nm,0.4s,baz=102,slow=7.7,SNR=168								
VNDA	**Vanda**	**52.54**	**186**	P		**P**		**23 20 28.6**	**+3.4**
	2.0nm,0.7s,baz=11,slow=5.4,SNR=8.1								
KKM	**Kota Kinabalu**	**71.82**	**286**	*e*P		**P**		**23 22 30.9**	**-3.6**
	17nm,0.9s								
MAW	**Mawson**	**76.65**	**200**	P		**P**		**23 23 02.7**	**+1.2**
	8.1nm,0.6s,baz=128,slow=7.9,SNR=5.4								
JNU	**Nakatsue**	**76.68**	**317**	LR		LR		23 53 31.1	
	comp=Z,96nm,18.2s,baz=94,slow=33								
SNAA	**Sanae**	**82.55**	**178**	P		**P**		**23 23 33.6**	**+0.3**
	5.0nm,0.9s,baz=239,slow=6.7,SNR=5.1								
VNA3	**Neumayer Olymp**	**82.67**	**176**	P		**P**		**23 23 33.8**	**-0.1**
VNA2	**Neumayer--Watz**	**83.11**	**177**	P		**P**		**23 23 36.6**	**+0.4**
	baz=189,slow=3.2								
KLR	**Kul'dur**	**87.53**	**329**	P		**P**		**23 23 57.4**	**-0.8**
	0.1nm,0.7s,baz=143,slow=5.5,SNR=4.7								
MNTX	**Cornudas Mount**	**89.43**	**54**	*e*P		**P**		**23 24 05.0**	**-2.6**
	1.9nm,0.7s								
CMAR	**Chiang Mai Arr**	**92.50**	**289**	P		**P**		**23 24 23.2**	**+1.0**
	0.7nm,0.3s,baz=142,slow=4.6,SNR=5.0								
MKAR	**Makanchi Array**	**115.33**	**312**	PKP		**PKPdf**		**23 29 50.5**	**-0.6**
	0.4nm,0.7s,baz=60,slow=1.4,SNR=4.0								
KURK	**Kurchatov**	**118.37**	**316**	*e*PKPdf		**PKPdf**		**23 29 56.0**	**-0.8**
KURBB	**Kurchatov Arra**	**118.41**	**315**	PKP		**PKPdf**		**23 29 56.1**	**-0.8**
	0.6nm,0.7s,baz=101,slow=1.8,SNR=4.5								
BVAR	**Borovoye Array**	**123.59**	**318**	PKP		**PKPdf**		**23 30 05.5**	**-1.4**
	0.6nm,0.4s,baz=79,slow=3.1,SNR=4.6								
ARU	**Arti**	**129.98**	**323**	*e*PKPdf		**PKPdf**		**23 30 18.8**	**-0.1**
FINES	**FINESS Array B**	**141.16**	**342**	PKhKP		PKPpre		23 30 33.6	
	2.0nm,0.9s,baz=96,slow=3.8,SNR=4.0								
NB2	**NORSAR Subarra**	**144.46**	**353**	PKP		**PKPab**		**23 30 44.3**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=7.0,slow=5.5								
NOA	**NORSAR Array B**	**144.46**	**353**	PKP		**PKPab**		**23 30 44.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=221,slow=8.8,SNR=9.7								
HFS	**Hagfors**	**145.01**	**350**	PKP		**PKPbc**		**23 30 46.0**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=49,slow=3.8,SNR=12								
AKASG	**Malin Array Be**	**148.01**	**328**	PKPbc		**PKPdf**		**23 30 53.2**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=38,slow=3.9,SNR=6.9								
MMAI	**Mount Meron Ar**	**150.74**	**292**	PKPbc		**PKPbc**		**23 31 03.9**	**+1.4**
	comp=Z,2.9nm,0.5s,baz=83,slow=7.0,SNR=10								
BRTR	**Keskin Array B**	**150.75**	**306**	PKPbc		**PKPbc**		**23 31 02.4**	**0.0**
	comp=Z,1.7nm,0.8s,baz=141,slow=4.8,SNR=8.1								
BRTR				PKPab		**PKPab**		**23 31 10.9**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=108,slow=4.4,SNR=7.7								
TORD	**Torodi Ar. Bea**	**167.21**	**176**	PKPab		**PKPab**		**23 32 22.1**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=177,slow=3.1,SNR=6.5								

IDC ***13*** *23:16:14.3±0.5,17.°50S×167.°21E,h0km,mb4.7/25, mb1 4.8/27,mb1mx4.7/52,mbtmp4.7/27,ML5.4/2,MS4.3/16, Ms1 4.3/16,ms1mx4.1/34,Error ellipse: s-maj=15.6km s-min=12.6km az=92.0*

BJI ***13*** *23:16:15.5,17.°15S×167.°45E,h11km,mb4.8/34,mB5.3/26, Ms4.9/20,Ms7 4.6/18*

ISCJB ***13*** *23:16:15.4±0.2,17.°56S±0.°03×167.°04E±0.°04,h12km, mb5.0/101,MS4.5/21,Error ellipse: s-maj=5.3km s-min=4.3km az=164.4*

GCMT ***13*** *23:16:16.5±0.2,17.°52S×167.°10E,h12km,MW5.2/95, Moment Tensor Solution. s43,c52; s95,c138; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.68±.16; Mθθ=3.76±.16; Mφφ6.47±.12; Mrθ2.69±.47; Mrφ0.64±.14; Mθφ4.15±.39; Best double couple: M₀7.34100×10¹⁶ NP1:ϕs323.00000°,δ40.00000°,λ-159.00000°. NP2: ϕs216.00000°,δ77.00000°,λ-52.00000°. Principal axes: T 8.2830, Plg22.0000°, Azm278.0000°; N -1.8740, Plg37.0000°, Azm26.0000°; P -6.4000, Plg45.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *23:16:16.5±0.2,17.°60S×166.°98E,h10km,mb5.1/36 Error ellipse: s-maj=6.3km s-min=5.1km az=76.0*

MOS ***13*** *23:16:19.6±1.2,17.°39S×166.°94E,h35km,mb5.1/40, MS4.2/6,Error ellipse: s-maj=10.0km s-min=8.3km az=39.3*

ISC 13 23:16:17.1±0.3,17.°65S±0.°05×167.°02E±0.°05,h12km,n284, σ1§60/288,mb5.2/100,MS4.5/21,15C-11D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.43**	**187**	Pn		**Pn**		**23 17 23.3**	**-1.0**
	168nm,0.3s,baz=39,slow=14,SNR=765								
DZM				Sn		**Sn**		**23 18 14.6**	**-1.3**
	76nm,0.3s,baz=334,slow=22,SNR=6.0								
DZM	**Mont Dzumac**	**4.43**	**187**	*e*Pn		**Pn**		**23 17 24.3**	**0.0**
	500nm,0.2s								
DZM				*e*Sn		**Sn**		**23 18 12.0**	**-3.9**
	605nm,0.3s								
DZM				eLR		LR		23 18 19.7	
	6μm,26.1s								
DZM	**Mont Dzumac**	**4.43**	**187**	*e*Pn		**Pn**		**23 17 23.4**	**-0.8**
DZM				*e*Sn		**Sn**		**23 18 13.2**	**-2.8**
MSVF	**Nonsavu**	**10.51**	**92**	*e*P		**Pn**		**23 18 50.2**	**+2.5**
MSVF	**Nonsavu**	**10.51**	**92**	*e*Pn		**Pn**		**23 18 50.2**	**+2.5**
HNR	**Honiara**	**10.67**	**319**	Pn		**Pn**		**23 18 49.1**	**-0.8**
	34nm,0.3s,baz=348,slow=0.9,SNR=12								
HNR				LR		LR		23 22 25.0	
	comp=Z,1μm,19.6s,baz=155,slow=35								
HNR	**Honiara**	**10.67**	**319**	*e*P		**Pn**		**23 18 48.0**	**-1.9**
HNR	**Honiara**	**10.67**	**319**	*e*Pn		**Pn**		**23 18 49.3**	**-0.6**
EIDS	**Eidsvold**	**16.69**	**240**	*e*Pn		**Pn**		**23 20 08.2**	**-2.8**
	51nm,1.2s								
RAO	**Raoul Island**	**17.99**	**133**	LR		LR		23 26 02.5	
	comp=Z,2μm,19.1s,baz=267,slow=33								
OUZ	**Omahuta**	**18.46**	**163**	*e*P		**Pn**		**23 20 35.2**	**+2.4**
ARMA	**Armidale**	**18.93**	**225**	P		**Pn**		**23 20 41.2**	**+2.6**
	baz=19,SNR=5.7								
ARMA	**Armidale**	**18.93**	**225**	*e*P		**Pn**		**23 20 38.5**	**-0.2**
	32nm,0.9s								
RMQ	**Roma**	**19.06**	**239**	P		**Pn**		**23 20 42.7**	**+2.6**
	baz=19,SNR=21								
CTA	**Charters Tower**	**19.80**	**260**	P		**Pn**		**23 20 50.4**	**+1.3**
	23nm,0.7s,baz=80,slow=12,SNR=19								
CTA				LR		LR		23 27 52.2	
	comp=Z,1μm,19.6s,baz=77,slow=35								
CTAO	**Charters Tower**	**19.80**	**260**	*e*P		**Pn**		**23 20 49.9**	**+0.8**
CTAO				pmax		pmax			
	comp=Z,63nm,1.0s								
CTAO	**Charters Tower**	**19.80**	**260**	*e*P		**Pn**		**23 20 49.9**	**+0.8**
	comp=Z,63nm,1.0s								
AFI	**Afiamalu**	**20.74**	**83**	P		**P**		**23 20 55.7**	**-2.1**
	comp=Z,32nm,0.8s,baz=252,slow=20,SNR=6.0								
AFI				LR		LR		23 28 10.4	
	comp=Z,433nm,19.1s,baz=265,slow=35								
AFI	**Afiamalu**	**20.74**	**83**	*e*P		**P**		**23 20 55.5**	**-2.3**
AFI				pmax		pmax			
	comp=Z,112nm,1.3s								
AFI	**Afiamalu**	**20.74**	**83**	*e*P		**P**		**23 20 55.5**	**-2.3**
	comp=Z,112nm,1.3s								
PMG	**Port Moresby**	**20.96**	**290**	P		Pn		23 21 02.2	-0.6
	comp=Z,57nm,1.1s,baz=92,slow=6.6,SNR=19								
PMG				LR		LR		23 28 25.8	
	comp=Z,2μm,18.3s,baz=110,slow=35								
PMG	**Port Moresby**	**20.96**	**290**	*c i*P		Pn		23 21 01.9	-0.8
PMG				pmax		pmax			
	comp=Z,336nm,1.3s								
PMG	**Port Moresby**	**20.96**	**290**	*e*P		Pn		23 21 01.5	-1.2
	comp=Z,189nm,1.5s								
MTSU	**Mount Surprise**	**21.61**	**265**	P		**P**		**23 21 08.9**	**+1.7**
	baz=22,SNR=12								
HIZ	**Hauiti**	**21.89**	**163**	*e*P		**P**		**23 21 12.3**	**+2.4**
	comp=Z,224nm,1.2s								
MXZ	**Matakaoa Point**	**22.18**	**156**	*e*P		**P**		**23 21 13.4**	**+0.3**
	comp=Z,220nm,1.4s								
URZ	**Urewera**	**22.36**	**159**	P		**P**		**23 21 15.5**	**+0.6**
	comp=Z,95nm,1.2s,baz=337,slow=4.2,SNR=16								
URZ	**Urewera**	**22.36**	**159**	*e*P		**P**		**23 21 16.2**	**+1.2**
	comp=Z,207nm,1.3s								
QLP	**Quilpie**	**22.88**	**243**	P		**P**		**23 21 22.6**	**+1.9**
	baz=23,SNR=14								
BKZ	**Black Stump Fm**	**22.97**	**161**	*e*P		**P**		**23 21 22.5**	**+1.0**
	comp=Z,102nm,1.2s								
COEN	**Coen**	**23.23**	**276**	P		**P**		**23 21 24.9**	**+0.6**
	baz=23,SNR=6.5								
COEN	**Coen**	**23.23**	**276**	*e*P		**P**		**23 21 24.7**	**+0.4**
	comp=Z,66nm,1.1s								
YNG	**Young**	**23.50**	**222**	P		**P**		**23 21 30.0**	**+3.1**
	baz=24,SNR=15								
CNB	**Canberra Magne**	**23.59**	**218**	P		**P**		**

	comp=Z,58nm,1.2s								
KAPI	**Kappang**	**47.88**	**279**	*e*P	**P**	**23**	**24**	**53.2**	**-2.2**
	comp=Z,76nm,1.4s								
TTSI	**Tana Toraja**	**48.48**	**282**	P	**P**	**23**	**25**	**00.7**	**+0.6**
	comp=Z,25nm,1.2s								
MPSI	**Mapaga**	**49.68**	**286**	P	**P**	**23**	**25**	**09.7**	**+0.4**
	comp=Z,40nm,1.1s,comp=Z,812nm								
TAOE	**Nuku Hiva Isla**	**52.02**	**88**	*e*LR	LR	23	40	26.8	
	comp=Z,2µm,27.2s								
RKT	**Rikitea**	**54.36**	**106**	*e*LR	LR	23	41	28.3	
	comp=Z,1µm,31.0s								
VNDA	**Vanda**	**59.95**	**181**	P	**P**	**23**	**26**	**22.1**	**-0.7**
	comp=Z,13nm,1.3s,baz=11,slow=5.8,SNR=6.3								
VNDA	**Vanda**	**59.95**	**181**	*e*P	**P**	**23**	**26**	**22.9**	**+0.1**
	comp=Z,47nm,1.6s								
MJAR	**Matsushiro Arr**	**60.38**	**333**	P	**P**	**23**	**26**	**24.5**	**-1.7**
	comp=Z,5.5nm,0.8s,baz=168,slow=8.4,SNR=9.7								
MAJO	**Matsushiro**	**60.38**	**333**	⇑*e*P	**P**	**23**	**26**	**27.2**	**+1.0**
MAJO				pmax	pmax				
	comp=Z,32nm,2.5s								
MAJO	**Matsushiro**	**60.38**	**333**	*e*P	**P**	**23**	**26**	**26.8**	**+0.5**
	comp=Z,5.2nm,0.5s								
MAT	**Matsushiro**	**60.38**	**333**	P	**P**	**23**	**26**	**26.0**	**-0.2**
CGJI	**Cibinong**	**60.73**	**272**	P	**P**	**23**	**26**	**28.3**	**-0.8**
	comp=Z,103nm,0.8s								
JNU	**Nakatsue**	**61.16**	**326**	*e*P	**P**	**23**	**26**	**31.5**	**-0.2**
	comp=Z,22nm,1.2s								
KASI	**Kota Agung**	**62.18**	**273**	P	**P**	**23**	**26**	**36.9**	**-2.0**
	comp=Z,86nm,1.1s								
MDSI	**Maura Dua**	**62.78**	**274**	P	**P**	**23**	**26**	**41.8**	**-1.1**
ASAJ	**Asahikawa**	**65.40**	**341**	P	**P**	**23**	**26**	**58.8**	**-0.6**
	comp=Z,2.5nm,0.4s,baz=143,slow=5.1,SNR=2.5								
TJN	**Taejon**	**65.51**	**326**	⇓*e*P	**P**	**23**	**26**	**59.3**	**-1.0**
KSRS	**Korea Array**	**66.02**	**327**	P	**P**	**23**	**27**	**02.1**	**-1.5**
	comp=Z,2.3nm,0.9s,baz=142,slow=6.6,SNR=5.5								
KSAR	**Wonju Array Be**	**66.03**	**327**	P	**P**	**23**	**27**	**02.1**	**-1.6**
KSAR	**Wonju Array Be**	**66.03**	**327**	P	**P**	**23**	**27**	**02.1**	**-1.6**
NJ2	**Nanjing**	**67.61**	**317**	*e*P	**P**	**23**	**27**	**12.8**	**-1.1**
NJ2				pmax	pmax				
	comp=Z,17nm,0.5s								
YSS	**Yuzh-Sakhalins**	**67.92**	**342**	*e*P	**P**	**23**	**27**	**15.9**	**+0.5**
YSS				*e*		23	27	23.5	
YSS				*e*S	**S**	**23**	**36**	**17.9**	**+4.0**
YSS				pmax	pmax				
	comp=Z,20nm,2.0s								
USRK	**Ussuriysk Ar.**	**69.38**	**334**	P	**P**	**23**	**27**	**22.8**	**-1.8**
	comp=Z,3.1nm,0.9s,baz=168,slow=8.1,SNR=3.8								
PSI	**Prapat**	**70.08**	**280**	*e*P	**P**	**23**	**27**	**27.9**	**-2.0**
PSI				pmax	pmax				
	comp=Z,65nm,1.2s								
PSI	**Prapat**	**70.08**	**280**	*e*P	**P**	**23**	**27**	**27.9**	**-2.0**
	comp=Z,65nm,1.2s								
MDJ	**Mudanjiang**	**70.74**	**333**	P	**P**	**23**	**27**	**32.0**	**-1.0**
MDJ				pmax	pmax				
	comp=Z,180nm,2.8s								
PET	**Petropavlovsk**	**70.75**	**355**	*e*P	**P**	**23**	**27**	**33.2**	**+0.4**
PET				pmax	pmax				
	comp=Z,59nm,1.5s								
PET	**Petropavlovsk**	**70.75**	**355**	*e*P	**P**	**23**	**27**	**33.2**	**+0.4**
	comp=Z,59nm,1.5s								
GSI	**Gunungsitoli**	**70.86**	**278**	*e*P	**P**	**23**	**27**	**34.1**	**-0.4**
	comp=Z,66nm,1.1s								
PEA0B	**Petropavlovsk-**	**70.92**	**354**	*e*P	**P**	**23**	**27**	**36.6**	**+2.7**
	comp=Z,108nm,1.5s								
PETK	**Petropavlovsk-**	**70.92**	**354**	P	**P**	**23**	**27**	**32.6**	**-1.3**
	comp=Z,9.2nm,0.9s,baz=118,slow=6.5,SNR=7.7								
PETK	**Petropavlovsk-**	**70.92**	**354**	P	**P**	**23**	**27**	**32.6**	**-1.3**
PETK				pmax	pmax				
	comp=Z,11nm,1.0s								
PETK	**Petropavlovsk-**	**70.92**	**354**	*e*P	**P**	**23**	**27**	**33.2**	**-0.7**
ENH	**Enshi**	**73.04**	**310**	*e*P	**P**	**23**	**27**	**46.7**	**-0.5**
	comp=Z,11nm,0.7s								
GYA	**Guiyang**	**73.19**	**306**	P	**P**	**23**	**27**	**50.0**	**+1.7**
GYA				PP	**PP**	**23**	**30**	**35.5**	**+3.9**
GYA				S	**S**	**23**	**37**	**17.3**	**+0.8**
GYA				SKS	**SKSac**	**23**	**37**	**51.8**	**-2.8**
GYA				SS	**SS**	**23**	**42**	**01.0**	**+2.6**
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,130nm,5.2s								
GYA				LR	LR				
	comp=Z,520nm,18.8s								
GYA				LR	LR				
	comp=Z,480nm,19.2s								
GYA				LR	LR				
	comp=Z,490nm,19.0s								
KLR	**Kul'dur**	**73.57**	**337**	P	**P**	**23**	**27**	**48.4**	**-1.5**
	comp=Z,0.2nm,0.8s,baz=177,slow=4.2,SNR=5.8								
KLR	**Kul'dur**	**73.57**	**337**	⇓*e*P	**P**	**23**	**27**	**49.3**	**-0.6**
NKL	**Nikolayevsk**	**74.09**	**344**	*e*P	**P**	**23**	**27**	**51.0**	**-1.8**
NKL				pmax	pmax				
	comp=Z,17nm,0.9s								
BJI	**Beijing**	**74.39**	**322**	P	**P**	**23**	**27**	**54.8**	**0.0**
BJI				pmax	pmax				
	comp=Z,17nm,1.2s								
XAN	**Xi'an**	**75.49**	**313**	P	**P**	**23**	**28**	**01.3**	**-0.2**
XAN				pP	sP	23	28	09.0	+2.2
XAN				pmax	pmax				
	comp=Z,8.0nm,0.8s								
XAN				pmax	pmax				
	comp=Z,110nm,3.8s								
KMI	**Kunming**	**75.65**	**303**	P	**P**	**23**	**28**	**03.4**	**+0.6**
KMI				pP	pP	23	28	06.9	+0.2
KMI				sP	sP	23	28	08.4	+0.2
KMI				S	**S**	**23**	**37**	**45.8**	**+1.4**
KMI				sS	sS	23	37	51.8	+0.9
KMI				pmax	pmax				
	comp=Z,12nm,1.2s								
KMI				pmax	pmax				
	comp=Z,180nm,4.6s								
KMI				LR	LR				
	comp=Z,230nm,22.5s								
KMI				LR	LR				
	comp=Z,160nm,21.9s								
KMI				LR	LR				
	comp=Z,280nm,29.0s								
CMAR	**Chiang Mai Arr**	**75.93**	**295**	P	**P**	**23**	**28**	**04.3**	**0.0**
	comp=Z,7.5nm,1.1s,baz=130,slow=4.3,SNR=4.7								
CMAR				LR	LR	00	01	51.9	
	comp=Z,62nm,19.6s,baz=125,slow=36								
CHTO	**Chiang Mai**	**76.08**	**295**	*e*P	**P**	**23**	**28**	**05.5**	**+0.4**
CHTO				pmax	pmax				
	comp=Z,13nm,1.0s								
CHTO	**Chiang Mai**	**76.08**	**295**	*e*P	**P**	**23**	**28**	**05.5**	**+0.4**
	comp=Z,13nm,1.0s								
CD2	**Chengdu**	**77.60**	**308**	*e*P	**P**	**23**	**28**	**13.6**	**+0.1**
CD2				pP	PcP	23	28	24.4	+0.7
CD2				sP	sP	23	28	28.8	+10
CD2				S	**S**	**23**	**38**	**03.8**	**-1.4**
CD2				SKS	**SKSac**	**23**	**38**	**23.4**	**-3.7**
CD2				SS	**SS**	**23**	**43**	**04.8**	**-0.4**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,140nm,5.0s								
CD2				LR	LR				
	comp=Z,550nm,22.8s								
CD2				LR	LR				
	comp=Z,350nm,21.8s								
HHC	**Hu-ho-hao-te**	**77.65**	**320**	*e*P	**P**	**23**	**28**	**15.4**	**+1.8**
HHC				PP	**PP**	**23**	**31**	**12.9**	**+3.8**
HHC				S	**S**	**23**	**38**	**06.3**	**+0.8**
HHC				SS	**SS**	**23**	**43**	**09.4**	**+3.7**
HHC				pmax	pmax				
	comp=Z,4.0nm,0.7s								
HHC				pmax	pmax				
	comp=Z,66nm,5.1s								
HHC				LR	LR				
	comp=Z,120nm,14.9s								
HHC				LR	LR				
	comp=Z,180nm,18.7s								
HHC				LR	LR				
	comp=Z,210nm,17.4s								
MA2	**Magadan**	**78.08**	**352**	P	**P**	**23**	**28**	**13.8**	**-1.6**
	comp=Z,2.2nm,0.2s,baz=161,slow=10,SNR=4.0								
MA2	**Magadan**	**78.08**	**352**	⇓*e*P	**P**	**23**	**28**	**15.6**	**+0.2**
HIA	**Hailar**	**78.69**	**331**	⇓*e*P	**P**	**23**	**28**	**18.2**	**-0.9**
HIA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
HIA	**Hailar**	**78.69**	**331**	*e*P	**P**	**23**	**28**	**19.2**	**+0.1**
	comp=Z,5.4nm,0.4s								
ZEA	**Zeya**	**78.87**	**337**	*e*P	**P**	**23**	**28**	**18.8**	**-1.1**
ZEA				pmax	pmax				
	comp=Z,12nm,1.0s								
LZH	**Lanzhou**	**80.11**	**313**	*e*P	**P**	**23**	**28**	**28.8**	**+1.5**
LZH				pP	sP	23	28	33.4	+0.7
LZH				sP	PcP	23	28	36.1	+1.5
LZH				*e*PP	**PP**	**23**	**31**	**33.1**	**+3.4**
LZH				S	**S**	**23**	**38**	**35.0**	**+3.0**
LZH				sS	SKKSac	23	38	48.0	+1.2
LZH				SS	**SS**	**23**	**43**	**43.0**	**+0.1**
LZH				pmax	pmax				
	comp=Z,22nm,1.0s								
LZH				pmax	pmax				
	comp=Z,130nm,4.1s								
LZH				LR	LR				
	comp=Z,710nm,14.5s								
LZH				LR	LR				
	comp=Z,890nm,15.0s								
LZH				LR	LR				
	comp=Z,1µm,17.5s								
SEY	**Seymchan**	**81.14**	**353**	P	**P**	**23**	**28**	**30.6**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=166,slow=4.4,SNR=6.2								
SEY	**Seymchan**	**81.14**	**353**	⇓*e*P	**P**	**23**	**28**	**30.1**	**-1.8**
GAMB	**Gambell**	**82.83**	**9**	*e*P	**P**	**23**	**28**	**40.4**	**-0.4**
	comp=Z,54nm,1.6s								
ULN	**Ulaanbaatar**	**84.34**	**324**	⇓*e*P	**P**	**23**	**28**	**48.6**	**-0.6**
ULN				pmax	pmax				
	comp=Z,12nm,1.2s								
ULN	**Ulaanbaatar**	**84.34**	**324**	*e*P	**P**	**23**	**28**	**48.8**	**-0.4**
	comp=Z,30nm,1.6s								
GTA	**Gaotai**	**84.51**	**314**	⇓P	**P**	**23**	**28**	**50.4**	**+0.2**
GTA				pP	pP	23	28	54.8	+0.6
GTA				sP	sP	23	28	57.4	+1.7
GTA				SKS	**S**	**23**	**39**	**11.1**	**-5.9**
GTA				S	**SKKSac**	**23**	**39**	**17.5**	**-2.3**
GTA				sS	sS	23	39	24.9	+1.3
GTA				pmax	pmax				
	comp=Z,11nm,1.2s								
GTA				pmax	pmax				
	comp=Z,140nm,5.9s								
GTA				LR	LR				
	comp=Z,160nm,20.0s								
GTA				LR	LR				
	comp=Z,220nm,19.5s								
GTA				LR	LR				
	comp=Z,180nm,20.0s								
SONM	**Songino Array**	**84.69**	**324**	P	**P**	**23**	**28**	**49.8**	**-1.1**
	comp=Z,4.3nm,1.1s,baz=136,slow=4.2,SNR=8.6								
SONA1	**Songino Array**	**84.70**	**324**	*e*P	**P**	**23**	**28**	**49.9**	**-1.1**
YAK	**Yakutsk**	**84.74**	**343**	P	**P**	**23**	**28**	**49.2**	**-1.4**
	comp=Z,10.0nm,0.3s,baz=218,slow=0.8,SNR=4.5								
YAK	**Yakutsk**	**84.74**	**343**	*e*P	**P**	**23**	**28**	**47.8**	**-2.8**
YAK				*e*		23	28	58.9	
YAK				*e*PPP	PPP	23	33	58.8	
YAK				*e*S	SKSac	23	39	01.8	-12
YAK				*e*		23	39	16.5	
YAK				pmax	pmax				
	comp=Z,36nm,1.4s								
YAK				pmax	pmax				
	comp=N,11nm,1.5s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.4s								
YAK				pmax	pmax				
	comp=Z,215nm,4.8s								
YAK				pmax	pmax				
	comp=N,181nm,5.3s								
YAK				pmax	pmax				
	comp=E,41nm,4.3s								
YAK				smax	smax				
	comp=N,103nm,4.0s								
YAK				smax	smax				
	comp=E,156nm,5.8s								
BILL	**Bilibino**	**85.44**	**360**	*e*P	**P**	**23**	**28**	**53.3**	**-0.8**
BILL				*e*		23	32	18.6	
BILL				*e*PPP	PPP	23	34	04.6	
BILL				*e*S	**S**	**23**	**39**	**27.2**	**+2.5**
BILL				pmax	pmax				
	comp=Z,75nm,1.5s								
BILL				MLR	MLR				
	comp=Z,224nm,21.0s								
SYO	**Syowa Base**	**85.86**	**197**	⇑*e*P	**P**	**23**	**28**	**54.8**	**-1.5**
SYO	**Syowa Base**	**85.86**	**197**	⇓*e*PcP	**P**	**23**	**28**	**57.5**	**+1.2**
CAST	**Castle Rocks**	**86.84**	**17**	*e*P	**P**	**23**	**29**	**01.6**	**+0.5**
	comp=Z,37nm,1.8s								
LSA	**Lhasa**	**86.91**	**302**	*e*P	**P**	**23**	**29**	**02.4**	**-0.4**
LSA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**86.91**	**302**	*e*P	**P**	**23**	**29**	**02.4**	**-0.4**
	comp=Z,5.7nm,0.6s								
BOD	**Bodaibo**	**86.99**	**335**	*e*P	**P**	**23**	**28**	**59.6**	**-2.3**
BOD				pmax	pmax				
	comp=Z,9.0nm,1.8s								
KTH	**Kantishna Hill**	**87.27**	**17**	*e*P	**P**	**23**	**29**	**03.5**	**+0.3**
	comp=Z,5.1nm,0.9s								
ORV	**Oroville**	**87.53**	**47**	*e*P	**P**	**23**	**29**	**05.6**	**+0.6**
ORV				pmax	pmax				
	comp=Z,19nm,1.4s								
ORV	**Oroville**	**87.53**	**47**	*e*P	**P**	**23**	**29**	**05.6**	**+0.6**
	comp=Z,19nm,1.4s								
YBH	**Yreka Blue Hor**	**87.64**	**45**	LR	LR	00	00	53.8	
	comp=Z,143nm,20.0s,baz=242,slow=31								
AFDM	**Forest Hills D**	**87.65**	**48**	*e*P	**P**	**23**	**29**	**05.6**	**0.0**
	comp=Z,13nm,0.9s								
CMB	**Columbia Colle**	**87.69**	**49**	*e*P	**P**	**23**	**29**	**04.3**	**-1.5**
CMB				pmax	pmax				
	comp=Z,13nm,0.9s								
CMB	**Columbia Colle**	**87.69**	**49**	*e*P	**P**	**23**	**29**	**04.3**	**-1.5**
	comp=Z,13nm,0.9s								
RND	**Reindeer**	**87.77**	**18**	*e*P	**P**	**23**	**29**	**08.6**	**+2.9**
RND				pmax	pmax				
	comp=Z,48nm,2.0s								
RND	**Reindeer**	**87.77**	**18**	*e*P	**P**	**23**	**29**	**08.6**	**+2.9**
	comp=Z,48nm,2.0s								
ZAK	**Zakamensk**	**87.79**	**325**	*e*P	**P**	**23**	**29**	**04.6**	**-1.5**
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.3s								
MCK	**McKinley**	**87.99**	**18**	*e*P	**P**	**23**	**29**	**06.7**	**+0.1**
MCK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
MCK	**McKinley**	**87.99**	**18**	*e*P	**P**	**23**	**29**	**06.7**	**+0.1**
	comp=Z,6.2nm,0.9s								
ISA	**Isabella, Lake**	**88.14**	**52**	*e*P	**P**	**23**	**29**	**09.3**	**+1.2**
ISA				pmax	pmax				
	comp=Z,10.0nm,1.1s								
ISA	**Isabella, Lake**	**88.14**	**52**	*e*P	**P**	**23**	**29**	**09.3**	**+1.2**
	comp=Z,9.7nm,1.1s								
WAKR	**Walker**	**88.56**	**49**	*e*P	**P**	**23**	**29**	**14.1**	**+3.9**
	comp=Z,11nm,0.9s								
PAHR	**Pah Rah Range**	**89.08**	**48**	*e*P	**P**	**23**	**29**	**13.1**	**+0.6**
	comp=Z,16nm,1.2s								
COLA	**College**	**89.15**	**18**	⇓*e*P	**P**	**23**	**29**	**14.7**	**+2.7**
COLA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
RYN	**Ryan**	**89.27**	**49**	*e*P	**P**	**23**	**29**	**16.4**	**+2.9**
	comp=Z,9.3nm,1.0s								
NV01	**Mina Array Sit**	**89.35**	**49**	*e*P	**P**	**23**	**29**	**14.4**	**+0.5**
NVAR	**Mina Array Bea**	**89.35**	**49**	P	**P**	**23**	**29**	**11.9**	**-2.0**
	comp=Z,3.1nm,1.0s,baz=236,slow=5.5,SNR=9.1								
NVAR				LR	LR	00	00	22.5	
	comp=Z,144nm,21.6s,baz=90,slow=30								
IL1	**Eielson Array**	**89.36**	**18**	*e*P	**P**	**23**	**29**	**14.1**	**+1.1**
ILAR	**Eielson Array**	**89.36**	**18**	P	**P**	**23**	**29**	**11.7**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=238,slow=4.9,SNR=14								
ILAR				LR	LR	00	08	02.3	
	comp=Z,215nm,18.1s,baz=202,slow=35								
ILB	**Eielson Array**	**89.36**	**18**	*e*P	**P**	**23**	**29**	**15.6**	**+2.5**
NV11	**Mina Array Sit**	**89.45**	**49**	*e*P	**P**	**23**	**29**	**16.6**	**+2.3**
	comp=Z,1.1nm,1.2s								
NVL	**N'lazarevskaya**	**90.14**	**188**	*e*P	**P**	**23**	**29**	**16.2**	**-0.6**
NVL				pmax	pmax				
	comp=Z,45nm,1.5s								
COLD	**Coldfoot**	**90.29**	**15**	*e*P	**P**	**23**	**29**	**20.9**	**+3.6**
SNAA	**Sanae**	**90.64**	**183**	P	**P**	**23**	**29**	**17.9**	**-1.3**
SNAA	**Sanae**	**90.64**	**183**	P	**P**	**23**	**29**	**17.7**	**-1.5**
	comp=Z,19nm,1.1s,baz=218,slow=4.2,SNR=7.5								
SNAA	**Sanae**	**90.64**	**183**	*c i*P	**P**	**23**	**29**	**18.9**	**-0.3**
SNAA	**Sanae**	**90.64**	**183**	*e*P	**P**	**23**	**29**	**17.5**	**-1.7**
	comp=Z,40nm,1.3s								
LPIG	**La Paz**	**90.64**	**65**	LR	LR	00	00	31.5	
	comp=Z,263nm,21.8s,baz=241,slow=29								
BMN	**Battle Mountai**	**90.89**	**48**	*e*P	**P**	**23**	**29**	**23.6**	**+2.6**
BMN				pmax	pmax				
	comp=Z,8.0nm,0.8s								
BMN	**Battle Mountai**	**90.89**	**48**	*e*P	**P**	**23**	**29**	**23.6**	**+2.6**
	comp=Z,8.3nm,0.8s								
VNA3	**Neumayer Olymp**	**91.31**	**181**	P	**P**	**23**	**29**	**21.6**	**-0.6**
VNA2	**Neumayer--Watz**	**91.57**	**182**	P	**P**	**23**	**29**	**22.6**	**-0.9**
	baz=180,slow=3.2								
LCMT	**Little Creek M**	**92.56**	**52**	*e*P	**P**	**23**	**29**	**31.3**	**+2.5**
	comp=Z,3.0nm,0.9s								
TIXI	**Tiksi**	**92.77**	**349**	⇓*e*P	**P**	**23**	**29**	**26.8**	**-1.9**
TIXI				pmax	pmax				
	comp=Z,9.0nm,1.6s								
TIXI	**Tiksi**	**92.77**	**349**	*e*P	**P**	**23**	**29**	**26.8**	**-1.9**
	comp=Z,24nm,1.7s								
WMQ	**Urumqi**	**94.59**	**314**	P	**P**	**23**	**29**	**37.6**	**-0.3**
WMQ				pP	sP	23	29	44.1	+0.8
WMQ				sP	pP	23	29	47.8	+5.9
WMQ				pmax	pmax				
	comp=Z,17nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,310nm,4.3s								
WMQ				LR	LR				
	comp=Z,2µm,24.7s								
WMQ				LR	LR				
	comp=Z,780nm,27.5s								
WMQ				LR	LR				
	comp=Z,1µm,24.7s								
PDAR	**Pinedale Array**	**97.09**	**47**	P	**P**	**23**	**29**	**47.8**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=249,slow=7.6,SNR=2.4								
TXAR	**Lajitas Array**	**97.87**	**62**	P	**P**	**23**	**29**	**50.9**	**-2.2**
	comp=Z,0.2nm,0.6s,baz=254,slow=6.4,SNR=2.7								
TXAR				LR	LR	00	07	54.2	
	comp=Z,94nm,18.6s,baz=0.0,slow=32								
MKAR	**Makanchi Array**	**99.14**	**316**	P	**Pdif**	**23**	**29**	**56.7**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=107,slow=5.0,SNR=3.1								
MKAR				PP	**PP**	**23**	**34**	**01.1**	**0.0**
	comp=Z,0.3nm,0.4s,baz=83,slow=4.5,SNR=7.5								
ZALV	**Zalesovo Beam**	**99.59**	**324**	LR	LR	00	18	37.3	
	comp=Z,92nm,18.0s,baz=334,slow=38								
YKA	**Yellowknife Ar**	**100.23**	**28**	P	**Pdif**	**23**	**30**	**00.4**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=254,slow=4.3,SNR=3.8								
KSH	**Kashi**	**101.80**	**308**	*e*P	**Pdif**	**23**	**30**	**12.5**	**+2.0**
KURK	**Kurchatov**	**102.45**	**319**	PP	PP	23	34	22.1	-3.9
KURBB	**Kurchatov Arra**	**102.49**	**319**	PP	PP	23	34	22.1	-4.1
	comp=Z,0.6nm,0.9s,baz=101,slow=7.5,SNR=4.0								
BVAR	**Borovoye Array**	**107.86**	**321**	PKiKP	**PKiKP**	**23**	**34**	**43.4**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=104,slow=4.6,SNR=2.6								
ARU	**Arti**	**114.72**	**325**	*e*PKiKP	PKPdf	23	34	57.8	+0.6
ARU	**Arti**	**114.72**	**325**	*e*PKP	PKPdf	23	34	57.8	+0.7
FRB	**Frobisher Bay**	**120.64**	**25**	PKP	**PKPdf**	**23**	**35**	**08.5**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=180,slow=2.4,SNR=3.5								
ARCES	**ARCESS Array B**	**123.00**	**345**	PKP	**PKPdf**	**23**	**35**	**11.3**	**-1.4**
	comp=Z,3.4nm,0.8s,baz=93,slow=2.4,SNR=8.2								
KLMR	**Klimovskoe**	**123.16**	**332**	*e*PKiKP	PKPpre	23	35	08.5	
KLMR				pmax	pmax				
	comp=Z,17nm,1.4s								
KLMR	**Klimovskoe**	**123.16**	**332**	*e*PKPdf	PKPpre	23	35	08.6	
KLMR				AMP		23	35	23.0	
	comp=Z,17nm,1.4s								
RAYN	**Ar Rayn**	**125.25**	**287**	*e*PKPdf	**PKPdf**	**23**	**35**	**18.1**	**-0.4**
GNI	**Garni**	**125.72**	**307**	⇑*i*PKiKP	**PKPdf**	**23**	**35**	**19.4**	**+0.3**
GNI	**Garni**	**125.72**	**307**	*e*PKPdf	**PKPdf**	**23**	**35**	**19.2**	**+0.1**
ZEI	**Tsey**	**125.98**	**310**	*i* PKiKP	PKPdf	23	35	30.7	+11
ZEI				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KIV	**Kislovodsk**	**126.64**	**312**	*e*PKiKP	**PKPdf**	**23**	**35**	**20.4**	**-0.2**
KIV				pmax	pmax				
	comp=Z,11nm,1.0s								
KIV	**Kislovodsk**	**126.64**	**312**	*e*PKPdf	**PKPdf**	**23**	**35**	**20.0**	**-0.6**
NEY	**Neytrino**	**126.75**	**311**	⇑*i*PKiKP	**PKPdf**	**23**	**35**	**21.5**	**+0.5**
OBN	**Obninsk**	**127.02**	**327**	*i* PKiKP	**PKPdf**	**23**	**35**	**20.9**	**+0.1**
OBN				pmax	pmax				
	comp=Z,6.0nm,0.8s								
KMBO	**Kilima Mbogo**	**127.15**	**255**	*e*PKiKP	**PKPdf**	**23**	**35**	**22.9**	**+0.2**
KMBO	**Kilima Mbogo**	**127.15**	**255**	*e*PKPdf	**PKPdf**	**23**	**35**	**22.9**	**+0.2**
LSZ	**Lusaka**	**127.87**	**234**	*e*PKiKP	**PKPdf**	**23**	**35**	**23.5**	**-0.3**
LSZ	**Lusaka**	**127.87**	**234**	*e*PKPdf	**PKPdf**	**23**	**35**	**23.5**	**-0.3**
FINES	**FINESS Array B**	**128.32**	**337**	PKP	**PKPdf**	**23**	**35**	**22.1**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=230,slow=32,SNR=1.6								
AKASG	**Malin Array Be**	**132.98**	**324**	PKP	**PKPdf**	**23**	**35**	**30.3**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=58,slow=2.0,SNR=3.8								
KIEV	**Kiev**	**132.99**	**324**	⇑*i*PKiKP	**PKPdf**	**23**	**35**	**32.3**	**0.0**
NB2	**NORSAR Subarra**	**133.36**	**344**	PKP	**PKPdf**	**23**	**35**	**32.3**	**-0.5**
	comp=Z,10nm,1.7s,baz=10,slow=3.2								
NOA	**NORSAR Array B**	**133.36**	**344**	PKP	**PKPdf**	**23**	**35**	**32.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=12,slow=2.3,SNR=2.9								
MMAI	**Mount Meron Ar**	**134.07**	**299**	PKP	**

PAB				*e*PKPab	**PKPab**	23 36 42.2	-0.5	
PBAR	**Barrancos**	**158.90**	**347**	*e*PKPab	**PKPab**	23 36 51.0	-0.1	
PBEJ	**Beja**	**159.21**	**349**	*e*PKPab	**PKPab**	23 36 52.4	-0.1	
TORD	**Torodi Ar. Bea**	**165.16**	**255**	PKP	**PKPdf**	23 36 21.2	-1.0	
	comp=Z,2.0nm,0.9s,baz=102,slow=0.6,SNR=7.4							
TORD				PKPab	**PKPab**	23 37 20.9	+1.5	
	comp=Z,0.7nm,0.7s,baz=80,slow=3.2,SNR=2.7							
TORD				PP	**PP**	23 41 08.9	+2.7	
	comp=Z,1.8nm,1.1s,baz=116,slow=2.0,SNR=4.0							
DBIC	**Dimbokro**	**166.51**	**217**	PKP	**PKPdf**	23 36 21.9	-1.5	
	comp=Z,4.2nm,1.1s,baz=45,slow=2.0,SNR=2.7							
DBIC				PKPab	**PKPab**	23 37 26.3	+1.1	
	comp=Z,4.0nm,1.0s,baz=151,slow=7.3,SNR=2.5							

IDC ***13*** *23:20:21.8±6.5,36°.30N×70°.00E,h121km±53km,mb2.9/1, mb1 2.8/6,mb1mx2.7/78,mbtmp3.3/6,MS3.3/1,Ms1 3.3/1, ms1mx2.5/23,Error ellipse: s-maj=85.9km s-min=25.8km az=152.0*
NNC ***13*** *23:20:20.4±11.0,36°.91N×69°.51E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=85.9km s-min=74.6km az=170.0*

ISC 13 23:20:23.0±2.2,**36°.5N**±0°.2×**69°.9E**±0°.1,**h100km,n11, σ1811/15,6C-2D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.57**	**38**			⇓P*n*	**Pn**	**23 21 30.9**	**+0.8**
	1.0nm,0.4s								
SFK						⇑S*n*	**Sn**	**23 22 23.5**	**+1.3**
	8.3nm,0.3s								
MNAS	**Manas**	**6.37**	**18**	⇑P*n*		P*n*	**Pn**	**23 21 55.4**	**+1.0**
	0.7nm,0.2s								
MNAS				⇑S*n*		S*n*	**Sn**	**23 23 05.1**	**-0.6**
	3.4nm,0.5s								
KK31	**Karatay Array**	**6.67**	**4**	⇑P*n*		P*n*	**Pn**	**23 21 59.4**	**+1.1**
	2.9nm,0.4s,baz=197,slow=13,SNR=30								
KK31				⇑S*n*		S*n*	**Sn**	**23 23 12.1**	**-0.7**
	1.9nm,0.5s,baz=199,slow=25,SNR=5.3								
AAK	**Ala-Archa**	**7.14**	**29**	P		P*n*	**Pn**	**23 22 05.5**	**+0.5**
	0.6nm,0.3s,baz=186,slow=4.7,SNR=6.5								
AAK				S		S*n*	**Sn**	**23 23 24.1**	**-0.5**
	0.3nm,0.3s,baz=134,slow=23,SNR=2.4								
AAK	**Ala-Archa**	**7.14**	**29**	⇓P*n*		P*n*	**Pn**	**23 22 05.6**	**+0.7**
	1.3nm,0.7s								
AAK				⇑S*n*		S*n*	**Sn**	**23 23 25.3**	**+0.7**
	4.2nm,1.1s								
GEYT	**Alibeck**	**9.48**	**282**	P		P*n*	**Pn**	**23 22 37.0**	**+0.3**
	0.1nm,0.3s,baz=108,slow=9.3,SNR=2.4								
MKAR	**Makanchi Array**	**13.89**	**38**	P		P*n*	**Pn**	**23 23 35.8**	**+0.4**
	0.1nm,0.3s,baz=214,slow=11,SNR=3.7								
KURBB	**Kurchatov Arra**	**15.48**	**21**	P		P*n*	**Pn**	**23 23 55.9**	**+0.3**
	0.0nm,0.3s,baz=209,slow=10,SNR=3.7								
AKTO	**Aktyubinsk**	**16.38**	**332**	P		P*n*	**Pn**	**23 24 06.9**	**+0.1**
	0.1nm,0.3s,baz=129,slow=18,SNR=3.2								
ZALV	**Zalesovo Beam**	**20.36**	**26**	P		P	**P**	**23 24 48.5**	**-2.8**
	0.5nm,0.3s,baz=208,slow=11,SNR=2.8								
SONM	**Songino Array**	**29.12**	**56**	LR		LR		23 37 29.7	
	comp=Z,56nm,18.9s,baz=216,slow=35								

LJU ***13*** *23:38:15.5,46°.77N×14°.10E,h0km,ML1.6*
VIE ***13*** *23:38:15.8±0.2,46°.78N×14°.07E,h10km±4km,mb1.7/9, ML2.3/11,Error ellipse: s-maj=1.4km s-min=0.8km az=8.0*
CSEM ***13*** *23:38:16.0±0.1,46°.79N×14°.06E,h2km,ML2.7/18,Error ellipse: s-maj=2.6km s-min=2.2km az=176.0*
PRU ***13*** *23:38:17.3,46°.81N×14°.10E,h0km*
ROM ***13*** *23:38:18.1±0.4,46°.70N×13°.98E,h10km,Ml2.1/14,Error ellipse: s-maj=5.3km s-min=4.4km az=111.0*

ISC 13 23:38:16.3±0.9,**46°.79N**±0°.02×**14°.07E**±0°.01,**h10km**±9km, **n112,σ0858/159,5C,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MYKA	**Terra Mystica**	**0.33**	**242**			P*g*	**Pg**	**23 38 22.8**	**-0.2**
	37nm,0.1s,SNR=63								
MYKA						S*g*	**Sg**	**23 38 26.9**	**-0.6**
	66nm,0.1s								
MYKA	**Terra Mystica**	**0.33**	**242**	*i* P*g*		P*g*	**Pg**	**23 38 22.8**	**-0.2**
	37nm,0.1s,SNR=63								
MYKA				*i* S*g*		S*g*	**Sg**	**23 38 26.9**	**-0.6**
	66nm,0.1s								
OBKA	**Obir**	**0.43**	**130**	P*g*		P*g*	**Pg**	**23 38 24.9**	**+0.1**
	6.5nm,0.1s,SNR=67								
OBKA				S*g*		S*g*	**Sg**	**23 38 30.0**	**-0.5**
	16nm,0.1s								
OBKA	**Obir**	**0.43**	**130**	*e*P*g*		P*g*	**Pg**	**23 38 24.9**	**+0.1**
	6.5nm,0.1s,SNR=67								
OBKA				*i* S*g*		S*g*	**Sg**	**23 38 30.0**	**-0.5**
	16nm,0.1s								
ACOM	**Acomizza, Ital**	**0.45**	**238**			P*g*	**Pg**	**23 38 25.2**	**0.0**
ACOM						S*g*	**Sg**	**23 38 31.1**	**-0.1**
	243nm,0.5s								
ACOM	**Acomizza, Ital**	**0.45**	**238**	P*g*		P*g*	**Pg**	**23 38 25.2**	**0.0**
ACOM				S*g*		S*g*	**Sg**	**23 38 31.1**	**-0.1**
	243nm,0.5s								
ACOM	**Acomizza, Ital**	**0.45**	**238**	⇑*e*P*g*		P*g*	**Pg**	**23 38 25.2**	**0.0**
ACOM				*e*S*g*		S*g*	**Sg**	**23 38 30.9**	**-0.3**
PRED	**Cave del Predi**	**0.49**	**225**	*e*P*g*		P*g*	**Pg**	**23 38 25.6**	**-0.3**
PRED				*e*S*g*		S*g*	**Sg**	**23 38 32.0**	**-0.3**
PRED	**Cave del Predi**	**0.49**	**225**	⇑*e*P*g*		P*g*	**Pg**	**23 38 25.6**	**-0.3**
PRED				*e*S*g*		S*g*	**Sg**	**23 38 32.0**	**-0.3**
KBA	**Koelnbreinsper**	**0.57**	**301**	P*g*		P*g*	**Pg**	**23 38 27.7**	**+0.2**
	15nm,0.1s,SNR=58								
KBA				S*g*		S*g*	**Sg**	**23 38 35.4**	**+0.2**
	11nm,0.1s								
KBA	**Koelnbreinsper**	**0.57**	**301**	*e*P*g*		P*g*	**Pg**	**23 38 27.7**	**+0.2**
	15nm,0.1s,SNR=58								
KBA				*i* S*g*		S*g*	**Sg**	**23 38 35.4**	**+0.2**
	11nm,0.1s								
PTCC	**Patocco-Chiusa**	**0.62**	**232**	P*g*		P*g*	**Pg**	**23 38 28.1**	**-0.3**
PTCC				S*g*		S*g*	**Sg**	**23 38 36.2**	**-0.4**
	142nm,0.4s								
PTCC	**Patocco-Chiusa**	**0.62**	**232**	P*g*		P*g*	**Pg**	**23 38 28.1**	**-0.3**
PTCC				S*g*		S*g*	**Sg**	**23 38 36.2**	**-0.4**
	142nm,0.4s								
SOKA	**Soboth**	**0.67**	**99**	P*g*		P*g*	**Pg**	**23 38 29.1**	**-0.2**
	9.0nm,0.1s,SNR=59								
SOKA				S*g*		S*g*	**Sg**	**23 38 38.3**	**+0.1**
	5.3nm,0.1s								
SOKA	**Soboth**	**0.67**	**99**	*e*P*g*		P*g*	**Pg**	**23 38 29.1**	**-0.2**
	9.0nm,0.1s,SNR=59								
SOKA				*i* S*g*		S*g*	**Sg**	**23 38 38.3**	**+0.1**
	5.3nm,0.1s								
PLRO	**Paularo**	**0.68**	**250**	*e*P*g*		P*g*	**Pg**	**23 38 29.3**	**-0.2**
PLRO				*e*S*g*		S*g*	**Sg**	**23 38 38.6**	**+0.3**
PLRO	**Paularo**	**0.68**	**250**	*e*P*g*		P*g*	**Pg**	**23 38 29.3**	**-0.2**
PLRO				*e*S*g*		S*g*	**Sg**	**23 38 38.6**	**+0.3**
DRE	**Drenchia**	**0.68**	**206**	*e*P*g*		P*g*	**Pg**	**23 38 29.0**	**-0.5**
DRE				*e*S*g*		S*g*	**Sg**	**23 38 38.3**	**-0.1**
DRE	**Drenchia**	**0.68**	**206**	*e*P*g*		P*g*	**Pg**	**23 38 29.0**	**-0.5**
DRE				*e*S*g*		S*g*	**Sg**	**23 38 38.3**	**-0.1**
VINO	**Villanova**	**0.76**	**226**	P*g*		P*g*	**Pg**	**23 38 30.7**	**-0.3**
VINO				S*g*		S*g*	**Sg**	**23 38 40.9**	**0.0**
	39nm,0.3s								
VINO	**Villanova**	**0.76**	**226**	P*g*		P*g*	**Pg**	**23 38 30.7**	**-0.3**
VINO				S*g*		S*g*	**Sg**	**23 38 40.9**	**0.0**
	39nm,0.3s								
VINO	**Villanova**	**0.76**	**226**	*e*P*g*		P*g*	**Pg**	**23 38 30.6**	**-0.3**
VINO				*e*S*g*		S*g*	**Sg**	**23 38 41.0**	**0.0**
VOJS	**Vojsko**	**0.77**	**190**	⇑*i*P*g*		P*g*	**Pg**	**23 38 30.5**	**-0.6**
	comp=Z,4.0nm,0.1s								
VOJS	**Vojsko**	**0.77**	**190**	⇑*i*P*g*		P*g*	**Pg**	**23 38 30.5**	**-0.6**
	comp=Z,4.0nm,0.1s								
ZOU	**Zoufplan**	**0.79**	**253**	*e*P*g*		P*g*	**Pg**	**23 38 31.2**	**-0.3**
ZOU	**Zoufplan**	**0.79**	**253**	⇑*e*P*g*		P*g*	**Pg**	**23 38 31.2**	**-0.3**
ZOU				*e*S*g*		S*g*	**Sg**	**23 38 42.3**	**+0.5**
ZOU	**Zoufplan**	**0.79**	**253**	*e*P*g*		P*g*	**Pg**	**23 38 31.2**	**-0.3**
BAD	**Bernadia**	**0.79**	**226**	*e*P*g*		P*g*	**Pg**	**23 38 31.2**	**-0.4**
BAD	**Bernadia**	**0.79**	**226**	*e*P*g*		P*g*	**Pg**	**23 38 31.2**	**-0.4**
COLI	**Coloredo**	**0.81**	**216**	*e*P*g*		P*g*	**Pg**	**23 38 31.5**	**-0.4**
COLI	**Coloredo**	**0.81**	**216**	*e*P*g*		P*g*	**Pg**	**23 38 31.5**	**-0.4**
BOO	**Bordano**	**0.82**	**235**	P*g*		P*g*	**Pg**	**23 38 31.6**	**-0.4**
BOO	**Bordano**	**0.82**	**235**	P*g*		P*g*	**Pg**	**23 38 31.6**	**-0.4**
FUSE	**Fusea**	**0.82**	**243**	*e*P*g*		P*g*	**Pg**	**23 38 32.0**	**-0.2**
FUSE				*e*S*g*		S*b*	**Sb**	**23 38 43.5**	**-0.4**
FUSE	**Fusea**	**0.82**	**243**	*e*P*g*		P*g*	**Pg**	**23 38 32.0**	**-0.2**
FUSE				*e*S*g*		S*b*	**Sb**	**23 38 43.5**	**-0.4**
BUA	**Buia**	**0.87**	**229**	*e*P*g*		P*g*	**Pg**	**23 38 32.7**	**-0.3**
BUA	**Buia**	**0.87**	**229**	*e*P*g*		P*g*	**Pg**	**23 38 32.7**	**-0.3**
SABO	**M.te Sabotino**	**0.87**	**202**	P*g*		P*g*	**Pg**	**23 38 32.2**	**-0.8**
	comp=Z,38nm,0.4s								
SABO	**M.te Sabotino**	**0.87**	**202**	P*g*		P*g*	**Pg**	**23 38 32.2**	**-0.8**
	comp=Z,38nm,0.4s								
SABO	**M.te Sabotino**	**0.87**	**202**	*e*P*g*		P*g*	**Pg**	**23 38 32.3**	**-0.8**

CLUD	**Cludinico**	**0.88**	**248**	*e*P*g*		P*g*	**Pg**	**23 38 32.8**	**-0.5**
CLUD	**Cludinico**	**0.88**	**248**	*e*P*g*		P*g*	**Pg**	**23 38 32.9**	**-0.5**
FVI	**Forni Avoltri**	**0.91**	**258**	P*n*		P*g*	**Pg**	**23 38 33.3**	**-0.5**
	comp=Z,43nm,0.2s								
FVI	**Forni Avoltri**	**0.91**	**258**	P*n*		P*g*	**Pg**	**23 38 33.3**	**-0.5**
	comp=Z,43nm,0.2s								
GROS	**Grobnik**	**1.04**	**108**	*i* P*g*		P*g*	**Pg**	**23 38 35.6**	**-0.7**
GROS				*e*S*g*		S*g*	**Sg**	**23 38 49.6**	**-0.3**
	comp=Z,11nm,0.1s								
GROS	**Grobnik**	**1.04**	**108**	*i* P*g*		P*g*	**Pg**	**23 38 35.7**	**-0.7**
GROS				*e*S*g*		S*g*	**Sg**	**23 38 49.6**	**-0.3**
	comp=Z,11nm,0.1s								
ABTA	**Abfaltersbach**	**1.07**	**268**	P*g*		P*g*	**Pg**	**23 38 36.2**	**-0.7**
	comp=Z,3.1nm,0.1s,SNR=26								
ABTA				S*g*		S*g*	**Sg**	**23 38 50.8**	**0.0**
	comp=Z,2.6nm,0.1s								
ABTA	**Abfaltersbach**	**1.07**	**268**	*e*P*g*		P*g*	**Pg**	**23 38 36.2**	**-0.7**
	comp=Z,3.1nm,0.1s,SNR=26								
ABTA				S*g*		S*g*	**Sg**	**23 38 50.8**	**0.0**
	comp=Z,2.6nm,0.1s								
MOA	**Molln**	**1.07**	**7**	P*g*		P*g*	**Pg**	**23 38 37.1**	**+0.2**
	comp=Z,1.0nm,0.1s,SNR=17								
MOA	**Molln**	**1.07**	**7**	*e*P*g*		P*g*	**Pg**	**23 38 37.1**	**+0.2**
	comp=Z,1.0nm,0.1s,SNR=17								
STAL	**STALIGIAL**	**1.08**	**241**	P*n*		P*g*	**Pg**	**23 38 36.5**	**-0.5**
	comp=Z,45nm,0.2s								
STAL	**STALIGIAL**	**1.08**	**241**	P*n*		P*g*	**Pg**	**23 38 36.5**	**-0.5**
	comp=Z,45nm,0.2s								
ARSA	**Arzberg**	**1.10**	**65**	P*g*		P*g*	**Pg**	**23 38 37.0**	**-0.4**
	comp=Z,0.9nm,0.1s,SNR=11								
ARSA				S*g*		S*g*	**Sg**	**23 38 51.6**	**-0.1**
	comp=Z,1.4nm,0.1s								
ARSA	**Arzberg**	**1.10**	**65**	*e*P*g*		P*g*	**Pg**	**23 38 37.0**	**-0.4**
	comp=Z,0.9nm,0.1s,SNR=11								
ARSA				*e*S*g*		S*g*	**Sg**	**23 38 51.6**	**-0.1**
	comp=Z,1.4nm,0.1s								
TRI	**Trieste**	**1.10**	**191**	*e*P*g*		P*g*	**Pg**	**23 38 36.4**	**-1.0**
TRI	**Trieste**	**1.10**	**191**	P*n*		P*g*	**Pg**	**23 38 37.0**	**-0.4**
	comp=Z,260nm,4.3s								
TRI	**Trieste**	**1.10**	**191**	P*n*		P*g*	**Pg**	**23 38 37.0**	**-0.4**
	comp=Z,260nm,4.3s								
TRI	**Trieste**	**1.10**	**191**	*e*P*g*		P*g*	**Pg**	**23 38 36.4**	**-1.0**
CIMO	**Cimolais**	**1.22**	**248**	*e*P*g*		P*g*	**Pg**	**23 38 38.6**	**-1.2**
CIMO	**Cimolais**	**1.22**	**248**	*e*P*g*		P*g*	**Pg**	**23 38 38.6**	**-1.2**
CRES	**Cresnjev**	**1.36**	**134**	*i* P*g*		P*b*	**Pb**	**23 38 42.4**	**+0.6**
CRES				*e*S*g*		S*b*	**Sb**	**23 39 00.1**	**+0.8**
	comp=Z,3.0nm,0.2s								
CRES	**Cresnjev**	**1.36**	**134**	*i* P*g*		P*b*	**Pb**	**23 38 42.4**	**+0.6**
CRES				*e*S*g*		S*b*	**Sb**	**23 39 00.1**	**+0.8**
	comp=Z,3.0nm,0.2s								
CAE	**Caneva**	**1.37**	**236**	*e*P*g*		P*b*	**Pb**	**23 38 43.4**	**+1.3**
CAE	**Caneva**	**1.37**	**236**	*e*P*g*		P*b*	**Pb**	**23 38 43.4**	**+1.3**
RISI	**Rein**	**1.38**	**277**	P*n*		P*g*	**Pg**	**23 38 41.4**	**-1.3**
	comp=Z,41nm,0.4s								
RISI	**Rein**	**1.38**	**277**	P*n*		P*g*	**Pg**	**23 38 41.4**	**-1.3**
	comp=Z,41nm,0.4s								
AGOR	**Agordo**	**1.48**	**251**	P*n*		P*g*	**Pg**	**23 38 44.4**	**-0.4**
	comp=Z,52nm,0.6s								
OZLJ	**Ozalj**	**1.52**	**140**	*e*P*g*		P*g*	**Pg**	**23 38 46.3**	**+0.7**
OZLJ				S*g*		S*n*	**Sn**	**23 39 02.5**	**-0.9**
OZLJ	**Ozalj**	**1.52**	**140**	*e*P*g*		P*g*	**Pg**	**23 38 46.2**	**+0.7**
OZLJ				S*g*		S*n*	**Sn**	**23 39 02.4**	**-0.9**
BOJS	**Bojanci**	**1.52**	**147**	*e*P*g*		P*g*	**Pg**	**23 38 45.4**	**-0.2**
BOJS				*e*S*g*		S*g*	**Sg**	**23 39 05.5**	**+0.2**
	comp=Z,6.0nm,0.3s								
BOJS	**Bojanci**	**1.52**	**147**	*e*P*g*		P*g*	**Pg**	**23 38 45.4**	**-0.2**
BOJS				*e*S*g*		S*g*	**Sg**	**23 39 05.5**	**+0.2**
	comp=Z,6.0nm,0.3s								
VARN	**Col Varnada, M**	**1.57**	**240**	*e*P*g*		P*g*	**Pg**	**23 38 46.2**	**-0.3**
VARN	**Col Varnada, M**	**1.57**	**240**	*e*P*g*		P*g*	**Pg**	**23 38 46.1**	**-0.3**
CONA	**Conrad Observa**	**1.67**	**46**	P*g*		P*g*	**Pg**	**23 38 48.1**	**-0.3**
	comp=Z,1.1nm,0.3s								
CONA				S*g*		S*g*	**Sg**	**23 39 11.1**	**+1.1**
	comp=Z,3.7nm,0.4s								
CONA	**Conrad Observa**	**1.67**	**46**	P*g*		P*g*	**Pg**	**23 38 48.1**	**-0.3**
	comp=Z,1.1nm,0.3s								
CONA				S*g*		S*g*	**Sg**	**23 39 11.1**	**+1.1**
	comp=Z,3.7nm,0.4s								
WTTA	**Wattenberg**	**1.73**	**287**	P*n*		P*b*	**Pb**	**23 38 48.5**	**+0.2**
	comp=Z,77nm,3.0s								
WTTA				S*g*		S*b*	**Sb**	**23 39 11.2**	**+1.1**
WTTA	**Wattenberg**	**1.73**	**287**	P*n*		P*b*	**Pb**	**23 38 48.5**	**+0.2**
	comp=Z,77nm,3.0s								
WTTA	**Wattenberg**	**1.73**	**287**	P*g*		P*b*	**Pb**	**23 38 48.4**	**+0.1**
	comp=Z,2.5nm,0.2s,SNR=7.1								
WTTA				S*g*		S*g*	**Sg**	**23 39 12.8**	**+0.8**
	comp=Z,2.5nm,0.3s								
WATA	**Walderalm**	**1.79**	**289**	P*g*		P*b*	**Pb**	**23 38 49.4**	**+0.2**
	comp=Z,1.5nm,0.1s,SNR=7.8								
WATA	**Walderalm**	**1.79**	**289**	*e*P*g*		P*b*	**Pb**	**23 38 49.4**	**+0.2**
	comp=Z,1.5nm,0.1s,SNR=7.8								
ROSI	**Rosskopf**	**1.83**	**275**	P*n*		P*b*	**Pb**	**23 38 50.1**	**+0.2**
	comp=Z,43nm,1.4s								
ROSI	**Rosskopf**	**1.83**	**275**	P*n*		P*b*	**Pb**	**23 38 50.1**	**+0.2**
	comp=Z,43nm,1.4s								
KOSI	**Kohlern**	**1.88**	**261**	P*n*		P*b*	**Pb**	**23 38 51.1**	**+0.3**
	comp=Z,202nm,2.8s								
KOSI	**Kohlern**	**1.88**	**261**	P*n*		P*b*	**Pb**	**23 38 51.1**	**+0.3**
	comp=Z,202nm,2.8s								
ABSI	**Aberstueckl**	**1.89**	**269**	P*n*		P*b*	**Pb**	**23 38 51.1**	**+0.1**
	comp=Z,22nm,0.6s								
ABSI	**Aberstueckl**	**1.89**	**269**	P*n*		P*b*	**Pb**	**23 38 51.1**	**+0.1**
	comp=Z,22nm,0.6s								
APPI	**Appiano**	**1.98**	**262**	P*n*		P*b*	**Pb**	**23 38 52.7**	**+0.2**
	comp=Z,28µm,30.0s								
APPI	**Appiano**	**1.98**	**262**	P*n*		P*b*	**Pb**	**23 38 52.7**	**+0.2**
	comp=Z,28µm,30.0s								
MOTA	**Moosalm**	**2.10**	**286**	P*g*		P*b*	**Pb**	**23 38 55.6**	**+1.0**
	comp=Z,0.7nm,0.1s								
MOTA	**Moosalm**	**2.10**	**286**	P*g*		P*b*	**Pb**	**23 38 55.6**	**+1.0**
	comp=Z,0.7nm,0.1s								
NVLJ	**Novalja**	**2.29**	**166**	*i* P*n*		P*b*	**Pb**	**23 38 57.2**	**-0.5**
NVLJ				S*n*		S*b*	**Sb**	**23 39 26.4**	**+0.3**
NVLJ	**Novalja**	**2.29**	**166**	*i* P*n*		P*b*	**Pb**	**23 38 57.2**	**-0.5**
NVLJ				S*n*		S*b*	**Sb**	**23 39 26.4**	**+0.3**
FETA	**Feichten**	**2.30**	**277**	P*g*		P*b*	**Pb**	**23 38 58.7**	**+0.7**
	comp=Z,1.2nm,0.2s								
FETA	**Feichten**	**2.30**	**277**	P*g*		P*b*	**Pb**	**23 38 58.7**	**+0.7**
	comp=Z,1.2nm,0.2s								
RETA	**Reutte**	**2.36**	**288**	P*g*		P*g*	**Pg**	**23 39 00.9**	**-0.7**
	comp=Z,2.0nm,0.2s								
RETA				S*g*		S*g*	**Sg**	**23 39 33.0**	**+0.8**
	comp=Z,6.9nm,0.6s								
RETA	**Reutte**	**2.36**	**288**	P*g*		P*g*	**Pg**	**23 39 00.9**	**-0.7**
	comp=Z,2.0nm,0.2s								
RETA				S*g*		S*g*	**Sg**	**23 39 33.0**	**+0.8**
	comp=Z,6.9nm,0.6s								
KHC	**Kasperske Hory**	**2.37**	**352**	*e*P*G*		P*g*	**Pg**	**23 39 01.1**	**-0.6**
KHC				*e*S*G*		S*g*	**Sg**	**23 39 31.3**	**-1.1**
	comp=Z,4.1nm,0.2s								
KHC	**Kasperske Hory**	**2.37**	**352**	P*g*		P*g*	**Pg**	**23 39 01.1**	**-0.6**
KHC				S*g*		S*g*	**Sg**	**23 39 31.3**	**-1.1**
	comp=Z,4.1nm,0.2s								
UDBI	**Udbina**	**2.55**	**152**	*e*P*n*		P*n*	**Pn**	**23 38 58.3**	**+0.5**
UDBI	**Udbina**	**2.55**	**152**	*e*P*n*		P*n*	**Pn**	**23 38 58.2**	**+0.5**
DAVA	**Damuels**	**2.91**	**281**	S*g*		S*g*	**Sg**	**23 39 50.0**	**+0.3**
	comp=Z,1.3nm,0.2s								
DAVA	**Damuels**	**2.91**	**281**	S*g*		S*g*	**Sg**	**23 39 50.0**	**+0.3**
	comp=Z,1.3nm,0.2s								
GOPC	**GO Pecny, Ondr**	**3.17**	**8**	*e*S*G*		S*g*	**Sg**	**23 39 57.1**	**-0.8**
GOPC	**GO Pecny, Ondr**	**3.17**	**8**	S*g*		S*g*	**Sg**	**23 39 57.1**	**-0.8**
PRU	**Pruhonice**	**3.22**	**5**	*e*S*G*		S*g*	**Sg**	**23 39 59.3**	**-0.3**
	comp=Z,2.2nm,0.4s								
PRU	**Pruhonice**	**3.22**	**5**	S*g*		S*g*	**Sg**	**23 39 59.3**	**-0.3**
	comp=Z,2.2nm,0.4s								
NKC	**Novy Kostel**	**3.61**	**343**	*e*S*G*		S*g*	**Sg**	**23 40 12.4**	**+0.1**
	comp=Z,4.2nm,0.5s								
NKC	**Novy Kostel**	**3.61**	**343**	S*g*		S*g*	**Sg**	**23 40 12.4**	**+0.1**
	comp=Z,4.2nm,0.5s								
DPC	**Dobruska-Polom**	**3.87**	**22**	*e*S*G*		S*g*	**Sg**	**23 40 20.2**	**-0.2**
DPC	**Dobruska-Polom**	**3.87**	**22**	S*g*		S*g*	**Sg**	**23 40 20.2**	**-0.2**
UPC	**Upice**	**3.94**	**18**	*e*S*G*		S*g*	**Sg**	**23 40 20.9**	**-1.9**
UPC	**Upice**	**3.94**	**18**	S*g*		S*g*	**Sg**	**23 40 20.9**	**-1.9**

ISCJB ***13*** *23:50:44.4±0.5,37°.65N±0°.04×72°.50E±0°.07,h100km, mb3.3/1,Error ellipse: s-maj=8.6km s-min=5.0km az=161.6*
IDC ***13*** *23:50:45.6±6.0,37°.65N×72°.62E,h102km±44km,mb3.1/1, mb1 3.1/7,mb1mx2.8/67,mbtmp3.5/7,Error ellipse: s-maj=79.4km s-min=27.4km az=149.0*
SOME ***13*** *23:50:50.8,39°.05N×71°.77E,h5km*
NNC ***13*** *23:50:51.0±5.5,38°.35N×72°.16E,h0km,mb3.9,mpv3.4, Error ellipse: s-maj=48.7km s-min=26.1km az=152.0*

ISC 13 23:50:45.4±0.9,**37°.76N**±0°.07×**72°.40E**±0°.06,**h100km,n32, σ2815/41,11C-3D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.41**	**21**	⇑P		P*n*	**Pn**	**23 51 26.6**	**+3.0**
	11nm,0.3s								
SFK				⇓S		S*n*	**Sn**	**23 51 53.6**	**+0.9**
	68nm,0.2s								
AML	**Almayashu**	**4.48**	**12**	P		P*n*	**Pn**	**23 51 53.1**	**+1.7**
	SNR=53								
MNAS	**Manas**	**4.72**	**1**	⇑P		P*n*	**Pn**	**23 51 56.6**	**+2.2**
	1.3nm,0.3s								
MNAS				⇑S		S*n*	**Sn**	**23 52 45.5**	**-2.6**
	36nm,0.8s								
UCH	**Uchtor**	**4.75**	**19**	P		P*n*	**Pn**	**23 51 57.0**	**+1.9**
	SNR=23								
KZA	**Kyzart**	**4.84**	**26**	P		P*n*	**Pn**	**23 51 57.5**	**+1.3**
	SNR=8.5								
EKS2	**Erkin-Say**	**5.01**	**12**	P		P*n*	**Pn**	**23 52 00.5**	**+2.2**
	SNR=17								
MRKS	**Merke**	**5.02**	**7**	*e*P		P*n*	**Pn**	**23 52 00.8**	**+2.4**
	8.5nm,0.2s								
MRKS				⇓*i*S		S*n*	**Sn**	**23 52 52.4**	**-2.8**
	21nm,0.5s								
AAK	**Ala-Archa**	**5.13**	**18**	P		P*n*	**Pn**	**23 52 02.1**	**+2.1**
	3.7nm,0.3s,baz=164,slow=5.9,SNR=79								
AAK				S		S*n*	**Sn**	**23 52 55.5**	**-2.5**
	2.3nm,0.3s,baz=327,slow=23,SNR=21								
AAK	**Ala-Archa**	**5.13**	**18**	⇑P		P*n*	**Pn**	**23 52 02.0**	**+2.0**
	6.6nm,0.5s								
AAK				⇑S		S*n*	**Sn**	**23

KAVA	Kavala	1.38	325	P	Pn	23 52 46.0 +0.2
CHOS	Chios island	1.53	165	PN	Pb	23 52 48.7 -0.2
CHOS	Chios island	1.53	165	P	Pg	23 52 49.9 +0.3
CHOS	Chios island	1.53	165	*e*Pn	Pb	23 52 48.7 -0.2
CHOS	Chios island	1.53	165	P	Pg	23 52 49.4 -0.2
BALB	Balikesir	1.81	96	PN	Pb	23 52 53.3 -0.4
BALB	Balikesir	1.81	96	*e*Pn	Pb	23 52 53.3 -0.4
EDC	Edincik	1.84	74	PN	Pb	23 52 53.6 -0.5
EDC	Edincik	1.84	74	*e*Pn	Pb	23 52 53.6 -0.5

IDC ***14*** *00:02:16.3±2.3, 33°.81S×178°.60W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/37, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=62.8km s-min=34.2km az=128.0*
WEL ***14*** *00:02:20.9±0.9, 34°S±15'×17°8W±2°.0, h33km, ML4.6/27*
ISC 14 00:02:18.5±1.7, 34°.0S±0'.1×178°.1W±0°.2, h35km, n52, σ1s35/53, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	Waiomatatini S	4.80	216	P	Pn	00 03 29.1	+0.9
WMGZ	Waiomatatini S	4.80	216	S	Sn	00 04 25.0	+2.4
PKGZ	Pakihiroa	5.02	218	S	Sn	00 04 27.6	-0.5
PKGZ	Pakihiroa	5.02	218	P	Pn	00 03 30.9	-0.5
PUZ	Puketiti	5.07	215	P	Pn	00 03 32.0	0.0
PUZ	Puketiti	5.07	215	S	Sn	00 04 30.1	+0.7
HAZ	Te Kaha	5.07	221	S	Sn	00 04 29.8	+0.4
HAZ	Te Kaha	5.07	221	P	Pn	00 03 34.3	+2.3
RUGZ	Raukumara Rang	5.28	220	P	Pn	00 03 36.3	+1.3
TWGZ	Tauwhareparae	5.29	216	P	Pn	00 03 37.1	+2.0
TWGZ	Tauwhareparae	5.29	216	S	Sn	00 04 34.3	-0.5
CNGZ	Carnagh Statio	5.43	213	P	Pn	00 03 39.6	+2.7
CNGZ	Carnagh Statio	5.43	213	S	Sn	00 04 39.5	+1.3
TKGZ	Te Karaka	5.56	215	P	Pn	00 03 39.9	+1.2
TKGZ	Te Karaka	5.56	215	S	Sn	00 04 42.4	+1.0
WHRZ	Whale Island	5.60	225	P	Pn	00 03 37.7	-1.6
MWZ	Matawai	5.64	218	P	Pn	00 03 38.6	-1.2
MWZ	Matawai	5.64	218	S	Sn	00 04 43.3	-0.1
URZ	Urewera	5.80	221	Pn	Pn	00 03 42.4	+0.4
	5.0nm,0.3s,baz=90,slow=6.1,SNR=17						
URZ				Sn	Sn	00 04 45.6	-1.8
	5.5nm,0.3s,baz=105,slow=19,SNR=7.8						
URZ	Urewera	5.80	221	P	Pn	00 03 42.4	+0.4
URZ	Urewera	5.80	221	S	Sn	00 04 47.1	-0.3
RIGZ	Rimuhau	5.81	214	P	Pn	00 03 43.4	+1.2
RAGZ	Rawiri	5.82	218	P	Pn	00 03 43.3	+0.9
OPRZ	Ohinepanea	5.84	227	P	Pn	00 03 43.0	+0.5
PRGZ	Paritu Road	5.93	212	P	Pn	00 03 43.9	0.0
LIRZ	Lichensteins R	6.05	227	P	Pn	00 03 47.6	+2.2
SNGZ	Shannon Statio	6.08	216	P	Pn	00 03 47.3	+1.4
KNZ	Kokohu	6.11	213	P	Pn	00 03 47.5	+1.3
RTZ	Ruatahuna	6.13	219	P	Pn	00 03 47.4	+0.8
RTZ	Ruatahuna	6.13	219	S	Sn	00 04 52.5	-3.1
MUGZ	Murupara	6.15	221	S	Sn	00 04 53.9	-2.0
MUGZ	Murupara	6.15	221	P	Pn	00 03 46.6	-0.2
RAHZ	Arahi	6.30	217	P	Pn	00 03 49.9	+0.9
MTHZ	Maungataniwha	6.38	219	P	Pn	00 03 51.7	+1.7
MTHZ	Maungataniwha	6.38	219	S	Sn	00 05 01.6	-0.1
TOZ	Tahuroa Road	6.44	232	P	Pn	00 03 53.9	+3.1
NMHZ	Naumai	6.58	217	P	Pn	00 03 53.7	+0.8
ARHZ	Aropaoanui	6.62	216	P	Pn	00 03 53.4	+0.1
BKZ	Black Stump Fm	6.80	216	P	Pn	00 03 56.5	+1.7
MCHZ	McNeill Hill	6.91	216	P	Pn	00 03 58.1	+0.9
KAHZ	Kahuranaki	7.09	213	P	Pn	00 03 59.8	-0.1
WTVZ	West Tongariro	7.25	223	P	Pn	00 04 02.4	+0.4
BHHZ	Black Hill Sta	7.26	219	P	Pn	00 04 02.3	+0.2
MOVZ	Moawhango	7.36	221	P	Pn	00 04 03.7	+0.1
FWVZ	Far West T-bar	7.37	222	P	Pn	00 04 04.5	+0.7
WNVZ	Wahianoa	7.39	222	P	Pn	00 04 03.5	-0.5
PNHZ	Pukenui	7.51	216	P	Pn	00 04 04.2	-1.4
BFZ	Birch Farm	8.10	212	P	Pn	00 04 11.5	-2.1
ASAR	Alice Springs	42.99	271	P	P	00 10 13.9	-0.7
	1.1nm,0.7s,baz=112,slow=7.8,SNR=10						
WRA	Warramunga Arr	44.30	276	P	P	00 10 24.1	-1.0
	1.6nm,0.7s,baz=118,slow=7.6,SNR=13						
MKAR	Makanchi Array	119.98	309	PKP	PKPdf	00 21 06.8	+1.8
	0.2nm,0.6s,baz=108,slow=3.2,SNR=3.1						
FINES	FINESS Array B	148.44	338	PKPbc	PKPab	00 22 03.0	-1.0
	0.8nm,0.5s,baz=64,slow=6.3,SNR=5.1						

ISCJB ***14*** *00:19:12.7±0.5, 67°.83N±0°.02×20°.31E±0°.08, h0km, Error ellipse: s-maj=4.5km s-min=3.4km az=171.3*
UPP ***14*** *00:19:13.2, 67°.85N×20°.20E, h0km, ML1.7, Mining explosion.*
CSEM ***14*** *00:19:13.1±0.2, 67°.84N×20°.31E, h2km, ML1.7, Error ellipse: s-maj=4.2km s-min=4.0km az=6.0, Mining explosion.*
HEL ***14*** *00:19:13.8±0.1, 67°.84N×20°.19E, h0km, ML1.8, ML1.7(UPP), Explosion*
ISC 14 00:19:13.4±0.8, 67°.84N±0°.02×20°.25E±0°.02, h0km, n44, σ0s82/61, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.12	16	P	Pg	00 19 15.8	+0.1
KUA				S	Sg	00 19 17.5	+0.3
KUA	Kurravaara	0.12	16	P	Pg	00 19 15.8	+0.1
KUA				S	Sg	00 19 17.6	+0.3
KUA	Kurravaara	0.12	16	*i* P	Pg	00 19 15.8	+0.1
KUA				*i* S	Sg	00 19 17.6	+0.3
RATU	Laukkuluspa	0.25	267	P	Pg	00 19 17.8	-0.3
RATU	Laukkuluspa	0.25	267	P	Pg	00 19 17.9	-0.3
RATU	Laukkuluspa	0.25	267	*i* P	Pg	00 19 17.9	-0.3
NIKU	Nikkaluokta	0.46	274	P	Pg	00 19 21.7	-0.5
NIKU	Nikkaluokta	0.46	274	P	Pg	00 19 21.8	-0.5
NIKU	Nikkaluokta	0.46	274	*i* P	Pg	00 19 21.8	-0.5
LANU	Lannavaara	0.69	71	P	Pg	00 19 26.5	-0.1
LANU				S	Sg	00 19 36.2	+0.7
LANU	Lannavaara	0.69	71	P	Pg	00 19 26.5	-0.1
LANU	Lannavaara	0.69	71	*e*P	Pg	00 19 26.6	-0.1
	baz=251						
LANU				*e*S	Sg	00 19 36.2	+0.7
DUNU	Dundret	0.73	170	P	Pg	00 19 27.1	-0.2
DUNU	Dundret	0.73	170	P	Pg	00 19 27.2	-0.2
DUNU	Dundret	0.73	170	*i* P	Pg	00 19 27.2	-0.2
MASU	Masugnsbyn	0.77	119	P	Pg	00 19 28.2	+0.1
MASU	Masugnsbyn	0.77	119	P	Pg	00 19 28.3	+0.1
MASU	Masugnsbyn	0.77	119	*i* P	Pg	00 19 28.3	+0.1
KIF	Kilpisjarvi	1.19	10	P	Pg	00 19 35.6	-0.5
KIF				S	Sg	00 19 51.8	+0.2
KIF	Kilpisjarvi	1.19	10	*e*P	Pg	00 19 35.6	-0.5
	baz=189						
KIF				MSG		00 19 51.2	
	comp=Z,16nm,0.2s						
KIF				*e*S	Sg	00 19 51.8	+0.2
PAJU	Pajala	1.38	125	P	Pg	00 19 38.8	-0.9
PAJU	Pajala	1.38	125	P	Pg	00 19 38.8	-0.9
PAJU	Pajala	1.38	125	*e*P	Pg	00 19 38.8	-0.9
HEF	Hetta	1.40	64	Pg	Pn	00 19 39.2	-1.0
HEF				Sb	Sg	00 19 58.3	0.0
HEF	Hetta	1.40	64	*e*PG	Pn	00 19 39.2	-1.0
	baz=243						
HEF				MSG		00 19 56.4	
	comp=Z,5.7nm,0.2s						
HEF				*e*SB	Sg	00 19 58.4	0.0
ERTU	Ertsjaerv	1.50	149	P	Pn	00 19 40.9	-0.6
ERTU				Sb	Sg	00 20 01.2	-0.1
ERTU	Ertsjaerv	1.50	149	P	Pn	00 19 40.9	-0.6
ERTU	Ertsjaerv	1.50	149	*e*PG	Pn	00 19 40.8	-0.6
ERTU				*e*SB	Sg	00 20 01.3	-0.1
KALU	Kalix	2.34	147	Pb	Pn	00 19 54.1	+1.1
KALU	Kalix	2.34	147	*e*PB	Pn	00 19 54.1	+1.1
KALU				*e*SB	Sb	00 20 25.0	-0.7
TOF	Tornio	2.38	136	Pb	Pn	00 19 55.2	+1.5
TOF	Tornio	2.38	136	*e*PB	Pn	00 19 55.2	+1.5
TOF				MSG		00 20 23.8	
	comp=Z,4.1nm,0.2s						
TOF				*e*SG	Sb	00 20 27.9	+0.8
SGF	Sodankyl	2.43	97	Pb	Pb	00 19 56.5	-1.4
SGF	Sodankyl	2.43	97	*e*PB	Pb	00 19 56.6	-1.4
	baz=285						
SGF				*e*SG	Sb	00 20 29.6	+1.2
ARE0	ARCESS Array S	2.57	46	P	Pn	00 19 56.5	+0.3
ARE0				S	Sn	00 20 26.5	-1.6
ARE0	ARCESS Array S	2.57	46	*e*P	Pn	00 19 56.5	+0.3
	baz=230						
ARE0				*e*S	Sn	00 20 26.5	-1.6
MOR8	Moi Rana	2.83	236	*e*P	Pn	00 20 00.8	+1.0
MOR8	Moi Rana	2.83	236	*e*P	Pn	00 20 00.8	+1.0
VRF	Varrio	3.56	87	Pg	Pb	00 20 19.0	+1.9
VRF	Varrio	3.56	87	*e*PG	Pb	00 20 19.0	+1.9
OUL	Oulu	3.57	138	Pg	Pb	00 20 17.7	+0.3
OUL	Oulu	3.57	138	*e*PG	Pb	00 20 17.7	+0.3
	baz=320						
OUL				*e*SB	Sb	00 21 00.5	-0.7
KU6	Riekki	4.21	111	Pg	Pb	00 20 29.0	+0.8
KU6	Riekki	4.21	111	*e*PG	Pb	00 20 29.0	+0.8

CSEM ***14*** *00:25:19.4±0.8, 67°.83N×20°.51E, h1km, ML2.4, Error ellipse: s-maj=30.4km s-min=16.4km az=34.0, Mining explosion.*
UPP 14 00:25:20.7, 67°.85N×20°.24E, h0km, ML2.4, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.11	19	P	Pg	00 25 23.2	+0.3
KUA				S	Sg	00 25 24.9	+0.6
KUA	Kurravaara	0.11	19	P	Pg	00 25 23.2	+0.3
KUA				S	Sg	00 25 24.9	+0.5
RATU	Laukkuluspa	0.25	265	P	Pg	00 25 25.6	+0.2
RATU	Laukkuluspa	0.25	265	P	Pg	00 25 25.6	+0.3
MASU	Masugnsbyn	0.78	119	P	Pg	00 25 35.4	-0.2
MASU	Masugnsbyn	0.78	119	P	Pg	00 25 35.4	-0.2
PAJU	Pajala	1.38	125	P	Pg	00 25 45.9	-1.3
PAJU	Pajala	1.38	125	P	Pg	00 25 45.9	-1.3

ISCJB ***14*** *00:33:24.5±0.5, 67°.20N±0°.03×20°.76E±0°.08, h0km, Error ellipse: s-maj=4.4km s-min=3.6km az=165.7*
CSEM ***14*** *00:33:24.8±0.3, 67°.16N×20°.73E, h2km, ML2.4, Error ellipse: s-maj=7.6km s-min=4.6km az=54.0, Mining explosion.*
HEL ***14*** *00:33:25.7±0.1, 67°.16N×20°.64E, h0km, ML1.8, ML2.4(UPP), Explosion*
UPP ***14*** *00:33:25.1, 67°.16N×20°.66E, h0km, ML2.4, Mining explosion.*
ISC 14 00:33:25.3±0.8, 67°.17N±0°.02×20°.69E±0°.02, h0km, n41, σ1s20/60, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.07	225	P	Pg	00 33 26.4	-0.1
DUNU				S	Sg	00 33 27.3	-0.1
DUNU	Dundret	0.07	225	P	Pg	00 33 26.5	-0.1
DUNU				S	Sg	00 33 27.3	-0.1
DUNU	Dundret	0.07	225	*i* P	Pg	00 33 26.5	-0.1
DUNU				*i* S	Sg	00 33 27.3	-0.1
MASU	Masugnsbyn	0.58	60	P	Pg	00 33 36.7	+0.2
MASU	Masugnsbyn	0.58	60	P	Pg	00 33 36.7	+0.2
MASU	Masugnsbyn	0.58	60	*i* P	Pg	00 33 36.7	+0.2
RATU	Laukkuluspa	0.78	328	P	Pg	00 33 39.7	-0.6
RATU	Laukkuluspa	0.78	328	P	Pg	00 33 39.8	-0.6
RATU	Laukkuluspa	0.78	328	*i* P	Pg	00 33 39.8	-0.6
KUA	Kurravaara	0.80	350	P	Pg	00 33 40.1	-0.5
KUA	Kurravaara	0.80	350	P	Pg	00 33 40.1	-0.5
KUA	Kurravaara	0.80	350	*i* P	Pg	00 33 40.1	-0.5
ERTU	Ertsjaerv	0.86	135	P	Pg	00 33 40.7	-1.0
ERTU				Sb	Sg	00 33 53.3	+0.5
ERTU	Ertsjaerv	0.86	135	P	Pg	00 33 40.9	-0.8
ERTU	Ertsjaerv	0.86	135	*e*P	Pg	00 33 40.8	-1.0
ERTU				*e*SB	Sg	00 33 53.3	+0.5
NIKU	Nikkaluokta	0.95	319	P	Pg	00 33 42.7	-0.8
NIKU	Nikkaluokta	0.95	319	P	Pg	00 33 42.7	-0.7
NIKU	Nikkaluokta	0.95	319	*e*P	Pg	00 33 42.7	-0.7
PAJU	Pajala	0.96	98	P	Pg	00 33 42.9	-0.8
PAJU	Pajala	0.96	98	P	Pg	00 33 42.9	-0.8
PAJU	Pajala	0.96	98	*e*P	Pg	00 33 42.9	-0.8
LANU	Lannavaara	1.01	29	P	Pg	00 33 44.0	-0.8
LANU				S	Sg	00 33 55.3	-2.6
LANU	Lannavaara	1.01	29	*e*P	Pg	00 33 44.0	-0.8
LANU				*e*S	Sg	00 33 55.3	-2.6
HEF	Hetta	1.68	41	P	Pn	00 33 55.9	-0.1
HEF				Sn	Sg	00 34 20.0	+0.7
HEF	Hetta	1.68	41	*e*P	Pn	00 33 55.9	-0.1
HEF				MSG		00 34 16.3	
	comp=Z,5.1nm,0.2s						
HEF				*e*SN	Sg	00 34 20.1	+0.8
KALU	Kalix	1.69	140	Pn	Pn	00 33 56.3	+0.2
KALU				Sn	Sg	00 34 19.6	-0.1
KALU	Kalix	1.69	140	*e*PN	Pn	00 33 56.4	+0.3
KALU				*e*SN	Sg	00 34 19.6	0.0
TOF	Tornio	1.82	125	Pg	Pb	00 34 38.5	-0.7
TOF				Sn	Sb	00 34 23.0	+0.4
TOF	Tornio	1.82	125	*e*PG	Pb	00 33 58.7	-0.7
TOF				MSG		00 34 20.4	
	comp=Z,5.8nm,0.2s						
TOF				*e*SN	Sb	00 34 23.0	+0.4
KIF	Kilpisjarvi	1.84	1	Pn	Pb	00 33 59.4	-0.5
KIF				Sg	Sg	00 34 25.0	+0.5
KIF	Kilpisjarvi	1.84	1	*e*PN	Pb	00 33 59.4	-0.5
KIF				MSG		00 34 22.0	
	comp=Z,7.1nm,0.2s						
KIF				*e*SG	Sg	00 34 25.0	+0.5
SGF	Sodankyl	2.28	80	Pb	Pb	00 34 05.9	-1.4
SGF				Sg	Sb	00 34 36.7	+0.7
SGF	Sodankyl	2.28	80	*e*PB	Pb	00 34 05.9	-1.4
	baz=266						
SGF				*e*SG	Sb	00 34 36.7	+0.7
VRF	Varrio	3.48	76	Pg	Pg	00 34 30.3	-1.7
VRF				Sg	Sb	00 35 13.1	+2.5
VRF	Varrio	3.48	76	*e*PG	Pg	00 34 30.3	-1.7
	baz=263						
VRF				*e*SG	Sb	00 35 13.2	+2.5
MSF	Maaselka	3.57	107	Sg	Sb	00 35 16.1	+3.0
MSF	Maaselka	3.57	107	*e*SG	Sb	00 35 16.1	+3.0
KU6	Riekki	3.85	103	S	Sn	00 35 13.0	+1.5
KU6	Riekki	3.85	103	*e*S	Sn	00 35 13.0	+1.5
VAF	Ylistaro	4.23	168	Sg	Sg	00 35 38.7	-2.3
VAF	Ylistaro	4.23	168	*e*SG	Sg	00 35 38.7	-2.3

IDC ***14*** *00:35:15.5±1.2, 2°.63S×139°.58E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/44, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=58.8km s-min=20.9km az=88.0*
ISCJB ***14*** *00:35:20.4±0.8, 2°.69S±0°.10×139°.05E±0°.06, h37km, mb3.4/5, Error ellipse: s-maj=14.3km s-min=8.2km az=161.1*
DJA ***14*** *00:35:24.9±1.8, 3°S±16'×13°9E±1°2, h72km±18km, M4.5/3, MLv4.5/3*
ISC 14 00:35:21.7±1.0, 2°.6S±0°.1×139°.10E±0°.09, h37km, n9, σ1s69/11, mb3.6/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	Genyem	1.06	89	P	Pn	00 35 41.7	+1.6
GENI				S	Sn	00 35 54.9	+1.3
JAY	Jayapura	1.60	86	P	Pn	00 35 48.0	+0.5
JAY				S	Sn	00 36 05.6	-1.4
MMPI	Merauke	5.95	168	P	Pn	00 36 49.3	+2.0
WRA	Warramunga Arr	17.84	195	P	Pn	00 39 25.0	-2.2
	0.1nm,0.3s,baz=16,slow=13,SNR=5.0						
ASAR	Alice Springs	21.52	193	P	P	00 40 08.2	+0.5
	0.2nm,0.4s,baz=28,slow=10,SNR=3.1						
STKA	Stephens Creek	29.20	176	P	P	00 41 18.6	-1.2
	1.0nm,0.7s,baz=333,slow=14,SNR=2.4						
MKAR	Makanchi Array	69.96	322	P	P	00 46 31.1	+1.7
	0.6nm,0.7s,baz=111,slow=7.6,SNR=6.5						
KURBB	Kurchatov Arra	73.88	325	P	P	00 46 53.8	+1.0
	0.1nm,0.3s,baz=121,slow=4.7,SNR=3.1						
ILAR	Eielson Array	85.59	24	P	P	00 47 54.5	-1.5
	0.4nm,0.9s,baz=254,slow=5.4,SNR=3.0						

MEX 14 00:36:31.3±0.5, 14°.81N×93°.31W, h29km±10km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		0.89	5	*i* P	Pn	00 36 45.4	-2.5
PCIG				*i* S	Sb	00 36 56.6	-3.2
THIG		1.01	84	*e*P	Pn	00 36 47.7	-1.8
THIG				*e*S	Sn	00 37 00.0	-2.8
CCIG	Comitan	1.85	37	*e*P	Pn	00 36 59.9	-1.3
CCIG				*e*S	Sn	00 37 20.8	-2.9
TGIG		1.96	5	*i* P	Pn	00 37 01.0	-1.7
TGIG				*e*S	Sn	00 37 22.8	-3.6

ISCJB ***14*** *00:56:54.9±1.0, 23°.9S±0°.1×179°.3E±0°.2, h548km, mb3.9/9, Error ellipse: s-maj=20.5km s-min=12.4km az=157.5*
IDC ***14*** *00:56:56.9±3.5, 24°.05S×179°.25E, h555km±37km, mb3.4/10, mb1 3.5/12, mb1mx3.3/45, mbtmp4.4/12, Error ellipse: s-maj=33.2km s-min=17.2km az=51.0*
ISC 14 00:56:56.2±1.1, 24°.1S±0°.1×179°.3E±0°.1, h548km, n14, σ1s22/14, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	12.00	277	P	P	00 59 36.6	+1.7
	1.1nm,0.3s,baz=78,slow=19,SNR=8.9						
URZ	Urewera	14.27	187	P	P	00 59 58.7	+0.8
	2.0nm,0.3s,baz=320,slow=3.5,SNR=7.6						
URZ				S	S	01 02 26.2	-1.4
	0.7nm,0.3s,baz=188,slow=20,SNR=3.9						
RPZ	Rata Peaks	20.73	197	P	P	01 00 58.3	-0.5
	2.5nm,0.4s,baz=22,slow=5.4,SNR=3.4						
CTA	Charters Tower	30.84	271	P	P	01 02 28.9	+0.8
	14nm,0.4s,baz=93,slow=10,SNR=23						
PMG	Port Moresby	33.95	290	P	P	01 02 53.1	-1.4
	14nm,0.7s,baz=99,slow=2.3,SNR=5.8						
STKA	Stephens Creek	34.06	248	P	P	01 02 53.6	-1.7
	1.2nm,0.6s,baz=105,slow=19,SNR=2.2						
ASAR	Alice Springs	41.38	261	P	P	01 03 55.2	+0.2
	2.0nm,0.7s,baz=98,slow=8.1,SNR=14						
WRA	Warramunga Arr	41.76	267	P	P	01 03 57.5	-0.6
	1.4nm,0.3s,baz=90,slow=6.0,SNR=88						
VNDA	Vanda	54.16	185	P	P	01 05 31.4	+1.8
	1.4nm,1.0s,baz=15,slow=8.5,SNR=4.8						
MAW	Mawson	77.37	201	P	P	01 07 54.9	+0.6
	8.0nm,0.8s,baz=106,slow=16,SNR=3.7						
SNAA	Sanae	84.50	179	P	P	01 08 30.3	-0.9
	2.8nm,1.0s,baz=225,slow=19,SNR=6.4						
TXAR	Lajitas Array	91.06	58	P	P	01 09 02.4	-0.4
	0.1nm,0.6s,baz=209,slow=7.0,SNR=4.1						
HFS	Hagfors	142.59	348	PKhKP	PKPpre	01 15 21.8	
	0.7nm,0.3s,baz=52,slow=2.6,SNR=7.5						
MMAI	Mount Meron Ar	147.19	294	PKPbc	PKPbc	01 15 38.6	+0.1
	3.1nm,1.0s,baz=83,slow=4.5,SNR=3.6						

CSEM ***14*** *01:14:02.7±0.2, 31°.64N×56°.98E, h2km, ML3.6, Error ellipse: s-maj=6.4km s-min=4.6km az=132.0*
TEH 14 01:14:03.5, 31°.67N×56°.95E, h5km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBAF	Bafgh	1.18	267	*e*Sg	Sg	01 14 40.3	-1.3
IBAF				*e*AMB	AMB	01 14 45.8	
	comp=Z,9μm,0.1s						
IBAF	Bafgh	1.18	267	*e*Sg	Sg	01 14 40.3	-1.3
KHGB	Koh Gabri	1.35	198	*e*Pg	Pn	01 14 27.3	-1.9
KHGB	Koh Gabri	1.35	198	*e*Pg	Pn	01 14 27.3	-1.9
TVBK	TV Kerman	1.68	186	*e*Pn	Pn	01 14 34.2	+0.3
TVBK	TV Kerman	1.68	186	*e*Pn	Pn	01 14 34.2	+0.3
KRBR	Kerman	1.69	186	*e*Pg	Pb	01 14 34.7	-0.5
CHMN	Cheshme madani	1.87	164	*e*Pn	Pn	01 14 36.0	-0.5
CHMN	Cheshme madani	1.87	164	*e*Pn	Pn	01 14 36.0	-0.5
IKOO	Kooshah	1.90	66	*e*Pn	Pn	01 14 36.3	-0.5
IKOO				*e*Sg	Sb	01 15 02.7	-0.2
IKOO				*e*AMB	AMB	01 15 07.6	
	comp=Z,10μm,0.2s						
IKOO	Kooshah	1.90	66	*e*Pn	Pn	01 14 36.3	-0.5
IKOO				*e*Sg	Sb	01 15 02.7	-0.2
ITEG	Tejag	1.95	51	*e*Pn	Pn	01 14 37.7	+0.2
ITEG				*e*Sg	Sb	01 15 04.4	-0.1
ITEG				*e*AMB	AMB	01 15 11.8	
	comp=Z,7μm,0.2s						
ITEG	Tejag	1.95	51	*e*Pn	Pn	01 14 37.7	+0.2
ITEG				*e*Sg	Sb	01 15 04.4	-0.1
TABS	Tabas	1.98	4	*e*Pn	Pn	01 14 38.5	+0.7
TABS				*e*Sg	Sb	01 15 05.8	+0.6
IMEH	Mehriz	2.02	263	*e*Pn	Pn	01 14 38.3	-0.1
IMEH				*e*Sg	Sb	01 15 05.9	-0.4
IMEH				*e*AMB	AMB	01 15 08.3	
	comp=Z,4μm,0.1s						
IMEH	Mehriz	2.02	263	*e*Pn	Pn	01 14 38.3	-0.1
NGRK	Negar Kerman	2.02	185	*e*Pn	Pn	01 14 39.0	+0.4
NGRK	Negar Kerman	2.02	185	*e*Pn	Pn	01 14 39.0	+0.4
ICHK	Chekchek	2.24	286	*e*Pn	Pn	01 14 41.7	+0.2
ICHK				*e*AMB	AMB	01 15 17.9	
	comp=Z,4μm,0.2s						
ICHK	Chekchek	2.24	286	*e*Pn	Pn	01 14 41.7	+0.2
IDAH	Dahanechah	2.69	66	*e*Pn	Pn	01 14 46.3	-1.4
IDAH				*e*AMB	AMB	01 15 38.5	
	comp=Z,2μm,0.3s						
IDAH	Dahanechah	2.69	66	*e*Pn	Pn	01 14 46.3	-1.4
IMON	Monand	2.75	56	*e*Pn	Pn	01 14 47.3	-1.3
IMON				*e*AMB	AMB	01 15 36.0	
	comp=Z,2μm,0.2s						
IMON	Monand	2.75	56	*e*Pn	Pn	01 14 47.3	-1.3
ISAD	Sadrabad	2.79	276	*e*Pn	Pn	01 14 48.9	-0.2
ISAD				*e*AMB	AMB	01 15 36.7	
	comp=Z,1μm,0.2s						
ISAD	Sadrabad	2.79	276	*e*Pn	Pn	01 14 48.9	-0.2
ANAR	Anarak	3.

ELL	**Elmali**	**0.94**	**210**	PG	**Pg**	**01 23 59.2**	**+0.3**
ELL	**Elmali**	**0.94**	**210**	*e*Pg	**Pg**	**01 23 59.2**	**+0.3**
SHUT	**Suhut-Afyon**	**0.98**	**3**	PG	**Pb**	**01 23 58.1**	**-0.9**
SHUT	**Suhut-Afyon**	**0.98**	**3**	*e*Pg	**Pb**	**01 23 58.1**	**-0.9**
DOGA	**KONYA_Doganhis**	**1.07**	**60**	*i* P	**Pg**	**01 24 00.9**	**-0.5**
DOGA				*i* S	**Sg**	**01 24 20.3**	**+4.8**
DOGA	**KONYA_Doganhis**	**1.07**	**60**	P	**Pg**	**01 24 00.9**	**-0.5**

IDC 14 01:25:18.4±16.0, 19°20S×177°27W, h465km±140km, mb3.0/3, mb1 3.3/3, mb1mx2.8/44, mbtmp3.8/3, Error ellipse: s-maj=191.0km s-min=43.9km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.47**	**261**	P	P	01 32 54.7	-0.4
	0.9nm,0.4s,baz=96,slow=7.8,SNR=31						
WRA				PcP	pP	01 34 23.7	+0.2
	0.3nm,0.4s,baz=100,slow=3.6,SNR=3.4						
ASAR	**Alice Springs**	**45.49**	**255**	P	P	01 32 55.6	+0.3
	1.2nm,0.5s,baz=89,slow=7.7,SNR=12						
ASAR				PcP	pP	01 34 23.9	+0.2
	0.5nm,0.7s,baz=101,slow=4.8,SNR=3.7						
ILAR	**Eielson Array**	**86.91**	**13**	P	P	01 37 11.8	-0.7
	0.3nm,1.0s,baz=224,slow=5.4,SNR=4.2						
BRTR	**Keskin Array B**	**146.45**	**314**	PKPbc	PKPbc	01 44 06.6	-0.5
	0.5nm,0.6s,baz=134,slow=4.2,SNR=3.8						
MMAI	**Mount Meron Ar**	**147.74**	**302**	PKPbc	PKPbc	01 44 10.6	-0.1
	0.5nm,0.4s,baz=72,slow=6.2,SNR=3.8						
GERES	**GERESS Array B**	**149.13**	**346**	PKPbc	PKPbc	01 44 13.6	-0.1
	0.4nm,0.5s,baz=29,slow=2.2,SNR=4.7						

NEIC 14 01:32:48.6±0.0, 36°62S×177°26E, h153km, ML4.0(WEL), After WEL.

WEL 14 01:32:49.1, 37°S±6°×17°8E±°, h181km±6km, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.91**	**166**	P	Pn	01 33 16.9	-0.4
MXZ	**Matakaoa Point**	**0.94**	**137**	Pn	Pn	01 33 16.1	-0.4
MXZ	**Matakaoa Point**	**0.94**	**137**	P	Pn	01 33 16.4	-0.1
MXZ	**Matakaoa Point**	**0.94**	**137**	S	Sn	01 33 39.5	+1.8
WHRZ	**Whale Island**	**1.07**	**203**	P	Pn	01 33 18.4	+0.9
RUGZ	**Raukumara Rang**	**1.10**	**173**	P	Pn	01 33 16.9	-0.9
PKGZ	**Pakihiroa**	**1.11**	**156**	P	Pn	01 33 17.8	-0.1
PKGZ	**Pakihiroa**	**1.11**	**156**	S	Sn	01 33 39.1	-1.2
WMGZ	**Waiomatatini S**	**1.19**	**143**	Pn	Pn	01 33 18.4	0.0
WMGZ	**Waiomatatini S**	**1.19**	**143**	P	Pn	01 33 18.5	0.0
WMGZ	**Waiomatatini S**	**1.19**	**143**	S	Sn	01 33 40.6	-0.6
OPRZ	**Ohinepanea**	**1.23**	**218**	P	Pn	01 33 18.4	-0.4
PUZ	**Puketiti**	**1.34**	**154**	Pn	Pn	01 33 19.6	-0.1
PUZ	**Puketiti**	**1.34**	**154**	P	Pn	01 33 19.6	-0.1
PUZ	**Puketiti**	**1.34**	**154**	S	Sn	01 33 42.2	-1.3
TWGZ	**Tauwhareparae**	**1.35**	**164**	Pn	Pn	01 33 20.6	+0.7
TWGZ	**Tauwhareparae**	**1.35**	**164**	P	Pn	01 33 20.7	+0.7
TWGZ	**Tauwhareparae**	**1.35**	**164**	S	Sn	01 33 43.4	+0.4
URZ	**Urewera**	**1.42**	**193**	Pn	Pn	01 33 20.4	0.0
URZ	**Urewera**	**1.42**	**193**	P	Pn	01 33 20.6	+0.1
URZ	**Urewera**	**1.42**	**193**	S	Sn	01 33 43.5	-1.3
KUZ	**Kuaotunu**	**1.44**	**275**	P	Pn	01 33 19.9	-0.8
MWZ	**Matawai**	**1.46**	**179**	Pn	Pn	01 33 20.9	0.0
MWZ	**Matawai**	**1.46**	**179**	P	Pn	01 33 20.9	+0.1
MWZ	**Matawai**	**1.46**	**179**	S	Sn	01 33 44.2	-1.5
KARZ	**Kaharoa**	**1.52**	**221**	P	Pn	01 33 21.8	+0.4
OMRZ	**Omania**	**1.53**	**216**	P	Pn	01 33 22.7	+1.2
TARZ	**Mount Tarawera**	**1.58**	**210**	Pn	Pn	01 33 23.3	+1.3
TARZ	**Mount Tarawera**	**1.58**	**210**	P	Pn	01 33 23.1	+1.1
KMRZ	**Kaimai**	**1.58**	**232**	P	Pn	01 33 22.4	+0.4
TKGZ	**Te Karaka**	**1.59**	**170**	Pn	Pn	01 33 21.8	-0.2
TKGZ	**Te Karaka**	**1.59**	**170**	P	Pn	01 33 22.3	+0.3
RAGZ	**Rawiri**	**1.62**	**183**	Pn	Pn	01 33 23.2	+0.7
RAGZ	**Rawiri**	**1.62**	**183**	P	Pn	01 33 23.3	+0.9
CNGZ	**Carnagh Statio**	**1.70**	**161**	Pn	Pn	01 33 23.9	+0.7
CNGZ	**Carnagh Statio**	**1.70**	**161**	P	Pn	01 33 24.0	+0.8
MUGZ	**Murupara**	**1.71**	**200**	P	Pn	01 33 23.5	+0.3
RTZ	**Ruatahuna**	**1.79**	**193**	P	Pn	01 33 24.0	-0.1
TOZ	**Tahuroa Road**	**1.81**	**241**	P	Pn	01 33 25.0	+0.7
RIGZ	**Rimuhau**	**1.84**	**174**	P	Pn	01 33 24.9	+0.2
PRRZ	**Plateau Road**	**1.85**	**208**	P	Pn	01 33 25.6	+0.9
MKAZ	**Moumakai**	**1.89**	**262**	P	Pn	01 33 25.4	+0.3
WIAZ	**Waiheke Island**	**1.91**	**272**	P	Pn	01 33 25.3	0.0
SNGZ	**Shannon Statio**	**1.91**	**184**	Pn	Pn	01 33 25.6	+0.2
SNGZ	**Shannon Statio**	**1.91**	**184**	P	Pn	01 33 25.6	+0.3
ALRZ	**Allen Road**	**1.92**	**208**	Pn	Pn	01 33 26.9	+1.4
ALRZ	**Allen Road**	**1.92**	**208**	P	Pn	01 33 26.3	+0.9
MTHZ	**Maungataniwha**	**2.05**	**195**	P	Pn	01 33 27.3	+0.4
PRGZ	**Paritu Road**	**2.07**	**172**	Pn	Pn	01 33 27.4	+0.3
PRGZ	**Paritu Road**	**2.07**	**172**	P	Pn	01 33 27.6	+0.5
RAHZ	**Arahi**	**2.07**	**189**	P	Pn	01 33 27.5	+0.5
TLZ	**Tolley Road**	**2.14**	**226**	P	Pn	01 33 29.0	+1.2
MRHZ	**Matea Rd**	**2.14**	**205**	P	Pn	01 33 28.3	+0.4
KNZ	**Kokohu**	**2.15**	**177**	Pn	Pn	01 33 28.0	+0.1
KNZ	**Kokohu**	**2.15**	**177**	P	Pn	01 33 28.0	+0.2
WHTZ	**Whakaora**	**2.17**	**214**	P	Pn	01 33 30.6	+2.4
WHHZ	**Waihua**	**2.21**	**186**	P	Pn	01 33 29.2	+0.6
NMHZ	**Naumai**	**2.29**	**194**	Pn	Pn	01 33 30.5	+1.0
NMHZ	**Naumai**	**2.29**	**194**	P	Pn	01 33 30.5	+1.0
MHGZ	**Mahia Peninsul**	**2.30**	**172**	Pn	Pn	01 33 30.1	+0.5
MHGZ	**Mahia Peninsul**	**2.30**	**172**	P	Pn	01 33 30.1	+0.6
WATZ	**Wairara**	**2.31**	**217**	P	Pn	01 33 31.3	+1.5
RATZ	**Rangitukua**	**2.42**	**214**	P	Pn	01 33 32.9	+1.9
ARHZ	**Aropaoanui**	**2.42**	**189**	Pn	Pn	01 33 31.3	+0.3
ARHZ	**Aropaoanui**	**2.42**	**189**	P	Pn	01 33 31.3	+0.4
BKZ	**Black Stump Fm**	**2.43**	**199**	Pn	Pn	01 33 31.0	0.0
BKZ	**Black Stump Fm**	**2.43**	**199**	P	Pn	01 33 31.1	0.0
KATZ	**Kakaramea**	**2.54**	**214**	P	Pn	01 33 34.1	+1.6
MCHZ	**McNeill Hill**	**2.65**	**194**	Pn	Pn	01 33 34.1	+0.6
MCHZ	**McNeill Hill**	**2.65**	**194**	P	Pn	01 33 34.4	+0.8
KRVZ	**Karewarewa**	**2.66**	**216**	Pn	Pn	01 33 35.4	+1.5
KRVZ	**Karewarewa**	**2.66**	**213**	P	Pn	01 33 35.3	+1.4
HIZ	**Hauiti**	**2.67**	**231**	P	Pn	01 33 35.5	+1.7
KWHZ	**Kaweka Forest**	**2.69**	**198**	P	Pn	01 33 34.3	+0.1
WTVZ	**West Tongariro**	**2.70**	**214**	P	Pn	01 33 35.9	+1.6
OTVZ	**Oturere**	**2.71**	**212**	Pn	Pn	01 33 35.1	+0.6
TWVZ	**Taurewa**	**2.74**	**216**	P	Pn	01 33 36.1	+1.3
NGZ	**Ngauruhoe**	**2.75**	**213**	Pn	Pn	01 33 35.8	+0.8
NGZ	**Ngauruhoe**	**2.75**	**213**	P	Pn	01 33 36.1	+1.1
CKHZ	**Cape Kidnapper**	**2.80**	**187**	P	Pn	01 33 35.6	+0.2
TUVZ	**Tukino**	**2.80**	**211**	Pn	Pn	01 33 36.0	+0.4
TUVZ	**Tukino**	**2.80**	**211**	P	Pn	01 33 36.3	+0.7
FWVZ	**Far West T-bar**	**2.83**	**212**	Pn	Pn	01 33 36.5	+0.4
FWVZ	**Far West T-bar**	**2.83**	**212**	P	Pn	01 33 36.5	+0.4
WHVZ	**Whangaehu Hut**	**2.84**	**212**	P	Pn	01 33 36.9	+0.8
BHHZ	**Black Hill Sta**	**2.85**	**203**	Pn	Pn	01 33 35.9	-0.2
BHHZ	**Black Hill Sta**	**2.85**	**203**	P	Pn	01 33 35.9	-0.2
WNVZ	**Wahianoa**	**2.88**	**211**	Pn	Pn	01 33 36.6	+0.1
MOVZ	**Moawhango**	**2.88**	**208**	Pn	Pn	01 33 36.2	-0.3
MOVZ	**Moawhango**	**2.88**	**208**	P	Pn	01 33 36.3	-0.2
KRHZ	**Kereru**	**2.91**	**198**	P	Pn	01 33 36.1	-0.7
PKVZ	**Pokaka**	**2.96**	**215**	Pn	Pn	01 33 38.2	+0.9
PKVZ	**Pokaka**	**2.96**	**215**	P	Pn	01 33 38.3	+0.9
KAHZ	**Kahuranaki**	**2.96**	**189**	Pn	Pn	01 33 37.4	0.0
KAHZ	**Kahuranaki**	**2.96**	**189**	P	Pn	01 33 37.4	+0.1
MTVZ	**Mangateitei**	**2.98**	**212**	Pn	Pn	01 33 38.2	+0.6
MTVZ	**Mangateitei**	**2.98**	**212**	P	Pn	01 33 38.2	+0.6
VRZ	**Vera Road**	**3.13**	**223**	P	Pn	01 33 42.2	+2.8
PXZ	**Pawanui**	**3.19**	**189**	Pn	Pn	01 33 39.5	-0.6
PXZ	**Pawanui**	**3.19**	**189**	P	Pn	01 33 39.6	-0.6
PNHZ	**Pukenui**	**3.21**	**198**	Pn	Pn	01 33 39.6	-0.7
PNHZ	**Pukenui**	**3.21**	**198**	P	Pn	01 33 39.6	-0.8
WPHZ	**Waipukurau**	**3.29**	**194**	Pn	Pn	01 33 40.8	-0.6
WPHZ	**Waipukurau**	**3.29**	**194**	P	Pn	01 33 40.7	-0.7
TSZ	**Takapari Road**	**3.41**	**200**	Pn	Pn	01 33 41.9	-0.9
TSZ	**Takapari Road**	**3.41**	**200**	P	Pn	01 33 42.0	-0.8
PRHZ	**Porangahau**	**3.46**	**191**	Pn	Pn	01 33 42.8	-0.6
PRHZ	**Porangahau**	**3.46**	**191**	P	Pn	01 33 42.6	-0.8
DVHZ	**Dannevirke**	**3.58**	**197**	Pn	Pn	01 33 43.6	-1.4
DVHZ	**Dannevirke**	**3.58**	**197**	P	Pn	01 33 43.7	-1.3
PKE	**Pukeiti**	**3.62**	**229**	P	Pn	01 33 48.2	+2.8
ANWZ	**Angora Road**	**3.67**	**192**	P	Pn	01 33 45.3	-0.8
POWZ	**Post Office Ro**	**3.77**	**201**	Pn	Pn	01 33 46.2	-1.1
POWZ	**Post Office Ro**	**3.77**	**201**	P	Pn	01 33 46.3	-1.0
PRWZ	**Pori Road**	**3.87**	**198**	Pn	Pn	01 33 47.6	-1.0
PRWZ	**Pori Road**	**3.87**	**198**	P	Pn	01 33 47.6	-0.9
BFZ	**Birch Farm**	**3.93**	**194**	Pn	Pn	01 33 47.9	-1.4
BFZ	**Birch Farm**	**3.93**	**194**	P	Pn	01 33 47.9	-1.4
MRZ	**Mangatainoka R**	**4.07**	**201**	Pn	Pn	01 33 49.5	-1.6
MRZ	**Mangatainoka R**	**4.07**	**201**	P	Pn	01 33 49.5	-1.6
TIWZ	**Tintock**	**4.10**	**198**	Pn	Pn	01 33 50.0	-1.5
TIWZ	**Tintock**	**4.10**	**198**	P	Pn	01 33 50.2	-1.3
CPWZ	**Castlepoint**	**4.16**	**194**	Pn	Pn	01 33 51.4	-0.8
CPWZ	**Castlepoint**	**4.16**	**194**	P	Pn	01 33 51.4	-0.8
HOWZ	**Holdsworth Sta**	**4.31**	**201**	Pn	Pn	01 33 52.1	-2.1
HOWZ	**Holdsworth Sta**	**4.31**	**201**	P	Pn	01 33 52.1	-2.1
OGWZ	**Otaki Gorge**	**4.34**	**204**	Pn	Pn	01 33 52.8	-1.8
OGWZ	**Otaki Gorge**	**4.34**	**204**	P	Pn	01 33 52.8	-1.8
TMWZ	**Te Maipa**	**4.41**	**196**	Pn	Pn	01 33 53.8	-1.7
TMWZ	**Te Maipa**	**4.41**	**196**	P	Pn	01 33 53.8	-1.7
KIW	**Kapiti Island**	**4.47**	**206**	Pn	Pn	01 33 54.2	-2.0
KIW	**Kapiti Island**	**4.47**	**206**	P	Pn	01 33 54.3	-2.0
MTW	**Mount Morrison**	**4.56**	**199**	Pn	Pn	01 33 54.9	-2.4
MTW	**Mount Morrison**	**4.56**	**199**	P	Pn	01 33 54.9	-2.4
CAW	**Cannon Point**	**4.64**	**203**	Pn	Pn	01 33 56.0	-2.3
CAW	**Cannon Point**	**4.64**	**203**	P	Pn	01 33 56.1	-2.3
TRWZ	**Traveller**	**4.74**	**197**	Pn	Pn	01 33 57.5	-2.1
TRWZ	**Traveller**	**4.74**	**197**	P	Pn	01 33 57.6	-2.1
PAWZ	**Paruwai Farm**	**4.79**	**199**	Pn	Pn	01 33 57.7	-2.6
PAWZ	**Paruwai Farm**	**4.79**	**199**	P	Pn	01 33 57.8	-2.5
MSWZ	**Moikau Station**	**4.87**	**200**	Pn	Pn	01 33 58.8	-2.5
MSWZ	**Moikau Station**	**4.87**	**200**	P	Pn	01 33 58.9	-2.4
BHW	**Baring Head**	**4.97**	**204**	P	Pn	01 33 59.9	-2.8
PLWZ	**Palliser**	**5.01**	**200**	Pn	Pn	01 34 00.5	-2.6
PLWZ	**Palliser**	**5.01**	**200**	P	Pn	01 34 00.3	-2.8
TCW	**Tory Channel**	**5.01**	**209**	Pn	Pn	01 34 00.8	-2.4
TCW	**Tory Channel**	**5.01**	**209**	P	Pn	01 34 00.9	-2.3
TUWZ	**Tuamarina**	**5.33**	**210**	Pn	Pn	01 34 04.9	-2.4
TUWZ	**Tuamarina**	**5.33**	**210**	P	Pn	01 34 04.9	-2.4
NNZ	**Nelson**	**5.40**	**215**	Pn	Pn	01 34 06.4	-1.8
NNZ	**Nelson**	**5.40**	**215**	P	Pn	01 34 06.4	-1.8
ORZ	**Quartz Range**	**5.54**	**223**	P	Pn	01 34 07.9	-2.1
BSWZ	**Blackbirch Sta**	**5.60**	**209**	Pn	Pn	01 34 09.0	-1.8
BSWZ	**Blackbirch Sta**	**5.60**	**209**	P	Pn	01 34 09.1	-1.7
THZ	**Tophouse**	**6.05**	**215**	Pn	Pn	01 34 14.3	-2.4
THZ	**Tophouse**	**6.05**	**215**	P	Pn	01 34 14.1	-2.6
KHZ	**Kahutara**	**6.33**	**208**	Pn	Pn	01 34 17.8	-2.5
KHZ	**Kahutara**	**6.33**	**208**	P	Pn	01 34 17.9	-2.4
DSZ	**Denniston Nort**	**6.57**	**221**	Pn	Pn	01 34 21.1	-2.6
DSZ	**Denniston Nort**	**6.57**	**221**	P	Pn	01 34 21.1	-2.6
LTZ	**Lake Taylor**	**7.14**	**213**	P	Pn	01 34 27.9	-3.2
MQZ	**McQueen's Vall**	**7.77**	**207**	Pn	Pn	01 34 34.8	-4.4
MQZ	**McQueen's Vall**	**7.77**	**207**	P	Pn	01 34 35.0	-4.2
CTZ	**Chatham Island**	**8.19**	**149**	Pn	Pn	01 34 51.1	+6.3
LBZ	**Lake Benmore**	**9.34**	**214**	Pn	Pn	01 34 56.7	-3.2
ODZ	**Otahua Downs**	**9.67**	**210**	Pn	Pn	01 35 01.2	-3.0
ODZ	**Otahua Downs**	**9.67**	**210**	P	Pn	01 35 01.2	-3.0

MOS 14 02:05:38.5±1.4, 51°68N×96°17E, h8km, mb4.3/7, Error ellipse: s-maj=11.6km s-min=8.2km az=4.1

IDC 14 02:05:38.8±1.2, 51°70N×96°33E, h0km, mb3.9/8, mb1 3.7/12, mb1mx3.4/75, mbtmp3.7/12, ML2.9/4, MS3.1/2, Ms1 3.1/2, ms1mx2.5/67, Error ellipse: s-maj=25.0km s-min=16.4km az=169.0

ISCJB 14 02:05:39.1±0.4, 51°66N±0.0°7×96°16E±0.0°6, h10km, mb3.9/10, MS3.6/1, Error ellipse: s-maj=10.6km s-min=4.8km az=173.2

NEIC 14 02:05:39.9±0.5, 51°69N×96°32E, h10km, mb4.2/5, Error ellipse: s-maj=10.5km s-min=6.8km az=176.0

ISC 14 02:05:39.3±0.5, 51°60N±0°07×96°23E±0°03, h10km, n70, σ2§16/69, mb4.0/10, 3C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.65**	**255**	*d* iPN	**Pb**	**02 06 09.0**	**-0.8**
HVS	**Khovu-Aksy**	**1.65**	**255**	‖ *i*P	**Pb**	**02 06 09.0**	**-0.8**
ARDR	**Aradan**	**1.99**	**301**	*e*P	**Pb**	**02 06 13.5**	**-2.1**
ORL	**Orlik**	**2.41**	**65**	*e*PN	**Pg**	**02 06 23.3**	**-2.0**
ORL				*e*		02 06 56.8	
ORL				pmax	pmax		
	comp=Z,355nm,0.5s						
ORL				smax	smax		
	comp=N,611nm,0.7s						
MOY	**Mondy**	**2.97**	**87**	*e*PN	**Pn**	**02 06 28.5**	**+1.9**
MOY				*e*		02 06 35.0	
MOY				*e*		02 07 15.7	
MOY				pmax	pmax		
	comp=Z,121nm,0.5s						
MOY				smax	smax		
	comp=N,845nm,1.1s						
ABNR	**Abakan**	**3.61**	**308**	‖ *e*PN	**Pn**	**02 06 35.4**	**+0.1**
ARS	**Arshan**	**3.86**	**83**	*e*PN	**Pg**	**02 06 50.7**	**-2.5**
ARS				pmax	pmax		
	comp=Z,201nm,0.9s						
ZAK	**Zakamensk**	**4.62**	**102**	*e*PN	**Pg**	**02 07 04.5**	**-3.2**
ZAK				*e*		02 08 05.3	
ZAK				pmax	pmax		
	comp=Z,43nm,0.7s						
ZAK				smax	smax		
	comp=N,235nm,0.7s						
TLY	**Talaya**	**4.62**	**86**	*e*PN	**Pn**	**02 06 49.2**	**+0.1**
TLY				*e*		02 07 51.3	
TLY	**Talaya**	**4.62**	**86**	*e*PN	**Pn**	**02 06 49.2**	**+0.1**
TLY				*e*Sn	**Sb**	**02 07 51.3**	**-4.8**
IRK	**Irkutsk**	**5.02**	**79**	*e*PN	**Pb**	**02 07 10.4**	**+3.2**
IRK				*e*		02 08 15.6	
IRK				pmax	pmax		
	comp=Z,128nm,0.1s						
IRK				smax	smax		
	comp=N,533nm,1.2s						
TRG	**Tyrgan**	**6.33**	**75**	*e*PN	**Pn**	**02 07 14.3**	**+1.6**
TRG				*e*		02 07 33.4	
OGRR	**Ongureny**	**7.22**	**69**	*e*P	Pn	02 07 29.1	+4.3
ZAA0	**Zalesovo Array**	**7.31**	**293**	*e*Pn	**Pn**	**02 07 28.1**	**+2.1**
ZAA0				*e*Sn	**Sn**	**02 08 44.5**	**-4.4**
ZAA0				*e*Sg	**Sb**	**02 09 17.3**	**+4.0**
ZALV	**Zalesovo Beam**	**7.31**	**293**	Pn	**Pn**	**02 07 28.3**	**+2.2**
	comp=N,0.5nm,0.3s,baz=102,slow=13,SNR=6.0						
ZALV				Lg	Lg	02 09 22.1	
	comp=N,3.3nm,0.3s,baz=103,slow=20,SNR=13						
ZALV	**Zalesovo Beam**	**7.31**	**293**	*e*P	**Pn**	**02 07 28.2**	**+2.2**
ZALV				*e*		02 08 43.7	
ZALV	**Zalesovo Beam**	**7.31**	**293**	*e*Pn	**Pn**	**02 07 28.2**	**+2.2**
ZALV				*e*Sn	**Sn**	**02 08 43.7**	**-5.3**
ZALV				Lg	Lg	02 09 22.1	
ZAA1	**Zalesovo Array**	**7.31**	**293**	*e*Pn	**Pn**	**02 07 28.3**	**+2.2**
SONA1	**Songino Array**	**7.59**	**116**	*e*Pn	Pb	02 07 42.6	-8.4
SONA1				*e*Sn	Sn	02 09 08.8	+13
SONA0	**Songino Array**	**7.59**	**116**	*e*Pg	Pg	02 07 58.4	-6.0
SONM	**Songino Array**	**7.59**	**116**	Pg	Pg	02 07 58.4	-6.0
	comp=N,0.5nm,0.3s,baz=302,slow=18,SNR=11						
SONM				Lg	Lg	02 09 41.2	
	comp=N,2.1nm,0.3s,baz=301,slow=28,SNR=12						
ULN	**Ulaanbaatar**	**7.95**	**114**	‖ *e*P	**Pn**	**02 07 37.6**	**+2.7**
ULN	**Ulaanbaatar**	**7.95**	**114**	*e*Pn	**Pn**	**02 07 35.0**	**+0.1**
ULN				*e*Sn	Sn	02 09 18.5	+14
MK31	**Makanchi Array**	**10.31**	**248**	*e*P	**Pn**	**02 08 09.9**	**+2.8**
MK31	**Makanchi Array**	**10.31**	**248**	*e*Pn	**Pn**	**02 08 09.9**	**+2.8**
MK32	**Makanchi Array**	**10.31**	**248**	*e*Pn	**Pn**	**02 08 09.3**	**+2.2**
MKAR	**Makanchi Array**	**10.31**	**248**	Pn	**Pn**	**02 08 09.3**	**+2.2**
	comp=N,0.1nm,0.3s,baz=49,slow=12,SNR=6.4						
MKAR				Pg		02 08 51.6	
	comp=N,0.3nm,0.3s,baz=72,slow=17,SNR=7.1						
MKAR				Lg	Lg	02 11 01.6	
	comp=N,0.3nm,0.3s,baz=85,slow=33,SNR=3.5						
MKAR	**Makanchi Array**	**10.31**	**248**	*e*P	**Pn**	**02 08 09.9**	**+2.8**
MKAR	**Makanchi Array**	**10.31**	**248**	*e*Pn	**Pn**	**02 08 09.9**	**+2.8**
MKAR				Pg		02 08 51.6	
MKAR				Lg	Lg	02 11 01.6	
MK01	**Makanchi Array**	**10.31**	**248**	*e*Pn	**Pn**	**02 08 09.9**	**+2.7**
MAKZ	**Makanchi**	**10.48**	**248**	*e*P	**Pn**	**02 08 11.7**	**+2.2**
MAKZ	**Makanchi**	**10.48**	**248**	*e*Pn	**Pn**	**02 08 11.7**	**+2.2**
KURK	**Kurchatov**	**11.10**	**272**	‖ *e*P	**Pn**	**02 08 18.1**	**+0.2**
KURK	**Kurchatov**	**11.10**	**272**	*e*Pn	**Pn**	**02 08 21.3**	**+3.4**
KURK				Lg	Lg	02 11 28.2	
KURBB	**Kurchatov Arra**	**11.17**	**272**	Pn	**Pn**	**02 08 21.3**	**+2.4**
	comp=N,0.0nm,0.3s,baz=75,slow=15,SNR=3.6						
KURBB				Lg	Lg	02 11 28.2	
	comp=N,0.1nm,0.3s,baz=81,slow=33,SNR=11						
BOD	**Bodaibo**	**12.00**	**52**	*e*P	**Pn**	**02 08 31.1**	**+0.9**
HIA	**Hailar**	**15.15**	**90**	‖ *e*P	**P**	**02 09 16.2**	**-2.2**
BVAR	**Borovoye Array**	**15.84**	**285**	Pn	**Pn**	**02 09 21.0**	**-1.1**
	comp=N,0.1nm,0.3s,baz=75,slow=13,SNR=4.5						
BRVK	**Borovoye**	**15.90**	**285**	‖ *e*P	**P**	**02 09 25.1**	**-1.5**
BRVK	**Borovoye**	**15.90**	**285**	*e*Pn	**Pn**	**02 09 22.7**	**-0.2**
	comp=N,14nm,0.9s						
AAK	**Ala-Archa**	**17.24**	**247**	LR	LR	02 15 27.9	
	comp=N,23nm,18.5s,baz=25,slow=34						
AAK	**Ala-Archa**	**17.24**	**247**	‖ *e*P	**P**	**02 09 44.0**	**+2.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
KKAR	**Karatay Array**	**19.30**	**254**	*e*P	**Pn**	**02 10 05.8**	**+0.5**
KKAR	**Karatay Array**	**19.30**	**254**	*e*P	**Pn**	**02 10 05.8**	**+0.5**
ARU	**Arti**	**22.45**	**297**	P	**P**	**02 10 40.5**	**+2.4**
	comp=Z,1.4nm,0.3s,baz=79,slow=12,SNR=3.4						
ARU	**Arti**	**22.45**	**297**	*d* iP	**P**	**02 10 39.8**	**+1.7**
ARU						02 10 59.0	
ARU				S	**S**	**02 14 48.1**	**+3.8**
ARU				pmax	pmax		
	comp=Z,14nm,2.5s						
ARU	**Arti**	**22.45**	**297**	*e*P	**P**	**02 10 40.5**	**+2.4**
	comp=Z,4.1nm,1.0s						
AB31	**Akbulak array**	**23.09**	**279**	*e*P	**P**	**02 10 45.9**	**+1.0**
AB31	**Akbulak array**	**23.09**	**279**	*e*P	**P**	**02 10 45.9**	**+1.0**
AB09	**Akbulak array**	**23.10**	**279**	*e*P	**P**	**02 10 43.6**	**-1.4**
AKTO	**Aktyubinsk**	**23.89**	**282**	P	**P**	**02 10 53.3**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=91,slow=11,SNR=11						
TIXI	**Tiksi**	**24.80**	**24**	P	**P**	**02 11 01.9**	**+1.0**
	comp=Z,4.1nm,0.5s,baz=265,slow=4.5,SNR=16						
TIXI	**Tiksi**	**24.80**	**24**	*de*P	**P**	**02 11 02.4**	**+1.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIXI	**Tiksi**	**24.80**	**24**	*e*P	**P**	**02 11 02.0**	**+1.0**
	comp=Z,9.5nm,0.9s						
FIA0	**FINESS Array S**	**38.07**	**313**	*e*P	**P**	**02 12 58.0**	**+0.5**
FIA0	**FINESS Array S**	**38.07**	**313**	*e*P	**P**	**02 12 58.0**	**+0.5**
FINES	**FINESS Array B**	**38.07**	**313**	P	**P**	**02 12 58.0**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=29,slow=4.4,SNR=3.9						
FINES	**FINESS Array B**	**38.07**	**313**	P	**P**	**02 12 58.0**	**+0.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**40.70**	**296**	P	**P**	**02 13 19.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=56,slow=10,SNR=2.7						
AKBB	**Malin Array Si**	**40.70**	**296**	*e*P	**P

AB01	**Akbulak array**	**54.69**	**334**	*e*P	**P**	**02 21 25.2 -0.9**
AB04	**Akbulak array**	**54.70**	**334**	*e*P	**P**	**02 21 25.7 -0.4**
BOSA	**Boshof**	**72.04**	**239**	P	**P**	**02 23 21.8 +0.3**
	2.7nm,1.0s,baz=159,slow=18,SNR=3.1					
TIXI	**Tiksi**	**72.73**	**11**	P	**P**	**02 23 26.5 +1.9**
	3.1nm,0.5s,baz=125,slow=6.5,SNR=8.1					
TIXI	**Tiksi**	**72.73**	**11**	*e*P	**P**	**02 23 25.3 +0.7**
	6.1nm,1.1s					

ISCJB ***14*** *02:12:07.7±0.8, 36°.89N±0°.04×30°.79E±0°.05, h81km±9km, Error ellipse: s-maj=7.4km s-min=6.9km az=156.0*
CSEM ***14*** *02:12:07.7±0.2, 36°.87N×30°.81E, h80km, ML3.1, Error ellipse: s-maj=5.0km s-min=3.4km az=141.0*
ISK ***14*** *02:12:07.5, 36°.93N×30°.72E, h84km, ML3.1/9*
DDA ***14*** *02:12:11.5, 37°.12N×30°.89E, h7km, Md2.6*

ISC 14 02:12:08.6±1.5, 36°.90N±0°.05×30°.79E±0°.04, h74km±10km, n35, σ0s86/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.37**	**286**	PG		**Pn**	**02 12 20.5**	**-0.3**
KORT	**Korkueli**	**0.37**	**286**	*e*Pg		**Pn**	**02 12 20.5**	**-0.3**
SUTC	**Sutluce-Ispart**	**0.60**	**16**	PG		**Pn**	**02 12 22.8**	**-0.1**
SUTC				SG		**Sn**	**02 12 34.3**	**+0.9**
SUTC	**Sutluce-Ispart**	**0.60**	**16**	*e*Pg		**Pn**	**02 12 22.8**	**-0.1**
SUTC				*e*Sg		**Sn**	**02 12 34.3**	**+0.9**
KEPZ	**Antalya-Kepez**	**0.65**	**90**	*i* P		**Pn**	**02 12 22.8**	**-0.5**
KEPZ				*i* S		**Sn**	**02 12 33.6**	**-0.6**
KEPZ	**Antalya-Kepez**	**0.65**	**90**	P		**Pn**	**02 12 22.8**	**-0.5**
KEPZ				S		**Sn**	**02 12 33.6**	**-0.6**
ELL	**Elmali**	**0.72**	**258**	PG		**Pn**	**02 12 24.2**	**0.0**
ELL	**Elmali**	**0.72**	**258**	*e*Pg		**Pn**	**02 12 24.2**	**0.0**
ISP	**Isparta**	**0.94**	**347**	PG		**Pn**	**02 12 26.7**	**-0.1**
ISP				SG		**Sn**	**02 12 40.8**	**+0.5**
ISP	**Isparta**	**0.94**	**347**	*e*Pg		**Pn**	**02 12 26.7**	**-0.1**
ISP				*e*Sg		**Sn**	**02 12 40.8**	**+0.5**
BRDR	**BURDUR-Merkez**	**0.98**	**324**	*i* P		**Pn**	**02 12 27.2**	**0.0**
BRDR				*i* S		**Sn**	**02 12 42.3**	**+1.2**
BRDR	**BURDUR-Merkez**	**0.98**	**324**	P		**Pn**	**02 12 27.2**	**0.0**
BRDR				S		**Sn**	**02 12 42.3**	**+1.2**
BAGO	**Egridir - ISPA**	**1.09**	**360**	*i* P		**Pn**	**02 12 28.4**	**-0.1**
BAGO				*i* S		**Sn**	**02 12 43.5**	**+0.2**
AKAS	**Kas**	**1.16**	**235**	PN		**Pn**	**02 12 29.3**	**-0.2**
AKAS	**Kas**	**1.16**	**235**	*e*Pn		**Pn**	**02 12 29.3**	**-0.2**
DOGA	**KONYA_Doganhis**	**1.39**	**30**	*i* P		**Pn**	**02 12 32.9**	**+0.5**
DOGA				*i* S		**Sn**	**02 12 50.3**	**0.0**
DOGA	**KONYA_Doganhis**	**1.39**	**30**	P		**Pn**	**02 12 32.9**	**+0.5**
DOGA				S		**Sn**	**02 12 50.3**	**0.0**
FETY	**Fethiye**	**1.40**	**260**	PN		**Pn**	**02 12 30.6**	**-1.8**
FETY	**Fethiye**	**1.40**	**260**	*e*Pn		**Pn**	**02 12 30.6**	**-1.8**
KZIL	**AFYON_Kizioren**	**1.45**	**339**	*i* P		**Pn**	**02 12 32.8**	**-0.4**
KZIL				*i* S		**Sn**	**02 12 51.9**	**+0.2**
KZIL	**AFYON_Kizioren**	**1.45**	**339**	P		**Pn**	**02 12 32.8**	**-0.4**
KZIL				S		**Sn**	**02 12 51.9**	**+0.2**
SHUT	**Suhut-Afyon**	**1.66**	**353**	PN		**Pn**	**02 12 35.5**	**-0.5**
SHUT	**Suhut-Afyon**	**1.66**	**353**	*e*Pn		**Pn**	**02 12 35.5**	**-0.5**
DALY	**Dalyan (Mu˙la**	**1.72**	**268**	PN		**Pn**	**02 12 36.3**	**-0.2**
DALY	**Dalyan (Mu˙la**	**1.72**	**268**	*e*Pn		**Pn**	**02 12 36.3**	**-0.2**
TURN	**Turunc**	**1.75**	**270**	PN		**Pn**	**02 12 40.9**	**+3.9**
KHAL	**Karahalli**	**1.79**	**325**	*i* P		**Pn**	**02 12 38.2**	**+0.5**
KHAL				*i* S		**Sn**	**02 12 59.0**	**-0.8**
KHAL	**Karahalli**	**1.79**	**325**	P		**Pn**	**02 12 38.2**	**+0.5**
KHAL				S		**Sn**	**02 12 59.0**	**-0.8**
KDHN	**Kadinhani**	**1.93**	**33**	*i* P		**Pn**	**02 12 39.2**	**-0.3**
KDHN				*i* S		**Sn**	**02 13 02.3**	**-0.7**
KDHN	**Kadinhani**	**1.93**	**33**	P		**Pn**	**02 12 39.2**	**-0.3**
KDHN				S		**Sn**	**02 13 02.3**	**-0.7**
TEKE	**Tekeli-Mersin**	**2.02**	**111**	PN		**Pn**	**02 12 42.1**	**+1.5**
YER	**Yerkesik**	**2.02**	**277**	PN		**Pn**	**02 12 40.3**	**-0.4**
YER	**Yerkesik**	**2.02**	**277**	*e*Pn		**Pn**	**02 12 40.3**	**-0.4**
TVSB	**Tavsanli**	**2.75**	**338**	PN		**Pn**	**02 12 49.9**	**-0.7**
TVSB	**Tavsanli**	**2.75**	**338**	*e*Pn		**Pn**	**02 12 49.9**	**-0.7**

IDC ***14*** *02:17:25.0±4.4, 20°.64S×178°.71W, h568km±42km, mb3.1/8, mb1 3.4/9, mb1mx3.2/40, mbtmp4.1/9, Error ellipse: s-maj=80.1km s-min=21.5km az=147.0*

ISC 14 02:17:28.1±1.6, 20°.3S±0°.5×179°.1W±0°.3, h600km, n18, σ0s94/19, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.66**	**260**	P		**P**	**02 20 23.0**	**-0.8**
	1.2nm,0.3s,baz=81,slow=20,SNR=6.6							
CTA	**Charters Tower**	**32.54**	**264**	P		**P**	**02 23 13.2**	**+1.5**
	5.0nm,0.4s,baz=89,slow=10,SNR=7.9							
STKA	**Stephens Creek**	**37.01**	**244**	P		**P**	**02 23 48.4**	**-0.2**
	1.6nm,0.4s,baz=84,slow=12,SNR=5.8							
ASAR	**Alice Springs**	**43.62**	**257**	P		**P**	**02 24 41.1**	**-0.1**
	1.6nm,0.6s,baz=92,slow=7.8,SNR=14							
ASAR				PcP		**PcP**	**02 26 15.4**	**+0.4**
	0.7nm,0.6s,baz=98,slow=4.6,SNR=5.5							
WRA	**Warramunga Arr**	**43.66**	**262**	P		**P**	**02 24 42.1**	**+0.5**
	0.7nm,0.3s,baz=96,slow=7.6,SNR=35							
WRA				PcP		**PcP**	**02 26 16.0**	**+0.9**
	0.3nm,0.5s,baz=87,slow=3.1,SNR=2.7							
NVAR	**Mina Array Bea**	**81.53**	**44**	P		**P**	**02 28 45.0**	**+0.5**
	0.3nm,0.5s,baz=232,slow=3.8,SNR=4.0							
ILAR	**Eielson Array**	**88.30**	**13**	P		**P**	**02 29 16.9**	**+0.6**
	0.7nm,0.5s,baz=224,slow=5.7,SNR=10							
PDAR	**Pinedale Array**	**89.46**	**44**	P		**P**	**02 29 22.6**	**0.0**
	0.4nm,0.6s,baz=224,slow=4.1,SNR=6.0							
YKA	**Yellowknife Ar**	**96.70**	**25**	P		**P**	**02 29 54.9**	**+0.2**
	0.2nm,0.8s,baz=257,slow=4.3,SNR=3.2							
BVAR	**Borovoye Array**	**118.26**	**320**	PKP		**PKPdf**	**02 35 07.7**	**-0.2**
	0.9nm,0.4s,baz=68,slow=1.1,SNR=7.2							
ARCES	**ARCESS Array B**	**128.50**	**349**	PKP		**PKPdf**	**02 35 27.1**	**0.0**
	3.6nm,1.0s,baz=349,slow=4.9,SNR=4.5							
FINES	**FINESS Array B**	**135.26**	**343**	PKP		**PKPdf**	**02 35 40.6**	**+0.6**
	2.0nm,0.8s,baz=98,slow=3.9,SNR=3.9							
HFS	**Hagfors**	**139.14**	**350**	PKhKP		PKPpre	02 35 39.8	
	1.1nm,0.5s,baz=70,slow=4.7,SNR=9.8							
AKASG	**Malin Array Be**	**142.32**	**330**	PKP		**PKPdf**	**02 35 51.0**	**-2.2**
	0.9nm,0.5s,baz=43,slow=4.2,SNR=24							
EKA	**Eskdalemuir Ar**	**144.84**	**4**	PKPbc		**PKPab**	**02 35 58.5**	**-0.6**
	1.4nm,0.7s,baz=2.6,slow=3.1,SNR=5.5							
BRTR	**Keskin Array B**	**145.95**	**312**	PKPbc		**PKPab**	**02 36 03.0**	**-1.1**
	1.0nm,0.6s,baz=125,slow=5.0,SNR=7.5							
MMAI	**Mount Meron Ar**	**146.84**	**300**	PKPbc		**PKPab**	**02 36 06.3**	**-1.5**
	2.0nm,0.4s,baz=83,slow=4.5,SNR=9.0							
GERES	**GERESS Array B**	**149.69**	**343**	PKPbc		**PKPbc**	**02 36 11.5**	**+0.4**
	0.7nm,0.6s,baz=46,slow=3.9,SNR=7.3							

ISCJB ***14*** *02:23:40.9±0.8, 25°.83S±0°.10×179°.5E±0°.1, h503km, mb3.8/7, Error ellipse: s-maj=16.8km s-min=12.6km az=11.7*
IDC ***14*** *02:23:43.0±2.8, 25°.88S×179°.56E, h523km±28km, mb3.4/7, mb1 3.7/8, mb1mx3.4/36, mbtmp4.3/8, Error ellipse: s-maj=32.7km s-min=15.7km az=161.0*

ISC 14 02:23:41.1±0.8, 25°.9S±0°.1×179°.6E±0°.1, h503km, n17, σ0s71/15, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.47**	**189**	S		**S**	**02 28 39.2**	**+0.1**
	0.4nm,0.3s,baz=343,slow=14,SNR=3.6							
DZM	**Mont Dzumac**	**12.65**	**285**	P		**P**	**02 26 27.6**	**+0.9**
	0.8nm,0.3s,baz=98,slow=12,SNR=5.3							
STKA	**Stephens Creek**	**33.69**	**251**	P		**P**	**02 29 40.4**	**+0.5**
	2.7nm,0.5s,baz=98,slow=12,SNR=6.3							
ASAR	**Alice Springs**	**41.41**	**263**	P		**P**	**02 30 43.5**	**+0.2**
	4.7nm,0.4s,baz=91,slow=7.2,SNR=70							
ASAR				S		**S**	**02 36 20.6**	**-1.0**
	0.8nm,0.7s,baz=91,slow=16,SNR=2.8							
WRA	**Warramunga Arr**	**41.97**	**269**	P		**P**	**02 30 47.2**	**-0.5**
	4.3nm,0.5s,baz=104,slow=8.0,SNR=14							
MJAR	**Matsushiro Arr**	**73.39**	**326**	P		**P**	**02 34 21.0**	**-0.5**
	1.5nm,0.5s,baz=158,slow=4.9,SNR=4.4							
KSRS	**Korea Array**	**79.59**	**321**	P		**P**	**02 34 55.5**	**0.0**
	1.6nm,0.6s,baz=134,slow=5.3,SNR=5.0							
NVAR	**Mina Array Bea**	**86.45**	**44**	P		**P**	**02 35 30.4**	**+0.2**
	0.8nm,0.7s,baz=228,slow=8.0,SNR=5.4							
TXAR	**Lajitas Array**	**91.79**	**58**	P		**P**	**02 35 55.9**	**+0.7**
	0.3nm,0.6s,baz=238,slow=7.2,SNR=4.0							
BVAR	**Borovoye Array**	**121.73**	**318**	PKP		**PKPdf**	**02 41 36.2**	**-0.9**
	0.6nm,0.5s,baz=97,slow=0.5,SNR=4.4							
NB2	**NORSAR Subarra**	**144.03**	**350**	PKP		PKPbc	02 42 16.6	-1.2
	comp=Z,1.0nm,0.6s,baz=13,slow=3.1							
NOA	**NORSAR Array B**	**144.03**	**350**	PKP		PKPbc	02 42 16.7	-1.0
	comp=Z,1.3nm,0.6s,baz=18,slow=2.8,SNR=7.6							
HFS	**Hagfors**	**144.46**	**348**	PKP		PKPbc	02 42 17.8	-1.3
	comp=Z,2.5nm,0.5s,baz=72,slow=4.7,SNR=16							
MMAI	**Mount Meron Ar**	**148.18**	**291**	PKPbc		**PKPbc**	**02 42 31.3**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=89,slow=6.0,SNR=4.8							
BRTR	**Keskin Array B**	**148.49**	**304**	PKPbc		**PKPbc**	**02 42 30.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=118,slow=2.8,SNR=4.7							
EKA	**Eskdalemuir Ar**	**150.56**	**3**	PKPbc		**PKPbc**	**02 42 34.3**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=327,slow=2.2,SNR=6.0							
TORD	**Torodi Ar. Bea**	**167.13**	**189**	PKPab		**PKPab**	**02 43 56.6**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=154,slow=4.6,SNR=2.7							

CSEM ***14*** *02:34:00.6±0.4, 36°.06N×53°.95E, h10km, ML3.8, Error ellipse: s-maj=11.6km s-min=6.9km az=22.0*
ISCJB ***14*** *02:34:02.1±0.3, 36°.34N±0°.02×53°.87E±0°.03, h10km, Error ellipse: s-maj=3.8km s-min=2.5km az=158.3*
TEH ***14*** *02:34:04.2, 36°.28N×53°.92E, h7km, ML3.1*

ISC 14 02:34:03.2±0.8, 36°.26N±0°.04×53°.91E±0°.03, h10km, n56, σ2s03/89, 27C-33D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ISHM	**Shahmirzad**	**0.67**	**228**	*e*Pg		**Pg**	**02 34 16.7**	**+0.4**
ISHM				*e*Sg		**Sg**	**02 34 26.8**	**+1.6**
ISHM				*e*AMB	AMB		02 34 31.3	
	comp=Z,17μm,0.2s							
IANJ	**Anjilo**	**0.79**	**180**	*e*Pg		**Pg**	**02 34 18.4**	**-0.1**
IANJ				*e*AMB	AMB		02 34 20.1	
	comp=Z,8μm,0.1s							
IANJ				*e*Sg		**Sg**	**02 34 29.7**	**+0.9**
IALA	**Alasht**	**0.91**	**259**	*e*Pg		**Pg**	**02 34 20.7**	**-0.1**
IALA				*e*AMB	AMB		02 34 38.7	
	comp=Z,8μm,0.2s							
IFIR	**Firoozkooh**	**1.12**	**237**	*e*Pg		**Pg**	**02 34 24.5**	**-0.3**
IFIR				*e*AMB	AMB		02 34 29.5	
	comp=Z,8μm,0.1s							
ILAS	**Lasjerd**	**1.17**	**222**	*e*Pg		**Pb**	**02 34 25.2**	**-0.4**
ILAS				*e*AMB	AMB		02 34 31.0	
	comp=E,8μm,0.1s							
IPRN	**Peran**	**1.27**	**270**	*e*Pg		**Pn**	**02 34 27.1**	**-0.1**
IPRN				*e*AMB	AMB		02 34 53.6	
	comp=Z,7μm,0.1s							
IMND	**Minoodasht**	**1.56**	**50**	*e*Pn		**Pn**	**02 34 30.4**	**-0.7**
IMND				*e*AMB	AMB		02 34 33.0	
	comp=Z,2μm,0.1s							
IMND				*e*Sg		**Sb**	**02 34 52.2**	**+0.1**
IDMV	**Damavand**	**1.67**	**247**	*e*Pn		**Pn**	**02 34 34.3**	**+1.5**
IDMV				*e*AMB	AMB		02 34 36.5	
	comp=Z,3μm,0.1s							
DAMV	**Damavand**	**1.69**	**249**	*e*Pg		**Pb**	**02 34 35.2**	**+0.6**
SHRO	**Shahrood**	**1.72**	**98**	*e*Pg		**Pn**	**02 34 31.9**	**-1.4**
IVRN	**Varamin**	**2.18**	**235**	*e*Pn		**Pb**	**02 34 42.6**	**-0.2**
IVRN				*e*AMB	AMB		02 35 20.2	
	comp=Z,5μm,0.1s							
MRVT	**Maraveh tapeh**	**2.24**	**51**	*e*Pn		**Pn**	**02 34 38.7**	**-1.7**
CHTH	**Charan**	**2.28**	**262**	*e*Pn		**Pn**	**02 34 43.6**	**+2.4**
THKV	**Tehran--Karaj**	**2.48**	**263**	*e*Pn		**Pn**	**02 34 46.1**	**+2.2**
ANAR	**Anarak**	**3.06**	**183**	*e*Pn		**Pn**	**02 34 53.0**	**+1.2**
ANAR				*e*AMB	AMB		02 35 08.7	
	comp=Z,99nm,0.2s							
QAM	**Ghamsar**	**3.21**	**220**	*e*Pn		**Pn**	**02 34 55.6**	**+1.7**
QAM				*e*AMB	AMB		02 35 09.3	
	comp=Z,884nm,0.1s							
IRAZ	**Razeghan**	**3.34**	**256**	*e*Pn		**Pn**	**02 34 59.1**	**+3.3**
IRAZ				*e*AMB	AMB		02 35 13.6	
	comp=Z,552nm,0.3s							
IKLH	**Kolahrood**	**3.50**	**214**	*e*Pn		**Pn**	**02 35 00.4**	**+2.4**
IKLH				*e*AMB	AMB		02 35 11.8	
	comp=Z,593nm,0.2s							
IZEF	**Zefreh**	**3.60**	**202**	*e*Pn		**Pn**	**02 35 02.2**	**+2.9**
IZEF				*e*AMB	AMB		02 36 12.8	
	comp=Z,256nm,0.2s							
IKRD	**Kardeh**	**3.74**	**81**	*e*Pn		**Pg**	**02 35 14.5**	**-0.5**
IKRD				*e*AMB	AMB		02 36 22.7	
	comp=N,131nm,0.3s							
IEMG	**Emamgholi**	**3.98**	**72**	*e*AMB	AMB		02 35 26.3	
	comp=N,476nm,0.1s							
IEMG				*e*Pn		**Pn**	**02 35 05.7**	**+1.2**
ICHK	**Chekchek**	**4.02**	**174**	*e*Pn		**Pn**	**02 35 05.2**	**+0.1**
ICHK				*e*AMB	AMB		02 36 33.7	
	comp=Z,205nm,0.2s							
ISAD	**Sadrabad**	**4.34**	**183**	*e*Pn		**Pn**	**02 35 10.7**	**+1.2**
ISAD				*e*AMB	AMB		02 35 35.8	
	comp=Z,161nm,0.2s							
IRAM	**Ramesheh**	**4.61**	**196**	*e*Pn		**Pn**	**02 35 15.6**	**+2.4**
IRAM				*e*AMB	AMB		02 35 36.9	
	comp=Z,91nm,0.3s							
ASTR	**Astara**	**4.68**	**301**	⇑P		**Pn**	**02 35 12.7**	**-1.2**
ASTR				⇓S		**Sn**	**02 36 03.0**	**-5.3**
LKRN	**Lenkeran, Azer**	**4.76**	**302**	⇑P		**Pn**	**02 35 14.2**	**-0.8**
LKRN				⇑S		**Sn**	**02 36 07.5**	**-2.7**
IBAF	**Bafgh**	**4.85**	**163**	*e*Pn		**Pn**	**02 35 17.4**	**+0.9**
IBAF				*e*AMB	AMB		02 36 19.0	
	comp=Z,190nm,0.2s							
IMYA	**Miami**	**5.00**	**87**	*e*Pn		**Pn**	**02 35 19.2**	**+0.7**
IMYA				*e*AMB	AMB		02 35 47.9	
	comp=Z,64nm,0.3s							
LRK	**Lerik**	**5.03**	**300**	⇓P		**Pn**	**02 35 18.1**	**-0.8**
LRK				⇓S		**Sn**	**02 36 14.5**	**-2.7**
GALA	**Gala**	**5.09**	**326**	⇑P		**Pn**	**02 35 22.4**	**+2.9**
GALA				⇓S		**Sn**	**02 36 22.0**	**+3.7**
GOBA	**Gobu**	**5.28**	**323**	⇓P		**Pn**	**02 35 24.1**	**+1.9**
GOBA				⇓S		**Sn**	**02 36 25.8**	**+2.7**
GLBA	**Clilabad**	**5.29**	**306**	⇓P		**Pn**	**02 35 21.3**	**-1.0**
GLBA				⇓S		**Sn**	**02 36 21.5**	**-1.8**
NDR	**Nardaran**	**5.30**	**326**	⇓P		**Pn**	**02 35 24.3**	**+1.8**
NDR				⇓S		**Sn**	**02 36 28.2**	**+4.6**
ALIB	**Äli-Bayra**	**5.35**	**315**	⇓P		**Pn**	**02 35 24.0**	**+0.9**
ALIB				⇓S		**Sn**	**02 36 25.0**	**+0.9**
SAAT	**Saatly**	**5.63**	**311**	⇓P		**Pn**	**02 35 27.4**	**+0.5**
SAAT				⇓S		**Sn**	**02 36 32.5**	**+0.9**
GBS	**Qobustan**	**5.79**	**319**	⇑P		**Pn**	**02 35 29.6**	**+0.4**
GBS				⇑S		**Sn**	**02 36 36.7**	**+1.1**
ATGJ	**Altiaghaj**	**6.03**	**321**	⇓P		**Pn**	**02 35 33.2**	**+0.7**
ATGJ				⇓S		**Sn**	**02 36 43.5**	**+1.9**
KDMR	**Kurdemir**	**6.10**	**314**	⇑P		**Pn**	**02 35 33.3**	**-0.1**
KDMR				⇑S		**Sn**	**02 36 43.1**	**-0.1**
PQL	**Pirkuli**	**6.15**	**319**	⇑P		**Pn**	**02 35 34.6**	**+0.3**
PQL				⇑S		**Sn**	**02 36 45.6**	**+0.8**
SIZA	**Siyzn**	**6.21**	**322**	⇓P		**Pn**	**02 35 35.9**	**+0.9**
SIZA				⇓S		**Sn**	**02 36 48.3**	**+2.3**
ZRD	**Zardab**	**6.33**	**311**	⇓P		**Pn**	**02 35 35.9**	**-0.7**
ZRD				⇓S		**Sn**	**02 36 47.9**	**-1.1**
IML	**Ismayilli**	**6.38**	**317**	⇑P		**Pn**	**02 35 37.2**	**-0.1**
IML				⇓S		**Sn**	**02 36 50.6**	**+0.4**
QUBA	**Quba, Azerbaij**	**6.62**	**322**	⇓P		**Pn**	**02 35 41.4**	**+0.8**
QUBA				⇓S		**Sn**	**02 36 58.0**	**+1.9**
BRDA	**Brd**	**6.64**	**309**	⇑P		**Pn**	**02 35 39.5**	**-1.3**
BRDA				⇓S		**Sn**	**02 36 54.8**	**-1.7**
XNQ	**Khinaliq**	**6.67**	**319**	⇑P		**Pn**	**02 35 41.4**	**0.0**
XNQ				⇓S		**Sn**	**02 36 58.2**	**+0.7**
QBL	**Gabala**	**6.67**	**316**	⇑P		**Pn**	**02 35 41.3**	**0.0**
QBL				⇓S		**Sn**	**02 36 57.8**	**+0.3**
ORD	**Ordubad**	**6.83**	**295**	⇑P		**Pn**	**02 35 40.4**	**-3.1**
ORD				⇑S		**Sn**	**02 36 56.1**	**-5.2**
QSAR	**Qusar**	**6.85**	**322**	⇓P		**Pn**	**02 35 44.3**	**+0.5**
QSAR				⇓S		**Sn**	**02 37 03.6**	**+1.7**
MNGR	**Mingechevir, A**	**7.00**	**312**	⇑P		**Pn**	**02 35 45.1**	**-0.6**
MNGR				⇓S		**Sn**	**02 37 04.9**	**-0.4**
SEKA	**Sheki**	**7.21**	**315**	⇑P		**Pn**	**02 35 47.6**	**-1.1**
SEKA				⇓S		**Sn**	**02 37 09.5**	**-1.2**
NAX	**Nakhchivan**	**7.28**	**296**	⇑P		**Pn**	**02 35 46.6**	**-3.1**
NAX				⇓S		**Sn**	**02 37 07.2**	**-5.2**
SBZ	**Shahbuz**	**7.32**	**298**	⇑P		**Pn**	**02 35 47.4**	**-2.9**
SBZ				⇓S		**Sn**	**02 37 08.7**	**-4.8**
GANJ	**Ganja**	**7.39**	**309**	⇑P		**Pn**	**02 35 49.8**	**-1.4**
GANJ				⇓S		**Sn**	**02 37 13.1**	**-2.0**
GDB	**GEDABAY**	**7.79**	**307**	⇑P		**Pn**	**02 35 56.1**	**-0.8**
GDB				⇑S		**Sn**	**02 37 21.8**	**-3.5**
HYR	**Heyderabad**	**7.94**	**299**	⇑P		**Pn**	**02 35 57.1**	**-1.7**
HYR				⇓S		**Sn**	**02 37 24.0**	**-4.8**
QZX	**Qazax, Azerbai**	**8.22**	**308**	⇓P		**Pn**	**02 36 01.9**	**-0.7**
QZX				⇓S		**Sn**	**02 37 33.2**	**-2.3**

ISCJB ***14*** *02:39:10.5±0.8, 41°.04N±0°.04×12°.54E±0°.04, h28km±5km, Error ellipse: s-maj=6.6km s-min=4.8km az=29.0*
CSEM ***14*** *02:39:10.7±0.2, 41°.05N×12°.59E, h20km, ML3.5/8, Error ellipse: s-maj=4.1km s-min=3.3km az=26.0*
ROM ***14*** *02:39:10.8±0.2, 41°.08N×12°.59E, h27km±2km, Md2.7/22, Ml2.5/19, Error ellipse: s-maj=3.3km s-min=2.0km az=35.0*
LDG ***14*** *02:39:11.5, 41°.14N×12°.69E, h45km*

ISC 14 02:39:10.8±1.2, 41°.06N±0°.04×12°.58E±0°.03, h30km±11km, n59, σ1s00/85, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LAV9	**Lanuvio**	**0.62**	**9**	Pg		**Pb**	**02 39 23.2**	**-0.1**
LAV9				Sg		**Sb**	**02 39 31.4**	**-0.3**
	1μm,0.3s							
LAV9	**Lanuvio**	**0.62**	**9**	Pg		**Pb**	**02 39 23.2**	**-0.1**
LAV9				Sg		**Sb**	**02 39 31.4**	**-0.3**
	1μm,0.3s							
VENT	**Ventotene**	**0.69**	**112**	Pg		**Pn**	**02 39 24.8**	**+0.2**
VENT				Sg		**Sn**	**02 39 35.0**	**+0.6**
VENT	**Ventotene**	**0.69**	**112**	Pg		**Pn**	**02 39 24.8**	**+0.2**
VENT				Sg		**Sn**	**02 39 35.0**	**+0.6**
MA9	**Marino**	**0.71**	**5**	Pg		**Pb**	**02 39 24.4**	**-0.3**
MA9				Sg		**Sn**	**02 39 35.0**	**+0.2**
	854nm,0.6s							
MA9	**Marino**	**0.71**	**5**	Pg		**Pb**	**02 39 24.4**	**-0.3**
MA9				Sg		**Sn**	**02 39 35.0**	**+0.2**
	854nm,0.6s							
GIUL	**Giuliano Di Ro**	**0.71**	**46**	Pg		**Pb**	**02 39 24.2**	**-0.6**
GIUL				Sg		**Sb**	**02 39 33.4**	**-0.9**
	228nm,0.5s							
GIUL	**Giuliano Di Ro**	**0.71**	**46**	Pg		**Pb**	**02 39 24.2**	**-0.6**
GIUL				Sg		**Sb**	**02 39 33.4**	**-0.9**
	228nm,0.5s							
SAMA	**S.Maria delle**	**0.72**	**1**	Pg		**Pb**	**02 39 24.1**	**-0.7**
SAMA				Sg		**Sn**	**02 39 34.9**	**-0.1**
SAMA	**S.Maria delle**	**0.72**	**1**	Pg		**Pb**	**02 39 24.1**	**-0.7**
SAMA				Sg		**Sn**	**02 39 34.9**	**-0.1**
RMP	**Rome, Mte Porz**	**0.75**	**7**	Pg		**Pn**	**02 39 25.5**	**0.0**
RMP				Sg		**Sn**	**02 39 36.5**	**+0.6**
	907nm,0.6s							
RMP	**Rome, Mte Porz**	**0.75**	**7**	Pg		**Pn**	**02 39 25.5**	**0.0**
RMP				Sg		**Sn**	**02 39 36.5**	**+0.6**
	907nm,0.6s							
ROM9	**Roma**	**0.77**	**357**	Pg		**Pb**	**02 39 24.9**	**-0.8**
ROM9				Sg		**Sn**	**02 39 37.3**	**+1.1**
	577nm,0.9s							
ROM9	**Roma**	**0.77**	**357**	Pg		**Pb**	**02 39 24.9**	**-0.8**
ROM9				Sg		**Sn**	**02 39 37.3**	**+1.1**
	577nm,0.9s							
GUAR	**Guarcino**	**0.92**	**37**	Pg		**Pn**	**02 39 27.8**	**0.0**
GUAR				Sg		**Sn**	**02 39 40.2**	**+0.2**
	75nm,0.4s							
GUAR	**Guarcino**	**0.92**	**37**	Pg		**Pn**	**02 39 27.8**	**0.0**
GUAR				Sg		**Sn**	**02 39 40.2**	**+0.2**
	75nm,0.4s							
**

CTAK	Corum_Osmancik	0.20	197		P	Pg	03 00 09.4	-0.1
CTAK					S	Sg	03 00 13.1	+0.7
BOYT	Boyabat	0.58	3	*i*	P	Pg	03 00 15.8	-0.9
BOYT	Boyabat	0.58	3		P	Pg	03 00 15.8	-0.9
COAL	Corum-Alaca	0.59	171	*i*	P	Pg	03 00 16.2	-0.5
COAL					*i* S	Sg	03 00 24.8	+0.3
COAL	Corum-Alaca	0.59	171		P	Pg	03 00 16.2	-0.5
COAL					S	Sg	03 00 24.8	+0.3
CORM	Corum	0.68	196		PG	Pg	03 00 17.2	-1.3
CORM					SG	Sb	03 00 28.5	-0.4
CORM	Corum	0.68	196	*e*Pg		Pg	03 00 17.2	-1.3
CORM				*e*Sg		Sb	03 00 28.5	-0.4
HAVZ	Havza	0.69	69	*i*	P	Pg	03 00 18.5	-0.1
HAVZ					*i* S	Sb	03 00 28.7	-0.3
HAVZ	Havza	0.69	69		P	Pg	03 00 18.5	-0.1
HAVZ					S	Sb	03 00 28.7	-0.3
DIKM	Dikmen	0.86	20		PG	Pb	03 00 21.9	-0.5
DIKM					SG	Sb	03 00 34.2	+0.1
DIKM	Dikmen	0.86	20	*e*Pg		Pb	03 00 21.9	-0.5
DIKM				*e*Sg		Sb	03 00 34.2	+0.1
ILGA	Ilgaz	0.90	284	*i*	P	Pg	03 00 22.4	-0.2
ILGA					*i* S	Sb	03 00 35.4	+0.1
ILGA	Ilgaz	0.90	284		P	Pg	03 00 22.4	-0.2
ILGA					S	Sb	03 00 35.4	+0.1
KVT	Kavak	0.93	74		PG	Pg	03 00 22.6	-0.5
KVT					SG	Sb	03 00 35.9	+0.1
KVT	Kavak	0.93	74	*e*Pg		Pg	03 00 22.6	-0.5
KVT				*e*Sg		Sb	03 00 35.9	+0.1
KAST	KASTAMONU	0.96	313	*i*	P	Pg	03 00 23.4	-0.5
KAST					*i* S	Sb	03 00 37.0	0.0
KAST	KASTAMONU	0.96	313		P	Pg	03 00 23.4	-0.5
KAST					S	Sb	03 00 37.0	0.0
CANT	Cankiri	0.98	257		PG	Pg	03 00 28.3	-0.3
CANT					SG	Sb	03 00 38.2	+0.9
SAMS	Samsun-Alacam	1.13	62	*i*	P	Pg	03 00 26.6	-0.4
SAMS					*i* S	Sn	03 00 42.7	0.0
SAMS	Samsun-Alacam	1.13	62		P	Pg	03 00 26.6	-0.4
SAMS					S	Sn	03 00 42.7	0.0
ELDT	Eldivan	1.15	253	*i*	P	Pg	03 00 26.5	-0.9
ELDT					*i* S	Sb	03 00 43.2	+0.8
ELDT	Eldivan	1.15	253		P	Pg	03 00 26.5	-0.9
ELDT					S	Sb	03 00 43.2	+0.8
SINO	SINOP_Merkez	1.21	12	*i*	P	Pn	03 00 28.3	+0.1
SINO					*i* S	Sn	03 00 45.5	+0.8
SINO	SINOP_Merkez	1.21	12		P	Pn	03 00 28.3	+0.1
SINO					S	Sn	03 00 45.5	+0.8
SNOP	Sinop	1.21	12		PN	Pb	03 00 28.3	0.0
SNOP	Sinop	1.21	12	*e*Pn		Pb	03 00 28.3	0.0
YOZ	Yozgat	1.24	164		PN	Pg	03 00 28.4	-0.8
YOZ	Yozgat	1.24	164	*e*Pn		Pg	03 00 28.4	-0.8
CDAG	Cicekdag	1.27	198	*i*	P	Pg	03 00 28.1	-1.6
CDAG					*i* S	Sg	03 00 45.9	-0.2
CDAG	Cicekdag	1.27	198		P	Pg	03 00 28.1	-1.6
CDAG					S	Sg	03 00 45.9	-0.2
BZK	Bozkurt	1.30	330		PN	Pn	03 00 29.4	-0.1
BZK	Bozkurt	1.30	330	*e*Pn		Pn	03 00 29.4	-0.1
TOKA	Tokat	1.33	112	*i*	P	Pn	03 00 29.9	-0.1
TOKA					*i* S	Sn	03 00 48.3	+0.6
TOKA	Tokat	1.33	112		P	Pn	03 00 29.9	-0.1
TOKA					S	Sn	03 00 48.3	+0.6
TOKT	Tokat	1.38	111		PN	Pn	03 00 30.8	+0.2
TOKT	Tokat	1.38	111	*e*Pn		Pn	03 00 30.8	+0.2
ERBA	Erbaa	1.44	96	*i*	P	Pn	03 00 31.0	-0.5
ERBA					*i* S	Sg	03 00 51.1	-0.6
ERBA	Erbaa	1.44	96		P	Pn	03 00 31.0	-0.5
ERBA					S	Sg	03 00 51.1	-0.6
BRTR	Keskin Array B	1.45	221		Pg	Pn	03 00 31.4	-0.4
	48nm,0.3s,baz=49,slow=13,SNR=15							
BRTR					Lg	Lg	03 00 51.6	
	31nm,0.3s,baz=54,slow=27,SNR=10.0							
CUSAR	Sarkisla-SIVAS	1.77	143	*i*	P	Pb	03 00 37.2	-0.7
CUSAR					*i* S	Sg	03 01 02.2	+0.1
CUSAR	Sarkisla-SIVAS	1.77	143		P	Pb	03 00 37.2	-0.7
CUSAR					S	Sg	03 01 02.2	+0.1
CMDR	Camlidere-ANKA	1.85	260	*i*	P	Pn	03 00 38.1	+0.9
CMDR					*i* S	Sn	03 00 59.3	-1.4
CMDR	Camlidere-ANKA	1.85	260		P	Pn	03 00 38.1	+0.9
CMDR					S	Sn	03 00 59.3	-1.4
ANTO	Ankara	1.86	239		PN	Pn	03 00 37.9	+0.7
ANTO	Ankara	1.86	239	*e*Pn		Pn	03 00 37.9	+0.7
BBAL	Bala	1.86	227	*i*	P	Pb	03 00 39.0	-0.4
BBAL					*i* S	Sg	03 01 04.0	-1.1
BBAL	Bala	1.86	227		P	Pb	03 00 39.0	-0.4
BBAL					S	Sg	03 01 04.0	-1.1
DAD	Ankara	1.86	241	*i*	P	Pb	03 00 38.9	-0.6
DAD					*i* S	Sn	03 01 00.6	-0.4
DAD	Ankara	1.86	241		P	Pb	03 00 38.9	-0.6
DAD					S	Sn	03 01 00.6	-0.4
LOD	Lodumlu	1.86	240		PN	Pn	03 00 36.7	-0.7
LOD	Lodumlu	1.86	240	*e*Pn		Pn	03 00 36.7	-0.7
SVSK	Karacayir	1.87	119		PN	Pn	03 00 37.9	+0.6
SVSK	Karacayir	1.87	119	*e*Pn		Pn	03 00 37.9	+0.6
KURC	Kurucasile-Bar	1.89	303		PN	Pb	03 00 38.9	-1.0
KURC	Kurucasile-Bar	1.89	303	*e*Pn		Pb	03 00 38.9	-1.0
RSDY	Resadiye-TOKAT	1.92	102		PN	Pn	03 00 37.9	-0.2
RSDY	Resadiye-TOKAT	1.92	102	*e*Pn		Pn	03 00 37.9	-0.2
AFSR	Af¨ar-Bala (A	1.96	225		PN	Pn	03 00 37.9	-0.7
AFSR	Af¨ar-Bala (A	1.96	225	*e*Pn		Pn	03 00 37.9	-0.7
SCER	sogukcermik	1.98	119	*i*	P	Pb	03 00 40.4	-1.1
SCER					*i* S	Sg	03 01 08.8	-0.2
SCER	sogukcermik	1.98	119		P	Pb	03 00 40.4	-1.1
SCER					S	Sg	03 01 08.8	-0.2
AVNS	Nevsehir-Avano	2.03	180	*i*	P	Pb	03 00 41.2	-1.1
AVNS					*i* S	Sg	03 01 09.5	-0.9
AVNS	Nevsehir-Avano	2.03	180		P	Pb	03 00 41.2	-1.1
BNN	Bunyan	2.12	159		PN	Pn	03 00 41.5	+0.6
BNN	Bunyan	2.12	159	*e*Pn		Pn	03 00 41.5	+0.6
BCAM	Yenicaga	2.13	270	*i*	P	Pb	03 00 44.5	+0.5
BTIN	Bart¨–n	2.13	293	*i*	P	Pb	03 00 44.8	+0.8
BTIN					*i* S	Sg	03 01 14.6	+0.8
CUALT	Altinyayla-SIV	2.13	136	*i*	P	Pb	03 00 43.0	-1.1
CUALT					*i* S	Sg	03 01 14.8	+1.0
CUALT	Altinyayla-SIV	2.13	136		P	Pb	03 00 43.0	-1.1
SERE	Serefiikochisa	2.14	208		PN	Pn	03 00 41.7	+0.6
SERE	Serefiikochisa	2.14	208	*e*Pn		Pn	03 00 41.7	+0.6
KKUL	Konya-Kulu	2.24	223	*i*	P	Pn	03 00 45.5	+1.0
KKUL					*i* S	Sb	03 01 15.4	+1.7
KKUL	Konya-Kulu	2.24	223		P	Pn	03 00 43.5	+1.0
ORDU	Ordu-Boztepe	2.27	85	*i*	P	Pn	03 00 44.5	+1.6
ORDU					*i* S	Sg	03 01 16.8	-1.4
ORDU	Ordu-Boztepe	2.27	85		P	Pn	03 00 44.5	+1.6
AKSY	AKSARAY - Alti	2.34	202	*i*	P	Pb	03 00 46.5	-1.2
AKSY					*i* S	Sg	03 01 20.5	-0.1
AKSY	AKSARAY - Alti	2.34	202		P	Pb	03 00 46.5	-1.2
CUZAR	Zara_SIVAS	2.41	112	*i*	P	Pn	03 00 46.5	+1.6
CUZAR	Zara_SIVAS	2.41	112		P	Pn	03 00 46.5	+1.6
CUKAN	kangal_SIVAS	2.51	126	*i*	P	Pn	03 00 48.0	+1.8
CUKAN					*i* S	Sb	03 01 23.3	+1.8
CUKAN	kangal_SIVAS	2.51	126		P	Pn	03 00 48.0	+1.8
GRSN	GIRESUNGRSN	2.58	87	*i*	P	Pb	03 00 50.1	-1.6
GRSN	GIRESUNGRSN	2.58	87		P	Pb	03 00 50.1	-1.6
SUSE	Susehri	2.62	103	*i*	P	Pn	03 00 49.8	+2.0
SUSE	Susehri	2.62	103		P	Pn	03 00 49.8	+2.0
CHY	Cihanbeyli	2.72	215		PN	Pn	03 00 49.6	+0.5
CHBY	Cihanbeyli	2.72	215	*e*Pn		Pn	03 00 49.6	+0.5
NIG	Nigde	2.73	184		PN	Pn	03 00 48.9	-0.5
NIG	Nigde	2.73	184	*e*Pn		Pn	03 00 48.9	-0.5
YAHY	KAYSERI_Yahyal	2.76	172	*i*	P	Pn	03 00 51.8	+2.0
YAHY					*i* S	Sg	03 01 36.1	+2.0
YAHY	KAYSERI_Yahyal	2.76	172		P	Pn	03 00 51.8	+2.0
CUGUR	Gurin_S¨VAS	2.81	138	*i*	P	Pb	03 00 53.3	-2.3
CUGUR	Gurin_S¨VAS	2.81	138		P	Pb	03 00 53.3	-2.3
MDUB	Mudurnu	2.82	264		PN	Pn	03 00 50.2	-0.3
MDUB	Mudurnu	2.82	264	*e*Pn		Pn	03 00 50.2	-0.3
SULT	Sultanhani-AKS	2.83	202		PN	Pn	03 00 51.3	+0.6
SULT	Sultanhani-AKS	2.83	202	*e*Pn		Pn	03 00 51.3	+0.6
BTAS	Taskesti	2.95	266	*i*	P	Pn	03 00 53.4	+1.1
BTAS	Taskesti	2.95	266		P	Pn	03 00 53.4	+1.1
SAIM	ADANA	3.01	161	*i*	P	Pn	03 00 54.6	+1.5
SAIM	ADANA	3.01	161		P	Pn	03 00 54.6	+1.5
SAHE	Sakarya_HENDEK	3.04	272	*i*	P	Pn	03 00 55.4	+1.8
SAHE	Sakarya_HENDEK	3.04	272		P	Pn	03 00 55.4	+1.8
ELBS	KAHRAMANMARAS	3.06	144	*i*	P	Sg	03 00 56.7	+2.9
ELBS					*i* S	Sg	03 01 41.3	-2.2
ELBS	KAHRAMANMARAS	3.06	144		P	Pn	03 00 56.7	+2.9
HEKM	Malatya_Hekimh	3.08	128	*i*	P	Pb	03 00 58.1	-2.2
HEKM	Malatya_Hekimh	3.08	128		P	Pb	03 00 58.1	-2.2
KDHN	Kadinhani	3.14	223	*i*	P	Pn	03 00 55.4	+0.5
KDHN	Kadinhani	3.14	223		P	Pn	03 00 55.4	+0.5

KEMA	Kemaliye	3.19	118	*i*	P	Pn	03 00 57.3	+1.7
KEMA	Kemaliye	3.19	118		P	Pn	03 00 57.3	+1.7
REFA	Refahiye_ERZ¨	3.32	114	*i*	P	Pn	03 00 56.6	-0.8
REFA	Refahiye_ERZ¨	3.32	114		P	Pn	03 00 56.6	-0.8
ESKT	Eskisehir	3.35	248	*i*	P	Pn	03 00 56.8	-1.0
SEYT	Eskypehyr	3.35	248		P	Pn	03 00 56.8	-1.0
AKO	Adana	3.40	172	*i*	P	Pn	03 01 00.2	+1.8
AKO					*i* S	Sg	03 01 53.8	-0.6
KELT	Kelkit	3.42	100	*i*	P	Pn	03 00 59.8	+1.0
KELT					*i* S	Sg	03 01 52.7	-2.3
KELT	Kelkit	3.42	100		P	Pn	03 00 59.8	+1.0
ANDN	Andirin	3.45	160	*i*	P	Pn	03 01 01.3	+2.2
ANDN					*i* S	Sg	03 01 57.1	+1.1
ANDN	Andirin	3.45	160		P	Pn	03 01 01.3	+2.2
AKCD	Akcadag	3.46	136	*i*	P	Pn	03 01 01.1	+1.7
AKCD	Akcadag	3.46	136		P	Pn	03 01 01.1	+1.7
KERG	Konya-Eregli	3.46	190	*i*	P	Pb	03 01 07.5	+0.7
KERG					*i* S	Sg	03 01 54.9	-1.7
BORA	Eskisehir	3.51	256	*i*	P	Pn	03 01 00.1	+0.2
BORA	Eskisehir	3.51	256		P	Pn	03 01 00.1	+0.2
ISP	Isparta	4.52	230	⇑*i*	P	Pn	03 01 14.7	+0.8
ISP	Isparta	4.52	230	⇓*i*	P	Pn	03 01 14.7	+0.8
TIRR	Tirgusor	5.98	309	⇑*i*	P	Pn	03 01 33.7	-0.1
TIRR	Tirgusor	5.98	309		S	Sn	03 02 38.4	-3.9
TIRR	Tirgusor	5.98	309	⇓*i*	P	Pn	03 01 33.7	-0.1
TLCR		6.21	316	⇑*i*	P	Pn	03 01 36.1	-0.9
TLCR		6.21	316	⇓*i*	P	Pn	03 01 36.1	-0.9
CFR	Carcaliu	6.57	314	⇓*i*	P	Pn	03 01 41.5	-0.4
CFR	Carcaliu	6.57	314		S	Sn	03 02 51.9	-4.9
CFR	Carcaliu	6.57	314	⇓*i*	P	Pn	03 01 41.5	-0.4
KBZ	Khabaz	6.62	61		Pn	Pn	03 01 45.2	+2.6
	0.3nm,0.3s,baz=242,slow=12,SNR=6.3							
MMAI	Mount Meron Ar	7.82	177		Pn	Pn	03 01 59.8	+0.7
	0.5nm,0.3s,baz=354,slow=13,SNR=3.1							
TESR	Tescani	8.22	316	⇑*i*	P	Pn	03 02 03.8	-0.8
TESR	Tescani	8.22	316	⇓*i*	P	Pn	03 02 03.8	-0.8
VOIR		8.52	306	⇓*i*	P	Pn	03 02 08.8	0.0
VOIR		8.52	306	⇓*i*	P	Pn	03 02 08.8	0.0
DOPR	Dopca	8.60	310	⇑*i*	P	Pn	03 02 10.1	+0.4
DOPR	Dopca	8.60	310	⇑*i*	P	Pn	03 02 10.1	+0.4
BURAR	Bucovina Array	9.69	318	⇑*i*	P	Pn	03 02 24.4	-0.3
BURAR	Bucovina Array	9.69	318	⇑*i*	P	Pn	03 02 24.4	-0.3
AKASG	Malin Array Be	10.62	340		Pn	Pn	03 02 36.2	-1.2
	0.7nm,0.3s,baz=161,slow=13,SNR=3.2							
KURBB	Kurchatov Arra	31.59	57		P	P	03 06 29.6	+1.6
	0.2nm,0.2s,baz=275,slow=9.0,SNR=3.7							
JMIC	Jan Mayen	37.23	338		LR	LR	03 22 21.1	
	comp=Z,102nm,21.1s,baz=165,slow=36							
TORD	Torodi Ar. Bea	40.02	236		P	P	03 07 40.5	+0.1
	0.7nm,0.8s,baz=27,slow=8.5,SNR=6.8							
YKA	Yellowknife Ar	74.13	346		P	P	03 11 42.7	+1.4
	0.2nm,0.8s,baz=23,slow=6.2,SNR=4.9							

DDA **14** *03:08:45.9,38˝.76N×30˝.32E,h7km,Md2.3*
ISK **14** *03:08:45.8,38˝.72N×30˝.35E,h6km,ML2.7/5*
CSEM **14** *03:08:46.1±0.1,38˝.74N×30˝.36E,h5km,ML2.7, Error ellipse: s-maj=3.5km s-min=2.9km az=93.0*

ISC 14 03:08:46.1±1.0,**38˝.74N**±0˝.02×**30˝.36E**±0˝.03,**h9**km±12km, **n23,σ0s50/38,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHUT	Suhut-Afyon	0.24	141			PG	Pg	03 08 50.9	-0.2
SHUT						SG	Sg	03 08 54.5	+0.1
SHUT	Suhut-Afyon	0.24	141	*e*Pg		Pg	Pg	03 08 50.9	-0.2
SHUT				*e*Sg		Sg	Sg	03 08 54.5	+0.1
BOLV	Bolvadin	0.47	93	*i*	P	Pg	Pg	03 08 55.4	+0.1
BOLV				*i*	S	Sg	Sg	03 09 01.5	+0.1
BOLV	Bolvadin	0.47	93		P	Pg	Pg	03 08 55.3	+0.1
BOLV					S	Sg	Sg	03 09 01.5	+0.1
KZIL	AFYON_Kizioren	0.51	199	*i*	P	Pg	Pg	03 08 56.1	+0.1
KZIL				*i*	S	Sb	Sb	03 09 03.8	-1.1
KZIL	AFYON_Kizioren	0.51	199		P	Pg	Pg	03 08 56.2	+0.1
KZIL					S	Sb	Sb	03 09 03.8	-1.1
KHAL	Karahalli	0.77	242	*i*	P	Pg	Pg	03 09 00.8	-0.2
KHAL				*i*	S	Sg	Sg	03 09 11.2	+0.1
KHAL	Karahalli	0.77	242		P	Pg	Pg	03 09 00.8	-0.2
KHAL					S	Sg	Sg	03 09 11.2	+0.1
BAGO	Egridir - ISPA	0.82	155	*i*	P	Pb	Pb	03 09 02.5	-0.2
BAGO				*i*	S	Sb	Sb	03 09 15.2	+1.2
ESKT	Eskisehir	0.87	26	*i*	P	Pg	Pg	03 09 01.7	-1.1
ESKT				*i*	S	Sg	Sg	03 09 14.4	+0.2
SEYT	Eskypehyr	0.87	26		P	Pg	Pg	03 09 01.7	-1.1
SEYT					S	Sg	Sg	03 09 14.4	+0.2
ISP	Isparta	0.93	172		PG	Pg	Pg	03 09 03.6	-0.3
ISP	Isparta	0.93	172	*e*Pg		Pg	Pg	03 09 03.6	-0.3
TVSB	Tavsanli	0.99	316		PG	Pb	Pb	03 09 05.8	+0.2
TVSB					SG	Sb	Sb	03 09 19.1	+0.3
TVSB	Tavsanli	0.99	316	*e*Pg		Pb	Pb	03 09 05.8	+0.2
TVSB				*e*Sg		Sb	Sb	03 09 19.1	+0.3
SIMA	Simav-Kutahya	1.12	288		PN	Pb	Pb	03 09 07.8	0.0
SIMA	Simav-Kutahya	1.12	288	*e*Pn		Pb	Pb	03 09 07.8	0.0
BORA	Eskisehir	1.14	4	*i*	P	Pb	Pb	03 09 08.3	+0.3
BORA				*i*	S	Sb	Sb	03 09 23.7	+0.6
BORA	Eskisehir	1.14	4		P	Pb	Pb	03 09 08.4	+0.3
BORA					S	Sb	Sb	03 09 23.7	+0.6
KULA	Kula-Manisa	1.35	261		PN	Pg	Pg	03 09 11.9	-0.1
KULA	Kula-Manisa	1.35	261	*e*Pn		Pg	Pg	03 09 11.9	-0.1
GULT	Gulveren	1.69	4		PN	Pb	Pb	03 09 17.5	0.0
GULT	Gulveren	1.69	4	*e*Pn		Pb	Pb	03 09 17.5	0.0

IDC **14** *03:14:55.7±1.5, 19˝.57S×169˝.64E, h0km, mb4.1/7, mb1 4.3/8, mb1mx3.9/44, mbtmp4.1/8, ML4.1/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/38, Error ellipse: s-maj=57.5km s-min=22.5km az=145.0*
ISCJB **14** *03:14:57.8±0.6, 19˝.7S±0˝.2×169˝.8E±0˝.1, h33km, mb4.4/11, MS3.2/4, Error ellipse: s-maj=24.8km s-min=7.8km az=149.7*
NEIC **14** *03:14:59.9±1.6, 19˝.75S×169˝.82E, h36km±17km, mb4.7/3, Error ellipse: s-maj=38.0km s-min=9.1km az=159.0*

ISC 14 03:14:59.9±0.8,**19˝.7S**±0˝.2×**169˝.8E**±0˝.1,**h35**km,**n33,** σ1s**12**/24,**mb4.3**/11,**MS3.1**/4,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.96	232	Pn		Pn	Pn	03 15 57.7	-0.5
	12nm,0.3s,baz=127,slow=18,SNR=64								
DZM				Sn		Sn	Sn	03 16 44.7	+1.1
	16nm,0.3s,baz=8.4,slow=19,SNR=3.9								
MSVF	Nonsavu	8.04	78	*e*Pn		Pn	Pn	03 16 54.4	+0.1
AFI	Afiamalu	18.53	75	LR		LR	LR	03 24 51.7	
	comp=Z,64nm,20.5s,baz=180,slow=32								
CTA	Charters Tower	22.15	265	P		P	P	03 19 51.9	-1.0
	4.0nm,0.9s,baz=100,slow=12,SNR=2.7								
PMG	Port Moresby	24.14	292	LR		LR	LR	03 27 57.5	
	comp=Z,50nm,19.0s,baz=184,slow=33								
STKA	Stephens Creek	28.09	239	P		P	P	03 20 48.6	+0.3
	2.6nm,0.8s,baz=105,slow=12,SNR=4.3								
STKA				LR		LR	LR	03 31 09.4	
	comp=Z,59nm,18.7s,baz=28,slow=35								
STKA	Stephens Creek	28.09	239	*e*P		P	P	03 20 48.6	+0.3
	1.1nm,1.0s								
RAR	Rarotonga	28.53	98	LR		LR	LR	03 32 11.4	
	comp=Z,24nm,19.2s,baz=266,slow=36								
WR1	Warramunga Arr	33.34	263	*e*P		P	P	03 21 34.2	-0.6
	13nm,1.1s								
WRA	Warramunga Arr	33.34	263	P		P	P	03 21 34.2	-0.6
	1.0nm,0.4s,baz=90,slow=8.5,SNR=29								
AS01	Alice Springs	33.51	257	*e*P		P	P	03 21 35.9	-0.5
AS31	Alice Springs	33.55	257	*e*P		P	P	03 21 36.9	+0.2
	2.9nm,0.6s								
ASAR	Alice Springs	33.55	257	P		P	P	03 21 36.7	0.0
	6.2nm,0.7s,baz=83,slow=9.0,SNR=49								
H11S2	WAKE ISLAND Hy	38.02	355	T		T	T	04 02 31.5	
	baz=198								
H11S3	WAKE ISLAND Hy	38.03	355	T		T	T	04 02 31.0	
	baz=198								
H11S1	WAKE ISLAND Hy	38.04	355	T		T	T	04 02 31.0	
	baz=198								
H11N1	WAKE ISLAND Hy	39.22	356	T		T	T	04 04 00.9	
	baz=175								
H11N3	WAKE ISLAND Hy	39.23	356	T		T	T	04 04 03.7	
	baz=175								
H11N2	WAKE ISLAND Hy	39.24	356	T		T	T	04 04 02.6	
	baz=175								
MBWA	Marble Bar	46.80	259	*e*P		P	P	03 23 27.0	+0.5
	50nm,1.5s								
NWAO	Narrogin (SRO)	48.50	243	LR		LR	LR	03 43 18.5	
	comp=Z,72nm,19.5s,baz=113,slow=35								
CM31	Chiang Mai Arr	79.16	294	*e*P		P	P	03 27 02.2	+0.6
CMAR	Chiang Mai Arr	79.16	294	P		P	P	03 27 02.3	+0.6
	1.4nm,0.4s,baz=134,slow=5.0,SNR=3.7								
SONA0	Songino Array	87.87	323	*e*P		P	P	03 27 46.3	+0.5
SONM	Songino Array	87.87	323	P		P	P	03 27 46.3	+0.5
	0.3nm,0.4s,baz=143,slow=3.9,SNR=3.8								
NV01	Mina Array Sit	88.67	48	*e*P		P	P	03 27 52.5	+2.6
NVAR	Mina Array Bea	88.67	48	P		P	P	03 27 52.5	+2.6
	0.3nm,0.3s,baz=243,slow=6.0,SNR=2.1								
MTPU	Mount Pierson	92.90	51	*e*P		P	P	03 28 08.0	-1.8
	6.9nm,0.7s								
WMUT	West Mountain	93.92	49	*e*P		P	P	03 28 13.1	-1.2
N16A	Rees Ranch, Co	94.51	48	*e*P		P	P	03 28 15.8	-1.2
GERES	GERESS Array B	145.10	332	PKP		PKPbc	PKPbc	03 34 32.5	-0.7
	0.5nm,0.5s,baz=28,slow=6.0,SNR=4.8								
TORD	Torodi Ar. Bea	166.89	242	PKPab		PKPab	PKPab	03 36 05.4	-0.8
	0.6nm,0.9s,baz=111,slow=3.5,SNR=3.5								
TOA1	Torodi Ar. Sit	166.90	242	*e*PKPab		PKPab	PKPab	03 36 05.4	-0.8

NIED **14** *03:20:00,43˝.30N×147˝.30E,h44km,Mw3.5 Best double couple: M0.2.22000×10^14 NP1:φs189.00000°,δ54.00000°, λ33.00000°. NP2:φs78.00000°,δ64.00000°,λ139.00000°.*
MOS **14** *03:20:13.6±1.3,43˝.27N×147˝.60E,h52km,mb4.1/12, Error ellipse: s-maj=10.8km s-min=7.4km az=117.4*
ISCJB **14** *03:20:15.8±0.7,43˝.42N±0˝.05×147˝.40E±0˝.05,h60km±5km, mb3.9/25, Error ellipse: s-maj=9.7km s-min=4.4km az=146.0*
JMA **14** *03:20:16.9±0.2,43˝.35N×147˝.29E,h35km±5km,M3.9*
SKHL **14** *03:20:17.5±0.5,43˝.48N×147˝.40E,h67km±2km,mb4.2/3*
NEIC **14** *03:20:18.7±1.3,43˝.40N×147˝.40E,h74km±11km,mb4.3/11, Error ellipse: s-maj=22.8km s-min=8.5km az=165.0*
IDC **14** *03:20:19.4±3.4,45˝.14N×146˝.91E,h0km,mb3.8/11, mb1 3.9/12,mb1mx3.6/64,mbtmp3.8/12,ML3.2/1, Error ellipse: s-maj=87.1km s-min=19.8km az=162.0*

ISC 14 03:20:15.7±1.3,**43˝.36N**±0˝.07×**147˝.49E**±0˝.06,**h43**km±11km, **n107,σ1s23/124,mb4.0/25,11C-5D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.70	317	*e*P		Pn	Pn	03 20 28.7	-0.5
SHO				AMB		AMB	AMB	03 20 29.1	
	500nm,0.4s								
SHO				*e*S		Sn	Sn	03 20 37.5	-1.5
SHO				A		A	A	03 20 39.0	
	380nm,0.2s								
SHO				A		A	A	03 20 39.0	
	1μm,0.2s								
SHO	Shikotan	0.70	317	*d*	*

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDJ	Mudanjiang	12.96	282	ePn	Pn	03 23 17.7	+0.7
SEY	Seymchan	19.82	7	eP	P	03 24 43.4	+1.1
SEY	Seymchan	19.82	7	⇑eP	P	03 24 43.4	+1.1
YAK	Yakutsk	21.46	337	eP	P	03 25 00.4	+0.5
YAK	Yakutsk	21.46	337	⇑eP	P	03 25 00.5	+0.5
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ULN	Ulaanbaatar	28.41	293	eP	P	03 26 06.8	+0.7
ULN	Ulaanbaatar	28.41	293	⇓eP	P	03 26 06.8	+0.7
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
H11N2	WAKE ISLAND Hy	28.64	139	T	T	03 57 02.2	
	baz=330,slow=75,SNR=37						
H11N1	WAKE ISLAND Hy	28.65	139	T	T	03 57 00.7	
	baz=330,slow=75,SNR=30						
H11N3	WAKE ISLAND Hy	28.66	139	T	T	03 57 03.5	
	baz=330,slow=75,SNR=33						
SONA0	Songino Array	28.86	293	eP	P	03 26 09.9	-0.1
SONM	Songino Array	28.86	293	P	P	03 26 09.9	-0.1
	comp=Z,0.7nm,0.6s,baz=83,slow=8.8,SNR=5.5						
SONM	Songino Array	28.86	293	eP	P	03 26 10.6	+0.6
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11S1	WAKE ISLAND Hy	29.60	141	T	T	03 58 09.3	
	baz=331,slow=76,SNR=43						
H11S3	WAKE ISLAND Hy	29.61	141	T	T	03 58 13.0	
	baz=331,slow=76,SNR=48						
H11S2	WAKE ISLAND Hy	29.62	141	T	T	03 58 09.1	
	baz=331,slow=76,SNR=34						
COLD	Coldfoot	40.35	32	eP	P	03 27 49.3	+0.6
	comp=Z,11nm,1.8s						
TOLK	Toolik Lake Re	40.70	30	eP	P	03 27 52.1	+0.5
	comp=Z,3.6nm,1.3s						
MDM	Murphy Dome	41.08	36	eP	P	03 27 55.5	+0.7
	comp=Z,6.0nm,1.8s						
COLA	College	41.24	36	eP	P	03 27 56.4	+0.4
COLA	College	41.24	36	⇑eP	P	03 27 56.4	+0.4
COLA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
ZAA1	Zalesovo Array	41.44	307	eP	P	03 27 55.4	-2.3
ZALV	Zalesovo Beam	41.44	307	P	P	03 27 55.4	-2.3
	comp=Z,0.4nm,0.4s,baz=108,slow=9.3,SNR=2.4						
DHY	Denali Highway	41.52	39	eP	P	03 27 59.2	+0.7
	comp=Z,17nm,2.0s						
HDA	Harding Lake	41.65	37	eP	P	03 27 57.8	-1.5
	comp=Z,1.7nm,0.8s						
ILAR	Eielson Array	41.66	36	P	P	03 27 59.6	+0.1
	comp=Z,0.3nm,0.6s,baz=276,slow=9.0,SNR=6.3						
ILAR	Eielson Array	41.66	36	eP	P	03 27 58.8	-0.6
ILAR	Eielson Array	41.66	36	eP	P	03 27 58.8	-0.6
ILB	Eielson Array	41.66	36	eP	P	03 27 59.6	+0.1
DOT	Dot Lake	42.96	38	eP	P	03 28 09.3	-0.8
	comp=Z,7.2nm,1.0s						
MK31	Makanchi Array	44.99	298	eP	P	03 28 26.9	+0.3
MK31	Makanchi Array	44.99	298	eP	P	03 28 26.9	+0.3
MK32	Makanchi Array	44.99	298	eP	P	03 28 26.9	+0.3
MKAR	Makanchi Array	44.99	298	P	P	03 28 26.9	+0.3
	comp=Z,0.4nm,0.6s,baz=81,slow=9.0,SNR=6.0						
MKAR	Makanchi Array	44.99	298	eP	P	03 28 26.9	+0.3
	comp=Z,4.3nm,0.5s						
MK01	Makanchi Array	44.99	298	eP	P	03 28 25.3	-1.3
KURK	Kurchatov	45.96	304	eP	P	03 28 33.9	-0.2
KURK	Kurchatov	45.96	304	⇑eP	P	03 28 33.9	-0.2
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	Kurchatov	45.96	304	eP	P	03 28 33.5	-0.6
KURBB	Kurchatov Arra	46.04	304	P	P	03 28 33.6	-1.2
	comp=Z,0.2nm,0.3s,baz=64,slow=6.3,SNR=3.4						
INK	Inuvik	46.62	30	P	P	03 28 38.3	-0.7
	comp=Z,1.2nm,0.9s,baz=312,slow=7.5,SNR=5.9						
INK	Inuvik	46.62	30	eP	P	03 28 38.3	-0.7
	comp=Z,5.4nm,1.4s						
BRVK	Borovoye	49.99	310	eP	P	03 29 05.2	-0.1
BRVK	Borovoye	49.99	310	⇑eP	P	03 29 05.2	-0.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
RES	Resolute Bay	55.27	17	eP	P	03 29 43.8	-0.1
RES	Resolute Bay	55.27	17	eP	P	03 29 43.8	-0.1
RES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
RES	Resolute Bay	55.27	17	eP	P	03 29 43.8	-0.1
	comp=Z,2.0nm,1.0s						
YKA	Yellowknife Ar	55.99	34	P	P	03 29 49.5	+0.3
	comp=Z,0.4nm,0.6s,baz=296,slow=6.9,SNR=7.1						
YKB5	Yellowknife Ar	55.99	34	eP	P	03 29 49.5	+0.3
PSI	Prapat	58.98	241	eP	P	03 30 10.2	-0.9
PSI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PSI	Prapat	58.98	241	eP	P	03 30 10.2	-0.9
	comp=Z,8.8nm,0.6s						
FIA0	FINESS Array S	65.34	333	eP	P	03 30 51.6	-1.3
FIA0	FINESS Array S	65.34	333	eP	P	03 30 51.6	-1.3
FINES	FINESS Array B	65.34	333	P	P	03 30 51.6	-1.3
	comp=Z,1.7nm,0.8s,baz=14,slow=7.1,SNR=3.4						
WORM	Onyx Ranch	69.31	60	eP	P	03 31 17.8	-0.9
NB200	NORSAR Array S	70.06	339	eP	P	03 31 20.7	-2.0
NOA	NORSAR Array B	70.06	339	P	P	03 31 20.7	-2.0
	comp=Z,0.5nm,0.5s,baz=32,slow=6.6,SNR=3.8						
NOA	NORSAR Array B	70.06	339	eP	P	03 31 22.0	-0.7
NOA	NORSAR Array B	70.06	339	eP	P	03 31 22.0	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	70.15	337	P	P	03 31 22.4	-0.9
	comp=Z,1.9nm,0.9s,baz=359,slow=8.9,SNR=4.1						
KBZ	Khabaz	70.25	312	P	P	03 31 25.7	+1.6
	comp=Z,0.7nm,0.7s,baz=337,slow=6.8,SNR=3.8						
P18A	Preston Nutter	71.64	53	eP	P	03 31 28.8	-4.2
	comp=Z,4.1nm,0.9s						
CLL	Collm	77.78	333	eP	P	03 32 08.0	0.0
CLL	Collm	77.78	333	eP	P	03 32 08.0	0.0
CLL	Collm	77.78	333	eP	P	03 32 08.0	0.0

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*IDC **14** 03:28:20.6±0.9, 31°.01S×179°.61W, h337km±10km, mb2.9/2, mb1 3.5/3, mb1mx3.1/37, mbtmp3.9/3, Error ellipse: s-maj=45.3km s-min=15.8km az=120.0*
*ISCJB **14** 03:28:21.7±0.5, 31°.15S±0°.08×179°.2W±0°.2, h350km, mb3.1/2, Error ellipse: s-maj=25.3km s-min=4.1km az=22.9*
*WEL **14** 03:28:26.5±0.9, 31°S±8°×17°9W±2°0, h288km±14km*
ISC 14 03:28:21.1±0.7**, 31°.10S**±0°.08×**179°.5W**±0°.1**, h350**km**, n68,** σ**1s.62**/69**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.27	37	P	Pn	03 29 15.3	+0.9
GLKZ	Green Lake	2.27	37	S	S	03 29 55.9	-1.3
RAO	Raoul Island	2.28	36	P	Pn	03 29 14.9	+0.4
	150nm,0.3s,baz=230,slow=23,SNR=6.0						
RAO				S	S	03 29 54.8	-2.6
	117nm,0.3s,baz=301,slow=19,SNR=5.1						
RIZ	Raoul Island	2.28	36	P	Pn	03 29 15.1	+0.6
GRZ	Great Barrier	6.65	218	P	Pn	03 30 02.9	+3.6
MXZ	Matakaoa Point	6.70	195	P	Pn	03 30 03.8	+4.0
MXZ	Matakaoa Point	6.70	195	S	S	03 31 19.6	-0.5
KUZ	Kuaotunu	6.90	214	P	Pn	03 30 03.8	+1.6
WMGZ	Waiomatatini S	6.93	194	P	Pn	03 30 06.1	+3.7
WMGZ	Waiomatatini S	6.93	194	S	S	03 31 24.1	-0.7
HAZ	Te Kaha	7.02	198	P	Pn	03 30 04.4	+0.9
HAZ	Te Kaha	7.02	198	S	S	03 31 26.3	-0.5
PKGZ	Pakihiroa	7.07	196	S	S	03 31 24.8	-3.2
PKGZ	Pakihiroa	7.07	196	P	Pn	03 30 06.2	+2.0
WCZ	Waipu Caves	7.07	225	P	Pn	03 30 07.6	+3.5
PUZ	Puketiti	7.20	194	P	Pn	03 30 10.9	+5.2
PUZ	Puketiti	7.20	194	S	S	03 31 30.6	-0.3
RUGZ	Raukumara Rang	7.24	198	P	Pn	03 30 08.8	+2.5
RUGZ	Raukumara Rang	7.24	198	S	S	03 31 30.3	-1.5
TWGZ	Tauwhareparae	7.37	196	P	Pn	03 30 09.5	+1.9
TWGZ	Tauwhareparae	7.37	196	S	S	03 31 35.1	+0.7
CNGZ	Carnagh Statio	7.61	194	P	Pn	03 30 14.0	+3.5
MWZ	Matawai	7.63	198	P	Pn	03 30 12.2	+1.4
MWZ	Matawai	7.63	198	S	S	03 31 40.3	+0.3
TKGZ	Te Karaka	7.65	196	S	S	03 31 38.8	-1.5
URZ	Urewera	7.68	201	P	Pn	03 30 12.1	+0.9
	6.2nm,0.3s,baz=272,slow=4.3,SNR=26						
URZ				S	S	03 31 39.6	-1.4
	7.1nm,0.3s,baz=281,slow=5.2,SNR=3.7						
URZ	Urewera	7.68	201	P	Pn	03 30 12.4	+1.2
URZ	Urewera	7.68	201	S	S	03 31 40.6	-0.5
RAGZ	Rawiri	7.81	198	P	Pn	03 30 16.1	+3.2
RIGZ	Rimuhau	7.92	196	P	Pn	03 30 16.2	+2.0
MUGZ	Murupara	7.98	202	P	P	03 30 16.6	+1.7
RTZ	Ruatahuna	8.04	200	P	P	03 30 18.1	-0.7
RTZ	Ruatahuna	8.04	200	S	S	03 31 49.0	-0.2
SNGZ	Shannon Statio	8.10	198	P	P	03 30 19.2	0.0
SNGZ	Shannon Statio	8.10	198	S	S	03 31 50.2	-0.1
PRGZ	Paritu Road	8.10	195	P	P	03 30 19.5	+0.2
RAHZ	Arahi	8.29	199	P	Pn	03 30 19.5	+1.0
RAHZ	Arahi	8.29	199	S	S	03 31 53.2	-1.3
MHGZ	Mahia Peninsul	8.31	194	P	P	03 30 21.2	-0.5
ARHZ	Aropaoanui	8.64	199	P	Pn	03 30 22.1	-0.6
ARHZ	Aropaoanui	8.64	199	S	S	03 32 01.6	-0.5
BKZ	Black Stump Fm	8.70	201	P	P	03 30 26.5	+0.5
BKZ	Black Stump Fm	8.70	201	S	S	03 32 01.4	-2.0
WTVZ	West Tongariro	8.96	205	P	P	03 30 29.2	+0.2
CKHZ	Cape Kidnapper	8.99	197	P	P	03 30 29.9	+0.8
CKHZ	Cape Kidnapper	8.99	197	S	S	03 32 07.7	-2.0
NGZ	Ngauruhoe	9.01	205	P	P	03 30 29.4	-0.2
TUVZ	Tukino	9.07	205	P	P	03 30 30.6	+0.4
FWVZ	Far West T-bar	9.10	205	P	P	03 30 29.9	-0.7
MOVZ	Moawhango	9.16	204	P	P	03 30 31.0	-0.1
KAHZ	Kahuranaki	9.17	198	P	P	03 30 30.3	-0.9
KRHZ	Kereru	9.17	201	P	Pn	03 30 29.3	+0.3
PXZ	Pawanui	9.40	198	P	Pn	03 30 31.8	+0.2
PNHZ	Pukenui	9.47	201	P	P	03 30 34.0	-0.6
PRHZ	Porangahau	9.68	198	P	P	03 30 36.7	-0.1
TSZ	Takapari Road	9.68	201	P	P	03 30 36.8	-0.1
WAZ	Wanganui	9.74	206	P	P	03 30 36.7	-0.9
DVHZ	Dannevirke	9.84	200	P	P	03 30 38.3	-0.3
MRZ	Mangatainoka R	10.35	201	P	Pn	03 30 43.1	+0.1
RPZ	Rata Peaks	14.66	208	S	S	03 34 05.4	-4.5
	1.1nm,0.3s,baz=6.0,slow=19,SNR=2.9						
WRA	Warramunga Arr	42.87	274	P	P	03 35 45.4	-1.0
	0.6nm,0.8s,baz=113,slow=7.8,SNR=4.0						
NVAR	Mina Array Bea	89.61	43	P	P	03 40 39.9	-0.1
	0.4nm,0.8s,baz=250,slow=2.6,SNR=2.8						
FINES	FINESS Array B	145.35	339	PKPbc	PKPab	03 47 17.4	-0.8
	3.7nm,0.5s,baz=58,slow=4.6,SNR=25						
NB2	NORSAR Subarra	149.23	350	PKP	PKPbc	03 47 28.2	+0.2
	comp=Z,0.8nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.23	350	PKPbc	PKPbc	03 47 28.2	+0.2
	comp=Z,1.0nm,0.6s,baz=15,slow=4.1,SNR=4.7						
HFS	Hagfors	149.66	347	PKPbc	PKPbc	03 47 29.2	+0.1
	comp=Z,2.7nm,0.8s,baz=343,slow=4.5,SNR=6.8						
AKASG	Malin Array Be	151.07	321	PKPbc	PKPbc	03 47 32.8	+0.2
	comp=Z,0.8nm,0.4s,baz=45,slow=2.2,SNR=4.0						
BRTR	Keskin Array B	151.80	297	PKPbc	PKPbc	03 47 36.1	+1.3
	comp=Z,0.3nm,0.5s,baz=104,slow=5.6,SNR=2.6						

IDC 14 03:37:00.1±1.6**, 13°.52N**×**120°.32E, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.2**/64**, mbtmp3.6**/3**, Error ellipse: s-maj=32.1km s-min=12.2km az=123.0, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.83	46	Pg	Pb	03 37 17.8	+0.3
	157nm,0.3s,baz=242,slow=5.8,SNR=3.8						
TGY				Lg	Lg	03 37 26.6	
	197nm,0.3s,baz=178,slow=14,SNR=5.0						
WRA	Warramunga Arr	36.00	157	P	P	03 44 02.3	-0.7
	0.6nm,0.4s,baz=332,slow=10,SNR=8.1						
SONM	Songino Array	36.13	344	P	P	03 44 03.7	-0.3
	0.4nm,0.6s,baz=164,slow=10,SNR=4.4						
ASAR	Alice Springs	39.27	160	P	P	03 44 31.0	+0.3
	0.4nm,0.6s,baz=335,slow=6.7,SNR=5.5						

IDC 14 03:48:58.0±2.1**, 6°.51S**×**155°.12E, h0**km**, mb3.4**/4**, mb1 3.7**/4**, mb1mx3.4**/49**, mbtmp3.4**/4**, MS2.8**/2**, Ms1 2.8**/2**, ms1mx2.4**/23**, Error ellipse: s-maj=91.1km s-min=27.8km az=126.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.59	122	LR	LR	03 52 38.0	
	comp=Z,113nm,19.9s,baz=314,slow=39						
PMG	Port Moresby	8.40	249	LR	LR	03 53 54.7	
	comp=Z,52nm,21.3s,baz=207,slow=35						
WRA	Warramunga Arr	24.20	235	P	P	03 54 17.3	+0.8
	0.5nm,0.6s,baz=58,slow=9.3,SNR=7.5						
ASAR	Alice Springs	26.59	228	P	P	03 54 38.2	+0.1
	0.6nm,0.9s,baz=59,slow=9.0,SNR=6.2						
H11S3	WAKE ISLAND Hy	27.34	24	T	T	04 23 13.5	
	baz=199,slow=74,SNR=4.1						
H11S2	WAKE ISLAND Hy	27.34	25	T	T	04 23 08.8	
	baz=199,slow=74,SNR=6.4						
H11S1	WAKE ISLAND Hy	27.35	24	T	T	04 23 11.8	
	baz=199						
ILAR	Eielson Array	82.88	21	P	P	04 01 24.6	+0.4
	0.3nm,0.9s,baz=236,slow=6.4,SNR=3.1						
MKAR	Makanchi Array	83.12	319	P	P	04 01 27.4	+1.5
	0.2nm,0.8s,baz=96,slow=5.8,SNR=2.2						
TORD	Torodi Ar. Bea	153.01	286	PKPbc	PKPbc	04 08 57.0	-1.5
	0.4nm,1.0s,baz=80,slow=2.3,SNR=3.1						
TORD				PKPab	PKPab	04 09 07.5	-2.3
	0.7nm,0.9s,baz=56,slow=3.3,SNR=3.8						

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*ISCJB **14** 03:50:57.5±0.3, 24°.16N±0°.02×122°.29E±0°.02, h40km±13km, Error ellipse: s-maj=3.7km s-min=2.3km az=163.4*
*JMA **14** 03:50:57.0±0.1, 24°.12N×122°.27E, h48km±2km, M2.4*
*TAP **14** 03:50:57.7, 24°.19N×122°.25E, h47km, ML3.2, C*
ISC 14 03:50:56.4±1.1**, 24°.13N**±0°.03×**122°.29E**±0°.02**, h28**km±12km**, n60,** σ**0s.57**/106**, 1C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	EOS1	0.44	340	P	Pn	03 51 07.3	+0.4
	baz=335						
EOS1				eS	Sn	03 51 14.8	+0.9
	baz=335						
ENAH	Nanao	0.54	306	P	Pn	03 51 08.5	+0.2
	baz=305						
ENAH				eS	Sn	03 51 16.8	+0.4
	baz=305						
NANB	Nanao	0.57	301	eP	Pn	03 51 09.2	+0.4
	baz=305						
NANB				eS	Sn	03 51 17.8	+0.5
	baz=305						
ENA	Nanau	0.58	301	⇓iP	Pn	03 51 09.3	+0.4
	baz=305						
ENA				S	Sn	03 51 17.6	+0.1
	baz=305						
TWC	Suao	0.62	320	⇑iP	Pn	03 51 09.4	0.0
	baz=324						
TWC				S	Sn	03 51 17.8	-0.7
	baz=324						
NACB	Ninganchiao	0.64	274	eP	Pn	03 51 09.9	+0.3
	baz=268						
NACB				eS	Sn	03 51 19.0	+0.1
	baz=268						
TWD	Chiawan	0.64	266	eP	Pn	03 51 10.0	+0.4
	baz=251						
TWD				S	Sn	03 51 19.0	+0.2
	baz=251						
HWA	Hwalien	0.65	256	eS	Sn	03 51 19.7	+0.7
	baz=250						
ENLB	Shoufeng	0.67	250	eP	Pn	03 51 11.0	+0.9
	baz=236						
ENLB				S	Sn	03 51 20.8	+1.2
	baz=236						
JYNG	Yonagunijimaku	0.68	62	P	Pn	03 51 10.8	+0.7
JYNG				eS	Sn	03 51 20.5	+0.8
YOJ	Yonaguni jima	0.73	63	eP	Pn	03 51 11.7	+0.8
	baz=68						
YOJ				eS	Sn	03 51 22.1	+0.9
	baz=68						
YOJ	Yonaguni jima	0.73	63	P	Pn	03 51 11.6	+0.7
YOJ				eS	Sn	03 51 21.7	+0.5
ENTT	Nioudou	0.83	308	eP	Pn	03 51 13.0	+0.7
	baz=297						
ENTT				S	Sn	03 51 23.7	0.0
	baz=297						
NTC	Toucheng	0.83	330	eP	Pn	03 51 12.8	+0.5
	baz=337						
NTC				eS	Sn	03 51 23.9	+0.2
	baz=337						
ESL	Shilin	0.85	248	eP	Pn	03 51 13.0	+0.5
	baz=243						
SLBB	Yuanshan	0.86	316	eP	Pn	03 51 13.7	+1.0
	baz=315						
NNSB	Datong	0.88	290	eP	Pb	03 51 13.4	+0.2
	baz=286						
NNSB				eS	Sn	03 51 25.2	+0.2
	baz=286						
NNSH	Datong	0.88	290	P	Pb	03 51 13.3	+0.1
	baz=286						
NNSH				eS	Sb	03 51 24.6	-0.1
	baz=286						
NNS	Nan Shan	0.89	290	eP	Pb	03 51 13.8	+0.4
	baz=287						
NNS				eS	Sn	03 51 25.5	+0.2
	baz=287						
EGFH	Guangfu	0.92	240	eP	Pb	03 51 14.0	+0.3
	baz=228						
EGFH				eS	Sb	03 51 25.3	-0.2
	baz=228						
TWB1	Santiao Chiao	0.92	343	eP	Pn	03 51 13.2	-0.2
	baz=344						
TIPB	Shuangxi	0.94	333	eP	Pn	03 51 13.0	-0.7
	baz=344						
WHF	Hehuan Shan	0.94	271	eP	Pb	03 51 14.8	+0.4
	baz=256						
WHF				S	Sb	03 51 26.5	-0.1
	baz=256						
NWLT	Wulai	0.96	312	eP	Pb	03 51 15.0	+0.4
	baz=310						
NWLT				S	Sn	03 51 27.0	0.0
	baz=310						
YHNB	Yeheng	0.99	303	eP	Pb	03 51 15.2	+0.1
	baz=301						
YHNB				eS	Sb	03 51 27.1	-0.7
	baz=301						
NSK	Sanguang	1.01	303	eP	Pn	03 51 14.5	-0.3
	baz=300						
NSK				eS	Sn	03 51 26.6	-1.5
	baz=300						
HGSD	Ruisui	1.02	231	eP	Pb	03 51 15.7	+0.2
	baz=221						
HGSD				eS	Sb	03 51 29.0	+0.6
	baz=221						
CHGB	Renai	1.02	266	eP	Pb	03 51 16.0	+0.3
	baz=253						
CHGB				eS	Sb	03 51 29.4	+0.5
	baz=253						
TWT	Tachien	1.03	277	P	Pb	03 51 16.2	+0.5
	baz=273						
TWT				eS	Sb	03 51 29.3	+0.4
	baz=273						
OWD	Renai	1.03	260	eP	Pb	03 51 15.8	-0.1
	baz=256						
OWD				eS	Sb	03 51 29.2	0.0
	baz=256						
TDCB	Techi	1.04	277	eP	Pb	03 51 16.2	+0.3
	baz=273						
TDCB				eS	Sb	03 51 29.1	-0.2
	baz=273						
NWF	Wu-fen Shan	1.04	334	eP	Pb	03 51 15.8	-0.1
	baz=345						
NWF				eS	Sn	03 51 28.5	-0.5
	baz=345						
WFSB	Wu-fen Shan	1.04	334	eP	Pb	03 51 15.7	-0.2
	baz=344						
WFSB				eS	Sn	03 51 28.4	-0.4
	baz=344						
EHY	Hungye	1.08	235	P	Pn	03 51 15.8	0.0
	baz=241						
YULB	Yu-li	1.17	231	eP	Pb	03 51 17.3	-0.8
	baz=240						
YULB				eS	Sn	03 51 31.7	-0.3
	baz=240						
TWF1	Yuli	1.20	230	eP	Pb	03 51 18.0	-0.5
	baz=238						
TWF1				eS	Sn	03 51 32.4	-0.2
	baz=238						
YM10	YM10	1.22	327	eP	Pn	03 51 17.8	+0.1
	baz=339						
YM04	YM04	1.23	326	P	Pn	03 51 18.2	+0.4
	baz=338						
YM04				eS	Sn	03 51 32.2	-1.2
	baz=338						
DPDB	Guoxing	1.25	266	eP	Pb	03 51 19.3	-0.2
	baz=256						
LIOB	Emei	1.27	294	eP	Pb	03 51 19.9	+0.1
	baz=292						
LIOB				eS	Sn	03 51 34.7	+0.2
	baz=292						
NSTT	Nanjuang	1.28	293	eP	Pb	03 51 20.0	+0.1
	baz=291						
NSTT				S	Sb	03 51 35.4	-0.5
	baz=291						
SMLT	Sun Moon Lake	1.30	259	P	Pb	03 51 19.7	-0.5
	baz=248						
SMLT				S	Sb	03 51 35.8	-0.8
	baz=248						
FULB	Fuli	1.30	225	eP	Pb	03 51 19.5	-0.8
	baz=212						
FULB				eS	Sn	03 51 35.5	+0.2
	baz=212						
IRIF	Iriomote-Funau	1.33	81	P	Pn	03 51 19.2	+0.1
IRIF				eS	Sb	03 51 36.6	-0.8
TYC	Yuchr	1.33	260	eP	Pb	03 51 20.1	-0.7
	baz=249						
TYC				eS	Sn	03 51 36.1	+0.2
	baz=249						
CHKT	Chengkung	1.33	220	eP	Pn	03 51 19.2	0.0
	baz=208						
YUS	Yu-Shan	1.38	243	eP	Pb	03 51 21.2	-0.8
	baz=239						
YUS				eS	Sn	03 51 38.0	+0.1
	baz=239						
HATJ	Hateruma jima	1.39	93	eS	Sb	03 51 38.7	-0.3
TWQ1	Liyutan	1.40	279	eP	Pb	03 51 20.9	-1.1
	baz=276						
TWQ1				eS	Sb	03 51 39.5	0.0
	baz=276						
WJS	Zhushan	1.46	258	eP	Pb	03 51 23.1	+0.1
	baz=255						
WJS				eS	Sb	03 51 41.4	+0.2
	baz=255						
ALS	Alishan	1.50	246	eP	Pb	03 51 23.5	-0.2
	baz=243						
CHN5	Tsauling	1.57	251	eP	Pn	03 51 23.3	+0.8
	baz=247						
CHN5				eS	Sb	03 51 43.9	-0.5
	baz=247						
JKRS	Kuro-shima	1.57	86	P	Pb	03 51 24.0	-0.9
JKRS				S	Sb	03 51 43.7	-0.6
TWH	Lutao	1.60	208	eP	Pn	03 51 23.4	+0.5
	baz=205						
WDLH	Douliu	1.66	255	eP	Pb	03 51 25.8	-0.6
	baz=242						
WDLH				eS	Sb	03 51 47.0	0.0
	baz=242						
JIJ	Ishigaki jima	1.71	82	P	Pn	03 51 25.4	+1.1
JIJ				S	Sn	03 51 45.1	-0.1
CHN1	Nanshi	1.87	240	eP	Pb	03 51 29.4	-0.6
	baz=237						
SLGT	Liugui	1.89	233	eP	Pb	03 51 29.1	-1.2
	baz=221						
SLGT				eS	Sb	03 51 52.3	-1.1
	baz=221						
JISG	Ishigakijimahi	1.90	76	P	Pn	03 51 27.5	+0.6
JISG				S	Sn	03 51 49.7	-0.2
JTJ	Tarama	2.26	77	eS	Sn	03 51 59.8	+1.1

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*ISK **14** 04:10:18.8, 38°.71N×43°.17E, h8km, ML2.3/6*
*ISCJB **14** 04:10:19.6±0.5, 38°.72N±0°.03×43°.18E±0°.03, h12km±6km, Error ellipse: s-maj=5.5km s-min=4.4km az=179.1*
*CSEM **14** 04:10:19.4±0.2, 38°.73N×43°.19E, h10km, ML2.3, Error ellipse: s-maj=4.5km s-min=4.2km az=91.0*
*DDA **14** 04:10:19.4, 38°.71N×43°.19E, h7km, Ml2.8*
ISC 14 04:10:19.6±0.9**, 38°.72N**±0°.02×**43°.20E**±0°.02**, h17**km±8km**, n22,** σ**0s.62**/37**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.19	128	PG	Pg	04 10 24.7	+0.2
VANB				SG	Sb	04 10 29.1	+0.9
VANB	Van	0.19	128	ePg	Pg	04 10 24.7	+0.2
VANB				eSg	Sb	04 10 29.1	+0.9
TVAN	Van	0.25	138	i P	Pg	04 10 24.6	-0.8
TVAN				i S	Sg	04 10 29.2	-0.1
TVAN	Van	0.25	138	P	Pg	04 10 24.6	-0.8
TVAN				S	Sg	04 10 29.2	-0.1
ERCV	ERCIS-VAN	0.32	20	PG	Pg	04 10 26.2	-0.4
ERCV	ERCIS-VAN	0.32	20	ePg	Pg	04 10 26.2	-0.4
ADCV	BITLIS_Adilcev	0.38	284	i P	Pg	04 10 27.6	0.0
ADCV				i S	Sb	04 10 34.5	+0.9
ADCV	BITLIS_Adilcev	0.38	284	P	Pg	04 10 27.6	0.0
ADCV				S	Sb	04 10 34.5	+0.9

GEVA	**Gevas**	**0.42**	**195**	*i* P	**Pg**	**04 10 27.3**	**-0.9**
GEVA				*i* S	**Sg**	**04 10 34.1**	**+0.1**
GEVA	**Gevas**	**0.42**	**195**	P	**Pg**	**04 10 27.3**	**-0.9**
GEVA				S	**Sg**	**04 10 34.1**	**+0.1**
CLDR	**Caldiran**	**0.71**	**53**	PG	**Pg**	**04 10 33.4**	**-0.1**
CLDR				SG	**Sb**	**04 10 43.6**	**+0.5**
CLDR	**Caldiran**	**0.71**	**53**	*i* P	**Pg**	**04 10 32.1**	**-1.4**
CLDR				*i* S	**Sb**	**04 10 43.7**	**+0.5**
CLDR	**Caldiran**	**0.71**	**53**	P	**Pg**	**04 10 32.1**	**-1.4**
CLDR	**Caldiran**	**0.71**	**53**	*e*Pg	**Pg**	**04 10 33.4**	**-0.1**
CLDR				*e*Sg	**Sb**	**04 10 43.6**	**+0.5**
TUTA	**Tutak**	**0.75**	**337**	*i* P	**Pb**	**04 10 34.0**	**-0.3**
TUTA				*i* S	**Sg**	**04 10 44.7**	**+0.5**
TUTA	**Tutak**	**0.75**	**337**	P	**Pb**	**04 10 34.0**	**-0.3**
TUTA				S	**Sg**	**04 10 44.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.87**	**350**	PG	**Pb**	**04 10 36.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.87**	**350**	*e*Pg	**Pb**	**04 10 36.1**	**-0.3**
GURO	**Guroymak-BITLI**	**0.93**	**260**	PG	**Pb**	**04 10 36.8**	**-0.4**
GURO				SG	**Sb**	**04 10 49.3**	**0.0**
GURO	**Guroymak-BITLI**	**0.93**	**260**	*e*Pg	**Pb**	**04 10 36.8**	**-0.4**
GURO				*e*Sg	**Sb**	**04 10 49.3**	**0.0**
CUKT	**Cukurca**	**1.50**	**167**	PN	**Pb**	**04 10 47.4**	**+0.3**
CUKT	**Cukurca**	**1.50**	**167**	*e*Pn	**Pb**	**04 10 47.4**	**+0.3**

ATH ***14*** *04:12:43.8, 39˚.11N×29˚.31E, h10km±31km, ML3.6/3, Error ellipse: s-maj=31.6km s-min=1.4km az=0.0*
DDA ***14*** *04:12:47.9, 39˚.13N×29˚.00E, h6km, Ml3.8*
IDC ***14*** *04:12:47.0±0.9, 39˚.03N×29˚.11E, h0km, mb3.5/6, mb1 3.5/10, mb1mx3.3/64, mbtmp3.5/10, ML3.2/4, Error ellipse: s-maj=24.0km s-min=14.6km az=148.0*
ISK ***14*** *04:12:47.8, 39˚.14N×29˚.03E, h5km, ML3.8/50*
CSEM ***14*** *04:12:48.0±0.1, 39˚.12N×29˚.05E, h2km, ML3.8, Error ellipse: s-maj=2.5km s-min=2.3km az=85.0*
SOF ***14*** *04:12:57.6, 39˚.50N×28˚.28E, h0km, MD3.0*
ISC 14 04:12:48.2±0.8, 39˚.13N±0˚.01×29˚.02E±0˚.01, h7km±5km, n225, σ1§01/270, mb3.4/6, 14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.05**	**215**	PG	**Pg**	**04 12 49.9**	**0.0**
SIMA				SG	**Sg**	**04 12 51.2**	**+0.1**
SIMA	**Simav-Kutahya**	**0.05**	**215**	*e*Pg	**Pg**	**04 12 49.9**	**0.0**
SIMA				*e*Sg	**Sg**	**04 12 51.2**	**+0.1**
DEMI	**Demirci**	**0.25**	**251**	*i* P	**Pg**	**04 12 53.2**	**0.0**
DEMI				*i* S	**Sg**	**04 12 56.8**	**+0.2**
DEMI	**Demirci**	**0.25**	**251**	P	**Pg**	**04 12 53.2**	**0.0**
DEMI				S	**Sg**	**04 12 56.8**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**46**	PG	**Pg**	**04 12 56.2**	**-1.1**
TVSB	**Tavsanli**	**0.47**	**46**	*e*Pg	**Pg**	**04 12 56.2**	**-1.1**
DST	**Dursunbey**	**0.57**	**327**	PG	**Pg**	**04 12 58.9**	**-0.3**
DST	**Dursunbey**	**0.57**	**327**	*e*Pg	**Pg**	**04 12 58.9**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**205**	PG	**Pg**	**04 13 00.8**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**04 13 00.8**	**-0.4**
KHL	**Karahalli**	**0.89**	**154**	PG	**Pg**	**04 13 05.3**	**-0.1**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg	**Pg**	**04 13 05.3**	**-0.1**
ORLT	**Orhaneli**	**0.92**	**354**	PG	**Pg**	**04 13 05.9**	**-0.1**
ORLT	**Orhaneli**	**0.92**	**354**	*i* Pg	**Pg**	**04 13 05.9**	**-0.1**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pg**	**04 13 06.9**	**0.0**
AKHS				*i* S	**Sg**	**04 13 20.2**	**+0.7**
AKS	**Akhisar**	**0.97**	**256**	PG	**Pg**	**04 13 07.1**	**+0.2**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg	**Pg**	**04 13 07.1**	**+0.2**
BALB	**Balikesir**	**1.02**	**300**	PG	**Pb**	**04 13 08.5**	**+0.3**
BALB	**Balikesir**	**1.02**	**300**	*e*Pg	**Pb**	**04 13 08.5**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.04**	**284**	*i* P	**Pg**	**04 13 08.1**	**-0.1**
STEP				*i* S	**Sb**	**04 13 23.2**	**+0.8**
KZIL	**AFYON_Kizioren**	**1.23**	**134**	*i* P	**Pg**	**04 13 11.6**	**-0.3**
KZIL				*i* S	**Sn**	**04 13 29.7**	**+0.7**
KZIL	**AFYON_Kizioren**	**1.23**	**134**	P	**Pg**	**04 13 11.6**	**-0.3**
KZIL				S	**Sn**	**04 13 29.7**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	PN	**Pb**	**04 13 11.4**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pb**	**04 13 11.4**	**-0.7**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pb**	**04 13 11.0**	**-1.1**
BALY				*i* S	**Sb**	**04 13 28.6**	**+0.2**
CAVI	**Cavuskoy**	**1.25**	**30**	PN	**Pn**	**04 13 12.3**	**+0.2**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*Pn	**Pn**	**04 13 12.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**336**	PN	**Pb**	**04 13 11.7**	**-0.4**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pb**	**04 13 11.7**	**-0.4**
GEMT	**Gemlik**	**1.31**	**6**	PN	**Pg**	**04 13 13.4**	**0.0**
GEMT	**Gemlik**	**1.31**	**6**	*e*Pn	**Pg**	**04 13 13.4**	**0.0**
SHUT	**Suhut-Afyon**	**1.32**	**115**	PN	**Pg**	**04 13 13.4**	**-0.2**
SHUT	**Suhut-Afyon**	**1.32**	**115**	*e*Pn	**Pg**	**04 13 13.4**	**-0.2**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pg**	**04 13 13.7**	**-0.2**
BORA				*i* S	**Sn**	**04 13 31.7**	**+0.1**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pg**	**04 13 13.7**	**-0.2**
BORA				S	**Sn**	**04 13 31.7**	**+0.1**
DENT	**Denizli**	**1.37**	**180**	PN	**Pg**	**04 13 14.3**	**-0.2**
DENT	**Denizli**	**1.37**	**180**	*e*Pn	**Pg**	**04 13 14.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.38**	**312**	PN	**Pn**	**04 13 14.1**	**+0.2**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pn**	**04 13 14.1**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	PN	**Pb**	**04 13 14.7**	**-0.3**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pb**	**04 13 14.7**	**-0.3**
ARMT	**Armutlu**	**1.44**	**355**	PN	**Pn**	**04 13 14.0**	**-0.8**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pn**	**04 13 14.0**	**-0.8**
ESKT	**Eskisehir**	**1.47**	**74**	PN	**Pb**	**04 13 15.8**	**-0.2**
ESKT	**Eskisehir**	**1.47**	**74**	*i* P	**Pn**	**04 13 14.2**	**-1.1**
ESKT	**Eskisehir**	**1.47**	**74**	*e*Pn	**Pb**	**04 13 15.8**	**-0.2**
SEYT	**Eskypehyr**	**1.47**	**74**	P	**Pn**	**04 13 14.2**	**-1.1**
EDC	**Edincik**	**1.51**	**324**	PN	**Pn**	**04 13 15.5**	**-0.2**
EDC	**Edincik**	**1.51**	**324**	*e*Pn	**Pn**	**04 13 15.5**	**-0.2**
GPA	**Golpazari**	**1.53**	**40**	PN	**Pb**	**04 13 16.5**	**-0.4**
GPA	**Golpazari**	**1.53**	**40**	*e*Pn	**Pb**	**04 13 16.5**	**-0.4**
BOLV	**Bolvadin**	**1.56**	**105**	*i* P	**Pb**	**04 13 17.0**	**-0.5**
BOLV				*i* S	**Sb**	**04 13 37.2**	**-0.3**
BOLV	**Bolvadin**	**1.56**	**105**	P	**Pb**	**04 13 17.0**	**-0.5**
BOLV				S	**Sb**	**04 13 37.2**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.65**	**150**	*i* P	**Pn**	**04 13 16.6**	**-1.1**
BRDR				*i* S	**Sg**	**04 13 44.1**	**+3.0**
BRDR	**BURDUR-Merkez**	**1.65**	**150**	P	**Pn**	**04 13 16.6**	**-1.1**
BRDR				S	**Sg**	**04 13 44.1**	**+3.0**
DKL	**Dikili**	**1.65**	**269**	PN	**Pn**	**04 13 17.9**	**+0.3**
DKL	**Dikili**	**1.65**	**269**	*e*Pn	**Pn**	**04 13 17.9**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.66**	**183**	*i* P	**Pn**	**04 13 18.0**	**+0.2**
TAVA				*i* S	**Sg**	**04 13 43.0**	**+1.5**
TAVA	**DENIZLI_Tavas**	**1.66**	**183**	P	**Pn**	**04 13 18.0**	**+0.2**
TAVA				S	**Sg**	**04 13 43.0**	**+1.5**
GEYV	**SAKARYA_Geyve**	**1.68**	**36**	*i* P	**Pb**	**04 13 19.5**	**+0.1**
GEYV				*i* S	**Sg**	**04 13 44.2**	**+2.1**
GEYV	**SAKARYA_Geyve**	**1.68**	**36**	P	**Pb**	**04 13 19.5**	**+0.1**
GEYV				S	**Sg**	**04 13 44.2**	**+2.1**
AYDN	**Tasoluk**	**1.72**	**212**	*i* P	**Pn**	**04 13 18.1**	**-0.5**
AYDN				*i* S	**Sg**	**04 13 44.0**	**+0.7**
AYDN	**Tasoluk**	**1.72**	**212**	P	**Pn**	**04 13 18.1**	**-0.5**
AYDN				S	**Sg**	**04 13 44.0**	**+0.7**
BUY	**Buyukada**	**1.73**	**2**	*i* P	**Pb**	**04 13 20.5**	**+0.3**
BUY				*i* S	**Sg**	**04 13 45.1**	**+1.4**
BUY	**Buyukada**	**1.73**	**2**	P	**Pb**	**04 13 20.5**	**+0.3**
BUY				S	**Sg**	**04 13 45.1**	**+1.4**
CAND	**Candarli**	**1.74**	**265**	PN	**Pn**	**04 13 19.7**	**+0.9**
GULT	**Gulveren**	**1.74**	**41**	PN	**Pn**	**04 13 19.1**	**+0.2**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	**04 13 19.1**	**+0.2**
ISP	**Isparta**	**1.76**	**137**	PN	**Pn**	**04 13 19.6**	**+0.4**
ISP	**Isparta**	**1.76**	**137**	‖ *i*P	**Pn**	**04 13 18.4**	**-0.7**
ISP				S	**Sg**	**04 13 46.0**	**+1.4**
ISP	**Isparta**	**1.76**	**137**	‖ *i*P	**Pn**	**04 13 18.4**	**-0.7**
ISP	**Isparta**	**1.76**	**137**	*e*Pn	**Pn**	**04 13 19.6**	**+0.4**
ISP				S	**Sg**	**04 13 46.0**	**+1.4**
ISP	**Isparta**	**1.76**	**137**	P	**Pn**	**04 13 18.5**	**-0.7**
HRT	**Hereke**	**1.77**	**16**	PN	**Pn**	**04 13 19.2**	**-0.1**
HRT	**Hereke**	**1.77**	**16**	*e*Pn	**Pn**	**04 13 19.2**	**-0.1**
BAGO	**Egridir - ISPA**	**1.79**	**129**	*i* P	**Pn**	**04 13 19.2**	**-0.4**
BAGO				*i* S	**Sg**	**04 13 48.3**	**+2.5**
FOCM	**Fo˘ça**	**1.83**	**258**	PN	**Pb**	**04 13 21.3**	**-0.8**
FOCM	**Fo˘ça**	**1.83**	**258**	*e*Pn	**Pb**	**04 13 21.3**	**-0.8**
KRBG	**Karabiga-Canak**	**1.83**	**314**	PN	**Pn**	**04 13 21.1**	**+1.0**
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*Pn	**Pn**	**04 13 21.1**	**+1.0**
SPNC	**Sapanca-Adapaz**	**1.85**	**32**	PN	**Pn**	**04 13 20.9**	**+0.6**
SPNC	**Sapanca-Adapaz**	**1.85**	**32**	*e*Pn	**Pn**	**04 13 20.9**	**+0.6**
SAUV	**Serdivan-Sakar**	**1.90**	**32**	PN	**Pn**	**04 13 20.9**	**-0.1**
SAUV	**Serdivan-Sakar**	**1.90**	**32**	*e*Pn	**Pn**	**04 13 20.9**	**-0.1**
SBT3	**Marmara-Eregli**	**1.93**	**336**	PN	**Pn**	**04 13 22.1**	**+0.8**
SBT3	**Marmara-Eregli**	**1.93**	**336**	*e*Pn	**Pn**	**04 13 22.1**	**+0.8**
GOLH	**Golhisar**	**1.93**	**167**	*i* P	**Pn**	**04 13 20.6**	**-1.0**
GOLH				*i* S	**Sg**	**04 13 52.1**	**+1.8**
GOLH	**Golhisar**	**1.93**	**167**	P	**Pn**	**04 13 20.6**	**-1.0**
GMLD	**Gumuldur**	**1.95**	**238**	PN	**Pn**	**04 13 22.6**	**+0.8**
GMLD	**Gumuldur**	**1.95**	**238**	*e*Pn	**Pn**	**04 13 22.6**	**+0.8**
DGB	**˙zmir**	**1.99**	**238**	*i* P	**Pb**	**04 13 25.5**	**+0.8**
DGB				*i* S	**Sg**	**04 13 52.1**	**0.0**
GCAM	**G?zelcami?**	**2.00**	**225**	PN	**Pn**	**04 13 22.9**	**+0.5**
GCAM	**G?zelcami?**	**2.00**	**225**	*i* P	**Pb**	**04 13 24.6**	**-0.3**
GCAM				*i* S	**Sn**	**04 13 48.9**	**+1.2**
GCAM	**G?zelcami?**	**2.00**	**225**	*e*Pn	**Pn**	**04 13 22.9**	**+0.5**
GCAM	**G?zelcami?**	**2.00**	**225**	P	**Pb**	**04 13 24.6**	**-0.3**
GCAM				S	**Sn**	**04 13 48.9**	**+1.2**
BAYC	**CANAKKALE_Bayr**	**2.01**	**289**	*i* P	**Pn**	**04 13 22.3**	**-0.3**
BAYC				*i* S	**Sg**	**04 13 52.1**	**-0.8**
URLA	**Izmir**	**2.04**	**249**	PN	**Pn**	**04 13 24.3**	**+1.2**
URLA	**Izmir**	**2.04**	**249**	*i* P	**Pb**	**04 13 25.6**	**-0.2**
URLA				*i* S	**Sb**	**04 13 52.2**	**+0.8**
URLA	**Izmir**	**2.04**	**249**	*e*Pn	**Pn**	**04 13 24.3**	**+1.2**
URLA	**Izmir**	**2.04**	**249**	P	**Pb**	**04 13 25.5**	**-0.2**
URLA				S	**Sb**	**04 13 52.2**	**+0.8**
BGKT	**Bogazkoy**	**2.06**	**355**	PN	**Pn**	**04 13 22.7**	**-0.6**
BGKT	**Bogazkoy**	**2.06**	**355**	*e*Pn	**Pn**	**04 13 22.7**	**-0.6**
ELBA	**Catalca**	**2.07**	**348**	*i* P	**Pg**	**04 13 27.1**	**-0.7**
ELBA				*i* S	**Sg**	**04 13 53.9**	**-0.8**
ELBA	**Catalca**	**2.07**	**348**	P	**Pg**	**04 13 27.1**	**-0.7**
ELBA				S	**Sg**	**04 13 53.9**	**-0.8**
YER	**Yerkesik**	**2.07**	**197**	PN	**Pn**	**04 13 24.3**	**+0.8**
YER	**Yerkesik**	**2.07**	**197**	P	**Pn**	**04 13 22.9**	**-0.6**
YER	**Yerkesik**	**2.07**	**197**	*e*Pn	**Pn**	**04 13 24.3**	**+0.8**
YER	**Yerkesik**	**2.07**	**197**	P	**Pn**	**04 13 22.9**	**-0.6**
MLSB	**Milas**	**2.07**	**209**	PN	**Pn**	**04 13 24.5**	**+1.0**
MLSB	**Milas**	**2.07**	**209**	*e*Pn	**Pn**	**04 13 24.5**	**+1.0**
SILT	**Sile**	**2.08**	**13**	PN	**Pn**	**04 13 24.5**	**+1.0**
SILT	**Sile**	**2.08**	**13**	*e*Pn	**Pn**	**04 13 24.5**	**+1.0**
BTAS	**Taskesti**	**2.10**	**46**	*i* P	**Pn**	**04 13 24.9**	**+1.1**
BTAS	**Taskesti**	**2.10**	**46**	P	**Pn**	**04 13 24.9**	**+1.1**
SART	**Tekirdag**	**2.11**	**318**	*i* P	**Pn**	**04 13 23.0**	**-1.0**
SART				*i* S	**Sb**	**04 13 54.2**	**+1.0**
SART	**Tekirdag**	**2.11**	**318**	P	**Pn**	**04 13 23.0**	**-1.0**
SART				S	**Sb**	**04 13 54.2**	**+1.0**
KLYT	**Kilyos**	**2.12**	**0**	PN	**Pn**	**04 13 23.5**	**-0.6**
KLYT	**Kilyos**	**2.12**	**0**	*e*Pn	**Pn**	**04 13 23.5**	**-0.6**
PRK	**Paraskevi**	**2.14**	**274**	P	**Pn**	**04 13 23.8**	**-0.6**
PRK				S	**Sg**	**04 13 56.3**	**-0.6**
PRK				AML	AML	04 13 60.0	
	comp=N,1168μm,0.5s						
PRK				AML	AML	04 14 01.0	
	comp=E,1819μm,0.6s						
PRK	**Paraskevi**	**2.14**	**274**	P	**Pn**	**04 13 24.4**	**+0.1**
PRK				S	**Sg**	**04 13 55.8**	**-1.2**
PRK	**Paraskevi**	**2.14**	**274**	P	**Pn**	**04 13 24.4**	**+0.1**
LPK	**Lapseki**	**2.14**	**306**	PN	**Pn**	**04 13 24.9**	**+0.5**
LPK	**Lapseki**	**2.14**	**306**	*e*Pn	**Pn**	**04 13 24.9**	**+0.5**
CTKS	**Kestanelik-??a**	**2.14**	**350**	PN	**Pn**	**04 13 25.5**	**+1.1**
CTKS	**Kestanelik-??a**	**2.14**	**350**	*e*Pn	**Pn**	**04 13 25.5**	**+1.1**
MDUB	**Mudurnu**	**2.15**	**51**	PN	**Pn**	**04 13 25.5**	**+0.9**
MDUB	**Mudurnu**	**2.15**	**51**	*e*Pn	**Pn**	**04 13 25.5**	**+0.9**
ZEY	**˙zmir**	**2.16**	**247**	*i* P	**Pb**	**04 13 28.2**	**+0.6**
ZEY				*i* S	**Sg**	**04 13 58.5**	**+0.9**
TKR	**Tekirdag**	**2.18**	**329**	PN	**Pn**	**04 13 26.1**	**+1.2**
TKR	**Tekirdag**	**2.18**	**329**	*e*Pn	**Pn**	**04 13 26.1**	**+1.2**
SLVT	**Silivri**	**2.19**	**344**	PN	**Pn**	**04 13 25.5**	**+0.4**
SLVT	**Silivri**	**2.19**	**344**	*e*Pn	**Pn**	**04 13 25.5**	**+0.4**
SLVT	**Silivri**	**2.19**	**344**	P	**Pb**	**04 13 27.5**	**-0.7**
SLVT				S	**Sb**	**04 13 54.9**	**-0.6**
EZN	**Ezine**	**2.20**	**289**	PN	**Pn**	**04 13 26.6**	**+1.4**
EZN	**Ezine**	**2.20**	**289**	*e*Pn	**Pn**	**04 13 26.6**	**+1.4**
SAHE	**Sakarya_HENDEK**	**2.23**	**39**	*i* P	**Pg**	**04 13 29.9**	**-1.0**
SAHE	**Sakarya_HENDEK**	**2.23**	**39**	P	**Pg**	**04 13 29.9**	**-1.0**
CRLT	**Corlu**	**2.23**	**334**	PN	**Pn**	**04 13 26.5**	**+0.9**
CRLT	**Corlu**	**2.23**	**334**	*e*Pn	**Pn**	**04 13 26.5**	**+0.9**
SUTC	**Sutluce-Ispart**	**2.27**	**136**	PN	**Pn**	**04 13 26.9**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.27**	**136**	*e*Pn	**Pn**	**04 13 26.9**	**+0.7**
TURN	**Turunc**	**2.27**	**188**	*i* P	**Pb**	**04 13 28.5**	**-1.0**
TURN	**Turunc**	**2.27**	**188**	P	**Pb**	**04 13 28.5**	**-1.0**
DALY	**Dalyan (Mu˘la**	**2.32**	**187**	*i* P	**Pn**	**04 13 27.0**	**+0.2**
DALY	**Dalyan (Mu˘la**	**2.32**	**187**	P	**Pn**	**04 13 27.0**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.34**	**304**	PN	**Pn**	**04 13 27.7**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.34**	**304**	*e*Pn	**Pn**	**04 13 27.7**	**+0.6**
KORT	**Korkueli**	**2.37**	**153**	PN	**Pn**	**04 13 27.9**	**+0.3**
KORT	**Korkueli**	**2.37**	**153**	*e*Pn	**Pn**	**04 13 27.9**	**+0.3**
BDRM	**Kayabasi**	**2.40**	**212**	*i* P	**Pn**	**04 13 27.4**	**-0.6**
BDRM	**Kayabasi**	**2.40**	**212**	P	**Pn**	**04 13 27.4**	**-0.6**
CTYL	**Yalikoy Yolu**	**2.41**	**347**	PN	**Pn**	**04 13 29.1**	**+1.0**
CTYL	**Yalikoy Yolu**	**2.41**	**347**	*e*Pn	**Pn**	**04 13 29.1**	**+1.0**
CHOS	**Chios island**	**2.43**	**253**	P	**Pn**	**04 13 27.6**	**-0.8**
CHOS	**Chios island**	**2.43**	**253**	P	**Pn**	**04 13 28.0**	**-0.5**
CHOS	**Chios island**	**2.43**	**253**	P	**Pn**	**04 13 28.0**	**-0.5**
SIGR	**SIGRI**	**2.46**	**273**	P	**Pn**	**04 13 29.9**	**+1.2**
SIGR				S	**Sb**	**04 14 02.9**	**-0.4**
SIGR				AML	AML	04 14 09.0	
	comp=N,1220μm,0.5s						
SIGR				AML	AML	04 14 10.0	
	comp=E,1109μm,0.4s						
BODT	**Bodrum**	**2.46**	**214**	P	**Pn**	**04 13 28.9**	**+0.1**
BODT	**Bodrum**	**2.46**	**214**	P	**Pn**	**04 13 28.9**	**+0.1**
ERIK	**Erikli-Kesan**	**2.47**	**309**	PN	**Pn**	**04 13 29.9**	**+1.0**
ERIK	**Erikli-Kesan**	**2.47**	**309**	*e*Pn	**Pn**	**04 13 29.9**	**+1.0**
FETY	**Fethiye**	**2.49**	**179**	P	**Pn**	**04 13 28.4**	**-0.8**
FETY	**Fethiye**	**2.49**	**179**	P	**Pn**	**04 13 28.6**	**-0.6**
GADA	**Gvkgeada**	**2.63**	**295**	P	**Pn**	**04 13 32.1**	**+1.0**
GADA	**Gvkgeada**	**2.63**	**295**	P	**Pn**	**04 13 32.1**	**+1.0**
ENEZ	**Enez**	**2.73**	**307**	P	**Pn**	**04 13 33.1**	**+0.7**
ENEZ	**Enez**	**2.73**	**307**	P	**Pn**	**04 13 33.1**	**+0.7**
PHSR	**Pinarhisar**	**2.75**	**336**	PN	**Pn**	**04 13 33.5**	**+0.7**
PHSR	**Pinarhisar**	**2.75**	**336**	*e*Pn	**Pn**	**04 13 33.5**	**+0.7**
ALN	**Alexandroupoli**	**2.89**	**309**	P	**Pn**	**04 13 34.3**	**-0.3**
ALN				S	**Sn**	**04 14 11.2**	**+1.6**
ALN				AML	AML	04 14 20.8	
	comp=N,518μm,0.5s						
ALN				AML	AML	04 14 25.8	
	comp=E,374μm,0.4s						
ALN	**Alexandroupoli**	**2.89**	**309**	P	**Pn**	**04 13 34.6**	**0.0**
ALN				S	**Sn**	**04 14 11.8**	**+2.2**
ALN	**Alexandroupoli**	**2.89**	**309**	P	**Pn**	**04 13 34.7**	**+0.1**
ARG	**Arkhangelos**	**2.99**	**194**	P	**Pn**	**04 13 34.1**	**-1.9**
ARG	**Arkhangelos**	**2.99**	**194**	P	**Pn**	**04 13 34.3**	**-1.7**
LOD	**Lodumlu**	**2.99**	**74**	PN	**Pn**	**04 13 37.7**	**+1.5**
LOD	**Lodumlu**	**2.99**	**74**	*e*Pn	**Pn**	**04 13 37.7**	**+1.5**
KSL	**Kastellorizon**	**3.00**	**171**	P	**Pn**	**04 13 32.8**	**-3.5**
SMTH	**Samothraki Isl**	**3.01**	**298**	P	**Pn**	**04 13 36.2**	**0.0**
SMTH	**Samothraki Isl**	**3.01**	**298**	P	**Pn**	**04 13 36.3**	**0.0**
SMTH	**Samothraki Isl**	**3.01**	**298**	P	**Pn**	**04 13 36.3**	**0.0**
ANTO	**Ankara**	**3.01**	**75**	PN	**Pn**	**04 13 37.7**	**+1.3**
ANTO	**Ankara**	**3.01**	**75**	*e*Pn	**Pn**	**04 13 37.7**	**+1.3**
LIA	**Limnos Island**	**3.07**	**286**	P	**Pn**	**04 13 37.5**	**+0.4**
LIA	**Limnos Island**	**3.07**	**286**	P	**Pn**	**04 13 37.8**	**+0.7**
LIA	**Limnos Island**	**3.07**	**286**	P	**Pn**	**04 13 37.8**	**+0.7**
RDO	**Rodhopi**	**3.35**	**308**	P	**Pn**	**04 13 41.3**	**+0.4**
RDO	**Rodhopi**	**3.35**	**308**	P	**Pn**	**04 13 41.4**	**+0.5**
RDO	**Rodhopi**	**3.35**	**308**	P	**Pn**	**04 13 41.3**	**+0.4**
APE	**Apeiranthos**	**3.44**	**234**	‖ *i*P	**Pb**	**04 13 47.4**	**-2.0**
APE	**Apeiranthos**	**3.44**	**234**	‖ *i*P	**Pb**	**04 13 47.4**	**-2.0**
BRTR	**Neskin Array B**	**3.63**	**79**	Pn	**Pn**	**04 13 46.0**	**+1.1**
	comp=E,1.4nm,0.3s,baz=254,slow=13,SNR=32						
BRTR				Sn	**Sn**	**04 14 27.3**	**-0.8**
	comp=E,1.1nm,0.3s,baz=242,slow=25,SNR=5.1						
KDZ	**Kurdzhali**	**3.73**	**314**	*i* P	**Pn**	**04 13 49.3**	**+3.0**
JMB	**Yambol**	**3.82**	**332**	P	**Pn**	**04 13 50.6**	**+3.2**
KAVA	**Kavala**	**3.93**	**300**	P	**Pn**	**04 13 48.5**	**-0.4**
PAIG	**Paliouri**	**4.21**	**283**	P	**Pn**	**04 13 54.1**	**+1.3**
PAIG	**Paliouri**	**4.21**	**283**	P	**Pn**	**04 13 54.1**	**+1.3**
PRD	**Provadia**	**4.25**	**344**	P	**Pn**	**04 13 58.1**	**+4.8**
PLD	**Plovdiv**	**4.43**	**314**	P	**Pn**	**04 13 58.7**	**+2.8**
NVR	**Nevrokopi**	**4.53**	**301**	P	**Pn**	**04 13 56.8**	**-0.4**
NVR	**Nevrokopi**	**4.53**	**301**	P	**Pn**	**04 13 58.0**	**+0.8**
NVR	**Nevrokopi**	**4.53**	**301**	P	**Pn**	**04 13 58.0**	**+0.8**
MMB	**Mutoniste**	**4.73**	**303**	P	**Pn**	**04 14 00.5**	**+0.5**
SZH	**Strazhica**	**4.75**	**332**	*i* P	**Pn**	**04 14 00.4**	**+0.2**
IDI	**Anoyia**	**5.05**	**222**	Pn	**Pn**	**04 14 05.1**	**+0.6**
	comp=E,0.6nm,0.3s,baz=17,slow=17,SNR=3.1						
TIRR	**Tirgusor**	**5.35**	**355**	‖ *i*P	**Pn**	**04 14 08.4**	**0.0**
TIRR	**Tirgusor**	**5.35**	**355**	‖ *i*P	**Pn**	**04 14 08.4**	**0.0**
VTS	**Vitosha**	**5.60**	**310**	‖ *i*P	**Pn**	**04 14 12.8**	**+0.7**
VTS	**Vitosha**	**5.60**	**310**	‖ *i*P	**Pn**	**04 14 12.8**	**+0.7**
VTS	**Vitosha**	**5.60**	**310**	P	**Pn**	**04 14 15.6**	**+3.5**
CFR	**Carcaliu**	**6.08**	**354**	‖ *i*P	**Pn**	**04 14 18.4**	**-0.1**
CFR	**Carcaliu**	**6.08**	**354**	‖ *i*P	**Pn**	**04 14 18.4**	**-0.1**
BARS	**Barje**	**6.58**	**306**	*e*Pn	**Pn**	**04 14 26.2**	**+0.8**
MLR	**Muntele Rosu**	**6.76**	**341**	Pn	**Pn**	**04 14 30.5**	**+2.6**
	comp=E,0.1nm,0.3s,baz=236,slow=12,SNR=3.6						
PLOR	**Plostina**	**6.95**	**346**	‖ *i*P	**Pn**	**04 14 29.3**	**-1.1**
PLOR	**Plostina**	**6.95**	**346**	‖ *i*P	**Pn**	**04 14 29.3**	**-1.1**
MDVR	**Moldovita**	**7.84**	**318**	‖ *i*P	**Pn**	**04 14 44.0**	**+1.2**
MDVR	**Moldovita**	**7.84**	**318**	‖ *i*P	**Pn**	**04 14 44.0**	**+1.2**
MMAI	**Mount Meron Ar**	**7.99**	**138**	Pn	**Pn**	**04 14 44.6**	**-0.2**
	comp=E,1.4nm,0.3s,baz=316,slow=13,SNR=4.6						
CLL	**Collm**	**16.56**	**323**	*e*P	**Pn**	**04 16 40.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**35.39**	**231**	P	**P**	**04 19

BSO3 Boso 3 9.81 350 P **Pn** 04 45 20.8 +1.4
BSO3 *e*S **Sn** 04 47 10.7 +2.4
BSO4 Boso 4 10.02 349 P **Pn** 04 45 23.5 +1.1
BSO4 S **Sn** 04 47 17.2 +3.5
TATJ Tateyama 2 10.14 347 P **Pn** 04 45 26.2 +2.0
JRY Ryogami san 11.31 345 P **Pn** 04 45 39.5 -0.6
JRY S **Sn** 04 47 48.6 +3.2
GUMO Guam 11.68 169 LR LR 04 49 38.7
comp=Z,166nm,19.9s,baz=26,slow=34
MJAR Matsushiro Arr 11.98 343 Pn **Pn** 04 45 49.0 -0.3
0.8nm,0.3s,baz=154,slow=11,SNR=6.6
MAJO Matsushiro 11.98 343 *e*P **Pn** 04 45 49.5 +0.1
MAJO Matsushiro 11.98 343 *e*Pn **Pn** 04 45 49.5 +0.1
JNU Nakatsue 12.95 311 Pn **Pn** 04 46 01.6 -1.1
0.3nm,0.3s,baz=74,slow=18,SNR=1.7
JNU LR LR 04 50 42.5
comp=Z,362nm,19.3s,baz=109,slow=36
ERM Erimo 16.86 2⇑ *e*P **Pn** 04 46 54.4 +0.2
ERM Erimo 16.86 2 *e*Pn **Pn** 04 46 54.8 +0.6
20nm,1.0s
KSRS Korea Array 17.52 318 P **P** 04 47 04.2 +0.8
0.3nm,0.3s,baz=126,slow=12,SNR=11
KSRS LR LR 04 53 43.4
comp=Z,421nm,18.1s,baz=130,slow=37
KS15 Wonju Array Si 17.53 318 *e*Pn **P** 04 47 04.2 +0.6
KSAR Wonju Array Be 17.53 318 P **P** 04 47 04.3 +0.7
KSAR Wonju Array Be 17.53 318 P **P** 04 47 04.2 +0.7
YOJ Yonaguni jima 17.77 272 *e*P Pn 04 46 58.2 -7.6
YOJ pmax pmax
comp=Z,341nm,1.6s
YOJ Yonaguni jima 17.77 272 *e*Pn Pn 04 46 58.2 -7.6
comp=Z,341nm,1.6s
ASAJ Asahikawa 18.95 0 P **P** 04 47 18.7 -0.4
comp=Z,0.7nm,0.3s,baz=190,slow=17,SNR=4.9
ASAJ Asahikawa 18.95 0 *e*P **P** 04 47 18.7 -0.4
comp=Z,9.2nm,0.8s
ASAJ *e*pP **sP** 04 47 29.7 -1.9
YULB Yu-li 19.47 269 *e*P **P** 04 47 25.2 +0.1
comp=Z,142nm,1.9s
MSHR Mys Shultsa 19.79 334⇑ *e*P **P** 04 47 27.6 -0.8
TEY Ternei 20.45 348 *i*P **P** 04 47 36.0 +0.5
KUR Kuril'sk 20.52 11⇑ *e*P **P** 04 47 36.3 +0.1
USRK Ussuriysk Ar. 20.89 338 P **P** 04 47 40.1 -0.2
comp=Z,6.3nm,0.7s,baz=163,slow=8.5,SNR=11
USRK LR LR 04 55 27.6
comp=Z,176nm,18.2s,baz=148,slow=36
YSS Yuzh-Sakhalins 21.79 0 *e*P **P** 04 47 48.7 -1.2
YSS pmax pmax
comp=Z,20nm,0.5s
NJ2 Nanjing 21.91 294 *e*P **P** 04 47 52.1 +0.7
NJ2 pmax pmax
comp=Z,13nm,0.5s
H11N1 WAKE ISLAND Hy 23.10 99 T T 05 11 40.2
baz=290,slow=74,SNR=13
H11N2 WAKE ISLAND Hy 23.10 99 T T 05 11 41.9
baz=290,slow=74,SNR=8.4
TGY Tagaytay City 23.10 246 LR LR 04 56 51.7
comp=Z,213nm,19.3s,baz=303,slow=36
H11N3 WAKE ISLAND Hy 23.12 99 T T 05 11 41.9
baz=290,slow=74,SNR=13
CN2 Changchun 23.29 327 *e*P **P** 04 48 06.6 +0.8
H11S3 WAKE ISLAND Hy 23.32 102 T T 05 11 54.5
baz=292,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 23.33 102 T T 05 12 00.3
baz=292,slow=75,SNR=21
H11S2 WAKE ISLAND Hy 23.34 102 T T 05 11 56.5
baz=292,slow=75,SNR=18
DAV Davao City (W) 24.21 225 LR LR 04 56 09.3
comp=Z,230nm,21.0s,baz=346,slow=33
TIA Tai'an 24.45 303 P **P** 04 48 16.0 -0.8
TIA pmax pmax
comp=Z,21nm,0.8s
KLR Kul'dur 25.51 343 P **P** 04 48 26.7 +0.5
comp=Z,0.8nm,0.6s,baz=147,slow=7.5,SNR=36
KLR LR LR 04 58 52.7
comp=Z,21nm,18.0s,baz=124,slow=38
KLR Kul'dur 25.51 343 *ce*P **P** 04 48 26.4 +0.2
TYV Tymovskoe 25.70 0 *e*P **P** 04 48 33.4 +5.5
TYV pmax pmax
comp=Z,8.0nm,0.9s
GRNR Gornyy 26.04 351 *e*P **P** 04 48 27.2 -3.8
NKL Nikolayevsk 28.03 358 *e*P **P** 04 48 48.0 -0.8
NKL pmax pmax
comp=Z,17nm,1.0s
ENH Enshi 29.67 287 *e*P **P** 04 49 05.9 +2.1
comp=Z,14nm,1.1s
HIA Hailar 29.97 329⇑ *e*P **P** 04 49 05.4 -0.8
HIA pmax pmax
comp=Z,2.0nm,0.8s
HHC Hu-ho-hao-te 30.17 309 *e*P **P** 04 49 07.6 -0.6
HHC S **S** 04 54 02.8 -2.6
HHC sS sS 04 54 21.6 +1.0
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.5s
HHC LR LR
comp=Z,120nm,14.9s
HHC LR LR
comp=Z,190nm,14.3s
HHC LR LR
comp=Z,190nm,14.6s
PETK Petropavlovsk- 30.18 18 LR LR 05 00 07.4
comp=Z,30nm,21.6s,baz=197,slow=34
XAN Xi'an 30.47 295 P **P** 04 49 10.6 -0.2
XAN pP pP 04 49 18.3 -1.7
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,73nm,3.8s
ZEA Zeya 30.79 342 *e*P **P** 04 49 13.2 -0.1
ZEA pmax pmax
comp=Z,18nm,0.8s
ZEA MLR MLR
comp=Z,400nm,15.0s
ZEA MLR MLR
comp=N,400nm,16.0s
KKM Kota Kinabalu 31.57 237 *e*P **P** 04 49 19.6 -1.1
comp=N,38nm,1.3s
CD2 Chengdu 34.62 289 *e*P **P** 04 49 46.4 -0.8
CD2 pP pP 04 49 57.5 +1.0
CD2 sP sP 04 50 02.6 +2.3
CD2 S **S** 04 55 13.3 -1.5
CD2 pmax pmax
comp=N,10.0nm,0.5s
CD2 pmax pmax
comp=N,120nm,5.0s
CD2 LR LR
comp=N,310nm,13.4s
CD2 LR LR
comp=N,290nm,16.9s
LZH Lanzhou 34.87 298 *e*P **P** 04 49 50.1 +0.7
LZH pP sP 04 50 01.8 -0.8
LZH sP pP 04 50 07.8 +9.1
LZH pmax pmax
comp=N,18nm,0.6s
LZH pmax pmax
comp=N,200nm,4.3s
LZH LR LR
comp=N,180nm,13.0s
LZH LR LR
comp=N,160nm,12.9s
LZH LR LR
comp=N,290nm,14.1s
MA2 Magadan 34.91 7 P **P** 04 49 48.1 -1.1
comp=N,2.6nm,0.4s,baz=171,slow=8.9,SNR=3.5
KMI Kunming 35.97 279 P **P** 04 50 01.6 +2.5
KMI pmax pmax
comp=N,14nm,0.9s
KMI LR LR
comp=N,120nm,17.8s
KMI LR LR
comp=N,190nm,17.6s
KMI LR LR
comp=N,250nm,28.3s
ULN Ulaanbaatar 36.00 318⇓ *e*P **P** 04 49 57.9 -1.1
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 36.00 318 *e*P **P** 04 49 57.9 -1.1
comp=Z,3.9nm,0.7s
UBPT Khong Chiam 36.07 261 P P 04 50 09.9 +10
SONA0 Songino Array 36.39 318 *e*P **P** 04 50 00.7 -1.5
SONA0 *e*PcP **PcP** 04 52 26.7 +0.5
SONA1 Songino Array 36.39 318 *e*P **P** 04 50 00.8 -1.4
SONM Songino Array 36.39 318 P **P** 04 50 00.7 -1.5
comp=Z,2.2nm,0.5s,baz=129,slow=8.5,SNR=13
SONM PcP **PcP** 04 52 26.7 +0.5
comp=Z,0.6nm,0.9s,baz=116,slow=3.4,SNR=2.8
SONM LR LR 05 05 45.9
comp=Z,155nm,18.1s,baz=162,slow=38
YAK Yakutsk 37.91 350 *e*P **P** 04 50 15.5 +0.7
YAK *e**PP **sP** 04 50 29.6 +1.6
YAK *e* 04 51 45.1
YAK *e*PPP PPP 04 52 04.1
YAK *e* 04 52 29.1
YAK *e*S **S** 04 56 05.1 +1.0
YAK *e* 04 56 19.4
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=Z,12nm,0.4s
YAK pmax pmax
comp=N,1.0nm,0.3s
YAK pmax pmax
comp=E,3.0nm,0.6s
YAK smax smax
comp=N,16nm,1.7s
YAK smax smax
comp=E,19nm,1.5s
YAK MLR MLR
comp=Z,38nm,6.0s
YAK MLR MLR
comp=N,187nm,22.0s
SEY Seymchan 38.37 7 P **P** 04 50 17.4 -1.2
comp=N,3.3nm,0.7s,baz=184,slow=6.1,SNR=14
SEY Seymchan 38.37 7⇓ *e*P **P** 04 50 18.6 0.0
BOD Bodaibo 38.49 336 *e*P **P** 04 50 19.1 -0.6
BOD pmax pmax
comp=Z,8.0nm,1.5s
GTA Gaotai 38.50 302 P **P** 04 50 19.5 -0.8
GTA pP pP 04 50 29.5 -0.1
GTA sP sP 04 50 34.0 +0.6
GTA S **S** 04 56 11.4 -2.5
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,65nm,4.3s
GTA LR LR
comp=Z,260nm,14.3s
GTA LR LR
comp=Z,360nm,17.1s
GTA LR LR
comp=Z,180nm,14.7s
COEN Coen 38.85 179 *e*P **P** 04 50 23.5 +0.4
comp=Z,48nm,1.9s
CHAI Chaiyaphum 38.98 264 P **P** 04 50 26.8 +2.5
comp=Z,4.6nm,0.9s,comp=Z,1µm
ZAK Zakamensk 39.33 320 *e*P **P** 04 50 24.2 -2.8
ZAK pmax pmax
comp=Z,2.0nm,1.2s
MTN Manton Dam 39.35 198 *e*P **P** 04 50 26.0 -1.4
comp=Z,152nm,1.6s
TLY Talaya 39.69 322⇑ *e*P **P** 04 50 29.9 0.0
TLY pmax pmax
comp=Z,2.0nm,0.9s
PHIT Phitsanulok 39.97 267 P **P** 04 50 35.0 +2.4
comp=Z,20nm,1.0s
CMAI Chiengmai2 40.41 272 P **P** 04 50 39.5 +3.1
comp=Z,95nm,0.9s
CM31 Chiang Mai Arr 40.91 270 *e*P **P** 04 50 41.9 +1.4
CMAR Chiang Mai Arr 40.91 270 P **P** 04 50 41.9 +1.4
comp=Z,1.5nm,0.3s,baz=68,slow=7.7,SNR=4.8
CMAR LR LR 05 07 01.7
comp=Z,136nm,20.1s,baz=48,slow=35
CMAR Chiang Mai Arr 40.91 270 *ce*P **P** 04 50 40.7 +0.3
CMAR pmax pmax
comp=Z,2.0nm,0.3s
UTHA Uthaitani 41.39 265 P **P** 04 50 46.9 +2.6
comp=Z,4.4nm,0.8s,comp=Z,202nm
KULM Kulim 44.74 251 *e*P **P** 04 51 10.8 -0.7
comp=Z,12nm,0.8s
CTA Charters Tower 45.08 175 P **P** 04 51 14.4 +0.4
comp=Z,2.6nm,0.6s,baz=353,slow=7.6,SNR=4.5
BILL Bilibino 45.30 12 *e*P **P** 04 51 15.3 +0.1
BILL *e* 04 51 24.4
BILL *e*PPP PPP 04 53 44.4
BILL pmax pmax
comp=Z,9.0nm,0.8s
BILL MLR MLR
comp=Z,48nm,16.0s
WRAB Tennant Creek 45.49 191⇓ *e*P **P** 04 51 18.3 +1.0
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WRAB Tennant Creek 45.49 191 *e*P **P** 04 51 17.9 +0.7
comp=Z,25nm,1.3s
WB2 Warramunga Arr 45.50 191 *e*P **P** 04 51 17.7 +0.3
WR1 Warramunga Arr 45.50 191 *e*P **P** 04 51 17.6 +0.2
comp=Z,13nm,0.6s
WRA Warramunga Arr 45.50 191 P **P** 04 51 17.6 +0.2
comp=Z,2.7nm,0.4s,baz=9.1,slow=8.5,SNR=46
WRA Warramunga Arr 45.50 191 *i*P **P** 04 51 16.8 -0.6
WRA pmax pmax
comp=Z,3.0nm,0.5s
TIXI Tiksi 47.20 354⇑ *e*P **P** 04 51 29.9 -0.2
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 47.20 354 *e*P **P** 04 51 32.5 +2.5
comp=Z,7.9nm,1.2s
PSI Prapat 47.49 249 P **P** 04 51 32.8 -0.5
comp=Z,4.5nm,0.7s,baz=24,slow=19,SNR=7.0
PSI LR LR 05 10 03.6
comp=Z,79nm,20.8s,baz=72,slow=34
PSI Prapat 47.49 249 *e*P **P** 04 51 32.8 -0.5
comp=Z,12nm,0.8s
WMQ Urumqi 48.02 307 P **P** 04 51 38.3 +1.3
WMQ pP sP 04 51 49.3 -1.0
WMQ sP pP 04 51 54.0 +7.5
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,370nm,6.7s
WMQ LR LR
comp=Z,170nm,18.1s
WMQ LR LR
comp=Z,300nm,26.1s
WMQ LR LR
comp=Z,270nm,20.5s
AS31 Alice Springs 49.22 191 *e*P **P** 04 51 46.4 +0.1
comp=Z,1.0nm,0.7s
AS31 *e*PcP **PcP** 04 53 09.3 +0.2
ASAR Alice Springs 49.22 191 P **P** 04 51 46.4 +0.1
comp=Z,0.5nm,0.4s,baz=11,slow=6.7,SNR=6.4
ASAR PcP **PcP** 04 53 09.3 +0.2
comp=Z,1.2nm,0.8s,baz=28,slow=3.4,SNR=5.2
JIRN Jiri 50.20 286 *e*P **P** 04 51 55.7 +1.5
comp=Z,60nm,0.7s
GUN Gumba 50.42 286 *e*P **P** 04 51 57.3 +1.4
comp=Z,22nm,0.7s
PKI Pulchoki 50.89 286 *e*P **P** 04 52 00.2 +0.7
comp=Z,4.6nm,0.5s
PKIN Phulchoki 50.90 286 *e*P **P** 04 52 00.0 +0.5
comp=Z,9.6nm,0.6s
DMN Daman 51.15 286 *e*P **P** 04 52 02.3 +1.0
comp=Z,17nm,0.7s
ZAA1 Zalesovo Array 51.21 320 *e*P **P** 04 52 00.1 -0.9
ZAA1 *e*PcP **PcP** 04 53 16.5 +0.5
ZALV Zalesovo Beam 51.21 320 P **P** 04 52 00.1 -0.9
comp=Z,1.1nm,0.3s,baz=105,slow=8.5,SNR=3.6
ZALV PcP **PcP** 04 53 16.5 +0.5
comp=Z,2.3nm,0.9s,baz=99,slow=4.5,SNR=2.1
ZALV LR LR 05 14 12.5
comp=Z,84nm,18.6s,baz=79,slow=37
ZALV Zalesovo Beam 51.21 320 *e*P **P** 04 52 01.8 +0.8
MK01 Makanchi Array 52.00 311 *e*P **P** 04 52 06.3 -0.8
MK31 Makanchi Array 52.01 311 *ce*P **P** 04 52 06.3 -0.9
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 52.01 311 *e*P **P** 04 52 06.8 -0.3
MK32 Makanchi Array 52.01 311 *e*P **P** 04 52 06.5 -0.7
MK32 *e*PcP **PcP** 04 53 19.7 +0.5
MKAR Makanchi Array 52.01 311 P **P** 04 52 06.5 -0.7
comp=Z,1.9nm,0.8s,baz=93,slow=9.5,SNR=17
MKAR PcP **PcP** 04 53 19.7 +0.5
comp=Z,0.8nm,0.7s,baz=135,slow=1.0,SNR=3.6
MKAR LR LR 05 16 25.2
comp=Z,106nm,18.3s,baz=87,slow=39
MKAR Makanchi Array 52.01 311 *ce*P **P** 04 52 06.8 -0.3
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 52.01 311 *e*P **P** 04 52 06.8 -0.3
comp=Z,11nm,0.6s
DANN Dangsing 52.18 287 *e*P **P** 04 52 10.7 +1.7
MAKZ Makanchi 52.22 311 *i*P **P** 04 52 06.9 -1.9
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MAKZ Makanchi 52.22 311 *e*P **P** 04 52 09.6 +0.9
comp=Z,2.4nm,0.9s
DZM Mont Dzumac 52.33 152 *e*LR LR 05 07 09.0
comp=Z,84nm,22.3s
KOLN Koldanda 52.43 287 *e*P **P** 04 52 11.8 +1.0
comp=Z,15nm,0.7s
PYUN Piuthan 52.89 287 *e*P **P** 04 52 15.3 +1.1
comp=Z,14nm,0.6s
PDGK Podgornoye 53.97 306 *i*P **P** 04 52 20.6 -1.2
PDGK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 54.62 316⇓ *e*P **P** 04 52 25.2 -1.0
KURK pmax pmax
comp=Z,22nm,1.0s
KURK Kurchatov 54.62 316 *e*P **P** 04 52 25.3 -1.0
comp=Z,5.1nm,0.8s
KURBB Kurchatov Arra 54.67 315 P **P** 04 52 26.0 -0.6
comp=Z,4.6nm,0.5s,baz=91,slow=7.7,SNR=32
SVW2 Sparrevohn 54.77 32 *e*P **P** 04 52 27.4 +0.2
comp=Z,45nm,1.8s
OHAK Old Harbor 55.30 37 *e*P **P** 04 52 30.4 -0.6
comp=Z,23nm,1.1s
KDAK Kodiak Island 55.74 36 P **P** 04 52 32.7 -1.4
comp=Z,7.6nm,0.8s,baz=284,slow=5.0,SNR=8.8
KDAK Kodiak Island 55.74 36 *e*P **P** 04 52 32.7 -1.4
comp=Z,139nm,1.9s
STKA Stephens Creek 56.69 181 P **P** 04 52 41.5 +0.3
comp=Z,2.7nm,0.6s,baz=353,slow=7.5,SNR=3.8
STKA Stephens Creek 56.69 181 *e*P **P** 04 52 41.5 +0.3
comp=Z,3.8nm,1.6s
PPLA Purkeypile 56.69 30 *e*P **P** 04 52 40.3 -0.7
comp=Z,18nm,1.3s
CAST Castle Rocks 56.83 29 *e*P **P** 04 52 42.2 +0.3
comp=Z,10nm,0.8s
TKM2 Tokmak 2 56.84 306 *i*P **P** 04 52 41.6 -1.0
TKM2 pmax pmax
comp=Z,4.0nm,1.1s
BRLK Bradley Lake 56.85 34 *e*P **P** 04 52 40.7 -1.5
comp=Z,51nm,1.5s
KSH Kashi 56.90 302 P **P** 04 52 45.6 +2.6
KSH sP sP 04 53 03.9 +7.5
KSH PcP **PcP** 04 53 40.1 +1.9
KSH S **S** 05 00 34.8 -0.1
KSH sS sS 05 00 56.8 +6.0
KSH SS **SS** 05 04 25.3 +2.1
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH pmax pmax
comp=Z,52nm,7.2s
KSH LR LR
comp=Z,83nm,9.1s
KSH LR LR
comp=Z,120nm,9.0s
KSH LR LR
comp=Z,75nm,11.5s
SUA Susitna One 57.14 32 *e*P **P** 04 52 40.8 -3.4
comp=Z,6.9nm,1.0s
TRF Thorofare Moun 57.63 29 *e*P **P** 04 52 47.2 -0.6
comp=Z,13nm,1.0s
AAK Ala-Archa 57.68 306⇑ *e*P **P** 04 52 46.0 -2.4
AAK pmax pmax
comp=Z,1.0nm,0.9s
PMR Palmer 57.92 32 *e*P **P** 04 52 48.5 -1.1
PMR pmax pmax
comp=Z,16nm,1.0s
PMR Palmer 57.92 32 *e*P **P** 04 52 48.5 -1.1
comp=Z,16nm,1.0s
RND Reindeer 58.26 30 *e*P **P** 04 52 51.1 -1.0
RND pmax pmax
comp=Z,9.0nm,0.8s
RND Reindeer 58.26 30 *e*P **P** 04 52 51.1 -1.0
comp=Z,9.4nm,0.8s
MCK McKinley 58.27 29 *e*P **P** 04 52 51.2 -0.8
MCK pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 58.27 29 *e*P **P** 04 52 51.2 -0.8
comp=Z,9.2nm,0.9s
COLD Coldfoot 58.30 25 *e*P **P** 04 52 53.0 +0.8
comp=Z,7.0nm,0.9s
SML Sawmill 58.32 31 *e*P **P** 04 52 52.0 -0.5
SML pmax pmax
comp=Z,18nm,0.8s
SML Sawmill 58.32 31 *e*P **P** 04 52 52.0 -0.5
comp=Z,18nm,0.8s
SFK Sufi-Kurgan 58.73 303 *i*P **P** 04 52 55.7 -0.2
SFK pmax pmax
comp=Z,5.0nm,0.6s
OTUK Ortayu 58.74 313 P **P** 04 52 54.4 -1.2
OTUK pmax pmax
comp=Z,7.0nm,1.1s
SCM Sheep Creek Mo 58.80 31 *e*P **P** 04 52 55.6 -0.2
SCM Sheep Creek Mo 58.80 31 *e*P **P** 04 52 55.6 -0.2
TOLK Toolik Lake Re 58.80 23 *e*P **P** 04 52 56.0 +0.4
comp=Z,8.0nm,1.0s
HDA Harding Lake 59.21 28 *e*P **P** 04 52 57.4 -1.2
comp=Z,36nm,2.0s
IL1 Eielson Array 59.28 28 *e*P **P** 04 52 57.1 -1.9
ILAR Eielson Array 59.28 28 P **P** 04 52 57.4 -1.6
comp=Z,3.7nm,0.8s,baz=260,slow=5.8,SNR=42
ILB Eielson Array 59.28 28 *e*P **P** 04 52 57.5 -1.6
BVA0 Borovoye Array 59.73 318 *i*P **P** 04 53 01.7 -0.6
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 59.73 318 P **P** 04 53 02.1 -0.2
comp=Z,5.5nm,0.5s,baz=91,slow=6.9,SNR=43
BVAR LR LR 05 19 28.4
comp=Z,77nm,20.6s,baz=78,slow=37
BRVK Borovoye 59.80 318 *de*P **P** 04 53 02.3 -0.5
BRVK pmax pmax
comp=Z,28nm,1.2s
BRVK Borovoye 59.80 318 *e*P **P** 04 53 02.2 -0.5
comp=Z,8.4nm,1.0s
HARP HAARP 59.86 31 *e*P **P** 04 53 03.1 +0.1
comp=Z,14nm,0.8s
RAGM Ragged Mountai 60.00 33 *e*P **P** 04 53 00.6 -3.5
comp=Z,101nm,1.2s
KK31 Karatay Array 60.53 307 *ce*P **P** 04 53 07.5 -0.5
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 60.53 307 *e*P **P** 04 53 08.0 0.0
KKAR Karatay Array 60.53 307 *e*P **P** 04 53 08.0 0.0
DAWY Dawson 62.49 29 *e*P **P** 04 53 21.1 +0.2
comp=Z,10nm,1.6s
DZET Dzherino 62.50 302 P **P** 04 53 21.7 +0.2
KBL Kabul 63.23 298 *e*P **P** 04 53 26.8 +0.3
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 63.23 298 *e*P **P** 04 53 26.8 +0.3
comp=Z,12nm,0.8s
HYT Haines Junctio 63.53 33 *e*P **P** 04 53 27.5 -0.4
comp=Z,5.8nm,0.9s
INK Inuvik 64.68 24 P **P** 04 53 34.6 -0.5
comp=Z,4.1nm,0.6s,baz=289,slow=5.7,SNR=40
INK Inuvik 64.68 24 *e*P **P** 04 53 34.7 -0.5
comp=Z,11nm,1.2s
WHY Whitehorse 64.83 33 *e*P **P** 04 53 36.7 +0.3
comp=Z,4.0nm,0.8s
ARU Arti 66.19 323 *c*P **P** 04 53 44.2 -1.0
ARU *PP **sP** 04 53 57.8 -1.0
ARU 04 54 14.7
ARU 04 56 06.9
ARU S **S** 05 02 30.7 -1.1
ARU SS **SS** 05 06 46.6 -0.9
ARU pmax pmax
comp=Z,16nm,1.2s
ARU Arti 66.19 323 *e*P **P** 04 53 45.0 -0.2
comp=Z,9.6nm,0.7s
ABKAR Akbulak array 66.72 315 *e*P **P** 04 53 48.0 -0.7
comp=Z,40nm,0.8s
AKTO Aktyubinsk 67.69 317 P **P** 04 53 53.8 -1.1
comp=Z,3.5nm,0.9s,baz=91,slow=13,SNR=12
AKTO LR LR 05 23 54.4
comp=Z,104nm,19.9s,baz=77,slow=36
AKTO Aktyubinsk 67.69 317 *i*P **P** 04 53 53.3 -1.6
AKTO pmax pmax
comp=Z,6.0nm,0.9s
GEYT Alibeck 70.87 304 P **P** 04 54 15.1 +0.3
comp=Z,1.6nm,0.4s,baz=84,slow=4.5,SNR=3.4
GEYT LR LR 05 28 57.2

comp=Z,51nm,18.1s,baz=15,slow=39
SPITS Spitsbergen Ar 72.38 350 P **P** 04 54 23.9 +0.8
comp=Z,14nm,1.1s,baz=60,slow=5.7,SNR=4.6
YKW3 Yellowknife Ar 73.68 28 *e*P **P** 04 54 30.4 -0.7
comp=Z,7.7nm,0.8s
YKA Yellowknife Ar 73.71 28 P **P** 04 54 30.4 -0.8
comp=Z,6.3nm,0.7s,baz=292,slow=5.9,SNR=124
YKA Yellowknife Ar 73.71 28*c*eP **P** 04 54 30.3 -0.9
YKA pmax pmax
comp=Z,6.0nm,0.6s
YKB5 Yellowknife Ar 73.71 28 *e*P **P** 04 54 30.4 -0.8
TMCR Tamitsa 73.75 334 *e*P **P** 04 54 32.1 +0.7
TMCR pmax pmax
comp=Z,14nm,0.8s
RES Resolute Bay 73.89 13 *e*P **P** 04 54 32.1 0.0
RES pmax pmax
comp=Z,4.0nm,0.9s
RES Resolute Bay 73.89 13 *e*P **P** 04 54 32.0 0.0
comp=Z,4.3nm,0.9s
ODZ Otahua Downs 74.38 160 *e*P **P** 04 54 35.0 -0.3
comp=Z,36nm,1.3s
KLMR Klimovskoe 74.46 330 *e*P **P** 04 54 35.1 -0.5
KLMR pmax pmax
comp=Z,16nm,1.5s
KLMR Klimovskoe 74.46 330 *e*P **P** 04 54 35.2 -0.4
KLMR AMP 04 54 51.8
comp=Z,16nm,1.5s
WSAR Wadi Sarin 75.31 289 P **P** 04 54 40.6 -0.6
comp=Z,1.9nm,0.6s,baz=18,slow=3.2,SNR=2.8
WSAR LR LR 05 30 38.8
comp=Z,32nm,21.4s,baz=82,slow=38
ARA0 ARCESS Array S 75.51 341 *e*P **P** 04 54 41.9 +0.3
ARCES ARCESS Array B 75.51 341 P **P** 04 54 41.9 +0.3
comp=Z,3.9nm,0.8s,baz=60,slow=7.2,SNR=10
YBH Yreka Blue Hor 77.05 50 P **P** 04 54 51.1 +0.1
comp=Z,6.5nm,0.8s,baz=335,slow=1.9,SNR=14
VRH Novokhopyorsk 77.24 321 *e*P **P** 04 54 49.4 -2.3
VRH pmax pmax
comp=Z,10.0nm,0.3s
PINE Pine Mountain 77.47 47 *e*P **P** 04 54 54.2 +0.7
comp=Z,42nm,1.4s
K05A Summer Lake 77.91 48 *e*P **P** 04 54 56.5 +0.6
comp=Z,22nm,1.0s
NEW Newport 78.13 42 *e*P **P** 04 54 56.9 +0.1
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW Newport 78.13 42 *e*P **P** 04 54 56.9 +0.1
comp=Z,9.4nm,0.8s
EDM Edmonton 78.19 37 *e*P **P** 04 54 57.0 0.0
EDM pmax pmax
comp=Z,10.0nm,0.7s
EDM Edmonton 78.19 37 *e*P **P** 04 54 57.0 0.0
comp=Z,9.8nm,0.7s
E09A Wood Farm, Sta 78.21 44 *e*P **P** 04 54 57.5 +0.3
LPSR Galich'ya Gora 78.22 323 *e*P **P** 04 54 56.9 -0.2
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 78.35 326‖ *e*P **P** 04 54 58.3 +0.6
OBN *e* 04 55 01.7
OBN SSS SSS 05 13 13.0
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,198nm,18.0s
PMOR Pomariorio Ree 78.60 113 *e*T T 06 20 10.6
comp=Z,3.9nm,0.2s
MOD Modoc Plateau 78.64 49 *e*P **P** 04 54 59.9 0.0
comp=Z,4.3nm,0.8s
VSR Storozhevoye 78.69 321 *e*P **P** 04 54 59.7 -0.1
VSR pmax pmax
comp=Z,10.0nm,0.7s
ORV Oroville 78.73 52 *e*P **P** 04 55 00.0 -0.3
ORV pmax pmax
comp=Z,9.0nm,1.1s
ORV Oroville 78.73 52 *e*P **P** 04 54 60.0 -0.3
comp=Z,9.0nm,1.1s
J08A Circle Bar Ran 79.28 47 *e*P **P** 04 55 03.7 +0.3
comp=Z,8.7nm,0.9s
ZEI Tsey 79.33 312 *e*P **P** 04 55 03.3 -0.4
ZEI pmax pmax
comp=Z,3.0nm,0.5s
BEKR Beckworth 79.42 51 *e*P **P** 04 55 04.5 +0.2
comp=Z,12nm,0.7s
BMO Blue Mountains 79.43 45 *e*P **P** 04 55 03.9 -0.2
BMO pmax pmax
comp=Z,6.0nm,0.8s
BMO Blue Mountains 79.43 45 *e*P **P** 04 55 03.9 -0.2
comp=Z,6.0nm,0.8s
WVOR Wild Horse Val 79.56 48 *e*P **P** 04 55 05.0 +0.1
WVOR pmax pmax
comp=Z,5.0nm,0.9s
WVOR Wild Horse Val 79.56 48 *e*P **P** 04 55 05.0 +0.1
comp=Z,4.9nm,0.9s
KBZ Khabaz 79.61 313 P **P** 04 55 05.5 +0.7
comp=Z,4.7nm,0.8s,baz=90,slow=3.0,SNR=16
KBZ LR LR 05 32 59.4
comp=Z,109nm,20.2s,baz=55,slow=38
KIV Kislovodsk 79.65 314 *e*P **P** 04 55 03.4 -1.9
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,114nm,19.0s
WALA Waterton Lakes 79.71 41 *e*P **P** 04 55 06.2 +0.6
comp=Z,7.8nm,0.8s
GNI Garni 79.83 310 LR LR 05 33 20.9
comp=Z,26nm,19.1s,baz=6.5,slow=38
GNI Garni 79.83 310‖ *e*P **P** 04 55 05.5 -1.0
GNI pmax pmax
comp=Z,10.0nm,1.1s
FIA1 FINESS Array S 79.86 334 *e*P **P** 04 55 05.9 0.0
FIA0 FINESS Array S 79.86 334 *e*P **P** 04 55 06.0 0.0
FIA0 FINESS Array S 79.86 334 *e*P **P** 04 55 06.0 0.0
FINES FINESS Array B 79.86 334 P **P** 04 55 06.0 0.0
comp=Z,3.4nm,0.4s,baz=76,slow=4.9,SNR=42
FINES FINESS Array B 79.86 334 *i*P **P** 04 55 06.0 0.0
FINES pmax pmax
comp=Z,4.0nm,0.4s
JTMT Jette 80.07 42 *e*P **P** 04 55 07.9 +0.3
comp=Z,10nm,0.9s
CMB Columbia Colle 80.14 53 *e*P **P** 04 55 07.7 -0.3
CMB pmax pmax
comp=Z,11nm,0.7s
CMB Columbia Colle 80.14 53 *e*P **P** 04 55 07.7 -0.3
comp=Z,11nm,0.7s
PAHR Pah Rah Range 80.17 51 *e*P **P** 04 55 08.6 +0.3
comp=Z,9.1nm,1.1s
YERR Yerington 80.57 51 *e*P **P** 04 55 10.6 +0.1
comp=Z,13nm,1.1s
WAKR Walker 80.62 52 *e*P **P** 04 55 11.2 +0.4
comp=Z,6.5nm,0.8s
MFID Camas Ranch 81.01 46 *e*P **P** 04 55 12.6 -0.1
comp=Z,8.0nm,0.8s
VSU Vasula 81.28 331‖ *e*P **P** 04 55 11.3 -2.3
VSU pmax pmax
comp=Z,35nm,1.1s
NV01 Mina Array Sit 81.46 52 *e*P **P** 04 55 14.9 -0.4
NVAR Mina Array Bea 81.46 52 P **P** 04 55 15.4 +0.1
comp=Z,6.8nm,0.8s,baz=274,slow=6.0,SNR=32
TBI Tubuai 81.60 121 *e*LR LR 05 20 37.4
comp=Z,138nm,30.5s
HLID Hailey 81.86 46 *e*P **P** 04 55 17.2 -0.1
comp=Z,3.3nm,0.9s
HRY Holter Researc 82.03 42 *e*P **P** 04 55 18.2 +0.2
LRM Limekiln Ridge 82.07 43 *e*P **P** 04 55 18.1 -0.3
DLMT Dillon 82.19 43 *e*P **P** 04 55 18.8 -0.1
comp=Z,3.3nm,0.9s
TAOE Nuku Hiva Isla 82.38 103 *e*LR LR 05 20 54.8
comp=Z,75nm,25.0s
BOZ Bozeman (W) 82.68 43 *e*P **P** 04 55 21.2 -0.3
BOZ pmax pmax
comp=Z,2.0nm,0.6s
BOZ Bozeman (W) 82.68 43 *e*P **P** 04 55 21.2 -0.3
comp=Z,2.3nm,0.6s
FFC Flin Flon 83.23 32 *e*P **P** 04 55 23.7 -0.2
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 83.23 32 *e*P **P** 04 55 23.7 -0.2
comp=Z,10nm,1.0s
YHB Horse Butte 83.36 44 *e*P **P** 04 55 26.1 +1.0
comp=Z,8.3nm,0.8s
R11A Troy Canyon, C 83.42 51 *e*P **P** 04 55 25.1 -0.4
comp=Z,3.8nm,0.8s
YMR Madison River 83.54 44 *e*P **P** 04 55 27.4 +1.4
comp=Z,9.7nm,0.8s
YFT Old Faithful 83.73 44 *e*P **P** 04 55 29.4 +2.4
comp=Z,5.8nm,0.7s
HVU Hansel Valley 83.76 47 *e*P **P** 04 55 27.6 +0.5
HVU pmax pmax
comp=Z,18nm,1.7s
HVU Hansel Valley 83.76 47 *e*P **P** 04 55 27.6 +0.5
comp=Z,18nm,1.7s
GSC Goldstone, Bar 83.90 54 *e*P **P** 04 55 27.8 -0.1
GSC pmax pmax
comp=Z,25nm,1.8s
GSC Goldstone, Bar 83.90 54 *e*P **P** 04 55 27.8 -0.1
comp=Z,25nm,1.8s
H17A Grant Village 83.92 44 *e*P **P** 04 55 27.2 -0.8
comp=Z,10nm,1.3s
IMW Indian Meadow 83.93 44 *e*P **P** 04 55 29.0 +0.9
comp=Z,5.4nm,0.8s
FXWY Fox Creek 84.00 44 *e*P **P** 04 55 28.7 +0.3
comp=Z,4.8nm,1.1s
TPAW Teton Pass 84.12 45 *e*P **P** 04 55 29.2 +0.1
comp=Z,3.7nm,0.8s
MOOW Moose Ponds 84.13 44 *e*P **P** 04 55 29.4 +0.3
comp=Z,2.5nm,0.7s
LOHW Long Hollow 84.28 44 *e*P **P** 04 55 30.2 +0.4
comp=Z,7.4nm,1.3s
RLMT Red Lodge 84.37 43 *e*P **P** 04 55 30.8 +0.6
comp=Z,7.6nm,0.7s
AKASG Malin Array Be 84.41 324 P **P** 04 55 30.2 +0.2
comp=Z,7.2nm,0.7s,baz=54,slow=5.1,SNR=24
AKBB Malin Array Si 84.41 324 *e*P **P** 04 55 30.2 +0.2
AKBB pmax pmax
comp=Z,9.0nm,0.6s
AKBB Malin Array Si 84.41 324 *e*P **P** 04 55 30.2 +0.2
comp=Z,8.8nm,0.6s
KIEV Kiev 84.42 324*de*P **P** 04 55 30.0 0.0
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 84.42 324 *e*P **P** 04 55 30.1 0.0
comp=Z,8.7nm,0.6s
AK11 Malin Array Si 84.45 324 *e*P **P** 04 55 30.3 +0.1
DUG Dugway, Tooele 84.48 48 *e*P **P** 04 55 31.0 +0.2
DUG pmax pmax
comp=Z,8.0nm,1.0s
DUG Dugway, Tooele 84.48 48 *e*P **P** 04 55 30.9 +0.2
comp=Z,7.8nm,1.0s
SHPR Sheep Range 84.56 52 *e*P **P** 04 55 31.5 +0.2
comp=Z,4.4nm,1.0s
HWUT Hardware Ranch 84.64 46 *e*P **P** 04 55 31.8 +0.1
comp=Z,7.7nm,1.0s
CTU Camp Tracy 84.95 47 *e*P **P** 04 55 33.2 0.0
comp=Z,4.2nm,0.8s
NLU Nuth Lily Min 85.09 48 *e*P **P** 04 55 34.0 0.0
comp=Z,3.5nm,0.8s
JLU Jordanelle 85.20 47 *e*P **P** 04 55 34.8 +0.2
comp=Z,17nm,1.5s
NC405 NORSAR Array S 85.34 338 *e*P **P** 04 55 33.2 -1.3
MPU Maple Canyon 85.36 48 *e*P **P** 04 55 35.8 +0.5
comp=Z,5.5nm,1.1s
PD31 Pinedale Array 85.37 45 *e*P **P** 04 55 34.8 -0.5
PDAR Pinedale Array 85.37 45 P **P** 04 55 34.7 -0.6
comp=Z,1.8nm,0.7s,baz=283,slow=1.8,SNR=18
PDAR LR LR 05 29 02.3
comp=Z,90nm,20.9s,baz=312,slow=32
PDAR Pinedale Array 85.37 45 *e*P **P** 04 55 34.2 -1.1
HFS Hagfors 85.37 337 P **P** 04 55 33.7 -0.9
comp=Z,2.9nm,0.7s,baz=99,slow=3.6,SNR=13
NC204 NORSAR Array S 85.54 339 *e*P **P** 04 55 36.9 +1.3
NB2 NORSAR Subarra 85.56 339 P **P** 04 55 34.6 -1.1
comp=Z,3.3nm,0.6s,baz=44,slow=5.3
NB200 NORSAR Array S 85.56 339 *e*P **P** 04 55 34.8 -0.9
NOA NORSAR Array B 85.56 339 P **P** 04 55 34.8 -0.9
comp=Z,3.0nm,0.7s,baz=47,slow=4.6,SNR=12
LCMT Little Creek M 85.68 51 *e*P **P** 04 55 37.2 +0.3
comp=Z,7.1nm,0.8s
KNB Kanab 85.98 51 *e*P **P** 04 55 38.7 +0.3
KNB pmax pmax
comp=Z,16nm,0.8s
KNB Kanab 85.98 51 *e*P **P** 04 55 38.6 +0.3
comp=Z,16nm,0.8s
TMUT Trail Mountain 86.00 48 *e*P **P** 04 55 38.5 -0.1
comp=Z,3.3nm,0.9s
W13A Hualapai Mount 86.12 53 *e*P **P** 04 55 39.2 0.0
comp=Z,3.1nm,0.9s
Q16A Castle Valley 86.21 49 *e*P **P** 04 55 39.9 +0.3
comp=Z,8.1nm,0.7s
P17A Butcher Ranch, 86.22 48 *e*P **P** 04 55 39.8 +0.2
comp=Z,7.4nm,0.9s
RAYN Ar Rayn 86.26 294 P **P** 04 55 41.1 +1.2
RAYN Ar Rayn 86.26 294 *e*P **P** 04 55 41.1 +1.2
comp=Z,9.8nm,1.1s
P18A Preston Nutter 86.48 48 *e*P **P** 04 55 41.3 +0.3
comp=Z,8.8nm,0.7s
SRU San Rafael Swe 86.55 48 *e*P **P** 04 55 41.0 -0.2
SRU pmax pmax
comp=Z,8.0nm,0.7s
SRU San Rafael Swe 86.55 48 *e*P **P** 04 55 41.0 -0.2
comp=Z,7.5nm,0.7s
U15A North Rim 86.64 51 *e*P **P** 04 55 41.8 0.0
comp=Z,7.1nm,0.9s
113A Mohawk Valley, 87.30 55 *e*P **P** 04 55 44.7 0.0
comp=Z,4.1nm,0.8s
Y14A Wickenburg 87.31 54 *e*P **P** 04 55 44.8 -0.1
comp=Z,43nm,0.7s
BR101 Keskin Array S 87.59 313 *e*P **P** 04 55 46.0 -0.2
BR131 Keskin Array S 87.59 313 *e*P **P** 04 55 47.0 +0.8
BRTR Keskin Array B 87.60 313 P **P** 04 55 46.0 -0.2
comp=Z,0.7nm,0.7s,baz=120,slow=2.6,SNR=4.8
WUAZ Wupatki 87.73 52 *e*P **P** 04 55 47.2 +0.3
comp=Z,9.3nm,0.9s
PV09 Paradox Valley 87.80 48 *e*P **P** 04 55 47.6 +0.2
PV10 Paradox Valley 87.92 48 *e*P **P** 04 55 48.0 +0.1
PV05 Paradox Valley 88.03 49 *e*P **P** 04 55 48.9 +0.4
BR231 Keskin MP Arra 88.10 314 *e*P **P** 04 55 46.6 -2.0
X16A Lo Mia Camp, P 88.22 53 *e*P **P** 04 55 49.9 +0.5
comp=Z,7.2nm,1.3s
BUR08 Bucovina Ar. S 88.32 323 *e*P **P** 04 55 50.8 +1.3
BUR04 Bucovina Ar. S 88.33 323 *e*P **P** 04 55 50.0 +0.6
PV01 Paradox Valley 88.36 48 *e*P **P** 04 55 50.0 -0.1
SMCO Snowmass 88.89 47 *e*P **P** 04 55 53.4 +0.8
comp=Z,5.6nm,1.4s
CRVS Cervenica-Dubn 89.53 326 *e*P **P** 04 55 54.2 -0.8
CRVS Cervenica-Dubn 89.53 326 *e*P **P** 04 55 54.2 -0.8
TUC Tucson 89.73 54 *e*P **P** 04 55 56.8 +0.5
TUC pmax pmax
comp=Z,3.0nm,0.9s
TUC Tucson 89.73 54 *e*P **P** 04 55 56.8 +0.5
comp=Z,2.7nm,0.9s
DPC Dobruska-Polom 91.10 329 *e*P **P** 04 56 03.0 +0.7
DPC *ep*P **pP** 04 56 13.3 +0.8
DPC Dobruska-Polom 91.10 329 *e*P **P** 04 56 03.0 +0.7
DPC *e* 04 56 13.3
VYHS Vyhne 91.12 326 *e*P **P** 04 56 02.4 0.0
VYHS *e* 04 56 09.5
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 91.12 326 *e*P **P** 04 56 02.4 0.0
VYHS *e* 04 56 09.5
ANMO Albuquerque 91.48 50‖ *e*P **P** 04 56 04.8 +0.2
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 91.48 50 *e*P **P** 04 56 04.8 +0.2
comp=Z,4.9nm,0.9s
CLL Collm 91.94 331 *e*P **P** 04 56 02.0 -4.1
CLL Collm 91.94 331 *e*P **P** 04 56 08.0 +1.9
ECSD EROS Data Cent 92.62 39 *e*P **P** 04 56 09.2 -0.2
comp=Z,6.1nm,1.0s
KHC Kasperske Hory 93.23 329 *e*P **P** 04 56 12.9 +0.8
KHC *ep*P **pP** 04 56 22.5 +0.2
KHC Kasperske Hory 93.23 329 *e*P **P** 04 56 12.9 +0.8
KHC *e* 04 56 22.5
GERES GERESS Array B 93.37 329 P **P** 04 56 12.3 -0.6
comp=Z,1.1nm,0.8s,baz=48,slow=4.0,SNR=9.0
GEA0 GERESS Array S 93.38 329 *e*P **P** 04 56 13.1 +0.2
MNTX Cornudas Mount 93.97 52 *e*P **P** 04 56 16.1 +0.2
comp=Z,2.3nm,0.9s
LTX Lajitas 96.50 54 *e*P **P** 04 56 27.8 +0.2
LTX Lajitas 96.50 54 *e*P **P** 04 56 27.8 +0.2
TX31 Lajitas Ar. Si 96.50 54 *e*P **P** 04 56 27.7 +0.1
TXAR Lajitas Array 96.50 54 P **P** 04 56 27.8 +0.2
comp=Z,1.3nm,1.0s,baz=292,slow=3.9,SNR=7.5
TOA1 Torodi Ar. Sit 126.13 310 *e*PKPdf **PKPdf** 05 02 00.4 -0.4
TORD Torodi Ar. Bea 126.13 310 PKP **PKPdf** 05 02 00.4 -0.4
comp=Z,0.2nm,0.7s,baz=36,slow=1.7,SNR=2.7
KOWA Kowa 128.89 317 PKP **PKPdf** 05 02 05.8 -0.2
comp=Z,0.7nm,0.8s,baz=339,slow=8.6,SNR=2.2
SNAA Sanae 129.54 193 PKP **PKPdf** 05 02 05.4 -0.2
comp=Z,8.1nm,1.1s,baz=179,slow=18,SNR=2.5
PLCA Paso Flores 148.36 128 PKPbc **PKPbc** 05 02 44.6 +0.4
comp=Z,8.1nm,1.0s,baz=269,slow=3.7,SNR=20
PLCA Paso Flores 148.36 128 *e*PKPbc **PKPbc** 05 02 44.9 +0.8
LPAZ La Paz 150.02 79 PKPbc **PKPbc** 05 02 49.8 +0.2
comp=Z,4.2nm,0.7s,baz=354,slow=2.6,SNR=16
LPAZ La Paz 150.02 79 *e*PKPbc **PKPbc** 05 02 50.2 +0.5
SAML Samuel 150.68 61 *e*PKPbc **PKPbc** 05 02 49.9 -0.6

ISK **14** *04:43:02.8, 38.64N×37.41E, h6km, ML2.0/5*
ISCJB **14** *04:43:03.2±0.6, 38.62N±0.03×37.40E±0.04, h9km±5km, Error ellipse: s-maj=6.1km s-min=4.8km az=41.3*
CSEM **14** *04:43:03.0±0.2, 38.62N×37.38E, h6km±1km, ML2.0, Error ellipse: s-maj=4.6km s-min=3.8km az=64.0*
DDA **14** *04:43:03.2, 38.63N×37.38E, h7km, Ml2.8*
ISC 14 04:43:03.0±1.0, 38.62N±0.03×37.39E±0.03, h9km±6km, n20,σ0s49/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.09**	**123**		**Pg**	**04 43 05.3**	**-0.1**
DARE				SG	**Sg**	**04 43 06.8**	**-0.3**
DARE	**Darende-Malaty**	**0.09**	**123**	*e*Pg	**Pg**	**04 43 05.3**	**-0.1**
DARE				*e*Sg	**Sg**	**04 43 06.8**	**-0.3**
CUGUR	**Gurin_S¨VAS**	**0.14**	**319**	*i*P	**Pg**	**04 43 06.3**	**+0.1**
CUGUR				*i*S	**Sg**	**04 43 08.8**	**+0.3**
CUGUR	**Gurin_S¨VAS**	**0.14**	**319**	P	**Pg**	**04 43 06.3**	**+0.1**
CUGUR				S	**Sg**	**04 43 08.8**	**+0.3**
ELBS	**KAHRAMANMARAS**	**0.36**	**215**	*i*P	**Pg**	**04 43 10.2**	**+0.1**
ELBS				*i*S	**Sb**	**04 43 16.5**	**-0.8**
ELBS	**KAHRAMANMARAS**	**0.36**	**215**	P	**Pg**	**04 43 10.2**	**+0.1**
ELBS				S	**Sb**	**04 43 16.5**	**-0.8**
HEKM	**Malatya_Hekimh**	**0.52**	**60**	*i*P	**Pg**	**04 43 13.7**	**+0.7**
HEKM				*i*S	**Sb**	**04 43 21.4**	**-0.6**
HEKM	**Malatya_Hekimh**	**0.52**	**60**	P	**Pg**	**04 43 13.7**	**+0.7**
HEKM				S	**Sb**	**04 43 21.4**	**-0.6**
AKCD	**Akcadag**	**0.53**	**128**	*i*P	**Pg**	**04 43 12.9**	**-0.4**
AKCD				*i*S	**Sb**	**04 43 21.9**	**-0.3**
AKCD	**Akcadag**	**0.53**	**128**	P	**Pg**	**04 43 12.9**	**-0.4**
AKCD				S	**Sb**	**04 43 21.9**	**-0.3**
CUKAN	**kangal_SIVAS**	**0.70**	**5**	*i*P	**Pg**	**04 43 16.0**	**-0.5**
CUKAN				*i*S	**Sb**	**04 43 26.6**	**-0.6**
CUKAN	**kangal_SIVAS**	**0.70**	**5**	P	**Pg**	**04 43 16.0**	**-0.5**
CUKAN				S	**Sb**	**04 43 26.6**	**-0.6**
MALT	**Malatya**	**0.87**	**110**	PG	**Pg**	**04 43 19.3**	**-0.4**
MALT				SG	**Sb**	**04 43 32.4**	**+0.4**
MALT	**Malatya**	**0.87**	**110**	*e*Pg	**Pg**	**04 43 19.3**	**-0.4**
MALT				*e*Sg	**Sb**	**04 43 32.4**	**+0.4**
SVSK	**Karacayir**	**1.33**	**347**	PN	**Pg**	**04 43 28.5**	**0.0**
SVSK	**Karacayir**	**1.33**	**347**	*e*Pn	**Pg**	**04 43 28.5**	**0.0**
PTK	**Pertek**	**1.59**	**79**	PN	**Pn**	**04 43 31.5**	**+0.1**
PTK	**Pertek**	**1.59**	**79**	*e*Pn	**Pn**	**04 43 31.5**	**+0.1**
URFA	**Urfa**	**1.63**	**136**	PN	**Pn**	**04 43 32.8**	**+0.9**
URFA	**Urfa**	**1.63**	**136**	*e*Pn	**Pn**	**04 43 32.8**	**+0.9**

DDA **14** *04:43:49.2, 38.03N×25.82E, h4km, Ml3.1*
ATH **14** *04:43:50.9, 38.00N×25.92E, h29km±1km, ML2.7/4, Error ellipse: s-maj=8.9km s-min=0.9km az=106.0*
CSEM **14** *04:43:51.7±0.2, 38.02N×25.89E, h10km, ML3.2, Error ellipse: s-maj=4.1km s-min=3.3km az=90.0*
ISCJB **14** *04:43:51.3±0.6, 38.03N±0.02×25.86E±0.03, h7km±4km, Error ellipse: s-maj=4.3km s-min=3.5km az=7.3*
THE **14** *04:43:51.6, 37.96N×26.06E, h12km±1km, ML2.7/3, Error ellipse: s-maj=2.0km s-min=0.4km az=287.0*
ISK **14** *04:43:51.3, 38.01N×25.91E, h9km, ML3.2/12*
ISC 14 04:43:51.9±1.0, 38.02N±0.02×25.91E±0.02, h14km±8km, n75,σ0s65/105, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.39**	**17**	PG	**Pg**	**04 43 59.2**	**-0.5**
CHOS				SG	**Sg**	**04 44 05.5**	**+0.5**
CHOS	**Chios island**	**0.39**	**17**	P	**Pg**	**04 43 59.3**	**-0.5**
CHOS				S	**Sb**	**04 44 06.7**	**+0.3**
CHOS				AML	AML	04 44 11.3	
	comp=N,3070μm,0.6s						
CHOS				AML	AML	04 44 11.6	
	comp=E,3449μm,0.5s						
CHOS	**Chios island**	**0.39**	**17**	*e*Pg	**Pg**	**04 43 59.2**	**-0.5**
CHOS	**Chios island**	**0.39**	**17**	P	**Pg**	**04 43 59.5**	**-0.2**
CHOS				*e*Sg	**Sg**	**04 44 05.5**	**+0.5**
CHOS				S	**Sb**	**04 44 06.5**	**+0.1**
CHOS	**Chios island**	**0.39**	**17**	P	**Pg**	**04 43 59.6**	**-0.2**
CHOS				S	**Sb**	**04 44 06.7**	**+0.3**
ZEY	**¨zmir**	**0.52**	**65**	*i*P	**Pg**	**04 44 01.6**	**-0.6**
ZEY				*i*S	**Sb**	**04 44 10.2**	**+0.1**
URLA	**Izmir**	**0.64**	**58**	PG	**Pg**	**04 44 04.1**	**-0.3**
URLA				SG	**Sb**	**04 44 13.8**	**+0.1**
URLA	**Izmir**	**0.64**	**58**	*i*P	**Pg**	**04 44 02.9**	**-1.5**
URLA				*i*S	**Sn**	**04 44 15.9**	**-0.6**
URLA	**Izmir**	**0.64**	**58**	P	**Pg**	**04 44 02.9**	**-1.5**
URLA	**Izmir**	**0.64**	**58**	*e*Pg	**Pg**	**04 44 04.1**	**-0.3**
URLA				*e*Sg	**Sb**	**04 44 13.8**	**+0.1**
URLA				S	**Sn**	**04 44 15.9**	**-0.6**
KRBN	**Karaburun**	**0.77**	**41**	PG	**Pg**	**04 44 06.5**	**-0.3**
KRBN	**Karaburun**	**0.77**	**41**	*e*Pg	**Pg**	**04 44 06.5**	**-0.3**
DGB	**¨zmir**	**0.77**	**87**	*i*P	**Pg**	**04 44 05.8**	**-1.0**
DGB				*i*S	**Sb**	**04 44 17.4**	**+0.1**
GMLD	**Gumuldur**	**0.80**	**86**	PG	**Pg**	**04 44 07.3**	**-0.1**
GMLD	**Gumuldur**	**0.80**	**86**	*e*Pg	**Pg**	**04 44 07.3**	**-0.1**
APE	**Apeiranthos**	**0.99**	**198**	PG	**Pb**	**04 44 10.4**	**-0.5**
APE				SG	**Sn**	**04 44 25.4**	**+0.1**
APE	**Apeiranthos**	**0.99**	**198**	P	**Pb**	**04 44 10.0**	**-1.0**
APE				S	**Sb**	**04 44 23.8**	**-0.1**
APE				AML	AML	04 44 26.4	
	comp=N,610μm,0.5s						
APE				AML	AML	04 44 30.7	
	comp=E,705μm,0.8s						
APE	**Apeiranthos**	**0.99**	**198**	P	**Pb**	**04 44 09.9**	**-1.0**
APE	**Apeiranthos**	**0.99**	**198**	*e*Pg	**Pb**	**04 44 10.4**	**-0.5**
APE				S	**Sb**	**04 44 23.8**	**-0.1**
APE				*e*Sg	**Sn**	**04 44 25.4**	**+0.1**
APE	**Apeiranthos**	**0.99**	**198**	P	**Pb**	**04 44 09.9**	**-1.0**
APE				S	**Sb**	**04 44 23.8**	**-0.1**
GCAM	**G?zelcaml?**	**1.10**	**106**	PN	**Pn**	**04 44 12.6**	**-0.2**
GCAM	**G?zelcaml?**	**1.10**	**106**	*i*P	**Pb**	**04 44 11.7**	**-1.0**
GCAM				*i*S	**Sn**	**04 44 27.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.10**	**106**	P	**Pb**	**04 44 11.6**	**-1.0**
GCAM	**G?zelcaml?**	**1.10**	**106**	*e*Pn	**Pn**	**04 44 12.6**	**-0.2**
GCAM				S	**Sn**	**04 44 27.9**	**+0.2**
KARY	**Karystos**	**1.16**	**271**	P	**Pg**	**04 44 14.4**	**+0.1**
KARY	**Karystos**	**1.16**	**271**	P	**Pg**	**04 44 14.4**	**+0.1**
SIGR	**SIGRI**	**1.19**	**358**	PN	**Pg**	**04 44 14.7**	**-0.2**
SIGR	**SIGRI**	**1.19**	**358**	P	**Pn**	**04 44 13.8**	**-0.2**
SIGR				S	**Sn**	**04 44 30.4**	**+0.3**
SIGR				AML	AML	04 44 33.2	
	comp=E,531μm,0.4s						
SIGR				AML	AML	04 44 35.2	
	comp=N,531μm,0.4s						
SIGR	**SIGRI**	**1.19**	**358**	P	**Pn**	**04 44 13.8**	**-0.3**
SIGR	**SIGRI**	**1.19**	**358**	*e*Pn	**Pg**	**04 44 14.7**	**-0.2**
SIGR				S	**Sn**	**04 44 30.3**	**+0.3**
SIGR	**SIGRI**	**1.19**	**358**	P	**Pn**	**04 44 13.8**	**-0.3**
PRK	**Paraskevi**	**1.26**	**13**	P	**Pn**	**04 44 14.8**	**-0.2**
PRK				S	**Sn**	**04 44 32.2**	**+0.5**
PRK				AML	AML	04 44 38.9	
	comp=E,800μm,0.9s						
PRK				AML	AML	04 44 39.9	
	comp=N,780μm,0.7s						
PRK	**Paraskevi**	**1.26**	**13**	P	**Pn**	**04 44 14.7**	**-0.3**
PRK				S	**Sn**	**04 44 31.7**	**0.0**
PRK	**Paraskevi**	**1.26**	**13**	P	**Pn**	**04 44 14.5**	**-0.5**
PRK				S	**Sn**	**04 44 31.7**	**0.0**
DKL	**Dikili**	**1.31**	**36**	PN	**Pn**	**04 44 15.6**	**-0.1**
DKL	**Dikili**	**1.31**	**36**	*e*Pn	**Pn**	**04 44 15.6**	**-0.1**
GPNR	**Gulpinar-Canak**	**1.45**	**7**	PN	**Pb**	**04 44 18.4**	**-0.2**
GPNR	**Gulpinar-Canak**	**1.45**	**7**	*e*Pn	**Pb**	**04 44 18.4**	**-0.2**
BODT	**Bodrum**	**1.47**	**130**	PN	**Pb**	**04 44 18.5**	**-0.5**
BODT	**Bodrum**	**1.47**	**130**	*e*Pn	**Pb**	**04 44 18.5**	**-0.5**
BDRM	**Kayabasi**	**1.55**	**127**	*i*P	**Pb**	**04 44 20.7**	**+0.4**
BDRM				*i*S	**Sg**	**04 44 42.4**	**+0.6**
BDRM	**Kayabasi**	**1.55**	**127**	P	**Pb**	**04 44 20.7**	**+0.4**
BDRM				S	**Sg**	**04 44 42.4**	**+0.6**
AYDN	**Tasoluk**	**1.60**	**102**	*i*P	**Pb**	**04 44 21.2**	**0.0**
AYDN				*i*S	**Sg**	**04 44 44.8**	**+1.3**
AYDN	**Tasoluk**	**1.60**	**102**	P	**Pb**	**04 44 21.2**	**0.0**
AYDN				S	**Sg**	**04 44 44.8**	**+1.3**
EREA	**Eretria**	**1.61**	**285**	P	**Pn**	**04 44 19.9**	**0.0**
EREA	**Eretria**	**1.61**	**285**	P	**Pn**	**04 44 19.9**	**0.0**
MLSB	**Milas**	**1.65**	**115**	PN	**Pb**	**04 44 21.6**	**-0.5**
MLSB	**Milas**	**1.65**	**115**

VLY	**Voula,Athens**	**1.68**	**265**	P		**Pn**	**04 44 21.3**	**+0.5**
VLY	**Voula,Athens**	**1.68**	**265**	P		**Pn**	**04 44 21.3**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**1.79**	**16**	*i* P		**Pn**	**04 44 21.7**	**-0.6**
BAYC				*i* S		**Sn**	**04 44 44.2**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**1.79**	**16**	P		**Pn**	**04 44 21.7**	**-0.6**
BAYC				S		**Sn**	**04 44 44.2**	**-0.7**
LIA	**Limnos Island**	**1.96**	**343**	P		**Pn**	**04 44 24.9**	**+0.3**
LIA	**Limnos Island**	**1.96**	**343**	P		**Pn**	**04 44 24.8**	**+0.1**
LIA	**Limnos Island**	**1.96**	**343**	P		**Pn**	**04 44 24.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.96**	**46**	*i* P		**Pb**	**04 44 27.0**	**-0.4**
STEP				*i* S		**Sg**	**04 44 55.3**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.96**	**46**	P		**Pb**	**04 44 27.0**	**-0.4**
YER	**Yerkesik**	**2.08**	**114**	PN		**Pn**	**04 44 27.2**	**+0.8**
YER	**Yerkesik**	**2.08**	**114**	*e*Pn		**Pn**	**04 44 27.2**	**+0.8**
KULA	**Kula-Manisa**	**2.22**	**76**	PN		**Pn**	**04 44 29.6**	**+1.2**
KULA	**Kula-Manisa**	**2.22**	**76**	*e*Pn		**Pn**	**04 44 29.6**	**+1.2**
BALB	**Balikesir**	**2.23**	**43**	PN		**Pn**	**04 44 30.0**	**+1.6**
BALB	**Balikesir**	**2.23**	**43**	*e*Pn		**Pn**	**04 44 30.0**	**+1.6**
TURN	**Turunc**	**2.43**	**117**	PN		**Pn**	**04 44 29.3**	**-1.8**
TURN	**Turunc**	**2.43**	**117**	*e*Pn		**Pn**	**04 44 29.3**	**-1.8**
SMTH	**Samothraki Isl**	**2.47**	**353**	P		**Pn**	**04 44 30.3**	**-1.3**
SMTH	**Samothraki Isl**	**2.47**	**353**	P		**Pn**	**04 44 31.0**	**-0.7**
ALN	**Alexandroupoli**	**2.88**	**2**	P		**Pn**	**04 44 37.1**	**-0.1**
ALN	**Alexandroupoli**	**2.88**	**2**	P		**Pn**	**04 44 37.3**	**0.0**
ALN	**Alexandroupoli**	**2.88**	**2**	P		**Pn**	**04 44 37.3**	**0.0**
FETY	**Fethiye**	**2.88**	**118**	PN		**Pn**	**04 44 38.2**	**+0.8**
FETY	**Fethiye**	**2.88**	**118**	*e*Pn		**Pn**	**04 44 38.2**	**+0.8**
RDO	**Rodhopi**	**3.14**	**355**	P		**Pn**	**04 44 41.0**	**+0.2**
RDO	**Rodhopi**	**3.14**	**355**	P		**Pn**	**04 44 41.1**	**+0.2**
RDO	**Rodhopi**	**3.14**	**355**	P		**Pn**	**04 44 41.1**	**+0.2**

IDC 14 04:51:15.2±4.2,26°16S×70°53W,h0km,mb4.0/1, mb1 3.7/2,mb1mx3.4/33,mbtmp3.7/2,ML3.5/1,Error ellipse: s-maj=133.9km s-min=63.2km az=85.0,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**10.07**	**13**	Pn	Pn	04 53 41.8	0.0
	0.2nm,0.3s,baz=194,slow=6.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**80.32**	**70**	P		05 03 28.6	0.0
	0.8nm,0.5s,baz=260,slow=5.1,SNR=17						
H11S2	**WAKE ISLAND Hy**	**26.85**	**274**	T	T	07 29 46.5	
	baz=103						
H11S1	**WAKE ISLAND Hy**	**26.86**	**274**	T	T	07 29 47.7	
	baz=103						
H11S3	**WAKE ISLAND Hy**	**26.87**	**274**	T	T	07 29 47.1	
	baz=103						
MKAR	**Makanchi Array**	**150.22**	**39**	PKPbc	PKPbc	05 11 07.7	-0.4
	0.7nm,0.9s,baz=329,slow=1.7,SNR=4.0						

*ISCJB **14** 05:05:16.2±0.4, 16°27N±0°05×94°01W±0°03, h107km±4km, mb3.8/12, Error ellipse: s-maj=8.8km s-min=4.2km az=15.1*
*IDC **14** 05:05:17.3±1.1, 16°36N×93°66W, h110km±6km, mb3.4/6, mb1 3.8/8, mb1mx3.4/46, mbtmp3.9/8, Error ellipse: s-maj=48.6km s-min=15.8km az=49.0*
*NEIC **14** 05:05:18.0±0.0, 16°29N×94°00W, h106km, mb3.9/16, MD4.1(MEX), After MEX.*
*MEX **14** 05:05:18.0±0.6, 16°29N×94°00W, h106km±7km, MD4.1*
ISC 14 05:05:17.4±0.6, 16°28N±0°05×93°98W±0°03, h114km±5km, n55,σ1°98/81,mb3.8/12,Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.92**	**128**	*i* P	**Pn**	**05 05 37.4**	**-0.7**
PCIG				*i* S	**Sn**	**05 05 52.5**	**-1.2**
PCIG		**0.92**	**128**	*i* P	**Pn**	**05 05 37.4**	**-0.7**
PCIG				*i* S	**Sn**	**05 05 52.5**	**-1.2**
TGIG		**0.96**	**59**	*i* P	**Pn**	**05 05 37.8**	**-0.7**
TGIG				*i* S	**Sn**	**05 05 52.3**	**-2.2**
TGIG		**0.96**	**59**	*i* P	**Pn**	**05 05 37.8**	**-0.7**
TGIG				*i* S	**Sn**	**05 05 52.3**	**-2.2**
CMIG	**Matias Romero**	**1.19**	**313**	P	**Pn**	**05 05 40.7**	**-0.1**
	168nm,0.3s,baz=134,slow=8.7,SNR=4220						
CMIG				S	**Sn**	**05 05 58.6**	**-0.1**
	698nm,0.3s,baz=49,slow=19,SNR=130						
CMIG				LR	LR	05 06 14.6	
	comp=Z,101nm,20.1s,baz=122,slow=42						
CMIG	**Matias Romero**	**1.19**	**313**	*i* P	**Pn**	**05 05 40.9**	**0.0**
CMIG	**Matias Romero**	**1.19**	**313**	*i* P	**Pn**	**05 05 40.9**	**0.0**
CCIG	**Comitan**	**1.77**	**90**	*e*P	**Pn**	**05 05 47.2**	**-0.5**
CCIG				*i* S	**Sn**	**05 06 09.2**	**-1.8**
CCIG	**Comitan**	**1.77**	**90**	*e*P	**Pn**	**05 05 47.2**	**-0.5**
CCIG				*i* S	**Sn**	**05 06 09.2**	**-1.8**
HUIG	**Huatulco**	**2.11**	**256**	*e*P	**Pn**	**05 05 50.2**	**-1.7**
HUIG				*i* S	**Sn**	**05 06 16.0**	**-2.3**
HUIG	**Huatulco**	**2.11**	**256**	*e*P	**Pn**	**05 05 50.2**	**-1.7**
HUIG				*i* S	**Sn**	**05 06 16.0**	**-2.3**
THIG		**2.14**	**129**	*i* P	**Pn**	**05 05 52.1**	**-0.1**
THIG				*i* S	**Sn**	**05 06 18.1**	**-0.9**
THIG		**2.14**	**129**	*i* P	**Pn**	**05 05 52.1**	**-0.1**
THIG				*i* S	**Sn**	**05 06 18.1**	**-0.9**
VHO	**Vista Hermosa**	**2.76**	**287**	*e*P	**Pn**	**05 05 59.7**	**-0.8**
VHO				*e*S	**Sn**	**05 06 32.4**	**-1.2**
VHO	**Vista Hermosa**	**2.76**	**287**	*e*P	**Pn**	**05 05 59.7**	**-0.8**
VHO				*e*S	**Sn**	**05 06 32.4**	**-1.2**
TPIG	**Tehuac#an**	**3.87**	**304**	*e*P	**Pn**	**05 06 14.8**	**-0.4**
TPIG				*i* S	**Sn**	**05 06 58.8**	**-1.3**
TPIG	**Tehuac#an**	**3.87**	**304**	*e*P	**Pn**	**05 06 14.8**	**-0.4**
TPIG				*i* S	**Sn**	**05 06 58.8**	**-1.3**
PNIG	**Pinotepa**	**3.99**	**272**	*e*P	**Pn**	**05 05 15.9**	**-0.7**
PNIG				*i* S	**Sn**	**05 07 00.8**	**-1.7**
PNIG	**Pinotepa**	**3.99**	**272**	*e*P	**Pn**	**05 05 15.9**	**-0.7**
PNIG				*i* S	**Sn**	**05 07 00.8**	**-1.7**
LVIG	**Laguna Verde**	**4.14**	**326**	*e*P	**Pn**	**05 06 17.1**	**-1.6**
LVIG	**Laguna Verde**	**4.14**	**326**	*e*Pn	**Pn**	**05 06 15.9**	**-2.7**
LVIG				*e*Sn	**Sn**	**05 06 59.9**	**-6.4**
TLIG	**Tlapa**	**4.58**	**287**	*e*P	**Pn**	**05 06 23.6**	**-1.1**
TLIG				*i* S	**Sn**	**05 07 14.7**	**-2.3**
TLIG	**Tlapa**	**4.58**	**287**	*e*P	**Pn**	**05 06 23.6**	**-1.1**
TLIG				*i* S	**Sn**	**05 07 14.7**	**-2.3**
YAIG	**Yautepec**	**5.49**	**299**	*i* P	**Pn**	**05 06 37.4**	**+0.4**
YAIG	**Yautepec**	**5.49**	**299**	*i* P	**Pn**	**05 06 37.4**	**+0.4**
MAVM	**Malinalco, Edo**	**5.90**	**298**	*i* P	**Pn**	**05 06 41.6**	**-1.0**
MAVM				*i* S	**Sn**	**05 07 47.2**	**-1.8**
ZAIG	**Zacatecas**	**10.36**	**310**	*e*Pn	**Pn**	**05 07 45.9**	**+2.8**
JTS	**JuntasAbangare**	**10.61**	**123**	P	**Pn**	**05 07 42.4**	**-3.9**
	1.1nm,0.3s,baz=280,slow=11,SNR=6.6						
JCT	**Junction City**	**15.11**	**340**	*e*P	**P**	**05 08 49.1**	**+1.7**
TXAR	**Lajitas Array**	**15.76**	**327**	P	**P**	**05 08 55.0**	**+0.3**
	0.2nm,0.3s,baz=146,slow=13,SNR=22						
TX31	**Lajitas Ar. Si**	**15.76**	**327**	*e*Pn	**Pn**	**05 08 52.9**	**-0.2**
TX31				*e*P	**P**	**05 08 55.3**	**+0.6**
MIAR	**Mount Ida**	**18.20**	**1**	*e*P	**P**	**05 09 21.4**	**0.0**
	19nm,1.8s						
MIAR				*e*Sn	S	05 12 29.9	-14
MNTX	**Cornudas Mount**	**18.53**	**328**	*e*Pn	**Pn**	**05 09 26.7**	**+0.1**
	3.2nm,0.8s						
WMOK	**Wichita Mounta**	**18.88**	**348**	*e*P	**P**	**05 09 28.0**	**-0.9**
	4.9nm,1.2s						
X301	**Greenbrier Sit**	**18.94**	**4**	*e*P	**Pn**	**05 09 34.1**	**+2.7**
	14nm,1.9s						
X301				*e*S	**S**	**05 12 52.0**	**-6.6**
WHAR	**Wooly Hollow**	**19.00**	**4**	*e*P	**Pn**	**05 09 38.0**	**+5.9**
	12nm,1.7s						
MSTX	**Muleshoe**	**19.32**	**337**	*e*P	**P**	**05 09 34.3**	**+0.6**
	11nm,0.9s						
GOGA	**Godfrey**	**19.52**	**27**	*e*P	Pn	05 09 45.9	+7.7
	4.8nm,0.9s						
AMTX	**Amarillo**	**19.77**	**341**	*e*P	**P**	**05 09 39.5**	**+0.9**
	12nm,0.9s						
319A	**Douglas**	**20.50**	**320**	*e*P	**P**	**05 09 46.8**	**+0.2**
	11nm,0.9s						
BNM	**Barren Site**	**21.12**	**330**	*e*P	**P**	**05 09 56.3**	**+3.0**
ANMO	**Albuquerque**	**21.70**	**331**	P	**P**	**05 10 00.7**	**+1.4**
	2.2nm,0.7s,baz=180,slow=4.0,SNR=11						
ANMO				sP	**sP**	**05 10 36.4**	**+1.4**
	2.4nm,0.7s,baz=162,slow=20,SNR=5.1						
ANMO	**Albuquerque**	**21.70**	**331**	*e*P	**P**	**05 10 00.8**	**+1.4**
	2.5nm,0.8s						
TUC	**Tucson**	**22.07**	**319**	*e*P	**P**	**05 10 07.0**	**+3.7**
	3.8nm,1.0s						
MHTCO	**State Highway**	**22.84**	**337**	*e*P	**P**	**05 10 10.3**	**-0.7**
	3.8nm,0.7s						
X18A	**Snowflake**	**23.15**	**325**	*e*P	**P**	**05 10 16.8**	**+2.7**
	3.6nm,0.8s						
W18A	**Petrified Fore**	**23.47**	**326**	*e*P	**P**	**05 10 17.2**	**+0.2**
	5.7nm,0.8s						
X16A	**Lo Mia Camp, P**	**23.92**	**322**	*e*P	**P**	**05 10 23.3**	**+2.2**
	2.9nm,0.8s						
PDAR	**Pinedale Array**	**29.58**	**336**	P	**P**	**05 11 12.8**	**+1.0**
	0.3nm,0.7s,baz=152,slow=9.9,SNR=3.0						
REDW	**Red Top Meadow**	**30.59**	**335**	*e*P	**P**	**05 11 22.7**	**+2.0**
	14nm,1.8s						
NV01	**Mina Array Sit**	**30.71**	**321**	*e*P	**P**	**05 11 24.4**	**+2.6**
NVAR	**Mina Array Bea**	**30.71**	**321**	P	**P**	**05 11 24.5**	**+2.7**
	3.2nm,0.7s,baz=132,slow=9.0,SNR=20						
NVAR				sP	**sP**	**05 12 01.8**	**+1.8**
	2.2nm,0.8s,baz=133,slow=9.0,SNR=5.1						
LPAZ	**La Paz**	**41.20**	**141**	P	**P**	**05 12 51.4**	**-0.4**
	0.6nm,0.5s,baz=293,slow=4.4,SNR=6.6						
YKA	**Yellowknife Ar**	**48.39**	**347**	P	**P**	**05 13 46.7**	**-0.8**
	0.7nm,0.5s,baz=153,slow=7.4,SNR=18						
YKA				pP	**pP**	**05 14 13.3**	**-0.9**
	0.1nm,0.5s,baz=154,slow=7.0,SNR=2.4						
YKA				sP	**sP**	**05 14 25.9**	**-1.0**
	0.2nm,0.5s,baz=152,slow=7.4,SNR=3.3						
ILAR	**Eielson Array**	**60.01**	**337**	P	**P**	**05 15 11.9**	**+0.1**
	0.4nm,0.6s,baz=140,slow=4.1,SNR=6.9						

PGC 14 05:05:26.6±1.8,48°84N×129°10W,h10km,MLSn3.0/15, Mw3.7/15,Mw3.7/15,235km west of Tofino, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCHR	**NEPTUNE Canada**	**0.87**	**179**	P	Pg	05 05 40.2	-3.1
KEMF	**NEPTUNE Canada**	**0.89**	**180**	P	Pg	05 05 42.3	-1.5
EDB	**Eliza Dome**	**1.66**	**51**	Pn	Pn	05 05 53.4	-2.4
EDB				Sn	Sn	05 06 12.2	-5.0
HOLB	**Holberg**	**1.91**	**19**	Pn	Pn	05 06 00.4	+1.1
HOLB				Sn	Sn	05 06 22.7	-0.7
MAYB	**Maynard**	**2.01**	**38**	Pn	Pn	05 05 59.2	-1.5
MAYB				Sn	Sn	05 06 21.8	-4.2
TOFB	**Tofino**	**2.13**	**80**	Pn	Pn	05 05 59.0	-3.3
PHC	**Port Hardy**	**2.16**	**29**	Pn	Pn	05 06 01.7	-1.0
PHC				Sn	Sn	05 06 24.7	-4.7
GDR	**Gold River**	**2.22**	**64**	Pn	Pn	05 06 02.1	-1.4
GDR				Sn	Sn	05 06 27.9	-3.0
TLCB	**Telegraph Cove**	**2.26**	**40**	Pn	Pn	05 06 02.5	-1.5
TLCB				Sn	Sn	05 06 27.4	-4.5
OZB	**Mount Ozzard**	**2.39**	**86**	Pn	Pn	05 06 03.7	-2.1
OZB				Sn	Sn	05 06 30.9	-4.3
SPLB	**Strathcona Par**	**2.49**	**64**	Pn	Pn	05 06 05.7	-1.5
SPLB				Sn	Sn	05 06 32.8	-4.8
B928	**Bamfield**	**2.62**	**89**	Pn	Pn	05 06 07.1	-1.9
B928				Sn	Sn	05 06 35.4	-5.4
CBB	**Campbell River**	**2.72**	**63**	Pn	Pn	05 06 09.7	-0.6
CBB				Sn	Sn	05 06 41.2	-2.0
TXB	**Texada**	**3.17**	**73**	Pn	Pn	05 06 16.4	-0.2
NLLB	**Nanaimo Lost L**	**3.39**	**82**	Pn	Pn	05 06 19.1	-0.5
BBB	**Bella Bella**	**3.41**	**10**	Pn	Pn	05 06 20.1	+0.3
BBB				Sn	Sn	05 06 57.0	-3.2
SHB	**Sechelt**	**3.51**	**76**	Pn	Pn	05 06 20.6	-0.7
BIB	**Bowen Island**	**3.85**	**79**	Pn	Pn	05 06 25.4	-0.4
WPB	**Watts Point**	**3.95**	**76**	Pn	Pn	05 06 27.5	+0.3
VDB	**Vedder Mountai**	**4.62**	**85**	Pn	Pn	05 06 36.6	+0.1
MBW	**Mount Baker**	**4.76**	**88**	Pn	Pn	05 06 38.9	+0.3
LLLB	**Alouette**	**5.01**	**67**	Pn	Pn	05 06 42.3	+0.5
FMW	**Mount Fremont**	**5.35**	**108**	Pn	Pn	05 06 48.2	+1.5
LTY	**Liberty**	**5.87**	**102**	Pn	Pn	05 06 55.4	+1.6
PNT	**Penticton**	**6.25**	**82**	Pn	Pn	05 06 58.4	-0.5

*BJI **14** 05:08:23.8, 10°32S×161°87E, h110km, mb4.8/35, mB5.1/22*
*IDC **14** 05:08:26.9±0.8, 10°29S×161°23E, h102km±6km, mb4.2/21, mb1 4.3/22, mb1mx4.2/46, mbtmp4.5/22, MS3.5/25, Ms1 3.5/25, ms1mx3.4/43, Error ellipse: s-maj=16.1km s-min=12.4km az=120.0*
*ISCJB **14** 05:08:27.0±0.7, 10°27S±0°05×161°05E±0°05, h111km±6km, mb4.8/97, Error ellipse: s-maj=8.0km s-min=7.2km az=155.3*
*GCMT **14** 05:08:28.3±0.3, 10°18S×161°12E, h93km±4km, MW4.9/74, Moment Tensor Solution. s21,c27; s74,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.26±.11; $M_{\theta\theta}$1.05±.13; $M_{\phi\phi}$-2.31±.11; $M_{r\theta}$1.39±.07; $M_{\theta\phi}$0.55±.13; $M_{\phi r}$-0.71±.07; Best double couple: M◎2.59800×10^{16} NP1:ϕs137.00000°,δ70.00000°,λ48.00000°. NP2: ϕs26.00000°,δ45.00000°,λ151.00000°. Principal axes: T 2.5530, Plg48.0000°, Azm3.0000°; N 0.0890, Plg39.0000°, Azm154.0000°; P -2.6430, Plg15.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **14** 05:08:28.3±0.8, 10°16S×161°02E, h119km, mb5.0/26 Error ellipse: s-maj=10.6km s-min=8.4km az=82.2*
*NEIC **14** 05:08:28.3±0.7, 10°25S×161°11E, h110km±6km, mb4.9/64, Error ellipse: s-maj=5.8km s-min=4.7km az=141.0*
ISC 14 05:08:27.1±0.5, 10°33S±0°05×161°22E±0°06, h102km±3km, h102km:pP-P,n198,σ1°31/200,mb4.9/98,11C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.54**	**305**	P	**Pn**	**05 08 53.4**	**-0.5**
	374nm,0.3s,baz=165,slow=0.8,SNR=50						
HNR				S	**Sn**	**05 09 13.9**	**-0.5**
	2μm,0.3s,baz=54,slow=19,SNR=43						
HNR				LR	LR	05 09 32.0	
	comp=Z,1μm,21.7s,baz=160,slow=43						
HNR	**Honiara**	**1.54**	**305**	*i* P	**Pn**	**05 08 52.0**	**-2.0**
HNR				*i* S	**Sn**	**05 09 10.0**	**-4.4**
HNR	**Honiara**	**1.54**	**305**	*e*P	**Pn**	**05 08 53.2**	**-0.8**
HNR				*e*		05 09 14.3	
HNR	**Honiara**	**1.54**	**305**	*e*Pn	**Pn**	**05 08 53.2**	**-0.8**
HNR				*e*Sn	**Sn**	**05 09 14.3**	**-0.1**
DZM	**Mont Dzumac**	**12.70**	**157**	P	**Pn**	**05 11 25.8**	**+1.7**
	2.7nm,0.3s,baz=322,slow=17,SNR=13						
DZM				S	**Sn**	**05 13 40.4**	**-3.5**
	1.4nm,0.3s,baz=307,slow=20,SNR=6.3						
DZM				LR	LR	05 14 46.2	
	comp=Z,160nm,21.8s,baz=358,slow=30						
DZM	**Mont Dzumac**	**12.70**	**157**	*e*Pn	**Pn**	**05 11 26.1**	**+2.0**
	14nm,0.3s						
DZM				*e*Sn	**Sn**	**05 13 40.5**	**-3.4**
	9.5nm,0.3s						
DZM				*e*LR	LR	05 14 18.2	
	329nm,28.2s						
PMG	**Port Moresby**	**13.89**	**273**	P	**P**	**05 11 42.4**	**-2.0**
	1.2nm,0.3s,baz=43,slow=2.9,SNR=3.6						
MANU	**Manus Island**	**16.04**	**300**	*e*Pn	**P**	**05 12 07.4**	**-0.9**
	237nm,0.1s						
TARA	**Tarawa**	**16.44**	**46**	*e*Pn	**P**	**05 12 13.9**	**+1.1**
	278nm,0.6s						
PATS	**Pohnpei**	**17.30**	**350**	*e*P	**P**	**05 12 19.3**	**-2.9**
	221nm,1.1s						
CTA	**Charters Tower**	**17.39**	**234**	P	**Pn**	**05 12 25.9**	**+2.5**
	0.8nm,0.3s,baz=61,slow=14,SNR=9.0						
CTA				LR	LR	05 18 47.2	
	comp=Z,314nm,18.6s,baz=52,slow=36						
CTAO	**Charters Tower**	**17.39**	**234**	*e*P	**Pn**	**05 12 24.5**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,65nm,1.3s						
CTAO	**Charters Tower**	**17.39**	**234**	*e*P	**Pn**	**05 12 24.5**	**+1.1**
	comp=Z,64nm,1.3s						
EIDS	**Eidsvold**	**17.78**	**211**	*e*P	**Pn**	**05 12 29.1**	**+1.0**
	comp=Z,42nm,1.3s						
FUNA	**Funafuti**	**17.82**	**86**	*e*P	**Pn**	**05 12 30.5**	**+1.9**
	comp=Z,168nm,1.5s						
COEN	**Coen**	**18.01**	**257**	*e*P	**Pn**	**05 12 33.9**	**+3.0**
	comp=Z,143nm,1.2s						
AFI	**Afiamalu**	**26.63**	**100**	LR	LR	05 22 29.3	
	comp=Z,64nm,20.6s,baz=276,slow=32						
RAO	**Raoul Island**	**27.11**	**137**	*e*P	**P**	**05 13 59.7**	**-0.8**
RAO				pmax	pmax		
	comp=Z,937nm,1.4s						
RAO	**Raoul Island**	**27.11**	**137**	*e*P	**P**	**05 13 59.7**	**-0.8**
	comp=Z,938nm,1.4s						
OUZ	**Omahuta**	**27.22**	**157**	*e*P	**P**	**05 13 58.9**	**-2.5**
	comp=Z,54nm,1.3s						
WRAB	**Tennant Creek**	**27.60**	**247**	*i*P	**P**	**05 14 05.0**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,35nm,2.5s						
WRAB	**Tennant Creek**	**27.60**	**247**	*e*P	**P**	**05 14 05.2**	**+0.1**
	comp=Z,14nm,0.6s						
WB2	**Warramunga Arr**	**27.61**	**247**	*e*P	**P**	**05 14 03.9**	**-1.2**
WRA	**Warramunga Arr**	**27.62**	**247**	P	**P**	**05 14 05.0**	**-0.2**
	comp=Z,4.3nm,0.5s,baz=77,slow=8.9,SNR=36						
WRA				pP	**pP**	**05 14 28.6**	**+0.8**
	comp=Z,8.3nm,0.8s,baz=75,slow=9.4,SNR=7.4						
WRA				PcP	**PcP**	**05 17 20.1**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=87,slow=2.8,SNR=3.0						
WRA				LR	LR	05 25 06.0	
	comp=Z,118nm,18.4s,baz=80,slow=36						
STKA	**Stephens Creek**	**28.10**	**217**	P	**P**	**05 14 11.0**	**+1.7**
	comp=Z,1.4nm,0.5s,baz=57,slow=15,SNR=3.9						
STKA				LR	LR	05 25 32.8	
	comp=Z,277nm,18.4s,baz=32,slow=36						
STKA	**Stephens Creek**	**28.10**	**217**	P	**P**	**05 14 11.0**	**+1.7**
GUMO	**Guam**	**28.78**	**325**	LR	LR	05 24 48.0	
	comp=Z,71nm,21.9s,baz=118,slow=34						
H11S2	**WAKE ISLAND Hy**	**29.15**	**11**	T	T	05 43 29.0	
	baz=194						
H11S3	**WAKE ISLAND Hy**	**29.15**	**11**	T	T	05 43 30.6	
	baz=194,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.16**	**11**	T	T	05 43 23.8	
	baz=194,slow=74						
AS01	**Alice Springs**	**29.18**	**239**	*e*P	**P**	**05 14 17.0**	**-2.1**
AS31	**Alice Springs**	**29.22**	**240**	*e*P	**P**	**05 14 18.1**	**-1.4**
	comp=Z,1.9nm,0.9s						
ASAR	**Alice Springs**	**29.23**	**240**	P	**P**	**05 14 18.6**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=71,slow=9.4,SNR=20						
ASAR				LR	LR	05 25 59.2	
	comp=Z,378nm,18.4s,baz=68,slow=36						
H11N1	**WAKE ISLAND Hy**	**30.37**	**11**	T	T	05 44 53.7	
	baz=193,slow=76,SNR=48						
H11N3	**WAKE ISLAND Hy**	**30.38**	**11**	T	T	05 44 53.6	
	baz=193,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**30.39**	**11**	T	T	05 45 14.0	
	baz=193,slow=76,SNR=56						
FITZ	**Fitzroy Crossi**	**35.30**	**253**	P	**P**	**05 15 12.2**	**-0.3**
	comp=Z,7.1nm,0.7s,baz=90,slow=9.2						
RAR	**Rarotonga**	**38.96**	**111**	LR	LR	05 28 18.3	
	comp=Z,144nm,19.4s,baz=276,slow=31						
DAV	**Davao City (W)**	**39.48**	**295**	LR	LR	05 31 20.1	
	comp=Z,24nm,19.4s,baz=341,slow=35						
NWAO	**Narrogin (SRO)**	**46.23**	**234**	LR	LR	05 35 51.4	
	comp=Z,142nm,21.0s,baz=316,slow=36						
PPT	**Papeete**	**48.18**	**104**	LR	LR	05 33 57.5	
	comp=Z,39nm,19.1s,baz=336,slow=32						
PPT2	**Papeete2**	**48.18**	**104**	*e*LR	LR	05 30 42.5	
	comp=Z,225nm,32.2s						
INU	**Inuyama**	**50.87**	**334**	*e*P	**P**	**05 17 17.1**	**-0.6**
	comp=Z,35nm,1.1s						
MJAR	**Matsushiro Arr**	**51.41**	**336**	P	**P**	**05 17 21.0**	**-0.7**
	comp=Z,5.7nm,0.7s,baz=172,slow=8.6,SNR=14						
MJAR				LR	LR	05 38 15.4	
	comp=Z,9.0nm,21.8s,baz=110,slow=35						
MAJO	**Matsushiro**	**51.41**	**336**	*e*P	**P**	**05 17 21.1**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,50nm,1.6s						
MAJO	**Matsushiro**	**51.41**	**336**	*e*P	**P**	**05 17 21.1**	**-0.6**
	comp=Z,50nm,1.6s						
MAT	**Matsushiro**	**51.41**	**336**	P	**P**	**05 17 20.7**	**-1.0**
MJB9	**Matsu-Tunnel**	**51.42**	**336**	*e*P	**P**	**05 17 20.8**	**-1.0**
	comp=Z,48nm,1.5s						
JNU	**Nakatsue**	**52.00**	**327**	P	**P**	**05 17 25.9**	**-0.2**
	comp=Z,14nm,0.7s,baz=89,slow=6.2,SNR=11						
JNU				LR	LR	05 39 31.4	
	comp=Z,12nm,18.1s,baz=109,slow=36						
JNU	**Nakatsue**	**52.00**	**327**	*e*P	**P**	**05 17 25.8**	**-0.4**
	comp=Z,19nm,0.8s						
TJN	**Taejon**	**56.34**	**327**	*ce*P	**P**	**05 17 58.8**	**+1.2**
ASAJ	**Asahikawa**	**56.77**	**344**	P	**P**	**05 18 01.2**	**+0.8**
	comp=Z,15nm,0.6s,baz=162,slow=6.4,SNR=14						
ASAJ	**Asahikawa**	**56.77**	**344**	*e*P	**P**	**05 18 00.9**	**+0.4**
	comp=Z,32nm,1.1s						
KSRS	**Korea Array**	**56.87**	**329**	P	**P**	**05 18 01.2**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=142,slow=7.7,SNR=14						
KSRS				LR	LR	05 39 50.0	
	comp=Z,25nm,20.1s,baz=168,slow=33						
KSAR	**Wonju Array Be**	**56.88**	**329**	P	**P**	**05 18 01.2**	**-0.1**
KSAR	**Wonju Array Be**	**56.88**	**329**	P	**P**	**05 18 01.2**	**-0.1**
KS01	**Wonju Array Si**	**56.90**	**329**	*e*P	**P**	**05 18 01.3**	**-0

ULN					pmax	pmax			
	comp=Z,26nm,1.7s								
ULN	**Ulaanbaatar**	**75.16**	**326**	*eP*	**P**		**05 19 58.6**	**+0.2**
	comp=Z,27nm,1.4s								
GTA	**Gaotai**	**75.40**	**315**	P	**P**		**05 20 00.9**	**+0.9**
GTA				pP	pP		05 20 28.9	+2.9
GTA				sP	sP		05 20 41.3	+4.3
GTA				S	**S**		**05 29 32.4**	**+0.4**
GTA				sS	sS		05 30 22.8	+6.2
GTA				pmax	pmax				
	comp=Z,6.0nm,1.2s								
GTA				pmax	pmax				
	comp=Z,97nm,5.4s								
GTA				LR	LR				
	comp=Z,310nm,19.5s								
GTA				LR	LR				
	comp=Z,400nm,20.9s								
GTA				LR	LR				
	comp=Z,85nm,15.2s								
SONM	**Songino Array**	**75.51**	**325**	P	**P**		**05 20 00.8**	**+0.3**
	comp=Z,5.7nm,0.7s,baz=141,slow=5.7,SNR=39								
SONM				LR	LR		05 51 10.0		
	comp=Z,22nm,21.2s,baz=20,slow=34								
SONA1	**Songino Array**	**75.51**	**325**	*eP*	**P**		**05 20 00.6**	**+0.2**
YAK	**Yakutsk**	**76.22**	**345**	*eP*	**P**		**05 20 01.5**	**-2.4**
YAK				*e*			05 20 14.3		
YAK				*e**PP	**pP**		**05 20 31.9**	**+1.9**
YAK				*e*PPP	PPP		05 24 40.6		
YAK				*e*S	**S**		**05 29 33.3**	**-6.4**
YAK				*e*			05 30 02.2		
YAK				*e**SS	**pS**		**05 30 15.7**	**+4.1**
YAK				pmax	pmax				
	comp=Z,46nm,1.0s								
YAK				pmax	pmax				
	comp=N,11nm,1.3s								
YAK				pmax	pmax				
	comp=E,6.0nm,1.3s								
YAK				pmax	pmax				
	comp=Z,275nm,5.4s								
YAK				pmax	pmax				
	comp=N,112nm,4.4s								
YAK				pmax	pmax				
	comp=E,139nm,6.2s								
YAK				smax	smax				
	comp=N,49nm,4.0s								
YAK				smax	smax				
	comp=E,107nm,4.4s								
GAMB	**Gambell**	**76.73**	**12**	*eP*	**P**		**05 20 07.0**	**+0.2**
	comp=E,8.0nm,1.0s								
KDAK	**Kodiak Island**	**77.62**	**23**	*i* P	**P**		**05 20 12.4**	**+0.5**
KDAK	**Kodiak Island**	**77.62**	**23**	*eP*	**P**		**05 20 12.2**	**+0.3**
	comp=E,38nm,0.9s								
BOD	**Bodaibo**	**78.05**	**336**	*eP*	**P**		**05 20 13.7**	**-0.6**
BOD				pmax	pmax				
	comp=Z,9.0nm,1.2s								
BILL	**Bilibino**	**78.25**	**2**	*d iP*	**P**		**05 20 15.6**	**+0.4**
BILL				pmax	pmax				
	comp=Z,35nm,1.1s								
ZAK	**Zakamensk**	**78.61**	**326**	*eP*	**P**		**05 20 17.1**	**-0.6**
ZAK				pmax	pmax				
	comp=Z,7.0nm,1.2s								
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
SVW2	**Sparrevohn**	**78.89**	**20**	*eP*	**P**		**05 20 20.0**	**+1.2**
	comp=Z,37nm,0.8s								
TLY	**Talaya**	**79.11**	**328**	*eP*	**P**		**05 20 19.7**	**-0.6**
TLY				pmax	pmax				
	comp=Z,11nm,1.1s								
TLY	**Talaya**	**79.11**	**328**	*eP*	**P**		**05 20 19.5**	**-0.7**
	comp=Z,13nm,1.2s								
SUA	**Susitna One**	**80.81**	**21**	*eP*	**P**		**05 20 29.3**	**-0.1**
	comp=Z,31nm,1.2s								
CAST	**Castle Rocks**	**81.69**	**19**	*eP*	**P**		**05 20 33.8**	**-0.1**
	comp=Z,22nm,0.9s								
SML	**Sawmill**	**81.91**	**22**	*eP*	**P**		**05 20 35.3**	**+0.2**
SML				pmax	pmax				
	comp=Z,33nm,1.4s								
SML	**Sawmill**	**81.91**	**22**	*eP*	**P**		**05 20 35.3**	**+0.2**
	comp=Z,33nm,1.4s								
PALK	**Pallekele**	**82.05**	**279**	*i* P	**P**		**05 20 38.9**	**+2.0**
KTH	**Kantishna Hill**	**82.17**	**20**	*eP*	**P**		**05 20 35.7**	**-0.7**
	comp=Z,21nm,1.0s								
TRF	**Thorofare Moun**	**82.31**	**20**	*eP*	**P**		**05 20 36.8**	**-0.5**
	comp=Z,9.2nm,0.9s								
BPAW	**Bear Paw Mtn.**	**82.52**	**19**	*eP*	**P**		**05 20 37.7**	**-0.5**
	comp=Z,10nm,1.2s								
KLU	**Klutina**	**82.61**	**23**	*eP*	**P**		**05 20 39.2**	**+0.4**
	comp=Z,22nm,1.2s								
RND	**Reindeer**	**82.76**	**20**	*eP*	**P**		**05 20 39.5**	**0.0**
RND				pmax	pmax				
	comp=Z,16nm,1.1s								
RND	**Reindeer**	**82.76**	**20**	*eP*	**P**		**05 20 39.5**	**0.0**
	comp=Z,16nm,1.1s								
MCK	**McKinley**	**82.95**	**20**	*eP*	**P**		**05 20 40.4**	**0.0**
MCK				pmax	pmax				
	comp=Z,39nm,1.0s								
MCK	**McKinley**	**82.95**	**20**	*eP*	**P**		**05 20 40.4**	**0.0**
	comp=Z,38nm,1.0s								
MLY	**Manley**	**83.23**	**19**	*eP*	**P**		**05 20 41.9**	**+0.1**
	comp=Z,12nm,1.0s								
MAW	**Mawson**	**83.69**	**202**	LR	LR		05 55 16.0		
	comp=Z,34nm,18.9s,baz=60,slow=34								
CCB	**Clear Creek Bu**	**83.92**	**20**	*eP*	**P**		**05 20 44.8**	**-0.5**
	comp=Z,5.5nm,0.9s								
MDM	**Murphy Dome**	**83.98**	**19**	*eP*	**P**		**05 20 45.1**	**-0.6**
	comp=Z,13nm,1.0s								
COLA	**College**	**84.05**	**19**	*eP*	**P**		**05 20 45.7**	**-0.2**
COLA				pmax	pmax				
	comp=Z,21nm,1.0s								
COLA	**College**	**84.05**	**19**	*eP*	**P**		**05 20 45.7**	**-0.2**
	comp=Z,21nm,1.0s								
MENT	**Mentasta**	**84.30**	**22**	*eP*	**P**		**05 20 48.1**	**+0.7**
	comp=Z,6.0nm,0.8s								
IL1	**Eielson Array**	**84.30**	**20**	*eP*	**P**		**05 20 46.2**	**-1.1**
IL1				*ep*P	**pP**		**05 21 10.7**	**-3.1**
ILAR	**Eielson Array**	**84.30**	**20**	P	**P**		**05 20 46.2**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=250,slow=4.9,SNR=31								
ILAR				pP	**pP**		**05 21 12.7**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=231,slow=4.7,SNR=2.7								
ILAR				LR	LR		05 51 53.6		
	comp=Z,37nm,21.5s,baz=200,slow=31								
ILB	**Eielson Array**	**84.30**	**20**	*eP*	**P**		**05 20 46.7**	**-0.6**
TIXI	**Tiksi**	**84.59**	**350**	*eP*	**P**		**05 20 47.2**	**-1.4**
TIXI				pmax	pmax				
	comp=Z,14nm,1.4s								
TIXI	**Tiksi**	**84.59**	**350**	*eP*	**P**		**05 20 47.8**	**-0.8**
	comp=Z,12nm,1.2s								
DOT	**Dot Lake**	**84.59**	**21**	*eP*	**P**		**05 20 49.3**	**+0.5**
	comp=Z,24nm,0.9s								
WMQ	**Urumqi**	**85.47**	**316**	P	**P**		**05 20 53.8**	**+0.1**
WMQ				pmax	pmax				
	comp=Z,16nm,0.7s								
TOLK	**Toolik Lake Re**	**86.00**	**16**	*eP*	**P**		**05 20 56.3**	**+0.5**
	comp=Z,12nm,1.4s								
EGAK	**Eagle**	**86.28**	**21**	*eP*	**P**		**05 20 58.0**	**+0.9**
	comp=Z,23nm,1.3s								
DAWY	**Dawson**	**86.54**	**22**	*eP*	**P**		**05 20 59.1**	**+0.7**
	comp=Z,30nm,1.3s								
YBH	**Yreka Blue Hor**	**86.61**	**47**	P	**P**		**05 20 59.2**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=225,slow=4.3,SNR=7.4								
YBH				LR	LR		05 59 18.5		
	comp=Z,20nm,18.7s,baz=270,slow=35								
AFDM	**Forest Hills D**	**87.10**	**50**	*eP*	**P**		**05 21 02.5**	**+0.7**
	comp=Z,9.7nm,1.2s								
MWC	**Mount Wilson**	**88.18**	**55**	*eP*	**P**		**05 21 07.8**	**+0.6**
	comp=Z,24nm,1.3s								
ISA	**Isabella, Lake**	**88.19**	**53**	*eP*	**P**		**05 21 07.7**	**+0.6**
ISA				pmax	pmax				
	comp=Z,7.0nm,1.4s								
ISA	**Isabella, Lake**	**88.19**	**53**	*eP*	**P**		**05 21 07.7**	**+0.6**
	comp=Z,7.1nm,1.4s								
PAHR	**Pah Rah Range**	**88.49**	**49**	*eP*	**P**		**05 21 09.2**	**+0.7**
	comp=Z,21nm,1.4s								
DGR	**Domenigoni Val**	**88.90**	**56**	*eP*	**P**		**05 21 11.7**	**+1.3**
NV01	**Mina Array Sit**	**88.99**	**51**	*eP*	**P**		**05 21 11.8**	**+0.8**
NVAR	**Mina Array Bea**	**88.99**	**51**	P	**P**		**05 21 11.5**	**+0.5**
	comp=Z,3.5nm,1.0s,baz=231,slow=6.0,SNR=14								
NVAR				pP	**pP**		**05 21 37.1**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=218,slow=7.1,SNR=2.4								
NVAR				LR	LR		05 54 21.1		
	comp=Z,27nm,19.3s,baz=258,slow=31								
DAC	**Darwin (Calif)**	**89.03**	**53**	*eP*	**P**		**05 21 12.0**	**+0.8**
DAC				pmax	pmax				
	comp=Z,10.0nm,1.1s								
DAC	**Darwin (Calif)**	**89.03**	**53**	*eP*	**P**		**05 21 12.0**	**+0.8**
	comp=Z,10nm,1.1s								
NV11	**Mina Array Sit**	**89.10**	**51**	*eP*	**P**		**05 21 12.1**	**+0.6**
	comp=Z,1.9nm,1.4s								
GSC	**Goldstone, Bar**	**89.43**	**54**	*eP*	**P**		**05 21 13.7**	**+0.7**
GSC				pmax	pmax				
	comp=Z,11nm,1.3s								
GSC	**Goldstone, Bar**	**89.43**	**54**	*eP*	**P**		**05 21 13.7**	**+0.7**
	comp=Z,11nm,1.3s								
WVOR	**Wild Horse Val**	**89.72**	**47**	*eP*	**P**		**05 21 14.8**	**+0.7**
	comp=Z,17nm,1.2s								
MK01	**Makanchi Array**	**89.97**	**318**	*eP*	**P**		**05 21 14.2**	**-0.9**
MK01				*ep*P	**pP**		**05 21 42.0**	**+0.1**
MK31	**Makanchi Array**	**89.98**	**318**	*eP*	**P**		**05 21 14.8**	**-0.4**
MK31	**Makanchi Array**	**89.98**	**318**	*eP*	**P**		**05 21 14.8**	**-0.4**
MKAR	**Makanchi Array**	**89.98**	**318**	P	**P**		**05 21 14.4**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=96,slow=6.2,SNR=16								
MKAR				pP	**pP**		**05 21 41.3**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=99,slow=6.3,SNR=3.9								
MKAR	**Makanchi Array**	**89.98**	**318**	*eP*	**P**		**05 21 14.6**	**-0.6**
MKAR				*PP	**pP**		**05 21 41.3**	**-0.6**
MKAR				pmax	pmax				
	comp=Z,62nm,1.8s								
MKAR	**Makanchi Array**	**89.98**	**318**	*eP*	**P**		**05 21 14.6**	**-0.6**
	comp=Z,62nm,1.8s								
MKAR				pP	**pP**		**05 21 41.3**	**-0.6**
MAKZ	**Makanchi**	**90.19**	**318**	*eP*	**P**		**05 21 15.8**	**-0.3**
	comp=Z,8.1nm,1.3s								
BMN	**Battle Mountai**	**90.28**	**49**	*eP*	**P**		**05 21 17.6**	**+0.7**
BMN				pmax	pmax				
	comp=Z,7.0nm,0.9s								
BMN	**Battle Mountai**	**90.28**	**49**	*eP*	**P**		**05 21 17.6**	**+0.7**
	comp=Z,6.9nm,0.9s								
ZALV	**Zalesovo Beam**	**90.40**	**325**	P	**P**		**05 21 15.4**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=113,slow=5.6,SNR=3.6								
LDFC	**Landfair**	**90.74**	**55**	*eP*	**P**		**05 21 19.4**	**+0.3**
	comp=Z,22nm,1.2s								
SHPR	**Sheep Range**	**91.00**	**53**	*eP*	**P**		**05 21 21.2**	**+0.9**
	comp=Z,10nm,1.1s								
E09A	**Wood Farm, Sta**	**91.05**	**43**	*eP*	**P**		**05 21 21.1**	**+1.0**
R11A	**Troy Canyon, C**	**91.05**	**51**	*eP*	**P**		**05 21 21.6**	**+1.1**
	comp=Z,8.4nm,1.2s								
R11A				*ep*P	**pP**		**05 21 45.6**	**-1.7**
SYO	**Syowa Base**	**91.13**	**198**	I/X	P		05 21 12.4	-7.7
BMO	**Blue Mountains**	**91.23**	**45**	*eP*	**P**		**05 21 21.6**	**+0.5**
BMO				pmax	pmax				
	comp=Z,14nm,1.5s								
BMO	**Blue Mountains**	**91.23**	**45**	*eP*	**P**		**05 21 21.6**	**+0.5**
	comp=Z,14nm,1.5s								
C09A	**Chrisman Ranch**	**91.27**	**42**	*eP*	**P**		**05 21 21.8**	**+0.7**
MFID	**Camas Ranch**	**91.95**	**46**	*eP*	**P**		**05 21 25.2**	**+0.7**
	comp=Z,20nm,1.6s								
NEW	**Newport**	**92.13**	**41**	*eP*	**P**		**05 21 25.8**	**+0.7**
NEW				pmax	pmax				
	comp=Z,12nm,1.3s								
NEW	**Newport**	**92.13**	**41**	*eP*	**P**		**05 21 25.8**	**+0.7**
	comp=Z,12nm,1.3s								
LCMT	**Little Creek M**	**92.61**	**53**	*eP*	**P**		**05 21 28.4**	**+0.7**
	comp=Z,12nm,1.7s								
CCUT	**Cedar City**	**92.61**	**52**	*eP*	**P**		**05 21 29.2**	**+1.3**
	comp=Z,8.1nm,1.4s								
LPIG	**La Paz**	**92.77**	**66**	LR	LR		05 57 56.4		
	comp=Z,53nm,18.6s,baz=354,slow=32								
KSH	**Kashi**	**92.86**	**309**	*eP*	**P**		**05 21 29.8**	**+1.0**
KNB	**Kanab**	**92.94**	**53**	*eP*	**P**		**05 21 30.8**	**+1.5**
	comp=Z,10nm,1.4s								
HLID	**Hailey**	**92.99**	**46**	*eP*	**P**		**05 21 30.1**	**+0.7**
	comp=Z,10nm,1.3s								
KURK	**Kurchatov**	**93.27**	**321**	*de*P	**P**		**05 21 29.1**	**-1.1**
KURK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KURK	**Kurchatov**	**93.27**	**321**	*eP*	**P**		**05 21 29.7**	**-0.5**
	comp=Z,5.2nm,1.1s								
KURBB	**Kurchatov Arra**	**93.31**	**321**	P	**P**		**05 21 28.4**	**-2.0**
	comp=Z,1.6nm,1.0s,baz=93,slow=4.7,SNR=9.7								
HVU	**Hansel Valley**	**93.84**	**48**	*eP*	**P**		**05 21 34.6**	**+1.3**
HVU				pmax	pmax				
	comp=Z,6.0nm,1.2s								
HVU	**Hansel Valley**	**93.84**	**48**	*eP*	**P**		**05 21 34.6**	**+1.3**
	comp=Z,6.0nm,1.2s								
PDAR	**Pinedale Array**	**96.35**	**48**	P	**P**		**05 21 44.8**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=197,slow=1.5,SNR=4.5								
PDAR				LR	LR		06 00 15.1		
	comp=Z,22nm,18.8s,baz=58,slow=32								
YKA	**Yellowknife Ar**	**96.40**	**28**	P	**P**		**05 21 43.5**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=258,slow=4.6,SNR=24								
YKW3	**Yellowknife Ar**	**96.40**	**28**	*eP*	**P**		**05 21 43.8**	**-0.5**
	comp=Z,6.2nm,1.3s								
ANMO	**Albuquerque**	**97.72**	**56**	I *eP*	Pdif		05 21 52.4	+1.2
ANMO				pmax	pmax				
	comp=Z,1.0nm,1.0s								
BVAR	**Borovoye Array**	**98.67**	**322**	LR	LR		06 07 20.7		
	comp=Z,23nm,19.2s,baz=14,slow=36								
BRVK	**Borovoye**	**98.73**	**322**	*ieP*	**P**		**05 21 53.7**	**-1.3**
BRVK				*i* *PP	**pP**		**05 22 23.7**	**+1.8**
BRVK				pmax	pmax				
	comp=Z,8.0nm,3.0s								
TXAR	**Lajitas Array**	**99.40**	**62**	LR	LR		05 58 24.7		
	comp=Z,16nm,21.2s,baz=0.0,slow=30								
ARCES	**ARCESS Array B**	**114.49**	**344**	PKP	PKPdf		05 26 53.5	-1.2
	comp=Z,4.0nm,0.9s,baz=24,slow=4.9,SNR=3.6								
SCHQ	**Schefferville**	**121.73**	**30**	PKP	**PKPdf**		**05 27 08.4**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=266,slow=2.9,SNR=3.9								
KLNR	**Kalinigrad**	**126.15**	**333**	I /PKIKP	**PKPdf**		**05 27 19.1**	**+1.7**
KWP	**Kalwaria Pacla**	**127.93**	**327**	*e*PKIKP	**PKPdf**		**05 27 20.8**	**-0.2**
KWP	**Kalwaria Pacla**	**127.93**	**327**	*e*PKPdf	**PKPdf**		**05 27 20.8**	**-0.2**
PBRG	**Braganca**	**146.91**	**343**	*e*PKPbc	**PKPbc**		**05 27 58.0**	**-0.1**
MVO	**Moncorvo**	**147.59**	**343**	*e*PKPbc	**PKPbc**		**05 28 00.3**	**+0.3**
POLO	**Lamas de Olo**	**147.60**	**344**	*e*PKPbc	**PKPbc**		**05 28 00.2**	**+0.2**
PVRL	**Vila Real**	**147.67**	**344**	*e*PKPbc	**PKPbc**		**05 28 00.4**	**+0.2**
ES19	**SONSECA Array**	**147.90**	**338**	*e*PKPbc	**PKPbc**		**05 28 00.6**	**-0.2**
ESDC	**Sonseca Array**	**147.94**	**338**	PKPbc	**PKPdf**		**05 27 58.5**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=14,slow=2.0,SNR=7.7								
PTOM	**Tomar**	**149.41**	**344**	*e*PKPbc	**PKPbc**		**05 28 05.4**	**+0.8**
PMST	**Lisbon--Monsan**	**150.44**	**345**	*e*PKPbc	**PKPbc**		**05 28 05.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**159.76**	**280**	PKP	**PKPdf**		**05 28 15.7**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=60,slow=1.6,SNR=2.8								
TORD				PKPab	**PKPab**		**05 28 53.5**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=73,slow=3.9,SNR=3.5								

IDC 14 05:15:00.4±3.3, 30°35S×138°41E, h0km, mb1 3.3/3, mb1mx3.2/41, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=81.1km s-min=16.5km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.13**	**120**	Pn	Pn	05 15 50.6	-0.3
	1.0nm,0.3s,baz=298,slow=12,SNR=11						
STKA				Pg	Pg	05 15 58.9	-1.4
	3.0nm,0.3s,baz=298,slow=15,SNR=17						
STKA				Sn	Sn	05 16 25.2	-3.8
	2.1nm,0.3s,baz=340,slow=13,SNR=4.4						
STKA				Lg	Lg	05 16 38.0	
	2.6nm,0.3s,baz=12,slow=17,SNR=5.3						
ASAR	**Alice Springs**	**7.77**	**328**	Pn	Pn	05 16 56.2	+1.4
	0.2nm,0.3s,baz=155,slow=12,SNR=4.9						
ASAR				Sn	Sn	05 18 22.0	-1.6
	0.3nm,0.3s,baz=152,slow=22,SNR=3.8						
WRA	**Warramunga Arr**	**10.99**	**339**	Pn	Pn	05 17 38.2	-0.8
	0.2nm,0.3s,baz=161,slow=13,SNR=7.2						
WRA				Sn	Sn	05 19 38.2	-4.6
	0.1nm,0.3s,baz=168,slow=23,SNR=3.3						

MEX 14 05:37:41.3±0.4, 17°25N×100°81W, h10km±4km, MD3.6, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.56**	**111**	*eP*	Pg	05 37 51.2	-1.0
CAIG				*i* S	Sg	05 37 59.0	-0.5
ZIIG	**Zihuatanejo**	**0.71**	**299**	*i* P	Pg	05 37 53.4	-1.7
ZIIG				*i* S	Sg	05 38 03.1	-1.4
ACX	**Acapulco**	**0.99**	**113**	*i* P	Pg	05 37 55.3	-5.0
ACX				*i* S	Sg	05 38 06.8	-6.4
ARIG	**Puente Sto Nin**	**1.11**	**23**	*eP*	Pb	05 37 59.1	-3.6
ARIG				*i* S	Sg	05 38 13.0	-4.2
MEIG	**Mezcala**	**1.32**	**59**	*eP*	Pn	05 38 02.7	-3.2
MEIG				*eS*	Sb	05 38 18.6	-4.7
PLIG	**Platanillo**	**1.69**	**48**	*eP*	Pn	05 38 07.7	-3.3
PLIG				*eS*	Sn	05 38 28.0	-4.7
TLIG	**Tlapa**	**2.17**	**82**	*ieP*	Pn	05 38 15.1	-2.5
TLIG				*i* S	Sn	05 38 40.1	-4.6

ISCJB 14 05:40:58.7±1.0, 64°2S±0°.1×174°.6E±0°.5, h10km, mb3.9/4, MS3.2/4, Error ellipse: s-maj=32.7km s-min=18.3km az=156.4

IDC 14 05:40:58.2±1.1, 64°.14S×175°.03E, h0km, mb4.0/4, mb1 4.2/5, mb1mx4.0/32, mbtmp4.0/5, ML3.4/1, MS3.3/5, Ms1 3.2/5, ms1mx2.9/32, Error ellipse: s-maj=65.0km s-min=26.0km az=44.0

ISC 14 05:40:59.8±1.2, 64°2S±0°.2×175°0E±0°.2, h10km, n17, σ0s70/6, mb4.0/4, MS3.1/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.04**	**192**	Pn	**Pn**	**05 44 18.5**	**+0.1**
	0.2nm,0.3s,baz=28,slow=15,SNR=6.9						
VNDA				LR	LR	05 48 24.7	
	comp=Z,106nm,18.1s,baz=356,slow=32						
RPZ	**Rata Peaks**	**20.60**	**352**	LR	LR	05 52 47.2	
	comp=Z,69nm,19.2s,baz=221,slow=34						
URZ	**Urewera**	**25.96**	**4**	LR	LR	05 54 43.6	
	comp=Z,49nm,18.9s,baz=166,slow=32						
MAW	**Mawson**	**39.92**	**214**	LR	LR	06 04 07.3	
	comp=Z,39nm,20.8s,baz=65,slow=35						
RAR	**Rarotonga**	**46.11**	**34**	LR	LR	06 04 27.4	
	comp=Z,35nm,20.2s,baz=220,slow=31						
H01W1	**Cape Leeuwin H**	**46.56**	**279**	T	T	06 39 38.7	
	baz=148,slow=76,SNR=25						
H01W2	**Cape Leeuwin H**	**46.57**	**279**	T	T	06 39 40.8	
	baz=148,slow=76,SNR=22						
H01W3	**Cape Leeuwin H**	**46.58**	**279**	T	T	06 39 41.8	
	baz=148,slow=76,SNR=22						
ASAR	**Alice Springs**	**48.56**	**307**	P	**P**	**05 49 43.8**	**+0.7**
	1.2nm,0.9s,baz=155,slow=6.8,SNR=5.8						
WRA	**Warramunga Arr**	**51.85**	**309**	P	**P**	**05 50 07.6**	**-0.4**
	0.2nm,0.3s,baz=158,slow=6.4,SNR=14						
CPUP	**Villa Florida**	**81.03**	**134**	P	**P**	**05 53 14.2**	**-0.4**
	1.4nm,0.7s,baz=202,slow=7.8,SNR=3.9						
LPAZ	**La Paz**	**86.56**	**121**	P	**P**	**05 53 44.3**	**+0.5**
	1.5nm,0.9s,baz=207,slow=7.1,SNR=4.7						
H08S2	**Diego Garcia H**	**88.57**	**255**	T	T	07 32 22.1	
	baz=154,slow=76,SNR=28						
H08S1	**Diego Garcia H**	**88.58**	**255**	T	T	07 32 22.2	
	baz=154,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**88.59**	**255**	T	T	07 32 23.3	
	baz=154,slow=76,SNR=28						
AKTO	**Aktyubinsk**	**144.89**	**278**	PKP	PKPbc	06 00 34.8	-0.2
	1.5nm,0.9s,baz=149,slow=5.9,SNR=4.0						
BRTR	**Keskin Array B**	**146.73**	**241**	PKPbc	**PKPbc**	**06 00 40.5**	**-0.7**
	0.5nm,0.8s,baz=116,slow=3.4,SNR=3.4						

ISN 14 05:49:36.0±0.7, 37°.49N×42°.84E, h0km±2km, ML3.3
CSEM 14 05:49:38.5±0.3, 37°.42N×42°.83E, h2km, ML3.1, Error ellipse: s-maj=6.9km s-min=5.5km az=64.0
DDA 14 05:49:38.4, 37°.42N×42°.77E, h13km, MI3.4
ISCJB 14 05:49:39.1±0.8, 37°.43N±0°.05×42°.78E±0°.04, h4km±5km, Error ellipse: s-maj=8.0km s-min=5.3km az=171.7
ISK 14 05:49:39.9, 37°.50N×42°.71E, h6km, ML3.1/9

ISC 14 05:49:38.6±1.3, 37°.46N±0°.04×42°.82E±0°.03, h7km±10km, n33, σ0s82/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.30**	**278**	PG	**Pg**	**05 49 44.7**	**+0.1**
SIRT				SG	**Sg**	**05 49 48.5**	**-0.2**
SIRT	**Sirnak**	**0.30**	**278**	*e*Pg	**Pg**	**05 49 44.7**	**+0.1**
SIRT				*e*Sg	**Sg**	**05 49 48.5**	**-0.2**
SIRN	**S¯-rnak**	**0.32**	**277**	*i* P	**Pg**	**05 49 45.0**	**0.0**
SIRN				*i* S	**Sg**	**05 49 49.1**	**-0.2**
SIRN	**S¯-rnak**	**0.32**	**277**	P	**Pg**	**05 49 45.0**	**0.0**
SIRN				S	**Sg**	**05 49 49.1**	**-0.2**
CUKT	**Cukurca**	**0.66**	**108**	PG	**Pn**	**05 49 54.3**	**-0.2**
CUKT				SG	**Sn**	**05 50 06.4**	**+1.2**
GEVA	**Gevas**	**0.87**	**13**	*i* P	**Pb**	**05 49 55.9**	**-0.3**
GEVA				*i* S	**Sb**	**05 50 08.2**	**+0.1**
GEVA	**Gevas**	**0.87**	**13**	P	**Pb**	**05 49 55.9**	**-0.3**
GEVA				S	**Sb**	**05 50 08.2**	**+0.1**
SRTM	**Siirt_Merkez**	**0.89**	**307**	*i* P	**Pg**	**05 49 55.0**	**-0.7**
SRTM				*i* S	**Sb**	**05 50 07.7**	**-0.7**
SRTM	**Siirt_Merkez**	**0.89**	**307**	P	**Pg**	**05 49 55.0**	**-0.7**
SRTM				S	**Sb**	**05 50 07.7**	**-0.7**
VANB	**Van**	**1.22**	**22**	PN	**Pn**	**05 50 02.6**	**+0.4**
VANB	**Van**	**1.22**	**22**	*e*Pn	**Pn**	**05 50 02.6**	**+0.4**

	1.5nm,0.5s,baz=333,slow=13,SNR=3.6						
STKA				LR	LR	06 27 08.7	
	comp=Z,47nm,20.1s,baz=20,slow=38						
STKA	**Stephens Creek**	**38.11**	**153**	*eP*	**P**	**06 10 25.5**	**-0.1**
	3.4nm,1.4s						
PALK	**Pallekele**	**41.99**	**279**	LR	LR	06 31 31.6	
	comp=Z,49nm,18.4s,baz=115,slow=40						
USRK	**Ussuriysk Ar.**	**43.02**	**10**	P	**P**	**06 11 06.1**	**+0.1**
	1.4nm,0.6s,baz=210,slow=5.0,SNR=3.3						
ASAJ	**Asahikawa**	**45.73**	**20**	P	**P**	**06 11 27.8**	**+0.1**
	1.6nm,0.3s,baz=196,slow=15,SNR=4.3						
ASAJ	**Asahikawa**	**45.73**	**20**	*eP*	**P**	**06 11 27.8**	**+0.1**
	7.3nm,1.1s						
KLR	**Kul'dur**	**47.88**	**8**	P	**P**	**06 11 44.3**	**-0.1**
	0.1nm,0.6s,baz=225,slow=10.0,SNR=2.9						
SONA0	**Songino Array**	**47.90**	**345**	*eP*	**P**	**06 11 45.3**	**+0.6**
SONM	**Songino Array**	**47.90**	**345**	P	**P**	**06 11 45.3**	**+0.6**
	0.3nm,0.5s,baz=163,slow=7.2,SNR=3.7						
MK01	**Makanchi Array**	**56.78**	**328**	*eP*	**P**	**06 12 51.6**	**+1.1**
MK31	**Makanchi Array**	**56.80**	**328**	*eP*	**P**	**06 12 52.4**	**+1.7**
MK32	**Makanchi Array**	**56.80**	**328**	*eP*	**P**	**06 12 51.9**	**+1.2**
MKAR	**Makanchi Array**	**56.80**	**328**	P	**P**	**06 12 51.9**	**+1.2**
	2.8nm,0.7s,baz=123,slow=8.7,SNR=33						
MKAR	**Makanchi Array**	**56.80**	**328**	*eP*	**P**	**06 12 52.4**	**+1.7**
	18nm,0.7s						
MAKZ	**Makanchi**	**56.98**	**328**	*eP*	**P**	**06 12 53.5**	**+1.5**
	3.7nm,0.7s						
PETK	**Petropavlovsk-**	**58.83**	**24**	P	**P**	**06 13 04.2**	**-0.6**
	0.9nm,0.4s,baz=198,slow=8.9,SNR=4.3						
PEA1	**Petropavlovsk-**	**58.83**	**24**	*eP*	**P**	**06 13 04.2**	**-0.6**
AAK	**Ala-Archa**	**59.01**	**320**	P	**P**	**06 13 07.9**	**+1.5**
	1.3nm,0.7s,baz=142,slow=12,SNR=4.9						
ZALV	**Zalesovo Beam**	**60.45**	**335**	P	**P**	**06 13 16.0**	**+0.1**
	1.6nm,0.7s,baz=121,slow=5.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**60.45**	**335**	*eP*	**P**	**06 13 16.2**	**+0.4**
ZAA1	**Zalesovo Array**	**60.45**	**335**	*eP*	**P**	**06 13 16.0**	**+0.1**
KURBB	**Kurchatov Arra**	**61.14**	**330**	P	**P**	**06 13 21.6**	**+0.9**
	4.5nm,0.8s,baz=126,slow=6.3,SNR=42						
KURK	**Kurchatov**	**61.15**	**330**	*eP*	**P**	**06 13 21.6**	**+0.9**
KURK				*eP*	**P**	**06 13 21.8**	**+1.1**
KURK				*epP*	**pP**	**06 13 31.4**	**0.0**
MA2	**Magadan**	**61.62**	**16**	P	**P**	**06 13 24.1**	**+0.4**
	3.4nm,0.5s,baz=201,slow=7.9,SNR=5.2						
SEY	**Seymchan**	**64.87**	**15**	P	**P**	**06 13 45.3**	**+0.1**
	0.5nm,0.2s,baz=197,slow=19,SNR=7.2						
BVAR	**Borovoye Array**	**66.66**	**329**	P	**P**	**06 13 57.3**	**+0.3**
	1.2nm,0.7s,baz=131,slow=6.7,SNR=6.3						
TIXI	**Tiksi**	**69.83**	**2**	P	**P**	**06 14 15.3**	**-1.2**
	1.5nm,0.6s,baz=158,slow=3.0,SNR=4.4						
AKTO	**Aktyubinsk**	**72.55**	**323**	P	**P**	**06 14 34.3**	**+0.9**
	1.5nm,0.6s,baz=93,slow=9.5,SNR=4.5						
VNDA	**Vanda**	**82.12**	**172**	P	**P**	**06 15 26.4**	**0.0**
	0.6nm,0.9s,baz=347,slow=5.7,SNR=3.1						

*NEIC **14** 06:05:44.7±0.0, 18°.50N×68°.31W, h162km, MD3.7(RSPR), After RSPR.*

RSPR 14 06:05:44.7, 18°.50N×68°.31W, h163km±2km, MD3.7/7, 16C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.80**	**98**	*eP*	Pn	06 06 09.4	+0.2
IDE	**Isla Desecheo**	**0.80**	**98**	*eP*	Pn	06 06 09.4	+0.2
IDE				*eS*	Sn	06 06 28.2	+0.3
DR12	**Loma Pena Alta**	**1.06**	**286**	*eP*	Pn	06 06 11.2	-0.1
DR12				*eS*	Sn	06 06 31.4	-0.1
DR12	**Loma Pena Alta**	**1.06**	**286**	*eP*	Pn	06 06 11.2	-0.1
AGPR	**Aguadilla, PR**	**1.14**	**91**	*eP*	Pn	06 06 11.1	-0.7
AGPR	**Aguadilla, PR**	**1.14**	**91**	*eP*	Pn	06 06 11.1	-0.7
AGPR				*eS*	Sn	06 06 32.8	+0.2
LSP	**Las Mesas**	**1.20**	**105**	*eP*	Pn	06 06 12.5	0.0
LSP	**Las Mesas**	**1.20**	**105**	*eP*	Pn	06 06 12.5	0.0
LSP				*eS*	Sn	06 06 34.2	+0.5
CRPR	**Cabo Rojo, PR**	**1.24**	**113**	*eP*	Pn	06 06 12.5	-0.2
CRPR	**Cabo Rojo, PR**	**1.24**	**113**	*eP*	Pn	06 06 12.5	-0.2
CRPR				*eS*	Sn	06 06 34.1	0.0
AOPR	**Arecibo Observ**	**1.48**	**96**	*eP*	Pn	06 06 15.3	+0.2
AOPR	**Arecibo Observ**	**1.48**	**96**	*eP*	Pn	06 06 15.3	+0.2
AOPR				*eS*	Sn	06 06 38.2	-0.2
OBIP	**Obispado Ponce**	**1.68**	**105**	*eP*	Pn	06 06 16.6	-0.4
OBIP	**Obispado Ponce**	**1.68**	**105**	*eP*	Pn	06 06 16.6	-0.4
OBIP				*eS*	Sn	06 06 41.7	-0.2
CELP	**Cerrillos**	**1.69**	**104**	*eP*	Pn	06 06 17.3	0.0
CELP				*eS*	Sn	06 06 43.0	+0.7
CELP	**Cerrillos**	**1.69**	**104**	*eP*	Pn	06 06 17.3	0.0
CBYP	**Canovanas**	**2.34**	**95**	*eP*	Pn	06 06 24.6	0.0
CBYP	**Canovanas**	**2.34**	**95**	*eP*	Pn	06 06 24.6	0.0
CBYP				*eS*	Sn	06 06 56.3	+0.9

*IDC **14** 06:05:47.1±1.1, 22°.06N×146°.62E, h0km, mb3.9/10, mb1 1.4/11, mb1mx3.7/74, mbtmp3.9/11, ML4.3/1, Error ellipse: s-maj=29.6km s-min=26.3km az=34.0*

*ISCJB **14** 06:05:50.9±0.8, 22°.2N±0°.1×146°.5E±0°.2, h35km, mb3.9/10, Error ellipse: s-maj=24.8km s-min=12.3km az=142.2*

ISC 14 06:05:52.3±1.0, 22°.1N±0°.1×146°.5E±0°.2, h35km, n12, σ0s95/13, mb3.9/10, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.34**	**323**	Pn	**Pn**	**06 07 22.9**	**-0.4**
	7.1nm,0.3s,baz=73,slow=19,SNR=3.7						
JCJ				Sn	**Sn**	**06 08 33.1**	**-1.3**
	9.7nm,0.3s,baz=285,slow=20,SNR=4.1						
SONM	**Songino Array**	**41.03**	**319**	P	**P**	**06 13 33.6**	**+1.2**
	0.8nm,0.6s,baz=125,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**43.44**	**197**	P	**P**	**06 13 51.3**	**-0.8**
	0.7nm,0.8s,baz=12,slow=8.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**55.82**	**321**	P	**P**	**06 15 26.3**	**+0.3**
	0.7nm,0.4s,baz=85,slow=7.5,SNR=2.8						
MKAR	**Makanchi Array**	**56.70**	**312**	P	**P**	**06 15 33.8**	**+1.4**
	0.6nm,0.5s,baz=87,slow=8.8,SNR=5.7						
KURBB	**Kurchatov Arra**	**59.34**	**317**	P	**P**	**06 15 51.7**	**+0.9**
	3.0nm,0.7s,baz=90,slow=7.7,SNR=19						
ILAR	**Eielson Array**	**60.28**	**27**	P	**P**	**06 15 56.8**	**-0.2**
	0.7nm,0.7s,baz=260,slow=6.0,SNR=9.2						
BVAR	**Borovoye Array**	**64.37**	**319**	P	**P**	**06 16 25.7**	**+1.1**
	2.8nm,0.5s,baz=92,slow=7.6,SNR=14						
INK	**Inuvik**	**65.97**	**24**	P	**P**	**06 16 35.3**	**+0.6**
	0.6nm,0.7s,baz=266,slow=10,SNR=3.8						
YKA	**Yellowknife Ar**	**74.65**	**28**	P	**P**	**06 17 27.4**	**-0.4**
	0.3nm,0.8s,baz=287,slow=5.6,SNR=5.6						
FINES	**FINESS Array B**	**84.12**	**335**	P	**P**	**06 18 19.2**	**-0.3**
	1.1nm,0.4s,baz=66,slow=3.5,SNR=9.0						
LPAZ	**La Paz**	**146.84**	**86**	PKPbc	**PKPab**	**06 25 33.1**	**-0.7**
	1.0nm,0.6s,baz=302,slow=2.1,SNR=5.7						

DJA 14 06:08:06.6±0.9, 8°.3S±0°.3×112°.1E±°, h26km±9km, M3.9/6, MLv3.9/6, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**1.05**	**115**	P	Pn	06 08 25.4	-0.4
EDFI				S	Sb	06 08 39.6	-0.1
WBSI	**Waikabubak, Su**	**1.86**	**225**	P	Pn	06 08 36.3	-0.6
BSSI	**Bau Bau, Buton**	**2.17**	**354**	P	Pn	06 08 41.5	+0.5
BSSI				S	Sn	06 09 06.8	-0.2
PLAI	**Plampang**	**2.96**	**260**	P	Pn	06 08 52.2	+0.3
SOEI	**Soe**	**3.79**	**113**	P	Pn	06 09 03.9	+0.5

*ISCJB **14** 06:10:06.0±0.6, 20°.18S±0°.03×69°.27W±0°.09, h104km±5km, mb3.4/2, Error ellipse: s-maj=14.2km s-min=4.9km az=176.7*

*GUC **14** 06:10:06.3±0.6, 20°.19S×69°.20W, h91km±3km, ML3.7*

*IDC **14** 06:10:07.6±7.5, 20°.30S×68°.84W, h112km±51km, mb3.2/2, mb1 3.3/4, mb1mx3.1/40, mbtmp3.5/4, Error ellipse: s-maj=72.1km s-min=34.4km az=47.0*

ISC 14 06:10:06.9±1.0, 20°.19S±0°.03×69°.31W±0°.09, h93km±7km, n15, σ1s00/24, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.16**	**73**	*iP*	**Pn**	**06 10 20.1**	**-0.6**
PB08				*i* S	**Sn**	**06 10 30.3**	**-0.6**
PB08				IAML		06 10 31.5	
	comp=N,6μm,0.2s						
PB11	**IPOC Station P**	**0.53**	**323**	*iP*	**Pn**	**06 10 22.4**	**-0.1**
PB11				*i* S	**Sn**	**06 10 35.0**	**+0.9**
PB01	**IPOC Station P**	**0.87**	**191**	*iP*	**Pn**	**06 10 25.4**	**-0.1**
PB01				*i* S	**Sn**	**06 10 39.8**	**+0.4**
PB01				IAML		06 10 41.1	
	comp=E,4μm,0.2s						
PSGC	**Pisagua**	**0.96**	**308**	*iP*	**Pn**	**06 10 26.8**	**+0.2**
PSGC				*i* S	**Sn**	**06 10 42.9**	**+1.6**
PSGC				IAML		06 10 46.7	
	comp=E,1μm,0.6s						
MNMC	**Minye Minye**	**1.08**	**346**	*eP*	**Pn**	**06 10 28.4**	**+0.2**
MNMC				*i* S	**Sn**	**06 10 44.5**	**+0.4**
MNMC				IAML		06 10 50.3	
	comp=N,3μm,0.1s						
PB02	**IPOC Station P**	**1.25**	**206**	*iP*	**Pn**	**06 10 30.1**	**+0.2**
PB02				*i* S	**Sn**	**06 10 48.7**	**+1.5**
PB02				IAML		06 10 54.1	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**1.60**	**178**	*iP*	**Pn**	**06 10 34.6**	**+0.3**
PB09				*i* S	**Sn**	**06 10 55.7**	**+0.7**
PB09				IAML		06 11 02.7	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**1.62**	**199**	*iP*	**Pn**	**06 10 34.9**	**+0.3**
PB07				*i* S	**Sn**	**06 10 57.2**	**+1.7**
PB07				IAML		06 11 01.2	
	comp=E,725nm,0.4s						
PB12	**IPOC Station P**	**1.84**	**328**	*iP*	**Pn**	**06 10 37.2**	**-0.1**
PB12				*i* S	**Sn**	**06 10 59.5**	**-0.7**
PB12				IAML		06 11 09.8	
	comp=E,3μm,0.2s						
PB06	**IPOC Station P**	**2.52**	**185**	*eP*	**Pn**	**06 10 46.0**	**-0.2**
PB06				*i* S	**Sn**	**06 11 17.5**	**+1.1**
LPAZ	**La Paz**	**4.04**	**16**	P	**Pn**	**06 11 08.7**	**+1.5**
	comp=E,0.7nm,0.3s,baz=188,slow=6.9,SNR=38						
LPAZ				S	**Sn**	**06 11 55.6**	**+1.9**
	comp=E,0.2nm,0.3s,baz=218,slow=19,SNR=2.1						
SIV	**San Ignacio**	**8.88**	**63**	P	Pn	06 12 07.5	-5.0
	comp=E,0.6nm,0.3s,baz=258,slow=12,SNR=13						
TORD	**Torodi Ar. Bea**	**77.28**	**71**	P	P	06 21 48.2	-3.4
	comp=E,0.3nm,0.4s,baz=259,slow=5.5,SNR=5.0						
YKA	**Yellowknife Ar**	**89.83**	**341**	P	**P**	**06 22 53.6**	**-1.1**
	comp=E,0.2nm,0.7s,baz=132,slow=4.9,SNR=6.9						
MKAR	**Makanchi Array**	**144.78**	**35**	PKP	**PKPab**	**06 29 31.1**	**-1.0**
	comp=E,0.4nm,0.6s,baz=297,slow=0.6,SNR=3.3						

IDC 14 06:10:24.0±2.4, 54°.17N×86°.32E, h0km, mb1 2.9/2, mb1mx2.7/75, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=19.4km s-min=11.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**256**	*i*		06 16 43.7	
	baz=74,slow=341,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.91**	**256**	Pg	Pg	06 10 40.3	-1.2
	3.0nm,0.3s,baz=75,slow=17,SNR=37						
ZALV				Lg	Lg	06 10 54.8	
	6.1nm,0.3s,baz=77,slow=29,SNR=29						
ZALV				Rg	Rg	06 10 58.6	
	7.6nm,0.3s,baz=79,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**5.95**	**236**	Pn	Pn	06 11 54.1	+0.9
	0.1nm,0.3s,baz=52,slow=14,SNR=5.6						
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	06 12 20.2	+1.2
	0.3nm,0.3s,baz=24,slow=14,SNR=16						
MKAR				Lg	Lg	06 14 30.8	
	baz=19,slow=32,SNR=2.7						

*IDC **14** 06:12:11.0±1.2, 8°.31N×93°.50E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.5/73, mbtmp3.7/8, ML4.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/66, Error ellipse: s-maj=40.3km s-min=26.1km az=56.0*

*ISCJB **14** 06:12:13.2±1.1, 8°.4N±0°.1×93°.6E±0°.2, h26km, mb3.7/7, Error ellipse: s-maj=25.1km s-min=21.3km az=170.8*

ISC 14 06:12:15.0±1.2, 8°.3N±0°.2×93°.5E±0°.2, h26km, n12, σ0s94/8, mb3.6/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.37**	**27**	Pn	**Pn**	**06 14 56.1**	**+0.2**
	0.7nm,0.3s,baz=212,slow=15,SNR=5.8						
PALK	**Pallekele**	**12.75**	**266**	LR	LR	06 20 07.7	
	comp=Z,53nm,18.7s,baz=294,slow=38						
H08S3	**Diego Garcia H**	**26.28**	**233**	T	T	06 44 48.2	
	baz=53,slow=76,SNR=2.8						
H08S2	**Diego Garcia H**	**26.29**	**233**	T	T	06 44 46.9	
	baz=53,slow=76,SNR=4.7						
H08S1	**Diego Garcia H**	**26.30**	**233**	T	T	06 44 47.1	
	baz=53,slow=76,SNR=2.7						
MKAR	**Makanchi Array**	**39.52**	**348**	P	**P**	**06 19 42.8**	**-0.9**
	0.3nm,0.6s,baz=165,slow=9.9,SNR=4.0						
KURBB	**Kurchatov Arra**	**43.97**	**346**	P	**P**	**06 20 18.6**	**-1.3**
	0.3nm,0.5s,baz=165,slow=7.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**46.04**	**353**	P	**P**	**06 20 36.9**	**+0.5**
	1.3nm,0.4s,baz=181,slow=7.9,SNR=6.7						
WRA	**Warramunga Arr**	**49.02**	**125**	P	**P**	**06 20 59.7**	**-0.4**
	0.6nm,0.9s,baz=304,slow=8.6,SNR=2.6						
BRTR	**Keskin Array B**	**61.68**	**311**	P	**P**	**06 22 30.6**	**-0.6**
	0.4nm,0.5s,baz=132,slow=5.2,SNR=3.5						
ARCES	**ARCESS Array B**	**74.64**	**340**	P	**P**	**06 23 52.6**	**+0.8**
	3.1nm,1.0s,baz=103,slow=7.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**89.90**	**283**	P	**P**	**06 25 13.4**	**+0.8**
	0.3nm,0.8s,baz=84,slow=3.0,SNR=2.7						

*IDC **14** 06:16:32.2±0.9, 9°.94N×125°.85E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/67, mbtmp3.8/9, MS3.5/3, Ms1 3.5/3, ms1mx2.7/58, Error ellipse: s-maj=61.0km s-min=18.4km az=69.0*

*MAN **14** 06:16:37, 10°.00N×126°.30E, h23km, mb4.8, ML3.7, MS3.6*

ISC 14 06:16:33.3±1.5, 9°.99N±0°.03×126°.30E±0°.06, h7km±10km, n27, σ1s51/29, mb3.8/9, MS3.4/3, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.22**	**213**	*eP*	**Pg**	**06 16 57.8**	**+1.1**
BUTP				*eS*	**Sg**	**06 17 13.2**	**+0.7**
MSLP	**Maasin**	**1.43**	**276**	*eP*	**Pg**	**06 17 01.5**	**+0.8**
MSLP				*eS*	**Sg**	**06 17 18.5**	**-0.8**
PLP	**Palo**	**1.75**	**312**	*eP*	**Pb**	**06 17 06.1**	**+0.3**
PLP				*i* S	**Sg**	**06 17 29.2**	**-0.3**
BIPH	**Bislig**	**1.80**	**178**	*eP*	**Pg**	**06 17 07.8**	**-0.1**
BIPH				*eS*	**Sb**	**06 17 28.4**	**-1.0**
BESP	**Borongan**	**1.81**	**332**	*eP*	**Pg**	**06 17 08.4**	**+0.3**
BESP				*eS*	**Sg**	**06 17 30.9**	**-0.6**
LLP	**Lapu-Lapu**	**2.32**	**278**	*eP*	**Pb**	**06 17 15.1**	**-0.5**
LLP				*eS*	**Sb**	**06 17 43.9**	**-0.6**
TBP	**Tagbilaran**	**2.42**	**263**	*eP*	**Pb**	**06 17 16.3**	**-1.0**
TBP				*i* S	**Sb**	**06 17 45.5**	**-1.9**
BUKP	**Musuan**	**2.43**	**210**	*eP*	**Pb**	**06 17 17.1**	**-0.4**
BUKP				*eS*	**Sb**	**06 17 47.2**	**-0.4**
CNP	**Catarman**	**2.97**	**327**	*eP*	**Pb**	**06 17 24.2**	**-2.5**
CNP				*eS*	**Sn**	**06 17 58.7**	**+1.7**
DAV	**Davao City (W)**	**2.99**	**194**	Lg	Lg	06 17 59.3	
	124nm,0.3s,baz=353,slow=17,SNR=3.2						
DCPH	**Dipolog City**	**3.23**	**245**	*eP*	**Pb**	**06 17 27.6**	**-3.4**
RCP	**Roxas**	**3.83**	**294**	*eP*	**Pn**	**06 17 36.2**	**+3.4**
WRA	**Warramunga Arr**	**30.78**	**165**	P	**P**	**06 22 50.1**	**+0.3**
	0.4nm,0.8s,baz=343,slow=8.9,SNR=3.7						
ASAR	**Alice Springs**	**34.27**	**168**	P	**P**	**06 23 21.1**	**+0.7**
	0.2nm,0.3s,baz=346,slow=6.7,SNR=3.0						
HNR	**Honiara**	**38.65**	**119**	LR	LR	06 39 40.0	
	comp=Z,18nm,18.2s,baz=51,slow=36						
H11N1	**WAKE ISLAND Hy**	**40.31**	**71**	T	T	07 07 27.8	
	baz=263,slow=75,SNR=49						
H11N2	**WAKE ISLAND Hy**	**40.32**	**71**	T	T	07 07 28.1	
	baz=263,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**40.33**	**71**	T	T	07 07 29.1	
	baz=263,slow=75,SNR=42						
SONM	**Songino Array**	**41.29**	**340**	P	**P**	**06 24 19.6**	**0.0**
	0.3nm,0.5s,baz=158,slow=9.7,SNR=2.5						
MKAR	**Makanchi Array**	**52.27**	**323**	P	**P**	**06 25 44.0**	**-1.5**
	1.2nm,0.7s,baz=117,slow=8.5,SNR=12						
ZALV	**Zalesovo Beam**	**54.88**	**331**	P	**P**	**06 26 02.7**	**-1.8**
	0.3nm,0.3s,baz=115,slow=7.8,SNR=2.4						
KURBB	**Kurchatov Arra**	**56.32**	**325**	P	**P**	**06 26 13.2**	**-1.6**
	1.0nm,0.6s,baz=127,slow=6.8,SNR=8.1						
WSAR	**Wadi Sarin**	**65.68**	**291**	LR	LR	06 59 10.4	
	comp=Z,24nm,19.6s,baz=174,slow=39						
INK	**Inuvik**	**84.53**	**22**	P	**P**	**06 29 08.1**	**+1.2**
	0.8nm,0.7s,baz=260,slow=2.1,SNR=4.4						
FINES	**FINESS Array B**	**86.15**	**332**	P	**P**	**06 29 13.4**	**-1.8**
	1.9nm,0.9s,baz=87,slow=5.7,SNR=6.7						
IDI	**Anoyia**	**93.46**	**307**	LR	LR	07 17 15.4	
	comp=Z,95nm,20.3s,baz=330,slow=39						
YKA	**Yellowknife Ar**	**94.00**	**24**	P	**P**	**06 29 52.7**	**+0.7**
	0.4nm,0.9s,baz=299,slow=4.8,SNR=7.9						

IDC 14 06:17:55.6±2.2, 8°.43N×93°.33E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.3/73, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=77.8km s-min=26.4km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.36**	**28**	Pn	Pn	06 20 40.0	+0.7
	0.3nm,0.3s,baz=213,slow=15,SNR=2.9						
H08S3	**Diego Garcia H**	**26.20**	**233**	T	T	06 50 25.3	
	baz=53,slow=76						
H08S2	**Diego Garcia H**	**26.20**	**233**	T	T	06 50 23.7	
	baz=53,slow=76						
H08S1	**Diego Garcia H**	**26.22**	**233**	T	T	06 50 25.4	
	baz=53,slow=76						
MKAR	**Makanchi Array**	**39.38**	**348**	P	P	06 25 27.1	+0.1
	0.3nm,0.7s,baz=173,slow=8.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**43.82**	**346**	P	P	06 26 03.4	+0.1
	0.3nm,0.6s,baz=142,slow=7.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**45.91**	**353**	P	P	06 26 18.8	-1.1
	0.9nm,0.5s,baz=176,slow=8.2,SNR=4.2						
WRA	**Warramunga Arr**	**49.23**	**125**	P	P	06 26 46.3	0.0
	0.7nm,1.0s,baz=305,slow=8.5,SNR=2.7						

*IDC **14** 06:18:35.9±0.9, 54°.16N×35°.21W, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.4/74, mbtmp3.5/9, ML2.4/1, MS3.4/4, Ms1 3.4/4, ms1mx2.8/59, Error ellipse: s-maj=32.4km s-min=18.2km az=30.0*

*ISCJB **14** 06:18:36.4±0.8, 54°.2N±0°.2×35°.2W±0°.2, h14km, mb3.5/8, MS3.3/4, Error ellipse: s-maj=26.9km s-min=13.5km az=22.8*

ISC 14 06:18:38.0±0.9, 54°.2N±0°.2×35°.2W±0°.1, h14km, n14, σ0s76/11, mb3.5/8, MS3.3/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.31**	**285**	P	**P**	**06 22 52.1**	**+0.8**
	0.1nm,0.3s,baz=70,slow=7.5,SNR=4.0						
NOA	**NORSAR Array B**	**25.33**	**55**	LR	LR	06 31 33.3	
	comp=Z,60nm,19.1s,baz=265,slow=31						
HFS	**Hagfors**	**26.66**	**57**	LR	LR	06 33 01.5	
	comp=Z,77nm,18.3s,baz=260,slow=32						
SADO	**Sadowa**	**29.62**	**270**	LR	LR	06 35 33.9	
	comp=Z,76nm,18.5s,baz=65,slow=34						
YKA	**Yellowknife Ar**	**39.96**	**315**	P	**P**	**06 26 10.5**	**-0.8**
	0.3nm,0.8s,baz=60,slow=9.1,SNR=5.3						
YKA				PcP	**PcP**	**06 28 15.4**	**-0.9**
	0.3nm,1.0s,baz=64,slow=3.9,SNR=3.2						
KOWA	**Kowa**	**46.49**	**136**	P	**P**	**06 27 05.6**	**+0.9**
	1.2nm,0.7s,baz=346,slow=9.0,SNR=2.9						
BRTR	**Keskin Array B**	**47.27**	**78**	P	**P**	**06 27 10.6**	**-0.1**
	0.9nm,0.8s,baz=297,slow=3.8,SNR=5.0						
PDAR	**Pinedale Array**	**48.40**	**289**	P	**P**	**06 27 19.2**	**-0.3**
	0.2nm,0.6s,baz=75,slow=6.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**50.14**	**130**	P	**P**	**06 27 32.1**	**-0.7**
	0.9nm,1.0s,baz=315,slow=7.7,SNR=3.4						
ILAR	**Eielson Array**	**50.39**	**329**	P	**P**	**06 27 35.1**	**+0.9**
	0.4nm,0.9s,baz=38,slow=6.0,SNR=5.7						
ANMO	**Albuquerque**	**51.94**	**279**	LR	LR	06 49 31.1	
	comp=Z,39nm,21.9s,baz=238,slow=36						
KURBB	**Kurchatov Arra**	**61.79**	**41**	P	**P**	**06 28 56.1**	**+0.2**
	0.3nm,0.5s,baz=333,slow=6.2,SNR=3.9						
SONM	**Songino Array**	**73.31**	**26**	P	**P**	**06 30 09.0**	**+0.2**
	0.2nm,0.6s,baz=335,slow=6.4,SNR=2.5						
ASAR	**Alice Springs**	**148.47**	**19**	PKPbc	**PKPbc**	**06 38 23.6**	**-0.4**
	0.5nm,0.5s,baz=345,slow=2.6,SNR=5.6						

*JMA **14** 06:22:52.7±0.4, 24°.87N×122°.42E, h0km±4km, M2.9*

*ISCJB **14** 06:22:53.2±0.5, 24°.88N±0°.03×122°.44E±0°.02, h5km±3km, Error ellipse: s-maj=4.6km s-min=2.7km az=15.1*

*TAP **14** 06:22:53.6, 24°.89N×122°.38E, h10km, ML2.9, D*

ISC 14 06:22:53.1±1.2, 24°.88N±0°.03×122°.41E±0°.02, h6km±10km, n35, σ0s48/64, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1

NACB				*e*S		**Sb**	**06 23 26.5**	**-0.5**
	baz=224							
NNSB	**Datong**	**1.04**	**245**	*e*P		**Pb**	**06 23 13.4**	**-0.2**
	baz=230							
NNSB				*e*S		**Sb**	**06 23 27.8**	**+0.3**
	baz=230							
NNSH	**Datong**	**1.04**	**245**	*e*P		**Pg**	**06 23 13.2**	**+0.1**
	baz=230							
NNSH				*e*S		**Sb**	**06 23 27.7**	**+0.1**
	baz=230							
NNS	**Nan Shan**	**1.04**	**245**	*e*P		**Pb**	**06 23 13.8**	**+0.1**
	baz=243							
TWD	**Chiawan**	**1.09**	**223**	*e*P		**Pb**	**06 23 14.4**	**0.0**
	baz=230							
TWD				*e*S		**Sb**	**06 23 28.5**	**-0.4**
	baz=230							
WHF	**Hehuan Shan**	**1.28**	**235**	*e*P		**Pb**	**06 23 17.8**	**-0.1**
	baz=232							
WHF				*e*S		**Sg**	**06 23 33.8**	**-0.3**
	baz=232							
TDCB	**Techi**	**1.30**	**242**	*e*P		**Pb**	**06 23 18.3**	**+0.2**
	baz=228							
TDCB				*e*S		**Sn**	**06 23 36.7**	**+0.9**
	baz=228							
IRIF	**Iriomote-Funau**	**1.32**	**114**	P		**Pn**	**06 23 18.2**	**+0.1**
IRIF				S		**Sb**	**06 23 35.1**	**-0.3**
CHGB	**Renai**	**1.39**	**234**	*e*S		**Sn**	**06 23 38.1**	**-0.1**
	baz=232							
OWD	**Renai**	**1.46**	**231**	S		**Sn**	**06 23 39.6**	**-0.1**
	baz=238							
HATJ	**Hateruma jima**	**1.51**	**123**	P		**Pb**	**06 23 21.8**	**+0.2**
JISG	**Ishigakijimahi**	**1.75**	**99**	P		**Pn**	**06 23 24.6**	**+0.6**

ISCJB ***14*** *06:28:07.8±0.4, 0.°27N±0.°05×122.°37E±0.°06, h150km, mb4.0/12, Error ellipse: s-maj=7.9km s-min=7.0km az=166.5*

DJA ***14*** *06:28:09.6±0.6, 0.°N±4.°×12.°2E±.°, h112km±6km, M4.3/8, mb4.4/1, MLv4.3/8*

IDC ***14*** *06:28:10.8±0.8, 0.°44N×122.°68E, h161km±7km, mb3.7/10, mb1 3.9/11, mb1mx3.5/60, mbtmp4.1/11, Error ellipse: s-maj=48.3km s-min=10.4km az=63.0*

ISC 14 06:28:09.4±0.6, **0.°30N**±0.°06×**122.°36E**±0.°06, **h150**km, **n23,** σ**2s01**/35, **mb4.1**/12, **2C-1D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.45**	**293**	Op P		**Pn**	**06 28 26.6**	**-3.9**
MRSI				S		**Sn**	**06 28 40.4**	**-6.1**
LUWI	**Luwuk**	**1.40**	**163**	P		**Pn**	**06 28 36.0**	**-1.9**
LUWI				S		**Sn**	**06 28 56.6**	**-3.1**
APSI	**Ampana**	**1.40**	**211**	P		**Pn**	**06 28 36.0**	**-1.9**
APSI				S		**Sn**	**06 28 57.0**	**-2.7**
KMSI	**Cibinong**	**1.64**	**81**	P		**Pn**	**06 28 39.7**	**-0.7**
KMSI				S		**Sn**	**06 29 03.3**	**-0.9**
MPSI	**Mapaga**	**2.46**	**271**	P		**Pn**	**06 28 48.6**	**-1.4**
TTSI	**Tana Toraja**	**4.18**	**217**	P		**Pn**	**06 29 11.5**	**-0.6**
KDI	**Kendari**	**4.24**	**177**	P		**Pn**	**06 29 12.1**	**-0.7**
SANI	**Sanana**	**4.31**	**123**	P		**Pn**	**06 29 11.4**	**-2.4**
BNSI	**Bone**	**5.19**	**206**	P		**Pn**	**06 29 25.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**18.57**	**170**	P		**P**	**06 32 16.0**	**+1.1**
	baz=346,slow=8.3							
WRA	**Warramunga Arr**	**23.29**	**150**	P		**P**	**06 33 04.1**	**+0.1**
	11nm,0.6s,baz=325,slow=10,SNR=90							
WRA				PcP		**PcP**	**06 36 46.7**	**-0.3**
	0.7nm,1.0s,baz=317,slow=2.3,SNR=4.4							
ASAR	**Alice Springs**	**26.33**	**156**	P		**P**	**06 33 32.1**	**+0.6**
	1.8nm,0.6s,baz=343,slow=14,SNR=30							
ASAR				PcP		**PcP**	**06 36 53.7**	**-0.1**
	0.4nm,0.4s,baz=328,slow=2.0,SNR=4.1							
CMAR	**Chiang Mai Arr**	**29.23**	**309**	P		**P**	**06 34 00.1**	**+2.8**
	2.6nm,0.3s,baz=148,slow=5.3,SNR=3.2							
STKA	**Stephens Creek**	**36.82**	**152**	P		**P**	**06 35 04.0**	**+1.0**
	8.8nm,0.7s,baz=324,slow=8.7,SNR=12							
PDGK	**Podgornoye**	**57.43**	**324**	⇓Pn		**P**	**06 37 43.6**	**+1.0**
	4.3nm,0.7s							
PDGK				⇑Sn		**pP**	**06 38 17.8**	**+0.1**
	1.1nm,0.7s							
MK31	**Makanchi Array**	**58.02**	**329**	⇑Pn		**P**	**06 37 47.3**	**+0.7**
	2.0nm,0.5s,baz=126,slow=8.6,SNR=28							
MK31				Sn		**pP**	**06 38 25.3**	**+3.6**
	1.8nm,0.6s,baz=123,slow=7.8,SNR=8.3							
MKAR	**Makanchi Array**	**58.02**	**329**	P		**P**	**06 37 47.9**	**+1.3**
	4.1nm,0.6s,baz=127,slow=8.6,SNR=31							
MKAR				pP		**pP**	**06 38 24.4**	**+2.7**
	2.2nm,0.6s,baz=124,slow=8.6,SNR=8.2							
MKAR				PcP		**PcP**	**06 38 36.7**	**-0.2**
	0.9nm,0.7s,baz=149,slow=4.8,SNR=3.5							
AAK	**Ala-Archa**	**60.09**	**321**	P		**P**	**06 38 02.4**	**+1.3**
	0.6nm,0.4s,baz=108,slow=12,SNR=4.0							
ZALV	**Zalesovo Beam**	**61.78**	**336**	P		**P**	**06 38 11.9**	**-0.1**
	0.6nm,0.5s,baz=145,slow=5.3,SNR=2.7							
ZALV				pP		**pP**	**06 38 49.4**	**+1.8**
	0.5nm,0.3s,baz=127,slow=7.8,SNR=2.4							
KURBB	**Kurchatov Arra**	**62.38**	**330**	P		**P**	**06 38 16.2**	**+0.1**
	1.0nm,0.5s,baz=114,slow=5.8,SNR=13							
KURBB				pP		**PcP**	**06 38 55.1**	**+0.8**
	1.5nm,0.7s,baz=133,slow=5.6,SNR=8.4							
VNDA	**Vanda**	**80.63**	**172**	P		**P**	**06 40 04.5**	**-0.4**
	0.8nm,0.7s,baz=328,slow=8.0,SNR=3.2							
ILAR	**Eielson Array**	**90.05**	**25**	P		**P**	**06 40 50.6**	**-1.2**
	0.2nm,0.7s,baz=251,slow=4.3,SNR=5.2							
TORD	**Torodi Ar. Bea**	**119.71**	**285**	PKP		**PKPdf**	**06 46 41.3**	**-1.3**
	0.2nm,0.4s,baz=53,slow=2.0,SNR=3.7							

IDC ***14*** *06:51:53.9±0.4, 54.°28N×35.°19W, h0km, mb4.2/34, mb1 4.3/38, mb1mx4.2/74, mbtmp4.2/38, ML3.6/4, MS4.2/47, Ms1 4.2/47, ms1mx4.1/64, Error ellipse: s-maj=12.8km s-min=9.0km az=5.0*

BJI ***14*** *06:51:53.9, 54.°30N×35.°10W, h11km, mb4.7/24, mB5.2/13, Ms4.9/3, Ms7 4.7/2*

ISCJB ***14*** *06:51:54.0±1.9, 54.°35N±0.°03×35.°21W±0.°03, h5km±12km, mb4.8/191, MS4.2/55, Error ellipse: s-maj=5.5km s-min=2.5km az=177.2*

MOS ***14*** *06:51:54.8±0.9, 54.°36N×35.°17W, h11km, mb5.0/54, MS4.5/7, Error ellipse: s-maj=8.4km s-min=6.8km az=76.2*

CSEM ***14*** *06:51:56.4±0.1, 54.°37N×35.°13W, h10km, mb4.9/99, Error ellipse: s-maj=5.1km s-min=2.5km az=177.0*

NEIC ***14*** *06:51:56.6±0.1, 54.°34N×35.°12W, h10km, mb4.9/136, Error ellipse: s-maj=4.3km s-min=2.3km az=180.0*

GCMT ***14*** *06:51:56.6±0.2, 54.°47N×35.°04W, h12km, MW4.9/87, Moment Tensor Solution. s25,c28; s87,c134; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.42±.08; Mθθ=0.17±.09; Mϕϕ2.59±.06; Mrθ1.53±.33; Mθϕ-0.30±.06; Mϕr~0.92±.26; Best double couple: M○3.07500×10¹⁶ NP1:ϕs329.00000°, δ62.00000°, λ-116.00000°. NP2: ϕs195.00000°, δ38.00000°, λ-51.00000°. Principal axes: T 2.8740, Plg13.0000°, Azm78.0000°; N 0.4040, Plg23.0000°, Azm342.0000°; P -3.2770, Plg64.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 06:51:56.6±0.5, **54.°39N**±0.°06×**35.°17W**±0.°04, **h12**km±3km, **h13**km**;pP-P, n647,** σ**0s86**/631, **mb4.8**/191, **MS4.2**/56, **6C-6D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**14.67**	**336**	Pn		**Pn**	**06 55 22.6**	**-1.0**
	0.5nm,0.3s,baz=132,slow=14,SNR=2.8							
SFJD				LR		LR	07 00 00.4	
	comp=Z,538nm,20.4s,baz=148,slow=33							
SFJD	**Kangerlussuaq**	**14.67**	**336**	*i* P		**P**	**06 55 30.1**	**+0.3**
	17nm,0.7s							
SFJD	**Kangerlussuaq**	**14.67**	**336**	Pn		**Pn**	**06 55 22.6**	**-1.0**
SFJD				*e*Pn		**P**	**06 55 28.9**	**-0.9**
ROSA	**Rosais**	**16.37**	**160**	*e*Pn		**Pn**	**06 55 46.3**	**+0.3**
	440nm,1.8s							
ROSA	**Rosais**	**16.37**	**160**	*e*Pn		**Pn**	**06 55 46.3**	**+0.3**
	440nm,1.8s							
ILULI	**Ilulissat**	**16.57**	**340**	*e*P		**P**	**06 55 50.1**	**-0.9**
ILULI				pmax		pmax		
	comp=Z,20nm,0.9s							
ILULI	**Ilulissat**	**16.57**	**340**	*e*Pn		**P**	**06 55 50.1**	**-0.9**
	comp=Z,20nm,0.9s							
DSB	**Dublin**	**16.99**	**82**	*e*Pn		**Pn**	**06 55 53.0**	**-0.8**
	comp=Z,97nm,1.7s							
SCHQ	**Schefferville**	**18.27**	**284**	P		**Pn**	**06 56 08.8**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=81,slow=7.6,SNR=32							
SCHQ				LR		LR	07 01 58.7	
	comp=Z,740nm,19.3s,baz=108,slow=33							
SCHQ	**Schefferville**	**18.27**	**284**	*e*Pn		**Pn**	**06 56 09.5**	**-0.2**
	comp=Z,42nm,1.3s							
SUMG	**Summit**	**18.31**	**357**	*i* P		**P**	**06 56 12.0**	**+1.4**
	comp=Z,505nm,2.3s							
SUMG	**Summit**	**18.31**	**357**	*e*P		**P**	**06 56 11.3**	**+0.7**
SUMG				pmax		pmax		
	comp=Z,218nm,1.8s							
SUMG	**Summit**	**18.31**	**357**	*e*P		**P**	**06 56 11.3**	**+0.7**
	comp=Z,218nm,1.8s							
EKA	**Eskdalemuir Ar**	**18.37**	**74**	P		**Pn**	**06 56 10.4**	**-0.4**
	baz=282,slow=9.0,SNR=11							
EKA				LR		LR	07 02 06.0	
	comp=Z,1μm,18.1s,baz=290,slow=33							
FRB	**Frobisher Bay**	**19.32**	**312**	P		**Pn**	**06 56 22.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=103,slow=18,SNR=14							
PGAV	**Gavieira, Arco**	**21.66**	**114**	*e*P		**P**	**06 56 46.6**	**-0.3**
	comp=Z,81nm,1.9s							
PGAV				*e*LQ		LQ	07 00 54.4	
PGAV				*e*LR		LR	07 01 58.0	
	comp=Z,758nm,20.0s							
PQI	**Presque Isle**	**22.10**	**263**	*e*P		**P**	**06 56 51.4**	**0.0**
	comp=Z,142nm,1.8s							
POLO	**Lamas de Olo**	**22.33**	**114**	*e*LR		LR	07 02 00.4	
PBRG	**Braganca**	**22.60**	**112**	*e*P		**P**	**06 56 56.2**	**-0.7**
	comp=Z,70nm,1.9s							
PBRG				*e*LR		LR	07 02 15.4	
PVIS	**Viseu**	**22.75**	**116**	*e*P		**P**	**06 56 58.4**	**-0.1**
	comp=Z,48nm,1.7s							
MVO	**Moncorvo**	**22.89**	**114**	*e*P		**P**	**06 56 59.9**	**-0.1**
	comp=Z,34nm,1.7s							
MVO				*e*LQ		LQ	07 01 18.5	
MVO				*e*LR		LR	07 02 31.4	
	comp=Z,812nm,20.0s							
PCAS	**Casmilo, Conde**	**22.92**	**118**	*e*LR		LR	07 02 12.9	
MTE	**Manteigas**	**23.16**	**116**	*e*P		**P**	**06 57 02.6**	**-0.2**
	comp=Z,50nm,1.8s							
MTE				*e*LQ		LQ	07 01 21.4	
MTE				*e*LR		LR	07 02 22.4	
	comp=Z,760nm,20.0s							
MTE	**Manteigas**	**23.16**	**116**	*e*P		**P**	**06 57 02.7**	**0.0**
	comp=Z,36nm,1.4s							
PTOM	**Tomar**	**23.28**	**118**	*e*P		**P**	**06 57 03.5**	**-0.4**
	comp=Z,95nm,1.6s							
PMAFR	**Mafra**	**23.34**	**121**	*e*LR		LR	07 02 27.9	
PCBR	**Castelo Branco**	**23.60**	**117**	*e*P		**P**	**06 57 06.9**	**-0.2**
	comp=Z,103nm,1.6s							
PKME	**Peaks-Kenny Pk**	**23.62**	**261**	P		**P**	**06 57 07.3**	**0.0**
	baz=55							
PKME	**Peaks-Kenny Pk**	**23.62**	**261**	*e*P		**P**	**06 57 08.2**	**+0.9**
	comp=Z,78nm,1.4s							
PMTG	**Montargil**	**23.79**	**119**	*e*P		**P**	**06 57 08.4**	**-0.5**
	comp=Z,32nm,2.1s							
PMTG				*e*LR		LR	07 02 47.9	
PMRV	**Marv??o**	**23.95**	**117**	*e*P		**P**	**06 57 09.3**	**-1.2**
	comp=Z,72nm,1.7s							
PMRV				*e*LR		LR	07 02 57.9	
	comp=Z,800nm,20.0s							
PESTR	**Estremoz**	**24.27**	**118**	*e*LR		LR	07 02 52.9	
PESTR	**Estremoz**	**24.27**	**118**	*e*P		**P**	**06 57 12.3**	**-1.1**
	comp=Z,10nm,1.1s							
PNCL	**Nicolau / Gran**	**24.36**	**121**	*e*P		**P**	**06 57 15.3**	**+1.0**
	comp=Z,64nm,2.0s							
PNCL				*e*LR		LR	07 02 57.9	
KONO	**Kongsberg**	**24.55**	**59**	*e*P		**P**	**06 57 16.2**	**+0.5**
KONO				pmax		pmax		
	comp=Z,80nm,1.8s							
KONO	**Kongsberg**	**24.55**	**59**	*e*P		**P**	**06 57 16.2**	**+0.5**
	comp=Z,80nm,1.8s							
PBEJ	**Beja**	**24.76**	**120**	*e*P		**P**	**06 57 17.5**	**-0.4**
	comp=Z,48nm,1.9s							
MORF	**Marmelete**	**24.93**	**122**	*e*LR		LR	07 03 10.4	
PFVI	**Vila Bisbo**	**24.98**	**123**	*e*LR		LR	07 03 22.9	
PCVE	**Castro Verde**	**24.98**	**121**	*e*P		**P**	**06 57 19.4**	**-0.5**
PMOZ	**Porto Moniz, M**	**25.04**	**142**	*e*LR		LR	07 03 22.9	
	comp=Z,316nm,20.0s							
PBAR	**Barrancos**	**25.07**	**119**	*e*P		**P**	**06 57 21.3**	**+0.6**
	comp=Z,71nm,1.7s							
PBAR				*e*LR		LR	07 03 07.9	
MEM	**Membach**	**25.09**	**82**	⇑P		**P**	**06 57 22.4**	**+1.7**
NOA	**NORSAR Array B**	**25.18**	**56**	P		**P**	**06 57 21.4**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=276,slow=9.3,SNR=3.0							
NOA				LR		LR	07 05 31.8	
	comp=Z,559nm,21.6s,baz=275,slow=32							
PVAQ	**Vaqueiros**	**25.32**	**121**	*e*P		**P**	**06 57 23.2**	**+0.3**
PVAQ				*e*LR		LR	07 03 22.9	
	comp=Z,660nm,20.0s							
PBDV	**Barranco-do-Ve**	**25.34**	**121**	*e*LR		LR	07 03 17.9	
PAB	**San Pablo**	**25.48**	**113**	*e*P		**P**	**06 57 24.6**	**+0.2**
PAB				pmax		pmax		
	comp=Z,41nm,1.6s							
PAB	**San Pablo**	**25.48**	**113**	*e*P		**P**	**06 57 24.6**	**+0.2**
	comp=Z,40nm,1.6s							
TULEG	**Thule**	**25.50**	**342**	*e*P		**P**	**06 57 25.6**	**+1.4**
	comp=Z,29nm,1.3s							
ESDC	**Sonseca Array**	**25.59**	**112**	P		**P**	**06 57 24.9**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=314,slow=8.6,SNR=17							
ESDC				LR		LR	07 05 26.4	
	comp=Z,533nm,18.6s,baz=315,slow=32							
ESLA	**Sonseca Array**	**25.59**	**112**	*e*P		**P**	**06 57 25.6**	**+0.1**
	comp=Z,44nm,1.8s							
ES19	**SONSECA Array**	**25.61**	**112**	*e*P		**P**	**06 57 25.5**	**-0.1**
TRQ	**Mont Tremblant**	**26.16**	**268**	*e*P		**P**	**06 57 30.3**	**-0.3**
FRNY	**Flat Rock**	**26.36**	**265**	*e*P		**P**	**06 57 34.2**	**+1.9**
	comp=Z,29nm,1.4s							
HFS	**Hagfors**	**26.52**	**58**	P		**P**	**06 57 34.7**	**+1.2**
	comp=Z,3.1nm,0.9s,baz=334,slow=9.6,SNR=2.7							
HFS				LR		LR	07 06 52.0	
	comp=Z,737nm,18.6s,baz=283,slow=34							
ECH	**Echery**	**26.84**	**86**	*e*P		**P**	**06 57 36.9**	**+0.2**
ECH				pmax		pmax		
	comp=Z,18nm,1.5s							
ECH	**Echery**	**26.84**	**86**	*e*P		**P**	**06 57 36.9**	**+0.2**
	comp=Z,18nm,1.5s							
SSB	**Saint Sauveur**	**26.86**	**93**	*e*P		**P**	**06 57 37.4**	**+0.5**
SSB				pmax		pmax		
	comp=Z,7.0nm,1.0s							
SSB	**Saint Sauveur**	**26.86**	**93**	*e*P		**P**	**06 57 37.4**	**+0.5**
	comp=Z,6.6nm,1.0s							
NCB	**Newcomb**	**27.24**	**264**	*e*P		**P**	**06 57 42.8**	**+2.5**
	comp=Z,47nm,1.5s							
BFO	**Black Forest**	**27.47**	**85**	*e*P		**P**	**06 57 42.9**	**+0.6**
BFO				pmax		pmax		
	comp=Z,11nm,1.3s							
BFO	**Black Forest**	**27.47**	**85**	*e*P		**P**	**06 57 42.9**	**+0.6**
	comp=Z,11nm,1.3s							
SENIN	**Lac Senin/Sane**	**27.88**	**89**	*e*P		**P**	**06 57 47.0**	**+0.8**
	comp=Z,24nm,1.6s							
CLL	**Collm**	**28.80**	**76**	*e*P		**P**	**06 57 55.0**	**+0.9**
CLL				*e*			06 58 03.0	
CLL	**Collm**	**28.80**	**76**	*e*P		**P**	**06 57 55.0**	**+0.9**
CLL				*e*			06 58 03.0	
CLL	**Collm**	**28.80**	**76**	*e*P		**P**	**06 57 54.9**	**+0.8**
	comp=Z,34nm,1.8s							
TUE	**Stuetta**	**29.02**	**87**	*e*P		**P**	**06 57 57.3**	**+1.0**
	comp=Z,23nm,1.4s							
CPNY	**Central Park**	**29.08**	**258**	*e*P		**P**	**06 57 58.6**	**+2.0**
	comp=Z,83nm,1.8s							
FUORN	**Ofenpass-Fuorn**	**29.47**	**86**	*e*P		**P**	**06 58 01.7**	**+1.3**
	comp=Z,42nm,1.9s							
BRG	**Berggiesshubel**	**29.53**	**76**	*e*P		P	06 58 05.3	+4.8
	comp=Z,17nm,1.5s							
BRG	**Berggiesshubel**	**29.53**	**76**	*e*P		P	06 58 05.3	+4.8
BRG				pmax		pmax		
	comp=Z,17nm,1.5s							
BRG				MLR		MLR		
	comp=N,644nm,20.1s							
BRG				MLR		MLR		
	comp=E,602nm,20.4s							
BRG				MLR		MLR		
	comp=Z,919nm,15.0s							
SADO	**Sadowa**	**29.64**	**269**	P		**P**	**06 58 00.7**	**-0.9**
	comp=Z,5.8nm,0.6s,baz=57,slow=6.8,SNR=9.1							
SADO				LR		LR	07 08 59.7	
	comp=Z,2μm,18.1s,baz=24,slow=35							
SADO	**Sadowa**	**29.64**	**269**	*e*P		**P**	**06 58 01.6**	**0.0**
	comp=Z,24nm,1.1s							
SPITS	**Spitsbergen Ar**	**29.69**	**19**	LR		LR	07 07 10.8	
	comp=Z,168nm,18.9s,baz=205,slow=31							
LUPA	**Lehigh Univers**	**30.01**	**259**	*e*P		**P**	**06 58 05.4**	**+0.4**
	comp=Z,1.6nm,1.1s							
N59A	**State Game Lan**	**30.03**	**260**	P		**P**	**06 58 05.3**	**+0.1**
	baz=50							
GEC2	**GERESS Array S**	**30.33**	**80**	*e*P		**P**	**06 58 09.3**	**+1.5**
GEC2				pmax		pmax		
	comp=Z,30nm,1.8s							
GEC2	**GERESS Array S**	**30.33**	**80**	*e*P		**P**	**06 58 09.3**	**+1.5**
	comp=Z,30nm,1.8s							
GERES	**GERESS Array B**	**30.33**	**80**	P		**P**	**06 58 08.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=302,slow=7.7,SNR=10							
GERES				LR		LR	07 09 45.9	
	comp=Z,578nm,18.6s,baz=294,slow=35							
GEA0	**GERESS Array S**	**30.34**	**80**	*e*P		**P**	**06 58 07.7**	**-0.1**
RES	**Resolute Bay**	**30.65**	**333**	P		**P**	**06 58 10.3**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=92,slow=8.9,SNR=14							
RES	**Resolute Bay**	**30.65**	**333**	*e*P		**P**	**06 58 11.1**	**+0.9**
RES				pmax		pmax		
	comp=Z,8.0nm,1.1s							
RES	**Resolute Bay**	**30.65**	**333**	*e*P		**P**	**06 58 11.1**	**+0.9**
	comp=Z,8.4nm,1.1s							
ARCES	**ARCESS Array B**	**30.68**	**37**	P		**P**	**06 58 09.5**	**-1.0**
	comp=Z,8.4nm,1.0s,baz=257,slow=8.6,SNR=7.0							
KSP	**Ksiaz**	**30.87**	**75**	*e*P		**P**	**06 58 13.6**	**+1.2**
KSP	**Ksiaz**	**30.87**	**75**	*e*P		**P**	**06 58 13.6**	**+1.2**
SSPA	**Standing Stone**	**31.44**	**262**	P		**P**	**06 58 17.7**	**+0.2**
	baz=50							
ERPA	**Erie**	**31.72**	**266**	P		**P**	**06 58 19.9**	**-0.1**
	baz=52							
FCC	**Fort Churchill**	**31.83**	**302**	*e*P		**P**	**06 58 21.4**	**+0.7**
FCC				pmax		pmax		
	comp=Z,26nm,1.4s							
FCC	**Fort Churchill**	**31.83**	**302**	*e*P		**P**	**06 58 21.4**	**+0.7**
	comp=Z,26nm,1.4s							
O56A	**Blue Knob Stat**	**32.07**	**262**	P		**P**	**06 58 23.0**	**-0.2**
	baz=49							
MORC	**Moravsky Berou**	**32.08**	**76**	*e*P		**P**	**06 58 23.8**	**+0.7**
	comp=Z,58nm,1.5s							
FINES	**FINESS Array B**	**32.16**	**52**	P		**P**	**06 58 22.8**	**-0.8**
	comp=Z,2.9nm,1.0s,baz=279,slow=9.7,SNR=3.3							
FINES				LR		LR	07 10 00.1	
	comp=Z,442nm,19.4s,baz=260,slow=34							
N54A	**Moraine State**	**32.45**	**264**	P		**P**	**06 58 26.1**	**-0.3**
	baz=50							
N54A	**Moraine State**	**32.45**	**264**	*e*P		**P**	**06 58 27.1**	**+0.7**
	comp=Z,54nm,1.8s							
F45A	**CMU Biological**	**32.85**	**276**	P		**P**	**06 58 30.1**	**+0.2**
	baz=56							
OJC	**Ojcow**	**33.14**	**74**	*e*P		**P**	**06 58 32.6**	**+0.3**
OJC	**Ojcow**	**33.14**	**74**	*e*P		**P**	**06 58 32.7**	**+0.3**
SPRD	**Spring Road, M**	**33.18**	**258**	*e*P		**P**	**06 58 34.2**	**+1.4**
	comp=Z,13nm,1.3s							
MCWV	**Mont Chateau**	**33.21**	**262**	P		**P**	**06 58 33.1**	**0.0**
	baz=49							
F44A	**Big Bay de Noc**	**33.22**	**277**	P		**P**	**06 58 33.1**	**0.0**
	baz=56							
E43A	**Lone Tree Farm**	**33.33**	**278**	P		**P**	**06 58 34.0**	**0.0**
	baz=57							
F43A	**Flat Rock, Esc**	**33.73**	**277**	P		**P**	**06 58 37.3**	**-0.2**
	baz=56							
C40A	**Isle Royale Na**	**33.75**	**282**	P		**P**	**06 58 37.5**	**-0.2**
	baz=58							
NIE	**Niedzica**	**33.82**	**75**	*e*P		**P**	**06 58 39.7**	**+1.4**
NIE	**Niedzica**	**33.82**	**75**	*e*P		**P**	**06 58 39.7**	**+1.4**
E42A	**Champion**	**33.83**	**279**	P		**P**	**06 58 38.2**	**-0.2**
	baz=57							
D41A	**Chassel**	**33.87**	**280**	P		**P**	**06 58 38.6**	**-0.1**
	baz=57							
G43A	**Wallace**	**34.35**	**277**	P		**P**	**06 58 42.8**	**-0.2**
	baz=55							
C39A	**Grand Marais**	**34.36**	**282**	P		**P**	**06 58 42.6**	**-0.3**
	baz=58							
E41A	**Kenton**	**34.42**	**279**	P		**P**	**06 58 43.6**	**+0.1**
	baz=57,SNR=5.6							
ACSO	**Alum Creek Sta**	**34.66**	**266**	*e*P		**P**	**06 58 46.3**	**+0.6**
	comp=Z,18nm,1.2s							
COWI	**Conover**	**34.72**	**279**	*e*P		**P**	**06 58 46.3**	**+0.1**
	comp=Z,18nm,1.3s							
G42A	**Mountain**	**34.79**	**277**	P		**P**	**06 58 46.5**	**-0.3**
	baz=55							
H43A	**Windswept, Lux**	**34.86**	**276**	P		**P**	**06 58 46.8**	**-0.5**
	baz=54							
F41A	**Three Lakes**	**34.91**	**278**	P		**P**	**06 58 47.2**	**-0.5**
	baz=56							
VWCC	**Virginia Weste**	**34.92**	**259**	*e*P		**P**	**06 58 48.7**	**+0.7**
E40A	**Wakefield**	**34.97**	**280**	P		**P**	**06 58 47.6**	**-0.7**
	baz=56							
C38A	**Sawbill Land.**	**35.06**	**283**	P		**P**	**06 58 48.3**	**-0.8**
	baz=58							
EYMN	**Ely**	**35.07**	**283**	P		**P**	**06 58 49.2**	**+0.1**
	baz=58,SNR=8.5							
EYMN	**Ely**	**35.07**	**283**	*e*P		**P**	**06 58 49.6**	**+0.5**
	comp=Z,32nm,1.4s							
BLA	**Blacksburg**	**35.20**	**260**	P		**P**	**06 58 49.6**	**-0.8**
	baz=46							
BLA	**Blacksburg**	**35.20**	**260**	*e*P		**P**	**06 58 50.7**	**+0.3**
BLA				pmax		pmax		
	comp=Z,26nm,1.4s							
BLA	**Blacksburg**	**35.20**	**260**	*e*P		**P**	**06 58 50.7**	**

baz=53
G38A **Ridgeland** 36.82 279 P P 06 59 04.1 0.0
baz=55
E36A **McGregor** 36.85 282 P P 06 59 04.8 +0.4
baz=56,SNR=6.1
SFIN **Lafayette** 36.97 270 P P 06 59 05.5 0.0
baz=50
SFIN **Lafayette** 36.97 270 eP P 06 59 06.1 +0.7
comp=Z,30nm,1.5s
D35A **Remer** 37.00 284 P P 06 59 05.7 +0.1
baz=56
P47A **Martinsville** 37.07 268 P P 06 59 06.2 -0.1
baz=49
KMSC **Kings Mountain** 37.18 258 P P 06 59 06.9 -0.4
baz=44
J40A **Soldiers Grove** 37.22 276 P P 06 59 07.6 0.0
baz=53
JFWS **Jewell Farm** 37.23 275 P P 06 59 07.6 0.0
baz=52
JFWS **Jewell Farm** 37.23 275 eP P 06 59 07.8 +0.2
JFWS pmax pmax
comp=Z,32nm,1.6s
JFWS **Jewell Farm** 37.23 275 eP P 06 59 07.8 +0.2
comp=Z,32nm,1.6s
SPMN **Marine on St.** 37.33 280 P P 06 59 08.3 -0.2
baz=54
SPMN **Marine on St.** 37.33 280 eP P 06 59 07.8 -0.7
comp=Z,21nm,1.3s
F36A **Milaca** 37.38 281 P P 06 59 08.7 -0.2
baz=55
M43A **Waltham Townsh** 37.39 272 P P 06 59 08.9 -0.1
baz=51
I39A **Houston** 37.40 277 P P 06 59 09.2 +0.1
baz=53
FFC **Flin Flon** 37.41 299 eP P 06 59 09.1 +0.1
FFC eS S 07 04 56.5 -0.2
FFC pmax pmax
comp=Z,21nm,1.8s
FFC **Flin Flon** 37.41 299 eP P 06 59 09.1 +0.1
comp=Z,21nm,1.8s
FFC eS S 07 04 56.5 -0.2
BLO **Bloomington** 37.42 268 eP P 06 59 09.3 0.0
comp=Z,16nm,1.2s
BLO eP sP 06 59 14.3 -0.3
K41A **Shullsburg** 37.45 275 P P 06 59 09.8 +0.3
baz=52
TZTN **Tazewell** 37.47 262 P P 06 59 09.7 -0.1
baz=46
TZTN **Tazewell** 37.47 262 eP P 06 59 10.9 +1.2
comp=Z,26nm,1.1s
E35A **Pequot Lakes** 37.49 283 P P 06 59 09.9 +0.1
baz=56
VAE **Valguarnera** 37.52 96 LR LR 07 12 05.7
comp=Z,225nm,20.6s,baz=356,slow=32
BUR08 **Bucovina Ar. S** 37.52 75 eP P 06 59 11.6 +1.4
Q47A **Bedord North L** 37.52 267 P P 06 59 10.2 +0.1
baz=48
P46A **Rosedale** 37.53 269 P P 06 59 10.3 +0.1
baz=49
BUR04 **Bucovina Ar. S** 37.54 75 eP P 06 59 11.1 +0.7
C33A **Trail** 37.59 286 P P 06 59 11.0 +0.3
baz=57
I38A **Scanlan Farm,** 37.76 278 P P 06 59 12.0 -0.1
baz=53
JSC **Jenkinsville** 37.76 257 eP P 06 59 12.4 +0.2
JSC pmax pmax
comp=Z,44nm,1.7s
JSC **Jenkinsville** 37.76 257 eP P 06 59 12.4 +0.2
comp=Z,44nm,1.7s
J39A **Decorah** 37.82 277 P P 06 59 12.8 +0.2
baz=53
K40A **Colesburg** 37.88 276 P P 06 59 13.3 +0.2
baz=52
L41A **Preston** 37.89 274 P P 06 59 13.0 -0.2
baz=52
P45A **Graceland, Par** 37.90 269 P P 06 59 13.5 +0.1
baz=49
WCI **Wyandotte Cave** 37.91 266 P P 06 59 13.8 +0.3
baz=48
E34A **Wadena** 37.95 283 P P 06 59 13.7 0.0
baz=55
NHSC **New Hope** 38.00 255 P P 06 59 14.2 0.0
baz=42
NHSC **New Hope** 38.00 255 eP P 06 59 14.1 -0.1
comp=Z,30nm,0.9s
R47A **Wooly Knot Far** 38.01 267 P P 06 59 14.3 +0.1
baz=48
KIEV **Kiev** 38.11 68⇑ iP P 06 59 14.8 -0.2
KIEV pmax pmax
comp=Z,6.0nm,1.3s
KIEV **Kiev** 38.11 68 eP P 06 59 14.7 -0.2
comp=Z,31nm,1.6s
AKASG **Malin Array Be** 38.12 68 P P 06 59 14.9 -0.1
comp=Z,0.7nm,0.4s,baz=304,slow=8.2,SNR=17
AKASG LR LR 07 15 43.2
comp=Z,251nm,18.1s,baz=285,slow=37
AKBB **Malin Array Si** 38.12 68 eP P 06 59 15.6 +0.6
AKBB pmax pmax
comp=Z,34nm,1.6s
AKBB **Malin Array Si** 38.12 68 eP P 06 59 15.6 +0.6
comp=Z,34nm,1.6s
S48A **Wiedeman Farm,** 38.16 265 P P 06 59 15.5 -0.1
baz=47
BG3 **Lake Jocassee** 38.20 259 eP P 06 59 16.8 +0.9
comp=Z,40nm,1.8s
TKL **Tuckaleechee C** 38.22 261 LR LR 07 13 59.8
comp=Z,733nm,21.1s,baz=39,slow=35
J38A **Wedel Dairy, R** 38.27 277 P P 06 59 16.8 +0.3
baz=53
K39A **Oelwein** 38.31 276 P P 06 59 17.2 +0.5
baz=52
L40A **Anamosa** 38.32 275 P P 06 59 17.3 +0.5
baz=52
M41A **Milan** 38.35 274 P P 06 59 17.5 +0.3
baz=51
H36A **Jessenland, He** 38.36 280 P P 06 59 17.5 +0.4
baz=54
I37A **Lemond, Waseca** 38.39 279 P P 06 59 17.8 +0.4
baz=53
N42A **Yates City** 38.40 272 P P 06 59 18.1 +0.6
baz=50
P44A **Sand Creek, Wi** 38.45 270 P P 06 59 18.2 +0.2
baz=49
KLMR **Klimovskoe** 38.47 49 eP P 06 59 16.9 -0.9
KLMR pmax pmax
comp=Z,40nm,1.4s
KLMR **Klimovskoe** 38.47 49 eP P 06 59 17.0 -0.9
KLMR AMP 06 59 27.6
comp=Z,40nm,1.4s
KLMR LQ LQ 07 10 40.9
KLMR LQ LQ 07 10 40.9
Q45A **Warren Harvey,** 38.56 269 P P 06 59 19.3 +0.4
baz=48
R46A **Gibon Southern** 38.64 267 P P 06 59 19.9 +0.4
baz=48
T48A **Bowling Green** 38.73 265 P P 06 59 20.7 +0.4
baz=47
L39A **Vinton** 38.73 276 P P 06 59 20.9 +0.6
baz=52,SNR=9.0
CPCT **Cooper Cave** 38.80 261 eP P 06 59 21.2 +0.3
H35A **Sunnyside Ranc** 38.81 281 P P 06 59 21.5 +0.6
baz=54
K38A **Parkersburg** 38.86 277 P P 06 59 21.8 +0.5
baz=52
M40A **Post Highland** 38.90 274 P P 06 59 22.1 +0.3
baz=51
N41A **Harden Midland** 38.96 273 P P 06 59 22.3 +0.1
baz=50
R45A **Skylar, Fairfi** 39.03 268 P P 06 59 22.8 -0.1
baz=48
Q44A **Meyer Farm, Va** 39.06 269 P P 06 59 23.1 +0.1
baz=48
U48A **Cassie Pea, Po** 39.23 264 P P 06 59 24.4 -0.1
baz=46
T47A **Sharon Grove** 39.23 265 P P 06 59 24.5 0.0
baz=47
M39A **Webster** 39.24 275 P P 06 59 24.5 -0.1
baz=51
N40A **Mertquake, Sal** 39.27 274 P P 06 59 24.9 +0.1
baz=50
L38A **Oak Wood Farm,** 39.28 276 P P 06 59 25.0 +0.1
baz=51
K37A **Belmond** 39.29 278 P P 06 59 25.2 +0.2
baz=52
J36A **Seneca 1, Swea** 39.35 279 P P 06 59 25.6 +0.1
baz=52
O41A **Passleys Farm,** 39.36 272 P P 06 59 25.7 +0.2
baz=50
P42A **Winchester** 39.39 271 P P 06 59 26.1 +0.3
baz=49
Q43A **New Douglas** 39.43 270 P P 06 59 26.4 +0.2
baz=49
E31A **Nome** 39.46 285 P P 06 59 26.6 +0.2
baz=55
R44A **Waltonville** 39.53 269 P P 06 59 27.2 +0.2
baz=48
GOGA **Godfrey** 39.65 258 P P 06 59 28.4 +0.4
baz=43
T46A **Princeton** 39.65 266 P P 06 59 28.3 +0.3
baz=47
U47A **Clarksville** 39.71 265 P P 06 59 28.9 +0.3
baz=46,SNR=6.2
OBN **Obninsk** 39.72 59⇑ eP P 06 59 29.4 +1.1
OBN *PP pP 06 59 32.0 -0.2
OBN e*SP sP 06 59 33.3 -0.4
OBN pmax pmax
comp=Z,59nm,2.5s
OBN MLR MLR
comp=Z,501nm,18.0s
L37A **Phoenix Point,** 39.75 277 P P 06 59 29.1 +0.3
baz=51
YKA **Yellowknife Ar** 39.81 315 P P 06 59 28.2 -0.9
comp=Z,1.9nm,0.6s,baz=62,slow=8.9,SNR=30
YKA PcP PcP 07 01 33.1 -1.7
comp=Z,1.2nm,0.8s,baz=60,slow=3.5,SNR=11
YKA LR LR 07 14 22.4
comp=Z,26nm,21.3s,baz=0.0,slow=34
N39A **Derby Farms, D** 39.81 274 P P 06 59 29.4 0.0
baz=50
M38A **Pleasantville** 39.87 276 P P 06 59 30.2 +0.4
baz=51,SNR=6.9
H33A **Prehn Over Nor** 39.91 282 P P 06 59 30.4 +0.2
baz=53
V48A **Smith Brothers** 39.93 264 P P 06 59 30.6 +0.2
baz=46
O40A **La Belle** 39.93 273 P P 06 59 30.4 0.0
baz=50
SIUC **Southern Illin** 39.97 268 eP P 06 59 31.8 +1.1
comp=Z,20nm,0.9s
R43A **Red Bud** 40.01 269 P P 06 59 31.2 +0.2
baz=48
X50A **Fort Payne** 40.15 261 P P 06 59 32.4 +0.1
baz=44
O39A **Kirksville** 40.24 274 P P 06 59 32.9 0.0
baz=50
WVT **Waverly** 40.24 265 P P 06 59 33.1 +0.1
baz=46
WVT **Waverly** 40.24 265 eP P 06 59 33.4 +0.4
WVT pmax pmax
comp=Z,17nm,1.3s
WVT **Waverly** 40.24 265 eP P 06 59 33.4 +0.4
comp=Z,17nm,1.3s
V47A **Nunnelly** 40.27 265 P P 06 59 33.4 +0.2
baz=46
U46A **Springville** 40.29 266 P P 06 59 33.6 +0.3
baz=46
N38A **Joes South For** 40.29 275 P P 06 59 33.5 +0.2
baz=50
L36A **Harm Buss Farm** 40.30 277 P P 06 59 33.8 +0.4
baz=51
Q41A **Truxton** 40.32 271 P P 06 59 33.6 0.0
baz=48
I33A **Coleman** 40.33 281 P P 06 59 34.1 +0.5
baz=53
M37A **Trindle Farm,** 40.38 276 P P 06 59 34.5 +0.4
baz=51
ECSD **EROS Data Cent** 40.41 281 P P 06 59 34.8 +0.5
baz=52,SNR=9.5
ECSD **EROS Data Cent** 40.41 281 eP P 06 59 34.8 +0.5
comp=Z,32nm,1.6s
W48A **Pulaski** 40.41 263 P P 06 59 34.6 +0.2
baz=45
H32A **Carlson Farm,** 40.42 282 P P 06 59 34.4 0.0
baz=53
P40A **Paris** 40.42 272 P P 06 59 34.4 0.0
baz=49
FVM **French Village** 40.49 269 eP P 06 59 36.1 +1.1
FVM pmax pmax
comp=Z,20nm,1.3s
FVM **French Village** 40.49 269 eP P 06 59 36.1 +1.1
comp=Z,20nm,1.3s
X49A **Wadville** 40.50 262 P P 06 59 35.2 0.0
baz=44
R42A **Luebbering** 40.51 270 P P 06 59 35.1 0.0
baz=48
S43A **Fulton Ridge,** 40.57 269 P P 06 59 35.6 0.0
baz=47
Y50A **Piedmont** 40.61 261 P P 06 59 36.0 0.0
baz=44
T44A **Benton** 40.61 268 P P 06 59 36.1 +0.1
baz=47
U45A **Rockin P Farm,** 40.64 266 P P 06 59 36.6 +0.4
baz=46
V46A **Holladay** 40.64 265 P P 06 59 35.7 -0.5
baz=46,SNR=7.6
W47A **Westpoint** 40.72 264 P P 06 59 37.1 +0.2
baz=45
K34A **Le Mars** 40.76 279 P P 06 59 37.6 +0.4
baz=52
Q40A **Laux Farm, Aux** 40.79 272 P P 06 59 37.5 0.0
baz=49
L35A **Bielow Farm, R** 40.80 278 P P 06 59 37.8 +0.3
baz=51
R41A **Rosebud** 40.84 271 P P 06 59 37.6 -0.3
baz=48
S42A **Caledonia** 40.85 269 P P 06 59 38.0 0.0
baz=48,SNR=6.1
P39B **Salisbury** 40.86 273 P P 06 59 38.3 +0.3
baz=49
O38A **Galt** 40.87 274 P P 06 59 38.0 0.0
baz=50
J33A **Davis** 40.87 281 P P 06 59 37.9 -0.2
baz=52
N37A **Lee Faris, Mou** 40.88 276 P P 06 59 38.2 0.0
baz=50
CCM **Cathedral Cave** 40.92 270 P P 06 59 38.6 0.0
baz=48
CCM **Cathedral Cave** 40.92 270 eP P 06 59 39.5 +0.9
CCM pmax pmax
comp=Z,29nm,1.5s
CCM **Cathedral Cave** 40.92 270 eP P 06 59 39.5 +0.9
comp=Z,29nm,1.5s
X48A **Hartselle** 40.96 263 P P 06 59 39.0 +0.1
baz=44
Y49A **Blount Mountai** 41.02 261 P P 06 59 39.5 0.0
baz=44
T43A **Greenville** 41.02 268 P P 06 59 39.4 0.0
baz=47
Z50A **Ashland** 41.17 260 P P 06 59 40.7 0.0
baz=43
P38A **Dawn** 41.22 274 P P 06 59 41.0 0.0
baz=49
Q39A **Willow Grove F** 41.28 273 P P 06 59 41.4 -0.1
baz=49
PBMO **Poplar Bluff** 41.31 268 eP P 06 59 42.4 +0.6
K33A **Hardington** 41.33 280 P P 06 59 41.8 -0.1
baz=51
J32A **Parkston** 41.34 281 P P 06 59 41.7 -0.3
baz=52
151A **Opelika** 41.36 259 P P 06 59 41.9 -0.3
baz=43
R40A **Maddies Statio** 41.37 271 P P 06 59 41.8 -0.5
baz=48
455A **Stateville** 41.37 255 P P 06 59 42.0 -0.3
baz=41
X47A **Russelville** 41.39 263 P P 06 59 41.9 -0.5
baz=45,SNR=8.3
Y48A **Jasper** 41.42 262 P P 06 59 42.2 -0.4
baz=44,SNR=6.5
T42A **Van Buren** 41.53 269 P P 06 59 43.5 0.0
baz=47
S41A **Jillco Farms,** 41.53 270 P P 06 59 43.8 +0.1
baz=47
Z49A **Columbiana** 41.57 261 P P 06 59 43.9 0.0
baz=44,SNR=6.5
U43A **Rector** 41.58 268 P P 06 59 44.2 +0.2
baz=46
556A **Lake Butler** 41.58 254 P P 06 59 44.7 +0.7
baz=40
353A **Camilla** 41.59 257 P P 06 59 44.6 +0.4
baz=42
N35A **Tabor** 41.65 277 P P 06 59 44.8 +0.2
baz=50
150A **Eclectic** 41.70 260 P P 06 59 44.8 -0.2
baz=43
Q38A **Cooks Store, C** 41.71 273 P P 06 59 44.8 -0.2
baz=48
W45A **Hickory Valley** 41.71 265 P P 06 59 44.8 -0.2
baz=45
251A **Midway** 41.73 259 P P 06 59 45.0 -0.2
baz=42
454A **Quitman** 41.73 256 P P 06 59 45.2 -0.1
baz=41
X46A **Booneville** 41.78 264 P P 06 59 45.2 -0.4
baz=45,SNR=10
R39A **Chumby, Stover** 41.80 272 P P 06 59 45.4 -0.4
baz=48,SNR=6.5
Y47A **UCPARC, Winfie** 41.82 263 P P 06 59 45.8 -0.2
baz=44,SNR=10
352A **Blakely** 41.90 258 P P 06 59 46.5 -0.1
baz=42
T41A **Mountain View** 41.91 269 P P 06 59 46.2 -0.6
baz=47,SNR=6.9
LRAL **Lakeview Retre** 41.95 261 P P 06 59 47.0 -0.1
baz=43
LRAL **Lakeview Retre** 41.95 261 eP P 06 59 47.8 +0.8
comp=Z,10nm,1.1s
S40A **Lebanon** 41.97 271 P P 06 59 46.8 -0.4
baz=47,SNR=7.6
Z48A **Northport** 42.03 262 P P 06 59 47.6 0.0
baz=44
U42A **Revenden** 42.08 268 P P 06 59 47.7 -0.3
baz=46,SNR=10
149A **Jones** 42.15 260 P P 06 59 48.9 +0.2
baz=43
P36A **Good Intent, A** 42.20 275 P P 06 59 48.4 -0.7
baz=49
T40A **Mansfield** 42.28 270 P P 06 59 49.8 +0.1
baz=47
OXF **Oxford** 42.30 265 P P 06 59 49.1 -0.7
baz=45
OXF **Oxford** 42.30 265 eP P 06 59 49.7 -0.1
OXF pmax pmax
comp=Z,44nm,1.1s
OXF **Oxford** 42.30 265 eP P 06 59 49.7 -0.1
comp=Z,44nm,1.1s
250A **Grady** 42.30 259 P P 06 59 49.3 -0.6
baz=42
X45A **UM Field Stati** 42.35 265 P P 06 59 49.1 -1.2
baz=45,SNR=7.4
S39A **Bolivar** 42.38 271 P P 06 59 49.9 -0.6
baz=47,SNR=9.0
R38A **Fenwick Farm,** 42.39 272 P P 06 59 50.4 -0.2
baz=48,SNR=15
351A **Pinckard** 42.44 258 P P 06 59 50.9 -0.1
baz=42
Z47A **Carrollton** 42.45 262 P P 06 59 50.6 -0.5
baz=44,SNR=6.8
U41A **Viola** 42.48 269 P P 06 59 50.8 -0.6
baz=46
V42A **Cord** 42.55 268 P P 06 59 51.6 -0.3
baz=46,SNR=7.6
148A **Greensboro** 42.56 261 P P 06 59 52.0 -0.1
baz=43
O34A **Beatrice** 42.70 277 P P 06 59 52.9 -0.2
baz=49
X44A **Crenshaw** 42.73 265 P P 06 59 53.0 -0.4
baz=45
P35A **Duane Minner,** 42.73 276 P P 06 59 53.0 -0.4
baz=49
BGNE **Belgrade** 42.75 279 P P 06 59 53.6 +0.1
baz=50
S38A **Stockton** 42.77 272 P P 06 59 53.1 -0.6
baz=47,SNR=12
249A **Camden** 42.80 260 P P 06 59 53.6 -0.3
baz=43
Y45A **Yeager Farm, C** 42.83 264 P P 06 59 53.4 -0.8
baz=44,SNR=5.7
T39A **Clever** 42.87 271 P P 06 59 54.0 -0.5
baz=47,SNR=5.8
147A **Livingston** 42.95 262 P P 06 59 54.9 -0.3
baz=43
Z46A **Louisville** 42.96 263 P P 06 59 54.8 -0.5
baz=44
V41A **Mountainview** 43.01 268 P P 06 59 54.8 -0.8
baz=46,SNR=5.7
451A **Vernon** 43.01 258 P P 06 59 55.7 0.0
baz=41
U40A **Yellville** 43.02 270 P P 06 59 55.4 -0.4
baz=46,SNR=10
248A **Dixon Mills** 43.06 261 P P 06 59 56.2 +0.1
baz=43
P34A **Walnut Farm, R** 43.19 276 P P 06 59 56.5 -0.6
baz=49,SNR=8.6
O33A **Hebron** 43.29 277 P P 06 59 57.3 -0.6
baz=49
349A **Repton** 43.30 260 P P 06 59 58.3 +0.3
baz=42
SJG **San Juan** 43.32 226 LR LR 07 16 55.5
comp=Z,94nm,18.7s,baz=60,slow=35
450A **Crestview** 43.35 258 P P 06 59 58.9 +0.5
baz=42
KSU1 **Kansas State U** 43.36 275 P P 06 59 58.4 -0.1
baz=48
KSU1 **Kansas State U** 43.36 275 eP P 06 59 58.2 -0.3
comp=Z,16nm,0.8s
U39A **Green Forest** 43.37 270 P P 06 59 58.0 -0.6
baz=46,SNR=14
V40A **Witts Springs** 43.38 269 P P 06 59 58.2 -0.6
baz=46,SNR=11
T38A **Diamond** 43.40 271 P P 06 59 58.1 -0.6
baz=47,SNR=9.2
WHAR **Wooly Hollow** 43.43 268 eP P 06 59 59.1 0.0
comp=Z,20nm,1.0s
146A **Union** 43.43 263 P P 06 59 58.8 -0.2
baz=43
W41B **Gary Mavity, V** 43.49 268 P P 06 59 58.9 -0.6
baz=46,SNR=7.5
X301 **Greenbrier Sit** 43.53 268 eP P 06 59 59.2 -0.6
comp=Z,66nm,1.8s
X42A **Stuttgart** 43.56 267 P P 06 59 59.7 -0.4
baz=45
Y43A **Makayla and Ka** 43.61 265 P P 07 00 00.2 -0.2
baz=44
Q34A **Chapman** 43.67 276 P P 07 00 00.5 -0.5
baz=48,SNR=5.9
HHAR **Hobbs** 43.71 270 eP P 07 00 01.2 -0.1
comp=Z,32nm,1.5s
Z44A **Pea Ridge, Bel** 43.77 264 P P 07 00 01.4 -0.4
baz=44
TAM **Tamanrasset** 43.80 120 eP P 07 00 03.1 +0.8
comp=Z,22nm,1.3s
TAM **Tamanrasset** 43.80 120 eP P 07 00 03.1 +0.8
comp=Z,22nm,1.3s
UALR **University of** 43.82 268 eP P 07 00 02.5 +0.4
comp=Z,25nm,1.3s
INK **Inuvik** 43.83 328 P P 07 00 00.7 -1.1
INK PcP PcP 07 01 47.7 -0.2
comp=Z,0.9nm,0.5s,baz=22,slow=4.9,SNR=11
INK **Inuvik** 43.83 328 eP P 07 00 01.3 -0.5
INK 07 01 47.7
INK pmax pmax
comp=Z,23nm,1.8s
INK **Inuvik** 43.83 328 eP P 07 00 01.3 -0.5
comp=Z,23nm,1.8s
INK PcP PcP 07 01 47.7 -0.2
V39A **Pettigrew** 43.84 270 P P 07 00 01.8 -0.6
baz=46,SNR=8.5
EDM **Edmonton** 43.94 302 eP P 07 00 04.3 +1.3
EDM pmax pmax
comp=Z,43nm,1.6s
EDM **Edmonton** 43.94 302 eP P 07 00 04.3 +1.3
comp=Z,43nm,1.6s
W40A **Ferguson Farm,** 43.95 269 P P 07 00 03.1 -0.1
baz=46
W40A **Ferguson Farm,** 43.95 269 eP P 07 00 03.8 +0.6
comp=Z,44nm,1.6s
145A **Houston Renfro** 43.96 263 P P 07 00 03.2 -0.2
baz=43
LAO **LASA Array** 44.03 290 P P 07 00 04.0 +0.2
baz=53
LAO **LASA Array** 44.03 290 eP P 07 00 05.0 +1.2
comp=Z,33nm,1.4s
347A **Saraland** 44.04 261 P P 07 00 03.4 -0.5
baz=42,SNR=7.6
SIM **Simferopol'** 44.11 73 P P 06 59 58.3 -6.1
SIM MLR MLR
comp=Z,700nm,16.0s
X41A **Kaden, Bauxite** 44.12 267 P P 07 00 04.3 -0.3
baz=45
Y42A **Garnett, Star** 44.16 266 P P 07 00 04.6 -0.3
baz=44
R34A **Isabella, Hill** 44.27 275 P P 07 00 05.4 -0.4

baz=48
X40A **Basin Creek Fa** 44.31 268 P P 07 00 05.5 -0.6
baz=45,SNR=7.7
W39A **Magazine** 44.37 269 P P 07 00 06.4 -0.2
baz=46,SNR=12
447A **Lucedale** 44.55 260 P P 07 00 08.0 0.0
baz=42
VBMS **Vicksburg** 44.58 263 P P 07 00 08.2 -0.1
baz=43
VBMS **Vicksburg** 44.58 263 eP P 07 00 08.3 0.0
comp=Z,35nm,1.0s
Y41A **Eaglette Beard** 44.61 267 P P 07 00 07.8 -0.7
baz=44,SNR=8.8
MIAR **Mount Ida** 44.70 268 P P 07 00 09.4 +0.1
baz=45,SNR=11
MIAR **Mount Ida** 44.70 268 eP P 07 00 09.2 -0.1
MIAR pmax pmax
comp=Z,40nm,1.4s
MIAR **Mount Ida** 44.70 268 eP P 07 00 09.2 -0.1
comp=Z,40nm,1.4s
143A **Socs Landing,** 44.75 265 P P 07 00 09.4 -0.2
baz=44
244A **Avery, Jackson** 44.81 263 P P 07 00 10.0 -0.1
baz=43
Y40A **Okolona** 44.91 268 P P 07 00 10.8 -0.1
baz=45
WLAR **White Oak Lake** 45.04 267 eP P 07 00 12.2 +0.3
comp=Z,77nm,1.5s
X39A **Fountain Ranch** 45.04 269 P P 07 00 12.3 +0.3
baz=45,SNR=7.3
TUL1 **Leonard** 45.05 272 P P 07 00 11.5 -0.5
baz=46
TUL1 **Leonard** 45.05 272 eP P 07 00 12.0 0.0
comp=Z,23nm,1.2s
EGMT **Eagleton** 45.13 294 P P 07 00 12.7 +0.1
baz=53
EGMT **Eagleton** 45.13 294 eP P 07 00 13.8 +1.2
comp=Z,64nm,1.8s
Z41A **Richland Creek** 45.17 266 P P 07 00 13.0 +0.1
baz=44
344A **Westbrook Farm** 45.27 263 P P 07 00 13.8 +0.1
baz=43
Z40A **Long Farm, Mag** 45.51 267 P P 07 00 15.5 -0.2
baz=44
242A **Grayson** 45.65 265 P P 07 00 16.8 +0.1
baz=43
ANN **Anapa** 46.04 71 eP P 07 00 27.8 +8.1
ANN eS S 07 07 23.9 +19
ANN pmax pmax
comp=Z,23nm,0.8s
ANN MLR MLR
comp=Z,1μm,20.0s
SOKR **Solikamsk** 46.51 44 eP P 07 00 22.8 -0.4
SOKR pmax pmax
comp=Z,21nm,1.4s
SOKR MLR MLR
comp=Z,168nm,18.0s
BR231 **Keskin MP Arra** 46.63 79 eP P 07 00 25.8 +1.2
KOWA **Kowa** 46.64 136 P P 07 00 23.0 -1.7
comp=Z,11nm,1.1s,baz=341,slow=7.2,SNR=17
KOWA LR LR 07 18 02.0
comp=Z,182nm,18.5s,baz=22,slow=34
KOWA **Kowa** 46.64 136 eP P 07 00 23.6 -1.1
comp=Z,33nm,1.5s
KOWA **Kowa** 46.64 136 eP P 07 00 23.6 -1.1
comp=Z,33nm,1.5s
RLMT **Red Lodge** 46.66 291 P P 07 00 25.7 +0.8
baz=51
RLMT **Red Lodge** 46.66 291 eP P 07 00 26.4 +1.5
comp=Z,32nm,1.6s
K22A **Casper** 46.73 286 P P 07 00 25.1 -0.3
baz=50
341A **Kurthwood** 46.77 265 P P 07 00 26.0 +0.3
baz=43
KSCO **Kaye Shedlock'** 46.91 280 P P 07 00 26.9 +0.1
baz=48
KSCO **Kaye Shedlock'** 46.91 280 eP P 07 00 27.2 +0.4
comp=Z,30nm,1.4s
BR131 **Keskin Array S** 47.20 79 eP P 07 00 31.0 +1.9
BRTR **Keskin Array B** 47.20 79 P P 07 00 28.7 -0.4
comp=Z,3.8nm,0.8s,baz=307,slow=5.4,SNR=17
BRTR LR LR 07 21 51.8
comp=Z,245nm,18.3s,baz=302,slow=38
BRTR **Keskin Array B** 47.20 79 eP P 07 00 30.8 +1.7
BRTR pmax pmax
comp=Z,4.0nm,0.8s
N23A **Red Feather La** 47.55 284 P P 07 00 32.1 +0.1
baz=48
N23A **Red Feather La** 47.55 284 eP P 07 00 33.5 +1.5
comp=Z,44nm,1.7s
WMOK **Wichita Mounta** 47.61 273 P P 07 00 32.5 +0.3
baz=45
WMOK **Wichita Mounta** 47.61 273 eP P 07 00 32.6 +0.4
WMOK pmax pmax
comp=Z,23nm,1.4s
WMOK **Wichita Mounta** 47.61 273 eP P 07 00 32.6 +0.4
comp=Z,23nm,1.4s
BOZ **Bozeman (W)** 47.65 293 P P 07 00 32.4 -0.1
baz=50
BOZ **Bozeman (W)** 47.65 293 eP P 07 00 33.3 +0.8
BOZ pmax pmax
comp=Z,19nm,1.5s
BOZ **Bozeman (W)** 47.65 293 eP P 07 00 33.3 +0.8
comp=Z,19nm,1.5s
H17A **Grant Village** 47.85 291 eP P 07 00 35.9 +1.7
comp=Z,23nm,1.9s
ISCO **Idaho Springs** 48.09 283 P P 07 00 36.0 -0.2
baz=48
ISCO **Idaho Springs** 48.09 283 eP P 07 00 37.0 +0.8
ISCO pmax pmax
comp=Z,22nm,1.6s
ISCO **Idaho Springs** 48.09 283 eP P 07 00 37.0 +0.8
comp=Z,22nm,1.6s
TOLK **Toolik Lake Re** 48.23 333 P P 07 00 36.8 +0.3
baz=46
TOLK **Toolik Lake Re** 48.23 333 eP P 07 00 37.4 +0.8
comp=Z,28nm,1.8s
DAWY **Dawson** 48.30 325 eP P 07 00 38.6 +1.5
comp=Z,15nm,1.4s
PD31 **Pinedale Array** 48.34 288 eP P 07 00 37.6 -0.4
PDAR **Pinedale Array** 48.34 288 P P 07 00 37.0 -1.0
comp=Z,1.2nm,0.6s,baz=55,slow=7.6,SNR=15
PDAR LR LR 07 19 57.9
comp=Z,684nm,19.0s,baz=46,slow=35
PDAR **Pinedale Array** 48.34 288 eP P 07 00 36.7 -1.3
EGAK **Eagle** 48.41 327 eP P 07 00 38.8 +0.9
comp=Z,14nm,1.4s
FXWY **Fox Creek** 48.59 290 eP P 07 00 40.2 +0.4
comp=Z,5.5nm,1.3s
WHTX **Lake Whitney,** 48.80 269 P P 07 00 40.7 -0.6
baz=43
NEW **Newport** 48.84 299 P P 07 00 42.1 +0.6
comp=Z,0.9nm,0.6s,baz=32,slow=5.5,SNR=3.5
NEW **Newport** 48.84 299 P P 07 00 41.4 -0.2
baz=50
NEW **Newport** 48.84 299 eP P 07 00 42.5 +1.0
NEW pmax pmax
comp=Z,38nm,2.0s
NEW **Newport** 48.84 299 eP P 07 00 42.5 +1.0
comp=Z,38nm,2.0s
AMTX **Amarillo** 49.20 275 P P 07 00 44.8 +0.3
baz=45
AMTX **Amarillo** 49.20 275 eP P 07 00 45.7 +1.2
comp=Z,88nm,1.6s
ARU **Arti** 49.21 47 *c iP* P 07 00 45.0 +0.8
ARU 07 02 04.7
ARU 07 02 35.4
ARU S S 07 07 52.0 +2.8
ARU SS SS 07 11 17.8 -2.0
ARU pmax pmax
comp=Z,20nm,1.7s
ARU **Arti** 49.21 47 eP P 07 00 45.2 +1.0
comp=Z,21nm,1.4s
T25A **Trinidad** 49.21 279 P P 07 00 44.8 0.0
baz=46
T25A **Trinidad** 49.21 279 eP P 07 00 46.0 +1.3
comp=Z,20nm,1.4s
MHTCO **State Highway** 49.38 279 eP P 07 00 47.3 +1.3
comp=Z,23nm,1.5s
SDCO **Great Sand Dun** 49.42 281 P P 07 00 46.1 -0.4
baz=46
SDCO **Great Sand Dun** 49.42 281 eP P 07 00 47.6 +1.2
comp=Z,30nm,1.9s
KIV **Kislovodsk** 49.46 68 eP P 07 00 49.0 +2.6
KIV eS S 07 07 56.7 +3.4
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,274nm,16.0s
ABTX **Abilene, Hawle** 49.62 271 P P 07 00 47.6 -0.1
baz=44
LLLB **Lillooet** 49.72 304 eP P 07 00 49.4 +1.2
comp=Z,10.0nm,1.1s
KBZ **Khabaz** 49.73 68 P P 07 00 48.2 0.0
comp=Z,1.0nm,0.7s,baz=299,slow=11,SNR=7.3
KBZ LR LR 07 21 55.9
comp=Z,347nm,19.8s,baz=322,slow=36
C09A **Chrisman Ranch** 49.73 299 eP P 07 00 48.8 +0.5
comp=Z,23nm,1.8s
B08A **Colville Reser** 49.91 300 eP P 07 00 50.5 +0.8
comp=Z,34nm,1.8s
PCRV **Puerto La Cruz** 49.93 219 LR LR 07 18 54.8
comp=Z,112nm,21.7s,baz=30,slow=32
NEY **Neytrino** 49.95 69 *i eP* P 07 00 53.2 +3.0
NEY pmax pmax
comp=Z,3.0nm,1.5s
S22A **4UR Ranch, Cre** 50.19 282 eP P 07 00 53.5 +1.3
comp=Z,21nm,1.8s
IL1 **Eielson Array** 50.20 329 eP P 07 00 51.6 0.0
ILAR **Eielson Array** 50.20 329 P P 07 00 51.6 0.0
comp=Z,1.3nm,0.6s,baz=43,slow=6.1,SNR=18
ILAR PcP PcP 07 02 10.1 -0.5
comp=Z,0.6nm,0.8s,baz=17,slow=4.8,SNR=4.4
ILAR LR LR 07 21 53.0
comp=Z,227nm,18.3s,baz=82,slow=36
HWUT **Hardware Ranch** 50.23 288 eP P 07 00 52.2 -0.2
comp=Z,42nm,2.0s
TOA0 **Torodi Ar. Sit** 50.27 131 eP P 07 00 50.6 -2.1
TOA0 eP P 07 00 51.0 -1.7
TOA0 **Torodi Ar. Sit** 50.27 131 eP P 07 00 51.0 -1.7
TORD **Torodi Ar. Bea** 50.27 131 P P 07 00 50.3 -2.4
comp=Z,9.8nm,1.1s,baz=329,slow=7.4,SNR=40
TORD LR LR 07 20 59.9
comp=Z,172nm,18.4s,baz=325,slow=35
F10A **Beach Ranch, E** 50.38 296 eP P 07 00 54.0 +0.6
comp=Z,25nm,1.8s
MDM **Murphy Dome** 50.47 329 eP P 07 00 55.1 +1.4
comp=Z,13nm,0.7s
HDA **Harding Lake** 50.48 328 eP P 07 00 54.7 +0.9
comp=Z,9.7nm,0.9s
HLID **Hailey** 50.48 292 P P 07 00 54.5 +0.3
baz=48
HLID **Hailey** 50.48 292 eP P 07 00 55.1 +0.8
comp=Z,15nm,1.8s
MSTX **Muleshoe** 50.48 275 P P 07 00 54.5 +0.2
baz=44,SNR=7.7
MSTX **Muleshoe** 50.48 275 eP P 07 00 55.0 +0.7
comp=Z,36nm,1.4s
ZEI **Tsey** 50.90 69 eP P 07 00 58.3 +0.8
ZEI pmax pmax
comp=Z,6.0nm,0.5s
PV01 **Paradox Valley** 50.91 283 eP P 07 00 57.6 0.0
PV01 eP sP 07 01 02.7 -0.4
PV10 **Paradox Valley** 51.01 284 eP P 07 00 59.9 +1.5
BMO **Blue Mountains** 51.17 295 eP P 07 00 59.6 +0.3
BMO pmax pmax
comp=Z,17nm,1.8s
BMO **Blue Mountains** 51.17 295 eP P 07 00 59.6 +0.3
comp=Z,17nm,1.8s
PV05 **Paradox Valley** 51.25 284 eP P 07 01 01.0 +0.8
JCT **Junction City** 51.27 270 P P 07 00 59.8 -0.4
baz=43,SNR=6.6
JCT **Junction City** 51.27 270 eP P 07 01 00.2 0.0
JCT pmax pmax
comp=Z,29nm,1.4s
JCT **Junction City** 51.27 270 eP P 07 01 00.2 0.0
comp=Z,29nm,1.4s
MFID **Camas Ranch** 51.34 293 eP P 07 01 02.5 +1.8
comp=Z,38nm,2.0s
MPU **Maple Canyon** 51.35 287 eP P 07 01 02.0 +1.1
comp=Z,10nm,1.3s
MVCO **Mesa Verde** 51.51 282 P P 07 01 00.4 -1.8
baz=46
MVCO **Mesa Verde** 51.51 282 eP P 07 01 03.6 +1.5
comp=Z,26nm,1.8s
MCK **McKinley** 51.57 329 eP P 07 01 03.2 +1.2
MCK pmax pmax
comp=Z,21nm,1.3s
MCK **McKinley** 51.57 329 eP P 07 01 03.2 +1.2
comp=Z,21nm,1.3s
NLU **North Lily Min** 51.64 287 eP P 07 01 04.1 +1.1
comp=Z,18nm,1.6s
RND **Reindeer** 51.79 328 eP P 07 01 04.3 +0.6
RND pmax pmax
comp=Z,8.0nm,0.8s
RND **Reindeer** 51.79 328 eP P 07 01 04.3 +0.6
comp=Z,8.3nm,0.8s
DUG **Dugway, Tooele** 51.88 288 P P 07 01 04.7 -0.1
baz=46
DUG **Dugway, Tooele** 51.88 288 eP P 07 01 05.8 +1.0
DUG pmax pmax
comp=Z,17nm,1.6s
DUG **Dugway, Tooele** 51.88 288 eP P 07 01 05.8 +1.0
comp=Z,17nm,1.6s
ANMO **Albuquerque** 51.93 279 P P 07 01 06.1 +0.8
baz=45
ANMO **Albuquerque** 51.93 279 *i eP* P 07 01 06.3 +1.0
ANMO pmax pmax
comp=Z,10.0nm,1.7s
ANMO **Albuquerque** 51.93 279 eP P 07 01 07.1 +1.9
comp=Z,8.6nm,1.3s
LPM **Los Pinos Moun** 52.48 278 eP P 07 01 08.0 -1.4
LPM eP sP 07 01 14.8 0.0
BNM **Barren Site** 52.59 278 eP P 07 01 10.6 +0.3
BNM eP sP 07 01 15.7 0.0
LAZ **Ladron** 52.71 279 eP P 07 01 12.3 +1.2
MAK **Makhachkala** 52.73 66 eP P 07 01 06.8 -4.0
MAK *e* 07 03 07.7
MAK eS S 07 08 31.4 -6.8
MAK pmax pmax
comp=Z,58nm,0.4s
MAK MLR MLR
comp=Z,526nm,16.0s
CAST **Castle Rocks** 52.75 330 eP P 07 01 11.5 +0.7
comp=Z,22nm,0.7s
J08A **Circle Bar Ran** 52.80 295 eP P 07 01 12.6 +1.1
comp=Z,19nm,1.4s
MMAI **Mount Meron Ar** 52.89 83 LR LR 07 25 41.2
comp=Z,123nm,19.2s,baz=285,slow=38
AKTO **Aktyubinsk** 52.93 53 P P 07 01 11.9 -0.3
comp=Z,2.6nm,0.8s,baz=322,slow=6.6,SNR=8.5
AKTO LR LR 07 22 54.0
comp=Z,329nm,19.7s,baz=299,slow=35
GNI **Garni** 53.16 71 P P 07 01 15.0 +0.7
comp=Z,3.4nm,0.4s,baz=293,slow=7.7,SNR=7.2
GNI LR LR 07 24 57.9
comp=Z,204nm,18.5s,baz=312,slow=37
GNI **Garni** 53.16 71 *i eP* P 07 01 16.9 +2.6
GNI pmax pmax
comp=Z,113nm,2.5s
TIC **Toumodi** 53.44 142 eP P 07 01 15.0 -1.4
SDV **Santo Domingo** 53.48 226 P P 07 01 15.9 -0.9
comp=Z,1.7nm,0.5s,baz=27,slow=11,SNR=3.8
SDV LR LR 07 22 12.5
comp=Z,77nm,20.9s,baz=45,slow=34
DBIC **Dimbokro** 53.48 141 P P 07 01 13.5 -3.1
comp=Z,18nm,1.2s,baz=334,slow=7.6,SNR=7.6
DBIC LR LR 07 21 19.4
comp=Z,312nm,20.0s,baz=326,slow=33
DBIC **Dimbokro** 53.48 141 eP P 07 01 15.1 -1.5
DBIC pmax pmax
comp=Z,25nm,1.3s
DBIC **Dimbokro** 53.48 141 eP P 07 01 15.1 -1.5
comp=Z,25nm,1.3s
WVOR **Wild Horse Val** 53.52 294 eP P 07 01 18.2 +1.3
WVOR pmax pmax
comp=Z,23nm,1.5s
WVOR **Wild Horse Val** 53.52 294 eP P 07 01 18.1 +1.3
comp=Z,23nm,1.5s
MNTX **Cornudas Mount** 53.64 275 P P 07 01 17.8 +0.1
baz=43
MNTX **Cornudas Mount** 53.64 275 eP P 07 01 17.6 -0.1
comp=Z,8.6nm,1.4s
TIXI **Tiksi** 53.75 6 *i* P P 07 01 37.4 +19
TIXI pmax pmax
comp=Z,7.0nm,0.9s
PINE **Pine Mountain** 53.80 296 eP P 07 01 20.0 +1.0
comp=Z,40nm,1.8s
KIC **Kosan Boka** 53.80 141 eP P 07 01 16.3 -2.7
comp=Z,36nm,1.3s
LIC **Lamto** 53.83 142 eP P 07 01 12.9 -6.3
comp=Z,32nm,1.2s
KNB **Kanab** 54.10 285 eP P 07 01 21.9 +0.6
KNB pmax pmax
comp=Z,29nm,1.7s
KNB **Kanab** 54.10 285 eP P 07 01 21.9 +0.6
comp=Z,29nm,1.7s
J05D **Fort Rock, OR** 54.31 296 P P 07 01 22.4 -0.2
baz=46
WUAZ **Wupatki** 54.35 283 P P 07 01 23.0 0.0
baz=44
TX31 **Lajitas Ar. Si** 54.37 272 eP P 07 01 21.8 -1.4
TX31 eP P 07 01 22.9 -0.4
TXAR **Lajitas Array** 54.37 272 P P 07 01 22.5 -0.7
comp=Z,1.2nm,0.8s,baz=56,slow=6.7,SNR=9.6
TXAR LR LR 07 24 03.7
comp=Z,729nm,18.6s,baz=0.0,slow=36
ABKAR **Akbulak array** 54.64 53 eP P 07 01 26.0 +1.2
comp=Z,75nm,1.7s
R11A **Troy Canyon, C** 54.71 288 P P 07 01 25.2 -0.5
baz=45
X16A **Lo Mia Camp, P** 55.17 282 eP P 07 01 30.4 +1.3
comp=Z,16nm,1.5s
M04C **Macdoel** 55.68 295 P P 07 01 32.1 -0.4
baz=45
PAHR **Pah Rah Range** 55.84 292 eP P 07 01 35.0 +1.3
comp=Z,23nm,1.8s
319A **Douglas** 56.14 278 eP P 07 01 37.5 +1.6
comp=Z,25nm,1.4s
NVAR **Mina Array Bea** 56.15 290 P P 07 01 35.5 -0.6
comp=Z,0.3nm,0.5s,baz=57,slow=7.4,SNR=5.0
NVAR LR LR 07 24 49.1
comp=Z,552nm,19.1s,baz=283,slow=35
YBH **Yreka Blue Hor** 56.18 296 LR LR 07 24 37.1
comp=Z,316nm,19.7s,baz=43,slow=35
TUC **Tucson** 56.33 280 P P 07 01 37.6 +0.3
baz=43
TUC **Tucson** 56.33 280 eP P 07 01 38.0 +0.8
TUC pmax pmax
comp=Z,16nm,1.6s
TUC **Tucson** 56.33 280 eP P 07 01 38.0 +0.8
comp=Z,16nm,1.6s
L02D **Cave Junction,** 56.34 297 P P 07 01 37.0 -0.1
baz=45
Y14A **Wickenburg** 56.41 283 eP P 07 01 38.2 +0.4
comp=Z,53nm,1.8s
BRVK **Borovoye** 56.45 44 *i eP* P 07 01 38.9 +1.2
BRVK pmax pmax
comp=Z,41nm,2.5s
BRVK **Borovoye** 56.45 44 eP P 07 01 39.5 +1.8
comp=Z,22nm,0.8s
BVAR **Borovoye Array** 56.52 44 P P 07 01 38.3 +0.1
comp=Z,1.8nm,0.6s,baz=317,slow=6.1,SNR=9.9
BVAR LR LR 07 24 16.7
comp=Z,214nm,21.7s,baz=300,slow=34
GRAC **Grapevine Rang** 56.66 288 P P 07 01 39.7 +0.1
baz=44
N02D **Trinity Center** 56.71 295 P P 07 01 39.3 -0.5
baz=44
O03D **Paynes Creek** 56.72 294 P P 07 01 39.2 -0.7
baz=44
BILL **Bilibino** 56.85 351 *i* P P 07 01 38.1 -2.2
BILL pmax pmax
comp=Z,2.0nm,0.9s
DAC **Darwin (Calif)** 57.31 288 eP P 07 01 45.6 +1.3
DAC pmax pmax
comp=Z,27nm,1.8s
DAC **Darwin (Calif)** 57.31 288 eP P 07 01 45.6 +1.3
comp=Z,27nm,1.8s
MPMC **Manual Prospec** 57.41 288 P P 07 01 45.1 +0.1
baz=43
Y12C **Blythe** 57.42 284 eP P 07 01 46.7 +1.9
comp=Z,33nm,1.6s
CWC **Cottonwood Cre** 57.46 288 P P 07 01 45.1 -0.2
baz=43
113A **Mohawk Valley,** 57.70 282 eP P 07 01 48.5 +1.6
comp=Z,20nm,1.5s
214A **Organ Pipe Nat** 57.75 281 P P 07 01 47.6 +0.4
baz=42
214A **Organ Pipe Nat** 57.75 281 eP P 07 01 47.4 +0.1
comp=Z,97nm,1.6s
HELC **Santa Helena** 58.00 229 eP P 07 01 49.5 0.0
comp=Z,30nm,1.1s
BC3 **Big Chuckawall** 58.01 284 P P 07 01 49.4 +0.2
baz=43
BELC **Belle Mtn. Jos** 58.07 285 P P 07 01 49.8 +0.2
baz=43
GLA **Glamis** 58.10 283 P P 07 01 50.3 +0.6
baz=43
ISA **Isabella, Lake** 58.24 288 P P 07 01 50.6 -0.1
baz=43
VES **Vestal, Richgr** 58.45 289 P P 07 01 52.0 -0.1
baz=43
EDW2 **Edwards Air Fo** 58.55 287 P P 07 01 53.1 +0.2
baz=43
PFO **Pinyon Flats O** 58.62 285 P P 07 01 53.3 -0.1
baz=42
PTGA **Pitinga** 58.63 209 LR LR 07 22 35.6
comp=Z,107nm,20.3s,baz=14,slow=32
ROSC **El Rosal** 58.67 227 P P 07 01 54.7 +0.4
comp=Z,20nm,0.7s,baz=36,slow=4.4,SNR=18
ROSC LR LR 07 24 49.1
comp=Z,60nm,22.0s,baz=30,slow=34
ROSC **El Rosal** 58.67 227 eP P 07 01 55.1 +0.9
comp=Z,22nm,0.8s
ROSC **El Rosal** 58.67 227 eP P 07 01 55.1 +0.9
comp=Z,22nm,0.8s
ZAIG **Zacatecas** 58.70 266 eP P 07 01 55.9 +1.6
SWSC **Sam W. Stewart** 58.73 284 P P 07 01 54.1 +0.1
baz=42
BFSC **Mount Baldy Ra** 58.83 286 P P 07 01 54.5 -0.4
baz=43
ARVC **Arvin** 58.83 288 P P 07 01 54.7 0.0
baz=43
JTS **JuntasAbangare** 58.96 241 LR LR 07 26 30.6
comp=Z,220nm,19.1s,baz=102,slow=35
PRAC **Prado** 59.93 227 eP P 07 02 02.5 0.0
comp=Z,40nm,1.3s
NVS **Novosibirsk** 59.95 36 eP P 07 02 03.6 +1.5
ZALV **Zalesovo Beam** 61.22 36 LR LR 07 28 17.9
comp=Z,135nm,18.5s,baz=248,slow=36
KURK **Kurchatov** 61.56 41 eP P 07 02 13.6 +0.4
KURK pmax pmax
comp=Z,49nm,1.0s
KURK **Kurchatov** 61.56 41 eP P 07 02 13.6 +0.4
comp=Z,49nm,1.0s
GEYT **Alibeck** 61.96 63 LR LR 07 29 41.9
comp=Z,187nm,21.6s,baz=55,slow=37
LPIG **La Paz** 62.20 273 LR LR 07 28 53.8
comp=Z,491nm,19.1s,baz=43,slow=36
SEY **Seymchan** 62.87 356 P P 07 02 22.2 +0.5
comp=Z,2.1nm,0.6s,baz=23,slow=13,SNR=6.7
SEY **Seymchan** 62.87 356 *i eP* P 07 02 22.4 +0.7
YAK **Yakutsk** 63.31 8 *i eP* P 07 02 25.1 +0.5
YAK pmax pmax
comp=Z,12nm,1.1s
OTAV **Otavalo** 64.59 229 eP P 07 02 34.4 +0.2
OTAV pmax pmax
comp=Z,27nm,1.9s
OTAV **Otavalo** 64.59 229 eP P 07 02 34.4 +0.2
comp=Z,27nm,1.9s
BOD **Bodaibo** 65.39 18 eP P 07 02 37.6 -0.8
BOD pmax pmax
comp=Z,10.0nm,2.4s
RAYN **Ar Rayn** 65.86 83 eP P 07 02 43.2 +1.2
RAYN pmax pmax
comp=Z,28nm,1.7s
RAYN **Ar Rayn** 65.86 83 eP P 07 02 43.2 +1.2
comp=Z,28nm,1.7s
MKAR **Makanchi Array** 66.17 42 P P 07 02 43.7 +0.1
comp=Z,2.1nm,0.7s,baz=336,slow=6.9,SNR=2.0
MKAR LR LR 07 31 22.2
comp=Z,95nm,18.7s,baz=300,slow=36
FRU **Bishkek** 66.18 49 eP P 07 02 45.0 +1.2
AAK **Ala-Archa** 66.28 49 LR LR 07 30 46.7
comp=Z,370nm,19.8s,baz=314,slow=35
AAK **Ala-Archa** 66.28 49 *i* P P 07 02 44.6 0.0
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK **Ala-Archa** 66.28 49 eP P 07 02 45.4 +0.8
comp=Z,6.9nm,1.1s
MA2 **Magadan** 66.29 357 P P 07 02 44.2 +0.1
comp=Z,2.5nm,0.4s,baz=20,slow=8.9,SNR=5.3
SAML **Samuel** 67.37 210 eP P 07 02 50.1 -1.4
SAML pmax pmax
comp=Z,13nm,1.6s
SAML **Samuel** 67.37 210 eP P 07 02 50.1 -1.4
comp=Z,13nm,1.6s
SFK **Sufi-Kurgan** 67.93 52 *i* P P 07 02 49.6 -5.6
TLY **Talaya** 68.86 26 eP P 07 03 01.3 +0.8
TLY pmax pmax

comp=Z,5.0nm,1.5s
KSH Kashi 69.46 50 *e*P **P 07 03 06.3 +1.7**
KSH sP sP 07 03 13.1 +3.0
KSH PcP **PcP 07 03 29.8 +2.0**
KSH S **S 07 12 11.3 -0.3**
KSH ScS **SKSac 07 13 02.3 -2.3**
KSH pmax pmax
comp=Z,7.0nm,1.2s
KSH pmax pmax
comp=Z,110nm,5.5s
KSH LR LR
comp=Z,240nm,11.6s
KSH LR LR
comp=Z,200nm,9.0s
KSH LR LR
comp=Z,190nm,6.9s
WMQ Urumqi 70.73 40 P **P 07 03 14.4 +2.1**
WMQ pP sP 07 03 22.9 +5.1
WMQ sP PcP 07 03 25.4 -7.7
WMQ pmax pmax
comp=Z,15nm,2.3s
WMQ pmax pmax
comp=Z,250nm,6.3s
WMQ LR LR
comp=Z,210nm,21.9s
WMQ LR LR
comp=Z,360nm,20.3s
WMQ LR LR
comp=Z,280nm,20.3s
UOSS Minazif 70.88 74 *e*P **P 07 03 13.2 -0.2**
comp=Z,81nm,1.8s
ATAH Atahualpa 71.17 226 LR LR 07 33 24.7
comp=Z,98nm,21.2s,baz=358,slow=35
PETK Petropavlovsk- 72.34 352 P **P 07 03 21.2 -0.5**
comp=Z,1.8nm,0.8s,baz=33,slow=5.6,SNR=3.7
SONA1 Songino Array 73.09 26 *e*P **P 07 03 27.1 +0.6**
SONM Songino Array 73.10 26 P **P 07 03 25.8 -0.7**
comp=Z,1.9nm,0.8s,baz=326,slow=6.1,SNR=10
SONM LR LR 07 36 03.8
comp=Z,82nm,20.0s,baz=356,slow=36
ULN Ulaanbaatar 73.24 26‖ *e*P **P 07 03 28.1 +0.8**
ULN pmax pmax
comp=Z,23nm,2.5s
ULN Ulaanbaatar 73.24 26 *e*P **P 07 03 28.7 +1.4**
comp=Z,19nm,1.4s
WSAR Wadi Sarin 73.58 73 LR LR 07 38 52.3
comp=Z,87nm,21.2s,baz=358,slow=38
NNA Nana 74.93 222 LR LR 07 35 13.2
comp=Z,78nm,22.0s,baz=357,slow=35
LPAZ La Paz 75.81 213 P **P 07 03 40.6 -2.4**
comp=Z,2.1nm,1.1s,baz=14,slow=13,SNR=5.1
LPAZ La Paz 75.81 213 *e*P **P 07 03 42.4 -0.6**
LPAZ pmax pmax
comp=Z,10.0nm,1.5s
LPAZ La Paz 75.81 213 *e*P **P 07 03 42.4 -0.6**
comp=Z,10.0nm,1.5s
KLR Kul'dur 76.17 9 P **P 07 03 42.7 -1.4**
comp=Z,0.1nm,0.6s,baz=360,slow=7.2,SNR=3.6
KLR LR LR 07 36 54.9
comp=Z,8.8nm,19.2s,slow=35
GTA Gaotai 78.89 34 *e*P **P 07 04 00.4 +0.8**
GTA pP PcP 07 04 07.9 -0.4
GTA sP sP 07 04 11.8 +6.6
GTA pmax pmax
comp=Z,6.0nm,1.0s
YSS Yuzh-Sakhalins 79.02 1 P P 07 03 51.5 -8.5
CN2 Changchun 80.79 14 *e*P **P 07 04 10.0 +0.3**
HHC Hu-ho-hao-te 80.94 25 *e*P **P 07 04 09.6 -1.0**
HHC sP PcP 07 04 17.4 +0.2
HHC S **S 07 14 15.9 -3.1**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,56nm,6.2s
HHC LR LR
comp=Z,140nm,15.3s
HHC LR LR
comp=Z,200nm,15.3s
USRK Ussuriysk Ar. 81.18 9 LR LR 07 41 31.7
comp=Z,54nm,18.2s,baz=340,slow=37
LZH Lanzhou 83.22 32 *e*P **P 07 04 23.8 +1.0**
LZH pP sP 07 04 28.4 0.0
LZH sP PcP 07 04 32.0 +4.7
LZH pmax pmax
comp=Z,11nm,0.7s
KSRS Korea Array 87.37 13 LR LR 07 46 09.8
comp=Z,41nm,18.8s,baz=336,slow=37
CD2 Chengdu 87.96 34 *e*P **P 07 04 45.4 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 Nanjing 91.04 22 *e*P **P 07 05 02.0 +1.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
GYA Guiyang 93.02 34 *e*P **P 07 05 11.0 +0.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 97.54 43 LR LR 07 51 26.9
comp=Z,106nm,20.5s,baz=328,slow=37
TAOE Nuku Hiva Isla 105.87 277 *e*LR LR 07 41 07.8
comp=Z,162nm,24.5s
RKT Rikitea 114.11 264 *e*LR LR 07 44 54.0
comp=Z,217nm,39.5s
PPT2 Papeete2 118.31 279 *e*LR LR 07 46 52.9
comp=Z,159nm,26.8s
TBI Tubuai 122.74 275 *e*LR LR 07 48 57.2
comp=Z,153nm,38.5s
WRA Warramunga Arr 144.69 17 PKP **PKPab 07 11 31.1 -0.7**
comp=Z,0.6nm,0.8s,baz=349,slow=3.0,SNR=8.4
AS31 Alice Springs 148.24 19 *e*PKPdf **PKPbc 07 11 41.2 -1.1**
ASAR Alice Springs 148.24 19 PKPbc **PKPbc 07 11 40.9 -1.4**
comp=Z,6.6nm,0.5s,baz=351,slow=2.4,SNR=82
AS01 Alice Springs 148.25 19 *e*PKPdf **PKPbc 07 11 41.0 -1.3**

ISCJB ***14*** *06:53:00.4±0.5, 18°.47N±0°.04×145°.26E±0°.04, h485km±5km, mb4.4/144, Error ellipse: s-maj=6.1km s-min=4.9km az=135.8*
NEIC ***14*** *06:53:01.2±0.3, 18°.48N×145°.28E, h485km±4km, mb4.5/115, Error ellipse: s-maj=3.9km s-min=3.6km az=225.0*
IDC ***14*** *06:53:02.8±1.4, 18°.51N×145°.34E, h506km±15km, mb3.9/37, mb1 4.0/40, mb1mx3.8/66, mbtmp4.7/40, Error ellipse: s-maj=11.6km s-min=8.4km az=98.0*

ISC 14 06:53:01.1±0.7, 18°.45N±0°.05×145°.34E±0°.07, h487km±7km**, n229,σ1§10/255, mb4.5**/143**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**1.79**	**166**	*e*P	**P**	**06 54 03.0**	**-1.2**
GUMO	**Guam**	**4.85**	**185**	P	**P**	**06 54 25.6**	**-0.5**
	31nm,0.3s,baz=352,slow=12,SNR=9.0						
GUMO				S	**S**	**06 55 31.7**	**-3.7**
	52nm,0.3s,baz=8.2,slow=23,SNR=10						
CBIJ	**Chichi jima**	**9.08**	**342**	*e*P	**P**	**06 55 09.5**	**+1.0**
CBIJ				*e*S	**S**	**06 56 52.7**	**-0.5**
JCJ	**Chichijima**	**9.08**	**342**	P	**P**	**06 55 10.0**	**+1.5**
	28nm,0.3s,baz=257,slow=17,SNR=12						
JCJ				S	**S**	**06 56 52.7**	**-0.5**
	3.6nm,0.3s,baz=252,slow=20,SNR=2.1						
JOW	**Kunigami**	**17.81**	**301**	*e*P	**P**	**06 56 40.6**	**+0.3**
	21nm,0.9s						
INU	**Inuyama**	**18.38**	**338**	*e*P	**P**	**06 56 45.7**	**+0.2**
	97nm,1.0s						
MJAR	**Matsushiro Arr**	**19.09**	**342**	P	**P**	**06 56 51.0**	**-0.9**
	2.0nm,0.3s,baz=171,slow=10.0,SNR=38						
MJAR				S	**S**	**06 59 56.0**	**-4.1**
	0.4nm,0.3s,baz=153,slow=14,SNR=4.2						
MAJO	**Matsushiro**	**19.09**	**342**	*e*P	**P**	**06 56 51.4**	**-0.6**
	29nm,0.8s						
MAJO				*e*S	**S**	**06 59 56.0**	**-4.1**
MAJO				*e*		07 00 01.7	
MAT	**Matsushiro**	**19.09**	**342**	P	**P**	**06 56 51.1**	**-0.9**
MAT				*e*S	**S**	**06 59 58.7**	**-1.4**
MJB9	**Matsu-Tunnel**	**19.09**	**342**	*e*P	**P**	**06 56 51.5**	**-0.5**
	30nm,0.9s						
JNU	**Nakatsue**	**19.54**	**321**	P	**P**	**06 56 56.3**	**+0.2**
	1.1nm,0.3s,baz=105,slow=4.3,SNR=19						
JNU	**Nakatsue**	**19.54**	**321**	*e*P	**P**	**06 56 56.0**	**-0.1**
	28nm,0.8s						
MANU	**Manus Island**	**20.46**	**174**	*e*P	**P**	**06 57 04.5**	**-0.2**
	63nm,1.8s						
SSLB	**Suanglung**	**23.35**	**287**	*e*P	**P**	**06 57 31.4**	**+0.7**
	18nm,0.8s						
SSLB				*e*S	**S**	**07 01 08.4**	**+0.1**
KSRS	**Korea Array**	**24.32**	**325**	P	**P**	**06 57 39.0**	**-0.1**
	24nm,0.6s,baz=146,slow=9.0,SNR=66						
KS15	**Wonju Array Si**	**24.33**	**325**	*e*P	**P**	**06 57 39.0**	**-0.2**
KSAR	**Wonju Array Be**	**24.33**	**325**	P	**P**	**06 57 39.0**	**-0.2**
KS01	**Wonju Array Si**	**24.35**	**325**	*e*P	**P**	**06 57 38.8**	**-0.6**
ASAJ	**Asahikawa**	**25.69**	**355**	P	**P**	**06 57 52.0**	**+0.8**
	5.5nm,0.6s,baz=187,slow=15,SNR=5.8						
ASAJ	**Asahikawa**	**25.69**	**355**	*e*P	**P**	**06 57 51.5**	**+0.3**
	5.2nm,0.6s						
NJ2	**Nanjing**	**27.43**	**305**	*e*P	**P**	**06 58 07.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**28.02**	**339**	P	**P**	**06 58 11.6**	**0.0**
	10nm,0.6s,baz=161,slow=9.0,SNR=23						
YSS	**Yuzh-Sakhalins**	**28.51**	**356**	*e*P	**P**	**06 58 16.3**	**+0.4**
	13nm,0.5s						
MDJ	**Mudanjiang**	**29.23**	**337**	*e*P	**P**	**06 58 22.1**	**-0.2**
	36nm,1.5s						
CN2	**Changchun**	**30.32**	**331**	*e*P	**P**	**06 58 33.5**	**+1.8**
KLR	**Kul'dur**	**32.61**	**343**	P	**P**	**06 58 51.3**	**0.0**
	2.1nm,0.7s,baz=147,slow=7.2,SNR=110						
KLR				PcP	**PcP**	**07 01 23.1**	**-0.2**
	0.2nm,0.5s,baz=68,slow=1.7,SNR=4.2						
BJI	**Beijing**	**33.08**	**317**	P	**P**	**06 58 55.9**	**+0.5**
PETK	**Petropavlovsk-**	**35.91**	**13**	P	**P**	**06 59 19.5**	**+0.5**
	5.1nm,0.8s,baz=170,slow=6.5,SNR=5.5						
PETK				PcP	**PcP**	**07 01 32.8**	**-0.1**
	4.4nm,0.8s,baz=174,slow=4.3,SNR=4.9						
PEA1	**Petropavlovsk-**	**35.91**	**13**	*e*P	**P**	**06 59 19.5**	**+0.4**
PEA1				*e*PcP	**PcP**	**07 01 32.8**	**-0.1**
SBUM	**Sibu**	**36.13**	**248**	*e*P	**P**	**06 59 22.3**	**+0.9**
	24nm,0.6s						
HHC	**Hu-ho-hao-te**	**36.53**	**315**	*e*P	**P**	**06 59 25.0**	**+0.4**
HHC				pP	pP	07 00 50.4	-0.9
HHC				PP	**PP**	**07 01 05.6**	**+3.1**
HHC				sP	sP	07 01 51.4	+4.1
HHC				S	**S**	**07 04 30.9**	**-0.7**
HHC				SS	**SS**	**07 07 38.8**	**-0.4**
HIA	**Hailar**	**37.02**	**332**	*e*P	**P**	**06 59 28.9**	**+0.5**
	28nm,0.6s						
WR1	**Warramunga Arr**	**39.65**	**196**	*e*P	**P**	**06 59 50.8**	**+0.6**
	54nm,1.8s						
WR1				*e*PcP	**PcP**	**07 01 45.8**	**+0.5**
WRA	**Warramunga Arr**	**39.65**	**196**	P	**P**	**06 59 50.8**	**+0.6**
	1.8nm,0.5s,baz=20,slow=8.5,SNR=23						
WRA				PcP	**PcP**	**07 01 45.8**	**+0.5**
	1.7nm,0.7s,baz=5.3,slow=3.6,SNR=5.9						
WRA				ScP	**ScP**	**07 04 47.2**	**-0.2**
	1.6nm,0.7s,baz=11,slow=4.5,SNR=8.8						
MA2	**Magadan**	**41.26**	**4**	P	**P**	**07 00 02.7**	**+0.2**
	18nm,0.7s,baz=182,slow=7.6,SNR=29						
ULN	**Ulaanbaatar**	**42.76**	**322**	*e*P	**P**	**07 00 15.1**	**+0.4**
	12nm,0.8s						
SONA0	**Songino Array**	**43.13**	**322**	*e*P	**P**	**07 00 18.2**	**+0.6**
SONA0				*e*PcP	**PcP**	**07 01 56.9**	**+0.3**
SONM	**Songino Array**	**43.13**	**322**	P	**P**	**07 00 18.2**	**+0.6**
	7.6nm,0.7s,baz=137,slow=6.9,SNR=52						
SONM				PcP	**PcP**	**07 01 56.9**	**+0.3**
	3.9nm,0.8s,baz=134,slow=4.3,SNR=8.9						
SONA1	**Songino Array**	**43.13**	**322**	*e*P	**P**	**07 00 18.1**	**+0.5**
SONA1				*e*PcP	**PcP**	**07 01 56.8**	**+0.2**
AS31	**Alice Springs**	**43.32**	**195**	*e*P	**P**	**07 00 20.1**	**+0.8**
	1.6nm,1.0s						
AS31				*e*PcP	**PcP**	**07 01 58.1**	**+0.6**
ASAR	**Alice Springs**	**43.32**	**195**	P	**P**	**07 00 20.1**	**+0.8**
	1.4nm,0.5s,baz=16,slow=7.2,SNR=8						
ASAR				PcP	**PcP**	**07 01 58.1**	**+0.6**
	1.2nm,0.8s,baz=26,slow=5.0,SNR=5.0						
ASAR				ScP	**ScP**	**07 05 01.6**	**-0.4**
	0.6nm,0.7s,baz=18,slow=5.7,SNR=4.2						
CM01	**Chiang Mai Arr**	**43.90**	**278**	*e*P	**P**	**07 00 24.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**43.91**	**278**	P	**P**	**07 00 25.6**	**+1.6**
	4.4nm,0.7s,baz=66,slow=6.7,SNR=23						
GTA	**Gaotai**	**44.43**	**308**	P	**P**	**07 00 28.8**	**+0.9**
GTA				pP	pP	07 01 59.0	+0.1
GTA				PcP	**PcP**	**07 02 02.3**	**+1.0**
GTA				sP	sP	07 02 52.4	-1.3
SEY	**Seymchan**	**44.71**	**5**	P	**P**	**07 00 30.1**	**+0.6**
	4.7nm,0.6s,baz=191,slow=7.4,SNR=32						
SEY				PcP	**PcP**	**07 02 02.0**	**+0.4**
	0.7nm,0.3s,baz=168,slow=2.6,SNR=4.4						
YAK	**Yakutsk**	**44.90**	**350**	P	**P**	**07 00 30.7**	**-0.3**
	29nm,0.5s,baz=187,slow=1.1,SNR=10						
YAK	**Yakutsk**	**44.90**	**350**	*e*P	**P**	**07 00 30.8**	**-0.2**
	55nm,0.7s						
TLY	**Talaya**	**46.57**	**325**	*e*P	**P**	**07 00 44.7**	**+0.7**
	9.7nm,0.8s						
STKA	**Stephens Creek**	**50.17**	**184**	P	**P**	**07 01 11.5**	**+0.5**
	1.1nm,0.3s,baz=16,slow=5.9,SNR=5.0						
STKA	**Stephens Creek**	**50.17**	**184**	*e*P	**P**	**07 01 11.5**	**+0.5**
	7.9nm,2.0s						
GAMB	**Gambell**	**53.81**	**22**	*e*P	**P**	**07 01 37.5**	**+0.6**
	11nm,1.2s						
WMQ	**Urumqi**	**54.22**	**311**	P	**P**	**07 01 42.1**	**+1.8**
WMQ				PcP	**PcP**	**07 02 37.6**	**+0.4**
JIRN	**Jiri**	**54.76**	**291**	*e*P	**P**	**07 01 45.6**	**+0.9**
	4nm,0.8s						
GUN	**Gumba**	**55.02**	**292**	*e*P	**P**	**07 01 47.5**	**+1.0**
	14nm,0.5s						
PKI	**Pulchoki**	**55.46**	**291**	*e*P	**P**	**07 01 49.6**	**0.0**
	10nm,0.5s						
PKIN	**Phulchoki**	**55.47**	**291**	*e*P	**P**	**07 01 49.5**	**-0.1**
	17nm,0.6s						
KKN	**Kakani**	**55.55**	**291**	*e*P	**P**	**07 01 50.9**	**+0.8**
	15nm,0.6s						
DMN	**Daman**	**55.72**	**291**	*e*P	**P**	**07 01 52.0**	**+0.7**
	10nm,0.5s						
DANN	**Dangsing**	**56.85**	**292**	*e*P	**P**	**07 02 00.3**	**+1.1**
KOLN	**Koldanda**	**57.04**	**292**	*e*P	**P**	**07 02 00.8**	**+0.4**
	19nm,0.7s						
PYUN	**Piuthan**	**57.55**	**292**	*e*P	**P**	**07 02 04.3**	**+0.4**
	16nm,0.6s						
ZAA0	**Zalesovo Array**	**58.01**	**323**	*e*P	**P**	**07 02 06.0**	**-0.2**
	7.4nm,0.8s						
ZALV	**Zalesovo Beam**	**58.01**	**323**	P	**P**	**07 02 05.9**	**-0.3**
	5.1nm,0.5s,baz=101,slow=6.3,SNR=28						
ZALV				PcP	**PcP**	**07 02 51.0**	**-0.8**
	3.6nm,0.7s,baz=111,slow=3.7,SNR=6.9						
ZAA1	**Zalesovo Array**	**58.01**	**323**	*e*P	**P**	**07 02 05.9**	**-0.3**
ZAA1				*e*PcP	**PcP**	**07 02 51.0**	**-0.9**
MK32	**Makanchi Array**	**58.39**	**314**	*e*P	**P**	**07 02 09.7**	**+0.6**
MKAR	**Makanchi Array**	**58.39**	**314**	P	**P**	**07 02 09.7**	**+0.6**
	5.6nm,0.6s,baz=92,slow=8.5,SNR=5.3						
OHAK	**Old Harbor**	**59.25**	**34**	*e*P	**P**	**07 02 15.3**	**+0.8**
	18nm,0.7s						
KDAK	**Kodiak Island**	**59.75**	**33**	P	**P**	**07 02 18.4**	**+0.5**
	3.8nm,0.3s,baz=211,slow=1.6,SNR=22						
KDAK	**Kodiak Island**	**59.75**	**33**	*e*P	**P**	**07 02 18.4**	**+0.5**
	96nm,1.8s						
KURK	**Kurchatov**	**61.23**	**318**	*e*P	**P**	**07 02 28.3**	**+0.5**
KURBB	**Kurchatov Arra**	**61.28**	**318**	P	**P**	**07 02 28.3**	**+0.2**
	56nm,0.8s,baz=97,slow=6.9,SNR=291						
PPLA	**Purkeypile**	**61.28**	**28**	*e*P	**P**	**07 02 29.2**	**+1.0**
	59nm,2.0s						
CAST	**Castle Rocks**	**61.47**	**27**	*e*P	**P**	**07 02 30.1**	**+0.8**
	22nm,0.7s						
SUA	**Susitna One**	**61.55**	**29**	*e*P	**P**	**07 02 30.4**	**+0.4**
	10nm,0.7s						
KTH	**Kantishna Hill**	**62.01**	**27**	*e*P	**P**	**07 02 33.3**	**+0.4**
	9.1nm,0.8s						
BPAW	**Bear Paw Mtn.**	**62.13**	**26**	*e*P	**P**	**07 02 34.0**	**+0.4**
	24nm,1.0s						
PMR	**Palmer**	**62.34**	**29**	*e*P	**P**	**07 02 34.7**	**-0.1**
	12nm,0.6s						
MLY	**Manley**	**62.49**	**25**	*e*P	**P**	**07 02 36.6**	**+0.7**
	17nm,0.9s						
KSH	**Kashi**	**62.74**	**305**	P	**P**	**07 02 41.1**	**+3.0**
KSH				PcP	**PcP**	**07 03 15.4**	**+3.9**
KSH				pP	pP	07 04 21.1	+3.2
KSH				PcS	**PcS**	**07 07 09.0**	**-6.5**
KSH				S	**S**	**07 10 26.4**	**-2.3**
KSH	**Kashi**	**62.74**	**305**	sS	sS	07 13 20.3	-6.8
SML	**Sawmill**	**62.75**	**29**	*e*P	**P**	**07 02 37.7**	**0.0**
	27nm,0.9s						
RND	**Reindeer**	**62.87**	**27**	*e*P	**P**	**07 02 38.2**	**-0.2**
	8.3nm,0.8s						
SCM	**Sheep Creek Mo**	**63.23**	**29**	*e*P	**P**	**07 02 41.3**	**+0.6**
	21nm,0.8s						
COLD	**Coldfoot**	**63.32**	**23**	*e*P	**P**	**07 02 42.0**	**+0.9**
	8.7nm,0.9s						
DHY	**Denali Highway**	**63.45**	**28**	*e*P	**P**	**07 02 42.4**	**+0.1**
	20nm,1.4s						
MDM	**Murphy Dome**	**63.50**	**26**	*e*P	**P**	**07 02 43.0**	**+0.6**
	13nm,0.7s						
KLU	**Klutina**	**63.83**	**30**	*e*P	**P**	**07 02 45.4**	**+0.7**
	11nm,0.8s						
HDA	**Harding Lake**	**63.92**	**27**	*e*P	**P**	**07 02 44.3**	**-0.8**
	9.7nm,0.9s						
TOLK	**Toolik Lake Re**	**63.95**	**22**	*e*P	**P**	**07 02 46.4**	**+1.2**
	16nm,0.8s						
IL1	**Eielson Array**	**64.02**	**26**	*e*P	**P**	**07 02 44.7**	**-1.0**
ILAR	**Eielson Array**	**64.02**	**26**	P	**P**	**07 02 44.7**	**-1.0**
	8.3nm,0.8s,baz=247,slow=5.9,SNR=77						
ILB	**Eielson Array**	**64.02**	**26**	*e*P	**P**	**07 02 44.8**	**-0.9**
PAX	**Paxson**	**64.29**	**28**	*e*P	**P**	**07 02 48.0**	**+0.5**
	12nm,0.6s						
HARP	**HAARP**	**64.33**	**29**	*e*P	**P**	**07 02 48.5**	**+0.7**
	26nm,0.7s						
BMRM	**Bremner River**	**64.37**	**31**	*e*P	**P**	**07 02 48.9**	**+0.8**
	28nm,1.2s						
RIDG	**Independ'e Rid**	**64.70**	**28**	*e*P	**P**	**07 02 50.3**	**+0.2**
	12nm,0.6s						
DOT	**Dot Lake**	**65.03**	**28**	*e*P	**P**	**07 02 52.4**	**+0.2**
	39nm,0.8s						
EGAK	**Eagle**	**66.44**	**27**	*e*P	**P**	**07 03 01.4**	**+0.5**
	8.7nm,1.1s						
BVAR	**Borovoye Array**	**66.45**	**320**	P	**P**	**07 03 01.4**	**+0.2**
	30nm,0.7s,baz=98,slow=7.5,SNR=84						
BRVK	**Borovoye**	**66.51**	**321**	*e*P	**P**	**07 03 01.9**	**+0.3**
	22nm,0.8s						
KKAR	**Karatay Array**	**66.66**	**310**	*e*P	**P**	**07 03 03.6**	**+0.8**
DAWY	**Dawson**	**67.13**	**27**	*e*P	**P**	**07 03 06.2**	**+0.9**
	7.2nm,0.8s						
HYT	**Haines Junctio**	**67.81**	**31**	*e*P	**P**	**07 03 10.5**	**+0.8**
	18nm,0.8s						
KBL	**Kabul**	**68.70**	**301**	*e*P	**P**	**07 03 16.3**	**+0.6**
	19nm,1.1s						
WHY	**Whitehorse**	**69.10**	**31**	*e*P	**P**	**07 03 18.3**	**+0.9**
	24nm,1.6s						
INK	**Inuvik**	**69.73**	**23**	P	**P**	**07 03 21.1**	**+0.1**
	12nm,0.8s,baz=278,slow=5.8,SNR=40						
INK	**Inuvik**	**69.73**	**23**	*e*P	**P**	**07 03 21.2**	**+0.3**
	13nm,0.8s						
DLBC	**Dease Lake**	**71.69**	**33**	*e*P	**P**	**07 03 34.0**	**+1.1**
	7.7nm,0.7s						
ARU	**Arti**	**73.07**	**325**	*e*P	**P**	**07 03 40.9**	**+0.2**
	20nm,0.7s						
ABKAR	**Akbulak array**	**73.29**	**317**	*e*P	**P**	**07 03 42.0**	**-0.2**
	144nm,0.9s						
AKTO	**Aktyubinsk**	**74.33**	**318**	P	**P**	**07 03 47.3**	**-0.8**
	4.2nm,0.6s,baz=88,slow=11,SNR=14						
GEYT	**Alibeck**	**76.77**	**306**	P	**P**	**07 04 01.2**	**-0.8**
	4.3nm,0.3s,baz=11,slow=1.5,SNR=5.1						
YKW3	**Yellowknife Ar**	**78.34**	**28**	*e*P	**P**	**07 04 09.4**	**-0.5**
	6.5nm,0.8s						
YKA	**Yellowknife Ar**	**78.37**	**28**	P	**P**	**07 04 10.2**	**+0.1**
	9.5nm,0.9s,baz=290,slow=5.4,SNR=76						
LTY	**Liberty**	**79.32**	**44**	*e*P	**P**	**07 04 16.0**	**+0.3**
	16nm,1.2s						
SPITS	**Spitsbergen Ar**	**79.36**	**351**	P	**P**	**07 04 14.7**	**-0.5**
	4.2nm,0.7s,baz=65,slow=4.7,SNR=7.1						
YBH	**Yreka Blue Hor**	**79.37**	**50**	P	**P**	**07 04 17.1**	**+1.0**
	7.3nm,0.9s,baz=316,slow=4.3,SNR=12						
RES	**Resolute Bay**	**79.75**	**14**	*e*P	**P**	**07 04 17.7**	**+0.5**
	8.9nm,0.8s						
B08A	**Colville Reser**	**79.89**	**42**	*e*P	**P**	**07 04 19.1**	**+0.5**
E07A	**Sunnyside**	**80.05**	**44**	*e*P	**P**	**07 04 20.4**	**+1.0**
	47nm,1.9s						
PINE	**Pine Mountain**	**80.08**	**47**	*e*P	**P**	**07 04 20.8**	**+0.9**
	15nm,0.9s						
K05A	**Summer Lake**	**80.40**	**48**	*e*P	**P**	**07 04 22.6**	**+1.0**
	17nm,1.0s						
ORV	**Oroville**	**80.85**	**51**	*e*P	**P**	**07 04 24.3**	**+0.5**
	14nm,1.1s						
MOD	**Modoc Plateau**	**81.06**	**49**	*e*P	**P**	**07 04 25.6**	**+0.7**
	7.8nm,1.1s						
E09A	**Wood Farm, Sta**	**81.19**	**44**	*e*P	**P**	**07 04 26.0**	**+0.6**
NEW	**Newport**	**81.33**	**42**	*e*P	**P**	**07 04 26.6**	**+0.6**
	7.7nm,0.9s						
AFDM	**Forest Hills D**	**81.41**	**52**	*e*P	**P**	**07 04 27.1**	**+0.4**
	8.6nm,0.9s						
KLMR	**Klimovskoe**	**81.51**	**332**	*e*P	**P**	**07 04 23.0**	**-3.7**
KLMR				AMP		07 04 26.8	
	comp=Z,23nm,1.2s						
J08A	**Circle Bar Ran**	**81.92**	**47**	*e*P	**P**	**07 04 30.2**	**+0.9**
	comp=Z,7.7nm,0.9s						
EDM	**Edmonton**	**81.99**	**37**	*e*P	**P**	**07 04 29.7**	**+0.3**
	comp=Z,9.1nm,0.8s						
WVOR	**Wild Horse Val**	**82.08**	**48**	*e*P	**P**	**07 04 30.6**	**+0.4**
	comp=Z,4.6nm,0.9s						
CMB	**Columbia Colle**	**82.12**	**53**	*e*P	**P**	**07 04 31.2**	**+0.9**
	comp=Z,15nm,1.0s						
BMO	**Blue Mountains**	**82.26**	**45**	*e*P	**P**	**07 04 31.8**	**+0.8**
	comp=Z,17nm,1.4s						
PAHR	**Pah Rah Range**	**82.37**	**51**	*e*P	**P**	**07 04 32.0**	**+0.3**
	comp=Z,7.2nm,1.0s						
ARA0	**ARCESS Array S**	**82.62**	**342**	*e*P	**P**	**07 04 31.7**	**-0.5**
ARCES	**ARCESS Array B**	**82.62**	**342**	P	**P**	**07 04 31.7**	**-0.5**
	comp=Z,13nm,0.7s,baz=88,slow=8.6,SNR=37						
ARCES	**ARCESS Array B**	**82.62**	**342**	*e*P	**P**	**07 04 32.1**	**-0.1**
WAKR	**Walker**	**82.69**	**52**	*e*P	**P**	**07 04 33.3**	**-0.2**
	comp=Z,6.8nm,0.7s						
TULEG	**Thule**	**83.00**	**8**	*e*P	**P**	**07 04 34.4**	**+0.5**
	comp=Z,24nm,0.9s						
WALA	**Waterton Lakes**	**83.08**	**41**	*e*P	**P**	**07 04 35.6**	**+0.5**
	comp=Z,33nm,1.6s						
JTMT	**Jette**	**83.30**	**42**	*e*P	**P**	**07 04 36.9**	**+0.6**
	comp=Z,15nm,1.1s						
RYN	**Ryan**	**83.33**	**52**	*e*P	**P**	**07 04 36.9**	**+0.3**
	comp=Z,9.2nm,0.9s						
NV01	**Mina Array Sit**	**83.56**	**52**	*e*P	**P**	**07 04 38.8**	**+0.9**
NVAR	**Mina Array Bea**	**83.56**	**52**	P	**P**	**07 04 38.6**	**+0.8**
	comp=Z,2nm,0.7s,baz=262,slow=6.1,SNR=64						
NV11	**Mina Array Sit**	**83.67**	**52**	*e*P	**P**	**07 04 38.9**	**+0.6**
	comp=Z,0.6nm,0.9s						
BMN	**Battle Mountai**	**83.72**	**50**	*e*P	**P**	**07 04 39.3**	**+0.8**
	comp=Z,5.2nm,1.0s						
MFID	**Camas Ranch**	**83.73**	**46**	*e*P	**P**	**07 04 39.4**	**+1.0**
	comp=Z,15nm,0.8s						
HLID	**Hailey**	**84.65**	**46**	*e*P	**P**	**07 04 43.4**	**+0.3**
	comp=Z,8.9nm,0.9s						
LRM	**Limekiln Ridge**	**85.15**	**43**	*e*P	**P**	**07 04 46.0**	**+0.5**
HRY	**Holter Researc**	**85.23**	**42**	*e*P	**P**	**07 04 46.8**	**+1.0**
R11A	**Troy Canyon, C**	**85.61**	**51**	*e*P	**P**	**07 04 48.7**	**+0.8**
	comp=Z,8.2nm,1.3s						
GSC	**Goldstone, Bar**	**85.71**	**54**	*e*P	**P**	**

Q16A	**Castle Valley**	**88.62**	**49**	*e*P	**P**	**07 05 02.7**	**+0.6**
	comp=Z,31nm,1.7s						
P17A	**Butcher Ranch,**	**88.72**	**49**	*e*P	**P**	**07 05 03.1**	**+0.7**
	comp=Z,6.3nm,0.9s						
U15A	**North Rim**	**88.74**	**52**	*e*P	**P**	**07 05 03.9**	**+1.1**
	comp=Z,8.2nm,1.1s						
LAO	**LASA Array**	**88.77**	**41**	*e*P	**P**	**07 05 02.9**	**+0.4**
	comp=Z,12nm,1.0s						
113A	**Mohawk Valley,**	**88.95**	**56**	*e*P	**P**	**07 05 03.8**	**+0.4**
	comp=Z,8.6nm,1.1s						
P18A	**Preston Nutter**	**89.01**	**48**	*e*P	**P**	**07 05 04.7**	**+0.7**
	comp=Z,3.6nm,0.8s						
SRU	**San Rafael Swe**	**89.01**	**49**	*e*P	**P**	**07 05 04.3**	**+0.4**
	comp=Z,9.3nm,0.7s						
FCC	**Fort Churchill**	**89.03**	**27**	*e*P	**P**	**07 05 03.6**	**+0.3**
	comp=Z,9.4nm,1.1s						
Y14A	**Wickenburg**	**89.12**	**55**	*e*P	**P**	**07 05 05.3**	**+1.1**
	comp=Z,41nm,0.9s						
WUAZ	**Wupatki**	**89.77**	**53**	*e*P	**P**	**07 05 08.6**	**+1.2**
	comp=Z,13nm,1.2s						
X16A	**Lo Mia Camp, P**	**90.14**	**54**	*e*P	**P**	**07 05 10.4**	**+1.2**
	comp=Z,2.2nm,0.8s						
O20A	**White River Ci**	**90.21**	**47**	*e*P	**P**	**07 05 09.9**	**+0.4**
	comp=Z,6.1nm,0.9s						
PV09	**Paradox Valley**	**90.25**	**49**	*e*P	**P**	**07 05 10.6**	**+0.9**
PV10	**Paradox Valley**	**90.37**	**49**	*e*P	**P**	**07 05 11.0**	**+0.8**
PV05	**Paradox Valley**	**90.45**	**49**	*e*P	**P**	**07 05 11.4**	**+0.8**
PV01	**Paradox Valley**	**90.80**	**49**	*e*P	**P**	**07 05 13.0**	**+0.7**
MVCO	**Mesa Verde**	**91.23**	**50**	*e*P	**P**	**07 05 15.0**	**+0.7**
	comp=Z,21nm,1.8s						
N23A	**Red Feather La**	**91.48**	**46**	*e*P	**P**	**07 05 16.4**	**+1.1**
	comp=Z,14nm,1.0s						
SMCO	**Snowmass**	**91.50**	**48**	*e*P	**P**	**07 05 16.6**	**+0.9**
	comp=Z,6.6nm,0.8s						
ISCO	**Idaho Springs**	**92.18**	**47**	*e*P	**P**	**07 05 19.9**	**+1.2**
	comp=Z,2.9nm,0.8s						
HFS	**Hagfors**	**92.49**	**338**	P	**P**	**07 05 17.3**	**-1.9**
	comp=Z,2.5nm,0.6s,baz=82,slow=2.2,SNR=8.3						
NB2	**NORSAR Subarra**	**92.69**	**340**	P	**P**	**07 05 18.5**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=46,slow=4.6						
NB200	**NORSAR Array S**	**92.69**	**340**	*e*P	**P**	**07 05 18.4**	**-1.7**
NOA	**NORSAR Array B**	**92.69**	**340**	P	**P**	**07 05 18.4**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=48,slow=5.3,SNR=3.7						
ULM	**Lac du Bonnet**	**93.00**	**34**	P	**P**	**07 05 20.8**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=343,slow=3.8,SNR=3.7						
ANMO	**Albuquerque**	**93.68**	**51**	*e*P	**P**	**07 05 26.5**	**+1.0**
	comp=Z,6.6nm,1.6s						
FRB	**Frobisher Bay**	**93.94**	**14**	P	**P**	**07 05 24.9**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=255,slow=16,SNR=6.8						
SFJD	**Kangerlussuaq**	**93.98**	**6**	P	**P**	**07 05 25.1**	**-0.8**
	comp=Z,5.4nm,0.8s,baz=20,slow=7.6,SNR=3.1						
BR101	**Keskin Array S**	**94.04**	**314**	*e*P	**P**	**07 05 25.7**	**-1.3**
BR131	**Keskin Array S**	**94.04**	**314**	*e*P	**P**	**07 05 25.8**	**-1.2**
BRTR	**Keskin Array B**	**94.04**	**314**	P	**P**	**07 05 25.7**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=80,slow=2.7,SNR=14						
BR231	**Keskin MP Arra**	**94.57**	**314**	*e*P	**P**	**07 05 25.5**	**-3.8**
LTX	**Lajitas**	**98.26**	**55**	*e*Pdif	Pdif	07 05 46.2	+0.1
TXAR	**Lajitas Array**	**98.26**	**55**	P	Pdif	07 05 46.2	+0.1
	comp=Z,0.4nm,0.7s,baz=268,slow=4.5,SNR=2.5						
LSZ	**Lusaka**	**120.03**	**263**	*e*PKPdf	**PKPdf**	**07 10 56.9**	**+0.1**
TOA1	**Torodi Ar. Sit**	**132.34**	**309**	*e*PKPdf	**PKPdf**	**07 11 20.1**	**-0.1**
TOA0	**Torodi Ar. Sit**	**132.35**	**309**	*e*PKPdf	**PKPdf**	**07 11 19.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**132.35**	**309**	PKP	**PKPdf**	**07 11 20.1**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=35,slow=1.0,SNR=8.0						
SDV	**Santo Domingo**	**135.30**	**56**	PKP	**PKPdf**	**07 11 26.1**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=300,slow=9.1,SNR=4.9						
KOWA	**Kowa**	**135.46**	**315**	PKP	**PKPdf**	**07 11 26.6**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=72,slow=2.0,SNR=7.7						
DBIC	**Dimbokro**	**141.45**	**308**	PKhKP	PKPpre	07 11 31.5	
	comp=Z,1.3nm,0.4s,baz=47,slow=3.1,SNR=8.4						
PLCA	**Paso Flores**	**142.08**	**134**	PKP	**PKPdf**	**07 11 34.9**	**-2.6**
	comp=Z,0.9nm,0.4s,baz=263,slow=3.4,SNR=15						
LCO	**Las Campanas**	**145.50**	**115**	*e*PKPdf	**PKPab**	**07 11 46.0**	**-0.4**
PB11	**IPOC Station P**	**146.94**	**98**	*e*PKPdf	**PKPdf**	**07 11 47.9**	**+1.3**
MNMC	**Minye Minye**	**146.95**	**97**	*e*PKPdf	**PKPbc**	**07 11 48.3**	**-1.2**
PB01	**IPOC Station P**	**147.16**	**100**	*e*PKPdf	**PKPdf**	**07 11 47.7**	**+0.9**
LPAZ	**La Paz**	**148.01**	**91**	PKPbc	**PKPdf**	**07 11 50.0**	**+1.1**
	comp=Z,8.3nm,0.8s,baz=321,slow=1.6,SNR=26						
LPAZ	**La Paz**	**148.01**	**91**	*e*PKPdf	**PKPdf**	**07 11 50.2**	**+1.3**
PTGA	**Pitinga**	**149.55**	**57**	*e*PKPbc	**PKPbc**	**07 11 56.3**	**+0.4**
SAML	**Samuel**	**150.76**	**75**	*e*PKPdf	**PKPdf**	**07 11 53.0**	**+0.4**
CPUP	**Villa Florida**	**157.64**	**115**	PKPab	**PKPab**	**07 12 38.1**	**+1.0**
	comp=Z,3.4nm,1.0s,baz=286,slow=7.0,SNR=5.1						

MEX 14 06:57:14.2±0.6, 15.76N×93.81W, h92km±7km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.57**	**96**	*i* P	Pn	06 57 28.5	-1.2
PCIG				*i* S	Sn	06 57 39.7	-1.5
TGIG		**1.21**	**33**	*e*P	Pn	06 57 35.5	-1.0
TGIG				*i* S	Sn	06 57 51.3	-2.0
CCIG	**Comitan**	**1.69**	**72**	*e*P	Pn	06 57 42.0	-0.6
CCIG				*e*S	Sn	06 58 02.7	-1.6
THIG		**1.72**	**119**	*i* P	Pn	06 57 42.7	-0.1
THIG				*i* S	Sn	06 58 03.5	-1.0
HUIG	**Huatulco**	**2.21**	**270**	*i* P	Pn	06 57 47.2	-2.0
HUIG				*i* S	Sn	06 58 14.3	-1.7
VHO	**Vista Hermosa**	**3.09**	**295**	*i* P	Pn	06 58 00.4	-0.8
VHO				*i* S	Sn	06 58 37.0	-0.4

IDC 14 06:58:58.2±10.0, 48.01N×145.16E, h590km±123km, mb2.9/7, mb1 3.0/7, mb1mx2.5/64, mbtmp3.9/7, Error ellipse: s-maj=66.0km s-min=21.7km az=90.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**42.19**	**299**	P	P	07 05 59.7	-0.4
	0.6nm,0.6s,baz=66,slow=8.6,SNR=2.8						
SPITS	**Spitsbergen Ar**	**50.33**	**348**	P	P	07 07 00.5	-0.7
	11nm,1.1s,baz=55,slow=5.5,SNR=3.1						
FINES	**FINESS Array B**	**60.46**	**331**	P	P	07 08 11.9	+0.6
	1.0nm,0.5s,baz=57,slow=5.1,SNR=3.9						
NOA	**NORSAR Array B**	**65.13**	**337**	P	P	07 08 42.6	+1.2
	0.5nm,0.8s,baz=40,slow=7.0,SNR=3.8						
HFS	**Hagfors**	**65.23**	**336**	P	P	07 08 42.6	+0.6
	0.7nm,0.3s,baz=36,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**72.06**	**191**	P	P	07 09 23.6	+0.1
	0.2nm,0.6s,baz=355,slow=5.8,SNR=4.0						
ESDC	**Sonseca Array**	**88.49**	**337**	P	P	07 10 47.2	-1.4
	0.1nm,0.3s,baz=17,slow=4.5,SNR=3.0						

*GEN **14** 07:03:37.4, 44.50N×6.67E, h5km, ML2.7*
*ROM **14** 07:03:37.9±0.4, 44.50N×6.75E, h11km±6km, Md3.0/23, Ml2.7/24, Error ellipse: s-maj=5.4km s-min=1.7km az=63.0*
*CSEM **14** 07:03:37.1±0.1, 44.50N×6.70E, h2km, ML3.4/24, Error ellipse: s-maj=2.2km s-min=2.0km az=51.0*
*LDG **14** 07:03:37.5±0.1, 44.49N×6.67E, h6km, Md3.3/3, Ml3.3/39, Error ellipse: s-maj=1.4km s-min=1.2km az=60.0*
*STR **14** 07:03:38.4±0.1, 44.49N±0.01×6.74E±0.01, h5km, MLv3.2/22*

ISC 14 07:03:37.5±0.8, 44.50N±0.01×6.68E±0.01, h14km±5km, n172, σ1.86/259, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.23**	**16**	*e*Pg	**Pg**	**07 03 42.5**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**07 03 45.7**	**-0.6**
	1μm,0.4s						
MBDF	**Montbardon**	**0.23**	**16**	*e*Pg	**Pg**	**07 03 42.5**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**07 03 45.7**	**-0.6**
	586nm,0.4s						
PZZ	**Stroppo**	**0.31**	**89**	P	**Pg**	**07 03 43.0**	**-1.0**
PZZ				S	**Sg**	**07 03 47.6**	**-0.8**
PZZ	**Stroppo**	**0.31**	**89**	Pg	**Pg**	**07 03 43.0**	**-1.0**
PZZ				Sg	**Sg**	**07 03 47.8**	**-0.6**
	1μm,0.4s						
OG22	**Abries**	**0.37**	**30**	Pg	**Pg**	**07 03 45.0**	**-0.1**
OG22				Sg	**Sg**	**07 03 50.4**	**+0.1**
OG22	**Abries**	**0.37**	**30**	Pg	**Pg**	**07 03 45.1**	**-0.1**
DOI	**San Damiano**	**0.40**	**89**	Pg	**Pg**	**07 03 45.6**	**0.0**
DOI				Sg	**Sg**	**07 03 51.3**	**+0.2**
	540nm,0.3s						
DOI	**San Damiano**	**0.40**	**89**	Pg	**Pg**	**07 03 45.6**	**0.0**
DOI				Sg	**Sg**	**07 03 51.3**	**+0.2**
	540nm,0.3s						
RRL	**Rocca Remolon**	**0.43**	**10**	Pg	**Pg**	**07 03 45.1**	**-1.0**
	461nm,0.4s						
RRL				S	**Sg**	**07 03 51.1**	**-0.8**
RRL	**Rocca Remolon**	**0.43**	**10**	Pg	**Pg**	**07 03 45.1**	**-1.0**
	461nm,0.4s						
OG25	**Le Caire**	**0.46**	**253**	Pg	**Pg**	**07 03 46.9**	**+0.4**
OG25				Sg	**Sb**	**07 03 54.3**	**+0.3**
OG25	**Le Caire**	**0.46**	**253**	Pg	**Pg**	**07 03 46.9**	**+0.4**
STV	**Sant Anna di V**	**0.53**	**119**	P	**Pg**	**07 03 46.9**	**-1.0**
STV				S	**Sg**	**07 03 53.7**	**-1.2**
STV				Sg	**Sg**	**07 03 54.1**	**-0.8**
	405nm,0.2s						
STV	**Sant Anna di V**	**0.53**	**119**	Pg	**Pg**	**07 03 46.9**	**-1.0**
STV				Sg	**Sg**	**07 03 54.1**	**-0.8**
	405nm,0.2s						
BHB	**Bricherasio**	**0.54**	**50**	P	**Pg**	**07 03 48.0**	**-0.1**
BHB				S	**Sg**	**07 03 55.0**	**-0.2**
BHB	**Bricherasio**	**0.54**	**50**	Pg	**Pg**	**07 03 48.0**	**-0.1**
BHB				Sg	**Sg**	**07 03 55.0**	**-0.2**
	585nm,0.5s						
BNI	**Bardonecchia**	**0.55**	**360**	Pg	**Pg**	**07 03 48.5**	**+0.1**
BNI				Sg	**Sg**	**07 03 56.5**	**+0.7**
	101nm,0.5s						
BNI	**Bardonecchia**	**0.55**	**360**	Pg	**Pg**	**07 03 48.5**	**+0.1**
BNI				Sg	**Sg**	**07 03 56.5**	**+0.7**
	101nm,0.5s						
ENR	**Entracque**	**0.60**	**117**	P	**Pg**	**07 03 49.0**	**-0.2**
ENR				S	**Sg**	**07 03 56.6**	**-0.5**
ENR	**Entracque**	**0.60**	**117**	Pg	**Pg**	**07 03 49.0**	**-0.2**
ENR				Sg	**Sg**	**07 03 56.8**	**-0.3**
	406nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.71**	**306**	*e*Pg	**Pg**	**07 03 50.9**	**-0.4**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**07 04 00.4**	**-0.3**
	531nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.71**	**306**	*e*Pg	**Pg**	**07 03 50.9**	**-0.4**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**07 04 00.4**	**-0.3**
	266nm,0.3s,SNR=1.0						
RSP	**Reno Superiore**	**0.77**	**32**	Pg	**Pg**	**07 03 52.3**	**-0.1**
RSP				Sg	**Sg**	**07 04 03.1**	**+0.5**
	228nm,0.5s						
RSP	**Reno Superiore**	**0.77**	**32**	Pg	**Pg**	**07 03 52.3**	**-0.1**
RSP				Sg	**Sg**	**07 04 03.1**	**+0.5**
	228nm,0.5s						
LUCF	**Luceram**	**0.77**	**142**	Pg	**Pg**	**07 03 52.4**	**-0.1**
LUCF				Sg	**Sg**	**07 04 02.5**	**-0.2**
LUCF	**Luceram**	**0.77**	**142**	Pg	**Pg**	**07 03 52.5**	**-0.1**
SBF	**Sospel**	**0.84**	**139**	*e*Pg	**Pg**	**07 03 53.5**	**-0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**07 04 04.0**	**-0.7**
	449nm,0.3s,SNR=1.0						
SBF	**Sospel**	**0.84**	**139**	*e*Pg	**Pg**	**07 03 53.5**	**-0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**07 04 04.0**	**-0.7**
	224nm,0.3s,SNR=1.0						
GBOS	**Grotte di Boss**	**0.87**	**107**	P	**Pg**	**07 03 53.9**	**-0.4**
GBOS	**Grotte di Boss**	**0.87**	**107**	Pg	**Pg**	**07 03 54.0**	**-0.4**
	230nm,0.5s						
REVF	**Revere**	**0.91**	**147**	Pg	**Pg**	**07 03 54.6**	**-0.4**
REVF				Sg	**Sb**	**07 04 07.5**	**+0.5**
REVF	**Revere**	**0.91**	**147**	Pg	**Pg**	**07 03 54.6**	**-0.4**
FRF	**La Foret Royal**	**0.94**	**182**	*e*Pn	**Pg**	**07 03 55.5**	**-0.2**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**07 04 07.1**	**-0.8**
	466nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.94**	**182**	*e*Pn	**Pg**	**07 03 55.5**	**-0.2**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**07 04 07.1**	**-0.8**
	233nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.95**	**237**	*e*Pn	**Pg**	**07 03 56.3**	**+0.4**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**07 04 07.5**	**-0.9**
	SNR=1.0						
SMRF				*e*Sn	**Sb**	**07 04 08.8**	**+0.5**
	147nm,0.3s						
SMRF	**Simiane la Rot**	**0.95**	**237**	*e*Pn	**Pg**	**07 03 56.3**	**+0.4**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**07 04 07.5**	**-0.9**
	SNR=1.0						
NEGI	**Seborga**	**0.98**	**131**	P	**Pg**	**07 03 55.4**	**-1.1**
NEGI	**Seborga**	**0.98**	**131**	Pg	**Pg**	**07 03 55.3**	**-1.2**
	547nm,0.6s						
LPG	**La Plagne**	**1.00**	**3**	*e*Pg	**Pg**	**07 03 56.4**	**-0.4**
	SNR=1.0						
LPG	**La Plagne**	**1.00**	**3**	*e*P	**Pn**	**07 03 58.2**	**+0.8**
LPG				*e*Sg	**Sg**	**07 04 09.8**	**-0.1**
	151nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**1.00**	**3**	*e*Pg	**Pg**	**07 03 56.4**	**-0.4**
	SNR=1.0						
LPG	**La Plagne**	**1.00**	**3**	*e*P	**Pn**	**07 03 58.2**	**+0.8**
LPG				*e*Sg	**Sg**	**07 04 09.8**	**-0.1**
	76nm,0.4s,SNR=1.0						
LSD	**Lago del Serru**	**1.01**	**18**	Pg	**Pg**	**07 03 56.5**	**-0.6**
	114nm,0.3s						
LSD	**Lago del Serru**	**1.01**	**18**	Pg	**Pg**	**07 03 56.5**	**-0.6**
	114nm,0.3s						
LPL	**La Plagne**	**1.02**	**2**	*e*Pg	**Pg**	**07 03 56.7**	**-0.4**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**07 04 10.4**	**-0.1**
	123nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.02**	**2**	*e*Pg	**Pg**	**07 03 56.7**	**-0.4**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**07 04 10.4**	**-0.1**
	62nm,0.3s,SNR=1.0						
IMI	**Imperia**	**1.05**	**124**	P	**Pg**	**07 03 57.5**	**-0.3**
IMI	**Imperia**	**1.05**	**124**	Pg	**Pg**	**07 03 57.5**	**-0.3**
	509nm,0.4s						
MONC	**Moncucco Torin**	**1.05**	**57**	Pg	**Pg**	**07 03 56.6**	**-1.2**
	337nm,0.5s						
MONC	**Moncucco Torin**	**1.05**	**57**	Pg	**Pg**	**07 03 56.6**	**-1.2**
	337nm,0.5s						
RORO	**Rocca Rossa**	**1.07**	**111**	Pg	**Pg**	**07 03 56.5**	**-1.6**
RORO				Sg	**Sg**	**07 04 11.0**	**-1.0**
	171nm,0.3s						
RORO	**Rocca Rossa**	**1.07**	**111**	Pg	**Pg**	**07 03 56.5**	**-1.6**
RORO				Sg	**Sg**	**07 04 11.0**	**-1.0**
	171nm,0.3s						
LMR	**La Mourre**	**1.17**	**186**	*e*Pg	**Pg**	**07 03 59.5**	**-0.6**
	SNR=1.0						
LMR	**La Mourre**	**1.17**	**186**	*e*P	**Pb**	**07 04 00.3**	**+0.8**
LMR				*e*Sg	**Sg**	**07 04 14.4**	**-1.0**
	433nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.17**	**186**	*e*Pg	**Pg**	**07 03 59.5**	**-0.6**
	SNR=1.0						
LMR	**La Mourre**	**1.17**	**186**	*e*P	**Pb**	**07 04 00.3**	**+0.8**
LMR				*e*Sg	**Sg**	**07 04 14.4**	**-1.0**
	216nm,0.2s,SNR=1.0						
QLNO	**Quiliano**	**1.21**	**98**	Pg	**Pg**	**07 03 59.0**	**-1.7**
	96nm,0.3s						
QLNO	**Quiliano**	**1.21**	**98**	Pg	**Pg**	**07 03 59.0**	**-1.7**
	96nm,0.3s						
LEPF	**PUYLOUBIER**	**1.21**	**216**	Pn	**Pb**	**07 04 00.8**	**+0.7**
LEPF				Sg	**Sn**	**07 04 18.5**	**+2.4**
LEPF	**PUYLOUBIER**	**1.21**	**216**	Pn	**Pb**	**07 04 00.9**	**+0.7**
TRAV	**Traversella**	**1.26**	**36**	Pg	**Pg**	**07 04 00.3**	**-1.5**
TRAV				Sg	**Sg**	**07 04 16.5**	**-1.7**
	99nm,0.3s						
TRAV	**Traversella**	**1.26**	**36**	Pg	**Pg**	**07 04 00.3**	**-1.5**
TRAV				Sg	**Sg**	**07 04 16.5**	**-1.7**
	99nm,0.3s						
CIRO	**Champorcher**	**1.27**	**29**	Pg	**Pg**	**07 04 01.6**	**-0.3**
	98nm,0.5s						
CIRO	**Champorcher**	**1.27**	**29**	Pg	**Pg**	**07 04 01.6**	**-0.3**
	98nm,0.5s						
MRGE	**Morge**	**1.30**	**12**	Pg	**Pg**	**07 04 01.6**	**-0.9**
	159nm,0.6s						
MRGE	**Morge**	**1.30**	**12**	Pg	**Pg**	**07 04 01.6**	**-0.9**
	159nm,0.6s						
PCP	**Piancastagn**	**1.33**	**88**	Pg	**Pn**	**07 04 01.1**	**-0.6**
	90nm,0.5s						
PCP	**Piancastagn**	**1.33**	**88**	Pg	**Pn**	**07 04 01.1**	**-0.6**
	90nm,0.5s						
VIVF	**Saint-Julien-l**	**1.48**	**285**	*e*Pg	**Pn**	**07 04 04.8**	**+1.1**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**07 04 21.1**	**-1.8**
	160nm,0.3s,SNR=1.0						
VIVF				*e*Sg	**Sn**	**07 04 24.1**	**+1.2**
	163nm,0.3s						
VIVF	**Saint-Julien-l**	**1.48**	**285**	*e*Pg	**Pn**	**07 04 04.8**	**+1.1**
	SNR=1.0						
VIVF				*e*Sg	**Sn**	**07 04 24.1**	**+1.2**
	81nm,0.3s						
EMV	**Vieux Emosson**	**1.57**	**6**	Pg	**Pb**	**07 04 07.0**	**+0.5**
	55nm,0.7s						
EMV	**Vieux Emosson**	**1.57**	**6**	Pg	**Pb**	**07 04 07.0**	**+0.5**
	55nm,0.7s						
SATI	**Passo dei Sala**	**1.61**	**31**	Pg	**Pn**	**07 04 07.1**	**+1.3**
	77nm,0.8s						
SATI	**Passo dei Sala**	**1.61**	**31**	Pg	**Pn**	**07 04 07.1**	**+1.3**
	77nm,0.8s						
DIX	**Grande Dixence**	**1.66**	**18**	Pg	**Pb**	**07 04 08.2**	**+0.2**
	49nm,0.6s						
DIX	**Grande Dixence**	**1.66**	**18**	Pg	**Pb**	**07 04 08.2**	**+0.2**
	49nm,0.6s						
SSB	**Saint Sauveur**	**1.71**	**298**	Pn	**Pn**	**07 04 08.0**	**+1.1**
SSB	**Saint Sauveur**	**1.71**	**298**	Pg	**Pg**	**07 04 10.6**	**+0.3**
MMK	**Mattmark**	**1.79**	**30**	Pg	**Pn**	**07 04 09.9**	**+1.6**
	50nm,0.4s						
MMK	**Mattmark**	**1.79**	**30**	Pg	**Pn**	**07 04 09.9**	**+1.6**
	50nm,0.4s						
OG01	**Vacheresse**	**1.83**	**0**	Pg	**Pg**	**07 04 13.6**	**+1.0**
OG01	**Vacheresse**	**1.83**	**0**	Pg	**Pg**	**07 04 13.7**	**+1.0**
GIMEL	**St. Georges /**	**2.06**	**352**	Pg	**Pn**	**07 04 14.1**	**+2.4**
	33nm,0.4s						
GIMEL	**St. Georges /**	**2.06**	**352**	Pg	**Pn**	**07 04 14.1**	**+2.4**
	33nm,0.4s						
LASF	**Ste Croix**	**2.07**	**259**	*e*P	**Pn**	**07 04 12.8**	**+0.9**
	SNR=1.0						
LASF	**Ste Croix**	**2.07**	**259**	*e*Pg	**Pb**	**07 04 16.1**	**+1.2**
LASF				*e*Sn	**Sn**	**07 04 35.7**	**-1.8**
	21nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.07**	**259**	*e*P	**Pn**	**07 04 12.8**	**+0.9**
	SNR=1.0						
LASF	**Ste Croix**	**2.07**	**259**	*e*Pg	**Pb**	**07 04 16.1**	**+1.2**
CABF	**La Chapelle**	**2.15**	**349**	*e*P	**Pn**	**07 04 15.4**	**+2.4**
	SNR=1.0						
CABF				*e*Sg	**Sb**	**07 04 44.7**	**+1.8**
	106nm,0.7s						
CABF	**La Chapelle**	**2.15**	**349**	*e*P	**Pn**	**07 04 15.4**	**+2.4**
	SNR=1.0						
CABF				*e*Sg	**Sb**	**07 04 44.7**	**+1.8**
	53nm,0.7s						
LBL	**Lubilhac**	**2.55**	**288**	Pn	**Pn**	**07 04 19.7**	**+1.2**
LBL	**Lubilhac**	**2.55**	**288**	Pn	**Pn**	**07 04 19.8**	**+1.2**
PGF	**Pioggiola**	**2.58**	**138**	*e*Pn	**Pn**	**07 04 19.2**	**+0.3**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**07 04 47.9**	**-2.2**
	26nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	**2.58**	**138**	*e*Pn	**Pn**	**07 04 19.2**	**+0.3**
	SNR=1.0						
PLDF	**La Plantade**	**2.61**	**305**	Pn	**Pn**	**07 04 20.7**	**+1.4**
PLDF	**La Plantade**	**2.61**	**305**	Pn	**Pn**	**07 04 20.8**	**+1.4**
LOMF	**Lomont**	**2.85**	**2**	Pn	**Pn**	**07 04 22.6**	**-0.1**
LOMF	**Lomont**	**2.85**	**2**	Pg	**Pg**	**07 04 31.9**	**-0.2**
LOMF	**Lomont**	**2.85**	**2**	Pn	**Pn**	**07 04 22.6**	**-0.1**
LOMF	**Lomont**	**2.85**	**2**	Pg	**Pg**	**07 04 31.9**	**-0.2**
PYM	**Petit Puy Mans**	**2.89**	**297**	Pn	**Pn**	**07 04 24.1**	**+1.0**
PYM	**Petit Puy Mans**	**2.89**	**297**	Pn	**Pn**	**07 04 24.2**	**+1.0**
SMF	**Signal de Mont**	**2.93**	**318**	*e*P	**Pn**	**07 04 25.4**	**+1.7**
SMF				*e*Sn	**Sn**	**07 04 56.2**	**-2.4**
	25nm,0.2s,SNR=1.0						
SMF				*e*Sg	**Sg**	**07 05 10.0**	**-1.6**
	29nm,0.3s						
SMF	**Signal de Mont**	**2.93**	**318**	*e*P	**Pn**	**07 04 25.4**	**+1.7**
SMF				*e*Sg	**Sg**	**07 05 10.0**	**-1.6**
	15nm,0.3s						
AGO	**Saint Agoulin**	**2.95**	**303**	Pn	**Pn**	**07 04 25.3**	**+1.4**
AGO	**Saint Agoulin**	**2.95**	**303**	Pn	**Pn**	**07 04 25.4**	**+1.4**
AVF	**Avril sur Loir**	**3.27**	**316**	*e*P	**Pn**	**07 04 30.4**	**+2.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**07 05 04.2**	**-2.8**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**07 05 20.6**	**-1.9**
	50nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**3.27**	**316**	*e*P	**Pn**	**07 04 30.4**	**+2.1**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**07 05 20.6**	**-1.9**
	25nm,0.5s,SNR=1.0						
CAF	**Calvac**	**3.32**	**279**	*e*P	**Pn**	**

	2.9nm,0.5s							
SFTF	**Sexfontaines**	**3.88**	**344**	*e*P		**Pn**	**07 04 38.6**	**+2.0**
	baz=155							
SFTF				*e*Sg		**Sg**	**07 05 39.8**	**-2.1**
	21nm,0.3s							
SFTF	**Sexfontaines**	**3.88**	**344**	*e*P		**Pn**	**07 04 38.6**	**+2.0**
SFTF				*e*Sg		**Sg**	**07 05 39.8**	**-2.1**
	10nm,0.3s							
CDF	**Champ du Feu**	**3.93**	**6**	*e*P		**Pn**	**07 04 38.4**	**+0.9**
CDF				*e*Sn		**Sn**	**07 05 20.2**	**-3.3**
	3.6nm,0.2s							
CDF				*e*Sg		**Sg**	**07 05 41.1**	**-2.7**
	13nm,0.6s							
CDF	**Champ du Feu**	**3.93**	**6**	*e*P		**Pn**	**07 04 38.4**	**+0.9**
HYF	**Humbligny**	**3.95**	**316**	*e*P		**Pn**	**07 04 40.3**	**+2.6**
HYF				*e*Sg		**Sg**	**07 05 41.6**	**-2.8**
HYF	**Humbligny**	**3.95**	**316**	*e*P		**Pn**	**07 04 40.3**	**+2.6**
PAGF	**Fort de Pagny**	**4.11**	**351**	*e*P		**Pn**	**07 04 42.1**	**+2.3**
	baz=167							
PAGF	**Fort de Pagny**	**4.11**	**351**	*e*P		**Pn**	**07 04 42.1**	**+2.3**
RETA	**Reutte**	**4.12**	**42**	Sn		**Sn**	**07 05 34.4**	**+6.2**
	2.5nm,0.3s							
RETA	**Reutte**	**4.12**	**42**	*e*Sn		**Sn**	**07 05 34.4**	**+6.2**
	2.5nm,0.3s							
MEZF	**Maizieres J'vi**	**4.16**	**345**	*e*P		**Pn**	**07 04 43.4**	**+2.9**
MEZF				*e*Sg		**Sg**	**07 05 48.4**	**-2.5**
	28nm,0.5s,baz=169							
MEZF	**Maizieres J'vi**	**4.16**	**345**	*e*P		**Pn**	**07 04 43.4**	**+2.9**
MOTA	**Moosalm**	**4.20**	**46**	Pn		Pn	07 04 46.2	+5.0
	1.6nm,0.4s							
MOTA	**Moosalm**	**4.20**	**46**	*e*Pn		Pn	07 04 46.2	+5.0
	1.6nm,0.4s							
LFF	**La Frestale**	**4.26**	**278**	*e*P		**Pn**	**07 04 43.6**	**+1.7**
LFF				*e*Sn		**Sn**	**07 05 27.4**	**-4.0**
	22nm,0.6s,SNR=1.0							
LFF				*e*Sg		**Sg**	**07 05 51.4**	**-2.7**
	22nm,0.5s							
LFF	**La Frestale**	**4.26**	**278**	*e*P		**Pn**	**07 04 43.6**	**+1.7**
LFF				*e*Sg		**Sg**	**07 05 51.4**	**-2.7**
	11nm,0.5s							
WTTA	**Wattenberg**	**4.43**	**50**	Pn		Pn	07 04 49.7	+5.3
	1.0nm,0.2s							
WTTA	**Wattenberg**	**4.43**	**50**	*e*Pn		Pn	07 04 49.7	+5.3
	1.0nm,0.2s							
WTTA				*e*Sn		**Sb**	**07 05 43.6**	**-4.8**
	7.8nm,0.6s							
EPF	**Esparros**	**4.82**	**254**	*e*P		**Pn**	**07 04 50.8**	**+1.1**
	SNR=1.0							
EPF				*e*Sg		**Sg**	**07 06 08.7**	**-3.6**
	9.7nm,0.6s							
EPF	**Esparros**	**4.82**	**254**	*e*P		**Pn**	**07 04 50.8**	**+1.1**
	SNR=1.0							
MFF	**Saint Martin d**	**5.24**	**296**	*e*P		**Pn**	**07 04 57.5**	**+2.2**
MFF	**Saint Martin d**	**5.24**	**296**	*e*P		**Pn**	**07 04 57.5**	**+2.2**
ETSF	**Etsaut**	**5.49**	**256**	*e*P		**Pn**	**07 05 02.1**	**+3.2**
ETSF				*e*Sg		**Sg**	**07 06 29.1**	**-4.5**
	4.3nm,0.5s,SNR=1.0							
ETSF	**Etsaut**	**5.49**	**256**	*e*P		**Pn**	**07 05 02.1**	**+3.2**
GIVF	**Givet**	**5.75**	**348**	*e*P		**Pn**	**07 05 04.9**	**+2.6**
GIVF	**Givet**	**5.75**	**348**	*e*P		**Pn**	**07 05 04.9**	**+2.6**
BAIF	**Baives**	**5.81**	**344**	*e*P		**Pn**	**07 05 05.7**	**+2.5**
BAIF				*e*Sn		**Sn**	**07 06 04.6**	**-5.0**
	11nm,0.7s							
BAIF	**Baives**	**5.81**	**344**	*e*P		**Pn**	**07 05 05.7**	**+2.5**
SJPF	**Ste Jean**	**5.89**	**259**	*e*P		**Pn**	**07 05 03.3**	**-1.0**
SJPF	**Ste Jean**	**5.89**	**259**	*e*P		**Pn**	**07 05 03.3**	**-1.0**
LDF	**La Druitiere**	**6.23**	**314**	*e*P		**Pn**	**07 05 11.3**	**+2.4**
	SNR=1.0							
LDF	**La Druitiere**	**6.23**	**314**	*e*P		**Pn**	**07 05 11.3**	**+2.4**
	SNR=1.0							
OZLJ	**Ozalj**	**6.32**	**77**	*e*Pg		**Sn**	**07 06 20.6**	**-1.6**
OZLJ				Sg		**Sn**	**07 06 26.8**	**+4.6**
FLN	**La Foliniere**	**6.52**	**313**	*e*P		**Pn**	**07 05 15.2**	**+2.3**
	baz=139,SNR=1.0							
FLN	**La Foliniere**	**6.52**	**313**	*e*P		**Pn**	**07 05 15.2**	**+2.3**
	SNR=1.0							

IDC ***14*** *07:04:55.7±1.2,10″.19N×126″.43E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/58, mbtmp3.6/5, Error ellipse: s-maj=84.2km s-min=27.5km az=68.0*

ISCJB ***14*** *07:05:00.5±0.9, 9″.99N±0″.06×126″.44E±0″.08, h42km, mb3.7/5, Error ellipse: s-maj=10.7km s-min=8.1km az=171.5*

MAN ***14*** *07:05:02, 9″.93N×126″.11E, h6km, mb4.6, ML3.5, MS3.4*

ISC 14 07:05:02.2±1.0, 9.96N±0″.06×126.3E±0″.1, h42km, n11, σ1§63/14, mb3.6/5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.21**	**215**	*e*P	**Pn**	**07 05 22.7**	**+0.1**
BUTP				*e*S	**Sn**	**07 05 38.9**	**+1.1**
MSLP	**Maasin**	**1.46**	**277**	*e*P	**Pn**	**07 05 25.8**	**-0.2**
MSLP				*e*S	**Sn**	**07 05 43.7**	**-0.3**
PLP	**Palo**	**1.79**	**312‖**	*e*P	**Pn**	**07 05 31.1**	**+0.5**
PLP				*i* S	**Sn**	**07 05 54.4**	**+2.3**
BESP	**Borongan**	**1.85**	**332**	*e*P	**Pn**	**07 05 33.8**	**+2.4**
BUKP	**Musuan**	**2.42**	**211**	*e*P	**Pn**	**07 05 41.6**	**+2.3**
RCP	**Roxas**	**3.87**	**295‖**	*e*P	**Pn**	**07 06 00.9**	**+1.8**
WRA	**Warramunga Arr**	**30.74**	**165**	P	**P**	**07 11 14.6**	**+1.0**
	0.7nm,1.0s,baz=350,slow=9.3,SNR=4.0						
MKAR	**Makanchi Array**	**52.31**	**323**	P	**P**	**07 14 08.7**	**-1.0**
	0.4nm,0.7s,baz=117,slow=9.0,SNR=4.0						
KURBB	**Kurchatov Arra**	**56.36**	**325**	P	**P**	**07 14 37.3**	**-1.7**
	0.4nm,0.7s,baz=126,slow=6.5,SNR=1.9						
FINES	**FINESS Array B**	**86.19**	**332**	P	**P**	**07 17 37.1**	**-1.8**
	1.5nm,0.9s,baz=68,slow=4.1,SNR=4.3						
YKA	**Yellowknife Ar**	**94.02**	**24**	P	**P**	**07 18 15.2**	**-0.4**
	0.2nm,0.6s,baz=302,slow=4.5,SNR=6.3						

NEIC ***14*** *07:05:05.4±0.0, 16′.04N×96′.36W, h6km, MD4.0(MEX), After MEX.*

MEX 14 07:05:05.4±0.4, 16′.04N×96′.36W, h6km±6km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.36**	**138**	*i* P	Pg	07 05 12.0	-0.4
HUIG				*i* S	Sg	07 05 17.3	+0.1
HUIG	**Huatulco**	**0.36**	**138**	*i* P	Pg	07 05 12.0	-0.4
HUIG				*i* S	Sg	07 05 17.3	+0.1
VHO	**Vista Hermosa**	**1.09**	**341**	*i* P	Pg	07 05 23.5	-2.9
VHO				*i* S	Sg	07 05 37.5	-3.0
VHO	**Vista Hermosa**	**1.09**	**341**	*i* P	Pg	07 05 23.5	-2.9
VHO				*i* S	Sg	07 05 37.5	-3.0
PNIG	**Pinotepa**	**1.73**	**282**	*e*P	Pn	07 05 32.5	-3.6
PNIG				*i* S	Sn	07 05 53.8	-4.8
PNIG	**Pinotepa**	**1.73**	**282**	*e*P	Pn	07 05 32.5	-3.6
PNIG				*i* S	Sn	07 05 53.8	-4.8
TLIG	**Tlapa**	**2.60**	**306**	*e*P	Pn	07 05 45.6	-2.5
TLIG				*i* S	Sn	07 06 17.0	-3.2
TLIG	**Tlapa**	**2.60**	**306**	*e*P	Pn	07 05 45.6	-2.5
TLIG				*i* S	Sn	07 06 17.0	-3.2
PCIG		**3.04**	**96**	*e*P	Pn	07 05 51.3	-2.7
PCIG				*i* S	Sn	07 06 27.3	-3.5
PCIG		**3.04**	**96**	*e*P	Pn	07 05 51.3	-2.7
PCIG				*i* S	Sn	07 06 27.3	-3.5
TGIG		**3.19**	**76**	*e*P	Pn	07 05 54.0	-2.2
TGIG				*i* S	Sn	07 06 31.7	-2.9
TGIG		**3.19**	**76**	*e*P	Pn	07 05 54.0	-2.2
TGIG				*i* S	Sn	07 06 31.7	-2.9

IDC ***14*** *07:08:33.4±0.6, 1′.85N×122′.89E, h0km, mb4.3/20, mb1 4.3/20, mb1mx4.1/55, mbtmp4.3/20, MS2.9/1, Ms1 2.9/1, ms1mx2.4/60, Error ellipse: s-maj=26.5km s-min=13.7km az=74.0*

ISCJB ***14*** *07:08:36.7±0.3, 1′.83N±0″.03×122′.73E±0″.06, h33km, mb4.3/27, Error ellipse: s-maj=8.2km s-min=4.3km az=178.9*

NEIC ***14*** *07:08:36.5±3.1, 1′.84N×122′.87E, h19km±19km, mb4.6/10, Error ellipse: s-maj=8.8km s-min=4.2km az=65.0*

DJA ***14*** *07:08:36.3±0.9, 2′.N±4″×12′.3E±″, h10km±5km, M4.5/7, mB4.9/1, mb4.8/3, MLv4.3/7, Mw(mB)4.2/1*

ISC 14 07:08:38.7±0.5, 1′.80N±0″.06×122.69E±0″.07, h35km, n58, σ0§96/63, mb4.4/27, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.51**	**210**	P	**Pn**	**07 09 01.5**	**-1.8**
MRSI				S	**Sn**	**07 09 20.0**	**-1.8**

KMSI	**Cibinong**		**1.78**	**133**	P	**Pn**	**07 09 06.7**	**-0.3**
LUWI	**Luwuk**		**2.82**	**178**	P	**Pn**	**07 09 21.8**	**+0.4**
LUWI					S	**Sn**	**07 09 56.2**	**+2.0**
LUWI	**Luwuk**		**2.82**	**178**	*e*Pn	**Pn**	**07 09 22.1**	**+0.7**
APSI	**Ampana**		**2.88**	**201**	P	**Pn**	**07 09 23.4**	**+1.2**
MPSI	**Mapaga**		**3.14**	**243**	P	**Pn**	**07 09 24.4**	**-1.4**
MYLDM	**Lahad Datu**		**5.36**	**309**	*e*Pn	**Pn**	**07 09 56.0**	**-0.3**
TTSI	**Tana Toraja**		**5.60**	**211**	P	**Pn**	**07 10 00.2**	**+0.6**
DAV	**Davao City (W)**		**5.98**	**29**	LR	LR	07 12 26.1	
	comp=Z,114nm,19.7s,baz=321,slow=40							
BNSI	**Bone**		**6.68**	**203**	P	**Pn**	**07 10 13.0**	**-1.4**
FITZ	**Fitzroy Crossi**		**19.98**	**172**	P	**P**	**07 13 07.9**	**-0.4**
	4.4nm,0.5s,baz=12,slow=10							
IPM	**Ipoh**		**21.79**	**278**	*e*P	**P**	**07 13 29.1**	**+1.2**
	23nm,1.3s							
WRAB	**Tennant Creek**		**24.44**	**153**	*e*P	**P**	**07 13 54.9**	**+0.5**
	13nm,1.0s							
WR1	**Warramunga Arr**		**24.45**	**153**	*e*P	**P**	**07 13 53.8**	**-0.7**
	20nm,1.2s							
WRA	**Warramunga Arr**		**24.45**	**153**	P	**P**	**07 13 53.8**	**-0.7**
	9.3nm,0.9s,baz=333,slow=10,SNR=44							
AS31	**Alice Springs**		**27.57**	**157**	*e*P	**P**	**07 14 22.1**	**-0.6**
	1.4nm,0.9s							
ASAR	**Alice Springs**		**27.57**	**157**	P	**P**	**07 14 22.1**	**-0.6**
	1.3nm,0.7s,baz=343,slow=14,SNR=7.1							
AS01	**Alice Springs**		**27.58**	**157**	*e*P	**P**	**07 14 22.6**	**-0.3**
KS15	**Wonju Array Si**		**35.79**	**7**	*e*P	**P**	**07 15 34.7**	**0.0**
KSAR	**Wonju Array Be**		**35.79**	**7**	P	**P**	**07 15 34.7**	**0.0**
KSRS	**Korea Array**		**35.81**	**7**	P	**P**	**07 15 34.7**	**-0.1**
	0.6nm,0.3s,baz=175,slow=9.9,SNR=3.9							
MAJO	**Matsushiro**		**37.43**	**21**	*e*P	**P**	**07 15 47.7**	**-1.1**
MJAR	**Matsushiro Arr**		**37.43**	**21**	P	**P**	**07 15 47.7**	**-1.1**
	1.5nm,0.5s,baz=199,slow=9.9,SNR=6.3							
STKA	**Stephens Creek**		**37.99**	**153**	P	**P**	**07 15 53.1**	**-0.4**
	3.2nm,0.8s,baz=287,slow=3.9,SNR=3.6							
STKA	**Stephens Creek**		**37.99**	**153**	*e*P	**P**	**07 15 53.1**	**-0.4**
	9.8nm,2.0s							
USRK	**Ussuriysk Ar.**		**43.02**	**10**	P	**P**	**07 16 32.8**	**-2.0**
	1.5nm,0.7s,baz=195,slow=8.7,SNR=2.9							
ASAJ	**Asahikawa**		**45.69**	**20**	P	**P**	**07 16 54.5**	**-1.7**
	5.8nm,0.7s,baz=224,slow=15,SNR=5.6							
ASAJ	**Asahikawa**		**45.69**	**20**	*e*P	**P**	**07 16 54.5**	**-1.7**
	5.4nm,0.7s							
SONA0	**Songino Array**		**47.98**	**345**	*e*P	**P**	**07 17 15.2**	**+0.9**
SONM	**Songino Array**		**47.98**	**345**	P	**P**	**07 17 15.2**	**+0.9**
	0.8nm,0.6s,baz=167,slow=9.0,SNR=4.0							
MK01	**Makanchi Array**		**56.91**	**328**	*e*P	**P**	**07 18 21.2**	**+0.9**
MK31	**Makanchi Array**		**56.93**	**328**	*e*P	**P**	**07 18 21.4**	**+0.9**
MK32	**Makanchi Array**		**56.93**	**328**	*e*P	**P**	**07 18 21.4**	**+1.0**
MK32					*e*PcP	**PcP**	**07 19 14.9**	**-0.7**
MKAR	**Makanchi Array**		**56.93**	**328**	P	**P**	**07 18 21.4**	**+0.9**
	7.5nm,0.8s,baz=125,slow=8.7,SNR=65							
MKAR					PcP	**PcP**	**07 19 14.9**	**-0.7**
	0.5nm,0.6s,baz=132,slow=4.1,SNR=4.2							
MKAR	**Makanchi Array**		**56.93**	**328**	*e*P	**P**	**07 18 21.4**	**+0.9**
	40nm,0.8s							
MKAR					PcP	**PcP**	**07 19 14.9**	**-0.7**
MAKZ	**Makanchi**		**57.10**	**328**	*e*P	**P**	**07 18 22.7**	**+0.9**
	5.8nm,0.8s							
PETK	**Petropavlovsk-**		**58.77**	**24**	P	**P**	**07 18 32.8**	**-0.5**
	2.6nm,0.4s,baz=238,slow=8.3,SNR=2.5							
PEA1	**Petropavlovsk-**		**58.78**	**24**	*e*P	**P**	**07 18 32.8**	**-0.5**
AAK	**Ala-Archa**		**59.15**	**320**	*e*P	**P**	**07 18 38.1**	**+1.8**
	4.1nm,0.8s							
KBL	**Kabul**		**59.55**	**310**	*e*P	**P**	**07 18 40.0**	**+0.7**
	6.5nm,0.8s							
ZALV	**Zalesovo Beam**		**60.56**	**335**	P	**P**	**07 18 45.6**	**+0.1**
	3.3nm,0.9s,baz=120,slow=6.0,SNR=6.4							
ZALV	**Zalesovo Beam**		**60.56**	**335**	*e*P	**P**	**07 18 45.2**	**-0.3**
ZAA1	**Zalesovo Array**		**60.56**	**335**	*e*P	**P**	**07 18 45.6**	**0.0**
KURBB	**Kurchatov Arra**		**61.26**	**330**	P	**P**	**07 18 51.1**	**+0.7**
	14nm,1.0s,baz=124,slow=5.6,SNR=83							
KURK	**Kurchatov**		**61.27**	**330**	*e*P	**P**	**07 18 51.1**	**+0.6**
KURK					*e*P	**P**	**07 18 51.2**	**+0.7**
KKAR	**Karatay Array**		**61.95**	**319**	*e*P	**P**	**07 18 56.6**	**+1.4**
BVAR	**Borovoye Array**		**66.79**	**329**	P	**P**	**07 19 27.1**	**+0.4**
	2.3nm,0.7s,baz=126,slow=9.7,SNR=14							
BRVK	**Borovoye**		**66.86**	**329**	*e*P	**P**	**07 19 27.8**	**+0.7**
	6.5nm,1.1s							
GEYT	**Alibeck**		**68.99**	**310**	P	**P**	**07 19 42.0**	**+1.1**
	1.4nm,0.3s,baz=122,slow=5.2,SNR=3.6							
AKTO	**Aktyubinsk**		**72.70**	**323**	P	**P**	**07 20 03.1**	**0.0**
	2.8nm,0.7s,baz=101,slow=10.0,SNR=7.6							
ASF	**Jabal al Asfar**		**85.48**	**302**	P	**P**	**07 21 14.6**	**+1.0**
	1.1nm,0.4s,baz=135,slow=2.9,SNR=2.1							
ILAR	**Eielson Array**		**88.57**	**25**	P	**P**	**07 21 26.4**	**-1.3**
	0.2nm,0.8s,baz=232,slow=5.9,SNR=4.4							
ILB	**Eielson Array**		**88.57**	**25**	*e*P	**P**	**07 21 26.4**	**-1.3**
SPITS	**Spitsbergen Ar**		**91.57**	**349**	P	**P**	**07 21 40.9**	**-0.6**
	6.3nm,0.9s,baz=106,slow=5.2,SNR=6.0							
INK	**Inuvik**		**93.42**	**21**	P	**P**	**07 21 50.2**	**+0.1**
	0.5nm,0.8s,baz=307,slow=5.1,SNR=3.2							
YKA	**Yellowknife Ar**		**102.89**	**24**	Pdiff	**Pdif**	**07 22 32.8**	**-0.1**
	0.1nm,0.6s,baz=296,slow=5.0							
TORD	**Torodi Ar. Bea**		**119.62**	**286**	PKP	**PKPdf**	**07 27 26.4**	**+0.3**
	0.2nm,0.6s,baz=276,slow=1.3,SNR=2.3							
TOA1	**Torodi Ar. Sit**		**119.62**	**286**	*e*PKPdf	**PKPdf**	**07 27 26.4**	**+0.3**

ISCJB ***14*** *07:09:37.7±0.6, 54′.3N±0″.1×35′.2W±0″.1, h10km, mb3.4/11, Error ellipse: s-maj=21.7km s-min=11.0km az=10.2*

IDC ***14*** *07:09:38.1±0.8, 54′.25N×35′.17W, h0km, mb3.4/11, mb1 3.6/13, mb1mx3.5/69, mbtmp3.5/13, ML2.9/2, Error ellipse: s-maj=29.2km s-min=17.2km az=16.0*

ISC 14 07:09:39.6±0.8, 54′.3N±0″.2×35′.19W±0″.10, h10km, n14, σ0§99/15, mb3.5/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.29**	**285**	P	**Pn**	**07 13 52.4**	**-0.7**
	0.0nm,0.3s,baz=47,slow=19,SNR=3.7						
EKA	**Eskdalemuir Ar**	**18.41**	**74**	P	**Pn**	**07 13 55.3**	**+0.7**
	baz=295,slow=7.0,SNR=3.4						
ESDC	**Sonseca Array**	**25.57**	**112**	P	**P**	**07 15 09.3**	**+0.8**
	0.2nm,0.3s,baz=319,slow=9.1,SNR=2.9						
YKA	**Yellowknife Ar**	**39.88**	**315**	P	**P**	**07 17 11.9**	**-1.0**
	0.2nm,0.7s,baz=62,slow=8.8,SNR=4.1						
YKA				PcP	**PcP**	**07 19 13.9**	**+0.9**
	0.4nm,0.9s,baz=62,slow=3.5,SNR=5.6						
KOWA	**Kowa**	**46.57**	**136**	P	**P**	**07 18 05.9**	**-1.5**
	1.2nm,0.8s,baz=319,slow=9.3,SNR=4.5						
BRTR	**Keskin Array B**	**47.24**	**78**	P	**P**	**07 18 12.9**	**+0.2**
	0.9nm,0.8s,baz=324,slow=6.1,SNR=4.6						
PDAR	**Pinedale Array**	**48.37**	**288**	P	**P**	**07 18 21.4**	**-0.1**
	0.1nm,0.5s,baz=41,slow=9.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**50.21**	**130**	P	**P**	**07 18 35.1**	**-0.4**
	0.8nm,0.8s,baz=326,slow=7.1,SNR=5.1						
AKTO	**Aktyubinsk**	**53.01**	**53**	P	**P**	**07 18 54.7**	**-1.4**
	0.5nm,0.5s,baz=228,slow=14,SNR=2.1						
TXAR	**Lajitas Array**	**54.36**	**272**	P	**P**	**07 19 08.0**	**+1.6**
	0.1nm,0.6s,baz=48,slow=5.4,SNR=2.1						
KURBB	**Kurchatov Arra**	**61.70**	**41**	P	**P**	**07 19 57.8**	**+0.4**
	0.5nm,0.3s,baz=320,slow=7.8,SNR=2.7						
MKAR	**Makanchi Array**	**66.26**	**42**	P	**P**	**07 20 28.4**	**+0.9**
	0.2nm,0.6s,baz=334,slow=9.6,SNR=2.4						
SONM	**Songino Array**	**73.20**	**26**	P	**P**	**07 21 10.5**	**+0.1**
	0.2nm,0.6s,baz=316,slow=6.0,SNR=2.9						
ASAR	**Alice Springs**	**148.35**	**19**	PKPbc	**PKPbc**	**07 29 25.9**	**0.0**
	1.3nm,0.8s,baz=350,slow=2.4,SNR=7.9						

ISCJB ***14*** *07:10:51.3±0.4, 54′.33N±0″.08×34′.93W±0″.09, h10km, mb4.0/21, MS3.5/4, Error ellipse: s-maj=12.1km s-min=7.6km az=9.3*

CSEM ***14*** *07:10:51.8±0.2, 54′.39N×34′.87W, h2km, mb4.7/4, Error ellipse: s-maj=13.0km s-min=7.8km az=8.0*

IDC ***14*** *07:10:51.6±0.6, 54′.34N×34′.96W, h0km, mb3.8/17, mb1 3.8/20, mb1mx3.7/70, mbtmp3.7/20, ML3.2/3, MS3.5/6, Ms1 3.5/6, ms1mx3.1/47, Error ellipse: s-maj=18.1km s-min=13.0km az=9.0*

NEIC ***14*** *07:10:53.2±0.3, 54′.35N×34′.87W, h10km, mb4.7/5, Error ellipse: s-maj=11.6km s-min=7.0km az=188.0*

ISC 14 07:10:52.9±0.5, 54′.3N±0″.1×34′.97W±0″.08, h10km, n48, σ1§21/43, mb3.9/21, MS3.4/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**14.77**	**335**	LR	LR	07 18 57.5	
	comp=Z,154nm,18.0s,baz=124,slow=33						
EKA	**Eskdalemuir Ar**	**18.27**	**74**	P	**Pn**	**07 15 04.3**	**-1.9**
	baz=276,slow=13,SNR=2.9						
SCHQ	**Schefferville**	**18.40**	**285**	P	**P**	**07 15 06.8**	**-1.0**
	0.2nm,0.3s,baz=73,slow=13,SNR=5.4						
SCHQ				LR	LR	07 21 46.4	

	comp=Z,72nm,18.2s,baz=98,slow=36							
FRB	**Frobisher Bay**	**19.45**	**312**	P		**Pn**	**07 15 20.7**	**+0.3**
	0.1nm,0.3s,baz=180,slow=20,SNR=2.4							
NB200	**NORSAR Array S**	**25.12**	**56**	*e*P		**P**	**07 16 15.9**	**-1.7**
NOA	**NORSAR Array B**	**25.12**	**56**	P		**P**	**07 16 15.9**	**-1.7**
	0.9nm,0.9s,baz=257,slow=6.4,SNR=2.6							
ESDC	**Sonseca Array**	**25.46**	**112**	P		**P**	**07 16 20.3**	**-0.6**
	0.3nm,0.3s,baz=317,slow=9.2,SNR=5.1							
ESDC				LR		LR	07 24 14.7	
	comp=Z,121nm,19.4s,baz=315,slow=32							
SPITS	**Spitsbergen Ar**	**29.71**	**19**	LR		LR	07 26 42.9	
	comp=Z,53nm,20.1s,baz=210,slow=32							
ARCES	**ARCESS Array B**	**30.66**	**37**	LR		LR	07 26 08.6	
	comp=Z,88nm,22.0s,baz=244,slow=30							
AKASG	**Malin Array Be**	**38.03**	**68**	P		**P**	**07 18 11.6**	**+0.8**
	0.1nm,0.2s,baz=297,slow=8.7,SNR=3.2							
YKA	**Yellowknife Ar**	**39.94**	**315**	P		**P**	**07 18 25.6**	**-1.1**
	1.4nm,1.0s,baz=62,slow=9.0,SNR=6.1							
YKA				PcP		**PcP**	**07 20 31.4**	**-0.4**
	0.7nm,1.0s,baz=57,slow=3.7,SNR=3.0							
YKB5	**Yellowknife Ar**	**39.94**	**315**	*e*PcP		**PcP**	**07 20 31.4**	**-0.4**
PBMO	**Poplar Bluff**	**41.43**	**268**	*e*P		**P**	**07 18 35.9**	**-3.4**
	11nm,0.9s							
KOWA	**Kowa**	**46.51**	**137**	P		**P**	**07 19 20.9**	**+0.6**
	1.9nm,0.6s,baz=342,slow=8.2,SNR=6.0							
BR101	**Keskin Array S**	**47.10**	**79**	*e*P		**P**	**07 19 24.8**	**-0.1**
BRTR	**Keskin Array B**	**47.10**	**79**	P		**P**	**07 19 24.8**	**-0.1**
	1.5nm,0.8s,baz=308,slow=4.7,SNR=6.3							
WMOK	**Wichita Mounta**	**47.73**	**273**	*e*P		**P**	**07 19 32.2**	**+2.5**
	10nm,1.4s							
PD31	**Pinedale Array**	**48.48**	**289**	*e*P		**P**	**07 19 35.1**	**-0.6**
PDAR	**Pinedale Array**	**48.48**	**289**	P		**P**	**07 19 35.1**	**-0.6**
	0.5nm,0.7s,baz=61,slow=7.3,SNR=3.2							
AMTX	**Amarillo**	**49.32**	**275**	*e*P		P	07 19 47.0	+5.0
	12nm,0.8s							
TOA1	**Torodi Ar. Sit**	**50.13**	**131**	*e*P		**P**	**07 19 48.6**	**+0.3**
TOA1	**Torodi Ar. Sit**	**50.13**	**131**	*e*P		**P**	**07 19 48.6**	**+0.3**
TOA0	**Torodi Ar. Sit**	**50.14**	**131**	*e*P		**P**	**07 19 49.0**	**+0.7**
TOA0	**Torodi Ar. Sit**	**50.14**	**131**	*e*P		**P**	**07 19 49.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**50.14**	**131**	P		**P**	**07 19 48.6**	**+0.3**
	1.0nm,0.8s,baz=330,slow=8.1,SNR=5.8							
ILAR	**Eielson Array**	**50.32**	**329**	P		**P**	**07 19 49.3**	**+0.2**
	0.7nm,0.9s,baz=55,slow=7.8,SNR=3.9							
ILB	**Eielson Array**	**50.32**	**329**	*e*P		**P**	**07 19 49.6**	**+0.6**
HDU	**Hyde Park**	**50.34**	**289**	*e*P		P	07 19 55.6	+5.7
P17A	**Butcher Ranch,**	**51.35**	**286**	*e*P		**P**	**07 20 01.1**	**+3.7**
	14nm,1.4s							
DBIC	**Dimbokro**	**53.35**	**142**	P		**P**	**07 20 12.2**	**-0.1**
	1.9nm,0.6s,baz=317,slow=7.7,SNR=5.3							
DBIC	**Dimbokro**	**53.35**	**142**	*e*P		**P**	**07 20 12.2**	**-0.1**
	22nm,1.8s							
LTX	**Lajitas**	**54.49**	**272**	*e*P		**P**	**07 20 20.9**	**+0.2**
TXAR	**Lajitas Array**	**54.49**	**272**	P		**P**	**07 20 20.9**	**+0.2**
	0.2nm,0.5s,baz=50,slow=7.2,SNR=2.6							
BVAR	**Borovoye Array**	**56.48**	**44**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.28**	**124**	P	**Pb**	**07 23 13.0**	**-0.6**
IRIF				S	**Sb**	**07 23 17.9**	**-0.7**
YOJ	**Yonaguni jima**	**0.42**	**266**	P	**Pg**	**07 23 14.5**	**+0.3**
YOJ				S	**Sg**	**07 23 20.0**	**+0.3**
JYNG	**Yonagunijimaku**	**0.48**	**265**	P	**Pg**	**07 23 15.4**	**+0.1**
JYNG				S	**Sg**	**07 23 21.3**	**-0.3**
HATJ	**Hateruma jima**	**0.53**	**145**	P	**Pg**	**07 23 15.9**	**-0.2**
HATJ				S	**Sg**	**07 23 22.7**	**-0.3**
JKRS	**Kuro-shima**	**0.55**	**117**	P	**Pb**	**07 23 17.8**	**-0.4**
JKRS				S	**Sb**	**07 23 25.9**	**-0.5**
JIJ	**Ishigaki jima**	**0.62**	**102**	P	**Pg**	**07 23 19.1**	**+1.1**
JIJ				S	**Sb**	**07 23 28.4**	**-0.1**
JISG	**Ishigakijimahi**	**0.77**	**83**	P	**Pb**	**07 23 22.6**	**+0.7**
JISG				S	**Sn**	**07 23 34.5**	**-1.1**
JTJ	**Tarama**	**1.13**	**82**	P	**Pn**	**07 23 28.9**	**+0.4**
JTJ				S	**Sn**	**07 23 45.6**	**+1.1**
TGY	**Tagaytay City**	**10.61**	**193**	P	Pn	07 25 51.3	+12
	80nm,0.3s,baz=25,slow=17,SNR=3.3						
TGY				S	**Sn**	**07 27 42.5**	**+4.3**
	98nm,0.3s,baz=37,slow=20,SNR=2.5						
MKAR	**Makanchi Array**	**39.59**	**315**	P	**P**	**07 30 38.4**	**-0.1**
	0.1nm,0.5s,baz=122,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**45.42**	**166**	P	**P**	**07 31 24.4**	**-1.6**
	1.7nm,0.9s,baz=346,slow=8.0,SNR=4.4						
ASAR	**Alice Springs**	**48.93**	**167**	P	**P**	**07 31 52.6**	**-0.9**
	0.3nm,0.4s,baz=349,slow=7.5,SNR=5.2						
YKA	**Yellowknife Ar**	**81.87**	**23**	P	**P**	**07 35 25.4**	**-0.8**
	0.3nm,0.7s,baz=304,slow=5.4,SNR=9.8						

IDC 14 07:28:03.4±2.7, 54°08N×86°53E, h0km, mb1 2.8/2, mb1mx2.6/83, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.9km s-min=13.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**264**	*i*		07 32 20.0	
	baz=85,slow=343,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.02**	**264**	Pg	Pg	07 28 21.2	-1.6
	0.6nm,0.3s,baz=82,slow=17,SNR=6.7						
ZALV				Lg	Lg	07 28 37.6	
	1.0nm,0.3s,baz=95,slow=30,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	Pn	07 29 34.3	+1.1
	0.1nm,0.3s,baz=52,slow=13,SNR=4.5						
KURBB				Lg	Lg	07 31 13.9	
	0.0nm,0.3s,baz=64,slow=29,SNR=3.4						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	Pn	07 29 58.2	+0.5
	0.2nm,0.3s,baz=20,slow=15,SNR=8.8						
MKAR				Sn	Sn	07 31 27.9	+1.5
	0.0nm,0.3s,baz=28,slow=22,SNR=3.1						
MKAR				Lg	Lg	07 32 09.8	
	0.0nm,0.3s,baz=18,slow=29,SNR=2.7						

*AZER **14** 07:28:49.8±0.1, 40°48N×48°55E, h5km, ml3.4*
*ISCJB **14** 07:28:52.7±0.5, 40°49N±0°02×48°66E±0°03, h12km±4km, mb3.5/8, MS3.7/1, Error ellipse: s-maj=4.2km s-min=3.7km az=148.8*
*CSEM **14** 07:28:52.7±0.2, 40°49N×48°61E, h12km, ML3.4, Error ellipse: s-maj=4.2km s-min=4.0km az=151.0*
*IDC **14** 07:28:52.2±5.2, 40°48N×48°66E, h28km±39km, mb3.5/8, mb1 3.5/14, mb1mx3.3/75, mbtmp3.5/14, ML3.6/4, MS3.6/1, Ms1 3.6/1, ms1mx2.4/55, Error ellipse: s-maj=24.2km s-min=15.0km az=173.0*
ISC 14 07:28:52.8±0.9, 40°47N±0°02×48°59E±0°02, h23km±7km, n49, σ2s20/78, mb3.5/8, 25C-24D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS	**Qobustan**	**0.27**	**76**	P	**Pb**	**07 28 57.6**	**-1.7**
	SNR=292						
GBS				⇑S	**Sb**	**07 29 04.6**	**+0.8**
PQL	**Pirkuli**	**0.32**	**360**	P	**Pb**	**07 28 59.2**	**-0.9**
	SNR=82						
PQL				⇑S	**Sb**	**07 29 06.7**	**+1.6**
KDMR	**Kurdemir**	**0.33**	**254**	⇑P	**Pb**	**07 28 59.9**	**-0.1**
	SNR=4.4						
KDMR				⇑S	**Sb**	**07 29 06.3**	**+1.3**
IML	**Ismayilli**	**0.45**	**316**	⇑P	**Pb**	**07 29 01.4**	**-0.7**
	SNR=28						
IML				⇓S	**Sn**	**07 29 10.3**	**-1.0**
ATGJ	**Altiaghaj**	**0.47**	**34**	P	**Pb**	**07 29 01.6**	**-0.9**
	SNR=45						
ATGJ				⇑S	**Sn**	**07 29 12.4**	**+0.5**
ALIB	**Äli-Bayra**	**0.60**	**148**	P	**Pb**	**07 29 05.0**	**+0.4**
	SNR=27						
ALIB				⇓S	**Sn**	**07 29 18.3**	**+3.5**
SAAT	**Saatly**	**0.62**	**192**	P	**Pb**	**07 29 04.8**	**-0.1**
	SNR=6.8						
SAAT				⇑S	**Sn**	**07 29 16.4**	**+1.1**
SIZA	**Siyzn**	**0.65**	**21**	P	**Pb**	**07 29 05.1**	**-0.4**
	SNR=71						
SIZA				⇓S	**Sn**	**07 29 17.3**	**+1.1**
ZRD	**Zardab**	**0.72**	**255**	⇑P	**Pb**	**07 29 06.7**	**+0.1**
	SNR=16						
ZRD				⇑S	**Sn**	**07 29 20.3**	**+2.5**
QBL	**Gabala**	**0.75**	**310**	⇑P	**Pb**	**07 29 06.7**	**-0.4**
	SNR=3.6						
QBL				⇑S	**Sn**	**07 29 18.3**	**-0.3**
XNQ	**Khinaliq**	**0.78**	**334**	⇓P	**Pb**	**07 29 07.4**	**-0.5**
	SNR=12						
XNQ				⇑S	**Sn**	**07 29 21.1**	**+1.4**
GOBA	**Gobu**	**0.87**	**94**	⇓P	**Pn**	**07 29 10.4**	**+0.8**
	SNR=45						
GOBA				⇓S	**Sn**	**07 29 27.2**	**+5.7**
QUBA	**Quba, Azerbaij**	**0.89**	**355**	⇓P	**Pn**	**07 29 10.0**	**+0.1**
	SNR=13						
QUBA				⇑S	**Sn**	**07 29 24.9**	**+2.8**
NDR	**Nardaran**	**1.07**	**84**	P	**Pb**	**07 29 12.8**	**+0.3**
	SNR=6.1						
NDR				⇓S	**Sn**	**07 29 31.2**	**+4.8**
QSAR	**Qusar**	**1.07**	**347**	P	**Pb**	**07 29 13.2**	**+0.5**
	SNR=20						
QSAR				⇑S	**Sn**	**07 29 30.5**	**+3.8**
BRDA	**Brd**	**1.10**	**260**	⇑P	**Pb**	**07 29 13.4**	**+0.3**
	SNR=12						
BRDA				⇓S	**Sn**	**07 29 31.0**	**+3.9**
MNGR	**Mingechevir, A**	**1.19**	**285**	⇓P	**Pb**	**07 29 14.9**	**+0.3**
	SNR=4.7						
MNGR				⇑S	**Sn**	**07 29 33.0**	**+3.7**
GLBA	**Clilabad**	**1.23**	**187**	⇓P	**Pn**	**07 29 13.5**	**-1.1**
	SNR=30						
GLBA				⇓S	**Sb**	**07 29 33.7**	**+2.8**
SEKA	**Sheki**	**1.29**	**305**	⇓P	**Pn**	**07 29 15.0**	**-0.4**
	SNR=15						
SEKA				⇑S	**Sb**	**07 29 33.6**	**+1.0**
GANJ	**Ganja**	**1.74**	**277**	⇓Pn	**Pn**	**07 29 22.1**	**+0.5**
	SNR=18						
GANJ				⇓Sn	**Sb**	**07 29 45.3**	**-0.1**
LKRN	**Lenkeran, Azer**	**1.76**	**175**	Pg	**Pn**	**07 29 21.7**	**-0.1**
	SNR=10.0						
LKRN				⇓Sn	**Sb**	**07 29 46.6**	**+0.6**
LRK	**Lerik**	**1.83**	**186**	⇓Pg	**Pn**	**07 29 22.3**	**-0.7**
	SNR=48						
LRK				⇑Sg	**Sb**	**07 29 47.7**	**-0.6**
ASTR	**Astara**	**1.91**	**175**	⇓Pg	**Pn**	**07 29 22.8**	**-1.1**
	SNR=14						
ASTR				⇓Sn	**Sb**	**07 29 51.5**	**+1.1**
DDFL	**Dedoflistskaro**	**2.11**	**298**	P	**Pb**	**07 29 31.0**	**+0.6**
DDFL				S	**Sb**	**07 30 04.2**	**+8.0**
GDB	**GEDABAY**	**2.18**	**278**	⇑Pn	**Pn**	**07 29 28.4**	**+0.7**
	SNR=25						
GDB				⇑Sn	**Sb**	**07 29 57.7**	**-0.5**
QZX	**Qazax, Azerbai**	**2.52**	**285**	⇓Pn	**Pn**	**07 29 33.6**	**+1.4**
	SNR=8.7						
QZX				⇑Sn	**Sb**	**07 30 06.1**	**-1.7**
ORD	**Ordubad**	**2.53**	**233**	⇓Pn	**Pn**	**07 29 33.5**	**+1.1**
	SNR=14						
ORD				⇓Sn	**Sb**	**07 30 06.6**	**-1.6**
NAX	**Nakhchivan**	**2.71**	**243**	⇑Pn	**Pn**	**07 29 36.7**	**+1.7**
	SNR=7.2						
NAX				⇓Sn	**Sb**	**07 30 13.1**	**-0.4**
GNI	**Garni**	**2.96**	**265**	Pn	**Pn**	**07 29 41.4**	**+2.9**
	2.2nm,0.3s,baz=50,slow=3.1,SNR=5.9						
GNI				Sn	**Sb**	**07 30 24.4**	**+3.6**
	4.4nm,0.3s,baz=178,slow=15,SNR=3.8						
GUDG	**Gudauri**	**3.68**	**304**	P	**Pn**	**07 29 52.0**	**+3.6**
ONI	**Oni**	**4.40**	**300**	P	**Pn**	**07 30 01.8**	**+3.7**
KBZ	**Khabaz**	**5.34**	**309**	Pn	**Pn**	**07 30 15.2**	**+4.1**
	0.1nm,0.3s,baz=135,slow=4.3,SNR=2.1						
KBZ				Sn	**Sn**	**07 31 09.8**	**-2.0**
	0.1nm,0.3s,baz=127,slow=10,SNR=2.9						
KBZ				Lg	Lg	07 31 40.7	
	0.3nm,0.3s,baz=125,slow=12,SNR=4.0						
KVAR	**Kislovodsk Arr**	**5.60**	**310**	Pn	**Pn**	**07 30 15.4**	**+0.8**
	baz=122,slow=19,SNR=2.3						
GEYT	**Alibeck**	**7.82**	**106**	Pn	**Pn**	**07 30 41.5**	**-3.5**
	2.2nm,0.3s,baz=292,slow=16,SNR=4.4						
AB31	**Akbulak array**	**11.91**	**39**	⇑Pn	**Pn**	**07 31 43.9**	**+3.0**
	0.2nm,0.5s,baz=216,slow=13,SNR=6.0						
AB31				⇑Sn	Sn	07 33 41.8	-11
	0.5nm,0.5s,baz=226,slow=22,SNR=5.4						
AB31	**Akbulak array**	**11.91**	**39**	Pn	**Pn**	**07 31 43.9**	**+3.0**
	0.2nm,0.5s,SNR=6.0						
AB31				Sn	Sn	07 33 41.8	-11
	0.5nm,0.5s,SNR=5.4						
AKTO	**Aktyubinsk**	**11.95**	**30**	⇓Pn	**Pn**	**07 31 41.1**	**-0.5**
	2.4nm,1.1s						
AKTO				⇑Sn	Sn	07 33 41.9	-12
	2.1nm,0.7s						
AKTO	**Aktyubinsk**	**11.95**	**30**	Pn	**Pn**	**07 31 41.1**	**-0.5**
	2.4nm,1.1s						
AKTO				Sn	Sn	07 33 41.9	-12
	2.1nm,0.7s						
AKASG	**Malin Array Be**	**16.94**	**314**	Pn	**Pn**	**07 32 46.0**	**-2.0**
	0.3nm,0.3s,baz=119,slow=12,SNR=2.4						
BVAR	**Borovoye Array**	**19.42**	**42**	P	**P**	**07 33 15.8**	**-1.4**
	0.1nm,0.3s,baz=236,slow=12,SNR=4.6						
KURBB	**Kurchatov Arra**	**23.15**	**54**	P	**P**	**07 33 56.4**	**-0.8**
	0.4nm,0.5s,baz=262,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**25.06**	**64**	P	**P**	**07 34 14.0**	**-1.2**
	0.9nm,0.6s,baz=267,slow=7.2,SNR=13						
FINES	**FINESS Array B**	**25.09**	**334**	P	**P**	**07 34 14.3**	**-0.9**
	0.6nm,0.5s,baz=146,slow=14,SNR=4.8						
HFS	**Hagfors**	**29.21**	**324**	P	**P**	**07 34 50.9**	**-1.3**
	6.6nm,1.1s,baz=96,slow=15,SNR=3.6						
NOA	**NORSAR Array B**	**30.70**	**325**	P	**P**	**07 35 02.8**	**-2.7**
	0.6nm,0.8s,baz=122,slow=8.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**49.16**	**250**	P	**P**	**07 37 39.6**	**+0.6**
	0.1nm,0.5s,baz=21,slow=6.2,SNR=1.9						
KOWA	**Kowa**	**52.45**	**256**	P	**P**	**07 38 02.4**	**-1.3**
	0.6nm,0.3s,baz=31,slow=5.9,SNR=2.1						
KSRS	**Korea Array**	**59.74**	**65**	LR	LR	08 05 07.1	
	comp=Z,46nm,18.1s,baz=250,slow=36						
YKA	**Yellowknife Ar**	**76.50**	**352**	P	**P**	**07 40 38.9**	**-1.4**
	0.2nm,0.7s,baz=13,slow=6.4,SNR=5.1						

*NEIC **14** 07:29:27.0±0.0, 52°09N×179°73W, h134km, ML4.2(AEIC), After AEIC.*
*ISCJB **14** 07:29:29.4±0.6, 52°05N±0°04×179°82W±0°03, h155km±5km, mb4.2/53, Error ellipse: s-maj=6.7km s-min=2.9km az=177.2*
*MOS **14** 07:29:29.6±0.8, 52°08N×179°93W, h152km, mb4.3/31, Error ellipse: s-maj=8.9km s-min=7.1km az=74.8*
*IDC **14** 07:29:29.8±1.3, 52°05N×179°95W, h139km±11km, mb3.9/44, mb1 4.0/46, mb1mx4.0/88, mbtmp4.3/46, MS3.1/4, Ms1 3.2/4, ms1mx2.6/77, Error ellipse: s-maj=11.4km s-min=6.9km az=165.0*
ISC 14 07:29:28.2±0.7, 51°94N±0°07×179°87W±0°04, h130km±5km, n573, σ1s09/593, mb4.3/53, 5C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**3.49**	**81**	P	**Pn**	**07 30 20.3**	**-0.8**
KOWE				S	**Sn**	**07 31 01.8**	**-0.3**
KOKL	**Mount Kliuchef**	**3.52**	**81**	P	**Pn**	**07 30 20.8**	**-0.7**
KOFP	**Korovin Flat P**	**3.58**	**82**	P	**Pn**	**07 30 21.9**	**-0.4**
KOFP				S	**Sn**	**07 31 03.5**	**-0.7**
SPIA	**Saint Paul Isl**	**7.67**	**43**	*e*Pn	**Pn**	**07 31 19.3**	**+2.3**
SPIA				*e*Sn	**Sn**	**07 32 43.5**	**+1.3**
UNV	**Unalaska Valle**	**8.31**	**71**	*e*Pn	**Pn**	**07 31 26.4**	**+0.7**
AKUT	**Akutan**	**8.78**	**70**	*e*Pn	**Pn**	**07 31 26.6**	**-0.3**
FALS	**False Pass**	**10.25**	**67**	*e*Pn	**Pn**	**07 31 52.3**	**+0.6**
SDPT	**Sand Point**	**12.00**	**66**	*e*Pn	**Pn**	**07 32 13.2**	**-1.6**
CHGN	**Chignik**	**13.30**	**62**	*e*Pn	**Pn**	**07 32 30.7**	**-1.0**
PEA1	**Petropavlovsk-**	**13.70**	**284**	*e*Pn	**Pn**	**07 32 37.3**	**+0.4**
PEA1				*e*Sn	**Sn**	**07 35 01.3**	**-6.7**
PETK	**Petropavlovsk-**	**13.70**	**284**	P	**Pn**	**07 32 37.3**	**+0.4**
	0.2nm,0.3s,baz=100,slow=16,SNR=6.9						
PETK				S	**Sn**	**07 35 01.3**	**-6.7**
	0.6nm,0.3s,baz=88,slow=16,SNR=6.4						
SVW2	**Sparrevohn**	**16.14**	**46**	*e*Pn	**P**	**07 33 09.2**	**+1.1**
OHAK	**Old Harbor**	**16.23**	**61**	*e*Pn	**Pn**	**07 33 05.5**	**-3.0**
KDAK	**Kodiak Island**	**16.69**	**59**	P	**Pn**	**07 33 12.1**	**-2.0**
	13nm,0.3s,baz=251,slow=3.7,SNR=157						
KDAK				S	**Sn**	**07 36 11.8**	**-7.9**
	0.3nm,0.3s,baz=102,slow=20,SNR=5.6						
BILL	**Bilibino**	**17.50**	**343**	*e*P	**P**	**07 33 22.9**	**0.0**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
HOM	**Homer**	**17.54**	**53**	*e*P	**Pn**	**07 33 24.1**	**-0.2**
SPU	**Mount Spurr**	**17.77**	**48**	*e*P	**Pn**	**07 33 28.6**	**+1.5**
BRLK	**Bradley Lake**	**17.94**	**53**	*e*P	**P**	**07 33 28.2**	**+0.3**
MA2	**Magadan**	**18.08**	**306**	P	**Pn**	**07 33 31.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=120,slow=16,SNR=2.5						
PPLA	**Purkeypile**	**18.34**	**43**	*e*P	**Pn**	**07 33 34.3**	**+0.4**
SEY	**Seymchan**	**18.38**	**318**	P	**P**	**07 33 33.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=120,slow=8.9,SNR=6.6						
SEY				ScP	**ScP**	**07 41 19.3**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=343,slow=19,SNR=3.4						
SUA	**Susitna One**	**18.46**	**48**	*e*P	**Pn**	**07 33 34.8**	**-0.6**
CAST	**Castle Rocks**	**18.60**	**41**	*e*P	**Pn**	**07 33 37.0**	**+0.1**
SEW	**Seward**	**18.72**	**52**	*e*P	**P**	**07 33 37.2**	**+0.8**
RC01	**Rabbit Creek A**	**18.82**	**49**	*e*P	**P**	**07 33 38.2**	**+0.8**
KTH	**Kantishna Hill**	**19.13**	**41**	*e*P	**Pn**	**07 33 43.1**	**-0.1**
PMR	**Palmer**	**19.24**	**48**	*e*P	**P**	**07 33 42.8**	**+0.9**
PMR	**Palmer**	**19.24**	**48**	*e*P	**P**	**07 33 42.8**	**+0.9**
BPAW	**Bear Paw Mtn.**	**19.34**	**40**	*e*P	**P**	**07 33 44.0**	**+1.0**
TRF	**Thorofare Moun**	**19.35**	**42**	*e*P	**Pn**	**07 33 44.9**	**-1.0**
SML	**Sawmill**	**19.66**	**48**	*e*P	**P**	**07 33 47.0**	**+0.3**
SML	**Sawmill**	**19.66**	**48**	*e*P	**P**	**07 33 47.0**	**+0.3**
MLY	**Manley**	**19.85**	**37**	*e*P	**Pn**	**07 33 50.4**	**-1.0**
RND	**Reindeer**	**19.93**	**43**	*e*P	**P**	**07 33 50.3**	**+0.7**
RND	**Reindeer**	**19.93**	**43**	*e*P	**P**	**07 33 50.3**	**+0.7**
MCK	**McKinley**	**20.02**	**42**	*e*P	**P**	**07 33 51.1**	**+0.6**
MCK	**McKinley**	**20.02**	**42**	*e*P	**P**	**07 33 51.1**	**+0.6**
GLI	**Glacier Island**	**20.02**	**51**	*e*P	**P**	**07 33 50.8**	**+0.4**
SCM	**Sheep Creek Mo**	**20.13**	**48**	*e*P	**P**	**07 33 52.2**	**+0.5**
SCM	**Sheep Creek Mo**	**20.13**	**48**	*e*P	**P**	**07 33 52.2**	**+0.5**
DHY	**Denali Highway**	**20.46**	**44**	*e*P	**P**	**07 33 56.0**	**+0.7**
EYAK	**Cordova Ski Ar**	**20.61**	**52**	*e*P	**P**	**07 33 57.8**	**+1.1**
DIV	**Divide**	**20.70**	**50**	*e*P	**P**	**07 33 58.5**	**+0.7**
KLU	**Klutina**	**20.70**	**49**	*e*P	**P**	**07 33 58.5**	**+0.7**
MDM	**Murphy Dome**	**20.78**	**39**	*e*P	**P**	**07 33 59.4**	**+0.9**
CCB	**Clear Creek Bu**	**20.82**	**40**	*e*P	**P**	**07 33 58.5**	**-0.5**
COLA	**College**	**20.89**	**39**	*e*P	**P**	**07 33 59.6**	**-0.1**
COLA	**College**	**20.89**	**39**	*e*P	**P**	**07 33 59.6**	**-0.1**
HDA	**Harding Lake**	**21.08**	**41**	*e*P	**P**	**07 34 01.7**	**-0.1**
RAGM	**Ragged Mountai**	**21.11**	**53**	*e*P	**P**	**07 34 02.4**	**+0.2**
COLD	**Coldfoot**	**21.13**	**32**	*e*P	**P**	**07 34 03.4**	**+1.2**
BMRM	**Bremner River**	**21.23**	**51**	*e*P	**P**	**07 34 04.6**	**+1.1**
IL1	**Eielson Array**	**21.23**	**40**	*e*P	**P**	**07 34 03.3**	**-0.1**
ILAR	**Eielson Array**	**21.23**	**40**	P	**P**	**07 34 02.1**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=242,slow=8.3,SNR=41						
ILAR				PcP	**PcP**	**07 38 02.1**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=270,slow=3.1,SNR=4.7						
ILAR				ScP	**ScP**	**07 41 26.2**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=281,slow=3.9,SNR=19						
ILB	**Eielson Array**	**21.23**	**40**	*e*P	**P**	**07 34 02.1**	**-1.3**
ILB				*e*PcP	**PcP**	**07 38 02.1**	**-0.6**
HARP	**HAARP**	**21.26**	**47**	*e*P	**P**	**07 34 04.3**	**+0.6**
PAX	**Paxson**	**21.26**	**45**	*e*P	**P**	**07 34 04.2**	**+0.4**
PAX	**Paxson**	**21.26**	**45**	*e*P	**P**	**07 34 04.2**	**+0.4**
RIDG	**Independ'e Rid**	**21.74**	**44**	*e*P	**P**	**07 34 08.7**	**-0.3**
MENT	**Mentasta**	**22.03**	**46**	*e*P	**P**	**07 34 12.9**	**+1.0**
DOT	**Dot Lake**	**22.05**	**44**	*e*P	**P**	**07 34 11.9**	**-0.2**
TOLK	**Tolik Lake Re**	**22.10**	**29**	P	**P**	**07 34 13.7**	**+1.2**
	baz=236,SNR=15						
TOLK	**Toolik Lake Re**	**22.10**	**29**	*e*P	**P**	**07 34 13.8**	**+1.2**
FYU	**Fort Yukon**	**22.56**	**36**	*e*P	**P**	**07 34 18.6**	**+1.5**
TYV	**Tymovskoe**	**23.24**	**282**	*e*P	**P**	**07 34 24.2**	**+0.6**
TYV				pmax	pmax		
	comp=Z,11nm,1.0s						
PCA	**Pinnacle**	**23.28**	**54**	*e*P	**P**	**07 34 23.5**	**-0.5**
EGAK	**Eagle**	**23.57**	**42**	*e*P	**P**	**07 34 27.2**	**+0.7**
NKL	**Nikolayevsk**	**23.82**	**289**	*e*P	**P**	**07 34 28.0**	**-0.8**
NKL				pmax	pmax		
	comp=Z,30nm,0.9s						
DAWY	**Dawson**	**24.16**	**44**	*e*P	**P**	**07 34 32.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**24.61**	**273**	⇑*e*P	**P**	**07 34 37.5**	**+1.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**24.61**	**273**	*e*P	**P**	**07 34 37.2**	**+1.1**
HYT	**Haines Junctio**	**24.67**	**52**	*e*P	**P**	**07 34 36.4**	**-0.3**
ASAJ	**Asahikawa**	**26.05**	**268**	P	**P**	**07 34 49.9**	**+0.7**
	comp=Z,9.1nm,0.8s,baz=17,slow=1.5,SNR=9.0						
ASAJ	**Asahikawa**	**26.05**	**268**	*e*P	**P**	**07 34 49.8**	**+0.6**
INK	**Inuvik**	**27.39**	**36**	P	**P**	**07 35 01.7**	**+0.8**
	comp=Z,5.1nm,0.8s,baz=251,slow=9.3,SNR=24						
INK				ScP	**ScP**	**07 41 43.6**	**-0.6**
	comp=Z,1.4nm,1.1s,baz=328,slow=2.7,SNR=3.2						
INK				LR	LR	07 46 12.7	
	comp=Z,29nm,18.8s,baz=154,slow=37						
INK	**Inuvik**	**27.39**	**36**	*e*P	**P**	**07 35 01.9**	**+1.1**
YAK	**Yakutsk**	**28.55**	**310**	*e*P	**P**	**07 35 13.2**	**+2.0**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KLR	**Kul'dur**	**30.39**	**284**	P	**P**	**07 35 27.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=66,slow=7.7,SNR=41						
USRK	**Ussuriysk Ar.**	**32.57**	**276**	P	**P**	**07 35 46.3**	**-0.5**
	comp=Z,3.1nm,0.5s,baz=63,slow=11,SNR=7.2						
MJAR	**Matsushiro Arr**	**33.23**	**259**	P	**P**	**07 35 53.2**	**+0.6**
	comp=Z,3.5nm,0.5s,baz=45,slow=6.5,SNR=12						
MJAR				LR	LR	07 48 46.8	
	comp=Z,26nm,20.8s,baz=25,slow=35						
MAJO	**Matsushiro**	**33.23**	**259**	*e*P	**P**	**07 35 53.2**	**+0.6**
MAJO	**Matsushiro**	**33.23**	**259**	*e*P	**P**	**07 35 53.2**	**+0.6**
MAJO				*e*		07 48 46.8	
H11N2	**WAKE ISLAND Hy**	**33.77**	**203**	T	T	08 11 56.6	
	baz=16,slow=76,SNR=86						
H11N3	**WAKE ISLAND Hy**	**33.78**	**203**	T	T	08 11 57.3	
	baz=16,slow=76,SNR=108						
H11N1	**WAKE ISLAND Hy**	**33.79**	**203**	T	T	08 11 58.0	
	baz=16,slow=76,SNR=107						
WAKE	**Wake Island**	**34.26**	**203**	*e*P	**P**	**07 35 59.8**	**-1.9**
H11S1	**WAKE ISLAND Hy**	**35.00**	**203**	T	T	08 13 58.2	
	baz=17,slow=76,SNR=124						
H11S2	**WAKE ISLAND Hy**	**35.01**	**203**	T	T	08 13 59.6	
	baz=17,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**35.01**	**203**	T	T	08 13 29.7	
	baz=17,slow=76,SNR=76						
YKW3	**Yellowknife Ar**	**35.31**	**47**	*e*P	**P**	**07 36 10.8**	**+0.5**
YKA	**Yellowknife Ar**	**35.33**	**47**	P	**P**	**07 36 11.0**	**+0.6**
	comp=Z,3.1nm,0.5s,baz=280,slow=8.1,SNR=95						
YKA				PcP	**PcP**	**07 38 37.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=292,slow=3.4,SNR=3.7						
YKA				ScP	**ScP**	**07 42 09.8**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=290,slow=3.3,SNR=12						
YKB5	**Yellowknife Ar**	**35.33**	**47**	*e*P	**P**	**07 36 11.0**	**+0.6**
A04D	**Lummi Island**	**35.83**	**72**	P	**P**	**07 36 16.4**	**+1.6**
	baz=298						
B05A	**Bryant**	**36.40**	**72**	P	**P**	**07 36 21.3**	**+1.6**
	baz=298						
CN2	**Changchun**	**36.79**	**279**	*e*P	**P**	**07 36 25.3**	**+2.2**
G05D	**Wamic, OR**	**38.37**	**76**	P	**P**	**07 36 38.1**	**+1.6**
	baz=302						
I04A	**Tendick Farm,**	**38.49**	**79**	P	**P**	**07 36 39.2**	**+1.8**
	baz=303						
L02D	**Cave Junction,**	**38.67**	**82**	P	**P**	**07 36 41.0**	**+2.1**
	baz=305						
I05D	**Terrebonne, OR**	**38.84**	**77**	P	**P**	**07 36 41.9**	**+1.5**
	baz=303						
KSRS	**Korea Array**	**38.97**	**269**	P	**P**	**07 36 42.5**	**+1.1**
	comp=Z,4.4nm,0.7s,baz=58,slow=8.2,SNR=13						
J04D	**Umpqua Nationa**	**38.98**	**79**	P	**P**	**07 36 43.4**	**+1.7**
	baz=304						
KS01	**Wonju Array Si**	**38.98**	**

SONM **Songino Array** 45.80 296 P P 07 37 37.6 +0.9
comp=Z,6.0nm,0.5s,baz=58,slow=9.3,SNR=33
SONM PcP PcP 07 39 12.0 +0.1
comp=Z,1.2nm,0.6s,baz=47,slow=3.3,SNR=4.8
BGU **Big Grassy Mou** 45.81 76 eP P 07 37 38.1 +1.1
R11A **Troy Canyon, C** 45.86 81 P P 07 37 38.4 +1.1
baz=309,SNR=14
R11A **Troy Canyon, C** 45.86 81 eP P 07 37 38.5 +1.1
HDU **Hyde Park** 46.04 75 eP P 07 37 35.6 -3.1
MPMC **Manual Prospec** 46.15 85 P P 07 37 40.9 +1.3
baz=311
HWUT **Hardware Ranch** 46.28 75 eP P 07 37 41.2 +0.6
DUG **Dugway, Tooele** 46.39 77 P P 07 37 42.5 +1.1
baz=308,SNR=13
DUG **Dugway, Tooele** 46.39 77 eP P 07 37 42.6 +1.1
DUG **Dugway, Tooele** 46.39 77 eP P 07 37 42.6 +1.1
LAO **LASA Array** 46.40 66 P P 07 37 41.5 +0.2
baz=305
BLG **Laguna Peak, P** 46.45 88 P P 07 37 42.8 +1.0
baz=312
EDW2 **Edwards Air Fo** 46.61 86 P P 07 37 44.0 +0.9
baz=312
SNCC **San Nicolas Is** 46.75 89 P P 07 37 44.2 +0.1
baz=313
BW06 **Boulder Array** 46.77 72 P P 07 37 44.5 0.0
baz=307,SNR=6.1
BW06 **Boulder Array** 46.77 72 eP P 07 37 44.6 0.0
PD31 **Pinedale Array** 46.77 72 eP P 07 37 44.6 +0.1
PDAR **Pinedale Array** 46.77 72 P P 07 37 44.5 +0.1
comp=Z,4.9nm,0.5s,baz=327,slow=3.2,SNR=75
PDAR **Pinedale Array** 46.77 72 eP P 07 37 44.4 -0.1
HHC **Hu-ho-hao-te** 46.90 285 eP P 07 37 45.5 +0.2
HHC pP pP 07 38 02.8 -12
HHC pP sP 07 38 19.3 -10
HHC PP PcP 07 39 23.1 +7.2
HHC S S 07 44 15.1 -11
HHC S S 07 44 17.8 -8.4
HHC sS sS 07 45 18.3 +0.6
HHC SS ScS 07 47 27.3 +1.1
JLU **Jordanelle** 46.96 76 eP P 07 37 47.0 +0.9
NLU **North Lily Min** 46.99 77 eP P 07 37 47.1 +0.9
SHOC **Shoshone, Teco** 47.00 84 P P 07 37 47.3 +1.2
baz=311
GSC **Goldstone, Bar** 47.06 85 P P 07 37 47.8 +1.1
baz=311,SNR=11
GSC **Goldstone, Bar** 47.06 85 eP P 07 37 47.7 +1.0
GSC **Goldstone, Bar** 47.06 85 eP P 07 37 47.7 +1.0
MPU **Maple Canyon** 47.21 76 eP P 07 37 48.5 +0.5
BFSC **Mount Baldy Ra** 47.24 87 P P 07 37 49.2 +1.1
baz=312
MSU **Marysvale** 47.83 78 eP P 07 37 54.2 +1.5
MSU **Marysvale** 47.83 78 eP P 07 37 54.2 +1.5
TMUT **Trail Mountain** 47.92 77 eP P 07 37 54.7 +1.2
MURC **Murrieta** 47.95 87 P P 07 37 54.6 +1.1
baz=313
P17A **Butcher Ranch,** 48.09 76 eP P 07 37 55.7 +1.0
GMRC **Granite Mounta** 48.11 85 P P 07 37 55.8 +1.0
baz=312,SNR=7.0
NJ2 **Nanjing** 48.13 270 eP P 07 37 56.1 +1.3
LCMT **Little Creek M** 48.14 81 eP P 07 37 56.5 +1.5
LCMT epP pP 07 38 24.9 0.0
Q16A **Castle Valley** 48.18 77 eP P 07 37 56.7 +1.3
P18A **Preston Nutter** 48.29 76 eP P 07 37 57.3 +1.0
KNB **Kanab** 48.39 80 eP P 07 37 58.3 +1.3
KNB **Kanab** 48.39 80 eP P 07 37 58.3 +1.3
PFO **Pinyon Flats O** 48.40 86 P P 07 37 57.7 +0.7
baz=313
BELC **Belle Mtn. Jos** 48.42 86 P P 07 37 57.6 +0.4
baz=312,SNR=5.5
SRU **San Rafael Swe** 48.45 77 eP P 07 37 58.6 +1.2
SRU **San Rafael Swe** 48.45 77 eP P 07 37 58.6 +1.2
109C **Camp Elliot, M** 48.48 88 P P 07 37 58.6 +1.1
baz=313
K22A **Casper** 48.62 70 P P 07 37 58.8 +0.1
baz=308
RWWY **Rawlins** 48.81 72 eP P 07 38 01.3 +1.0
IRM **Iron Mountain** 48.84 85 P P 07 38 01.2 +0.9
baz=312,SNR=5.8
MONP2 **Monument Peak** 48.91 87 P P 07 38 01.0 0.0
baz=313
BC3 **Big Chuckawall** 48.99 86 P P 07 38 01.4 -0.1
baz=313
U15A **North Rim** 49.10 81 eP P 07 38 04.1 +1.6
RSSD **Black Hills** 49.16 67 P P 07 38 01.8 -1.0
baz=308
O20A **White River Ci** 49.17 74 P P 07 38 03.1 +0.1
baz=309,SNR=9.2
O20A **White River Ci** 49.17 74 eP P 07 38 03.1 +0.1
IKP **In-Ko-Pah, Jac** 49.26 87 P P 07 38 04.2 +0.6
baz=313
PDMCI **Parker Dam,Lak** 49.37 84 P P 07 38 04.9 +0.7
baz=312
Y12C **Blythe** 49.50 85 P P 07 38 05.9 +0.7
baz=313
Y12C **Blythe** 49.50 85 eP P 07 38 06.3 +1.0
PV09 **Paradox Valley** 49.68 76 eP P 07 38 07.3 +0.4
SPITS **Spitsbergen Ar** 49.77 356 P P 07 38 07.2 +0.5
comp=Z,2.4nm,0.4s,baz=5.3,slow=12,SNR=20
GLA **Glamis** 49.78 86 P P 07 38 08.3 +0.8
baz=313
PV10 **Paradox Valley** 49.81 76 eP P 07 38 09.0 +1.2
PV04 **Paradox Valley** 49.88 76 eP P 07 38 07.7 -0.6
ULM **Lac du Bonnet** 49.93 57 P P 07 38 07.3 -1.0
comp=Z,2.1nm,0.4s,baz=301,slow=6.5,SNR=12
PV05 **Paradox Valley** 49.97 77 eP P 07 38 09.6 +0.6
N23A **Red Feather La** 50.05 72 P P 07 38 09.8 +0.1
baz=309
B31A **Greenbush Farm** 50.09 59 P P 07 38 09.1 -0.5
baz=307
PV01 **Paradox Valley** 50.25 76 eP P 07 38 11.8 +0.7
WUAZ **Wupatki** 50.26 81 P P 07 38 12.6 +1.4
baz=312,SNR=5.9
WUAZ **Wupatki** 50.26 81 eP P 07 38 12.6 +1.4
A32A **Rocking H Ranc** 50.41 58 P P 07 38 10.8 -1.1
baz=307
C31A **Landman Farms,** 50.43 60 P P 07 38 10.3 -1.8
baz=308
MVCO **Mesa Verde** 50.89 77 P P 07 38 16.7 +0.7
baz=311
MVCO **Mesa Verde** 50.89 77 eP P 07 38 16.8 +0.7
ISCO **Idaho Springs** 50.94 73 P P 07 38 16.8 +0.4
baz=310
X16A **Lo Mia Camp, P** 50.95 82 eP P 07 38 17.8 +1.4
A33A **Warroad** 50.97 58 P P 07 38 15.6 -0.6
baz=308
E31A **Nome** 51.10 61 P P 07 38 15.9 -1.2
baz=308
W18A **Petrified Fore** 51.52 80 P P 07 38 22.2 +1.5
baz=312
S22A **4UR Ranch, Cre** 51.55 76 P P 07 38 21.9 +1.0
baz=311
S22A **4UR Ranch, Cre** 51.55 76 eP P 07 38 21.9 +1.0
B34A **Aery, Baudette** 51.64 58 P P 07 38 20.4 -0.7
baz=308
214A **Organ Pipe Nat** 51.77 85 P P 07 38 23.0 +0.6
baz=314
X18A **Snowflake** 51.78 81 eP P 07 38 24.0 +1.4
G32A **Webster** 52.12 62 P P 07 38 24.1 -0.7
baz=309
B35A **Bob, Littlefor** 52.20 57 P P 07 38 24.3 -1.0
baz=309
SDCO **Great Sand Dun** 52.34 75 P P 07 38 27.2 +0.4
baz=311
SDCO **Great Sand Dun** 52.34 75 eP P 07 38 27.7 +0.9
F33A **5 Mile Ranch,** 52.41 61 P P 07 38 26.3 -0.5
baz=309
C35A **Jirik Farms, M** 52.48 58 P P 07 38 26.5 -0.8
baz=309
H32A **Carlson Farm,** 52.63 63 P P 07 38 27.4 -1.1
baz=310
G33A **Ortonville** 52.74 62 P P 07 38 28.2 -1.1
baz=310
TUC **Tucson** 52.78 83 P P 07 38 30.6 +0.7
baz=314
D35A **Remer** 52.83 59 P P 07 38 29.4 -0.6
baz=309
H33A **Prehn Over Nor** 52.90 63 P P 07 38 30.0 -0.6
baz=310
E35A **Pequot Lakes** 52.98 60 P P 07 38 30.6 -0.4
baz=310
F34A **Alexandria** 53.00 61 P P 07 38 30.6 -0.6
baz=310
C36A **Pine Crest Far** 53.04 57 P P 07 38 30.9 -0.6
baz=310
J32A **Parkston** 53.13 65 P P 07 38 31.2 -1.0
baz=310

KSCO **Kaye Shedlock'** 53.21 72 P P 07 38 33.4 +0.4
baz=311
MHTCO **State Highway** 53.23 75 eP P 07 38 34.3 +1.1
D36A **Goodland** 53.24 58 P P 07 38 32.0 -0.9
baz=310
F35A **Swanville** 53.33 60 P P 07 38 32.8 -0.8
baz=310
T25A **Trinidad** 53.39 74 P P 07 38 35.2 +0.8
baz=312
C37A **Embarrass** 53.40 57 P P 07 38 33.7 -0.4
baz=310
ECSD **EROS Data Cent** 53.58 63 P P 07 38 34.4 -1.1
baz=310
LAZ **Ladron** 53.58 79 eP P 07 38 37.4 +1.5
E36A **McGregor** 53.61 59 P P 07 38 35.1 -0.5
baz=310
EYMN **Ely** 53.62 57 P P 07 38 35.1 -0.5
baz=310
ANMO **Albuquerque** 53.63 78 P P 07 38 36.9 +0.7
comp=Z,1.2nm,0.8s,baz=343,slow=18,SNR=8.3
ANMO **Albuquerque** 53.63 78 P P 07 38 36.9 +0.7
baz=313
ANMO **Albuquerque** 53.63 78 eP P 07 38 37.3 +1.1
ANMO **Albuquerque** 53.63 78 eP P 07 38 37.3 +1.1
D37A **Cotton** 53.64 58 P P 07 38 35.1 -0.8
baz=310
C38A **Sawbill Land.** 53.88 57 P P 07 38 36.7 -0.9
baz=310
F36A **Milaca** 53.89 60 P P 07 38 36.9 -0.8
baz=310
H35A **Sunnyside Ranc** 53.94 62 P P 07 38 37.5 -0.6
baz=310
BNM **Barren Site** 54.06 79 eP P 07 38 40.0 +0.6
319A **Douglas** 54.35 83 eP P 07 38 42.4 +1.0
C39A **Grand Marais** 54.41 56 P P 07 38 41.1 -0.3
baz=311
E38A **The Farm, Brul** 54.45 58 P P 07 38 41.1 -0.7
baz=311
F37A **Hinrichs Farm,** 54.46 59 P P 07 38 41.4 -0.4
baz=311
H36A **Jessenland, He** 54.51 61 P P 07 38 42.1 -0.1
baz=311
K34A **Le Mars** 54.55 64 P P 07 38 42.1 -0.4
baz=311
LZH **Lanzhou** 54.59 285 eP P 07 38 44.4 +1.3
LZH pP pP 07 39 17.0 +3.4
LZH sP sP 07 39 32.4 +4.4
F38A **Pierce - Schro** 54.70 59 P P 07 38 43.2 -0.3
baz=311
GTA **Gaotai** 54.74 291 P P 07 38 44.6 +0.5
GTA pP pP 07 39 19.0 +4.3
GTA sP sP 07 39 34.9 +5.9
L34A **Svendsen Farm,** 54.86 65 P P 07 38 44.3 -0.5
baz=312
E39A **Mellen** 55.12 58 P P 07 38 46.0 -0.6
baz=311
ENH **Enshi** 55.15 276 eP P 07 38 47.5 +0.5
G38A **Ridgeland** 55.23 59 P P 07 38 46.6 -0.7
baz=311
F39A **Loretta** 55.24 58 P P 07 38 47.0 -0.4
baz=311
E40A **Wakefield** 55.42 57 P P 07 38 48.3 -0.4
baz=311
O33A **Hebron** 55.43 67 P P 07 38 48.4 -0.5
baz=312
K36A **Gilmore City** 55.49 63 P P 07 38 48.6 -0.7
baz=312
N34A **Lincoln** 55.54 66 P P 07 38 49.1 -0.6
baz=312
F40A **Park Falls** 55.65 58 P P 07 38 49.8 -0.6
baz=312
EPT **El Paso** 55.77 81 eP P 07 38 52.4 +0.8
O34A **Beatrice** 55.87 67 P P 07 38 51.7 -0.3
baz=312
E41A **Kenton** 55.89 57 P P 07 38 51.5 -0.6
baz=312
N35A **Tabor** 56.01 66 P P 07 38 53.1 +0.1
baz=312,SNR=5.0
J38A **Wedel Dairy, R** 56.12 61 P P 07 38 53.5 -0.3
baz=312
L37A **Phoenix Point,** 56.22 63 P P 07 38 54.0 -0.5
baz=312
P34A **Walnut Farm, R** 56.22 67 P P 07 38 54.0 -0.5
baz=313
O35A **Humboldt** 56.26 66 P P 07 38 54.5 -0.3
baz=312
I39A **Houston** 56.28 60 P P 07 38 54.5 -0.3
baz=312
F41A **Three Lakes** 56.30 57 P P 07 38 54.6 -0.4
baz=312
H40A **Chili** 56.37 59 P P 07 38 55.0 -0.5
baz=312
N36A **Muff Farm, Cla** 56.42 65 P P 07 38 55.6 -0.3
baz=312
E42A **Champion** 56.46 56 P P 07 38 55.6 -0.5
baz=312
MNTX **Cornudas Mount** 56.51 80 P P 07 38 57.8 +1.1
baz=315,SNR=12
MNTX **Cornudas Mount** 56.51 80 eP P 07 38 57.8 +1.1
MNTX epP pP 07 39 27.4 0.0
M5TX **Muleshoe** 56.52 76 P P 07 38 57.0 +0.2
baz=314
J39A **Decorah** 56.53 61 P P 07 38 56.2 -0.5
baz=312
Q34A **Chapman** 56.58 68 P P 07 38 56.8 -0.3
baz=313
KSU1 **Kansas State U** 56.65 68 P P 07 38 57.0 -0.5
baz=313
L38A **Oak Wood Farm,** 56.65 63 P P 07 38 57.0 -0.5
baz=312
P35A **Duane Minner,** 56.69 67 P P 07 38 57.5 -0.4
baz=313
R34A **Isabella, Hill** 56.82 69 P P 07 38 58.5 -0.2
baz=313
O36A **Bolckow** 56.88 66 P P 07 38 58.4 -0.8
baz=313
N37A **Lee Faris, Mou** 56.88 65 P P 07 38 58.9 -0.3
baz=313
E43A **Lone Tree Farm** 56.96 56 P P 07 38 59.2 -0.4
baz=313
G42A **Mountain** 56.99 57 P P 07 38 59.5 -0.4
baz=313
M38A **Pleasantville** 57.00 64 P P 07 38 59.5 -0.5
baz=313
J40A **Soldiers Grove** 57.01 60 P P 07 38 59.2 -0.8
baz=313
P36A **Good Intent, A** 57.09 66 P P 07 39 00.2 -0.5
baz=313
L39A **Vinton** 57.19 62 P P 07 39 00.9 -0.3
baz=313
F43A **Flat Rock, Esc** 57.24 56 P P 07 39 01.2 -0.4
baz=313
K40A **Colesburg** 57.27 61 P P 07 39 01.2 -0.6
baz=313
O37A **Wolven Farm, M** 57.32 65 P P 07 39 01.9 -0.4
baz=313
G43A **Wallace** 57.37 57 P P 07 39 02.1 -0.4
baz=313
J41A **Loganville** 57.42 60 P P 07 39 02.3 -0.6
baz=313
ARA0 **ARCESS Array S** 57.42 350 eP P 07 39 02.3 -0.2
ARCES **ARCESS Array B** 57.42 350 P P 07 39 02.3 -0.2
comp=Z,2.6nm,0.7s,baz=22,slow=7.9,SNR=16
M39A **Webster** 57.53 63 P P 07 39 03.3 -0.4
baz=313
P37A **Lathrop** 57.60 66 P P 07 39 03.7 -0.5
baz=313
JFWS **Jewell Farm** 57.60 60 P P 07 39 03.4 -0.8
baz=313
I42A **Draeger Farm,** 57.65 59 P P 07 39 03.9 -0.6
baz=313
L40A **Anamosa** 57.65 62 P P 07 39 03.9 -0.6
baz=313
O38A **Galt** 57.73 65 P P 07 39 04.5 -0.6
baz=313
K41A **Shullsburg** 57.78 61 P P 07 39 04.9 -0.5
baz=313
H43A **Windswept, Lux** 57.86 58 P P 07 39 05.5 -0.4
baz=313
E45A **Wooded Hills,** 57.90 55 P P 07 39 05.6 -0.6
baz=313
J42A **Columbus** 57.93 59 P P 07 39 05.9 -0.6
baz=313
M40A **Post Highland** 57.94 63 P P 07 39 06.0 -0.5
baz=313
Q37A **Longview Farm,** 58.03 67 P P 07 39 07.0 -0.2
baz=314

P38A **Dawn** 58.03 65 P P 07 39 06.3 -1.0
baz=314,SNR=5.4
L41A **Preston** 58.04 61 P P 07 39 06.5 -0.7
baz=313
I43A **Langenfeld Bro** 58.06 58 P P 07 39 07.0 -0.3
baz=313
KURK **Kurchatov** 58.15 313 P P 07 39 07.8 -0.1
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK **Kurchatov** 58.15 313 eP P 07 39 07.8 -0.1
K42A **Prairie Point,** 58.18 60 P P 07 39 07.7 -0.5
baz=313
CD2 **Chengdu** 58.21 281 eP P 07 39 08.0 -0.7
CD2 S S 07 46 57.1 -3.1
KURBB **Kurchatov Arra** 58.26 313 P P 07 39 07.8 -0.8
comp=Z,0.9nm,0.5s,baz=41,slow=6.6,SNR=7.6
WMOK **Wichita Mounta** 58.37 73 P P 07 39 09.5 -0.2
baz=314
WMOK **Wichita Mounta** 58.37 73 eP P 07 39 10.3 +0.6
WMOK **Wichita Mounta** 58.37 73 eP P 07 39 10.3 +0.6
Q38A **Cooks Store, C** 58.44 66 P P 07 39 09.1 -1.0
baz=314
M41A **Milan** 58.49 62 P P 07 39 09.8 -0.6
baz=314
P39B **Salisbury** 58.57 65 P P 07 39 09.9 -1.0
baz=314,SNR=9.8
O40A **La Belle** 58.62 64 P P 07 39 10.4 -0.9
baz=314,SNR=6.8
Q39A **Willow Grove F** 58.75 65 P P 07 39 11.4 -0.8
baz=314
K43A **Burlington** 58.77 60 P P 07 39 11.8 -0.6
baz=314
R38A **Fenwick Farm,** 58.81 67 P P 07 39 11.5 -1.2
baz=314
P40A **Paris** 58.93 64 P P 07 39 12.7 -0.8
baz=314,SNR=8.6
MK31 **Makanchi Array** 59.16 308 eP P 07 39 14.4 -0.6
MK31 **Makanchi Array** 59.16 308 eP P 07 39 14.4 -0.6
MK32 **Makanchi Array** 59.16 308 eP P 07 39 14.0 -1.0
MKAR **Makanchi Array** 59.16 308 P P 07 39 14.0 -1.0
comp=Z,1.3nm,0.3s,baz=42,slow=7.2,SNR=18
MKAR **Makanchi Array** 59.16 308 eP P 07 39 14.4 -0.6
MKAR **Makanchi Array** 59.16 308 eP P 07 39 14.4 -0.6
O41A **Passleys Farm,** 59.17 63 P P 07 39 14.3 -0.8
baz=314,SNR=5.6
MK01 **Makanchi Array** 59.18 308 eP P 07 39 14.5 -0.6
S38A **Stockton** 59.20 67 P P 07 39 13.8 -1.5
baz=314,SNR=5.1
R39A **Chumby, Stover** 59.22 66 P P 07 39 14.3 -1.2
baz=314
LTX **Lajitas** 59.22 81 eP P 07 39 16.4 +0.7
LTX **Lajitas** 59.22 81 eP P 07 39 16.4 +0.7
TX31 **Lajitas Ar. Si** 59.22 81 eP P 07 39 16.3 +0.6
TXAR **Lajitas Array** 59.22 81 P P 07 39 16.4 +0.7
comp=Z,3.8nm,0.6s,baz=301,slow=4.9,SNR=40
TXAR ScP ScP 07 43 49.4 -1.5
comp=Z,0.3nm,0.7s,baz=317,slow=4.9,SNR=3.9
Q40A **Laux Farm, Aux** 59.29 65 P P 07 39 15.1 -0.8
baz=314
M43A **Waltham Townsh** 59.31 61 P P 07 39 15.4 -0.6
baz=314
ABTX **Abilene, Hawle** 59.33 75 P P 07 39 14.6 -1.8
baz=315
P41A **Barry, Barry** 59.38 64 P P 07 39 16.2 -0.4
baz=314
T38A **Diamond** 59.39 68 P P 07 39 15.8 -0.9
baz=314
S39A **Bolivar** 59.49 67 P P 07 39 15.8 -1.5
baz=314
R40A **Maddies Statio** 59.67 66 P P 07 39 17.2 -1.3
baz=314
HDIL **Hopedale** 59.74 62 P P 07 39 18.0 -1.0
baz=314
Q41A **Truxton** 59.79 64 P P 07 39 18.8 -0.6
baz=314
M44A **Midewin, Midew** 59.84 60 P P 07 39 19.1 -0.5
baz=314
P42A **Winchester** 59.84 63 P P 07 39 19.1 -0.6
baz=314
T39A **Clever** 59.92 67 P P 07 39 19.1 -1.2
baz=315
SCHQ **Schefferville** 59.98 38 P P 07 39 20.3 -0.1
comp=Z,0.8nm,0.4s,baz=330,slow=4.9,SNR=7.3
BVAR **Borovoye Array** 60.03 319 P P 07 39 20.2 -0.6
comp=Z,0.9nm,0.4s,baz=48,slow=8.1,SNR=6.9
BVAR PcP PcP 07 40 04.9 -0.5
comp=Z,0.6nm,0.3s,baz=42,slow=9.0,SNR=4.3
BRVK **Borovoye** 60.05 319 eP P 07 39 20.2 -0.7
BRVK pmax pmax
comp=Z,11nm,1.7s
R41A **Rosebud** 60.16 65 P P 07 39 21.0 -0.9
baz=315
N44A **Piper City** 60.21 61 P P 07 39 21.4 -0.8
baz=315
Q42A **Golden Eagle** 60.21 64 P P 07 39 21.8 -0.4
baz=315
P43A **Skaggs, Pawnee** 60.26 63 P P 07 39 21.8 -0.7
baz=315
U39A **Green Forest** 60.31 68 P P 07 39 22.0 -1.0
baz=315
T40A **Mansfield** 60.32 67 P P 07 39 21.9 -1.1
baz=315
CCM **Cathedral Cave** 60.41 65 P P 07 39 22.6 -1.0
baz=315
S41A **Jillco Farms,** 60.45 66 P P 07 39 22.6 -1.3
baz=315,SNR=8.8
O44A **Mansfield** 60.48 62 P P 07 39 23.5 -0.5
baz=315
R42A **Luebbering** 60.50 65 P P 07 39 23.4 -0.9
baz=315
V39A **Pettigrew** 60.60 69 P P 07 39 24.6 -0.4
baz=315
Q43A **New Douglas** 60.65 63 P P 07 39 24.8 -0.4
baz=315
U40A **Yellville** 60.69 68 P P 07 39 24.4 -1.1
baz=315,SNR=5.1
M46A **Old House Fiel** 60.73 59 P P 07 39 24.8 -1.0
baz=315
JCT **Junction City** 60.76 77 P P 07 39 25.1 -1.0
baz=316
O45A **Potomac** 60.81 61 P P 07 39 25.7 -0.6
baz=315
T41A **Mountain View** 60.83 66 P P 07 39 25.2 -1.2
baz=315
S42A **Caledonia** 60.86 65 P P 07 39 25.7 -1.0
baz=315,SNR=7.2
P44A **Sand Creek, Wi** 60.87 62 P P 07 39 26.5 -0.2
baz=315
N46A **Monticello** 60.89 60 P P 07 39 26.3 -0.5
baz=315
W39A **Magazine** 60.97 69 P P 07 39 27.3 -0.2
baz=315
R43A **Red Bud** 60.99 64 P P 07 39 26.1 -1.4
baz=315
SFIN **Lafayette** 61.06 61 P P 07 39 27.7 -0.3
baz=315,SNR=6.1
SFIN **Lafayette** 61.06 61 eP P 07 39 27.9 -0.1
V40A **Witts Springs** 61.10 68 P P 07 39 27.4 -1.0
baz=315,SNR=8.1
T42A **Van Buren** 61.22 66 P P 07 39 27.7 -1.4
baz=315
U41A **Viola** 61.23 67 P P 07 39 28.1 -1.1
baz=315
X39A **Fountain Ranch** 61.27 70 P P 07 39 29.5 0.0
baz=316,SNR=6.9
W40A **Ferguson Farm,** 61.39 69 P P 07 39 29.8 -0.4
baz=316
S43A **Fulton Ridge,** 61.41 65 P P 07 39 29.8 -0.5
baz=315
R44A **Waltonville** 61.48 64 P P 07 39 29.7 -1.2
baz=315
V41A **Mountainview** 61.49 68 P P 07 39 29.9 -1.0
baz=316,SNR=6.3
Q45A **Warren Harvey,** 61.53 63 P P 07 39 30.6 -0.6
baz=316
MIAR **Mount Ida** 61.55 70 P P 07 39 31.3 -0.1
baz=316
U42A **Revenden** 61.61 67 P P 07 39 30.6 -1.2
baz=316
T43A **Greenville** 61.63 65 P P 07 39 31.0 -0.9
baz=316,SNR=11
O47A **Sheridan** 61.66 60 P P 07 39 31.1 -0.9
baz=316
W41B **Gary Mavity, V** 61.87 68 P P 07 39 32.9 -0.6
baz=316
R45A **Skylar, Fairfi** 61.89 63 P P 07 39 32.6 -1.0
baz=316

V42A	**Cord**	**61.91**	**67**	P		**P**	**07 39 32.5**	**-1.3**
	baz=316							
SADO	**Sadowa**	**62.02**	**52**	P		**P**	**07 39 33.4**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=312,slow=5.0,SNR=3.6							
X40A	**Basin Creek Fa**	**62.02**	**69**	P		**P**	**07 39 34.3**	**-0.2**
	baz=316							
U43A	**Rector**	**62.07**	**66**	P		**P**	**07 39 34.5**	**-0.3**
	baz=316							
P47A	**Martinsville**	**62.14**	**61**	P		**P**	**07 39 34.5**	**-0.7**
	baz=316,SNR=10							
Q47A	**Bedord North L**	**62.45**	**61**	P		**P**	**07 39 36.7**	**-0.6**
	baz=316							
T46A	**Princeton**	**63.00**	**64**	P		**P**	**07 39 40.7**	**-0.3**
	baz=316							
WCI	**Wyandotte Cave**	**63.03**	**62**	P		**P**	**07 39 40.1**	**-1.0**
	baz=316							
ACSO	**Alum Creek Sta**	**63.36**	**58**	P		**P**	**07 39 42.4**	**-0.8**
	baz=317							
T47A	**Sharon Grove**	**63.48**	**63**	P		**P**	**07 39 43.9**	**-0.2**
	baz=316							
ERPA	**Erie**	**63.53**	**55**	P		**P**	**07 39 43.9**	**-0.5**
	baz=317							
X44A	**Crenshaw**	**63.56**	**67**	P		**P**	**07 39 44.5**	**-0.2**
	baz=316							
S48A	**Wiedeman Farm,**	**63.57**	**62**	P		**P**	**07 39 44.4**	**-0.3**
	baz=317							
WVT	**Waverly**	**63.69**	**64**	P		**P**	**07 39 45.1**	**-0.5**
	baz=317							
241A	**Mo Tay, Goldon**	**63.74**	**71**	P		**P**	**07 39 46.5**	**+0.6**
	baz=317							
U47A	**Clarksville**	**63.77**	**64**	P		**P**	**07 39 45.6**	**-0.4**
	baz=317							
V46A	**Holladay**	**63.77**	**65**	P		**P**	**07 39 45.8**	**-0.2**
	baz=317							
T48A	**Bowling Green**	**63.78**	**63**	P		**P**	**07 39 45.6**	**-0.5**
	baz=317							
OXF	**Oxford**	**63.97**	**67**	P		**P**	**07 39 47.0**	**-0.3**
	baz=317,SNR=5.5							
OXF	**Oxford**	**63.97**	**67**	*eP*		**P**	**07 39 47.2**	**-0.2**
OXF	**Oxford**	**63.97**	**67**	*eP*		**P**	**07 39 47.2**	**-0.2**
X45A	**UM Field Stati**	**64.04**	**67**	P		**P**	**07 39 47.5**	**-0.4**
	baz=317							
V47A	**Nunnelly**	**64.08**	**65**	P		**P**	**07 39 47.7**	**-0.4**
	baz=317							
341A	**Kurthwood**	**64.10**	**72**	P		**P**	**07 39 48.5**	**+0.3**
	baz=317							
W46A	**Michie**	**64.11**	**66**	P		**P**	**07 39 48.0**	**-0.3**
	baz=317							
U48A	**Cassie Pea, Po**	**64.14**	**63**	P		**P**	**07 39 48.4**	**0.0**
	baz=317							
242A	**Grayson**	**64.16**	**70**	P		**P**	**07 39 48.7**	**+0.1**
	baz=317							
Y45A	**Yeager Farm, C**	**64.36**	**67**	P		**P**	**07 39 49.8**	**-0.1**
	baz=317							
N54A	**Moraine State**	**64.38**	**56**	P		**P**	**07 39 49.3**	**-0.7**
	baz=318							
X46A	**Booneville**	**64.41**	**66**	P		**P**	**07 39 49.9**	**-0.4**
	baz=317							
W47A	**Westpoint**	**64.46**	**65**	P		**P**	**07 39 50.3**	**-0.3**
	baz=317							
V48A	**Smith Brothers**	**64.54**	**64**	P		**P**	**07 39 50.7**	**-0.3**
	baz=317							
Y46A	**Houston**	**64.74**	**67**	P		**P**	**07 39 52.3**	**-0.1**
	baz=317							
X47A	**Russelville**	**64.85**	**66**	P		**P**	**07 39 52.3**	**-0.8**
	baz=317							
W48A	**Pulaski**	**64.91**	**65**	P		**P**	**07 39 53.1**	**-0.5**
	baz=317,SNR=5.5							
244A	**Avery, Jackson**	**65.03**	**70**	P		**P**	**07 39 54.4**	**+0.2**
	baz=317							
145A	**Houston Renfro**	**65.06**	**69**	P		**P**	**07 39 54.4**	**-0.1**
	baz=317							
FIA0	**FINESS Array S**	**65.09**	**347**	*eP*		**P**	**07 39 53.6**	**-0.6**
FIA0	**FINESS Array S**	**65.09**	**347**	*eP*		**P**	**07 39 53.6**	**-0.6**
FINES	**FINESS Array B**	**65.09**	**347**	P		**P**	**07 39 53.6**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=26,slow=11,SNR=7.6							
Z46A	**Louisville**	**65.20**	**67**	P		**P**	**07 39 55.2**	**-0.1**
	baz=317							
Y47A	**UCPARC, Winfie**	**65.30**	**66**	P		**P**	**07 39 55.4**	**-0.6**
	baz=317							
X48A	**Hartselle**	**65.35**	**65**	P		**P**	**07 39 55.6**	**-0.8**
	baz=317							
344A	**Westbrook Farm**	**65.43**	**70**	P		**P**	**07 39 57.2**	**+0.3**
	baz=317							
BINY	**Binghamton**	**65.47**	**52**	P		**P**	**07 39 56.6**	**-0.4**
	baz=319							
146A	**Union**	**65.54**	**68**	P		**P**	**07 39 57.6**	**+0.1**
	baz=317							
Y48A	**Jasper**	**65.68**	**66**	P		**P**	**07 39 57.4**	**-1.1**
	baz=318							
Z47A	**Carrollton**	**65.69**	**67**	P		**P**	**07 39 58.2**	**-0.3**
	baz=318,SNR=8.0							
SSPA	**Standing Stone**	**65.69**	**55**	P		**P**	**07 39 57.6**	**-0.8**
	baz=319							
X49A	**Woodville**	**65.71**	**65**	P		**P**	**07 39 58.1**	**-0.5**
	baz=318							
TZTN	**Tazewell**	**65.75**	**61**	P		**P**	**07 39 58.6**	**-0.3**
	baz=318							
Z48A	**Northport**	**65.85**	**66**	P		**P**	**07 39 59.2**	**-0.4**
	baz=318							
147A	**Livingston**	**65.96**	**67**	P		**P**	**07 39 59.9**	**-0.3**
	baz=318							
AAK	**Ala-Archa**	**65.99**	**309**	P		**P**	**07 39 59.9**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=45,slow=3.5,SNR=4.2							
X50A	**Fort Payne**	**66.13**	**64**	P		**P**	**07 40 00.6**	**-0.7**
	baz=318							
Y49A	**Blount Mountai**	**66.14**	**65**	P		**P**	**07 40 00.6**	**-0.8**
	baz=318							
TKL	**Tuckaleechee C**	**66.28**	**62**	P		**P**	**07 40 02.1**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=56,slow=3.2,SNR=4.5							
LRAL	**Lakeview Retre**	**66.42**	**66**	P		**P**	**07 40 02.6**	**-0.6**
	baz=318							
Y50A	**Piedmont**	**66.50**	**65**	P		**P**	**07 40 03.0**	**-0.7**
	baz=318							
N59A	**State Game Lan**	**66.54**	**53**	P		**P**	**07 40 03.6**	**-0.3**
	baz=319							
Z49A	**Columbiana**	**66.56**	**66**	P		**P**	**07 40 03.5**	**-0.6**
	baz=318							
LSA	**Lhasa**	**66.63**	**289**	*eP*		**P**	**07 40 05.8**	**+0.7**
LSA	**Lhasa**	**66.63**	**289**	*eP*		**P**	**07 40 05.8**	**+0.7**
248A	**Dixon Mills**	**66.69**	**67**	P		**P**	**07 40 04.1**	**-0.8**
	baz=318							
347A	**Saraland**	**66.74**	**69**	P		**P**	**07 40 05.0**	**-0.2**
	baz=318							
AKTO	**Aktyubinsk**	**66.84**	**324**	P		**P**	**07 40 04.8**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=113,slow=13,SNR=4.3							
Z50A	**Ashland**	**66.86**	**65**	P		**P**	**07 40 05.5**	**-0.6**
	baz=318							
NB2	**NORSAR Subarra**	**67.02**	**354**	P		**P**	**07 40 06.6**	**0.0**
	comp=Z,1.1nm,0.5s,baz=8.5,slow=6.2							
NB200	**NORSAR Array S**	**67.02**	**354**	*eP*		**P**	**07 40 06.8**	**+0.2**
NOA	**NORSAR Array B**	**67.02**	**354**	P		**P**	**07 40 06.8**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=309,slow=24,SNR=7.8							
ABKAR	**Akbulak array**	**67.09**	**322**	*eP*		**P**	**07 40 06.9**	**-0.3**
249A	**Camden**	**67.13**	**67**	P		**P**	**07 40 07.5**	**-0.2**
	baz=318							
PMG	**Port Moresby**	**67.36**	**216**	P		**P**	**07 40 09.0**	**-0.2**
	comp=Z,4.6nm,0.4s,baz=62,slow=19,SNR=2.9							
KSH	**Kashi**	**67.63**	**306**	P		**P**	**07 40 15.1**	**+4.2**
KSH				pP		pP	07 40 47.3	+4.6
KSH				PP		**PP**	**07 42 44.1**	**+3.0**
KSH				PcS			07 44 41.4	
KSH				S		**S**	**07 48 55.8**	**-1.7**
KSH				sS		SKSac	07 49 55.9	-0.5
HFS	**Hagfors**	**67.75**	**353**	P		**P**	**07 40 10.7**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=35,slow=3.6,SNR=12							
KMSC	**Kings Mountain**	**67.99**	**61**	P		**P**	**07 40 12.9**	**-0.3**
	baz=319							
251A	**Midway**	**68.02**	**66**	P		**P**	**07 40 12.7**	**-0.6**
	baz=318							
GOGA	**Godfrey**	**68.12**	**64**	P		**P**	**07 40 13.2**	**-0.7**
	baz=319							
HODGE	**Hodges**	**68.17**	**62**	*eP*		**P**	**07 40 14.0**	**-0.2**
351A	**Pinckard**	**68.51**	**67**	P		**P**	**07 40 15.9**	**-0.5**
	baz=319							
OBN	**Obninsk**	**69.11**	**339**	*eP*		**P**	**07 40 19.9**	**+0.3**
OBN				pmax		pmax		
	comp=Z,6.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**70.30**	**275**	P		**P**	**07 40 27.7**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=19,slow=7.3,SNR=4.2							
CMAR				LR		LR	08 14 11.9	
	comp=Z,16nm,19.6s,baz=335,slow=38							
GUN	**Gumba**	**71.03**	**291**	*eP*		**P**	**07 40 33.2**	**+0.9**
	comp=Z,99nm,0.6s							
JIRN	**Jiri**	**71.04**	**291**	*eP*		**P**	**07 40 33.5**	**+1.1**
	comp=Z,120nm,0.6s							
KKN	**Kakani**	**71.47**	**291**	*eP*		**P**	**07 40 35.5**	**+0.7**
	comp=Z,38nm,0.7s							
PKI	**Pulchoki**	**71.56**	**291**	*eP*		**P**	**07 40 36.0**	**+0.6**
	comp=Z,34nm,0.6s							
PKIN	**Phulchoki**	**71.56**	**291**	*eP*		**P**	**07 40 36.5**	**+1.1**
	comp=Z,24nm,0.7s							
DMN	**Daman**	**71.70**	**291**	*eP*		**P**	**07 40 37.1**	**+0.9**
	comp=Z,30nm,0.9s							
DANN	**Dangsing**	**71.92**	**293**	*eP*		**P**	**07 40 38.4**	**+0.9**
KOLN	**Koldanda**	**72.45**	**293**	*eP*		**P**	**07 40 41.1**	**+0.5**
	comp=Z,17nm,0.8s							
PYUN	**Piuthan**	**72.54**	**293**	*eP*		**P**	**07 40 41.8**	**+0.6**
	comp=Z,33nm,0.9s							
EKA	**Eskdalemuir Ar**	**73.06**	**2**	P		**P**	**07 40 44.0**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=7.8,slow=5.7,SNR=8.6							
EKA	**Eskdalemuir Ar**	**73.06**	**2**	P		**P**	**07 40 44.0**	**+0.5**
EKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**74.81**	**341**	P		**P**	**07 40 53.3**	**-0.4**
	comp=Z,3.0nm,0.4s,baz=22,slow=6.5,SNR=7.6							
AKASG	**Malin Array Be**	**74.81**	**341**	*eP*		**P**	**07 40 53.0**	**-0.7**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.5s							
AKBB	**Malin Array Si**	**74.81**	**341**	*eP*		**P**	**07 40 53.4**	**-0.3**
AKBB	**Malin Array Si**	**74.81**	**341**	*eP*		**P**	**07 40 53.4**	**-0.3**
KIEV	**Kiev**	**74.82**	**341**	*eP*		**P**	**07 40 53.2**	**-0.5**
KIEV	**Kiev**	**74.82**	**341**	*eP*		**P**	**07 40 53.2**	**-0.5**
AK11	**Malin Array Si**	**74.84**	**341**	*eP*		**P**	**07 40 53.3**	**-0.6**
CTA	**Charters Tower**	**77.59**	**212**	P		**P**	**07 41 10.7**	**+1.0**
	comp=Z,3.6nm,0.6s,baz=37,slow=5.1,SNR=3.9							
KBZ	**Khabaz**	**77.79**	**330**	P		**P**	**07 41 10.8**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=193,slow=4.6,SNR=3.7							
BUR08	**Bucovina Ar. S**	**78.50**	**343**	*eP*		**P**	**07 41 15.4**	**+0.8**
BUR04	**Bucovina Ar. S**	**78.52**	**343**	*eP*		**P**	**07 41 15.2**	**+0.4**
GERES	**GERESS Array B**	**78.93**	**351**	P		**P**	**07 41 17.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=27,slow=6.1,SNR=5.9							
GERES	**GERESS Array B**	**78.93**	**351**	P		**P**	**07 41 17.0**	**0.0**
MLR	**Muntele Rosu**	**80.44**	**342**	LR		LR	08 22 13.1	
	comp=Z,18nm,18.6s,baz=351,slow=39							
WR1	**Warramunga Arr**	**81.96**	**223**	*eP*		**P**	**07 41 33.0**	**-0.3**
WRA	**Warramunga Arr**	**81.96**	**223**	P		**P**	**07 41 33.0**	**-0.3**
	comp=Z,4.8nm,0.5s,baz=31,slow=5.9,SNR=57							
PSI	**Prapat**	**82.38**	**265**	P		**P**	**07 41 35.7**	**-0.2**
	comp=Z,5.6nm,0.7s,baz=5.2,slow=11,SNR=5.1							
DIVS	**Divibare**	**82.81**	**346**	*eP*		**P**	**07 41 36.4**	**-1.3**
BR101	**Keskin Array S**	**84.16**	**335**	*eP*		**P**	**07 41 44.6**	**0.0**
BRTR	**Keskin Array B**	**84.16**	**335**	P		**P**	**07 41 44.6**	**0.0**
	comp=Z,1.1nm,0.8s,baz=34,slow=2.6,SNR=6.8							
BR231	**Keskin MP Arra**	**84.27**	**335**	*eP*		**P**	**07 41 44.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**84.29**	**231**	P		**P**	**07 41 45.9**	**+0.7**
	baz=61,slow=2.5							
AS01	**Alice Springs**	**85.44**	**222**	*eP*		**P**	**07 41 51.1**	**+0.1**
AS31	**Alice Springs**	**85.45**	**222**	*eP*		**P**	**07 41 51.5**	**+0.4**
ASAR	**Alice Springs**	**85.46**	**222**	P		**P**	**07 41 51.5**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=23,slow=5.3,SNR=24							
ESDC	**Sonseca Array**	**86.69**	**3**	P		**P**	**07 42 06.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=353,slow=4.9,SNR=4.5							
STKA	**Stephens Creek**	**90.04**	**212**	P		**P**	**07 42 14.0**	**+1.3**
	comp=Z,6.3nm,0.7s,baz=352,slow=4.9,SNR=14							
STKA	**Stephens Creek**	**90.04**	**212**	*eP*		**P**	**07 42 13.7**	**+1.0**
KHZ	**Kahutara**	**94.15**	**185**	*eP*		**P**	**07 42 29.3**	**-2.0**
TOA1	**Torodi Ar. Sit**	**115.17**	**358**	*e*PKiKP		**PKiKP**	**07 47 53.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**115.17**	**358**	PKP		**PKPdf**	**07 47 53.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=10.0,slow=1.7,SNR=4.6							
DBIC	**Dimbokro**	**121.47**	**6**	PKP		**PKPdf**	**07 48 05.7**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=16,slow=3.2,SNR=3.2							
CPUP	**Villa Florida**	**130.19**	**82**	SKPbc		**SKPab**	**07 51 32.0**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=289,slow=6.0,SNR=4.7							
PLCA	**Paso Flores**	**131.77**	**106**	PKP		**PKPdf**	**07 48 26.1**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=332,slow=2.4,SNR=5.3							
PLCA				SKPbc		**SKPab**	**07 51 39.3**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=345,slow=6.7,SNR=6.6							
MAW	**Mawson**	**146.52**	**218**	PKPbc		**PKPab**	**07 48 54.2**	**+0.2**
	comp=Z,5.9nm,0.5s,baz=107,slow=5.9,SNR=9.2							
BOSA	**Bosnof**	**150.11**	**311**	PKPbc		**PKPbc**	**07 49 03.7**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=19,slow=2.9,SNR=10							

*ISCJB **14** 07:29:39.8±0.4,9.35N±0.05×70.06W±0.04,h7km,mb3.7/5, Error ellipse: s-maj=8.3km s-min=3.7km az=139.2*
*NEIC **14** 07:29:40.8±0.0,9.38N×70.11W,h5km,mb3.9/2, MW4.0(CAR), After CAR.*
*IDC **14** 07:29:40.8±0.9,9.24N×70.05W,h0km,mb3.7/5,mb1 4.0/8, mb1mx3.6/59,mbtmp3.9/8,ML3.9/3,Error ellipse: s-maj=18.6km s-min=8.8km az=147.0*

ISC 14 07:29:41.6±0.6,9.29N±0.06×70.07W±0.06,h7km,n43, σ1$47/47,mb3.7/5,Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**0.69**	**234**	Pg		**Pg**	**07 29 53.7**	**-1.2**
	97nm,0.3s,baz=58,slow=13,SNR=516							
SDV				Lg		Lg	07 30 03.7	
	398nm,0.3s,baz=319,slow=20,SNR=63							
SDV	**Santo Domingo**	**0.69**	**234**	*e*Pg		**Pg**	**07 29 53.8**	**-1.2**
SDV				*e*Pn		Pn	07 30 03.4	+5.4
SDV				*e*Sg		**Sg**	**07 30 03.7**	**-0.2**
SDV	**Santo Domingo**	**0.69**	**234**	*eP*		**Pg**	**07 29 53.8**	**-1.2**
PAMC	**Pamplona, Colo**	**3.25**	**234**	*eP*		**Pn**	**07 30 34.0**	**+0.6**
CODC	**Agust`›n Codaz**	**3.39**	**281**	*eP*		**Pn**	**07 30 35.6**	**+0.6**
BARC	**Barichara**	**4.09**	**229**	*eP*		**Pn**	**07 30 45.9**	**+1.1**
BRRC	**Barranca, Sant**	**4.21**	**239**	*eP*		**Pn**	**07 30 47.4**	**+1.1**
RUSC	**La Rusia**	**4.51**	**222**	*e*Pn		**Pn**	**07 30 50.1**	**-0.7**
RUSC	**La Rusia**	**4.51**	**222**	*eP*		**Pn**	**07 30 52.8**	**+1.9**
ZARC	**Zaragoza, Cauc**	**5.06**	**250**	*eP*		**Pn**	**07 30 58.0**	**0.0**
PTBC	**PUERTO BERRIO,**	**5.13**	**238**	*eP*		**Pn**	**07 30 59.3**	**+0.3**
PCRV	**Puerto La Cruz**	**5.43**	**80**	Pn		**Pn**	**07 31 04.5**	**+1.4**
	2.2nm,0.3s,baz=296,slow=1.3,SNR=17							
PCRV				Sn		**Sn**	**07 32 07.5**	**+1.7**
	11nm,0.3s,baz=283,slow=21,SNR=10							
MOTC	**Monteria, Cord**	**5.55**	**265**	*eP*		**Pn**	**07 31 04.7**	**0.0**
CHIC	**Chingaza**	**5.89**	**218**	*eP*		**Pn**	**07 31 11.2**	**+1.5**
NORC	**Norcasia**	**6.03**	**232**	*eP*		**Pn**	**07 31 11.2**	**-0.1**
ROSC	**El Rosal**	**6.11**	**224**	Pn		**Pn**	**07 31 15.8**	**+3.0**
	2.3nm,0.3s,baz=102,slow=11,SNR=14							
ROSC				Sn		**Sn**	**07 32 25.4**	**+2.1**
	baz=17,slow=19,SNR=1.8							
ROSC	**El Rosal**	**6.11**	**224**	*e*Pn		**Pn**	**07 31 16.1**	**+3.3**
ROSC				*e*Sn		**Sn**	**07 32 25.4**	**+2.1**
ROSC	**El Rosal**	**6.11**	**224**	*eP*		**Pn**	**07 31 16.4**	**+3.6**
HELC	**Santa Helena**	**6.23**	**241**	*e*Pn		**Pn**	**07 31 15.2**	**+0.9**
HELC	**Santa Helena**	**6.23**	**241**	*eP*		**Pn**	**07 31 15.2**	**+0.9**
VILC	**Villavicencio,**	**6.28**	**215**	*eP*		**Pn**	**07 31 15.6**	**+0.7**
RREF	**El Recreo**	**6.81**	**231**	*eP*		**Pn**	**07 31 24.6**	**+1.9**
TOLC	**Tolima**	**7.00**	**228**	*eP*		**Pn**	**07 31 26.1**	**+1.2**
PRAC	**Prado**	**7.32**	**221**	*e*Pn		**Pn**	**07 31 29.8**	**+0.7**
PRAC	**Prado**	**7.32**	**221**	*eP*		**Pn**	**07 31 31.1**	**+2.0**
PLMC	**San Jos`¹ del**	**7.55**	**235**	*eP*		**Pn**	**07 31 34.1**	**+1.8**
YOTC	**Yotoco, Valle**	**8.16**	**230**	*eP*		**Pn**	**07 31 40.5**	**-0.2**
SDD	**Santo Domingo**	**9.11**	**1**	*e*Pn		**Pn**	**07 31 54.4**	**+0.8**
SJG	**San Juan**	**9.56**	**23**	Pn		**Pn**	**07 32 00.1**	**+0.3**
	3.5nm,0.3s,baz=196,slow=17,SNR=5.5							
SJG				Sn		Sn	07 33 34.7	-13
	0.7nm,0.3s,baz=345,slow=17,SNR=4.0							
SOTA	**Rioblanco**	**9.63**	**223**	*eP*		**Pn**	**07 31 59.9**	**-1.4**
HUMP	**Col San Antoni**	**9.71**	**25**	*e*Pn		**Pn**	**07 32 00.5**	**-1.3**
CBYP	**Canovanas**	**9.82**	**24**	*e*Pn		**Pn**	**07 32 01.5**	**-1.9**
STVI	**Saint Thomas**	**10.28**	**28**	*e*Pn		**Pn**	**07 32 09.2**	**-0.5**
PTGA	**Pitinga**	**14.15**	**134**	Pn		**Pn**	**07 33 01.6**	**-1.1**
	0.3nm,0.3s,baz=323,slow=15,SNR=7.3							
SAML	**Samuel**	**19.37**	**159**	*eP*		**P**	**07 34 06.4**	**-1.7**
	3.0nm,1.1s							
LPAZ	**La Paz**	**25.49**	**176**	P		**P**	**07 35 10.9**	**-0.5**
	0.7nm,0.6s,baz=348,slow=9.3,SNR=3.3							
SCHQ	**Schefferville**	**45.49**	**3**	P		**P**	**07 38 01.3**	**-0.2**
	1.6nm,0.7s,baz=219,slow=11,SNR=4.1							
PLCA	**Paso Flores**	**49.77**	**180**	P		**P**	**07 38 34.0**	**-1.0**
	1.0nm,0.7s,baz=14,slow=8.3,SNR=4.4							
PLCA	**Paso Flores**	**49.77**	**180**	*eP*		**P**	**07 38 33.2**	**-1.8**
	4.6nm,1.2s							
YKA	**Yellowknife Ar**	**62.05**	**338**	P		**P**	**07 40 03.1**	**+0.6**
	0.4nm,0.7s,baz=122,slow=6.8,SNR=6.3							
YKB5	**Yellowknife Ar**	**62.05**	**338**	*eP*		**P**	**07 40 03.1**	**+0.6**
TOA1	**Torodi Ar. Sit**	**70.29**	**79**	*eP*		**P**	**07 40 57.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**70.30**	**79**	P		**P**	**07 40 57.6**	**+1.1**
	0.3nm,0.5s,baz=285,slow=6.0,SNR=2.5							

*MEX **14** 07:30:20.8±0.7, 13.83N×93.01W,h12km±124km,MD3.9*
*IDC **14** 07:30:22.0±2.3, 14.48N×92.38W,h0km,mb3.5/7, mb1 3.7/9,mb1mx3.6/57, mbtmp3.4/9,ML3.5/2,MS3.1/2, Ms1 3.1/2,ms1mx2.7/45,Error ellipse: s-maj=76.1km s-min=20.2km az=38.0*
*ISCJB **14** 07:30:23.4±1.0, 14.00N±0.07×92.86W±0.08, h46km, mb3.7/8,MS3.0/2, Error ellipse: s-maj=11.1km s-min=9.8km az=29.5*

ISC 14 07:30:27.0±1.2,14.24N±0.1×92.83W±0.08,h46km,n17, σ1$88/19,mb3.7/8,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THIG		**0.92**	**36**	*eP*		**Pn**	**07 30 41.6**	**-1.9**
THIG				*eS*		**Sn**	**07 30 56.7**	**+1.0**
PCIG		**1.58**	**346**	*eP*		**Pn**	**07 30 49.3**	**-3.3**
CCIG	**Comitan**	**2.21**	**17**	*eP*		**Pn**	**07 31 00.1**	**-1.4**
CCIG				*eS*		**Sn**	**07 31 30.0**	**+2.4**
TGIG		**2.62**	**354**	*eP*		**Pn**	**07 31 05.0**	**-1.9**
TGIG				*eS*		**Sn**	**07 31 38.5**	**+1.1**
CMIG	**Matias Romero**	**3.52**	**326**	Pn		**Pn**	**07 31 16.8**	**-2.5**
	3.3nm,0.3s,baz=164,slow=13,SNR=52							
CMIG				Sn		**Sn**	**07 32 01.5**	**+1.7**
	7.0nm,0.3s,baz=134,slow=13,SNR=5.7							
CMIG				Lg		Lg	07 32 14.9	
	9.7nm,0.3s,baz=92,slow=17,SNR=6.1							
TXAR	**Lajitas Array**	**18.13**	**328**	P		**P**	**07 34 35.0**	**-0.5**
	0.0nm,0.3s,baz=134,slow=9.0,SNR=2.7							
ROSC	**El Rosal**	**20.45**	**115**	LR		LR	07 42 56.4	
	comp=Z,54nm,18.1s,baz=276,slow=37							
TKL	**Tuckaleechee C**	**22.90**	**19**	LR		LR	07 44 17.5	
	comp=Z,46nm,18.1s,baz=321,slow=37							
ANMO	**Albuquerque**	**24.07**	**332**	P		**P**	**07 35 39.3**	**+0.9**
	0.4nm,0.5s,baz=159,slow=8.6,SNR=2.9							
PDAR	**Pinedale Array**	**31.95**	**336**	P		**P**	**07 36 48.4**	**-0.4**
	0.1nm,0.5s,baz=128,slow=7.3,SNR=2.3							
NVAR	**Mina Array Bea**	**33.05**	**322**	P		**P**	**07 37 00.4**	**+1.9**
	0.8nm,0.8s,baz=140,slow=8.0,SNR=5.2							
YKA	**Yellowknife Ar**	**50.69**	**347**	P		**P**	**07 39 21.4**	**-0.2**
	0.8nm,0.7s,baz=150,slow=7.6,SNR=13							
INK	**Inuvik**	**60.06**	**344**	P		**P**	**07 40 29.2**	**+0.2**
	0.4nm,0.6s,baz=140,slow=3.9,SNR=3.4							
RES	**Resolute Bay**	**60.53**	**359**	P		**P**	**07 40 32.6**	**+0.5**
	0.6nm,0.3s,baz=146,slow=3.6,SNR=4.8							
ILAR	**Eielson Array**	**62.38**	**337**	P		**P**	**07 40 44.2**	**-0.6**
	0.3nm,0.8s,baz=110,slow=7.8,SNR=3.4							
BBTS	**Babate**	**73.52**	**79**	P		**P**	**07 41 53.9**	**-1.8**
	4.1nm,0.3s,baz=263,slow=5.0,SNR=3.6							
WRA	**Warramunga Arr**	**134.66**	**256**	PKP		**PKPdf**	**07 49 44.8**	**+3.3**
	0.4nm,0.7s,baz=103,slow=2.6,SNR=6.5							

NNC 14 07:35:34.5±5.0,37.16N×76.87E,h0km,mb3.5,mpv3.1, 6C-3D,Error ellipse: s-maj=40.7km s-min=36.1km az=50.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.89**	**318**	⇓Pn		Pn	07 36 36.1	+0.5
	2.3nm,0.5s							
SFK				⇑Sn		Sn	07 37 25.1	+2.9
	13nm,0.4s							
AAK	**Ala-Archa**	**5.77**	**342**	⇑Pn	

TLY *e* 07 39 33.6
TLY pmax pmax
comp=Z,51nm,0.5s
TLY Talaya 4.78 86 Pn **Pn 07 38 16.4 -2.8**
TLY *e*Pb **Pb 07 38 29.5 -1.5**
IRK Irkutsk 5.17 80 *e*PN **Pb 07 38 37.5 -0.3**
IRK *e* 07 39 44.7
IRK pmax pmax
comp=Z,220nm,0.3s
IRK smax smax
comp=N,829nm,1.0s
TRG Tyrgan 6.49 76 *e*PN **Pn 07 38 43.9 +1.2**
TRG *e* 07 39 02.5
ZAA0 Zalesovo Array 7.17 294 *e*Pn **Pn 07 38 54.0 +2.0**
ZALV Zalesovo Beam 7.17 294 Pn **Pn 07 38 53.6 +1.6**
comp=N,0.6nm,0.3s,baz=100,slow=12,SNR=16
ZALV Lg Lg 07 40 45.9
comp=N,7.1nm,0.3s,baz=110,slow=25,SNR=13
ZAA1 Zalesovo Array 7.17 294 *e*Pn **Pn 07 38 53.6 +1.6**
ZAA1 *e*Lg Lg 07 40 45.9
SONA1 Songino Array 7.73 115 *e*Pn **Pn 07 38 59.9 0.0**
SONM Songino Array 7.73 115 Pg Pb 07 39 25.2 +3.8
comp=N,0.6nm,0.3s,baz=304,slow=18,SNR=12
SONM Lg Lg 07 41 11.2
comp=N,2.8nm,0.3s,baz=292,slow=29,SNR=9.4
ULN Ulaanbaatar 8.09 113 *e*P **Pn 07 39 06.0 +1.1**
ULN Ulaanbaatar 8.09 113 *e*Pn **Pn 07 39 06.0 +1.1**
NVS Novosibirsk 8.31 298 *i*P Pb 07 39 21.1 -10
NVS *e* 07 40 41.4
YLYR Ulyunkhan 9.68 64 *e*P Pn 07 39 37.3 +11
YLYR pmax pmax
comp=Z,21nm,1.0s
MK31 Makanchi Array 10.16 247 *e*P **Pn 07 39 35.1 +2.0**
MK31 Makanchi Array 10.16 247 *e*Pn **Pn 07 39 35.0 +2.0**
MK32 Makanchi Array 10.16 247 *e*Pn **Pn 07 39 34.3 +1.2**
MK32 *e*Lg Lg 07 42 31.9
MKAR Makanchi Array 10.16 247 Pn **Pn 07 39 34.3 +1.2**
comp=Z,0.3nm,0.3s,baz=74,slow=13,SNR=10
MKAR Lg Lg 07 42 31.9
comp=Z,1.0nm,0.3s,baz=50,slow=29,SNR=6.7
MKAR Makanchi Array 10.16 247 *e*P Pn 07 39 36.6 +3.5
MKAR Makanchi Array 10.16 247 *e*Pn **Pn 07 39 35.0 +1.9**
MKAR Lg Lg 07 42 31.9
MK01 Makanchi Array 10.17 247 *e*Pn **Pn 07 39 34.6 +1.4**
MAKZ Makanchi 10.34 248 *e*P **Pn 07 39 36.2 +0.7**
MAKZ Makanchi 10.34 248 *e*Pn **Pn 07 39 36.2 +0.7**
KURK Kurchatov 10.94 272 P **Pn 07 39 45.0 +1.3**
KURK Kurchatov 10.94 272 *e*Pn **Pn 07 39 45.0 +1.3**
KURK *e*Lg Lg 07 42 52.4
KURBB Kurchatov Arra 11.01 272 Pn **Pn 07 39 45.0 +0.3**
comp=Z,0.1nm,0.3s,baz=75,slow=15,SNR=3.9
KURBB Lg Lg 07 42 52.4
comp=Z,0.2nm,0.3s,baz=75,slow=33,SNR=8.2
BOD Bodaibo 12.12 52 *e*P **Pn 07 39 59.0 -0.8**
HIA Hailar 15.31 89 *e*P **Pn 07 40 41.4 -1.8**
HIA pmax pmax
comp=Z,15nm,1.1s
HIA Hailar 15.31 89 *e*Pn **Pn 07 40 41.4 -1.8**
comp=Z,15nm,1.1s
BVAR Borovoye Array 15.69 285 Pn **Pn 07 40 45.7 -2.4**
comp=Z,0.1nm,0.3s,baz=64,slow=9.8,SNR=2.8
BRVK Borovoye 15.75 285 *e*P **P 07 40 49.3 -3.6**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 15.75 285 *e*Pn **P 07 40 49.5 -3.4**
comp=Z,3.8nm,0.8s
AAK Ala-Archa 17.10 247 Lg Lg 07 46 08.3
comp=Z,0.1nm,0.3s,baz=298,slow=21,SNR=2.9
AAK Ala-Archa 17.10 247 *e*P **P 07 41 05.9 -2.2**
AAK pmax pmax
comp=Z,2.0nm,1.0s
KK05 Karatay Array 19.14 254 *e*P **Pn 07 41 31.5 +0.2**
KK06 Karatay Array 19.15 254 *e*P **Pn 07 41 31.8 +0.4**
KK02 Karatay Array 19.15 254 *e*P **Pn 07 41 31.5 0.0**
KK04 Karatay Array 19.15 254 *e*P **Pn 07 41 31.7 +0.2**
KK31 Karatay Array 19.15 254 *e*P **Pn 07 41 31.6 +0.1**
KK31 Karatay Array 19.15 254 *e*P **Pn 07 41 31.6 +0.1**
KKAR Karatay Array 19.15 254 *e*P **Pn 07 41 32.1 +0.6**
KKAR Karatay Array 19.15 254 *e*P **Pn 07 41 32.1 +0.6**
KK01 Karatay Array 19.16 254 *e*P **Pn 07 41 31.4 -0.1**
KK03 Karatay Array 19.16 254 *e*P **Pn 07 41 32.2 +0.7**
KK08 Karatay Array 19.17 254 *e*P **Pn 07 41 31.6 0.0**
KK07 Karatay Array 19.17 254 *e*P **Pn 07 41 31.4 -0.2**
ARU Arti 22.31 297 P **P 07 42 06.0 +1.4**
comp=Z,6.7nm,0.2s,baz=102,slow=3.4,SNR=8.3
ARU Arti 22.31 297 *d*P **P 07 42 05.8 +1.2**
ARU S **S 07 46 11.2 +1.5**
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 22.31 297 *e*P **P 07 42 05.8 +1.2**
comp=Z,8.6nm,0.7s
AB06 Akbulak array 22.91 278 *e*P **P 07 42 11.6 +0.6**
AB05 Akbulak array 22.93 278 *e*P **P 07 42 11.6 +0.4**
AB07 Akbulak array 22.93 278 *e*P **P 07 42 11.1 -0.1**
AB02 Akbulak array 22.93 278 *e*P **P 07 42 11.2 +0.1**
AB01 Akbulak array 22.93 278 *e*P **P 07 42 11.1 -0.1**
AB31 Akbulak array 22.93 278 *e*P **P 07 42 11.0 -0.2**
AB31 Akbulak array 22.93 278 *e*P **P 07 42 11.0 -0.2**
ABKAR Akbulak array 22.93 278 *e*P **P 07 42 10.6 -0.6**
comp=Z,19nm,0.8s
AB03 Akbulak array 22.93 278 *e*P **P 07 42 11.1 -0.1**
AB04 Akbulak array 22.93 278 *e*P **P 07 42 10.9 -0.3**
AB09 Akbulak array 22.94 278 *e*P **P 07 42 11.3 -0.1**
AB08 Akbulak array 22.95 278 *e*P **P 07 42 11.3 -0.1**
AKTO Aktyubinsk 23.74 282 P **P 07 42 20.1 +0.8**
comp=Z,7.5nm,0.6s,baz=83,slow=11,SNR=20
TIXI Tiksi 24.87 24 P **P 07 42 29.0 -0.6**
comp=Z,16nm,0.6s,baz=249,slow=6.6,SNR=32
TIXI Tiksi 24.87 24 *e*P **P 07 42 28.9 -0.6**
TIXI pmax pmax
comp=Z,19nm,0.9s
TIXI Tiksi 24.87 24 *e*P **P 07 42 28.9 -0.6**
comp=Z,19nm,0.9s
JNU Nakatsue 31.31 112 P **P 07 43 27.9 +0.4**
comp=Z,3.6nm,0.4s,baz=272,slow=2.3,SNR=6.0
SEY Seymchan 31.47 47 P **P 07 43 29.9 +1.4**
comp=Z,0.4nm,0.2s,baz=265,slow=11,SNR=4.4
SEY Seymchan 31.47 47 P **P 07 43 30.0 +1.4**
KBZ Khabaz 35.90 279 P **P 07 44 08.0 +0.7**
comp=Z,1.9nm,1.1s,baz=54,slow=19,SNR=2.9
KBZ Khabaz 35.90 279 P **P 07 44 08.0 +0.7**
KBZ pmax pmax
comp=Z,2.0nm,1.1s
ARA0 ARCESS Array S 36.39 326 *e*P **P 07 44 11.8 +0.7**
ARCES ARCESS Array B 36.39 326 P **P 07 44 11.8 +0.7**
comp=Z,4.6nm,0.9s,baz=9.3,slow=17,SNR=3.3
FIA0 FINESS Array S 37.95 313 *e*P **P 07 44 24.1 -0.4**
FIA0 FINESS Array S 37.95 313 *e*P **P 07 44 24.1 -0.4**
FINES FINESS Array B 37.95 313 P **P 07 44 24.1 -0.4**
comp=Z,4.0nm,0.9s,baz=49,slow=6.3,SNR=3.1
FINES FINESS Array B 37.95 313 P **P 07 44 24.1 -0.4**
FINES pmax pmax
comp=Z,3.0nm,0.7s
SPITS Spitsbergen Ar 38.00 341 LR LR 08 03 30.1
comp=Z,79nm,18.4s,baz=240,slow=42
AKASG Malin Array Be 40.55 296 P **P 07 44 46.0 -0.4**
comp=Z,1.5nm,0.6s,baz=55,slow=8.6,SNR=5.2
AKASG Malin Array Be 40.55 296 P **P 07 44 46.0 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 40.55 296 *e*P **P 07 44 46.0 -0.4**
AKBB pmax pmax
comp=Z,24nm,1.8s
AKBB Malin Array Si 40.55 296 *e*P **P 07 44 46.0 -0.4**
comp=Z,24nm,1.8s
BR101 Keskin Array S 43.87 280 *e*P **P 07 45 14.9 +1.2**
BRTR Keskin Array B 43.87 280 P **P 07 45 14.9 +1.2**
comp=Z,4.9nm,0.9s,baz=76,slow=7.4,SNR=17
HFS Hagfors 44.06 315 P **P 07 45 15.0 +0.2**
comp=Z,2.3nm,0.8s,baz=91,slow=12,SNR=2.7
HFS Hagfors 44.06 315 P **P 07 45 15.0 +0.2**
HFS pmax pmax
comp=Z,2.0nm,0.8s
BR231 Keskin MP Arra 44.33 280 *e*P **P 07 45 15.5 -1.9**
BUR08 Bucovina Ar. S 44.38 294 *e*P **P 07 45 18.6 +0.9**
BUR04 Bucovina Ar. S 44.39 294 *e*P **P 07 45 18.7 +0.9**
NB2 NORSAR Subarra 44.72 316 P **P 07 45 21.4 +1.3**
comp=Z,1.6nm,0.8s,baz=81,slow=7.4
NB200 NORSAR Array S 44.72 316 *e*P **P 07 45 20.8 +0.6**
NOA NORSAR Array B 44.72 316 P **P 07 45 20.8 +0.6**
comp=Z,1.4nm,0.7s,baz=61,slow=8.0,SNR=4.0
NOA NORSAR Array B 44.72 316 *e*P **P 07 45 21.1 +1.0**
NOA pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 48.98 304 *e*P **P 07 45 53.0 -0.5**
CLL *e* 07 45 57.0
CLL Collm 48.98 304 *e*P **P 07 45 53.0 -0.5**
CLL *e* 07 45 57.0
GERES GERESS Array B 50.04 301 P **P 07 46 01.7 0.0**
comp=Z,0.2nm,0.3s,baz=67,slow=3.3,SNR=2.6
RES Resolute Bay 53.79 4 P **P 07 46 28.9 -0.3**
comp=Z,0.5nm,0.6s,baz=318,slow=15,SNR=3.1
RES Resolute Bay 53.79 4 *e*P **P 07 46 28.9 -0.3**
comp=Z,10nm,1.8s
ILAR Eielson Array 54.25 28 P **P 07 46 32.4 -0.3**
comp=Z,0.4nm,0.8s,baz=312,slow=3.8,SNR=5.3
ILB Eielson Array 54.25 28 *e*P **P 07 46 32.4 -0.3**
MCK McKinley 54.39 30 *e*P **P 07 46 29.5 -4.2**
MCK pmax pmax
comp=Z,14nm,1.5s
MCK McKinley 54.39 30 *e*P **P 07 46 29.5 -4.2**
comp=Z,14nm,1.5s
INK Inuvik 54.90 20 P **P 07 46 37.0 -0.3**
baz=348,slow=8.1
INK Inuvik 54.90 20 *e*P **P 07 46 37.0 -0.3**
comp=Z,7.4nm,1.6s
YKA Yellowknife Ar 63.71 15 P **P 07 47 37.5 -0.8**
comp=Z,0.2nm,0.7s,baz=341,slow=6.9,SNR=3.9
ESDC Sonseca Array 65.55 303 P **P 07 47 51.5 +0.7**
comp=Z,0.4nm,0.4s,baz=46,slow=3.7,SNR=3.9
ULM Lac du Bonnet 78.03 8 P **P 07 49 06.5 +0.9**
comp=Z,0.7nm,0.5s,baz=336,slow=11,SNR=3.2
WRA Warramunga Arr 78.75 143 P **P 07 49 10.3 +0.5**
comp=Z,0.9nm,0.8s,baz=341,slow=6.2,SNR=4.7
WR1 Warramunga Arr 78.75 143 *e*P **P 07 49 10.3 +0.5**
DGMT Dagmar 78.83 14 *e*P **P 07 49 11.2 +1.2**
ASAR Alice Springs 82.00 145 P **P 07 49 28.0 +0.7**
comp=Z,1.2nm,0.9s,baz=338,slow=6.4,SNR=6.1
ASAR Alice Springs 82.00 145 P **P 07 49 28.0 +0.7**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
TOA1 Torodi Ar. Sit 82.45 282 *e*P **P 07 49 30.4 +0.5**
TOA0 Torodi Ar. Sit 82.45 282 *e*P **P 07 49 30.5 +0.6**
TORD Torodi Ar. Bea 82.45 282 P **P 07 49 30.4 +0.5**
comp=Z,1.6nm,0.7s,baz=38,slow=5.5,SNR=12
KOWA Kowa 84.86 287 P **P 07 49 42.6 +0.4**
comp=Z,0.9nm,0.2s,baz=8.1,slow=7.1,SNR=4.2
NVAR Mina Array Bea 85.47 26 P **P 07 49 46.2 +0.9**
comp=Z,0.2nm,0.5s,baz=304,slow=8.6,SNR=2.7
DANC Danby, Needles 89.82 25 *e*P **P 07 50 05.4 -0.7**
STKA Stephens Creek 92.27 143 LR LR 08 38 51.5
comp=Z,88nm,18.5s,baz=205,slow=40
CLNB Carlsbad 94.69 17 *e*P **P 07 50 28.8 +0.2**

*IDC **14** 07:46:29.9±0.4, 59.°72S×26.°31W, h0km, mb4.7/15, mb1 4.7/16, mb1mx4.5/29, mbtmp4.7/16, ML5.1/1, MS3.9/15, Ms1 3.9/15, ms1mx3.8/26, Error ellipse: s-maj=19.4km s-min=14.1km az=27.0*
*ISCJB **14** 07:46:39.3±0.3, 60.°02S±0.°06×26.°3W±0.°1, h100km, mb4.8/36, Error ellipse: s-maj=10.3km s-min=6.5km az=35.1*
*NEIC **14** 07:46:41.8±1.2, 59.°68S×26.°40W, h90km±10km, mb4.9/28, Error ellipse: s-maj=7.9km s-min=5.9km az=199.0*
ISC 14 07:46:42.7±0.3, 59.°76S±0.°09×26.°42W±0.°08, h100km, n175, σ1°34/182, mb4.8/34, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**7.76**	**311**	*e*Pn		**Pn**	**07 48 32.1**	**-0.7**
VNA1	**Neumayer--Stat**	**13.23**	**153**	P		Pn	07 49 39.9	-6.4
VNA3	**Neumayer Olymp**	**13.38**	**156**	P		Pn	07 49 41.1	-7.1
VNA3				S		Sn	07 51 59.6	-15
VNA2	**Neumayer--Watz**	**13.63**	**153**	P		Pn	07 49 44.4	-7.2
	baz=320,slow=15							
VNA2				S		Sn	07 52 06.8	-14
SNAA	**Sanae**	**15.22**	**151**	P		**Pn**	**07 50 06.2**	**-5.7**
SNAA				S		Sn	07 52 44.5	-15
SNAA	**Sanae**	**15.22**	**151**	Pn		**Pn**	**07 50 06.2**	**-5.7**
	7.6nm,0.3s,baz=322,slow=14,SNR=94							
SNAA				Sn		Sn	07 52 37.9	-22
	0.9nm,0.3s,baz=243,slow=16,SNR=2.9							
SNAA				LR		LR	07 54 50.5	
	comp=Z,392nm,20.0s,baz=344,slow=33							
SNAA				PcP		**PcP**	**07 55 12.6**	**+1.9**
	0.4nm,0.3s,baz=27,slow=2.3,SNR=5.9							
SNAA	**Sanae**	**15.22**	**151**	*e*Pn		**Pn**	**07 50 06.4**	**-5.5**
	30nm,0.6s							
SNAA				Sn		Sn	07 52 37.9	-22
SNAA				*e*Sn		Sn	07 52 44.5	-15
SNAA				PcP		**PcP**	**07 55 12.6**	**+1.9**
EFI	**East Falkland**	**19.41**	**281**	*e*P		**Pn**	**07 51 01.8**	**-1.0**
	130nm,1.4s							
GO09	**Cerro Castillo**	**26.85**	**268**	*e*P		**P**	**07 52 12.7**	**-0.8**
	26nm,0.4s							
SYO	**Syowa Base**	**28.52**	**136**	*ie*X		P	07 52 35.8	+7.6
CHRN	**Cochrane**	**29.53**	**274**	*e*P		**P**	**07 52 37.7**	**+0.3**
	5.8nm,0.7s							
TRQA	**Tornquist**	**31.30**	**298**	*e*P		**P**	**07 52 53.3**	**+0.2**
	15nm,0.6s							
PLCA	**Paso Flores**	**33.21**	**285**	P		**P**	**07 53 09.8**	**-0.1**
	6.0nm,0.6s,baz=168,slow=7.7,SNR=36							
PLCA	**Paso Flores**	**33.21**	**285**	*e*P		**P**	**07 53 09.4**	**-0.4**
	9.3nm,0.7s							
MAW	**Mawson**	**36.96**	**140**	LR		LR	08 07 24.9	
	comp=Z,233nm,19.6s,baz=242,slow=34							
GO05	**HualaæØ**	**38.40**	**289**	*e*P		**P**	**07 53 54.2**	**+0.1**
	28nm,0.8s							
CPUP	**Villa Florida**	**39.63**	**314**	P		**P**	**07 54 04.4**	**0.0**
	2.4nm,0.3s,baz=164,slow=7.7,SNR=16							
CPUP				LR		LR	08 10 05.4	
	comp=Z,106nm,19.8s,baz=166,slow=36							
CPUP	**Villa Florida**	**39.63**	**314**	*e*P		**P**	**07 54 03.3**	**-1.1**
	4.1nm,0.6s							
ROC1	**El Roble**	**39.63**	**292**	*e*P		**P**	**07 54 04.1**	**-0.6**
	25nm,0.6s							
VNDA	**Vanda**	**42.87**	**183**	P		**P**	**07 54 32.6**	**+2.2**
	7.7nm,0.8s,baz=182,slow=7.9,SNR=25							
VNDA				PcP		**PcP**	**07 56 21.8**	**+2.6**
	2.3nm,0.8s,baz=251,slow=2.8,SNR=5.0							
VNDA				LR		LR	08 11 11.5	
	comp=Z,112nm,21.2s,baz=174,slow=34							
VNDA	**Vanda**	**42.87**	**183**	*e*P		**P**	**07 54 31.2**	**+0.8**
VNDA				*e*			07 54 32.0	
VNDA				PcP		**PcP**	**07 56 21.8**	**+2.6**
BOSA	**Boshof**	**46.62**	**72**	P		**P**	**07 54 59.8**	**-1.0**
	2.2nm,0.8s,baz=212,slow=11,SNR=3.1							
BOSA				PcP		**PcP**	**07 56 33.6**	**+0.5**
	3.6nm,0.8s,baz=153,slow=6.6,SNR=4.0							
BOSA				LR		LR	08 11 04.0	
	comp=Z,152nm,18.1s,baz=224,slow=32							
PB04	**IPOC Station P**	**48.36**	**301**	*e*P		**P**	**07 55 14.3**	**-0.1**
	35nm,0.8s							
PB01	**IPOC Station P**	**49.21**	**303**	*e*P		**P**	**07 55 20.7**	**-0.1**
	29nm,0.6s							
LBTB	**Lobatse**	**49.81**	**69**	P		**P**	**07 55 24.5**	**-0.8**
	1.9nm,0.5s,baz=234,slow=7.8,SNR=3.6							
LBTB	**Lobatse**	**49.81**	**69**	*e*P		**P**	**07 55 24.5**	**-0.8**
	39nm,1.8s							
PB11	**IPOC Station P**	**50.42**	**303**	*e*P		**P**	**07 55 30.0**	**-0.1**
	15nm,0.7s							
MNMC	**Minye Minye**	**50.96**	**304**	*e*P		**P**	**07 55 34.7**	**+0.5**
	37nm,0.7s							
H10S2	**ASCENSION HYDR**	**51.47**	**15**	T		T	08 51 20.1	
	baz=188,slow=75,SNR=40							
H10S3	**ASCENSION HYDR**	**51.47**	**15**	T		T	08 51 20.4	
	baz=188,slow=75,SNR=40							
H10S1	**ASCENSION HYDR**	**51.49**	**15**	T		T	08 51 17.4	
	baz=188,slow=75,SNR=38							
H10N1	**ASCENSION HYDR**	**52.59**	**15**	T		T	08 52 38.6	
	baz=182,slow=72,SNR=11							
H10N3	**ASCENSION HYDR**	**52.59**	**15**	T		T	08 52 41.9	
	baz=182,slow=72,SNR=28							
H10N2	**ASCENSION HYDR**	**52.60**	**15**	T		T	08 52 45.3	
	baz=182,slow=72,SNR=25							
LPAZ	**La Paz**	**52.90**	**307**	P		**P**	**07 55 49.2**	**+0.2**
	4.2nm,0.3s,baz=100,slow=4.6,SNR=56							
LPAZ				PcP		**PcP**	**07 56 56.5**	**-0.3**
	1.3nm,0.5s,baz=210,slow=8.1,SNR=1.1							
LPAZ				LR		LR	08 18 55.4	
	comp=Z,41nm,20.8s,baz=158,slow=37							
LPAZ	**La Paz**	**52.90**	**307**	*e*P		**P**	**07 55 48.8**	**-0.2**
LPAZ				*e*			07 55 49.0	
LPAZ				PcP		**PcP**	**07 56 56.5**	**-0.3**
MATP	**Matopo**	**55.11**	**69**	P		**P**	**07 56 03.7**	**-0.8**
	4.7nm,0.7s,baz=225,slow=4.3,SNR=4.7							
MATP				LR		LR	08 15 14.6	
	comp=Z,212nm,21.3s,baz=210,slow=31							
SAML Samuel 57.73 316 *e*P **P 07 56 21.7 -1.3**
12nm,0.6s
LSZ Lusaka 59.42 66 *e*P **P 07 56 34.5 -0.4**
7.7nm,0.7s
LIC Lamto 67.94 23 *e*P **P 07 57 30.0 -0.6**
45nm,1.4s
KIC Kosan Boka 68.13 23 *e*P **P 07 57 30.9 -0.9**
7.0nm,0.7s
TIC Toumodi 68.35 23 *e*P **P 07 57 32.5 -0.7**
DBIC Dimbokro 68.41 23 P **P 07 57 32.8 -0.7**
3.7nm,0.8s,baz=190,slow=4.3,SNR=6.4
DBIC LR LR 08 20 08.4
comp=Z,57nm,18.9s,baz=144,slow=30
DBIC Dimbokro 68.41 23 *e*P **P 07 57 32.8 -0.7**
14nm,1.4s
OTAV Otavalo 72.07 304 *e*P **P 07 57 54.5 -2.0**
5.5nm,1.0s
OTAV Otavalo 72.07 304 *e*P **P 07 57 57.0 +0.5**
SOTA Rioblanco 73.03 307 *e*P **P 07 58 03.1 +0.9**
PCON Cinco Dias 73.12 307 *e*P **P 07 58 04.7 +1.9**
MARP Paez Belalcaza 73.41 308 *e*P **P 07 58 03.5 -0.6**
POPC Popayan, Colom 73.42 307 *e*P **P 07 58 03.2 -1.0**
PRAC Prado 73.78 309 *e*P **P 07 58 05.3 -0.7**
20nm,0.6s
PRAC Prado 73.78 309 *e*P **P 07 58 05.2 -0.8**
CHIC Chingaza 74.16 310 *e*P **P 07 58 08.1 -0.6**
HORQ Saladito 74.26 307 *e*P **P 07 58 08.3 -0.8**
GRGC Isla de Gorgon 74.45 306 *e*P **P 07 58 10.2 +0.3**
ROSC El Rosal 74.58 310 P **P 07 58 11.2 +0.1**
3.6nm,0.5s,baz=195,slow=19,SNR=3.1
ROSC LR LR 08 31 42.5
comp=Z,35nm,22.0s,baz=240,slow=36
ROSC El Rosal 74.58 310 *e*P **P 07 58 10.5 -0.6**
4.8nm,0.7s
YOTC Yotoco, Valle 74.60 308 *e*P **P 07 58 09.7 -1.2**
RREF El Recreo 75.04 309 *e*P **P 07 58 13.7 -0.3**
RUSC La Rusia 75.08 312 *e*P **P 07 58 11.5 -2.5**
3.2nm,0.6s
RUSC La Rusia 75.08 312 *e*P **P 07 58 11.7 -2.4**
PLMC San Jos¨ del 75.42 308 *e*P **P 07 58 14.8 -0.7**
NORC Norcasia 75.46 310 *e*P **P 07 58 12.9 -2.8**
BARC Barichara 75.75 312 *e*P **P 07 58 13.8 -3.8**
KMBO Kilima Mbogo 76.04 67 LR LR 08 28 42.9
comp=Z,275nm,19.5s,baz=137,slow=33
PCRV Puerto La Cruz 76.11 321 P **P 07 58 19.4 0.0**
8.9nm,0.5s,baz=154,slow=6.3,SNR=5.1
TOA0 Torodi Ar. Sit 76.12 28 *e*P **P 07 58 19.3 -0.1**
9.3nm,0.6s
TOA0 *e*P **P 07 58 19.4 +0.1**
TORD Torodi Ar. Bea 76.12 28 P **P 07 58 19.5 +0.2**
9.6nm,0.6s,baz=199,slow=6.3,SNR=75
TORD LR LR 08 26 14.4
comp=Z,82nm,18.9s,baz=195,slow=31
TOA1 Torodi Ar. Sit 76.12 28 *e*P **P 07 58 19.5 +0.2**
KOWA Kowa 76.19 22 P **P 07 58 19.9 +0.2**
3.4nm,0.8s,baz=190,slow=6.8,SNR=13
KOWA LR LR 08 25 30.5
comp=Z,98nm,18.5s,baz=209,slow=31
KOWA Kowa 76.19 22 *e*P **P 07 58 19.4 -0.4**
14nm,1.4s
KOWA *e*P **P 07 58 19.9 +0.2**
PTBC PUERTO BERRIO, 76.19 310 *e*P **P 07 58 17.2 -2.6**
HELC Santa Helena 76.29 309 *e*P **P 07 58 18.6 -2.2**
15nm,0.8s
HELC Santa Helena 76.29 309 *e*P **P 07 58 17.1 -3.7**
BRRC Barranca, Sant 76.43 311 *e*P **P 07 58 18.0 -3.2**
SDV Santo Domingo 76.93 315 P **P 07 58 23.4 -0.8**
10nm,0.7s,baz=156,slow=18,SNR=18
SDV LR LR 08 32 10.8
comp=Z,160nm,21.8s,baz=154,slow=36
SDV Santo Domingo 76.93 315 *e*P **P 07 58 23.4 -0.8**
11nm,0.7s
SDV Santo Domingo 76.93 315 *e*P **P 07 58 23.3 -0.9**
ZARC Zaragoza, Cauc 77.22 310 *e*P **P 07 58 22.9 -2.7**
STKA Stephens Creek 88.16 170 P **P 07 59 23.2 +1.1**
5.5nm,0.8s,baz=178,slow=3.9,SNR=7.4
STKA Stephens Creek 88.16 170 *e*P **P 07 59 22.1 -0.1**
6.1nm,1.8s
ATD Arta Tunnel 89.75 66 LR LR 08 36 38.4
comp=Z,78nm,20.3s,baz=42,slow=34
ASAR Alice Springs 95.32 162 P **P 07 59 55.6 +0.2**
3.4nm,0.7s,baz=184,slow=3.9,SNR=44
AS31 Alice Springs 95.32 162 *e*P **P 07 59 55.3 -0.1**
1.4nm,0.6s
AS01 Alice Springs 95.33 162 *e*P **P 07 59 54.9 -0.6**
DZM Mont Dzumac 97.79 192 LR LR 08 40 02.2
comp=Z,32nm,20.2s,baz=148,slow=33
WR1 Warramunga Arr 99.04 162 *e*P **Pdif 08 00 11.9 -0.3**
65nm,2.0s
WRA Warramunga Arr 99.04 162 P **Pdif 08 00 11.9 -0.4**
0.7nm,0.8s,baz=194,slow=4.4,SNR=4.6
WRA PKKP **PKKPdf 08 16 37.7 +0.8**
0.3nm,0.6s,baz=1.3,slow=3.0,SNR=6.2
LTX Lajitas 108.83 296 *e*PKiKP **PKiKP 08 04 59.9 +0.2**
TXAR Lajitas Array 108.83 296 PKiKP **PKiKP 08 04 59.9 +0.2**
0.1nm,0.7s,baz=142,slow=3.1,SNR=2.7
SCHQ Schefferville 118.72 335 PKP **PKPdf 08 05 17.6 0.0**
1.1nm,0.3s,baz=86,slow=1.6,SNR=13
AK11 Malin Array Si 118.91 37 *e*PKPdf **PKPdf 08 05 17.9 -0.2**
AKASG Malin Array Be 118.94 37 PKP **PKPdf 08 05 17.7 -0.5**
0.9nm,0.6s,baz=240,slow=1.1,SNR=8.5
AKBB Malin Array Si 118.94 37 *e*PKPdf **PKPdf 08 05 17.7 -0.5**
GEYT Alibeck 119.33 65 PKP **PKPdf 08 05 19.0 -0.5**
2.4nm,0.4s,baz=262,slow=4.4,SNR=1.8
HWUT Hardware Ranch 122.58 298 *e*PKPdf **PKPdf 08 05 26.3 +0.5**
PD31 Pinedale Array 122.61 300 *e*PKPdf **PKPdf 08 05 25.1 -0.8**
PDAR Pinedale Array 122.61 300 PKP **PKPdf 08 05 25.1 -0.8**
0.5nm,0.5s,baz=139,slow=4.6,SNR=8.2
NV01 Mina Array Sit 123.16 290 *e*PKPdf **PKPdf 08 05 28.3 +1.3**
NVAR Mina Array Bea 123.16 290 PKP **PKPdf 08 05 28.3 +1.3**
0.9nm,0.7s,baz=126,slow=3.3,SNR=7.7
ULM Lac du Bonnet 123.18 314 PKP **PKPdf 08 05 25.8 -0.5**
1.8nm,0.5s,baz=130,slow=1.7,SNR=7.4
CM01 Chiang Mai Arr 123.30 112 *e*PKPdf **PKPdf 08 05 28.7 +1.1**
CMAR Chiang Mai Arr 123.33 112 PKP **PKPdf 08 05 28.8 +1.1**
3.9nm,0.7s,baz=233,slow=3.8,SNR=14
HFS Hagfors 123.57 23 PKP **PKPdf 08 05 25.6 -1.2**
1.3nm,0.5s,baz=157,slow=4.2,SNR=8.2
TPAW Teton Pass 123.81 299 *e*PKPdf **PKPdf 08 05 28.6 +0.5**
MOOW Moose Ponds 123.92 300 *e*PKPdf **PKPdf 08 05 29.0 +0.7**
NB2 NORSAR Subarra 123.94 21 PKPdf **PKPdf 08 05 27.5 0.0**
comp=Z,1.7nm,0.8s,baz=202,slow=1.9
NB200 NORSAR Array S 123.94 21 *e*PKPdf **PKPdf 08 05 27.7 +0.1**
NOA NORSAR Array B 123.94 21 PKP **PKPdf 08 05 27.7 +0.1**
comp=Z,0.6nm,0.8s,baz=72,slow=12,SNR=6.5
FXWY Fox Creek 123.96 299 *e*PKPdf **PKPdf 08 05 29.4 +1.0**
FIA0 FINESS Array S 127.47 29 *e*PKPdf **PKPdf 08 05 34.5 +0.3**
FINES FINESS Array B 127.47 29 PKP **PKPdf 08 05 34.5 +0.3**
comp=Z,3.8nm,0.6s,baz=203,slow=0.9,SNR=18
SFJD Kangerlussuaq 127.71 348 PKP **PKPdf 08 05 35.1 +0.7**
comp=Z,4.4nm,0.6s,baz=196,slow=5.3,SNR=3.0
LSA Lhasa 128.97 97 *e*PKPdf **PKPdf 08 05 39.8 +1.1**
ABKAR Akbulak array 129.09 57 *e*PKPdf **PKPdf 08 05 38.0 +0.3**
KSH Kashi 129.09 77 PKP **PKPdf 08 05 37.3 -0.9**
KSH PP **PP 08 07 50.1 +2.0**
KSH PKS **PKSdf 08 09 12.1 -2.7**
KSH SS SS 08 24 54.8 -5.3
KSH AMB AMB
comp=Z,170nm,6.0s
KSH LR LR
comp=Z,200nm,17.3s
KSH LR LR
comp=Z,60nm,11.0s
KSH LR LR
comp=Z,130nm,20.7s
AKTO Aktyubinsk 129.17 55 PKP **PKPdf 08 05 38.5 +0.7**
comp=Z,5.2nm,0.8s,baz=179,slow=2.0,SNR=15
KKAR Karatay Array 130.19 70 *e*PKPdf **PKPdf 08 05 38.9 +0.7**
AAK Ala-Archa 130.75 73 PKP **PKPdf 08 05 41.4 +0.1**
comp=Z,3.5nm,0.7s,baz=224,slow=2.9,SNR=11
AAK Ala-Archa 130.75 73 *e*PKPdf **PKPdf 08 05 41.4 +0.1**
AAK *e*PKP

MK32	**Makanchi Array**	**137.58**	**75**	*e*PKPdf	**PKPdf**	08 05 52.7	**-1.0**	
MKAR	**Makanchi Array**	**137.58**	**75**	PKhKP	PKPpre	08 05 42.9		
	comp=Z,0.6nm,0.6s,baz=217,slow=1.9,SNR=7.8							
MKAR				PKP	**PKPdf**	**08 05 52.7**	**-1.0**	
	comp=Z,1.6nm,0.8s,baz=261,slow=2.0,SNR=11							
MKAR				SKPbc	**SKPab**	**08 09 24.4**	**-1.4**	
	comp=Z,1.0nm,0.9s,baz=114,slow=1.5,SNR=3.8							
WMQ	**Urumqi**	**138.14**	**82**	PKP	**PKPdf**	**08 05 56.0**	**+1.0**	
KURBB	**Kurchatov Arra**	**138.42**	**68**	PKhKP	PKPpre	08 05 46.1		
	comp=Z,0.9nm,0.6s,baz=231,slow=3.4,SNR=7.9							
KURBB				PKP	**PKiKP**	**08 05 55.4**	**-1.9**	
	comp=Z,1.8nm,0.7s,baz=237,slow=2.5,SNR=9.2							
KURK	**Kurchatov**	**138.52**	**68**	*e*PKPdf	**PKPdf**	**08 05 55.4**	**+0.1**	
TULEG	**Thule**	**138.67**	**346**	*e*PKPdf	**PKPdf**	**08 05 55.7**	**+0.9**	
YKA	**Yellowknife Ar**	**139.15**	**315**	PKhKP	PKPpre	08 05 46.9		
	comp=Z,0.5nm,0.8s,baz=127,slow=3.5,SNR=9.7							
YKA				PKP	**PKiKP**	**08 05 56.4**	**-2.0**	
	comp=Z,2.0nm,0.6s,baz=130,slow=2.2,SNR=41							
YKA				SKP		08 09 27.4		
	comp=Z,1.2nm,1.0s,baz=134,slow=3.1,SNR=8.1							
YKA				PKKP	**PKKPdf**	**08 15 22.9**	**-1.0**	
	comp=Z,0.1nm,0.6s,baz=325,slow=2.0,SNR=5.5							
SPITS	**Spitsbergen Ar**	**140.12**	**13**	PKhKP	PKPpre	08 05 51.3		
	comp=Z,9.3nm,0.9s,baz=193,slow=3.4,SNR=7.1							
GTA	**Gaotai**	**141.00**	**97**	*e*PKP	**PKPdf**	**08 06 03.8**	**+3.4**	
RES	**Resolute Bay**	**141.46**	**337**	*e*PKPdf	**PKPdf**	**08 05 59.7**	**-0.2**	
ZALV	**Zalesovo Beam**	**143.52**	**68**	PKhKP	PKPpre	08 06 01.2		
	comp=Z,3.1nm,0.5s,baz=245,slow=3.5,SNR=4.6							
ZAA1	**Zalesovo Array**	**143.52**	**68**	*e*PKPpre	PKPpre	08 06 01.2		
NJ2	**Nanjing**	**143.97**	**125**	*e*PKP	**PKPdf**	**08 06 07.3**	**+1.6**	
HHC	**Hu-ho-hao-te**	**147.91**	**107**	*e*PKPbc	**PKPdf**	**08 06 10.8**	**-1.5**	
INK	**Inuvik**	**148.87**	**317**	*e*PKPbc	**PKPbc**	**08 06 16.6**	**-0.2**	
DAWY	**Dawson**	**149.48**	**307**	*e*PKPbc	**PKPbc**	**08 06 18.3**	**-0.3**	
SONA0	**Songino Array**	**150.35**	**92**	*e*PKPdf	**PKPdf**	**08 06 16.1**	**+0.1**	
SONA0				*e*PKPbc	**PKiKP**	**08 06 22.0**	**-0.1**	
SONA0				*e*PP	**PP**	**08 10 00.0**	**+1.5**	
SONM	**Songino Array**	**150.35**	**92**	PKP	**PKPdf**	**08 06 16.1**	**+0.1**	
	comp=Z,0.3nm,0.4s,baz=185,slow=3.6,SNR=3.9							
SONM				PKPbc	**PKiKP**	**08 06 22.0**	**-0.1**	
	comp=Z,16nm,0.7s,baz=213,slow=3.0,SNR=70							
SONM				SKPbc		08 10 00.0		
	comp=Z,0.2nm,0.4s,baz=107,slow=1.5,SNR=3.8							
SONA1	**Songino Array**	**150.36**	**92**	*e*PKPbc	**PKPbc**	**08 06 22.0**	**+0.6**	
EGAK	**Eagle**	**150.46**	**308**	*e*PKPbc	**PKPbc**	**08 06 20.8**	**-0.1**	
ULN	**Ulaanbaatar**	**150.70**	**93**	*e*PKPbc	**PKPbc**	**08 06 22.7**	**+0.5**	
MENT	**Mentasta**	**150.83**	**304**	*e*PKPbc	**PKPbc**	**08 06 22.7**	**+0.8**	
KLU	**Klutina**	**151.20**	**300**	*e*PKPbc	**PKPbc**	**08 06 24.1**	**+1.3**	
DOT	**Dot Lake**	**151.24**	**305**	*e*PKPbc	**PKPbc**	**08 06 23.5**	**+0.7**	
TLY	**Talaya**	**151.37**	**84**	PKPbc	**PKPbc**	**08 06 24.4**	**+0.9**	
	comp=Z,4.0nm,0.5s,baz=213,slow=4.3,SNR=19							
TLY	**Talaya**	**151.37**	**84**	*e*PKPbc	**PKPbc**	**08 06 24.2**	**+0.8**	
TLY				*e*PKPbc	**PKPbc**	**08 06 24.4**	**+0.9**	
NRIK	**Noril'sk**	**151.56**	**43**	PKPab	**PKPab**	**08 06 30.0**	**-2.4**	
	baz=331,slow=13							
PAX	**Paxson**	**151.58**	**303**	*e*PKPbc	**PKPbc**	**08 06 24.0**	**+0.3**	
RIDG	**Independ'e Rid**	**151.59**	**305**	*e*PKPbc	**PKPbc**	**08 06 24.6**	**+1.0**	
KS15	**Wonju Array Si**	**152.27**	**132**	*e*PKPbc	**PKPbc**	**08 06 26.7**	**+0.8**	
KSAR	**Wonju Array Be**	**152.27**	**132**	PKPbc	**PKPbc**	**08 06 26.7**	**+0.8**	
KSAR				PKPab	**PKPab**	**08 06 36.9**	**+0.7**	
KSRS	**Korea Array**	**152.29**	**132**	PKPbc	**PKPbc**	**08 06 26.7**	**+0.7**	
	comp=Z,3.2nm,0.7s,baz=199,slow=2.6,SNR=9.5							
KSRS				PKPab	**PKPab**	**08 06 36.9**	**+0.6**	
	comp=Z,1.4nm,0.7s,baz=250,slow=5.2,SNR=4.0							
KS01	**Wonju Array Si**	**152.30**	**132**	*e*PKPbc	**PKPbc**	**08 06 26.7**	**+0.7**	
SML	**Sawmill**	**152.38**	**300**	*e*PKPbc	**PKPbc**	**08 06 26.1**	**+0.6**	
DHY	**Denali Highway**	**152.43**	**302**	*e*PKPbc	**PKPbc**	**08 06 26.9**	**+1.2**	
IL1	**Eielson Array**	**152.78**	**306**	*e*PKPbc	**PKPbc**	**08 06 25.7**	**-0.5**	
ILAR	**Eielson Array**	**152.78**	**306**	PKPbc	**PKPbc**	**08 06 26.2**	**0.0**	
	comp=Z,3.1nm,0.6s,baz=160,slow=2.9,SNR=51							
ILB	**Eielson Array**	**152.78**	**306**	*e*PKPbc	**PKPbc**	**08 06 26.2**	**0.0**	
CCB	**Clear Creek Bu**	**153.12**	**306**	*e*PKPbc	**PKPbc**	**08 06 27.0**	**+0.1**	
RND	**Reindeer**	**153.17**	**303**	*e*PKPbc	**PKPbc**	**08 06 28.1**	**+0.9**	
MCK	**McKinley**	**153.31**	**303**	*e*PKPbc	**PKPbc**	**08 06 28.1**	**+0.7**	
TOLK	**Toolik Lake Re**	**154.68**	**314**	*e*PKPbc	**PKPbc**	**08 06 30.7**	**+0.5**	
MJAR	**Matsushiro Arr**	**154.73**	**150**	PKPab	**PKPab**	**08 06 47.3**	**+0.6**	
	comp=Z,1.8nm,0.7s,baz=182,slow=5.1,SNR=3.7							
MAJO	**Matsushiro**	**154.73**	**150**	*e*PKPab	**PKPab**	**08 06 47.3**	**+0.6**	
KLR	**Kul'dur**	**163.59**	**120**	PKP	**PKPdf**	**08 06 32.3**	**-0.2**	
	comp=Z,0.1nm,0.6s,baz=323,slow=10,SNR=3.7							
KLR				PKPab	**PKPab**	**08 07 24.9**	**0.0**	
	comp=Z,0.1nm,0.6s,baz=216,slow=8.7,SNR=3.2							
TIXI	**Tiksi**	**164.51**	**30**	PKP	**PKPdf**	**08 06 33.1**	**+0.4**	
	comp=Z,2.4nm,0.4s,baz=312,slow=6.3,SNR=4.6							
TIXI				PKPab	**PKPab**	**08 07 28.7**	**+0.3**	
	comp=Z,1.0nm,0.3s,baz=347,slow=3.7,SNR=2.8							
PETK	**Petropavlovsk-**	**172.95**	**201**	PKPab	**PKPab**	**08 08 07.0**	**+0.9**	
	comp=Z,1.8nm,0.7s,baz=142,slow=7.3,SNR=4.1							
PEA1	**Petropavlovsk-**	**172.96**	**201**	*e*PKPab	**PKPab**	**08 08 07.0**	**+0.9**	

KRSC 14 07:56:59.2±1.4, 55°.43N×164°.09E, h59km±27km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.06**	**318**	*e*P	Pn	07 57 18.2	+0.2
KBTR				*e*S	Sn	07 57 31.0	-0.9
BKI	**Bering**	**1.10**	**101**	*e*P	Pn	07 57 20.1	+1.6
BKI				*e*S	Sn	07 57 34.7	+1.9
KBG	**Krutoberegovo**	**1.14**	**317**	*e*P	Pn	07 57 19.3	+0.3
KBG				*e*S	Sn	07 57 33.6	-0.1
SMKR	**Semkarok**	**1.87**	**309**	*e*P	Pn	07 57 31.0	+2.1
SMKR				*e*S	Sn	07 57 54.5	+3.0
BDR	**Baidarnaya**	**1.98**	**306**	*e*P	Pn	07 57 33.4	+3.0
BDR				*e*S	Sn	07 57 57.2	+3.1
CIRR	**Tsirk**	**2.01**	**291**	*e*P	Pn	07 57 33.7	+2.8
LGNR	**Loginova**	**2.03**	**290**	P	Pn	07 57 34.9	+3.6
SRKR	**Sorokina**	**2.05**	**308**	*e*P	Pn	07 57 34.0	+2.7
SRKR				*e*S	Sn	07 57 59.2	+3.4
BZMR	**Bezymyannaya**	**2.10**	**285**	*e*P	Pn	07 57 32.9	+0.8
BZWR	**Bezymyannyi-We**	**2.10**	**286**	*e*P	Pn	07 57 32.8	+0.6
TUMD	**Tumrok D**	**2.12**	**265**	*e*P	Pn	07 57 35.9	+3.6
TUMD				S	Sn	07 58 02.0	+4.5
KLY	**Klyuchi**	**2.13**	**296**	*e*P	Pn	07 57 34.6	+2.2
KLY				*e*S	Sn	07 57 59.6	+2.0
KRSR	**Krestovskiy**	**2.14**	**293**	*e*P	Pn	07 57 36.2	+3.6
KRSR				*e*S	Sn	07 58 02.1	+4.0
KZV	**Kizimen**	**2.19**	**263**	*e*P	Pn	07 57 36.9	+3.5
KZV				*e*S	Sn	07 58 01.7	+2.2
KMNR	**Kamenistaya**	**2.21**	**280**	*e*P	Pn	07 57 35.5	+1.9
TUMR	**Tumrok**	**2.26**	**268**	*e*P	Pn	07 57 38.2	+4.0
KOZ	**Kozyrevsk**	**2.46**	**286**	P	Pn	07 57 40.8	+3.8
ESO	**Esso**	**3.09**	**281**	*e*P	Pn	07 57 49.6	+4.1
SPN	**Mys Shipunski**	**3.34**	**227**	*e*P	Pn	07 57 51.8	+2.9
SPN				*e*S	Sn	07 58 27.3	0.0
NLC	**Nalytchevo**	**3.58**	**233**	*e*S	Sn	07 58 36.4	+3.1
SDLR	**Sedlovina**	**3.73**	**237**	*e*P	Pn	07 57 58.4	+4.0
SDLR				*e*S	Sn	07 58 39.5	+2.4
SMAR	**Somma**	**3.78**	**237**	*e*P	Pn	07 57 59.5	+4.3
SMAR				*e*S	Sn	07 58 40.6	+2.1
KRX	**Arik**	**3.80**	**239**	*e*P	Pn	07 58 00.0	+4.7
KRX				*e*S	Sn	07 58 40.9	+2.1
UGLR	**Uglovaya**	**3.80**	**236**	*e*P	Pn	07 57 59.4	+4.0
UGLR				*e*S	Sn	07 58 40.4	+1.5
AVH	**Avacha**	**3.81**	**237**	*e*P	Pn	07 58 00.5	+5.1
AVH				*e*S	Sn	07 58 42.2	+3.2
OSSR	**Ossora**	**3.87**	**352**	*e*P	Pn	07 58 00.4	+4.3
OSSR				*e*S	Sn	07 58 41.5	+1.3
DALK	**Dalny**	**3.95**	**235**	*e*P	Pn	07 58 00.4	+3.2
DALK				*e*S	Sn	07 58 43.7	+1.5
GNL	**Ganaly**	**3.98**	**247**	*e*P	Pn	07 58 02.8	+5.0
PET	**Petropavlovsk**	**4.00**	**235**	*e*P	Pn	07 58 02.9	+5.0
PET				*e*S	Sn	07 58 46.3	+2.8
RUS	**Russkaya**	**4.46**	**230**	*e*P	Pn	07 58 08.1	+3.9
KDTR	**Khodutka, Kamc**	**5.10**	**227**	*e*P	Pn	07 58 16.2	+3.3
KDTR				*e*S	Sn	07 59 10.1	-0.3

*GEN **14** 08:01:40.5, 44°.50N×6°.68E, h6km, ML2.0*
*STR **14** 08:01:40.4±1.1, 44°.46N±0°.07×6°.73E±0°.08, h5km, MLv2.7/10*
*ROM **14** 08:01:40.1±0.5, 44°.51N×6°.68E, h10km±7km, Md2.5/10, Ml2.0/13, Error ellipse: s-maj=6.6km s-min=1.9km az=62.0*
*CSEM **14** 08:01:40.2±0.1, 44°.49N×6°.66E, h5km, ML2.8/25, Error ellipse: s-maj=2.3km s-min=1.9km az=52.0*
*LDG **14** 08:01:40.6±0.1, 44°.50N×6°.69E, h7km, Md2.6/2, Ml2.7/17, Error ellipse: s-maj=1.2km s-min=0.9km az=53.0*

ISC 14 08:01:40.5±0.8, 44°.50N±0°.01×6°.68E±0°.02, h16km±6km, n97, σ1s17/158, France

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

MBDF	**Montbardon**	**0.24**	**17**	*e*Pg	**Pg**	**08 01 45.5**	**-0.5**	
	SNR=1.0							
MBDF				*e*Sg	**Sg**	**08 01 48.7**	**-1.0**	
	143nm,0.3s							
MBDF	**Montbardon**	**0.24**	**17**	*e*Pg	**Pg**	**08 01 45.5**	**-0.5**	
	SNR=1.0							
MBDF				*e*Sg	**Sg**	**08 01 48.7**	**-1.0**	
	72nm,0.3s							
PZZ	**Stroppo**	**0.32**	**88**	Pg	**Pg**	**08 01 46.2**	**-1.0**	
PZZ				Sg	**Sg**	**08 01 51.8**	**0.0**	
	216nm,0.2s							
OG22	**Abries**	**0.38**	**31**	Pg	**Pg**	**08 01 47.8**	**-0.5**	
OG22				Sg	**Sg**	**08 01 53.1**	**-0.6**	
OG22	**Abries**	**0.38**	**31**	Pg	**Pg**	**08 01 47.8**	**-0.5**	
DOI	**San Damiano**	**0.41**	**89**	Pg	**Pg**	**08 01 48.8**	**0.0**	
DOI				Sg	**Sg**	**08 01 54.9**	**+0.4**	
	108nm,0.2s							
DOI	**San Damiano**	**0.41**	**89**	Pg	**Pg**	**08 01 48.8**	**0.0**	
DOI				Sg	**Sg**	**08 01 54.9**	**+0.4**	
	108nm,0.2s							
RRL	**Rocca Remolon**	**0.43**	**11**	P	**Pg**	**08 01 48.1**	**-1.2**	
RRL				S	**Sg**	**08 01 54.3**	**-1.0**	
RRL				Sg	**Sg**	**08 01 54.8**	**-0.5**	
	87nm,0.6s							
RRL	**Rocca Remolon**	**0.43**	**11**	Pg	**Pg**	**08 01 48.1**	**-1.2**	
RRL				Sg	**Sg**	**08 01 54.8**	**-0.5**	
	87nm,0.6s							
OG25	**Le Caire**	**0.45**	**254**	Pg	**Pg**	**08 01 49.8**	**+0.2**	
OG25				Sg	**Sg**	**08 01 55.7**	**0.0**	
OG25	**Le Caire**	**0.45**	**254**	Pg	**Pg**	**08 01 49.9**	**+0.2**	
STV	**Sant Anna di V**	**0.53**	**118**	Pg	**Pg**	**08 01 50.0**	**-1.1**	
	90nm,0.3s							
STV				S	**Sg**	**08 01 56.6**	**-1.6**	
STV	**Sant Anna di V**	**0.53**	**118**	Pg	**Pg**	**08 01 50.0**	**-1.1**	
	90nm,0.3s							
BHB	**Bricherasio**	**0.54**	**50**	Pg	**Pg**	**08 01 51.1**	**-0.2**	
BHB				S	**Sg**	**08 01 58.1**	**-0.4**	
BHB				Sg	**Sg**	**08 01 58.5**	**0.0**	
	115nm,0.3s							
BHB	**Bricherasio**	**0.54**	**50**	Pg	**Pg**	**08 01 51.1**	**-0.2**	
BHB				Sg	**Sg**	**08 01 58.5**	**0.0**	
	115nm,0.3s							
BNI	**Bardonecchia**	**0.55**	**0**	Pg	**Pg**	**08 01 51.3**	**-0.2**	
BNI				Sg	**Sg**	**08 01 58.9**	**-0.1**	
	16nm,0.4s							
BNI	**Bardonecchia**	**0.55**	**0**	Pg	**Pg**	**08 01 51.3**	**-0.2**	
BNI				Sg	**Sg**	**08 01 58.9**	**-0.1**	
	16nm,0.4s							
ENR	**Entracque**	**0.60**	**117**	Pg	**Pg**	**08 01 52.3**	**-0.1**	
ENR				S	**Sg**	**08 01 59.7**	**-0.6**	
ENR				Sg	**Sb**	**08 02 00.8**	**-0.2**	
	101nm,0.1s							
ENR	**Entracque**	**0.60**	**117**	Pg	**Pg**	**08 01 52.3**	**-0.1**	
ENR				Sg	**Sb**	**08 02 00.8**	**-0.2**	
	101nm,0.1s							
ORIF	**Oris-en-Rattie**	**0.71**	**307**	*e*Pg	**Pg**	**08 01 54.0**	**-0.4**	
	SNR=1.0							
ORIF				*e*Sg	**Sg**	**08 02 03.4**	**-0.3**	
	84nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.71**	**307**	*e*Pg	**Pg**	**08 01 54.0**	**-0.4**	
	SNR=1.0							
ORIF				*e*Sg	**Sg**	**08 02 03.4**	**-0.3**	
	42nm,0.3s							
RSP	**Reno Superiore**	**0.77**	**33**	P	**Pg**	**08 01 55.6**	**0.0**	
RSP				Sg	**Sb**	**08 02 06.3**	**+0.3**	
	50nm,0.2s							
RSP	**Reno Superiore**	**0.77**	**33**	Pg	**Pg**	**08 01 55.6**	**0.0**	
RSP				Sg	**Sb**	**08 02 06.3**	**+0.3**	
	50nm,0.2s							
SBF	**Sospel**	**0.84**	**139**	*e*Pg	**Pg**	**08 01 56.6**	**-0.2**	
SBF	**Sospel**	**0.84**	**139**	*e*P	**Pb**	**08 01 57.9**	**+1.1**	
	SNR=1.0							
SBF				*e*Sg	**Sg**	**08 02 07.1**	**-0.8**	
	57nm,0.3s,SNR=1.0							
SBF	**Sospel**	**0.84**	**139**	*e*Pg	**Pg**	**08 01 56.6**	**-0.2**	
SBF	**Sospel**	**0.84**	**139**	*e*P	**Pb**	**08 01 57.9**	**+1.1**	
	SNR=1.0							
SBF				*e*Sg	**Sg**	**08 02 07.1**	**-0.8**	
	28nm,0.3s,SNR=1.0							
GBOS	**Grotte di Boss**	**0.87**	**107**	P	**Pg**	**08 01 57.2**	**-0.3**	
GBOS				Sg	**Sg**	**08 02 08.9**	**-0.1**	
	38nm,0.2s							
GBOS	**Grotte di Boss**	**0.87**	**107**	Pg	**Pg**	**08 01 57.2**	**-0.3**	
GBOS				Sg	**Sg**	**08 02 08.9**	**-0.1**	
	38nm,0.2s							
FRF	**La Foret Royal**	**0.94**	**181**	*e*Pg	**Pg**	**08 01 58.4**	**-0.3**	
FRF	**La Foret Royal**	**0.94**	**181**	*e*Pn	**Pb**	**08 01 58.7**	**+0.3**	
	SNR=1.0							
FRF	**La Foret Royal**	**0.94**	**181**	*e*P	**Pn**	**08 02 00.0**	**+0.9**	
FRF				*e*Sg	**Sg**	**08 02 10.3**	**-0.7**	
	51nm,0.2s,SNR=1.0							
FRF	**La Foret Royal**	**0.94**	**181**	*e*Pg	**Pg**	**08 01 58.4**	**-0.3**	
FRF	**La Foret Royal**	**0.94**	**181**	*e*Pn	**Pb**	**08 01 58.7**	**+0.3**	
	SNR=1.0							
FRF	**La Foret Royal**	**0.94**	**181**	*e*P	**Pn**	**08 02 00.0**	**+0.9**	
FRF				*e*Sg	**Sg**	**08 02 10.3**	**-0.7**	
	26nm,0.2s,SNR=1.0							
SMRF	**Simiane la Rot**	**0.95**	**237**	*e*Pn	**Pb**	**08 01 59.5**	**+0.9**	
	SNR=1.0							
SMRF				*e*Sn	**Sb**	**08 02 11.9**	**+0.9**	
	20nm,0.3s,SNR=1.0							
SMRF	**Simiane la Rot**	**0.95**	**237**	*e*Pn	**Pb**	**08 01 59.5**	**+0.9**	
	SNR=1.0							
SMRF				*e*Sn	**Sb**	**08 02 11.9**	**+0.9**	
	9.9nm,0.3s,SNR=1.0							
NEGI	**Seborga**	**0.98**	**131**	P	**Pg**	**08 01 58.3**	**-1.3**	
NEGI	**Seborga**	**0.98**	**131**	Pg	**Pg**	**08 01 58.7**	**-0.9**	
	83nm,0.5s							
NEGI	**Seborga**	**0.98**	**131**	Pg	**Pg**	**08 01 58.7**	**-0.9**	
	83nm,0.5s							
OG26	**St.-Nazaire-De**	**0.99**	**275**	Pn	**Pn**	**08 02 00.6**	**+0.8**	
OG26	**St.-Nazaire-De**	**0.99**	**275**	Pn	**Pn**	**08 02 00.7**	**+0.8**	
LPG	**La Plagne**	**1.00**	**3**	*e*Pg	**Pg**	**08 01 59.5**	**-0.5**	
	SNR=1.0							
LPG				*e*Sg	**Sb**	**08 02 13.2**	**+0.4**	
	33nm,0.5s,SNR=1.0							
LPG	**La Plagne**	**1.00**	**3**	*e*Pg	**Pg**	**08 01 59.5**	**-0.5**	
	SNR=1.0							
LPG				*e*Sg	**Sb**	**08 02 13.2**	**+0.4**	
	17nm,0.5s,SNR=1.0							
LSD	**Lago del Serru**	**1.01**	**19**	P	**Pg**	**08 01 59.4**	**-0.8**	
LSD	**Lago del Serru**	**1.01**	**19**	Pg	**Pg**	**08 01 59.8**	**-0.4**	
LSD				Sg	**Sg**	**08 02 13.3**	**-0.2**	
	23nm,0.2s							
LSD	**Lago del Serru**	**1.01**	**19**	Pg	**Pg**	**08 01 59.8**	**-0.4**	
LSD				Sg	**Sg**	**08 02 13.3**	**-0.2**	
	23nm,0.2s							
LPL	**La Plagne**	**1.02**	**2**	*e*Pg	**Pg**	**08 02 00.0**	**-0.3**	
	SNR=1.0							
LPL				*e*Sg	**Sg**	**08 02 13.4**	**-0.3**	
	15nm,0.3s							
LPL	**La Plagne**	**1.02**	**2**	*e*Pg	**Pg**	**08 02 00.0**	**-0.3**	
	SNR=1.0							
LPL				*e*Sg	**Sg**	**08 02 13.4**	**-0.3**	
	7.4nm,0.3s							
IMI	**Imperia**	**1.05**	**123**	Pg	**Pg**	**08 02 00.6**	**-0.3**	
IMI				S	**Sg**	**08 02 13.5**	**-1.2**	
IMI				Sg	**Sb**	**08 02 14.9**	**+0.9**	
	73nm,0.5s							
IMI	**Imperia**	**1.05**	**123**	Pg	**Pg**	**08 02 00.6**	**-0.3**	
IMI				Sg	**Sb**	**08 02 14.9**	**+0.9**	
	73nm,0.5s							
RORO	**Rocca Rossa**	**1.07**	**111**	Pg	**Pg**	**08 01 59.6**	**-1.6**	
	25nm,0.2s							
RORO	**Rocca Rossa**	**1.07**	**111**	Pg	**Pg**	**08 01 59.6**	**-1.6**	
	25nm,0.2s							
LMR	**La Mourre**	**1.17**	**186**	*e*Pg	**Pg**	**08 02 02.6**	**-0.5**	
LMR	**La Mourre**	**1.17**	**186**	*e*P	**Pn**	**08 02 03.4**	**+1.1**	
	SNR=1.0							
LMR				*e*Sg	**Sg**	**08 02 17.6**	**-0.8**	
	56nm,0.2s,SNR=1.0							
LMR	**La Mourre**	**1.17**	**186**	*e*Pg	**Pg**	**08 02 02.6**	**-0.5**	
LMR	**La Mourre**	**1.17**	**186**	*e*P	**Pn**	**08 02 03.4**	**+1.1**	
	SNR=1.0							
LMR				*e*Sg	**Sg**	**08 02 17.6**	**-0.8**	
	28nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.47**	**285**	*e*Pn	**Pn**	**08 02 06.1**	**-0.4**	
	SNR=1.0							
VIVF	**Saint-Julien-l**	**1.47**	**285**	*e*Pg	**Pb**	**08 02 08.0**	**+0.4**	
VIVF				*e*Sg	**Sb**	**08 02 27.2**	**+1.1**	
	17nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.47**	**285**	*e*Pn	**Pn**	**08 02 06.1**	**-0.4**	
	SNR=1.0							
VIVF	**Saint-Julien-l**	**1.47**	**285**	*e*Pg	**Pb**	**08 02 08.0**	**+0.4**	
VIVF				*e*Sg	**Sb**	**08 02 27.2**	**+1.1**	
	8.6nm,0.3s,SNR=1.0							

SSB	**Saint Sauveur**	**1.71**	**298**	Pn	**Pn**	**08 02 11.1**	**+1.4**	
SSB	**Saint Sauveur**	**1.71**	**298**	Pg	**Pg**	**08 02 13.7**	**+0.4**	
OG01	**Vacheresse**	**1.83**	**0**	Pg	**Pg**	**08 02 16.5**	**+0.8**	
OG01	**Vacheresse**	**1.83**	**0**	Pg	**Pg**	**08 02 16.5**	**+0.8**	
LASF	**Ste Croix**	**2.07**	**259**	*e*P	**Pn**	**08 02 15.9**	**+1.3**	
	SNR=1.0							
LASF	**Ste Croix**	**2.07**	**259**	*e*Pg	**Pb**	**08 02 18.7**	**+1.0**	
LASF				*e*Sn	**Sn**	**08 02 38.9**	**-1.2**	
	5.5nm,0.4s							
LASF	**Ste Croix**	**2.07**	**259**	*e*P	**Pn**	**08 02 15.9**	**+1.3**	
	SNR=1.0							
LASF	**Ste Croix**	**2.07**	**259**	*e*Pg	**Pb**	**08 02 18.7**	**+1.0**	
LASF				*e*Sn	**Sn**	**08 02 38.9**	**-1.2**	
	2.8nm,0.4s							
CABF	**La Chapelle**	**2.15**	**349**	*e*P	**Pb**	**08 02 18.5**	**-0.7**	
	SNR=1.0							
CABF				*e*Sg	**Sb**	**08 02 47.8**	**+2.1**	
	6.7nm,0.4s,SNR=1.0							
CABF	**La Chapelle**	**2.15**	**349**	*e*P	**Pb**	**08 02 18.5**	**-0.7**	
	SNR=1.0							
CABF				*e*Sg	**Sb**	**08 02 47.8**	**+2.1**	
	3.3nm,0.4s,SNR=1.0							
LBL	**Lubilhac**	**2.55**	**288**	Pn	**Pn**	**08 02 21.0**	**-0.3**	
LBL	**Lubilhac**	**2.55**	**288**	Pn	**Pn**	**08 02 21.0**	**-0.3**	
PGF	**Pioggiola**	**2.58**	**138**	*e*Pn	**Pn**	**08 02 21.4**	**-0.3**	
PGF	**Pioggiola**	**2.58**	**138**	*e*P	**Pn**	**08 02 23.2**	**+1.5**	
	SNR=1.0							
PGF				*e*Sn	**Sn**	**08 02 51.4**	**-1.4**	
	3.4nm,0.2s,SNR=1.0							
PGF	**Pioggiola**	**2.58**	**138**	*e*Pn	**Pn**	**08 02 21.4**	**-0.3**	
PGF	**Pioggiola**	**2.58**	**138**	*e*P	**Pn**	**08 02 23.2**	**+1.5**	
	SNR=1.0							
PLDF	**La Plantade**	**2.61**	**305**	Pn	**Pn**	**08 02 21.1**	**-1.1**	
PLDF	**La Plantade**	**2.61**	**305**	Pn	**Pn**	**08 02 21.1**	**-1.1**	
SMF	**Signal de Mont**	**2.93**	**318**	*e*Sg	**Sg**	**08 03 13.2**	**-1.4**	
SMF	**Signal de Mont**	**2.93**	**318**	*e*Sg	**Sg**	**08 03 13.2**	**-1.4**	
AVF	**Avril sur Loir**	**3.27**	**316**	*e*P	**Pn**	**08 02 33.1**	**+2.0**	
AVF				*e*Sg	**Sg**	**08 03 24.0**	**-1.5**	
	7.0nm,0.5s,SNR=1.0							
AVF	**Avril sur Loir**	**3.27**	**316**	*e*P	**Pn**	**08 02 33.1**	**+2.0**	
AVF				*e*Sg	**Sg**	**08 03 24.0**	**-1.5**	
	3.5nm,0.5s,SNR=1.0							
BGF	**Bois d'Agland**	**3.39**	**309**	*e*P	**Pn**	**08 02

QUBA ⇓S Sn 08 13 47.4 +4.4
NDR Nardaran 1.03 85 P Pb 08 13 35.3 +0.6
SNR=8.6
NDR ⇓S Sn 08 13 54.2 +7.2
QSAR Qusar 1.05 345 ⇑P Pb 08 13 36.0 +0.9
SNR=6.8
QSAR ⇑S Sn 08 13 54.5 +6.8
BRDA Brd 1.14 259 ⇓P Pb 08 13 37.0 +0.5
SNR=15
BRDA ⇑S Sn 08 13 55.7 +6.1
MNGR Mingechevir, A 1.21 284 P Pb 08 13 38.2 +0.5
SNR=7.3
MNGR ⇓S Sb 08 13 56.8 +3.8
GLBA Clilabad 1.27 189 ⇑Pg Pn 08 13 36.2 -0.7
SNR=24
GLBA ⇓S Sb 08 13 57.8 +3.2
SEKA Sheki 1.30 304 P Pn 08 13 38.3 +0.9
SNR=38
SEKA ⇑S Sb 08 13 57.2 +1.5
GANJ Ganja 1.77 276 Pg Pn 08 13 44.8 +1.0
SNR=46
GANJ ⇑Sn Sb 08 14 09.4 +0.4
LKRN Lenkeran, Azer 1.79 176 ⇓Pg Pn 08 13 44.9 +0.9
SNR=16
LKRN ⇓Sg Sb 08 14 10.5 +1.0
LRK Lerik 1.87 187 Pg Pn 08 13 45.8 +0.5
SNR=25
LRK ⇑Sg Sb 08 14 11.7 -0.2
ASTR Astara 1.94 176 ⇑Pg Pn 08 13 46.9 +0.8
SNR=9.9
ASTR ⇓Sn Sb 08 14 15.3 +1.5
DDFL Dedoflistskaro 2.13 297 P Pb 08 13 53.9 +0.6
DDFL S Sb 08 14 26.4 +7.0
GDB GEDABAY 2.21 277 ⇓Pg Pn 08 13 51.0 +1.1
SNR=23
GDB ⇑Sn Sb 08 14 21.1 -0.5
QZX Qazax, Azerbai 2.54 284 ⇑Pn Pn 08 13 56.6 +2.2
SNR=14
QZX ⇓Sn Sb 08 14 30.8 -0.3
ORD Ordubad 2.57 233 ⇑Pn Pn 08 13 57.2 +2.3
SNR=14
SBZ Shahbuz 2.61 246 ⇑Pn Pb 08 13 58.7 -2.9
SNR=5.1
SBZ ⇑Sn Sb 08 14 33.8 +0.5
DGRG David-gareji 2.65 292 P Pn 08 13 58.6 +2.7
DGRG S Sb 08 14 30.9 -3.3
NAX Nakhchivan 2.75 242 ⇓Pn Pn 08 14 00.4 +3.0
SNR=3.4
NAX ⇓Sn Sb 08 14 36.9 -0.4
GNI Garni 3.00 265 Pn Pb 08 14 05.1 -3.1
3.0nm,0.3s,baz=59,slow=9.3,SNR=5.2
GNI Lg Lg 08 14 49.3
4.2nm,0.3s,baz=137,slow=18,SNR=3.3
GNI LR LR 08 15 42.8
comp=Z,108nm,18.8s,baz=66,slow=49
HYR Heyderabad 3.00 256 ⇓Pn Pn 08 14 03.7 +2.9
SNR=6.7
HYR ⇓Sg Sb 08 14 45.5 +1.0
GUDG Gudauri 3.69 304 P Pn 08 14 12.8 +2.4
GUDG S Sb 08 15 02.0 -2.3
ONI Oni 4.42 300 P Pn 08 14 23.7 +3.4
ONI S Sb 08 15 20.0 -5.0
KBZ Khabaz 5.35 309 Pn Pn 08 14 37.5 +4.6
0.1nm,0.3s,baz=127,slow=5.1,SNR=3.5
KBZ Sn Sn 08 15 40.2 +6.8
0.4nm,0.3s,baz=294,slow=20,SNR=2.6
GEYT Alibeck 7.79 106 Pn Pn 08 15 04.3 -2.3
1.0nm,0.3s,baz=297,slow=13,SNR=3.8
GEYT Sn Sn 08 16 30.8 -3.0
1.3nm,0.3s,baz=356,slow=36,SNR=2.8
GYA0B ALIBECK ARRAY 7.79 106 Pn Pn 08 15 04.4 -2.2
5.8nm,1.1s
GYA0B Lg Lg 08 16 56.5
4.8nm,0.7s
AB31 Akbulak array 11.86 39 ⇑Pn Pn 08 16 01.9 -0.3
0.6nm,0.6s,baz=231,slow=13,SNR=9.4
AB31 ⇓Sn Sn 08 18 06.5 -6.9
1.2nm,0.8s,baz=224,slow=25,SNR=5.3
AB31 Akbulak array 11.86 39 Pn Pn 08 16 01.9 -0.3
0.6nm,0.6s,SNR=9.4
AB31 Sn Sn 08 18 06.5 -6.9
1.2nm,0.8s,SNR=5.3
AKTO Aktyubinsk 11.91 30 Pn Pn 08 16 02.1 -0.8
0.3nm,0.3s,baz=185,slow=12,SNR=3.5
AKTO Sn Sn 08 18 07.2 -7.3
0.2nm,0.3s,baz=73,slow=19,SNR=5.3
AKTO Aktyubinsk 11.91 30 ⇑Pn Pn 08 16 03.6 +0.7
1.3nm,0.8s
AKTO ⇑Sn Sn 08 18 08.7 -5.8
2.2nm,0.7s
AKTO Aktyubinsk 11.91 30 Pn Pn 08 16 03.6 +0.7
1.3nm,0.8s
AKTO Sn Sn 08 18 08.7 -5.8
2.2nm,0.7s
ASF Jabal al Asfar 12.58 232 Pn Pn 08 16 10.9 -1.4
0.1nm,0.3s,baz=86,slow=16,SNR=3.0
ASF Sn Sn 08 18 13.9 -17
0.6nm,0.3s,baz=160,slow=23,SNR=6.5
AKASG Malin Array Be 16.94 314 Pn Pn 08 17 08.8 -1.0
0.9nm,0.3s,baz=121,slow=12,SNR=5.1
BVAR Borovoye Array 19.38 42 P P 08 17 38.4 +0.1
0.1nm,0.3s,baz=223,slow=16,SNR=3.3
KURBB Kurchatov Arra 23.11 54 P P 08 18 19.1 +0.8
0.5nm,0.5s,baz=258,slow=8.9,SNR=5.5
MKAR Makanchi Array 25.02 64 P P 08 18 37.1 +0.8
1.0nm,0.4s,baz=259,slow=9.3,SNR=21
FINES FINESS Array B 25.08 334 P P 08 18 36.5 -0.2
2.2nm,0.3s,baz=138,slow=11,SNR=12
HFS Hagfors 29.20 324 P P 08 19 14.3 +0.5
1.6nm,0.3s,baz=120,slow=10,SNR=14
NB2 NORSAR Subarra 30.70 325 P P 08 19 26.9 -0.1
comp=Z,1.0nm,0.4s,baz=116,slow=8.6
NOA NORSAR Array B 30.70 325 P P 08 19 27.1 +0.1
comp=Z,0.4nm,0.5s,baz=122,slow=8.9,SNR=6.7
SPITS Spitsbergen Ar 40.01 350 P P 08 20 48.1 +1.4
comp=Z,9.3nm,1.1s,baz=169,slow=8.5,SNR=2.8
TORD Torodi Ar. Bea 49.20 250 P P 08 22 00.3 -0.4
comp=Z,0.2nm,0.5s,baz=46,slow=4.9,SNR=2.1
ILAR Eielson Array 74.36 7 P P 08 24 49.1 -0.3
comp=Z,0.2nm,0.8s,baz=7.8,slow=7.3,SNR=3.1
YKA Yellowknife Ar 76.47 352 P P 08 25 02.3 +0.8
comp=Z,0.3nm,0.5s,baz=9.9,slow=5.7,SNR=13

*IDC **14** 08:13:40.2±3.0, 18°.03S×175°.56W, h196km±26km, mb3.3/8, mb1 3.6/9, mb1mx3.3/42, mbtmp3.8/9, MS3.9/2, Ms1 3.9/2, ms1mx2.9/23, Error ellipse: s-maj=64.2km s-min=13.0km az=151.0*
*ISCJB **14** 08:13:45.3±1.3, 17°.9S±0°.5×175°.8W±0°.3, h254km, mb3.5/9, Error ellipse: s-maj=83.1km s-min=14.5km az=150.7*
ISC 14 08:13:46.3±1.3, 18°.05S±0°.5×175°.6W±0°.3, h254km, n12, σ0s65/11, mb3.4/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.54**	**43**	P		Pn	08 15 00.9	-8.1
	6.8nm,0.3s,baz=211,slow=3.9,SNR=12							
AFI				S		S	08 15 59.6	-15
	14nm,0.3s,baz=60,slow=20,SNR=3.9							
CTA	**Charters Tower**	**36.02**	**260**	P		**P**	**08 20 23.6**	**-0.3**
	2.7nm,0.5s,baz=98,slow=11,SNR=2.1							
STKA	**Stephens Creek**	**40.88**	**242**	P		**P**	**08 21 04.2**	**+0.2**
	1.6nm,0.5s,baz=98,slow=11,SNR=4.3							
WRA	**Warramunga Arr**	**47.20**	**259**	P		**P**	**08 21 53.5**	**-0.7**
	1.5nm,0.5s,baz=98,slow=5.8,SNR=39							
WRA				LR		LR	08 42 27.5	
	comp=Z,130nm,19.6s,baz=185,slow=36							
ASAR	**Alice Springs**	**47.29**	**254**	P		**P**	**08 21 54.5**	**-0.5**
	16nm,0.6s,baz=90,slow=8.6,SNR=270							
ASAR				LR		LR	08 39 58.8	
	comp=Z,179nm,21.9s,baz=182,slow=33							
FITZ	**Fitzroy Crossi**	**55.60**	**260**	P		**P**	**08 22 57.1**	**+0.8**
NVAR	**Mina Array Bea**	**77.72**	**43**	P		**P**	**08 25 15.5**	**0.0**
	0.5nm,0.6s,baz=224,slow=9.0,SNR=4.6							
TXAR	**Lajitas Array**	**83.86**	**57**	P		**P**	**08 25 48.5**	**+0.4**
	0.4nm,0.7s,baz=225,slow=6.9,SNR=4.8							
ILAR	**Eielson Array**	**85.45**	**12**	P		**P**	**08 25 54.9**	**-0.1**
	0.3nm,0.8s,baz=218,slow=5.7,SNR=5.1							
PDAR	**Pinedale Array**	**85.66**	**42**	P		**P**	**08 25 56.3**	**-0.5**
	0.1nm,0.4s,baz=188,slow=5.2,SNR=2.1							
YKA	**Yellowknife Ar**	**93.37**	**24**	P		**P**	**08 26 32.3**	**+0.1**
	0.2nm,0.8s,baz=239,slow=5.2,SNR=5.8							
LPAZ	**La Paz**	**100.90**	**111**	P		**Pdif**	**08 27 06.8**	**-1.2**
	0.9nm,1.0s,baz=292,slow=5.4,SNR=2.6							

IDC 14 08:39:18.2±2.7, 53°.59N×87°.98E, h0km, mb1 3.3/2, mb1mx2.9/72, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=25.0km s-min=15.5km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.91**	**282**	Pn		Pn	08 39 51.4	-0.6
	4.5nm,0.3s,baz=103,slow=16,SNR=52							
ZALV				Lg		Lg	08 40 18.3	
	3.4nm,0.3s,baz=95,slow=25,SNR=12							
I46RU	**ZALESOVO INFRA**	**1.91**	**282**	*i*			08 52 00.0	
	baz=98,slow=346,SNR=2.5							
KURBB	**Kurchatov Arra**	**6.53**	**247**	Pn		Pn	08 40 56.2	+0.8
	0.4nm,0.3s,baz=60,slow=14,SNR=17							
KURBB				Lg		Lg	08 42 46.8	
	0.0nm,0.3s,baz=62,slow=34,SNR=4.7							
MKAR	**Makanchi Array**	**7.72**	**210**	Pn		Pn	08 41 13.3	+1.5
	0.2nm,0.3s,baz=30,slow=14,SNR=11							
MKAR				Sn		Sn	08 42 38.2	-1.7
	0.1nm,0.3s,baz=32,slow=29,SNR=4.3							
MKAR				Lg		Lg	08 43 21.5	
	0.1nm,0.3s,baz=29,slow=30,SNR=6.0							

*IDC **14** 08:40:00.7±1.6, 19°.19S×70°.13W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/36, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=47.5km s-min=27.6km az=116.0*
*GUC **14** 08:40:05.9±0.6, 19°.33S×70°.17W, h44km±1km, ML4.0*
*ISCJB **14** 08:40:06.1±0.6, 19°.28S±0°.04×70°.21W±0°.07, h47km±6km, mb3.4/3, Error ellipse: s-maj=11.5km s-min=5.9km az=169.5*
ISC 14 08:40:05.9±1.1, 19°.22S±0°.04×70°.12W±0°.07, h32km±8km, n14, σ1s26/22, mb3.4/3, 1C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.37**	**181**	⇑*iP*		**Pb**	**08 40 14.7**	**+0.1**
PSGC				*i*	S	**Sb**	**08 40 20.5**	**0.0**
MNMC	**Minye Minye**	**0.50**	**80**	⇓*iP*		**Pn**	**08 40 18.3**	**+1.2**
MNMC				*i*	S	**Sn**	**08 40 27.1**	**+2.3**
MNMC					IAML		08 40 27.4	
	comp=N,39μm,0.3s							
PB12	**IPOC Station P**	**0.64**	**342**	⇓*iP*		**Pn**	**08 40 20.0**	**+1.2**
PB12				*i*	S	**Sn**	**08 40 30.0**	**+2.1**
PB11	**IPOC Station P**	**0.69**	**141**	⇓*iP*		**Pb**	**08 40 29.1**	**0.0**
PB11				*i*	S	**Sb**	**08 40 29.4**	**+0.4**
PB08	**IPOC Station P**	**1.29**	**135**	⇓*iP*		**Pn**	**08 40 28.9**	**+0.9**
PB08				*i*	S	**Sn**	**08 40 45.8**	**+1.4**
PB08					IAML		08 40 46.7	
	comp=E,5μm,0.6s							
PB01	**IPOC Station P**	**1.91**	**162**	⇓*iP*		**Pn**	**08 40 35.9**	**-0.3**
PB01				*i*	S	**Sn**	**08 40 59.1**	**-0.1**
PB01					IAML		08 41 12.1	
	comp=N,1μm,0.3s							
PB02	**IPOC Station P**	**2.10**	**174**	⇓*iP*		**Pn**	**08 40 38.5**	**-0.4**
PB02				*i*	S	**Sn**	**08 41 03.5**	**-0.5**
PB02					IAML		08 41 16.5	
	comp=E,2μm,0.5s							
PB09	**IPOC Station P**	**2.69**	**162**	*eP*		**Pn**	**08 40 48.2**	**+1.1**
PB09				*eS*		**Sn**	**08 41 20.1**	**+1.5**
PB04	**IPOC Station P**	**3.10**	**181**	⇓*iP*		**Pn**	**08 40 52.4**	**-0.3**
LPAZ	**La Paz**	**3.48**	**33**	Pg		**Pb**	**08 41 04.5**	**-2.6**
	comp=E,1.0nm,0.3s,baz=227,slow=5.1,SNR=32							
LPAZ				Lg		Lg	08 41 59.0	
	comp=E,1.6nm,0.3s,baz=21,slow=17,SNR=2.1							
SIV	**San Ignacio**	**9.21**	**71**	Pn		**Pn**	**08 42 16.5**	**0.0**
	comp=E,0.3nm,0.3s,baz=246,slow=9.9,SNR=6.0							
PLCA	**Paso Flores**	**21.44**	**181**	P		**P**	**08 44 51.7**	**+0.3**
	comp=E,1.1nm,0.9s,baz=15,slow=7.4,SNR=3.7							
TORD	**Torodi Ar. Bea**	**77.68**	**71**	P		**P**	**08 51 58.5**	**-1.4**
	comp=E,0.2nm,0.5s,baz=254,slow=5.6,SNR=4.5							
YKA	**Yellowknife Ar**	**88.67**	**341**	P		**P**	**08 52 55.5**	**0.0**
	comp=E,0.2nm,0.6s,baz=131,slow=4.8,SNR=7.0							

*CSEM **14** 08:51:19.6, 38°.35N×26°.41E, h10km, ML2.9, After ISK*
ISK 14 08:51:19.6, 38°.35N×26°.41E, h10km, ML2.9/5, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URLA	**Izmir**	**0.15**	**84**	PG		Pg	08 51 22.6	-0.4
URLA				SG		Sg	08 51 26.3	+1.0
URLA	**Izmir**	**0.15**	**84**	*ePg*		Pg	08 51 22.6	-0.4
URLA				*eSg*		Sg	08 51 26.3	+1.0
KRBN	**Karaburun**	**0.27**	**24**	PG		Pg	08 51 25.4	+0.2
KRBN	**Karaburun**	**0.27**	**24**	*ePg*		Pg	08 51 25.4	+0.2
CHOS	**Chios island**	**0.28**	**279**	PG		Pb	08 51 26.3	-0.5
CHOS				SG		Sg	08 51 30.2	+1.0
CHOS	**Chios island**	**0.28**	**279**	*ePg*		Pb	08 51 26.3	-0.5
CHOS				*eSg*		Sg	08 51 30.2	+1.0
FOCM	**Foˆşa**	**0.45**	**34**	PG		Pb	08 51 29.8	+0.3
FOCM	**Foˆşa**	**0.45**	**34**	PG		Pb	08 51 29.9	+0.4
FOCM				SG		Sg	08 51 32.7	-1.5
FOCM	**Foˆşa**	**0.45**	**34**	*ePg*		Pb	08 51 29.8	+0.3
GCAM	**G?zelcaml?**	**0.92**	**134**	PG		Pn	08 51 38.2	-0.2
GCAM	**G?zelcaml?**	**0.92**	**134**	*ePg*		Pn	08 51 38.2	-0.2
KULA	**Kula-Manisa**	**1.77**	**84**	PN		Pn	08 51 50.9	+0.5
KULA	**Kula-Manisa**	**1.77**	**84**	*ePn*		Pn	08 51 50.9	+0.5

ISK 14 08:51:25.7, 38°.87N×26°.74E, h13km, ML2.0/3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CAND	**Candarli**	**0.10**	**31**	PG		Pg	08 51 28.7	0.0
CAND				SG		Sg	08 51 31.4	+0.6
DKL	**Dikili**	**0.24**	**33**	PG		Pb	08 51 31.4	-0.5
DKL				SG		Sg	08 51 34.9	+0.6
SIGR	**SIGRI**	**0.77**	**297**	PG		Pb	08 51 41.1	+0.2

*BJI **14** 08:51:26.6, 5°.47N×126°.31E, h141km, mb4.7/21, mB4.9/15*
*MAN **14** 08:51:27, 5°.55N×126°.40E, h138km, mb4.9, ML3.8, MS3.8*
*ISCJB **14** 08:51:28.1±0.3, 5°.65N±0°.02×126°.37E±0°.05, h148km±2km, mb4.3/43, Error ellipse: s-maj=8.0km s-min=3.4km az=170.5*
*NEIC **14** 08:51:29.2±0.6, 5°.63N×126°.27E, h141km±5km, mb4.6/11, Error ellipse: s-maj=8.8km s-min=3.8km az=73.0*
*DJA **14** 08:51:29.4±0.5, 6°.N±4°.×12°.6E±°, h135km±6km, M5.0/13, mb4.9/13, mB5.2/7, MLv5.3/7, Mw(mB)4.6/7*
*IDC **14** 08:51:30.1±0.6, 5°.64N×126°.28E, h146km±4km, mb4.0/27, mb1 4.1/27, mb1mx3.9/61, mbtmp4.4/27, Error ellipse: s-maj=18.5km s-min=7.8km az=67.0*
ISC 14 08:51:29.4±0.5, 5°.63N±0°.04×126°.31E±0°.06, h141km±4km, h141km:pP-P, n115, σ1s00/147, mb4.3/43, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MATI	**Mati**	**1.31**	**358**	*eP*		**Pn**	**08 51 55.6**	**-0.7**
MATI				*eS*		**Sn**	**08 52 17.1**	**+0.3**
GSPH	**General Santos**	**1.43**	**289**	⇓*iP*		**Pn**	**08 51 56.0**	**-1.7**
GSPH				*i*	S	**Sn**	**08 52 16.4**	**-2.8**
DAV	**Davao City (W)**	**1.60**	**333**	P		**Pn**	**08 52 00.3**	**+0.8**
	141nm,0.3s,baz=102,slow=0.8,SNR=14							
DAV				S		**Sn**	**08 52 24.8**	**+2.4**
	1μm,0.3s,baz=104,slow=19,SNR=39							
DAV	**Davao City (W)**	**1.60**	**333**	*ePn*		**Pn**	**08 51 59.9**	**+0.5**
DAV				*e*			08 52 00.5	
DAV				*e*			08 52 20.9	
DAV				*eSn*		**Sn**	**08 52 21.4**	**-1.0**
KCP	**Kidapawan**	**1.83**	**319**	⇑*iP*		**Pn**	**08 52 02.3**	**+0.3**
KCP				*i*	S	**Sn**	**08 52 27.8**	**+0.8**
SGSI	**Sangihe**	**2.08**	**202**	P		**Pn**	**08 52 04.8**	**-0.2**
SGSI				S		**Sn**	**08 52 32.7**	**+0.3**
BIPH	**Bislig**	**2.54**	**1**	⇑*eP*		**Pn**	**08 52 09.5**	**-1.1**
BIPH				*eS*		**Sn**	**08 52 40.1**	**-2.2**
BUKP	**Musuan**	**2.55**	**331**	*eP*		**Pn**	**08 52 11.3**	**+0.5**
BUKP				*eS*		**Sn**	**08 52 44.1**	**+1.4**
CTBH	**Cotabato--PC H**	**2.59**	**308**	⇓*eP*		**Pn**	**08 52 10.4**	**-0.8**
CTBH				*i*	S	**Sn**	**08 52 42.5**	**-0.9**
BUTP	**Butuan**	**3.38**	**348**	*eP*		**Pn**	**08 52 22.2**	**+0.8**
BUTP				*eS*		**Sn**	**08 53 02.7**	**+1.0**
MSLP	**Maasin**	**4.70**	**342**	*eP*		Pn	08 52 33.6	-5.1
TNTI	**Ternate**	**4.94**	**168**	*ePn*		**Pn**	**08 52 40.6**	**-1.3**
LBMI	**Labuha**	**6.34**	**169**	P		**Pn**	**08 53 00.3**	**-0.4**
LBMI				S		**Sn**	**08 54 09.7**	**-2.3**
MRSI	**Marisa**	**6.73**	**221**	P		**Pn**	**08 53 06.7**	**+0.9**

RCP Roxas 6.86 329 ⇑*eP* Pn 08 53 09.1 +1.5
LUWI Luwuk 7.51 208 P Pn 08 53 18.2 +1.8
SANI Sanana 7.64 182 P Pn 08 53 18.6 +0.6
APSI Ampana 7.99 216 P Pn 08 53 23.4 +0.6
112nm,1.0s,1μm
SWI Sorong 8.13 142 P Pn 08 53 23.1 -1.5
NLAI Namlea 8.85 175 P Pn 08 53 32.5 -1.8
KDI Kendari 10.21 201 P Pn 08 53 51.8 -0.7
FAKI Fak Fak 10.36 145 P Pn 08 53 54.1 -0.4
95nm,1.1s
TTSI Tana Toraja 10.79 217 P Pn 08 54 02.1 +2.0
BNSI Bone 11.73 212 P Pn 08 54 12.4 -0.2
BNSI S Pn 08 54 12.8 +0.2
SBUM Sibu 14.40 258 *ePn* P 08 54 50.9 +1.1
SOEI Soe 15.42 188 P P 08 55 01.0 -0.2
BATI Baumata 15.95 190 P P 08 55 09.6 +2.7
33nm,0.3s,baz=37,slow=5.1,SNR=15
KSM Kuching 16.49 256 *ePn* P 08 55 13.2 +0.3
25nm,0.9s
TWG Pinlang 17.82 344 *eP* P 08 55 27.3 -0.1
133nm,1.2s
TPUB Ta-pu 18.40 343 *eP* P 08 55 32.4 -1.4
38nm,0.8s
SSLB Suanglung 18.77 345 *eP* P 08 55 37.7 -0.1
88nm,1.8s
PMG Port Moresby 25.59 126 P P 08 56 45.8 +0.1
11nm,0.7s,baz=347,slow=14,SNR=3.9
WRAB Tennant Creek 26.61 163 *eP* P 08 56 54.7 -0.1
13nm,0.8s
WRA Warramunga Arr 26.61 163 P P 08 56 54.3 -0.6
3.3nm,0.4s,baz=331,slow=11,SNR=75
WRA PcP PcP 09 00 16.2 +0.6
2.2nm,0.7s,baz=339,slow=2.7,SNR=4.6
WR1 Warramunga Arr 26.61 163 *eP* P 08 56 54.3 -0.5
55nm,1.5s
WR1 *ePcP* PcP 09 00 16.2 +0.6
RABL Rabaul 27.60 110 *eP* P 08 57 07.3 +3.4
212nm,0.3s
JNU Nakatsue 27.68 8 P P 08 57 03.2 -1.1
9.1nm,1.0s,baz=251,slow=1.8,SNR=4.3
ENH Enshi 29.19 329 *eP* P 08 57 17.0 -0.7
22nm,1.1s
CMAR Chiang Mai Arr 29.59 298 P P 08 57 21.8 +0.4
2.2nm,0.5s,baz=115,slow=7.7,SNR=7.6
CMAR ScP ScP 09 03 51.5 -0.4
1.2nm,0.3s,baz=126,slow=1.2,SNR=6.0
AS31 Alice Springs 30.05 166 *eP* P 08 57 25.4 0.0
3.7nm,0.4s
AS31 *ePcP* PcP 09 00 24.8 +0.7
ASAR Alice Springs 30.05 166 P P 08 57 25.5 +0.1
6.7nm,0.4s,baz=344,slow=7.0,SNR=87
ASAR PcP PcP 09 00 24.8 +0.7
3.7nm,0.6s,baz=343,slow=2.6,SNR=11
AS01 Alice Springs 30.06 166 *eP* P 08 57 25.4 -0.1
AS01 *ePcP* PcP 09 00 24.4 +0.3
KS15 Wonju Array Si 31.69 2 *eP* P 08 57 39.2 -0.4
KSAR Wonju Array Be 31.69 2 P P 08 57 39.2 -0.4
KSRS Korea Array 31.71 2 P P 08 57 39.2 -0.5
2.3nm,0.6s,baz=190,slow=9.8,SNR=7.6
XAN Xi'an 32.54 333 P P 08 57 46.9 -0.3
XAN pmax pmax
comp=Z,20nm,0.9s
XAN pmax pmax
comp=Z,120nm,4.3s
BJT Baijiatuau 35.43 347 *eP* P 08 58 12.2 +0.2
24nm,0.6s
BJI Beijing 35.45 347 P P 08 58 12.9 +0.8
BJI pmax pmax
comp=Z,42nm,0.6s
LZH Lanzhou 36.66 329 *eP* P 08 58 23.8 +1.0
LZH pP pP 08 58 53.4 -0.1
LZH sP sP 08 59 06.6 -3.0
LZH pmax pmax
comp=Z,21nm,0.7s
LZH pmax pmax
comp=Z,98nm,4.5s
HHC Hu-ho-hao-te 37.47 341 *eP* P 08 58 31.4 +1.9
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,90nm,5.4s
USRK Ussuriysk Ar. 38.73 7 P P 08 58 39.8 -0.1
4.9nm,0.8s,baz=177,slow=8.7,SNR=9.6
NWAO Narrogin (SRO) 39.30 192 *eP* P 08 58 44.8 +0.1
87nm,1.6s
STKA Stephens Creek 40.05 160 P P 08 58 51.6 +0.8
22nm,0.7s,baz=340,slow=8.0,SNR=44
STKA Stephens Creek 40.05 160 *eP* P 08 58 51.5 +0.6
5.8nm,0.9s
GTA Gaotai 41.26 328 *eP* P 08 59 00.4 -0.6
GTA pmax pmax
comp=Z,5.0nm,1.3s
KLR Kul'dur 43.69 5 P P 08 59 21.1 +0.9
0.2nm,0.6s,baz=186,slow=6.4,SNR=11
JIRN Jiri 43.94 305 *eP* P 08 59 22.9 -0.1
67nm,0.8s
GUN Gumba 44.29 305 *eP* P 08 59 25.9 +0.1
64nm,0.8s
PKI Pulchoki 44.55 304 *eP* P 08 59 27.4 -0.4
22nm,0.9s
PKIN Phulchoki 44.56 304 *eP* P 08 59 27.0 -0.9
18nm,0.7s
DMN Daman 44.81 304 *eP* P 08 59 29.4 -0.5
37nm,0.9s
ULN Ulaanbaatar 45.19 342 *eP* P 08 59 32.5 +0.1
3.9nm,0.8s
SONA0 Songino Array 45.37 341 *eP* P 08 59 33.9 +0.1
SONM Songino Array 45.37 341 P P 08 59 33.9 +0.1
2.0nm,0.6s,baz=153,slow=7.6,SNR=10.0
SONM ScP ScP 09 04 51.4 +0.8
0.4nm,0.7s,baz=145,slow=5.3,SNR=2.9
SONA1 Songino Array 45.38 341 *eP* P 08 59 33.8 -0.1
KOLN Koldanda 46.12 303 *eP* P 08 59 40.0 -0.1
65nm,0.8s
DANN Dangsing 46.19 304 *eP* P 08 59 40.8 +0.1
PYUN Piuthan 46.74 304 *eP* P 08 59 45.0 +0.1
74nm,0.8s
TLY Talaya 49.60 342 P P 09 00 06.2 -0.1
2.2nm,0.7s,baz=102,slow=19,SNR=4.6
PETK Petropavlovsk- 53.84 23 P P 09 00 37.7 +0.1
4.2nm,1.0s,baz=208,slow=5.7,SNR=3.6
PEA1 Petropavlovsk- 53.85 23 *eP* P 09 00 37.8 0.0
MK01 Makanchi Array 55.75 325 *eP* P 09 00 51.1 -0.5
MK31 Makanchi Array 55.77 325 *eP* P 09 00 51.5 -0.2
MK32 Makanchi Array 55.77 325 *eP* P 09 00 51.4 -0.3
MK32 *epP* pP 09 01 24.4 -0.3
MKAR Makanchi Array 55.77 325 P P 09 00 51.4 -0.2
3.4nm,0.4s,baz=116,slow=7.4,SNR=101
MKAR pP pP 09 01 24.4 -0.3
1.4nm,0.7s,baz=116,slow=8.2,SNR=1.7
MKAR ScP ScP 09 05 35.1 0.0
1.1nm,0.7s,baz=104,slow=5.1,SNR=8.6
MKAR Makanchi Array 55.77 325 *eP* P 09 00 51.5 -0.2
32nm,0.6s
MKAR pP pP 09 01 24.4 -0.3
MAKZ Makanchi 55.95 325 *eP* P 09 00 52.3 -0.7
3.7nm,0.6s
MAKZ *epP* pP 09 01 26.9 +0.9
AAK Ala-Archa 58.68 317 P P 09 01 12.0 -0.4
1.7nm,0.6s,baz=132,slow=11,SNR=5.9
AAK Ala-Archa 58.68 317 *eP* P 09 01 12.0 -0.4
AAK *eP* P 09 01 12.3 -0.1
ZAA0 Zalesovo Array 58.72 333 *eP* P 09 01 12.2 +0.1
2.7nm,0.8s
ZALV Zalesovo Beam 58.72 333 P P 09 01 10.9 -1.2
1.3nm,0.4s,baz=136,slow=6.5,SNR=10
ZALV pP pP 09 01 43.5 -2.0
1.6nm,0.7s,baz=123,slow=5.5,SNR=2.8
ZAA1 Zalesovo Array 58.72 333 *eP* P 09 01 10.9 -1.3
ZAA1 *epP* pP 09 01 43.5 -2.1
KURBB Kurchatov Arra 59.92 327 P P 09 01 20.1 -0.5
4.8nm,0.6s,baz=126,slow=6.4,SNR=34
KURBB pP pP 09 01 53.8 -0.2
3.3nm,1.0s,baz=130,slow=5.7,SNR=3.1
KURK Kurchatov 59.92 327 *eP* P 09 01 20.1 -0.5
KURK *epP* pP 09 01 53.8 -0.2
KKAR Karatay Array 61.57 316 *eP* P 09 01 31.6 -0.3
BVAR Borovoye Array 65.51 327 P P 09 01 57.2 -0.3
2.0nm,0.5s,baz=142,slow=7.5,SNR=6.7
TIXI Tiksi 65.96 1 P P 09 01 59.8 -0.2
1.4nm,0.4s,baz=154,slow=3.3,SNR=6.2
TIXI Tiksi 65.96 1 *eP* P 09 01 59.8 -0.2
TIXI *eP* P 09 02 00.4 +0.4
AKTO Aktyubinsk 71.92 321 P P 09 02 36.8 -0.6
3.8nm,0.7s,baz=103,slow=8.5,SNR=4.1
KVAR Kislovodsk Arr 81.53 313 P P 09 03 31.1 -0.4

3.3nm,0.5s,baz=129,slow=6.5,SNR=2.2
KLMR Klimovskoe 83.55 331 *e*P **P** 09 03 40.5 -1.0
KLMR AMP 09 03 43.4
comp=E,14nm,1.3s
ILAR Eielson Array 83.58 26 P **P** 09 03 41.1 -0.5
comp=Z,0.3nm,0.6s,baz=246,slow=6.1,SNR=5.3
ILAR pP **pP** 09 04 16.8 -0.2
comp=Z,0.7nm,0.8s,baz=240,slow=5.4,SNR=2.3
VNDA Vanda 85.35 173 P **P** 09 03 50.1 -0.1
comp=Z,2.5nm,0.9s,baz=314,slow=6.1,SNR=8.0
BR101 Keskin Array S 88.49 310 *e*P **P** 09 04 05.0 -1.4
BRTR Keskin Array B 88.49 310 P **P** 09 04 05.0 -1.4
comp=Z,1.0nm,0.8s,baz=78,slow=2.8,SNR=5.0
ARA0 ARCESS Array S 88.53 340 *e*P **P** 09 04 05.7 -0.1
ARCES ARCESS Array B 88.53 340 P **P** 09 04 05.7 -0.1
comp=Z,4.7nm,0.9s,baz=70,slow=7.8,SNR=8.0
SPITS Spitsbergen Ar 88.54 349 P **P** 09 04 05.7 -0.1
comp=Z,2.9nm,0.7s,baz=19,slow=9.2,SNR=6.8
BR231 Keskin MP Arra 89.14 310 *e*P **P** 09 04 06.6 -2.8
FIA0 FINESS Array S 89.97 332 *e*P **P** 09 04 12.6 0.0
FINES FINESS Array B 89.97 332 P **P** 09 04 12.6 0.0
comp=Z,1.0nm,0.4s,baz=56,slow=4.7,SNR=9.2
NB200 NORSAR Array S 96.91 334 *e*P **P** 09 04 43.4 -1.2
NOA NORSAR Array B 96.91 334 P **P** 09 04 43.3 -1.2
comp=Z,0.6nm,0.7s,baz=60,slow=2.0,SNR=2.7
YKA Yellowknife Ar 97.95 24 P **P** 09 04 49.1 0.0
YKA pP **pP** 09 05 26.5 +1.3
comp=Z,0.2nm,0.9s,baz=303,slow=4.6,SNR=4.0
SCHQ Schefferville 118.76 9 PKP **PKPdf** 09 10 01.9 +1.0
comp=Z,0.2nm,0.8s,baz=301,slow=4.4,SNR=2.5
LTX Lajitas 120.75 51 *e*PKPdf **PKPdf** 09 10 06.8 +1.1
comp=Z,1.5nm,0.6s,baz=34,slow=3.6,SNR=3.3
TXAR Lajitas Array 120.75 51 PKP **PKPdf** 09 10 06.8 +1.1
comp=Z,0.2nm,0.6s,baz=270,slow=0.9,SNR=3.2
TORD Torodi Ar. Bea 121.92 289 PKP **PKPdf** 09 10 07.8 -0.3
comp=Z,0.9nm,0.7s,baz=53,slow=2.2,SNR=7.2
TOA1 Torodi Ar. Sit 121.92 289 *e*PKPdf **PKPdf** 09 10 07.8 -0.3
KOWA Kowa 126.84 293 PKP **PKPdf** 09 10 18.1 +0.7
comp=Z,0.8nm,0.4s,baz=27,slow=4.5,SNR=3.2
PLCA Paso Flores 141.92 159 PKP **PKPdf** 09 10 42.5 -2.5
comp=Z,1.6nm,0.8s,baz=316,slow=2.8,SNR=5.3
PLCA Paso Flores 141.92 159 *e*PKPdf **PKPdf** 09 10 43.3 -1.8
CPUP Villa Florida 159.12 171 PKPab **PKPab** 09 11 49.5 +0.6
comp=Z,2.9nm,0.9s,baz=233,slow=5.1,SNR=6.0
LPAZ La Paz 162.32 128 PKP **PKPdf** 09 11 17.2 +1.1
comp=Z,0.6nm,0.6s,baz=249,slow=8.6,SNR=2.6
LPAZ PKPab **PKPab** 09 12 05.6 +1.6
comp=Z,1.4nm,0.8s,baz=185,slow=1.7,SNR=5.1
SIV San Ignacio 167.41 145 PKP **PKPdf** 09 11 20.3 +0.6
comp=Z,1.2nm,0.9s,baz=212,slow=5.4,SNR=5.6

NIED **14** *09:08:00, 40.˚70N×145.˚20E, h8km, Mw7.0 Best double couple: M₀3.54000×10¹⁹ NP1:φs263.00000°, δ26.00000°, λ-97.00000°. NP2:φs91.00000°, δ64.00000°, λ-87.00000°.*

IDC **14** *09:08:33.3±0.3, 40.˚90N×145.˚04E, h0km, mb6.0/58, mb1 6.0/63, mb1mx6.0/67, mbtmp6.0/63, ML5.5/3, MS6.8/61, Ms1 6.8/61, ms1mx6.8/71, Error ellipse: s-maj=9.1km s-min=7.7km az=75.0*

JMA **14** *09:08:33.0±0.1, 40.˚78N×145.˚23E, h64km±2km, M6.9*

JMA Felt IV J1.

ISCJB **14** *09:08:34.5±0.1, 40.˚86N±0.˚01×145.˚02E±0.˚01, h19km, mb6.5/526, MS7.0/267, Error ellipse: s-maj=1.7km s-min=1.2km az=149.4*

BJI **14** *09:08:34.4, 41.˚00N×144.˚95E, h20km, mb6.5/63, mB7.1/80, Ms7.2/98, MS7 7.0/89*

GCMT **14** *09:08:35.1±0.0, 40.˚88N×144.˚93E, h13km, MW7.0/146, Moment Tensor Solution. s143,c367; s146,c742; Duration: 7s3 Moment tensor: Scale 10¹⁹Nm; Mrr-3.50±.01; Mθθ 3.11±.01; Mφφ 0.38±.01; Mrθ-0.04±.03; Mθφ-0.13±.01; Mφr 0.57±.04; Best double couple: M₀3.34900×10¹⁹ NP1:φs101.00000°, δ46.00000°, λ-79.00000°. NP2:φs265.00000°, δ45.00000°, λ-101.00000°. Principal axes: T 3.1170, Plg1.0000°, Azm183.0000°; N 0.4580, Plg8.0000°, Azm273.0000°; P -3.5810, Plg82.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC **14** *09:08:35.1±0.1, 40.˚89N×144.˚94E, h12km, mb6.7/272, ME7.2, MS6.9/150, MW6.8, MW7.0, MW6.9 Error ellipse: s-maj=2.7km s-min=1.8km az=149.0, Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁹Nm; Mrr-1.96; Mθθ 2.28; Mφφ-0.32; Mrθ-0.24; Mθφ-0.23; Mφr 0.19; Best double couple: M₀2.20000×10¹⁹ NP1:φs269.00000°, δ42.00000°, λ-99.00000°. NP2:φs101.00000°, δ49.00000°, λ-82.00000°. Principal axes: T 2.3100, Plg3.0000°, Azm185.0000°; N -0.3200, Plg6.0000°, Azm275.0000°; P -1.9900, Plg83.0000°, Azm64.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] at Aomori, Misawa and Yokosuka and [III] at Tokyo. Also felt [III] at Sapporo, Hokkaido. Felt widely on Hokkaido and Honshu. Recorded [4 JMA] in Aomori and Iwate. Also recorded [4 JMA] in southeastern Hokkaido.

MOS **14** *09:08:36.6±1.1, 40.˚94N×144.˚91E, h36km, mb6.8/128, MS6.9/116 Error ellipse: s-maj=5.2km s-min=3.5km az=101.4 Broadband fault plane solution: P waves. M₀5.30000×10¹⁹ NP1:φs104.00000°, δ51.00000°, λ-53.00000°. NP2:φs234.00000°, δ51.00000°, λ-127.00000°. Principal axes: T Plg0.0000°, Azm169.0000°; N Plg28.0000°, Azm259.0000°; P Plg62.0000°, Azm79.0000°;*

MOS MO 6.2E19 n.m, Mw 7.2 (ARU) MO 6.2E19 n.m, Mw 7.2 (OBN) MO 7.1E19 n.m, Mw 7.2 (KIV) Fault plane solution: P-wave C38, D241 . Felt (IV) at Malokuril'skoye, (III-IV) at Yuzhno-Kuril'sk; (II-III) at Reydovo, Kitovoye, Kuril'sk.

NEIC **14** *09:08:37.0±0.0, 40.˚70N×145.˚32E, h11km, Moment Tensor Solution. s89 Moment tensor: Scale 10¹⁹Nm; Mrr-2.95; Mθθ 2.54; Mφφ 0.41; Mrθ 0.44; Mθφ-0.02; Mφr 0.70; Best double couple: M₀2.90000×10¹⁹ NP1:φs259.00000°, δ51.00000°, λ-104.00000°. NP2:φs101.00000°, δ41.00000°, λ-73.00000°. Principal axes: T 2.5800, Plg4.0000°, Azm358.0000°; N 0.5500, Plg11.0000°, Azm268.0000°; P -3.1300, Plg77.0000°, Azm111.0000°;*

NEIC **14** *09:08:51.4±0.0, 40.˚81N×144.˚50E, h20km, Moment Tensor Solution. s139 Moment tensor: Scale 10¹⁹Nm; Mrr-4.27; Mθθ 3.45; Mφφ 0.82; Mrθ-2.40; Mθφ 0.02; Mφr 1.18; Best double couple: M₀4.70000×10¹⁹ NP1:φs262.00000°, δ29.00000°, λ-108.00000°. NP2:φs103.00000°, δ62.00000°, λ-80.00000°. Principal axes: T 4.1700, Plg17.0000°, Azm186.0000°; N 1.0000, Plg9.0000°, Azm278.0000°; P -5.1700, Plg71.0000°, Azm35.0000°;*

ISC 14 09:08:36.2±0.3, 40.˚84N±0.˚02×145.˚02E±0.˚02, h19km±1km, h20km: pP-P, n2645, σ2s 07/3153, mb6.6/568, MS7.0/304, 68C-157D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.82**	**311**	*ce*P	**Pn**	**09 09 05.3**	**-1.2**
ERM	**Erimo**	**1.82**	**311**	*e*Pn	**Pn**	**09 09 05.8**	**-0.7**
ERM				*e*Sn	**Sb**	**09 09 30.5**	**-0.9**
JEM	**Erimo**	**1.82**	**311**	P	**Pn**	**09 09 05.1**	**-1.4**
JEM				*e*S	**Sn**	**09 09 29.1**	**0.0**
JCH	**Churui**	**2.16**	**326**	P	**Pn**	**09 09 09.7**	**-1.5**
JCH				*e*S	**Sn**	**09 09 36.4**	**-1.0**
JAK	**Akkeshi**	**2.17**	**354**	P	**Pn**	**09 09 08.6**	**-2.6**
JAK				*e*S	**Sn**	**09 09 35.8**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.22**	**311**	P	**Pn**	**09 09 11.4**	**-0.6**
JOB	**Onbets**	**2.24**	**337**	P	**Pn**	**09 09 10.7**	**-1.6**
JTH	**Tanohata**	**2.57**	**250**	P	**Pn**	**09 09 14.2**	**-2.6**
NEM2	**Nemuro 2**	**2.58**	**12**	P	**Pn**	**09 09 14.0**	**-2.9**
JAR	**Ashorobuto**	**2.62**	**340**	P	**Pn**	**09 09 15.2**	**-2.3**
JAR				*e*S	**Sn**	**09 09 47.8**	**-1.0**
JANG	**Nango**	**2.71**	**261**	P	**Pn**	**09 09 16.4**	**-2.3**
JANG				*e*S	**Sn**	**09 09 49.9**	**-1.0**
JNK	**Nakash**	**2.75**	**356**	P	**Pn**	**09 09 16.3**	**-3.0**
MIYJ	**Miyakonagasawa**	**2.75**	**244**	P	**Pn**	**09 09 17.0**	**-2.3**
JBT2	**Biratori 2**	**2.77**	**315**	P	**Pn**	**09 09 18.1**	**-1.4**
GLVR	**Golovnino**	**2.92**	**7**	*i*P	**Pn**	**09 09 19.0**	**-2.6**
GLVR				*i* S	**Sn**	**09 09 57.6**	**+1.5**
JKZ	**Kuzumaki**	**2.94**	**254**	P	**Pn**	**09 09 19.9**	**-2.1**
JTM	**Tenmabayashi**	**3.00**	**270**	P	**Pn**	**09 09 21.2**	**-1.4**
JOT	**Ohata**	**3.05**	**281**	P	**Pn**	**09 09 22.0**	**-1.3**
JOT				*e*S	**Sn**	**09 09 58.3**	**-0.9**
JRA	**Rausu**	**3.10**	**1**	P	**Pn**	**09 09 21.3**	**-2.7**
JRA				*e*S	**Sn**	**09 09 57.1**	**-3.3**
OFUJ	**Ofunato**	**3.12**	**237**	P	**Pn**	**09 09 22.2**	**-2.1**
JOM	**Ohasama**	**3.16**	**246**	P	**Pn**	**09 09 23.3**	**-1.7**
JOM				*e*S	**Sn**	**09 10 01.5**	**-0.7**
JKB	**Kayabe**	**3.17**	**291**	P	**Pn**	**09 09 23.9**	**-1.2**
GRPR	**Tuman**	**3.20**	**10**	*e*P	**Pn**	**09 09 23.2**	**-2.2**
GRPR				*i* S	**Sn**	**09 10 02.4**	**-0.6**
JTKR	**Abashiri--Toko**	**3.23**	**346**	P	**Pn**	**09 09 24.4**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**3.25**	**11**	*c i*P	**Pn**	**09 09 23.4**	**-2.7**
YUK				*i* S	**Sn**	**09 10 02.7**	**-1.6**
YUK				pmax	pmax		
	comp=N,18μm,0.6s						
YUK				pmax	pmax		
	comp=Z,56μm,0.6s						
YUK				pmax	pmax		
	comp=E,19μm,0.3s						
YUK				pmax	pmax		
	comp=Z,249μm,2.9s						
YUK				smax	smax		
	comp=N,191μm,0.6s						
YUK				smax	smax		
	comp=E,397μm,0.5s						
YUK				smax	smax		
	comp=N,900μm,3.3s						
YUK				smax	smax		
	comp=E,702μm,1.7s						
YUK				MLR	MLR		
	comp=Z,2744μm,10.0s						
YUK				MLR	MLR		
	comp=N,3036μm,9.0s						
YUK				MLR	MLR		
	comp=E,2008μm,13.0s						
LAGR	**Lagunnoye**	**3.26**	**10**	*i*P	**Pn**	**09 09 24.1**	**-2.2**
LAGR				*i* S	**Sn**	**09 10 02.6**	**-1.9**
SHO	**Shikotan**	**3.31**	**23**	*c i*P	**Pn**	**09 09 23.6**	**-3.4**
SHO				*i* S	**Sn**	**09 10 03.2**	**-2.6**
SHO				pmax	pmax		
	comp=N,19μm,0.5s						
SHO				pmax	pmax		
	comp=E,16μm,0.5s						
SHO				pmax	pmax		
	comp=Z,27μm,0.5s						
SHO				pmax	pmax		
	comp=Z,562μm,6.8s						
SHO				smax	smax		
	comp=N,56μm,0.7s						
SHO				smax	smax		
	comp=E,94μm,0.4s						
SHO				smax	smax		
	comp=E,1052μm,8.1s						
SHO				smax	smax		
	comp=N,1545μm,8.2s						
SHO				MLR	MLR		
	comp=N,1821μm,10.0s						
SHO				MLR	MLR		
	comp=Z,3606μm,10.0s						
SHO				MLR	MLR		
	comp=E,1362μm,13.0s						
JEW	**Eniwo**	**3.33**	**308**	P	**Pn**	**09 09 27.2**	**0.0**
JEW				*e*S	**Sn**	**09 10 06.9**	**+0.7**
JAH	**Hinai**	**3.40**	**260**	P	**Pn**	**09 09 27.2**	**-1.0**
JKK2	**Kamakawa 2**	**3.46**	**332**	P	**Pn**	**09 09 28.0**	**-1.1**
JMK	**Ichinoseki**	**3.48**	**238**	P	**Pn**	**09 09 27.3**	**-2.0**
JRG	**Rokugo**	**3.66**	**248**	P	**Pn**	**09 09 30.0**	**-1.7**
ASAJ	**Asahikawa**	**3.73**	**332**	Pn	**Pn**	**09 09 32.5**	**-0.3**
	comp=E,271nm,0.3s,baz=189,slow=13,SNR=866						
ASAJ				Sn	**Sn**	**09 10 19.8**	**+3.7**
	comp=E,1μm,0.3s,baz=151,slow=18,SNR=15						
ASAJ				LR	LR	09 11 13.8	
	comp=E,10μm,21.5s,baz=215,slow=44						
ASAJ	**Asahikawa**	**3.73**	**332**	*e*Pn	**Pn**	**09 09 31.9**	**-0.8**
ASAJ				*e*Sn	**Sn**	**09 10 18.8**	**+2.7**
KUR	**Kuril'sk**	**4.86**	**25**	*c i*P	**Pn**	**09 09 46.7**	**-1.6**
KUR				*i* S	**Sn**	**09 10 42.0**	**-1.9**
KUR				pmax	pmax		
	comp=N,8μm,0.5s						
KUR				pmax	pmax		
	comp=Z,29μm,0.5s						
KUR				pmax	pmax		
	comp=E,12μm,0.2s						
KUR				pmax	pmax		
	comp=Z,298μm,4.0s						
KUR				smax	smax		
	comp=N,40μm,0.6s						
KUR				smax	smax		
	comp=E,48μm,0.7s						
KUR				smax	smax		
	comp=E,256μm,2.4s						
KUR				smax	smax		
	comp=N,288μm,2.3s						
KUR				MLR	MLR		
	comp=N,1282μm,14.0s						
KUR				MLR	MLR		
	comp=Z,1560μm,14.0s						
KUR				MLR	MLR		
	comp=E,907μm,11.0s						
JAW	**Awa shima**	**5.05**	**244**	P	**Pn**	**09 09 49.6**	**-1.3**
JNS	**Sasagawa**	**5.35**	**237**	P	**Pn**	**09 09 53.4**	**-1.6**
JHO	**Hitachi**	**5.47**	**221**	P	**Pn**	**09 09 52.7**	**-4.0**
JHK	**Hiroka**	**5.89**	**234**	P	**Pn**	**09 10 00.8**	**-1.6**
JIZZ	**Izumozaki**	**5.91**	**238**	P	**Pn**	**09 10 02.2**	**-0.5**
JSD	**Sado**	**5.93**	**244**	P	**Pn**	**09 10 01.6**	**-1.4**
JKT	**Katashina**	**6.07**	**230**	P	**Pn**	**09 10 03.9**	**-1.1**
JAG	**Ashikaga**	**6.20**	**226**	P	**Pn**	**09 10 04.3**	**-2.4**
YSS	**Yuzh-Sakhalins**	**6.32**	**346**	*c i*P	**Pn**	**09 10 07.6**	**-0.7**
YSS				*e*S	**Sn**	**09 11 21.7**	**+1.7**
YSS				pmax	pmax		
	comp=Z,196μm,13.0s						
YSS				pmax	pmax		
	comp=N,198μm,8.7s						
YSS				pmax	pmax		
	comp=E,52μm,10.9s						
YSS				pmax	pmax		
	comp=Z,3μm,0.9s						
YSS				pmax	pmax		
	comp=N,3μm,0.6s						
YSS				pmax	pmax		
	comp=E,4μm,0.8s						
YSS				smax	smax		
	comp=N,4μm,0.6s						
YSS				smax	smax		
	comp=E,4μm,0.5s						
YSS				smax	smax		
	comp=E,279μm,18.6s						
YSS				MLR	MLR		
	comp=Z,1001μm,15.0s						
YSS				MLR	MLR		
	comp=N,1206μm,16.0s						
YSS				MLR	MLR		
	comp=E,1593μm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.32**	**346**	*e*Pn	**Pn**	**09 10 07.4**	**-0.9**
YSS				*e*Sn	**Sn**	**09 11 19.6**	**-0.4**
JJN	**Nakama**	**6.51**	**237**	P	**Pn**	**09 10 10.5**	**-0.5**
JGK	**Kuni**	**6.57**	**231**	P	**Pn**	**09 10 08.6**	**-3.2**
TOK	**Tokyo**	**6.60**	**220**	P	**Pn**	**09 10 09.7**	**-2.5**
I30JP	**ISUMI INFRASON**	**6.65**	**215**	Pn	**Pn**	**09 10 15.0**	**+2.1**
	baz=54,slow=8.0,SNR=32						
I30JP				Sn	**Sn**	**09 11 25.0**	**-3.2**
	baz=38,slow=15						
I30JP				*i*		09 42 10.0	
	baz=6.6,slow=331,SNR=0.8						
JRY	**Ryogami san**	**6.80**	**227**	P	**Pn**	**09 10 12.4**	**-2.5**
MAJO	**Matsushiro**	**6.84**	**233**	*ce*P	**Pn**	**09 10 14.5**	**-1.0**
MAJO	**Matsushiro**	**6.84**	**233**	*e*Pn	**Pn**	**09 10 14.5**	**-1.0**
MAJO				*e*Sn	**Sn**	**09 11 36.4**	**+3.6**
MAT	**Matsushiro**	**6.84**	**233**	P	**Pn**	**09 10 14.3**	**-1.2**
MAT				S	**Sn**	**09 11 29.9**	**-2.9**
MAT	**Matsushiro**	**6.84**	**233**	P	**Pn**	**09 10 14.2**	**-1.2**
MJAR	**Matsushiro Arr**	**6.84**	**233**	Pn	**Pn**	**09 10 14.7**	**-0.8**
	comp=E,45nm,0.3s,baz=40,slow=12,SNR=501						
MJAR				Sn	**Sn**	**09 11 36.4**	**+3.7**
	baz=22,slow=20,SNR=2.2						
MJAR				LR	LR	09 13 26.6	
	comp=E,1413μm,18.2s,baz=55,slow=43						
MJAR	**Matsushiro Arr**	**6.84**	**233**	P	**Pn**	**09 10 14.7**	**-0.8**
MJAR						09 11 36.4	
MJAR				pmax	pmax		
	comp=Z,45nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,413μm,18.3s						
MJB9	**Matsu-Tunnel**	**6.84**	**233**	*e*Pn	**Pn**	**09 10 14.8**	**-0.7**
JSZ	**Suzu**	**6.84**	**243**	P	**Pn**	**09 10 14.2**	**-1.3**
JHG	**Hegura jima**	**6.95**	**247**	P	**Pn**	**09 10 16.3**	**-0.7**
JNG	**Nsakai**	**6.99**	**233**	P	**Pn**	**09 10 16.4**	**-1.3**
BSO3	**Boso 3**	**7.00**	**212**	P	**Pn**	**09 10 13.9**	**-3.6**
JOD2	**Odawara 2**	**7.27**	**222**	P	**Pn**	**09 10 18.5**	**-2.9**
JTT	**Ttatey**	**7.34**	**237**	P	**Pn**	**09 10 21.9**	**-0.5**
JYN	**Shimob**	**7.38**	**226**	P	**Pn**	**09 10 21.3**	**-1.6**
AJI	**Ajiro2**	**7.44**	**221**	P	**Pn**	**09 10 20.3**	**-3.4**
TEY	**Ternei**	**7.46**	**307**	*i* P	**Pn**	**09 10 23.5**	**-0.4**
TEY				pmax	pmax		
	comp=E,10μm,7.0s						
TEY				pmax	pmax		
	comp=N,12μm,4.0s						
TEY				pmax	pmax		
	comp=Z,19μm,4.0s						
TEY				pmax	pmax		
	comp=N,301nm,0.9s						
TEY				pmax	pmax		
	comp=Z,74nm,0.7s						
JJH	**Hakui**	**7.52**	**241**	P	**Pn**	**09 10 23.8**	**-1.0**
JIM2	**Oshima 3**	**7.54**	**218**	P	**Pn**	**09 10 20.7**	**-4.5**
JGN	**Niukaw**	**7.59**	**235**	P	**Pn**	**09 10 24.7**	**-1.2**
JGF	**Kuroka**	**7.98**	**231**	P	**Pn**	**09 10 29.9**	**-1.3**
INU	**Inuyama**	**8.35**	**232**	*e*Pn	**Pn**	**09 10 35.4**	**-0.8**
JHJ2	**Mitsune**	**8.76**	**210**	*e*Pn	**Pn**	**09 10 38.7**	**-3.2**
JHJ2				*e*Sn	**Sn**	**09 12 15.9**	**-4.2**
JHJ	**Hachijo jima 2**	**8.77**	**210**	Pn	**Pn**	**09 10 38.6**	**-3.4**
	comp=Z,491nm,0.3s,baz=326,slow=22,SNR=52						
JHJ				Sn	**Sn**	**09 12 11.7**	**-8.6**
	comp=Z,3μm,0.3s,baz=241,slow=23,SNR=8.0						
VLA	**Vladivostok**	**10.04**	**287**	*e*P	**Pn**	**09 11 00.6**	**+1.3**
TYV	**Tymovskoe**	**10.16**	**351**	*e*P	**Pn**	**09 11 02.9**	**+2.0**
TYV				*e*S	**Sn**	**09 12 55.9**	**+1.8**
TYV				pmax	pmax		
	comp=Z,2μm,1.0s						
TYV				pmax	pmax		
	comp=Z,191μm,8.5s						
TYV				smax	smax		
	comp=N,538nm,1.1s						
TYV				smax	smax		
	comp=N,117μm,9.0s						
TYV				MLR	MLR		
	comp=Z,686μm,12.0s						
TYV				MLR	MLR		
	comp=N,597μm,14.0s						
USRK	**Ussuriysk Ar.**	**10.19**	**294**	Pn	**Pn**	**09 11 01.7**	**+0.4**
	comp=N,7.8nm,0.3s,baz=104,slow=14,SNR=134						
USRK				LR	LR	09 15 10.6	
	comp=N,497μm,19.2s,baz=100,slow=39						
USRK				P3KP		09 48 10.7	
	comp=N,0.1nm,0.3s,baz=270,slow=2.5,SNR=8.2						
JJS	**Sakaide**	**10.90**	**237**	P	**Pn**	**09 11 09.3**	**-1.9**
JMN	**Monobe**	**11.36**	**235**	P	**Pn**	**09 11 14.9**	**-2.5**
GRNR	**Gornyy**	**11.59**	**332**	*i*P	**Pn**	**09 11 20.2**	**-0.3**
GRNR				pmax	pmax		
	comp=N,640nm,1.0s						
GRNR				pmax	pmax		
	comp=E,510nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,750nm,1.0s						
MDJ	**Mudanjiang**	**11.95**	**293**	P	**Pn**	**09 11 24.5**	**-1.0**
MDJ				S	**Sn**	**09 13 41.8**	**+3.6**
MDJ				pmax	pmax		
	comp=Z,380nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,141μm,14.2s						
MDJ				LR	LR		
	comp=Z,295μm,17.1s						
MDJ				LR	LR		
	comp=Z,393μm,16.0s						
MDJ				LR	LR		
	comp=Z,691μm,18.3s						
MDJ	**Mudanjiang**	**11.95**	**293**	*e*Pn	**Pn**	**09 11 25.3**	**-0.2**
	comp=Z,2μm,1.1s						
MDJ				*e*Sn	**Sn**	**09 13 41.6**	**+3.4**
JHM	**Kurahashi**	**11.96**	**240**	P	**Pn**	**09 11 23.8**	**-1.8**
JNA	**Nagahama**	**12.35**	**238**	P	**Pn**	**09 11 28.9**	**-2.1**
UWA2	**Uwa jima 2**	**12.48**	**236**	P	**Pn**	**09 11 31.0**	**-1.8**
SKR	**Severo-Kuril's**	**12.51**	**34**	*e*P	**Pn**	**09 11 31.5**	**-1.6**
SKR				*e*S	**Sn**	**09 13 45.4**	**-6.4**
SKR				pmax	pmax		
	comp=Z,5μm,0.7s						
SKR				pmax	pmax		
	comp=Z,49μm,8.9s						
SKR				pmax	pmax		
	comp=Z,68μm,8.9s						
SKR				MLR	MLR		
	comp=Z,1282μm,15.0s						
SKR				MLR	MLR		
	comp=Z,1362μm,14.0s						
KLR	**Kul'dur**	**12.57**	**316**	Pn	**Pn**	**09 11 33.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=125,slow=13,SNR=154						
KLR	**Kul'dur**	**12.57**	**316**	*e*P	**Pn**	**09 11 33.2**	**-0.7**
NKL	**Nikolayevsk**	**12.66**	**348**	*i* P	**Pn**	**09 11 33.4**	**-1.7**
NKL				pmax	pmax		
	comp=E,230nm,1.0s						
NKL				pmax	pmax		
	comp=Z,700nm,1.0s						
NKL				pmax	pmax		
	comp=N,22μm,16.0s						
NKL				pmax	pmax		
	comp=Z,39μm,16.0s						
OKH	**Okha**	**12.79**	**354**	*i*P	**Pn**	**09 11 38.1**	**+1.2**
OKH				*e*S	Sn	09 14 08.4	+10
OKH				pmax	pmax		
	comp=Z,172μm,7.3s						
JNU	**Nakatsue**	**13.67**	**240**	Pn	**Pn**	**09 11 46.0**	**-3.0**
	comp=Z,6.7nm,0.3s,baz=57,slow=8.7,SNR=79						
JNU				LR	LR	09 17 35.0	
	comp=Z,319μm,18.2s,baz=39,slow=40						
JNU	**Nakatsue**	**13.67**	**240**	P	**Pn**	**09 11 45.9**	**-3.0**
JNU	**Nakatsue**	**13.67**	**240**	*e*Pn	**Pn**	**09 11 46.2**	**-2.8**
KSRS	**Korea Array**	**13.69**	**261**	Pn	**Pn**	**09 11 47.9**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=71,slow=13,SNR=41						
KSRS				Sn	**Sn**	**09 14 28.6**	**+7.9**
	comp=Z,4.3nm,0.3s,baz=69,slow=24,SNR=3.7						
KSRS				LR	LR	09 17 08.9	
	comp=Z,699μm,18.6s,baz=71,slow=38						
KSRS				P3KPbc		09 47 53.6	
	comp=Z,0.1nm,0.3s,baz=220,slow=3.2,SNR=5.9						
KS01	**Wonju Array Si**	**13.70**	**261**	*e*P	**Pn**	**09 11 47.6**	**-1.8**
KS15	**Wonju Array Si**	**13.72**	**261**	*e*Pn	**Pn**	**09 11 48.4**	**-1.3**
KSAR	**Wonju Array Be**	**13.72**	**261**	P	**Pn**	**09 11 47.9**	**-1.8**
KSAR						09 14 28.7	
KSAR	**Wonju Array Be**	**13.72**	**261**	Pn	**Pn**	**09 11 47.9**	**-1.8**
KSAR				Sn	**Sn**	**09 14 28.6**	**+7.1**
KSAR				*e*		09 47 53.6	
CBIJ	**Chichi jima**	**13.91**	**191**	*e*Pn	Pn	09 11 47.2	-5.1
CBIJ				*e*Sn	Sn	09 14 13.9	-12
JCJ	**Chichijima**	**13.91**	**191**	Sn	Sn	09 14 11.4	-15
	comp=Z,133nm,0.3s,baz=307,slow=20,SNR=3.0						
JCJ				LR	LR	09 17 55.4	
	comp=Z,119μm,19.2s,baz=338,slow=40						
TJN	**Taejon**	**14.50**	**258**	*e*P	**Pn**	**09 11 58.5**	**-1.8**
INCN	**Inchon**	**14.65**	**263**	P	**Pn**	**09 12 00.6**	**-1.8**
INCN	**Inchon**	**14.65**	**263**	*e*Pn	**Pn**	**09 12 00.6**	**-1.8**
INCN				*e*Sn	**Sn**	**09 14 52.4**	**+8.3**
INCN	**Inchon** SNR=35	**14.65**	**263**	Pn	**Pn**	**09 12 03.6**	**+1.2**
INCN	**Inchon** SNR=35	**14.65**	**263**	P	**Pn**	**09 12 03.6**	**+1.2**
CN2	**Changchun**	**14.77**	**288**	*e*P	**Pn**	**09 12 01.3**	**-2.7**
CN2				*e*sP	P	09 12 13.5	+3.6
CN2				*e*S	**Sn**	**09 14 47.0**	**-0.1**
CN2				pmax	pmax		
	comp=Z,650nm,1.2

PET MLR MLR
comp=Z,651µm,15.0s
PET MLR MLR
comp=Z,660µm,15.0s
PET Petropavlovsk 15.30 33 *e*Pn **Pn 09 12 05.8 -5.2**
comp=Z,980nm,0.9s
PET *e*S **S 09 15 10.2 -5.9**
SNY Shenyang 16.13 281 ⇑*e*P **Pn 09 12 20.6 -1.2**
SNY pmax pmax
comp=Z,99µm,12.0s
SNY LR LR
comp=Z,156µm,17.4s
SNY LR LR
comp=Z,393µm,17.4s
SNY LR LR
comp=Z,544µm,16.8s
ZEA Zeya 17.59 323⇑ *e*P **Pn 09 12 36.2 -3.8**
ZEA *i* S **Sn 09 15 48.0 -7.2**
ZEA pmax pmax
comp=N,170nm,1.4s
ZEA pmax pmax
comp=E,130nm,1.4s
ZEA pmax pmax
comp=Z,230nm,1.4s
ZEA smax smax
comp=N,83µm,6.0s
ZEA smax smax
comp=E,120µm,6.0s
ZEA MLR MLR
comp=N,490µm,12.0s
ZEA MLR MLR
comp=E,240µm,12.0s
ZEA MLR MLR
comp=Z,520µm,12.0s
DL2 Dalian 18.05 271⇑ *i*P **Pn 09 12 42.3 -3.5**
DL2 *e*S **Sn 09 16 00.1 -6.5**
DL2 sS **S 09 16 08.3 -4.0**
DL2 pmax pmax
comp=Z,830nm,1.2s
DL2 pmax pmax
comp=Z,84µm,8.6s
DL2 LR LR
comp=Z,194µm,14.6s
DL2 LR LR
comp=Z,161µm,14.7s
DL2 LR LR
comp=Z,273µm,13.1s
MA2 Magadan 19.10 9 P **P 09 12 56.4 -1.2**
comp=Z,1.6nm,0.3s,baz=190,slow=11,SNR=52
MA2 LR LR 09 20 56.9
comp=Z,340µm,18.0s,baz=190,slow=39
JOW Kunigami 19.67 230 P **P 09 13 04.0 0.0**
JOW Kunigami 19.67 230 *e*P **P 09 13 03.5 -0.5**
comp=Z,16µm,1.4s
JOW *e*S **Sn 09 16 46.3 +0.5**
HIA Hailar 19.67 304 *e*P **P 09 13 02.5 -1.5**
HIA *e*S **S 09 16 37.0 -8.0**
HIA pmax pmax
comp=Z,3µm,1.3s
HIA Hailar 19.67 304 *e*P **P 09 13 02.5 -1.5**
comp=Z,3µm,1.3s
HIA *e*S **S 09 16 37.0 -8.0**
HIA *e*ScP **ScP 09 20 56.1 -1.4**
CLNS Chul'man 20.65 328 *e*P **P 09 13 13.6 -0.9**
CLNS *e**PP **sP 09 13 26.4 +3.9**
CLNS *e* 09 13 30.9
CLNS *e*S **S 09 16 59.4 -4.9**
CLNS *e* 09 17 27.5
CLNS *e*SS SnSn 09 17 40.0 +16
CLNS pmax pmax
comp=N,914nm,1.0s
CLNS pmax pmax
comp=Z,3µm,0.9s
CLNS pmax pmax
comp=E,676nm,1.1s
CLNS pmax pmax
comp=Z,1µm,1.0s
CLNS pmax pmax
comp=N,2µm,1.0s
CLNS pmax pmax
comp=E,391nm,1.1s
CLNS smax smax
comp=E,75µm,11.7s
CLNS smax smax
comp=N,49µm,10.3s
CLNS MLR MLR
comp=E,188µm,14.0s
CLNS MLR MLR
comp=N,115µm,13.0s
CLNS MLR MLR
comp=Z,212µm,15.0s
SSE Sheshan 21.54 251 P **P 09 13 23.8 -0.5**
SSE S **S 09 17 21.6 -0.6**
BJI Beijing 21.93 277⇓ *e*P **P 09 13 28.4 +0.1**
BJI S **S 09 17 29.9 +0.3**
BJI pmax pmax
comp=Z,1µm,13.2s
BJT Baijiatuan 21.94 277 *e*P **P 09 13 25.8 -2.7**
BJT pmax pmax
comp=Z,803nm,0.8s
BJT MLR MLR
comp=Z,314µm,19.0s
BJT Baijiatuan 21.94 277 *e*P **P 09 13 25.8 -2.7**
comp=Z,803nm,0.8s
BJT LR LR
comp=Z,314µm,19.0s
TIA Tai'an 22.26 267 P **P 09 13 29.4 -2.6**
TIA S **S 09 17 34.3 -1.8**
TIA pmax pmax
comp=Z,410nm,1.7s
TIA pmax pmax
comp=Z,52µm,9.0s
TIA LR LR
comp=Z,246µm,13.5s
TIA LR LR
comp=Z,280µm,15.1s
TIA LR LR
comp=Z,370µm,16.1s
SEY Seymchan 22.56 9 P **P 09 13 34.2 -0.7**
comp=Z,189nm,1.0s,baz=184,slow=7.6,SNR=270
SEY S **S 09 17 37.5 -3.6**
comp=Z,33nm,0.8s,baz=212,slow=18,SNR=2.3
SEY LR LR 09 22 58.5
comp=Z,141µm,18.7s,baz=192,slow=38
SEY P3KPbc 09 47 14.2
comp=Z,1.7nm,0.8s,baz=37,slow=6.9,SNR=5.0
SEY Seymchan 22.56 9⇓ *e*P **P 09 13 33.5 -1.4**
NJ2 Nanjing 22.73 256 *e*P **P 09 13 35.3 -1.8**
NJ2 pP **sP 09 13 44.0 -1.0**
NJ2 S **S 09 17 43.6 -1.1**
NJ2 sS **pS 09 17 51.3 -0.3**
NJ2 pmax pmax
comp=Z,300nm,0.8s
NJ2 pmax pmax
comp=Z,88µm,8.8s
NJ2 LR LR
comp=Z,439µm,16.8s
NJ2 LR LR
comp=Z,382µm,17.9s
NJ2 LR LR
comp=Z,504µm,17.1s
YAK Yakutsk 23.15 342 P **P 09 13 37.7 -3.4**
comp=Z,228nm,0.3s,baz=178,slow=1.2,SNR=26
YAK S **S 09 17 45.1 -6.3**
comp=Z,231nm,0.8s,baz=127,slow=20,SNR=4.6
YAK LR LR 09 23 29.9
comp=Z,418µm,18.9s,baz=270,slow=39
YAK P3KPbc 09 47 13.3
comp=Z,4.6nm,0.3s,baz=158,slow=0.6,SNR=7.1
YAK Yakutsk 23.15 342*c i*P **P 09 13 38.5 -2.6**
YAK *e**PP **sP 09 13 48.4 -0.7**
YAK *e* 09 13 52.6
YAK *e*S **S 09 17 47.7 -3.7**
YAK *e**SS **sS 09 18 04.6 +3.6**
YAK pmax pmax
comp=Z,2µm,1.0s
YAK pmax pmax
comp=N,701nm,1.4s
YAK pmax pmax
comp=E,375nm,0.9s
YAK smax smax
comp=E,42µm,2.4s
YAK smax smax
comp=N,67µm,2.8s
YAK MLR MLR
comp=Z,463µm,20.0s

YAK MLR MLR
comp=N,595µm,19.0s
YAK MLR MLR
comp=E,243µm,18.0s
YAK Yakutsk 23.15 342 *e*P **P 09 13 37.2 -3.9**
comp=E,3µm,0.8s
YAK *e*S **S 09 17 46.2 -5.2**
YAK *e* 09 47 13.3
JSG Ishigakijimahi 23.70 233 P **P 09 13 44.0 -2.9**
CIT Chita 24.20 308 *e*P **P 09 13 50.8 -0.7**
CIT *e* 09 14 19.2
CIT *e* 09 14 35.0
CIT *e*S **S 09 18 08.1 -0.6**
CIT pmax pmax
comp=Z,10µm,4.0s
YOJ Yonaguni jima 24.59 235 *e*P **P 09 13 56.4 +1.3**
YOJ pmax pmax
comp=Z,1µm,1.3s
YOJ Yonaguni jima 24.59 235 *e*P **P 09 13 56.4 +1.3**
comp=Z,1µm,1.3s
TATO Taipei 25.20 238 *e*P **P 09 14 00.7 +0.2**
comp=Z,3µm,1.0s
TATO LR LR
comp=Z,392µm,20.0s
TATO Taipei 25.20 238 P **P 09 14 05.6 +5.1**
SNR=20
TATO Taipei 25.20 238 P **P 09 14 05.6 +5.1**
SNR=20
HHC Hu-ho-hao-te 25.22 281 *e*P **P 09 14 02.3 +1.4**
HHC S **S 09 18 26.5 +1.1**
HHC Hu-ho-hao-te 25.22 281 *e*P **P 09 14 01.9 +1.0**
HHC pP pP 09 14 06.6 -0.1
HHC S **S 09 18 26.8 +1.4**
HHC sS sS 09 18 33.6 -1.4
HHC pmax pmax
comp=Z,370nm,1.1s
HHC pmax pmax
comp=Z,85µm,7.1s
HHC LR LR
comp=Z,164µm,13.4s
HHC LR LR
comp=Z,233µm,16.7s
HHC LR LR
comp=Z,307µm,15.9s
TIY Taiyuan 25.34 274 *e*P **P 09 14 04.8 +2.9**
TIY S **S 09 18 26.6 -0.5**
TIY sS **sS 09 18 40.5 +3.7**
TIY pmax pmax
comp=Z,5µm,2.3s
TIY pmax pmax
comp=Z,70µm,8.7s
TIY LR LR
comp=Z,145µm,14.2s
TIY LR LR
comp=Z,126µm,13.8s
TIY LR LR
comp=Z,183µm,17.5s
YHNB Yeheng 25.48 238 *e*P **P 09 14 02.4 -0.8**
comp=Z,1µm,1.0s
YHNB *e*S **S 09 18 30.2 +0.6**
YHNB LR LR
comp=Z,415µm,20.0s
NACB Ninganchiao 25.69 237 *e*P **P 09 14 04.8 -0.3**
comp=Z,630nm,1.0s
NACB *e*S **S 09 18 27.1 -5.7**
BOD Bodaibo 26.06 321 *e*P **P 09 14 06.5 -1.7**
BOD pmax pmax
comp=Z,2µm,1.3s
SSLB Suanglung 26.38 237 *e*P **P 09 14 11.6 +0.2**
comp=Z,791nm,1.1s
SSLB *e*S **S 09 18 54.0 +10**
BTO Baotou 26.42 281 *e*P **P 09 14 11.6 -0.1**
YULB Yu-li 26.44 236 *e*P **P 09 14 11.7 -0.2**
comp=Z,800nm,1.0s
YULB *e*S **S 09 18 44.7 0.0**
WHN Wuhan 26.82 257 ⇑P **P 09 14 14.8 -0.4**
WHN S **S 09 18 53.9 +3.4**
WHN LR LR
comp=Z,806µm,16.9s
WHN LR LR
comp=Z,1276µm,15.5s
WHN LR LR
comp=Z,1584µm,17.1s
TPUB Ta-pu 26.93 237 *e*P **P 09 14 14.2 -2.2**
comp=Z,941nm,1.1s
TPUB *e*S **S 09 19 01.9 +9.4**
TWG Pinlang 27.00 236 *e*P **P 09 14 18.7 +1.8**
comp=Z,13µm,1.2s
QZH Quanzhou 27.13 242⇓ *i*P **P 09 14 20.9 +2.9**
QZH S **S 09 19 00.3 +4.9**
QZH pmax pmax
comp=Z,92µm,8.1s
QZH LR LR
comp=Z,197µm,15.6s
QZH LR LR
comp=Z,224µm,14.7s
QZH LR LR
comp=Z,317µm,14.2s
GUMO Guam 27.15 180 P **P 09 14 21.0 +2.8**
comp=Z,191nm,1.0s,baz=246,slow=4.0,SNR=4.2
GUMO LR LR 09 23 22.1
comp=Z,38µm,21.9s,baz=44,slow=33
GUMO Guam 27.15 180 *e*P **P 09 14 19.0 +0.7**
GUMO pmax pmax
comp=Z,2µm,1.2s
GUMO Guam 27.15 180 *e*P **P 09 14 19.0 +0.7**
comp=Z,2µm,1.2s
ULN Ulaanbaatar 27.82 297⇑ *e*P **P 09 14 24.1 -0.1**
ULN pmax pmax
comp=Z,462nm,1.0s
ULN MLR MLR
comp=Z,313µm,16.0s
ULN Ulaanbaatar 27.82 297 *e*P **P 09 14 23.8 -0.5**
comp=Z,3µm,1.1s
ULN LR LR
comp=Z,302µm,19.0s
ULN Ulaanbaatar 27.82 297 P **P 09 14 24.2 -0.1**
SNR=1662
ULN Ulaanbaatar 27.82 297 P **P 09 14 24.2 -0.1**
SNR=1662
H11N2 WAKE ISLAND Hy 28.14 132 T T 09 44 12.1
baz=324,slow=75,SNR=79
H11N1 WAKE ISLAND Hy 28.15 132 T T 09 44 06.3
baz=324,slow=75,SNR=91
H11N3 WAKE ISLAND Hy 28.15 132 T T 09 44 10.7
baz=324,slow=75,SNR=78
SONA1 Songino Array 28.26 297 *e*P **P 09 14 27.3 -0.9**
SONM Songino Array 28.26 297 P **P 09 14 28.6 +0.4**
comp=Z,120nm,0.9s,baz=94,slow=6.5,SNR=159
SONM S S 09 19 23.0 +10
comp=Z,21nm,0.9s,baz=52,slow=17,SNR=2.2
SONM LR LR 09 27 07.6
comp=Z,278µm,18.8s,baz=82,slow=39
SONM P3KPbc 09 46 51.8
comp=Z,3.8nm,1.1s,baz=245,slow=4.7,SNR=10
SONM P3KP 09 48 00.4
comp=Z,2.5nm,1.1s,baz=276,slow=2.8,SNR=4.2
WAKE Wake Island 28.36 133 *e*P **P 09 14 29.7 +0.7**
comp=Z,625nm,1.0s
WAKE *e*S **S 09 19 10.8 -4.1**
WAKE LR LR
comp=Z,249µm,19.0s
H11S1 WAKE ISLAND Hy 29.01 134 T T 09 45 09.2
baz=325,slow=76,SNR=46
H11S3 WAKE ISLAND Hy 29.01 134 T T 09 45 09.9
baz=325,slow=76,SNR=53
H11S2 WAKE ISLAND Hy 29.03 134 T T 09 45 12.6
baz=325,slow=76,SNR=56
XAN Xi'an 29.30 268 P **P 09 14 37.8 +0.3**
XAN pP sP 09 14 44.1 -1.6
XAN sP pP 09 14 48.0 +4.7
XAN PP **PnPn 09 15 37.0 +6.1**
XAN S **S 09 19 32.4 +2.7**
XAN sS sS 09 19 44.5 +5.1
XAN pmax pmax
comp=Z,34µm,7.6s
XAN LR LR
comp=Z,194µm,14.9s
XAN LR LR
comp=Z,118µm,13.3s
XAN LR LR
comp=Z,163µm,16.8s
BILL Bilibino 29.59 16*d i*P **P 09 14 38.9 -0.7**
BILL *e* 09 15 34.3
BILL *e* 09 17 47.4
BILL *i* S **S 09 19 35.5 +2.0**

BILL *e*SS **SnSn 09 20 58.6 -3.4**
BILL pmax pmax
comp=Z,1µm,1.3s
BILL MLR MLR
comp=Z,286µm,16.0s
IRK Irkutsk 29.87 306 *e*P **P 09 14 42.2 0.0**
IRK pmax pmax
comp=Z,6µm,3.8s
TLY Talaya 30.20 305 P **P 09 14 45.3 +0.1**
comp=Z,80nm,0.8s,baz=112,slow=4.4,SNR=81
TLY LR LR 09 28 12.0
comp=Z,270µm,18.4s,baz=5.5,slow=39
TLY Talaya 30.20 305*d i*P **P 09 14 44.8 -0.4**
TLY *e* 09 15 41.4
TLY *e*PPP PPP 09 15 57.8
TLY *e* 09 17 50.9
TLY *e*S **S 09 19 48.9 +5.5**
TLY *e*SS **SnSn 09 21 13.4 -3.8**
TLY *e*SSS SSS 09 21 39.9
TLY pmax pmax
comp=Z,2µm,1.5s
TLY MLR MLR
comp=Z,232µm,15.0s
TLY Talaya 30.20 305 *e*P **P 09 14 45.1 -0.1**
comp=Z,2µm,1.2s
TLY *e*S **S 09 19 47.6 +4.2**
TLY Talaya 30.20 305 P **P 09 14 45.5 +0.3**
SNR=1064
TLY Talaya 30.20 305 P **P 09 14 45.5 +0.3**
SNR=1064
ZAK Zakamensk 30.36 303 *e*P **P 09 14 46.9 +0.2**
ZAK pmax pmax
comp=Z,1µm,1.2s
ENH Enshi 30.58 261 *e*P **P 09 14 48.4 -0.4**
comp=Z,770nm,0.9s
ENH *e*S **S 09 19 56.9 +7.1**
ENH LR LR
comp=Z,410µm,19.0s
APYP Conner 30.70 229 *e*P **P 09 14 48.9 -0.9**
CAUP Cauayan 31.11 227 *e*P **P 09 14 57.4 +3.9**
ABRA Dolores 31.17 229 *e*P P 09 14 59.4 +5.4
MOY Mondy 31.85 305 *e*P **P 09 14 59.8 -0.1**
MOY pmax pmax
comp=Z,5µm,1.9s
HKC Hong Kong Obse 31.89 244 ⇑P P 09 15 06.0 +5.7
TIXI Tiksi 31.93 350 P **P 09 14 58.8 -1.3**
comp=Z,64nm,0.7s,baz=144,slow=7.2,SNR=64
TIXI LR LR 09 29 31.7
comp=Z,279µm,18.5s,baz=153,slow=40
TIXI P3KPbc 09 46 34.5
comp=Z,2.4nm,0.3s,baz=19,slow=2.9,SNR=10
TIXI Tiksi 31.93 350⇓ *e*P **P 09 14 58.5 -1.6**
TIXI pmax pmax
comp=Z,219nm,1.7s
TIXI MLR MLR
comp=Z,311µm,17.0s
TIXI Tiksi 31.93 350 *e*P **P 09 14 59.0 -1.2**
comp=Z,386nm,0.8s
TIXI *e*PP **PP 09 16 09.2 -2.9**
TIXI *e*S **S 09 20 11.2 +1.3**
TIXI *e* 09 46 34.5
GZH Guangzhou 31.94 246⇓ *i*P **P 09 15 00.3 -0.5**
GZH PP **PnPn 09 16 02.4 -3.4**
GZH S **S 09 20 04.0 -7.0**
GZH pmax pmax
comp=Z,38µm,6.9s
GZH LR LR
comp=Z,301µm,17.8s
GZH LR LR
comp=Z,258µm,17.1s
BALP Baler 32.23 226 *e*P **P 09 15 04.8 +1.5**
LZH Lanzhou 32.37 275 ⇓P **P 09 15 04.9 +0.2**
LZH pP pP 09 15 09.4 -1.1
LZH sP sP 09 15 11.3 -1.6
LZH PP **PnPn 09 16 10.0 -1.4**
LZH S **S 09 20 15.1 -2.8**
LZH sS sS 09 20 28.0 +0.4
LZH SS **SnSn 09 22 13.0 +2.5**
LZH pmax pmax
comp=Z,4µm,1.2s
LZH pmax pmax
comp=Z,22µm,5.6s
LZH LR LR
comp=Z,162µm,12.6s
LZH LR LR
comp=Z,193µm,13.0s
LZH LR LR
comp=Z,204µm,13.6s
MCO Taipa Grande 32.43 244 P **P 09 15 09.0 +3.9**
PCPH Palayan 32.64 226⇑ *e*P **P 09 15 06.6 -0.3**
BOLP Bolinao 32.64 229 *e*P P 09 15 01.1 -5.9
PVCP Virac 32.70 220 *e*P **P 09 15 11.4 +4.0**
SPIA Saint Paul Isl 32.87 45 *e*P **P 09 15 09.2 +0.6**
comp=Z,2µm,1.4s
MIDW Midway 33.20 100 *e*P **P 09 15 12.2 +0.4**
comp=Z,1µm,1.2s
MIDW *e*PP **PnPn 09 16 23.6 +1.7**
MIDW *e*PcP **PcP 09 17 57.9 +3.7**
MIDW *e*S **S 09 20 32.0 +1.4**
MIDW LR LR
comp=Z,127µm,19.0s
LQP Lukban 33.59 224⇑ *e*P **P 09 15 11.3 -4.2**
TGY Tagaytay City 33.92 225 P **P 09 15 19.1 +0.8**
comp=Z,2µm,1.0s,baz=132,slow=7.7,SNR=5.8
TGY Tagaytay City 33.92 225⇑ *e*P **P 09 15 20.8 +2.6**
BOAC Boac 33.98 223 *e*P **P 09 15 20.0 +1.4**
GAMB Gambell 34.00 33 *e*P **P 09 15 18.5 +0.2**
comp=Z,394nm,1.3s
GAMB *e*S **S 09 20 48.2 +6.0**
GTA Gaotai 34.30 283 ⇓P **P 09 15 21.8 +0.4**
GTA pP sP 09 15 29.0 -0.7
GTA sP pP 09 15 32.6 +5.3
GTA PcP **PcP 09 18 01.4 +4.0**
GTA S **S 09 20 49.6 +1.8**
GTA sS sS 09 21 02.3 +4.8
GTA PcS **PcS 09 21 47.8 +4.0**
GTA pmax pmax
comp=Z,280nm,1.1s
GTA pmax pmax
comp=Z,44µm,8.4s
GTA LR LR
comp=Z,135µm,14.7s
GTA LR LR
comp=Z,209µm,16.2s
GTA LR LR
comp=Z,270µm,17.6s
PLP Palo 34.43 216⇑ *e*P **P 09 15 22.5 -0.1**
CD2 Chengdu 34.59 267 ⇓P **P 09 15 23.3 -0.6**
CD2 pP sP 09 15 31.1 -1.1
CD2 sP pP 09 15 34.6 +4.7
CD2 S **S 09 20 50.8 -1.5**
CD2 sS sS 09 21 04.3 +2.3
CD2 pmax pmax
comp=Z,2µm,0.9s
CD2 pmax pmax
comp=Z,60µm,6.9s
CD2 LR LR
comp=Z,347µm,18.0s
CD2 LR LR
comp=Z,424µm,14.5s
CD2 LR LR
comp=Z,490µm,14.7s
UNV Unalaska Valle 34.64 51 *e*P **P 09 15 25.2 +1.2**
comp=Z,239nm,1.0s
UNV *e*PP **PP 09 16 41.0 -1.4**
UNV *e*S **S 09 20 44.9 -7.4**
OCLP Ormoc 34.70 217 *e*P **P 09 15 29.4 +4.5**
GYA Guiyang 34.71 258⇑ *i*P **P 09 15 24.0 -1.1**
GYA pP sP 09 15 34.3 +0.9
GYA PP **PP 09 16 43.8 0.0**
GYA PcP **PcP 09 18 01.6 +2.9**
GYA S **S 09 20 55.3 +1.1**
GYA ScP **ScP 09 21 43.0 +0.1**
GYA ScS **ScS 09 25 44.8 -1.6**
GYA pmax pmax
comp=Z,2µm,1.1s
GYA pmax pmax
comp=Z,34µm,7.7s
GYA LR LR
comp=Z,193µm,17.3s
GYA LR LR
comp=Z,302µm,16.3s
GYA LR LR
comp=Z,436µm,19.1s
OTRP Odiongan 34.81 222 *e*P **P 09 15 27.3 +1.5**

RCP **Roxas** 35.14 220⇓ *e*P **P** 09 15 32.3 +3.6
SJMP **San Jose** 35.20 223 *e*P **P** 09 15 33.0 +3.9
MSLP **Maasin** 35.40 216 *e*P **P** 09 15 30.5 -0.4
LLP **Lapu-Lapu** 35.64 217 *e*P **P** 09 15 33.7 +0.7
PATS **Pohnpei** 35.88 157 *e*P **P** 09 15 35.3 +0.3
comp=Z,1μm,1.6s
BUSP **Coron** 36.06 224 *e*P **P** 09 15 36.7 +0.1
BUTP **Butuan** 36.11 214 *e*P **P** 09 15 38.0 +1.0
JAP **San Jose, Anti** 36.23 221⇓ *e*P **P** 09 15 40.5 +2.5
HVS **Khovu-Aksy** 36.42 304⇓ *e*P **P** 09 15 39.8 +0.3
HVS pmax pmax
comp=Z,570nm,1.0s
HVS MLR MLR
comp=Z,928μm,17.0s
FALS **False Pass** 36.47 50 *e*P **P** 09 15 39.4 -0.3
comp=Z,263nm,1.0s
SNPH **Sibulan** 36.83 218⇓ *e*P **P** 09 15 45.2 +2.0
QIZ **Qiongzhong** 37.08 245 P **P** 09 15 45.6 +0.3
QIZ pP **sP** 09 15 53.1 -0.5
QIZ PP **PnPn** 09 17 17.6 +7.4
QIZ S **S** 09 21 21.8 -8.6
QIZ ScS **ScS** 09 25 58.8 -0.4
QIZ pmax pmax
comp=Z,37μm,8.6s
QIZ LR LR
comp=Z,223μm,14.7s
QIZ LR LR
comp=Z,213μm,15.2s
QIZ LR LR
comp=Z,258μm,17.2s
QIZ **Qiongzhong** 37.08 245 *e*P **P** 09 15 46.1 +0.9
QIZ *e*PP **PnPn** 09 17 12.8 +2.6
QIZ *e*S S 09 21 12.4 -18
QIZ LR LR
comp=Z,244μm,19.0s
ENPP **El Nido** 37.14 225 *e*P **P** 09 15 48.7 +2.9
BUKP **Musuan** 37.33 214 *e*P **P** 09 15 47.8 +0.4
DCPH **Dipolog City** 37.45 217⇑ *e*P **P** 09 15 48.6 +0.2
MATI **Mati** 37.68 211 *e*P **P** 09 15 53.3 +3.0
DAV **Davao City (W)** 37.84 213 P **P** 09 15 52.9 +1.2
comp=Z,382nm,0.5s,baz=56,slow=8.5,SNR=8.7
DAV LR LR 09 33 57.4
comp=Z,81μm,18.5s,baz=38,slow=40
DAV **Davao City (W)** 37.84 213⇓ *i*P **P** 09 15 55.1 +3.3
DAV **Davao City (W)** 37.84 213 *e*P **P** 09 15 55.0 +3.3
comp=Z,6μm,1.3s
DAV *e*S S 09 21 32.0 -10
DAV **Davao City (W)** 37.84 213 P **P** 09 15 55.3 +3.6
SNR=21
DAV **Davao City (W)** 37.84 213 P **P** 09 15 55.3 +3.6
SNR=21
KCP **Kidapawan** 38.10 213⇓ *e*P **P** 09 15 54.4 +0.5
SDPT **Sand Point** 38.16 49 *e*P **P** 09 15 54.2 +0.2
comp=Z,476nm,1.0s
SDPT *e*PP **PnPn** 09 17 22.7 0.0
SDPT *e*S **S** 09 21 39.2 -6.8
CTBH **Cotabato--PC H** 38.26 215⇓ *e*P **P** 09 15 56.1 +0.8
KMI **Kunming** 38.38 259 P **P** 09 15 56.6 +0.1
KMI pP sP 09 16 03.4 -1.4
KMI sP pP 09 16 06.8 +4.4
KMI PP **PnPn** 09 17 28.4 +2.3
KMI S **S** 09 21 45.3 -5.2
KMI sS sS 09 22 01.8 +1.5
KMI SS **SnSn** 09 24 31.1 -5.3
KMI pmax pmax
comp=Z,680nm,1.1s
KMI pmax pmax
comp=Z,36μm,6.7s
KMI LR LR
comp=Z,272μm,15.6s
KMI LR LR
comp=Z,242μm,16.7s
KMI LR LR
comp=Z,372μm,16.1s
GSPH **General Santos** 38.99 213⇑ *i*P **P** 09 16 02.1 +0.6
CHGN **Chignik** 39.30 47 *e*P **P** 09 16 03.5 0.0
comp=Z,503nm,1.4s
BATP **Bataraza** 40.02 225 *e*P **P** 09 16 13.1 +3.1
SVW2 **Sparrevohn** 40.80 40 *e*P **P** 09 16 16.9 +0.9
comp=Z,1μm,1.2s
SGSI **Sangihe** 40.94 211 P P 09 16 24.8 +7.2
SGSI S **S** 09 22 27.5 -1.1
NRIK **Noril'sk** 41.07 333 LR LR 09 34 49.3
comp=Z,116μm,18.4s,baz=150,slow=38
ZALV **Zalesovo Beam** 41.55 309 P **P** 09 16 21.6 -0.6
comp=Z,122nm,0.7s,baz=86,slow=6.1,SNR=183
ZALV PcP **PcP** 09 18 20.1 +0.8
comp=Z,486nm,1.0s,baz=91,slow=2.3,SNR=3.7
ZALV S S 09 22 49.8 +13
comp=Z,43nm,1.1s,baz=64,slow=6.6,SNR=3.7
ZALV LR LR 09 35 29.9
comp=Z,261μm,18.1s,baz=85,slow=39
WMQ **Urumqi** 41.75 294 P **P** 09 16 24.4 +0.3
WMQ pP sP 09 16 32.8 +0.3
WMQ sP pP 09 16 37.4 +7.3
WMQ PcP **PcP** 09 18 19.0 -1.2
WMQ PcS **PcS** 09 22 10.5 -1.2
WMQ S **S** 09 22 38.4 -2.0
WMQ ScS **ScS** 09 26 22.3 -3.9
WMQ pmax pmax
comp=Z,2μm,1.3s
WMQ pmax pmax
comp=Z,95μm,10.3s
WMQ LR LR
comp=Z,168μm,13.7s
WMQ LR LR
comp=Z,126μm,14.5s
WMQ LR LR
comp=Z,62μm,15.3s
OHAK **Old Harbor** 42.07 46 *e*P **P** 09 16 25.5 -0.9
comp=Z,2μm,1.4s
OHAK *e*S **S** 09 22 43.3 -1.2
RSO **Redoubt South** 42.18 41 *e*P **P** 09 16 29.1 +1.6
NVS **Novosibirsk** 42.36 311 *e*P **P** 09 16 29.7 +0.9
NVS pmax pmax
comp=Z,3μm,1.7s
NVS pmax pmax
comp=N,499nm,0.9s
NVS pmax pmax
comp=E,2μm,1.7s
KDAK **Kodiak Island** 42.41 45 LR LR 09 36 11.7
comp=E,70μm,19.6s,baz=244,slow=39
KDAK **Kodiak Island** 42.41 45 *e*P **P** 09 16 28.4 -0.7
KDAK *e*S **S** 09 22 45.1 -4.3
KDAK pmax pmax
comp=Z,3μm,1.2s
KDAK **Kodiak Island** 42.41 45 *e*P **P** 09 16 28.4 -0.7
comp=Z,3μm,1.2s
KDAK *e*S **S** 09 22 45.1 -4.3
PPLA **Purkeypile** 42.44 37 *e*P **P** 09 16 30.6 +1.0
comp=Z,4μm,1.6s
PPLA *e*S **S** 09 22 52.2 +2.0
CAST **Castle Rocks** 42.50 36 *e*P **P** 09 16 30.7 +0.8
comp=Z,2μm,1.2s
SPU **Mount Spurr** 42.51 40 *e*P **P** 09 16 30.5 +0.4
SKNT **Sakolnakorn** 42.55 248 P **P** 09 16 30.1 -0.7
comp=Z,300nm,2.7s,comp=Z,14μm
UBPT **Khong Chiam** 42.67 245 P **P** 09 16 31.9 +0.1
comp=Z,714nm,3.9s,comp=Z,39μm
ZSN **Zaisan** 42.72 300 *i* P **P** 09 16 31.9 0.0
comp=Z,537nm,1.2s
ZSN *i* S **S** 09 22 58.1 +3.7
ZSN LR LR 09 35 17.7
comp=Z,34μm,13.4s
MYLDM **Lahad Datu** 42.73 221 ⇑P **P** 09 16 35.5 +3.3
MYLDM **Lahad Datu** 42.73 221 *e*P **P** 09 16 34.3 +2.1
comp=Z,2μm,1.4s
MANU **Manus Island** 42.73 177 *e*P **P** 09 16 31.7 -0.5
comp=Z,1μm,1.9s
HOM **Homer** 42.77 42 *e*P **P** 09 16 33.8 +1.8
comp=Z,2μm,1.0s
TNTI **Ternate** 42.98 206 *e*P **P** 09 16 34.5 +0.3
comp=Z,5μm,1.4s
TNTI *e*S S 09 23 09.5 +11
SDKM **Sandakan** 43.00 223 ⇑P **P** 09 16 36.1 +1.6
BPAW **Bear Paw Mtn.** 43.00 35 *e*P **P** 09 16 33.1 -0.9
comp=Z,2μm,1.6s
BPAW *e*PcP **PcP** 09 18 24.1 +0.1
BPAW *e*S **S** 09 22 58.1 0.0
KTH **Kantishna Hill** 43.02 36 *e*P **P** 09 16 34.8 +0.6
comp=Z,2μm,1.2s
KTH *e*PcP **PcP** 09 18 23.2 -0.9
KTH *e*S **S** 09 22 56.8 -1.8
MLY **Manley** 43.13 34 *e*P **P** 09 16 35.7 +0.7
comp=Z,1μm,1.2s

SUA **Susitna One** 43.13 39 *e*P **P** 09 16 34.7 -0.5
comp=Z,1μm,1.0s
BRLK **Bradley Lake** 43.15 42 *e*P **P** 09 16 34.4 -0.8
comp=Z,1μm,1.3s
KKM **Kota Kinabalu** 43.17 224 ⇓P **P** 09 16 38.9 +3.0
KKM **Kota Kinabalu** 43.17 224 P **P** 09 16 35.8 -0.1
comp=Z,1μm,1.5s
KKM *e*S **S** 09 23 00.8 -0.9
KKM LR LR
comp=Z,154μm,19.0s
RKPI **Ransiki, Papua** 43.30 196 P **P** 09 16 38.8 +2.0
TRF **Thorofare Moun** 43.31 36 *e*P **P** 09 16 36.6 0.0
comp=Z,966nm,1.2s
TRF *e*PcP **PcP** 09 18 26.4 +1.3
TRF *e*S **S** 09 22 57.3 -5.6
JAY **Jayapura** 43.33 186 P **P** 09 16 36.6 -0.5
comp=Z,6μm,1.4s,comp=Z,243μm
JAY S **S** 09 23 01.3 -2.5
comp=Z,6μm,1.4s,comp=Z,243μm
SWI **Sorong** 43.36 200 P **P** 09 16 36.6 -0.7
comp=Z,800nm,1.4s,comp=Z,41μm
SWI S **S** 09 23 05.5 +1.4
comp=Z,800nm,1.4s,comp=Z,41μm
GENI **Genyem** 43.45 187 P **P** 09 16 39.5 +1.5
comp=Z,1μm,1.2s,comp=Z,63μmcomp=Z,199μm
GENI S **S** 09 23 00.9 -4.6
comp=Z,1μm,1.2s,comp=Z,63μmcomp=Z,199μm
COLD **Coldfoot** 43.46 31 *e*P **P** 09 16 38.1 +0.6
comp=Z,420nm,0.9s
COLD *e*PcP **PcP** 09 18 26.3 +0.9
RC01 **Rabbit Creek A** 43.64 40 *e*P **P** 09 16 38.7 -0.4
comp=Z,2μm,1.4s
RC01 *e*PcP **PcP** 09 18 28.4 +2.4
RC01 *e*S **S** 09 23 05.4 -2.0
KHON **Khomkaen** 43.80 249 P **P** 09 16 41.4 +0.5
comp=Z,242nm,0.9s,comp=Z,2μm
TOLK **Toolik Lake Re** 43.80 29 P **P** 09 16 40.9 +0.6
baz=266,SNR=606
TOLK S **S** 09 23 12.1 +2.4
baz=266
TOLK **Toolik Lake Re** 43.80 29 *e*P **P** 09 16 40.9 +0.6
comp=Z,2μm,1.4s
TSM **Tawau** 43.80 221 ⇑P **P** 09 16 42.5 +1.6
SEW **Seward** 43.84 41 *e*P **P** 09 16 39.8 -1.0
comp=Z,1μm,1.1s
SEW *e*S **S** 09 23 04.2 -6.2
PMR **Palmer** 43.90 39 *e*P **P** 09 16 40.7 -0.5
PMR *e*S **S** 09 23 08.8 -2.4
PMR pmax pmax
comp=Z,1μm,1.1s
PMR **Palmer** 43.90 39 *e*P **P** 09 16 40.6 -0.5
comp=Z,1μm,1.1s
PMR *e*S **S** 09 23 08.8 -2.4
MCK **McKinley** 43.91 36 *e*P **P** 09 16 41.1 -0.2
MCK pmax pmax
comp=Z,1μm,1.2s
MCK **McKinley** 43.91 36 *e*P **P** 09 16 41.1 -0.2
comp=Z,1μm,1.2s
RND **Reindeer** 43.95 36 *e*P **P** 09 16 41.2 -0.5
RND pmax pmax
comp=Z,1μm,1.1s
RND **Reindeer** 43.95 36 *e*P **P** 09 16 41.2 -0.5
comp=Z,1μm,1.1s
MDM **Murphy Dome** 44.20 34 *e*P **P** 09 16 44.0 +0.4
comp=Z,2μm,1.1s
CMAI **Chiengmai2** 44.20 256 P **P** 09 16 45.2 +0.9
comp=Z,6μm,0.9s,comp=Z,201μm
LBMI **Labuha** 44.25 206 P **P** 09 16 43.5 -1.0
comp=Z,895nm,0.9s,comp=Z,39μm
LBMI S **S** 09 23 16.7 -0.6
comp=Z,895nm,0.9s,comp=Z,39μm
SML **Sawmill** 44.27 39 *e*P **P** 09 16 44.3 +0.1
SML *e*S **S** 09 23 16.9 +0.2
SML pmax pmax
comp=Z,3μm,1.3s
SML **Sawmill** 44.27 39 *e*P **P** 09 16 44.3 +0.1
comp=Z,3μm,1.3s
SML *e*S **S** 09 23 16.9 +0.2
COLA **College** 44.36 34 *e*P **P** 09 16 44.9 +0.1
COLA *e*S **S** 09 23 19.1 +1.3
COLA pmax pmax
comp=Z,1μm,1.3s
COLA MLR MLR
comp=Z,87μm,21.0s
COLA **College** 44.36 34 *e*P **P** 09 16 44.9 +0.1
comp=Z,1μm,1.3s
COLA *e*S **S** 09 23 19.1 +1.3
COLA LR LR
comp=Z,87μm,21.0s
CCB **Clear Creek Bu** 44.38 35 *e*P **P** 09 16 44.8 -0.2
comp=Z,980nm,1.2s
KMSI **Cibinong** 44.39 211 P **P** 09 16 48.2 +2.6
comp=Z,1μm,0.9s,comp=Z,14μmcomp=Z,3μm
MK31 **Makanchi Array** 44.58 300 *e*P **P** 09 16 46.3 -0.7
MK31 **Makanchi Array** 44.58 300 *e*P **P** 09 16 46.2 -0.7
MKAR **Makanchi Array** 44.58 300 P **P** 09 16 46.3 -0.6
comp=Z,160nm,0.8s,baz=81,slow=6.7,SNR=274
MKAR S S 09 23 33.5 +12
comp=Z,41nm,1.2s,baz=81,slow=12,SNR=3.8
MKAR P4KPbc 09 54 40.4
comp=Z,1.3nm,1.0s,baz=74,slow=3.8,SNR=3.7
MKAR **Makanchi Array** 44.58 300 P **P** 09 16 46.3 -0.6
MKAR S S 09 23 33.5 +12
MKAR pmax pmax
comp=Z,162nm,0.9s
MKAR **Makanchi Array** 44.58 300 *e*P **P** 09 16 46.2 -0.6
comp=Z,7μm,0.8s
MKAR S S 09 23 33.5 +12
MKAR *e* 09 54 40.4
LAMP **Lampang** 44.66 254 P **P** 09 16 48.4 +0.6
comp=Z,119nm,1.0s,comp=Z,1μm
CHAI **Chaiyaphum** 44.68 249 P **P** 09 16 47.8 -0.2
comp=Z,209nm,0.9s,comp=Z,2μm
LSA **Lhasa** 44.73 273 P **P** 09 16 49.5 +0.7
LSA S **S** 09 23 22.4 -2.7
LSA LR LR
comp=Z,42μm,20.7s
LSA LR LR
comp=Z,46μm,20.7s
LSA LR LR
comp=Z,162μm,20.7s
LSA **Lhasa** 44.73 273 *e*P **P** 09 16 49.2 +0.3
LSA pmax pmax
comp=Z,2μm,1.8s
LSA MLR MLR
comp=Z,168μm,20.0s
LSA **Lhasa** 44.73 273 *e*P **P** 09 16 49.2 +0.3
comp=Z,2μm,1.8s
LSA LR LR
comp=Z,168μm,20.0s
LSA **Lhasa** 44.73 273 P **P** 09 16 50.1 +1.3
SCM **Sheep Creek Mo** 44.74 39 *e*P **P** 09 16 48.1 +0.1
SCM pmax pmax
comp=Z,1μm,1.0s
SCM **Sheep Creek Mo** 44.74 39 *e*P **P** 09 16 48.1 +0.1
comp=Z,1μm,1.0s
HDA **Harding Lake** 44.76 35 *e*P **P** 09 16 47.4 -0.6
comp=Z,974nm,1.1s
ILAR **Eielson Array** 44.77 34 P **P** 09 16 47.6 -0.6
comp=Z,214nm,0.9s,baz=262,slow=5.4,SNR=319
ILAR LR LR 09 35 32.2
comp=Z,67μm,19.5s,baz=334,slow=36
ILAR PKPPKP P'P'df 09 48 07.7 -28
comp=Z,2.6nm,0.9s,baz=17,slow=0.8,SNR=5.9
ILAR **Eielson Array** 44.77 34 P **P** 09 16 47.6 -0.6
ILAR pmax pmax
comp=Z,175nm,0.8s
ILAR MLR MLR
comp=Z,67μm,19.5s
ILB **Eielson Array** 44.77 34 *e*P **P** 09 16 47.7 -0.5
IL1 **Eielson Array** 44.77 34 *e*P **P** 09 16 46.8 -1.3
MAKZ **Makanchi** 44.79 300 *i* P **P** 09 16 48.8 +0.3
MAKZ pmax pmax
comp=Z,1μm,0.9s
GLI **Glacier Island** 44.94 40 *e*P **P** 09 16 49.5 -0.1
comp=Z,600nm,0.9s
PHIT **Phitsanulok** 44.95 252 P **P** 09 16 50.8 +0.7
comp=Z,306nm,1.1s,comp=Z,3μm
SEM **Semipalatinsk** 44.96 305⇓ *i*P **P** 09 16 49.0 -1.1
comp=Z,3μm,1.0s
SEM *i* S **S** 09 23 28.1 +0.7
SEM LR LR 09 36 14.2
comp=Z,88μm,16.7s
CHTO **Chiang Mai** 44.98 255 P **P** 09 16 50.4 +0.1
comp=Z,3μm,0.8s,comp=Z,135μm
CHTO **Chiang Mai** 44.98 255 *e*P **P** 09 16 50.7 +0.4

CHTO pmax pmax
comp=Z,565nm,1.0s
CHTO MLR MLR
comp=Z,109μm,19.0s
CHTO **Chiang Mai** 44.98 255 *e*P **P** 09 16 50.7 +0.4
comp=Z,565nm,1.0s
CHTO LR LR
comp=Z,109μm,19.0s
CHTO **Chiang Mai** 44.98 255 P **P** 09 16 50.7 +0.4
SNR=206
CHTO **Chiang Mai** 44.98 255 P **P** 09 16 50.7 +0.4
SNR=206
FAKI **Fak Fak** 45.09 198 P **P** 09 16 50.4 -0.7
comp=Z,1μm,1.6s,comp=Z,34μmcomp=Z,156μm
FAKI S **S** 09 23 27.9 -1.5
comp=Z,1μm,1.6s,comp=Z,34μmcomp=Z,156μm
FAKI **Fak Fak** 45.09 198 *e*P **P** 09 16 50.8 -0.3
comp=Z,4μm,1.7s
CM31 **Chiang Mai Arr** 45.20 254 *e*P **P** 09 16 53.7 +1.5
CMAR **Chiang Mai Arr** 45.20 254 P **P** 09 16 52.5 +0.4
comp=Z,72nm,0.8s,baz=46,slow=7.0,SNR=44
CMAR S S 09 23 48.1 +17
comp=Z,4.4nm,0.8s,baz=36,slow=12,SNR=7.7
CMAR LR LR 09 38 37.5
comp=Z,100μm,18.2s,baz=58,slow=40
CMAR P3KP 09 47 27.0
comp=Z,0.9nm,0.3s,baz=284,slow=3.6,SNR=3.2
CMAR PKP2ab 09 49 37.3
comp=Z,1.2nm,0.3s,baz=241,slow=4.6,SNR=5.4
CM01 **Chiang Mai Arr** 45.21 254 *e*P **P** 09 16 52.0 -0.2
RABL **Rabaul** 45.29 170 *e*P **P** 09 16 53.7 +1.0
comp=Z,8μm,1.8s
MRSI **Marisa** 45.30 213 P **P** 09 16 52.4 -0.5
comp=Z,878nm,1.2s,comp=Z,31μmcomp=Z,92μm
MRSI S **S** 09 23 29.3 -3.2
comp=Z,878nm,1.2s,comp=Z,31μmcomp=Z,92μm
FYU **Fort Yukon** 45.41 32 *e*P **P** 09 16 54.5 +1.4
comp=Z,6μm,1.7s
KLU **Klutina** 45.44 39 *e*P **P** 09 16 53.9 +0.4
comp=Z,1μm,1.1s
MID **Middleton Isla** 45.48 42 *e*P **P** 09 16 57.6 +3.8
MID pmax pmax
comp=Z,3μm,1.7s
MID **Middleton Isla** 45.48 42 *e*P **P** 09 16 57.6 +3.8
comp=Z,3μm,1.7s
KMPI **Kaimana, Papua** 45.48 196 P **P** 09 16 58.2 +3.9
comp=Z,883nm,1.1s,comp=Z,23μm
KMPI S **S** 09 23 39.2 +4.2
comp=Z,883nm,1.1s,comp=Z,23μm
PAX **Paxson** 45.51 37 *e*P **P** 09 16 55.1 +1.0
PAX pmax pmax
comp=Z,422nm,1.1s
PAX **Paxson** 45.51 37 *e*P **P** 09 16 55.1 +1.0
comp=Z,422nm,1.1s
DIV **Divide** 45.55 39 *e*P **P** 09 16 54.8 +0.4
comp=Z,2μm,1.2s
EYAK **Cordova Ski Ar** 45.63 40 *e*P **P** 09 16 55.5 +0.6
comp=Z,2μm,1.3s
HARP **HAARP** 45.71 38 *e*P **P** 09 16 56.4 +0.8
comp=Z,4μm,1.4s
RIDG **Independ'e Rid** 45.73 36 *e*P **P** 09 16 55.3 -0.5
comp=Z,2μm,1.5s
JOHN **Johnston Islan** 45.87 108 *e*P **P** 09 16 57.4 0.0
comp=Z,100nm,1.0s
JOHN LR LR
comp=Z,7μm,20.0s
KURK **Kurchatov** 45.89 306 *d*iP **P** 09 16 56.5 -0.7
KURK pmax pmax
comp=Z,4μm,1.7s
KURK MLR MLR
comp=Z,136μm,16.0s
KURK **Kurchatov** 45.89 306 *e*P **P** 09 16 56.5 -0.7
comp=Z,2μm,0.9s
KURK S S 09 23 52.6 +12
KURK P'P' 09 48 22.5
KURK LR LR
comp=Z,198μm,20.0s
KURK **Kurchatov** 45.89 306 P **P** 09 16 56.7 -0.5
SNR=871
KURK **Kurchatov** 45.89 306 P **P** 09 16 56.7 -0.5
SNR=871
KURBB **Kurchatov Arra** 45.97 306 P **P** 09 16 57.8 0.0
comp=Z,659nm,0.9s,baz=78,slow=8.5,SNR=398
KURBB S S 09 23 52.6 +11
comp=Z,150nm,1.0s,baz=76,slow=16,SNR=6.7
KURBB PKPPKP P'P'df 09 48 22.5 -10
comp=Z,7.9nm,1.2s,baz=293,slow=2.8,SNR=7.0
DOT **Dot Lake** 46.08 36 *e*P **P** 09 16 58.0 -0.6
comp=Z,3μm,1.5s
SANI **Sanana** 46.08 207 P **P** 09 16 59.0 0.0
comp=Z,1μm,1.3s,comp=Z,39μmcomp=Z,149μm
SANI S **S** 09 23 42.0 -1.7
comp=Z,1μm,1.3s,comp=Z,39μmcomp=Z,149μm
BMRM **Bremner River** 46.14 40 *e*P **P** 09 16 59.6 +0.5
comp=Z,2μm,1.2s
RAGM **Ragged Mountai** 46.18 40 *e*P **P** 09 16 58.0 -1.4
comp=Z,1μm,1.1s
MENT **Mentasta** 46.31 37 *e*P **P** 09 17 01.1 +0.8
comp=Z,2μm,1.2s
MPSI **Mapaga** 46.31 216 P **P** 09 17 00.1 -0.7
comp=Z,323nm,1.5s,comp=Z,21μm
MPSI S **S** 09 23 42.0 -5.0
comp=Z,323nm,1.5s,comp=Z,21μm
SHL **Shillong** 46.31 268 *e*P **P** 09 17 00.5 -0.5
SHL *i* x x 09 23 58.5
LUWI **Luwuk** 46.34 212 P **P** 09 16 59.7 -1.3
comp=Z,701nm,1.3s,comp=Z,25μmcomp=Z,123μm
LUWI S S 09 23 37.8 -10
comp=Z,701nm,1.3s,comp=Z,25μmcomp=Z,123μm
LUWI **Luwuk** 46.34 212 *e*P **P** 09 16 59.8 -1.3
comp=Z,970nm,1.0s
MSAI **Masohi** 46.37 202 P **P** 09 17 04.7 +3.4
comp=Z,375nm,2.2s,comp=Z,12μm
MSAI S **S** 09 23 44.8 -3.1
comp=Z,375nm,2.2s,comp=Z,12μm
CHBT **CHBT** 46.61 246 P **P** 09 17 02.7 -0.5
comp=Z,5μm,1.2s
APSI **Ampana** 46.68 213 P **P** 09 17 03.9 +0.2
comp=Z,1μm,1.2s,comp=Z,33μmcomp=Z,123μm
APSI S **S** 09 23 50.4 -1.9
comp=Z,1μm,1.2s,comp=Z,33μmcomp=Z,123μm
TARA **Tarawa** 46.72 140 *e*P **P** 09 17 04.2 +0.2
comp=Z,185nm,1.5s
TARA LR LR
comp=Z,11μm,19.0s
NLAI **Namlea** 46.83 205 P **P** 09 17 06.6 +1.8
comp=Z,311nm,2.4s,comp=Z,26μmcomp=Z,137μm
NLAI S **S** 09 23 53.2 -1.2
comp=Z,311nm,2.4s,comp=Z,26μmcomp=Z,137μm
AAI **Ambon** 46.91 203 P **P** 09 17 07.1 +1.6
comp=Z,1μm,0.8s,comp=Z,41μmcomp=Z,161μm
AAI S **S** 09 23 53.2 -2.4
comp=Z,1μm,0.8s,comp=Z,41μmcomp=Z,161μm
BNDI **Bandanaira** 47.22 201 P **P** 09 17 09.8 +1.9
comp=Z,2μm,1.6s,comp=Z,57μm
BNDI S **S** 09 23 57.4 -2.6
comp=Z,2μm,1.6s,comp=Z,57μm
EGAK **Eagle** 47.22 34 *e*P **P** 09 17 06.9 -0.5
comp=Z,1μm,1.3s
EGAK LR LR
comp=Z,62μm,22.0s
BTM **Bintulu** 47.23 226 ⇑P **P** 09 17 12.0 +3.9
PDGK **Podgornoye** 47.56 296 *i* P **P** 09 17 09.2 -1.4
PDGK pmax pmax
comp=Z,513nm,1.1s
TDK **Taldyqorghan** 47.72 298 *i* P **P** 09 17 11.9 +0.3
comp=Z,5μm,0.8s
TDK *i* S **S** 09 24 08.9 +2.2
TDK LR LR 09 36 41.1
comp=Z,81μm,15.4s
SRDT **SRDT** 47.76 250 P **P** 09 17 12.8 +0.6
comp=Z,519nm,3.6s,comp=Z,37μm
UZB **Uzynbulak** 47.95 296 *i* P **P** 09 17 12.8 -0.8
comp=Z,2μm,1.0s
UZB *i* PP **PP** 09 19 04.6 -0.8
UZB *i* S **S** 09 24 11.2 +0.9
UZB LR LR 09 36 49.6
comp=Z,90μm,18.1s
DAWY **Dawson** 48.08 35 *e*P **P** 09 17 14.1 -0.1
comp=Z,616nm,1.3s
SGKI **Sangatta, Kali** 48.13 218 P **P** 09 17 13.2 -1.8
comp=Z,980nm,1.4s,comp=Z,32μmcomp=Z,126μm
SGKI S **S** 09 24 05.9 -7.0
comp=Z,980nm,1.4s,comp=Z,32μmcomp=Z,126μm
SMKI **Samarinda** 48.24 219 P **P** 09 17 17.6 +1.7
comp=Z,230nm,2.0s,comp=Z,27μmcomp=Z,124μm
SMKI S **S** 09 24 15.7 +1.2
comp=Z,230nm,2.0s,comp=Z,27μmcomp=Z,124μm

SBUM Sibu 48.33 226 ⇑P **P 09 17 17.5 +1.0**
SBUM Sibu 48.33 226 *e*P **P 09 17 16.5 -0.1**
comp=Z,402nm,1.3s
PHET Kaeng Krachan 48.38 248 P **P 09 17 17.9 +0.9**
comp=Z,275nm,0.9s,comp=Z,2µm
SATY Saty 48.40 296 *i* P **P 09 17 16.6 -0.4**
comp=Z,3µm,1.0s
SATY *i* S **S 09 24 18.1 +1.5**
SATY LR LR 09 37 28.4
comp=Z,103µm,16.1s
PCA Pinnacle 48.40 40 *e*P **P 09 17 17.3 +0.6**
comp=Z,918nm,1.2s
KDI Kendari 49.07 210 P **P 09 17 22.6 +0.4**
KDI S **S 09 24 21.3 -4.9**
MMPI Merauke 49.25 186 P **P 09 17 26.6 +3.1**
MMPI S **S 09 24 26.8 -1.8**
MDOK Medeo 49.28 297 *i* P **P 09 17 23.4 -0.4**
comp=Z,1µm,0.8s
MDOK *i* PP **PP 09 19 16.2 -1.4**
MDOK *i* S **S 09 24 30.2 +1.1**
MDOK LR LR 09 37 41.8
comp=Z,70µm,14.0s
AAA Alma-Ata 49.36 297 *e*P **P 09 17 24.9 +0.6**
AAA *i* S **S 09 24 29.5 -0.5**
AAA pmax pmax
comp=Z,24µm,8.1s
AAA smax smax
comp=E,32µm,8.3s
AAA MLR MLR
comp=Z,90µm,15.0s
AAA Alma-Ata 49.36 297 *i* P **P 09 17 25.4 +1.0**
comp=Z,484nm,1.0s
AAA *e*S **S 09 24 32.7 +2.7**
AAA LR LR 09 37 53.6
comp=Z,27µm,15.4s
TTSI Tana Toraja 49.37 214 P **P 09 17 26.2 +1.7**
comp=Z,147nm,1.1s,comp=Z,20µmcomp=Z,104µm
TTSI S **S 09 24 28.4 -2.0**
comp=Z,147nm,1.1s,comp=Z,20µmcomp=Z,104µm
KUU Kurty 49.49 298 *i* P **P 09 17 24.0 -1.3**
comp=Z,971nm,0.9s
KUU *i* PP **PP 09 19 16.0 -3.3**
KUU *e*S **S 09 24 30.1 -1.7**
KUU LR LR 09 38 18.9
comp=Z,76µm,16.7s
JIRN Jiri 49.52 274 *e*P **P 09 17 26.8 +0.7**
HYT Haines Junctio 49.57 39 *e*P **P 09 17 26.1 +0.3**
comp=Z,2µm,1.1s
GUN Gumba 49.62 274 *e*P **P 09 17 27.4 +0.5**
comp=Z,2µm,1.0s
INK Inuvik 49.71 29 *e*P **P 09 17 26.9 +0.4**
INK pmax pmax
comp=Z,667nm,0.8s
INK Inuvik 49.71 29 *e*P **P 09 17 26.9 +0.4**
comp=Z,667nm,0.8s
BRZS Berezniki 49.75 306 *e*P **P 09 17 26.3 -0.8**
comp=Z,399nm,1.3s
BRZS *i* S **S 09 24 36.1 +0.9**
BRZS LR LR 09 38 58.5
comp=Z,1µm,14.0s
MTKI Muara Teweh, K 49.80 221 P **P 09 17 28.7 +0.9**
comp=Z,479nm,0.9s,comp=Z,40µmcomp=Z,115µm
MTKI S **S 09 24 32.6 -3.8**
comp=Z,479nm,0.9s,comp=Z,40µmcomp=Z,115µm
PMG Port Moresby 50.03 177 P **P 09 17 30.4 +0.9**
comp=Z,176nm,0.9s,baz=15,slow=9.5,SNR=28
PMG Port Moresby 50.03 177 *e*P **P 09 17 29.9 +0.3**
PMG *e* 09 19 24.4
PMG *e*S **S 09 24 35.7 -3.9**
PMG pmax pmax
comp=Z,1µm,1.4s
PMG MLR MLR
comp=Z,48µm,20.0s
PMG Port Moresby 50.03 177 *e*P **P 09 17 29.9 +0.3**
comp=Z,1µm,1.4s
PMG *e*PP **PP 09 19 24.4 -0.4**
PMG *e*S **S 09 24 35.7 -3.9**
PMG LR LR
comp=Z,48µm,20.0s
KKN Kakani 50.14 275 *e*P **P 09 17 31.1 +0.5**
comp=Z,2µm,1.1s
PKI Pulchoki 50.16 274 *e*P **P 09 17 31.1 +0.2**
comp=Z,1µm,1.2s
BVA0 Borovoye Array 50.16 311 *i* P **P 09 17 30.0 -0.2**
BVA0 pmax pmax
comp=Z,2µm,1.3s
BVAR Borovoye Array 50.16 311 P **P 09 17 30.0 -0.2**
comp=Z,243nm,0.8s,baz=79,slow=7.7,SNR=208
BVAR S **S 09 24 46.3 +5.5**
comp=Z,52nm,1.1s,baz=83,slow=12,SNR=3.1
BVAR LR LR 09 39 51.0
comp=Z,78µm,19.4s,baz=74,slow=38
BVAR P4KPbc 09 55 04.6
comp=Z,2.1nm,0.8s,baz=72,slow=4.7,SNR=9.1
PKIN Phulchoki 50.16 274 *e*P **P 09 17 31.7 +0.8**
comp=Z,442nm,0.9s
ULHL Ulahol 50.18 296 P **P 09 17 30.3 -0.5**
SNR=38
KSM Kuching 50.20 228 ⇓P **P 09 17 32.7 +1.8**
KSM Kuching 50.20 228 *e*P **P 09 17 31.6 +0.7**
comp=Z,584nm,1.1s
KSM LR LR
comp=Z,55µm,19.0s
SAUI Saumlaki 50.20 198 P **P 09 17 32.8 +2.0**
comp=Z,2µm,1.5s,comp=Z,66µmcomp=Z,216µm
SAUI S **S 09 24 39.1 -2.8**
comp=Z,2µm,1.5s,comp=Z,66µmcomp=Z,216µm
SAUI Saumlaki 50.20 198 *e*P **P 09 17 32.5 +1.7**
comp=Z,6µm,1.5s
BRVK Borovoye 50.21 311 *d i*P **P 09 17 30.3 -0.2**
BRVK pmax pmax
comp=Z,2µm,1.7s
BRVK MLR MLR
comp=Z,197µm,17.0s
BRVK Borovoye 50.21 311 *e*P **P 09 17 29.7 -0.9**
comp=Z,1µm,1.0s
BRVK LR LR
comp=Z,59µm,19.0s
BRVK Borovoye 50.21 311 P **P 09 17 30.7 +0.1**
SNR=680
BRVK Borovoye 50.21 311 P **P 09 17 30.7 +0.1**
SNR=680
BMNS Besmoynak 50.24 297 *i* P **P 09 17 31.0 -0.1**
comp=Z,3µm,1.2s
BMNS *i* S **S 09 24 44.1 +1.6**
BMNS LR LR 09 38 50.1
comp=Z,57µm,14.7s
TKM2 Tokmak 2 50.36 297 *i* P **P 09 17 32.0 -0.1**
TKM2 pmax pmax
comp=Z,1µm,1.0s
TKM2 Tokmak 2 50.36 297 P **P 09 17 31.8 -0.3**
SNR=290
DMN Daman 50.37 274 *e*P **P 09 17 32.8 +0.4**
comp=Z,2µm,1.4s
BNSI Bone 50.47 213 P **P 09 17 34.2 +1.3**
comp=Z,656nm,1.4s,comp=Z,33µmcomp=Z,118µm
BNSI S **S 09 24 42.8 -3.0**
comp=Z,656nm,1.4s,comp=Z,33µmcomp=Z,118µm
BBSI Bau Bau 50.49 210 P **P 09 17 35.3 +2.2**
comp=Z,119nm,2.1s,comp=Z,6µm
BBSI S **S 09 24 41.0 -5.1**
comp=Z,119nm,2.1s,comp=Z,6µm
GKN Gorkha 50.52 275 *e*P **P 09 17 34.2 +0.8**
OTUK Ortayu 50.54 304 P **P 09 17 33.4 +0.2**
OTUK pmax pmax
comp=Z,2µm,1.1s
BTLS Baital 50.59 300 *i* P **P 09 17 32.8 -0.8**
comp=Z,2µm,0.9s
BTLS *i* S **S 09 24 48.2 +1.2**
BTLS LR LR 09 39 13.7
comp=Z,82µm,15.4s
NRN Naryn 50.67 295 P **P 09 17 34.2 -0.4**
STKI Sintang 50.72 226 P **P 09 17 36.2 +1.4**
comp=Z,373nm,1.4s,comp=Z,33µmcomp=Z,106µm
WHY Whitehorse 50.86 39 *e*P **P 09 17 36.2 +0.7**
CHMS Chumysh 50.90 297 P **P 09 17 35.3 -0.7**
SNR=30
KBK Karagaybulak 50.90 297 P **P 09 17 36.0 -0.2**
SNR=148
KZA Kyzart 50.93 296 P **P 09 17 36.8 +0.2**
SNR=71
USP Ospenovka 50.97 298 P **P 09 17 35.9 -0.6**
SNR=63
SKAG Skagway 50.97 40 *e*P **P 09 17 37.2 +1.0**
comp=Z,1µm,1.5s
DANN Dangsing 51.00 276 *e*P **P 09 17 37.5 +0.3**
FRU Bishkek 51.06 297 ⇓*e*P **P 09 17 37.0 -0.2**
FRU *i* S **S 09 24 56.0 +2.4**
FRU *i* 09 25 11.0
FRU pmax pmax
comp=Z,4µm,2.4s
FRU MLR MLR
comp=E,130µm,15.0s
FRU1 Bishkek 51.06 297 P **P 09 17 38.0 +0.8**
KAPI Kappang 51.17 213 *e*P **P 09 17 38.2 0.0**
comp=E,287nm,0.8s
KAPI *e*S **S 09 24 54.1 -1.4**
KAPI LR LR
comp=Z,56µm,21.0s
KAPI Kappang 51.17 213 P **P 09 17 42.0 +3.8**
SNR=32
KAPI Kappang 51.17 213 P **P 09 17 42.0 +3.8**
SNR=32
AAK Ala-Archa 51.22 297 P **P 09 17 38.9 +0.3**
comp=Z,52nm,0.7s,baz=93,slow=4.5,SNR=64
AAK S 09 25 13.2 +17
comp=Z,84nm,1.3s,baz=241,slow=19,SNR=7.2
AAK LR LR 09 40 20.5
comp=Z,94µm,18.8s,baz=48,slow=37
AAK Ala-Archa 51.22 297 *i* P **P 09 17 37.2 -1.3**
AAK pmax pmax
comp=Z,605nm,1.6s
AAK MLR MLR
comp=Z,77µm,14.0s
AAK Ala-Archa 51.22 297 P **P 09 17 38.0 -0.5**
SNR=53
AAK Ala-Archa 51.22 297 *e*P **P 09 17 37.8 -0.7**
comp=Z,1µm,1.8s
AAK S S 09 25 13.2 +17
AAK Ala-Archa 51.22 297 P **P 09 17 38.2 -0.3**
SNR=342
AAK Ala-Archa 51.22 297 P **P 09 17 38.2 -0.3**
SNR=342
AAK Ala-Archa 51.22 297 *i* P **P 09 17 38.0 -0.5**
SNR=198
KBKI Kotararu 51.23 218 P **P 09 17 40.8 +2.2**
comp=Z,314nm,1.2s,comp=Z,25µmcomp=Z,104µm
KBKI S **S 09 24 50.8 -5.5**
comp=Z,314nm,1.2s,comp=Z,25µmcomp=Z,104µm
UCH Uchtor 51.37 296 P **P 09 17 39.8 -0.2**
SNR=41
OPA Opana 51.40 94 *e*P **P 09 17 42.0 +2.1**
OPA pmax pmax
comp=Z,2µm,1.4s
OPA Opana 51.40 94 *e*P **P 09 17 42.0 +2.1**
comp=Z,2µm,1.4s
KOLN Koldanda 51.42 276 *e*P **P 09 17 40.8 +0.5**
comp=Z,1µm,1.1s
BESE Bessie Mountai 51.46 41 *e*P **P 09 17 41.2 +1.2**
KSH Kashi 51.48 293 P **P 09 17 43.9 +3.4**
KSH sP sP 09 17 55.1 +6.2
KSH PcP **PcP 09 18 58.1 +3.5**
KSH PP **PP 09 19 43.1 +5.5**
KSH S **S 09 25 03.5 +3.8**
KSH sS sS 09 25 16.3 +6.6
KSH SS **SS 09 28 38.5 +3.1**
KSH pmax pmax
comp=Z,580nm,1.3s
KSH pmax pmax
comp=Z,32µm,7.3s
KSH LR LR
comp=Z,114µm,17.9s
KSH LR LR
comp=Z,85µm,15.2s
KSH LR LR
comp=Z,204µm,18.8s
KTGM Kuala Trenggan 51.50 238 ⇑P **P 09 17 42.8 +2.2**
KIP Kipapa 51.55 94⇑*e*P **P 09 17 41.7 +0.7**
KIP pmax pmax
comp=Z,1µm,0.8s
KIP MLR MLR
comp=Z,379µm,17.0s
KIP Kipapa 51.55 94 *e*P **P 09 17 42.8 +1.8**
comp=Z,662nm,1.1s
KIP LR LR
comp=Z,101µm,19.0s
HON Honolulu 51.61 94 *e*P **P 09 17 45.6 +4.1**
HON pmax pmax
comp=Z,715nm,1.4s
HON Honolulu 51.61 94 *e*P **P 09 17 45.6 +4.1**
comp=Z,715nm,1.4s
SIT Sitka 51.68 43 *e*P **P 09 17 42.8 +1.3**
SIT pmax pmax
comp=Z,2µm,1.7s
SIT Sitka 51.68 43 *e*P **P 09 17 42.8 +1.3**
comp=Z,2µm,1.7s
EKS2 Erkin-Say 51.69 297 P **P 09 17 41.6 -0.5**
SNR=77
PYUN Piuthan 51.71 276 *e*P **P 09 17 42.9 +0.5**
comp=Z,4µm,1.5s
SURT Suratani 51.73 245 P **P 09 17 42.5 +0.1**
comp=Z,242nm,2.5s,comp=Z,12µm
SKLT Songkhla 51.78 242 P **P 09 17 43.3 +0.5**
comp=Z,1µm,1.6s
BOK Bokaro 51.83 270 *e*P **P 09 17 43.2 0.0**
HNR Honiara 51.89 161 P **P 09 17 45.4 +2.0**
comp=Z,745nm,0.7s,baz=187,slow=8.4,SNR=23
HNR Honiara 51.89 161 *e*P **P 09 17 44.0 +0.5**
HNR Honiara 51.89 161 *e*P **P 09 17 45.0 +1.5**
HNR MLR MLR
comp=Z,63µm,20.0s
HNR Honiara 51.89 161 *e*P **P 09 17 45.0 +1.5**
HNR LR LR
comp=Z,63µm,20.0s
BSSI Bau Bau, Buton 51.90 212 P **P 09 17 46.0 +2.4**
comp=Z,616nm,0.7s,comp=Z,28µmcomp=Z,121µm
BSSI S **S 09 25 02.1 -3.4**
comp=Z,616nm,0.7s,comp=Z,28µmcomp=Z,121µm
TRTT Trang 51.92 244 P **P 09 17 44.0 +0.2**
comp=Z,167nm,2.2s,comp=Z,11µm
AML Almayashu 51.97 297 P **P 09 17 44.3 -0.1**
SNR=124
MNAS Manas 52.62 297 *i* P **P 09 17 48.5 -0.5**
MNAS pmax pmax
comp=Z,1µm,0.9s
PBKI Pangkalan Bun 52.95 223 P **P 09 17 53.9 +2.5**
comp=Z,534nm,1.0s,comp=Z,20µmcomp=Z,94µm
SFK Sufi-Kurgan 52.99 294 *i* P **P 09 17 51.0 -0.8**
SFK pmax pmax
comp=Z,1µm,1.2s
DGPR DIGLIPUR 53.01 254 *e*P **P 09 17 52.3 +0.4**
DGPR IAmb IAmb 09 17 57.1
comp=Z,717nm,0.8s
KHLH Kahului Airpor 53.05 93 *e*P **P 09 17 55.5 +3.3**
comp=Z,1µm,1.3s
KULM Kulim 53.15 240 ⇓P **P 09 17 54.3 +1.3**
KULM Kulim 53.15 240 *e*P **P 09 17 53.5 +0.5**
KULM LR LR
comp=Z,67µm,20.0s
DZA Taraz 53.24 298 *i* P **P 09 17 53.4 0.0**
comp=Z,6µm,0.8s
DZA *e*S **S 09 25 25.2 +1.6**
DZA LR LR 09 41 46.2
comp=Z,56µm,15.4s
HLK Haleakala 53.27 94 *e*P P 09 17 59.1 +4.9
CRAG Craig 53.37 45 *e*P **P 09 17 55.3 +1.2**
comp=Z,802nm,1.4s
WRAK Wrangell Islan 53.44 43 *e*P **P 09 17 55.9 +1.3**
comp=Z,848nm,1.5s
WRAK *e*S **S 09 25 33.8 +8.1**
WRAK LR LR
comp=Z,41µm,20.0s
IPM Ipoh 53.51 239 ⇑P **P 09 17 56.1 +0.5**
IPM Ipoh 53.51 239 *e*P **P 09 17 55.2 -0.3**
KK31 Karatay Array 53.70 299 *i* P **P 09 17 55.7 -1.0**
KK31 pmax pmax
comp=Z,543nm,0.9s
KKAR Karatay Array 53.70 299 *e*P **P 09 17 55.8 -0.9**
KKAR *e*S **S 09 25 24.4 -5.3**
KKAR Karatay Array 53.70 299 *e*P **P 09 17 55.8 -0.9**
comp=Z,46nm,1.6s
KKAR *e*S **S 09 25 24.4 -5.3**
MYKOM Kota Tinggi 53.77 235 ⇓P **P 09 17 59.4 +1.9**
MYKOM Kota Tinggi 53.77 235 *e*P **P 09 17 58.3 +0.8**
EDFI Ende, Flores 53.83 209 P **P 09 17 58.9 +0.9**
comp=Z,611nm,0.8s,comp=Z,27µm
SOEI Soe 53.87 206 P **P 09 17 57.8 -0.4**
comp=Z,1µm,0.9s,comp=Z,39µmcomp=Z,117µm
SOEI Soe 53.87 206 *e*P **P 09 17 57.6 -0.6**
comp=Z,1µm,0.9s
DLBC Dease Lake 53.90 40 *e*P **P 09 17 59.1 +1.0**
KGM Kluang 53.92 235 ⇓P **P 09 17 60.0 +1.4**
TPRI Tanjung Pinang 54.03 233 P **P 09 18 00.9 +1.5**
comp=Z,453nm,1.6s,comp=Z,33µmcomp=Z,91µm
FRIM Kepong 54.06 238 ⇓P **P 09 18 00.4 +0.8**
KKH Kailua Kona 54.09 94 *e*P P 09 18 04.9 +5.1
KKH Kailua Kona 54.09 94 *e*P P 09 18 04.9 +5.0
HPAH Hawaii Prepara 54.12 94 *e*P **P 09 18 03.6 +3.5**
PBA Port Blair 54.16 253 *e*P P 09 17 60.0 -0.4
BRLS Borolday 54.18 299 *i* P **P 09 18 01.5 +1.2**
BRLS *i* S **S 09 25 40.7 +4.4**
SVE Sverdlovsk 54.19 318*c i*P **P 09 18 00.3 +0.2**
SVE *e* 09 19 59.0
SVE *e*PPP PPP 09 21 11.2
SVE *e*S **S 09 25 37.0 +1.1**
SVE *e*SS **SS 09 29 20.2 +3.0**
SVE pmax pmax
comp=Z,3µm,1.3s
SVE pmax pmax
comp=Z,32µm,12.4s
SVE MLR MLR
comp=N,104µm,17.0s
SVE MLR MLR
comp=E,248µm,15.0s
SVE MLR MLR
comp=Z,345µm,15.0s
HUH Hualalai 54.22 94 *e*P P 09 18 06.0 +4.9
comp=Z,589nm,1.2s
KHLU Kahalu'u 54.23 94 *e*P **P 09 18 04.5 +3.5**
DDI Dehra Dun 54.27 281 *e*P **P 09 18 01.5 +0.4**
POHA Pohakuloa 54.40 94 *e*P **P 09 18 03.5 +1.1**
POHA LR LR
comp=Z,72µm,20.0s
IUG Iuzhnay 54.43 298 *i* P **P 09 18 01.9 -0.3**
comp=Z,2µm,1.7s
IUG *i* S **S 09 25 41.3 +1.6**
IUG LR LR 09 40 37.1
comp=Z,49µm,16.0s
BATI Baumata 54.49 206 P **P 09 18 03.0 +0.4**
comp=Z,461nm,0.7s,baz=296,slow=1.1,SNR=18
BATI LR LR 09 43 37.4
comp=Z,19µm,18.9s,baz=328,slow=39
BATI Baumata 54.49 206 P **P 09 18 04.2 +1.5**
comp=Z,492nm,0.9s,comp=Z,16µm
MLOA Mauna Loa Obse 54.50 94 *e*P **P 09 18 05.2 +1.9**
MWH Moku'aweowe 54.52 94 *e*P **P 09 18 05.1 +1.5**
comp=Z,1µm,1.5s
SMLA Simla 54.52 283 *e*P **P 09 18 02.1 -0.7**
SMLA IAmb IAmb 09 18 08.0
comp=Z,971nm,0.8s
HMH Humu'ula Sheep 54.53 94 *e*P **P 09 18 07.7 +4.3**
comp=Z,2µm,1.9s
COEN Coen 54.55 182 *e*P **P 09 18 03.3 +0.3**
comp=Z,2µm,1.4s
DIB Dawson Inlet, 54.56 47 *e*P **P 09 18 03.6 +0.8**
H02S1 DAWSON INLET T 54.56 47 P **P 09 18 03.1 +0.3**
DHRM DHARAMSHALA 54.60 284 *e*P **P 09 18 02.1 -1.6**
CHM Chimkent 54.64 298 *e*P **P 09 18 03.5 -0.1**
comp=Z,3µm,1.0s
CHM *i* PP **PP 09 20 06.1 +0.2**
CHM *e*S **S 09 25 44.3 +1.8**
CHM LR LR 09 41 48.8
comp=Z,54µm,16.9s
KHU Kahuku 54.64 95 *e*P **P 09 18 07.9 +3.8**
KHU Kahuku 54.64 95 *e*P **P 09 18 07.9 +3.8**
MLH Mauna Loa 54.67 94 *e*P **P 09 18 06.1 +1.8**
MLH pmax pmax
comp=Z,777nm,1.2s
MLH Mauna Loa 54.67 94 *e*P **P 09 18 06.1 +1.8**
comp=Z,777nm,1.2s
KKO Keanakako'i 54.82 94 *e*P **P 09 18 07.6 +2.3**
PUH Pauahi 54.87 94 *e*P **P 09 18 07.4 +1.8**
comp=Z,1µm,1.4s
STCH Steam Cracks 54.93 94 *e*P **P 09 18 07.8 +1.8**
NPOC North of Pu'u 54.94 94 *e*P P 09 18 11.1 +5.0
comp=Z,527nm,1.2s
MTN Manton Dam 54.94 197 *e*P **P 09 18 05.4 -0.4**
comp=Z,2µm,1.4s
HULD Heiheiahulu Di 55.03 94 *e*P P 09 18 11.6 +4.9
comp=Z,690nm,1.3s
SOKR Solikamsk 55.05 322*d i*P **P 09 18 04.3 -1.9**
SOKR 09 20 12.4
SOKR S **S 09 25 47.1 -0.2**
SOKR SS **SS 09 29 31.0 +0.5**
SOKR pmax pmax
comp=Z,342nm,1.0s
SOKR MLR MLR
comp=Z,151µm,18.0s
DSRI Dabo 55.11 232 P **P 09 18 11.4 +4.2**
WSI Waingapu 55.19 210 P P 09 17 57.8 -10
TAS Tashkent 55.29 297 P **P 09 18 08.0 -0.3**
TAS pmax pmax
comp=Z,1µm,1.2s
ARU Arti 55.41 318 P **P 09 18 08.6 -0.3**
comp=Z,170nm,0.7s,baz=74,slow=4.2,SNR=157
ARU S **S 09 25 54.3 +2.1**
comp=Z,4.5nm,0.4s,baz=270,slow=20,SNR=3.1
ARU LR LR 09 44 23.2
comp=Z,151µm,20.6s,baz=64,slow=39
ARU Arti 55.41 318*d i*P **P 09 18 08.4 -0.5**
ARU 09 19 08.1
ARU 09 20 11.9
ARU PPP PPP 09 21 33.4
ARU *e*S **S 09 25 55.2 +3.0**
ARU 09 27 55.6
ARU pmax pmax
comp=Z,744nm,1.7s
ARU pmax pmax
comp=Z,38µm,13.1s
ARU MLR MLR
comp=Z,342µm,16.0s
PLAI Plampang 55.44 213 P **P 09 18 09.5 0.0**
comp=Z,43nm,0.8s,comp=Z,23µmcomp=Z,96µm
WBSI Waikabubak, Su 55.52 211 P **P 09 18 13.5 +3.3**
comp=Z,353nm,1.0s,comp=Z,17µm
PPBI Pangkal Pinang 55.54 230 P **P 09 18 11.3 +1.0**
comp=Z,1.8nm,0.7s,comp=Z,871nm
KMMI Kalianget 55.55 218 P P 09 18 15.5 +5.2
BASI Baing, Sumba 55.59 210 P **P 09 18 15.0 +4.4**
LHMI Lhok Sumawe 55.67 244 P **P 09 18 13.2 +1.9**
comp=Z,800nm,2.5s,comp=Z,88µmcomp=Z,178µm
LHMI Lhok Sumawe 55.67 244 *e*P **P 09 18 11.1 -0.3**
comp=Z,1µm,1.3s
TSI Tuntungan 55.86 241 P P 09 18 18.4 +5.8
SRBI Singaraja 55.88 216 P **P 09 18 16.1 +3.4**
comp=Z,441nm,1.6s,comp=Z,31µmcomp=Z,96µm
ABJI Asem Bagus 56.08 218 P P 09 18 24.7 +11
PSI Prapat 56.14 240 P **P 09 18 14.9 +0.1**
comp=Z,148nm,0.8s,baz=37,slow=7.0,SNR=54
PSI LR LR 09 42 06.6
comp=Z,54µm,21.8s,baz=20,slow=36
PSI Prapat 56.14 240 *e*P **P 09 18 14.8 0.0**
PSI Prapat 56.14 240 *e*P **P 09 18 14.8 0.0**
GRJI Gresik 56.14 220 P **P 09 18 19.0 +4.4**
BLJI Banyuglugur 56.33 218 P **P 09 18 17.4 +1.5**
KCSI Kotacane, Aceh 56.37 242 P **P 09 18 15.2 -1.1**
comp=Z,180nm,1.0s,comp=Z,16µmcomp=Z,60µm
TBJI Tambak Boyo 56.37 221 P **P 09 18 17.4 +1.2**
RGRI Rengat 56.37 235 P **P 09 18 20.2 +3.9**
comp=Z,767nm,0.5s,comp=Z,62µm
DNP Denpasar 56.41 216 P **P 09 18 15.2 -1.3**
IGBI Denpasar 56.56 216 P **P 09 18 16.0 -1.6**
JMBI JAMBI 56.59 232 P P 09 18 23.2 +5.4
BKNI Bangkinang 56.66 236 P **P 09 18 19.4 +1.1**
comp=Z,2µm,1.0s,comp=Z,43µmcomp=Z,118µm
BKNI Bangkinang 56.66 236 *e*P **P 09 18 19.2 +0.9**
JAGI Jajag, Banyuwa 56.71 217 P P 09 18 25.0 +6.4
JAGI Jajag, Banyuwa 56.71 217 *e*P **P 09 18 18.7 +0.1**
MLSI Meulaboh, Aceh 56.74 243 P **P 09 18 18.4 -0.6**
comp=Z,542nm,1.2s,comp=Z,26µmcomp=Z,70µm
GMJI Gumukmas 56.86 218 P P 09 18 30.6 +11
PMBI Palembang 56.95 230 P **P 09 18 25.1 +4.7**
TPTI 56.96 242 P **P 09 18 20.2 -0.3**
comp=Z,200nm,1.1s,comp=Z,22µm
HOPEN Hopen 57.03 346 *e*P **P 09 18 20.5 +0.3**
HOPEN IVmB_BB 09 18 25.0
comp=Z,21µm,2.4s
HOPEN *e*S **S 09 26 14.3 +1.0**
HOPEN IVMsBB 09 46 08.7
comp=Z,63µm,19.1s
MNSI Mandailing Nat 57.23 238 P **P 09 18 22.2 -0.2**
comp=Z,177nm,0.8s,comp=Z,20µmcomp=Z,70µm
SMRI Semarang 57.27 222 P **P 09 18 26.2 +3.5**
comp=Z,1µm,2.4s,comp=Z,59µmcomp=Z,144µm
SMRI Semarang 57.27 222 *e*P **P 09 18 23.6 +1.0**
VIS Vishakhapatnam 57.31 266 *i* P **P 09 18 22.5 -0.4**
VIS IAmb IAmb 09 18 29.2
comp=Z,33µm,4.9s

VIS *i* x x 09 26 21.9
SPA0 Spitsbergen Ar 57.33 349 *e*P **P 09 18 22.8 +0.4**
SPA0 Spitsbergen Ar 57.33 349 *e*P **P 09 18 23.4 +1.1**
SPA0 IVmB_BB 09 18 32.6
comp=Z,22µm,2.2s
SPA0 *e*S **S 09 26 19.1 +1.8**
SPA0 IVMsBB 09 46 21.6
comp=Z,55µm,18.7s
SPITS Spitsbergen Ar 57.33 349 P **P 09 18 22.2 -0.2**
comp=Z,88nm,0.7s,baz=48,slow=9.1,SNR=39
SPITS LR LR 09 46 40.4
comp=Z,135µm,18.2s,baz=25,slow=40
SPITS PKPPKP **P'P'df 09 48 11.9 -6.4**
comp=Z,6.0nm,0.9s,baz=219,slow=3.7,SNR=7.0
SPITS PKP2bc 09 48 27.4
comp=Z,28nm,1.0s,baz=316,slow=3.5,SNR=5.5
KBS Kingsbay 57.38 350 *e*P **P 09 18 23.4 +0.7**
KBS MLR MLR
comp=Z,60µm,21.0s
KBS Kingsbay 57.38 350 *e*P **P 09 18 23.4 +0.7**
KBS LR LR
comp=Z,60µm,21.0s
KBS Kingsbay 57.38 350 *e*P **P 09 18 23.3 +0.6**
KBS IVmB_BB 09 18 29.0
comp=Z,14µm,2.4s
KBS *e*S **S 09 26 19.6 +1.7**
BBB Bella Bella 57.40 47 *e*P **P 09 18 24.3 +1.2**
AB31 Akbulak array 57.67 309 *i* P **P 09 18 24.6 -0.5**
AB31 pmax pmax
comp=Z,618nm,0.8s
ABKAR Akbulak array 57.67 309 *e*P **P 09 18 24.9 -0.2**
comp=Z,27nm,0.7s
ABKAR *e*S **S 09 26 24.6 +2.2**
PCJI Pacitan 57.89 221 P **P 09 18 29.2 +2.3**
comp=Z,480nm,2.5s,comp=Z,24µm
UGM Wanagama 57.97 221 P **P 09 18 29.8 +2.2**
comp=Z,957nm,1.1s,comp=Z,36µm
UGM Wanagama 57.97 221 *e*P **P 09 18 26.4 -1.2**
PDSI Padang 57.98 236 P **P 09 18 28.6 +0.9**
comp=Z,171nm,0.8s,comp=Z,15µm
GSI Gunungsitoli 58.15 240 P **P 09 18 29.4 +0.5**
comp=Z,1µm,2.5s,comp=Z,62µmcomp=Z,110µm
GSI Gunungsitoli 58.15 240 *e*P **P 09 18 27.6 -1.2**
RES Resolute Bay 58.20 16 LR LR 09 48 01.4
comp=Z,38µm,18.0s,baz=306,slow=41
RES PKP2bc 09 48 21.9
comp=Z,17nm,1.2s,baz=143,slow=1.3,SNR=5.5
RES Resolute Bay 58.20 16 *e*P **P 09 18 27.4 -1.0**
RES Resolute Bay 58.20 16 *e*P **P 09 18 27.4 -1.0**
RES ⇑*e* 09 48 21.9
AKTO Aktyubinsk 58.25 311 P **P 09 18 28.7 -0.5**
comp=Z,90nm,0.8s,baz=69,slow=7.1,SNR=65
AKTO S **S 09 26 32.7 +2.8**
comp=Z,7.6nm,0.9s,baz=274,slow=19,SNR=3.1
AKTO LR LR 09 46 48.8
comp=Z,57µm,18.8s,baz=51,slow=39
AKTO P4KPbc 09 55 37.0
comp=Z,11nm,0.9s,baz=65,slow=2.0,SNR=9.9
AKTO Aktyubinsk 58.25 311 *i* P **P 09 18 28.0 -1.2**
AKTO pmax pmax
comp=Z,728nm,1.2s
HSPB Hornsund (broa 58.31 348 *e*P **P 09 18 30.0 +0.9**
HSPB *e*S **S 09 26 33.5 +3.5**
HSPB Hornsund (broa 58.31 348 *e*P **P 09 18 29.8 +0.7**
HSPB IVmB_BB 09 18 39.7
comp=Z,27µm,2.2s
HSPB *e*S **S 09 26 31.5 +1.5**
HSPB IVMsBB 09 46 35.4
comp=Z,34µm,21.2s
FUNA Funafuti 58.34 139 *e*P **P 09 18 34.2 +4.1**
FUNA LR LR
comp=Z,65µm,19.0s
KLI Kotabumi 58.47 229 P **P 09 18 31.3 +0.2**
comp=Z,1µm,1.0s,comp=Z,27µm
NGP Nagpur 58.52 272 *e*P **P 09 18 32.1 +0.6**
NGP ⇑*e*S **S 09 26 35.8 +1.5**
NGP *ex* x 09 46 13.1
comp=Z,46µm,21.9s
TNG Tangerang 58.54 226 P **P 09 18 33.2 +1.6**
MDSI Maura Dua 58.56 230 P **P 09 18 31.5 -0.2**
comp=Z,692nm,2.8s,comp=Z,24µmcomp=Z,76µm
BHPL Bhopal 58.56 275 *e*P **P 09 18 29.4 -2.3**
BHPL IAmb IAmb 09 18 34.6
comp=Z,583nm,1.2s
LEM Lembang 58.56 225 P **P 09 18 32.1 +0.2**
comp=Z,554nm,0.9s,baz=56,slow=10,SNR=42
LEM LR LR 09 44 29.5
comp=Z,20µm,19.7s,baz=18,slow=37
LEM Lembang 58.56 225 P **P 09 18 31.8 -0.1**
MASI Maura Aman, Be 58.63 233 P **P 09 18 32.4 +0.2**
comp=Z,1µm,0.9s,comp=Z,45µm
KNTN Kanton 58.63 127 *e*P **P 09 18 33.9 +1.7**
BLSI Bandar Lampung 58.66 228 P **P 09 18 33.6 +1.2**
comp=Z,575nm,1.4s,comp=Z,23µmcomp=Z,69µm
KBL Kabul 58.70 290 *e*P **P 09 18 31.4 -1.4**
KBL Kabul 58.70 290 *e*P **P 09 18 31.4 -1.4**
SBJI Serang 58.78 227 P P 09 18 43.0 +10
PVM Polavaram 58.89 266 *e*P **P 09 18 33.2 -0.8**
PVM IAmb IAmb 09 18 39.4
comp=Z,480nm,1.1s
PVM *e*S **S 09 26 40.0 +1.0**
PVM IVMs_BB IVMs_BB 09 45 48.2
comp=Z,20µm,18.7s
CMJI Cimerak 58.92 224 P **P 09 18 35.3 +1.1**
comp=Z,229nm,1.5s,comp=Z,13µm
LWLI Liwa 59.06 230 P **P 09 18 34.7 -0.6**
comp=Z,604nm,0.8s,comp=Z,18µm
CISI Cisompet, Garu 59.07 224 P **P 09 18 36.5 +1.2**
CISI Cisompet, Garu 59.07 224 *e*P **P 09 18 34.5 -0.8**
YKA Yellowknife Ar 59.10 32 P **P 09 18 34.6 -0.2**
comp=Z,56nm,0.7s,baz=300,slow=6.5,SNR=316
YKA LR LR 09 46 11.7
comp=Z,5µm,19.9s,baz=0.0,slow=38
YKA PKPPKP **P'P'df 09 48 07.6 -7.4**
comp=Z,2.7nm,0.8s,baz=137,slow=2.1,SNR=5.1
YKA P4KPbc 09 55 40.4
comp=Z,0.4nm,0.9s,baz=291,slow=4.3,SNR=4.5
SISI Saibi 59.16 237 P **P 09 18 37.2 +1.3**
comp=Z,595nm,1.0s,comp=Z,27µmcomp=Z,92µm
MNAI Manna 59.17 231 P **P 09 18 39.2 +3.2**
comp=Z,647nm,1.4s,comp=Z,29µm
MNAI Manna 59.17 231 *e*P **P 09 18 37.6 +1.7**
KASI Kota Agung 59.22 229 P **P 09 18 35.9 -0.3**
comp=Z,406nm,0.9s,comp=Z,17µmcomp=Z,71µm
SKJI Sukabumi 59.28 226 P **P 09 18 36.9 +0.2**
CGJI Cibinong 59.43 227 P **P 09 18 38.0 +0.3**
comp=Z,269nm,1.2s,comp=Z,15µm
BJO Bjornoya 59.46 345 *e*P **P 09 18 37.7 +0.5**
BJO IVmB_BB 09 18 41.8
comp=Z,11µm,2.5s
BJO *e*S **S 09 26 47.5 +2.4**
BJO IVMs_BB IVMs_BB 09 46 47.5
comp=Z,45µm,18.6s
RPR Rampur 59.69 269 *e*P **P 09 18 39.3 -0.3**
RPR IAmb IAmb 09 18 43.4
comp=Z,553nm,1.1s
RPR *e*S **S 09 26 50.1 +0.7**
RPR IVMs_BB IVMs_BB 09 49 26.7
comp=Z,20µm,15.0s
PPSI Pulau Pagai 59.70 235 P **P 09 18 40.9 +1.3**
comp=Z,1µm,1.1s,comp=Z,35µm
LVZ Lovozero 59.80 336⇑*e*P **P 09 18 39.2 -0.4**
LVZ pmax pmax
comp=Z,354nm,1.7s
LVZ Lovozero 59.80 336 *e*P **P 09 18 38.5 -1.1**
LVZ LR LR
comp=Z,104µm,19.0s
SRSP Sriramsagar 60.37 270 *e*P **P 09 18 42.6 -1.6**
SRSP IAmb IAmb 09 18 50.9
comp=Z,1µm,1.1s
SRSP *e*S **S 09 26 54.9 -3.3**
SRSP IVMs_BB IVMs_BB 09 50 29.8
comp=Z,32µm,15.4s
APA Apatity 60.37 336⇑*i*P **P 09 18 42.4 -1.1**
APA *i* 09 19 22.0
APA *i* 09 21 04.0
APA *i* PPP PPP 09 22 33.0
APA *i* S **S 09 26 51.0 -5.9**
APA *i* PS **PnS 09 27 15.0 +4.2**
APA *i* SS **SS 09 30 53.0 -0.8**
APA pmax pmax
comp=Z,116nm,0.7s
APA MLR MLR
comp=Z,129µm,22.0s

CTAO Charters Tower 60.63 179 *e*P **P 09 18 45.2 -0.6**
CTAO MLR MLR
comp=Z,63µm,20.0s
CTAO Charters Tower 60.63 179 *e*P **P 09 18 45.2 -0.6**
CTAO LR LR
comp=Z,63µm,20.0s
TMCR Tamitsa 60.76 331 *e*P **P 09 18 43.0 -3.2**
TMCR pmax pmax
comp=Z,424nm,0.9s
KEV Kevo 60.88 339 *e*P **P 09 18 47.0 +0.1**
KEV *e* 09 20 59.0
KEV *e*S **S 09 27 06.9 +3.6**
KEV pmax pmax
comp=Z,696nm,1.0s
KEV MLR MLR
comp=Z,60µm,20.0s
KEV Kevo 60.88 339 *e*P **P 09 18 47.0 +0.1**
comp=Z,696nm,1.0s
KEV *e*PP **PP 09 20 59.0 -1.6**
KEV *e*S **S 09 27 06.8 +3.6**
KEV LR LR
comp=Z,60µm,20.0s
TULEG Thule 60.94 9 *e*P **P 09 18 46.1 -1.2**
ADKI Addanki 61.00 266 *e*P **P 09 18 47.7 -0.8**
ADKI IAmb IAmb 09 18 56.0
comp=Z,376nm,1.0s
ADKI *e*PP **PP 09 21 05.7 +2.8**
ADKI *e*S **S 09 27 04.8 -1.4**
ADKI IVMs_BB IVMs_BB 09 49 16.4
comp=Z,16µm,20.5s
NJS Nagarjunasagar 61.07 267 *e*P **P 09 18 47.1 -1.9**
NJS IAmb IAmb 09 18 53.2
comp=Z,445nm,1.2s
NJS *e*S **S 09 27 06.9 -0.2**
NJS IVMs_BB IVMs_BB 09 47 40.6
comp=Z,18µm,17.3s
HYB Hyderabad 61.11 269 *i* P **P 09 18 48.5 -0.9**
comp=Z,770nm,1.0s
HYB *e*S **S 09 27 10.0 +2.2**
HYB LR LR
comp=Z,79nm,18.0s
HYB Hyderabad 61.11 269 *e*P **P 09 18 49.2 -0.2**
HYBB Hyderabad (bro 61.11 269 *e*P **P 09 18 47.9 -1.5**
HYBB IAmb IAmb 09 18 55.4
comp=Z,529nm,0.9s
HYBB *e*S **S 09 27 06.9 -0.8**
HYBB IVMs_BB IVMs_BB 09 49 46.0
comp=Z,19µm,18.1s
HAMF Hammerfest 61.14 341 *e*P **P 09 18 47.8 -0.9**
HAMF IVmB_BB 09 18 54.0
comp=Z,12µm,2.4s
HAMF IVMs_BB IVMs_BB 09 51 31.1
comp=Z,69µm,18.0s
WRAB Tennant Creek 61.27 191 *d i*P **P 09 18 49.3 -0.9**
WRAB pmax pmax
comp=Z,4µm,1.2s
WRAB MLR MLR
comp=Z,31µm,18.0s
WRAB Tennant Creek 61.27 191 *e*P **P 09 18 48.8 -1.3**
WRAB LR LR
comp=Z,36µm,19.0s
WRA Warramunga Arr 61.28 191 P **P 09 18 50.0 -0.3**
comp=Z,312nm,0.7s,baz=7.4,slow=7.8,SNR=194
WRA LR LR 09 45 40.3
comp=Z,20µm,19.8s,baz=5.0,slow=36
WRA PKPPKP **P'P'df 09 48 01.9 +4.3**
comp=Z,15nm,1.1s,baz=179,slow=1.9,SNR=6.1
WRA PKP2bc 09 48 10.3
comp=Z,21nm,1.0s,baz=184,slow=2.0,SNR=8.8
WRA P4KPbc 09 55 54.9
comp=Z,3.7nm,1.2s,baz=8.4,slow=5.1,SNR=4.1
WRA Warramunga Arr 61.28 191 *i* P **P 09 18 48.7 -1.5**
WRA pmax pmax
comp=Z,382nm,1.0s
ARCES ARCESS Array B 61.42 340 P **P 09 18 50.0 -0.7**
comp=Z,77nm,0.9s,baz=51,slow=3.9,SNR=49
ARCES PP **PP 09 21 04.5 -0.9**
comp=Z,49nm,0.8s,baz=56,slow=11,SNR=3.3
ARCES S **S 09 27 14.0 +3.8**
comp=Z,6.8nm,1.0s,baz=66,slow=5.0,SNR=1.9
ARCES PKP2bc 09 48 13.6
comp=Z,17nm,1.0s,baz=249,slow=2.5,SNR=8.1
ARCES LR LR 09 50 49.0
comp=Z,163µm,18.6s,baz=53,slow=41
ARE0 ARCESS Array S 61.42 340 *e*P **P 09 18 50.5 -0.2**
ARE0 IVmB_BB 09 18 55.3
comp=Z,11µm,2.1s
ARE0 IVMsBB 09 50 18.2
comp=Z,51µm,19.8s
SRLM Srisailam 61.66 267 *e*P **P 09 18 51.7 -1.3**
SRLM IAmb IAmb 09 18 59.5
comp=Z,578nm,1.1s
SRLM *e*S **S 09 27 13.9 -0.8**
SRLM IVMs_BB IVMs_BB 09 47 57.6
comp=Z,19µm,20.4s
PGC Sidney 61.70 49 *e*P **P 09 18 52.4 -0.4**
comp=Z,546nm,1.6s
PGC *e*S **S 09 27 08.9 -5.4**
KLMR Klimovskoe 62.04 328 *e*P **P 09 18 53.8 -1.1**
KLMR *e* 09 21 09.0
KLMR *e*S **S 09 27 18.8 +0.5**
KLMR *e*SS **SS 09 31 21.7 +1.6**
KLMR pmax pmax
KLMR comp=Z,2µm,1.4s
KLMR MLR MLR
comp=Z,27µm,15.0s
KLMR Klimovskoe 62.04 328 *e*P **P 09 18 53.8 -1.1**
KLMR AMP 09 19 02.8
comp=Z,2µm,1.4s
KLMR *e*PP **PP 09 21 09.1 -1.9**
KLMR *e*S **S 09 27 18.9 +0.6**
KLMR *e*S **S 09 27 18.9 +0.6**
KLMR *e*SS **SS 09 31 21.8 +1.6**
KLMR *e*SS **SS 09 31 21.8 +1.6**
KLMR *e*SSS SSS 09 34 12.5
KLMR *e*SSS SSS 09 34 12.5
KLMR LQ LQ 09 40 39.7
KLMR LQ LQ 09 40 39.7
KLMR LR LR 09 45 25.9
KLMR AMP 09 50 15.2
comp=Z,27µm,15.3s
A04D Lummi Island 62.09 48 P **P 09 18 56.7 +1.3**
baz=301
NLWA Neilton Lookou 62.10 50 *e*P **P 09 18 57.0 +1.4**
NLWA LR LR
comp=Z,47µm,19.0s
KLRI Killari 62.20 270 *e*P **P 09 18 54.8 -2.0**
KLRI IAmb IAmb 09 19 03.0
comp=Z,1µm,1.0s
KLRI *e*S **S 09 27 20.0 -1.6**
KLRI IVMs_BB IVMs_BB 09 51 53.5
comp=Z,24µm,15.7s
DAG Danmarks Havn 62.21 356 *i* P **P 09 18 55.4 -0.4**
comp=Z,354nm,1.0s
DAG *i* 09 21 20.5
DAG Danmarks Havn 62.21 356 *i* P **P 09 18 55.4 -0.4**
DAG *i* 09 21 20.5
DAG pmax pmax
comp=Z,350nm,1.0s
SKHT Srikalahasti 62.50 264 *e*P **P 09 18 57.9 -0.7**
SKHT IAmb IAmb 09 19 06.0
comp=Z,503nm,0.9s
SKHT *e*S **S 09 27 25.4 +0.2**
SKHT IVMs_BB IVMs_BB 09 51 10.8
comp=Z,22µm,15.6s
MDRS Chennai 62.52 264 *e*P **P 09 18 59.5 +0.8**
MDRS IAmb IAmb 09 19 06.5
comp=Z,511nm,0.7s
XMIS Christmas Isla 62.67 225 *e*P **P 09 18 59.5 -0.2**
comp=Z,1µm,1.5s
B05A Bryant 62.67 49 P **P 09 18 59.1 -0.2**
baz=302,SNR=52
HEF Hetta 62.67 339 *e*P **P 09 19 00.7 +1.6**
E03A Lebam 62.72 51 *e*P **P 09 19 00.6 +0.9**
B06A Marblemount 62.88 48 *e*P **P 09 19 00.7 -0.1**
KIF Kilpisjarvi 63.00 340 *e*P **P 09 19 02.0 +0.8**
TRO Tromso 63.01 341 *e*P **P 09 19 01.0 -0.2**
TRO IVmB_BB 09 19 06.4
comp=Z,14µm,2.9s
TRO *e*S **S 09 27 32.7 +2.5**
TRO IVMs_BB IVMs_BB 09 51 45.3
comp=Z,41µm,21.8s
F04D Rainier, OR 63.28 51 P **P 09 19 02.5 -1.0**
baz=302
D05A Enumclaw 63.30 50 *e*P **P 09 19 04.7 +1.1**

C06D Leavenworth 63.53 49 P **P 09 19 05.0 -0.1**
baz=302,SNR=26
G03D McMinnville, O 63.60 52 P **P 09 19 05.1 -0.5**
baz=302,SNR=6.5
URV Uravakonda 63.60 267 *e*P **P 09 19 04.7 -1.3**
URV IAmb IAmb 09 19 10.8
comp=Z,316nm,0.9s
URV *e*S **S 09 27 36.7 -2.5**
URV IVMs_BB IVMs_BB 09 49 06.3
comp=Z,22µm,17.3s
LON Longmire 63.63 50 *e*P **P 09 19 06.0 +0.1**
LON Longmire 63.63 50 *e*P **P 09 19 06.0 +0.1**
COR Corvallis 63.91 53 *e*P **P 09 19 09.4 +1.8**
COR Corvallis 63.91 53 *e*P **P 09 19 09.4 +1.8**
KULLO Kullorsuaq 63.91 6 *i* P **P 09 19 06.5 -0.6**
comp=Z,1µm,1.2s
KULLO *i* 09 21 34.9
KULLO Kullorsuaq 63.91 6 *i* P **P 09 19 06.5 -0.6**
KULLO *i* 09 21 34.9
KULLO pmax pmax
comp=Z,1µm,1.2s
POO Poona 64.01 273 *e*P **P 09 19 07.7 -1.0**
POO IAmb IAmb 09 19 13.2
comp=Z,647nm,1.1s
LTY Liberty 64.02 49 *e*P **P 09 19 08.0 -0.4**
B08A Colville Reser 64.18 48 *e*P **P 09 19 08.9 -0.5**
KEBM Edson Butte 64.20 55 *e*P **P 09 19 11.3 +1.7**
BHJ Bhuj 64.40 279 *e*P **P 09 19 11.2 +0.1**
BHJ IAmb IAmb 09 19 16.4
comp=Z,278nm,0.8s
GEYT Alibeck 64.45 299 P **P 09 19 10.9 -0.5**
comp=Z,115nm,0.8s,baz=29,slow=3.4,SNR=99
GEYT S **S 09 27 55.2 +5.9**
comp=Z,1.4nm,0.5s,baz=70,slow=13,SNR=2.2
GEYT PKPPKP **P'P'df 09 47 57.1 -7.7**
comp=Z,3.0nm,0.4s,baz=242,slow=3.2,SNR=4.4
GEYT PKP2bc 09 48 06.4
comp=Z,2.6nm,0.3s,baz=243,slow=6.5,SNR=8.0
GEYT LR LR 09 50 34.2
comp=Z,111µm,20.2s,baz=50,slow=39
KBO Bosley Butte 64.62 55 *e*P **P 09 19 15.2 +2.8**
EDM Edmonton 64.63 41 *e*P **P 09 19 11.5 -0.7**
EDM *e* 09 21 42.0
EDM pmax pmax
comp=Z,4µm,0.8s
EDM Edmonton 64.63 41 *e*P **P 09 19 11.5 -0.7**
comp=Z,4µm,0.8s
EDM *e*PP PP 09 21 42.0 +8.1
EDM *e*S **S 09 27 58.0 +7.1**
G05D Wamic, OR 64.74 51 P **P 09 19 13.2 +0.1**
baz=303,SNR=33
E07A Sunnyside 64.87 49 *e*P **P 09 19 14.1 +0.2**
I04A Tendick Farm, 64.87 53 P **P 09 19 13.8 -0.2**
baz=303,SNR=44
AS31 Alice Springs 65.00 191 *e*P **P 09 19 14.8 -0.2**
ASAR Alice Springs 65.00 191 P **P 09 19 14.3 -0.6**
comp=Z,76nm,0.7s,baz=10,slow=4.8,SNR=139
ASAR PKP2bc 09 48 02.0
comp=Z,16nm,1.1s,baz=179,slow=2.0,SNR=8.4
ASAR LR LR 09 51 35.5
comp=Z,8µm,18.0s,baz=18,slow=40
ASAR P4KPbc 09 56 09.6
comp=Z,1.6nm,1.1s,baz=20,slow=3.0,SNR=2.5
ASAR Alice Springs 65.00 191 P **P 09 19 14.3 -0.6**
ASAR pmax pmax
comp=Z,74nm,0.7s
ASAR MLR MLR
comp=Z,8µm,18.0s
L02D Cave Junction, 65.04 55 P **P 09 19 15.9 +0.8**
baz=303,SNR=32
C09A Chrisman Ranch 65.08 48 *e*P **P 09 19 14.9 -0.4**
D08A Wollman Farm, 65.13 49 *e*P **P 09 19 15.1 -0.5**
G06A Carlson Farm, 65.14 51 *e*P **P 09 19 16.3 +0.5**
STEI Steigen 65.18 341 *e*P **P 09 19 15.4 -0.1**
STEI IVmB_BB 09 19 19.7
comp=Z,10µm,3.2s
STEI *e*S **S 09 27 53.8 -3.3**
F07A Phinny Hill Vi 65.19 50 *e*P **P 09 19 16.2 +0.2**
KRMB Red Mountain 65.19 56 *e*P **P 09 19 18.5 +2.2**
I05D Terrebonne, OR 65.22 52 P **P 09 19 17.0 +0.7**
baz=304,SNR=50
J04D Umpqua Nationa 65.36 53 P **P 09 19 17.6 +0.1**
baz=304,SNR=74
E08A Dider Farm, El 65.36 49 *e*P **P 09 19 16.5 -0.6**
LOF Lofoten 65.43 342 *e*P **P 09 19 17.1 0.0**
LOF IVmB_BB 09 19 21.0
comp=Z,11µm,4.3s
LOF IVMsBB 09 52 37.7
comp=Z,33µm,19.2s
NEW Newport 65.46 47 P **P 09 19 17.3 -0.5**
baz=304,SNR=142
NEW Newport 65.46 47 *e*P **P 09 19 17.4 -0.4**
NEW MLR MLR
comp=Z,51µm,20.0s
NEW Newport 65.46 47 *e*P **P 09 19 17.4 -0.4**
NEW LR LR
comp=Z,51µm,20.0s
JCC Jacoby Creek, 65.51 57 *e*P **P 09 19 20.5 +2.4**
KHMM Horse Mountain 65.66 56 *e*P **P 09 19 20.6 +1.3**
DZM Mont Dzumac 65.69 158 P **P 09 19 21.2 +1.8**
comp=Z,404nm,1.0s,baz=46,slow=10,SNR=32
DZM LR LR 09 46 40.2
comp=Z,55µm,19.5s,baz=347,slow=35
DZM PKP2bc 09 47 59.9
comp=Z,9.8nm,0.9s,baz=139,slow=9.3,SNR=3.2
DZM Mont Dzumac 65.69 158 *e*P **P 09 19 24.0 +4.6**
comp=Z,1µm,1.2s
DZM Mont Dzumac 65.69 158 *e*PP PP 09 21 46.3 +1.9
comp=Z,8µm,23.8s
DZM *e*S **S 09 28 07.9 +3.4**
comp=Z,426µm,28.5s
DZM *e*SS **SS 09 32 24.3 +4.9**
comp=Z,70µm,27.5s
DZM *e*LQ LQ 09 36 11.4
comp=Z,177µm,32.0s
DZM *e*LR LR 09 39 02.2
comp=Z,228µm,35.0s
DZM Mont Dzumac 65.69 158 *e*P **P 09 19 20.5 +1.0**
comp=Z,1µm,1.4s
DZM *e*S **S 09 27 59.3 -5.2**
DZM ⇑*e* 09 47 59.9
PINE Pine Mountain 65.76 52 *e*P **P 09 19 20.6 +0.6**
YBH Yreka Blue Hor 65.83 55 P **P 09 19 21.4 +1.1**
comp=Z,48nm,0.6s,baz=356,slow=7.6,SNR=85
YBH LR LR 09 45 33.9
comp=Z,20µm,18.6s,baz=312,slow=34
MOS Moscow 65.86 324 *e*P **P 09 19 20.0 -0.1**
MSVF Nonsavu 65.86 145 *e*P **P 09 19 21.9 +1.3**
MSVF MLR MLR
comp=Z,85µm,19.0s
MSVF Nonsavu 65.86 145 *e*P **P 09 19 21.9 +1.3**
MSVF LR LR
comp=Z,85µm,19.0s
J05D Fort Rock, OR 65.87 53 P **P 09 19 21.4 +0.7**
baz=304,SNR=111
E09A Wood Farm, Sta 65.87 49 *e*P **P 09 19 20.3 -0.1**
GOA Goa 65.87 270 *e*P **P 09 19 20.3 -0.4**
GOA IAmb IAmb 09 19 25.0
comp=Z,750nm,1.0s
GOA IAMs_20 IAMs_20 09 52 13.1
comp=Z,62µm,9.1s
PALK Pallekele 65.91 258 *i* P **P 09 19 21.1 0.0**
PALK Pallekele 65.91 258 P **P 09 19 21.3 +0.2**
SNR=63
PALK Pallekele 65.91 258 P **P 09 19 21.3 +0.2**
SNR=63
PALK Pallekele 65.91 258 *i* P **P 09 19 20.7 -0.5**
SNR=59
K04D Chiloquin, OR 65.92 54 P **P 09 19 20.7 -0.3**
baz=304,SNR=24
M02C Callahan 65.93 55 P **P 09 19 21.7 +0.8**
baz=304,SNR=35
MBWA Marble Bar 66.01 206 *e*P **P 09 19 21.0 -0.4**
MBWA LR LR
comp=Z,30µm,21.0s
MBWA Marble Bar 66.01 206 P **P 09 19 24.6 +3.2**
SNR=24
MBWA Marble Bar 66.01 206 P **P 09 19 24.6 +3.2**
SNR=24
KMRM Mail Ridge 66.04 57 *e*P **P 09 19 23.3 +1.6**
G08A Pilot Rock 66.09 50 *e*P **P 09 19 22.2 +0.2**
N02D Trinity Center 66.25 56 P **P 09 19 24.2 +1.1**
baz=304,SNR=54
PUL Pulkovo 66.33 330⇑*e*P **P 09 19 23.1 0.0**
PUL pmax pmax
comp=Z,1µm,1.7s

PUL MLR MLR
comp=Z,274µm,18.0s
M04C Macdoel 66.34 55 P **P 09 19 24.0 +0.4**
baz=304,SNR=63
K05A Summer Lake 66.39 53 *e*P **P 09 19 24.8 +0.8**
KCPM Cahto Peak 66.42 57 *e*P **P 09 19 25.2 +1.0**
I07A Izee 66.46 51 *e*P **P 09 19 25.0 +0.7**
WDC Whiskeytown Da 66.58 56 *e*P **P 09 19 25.6 +0.6**
WDC Whiskeytown Da 66.58 56 *e*P **P 09 19 25.6 +0.6**
VRH Novokhopyorsk 66.63 318 *e*P **P 09 19 24.5 -0.7**
VRH *e* 09 21 56.2
VRH *e*S **S 09 28 14.1 -1.2**
VRH *e*SS **SS 09 32 23.3 -8.7**
VRH pmax pmax
comp=Z,490nm,0.9s
VRH pmax pmax
comp=Z,710nm,1.1s
VRH smax smax
comp=E,26µm,8.3s
VRH MLR MLR
comp=Z,109µm,16.0s
F10A Beach Ranch, E 66.70 49 *e*P **P 09 19 26.0 +0.1**
OBN Obninsk 66.72 324 S **S 09 28 20.2 +4.0**
comp=Z,15nm,0.3s,baz=221,slow=20,SNR=2.1
OBN Obninsk 66.72 324 *d i*P **P 09 19 24.9 -0.7**
OBN *i* *SP **pP 09 19 31.6 -0.2**
OBN 09 19 52.0
OBN *i* 09 21 54.0
OBN *i* S **S 09 28 18.2 +2.0**
OBN *i* 09 28 28.8
OBN *i* PS **PnS 09 28 38.6 +0.8**
OBN *i* SS **SS 09 32 32.9 -0.2**
OBN pmax pmax
comp=Z,1µm,1.7s
OBN pmax pmax
comp=Z,590nm,1.5s
OBN MLR MLR
comp=Z,208µm,15.0s
OBN Obninsk 66.72 324 *e*P **P 09 19 25.4 -0.2**
OBN S **S 09 28 20.2 +4.0**
OBN LR LR
comp=Z,205µm,20.0s
FIA1 FINESS Array S 66.74 333 *e*P **P 09 19 25.1 -0.6**
FINES FINESS Array B 66.74 333 P **P 09 19 25.1 -0.6**
comp=Z,141nm,0.6s,baz=49,slow=5.8,SNR=153
FINES PP **PP 09 21 49.4 -2.8**
comp=Z,49nm,0.8s,baz=42,slow=11,SNR=2.4
FINES S **S 09 28 20.2 +3.9**
comp=Z,5.5nm,0.9s,baz=52,slow=9.0,SNR=1.9
FINES PKP2bc 09 47 54.5
comp=Z,12nm,0.9s,baz=282,slow=1.3,SNR=8.1
FINES LR LR 09 51 32.6
comp=Z,298µm,18.6s,baz=49,slow=39
FINES P4KPbc 09 56 15.9
comp=Z,5.6nm,1.0s,baz=32,slow=6.6,SNR=3.6
WALA Waterton Lakes 66.75 45 *e*P **P 09 19 26.1 0.0**
comp=Z,808nm,1.4s
WALA *e*PP **PP 09 21 55.5 +2.8**
WALA *e*S **S 09 28 17.6 +0.5**
MOR8 Moi Rana 66.75 340 *e*P **P 09 19 24.0 -1.7**
MOR8 IVmB_BB 09 19 29.7
comp=Z,13µm,2.2s
MOR8 *e*S **S 09 28 16.8 +0.4**
MOR8 IVMs_BB IVMs_BB 09 49 03.0
comp=Z,45µm,20.5s
KONS Konsvik 66.82 341 *e*P **P 09 19 25.9 -0.1**
KONS IVmB_BB 09 19 29.9
comp=Z,9µm,5.1s
KONS IVMs_BB IVMs_BB 09 51 28.3
comp=Z,37µm,21.1s
SUMG Summit 66.86 1 *i* P **P 09 19 27.3 +0.5**
comp=Z,2µm,1.2s
SUMG *i* 09 22 00.9
SUMG Summit 66.86 1 *e*P **P 09 19 26.8 0.0**
SUMG Summit 66.86 1 *e*P **P 09 19 26.8 0.0**
JMIC Jan Mayen 66.86 351 *e*P **P 09 19 29.2 +2.9**
JMIC IVmB_BB 09 19 31.3
comp=Z,12µm,2.2s
JMIC *e*S **S 09 28 20.9 +3.3**
STOK Stokkvaagen 66.98 341 *e*P **P 09 19 27.1 0.0**
STOK IVmB_BB 09 19 31.0
comp=Z,13µm,3.1s
STOK IVMsBB 09 52 27.1
comp=Z,63µm,21.6s
HOPS Hopland Field 67.14 58 *e*P **P 09 19 30.2 +1.6**
LPSR Galich'ya Gora 67.17 321 *e*P **P 09 19 28.4 -0.1**
LPSR *e*S **S 09 28 22.6 +0.8**
LPSR pmax pmax
comp=Z,710nm,1.0s
LPSR pmax pmax
comp=Z,850nm,1.0s
LPSR smax smax
comp=N,17µm,5.1s
LPSR MLR MLR
comp=Z,155µm,18.0s
O03D Paynes Creek 67.20 56 P **P 09 19 28.9 -0.2**
baz=305,SNR=155
MOD Modoc Plateau 67.22 54 *e*P **P 09 19 29.3 +0.1**
BMO Blue Mountains 67.31 50 *e*P **P 09 19 29.4 -0.3**
BMO MLR MLR
comp=Z,30µm,20.0s
BMO Blue Mountains 67.31 50 *e*P **P 09 19 29.4 -0.3**
BMO LR LR
comp=Z,30µm,20.0s
JTMT Jette 67.32 46 *e*P **P 09 19 29.8 0.0**
J08A Circle Bar Ran 67.48 52 *e*P **P 09 19 31.1 +0.2**
AFI Afiamalu 67.58 134 P **P 09 19 31.1 -0.5**
comp=Z,204nm,1.1s,baz=345,slow=8.7,SNR=24
AFI LR LR 09 47 35.5
comp=Z,72µm,18.5s,baz=336,slow=35
AFI Afiamalu 67.58 134 P **P 09 19 31.1 -0.5**
AFI pmax pmax
comp=Z,124nm,0.9s
AFI Afiamalu 67.58 134 *e*P **P 09 19 31.8 +0.2**
comp=Z,623nm,1.4s
VORR Voronezh 67.60 320 *e*P **P 09 19 28.0 -3.3**
VORR *e*S **S 09 28 26.0 -1.0**
VORR pmax pmax
comp=Z,4µm,2.0s
VORR smax smax
comp=N,2µm,4.0s
ORV Oroville 67.82 56 *e*P **P 09 19 32.4 -0.5**
ORV Oroville 67.82 56 *e*P **P 09 19 32.4 -0.5**
TRD Trivandrum 67.90 262 *e*P **P 09 19 32.8 -0.9**
VSR Storozhevoye 67.90 319 *e*P **P 09 19 32.9 -0.3**
VSR *e* 09 22 07.4
VSR *e*S **S 09 28 29.3 -1.3**
VSR *e*SS **SS 09 32 42.4 -9.3**
VSR pmax pmax
comp=Z,450nm,0.9s
VSR pmax pmax
comp=Z,710nm,1.1s
VSR smax smax
comp=E,21µm,7.9s
VSR MLR MLR
comp=Z,184µm,18.0s
WVOR Wild Horse Val 67.92 53 *e*P **P 09 19 34.7 +1.0**
WVOR pmax pmax
comp=Z,339nm,1.3s
WVOR MLR MLR
comp=Z,31µm,19.0s
WVOR Wild Horse Val 67.92 53 *e*P **P 09 19 34.7 +1.0**
comp=Z,339nm,1.3s
WVOR LR LR
comp=Z,31µm,19.0s
MSO Missoula 68.05 47 P **P 09 19 34.0 -0.4**
baz=307,SNR=140
MSO Missoula 68.05 47 *e*P **P 09 19 33.8 -0.6**
MAK Makhachkala 68.31 308 *d i*P **P 09 19 37.0 +1.1**
MAK *e* 09 22 15.1
MAK *e*PPP PPP 09 23 47.8
MAK *e*S **S 09 28 40.8 +5.1**
MAK *e*S **S 09 28 40.9 +5.2**
MAK pmax pmax
comp=Z,2µm,1.8s
MAK pmax pmax
comp=Z,5µm,1.7s
MAK pmax pmax
comp=E,1µm,1.3s
MAK pmax pmax
comp=N,3µm,1.7s
MAK smax smax
comp=E,80µm,8.2s
MAK smax smax
comp=N,26µm,5.7s

MAK MLR MLR
comp=N,202µm,18.0s
MAK MLR MLR
comp=E,184µm,16.0s
MAK MLR MLR
comp=Z,133µm,15.0s
BEKR Beckworth 68.36 56 *e*P **P 09 19 36.7 +0.2**
AFDM Forest Hills D 68.50 57 *e*P **P 09 19 37.4 +0.1**
VSU Vasula 68.58 330 *e*P **P 09 19 37.2 -0.1**
VSU pmax pmax
comp=Z,2µm,1.7s
VSU MLR MLR
comp=Z,706µm,19.0s
SCO Scoresbysund 68.58 355 *i* P **P 09 19 38.2 +1.1**
comp=Z,915nm,1.3s
SCO Scoresbysund 68.58 355 *e*P **P 09 19 37.1 0.0**
SCO Scoresbysund 68.58 355 *e*P **P 09 19 37.1 0.0**
NSS Namsos 68.69 340 *e*P **P 09 19 37.3 -0.6**
NSS IVmB_BB 09 19 47.7
comp=Z,18µm,4.3s
NSS *e*S **S 09 28 40.8 +1.2**
NSS IVMs_BB IVMs_BB 09 54 31.1
comp=Z,52µm,19.1s
RDG13 Poverty Ridge 68.89 58 *e*P **P 09 19 40.1 +0.4**
FFC Flin Flon 68.98 35 *e*P **P 09 19 39.2 -0.7**
FFC MLR MLR
comp=Z,51µm,20.0s
FFC Flin Flon 68.98 35 *e*P **P 09 19 39.2 -0.7**
FFC LR LR
comp=Z,51µm,20.0s
MFID Camas Ranch 69.01 50 *e*P **P 09 19 40.2 -0.2**
COCO West Island 69.03 231 *e*P **P 09 19 43.1 +2.5**
COCO MLR MLR
comp=Z,37µm,21.0s
COCO West Island 69.03 231 *e*P **P 09 19 43.1 +2.5**
COCO LR LR
comp=Z,37µm,21.0s
COCO West Island 69.03 231 P P 09 19 46.3 +5.7
SNR=11
COCO West Island 69.03 231 P P 09 19 46.3 +5.7
SNR=11
AKT Akhty 69.05 307 *i*P **P 09 19 40.6 -0.1**
AKT *e* 09 20 07.6
AKT *e* 09 22 16.7
AKT *e*PPP PPP 09 23 59.5
AKT *e*S **S 09 28 47.8 +2.9**
AKT pmax pmax
comp=Z,1µm,1.0s
PAHR Pah Rah Range 69.06 55 *e*P **P 09 19 40.9 0.0**
comp=Z,665nm,1.3s
VCNR Virginia City 69.13 56 *e*P **P 09 19 42.0 +0.6**
GROC Groznyy 69.18 309 *e*P **P 09 19 40.9 -0.4**
GROC *e* 09 20 06.0
GROC *e*S **S 09 28 43.8 -2.2**
GROC pmax pmax
comp=Z,1µm,1.5s
HRY Holter Researc 69.27 46 *e*P **P 09 19 41.8 -0.2**
FCC Fort Churchill 69.33 29 *e*P **P 09 19 41.2 -0.8**
FCC *e* 09 22 19.6
FCC pmax pmax
comp=Z,151nm,1.1s
FCC Fort Churchill 69.33 29 *e*P **P 09 19 41.2 -0.8**
comp=Z,152nm,1.1s
FCC *e*PP **PP 09 22 19.6 +5.0**
CMB Columbia Colle 69.41 57 *e*P **P 09 19 42.9 0.0**
CMB Columbia Colle 69.41 57 *e*P **P 09 19 42.9 0.0**
LRM Limekiln Ridge 69.48 47 *e*P **P 09 19 43.0 -0.4**
SEKA Sheki 69.53 307 P **P 09 19 40.9 -2.8**
EGMT Eagleton 69.57 44 P **P 09 19 43.3 -0.5**
baz=309,SNR=153
EGMT Eagleton 69.57 44 *e*P **P 09 19 43.2 -0.5**
EGMT LR LR
comp=Z,62µm,21.0s
YERR Yerington 69.57 56 *e*P **P 09 19 41.2 -3.0**
ILULI Ilulissat 69.61 6 *i* P **P 09 19 43.6 0.0**
comp=Z,768nm,1.0s
ILULI *i* 09 22 24.8
ILULI Ilulissat 69.61 6 *e*P **P 09 19 43.0 -0.5**
ILULI Ilulissat 69.61 6 *e*P **P 09 19 43.0 -0.5**
ZKTA Zakatala 69.62 308 P **P 09 19 41.8 -2.4**
QOF Gofitskoye 69.63 312 *i*P **P 09 19 44.7 +0.6**
GOF pmax pmax
comp=Z,1µm,1.0s
DLMT Dillon 69.68 47 *e*P **P 09 19 44.1 -0.5**
WAKR Walker 69.73 56 *e*P **P 09 19 45.9 +0.7**
HLID Hailey 69.75 50 P **P 09 19 45.2 +0.1**
baz=308,SNR=130
HLID Hailey 69.75 50 *e*P **P 09 19 45.0 -0.1**
HLID LR LR
comp=Z,27µm,19.0s
MNGR Mingechevir, A 69.86 307 P **P 09 19 43.3 -2.3**
MCMT McKenzie Canyo 69.87 48 *e*P **P 09 19 45.5 -0.4**
BMN Battle Mountai 69.96 54 *e*P **P 09 19 46.7 +0.3**
BMN Battle Mountai 69.96 54 *e*P **P 09 19 46.7 +0.3**
LKRN Lenkeran, Azer 70.05 304 P **P 09 19 44.5 -2.2**
BOZ Bozeman (W) 70.07 47 P **P 09 19 46.9 -0.1**
baz=308,SNR=392
BOZ Bozeman (W) 70.07 47 *e*P **P 09 19 46.7 -0.3**
BOZ MLR MLR
comp=Z,33µm,22.0s
BOZ Bozeman (W) 70.07 47 *e*P **P 09 19 46.7 -0.3**
BOZ LR LR
comp=Z,33µm,22.0s
TBLU Trondheim 70.17 340 *e*P **P 09 19 43.9 -3.2**
TBLU IVmB_BB 09 19 50.6
comp=Z,12µm,2.6s
TBLU *e*S **S 09 28 56.1 -0.9**
TBLU IVMs_BB IVMs_BB 09 55 26.6
comp=Z,63µm,19.4s
PMPB Monarch Peak 70.22 59 *e*P **P 09 19 49.0 +1.0**
RYN Ryan 70.24 56 *e*P **P 09 19 48.7 +0.5**
NCK Nalchik 70.28 311 *e*P **P 09 19 49.2 +1.1**
NCK pmax pmax
comp=Z,361nm,1.1s
MDPB Devils Postpil 70.48 57 *e*P **P 09 19 50.2 +0.4**
NVAR Mina Array Bea 70.49 56 P **P 09 19 49.9 +0.1**
comp=Z,34nm,0.6s,baz=295,slow=5.9,SNR=138
NVAR LR LR 09 46 07.5
comp=Z,30µm,20.6s,baz=58,slow=32
NVAR PKP2ab 09 47 46.6
comp=Z,4.7nm,1.0s,baz=158,slow=3.4,SNR=8.5
NVAR P4KPbc 09 56 39.9
comp=Z,1.6nm,0.9s,baz=271,slow=3.4,SNR=9.2
KVAR Kislovodsk Arr 70.51 312 P **P 09 19 51.1 +1.5**
comp=Z,570nm,0.8s,baz=283,slow=1.9,SNR=215
KIV Kislovodsk 70.51 312 *e*P **P 09 19 50.0 +0.3**
KIV *e* 09 20 05.5
KIV *e* 09 22 26.3
KIV *e*S **S 09 29 04.2 +2.3**
KIV *e*SS **SS 09 33 36.2 +3.8**
KIV pmax pmax
comp=Z,23µm,6.8s
KIV pmax pmax
comp=Z,4µm,1.1s
KIV Kislovodsk 70.51 312 *e*P **P 09 19 50.2 +0.6**
comp=Z,3µm,1.0s
KIV *e*PP **PP 09 22 31.1 +5.7**
KIV LR LR
comp=Z,114µm,19.0s
KIV Kislovodsk 70.51 312 P **P 09 19 49.6 0.0**
SNR=1309
KIV Kislovodsk 70.51 312 P **P 09 19 49.6 0.0**
SNR=1309
KIV Kislovodsk 70.51 312 *i* P **P 09 19 49.9 +0.3**
SNR=645
KBZ Khabaz 70.53 311 P **P 09 19 50.1 +0.5**
comp=Z,507nm,0.8s,baz=58,slow=4.8,SNR=315
KBZ PKP2ab 09 47 47.5
comp=Z,2.6nm,1.0s,baz=240,slow=4.8,SNR=14
KBZ LR LR 09 54 17.5
comp=Z,88µm,18.4s,baz=34,slow=39
ZEI Tsey 70.53 310 *e*P **P 09 19 47.9 -2.1**
ZEI *e*S **S 09 29 04.3 +1.9**
ZEI pmax pmax
comp=Z,1µm,1.0s
ZEI pmax pmax
comp=N,922nm,0.9s
ZEI pmax pmax
comp=E,1µm,1.1s
MLAC Mammoth, Mammo 70.64 57 P **P 09 19 51.4 +0.7**
baz=307,SNR=31
QLMT Earthquake Lak 70.66 47 *e*P **P 09 19 51.1 +0.4**
IZAR Zarasai 70.68 328 *e*P **P 09 19 50.3 0.0**
IZAR IAmb IAmb 09 19 57.8
comp=Z,302nm,0.9s

TBLG Delisi 70.69 309 *e*P **P 09 19 51.9 +1.2**
IDID Didziasalis 70.79 328 *e*P **P 09 19 51.0 +0.1**
IDID IAmb IAmb 09 19 58.6
comp=Z,369nm,1.0s
YHB Horse Butte 70.84 47 *e*P **P 09 19 52.3 +0.5**
ISAL Salakas 70.85 328 *e*P **P 09 19 51.4 +0.1**
ISAL IAmb IAmb 09 19 59.0
comp=Z,557nm,1.0s
MICGM Minsk 70.89 327 ⇓ *i*P **P 09 19 51.0 -0.6**
MICGM ⇓ *i*P **P 09 19 51.0 -0.6**
MICGM PM 09 19 52.0
comp=Z,1.2nm,0.9s
MICGM PM 09 19 53.0
comp=N,0.7nm,0.8s
MICGM PM 09 19 59.0
comp=Z,82nm,8.0s
MICGM PM 09 20 00.0
comp=N,22nm,6.0s
MICGM PM 09 20 01.0
comp=E,15nm,9.0s
MICGM *e*PcP **PcP 09 20 10.0 -2.1**
MICGM *e*PP **PP 09 22 32.0 +3.8**
MICGM PPM 09 22 37.0
comp=Z,28nm,7.0s
MICGM *e*PPP PPP 09 24 08.0
MICGM *e*S **S 09 29 06.0 +0.3**
MICGM SM 09 29 17.0
comp=N,84nm,12.0s
MICGM SM 09 29 19.0
comp=E,92nm,10.0s
MICGM *e*PS **PnS 09 29 29.0 -5.2**
MICGM *e*SS **SS 09 33 28.0 -9.4**
MICGM *e*SSS SSS 09 36 54.0
MICGM *e*LQ LQ 09 42 41.0
MICGM LQM 09 47 00.0
comp=E,307nm,26.0s
MICGM LQM 09 47 40.0
comp=N,286nm,24.0s
MICGM *e*LR LR 09 50 25.0
MICGM LRM MLR 09 54 26.0
comp=E,238nm,18.0s
MICGM LRM MLR 09 55 24.0
comp=Z,220nm,13.0s
MICGM LRM MLR 09 55 24.0
comp=N,316nm,15.0s
MNK Minsk 70.89 327 *d i*P **P 09 19 51.0 -0.6**
MNK *e* 09 20 10.0
MNK *e* 09 22 32.0
MNK *e*PPP PPP 09 24 08.0
MNK *e*S **S 09 29 06.0 +0.3**
MNK *e*PS **PnS 09 29 29.0 -5.2**
MNK pmax pmax
comp=Z,1µm,0.9s
MNK pmax pmax
comp=N,690nm,0.8s
MNK pmax pmax
comp=Z,82µm,8.0s
MNK pmax pmax
comp=N,22µm,6.0s
MNK pmax pmax
comp=E,15µm,9.0s
MNK pmax pmax
comp=Z,28µm,7.0s
MNK smax smax
comp=N,84µm,12.0s
MNK smax smax
comp=E,92µm,10.0s
MNK MLR MLR
comp=E,238µm,18.0s
MNK MLR MLR
comp=N,316µm,15.0s
MNK MLR MLR
comp=Z,220µm,13.0s
NEY Neytrino 70.93 311 *c i*P **P 09 19 53.7 +1.4**
NEY pmax pmax
comp=Z,184nm,1.1s
IIGN Ignalina 70.97 328 *e*P **P 09 19 52.1 0.0**
IIGN IAmb IAmb 09 20 00.7
comp=Z,510nm,0.9s
YHH Holmes Hill 71.01 47 *e*P **P 09 19 53.3 +0.3**
YMR Madison River 71.02 47 *e*P **P 09 19 53.1 +0.2**
GCMT Greycliff 71.02 46 *e*P **P 09 19 52.9 +0.1**
NACGM Naroch 71.06 327 *e*P **P 09 19 52.0 -0.7**
NACGM *e*P **P 09 19 52.0 -0.7**
NACGM *e*PP **PP 09 22 32.0 +2.4**
NACGM *e*PPP PPP 09 24 04.0
NACGM *e*S **S 09 29 08.0 +0.3**
NACGM *e*SS SS 09 33 20.0 -20
NACGM *e*SSS SSS 09 36 48.0
NACGM *e*LQ LQ 09 44 06.0
YNR Norris Junctio 71.15 47 *e*P **P 09 19 55.2 +1.5**
comp=Z,1µm,1.4s
ARMA Armidale 71.17 174 *e*P **P 09 19 54.2 +0.6**
comp=Z,564nm,1.3s
ARMA *e*PcP **PcP 09 20 09.7 -3.8**
ARMA *e*PP **PP 09 22 32.1 +0.2**
ARMA *e*S **S 09 29 07.2 -2.2**
RCTC Rector, Farmer 71.17 58 P **P 09 19 54.0 +0.3**
baz=307,SNR=20
YFT Old Faithful 71.23 47 *e*P **P 09 19 56.1 +1.9**
comp=Z,552nm,1.1s
SMMC Simmler 71.28 59 P **P 09 19 54.9 +0.5**
baz=307,SNR=41
TIN Tinemaha, Big 71.37 57 P **P 09 19 54.5 -0.6**
baz=308,SNR=10
LKWY Lake 71.40 47 *e*P **P 09 19 57.6 +2.4**
LKWY *e* 09 22 41.8
LKWY pmax pmax
comp=Z,2µm,2.0s
LKWY MLR MLR
comp=Z,91µm,21.0s
LKWY Lake 71.40 47 *e*P **P 09 19 57.6 +2.4**
comp=Z,2µm,2.0s
LKWY *e*PP PP 09 22 41.8 +8.6
LKWY *e*S **SKiKP 09 29 23.6 -10**
LKWY LR LR
comp=Z,91µm,21.0s
H17A Grant Village 71.41 47 P **P 09 19 56.2 +0.9**
baz=309,SNR=263
H17A Grant Village 71.41 47 *e*P **P 09 19 57.0 +1.7**
comp=Z,782nm,1.2s
MOL Molde 71.43 341 *e*P **P 09 19 53.6 -1.1**
MOL IVmB_BB 09 19 58.2
comp=Z,12µm,2.9s
MOL *e*S **S 09 29 12.7 +1.0**
MOL IVMsBB 09 53 50.9
comp=Z,32µm,20.8s
DOMB Dombas 71.48 340 *e*P **P 09 19 54.5 -0.7**
DOMB IVmB_BB 09 20 07.8
comp=Z,16µm,4.2s
DOMB IVMs_BB IVMs_BB 09 56 29.6
comp=Z,67µm,19.1s
NC303 NORSAR Array S 71.53 338 *e*P **P 09 19 55.7 +0.3**
NC303 IVmB_BB 09 20 03.5
comp=Z,123µm,7.3s
NC303 IVMs_BB IVMs_BB 09 53 55.9
comp=Z,637µm,20.9s
VES Vestal, Richgr 71.55 58 P **P 09 19 55.1 -0.9**
baz=308,SNR=92
AKH Akhalkalaki 71.62 309 *e*P **P 09 19 58.6 +2.0**
AKH Akhalkalaki 71.62 309 ⇑ *i*P **P 09 19 57.5 +0.9**
PKM Mcpherson Peak 71.66 60 P **P 09 19 57.2 +0.3**
baz=307,SNR=94
GNI Garni 71.66 307 P **P 09 19 58.7 +1.9**
comp=Z,95nm,0.6s,baz=165,slow=2.6,SNR=70
GNI PKP2ab 09 47 42.3
comp=Z,2.3nm,0.5s,baz=260,slow=3.1,SNR=10
GNI Garni 71.66 307 ⇓ *e*P **P 09 19 57.6 +0.8**
GNI pmax pmax
comp=Z,3µm,1.7s
GNI MLR MLR
comp=Z,188µm,22.0s
GNI Garni 71.66 307 *e*P **P 09 19 57.8 +1.0**
comp=Z,14µm,1.5s
GNI *e*PP **PP 09 22 37.4 +2.0**
GNI *e*S **S 09 29 08.8 -6.7**
GNI P'P'ab **P'P'ab 09 47 42.3 -6.2**
GNI LR LR
comp=Z,71µm,19.0s
GNI Garni 71.66 307 P **P 09 19 58.0 +1.2**
SNR=372
GNI Garni 71.66 307 P **P 09 19 58.0 +1.2**
SNR=372
GNI Garni 71.66 307 *i* P **P 09 19 58.0 +1.2**
SNR=89

NC204 NORSAR Array S 71.66 339 *e*P **P** **09 19 56.5 +0.2**
NC204 IVmBBB 09 20 06.1
comp=Z,54μm,2.3s
NC204 IVMsBB 09 52 13.2
comp=Z,538μm,21.4s
RLMT Red Lodge 71.66 46 P **P** **09 19 56.7 -0.1**
baz=310,SNR=125
RLMT Red Lodge 71.66 46 *e*P **P** **09 19 56.8 0.0**
RLMT LR LR
comp=Z,50μm,20.0s
NB201 NORSAR Array S 71.70 338 *e*P **P** **09 19 56.3 -0.1**
NB201 IVmB_BB 09 20 05.9
comp=Z,76μm,2.7s
NB201 IVMs_BB IVMs_BB 09 54 00.2
comp=Z,663μm,20.8s
NB2 NORSAR Subarra 71.73 338 P **P** **09 19 56.3 -0.4**
comp=Z,252nm,0.8s,baz=36,slow=6.2
NB2 NORSAR Subarra 71.73 338 P **P** **09 19 56.3 -0.4**
baz=36,slow=6.2
NOA NORSAR Array B 71.73 338 P **P** **09 19 55.9 -0.8**
comp=Z,202nm,0.7s,baz=37,slow=6.1,SNR=149
NOA PKP2ab 09 47 42.5
comp=Z,3.8nm,1.0s,baz=204,slow=3.2,SNR=3.8
NOA LR LR 09 54 51.3
comp=Z,137μm,20.6s,baz=40,slow=39
NOA NORSAR Array B 71.73 338 P **P** **09 19 55.9 -0.8**
NOA pmax pmax
comp=Z,195nm,0.7s
NOA MLR MLR
comp=Z,137μm,20.6s
HFS Hagfors 71.74 337 P **P** **09 19 56.4 -0.3**
comp=Z,271nm,0.7s,baz=54,slow=7.3,SNR=105
HFS LR LR 09 54 59.5
comp=Z,146μm,18.6s,baz=37,slow=39
HFS Hagfors 71.74 337 P **P** **09 19 56.4 -0.3**
HFS pmax pmax
comp=Z,270nm,0.7s
HFS MLR MLR
comp=Z,146μm,18.6s
HVU Hansel Valley 71.80 50 *e*P **P** **09 19 57.9 +0.3**
HVU pmax pmax
comp=Z,4μm,1.0s
HVU Hansel Valley 71.80 50 *e*P **P** **09 19 57.9 +0.3**
comp=Z,4μm,1.0s
NAX Nakhchivan 71.80 306 P **P** **09 19 55.2 -2.3**
SFJD Kangerlussuaq 71.83 6 P **P** **09 19 57.7 +0.7**
comp=Z,143nm,1.1s,baz=348,slow=9.1,SNR=33
SFJD LR LR 09 54 14.8
comp=Z,26μm,18.1s,baz=344,slow=38
SFJD Kangerlussuaq 71.83 6 *i* P **P** **09 19 56.8 -0.3**
comp=Z,691nm,1.2s
SFJD Kangerlussuaq 71.83 6 *e*P **P** **09 19 56.3 -0.8**
SFJD *e* 09 22 43.9
SFJD *e*S **S** **09 29 18.1 +2.0**
SFJD pmax pmax
comp=Z,756nm,1.3s
SFJD Kangerlussuaq 71.83 6 *e*P **P** **09 19 56.3 -0.8**
comp=Z,756nm,1.3s
SFJD *e*PP PP 09 22 43.9 +8.0
SFJD *e*S **S** **09 29 18.1 +2.0**
CWC Cottonwood Cre 71.84 57 P **P** **09 19 58.2 +0.3**
baz=308
NBO00 NORSAR Array S 71.86 338 *e*P **P** **09 19 57.5 +0.1**
NBO00 IVmB_BB 09 20 09.1
comp=Z,104μm,5.6s
NBO00 IVMs_BB IVMs_BB 09 52 41.4
comp=Z,500μm,20.4s
NC602 NORSAR Array S 71.89 338 *e*P **P** **09 19 56.4 -1.1**
NC602 IVmB_BB 09 20 02.3
comp=Z,43μm,1.2s
NC602 IVMs_BB IVMs_BB 09 54 24.2
comp=Z,222μm,21.4s
AKN Aaknes 71.90 341 *e*P **P** **09 19 57.6 0.0**
AKN IVmBBB 09 20 13.3
comp=Z,19μm,3.5s
AKN IVMsBB 09 54 49.1
comp=Z,30μm,21.4s
GRAC Grapevine Rang 71.95 57 P **P** **09 19 58.3 -0.2**
baz=308,SNR=44
NAO01 NORSAR Array S 71.98 338 *e*P **P** **09 19 58.6 +0.5**
NAO01 IVMs_BB IVMs_BB 09 54 08.7
comp=Z,586μm,21.3s
SBC Santa Barbara 71.99 60 P **P** **09 19 59.2 +0.6**
baz=308,SNR=8.5
ISA Isabella, Lake 72.06 58 P **P** **09 19 59.3 +0.1**
baz=308,SNR=76
ISA Isabella, Lake 72.06 58 *e*P **P** **09 19 59.2 +0.1**
ISA *e*S **S** **09 29 22.4 +2.3**
ISA pmax pmax
comp=Z,204nm,1.4s
ISA Isabella, Lake 72.06 58 *e*P **P** **09 19 59.2 +0.1**
comp=Z,204nm,1.4s
ISA *e*S **S** **09 29 22.4 +2.3**
DGMT Dagmar 72.12 41 P **P** **09 19 58.6 -0.6**
baz=312,SNR=64
DGMT Dagmar 72.12 41 *e*P **P** **09 19 58.5 -0.6**
comp=Z,436nm,1.0s
DGMT *e*PP PP 09 22 46.9 +7.9
DGMT *e*S **S** **09 29 24.1 +3.8**
DGMT LR LR
comp=Z,61μm,21.0s
AHID Auburn Hatcher 72.14 49 *e*P **P** **09 19 59.7 0.0**
comp=Z,719nm,1.6s
AHID LR LR
comp=Z,50μm,20.0s
ARVC Arvin 72.15 59 P **P** **09 20 00.2 +0.6**
baz=308,SNR=37
BGU Big Grassy Mou 72.18 51 *e*P **P** **09 20 00.4 +0.5**
comp=Z,650nm,1.1s
BGU *e*PP **PP** **09 22 36.6 -3.3**
R11A Troy Canyon, C 72.24 55 P **P** **09 20 00.6 +0.3**
baz=308,SNR=199
R11A Troy Canyon, C 72.24 55 *e*P **P** **09 20 00.5 +0.2**
comp=Z,284nm,1.3s
R11A *e*S **S** **09 29 24.2 +2.0**
DAC Darwin (Calif) 72.25 57 *e*P **P** **09 20 00.0 -0.4**
DAC *e* 09 22 40.1
DAC pmax pmax
comp=Z,428nm,1.6s
DAC Darwin (Calif) 72.25 57 *e*P **P** **09 20 00.0 -0.4**
comp=Z,428nm,1.6s
DAC *e*PP **PP** **09 22 40.0 -0.6**
DAC *e*S **SKiKP** **09 29 38.3 +2.9**
LAO LASA Array 72.27 43 P **P** **09 20 00.2 0.0**
baz=311,SNR=105
LAO LASA Array 72.27 43 *e*P **P** **09 19 59.9 -0.3**
comp=Z,537nm,1.4s
LAO *e*PP **PP** **09 22 47.0 +6.7**
LAO LR LR
comp=Z,66μm,20.0s
SPUT South Promonto 72.28 51 *e*P **P** **09 20 00.7 +0.2**
comp=Z,774nm,1.7s
SCZ2 Santa Cruz Isl 72.31 60 P **P** **09 20 01.5 +0.8**
baz=308,SNR=7.8
KARS Kars 72.36 309 *e*P **P** **09 20 03.4 +2.5**
SOC Sochi 72.42 313 *e*P **P** **09 20 00.8 -0.2**
SOC *e* 09 20 15.4
SOC *e* 09 22 43.7
SOC *e*PPP PPP 09 24 25.7
SOC *e*S **S** **09 29 27.5 +3.8**
SOC *e* 09 29 57.7
SOC *e*SS **SS** **09 34 00.4 -1.0**
SOC pmax pmax
comp=Z,2μm,1.2s
SOC pmax pmax
comp=Z,18μm,4.3s
SOC MLR MLR
comp=Z,87μm,17.0s
STKA Stephens Creek 72.42 183 P **P** **09 20 00.6 -0.4**
comp=Z,30nm,0.6s,baz=350,slow=6.8,SNR=40
STKA PKPPKP **P'P'df** **09 47 45.0 +6.0**
comp=Z,5.7nm,1.0s,baz=163,slow=5.6,SNR=4.0
STKA LR LR 09 52 14.6
comp=Z,27μm,20.6s,baz=1.2,slow=36
MPMC Manual Prospec 72.45 57 P **P** **09 20 01.5 -0.1**
baz=308,SNR=206
OSI Osito Audit: C 72.53 59 P **P** **09 20 02.1 +0.1**
baz=308,SNR=19
OSI Osito Audit: C 72.53 59 *e*P **P** **09 20 02.2 +0.2**
comp=Z,609nm,1.5s
WSAR Wadi Sarin 72.57 286 P **P** **09 20 03.5 +1.3**
comp=Z,64nm,0.9s,baz=99,slow=4.8,SNR=60
WSAR LR LR 09 55 43.0
comp=Z,40μm,19.3s,baz=64,slow=39
FURC Furnace Creek, 72.59 57 P **P** **09 20 02.6 +0.4**
baz=308,SNR=96

HWUT Hardware Ranch 72.61 50 *e*P **P** **09 20 02.6 +0.1**
comp=Z,1μm,1.6s
HWUT *e*S **S** **09 29 30.7 +4.3**
HWUT LR LR
comp=Z,32μm,19.0s
BLG Laguna Peak, P 72.62 60 P **P** **09 20 02.7 +0.3**
baz=308,SNR=14
BANOM Banah 72.63 289 P **P** **09 20 02.7 +0.1**
SNR=198
BANOM Banah 72.63 289 P **P** **09 20 02.7 +0.1**
SNR=198
BANOM Banah 72.63 289 *i* P **P** **09 20 02.7 +0.1**
SNR=171
SHME Shamm 72.67 290 *i* P **P** **09 20 02.2 -0.7**
SNR=208
LRMC Laurel Mtn Rad 72.68 58 P **P** **09 20 03.3 +0.4**
baz=308,SNR=17
WBK Wadi Bani Khal 72.70 285 P **P** **09 20 05.0 +1.9**
SNR=97
WBK Wadi Bani Khal 72.70 285 P **P** **09 20 05.0 +1.9**
SNR=97
BIDO Bidbid 72.76 286 P **P** **09 20 04.1 +0.7**
SNR=241
BIDO Bidbid 72.76 286 P **P** **09 20 04.1 +0.7**
SNR=241
DUG Dugway, Tooele 72.77 52 P **P** **09 20 03.7 +0.3**
baz=309,SNR=172
DUG Dugway, Tooele 72.77 52 *e*P **P** **09 20 03.7 +0.3**
DUG pmax pmax
comp=Z,432nm,1.1s
DUG MLR MLR
comp=Z,31μm,21.0s
DUG Dugway, Tooele 72.77 52 *e*P **P** **09 20 03.7 +0.3**
comp=Z,432nm,1.1s
DUG LR LR
comp=Z,31μm,21.0s
OSL Oslo 72.78 338 *e*P **P** **09 20 03.0 +0.2**
OSL IVmB_BB 09 20 07.5
comp=Z,11μm,2.0s
OSL IVMs_BB IVMs_BB 09 54 17.9
comp=Z,47μm,21.9s
CLDR Calditan 72.78 307 *e*P **P** **09 20 03.7 +0.1**
SENK Senkaya-Erzuru 72.83 309 *e*P **P** **09 20 05.9 +2.1**
SNCC San Nicolas Is 72.84 61 P **P** **09 20 04.2 +0.4**
baz=308,SNR=8.6
SNCC San Nicolas Is 72.84 61 *e*P **P** **09 20 03.0 -0.7**
comp=Z,2μm,1.8s
SNCC *e*PP **PP** **09 22 50.8 +5.2**
EDW2 Edwards Air Fo 72.84 59 P **P** **09 20 04.0 +0.2**
baz=308,SNR=138
FOO Floro 72.88 341 *e*P **P** **09 20 03.4 -0.1**
FOO IVmBBB 09 20 08.1
comp=Z,12μm,2.1s
FOO IVMs_BB IVMs_BB 09 57 20.7
comp=Z,42μm,18.4s
ANN Anapa 72.88 315 *e*P **P** **09 20 03.3 -0.4**
ANN *e* 09 22 48.0
ANN *e*PPP PPP 09 24 34.6
ANN *e*S **S** **09 29 27.9 -1.1**
ANN *e*SS **SS** **09 34 10.0 +1.6**
ANN pmax pmax
comp=E,727nm,1.9s
ANN pmax pmax
comp=Z,3μm,1.9s
ANN pmax pmax
comp=N,229nm,0.9s
ANN pmax pmax
comp=Z,31μm,7.5s
ANN pmax pmax
comp=E,8μm,7.4s
ANN pmax pmax
comp=N,9μm,7.4s
ANN smax smax
comp=N,47μm,15.4s
ANN smax smax
comp=E,80μm,15.4s
HYA Hoyanger 72.97 341 *e*P **P** **09 20 03.6 -0.3**
HYA IVmB_BB 09 20 09.8
comp=Z,8μm,3.3s
HYA IVMs_BB IVMs_BB 09 57 36.4
comp=Z,38μm,19.2s
AKASG Malin Array Be 72.97 323 P **P** **09 20 03.4 -0.8**
comp=Z,189nm,0.7s,baz=42,slow=6.6,SNR=323
AKASG PP **PP** **09 22 47.4 +1.3**
comp=Z,142nm,1.1s,baz=38,slow=9.5,SNR=6.0
AKASG S **SKiKP** **09 29 40.6 +4.8**
comp=Z,3.9nm,0.8s,baz=36,slow=12,SNR=6.2
AKASG PKP2ab 09 47 36.9
comp=Z,2.1nm,0.4s,baz=222,slow=1.3,SNR=6.5
AKASG PKPPKP **P'P'df** **09 47 45.3 -6.0**
comp=Z,1.0nm,0.4s,baz=235,slow=1.9,SNR=3.3
AKASG LR LR 09 55 27.3
comp=Z,258μm,19.1s,baz=35,slow=39
AKASG Malin Array Be 72.97 323 *i* P **P** **09 20 03.4 -0.8**
AKASG pmax pmax
comp=Z,192nm,0.7s
KIEV Kiev 72.98 323 *e*P **P** **09 20 03.6 -0.7**
KIEV *e* 09 22 48.4
KIEV *e*S **S** **09 29 27.6 -2.3**
KIEV pmax pmax
comp=Z,1μm,1.0s
KIEV MLR MLR
comp=Z,287μm,19.0s
KIEV Kiev 72.98 323 *e*P **P** **09 20 03.6 -0.7**
comp=Z,1μm,1.0s
KIEV *e*PP **PP** **09 22 48.4 +2.2**
KIEV *e*S **S** **09 29 27.6 -2.3**
KIEV LR LR
comp=Z,287μm,19.0s
KIEV Kiev 72.98 323 *i* P **P** **09 20 03.5 -0.8**
SNR=198
MDH Madha 73.01 289 *i* P **P** **09 20 03.8 -1.0**
SNR=59
TCUT Toone Canyon 73.01 50 *e*P **P** **09 20 05.2 +0.3**
comp=Z,1μm,1.3s
DECC Green Verdugo 73.01 59 P **P** **09 20 04.7 -0.1**
baz=308,SNR=12
BW06 Boulder Array 73.01 48 P **P** **09 20 04.4 -0.6**
baz=310,SNR=149
BW06 Boulder Array 73.01 48 *e*P **P** **09 20 05.0 0.0**
comp=Z,1μm,1.1s
BW06 *e*PP **PP** **09 22 46.2 -0.8**
BW06 *e*S **S** **09 29 30.8 -0.3**
BW06 LR LR
comp=Z,44μm,20.0s
PDAR Pinedale Array 73.01 48 P **P** **09 20 04.2 -0.7**
comp=Z,44nm,0.7s,baz=266,slow=2.0,SNR=182
PDAR PKKPbc **PKKPbc** **09 39 45.5 +2.7**
comp=Z,1.3nm,0.9s,baz=104,slow=3.8,SNR=4.1
PDAR PKP2ab 09 47 34.0
comp=Z,1.7nm,1.0s,baz=83,slow=3.7,SNR=3.9
PDAR P4KPbc 09 56 48.2
comp=Z,0.7nm,0.9s,baz=285,slow=3.5,SNR=3.4
AGRB Hanur-Agry 73.07 308 *e*P **P** **09 20 06.5 +1.3**
MSFE Esma-Masafi 73.07 289 *i* P **P** **09 20 04.7 -0.6**
SNR=156
CTU Camp Tracy 73.08 51 *e*P **P** **09 20 05.3 0.0**
comp=Z,690nm,1.1s
SMDO Samad 73.10 286 P **P** **09 20 10.0 +4.4**
SNR=58
SMDO Samad 73.10 286 P **P** **09 20 10.0 +4.4**
SNR=58
PASC Pasadena Art C 73.16 59 *e*P **P** **09 20 06.2 +0.6**
comp=Z,2μm,2.3s
SUW Suwalki 73.16 328 *e*P **P** **09 20 04.5 -0.7**
SUW *e*PP **PP** **09 22 52.0 +4.4**
SUW *i* S **SKiKP** **09 29 34.6 -1.4**
SUW *e*SS SS 09 33 59.7 -12
SUW LMZ LR 09 54 29.0
comp=Z,169μm,19.8s
SUW Suwalki 73.16 328 *e*P **P** **09 20 04.5 -0.7**
SUW *e* 09 22 52.0
SUW *i* S **SKiKP** **09 29 34.6 -1.4**
SUW MLR MLR
comp=Z,169μm,19.8s
MWC Mount Wilson 73.21 59 *e*P **P** **09 20 06.4 +0.3**
MWC *e* 09 22 50.6
MWC *e*S **S** **09 29 33.8 +0.3**
MWC pmax pmax
comp=Z,579nm,1.5s
MWC Mount Wilson 73.21 59 *e*P **P** **09 20 06.4 +0.3**
comp=Z,579nm,1.5s
MWC *e*PP **PP** **09 22 50.6 +1.7**
MWC *e*S **S** **09 29 33.8 +0.3**
UOSS Minazif 73.29 289 *i* P **P** **09 20 05.7 -0.8**
SNR=175

JLU Jordanelle 73.31 51 *e*P **P** **09 20 07.0 +0.2**
comp=Z,266nm,1.1s
JLU *e*PP **PP** **09 22 48.4 -1.2**
HOQ Hoqain 73.32 287 P **P** **09 20 08.0 +1.2**
SNR=102
HOQ Hoqain 73.32 287 P **P** **09 20 08.0 +1.2**
SNR=102
SHOC Shoshone, Teco 73.32 57 P **P** **09 20 07.0 +0.4**
baz=309,SNR=42
UMQ Umm Al-Quwin 73.33 289 *i* P **P** **09 20 07.3 +0.6**
SNR=17
KONO Kongsberg 73.33 338⇑ *i*P **P** **09 20 06.1 -0.1**
KONO pmax pmax
comp=Z,2μm,1.7s
KONO MLR MLR
comp=Z,136μm,18.0s
KONO Kongsberg 73.33 338 *e*P **P** **09 20 05.8 -0.4**
KONO IVmB_BB 09 20 11.7
comp=Z,9μm,2.2s
KONO *e*S **S** **09 29 34.4 +0.7**
KONO IVMs_BB IVMs_BB 09 55 27.9
comp=Z,41μm,21.2s
GSC Goldstone, Bar 73.35 58 P **P** **09 20 06.8 -0.1**
baz=309,SNR=70
GSC Goldstone, Bar 73.35 58 *e*P **P** **09 20 07.1 +0.2**
GSC pmax pmax
comp=Z,1μm,2.0s
GSC Goldstone, Bar 73.35 58 *e*P **P** **09 20 07.1 +0.2**
comp=Z,1μm,2.0s
NLU North Lily Min 73.36 51 *e*P **P** **09 20 07.2 +0.2**
comp=Z,276nm,1.0s
NLU *e*PP **PP** **09 22 50.0 0.0**
FMP Fort Macarthur 73.37 60 P **P** **09 20 07.1 +0.2**
baz=308
HATD Hatta, Dubai 73.42 289 P **P** **09 20 07.0 -0.3**
SNR=372
HATD Hatta, Dubai 73.42 289 P **P** **09 20 07.0 -0.3**
SNR=372
HATD Hatta, Dubai 73.42 289 *i* P **P** **09 20 06.8 -0.4**
SNR=170
SUE Sulen 73.42 341 *e*P **P** **09 20 06.6 0.0**
SUE IVmB_BB 09 20 11.3
comp=Z,13μm,1.9s
SUE *e*S **SKiKP** **09 29 36.7 +0.5**
SUE IVMsBB 09 57 36.7
comp=Z,48μm,18.6s
VANB Van 73.45 307 *e*P **P** **09 20 10.5 +3.1**
BFSC Mount Baldy Ra 73.46 59 P **P** **09 20 08.0 +0.4**
baz=308,SNR=85
CIS Catalina Islan 73.48 60 P **P** **09 20 07.4 -0.2**
baz=308,SNR=21
JMDO Jabal Madar 73.48 285 P **P** **09 20 11.2 +3.5**
SNR=38
JMDO Jabal Madar 73.48 285 P **P** **09 20 11.2 +3.5**
SNR=38
RRX Edison Barstow 73.49 58 P **P** **09 20 08.5 +0.9**
baz=309,SNR=5.6
SOHO SOHO 73.55 288 *i* P **P** **09 20 07.1 -0.9**
SNR=162
ASHO Ashiyiah 73.55 288 P **P** **09 20 07.9 -0.3**
SNR=430
ASHO Ashiyiah 73.55 288 P **P** **09 20 07.9 -0.3**
SNR=430
ASHO Ashiyiah 73.55 288 *i* P **P** **09 20 07.7 -0.4**
SNR=165
MPU Maple Canyon 73.58 51 *e*P **P** **09 20 08.3 +0.1**
comp=Z,953nm,1.0s
MPU *e*PP **PP** **09 22 50.3 -1.6**
NAZ Nazwa, Dubai 73.65 289 P **P** **09 20 09.0 +0.3**
SNR=248
NAZ Nazwa, Dubai 73.65 289 P **P** **09 20 09.0 +0.3**
SNR=248
NAZ Nazwa, Dubai 73.65 289 *i* P **P** **09 20 08.8 +0.1**
SNR=43
SCI2 San Clemente I 73.65 61 P **P** **09 20 08.9 +0.3**
baz=308,SNR=6.8
BBOO Buckleboo 73.75 188 *e*P **P** **09 20 09.0 +0.2**
comp=Z,374nm,1.2s
BBOO *e*PP **PP** **09 22 51.8 -2.1**
BBOO *e*S **SKiKP** **09 29 32.2 -5.0**
ASK Askoy 73.80 341 *e*P **P** **09 20 08.9 +0.1**
ASK IVmB_BB 09 20 14.9
comp=Z,10μm,2.6s
ASK *e*S **S** **09 29 38.7 -0.2**
ASK IVMsBB 09 58 02.2
comp=Z,34μm,18.7s
TUQ Turquoise Moun 73.83 57 P **P** **09 20 09.8 +0.1**
baz=309,SNR=56
BER Bergen 73.85 340 *e*P **P** **09 20 09.2 0.0**
BER IVmB_BB 09 20 15.1
comp=Z,12μm,2.0s
BER *e*S **S** **09 29 41.0 +1.5**
BER IVMs_BB IVMs_BB 09 58 03.0
comp=Z,49μm,19.0s
KLNR Kaliningrad 73.86 330‖ *e*P **P** **09 20 08.6 -0.7**
KLNR pmax pmax
comp=Z,446nm,0.7s
KLNR MLR MLR
comp=Z,290μm,20.0s
BBRC Big Bear Solar 73.92 59 P **P** **09 20 10.2 -0.2**
baz=309,SNR=46
ODD1 Odda 73.92 340 *e*P **P** **09 20 09.8 +0.1**
ODD1 IVmB_BB 09 20 15.7
comp=Z,11μm,2.3s
ODD1 IVMs_BB IVMs_BB 09 57 18.2
comp=Z,73μm,18.7s
HEC Hector,Ludlow 73.95 58 P **P** **09 20 10.4 +0.1**
baz=309,SNR=22
ARQ Araqi 74.04 287 P **P** **09 20 13.0 +2.0**
SNR=48
ARQ Araqi 74.04 287 P **P** **09 20 13.0 +2.0**
SNR=48
KTUT Trabzon 74.06 311 *e*P **P** **09 20 10.3 -0.5**
CCUT Cedar City 74.10 54 *e*P **P** **09 20 12.4 +1.0**
comp=Z,627nm,1.6s
MURC Murrieta 74.16 59 P **P** **09 20 11.2 -0.3**
baz=309,SNR=61
ALNE Al Ain 74.16 288 *i* P **P** **09 20 11.1 -0.5**
SNR=115
CUKT Cukurca 74.17 306 *e*P **P** **09 20 10.3 -1.3**
BORG Borgarnes 74.20 354 P **P** **09 20 12.2 +1.0**
comp=Z,141nm,0.9s,baz=16,slow=5.9,SNR=17
BORG Borgarnes 74.20 354 *e*P **P** **09 20 11.6 +0.5**
BORG pmax pmax
comp=Z,1μm,1.1s
BORG MLR MLR
comp=Z,16μm,19.0s
BORG Borgarnes 74.20 354 *e*P **P** **09 20 11.6 +0.5**
comp=Z,1μm,1.1s
BORG LR LR
comp=Z,16μm,19.0s
MSU Marysvale 74.21 53 *e*P **P** **09 20 12.3 +0.3**
MSU Marysvale 74.21 53 *e*P **P** **09 20 12.3 +0.3**
comp=Z,32nm,1.1s
BAYT Ayd¯ntepe-Bay 74.23 310 *e*P **P** **09 20 12.5 +0.5**
TMUT Trail Mountain 74.29 52 *e*P **P** **09 20 12.9 +0.3**
comp=Z,989nm,1.2s
GURO Guroymak-BITLI 74.30 307 *e*P **P** **09 20 13.5 +1.1**
BLS5 Blasjo 74.39 339 *e*P **P** **09 20 12.5 +0.1**
BLS5 IVmB_BB 09 20 18.2
comp=Z,8μm,2.1s
BLS5 IVMs_BB IVMs_BB 09 59 09.7
comp=Z,40μm,19.0s
AJN Ajban 74.40 289 *i* P **P** **09 20 12.7 -0.3**
SNR=225
GMRC Granite Mounta 74.41 57 P **P** **09 20 13.2 +0.1**
baz=309,SNR=114
SIM Simferopol' 74.54 317 *e*P **P** **09 20 13.9 +0.4**
SIM *e* 09 23 06.7
SIM *e*PPP PPP 09 24 50.0
SIM *i* S **S** **09 29 49.0 +1.2**
SIM pmax pmax
comp=Z,19μm,12.7s
SIM MLR MLR
comp=Z,129μm,15.0s
GUMT Gumushane 74.57 310 *e*P **P** **09 20 17.9 +4.0**
LDFC Landfair 74.57 57 *e*P **P** **09 20 14.0 0.0**
comp=Z,690nm,1.3s
LDFC *e*S **S** **09 29 48.7 0.0**
PFO Pinyon Flats O 74.63 59 P **P** **09 20 14.3 -0.1**
baz=309,SNR=74
PFO Pinyon Flats O 74.63 59 *e*P **P** **09 20 13.9 -0.5**
PFO *e*S **S** **09 29 44.8 -4.5**
PFO pmax pmax
comp=Z,3μm,2.5s
PFO MLR MLR
comp=Z,56μm,20.0s

PFO	**Pinyon Flats O**	**74.63**	**59**	*e*P		**P**	**09 20 13.9**	**-0.5**
	comp=Z,3µm,2.5s								
PFO				*e*S		**S**	**09 29 44.8**	**-4.5**
PFO				LR		LR			
	comp=Z,56µm,20.0s								
109C	**Camp Elliot, M**	**74.66**	**60**	P		**P**	**09 20 14.9**	**+0.5**
	baz=309,SNR=23								
BELC	**Belle Mtn. Jos**	**74.68**	**58**	P		**P**	**09 20 15.0**	**+0.3**
	baz=309,SNR=64								
ESPY	**Espiye-Giresun**	**74.70**	**311**	*e*P		**P**	**09 20 14.5**	**-0.1**
SIRT	**Sirnak**	**74.72**	**306**	*e*P		**P**	**09 20 15.6**	**+0.8**
K22A	**Casper**	**74.78**	**46**	P		**P**	**09 20 14.6**	**-0.6**
	baz=312,SNR=125								
K22A	**Casper**	**74.78**	**46**	*e*P		**P**	**09 20 14.6**	**-0.6**
	comp=Z,1µm,1.4s								
K22A				*e*PP		**PP**	**09 22 58.2**	**-3.7**
ULM	**Lac du Bonnet**	**74.78**	**36**	P		**P**	**09 20 13.9**	**-0.8**
	comp=Z,113nm,1.1s,baz=316,slow=6.9,SNR=67								
ULM				PKPPKP		**P'P'df**	**09 47 42.6**	**-5.5**
	comp=Z,4.3nm,1.0s,baz=200,slow=1.7,SNR=4.4								
ULM	**Lac du Bonnet**	**74.78**	**36**	P		**P**	**09 20 14.0**	**-0.8**
ULM				pmax		pmax			
	comp=Z,113nm,1.1s								
MDND	**Maddock**	**74.78**	**39**	P		**P**	**09 20 14.3**	**-0.6**
	baz=315,SNR=34								
MDND	**Maddock**	**74.78**	**39**	*e*P		**P**	**09 20 14.5**	**-0.4**
	comp=Z,980nm,1.1s								
MDND				*e*PP		**PP**	**09 23 04.0**	**+2.4**
HOMB	**Homborsund**	**74.80**	**338**	*e*P		**P**	**09 20 13.1**	**-1.6**
HOMB				IVmB_BB			09 20 18.8		
	comp=Z,7µm,2.6s								
HOMB				IVMs_BB		IVMs_BB	09 54 16.1		
	comp=Z,50µm,21.7s								
SRU	**San Rafael Swe**	**74.82**	**51**	*e*P		**P**	**09 20 15.1**	**-0.4**
SRU				pmax		pmax			
	comp=Z,296nm,0.9s								
SRU	**San Rafael Swe**	**74.82**	**51**	*e*P		**P**	**09 20 15.1**	**-0.4**
	comp=Z,296nm,0.9s								
KMY	**Karmoy**	**74.89**	**340**	*e*P		**P**	**09 20 15.6**	**+0.4**
KMY				IVmB_BB			09 20 20.0		
	comp=Z,11µm,2.3s								
KMY				IVMsBB			09 58 51.7		
	comp=Z,54µm,18.7s								
SOFL	**Sornfelli, Far**	**74.97**	**347**	*e*P		**P**	**09 20 16.6**	**+0.9**
SOFL	**Sornfelli, Far**	**74.97**	**347**	IAMs_20		IAMs_20	09 52 04.6		
	comp=Z,73µm,20.0s								
STAV	**Stavanger**	**75.01**	**340**	*e*P		**P**	**09 20 16.0**	**+0.1**
STAV				IVmB_BB			09 20 20.3		
	comp=Z,10µm,2.7s								
STAV				IVMsBB			09 58 38.7		
	comp=Z,28µm,21.7s								
BAR	**Barrett**	**75.07**	**60**	*e*P		**P**	**09 20 17.2**	**+0.3**
	comp=Z,2µm,2.1s								
BAR				*e*PP		**PP**	**09 23 04.4**	**-0.2**
NEE2	**Needles Airpor**	**75.08**	**57**	P		**P**	**09 20 17.3**	**+0.5**
	baz=310								
MONP2	**Monument Peak**	**75.10**	**59**	P		**P**	**09 20 17.6**	**+0.4**
	baz=309,SNR=45								
SNART	**Snartemo**	**75.11**	**338**	*e*P		**P**	**09 20 16.9**	**+0.4**
SNART				IVmB_BB			09 20 22.4		
	comp=Z,5µm,2.9s								
SNART				IVMsBB			09 57 53.1		
	comp=Z,20µm,20.3s								
RSSD	**Black Hills**	**75.13**	**44**	P		**P**	**09 20 16.2**	**-1.0**
	baz=313								
RSSD	**Black Hills**	**75.13**	**44**	*e*P		**P**	**09 20 16.4**	**-0.8**
RSSD				*e*			09 23 04.7		
RSSD				*e*S		**S**	**09 29 52.9**	**-1.9**
RSSD				pmax		pmax			
	comp=Z,529nm,1.4s								
RSSD	**Black Hills**	**75.13**	**44**	*e*P		**P**	**09 20 16.4**	**-0.8**
	comp=Z,530nm,1.4s								
RSSD				*e*PP		**PP**	**09 23 04.7**	**-0.2**
RSSD				*e*S		**S**	**09 29 52.9**	**-1.9**
IRM	**Iron Mountain**	**75.13**	**58**	P		**P**	**09 20 17.3**	**+0.1**
	baz=310,SNR=157								
A31A	**Linda, St. Vin**	**75.14**	**37**	P		**P**	**09 20 16.1**	**-0.8**
	baz=316								
BC3	**Big Chuckawall**	**75.25**	**58**	P		**P**	**09 20 17.8**	**-0.2**
	baz=310,SNR=89								
B31A	**Greenbush Farm**	**75.30**	**38**	P		**P**	**09 20 17.3**	**-0.5**
	baz=316,SNR=35								
BSD	**Bornholm Skovb**	**75.38**	**333**	*i* P		**P**	**09 20 17.9**	**-0.2**
	comp=Z,839nm,1.0s								
BSD	**Bornholm Skovb**	**75.38**	**333**	*i* P		**P**	**09 20 17.9**	**-0.2**
BSD				pmax		pmax			
	comp=Z,840nm,1.0s								
BSD				MLR		MLR			
	comp=Z,230µm,18.0s								
BSD	**Bornholm Skovb**	**75.38**	**333**	*e*P		**P**	**09 20 18.9**	**+0.8**
IKP	**In-Ko-Pah, Jac**	**75.46**	**59**	P		**P**	**09 20 19.1**	**0.0**
	baz=309,SNR=45								
A32A	**Rocking H Ranc**	**75.47**	**37**	P		**P**	**09 20 17.6**	**-1.2**
	baz=317,SNR=112								
SWSC	**Sam W. Stewart**	**75.48**	**59**	P		**P**	**09 20 18.8**	**-0.3**
	baz=310,SNR=46								
O20A	**White River Ci**	**75.48**	**49**	P		**P**	**09 20 19.0**	**-0.3**
	baz=312,SNR=116								
O20A	**White River Ci**	**75.48**	**49**	*e*P		**P**	**09 20 19.7**	**+0.4**
	comp=Z,314nm,1.0s								
LRW	**Lerwick**	**75.61**	**343**	*e*P		**P**	**09 20 19.9**	**+0.5**
LRW	**Lerwick**	**75.61**	**343**	*e*P		**P**	**09 20 19.0**	**-0.4**
LRW				IAmb		IAmb	09 20 24.7		
	comp=Z,1µm,1.8s								
LRW				IAMs_20		IAMs_20	10 00 02.8		
	comp=Z,56µm,17.7s								
PTK	**Pertek**	**75.65**	**309**	*e*P		**P**	**09 20 21.3**	**+1.0**
PDMCI	**Parker Dam,Lak**	**75.68**	**57**	P		**P**	**09 20 20.1**	**-0.2**
	baz=310,SNR=48								
C31A	**Landman Farms,**	**75.71**	**38**	P		**P**	**09 20 19.1**	**-1.2**
	baz=316,SNR=43								
SAN1	**Sandwick**	**75.73**	**343**	*e*P		**P**	**09 20 19.9**	**-0.2**
COP	**Copenhagen**	**75.75**	**335**	*i* P		**P**	**09 20 20.9**	**+0.7**
	comp=Z,601nm,0.9s								
COP				*i*			09 23 09.2		
COP	**Copenhagen**	**75.75**	**335**	*i* P		**P**	**09 20 20.9**	**+0.7**
COP				*i*			09 23 09.2		
COP				pmax		pmax			
	comp=Z,600nm,0.9s								
COP				MLR		MLR			
	comp=Z,160µm,18.0s								
BEL	**Belsk**	**75.75**	**328**	*e*P		**P**	**09 20 20.8**	**+0.4**
BEL				*e*PP		**PP**	**09 23 14.2**	**+4.5**
BEL				*i* S		**S**	**09 30 06.2**	**+5.2**
BEL				LMZ		LR	09 54 27.2		
	comp=Z,141µm,21.8s								
BEL	**Belsk**	**75.75**	**328**	*e*P		**P**	**09 20 20.8**	**+0.4**
BEL				*e*			09 23 14.1		
BEL				MLR		MLR			
	comp=Z,141µm,21.8s								
ILIC	**ilic-Erzincan**	**75.76**	**310**	*e*P		**P**	**09 20 22.9**	**+2.1**
KIS	**Kishinev**	**75.78**	**321**	*i* P		**P**	**09 20 19.0**	**-1.6**
	comp=Z,4µm,2.0s								
KIS	**Kishinev**	**75.78**	**321**	*i* PP		PP	09 23 16.0	+6.0	
	comp=Z,30µm,8.0s								
KIS	**Kishinev**	**75.78**	**321**	*i* PP		PPP	09 24 59.0		
KIS				*i* S		**S**	**09 29 58.0**	**-3.4**	
	comp=Z,44µm,12.0s								
KIS	**Kishinev**	**75.78**	**321**	*i* PS			09 30 38.0		
KIS				*i* SS		SS	09 34 26.0	-26	
KIS				*e*SSS		SSS	09 37 56.0		
KIS				*e*LQ		LQ	09 46 08.0		
KIS				LRM		MLR	10 11 50.0		
	comp=Z,114µm,14.0s								
KIS	**Kishinev**	**75.78**	**321**	κ *i*P		**P**	**09 20 19.0**	**-1.6**	
KIS				*i*			09 23 16.0		
KIS				*i* PPP		PPP	09 24 59.0		
KIS				*i* S		**S**	**09 29 58.0**	**-3.4**	
KIS				*i* PS		**PnS**	**09 30 38.0**	**-0.4**	
KIS				pmax		pmax			
	comp=Z,4µm,2.0s								
KIS				pmax		pmax			
	comp=N,11µm,9.0s								
KIS				pmax		pmax			
	comp=E,10µm,9.0s								
KIS				pmax		pmax			
	comp=Z,35µm,9.0s								
KIS				pmax		pmax			
	comp=Z,36µm,13.0s								
KIS				smax		smax			
	comp=E,44µm,12.0s								
KIS				smax		smax			
	comp=N,46µm,14.0s								
Y12C	**Blythe**	**75.79**	**58**	P		**P**	**09 20 21.0**	**+0.1**	
	baz=310,SNR=70								
DYBB	**Diyarbakir**	**75.82**	**308**	*e*P		**P**	**09 20 22.2**	**+1.1**	

B32A	**Ashes, Strandq**	**75.83**	**37**	P		**P**	**09 20 19.5**	**-1.4**
	baz=317,SNR=72							
RSDY	**Resadiye-TOKAT**	**75.85**	**311**	*e*P		**P**	**09 20 20.5**	**-0.7**
CAN	**Canberra**	**75.88**	**177**	*e*P		**P**	**09 20 23.0**	**+1.9**
CAN				pmax		pmax		
	comp=Z,2µm,1.9s							
CAN				MLR		MLR		
	comp=Z,40µm,19.0s							
CAN	**Canberra**	**75.88**	**177**	*e*P		**P**	**09 20 23.0**	**+1.9**
	comp=Z,2µm,1.9s							
CAN				LR		LR		
	comp=Z,40µm,19.0s							
LVV	**L'vov**	**75.92**	**325**	*e*P		**P**	**09 20 23.5**	**+2.2**
LVV				*e*			09 23 18.9	
LVV				*e*S		**S**	**09 30 06.9**	**+4.1**
LVV				*e*SS		**SS**	**09 34 50.0**	**-4.2**
SNOP	**Sinop**	**75.94**	**314**	*e*P		**P**	**09 20 21.8**	**+0.2**
A33A	**Warroad**	**75.95**	**36**	P		**P**	**09 20 20.3**	**-1.3**
	baz=317,SNR=132							
MAZI	**Mazidag**	**75.95**	**307**	*e*P		**P**	**09 20 22.6**	**+0.7**
GKP	**Gorka Klasztor**	**76.01**	**331**	*e*P		**P**	**09 20 21.6**	**-0.2**
GKP				*e*PP		**PP**	**09 23 17.4**	**+5.7**
GKP				*e*S		**S**	**09 30 01.5**	**-2.2**
GKP				LMZ		LR	09 56 46.5	
	comp=Z,431µm,19.2s							
GKP	**Gorka Klasztor**	**76.01**	**331**	*e*P		**P**	**09 20 21.6**	**-0.2**
GKP				*e*			09 23 17.4	
GKP				*e*S		**S**	**09 30 01.5**	**-2.2**
GKP				MLR		MLR		
	comp=Z,431µm,19.2s							
GLA	**Glamis**	**76.04**	**58**	P		**P**	**09 20 22.7**	**+0.3**
	baz=310,SNR=55							
GLA	**Glamis**	**76.04**	**58**	*e*P		**P**	**09 20 22.9**	**+0.5**
GLA				*e*			09 23 18.3	
GLA				pmax		pmax		
	comp=Z,392nm,1.3s							
GLA	**Glamis**	**76.04**	**58**	*e*P		**P**	**09 20 22.9**	**+0.5**
	comp=Z,392nm,1.3s							
GLA				*e*PP		**PP**	**09 23 18.3**	**+5.6**
LLD	**Lille Linde**	**76.11**	**334**	*i* P		**P**	**09 20 22.3**	**0.0**
	comp=Z,569nm,0.9s							
LLD	**Lille Linde**	**76.11**	**334**	*i* P		**P**	**09 20 22.3**	**0.0**
LLD				pmax		pmax		
	comp=Z,570nm,0.9s							
LLD				MLR		MLR		
	comp=Z,110µm,18.0s							
KVT	**Kavak**	**76.11**	**313**	*e*P		**P**	**09 20 23.5**	**+0.8**
MUD	**Monsted U'grnd**	**76.13**	**337**	*i* P		**P**	**09 20 23.0**	**+0.6**
	comp=Z,420nm,1.0s							
MUD	**Monsted U'grnd**	**76.13**	**337**	*i* P		**P**	**09 20 23.0**	**+0.6**
MUD				pmax		pmax		
	comp=Z,420nm,1.0s							
MUD				MLR		MLR		
	comp=Z,180µm,19.0s							
DIKM	**Dikmen**	**76.17**	**313**	*e*P		**P**	**09 20 24.6**	**+1.7**
AGMN	**Agassiz Nation**	**76.21**	**37**	P		**P**	**09 20 21.7**	**-1.3**
	baz=317,SNR=82							
AGMN	**Agassiz Nation**	**76.21**	**37**	*e*P		**P**	**09 20 21.8**	**-1.3**
	comp=Z,673nm,1.4s							
AGMN				*e*PP		**PP**	**09 23 12.0**	**-1.6**
AGMN				LR		LR		
	comp=Z,56µm,20.0s							
IAS	**Iasi**	**76.24**	**321**	⇓ *i*P		**P**	**09 20 23.5**	**+0.3**
PV04	**Paradox Valley**	**76.24**	**51**	*e*P		**P**	**09 20 23.7**	**+0.1**
C32A	**Crookston**	**76.25**	**38**	P		**P**	**09 20 22.0**	**-1.3**
	baz=317							
D31A	**Mcclaflin, Tow**	**76.25**	**39**	P		**P**	**09 20 22.2**	**-1.2**
	baz=316							
N23A	**Red Feather La**	**76.28**	**48**	P		**P**	**09 20 23.9**	**-0.1**
	baz=313,SNR=162							
TOKT	**Tokat**	**76.34**	**312**	*e*P		**P**	**09 20 24.6**	**+0.6**
B33A	**Robert and Kas**	**76.35**	**37**	P		**P**	**09 20 22.9**	**-1.0**
	baz=317,SNR=42							
SVSK	**Karacayir**	**76.36**	**311**	*e*P		**P**	**09 20 26.6**	**+2.6**
RGN	**Rugen**	**76.38**	**333**	*e*P		**P**	**09 20 23.6**	**-0.2**
	comp=Z,2µm,1.3s							
LEOM	**Leova**	**76.43**	**321**	⇓ *i*P		**P**	**09 20 24.7**	**+0.4**
D32A	**Dogwood Acres,**	**76.52**	**38**	P		**P**	**09 20 23.9**	**-0.9**
	baz=317,SNR=14							
E31A	**Nome**	**76.52**	**39**	P		**P**	**09 20 23.6**	**-1.3**
	baz=316,SNR=80							
MALT	**Malatya**	**76.60**	**309**	*e*P		**P**	**09 20 28.2**	**+2.6**
PV01	**Paradox Valley**	**76.61**	**51**	*e*P		**P**	**09 20 25.7**	**-0.1**
	comp=Z,2µm,1.1s							
B34A	**Aery, Baudette**	**76.62**	**36**	P		**P**	**09 20 23.8**	**-1.5**
	baz=318,SNR=58							
KWP	**Kalwaria Pacla**	**76.63**	**326**	*e*P		**P**	**09 20 25.9**	**+0.5**
KWP				*e*PP		**PP**	**09 23 21.6**	**+4.6**
KWP				*i* S		**S**	**09 30 15.7**	**+5.0**
KWP				*e*SS		**SS**	**09 35 08.0**	**+3.0**
KWP				LMZ		LR	09 57 32.4	
	comp=Z,210µm,18.8s							
KWP	**Kalwaria Pacla**	**76.63**	**326**	*e*P		**P**	**09 20 25.9**	**+0.5**
KWP				*e*			09 23 21.6	
KWP				*i* S		**S**	**09 30 15.7**	**+5.0**
KWP				*e*SS		**SS**	**09 35 08.0**	**+3.0**
KWP				MLR		MLR		
	comp=Z,210µm,18.8s							
WUAZ	**Wupatki**	**76.64**	**55**	P		**P**	**09 20 26.3**	**+0.5**
	baz=311,SNR=139							
WUAZ	**Wupatki**	**76.64**	**55**	*e*P		**P**	**09 20 26.4**	**+0.5**
	comp=Z,554nm,1.4s							
WUAZ				*e*PP		**PP**	**09 23 18.7**	**+0.9**
WUAZ				LR		LR		
	comp=Z,36µm,19.0s							
BZK	**Bozkurt**	**76.64**	**314**	*e*P		**P**	**09 20 26.1**	**+0.5**
C33A	**Trail**	**76.64**	**37**	P		**P**	**09 20 24.2**	**-1.3**
	baz=317,SNR=54							
PRAR	**RASCA**	**76.74**	**322**	⇑ *i*P		**P**	**09 20 26.4**	**+0.3**
F31A	**Hecla**	**76.85**	**40**	P		**P**	**09 20 25.4**	**-1.4**
	baz=316,SNR=40							
E32A	**Braaten, Kindr**	**76.89**	**39**	P		**P**	**09 20 25.8**	**-1.1**
	baz=317							
URFA	**Urfa**	**76.94**	**308**	*e*P		**P**	**09 20 27.9**	**+0.4**
DARE	**Darende-Malaty**	**76.98**	**310**	*e*P		**P**	**09 20 28.9**	**+1.2**
BURAR	**Bucovina Array**	**77.02**	**323**	⇓ *i*P		**P**	**09 20 27.7**	**-0.1**
D33A	**AnnSam, Waubun**	**77.06**	**38**	P		**P**	**09 20 26.7**	**-1.2**
	baz=317,SNR=28							
TLCR		**77.07**	**319**	⇓ *i*P		**P**	**09 20 27.7**	**-0.2**
C34A	**RKJ Ranch, Bem**	**77.12**	**37**	P		**P**	**09 20 27.1**	**-1.1**
	baz=318,SNR=31							
B35A	**Bob, Littlefor**	**77.12**	**36**	P		**P**	**09 20 27.0**	**-1.2**
	baz=318,SNR=131							
GIUM	**Giurgiulesti**	**77.16**	**320**	⇑ *i*P		**P**	**09 20 29.2**	**+0.8**
TESR	**Tescani**	**77.16**	**321**	⇓ *i*P		**P**	**09 20 28.1**	**-0.4**
ISCO	**Idaho Springs**	**77.20**	**48**	P		**P**	**09 20 28.9**	**-0.3**
	baz=313,SNR=167							
ISCO	**Idaho Springs**	**77.20**	**48**	*e*P		**P**	**09 20 29.4**	**+0.2**
ISCO				*e*			09 23 26.6	
ISCO				pmax		pmax		
	comp=Z,333nm,1.2s							
ISCO				MLR		MLR		
	comp=Z,41µm,20.0s							
ISCO	**Idaho Springs**	**77.20**	**48**	*e*P		**P**	**09 20 29.4**	**+0.2**
	comp=Z,333nm,1.2s							
ISCO				*e*PP		**PP**	**09 23 26.6**	**+4.0**
ISCO				LR		LR		
	comp=Z,41µm,20.0s							
MVCO	**Mesa Verde**	**77.27**	**52**	P		**P**	**09 20 29.3**	**-0.3**
	baz=312,SNR=138							
MVCO	**Mesa Verde**	**77.27**	**52**	*e*P		**P**	**09 20 29.6**	**0.0**
	comp=Z,384nm,1.3s							
MVCO				LR		LR		
	comp=Z,30µm,20.0s							
G31A	**Conde**	**77.33**	**40**	P		**P**	**09 20 28.4**	**-1.0**
	baz=316,SNR=31							
F32A	**Veblen**	**77.39**	**39**	P		**P**	**09 20 28.6**	**-1.2**
	baz=317,SNR=32							
OJC	**Ojcow**	**77.40**	**327**	*e*P		**P**	**09 20 29.8**	**+0.1**
OJC				*e*PP		**PP**	**09 23 30.3**	**+6.8**
OJC				*i* S		**S**	**09 30 23.2**	**+4.2**
OJC				LMZ		LR	09 50 35.4	
	comp=Z,94µm,33.2s							
OJC	**Ojcow**	**77.40**	**327**	*e*P		**P**	**09 20 29.8**	**+0.1**
OJC				*e*			09 23 30.3	
OJC				*i* S		**S**	**09 30 23.2**	**+4.2**
KURC	**Kurucasile-Bar**	**77.40**	**315**	*e*P		**P**	**09 20 31.3**	**+1.4**
CFR	**Carcaliu**	**77.41**	**320**	⇓ *i*P		**P**	**09 20 29.6**	**-0.2**
STHS	**Stebnicka Huta**	**77.41**	**326**	*e*P		**P**	**09 20 30.4**	**+0.6**
STHS				pmax		pmax		
	comp=Z,523nm,1.3s							
STHS	**Stebnicka Huta**	**77.41**	**326**	*e*P		**P**	**09 20 30.4**	**+0.6**
E33A	**Westby DABS, E**	**77.46**	**38**	P		**P**	**09 20 29.2**	**-1.0**
	baz=317,SNR=61							
PETR	**Petresti**	**77.46**	**321**	⇓ *i*P		**P**	**09 20 31.4**	**+1.3**

YOZ	**Yozgat**	**77.50**	**312**	*e*P		**P**	**09 20 30.6**	**0.0**
C35A	**Jirik Farms, M**	**77.50**	**36**	P		**P**	**09 20 29.2**	**-1.2**
	baz=318,SNR=116							
ODBI	**Odobesti**	**77.51**	**321**	⇓ *i*P		**P**	**09 20 31.9**	**+1.5**
CORM	**Corum**	**77.52**	**313**	*e*P		**P**	**09 20 31.6**	**+0.9**
SUSD	**Miller**	**77.52**	**41**	P		**P**	**09 20 29.7**	**-0.8**
	baz=316,SNR=9.4							
UZH	**Uzhgorod**	**77.56**	**325**	*e*P		**P**	**09 20 31.0**	**+0.4**
UZH				*e*			09 20 40.6	
UZH				*e*			09 23 26.4	
UZH				*e*S		**S**	**09 30 20.4**	**-0.4**
UZH				*e*SS		**SS**	**09 35 11.8**	**-7.2**
UZH				MLR		MLR		
	comp=Z,135µm,18.0s							
VRI	**Vrincioaia**	**77.59**	**321**	⇓ *i*P		**P**	**09 20 32.5**	**+1.6**
PLOR	**Plostina**	**77.64**	**321**	⇓ *i*P		**P**	**09 20 32.4**	**+1.2**
G32A	**Webster**	**77.65**	**40**	P		**P**	**09 20 30.2**	**-1.1**
	baz=317,SNR=34							
BIGH	**Upper Bighouse**	**77.69**	**344**	*e*P		**P**	**09 20 31.3**	**+0.2**
BIGH				IAMs_20		IAMs_20	09 57 10.1	
	comp=Z,112µm,18.3s							
CRVS	**Cervenica-Dubn**	**77.71**	**326**	*e*P		**P**	**09 20 31.7**	**+0.2**
CRVS				*e*			09 23 30.9	
CRVS				*e*S		**S**	**09 30 26.3**	**+3.8**
CRVS	**Cervenica-Dubn**	**77.71**	**326**	*e*P		**P**	**09 20 31.7**	**+0.2**
CRVS				*e*PP		**PP**	**09 23 30.9**	**+4.7**
CRVS				*e*S		**S**	**09 30 26.3**	**+3.8**
BNN	**Bunyan**	**77.73**	**311**	*e*P		**P**	**09 20 32.6**	**+0.6**
H31A	**Wolsey**	**77.73**	**41**	P		**P**	**09 20 30.5**	**-1.2**
	baz=316,SNR=52							
RAO	**Raoul Island**	**77.74**	**147**	PFAKE			09 20 40.0	+8.3
RAO				LR		LR		
	comp=Z,70µm,19.0s							
BMR	**Baia Mare**	**77.75**	**324**	⇑ *i*P		**P**	**09 20 33.0**	**+1.3**
NWAO	**Narrogin (SRO)**	**77.75**	**204**	*e*P		**P**	**09 20 31.8**	**+0.1**
NWAO				*e*S		**S**	**09 30 16.9**	**-6.1**
NWAO				pmax		pmax		
	comp=Z,5µm,1.3s							
NWAO				MLR		MLR		
	comp=Z,23µm,22.0s							
NWAO	**Narrogin (SRO)**	**77.75**	**204**	*e*P		**P**	**09 20 31.8**	**+0.1**
	comp=Z,5µm,1.3s							
NWAO				*e*S		**S**	**09 30 16.9**	**-6.1**
NWAO				LR		LR		
	comp=Z,23µm,22.0s							
NWAO	**Narrogin (SRO)**	**77.75**	**204**	P		**P**	**09 20 35.6**	**+3.9**
	SNR=25							
NWAO	**Narrogin (SRO)**	**77.75**	**204**	P		**P**	**09 20 35.6**	**+3.9**
	SNR=25							
CANT	**Cankiri**	**77.78**	**314**	*e*P		**P**	**09 20 34.8**	**+2.7**
TIRR	**Tirgusor**	**77.79**	**319**	*e*P		**P**	**09 20 31.8**	**-0.2**
TIRR				*e*			09 23 31.2	
TIRR				*e*S		**S**	**09 30 27.5**	**+4.0**
TIRR				pmax		pmax		
	comp=Z,600nm,1.1s							
TIRR	**Tirgusor**	**77.79**	**319**	*e*P		**P**	**09 20 31.8**	**-0.2**
	comp=Z,600nm,1.1s							
TIRR				*e*PP		**PP**	**09 23 31.1**	**+4.2**
TIRR				*e*S		**S**	**09 30 27.4**	**+4.0**
ARCR	**ARCALIA**	**77.81**	**323**	⇓ *i*P		**P**	**09 20 33.1**	**+1.0**
F33A	**5 Mile Ranch,**	**77.81**	**39**	P		**P**	**09 20 31.1**	**-0.9**
	baz=317,SNR=92							
NIE	**Niedzica**	**77.81**	**327**	*e*P		**P**	**09 20 32.5**	**+0.4**
NIE				*e*PP		PP	09 23 35.0	+8.0
NIE				*i* S		**S**	**09 30 29.6**	**+6.0**
NIE				*e*SS		**SS**	**09 35 28.1**	**+5.3**
NIE				LMZ		LR	09 50 56.2	
	comp=Z,52µm,28.5s							
NIE	**Niedzica**	**77.81**	**327**	*e*P		**P**	**09 20 32.5**	**+0.4**
NIE				*e*			09 23 35.0	
NIE				*i* S		**S**	**09 29.2**	**+6.0**
NIE				*e*SS		**SS**	**09 35 28.1**	**+5.3**
GRER		**77.83**	**320**	⇓ *i*P		**P**	**09 20 34.0**	**+1.8**
TRPA	**Tarpa**	**77.83**	**325**	⇓ *e*P		**P**	**09 20 33.8**	**+1.7**
E34A	**Wadena**	**77.84**	**38**	P		**P**	**09 20 31.4**	**-0.9**
	baz=318							
HARR	**Harsova**	**77.87**	**319**	⇓ *i*P		**P**	**09 20 32.3**	**-0.1**
TLB	**Topalu**	**77.89**	**319**	⇓ *i*P		**P**	**09 20 32.6**	**+0.1**
S22A	**4UR Ranch, Cre**	**77.89**	**50**	P		**P**	**09 20 33.4**	**+0.3**
	baz=313,SNR=169							
W18A	**Petrified Fore**	**77.91**	**54**	P		**P**	**09 20 33.2**	**+0.2**
	baz=312,SNR=63							
W18A	**Petrified Fore**	**77.91**	**54**	*e*P		**P**	**09 20 33.2**	**+0.2**
	comp=Z,184nm,1.1s							
D35A	**Remer**	**77.93**	**37**	P		**P**	**09 20 31.6**	**-1.2**
	baz=318,SNR=66							
EFOR	**EFORIE**	**77.96**	**319**	⇑ *i*P		**P**	**09 20 33.8**	**+0.9**
C36A	**Pine Crest Far**	**77.97**	**36**	P		**P**	**09 20 32.1**	**-0.9**
	baz=319,SNR=91							
SHAO	**Shalim**	**77.99**	**283**	P		**P**	**09 20 33.7**	**+0.1**
	SNR=46							
SHAO	**Shalim**	**77.99**	**283**	P		**P**	**09 20 33.7**	**+0.1**
	SNR=46							
SHAO	**Shalim**	**77.99**	**283**	*i* P		**P**	**09 20 32.4**	**-1.2**
	SNR=54						

OKC e 09 23 29.6
OKC eS S **09 30 35.8 +6.4**
OKC MLR MLR
comp=Z,129µm,15.2s
BRTR Keskin Array B 78.38 313 P P **09 20 35.5 -0.1**
comp=Z,96nm,0.7s,baz=63,slow=3.3,SNR=136
BRTR PP PP **09 23 32.9 +0.7**
comp=Z,33nm,0.8s,baz=59,slow=6.7,SNR=5.0
BRTR S S **09 30 32.1 +1.8**
comp=Z,1.8nm,0.9s,baz=32,slow=8.5,SNR=3.6
BRTR PKPPKP **P'P'df 09 47 36.0 -5.3**
comp=Z,2.6nm,1.0s,baz=182,slow=4.3,SNR=4.2
BRTR LR LR 09 58 55.4
comp=Z,38µm,19.2s,baz=17,slow=39
MCD Coleburn Disti 78.39 343 eP P **09 20 34.1 -1.0**
OGNE Ogallala 78.39 45 P P **09 20 34.5 -1.1**
baz=315,SNR=91
OGNE Ogallala 78.39 45 eP P **09 20 35.1 -0.5**
comp=Z,771nm,1.1s
OGNE ePP PP **09 23 34.4 +2.1**
OGNE LR LR
comp=Z,53µm,20.0s
EYMN Ely 78.42 35 P P **09 20 34.1 -1.3**
baz=320,SNR=216
EYMN Ely 78.42 35 eP P **09 20 34.3 -1.1**
comp=Z,673nm,1.4s
EYMN ePP PP **09 23 32.9 +0.8**
EYMN LR LR
comp=Z,36µm,21.0s
CJR Cluj-Napoca 78.43 323⇓iP P **09 20 36.2 +0.6**
H33A Prehn Over Nor 78.44 40 P P **09 20 34.6 -1.1**
baz=317,SNR=141
KECS Kecovo 78.45 326 eP P **09 20 35.8 +0.2**
KECS pmax pmax
comp=Z,229nm,1.1s
KECS Kecovo 78.45 326 eP P **09 20 35.8 +0.2**
KECS ePP PP **09 23 35.3 +3.0**
J31A Geddes 78.45 42 P P **09 20 34.7 -1.0**
baz=316,SNR=49
PSN Preselentsi 78.47 319 iP P **09 20 35.6 -0.2**
MDB Medias 78.50 322⇓iP P **09 20 37.4 +1.5**
G34A Benson 78.56 39 P P **09 20 35.2 -1.0**
baz=318,SNR=113
I32A Karley and Nic 78.56 41 P P **09 20 34.9 -1.4**
baz=317,SNR=12
MME1 Meikle Cairn 78.57 343 eP P **09 20 35.4 -0.7**
F35A Swanville 78.60 38 P P **09 20 35.3 -1.2**
baz=318,SNR=87
D37A Cotton 78.61 36 P P **09 20 34.9 -1.6**
baz=319,SNR=45
MORC Moravsky Berou 78.65 328⇓iP P **09 20 37.0 +0.3**
MORC Moravsky Berou 78.65 328 eP P **09 20 36.8 +0.1**
MORC e 09 23 40.2
MORC eS S **09 30 27.5 -5.1**
MORC pmax pmax
comp=Z,6µm,1.4s
MORC Moravsky Berou 78.65 328 eP P **09 20 36.8 +0.1**
comp=Z,6µm,1.4s
MORC ePP PP **09 23 40.1 +6.1**
MORC eS S **09 30 27.5 -5.1**
SDCO Great Sand Dun 78.67 50 P P **09 20 37.2 -0.2**
baz=313,SNR=152
SDCO Great Sand Dun 78.67 50 eP P **09 20 37.5 +0.1**
comp=Z,169nm,1.2s
SDCO ePP PP **09 23 35.6 +0.7**
SDCO LR LR
comp=Z,39µm,19.0s
UPC Upice 78.67 330⇓iP P **09 20 36.9 +0.1**
UPC epP pP **09 20 41.9 -1.2**
UPC ePP PP **09 23 40.8 +6.7**
UPC eS S **09 30 38.0 +5.3**
UPC AMS AMS 09 58 10.0
comp=Z,232µm,18.8s
UPC Upice 78.67 330⇓iP P **09 20 36.9 +0.1**
UPC e 09 20 41.9
UPC e 09 23 40.8
UPC eS S **09 30 38.0 +5.3**
UPC MLR MLR
comp=Z,232µm,18.8s
RRR Rubha Reidh 78.67 345 eP P **09 20 36.3 -0.3**
DPC Dobruska-Polom 78.67 329⇓iP P **09 20 37.3 +0.4**
DPC epP pP **09 20 42.5 -0.7**
DPC ePP PP **09 23 40.7 +6.5**
DPC eS S **09 30 37.8 +4.9**
DPC AMS AMS 10 02 50.0
comp=Z,157µm,16.4s
DPC Dobruska-Polom 78.67 329⇓iP P **09 20 37.3 +0.4**
DPC e 09 20 42.5
DPC e 09 23 40.7
DPC eS S **09 30 37.8 +4.9**
DPC MLR MLR
comp=Z,157µm,16.4s
KOZT Kozan 78.68 310 eP P **09 20 37.7 +0.6**
C38A Sawbill Land. 78.69 35 P P **09 20 35.4 -1.6**
baz=320,SNR=325
SULR 78.69 320⇓iP P **09 20 37.2 +0.2**
VOIR 78.71 322⇓iP P **09 20 37.4 +0.2**
E36A McGregor 78.72 37 P P **09 20 35.8 -1.3**
baz=319,SNR=130
ANTO Ankara 78.75 313 eP P **09 20 39.5 +2.0**
ANTO Ankara 78.75 313 eP P **09 20 37.7 +0.2**
ANTO eS S **09 30 33.6 -0.5**
ANTO pmax pmax
comp=Z,2µm,0.9s
ANTO MLR MLR
comp=Z,92µm,22.0s
ANTO Ankara 78.75 313 eP P **09 20 37.7 +0.2**
comp=Z,2µm,0.9s
ANTO eS S **09 30 33.6 -0.5**
ANTO LR LR
comp=Z,92µm,22.0s
ANTO Ankara 78.75 313 P P **09 20 38.2 +0.7**
SNR=162
ANTO Ankara 78.75 313 P P **09 20 38.2 +0.7**
SNR=162
LOD Lodumlu 78.75 313 eP P **09 20 37.3 -0.2**
MDO Dochfour 78.76 344 eP P **09 20 36.3 -0.8**
DRGR 78.77 324⇓iP P **09 20 37.9 +0.4**
RRH Rhenigidale 78.79 345 eP P **09 20 36.1 -1.2**
DRUM Mains of Drumt 78.83 343 eP P **09 20 37.0 -0.4**
DRUM IAmb IAmb 09 20 44.7
comp=Z,824nm,1.1s
DRUM IAMs_20 IAMs_20 10 00 10.8
comp=Z,82µm,19.4s
J32A Parkston 78.85 41 P P **09 20 36.4 -1.5**
baz=317,SNR=27
MTUR Matau 78.86 321⇓iP P **09 20 38.6 +0.6**
I33A Coleman 78.88 40 P P **09 20 37.0 -1.1**
baz=317,SNR=34
AFSR Af´ar-Bala (A 78.89 313 eP P **09 20 37.7 -0.6**
KAC Achnashellach 78.90 344 eP P **09 20 37.5 -0.4**
H34A Spellman Lake, 78.92 39 P P **09 20 37.0 -1.3**
baz=318,SNR=50
K31A O'Neill 78.93 42 P P **09 20 37.7 -0.7**
baz=316,SNR=86
ARR Arges 78.96 322⇑iP P **09 20 39.9 +1.4**
SERE Sereflikochisa 78.96 312 eP P **09 20 39.1 +0.4**
CEYT Ceyhan 79.04 310 eP P **09 20 41.3 +2.3**
E37A Wrenshall 79.07 36 P P **09 20 37.8 -1.2**
baz=320
F36A Milaca 79.09 37 P P **09 20 37.8 -1.4**
baz=319,SNR=70
C39A Grand Marais 79.10 34 P P **09 20 37.5 -1.7**
baz=321,SNR=44
TUC Tucson 79.11 57 P P **09 20 39.8 +0.1**
baz=312
TUC Tucson 79.11 57 eP P **09 20 39.7 +0.1**
TUC eS S 09 30 48.2 +10
TUC pmax pmax
comp=Z,491nm,1.3s
TUC MLR MLR
comp=Z,62µm,20.0s
TUC Tucson 79.11 57 eP P **09 20 39.7 +0.1**
comp=Z,491nm,1.3s
TUC eS S 09 30 48.2 +10
TUC LR LR
comp=Z,62µm,20.0s
G35A Watkins 79.12 38 P P **09 20 38.7 -0.6**
baz=318,SNR=64
KPL Plockton 79.12 344 eP P **09 20 39.2 +0.1**
KPL Plockton 79.12 344 eP P **09 20 38.2 -0.9**
KPL IAMs_20 IAMs_20 10 04 32.9
comp=Z,45µm,16.7s
VYHS Vyhne 79.13 327 eP P **09 20 39.8 +0.4**
VYHS Vyhne 79.13 327 eP P **09 20 39.8 +0.4**
VYHS Vyhne 79.13 327 eS S **09 30 44.0 +6.2**
VYHS eL L 09 51 41.1
PSZ Piszkesteto 79.14 326⇓iP P **09 20 41.0 +1.5**
PSZ Piszkesteto 79.14 326 eP P **09 20 39.6 +0.1**
PSZ e 09 23 39.5
PSZ eS S **09 30 32.3 -5.7**
PSZ pmax pmax
comp=Z,3µm,1.5s
PSZ MLR MLR
comp=Z,183µm,19.0s
PSZ Piszkesteto 79.14 326⇓eP P **09 20 40.5 +1.0**
PSZ Piszkesteto 79.14 326 eP P **09 20 39.6 +0.1**
comp=Z,3µm,1.5s
PSZ ePP PP **09 23 39.5 +1.3**
PSZ eS S **09 30 32.3 -5.7**
PSZ LR LR
comp=Z,183µm,19.0s
CLL Collm 79.14 332 iP P **09 20 38.7 -0.6**
CLL i 09 20 43.6
CLL eS S **09 30 40.0 +2.3**
CLL pmax pmax
comp=Z,405nm,1.0s
CLL MLR MLR
comp=Z,313µm,18.6s
CLL Collm 79.14 332 iP P **09 20 38.7 -0.6**
comp=Z,405nm,1.0s
CLL iPmax 09 20 39.7
CLL ipP **pP 09 20 42.7 -3.0**
CLL ePIp 09 20 42.0
comp=Z,22µm,18.9s
CLL isP **sP 09 20 43.6 -4.4**
comp=Z,1µm,1.3s
CLL i 09 20 45.9
comp=Z,944nm,1.0s
CLL ePP PP **09 23 37.0 -1.0**
CLL e 09 23 45.0
CLL e 09 23 58.0
CLL ePPP PPP 09 25 24.0
CLL eS S **09 30 40.0 +2.3**
comp=N,35µm,33.0s
CLL eS S **09 30 40.0 +2.3**
comp=E,20µm,19.7s
CLL eS S **09 30 40.0 +2.3**
comp=Z,23µm,19.1s
CLL eSKSac **SKSac 09 30 52.0 -2.1**
CLL ePS **PnS 09 31 18.0 -3.0**
CLL e 09 31 54.0
CLL eSS **SS 09 35 44.0 +1.4**
CLL eSSIp 09 36 15.0
CLL e 09 40 36.0
CLL esPKPPKPd 09 47 41.0
CLL Lmax 09 59 00.0
CLL Lm MLR 09 59 00.0
comp=N,187µm,19.2s
CLL Lm MLR 09 59 00.0
comp=E,139µm,18.3s
CLL Lm MLR 09 59 00.0
comp=Z,313µm,18.6s
CLL e3PKPdf 10 07 38.0
BRG Berggiesshubel 79.15 331 iP P **09 20 39.2 -0.2**
comp=Z,180nm,1.0s
BRG i 09 20 44.2
comp=Z,841nm,1.3s
BRG iPP PP **09 23 40.8 +2.7**
comp=Z,151nm,1.1s
BRG S S **09 30 41.0 +3.2**
BRG SS SS **09 35 48.0 +5.2**
BRG ePKPPKP P'P'df 09 47 23.2 -17
comp=Z,32nm,2.0s
BRG Berggiesshubel 79.15 331 iP P **09 20 39.2 -0.2**
BRG i 09 20 44.2
BRG i 09 23 40.8
BRG S S **09 30 41.0 +3.2**
BRG SS SS **09 35 48.0 +5.2**
BRG pmax pmax
comp=Z,180nm,1.0s
BRG pmax pmax
comp=Z,151nm,1.1s
BRG MLR MLR
comp=N,197µm,18.6s
BRG MLR MLR
comp=E,139µm,17.4s
BRG MLR MLR
comp=Z,332µm,18.2s
SGRR Singureni 79.16 320⇓iP P **09 20 39.1 -0.5**
GOLR 79.19 321⇑iP P **09 20 40.2 +0.5**
KSB Sheil Bridge 79.19 344 eP P **09 20 39.3 -0.2**
MDUB Mudurnu 79.19 315 eP P **09 20 39.9 -0.1**
ECSD EROS Data Cent 79.20 40 P P **09 20 38.5 -1.3**
baz=317,SNR=142
ECSD EROS Data Cent 79.20 40 eP P **09 20 38.8 -1.0**
comp=Z,25nm,0.6s
ECSD ePP PP **09 23 42.5 +3.8**
ECSD LR LR
comp=Z,37µm,19.0s
PVCC Panska Ves 79.20 330⇓eP P **09 20 40.0 +0.3**
PVCC ePP PP **09 23 45.8 +7.3**
PVCC eS S **09 30 38.2 -0.2**
PVCC AMS AMS 09 59 00.0
comp=Z,278µm,18.4s
PVCC Panska Ves 79.20 330 eP P **09 20 40.0 +0.3**
PVCC e 09 23 45.8
PVCC eS S **09 30 38.2 -0.2**
PVCC MLR MLR
comp=Z,278µm,18.4s
PRD Provadia 79.21 319 iP P **09 20 40.4 +0.6**
YURE YUREGIR 79.24 310 eP P **09 20 41.7 +1.5**
EDU Dundee 79.28 343 eP P **09 20 39.3 -0.7**
K32A Verdigre 79.30 42 P P **09 20 38.8 -1.6**
baz=317,SNR=49
LOT Lotru 79.30 322⇓iP P **09 20 41.0 +0.5**
J33A Davis 79.33 41 P P **09 20 39.1 -1.4**
baz=317,SNR=48
I34A Hadley 79.34 40 P P **09 20 39.2 -1.4**
baz=318
H35A Sunnyside Ranc 79.35 39 P P **09 20 40.1 -0.5**
baz=318,SNR=478
RBK Rabkut 79.37 284 P P **09 20 43.0 +1.8**
SNR=27
RBK Rabkut 79.37 284 P P **09 20 43.0 +1.8**
SNR=27
DEV Deva 79.37 323⇓iP P **09 20 41.9 +1.2**
VRAC Vranov 79.40 329 S S **09 30 47.7 +7.1**
comp=Z,1.4nm,0.3s,baz=340,slow=23,SNR=4.7
VRAC Vranov 79.40 329⇓iP P **09 20 41.2 +0.4**
E38A The Farm, Brul 79.42 36 P P **09 20 39.5 -1.4**
baz=320,SNR=92
HUMR Humele 79.42 321⇑iP P **09 20 41.6 +0.6**
KSCO Kaye Shedlock' 79.42 47 P P **09 20 40.4 -0.9**
baz=315,SNR=76
KSCO Kaye Shedlock' 79.42 47 eP P **09 20 41.0 -0.3**
comp=Z,978nm,1.5s
KSCO ePP PP **09 23 41.2 +0.3**
WHFO Wadi Hawf 79.42 284 P P **09 20 43.0 +1.5**
SNR=31
WHFO Wadi Hawf 79.42 284 P P **09 20 43.0 +1.5**
SNR=31
C40A Isle Royale Na 79.44 34 P P **09 20 39.7 -1.3**
baz=321,SNR=42
G36A St. Michael 79.45 38 P P **09 20 40.0 -1.2**
baz=319,SNR=81
SAUV Serdivan-Sakar 79.47 315 eP P **09 20 42.3 +1.0**
YAYL Yayladag 79.50 309 eP P **09 20 44.1 +2.4**
SULT Sultanhani-AKS 79.51 312 eP P **09 20 43.1 +1.4**
SPNC Sapanca-Adapaz 79.52 315 eP P **09 20 39.9 -1.7**
SILT Sile 79.54 316 eP P **09 20 42.9 +1.2**
KRTS Karatas 79.56 310 eP P 09 20 46.9 +5.0
GULT Gulveren 79.59 315 eP P **09 20 43.3 +1.2**
CHBY Cihanbeyli 79.59 312 eP P **09 20 42.7 +0.5**
F37A Hinrichs Farm, 79.60 37 P P **09 20 40.2 -1.7**
baz=320,SNR=34
GOPC GO Pecny, Ondr 79.61 330⇓iP P **09 20 42.2 +0.2**
GOPC ePP PP **09 23 49.5 +7.5**
GOPC eS S **09 30 42.9 +0.1**
GOPC AMS AMS 09 58 50.0
comp=Z,250µm,19.2s
GOPC GO Pecny, Ondr 79.61 330⇓iP P **09 20 42.2 +0.2**
GOPC e 09 23 49.5
GOPC eS S **09 30 42.9 +0.1**
GOPC MLR MLR
comp=Z,250µm,19.2s
SIRR Siria 79.64 324⇓iP P **09 20 42.2 0.0**
PRU Pruhonice 79.65 330⇓iP P **09 20 42.2 +0.1**
PRU ePP PP 09 23 51.2 +9.0
PRU eS S **09 30 41.4 -1.7**
PRU AMS AMS 09 59 00.0
comp=Z,267µm,18.5s
PRU Pruhonice 79.65 330⇓iP P **09 20 42.2 +0.1**
PRU eS S **09 30 41.4 -1.7**
PRU MLR MLR
comp=Z,267µm,18.5s
SMOL Smolenice 79.70 328 eP P **09 20 43.4 +1.0**
SMOL Smolenice 79.70 328 eP P **09 20 43.4 +1.0**
T25A Trinidad 79.71 49 P P **09 20 42.6 -0.4**
baz=314,SNR=163
SVRH Sivrihisar-ESK 79.74 314 eP P **09 20 44.6 +1.6**
L32A Elgin 79.76 42 P P **09 20 41.9 -1.0**
baz=317,SNR=13
HRT Hereke 79.76 316 eP P **09 20 44.1 +1.1**
F38A Pierce - Schro 79.77 36 P P **09 20 41.9 -1.0**
baz=320,SNR=302
ESY Stoneypath 79.77 342 eP P **09 20 41.2 -1.5**
KLYT Kilyos 79.78 316 eP P **09 20 44.1 +1.1**
K33A Hardington 79.83 41 P P **09 20 42.1 -1.2**
baz=317,SNR=30
TREC Trest 79.84 329⇓eP P **09 20 43.2 0.0**
TREC ePP PP **09 23 50.2 +6.3**
TREC eS S **09 30 51.1 +5.8**
TREC AMS AMS 09 58 30.0
comp=Z,229µm,19.6s
TREC Trest 79.84 329 eP P **09 20 43.2 0.0**
TREC e 09 23 50.2
TREC eS S **09 30 51.1 +5.8**
TREC MLR MLR
comp=Z,229µm,19.6s
BUD Budapest 79.85 326⇓eP P **09 20 44.9 +1.7**
J34A George 79.85 40 P P **09 20 42.0 -1.4**
baz=318,SNR=18
H36A Jessenland, He 79.86 38 P P **09 20 42.9 -0.5**
baz=319,SNR=107
MODS Modra-Piesok 79.87 328 eP P **09 20 43.9 +0.5**
MODS eS S **09 30 51.8 +6.2**
MODS Modra-Piesok 79.87 328 eP P **09 20 43.9 +0.5**
ZIMR 79.88 320⇓iP P **09 20 44.1 +0.6**
SRO Srobarova 79.89 327 eP P **09 20 44.7 +1.3**
SRO e 09 20 49.8
SRO Srobarova 79.89 327 eP P **09 20 44.7 +1.3**
SRO e 09 20 49.8
SZH Strazhica 79.89 320 iP P **09 20 43.5 -0.1**
I35A Creekview Farm 79.90 40 P P **09 20 42.3 -1.3**
baz=318,SNR=25
SPMN Marine on St. 79.90 37 P P **09 20 42.1 -1.5**
baz=320,SNR=73
SPMN Marine on St. 79.90 37 eP P **09 20 42.3 -1.2**
comp=Z,271nm,1.0s
SPMN ePP PP 09 23 54.3 +10
EAB Aberfoyle 79.91 343 eP P **09 20 43.1 -0.3**
LAZ Ladron 79.97 53 eP P **09 20 44.8 +0.4**
comp=Z,24nm,0.3s
BGKT Bogazkoy 79.97 317 eP P **09 20 45.3 +1.3**
ADVT Abdulvahap 80.00 316 eP P **09 20 44.4 +0.2**
ANMO Albuquerque 80.01 52 P P **09 20 44.7 +0.1**
baz=313
ANMO Albuquerque 80.01 52⇓eP P **09 20 44.7 +0.1**
ANMO pmax pmax
comp=Z,158nm,1.2s
ANMO MLR MLR
comp=Z,28µm,18.0s
ANMO Albuquerque 80.01 52 eP P **09 20 44.8 +0.1**
comp=Z,22nm,1.0s
ANMO LR LR
comp=Z,32µm,20.0s
CTYL Yalíkoy Yolu 80.01 317 eP P **09 20 45.5 +1.3**
L33A Hoskins 80.01 42 P P **09 20 43.0 -1.3**
baz=317,SNR=17
E39A Mellen 80.03 35 P P **09 20 42.8 -1.4**
baz=321,SNR=172
CTKS Kestanelik-??a 80.07 317 eP P **09 20 44.7 +0.1**
ZST Bratislava 80.08 328 eP P **09 20 43.9 -0.6**
ZST pmax pmax
comp=Z,1µm,1.5s
ZST Bratislava 80.08 328 eP P **09 20 43.9 -0.6**
ZST ePP PP **09 23 47.5 +1.6**
ZST eS S **09 30 52.6 +4.9**
ZST eL L 10 01 40.2
CAVI Cavuskoy 80.11 315 eP P **09 20 45.3 +0.4**
BGNE Belgrade 80.12 43 P P **09 20 43.6 -1.3**
baz=317,SNR=34
BGNE Belgrade 80.12 43 eP P **09 20 43.9 -1.0**
comp=Z,1µm,1.1s
BGNE ePP PP **09 23 52.9 +6.4**
OUZ Omahuta 80.13 157 P P **09 20 47.5 +2.9**
CRAR CRAIOVA 80.13 321⇑iP P **09 20 46.0 +1.2**
SRE Strehaia 80.16 322⇓iP P **09 20 46.4 +1.4**
J35A Milford 80.16 40 P P **09 20 43.7 -1.3**
baz=318,SNR=22
JMB Yambol 80.16 319 iP P **09 20 45.4 +0.4**
BZS Buzias 80.16 324⇓iP P **09 20 44.6 -0.4**
PVL Pavlikeni 80.22 320 iP P **09 20 45.8 +0.5**
K34A Le Mars 80.22 41 P P **09 20 44.2 -1.2**
baz=318,SNR=28
NKC Novy Kostel 80.22 331⇓iP P **09 20 45.0 -0.3**
NKC epP pP **09 20 48.9 -2.7**
NKC ePP PP **09 23 54.1 +7.0**
NKC eS S **09 30 53.3 +4.0**
NKC AMS AMS 09 59 40.0
comp=Z,337µm,18.5s
NKC Novy Kostel 80.22 331⇓iP P **09 20 45.0 -0.3**
NKC e 09 23 54.1
NKC eS S **09 30 53.3 +4.0**
NKC MLR MLR
comp=Z,337µm,18.5s
F39A Loretta 80.23 36 P P **09 20 44.0 -1.3**
baz=320,SNR=125
SLVT Silivri 80.23 317 eP P **09 20 47.0 +1.6**
LENM Lemitar 80.23 53 eP P **09 20 45.4 -0.4**
comp=Z,2.6nm,1.2s
RAR Rarotonga 80.24 129 P P **09 20 48.3 +2.7**
comp=Z,119nm,1.2s,baz=297,slow=3.2,SNR=8.8
RAR LR LR 09 55 40.1
comp=Z,54µm,18.1s,baz=322,slow=35
RAR Rarotonga 80.24 129 eP P **09 20 48.3 +2.7**
comp=Z,586nm,1.7s
I36A Fitzsimmons Fa 80.24 39 P P **09 20 44.4 -1.1**
baz=319,SNR=55
TIM Timisoara 80.24 324⇑iP P **09 20 46.6 +1.2**
CSKK Cs¨ˇkako 80.26 326⇓eP P **09 20 45.9 +0.4**
E40A Wakefield 80.27 35 P P **09 20 44.8 -0.8**
baz=321,SNR=401
PGBU Glenifferbraes 80.29 343 eP P **09 20 45.2 -0.3**
PGBU IAmb IAmb 09 20 51.9
comp=Z,1µm,1.1s
PGBU IAMs_20 IAMs_20 10 03 11.2
comp=Z,54µm,19.4s
PHSR Pinarhisar 80.29 318 eP P **09 20 47.4 +1.6**
GEMT Gemlik 80.29 316 eP P **09 20 46.4 +0.6**
Y22D IRIS PASSCAL I 80.33 53 P P **09 20 46.9 +0.6**
baz=313,SNR=19
Y22E IRIS PASSCAL I 80.33 53 P P **09 20 46.9 +0.6**
baz=313,SNR=19
H37A Dierke Farm, C 80.34 38 P P **09 20 45.1 -0.9**
baz=320,SNR=72
LPM Los Pinos Moun 80.34 53 eP P **09 20 46.8 +0.4**
comp=Z,32nm,1.3s
KIZK Mersin 80.34 310 eP P **09 20 46.4 +0.3**
D41A Chassel 80.36 34 P P **09 20 45.0 -1.0**
baz=322,SNR=82
ARMT Armutlu 80.37 316 eP P **09 20 47.2 +1.0**
G38A Ridgeland 80.38 37 P P **09 20 44.6 -1.5**
baz=320,SNR=114
EKA Eskdalemuir Ar 80.43 342 P P **09 20 46.1 -0.1**
comp=Z,20nm,0.4s,baz=25,slow=4.7,SNR=85
EKA PP PP **09 23 47.1 -1.4**
comp=Z,16nm,0.8s,baz=27,slow=8.1,SNR=3.3
EKA PKPPKP **P'P'df 09 47 34.0 -4.2**
comp=Z,3.9nm,1.0s,baz=222,slow=1.0,SNR=5.5
EKA LR LR 10 02 45.4
comp=Z,87µm,18.2s,baz=30,slow=40
ESK Eskdalemuir 80.45 342 eP P **09 20 46.5 +0.1**
ESK Eskdalemuir 80.45 342 eP P **09 20 45.9 -0.5**
ESK IAMs_20 IAMs_20 10 02 28.8
comp=Z,107µm,17.5s
M33A Taylor Creek F 80.49 42 P P **09 20 45.5 -1.4**
baz=317,SNR=20
MDNY Mudanya-Bursa 80.50 316 eP P **09 20 47.0 +0.1**
EDRB Edirne 80.53 318 eP P **09 20 47.5 +0.5**
H01W3 Cape Leeuwin H 80.54 205 P P **09 20 48.4 +1.9**
baz=75,slow=2.7,SNR=13
I37A Lemond, Waseca 80.54 39 P P **09 20 46.3 -0.7**

baz=319,SNR=198
H01W1 Cape Leeuwin H 80.54 205 P P 09 20 48.5 +1.9
baz=75,slow=2.7,SNR=18
CRLT Corlu 80.55 317 eP P 09 20 48.1 +0.9
H01W2 Cape Leeuwin H 80.55 205 P P 09 20 48.9 +2.2
baz=75,slow=2.7,SNR=15
BANR Banloc 80.55 324 ⇓ iP P 09 20 48.6 +1.5
H38A Maiden Rock 80.56 37 P P 09 20 46.0 -1.2
baz=320,SNR=38
F40A Park Falls 80.58 35 P P 09 20 45.8 -1.5
baz=321,SNR=99
G39A Holcombe 80.60 36 P P 09 20 45.8 -1.5
baz=320,SNR=60
EDMD Edmundbyers 80.60 341 eP P 09 20 46.7 -0.5
EDMD IAmb IAmb 09 20 54.1
comp=Z,388nm,1.0s
EDMD IAMs_20 IAMs_20 10 00 21.8
comp=Z,95μm,19.7s
SBT3 Marmara-Eregli 80.60 317 eP P 09 20 48.7 +1.5
J36A Seneca 1, Swea 80.61 40 P P 09 20 46.1 -1.3
baz=319,SNR=39
L34A Svendsen Farm, 80.61 42 P P 09 20 46.1 -1.4
baz=318,SNR=25
K35A Storm Lake 80.62 40 P P 09 20 46.0 -1.6
baz=318,SNR=14
E41A Kenton 80.66 35 P P 09 20 46.4 -1.2
baz=322,SNR=156
BHH Howats Hill 80.66 342 eP P 09 20 46.8 -0.6
WTSB Winterswijk 80.69 335 i P P 09 20 47.0 -0.6
comp=Z,2μm,1.5s
KHC Kasperske Hory 80.71 330 ⇓ iP P 09 20 48.0 +0.1
KHC epP pP 09 20 51.9 -2.4
KHC ePP PP 09 23 49.3 -1.8
KHC eS S 09 30 59.0 +4.6
KHC AMS AMS 10 00 10.0
comp=Z,333μm,18.5s
KHC Kasperske Hory 80.71 330 ⇓ iP P 09 20 48.0 +0.1
KHC e 09 23 49.3
KHC eS S 09 30 59.0 +4.6
KHC MLR MLR
comp=Z,333μm,18.5s
KHC Kasperske Hory 80.71 330 eP P 09 20 48.1 +0.1
comp=Z,342nm,1.0s
KHC ePP PP 09 23 47.2 -4.0
SOP Sopron 80.71 328 ⇓ eP P 09 20 48.8 +0.9
MDVR Moldovita 80.75 323 ⇓ iP P 09 20 47.9 -0.4
TEVE Tevekalti-Mers 80.78 311 eP P 09 20 47.8 -0.8
HWQ Hawqa 80.80 308 eP P 09 20 49.5 +0.8
CONA Conrad Observa 80.80 328 epP P 09 20 48.9 +0.4
comp=Z,1μm,1.2s,SNR=290
121A Cookes Peak, D 80.84 55 P P 09 20 49.3 +0.2
baz=313,SNR=130
121A Cookes Peak, D 80.84 55 eP P 09 20 49.6 +0.5
comp=Z,501nm,1.3s
M34A Aspy Farms, Fr 80.85 42 P P 09 20 47.6 -1.1
baz=318,SNR=22
KCTX Karacabey (Bur 80.86 316 eP P 09 20 50.0 +1.2
COWI Conover 80.87 35 eP P 09 20 47.5 -1.3
comp=Z,2μm,0.7s
COWI ePP PP 09 23 53.5 +1.0
COWI LR LR
comp=Z,46μm,19.0s
SCHQ Scheffer ville 80.88 18 P P 09 20 48.0 -0.7
comp=Z,78nm,0.7s,baz=349,slow=5.8,SNR=79
SCHQ PKKPbc **PKKPbc 09 39 25.3 -0.6**
comp=Z,13nm,0.9s,baz=146,slow=2.5,SNR=7.9
SCHQ PKPPKP **P'P'df 09 47 30.9 -6.5**
comp=Z,2.9nm,0.9s,baz=166,slow=4.2,SNR=4.7
SCHQ LR LR 10 00 55.3
comp=Z,31μm,18.4s,baz=345,slow=39
MPEP Malo Peshtene 80.89 321 i P P 09 20 49.0 +0.1
GERES GERESS Array B 80.90 330 P P 09 20 48.4 -0.6
comp=Z,65nm,0.7s,baz=38,slow=5.0,SNR=176
GERES PP PP 09 23 54.8 +2.1
comp=Z,26nm,0.9s,baz=66,slow=7.6,SNR=4.3
GERES PKKPbc **PKKPbc 09 39 27.7 +1.8**
comp=Z,9.0nm,0.9s,baz=180,slow=1.6,SNR=13
GERES PKP2ab 09 47 21.7
comp=Z,0.3nm,0.2s,baz=204,slow=2.9,SNR=4.0
GERES PKPPKP **P'P'df 09 47 31.0 -6.2**
comp=Z,1.1nm,0.9s,baz=192,slow=2.7,SNR=6.6
GERES LR LR 10 00 15.9
comp=Z,264μm,19.1s,baz=27,slow=38
AKKU Akkuyu-Mersin 80.91 310 eP P 09 20 49.4 +0.2
SHUT Suhut-Afyon 80.91 314 eP P 09 20 51.0 +1.7
L35A Bielow Farm, R 80.92 41 P P 09 20 47.5 -1.6
baz=318,SNR=30
N33A J Bar K, Exete 80.97 43 P P 09 20 47.9 -1.6
baz=317,SNR=23
EREN Erenkoy 80.98 309 eP P 09 20 49.4 -0.2
DIM Dimitrovgrad 80.99 319 i P P 09 20 50.2 +0.7
BBO1 Bothel 80.99 342 eP P 09 20 49.0 -0.2
J37A Redenius Farm, 81.00 39 P P 09 20 48.0 -1.5
baz=319,SNR=85
MORH M¨‡r¨igy, Hung 81.00 326 ⇓ eP P 09 20 49.7 +0.2
H39A Augusta 81.01 37 P P 09 20 48.1 -1.5
baz=320,SNR=45
I38A Scanlan Farm, 81.02 38 P P 09 20 48.5 -1.1
baz=320,SNR=79
G40A Rib Lake 81.05 36 P P 09 20 48.5 -1.2
baz=321,SNR=105
EDC Edincik 81.05 316 eP P 09 20 51.2 +1.3
K36A Gilmore City 81.07 40 P P 09 20 48.9 -1.0
baz=319,SNR=48
KESW Keswick, Cumbr 81.10 342 eP P 09 20 49.0 -0.8
KESW IAmb IAmb 09 20 57.6
comp=Z,958nm,1.1s
KESW IAMs_20 IAMs_20 10 02 57.0
comp=Z,77μm,15.8s
GRFO Grafenberg 81.12 332 eP P 09 20 49.5 -0.5
GRFO eS S 09 30 51.7 -6.9
GRFO pmax pmax
comp=Z,1μm,1.2s
GRFO Grafenberg 81.12 332 eP P 09 20 49.5 -0.5
comp=Z,1μm,1.2s
GRFO ePP PP 09 24 04.3 +10
GRFO eS S 09 30 51.7 -6.9
E42A Champion 81.13 34 P P 09 20 49.0 -1.2
baz=322,SNR=179
CBKS Cedar Bluff 81.15 46 P P 09 20 48.9 -1.6
baz=316,SNR=29
CBKS Cedar Bluff 81.15 46 eP P 09 20 49.9 -0.6
CBKS e 09 23 51.4
CBKS pmax pmax
comp=Z,422nm,1.2s
CBKS MLR MLR
comp=Z,44μm,20.0s
CBKS Cedar Bluff 81.15 46 eP P 09 20 49.9 -0.6
comp=Z,422nm,1.2s
CBKS ePP PP 09 23 51.4 -3.7
CBKS LR LR
comp=Z,44μm,20.0s
RKY Sarkoy-Tekirda 81.16 317 eP P 09 20 52.0 +1.5
F41A Three Lakes 81.16 35 P P 09 20 49.1 -1.3
baz=322,SNR=130
TEKE Tekeli-Mersin 81.17 311 eP P 09 20 50.1 -0.5
HSIG 81.18 59 eP P 09 20 51.1 +0.4
GAL1 Galloway 81.21 343 IAMs_20 IAMs_20 09 58 23.7
comp=Z,32μm,21.2s
BHL Bhannes 81.23 307 eP P 09 20 52.0 +1.0
PGB Panagyurishte 81.29 320 i P P 09 20 52.0 +0.8
CLGH Cloghs, Cushen 81.31 344 eP P 09 20 50.4 -0.5
CLGH IAmb IAmb 09 20 58.6
comp=Z,947nm,1.1s
CLGH IAMs_20 IAMs_20 10 03 35.3
comp=Z,63μm,16.4s
KRBG Karabiga-Canak 81.31 317 eP P 09 20 52.6 +1.4
M35A Neola 81.33 42 P P 09 20 50.1 -1.2
baz=318,SNR=47
SLPK Sellapark 81.33 342 eP P 09 20 50.9 -0.1
KDZ Kurdzhali 81.34 319 i P P 09 20 52.4 +1.0
BEYL Beirut 81.35 308 eP P 09 20 52.2 +0.7
L36A Harm Buss Farm 81.36 41 P P 09 20 50.1 -1.4
baz=319,SNR=28
K37A Belmond 81.37 40 P P 09 20 50.2 -1.3
baz=319,SNR=82
SIMA Simav-Kutahya 81.38 315 eP P 09 20 52.1 +0.4
O33A Hebron 81.38 44 P P 09 20 50.0 -1.7
baz=317,SNR=30
N34A Lincoln 81.38 42 P P 09 20 49.8 -1.8
baz=318,SNR=46
SUTC Sutluce-Ispart 81.43 313 eP P 09 20 53.1 +1.0
PHNC Paralimni 81.43 309 P P 09 20 56.4 +4.4
LMK Market Rasen 81.43 340 eP P 09 20 50.7 -0.9
LMK IAmb IAmb 09 20 55.8
comp=Z,2μm,1.7s
LMK IAMs_20 IAMs_20 10 04 07.8
comp=Z,76μm,16.7s
ISP Isparta 81.45 313 eP P 09 20 54.0 +1.9
ISP Isparta 81.45 313 ⇓ iP P 09 20 52.4 +0.3
ISP Isparta 81.45 313 ⇓ iP P 09 20 52.2 +0.1
ISP pmax pmax
comp=Z,92nm,1.3s
ISP MLR MLR
comp=Z,62μm,21.0s
ISP Isparta 81.45 313 eP P 09 20 51.4 -0.7
comp=Z,255nm,1.1s
ISP ePP PP 09 24 00.9 +3.2
ISP eS S 09 31 02.6 0.0
ISP LR LR
comp=Z,61μm,21.0s
ISP Isparta 81.45 313 P P 09 20 51.9 -0.2
SRIG Santa Rosalia 81.46 61 eP P 09 20 52.9 +0.7
H40A Chili 81.46 36 P P 09 20 50.9 -1.1
baz=321,SNR=194
ARSA Arzberg 81.48 328 eP P 09 20 52.0 0.0
comp=Z,744nm,1.5s,SNR=187
ARSA PP PP 09 23 52.2 -5.3
comp=Z,8μm,15.0s
ARSA PKiKP **PKiKP 09 26 17.4 +1.0**
comp=Z,9μm,16.1s
ARSA PKKPbc **PKKPbc 09 39 24.8 +0.4**
comp=Z,2.6nm,0.5s
ARSA eP'P'df P'P'df 09 47 27.1 -8.9
comp=Z,0.4nm,0.4s
MOA Molln 81.49 329 eP P 09 20 51.7 -0.4
comp=Z,530nm,1.8s,SNR=142
MOA PP PP 09 23 54.6 -3.0
comp=Z,6μm,13.9s
MOA PKiKP **PKiKP 09 26 14.2 -2.2**
comp=Z,5μm,15.0s
MOA ePKKPbc **PKKPbc 09 39 27.0 +2.5**
comp=Z,12nm,1.1s
J38A Wedel Dairy, R 81.50 38 P P 09 20 50.7 -1.5
baz=320,SNR=37
ERIK Erikli-Kesan 81.52 317 eP P 09 20 52.7 +0.4
LFK Lefkose 81.53 310 eP P 09 20 55.4 +2.8
I39A Houston 81.54 38 P P 09 20 50.9 -1.5
baz=320,SNR=112
G41A Antigo 81.54 35 P P 09 20 51.0 -1.4
baz=322,SNR=44
SHBL Chebaa 81.56 307 eP P 09 20 52.6 -0.3
BALB Balikesir 81.56 316 eP P 09 20 53.7 +1.1
E43A Lone Tree Farm 81.56 33 P P 09 20 51.3 -1.1
baz=323,SNR=68
F42A Maple Grove Fa 81.57 34 P P 09 20 51.1 -1.4
baz=322,SNR=17
ALN Alexandroupoli 81.59 318 eP P 09 20 55.0 +2.3
ALN Alexandroupoli 81.59 318 P P 09 20 53.3 +0.6
ALN Alexandroupoli 81.59 318 P P 09 20 53.3 +0.6
ALN Alexandroupoli 81.59 318 P P 09 20 53.3 +0.6
BEHE Becsehely 81.59 327 ⇓ eP P 09 20 54.0 +1.4
LPK Lapseki 81.61 317 eP P 09 20 52.4 -0.4
IDGL Inch Island, C 81.61 344 eP P 09 20 52.2 -0.3
IDGL IAmb IAmb 09 21 00.5
comp=Z,1μm,1.5s
ENEZ Enez 81.65 318 eP P 09 20 55.1 +2.1
ENEZ Enez 81.65 318 P P 09 20 54.5 +1.5
GRZ Great Barrier 81.65 156 P P 09 20 58.7 +6.0
ASF Jabal al Asfar 81.66 305 P P 09 20 54.6 +1.3
comp=Z,95nm,0.9s,baz=311,slow=1.6,SNR=28
ASF PP PP 09 23 55.7 -3.9
comp=Z,41nm,1.0s,baz=103,slow=5.7,SNR=3.0
ASF LR LR 10 01 17.5
comp=Z,40μm,18.8s,baz=346,slow=39
RDO Rodhopi 81.66 318 P P 09 20 54.2 +1.2
RDO Rodhopi 81.66 318 P P 09 20 54.2 +1.2
RZN Rozhen 81.67 319 i P P 09 20 54.0 +0.7
VTS Vitosha 81.72 321 ⇓ iP P 09 20 53.5 -0.1
VTS Vitosha 81.72 321 P P 09 20 53.9 +0.3
VTS Vitosha 81.72 321 P P 09 20 53.9 +0.3
VTS Vitosha 81.72 321 iP P 09 20 53.8 +0.2
VTS Vitosha 81.72 321 P P 09 20 53.9 +0.3
GELI Tayfur-Gelibol 81.74 317 eP P 09 20 52.4 -1.1
IOMK Kirk Michael 81.74 343 eP P 09 20 52.2 -1.0
IOMK IAmb IAmb 09 21 00.4
comp=Z,632nm,1.1s
IOMK IAMs_20 IAMs_20 10 03 35.2
comp=Z,85μm,17.2s
RAYN Ar Rayn 81.75 294 eP P 09 20 53.5 -0.4
comp=Z,2μm,1.8s
RAYN ePP PP 09 24 09.2 +8.6
RAYN LR LR
comp=Z,47μm,22.0s
O34A Beatrice 81.77 43 P P 09 20 51.9 -1.8
baz=318,SNR=36
M36A Felix, Anita 81.78 41 P P 09 20 52.5 -1.3
baz=319,SNR=35
MAMC Mammari 81.79 310 P P 09 20 54.7 +0.8
L37A Phoenix Point, 81.80 40 P P 09 20 52.5 -1.3
baz=319,SNR=80
H41A Junction City 81.80 36 P P 09 20 52.3 -1.4
baz=322,SNR=60
N35A Tar 81.80 42 P P 09 20 52.8 -1.1
baz=318,SNR=61
E44A Grand Marais A 81.81 33 P P 09 20 52.8 -0.9
baz=324,SNR=20
WACR West Acre 81.84 339 eP P 09 20 53.4 -0.3
WACR IAmb IAmb 09 21 02.8
comp=Z,1μm,1.0s
WACR IAMs_20 IAMs_20 10 01 54.2
comp=Z,97μm,17.8s
LBWR Ladybower, Pea 81.84 341 eP P 09 20 53.6 -0.2
LBWR IAmb IAmb 09 21 01.4
comp=Z,2μm,1.0s
LBWR IAMs_20 IAMs_20 10 04 46.8
comp=Z,132μm,16.6s
G42A Mountain 81.85 35 P P 09 20 52.8 -1.2
baz=322,SNR=113
J39A Decorah 81.85 38 P P 09 20 52.4 -1.7
baz=320,SNR=160
WIM Isle of Man 81.87 343 eP P 09 20 53.1 -0.8
CSS Mathiatis 81.87 310 eP P 09 20 54.3 0.0
comp=Z,279nm,1.1s
CSS ePP PP 09 24 04.3 +3.1
CSS LR LR
comp=Z,15μm,22.0s
CSS Mathiatis 81.87 310 P P 09 20 55.4 +1.1
CSS Mathiatis 81.87 310 P P 09 20 55.2 +0.9
K38A Parkersburg 81.87 39 P P 09 20 53.1 -1.1
baz=320,SNR=30
F43A Flat Rock, Esc 81.92 34 P P 09 20 52.9 -1.4
baz=323,SNR=73
I40A Norwalk 81.93 37 P P 09 20 53.1 -1.3
baz=321,SNR=39
H08S3 Diego Garcia H 81.96 253 P P 09 20 54.6 0.0
baz=6.6,slow=8.7,SNR=36
KULA Kula-Manisa 81.96 315 eP P 09 20 54.4 -0.4
H08S2 Diego Garcia H 81.97 253 P P 09 20 54.1 -0.6
baz=6.6,slow=8.7,SNR=26
H08S1 Diego Carcia H 81.98 253 P P 09 20 53.6 -1.1
baz=6.6,slow=8.7,SNR=25
MMAI Mount Meron Ar 81.99 307 P P 09 20 55.9 +0.9
comp=Z,347nm,0.8s,baz=46,slow=6.0,SNR=49
MMAI LR LR 09 59 38.1
comp=Z,80μm,19.1s,baz=30,slow=37
HGN Heimansgroeve 82.00 335 i P P 09 20 54.1 -0.6
comp=Z,1μm,1.5s
HGN ePP PP 09 24 08.6 +6.9
HGN eS S 09 31 10.5 +2.8
HGN eSS SS 09 36 39.2 +14
LEF Lefka 82.02 310 eP P 09 20 55.1 0.0
BEBN Eben Emael 82.06 335 ⇓ P P 09 20 54.5 -0.5
comp=Z,123nm,1.0s
O35A Humboldt 82.11 42 P P 09 20 54.0 -1.5
baz=318,SNR=22
MEM Membach 82.11 335 ⇑ P P 09 20 54.9 -0.3
comp=Z,434nm,1.1s
F44A Big Bay de Noc 82.12 33 P P 09 20 54.3 -1.1
baz=323,SNR=154
KORT Korkueli 82.13 313 eP P 09 20 55.1 -0.7
I41A Arkdale 82.14 37 P P 09 20 53.9 -1.6
baz=321,SNR=22
PERS Pernice 82.14 328 eP P 09 20 55.3 -0.3
PERS eS S 09 31 11.3 +1.9
PERS eSS SS 09 36 20.4 -7.2
SOKA Soboth 82.14 328 i P P 09 20 55.3 -0.2
comp=Z,1μm,1.3s,SNR=433
SOKA PP PP 09 23 59.3 -3.7
comp=Z,7μm,14.6s
SOKA ePKKPbc **PKKPbc 09 39 26.7 +3.7**
comp=Z,14nm,1.2s
SOKA P'P'df **P'P'df 09 47 30.6 -4.3**
comp=Z,18nm,1.8s
G43A Wallace 82.16 35 P P 09 20 54.5 -1.1
baz=323,SNR=100
ALFC Alefka 82.16 310 P P 09 20 56.6 +0.7
H08N2 Diego Garcia H 82.16 255 P P 09 20 54.4 -1.2
baz=318,slow=1.1,SNR=8.5
H08N1 Diego Carcia H 82.16 255 P P 09 20 55.3 -0.3
baz=318,slow=1.1,SNR=5.9
SMTH Samothraki Isl 82.17 318 P P 09 20 56.1 +0.3
SMTH Samothraki Isl 82.17 318 P P 09 20 56.1 +0.3
P34A Walnut Farm, R 82.17 43 P P 09 20 54.3 -1.5
baz=318,SNR=147
L38A Oak Wood Farm, 82.17 40 P P 09 20 54.6 -1.2
baz=320,SNR=62
H08N3 Diego Garcia H 82.18 255 P P 09 20 56.3 +0.5
baz=318,slow=1.1,SNR=4.6
N36A Muff Farm, Cla 82.18 42 P P 09 20 55.0 -0.8
baz=319,SNR=29
GADA Gvkgeada 82.19 318 eP P 09 20 54.4 -1.4
GADA Gvkgeada 82.19 318 P P 09 20 56.8 +1.0
GADA Gvkgeada 82.19 318 P P 09 20 56.8 +1.0
KUZ Kuaotunu 82.19 156 P P 09 20 59.8 +4.2
M37A Trindle Farm, 82.19 41 P P 09 20 55.1 -0.7
baz=319,SNR=37
SCIA State Center 82.22 40 P P 09 20 54.9 -1.1
baz=320,SNR=44
SCIA State Center 82.22 40 eP P 09 20 55.6 -0.4
comp=Z,746nm,1.2s
SCIA ePP PP 09 24 06.4 +2.6
SCIA LR LR
comp=Z,55μm,22.0s
MMB Musomiste 82.23 320 i P P 09 20 56.5 +0.4
EZN Ezine 82.24 317 eP P 09 20 55.7 -0.4
EZN Ezine 82.24 317 P P 09 20 56.8 +0.7
EZN Ezine 82.24 317 P P 09 20 56.8 +0.7
EZN Ezine 82.24 317 P P 09 20 56.8 +0.7
K39A Oelwein 82.25 39 P P 09 20 54.4 -1.7
baz=320,SNR=81
J40A Soldiers Grove 82.25 37 P P 09 20 54.5 -1.7
baz=321,SNR=52
SZAC Souni 82.28 310 P P 09 20 56.3 -0.2
KAVA Kavala 82.28 319 P P 09 20 56.3 0.0
KAVA Kavala 82.28 319 P P 09 20 56.3 0.0
E45A Wooded Hills, 82.33 32 P P 09 20 54.9 -1.6
baz=324,SNR=33
KKB Krupnik 82.33 320 i P P 09 20 57.2 +0.6
NVR Nevrokopi 82.34 319 P P 09 20 57.2 +0.5
NVR Nevrokopi 82.34 319 P P 09 20 57.2 +0.5
MKAZ Moumakai 82.35 156 P P 09 21 00.5 +4.1
H42A Shiocton 82.38 35 P P 09 20 55.5 -1.3
baz=322,SNR=25
UCC Uccle 82.47 336 ⇑ P P 09 20 57.8 +0.7
OBKA Obir 82.47 328 eP P 09 20 56.8 -0.5
comp=Z,188nm,0.7s,SNR=125
OBKA PP PP 09 24 00.0 -5.7
comp=Z,6μm,12.8s
OBKA PKiKP **PKiKP 09 26 18.8 +0.8**
comp=Z,4μm,14.2s
OBKA eP'P'df **P'P'df 09 47 31.0 -3.2**
comp=Z,8.8nm,1.2s
KBA Koelnbreinsper 82.48 329 eP P 09 20 57.3 -0.2
SNR=357
KBA PP PP 09 24 03.3 -2.7
comp=Z,8μm,13.6s
KBA PKKPbc **PKKPbc 09 39 29.1 +6.7**
comp=Z,10nm,1.1s
DKL Dikili 82.49 316 eP P 09 20 56.1 -1.3
BCLA Clavier 82.50 335 ⇓ P P 09 20 56.6 -0.6
comp=Z,340nm,1.2s
PPCY Paphos 82.50 310 P P 09 20 57.6 0.0
WPM1 Penmaenmawr 82.51 342 eP P 09 20 56.1 -1.2
WPS Cemaes, Angles 82.52 342 IAmb IAmb 09 21 03.2
comp=Z,1μm,1.8s
WPS IAMs_20 IAMs_20 10 01 43.3
comp=Z,67μm,19.2s
ELL Elmali 82.56 313 eP P 09 20 56.1 -1.9
Q34A Chapman 82.57 44 P P 09 20 56.6 -1.3
baz=318,SNR=36
WLF1 Llynfaes 82.59 342 eP P 09 20 57.5 -0.1
WLF1 IAmb IAmb 09 21 03.8
comp=Z,3μm,1.6s
WLF1 IAMs_20 IAMs_20 10 02 33.9
comp=Z,167μm,19.2s
P35A Duane Minner, 82.60 43 P P 09 20 56.3 -1.7
baz=318,SNR=48
N37A Lee Faris, Mou 82.60 41 P P 09 20 57.2 -0.8
baz=319,SNR=40
M38A Pleasantville 82.60 40 P P 09 20 57.0 -1.0
baz=320,SNR=98
K40A Colesburg 82.61 38 P P 09 20 56.7 -1.3
baz=321,SNR=74
KSU1 Kansas State U 82.61 44 P P 09 20 56.1 -2.0
baz=318
KSU1 Kansas State U 82.61 44 eP P 09 20 56.9 -1.2
comp=Z,253nm,1.0s
KSU1 LR LR
comp=Z,54μm,20.0s
J41A Loganville 82.61 37 P P 09 20 56.8 -1.2
baz=321,SNR=91
STU Stuttgart 82.61 332 eP P 09 20 57.6 -0.3
STU e 09 24 13.8
STU eS S 09 31 11.6 -2.4
STU pmax pmax
comp=Z,556nm,0.9s
STU Stuttgart 82.61 332 eP P 09 20 57.6 -0.3
comp=Z,556nm,0.9s
STU ePP PP 09 24 13.8 +7.1
STU eS S 09 31 11.6 -2.4
L39A Vinton 82.64 39 P P 09 20 57.0 -1.1
baz=320,SNR=133
SRS Serrai 82.65 319 P P 09 20 58.6 +0.3
SRS Serrai 82.65 319 P P 09 20 58.6 +0.3
SRS Serrai 82.65 319 P P 09 20 58.6 +0.3
FOEL Foel Wylfa 82.68 341 eP P 09 20 57.0 -1.2
FOEL IAmb IAmb 09 21 04.7
comp=Z,1μm,0.9s
FOEL IAMs_20 IAMs_20 10 04 01.1
comp=Z,82μm,16.5s
O36A Bolckow 82.69 42 P P 09 20 57.4 -1.1
baz=319,SNR=43
PRK Paraskevi 82.69 317 P P 09 20 58.6 +0.1
PRK Paraskevi 82.69 317 P P 09 20 58.6 +0.1
PRK Paraskevi 82.69 317 P P 09 20 58.6 +0.1
I42A Draeger Farm, 82.70 36 P P 09 20 57.3 -1.2
baz=322,SNR=76
F45A CMU Biological 82.73 33 P P 09 20 57.3 -1.2
baz=324,SNR=57
MYKA Terra Mystica 82.73 329 eP P 09 20 57.8 -0.9
comp=Z,624nm,1.0s,SNR=183
MYKA PP PP 09 24 08.0 +0.1
comp=Z,8μm,14.5s
MYKA ePKKPbc **PKKPbc 09 39 26.7 +5.1**
SNF Seneffe 82.74 336 ⇓ P P 09 20 57.8 -0.8
comp=Z,315nm,1.1s
H43A Windswept, Lux 82.75 35 P P 09 20 57.7 -1.0
baz=323,SNR=91
LIA Limnos Island 82.77 318 P P 09 20 59.2 +0.3
LIA Limnos Island 82.77 318 P P 09 20 59.2 +0.3
BLY Banja Luka 82.79 325 ⇓ iP P 09 20 59.5 +0.6
OZLJ Ozalj 82.82 327 P P 09 20 58.7 -0.3
JFWS Jewell Farm 82.85 37 P P 09 20 58.0 -1.4
baz=321,SNR=53
JFWS Jewell Farm 82.85 37 eP P 09 20 57.9 -1.4
JFWS e 09 24 08.3
JFWS pmax pmax
comp=Z,226nm,1.0s
JFWS MLR MLR
comp=Z,52μm,19.0s
JFWS Jewell Farm 82.85 37 eP P 09 20 57.9 -1.4
comp=Z,226nm,1.0s
JFWS ePP PP 09 24 08.3 -0.6
JFWS LR LR
comp=Z,52μm,19.0s
R34A Isabella, Hill 82.86 45 P P 09 20 58.3 -1.1
baz=318,SNR=23
AMTX Amarillo 82.87 50 P P 09 20 59.0 -0.7
baz=316
AMTX Amarillo 82.87 50 eP P 09 20 59.8 +0.1
comp=Z,342nm,1.1s
AMTX ePP PP 09 24 13.2 +3.8
MSTX Muleshoe 82.88 51 P P 09 20 59.0 -0.7
baz=315,SNR=117
MSTX Muleshoe 82.88 51 eP P 09 20 59.3 -0.4
comp=Z,1μm,0.7s
MSTX ePP PP 09 24 01.9 -7.7

WLF	Walferdange	82.88	334	⇑P		P	09 20 59.1	-0.2	
	comp=Z,478nm,2.1s								
WLF	Walferdange	82.88	334	*e*P		P	09 21 00.0	+0.7	
WLF				*e*			09 24 17.7		
WLF				pmax		pmax			
	comp=Z,1μm,1.5s								
WLF				MLR		MLR			
	comp=Z,173μm,19.0s								
WLF	Walferdange	82.88	334	*e*P		P	09 21 00.0	+0.7	
	comp=Z,1μm,1.5s								
WLF				*e*PP		PP	09 24 17.7	+8.8	
WLF				LR		LR			
	comp=Z,173μm,19.0s								
MNTX	Cornudas Mount	82.89	54	P		P	09 20 59.3	-0.4	
	baz=314,SNR=260								
MNTX	Cornudas Mount	82.89	54	*e*P		P	09 20 59.9	+0.2	
	comp=Z,1μm,0.7s								
MNTX				*e*PP		PP	09 24 11.3	+1.6	
MNTX				LR		LR			
	comp=Z,33μm,20.0s								
SIGR	SIGRI	82.94	317	*e*P		P	09 20 59.9	+0.1	
SIGR	SIGRI	82.94	317	P		P	09 21 01.5	+1.8	
SIGR	SIGRI	82.94	317	P		P	09 21 01.5	+1.8	
PLE	Pljevlja	82.94	323	⇓*i*P		P	09 20 59.0	-0.9	
HLM1	Long Mynd	82.94	341	*e*P		P	09 20 59.4	-0.1	
HLM1				IAmb		IAmb	09 21 04.9		
	comp=Z,2μm,1.8s								
HLM1				IAMs_20		IAMs_20	10 05 38.6		
	comp=Z,101μm,17.5s								
WATA	Walderalm	82.95	330	*i* P		P	09 20 59.5	-0.4	
	comp=Z,470nm,0.8s,SNR=72								
P36A	Good Intent, A	82.95	42	P		P	09 20 58.7	-1.1	
	baz=319,SNR=30								
KNT	Kendrikon	82.96	320	P		P	09 20 59.3	-0.6	
KNT	Kendrikon	82.96	320	P		P	09 20 59.3	-0.6	
KNT	Kendrikon	82.96	320	P		P	09 20 59.3	-0.6	
F46A	Macinaw City C	82.97	33	P		P	09 20 58.6	-1.2	
	baz=324,SNR=35								
WTTA	Wattenberg	82.99	330	*i* P		P	09 21 00.1	0.0	
	comp=Z,408nm,0.8s,SNR=148								
WTTA				PKiKP		PKiKP	09 26 13.7	-5.2	
	comp=Z,5μm,15.1s								
SOH	Sokhos	82.99	319	P		P	09 21 00.4	+0.3	
SOH	Sokhos	82.99	319	P		P	09 21 00.4	+0.3	
SOH	Sokhos	82.99	319	P		P	09 21 00.4	+0.3	
VAY	Valandovo	83.00	320	P		P	09 21 00.2	+0.1	
VAY	Valandovo	83.00	320	P		P	09 21 00.2	+0.1	
VAY	Valandovo	83.00	320	P		P	09 21 00.2	+0.1	
VAY	Valandovo	83.00	320	*i* P		P	09 21 00.1	+0.1	
BOJS	Bojanci	83.00	327	*e*P		P	09 20 59.5	-0.5	
BOJS				*e*PP		PP	09 24 15.5	+5.5	
BOJS				*e*			09 26 05.5		
BOJS				*e*S		S	09 31 19.1	+1.1	
BOJS				*e*			09 32 04.8		
BOJS				*e*SS		SS	09 36 16.8	-24	
DOU	Dourbes	83.01	336	⇓P		P	09 20 59.0	-0.9	
TOZ	Tahuroa Road	83.03	156	P		P	09 21 00.3	+3.4	
SKO	Skopje	83.04	321	P		P	09 21 00.8	+0.5	
SKO	Skopje	83.04	321	P		P	09 21 00.8	+0.5	
SKO	Skopje	83.04	321	P		P	09 21 00.8	+0.5	
SKO	Skopje	83.04	321	*i* P		P	09 21 00.8	+0.5	
I43A	Langenfeld Bro	83.04	36	P		P	09 20 59.1	-1.1	
	baz=322,SNR=61								
OUR	Ouranopolis	83.05	319	*e*P		P	09 21 00.8	+0.5	
OUR	Ouranopolis	83.05	319	P		P	09 21 00.6	+0.3	
OUR	Ouranopolis	83.05	319	P		P	09 21 00.6	+0.3	
OUR	Ouranopolis	83.05	319	P		P	09 21 00.6	+0.3	
J42A	Columbus	83.05	37	P		P	09 20 59.0	-1.3	
	baz=322,SNR=109								
M39A	Webster	83.05	40	P		P	09 20 59.3	-1.1	
	baz=320,SNR=93								
N38A	Joes South For	83.06	41	P		P	09 20 59.6	-0.8	
	baz=320,SNR=55								
L40A	Anamosa	83.06	39	P		P	09 20 59.1	-1.3	
	baz=321,SNR=98								
IVA	Berane	83.06	323	⇓*i*P		P	09 21 00.2	-0.3	
K41A	Shullsburg	83.07	38	P		P	09 20 59.2	-1.2	
	baz=321,SNR=65								
O37A	Wolven Farm, M	83.08	42	P		P	09 20 59.7	-0.8	
	baz=319,SNR=21								
ABTA	Abfaltersbach	83.08	329	*e*P		P	09 20 59.5	-1.0	
	comp=Z,526nm,1.2s,SNR=170								
ABTA				PKiKP		PKiKP	09 26 14.1	-4.9	
	comp=Z,5μm,15.1s								
ABTA				*e*PKKPbc		PKKPbc	09 39 23.2	+2.3	
	comp=Z,13nm,1.3s								
DSB	Dublin	83.08	343	*e*P		P	09 20 59.7	-0.6	
	comp=Z,823nm,1.1s								
DSB				*e*PP		PP	09 24 13.6	+3.2	
FETY	Fethiye	83.10	313	*e*P		P	09 21 00.4	-0.3	
FETY	Fethiye	83.10	313	P		P	09 20 59.4	-1.3	
FETY	Fethiye	83.10	313	P		P	09 20 59.4	-1.3	
AKAS	Kas	83.10	313	*e*P		P	09 20 59.0	-1.8	
ELSH	Elham, Standar	83.11	338	*e*P		P	09 20 59.7	-0.7	
ELSH				IAMs_20		IAMs_20	10 03 30.0		
	comp=Z,148μm,16.9s								
MOTA	Moosalm	83.12	330	*e*P		P	09 21 00.5	-0.3	
	comp=Z,311nm,0.8s,SNR=188								
MOTA				PP		PP	09 24 04.2	-7.0	
	comp=Z,3μm,12.0s								
MOTA				*e*PKKPbc		PKKPbc	09 39 24.4	+3.5	
	comp=Z,12nm,0.9s								
RETA	Reutte	83.13	331	*e*P		P	09 21 00.6	-0.1	
	comp=Z,570nm,0.9s,SNR=318								
RETA				PKiKP		PKiKP	09 26 15.1	-3.9	
	comp=Z,5μm,15.5s								
RETA				*e*PKKPbc		PKKPbc	09 39 21.7	+0.9	
	comp=Z,14nm,1.2s								
RETA				P'P'df		P'P'df	09 47 27.4	-5.7	
	comp=Z,22nm,2.0s								
JAVS	Javornik	83.17	328	*i* P		P	09 20 59.7	-1.3	
JAVS				*e*S		S	09 31 20.1	+0.1	
GDL2	Guadalupe Moun	83.17	53	*e*P		P	09 21 01.4	+0.1	
	comp=Z,786nm,1.7s								
KSL	Kastellorizon	83.17	313	P		P	09 21 02.6	+1.6	
KSL	Kastellorizon	83.17	313	P		P	09 21 02.6	+1.6	
YER	Yerkesik	83.17	314	*e*P		P	09 21 01.4	+0.3	
YER	Yerkesik	83.17	314	P		P	09 21 02.6	+1.5	
YER	Yerkesik	83.17	314	P		P	09 21 02.6	+1.5	
YER	Yerkesik	83.17	314	P		P	09 21 02.6	+1.5	
URLA	Izmir	83.18	316	*e*P		P	09 21 00.0	-1.1	
TURN	Turunc	83.19	314	*e*P		P	09 21 04.5	+3.4	
DALY	Dalyan (Mu¨la	83.20	314	*e*P		P	09 21 02.4	+1.2	
PMOR	Pomariorio Ree	83.23	116	*e*P		P	09 21 04.8	+3.3	
	comp=Z,648nm,1.4s								
PMOR	Pomariorio Ree	83.23	116	*e*T		T	10 52 39.2		
	comp=Z,112nm,0.2s								
PVY	Plav	83.25	323	⇓*i*P		P	09 21 00.7	-0.8	
KOME	Kolasin	83.25	323	⇓*i*P		P	09 21 01.0	-0.5	
PLG	Polygyros	83.29	319	P		P	09 21 01.2	-0.4	
PLG	Polygyros	83.29	319	P		P	09 21 01.2	-0.4	
PLG	Polygyros	83.29	319	P		P	09 21 01.2	-0.4	
HORT	Hortiatis	83.29	319	P		P	09 21 01.1	-0.6	
HORT	Hortiatis	83.29	319	P		P	09 21 01.1	-0.6	
BFO	Black Forest	83.29	333	*i* P		P	09 21 01.2	-0.3	
BFO	Black Forest	83.29	333	*e*P		P	09 21 01.2	-0.3	
	comp=Z,2μm,1.7s								
BFO				*e*PP		PP	09 24 20.4	+8.1	
BFO				LR		LR			
	comp=Z,94μm,19.0s								
J43A	Natural Harves	83.32	36	P		P	09 21 00.6	-1.1	
	baz=322,SNR=54								
GCAM	G?zelcaml?	83.33	315	*e*P		P	09 21 02.9	+1.1	
THE	Thessaloniki	83.33	319	P		P	09 21 01.4	-0.3	
THE	Thessaloniki	83.33	319	P		P	09 21 01.4	-0.3	
THE	Thessaloniki	83.33	319	P		P	09 21 01.4	-0.3	
MLSB	Milas	83.33	314	*e*P		P	09 21 03.5	+1.6	
GRG	Griva	83.36	320	P		P	09 21 02.2	+0.2	
GRG	Griva	83.36	320	P		P	09 21 02.2	+0.2	
GRG	Griva	83.36	320	P		P	09 21 02.2	+0.2	
K42A	Prairie Point,	83.37	37	P		P	09 21 00.6	-1.4	
	baz=322,SNR=136								
L41A	Preston	83.39	38	P		P	09 21 00.4	-1.6	
	baz=321,SNR=79								
TAU	Tasmania Unive	83.40	178	*e*P		P	09 21 02.6	+0.9	
TAU				pmax		pmax			
	comp=Z,2μm,1.4s								
TAU				MLR		MLR			
	comp=Z,49μm,19.0s								
TAU	Tasmania Unive	83.40	178	*e*P		P	09 21 02.6	+0.9	
	comp=Z,2μm,1.4s								
TAU				LR		LR			
	comp=Z,49μm,19.0s								
R35A	Emporia Munici	83.40	44	P		P	09 21 01.4	-0.8	
	baz=318,SNR=64								
P37A	Lathrop	83.41	42	P		P	09 21 01.1	-1.1	
	baz=319,SNR=82								
M40A	Post Highland	83.43	39	P		P	09 21 00.9	-1.4	
	baz=321,SNR=143								
STRD	Stroud	83.43	340	*e*P		P	09 21 01.7	-0.4	
STRD				IAmb		IAmb	09 21 08.4		
	comp=Z,2μm,0.9s								
STRD				IAMs_20		IAMs_20	10 05 38.4		
	comp=Z,125μm,16.9s								
TRI	Trieste	83.44	328	*e*P		P	09 21 00.9	-1.4	
TRI				*e*			09 24 15.5		
TRI				pmax		pmax			
	comp=Z,797nm,1.1s								
TRI	Trieste	83.44	328	*e*P		P	09 21 00.9	-1.4	
	comp=Z,796nm,1.1s								
TRI				*e*PP		PP	09 24 15.5	+1.9	
CHOS	Chios island	83.44	316	*e*P		P	09 21 03.4	+0.9	
CHOS	Chios island	83.44	316	P		P	09 21 02.6	+0.1	
CHOS	Chios island	83.44	316	P		P	09 21 02.6	+0.1	
MCH1	Michaelchurch	83.44	341	*e*P		P	09 21 01.9	-0.2	
MCH1				IAMs_20		IAMs_20	10 04 41.9		
	comp=Z,109μm,18.3s								
O38A	Galt	83.45	41	P		P	09 21 01.5	-0.9	
	baz=320,SNR=38								
PAIG	Paliouri	83.51	319	P		P	09 21 02.5	-0.2	
PAIG	Paliouri	83.51	319	P		P	09 21 02.5	-0.2	
PAIG	Paliouri	83.51	319	P		P	09 21 02.5	-0.2	
NKY	Niksic	83.52	323	⇓*i*P		P	09 21 01.6	-1.3	
FETA	Feichten	83.53	330	*e*P		P	09 21 02.6	-0.3	
	comp=Z,520nm,1.5s,SNR=149								
FETA				PP		PP	09 24 09.7	-4.8	
	comp=Z,8μm,13.9s								
FETA				PKiKP		PKiKP	09 26 19.7	-0.2	
	comp=Z,3μm,15.1s								
FETA				*e*PKKPbc		PKKPbc	09 39 19.4	-0.6	
	comp=Z,9.9nm,0.9s								
FETA				P'P'df		P'P'df	09 47 28.0	-4.4	
	comp=Z,20nm,1.7s								
MONM	Monmouth	83.54	341	*e*P		P	09 21 01.8	-0.8	
MONM				IAmb		IAmb	09 21 08.0		
	comp=Z,3μm,1.6s								
MONM				IAMs_20		IAMs_20	10 05 39.6		
	comp=Z,104μm,16.9s								
HIZ	Hauiti	83.55	157	P		P	09 21 07.1	+4.5	
UDBI	Udbina	83.57	326	P		P	09 21 02.5	-0.6	
NKME	Niksic	83.58	323	⇓*i*P		P	09 21 02.1	-1.0	
SWN1	Swindon	83.58	340	*e*P		P	09 21 01.4	-1.4	
SWN1				IAmb		IAmb	09 21 08.3		
	comp=Z,8μm,1.9s								
SWN1				IAMs_20		IAMs_20	10 05 16.9		
	comp=Z,96μm,17.2s								
VAH	Vaihoa	83.58	116	*e*P		P	09 21 06.4	+3.1	
	comp=Z,407nm,1.4s								
HMNX	Herstmonceux	83.59	338	*e*P		P	09 21 01.4	-1.4	
HMNX				IAmb		IAmb	09 21 09.6		
	comp=Z,2μm,1.0s								
HMNX				IAMs_20		IAMs_20	10 03 55.4		
	comp=Z,109μm,16.9s								
KRUS	Krusevo	83.60	321	*i* P		P	09 21 02.9	-0.4	
LPW	Lampeter	83.60	341	*e*P		P	09 21 02.4	-0.5	
LPW				IAmb		IAmb	09 21 08.3		
	comp=Z,2μm,1.4s								
LPW				IAMs_20		IAMs_20	10 04 24.1		
	comp=Z,95μm,17.0s								
WOL	Wolverton	83.61	339	*e*P		P	09 21 02.5	-0.5	
WOL				IAmb		IAmb	09 21 07.9		
	comp=Z,8μm,2.2s								
WOL				IAMs_20		IAMs_20	10 03 19.5		
	comp=Z,72μm,18.2s								
DAVA	Damuels	83.62	331	*i* P		P	09 21 02.9	-0.5	
	comp=Z,746nm,1.0s,SNR=186								
DAVA				PKiKP		PKiKP	09 26 19.0	-1.0	
	comp=Z,4μm,14.6s								
DAVA				PKKPbc		PKKPbc	09 39 21.8	+2.0	
	comp=Z,24nm,1.0s								
DAVA				P'P'df		P'P'df	09 47 25.4	-6.9	
	comp=Z,20nm,1.6s								
OLDB	Oldbury-Upon-S	83.64	340	*e*P		P	09 21 02.9	-0.2	
OLDB				IAmb		IAmb	09 21 08.2		
	comp=Z,1μm,1.5s								
OLDB				IAMs_20		IAMs_20	10 05 44.3		
	comp=Z,117μm,17.3s								
PDG	Podgorica	83.70	323	⇓*i*P		P	09 21 03.0	-0.6	
TTG	Podgorica	83.70	323	⇓*i*P		P	09 21 03.0	-0.6	
HGH	Gray Hill	83.72	340	*e*P		P	09 21 02.8	-0.8	
BODT	Bodrum	83.75	315	*e*P		P	09 21 02.8	-1.3	
BODT	Bodrum	83.75	315	P		P	09 21 02.7	-1.3	
BODT	Bodrum	83.75	315	P		P	09 21 02.7	-1.3	
CEME	Cevo	83.77	323	⇓*i*P		P	09 21 02.8	-1.3	
BATH	Bath	83.78	340	*e*P		P	09 21 03.3	-0.6	
BATH				IAmb		IAmb	09 21 08.9		
	comp=Z,3μm,1.9s								
BATH				IAMs_20		IAMs_20	10 05 40.5		
	comp=Z,128μm,16.8s								
N40A	Mertquake, Sal	83.79	40	P		P	09 21 03.3	-0.8	
	baz=321,SNR=82								
ECH	Echery	83.80	333	*e*P		P	09 21 03.6	-0.5	
ECH				*e*			09 24 20.9		
ECH				*e*S		S	09 31 20.7	-5.4	
ECH				pmax		pmax			
	comp=Z,929nm,1.4s								
ECH				MLR		MLR			
	comp=Z,106μm,21.0s								
ECH	Echery	83.80	333	*e*P		P	09 21 03.6	-0.5	
	comp=Z,929nm,1.4s								
ECH				*e*PP		PP	09 24 20.9	+4.4	
ECH				*e*S		S	09 31 20.7	-5.4	
ECH				LR		LR			
	comp=Z,106μm,21.0s								
P38A	Dawn	83.80	42	P		P	09 21 03.4	-0.8	
	baz=320,SNR=72								
GLMI	Grayling	83.80	33	P		P	09 21 03.4	-0.7	
	baz=325,SNR=35								
GLMI	Grayling	83.80	33	*e*P		P	09 21 03.5	-0.7	
	comp=Z,1μm,1.0s								
GLMI				*e*PP		PP	09 24 19.9	+3.4	
GLMI				LR		LR			
	comp=Z,51μm,21.0s								
O39A	Kirksville	83.81	41	P		P	09 21 03.2	-1.1	
	baz=320,SNR=93								
BIA	Bitola	83.83	321	P		P	09 21 04.5	+0.1	
BIA	Bitola	83.83	321	P		P	09 21 04.5	+0.1	
BIA	Bitola	83.83	321	*i* P		P	09 21 04.1	-0.4	
L42A	Oliver, Polo	83.83	38	P		P	09 21 02.7	-1.6	
	baz=322,SNR=73								
K43A	Burlington	83.89	36	P		P	09 21 03.3	-1.3	
	baz=322,SNR=23								
Q37A	Longview Farm,	83.89	43	P		P	09 21 03.4	-1.4	
	baz=319,SNR=40								
M41A	Milan	83.91	39	P		P	09 21 03.5	-1.3	
	baz=321,SNR=107								
NVLJ	Novalja	83.92	327	P		P	09 21 03.1	-1.6	
DRME	Dracevica, Mon	83.93	323	⇓*i*P		P	09 21 04.3	-0.5	
ARG	Arkhangelos	83.93	314	P		P	09 21 05.9	+1.0	
ARG	Arkhangelos	83.93	314	P		P	09 21 05.9	+1.0	
ARG	Arkhangelos	83.93	314	P		P	09 21 05.9	+1.0	
PPT	Papeete	83.93	119	P		P	09 21 09.1	+4.1	
	comp=Z,130nm,1.1s,baz=39,slow=0.8,SNR=9.7								
PPT				LR		LR	09 58 27.4		
	comp=Z,116μm,18.1s,baz=316,slow=36								
PPT2	Papeete2	83.94	119	*e*P		P	09 21 08.7	+3.5	
	comp=Z,282nm,1.4s								
PPT2	Papeete2	83.94	119	*e*PP		PP	09 24 21.6	+2.4	
	comp=Z,4μm,24.2s								
PPT2				*e*S		S	09 31 29.0	+0.7	
	comp=Z,132μm,33.5s								
PPT2				*e*SS		SS	09 37 05.0	+8.0	
	comp=Z,30μm,26.2s								
PPT2				*e*LQ		LQ	09 43 23.5		
	comp=Z,163μm,28.5s								
PPT2				*e*LR		LR	09 46 45.5		
	comp=Z,102μm,21.2s,baz=318								
PPT2	Papeete2	83.94	119	*e*T		T	10 53 33.0		
	comp=Z,23nm,0.3s								
LIT	Litokhoron	83.97	319	P		P	09 21 04.5	-0.6	
LIT	Litokhoron	83.97	319	P		P	09 21 04.5	-0.6	
LIT	Litokhoron	83.97	319	P		P	09 21 04.5	-0.6	
BUM	Brajici-Budva	83.97	323	⇓*i*P		P	09 21 04.1	-1.0	
IWEX	Carrickbyrne,	83.98	343	*e*P		P	09 21 04.7	-0.2	
IWEX				IAmb		IAmb	09 21 10.8		
	comp=Z,2μm,1.5s								
FNA	Florina	83.99	321	P		P	09 21 04.6	-0.6	
FNA	Florina	83.99	321	P		P	09 21 04.6	-0.6	
FNA	Florina	83.99	321	P		P	09 21 04.6	-0.6	
PAE	Paea	84.00	119	*e*P		P	09 21 08.6	+3.3	
	comp=Z,42nm,1.3s								
PAE	Paea	84.00	119	*e*T		T	10 53 35.7		
	comp=Z,3.6nm,0.3s								
OHR	Ohrid	84.01	321	*i* P		P	09 21 04.8	-0.6	
URZ	Urewera	84.02	155	P		P	09 21 03.4	-1.6	
	comp=Z,67nm,0.8s,baz=339,slow=6.2,SNR=12								
URZ	Urewera	84.02	155	P		P	09 21 07.2	+2.2	
HCY	Herceg Novi	84.04	323	⇓*i*P		P	09 21 04.7	-0.7	
STON	Ston	84.06	324	P		P	09 21 03.1	-2.4	
TIAR	Tiarei	84.08	119	*e*P		P	09 21 09.0	+3.2	
	comp=Z,77nm,1.2s								
TIAR	Tiarei	84.08	119	*e*T		T	10 53 41.8		
	comp=Z,7.5nm,0.2s								
ULC	Ulcinj	84.08	323	⇓*i*P		P	09 21 04.7	-0.9	
VRZ	Vera Road	84.09	157	P		P	09 21 06.9	+1.6	
L43A	Garden Prairie	84.12	37	P		P	09 21 04.2	-1.6	
	baz=322,SNR=43								
KZN	Kozani	84.16	320	P		P	09 21 05.2	-1.0	
KZN	Kozani	84.16	320	P		P	09 21 05.2	-1.0	
KZN	Kozani	84.16	320	P		P	09 21 05.2	-1.0	
XOR	Xorichti	84.18	319	P		P	09 21 05.9	-0.3	
XOR	Xorichti	84.18	319	P		P	09 21 05.9	-0.3	
SKIA	Skiathos	84.19	318	P		P	09 21 07.1	+0.9	
NEO	Neokhori	84.21	318	P		P	09 21 06.2	-0.2	
NEO	Neokhori	84.21	318	P		P	09 21 06.2	-0.2	
M42A	Sheffield	84.22	38	P		P	09 21 04.9	-1.4	
	baz=322,SNR=21								
O40A	La Belle	84.24	40	P		P	09 21 05.7	-0.7	
	baz=320,SNR=104								
Q38A	Cooks Store, C	84.26	42	P		P	09 21 05.2	-1.4	
	baz=320,SNR=109								
TIR	Tirane	84.27	322	⇓*i*P		P	09 21 06.1	-0.5	
TIR	Tirane	84.27	322	*e*P		P	09 21 06.0	-0.5	
TIR				*e*			09 24 25.1		
TIR				pmax		pmax			
	comp=Z,1μm,1.0s								
TIR				MLR		MLR			
	comp=Z,84μm,21.0s								
TIR	Tirane	84.27	322	*e*P		P	09 21 06.0	-0.6	
	comp=Z,1μm,1.0s								
TIR				*e*PP		PP	09 24 25.1	+4.6	
TIR				LR		LR			
	comp=Z,84μm,21.0s								
FYTO	Fytoko, Volos	84.27	319	P		P	09 21 06.1	-0.5	
FYTO	Fytoko, Volos	84.27	319	P		P	09 21 06.1	-0.5	
N41A	Harden Midland	84.28	39	P		P	09 21 05.7	-1.0	
	baz=321,SNR=36								
P39B	Salisbury	84.29	41	P		P	09 21 05.6	-1.1	
	baz=320,SNR=30								
TVO	Taravao	84.30	119	*e*P		P	09 21 10.4	+3.4	
	comp=Z,91nm,1.2s								
TVO	Taravao	84.30	119	*e*T		T	10 53 59.5		
	comp=Z,1.6nm,0.3s								
NEST	Nestorio	84.43	320	P		P	09 21 07.4	-0.1	
TAOE	Nuku Hiva Isla	84.46	107	*e*P		P	09 21 10.8	+2.8	
	comp=Z,402nm,1.1s								
TAOE	Nuku Hiva Isla	84.46	107	*e*S		S	09 31 33.0	-0.7	
	comp=Z,68μm,29.8s								
TAOE	Nuku Hiva Isla	84.46	107	*e*LR		LR	09 47 40.9		
	comp=Z,76μm,21.6s,baz=311								
TAOE	Nuku Hiva Isla	84.46	107	*e*T		T	10 54 08.5		
	comp=Z,30nm,0.2s								
TAOE	Nuku Hiva Isla	84.46	107	*e*P		P	09 21 08.1	+0.1	
	comp=Z,117nm,0.7s								
L44A	Lake County Fo	84.50	37	P		P	09 21 06.6	-1.1	
	baz=323,SNR=17								
TUE	Stuetta	84.50	331	*e*P		P	09 21 07.5	-0.4	
	comp=Z,1μm,1.4s								
TUE				LR		LR			
	comp=Z,208μm,19.0s								
Q39A	Willow Grove F	84.52	42	P		P	09 21 06.9	-0.9	
	baz=320								
EREA	Eretria	84.52	317	P		P	09 21 07.9	-0.1	
SMIA	Simia	84.54	318	P		P	09 21 07.1	-0.9	
KARY	Karystos	84.55	317	P		P	09 21 09.6	+1.5	
PENT	Pentalofos	84.56	320	P		P	09 21 07.8	-0.4	
N42A	Yates City	84.58	39	P		P	09 21 07.0	-1.2	
	baz=322,SNR=75								
EIL	Elat	84.59	305	LR		LR	10 03 07.2		
	comp=Z,37μm,19.0s,baz=357,slow=39								
M43A	Waltham Townsh	84.61	38	P		P	09 21 07.2	-1.1	
	baz=322,SNR=59								
P40A	Paris	84.61	41	P		P	09 21 07.4	-0.9	
	baz=320,SNR=156								
THL	Klokotos Trika	84.61	319	P		P	09 21 09.7	+1.4	
WMOK	Wichita Mounta	84.63	48	P		P	09 21 07.6	-1.0	
	baz=317,SNR=194								
WMOK	Wichita Mounta	84.63	48	*e*P		P	09 21 08.2	-0.3	
WMOK				MLR		MLR			
	comp=Z,40μm,19.0s								
WMOK	Wichita Mounta	84.63	48	*e*P		P	09 21 08.2	-0.3	
	comp=Z,10μm,0.9s								
WMOK				LR		LR			
	comp=Z,40μm,19.0s								
KPRO	Kipourio	84.63	320	P		P	09 21 08.6	+0.1	
R38A	Fenwick Farm,	84.69	43	P		P	09 21 07.1	-1.7	
	baz=319,SNR=73								
APE	Apeiranthos	84.70	316	*e*P		P	09 21 07.9	-1.0	
APE	Apeiranthos	84.70	316	⇓*i*

SANT LR LR
comp=Z,72µm,20.0s
LTK Loutraki 85.32 318 P **P** **09 21 12.3 +0.4**
LTK Loutraki 85.32 318 P **P** **09 21 12.3 +0.4**
O43A Sugar Creek Fa 85.34 39 P **P** **09 21 11.0 -1.0**
baz=322,SNR=16
T38A Diamond 85.36 44 P **P** **09 21 10.8 -1.4**
baz=319,SNR=219
S39A Bolivar 85.37 43 P **P** **09 21 10.7 -1.5**
baz=320,SNR=121
DSL Palaion Diesel 85.40 320 P **P** **09 21 13.0 +0.6**
DSL Palaion Diesel 85.40 320 P **P** **09 21 13.0 +0.6**
P42A Winchester 85.40 40 P **P** **09 21 11.1 -1.2**
baz=321,SNR=82
ANX Ano Chora 85.41 319 P **P** **09 21 12.8 +0.3**
TUL1 Leonard 85.41 45 P **P** **09 21 11.7 -0.7**
baz=319,SNR=63
TUL1 Leonard 85.41 45 *eP* **P** **09 21 11.9 -0.5**
comp=Z,696nm,1.4s
M45A Boilermakers S 85.43 37 P **P** **09 21 11.3 -1.1**
baz=323
SGD Sagiada 85.45 320 P **P** **09 21 12.9 +0.4**
R40A Maddies Statio 85.45 42 P **P** **09 21 11.3 -1.3**
baz=320,SNR=97
KALE Kalithea 85.45 319 P **P** **09 21 11.8 -0.9**
KALE Kalithea 85.45 319 P **P** **09 21 11.8 -0.9**
Q41A Truxton 85.46 41 P **P** **09 21 11.9 -0.7**
baz=321,SNR=118
THAL Thalero 85.46 318 P **P** **09 21 13.4 +0.8**
IGT Igoumenitsa 85.46 320 P **P** **09 21 12.9 +0.3**
IGT Igoumenitsa 85.46 320 P **P** **09 21 12.9 +0.3**
IGT Igoumenitsa 85.46 320 P **P** **09 21 12.9 +0.3**
SERG Sergoula 85.48 319 P **P** **09 21 12.0 -0.8**
N44A Piper City 85.50 38 P **P** **09 21 11.8 -1.0**
baz=323,SNR=26
EFP Efpalio 85.54 319 P **P** **09 21 13.4 +0.4**
DID Didima 85.57 317 P **P** **09 21 13.6 +0.4**
DID Didima 85.57 317 P **P** **09 21 13.6 +0.4**
PVO Paravola 85.59 319 P **P** **09 21 13.4 +0.2**
TXAR Lajitas Array 85.60 55 P **P** **09 21 13.2 -0.5**
comp=Z,176nm,1.0s,baz=293,slow=3.5,SNR=297
TXAR PP **PP** **09 24 33.3 +1.4**
comp=Z,31nm,1.1s,baz=288,slow=3.7,SNR=2.5
TXAR PKKP **PKKPdf** **09 39 08.0 +1.5**
comp=Z,1.2nm,0.9s,baz=160,slow=2.9,SNR=3.5
TXAR PKKPbc **PKKPbc** **09 39 16.2 +1.4**
comp=Z,10nm,1.0s,baz=134,slow=3.5,SNR=17
TXAR PKPPKP P'P'df 09 47 15.4 -12
comp=Z,2.5nm,1.0s,baz=144,slow=4.5,SNR=6.9
CCA1 Carnmenellis 85.66 341 *eP* **P** **09 21 12.4 -1.0**
CCA1 IAmb IAmb 09 21 21.3
comp=Z,559nm,1.0s
CCA1 IAMs_20 IAMs_20 10 01 44.8
comp=Z,84µm,21.8s
ABTX Abilene, Hawle 85.67 50 P **P** **09 21 13.3 -0.5**
baz=317,SNR=89
ABTX Abilene, Hawle 85.67 50 *eP* **P** **09 21 13.4 -0.5**
comp=Z,690nm,1.1s
GUR Goura 85.70 318 P **P** **09 21 13.2 -0.8**
GUR Goura 85.70 318 P **P** **09 21 13.2 -0.8**
KRND KRANIDI 85.71 317 P **P** **09 21 13.7 -0.2**
KLV Kalavryta, Ach 85.71 318 P **P** **09 21 13.2 -0.8**
KLV Kalavryta, Ach 85.71 318 P **P** **09 21 13.2 -0.8**
N45A Kentland 85.74 37 P **P** **09 21 13.2 -0.8**
baz=323,SNR=26
P43A Skaggs, Pawnee 85.75 39 P **P** **09 21 13.0 -1.1**
baz=322,SNR=37
PDO Prodromos 85.77 319 P **P** **09 21 14.2 0.0**
JRS Jersey 85.77 339 *eP* **P** **09 21 13.9 0.0**
ZKR Zakros 85.79 314 *eP* **P** **09 21 18.9 +4.6**
ZKR Zakros 85.79 314 P **P** **09 21 15.8 +1.5**
ZKR Zakros 85.79 314 P **P** **09 21 15.8 +1.5**
M46A Old House Fiel 85.82 36 P **P** **09 21 13.4 -0.9**
baz=324
Q42A Golden Eagle 85.83 40 P **P** **09 21 13.7 -0.7**
baz=321,SNR=42
O44A Mansfield 85.85 38 P **P** **09 21 13.3 -1.2**
baz=322,SNR=49
T39A Clever 85.85 43 P **P** **09 21 13.1 -1.5**
baz=320,SNR=100
S40A Lebanon 85.86 42 P **P** **09 21 13.5 -1.2**
baz=320,SNR=159
LKD2 Lefkada island 85.88 320 P **P** **09 21 14.6 -0.2**
LKD2 Lefkada island 85.88 320 P **P** **09 21 14.6 -0.2**
R41A Rosebud 85.89 41 P **P** **09 21 13.6 -1.2**
baz=321,SNR=189
DRO Drossia 86.01 319 P **P** **09 21 16.0 +0.6**
SADO Sadowa 86.01 30 *eP* **P** **09 21 13.8 -1.4**
comp=Z,179nm,1.1s
SADO *ePP* **PP** **09 24 34.8 +0.3**
SADO *eS* **S** **09 31 46.0 -2.2**
RLS Riolos of Patr 86.05 319 P **P** **09 21 15.3 -0.2**
RLS Riolos of Patr 86.05 319 P **P** **09 21 15.3 -0.2**
N46A Monticello 86.06 37 P **P** **09 21 14.0 -1.6**
baz=324
VLC Villacollemand 86.06 329 *eP* **P** **09 21 15.3 -0.2**
comp=Z,618nm,0.9s
VLC *ePP* **PP** **09 24 28.7 -6.3**
VLC *eS* S 09 31 38.9 -10
VLC LR LR
comp=Z,258µm,20.0s
SNZO South Karori 86.09 158 *eP* **P** **09 21 16.0 +0.7**
comp=Z,7µm,1.5s
SNZO *ePP* **PP** **09 24 37.9 +1.6**
SNZO LR LR
comp=Z,42µm,20.0s
VLX Vlachokerasia 86.11 318 P **P** **09 21 17.5 +1.5**
VLX Vlachokerasia 86.11 318 P **P** **09 21 17.5 +1.5**
O45A Potomac 86.12 38 P **P** **09 21 14.9 -1.0**
baz=323,SNR=104
CCM Cathedral Cave 86.14 41 P **P** **09 21 15.0 -1.1**
baz=321
CCM Cathedral Cave 86.14 41 *eP* **P** **09 21 15.3 -0.7**
CCM *e* 09 24 38.9
CCM *eS* **S** **09 31 45.0 -4.6**
CCM pmax pmax
comp=Z,3µm,1.1s
CCM Cathedral Cave 86.14 41 *eP* **P** **09 21 15.3 -0.7**
comp=Z,3µm,1.1s
CCM *ePP* **PP** **09 24 38.9 +3.1**
CCM *eS* **S** **09 31 45.0 -4.6**
LAST Lasithi 86.16 314 P **P** **09 21 17.7 +1.4**
LAST Lasithi 86.16 314 P **P** **09 21 17.7 +1.4**
R42A Luebbering 86.19 41 P **P** **09 21 15.2 -1.1**
baz=321
T40A Mansfield 86.20 43 P **P** **09 21 15.2 -1.2**
baz=320,SNR=88
Q43A New Douglas 86.22 40 P **P** **09 21 15.3 -1.1**
baz=322,SNR=14
S41A Jillco Farms, 86.25 42 P **P** **09 21 15.4 -1.2**
baz=321,SNR=108
AAM Ann Arbor 86.26 34 P **P** **09 21 15.8 -0.7**
baz=325,SNR=16
AAM Ann Arbor 86.26 34 *eP* **P** **09 21 15.9 -0.7**
AAM *e* 09 24 37.3
AAM pmax pmax
comp=Z,401nm,1.2s
AAM MLR M'LR
comp=Z,37µm,21.0s
AAM Ann Arbor 86.26 34 *eP* **P** **09 21 15.9 -0.7**
comp=Z,401nm,1.2s
AAM *ePP* **PP** **09 24 37.3 +0.7**
AAM LR LR
comp=Z,37µm,21.0s
MATE Matera 86.28 323⇑ *iP* **P** **09 21 16.7 +0.1**
U39A Green Forest 86.28 44 P **P** **09 21 15.6 -1.2**
baz=320,SNR=210
VTN Vitineika 86.30 319 P **P** **09 21 18.0 +1.2**
SFIN Lafayette 86.30 37 P **P** **09 21 15.8 -1.0**
baz=323,SNR=22
SFIN Lafayette 86.30 37 *eP* **P** **09 21 16.0 -0.7**
comp=Z,291nm,1.0s
SFIN *ePP* **PP** **09 24 40.9 +3.9**
P44A Sand Creek, Wi 86.32 39 P **P** **09 21 16.1 -0.8**
baz=322,SNR=82
VLI Veliai 86.33 317 P **P** **09 21 16.6 -0.4**
VLI Veliai 86.33 317 P **P** **09 21 16.6 -0.4**
AMT Artemida-Makis 86.33 318 P **P** **09 21 16.6 -0.4**
AQU L'Aquila 86.34 326 *eP* **P** **09 21 16.9 -0.1**
AQU *eS* **S** **09 31 50.8 -0.8**
AQU pmax pmax
comp=Z,4µm,1.9s
AQU MLR MLR
comp=Z,144µm,20.0s
AQU L'Aquila 86.34 326 *eP* **P** **09 21 16.9 -0.1**
comp=Z,4µm,1.9s
AQU *eS* **S** **09 31 50.8 -0.8**
AQU LR LR
comp=Z,144µm,20.0s
IDI Anoyia 86.38 315 P **P** **09 21 17.0 -0.4**
comp=Z,49nm,0.6s,baz=29,slow=5.7,SNR=13
IDI PP **PP** **09 24 36.9 -1.0**
comp=Z,55nm,0.9s,baz=18,slow=13,SNR=3.7
IDI LR LR 10 04 53.8
comp=Z,60µm,18.8s,baz=38,slow=39
IDI Anoyia 86.38 315⇓ *iP* **P** **09 21 16.8 -0.6**
IDI Anoyia 86.38 315 *eP* **P** **09 21 16.7 -0.6**
comp=Z,396nm,1.1s
IDI *ePP* **PP** **09 24 30.6 -7.4**
IDI PP PP 09 24 36.9 -1.0
VLS Valsamata 86.39 319 P **P** **09 21 16.8 -0.5**
VLS Valsamata 86.39 319 P **P** **09 21 16.8 -0.5**
VLS Valsamata 86.39 319 P **P** **09 21 16.8 -0.5**
ITM Ithomi 86.49 318 P **P** **09 21 16.4 -1.4**
ITM Ithomi 86.49 318 P **P** **09 21 16.4 -1.4**
INZ Inchbonnie 86.55 161 P **P** **09 21 16.9 -0.6**
Q44A Meyer Farm, Va 86.57 39 P **P** **09 21 17.3 -0.9**
baz=322,SNR=50
S42A Caledonia 86.59 41 P **P** **09 21 17.4 -0.9**
baz=321,SNR=177
V39A Pettigrew 86.61 44 P **P** **09 21 17.1 -1.3**
baz=320,SNR=144
KYTH Kithira 86.62 317 P **P** **09 21 18.6 +0.2**
KYTH Kithira 86.62 317 P **P** **09 21 18.6 +0.2**
R43A Red Bud 86.62 40 P **P** **09 21 17.3 -1.1**
baz=322,SNR=46
SIVA Sivas 86.63 315 P **P** **09 21 19.8 +1.4**
SIVA Sivas 86.63 315 P **P** **09 21 19.8 +1.4**
U40A Yellville 86.63 43 P **P** **09 21 17.4 -1.0**
baz=320,SNR=225
VAM Vamos 86.66 315 P **P** **09 21 19.8 +1.2**
VAM Vamos 86.66 315 P **P** **09 21 19.8 +1.2**
VAM Vamos 86.66 315 P **P** **09 21 19.8 +1.2**
T41A Mountain View 86.66 42 P **P** **09 21 17.3 -1.3**
baz=321,SNR=151
P45A Graceland, Par 86.68 38 P **P** **09 21 17.8 -0.9**
baz=323,SNR=48
BNI Bardonecchia 86.69 332 *eP* **P** **09 21 18.0 -0.7**
BNI *e* 09 24 46.5
BNI pmax pmax
comp=Z,671nm,0.9s
BNI MLR MLR
comp=Z,166µm,19.0s
BNI Bardonecchia 86.69 332 *eP* **P** **09 21 18.0 -0.7**
comp=Z,671nm,0.9s
BNI *ePP* **PP** **09 24 46.5 +6.3**
BNI LR LR
comp=Z,166µm,19.0s
WVZ Waitaha Valley 86.70 161 P **P** **09 21 19.8 +1.5**
IMMV Iera Moni Meta 86.73 316 *eP* **P** **09 21 17.1 -1.9**
IMMV Iera Moni Meta 86.73 316 P **P** **09 21 19.5 +0.5**
ANKY Antikythira Is 86.79 316 P **P** **09 21 20.1 +0.9**
ANKY Antikythira Is 86.79 316 P **P** **09 21 20.1 +0.9**
PYL PYLOS 86.80 318 P **P** **09 21 18.3 -1.0**
PYL PYLOS 86.80 318 P **P** **09 21 18.3 -1.0**
LTZ Lake Taylor 86.81 160 P **P** **09 21 22.3 +3.5**
O47A Sheridan 86.84 37 P **P** **09 21 18.1 -1.3**
baz=324,SNR=44
P46A Rosedale 86.86 38 P **P** **09 21 18.7 -0.8**
baz=323,SNR=63
FOZ Fox Glacier 86.92 162 P **P** **09 21 21.8 +2.5**
Q45A Warren Harvey, 86.99 39 P **P** **09 21 19.4 -0.8**
baz=323,SNR=90
T42A Van Buren 87.01 42 P **P** **09 21 19.3 -1.0**
baz=321,SNR=132
W39A Magazine 87.02 45 P **P** **09 21 19.3 -1.1**
baz=320,SNR=63
R44A Waltonville 87.06 40 P **P** **09 21 19.6 -0.8**
baz=322,SNR=48
V40A Witts Springs 87.07 44 P **P** **09 21 19.5 -1.2**
baz=320,SNR=71
S43A Fulton Ridge, 87.10 41 P **P** **09 21 19.6 -1.2**
baz=322,SNR=85
U41A Viola 87.12 43 P **P** **09 21 19.6 -1.3**
baz=321,SNR=65
JCT Junction City 87.13 51 P **P** **09 21 20.1 -0.9**
baz=317,SNR=72
JCT Junction City 87.13 51 *eP* **P** **09 21 20.2 -0.9**
JCT pmax pmax
comp=Z,748nm,1.4s
JCT MLR MLR
comp=Z,48µm,20.0s
JCT Junction City 87.13 51 *eP* **P** **09 21 20.2 -0.9**
comp=Z,748nm,1.4s
JCT LR LR
comp=Z,48µm,20.0s
OLIL Olney 87.15 39 *eP* **P** **09 21 20.3 -0.6**
comp=Z,1µm,1.5s
OLIL *ePP* **PP** **09 24 46.0 +2.2**
GVD Gavdhos 87.15 315 P **P** **09 21 22.4 +1.4**
GVD Gavdhos 87.15 315 P **P** **09 21 22.4 +1.4**
TYNO Tyneside 87.15 31 P **P** **09 21 17.7 -3.2**
baz=328,SNR=28
JCZ Jackson Bay 87.20 163 P P 09 21 25.6 +4.8
CUC Castrocucco 87.21 323 *eP* **P** **09 21 20.2 -1.1**
comp=Z,130nm,1.1s
CUC *ePP* **PP** **09 24 47.5 +3.1**
CUC *eS* **S** **09 32 03.9 +3.8**
CUC LR LR
comp=Z,89µm,20.0s
SSB Saint Sauveur 87.24 333 *eP* **P** **09 21 21.2 -0.1**
SSB *e* 09 24 51.1
SSB *eS* **S** **09 31 57.2 -2.9**
SSB pmax pmax
comp=Z,1µm,1.4s
SSB MLR MLR
comp=Z,107µm,21.0s
SSB Saint Sauveur 87.24 333 *eP* **P** **09 21 21.2 -0.1**
comp=Z,1µm,1.4s
SSB *ePP* **PP** **09 24 51.1 +6.7**
SSB *eS* **S** **09 31 57.2 -2.9**
SSB LR LR
comp=Z,107µm,21.0s
OXZ Oxford 87.26 161 P **P** **09 21 21.8 +0.8**
Q46A CEJHS Indians, 87.27 38 P **P** **09 21 20.6 -0.9**
baz=323
X39A Fountain Ranch 87.37 45 P **P** **09 21 21.4 -0.7**
baz=320,SNR=162
T43A Greenville 87.38 41 P **P** **09 21 21.1 -0.9**
baz=322,SNR=106
RPZ Rata Peaks 87.38 161 P **P** **09 21 22.5 +0.9**
comp=Z,112nm,1.1s,baz=352,slow=2.2,SNR=14
RPZ Rata Peaks 87.38 161 P **P** **09 21 25.1 +3.5**
WHTX Lake Whitney, 87.39 49 P **P** **09 21 21.7 -0.5**
baz=318,SNR=44
WHTX Lake Whitney, 87.39 49 *eP* **P** **09 21 22.0 -0.2**
comp=Z,1µm,1.6s
WHTX *ePP* **PP** **09 24 49.4 +3.3**
P47A Martinsville 87.40 37 P **P** **09 21 21.1 -1.0**
baz=324,SNR=67
W40A Ferguson Farm, 87.41 44 P **P** **09 21 21.2 -1.0**
baz=320,SNR=95
R45A Skylar, Fairfi 87.41 39 P **P** **09 21 21.4 -0.7**
baz=323,SNR=37
S44A Carbondale 87.41 40 P **P** **09 21 21.6 -0.6**
baz=322,SNR=54
SIUC Southern Illin 87.41 40 *eP* **P** **09 21 21.7 -0.5**
comp=Z,859nm,1.1s
SIUC *ePP* **PP** **09 24 46.8 +0.8**
V41A Mountainview 87.43 43 P **P** **09 21 21.0 -1.4**
baz=320,SNR=144
TIP Timpagrande 87.44 322⇓ *iP* **P** **09 21 21.6 -0.8**
TIP Timpagrande 87.44 322 *eP* **P** **09 21 21.6 -0.8**
comp=Z,738nm,1.4s
TIP *ePP* **PP** **09 24 52.1 +5.9**
TIP *eS* **SKSac** **09 31 48.6 -0.7**
TIP LR LR
comp=Z,99µm,20.0s
TIP Timpagrande 87.44 322 P **P** **09 21 22.1 -0.3**
U42A Revenden 87.47 42 P **P** **09 21 21.1 -1.3**
baz=321,SNR=48
BLO Bloomington 87.53 38 *eP* **P** **09 21 22.1 -0.7**
BLO *e* 09 24 51.4
BLO pmax pmax
comp=Z,503nm,1.4s
BLO Bloomington 87.53 38 *eP* **P** **09 21 22.1 -0.7**
comp=Z,503nm,1.4s
BLO *ePP* **PP** **09 24 51.4 +4.4**
BLO *eS* **S** **09 32 08.6 +5.5**
MIAR Mount Ida 87.63 45 P **P** **09 21 22.6 -0.8**
baz=320,SNR=172
MIAR Mount Ida 87.63 45 *eP* **P** **09 21 22.9 -0.4**
MIAR pmax pmax
comp=Z,2µm,0.5s
MIAR MLR MLR
comp=Z,36µm,20.0s
MIAR Mount Ida 87.63 45 *eP* **P** **09 21 22.9 -0.4**
comp=Z,2µm,0.5s
MIAR *ePP* PP 09 24 35.7 -12
MIAR LR LR
comp=Z,36µm,20.0s
T44A Benton 87.72 41 P **P** **09 21 22.8 -0.9**
baz=322,SNR=43
S45A Carrier Mills 87.75 40 P **P** **09 21 23.2 -0.6**
baz=322,SNR=66
Q47A Bedord North L 87.77 38 P **P** **09 21 23.1 -0.8**
baz=324,SNR=103
MOZ McQueen's Vall 87.77 160 P **P** **09 21 25.6 +2.1**
LONY Lake Ozonia 87.79 27 P **P** **09 21 22.4 -1.5**
baz=331,SNR=25
LONY Lake Ozonia 87.79 27 *eP* **P** **09 21 23.5 -0.4**
comp=Z,173nm,1.2s
LONY *ePP* PP 09 24 37.7 -11
LONY LR LR
comp=Z,53µm,22.0s
LBZ Lake Benmore 87.81 162 P **P** **09 21 24.2 +0.6**
V42A Cord 87.81 43 P **P** **09 21 22.8 -1.3**
baz=321,SNR=56
R46A Gibson Southern 87.84 39 P **P** **09 21 23.6 -0.6**
baz=323,SNR=55
W41B Gary Mavity, V 87.85 44 P **P** **09 21 23.3 -1.1**
baz=320,SNR=172
U43A Rector 87.87 42 P **P** **09 21 23.5 -0.9**
baz=322,SNR=44
ERPA Erie 87.93 32 P **P** **09 21 23.7 -0.9**
baz=328,SNR=56
FRNY Flat Rock 87.94 26 *eP* **P** **09 21 23.1 -1.6**
comp=Z,88nm,1.1s
FRNY *eS* **SKSac** **09 31 54.1 +2.2**
USIN University of 87.96 39 *eP* **P** **09 21 24.7 -0.2**
comp=Z,377nm,1.3s
USIN *ePP* **PP** **09 24 54.4 +4.0**
H06N1 SOCORRO T-PHAS 87.96 67 P **P** **09 21 26.2 +1.1**
PARMO Parma 87.97 41 *eP* **P** **09 21 24.5 -0.4**
H06E1 SOCORRO T-PHAS 88.06 67 P **P** **09 21 26.5 +0.8**
H06S1 SOCORRO T 88.07 67 P **P** **09 21 26.4 +0.7**
X40A Basin Creek Fa 88.07 44 P **P** **09 21 24.5 -0.9**
baz=320,SNR=84
UALR University of 88.11 44 *eP* **P** **09 21 25.1 -0.5**
comp=Z,3µm,2.6s
UALR *eS* **S** **09 32 13.2 +4.5**
U44A Portageville 88.13 41 P **P** **09 21 24.9 -0.7**
baz=322,SNR=14
W42A Bald Knob 88.15 43 P **P** **09 21 24.6 -1.2**
baz=321
TBI Tubuai 88.16 123 *eP* **P** **09 21 29.0 +3.2**
comp=Z,850nm,1.1s
TBI Tubuai 88.16 123 *ePP* PP 09 24 47.8 -5.4
comp=Z,4µm,26.2s
TBI *eS* **S** **09 32 09.5 +0.4**
comp=Z,82µm,29.5s
TBI Tubuai 88.16 123 *eLQ* LQ 09 45 18.5
comp=Z,69µm,28.5s
TBI *eLR* LR 09 48 32.6
comp=Z,65µm,38.5s,baz=316
TBI Tubuai 88.16 123 *eT* T 10 58 48.4
comp=Z,127nm,0.3s
S46A Don Dixon Farm 88.16 39 P **P** **09 21 24.9 -0.9**
baz=323,SNR=57
Y40A Okolona 88.19 45 P **P** **09 21 24.8 -1.2**
baz=320,SNR=33
PVMO Portageville 88.19 41 *eP* **P** **09 21 26.8 +0.8**
comp=Z,682nm,1.1s
PVMO *ePP* **PP** **09 24 46.2 -6.1**
PVMO *eS* **S** **09 32 16.2 +6.7**
435B Jarrell 88.21 50 P **P** **09 21 25.1 -1.0**
baz=318,SNR=23
X41A Kaden, Bauxite 88.23 44 P **P** **09 21 25.5 -0.7**
baz=320,SNR=22
R47A Wooly Knot Far 88.24 38 P **P** **09 21 25.3 -0.9**
baz=324,SNR=114
T45A Paducah 88.24 40 P **P** **09 21 25.0 -1.2**
baz=322
ACSO Alum Creek Sta 88.25 35 P **P** **09 21 25.4 -0.8**
baz=326,SNR=38
ACSO Alum Creek Sta 88.25 35 *eP* **P** **09 21 25.7 -0.5**
comp=Z,538nm,1.0s
ACSO *ePP* **PP** **09 24 52.0 -0.7**
ACSO LR LR
comp=Z,42µm,21.0s
V43A Jonesboro 88.26 42 P **P** **09 21 26.0 -0.3**
baz=321,SNR=54
ALLY Alegheny Colle 88.26 32 *eP* **P** **09 21 26.0 -0.2**
comp=Z,1µm,1.1s
HBAR Harrisburg 88.38 42 *eP* **P** **09 21 26.7 -0.1**
GNAR Gosnell 88.39 42 *eP* **P** **09 21 27.0 +0.1**
WCI Wyandotte Cave 88.40 38 P **P** **09 21 26.1 -0.8**
baz=324
WCI Wyandotte Cave 88.40 38 *eP* **P** **09 21 26.5 -0.4**
WCI *e* 09 24 54.8
WCI pmax pmax
comp=Z,2µm,1.4s
WCI Wyandotte Cave 88.40 38 *eP* **P** **09 21 26.5 -0.4**
comp=Z,2µm,1.4s
WCI *ePP* **PP** **09 24 54.8 +0.9**
U44B Burton Farm, H 88.43 41 P **P** **09 21 26.7 -0.4**
baz=322,SNR=75
R48A Northridge Ran 88.46 38 P **P** **09 21 26.6 -0.6**
baz=324,SNR=32
GLAT Glass 88.51 41 *eP* **P** **09 21 27.2 -0.3**
GLAT *ePP* **PP** **09 24 49.6 -5.3**
ODZ Otahua Downs 88.54 162 P **P** **09 21 29.3 +2.3**
V44A Blytheville 88.55 42 P **P** **09 21 27.1 -0.6**
baz=322
M54A Oil Creek Stat 88.57 32 P **P** **09 21 27.1 -0.6**
baz=328,SNR=93
CEL Celeste 88.58 322 *eP* **P** **09 21 26.9 -0.9**
comp=Z,581nm,1.0s
CEL LR LR
comp=Z,127µm,19.0s
T46A Princeton 88.59 40 P **P** **09 21 27.4 -0.4**
baz=323,SNR=111
Y41A Eaglette Beard 88.65 45 P **P** **09 21 27.7 -0.4**
baz=320,SNR=41
X42A Stuttgart 88.66 44 P **P** **09 21 26.7 -1.4**
baz=321
UTMT University of 88.67 41 *eP* **P** **09 21 27.7 -0.5**
comp=Z,1µm,1.1s
UTMT *ePP* **PP** **09 24 49.9 -6.2**
Z40A Long Farm, Mag 88.70 46 P **P** **09 21 28.3 -0.1**
baz=320,SNR=53
U45A Rockin P Farm, 88.71 41 P **P** **09 21 27.7 -0.7**
baz=322,SNR=36
W43A Forest City 88.72 43 P **P** **09 21 27.2 -1.2**
baz=321
HALT Halls 88.77 41 *eP* **P** **09 21 28.5 -0.2**
HALT *ePP* **PP** **09 24 52.5 -4.4**
N54A Moraine State 88.90 32 P **P** **09 21 28.5 -0.8**
baz=328,SNR=98
PKME Peaks-Kenny Pk 88.93 23 P **P** **09 21 29.8 +0.6**
baz=335,SNR=25
PKME Peaks-Kenny Pk 88.93 23 *eP* **P** **09 21 28.8 -0.4**
comp=Z,320nm,1.1s
833A Chaparral WMA, 88.94 53 P **P** **09 21 29.2 -0.4**
baz=317,SNR=29
S48A Wiedeman Farm, 88.97 38 P **P** **09 21 28.7 -0.9**
baz=324,SNR=87
U46A Springville 88.99 40 P **P** **09 21 29.0 -0.7**
baz=323,SNR=26
T47A Sharon Grove 89.01 39 P **P** **09 21 29.2 -0.7**
baz=323,SNR=80
LBNH Lisbon 89.02 26 P **P** **09 21 29.6 -0.1**
baz=333,SNR=14
Z41A Richland Creek 89.03 45 P **P** **09 21 29.6 -0.3**
baz=320,SNR=17
X43A Marvell 89.07 43 P **P** **09 21 29.6 -0.6**
baz=321,SNR=38
140A Cam and Jess, 89.08 46 P **P** **09 21 29.2 -1.0**
baz=320
MET Memphis--Engin 89.09 42 *eP* **P** **09 21 30.1 -0.1**
comp=Z,2µm,1.3s
MET *ePP* **PP** **09 24 57.0 -2.6**
MET *eS* **S** **09 32 26.2 +8.3**
V45A Humboldt 89.09 41 P **P** **09 21 29.3 -0.9**
baz=322,SNR=16
Y42A Garnett, Star 89.12 44 P **P** **09 21 29.9 -0.5**
baz=321,SNR=70

W44A Shelby Farms P 89.13 42 P P 09 21 29.8 -0.6
baz=322,SNR=13
NATX Nacogdoches 89.14 47 P P 09 21 30.0 -0.5
baz=319,SNR=21
NATX Nacogdoches 89.14 47 *eP* P 09 21 30.4 -0.1
comp=Z,522nm,1.3s
NATX *ePP* **PP** 09 24 57.7 -2.4
NATX LR LR
comp=Z,58µm,20.0s
ACCN Adirondack Com 89.19 27 *eP* P 09 21 30.4 -0.1
comp=Z,736nm,1.2s
T48A Bowling Green 89.25 39 P P 09 21 30.2 -0.8
baz=324,SNR=59
WVT Waverly 89.34 40 P P 09 21 30.7 -0.6
baz=323
U47A Clarksville 89.36 40 P P 09 21 30.7 -0.8
baz=323,SNR=65
BINY Binghamton 89.40 29 P P 09 21 30.7 -0.8
baz=330,SNR=61
BINY Binghamton 89.40 29 *eP* P 09 21 31.0 -0.6
comp=Z,590nm,1.1s
BINY *ePP* **PP** 09 25 06.9 +5.2
BINY LR LR
comp=Z,38µm,20.0s
240A Hunter Patters 89.43 47 P P 09 21 31.5 -0.4
baz=320,SNR=6.7
W45A Hickory Valley 89.44 42 P P 09 21 31.1 -0.7
baz=322,SNR=31
V46A Holladay 89.46 41 P P 09 21 30.9 -1.1
baz=323,SNR=94
X44A Crenshaw 89.46 43 P P 09 21 31.3 -0.7
baz=322
141A Papa Simpson, 89.47 46 P P 09 21 31.9 -0.1
baz=320,SNR=27
Z42A Norrel Spur, H 89.47 45 P P 09 21 31.8 -0.2
baz=321,SNR=72
Y43A Makayla and Ka 89.52 44 P P 09 21 31.9 -0.4
baz=321,SNR=28
U48A Cassie Pea, Po 89.66 39 P P 09 21 32.1 -0.8
baz=324,SNR=66
V47A Nunnelly 89.73 40 P P 09 21 32.4 -0.9
baz=323,SNR=126
OXF Oxford 89.83 42 P P 09 21 32.9 -0.8
baz=322,SNR=85
OXF Oxford 89.83 42 *eP* P 09 21 32.9 -0.8
OXF *e* 09 25 01.8
OXF pmax pmax
comp=Z,1µm,1.1s
OXF Oxford 89.83 42 *eP* P 09 21 32.9 -0.8
comp=Z,1µm,1.1s
OXF *ePP* **PP** 09 25 01.8 -3.7
Y44A Strider, Charl 89.85 43 P P 09 21 33.3 -0.5
baz=322,SNR=71
W46A Michie 89.86 41 P P 09 21 32.7 -1.2
baz=323,SNR=33
VAE Valguarnera 89.89 323 P P 09 21 36.5 +2.5
comp=Z,26nm,0.7s,baz=27,slow=2.3,SNR=5.3
VAE LR LR 10 08 27.6
comp=Z,115µm,18.8s,baz=54,slow=40
Z43A Armstrong Fami 89.89 44 P P 09 21 33.4 -0.6
baz=321
241A Mo Tay, Goldon 89.91 46 P P 09 21 34.0 -0.1
baz=320,SNR=23
X45A UM Field Stati 89.91 42 P P 09 21 33.2 -0.8
baz=322,SNR=71
SSPA Standing Stone 90.02 31 P P 09 21 34.0 -0.5
baz=329
SSPA Standing Stone 90.02 31 *eP* P 09 21 34.2 -0.2
comp=Z,2µm,1.2s
SSPA *ePP* **PP** 09 25 11.6 +4.9
SSPA *eS* **S** 09 32 26.8 +0.3
142A Monroe 90.03 45 P P 09 21 34.3 -0.3
baz=321,SNR=11
MCWV Mont Chateau 90.06 33 P P 09 21 34.6 -0.1
baz=328,SNR=46
O56A Blue Knob Stat 90.06 32 P P 09 21 34.1 -0.6
baz=329,SNR=80
V48A Smith Brothers 90.14 40 P P 09 21 34.4 -0.8
baz=324,SNR=114
W47A Westpoint 90.16 41 P P 09 21 34.2 -1.0
baz=323,SNR=126
143A Socs Landing, 90.20 45 P P 09 21 35.2 -0.2
baz=321,SNR=16
X46A Booneville 90.22 42 P P 09 21 34.4 -1.1
baz=323,SNR=22
Z44A Pea Ridge, Bel 90.27 44 P P 09 21 35.3 -0.5
baz=322,SNR=108
Y45A Yeager Farm, C 90.27 43 P P 09 21 35.5 -0.3
baz=322,SNR=125
242A Grayson 90.29 46 P P 09 21 35.6 -0.3
baz=321,SNR=17
341A Kurthwood 90.30 47 P P 09 21 35.4 -0.5
baz=320,SNR=50
CLTB Caltabellotta 90.35 324 *eP* P 09 21 36.2 0.0
comp=Z,102nm,1.4s
CLTB *ePP* **PP** 09 25 10.8 +1.2
CLTB LR LR
comp=Z,55µm,21.0s
VSL Villasalto 90.40 327 *eP* P 09 21 35.1 -1.2
comp=Z,413nm,1.4s
VSL *ePP* **PP** 09 25 11.4 +1.6
VSL *eS* **S** 09 32 27.2 -2.9
VSL LR LR
comp=Z,128µm,19.0s
KVTX Kingsville 90.41 52 *eP* P 09 21 38.3 +1.8
comp=Z,516nm,1.1s
KVTX *ePP* **PP** 09 25 09.1 -1.2
KVTX LR LR
comp=Z,39µm,19.0s
W48A Pulaski 90.57 40 P P 09 21 36.3 -0.9
baz=324,SNR=200
Z45A Winona 90.58 43 P P 09 21 36.8 -0.4
baz=322,SNR=34
N59A State Game Lan 90.59 30 P P 09 21 36.7 -0.4
baz=330,SNR=97
Y46A Houston 90.61 42 P P 09 21 36.6 -0.8
baz=322,SNR=88
X47A Russelville 90.61 41 P P 09 21 36.0 -1.3
baz=323,SNR=69
HRV Adam Dziewonsk 90.69 26 P P 09 21 37.1 -0.4
baz=333
HRV Adam Dziewonsk 90.69 26 *eP* P 09 21 37.5 0.0
HRV *eS* **S** 09 32 30.4 -2.1
HRV pmax pmax
comp=Z,395nm,1.1s
HRV Adam Dziewonsk 90.69 26 *eP* P 09 21 37.5 0.0
comp=Z,395nm,1.1s
HRV *eS* **S** 09 32 30.4 -2.1
342A Flagon Creek P 90.73 46 P P 09 21 37.7 -0.2
baz=320,SNR=14
441A DeRidder 90.73 47 P P 09 21 38.2 +0.3
baz=320
144A Alexander Plac 90.78 44 P P 09 21 38.0 -0.1
baz=322,SNR=17
243A Waterproof 90.79 45 P P 09 21 38.0 -0.2
baz=321
ZAIG Zacatecas 90.94 59 *eP* P 09 21 39.8 +0.4
ZAIG *ePP* **PP** 09 25 17.2 +2.2
SWET Sewanee 91.00 39 *eP* P 09 21 38.1 -1.1
comp=Z,138nm,1.1s
SWET *ePP* **PP** 09 25 18.2 +3.5
TZTN Tazewell 91.04 37 P P 09 21 38.7 -0.6
baz=326,SNR=87
TZTN Tazewell 91.04 37 *eP* P 09 21 39.1 -0.3
comp=Z,305nm,1.2s
TZTN *ePP* **PP** 09 25 20.0 +5.0
VBMS Vicksburg 91.05 44 P P 09 21 39.0 -0.4
baz=322,SNR=46
145A Houston Renfro 91.06 44 P P 09 21 39.3 -0.2
baz=322,SNR=46
X48A Hartselle 91.07 41 P P 09 21 37.9 -1.5
baz=323,SNR=64
244A Avery, Jackson 91.10 45 P P 09 21 39.4 -0.2
baz=321,SNR=66
Y47A UCPARC, Winfie 91.10 42 P P 09 21 38.5 -1.2
baz=323,SNR=109
Z46A Louisville 91.11 43 P P 09 21 39.7 0.0
baz=322,SNR=62
442A Mamou 91.18 47 P P 09 21 39.5 -0.5
baz=320
WDD Wied Dalam 91.18 322 *eP* P 09 21 41.1 +1.1
comp=Z,205nm,0.9s
WDD *ePP* **PP** 09 25 19.3 +3.3
WDD LR LR
comp=Z,69µm,20.0s
343A Vidalia 91.18 46 P P 09 21 39.0 -1.0
baz=321

PAL Palisades 91.20 28 P P 09 21 39.0 -0.9
baz=332,SNR=26
PAL Palisades 91.20 28 *eP* P 09 21 39.2 -0.7
PAL *e* 09 25 23.2
PAL pmax pmax
comp=Z,733nm,1.5s
PAL Palisades 91.20 28 *eP* P 09 21 39.2 -0.7
comp=Z,733nm,1.5s
PAL *ePP* **PP** 09 25 23.2 +7.2
BRNJ Basking Ridge 91.24 29 *eP* P 09 21 39.8 -0.3
comp=Z,442nm,1.2s
BRNJ *ePP* **PP** 09 25 23.4 +7.0
541A Lake Charles 91.25 47 P P 09 21 40.2 -0.2
baz=320
CPNY Central Park 91.37 29 *eP* P 09 21 40.5 -0.2
comp=Z,933nm,1.5s
CPNY *ePP* **PP** 09 25 23.7 +6.4
X49A Woodville 91.37 40 P P 09 21 39.7 -1.2
baz=324,SNR=59
Y48A Jasper 91.44 41 P P 09 21 39.5 -1.6
baz=323,SNR=80
CPCT Cooper Cave 91.48 38 *eP* P 09 21 40.5 -0.9
CPCT *ePP* **PP** 09 25 16.0 -2.5
SDMD Soldier's Deli 91.48 31 *eP* P 09 21 41.4 +0.1
comp=Z,2µm,2.0s
SDMD *ePP* **PP** 09 25 17.5 -0.8
146A Union 91.49 43 P P 09 21 40.7 -0.7
baz=322,SNR=21
443A Delano Plantat 91.49 46 P P 09 21 40.4 -1.1
baz=321
245A Little AP, Sta 91.52 44 P P 09 21 41.2 -0.4
baz=322,SNR=30
344A Westbrook Farm 91.53 45 P P 09 21 41.2 -0.5
baz=321,SNR=32
Z47A Carrollton 91.55 42 P P 09 21 40.9 -0.8
baz=323,SNR=42
542A Morse 91.56 47 P P 09 21 41.5 -0.3
baz=320
ATD Arta Tunnel 91.57 287 P P 09 21 43.6 +1.4
comp=Z,54nm,0.9s,baz=34,slow=6.6,SNR=24
ATD LR LR 10 08 24.8
comp=Z,45µm,19.1s,baz=28,slow=39
TKL Tuckaleechee C 91.66 38 P P 09 21 42.6 +0.4
comp=Z,155nm,1.1s,baz=325,slow=1.4,SNR=58
TKL PP PP 09 25 09.7 -10
comp=Z,11nm,0.8s,baz=328,slow=7.2,SNR=2.9
TKL LR LR 10 07 07.0
comp=Z,20µm,18.1s,baz=338,slow=38
Z48A Northport 91.67 42 P P 09 21 40.9 -1.3
baz=323,SNR=42
X50A Fort Payne 91.74 40 P P 09 21 41.5 -1.2
baz=324,SNR=57
Y49A Blount Mountai 91.86 41 P P 09 21 41.8 -1.3
baz=324,SNR=45
147A Livingston 91.86 43 P P 09 21 42.4 -0.7
baz=323,SNR=60
BLA Blacksburg 91.88 35 P P 09 21 42.3 -1.0
baz=327,SNR=42
BLA Blacksburg 91.88 35 *eP* P 09 21 43.4 +0.2
BLA pmax pmax
comp=Z,538nm,1.6s
BLA MLR MLR
comp=Z,49µm,19.0s
BLA Blacksburg 91.88 35 *eP* P 09 21 43.4 +0.2
comp=Z,538nm,1.6s
BLA *ePP* PP 09 25 11.2 -10
BLA LR LR
comp=Z,49µm,19.0s
246A Jackson Lee, B 91.94 44 P P 09 21 43.0 -0.5
baz=322
543A St. Martinvill 91.97 47 P P 09 21 42.3 -1.4
baz=321
345A Thompson Farm, 92.02 45 P P 09 21 43.0 -0.9
baz=322,SNR=23
VWCC Virginia Weste 92.04 34 *eP* P 09 21 43.6 -0.4
444A Pine Grove 92.09 45 P P 09 21 43.5 -0.8
baz=321
Y50A Piedmont 92.16 40 P P 09 21 43.7 -0.8
baz=324,SNR=42
247A Quitman 92.18 43 P P 09 21 43.7 -0.9
baz=322,SNR=26
LRAL Lakeview Retre 92.22 41 P P 09 21 43.8 -1.0
baz=323,SNR=58
LRAL Lakeview Retre 92.22 41 *eP* P 09 21 44.5 -0.4
comp=Z,106nm,1.2s
LRAL *ePP* **PP** 09 25 29.1 +4.7
148A Greensboro 92.24 42 P P 09 21 44.0 -0.9
baz=323,SNR=35
346A Big Creek Wild 92.25 44 P P 09 21 44.3 -0.7
baz=322
445A Amite 92.30 45 P P 09 21 44.1 -1.2
baz=322
CBN Corbin Frederi 92.31 32 P P 09 21 44.1 -1.0
baz=329
CBN Corbin Frederi 92.31 32 *eP* P 09 21 45.2 +0.1
comp=Z,237nm,1.2s
CBN *ePP* **PP** 09 25 23.4 -1.4
CBN LR LR
comp=Z,44µm,21.0s
Z49A Columbiana 92.33 41 P P 09 21 43.7 -1.6
baz=324,SNR=48
544A White Castle 92.34 46 P P 09 21 44.4 -1.0
baz=321
Z50A Ashland 92.58 41 P P 09 21 45.4 -1.1
baz=324,SNR=132
248A Dixon Mills 92.59 43 P P 09 21 45.8 -0.8
baz=323
149A Jones 92.67 42 P P 09 21 46.1 -0.9
baz=324,SNR=86
347A Saraland 92.73 44 P P 09 21 46.6 -0.6
baz=322,SNR=40
545A Edgard 92.75 46 P P 09 21 46.2 -1.1
baz=321
446A Poplarville 92.78 44 P P 09 21 47.6 +0.2
baz=322,SNR=14
249A Camden 93.00 42 P P 09 21 47.9 -0.5
baz=323,SNR=75
546A Slidell 93.02 45 P P 09 21 47.1 -1.4
baz=322
348A Jackson 93.05 43 P P 09 21 48.2 -0.5
baz=323
150A Eclectic 93.05 41 P P 09 21 47.5 -1.2
baz=324,SNR=51
447A Lucedale 93.15 44 P P 09 21 47.9 -1.3
baz=322
645A Chauvin 93.15 46 P P 09 21 49.2 +0.1
baz=321
KMSC Kings Mountain 93.20 36 P P 09 21 47.9 -1.4
baz=327,SNR=42
KMSC Kings Mountain 93.20 36 *eP* P 09 21 49.3 -0.1
comp=Z,205nm,1.3s
KMSC *ePP* **PP** 09 25 30.8 -1.2
250A Grady 93.44 42 P P 09 21 49.5 -1.0
baz=324,SNR=64
448A Bay Minette 93.46 43 P P 09 21 49.3 -1.3
baz=323
151A Opelika 93.46 41 P P 09 21 49.4 -1.1
baz=324,SNR=40
349A Repton 93.47 43 P P 09 21 49.8 -0.8
baz=323,SNR=17
646A Port Sulphur 93.47 46 P P 09 21 50.9 +0.3
baz=322
KEST Kesra 93.60 325 P P 09 21 50.0 -1.3
comp=Z,68nm,1.0s,baz=300,slow=2.8,SNR=42
KEST PP **PP** 09 25 28.6 -6.5
comp=Z,24nm,0.9s,baz=4.5,slow=9.6,SNR=3.2
KEST PKKPbc **PKKPdf** 09 38 48.1 -4.4
comp=Z,13nm,1.2s,baz=243,slow=2.3,SNR=3.6
KEST LR LR 10 07 25.4
comp=Z,156µm,20.5s,baz=337,slow=38
GOGA Godfrey 93.65 39 P P 09 21 50.8 -0.6
baz=326,SNR=44
GOGA Godfrey 93.65 39 *eP* P 09 21 51.0 -0.4
GOGA *e* 09 25 31.9
GOGA pmax pmax
comp=Z,195nm,1.3s
GOGA MLR MLR
comp=Z,49µm,21.0s
GOGA Godfrey 93.65 39 *eP* P 09 21 51.0 -0.4
comp=Z,195nm,1.3s
GOGA *ePP* **PP** 09 25 31.9 -3.7
GOGA LR LR
comp=Z,49µm,21.0s
CMAH Djebel Manchou 93.65 327 P P 09 21 49.7 -1.8
BRAL Brewton 93.69 43 P P 09 21 50.7 -0.9
baz=323
BRAL Brewton 93.69 43 PFAKE 09 22 00.0 +8.4

BRAL LR LR
comp=Z,33µm,20.0s
CAEH 'Ain El Ouahch 93.75 328 P P 09 21 52.1 +0.2
251A Midway 93.77 41 P P 09 21 51.1 -0.9
baz=324,SNR=46
PBRG Braganca 93.84 339 *eP* P 09 21 51.0 -1.2
comp=Z,298nm,1.6s
PBRG Braganca 93.84 339 *ePP* PP 09 25 42.1 +5.3
PBRG Braganca 93.84 339 *eSS* SS 09 39 21.6 +3.6
PBRG Braganca 93.84 339 *eLR* LR 09 53 29.3
350A Dozier 93.85 42 P P 09 21 51.5 -0.9
baz=324,SNR=21
449A Pace 93.93 43 P P 09 21 51.5 -1.2
baz=323
ABSA Djebel Ababsia 93.93 327 P P 09 21 51.4 -1.4
MOIG Morelia 94.04 60 *eP* P 09 21 54.3 +0.6
MOIG *ePP* **PP** 09 25 40.7 +1.3
PGAV Gavieira, Arco 94.09 340 *eP* P 09 21 52.3 -1.1
comp=Z,439nm,1.3s
PGAV Gavieira, Arco 94.09 340 *ePP* PP 09 25 43.0 +4.2
PGAV Gavieira, Arco 94.09 340 *eSS* SS 09 39 27.8 +6.2
PGAV Gavieira, Arco 94.09 340 *eLR* LR 09 53 45.2
comp=Z,63µm,18.0s
CKFL Kef-Lekhel 94.13 327 P P 09 21 52.0 -1.8
DESE Dese 94.17 288 *i* P pP 09 21 58.9 -2.0
DESE *i* S PP 09 25 48.7 +7.9
DESE Dese 94.17 288 *i* P pP 09 21 58.9 -2.0
DESE *i* S PP 09 25 48.7 +7.9
DESE Dese 94.17 288 *i* P pP 09 21 58.9 -2.0
DESE *i* S PP 09 25 48.7 +7.9
450A Crestview 94.22 43 P P 09 21 52.8 -1.2
baz=324,SNR=13
PCAB Cabril 94.27 340 *eP* P 09 21 53.7 -0.5
comp=Z,337nm,1.4s
PCAB Cabril 94.27 340 *ePP* PP 09 25 45.0 +4.9
351A Pinckard 94.34 42 P P 09 21 53.4 -1.2
baz=324,SNR=39
CASM Ain Smara 94.35 328 P P 09 21 52.9 -1.8
DFRA Djebel Bou Aff 94.35 328 P P 09 21 54.8 +0.1
253A Americus 94.43 40 P P 09 21 54.1 -0.9
baz=325,SNR=42
352A Blakely 94.51 41 P P 09 21 54.0 -1.4
baz=325,SNR=41
MVO Moncorvo 94.52 339 *eP* P 09 21 54.9 -0.5
comp=Z,298nm,1.3s
MVO Moncorvo 94.52 339 *ePP* PP 09 25 44.6 +2.5
MVO Moncorvo 94.52 339 *eSS* SS 09 39 36.7 +9.0
MVO Moncorvo 94.52 339 *eLR* LR 09 53 45.2
comp=Z,76µm,18.0s
POLO Lamas de Olo 94.53 340 *eP* P 09 21 54.2 -1.2
comp=Z,219nm,1.3s
POLO Lamas de Olo 94.53 340 *ePP* PP 09 25 45.3 +3.2
POLO Lamas de Olo 94.53 340 *eSS* SS 09 39 32.0 +4.2
POLO Lamas de Olo 94.53 340 *eLR* LR 09 53 48.4
CTEI Djebel Teioual 94.55 327 P P 09 21 54.9 -0.8
PVRL Vila Real 94.60 340 *eP* P 09 21 54.8 -0.9
comp=Z,415nm,1.3s
PVRL Vila Real 94.60 340 *ePP* PP 09 25 45.4 +2.8
CNNC Cliffs of the 94.63 34 P P 09 21 54.9 -0.9
baz=329
CNNC Cliffs of the 94.63 34 PFAKE 09 22 10.0 +14
CNNC LR LR
comp=Z,32µm,19.0s
451A Vernon 94.80 42 P P 09 21 55.8 -0.9
baz=324
SET Setif 94.84 328 P P 09 21 56.0 -1.0
452A Marianna 94.89 42 P P 09 21 56.7 -0.5
baz=324,SNR=21
CKHR Kef el Ahmar 94.95 328 P P 09 21 56.2 -1.3
353A Camilla 94.97 41 P P 09 21 56.9 -0.6
baz=325,SNR=34
ESDC Sonseca Array 95.02 336 P P 09 21 56.6 -1.1
comp=Z,14nm,0.8s,baz=23,slow=3.1,SNR=33
ESDC PP PP 09 25 36.6 -9.4
comp=Z,17nm,0.9s,baz=24,slow=6.7,SNR=5.2
ESDC PKKPbc **PKKPbc** 09 38 52.2 +0.6
comp=Z,3.0nm,0.9s,baz=221,slow=1.9,SNR=3.6
ESDC PKPPKP **P'P'df** 09 47 03.3 -7.3
comp=Z,0.3nm,0.4s,baz=194,slow=0.6,SNR=3.5
ESDC LR LR 10 10 53.8
comp=Z,89µm,18.1s,baz=15,slow=39
ABMS Boumerdes 95.11 330 P P 09 21 56.8 -1.2
ANKE Ethiopia-Afar 95.13 287 *i* P pP 09 22 03.5 -1.9
ANKE *i* S PP 09 25 51.5 +3.1
ANKE Ethiopia-Afar 95.13 287 *i* P pP 09 22 03.5 -1.9
ANKE *i* S PP 09 25 51.5 +3.1
ANKE Ethiopia-Afar 95.13 287 *i* P pP 09 22 03.5 -1.9
ANKE *i* S PP 09 25 51.5 +3.1
PVIS Viseu 95.17 340 *eP* P 09 21 57.7 -0.6
comp=Z,300nm,1.6s
PVIS Viseu 95.17 340 *ePP* PP 09 25 49.6 +2.5
TIGA Tifton 95.20 40 *eP* P 09 21 58.5 -0.1
comp=Z,266nm,1.1s
TIGA *ePP* **PP** 09 25 51.1 +3.4
ABA Alger-Bouzarea 95.23 330 P P 09 22 02.0 +3.4
PAB San Pablo 95.26 337 *eP* P 09 21 58.2 -0.6
PAB *e* 09 25 50.0
PAB pmax pmax
comp=Z,98nm,1.2s
PAB MLR MLR
comp=Z,94µm,21.0s
PAB San Pablo 95.26 337 *eP* P 09 21 58.2 -0.6
comp=Z,98nm,1.2s
PAB *ePP* **PP** 09 25 50.0 +2.1
PAB LR LR
comp=Z,94µm,21.0s
453A Whigham 95.32 41 P P 09 21 58.5 -0.6
baz=325,SNR=15
MTE Manteigas 95.37 339 *eP* P 09 21 58.5 -0.8
comp=Z,312nm,1.4s
MTE Manteigas 95.37 339 *ePP* PP 09 25 53.2 +4.5
MTE Manteigas 95.37 339 *eSS* SS 09 39 50.0 +10
MTE Manteigas 95.37 339 *eLR* LR 09 54 06.0
comp=Z,106µm,16.0s
MTE Manteigas 95.37 339 *eP* P 09 21 58.4 -0.8
comp=Z,176nm,1.1s
MTE LR LR
comp=Z,72µm,20.0s
552A Lynn Haven 95.42 42 P P 09 21 58.1 -1.5
baz=324
NHSC New Hope 95.43 37 P P 09 21 58.4 -1.1
baz=328
NHSC New Hope 95.43 37 *eP* P 09 21 59.5 -0.1
comp=Z,247nm,1.3s
NHSC LR LR
comp=Z,53nm,19.0s
ATAF Djebel Tarf 95.57 329 P P 09 22 00.1 -0.2
AKET Djebel Ketaf 95.57 329 P P 09 21 59.9 -0.5
CSU Charleston Sou 95.58 37 *eP* P 09 21 59.8 -0.5
RGRS Roger Stewart 95.59 37 *eP* P 09 21 59.7 -0.6
comp=Z,1.9nm,0.2s
ADJB Djebel Djouab 95.64 330 P P 09 22 00.5 -0.2
454A Quitman 95.78 41 P P 09 22 00.5 -0.6
baz=325,SNR=17
EMHD Djebel Mahouad 95.79 330 P P 09 22 02.3 +1.0
553A Crawfordville 95.80 41 P P 09 22 00.4 -0.9
baz=325
PCBR Castelo Branco 95.88 339 *eP* P 09 22 00.1 -1.4
comp=Z,174nm,1.6s
PCBR Castelo Branco 95.88 339 *ePP* PP 09 25 56.7 +4.2
PCAS Casmilo, Conde 95.95 340 *eP* P 09 22 01.3 -0.5
comp=Z,301nm,1.3s
PCAS Casmilo, Conde 95.95 340 *ePP* PP 09 25 58.0 +4.9
PCAS Casmilo, Conde 95.95 340 *eSS* SS 09 39 54.5 +6.6
PCAS Casmilo, Conde 95.95 340 *eLR* LR 09 54 18.4
455A Stateville 96.05 40 P P 09 22 02.4 0.0
baz=326,SNR=24
AAE Adis Abeba 96.21 287 *i* P pP 09 22 08.4 -1.9
AAE *eS* **PP** 09 25 53.2 -3.5
AAE Adis Abeba 96.21 287 *i* P pP 09 22 08.4 -1.9
AAE *eS* **PP** 09 25 53.2 -3.5
AAE Adis Abeba 96.21 287 *i* P pP 09 22 08.4 -1.9
AAE *eS* **PP** 09 25 53.2 -3.5
PMRV Marv??o 96.24 339 *eP* P 09 22 02.5 -0.7
comp=Z,175nm,1.5s
PMRV Marv??o 96.24 339 *ePP* PP 09 26 00.9 +5.5
PMRV Marv??o 96.24 339 *eSS* SS 09 40 01.6 +10
PMRV Marv??o 96.24 339 *eLR* LR 09 54 32.9
comp=Z,82µm,18.0s
EBNR Beni Rached 96.24 331 P P 09 22 05.2 +1.9
554A Perry 96.26 41 P P 09 22 02.8 -0.6
baz=325
PTOM Tomar 96.34 340 *eP* P 09 22 03.1 -0.5
comp=Z,237nm,1.4s
PTOM Tomar 96.34 340 *ePP* PP 09 26 01.8 +5.7

ECHA Ech Chief 96.43 331 P P 09 22 06.3 +2.3
456A Hilliard 96.55 39 P P 09 22 04.3 -0.3
baz=326
555A McAlpin 96.59 40 P P 09 22 04.5 -0.3
baz=326,SNR=15
EANR 'Ain N'Sour 96.70 331 P P 09 22 06.7 +1.3
OKGL Djebel Kef Gue 96.79 332 P P 09 22 10.7 +4.9
PMTG Montargil 96.80 339 eP P 09 22 04.9 -0.8
comp=Z,212nm,1.7s
PMTG Montargil 96.80 339 ePP PP 09 26 03.3 +3.6
PMTG Montargil 96.80 339 eSS SS 09 40 03.8 +3.9
PMTG Montargil 96.80 339 eLR LR 09 54 56.3
ALMR Almeirim 96.81 340 eP P 09 22 05.7 0.0
ALMR ePP PP 09 26 00.8 +1.1
ALMR eS SKSac 09 32 40.6 -1.2
ALMR eSS SS 09 40 01.9 +1.8
ALMR AMS AMS 10 11 49.9
comp=Z,91µm,17.7s
ALMR Almeirim 96.81 340 eP P 09 22 05.7 0.0
ALMR Almeirim 96.81 340 A A 10 11 49.9
comp=Z,91µm,17.7s
ALMR Almeirim 96.81 340 eP P 09 22 05.7 0.0
ALMR e 09 26 00.9
ALMR eS SKSac 09 32 40.6 -1.2
ALMR eSS SS 09 40 01.9 +1.8
PESTR Estremoz 96.82 339 eP P 09 22 05.5 -0.3
comp=Z,139nm,1.5s
PESTR Estremoz 96.82 339 ePP PP 09 26 04.8 +5.0
PESTR Estremoz 96.82 339 eSS SS 09 40 04.1 +3.9
PESTR Estremoz 96.82 339 eLR LR 09 54 47.9
457A Yulee 96.86 39 P P 09 22 05.5 -0.6
baz=326
655A Horseshoe Beac 96.94 41 P P 09 22 06.7 +0.2
baz=325
556A Lake Butler 96.96 40 P P 09 22 06.5 0.0
baz=326,SNR=28
ETRT Tiaret 97.13 331 P P 09 22 06.9 -0.5
PMAFR Mafra 97.19 340 eP Pdif 09 22 09.4 +1.9
comp=Z,286nm,1.4s
PMAFR Mafra 97.19 340 ePP PP 09 26 07.6 +5.0
PMAFR Mafra 97.19 340 eSS SS 09 40 09.8 +4.5
PMAFR Mafra 97.19 340 eLR LR 09 55 28.1
OJGS Djebel Guires 97.23 331 P Pdif 09 22 11.6 +3.7
557A Orange Park 97.28 40 P P 09 22 07.6 -0.4
baz=326,SNR=19
OJBR Djebel Berber 97.30 332 P Pdif 09 22 09.5 +1.3
PBAR Barrancos 97.31 338 eP P 09 22 07.5 -0.5
comp=Z,253nm,1.2s
PBAR Barrancos 97.31 338 ePP PP 09 26 07.8 +4.2
PBAR Barrancos 97.31 338 eSS SS 09 40 11.0 +3.9
PMST Lisbon--Monsan 97.37 340 eP Pdif 09 22 09.9 +1.6
comp=Z,220nm,1.5s
PMST Lisbon--Monsan 97.37 340 ePP PP 09 26 07.7 +3.7
LIS Lisbon 97.38 340 eP P 09 22 08.2 -0.1
LIS ePP PP 09 26 05.0 +0.9
LIS eS SKSac 09 32 43.7 -0.9
LIS eSS SS 09 40 10.7 +2.7
LIS AMS AMS 10 14 46.8
comp=Z,83µm,19.8s
LIS Lisbon 97.38 340 eP P 09 22 08.2 -0.1
LIS e 09 26 05.0
LIS eS SKSac 09 32 43.7 -0.9
LIS eSS SS 09 40 10.7 +2.7
656A Willston 97.42 41 P P 09 22 08.4 -0.2
baz=326,SNR=27
657A Interlachen 97.57 40 P P 09 22 09.3 0.0
baz=326,SNR=13
RKT Rikitea 97.65 114 eP Pdif 09 22 12.5 +2.8
comp=Z,157nm,1.3s
RKT Rikitea 97.65 114 ePP PP 09 26 05.3 -2.5
comp=Z,4µm,28.0s
RKT eSKSac SKSac 09 32 46.0 -0.1
comp=Z,7µm,28.4s
RKT eSP SP 09 34 57.5 +0.5
comp=Z,23µm,32.0s
RKT eSS SS 09 40 17.0 +2.2
comp=Z,28µm,27.8s
RKT eLQ LQ 09 48 19.9
comp=Z,34µm,37.5s
RKT eLR LR 09 52 55.3
comp=Z,51µm,36.5s,baz=303
RKT Rikitea 97.65 114 eT T 11 10 38.8
comp=Z,1.2nm,0.3s
PBEJ Beja 97.68 339 eP P 09 22 09.5 -0.2
comp=Z,167nm,1.6s
PBEJ Beja 97.68 339 ePP PP 09 26 10.2 +3.7
ODJA Bouhanifia 97.71 332 P P 09 22 09.0 -0.9
PNCL Nicolau / Gran 97.78 339 eP P 09 22 09.8 -0.3
comp=Z,122nm,1.8s
PNCL Nicolau / Gran 97.78 339 ePP PP 09 26 11.8 +4.6
PNCL Nicolau / Gran 97.78 339 eSS SS 09 40 18.1 +4.4
PNCL Nicolau / Gran 97.78 339 eLR LR 09 55 19.6
MESJ Messejana 97.95 339 eP P 09 22 10.8 0.0
MESJ ePP PP 09 26 09.4 +0.9
MESJ eS SKSac 09 32 46.2 -1.4
MESJ eSS SS 09 40 17.9 +1.8
MESJ AMS AMS 10 12 50.6
comp=Z,91µm,19.6s
MESJ Messejana 97.95 339 eP Pdif 09 22 11.1 +0.2
comp=Z,211nm,1.6s
MESJ Messejana 97.95 339 ePP PP 09 26 12.9 +4.4
MESJ Messejana 97.95 339 eP P 09 22 10.9 0.0
MESJ e 09 26 09.4
MESJ eS SKSac 09 32 46.2 -1.4
MESJ eSS SS 09 40 17.9 +1.8
OTSS Djebel Tessala 97.98 332 P Pdif 09 22 13.0 +1.7
658A Bunnell 98.00 40 P Pdif 09 22 11.5 +0.2
baz=327
757A Oxford 98.00 40 P Pdif 09 22 11.5 +0.2
baz=326
PCVE Castro Verde 98.10 339 eP P 09 22 11.5 -0.1
comp=Z,122nm,2.4s
PCVE Castro Verde 98.10 339 ePP PP 09 26 14.3 +4.6
PCVE Castro Verde 98.10 339 eSS SS 09 40 23.0 +4.8
PCVE Castro Verde 98.10 339 eLR LR 09 55 13.2
PVAQ Vaqueiros 98.22 338 eP P 09 22 11.2 -0.9
comp=Z,108nm,1.3s
PVAQ Vaqueiros 98.22 338 ePP PP 09 26 15.8 +5.2
PVAQ Vaqueiros 98.22 338 eSS SS 09 40 24.1 +4.2
PVAQ Vaqueiros 98.22 338 eLR LR 09 55 28.1
comp=Z,132µm,18.0s
PTEO Sao Teotonio 98.36 339 eP Pdif 09 22 12.9 +0.1
comp=Z,262nm,1.3s
PTEO Sao Teotonio 98.36 339 ePP PP 09 26 17.3 +5.6
758A Lake Helen 98.41 40 P P 09 22 12.8 -0.3
baz=327,SNR=16
PBDV Barranco-do-Ve 98.43 338 eP Pdif 09 22 15.3 +2.2
PBDV Barranco-do-Ve 98.43 338 ePP PP 09 26 17.6 +5.3
PBDV Barranco-do-Ve 98.43 338 eSS SS 09 40 32.5 +10
857A Zephyrhills 98.48 41 P P 09 22 12.9 -0.5
baz=326
MORF Marmelete 98.57 339 eP P 09 22 13.6 -0.2
MORF ePP PP 09 26 14.5 +1.1
MORF eS SKSac 09 32 49.4 -1.5
MORF eSS SS 09 40 26.7 +1.8
MORF AMS AMS 10 12 44.8
comp=N,74µm,20.2s
MORF Marmelete 98.57 339 eP Pdif 09 22 13.9 +0.1
comp=N,166nm,1.8s
MORF Marmelete 98.57 339 ePP PP 09 26 17.3 +4.0
MORF Marmelete 98.57 339 eSS SS 09 40 31.6 +6.7
MORF Marmelete 98.57 339 eP P 09 22 13.6 -0.2
MORF e 09 26 14.5
MORF eS SKSac 09 32 49.4 -1.5
MORF eSS SS 09 40 26.7 +1.8
PFVI Vila Bisbo 98.78 339 eP Pdif 09 22 15.8 +1.1
PFVI Vila Bisbo 98.78 339 ePP PP 09 26 20.2 +5.3
PFVI Vila Bisbo 98.78 339 eSS SS 09 40 33.9 +6.1
858A St. Cloud 98.95 40 Pdiff P 09 22 15.4 -0.2
baz=326
957A Wimauma 98.96 41 Pdiff P 09 22 15.3 -0.3
baz=326
DWPF Disney Wildern 99.00 40 Pdiff Pdif 09 22 15.9 +0.1
baz=326
DWPF Disney Wildern 99.00 40 eP Pdif 09 22 14.5 -1.3
comp=N,226nm,1.0s
DWPF ePP PP 09 26 10.9 -6.0
958A Wauchula 99.27 41 Pdiff Pdif 09 22 17.1 +0.1
baz=326
859A Kempfer Cattle 99.30 40 Pdiff Pdif 09 22 16.8 -0.3
baz=327
058A Arcadia 99.69 41 Pdiff Pdif 09 22 19.1 +0.3
baz=326
959A Okeechobee 99.76 40 Pdiff Pdif 09 22 19.3 +0.1
baz=327
H07S1 FLORES T-PHASE 100.08 357 P Pdif 09 22 21.9 +1.5
PGRA Graciosa 100.25 354 ePP PP 09 26 27.0 +1.1
ROSA Rosais 100.58 355 ePP PP 09 26 29.4 +1.0
PICO Pico 100.81 355 ePP PP 09 26 30.9 +0.7
PCAN Candelaria 100.85 355 ePP PP 09 26 30.8 +0.3
RTC Rabat Centre 101.15 336 PFAKE 09 22 40.0 +15
RTC LR LR
comp=Z,184µm,19.0s
BART Pico Bartolome 101.24 352 ePP PP 09 26 34.4 +0.9
PSET Sete Cidades 101.25 353 ePP PP 09 26 34.5 +0.9
CMLA Cha da Macela 101.29 352 ePP PP 09 26 34.9 +1.1
CMLA Cha da Macela 101.29 352 PFAKE 09 22 40.0 +14
CMLA LR LR
comp=Z,18µm,20.0s
PSMN Pico do Norte, 102.00 352 ePP PP 09 26 40.0 +0.9
PSMA Santa Maria 102.01 352 ePP PP 09 26 40.1 +0.9
BBSR BB Station 102.15 25 PFAKE 09 22 40.0 +10
BBSR LR LR
comp=Z,17µm,19.0s
RER Riviere de l'E 102.99 253 PFAKE 09 22 40.0 +6.4
RER LR LR
comp=Z,36µm,21.0s
KMBO Kilima Mbogo 104.13 281 Pdiff Pdif 09 22 38.4 -0.8
comp=Z,6.1nm,0.9s,baz=23,slow=5.6,SNR=11
KMBO PP PKiKP 09 26 52.1 -4.1
comp=Z,5.6nm,1.0s,baz=28,slow=9.6,SNR=2.6
KMBO PKKPbc PKKPbc 09 38 24.6 -1.2
comp=Z,3.4nm,1.1s,baz=225,slow=8.6,SNR=2.3
KMBO PKKP PKKPdf 09 38 33.4 -1.4
comp=Z,5.9nm,1.0s,baz=238,slow=1.5,SNR=5.7
KMBO Kilima Mbogo 104.13 281 ePdif Pdif 09 22 38.5 -0.6
KMBO PP PKiKP 09 26 52.1 -4.1
KMBO PKKPbc PKKPbc 09 38 24.6 -1.2
KMBO PKKP PKKPdf 09 38 33.4 -1.4
KMBO LR LR
comp=Z,35µm,21.0s
KMBO Kilima Mbogo 104.13 281 P Pdif 09 22 40.5 +1.4
SNR=37
PMOZ Porto Moniz, M 104.88 345 eLR LR 09 57 24.8
comp=Z,33µm,18.0s
TAM Tamanrasset 106.34 321 eP Pdif 09 22 48.8 0.0
TAM pmax pmax
comp=Z,39nm,1.4s
TAM MLR MLR
comp=Z,59µm,20.0s
TAM Tamanrasset 106.34 321 ePdif Pdif 09 22 48.8 0.0
comp=Z,39nm,1.4s
TAM LR LR
comp=Z,59µm,20.0s
ABPO Ambohimpanom 107.95 260 PFAKE 09 27 10.0
ABPO LR LR
comp=Z,13µm,20.0s
GTBY Guantanamo Bay 108.97 40 ePdif Pdif 09 23 01.2 +1.0
GTBY LR LR
comp=Z,38µm,21.0s
GTBY Guantanamo Bay 108.97 40 eP PP 09 27 31.0 -0.4
MTDJ Mount Denham 109.19 43 PFAKE 09 27 20.0
MTDJ LR LR
comp=Z,30µm,22.0s
GRTK Grand Turk 109.45 36 PFAKE 09 27 20.0
GRTK LR LR
comp=Z,43µm,20.0s
CASY Casey 110.05 194 PFAKE 09 27 20.0
CASY LR LR
comp=Z,4µm,22.0s
PAF Port-aux-Franc 111.27 223 PFAKE 09 27 20.0
PAF LR LR
comp=Z,15µm,21.0s
JTS JuntasAbangare 111.39 54 PKKPbc PKKPbc 09 37 59.5 -3.4
comp=Z,2.6nm,0.4s,baz=81,slow=12,SNR=2.9
JTS PKKPab PKKPab 09 38 15.4 -0.3
comp=Z,11nm,0.9s,baz=148,slow=9.5,SNR=6.1
JTS JuntasAbangare 111.39 54 PKKPbc PKKPbc 09 37 59.5 -3.4
JTS PKKPab PKKPab 09 38 15.4 -0.3
JTS LR LR
comp=Z,16µm,20.0s
SDDR Presa de Saban 111.59 37 PFAKE 09 27 20.0
SDDR LR LR
comp=Z,40µm,20.0s
SJG San Juan 114.59 33 PFAKE 09 27 30.0 +15
SJG LR LR
comp=Z,28µm,22.0s
BCIP Isla Barro Col 115.34 50 PFAKE 09 27 30.0 +13
BCIP LR LR
comp=Z,21µm,21.0s
SMRT St. Maarten 115.86 30 eP PP 09 28 15.9 -4.5
SMRT St. Maarten 115.86 30 e PKKPdf 09 38 08.4 -3.6
PAYG Puerto Ayora 116.07 66 PFAKE 09 27 30.0 +12
PAYG LR LR
comp=Z,25µm,19.0s
SABA Saba 116.19 30 eP PP 09 28 14.8 -7.9
SABA Saba 116.19 30 e PS 09 38 07.0 +2.4
SABA Saba 116.19 30 e PS 09 38 09.0 +4.3
SEUS St. Eustatius 116.40 30 eP PP 09 28 17.0 -7.1
TORD Torodi Ar. Bea 116.45 319 PKP PKPdf 09 27 18.8 -0.4
comp=Z,18nm,0.7s,baz=22,slow=1.6,SNR=20
TORD PP PP 09 28 23.4 -1.4
comp=Z,123nm,1.0s,baz=25,slow=8.7,SNR=9.2
TORD PKKPbc PKKPbc 09 37 48.0 +2.1
comp=Z,11nm,0.9s,baz=204,slow=3.1,SNR=6.5
ANWB Willy Bob 116.69 29 PFAKE 09 27 30.0 +11
ANWB LR LR
comp=Z,21µm,21.0s
ANWB Willy Bob 116.69 29 e PKKPdf 09 38 09.7 -0.7
MLYT Lee's Yard 117.41 30 eP PKPdf 09 27 11.0 -10
MLYT Lee's Yard 117.41 30 e PP 09 28 30.6 -0.7
MLYT Lee's Yard 117.41 30 e SP 09 38 13.7 -0.1
KOWA Kowa 117.91 326 PKP PKPdf 09 27 21.1 -0.8
comp=Z,70nm,1.1s,baz=35,slow=0.9,SNR=18
KOWA PP PP 09 28 35.2 +0.4
comp=Z,109nm,1.1s,baz=24,slow=13,SNR=6.8
KOWA PKKPbc PKKPab 09 37 44.8 -2.8
comp=Z,4.9nm,1.1s,baz=198,slow=2.9,SNR=3.3
MOTC Monteria, Cord 118.03 47 eP PKPdf 09 27 21.6 -0.6
H05N1 Guadeloupe/Mar 118.20 29 PKP PKPdf 09 27 24.0 +1.6
DEG La Desirade 118.20 29 eP PKPdf 09 27 24.1 +1.6
CODC Agust´›n Codaz 118.27 44 eP PKPdf 09 27 21.9 -0.7
TBG Guadaloupe-3 118.41 29 eP PKPdf 09 27 19.8 -3.1
MGG Marie-Galante 118.47 29 eP PKPdf 09 27 16.7 -6.2
VNDA Vanda 118.55 176 PKP PKPdf 09 27 21.1 -0.1
comp=Z,35nm,0.9s,baz=330,slow=4.5,SNR=36
VNDA PP PP 09 28 41.7 +2.3
comp=Z,15nm,0.9s,baz=328,slow=11,SNR=5.1
VNDA PKKPbc PKKPab 09 37 38.6 +0.8
comp=Z,17nm,1.1s,baz=171,slow=5.8,SNR=7.5
VNDA SKKPbc SKKPbc 09 41 23.2 -5.5
comp=Z,4.3nm,1.0s,baz=112,slow=3.4,SNR=2.4
VNDA Vanda 118.55 176 PKIKP PKPdf 09 27 21.1 -0.1
VNDA 09 28 41.7
VNDA pmax pmax
comp=Z,31nm,0.9s
VNDA pmax pmax
comp=Z,15nm,0.9s
MDPV Dominica, Penn 118.69 29 eP PKPdf 09 27 20.4 -3.0
MDVC Dominica, Viel 118.71 29 eP PKPdf 09 27 27.1 +3.6
MDPO Dominica; Chan 118.73 29 eP PKPdf 09 27 25.9 +2.4
BBL Barber's Block 118.77 29 eP PKPdf 09 27 24.5 +1.0
DLPL La Plaine 119.03 29 e SP 09 38 23.0 -5.4
SBA Scott Base 119.17 175 ePKIKP PKPdf 09 27 22.2 -0.2
SBA Scott Base 119.17 175 ePKPdf PKPdf 09 27 22.2 -0.2
ZARC Zaragoza, Cauc 119.54 47 eP PKPdf 09 27 22.5 -2.6
FDF Fort de France 119.62 29 ePKIKP PKPdf 09 27 24.8 -0.5
FDF e 09 28 47.7
FDF MLR MLR
comp=Z,23µm,22.0s
FDF Fort de France 119.62 29 ePKPdf PKPdf 09 27 24.8 -0.5
FDF ePP PP 09 28 47.7 +1.1
FDF LR LR
comp=Z,23µm,22.0s
FDF Fort de France 119.62 29 eP PKPdf 09 27 23.8 -1.4
FDF Fort de France 119.62 29 e 09 38 36.4
OCAC Ocana 119.76 45 eP PKPdf 09 27 25.1 -0.6
LSZ Lusaka 120.07 276 PKKPab PKKPab 09 37 38.2 +2.4
comp=Z,18nm,1.0s,baz=230,slow=2.9,SNR=14
LSZ SKKPbc SKKPbc 09 41 16.9 -1.9
comp=Z,4.4nm,0.7s,baz=245,slow=6.3,SNR=3.8
LSZ Lusaka 120.07 276 ePKIKP PKPdf 09 27 25.7 -0.4
LSZ e 09 28 49.9
LSZ MLR MLR
comp=Z,30µm,20.0s
LSZ Lusaka 120.07 276 ePKPdf PKPdf 09 27 25.7 -0.4
LSZ ePP PP 09 28 49.9 -1.2
LSZ PKKPab PKKPab 09 37 38.2 +2.4
LSZ SKKPbc SKKPbc 09 41 16.9 -1.9
LSZ LR LR
comp=Z,30µm,20.0s
LSZ Lusaka 120.07 276 PP PKPdf 09 27 27.0 +0.9
SNR=26
HELC Santa Helena 120.23 48 eP PKPdf 09 27 25.4 -1.5
BRRC Barranca, Sant 120.48 46 eP PKPdf 09 27 26.3 -0.7
PTBC PUERTO BERRIO 120.54 47 eP PKPdf 09 27 25.0 -2.1
SDV Santo Domingo 120.61 42 PKP PKPdf 09 27 26.6 -0.8
comp=Z,135nm,1.0s,baz=289,slow=3.1,SNR=28
SDV PP PP 09 28 55.6 +1.7
comp=Z,46nm,1.2s,baz=355,slow=7.1,SNR=1.8
SDV PKKPab PKKPab 09 37 35.8 +0.1
comp=Z,14nm,0.9s,baz=155,slow=4.4,SNR=10
SDV Santo Domingo 120.61 42 ePKPdf PKPdf 09 27 26.1 -1.3
SDV PP PP 09 28 55.6 +1.7
SDV PKKPab PKKPab 09 37 35.8 +0.1
SDV LR LR
comp=Z,29µm,19.0s
SDV Santo Domingo 120.61 42 eP PKPdf 09 27 25.3 -2.1
MCLT Moule a Chique 120.63 30 eP PKPdf 09 27 29.1 +1.9
MCLT Moule a Chique 120.63 30 e PKKPdf 09 38 07.0 +4.0
PAMC Pamplona, Colo 120.84 45 eP PKPdf 09 27 25.8 -2.4
SSV Crater Summit 120.89 30 eP PKPdf 09 27 32.7 +4.9
SVB Belmont 120.92 30 eP PKPdf 09 27 29.8 +2.1
SVCV St. Vincent, C 120.96 30 eP PKPdf 09 27 28.0 +0.2
NORC Norcasia 121.11 48 eP PKPdf 09 27 28.8 +0.6
BARC Barichara 121.20 46 eP PKPdf 09 27 27.1 -1.5
GRGC Isla de Gorgon 121.24 53 eP PKPdf 09 27 28.4 0.0
RREF El Recreo 121.38 49 eP PKPdf 09 27 31.8 +2.4
YOTC Yotoco, Valle 121.54 51 eP PKPdf 09 27 25.3 -3.8
TOLC Tolima 121.65 49 eP PKPdf 09 27 28.0 -1.6
BBGH Gun Hill 121.66 28 PFAKE 09 27 40.0 +11
BBGH LR LR
comp=Z,32µm,19.0s
BBGH Gun Hill 121.66 28 e PS 09 38 56.2 +2.5
HORO Saladito 121.78 51 eP PKPdf 09 27 28.8 -1.0
GRGR Grenville 121.80 31 PFAKE 09 27 40.0 +11
GRGR LR LR
comp=Z,6µm,22.0s
TUMC Tumaco 121.82 54 eP PKPdf 09 27 28.0 -1.4
RUSC La Rusia 121.84 46 eP PKPdf 09 27 26.6 -3.5
ITZ Itezhi-Tezhi 122.00 277 i P PKPdf 09 27 32.6 +2.8
ITZ i 09 27 35.8
baz=38,slow=1.4
ITZ i S PP 09 29 05.9 +1.7
ROSC El Rosal 122.02 48 PKP PKPdf 09 27 30.3 0.0
comp=Z,95nm,1.0s,baz=97,slow=12,SNR=19
ROSC PP PP 09 29 04.1 +0.2
comp=Z,5.1nm,0.6s,baz=135,slow=19,SNR=2.8
ROSC El Rosal 122.02 48 eP PKPdf 09 27 29.2 -1.1
BBTS Babate 122.19 339 PKP PKPdf 09 27 30.9 +0.8
comp=Z,244nm,1.0s,baz=27,slow=1.3,SNR=16
BBTS PP PP 09 29 04.0 +0.1
comp=Z,36nm,0.8s,baz=18,slow=2.7,SNR=3.6
PCRV Puerto La Cruz 122.33 35 PKP PKPdf 09 27 27.9 -2.6
comp=Z,24nm,0.7s,baz=182,slow=4.8,SNR=13
PCRV PP PP 09 29 06.1 +0.9
comp=Z,17nm,1.0s,baz=0.0,slow=7.1,SNR=2.8
POPC Popayan, Colom 122.50 52 eP PKPdf 09 27 31.4 +0.3
CHIC Chingaza 122.52 48 eP PKPdf 09 27 29.2 -2.1
PRAC Prado 122.61 49 eP PKPdf 09 27 29.2 -1.8
MARP Paez Belalcaza 122.69 51 eP PKPdf 09 27 29.7 -1.8
PCON Cinco Dias 122.84 52 eP PKPdf 09 27 31.4 -0.8
SOTA Rioblanco 122.86 52 eP PKPdf 09 27 33.6 +1.4
MATP Matopo 122.94 271 PKP PKPdf 09 27 30.4 -1.1
comp=Z,51nm,0.7s,baz=68,slow=2.3,SNR=28
MATP PP PP 09 29 10.6 0.0
comp=Z,24nm,1.0s,baz=45,slow=9.2,SNR=4.0
MATP PKKPab PKKPab 09 37 24.9 +1.8
comp=Z,9.1nm,0.9s,baz=236,slow=5.5,SNR=7.8
MATP SKKPbc SKKPbc 09 41 11.5 +1.6
comp=Z,18nm,1.2s,baz=234,slow=5.6,SNR=4.3
VILC Villavicencio, 122.97 48 eP PKPdf 09 27 29.4 -2.4
TOSP Speyside 123.00 30 eP PKPdf 09 27 33.9 +2.2
BOT Bacolet 123.05 31 eP PKPdf 09 27 33.5 +1.6
CMBC Cumbal 123.07 54 eP PKPdf 09 27 32.2 -0.2
BETC Betania 123.12 51 eP PKPdf 09 27 31.8 -0.2
GCUF Volcan Galeras 123.14 54 eP PKPdf 09 27 32.7 0.0
OTAV Otavalo 123.23 55 ePKPdf PKPdf 09 27 32.9 +0.1
OTAV ePP PP 09 29 13.2 +0.8
OTAV LR LR
comp=Z,22µm,19.0s
OTAV Otavalo 123.23 55 eP PKPdf 09 27 32.2 -0.5
SACV Santiago Islan 123.48 347 ePKPdf PKPdf 09 27 32.2 -0.4
SACV ePP PP 09 29 13.4 +0.8
SACV LR LR
comp=Z,13µm,20.0s
SJAC San Juan de Ar 123.50 49 eP PKPdf 09 27 30.8 -2.1
TBH Brigand Hill 123.53 31 eP PKPdf 09 27 37.8 +5.1
FLOC Florencia 123.87 52 eP PKPdf 09 27 31.8 -1.7
MAW Mawson 124.19 207 PKP PKPdf 09 27 33.3 +1.0
comp=Z,52nm,0.9s,baz=315,slow=3.6,SNR=16
MAW SKKPbc SKKPbc 09 41 10.5 +1.0
comp=Z,18nm,1.1s,baz=273,slow=5.5,SNR=3.0
DBIC Dimbokro 125.21 322 PKP PKPdf 09 27 36.0 0.0
comp=Z,50nm,0.7s,baz=3.1,slow=2.6,SNR=20
DBIC PP PP 09 29 24.9 +0.2
comp=Z,75nm,0.9s,baz=18,slow=9.7,SNR=5.8
DBIC Dimbokro 125.21 322 PKIKP PKPdf 09 27 36.0 0.0
DBIC 09 29 24.9
DBIC pmax pmax
comp=Z,67nm,0.9s
DBIC pmax pmax
comp=Z,75nm,1.0s
TIC Toumodi 125.31 323 ePKIKP PKPdf 09 27 35.0 -1.2
KIC Kosan Boka 125.43 322 ePKIKP PKPdf 09 27 35.3 -1.1
comp=Z,1µm,1.8s
LIC Lamto 125.69 322 ePKIKP PKPdf 09 27 35.6 -1.3
comp=Z,672nm,1.8s
LBTB Lobatse 127.74 268 SKKPbc SKKPbc 09 40 50.7 -3.1
comp=Z,28nm,1.3s,baz=236,slow=8.0,SNR=5.6
ATAH Atahualpa 128.85 61 PKP PKPdf 09 27 43.8 +0.4
comp=Z,152nm,0.9s,baz=10,slow=1.7
BOSA Boshof 129.90 264 PKhKP PKPpre 09 27 26.7
comp=Z,3.2nm,0.8s,baz=7.9,slow=3.4,SNR=4.3
BOSA PKP PKiKP 09 27 45.1 -0.3
comp=Z,20nm,0.8s,baz=137,slow=1.2,SNR=8.4
BOSA SKKPbc SKKPbc 09 40 47.5 +1.0
comp=Z,19nm,1.1s,baz=225,slow=7.5,SNR=6.1
TSUM Tsumeb 130.45 280 SKKPbc SKKPbc 09 40 45.9 +2.2
comp=Z,5.2nm,1.0s,baz=269,slow=6.5,SNR=2.8
TSUM Tsumeb 130.45 280 PKPdf PKPdf 09 27 44.0 -1.9
TSUM ePP PP 09 30 04.0 +3.7
TSUM SKKPbc SKKPbc 09 40 45.9 +2.2
TSUM LR LR
comp=Z,28µm,19.0s
SYO Syowa Base 132.88 208 ||iPKPdf PKPdf 09 27 50.2 +1.4
SYO Syowa Base 132.88 208 ||iPKiKP PKiKP 09 27 51.9 +2.0
SYO Syowa Base 132.88 208 ||iPP PP 09 30 15.0 +0.1
NNA Nana 133.42 64 PKhKP PKPpre 09 27 47.3
comp=Z,10nm,0.5s,baz=297,slow=4.1,SNR=1.5
NNA PKP PKiKP 09 27 52.2 -0.6
comp=Z,101nm,1.0s,baz=302,slow=4.9,SNR=5.4
NNA PP PP 09 30 18.5 -0.6
comp=Z,19nm,0.9s,baz=298,slow=6.9,SNR=4.4
NNA Nana 133.42 64 ePKPdf PKPdf 09 27 51.8 +0.3
NNA PP PP 09 30 18.5 -0.6
NNA LR LR
comp=Z,28µm,19.0s
PTGA Pitinga 134.10 36 PKhKP PKPpre 09 27 47.9
comp=Z,6.6nm,0.8s,baz=344,slow=0.4,SNR=7.1
PTGA PKP PKiKP 09 27 54.0 -0.2
comp=Z,36nm,0.7s,baz=354,slow=1.6,SNR=25
PTGA PP PP 09 30 23.7 +1.1
comp=Z,24nm,1.1s,baz=344,slow=10,SNR=4.3
SUR Sutherland 135.08 262 PP PP 09 30 31.7 +1.6
comp=Z,1.0nm,0.9s,baz=73,slow=9.9,SNR=2.4
SUR Sutherland 135.08 262 ePKPdf PKPdf 09 27 52.7 -1.7
SUR ePP PP 09 30 28.6 -1.5
SUR LR LR
comp=Z,37µm,20.0s
SAML Samuel 139.58 46 ePKPdf PKPpre 09 27 53.9
SAML Samuel 139.58 46 eP PKPpre 09 27 53.0
NVL N'lazarevskaya 141.88 203 ePKHKP PKPpre 09 27 59.4
NVL e 09 31 10.3
NVL pmax pmax
comp=Z,190nm,1.3s
LPAZ La Paz 142.34 59 PKhKP PKPpre 09 28 04.5
comp=Z,19nm,0.7s,baz=359,slow=5.4,SNR=32
LPAZ La Paz 142.34 59 eP PKPpre 09 27 46.2
H10N2 ASCENSION HYDR 142.40 325 PKP PKPdf 09 28 07.4 -0.3
H10N1 ASCENSION HYDR 142.41 325 PKP PKPdf 09 28 07.6 -0.1
H10N3 ASCENSION HYDR 142.41 325 PKP PKPdf 09 28 08.0 +0.3

ASCN	**Ascension**	**142.44**	**325**	*e*PKPdf	**PKPdf**	**09 28 05.5**	**-2.6**
ASCN				*e*PP	**PP**	**09 31 17.7**	**+3.3**
ASCN				LR	LR		
	comp=Z,33µm,22.0s						
PB12	**IPOC Station P**	**142.52**	**64**	*e*P	PKPpre	09 28 03.6	
PSGC	**Pisagua**	**143.33**	**65**	⇓*i*P	PKPbc	09 28 08.1	+1.3
MNMC	**Minye Minye**	**143.38**	**64**	⇑*i*P	PKPbc	09 28 07.6	+0.5
H10S1	**ASCENSION HYDR**	**143.46**	**325**	PKP	**PKPdf**	**09 28 10.6**	**+1.0**
H10S2	**ASCENSION HYDR**	**143.48**	**325**	PKP	**PKPdf**	**09 28 10.4**	**+0.8**
H10S3	**ASCENSION HYDR**	**143.48**	**325**	PKP	**PKPdf**	**09 28 11.0**	**+1.3**
PB11	**IPOC Station P**	**143.77**	**65**	⇓*i*P	PKPab	09 28 07.4	+0.1
PB08	**IPOC Station P**	**144.37**	**65**	*i*P	**PKPab**	**09 28 09.7**	**-0.2**
SHEL	**Horse Pasture**	**144.57**	**306**	*e*PKIKP	**PKPdf**	**09 28 11.3**	**-0.5**
SHEL				MLR	MLR		
	comp=Z,15µm,22.0s						
SHEL	**Horse Pasture**	**144.57**	**306**	*e*PKPdf	**PKPdf**	**09 28 11.2**	**-0.5**
SHEL				LR	LR		
	comp=Z,15µm,22.0s						
PB02	**IPOC Station P**	**144.64**	**67**	⇓*i*P	PKPbc	09 28 10.7	0.0
PB01	**IPOC Station P**	**144.75**	**66**	⇓*i*P	**PKPab**	**09 28 10.5**	**-0.4**
PB07	**IPOC Station P**	**144.92**	**68**	⇓*i*P	**PKPab**	**09 28 11.6**	**-0.1**
PB04	**IPOC Station P**	**145.12**	**69**	⇓*i*P	**PKPbc**	**09 28 12.2**	**-0.1**
RCBR	**Riachuelo**	**145.13**	**2**	PKPbc	**PKPbc**	**09 28 11.8**	**-0.6**
	comp=Z,201nm,1.1s,baz=4.0,slow=4.7,SNR=21						
RCBR	**Riachuelo**	**145.13**	**2**	*e*PKPdf	**PKPbc**	**09 28 12.2**	**-0.2**
RCBR				*e*PP	**PP**	**09 31 33.4**	**+3.3**
RCBR				LR	LR		
	comp=Z,28µm,21.0s						
SNAA	**Sanae**	**145.21**	**197**	PKP	**PKPbc**	**09 28 09.7**	**-1.3**
SNAA	**Sanae**	**145.21**	**197**	PP	PP	09 31 34.0	+3.1
SNAA	**Sanae**	**145.21**	**197**	PKPbc	**PKPbc**	**09 28 09.4**	**-1.6**
	comp=Z,217nm,0.7s,baz=117,slow=3.6,SNR=60						
SNAA				PP	**PP**	**09 31 31.9**	**+1.1**
	comp=Z,77nm,1.0s,baz=146,slow=7.1,SNR=6.9						
SNAA	**Sanae**	**145.21**	**197**	*e*PKPdf	**PKPbc**	**09 28 09.6**	**-1.4**
SNAA				*e*PP	**PP**	**09 31 30.3**	**-0.6**
PB09	**IPOC Station P**	**145.41**	**67**	⇓*i*P	**PKPbc**	**09 28 13.2**	**0.0**
PB10	**IPOC Station P**	**145.58**	**71**	⇓*i*P	**PKPab**	**09 28 13.7**	**-0.1**
PB10	**IPOC Station P**	**145.58**	**71**	⇓*i*P	**PKPdf**	**09 28 13.1**	**-0.2**
PB06	**IPOC Station P**	**145.77**	**69**	⇓*i*P	**PKPdf**	**09 28 13.8**	**-0.1**
ANCH	**Antofagasta**	**145.79**	**71**	*e*P	**PKPab**	**09 28 16.1**	**+1.6**
PB14	**IPOC Station P**	**146.37**	**72**	⇓*i*P	**PKPbc**	**09 28 16.1**	**-0.2**
PB14	**IPOC Station P**	**146.37**	**72**	⇓*i*P	**PKPbc**	**09 28 15.8**	**-0.6**
SIV	**San Ignacio**	**146.48**	**50**	PKPbc	**PKPdf**	**09 28 14.6**	**-0.5**
	comp=Z,319nm,0.9s,baz=325,slow=2.3,SNR=283						
VNA2	**Neumayer--Watz**	**146.75**	**196**	PKP	**PKPdf**	**09 28 14.5**	**+0.6**
	baz=106,slow=1.5						
VNA2	**Neumayer--Watz**	**146.75**	**196**	PP	PP	09 31 43.4	+3.4
VNA3	**Neumayer Olymp**	**146.96**	**195**	PKP	**PKPdf**	**09 28 14.7**	**+0.5**
VNA1	**Neumayer--Stat**	**147.15**	**196**	PKP	**PKPdf**	**09 28 15.2**	**+0.7**
GO02	**Mina Guanaco**	**147.28**	**72**	⇑*i*P	**PKPdf**	**09 28 17.6**	**+1.1**
LCO	**Las Campanas**	**148.63**	**79**	*e*PKPdf	**PKPdf**	**09 28 20.3**	**+1.7**
LCO				LR	LR		
	comp=Z,47µm,19.0s						
LCO	**Las Campanas**	**148.63**	**79**	*e*P	**PKPdf**	**09 28 20.1**	**+1.5**
LCO	**Las Campanas**	**148.63**	**79**	⇑*i*P	**PKPdf**	**09 28 20.0**	**+1.4**
HJA	**Humahuaca**	**149.00**	**65**	*e*P	**PKPdf**	**09 28 20.0**	**+0.5**
TLL	**Tololo Astrono**	**149.15**	**81**	*e*P	**PKPbc**	**09 28 22.6**	**-1.0**
GO04	**Tololo Observa**	**149.16**	**81**	⇑*i*P	**PKPdf**	**09 28 20.4**	**+1.1**
AZAP	**Zapla**	**149.90**	**66**	*e*P	**PKPbc**	**09 28 24.3**	**-1.3**
SLA	**San Lorenzo**	**149.92**	**67**	*e*P	**PKPdf**	**09 28 21.5**	**+0.9**
SLA	**San Lorenzo**	**149.92**	**67**	⇑*i*P	**PKPdf**	**09 28 21.6**	**+0.9**
COCH	**Cobquecura**	**150.19**	**93**	*i*P	**PKPdf**	**09 28 21.7**	**+1.2**
ROC1	**El Roble**	**150.30**	**86**	⇓*i*P	**PKPdf**	**09 28 23.7**	**+2.5**
ROCH	**El Roble**	**150.30**	**86**	*e*P	**PKPbc**	**09 28 24.1**	**-2.3**
VCA	**Vinchina**	**150.34**	**76**	*e*P	**PKPdf**	**09 28 22.0**	**+0.8**
VCA	**Vinchina**	**150.34**	**76**	⇓*i*P	**PKPdf**	**09 28 20.8**	**-0.4**
ALOL	**LOMAS DE OLMED**	**150.38**	**64**	*e*P	**PKPdf**	**09 28 23.0**	**+1.7**
GO05	**HualaæØ**	**150.44**	**91**	⇓*i*P	**PKPdf**	**09 28 21.7**	**+0.7**
FSA	**Cafayete**	**150.45**	**70**	*e*P	**PKPdf**	**09 28 21.7**	**+0.3**
AGUA	**GUANDACOL**	**150.53**	**78**	*e*P	**PKPdf**	**09 28 22.0**	**+0.6**
PEL	**Peldehue**	**150.62**	**86**	⇓*i*P	**PKPdf**	**09 28 23.5**	**+2.1**
PMSA	**Palmer Station**	**150.78**	**155**	*e*PKPbc	**PKPbc**	**09 28 26.3**	**+0.2**
PMSA				LR	LR		
	comp=Z,41µm,19.0s						
PMSA	**Palmer Station**	**150.78**	**155**	*e*P	PKPpre	09 28 10.0	
CLCH	**Cerro Calan**	**150.84**	**87**	⇓*i*P	**PKPdf**	**09 28 24.2**	**+2.5**
CCHI	**Chillan**	**150.90**	**94**	⇓*i*P	**PKPdf**	**09 28 23.7**	**+2.1**
FCH	**Farellones**	**151.00**	**86**	*e*P	**PKPbc**	**09 28 25.2**	**-2.9**
RTLS	**Leoncito**	**151.07**	**83**	*e*P	**PKPdf**	**09 28 23.4**	**+1.0**
AUSP	**Uspallata**	**151.20**	**84**	*e*P	**PKPdf**	**09 28 23.4**	**+0.8**
AMOG	**MOGNA**	**151.26**	**81**	*i*P	**PKPdf**	**09 28 24.3**	**+1.8**
LMEL	**Las Melosas**	**151.28**	**87**	⇓*i*P	**PKPdf**	**09 28 24.5**	**+2.0**
AHML	**Horco Molle**	**151.31**	**70**	*e*P	**PKPdf**	**09 28 22.7**	**+0.1**
AHML				⇓*i*P	**PKPbc**	**09 28 23.7**	**-5.0**
AHML	**Horco Molle**	**151.31**	**70**	⇓*i*P	**PKPdf**	**09 28 24.6**	**+2.0**
RTLL	**Cerro Villicun**	**151.46**	**81**	*e*P	**PKPdf**	**09 28 22.8**	**+0.1**
RTLL	**Cerro Villicun**	**151.46**	**81**	⇓*i*P	**PKPdf**	**09 28 23.8**	**+1.1**
RTCV	**Cerro Valdivia**	**151.67**	**82**	*e*P	**PKPdf**	**09 28 23.3**	**+0.3**
ASAL	**Salagasta**	**151.78**	**84**	*e*	**PKPdf**	**09 28 22.2**	**-1.0**
ARCO	**CERRO ARCO**	**151.82**	**84**	*e*P	**PKPdf**	**09 28 22.7**	**-0.6**
CYA	**Choya**	**151.94**	**74**	*e*P	**PKPdf**	**09 28 23.6**	**0.0**
CYA				⇓*i*P	**pPKPdf**	**09 28 24.3**	**-5.8**
CYA	**Choya**	**151.94**	**74**	⇓*i*P	**PKPdf**	**09 28 25.9**	**+2.3**
AAGR	**Agrelo**	**152.00**	**85**	*e*P	**PKPdf**	**09 28 23.0**	**-0.6**
CHRN	**Cochrane**	**152.42**	**116**	*e*P	**PKPbc**	**09 28 27.1**	**-3.3**
APLL	**PUNTA DE LOS L**	**152.45**	**78**	*e*P	**PKPdf**	**09 28 23.8**	**-0.4**
ACAN	**Cantantal**	**152.88**	**82**	*e*P	**PKPdf**	**09 28 24.2**	**-0.6**
RFA	**San Rafael**	**152.97**	**88**	⇓*i*P	**PKPdf**	**09 28 26.2**	**+1.4**
RFA				*e*P	**PKPdf**	**09 28 26.3**	**+1.4**
PLCA	**Paso Flores**	**153.18**	**102**	PKP	**PKPdf**	**09 28 25.1**	**+0.1**
	comp=Z,24nm,1.0s,baz=337,slow=2.4,SNR=29						
PLCA				PKPbc	**PKiKP**	**09 28 32.9**	**+0.3**
	comp=Z,113nm,1.1s,baz=321,slow=2.6,SNR=29						
PLCA	**Paso Flores**	**153.18**	**102**	*e*P	**PKPdf**	**09 28 24.8**	**-0.2**
MRA	**San Martin**	**154.04**	**81**	*e*P	**PKPdf**	**09 28 25.4**	**-1.2**
CPUP	**Villa Florida**	**156.51**	**59**	PKP	**PKPdf**	**09 28 29.6**	**-0.3**
	comp=Z,35nm,1.0s,baz=343,slow=1.7,SNR=22						
CPUP				PKPab	**PKPab**	**09 28 59.2**	**+0.5**
	comp=Z,158nm,1.2s,baz=328,slow=2.4,SNR=9.6						
CPUP	**Villa Florida**	**156.51**	**59**	*e*P	**PKPdf**	**09 28 28.5**	**-1.4**
CPUP	**Villa Florida**	**156.51**	**59**	⇓*i*P	**PKPdf**	**09 28 29.6**	**-0.3**
TRQA	**Tornquist**	**159.00**	**91**	*e*PKPdf	**PKPdf**	**09 28 30.2**	**-2.5**
TRQA				*e*PKPab	**PKPab**	**09 29 09.9**	**+0.6**
TRQA				*e*PP	**PP**	**09 32 52.6**	**+1.8**
TRQA				LR	LR		
	comp=Z,36µm,21.0s						
TRQA	**Tornquist**	**159.00**	**91**	⇓*i*P	**PKPdf**	**09 28 32.5**	**-0.2**
SPB	**Sao Paulo**	**159.87**	**35**	*e*PKPdf	**PKPdf**	**09 28 34.0**	**0.0**
SPB				*e*PKPab	**pPKPab**	**09 29 16.8**	**-2.9**
SPB				*e*PP	**PP**	**09 32 54.2**	**-0.1**
SPB				LR	LR		
	comp=Z,64µm,19.0s						
EFI	**East Falkland**	**160.80**	**132**	*e*PKIKP	**PKPdf**	**09 28 34.4**	**+0.2**
EFI				*e*		09 33 01.6	
EFI				MLR	MLR		
	comp=Z,61µm,19.0s						
EFI	**East Falkland**	**160.80**	**132**	*e*PKPdf	**PKPdf**	**09 28 34.4**	**+0.2**
EFI				*e*PKPab	**PKPab**	**09 29 17.8**	**+1.2**
EFI				*e*PP	**PP**	**09 33 01.6**	**+1.9**
EFI				LR	LR		
	comp=Z,61µm,19.0s						
HOPE	**Hope Point**	**166.51**	**176**	*e*PKPdf	**PKPdf**	**09 28 40.3**	**+0.9**
HOPE				*e*PKPab	**PKPab**	**09 29 44.3**	**+2.8**
HOPE				*e*PP	**PP**	**09 33 27.5**	**-1.4**
HOPE				LR	LR		
	comp=Z,29µm,21.0s						

ISCJB ***14*** *09:11:51.1±0.7, 38°.34N±0°.05×42°.64E±0°.04, h8km, Error ellipse: s-maj=6.9km s-min=4.4km az=10.3*
CSEM ***14*** *09:11:51.6, 38°.34N×42°.66E, h7km, ML2.6, After DDA*
DDA ***14*** *09:11:51.6, 38°.34N×42°.66E, h7km, Ml2.6*
ISC 14 09:11:51.2±0.9, 38°.35N±0°.04×42°.66E±0°.03, h8km, n15, σ0s54/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.32**	**96**	*i*P	**Pg**	**09 11 57.0**	**-0.6**
GEVA				*i*S	**Sg**	**09 12 02.3**	**+0.5**
GEVA	**Gevas**	**0.32**	**96**	P	**Pg**	**09 11 57.0**	**-0.6**
GEVA				S	**Sg**	**09 12 02.3**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.46**	**7**	*i*P	**Pg**	**09 12 00.4**	**+0.1**
ADCV				*i*S	**Sb**	**09 12 08.6**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.46**	**7**	P	**Pg**	**09 12 00.4**	**+0.1**
ADCV				S	**Sb**	**09 12 08.6**	**-0.3**
GURO	**Guroymak-BITLI**	**0.53**	**293**	*i*PG	**Pg**	**09 12 01.3**	**-0.2**
GURO				*i*SG	**Sg**	**09 12 08.5**	**0.0**
TVAN	**Van**	**0.62**	**73**	*i*P	**Pg**	**09 12 03.6**	**+0.4**
TVAN				*i*S	**Sb**	**09 12 13.6**	**+0.3**
TVAN	**Van**	**0.62**	**73**	P	**Pg**	**09 12 03.6**	**+0.4**
TVAN				S	**Sb**	**09 12 13.6**	**+0.3**
SRTM	**Siirt_Merkez**	**0.68**	**239**	*i*P	**Pb**	**09 12 05.4**	**+0.1**
SRTM	**Siirt_Merkez**	**0.68**	**239**	P	**Pb**	**09 12 05.4**	**+0.1**
HAKT	**HAKKARI**	**1.15**	**133**	*e*P	**Pg**	**09 12 13.5**	**+0.3**
HAKT	**HAKKARI**	**1.15**	**133**	P	**Pg**	**09 12 13.5**	**+0.3**
AGRB	**Hanur-Agry**	**1.25**	**12**	*e*PG	**Pn**	**09 12 14.6**	**-0.7**
CLDR	**Caldiran**	**1.27**	**51**	*e*PG	**Pn**	**09 12 14.0**	**-1.5**
EATA	**Eleskirt**	**1.52**	**355**	*e*P	**Pn**	**09 12 19.7**	**+0.7**
EATA	**Eleskirt**	**1.52**	**355**	P	**Pn**	**09 12 19.7**	**+0.7**

ISCJB ***14*** *09:13:08.3±0.3, 38°.61N±0°.01×21°.69E±0°.02, h5km±2km, Error ellipse: s-maj=2.5km s-min=2.1km az=26.3*
THE ***14*** *09:13:08.4, 38°.61N×21°.70E, h16km, ML3.6/7, Error ellipse: s-maj=0.9km s-min=0.5km az=143.0*
CSEM ***14*** *09:13:08.9±0.1, 38°.59N×21°.69E, h15km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.4km az=49.0*
ATH ***14*** *09:13:08.0, 38°.62N×21°.70E, h18km, ML3.3/21, Error ellipse: s-maj=0.9km s-min=0.5km az=193.0*
ISC 14 09:13:08.5±0.8, 38°.61N±0°.01×21°.70E±0°.01, h14km±5km, n165, σ1s00/232, 4C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVO	**Paravola**	**0.14**	**275**	P	**Pg**	**09 13 11.4**	**-0.7**
PVO				S	**Sg**	**09 13 14.0**	**-0.6**
PVO				AML	AML	09 13 16.3	
	comp=N,35643µm,0.4s						
PVO				AML	AML	09 13 19.3	
	comp=E,27384µm,0.5s						
PVO	**Paravola**	**0.14**	**275**	P	**Pg**	**09 13 11.7**	**-0.4**
PVO				S	**Sg**	**09 13 14.5**	**-0.1**
PVO	**Paravola**	**0.14**	**275**	P	**Pg**	**09 13 11.8**	**-0.4**
PVO				S	**Sg**	**09 13 15.0**	**+0.4**
ANX	**Ano Chora**	**0.17**	**94**	P	**Pg**	**09 13 12.9**	**+0.3**
ANX				S	**Sb**	**09 13 16.6**	**-0.3**
ANX	**Ano Chora**	**0.17**	**94**	P	**Pg**	**09 13 12.7**	**+0.1**
ANX				S	**Sb**	**09 13 16.2**	**-0.7**
ANX	**Ano Chora**	**0.17**	**94**	P	**Pg**	**09 13 12.7**	**+0.1**
ANX				S	**Sb**	**09 13 16.2**	**-0.7**
EFP	**Efpalio**	**0.24**	**138**	P	**Pg**	**09 13 13.6**	**0.0**
EFP				S	**Sg**	**09 13 17.9**	**+0.7**
EFP				AML	AML	09 13 18.4	
	comp=E,50804µm,0.2s						
EFP				AML	AML	09 13 19.4	
	comp=N,50651µm,0.3s						
EFP	**Efpalio**	**0.24**	**138**	P	**Pg**	**09 13 13.6**	**0.0**
EFP				S	**Sg**	**09 13 17.8**	**+0.7**
EFP	**Efpalio**	**0.24**	**138**	P	**Pg**	**09 13 13.6**	**0.0**
EFP				S	**Sb**	**09 13 18.0**	**-0.7**
UPR	**University Cam**	**0.33**	**169**	P	**Pg**	**09 13 15.5**	**+0.3**
UPR				S	**Sg**	**09 13 19.1**	**-0.7**
UPR	**University Cam**	**0.33**	**169**	P	**Pg**	**09 13 15.3**	**+0.1**
UPR				S	**Sg**	**09 13 19.7**	**0.0**
UPR	**University Cam**	**0.33**	**169**	P	**Pg**	**09 13 15.5**	**+0.3**
SERG	**Sergoula**	**0.34**	**125**	P	**Pg**	**09 13 15.3**	**-0.1**
SERG				S	**Sg**	**09 13 20.7**	**+0.7**
SERG				AML	AML	09 13 21.6	
	comp=N,43463µm,0.4s						
SERG				AML	AML	09 13 22.3	
	comp=E,35153µm,0.3s						
SERG	**Sergoula**	**0.34**	**125**	P	**Pg**	**09 13 15.3**	**-0.1**
SERG				S	**Sg**	**09 13 20.6**	**+0.5**
SERG	**Sergoula**	**0.34**	**125**	P	**Pg**	**09 13 15.2**	**-0.2**
SERG				S	**Sb**	**09 13 21.1**	**-0.5**
TRIZ	**Trizonia**	**0.38**	**129**	P	**Pg**	**09 13 15.8**	**-0.3**
TRIZ				S	**Sb**	**09 13 22.4**	**-0.2**
TRIZ	**Trizonia**	**0.38**	**129**	P	**Pg**	**09 13 15.9**	**-0.2**
TRIZ				S	**Sb**	**09 13 22.0**	**-0.6**
KALE	**Kalithea**	**0.40**	**122**	P	**Pg**	**09 13 16.2**	**-0.4**
KALE				S	**Sb**	**09 13 23.4**	**-0.2**
KALE				AML	AML	09 13 23.6	
	comp=E,16468µm,0.4s						
KALE				AML	AML	09 13 23.6	
	comp=N,21031µm,0.4s						
KALE	**Kalithea**	**0.40**	**122**	P	**Pg**	**09 13 16.3**	**-0.3**
KALE				S	**Sb**	**09 13 22.9**	**-0.6**
KALE	**Kalithea**	**0.40**	**122**	P	**Pg**	**09 13 16.3**	**-0.3**
KALE				S	**Sb**	**09 13 23.1**	**-0.4**
PDO	**Prodromos**	**0.41**	**269**	P	**Pg**	**09 13 16.5**	**-0.2**
PDO				S	**Sg**	**09 13 22.5**	**+0.2**
PDO				AML	AML	09 13 24.0	
	comp=E,7749µm,0.3s						
PDO				AML	AML	09 13 26.9	
	comp=N,12574µm,0.5s						
PDO	**Prodromos**	**0.41**	**269**	P	**Pg**	**09 13 16.2**	**-0.5**
PDO				S	**Sg**	**09 13 22.4**	**+0.2**
PDO	**Prodromos**	**0.41**	**269**	P	**Pg**	**09 13 16.2**	**-0.5**
LAKA	**Lakka**	**0.42**	**149**	P	**Pg**	**09 13 16.7**	**-0.3**
LAKA				S	**Sg**	**09 13 23.1**	**+0.4**
LAKA	**Lakka**	**0.42**	**149**	P	**Pg**	**09 13 16.7**	**-0.3**
LAKA				S	**Sg**	**09 13 23.1**	**+0.4**
RLS	**Riolos of Patr**	**0.58**	**199**	P	**Pg**	**09 13 19.9**	**+0.1**
RLS				S	**Sb**	**09 13 28.5**	**0.0**
RLS				AML	AML	09 13 31.6	
	comp=E,13817µm,0.6s						
RLS				AML	AML	09 13 32.6	
	comp=N,3353µm,0.3s						
RLS	**Riolos of Patr**	**0.58**	**199**	P	**Pg**	**09 13 19.9**	**+0.1**
RLS				S	**Sb**	**09 13 28.2**	**-0.2**
RLS	**Riolos of Patr**	**0.58**	**199**	P	**Pg**	**09 13 19.9**	**+0.1**
DLFA	**Delphi**	**0.63**	**101**	P	**Pg**	**09 13 19.7**	**-1.2**
DLFA				S	**Sb**	**09 13 30.2**	**+0.1**
DLFA				AML	AML	09 13 30.4	
	comp=N,4710µm,0.3s						
DLFA				AML	AML	09 13 32.8	
	comp=E,4969µm,0.3s						
DLFA	**Delphi**	**0.63**	**101**	P	**Pg**	**09 13 20.0**	**-0.9**
DLFA				S	**Sb**	**09 13 29.8**	**-0.3**
AGG	**Agios Georgios**	**0.64**	**49**	P	**Pb**	**09 13 21.3**	**-0.2**
AGG				S	**Sg**	**09 13 28.1**	**-1.5**
AGG				AML	AML	09 13 32.0	
	comp=E,21350µm,0.4s						
AGG				AML	AML	09 13 32.3	
	comp=N,24994µm,0.3s						
AGG	**Agios Georgios**	**0.64**	**49**	P	**Pg**	**09 13 20.9**	**-0.2**
AGG				S	**Sg**	**09 13 28.9**	**-0.7**
AGG	**Agios Georgios**	**0.64**	**49**	P	**Pg**	**09 13 20.6**	**-0.5**
DRO	**Drossia**	**0.65**	**180**	P	**Pg**	**09 13 21.1**	**-0.1**
DRO				S	**Sg**	**09 13 30.1**	**+0.2**
DRO				AML	AML	09 13 33.6	
	comp=E,9785µm,0.6s						
DRO				AML	AML	09 13 39.0	
	comp=N,7323µm,0.5s						
DRO	**Drossia**	**0.65**	**180**	P	**Pg**	**09 13 21.1**	**-0.1**
DRO				S	**Sb**	**09 13 30.2**	**-0.4**
DRO	**Drossia**	**0.65**	**180**	P	**Pg**	**09 13 21.1**	**-0.1**
DRO				S	**Sb**	**09 13 30.6**	**0.0**
KLV	**Kalavryta, Ach**	**0.66**	**148**	P	**Pg**	**09 13 20.7**	**-0.7**
KLV				S	**Sg**	**09 13 30.2**	**+0.1**
KLV				AML	AML	09 13 34.3	
	comp=E,1808µm,0.2s						
KLV				AML	AML	09 13 34.7	
	comp=N,1980µm,0.3s						
KLV	**Kalavryta, Ach**	**0.66**	**148**	P	**Pg**	**09 13 20.8**	**-0.6**
KLV				S	**Sg**	**09 13 30.4**	**+0.2**
KLV	**Kalavryta, Ach**	**0.66**	**148**	P	**Pg**	**09 13 20.7**	**-0.7**
KLV				S	**Sb**	**09 13 31.5**	**+0.6**
DSF	**Desfina**	**0.68**	**106**	P	**Pg**	**09 13 20.1**	**-1.5**
DSF				S	**Sg**	**09 13 30.5**	**0.0**
DSF				AML	AML	09 13 33.3	
	comp=N,8195µm,0.2s						
DSF				AML	AML	09 13 34.7	
	comp=E,6230µm,0.3s						
DSF	**Desfina**	**0.68**	**106**	P	**Pg**	**09 13 20.7**	**-1.0**
DSF				S	**Sg**	**09 13 30.6**	**0.0**
DSL	**Palaion Diasel**	**0.71**	**318**	P	**Pg**	**09 13 20.7**	**-1.6**
DSL				S	**Sg**	**09 13 30.7**	**-1.0**
DSL				AML	AML	09 13 34.5	
	comp=E,4621µm,0.4s						
DSL				AML	AML	09 13 35.8	
	comp=N,3311µm,0.4s						
DSL	**Palaion Diasel**	**0.71**	**318**	P	**Pg**	**09 13 21.1**	**-1.2**
DSL				S	**Sg**	**09 13 31.1**	**-0.6**
MGNA	**Meganis,,,**	**0.72**	**274**	P	**Pg**	**09 13 22.1**	**-0.4**
MGNA				S	**Sb**	**09 13 32.2**	**-0.3**
MGNA	**Meganis,,,**	**0.72**	**274**	P	**Pg**	**09 13 22.0**	**-0.4**
MGNA				S	**Sb**	**09 13 32.1**	**-0.3**
VTN	**Vitineika**	**0.80**	**211**	P	**Pg**	**09 13 23.9**	**-0.1**
VTN				S	**Sb**	**09 13 34.8**	**0.0**
VTN	**Vitineika**	**0.80**	**211**	P	**Pg**	**09 13 23.7**	**-0.3**
VTN				S	**Sb**	**09 13 34.8**	**0.0**
GUR	**Goura**	**0.84**	**143**	P	**Pg**	**09 13 23.4**	**-1.4**
GUR				S	**Sb**	**09 13 36.9**	**+0.9**
GUR				AML	AML	09 13 41.9	
	comp=E,3857µm,0.5s						
GUR				AML	AML	09 13 42.7	
	comp=N,6038µm,0.4s						
GUR	**Goura**	**0.84**	**143**	P	**Pg**	**09 13 24.0**	**-0.7**
GUR				S	**Sb**	**09 13 36.5**	**+0.5**
GUR	**Goura**	**0.84**	**143**	P	**Pg**	**09 13 24.0**	**-0.7**
LKD2	**Lefkada island**	**0.84**	**283**	P	**Pg**	**09 13 24.5**	**-0.3**
LKD2				S	**Sg**	**09 13 34.4**	**-1.4**
LKD2				AML	AML	09 13 44.6	
	comp=E,2754µm,0.7s						
LKD2				AML	AML	09 13 47.2	
	comp=N,3244µm,0.5s						
LKD2	**Lefkada island**	**0.84**	**283**	P	**Pg**	**09 13 24.3**	**-0.5**
LKD2				S	**Sg**	**09 13 35.1**	**-0.7**
LKD2	**Lefkada island**	**0.84**	**283**	P	**Pg**	**09 13 24.2**	**-0.5**
KFL	**Anninata**	**0.87**	**236**	P	**Pg**	**09 13 25.0**	**-0.4**
KFL	**Anninata**	**0.87**	**236**	P	**Pg**	**09 13 25.0**	**-0.4**
KFL	**Anninata**	**0.87**	**236**	P	**Pg**	**09 13 25.0**	**-0.4**
THAL	**Thalero**	**0.94**	**127**	P	**Pg**	**09 13 26.7**	**0.0**
THAL				S	**Sn**	**09 13 40.1**	**-0.5**
THAL				AML	AML	09 13 45.9	
	comp=E,5352µm,0.3s						
THAL				AML	AML	09 13 46.3	
	comp=N,4609µm,0.4s						
THAL	**Thalero**	**0.94**	**127**	P	**Pb**	**09 13 26.5**	**-0.1**
THAL				S	**Sn**	**09 13 39.8**	**-0.8**
VLS	**Valsamata**	**0.97**	**244**	P	**Pb**	**09 13 25.7**	**-1.5**
VLS				S	**Sn**	**09 13 41.9**	**+0.5**
VLS				AML	AML	09 13 50.8	
	comp=E,1591µm,0.4s						
VLS				AML	AML	09 13 51.1	
	comp=N,2919µm,0.5s						
VLS	**Valsamata**	**0.97**	**244**	P	**Pb**	**09 13 26.2**	**-1.0**
VLS				S	**Sn**	**09 13 41.1**	**-0.3**
VLS	**Valsamata**	**0.97**	**244**	P	**Pb**	**09 13 26.0**	**-1.2**
THL	**Klokotos Trika**	**0.99**	**14**	P	**Pb**	**09 13 27.2**	**-0.1**
THL				S	**Sb**	**09 13 39.9**	**-0.3**
THL				AML	AML	09 13 47.0	
	comp=N,1081µm,0.4s						
THL				AML	AML	09 13 48.1	
	comp=E,1564µm,0.4s						
THL	**Klokotos Trika**	**0.99**	**14**	P	**Pb**	**09 13 27.0**	**-0.4**
THL				S	**Sb**	**09 13 40.1**	**-0.2**
THL	**Klokotos Trika**	**0.99**	**14**	P	**Pb**	**09 13 27.3**	**-0.1**
PROD	**Prodromos**	**1.00**	**110**	P	**Pb**	**09 13 26.3**	**-1.3**
PROD	**Prodromos**	**1.00**	**110**	P	**Pb**	**09 13 26.7**	**-0.9**
LKR	**Lokris**	**1.02**	**87**	P	**Pb**	**09 13 26.3**	**-1.6**
LKR				S	**Sb**	**09 13 41.0**	**-0.1**
LKR				AML	AML	09 13 48.1	
	comp=N,2442µm,0.4s						
LKR				AML	AML	09 13 48.1	
	comp=E,2853µm,0.3s						
LKR	**Lokris**	**1.02**	**87**	P	**Pb**	**09 13 26.8**	**-1.1**
LKR				S	**Sb**	**09 13 41.2**	**+0.1**
LKR	**Lokris**	**1.02**	**87**	P	**Pb**	**09 13 26.7**	**-1.1**
AMT	**Artemida-Makis**	**1.07**	**180**	P	**Pg**	**09 13 29.3**	**+0.1**
AMT	**Artemida-Makis**	**1.07**	**180**	P	**Pb**	**09 13 28.9**	**+0.1**

VAY				*e*Sn		**Sb**	09 14 30.4	-1.8
SRS	**Serrai**	**2.90**	**29**	P		**Pn**	09 13 53.6	-0.7
SRS	**Serrai**	**2.90**	**29**	P		**Pn**	09 13 54.6	+0.3
LIA	**Limnos Island**	**2.99**	**63**	P		**Pn**	09 13 55.9	+0.4
LIA	**Limnos Island**	**2.99**	**63**	P		**Pn**	09 13 56.5	+1.0
TIR	**Tirane**	**3.08**	**333**	⇓*i*P		**Pg**	09 14 11.1	+3.6
NVR	**Nevrokopi**	**3.20**	**30**	P		**Pn**	09 14 00.1	+1.6
NVR	**Nevrokopi**	**3.20**	**30**	P		**Pn**	09 14 00.1	+1.6
SKO	**Skopje**	**3.37**	**357**	*e*Pn		**Pn**	09 14 02.7	+2.0
CHOS	**Chios island**	**3.42**	**92**	P		**Pn**	09 14 03.4	+1.8
CHOS	**Chios island**	**3.42**	**92**	P		**Pn**	09 14 03.3	+1.8
TIP	**Timpagrande**	**3.90**	**280**	⇓*i*P		**Pn**	09 14 09.7	+1.6
TIP	**Timpagrande**	**3.90**	**280**	⇓*i*P		**Pn**	09 14 09.7	+1.6
VTS	**Vitosha**	**4.14**	**16**	⇓*i*P		**Pn**	09 14 15.8	+4.3
VTS	**Vitosha**	**4.14**	**16**	⇓*i*P		**Pn**	09 14 15.8	+4.3
IDI	**Anoyia**	**4.18**	**141**	⇑*i*P		**Pb**	09 14 17.1	-4.8
IDI	**Anoyia**	**4.18**	**141**	⇑*i*P		**Pb**	09 14 17.1	-4.8
PDG	**Podgorica**	**4.25**	**335**	⇓*i*P		**Pb**	09 14 22.5	-0.5

IDC ***14*** *09:18:41.5±0.5,24°.30S×176°.38W,h0km,mb4.8/19, mb1 5.0/20,mb1mx4.8/40,mbtmp4.9/20,ML5.2/1,Error ellipse: s-maj=19.8km s-min=14.6km az=126.0*
NEIC ***14*** *09:18:42.8±0.3,24°.41S×176°.33W,h10km,mb5.2/8,Error ellipse: s-maj=12.1km s-min=7.3km az=124.0*
ISCJB ***14*** *09:18:46.8±0.2,24°.29S±0°.04×176°.46W±0°.07,h43km, mb5.0/32,Error ellipse: s-maj=10.4km s-min=4.4km az=22.4*

ISC 14 09:18:47.7±0.4,24°.47S±0°.05×176°.38W±0°.10,h43km, n131,σ2935/128,mb5.1/31,8C-6D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.95**	**196**	P		**Pn**	**09 19 59.3**	**-0.2**
RIZ	**Raoul Island**	**4.95**	**196**	S		Sn	09 21 05.1	+10
RAO	**Raoul Island**	**4.95**	**196**	Pn		**Pn**	**09 19 57.4**	**-2.1**
	82nm,0.3s,baz=296,slow=14,SNR=3.9							
RAO				Sn		**Sn**	**09 21 01.5**	**+5.9**
	108nm,0.3s,baz=253,slow=19,SNR=2.4							
GLKZ	**Green Lake**	**4.96**	**196**	P		**Pn**	**09 20 04.4**	**+4.7**
GLKZ	**Green Lake**	**4.96**	**196**	S		**Sn**	**09 21 02.2**	**+6.3**
AFI	**Afiamalu**	**11.37**	**23**	Pn		Pn	09 21 19.1	-8.5
	6.0nm,0.3s,baz=217,slow=2.1,SNR=8.6							
AFI				Sn		Sn	09 23 11.0	-22
	3.6nm,0.3s,baz=270,slow=20,SNR=2.8							
GRZ	**Great Barrier**	**13.68**	**209**	P		**Pn**	**09 22 01.8**	**+2.7**
OUZ	**Omahuta**	**13.79**	**217**	P		**P**	**09 22 11.2**	**+3.1**
MXZ	**Matakaoa Point**	**13.82**	**198**	P		**P**	**09 22 10.4**	**+2.1**
WCZ	**Waipu Caves**	**13.95**	**213**	P		**P**	**09 22 13.0**	**+3.1**
WMGZ	**Waiomatatini S**	**14.03**	**197**	P		**Pn**	**09 22 04.6**	**+0.8**
HAZ	**Te Kaha**	**14.15**	**199**	S		**Sn**	**09 24 39.1**	**-1.8**
HAZ	**Te Kaha**	**14.15**	**199**	P		**Pn**	**09 22 03.5**	**-1.9**
PUZ	**Puketiti**	**14.31**	**197**	S		**Sn**	**09 24 39.2**	**-5.7**
PUZ	**Puketiti**	**14.31**	**197**	P		**Pn**	**09 22 11.5**	**+4.0**
RUGZ	**Raukumara Rang**	**14.37**	**199**	P		**Pn**	**09 22 10.3**	**+1.8**
TWGZ	**Tauwhareparae**	**14.48**	**198**	P		**Pn**	**09 22 13.1**	**+3.2**
MWZ	**Matawai**	**14.76**	**199**	S		Sn	09 24 48.4	-7.5
MWZ	**Matawai**	**14.76**	**199**	P		**P**	**09 22 20.6**	**+1.7**
URZ	**Urewera**	**14.82**	**200**	Pn		**Pn**	**09 22 11.6**	**-2.8**
	baz=260,slow=6.7,SNR=3.0							
URZ				Sn		Sn	09 24 49.6	-7.6
	0.7nm,0.3s,baz=168,slow=20,SNR=3.6							
URZ	**Urewera**	**14.82**	**200**	P		**P**	**09 22 19.5**	**+0.1**
URZ	**Urewera**	**14.82**	**200**	S		**Sn**	**09 24 51.1**	**-6.1**
RAHZ	**Arahi**	**15.43**	**199**	S		**Sn**	**09 25 04.9**	**-7.3**
RAHZ	**Arahi**	**15.43**	**199**	P		**P**	**09 22 28.8**	**+2.5**
RAR	**Rarotonga**	**15.65**	**81**	Pn		Pn	09 22 16.8	-8.5
	12nm,0.3s,baz=270,slow=7.9,SNR=32							
RAR				Sn		Sn	09 24 51.8	-26
	2.0nm,0.3s,baz=90,slow=19,SNR=4.5							
BKZ	**Black Stump Fm**	**15.84**	**201**	S		**Sn**	**09 25 14.6**	**-7.6**
BKZ	**Black Stump Fm**	**15.84**	**201**	P		**P**	**09 22 30.9**	**0.0**
LTZ	**Lake Taylor**	**20.52**	**204**	P		Pn	09 23 30.2	+5.3
INZ	**Inchbonnie**	**20.80**	**206**	S		S	09 27 02.9	-12
INZ	**Inchbonnie**	**20.80**	**206**	P		Pn	09 23 30.9	+2.9
OXZ	**Oxford**	**21.08**	**204**	P		**P**	**09 23 34.9**	**+6.6**
MQZ	**McQueen's Vall**	**21.19**	**202**	P		**P**	**09 23 28.6**	**-0.8**
WVZ	**Waitaha Valley**	**21.38**	**207**	P		**P**	**09 23 33.8**	**+2.4**
RPZ	**Rata Peaks**	**21.79**	**205**	P		**P**	**09 23 35.3**	**-0.6**
	19nm,0.9s,baz=70,slow=3.9,SNR=2.6							
RPZ				S		**S**	**09 27 26.5**	**-8.0**
	2.2nm,0.4s,baz=90,slow=21,SNR=2.4							
RPZ	**Rata Peaks**	**21.79**	**205**	P		**P**	**09 23 35.2**	**-0.6**
FOZ	**Fox Glacier**	**22.13**	**207**	S		**P**	**09 23 42.3**	**+2.7**
LBZ	**Lake Benmore**	**22.69**	**206**	P		**P**	**09 23 48.6**	**+3.1**
JCZ	**Jackson Bay**	**23.01**	**208**	P		**P**	**09 23 49.2**	**+0.2**
CTAO	**Charters Tower**	**34.78**	**270**	*e*P		**P**	**09 25 35.5**	**+1.1**
STKA	**Stephens Creek**	**37.59**	**249**	P		**P**	**09 25 59.6**	**+1.4**
	13nm,1.0s,baz=90,slow=2.5,SNR=5.5							
PMG	**Port Moresby**	**37.81**	**287**	P		**P**	**09 26 00.1**	**-0.2**
	69nm,0.9s,baz=103,slow=5.9,SNR=12							
ASAR	**Alice Springs**	**45.20**	**260**	P		**P**	**09 27 01.4**	**+0.5**
	22nm,0.8s,baz=90,slow=7.3,SNR=54							
ASAR				S		**S**	**09 33 38.5**	**+0.5**
	1.0nm,0.9s,baz=97,slow=16,SNR=3.0							
WRA	**Warramunga Arr**	**45.66**	**265**	P		**P**	**09 27 03.7**	**-0.8**
	12nm,0.6s,baz=103,slow=7.5,SNR=20							
MBWA	**Marble Bar**	**58.52**	**259**	*e*P		**P**	**09 28 40.3**	**+0.2**
	57nm,0.8s							
JHJ	**Hachijo jima 2**	**70.88**	**322**	P		**P**	**09 29 58.2**	**-2.1**
	183nm,0.5s,baz=140,slow=23,SNR=4.5							
MJAR	**Matsushiro Arr**	**74.28**	**323**	P		**P**	**09 30 19.0**	**-1.5**
	16nm,1.1s,baz=156,slow=6.2,SNR=6.4							
H06S1	**SOCORRO T**	**76.84**	**62**	T		T	10 54 57.4	
	SNR=17							
H06E1	**SOCORRO T-PHAS**	**76.89**	**62**	T		T	10 54 42.9	
MAW	**Mawson**	**78.35**	**200**	P		**P**	**09 30 44.6**	**+1.5**
	16nm,0.7s,baz=122,slow=10,SNR=7.1							
PETK	**Petropavlovsk-**	**80.48**	**345**	P		**P**	**09 30 54.5**	**-0.3**
	23nm,0.8s,baz=126,slow=7.2,SNR=20							
ARVC	**Arvin**	**80.52**	**45**	P		**P**	**09 30 55.0**	**-0.4**
	baz=231							
BFSC	**Mount Baldy Ra**	**80.72**	**46**	P		**P**	**09 30 56.5**	**-0.2**
	baz=232							
IKP	**In-Ko-Pah, Jac**	**80.79**	**48**	P		**P**	**09 30 56.8**	**-0.2**
	baz=233							
KSRS	**Korea Array**	**80.84**	**318**	P		**P**	**09 30 57.6**	**+0.6**
	0.9nm,0.5s,baz=127,slow=5.6,SNR=4.2							
KSAR	**Wonju Array Be**	**80.86**	**318**	P		**P**	**09 30 57.6**	**+0.5**
ISA	**Isabella, Lake**	**81.08**	**44**	*e*P		**P**	**09 30 58.4**	**0.0**
	15nm,1.4s							
BELC	**Belle Mtn. Jos**	**81.67**	**47**	P		**P**	**09 31 00.8**	**-0.9**
	baz=233							
GSC	**Goldstone, Bar**	**81.93**	**45**	P		**P**	**09 31 03.1**	**+0.1**
	baz=232							
YBH	**Yreka Blue Hor**	**82.48**	**37**	P		**P**	**09 31 04.3**	**-1.5**
	5.4nm,0.9s,baz=180,slow=7.1,SNR=7.0							
TUQ	**Turquoise Moun**	**82.58**	**46**	P		**P**	**09 31 07.1**	**+0.6**
	baz=233							
SHOC	**Shoshone, Teco**	**82.63**	**45**	P		**P**	**09 31 07.0**	**+0.4**
	baz=233							
NVAR	**Mina Array Bea**	**82.91**	**42**	P		**P**	**09 31 08.5**	**+0.3**
	4.3nm,0.8s,baz=223,slow=9.4,SNR=8.8							
USRK	**Ussuriysk Ar.**	**83.07**	**325**	P		**P**	**09 31 08.9**	**+0.3**
	4.0nm,0.8s,baz=91,slow=7.6,SNR=5.4							
PDMCI	**Parker Dam,Lak**	**83.09**	**48**	P		**P**	**09 31 09.9**	**+1.0**
	baz=234							
SNAA	**Sanae**	**84.01**	**178**	P		**P**	**09 31 14.9**	**+1.6**
	22nm,0.8s,baz=153,slow=5.2,SNR=2.9							
TUC	**Tucson**	**84.28**	**51**	P		**P**	**09 31 15.9**	**+0.7**
	baz=236							
J05D	**Fort Rock, OR**	**84.33**	**37**	P		**P**	**09 31 16.0**	**+0.7**
	baz=229							
KDAK	**Kodiak Island**	**84.33**	**13**	P		**P**	**09 31 14.5**	**-0.2**
	5.7nm,0.7s,baz=225,slow=7.1,SNR=3.8							
WVOR	**Wild Horse Val**	**85.23**	**39**	*e*P		**P**	**09 31 18.6**	**-1.2**
	54nm,1.9s							
PSI	**Prapat**	**86.32**	**275**	P		**P**	**09 31 24.3**	**-1.6**
	6.6nm,0.7s,baz=288,slow=9.6,SNR=9.2							
C06D	**Leavenworth**	**87.57**	**34**	P		**P**	**09 31 31.2**	**+0.2**
	baz=229							
TMUT	**Trail Mountain**	**87.88**	**45**	*e*P		**P**	**09 31 34.0**	**+1.0**
	51nm,1.1s							
TXAR	**Lajitas Array**	**87.96**	**57**	P		**P**	**09 31 34.0**	**+0.6**
	3.5nm,0.8s,baz=213,slow=9.2,SNR=8.5							
LPM	**Los Pinos Moun**	**88.28**	**51**	*e*P		**P**	**09 31 34.7**	**-0.3**
	2.0nm,1.4s							
ANMO	**Albuquerque**	**88.74**	**51**	P		**P**	**09 31 37.6**	**+0.5**
	baz=239							
DIV	**Divide**	**88.83**	**14**	*e*P		**P**	**09 31 35.9**	**-0.8**
	20nm,1.1s							
ENH	**Enshi**	**89.49**	**304**	P		**P**	**09 31 40.4**	**-0.2**
	73nm,1.5s							
KTH	**Kantishna Hill**	**90.00**	**11**	*e*P		**P**	**09 31 40.7**	**-1.5**
	9.8nm,0.8s							
TRF	**Thorofare Moun**	**90.02**	**11**	*e*P		**P**	**09 31 41.4**	**-1.0**
	24nm,0.8s							
SKAG	**Skagway**	**90.19**	**20**	*e*P		**P**	**09 31 42.9**	**-0.1**
	26nm,1.3s							
PDAR	**Pinedale Array**	**90.84**	**43**	P		**P**	**09 31 46.2**	**-0.6**
	3.5nm,0.9s,baz=207,slow=3.0,SNR=7.3							
BOZ	**Bozeman (W)**	**91.17**	**39**	P		**P**	**09 31 48.5**	**+0.3**
	baz=235							
HRY	**Holter Researc**	**91.69**	**38**	*e*P		**P**	**09 31 50.5**	**0.0**
	13nm,1.1s							
ILAR	**Eielson Array**	**91.85**	**12**	P		**P**	**09 31 49.8**	**-0.9**
	2.7nm,0.8s,baz=220,slow=5.3,SNR=14							
ILAR				PP		**PP**	**09 35 34.8**	**+4.2**
	1.2nm,0.9s,baz=227,slow=5.9,SNR=4.4							
CMAR	**Chiang Mai Arr**	**92.83**	**289**	P		**P**	**09 31 58.8**	**+2.5**
	11nm,0.8s,baz=141,slow=3.5,SNR=18							
SONM	**Songino Array**	**99.71**	**318**	P		**Pdif**	**09 32 27.6**	**+0.6**
	1.3nm,1.0s,baz=108,slow=3.1,SNR=2.1							
CPUP	**Villa Florida**	**102.44**	**127**	P		**Pdif**	**09 32 39.2**	**-0.4**
	31nm,1.1s,baz=207,slow=2.3,SNR=3.5							
ZALV	**Zalesovo Beam**	**114.50**	**320**	PKP		PKPdf	09 37 21.6	-1.0
	1.6nm,0.6s,baz=196,slow=0.9,SNR=5.8							
ZALV				PKKPbc		**PKKPbc**	**09 47 59.2**	**-3.7**
	1.1nm,0.7s,baz=258,slow=4.3,SNR=3.7							
ZALV				PKKPab		**PKKPab**	**09 48 07.6**	**+1.4**
	1.7nm,0.7s,baz=313,slow=5.1,SNR=3.5							
MKAR	**Makanchi Array**	**114.98**	**312**	PKP		PKPdf	09 37 22.9	-1.0
	1.7nm,0.9s,baz=83,slow=1.8,SNR=8.6							
MKAR				PKKPbc		**PKKPbc**	**09 47 57.4**	**-3.7**
	2.2nm,1.0s,baz=250,slow=2.3,SNR=3.9							
KURK	**Kurchatov**	**117.90**	**316**	PKP		**PKPdf**	**09 37 28.5**	**-0.8**
KURK				PKKPbc		**PKKPbc**	**09 47 49.0**	**-1.9**
KURBB	**Kurchatov Arra**	**117.95**	**316**	PKP		**PKPdf**	**09 37 28.5**	**-0.9**
	2.1nm,0.7s,baz=100,slow=2.0,SNR=12							
KURBB				PKKPbc		**PKKPbc**	**09 47 49.0**	**-1.7**
	1.3nm,0.9s,baz=292,slow=1.7,SNR=3.4							
SUR	**Sutherland**	**121.13**	**197**	PKP		**PKPdf**	**09 37 37.1**	**+0.6**
	0.3nm,0.8s,baz=60,slow=8.1,SNR=2.6							
KKAR	**Karatay Array**	**122.85**	**307**	*e*PKPdf		**PKPdf**	**09 37 38.8**	**-0.4**
BVAR	**Borovoye Array**	**123.05**	**319**	PKP		**PKPdf**	**09 37 38.7**	**-0.4**
	4.4nm,0.8s,baz=74,slow=0.7,SNR=12							
SPITS	**Spitsbergen Ar**	**125.90**	**357**	PKP		**PKPdf**	**09 37 43.1**	**-0.8**
	9.9nm,1.0s,baz=335,slow=6.4,SNR=3.2							
SUMG	**Summit**	**126.63**	**15**	*i* P		**PKKPdf**	**09 47 56.4**	**-7.4**
ARU	**Arti**	**129.30**	**324**	PKP		**PKPdf**	**09 37 51.3**	**+0.4**
	4.0nm,0.3s,baz=124,slow=11,SNR=5.5							
AKTO	**Aktyubinsk**	**130.99**	**316**	PKP		**PKPdf**	**09 37 53.6**	**-0.8**
	2.3nm,0.7s,baz=73,slow=5.1,SNR=5.5							
SCO	**Scoresbysund**	**131.62**	**11**	*i* P		**PKKPdf**	**09 47 54.9**	**+1.4**
GEYT	**Alibeck**	**132.12**	**300**	PKP		**PKPdf**	**09 37 57.8**	**+0.9**
	1.3nm,0.4s,baz=181,slow=7.2,SNR=2.4							
ARCES	**ARCESS Array B**	**133.08**	**350**	PKP		**PKPdf**	**09 37 56.8**	**-1.0**
	3.1nm,0.7s,baz=356,slow=1.3,SNR=12							
FINES	**FINESS Array B**	**139.99**	**343**	PKhKP		PKPpre	09 38 02.1	
	2.0nm,0.8s,baz=28,slow=3.9,SNR=3.5							
FINES				PKP		**PKPdf**	**09 38 08.8**	**-1.9**
	2.0nm,0.8s,baz=35,slow=4.7,SNR=4.7							
KBZ	**Khabaz**	**142.66**	**311**	PKhKP		PKPpre	09 38 12.6	
	1.0nm,0.8s,baz=56,slow=3.6,SNR=2.2							
NB2	**NORSAR Subarra**	**143.08**	**354**	PKP		**PKPdf**	**09 38 12.8**	**-3.6**
	comp=Z,1.7nm,0.7s,baz=18,slow=3.1							
NOA	**NORSAR Array B**	**143.08**	**354**	PKhKP		PKPpre	09 38 12.4	
	comp=Z,2.8nm,0.8s,baz=15,slow=4.9,SNR=9.7							
HFS	**Hagfors**	**143.68**	**352**	PKhKP		PKPpre	09 38 13.7	
	comp=Z,5.9nm,0.7s,baz=74,slow=6.3,SNR=12							
NACGM	**Naroch**	**145.10**	**337**	*e*		**PKPbc**	**09 38 18.0**	**-1.6**
AKASG	**Malin Array Be**	**147.19**	**330**	PKPbc		**PKPbc**	**09 38 25.1**	**-0.9**
	comp=Z,10nm,0.6s,baz=42,slow=4.1,SNR=38							
EKA	**Eskdalemuir Ar**	**148.77**	**7**	PKPbc		**PKPbc**	**09 38 29.2**	**-0.9**
	comp=Z,7.8nm,0.8s,baz=343,slow=2.1,SNR=13							
ASF	**Jabal al Asfar**	**149.81**	**292**	PKPbc		**PKPbc**	**09 38 33.0**	**-0.6**
	comp=Z,12nm,0.9s,baz=52,slow=6.9,SNR=4.9							
BRTR	**Keskin Array B**	**150.54**	**308**	PKP		**PKPdf**	**09 38 30.4**	**+0.6**
	comp=Z,5.2nm,1.0s,baz=132,slow=1.8,SNR=4.1							
BRTR				PKPbc		**PKPbc**	**09 38 34.9**	**-0.2**
	comp=Z,6.6nm,0.9s,baz=144,slow=4.5,SNR=18							
MMAI	**Mount Meron Ar**	**150.95**	**294**	PKPbc		**PKPbc**	**09 38 37.2**	**+1.0**
	comp=Z,6.1nm,0.5s,baz=74,slow=6.2,SNR=6.8							
TLCR		**150.97**	**322**	⇑*i*P		**PKPbc**	**09 38 35.9**	**+0.2**
BURAR	**Bucovina Array**	**151.23**	**329**	⇑*i*P		**PKPbc**	**09 38 37.2**	**+0.8**
TESR	**Tescani**	**151.29**	**326**	⇓*i*P		**PKPbc**	**09 38 36.0**	**-0.5**
CFR	**Carcaliu**	**151.35**	**322**	⇓*i*P		**PKPbc**	**09 38 36.9**	**+0.3**
TIRR	**Tirgusor**	**151.63**	**321**	⇑*i*P		**PKPbc**	**09 38 37.5**	**+0.2**
EIL	**Elat**	**151.68**	**287**	PKPab		**PKPab**	**09 38 46.3**	**-0.5**
	comp=Z,7.4nm,0.8s,baz=37,slow=2.4,SNR=6.1							
VRI	**Vrincioaia**	**151.68**	**325**	⇑*i*P		**PKPbc**	**09 38 37.4**	**0.0**
HARR	**Harsova**	**151.77**	**322**	⇑*i*P		**PKPbc**	**09 38 38.2**	**+0.6**
TLB	**Topalu**	**151.77**	**321**	⇓*i*P		**PKPbc**	**09 38 38.1**	**+0.5**
CLL	**Collm**	**152.25**	**347**	⇑*i*PKPbc		**PKPbc**	**09 38 38.5**	**0.0**
	comp=Z,26nm,1.1s							
CLL				*e*			09 38 43.0	
CLL				*i* PKPab		**PKPab**	**09 38 48.2**	**-0.2**
CLL				*i*			09 38 53.0	
DOPR	**Dopca**	**152.31**	**326**	⇑*i*P		**PKPbc**	**09 38 39.9**	**+1.1**
BRG	**Berggiesshubel**	**152.46**	**346**	*e*P		**PKPbc**	**09 38 39.0**	**+0.1**
	comp=Z,17nm,1.0s							
MORC	**Moravsky Berou**	**152.50**	**340**	⇑*i*P		**PKPbc**	**09 38 39.8**	**+0.6**
DRGR		**153.00**	**330**	⇓*i*P		**PKPbc**	**09 38 40.6**	**+0.2**
SIRR	**Siria**	**153.87**	**311**	⇓*i*P		**PKPbc**	**09 38 42.5**	**+0.3**
GERES	**GERESS Array B**	**154.41**	**344**	PKP		**PKPdf**	**09 38 37.0**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=270,slow=1.3,SNR=3.5							
VTS	**Vitosha**	**155.75**	**323**	⇓*i*P		**PKPab**	**09 39 04.7**	**+1.0**
ESDC	**Sonseca Array**	**163.55**	**21**	PKPab		**PKPab**	**09 39 36.8**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=346,slow=5.5,SNR=6.9							
TORD	**Torodi Ar. Bea**	**168.59**	**170**	PKPab		**PKPab**	**09 40 02.0**	**+1.9**
	comp=Z,7.4nm,0.8s,baz=187,slow=4.4,SNR=5.6							

IDC ***14*** *09:19:38.7±0.6,40°.85N×145°.07E,h0km,mb4.4/19, mb1 4.5/22,mb1mx4.3/74,mbtmp4.3/22,ML3.8/2,Error ellipse: s-maj=17.0km s-min=15.6km az=99.0*
ISCJB ***14*** *09:19:40.0±1.4,40°.91N±0°.03×144°.93E±0°.05, h21km±10km,mb4.4/21,Error ellipse: s-maj=5.7km s-min=4.3km az=0.1*
NEIC ***14*** *09:19:40.1±0.3,40°.83N×145°.01E,h10km,mb4.9/1,Error ellipse: s-maj=8.4km s-min=6.1km az=109.0*
JMA ***14*** *09:19:40.3±0.2,40°.92N×145°.14E,h68km±3km,M4.4*

ISC 14 09:19:39.9±4.6,40°.93N±0°.04×145°.07E±0°.06,h10km±28km, n50,σ2802/68,mb4.5/21,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ERM	**Erimo**	**1.80**	**308**	*e*Pn		**Pn**	**09 20 10.4**	**-0.6**
ERM				*e*Sn		**Sn**	**09 20 34.6**	**+0.7**
JEM	**Erimo**	**1.80**	**308**	P		**Pn**	**09 20 10.2**	**-0.8**
JEM				*e*S		**Sn**	**09 20 31.4**	**-2.5**
JAK	**Akkeshi**	**2.09**	**352**	S		**Sn**	**09 20 38.4**	**-2.5**
JCH	**Churui**	**2.12**	**323**	P		**Pn**	**09 20 14.6**	**-0.7**
JCH				*e*S		**Sn**	**09 20 39.3**	**-2.3**
JOB	**Onbets**	**2.18**	**335**	P		**Pn**	**09 20 15.6**	**-0.6**
JOB				*e*S		**Sn**	**09 20 41.5**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.20**	**309**	P		**Pn**	**09 20 16.5**	**0.0**
JNBK				*e*S		**Sn**	**09 20 43.0**	**-0.8**
NEM2	**Nemuro 2**	**2.49**	**11**	*e*S		**Sn**	**09 20 46.7**	**-4.0**
JAR	**Ashorobuto**	**2.56**	**338**	P		**Pn**	**09 20 20.8**	**-0.6**
JAR				*e*S		**Sn**	**09 20 49.7**	**-2.9**
JNK	**Nakash**	**2.67**	**354**	P		**Pn**	**09 20 21.3**	**-1.6**
JNK				*e*S		**Sn**	**09 20 50.6**	**-4.7**
JBT2	**Biratori 2**	**2.74**	**313**	P		**Pn**	**09 20 24.7**	**+0.8**
JBT2				*e*S		**Sn**	**09 20 56.8**	**-0.3**
JANG	**Nango**	**2.76**	**260**	P		**Pn**	**09 20 22.8**	**-1.4**
JANG				S		**Sn**	**09 20 53.5**	**-4.1**
JFR	**Furan**	**2.90**	**321**	P		**Pn**	**09 20 25.5**	**-0.6**
JFR				S		**Sn**	**09 20 57.8**	**-3.2**
JRA	**Rausu**	**3.01**	**1**	P		**Pn**	**09 20 26.8**	**-0.8**
JRA				*e*S		**Sn**	**09 20 59.8**	**-3.8**
JOT	**Ohata**	**3.07**	**280**	P		**Pn**	**09 20 27.8**	**-0.6**
JOT				*e*S		**Sn**	**09 21 01.2**	**-4.0**
JTKR	**Abashiri--Toko**	**3.16**	**345**	P		**Pn**	**09 20 29.3**	**-0.4**
JTKR				*e*S		**Sn**	**09 21 05.4**	**-2.0**
JKB	**Kayabe**	**3.19**	**289**	P		**Pn**	**09 20 29.9**	**-0.1**
JKB				*e*S		**Sn**	**09 21 04.4**	**-3.6**
JOM	**Ohasama**	**3.24**	**245**	P		**Pn**	**09 20 29.8**	**-1.0**
JOM				*e*S		**Sn**	**09 21 05.2**	**-4.2**
JEW	**Eniwo**	**3.31**	**306**	P		**Pn**	**09 20 32.4**	**+0.7**
JEW				*e*S		**Sn**	**09 21 09.6**	**-1.5**
ASAJ	**Asahikawa**	**3.67**	**331**	Pn		**Pn**	**09 20 37.1**	**+0.4**
	5.0nm,0.3s,baz=350,slow=33,SNR=10							
ASAJ				Sn		**Sn**	**09 21 18.9**	**-1.2**
	5.5nm,0.3s,baz=157,slow=31,SNR=7.3							
YSS	**Yuzh-Sakhalins**	**6.25**	**345**	*e*Pn		**Pn**	**09 21 13.3**	**+1.2**
MJAR	**Matsushiro Arr**	**6.92**	**233**	Pn		**Pn**	**09 21 20.8**	**-0.6**
	1.7nm,0.3s,baz=37,slow=12,SNR=12							
MJAR				Sn		**Sn**	**09 22 44.6**	**+4.3**
	2.1nm,0.3s,baz=69,slow=27,SNR=4.1							
MAJO	**Matsushiro**	**6.92**	**233**	*e*Pn		**Pn**	**09 21 20.8**	**-0.7**
MAT	**Matsushiro**	**6.92**	**233**	P		**Pn**	**09 21 21.0**	**-0.4**
MAT				*e*S		**Sn**	**09 22 34.4**	**-5.8**
JHJ2	**Mitsune**	**8.86**	**210**	*e*Pn		Pn	09 21 41.2	-6.7
JHJ2				*e*Sn		**Sn**	**09 23 29.3**	**+1.5**
JHJ	**Hachijo jima 2**	**8.87**	**210**	Sn		Sn	09 23 17.1	-11
	26nm,0.3s,baz=240,slow=20,SNR=3.9							
USRK	**Ussuriysk Ar.**	**10.19**	**293**	Pn		**Pn**	**09 22 06.0**	**-0.1**
	0.3nm,0.3s,baz=97,slow=18,SNR=3.5							
JNU	**Nakatsue**	**13.75**	**240**	*e*Pn		**Pn**	**09 22 52.0**	**-2.8**
SONM	**Songino Array**	**28.26**	**297**	P		**P**	**09 25 34.7**	**+1.4**
	2.0nm,0.6s,baz=78,slow=8.4,SNR=5.9							
ZALV	**Zalesovo Beam**	**41.53**	**309**	PcP		**PcP**	**09 29 25.4**	**+1.1**
	3.9nm,0.6s,baz=99,slow=1.9,SNR=4.1							
KDAK	**Kodiak Island**	**42.31**	**45**	P		**P**	**09 27 34.2**	**+0.7**
	9.7nm,0.9s,baz=312,slow=23,SNR=7.4							
MKAR	**Makanchi Array**	**44.58**	**299**	P		**P**	**09 27 52.5**	**+0.5**
	3.9nm,0.9s,baz=67,slow=6.3,SNR=4.5							
ILAR	**Eielson Array**	**44.68**	**34**	P		**P**	**09 27 53.2**	**+0.8**
	2.2nm,0.8s,baz=262,slow=5.3,SNR=4.6							
KURK	**Kurchatov**	**45.88**	**306**	P		**P**	**09 28 03.0**

GPA	**Golpazari**	**1.28**	**114**	PN	**Pg**	**09 25 18.9**	**-0.5**
BALB	**Balikesir**	**1.36**	**210**	PN	**Pn**	**09 25 19.4**	**+0.1**
BALB	**Balikesir**	**1.36**	**210**	*e*Pn	**Pn**	**09 25 19.4**	**+0.1**
GULT	**Gulveren**	**1.38**	**105**	PN	**Pb**	**09 25 20.5**	**+0.1**
GULT	**Gulveren**	**1.38**	**105**	*e*Pn	**Pb**	**09 25 20.5**	**+0.1**
BALY	**Balya**	**1.39**	**220**	*i* P	**Pn**	**09 25 19.1**	**-0.8**
BALY				*i* S	**Sg**	**09 25 39.1**	**-0.3**
BALY	**Balya**	**1.39**	**220**	P	**Pn**	**09 25 19.1**	**-0.8**
BALY				S	**Sg**	**09 25 39.1**	**-0.3**
SAHE	**Sakarya_HENDEK**	**1.58**	**88**	*i* P	**Pb**	**09 25 23.5**	**-0.3**
SAHE				*i* S	**Sg**	**09 25 45.1**	**-0.4**
SAHE	**Sakarya_HENDEK**	**1.58**	**88**	P	**Pb**	**09 25 23.5**	**-0.3**
SAHE				S	**Sg**	**09 25 45.2**	**-0.4**
KESN	**Edirne-Kesan**	**1.59**	**271**	*i* P	**Pn**	**09 25 22.8**	**0.0**
KESN				*i* S	**Sn**	**09 25 42.5**	**-0.9**
KESN	**Edirne-Kesan**	**1.59**	**271**	P	**Pn**	**09 25 22.8**	**0.0**
KESN				S	**Sn**	**09 25 42.5**	**-0.9**
LPK	**Lapseki**	**1.59**	**255**	PN	**Pb**	**09 25 23.4**	**-0.6**
LPK	**Lapseki**	**1.59**	**255**	*e*Pn	**Pb**	**09 25 23.4**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.65**	**210**	*i* P	**Pb**	**09 25 24.4**	**-0.5**
STEP				*i* S	**Sg**	**09 25 47.4**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.65**	**210**	P	**Pb**	**09 25 24.4**	**-0.5**
STEP				S	**Sg**	**09 25 47.4**	**-0.3**
BTAS	**Taskesti**	**1.71**	**97**	*i* P	**Pg**	**09 25 26.5**	**-1.0**
BTAS				*i* S	**Sg**	**09 25 49.5**	**-0.2**
BTAS	**Taskesti**	**1.71**	**97**	P	**Pg**	**09 25 26.5**	**-1.0**
ERIK	**Erikli-Kesan**	**1.72**	**266**	PN	**Pn**	**09 25 25.2**	**+0.9**
ERIK	**Erikli-Kesan**	**1.72**	**266**	*e*Pn	**Pn**	**09 25 25.2**	**+0.9**
SIMA	**Simav-Kutahya**	**1.74**	**175**	PN	**Pn**	**09 25 25.2**	**+0.5**
SIMA	**Simav-Kutahya**	**1.74**	**175**	*e*Pn	**Pn**	**09 25 25.2**	**+0.5**
DEMI	**Demirci**	**1.77**	**181**	*i* P	**Pn**	**09 25 25.7**	**+0.6**
DEMI				*i* S	**Sg**	**09 25 52.3**	**+0.6**
DEMI	**Demirci**	**1.77**	**181**	P	**Pn**	**09 25 25.7**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.80**	**257**	PN	**Pb**	**09 25 26.6**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.80**	**257**	*e*Pn	**Pb**	**09 25 26.6**	**-0.9**
EDRB	**Edirne**	**1.84**	**305**	PN	**Pb**	**09 25 27.3**	**-0.9**
EDRB	**Edirne**	**1.84**	**305**	*e*Pn	**Pb**	**09 25 27.3**	**-0.9**
MDUB	**Mudurnu**	**1.88**	**100**	PN	**Pn**	**09 25 27.3**	**+0.7**
MDUB	**Mudurnu**	**1.88**	**100**	*e*Pn	**Pn**	**09 25 27.3**	**+0.7**
ENEZ	**Enez**	**1.99**	**269**	PN	**Pn**	**09 25 29.1**	**+1.1**
ENEZ	**Enez**	**1.99**	**269**	*e*Pn	**Pn**	**09 25 29.1**	**+1.1**
BAYC	**CANAKKALE_Bayr**	**2.01**	**239**	*i* P	**Pn**	**09 25 28.5**	**+0.2**
BAYC				*i* S	**Sn**	**09 25 53.2**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**2.01**	**239**	P	**Pn**	**09 25 28.5**	**+0.2**
BAYC				S	**Sn**	**09 25 53.2**	**-0.2**
ALN	**Alexandroupoli**	**2.07**	**273**	PN	**Pn**	**09 25 30.1**	**+1.0**
ALN	**Alexandroupoli**	**2.07**	**273**	*e*Pn	**Pn**	**09 25 30.1**	**+1.0**
EZN	**Ezine**	**2.12**	**243**	PN	**Pn**	**09 25 30.9**	**+1.1**
EZN	**Ezine**	**2.12**	**243**	*e*Pn	**Pn**	**09 25 30.9**	**+1.1**
DKL	**Dikili**	**2.26**	**220**	PN	**Pn**	**09 25 33.1**	**+1.4**
DKL	**Dikili**	**2.26**	**220**	*e*Pn	**Pn**	**09 25 33.1**	**+1.4**
GADA	**Gvkgeada**	**2.28**	**255**	PN	**Pn**	**09 25 33.6**	**+1.6**
GADA	**Gvkgeada**	**2.28**	**255**	*e*Pn	**Pn**	**09 25 33.6**	**+1.6**
KULA	**Kula-Manisa**	**2.30**	**182**	PN	**Pn**	**09 25 33.4**	**+1.0**
KULA	**Kula-Manisa**	**2.30**	**182**	*e*Pn	**Pn**	**09 25 33.4**	**+1.0**
SVRH	**Sivrihisar-ESK**	**2.51**	**122**	PN	**Pn**	**09 25 36.1**	**+0.8**
SVRH	**Sivrihisar-ESK**	**2.51**	**122**	*e*Pn	**Pn**	**09 25 36.1**	**+0.8**
BTIN	**Bart¨–n**	**2.75**	**71**	*i* P	**Pn**	**09 25 39.0**	**+0.5**
BTIN				*i* S	**Sn**	**09 26 12.0**	**+0.4**
BTIN	**Bart¨–n**	**2.75**	**71**	P	**Pn**	**09 25 39.0**	**+0.5**
BTIN				S	**Sn**	**09 26 12.0**	**+0.4**

*IDC **14** 09:33:14.3±0.5, 40.°87N×144.°93E, h0km, mb4.1/25, mb1 4.3/29, mb1mx4.1/68, mbtmp4.1/29, ML3.8/3, Error ellipse: s-maj=15.8km s-min=12.3km az=140.0*
*ISCJB **14** 09:33:15.6±1.2, 40.°91N±0.°02×144.°87E±0.°04, h19km±9km, mb4.1/30, Error ellipse: s-maj=4.8km s-min=4.0km az=22.6*
*NEIC **14** 09:33:15.8±0.2, 40.°86N×144.°91E, h10km, mb4.5/5, Error ellipse: s-maj=6.7km s-min=4.9km az=131.0*
*JMA **14** 09:33:15.8±0.1, 40.°91N×145.°10E, h62km±2km, M4.3*
ISC 14 09:33:16.6±4.3, **40.°91N**±0.°04×**144.°99E**±0.°05, **h16**km±26km, **n74**, σ**2**.**8**°**01**/93, **mb4.2**/30, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.77**	**309**	*e*Pn	**Pn**	**09 33 45.7**	**-0.8**
ERM				*e*Sn	**Sn**	**09 34 06.8**	**-1.8**
JEM	**Erimo**	**1.77**	**310**	P	**Pn**	**09 33 45.6**	**-0.9**
JEM				*e*S	**Sn**	**09 34 06.3**	**-2.3**
JCH	**Churui**	**2.10**	**325**	P	**Pn**	**09 33 50.1**	**-0.9**
JCH				*e*S	**Sn**	**09 34 14.1**	**-2.6**
JAK	**Akkeshi**	**2.10**	**354**	P	**Pn**	**09 33 49.8**	**-1.3**
JAK				*e*S	**Sn**	**09 34 14.1**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.17**	**310**	P	**Pn**	**09 33 52.0**	**0.0**
JNBK				S	**Sn**	**09 34 17.8**	**-0.7**
NEM2	**Nemuro 2**	**2.52**	**13**	P	**Pn**	**09 33 55.0**	**-1.8**
NEM2				*e*S	**Sn**	**09 34 23.0**	**-4.2**
JAR	**Ashorobuto**	**2.56**	**340**	P	**Pn**	**09 33 56.1**	**-1.2**
JAR				*e*S	**Sn**	**09 34 25.5**	**-2.6**
JNK	**Nakash**	**2.69**	**356**	P	**Pn**	**09 33 57.0**	**-2.1**
JNK				*e*S	**Sn**	**09 34 26.4**	**-4.9**
JANG	**Nango**	**2.69**	**260**	P	**Pn**	**09 33 58.1**	**-1.1**
JANG				*e*S	**Sn**	**09 34 27.9**	**-3.6**
JBT2	**Biratori 2**	**2.71**	**315**	*e*S	**Sn**	**09 34 31.3**	**-0.6**
JFR	**Furan**	**2.88**	**322**	P	**Pn**	**09 34 00.8**	**-1.0**
JFR				S	**Sn**	**09 34 32.4**	**-3.6**
JTM	**Tenmabayashi**	**2.98**	**269**	P	**Pn**	**09 34 02.6**	**-0.5**
JTM				S	**Sn**	**09 34 34.8**	**-3.6**
JOT	**Ohata**	**3.01**	**280**	P	**Pn**	**09 34 03.1**	**-0.5**
JOT				*e*S	**Sn**	**09 34 36.1**	**-3.2**
JRA	**Rausu**	**3.03**	**2**	S	**Sn**	**09 34 35.9**	**-3.9**
JTKR	**Abashiri--Toko**	**3.17**	**346**	P	**Pn**	**09 34 05.3**	**-0.4**
JTKR				*e*S	**Sn**	**09 34 40.8**	**-2.3**
JOM	**Ohasama**	**3.17**	**244**	P	**Pn**	**09 34 05.4**	**-0.4**
JEW	**Eniwo**	**3.27**	**307**	P	**Pn**	**09 34 07.6**	**+0.4**
JEW				S	**Sn**	**09 34 44.4**	**-1.4**
JAH	**Hinai**	**3.39**	**259**	P	**Pn**	**09 34 08.6**	**-0.2**
JAH				S	**Sn**	**09 34 45.7**	**-3.0**
JKK2	**Kamakawa 2**	**3.40**	**332**	P	**Pn**	**09 34 08.6**	**-0.3**
JMK	**Ichinoseki**	**3.49**	**237**	P	**Pn**	**09 34 10.0**	**-0.2**
JMK				S	**Sn**	**09 34 46.7**	**-4.4**
JRG	**Rokugo**	**3.66**	**247**	P	**Pn**	**09 34 12.5**	**0.0**
JRG				*e*S	**Sn**	**09 34 54.0**	**-1.3**
ASAJ	**Asahikawa**	**3.66**	**332**	Pn	**Pn**	**09 34 12.6**	**+0.1**
	3.9nm,0.3s,baz=208,slow=16,SNR=10						
ASAJ				Sn	**Sn**	**09 34 54.3**	**-1.1**
	8.0nm,0.3s,baz=268,slow=31,SNR=13						
ASAJ	**Asahikawa**	**3.66**	**332**	Pn	**Pn**	**09 34 12.6**	**+0.1**
ASAJ				*e*Sn	**Sn**	**09 34 50.4**	**-5.0**
ASAJ				Sn	**Sn**	**09 34 54.3**	**-1.1**
MJAR	**Matsushiro Arr**	**6.86**	**233**	Pn	**Pn**	**09 34 56.2**	**-0.3**
	1.1nm,0.3s,baz=40,slow=12,SNR=12						
MJAR				Sn	**Sn**	**09 36 16.1**	**+1.9**
	0.2nm,0.3s,baz=83,slow=16,SNR=2.7						
MAJO	**Matsushiro**	**6.86**	**233**	*e*Pn	**Pn**	**09 34 55.5**	**-1.0**
	15nm,0.6s						
MAT	**Matsushiro**	**6.86**	**233**	P	**Pn**	**09 34 55.7**	**-0.8**
MAT				*e*S	**Sn**	**09 36 09.1**	**-5.1**
JHJ2	**Mitsune**	**8.81**	**210**	*e*Pn	**Pn**	**09 35 22.2**	**-1.0**
JHJ2				*e*Sn	**Sn**	**09 36 54.0**	**-8.1**
JHJ	**Hachijo jima 2**	**8.81**	**210**	Pn	**Pn**	**09 35 23.4**	**+0.2**
	16nm,0.3s,baz=90,slow=20,SNR=2.9						
JHJ				Sn	Sn	09 36 53.0	-9.3
	31nm,0.3s,baz=252,slow=20,SNR=3.4						
USRK	**Ussuriysk Ar.**	**10.14**	**293**	Pn	**Pn**	**09 35 42.2**	**+0.8**
	0.2nm,0.3s,baz=112,slow=11,SNR=7.3						
MDJ	**Mudanjiang**	**11.91**	**293**	Pn	Pn	09 35 58.6	-7.0
PETK	**Petropavlovsk-**	**14.94**	**31**	Pn	**Pn**	**09 36 43.7**	**-3.3**
	0.2nm,0.3s,baz=180,slow=12,SNR=4.1						
SEY	**Seymchan**	**22.50**	**9**	P	**P**	**09 38 15.3**	**+0.2**
	2.1nm,0.7s,baz=180,slow=12,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**28.19**	**132**	T	T	10 08 37.5	
	baz=324,slow=74,SNR=10						
H11N1	**WAKE ISLAND Hy**	**28.20**	**132**	T	T	10 08 38.2	
	baz=324,slow=74,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**28.21**	**132**	T	T	10 08 41.0	
	baz=324,slow=74,SNR=8.4						
SONM	**Songino Array**	**28.22**	**297**	P	**P**	**09 39 08.8**	**+0.2**
	1.5nm,0.7s,baz=73,slow=7.4,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**29.07**	**134**	T	T	10 09 43.5	
	baz=325,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.07**	**134**	T	T	10 09 45.2	
	baz=325,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy**	**29.09**	**134**	T	T	10 09 44.3	
	baz=325,slow=74,SNR=13						
ZALV	**Zalesovo Beam**	**41.49**	**309**	P	**P**	**09 41 01.9**	**-0.7**
	0.4nm,0.3s,baz=110,slow=7.8,SNR=2.6						
ZALV				PcP	**PcP**	**09 43 00.3**	**+0.4**
	1.8nm,0.7s,baz=70,slow=1.9,SNR=5.0						
KDAK	**Kodiak Island**	**42.38**	**45**	P	**P**	**09 41 10.2**	**+0.5**
	10nm,0.8s,baz=302,slow=6.4,SNR=8.5						
MKAR	**Makanchi Array**	**44.53**	**299**	P	**P**	**09 41 27.5**	**+0.2**
	0.7nm,0.5s,baz=89,slow=9.7,SNR=7.9						
ILAR	**Eielson Array**	**44.73**	**34**	P	**P**	**09 41 29.6**	**+0.9**
	2.0nm,0.8s,baz=262,slow=5.7,SNR=12						
KURK	**Kurchatov**	**45.84**	**306**	P	**P**	**09 41 38.4**	**+0.8**
KURBB	**Kurchatov Arra**	**45.92**	**306**	P	**P**	**09 41 38.4**	**+0.2**
	3.2nm,0.6s,baz=77,slow=9.0,SNR=14						
INK	**Inuvik**	**49.67**	**29**	P	**P**	**09 42 08.7**	**+1.7**
	2.1nm,0.6s,baz=301,slow=4.8,SNR=12						
BVAR	**Borovoye Array**	**50.10**	**311**	P	**P**	**09 42 11.2**	**+0.6**
	1.4nm,0.6s,baz=79,slow=8.8,SNR=5.2						
PSI	**Prapat**	**56.15**	**240**	P	**P**	**09 42 56.0**	**+0.2**
	2.6nm,0.3s,baz=117,slow=2.3,SNR=3.7						
RES	**Resolute Bay**	**58.15**	**16**	P	**P**	**09 43 09.7**	**+0.9**
	3.0nm,0.6s,baz=309,slow=7.4,SNR=18						
RES	**Resolute Bay**	**58.15**	**16**	*e*P	**P**	**09 43 09.5**	**+0.7**
	6.1nm,0.8s						
AKTO	**Aktyubinsk**	**58.19**	**311**	P	**P**	**09 43 12.3**	**+2.7**
	1.3nm,0.7s,baz=49,slow=9.3,SNR=3.7						
YKA	**Yellowknife Ar**	**59.06**	**32**	P	**P**	**09 43 16.0**	**+0.6**
	1.2nm,0.8s,baz=298,slow=6.5,SNR=16						
YKA				PcP	**PcP**	**09 44 03.4**	**-0.7**
	0.6nm,0.7s,baz=302,slow=4.2,SNR=6.2						
WRA	**Warramunga Arr**	**61.34**	**191**	P	**P**	**09 43 30.8**	**-0.6**
	3.5nm,0.9s,baz=12,slow=7.0,SNR=8.1						
ASAR	**Alice Springs**	**65.06**	**191**	P	**P**	**09 43 56.9**	**+0.8**
	0.8nm,0.7s,baz=7.7,slow=5.9,SNR=7.0						
YBH	**Yreka Blue Hor**	**65.81**	**55**	P	**P**	**09 44 02.3**	**+1.2**
	2.9nm,0.8s,baz=246,slow=6.0,SNR=3.4						
FINES	**FINESS Array B**	**66.67**	**333**	P	**P**	**09 44 06.6**	**+0.5**
	1.5nm,0.6s,baz=46,slow=8.2,SNR=6.9						
FFC	**Flin Flon**	**68.94**	**35**	*e*P	**P**	**09 44 21.1**	**+0.5**
	0.4nm,0.4s						
KBZ	**Khabaz**	**70.47**	**311**	P	**P**	**09 44 31.3**	**+1.2**
	2.3nm,0.9s,baz=20,slow=5.7,SNR=3.6						
NVAR	**Mina Array Bea**	**70.48**	**56**	P	**P**	**09 44 31.9**	**+1.4**
	1.5nm,0.8s,baz=290,slow=7.0,SNR=9.3						
H17A	**Grant Village**	**71.38**	**47**	*e*P	**P**	**09 44 36.0**	**0.0**
	3.4nm,1.0s						
NOA	**NORSAR Array B**	**71.66**	**338**	P	**P**	**09 44 37.2**	**+0.1**
	0.4nm,0.4s,baz=34,slow=6.2,SNR=2.8						
HFS	**Hagfors**	**71.68**	**337**	P	**P**	**09 44 37.6**	**+0.4**
	1.4nm,0.8s,baz=98,slow=11,SNR=5.0						
AKASG	**Malin Array Be**	**72.91**	**323**	P	**P**	**09 44 44.8**	**+0.2**
	1.7nm,0.4s,baz=44,slow=6.5,SNR=8.3						
PDAR	**Pinedale Array**	**72.99**	**48**	P	**P**	**09 44 46.2**	**+0.6**
	0.6nm,0.6s,baz=239,slow=2.7,SNR=5.8						
MPU	**Maple Canyon**	**73.56**	**51**	*e*P	**P**	**09 44 50.4**	**+1.4**
	11nm,0.8s						
SRU	**San Rafael Swe**	**74.80**	**51**	*e*P	**P**	**09 44 57.3**	**+1.1**
	3.7nm,0.8s						
SCHQ	**Schefferville**	**80.83**	**18**	P	**P**	**09 45 29.6**	**+0.3**
	3.1nm,0.9s,baz=291,slow=8.6,SNR=4.7						
GERES	**GERESS Array B**	**80.83**	**330**	P	**P**	**09 45 29.1**	**-0.4**
	0.3nm,0.4s,baz=39,slow=6.9,SNR=3.2						
TXAR	**Lajitas Array**	**85.58**	**55**	P	**P**	**09 45 55.4**	**+1.0**
	2.8nm,0.9s,baz=290,slow=3.7,SNR=18						
TORD	**Torodi Ar. Bea**	**116.39**	**319**	PKP	**PKPdf**	**09 51 58.8**	**-1.1**
	0.2nm,0.6s,baz=22,slow=1.6,SNR=2.5						
SDV	**Santo Domingo**	**120.58**	**42**	PKP	**PKPdf**	**09 52 07.1**	**-1.1**
	1.0nm,0.3s,baz=31,slow=12,SNR=2.9						
LPAZ	**La Paz**	**142.32**	**59**	PKP	**PKPdf**	**09 52 50.5**	**+1.1**
	1.3nm,0.8s,baz=45,slow=5.7,SNR=3.8						
SNAA	**Sanae**	**145.26**	**197**	PKPbc	**PKPbc**	**09 52 51.3**	**-0.7**
	4.1nm,0.9s,baz=209,slow=10,SNR=3.4						
LCO	**Las Campanas**	**148.64**	**79**	*e*PKPdf	**PKPdf**	**09 52 58.9**	**-0.6**
LCO				*e*PKPbc	**PKPbc**	**09 53 03.8**	**+0.6**

*IDC **14** 09:35:57.8±0.6, 40.°89N×144.°98E, h0km, mb4.1/22, mb1 4.2/25, mb1mx4.1/66, mbtmp4.0/25, ML3.1/3, Error ellipse: s-maj=17.1km s-min=14.0km az=141.0*
*JMA **14** 09:35:59.9±0.2, 40.°95N×145.°15E, h64km±2km, M4.1*
*ISCJB **14** 09:36:01.0±0.4, 40.°94N±0.°03×144.°94E±0.°04, h33km, mb4.1/23, Error ellipse: s-maj=4.5km s-min=4.1km az=7.1*
ISC 14 09:36:02.8±0.6, **40.°95N**±0.°05×**145.°04E**±0.°06, **h35**km, **n50**, σ**1**°**70**/59, **mb4.1**/23, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.77**	**308**	*e*S	**Sn**	**09 36 50.8**	**-1.3**
JAK	**Akkeshi**	**2.06**	**353**	S	**Sn**	**09 36 57.1**	**-2.1**
JCH	**Churui**	**2.08**	**323**	P	**Pn**	**09 36 33.9**	**-1.2**
JCH				S	**Sn**	**09 36 58.4**	**-1.4**
JOB	**Onbets**	**2.15**	**336**	P	**Pn**	**09 36 34.9**	**-1.1**
JOB				*e*S	**Sn**	**09 37 00.7**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.17**	**308**	P	**Pn**	**09 36 36.1**	**-0.2**
JNBK				*e*S	**Sn**	**09 37 02.3**	**+0.4**
NEM2	**Nemuro 2**	**2.46**	**12**	P	**Pn**	**09 36 38.7**	**-1.7**
NEM2				S	**Sn**	**09 37 05.4**	**-3.9**
JAR	**Ashorobuto**	**2.52**	**338**	P	**Pn**	**09 36 40.1**	**-1.2**
JAR				*e*S	**Sn**	**09 37 08.8**	**-2.0**
JNK	**Nakash**	**2.64**	**355**	P	**Pn**	**09 36 40.6**	**-2.3**
JNK				S	**Sn**	**09 37 09.9**	**-3.7**
JBT2	**Biratori 2**	**2.70**	**313**	P	**Pn**	**09 36 43.6**	**-0.1**
JBT2				*e*S	**Sn**	**09 37 15.8**	**+0.6**
JANG	**Nango**	**2.74**	**259**	S	**Sn**	**09 37 13.4**	**-2.8**
JFR	**Furan**	**2.86**	**321**	P	**Pn**	**09 36 45.3**	**-0.6**
JFR				*e*S	**Sn**	**09 37 16.8**	**-2.3**
JRA	**Rausu**	**2.98**	**1**	S	**Sn**	**09 37 18.2**	**-3.8**
JOT	**Ohata**	**3.04**	**279**	P	**Pn**	**09 36 47.9**	**-0.5**
JOT				S	**Sn**	**09 37 20.8**	**-2.7**
JTKR	**Abashiri--Toko**	**3.13**	**345**	P	**Pn**	**09 36 49.1**	**-0.4**
JTKR				S	**Sn**	**09 37 24.5**	**-1.1**
JKB	**Kayabe**	**3.15**	**289**	P	**Pn**	**09 36 49.4**	**-0.5**
JKB				*e*S	**Sn**	**09 37 24.6**	**-1.7**
JOM	**Ohasama**	**3.23**	**244**	S	**Sn**	**09 37 25.6**	**-2.5**
JEW	**Eniwo**	**3.27**	**306**	P	**Pn**	**09 36 51.7**	**+0.1**
JEW				*e*S	**Sn**	**09 37 28.9**	**-0.4**
ASAJ	**Asahikawa**	**3.64**	**331**	Pn	**Pn**	**09 36 56.1**	**-0.4**
	3.8nm,0.3s,baz=160,slow=15,SNR=6.0						
ASAJ				Sn	**Sn**	**09 37 36.0**	**-2.2**
	4.3nm,0.3s,baz=168,slow=26,SNR=6.8						
MJAR	**Matsushiro Arr**	**6.92**	**233**	Pn	**Pn**	**09 37 40.6**	**-1.1**
	0.2nm,0.3s,baz=32,slow=14,SNR=3.1						
MJAR				Sn	**Sn**	**09 38 58.5**	**-0.7**
	0.4nm,0.3s,baz=81,slow=16,SNR=3.0						
MAT	**Matsushiro**	**6.92**	**233**	P	**Pn**	**09 37 39.8**	**-1.9**
MAT				*e*S	**Sn**	**09 38 53.0**	**-6.2**
USRK	**Ussuriysk Ar.**	**10.16**	**293**	Pn	**Pn**	**09 38 25.3**	**-0.7**
	0.2nm,0.3s,baz=104,slow=12,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.20**	**132**	T	T	10 11 19.9	
	baz=322						
H11N1	**WAKE ISLAND Hy**	**28.21**	**132**	T	T	10 11 20.1	
	baz=322						
H11N3	**WAKE ISLAND Hy**	**28.22**	**132**	T	T	10 11 33.2	
	baz=322						
SONM	**Songino Array**	**28.23**	**297**	P	**P**	**09 41 52.4**	**0.0**
	0.7nm,0.7s,baz=76,slow=9.1,SNR=2.4						
ZALV	**Zalesovo Beam**	**41.49**	**309**	P	**P**	**09 43 46.6**	**+0.5**
	0.4nm,0.3s,baz=60,slow=8.5,SNR=2.6						
ZALV				PcP	**PcP**	**09 45 44.3**	**+1.1**
	2.7nm,0.6s,baz=89,slow=3.0,SNR=7.1						
KDAK	**Kodiak Island**	**42.31**	**45**	P	**P**	**09 43 53.7**	**+0.9**
	7.8nm,0.8s,baz=265,slow=5.8,SNR=9.4						
MKAR	**Makanchi Array**	**44.54**	**299**	P	**P**	**09 44 11.5**	**+0.5**
	0.7nm,0.6s,baz=76,slow=11,SNR=4.0						
ILAR	**Eielson Array**	**44.67**	**34**	P	**P**	**09 44 13.0**	**+1.3**
	1.4nm,0.7s,baz=260,slow=6.3,SNR=11						
CMAR	**Chiang Mai Arr**	**45.25**	**254**	P	**P**	**09 44 17.4**	**+0.5**
	1.4nm,0.4s,baz=35,slow=8.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**45.92**	**306**	P	**P**	**09 44 21.7**	**-0.1**
	3.4nm,0.8s,baz=76,slow=8.7,SNR=6.7						
INK	**Inuvik**	**49.61**	**29**	P	P	09 44 51.8	+1.7
	0.9nm,0.4s,baz=282,slow=3.5,SNR=7.8						
BVAR	**Borovoye Array**	**50.10**	**311**	P	**P**	**09 44 55.2**	**+1.1**
	1.2nm,0.7s,baz=73,slow=11,SNR=4.0						
RES	**Resolute Bay**	**58.09**	**16**	P	**P**	**09 45 52.6**	**+0.7**
	3.0nm,0.6s,baz=315,slow=5.9,SNR=4.9						
YKA	**Yellowknife Ar**	**59.00**	**32**	P	**P**	**09 45 59.2**	**+0.8**
	0.7nm,0.9s,baz=302,slow=6.6,SNR=5.0						
WRA	**Warramunga Arr**	**61.40**	**191**	P	**P**	**09 46 14.9**	**-0.4**
	1.8nm,0.7s,baz=8.6,slow=6.7,SNR=10						
ASAR	**Alice Springs**	**65.12**	**191**	P	**P**	**09 46 39.8**	**-0.2**
	1.5nm,0.7s,baz=12,slow=6.2,SNR=14						
FINES	**FINESS Array B**	**66.65**	**333**	P	**P**	**09 46 50.2**	**+0.8**
	2.4nm,0.8s,baz=74,slow=10,SNR=4.8						
NVAR	**Mina Array Bea**	**70.42**	**56**	P	**P**	**09 47 13.1**	**-0.5**
	0.5nm,0.6s,baz=297,slow=8.0,SNR=3.5						
KBZ	**Khabaz**	**70.47**	**311**	P	**P**	**09 47 12.2**	**-1.3**
	3.2nm,0.8s,baz=60,slow=3.3,SNR=8.7						
NB2	**NORSAR Subarra**	**71.63**	**338**	P	**P**	**09 47 21.1**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**71.63**	**338**	P	**P**	**09 47 20.7**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=37,slow=6.1,SNR=5.1						
HFS	**Hagfors**	**71.65**	**337**	P	**P**	**09 47 20.6**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=116,slow=6.6,SNR=2.7						
AKASG	**Malin Array Be**	**72.89**	**323**	P	**P**	**09 47 27.6**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=40,slow=4.8,SNR=11						
PDAR	**Pinedale Array**	**72.93**	**48**	P	**P**	**09 47 29.5**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=264,slow=1.8,SNR=3.7						
KHC	**Kasperske Hory**	**80.62**	**330**	*e*P	P	09 48 13.3	+1.6
GERES	**GERESS Array B**	**80.81**	**330**	P	**P**	**09 48 13.7**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=46,slow=5.6,SNR=2.2						
TXAR	**Lajitas Array**	**85.52**	**55**	P	P	09 48 39.0	+1.6
	comp=Z,0.8nm,0.7s,baz=290,slow=1.2,SNR=5.1						
VAE	**Valguarnera**	**89.81**	**323**	P	P	09 48 59.3	+1.5
	comp=Z,19nm,0.5s,baz=66,slow=3.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**116.38**	**320**	PKP	**PKPdf**	**09 54 43.1**	**0.0**
	comp=Z,0.4nm,1.0s,baz=11,slow=2.5,SNR=2.6						

*TIR **14** 09:44:31.0, 41.°83N×19.°74E, h25km, ML2.5*
*CSEM **14** 09:44:33.1±0.3, 42.°07N×20.°16E, h2km, ML2.2, Error ellipse: s-maj=5.3km s-min=4.6km az=139.0*
*PDG **14** 09:44:33.5±0.2, 42.°09N×20.°12E, h19km, ML2.2/10, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*BEO **14** 09:44:35.2±0.6, 42.°10N×20.°08E, h0km, M2.2/9*
ISC 14 09:44:34.0±0.9, **42.°07N**±0.°02×**20.°10E**±0.°02, **h13**km±6km, **n40**, σ**0**°**78**/80, **8C-12D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.16**	**260**	*i* PG	**Pg**	**09 44 37.4**	**-0.5**
PUK				*i* SG	**Sg**	**09 44 41.2**	**+0.7**
PUK	**Puka**	**0.16**	**260**	*i* Pg	**Pg**	**09 44 37.3**	**-0.5**
PUK				*i

*ISK **14** 09:54:04.4, 40°.71N×37°.55E, h8km, ML3.3/4*
*CSEM **14** 09:54:06.7±0.2, 40°.57N×37°.70E, h2km, ML3.3, Error ellipse: s-maj=3.9km s-min=3.1km az=155.0*
*DDA **14** 09:54:06.6, 40°.57N×37°.70E, h7km, Ml2.8*
ISC 14 09:54:06.7±1.1, **40°.57N**±0°.02×**37°.67E**±0°.02, **h3km**±10km, **n27**, σ1§**01**/49, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.32**	**237**		**Pg**	**09 54 11.9**	**-0.9**
RSDY				SG	**Sg**	**09 54 17.4**	**+0.5**
RSDY	**Resadiye-TOKAT**	**0.32**	**237**	*e*Pg	**Pg**	**09 54 11.9**	**-0.9**
RSDY				*e*Sg	**Sg**	**09 54 17.4**	**+0.5**
ORDU	**Ordu-Boztepe**	**0.44**	**18**	*i* P	**Pg**	**09 54 15.7**	**+0.5**
ORDU				*i* S	**Sg**	**09 54 22.1**	**+1.2**
ORDU	**Ordu-Boztepe**	**0.44**	**18**	P	**Pg**	**09 54 15.7**	**+0.5**
ORDU				S	**Sg**	**09 54 22.1**	**+1.2**
SUSE	**Susehri**	**0.54**	**132**	*i* P	**Pg**	**09 54 16.8**	**-0.3**
SUSE				*i* S	**Sg**	**09 54 25.3**	**+1.1**
SUSE	**Susehri**	**0.54**	**132**	P	**Pg**	**09 54 16.8**	**-0.3**
SUSE				S	**Sg**	**09 54 25.3**	**+1.1**
CUZAR	**Zara_SIVAS**	**0.69**	**174**	*i* P	**Pg**	**09 54 20.1**	**+0.3**
CUZAR				*i* S	**Sb**	**09 54 30.0**	**-1.3**
CUZAR	**Zara_SIVAS**	**0.69**	**174**	P	**Pg**	**09 54 20.1**	**+0.3**
CUZAR				S	**Sb**	**09 54 30.0**	**-1.3**
ERBA	**Erbaa**	**0.71**	**279**	*i* P	**Pg**	**09 54 20.8**	**+0.6**
ERBA				*i* S	**Sb**	**09 54 31.4**	**-0.4**
ERBA	**Erbaa**	**0.71**	**279**	P	**Pg**	**09 54 20.8**	**+0.6**
ERBA				S	**Sb**	**09 54 31.4**	**-0.4**
SVSK	**Karacayir**	**0.83**	**218**	PG	**Pg**	**09 54 22.6**	**0.0**
SVSK				SG	**Sb**	**09 54 34.7**	**-0.6**
SVSK	**Karacayir**	**0.83**	**218**	*e*Pg	**Pg**	**09 54 22.6**	**0.0**
SVSK				*e*Sg	**Sb**	**09 54 34.7**	**-0.6**
ESPY	**Espiye-Giresun**	**0.87**	**66**	PG	**Pg**	**09 54 22.4**	**-1.0**
ESPY				SG	**Sb**	**09 54 35.4**	**-1.1**
ESPY	**Espiye-Giresun**	**0.87**	**66**	*e*Pg	**Pg**	**09 54 22.4**	**-1.0**
ESPY				*e*Sg	**Sb**	**09 54 35.4**	**-1.1**
CUKAN	**kangal_SIVAS**	**1.27**	**187**	*i* P	**Pg**	**09 54 30.7**	**-0.2**
CUKAN				*i* S	**Sn**	**09 54 51.1**	**+2.2**
CUKAN	**kangal_SIVAS**	**1.27**	**187**	P	**Pg**	**09 54 30.7**	**-0.2**
CUKAN				S	**Sn**	**09 54 51.2**	**+2.2**
KELT	**Kelkit**	**1.28**	**109**	*i* P	**Pg**	**09 54 30.4**	**-0.8**
KELT				*i* S	**Sb**	**09 54 48.0**	**-0.5**
KELT	**Kelkit**	**1.28**	**109**	P	**Pg**	**09 54 30.4**	**-0.8**
KELT				S	**Sb**	**09 54 48.0**	**-0.5**
KEMA	**Kemaliye**	**1.45**	**154**	*i* P	**Pb**	**09 54 33.7**	**-0.6**
KEMA				*i* S	**Sg**	**09 54 55.0**	**+1.9**
KEMA	**Kemaliye**	**1.45**	**154**	P	**Pb**	**09 54 33.7**	**-0.6**
KEMA				S	**Sg**	**09 54 55.0**	**+1.9**
CUSAR	**Sarkisla-SIVAS**	**1.59**	**224**	*i* P	**Pb**	**09 54 36.5**	**-0.3**
CUSAR				*i* S	**Sg**	**09 54 58.5**	**+0.7**
CUSAR	**Sarkisla-SIVAS**	**1.59**	**224**	P	**Pb**	**09 54 36.5**	**-0.3**
CUSAR				S	**Sg**	**09 54 58.5**	**+0.7**
BAYT	**Ayd¯–ntepe-Bay**	**1.89**	**95**	PN	**Pn**	**09 54 39.2**	**-0.8**
BAYT	**Ayd¯–ntepe-Bay**	**1.89**	**95**	*e*Pn	**Pn**	**09 54 39.2**	**-0.8**
YOZ	**Yozgat**	**2.03**	**243**	PN	**Pn**	**09 54 39.5**	**-2.4**
PTK	**Pertek**	**2.14**	**141**	PN	**Pn**	**09 54 43.9**	**+0.5**
PTK	**Pertek**	**2.14**	**141**	*e*Pn	**Pn**	**09 54 43.9**	**+0.5**

*SJA **14** 09:54:09.0±0.3, 30°.47S×72°.41W, h20km, ML3.0, MW3.2*
*GUC **14** 09:54:12.2±0.3, 30°.60S×72°.02W, h56km±9km, ML3.5*
ISC 14 09:54:10.7±2.2, **30°.53S**±0°.05×**72°.2W**±0°.1, **h19km**, **n15**, σ2§**31**/19, **1C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.28**	**74**	*e*P	**Pn**	**09 54 33.9**	**+0.1**
TLL				*i* S	**Sn**	**09 54 50.0**	**-0.5**
GO04	**Tololo Observa**	**1.28**	**74**	*e*P	**Pn**	**09 54 33.7**	**-0.1**
GO04				*i* S	**Sn**	**09 54 50.4**	**-0.1**
GO04				IAML		09 54 52.7	
	comp=N,3µm,0.4s						
LCO	**Las Campanas**	**2.01**	**42**	*e*P	**Pb**	**09 54 45.5**	**-1.3**
LCO	**Las Campanas**	**2.01**	**42**	*i* P	**Pb**	**09 54 45.3**	**-1.5**
LCO				*i* S	**Sb**	**09 55 10.5**	**-1.0**
ROCH	**El Roble**	**2.65**	**157**	*e*P	**Pn**	**09 54 53.1**	**+0.5**
ROCH				IAML		09 55 36.4	
	comp=N,121nm,0.2s						
ROC1	**El Roble**	**2.65**	**157**	*e*P	**Pn**	**09 54 53.4**	**+0.8**
RTLS	**Leoncito**	**2.81**	**118**	*e*P	**Pb**	**09 54 58.7**	**-1.7**
RTLS				*e*S	**Sb**	**09 55 35.4**	**+0.8**
AUSP	**Uspallata**	**2.95**	**126**	*e*P	**Pn**	**09 55 00.6**	**+3.7**
AUSP				*e*S	**Sb**	**09 55 38.9**	**+0.1**
AMOG	**MOGNA**	**3.24**	**98**	*e*P	**Pb**	**09 55 04.9**	**-2.7**
AGUA	**GUANDACOL**	**3.40**	**73**	*e*P	**Pb**	**09 55 08.2**	**-2.1**
ASAL	**Salagasta**	**3.55**	**126**	*e*P	**Pn**	**09 55 09.0**	**+4.2**
ARCO	**CERRO ARCO**	**3.63**	**130**	*e*P	**Pb**	**09 55 10.9**	**-3.5**
ARCO				IAML		09 55 16.9	
	comp=Z,24nm,0.3s						
AAGR	**Agrelo**	**3.85**	**132**	*e*P	**Pb**	**09 55 16.8**	**-1.3**
VCA	**Vinchina**	**3.92**	**64**	*e*P	**Pn**	**09 55 14.6**	**+4.4**
VCA				IAML		09 55 22.1	
	comp=Z,37nm,0.2s						
APLL	**PUNTA DE LOS L**	**4.92**	**90**	*e*P	Pn	09 55 15.9	-7.7
APLL				IAML		09 56 40.0	
	comp=Z,4.6nm,0.4s						

*ISK **14** 09:57:16.4, 37°.33N×38°.58E, h5km, ML3.1/9*
*CSEM **14** 09:57:17.7±0.2, 37°.33N×38°.58E, h2km, ML3.1, Error ellipse: s-maj=4.8km s-min=3.9km az=152.0*
*DDA **14** 09:57:18.2, 37°.33N×38°.52E, h7km, Ml3.2*
ISC 14 09:57:17.7±1.1, **37°.33N**±0°.02×**38°.58E**±0°.02, **h3km**±9km, **n43**, σ0§**66**/67, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.22**	**61**	PG	**Pg**	**09 57 21.3**	**-0.8**
URFA				SG	**Sg**	**09 57 25.7**	**+0.7**
URFA	**Urfa**	**0.22**	**61**	*e*Pg	**Pg**	**09 57 21.3**	**-0.8**
URFA				*e*Sg	**Sg**	**09 57 25.7**	**+0.7**
ATAB	**Bozova**	**0.26**	**301**	*i* P	**Pg**	**09 57 21.9**	**-0.9**
ATAB				*i* S	**Sg**	**09 57 26.6**	**+0.4**
ATAB	**Bozova**	**0.26**	**301**	P	**Pg**	**09 57 21.9**	**-0.9**
ATAB				S	**Sg**	**09 57 26.6**	**+0.4**
SURC	**SANLIURFA_SURC**	**0.45**	**176**	*i* P	**Pg**	**09 57 26.7**	**+0.3**
SURC				*i* S	**Sb**	**09 57 34.6**	**-1.0**
SURC	**SANLIURFA_SURC**	**0.45**	**176**	P	**Pg**	**09 57 26.7**	**+0.3**
SURC				S	**Sb**	**09 57 34.6**	**-1.0**
MALT	**Malatya**	**0.98**	**353**	PG	**Pg**	**09 57 36.1**	**-0.5**
MALT				SG	**Sb**	**09 57 51.6**	**+0.6**
MALT	**Malatya**	**0.98**	**353**	*e*Pg	**Pg**	**09 57 36.1**	**-0.5**
AKCD	**Akcadag**	**1.09**	**332**	*i* P	**Pg**	**09 57 38.3**	**-0.4**
AKCD				*i* S	**Sn**	**09 57 55.0**	**-0.8**
AKCD	**Akcadag**	**1.09**	**332**	P	**Pg**	**09 57 38.3**	**-0.4**
AKCD				S	**Sn**	**09 57 55.0**	**-0.8**
GAZ	**Gaziantep**	**1.10**	**262**	PN	**Pg**	**09 57 38.8**	**0.0**
GAZ				SN	**Sn**	**09 57 55.2**	**-0.7**
GAZ	**Gaziantep**	**1.10**	**262**	*e*Pn	**Pg**	**09 57 38.8**	**0.0**
GAZ				*e*Sn	**Sn**	**09 57 55.2**	**-0.7**
ELZG	**Elazig**	**1.21**	**15**	*i* P	**Pn**	**09 57 41.7**	**0.0**
ELZG				*i* S	**Sn**	**09 57 59.5**	**+0.9**
ELZG	**Elazig**	**1.21**	**15**	P	**Pn**	**09 57 41.7**	**0.0**
ELZG				S	**Sn**	**09 57 59.5**	**+0.9**
HCB	**Kahramanmara¯**	**1.33**	**271**	*i* P	**Pn**	**09 57 42.5**	**-0.8**
HCB				*i* S	**Sn**	**09 58 01.5**	**+0.1**
KMRS	**Kahramanmaras**	**1.34**	**278**	PN	**Pg**	**09 57 43.5**	**0.0**
KMRS	**Kahramanmaras**	**1.34**	**278**	*e*Pn	**Pg**	**09 57 43.5**	**0.0**
DIYA	**Diyarbakir**	**1.36**	**64**	*i* P	**Pn**	**09 57 43.6**	**-0.1**
DIYA				*i* S	**Sn**	**09 58 03.2**	**+0.9**
DIYA	**Diyarbakir**	**1.36**	**64**	P	**Pn**	**09 57 43.6**	**-0.1**
DIYA				S	**Sn**	**09 58 03.2**	**+0.9**
DYBB	**Diyarbakir**	**1.39**	**63**	PN	**Pn**	**09 57 43.9**	**-0.2**
DIY	**Diyarbakir**	**1.43**	**66**	*e*Pn	**Pn**	**09 57 43.9**	**-0.7**
MAZI	**Mazidag**	**1.50**	**85**	PN	**Pn**	**09 57 45.7**	**+0.1**
MAZI	**Mazidag**	**1.50**	**85**	*e*Pn	**Pn**	**09 57 45.7**	**+0.1**
DARE	**Darende-Malaty**	**1.51**	**325**	PN	**Pn**	**09 57 45.5**	**-0.3**
DARE	**Darende-Malaty**	**1.51**	**325**	*e*Pn	**Pn**	**09 57 45.5**	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.51**	**311**	*i* P	**Pb**	**09 57 46.4**	**-0.1**
ELBS				*i* S	**Sg**	**09 58 06.9**	**+0.6**
ELBS	**KAHRAMANMARAS**	**1.51**	**311**	P	**Pb**	**09 57 46.4**	**-0.1**
ELBS				S	**Sg**	**09 58 06.9**	**+0.6**
KAMA	**Osmaniye**	**1.53**	**265**	*i* P	**Pb**	**09 57 46.5**	**-0.3**
KAMA				*i* S	**Sg**	**09 58 08.1**	**+1.2**
HEKM	**Malatya_Hekimh**	**1.62**	**343**	*i* P	**Pn**	**09 57 47.5**	**+0.1**
HEKM				*i* S	**Sg**	**09 58 11.2**	**+1.4**
HEKM	**Malatya_Hekimh**	**1.62**	**343**	P	**Pn**	**09 57 47.5**	**+0.1**
HEKM				S	**Sg**	**09 58 11.2**	**+1.4**
PTK	**Pertek**	**1.68**	**22**	PN	**Pn**	**09 57 48.3**	**0.0**
PTK	**Pertek**	**1.68**	**22**	*e*Pn	**Pn**	**09 57 48.3**	**0.0**
MARD	**Mardin**	**1.76**	**90**	*i* P	**Pn**	**09 57 47.6**	**-1.5**
MARD				*i* S	**Sb**	**09 58 12.8**	**-0.4**
ANDN	**Andirin**	**1.79**	**279**	*i* P	**Pn**	**09 57 48.8**	**-0.8**
ANDN				*i* S	**Sg**	**09 58 15.7**	**+0.4**
ANDN	**Andirin**	**1.79**	**279**	P	**Pn**	**09 57 48.8**	**-0.8**
ANDN				S	**Sg**	**09 58 15.7**	**+0.4**
KEMA	**Kemaliye**	**1.93**	**358**	*i* P	**Pn**	**09 57 51.9**	**+0.3**
KEMA	**Kemaliye**	**1.93**	**358**	P	**Pn**	**09 57 51.9**	**+0.3**
KOZT	**Kozan**	**2.19**	**275**	PN	**Pn**	**09 57 55.7**	**+0.6**
KOZT	**Kozan**	**2.19**	**275**	*e*Pn	**Pn**	**09 57 55.7**	**+0.6**
YAYL	**Yayladag**	**2.37**	**238**	PN	**Pn**	**09 57 58.0**	**+0.4**
YAYL	**Yayladag**	**2.37**	**238**	*e*Pn	**Pn**	**09 57 58.0**	**+0.4**
YURE	**YUREGIR**	**2.41**	**259**	PN	**Pn**	**09 57 59.0**	**+0.9**
YURE	**YUREGIR**	**2.41**	**259**	*e*Pn	**Pn**	**09 57 59.0**	**+0.9**

*ISK **14** 09:58:48.3, 36°.92N×27°.56E, h5km, ML2.4/6*
*CSEM **14** 09:58:48.5±0.3, 36°.86N×27°.55E, h2km, ML2.6, Error ellipse: s-maj=6.9km s-min=3.6km az=28.0*
*DDA **14** 09:58:49.5, 36°.93N×27°.58E, h7km, Ml2.6*
ISC 14 09:58:46.1±1.6, **36°.78N**±0°.07×**27°.61E**±0°.04, **h2km**±11km, **n23**, σ1§**71**/37, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.31**	**335**	*i* P	**Pg**	**09 58 53.0**	**+0.9**
BDRM				*i* S	**Sg**	**09 58 56.2**	**0.0**
BDRM	**Kayabasi**	**0.31**	**335**	P	**Pg**	**09 58 53.0**	**+0.9**
BDRM				S	**Sg**	**09 58 56.2**	**0.0**
BODT	**Bodrum**	**0.37**	**319**	PG	**Pg**	**09 58 53.4**	**+0.2**
BODT				SG	**Sg**	**09 58 57.8**	**-0.2**
BODT	**Bodrum**	**0.37**	**319**	*i* Pg	**Pg**	**09 58 53.4**	**+0.2**
BODT				*i* Sg	**Sg**	**09 58 57.8**	**-0.2**
MLSB	**Milas**	**0.53**	**14**	PG	**Pb**	**09 58 57.7**	**-0.4**
MLSB				SG	**Sg**	**09 59 02.7**	**-0.4**
MLSB	**Milas**	**0.53**	**14**	*e*Pg	**Pb**	**09 58 57.7**	**-0.4**
MLSB				*e*Sg	**Sg**	**09 59 02.7**	**-0.4**
YER	**Yerkesik**	**0.64**	**57**	PG	**Pn**	**09 59 00.8**	**-1.5**
YER	**Yerkesik**	**0.64**	**57**	*e*Pg	**Pn**	**09 59 00.8**	**-1.5**
TURN	**Turunc**	**0.80**	**83**	PG	**Pg**	**09 58 59.9**	**-1.5**
TURN				SG	**Sg**	**09 59 08.2**	**-3.6**
TURN	**Turunc**	**0.80**	**83**	*i* P	**Pg**	**09 58 59.8**	**-1.6**
TURN				*i* S	**Sg**	**09 59 08.9**	**-2.9**
TURN	**Turunc**	**0.80**	**83**	*e*Pg	**Pg**	**09 58 59.9**	**-1.5**
DALY	**Dalyan (Mu¯la**	**0.84**	**87**	PG	**Pn**	**09 59 05.4**	**+0.6**
DALY	**Dalyan (Mu¯la**	**0.84**	**87**	*e*Pg	**Pn**	**09 59 05.4**	**+0.6**
AYDN	**Tasoluk**	**0.90**	**14**	*i* P	**Pb**	**09 59 03.9**	**-0.6**
AYDN				*i* S	**Sg**	**09 59 14.8**	**-0.3**
AYDN	**Tasoluk**	**0.90**	**14**	P	**Pb**	**09 59 03.9**	**-0.6**
AYDN				S	**Sg**	**09 59 14.8**	**-0.3**
GCAM	**G?zelcaml?**	**0.96**	**342**	PG	**Pn**	**09 59 05.6**	**-1.0**
GCAM	**G?zelcaml?**	**0.96**	**342**	*i* P	**Pn**	**09 59 06.1**	**-0.5**
GCAM				*i* S	**Sb**	**09 59 17.9**	**-0.8**
GCAM	**G?zelcaml?**	**0.96**	**342**	*e*Pg	**Pn**	**09 59 05.6**	**-1.0**
GCAM	**G?zelcaml?**	**0.96**	**342**	P	**Pn**	**09 59 06.1**	**-0.5**
GCAM				S	**Sb**	**09 59 17.9**	**-0.8**
FETY	**Fethiye**	**1.19**	**97**	PN	**Pg**	**09 59 12.8**	**+3.9**
FETY	**Fethiye**	**1.19**	**97**	*e*Pn	**Pg**	**09 59 12.8**	**+3.9**
TAVA	**DENIZLI_Tavas**	**1.24**	**56**	*i* P	**Pg**	**09 59 13.2**	**+3.3**
TAVA				*i* S	**Sn**	**09 59 29.6**	**+1.6**
TAVA	**DENIZLI_Tavas**	**1.24**	**56**	P	**Pg**	**09 59 13.2**	**+3.3**
TAVA				S	**Sn**	**09 59 29.5**	**+1.6**

*IDC **14** 09:59:35.6±1.0, 40°.83N×145°.16E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.4/70, mbtmp3.4/7, ML3.3/2, Error ellipse: s-maj=27.5km s-min=19.9km az=95.0*
*JMA **14** 09:59:36.8±0.3, 40°.94N×145°.24E, h65km±3km, M3.7*
*ISCJB **14** 09:59:37.7±0.6, 40°.95N±0°.03×145°.08E±0°.05, h33km, mb3.5/5, Error ellipse: s-maj=5.9km s-min=4.9km az=10.3*
ISC 14 09:59:39.3±1.1, **40°.91N**±0°.05×**145°.15E**±0°.07, **h35km**, **n25**, σ1§**77**/37, **mb3.5/5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.86**	**307**	P	**Pn**	**10 00 08.1**	**-0.5**
JEM				*e*S	**Sn**	**10 00 29.5**	**-1.3**
JAK	**Akkeshi**	**2.11**	**351**	P	**Pn**	**10 00 10.3**	**-1.7**
JAK				*e*S	**Sn**	**10 00 35.2**	**-1.8**
JCH	**Churui**	**2.16**	**322**	P	**Pn**	**10 00 11.7**	**-1.0**
JCH				*e*S	**Sn**	**10 00 36.4**	**-1.9**
JOB	**Onbets**	**2.22**	**334**	*e*S	**Sn**	**10 00 38.5**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.25**	**308**	P	**Pn**	**10 00 14.3**	**+0.3**
JNBK				*e*S	**Sn**	**10 00 40.6**	**0.0**
NEM2	**Nemuro 2**	**2.49**	**10**	P	**Pn**	**10 00 15.7**	**-1.6**
NEM2				*e*S	**Sn**	**10 00 43.7**	**-2.7**
JAR	**Ashorobuto**	**2.59**	**337**	P	**Pn**	**10 00 17.0**	**-1.7**
JAR				*e*S	**Sn**	**10 00 46.1**	**-2.9**
JNK	**Nakash**	**2.69**	**353**	P	**Pn**	**10 00 17.7**	**-2.3**
JBT2	**Biratori 2**	**2.79**	**313**	P	**Pn**	**10 00 21.0**	**-0.4**
JBT2				*e*S	**Sn**	**10 00 53.0**	**-0.9**
JANG	**Nango**	**2.81**	**260**	P	**Pn**	**10 00 20.2**	**-1.6**
JFR	**Furan**	**2.94**	**321**	P	**Pn**	**10 00 22.3**	**-1.2**
JFR				*e*S	**Sn**	**10 00 55.0**	**-2.7**
JRA	**Rausu**	**3.02**	**360**	P	**Pn**	**10 00 22.4**	**-2.2**
JOT	**Ohata**	**3.13**	**280**	P	**Pn**	**10 00 25.4**	**-0.7**
JOT				*e*S	**Sn**	**10 00 59.0**	**-3.2**
JTKR	**Abashiri--Toko**	**3.19**	**344**	P	**Pn**	**10 00 26.3**	**-0.6**
JTKR				*e*S	**Sn**	**10 01 02.2**	**-1.4**
JKB	**Kayabe**	**3.24**	**289**	P	**Pn**	**10 00 27.2**	**-0.4**
JKB				*e*S	**Sn**	**10 01 02.8**	**-2.2**
JOM	**Ohasama**	**3.28**	**245**	P	**Pn**	**10 00 27.0**	**-1.2**
JOM				*e*S	**Sn**	**10 01 02.6**	**-3.4**
JEW	**Eniwo**	**3.37**	**306**	P	**Pn**	**10 00 29.7**	**+0.4**
JEW				*e*S	**Sn**	**10 01 07.6**	**-0.4**
ASAJ	**Asahikawa**	**3.71**	**330**	Pn	**Pn**	**10 00 34.5**	**+0.4**
	1.9nm,0.3s,baz=194,slow=18,SNR=8.1						
ASAJ					Sn	**Sn**	**10 01 19.9**	**+3.3**
	2.1nm,0.3s,baz=124,slow=32,SNR=10						
MJAR	**Matsushiro Arr**	**6.96**	**233**	Pn	**Pn**	**10 01 18.1**	**-0.6**
	0.4nm,0.3s,baz=39,slow=12,SNR=4.8						
TLY	**Talaya**	**30.24**	**305**	P	P	10 05 49.5	+2.9
	baz=296,slow=12,SNR=5.6						
ILAR	**Eielson Array**	**44.66**	**34**	P	**P**	**10 07 50.0**	**+1.9**
	0.6nm,0.8s,baz=248,slow=6.3,SNR=5.2						
KURBB	**Kurchatov Arra**	**46.01**	**306**	P	**P**	**10 08 00.2**	**+1.2**
	0.5nm,0.5s,baz=76,slow=9.1,SNR=4.4						
YKA	**Yellowknife Ar**	**58.99**	**32**	P	P	10 09 37.1	+2.2
	0.1nm,0.6s,baz=302,slow=6.8,SNR=3.0						
WRA	**Warramunga Arr**	**61.37**	**192**	P	**P**	**10 09 51.8**	**+0.1**
	1.2nm,0.8s,baz=8.4,slow=6.7,SNR=5.0						
ASAR	**Alice Springs**	**65.09**	**191**	P	**P**	**10 10 17.9**	**+1.6**
	0.2nm,0.7s,baz=1.0,slow=4.9,SNR=5.0						

*MOS **14** 10:02:11.5±1.2, 41°.00N×144°.93E, h13km, mb4.5/29, Error ellipse: s-maj=10.1km s-min=6.0km az=96.6*
*JMA **14** 10:02:11.6±0.2, 40°.90N×145°.16E, h64km±3km, M4.2*
*IDC **14** 10:02:11.2±0.6, 40°.93N×144°.96E, h0km, mb4.2/27, mb1 4.3/32, mb1mx4.1/73, mbtmp4.1/32, ML3.2/4, Error ellipse: s-maj=14.9km s-min=12.1km az=138.0*
*NEIC **14** 10:02:12.6±0.3, 40°.93N×144°.93E, h10km, mb4.0/3, Error ellipse: s-maj=6.4km s-min=4.6km az=120.0*
*BJI **14** 10:02:12.0, 40°.93N×144°.96E, h16km, mb4.6/7*
ISC 14 10:02:13.1±2.6, **41°.02N**±0°.04×**144°.99E**±0°.05, **h13km**±16km, **n106**, σ1§**64**/127, **mb4.3**/39, **7C-2D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.70**	**306**	*ce*P	**Pn**	**10 02 42.0**	**-0.4**
ERM				pmax	pmax		
	comp=Z,144nm,1.7s						
ERM	**Erimo**	**1.70**	**306**	*e*Pn	**Pn**	**10 02 41.9**	**-0.4**
ERM				*e*Sn	**Sn**	**10 03 02.8**	**-1.2**
JEM	**Erimo**	**1.70**	**306**	P	**Pn**	**10 02 43.0**	**+0.6**
JEM				*e*S	**Sn**	**10 03 02.9**	**-1.0**
JAK	**Akkeshi**	**1.99**	**354**	P	**Pn**	**10 02 45.2**	**-1.1**
JAK				*e*S	**Sn**	**10 03 10.1**	**-1.0**
JCH	**Churui**	**2.01**	**323**	P	**Pn**	**10 02 46.3**	**-0.3**
JCH				*e*S	**Sn**	**10 03 10.5**	**-1.0**
JOB	**Onbets**	**2.07**	**336**	P	**Pn**	**10 02 47.0**	**-0.5**
JOB				*e*S	**Sn**	**10 03 12.9**	**-0.2**
JNBK	**Urakawa-nobuka**	**2.10**	**308**	P	**Pn**	**10 02 48.1**	**+0.2**
JNBK				*e*S	**Sn**	**10 03 14.0**	**+0.2**
NEM2	**Nemuro 2**	**2.41**	**13**	P	**Pn**	**10 02 51.1**	**-1.0**
NEM2				*e*S	**Sn**	**10 03 18.6**	**-2.9**
JAR	**Ashorobuto**	**2.45**	**339**	P	**Pn**	**10 02 52.2**	**-0.5**
JAR				*e*S	**Sn**	**10 03 21.5**	**-1.0**
JNK	**Nakash**	**2.57**	**356**	P	**Pn**	**10 02 52.9**	**-1.5**
JNK				*e*S	**Sn**	**10 03 22.7**	**-2.8**
JBT2	**Biratori 2**	**2.63**	**313**	P	**Pn**	**10 02 55.9**	**+0.7**
JBT2				*e*S	**Sn**	**10 03 27.7**	**+0.7**
JANG	**Nango**	**2.72**	**257**	P	**Pn**	**10 02 54.2**	**-2.2**
JANG				*e*S	**Sn**	**10 03 24.7**	**-4.5**
JFR	**Furan**	**2.79**	**321**	P	**Pn**	**10 02 57.4**	**0.0**
JFR				*e*S	**Sn**	**10 03 28.8**	**-2.1**
JRA	**Rausu**	**2.92**	**2**	*e*S	**Sn**	**10 03 31.5**	**-2.5**
JOT	**Ohata**	**3.00**	**278**	P	**Pn**	**10 02 59.1**	**-1.1**
JOT				*e*S	**Sn**	**10 03 32.3**	**-3.7**
JTKR	**Abashiri--Toko**	**3.06**	**345**	P	**Pn**	**10 03 01.1**	**+0.1**
JTKR				*e*S	**Sn**	**10 03 36.7**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**3.08**	**12**	*e*P	**Pn**	**10 03 01.5**	**+0.1**
YUK				*e*S	**Sn**	**10 03 36.1**	**-1.9**
YUK				pmax	pmax		
	comp=Z,166nm,0.3s						
YUK				pmax	pmax		
	comp=N,99nm,0.7s						
YUK				pmax	pmax		
	comp=E,44nm,0.3s						
JKB	**Kayabe**	**3.10**	**288**	P	**Pn**	**10 03 00.7**	**-0.9**
JKB				*e*S	**Sn**	**10 03 35.6**	**-2.9**
SHO	**Shikotan**	**3.16**	**25**	*e*P	**Pn**	**10 03 00.7**	**-1.7**
SHO				*e*S	**Sn**	**10 03 35.8**	**-4.1**
SHO				pmax	pmax		
	comp=Z,63nm,0.4s						
SHO				pmax	pmax		
	comp=E,21nm,0.1s						
SHO				pmax	pmax		
	comp=N,45nm,0.3s						
JEW	**Eniwo**	**3.21**	**306**	P	**Pn**	**10 03 03.8**	**+0.7**
JEW				*e*S	**Sn**	**10 03 41.0**	**-0.2**
JOM	**Ohasama**	**3.23**	**243**	P	**Pn**	**10 03 01.5**	**-1.9**
JOM				*e*S	**Sn**	**10 03 36.5**	**-5.1**
JKK2	**Kamakawa 2**	**3.30**	**331**	P	**Pn**	**10 03 04.4**	**0.0**
JKK2				*e*S	**Sn**	**10 03 41.4**	**-2.1**
ASAJ	**Asahikawa**	**3.56**	**331**	Pn	**Pn**	**10 03 08.6**	**+0.6**
	comp=N,2.0nm,0.3s,baz=174,slow=7.2,SNR=5.0						
ASAJ					Sn	**Sn**	**10 03 50.9**	**+0.9**
	comp=N,3.7nm,0.3s,baz=131,slow=16,SNR=7.2						
KUR	**Kuril'sk**	**4.71**	**26**	*e*P	**Pn**	**10 03 23.9**	**+0.2**
KUR				*e*S	**Sn**	**10 04 16.2**	**-1.9**
KUR				pmax	pmax		
	comp=Z,57nm,0.5s						
KUR				pmax	pmax		
	comp=N,42nm,0.5s						
KUR				pmax	pmax		
	comp=E,20nm,0.3s						
KUR				smax	smax		
	comp=N,126nm,0.7s						
KUR				smax	smax		
	comp=E,85nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.15**	**346**	*e*P	**Pn**	**10 03 45.0**	**+1.5**
YSS	**Yuzh-Sakhalins**	**6.15**	**346**	*e*Pn	**Pn**	**10 03 45.0**	**+1.5**
MAJO	**Matsushiro**	**6.93**	**232**	*e*P	**Pn**	**10 03 53.0**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,14nm,0.6s						
MAJO	**Matsushiro**	**6.93**	**232**	*e*Pn	**Pn**	**10 03 53.0**	**-1.3**
	comp=Z,14nm,0.6s						
MAT	**

	comp=Z,16nm,0.4s							
AKTO	**Aktyubinsk**	**58.12**	**311**	P		**P**	**10 12 06.8**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=68,slow=13,SNR=6.2							
YKA	**Yellowknife Ar**	**58.96**	**32**	P		**P**	**10 12 12.4**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=299,slow=6.5,SNR=15							
YKA				PcP		**PcP**	**10 13 01.1**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=306,slow=3.4,SNR=5.2							
WRA	**Warramunga Arr**	**61.45**	**191**	P		**P**	**10 12 28.0**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=9.9,slow=7.0,SNR=13							
WRA	**Warramunga Arr**	**61.45**	**191**	*i* P		**P**	**10 12 28.7**	**-0.5**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
GEYT	**Alibeck**	**64.35**	**299**	P		**P**	**10 12 49.3**	**+0.8**
	comp=Z,6.1nm,0.4s,baz=117,slow=0.3,SNR=4.9							
ASAR	**Alice Springs**	**65.17**	**191**	P		**P**	**10 12 54.0**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=12,slow=5.9,SNR=13							
FINES	**FINESS Array B**	**66.57**	**333**	P		**P**	**10 13 02.6**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=46,slow=8.2,SNR=6.7							
FFC	**Flin Flon**	**68.85**	**35**	*i* P		**P**	**10 13 18.8**	**+1.9**
KIV	**Kislovodsk**	**70.38**	**311**	*e*P		**P**	**10 13 28.6**	**+1.9**
KIV				pmax	pmax			
	comp=Z,14nm,1.1s							
KBZ	**Khabaz**	**70.40**	**311**	P		**P**	**10 13 27.4**	**+0.8**
	comp=Z,5.6nm,0.9s,baz=61,slow=5.6,SNR=15							
ZEI	**Tsey**	**70.41**	**310**	*e*P		**P**	**10 13 25.1**	**-1.9**
ZEI				pmax	pmax			
	comp=Z,4.0nm,0.9s							
NVAR	**Mina Array Bea**	**70.41**	**56**	P		**P**	**10 13 28.1**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=296,slow=6.6,SNR=5.5							
NB2	**NORSAR Subarra**	**71.56**	**338**	P		**P**	**10 13 33.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=34,slow=6.2							
NOA	**NORSAR Array B**	**71.56**	**338**	P		**P**	**10 13 33.7**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=36,slow=6.0,SNR=5.6							
HFS	**Hagfors**	**71.57**	**337**	P		**P**	**10 13 33.9**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=87,slow=8.0,SNR=3.5							
AKASG	**Malin Array Be**	**72.82**	**323**	P		**P**	**10 13 41.5**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=42,slow=5.9,SNR=11							
KIEV	**Kiev**	**72.83**	**323**	*i* P		**P**	**10 13 40.9**	**-0.2**
KIEV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
PDAR	**Pinedale Array**	**72.91**	**48**	P		**P**	**10 13 42.5**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=224,slow=1.4,SNR=5.5							
BRTR	**Keskin Array B**	**78.25**	**313**	P		**P**	**10 14 13.9**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=54,slow=2.1,SNR=4.8							
BRTR	**Keskin Array B**	**78.25**	**313**	*i* P		**P**	**10 14 15.1**	**+2.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
CLL	**Collm**	**78.98**	**332**	*e*P		**P**	**10 14 17.0**	**+0.8**
CLL	**Collm**	**78.98**	**332**	*e*P		**P**	**10 14 17.0**	**+0.8**
ANMO	**Albuquerque**	**79.92**	**52**	*ce*P		**P**	**10 14 21.9**	**-0.1**
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.2s							
EKA	**Eskdalemuir Ar**	**80.25**	**342**	P		**P**	**10 14 24.1**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=301,slow=6.7,SNR=3.8							
GERES	**GERESS Array B**	**80.73**	**330**	P		**P**	**10 14 26.6**	**+0.6**
	comp=Z,0.3nm,0.2s,baz=61,slow=6.7,SNR=6.3							
GERES	**GERESS Array B**	**80.73**	**330**	P		**P**	**10 14 26.6**	**+0.6**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**85.51**	**55**	P		**P**	**10 14 51.9**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=294,slow=3.3,SNR=11							
TORD	**Torodi Ar. Bea**	**116.31**	**319**	PKP		**PKPdf**	**10 20 56.6**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=351,slow=1.7,SNR=3.2							
LPAZ	**La Paz**	**142.26**	**59**	PKP		**PKPdf**	**10 21 45.7**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=315,slow=5.7,SNR=4.1							
SNAA	**Sanae**	**145.37**	**197**	PKPbc		**PKPbc**	**10 21 47.9**	**-1.5**
	comp=Z,4.4nm,0.8s,baz=225,slow=4.3,SNR=5.7							

IDC 14 10:02:52.0±3.9, 4°62.N×128°09.E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/61, mbtmp3.6/3, Error ellipse: s-maj=332.5km s-min=25.1km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.17**	**166**	P		P	10 08 19.5	+0.2
	0.8nm,0.5s,baz=346,slow=10,SNR=22							
ASAR	**Alice Springs**	**28.68**	**169**	P		P	10 08 50.7	-0.2
	0.4nm,0.3s,baz=354,slow=7.5,SNR=12							
MKAR	**Makanchi Array**	**57.62**	**324**	P		P	10 12 43.9	-0.1
	0.5nm,0.6s,baz=127,slow=6.9,SNR=3.5							

DDA 14 10:08:42.7, 38°.78N×30°.35E, h7km, Ml2.4
CSEM 14 10:08:43.1±0.2, 38°.77N×30°.39E, h5km, ML2.8, Error ellipse: s-maj=5.3km s-min=4.7km az=137.0
ISK 14 10:08:43.4, 38°.73N×30°.47E, h12km, ML2.8/4
ISC 14 10:08:42.0±1.5, 38°.82N±0°.04×30°.42E±0°.03, h1km±15km, n19, σ0°.68/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHUT	**Suhut-Afyon**	**0.28**	**159**	PG		**Pg**	**10 08 47.9**	**+0.5**
SHUT				SG		**Sg**	**10 08 51.2**	**+0.1**
SHUT	**Suhut-Afyon**	**0.28**	**159**	*e*Pg		**Pg**	**10 08 47.9**	**+0.5**
SHUT				*e*Sg		**Sg**	**10 08 51.2**	**+0.1**
BOLV	**Bolvadin**	**0.42**	**103**	*i* P		**Pb**	**10 08 52.6**	**+0.2**
BOLV				*i* S		**Sb**	**10 08 58.7**	**-0.7**
KZIL	**AFYON_Kizioren**	**0.60**	**202**	*i* P		**Pg**	**10 08 53.0**	**-0.5**
KZIL				*i* S		**Sg**	**10 09 01.3**	**0.0**
ESKT	**Eskisehir**	**0.78**	**25**	*i* P		**Pb**	**10 08 58.7**	**+0.2**
ESKT				*i* S		**Sn**	**10 09 11.9**	**-0.8**
SEYT	**Eskypehyr**	**0.78**	**25**	P		**Pb**	**10 08 58.7**	**+0.2**
SEYT				S		**Sn**	**10 09 11.9**	**-0.8**
KHAL	**Karahalli**	**0.85**	**239**	*i* P		**Pg**	**10 08 58.1**	**-0.3**
KHAL				*i* S		**Sg**	**10 09 08.3**	**-1.1**
KHAL	**Karahalli**	**0.85**	**239**	P		**Pg**	**10 08 58.1**	**-0.3**
KHAL				S		**Sg**	**10 09 08.3**	**-1.1**
BAGO	**Egridir - ISPA**	**0.87**	**161**	*i* P		**Pb**	**10 09 00.4**	**+0.4**
ISP	**Isparta**	**0.99**	**175**	PG		**Pb**	**10 09 02.2**	**+0.1**
ISP	**Isparta**	**0.99**	**175**	*e*Pg		**Pb**	**10 09 02.2**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.06**	**53**	PN		**Pn**	**10 09 04.7**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.06**	**53**	*e*Pn		**Pn**	**10 09 04.7**	**+0.5**
SIMA	**Simav-Kutahya**	**1.15**	**284**	PN		**Pn**	**10 09 06.9**	**+1.5**
SIMA	**Simav-Kutahya**	**1.15**	**284**	*e*Pn		**Pn**	**10 09 06.9**	**+1.5**
DOGA	**KONYA_Doganhis**	**1.21**	**125**	*i* P		**Pn**	**10 09 06.4**	**+0.2**
DOGA	**KONYA_Doganhis**	**1.21**	**125**	P		**Pn**	**10 09 06.4**	**+0.2**
KULA	**Kula-Manisa**	**1.41**	**258**	PN		**Pb**	**10 09 09.4**	**+0.2**
KULA	**Kula-Manisa**	**1.41**	**258**	*e*Pn		**Pb**	**10 09 09.4**	**+0.2**

ISCJB 14 10:08:50.9±0.3, 40°.96N±0°.03×144°.93E±0°.04, h10km, mb4.1/34, Error ellipse: s-maj=4.1km s-min=3.7km az=9.8
IDC 14 10:08:51.3±0.6, 40°.90N×144°.96E, h0km, mb4.0/24, mb1 4.2/29, mb1mx4.1/72, mbtmp4.0/29, ML3.5/3, Error ellipse: s-maj=14.9km s-min=13.3km az=144.0
JMA 14 10:08:51.8±0.1, 40°.91N×145°.13E, h68km±2km, M4.1
NEIC 14 10:08:52.8±0.3, 40°.91N×144°.93E, h10km, mb4.2/3, Error ellipse: s-maj=6.1km s-min=5.3km az=117.0
MOS 14 10:08:54.4±1.4, 40°.98N×144°.88E, h35km, mb4.3/24, Error ellipse: s-maj=10.4km s-min=6.2km az=98.2
ISC 14 10:08:52.7±0.5, 41°.00N±0°.04×144°.92E±0°.05, h10km, n93, σ1s53/112, mb4.2/34, 4C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERM	**Erimo**	**1.67**	**308**	*e*P		**Pb**	**10 09 22.2**	**-1.2**
ERM				*e*			10 09 43.2	
ERM	**Erimo**	**1.67**	**308**	*e*Pn		**Pb**	**10 09 22.2**	**-1.2**
ERM				*e*Sn		**Sn**	**10 09 43.2**	**-0.2**
JEM	**Erimo**	**1.67**	**308**	P		**Pb**	**10 09 22.1**	**-1.3**
JEM				*e*S		**Sn**	**10 09 42.9**	**-0.4**
JCH	**Churui**	**1.99**	**325**	P		**Pn**	**10 09 26.5**	**+0.2**
JCH				*e*S		**Sn**	**10 09 51.0**	**-0.3**
JAK	**Akkeshi**	**2.00**	**355**	P		**Pn**	**10 09 25.6**	**-0.9**
JAK				*e*S		**Sn**	**10 09 50.2**	**-1.3**
JOB	**Onbets**	**2.06**	**337**	P		**Pn**	**10 09 27.5**	**+0.1**
JOB				*e*S		**Sn**	**10 09 53.2**	**0.0**
JNBK	**Urakawa-nobuka**	**2.07**	**309**	P		**Pb**	**10 09 28.3**	**-1.9**
JNBK				*e*S		**Sn**	**10 09 54.6**	**+1.4**
NEM2	**Nemuro 2**	**2.44**	**14**	P		**Pn**	**10 09 31.1**	**-1.4**
NEM2				*e*S		**Sn**	**10 09 58.8**	**-3.6**
JAR	**Ashorobuto**	**2.45**	**340**	P		**Pn**	**10 09 32.0**	**-0.7**
JAR				*e*S		**Sn**	**10 10 01.3**	**-1.3**
JNK	**Nakash**	**2.59**	**357**	P		**Pn**	**10 09 33.2**	**-1.4**
JNK				*e*S		**Sn**	**10 10 03.0**	**-3.0**
JBT2	**Biratori 2**	**2.61**	**314**	P		**Pn**	**10 09 35.5**	**+0.7**
JANG	**Nango**	**2.66**	**257**	P		**Pn**	**10 09 34.3**	**-1.3**
JANG				*e*S		**Sn**	**10 10 04.5**	**-3.5**
JFR	**Furan**	**2.77**	**322**	P		**Pn**	**10 09 37.3**	**+0.2**
JFR				*e*S		**Sn**	**10 10 09.8**	**-0.8**
JRA	**Rausu**	**2.94**	**3**	P		**Pn**	**10 09 38.5**	**-0.9**
JRA				*e*S		**Sn**	**10 10 11.5**	**-3.2**
JOT	**Ohata**	**2.95**	**279**	P		**Pn**	**10 09 39.4**	**-0.1**
JOT				*e*S		**Sn**	**10 10 12.8**	**-2.1**
JKB	**Kayabe**	**3.05**	**288**	P		**Pn**	**10 09 41.3**	**+0.3**
JKB				*e*S		**Sn**	**10 10 16.7**	**-0.8**
JTKR	**Abashiri--Toko**	**3.06**	**346**	P		**Pn**	**10 09 41.2**	**+0.2**
JTKR				*e*S		**Sn**	**10 10 17.5**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**3.11**	**13**	*e*P		**Pn**	**10 09 41.0**	**-0.7**
YUK				*e*S		**Sn**	**10 10 16.3**	**-2.6**
YUK				pmax	pmax			
	comp=N,68nm,0.3s							
YUK				pmax	pmax			
	comp=Z,366nm,0.3s							
YUK				pmax	pmax			
	comp=E,61nm,0.1s							
JOM	**Ohasama**	**3.17**	**242**	P		**Pn**	**10 09 41.8**	**-0.8**
JEW	**Eniwo**	**3.17**	**306**	P		**Pn**	**10 09 44.0**	**+1.4**
JEW				*e*S		**Sn**	**10 10 21.6**	**+1.0**
SHO	**Shikotan**	**3.20**	**26**	*e*P		**Pn**	**10 09 40.9**	**-2.0**
SHO				*e*S		**Sn**	**10 10 16.2**	**-4.8**
SHO				pmax	pmax			
	comp=N,54nm,0.5s							
SHO				pmax	pmax			
	comp=Z,99nm,0.5s							
SHO				pmax	pmax			
	comp=E,49nm,0.2s							
JKK2	**Kamakawa 2**	**3.29**	**331**	P		**Pn**	**10 09 44.8**	**+0.6**
ASAJ	**Asahikawa**	**3.55**	**332**	Pn		**Pn**	**10 09 48.4**	**+0.5**
	comp=E,4.1nm,0.3s,baz=195,slow=18,SNR=9.0							
ASAJ				Sn		**Sn**	**10 10 31.4**	**+1.5**
	comp=E,3.9nm,0.3s,baz=106,slow=34,SNR=7.5							
ASAJ	**Asahikawa**	**3.55**	**332**	*e*Pn		**Pn**	**10 09 48.4**	**+0.5**
ASAJ				Sn		**Sn**	**10 10 31.4**	**+1.5**
ASAJ				*e*Sn		**Sb**	**10 10 32.9**	**-5.9**
KUR	**Kuril'sk**	**4.75**	**26**	*e*P		**Pn**	**10 10 03.8**	**-0.4**
KUR				*i* S		**Sn**	**10 10 56.2**	**-3.1**
KUR				pmax	pmax			
	comp=Z,68nm,0.4s							
KUR				pmax	pmax			
	comp=E,19nm,0.4s							
KUR				pmax	pmax			
	comp=N,19nm,0.3s							
KUR				smax	smax			
	comp=E,107nm,0.5s							
KUR				smax	smax			
	comp=N,57nm,0.6s							
MAJO	**Matsushiro**	**6.88**	**232**	*i* P		**Pn**	**10 10 32.7**	**-0.9**
MAJO	**Matsushiro**	**6.88**	**232**	*e*Pn		Pn	10 10 27.5	-6.1
MJAR	**Matsushiro Arr**	**6.88**	**232**	Pn		**Pn**	**10 10 33.2**	**-0.3**
	comp=N,0.7nm,0.3s,baz=41,slow=11,SNR=9.3							
MJAR				Sn		**Sn**	**10 11 51.3**	**-0.6**
	comp=N,0.1nm,0.3s,baz=72,slow=39,SNR=2.4							
MAT	**Matsushiro**	**6.88**	**232**	P		**Pn**	**10 10 31.1**	**-2.5**
MAT				*e*S		**Sn**	**10 11 46.3**	**-5.6**
USRK	**Ussuriysk Ar.**	**10.06**	**293**	Pn		**Pn**	**10 11 19.5**	**+2.4**
	comp=N,0.2nm,0.3s,baz=106,slow=14,SNR=8.4							
KLR	**Kul'dur**	**12.40**	**316**	Pn		**Pn**	**10 11 49.9**	**+0.7**
	comp=N,0.0nm,0.3s,baz=122,slow=16,SNR=7.0							
KLR	**Kul'dur**	**12.40**	**316**	*i* P		**Pn**	**10 11 48.9**	**-0.3**
JNU	**Nakatsue**	**13.69**	**239**	Pn		**Pn**	**10 12 05.3**	**-1.5**
	comp=N,0.2nm,0.3s,baz=26,slow=5.5,SNR=3.4							
ZEA	**Zeya**	**17.42**	**323**	*e*P		**Pn**	**10 12 55.0**	**-0.6**
ZEA				pmax	pmax			
	comp=Z,17nm,1.0s							
MA2	**Magadan**	**18.95**	**9**	P		**Pn**	**10 13 14.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=196,slow=3.8,SNR=3.3							
HIA	**Hailar**	**19.52**	**303**	*e*P		**Pn**	**10 13 20.7**	**-0.6**
HIA				pmax	pmax			
	comp=Z,14nm,1.4s							
HIA	**Hailar**	**19.52**	**303**	*e*P		**Pn**	**10 13 20.7**	**-0.6**
	comp=Z,14nm,1.4s							
SEY	**Seymchan**	**22.41**	**9**	P		**P**	**10 13 51.4**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=191,slow=7.9,SNR=21							
SEY	**Seymchan**	**22.41**	**9**	*ce*P		**P**	**10 13 50.8**	**-0.3**
BOD	**Bodaibo**	**25.89**	**321**	*e*P		**P**	**10 14 22.3**	**-2.2**
BOD				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ULN	**Ulaanbaatar**	**27.68**	**297**	*i* P		**P**	**10 14 41.0**	**+0.1**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ULN	**Ulaanbaatar**	**27.68**	**297**	*e*P		**P**	**10 14 43.1**	**+2.2**
	comp=Z,9.1nm,1.3s							
SONM	**Songino Array**	**28.13**	**297**	P		**P**	**10 14 45.6**	**+0.7**
	comp=Z,3.8nm,1.0s,baz=86,slow=8.9,SNR=16							
H11N2	**WAKE ISLAND Hy**	**28.30**	**132**	T		T	10 44 11.8	
	baz=324,slow=74,SNR=23							
H11N1	**WAKE ISLAND Hy**	**28.31**	**132**	T		T	10 44 12.6	
	baz=324,slow=74,SNR=19							
H11N3	**WAKE ISLAND Hy**	**28.32**	**132**	T		T	10 44 13.4	
	baz=324,slow=74,SNR=22							
H11S1	**WAKE ISLAND Hy**	**29.17**	**134**	T		T	10 45 17.9	
	baz=325,slow=76,SNR=22							
H11S3	**WAKE ISLAND Hy**	**29.18**	**134**	T		T	10 45 17.8	
	baz=325,slow=76,SNR=17							
H11S2	**WAKE ISLAND Hy**	**29.19**	**134**	T		T	10 45 18.2	
	baz=325,slow=76,SNR=18							
BILL	**Bilibino**	**29.46**	**16**	*e*P		**P**	**10 14 55.9**	**-0.4**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
TLY	**Talaya**	**30.05**	**305**	P		**P**	**10 15 01.9**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=122,slow=9.6,SNR=2.3							
TLY	**Talaya**	**30.05**	**305**	*e*P		**P**	**10 15 03.0**	**+1.3**
TLY				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ZAK	**Zakamensk**	**30.21**	**302**	*e*P		**P**	**10 15 03.7**	**+0.5**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
ZALV	**Zalesovo Beam**	**41.39**	**309**	P		**P**	**10 16 39.5**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=91,slow=7.2,SNR=3.8							
ZALV				PcP		**PcP**	**10 18 38.3**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=71,slow=0.6,SNR=4.4							
KDAK	**Kodiak Island**	**42.34**	**45**	*i* P		**P**	**10 16 47.2**	**+0.7**
MKAR	**Makanchi Array**	**44.44**	**299**	P		**P**	**10 17 04.2**	**+0.5**
	comp=N,1.5nm,0.7s,baz=83,slow=9.1,SNR=14							
ILAR	**Eielson Array**	**44.68**	**34**	P		**P**	**10 17 06.3**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=262,slow=6.3,SNR=21							
KURK	**Kurchatov**	**45.74**	**306**	*ce*P		**P**	**10 17 13.5**	**-0.4**
KURK				pmax	pmax			
	comp=Z,17nm,1.2s							
KURK	**Kurchatov**	**45.74**	**306**	*e*P		**P**	**10 17 14.5**	**+0.7**
	comp=Z,26nm,0.8s							
KURBB	**Kurchatov Arra**	**45.82**	**306**	P		**P**	**10 17 15.6**	**+1.1**
	comp=Z,4.9nm,0.8s,baz=76,slow=8.6,SNR=26							
INK	**Inuvik**	**49.61**	**29**	P		**P**	**10 17 44.3**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=272,slow=11,SNR=12							
BVAR	**Borovoye Array**	**50.00**	**311**	P		**P**	**10 17 48.1**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=78,slow=7.7,SNR=7.9							
BRVK	**Borovoye**	**50.05**	**311**	*e*P		**P**	**10 17 48.0**	**+0.8**
BRVK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
ABKAR	**Akbulak array**	**57.51**	**309**	*e*P		**P**	**10 18 42.6**	**+0.7**
	comp=Z,1.8nm,0.7s							
AKTO	**Aktyubinsk**	**58.09**	**311**	P		**P**	**10 18 46.8**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=71,slow=13,SNR=5.8							
YKA	**Yellowknife Ar**	**59.00**	**32**	P		**P**	**10 18 52.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=300,slow=6.6,SNR=12							
YKA				PcP		**PcP**	**10 19 42.4**	**+1.4**
	comp=Z,0.2nm,0.9s,baz=308,slow=4.1,SNR=3.8							
WRAB	**Tennant Creek**	**61.41**	**191**	*e*P		**P**	**10 19 08.1**	**-0.9**
WRAB				pmax	pmax			
	comp=Z,65nm,2.1s							
WRAB	**Tennant Creek**	**61.41**	**191**	*e*P		**P**	**10 19 08.1**	**-0.9**
	comp=Z,65nm,2.1s							
WRA	**Warramunga Arr**	**61.42**	**191**	P		**P**	**10 19 08.0**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=8.7,slow=6.8,SNR=13							
WRA	**Warramunga Arr**	**61.42**	**191**	*i* P		**P**	**10 19 07.0**	**-2.1**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GEYT	**Alibeck**	**64.31**	**299**	P		**P**	**10 19 29.4**	**+1.1**
	comp=Z,4.1nm,0.4s,baz=45,slow=4.9,SNR=2.9							
ASAR	**Alice Springs**	**65.15**	**191**	P		**P**	**10 19 33.2**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=7.3,slow=6.3,SNR=8.8							
FINES	**FINESS Array B**	**66.56**	**333**	P		**P**	**10 19 43.4**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=50,slow=7.5,SNR=5.8							
FFC	**Flin Flon**	**68.89**	**35**	*i* P		**P**	**10 19 59.3**	**+2.0**
KIV	**Kislovodsk**	**70.35**	**311**	*e*P		**P**	**10 20 06.4**	**-0.2**
KIV				pmax	pmax			
	comp=Z,12nm,1.0s							
KBZ	**Khabaz**	**70.37**	**311**	P		**P**	**10 20 08.0**	**+1.4**
	comp=Z,3.4nm,0.8s,baz=46,slow=3.3,SNR=12							
ZEI	**Tsey**	**70.38**	**310**	*e*P		**P**	**10 20 06.8**	**-0.1**
ZEI				pmax	pmax			
	comp=Z,8.0nm,1.5s							
NVAR	**Mina Array Bea**	**70.46**	**56**	P		**P**	**10 20 08.0**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=299,slow=7.5,SNR=5.4							
NB2	**NORSAR Subarra**	**71.55**	**338**	*i* P		**P**	**10 20 13.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=35,slow=6.2							
NOA	**NORSAR Array B**	**71.55**	**338**	P		**P**	**10 20 14.2**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=37,slow=6.1,SNR=4.7							
HFS	**Hagfors**	**71.57**	**337**	P		**P**	**10 20 14.4**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=42,slow=8.8,SNR=3.8							
AKASG	**Malin Array Be**	**72.80**	**323**	P		**P**	**10 20 21.6**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=42,slow=6.2,SNR=9.7							
AKASG	**Malin Array Be**	**72.80**	**323**	*i* P		**P**	**10 20 20.8**	**-0.3**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.5s							
PDAR	**Pinedale Array**	**72.96**	**48**	P		**P**	**10 20 23.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=250,slow=4.4,SNR=4.3							
BRTR	**Keskin Array B**	**78.22**	**313**	P		**P**	**10 20 54.0**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=154,slow=12,SNR=3.6							
CLL	**Collm**	**78.97**	**332**	*e*P		**P**	**10 20 57.0**	**+0.7**
CLL	**Collm**	**78.97**	**332**	*e*P		**P**	**10 20 57.0**	**+0.7**
ANMO	**Albuquerque**	**79.97**	**52**	*i* P		**P**	**10 21 02.3**	**-0.1**
ANMO				pmax	pmax			
	comp=Z,1.0nm,1.0s							
GERES	**GERESS Array B**	**80.72**	**330**	P		**P**	**10 21 07.1**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=35,slow=4.9,SNR=5.0							
TXAR	**Lajitas Array**	**85.57**	**55**	P		**P**	**10 21 32.0**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=301,slow=3.9,SNR=12							
TXAR	**Lajitas Array**	**85.57**	**55**	P		**P**	**10 21 32.0**	**+0.6**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**116.28**	**319**	PKP		**PKPdf**	**10 27 36.4**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=358,slow=2.2,SNR=2.8							
SNAA	**Sanae**	**145.34**	**197**	PKPbc		**PKPdf**	**10 28 29.2**	**-0.3**
	comp=Z,6.7nm,1.0s,baz=348,slow=3.5,SNR=5.5							

JMA 14 10:10:39.6±0.2, 40°.91N×145°.06E, h68km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JEM	**Erimo**	**1.81**	**308**	P		Pn	10 11 09.3	+0.7
JEM				*e*S		Sn	10 11 30.8	+0.3
JCH	**Churui**	**2.12**	**324**	P		Pn	10 11 13.6	+0.8
JCH				*e*S		Sn	10 11 37.9	-0.3
JNBK	**Urakawa-nobuka**	**2.21**	**309**	*e*S		Sn	10 11 41.4	+1.2
NEM2	**Nemuro 2**	**2.50**	**11**	*e*S		Sn	10 11 47.0	-0.4
JAR	**Ashorobuto**	**2.57**	**338**	P		Pn	10 11 20.4	+1.5
JAR				*e*S		Sn	10 11 49.0	-0.1
JNK	**Nakash**	**2.69**	**355**	*e*S		Sn	10 11 50.4	-1.5
JBT2	**Biratori 2**	**2.75**	**314**	*e*S		Sn	10 11 55.0	+1.7
JFR	**Furan**	**2.91**	**322**	*e*S		Sn	10 11 56.7	-0.6
JTM	**Tenmabayashi**	**3.03**	**269**	*e*S		Sn	10 11 59.4	-0.9
JOT	**Ohata**	**3.07**	**280**	*e*S		Sn	10 12 00.0	-1.1
JKB	**Kayabe**	**3.18**	**289**	*e*S		Sn	10 12 04.2	+0.4
JOM	**Ohasama**	**3.22**	**245**	*e*S		Sn	10 12 03.5	-0.5
JEW	**Eniwo**	**3.31**	**307**	S		Sn	10 12 09.5	+2.3

*IDC 14 10:16:29.2±2.2,

JTKR	Abashiri--Toko	3.26 349	eS	Sn	10 26 39.0	-2.5		
JMK	Ichinoseki	3.29 238	eS	Sn	10 26 39.3	-2.8		
ASAJ	Asahikawa	3.71 335	Pn	Pn	10 26 10.0	-0.2		
	0.9nm,0.3s,baz=184,slow=13,SNR=2.8							
ASAJ			Sn	Sn	10 26 49.2	-3.5		
	1.6nm,0.3s,baz=318,slow=21,SNR=3.9							
MJAR	Matsushiro Arr	6.65 233	Pn	Pn	10 26 48.8	-1.8		
	0.3nm,0.3s,baz=40,slow=12,SNR=4.6							
KLR	Kul'dur	12.50 317	Pn	Pn	10 28 11.9	+1.4		
	0.1nm,0.3s,baz=346,slow=0.4,SNR=18							
SEY	Seymchan	22.66 9	P	P	10 30 15.2	+2.0		
	0.2nm,0.2s,baz=176,slow=6.2,SNR=4.3							
MKAR	Makanchi Array	44.46 300	P	P	10 33 24.8	+1.9		
	0.3nm,0.8s,baz=81,slow=8.9,SNR=2.6							
KURBB	Kurchatov Arra	45.87 306	P	P	10 33 35.2	+1.3		
	0.2nm,0.5s,baz=74,slow=8.8,SNR=3.1							
INK	Inuvik	49.86 29	P	P	10 34 06.4	+1.8		
	0.5nm,0.8s,baz=264,slow=9.2,SNR=2.3							
WRA	Warramunga Arr	61.18 191	P	P	10 35 26.2	-0.2		
	1.7nm,0.9s,baz=7.7,slow=6.8,SNR=5.7							

*IDC **14** 10:28:56.8±0.8, 40.°88N×144.°91E, h0km, mb3.7/13, mb1 3.8/14, mb1mx3.7/68, mbtmp3.7/14, ML3.1/1, Error ellipse: s-maj=21.2km s-min=19.4km az=130.0*
*JMA **14** 10:28:57.9±0.3, 40.°97N×145.°16E, h69km±4km, M3.8*
*ISCJB **14** 10:29:00.5±0.6, 41.°06N±0.°04×144.°99E±0.°06, h33km, mb3.7/13, Error ellipse: s-maj=6.6km s-min=5.2km az=142.0*

ISC 14 10:29:02.2±0.8, **41°.04N**±0°.07×**144°.96E**±0°.06, **h35**km, **n29,** σ1§**44**/37, **mb3.7**/13, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JEM	Erimo	1.67	307	P		Pn	10 29 28.3	-0.7
JEM				S		Sn	10 29 48.1	-1.1
JAK	Akkeshi	1.97	354	eS		Sn	10 29 55.7	-0.8
JCH	Churui	1.98	323	P		Pn	10 29 32.0	-1.2
JCH				S		Sn	10 29 55.9	-0.9
JOB	Onbets	2.05	336	S		Sn	10 29 58.6	+0.2
JNBK	Urakawa-nobuka	2.07	308	P		Pn	10 29 34.2	-0.3
JNBK				S		Sn	10 29 59.5	+0.5
NEM2	Nemuro 2	2.40	14	eS		Sn	10 30 03.8	-3.3
JAR	Ashorobuto	2.43	339	P		Pn	10 29 38.5	-0.9
JAR				eS		Sn	10 30 06.9	-1.0
JNK	Nakash	2.56	356	eS		Sn	10 30 08.2	-2.8
JBT2	Biratori 2	2.61	313	P		Pn	10 29 42.1	+0.3
JBT2				eS		Sn	10 30 13.0	+0.8
JFR	Furan	2.76	321	eS		Sn	10 30 14.1	-2.0
JRA	Rausu	2.90	2	eS		Sn	10 30 17.0	-2.6
JOT	Ohata	2.97	278	eS		Sn	10 30 17.4	-3.9
JTKR	Abashiri--Toko	3.04	346	P		Pn	10 29 46.3	-1.4
JTKR				eS		Sn	10 30 22.3	-0.5
JKB	Kayabe	3.07	287	eS		Sn	10 30 21.4	-2.3
JEW	Eniwo	3.18	306	P		Pn	10 29 49.1	-0.6
JEW				eS		Sn	10 30 26.4	0.0
ASAJ	Asahikawa	3.54	331	Pn		Pn	10 29 54.7	0.0
	1.2nm,0.3s,baz=152,slow=15,SNR=3.6							
ASAJ				Sn		Sn	10 30 36.2	+1.0
	3.1nm,0.3s,baz=142,slow=17,SNR=6.6							
KDAK	Kodiak Island	42.30	45	P		P	10 36 52.4	+0.3
	2.5nm,0.6s,baz=278,slow=7.1,SNR=5.6							
MKAR	Makanchi Array	44.45	299	P		P	10 37 09.4	-0.3
	0.4nm,0.7s,baz=78,slow=8.2,SNR=4.6							
ILAR	Eielson Array	44.64	34	P		P	10 37 11.5	+0.6
	0.6nm,0.8s,baz=258,slow=6.4,SNR=7.4							
KURBB	Kurchatov Arra	45.83	306	P		P	10 37 20.2	-0.3
	1.5nm,0.6s,baz=78,slow=8.6,SNR=7.7							
INK	Inuvik	49.56	29	P		P	10 37 50.8	+1.6
	0.6nm,0.8s,baz=299,slow=10,SNR=5.0							
BVAR	Borovoye Array	50.00	311	P		P	10 37 53.6	+0.8
	0.6nm,0.5s,baz=81,slow=8.9,SNR=2.9							
AAK	Ala-Archa	51.09	297	P		P	10 38 01.4	0.0
	1.0nm,0.5s,baz=194,slow=6.9,SNR=3.9							
YKA	Yellowknife Ar	58.96	32	P		P	10 38 58.6	+1.0
	0.1nm,0.5s,baz=302,slow=6.7,SNR=3.5							
WRA	Warramunga Arr	61.46	191	P		P	10 39 13.3	-1.9
	1.1nm,0.8s,baz=8.5,slow=6.9,SNR=6.7							
ASAR	Alice Springs	65.19	191	P		P	10 39 39.6	-0.2
	0.3nm,0.6s,baz=279,slow=18,SNR=4.6							
FINES	FINESS Array B	66.55	333	P		P	10 39 48.7	+0.5
	0.5nm,0.5s,baz=48,slow=2.8,SNR=3.9							
AKASG	Malin Array Be	72.79	323	P		P	10 40 27.3	+0.5
	0.2nm,0.3s,baz=44,slow=6.8,SNR=4.1							
TXAR	Lajitas Array	85.53	55	P		P	10 41 37.5	+0.6
	0.4nm,0.8s,baz=304,slow=3.6,SNR=5.3							

*IDC **14** 10:29:38.7±0.6, 37.°67N×142.°41E, h0km, mb4.0/23, mb1 4.1/28, mb1mx4.0/73, mbtmp4.0/28, ML3.0/5, Error ellipse: s-maj=14.7km s-min=12.0km az=137.0*
*ISCJB **14** 10:29:39.1±1.2, 37.°73N±0.°03×142.°38E±0.°06, h15km±7km, mb4.0/27, Error ellipse: s-maj=7.6km s-min=4.9km az=21.8*
*JMA **14** 10:29:40.4±0.2, 37.°72N×142.°34E, h30km±3km, M4.5*
JMA Felt I J1.
*NEIC **14** 10:29:43.0±2.2, 37.°67N×142.°40E, h29km±15km, mb4.4/4, Error ellipse: s-maj=9.2km s-min=6.2km az=118.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi.

ISC 14 10:29:39.5±2.0, **37.°75N**±0.°05×**142.°31E**±0.°06, **h3**km±11km, **n57,** σ1§**22**/61, **mb4.0**/27, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIO	Ouri	1.03	313	P		Pg	10 29 59.5	+0.3
JIO				eS		Sg	10 30 12.5	-0.1
JFK	Kawauchi	1.21	252	P		Pg	10 30 01.6	-1.0
JMM	Marumori	1.21	276	P		Pn	10 30 01.9	-1.4
JMM				eS		Sg	10 30 17.1	-1.1
JOU	Okura	1.44	296	P		Pn	10 30 05.9	-0.6
JOU				eS		Sn	10 30 24.2	-1.7
JMK	Ichinoseki	1.47	325	P		Pn	10 30 06.2	-0.7
JMK				eS		Sn	10 30 24.7	-2.0
JFT	Otama	1.58	262	P		Pn	10 30 08.1	-0.4
JFT				eS		Sn	10 30 28.2	-1.3
JYS	Shirataka	1.83	285	P		Pn	10 30 11.8	-0.1
JOM	Ohasama	1.89	335	P		Pn	10 30 12.5	-0.2
JYK	Kaneyama	1.93	308	P		Pn	10 30 13.1	-0.1
JFY	Yanaizu	2.10	261	P		Pn	10 30 15.7	+0.1
JRG	Rokugo	2.10	322	P		Pn	10 30 16.1	+0.5
JRG				eS		Sn	10 30 42.3	0.0
MJAR	Matsushiro Arr	3.49	251	Pn		Pn	10 30 35.5	+0.8
	3.6nm,0.3s,baz=85,slow=16,SNR=24							
MJAR				Sn		Sn	10 31 19.6	+3.0
	2.4nm,0.3s,baz=132,slow=25,SNR=3.8							
MAJO	Matsushiro	3.50	251	ePn		Pn	10 30 35.8	+1.1
MAT	Matsushiro	3.50	251	P		Pn	10 30 35.6	+0.8
MAT				eS		Sn	10 31 15.6	-1.1
JHJ2	Mitsune	5.06	204	ePn		Pn	10 30 55.1	-1.1
JHJ	Hachijo jima 2	5.06	205	Pn		Pn	10 30 55.9	-0.4
	13nm,0.3s,baz=120,slow=22,SNR=3.8							
JHJ				Sn		Sn	10 31 56.3	+0.9
	4.5nm,0.3s,baz=78,slow=23,SNR=2.6							
ASAJ	Asahikawa	6.36	2	Pn		Pn	10 31 15.7	+1.6
	baz=162,slow=29,SNR=1.6							
ASAJ				Sn		Sn	10 32 26.1	-1.1
	1.2nm,0.3s,baz=291,slow=26,SNR=2.3							
USRK	Ussuriysk Ar.	10.11	313	Pn		Pn	10 32 07.4	+1.8
	0.5nm,0.3s,baz=126,slow=14,SNR=7.2							
JNU	Nakatsue	10.41	247	Pn		Pn	10 32 13.0	+3.3
	0.2nm,0.3s,baz=90,slow=7.1,SNR=3.7							
KSRS	Korea Array	11.42	273	Pn		Pn	10 32 26.7	+3.2
	0.1nm,0.3s,baz=82,slow=14,SNR=7.9							
KSAR	Wonju Array Be	11.45	273	Pn		Pn	10 32 26.7	+2.8
KLR	Kul'dur	13.78	330	Pn		Pn	10 32 56.1	+0.5
	0.0nm,0.3s,baz=149,slow=12,SNR=3.6							
MA2	Magadan	22.50	11	P		P	10 34 41.4	+1.4
	3.4nm,0.6s,baz=188,slow=9.3,SNR=9.3							
SEY	Seymchan	25.95	11	P		P	10 35 14.3	+1.5
	2.2nm,0.6s,baz=181,slow=9.2,SNR=12							
ULN	Ulaanbaatar	27.55	303	eP		P	10 35 28.4	+0.7
	2.5nm,0.9s							
H11N2	WAKE ISLAND Hy	27.92	123	T		T	11 04 39.2	
	baz=315,slow=75,SNR=77							
H11N1	WAKE ISLAND Hy	27.93	123	T		T	11 04 40.9	
	baz=315,slow=75,SNR=62							
H11N3	WAKE ISLAND Hy	27.94	123	T		T	11 04 38.6	
	baz=315,slow=75,SNR=74							
SONM	Songino Array	27.99	303	P		P	10 35 32.3	+0.7
	5.6nm,0.8s,baz=105,slow=8.6,SNR=23							
ENH	Enshi	28.11	264	eP		P	10 35 31.9	-0.8
	10nm,0.8s							
H11S1	WAKE ISLAND Hy	28.67	125	T		T	11 05 34.4	
	baz=318,slow=74,SNR=18							
H11S3	WAKE ISLAND Hy	28.67	125	T		T	11 05 37.0	
	baz=318							
H11S2	WAKE ISLAND Hy	28.69	125	T		T	11 05 35.6	
	baz=318,slow=74,SNR=24							
ZALV	Zalesovo Beam	41.96	312	P		P	10 37 31.4	0.0
	3.1nm,0.7s,baz=85,slow=7.0,SNR=8.2							
CMAR	Chiang Mai Arr	42.37	255	P		P	10 37 36.3	+1.1
	1.4nm,0.3s,baz=28,slow=43,SNR=4.3							
MKAR	Makanchi Array	44.35	302	P		P	10 37 50.7	-0.2
	2.6nm,0.7s,baz=87,slow=10,SNR=19							
KURK	Kurchatov	46.05	308	P		P	10 38 04.6	+0.3
KDAK	Kodiak Island	46.09	42	P		P	10 38 04.2	-0.3
	2.6nm,0.8s,baz=342,slow=7.8,SNR=2.7							
KURBB	Kurchatov Arra	46.13	308	P		P	10 38 04.6	-0.3
	3.7nm,0.6s,baz=82,slow=8.0,SNR=17							
ILAR	Eielson Array	48.50	33	P		P	10 38 22.9	-0.4
	0.8nm,0.6s,baz=261,slow=6.1,SNR=11							
BVAR	Borovoye Array	50.62	312	P		P	10 38 40.6	+1.1
	0.7nm,0.4s,baz=68,slow=8.0,SNR=3.5							
AAK	Ala-Archa	50.78	298	P		P	10 38 42.1	+0.9
	0.8nm,0.5s,baz=169,slow=6.2,SNR=3.4							
INK	Inuvik	53.42	27	P		P	10 39 00.1	-0.1
	0.6nm,0.8s,baz=293,slow=7.7,SNR=3.9							
ARU	Arti	56.30	318	P		P	10 39 20.3	-0.9
	3.5nm,0.3s							
WRAB	Tennant Creek	57.87	189	eP		P	10 39 30.9	-1.7
	11nm,1.1s							
WRA	Warramunga Arr	57.88	189	P		P	10 39 31.1	-1.6
	4.7nm,0.7s,baz=6.5,slow=7.2,SNR=30							
ABKAR	Akbulak array	58.02	310	eP		P	10 39 32.9	-0.6
	1.2nm,0.5s							
AKTO	Aktyubinsk	58.73	312	P		P	10 39 39.3	+0.8
	0.9nm,0.7s,baz=62,slow=16,SNR=2.9							
ASAR	Alice Springs	61.60	189	P		P	10 39 57.4	-1.0
	1.6nm,0.7s,baz=16,slow=6.6,SNR=13							
YKA	Yellowknife Ar	62.83	31	P		P	10 40 05.2	-0.9
	0.3nm,0.6s,baz=302,slow=6.4,SNR=7.2							
HFS	Hagfors	73.72	336	P		P	10 41 14.3	-0.1
	1.4nm,0.7s,baz=46,slow=8.3,SNR=2.9							
NOA	NORSAR Array B	73.80	338	P		P	10 41 15.4	+0.4
	0.3nm,0.5s,baz=44,slow=7.1,SNR=2.6							
NVAR	Mina Array Bea	73.98	54	P		P	10 41 17.2	+0.5
	0.2nm,0.6s,baz=284,slow=8.3,SNR=2.7							
AKASG	Malin Array Be	74.16	323	P		P	10 41 16.8	-0.4
	0.5nm,0.5s,baz=44,slow=5.6,SNR=3.6							
PDAR	Pinedale Array	76.65	46	P		P	10 41 31.6	-0.4
	0.2nm,0.5s,baz=289,slow=2.8,SNR=3.2							
TXAR	Lajitas Array	89.12	53	P		P	10 42 36.5	-0.2
	0.1nm,0.5s,baz=275,slow=3.3,SNR=2.9							
LPAZ	La Paz	145.71	60	PKPbc		PKPab	10 49 20.7	-0.6
	1.5nm,0.8s,baz=18,slow=4.0,SNR=6.3							

JMA 14 10:32:24.4±0.5, **40.°89N**×**145.°20E**, **h69**km, **M3.6**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JEM	Erimo	1.90	307	P		Pn	10 32 54.2	-0.5
JEM				eS		Sn	10 33 16.8	-0.9
JAK	Akkeshi	2.14	350	eS		Sn	10 33 23.4	0.0
JCH	Churui	2.20	322	P		Pn	10 32 59.6	+0.9
JCH				eS		Sn	10 33 25.2	+0.2
JOB	Onbets	2.25	334	eS		Sn	10 33 27.2	+1.0
JNBK	Urakawa-nobuka	2.30	308	P		Pn	10 33 01.8	+1.7
JNBK				eS		Sn	10 33 28.6	+1.2
NEM2	Nemuro 2	2.51	9	eS		Sn	10 33 31.9	-0.4
JAR	Ashorobuto	2.63	337	eS		Sn	10 33 35.7	+0.4
JNK	Nakash	2.72	353	eS		Sn	10 33 37.2	-0.3
JBT2	Biratori 2	2.84	313	P		Pn	10 33 09.4	+2.1
JBT2				eS		Sn	10 33 43.0	+2.6
JANG	Nango	2.85	261	P		Pn	10 33 06.4	-1.1
JANG				eS		Sn	10 33 38.4	-2.4
JFR	Furan	2.99	320	eS		Sn	10 33 44.1	0.0
JRA	Rausu	3.05	359	eS		Sn	10 33 45.1	-0.3
JEW	Eniwo	3.41	306	P		Pn	10 33 17.5	+2.3
JEW				eS		Sn	10 33 56.3	+1.9

*IDC **14** 10:33:17.6±4.7, 43.°74N×138.°59E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.2/67, mbtmp3.4/5, ML2.7/1, Error ellipse: s-maj=143.6km s-min=24.8km az=178.0*
*JMA **14** 10:33:22.4±0.3, 40.°98N×145.°26E, h69km±4km, M3.6*

ISC 14 10:33:20.7±2.3, **40.°84N**±0.°08×**145.°3E**±0.°1, **h35**km, **n19,** σ1§**40**/25, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JEM	Erimo	2.01	306	P		Pn	10 33 53.0	+0.8
JEM				eS		Sn	10 34 14.9	-1.2
JAK	Akkeshi	2.21	348	eS		Sn	10 34 20.7	-0.2
JCH	Churui	2.31	321	P		Pn	10 33 57.1	+0.9
JCH				eS		Sn	10 34 22.2	-1.1
JOB	Onbets	2.34	332	eS		Sn	10 34 23.7	-0.6
JNBK	Urakawa-nobuka	2.41	308	P		Pn	10 33 59.9	+1.9
JNBK				eS		Sn	10 34 26.0	+0.1
NEM2	Nemuro 2	2.54	7	eS		Sn	10 34 28.5	-0.7
JAR	Ashorobuto	2.72	335	eS		Sn	10 34 31.3	-2.2
JNK	Nakash	2.78	351	P		Pn	10 34 03.0	+0.2
JNK				eS		Sn	10 34 32.4	-2.7
JBT2	Biratori 2	2.94	312	eS		Sn	10 34 39.7	+0.6
JFR	Furan	3.09	320	eS		Sn	10 34 40.8	-1.9
JRA	Rausu	3.10	357	eS		Sn	10 34 42.2	-0.7
JTM	Tenmabayashi	3.23	270	P		Pn	10 34 10.0	+1.0
JTM				eS		Sn	10 34 44.1	-2.2
JOT	Ohata	3.28	281	P		Pn	10 34 10.9	+1.3
JOT				eS		Sn	10 34 45.2	-2.2
JTKR	Abashiri--Toko	3.30	342	eS		Sn	10 34 47.3	-0.6
JOM	Ohasama	3.38	248	P		Pn	10 34 12.2	+1.2
JOM				eS		Sn	10 34 48.1	-1.8
JKB	Kayabe	3.40	289	eS		Sn	10 34 49.5	-0.8
JEW	Eniwo	3.52	306	eS		Sn	10 34 53.4	+0.1
ASAJ	Asahikawa	3.85	329	Pn		Pn	10 34 05.0	-12
	0.8nm,0.3s,baz=315,slow=8.6,SNR=2.1							
ASAJ				Sn		Sn	10 35 01.4	0.0
	1.0nm,0.3s,baz=165,slow=13,SNR=2.3							
ILAR	Eielson Array	44.64	34	P		P	10 41 35.5	+6.0
	0.2nm,0.6s,baz=282,slow=6.6,SNR=4.1							

*CSEM **14** 10:40:48.1, 48.°95N×7.°97E, h10km, ML2.4/7, After LDG*
*STR **14** 10:40:48.4±0.6, 49.°N±3.°×±.°, h5km, M2.1/9, MLv2.1/9*
*LDG **14** 10:40:48.1±0.1, 48.°95N×7.°97E, h10km, Md2.2/2, Ml2.4/7, Error ellipse: s-maj=1.1km s-min=0.9km az=100.0*

ISC 14 10:40:47.8±1.3, **48.°96N**±0.°04×**7.°91E**±0.°06, **h17**km±6km, **n24,** σ1§**27**/36, **France**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SUBF	Surbourg	0.06	223	Pg		Pg	10 40 50.7	-0.3
LANF	Langenberg	0.07	285	Sg		Sg	10 40 52.5	-0.9
LANF	Langenberg	0.07	285	Pg		Pg	10 40 50.9	-0.2
OPP	Oppenau	0.50	159	Pg		Pg	10 40 57.3	-0.5
WLS	Welschbruch	0.66	214	Pg		Pg	10 41 00.8	-0.1
CDF	Champ du Feu	0.69	218	ePg		Pg	10 41 01.3	-0.2
CDF				eSg		Sg	10 41 10.9	+0.2
CDF				eSn		Sb	10 41 12.8	+2.0
	13nm,0.2s							
CDF	Champ du Feu	0.69	218	ePg		Pg	10 41 01.3	-0.2
CDF				eSg		Sg	10 41 10.9	+0.2
CDF				eSn		Sb	10 41 12.8	+2.0
	6.4nm,0.2s							
ECH	Echery	0.90	214	Pg		Pg	10 41 04.8	-0.6
ABH	Alteburg	0.95	346	Pg		Pg	10 41 06.4	0.0
KIZ	Kirchzarten	1.01	180	Pg		Pg	10 41 06.8	-0.6
HINF	Hinteralfeld	1.35	212	ePg		Pb	10 41 13.9	+1.3
HINF				eSg		Sb	10 41 31.0	+1.4
	5.3nm,0.3s							
HINF	Hinteralfeld	1.35	212	ePg		Pb	10 41 13.9	+1.3
HINF				eSg		Sb	10 41 31.0	+1.4
	2.7nm,0.3s							
HAU	Haudompre	1.42	228	ePg		Pb	10 41 15.1	+1.3
HAU				eSg		Sg	10 41 33.8	+0.3
	6.7nm,0.2s							
HAU	Haudompre	1.42	228	ePg		Pb	10 41 15.1	+1.3
HAU				eSg		Sg	10 41 33.8	+0.3
	3.3nm,0.2s							
PAGF	Fort de Pagny	1.50	255	eSg		Sb	10 41 36.4	+2.3
	2.1nm,0.3s,baz=72							
PAGF	Fort de Pagny	1.50	255	eSg		Sb	10 41 36.4	+2.3
	1.0nm,0.3s							
MEZF	Maizieres J'vi	1.95	257	ePg		Pb	10 41 23.4	+0.5
	baz=76							
MEZF	Maizieres J'vi	1.95	257	ePg		Pb	10 41 23.4	+0.5
SFTF	Sexfontaines	2.05	249	eSg		Sg	10 41 53.9	0.0
	3.4nm,0.2s							
SFTF	Sexfontaines	2.05	249	eSg		Sg	10 41 53.9	0.0
	1.7nm,0.2s							
LOR	Lormes	3.20	240	ePg		Pg	10 41 48.4	-0.8
	baz=64							
LOR				eSg		Sg	10 42 29.4	-1.2
	1.7nm,0.2s							
LOR	Lormes	3.20	240	ePg		Pg	10 41 48.4	-0.8
LOR				eSg		Sg	10 42 29.4	-1.2
	0.9nm,0.2s							
SMF	Signal de Mont	3.59	231	ePn		Pn	10 41 42.2	-0.5
SMF				eSn		Sn	10 42 22.0	-2.8
SMF	Signal de Mont	3.59	231	ePn		Pn	10 41 42.2	-0.5
SMF				eSn		Sn	10 42 22.0	-2.8

*IDC **14** 10:40:47.4±1.5, 41.°05N×144.°96E, h0km, mb3.6/11, mb1 3.7/13, mb1mx3.6/72, mbtmp3.6/13, ML2.9/2, Error ellipse: s-maj=33.9km s-min=20.6km az=166.0*
*ISCJB **14** 10:40:48.9±1.9, 41.°08N±0.°04×145.°02E±0.°06, h22km±15km, mb3.5/11, Error ellipse: s-maj=7.5km s-min=6.6km az=147.1*
*JMA **14** 10:40:48.9±0.4, 41.°01N×145.°06E, h71km±4km, M3.5*

ISC 14 10:40:49.2±2.2, **41°.04N**±0°.08×**145°.03E**±0°.08, **h6**km±24km, **n27,** σ2§**72**/37, **mb3.4**/11, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JEM	Erimo	1.71	305	P		Pn	10 41 17.2	-2.4
JEM				eS		Sn	10 41 37.8	-4.0
JAK	Akkeshi	1.97	353	P		Pn	10 41 21.0	-2.1
JAK				eS		Sn	10 41 45.1	-3.1
JCH	Churui	2.01	322	P		Pn	10 41 21.7	-2.0
JCH				eS		Sn	10 41 45.7	-3.4
JOB	Onbets	2.07	335	eS		Sn	10 41 48.4	-2.1
JNBK	Urakawa-nobuka	2.11	307	P		Pn	10 41 24.0	-1.0
JNBK				S		Sn	10 41 49.5	-2.1
NEM2	Nemuro 2	2.39	13	P		Pn	10 41 27.4	-1.4
NEM2				eS		Sn	10 41 53.7	-4.7
JAR	Ashorobuto	2.45	338	P		Pn	10 41 28.5	-1.1
JAR				S		Sn	10 41 56.6	-3.3
JNK	Nakash	2.56	355	P		Pn	10 41 28.4	-2.8
JNK				eS		Sn	10 41 58.1	-4.5
JBT2	Biratori 2	2.65	312	P		Pn	10 41 31.9	-0.5
JBT2				eS		Sn	10 42 03.3	-1.5
JFR	Furan	2.79	320	eS		Sn	10 42 04.3	-4.2
JRA	Rausu	2.90	1	eS		Sn	10 42 06.5	-4.5
JOT	Ohata	3.02	278	P		Pn	10 41 34.5	-3.1
JOT				eS		Sn	10 42 08.0	-6.1
JTKR	Abashiri--Toko	3.05	345	eS		Sn	10 42 12.1	-2.6
JEW	Eniwo	3.22	305	eS		Sn	10 42 16.3	-2.7
ASAJ	Asahikawa	3.56	331	Pn		Pn	10 41 44.5	-0.5
	0.9nm,0.3s,baz=150,slow=20,SNR=3.2							
ASAJ				Sn		Sn	10 42 27.1	-0.4
	1.1nm,0.3s,baz=122,slow=20,SNR=4.6							
MJAR	Matsushiro Arr	6.96	232	Pn		Pn	10 42 31.4	-0.4
	0.1nm,0.3s,baz=40,slow=12,SNR=4.5							
SEY	Seymchan	22.36	9	P		P	10 45 46.4	-1.2
	0.7nm,0.7s,baz=211,slow=9.4,SNR=5.3							
SONM	Songino Array	28.19	297	P		P	10 46 41.3	-1.2
	0.6nm,0.9s,baz=79,slow=8.0,SNR=5.1							
ZALV	Zalesovo Beam	41.44	309	P		P	10 48 34.9	-1.4
	0.4nm,0.4s,baz=88,slow=10,SNR=2.1							
KDAK	Kodiak Island	42.26	45	P		P	10 48 42.6	-0.4
	4.2nm,1.0s,baz=278,slow=7.1,SNR=3.0							
MKAR	Makanchi Array	44.50	299	P		P	10 48 59.3	-2.0
	0.4nm,0.7s,baz=91,slow=8.9,SNR=3.8							
ILAR	Eielson Array	44.61	34	P		P	10 49 01.6	-0.3
	0.4nm,0.7s,baz=266,slow=6.4,SNR=5.3							
KURBB	Kurchatov Arra	45.87	306	P		P	10 49 10.4	-1.7
	1.4nm,0.6s,baz=75,slow=9.0,SNR=2.8							
RES	Resolute Bay	58.01	16	P		P	10 50 41.4	-0.7
	1.1nm,0.8s,baz=308,slow=7.6,SNR=3.7							
YKA	Yellowknife Ar	58.93	32	P		P	10 50 48.2	-0.6
	0.1nm,0.8s,baz=311,slow=5.6,SNR=3.5							
FINES	FINESS Array B	66.57	333	P		P	10 51 38.4	-1.3
	1.7nm,0.9s,baz=43,slow=10,SNR=2.5							
TXAR	Lajitas Array	85.48	55	P		P	10 53 26.7	-1.5

*NEIC **14** 10:49:24.6±0.1, 40.78N×144.76E, h10km, mb5.8/296*
Error ellipse: s-maj=2.9km s-min=1.9km az=145.0
NEIC Felt [III] at Misawa. Also felt at Morioka. Recorded [3 JMA] in Aomori and Iwate.
*MOS **14** 10:49:26.4±1.1, 40.85N×144.79E, h34km, mb6.0/160, MS5.6/34, Error ellipse: s-maj=5.4km s-min=3.5km az=102.3*
MOS Felt (II-III) at Yuzhno-Kuril'sk.
ISC 14 10:49:25.0±0.4, 40.80N±0.03×144.86E±0.03, h14km±2km, h14km:pP-P,n1948,σ1.943/2094, mb5.9/633, MS6.0/76, 58C-91D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.76**	**314**	*ce*P	**Pn**	**10 49 54.0**	**-1.0**
ERM	comp=Z,17μm,1.7s			pmax	pmax		
ERM	**Erimo**	**1.76**	**314**	*e*Pn	**Pn**	**10 49 54.2**	**-0.8**
ERM				*e*Sn	**Sn**	**10 50 17.8**	**+0.6**
JEM	**Erimo**	**1.76**	**314**	P	**Pn**	**10 49 54.1**	**-0.9**
JEM				*e*S	**Sn**	**10 50 17.4**	**+0.2**
JCH	**Churui**	**2.13**	**329**	P	**Pn**	**10 49 59.2**	**-0.9**
JCH				S	**Sn**	**10 50 26.3**	**0.0**
JNBK	**Urakawa-nobuka**	**2.16**	**314**	P	**Pn**	**10 50 00.3**	**-0.2**
JNBK				*e*S	**Sn**	**10 50 27.8**	**+0.7**
JAK	**Akkeshi**	**2.20**	**357**	P	**Pn**	**10 49 59.7**	**-1.3**
JAK				*e*S	**Sn**	**10 50 27.6**	**-0.3**
JOB	**Onbets**	**2.23**	**340**	P	**Pn**	**10 50 01.0**	**-0.5**
JOB				*e*S	**Sn**	**10 50 29.6**	**+0.7**
JANG	**Nango**	**2.58**	**262**	P	**Pn**	**10 50 03.9**	**-2.4**
JANG				*e*S	**Sn**	**10 50 33.7**	**-3.7**
JAR	**Ashorobuto**	**2.62**	**342**	P	**Pn**	**10 50 06.0**	**-0.9**
JAR				*e*S	**Sn**	**10 50 38.1**	**-0.3**
NEM2	**Nemuro 2**	**2.65**	**14**	P	**Pn**	**10 50 05.5**	**-1.7**
NEM2				*e*S	**Sn**	**10 50 36.9**	**-2.1**
JFR	**Furan**	**2.90**	**325**	P	**Pn**	**10 50 09.2**	**-1.5**
JFR				S	**Sn**	**10 50 45.0**	**-0.4**
JOT	**Ohata**	**2.94**	**283**	P	**Pn**	**10 50 09.9**	**-1.3**
JOT				*e*S	**Sn**	**10 50 43.8**	**-2.4**
GLVR	**Golovnino**	**2.98**	**9**	*c i*P	**Pn**	**10 50 10.6**	**-1.1**
GLVR				*i* S	**Sn**	**10 50 45.8**	**-1.3**
JOM	**Ohasama**	**3.04**	**245**	P	**Pn**	**10 50 10.6**	**-2.0**
JOM				*e*S	**Sn**	**10 50 45.0**	**-3.7**
JKB	**Kayabe**	**3.08**	**292**	P	**Pn**	**10 50 11.9**	**-1.2**
JKB				*e*S	**Sn**	**10 50 49.4**	**-0.2**
JRA	**Rausu**	**3.14**	**4**	P	**Pn**	**10 50 12.6**	**-1.4**
JRA				*e*S	**Sn**	**10 50 49.5**	**-1.7**
JTKR	**Abashiri--Toko**	**3.24**	**348**	P	**Pn**	**10 50 14.9**	**-0.5**
JTKR				S	**Sn**	**10 50 54.3**	**+0.5**
GRPR	**Tuman**	**3.26**	**12**	*c i*P	**Pn**	**10 50 14.3**	**-1.3**
GRPR				*i* S	**Sn**	**10 50 51.9**	**-2.3**
JEW	**Eniwo**	**3.26**	**310**	P	**Pn**	**10 50 16.0**	**+0.4**
JEW				S	**Sn**	**10 50 55.6**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**3.31**	**13**	*c i*P	**Pn**	**10 50 14.7**	**-1.7**
YUK				*i* S	**Sn**	**10 50 53.5**	**-2.0**
YUK	comp=Z,16μm,0.3s			pmax	pmax		
YUK	comp=N,4μm,0.1s			pmax	pmax		
YUK	comp=E,5μm,0.4s			pmax	pmax		
YUK	comp=E,257μm,0.6s			smax	smax		
YUK	comp=N,134μm,0.4s			smax	smax		
YUK	comp=N,124μm,9.0s			MLR	MLR		
YUK	comp=E,45μm,9.0s			MLR	MLR		
YUK	comp=Z,114μm,9.0s			MLR	MLR		
LAGR	**Lagunnoye**	**3.32**	**12**	*d i*P	**Pn**	**10 50 16.0**	**-0.5**
LAGR				*i* S	**Sn**	**10 50 54.5**	**-1.2**
JMK	**Ichinoseki**	**3.35**	**238**	P	**Pn**	**10 50 14.6**	**-2.3**
JMK				*e*S	**Sn**	**10 50 52.6**	**-3.9**
SHO	**Shikotan**	**3.40**	**25**	*d i*P	**Pn**	**10 50 15.4**	**-2.1**
SHO				*i* S	**Sn**	**10 50 53.6**	**-4.0**
SHO	comp=Z,4μm,0.4s			pmax	pmax		
SHO	comp=N,1μm,0.3s			pmax	pmax		
SHO	comp=E,1μm,0.3s			pmax	pmax		
SHO	comp=E,25μm,0.5s			smax	smax		
SHO	comp=N,13μm,0.3s			smax	smax		
SHO	comp=Z,97μm,8.0s			MLR	MLR		
SHO	comp=E,62μm,7.0s			MLR	MLR		
SHO	comp=N,59μm,14.0s			MLR	MLR		
JKK2	**Kamakawa 2**	**3.44**	**334**	P	**Pn**	**10 50 18.2**	**0.0**
JKK2				*e*S	**Sn**	**10 50 59.4**	**+0.6**
ASAJ	**Asahikawa**	**3.71**	**334**	Pn	**Pn**	**10 50 21.5**	**-0.3**
ASAJ	comp=N,221nm,0.3s,baz=194,slow=9.8,SNR=116			Sn	**Sn**	**10 51 06.6**	**+1.3**
ASAJ	comp=N,421nm,0.3s,baz=218,slow=14,SNR=10			LR	LR	10 51 30.0	
ASAJ	**Asahikawa**	**3.71**	**334**	*e*Pn	**Pn**	**10 50 21.4**	**-0.5**
ASAJ				*e*Sn	**Sn**	**10 51 04.2**	**-1.1**
JYK	**Kaneyama**	**3.94**	**243**	P	**Pn**	**10 50 23.1**	**-1.9**
JYK				*e*S	**Sn**	**10 51 07.7**	**-3.3**
KUR	**Kuril'sk**	**4.95**	**25**	*e*P	**Pn**	**10 50 38.1**	**-0.7**
KUR				*i* S	**Sn**	**10 51 35.1**	**-0.7**
KUR	comp=Z,4μm,0.9s			pmax	pmax		
KUR	comp=N,1μm,0.2s			pmax	pmax		
KUR	comp=E,1μm,0.3s			pmax	pmax		
KUR	comp=Z,16μm,1.2s			smax	smax		
KUR	comp=N,38μm,0.8s			smax	smax		
KUR	comp=E,31μm,0.7s			smax	smax		
KUR	comp=E,45μm,0.9s			smax	smax		
KUR	comp=N,83μm,0.9s			MLR	MLR		
	comp=Z,48μm,12.0s						
YSS	**Yuzh-Sakhalins**	**6.33**	**347**	*j e*P	**Pn**	**10 50 58.1**	**+0.3**
YSS				*e*S	**Sn**	**10 52 07.9**	**-2.0**
YSS	comp=Z,620nm,0.6s			pmax	pmax		
YSS	comp=N,410nm,0.7s			pmax	pmax		
YSS	comp=E,150nm,0.4s			pmax	pmax		
YSS	comp=N,17μm,11.0s			pmax	pmax		
YSS	comp=E,11μm,11.0s			pmax	pmax		
YSS	comp=Z,10μm,11.0s			smax	smax		
YSS	comp=E,1μm,0.8s			smax	smax		
YSS	comp=N,1μm,0.5s			MLR	MLR		
YSS	comp=Z,30μm,18.0s			MLR	MLR		
YSS	comp=N,35μm,20.0s			MLR	MLR		
YSS	comp=E,50μm,15.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**6.33**	**347**	Pn	**Pn**	**10 50 58.0**	**+0.1**
YSS				*e*Sn	**Sn**	**10 52 10.6**	**+0.7**
MJAR	**Matsushiro Arr**	**6.72**	**233**	Pn	**Pn**	**10 51 01.2**	**-1.9**
MJAR	comp=E,32nm,0.3s,baz=42,slow=12,SNR=127 baz=34,slow=12,SNR=2.5			Sn	**Sn**	**10 52 18.6**	**-0.9**
MJAR	comp=E,72μm,18.4s,baz=55,slow=44			LR	LR	10 54 20.5	
MAJO	**Matsushiro**	**6.72**	**233**	‖ *i*P	**Pn**	**10 51 01.8**	**-1.4**
MAJO	**Matsushiro**	**6.72**	**233**	*e*Pn	**Pn**	**10 51 01.9**	**-1.3**
MAJO				*e*Sn	**Sn**	**10 52 23.5**	**+4.0**
MAT	**Matsushiro**	**6.72**	**233**	P	**Pn**	**10 51 01.5**	**-1.7**
MAT				*e*S	**Sn**	**10 52 12.4**	**-7.1**
MJB9	**Matsu-Tunnel**	**6.72**	**233**	*e*Pn	**Pn**	**10 51 02.0**	**-1.2**
TEY	**Ternei**	**7.39**	**308**	*e*P	**Pn**	**10 51 11.6**	**-0.7**
TEY	comp=N,1μm,2.0s			pmax	pmax		
TEY	comp=Z,278nm,1.2s			pmax	pmax		
INU	**Inuyama**	**8.23**	**231**	*e*Pn	**Pn**	**10 51 22.2**	**-1.8**
INU				*e*Sn	**Sn**	**10 52 53.4**	**-3.4**
JHJ2	**Mitsune**	**8.67**	**209**	*e*Pn	**Pn**	**10 51 25.5**	**-4.4**
JHJ2				*e*Sn	Sn	10 52 56.9	-11
JHJ	**Hachijo jima 2**	**8.67**	**209**	Pn	**Pn**	**10 51 26.1**	**-3.9**
JHJ	comp=Z,196nm,0.3s,baz=349,slow=21,SNR=22			Sn	**Sn**	**10 52 58.8**	**-8.8**
JHJ	comp=Z,734nm,0.3s,baz=286,slow=23,SNR=11			LR	LR	10 55 26.0	
VLA	**Vladivostok**	**9.94**	**288**	‖ *e*P	**Pn**	**10 51 48.6**	**+1.3**
VLA	comp=Z,33μm,19.2s,baz=50,slow=42 comp=Z,2μm,1.8s			pmax	pmax		
USRK	**Ussuriysk Ar.**	**10.09**	**294**	Pn	**Pn**	**10 51 49.4**	**0.0**
USRK	comp=Z,25nm,0.3s,baz=113,slow=12,SNR=170 baz=105,slow=30,SNR=1.5			Sn	**Sn**	**10 53 47.1**	**+4.9**
TYV	**Tymovskoe**	**10.18**	**352**	*e*P	**Pn**	**10 51 51.1**	**+0.6**
TYV				*e*S	**Sn**	**10 53 42.9**	**-1.5**
TYV	comp=Z,531nm,1.0s			pmax	pmax		
TYV	comp=N,101nm,1.8s			smax	smax		
TYV	comp=E,36μm,18.0s			MLR	MLR		
TYV	comp=Z,31μm,15.0s			MLR	MLR		
GRNR	**Gornyy**	**11.57**	**332**	⇑ *i*P	**Pn**	**10 52 09.5**	**-0.1**
GRNR	comp=N,130nm,1.0s			pmax	pmax		
GRNR	comp=E,84nm,1.0s			pmax	pmax		
GRNR	comp=Z,160nm,1.0s			pmax	pmax		
MDJ	**Mudanjiang**	**11.86**	**294**	P	**Pn**	**10 52 12.4**	**-1.2**
MDJ				S	Sn	10 54 35.3	+10
MDJ	comp=Z,410nm,1.6s			pmax	pmax		
MDJ	comp=Z,8μm,5.9s			pmax	pmax		
MDJ	comp=Z,39μm,19.3s			LR	LR		
MDJ	comp=Z,41μm,20.1s			LR	LR		
MDJ	comp=Z,63μm,22.2s			LR	LR		
MDJ	**Mudanjiang**	**11.86**	**294**	*e*Pn	**Pn**	**10 52 13.2**	**-0.3**
MDJ	comp=Z,778nm,1.2s			Sn	Sn	10 54 00.6	-25
KLR	**Kul'dur**	**12.52**	**317**	Pn	**Pn**	**10 52 23.1**	**+0.5**
KLR	comp=Z,0.2nm,0.3s,baz=123,slow=13,SNR=82 baz=39,slow=13,SNR=1.3			Sn	**Sn**	**10 54 43.8**	**+2.2**
KLR	**Kul'dur**	**12.52**	**317**	⇑ *e*P	**Pn**	**10 52 22.4**	**-0.1**
SKR	**Severo-Kuril's**	**12.61**	**35**	*e*P	**Pn**	**10 52 23.6**	**-0.2**
SKR				*e*S	**Sn**	**10 54 36.6**	**-7.4**
SKR	comp=Z,396nm,0.8s			pmax	pmax		
SKR	comp=Z,35μm,14.0s			MLR	MLR		
SKR	comp=Z,45μm,15.0s			MLR	MLR		
NKL	**Nikolayevsk**	**12.67**	**348**	*e*P	**Pn**	**10 52 24.0**	**-0.6**
NKL	comp=N,830nm,1.1s			pmax	pmax		
NKL	comp=Z,440nm,1.1s			pmax	pmax		
JNU	**Nakatsue**	**13.54**	**240**	Pn	**Pn**	**10 52 34.4**	**-2.3**
JNU	comp=Z,5.1nm,0.3s,baz=43,slow=9.3,SNR=46 comp=Z,0.1nm,0.3s,baz=168,slow=1.6,SNR=1.5			Sn	**Sn**	**10 55 08.7**	**+1.8**
JNU	**Nakatsue**	**13.54**	**240**	*e*Pn	**Pn**	**10 52 35.0**	**-1.6**
JNU				Sn	**Sn**	**10 55 08.7**	**+1.8**
KSRS	**Korea Array**	**13.56**	**261**	Pn	**Pn**	**10 52 36.6**	**-0.3**
KSRS	comp=Z,1.1nm,0.3s,baz=77,slow=13,SNR=32 comp=Z,2.1nm,0.3s,baz=69,slow=24,SNR=7.5			Sn	**Sn**	**10 55 11.9**	**+4.6**
KSRS	comp=Z,25μm,18.8s,baz=63,slow=37 baz=78,slow=0.8,SNR=4.9			LR	LR	10 57 42.7	
KSRS				PcP	**PcP**	**10 58 04.0**	**+1.2**
KS01	**Wonju Array Si**	**13.58**	**261**	*e*Pn	**Pn**	**10 52 36.8**	**-0.2**
KS15	**Wonju Array Si**	**13.60**	**261**	*e*Pn	**Pn**	**10 52 37.5**	**+0.2**
KSAR	**Wonju Array Be**	**13.60**	**261**	P	**Pn**	**10 52 36.6**	**-0.7**
KSAR						10 55 12.0	
KSAR	**Wonju Array Be**	**13.60**	**261**	Pn	**Pn**	**10 52 36.6**	**-0.7**
KSAR				Sn	**Sn**	**10 55 11.9**	**+3.8**
KSAR				PcP	**PcP**	**10 58 04.0**	**+1.1**
CBIJ	**Chichi jima**	**13.85**	**190**	*e*Pn	Pn	10 52 35.7	-5.1
CBIJ				*e*Sn	Sn	10 54 56.7	-18
JCJ	**Chichijima**	**13.85**	**190**	Pn	Pn	10 52 34.2	-6.6
JCJ	comp=Z,64nm,0.3s,baz=73,slow=20,SNR=26 comp=Z,298nm,1.3s			Sn	Sn	10 54 58.2	-16
TJN	**Taejon**	**14.37**	**258**	‖ *i*P	**Pn**	**10 52 47.1**	**-0.9**
INCN	**Inchon**	**14.53**	**263**	P	**Pn**	**10 52 49.6**	**-0.5**
INCN	**Inchon**	**14.53**	**263**	*e*Pn	**Pn**	**10 52 49.6**	**-0.5**
CN2	**Changchun**	**14.67**	**288**	*e*P	**Pn**	**10 52 49.6**	**-2.4**
CN2				*es*P	P	10 52 56.5	-1.7
CN2				*e*S	**Sn**	**10 55 32.3**	**-2.0**
CN2	comp=Z,120nm,1.2s			pmax	pmax		
CN2	comp=Z,7μm,10.0s			pmax	pmax		
CN2	comp=Z,27μm,16.0s			LR	LR		
CN2	comp=Z,45μm,16.0s			LR	LR		
CN2	comp=Z,32μm,16.0s			LR	LR		
PEA0B	**Petropavlovsk-**	**15.08**	**31**	*e*Pn	**Pn**	**10 52 54.5**	**-3.0**
PETK	**Petropavlovsk-**	**15.08**	**31**	Pn	**Pn**	**10 52 54.0**	**-3.5**
PETK	comp=Z,2.8nm,0.3s,baz=168,slow=12,SNR=43 comp=Z,0.9nm,0.3s,baz=152,slow=19,SNR=2.7			Sn	**Sn**	**10 55 39.5**	**-4.6**
PETK	**Petropavlovsk-**	**15.08**	**31**	*e*Pn	**Pn**	**10 52 52.7**	**-4.8**
PETK				Sn	**Sn**	**10 55 39.5**	**-4.6**
PET	**Petropavlovsk**	**15.40**	**33**	*e*P	**Pn**	**10 52 58.0**	**-3.7**
PET				*e*S	**Sn**	**10 55 42.9**	**-9.0**
PET	comp=Z,381nm,1.2s			pmax	pmax		
PET	comp=N,177nm,0.6s			smax	smax		
PET	comp=E,194nm,0.6s			smax	smax		
PET	comp=Z,29μm,14.0s			MLR	MLR		
PET	comp=Z,30μm,13.0s			MLR	MLR		
PET	**Petropavlovsk**	**15.40**	**33**	*e*Pn	**Pn**	**10 53 00.0**	**-1.6**
PET	comp=Z,568nm,1.3s			*e*Sn	**Sn**	**10 55 44.5**	**-7.4**
SNY	**Shenyang**	**16.02**	**281**	‖ P	**Pn**	**10 53 08.5**	**-1.3**
SNY				S	**Sn**	**10 55 57.0**	**-10**
SNY	comp=Z,270nm,2.5s			pmax	pmax		
SNY	comp=Z,8μm,12.0s			pmax	pmax		
SNY	comp=Z,22μm,15.4s			LR	LR		
SNY	comp=Z,37μm,16.9s			LR	LR		
SNY	comp=Z,47μm,17.0s			LR	LR		
ZEA	**Zeya**	**17.55**	**323**	*e*P	**Pn**	**10 53 25.2**	**-3.8**
ZEA				*i*		10 56 44.0	
ZEA	comp=E,380nm,1.0s			pmax	pmax		
ZEA	comp=N,500nm,1.2s			pmax	pmax		
ZEA	comp=Z,680nm,1.2s			MLR	MLR		
ZEA	comp=Z,73μm,15.0s			MLR	MLR		
ZEA	comp=E,43μm,16.0s			MLR	MLR		
ZEA	comp=N,39μm,15.0s						
DL2	**Dalian**	**17.93**	**272**	⇑ *i*P	**Pn**	**10 53 32.9**	**-0.9**
DL2				S	**Sn**	**10 56 52.0**	**-1.4**
DL2	comp=N,380nm,1.5s			pmax	pmax		
DL2	comp=N,11μm,7.4s			pmax	pmax		
DL2	comp=N,9μm,14.7s			LR	LR		
DL2	comp=N,11μm,18.0s			LR	LR		
DL2	comp=N,14μm,16.3s			LR	LR		
MA2	**Magadan**	**19.16**	**9**	P	**P**	**10 53 46.4**	**-1.2**
MA2	comp=N,1.8nm,0.3s,baz=195,slow=10,SNR=49 comp=N,0.4nm,0.3s,baz=319,slow=21,SNR=1.8			S	**Sn**	**10 57 17.8**	**-5.0**
MA2	comp=N,6μm,20.9s,baz=221,slow=39			LR	LR	11 01 49.5	
JOW	**Kunigami**	**19.55**	**230**	*e*P	**P**	**10 53 52.1**	**0.0**
HIA	**Hailar**	**19.59**	**304**	*e*P	**P**	**10 53 52.0**	**-0.6**
HIA	comp=Z,266nm,0.8s			pmax	pmax		
HIA	**Hailar**	**19.59**	**304**	*e*P	**P**	**10 53 52.0**	**-0.6**
CLNS	**Chul'man**	**20.62**	**328**	*e*P	**P**	**10 54 02.6**	**-1.0**
CLNS				*e**PP	**sP**	**10 54 13.8**	**+4.2**
CLNS				*e*S	**S**	**10 57 47.6**	**-5.9**
CLNS				*e*		10 58 11.9	
CLNS				*e*SS	**SnSn**	**10 58 21.2**	**+8.5**
CLNS	comp=Z,272nm,0.9s			pmax	pmax		
CLNS	comp=N,162nm,0.9s			pmax	pmax		
CLNS	comp=E,101nm,1.0s			pmax	pmax		
CLNS	comp=N,158nm,1.0s			pmax	pmax		
CLNS	comp=E,148nm,0.8s			pmax	pmax		
CLNS	comp=Z,198nm,1.0s			smax	smax		
CLNS	comp=E,5μm,11.3s			smax	smax		
CLNS	comp=N,10μm,11.6s			MLR	MLR		
CLNS	comp=Z,13μm,14.0s			MLR	MLR		
CLNS	comp=N,12μm,15.0s			MLR	MLR		
CLNS	comp=E,10μm,15.0s			MLR	MLR		
SSE	**Sheshan**	**21.41**	**251**	P	**P**	**10 54 12.4**	**0.0**
SSE				S	**S**	**10 58 11.0**	**+1.4**
SSE				LR	LR		
SSE	comp=E,9μm,15.2s			LR	LR		
SSE	comp=E,9μm,16.9s			LR	LR		
BJI	**Beijing**	**21.81**	**277**	‖ *e*P	**P**	**10 54 13.9**	**-2.7**
BJI				S	**S**	**10 58 12.1**	**-5.2**
BJI	comp=E,120nm,1.3s			pmax	pmax		
BJI	comp=E,4μm,12.7s			LR	LR		
BJI	comp=E,5μm,16.2s			LR	LR		
BJT	**Baijiatuau**	**21.82**	**277**	*e*P	**P**	**10 54 14.5**	**-2.2**
BJT	comp=Z,1μm,1.6s			pmax	pmax		
BJT	**Baijiatuau**	**21.82**	**277**	*e*P	**P**	**10 54 14.4**	**-2.2**
TIA	**Tai'an**	**22.14**	**267**	P	**P**	**10 54 18.8**	**-1.4**
TIA				S	**S**	**10 58 19.0**	**-4.7**
TIA	comp=Z,190nm,0.9s			pmax	pmax		
TIA	comp=Z,12μm,15.2s			LR	LR		
TIA	comp=Z,23μm,17.1s			LR	LR		
TIA	comp=Z,35μm,18.0s			LR	LR		
NJ2	**Nanjing**	**22.61**	**256**	*e*P	**P**	**10 54 23.6**	**-1.6**
NJ2				pP	**pP**	**10 54 26.5**	**-2.8**
NJ2				sP	**sP**	**10 54 30.5**	**-0.7**
NJ2				S	**S**	**10 58 27.3**	**-5.1**
NJ2				sS	**sS**	**10 58 38.8**	**-0.6**
NJ2	comp=Z,170nm,1.0s			pmax	pmax		
NJ2	comp=Z,14μm,10.8s			pmax	pmax		
NJ2	comp=Z,16μm,16.3s			LR	LR		
NJ2	comp=Z,43μm,14.7s			LR	LR		
NJ2	comp=Z,54μm,16.9s			LR	LR		
SEY	**Seymchan**	**22.61**	**9**	P	**P**	**10 54 24.7**	**-0.3**
SEY	comp=Z,113nm,0.6s,baz=190,slow=8.3,SNR=180 comp=Z,7.4nm,0.9s,baz=38,slow=23,SNR=4.2			S	**S**	**10 58 27.2**	**-4.9**
SEY	**Seymchan**	**22.61**	**9**	‖ *e*P	**P**	**10 54 23.5**	**-1.5**
YAK	**Yakutsk**	**23.15**	**342**	P	**P**	**10 54 28.6**	**-2.0**
YAK	comp=Z,385nm,0.7s,baz=191,slow=1.7,SNR=42 comp=Z,89nm,0.6s,baz=346,slow=5.0,SNR=13			S	**S**	**10 58 33.8**	**-7.6**
YAK	comp=Z,11μm,19.0s,baz=12,slow=40			LR	LR	11 04 53.3	
YAK	**Yakutsk**	**23.15**	**342**	*e*P	**P**	**10 54 26.1**	**-4.5**
YAK				*e**PP	**pP**	**10 54 35.2**	**+0.5**
YAK				*e*		10 54 42.0	
YAK				*e*S	**S**	**10 58 34.1**	**-7.3**
YAK				*e**SS	**sS**	**10 58 48.7**	**+0.1**
YAK	comp=Z,225nm,1.1s			pmax	pmax		
YAK	comp=N,71nm,1.0s			pmax	pmax		
YAK	comp=E,75nm,1.3s			pmax	pmax		
YAK	comp=Z,527nm,0.9s			pmax	pmax		
YAK	comp=N,423nm,1.5s			pmax	pmax		
YAK	comp=E,432nm,1.5s			smax	smax		
YAK	comp=N,4μm,2.8s			smax	smax		
YAK	comp=E,3μm,1.7s			MLR	MLR		
YAK	comp=Z,18μm,20.0s			MLR	MLR		
YAK	comp=N,29μm,20.0s			MLR	MLR		
YAK	comp=E,8μm,23.0s			MLR	MLR		
YAK	**Yakutsk**	**23.15**	**342**	*e*P	**P**	**10 54 26.6**	**-4.0**
YAK	comp=E,494nm,0.9s			S	**S**	**10 58 33.8**	**-7.6**
CIT	**Chita**	**24.14**	**308**	*e*P	**P**	**10 54 38.0**	**-2.3**
CIT				*e*		10 54 50.7	
CIT				*e*		10 55 07.8	
CIT				*e*		10 55 22.6	
CIT				*e*S	**S**	**10 58 55.2**	**-2.4**
CIT	comp=Z,2μm,2.2s			pmax	pmax		
TATO	**Taipei**	**25.07**	**238**	*e*P	**P**	**10 54 43.0**	**-5.9**
TATO	comp=Z,458nm,0.9s			*e*PcP	**PcP**	**10 58 21.9**	**-1.5**
HHC	**Hu-ho-hao-te**	**25.11**	**281**	*e*P	**P**	**10 54 49.0**	**-0.4**
HHC				sP	sP	10 54 57.5	+2.0
HHC				S	**S**	**10 59 13.3**	**-0.3**
HHC				sS	pS	10 59 17.3	-1.0
HHC	comp=Z,36nm,0.7s			pmax	pmax		
HHC	comp=Z,7μm,6.4s			pmax	pmax		
HHC	comp=Z,12μm,14.7s			LR	LR		
HHC	comp=Z,24μm,14.5s			LR	LR		
HHC	comp=Z,30μm,14.7s			LR	LR		
TIY	**Taiyuan**	**25.22**	**274**	*e*P	**P**	**10 54 51.4**	**+1.1**
TIY				S	**S**	**10 59 13.5**	**-1.8**
TIY	comp=Z,5μm,7.9s			pmax	pmax		
TIY	comp=Z,4μm,8.7s			LR	LR		
TIY	comp=Z,7μm,12.5s			LR	LR		

TIY LR LR
comp=Z,12µm,14.7s
YHNB Yeheng 25.36 238 *e*P **P** **10 54 50.7 -1.0**
comp=Z,223nm,0.9s
NACB Ninganchiao 25.57 237 *e*P **P** **10 54 52.1 -1.4**
NACB *e*S **S** **10 59 21.7 +0.8**
BOD Bodaibo 26.02 321 *e*P **P** **10 54 56.7 -0.6**
BOD *e* 10 59 26.9
BOD pmax pmax
comp=Z,424nm,1.6s
SSLB Suanglung 26.25 237 *e*P **P** **10 54 59.6 -0.1**
comp=Z,76nm,0.9s
SSLB *e*S S 10 59 45.1 +13
BTO Baotou 26.31 281 *e*P **P** **10 55 00.1 -0.1**
YULB Yu-li 26.32 236 *e*P **P** **10 54 57.9 -2.4**
comp=Z,116nm,1.0s
WHN Wuhan 26.69 257⇓ *i*P **P** **10 55 04.3 +0.7**
WHN S **S** **10 59 43.6 +5.1**
WHN pmax pmax
comp=Z,470nm,1.2s
WHN LR LR
comp=Z,81µm,18.6s
WHN LR LR
comp=Z,114µm,16.8s
WHN LR LR
comp=Z,137µm,16.7s
TPUB Ta-pu 26.81 237 *e*P **P** **10 55 04.6 -0.2**
TPUB *e*S S 10 59 52.3 +12
TWG Pinlang 26.88 235 *e*P **P** **10 55 05.1 -0.3**
comp=Z,833nm,0.9s
QZH Quanzhou 27.00 242⇑ *i*P **P** **10 55 08.8 +2.4**
QZH S **S** **10 59 43.8 +0.4**
QZH LR LR
comp=Z,16µm,16.1s
QZH LR LR
comp=Z,15µm,18.0s
QZH LR LR
comp=Z,22µm,16.1s
GUMO Guam 27.11 180 LR LR 11 06 51.5
comp=Z,3µm,18.6s,baz=17,slow=39
ULN Ulaanbaatar 27.73 296⇓ *e*P **P** **10 55 13.2 +0.1**
ULN pmax pmax
comp=Z,633nm,1.7s
ULN Ulaanbaatar 27.73 298 *e*P **P** **10 55 13.0 -0.1**
comp=Z,437nm,1.1s
ULN Ulaanbaatar 27.73 298 pP **P** **10 55 13.1 +0.1**
SNR=306
ULN Ulaanbaatar 27.73 298 P **P** **10 55 13.1 +0.1**
SNR=306
SONA1 Songino Array 28.17 297 *e*P **P** **10 55 16.3 -0.6**
SONA1 *es*P **P** **10 55 17.8 +0.9**
SONM Songino Array 28.18 297 P **P** **10 55 17.2 +0.2**
comp=Z,108nm,1.0s,baz=100,slow=5.4,SNR=159
SONM PcP **PcP** **10 58 30.1 -0.4**
comp=Z,7.3nm,0.7s,baz=90,slow=3.3,SNR=2.5
SONM S **S** **11 00 02.9 +1.0**
comp=Z,3.4nm,0.8s,baz=89,slow=15,SNR=2.0
SONM LR LR 11 07 17.8
comp=Z,25µm,18.6s,baz=88,slow=38
SONM Songino Array 28.18 297 P **P** **10 55 17.2 +0.2**
SONM 10 58 30.1
SONM S **S** **11 00 02.9 +1.0**
SONM pmax pmax
comp=Z,112nm,1.0s
SONM pmax pmax
comp=Z,7.0nm,0.7s
SONM smax smax
comp=N,3.0nm,0.8s
SONM MLR MLR
comp=Z,25µm,18.6s
H11N2 WAKE ISLAND Hy 28.20 132 T T 11 24 48.8
baz=323,slow=75,SNR=39
H11N1 WAKE ISLAND Hy 28.21 132 T T 11 25 00.6
baz=323,slow=75,SNR=51
H11N3 WAKE ISLAND Hy 28.22 132 T T 11 24 55.5
baz=323,slow=75,SNR=38
H11S1 WAKE ISLAND Hy 29.07 133 T T 11 25 60.0
baz=325,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 29.07 133 T T 11 25 59.1
baz=325,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 29.09 133 T T 11 26 10.1
baz=325,slow=76,SNR=38
XAN Xi'an 29.18 268 P P **10 55 26.3 +0.4**
XAN pP pP 10 55 30.1 -0.2
XAN sP sP 10 55 33.3 +1.2
XAN S **S** **11 00 14.3 -3.5**
XAN pmax pmax
comp=Z,91nm,1.7s
XAN LR LR
comp=Z,9µm,14.1s
XAN LR LR
comp=Z,17µm,14.1s
XAN LR LR
comp=Z,14µm,14.9s
BILL Bilibino 29.66 16*d i*P **P** **10 55 31.0 +1.2**
BILL *i* 10 55 42.0
BILL *e*PPP PPP 10 56 31.7
BILL *e* 10 58 33.8
BILL *e*S **S** **11 00 27.6 +3.0**
BILL *e*SS **SnSn** **11 01 51.9 -1.5**
BILL pmax pmax
comp=Z,1347µm,2.0s
BILL pmax pmax
comp=Z,337nm,1.2s
BILL MLR MLR
comp=Z,11µm,15.0s
IRK Irkutsk 29.79 306 *e*P **P** **10 55 32.6 +1.5**
IRK pmax pmax
comp=Z,1µm,2.8s
TLY Talaya 30.12 305 P **P** **10 55 34.6 +0.6**
comp=Z,40nm,0.9s,baz=102,slow=6.0,SNR=48
TLY S **S** **11 00 39.3 +7.0**
comp=Z,3.4nm,0.6s,baz=182,slow=23,SNR=1.9
TLY LR LR 11 07 33.1
comp=Z,17µm,18.3s,baz=78,slow=36
TLY PKPPKP **P'P'df** **11 29 37.5 -2.7**
comp=Z,1.6nm,0.3s,baz=334,slow=7.6,SNR=3.2
TLY Talaya 30.12 305 *e*P **P** **10 55 34.7 +0.6**
TLY pmax pmax
comp=Z,260nm,1.2s
TLY MLR MLR
comp=Z,24µm,14.0s
TLY Talaya 30.12 305 pP **P** **10 55 35.0 +1.0**
SNR=120
TLY Talaya 30.12 305 P **P** **10 55 35.0 +1.0**
SNR=120
ZAK Zakamensk 30.27 303 *e*P **P** **10 55 36.3 +0.8**
ZAK pmax pmax
comp=Z,193nm,1.5s
ENH Enshi 30.45 261 *e*P **P** **10 55 36.9 -0.3**
comp=Z,336nm,1.1s
MOY Mondy 31.77 305 *e*P **P** **10 55 49.7 +1.0**
MOY pmax pmax
comp=Z,666nm,2.5s
GZH Guangzhou 31.81 246 P **P** **10 55 45.3 -3.9**
GZH S **S** **11 00 52.6 -6.5**
GZH LR LR
comp=Z,9µm,16.8s
GZH LR LR
comp=Z,10µm,16.7s
TIXI Tiksi 31.94 351 P **P** **10 55 49.2 -0.6**
comp=Z,30nm,0.9s,baz=144,slow=8.3,SNR=59
TIXI S **S** **11 01 01.7 +1.5**
comp=Z,3.3nm,0.6s,baz=303,slow=18,SNR=2.4
TIXI Tiksi 31.94 351⇑ *i*P **P** **10 55 48.6 -1.2**
TIXI pmax pmax
comp=Z,91nm,1.7s
LZH Lanzhou 32.25 275⇓ P **P** **10 55 54.6 +1.5**
LZH pP pP 10 55 57.8 +0.2
LZH sP sP 10 55 59.5 +0.1
LZH S **S** **11 01 09.5 +3.4**
LZH SS **SnSn** **11 02 56.0 -1.3**
LZH pmax pmax
comp=Z,210nm,1.0s
LZH pmax pmax
comp=Z,2µm,7.1s
LZH LR LR
comp=Z,10µm,12.0s
LZH LR LR
comp=Z,11µm,12.7s
LZH LR LR
comp=Z,13µm,13.8s
MCO Taipa Grande 32.31 244 P P 10 56 07.0 +13
SPIA Saint Paul Isl 32.99 45 *e*P **P** **10 56 01.2 +2.1**
comp=Z,241nm,1.0s
MIDW Midway 33.31 100 *e*P P 10 55 57.0 -5.2
comp=Z,90nm,1.0s
TGY Tagaytay City 33.81 225 P **P** **10 56 06.3 -0.5**
comp=Z,859nm,1.1s,baz=152,slow=2.9,SNR=11
GAMB Gambell 34.10 33 *e*P **P** **10 56 09.3 +0.6**
comp=Z,76nm,1.1s
GTA Gaotai 34.19 283⇓ P **P** **10 56 10.6 +0.6**
GTA pP pP 10 56 14.9 +0.5
GTA sP sP 10 56 17.6 +1.4
GTA PcP **PcP** **10 58 47.5 +0.8**
GTA pmax pmax
comp=Z,240nm,1.1s
GTA LR LR
comp=Z,14µm,15.2s
GTA LR LR
comp=Z,21µm,16.2s
GTA LR LR
comp=Z,26µm,16.6s
CD2 Chengdu 34.47 267⇑ P **P** **10 56 12.0 -0.4**
CD2 pP pP 10 56 15.0 -1.9
CD2 PP **PP** **10 57 29.8 -0.7**
CD2 S **S** **11 01 40.4 0.0**
CD2 sS pS 11 01 45.5 0.0
CD2 pmax pmax
comp=Z,290nm,0.6s
CD2 pmax pmax
comp=Z,4µm,9.0s
CD2 LR LR
comp=Z,33µm,13.4s
CD2 LR LR
comp=Z,21µm,15.4s
CD2 LR LR
comp=Z,26µm,16.9s
GYA Guiyang 34.58 258⇑ *i*P **P** **10 56 12.9 -0.6**
GYA PP **PP** **10 57 32.4 +0.6**
GYA PcP **PcP** **10 58 50.6 +2.6**
GYA S **S** **11 01 40.4 -1.9**
GYA ScP **ScP** **11 02 34.3 +1.7**
GYA SS **SnSn** **11 03 53.9 -0.1**
GYA ScS **ScS** **11 06 35.4 -0.4**
GYA pmax pmax
comp=Z,210nm,0.9s
GYA LR LR
comp=Z,11µm,17.9s
GYA LR LR
comp=Z,11µm,18.8s
GYA LR LR
comp=Z,14µm,15.1s
OCLP Ormoc 34.60 217 *e*P **P** **10 56 16.6 +3.1**
OTRP Odiongan 34.70 222 *e*P **P** **10 56 14.6 +0.2**
RCP Roxas 35.03 220⇓ *e*P **P** **10 56 18.1 +0.8**
MSLP Maasin 35.30 216 *e*P **P** **10 56 18.9 -0.6**
HVS Khovu-Aksy 36.34 304 *i*P **P** **10 56 29.2 +0.9**
QIZ Qiongzhong 36.95 245 P **P** **10 56 35.0 +1.3**
QIZ PP **PnPn** **10 57 59.6 +1.5**
QIZ S **S** **11 02 22.6 +4.1**
QIZ pmax pmax
comp=Z,6µm,14.7s
QIZ LR LR
comp=Z,13µm,17.7s
QIZ LR LR
comp=Z,12µm,14.7s
QIZ LR LR
comp=Z,14µm,16.7s
QIZ Qiongzhong 36.95 245 *e*P **P** **10 56 35.7 +2.0**
comp=Z,412nm,1.8s
DAV Davao City (W) 37.74 212 P **P** **10 56 41.2 +0.8**
comp=Z,182nm,0.4s,baz=46,slow=6.0,SNR=6.2
DAV Davao City (W) 37.74 212 pP **P** **10 56 44.3 +3.9**
SNR=7.3
DAV Davao City (W) 37.74 212 P **P** **10 56 44.3 +3.9**
SNR=7.3
KMI Kunming 38.25 259 P **P** **10 56 45.3 +0.3**
KMI pP pP 10 56 48.5 -0.9
KMI sP sP 10 56 49.8 -1.4
KMI PP **PP** **10 58 12.6 +0.2**
KMI S **S** **11 02 38.1 -0.5**
KMI sS pS 11 02 44.1 +0.3
KMI SS **SnSn** **11 05 17.3 -5.7**
KMI pmax pmax
comp=Z,140nm,1.2s
KMI pmax pmax
comp=Z,4µm,7.8s
KMI LR LR
comp=Z,28µm,15.6s
KMI LR LR
comp=Z,26µm,17.3s
KMI LR LR
comp=Z,40µm,17.6s
SVW2 Sparrevohn 40.91 40 *e*P **P** **10 57 07.6 +1.2**
comp=Z,180nm,1.0s
NRIK Noril'sk 41.05 333 LR LR 11 15 55.8
comp=Z,9µm,18.1s,baz=62,slow=39
ZAA0 Zalesovo Array 41.48 309 *e*P **P** **10 57 11.4 +0.2**
comp=Z,402nm,1.2s
ZALV Zalesovo Beam 41.48 309 P **P** **10 57 11.3 +0.1**
comp=Z,71nm,0.8s,baz=90,slow=7.2,SNR=158
ZALV PcP **PcP** **10 59 09.5 +0.9**
comp=Z,37nm,0.8s,baz=85,slow=2.6,SNR=3.5
ZALV LR LR 11 17 15.7
comp=Z,14µm,18.0s,baz=84,slow=40
ZALV Zalesovo Beam 41.48 309 *e*P **P** **10 57 10.7 -0.5**
ZALV 10 59 09.5
ZALV Zalesovo Beam 41.48 309 *e*P **P** **10 57 10.7 -0.5**
ZALV PcP **PcP** **10 59 09.5 +0.9**
WMQ Urumqi 41.66 294 P **P** **10 57 13.9 +1.0**
WMQ pP pP 10 57 17.6 +0.2
WMQ sP sP 10 57 23.4 +4.2
WMQ PcP **PcP** **10 59 10.8 +1.3**
WMQ S **S** **11 03 30.4 +1.4**
WMQ sS sS 11 03 37.5 +1.1
WMQ pmax pmax
comp=Z,370nm,1.3s
WMQ pmax pmax
comp=Z,14µm,10.9s
WMQ LR LR
comp=Z,38µm,13.9s
WMQ LR LR
comp=Z,30µm,12.9s
WMQ LR LR
comp=Z,24µm,13.9s
OHAK Old Harbor 42.19 46 *e*P **P** **10 57 16.6 -0.3**
comp=Z,116nm,0.9s
OHAK *e*PcP **PcP** **10 59 10.3 -0.5**
NVS Novosibirsk 42.30 311⇑ *i*P **P** **10 57 19.4 +1.6**
NVS *i* 10 59 02.3
NVS *e*S **S** **11 03 41.5 +3.6**
NVS pmax pmax
comp=Z,640nm,2.0s
NVS pmax pmax
comp=E,548nm,2.1s
NVS smax smax
comp=N,96nm,1.8s
NVS smax smax
comp=E,290nm,1.8s
SKNT Sakolnakorn 42.42 248 P **P** **10 57 18.9 -0.4**
comp=E,81nm,1.8s
KDAK Kodiak Island 42.52 45 P **P** **10 57 19.1 -0.5**
comp=E,257nm,0.9s,baz=278,slow=4.2,SNR=101
KDAK Kodiak Island 42.52 45 *e*P **P** **10 57 19.1 -0.5**
comp=E,318nm,0.9s
PPLA Purkeypile 42.55 37 *e*P **P** **10 57 21.2 +1.2**
comp=E,311nm,1.3s
UBPT Khong Chiam 42.55 245 P **P** **10 57 20.5 +0.2**
comp=E,218nm,1.2s
CAST Castle Rocks 42.60 36 *e*P **P** **10 57 21.6 +1.3**
comp=E,150nm,1.0s
SPU Mount Spurr 42.62 40 *e*P **P** **10 57 21.3 +0.8**
MYLDM Lahad Datu 42.62 221 *e*P **P** **10 57 22.8 +1.9**
comp=E,303nm,1.2s
ZSN Zaisan 42.63 300⇓ *i*P **P** **10 57 22.1 +1.4**
comp=E,296nm,1.2s
ZSN *i* S **S** **11 03 48.1 +5.0**
ZSN LR LR 11 16 12.9
comp=E,3µm,13.1s
MANU Manus Island 42.70 176 *e*P **P** **10 57 22.1 +0.6**
comp=E,61nm,0.8s
HOM Homer 42.88 42 *e*P **P** **10 57 24.4 +1.9**
comp=E,358nm,0.8s
SDKM Sandakan 42.88 223⇓ P **P** **10 57 23.9 +0.8**
TNTI Ternate 42.89 206 *e*P **P** **10 57 22.6 -0.4**
comp=E,2µm,2.0s
KKM Kota Kinabalu 43.06 224 *e*P **P** **10 57 24.5 0.0**
comp=E,141nm,1.4s
BPAW Bear Paw Mtn. 43.10 35 *e*P **P** **10 57 25.2 +0.9**
comp=E,303nm,1.5s
KTH Kantishna Hill 43.13 36 *e*P **P** **10 57 25.2 +0.6**
comp=E,238nm,1.0s
MLY Manley 43.23 34 *e*P **P** **10 57 26.5 +1.1**
comp=E,218nm,1.2s
SUA Susitna One 43.24 39 *e*P **P** **10 57 25.8 +0.2**
comp=E,131nm,0.8s
BRLK Bradley Lake 43.26 42 *e*P **P** **10 57 26.4 +0.8**
comp=E,88nm,0.6s
JAY Jayapura 43.28 186 P **P** **10 57 26.8 +0.6**
SWI Sorong 43.28 200 P **P** **10 57 26.5 +0.3**
GENI Genyem 43.40 187 P **P** **10 57 27.4 +0.3**
TRF Thorofare Moun 43.41 36 *e*P **P** **10 57 27.3 +0.3**
comp=E,97nm,1.0s
TRF *e*PcP **PcP** **10 59 18.5 +3.4**
COLD Coldfoot 43.55 31 *e*P **P** **10 57 29.0 +1.1**
comp=E,150nm,1.1s
KHON Khomkaen 43.67 249 P **P** **10 57 30.1 +0.7**
comp=E,72nm,0.8s
TSM Tawau 43.70 221⇑ P **P** **10 57 30.8 +1.2**
RC01 Rabbit Creek A 43.74 40 *e*P **P** **10 57 29.7 +0.2**
comp=E,210nm,0.9s
TOLK Toolik Lake Re 43.89 29 P **P** **10 57 31.8 +1.2**
baz=266
TOLK Toolik Lake Re 43.89 29 *e*P **P** **10 57 31.6 +0.9**
comp=E,300nm,1.0s
SEW Seward 43.95 41 *e*P **P** **10 57 31.4 +0.3**
comp=E,164nm,1.0s
SEW *e*PcP **PcP** **10 59 20.4 +3.7**
PMR Palmer 44.01 39 *e*P **P** **10 57 31.6 +0.1**
PMR *e* 10 59 16.6
PMR pmax pmax
comp=Z,160nm,1.0s
PMR Palmer 44.01 39 *e*P **P** **10 57 31.6 +0.1**
comp=Z,160nm,1.0s
PMR *e*PcP **PcP** **10 59 16.6 -0.3**
MCK McKinley 44.01 36 *e*P **P** **10 57 32.0 +0.3**
MCK *e* 10 59 18.1
MCK pmax pmax
comp=Z,147nm,1.0s
MCK McKinley 44.01 36 *e*P **P** **10 57 32.0 +0.3**
comp=Z,147nm,1.0s
MCK *e*PcP **PcP** **10 59 18.1 +1.1**
RND Reindeer 44.06 36 *e*P **P** **10 57 32.0 -0.1**
RND pmax pmax
comp=Z,171nm,1.0s
RND Reindeer 44.06 36 *e*P **P** **10 57 32.0 -0.1**
comp=Z,171nm,1.0s
CMAI Chiengmai2 44.08 256 P **P** **10 57 33.5 +0.7**
comp=Z,1µm,1.0s
LBMI Labuha 44.16 205 P **P** **10 57 33.3 0.0**
KMSI Cibinong 44.30 211 P **P** **10 57 35.5 +1.1**
MDM Murphy Dome 44.30 34 *e*P **P** **10 57 34.8 +0.9**
comp=Z,405nm,1.2s
SML Sawmill 44.37 39 *e*P **P** **10 57 35.0 +0.4**
SML pmax pmax
comp=Z,214nm,0.9s
SML Sawmill 44.37 39 *e*P **P** **10 57 35.0 +0.4**
comp=Z,214nm,0.9s
COLA College 44.46 34 *e*P **P** **10 57 36.0 +0.8**
COLA pmax pmax
comp=Z,280nm,1.0s
COLA College 44.46 34 *e*P **P** **10 57 36.0 +0.8**
comp=Z,280nm,1.0s
CCB Clear Creek Bu 44.48 35 *e*P **P** **10 57 35.9 +0.6**
comp=Z,226nm,1.4s
MK01 Makanchi Array 44.50 300 *e*P **P** **10 57 35.0 -0.8**
MK31 Makanchi Array 44.50 300 *i*P **P** **10 57 35.1 -0.7**
MK31 pmax pmax
comp=Z,57nm,0.7s
MK31 Makanchi Array 44.50 300 *e*P **P** **10 57 35.3 -0.5**
MKAR Makanchi Array 44.50 300 P **P** **10 57 35.0 -0.7**
comp=Z,45nm,0.7s,baz=82,slow=8.4,SNR=235
MKAR LR LR 11 18 15.9
comp=Z,16µm,18.1s,baz=84,slow=39
MKAR Makanchi Array 44.50 300 *e*P **P** **10 57 35.3 -0.5**
MKAR pmax pmax
comp=Z,527nm,0.6s
MKAR Makanchi Array 44.50 300 *e*P **P** **10 57 35.3 -0.5**
comp=Z,527nm,0.6s
LAMP Lampang 44.53 254 P **P** **10 57 37.3 +1.0**
comp=Z,33nm,0.8s,comp=Z,325nm
CHAI Chaiyaphum 44.55 249 P **P** **10 57 36.7 +0.2**
comp=Z,71nm,0.9s
LSA Lhasa 44.62 273 P **P** **10 57 38.3 +0.9**
LSA pmax pmax
comp=Z,42nm,1.2s
LSA LR LR
comp=Z,2µm,17.2s
LSA LR LR
comp=Z,3µm,17.2s
LSA LR LR
comp=Z,12µm,17.2s
LSA Lhasa 44.62 273 *e*P **P** **10 57 38.4 +1.0**
LSA pmax pmax
comp=Z,302nm,1.4s
LSA Lhasa 44.62 273 *e*P **P** **10 57 38.4 +1.0**
comp=Z,302nm,1.4s
LSA Lhasa 44.62 273 *i*P **P** **10 57 38.9 +1.5**
SNR=10
MAKZ Makanchi 44.70 300 *e*P **P** **10 57 37.0 -0.4**
MAKZ pmax pmax
comp=Z,67nm,0.6s
MAKZ Makanchi 44.70 300 *e*P **P** **10 57 37.0 -0.4**
comp=Z,67nm,0.6s
DHY Denali Highway 44.74 37 *e*P **P** **10 57 38.1 +0.4**
comp=Z,106nm,0.9s
PHIT Phitsanulok 44.82 252 P **P** **10 57 39.4 +0.8**
comp=Z,66nm,0.9s,comp=Z,686nm
CMMT Chiang Mai 44.85 255 P **P** **10 57 38.0 -0.8**
comp=Z,126nm,0.9s
SCM Sheep Creek Mo 44.85 39 *e*P **P** **10 57 39.2 +0.8**
SCM pmax pmax
comp=Z,244nm,0.9s
SCM Sheep Creek Mo 44.85 39 *e*P **P** **10 57 39.2 +0.8**
comp=Z,244nm,0.9s
CHTO Chiang Mai 44.85 255 P **P** **10 57 39.2 +0.4**
comp=Z,1µm,1.7s
CHTO Chiang Mai 44.85 255 *e*P **P** **10 57 39.3 +0.4**
CHTO pmax pmax
comp=Z,58nm,0.8s
CHTO Chiang Mai 44.85 255 *e*P **P** **10 57 39.3 +0.5**
comp=Z,58nm,0.8s
CHTO Chiang Mai 44.85 255 pP **P** **10 57 39.5 +0.6**
SNR=48
CHTO Chiang Mai 44.85 255 P **P** **10 57 39.5 +0.6**
SNR=48
HDA Harding Lake 44.86 35 *e*P **P** **10 57 38.8 +0.4**
comp=Z,260nm,1.2s
IL1 Eielson Array 44.88 34 *e*P **P** **10 57 37.1 -1.4**
ILAR Eielson Array 44.88 34 P **P** **10 57 38.4 -0.1**
comp=Z,94nm,0.9s,baz=261,slow=6.2,SNR=287
ILAR PcP **PP** **10 59 21.7 -1.4**
comp=Z,19nm,0.9s,baz=269,slow=4.2,SNR=2.1
ILAR ScP **ScP** **11 03 13.1 +1.4**
comp=Z,1.6nm,0.8s,baz=281,slow=4.4,SNR=3.1
ILAR LR LR 11 15 25.5
comp=Z,3µm,21.3s,baz=320,slow=35
ILAR Eielson Array 44.88 34 P **P** **10 57 38.4 -0.1**
ILAR 10 59 21.7
ILAR pmax pmax
comp=Z,90nm,0.9s
ILAR pmax pmax
comp=Z,19nm,1.0s
ILAR pmax pmax
comp=N,2.0nm,0.8s
ILAR MLR MLR
comp=Z,3µm,21.3s
ILB Eielson Array 44.88 34 *e*P **P** **10 57 38.4 -0.1**
SEM Semipalatinsk 44.88 305⇓ *i*P **P** **10 57 39.5 +0.5**
comp=Z,1µm,1.2s
SEM *e*S **S** **11 04 18.2 +1.8**
SEM LR LR 11 17 03.4
comp=Z,11µm,17.4s
FAKI Fak Fak 45.01 198 P **P** **10 57 37.0 -3.1**
FAKI Fak Fak 45.01 198 *e*P **P** **10 57 36.8 -3.3**
comp=Z,598nm,1.6s
GLI Glacier Island 45.05 40 *e*P **P** **10 57 40.8 +0.9**
comp=Z,106nm,0.9s
CM31 Chiang Mai Arr 45.08 254 *e*P **P** **10 57 41.7 +1.1**
CMAR Chiang Mai Arr 45.08 254 P **P** **10 57 41.2 +0.6**
comp=Z,12nm,0.6s,baz=47,slow=7.4,SNR=64
CMAR PcP **PcP** **10 59 22.6 +1.3**
comp=Z,11nm,0.8s,baz=26,slow=2.8,SNR=4.9
CMAR LR LR 11 18 37.5
comp=Z,7µm,18.5s,baz=46,slow=39
CM01 Chiang Mai Arr 45.09 254 *e*P **P** **10 57 40.2 -0.6**
MRSI Marisa 45.20 213 P **P** **10 57 40.5 -1.1**

RABL	**Rabaul**		45.27	170	*e*P		P	10 57 42.0	-0.1
	comp=Z,380nm,1.0s								
FYU	**Fort Yukon**		45.50	32	*e*P		P	10 57 45.2	+1.7
	comp=Z,1μm,1.6s								
KLU	**Klutina**		45.55	39	*e*P		P	10 57 44.6	+0.6
	comp=Z,203nm,0.8s								
PAX	**Paxson**		45.61	37	*e*P		P	10 57 45.4	+0.9
PAX					*e*			10 59 22.2	
PAX					pmax	pmax			
	comp=Z,191nm,1.5s								
PAX	**Paxson**		45.61	37	*e*P		P	10 57 45.4	+0.9
	comp=Z,190nm,1.5s								
PAX					*e*PcP		PcP	10 59 22.2	-0.4
DIV	**Divide**		45.66	39	*e*P		P	10 57 45.5	+0.7
	comp=Z,256nm,1.0s								
EYAK	**Cordova Ski Ar**		45.74	40	*e*P		P	10 57 46.8	+1.4
	comp=Z,177nm,0.9s								
HARP	**HAARP**		45.81	38	*e*P		P	10 57 47.4	+1.4
	comp=Z,258nm,1.0s								
KURK	**Kurchatov**		45.82	306⇑	*e*P		P	10 57 45.7	-0.4
KURK					pmax	pmax			
	comp=Z,931nm,1.2s								
KURK	**Kurchatov**		45.82	306	*e*P		P	10 57 45.8	-0.3
	comp=Z,596nm,1.5s								
KURK	**Kurchatov**		45.82	306	pP		P	10 57 46.2	0.0
	SNR=236								
KURK	**Kurchatov**		45.82	306	P		P	10 57 46.2	0.0
	SNR=236								
RIDG	**Independ'e Rid**		45.83	36	*e*P		P	10 57 46.2	+0.1
	comp=Z,97nm,1.0s								
KURBB	**Kurchatov Arra**		45.90	306	P		P	10 57 47.8	+1.0
	comp=Z,110nm,0.8s,baz=77,slow=8.7,SNR=342								
SANI	**Sanana**		45.99	207	P		P	10 57 46.8	-1.0
DOT	**Dot Lake**		46.18	36	*e*P		P	10 57 48.8	-0.2
	comp=Z,204nm,0.8s								
SHL	**Shillong**		46.19	268	*e*P		P	10 57 48.5	-1.2
SHL					IAmb		IAmb	10 58 07.5	
	comp=Z,187nm,1.4s								
MPSI	**Mapaga**		46.21	216	P		P	10 57 48.7	-0.9
BMRM	**Bremner River**		46.24	40	*e*P		P	10 57 50.1	+0.7
	comp=Z,191nm,0.9s								
BMRM					*e*PcP		PcP	10 59 25.7	+0.9
LUWI	**Luwuk**		46.25	211	P		P	10 57 47.9	-1.9
LUWI	**Luwuk**		46.25	211	*e*P		P	10 57 49.2	-0.6
	comp=Z,414nm,1.3s								
RAGM	**Ragged Mountai**		46.29	40	*e*P		P	10 57 51.2	+1.4
	comp=Z,191nm,1.0s								
MENT	**Mentasta**		46.41	37	*e*P		P	10 57 51.9	+1.1
	comp=Z,206nm,1.0s								
APSI	**Ampana**		46.58	213	P		P	10 57 50.5	-2.0
AAI	**Ambon**		46.83	203	P		P	10 57 54.2	-0.2
BTM	**Bintulu**		47.12	226	⇓P		P	10 57 57.4	+0.6
BNDI	**Bandanaira**		47.14	201	P		P	10 57 56.6	-0.2
EGAK	**Eagle**		47.32	34	*e*P		P	10 57 58.1	+0.4
	comp=Z,169nm,1.0s								
PDGK	**Podgornoye**		47.47	296	*i* P		P	10 57 59.2	-0.2
PDGK					pmax	pmax			
	comp=Z,89nm,1.4s								
TDK	**Taldyqorghan**		47.63	298	*i* P		P	10 58 01.7	+1.2
	comp=Z,1μm,0.8s								
TDK					*e*S		S	11 04 58.1	+2.7
TDK					LR		LR	11 18 33.8	
	comp=Z,6μm,15.7s								
SRDT	**SRDT**		47.63	250	P		P	10 58 01.0	+0.2
	comp=Z,241nm,1.5s								
UZB	**Uzynbulak**		47.85	296⇓	*i* P		P	10 58 02.8	+0.4
	comp=Z,411nm,1.2s								
UZB					*i* PP		PP	10 59 54.6	+0.5
UZB					*e*S		S	11 05 00.7	+1.7
UZB					LR		LR	11 18 02.9	
	comp=Z,8μm,17.4s								
KPKS	**Kokpek**		47.97	296	*i* P		P	10 58 04.2	+1.0
	comp=Z,241nm,1.2s								
KPKS					*e*S		S	11 05 02.9	+2.4
SMKI	**Samarinda**		48.13	219	P		P	10 58 06.0	+1.4
DAWY	**Dawson**		48.18	35	*e*P		P	10 58 04.9	+0.4
	comp=Z,258nm,2.0s								
SBUM	**Sibu**		48.22	226	⇓P		P	10 58 05.5	+0.3
SBUM	**Sibu**		48.22	226	*e*P		P	10 58 05.5	+0.3
	comp=Z,62nm,1.3s								
PHET	**Kaeng Krachan**		48.25	248	P		P	10 58 06.8	+1.2
	comp=Z,99nm,0.9s,comp=Z,723nm								
SATY	**Saty**		48.31	296⇓	*i* P		P	10 58 06.9	+1.0
	comp=Z,740nm,1.2s								
SATY					*e*PP		PP	10 59 59.5	+1.4
SATY					*e*S		S	11 05 07.8	+2.4
SATY					LR		LR	11 18 56.9	
	comp=Z,8μm,17.4s								
PRZ	**Przheval'sk**		48.52	295	P		P	10 58 08.6	+1.0
KDI	**Kendari**		48.97	210	P		P	10 58 10.7	-0.3
MDOK	**Medeo**		49.19	296	*i* P		P	10 58 13.5	+0.8
	comp=Z,438nm,1.5s								
MDOK					*i* PP		PP	11 00 07.4	+1.1
MDOK					*i* S		S	11 05 20.2	+2.3
MDOK					LR		LR	11 18 50.8	
	comp=Z,6μm,14.8s								
AAA	**Alma-Ata**		49.27	297	*e*P		P	10 58 16.7	+3.5
AAA					*e*S		S	11 05 31.6	+13
AAA					pmax	pmax			
	comp=Z,1μm,2.8s								
AAA					smax	smax			
	comp=N,1μm,9.3s								
AAA					MLR	MLR			
	comp=Z,5μm,16.0s								
AAA	**Alma-Ata**		49.27	297	*e*P		P	10 58 14.3	+1.1
	comp=Z,291nm,1.2s								
AAA					*i* PP		PP	11 00 08.4	+1.6
AAA					*e*S		S	11 05 21.2	+2.5
AAA					LR		LR	11 19 34.8	
	comp=Z,2μm,15.7s								
TTSI	**Tana Toraja**		49.27	214	P		P	10 58 12.4	-0.9
JIRN	**Jiri**		49.40	274	*e*P		P	10 58 15.0	+0.2
	comp=Z,97nm,0.3s								
KUU	**Kurty**		49.40	298⇓	*i* P		P	10 58 14.4	+0.2
	comp=Z,476nm,1.2s								
KUU					*i* PP		PP	11 00 08.6	+0.6
KUU					*e*S		S	11 05 22.2	+1.7
KUU					LR		LR	11 19 27.9	
	comp=Z,5μm,15.7s								
KDJ	**Kajisay**		49.49	295	P		P	10 58 15.8	+0.7
GUN	**Gumba**		49.51	274	*e*P		P	10 58 15.8	+0.3
	comp=Z,311nm,0.6s								
BRZS	**Berezniki**		49.68	306⇓	*i* P		P	10 58 17.0	+0.9
	comp=Z,226nm,1.2s								
BRZS					*e*S		S	11 05 26.7	+2.5
HYT	**Haines Junctio**		49.68	39	*e*P		P	10 58 16.7	+0.6
	comp=Z,474nm,0.9s								
MTKI	**Muara Teweh, K**		49.69	221	P		P	10 58 13.5	-3.0
INK	**Inuvik**		49.80	29	P		P	10 58 17.6	+0.8
	comp=Z,142nm,0.9s,baz=292,slow=6.4,SNR=131								
INK	**Inuvik**		49.80	29	*e*P		P	10 58 17.4	+0.6
INK					pmax	pmax			
	comp=Z,133nm,0.8s								
INK	**Inuvik**		49.80	29	*e*P		P	10 58 17.4	+0.6
	comp=Z,133nm,0.8s								
PMG	**Port Moresby**		50.00	177	P		P	10 58 18.4	-0.5
	comp=Z,25nm,0.7s,baz=3.3,slow=9.0,SNR=9.4								
PMG	**Port Moresby**		50.00	177	*e*P		P	10 58 19.0	+0.2
PMG					pmax	pmax			
	comp=Z,86nm,1.1s								
PMG	**Port Moresby**		50.00	177	*e*P		P	10 58 19.0	+0.2
	comp=Z,86nm,1.1s								
KKN	**Kakani**		50.02	274	*e*P		P	10 58 20.0	+0.7
	comp=Z,306nm,1.0s								
PKI	**Pulchoki**		50.04	274	*e*P		P	10 58 19.6	0.0
	comp=Z,377nm,1.1s								
PKIN	**Phulchoki**		50.05	274	*e*P		P	10 58 20.0	+0.5
KSM	**Kuching**		50.08	228	⇓P		P	10 58 21.1	+1.6
KSM	**Kuching**		50.08	228	*e*P		P	10 58 18.7	-0.9
	comp=Z,95nm,1.1s								
BVA0	**Borovoye Array**		50.09	311	P		P	10 58 20.1	+0.9
BVA0					pmax	pmax			
	comp=Z,153nm,1.2s								
BVAR	**Borovoye Array**		50.09	311	P		P	10 58 19.3	+0.1
	comp=Z,55nm,0.6s,baz=74,slow=8.0,SNR=157								
BVAR					LR		LR	11 21 18.1	
	comp=Z,13μm,18.1s,baz=72,slow=38								
ULHL	**Ulahol**		50.09	296	P		P	10 58 20.4	+0.8
	SNR=21								
SAUI	**Saumlaki**		50.12	198	P		P	10 58 27.8	+8.0
BRVK	**Borovoye**		50.14	311⇑	*i* P		P	10 58 19.8	+0.2
BRVK					pmax	pmax			
	comp=Z,421nm,1.2s								
BRVK	**Borovoye**		50.14	311	*e*P		P	10 58 19.9	+0.2
	comp=Z,161nm,1.1s								
BRVK	**Borovoye**		50.14	311	pP		P	10 58 20.9	+1.3
	SNR=125								
BRVK	**Borovoye**		50.14	311	P		P	10 58 20.9	+1.3
	SNR=125								
BMNS	**Besmoynak**		50.15	297⇓	*i* P		P	10 58 20.9	+0.9
	comp=Z,1μm,1.2s								
BMNS					*e*S		S	11 05 33.8	+2.5
BMNS					LR		LR	11 20 43.7	
	comp=Z,6μm,15.7s								
DMN	**Daman**		50.25	274	*e*P		P	10 58 21.3	+0.2
	comp=Z,362nm,1.2s								
TKM2	**Tokmak 2**		50.27	297	*i* P		P	10 58 21.3	+0.3
TKM2					pmax	pmax			
	comp=Z,200nm,1.4s								
TKM2	**Tokmak 2**		50.27	297	P		P	10 58 20.7	-0.3
	SNR=144								
BNSI	**Bone**		50.37	213	P		P	10 58 20.9	-0.8
GKN	**Gorkha**		50.40	275	*e*P		P	10 58 22.8	+0.7
OTUK	**Ortayu**		50.46	304	P		P	10 58 22.6	+0.5
OTUK					pmax	pmax			
	comp=Z,160nm,1.1s								
BTLS	**Baital**		50.51	300⇓	*i* P		P	10 58 22.8	+0.3
	comp=Z,331nm,1.1s								
BTLS					*i* S		S	11 05 37.7	+1.9
BTLS					LR		LR	11 20 06.9	
	comp=Z,6μm,13.9s								
NRN	**Naryn**		50.58	295	P		P	10 58 24.2	+0.7
STKI	**Sintang**		50.60	225	P		P	10 58 23.9	+0.4
CHMS	**Chumysh**		50.81	297	P		P	10 58 25.6	+0.7
	SNR=11								
KBK	**Karagaybulak**		50.81	297	P		P	10 58 26.2	+1.1
	SNR=68								
KZA	**Kyzart**		50.84	296	P		P	10 58 26.6	+1.1
	SNR=22								
USP	**Ospenovka**		50.88	298	P		P	10 58 26.2	+0.9
	SNR=30								
DANN	**Dangsing**		50.88	276	*e*P		P	10 58 26.7	+0.8
FRU	**Bishkek**		50.97	297	*e*P		P	10 58 27.0	+1.0
FRU1	**Bishkek**		50.97	297	P		P	10 58 27.6	+1.5
WHY	**Whitehorse**		50.97	39	*e*P		P	10 58 27.3	+1.4
	comp=Z,74nm,1.0s								
KAPI	**Kappang**		51.07	213	*e*P		P	10 58 28.1	+1.1
	comp=Z,478nm,1.6s								
KAPI	**Kappang**		51.07	213	P		P	10 58 28.8	+1.8
	SNR=7.2								
KAPI	**Kappang**		51.07	213	P		P	10 58 28.8	+1.8
	SNR=7.2								
SKAG	**Skagway**		51.08	40	*e*P		P	10 58 27.1	+0.5
	comp=Z,75nm,1.1s								
AAK	**Ala-Archa**		51.13	297	P		P	10 58 27.5	+0.2
	comp=Z,9.1nm,0.4s,baz=83,slow=6.6,SNR=44								
AAK					LR		LR	11 23 07.1	
	comp=Z,9μm,18.5s,baz=60,slow=40								
AAK	**Ala-Archa**		51.13	297	*i* P		P	10 58 27.3	-0.1
AAK					pmax	pmax			
	comp=Z,67nm,1.5s								
AAK	**Ala-Archa**		51.13	297	P		P	10 58 27.6	+0.2
	SNR=30								
AAK	**Ala-Archa**		51.13	297	*e*P		P	10 58 27.6	+0.2
AAK					*e*S		S	11 05 43.7	-1.2
AAK	**Ala-Archa**		51.13	297	pP		P	10 58 27.9	+0.5
	SNR=34								
AAK	**Ala-Archa**		51.13	297	P		P	10 58 27.9	+0.5
	SNR=34								
AAK	**Ala-Archa**		51.13	297	*i* P		P	10 58 27.6	+0.2
	SNR=40								
UCH	**Uchtor**		51.28	296	P		P	10 58 29.9	+1.0
	SNR=15								
KOLN	**Koldanda**		51.30	275	*e*P		P	10 58 29.2	+0.2
	comp=Z,290nm,1.1s								
KTGM	**Kuala Trenggan**		51.37	238	⇓P		P	10 58 31.0	+1.7
KSH	**Kashi**		51.38	293	P		P	10 58 33.5	+4.2
KSH					pP		sP	10 58 37.4	+1.7
KSH					sP		pP	10 58 40.8	+6.9
KSH					PcP		PcP	10 59 47.8	+3.9
KSH					PP		PP	11 00 31.8	+5.6
KSH					S		S	11 05 53.1	+4.7
KSH					sS		sS	11 06 00.4	+4.5
KSH					SS		SS	11 09 27.3	+3.5
KSH					pmax	pmax			
	comp=Z,62nm,1.2s								
KSH					pmax	pmax			
	comp=Z,4μm,8.6s								
KSH					LR	LR			
	comp=Z,6μm,14.3s								
KSH					LR	LR			
	comp=Z,7μm,15.7s								
KSH					LR	LR			
	comp=Z,13μm,14.9s								
BESE	**Bessie Mountai**		51.57	41	*e*P		P	10 58 32.7	+2.3
	comp=Z,118nm,1.3s								
PYUN	**Piuthan**		51.59	276	*e*P		P	10 58 31.3	+0.2
	comp=Z,369nm,0.9s								
SURT	**Suratani**		51.60	245	P		P	10 58 31.0	0.0
	comp=Z,95nm,1.5s								
EKS2	**Erkin-Say**		51.60	297	P		P	10 58 31.8	+0.9
	SNR=25								
SKLT	**Songkhla**		51.65	242	P		P	10 58 31.9	+0.5
	comp=Z,178nm,1.5s								
BOK	**Bokaro**		51.71	270	*e*P		P	10 58 31.9	+0.1
BOK					IAmb	IAmb	IAmb	10 58 33.5	
	comp=Z,56nm,1.1s								
SIT	**Sitka**		51.79	43	*e*P		P	10 58 33.3	+1.4
SIT					pmax	pmax			
	comp=Z,83nm,1.1s								
SIT	**Sitka**		51.79	43	*e*P		P	10 58 33.3	+1.4
	comp=Z,83nm,1.1s								
TRTT	**Trang**		51.80	243	P		P	10 58 32.4	-0.1
	comp=Z,93nm,0.9s								
AML	**Almayashu**		51.88	297	P		P	10 58 34.6	+1.3
	SNR=62								
HNR	**Honiara**		51.89	161	P		P	10 58 32.1	-1.0
	comp=Z,50nm,0.5s,baz=159,slow=3.5,SNR=2.9								
HNR					LR		LR	11 17 47.4	
	comp=Z,3μm,21.6s,baz=328,slow=33								
HNR	**Honiara**		51.89	161	P		P	10 58 40.0	+7.0
MNAS	**Manas**		52.53	297	*i* P		P	10 58 38.1	+0.2
MNAS					pmax	pmax			
	comp=Z,127nm,1.1s								
PKDT	**Phuket**		52.68	245	P		P	10 58 39.1	+0.1
	comp=Z,88nm,1.4s,comp=Z,3μm								
DGPR	**DIGLIPUR**		52.88	254	*e*P		P	10 58 41.1	+0.5
DGPR					IAmb	IAmb	IAmb	10 58 42.5	
	comp=Z,219nm,1.1s								
SFK	**Sufi-Kurgan**		52.89	294	*i* P		P	10 58 40.6	-0.1
SFK					pmax	pmax			
	comp=Z,106nm,1.3s								
KULM	**Kulim**		53.02	240	*e*P		P	10 58 41.8	+0.2
	comp=Z,88nm,0.9s								
DZA	**Taraz**		53.16	298	*e*P		P	10 58 43.4	+1.1
	comp=Z,2μm,1.1s								
DZA					*e*S		S	11 06 14.1	+1.7
DZA					LR		LR	11 20 12.3	
	comp=Z,5μm,16.1s								
IPM	**Ipoh**		53.38	239	⇓P		P	10 58 44.6	+0.3
IPM	**Ipoh**		53.38	239	*e*P		P	10 58 43.7	-0.5
	comp=Z,372nm,1.9s								
CRAG	**Craig**		53.48	45	*e*P		P	10 58 47.3	+2.9
	comp=Z,202nm,1.7s								
KK31	**Karatay Array**		53.61	299	*i* P		P	10 58 45.0	-0.7
KK31					pmax	pmax			
	comp=Z,93nm,1.2s								
KKAR	**Karatay Array**		53.61	299	*e*P		P	10 58 44.9	-0.8
KKAR					pmax	pmax			
	comp=Z,60nm,0.8s								
KKAR	**Karatay Array**		53.61	299	*e*P		P	10 58 44.9	-0.8
	comp=Z,60nm,0.8s								
MYKOM	**Kota Tinggi**		53.64	235	⇑P		P	10 58 46.8	+0.6
MYKOM	**Kota Tinggi**		53.64	235	*e*P		P	10 58 46.1	0.0
	comp=Z,80nm,1.1s								
SOEI	**Soe**		53.78	205	P		P	10 58 44.5	-2.6
SOEI	**Soe**		53.78	205	P		P	10 58 46.9	-0.2
	comp=Z,421nm,1.6s								
KGM	**Kluang**		53.80	235	⇑P		P	10 58 48.7	+1.5
TPRI	**Tanjung Pinang**		53.91	233	P		P	10 58 49.0	+0.9
FRIM	**Kepong**		53.93	238	⇓P		P	10 58 49.1	+0.9
DLBC	**Dease Lake**		54.01	40	*e*P		P	10 58 49.6	+1.2
	comp=Z,55nm,1.0s								
PBA	**Port Blair**		54.03	253	*e*P		P	10 58 48.6	-0.4
PBA					IAmb	IAmb	IAmb	10 58 54.8	
	comp=Z,117nm,0.9s								
BRLS	**Borolday**		54.09	299⇓	*i* P		P	10 58 51.6	+2.5
	comp=Z,20nm,1.2s								
BRLS					*i* S		S	11 06 30.2	+5.1
BRLS					LR		LR	11 22 07.8	
	comp=Z,410nm,14.8s								
SVE	**Sverdlovsk**		54.14	318*c*	*i* P		P	10 58 50.8	+1.5
SVE					pmax	pmax			
	comp=Z,381nm,1.4s								
SVE					MLR	MLR			
	comp=E,23μm,16.0s								
SVE					MLR	MLR			
	comp=Z,29μm,16.0s								
SVE					MLR	MLR			
	comp=N,9μm,15.0s								
DDI	**Dehra Dun**		54.16	281	*e*P		P	10 58 49.8	0.0
DDI					IAmb	IAmb	IAmb	10 59 05.0	
	comp=Z,108nm,0.8s								
IUG	**Iuzhnay**		54.34	298⇓	*i* P		P	10 58 52.0	+0.9
	comp=Z,1μm,1.2s								
IUG					*i* S		S	11 06 31.1	+2.5
IUG					LR		LR	11 22 41.3	
	comp=Z,5μm,16.1s								
BATI	**Baumata**		54.40	206	P		P	10 58 51.2	-0.4
	comp=Z,90nm,0.6s,baz=217,slow=0.7,SNR=9.7								
BATI	**Baumata**		54.40	206	P		P	10 58 52.6	+1.0
SMLA	**Simla**		54.41	283	*e*P		P	10 58 51.2	-0.3
SMLA					IAmb	IAmb	IAmb	10 58 58.0	
	comp=Z,248nm,0.6s								
DHRM	**DHARAMSHALA**		54.49	284	*e*P		P	10 58 51.4	-1.0
DHRM					IAmb	IAmb	IAmb	10 58 59.0	
	comp=Z,387nm,0.2s								
COEN	**Coen**		54.50	182	*e*P		P	10 58 51.7	-0.5
	comp=Z,290nm,1.3s								
CHM	**Chimkent**		54.55	298⇓	*i* P		P	10 58 53.7	+1.1
	comp=Z,1μm,1.1s								
CHM					*e*S		S	11 06 33.8	+2.5
CHM					LR		LR	11 22 43.5	
	comp=Z,6μm,17.0s								
DIB	**Dawson Inlet,**		54.67	47	*e*P		P	10 58 55.2	+2.0
	comp=Z,156nm,1.4s								
MTN	**Manton Dam**		54.87	196	*e*P		P	10 58 54.0	-0.9
	comp=Z,300nm,0.7s								
SOKR	**Solikamsk**		55.01	322*d*	*i* P		P	10 58 54.3	-1.1
SOKR					pmax	pmax			
	comp=Z,373nm,1.5s								
SOKR					MLR	MLR			
	comp=Z,16μm,18.0s								
ARU	**Arti**		55.35	318	P		P	10 58 58.0	-0.1
	comp=Z,110nm,0.9s,baz=78,slow=3.6,SNR=140								
ARU	**Arti**		55.35	318*c*	*i* P		P	10 58 58.6	+0.5
ARU								10 59 58.5	
ARU								11 01 02.7	
ARU					*e*S		S	11 06 45.3	+3.7
ARU					SS		SS	11 10 22.5	-3.0
ARU					pmax	pmax			
	comp=Z,224nm,1.2s								
ARU					MLR	MLR			
	comp=Z,34μm,17.0s								
ARU	**Arti**		55.35	318	*e*P		P	10 58 58.0	-0.1
	comp=Z,388nm,1.2s								
PPBI	**Pangkal Pinang**		55.42	229	P		P	10 58 59.8	+0.8
LHMI	**Lhok Sumawe**		55.55	244	*e*P		P	10 59 00.4	+0.4
PSI	**Prapat**		56.02	240	P		P	10 59 04.0	+0.6
	comp=Z,36nm,0.7s,baz=11,slow=5.6,SNR=28								
PSI					LR		LR	11 26 19.9	
	comp=Z,5μm,18.2s,baz=32,slow=40								
PSI	**Prapat**		56.02	240	*e*P		P	10 59 03.7	+0.2
PSI					pmax	pmax			
	comp=Z,52nm,0.8s								
PSI	**Prapat**		56.02	240	*e*P		P	10 59 03.7	+0.2
	comp=Z,52nm,0.8s								
KCSI	**Kotacane, Aceh**		56.24	242	P		P	10 59 02.1	-2.9
BKNI	**Bangkinang**		56.53	236	P		P	10 59 03.5	-3.5
BKNI	**Bangkinang**		56.53	236	*e*P		P	10 59 07.6	+0.6
	comp=Z,540nm,1.2s								
MLSI	**Meulaboh, Aceh**		56.62	243	P		P	10 59 02.4	-5.2
TPTI			56.83	242	P		P	10 59 04.1	-5.0
HOPEN	**Hopen**		57.04	346	*e*P		P	10 59 09.7	-0.1
MNSI	**Mandailing Nat**		57.10	238	P		P	10 59 05.9	-5.1
VIS	**Vishakhapatnam**		57.19	265	*e*P		P	10 59 10.9	-0.8
VIS					IAmb	IAmb	IAmb	10 59 12.4	
	comp=Z,40nm,0.5s								
VIS					*i* x		x	11 07 01.3	
PWJI	**Pagerwojo**		57.32	220	P		P	10 59 07.0	-5.5
SPA0	**Spitsbergen Ar**		57.35	349	*e*P		P	10 59 13.8	+1.8
SPA0	**Spitsbergen Ar**		57.35	349	*e*P		P	10 59 13.3	+1.3
SPITS	**Spitsbergen Ar**		57.35	349	P		P	10 59 12.8	+0.8
	comp=Z,25nm,0.7s,baz=40,slow=11,SNR=26								
KBS	**Kingsbay**		57.40	350	*e*P		P	10 59 13.5	+1.2
KBS					pmax	pmax			
	comp=Z,229nm,1.0s								
KBS	**Kingsbay**		57.40	350	*e*P		P	10 59 13.5	+1.2
	comp=Z,229nm,1.0s								
KBS	**Kingsbay**		57.40	350	*e*P		P	10 59 13.6	+1.2
KBS					IAmb	IAmb	IAmb	10 59 14.9	
	comp=Z,241nm,1.0s								
AB31	**Akbulak array**		57.60	309	*i* P		P	10 59 13.6	-0.5
AB31					pmax	pmax			
	comp=Z,62nm,0.7s								
ABKAR	**Akbulak array**		57.60	309	*e*P		P	10 59 13.8	-0.3
	comp=Z,695nm,0.4s								
PDSI	**Padang**		57.85	236	P		P	10 59 12.3	-4.1
GSI	**Gunungsitoli**		58.02	240	P		P	10 59 13.1	-4.4
GSI	**Gunungsitoli**		58.02	240	*e*P		P	10 59 17.4	-0.1
	comp=Z,840nm,1.8s								
AKTO	**Aktyubinsk**		58.18	311	P		P	10 59 18.6	+0.3
	comp=Z,31nm,0.7s,baz=66,slow=7.8,SNR=61								
AKTO					LR		LR	11 25 56.9	
	comp=Z,9μm,19.4s,baz=57,slow=38								
AKTO	**Aktyubinsk**		58.18	311	*i* P		P	10 59 18.6	+0.3
AKTO					pmax	pmax		

APA *i* SSS SSS 11 14 20.0
APA pmax pmax
comp=Z,75nm,0.9s
APA MLR MLR
comp=Z,9µm,15.0s
CTAO Charters Tower 60.59 178 *e*P **P 10 59 35.0 -0.1**
CTAO pmax pmax
comp=Z,73nm,1.0s
CTAO Charters Tower 60.59 178 *e*P **P 10 59 35.0 -0.1**
comp=Z,73nm,1.0s
TMCR Tamitsa 60.73 331 *e*P **P 10 59 36.1 +0.5**
TMCR *e*S **S 11 07 58.8 +7.2**
TMCR pmax pmax
comp=Z,236nm,0.9s
KEV Kevo 60.87 339 *e*P **P 10 59 36.9 +0.5**
KEV pmax pmax
comp=Z,128nm,1.0s
KEV Kevo 60.87 339 *e*P **P 10 59 36.9 +0.5**
comp=Z,128nm,1.0s
ADKI Addanki 60.88 266 *e*P **P 10 59 37.8 +0.5**
ADKI IAmb IAmb 10 59 39.2
comp=Z,69nm,1.1s
ADKI *e*S **S 11 07 55.4 +0.7**
NJS Nagarjunasagar 60.94 267 *e*P **P 10 59 37.1 -0.6**
NJS IAmb IAmb 10 59 38.3
comp=Z,56nm,1.1s
NJS *e*S **S 11 07 53.8 -1.8**
HYB Hyderabad 60.99 268 *i* P **P 10 59 37.5 -0.6**
comp=Z,95nm,1.0s
HYB Hyderabad 60.99 268 *e*P **P 10 59 35.9 -2.2**
HYB IAmb IAmb 10 59 38.3
comp=Z,126nm,1.2s
HYBB Hyderabad (bro 60.99 268 *e*P **P 10 59 37.3 -0.8**
HYBB IAmb IAmb 10 59 38.6
comp=Z,63nm,0.9s
HYBB *e*S **S 11 07 55.4 -0.9**
TULEG Thule 61.00 9 *e*P **P 10 59 36.5 -0.8**
comp=Z,210nm,1.1s
WRAB Tennant Creek 61.21 191 *ce*P **P 10 59 36.8 -2.5**
WRAB pmax pmax
comp=Z,245nm,0.8s
WRAB Tennant Creek 61.21 191 *e*P **P 10 59 37.3 -2.0**
comp=Z,447nm,0.9s
WRA Warramunga Arr 61.22 191 P **P 10 59 37.5 -1.9**
comp=Z,247nm,0.7s,baz=7.9,slow=6.8,SNR=319
WRA PKPPKP P'P'df 11 28 55.5 +8.5
comp=Z,1.8nm,0.9s,baz=166,slow=2.8,SNR=5.6
ARCES ARCESS Array B 61.41 340 P **P 10 59 40.0 -0.1**
comp=Z,47nm,0.9s,baz=53,slow=6.9,SNR=50
ARCES LR LR 11 29 26.9
comp=Z,4µm,18.1s,baz=72,slow=39
ARCES ARCESS Array B 61.41 340 *e*P **P 10 59 40.2 0.0**
ARCES ARCESS Array B 61.41 340 *e*P **P 10 59 40.2 0.0**
ARE0 ARCESS Array S 61.41 340 *e*P **P 10 59 41.6 +1.4**
comp=Z,118nm,1.1s
ARE0 ARCESS Array S 61.41 340 *e*P **P 10 59 40.8 +0.6**
SRLM Srisailam 61.53 267 *e*P **P 10 59 41.0 -0.8**
SRLM IAmb IAmb 10 59 46.4
comp=Z,78nm,1.1s
SRLM *e*S **S 11 08 02.1 -1.1**
LLLB Lillooet 61.70 46 *e*P **P 10 59 43.0 +0.6**
comp=Z,27nm,1.0s
KLMR Klimovskoe 62.01 328 *e*P **P 10 59 40.9 -3.4**
KLMR *e* 11 01 56.4
KLMR pmax pmax
comp=Z,257nm,1.2s
KLMR Klimovskoe 62.01 328 *e*P **P 10 59 40.9 -3.4**
KLMR AMP 10 59 46.6
comp=Z,257nm,1.2s
KLMR *e*PP **PP 11 01 56.4 -3.9**
KLMR LQ LQ 11 22 11.1
KLMR LQ LQ 11 22 11.1
KLMR LR LR 11 25 28.3
KLRI Killari 62.08 270 *e*P **P 10 59 45.0 -0.5**
KLRI IAmb IAmb 10 59 45.7
comp=Z,144nm,1.0s
KLRI *e*S **S 11 08 08.7 -1.4**
A04D Lummi Island 62.20 48 P **P 10 59 47.5 +1.7**
baz=301
DAG Danmarks Havn 62.24 356⇓ *i*P **P 10 59 46.7 +1.1**
comp=Z,107nm,1.0s
DAG Danmarks Havn 62.24 356⇓ *i*P **P 10 59 46.7 +1.1**
DAG pmax pmax
comp=Z,110nm,1.0s
SKHT Srikalahasti 62.38 264 *e*P **P 10 59 47.1 -0.2**
SKHT IAmb IAmb 11 00 05.4
comp=Z,76nm,1.0s
SKHT *e*S **S 11 08 14.3 +0.6**
MDRS Chennai 62.39 263 *e*P **P 10 59 48.1 +0.6**
MDRS IAmb IAmb 10 59 49.6
comp=Z,58nm,0.6s
B05A Bryant 62.79 49 P **P 10 59 49.8 +0.1**
baz=302,SNR=7.4
E03A Lebam 62.83 51 *e*P **P 10 59 52.1 +2.1**
comp=Z,70nm,0.9s
B06A Marblemount 63.00 48 *e*P **P 10 59 52.2 +1.1**
comp=Z,71nm,1.4s
TRO Tromso 63.01 341 *e*P **P 10 59 51.0 +0.2**
TRO IAmb IAmb 10 59 52.5
comp=Z,205nm,0.9s
F04D Rainier, OR 63.40 51 P **P 10 59 54.3 +0.5**
baz=302
D05A Enumclaw 63.41 50 *e*P **P 10 59 55.7 +1.8**
comp=Z,116nm,1.4s
URV Uravakonda 63.48 267 *e*P **P 10 59 54.6 -0.2**
URV IAmb IAmb 10 59 55.8
comp=Z,67nm,1.2s
URV *e*S **S 11 08 26.7 -1.0**
C06D Leavenworth 63.65 48 P **P 10 59 55.6 +0.2**
baz=302,SNR=6.2
G03D McMinnville, O 63.72 52 P **P 10 59 56.9 +1.0**
baz=302
LON Longmire 63.75 50 *e*P **P 10 59 55.2 -1.0**
LON pmax pmax
comp=Z,18nm,0.9s
LON Longmire 63.75 50 *e*P **P 10 59 55.2 -1.0**
comp=Z,18nm,0.9s
POO Poona 63.89 272 *e*P **P 10 59 57.3 -0.2**
POO IAmb IAmb 11 00 01.1
KULLO Kullorsuaq 63.96 6 *i* P **P 10 59 57.3 +0.3**
comp=Z,154nm,1.0s
KULLO Kullorsuaq 63.96 6 *i* P **P 10 59 57.3 +0.3**
KULLO pmax pmax
comp=Z,150nm,1.0s
LTY Liberty 64.14 49 *e*P **P 10 59 59.2 +0.5**
comp=Z,58nm,1.4s
BHJ Bhuj 64.29 279 *e*P **P 10 59 58.1 -1.9**
BHJ IAmb IAmb 11 00 05.3
comp=Z,44nm,1.1s
B08A Colville Reser 64.30 47 *e*P **P 10 59 59.8 +0.1**
comp=Z,56nm,1.2s
KEBM Edson Butte 64.32 55 *e*P **P 11 00 02.8 +2.8**
comp=Z,178nm,1.0s
GEYT Alibeck 64.37 299 P **P 11 00 00.7 +0.3**
comp=Z,58nm,1.0s,baz=29,slow=3.4,SNR=40
GEYT LR LR 11 29 57.3
comp=Z,12µm,19.0s,baz=65,slow=38
BOM Bombay 64.46 273 *ex* **P 11 00 04.1 +3.0**
G05D Wamic, OR 64.86 51 P **P 11 00 04.1 +0.7**
baz=303
AS01 Alice Springs 64.93 191 *e*P **P 11 00 01.6 -2.4**
AS31 Alice Springs 64.94 191 *e*P **P 11 00 02.9 -1.1**
comp=Z,61nm,1.4s
ASAR Alice Springs 64.94 191 P **P 11 00 02.6 -1.5**
comp=Z,89nm,1.0s,baz=11,slow=5.6,SNR=86
ASAR PKPPKP **P'P'df 11 28 45.7 +4.6**
comp=Z,4.0nm,0.9s,baz=175,slow=2.7,SNR=12
ASAR Alice Springs 64.94 191 P **P 11 00 02.6 -1.5**
ASAR pmax pmax
comp=Z,87nm,1.0s
ASAR pmax pmax
comp=Z,4.0nm,0.9s
E07A Sunnyside 64.99 49 *e*P **P 11 00 04.9 +0.7**
comp=Z,48nm,1.0s
I04A Tendick Farm, 65.00 53 P **P 11 00 05.0 +0.6**
baz=303,SNR=12
L02D Cave Junction, 65.16 55 P **P 11 00 06.2 +0.8**
baz=303
STEI Steigen 65.18 341 *e*P **P 11 00 05.0 0.0**
STEI IAmb IAmb 11 00 06.5
comp=Z,100nm,1.0s
C09A Chrisman Ranch 65.19 48 *e*P **P 11 00 05.8 +0.2**
comp=Z,46nm,0.9s
D08A Wollman Farm, 65.24 48 *e*P **P 11 00 06.1 +0.2**
comp=Z,35nm,0.9s
G06A Carlson Farm, 65.26 51 *e*P **P 11 00 06.8 +0.7**
comp=Z,45nm,1.2s
F07A Phinny Hill Vi 65.31 50 *e*P **P 11 00 07.2 +0.8**
comp=Z,46nm,0.9s
HUMO Hull Mountain 65.31 54 *e*P **P 11 00 08.4 +1.9**
comp=Z,94nm,2.0s
KRMB Red Mountain 65.32 56 *e*P **P 11 00 09.4 +2.8**
comp=Z,180nm,1.7s
I05D Terrebonne, OR 65.34 52 P **P 11 00 07.0 +0.4**
baz=304,SNR=10
LOF Lofoten 65.43 342 *e*P **P 11 00 06.2 -0.6**
LOF IAmb IAmb 11 00 09.4
comp=Z,90nm,0.9s
E08A Dider Farm, El 65.48 49 *e*P **P 11 00 07.6 +0.2**
comp=Z,37nm,1.0s
J04D Umpqua Nationa 65.48 53 P **P 11 00 07.9 +0.1**
baz=304,SNR=13
NEW Newport 65.58 47 P **P 11 00 07.9 -0.2**
comp=Z,30nm,0.9s,baz=314,slow=4.8,SNR=50
NEW Newport 65.58 47 P **P 11 00 08.2 +0.1**
baz=304,SNR=32
NEW Newport 65.58 47 *e*P **P 11 00 07.8 -0.3**
NEW pmax pmax
comp=Z,53nm,1.1s
NEW Newport 65.58 47 *e*P **P 11 00 07.8 -0.3**
comp=Z,53nm,1.1s
DZM Mont Dzumac 65.69 158 P **P 11 00 09.3 +0.2**
comp=Z,55nm,1.1s,baz=177,slow=18,SNR=9.7
DZM Mont Dzumac 65.69 158 *e*P **P 11 00 10.8 +1.7**
comp=Z,200nm,1.4s
GOA Goa 65.75 270 *e*P **P 11 00 09.1 -0.4**
GOA IAmb IAmb 11 00 10.8
comp=Z,363nm,0.2s
PALK Pallekele 65.78 258 P **P 11 00 10.1 +0.2**
comp=Z,40nm,0.9s,baz=117,slow=2.9,SNR=17
PALK Pallekele 65.78 258 pP **P 11 00 11.4 +1.6**
SNR=10
PALK Pallekele 65.78 258 P **P 11 00 11.4 +1.6**
SNR=10
PALK Pallekele 65.78 258 *i* P **P 11 00 09.7 -0.2**
SNR=15
KHMM Horse Mountain 65.79 56 *e*P **P 11 00 10.7 +1.0**
comp=Z,80nm,1.2s
MOS Moscow 65.82 324 *e*P **P 11 00 08.0 -1.4**
MOS *e* 11 00 37.9
MOS *e* 11 02 32.6
MOS *e*S **S 11 08 53.1 -2.3**
MOS pmax pmax
comp=Z,379nm,1.5s
MOS pmax pmax
comp=N,135nm,1.2s
MOS pmax pmax
comp=E,92nm,1.0s
MOS MLR MLR
comp=N,10µm,16.0s
MOS MLR MLR
comp=E,9µm,16.0s
MOS MLR MLR
comp=Z,16µm,16.0s
PINE Pine Mountain 65.88 52 *e*P **P 11 00 11.5 +1.2**
comp=Z,96nm,1.0s
MSVF Nonsavu 65.90 145 *e*P **P 11 00 12.4 +2.0**
MSVF pmax pmax
comp=Z,137nm,1.5s
MSVF Nonsavu 65.90 145 *e*P **P 11 00 12.4 +2.0**
comp=Z,137nm,1.5s
MBWA Marble Bar 65.92 206 *e*P **P 11 00 09.9 -0.5**
comp=Z,100nm,1.2s
YBH Yreka Blue Hor 65.95 55 P **P 11 00 11.1 +0.4**
comp=Z,26nm,0.9s,baz=306,slow=2.8,SNR=39
YBH Yreka Blue Hor 65.95 55 *e*P **P 11 00 11.9 +1.2**
comp=Z,35nm,0.9s
J05D Fort Rock, OR 65.99 53 P **P 11 00 11.9 +0.9**
baz=304,SNR=22
E09A Wood Farm, Sta 65.99 49 *e*P **P 11 00 11.2 +0.4**
comp=Z,51nm,0.9s
K04D Chiloquin, OR 66.04 54 P **P 11 00 11.9 +0.6**
baz=304
M02C Callahan 66.05 55 P **P 11 00 11.6 +0.3**
baz=304,SNR=7.6
EIDS Eidsvold 66.09 174 *e*P **P 11 00 11.6 +0.2**
comp=Z,103nm,1.1s
KMRM Mail Ridge 66.16 57 *e*P **P 11 00 14.9 +2.8**
comp=Z,238nm,1.8s
G08A Pilot Rock 66.21 50 *e*P **P 11 00 13.3 +1.0**
comp=Z,35nm,1.4s
PUL Pulkovo 66.30 330⇑ *i*P **P 11 00 13.9 +1.4**
PUL pmax pmax
comp=Z,109nm,0.4s
N02D Trinity Center 66.38 56 P **P 11 00 14.2 +0.8**
baz=304,SNR=13
M04C Macdoel 66.46 55 P **P 11 00 14.5 +0.5**
baz=304,SNR=19
K05A Summer Lake 66.51 53 *e*P **P 11 00 15.7 +1.3**
comp=Z,107nm,0.9s
VRH Novokhopyorsk 66.58 318 *e*P **P 11 00 14.4 0.0**
VRH pmax pmax
comp=Z,240nm,1.3s
VRH pmax pmax
comp=Z,410nm,1.5s
VRH MLR MLR
comp=Z,25µm,17.0s
OBN Obninsk 66.68 324 P **P 11 00 15.9 +1.0**
comp=Z,209nm,1.0s,baz=64,slow=1.2,SNR=54
OBN Obninsk 66.68 324 *di*P **P 11 00 15.9 +1.0**
OBN *e*'SP **sP 11 00 22.4 +1.1**
OBN *i* 11 00 31.3
OBN *e* 11 00 41.4
OBN *i* S **S 11 09 05.8 0.0**
OBN pmax pmax
comp=Z,340nm,1.2s
OBN MLR MLR
comp=Z,19µm,17.0s
OBN Obninsk 66.68 324 *e*P **P 11 00 15.8 +1.0**
comp=Z,313nm,1.1s
WDC Whiskeytown Da 66.70 56 *e*P **P 11 00 16.4 +1.0**
WDC pmax pmax
comp=Z,154nm,1.8s
WDC Whiskeytown Da 66.70 56 *e*P **P 11 00 16.4 +1.0**
comp=Z,154nm,1.8s
FIA1 FINESS Array S 66.72 333 *e*P **P 11 00 15.0 -0.1**
FINES FINESS Array B 66.72 333 P **P 11 00 14.6 -0.5**
comp=Z,132nm,0.8s,baz=55,slow=5.4,SNR=177
FINES LR LR 11 32 38.9
comp=Z,13µm,19.2s,baz=56,slow=39
MOR8 Moi Rana 66.75 340 *e*P **P 11 00 13.6 -1.6**
KONS Konsvik 66.82 341 *e*P **P 11 00 16.2 +0.6**
F10A Beach Ranch, E 66.82 49 *e*P **P 11 00 16.3 +0.1**
comp=Z,19nm,1.0s
WALA Waterton Lakes 66.86 45 *e*P **P 11 00 16.7 +0.3**
comp=Z,51nm,1.0s
SUMG Summit 66.90 1 *i* P **P 11 00 17.1 +0.5**
SUMG Summit 66.90 1 *e*P **P 11 00 17.0 +0.5**
SUMG pmax pmax
comp=Z,169nm,0.9s
SUMG Summit 66.90 1 *e*P **P 11 00 17.0 +0.5**
comp=Z,169nm,0.9s
STOK Straagen 66.98 341 *e*P **P 11 00 17.2 +0.6**
LPSR Galich'ya Gora 67.12 320 *e*P **P 11 00 17.8 0.0**
LPSR pmax pmax
comp=Z,340nm,1.0s
O03D Paynes Creek 67.33 56 P **P 11 00 19.6 +0.1**
baz=305
MOD Modoc Plateau 67.34 54 *e*P **P 11 00 20.1 +0.5**
comp=Z,36nm,1.0s
BMO Blue Mountains 67.42 50 *e*P **P 11 00 20.4 +0.3**
BMO pmax pmax
comp=Z,21nm,1.0s
BMO Blue Mountains 67.42 50 *e*P **P 11 00 20.4 +0.3**
comp=Z,21nm,1.0s
JTMT Jette 67.43 46 *e*P **P 11 00 20.6 +0.5**
comp=Z,48nm,1.0s
VORR Voronezh 67.56 320 *e*P **P 11 00 19.0 -1.6**
VORR pmax pmax
comp=Z,550nm,1.0s
J08A Circle Bar Ran 67.60 52 *e*P **P 11 00 22.4 +1.2**
comp=Z,44nm,1.0s
AFI Afiamalu 67.64 134 P **P 11 00 21.8 +0.2**
comp=Z,28nm,0.8s,baz=293,slow=23,SNR=4.9
AFI Afiamalu 67.64 134 P **P 11 00 22.3 +0.7**
comp=Z,31nm,0.8s
VSR Storozhevoye 67.86 319 *e*P **P 11 00 22.8 +0.3**
VSR pmax pmax
comp=Z,200nm,0.9s
VSR pmax pmax
comp=Z,550nm,1.7s
VSR MLR MLR
comp=Z,14µm,16.0s
ORV Oroville 67.94 56 *e*P **P 11 00 23.3 0.0**
ORV pmax pmax
comp=Z,59nm,1.2s
ORV Oroville 67.94 56 *e*P **P 11 00 23.3 0.0**
comp=Z,59nm,1.2s
WVOR Wild Horse Val 68.04 52 *e*P **P 11 00 24.0 0.0**
WVOR pmax pmax
comp=Z,34nm,0.9s
WVOR Wild Horse Val 68.04 52 *e*P **P 11 00 24.0 0.0**
comp=Z,34nm,0.9s
MSO Missoula 68.16 47 P **P 11 00 24.5 -0.1**
baz=307,SNR=25
MSO Missoula 68.16 47 *e*P **P 11 00 24.7 0.0**
comp=Z,34nm,1.0s
MAK Makhachkala 68.24 308 *e*P P 11 00 18.8 -6.2
MAK *e* 11 02 50.9
MAK *e*PPP PPP 11 04 29.2
MAK *e*S **S 11 09 17.3 -7.7**
MAK *e*SS **SS 11 13 45.1 -2.2**
MAK pmax pmax
comp=Z,206nm,1.4s
MAK MLR MLR
comp=Z,10µm,15.0s
VSU Vasula 68.55 330 *d i*P **P 11 00 27.8 +1.1**
VSU pmax pmax
comp=Z,612nm,1.2s
SCO Scoresbysund 68.61 355 *i* P **P 11 00 28.5 +1.6**
comp=Z,132nm,1.3s
SCO Scoresbysund 68.61 355 *e*P **P 11 00 27.8 +0.9**
SCO pmax pmax
comp=Z,127nm,1.3s
SCO Scoresbysund 68.61 355 *e*P **P 11 00 27.8 +0.9**
comp=Z,127nm,1.3s
AFDM Forest Hills D 68.63 57 *e*P **P 11 00 28.9 +1.3**
comp=Z,70nm,1.5s
NSS Namsos 68.68 340 *e*P **P 11 00 27.6 +0.2**
COCO West Island 68.91 231 *e*P **P 11 00 31.8 +2.4**
COCO pmax pmax
comp=Z,724nm,1.4s
COCO West Island 68.91 231 *e*P **P 11 00 31.8 +2.4**
comp=Z,724nm,1.4s
RDG13 Poverty Ridge 69.02 58 *e*P **P 11 00 31.7 +1.6**
comp=Z,122nm,1.4s
FFC Flin Flon 69.08 35 *e*P **P 11 00 29.8 -0.3**
FFC pmax pmax
comp=Z,47nm,0.9s
FFC Flin Flon 69.08 35 *e*P **P 11 00 29.8 -0.3**
comp=Z,47nm,0.9s
GROC Groznyy 69.11 309 *e*P **P 11 00 31.4 +0.9**
GROC *e* 11 00 55.1
GROC pmax pmax
comp=Z,97nm,1.3s
MFID Camas Ranch 69.13 50 *e*P **P 11 00 31.2 +0.4**
comp=Z,95nm,1.7s
PAHR Pah Rah Range 69.18 55 *e*P **P 11 00 31.7 +0.5**
comp=Z,46nm,1.1s
VCNR Virginia City 69.26 56 *e*P **P 11 00 33.5 +1.8**
comp=Z,30nm,0.9s
HRY Holter Researc 69.39 46 *e*P **P 11 00 32.4 +0.1**
CMB Columbia Colle 69.53 57 *e*P **P 11 00 33.8 +0.5**
CMB pmax pmax
comp=Z,44nm,1.0s
CMB Columbia Colle 69.53 57 *e*P **P 11 00 33.8 +0.5**
comp=Z,44nm,1.0s
GOF Gofitskoye 69.57 312⇑ *e*P **P 11 00 35.0 +1.7**
GOF *e*S **S 11 09 44.1 +3.4**
GOF pmax pmax
comp=Z,498nm,1.3s
GOF smax smax
comp=E,84nm,1.3s
GOF smax smax
comp=N,111nm,1.2s
LRM Limekiln Ridge 69.59 47 *e*P **P 11 00 33.6 -0.1**
SAO San Andreas Ge 69.60 59 *e*P **P 11 00 35.0 +1.4**
SAO pmax pmax
comp=Z,179nm,1.9s
SAO San Andreas Ge 69.60 59 *e*P **P 11 00 35.0 +1.4**
comp=Z,179nm,1.9s
ILULI Ilulissat 69.67 6 *i* P **P 11 00 33.1 -0.4**
comp=Z,118nm,1.0s
ILULI Ilulissat 69.67 6 *i* P **P 11 00 33.1 -0.4**
ILULI pmax pmax
comp=Z,120nm,1.0s
ILULI Ilulissat 69.67 6 *e*P **P 11 00 33.1 -0.4**
comp=Z,115nm,1.0s
EGMT Eagleton 69.68 44 P **P 11 00 34.1 0.0**
baz=309,SNR=30
EGMT Eagleton 69.68 44 *e*P **P 11 00 34.2 +0.2**
comp=Z,59nm,0.9s
YERR Yerington 69.70 56 *e*P **P 11 00 35.2 +0.7**
comp=Z,90nm,1.1s
DLMT Dillon 69.80 47 *e*P **P 11 00 35.4 +0.5**
comp=Z,131nm,1.6s
WAKR Walker 69.86 56 *e*P **P 11 00 36.3 +0.9**
comp=Z,58nm,1.2s
HLID Hailey 69.86 50 P **P 11 00 35.3 -0.1**
baz=308,SNR=28
MCMT McKenzie Canyo 69.98 48 *e*P **P 11 00 37.1 +0.9**
BMN Battle Mountai 70.08 54 *e*P **P 11 00 37.6 +0.8**
BMN pmax pmax
comp=Z,48nm,1.0s
BMN Battle Mountai 70.08 54 *e*P **P 11 00 37.6 +0.8**
comp=Z,48nm,1.0s
BOZ Bozeman (W) 70.19 47 P **P 11 00 37.2 -0.1**
baz=308,SNR=95
BOZ Bozeman (W) 70.19 47 *e*P **P 11 00 37.2 -0.1**
BOZ pmax pmax
comp=Z,47nm,0.9s
BOZ Bozeman (W) 70.19 47 *e*P **P 11 00 37.2 -0.1**
comp=Z,47nm,0.9s
NCK Nalchik 70.21 311⇑ *i*P **P 11 00 39.4 +2.1**
NCK pmax pmax
comp=Z,203nm,1.2s
PMPB Monarch Peak 70.34 59 *e*P **P 11 00 42.4 +4.1**
comp=Z,149nm,1.5s
RYN Ryan 70.36 56 *e*P **P 11 00 39.1 +0.6**
comp=Z,36nm,1.0s
KIV Kislovodsk 70.45 311 *e*P **P 11 00 40.0 +1.1**
KIV *e* 11 03 16.1
KIV *e*S **S 11 09 54.6 +3.3**
KIV pmax pmax
comp=Z,405nm,1.1s
KIV pmax pmax
comp=Z,1µm,4.2s
KIV Kislovodsk 70.45 311 *e*P **P 11 00 40.0 +1.1**
comp=Z,366nm,1.0s
KIV Kislovodsk 70.45 311 pP **P 11 00 40.3 +1.4**
SNR=115
KIV Kislovodsk 70.45 311 P **P 11 00 40.3 +1.4**
SNR=115
KIV Kislovodsk 70.45 311 *i* P **P 11 00 39.7 +0.9**
SNR=69
ZEI Tsey 70.47 310 *e*P P 11 00 32.5 -6.6
ZEI pmax pmax
comp=Z,85nm,0.7s
KBZ Khabaz 70.47 311 P **P 11 00 39.8 +1.0**
comp=Z,126nm,0.9s,baz=52,slow=4.9,SNR=179
KBZ LR LR 11 35 14.4
comp=Z,7µm,19.4s,baz=34,slow=39
MDPB Devils Postpil 70.60 57 *e*P **P 11 00 41.9 +1.7**
comp=Z,40nm,1.1s
NVAR Mina Array Bea 70.61 56 P **P 11 00 40.4 +0.3**
comp=Z,35nm,0.9s,baz=290,slow=5.7,SNR=114
NVAR PKP2bc 11 28 32.8
comp=Z,0.5nm,0.7s,baz=152,slow=4.6,SNR=4.8
NV01 Mina Array Sit 70.62 56 *e*P **P 11 00 40.0 -0.1**
TBLG Delisi 70.62 309 *e*P **P 11 00 42.4 +2.6**
TBLG Delisi 70.62 309 *e*P **P 11 00 41.6 +1.8**
TBLG pmax pmax
comp=Z,227nm,1.2s
TBLG Delisi 70.62 309 *e*P **P 11 00 41.6 +1.8**
comp=Z,227nm,1.2s
IZAR Zarasai 70.65 328 *e*P **P 11 00 39.8 +0.1**
IZAR IAmb IAmb 11 00 42.1
comp=Z,48nm,0.9s
NV11 Mina Array Sit 70.71 56 *e*P **P 11 00 42.3 +1.7**
comp=Z,7.2nm,1.4s
IDID Didziasalis 70.76 328 *e*P **P 11 00 40.4 0.0**
IDID IAmb IAmb 11 00 42.9
comp=Z,116nm,1.1s
MLAC Mammoth, Mammo 70.76 57 P **P 11 00 42.2 +1.1**
baz=307,SNR=19
QLMT Earthquake Lak 70.77 47 *e*P **P 11 00 42.1 +1.1**
ISAL Salakas 70.82 328 *e*P **P 11 00 41.0 +0.2**
ISAL IAmb IAmb 11 00 43.4
comp=Z,152nm,1.1s

MICGM **Minsk** 70.86 327 ⇓ *i* P P 11 00 42.0 +1.0
MICGM PM 11 00 43.0
comp=Z,0.9nm,1.0s
MICGM PM 11 00 44.0
comp=N,0.4nm,1.4s
MICGM *e*PP **PP** **11 03 20.0 +2.6**
MICGM *e*PPP PPP 11 05 01.0
MICGM *e*S **S** **11 09 58.0 +2.6**
MICGM *e*LR LR 11 31 50.0
MNK **Minsk** 70.86 327 ⇓ *i* P P 11 00 42.0 +1.0
MNK *e* 11 03 20.0
MNK *e*PPP PPP 11 05 01.0
MNK *e*S **S** **11 09 58.0 +2.6**
MNK pmax pmax
comp=Z,850nm,1.0s
MNK pmax pmax
comp=N,380nm,1.4s
NEY **Neytrino** 70.86 311 ⇑ *i* P P 11 00 43.5 +2.0
NEY pmax pmax
comp=Z,27nm,1.0s
IIGN **Ignalina** 70.94 328 *e*P P 11 00 41.6 +0.1
IIGN IAmb IAmb 11 00 44.1
comp=Z,161nm,1.1s
YHB **Horse Butte** 70.95 47 *e*P P 11 00 43.4 +1.3
comp=Z,37nm,0.9s
PAGB **Antelope Grade** 70.99 59 *e*P P 11 00 43.1 +0.9
comp=Z,237nm,1.4s
NACGM **Naroch** 71.03 327 *e*P P 11 00 41.0 -1.0
NACGM PM 11 00 45.0
comp=Z,1.2nm,1.0s
YHH **Holmes Hill** 71.12 47 *e*P P 11 00 44.4 +1.2
comp=Z,30nm,1.0s
YMR **Madison River** 71.13 47 *e*P P 11 00 44.6 +1.5
comp=Z,34nm,0.9s
GCMT **Greycliff** 71.14 45 *e*P P 11 00 44.0 +1.0
ARMA **Armidale** 71.14 174 *e*P P 11 00 44.4 +1.5
comp=Z,97nm,1.3s
YNR **Norris Junctio** 71.26 47 *e*P P 11 00 46.2 +2.2
comp=Z,98nm,1.5s
RCTC **Rector, Farmer** 71.30 58 P P 11 00 44.7 +0.7
baz=307,SNR=6.8
YFT **Old Faithful** 71.34 47 *e*P P 11 00 46.4 +1.9
comp=Z,41nm,1.0s
SMMC **Simmler** 71.40 59 P P 11 00 45.9 +1.2
baz=307,SNR=14
MOL **Molde** 71.43 341 *e*P P 11 00 44.6 +0.4
YPP **Pitchstone Pla** 71.47 47 *e*P P 11 00 47.6 +2.3
comp=Z,123nm,2.0s
DOMB **Dombas** 71.48 340 *e*P P 11 00 44.9 +0.1
TIN **Tinemaha, Big** 71.49 57 P P 11 00 46.9 +1.6
baz=308
NC405 **NORSAR Array S** 71.52 338 *e*P P 11 00 43.8 -1.2
H17A **Grant Village** 71.52 47 P P 11 00 47.4 +1.8
baz=309,SNR=55
H17A **Grant Village** 71.52 47 *e*P P 11 00 47.8 +2.2
comp=Z,65nm,1.0s
NC303 **NORSAR Array S** 71.53 338 *e*P P 11 00 44.8 -0.2
AKH **Akhalkalaki** 71.55 309 *e*P P 11 00 48.8 +3.1
AKH **Akhalkalaki** 71.55 309 ⇑ *i* P P 11 00 47.2 +1.5
AKH **Akhalkalaki** 71.55 309 *e*P P 11 00 47.5 +1.8
AKH pmax pmax
comp=Z,337nm,1.9s
AKH **Akhalkalaki** 71.55 309 *e*P P 11 00 47.5 +1.8
comp=Z,337nm,1.9s
GNI **Garni** 71.59 307 P P 11 00 47.9 +2.1
comp=Z,33nm,0.7s,baz=175,slow=1.5,SNR=36
GNI LR LR 11 34 24.6
comp=Z,6μm,19.2s,baz=43,slow=38
GNI **Garni** 71.59 307 *d i* P P 11 00 48.0 +2.1
GNI pmax pmax
comp=Z,365nm,1.2s
GNI **Garni** 71.59 307 *e*P P 11 00 47.7 +1.8
comp=Z,156nm,1.1s
GNI **Garni** 71.59 307 pP P 11 00 48.1 +2.2
SNR=44
GNI **Garni** 71.59 307 P P 11 00 48.1 +2.2
SNR=44
GNI **Garni** 71.59 307 *i* P P 11 00 48.0 +2.2
SNR=21
IMW **Indian Meadow** 71.63 48 *e*P P 11 00 47.4 +1.1
comp=Z,44nm,0.9s
NC204 **NORSAR Array S** 71.65 339 *e*P P 11 00 45.4 -0.4
VES **Vestal, Richgr** 71.68 58 P P 11 00 46.6 +0.3
baz=308,SNR=47
NB201 **NORSAR Array S** 71.69 338 *e*P P 11 00 44.8 -1.2
NB2 **NORSAR Subarra** 71.72 338 P P 11 00 45.6 -0.6
comp=Z,159nm,0.9s,baz=35,slow=6.2
NB2 **NORSAR Subarra** 71.72 338 P P 11 00 45.6 -0.7
baz=35,slow=6.2
NOA **NORSAR Array B** 71.72 338 P P 11 00 45.5 -0.7
comp=Z,115nm,0.8s,baz=36,slow=6.0,SNR=189
NOA LR LR 11 36 52.8
comp=Z,8μm,18.5s,baz=35,slow=40
NOA **NORSAR Array B** 71.72 338 P P 11 00 45.5 -0.7
NOA pmax pmax
comp=Z,118nm,0.9s
NOA MLR MLR
comp=Z,8μm,18.5s
HFS **Hagfors** 71.73 337 P P 11 00 45.9 -0.3
comp=Z,100nm,0.8s,baz=54,slow=7.5,SNR=90
HFS LR LR 11 38 17.0
comp=Z,6μm,18.1s,baz=52,slow=41
FXWY **Fox Creek** 71.75 48 *e*P P 11 00 47.5 +0.6
comp=Z,71nm,1.3s
RLMT **Red Lodge** 71.78 46 P P 11 00 47.4 +0.4
baz=310,SNR=26
RLMT **Red Lodge** 71.78 46 *e*P P 11 00 48.0 +0.9
comp=Z,139nm,1.7s
PKM **Mcpherson Peak** 71.78 60 P P 11 00 48.6 +1.4
baz=307,SNR=39
NBO02 **NORSAR Array S** 71.81 338 *e*P P 11 00 46.2 -0.5
MOOW **Moose Ponds** 71.84 48 *e*P P 11 00 48.1 +0.7
comp=Z,44nm,1.1s
NBO00 **NORSAR Array S** 71.85 338 *e*P P 11 00 46.4 -0.6
NC602 **NORSAR Array S** 71.88 338 *e*P P 11 00 47.6 +0.5
NC602 **NORSAR Array S** 71.88 338 *e*P P 11 00 47.5 +0.5
NC605 **NORSAR Array S** 71.88 338 *e*P P 11 00 47.5 +0.4
SFJD **Kangerlussuaq** 71.88 6 P P 11 00 46.7 -0.2
comp=Z,55nm,1.0s,baz=344,slow=6.4,SNR=20
SFJD **Kangerlussuaq** 71.88 6 *i* P P 11 00 47.5 +0.6
comp=Z,65nm,1.0s
SFJD **Kangerlussuaq** 71.88 6 *i* P P 11 00 47.5 +0.6
SFJD pmax pmax
comp=Z,65nm,1.0s
SFJD **Kangerlussuaq** 71.88 6 *e*P P 11 00 47.5 +0.6
comp=Z,96nm,1.1s
TPAW **Teton Pass** 71.88 48 *e*P P 11 00 47.9 +0.1
comp=Z,200nm,1.5s
AKN **Aaknes** 71.90 341 *e*P P 11 00 47.5 +0.3
HVU **Hansel Valley** 71.91 50 *e*P P 11 00 48.2 +0.4
HVU pmax pmax
comp=Z,40nm,0.9s
HVU **Hansel Valley** 71.91 50 *e*P P 11 00 48.2 +0.4
comp=Z,40nm,0.9s
CWC **Cottonwood Cre** 71.96 57 P P 11 00 48.9 +0.7
baz=308
NAO01 **NORSAR Array S** 71.97 338 *e*P P 11 00 47.2 -0.4
LOHW **Long Hollow** 72.00 48 *e*P P 11 00 50.3 +1.9
comp=Z,164nm,1.9s
SNOW **Snow King Moun** 72.01 48 *e*P P 11 00 50.3 +1.8
comp=Z,106nm,1.5s
REDW **Red Top Meadow** 72.02 48 *e*P P 11 00 49.1 +0.5
comp=Z,135nm,1.4s
GRAC **Grapevine Rang** 72.08 56 P P 11 00 49.9 +1.1
baz=308,SNR=45
SBC **Santa Barbara** 72.12 60 P P 11 00 49.3 +0.3
baz=308
ISA **Isabella, Lake** 72.18 58 P P 11 00 49.5 +0.1
baz=308,SNR=33
ISA **Isabella, Lake** 72.18 58 *e*P P 11 00 49.2 -0.2
ISA pmax pmax
comp=Z,35nm,1.0s
ISA **Isabella, Lake** 72.18 58 *e*P P 11 00 49.2 -0.2
comp=Z,35nm,1.0s
DGMT **Dagmar** 72.23 41 P P 11 00 49.4 0.0
baz=312,SNR=13
DGMT **Dagmar** 72.23 41 *e*P P 11 00 49.5 0.0
comp=Z,53nm,0.9s
AHID **Auburn Hatcher** 72.26 49 *e*P P 11 00 51.1 +1.2
comp=Z,43nm,1.2s
ARVC **Arvin** 72.28 59 P P 11 00 50.5 +0.6
baz=308,SNR=26
KARS **Kars** 72.29 309 *e*P P 11 00 52.2 +2.1
BGU **Big Grassy Mou** 72.30 51 *e*P P 11 00 51.5 +1.3
comp=Z,50nm,1.2s
SOC **Sochi** 72.36 313 *e*P P 11 00 48.6 -1.6

SOC *e* 11 01 04.2
SOC *e* 11 03 34.0
SOC *e*S **S** **11 10 14.2 +1.1**
SOC *e*SS **SS** **11 14 49.7 -0.7**
SOC pmax pmax
comp=Z,1μm,2.6s
SOC MLR MLR
comp=Z,7μm,16.0s
R11A **Troy Canyon, C** 72.36 54 P P 11 00 51.1 +0.5
baz=308,SNR=55
R11A **Troy Canyon, C** 72.36 54 *e*P P 11 00 50.6 +0.1
comp=Z,86nm,1.4s
DAC **Darwin (Calif)** 72.37 57 *e*P P 11 00 51.1 +0.4
DAC pmax pmax
comp=Z,45nm,0.9s
DAC **Darwin (Calif)** 72.37 57 *e*P P 11 00 51.1 +0.4
comp=Z,45nm,0.9s
STKA **Stephens Creek** 72.38 183 P P 11 00 49.3 -0.9
comp=Z,17nm,0.7s,baz=352,slow=7.1,SNR=14
STKA **Stephens Creek** 72.38 183 *e*P P 11 00 49.7 -0.6
comp=Z,4.7nm,0.7s
LAO **LASA Array** 72.38 43 P P 11 00 50.8 +0.4
baz=311,SNR=13
LAO **LASA Array** 72.38 43 *e*P P 11 00 51.6 +1.2
comp=Z,304nm,1.9s
SPUT **South Promonto** 72.40 50 *e*P P 11 00 52.6 +1.8
comp=Z,70nm,1.3s
SCZ2 **Santa Cruz Isl** 72.44 60 P P 11 00 51.5 +0.6
308
WSAR **Wadi Sarin** 72.46 286 P P 11 00 52.0 +0.8
comp=Z,13nm,0.7s,baz=69,slow=5.9,SNR=18
WSAR LR LR 11 37 21.0
comp=Z,7μm,19.2s,baz=186,slow=40
BANOM **Banah** 72.53 289 pP P 11 00 52.7 +1.1
SNR=32
BANOM **Banah** 72.53 289 P P 11 00 52.7 +1.1
SNR=32
BANOM **Banah** 72.53 289 *i* P P 11 00 51.1 -0.5
SNR=55
SHME **Shamm** 72.56 289 *i* P P 11 00 51.8 0.0
SNR=58
MPMC **Manual Prospec** 72.57 57 P P 11 00 52.5 +0.5
baz=308,SNR=97
WBK **Wadi Bani Khal** 72.59 285 pP P 11 00 54.1 +2.0
SNR=17
WBK **Wadi Bani Khal** 72.59 285 P P 11 00 54.1 +2.0
SNR=17
BIDO **Bidbid** 72.66 286 pP P 11 00 54.0 +1.6
SNR=30
BIDO **Bidbid** 72.66 286 P P 11 00 54.0 +1.6
SNR=30
OSI **Osito Audit: C** 72.66 59 P P 11 00 53.2 +0.9
baz=308,SNR=8.2
OSI **Osito Audit: C** 72.66 59 *e*P P 11 00 54.1 +1.8
comp=Z,77nm,0.8s
FURC **Furnace Creek,** 72.72 57 P P 11 00 53.6 +1.1
baz=308,SNR=107
HWUT **Hardware Ranch** 72.73 50 *e*P P 11 00 53.1 +0.4
comp=Z,92nm,1.3s
BLG **Laguna Peak, P** 72.74 60 P P 11 00 53.4 +0.7
baz=308,SNR=11
SENK **Senkaya-Erzuru** 72.76 309 *e*P P 11 00 55.1 +2.1
OSL **Oslo** 72.77 338 *e*P P 11 00 54.0 +1.7
LRMC **Laurel Mtn Rad** 72.80 58 P P 11 00 53.3 +0.1
baz=308
ANN **Anapa** 72.83 315 *e*P P 11 00 52.8 -0.2
ANN *e*S **S** **11 10 16.9 -1.5**
ANN pmax pmax
comp=Z,227nm,1.3s
FOO **Floro** 72.88 341 *e*P P 11 00 54.1 +1.1
DUG **Dugway, Tooele** 72.89 52 P P 11 00 54.3 +0.7
baz=309,SNR=79
DUG **Dugway, Tooele** 72.89 52 *e*P P 11 00 54.3 +0.7
DUG pmax pmax
comp=Z,67nm,0.9s
DUG **Dugway, Tooele** 72.89 52 *e*P P 11 00 54.3 +0.7
comp=Z,67nm,0.9s
MDH **Madha** 72.91 289 *i* P P 11 00 53.4 -0.4
SNR=16
AKASG **Malin Array Be** 72.93 323 P P 11 00 52.8 -0.7
comp=Z,111nm,0.7s,baz=43,slow=6.3,SNR=252
AKASG LR LR 11 36 46.4
comp=Z,9μm,18.9s,baz=55,slow=39
AKASG **Malin Array Be** 72.93 323 *i* P P 11 00 52.7 -0.8
AKASG pmax pmax
comp=Z,114nm,0.7s
AKBB **Malin Array Si** 72.93 323 *e*P P 11 00 53.0 -0.5
AKBB pmax pmax
comp=Z,268nm,1.1s
AKBB **Malin Array Si** 72.93 323 *e*P P 11 00 53.0 -0.5
comp=Z,268nm,1.1s
KIEV **Kiev** 72.94 323 ⇑ *i* P P 11 00 53.1 -0.5
KIEV pmax pmax
comp=Z,282nm,1.2s
KIEV **Kiev** 72.94 323 *e*P P 11 00 52.9 -0.7
comp=Z,218nm,1.0s
KIEV **Kiev** 72.94 323 *i* P P 11 00 53.0 -0.5
SNR=121
HYA **Hoyanger** 72.96 340 *e*P P 11 00 53.6 +0.1
HYA IAmb IAmb 11 00 55.2
comp=Z,118nm,0.9s
SNCC **San Nicolas Is** 72.97 61 P P 11 00 54.7 +0.6
baz=308
SNCC **San Nicolas Is** 72.97 61 *e*P P 11 00 56.0 +2.0
comp=Z,119nm,1.0s
EDW2 **Edwards Air Fo** 72.97 59 P P 11 00 54.7 +0.6
baz=308,SNR=76
MSFE **Esma-Masafi** 72.97 289 *i* P P 11 00 55.2 +0.9
SNR=33
AK11 **Malin Array Si** 72.97 323 *e*P P 11 00 53.2 -0.6
SMDO **Samad** 73.00 286 PcP PcP 11 01 03.0 -8.3
SNR=13
AGRB **Hanur-Agry** 73.00 308 *e*P P 11 00 57.1 +2.7
TCUT **Toone Canyon** 73.13 50 *e*P P 11 00 56.4 +1.2
comp=Z,136nm,1.1s
SUW **Suwalki** 73.13 328 *e*P P 11 00 55.3 +0.7
SUW **Suwalki** 73.13 328 *e*P P 11 00 55.3 +0.7
SUW **Suwalki** 73.13 328 *e*P P 11 00 55.5 +0.9
comp=Z,328nm,1.1s
BW06 **Boulder Array** 73.13 48 P P 11 00 55.3 +0.1
baz=310,SNR=32
BW06 **Boulder Array** 73.13 48 *e*P P 11 00 55.1 -0.1
comp=Z,140nm,1.8s
PD31 **Pinedale Array** 73.13 48 *e*P P 11 00 55.0 -0.2
PDAR **Pinedale Array** 73.13 48 P P 11 00 55.0 -0.2
comp=Z,14nm,0.8s,baz=273,slow=2.1,SNR=86
PDAR PKPPKP **P'P'df**
comp=Z,0.7nm,1.0s,baz=92,slow=3.4,SNR=3.6
PDAR **Pinedale Array** 73.13 48 *e*P P 11 00 54.4 -0.8
PDAR P'P' 11 28 33.5
DECC **Green Verdugo** 73.13 59 P P 11 00 55.2 +0.1
baz=308
UOSS **Minazif** 73.19 289 *e*P P 11 00 54.8 -0.7
comp=Z,101nm,0.8s
UOSS **Minazif** 73.19 289 *i* P P 11 00 54.9 -0.6
SNR=24
CTU **Camp Tracy** 73.20 51 *e*P P 11 00 56.9 +1.3
comp=Z,38nm,1.0s
HOQ **Hoqain** 73.22 287 pP P 11 00 58.0 +2.3
SNR=13
HOQ **Hoqain** 73.22 287 P P 11 00 58.0 +2.3
SNR=13
UMQ **Umm Al-Quwin** 73.22 289 *i* P P 11 00 57.2 +1.5
SNR=9.8
PASC **Pasadena Art C** 73.28 59 *e*P P 11 00 57.1 +1.2
comp=Z,86nm,1.3s
HATD **Hatta, Dubai** 73.31 288 pP P 11 00 57.0 +0.7
SNR=50
HATD **Hatta, Dubai** 73.31 288 P P 11 00 57.0 +0.7
SNR=50
HATD **Hatta, Dubai** 73.31 288 *i* P P 11 00 56.5 +0.3
SNR=54
KONO **Kongsberg** 73.33 338 ⇑ *i* P P 11 00 55.2 -0.5
KONO pmax pmax
comp=Z,512nm,1.2s
KONO **Kongsberg** 73.33 338 *e*P P 11 00 56.2 +0.5
comp=Z,64nm,1.0s
KONO **Kongsberg** 73.33 338 *e*P P 11 00 55.7 0.0
MWC **Mount Wilson** 73.33 59 *e*P P 11 00 56.8 +0.4
MWC pmax pmax
comp=Z,71nm,1.0s
MWC **Mount Wilson** 73.33 59 *e*P P 11 00 56.8 +0.4
comp=Z,71nm,1.0s
JMDO **Jabal Madar** 73.37 285 pP P 11 01 02.0 +5.3
SNR=12
VANB **Van** 73.37 307 *e*P P 11 00 58.4 +1.9
SUE **Sulen** 73.41 341 *e*P P 11 00 57.4 +1.2

SUE IAmb IAmb 11 00 58.0
comp=Z,121nm,1.1s
JLU **Jordanelle** 73.43 51 *e*P P 11 00 58.4 +1.4
comp=Z,191nm,1.9s
SHOC **Shoshone, Teco** 73.44 57 P P 11 00 57.8 +0.9
baz=309,SNR=10
SOHO **SOHO** 73.44 288 *i* P P 11 00 56.7 -0.2
SNR=41
ASHO **Ashiyiah** 73.45 288 pP P 11 00 57.7 +0.6
SNR=36
ASHO **Ashiyiah** 73.45 288 P P 11 00 57.7 +0.6
SNR=36
ASHO **Ashiyiah** 73.45 288 *i* P P 11 00 57.3 +0.2
SNR=51
GSC **Goldstone, Bar** 73.47 58 P P 11 00 58.1 +1.0
baz=309,SNR=23
GSC **Goldstone, Bar** 73.47 58 *e*P P 11 00 57.6 +0.5
GSC pmax pmax
comp=Z,60nm,1.1s
GSC **Goldstone, Bar** 73.47 58 *e*P P 11 00 57.6 +0.5
comp=Z,60nm,1.1s
NLU **North Lily Min** 73.48 51 *e*P P 11 00 57.9 +0.6
comp=Z,44nm,0.9s
FMP **Fort Macarthur** 73.49 60 P P 11 00 57.7 +0.6
baz=308
NAZ **Nazwa, Dubai** 73.55 289 pP P 11 00 58.0 +0.3
SNR=32
NAZ **Nazwa, Dubai** 73.55 289 P P 11 00 58.0 +0.3
SNR=32
NAZ **Nazwa, Dubai** 73.55 289 *i* P P 11 00 58.0 +0.3
SNR=8.1
BFSC **Mount Baldy Ra** 73.58 59 P P 11 00 58.8 +0.9
baz=308,SNR=61
CIS **Catalina Islan** 73.61 60 P P 11 00 58.0 +0.2
baz=308,SNR=11
RRX **Edison Barstow** 73.62 58 P P 11 00 58.3 +0.4
baz=309
BBOO **Buckleboo** 73.70 188 *e*P P 11 00 58.5 +0.5
comp=Z,274nm,1.8s
MPU **Maple Canyon** 73.70 51 *e*P P 11 00 59.9 +1.3
comp=Z,65nm,1.0s
SHPR **Sheep Range** 73.77 56 *e*P P 11 00 59.8 +0.8
comp=Z,71nm,1.1s
SCI2 **San Clemente I** 73.78 60 P P 11 00 59.4 +0.6
baz=308
ASK **Askoy** 73.80 341 *e*P P 11 00 59.0 +0.6
ASK IAmb IAmb 11 01 00.4
comp=Z,94nm,0.9s
BSY **Bisya** 73.81 286 pP P 11 01 03.1 +3.9
SNR=26
KLNR **Kaliningrad** 73.84 330 ⇓ *e*P P 11 00 59.7 +0.9
KLNR pmax pmax
comp=Z,463nm,1.1s
BER **Bergen** 73.85 340 *e*P P 11 00 59.4 +0.7
ODD1 **Odda** 73.92 340 *e*P P 11 00 60.0 +0.7
ODD1 IAmb IAmb 11 01 01.1
comp=Z,97nm,0.9s
ARQ **Araqi** 73.94 287 pP P 11 01 05.0 +5.0
SNR=13
TUQ **Turquoise Moun** 73.95 57 P P 11 01 00.4 +0.4
baz=309,SNR=32
KTUT **Trabzon** 74.00 310 *e*P P 11 01 01.8 +1.8
BBRC **Big Bear Solar** 74.05 58 P P 11 01 00.7 0.0
baz=309,SNR=37
ALNE **Al Ain** 74.06 288 *i* P P 11 01 00.3 -0.3
SNR=18
HEC **Hector,Ludlow** 74.07 58 P P 11 01 01.5 +0.8
baz=309,SNR=31
CUKT **Cukurca** 74.09 306 *e*P P 11 01 01.4 +0.6
BAYT **Ayd¯–ntepe-Bay** 74.16 310 *i* P P 11 01 03.5 +2.3
GURO **Guroymak-BITLI** 74.22 307 P P 11 01 04.0 +2.5
CCUT **Cedar City** 74.22 54 *e*P P 11 01 04.2 +2.5
BORG **Borgarnes** 74.23 354 P P 11 01 00.8 -0.1
comp=Z,71nm,0.9s,baz=10.0,slow=4.5,SNR=6.6
BORG LR LR 11 36 07.4
comp=Z,2μm,18.0s,baz=202,slow=38
BORG **Borgarnes** 74.23 354 *e*P P 11 01 01.6 +0.7
MURC **Murrieta** 74.28 59 P P 11 01 02.0 +0.1
baz=309,SNR=24
AJN **Ajban** 74.30 289 *i* P P 11 01 02.1 +0.2
SNR=23
MSU **Marysvale** 74.33 53 *e*P P 11 01 03.1 +0.8
MSU **Marysvale** 74.33 53 *e*P P 11 01 03.1 +0.8
SZCU **Shurtz Canyon** 74.37 54 *e*P P 11 01 04.2 +1.7
comp=Z,136nm,1.7s
BLS5 **Blasjo** 74.38 339 *e*P P 11 01 02.6 +0.7
BLS5 IAmb IAmb 11 01 03.8
comp=Z,86nm,1.0s
TMUT **Trail Mountain** 74.41 51 *e*P P 11 01 04.4 +1.5
comp=Z,56nm,1.1s
SIM **Simferopol'** 74.49 316 *e*P P 11 01 03.0 +0.2
SIM pmax pmax
comp=Z,112nm,1.0s
GMRC **Granite Mounta** 74.53 57 P P 11 01 04.0 +0.6
baz=309,SNR=59
P17A **Butcher Ranch,** 74.58 51 *e*P P 11 01 04.3 +0.7
comp=Z,85nm,1.0s
MTPU **Mount Pierson** 74.63 53 *e*P P 11 01 06.5 +2.3
comp=Z,190nm,1.7s
ESPY **Espiye-Giresun** 74.64 311 P P 11 01 04.7 +0.9
LCMT **Little Creek M** 74.64 54 *e*P P 11 01 04.5 +0.5
comp=Z,110nm,1.3s
SIRT **Sirnak** 74.65 306 *e*P P 11 01 05.8 +1.8
Q16A **Castle Valley** 74.68 52 *e*P P 11 01 06.1 +1.8
comp=Z,187nm,1.7s
LDFC **Landfair** 74.70 57 *e*P P 11 01 05.8 +1.5
comp=Z,143nm,1.1s
PFO **Pinyon Flats O** 74.75 59 P P 11 01 05.0 +0.3
baz=309,SNR=34
XPFO **Piæon Flat** 74.75 59 *e*P P 11 01 04.5 -0.2
comp=Z,95nm,1.1s
P18A **Preston Nutter** 74.77 51 *e*P P 11 01 06.3 +1.4
comp=Z,71nm,1.1s
109C **Camp Elliot, M** 74.78 60 P P 11 01 05.2 +0.5
baz=309,SNR=13
HOMB **Homborsund** 74.79 338 *e*P P 11 01 04.8 +0.5
BELC **Belle Mtn. Jos** 74.81 58 P P 11 01 05.3 +0.2
baz=309,SNR=41
ULM **Lac du Bonnet** 74.88 35 P P 11 01 04.2 -0.7
comp=Z,19nm,1.0s,baz=310,slow=6.5,SNR=18
ULM **Lac du Bonnet** 74.88 35 *e*P P 11 01 04.2 -0.7
comp=Z,38nm,1.1s
KMY **Karmoy** 74.88 340 *e*P P 11 01 06.2 +1.4
KMY IAmb IAmb 11 01 06.7
comp=Z,94nm,1.0s
MDND **Maddock** 74.89 39 P P 11 01 05.4 +0.3
baz=315,SNR=8.6
MDND **Maddock** 74.89 39 *e*P P 11 01 06.3 +1.2
comp=Z,119nm,1.0s
K22A **Casper** 74.89 46 P P 11 01 05.8 +0.4
baz=312,SNR=31
KNB **Kanab** 74.90 54 *e*P P 11 01 06.7 +1.2
KNB pmax pmax
comp=Z,163nm,1.4s
KNB **Kanab** 74.90 54 *e*P P 11 01 06.7 +1.2
comp=Z,162nm,1.4s
SRU **San Rafael Swe** 74.94 51 *e*P P 11 01 06.2 +0.5
SRU pmax pmax
comp=Z,87nm,0.9s
SRU **San Rafael Swe** 74.94 51 *e*P P 11 01 06.2 +0.5
comp=Z,86nm,0.9s
STAV **Stavanger** 75.00 339 *e*P P 11 01 05.5 0.0
SNART **Snartemo** 75.10 338 *e*P P 11 01 06.9 +0.8
SNART IAmb IAmb 11 01 07.7
comp=Z,79nm,1.1s
RWWY **Rawlins** 75.15 47 *e*P P 11 01 07.1 0.0
comp=Z,68nm,1.0s
BAR **Barrett** 75.20 60 *e*P P 11 01 07.4 +0.3
comp=Z,57nm,1.0s
NEE2 **Needles Airpor** 75.21 57 P P 11 01 07.1 0.0
baz=310
MONP2 **Monument Peak** 75.23 59 P P 11 01 07.9 +0.3
baz=309,SNR=16
RSSD **Black Hills** 75.24 44 P P 11 01 07.3 -0.2
baz=313
RSSD **Black Hills** 75.24 44 *e*P P 11 01 07.2 -0.2
RSSD pmax pmax
comp=Z,53nm,1.0s
RSSD **Black Hills** 75.24 44 *e*P P 11 01 07.2 -0.3
comp=Z,53nm,1.0s
IRM **Iron Mountain** 75.26 58 P P 11 01 08.0 +0.5
baz=310,SNR=83
BSD **Bornholm Skovb** 75.36 333 ⇓ *i* P P 11 01 08.5 +0.9
comp=Z,250nm,1.1s
BSD **Bornholm Skovb** 75.36 333 ⇓ *i* P P 11 01 08.5 +0.9
BSD pmax pmax
comp=Z,250nm,1.1s

BC3 **Big Chuckawall** 75.38 58 P P 11 01 08.8 +0.6
baz=310,SNR=53
B31A **Greenbush Farm** 75.40 38 P P 11 01 08.2 +0.2
baz=316
W13A **Hualapai Mount** 75.46 56 *eP* P 11 01 10.1 +1.2
A32A **Rocking H Ranc** 75.58 37 P P 11 01 08.6 -0.4
baz=317,SNR=18
PTK **Pertek** 75.58 309 *iP* P 11 01 11.9 +2.5
IKP **In-Ko-Pah, Jac** 75.58 59 P P 11 01 09.8 +0.3
baz=309,SNR=17
O20A **White River Ci** 75.60 49 P P 11 01 09.8 +0.3
baz=312,SNR=41
O20A **White River Ci** 75.60 49 *eP* P 11 01 09.5 0.0
comp=Z,53nm,0.9s
SWSC **Sam W. Stewart** 75.60 59 P P 11 01 09.2 -0.2
baz=310,SNR=13
U15A **North Rim** 75.60 54 *eP* P 11 01 10.3 +0.6
ILIC **ilic-Erzincan** 75.69 310 *iP* P 11 01 11.6 +1.6
BEL **Belsk** 75.72 328 *eP* P 11 01 11.7 +1.9
BEL **Belsk** 75.72 328 *eP* P 11 01 11.7 +1.9
COP **Copenhagen** 75.73 334 ⇓*iP* P 11 01 11.4 +1.7
comp=Z,148nm,1.0s
COP **Copenhagen** 75.73 334 ⇓*iP* P 11 01 11.4 +1.7
COP pmax pmax
comp=Z,150nm,1.0s
KIS **Kishinev** 75.73 321 *i* P P 11 01 09.0 -0.9
KIS XM 11 01 12.0
comp=Z,700nm,2.5s
KIS **Kishinev** 75.73 321 ⇓*iP* P 11 01 09.0 -0.9
KIS *i* 11 01 15.0
KIS *i* 11 01 25.0
KIS *e* 11 04 01.0
KIS pmax pmax
comp=Z,720nm,2.5s
SAN1 **Sandwick** 75.73 343 *eP* P 11 01 09.9 +0.2
DYBB **Diyarbakir** 75.75 308 *eP* P 11 01 12.8 +2.5
RSDY **Resadiye-TOKAT** 75.78 311 *iP* P 11 01 11.0 +0.6
PDMCI **Parker Dam,Lak** 75.81 57 P P 11 01 11.0 +0.4
baz=310,SNR=37
C31A **Landman Farms,** 75.82 38 P P 11 01 10.3 -0.1
baz=316,SNR=8.1
CAN **Canberra** 75.85 177 *eP* P 11 01 12.0 +1.5
CAN pmax pmax
comp=Z,93nm,1.5s
CAN **Canberra** 75.85 177 *eP* P 11 01 11.9 +1.5
comp=Z,93nm,1.5s
LVV **L'vov** 75.88 325 *eP* P 11 01 11.4 +0.7
MAZI **Mazidag** 75.88 307 *eP* P 11 01 13.2 +2.1
SNOP **Sinop** 75.88 314 *eP* P 11 01 12.4 +1.5
Y12C **Blythe** 75.91 58 P P 11 01 11.6 +0.4
baz=310,SNR=33
Y12C **Blythe** 75.91 58 *eP* P 11 01 11.9 +0.7
comp=Z,84nm,1.0s
B32A **Ashes, Strandg** 75.94 37 P P 11 01 10.3 -0.7
baz=317,SNR=22
GKP **Gorka Klasztor** 75.99 331 *eP* P 11 01 12.6 +1.4
GKP **Gorka Klasztor** 75.99 331 *eP* P 11 01 12.6 +1.4
KVT **Kavak** 76.05 312 *eP* P 11 01 14.2 +2.3
A33A **Warroad** 76.06 36 P P 11 01 11.6 -0.1
baz=317,SNR=17
LLD **Lille Linde** 76.09 334 *iP* P 11 01 11.7 -0.1
comp=Z,157nm,1.2s
LLD **Lille Linde** 76.09 334 *iP* P 11 01 11.7 -0.1
LLD pmax pmax
comp=Z,160nm,1.2s
DIKM **Dikmen** 76.11 313 *eP* P 11 01 14.2 +2.1
MUD **Monsted U'grnd** 76.12 336 *iP* P 11 01 12.5 +0.6
comp=Z,98nm,1.0s
MUD **Monsted U'grnd** 76.12 336 *iP* P 11 01 12.5 +0.6
MUD pmax pmax
comp=Z,98nm,1.0s
PV09 **Paradox Valley** 76.16 51 *eP* P 11 01 13.5 +0.6
GLA **Glamis** 76.16 58 P P 11 01 13.9 +1.2
baz=310,SNR=30
GLA **Glamis** 76.16 58 *eP* P 11 01 13.4 +0.7
GLA pmax pmax
comp=Z,75nm,0.9s
GLA **Glamis** 76.16 58 *eP* P 11 01 13.4 +0.7
comp=Z,74nm,0.9s
IAS **Iasi** 76.19 321 ⇑*iP* P 11 01 13.5 +1.0
TOKT **Tokat** 76.28 312 *iP* P 11 01 15.3 +2.1
SVSK **Karacayir** 76.29 311 *iP* P 11 01 15.7 +2.5
PV10 **Paradox Valley** 76.29 51 *eP* P 11 01 14.4 +0.8
AGMN **Agassiz Nation** 76.31 37 P P 11 01 12.5 -0.8
baz=317,SNR=17
AGMN **Agassiz Nation** 76.31 37 *eP* P 11 01 12.4 -0.8
comp=Z,75nm,1.3s
C32A **Crookston** 76.35 37 P P 11 01 13.4 -0.1
baz=317
D31A **Mcclaflin, Tow** 76.36 39 P P 11 01 13.5 +0.1
baz=316
RGN **Rugen** 76.36 333 *eP* P 11 01 15.1 +1.8
comp=Z,170nm,0.8s
LEOM **Leova** 76.38 321 ⇓*iP* P 11 01 14.1 +0.5
PHWY **Pilot Hill** 76.39 47 *eP* P 11 01 15.1 +1.0
comp=Z,56nm,1.4s
N23A **Red Feather La** 76.39 47 P P 11 01 15.1 +0.9
baz=313,SNR=48
N23A **Red Feather La** 76.39 47 *eP* P 11 01 15.1 +0.9
comp=Z,79nm,1.0s
PV05 **Paradox Valley** 76.46 51 *eP* P 11 01 14.6 +0.1
B33A **Robert and Kas** 76.46 37 P P 11 01 13.4 -0.6
baz=317,SNR=7.9
MALT **Malatya** 76.53 309 *eP* P 11 01 16.6 +1.9
BZK **Bozkurt** 76.58 314 *eP* P 11 01 16.7 +1.9
KWP **Kalwaria Pacla** 76.59 326 *eP* P 11 01 16.7 +1.9
KWP **Kalwaria Pacla** 76.59 326 *eP* P 11 01 15.7 +0.9
KWP pmax pmax
comp=Z,4µm,1.1s
KWP **Kalwaria Pacla** 76.59 326 *eP* P 11 01 15.7 +0.9
comp=Z,4µm,1.1s
D32A **Dogwood Acres,** 76.63 38 P P 11 01 14.9 -0.1
baz=317
E31A **Nome** 76.63 39 P P 11 01 14.2 -0.9
baz=316,SNR=13
PRAR **RASCA** 76.70 322 ⇓*iP* P 11 01 16.6 +1.2
B34A **Aery, Baudette** 76.72 36 P P 11 01 15.3 -0.2
baz=318,SNR=19
PV01 **Paradox Valley** 76.73 51 *eP* P 11 01 17.1 +1.0
C33A **Trail** 76.75 37 P P 11 01 15.1 -0.6
baz=317,SNR=15
WUAZ **Wupatki** 76.76 54 P P 11 01 17.7 +1.5
baz=311,SNR=85
WUAZ **Wupatki** 76.76 54 *eP* P 11 01 17.2 +1.0
comp=Z,130nm,1.2s
Y14A **Wickenburg** 76.76 57 *eP* P 11 01 16.6 +0.5
comp=Z,305nm,1.1s
URFA **Urfa** 76.87 308 *iP* P 11 01 18.3 +1.6
DARE **Darende-Malaty** 76.91 310 *iP* P 11 01 19.5 +2.6
F31A **Hecla** 76.96 40 P P 11 01 16.8 -0.1
baz=316
BUR08 **Bucovina Ar. S** 76.96 323 *eP* P 11 01 17.0 0.0
SMCO **Snowmass** 76.97 49 *eP* P 11 01 17.9 +0.4
comp=Z,69nm,1.4s
BUR04 **Bucovina Ar. S** 76.98 323 *eP* P 11 01 16.9 -0.2
BURAR **Bucovina Array** 76.98 323 ⇓*iP* P 11 01 17.2 +0.1
E32A **Braaten, Kindr** 77.00 39 P P 11 01 17.2 +0.1
baz=317
TLCR 77.02 319 ⇑*iP* P 11 01 17.6 +0.4
113A **Mohawk Valley,** 77.03 58 *eP* P 11 01 18.9 +1.3
comp=Z,51nm,1.1s
TESR **Tescani** 77.12 321 ⇓*iP* P 11 01 17.3 -0.5
D33A **AnnSam, Waubun** 77.17 38 P P 11 01 17.8 -0.2
baz=317,SNR=6.4
C34A **RKJ Ranch, Bem** 77.22 37 P P 11 01 17.9 -0.5
baz=318
B35A **Bob, Littlefor** 77.23 36 P P 11 01 18.0 -0.4
baz=318,SNR=25
ISCO **Idaho Springs** 77.32 48 P P 11 01 20.1 +0.7
baz=313,SNR=44
ISCO **Idaho Springs** 77.32 48 *eP* P 11 01 20.0 +0.6
ISCO pmax pmax
comp=Z,104nm,1.5s
ISCO **Idaho Springs** 77.32 48 *eP* P 11 01 20.0 +0.6
comp=Z,104nm,1.5s
ILGA **Ilgaz** 77.36 314 *eP* P 11 01 21.4 +1.8
comp=Z,196nm,1.2s
OJC **Ojcow** 77.36 327 *eP* P 11 01 20.3 +1.2
OJC **Ojcow** 77.36 327 *eP* P 11 01 19.2 +0.1
OJC pmax pmax
comp=Z,376nm,1.1s
OJC **Ojcow** 77.36 327 *eP* P 11 01 19.2 +0.1
comp=Z,376nm,1.1s
CFR **Carcaliu** 77.36 320 ⇓*iP* P 11 01 19.2 0.0
STHS **Stebnicka Huta** 77.38 326 *eP* P 11 01 20.6 +1.4
STHS pmax pmax
comp=Z,72nm,1.1s
STHS **Stebnicka Huta** 77.38 326 *eP* P 11 01 20.6 +1.4
MVCO **Mesa Verde** 77.39 52 P P 11 01 20.3 +0.5
baz=312,SNR=32
MVCO **Mesa Verde** 77.39 52 *eP* P 11 01 20.3 +0.5
comp=Z,65nm,1.1s
PETR **Petresti** 77.41 321 ⇓*iP* P 11 01 21.1 +1.7
YOZ **Yozgat** 77.43 312 *eP* P 11 01 20.9 +1.0
X16A **Lo Mia Camp, P** 77.43 55 *eP* P 11 01 20.7 +0.6
comp=Z,52nm,1.0s
G31A **Conde** 77.44 40 P P 11 01 19.7 +0.1
baz=316,SNR=5.5
CORM **Corum** 77.45 313 *eP* P 11 01 20.8 +0.8
ODBI **Odobesti** 77.47 321 ⇓*iP* P 11 01 21.3 +1.6
F32A **Veblen** 77.49 39 P P 11 01 20.0 0.0
baz=317
UZH **Uzhgorod** 77.53 325 *eP* P 11 01 19.7 -0.3
UZH *e* 11 01 32.4
VRI **Vrincioaia** 77.55 321 ⇓*iP* P 11 01 21.6 +1.4
E33A **Westby DABS, E** 77.56 38 P P 11 01 20.2 -0.1
baz=317,SNR=19
PLOR **Plostina** 77.60 321 ⇓*iP* P 11 01 22.0 +1.5
C35A **Jirik Farms, M** 77.61 36 P P 11 01 20.1 -0.4
baz=318,SNR=27
SUSD **Miller** 77.63 41 P P 11 01 20.5 -0.2
baz=316,SNR=8.0
BNN **Bunyan** 77.67 311 *eP* P 11 01 21.9 +0.7
NWAO **Narrogin (SRO)** 77.67 204 P P 11 01 23.6 +2.8
SNR=5.7
NWAO **Narrogin (SRO)** 77.67 204 P P 11 01 23.6 +2.8
SNR=5.7
CRVS **Cervenica-Dubn** 77.68 326 *eP* P 11 01 21.9 +1.0
CRVS **Cervenica-Dubn** 77.68 326 *eP* P 11 01 21.9 +1.0
BMR **Baia Mare** 77.71 324 ⇑*iP* P 11 01 23.0 +1.9
CANT **Cankiri** 77.72 313 *eP* P 11 01 23.1 +1.7
TIRR **Tirgusor** 77.75 319 ⇑*iP* P 11 01 21.7 +0.4
MLA1 **Latheron** 77.75 343 *eP* P 11 01 21.6 +0.5
G32A **Webster** 77.76 40 P P 11 01 21.3 -0.1
baz=317,SNR=7.5
ARCR **ARCALIA** 77.77 323 ⇓*iP* P 11 01 23.0 +1.6
RAO **Raoul Island** 77.77 147 LR LR 11 35 25.4
comp=Z,4µm,18.0s,baz=142,slow=36
NIE **Niedzica** 77.78 327 *eP* P 11 01 23.6 +2.1
NIE **Niedzica** 77.78 327 *eP* P 11 01 23.6 +2.1
GRER 77.78 320 ⇓*iP* P 11 01 22.3 +0.8
TRPA **Tarpa** 77.80 325 ⇓*eP* P 11 01 23.4 +1.9
TLB **Topalu** 77.84 319 ⇓*iP* P 11 01 22.3 +0.5
H31A **Wolsey** 77.84 41 P P 11 01 21.7 -0.2
baz=316,SNR=7.8
SHAO **Shalim** 77.89 283 pP P 11 01 23.7 +1.2
SNR=13
SHAO **Shalim** 77.89 283 P P 11 01 23.7 +1.2
SNR=13
SHAO **Shalim** 77.89 283 *iP* P 11 01 22.1 -0.5
SNR=23
F33A **5 Mile Ranch,** 77.91 39 P P 11 01 21.9 -0.3
baz=317,SNR=27
E34A **Wadena** 77.95 38 P P 11 01 22.1 -0.4
baz=318,SNR=5.6
KMRS **Kahramanmaras** 77.97 309 *iP* P 11 01 25.0 +2.3
GAZ **Gaziantep** 78.00 309 *iP* P 11 01 25.5 +2.5
S22A **4UR Ranch, Cre** 78.01 50 P P 11 01 24.4 +1.1
baz=313,SNR=57
S22A **4UR Ranch, Cre** 78.01 50 *eP* P 11 01 23.9 +0.5
comp=Z,50nm,1.1s
W18A **Petrified Fore** 78.03 54 P P 11 01 24.5 +1.2
baz=312,SNR=41
W18A **Petrified Fore** 78.03 54 *eP* P 11 01 25.2 +1.9
comp=Z,72nm,1.1s
D35A **Remer** 78.04 37 P P 11 01 22.7 -0.3
baz=318,SNR=12
NRS **Narsarsuaq** 78.05 5 *iP* P 11 01 23.1 +0.5
NRS **Narsarsuaq** 78.05 5 *iP* P 11 01 23.1 +0.5
NRS **Narsarsuaq** 78.05 5 *eP* P 11 01 23.2 +0.6
comp=Z,150nm,1.5s
C36A **Pine Crest Far** 78.07 36 P P 11 01 22.8 -0.3
baz=319,SNR=23
RSC **Scourie** 78.09 344 *eP* P 11 01 23.7 +0.7
DOPR **Dopca** 78.11 322 ⇓*iP* P 11 01 25.0 +1.6
RAC **Raciborz** 78.12 328 *eP* P 11 01 23.7 +0.4
RAC MLR MLR
comp=Z,10µm,19.4s
PGOR **Pogoanele** 78.12 320 ⇑*iP* P 11 01 23.7 +0.3
I31A **Royce, Wessing** 78.14 41 P P 11 01 23.6 0.0
baz=316
Q24A **Dixie** 78.15 48 P P 11 01 24.8 +0.7
baz=313,SNR=20
Q24A **Divide** 78.15 48 *eP* P 11 01 25.5 +1.4
comp=Z,33nm,1.0s
AMRR **Amara** 78.17 320 ⇓*iP* P 11 01 25.0 +1.4
214A **Organ Pipe Nat** 78.17 58 P P 11 01 24.5 +0.5
baz=311,SNR=53
ISR **Istrita** 78.18 320 ⇓*iP* P 11 01 24.1 +0.3
MLR **Muntele Rosu** 78.20 321 P P 11 01 25.6 +1.6
comp=Z,16nm,1.0s,baz=33,slow=4.2,SNR=32
MLR LR LR 11 40 43.8
comp=Z,2µm,18.4s,baz=38,slow=39
MLR **Muntele Rosu** 78.20 321 ⇓*iP* P 11 01 25.6 +1.6
MLR **Muntele Rosu** 78.20 321 *eP* P 11 01 24.7 +0.7
MLR pmax pmax
comp=Z,99nm,1.1s
MLR **Muntele Rosu** 78.20 321 *eP* P 11 01 24.7 +0.7
comp=Z,99nm,1.1s
KSP **Ksiaz** 78.27 330 *eP* P 11 01 24.4 +0.3
KSP **Ksiaz** 78.27 330 *eP* P 11 01 24.4 +0.3
E35A **Pequot Lakes** 78.27 37 P P 11 01 24.0 -0.2
baz=318,SNR=13
X18A **Snowflake** 78.29 54 *eP* P 11 01 25.6 +0.8
BRTR **Keskin Array B** 78.32 313 P P 11 01 25.4 +0.6
comp=Z,46nm,0.9s,baz=70,slow=4.1,SNR=66
BRTR PP PP 11 04 22.6 +1.3
comp=Z,7.7nm,0.9s,baz=58,slow=4.1,SNR=3.9
BRTR LR LR 11 41 51.5
comp=Z,3µm,18.1s,baz=28,slow=40
G33A **Ortonville** 78.32 39 P P 11 01 24.3 -0.2
baz=317,SNR=34
LANS **Liptovska Anna** 78.33 327 *eP* P 11 01 26.8 +2.3
LANS **Liptovska Anna** 78.33 327 *eP* P 11 01 26.8 +2.3
OKC **Ostrava-Krasne** 78.33 328 *eP* P 11 01 26.0 +1.5
OKC *e*PCP PcP 11 01 35.4 +1.6
OKC AMS AMS 11 41 40.0
comp=Z,8µm,15.6s
OKC **Ostrava-Krasne** 78.33 328 *eP* P 11 01 26.0 +1.5
OKC *e* 11 01 35.4
OKC MLR MLR
comp=Z,8µm,15.6s
H32A **Carlson Farm,** 78.34 40 P P 11 01 24.3 -0.4
baz=317,SNR=14
D36A **Goodland** 78.37 36 P P 11 01 24.4 -0.4
baz=319,SNR=9.4
C37A **Embarrass** 78.38 35 P P 11 01 24.7 -0.1
baz=320,SNR=27
CJR **Cluj-Napoca** 78.39 323 ⇓*iP* P 11 01 26.3 +1.4
MCD **Coleburn Disti** 78.39 343 *eP* P 11 01 24.6 -0.1
KECS **Kecovo** 78.42 326 *eP* P 11 01 25.5 +0.5
KECS pmax pmax
comp=Z,35nm,1.1s
KECS **Kecovo** 78.42 326 *eP* P 11 01 25.5 +0.5
KECS *e*PP PP 11 04 24.6 +3.0
PSN **Preselentsi** 78.42 319 *iP* P 11 01 27.0 +1.9
F34A **Alexandria** 78.44 38 P P 11 01 24.8 -0.4
baz=318,SNR=11
OGNE **Ogallala** 78.51 45 P P 11 01 25.9 +0.1
baz=315,SNR=11
OGNE **Ogallala** 78.51 45 *eP* P 11 01 26.8 +1.1
comp=Z,138nm,1.0s
EYMN **Ely** 78.52 35 P P 11 01 25.3 -0.3
baz=320,SNR=33
EYMN **Ely** 78.52 35 *eP* P 11 01 25.0 -0.6
comp=Z,92nm,1.0s
H33A **Prehn Over Nor** 78.55 40 P P 11 01 25.7 -0.1
baz=317,SNR=46
J31A **Geddes** 78.56 42 P P 11 01 26.0 0.0
baz=316,SNR=17
MME1 **Meikle Cairn** 78.57 343 *eP* P 11 01 25.4 -0.2
KOZT **Kozan** 78.61 310 *eP* P 11 01 27.1 +0.8
MORC **Moravsky Berou** 78.62 328 ⇓*iP* P 11 01 27.9 +1.7
MORC **Moravsky Berou** 78.62 328 *eP* P 11 01 26.3 +0.1
MORC pmax pmax
comp=Z,854nm,1.1s
MORC **Moravsky Berou** 78.62 328 *eP* P 11 01 26.3 +0.1
comp=Z,854nm,1.1s
UPC **Upice** 78.64 330 *eP* P 11 01 27.3 +1.1
UPC AMS AMS 11 40 10.0
comp=Z,13µm,17.3s
UPC **Upice** 78.64 330 *eP* P 11 01 27.3 +1.1
UPC MLR MLR
comp=Z,13µm,17.3s
SULR 78.65 320 ⇓*iP* P 11 01 28.1 +1.8
DPC **Dobruska-Polom** 78.65 329 *eP* P 11 01 28.2 +1.9
DPC AMS AMS 11 40 10.0
comp=Z,9µm,15.0s
DPC **Dobruska-Polom** 78.65 329 *eP* P 11 01 28.2 +1.9
DPC MLR MLR
comp=Z,9µm,15.0s
VOIR 78.66 321 ⇓*iP* P 11 01 27.6 +1.1
G34A **Benson** 78.67 39 P P 11 01 26.5 0.0
baz=318,SNR=17
I32A **Karley and Nic** 78.67 41 P P 11 01 26.3 -0.2
baz=317
ANTO **Ankara** 78.69 313 *eP* P 11 01 27.3 +0.6
ANTO **Ankara** 78.69 313 *eP* P 11 01 27.3 +0.6
ANTO pmax pmax
comp=Z,148nm,0.9s
ANTO **Ankara** 78.69 313 *eP* P 11 01 27.3 +0.6
comp=Z,148nm,0.9s
ANTO **Ankara** 78.69 313 pP P 11 01 27.6 +0.8
SNR=26
ANTO **Ankara** 78.69 313 P P 11 01 27.6 +0.8
SNR=26
LOD **Lodumlu** 78.69 313 *eP* P 11 01 27.7 +0.9
D37A **Cotton** 78.71 36 P P 11 01 26.2 -0.4
baz=320
F35A **Swanville** 78.71 38 P P 11 01 26.2 -0.5
baz=318,SNR=18
BR231 **Keskin MP Arra** 78.72 313 *eP* P 11 01 28.4 +1.4
DRGR 78.73 324 ⇓*iP* P 11 01 27.6 +0.8
MDO **Dochfour** 78.76 344 *eP* P 11 01 27.1 +0.3
SDCO **Great Sand Dun** 78.78 50 P P 11 01 27.5 -0.1
baz=313,SNR=35
SDCO **Great Sand Dun** 78.78 50 *eP* P 11 01 27.6 -0.1
comp=Z,52nm,1.4s
C38A **Sawbill Land.** 78.79 35 P P 11 01 26.0 -1.1
baz=320,SNR=41
RRH **Rhenigidale** 78.80 345 *eP* P 11 01 27.5 +0.6
E36A **McGregor** 78.82 37 P P 11 01 26.6 -0.6
baz=319,SNR=29
AFSR **Af`ar-Bala (A** 78.83 313 *iP* P 11 01 28.4 +0.9
DRUM **Mains of Drumt** 78.83 342 *eP* P 11 01 27.7 +0.6
DRUM IAmb IAmb 11 01 28.7
comp=Z,129nm,1.0s
SERE **Sereflikochisa** 78.90 312 *iP* P 11 01 28.9 +0.9
KAC **Achnashellach** 78.91 344 *eP* P 11 01 27.5 0.0
ARR **Arges** 78.91 322 ⇓*iP* P 11 01 30.0 +2.1
J32A **Parkston** 78.96 41 P P 11 01 28.1 +0.1
baz=317,SNR=18
CEYT **Ceyhan** 78.97 310 *eP* P 11 01 29.8 +1.6
I33A **Coleman** 78.98 40 P P 11 01 28.2 0.0
baz=317,SNR=6.3
H34A **Spellman Lake,** 79.02 39 P P 11 01 28.2 -0.2
baz=318,SNR=13
K31A **O'Neill** 79.04 42 P P 11 01 28.9 +0.3
baz=316,SNR=24
VYHS **Vyhne** 79.10 327 *eP* P 11 01 29.9 +1.1
VYHS pmax pmax
comp=Z,93nm,1.3s
VYHS **Vyhne** 79.10 327 *eP* P 11 01 29.9 +1.1
VYHS *e*PP PP 11 04 29.7 +2.4
PSZ **Piszkesteto** 79.10 326 ⇑*iP* P 11 01 30.1 +1.2
PSZ **Piszkesteto** 79.10 326 *eP* P 11 01 29.6 +0.7
PSZ pmax pmax
comp=Z,200nm,1.1s
PSZ **Piszkesteto** 79.10 326 ⇓*eP* P 11 01 30.7 +1.8
PSZ **Piszkesteto** 79.10 326 *eP* P 11 01 29.6 +0.7
comp=Z,200nm,1.1s
SGRR **Singureni** 79.12 320 ⇓*iP* P 11 01 29.9 +1.0
CLL **Collm** 79.12 332 *iP* P 11 01 29.3 +0.5
CLL *i* 11 01 32.4
CLL *e*S S 11 11 27.0 -0.5
CLL pmax pmax
comp=Z,230nm,1.0s
CLL MLR MLR
comp=Z,10µm,21.0s
CLL **Collm** 79.12 332 *iP* P 11 01 29.3 +0.5
comp=Z,230nm,1.0s
CLL *i* pP pP 11 01 32.4 -1.1
CLL *i* 11 01 41.4
CLL *e*PP PP 11 04 32.0 +4.7
CLL *e*S S 11 11 27.0 -0.5
CLL *e*SKSac SKSac 11 11 42.0 -2.0
CLL *e*(SS) 11 17 18.0
CLL Lmax 11 39 00.0
CLL LmV 11 40 00.0
comp=Z,10µm,21.0s
CLL **Collm** 79.12 332 *eP* P 11 01 29.1 +0.3
comp=Z,216nm,1.0s
KPL **Plockton** 79.13 344 *eP* P 11 01 28.9 +0.3
KPL IAmb IAmb 11 01 31.1
comp=Z,161nm,0.9s
BRG **Berggiesshubel** 79.13 331 *iP* P 11 01 29.6 +0.8
comp=Z,133nm,1.1s
BRG *i* PP PP 11 04 28.6 +1.2
comp=Z,94nm,1.8s
BRG **Berggiesshubel** 79.13 331 *iP* P 11 01 29.6 +0.8
BRG *i* 11 04 28.6
BRG pmax pmax
comp=Z,133nm,1.1s
BRG pmax pmax
comp=Z,94nm,1.8s
MDUB **Mudurnu** 79.14 315 *eP* P 11 01 29.9 +0.7
GOLR 79.15 321 ⇑*iP* P 11 01 30.4 +1.3
YURE **YUREGIR** 79.17 310 *eP* P 11 01 32.3 +2.9
E37A **Wrenshall** 79.17 36 P P 11 01 28.8 -0.4
baz=320
PVCC **Panska Ves** 79.17 330 *eP* P 11 01 30.3 +1.2
PVCC AMS AMS 11 41 00.0
comp=Z,14µm,16.3s
PVCC **Panska Ves** 79.17 330 *eP* P 11 01 30.3 +1.2
PVCC MLR MLR
comp=Z,14µm,16.3s
F36A **Milaca** 79.19 37 P P 11 01 28.3 -1.0
baz=319,SNR=13
KSB **Sheil Bridge** 79.20 344 *eP* P 11 01 29.3 +0.2
C39A **Grand Marais** 79.20 34 P P 11 01 28.9 -0.4
baz=321,SNR=11
G35A **Watkins** 79.23 38 P P 11 01 29.4 -0.1
baz=318,SNR=16
TUC **Tucson** 79.23 57 P P 11 01 30.3 +0.5
baz=312
TUC **Tucson** 79.23 57 *eP* P 11 01 30.4 +0.5
TUC pmax pmax
comp=Z,59nm,1.1s
TUC **Tucson** 79.23 57 *eP* P 11 01 30.4 +0.6
comp=Z,59nm,1.1s
LOT **Lotru** 79.26 322 ⇓*iP* P 11 01 30.2 +0.4
RBK **Rabkut** 79.26 284 pP P 11 01 31.0 +0.9
SNR=5.2
RBK **Rabkut** 79.26 284 P P 11 01 31.0 +0.9
SNR=5.2
EDU **Dundee** 79.28 343 *eP* P 11 01 30.2 +0.6
ECSD **EROS Data Cent** 79.30 40 P P 11 01 29.6 -0.4
baz=317,SNR=68
ECSD **EROS Data Cent** 79.30 40 *eP* P 11 01 29.1 -0.9
comp=Z,62nm,1.0s
DEV **Deva** 79.33 323 ⇓*iP* P 11 01 31.8 +1.8
HUMR **Humele** 79.37 321 ⇓*iP* P 11 01 30.6 +0.3
VRAC **Vranov** 79.37 328 LR LR 11 39 38.2
comp=Z,10µm,18.7s,baz=36,slow=38
VRAC **Vranov** 79.37 328 ⇓*iP* P 11 01 31.5 +1.3
K32A **Verdigre** 79.41 42 P P 11 01 30.4 -0.2
baz=317,SNR=7.2
SAUV **Serdivan-Sakar** 79.41 315 *eP* P 11 01 30.9 +0.3
YAYL **Yayladag** 79.43 309 *eP* P 11 01 32.9 +2.0
J33A **Davis** 79.44 41 P P 11 01 30.5 -0.2
baz=317,SNR=9.0
SULT **Sultanhani-AKS** 79.44 312 *eP* P 11 01 32.6 +1.7
I34A **Hadley** 79.45 40 P P 11 01 30.6 -0.1
baz=318
H35A **Sunnyside Ranc** 79.45 39 P P 11 01 31.0 +0.3
baz=318,SNR=40
SPNC **Sapanca-Adapaz** 79.46 315 *eP* P 11 01 31.3 +0.4
E38A **The Farm, Brul** 79.52 36 P P 11 01 30.7 -0.4
baz=320,SNR=14
CHBY **Cihanbeyli** 79.53 312 *eP* P 11 01 32.0 +0.6
GULT **Gulveren** 79.53 315 *eP* P 11 01 32.0 +0.6
KSCO **Kaye Shedlock'** 79.54 47 P P 11 01 31.8 +0.3
baz=315,SNR=18
KSCO **Kaye Shedlock'** 79.54 47 *eP* P 11 01 32.4 +0.9
comp=Z,223nm,1.6s

C40A Isle Royale Na 79.54 34 P P 11 01 30.8 -0.4
baz=322

G36A St. Michael 79.56 38 P P 11 01 31.1 -0.2
baz=319,SNR=6.1

GOPC GO Pecny, Ondr 79.59 330 eP P 11 01 32.2 +0.8
GOPC AMS AMS 11 40 50.0
comp=Z,14µm,15.5s

GOPC GO Pecny, Ondr 79.59 330 eP P 11 01 32.2 +0.8
GOPC MLR MLR
comp=Z,14µm,15.5s

SIRR Siria 79.60 324⇑iP P 11 01 32.4 +0.9
PRU Pruhonice 79.62 330 eP P 11 01 32.0 +0.4
PRU AMS AMS 11 41 10.0
comp=Z,12µm,15.6s

PRU Pruhonice 79.62 330 eP P 11 01 32.0 +0.4
PRU MLR MLR
comp=Z,12µm,15.6s

SMOL Smolenice 79.67 328 eP P 11 01 34.0 +2.2
SMOL Smolenice 79.67 328 eP P 11 01 34.0 +2.2
MHTCO State Highway 79.68 50 eP P 11 01 33.7 +1.3
comp=Z,164nm,1.4s

SVRH Sivrihisar-ESK 79.68 314 eP P 11 01 33.1 +0.9
HRT Hereke 79.71 316 eP P 11 01 35.2 +2.9
F37A Hinrichs Farm, 79.71 37 P P 11 01 32.0 -0.1
baz=320,SNR=12

KLYT Kilyos 79.73 316 eP P 11 01 32.2 -0.1
ESY Stoneypath 79.77 342 eP P 11 01 32.8 +0.6
BUD Budapest 79.81 326⇓ePKPPKPdP 11 01 34.4 +1.8
TREC Trest 79.82 329 eP P 11 01 34.3 +1.6
TREC AMS AMS 11 41 10.0
comp=Z,12µm,16.3s

TREC Trest 79.82 329 eP P 11 01 34.3 +1.6
TREC MLR MLR
comp=Z,12µm,16.3s

T25A Trinidad 79.83 49 P P 11 01 33.6 +0.4
baz=314,SNR=42

T25A Trinidad 79.83 49 eP P 11 01 33.6 +0.4
comp=Z,61nm,1.0s

ZIMR 79.83 320⇓iP P 11 01 33.7 +0.9
MODS Modra-Piesok 79.84 328 eP P 11 01 34.4 +1.6
MODS e 11 04 36.6
MODS Modra-Piesok 79.84 328 eP P 11 01 34.4 +1.6
MODS ePP PP 11 04 36.5 +3.1
SZH Strazhica 79.84 319 iP P 11 01 32.8 -0.1
SRO Srobarova 79.85 327 eP P 11 01 34.7 +1.9
SRO Srobarova 79.85 327 eP P 11 01 34.7 +1.9
F38A Pierce - Schro 79.87 36 P P 11 01 33.0 0.0
baz=320,SNR=50

L32A Elgin 79.87 42 P P 11 01 33.1 0.0
baz=317,SNR=5.3

EAB Aberfoyle 79.91 343 eP P 11 01 34.2 +1.2
K33A Hardington 79.94 41 P P 11 01 33.6 +0.2
baz=317,SNR=10

ADVT Abdulvahap 79.95 315 eP P 11 01 35.1 +1.6
J34A George 79.96 40 P P 11 01 33.4 -0.1
baz=318

CTYL Yalikoy Yolu 79.96 317 eP P 11 01 35.1 +1.6
H36A Jessenland, He 79.97 38 P P 11 01 34.0 +0.4
baz=319,SNR=25

SPMN Marine on St. 80.01 37 P P 11 01 33.6 -0.1
baz=320,SNR=15

SPMN Marine on St. 80.01 37 eP P 11 01 33.9 +0.2
comp=Z,180nm,1.8s

I35A Creekview Farm 80.01 39 P P 11 01 33.7 -0.1
baz=318

CTKS Kestanelik-??a 80.02 317 eP P 11 01 35.8 +2.0
ZST Bratislava 80.05 328 eP P 11 01 35.0 +1.1
ZST pmax pmax
comp=Z,133nm,1.2s

ZST Bratislava 80.05 328 eP P 11 01 35.0 +1.1
CAVI Cavuskoy 80.06 315 eP P 11 01 35.8 +1.7
SRE Strehaia 80.11 322⇓iP P 11 01 35.4 +1.1
BZS Buzias 80.12 323⇓iP P 11 01 34.7 +0.4
L33A Hoskins 80.12 42 P P 11 01 34.5 0.0
baz=317,SNR=6.6

ANMO Albuquerque 80.13 52 P P 11 01 36.1 +1.3
baz=313

ANMO Albuquerque 80.13 52ceP P 11 01 35.6 +0.7
ANMO pmax pmax
comp=Z,115nm,1.2s

ANMO Albuquerque 80.13 52 eP P 11 01 35.4 +0.6
comp=Z,122nm,1.3s

E39A Mellen 80.13 35 P P 11 01 34.0 -0.4
baz=321,SNR=55

OUZ Omahuta 80.14 156 eP P 11 01 38.5 +4.2
comp=Z,123nm,1.3s

SLVT Silivri 80.18 317 eP P 11 01 35.6 +0.9
NKC Novy Kostel 80.20 331 AMS AMS 11 40 40.0
comp=Z,19µm,17.7s

BGNE Belgrade 80.23 43 P P 11 01 35.0 -0.1
baz=317,SNR=16

CSKK Cs˙ákako 80.23 326⇓ePKPPKPdP 11 01 36.2 +1.3
GEMT Gemlik 80.24 316 eP P 11 01 36.0 +0.9
PHSR Pinarhisar 80.24 317 eP P 11 01 37.1 +2.0
J35A Milford 80.27 40 P P 11 01 34.7 -0.5
baz=318

KIZK Mersin 80.27 310 eP P 11 01 35.1 -0.2
PGBU Glenifferbraes 80.29 343 eP P 11 01 35.9 +0.9
PGBU IAmb IAmb 11 01 37.7
comp=Z,342nm,1.1s

HERR Herculane 80.31 323⇓iP P 11 01 35.5 +0.1
ARMT Armutlu 80.32 316 eP P 11 01 36.5 +1.0
F39A Loretta 80.33 36 P P 11 01 35.2 -0.3
baz=321,SNR=37

K34A Le Mars 80.33 41 P P 11 01 35.5 -0.1
baz=318,SNR=11

I36A Fitzsimmons Fa 80.35 39 P P 11 01 35.8 +0.2
baz=319,SNR=13

E40A Wakefield 80.37 35 P P 11 01 35.9 +0.2
baz=321,SNR=74

EKA Eskdalemuir Ar 80.43 342 P P 11 01 35.7 -0.1
comp=Z,17nm,0.6s,baz=26,slow=5.5,SNR=48
EKA PP PP 11 04 36.3 -1.7
comp=Z,5.8nm,0.9s,baz=21,slow=6.8,SNR=3.7

H37A Dierke Farm, C 80.44 38 P P 11 01 36.4 +0.3
baz=320,SNR=14

MDNY Mudanya-Bursa 80.45 316 eP P 11 01 37.2 +1.0
Y22D IRIS PASSCAL I 80.45 53 P P 11 01 37.8 +1.3
baz=313,SNR=8.5

Y22E IRIS PASSCAL I 80.45 53 P P 11 01 38.1 +1.6
baz=313,SNR=9.1

D41A Chassel 80.46 34 P P 11 01 36.5 +0.4
baz=322,SNR=27

EDRB Edirne 80.48 318 eP P 11 01 37.4 +1.1
G38A Ridgeland 80.48 37 P P 11 01 35.8 -0.5
baz=320,SNR=21

CRLT Corlu 80.50 317 eP P 11 01 37.8 +1.4
SBT3 Marmara-Eregli 80.55 317 eP P 11 01 40.3 +3.8
M33A Taylor Creek F 80.60 42 P P 11 01 36.9 -0.1
baz=317,SNR=11

I37A Lemond, Waseca 80.64 38 P P 11 01 37.6 +0.4
baz=319,SNR=44

BHH Howats Hill 80.66 342 eP P 11 01 37.2 +0.2
H38A Maiden Rock 80.66 37 P P 11 01 37.3 0.0
baz=320,SNR=15

WTSB Winterswijk 80.67 335 eP P 11 01 37.6 +0.4
WTSB eP P 11 01 37.8 +0.7
comp=Z,259nm,1.2s

F40A Park Falls 80.68 35 P P 11 01 37.0 -0.4
baz=321,SNR=29

SOP Sopron 80.68 327⇓ePKPPKPdP 11 01 39.3 +2.0
KHC Kasperske Hory 80.69 330 eP P 11 01 37.5 +0.1
KHC AMS AMS 11 41 50.0
comp=Z,13µm,15.7s

KHC Kasperske Hory 80.69 330 eP P 11 01 37.5 +0.1
KHC MLR MLR
comp=Z,13µm,15.7s

G39A Holcombe 80.70 36 P P 11 01 37.1 -0.4
baz=320,SNR=12

TEVE Tevekalti-Mers 80.71 310 eP P 11 01 38.3 +0.5
J36A Seneca 1, Swea 80.71 39 P P 11 01 37.5 -0.1
baz=319,SNR=11

MDVR Moldovita 80.71 323⇓iP P 11 01 38.0 +0.4
L34A Svendsen Farm, 80.72 41 P P 11 01 37.5 -0.2
baz=318,SNR=7.0

K35A Storm Lake 80.73 40 P P 11 01 37.5 -0.2
baz=318

E41A Kenton 80.76 34 P P 11 01 37.6 -0.2
baz=322,SNR=37

CONA Conrad Observa 80.77 328 epP P 11 01 38.5 +0.6
comp=Z,175nm,1.2s,SNR=62

TVSB Tavsanli 80.80 315 eP P 11 01 38.9 +0.7
319A Douglas 80.81 56 eP P 11 01 36.1 -2.3
comp=Z,178nm,0.9s

AKKU Akkuyu-Mersin 80.84 310 eP P 11 01 38.3 -0.1

MPEP Malo Peshtene 80.84 321 iP P 11 01 38.9 +0.6
SHUT Suhut-Afyon 80.85 314 eP P 11 01 40.3 +1.8
GERES GERESS Array B 80.87 330 P P 11 01 38.2 -0.2
comp=Z,48nm,1.0s,baz=41,slow=4.3,SNR=82
GERES PP PP 11 04 45.8 +3.8
comp=Z,12nm,1.1s,baz=44,slow=8.7,SNR=4.4
GERES PKKPbc PKKPbc 11 20 14.2 -1.3
comp=Z,1.3nm,0.8s,baz=172,slow=2.0,SNR=7.0
GERES LR LR 11 41 12.9
comp=Z,13µm,18.7s,baz=44,slow=38

SCHQ Schefferville 80.96 18 P P 11 01 38.4 -0.2
comp=Z,57nm,1.0s,baz=346,slow=5.5,SNR=29
SCHQ PKPPKP P'P'df 11 28 18.8 -8.3
comp=Z,3.3nm,0.8s,baz=255,slow=7.2,SNR=3.7

SCHQ Schefferville 80.96 18 eP P 11 01 38.6 -0.1
comp=Z,75nm,1.0s
SCHQ P'P' 11 28 18.8

M34A Aspy Farms, Fr 80.96 42 P P 11 01 39.0 0.0
baz=318,SNR=5.8

121A Cookes Peak, D 80.96 55 P P 11 01 39.7 +0.4
baz=313,SNR=61

121A Cookes Peak, D 80.96 55 eP P 11 01 39.8 +0.4
comp=Z,105nm,1.0s

MORH M¨±r¡gy, Hung 80.97 325⇓ePKPPKPbP 11 01 39.6 +0.8
COWI Conover 80.97 35 eP P 11 01 38.2 -0.8
comp=Z,174nm,1.7s

BBO1 Bothel 80.99 342 eP P 11 01 39.9 +1.1
EDC Edincik 81.00 316 eP P 11 01 40.3 +1.1
L35A Bielow Farm, R 81.03 41 P P 11 01 39.0 -0.4
baz=318

N33A J Bar K, Exete 81.08 43 P P 11 01 38.9 -0.7
baz=317

KESW Keswick, Cumbr 81.10 342 eP P 11 01 40.3 +0.9
KESW IAmb IAmb 11 01 42.0
comp=Z,229nm,1.1s

GRFO Grafenberg 81.10 332 eP P 11 01 40.5 +1.0
GRFO pmax pmax
comp=Z,297nm,1.2s

GRFO Grafenberg 81.10 332 eP P 11 01 40.5 +1.0
comp=Z,297nm,1.2s

J37A Redenius Farm, 81.11 39 P P 11 01 40.0 +0.3
baz=319,SNR=17

TEKE Tekeli-Mersin 81.11 310 eP P 11 01 40.7 +0.9
RKY Sarkoy-Tekirda 81.11 317 eP P 11 01 40.5 +0.7
H39A Augusta 81.12 37 P P 11 01 39.9 +0.1
baz=320,SNR=14

I38A Scanlan Farm, 81.13 38 P P 11 01 39.9 +0.1
baz=320,SNR=15

G40A Rib Lake 81.15 36 P P 11 01 39.7 -0.2
baz=321,SNR=44

K36A Gilmore City 81.18 40 P P 11 01 40.0 -0.1
baz=319,SNR=6.8

E42A Champion 81.23 34 P P 11 01 40.3 -0.1
baz=322,SNR=52

PGB Panagyurishte 81.24 320 iP P 11 01 41.9 +1.4
KRBG Karabiga-Canak 81.26 317 eP P 11 01 41.6 +1.1
CBKS Cedar Bluff 81.26 46 P P 11 01 40.2 -0.5
baz=316,SNR=10

CBKS Cedar Bluff 81.26 46 eP P 11 01 40.8 +0.1
CBKS pmax pmax
comp=Z,93nm,1.2s

CBKS Cedar Bluff 81.26 46 eP P 11 01 40.8 +0.1
comp=Z,93nm,1.2s

F41A Three Lakes 81.27 35 P P 11 01 40.5 0.0
baz=322,SNR=39

KDZ Kurdzhali 81.30 319 iP P 11 01 42.8 +2.1
HSIG 81.31 59 eP P 11 01 40.8 -0.2
PLD Plovdiv 81.31 319 iP P 11 01 41.9 +1.1
CLGH Cloghs, Cushen 81.32 344 eP P 11 01 41.4 +0.9
CLGH IAmb IAmb 11 01 42.5
comp=Z,193nm,1.1s

SIMA Simav-Kutahya 81.32 315 eP P 11 01 41.9 +0.9
SUTC Sutluce-Ispart 81.37 313 eP P 11 01 41.2 -0.1
ISP Isparta 81.39 313⇓iP P 11 01 42.2 +0.8
ISP Isparta 81.39 313⇑iP P 11 01 42.4 +1.0
ISP pmax pmax
comp=Z,50nm,1.1s

ISP Isparta 81.39 313 eP P 11 01 42.3 +1.0
comp=Z,64nm,1.2s

M35A Neola 81.44 41 P P 11 01 41.8 +0.3
baz=318,SNR=11

ARSA Arzberg 81.45 328 epP P 11 01 41.8 +0.3
comp=Z,88nm,1.2s,SNR=24

ERIK Erikli-Kesan 81.46 317 iP P 11 01 43.3 +1.7
MOA Molln 81.46 329 epP P 11 01 42.1 +0.6
comp=Z,71nm,1.5s,SNR=27

LFK Lefkose 81.47 310 iP P 11 01 43.4 +1.6
K37A Belmond 81.47 39 P P 11 01 41.5 -0.1
baz=319,SNR=14

N34A Lincoln 81.49 42 P P 11 01 41.1 -0.7
baz=318,SNR=13

O33A Hebron 81.49 43 P P 11 01 41.5 -0.3
baz=317

BALB Balikesir 81.51 316 eP P 11 01 42.9 +1.1
LPK Lapseki 81.56 317 eP P 11 01 40.7 -1.4
BEHE Becsehely 81.56 327⇓ePKPPKPbP 11 01 43.2 +1.2
H40A Chili 81.57 36 P P 11 01 42.0 -0.1
baz=321,SNR=22

ASF Jabal al Asfar 81.58 305 P P 11 01 43.8 +1.3
comp=Z,19nm,0.9s,baz=102,slow=2.1,SNR=13
ASF PP PP 11 04 56.4 +7.9
comp=Z,7.9nm,0.9s,baz=296,slow=12,SNR=2.8

SRIG Santa Rosalia 81.58 61 eP P 11 01 43.5 +1.0
ENEZ Enez 81.60 318 eP P 11 01 42.3 0.0
J38A Wedel Dairy, R 81.61 38 P P 11 01 42.4 0.0
baz=320,SNR=8.5

RZN Rozhen 81.62 319 iP P 11 01 43.6 +0.9
I39A Houston 81.64 38 P P 11 01 42.1 -0.4
baz=320,SNR=15

G41A Antigo 81.64 35 P P 11 01 42.1 -0.4
baz=322

RAYN Ar Rayn 81.66 294 P P 11 01 42.9 -0.1
RAYN Ar Rayn 81.66 294 eP P 11 01 42.9 -0.1
comp=Z,47nm,0.9s

E43A Lone Tree Farm 81.66 33 P P 11 01 42.3 -0.3
baz=323,SNR=20

F42A Maple Grove Fa 81.67 34 P P 11 01 42.7 +0.1
baz=322

VTS Vitosha 81.67 321⇓iP P 11 01 43.1 +0.1
VTS Vitosha 81.67 321 eP P 11 01 43.0 +0.1
VTS pmax pmax
comp=Z,130nm,1.0s

VTS Vitosha 81.67 321 eP P 11 01 43.0 +0.1
comp=Z,130nm,1.0s

VTS Vitosha 81.67 321 iP P 11 01 44.5 +1.6
GELI Tayfur-Gelibol 81.68 317 eP P 11 01 44.4 +1.6
IOMK Kirk Michael 81.74 342 eP P 11 01 42.9 +0.1
CSS Mathiatis 81.81 309 eP P 11 01 44.9 +1.3
CSS Mathiatis 81.81 309 eP P 11 01 43.4 -0.2
comp=Z,40nm,1.0s

WACR West Acre 81.83 339 eP P 11 01 44.6 +1.3
WACR IAmb IAmb 11 01 49.9
comp=Z,358nm,1.0s

LBWR Ladybower, Pea 81.84 341 eP P 11 01 44.1 +0.7
LBWR IAmb IAmb 11 01 46.7
comp=Z,368nm,1.0s

WIM Isle of Man 81.87 342 eP P 11 01 43.3 -0.2
O34A Beatrice 81.88 43 P P 11 01 43.5 -0.3
baz=318,SNR=16

M36A Felix, Anita 81.89 41 P P 11 01 44.2 +0.3
baz=319,SNR=6.0

H41A Junction City 81.90 36 P P 11 01 43.6 -0.3
baz=322,SNR=14

L37A Phoenix Point, 81.90 40 P P 11 01 43.9 0.0
baz=319,SNR=14

KULA Kula-Manisa 81.91 315 eP P 11 01 45.4 +1.3
E44A Grand Marais A 81.91 33 P P 11 01 44.3 +0.5
baz=324,SNR=6.7

N35A Tabor 81.91 42 P P 11 01 44.0 0.0
baz=318,SNR=26

MMAI Mount Meron Ar 81.92 307 P P 11 01 45.4 +1.2
comp=Z,55nm,0.8s,baz=55,slow=6.2,SNR=17
MMAI LR LR 11 42 39.7
comp=Z,8µm,18.2s,baz=170,slow=39

G42A Mountain 81.95 35 P P 11 01 43.8 -0.3
baz=322,SNR=24

LEF Lefka 81.95 310 eP P 11 01 45.2 +0.9
J39A Decorah 81.96 38 P P 11 01 43.7 -0.5
baz=320,SNR=33

K38A Parkersburg 81.98 39 P P 11 01 44.1 -0.2
baz=320,SNR=6.1

HGN Heimansgroeve 81.99 335 eP P 11 01 44.5 +0.4
HGN eP P 11 01 44.9 +0.8
comp=Z,340nm,1.4s

F43A Flat Rock, Esc 82.02 34 P P 11 01 44.2 -0.3
baz=323,SNR=25

DIVS Divibare 82.02 323 eP P 11 01 44.2 -0.4
comp=Z,143nm,1.3s

I40A Norwalk 82.03 37 P P 11 01 44.4 -0.1
baz=321,SNR=10

BEBN Eben Emael 82.04 335 ⇑P P 11 01 44.9 +0.4
comp=Z,54nm,1.0s

GMM Mts of Mourne 82.07 343 eP P 11 01 45.0 +0.5
KORT Korkueli 82.07 313 iP P 11 01 43.4 -1.7
MEM Membach 82.10 335 ⇑P P 11 01 45.3 +0.5
comp=Z,82nm,1.2s

SOKA Soboth 82.11 328 eP P 11 01 45.1 +0.1
comp=Z,222nm,1.0s,SNR=72

MMB Musomiste 82.18 320 iP P 11 01 47.0 +1.6
EZN Ezine 82.18 317 eP P 11 01 45.7 +0.3
O35A Humboldt 82.22 42 P P 11 01 45.8 +0.2
baz=318,SNR=5.1

F44A Big Bay de Noc 82.22 33 P P 11 01 45.2 -0.3
baz=323,SNR=41

I41A Arkdale 82.24 36 P P 11 01 45.4 -0.3
baz=321,SNR=11

G43A Wallace 82.26 34 P P 11 01 45.6 -0.1
baz=323,SNR=35

EPT El Paso 82.27 55 eP P 11 01 46.6 +0.4
comp=Z,62nm,1.1s

L38A Oak Wood Farm, 82.28 39 P P 11 01 46.4 +0.6
baz=320,SNR=19

P34A Walnut Farm, R 82.28 43 P P 11 01 45.7 -0.2
baz=318,SNR=28

KKB Krupnik 82.28 320 iP P 11 01 45.8 -0.1
N36A Muff Farm, Cla 82.29 41 P P 11 01 45.6 -0.4
baz=319,SNR=7.8

M37A Trindle Farm, 82.30 41 P P 11 01 46.4 +0.4
baz=319,SNR=8.2

SCIA State Center 82.33 40 P P 11 01 46.8 +0.7
baz=320,SNR=7.1

SCIA State Center 82.33 40 eP P 11 01 47.2 +1.1
comp=Z,113nm,1.0s

K39A Oelwein 82.36 38 P P 11 01 45.4 -0.9
baz=320,SNR=24

J40A Soldiers Grove 82.36 37 P P 11 01 45.6 -0.7
baz=321,SNR=12

E45A Wooded Hills, 82.43 32 P P 11 01 46.5 0.0
baz=324,SNR=10

OBKA Obir 82.44 328 eP P 11 01 46.8 0.0
comp=Z,71nm,0.8s,SNR=24

UCC Uccle 82.45 336 ⇑P P 11 01 45.9 -0.7
UCC Uccle 82.45 336 eP P 11 01 47.8 +1.2
UCC pmax pmax
comp=Z,135nm,1.4s

UCC Uccle 82.45 336 eP P 11 01 47.8 +1.2
comp=Z,135nm,1.4s

KBA Koelnbreinsper 82.45 329 epP P 11 01 47.8 +0.9
comp=Z,142nm,0.9s,SNR=44

H42A Shiocton 82.48 35 P P 11 01 46.9 0.0
baz=322,SNR=8.5

BCLA Clavier 82.49 335 ⇑P P 11 01 46.7 -0.1
comp=Z,81nm,1.3s

WPM1 Penmaenmawr 82.51 342 eP P 11 01 47.5 +0.7
STU Stuttgart 82.59 332 eP P 11 01 47.6 +0.2
STU pmax pmax
comp=Z,189nm,1.0s

STU Stuttgart 82.59 332 eP P 11 01 47.6 +0.2
comp=Z,189nm,1.0s

WLF1 Llynfaes 82.59 342 eP P 11 01 47.6 +0.3
WLF1 IAmb IAmb 11 01 49.7
comp=Z,438nm,1.5s

Q34A Chapman 82.68 44 P P 11 01 47.7 -0.3
baz=318,SNR=20

YLL Llanberis 82.68 342 eP P 11 01 48.5 +0.8
MYKA Terra Mystica 82.70 328 epP P 11 01 48.6 +0.4
comp=Z,125nm,1.2s,SNR=26

N37A Lee Faris, Mou 82.71 41 P P 11 01 48.7 +0.6
baz=319,SNR=14

M38A Pleasantville 82.71 40 P P 11 01 48.6 +0.4
baz=320,SNR=27

P35A Duane Minner, 82.71 43 P P 11 01 48.1 -0.1
baz=318,SNR=9.2

K40A Colesburg 82.71 38 P P 11 01 47.9 -0.3
baz=321,SNR=13

J41A Loganville 82.72 37 P P 11 01 47.9 -0.3
baz=321,SNR=32

KSU1 Kansas State U 82.72 44 P P 11 01 48.3 +0.1
baz=318,SNR=13

KSU1 Kansas State U 82.72 44 eP P 11 01 48.5 +0.2
comp=Z,57nm,0.8s

SNF Seneffe 82.73 336 ⇑P P 11 01 48.4 +0.3
comp=Z,90nm,1.1s

AYDB Zeytinkoy-Aydi 82.73 315 eP P 11 01 48.3 -0.2
L39A Vinton 82.75 39 P P 11 01 48.5 +0.2
baz=320,SNR=79

BLY Banja Luka 82.75 325 eP P 11 01 49.3 +1.0
comp=Z,140nm,1.3s

I42A Draeger Farm, 82.80 36 P P 11 01 48.4 -0.1
baz=322,SNR=34

O36A Bolckow 82.80 42 P P 11 01 49.0 +0.3
baz=319,SNR=16

F45A CMU Biological 82.83 33 P P 11 01 48.7 0.0
baz=324,SNR=19

H43A Windswept, Lux 82.85 35 P P 11 01 48.6 -0.2
baz=323,SNR=27

WLF Walferdange 82.87 334 ⇓P P 11 01 49.5 +0.7
PLE Pljevlja 82.90 323⇑iP P 11 01 50.2 +1.0
WATA Walderalm 82.92 330 ipP P 11 01 50.1 +0.8
comp=Z,186nm,1.2s,SNR=25

HLM1 Long Mynd 82.94 341 eP P 11 01 49.8 +0.7
VAY Valandovo 82.95 320 iP P 11 01 50.1 +0.7
JFWS Jewell Farm 82.96 37 P P 11 01 49.2 -0.3
baz=321,SNR=11

JFWS Jewell Farm 82.96 37 eP P 11 01 49.3 -0.1
JFWS pmax pmax
comp=Z,44nm,1.0s

JFWS Jewell Farm 82.96 37 eP P 11 01 49.3 -0.1
comp=Z,44nm,1.0s

JFWS Jewell Farm 82.96 37 eP P 11 01 49.2 -0.3
comp=Z,44nm,1.0s

WTTA Wattenberg 82.96 330 epP P 11 01 50.9 +1.3
comp=Z,135nm,1.4s,SNR=31

R34A Isabella, Hill 82.97 44 P P 11 01 49.4 -0.2
baz=318,SNR=7.5

AMTX Amarillo 82.99 49 P P 11 01 50.6 +0.8
baz=316

AMTX Amarillo 82.99 49 eP P 11 01 50.3 +0.5
comp=Z,71nm,0.8s

DOU Dourbes 82.99 335 ⇑P P 11 01 49.8 +0.4
comp=Z,40nm,1.3s

SKO Skopje 83.00 321 iP P 11 01 50.7 +1.1
MSTX Muleshoe 83.00 51 P P 11 01 50.5 +0.5
baz=315,SNR=46

MSTX Muleshoe 83.00 51 eP P 11 01 50.1 +0.2
comp=Z,116nm,1.2s

MNTX Cornudas Mount 83.02 54 P P 11 01 50.3 +0.3
baz=314,SNR=86

MNTX Cornudas Mount 83.02 54 eP P 11 01 50.0 +0.1
comp=Z,60nm,1.0s

IVA Berane 83.02 323⇑iP P 11 01 50.7 +0.8
FETY Fethiye 83.04 313 eP P 11 01 49.7 -0.3
ABTA Abfaltersbach 83.05 329 eP P 11 01 50.1 +0.1
comp=Z,82nm,1.2s,SNR=32

P36A Good Intent, A 83.06 42 P P 11 01 50.1 0.0
baz=319,SNR=19

F46A Macinaw City C 83.07 32 P P 11 01 49.6 -0.3
baz=324,SNR=12

DSB Dublin 83.09 343 eP P 11 01 50.7 +0.9
comp=Z,162nm,1.1s

MOTA Moosalm 83.09 330 eP P 11 01 50.3 +0.1
comp=Z,205nm,1.0s,SNR=78

RETA Reutte 83.10 331 epP P 11 01 50.6 +0.4
comp=Z,143nm,1.0s,SNR=50

YER Yerkesik 83.11 314 eP P 11 01 52.4 +2.0
TURN Turunc 83.13 314 eP P 11 01 54.6 +4.2
JAVS Javornik 83.14 328 eP P 11 01 50.0 -0.4
DALY Dalyan (Mu˘la 83.14 314 eP P 11 01 50.8 +0.4
I43A Langenfeld Bro 83.15 36 P P 11 01 50.2 -0.2
baz=322,SNR=18

J42A Columbus 83.16 36 P P 11 01 50.2 -0.3
baz=322,SNR=22

M39A Webster 83.16 39 P P 11 01 50.4 -0.1
baz=320,SNR=44

L40A Anamosa 83.17 38 P P 11 01 50.0 -0.5
baz=321,SNR=34

N38A Joes South For 83.17 40 P P 11 01 50.6 0.0
baz=320,SNR=20

K41A Shullsburg 83.17 38 P P 11 01 49.9 -0.7
baz=321,SNR=17

SSW Stow on the Wo 83.18 340 eP P 11 01 51.8 +1.4
O37A Wolven Farm, M 83.19 41 P P 11 01 51.0 +0.3
baz=319,SNR=8.7

PVY **Plav** 83.21 322⇑ *i*P P 11 01 50.8 -0.1
UPM **Unac-Piva** 83.22 323⇑ *i*P P 11 01 50.3 -0.7
BFO **Black Forest** 83.27 332 *i* P P 11 01 51.8 +0.8
BFO **Black Forest** 83.27 332 *e*P P 11 01 51.5 +0.6
comp=Z,129nm,1.1s
MLSB **Milas** 83.27 314 *i* P P 11 01 53.0 +1.8
PMOR **Pomariorio Ree** 83.32 116 *e*T T 12 33 39.5
comp=Z,33nm,0.3s
TAU **Tasmania Unive** 83.36 178 *e*P P 11 01 52.8 +1.7
TAU pmax pmax
comp=Z,446nm,1.8s
TAU **Tasmania Unive** 83.36 178 *e*P P 11 01 52.8 +1.7
comp=Z,446nm,1.8s
CHOS **Chios island** 83.39 316 *i* P P 11 01 53.1 +1.3
TRI **Trieste** 83.41 328 *e*P P 11 01 50.3 -1.4
TRI pmax pmax
comp=Z,139nm,1.0s
TRI **Trieste** 83.41 328 *e*P P 11 01 50.3 -1.4
comp=Z,139nm,1.0s
J43A **Natural Harves** 83.42 36 P P 11 01 51.9 +0.1
baz=322,SNR=6.2
STRD **Stroud** 83.43 340 *e*P P 11 01 52.4 +0.7
STRD lAmb lAmb 11 01 56.8
comp=Z,315nm,1.1s
MCH1 **Michaelchurch** 83.44 341 *e*P P 11 01 51.8 +0.1
MCH1 lAmb lAmb 11 01 53.5
comp=Z,187nm,1.2s
K42A **Prairie Point,** 83.48 37 P P 11 01 52.1 0.0
baz=322,SNR=22
NKY **Niksic** 83.48 323⇑ *i*P P 11 01 50.7 -1.6
L41A **Preston** 83.50 38 P P 11 01 52.1 -0.1
baz=321,SNR=22
FETA **Feichten** 83.50 330 *e*pP P 11 01 53.2 +0.8
comp=Z,130nm,1.1s,SNR=71
R35A **Emporia Munici** 83.51 44 P P 11 01 52.8 +0.4
baz=318,SNR=17
P37A **Lathrop** 83.52 42 P P 11 01 52.2 -0.2
baz=319,SNR=18
M40A **Post Highland** 83.53 39 P P 11 01 52.4 0.0
baz=321,SNR=39
MONM **Monmouth** 83.54 340 *e*P P 11 01 52.9 +0.7
MONM lAmb lAmb 11 01 54.0
comp=Z,345nm,1.3s
UDBI **Udbina** 83.54 326 P P 11 01 52.3 -0.1
O38A **Galt** 83.56 41 P P 11 01 52.9 +0.3
baz=320,SNR=18
HIZ **Hauiti** 83.56 157 *e*P P 11 01 56.4 +4.2
comp=Z,450nm,1.4s
SWN1 **Swindon** 83.58 340 *e*P P 11 01 54.0 +1.6
DAVA **Damuels** 83.60 331 *e*pP P 11 01 53.1 +0.2
comp=Z,175nm,1.1s,SNR=62
LPW **Lampeter** 83.60 341 *e*P P 11 01 53.0 +0.5
LPW lAmb lAmb 11 01 54.3
comp=Z,253nm,1.1s
WOL **Wolverton** 83.60 339 *e*P P 11 01 53.3 +0.7
WOL lAmb lAmb 11 01 54.8
comp=Z,306nm,1.2s
BRY **Bratogost** 83.62 323⇑ *i*P P 11 01 51.5 -1.5
OLDB **Oldbury-Upon-S** 83.64 340 *e*P P 11 01 53.1 +0.4
PDG **Podgorica** 83.66 323⇓ *i*P P 11 01 53.1 +0.1
TTG **Podgorica** 83.66 323⇑ *i*P P 11 01 52.7 -0.3
TTG **Podgorica** 83.66 323 *e*P P 11 01 52.7 -0.3
TTG pmax pmax
comp=Z,213nm,1.0s
TTG **Podgorica** 83.66 323 *e*P P 11 01 52.7 -0.3
comp=Z,213nm,1.0s
BODT **Bodrum** 83.70 314 *e*P P 11 01 52.6 -0.7
HGH **Gray Hill** 83.72 340 *e*P P 11 01 53.5 +0.4
ECH **Echery** 83.78 333 *e*P P 11 01 52.8 -0.8
ECH pmax pmax
comp=Z,133nm,1.1s
ECH **Echery** 83.78 333 *e*P P 11 01 52.8 -0.8
comp=Z,133nm,1.1s
BIA **Bitola** 83.78 321 *e*P P 11 01 54.2 +0.4
NVLJ **Novalja** 83.89 327 P P 11 01 53.0 -1.1
GLMI **Grayling** 83.90 33 P P 11 01 54.7 +0.5
baz=325,SNR=14
GLMI **Grayling** 83.90 33 *e*P P 11 01 55.2 +1.0
comp=Z,237nm,1.0s
N40A **Mertquake, Sal** 83.90 39 P P 11 01 54.6 +0.3
baz=321,SNR=26
P38A **Dawn** 83.91 41 P P 11 01 54.7 +0.3
baz=320,SNR=19
O39A **Kirksville** 83.92 40 P P 11 01 54.8 +0.4
baz=320,SNR=23
BUM **Brajici-Budva** 83.93 323⇑ *i*P P 11 01 54.5 0.0
L42A **Oliver, Polo** 83.94 38 P P 11 01 54.3 -0.1
baz=322,SNR=19
OHR **Ohrid** 83.97 321 *i* P P 11 01 54.9 +0.1
IWEX **Carrickbyrne,** 83.99 343 *e*P P 11 01 55.5 +1.0
IWEX lAmb lAmb 11 01 56.8
comp=Z,293nm,1.2s
HCY **Herceg Novi** 84.00 323⇑ *i*P P 11 01 54.4 -0.4
K43A **Burlington** 84.00 36 P P 11 01 54.6 -0.1
baz=322,SNR=22
Q37A **Longview Farm,** 84.00 42 P P 11 01 54.8 -0.1
baz=319,SNR=8.0
FUORN **Ofenpass-Fuorn** 84.02 330 *e*P P 11 01 55.2 0.0
comp=Z,322nm,1.0s
PPT **Papeete** 84.02 119 LR LR 11 37 28.2
comp=Z,4µm,18.4s,baz=248,slow=34
M41A **Milan** 84.02 39 P P 11 01 55.2 +0.3
baz=321,SNR=30
PPT2 **Papeete2** 84.03 119 *e*LR LR 11 27 36.9
comp=Z,22µm,35.2s
PPT2 **Papeete2** 84.03 119 *e*T T 12 34 33.0
comp=Z,4.7nm,0.3s
URZ **Urewera** 84.03 155 *e*P P 11 01 54.1 -0.5
comp=Z,97nm,1.1s
ULC **Ulcinj** 84.03 322⇑ *i*P P 11 01 54.5 -0.5
TIAR **Tiarei** 84.16 119 *e*T T 12 34 42.2
comp=Z,2.6nm,0.3s
L43A **Garden Prairie** 84.22 37 P P 11 01 56.0 +0.1
baz=322,SNR=8.9
TIR **Tirane** 84.22 322⇓ *i*P P 11 01 56.8 +0.9
TIR **Tirane** 84.22 322 *e*P P 11 01 56.8 +0.9
TIR pmax pmax
comp=Z,140nm,0.9s
TIR **Tirane** 84.22 322 *e*P P 11 01 56.8 +0.9
comp=Z,140nm,0.9s
M42A **Sheffield** 84.33 38 P P 11 01 56.5 0.0
baz=322,SNR=12
O40A **La Belle** 84.35 40 P P 11 01 57.0 +0.4
baz=320,SNR=47
Q38A **Cooks Store, C** 84.37 42 P P 11 01 56.5 -0.2
baz=320,SNR=19
N41A **Harden Midland** 84.39 39 P P 11 01 56.9 +0.1
baz=321,SNR=21
P39B **Salisbury** 84.40 41 P P 11 01 56.8 -0.1
baz=320,SNR=18
TUE **Stuetta** 84.48 331 *e*P P 11 01 57.5 +0.1
comp=Z,305nm,1.2s
EIL **Elat** 84.51 305 LR LR 11 43 36.9
comp=Z,11µm,18.3s,baz=236,slow=38
TAOE **Nuku Hiva Isla** 84.57 106 *e*LR LR 11 27 56.3
comp=Z,8µm,31.9s
L44A **Lake County Fo** 84.60 36 P P 11 01 57.8 0.0
baz=323
Q39A **Willow Grove F** 84.63 41 P P 11 01 57.9 -0.1
baz=320,SNR=31
BKZ **Black Stump Fm** 84.66 156 *e*P P 11 01 59.0 +1.1
comp=Z,122nm,1.3s
N42A **Yates City** 84.69 39 P P 11 01 58.3 0.0
baz=322,SNR=20
M43A **Waltham Townsh** 84.71 38 P P 11 01 58.4 0.0
baz=322,SNR=37
P40A **Paris** 84.72 41 P P 11 01 58.6 +0.2
baz=320,SNR=43
HTL **Hartland** 84.73 341 *e*P P 11 01 59.4 +1.1
WMOK **Wichita Mounta** 84.74 48 P P 11 01 59.1 +0.3
baz=317,SNR=61
WMOK **Wichita Mounta** 84.74 48 *e*P P 11 01 58.6 -0.1
WMOK pmax pmax
comp=Z,68nm,1.0s
WMOK **Wichita Mounta** 84.74 48 *e*P P 11 01 58.6 -0.1
comp=Z,68nm,1.0s
R38A **Fenwick Farm,** 84.81 43 P P 11 01 58.5 -0.5
baz=320,SNR=33
TOBO **Tobermory, Bru** 84.81 31 P P 11 01 58.9 +0.1
baz=327,SNR=11
AGG **Agios Georgios** 84.82 319 *e*P P 11 01 58.4 -0.6
AGG pmax pmax
comp=Z,101nm,0.9s
AGG **Agios Georgios** 84.82 319 *e*P P 11 01 58.4 -0.6
comp=Z,101nm,0.9s
O41A **Passleys Farm,** 84.83 40 P P 11 01 59.3 +0.3
baz=321,SNR=50
N43A **Stutzman Famil** 85.00 38 P P 11 02 00.3 +0.4
baz=322,SNR=15
LPIG **La Paz** 85.03 62 P P 11 01 59.8 -0.5
comp=Z,76nm,1.1s,baz=197,slow=0.7,SNR=12
P41A **Barry, Barry** 85.09 40 P P 11 02 00.7 +0.4
baz=321,SNR=30
DYA **Yadsworthy** 85.11 341 *e*P P 11 02 00.2 0.0
DYA lAmb lAmb 11 02 01.3
comp=Z,193nm,1.1s
Q40A **Laux Farm, Aux** 85.12 41 P P 11 02 00.6 +0.2
baz=320,SNR=31
R39A **Chumby, Stover** 85.15 42 P P 11 02 01.0 +0.3
baz=320,SNR=36
O42A **Bath** 85.16 39 P P 11 02 00.8 +0.1
baz=322,SNR=6.6
M44A **Midewin, Midew** 85.17 37 P P 11 02 00.7 0.0
baz=323,SNR=34
KLBO **Killbear Provi** 85.21 30 P P 11 02 00.5 -0.3
baz=328,SNR=16
S38A **Stockton** 85.23 43 P P 11 02 00.6 -0.5
baz=320,SNR=31
HDIL **Hopedale** 85.25 38 P P 11 02 01.2 +0.1
baz=322,SNR=20
HDIL **Hopedale** 85.25 38 *e*P P 11 02 01.9 +0.8
comp=Z,168nm,1.0s
SENIN **Lac Senin/Sane** 85.32 332 *e*P P 11 02 01.2 -0.4
comp=Z,137nm,0.9s
BUKO **Buck Lake** 85.44 30 P P 11 02 01.6 -0.4
baz=328,SNR=15
O43A **Sugar Creek Fa** 85.45 38 P P 11 02 02.3 +0.1
baz=322
BMRO **Meriville Lake** 85.46 31 P P 11 02 01.7 -0.3
baz=327,SNR=13
T38A **Diamond** 85.48 44 P P 11 02 02.0 -0.4
baz=319,SNR=92
S39A **Bolivar** 85.48 43 P P 11 02 01.9 -0.5
baz=320,SNR=53
P42A **Winchester** 85.51 40 P P 11 02 02.4 0.0
baz=321,SNR=14
TUL1 **Leonard** 85.53 45 P P 11 02 02.8 +0.2
baz=319,SNR=14
TUL1 **Leonard** 85.53 45 *e*P P 11 02 02.6 0.0
comp=Z,69nm,0.9s
M45A **Boilermakers S** 85.53 37 P P 11 02 02.4 -0.2
baz=323
R40A **Maddies Statio** 85.56 42 P P 11 02 03.0 +0.3
baz=320,SNR=41
Q41A **Truxton** 85.56 40 P P 11 02 03.0 +0.3
baz=321,SNR=27
N44A **Piper City** 85.60 37 P P 11 02 02.8 0.0
baz=323,SNR=14
CCA1 **Carnmenellis** 85.66 341 *e*P P 11 02 03.0 0.0
CCA1 lAmb lAmb 11 02 05.2
comp=Z,129nm,1.0s
TX31 **Lajitas Ar. Si** 85.72 55 *e*P P 11 02 03.8 0.0
TXAR **Lajitas Array** 85.72 55 P P 11 02 03.6 -0.2
comp=Z,54nm,0.7s,baz=295,slow=2.7,SNR=176
TXAR PKKPbc **PKKPbc** 11 20 05.9 +1.8
comp=Z,1.2nm,0.7s,baz=148,slow=4.1,SNR=11
BASO **Ashfield** 85.77 32 P P 11 02 03.5 -0.1
baz=327,SNR=22
ABTX **Abilene, Hawle** 85.79 50 P P 11 02 04.7 +0.8
baz=317,SNR=37
ABTX **Abilene, Hawle** 85.79 50 *e*P P 11 02 04.3 +0.3
comp=Z,162nm,1.0s
N45A **Kentland** 85.84 37 P P 11 02 04.3 +0.2
baz=323,SNR=15
P43A **Skaggs, Pawnee** 85.86 39 P P 11 02 04.6 +0.4
baz=322,SNR=6.9
BWLO **Walkerton** 85.89 31 P P 11 02 04.4 +0.2
baz=327,SNR=17
M46A **Old House Fiel** 85.92 36 P P 11 02 04.7 +0.2
baz=324,SNR=6.3
Q42A **Golden Eagle** 85.94 40 P P 11 02 05.0 +0.4
baz=321,SNR=27
O44A **Mansfield** 85.95 38 P P 11 02 04.6 0.0
baz=322,SNR=8.0
T39A **Clever** 85.96 43 P P 11 02 04.6 -0.1
baz=320,SNR=25
S40A **Lebanon** 85.97 42 P P 11 02 04.5 -0.2
baz=320,SNR=36
BFZ **Birch Farm** 85.98 157 *e*P P 11 02 07.1 +2.7
comp=Z,187nm,1.4s
R41A **Rosebud** 86.00 41 P P 11 02 05.2 +0.3
baz=321,SNR=62
THZ **Tophouse** 86.03 159 *e*P P 11 02 07.0 +2.4
comp=Z,207nm,1.4s
VLC **Villacollemand** 86.03 329 *e*P P 11 02 06.0 +1.0
comp=Z,128nm,1.1s
SADO **Sadowa** 86.11 30 *e*P P 11 02 05.4 +0.1
comp=Z,33nm,1.0s
HPIG 86.14 58 *e*P P 11 02 05.9 -0.2
comp=Z,102nm,1.0s
N46A **Monticello** 86.16 37 P P 11 02 05.2 -0.4
baz=324
O45A **Potomac** 86.22 38 P P 11 02 06.5 +0.5
baz=323,SNR=15
HHAR **Hobbs** 86.23 44 *e*P P 11 02 05.5 -0.6
comp=Z,87nm,1.1s
CCM **Cathedral Cave** 86.25 41 P P 11 02 06.4 +0.3
baz=321
CCM **Cathedral Cave** 86.25 41 *e*P P 11 02 05.4 -0.7
CCM pmax pmax
comp=Z,154nm,1.0s
CCM **Cathedral Cave** 86.25 41 *e*P P 11 02 05.4 -0.7
comp=Z,154nm,1.0s
SLM **Saint Louis** 86.30 40 *e*P P 11 02 07.2 +0.8
SLM pmax pmax
comp=Z,153nm,1.1s
SLM **Saint Louis** 86.30 40 *e*P P 11 02 07.2 +0.8
comp=Z,153nm,1.1s
T40A **Mansfield** 86.31 42 P P 11 02 06.2 -0.3
baz=320,SNR=40
IDI **Anoyia** 86.32 315 P P 11 02 06.2 -0.4
comp=Z,8.7nm,0.4s,baz=46,slow=8.6,SNR=12
IDI **Anoyia** 86.32 315 *e*P P 11 02 06.2 -0.4
comp=Z,229nm,1.6s
Q43A **New Douglas** 86.32 40 P P 11 02 06.6 +0.1
baz=322
BANO **Bancroft** 86.34 29 P P 11 02 06.4 -0.1
baz=329,SNR=35
S41A **Jilco Farms,** 86.36 42 P P 11 02 06.7 0.0
baz=321,SNR=32
AAM **Ann Arbor** 86.36 34 P P 11 02 06.3 -0.3
baz=325
AAM **Ann Arbor** 86.36 34 *e*P P 11 02 07.4 +0.8
AAM pmax pmax
comp=Z,112nm,1.3s
AAM **Ann Arbor** 86.36 34 *e*P P 11 02 07.4 +0.8
comp=Z,112nm,1.3s
U39A **Green Forest** 86.40 43 P P 11 02 06.9 0.0
baz=320,SNR=31
SFIN **Lafayette** 86.41 37 P P 11 02 07.2 +0.4
baz=323,SNR=24
SFIN **Lafayette** 86.41 37 *e*P P 11 02 07.0 +0.2
comp=Z,76nm,1.0s
P44A **Sand Creek, Wi** 86.42 39 P P 11 02 07.3 +0.4
baz=322,SNR=18
TRQ **Mont Tremblant** 86.49 26 *e*P P 11 02 06.8 -0.5
ELFO **Elginfield** 86.59 32 P P 11 02 07.5 -0.2
baz=327,SNR=20
BNI **Bardonecchia** 86.67 332 *e*P P 11 02 07.5 -0.7
BNI pmax pmax
comp=Z,158nm,1.0s
BNI **Bardonecchia** 86.67 332 *e*P P 11 02 07.5 -0.7
comp=Z,158nm,1.0s
Q44A **Meyer Farm, Va** 86.68 39 P P 11 02 08.2 0.0
baz=322,SNR=17
S42A **Caledonia** 86.70 41 P P 11 02 08.6 +0.3
baz=321,SNR=83
FVM **French Village** 86.72 41 *e*P P 11 02 09.3 +0.8
FVM pmax pmax
comp=Z,94nm,1.0s
FVM **French Village** 86.72 41 *e*P P 11 02 09.2 +0.8
comp=Z,94nm,1.0s
V39A **Pettigrew** 86.72 44 P P 11 02 08.3 -0.3
baz=320,SNR=34
R43A **Red Bud** 86.73 40 P P 11 02 08.5 0.0
baz=322,SNR=23
ACTO **Acton** 86.74 31 P P 11 02 08.7 +0.3
baz=328,SNR=5.4
U40A **Yellville** 86.74 43 P P 11 02 08.4 -0.2
baz=320,SNR=65
T41A **Mountain View** 86.77 42 P P 11 02 08.5 -0.3
baz=321,SNR=68
P45A **Graceland, Par** 86.79 38 P P 11 02 08.7 0.0
baz=323,SNR=23
KHZ **Kahutara** 86.81 159 *e*P P 11 02 09.9 +1.6
comp=Z,84nm,1.4s
LTZ **Lake Taylor** 86.81 160 *e*P P 11 02 11.2 +2.7
comp=Z,258nm,1.9s
PKRO **Pickering** 86.82 30 P P 11 02 08.6 -0.2
baz=328,SNR=11
DELO **Deloro Mine** 86.89 29 P P 11 02 09.0 -0.1
baz=329,SNR=20
ALFO **Alfred** 86.90 27 P P 11 02 08.6 -0.5
baz=331,SNR=36
FOZ **Fox Glacier** 86.92 162 *e*P P 11 02 12.3 +3.5
comp=Z,153nm,1.5s
O47A **Sheridan** 86.94 37 P P 11 02 09.3 -0.2
baz=324,SNR=9.3
P46A **Rosedale** 86.97 38 P P 11 02 09.9 +0.2
baz=323,SNR=40
DRWO **Darlington Wes** 87.03 30 P P 11 02 09.7 -0.1
baz=328,SNR=12
Q45A **Warren Harvey,** 87.10 39 P P 11 02 10.9 +0.7
baz=323,SNR=35
WLVO **Wesleyville** 87.11 30 P P 11 02 10.1 -0.1
baz=329,SNR=12
T42A **Van Buren** 87.12 42 P P 11 02 10.5 0.0
baz=321,SNR=36
W39A **Magazine** 87.14 44 P P 11 02 10.9 +0.3
baz=320,SNR=20
R44A **Waltonville** 87.17 40 P P 11 02 10.9 +0.3
baz=322,SNR=30
CUC **Castrocucco** 87.17 323 *e*P P 11 02 09.6 -1.1
comp=Z,42nm,1.5s
V40A **Witts Springs** 87.18 43 P P 11 02 10.4 -0.4
baz=320,SNR=11
S43A **Fulton Ridge,** 87.21 41 P P 11 02 10.7 -0.1
baz=322,SNR=32
SSB **Saint Sauveur** 87.22 333 *e*P P 11 02 10.9 +0.1
SSB pmax pmax
comp=Z,82nm,1.0s
SSB **Saint Sauveur** 87.22 333 *e*P P 11 02 10.9 +0.1
comp=Z,82nm,1.0s
U41A **Viola** 87.23 43 P P 11 02 11.0 0.0
baz=321,SNR=24
TYNO **Tyneside** 87.25 31 P P 11 02 10.3 -0.6
baz=328,SNR=8.7
JCT **Junction City** 87.25 51 P P 11 02 11.2 0.0
baz=317,SNR=34
OXZ **Oxford** 87.26 161 *e*P P 11 02 12.1 +1.5
comp=Z,248nm,1.3s
Q46A **CEJHS Indians,** 87.37 38 P P 11 02 11.7 +0.1
baz=323
RPZ **Rata Peaks** 87.38 161 *e*P P 11 02 13.6 +2.5
comp=Z,127nm,1.9s
TIP **Timpagrande** 87.39 322 *e*P P 11 02 11.8 +0.1
comp=Z,54nm,1.1s
X39A **Fountain Ranch** 87.48 45 P P 11 02 12.3 +0.1
baz=320,SNR=31
T43A **Greenville** 87.49 41 P P 11 02 12.2 0.0
baz=322,SNR=36
P47A **Martinsville** 87.50 37 P P 11 02 12.3 +0.1
baz=324,SNR=21
WHTX **Lake Whitney,** 87.51 49 P P 11 02 12.5 +0.2
baz=318,SNR=24
WHTX **Lake Whitney,** 87.51 49 *e*P P 11 02 12.6 +0.2
comp=Z,555nm,2.0s
R45A **Skylar, Fairfi** 87.52 39 P P 11 02 12.6 +0.3
baz=323,SNR=13
S44A **Carbondale** 87.52 40 P P 11 02 12.6 +0.3
baz=322,SNR=77
W40A **Ferguson Farm,** 87.52 44 P P 11 02 12.4 +0.1
baz=320,SNR=33
W40A **Ferguson Farm,** 87.52 44 *e*P P 11 02 12.6 +0.2
comp=Z,118nm,1.0s
V41A **Mountainview** 87.54 43 P P 11 02 12.1 -0.4
baz=321,SNR=45
U42A **Revenden** 87.58 42 P P 11 02 12.4 -0.2
baz=321,SNR=17
BLO **Bloomington** 87.64 37 *e*P P 11 02 13.8 +0.9
BLO pmax pmax
comp=Z,359nm,2.0s
BLO **Bloomington** 87.64 37 *e*P P 11 02 13.8 +0.9
comp=Z,359nm,2.0s
PBMO **Poplar Bluff** 87.65 41 *e*P P 11 02 13.0 0.0
comp=Z,192nm,1.0s
MEDO **Medina** 87.73 30 P P 11 02 13.5 +0.3
baz=329,SNR=14
MIAR **Mount Ida** 87.74 45 P P 11 02 13.9 +0.5
baz=320,SNR=55
MIAR **Mount Ida** 87.74 45 *e*P P 11 02 13.5 0.0
MIAR pmax pmax
comp=Z,103nm,1.0s
MIAR **Mount Ida** 87.74 45 *e*P P 11 02 13.5 0.0
comp=Z,103nm,1.0s
MQZ **McQueen's Vall** 87.78 160 *e*P P 11 02 14.9 +1.9
comp=Z,196nm,1.5s
LBZ **Lake Benmore** 87.81 162 *e*P P 11 02 16.0 +2.8
comp=Z,293nm,1.6s
T44A **Benton** 87.83 41 P P 11 02 13.7 -0.1
baz=322,SNR=13
X301 **Greenbrier Sit** 87.83 44 *e*P P 11 02 14.3 +0.4
comp=Z,73nm,1.1s
WHAR **Wooly Hollow** 87.85 43 *e*P P 11 02 13.6 -0.4
comp=Z,163nm,1.1s
S45A **Carrier Mills** 87.86 40 P P 11 02 14.2 +0.3
baz=323,SNR=32
Q47A **Bedord North L** 87.87 38 P P 11 02 14.1 +0.1
baz=324,SNR=24
LONY **Lake Ozonia** 87.88 27 P P 11 02 13.3 -0.7
baz=331,SNR=9.6
LONY **Lake Ozonia** 87.88 27 *e*P P 11 02 14.1 +0.2
comp=Z,39nm,1.1s
V42A **Cord** 87.92 43 P P 11 02 14.3 0.0
baz=321,SNR=33
R46A **Gibon Southern** 87.95 39 P P 11 02 14.9 +0.5
baz=323,SNR=17
W41B **Gary Mavity, V** 87.96 43 P P 11 02 14.8 +0.3
baz=320,SNR=45
U43A **Rector** 87.98 42 P P 11 02 14.9 +0.3
baz=322,SNR=13
ERPA **Erie** 88.02 32 P P 11 02 15.2 +0.6
baz=328,SNR=25
ERPA **Erie** 88.02 32 *e*P P 11 02 15.8 +1.1
comp=Z,191nm,1.1s
FRNY **Flat Rock** 88.03 26 *e*P P 11 02 14.3 -0.3
comp=Z,36nm,1.2s
USIN **University of** 88.07 39 *e*P P 11 02 16.1 +1.2
comp=Z,102nm,1.2s
PARMO **Parma** 88.08 41 *e*P P 11 02 15.6 +0.6
PQI **Presque Isle** 88.11 22 *e*P P 11 02 15.0 0.0
comp=Z,68nm,1.0s
X40A **Basin Creek Fa** 88.18 44 P P 11 02 16.0 +0.5
baz=320,SNR=35
UALR **University of** 88.22 44 *e*P P 11 02 16.4 +0.6
comp=Z,49nm,1.1s
TBI **Tubuai** 88.24 123 *e*LR LR 11 29 32.2
comp=Z,6µm,39.0s
TBI **Tubuai** 88.24 123 *e*T T 12 39 47.0
comp=Z,32nm,0.4s
U44A **Portageville** 88.24 41 P P 11 02 16.3 +0.6
baz=322
W42A **Bald Knob** 88.27 43 P P 11 02 16.2 +0.3
baz=321,SNR=6.1
S46A **Don Dixon Farm** 88.27 39 P P 11 02 16.2 +0.3
baz=323,SNR=14
MLZ **Mavora Lakes** 88.28 164 *e*P P 11 02 18.7 +3.2
comp=Z,328nm,1.9s
Y40A **Okolona** 88.31 45 P P 11 02 16.2 +0.1
baz=320,SNR=8.2
MMNY **Mt. Morris Dam** 88.31 30 *e*P P 11 02 16.7 +0.6
comp=Z,95nm,1.1s
435B **Jarrell** 88.33 50 P P 11 02 17.0 +0.7
baz=318,SNR=5.0
R47A **Wooly Knot Far** 88.34 38 P P 11 02 16.5 +0.2
baz=324,SNR=22
X41A **Kaden, Bauxite** 88.35 44 P P 11 02 16.6 +0.3
baz=320,SNR=9.7
T45A **Paducah** 88.35 40 P P 11 02 16.4 +0.1
baz=322
ACSO **Alum Creek Sta** 88.36 35 P P 11 02 16.6 +0.3
baz=326,SNR=38
ALLY **Alegheny Colle** 88.36 32 *e*P P 11 02 16.8 +0.5
comp=Z,198nm,1.0s
V43A **Jonesboro** 88.37 42 P P 11 02 17.1 +0.7

baz=322,SNR=14
HBAR Harrisburg 88.49 42 eP P 11 02 17.4 +0.5
WCI Wyandotte Cave 88.50 38 P P 11 02 17.1 +0.1
baz=324
WCI Wyandotte Cave 88.50 38 eP P 11 02 17.1 +0.1
WCI pmax pmax
comp=Z,96nm,1.0s
WCI Wyandotte Cave 88.50 38 eP P 11 02 17.1 +0.1
comp=Z,96nm,1.0s
CEL Celeste 88.53 322 eP P 11 02 16.9 -0.4
comp=Z,98nm,1.0s
U44B Burton Farm, H 88.54 41 P P 11 02 17.7 +0.5
baz=322,SNR=26
ODZ Otahua Downs 88.54 162 eP P 11 02 19.6 +3.0
comp=Z,270nm,1.7s
R48A Northridge Ran 88.56 37 P P 11 02 17.5 +0.2
baz=324,SNR=9.4
NCB Newcomb 88.57 27 eP P 11 02 17.5 +0.3
comp=Z,244nm,1.9s
WLAR White Oak Lake 88.64 45 eP P 11 02 19.1 +1.4
comp=Z,168nm,1.2s
V44A Blytheville 88.66 42 P P 11 02 18.2 +0.4
baz=322
M54A Oil Creek Stat 88.67 32 P P 11 02 17.5 -0.3
baz=328,SNR=39
M54A Oil Creek Stat 88.67 32 eP P 11 02 17.4 -0.3
T46A Princeton 88.69 40 P P 11 02 18.2 +0.3
baz=323,SNR=62
VT1 Waterbury 88.75 26 eP P 11 02 19.1 +1.0
comp=Z,78nm,1.0s
Y41A Eaglette Beard 88.77 45 P P 11 02 18.6 +0.3
baz=320,SNR=8.2
X42A Stuttgart 88.77 43 P P 11 02 18.1 -0.2
baz=321
UTMT University of 88.78 41 eP P 11 02 20.0 +1.7
comp=Z,415nm,1.1s
Z40A Long Farm, Mag 88.82 45 P P 11 02 18.9 +0.3
baz=320,SNR=12
U45A Rockin P Farm, 88.82 41 P P 11 02 19.4 +0.9
baz=322,SNR=16
W43A Forest City 88.83 43 P P 11 02 18.9 +0.3
baz=321
N54A Moraine State 89.00 32 P P 11 02 19.3 0.0
baz=328,SNR=39
N54A Moraine State 89.00 32 eP P 11 02 19.1 -0.2
comp=Z,155nm,1.0s
PKME Peaks-Kenny Pk 89.02 23 P P 11 02 19.6 +0.4
baz=335,SNR=9.1
PKME Peaks-Kenny Pk 89.02 23 eP P 11 02 19.7 +0.4
comp=Z,68nm,1.0s
833A Chaparral WMA, 89.06 53 P P 11 02 20.1 +0.3
baz=317,SNR=10
S48A Wiedeman Farm, 89.08 38 P P 11 02 20.1 +0.4
baz=324,SNR=39
U46A Springville 89.10 40 P P 11 02 20.4 +0.5
baz=323
LBNH Lisbon 89.11 25 P P 11 02 20.5 +0.7
baz=333,SNR=9.4
LBNH Lisbon 89.11 25 eP P 11 02 21.0 +1.2
LBNH pmax pmax
comp=Z,124nm,1.4s
LBNH Lisbon 89.11 25 eP P 11 02 21.0 +1.2
comp=Z,124nm,1.4s
T47A Sharon Grove 89.12 39 P P 11 02 20.2 +0.2
baz=323,SNR=49
Z41A Richland Creek 89.14 45 P P 11 02 20.7 +0.6
baz=320,SNR=6.9
CCAR Cane Creek 89.18 44 eP P 11 02 20.9 +0.7
comp=Z,135nm,0.9s
X43A Marvell 89.18 43 P P 11 02 20.7 +0.5
baz=321,SNR=10
140A Cam and Jess, 89.19 46 P P 11 02 20.8 +0.5
baz=320
V45A Humboldt 89.20 41 P P 11 02 20.9 +0.5
baz=322,SNR=6.7
Y42A Garnett, Star 89.24 44 P P 11 02 20.8 +0.3
baz=321,SNR=14
W44A Shelby Farms P 89.24 42 P P 11 02 21.0 +0.4
baz=322
NATX Nacogdoches 89.26 47 P P 11 02 21.0 +0.4
baz=319,SNR=6.0
NATX Nacogdoches 89.26 47 eP P 11 02 23.2 +2.5
comp=Z,71nm,1.0s
ACCN Adirondack Com 89.28 27 eP P 11 02 21.0 +0.4
comp=Z,79nm,1.0s
T48A Bowling Green 89.36 39 P P 11 02 21.4 +0.4
baz=324,SNR=21
WVT Waverly 89.45 40 P P 11 02 21.8 +0.3
baz=323
WVT Waverly 89.45 40 eP P 11 02 20.9 -0.6
WVT pmax pmax
comp=Z,66nm,1.0s
WVT Waverly 89.45 40 eP P 11 02 20.9 -0.6
comp=Z,66nm,1.0s
HNH Hanover 89.47 26 eP P 11 02 22.7 +1.3
comp=Z,51nm,1.0s
U47A Clarksville 89.47 40 P P 11 02 22.1 +0.5
baz=323,SNR=32
BINY Binghamton 89.49 29 P P 11 02 21.6 0.0
baz=330,SNR=17
BINY Binghamton 89.49 29 eP P 11 02 20.4 -1.2
comp=Z,89nm,1.0s
WVL Waterville 89.54 24 eP P 11 02 22.8 +1.1
comp=Z,70nm,1.0s
240A Hunter Patters 89.55 46 P P 11 02 22.4 +0.4
baz=320
W45A Hickory Valley 89.55 42 P P 11 02 22.1 +0.1
baz=322,SNR=30
V46A Holladay 89.57 40 P P 11 02 22.1 0.0
baz=323,SNR=36
X44A Crenshaw 89.58 43 P P 11 02 22.4 +0.3
baz=322,SNR=12
141A Papa Simpson, 89.58 46 P P 11 02 22.9 +0.7
baz=320,SNR=7.6
Z42A Norrel Spur, H 89.58 45 P P 11 02 22.0 -0.2
baz=321,SNR=17
Y43A Makayla and Ka 89.63 43 P P 11 02 22.9 +0.6
baz=321,SNR=7.9
U48A Cassie Pea, Po 89.77 39 P P 11 02 23.1 +0.1
baz=324,SNR=30
V47A Nunnelly 89.84 40 P P 11 02 23.5 +0.1
baz=323,SNR=52
TRY Troy 89.86 27 eP P 11 02 23.9 +0.7
comp=Z,109nm,1.2s
FFD Franklin Falls 89.88 26 eP P 11 02 25.0 +1.6
comp=Z,64nm,0.9s
OXF Oxford 89.94 42 P P 11 02 23.8 0.0
baz=322,SNR=49
OXF Oxford 89.94 42 eP P 11 02 23.4 -0.4
OXF pmax pmax
comp=Z,298nm,1.1s
OXF Oxford 89.94 42 eP P 11 02 23.4 -0.4
comp=Z,298nm,1.1s
Y44A Strider, Charl 89.96 43 P P 11 02 24.2 +0.3
baz=322,SNR=25
W46A Michie 89.97 41 P P 11 02 23.9 0.0
baz=323,SNR=10
Z43A Armstrong Fami 90.01 44 P P 11 02 24.6 +0.5
baz=321
X45A UM Field Stati 90.02 42 P P 11 02 24.1 -0.1
baz=322,SNR=32
241A Mo Tay, Goldon 90.02 46 P P 11 02 24.8 +0.6
baz=320,SNR=5.5
EMMW East Machias 90.06 22 eP P 11 02 25.6 +1.5
comp=Z,100nm,1.2s
SSPA Standing Stone 90.11 31 P P 11 02 25.0 +0.5
baz=329
SSPA Standing Stone 90.11 31 eP P 11 02 25.0 +0.5
comp=Z,108nm,1.0s
142A Monroe 90.14 45 P P 11 02 25.1 +0.3
baz=321
MCWV Mont Chateau 90.16 33 P P 11 02 24.9 +0.2
baz=328,SNR=12
MCWV Mont Chateau 90.16 33 eP P 11 02 25.8 +1.0
comp=Z,465nm,2.0s
O56A Blue Knob Stat 90.16 32 P P 11 02 24.6 -0.2
baz=329,SNR=25
O56A Blue Knob Stat 90.16 32 eP P 11 02 24.4 -0.4
comp=Z,78nm,0.9s
PLAL Pickwick Lake 90.24 41 eP P 11 02 25.3 +0.1
comp=Z,42nm,1.0s
V48A Smith Brothers 90.25 40 P P 11 02 25.4 +0.1
baz=324,SNR=34
W47A Westpoint 90.27 40 P P 11 02 25.3 0.0
baz=323,SNR=39
143A Socs Landing, 90.31 45 P P 11 02 25.5 -0.1
baz=321,SNR=7.7
X46A Booneville 90.33 42 P P 11 02 25.5 -0.1
baz=323,SNR=12
VSL Villasalto 90.37 327 eP P 11 02 25.1 -0.7
comp=Z,34nm,1.0s
Z44A Pea Ridge, Bel 90.38 44 P P 11 02 26.3 +0.4
baz=322,SNR=9.3
Y45A Yeager Farm, C 90.38 43 P P 11 02 25.9 0.0
baz=322,SNR=50
242A Grayson 90.41 45 P P 11 02 26.4 +0.3
baz=321
341A Kurthwood 90.41 47 P P 11 02 26.4 +0.3
baz=320,SNR=11
KVTX Kingsville 90.53 52 eP P 11 02 29.6 +2.9
comp=Z,157nm,1.1s
W48A Pulaski 90.68 40 P P 11 02 27.4 +0.1
baz=324,SNR=67
N59A State Game Lan 90.68 30 P P 11 02 27.5 +0.3
baz=330,SNR=42
N59A State Game Lan 90.68 30 eP P 11 02 27.2 0.0
comp=Z,179nm,1.1s
Z45A Winona 90.69 43 P P 11 02 27.4 0.0
baz=322,SNR=6.6
QUA2 Belchertown 90.71 27 eP P 11 02 28.2 +1.0
comp=Z,83nm,1.3s
Y46A Houston 90.72 42 P P 11 02 27.8 +0.4
baz=322,SNR=48
X47A Russellville 90.72 41 P P 11 02 27.4 0.0
baz=323,SNR=30
HRV Adam Dziewonsk 90.78 26 P P 11 02 27.5 0.0
baz=333
HRV Adam Dziewonsk 90.78 26 eP P 11 02 28.5 +1.0
HRV pmax pmax
comp=Z,100nm,1.1s
HRV Adam Dziewonsk 90.78 26 eP P 11 02 28.5 +1.0
comp=Z,100nm,1.1s
342A Flagon Creek P 90.84 46 P P 11 02 28.3 +0.2
baz=320
144A Alexander Plac 90.89 44 P P 11 02 28.2 -0.1
baz=322
243A Waterproof 90.91 45 P P 11 02 28.8 +0.5
baz=321
PAGS Pennsylvania G 90.92 31 eP P 11 02 28.8 +0.6
comp=Z,61nm,1.2s
WES Weston 90.96 26 eP P 11 02 29.4 +1.0
WES pmax pmax
comp=Z,106nm,1.0s
WES Weston 90.96 26 eP P 11 02 29.4 +1.0
comp=Z,106nm,1.0s
ODNJ Ogdensburg 90.97 29 eP P 11 02 29.1 +0.7
comp=Z,280nm,2.0s
BCX Boston College 91.06 26 eP P 11 02 29.8 +1.0
comp=Z,83nm,1.2s
ZAIG Zacatecas 91.06 58 eP P 11 02 29.4 -0.2
LUPA Lehigh Univers 91.11 29 eP P 11 02 30.0 +0.8
comp=Z,4.3nm,1.1s
TZTN Tazewell 91.14 37 P P 11 02 29.8 +0.4
baz=326,SNR=24
TZTN Tazewell 91.14 37 eP P 11 02 29.2 -0.2
comp=Z,87nm,1.1s
VBMS Vicksburg 91.16 44 P P 11 02 29.8 +0.3
baz=322,SNR=8.1
145A Houston Renfro 91.17 44 P P 11 02 29.9 +0.3
baz=322,SNR=8.2
X48A Hartselle 91.18 41 P P 11 02 29.3 -0.3
baz=324,SNR=20
244A Avery, Jackson 91.21 44 P P 11 02 30.4 +0.7
baz=321,SNR=16
Y47A UCPARC, Winfie 91.21 41 P P 11 02 29.9 +0.1
baz=323,SNR=10
Z46A Louisville 91.22 43 P P 11 02 30.7 +0.9
baz=322,SNR=14
MVL Millersville 91.26 30 eP P 11 02 30.8 +0.9
comp=Z,90nm,1.6s
PAL Palisades 91.29 28 P P 11 02 29.9 0.0
baz=332,SNR=7.0
PAL Palisades 91.29 28 eP P 11 02 31.0 +1.0
PAL pmax pmax
comp=Z,69nm,1.0s
PAL Palisades 91.29 28 eP P 11 02 31.0 +1.0
comp=Z,69nm,1.0s
442A Mamou 91.29 46 P P 11 02 30.1 0.0
baz=320
343A Vidalia 91.30 46 P P 11 02 30.1 -0.1
baz=321
BRYW Bryant College 91.31 26 eP P 11 02 30.7 +0.7
comp=Z,51nm,1.0s
BRNJ Basking Ridge 91.33 29 eP P 11 02 31.3 +1.1
comp=Z,154nm,1.5s
CPNY Central Park 91.46 28 eP P 11 02 31.9 +1.2
comp=Z,59nm,1.0s
ATD Arta Tunnel 91.46 286 P P 11 02 31.3 0.0
comp=Z,36nm,1.0s,baz=336,slow=6.8,SNR=8.2
ATD Arta Tunnel 91.46 286 eP P 11 02 32.3 +1.0
comp=Z,67nm,1.2s
X49A Woodville 91.48 40 P P 11 02 30.7 -0.3
baz=324,SNR=24
LNIG Linares 91.50 55 eP P 11 02 30.3 -0.9
comp=Z,29nm,0.9s
Y48A Jasper 91.54 41 P P 11 02 30.7 -0.5
baz=323,SNR=16
SDMD Soldier's Deli 91.58 31 eP P 11 02 32.5 +1.1
comp=Z,28nm,1.6s
146A Union 91.60 43 P P 11 02 31.2 -0.4
baz=322,SNR=7.3
443A Delano Plantat 91.61 46 P P 11 02 31.4 -0.2
baz=321
245A Little AP, Sta 91.64 44 P P 11 02 32.7 +1.0
baz=322
344A Westbrook Farm 91.64 45 P P 11 02 32.7 +1.0
baz=321
Z47A Carrollton 91.66 42 P P 11 02 31.6 -0.3
baz=323,SNR=9.2
PSUB Penn St. - Bra 91.66 30 eP P 11 02 32.3 +0.6
TKL Tuckaleechee C 91.77 38 P P 11 02 32.2 -0.1
comp=Z,57nm,1.0s,baz=293,slow=1.0,SNR=38
TKL Tuckaleechee C 91.77 38 eP P 11 02 32.1 -0.2
TKL pmax pmax
comp=Z,66nm,1.0s
TKL Tuckaleechee C 91.77 38 eP P 11 02 32.1 -0.2
comp=Z,66nm,1.0s
Z48A Northport 91.78 42 P P 11 02 31.4 -0.9
baz=323
X50A Fort Payne 91.85 40 P P 11 02 32.3 -0.5
baz=324,SNR=15
Y49A Blount Mountai 91.96 41 P P 11 02 32.8 -0.5
baz=324,SNR=20
147A Livingston 91.97 42 P P 11 02 33.3 0.0
baz=323,SNR=14
BLA Blacksburg 91.98 35 P P 11 02 33.1 -0.2
baz=328,SNR=11
BLA Blacksburg 91.98 35 eP P 11 02 34.2 +0.9
BLA pmax pmax
comp=Z,64nm,1.1s
BLA Blacksburg 91.98 35 eP P 11 02 34.1 +0.9
comp=Z,64nm,1.1s
246A Jackson Lee, B 92.05 43 P P 11 02 34.2 +0.5
baz=322
345A Thompson Farm, 92.13 44 P P 11 02 33.8 -0.2
baz=322
VWCC Virginia Weste 92.14 34 eP P 11 02 35.3 +1.3
IP04 Greensprings 92.21 33 eP P 11 02 35.3 +1.0
comp=Z,51nm,1.2s
Y50A Piedmont 92.27 40 P P 11 02 34.5 -0.2
baz=324,SNR=21
247A Quitman 92.29 43 P P 11 02 35.3 +0.5
baz=323
IP03 Louisa 92.30 33 eP P 11 02 35.6 +0.9
LRAL Lakeview Retre 92.33 41 P P 11 02 34.9 0.0
baz=324,SNR=9.5
LRAL Lakeview Retre 92.33 41 eP P 11 02 35.2 +0.3
comp=Z,24nm,1.0s
CVRD Centerville Ro 92.34 32 eP P 11 02 35.8 +0.9
comp=Z,40nm,1.0s
148A Greensboro 92.35 42 P P 11 02 35.0 0.0
baz=323,SNR=13
SPRD Spring Road, M 92.35 32 eP P 11 02 36.1 +1.2
comp=Z,98nm,1.8s
IP07 Quail 92.38 33 eP P 11 02 35.9 +0.8
comp=Z,33nm,1.2s
IP06 Yanceyville 92.39 33 eP P 11 02 36.2 +1.1
comp=Z,20nm,1.2s
IP01 Cuckoo 92.40 32 eP P 11 02 36.2 +1.1
comp=Z,28nm,1.2s
445A Amite 92.42 45 P P 11 02 35.7 +0.3
baz=322
Z49A Columbiana 92.44 41 P P 11 02 34.9 -0.6
baz=324,SNR=14
IP05 Hopewell Churc 92.57 32 eP P 11 02 36.7 +0.8
comp=Z,29nm,1.2s
Z50A Ashland 92.69 41 P P 11 02 36.3 -0.3
baz=324,SNR=70
BG3 Lake Jocassee 92.70 38 eP P 11 02 36.9 +0.2
comp=Z,60nm,1.0s
248A Dixon Mills 92.71 42 P P 11 02 36.5 -0.1
baz=323
149A Jones 92.78 42 P P 11 02 37.0 0.0
baz=324,SNR=15
347A Saraland 92.84 43 P P 11 02 37.7 +0.4
baz=323,SNR=6.5
249A Camden 93.12 42 P P 11 02 38.4 -0.1
baz=323,SNR=17
348A Jackson 93.16 43 P P 11 02 39.2 +0.4
baz=323
150A Eclectic 93.16 41 P P 11 02 38.6 -0.2
baz=324,SNR=21
KMSC Kings Mountain 93.31 36 P P 11 02 39.2 -0.3
baz=327,SNR=12
KMSC Kings Mountain 93.31 36 eP P 11 02 40.0 +0.5
comp=Z,43nm,1.1s
250A Grady 93.55 42 P P 11 02 40.6 +0.1
baz=324,SNR=14
KEST Kesra 93.56 325 P P 11 02 41.0 +0.3
comp=Z,36nm,1.0s,baz=315,slow=2.1,SNR=26
KEST Kesra 93.56 325 eP P 11 02 41.0 +0.3
comp=Z,38nm,0.9s
151A Opelika 93.57 41 P P 11 02 40.7 +0.1
baz=324
349A Repton 93.58 43 P P 11 02 40.9 +0.2
baz=323
CMAH Djebel Manchou 93.62 327 P P 11 02 39.8 -1.1
HODGE Hodges 93.64 37 eP P 11 02 41.4 +0.5
CAEH 'Ain El Ouahch 93.72 327 P P 11 02 40.5 -0.8
GOGA Godfrey 93.75 39 P P 11 02 41.9 +0.4
baz=326,SNR=14
GOGA Godfrey 93.75 39 eP P 11 02 42.3 +0.8
GOGA pmax pmax
comp=Z,105nm,1.7s
GOGA Godfrey 93.75 39 eP P 11 02 42.3 +0.8
comp=Z,105nm,1.7s
BRAL Brewton 93.80 43 P P 11 02 42.1 +0.4
baz=323
BRAL Brewton 93.80 43 eP P 11 02 43.1 +1.4
comp=Z,130nm,1.4s
PBRG Braganca 93.84 339 eP P 11 02 41.8 0.0
comp=Z,38nm,1.4s
PBRG Braganca 93.84 339 ePP PP 11 06 26.8 +0.5
251A Midway 93.88 41 P P 11 02 42.2 +0.1
baz=324,SNR=15
ABSA Djebel Ababsia 93.90 327 P P 11 02 41.8 -0.4
350A Dozier 93.96 42 P P 11 02 42.5 +0.1
baz=324,SNR=12
JSC Jenkinsville 94.06 37 eP P 11 02 42.8 -0.1
JSC pmax pmax
comp=Z,23nm,1.0s
JSC Jenkinsville 94.06 37 eP P 11 02 42.8 -0.1
comp=Z,22nm,1.0s
PGAV Gavieira, Arco 94.09 340 eP P 11 02 43.2 +0.2
comp=Z,61nm,1.2s
CKFL Kef-Lekhel 94.10 327 P P 11 02 42.8 -0.4
PCAB Cabril 94.27 340 eP P 11 02 44.0 +0.3
comp=Z,41nm,1.2s
DFRA Djebel Bou Aff 94.32 328 P P 11 02 44.2 0.0
450A Crestview 94.33 42 P P 11 02 44.2 +0.1
baz=324
351A Pinckard 94.45 41 P P 11 02 44.9 +0.2
baz=324,SNR=14
MVO Moncovo 94.51 339 eP P 11 02 45.0 +0.1
comp=Z,56nm,1.3s
CTEI Djebel Teiouat 94.52 327 P P 11 02 44.7 -0.4
POLO Lamas de Olo 94.52 340 eP P 11 02 45.0 0.0
comp=Z,38nm,1.1s
253A Americus 94.54 40 P P 11 02 45.4 +0.3
baz=325,SNR=10
PVRL Vila Real 94.59 340 eP P 11 02 45.3 0.0
comp=Z,67nm,1.3s
352A Blakely 94.62 41 P P 11 02 45.4 -0.1
baz=325,SNR=15
CNNC Cliffs of the 94.73 34 P P 11 02 46.1 +0.2
baz=329
451A Vernon 94.91 42 P P 11 02 47.1 +0.3
baz=324
ES19 SONSECA Array 94.97 336 eP P 11 02 47.3 +0.3
452A Marianna 95.00 41 P P 11 02 47.7 +0.5
baz=324
ESDC Sonseca Array 95.01 336 P P 11 02 47.6 +0.4
comp=Z,2.2nm,0.6s,baz=23,slow=3.5,SNR=19
ESDC PP PP 11 06 33.9 -1.6
comp=Z,6.6nm,1.1s,baz=23,slow=6.7,SNR=4.4
ESDC LR LR 11 51 43.4
comp=Z,4µm,18.3s,baz=185,slow=39
ESLA Sonseca Array 95.01 336 eP P 11 02 47.6 +0.4
comp=Z,33nm,1.4s
353A Camilla 95.08 40 P P 11 02 47.9 +0.3
baz=325,SNR=10
PVIS Viseu 95.17 340 eP P 11 02 48.1 +0.2
comp=Z,46nm,1.6s
PAB San Pablo 95.25 337 eP P 11 02 49.0 +0.7
PAB pmax pmax
comp=Z,25nm,1.4s
PAB San Pablo 95.25 337 eP P 11 02 49.0 +0.7
comp=Z,25nm,1.4s
TIGA Tifton 95.31 40 eP P 11 02 49.0 +0.3
comp=Z,76nm,1.0s
MTE Manteigas 95.37 339 eP P 11 02 49.0 +0.1
comp=Z,44nm,1.1s
MTE Manteigas 95.37 339 eP P 11 02 49.0 +0.1
comp=Z,28nm,0.9s
453A Whigham 95.43 41 P P 11 02 49.4 +0.2
baz=325
PCBR Castelo Branco 95.87 339 eP P 11 02 51.5 +0.5
PCBR Castelo Branco 95.87 339 ePP PP 11 06 43.5 +1.5
454A Quitman 95.88 40 P P 11 02 51.8 +0.6
baz=325
PCAS Casmilo, Conde 95.95 340 eP P 11 02 52.0 +0.6
455A Stateville 96.16 40 P P 11 02 52.9 +0.4
baz=326,SNR=5.2
PMRV Marv??o 96.23 339 eP P 11 02 53.2 +0.5
PMRV Marv??o 96.23 339 ePP PP 11 06 44.5 -0.4
554A Perry 96.37 41 P P 11 02 53.6 +0.2
baz=325
555A McAlpin 96.70 40 P P 11 02 55.1 +0.1
baz=326,SNR=5.1
PMTG Montargil 96.80 339 eP P 11 02 55.4 +0.1
comp=Z,35nm,1.6s
PESTR Estremoz 96.81 339 eP P 11 02 56.1 +0.7
PESTR Estremoz 96.81 339 ePP PP 11 06 55.4 +6.1
556A Lake Butler 97.07 40 P Pdif 11 02 56.9 +0.2
baz=326,SNR=8.7
PBAR Barrancos 97.30 338 eP P 11 02 57.6 0.0
557A Orange Park 97.39 39 P Pdif 11 02 58.7 +0.6
baz=326
656A Willston 97.53 40 P Pdif 11 02 59.1 +0.3
baz=326,SNR=7.8
PBEJ Beja 97.67 339 eP P 11 02 58.9 -0.4
PBEJ Beja 97.67 339 ePP PP 11 06 57.1 +1.1
657A Interlachen 97.67 40 P Pdif 11 02 59.7 +0.3
baz=326,SNR=5.4
RKT Rikitea 97.75 114 eLR LR 11 34 21.8
comp=Z,7µm,33.8s
PNCL Nicolau / Gran 97.78 339 eP Pdif 11 03 00.1 +0.4
MESJ Messejana 97.95 339 eP Pdif 11 03 01.4 +0.9
MESJ Messejana 97.95 339 ePP PP 11 07 04.0 +6.0
658A Bunnell 98.11 39 P Pdif 11 03 01.9 +0.6
baz=327
758A Lake Helen 98.52 40 P Pdif 11 03 03.8 +0.6
baz=327
KMBO Kilima Mbogo 104.02 281 Pdiff **Pdif** 11 03 28.9 +0.7
comp=Z,4.4nm,0.9s,baz=56,slow=6.8,SNR=8.6
KMBO PP **PKiKP** 11 07 41.0 -4.6
comp=Z,0.5nm,0.3s,baz=79,slow=10,SNR=3.7
KMBO Kilima Mbogo 104.02 281 eP **Pdif** 11 03 28.2 0.0
KMBO 11 07 41.0
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KMBO Kilima Mbogo 104.02 281 ePdif **Pdif** 11 03 28.2 0.0
comp=Z,8.0nm,1.1s
KMBO PP **PKiKP** 11 07 41.0 -4.6
KMBO Kilima Mbogo 104.02 281 i P **Pdif** 11 03 28.8 +0.6
SNR=6.4
TAM Tamanrasset 106.30 321 ePKPdf **PKiKP** 11 07 50.2 +0.6
TORD Torodi Ar. Bea 116.41 319 PKP **PKPdf** 11 08 06.8 -1.8
comp=Z,3.7nm,0.5s,baz=21,slow=2.3,SNR=31
TORD PP **PP** 11 09 09.1 -5.0
comp=Z,37nm,1.1s,baz=23,slow=6.2,SNR=12
TORD PKPbc **PKKPbc** 11 18 33.0 -2.7
comp=Z,2.5nm,1.1s,baz=198,slow=0.9,SNR=2.4

TORD PKKPab **PKKPab 11 18 43.2 -0.3**
comp=Z,3.3nm,0.9s,baz=238,slow=1.6,SNR=3.6
KOWA Kowa 117.87 326 PKP **PKPdf 11 08 10.8 -0.7**
comp=Z,4.6nm,0.6s,baz=190,slow=1.0,SNR=15
VNDA Vanda 118.52 176 PKP **PKPdf 11 08 10.0 -0.7**
comp=Z,5.5nm,0.9s,baz=350,slow=0.6,SNR=11
VNDA PP **PP 11 09 29.3 +0.5**
comp=Z,3.9nm,1.0s,baz=325,slow=6.7,SNR=4.9
SDV Santo Domingo 120.72 42 PKP **PKPdf 11 08 17.4 +0.2**
comp=Z,26nm,1.0s,baz=349,slow=5.2,SNR=12
SDV Santo Domingo 120.72 42 *e*PKPdf **PKPdf 11 08 17.1 -0.2**
ROSC El Rosal 122.13 48 PKP **PKPdf 11 08 21.4 +1.2**
comp=Z,7.0nm,0.4s,baz=159,slow=11,SNR=4.1
BBTS Babate 122.18 339 PKP **PKPdf 11 08 21.4 +1.7**
comp=Z,16nm,0.5s,baz=337,slow=2.0,SNR=5.6
MATP Matopo 122.81 271 PKP **PKPdf 11 08 20.6 -0.3**
comp=Z,16nm,0.6s,baz=46,slow=0.7,SNR=27
MAW Mawson 124.10 207 PKP **PKPdf 11 08 20.4 -1.3**
comp=Z,9.7nm,0.8s,baz=105,slow=5.3,SNR=8.1
DBIC Dimbokro 125.17 322 PKP **PKPdf 11 08 24.8 -0.7**
comp=Z,12nm,0.7s,baz=37,slow=2.0,SNR=16
DBIC PP **PP 11 10 11.5 -2.4**
comp=Z,22nm,1.1s,baz=8.6,slow=9.1,SNR=3.9
TIC Toumodi 125.27 322 *e*PKIKP **PKPdf 11 08 24.8 -0.9**
KIC Kosan Boka 125.39 322 *e*PKIKP **PKPdf 11 08 25.1 -0.9**
comp=Z,42nm,1.0s
LIC Lamto 125.64 322 *e*PKIKP **PKPdf 11 08 25.3 -1.1**
comp=Z,92nm,1.7s
BOSA Boshof 129.78 264 PKhKP PKPpre 11 08 27.8
comp=Z,3.1nm,0.8s,baz=71,slow=5.8,SNR=5.5
BOSA PKP **PKiKP 11 08 35.0 +0.3**
comp=Z,10nm,0.8s,baz=65,slow=2.2,SNR=11
TSUM Tsumeb 130.34 279 *e*PKPdf **PKPdf 11 08 35.4 +0.1**
SYO Syowa Base 132.78 208⇑*i* PKPdf **PKPdf 11 08 39.2 +1.0**
SYO Syowa Base 132.78 208⇑*i* PP PP 11 11 07.4 +3.6
SAML Samuel 139.69 46 *e*PKPdf PKPpre 11 08 46.4
LPAZ La Paz 142.46 59 PKhKP PKPpre 11 08 53.4
comp=Z,11nm,0.9s,baz=5.5,slow=4.0,SNR=11
SNAA Sanae 145.13 197 PKP **PKPbc 11 08 58.7 -1.6**
SNAA Sanae 145.13 197 PKPbc **PKPbc 11 08 59.2 -1.1**
comp=Z,421nm,1.1s,baz=131,slow=2.8,SNR=72
SNAA Sanae 145.13 197 *e*PKP2 **PKPbc 11 08 58.8 -1.6**
SNAA Sanae 145.13 197 *e*PKPdf **PKPbc 11 08 58.8 -1.6**
RCBR Riachuelo 145.17 1 *e*PKPdf **PKPab 11 09 02.3 +0.1**
VNA2 Neumayer--Watz 146.68 196 PKP **PKPdf 11 09 03.8 +0.5**
baz=123,slow=2.1
VNA3 Neumayer Olymp 146.89 195 PKP **PKPdf 11 09 04.2 +0.5**
VNA1 Neumayer--Stat 147.08 196 PKP **PKPbc 11 09 05.2 -0.9**
LCO Las Campanas 148.76 79 *e*PKPdf **PKPdf 11 09 07.6 -0.8**
PLCA Paso Flores 153.29 102 PKP **PKPdf 11 09 15.2 +0.4**
comp=Z,5.9nm,1.0s,baz=54,slow=2.3,SNR=8.5
PLCA PKPbc **sPKPdf 11 09 21.8 +0.4**
comp=Z,11nm,0.9s,baz=293,slow=2.9,SNR=19
CPUP Villa Florida 156.63 59 PKP **PKPdf 11 09 19.5 -0.2**
comp=Z,8.5nm,1.1s,baz=37,slow=1.6,SNR=9.2
CPUP PKPab **PKPab 11 09 48.7 -0.1**
comp=Z,10nm,0.8s,baz=339,slow=4.6,SNR=8.4

*ISCJB **14** 10:52:35.1±0.4, 10°.10S±0°.04×75°.90W±0°.05, h100km, mb4.6/19, Error ellipse: s-maj=6.9km s-min=5.9km az=152.1*
*NEIC **14** 10:52:37.6±0.8, 10°.21S×75°.99W, h118km±8km, mb4.6/7, ML4.4(ARE), Error ellipse: s-maj=11.9km s-min=7.3km az=60.0*
NEIC Felt [II] at Huanuco.
*IDC **14** 10:52:37.3±1.0, 10°.13S×76°.02W, h111km±11km, mb4.0/8, mb1 4.2/14, mb1mx4.0/47, mbtmp4.4/14, Error ellipse: s-maj=15.4km s-min=8.1km az=76.0*
ISC 14 10:52:36.2±0.5, 10°.11S±0°.05×75°.84W±0°.06, h100km, n49, σ1§96/56, mb4.4/19, 1C-1D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana 2.11 208**			P	**Pn**	**10 53 11.6**	**+1.2**
	212nm,0.3s,baz=16,slow=8.9,SNR=100						
NNA				S	**Sn**	**10 53 36.0**	**-0.3**
	446nm,0.3s,baz=236,slow=18,SNR=24						
NNA	**Nana 2.11 208**			*e*Pn	**Pn**	**10 53 10.8**	**+0.5**
NNA				*e*Sn	**Sn**	**10 53 35.5**	**-0.9**
ATAH	**Atahualpa 3.90 319**			P	**Pn**	**10 53 35.1**	**+0.7**
	36nm,0.3s,baz=148,slow=4.4,SNR=142						
ATAH				S	**Sn**	**10 54 19.4**	**0.0**
	31nm,0.3s,baz=55,slow=3.1,SNR=5.6						
ARE	**Arequipa 7.59 147**			*e*P	Pn	10 54 33.0	+8.5
LPAZ	**La Paz 9.69 130**			P	**Pn**	**10 54 56.4**	**+3.0**
	0.7nm,0.3s,baz=305,slow=9.4,SNR=17						
LPAZ	**La Paz 9.69 130**			*e*Pn	**Pn**	**10 54 56.6**	**+3.2**
OTAV	**Otavalo 10.61 346**			*e*Pn	**Pn**	**10 55 08.4**	**+2.7**
SAML	**Samuel 12.53 86**			*e*Pn	**Pn**	**10 55 31.7**	**+0.6**
SAML				*e*Sn	**Sn**	**10 57 44.6**	**-4.4**
PRAC	**Prado 13.77 4**			*e*Pn	**Pn**	**10 55 50.4**	**+3.0**
PB10	**IPOC Station P 14.25 160**			*e*Pn	**Pn**	**10 55 50.7**	**-2.8**
SIV	**San Ignacio 15.52 114**			P	**Pn**	**10 56 12.1**	**+2.4**
	2.2nm,0.3s,baz=318,slow=11,SNR=33						
SIV				S	**Sn**	**10 59 06.2**	**+4.8**
	0.7nm,0.3s,baz=31,slow=20,SNR=2.3						
RUSC	**La Rusia 16.14 10**			*e*Pn	**P**	**10 56 20.7**	**+1.5**
	19nm,1.6s						
PTGA	**Pitinga 18.33 60**			P	**P**	**10 56 44.8**	**+1.9**
	6.1nm,0.3s,baz=241,slow=12,SNR=48						
PTGA				S	**S**	**11 00 04.1**	**-3.3**
	1.4nm,0.3s,baz=324,slow=23,SNR=4.1						
PTGA	**Pitinga 18.33 60**			*e*P	**P**	**10 56 44.6**	**+1.7**
	86nm,1.5s						
PTGA				S	**S**	**11 00 04.1**	**-3.3**
BCIP	**Isla Barro Col 19.56 348**			*e*P	**P**	**10 56 57.3**	**+1.0**
	86nm,1.3s						
SDV	**Santo Domingo 19.57 16**			P	**P**	**10 56 58.1**	**+1.5**
	1.2nm,0.3s,baz=230,slow=6.9,SNR=25						
SDV				S	**S**	**11 00 32.9**	**+0.4**
	0.4nm,0.3s,baz=323,slow=20,SNR=2.3						
SDV	**Santo Domingo 19.57 16**			*e*P	**P**	**10 56 58.2**	**+1.6**
	20nm,0.8s						
SDV				S	**S**	**11 00 32.9**	**+0.4**
HDC	**Heredia 21.61 337**			*e*P	**P**	**10 57 19.3**	**+0.8**
	0.1nm,0.6s						
CPUP	**Villa Florida 23.80 135**			P	**P**	**10 57 41.8**	**+1.8**
	6.4nm,0.8s,baz=316,slow=10.0,SNR=17						
PLCA	**Paso Flores 30.85 172**			P	**P**	**10 58 43.4**	**+0.3**
	3.9nm,0.7s,baz=4.7,slow=9.6,SNR=23						
PLCA				PcP	**PcP**	**11 01 37.5**	**-0.3**
	1.4nm,0.7s,baz=354,slow=3.8,SNR=5.9						
HPIG	**46.85 323**			*e*P	**P**	**11 00 54.7**	**-2.0**
	2.2nm,0.8s						
TXAR	**Lajitas Array 47.52 326**			P	**P**	**11 01 00.3**	**-1.4**
	1.4nm,0.5s,baz=152,slow=8.7,SNR=40						
TX31	**Lajitas Ar. Si 47.52 326**			*e*P	**P**	**11 01 00.7**	**-1.0**
ABTX	**Abilene, Hawle 48.20 333**			*e*P	**P**	**11 01 05.8**	**-1.0**
	17nm,0.8s						
HHAR	**Hobbs 49.20 341**			*e*P	**P**	**11 01 13.1**	**-1.3**
	7.6nm,1.2s						
319A	**Douglas 52.24 323**			*e*P	**P**	**11 01 37.2**	**-0.2**
	178nm,0.9s						
Y22D	**IRIS PASSCAL I 52.94 328**			*e*P	**P**	**11 01 38.9**	**-3.8**
	96nm,0.9s						
NVAR	**Mina Array Bea 62.45 323**			P	**P**	**11 02 49.9**	**+0.6**
	2.4nm,0.7s,baz=132,slow=9.9,SNR=2.2						
LIC	**Lamto 72.36 80**			*e*P	**P**	**11 03 52.4**	**+0.4**
	34nm,1.4s						
TIC	**Toumodi 72.46 80**			*e*P	**P**	**11 03 52.4**	**-0.2**
DBIC	**Dimbokro 72.62 80**			P	**P**	**11 03 54.3**	**+0.8**
	2.0nm,0.5s,baz=234,slow=7.4,SNR=4.8						
KIC	**Kosan Boka 72.67 80**			*e*P	**P**	**11 03 54.4**	**+0.6**
	9.7nm,0.7s						
KOWA	**Kowa 75.27 72**			P	**P**	**11 04 09.5**	**+0.5**
	3.6nm,0.6s,baz=258,slow=7.1,SNR=14						
YKA	**Yellowknife Ar 78.35 343**			P	**P**	**11 04 23.3**	**-1.9**
	1.1nm,0.7s,baz=141,slow=5.3,SNR=5.1						
TOA0	**Torodi Ar. Sit 80.35 75**			*e*P	P	11 04 32.0	-5.1
TORD	**Torodi Ar. Bea 80.35 75**			P	**P**	**11 04 37.9**	**+0.7**
	2.6nm,0.8s,baz=259,slow=5.4,SNR=15						
SYO	**Syowa Base 89.40 161**⇓*eX*			P	P	11 05 10.0	-11
DOU	**Dourbes 91.61 39**⇑*iP*				**P**	**11 05 30.1**	**-1.9**
OHAK	**Old Harbor 91.72 328**			*e*P	**P**	**11 05 31.8**	**-0.5**
	70nm,0.9s						
BNI	**Bardonecchia 91.84 45**			*e*P	**P**	**11 05 31.3**	**-2.1**
	56nm,1.2s						
SPU	**Mount Spurr 92.23 332**			*e*P	**P**	**11 05 36.5**	**+1.8**
BPAW	**Bear Paw Mtn. 92.63 335**			*e*P	**P**	**11 05 39.8**	**+3.4**
	199nm,1.8s						
KURK	**Kurchatov 134.38 23**			PKP	**PKPdf**	**11 11 43.0**	**+0.4**
KURBB	**Kurchatov Arra 134.42 23**			PKP	**PKPdf**	**11 11 43.0**	**+0.4**
	0.7nm,0.6s,baz=332,slow=2.2,SNR=2.4						
ASAR	**Alice Springs 135.58 221**			PKP	**PKPdf**	**11 11 44.5**	**-1.3**
	0.8nm,0.6s,baz=98,slow=1.9,SNR=2.7						
WRA	**Warramunga Arr 137.87 225**			PKP	**PKPdf**	**11 11 49.5**	**-0.5**
	1.4nm,0.5s,baz=139,slow=2.1,SNR=5.6						
KS01	**Wonju Array Si 145.37 326**			*e*PKPdf	**PKPdf**	**11 11 59.8**	**-3.1**
KSRS	**Korea Array 145.37 326**			PKPbc	**PKPdf**	**11 12 01.7**	**-1.2**
	6.0nm,0.8s,baz=52,slow=4.1,SNR=14						
KSAR	**Wonju Array Be 145.40 326**			PKPbc	**PKPdf**	**11 12 01.7**	**-1.2**

*JMA **14** 10:56:32.1±0.3, 40°.82N×145°.25E, h56km±4km, M4.8*
*IDC **14** 10:56:35.9±0.5, 40°.92N×144°.87E, h0km, mb4.4/21, mb1 4.5/26, mb1mx4.3/71, mbtmp4.3/26, ML3.6/5, Error ellipse: s-maj=14.8km s-min=14.6km az=100.0*
*NEIC **14** 10:56:37.4±0.3, 40°.91N×144°.85E, h10km, mb4.7/1, Error ellipse: s-maj=6.8km s-min=5.5km az=133.0*
*ISCJB **14** 10:56:38.7±0.4, 40°.91N±0°.03×144°.80E±0°.04, h33km, mb4.4/24, Error ellipse: s-maj=4.4km s-min=4.0km az=168.3*
ISC 14 10:56:40.9±0.5, 40°.96N±0°.04×144°.91E±0°.06, h35km, n60, σ1§94/64, mb4.4/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo 1.69 309**			*e*Pn	**Pn**	**10 57 06.5**	**-1.4**
ERM				*e*Sn	**Sn**	**10 57 27.3**	**-1.0**
JEM	**Erimo 1.69 309**			*e*S	**Sn**	**10 57 27.1**	**-1.2**
JCH	**Churui 2.02 325**			P	**Pn**	**10 57 08.1**	**-4.4**
JCH				*e*S	**Sn**	**10 57 35.1**	**-1.4**
JAK	**Akkeshi 2.04 356**			*e*S	**Sn**	**10 57 33.3**	**-3.7**
JNBK	**Urakawa-nobuka 2.09 310**			*e*S	**Sn**	**10 57 38.4**	**+0.2**
JOB	**Onbets 2.10 338**			*e*S	**Sn**	**10 57 36.5**	**-2.0**
NEM2	**Nemuro 2 2.48 14**			*e*S	**Sn**	**10 57 42.4**	**-5.5**
JAR	**Ashorobuto 2.49 340**			P	**Pn**	**10 57 14.8**	**-4.1**
JAR				*e*S	**Sn**	**10 57 44.3**	**-3.7**
JNK	**Nakash 2.63 357**			P	**Pn**	**10 57 15.2**	**-5.6**
JNK				*e*S	**Sn**	**10 57 47.7**	**-3.8**
JBT2	**Biratori 2 2.63 315**			*e*S	**Sn**	**10 57 51.3**	**-0.3**
JANG	**Nango 2.65 258**			S	**Sn**	**10 57 48.4**	**-3.6**
JFR	**Furan 2.80 323**			*e*S	**Sn**	**10 57 53.4**	**-2.3**
JOT	**Ohata 2.95 280**			*e*S	**Sn**	**10 57 56.8**	**-2.6**
JKB	**Kayabe 3.06 289**			*e*S	**Sn**	**10 58 00.4**	**-1.8**
JTKR	**Abashiri--Toko 3.10 346**			*e*S	**Sn**	**10 58 01.1**	**-2.0**
JOM	**Ohasama 3.15 243**			P	**Pn**	**10 57 26.2**	**-1.7**
JOM				*e*S	**Sn**	**10 58 00.6**	**-3.6**
JEW	**Eniwo 3.20 307**			*e*S	**Sn**	**10 58 05.3**	**-0.2**
JMK	**Ichinoseki 3.48 236**			*e*S	**Sn**	**10 58 08.1**	**-4.2**
ASAJ	**Asahikawa 3.59 332**			Pn	**Pn**	**10 57 32.9**	**-1.1**
	8.0nm,0.3s,baz=184,slow=16,SNR=12						
ASAJ				Sn	**Sn**	**10 58 15.8**	**+0.6**
	15nm,0.3s,baz=208,slow=33,SNR=7.8						
YSS	**Yuzh-Sakhalins 6.19 346**			*e*Pn	**Pn**	**10 58 08.8**	**-1.0**
MAJO	**Matsushiro 6.85 232**			*e*Pn	**Pn**	**10 58 16.3**	**-2.5**
MAT	**Matsushiro 6.85 232**			P	**Pn**	**10 58 17.5**	**-1.3**
MJAR	**Matsushiro Arr 6.85 232**			Pn	**Pn**	**10 58 15.4**	**-3.4**
	1.7nm,0.3s,baz=39,slow=11,SNR=11						
USRK	**Ussuriysk Ar. 10.07 293**			Pn	**Pn**	**10 59 02.3**	**-0.6**
	0.5nm,0.3s,baz=99,slow=16,SNR=4.0						
KSRS	**Korea Array 13.63 261**			Pn	**Pn**	**10 59 52.0**	**+0.4**
	0.1nm,0.3s,baz=68,slow=14,SNR=2.9						
JNU	**Nakatsue 13.66 240**			Pn	**Pn**	**10 59 50.8**	**-1.3**
	0.3nm,0.3s,baz=35,slow=8.8,SNR=3.0						
KSAR	**Wonju Array Be 13.66 261**			Pn	**Pn**	**10 59 52.0**	**-0.1**
YAK	**Yakutsk 23.02 342**			*e*P	**P**	**11 01 41.9**	**-0.6**
	32nm,1.4s						
SONM	**Songino Array 28.14 297**			P	**P**	**11 02 30.7**	**+1.0**
	6.9nm,1.0s,baz=68,slow=8.6,SNR=3.5						
H11N2	**WAKE ISLAND Hy 28.27 132**			T	T	11 32 04.6	
	baz=327						
H11N1	**WAKE ISLAND Hy 28.28 132**			T	T	11 32 10.6	
	baz=327						
H11N3	**WAKE ISLAND Hy 28.29 132**			T	T	11 32 07.6	
	baz=327						
KDAK	**Kodiak Island 42.38 45**			P	**P**	**11 04 31.3**	**-0.1**
	13nm,1.0s,baz=316,slow=10.0,SNR=3.6						
ILAR	**Eielson Array 44.72 34**			P	**P**	**11 04 50.5**	**+0.3**
	1.8nm,0.8s,baz=264,slow=5.7,SNR=5.9						
KURK	**Kurchatov 45.76 306**			P	**P**	**11 04 59.1**	**+0.5**
	62nm,1.5s						
KURBB	**Kurchatov Arra 45.84 306**			P	**P**	**11 04 59.1**	**-0.2**
	5.8nm,0.8s,baz=62,slow=12,SNR=4.6						
EGAK	**Eagle 47.17 34**			*e*P	**P**	**11 05 11.1**	**+1.6**
BVAR	**Borovoye Array 50.02 311**			P	**P**	**11 05 32.2**	**+0.6**
	2.4nm,0.7s,baz=68,slow=9.5,SNR=3.1						
BRVK	**Borovoye 50.08 311**			*e*P	**P**	**11 05 31.1**	**-1.0**
	61nm,0.8s						
RES	**Resolute Bay 58.11 16**			P	**P**	**11 06 30.8**	**+0.6**
	7.7nm,0.7s,baz=320,slow=6.4,SNR=9.2						
YKA	**Yellowknife Ar 59.05 32**			P	**P**	**11 06 37.5**	**+0.6**
	10.0nm,0.8s,baz=300,slow=6.3,SNR=4.3						
WRA	**Warramunga Arr 61.38 191**			P	**P**	**11 06 52.7**	**-0.6**
	14nm,1.0s,baz=11,slow=7.3,SNR=13						
ASAR	**Alice Springs 65.10 191**			P	**P**	**11 07 17.9**	**0.0**
	2.4nm,0.7s,baz=15,slow=6.1,SNR=6.5						
YBH	**Yreka Blue Hor 65.82 55**			P	**P**	**11 07 23.9**	**+1.2**
	2.2nm,0.9s,baz=3.3,slow=9.4,SNR=4.3						
FINES	**FINESS Array B 66.60 333**			P	**P**	**11 07 27.4**	**+0.2**
	3.3nm,0.6s,baz=46,slow=8.2,SNR=4.5						
AFI	**Afiamalu 67.72 134**			P	**P**	**11 07 35.0**	**+0.1**
	7.2nm,0.5s,baz=62,slow=15,SNR=2.6						
KBZ	**Khabaz 70.40 311**			P	**P**	**11 07 52.6**	**+1.5**
	5.4nm,0.8s,baz=46,slow=6.9,SNR=4.5						
NVAR	**Mina Array Bea 70.49 56**			P	**P**	**11 07 53.8**	**+1.6**
	1.5nm,0.8s,baz=290,slow=6.3,SNR=5.0						
NOA	**NORSAR Array B 71.59 338**			P	**P**	**11 07 57.9**	**-0.3**
	2.3nm,0.8s,baz=36,slow=6.1,SNR=3.5						
HFS	**Hagfors 71.61 337**			P	**P**	**11 07 58.4**	**+0.1**
	2.2nm,0.7s,baz=146,slow=11,SNR=3.7						
AKASG	**Malin Array Be 72.83 323**			P	**P**	**11 08 05.6**	**-0.2**
	3.1nm,0.5s,baz=42,slow=6.3,SNR=9.1						
PDAR	**Pinedale Array 72.99 48**			P	**P**	**11 08 07.5**	**+0.4**
	0.8nm,0.6s,baz=244,slow=1.9,SNR=6.3						
BRTR	**Keskin Array B 78.25 313**			P	**P**	**11 08 38.2**	**+1.0**
	1.7nm,0.9s,baz=70,slow=4.0,SNR=3.3						
EKA	**Eskdalemuir Ar 80.29 342**			P	**P**	**11 08 48.4**	**+0.6**
	0.7nm,0.5s,baz=34,slow=5.8,SNR=4.0						
TXAR	**Lajitas Array 85.60 55**			P	**P**	**11 09 16.4**	**+0.5**
	2.7nm,1.1s,baz=298,slow=3.6,SNR=7.1						
TORD	**Torodi Ar. Bea 116.32 319**			PKP	**PKPdf**	**11 15 21.2**	**+0.1**
	0.3nm,0.5s,baz=20,slow=2.7,SNR=2.8						
LPAZ	**La Paz 142.35 59**			PKP	**PKPdf**	**11 16 12.4**	**+1.6**
	1.2nm,0.7s,baz=227,slow=7.2,SNR=2.8						
SNAA	**Sanae 145.30 197**			PKPbc	**PKPbc**	**11 16 13.0**	**-0.6**
	8.7nm,0.8s,baz=178,slow=9.4,SNR=8.4						
SIV	**San Ignacio 146.47 50**			PKPbc	**PKPbc**	**11 16 18.9**	**+0.2**
	5.8nm,0.6s,baz=306,slow=2.9,SNR=10						
PLCA	**Paso Flores 153.28 101**			PKP	**PKPdf**	**11 16 28.4**	**+1.1**
	0.9nm,0.7s,baz=243,slow=4.5,SNR=2.9						
PLCA				PKPbc	**PKiKP**	**11 16 35.1**	**+0.1**
	1.8nm,1.0s,baz=295,slow=9.9,SNR=3.6						
PLCA				PKPab	**sPKPbc**	**11 16 48.8**	**-1.5**
	1.7nm,0.8s,baz=280,slow=5.6,SNR=4.1						

*NIED **14** 10:57:00, 40°.70N×145°.00E, h8km, Mw5.5 Best double couple: M0 2.15000×10^17 NP1:φs 14.00000°, δ32.00000°, λ-99.00000°. NP2:φs 204.00000°, δ58.00000°, λ-85.00000°.*
*IDC **14** 10:57:38.0±0.3, 40°.73N×144°.91E, h0km, mb5.3/60, mb1 5.4/67, mb1mx5.3/72, mbtmp5.3/67, ML4.7/6, MS5.2/1, Ms1 5.2/1, ms1mx4.4/73, Error ellipse: s-maj=8.4km s-min=6.9km az=98.0*
*BJI **14** 10:57:39.2, 40°.80N×144°.61E, h10km, mb5.4/63, mB6.1/25, Ms5.7/45, Ms7 5.6/43*
*JMA **14** 10:57:39.8±0.2, 40°.71N×144°.96E, h46km, M5.5*
JMA Felt II J1.
*MOS **14** 10:57:39.7±0.9, 40°.77N×144°.93E, h33km, mb5.9/165, MS5.2/9, Error ellipse: s-maj=8.5km s-min=5.1km az=97.6*
*ISCJB **14** 10:57:39.3±0.1, 40°.76N±0°.01×144°.84E±0°.01, h18km, mb5.6/510, Error ellipse: s-maj=2.1km s-min=1.5km az=173.5*
*NEIC **14** 10:57:40.1±1.2, 40°.76N×144°.81E, h12km±7km, mb5.6/295, Error ellipse: s-maj=2.6km s-min=1.8km az=136.0*
NEIC Felt at Misawa. Recorded [2 JMA] in Aomori and Iwate.
ISC 14 10:57:40.2±0.5, 40°.78N±0°.03×144°.91E±0°.03, h15km±3km, n1679, σ1§16/1799, mb5.7/518, 33C-79D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo 1.81 314**			*e*P	**Pn**	**10 58 10.3**	**-0.4**
ERM	**Erimo 1.81 314**			*e*Pn	**Pn**	**10 58 10.6**	**-0.2**
ERM				*e*Sn	**Sn**	**10 58 31.9**	**-1.4**
JEM	**Erimo 1.81 314**			P	**Pn**	**10 58 10.6**	**-0.2**
JEM				*e*S	**Sn**	**10 58 31.9**	**-1.5**
JCH	**Churui 2.17 328**			P	**Pn**	**10 58 15.4**	**-0.3**
JCH				*e*S	**Sn**	**10 58 40.3**	**-2.1**
JNBK	**Urakawa-nobuka 2.21 314**			P	**Pn**	**10 58 17.0**	**+0.7**
JNBK				S	**Sn**	**10 58 43.5**	**+0.2**
JAK	**Akkeshi 2.22 356**			P	**Pn**	**10 58 16.1**	**-0.4**
JAK				*e*S	**Sn**	**10 58 42.7**	**-0.9**
JOB	**Onbets 2.27 340**			P	**Pn**	**10 58 18.1**	**+1.0**
JOB				*e*S	**Sn**	**10 58 44.9**	**+0.1**
JANG	**Nango 2.62 262**			P	**Pn**	**10 58 20.4**	**-1.5**
JANG				*e*S	**Sn**	**10 58 48.7**	**-4.7**
JAR	**Ashorobuto 2.66 342**			P	**Pn**	**10 58 22.2**	**-0.2**
JAR				S	**Sn**	**10 58 52.6**	**-1.8**
NEM2	**Nemuro 2 2.66 13**			P	**Pn**	**10 58 21.7**	**-0.8**
NEM2				*e*S	**Sn**	**10 58 51.2**	**-3.2**
JBT2	**Biratori 2 2.76 317**			P	**Pn**	**10 58 24.7**	**+0.8**
JBT2				*e*S	**Sn**	**10 58 57.3**	**+0.4**
JFR	**Furan 2.94 325**			P	**Pn**	**10 58 26.4**	**0.0**
JFR				*e*S	**Sn**	**10 58 59.5**	**-2.0**
JOT	**Ohata 2.98 283**			P	**Pn**	**10 58 26.5**	**-0.4**
JOT				*e*S	**Sn**	**10 58 58.8**	**-3.5**
GLVR	**Golovnino 2.99 9**			*e*P	**Pn**	**10 58 26.6**	**-0.5**
GLVR				*e*S	**Sn**	**10 59 00.6**	**-2.1**
JOM	**Ohasama 3.06 246**			P	**Pn**	**10 58 27.2**	**-0.9**
JOM				S	**Sn**	**10 58 59.9**	**-4.5**
JKB	**Kayabe 3.12 292**			P	**Pn**	**10 58 29.1**	**+0.3**
JKB				*e*S	**Sn**	**10 59 03.1**	**-2.7**
JRA	**Rausu 3.16 3**			P	**Pn**	**10 58 29.1**	**-0.3**
JRA				S	**Sn**	**10 59 04.8**	**-2.0**
GRPR	**Tuman 3.27 11**			*e*P	**Pn**	**10 58 30.0**	**-0.9**
GRPR				*e*S	**Sn**	**10 59 06.1**	**-3.5**
JTKR	**Abashiri--Toko 3.27 347**			P	**Pn**	**10 58 31.5**	**+0.6**
JTKR				S	**Sn**	**10 59 09.1**	**-0.5**
JEW	**Eniwo 3.31 310**			P	**Pn**	**10 58 32.5**	**+1.1**
JEW				S	**Sn**	**10 59 10.8**	**+0.4**
YUK	**Yuzh-Kuril'sk 3.33 12**			*c iP*	**Pn**	**10 58 30.5**	**-1.2**
YUK				*i* S	**Sn**	**10 59 06.9**	**-4.1**
YUK				pmax	pmax		
	comp=Z,5μm,0.3s						
YUK				pmax	pmax		
	comp=N,458nm,0.2s						
YUK				pmax	pmax		
	comp=E,820nm,0.2s						
YUK				smax	smax		
	comp=N,17μm,0.5s						
YUK				smax	smax		
	comp=E,19μm,0.4s						
LAGR	**Lagunnoye 3.34 11**⇑			*i*P	**Pn**	**10 58 31.5**	**-0.3**
LAGR				*i* S	**Sn**	**10 59 08.2**	**-3.0**
JMK	**Ichinoseki 3.37 238**			P	**Pn**	**10 58 31.1**	**-1.2**
JMK				S	**Sn**	**10 59 07.6**	**-4.5**
SHO	**Shikotan 3.40 24**			*d iP*	**Pn**	**10 58 30.7**	**-2.0**
SHO				*i* S	**Sn**	**10 59 07.3**	**-5.5**
SHO				pmax	pmax		
	comp=Z,1μm,0.5s						
SHO				pmax	pmax		
	comp=N,768nm,0.4s						
SHO				pmax	pmax		
	comp=E,1μm,0.5s						
SHO				smax	smax		
	comp=N,4μm,0.5s						
SHO				smax	smax		
	comp=N,10μm,0.4s						
JKK2	**Kamakawa 2 3.48 333**			S	**Sn**	**10 59 16.2**	**+1.4**
ASAJ	**Asahikawa 3.75 334**			Pn	**Pn**	**10 58 38.2**	**+0.7**
	comp=N,60nm,0.3s,baz=201,slow=17,SNR=28						
ASAJ				Sn	**Sn**	**10 59 21.3**	**0.0**
	comp=N,100nm,0.3s,baz=203,slow=15,SNR=4.0						
ASAJ	**Asahikawa 3.75 334**			P	**Pn**	**10 58 38.2**	**+0.7**
ASAJ						10 59 21.3	
ASAJ				pmax	pmax		
	comp=Z,60nm,0.3s						
ASAJ				smax	smax		
	comp=N,100nm,0.3s						
ASAJ	**Asahikawa 3.75 334**			*e*Pn	**Pn**	**10 58 37.8**	**+0.4**
ASAJ				*e*Sn	**Sn**	**10 59 22.5**	**+1.2**
KUR	**Kuril'sk 4.95 25**			*d iP*	**Pn**

KLR	**Kul'dur**	**12.56**	**317**	Pn	**Pn**	**11 00 38.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=123,slow=13,SNR=8.2						
KLR				Sn	**Sn**	**11 03 01.9**	**+4.1**
	baz=115,slow=19,SNR=3.0						
KLR	**Kul'dur**	**12.56**	**317**	*ce*P	**Pn**	**11 00 38.1**	**-0.1**
KLR	**Kul'dur**	**12.56**	**317**	Pn	**Pn**	**11 00 38.4**	**+0.2**
KLR				Sn	**Sn**	**11 03 01.9**	**+4.1**
SKR	**Severo-Kuril's**	**12.61**	**34**	*e*P	**Pn**	**11 00 37.1**	**-1.8**
SKR				*e*S	**Sn**	**11 02 51.9**	**-7.1**
SKR				pmax	pmax		
	comp=Z,241nm,0.6s						
SKR				MLR	MLR		
	comp=Z,37µm,12.0s						
SKR				MLR	MLR		
	comp=Z,32µm,12.0s						
NKL	**Nikolayevsk**	**12.71**	**348**	*e*P	**Pn**	**11 00 39.2**	**-1.0**
NKL				pmax	pmax		
	comp=N,130nm,1.3s						
NKL				pmax	pmax		
	comp=E,33nm,1.3s						
NKL				pmax	pmax		
	comp=Z,190nm,1.3s						
JNU	**Nakatsue**	**13.56**	**240**	Pn	**Pn**	**11 00 49.9**	**-2.2**
	comp=Z,3.7nm,0.3s,baz=61,slow=6.3,SNR=20						
JNU	**Nakatsue**	**13.56**	**240**	*e*Pn	**Pn**	**11 00 49.9**	**-2.2**
KSRS	**Korea Array**	**13.60**	**261**	Pn	**Pn**	**11 00 52.2**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=72,slow=13,SNR=12						
KSRS				Sn	**Sn**	**11 03 25.9**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=71,slow=24,SNR=4.5						
KSRS				PcP	**PcP**	**11 06 18.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=50,slow=0.9,SNR=5.3						
KSRS				LR	LR	11 06 21.8	
	comp=Z,10µm,19.1s,baz=34,slow=38						
KSRS	**Korea Array**	**13.60**	**261**	P	**Pn**	**11 00 52.3**	**-0.2**
KSRS						11 03 25.9	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				smax	smax		
	comp=N,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,10µm,19.2s						
KS01	**Wonju Array Si**	**13.61**	**261**	*e*Pn	**Pn**	**11 00 51.3**	**-1.4**
KS15	**Wonju Array Si**	**13.63**	**261**	*e*Pn	**Pn**	**11 00 52.0**	**-1.0**
KSAR	**Wonju Array Be**	**13.63**	**261**	P	**Pn**	**11 00 52.3**	**-0.7**
KSAR						11 03 25.9	
KSAR	**Wonju Array Be**	**13.63**	**261**	Pn	**Pn**	**11 00 52.2**	**-0.7**
KSAR				Sn	**Sn**	**11 03 25.9**	**+1.8**
KSAR				PcP	**PcP**	**11 06 18.9**	**+0.9**
CBIJ	**Chichi jima**	**13.83**	**190**	*e*Pn	Pn	11 00 50.0	-5.7
CBIJ				*e*Sn	Sn	11 03 11.9	-17
JCJ	**Chichijima**	**13.83**	**190**	Pn	Pn	11 00 50.1	-5.6
	comp=Z,22nm,0.3s,baz=272,slow=23,SNR=11						
JCJ				Sn	Sn	11 03 12.9	-16
	comp=Z,50nm,0.3s,baz=299,slow=22,SNR=7.2						
TJN	**Taejon**	**14.41**	**258**	*e*P	**Pn**	**11 01 02.1**	**-1.4**
INCN	**Inchon**	**14.56**	**263**	Pn	**Pn**	**11 01 04.2**	**-1.5**
CN2	**Changchun**	**14.72**	**288**	*e*P	**Pn**	**11 01 05.6**	**-2.1**
CN2				*es*P	P	11 01 12.0	-1.8
CN2				pmax	pmax		
	comp=Z,60nm,1.2s						
PEA0B	**Petropavlovsk-**	**15.08**	**31**	*e*Pn	**Pn**	**11 01 08.6**	**-4.0**
	comp=Z,113nm,1.1s						
PETK	**Petropavlovsk-**	**15.08**	**31**	Pn	**Pn**	**11 01 07.6**	**-5.0**
	comp=Z,2.4nm,0.3s,baz=170,slow=12,SNR=20						
PETK	**Petropavlovsk-**	**15.08**	**31**	P	**Pn**	**11 01 07.6**	**-5.0**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**15.08**	**31**	*e*Pn	**Pn**	**11 01 07.0**	**-5.6**
PET	**Petropavlovsk**	**15.40**	**33**	*e*P	**Pn**	**11 01 10.9**	**-5.9**
PET				pmax	pmax		
	comp=Z,125nm,1.2s						
PET	**Petropavlovsk**	**15.40**	**33**	*e*Pn	**Pn**	**11 01 12.3**	**-4.4**
	comp=Z,155nm,1.2s						
SNY	**Shenyang**	**16.06**	**281**	⇓P	**Pn**	**11 01 24.5**	**-0.9**
SNY				pmax	pmax		
	comp=Z,73nm,2.2s						
ZEA	**Zeya**	**17.59**	**323**	*e*P	**Pn**	**11 01 44.0**	**-0.6**
ZEA				pmax	pmax		
	comp=N,120nm,1.0s						
ZEA				pmax	pmax		
	comp=E,110nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,210nm,1.0s						
DL2	**Dalian**	**17.97**	**272**	⇓*i*P	**Pn**	**11 01 48.3**	**-1.1**
DL2				S	**Sn**	**11 05 05.4**	**-4.0**
DL2				LR	LR		
	comp=Z,16µm,14.3s						
DL2				LR	LR		
	comp=Z,15µm,14.5s						
MA2	**Magadan**	**19.17**	**9**	P	**P**	**11 02 02.2**	**-0.7**
	comp=Z,2.9nm,0.3s,baz=187,slow=13,SNR=16						
MA2				S	**S**	**11 05 41.8**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=359,slow=8.9,SNR=2.3						
MA2	**Magadan**	**19.17**	**9**	P	**P**	**11 02 02.2**	**-0.7**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MA2	**Magadan**	**19.17**	**9**	P	**P**	**11 02 02.2**	**-0.7**
MA2				S	**S**	**11 05 41.8**	**+2.1**
JOW	**Kunigami**	**19.56**	**230**	*e*P	**P**	**11 02 06.3**	**-1.1**
	comp=Z,359nm,1.3s						
HIA	**Hailar**	**19.64**	**304**	*e*P	**P**	**11 02 07.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,53nm,0.7s						
HIA	**Hailar**	**19.64**	**304**	*e*P	**P**	**11 02 07.8**	**-0.4**
	comp=Z,53nm,0.7s						
BJI	**Beijing**	**21.86**	**278**	P	**P**	**11 02 34.0**	**+1.9**
BJI				pmax	pmax		
	comp=Z,110nm,0.8s						
BJT	**Baijiatuau**	**21.86**	**277**	*e*P	**P**	**11 02 30.2**	**-2.1**
BJT	**Baijiatuau**	**21.86**	**277**	*e*P	**P**	**11 02 30.2**	**-2.1**
TIA	**Tai'an**	**22.18**	**267**	P	**P**	**11 02 32.8**	**-2.9**
SEY	**Seymchan**	**22.63**	**9**	P	**P**	**11 02 39.2**	**-1.1**
	comp=Z,33nm,0.4s,baz=186,slow=9.6,SNR=87						
SEY				S	**S**	**11 06 44.3**	**-3.1**
	comp=Z,5.9nm,0.9s,baz=45,slow=13,SNR=3.3						
SEY	**Seymchan**	**22.63**	**9**	P	**P**	**11 02 39.2**	**-1.1**
SEY				S	**S**	**11 06 44.3**	**-3.1**
SEY				pmax	pmax		
	comp=Z,33nm,0.4s						
SEY				smax	smax		
	comp=N,6.0nm,0.9s						
SEY	**Seymchan**	**22.63**	**9**	P	**P**	**11 02 39.1**	**-1.1**
SEY				S	**S**	**11 06 44.3**	**-3.1**
NJ2	**Nanjing**	**22.64**	**256**	*e*P	**P**	**11 02 39.8**	**-0.8**
NJ2				pP	**pP**	**11 02 43.6**	**-1.2**
NJ2				sP	**sP**	**11 02 48.9**	**+2.2**
NJ2				pmax	pmax		
	comp=N,61nm,0.8s						
YAK	**Yakutsk**	**23.19**	**342**	P	**P**	**11 02 45.3**	**-0.7**
	comp=N,163nm,0.5s,baz=46,slow=3.4,SNR=18						
YAK				S	**S**	**11 06 53.4**	**-3.6**
	comp=N,86nm,0.9s,baz=100,slow=21,SNR=13						
YAK	**Yakutsk**	**23.19**	**342**	*e*P	**P**	**11 02 43.2**	**-2.8**
YAK				*e*S	**S**	**11 06 51.2**	**-5.8**
YAK				pmax	pmax		
	comp=Z,85nm,0.9s						
YAK				pmax	pmax		
	comp=E,17nm,1.0s						
YAK				pmax	pmax		
	comp=N,30nm,1.0s						
YAK				pmax	pmax		
	comp=Z,92nm,0.9s						
YAK				smax	smax		
	comp=E,838nm,1.7s						
YAK				smax	smax		
	comp=N,485nm,1.4s						
YAK	**Yakutsk**	**23.19**	**342**	*e*P	**P**	**11 02 43.0**	**-3.0**
	comp=N,220nm,0.6s						
YAK				S	**S**	**11 06 53.4**	**-3.6**
CIT	**Chita**	**24.18**	**308**	*e*P	**P**	**11 02 54.0**	**-1.8**
CIT				*e*		11 03 05.0	
CIT				*e*		11 03 08.8	
CIT				*e*		11 03 31.4	
CIT				*e*S	**S**	**11 07 10.8**	**-2.6**
CIT				pmax	pmax		
	comp=Z,619nm,2.1s						
TATO	**Taipei**	**25.09**	**238**	*e*P	**P**	**11 03 03.9**	**-0.3**
	comp=Z,233nm,1.0s						
TIY	**Taiyuan**	**25.26**	**274**	*e*P	**P**	**11 03 07.0**	**+1.2**
YHNB	**Yeheng**	**25.38**	**238**	*e*P	**P**	**11 03 08.1**	**+1.1**
	comp=Z,125nm,1.0s						
NACB	**Ninganchiao**	**25.59**	**237**	*e*P	**P**	**11 03 09.2**	**+0.5**
	comp=Z,82nm,1.0s						
BOD	**Bodaibo**	**26.06**	**321**	*e*P	**P**	**11 03 12.6**	**-0.2**
BOD				pmax	pmax		
	comp=Z,154nm,1.3s						
SSLB	**Suanglung**	**26.27**	**237**	*e*P	**P**	**11 03 15.0**	**0.0**
	comp=Z,72nm,0.9s						
YULB	**Yu-li**	**26.34**	**236**	*e*P	**P**	**11 03 16.3**	**+0.7**
	comp=Z,87nm,1.0s						
WHN	**Wuhan**	**26.73**	**257**	⇓*i*P	**P**	**11 03 19.0**	**0.0**
WHN				sP	**sP**	**11 03 30.4**	**+5.1**
WHN				pmax	pmax		
	comp=Z,380nm,1.2s						
TPUB	**Ta-pu**	**26.83**	**237**	*e*P	**P**	**11 03 19.9**	**-0.2**
	comp=Z,125nm,1.0s						
TWG	**Pinlang**	**26.90**	**236**	*e*P	**P**	**11 03 22.0**	**+1.4**
	comp=Z,2µm,1.4s						
QZH	**Quanzhou**	**27.02**	**242**	⇑*i*P	**P**	**11 03 22.8**	**+1.1**
ULN	**Ulaanbaatar**	**27.78**	**298**	*ce*P	**P**	**11 03 28.4**	**-0.1**
ULN				pmax	pmax		
	comp=Z,337nm,2.5s						
ULN	**Ulaanbaatar**	**27.78**	**298**	*e*P	**P**	**11 03 29.2**	**+0.7**
	comp=Z,278nm,1.3s						
ULN	**Ulaanbaatar**	**27.78**	**298**	P	**P**	**11 03 33.0**	**+4.5**
	SNR=11						
ULN	**Ulaanbaatar**	**27.78**	**298**	P	**P**	**11 03 33.0**	**+4.5**
	SNR=11						
H11N2	**WAKE ISLAND Hy**	**28.16**	**132**	T	T	11 33 11.2	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.17**	**132**	T	T	11 33 09.8	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.17**	**132**	T	T	11 33 12.1	
	baz=320						
SONA1	**Songino Array**	**28.22**	**298**	*e*P	**P**	**11 03 32.7**	**+0.2**
SONM	**Songino Array**	**28.22**	**297**	P	**P**	**11 03 33.1**	**+0.7**
	comp=Z,20nm,0.5s,baz=77,slow=8.3,SNR=28						
SONM	**Songino Array**	**28.22**	**297**	P	**P**	**11 03 33.1**	**+0.7**
SONM				pmax	pmax		
	comp=Z,20nm,0.5s						
SONM	**Songino Array**	**28.22**	**297**	P	**P**	**11 03 33.1**	**+0.7**
H11S1	**WAKE ISLAND Hy**	**29.03**	**133**	T	T	11 34 09.5	
	baz=325,slow=76,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**29.03**	**133**	T	T	11 34 07.3	
	baz=325,slow=76,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**29.04**	**133**	T	T	11 34 13.4	
	baz=325,slow=76,SNR=8.7						
XAN	**Xi'an**	**29.22**	**268**	P	**P**	**11 03 41.3**	**0.0**
XAN				pP	sP	11 03 47.0	-0.7
XAN				sP	pP	11 03 49.9	+4.1
XAN				S	**S**	**11 08 28.8**	**-4.7**
XAN				pmax	pmax		
	comp=Z,50nm,1.6s						
BILL	**Bilibino**	**29.67**	**16**	*d*P	**P**	**11 03 45.4**	**+0.4**
BILL				*e*		11 04 41.1	
BILL				*e*PPP	PPP	11 04 49.9	
BILL				*e*		11 06 48.8	
BILL				*e*S	**S**	**11 08 42.5**	**+2.7**
BILL				pmax	pmax		
	comp=Z,203nm,1.3s						
IRK	**Irkutsk**	**29.84**	**306**	*e*P	**P**	**11 03 45.2**	**-1.4**
IRK				pmax	pmax		
	comp=Z,253nm,2.3s						
TLY	**Talaya**	**30.17**	**305**	P	**P**	**11 03 50.0**	**+0.4**
	comp=Z,20nm,1.0s,baz=101,slow=6.2,SNR=6.3						
TLY				S	S	11 08 59.3	+11
	comp=Z,1.3nm,0.5s,baz=271,slow=21,SNR=2.8						
TLY	**Talaya**	**30.17**	**305**	*e*P	**P**	**11 03 50.5**	**+0.9**
TLY				pmax	pmax		
	comp=Z,64nm,1.1s						
TLY	**Talaya**	**30.17**	**305**	*e*P	**P**	**11 03 50.4**	**+0.9**
TLY				*ep*P	**pP**	**11 03 50.6**	**-3.5**
TLY				S	S	11 08 59.3	+11
ZAK	**Zakamensk**	**30.32**	**303**	*e*P	**P**	**11 03 49.8**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,63nm,1.5s						
ENH	**Enshi**	**30.49**	**261**	*e*P	**P**	**11 03 52.0**	**-0.7**
	comp=Z,78nm,0.8s						
MOY	**Mondy**	**31.82**	**305**	*e*P	**P**	**11 04 05.1**	**+0.9**
MOY				pmax	pmax		
	comp=Z,238nm,2.2s						
TIXI	**Tiksi**	**31.97**	**350**	P	**P**	**11 04 05.1**	**-0.1**
	comp=Z,23nm,0.9s,baz=138,slow=11,SNR=9.0						
TIXI	**Tiksi**	**31.97**	**350**	*ce*P	**P**	**11 04 04.4**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,24nm,1.0s						
TIXI	**Tiksi**	**31.97**	**350**	P	**P**	**11 04 05.1**	**-0.1**
LZH	**Lanzhou**	**32.29**	**275**	⇓P	**P**	**11 04 09.3**	**+0.7**
LZH				pP	sP	11 04 15.6	+0.7
LZH				sP	pP	11 04 20.1	+7.0
LZH				PP	**PnPn**	**11 05 14.8**	**-0.1**
LZH				S	**S**	**11 09 22.3**	**+0.5**
LZH				pmax	pmax		
	comp=Z,160nm,1.0s						
LZH				pmax	pmax		
	comp=Z,2µm,5.4s						
TGY	**Tagaytay City**	**33.82**	**225**	P	**P**	**11 04 22.7**	**+0.8**
	comp=Z,269nm,0.3s,baz=106,slow=3.5,SNR=6.7						
TGY	**Tagaytay City**	**33.82**	**225**	P	**P**	**11 04 22.7**	**+0.8**
TGY				pmax	pmax		
	comp=Z,269nm,0.3s						
TGY	**Tagaytay City**	**33.82**	**225**	P	**P**	**11 04 22.7**	**+0.8**
GAMB	**Gambell**	**34.10**	**33**	*e*P	**P**	**11 04 25.3**	**+1.5**
	comp=Z,20nm,1.0s						
GTA	**Gaotai**	**34.24**	**283**	⇓P	**P**	**11 04 26.1**	**+0.6**
GTA				pP	sP	11 04 32.0	+0.2
GTA				sP	pP	11 04 35.4	+5.4
GTA				PcP	**PcP**	**11 07 02.9**	**+1.0**
GTA				PcS	**PcS**	**11 10 48.4**	**+0.2**
GTA				pmax	pmax		
	comp=Z,140nm,1.0s						
CD2	**Chengdu**	**34.51**	**267**	P	**P**	**11 04 27.5**	**-0.3**
CD2				pP	sP	11 04 34.1	-0.1
CD2				PP	**PP**	**11 05 45.6**	**-0.4**
CD2				S	**S**	**11 09 54.9**	**-1.1**
CD2				pmax	pmax		
	comp=Z,80nm,0.6s						
CD2				pmax	pmax		
	comp=Z,680nm,6.4s						
GYA	**Guiyang**	**34.62**	**258**	⇑*i*P	**P**	**11 04 28.8**	**-0.1**
GYA				pP	sP	11 04 37.8	+2.6
GYA				PP	**PP**	**11 05 47.3**	**0.0**
GYA				PcP	**PcP**	**11 07 05.0**	**+1.9**
GYA				S	**S**	**11 09 55.4**	**-2.5**
GYA				ScP	**ScP**	**11 10 48.9**	**+1.1**
GYA				SS	**SnSn**	**11 12 07.3**	**-2.7**
GYA				ScS	**ScS**	**11 14 49.6**	**-1.5**
GYA				pmax	pmax		
	comp=Z,150nm,0.9s						
GYA				pmax	pmax		
	comp=Z,190nm,5.4s						
KMI	**Kunming**	**38.29**	**259**	P	**P**	**11 05 00.5**	**+0.2**
KMI				pP	pP	11 05 05.4	+0.5
KMI				sP	sP	11 05 08.0	+1.3
KMI				PP	**PnPn**	**11 06 32.1**	**+2.6**
KMI				S	**S**	**11 10 54.8**	**+0.6**
KMI				pmax	pmax		
	comp=Z,110nm,1.3s						
SVW2	**Sparrevohn**	**40.90**	**40**	*e*P	**P**	**11 05 23.4**	**+2.0**
	comp=Z,94nm,1.0s						
ZAA0	**Zalesovo Array**	**41.53**	**309**	*e*P	**P**	**11 05 27.2**	**+0.5**
	comp=Z,83nm,1.0s						
ZALV	**Zalesovo Beam**	**41.53**	**309**	P	**P**	**11 05 27.2**	**+0.5**
	comp=Z,58nm,0.9s,baz=84,slow=7.6,SNR=26						
ZALV				PcP	**PcP**	**11 07 24.9**	**+1.0**
	comp=Z,10nm,0.5s,baz=94,slow=2.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.53**	**309**	*e*P	**P**	**11 05 26.6**	**-0.1**
ZALV						11 07 24.9	
ZALV	**Zalesovo Beam**	**41.53**	**309**	*e*P	**P**	**11 05 26.6**	**-0.1**
ZALV				PcP	**PcP**	**11 07 24.9**	**+1.0**
WMQ	**Urumqi**	**41.71**	**294**	P	**P**	**11 05 29.1**	**+0.7**
WMQ				pP	pP	11 05 33.8	+0.8
WMQ				sP	sP	11 05 40.3	+5.5
WMQ				pmax	pmax		
	comp=Z,160nm,1.1s						
NVS	**Novosibirsk**	**42.34**	**311**	*e*P	**P**	**11 05 34.1**	**+0.8**
NVS				*e*		11 07 18.4	
NVS				*e*S	**S**	**11 11 52.4**	**-1.2**
NVS				pmax	pmax		
	comp=E,110nm,1.5s						
NVS				pmax	pmax		
	comp=Z,173nm,1.5s						
NVS				smax	smax		
	comp=E,138nm,2.0s						
SKNT	**Sakolnakorn**	**42.45**	**248**	P	**P**	**11 05 34.1**	**-0.5**
	comp=E,48nm,1.1s						
KDAK	**Kodiak Island**	**42.51**	**45**	P	**P**	**11 05 34.5**	**-0.1**
	comp=E,158nm,0.9s,baz=283,slow=6.2,SNR=48						
KDAK	**Kodiak Island**	**42.51**	**45**	P	**P**	**11 05 34.5**	**-0.1**
KDAK				pmax	pmax		
	comp=Z,158nm,1.0s						
KDAK	**Kodiak Island**	**42.51**	**45**	*e*P	**P**	**11 05 34.9**	**+0.3**
	comp=Z,322nm,1.3s						
KDAK	**Kodiak Island**	**42.51**	**45**	*e*P	**P**	**11 05 34.9**	**+0.3**
	comp=Z,400nm,1.1s						
PPLA	**Purkeypile**	**42.54**	**37**	*e*P	**P**	**11 05 37.0**	**+2.0**
	comp=Z,98nm,0.9s						
PPLA	**Purkeypile**	**42.54**	**37**	*e*P	**P**	**11 05 36.9**	**+1.9**
	comp=Z,247nm,1.3s						
UBPT	**Khong Chiam**	**42.57**	**245**	P	P	**11 05 37.7**	**+2.1**
	comp=Z,192nm,1.1s						
CAST	**Castle Rocks**	**42.60**	**36**	*e*P	**P**	**11 05 37.2**	**+1.8**
	comp=Z,88nm,1.0s						
MYLDM	**Lahad Datu**	**42.63**	**221**	⇓P	**P**	**11 05 38.9**	**+2.9**
MYLDM	**Lahad Datu**	**42.63**	**221**	*e*P	**P**	**11 05 38.4**	**+2.4**
	comp=Z,324nm,1.2s						
MANU	**Manus Island**	**42.68**	**176**	*e*P	**P**	**11 05 35.5**	**-0.9**
	comp=Z,39nm,0.8s						
TNTI	**Ternate**	**42.88**	**206**	*e*P	**P**	**11 05 38.9**	**+0.8**
	comp=Z,774nm,1.3s						
SDKM	**Sandakan**	**42.90**	**223**	⇓P	**P**	**11 05 39.0**	**+0.7**
KKM	**Kota Kinabalu**	**43.07**	**224**	*e*P	**P**	**11 05 39.3**	**-0.5**
	comp=Z,100nm,1.3s						
KTH	**Kantishna Hill**	**43.12**	**36**	*e*P	**P**	**11 05 41.3**	**+1.7**
	comp=Z,213nm,1.2s						
MLY	**Manley**	**43.23**	**34**	*e*P	**P**	**11 05 42.1**	**+1.6**
	comp=Z,76nm,0.9s						
SUA	**Susitna One**	**43.23**	**39**	*e*P	**P**	**11 05 41.3**	**+0.7**
	comp=Z,56nm,0.8s						
BRLK	**Bradley Lake**	**43.25**	**42**	*e*P	**P**	**11 05 41.4**	**+0.7**
	comp=Z,48nm,0.5s						
TRF	**Thorofare Moun**	**43.41**	**36**	*e*P	**P**	**11 05 43.4**	**+1.4**
	comp=Z,82nm,1.2s						
COLD	**Coldfoot**	**43.55**	**31**	*e*P	**P**	**11 05 42.9**	**-0.1**
	comp=Z,77nm,1.4s						
KHON	**Khomkaen**	**43.70**	**249**	P	**P**	**11 05 45.3**	**+0.6**
	comp=Z,56nm,0.9s						
TSM	**Tawau**	**43.70**	**221**	⇑P	**P**	**11 05 45.8**	**+1.0**
RC01	**Rabbit Creek A**	**43.74**	**40**	*e*P	**P**	**11 05 45.1**	**+0.6**
	comp=Z,91nm,0.7s						
TOLK	**Toolik Lake Re**	**43.89**	**29**	P	**P**	**11 05 47.4**	**+1.7**
	baz=266						
SEW	**Seward**	**43.95**	**41**	*e*P	**P**	**11 05 46.0**	**-0.2**
	comp=Z,255nm,1.8s						
PMR	**Palmer**	**44.00**	**39**	*e*P	**P**	**11 05 47.0**	**+0.4**
PMR				pmax	pmax		
	comp=Z,139nm,1.3s						
PMR	**Palmer**	**44.00**	**39**	*e*P	**P**	**11 05 47.0**	**+0.4**
	comp=Z,139nm,1.3s						
MCK	**McKinley**	**44.01**	**36**	*e*P	**P**	**11 05 47.6**	**+0.9**
MCK				pmax	pmax		
	comp=Z,125nm,1.2s						
MCK	**McKinley**	**44.01**	**36**	*e*P	**P**	**11 05 47.6**	**+0.9**
	comp=Z,124nm,1.2s						
RND	**Reindeer**	**44.05**	**36**	*e*P	**P**	**11 05 47.7**	**+0.6**
RND				pmax	pmax		
	comp=Z,163nm,1.2s						
RND	**Reindeer**	**44.05**	**36**	*e*P	**P**	**11 05 47.7**	**+0.6**
	comp=Z,163nm,1.2s						
CMAI	**Chiengmai2**	**44.11**	**256**	P	**P**	**11 05 49.4**	**+1.2**
	comp=Z,550nm,1.6s						
MDM	**Murphy Dome**	**44.30**	**34**	*e*P	**P**	**11 05 50.6**	**+1.6**
	comp=Z,198nm,1.2s						
SML	**Sawmill**	**44.37**	**39**	*e*P	**P**	**11 05 50.6**	**+1.0**
SML				pmax	pmax		
	comp=Z,127nm,1.0s						
SML	**Sawmill**	**44.37**	**39**	*e*P	**P**	**11 05 50.6**	**+1.0**
	comp=Z,127nm,1.0s						
COLA	**College**	**44.46**	**34**	*e*P	**P**	**11 05 51.6**	**+1.4**
COLA				pmax	pmax		
	comp=Z,54nm,0.8s						
COLA	**College**	**44.46**	**34**	*e*P	**P**	**11 05 51.6**	**+1.4**
	comp=Z,54nm,0.8s						
CCB	**Clear Creek Bu**	**44.48**	**35**	*e*P	**P**	**11 05 51.3**	**+0.8**
	comp=Z,39nm,0.9s						
MK31	**Makanchi Array**	**44.54**	**300**	*i* P	**P**	**11 05 50.8**	**-0.4**
MK31				pmax	pmax		
	comp=Z,35nm,0.7s						
MKAR	**Makanchi Array**	**44.54**	**300**	P	**P**	**11 05 51.2**	**-0.1**
	comp=Z,46nm,0.9s,baz=86,slow=9.7,SNR=27						
MKAR				S	**S**	**11 12 29.3**	**+3.1**
	comp=Z,1.2nm,1.0s,baz=74,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**44.54**	**300**	P	**P**	**11 05 51.2**	**-0.1**
MKAR				S	**S**	**11 12 29.3**	**+3.1**
MKAR				pmax	pmax		
	comp=Z,47nm,0.9s						
MKAR				smax	smax		
	comp=N,1.0nm,1.0s						
MKAR	**Makanchi Array**	**44.54**	**300**	P	**P**	**11 05 51.2**	**-0.1**
MKAR				S	**S**	**11 12 29.3**	**+3.1**
LAMP	**Lampang**	**44.56**	**254**	P	**P**	**11 05 52.5**	**+0.9**
	comp=N,22nm,1.0s,comp=N,213nm						
CHAI	**Chaiyaphum**	**44.58**	**249**	P	**P**	**11 05 52.0**	**+0.2**
	comp=N,45nm,0.9s,comp=N,355nm						
LSA	**Lhasa**	**44.66**	**273**	*e*P	**P**	**11 05 52.7**	**-0.2**
LSA				pmax	pmax		
	comp=Z,28nm,0.6s						
LSA	**Lhasa**	**44.66**	**273**	*e*P	**P**	**11 05 52.7**	**-0.2**
	comp=Z,28nm,0.6s						
DHY	**Denali Highway**	**44.73**	**37**	*e*P	**P**	**11 05 53.2**	**+0.5**
	comp=Z,59nm,0.8s						
MAKZ	**Makanchi**	**44.75**	**300**	*i* P	**P**	**11 05 52.6**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,67nm,1.1s						
PHIT	**Phitsanulok**	**44.85**	**252**	P	**P**	**11 05 55.0**	**+1.1**
	comp=Z,56nm,1.1s,comp=Z,434nm						
HDA	**Harding Lake**	**44.86**	**35**	*e*P	**P**	**11 05 54.1**	**+0.7**
	comp=Z,65nm,0.8s						
IL1	**Eielson Array**	**44.87**	**34**	*e*P	**P**	**11 05 52.8**	**-0.7**
ILAR	**Eielson Array**	**44.87**	**34**	P	**P**	**11 05 54.0**	**+0.5**
	comp=Z,30nm,0.7s,baz=259,slow=5.7,SNR=82						
ILAR				PKPPKP	**P'P'df**	**11 37 35.1**	**-5.3**
	comp=Z,0.8nm,1.1s,baz=204,slow=8.6,SNR=3.2						
ILAR	**Eielson Array**	**44.87**	**34**	P	**P**	**11 05 54.1**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,30nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
**ILAR

comp=Z,226nm,1.2s
EYAK Cordova Ski Ar 45.73 40 *e*P P 11 06 02.1 +1.7
comp=Z,85nm,1.0s
HARP HAARP 45.81 38 *e*P P 11 06 02.7 +1.7
comp=Z,342nm,1.5s
KURK Kurchatov 45.86 306*c*eP P 11 06 01.3 -0.3
KURK pmax pmax
comp=Z,1µm,1.7s
KURK Kurchatov 45.86 306 *e*P P 11 06 00.8 -0.8
comp=Z,1µm,1.1s
KURBB Kurchatov Arra 45.94 306 P P 11 06 02.3 +0.1
comp=Z,86nm,0.9s,baz=79,slow=8.5,SNR=25
DOT Dot Lake 46.18 36 *e*P P 11 06 04.5 +0.5
comp=Z,111nm,0.6s
BMRM Bremner River 46.24 40 *e*P P 11 06 05.8 +1.3
comp=Z,79nm,0.9s
RAGM Ragged Mountai 46.28 40 *e*P P 11 06 06.9 +2.1
comp=Z,82nm,0.9s
MENT Mentasta 46.41 37 *e*P P 11 06 07.5 +1.7
comp=Z,119nm,1.3s
EGAK Eagle 47.32 34 *e*P P 11 06 13.5 +0.7
comp=Z,204nm,1.6s
PDGK Podgornoye 47.52 296 P P 11 06 11.0 -3.8
PDGK pmax pmax
comp=Z,58nm,1.5s
TDK Taldyqorghan 47.67 298 *i* P P 11 06 16.4 +0.5
comp=Z,857nm,1.1s
TDK eS S 11 13 13.0 +1.8
TDK LR LR 11 25 51.2
comp=Z,3µm,16.7s
UZB Uzynbulak 47.90 296⇑ *i*P P 11 06 17.9 +0.1
comp=Z,309nm,1.5s
UZB LR LR 11 27 00.9
comp=Z,2µm,14.2s
KPKS Kokpek 48.02 296 *i* P P 11 06 19.7 +1.0
comp=Z,293nm,1.7s
KPKS LR LR 11 27 25.4
comp=Z,1µm,12.3s
DAWY Dawson 48.18 35 *e*P P 11 06 20.9 +1.4
comp=Z,125nm,1.9s
SBUM Sibu 48.23 226 *e*P P 11 06 20.3 -0.2
comp=Z,47nm,1.1s
MDOK Medeo 49.24 297 *i* P P 11 06 28.2 0.0
comp=Z,304nm,1.7s
MDOK LR LR 11 26 28.0
comp=Z,5µm,14.2s
JIRN Jiri 49.44 274 *e*P P 11 06 30.2 0.0
comp=Z,396nm,1.3s
KUU Kurty 49.45 298 *i* P P 11 06 29.0 -0.6
comp=Z,324nm,1.2s
KUU LR LR 11 27 02.8
comp=Z,2µm,12.8s
GUN Gumba 49.55 274 *e*P P 11 06 30.9 0.0
HYT Haines Junctio 49.67 39 *e*P P 11 06 32.5 +1.3
comp=Z,316nm,1.2s
BRZS Berezniki 49.72 306 *i* P P 11 06 32.0 +0.5
comp=Z,145nm,1.1s
BRZS eS S 11 13 41.9 +2.0
BRZS LR LR 11 28 21.4
comp=Z,191nm,11.8s
INK Inuvik 49.81 29 P P 11 06 33.2 +1.4
comp=Z,68nm,0.5s,baz=292,slow=6.3,SNR=211
INK Inuvik 49.81 29 P P 11 06 33.2 +1.4
INK pmax pmax
comp=Z,68nm,0.5s
INK Inuvik 49.81 29 *e*P P 11 06 33.3 +1.4
comp=Z,81nm,0.6s
PMG Port Moresby 49.98 177 P P 11 06 33.9 +0.2
comp=Z,24nm,0.8s,baz=33,slow=4.7,SNR=7.4
PMG Port Moresby 49.98 177 P P 11 06 33.9 +0.2
PMG pmax pmax
comp=Z,24nm,0.8s
PMG Port Moresby 49.98 177 P P 11 06 33.9 +0.2
KKN Kakani 50.06 275 *e*P P 11 06 34.6 -0.1
comp=Z,292nm,1.1s
PKI Pulchoki 50.08 274 *e*P P 11 06 34.5 -0.5
comp=Z,365nm,1.4s
PKIN Phulchoki 50.09 274 *e*P P 11 06 35.3 +0.4
comp=Z,145nm,1.1s
KSM Kuching 50.10 228 *e*P P 11 06 35.1 +0.4
comp=Z,86nm,1.1s
BVAR Borovoye Array 50.14 311 P P 11 06 35.4 +0.7
comp=Z,30nm,0.5s,baz=80,slow=8.9,SNR=36
BVAR S S 11 13 45.9 +0.3
comp=Z,0.7nm,0.5s,baz=78,slow=14,SNR=4.0
BVAR Borovoye Array 50.14 311 P P 11 06 35.4 +0.7
BVAR S S 11 13 45.9 +0.3
BVAR pmax pmax
comp=Z,30nm,0.5s
BVAR smax smax
comp=N,1.0nm,0.5s
BVAR Borovoye Array 50.14 311 P P 11 06 35.4 +0.7
BVAR S S 11 13 45.9 +0.3
BRVK Borovoye 50.19 311 *e*P P 11 06 35.2 +0.2
BRVK pmax pmax
comp=Z,75nm,1.0s
BRVK Borovoye 50.19 311 *e*P P 11 06 35.2 +0.2
comp=Z,79nm,0.9s
BMNS Besmoynak 50.20 297 *e*P P 11 06 35.5 0.0
comp=Z,654nm,1.4s
BMNS LR LR 11 27 43.6
comp=Z,2µm,13.7s
DMN Daman 50.29 274 *e*P P 11 06 36.7 +0.2
comp=Z,803nm,1.8s
TKM2 Tokmak 2 50.32 297 *i* P P 11 06 36.8 +0.4
TKM2 pmax pmax
comp=Z,145nm,1.3s
GKN Gorkha 50.44 275 *e*P P 11 06 37.5 0.0
OTUK Ortayu 50.51 304 P P 11 06 37.2 -0.4
OTUK pmax pmax
comp=Z,131nm,1.2s
BTLS Baital 50.55 300 *i* P P 11 06 38.1 +0.2
comp=Z,279nm,1.8s
BTLS eS S 11 13 53.1 +1.5
DANN Dangsing 50.93 276 *e*P P 11 06 41.1 -0.2
WHY Whitehorse 50.96 39 *e*P P 11 06 42.7 +1.8
comp=Z,33nm,0.9s
SKAG Skagway 51.07 40 *e*P P 11 06 43.2 +1.6
comp=Z,52nm,1.2s
KAPI Kappang 51.08 213 *e*P P 11 06 42.1 0.0
comp=Z,48nm,1.0s
AAK Ala-Archa 51.17 297 P P 11 06 43.1 +0.2
comp=Z,8.0nm,0.6s,baz=108,slow=4.2,SNR=9.1
AAK Ala-Archa 51.17 297 *e*P P 11 06 41.2 -1.6
AAK pmax pmax
comp=Z,30nm,1.3s
AAK Ala-Archa 51.17 297 P P 11 06 43.1 +0.2
AAK Ala-Archa 51.17 297 P P 11 06 42.4 -0.5
KOLN Koldanda 51.35 276 *e*P P 11 06 43.9 -0.5
comp=Z,268nm,1.1s
KTGM Kuala Trenggan 51.40 238 ⇑P P 11 06 46.3 +1.8
KSH Kashi 51.43 293 P P 11 06 48.6 +3.8
KSH sP sP 11 06 58.8 +7.6
KSH PcP **PcP** 11 08 03.3 +4.2
KSH PcS **PcS** 11 11 59.1 +2.1
KSH S S 11 14 06.8 +2.7
KSH sS sS 11 14 16.8 +5.0
KSH ScS **ScS** 11 16 33.8 -1.0
KSH pmax pmax
comp=Z,70nm,1.4s
KSH pmax pmax
comp=Z,4µm,11.1s
BESE Bessie Mountai 51.56 41 *e*P P 11 06 46.5 +1.1
comp=Z,64nm,1.2s
SURT Suratani 51.63 245 P P 11 06 46.3 0.0
comp=Z,40nm,0.8s
PYUN Piuthan 51.64 276 *e*P P 11 06 46.5 0.0
comp=Z,248nm,1.1s
TRTT Trang 51.82 243 P P 11 06 47.6 -0.1
comp=Z,39nm,1.0s
HNR Honiara 51.85 161 PKPPKP **P'P'df** 11 37 21.1 +4.9
comp=Z,132nm,0.9s,baz=161,slow=3.9,SNR=4.1
MNAS Manas 52.58 297 *i* P P 11 06 52.9 -0.4
MNAS pmax pmax
comp=Z,91nm,1.1s
KULM Kulim 53.05 240 *e*P P 11 06 57.4 +0.5
comp=Z,112nm,1.1s
DZA Taraz 53.20 298 *e*P P 11 06 57.8 +0.1
comp=Z,1µm,1.1s
DZA eS S 11 14 29.5 +1.4
DZA LR LR 11 29 47.7
comp=Z,2µm,14.7s
IPM Ipoh 53.40 239 *e*P P 11 06 59.4 -0.1
comp=Z,87nm,1.1s
KK31 Karatay Array 53.66 299 *i* P P 11 07 00.7 -0.4
KK31 pmax pmax
comp=Z,37nm,0.9s
KKAR Karatay Array 53.66 299 *e*P P 11 07 00.9 -0.2
KKAR pmax pmax
comp=Z,38nm,0.9s
KKAR Karatay Array 53.66 299 *e*P P 11 07 00.9 -0.2
comp=Z,38nm,0.9s
MYKOM Kota Tinggi 53.66 235 *e*P P 11 07 02.2 +0.9
comp=Z,116nm,1.5s
SOEI Soe 53.77 206 *e*P P 11 07 01.3 -0.9
comp=Z,262nm,1.1s
KGM Kluang 53.82 235 ⇓P P 11 07 03.7 +1.2
DLBC Dease Lake 54.01 40 *e*P P 11 07 04.6 +1.1
comp=Z,43nm,1.3s
BRLS Borolday 54.14 299 *e*P P 11 07 06.5 +1.8
comp=Z,15nm,1.4s
SVE Sverdlovsk 54.19 318*c* *i*P P 11 07 05.6 +0.9
SVE pmax pmax
comp=Z,217nm,1.2s
IUG Iuzhnay 54.39 298 *e*P P 11 07 06.4 -0.2
comp=Z,1µm,1.7s
BATI Baumata 54.40 206 P P 11 07 06.2 -0.4
comp=Z,74nm,0.6s,baz=305,slow=1.5,SNR=8.1
BATI Baumata 54.40 206 P P 11 07 06.2 -0.4
COEN Coen 54.48 182 *e*P P 11 07 07.8 +0.6
comp=Z,125nm,1.0s
CHM Chimkent 54.60 298 *e*P P 11 07 08.7 +0.8
comp=Z,1µm,1.1s
MTN Manton Dam 54.86 196 *e*P P 11 07 09.5 -0.4
comp=Z,209nm,0.8s
SOKR Solikamsk 55.05 322*d* *i*P P 11 07 08.9 -1.9
SOKR pmax pmax
comp=Z,161nm,1.1s
ARU Arti 55.40 318*d* *i*P P 11 07 13.9 +0.4
ARU 11 08 12.4
ARU 11 09 13.7
ARU S S 11 15 01.0 +3.8
ARU SS SS 11 18 44.4 +3.2
ARU pmax pmax
comp=Z,305nm,1.7s
PSI Prapat 56.04 240 P P 11 07 19.0 +0.3
comp=Z,30nm,0.7s,baz=25,slow=4.3,SNR=17
PSI Prapat 56.04 240 *e*P P 11 07 18.9 +0.2
PSI pmax pmax
comp=Z,49nm,0.9s
PSI Prapat 56.04 240 *e*P P 11 07 18.9 +0.2
comp=Z,49nm,0.9s
BKNI Bangkinang 56.55 236 *e*P P 11 07 22.9 +0.6
comp=Z,365nm,1.0s
HOPEN Hopen 57.07 346 *e*P P 11 07 26.7 +1.6
SPA0 Spitsbergen Ar 57.38 349 *e*P P 11 07 28.2 +0.9
SPA0 Spitsbergen Ar 57.38 349 *e*P P 11 07 28.0 +0.7
SPITS Spitsbergen Ar 57.38 349 P P 11 07 27.7 +0.4
comp=Z,13nm,0.5s,baz=23,slow=8.6,SNR=26
SPITS Spitsbergen Ar 57.38 349 P P 11 07 27.7 +0.4
SPITS pmax pmax
comp=Z,13nm,0.5s
SPITS Spitsbergen Ar 57.38 349 P P 11 07 27.8 +0.4
KBS Kingsbay 57.43 350 *e*P P 11 07 28.8 +1.1
KBS pmax pmax
comp=Z,123nm,1.0s
KBS Kingsbay 57.43 350 *e*P P 11 07 28.8 +1.1
comp=Z,123nm,1.0s
KBS Kingsbay 57.43 350 *e*P P 11 07 29.0 +1.4
AB31 Akbulak array 57.64 309 *i* P P 11 07 29.8 +0.2
AB31 pmax pmax
comp=Z,33nm,0.6s
ABKAR Akbulak array 57.64 309 *e*P P 11 07 29.9 +0.3
comp=Z,107nm,0.9s
GSI Gunungsitoli 58.05 240 *e*P P 11 07 33.0 +0.2
comp=Z,304nm,1.4s
AKTO Aktyubinsk 58.23 311 P P 11 07 33.8 +0.2
comp=Z,22nm,0.8s,baz=338,slow=14,SNR=5.5
AKTO Aktyubinsk 58.23 311 *i* P P 11 07 33.7 0.0
AKTO pmax pmax
comp=Z,44nm,1.2s
AKTO Aktyubinsk 58.23 311 P P 11 07 33.8 +0.2
RES Resolute Bay 58.28 16 P P 11 07 34.1 +0.5
comp=Z,119nm,1.0s,baz=312,slow=6.5,SNR=16
RES Resolute Bay 58.28 16 *e*P P 11 07 33.9 +0.3
RES pmax pmax
comp=Z,104nm,0.6s
RES Resolute Bay 58.28 16 *e*P P 11 07 33.9 +0.3
comp=Z,104nm,0.6s
HSPB Honsund (broa 58.35 348 *e*P P 11 07 35.5 +1.4
LEM Lembang 58.46 225 P P 11 07 35.3 -0.5
comp=Z,126nm,0.8s,baz=33,slow=8.2,SNR=17
LEM Lembang 58.46 225 P P 11 07 35.3 -0.5
LEM pmax pmax
comp=Z,126nm,0.8s
LEM Lembang 58.46 225 P P 11 07 35.3 -0.5
KBL Kabul 58.65 290 *e*P P 11 07 36.5 -0.6
KBL pmax pmax
comp=Z,76nm,1.1s
KBL Kabul 58.65 290 *e*P P 11 07 36.5 -0.6
comp=Z,76nm,1.1s
PVM Polavaram 58.80 266 *e*P P 11 07 37.7 -0.4
YKW3 Yellowknife Ar 59.16 32 *e*P P 11 07 40.2 +0.3
comp=Z,65nm,1.3s
YKA Yellowknife Ar 59.20 32 P P 11 07 40.4 +0.2
comp=Z,17nm,1.0s,baz=302,slow=6.5,SNR=32
YKA PcP **PcP** 11 08 29.6 +1.1
comp=Z,7.5nm,0.7s,baz=300,slow=4.1,SNR=8.1
YKA PKPPKP P'P'df 11 37 10.3 -10
comp=Z,0.6nm,0.8s,baz=128,slow=2.4,SNR=5.4
YKA PKP2bc 11 37 21.3
comp=Z,1.1nm,0.9s,baz=114,slow=2.8,SNR=8.6
YKA PKP2ab 11 37 34.7
comp=Z,0.8nm,0.9s,baz=97,slow=1.5,SNR=3.2
YKA Yellowknife Ar 59.20 32 P P 11 07 40.4 +0.2
YKA 11 08 29.6
YKA pmax pmax
comp=Z,17nm,1.0s
YKA pmax pmax
comp=Z,8.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 59.20 32 P P 11 07 40.5 +0.2
YKA PcP **PcP** 11 08 29.6 +1.1
YKA P'P' 11 37 10.3
YKA ⇑*e* 11 37 21.3
YKA P'P'ab P'P'ab 11 37 34.7 -8.4
PPR Rampur 59.61 269 *e*P P 11 07 43.0 -0.6
SRSP Sriramsagar 60.29 270 *e*P P 11 07 47.5 -0.8
APA Apatity 60.40 336⇓ *i*P P 11 07 47.7 -0.7
APA pmax pmax
comp=Z,36nm,0.8s
CTA Charters Tower 60.57 179 P P 11 07 49.9 -0.1
comp=Z,25nm,0.7s
CTA Charters Tower 60.57 179 P P 11 07 49.9 -0.1
CTA pmax pmax
comp=Z,25nm,0.7s
CTA Charters Tower 60.57 179 P P 11 07 50.0 -0.1
CTAO Charters Tower 60.57 179 *e*P P 11 07 49.3 -0.7
CTAO pmax pmax
comp=Z,47nm,0.9s
CTAO Charters Tower 60.57 179 *e*P P 11 07 49.3 -0.7
comp=Z,47nm,0.9s
TMCR Tamitsa 60.77 331 *e*P P 11 07 49.8 -1.1
TMCR pmax pmax
comp=Z,156nm,1.2s
KEV Kevo 60.91 339 *e*P P 11 07 52.6 +0.8
KEV pmax pmax
comp=Z,124nm,1.3s
KEV Kevo 60.91 339 *e*P P 11 07 52.6 +0.8
comp=Z,124nm,1.3s
ADKI Addanki 60.91 266 *e*P P 11 07 52.2 -0.4
NJS Nagarjunasagar 60.98 267 *e*P P 11 07 52.3 -0.8
TULEG Thule 61.02 9 *e*P P 11 07 52.1 -0.3
comp=Z,91nm,1.1s
HYB Hyderabad 61.03 268 *i* P P 11 07 52.5 -1.0
HYBB Hyderabad (bro 61.03 268 *e*P P 11 07 52.6 -0.9
HAMF Hammerfest 61.18 341 *e*P P 11 07 53.7 +0.1
WRAB Tennant Creek 61.19 191 *e*P P 11 07 52.9 -1.4
WRAB pmax pmax
comp=Z,348nm,1.0s
WRAB Tennant Creek 61.19 191 *e*P P 11 07 53.1 -1.2
comp=Z,330nm,0.8s
WB2 Warramunga Arr 61.20 191 *e*P P 11 07 51.9 -2.4
WRA Warramunga Arr 61.20 191 P P 11 07 53.5 -0.8
comp=Z,299nm,0.8s,baz=10,slow=7.1,SNR=211
WRA PKPPKP **P'P'df** 11 37 08.0 +5.8
comp=Z,1.9nm,1.1s,baz=154,slow=2.0,SNR=3.8
WRA PKP2bc 11 37 18.1
comp=Z,8.5nm,1.2s,baz=182,slow=2.2,SNR=7.2
WRA Warramunga Arr 61.20 191 P P 11 07 53.5 -0.8
WRA pmax pmax
comp=Z,295nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA pmax pmax
comp=Z,9.0nm,1.2s
WRA Warramunga Arr 61.20 191 P P 11 07 53.5 -0.8
WRA P'P' 11 37 08.0
WRA ⇑*e* 11 37 18.1
ARCES ARCESS Array B 61.45 340 P P 11 07 55.5 0.0
comp=Z,9.6nm,0.5s,baz=34,slow=7.6,SNR=52
ARCES PP PP 11 10 11.6 +1.2
comp=Z,22nm,1.1s,baz=11,slow=7.5,SNR=3.9
ARCES ARCESS Array B 61.45 340 P P 11 07 55.5 0.0
ARCES 11 10 11.6
ARCES pmax pmax
comp=Z,10.0nm,0.5s
ARCES pmax pmax
comp=Z,22nm,1.1s
ARCES ARCESS Array B 61.45 340 *e*P P 11 07 56.0 +0.5
ARCES PP PP 11 10 11.6 +1.2
ARE0 ARCESS Array S 61.45 340 *e*P P 11 07 56.8 +1.3
comp=Z,72nm,1.1s
ARE0 ARCESS Array S 61.45 340 *e*P P 11 07 56.2 +0.7
SRLM Srisailam 61.57 267 *e*P P 11 07 56.1 -1.0
LLLB Lillooet 61.68 46 *e*P P 11 07 58.0 +0.6
comp=Z,123nm,2.0s
KLMR Klimovskoe 62.05 328 *e*P P 11 07 56.2 -3.5
KLMR *e* 11 10 10.7
KLMR pmax pmax
comp=Z,166nm,1.2s
KLMR Klimovskoe 62.05 328 *e*P P 11 07 56.2 -3.5
KLMR AMP 11 08 01.2
comp=Z,166nm,1.2s
KLMR *e*PP PP 11 10 10.7 -5.0
KLRI Killari 62.12 270 *e*P P 11 07 59.7 -1.1
DAG Danmarks Havn 62.26 356 *i* P P 11 08 00.5 -0.4
comp=Z,43nm,1.1s
DAG Danmarks Havn 62.26 356 *i* P P 11 08 00.5 -0.4
DAG pmax pmax
comp=Z,43nm,1.1s
SKHT Srikalahasti 62.41 264 *e*P P 11 08 02.3 -0.4
B05A Bryant 62.77 49 P P 11 08 05.7 +1.0
baz=302
B06A Marblemount 62.98 48 *e*P P 11 08 06.7 +0.6
comp=Z,43nm,1.3s
TRO Tromso 63.05 341 *e*P P 11 08 06.5 +0.4
F04D Rainier, OR 63.39 51 P P 11 08 10.1 +1.3
baz=302
D05A Enumclaw 63.40 50 *e*P P 11 08 10.4 +1.6
comp=Z,130nm,1.7s
URV Uravakonda 63.52 267 *e*P P 11 08 09.0 -1.2
C06D Leavenworth 63.64 48 P P 11 08 11.6 +1.1
baz=302
G03D McMinnville, O 63.70 52 P P 11 08 12.1 +1.2
baz=302
LON Longmire 63.74 50 *e*P P 11 08 11.8 +0.6
LON pmax pmax
comp=Z,12nm,0.9s
LON Longmire 63.74 50 *e*P P 11 08 11.8 +0.6
comp=Z,12nm,0.9s
KULLO Kullorsuaq 63.98 6⇓ *i*P P 11 08 12.1 -0.2
comp=Z,99nm,1.1s
KULLO Kullorsuaq 63.98 6⇓ *i*P P 11 08 12.1 -0.2
KULLO pmax pmax
comp=Z,99nm,1.1s
LTY Liberty 64.12 49 *e*P P 11 08 14.3 +0.5
comp=Z,36nm,1.4s
B08A Colville Reser 64.28 47 *e*P P 11 08 15.3 +0.5
comp=Z,99nm,1.8s
GEYT Alibeck 64.41 299 P P 11 08 15.8 0.0
comp=Z,33nm,0.9s,baz=28,slow=3.8,SNR=24
EDM Edmonton 64.73 41 *e*P P 11 08 17.8 +0.2
EDM pmax pmax
comp=Z,54nm,0.9s
EDM Edmonton 64.73 41 *e*P P 11 08 17.8 +0.2
comp=Z,54nm,0.9s
G05D Wamic, OR 64.84 51 P P 11 08 19.5 +1.1
baz=303
AS01 Alice Springs 64.92 191 *e*P P 11 08 17.5 -1.5
AS31 Alice Springs 64.92 191 *e*P P 11 08 18.3 -0.8
comp=Z,17nm,0.9s
ASAR Alice Springs 64.93 191 P P 11 08 18.9 -0.2
comp=Z,49nm,0.8s,baz=7.2,slow=5.0,SNR=76
ASAR PKPPKP **P'P'df** 11 36 59.8 +3.6
comp=Z,1.7nm,0.9s,baz=177,slow=2.3,SNR=9.4
ASAR Alice Springs 64.93 191 P P 11 08 18.9 -0.2
ASAR pmax pmax
comp=Z,49nm,0.8s
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 64.93 191 P P 11 08 18.9 -0.2
ASAR P'P' 11 36 59.8
E07A Sunnyside 64.97 49 *e*P P 11 08 20.6 +1.3
comp=Z,48nm,1.4s
I04A Tendick Farm, 64.98 53 P P 11 08 20.2 +0.9
baz=303,SNR=7.9
L02D Cave Junction, 65.14 55 P P 11 08 21.5 +1.0
baz=303
C09A Chrisman Ranch 65.18 48 *e*P P 11 08 21.0 +0.4
comp=Z,23nm,0.8s
STEI Steigen 65.22 341 *e*P P 11 08 20.6 +0.2
D08A Wollman Farm, 65.23 48 *e*P P 11 08 21.4 +0.5
comp=Z,52nm,1.4s
G06A Carlson Farm, 65.25 51 *e*P P 11 08 22.1 +0.9
comp=Z,33nm,1.2s
F07A Phinny Hill Vi 65.30 50 *e*P P 11 08 22.4 +1.1
comp=Z,27nm,0.8s
I05D Terrebonne, OR 65.32 52 P P 11 08 22.5 +0.8
baz=304
J04D Umpqua Nationa 65.47 53 P P 11 08 23.6 +0.9
baz=304,SNR=7.7
E08A Dider Farm, El 65.47 49 *e*P P 11 08 23.2 +0.8
comp=Z,92nm,1.9s
LOF Lofoten 65.47 342 *e*P P 11 08 20.8 -1.2
NEW Newport 65.56 47 P P 11 08 23.3 +0.2
baz=304,SNR=14
NEW Newport 65.56 47 *e*P P 11 08 23.5 +0.4
NEW pmax pmax
comp=Z,28nm,1.0s
NEW Newport 65.56 47 *e*P P 11 08 23.5 +0.4
comp=Z,28nm,1.0s
DZM Mont Dzumac 65.66 158 P P 11 08 23.8 -0.1
comp=Z,64nm,1.2s,baz=40,slow=7.1,SNR=9.0
DZM Mont Dzumac 65.66 158 *e*P P 11 08 24.1 +0.2
comp=Z,102nm,1.2s
KHMM Horse Mountain 65.77 56 *e*P P 11 08 26.8 +2.1
comp=Z,56nm,1.1s
PALK Pallekele 65.82 258 P P 11 08 25.3 +0.2
comp=Z,25nm,0.9s,baz=117,slow=2.0,SNR=12
PALK Pallekele 65.82 258 *e*P P 11 08 24.4 -0.8
PALK pmax pmax
comp=Z,45nm,1.0s
PALK Pallekele 65.82 258 *e*P P 11 08 24.4 -0.8
comp=Z,45nm,1.0s
PALK Pallekele 65.82 258 *i* P P 11 08 25.4 +0.2
SNR=9.2
MSVF Nonsavu 65.85 145 *e*P P 11 08 26.5 +1.3
MSVF pmax pmax
comp=Z,45nm,1.0s
MSVF Nonsavu 65.85 145 *e*P P 11 08 26.5 +1.3
comp=Z,45nm,1.0s
MOS Moscow 65.86 324 *e*P P 11 08 23.8 -1.0
MOS *e* 11 08 35.4
MOS pmax pmax
comp=Z,284nm,1.5s
MOS pmax pmax
comp=N,122nm,1.0s
PINE Pine Mountain 65.87 52 *e*P P 11 08 26.9 +1.6
comp=N,47nm,0.9s
MBWA Marble Bar 65.92 206 *e*P P 11 08 24.9 -0.6
comp=N,81nm,1.0s
YBH Yreka Blue Hor 65.93 55 P P 11 08 26.5 +0.9
comp=N,7.6nm,0.7s,baz=1.0,slow=5.8,SNR=15
YBH Yreka Blue Hor 65.93 55 *e*P P 11 08 27.2 +1.6
YBH pmax pmax
comp=Z,54nm,1.4s
YBH Yreka Blue Hor 65.93 55 *e*P P 11 08 27.2 +1.6
comp=Z,54nm,1.4s
J05D Fort Rock, OR 65.97 53 P P 11 08 27.3 +1.4
baz=304,SNR=12
E09A Wood Farm, Sta 65.98 49 *e*P P 11 08 26.4 +0.6
comp=Z,37nm,1.0s
K04D Chiloquin, OR 66.02 54 P P 11 08 27.2 +1.0
baz=304

M02C Callahan 66.03 55 P P 11 08 27.3 +1.1
baz=304
EIDS Eidsvold 66.06 174 *e*P P 11 08 26.5 +0.2
comp=Z,47nm,0.9s
G08A Pilot Rock 66.20 50 *e*P P 11 08 28.4 +1.1
comp=Z,11nm,1.1s
PUL Pulkovo 66.34 330 *e*P P 11 08 28.5 +0.7
PUL pmax pmax
comp=Z,159nm,1.2s
N02D Trinity Center 66.36 56 P P 11 08 29.7 +1.4
baz=304,SNR=6.3
M04C Macdoel 66.44 55 P P 11 08 29.6 +0.7
baz=304
K05A Summer Lake 66.49 53 *e*P P 11 08 30.9 +1.5
comp=Z,57nm,0.9s
KCPM Cahto Peak 66.52 57 *e*P P 11 08 32.9 +3.4
comp=Z,137nm,1.4s
VRH Novokhopyorsk 66.62 318 *e*P P 11 08 29.3 -0.5
VRH pmax pmax
comp=Z,120nm,0.8s
WDC Whiskeytown Da 66.68 56 *e*P P 11 08 31.1 +0.8
WDC pmax pmax
comp=Z,30nm,1.1s
WDC Whiskeytown Da 66.68 56 *e*P P 11 08 31.1 +0.8
comp=Z,30nm,1.1s
OBN Obninsk 66.72 324 *d i*P P 11 08 30.4 +0.1
OBN *i* 11 08 42.3
OBN *e* 11 08 48.4
OBN *e* 11 08 59.6
OBN pmax pmax
comp=Z,328nm,1.7s
OBN MLR MLR
comp=Z,5µm,16.0s
OBN Obninsk 66.72 324 *e*P P 11 08 30.5 +0.3
comp=Z,208nm,1.1s
FIA1 FINESS Array S 66.76 333 *e*P P 11 08 30.6 +0.1
FINES FINESS Array B 66.76 333 P P 11 08 30.6 +0.2
comp=Z,47nm,0.5s,baz=54,slow=6.3,SNR=75
FINES FINESS Array B 66.76 333 P P 11 08 30.6 +0.2
FINES pmax pmax
comp=Z,47nm,0.5s
FINES FINESS Array B 66.76 333 P P 11 08 30.6 +0.2
MOR8 Moi Rana 66.78 340 *e*P P 11 08 29.6 -1.0
F10A Beach Ranch, E 66.81 49 *e*P P 11 08 32.0 +0.9
comp=Z,14nm,1.0s
WALA Waterton Lakes 66.85 45 *e*P P 11 08 32.0 +0.5
comp=Z,21nm,0.9s
KONS Konsvik 66.85 341 *e*P P 11 08 30.0 -0.9
SUMG Summit 66.92 1 ⇓ *i*P P 11 08 32.9 +1.1
comp=Z,84nm,0.9s
SUMG Summit 66.92 1 ⇓ *i*P P 11 08 32.9 +1.1
SUMG pmax pmax
comp=Z,84nm,0.9s
SUMG Summit 66.92 1 *e*P P 11 08 32.8 +0.9
comp=Z,89nm,0.9s
STOK Stokkvaagen 67.01 341 *e*P P 11 08 32.1 +0.1
LPSR Galich'ya Gora 67.17 320 *e*P P 11 08 33.2 0.0
LPSR pmax pmax
comp=Z,250nm,1.0s
O03D Paynes Creek 67.31 56 P P 11 08 35.0 +0.5
baz=305,SNR=9.7
MOD Modoc Plateau 67.32 54 *e*P P 11 08 35.5 +0.9
comp=Z,64nm,1.4s
BMO Blue Mountains 67.41 50 *e*P P 11 08 35.5 +0.5
BMO pmax pmax
comp=Z,45nm,1.6s
BMO Blue Mountains 67.41 50 *e*P P 11 08 35.5 +0.5
comp=Z,45nm,1.6s
JTMT Jette 67.42 46 *e*P P 11 08 35.9 +0.8
comp=Z,47nm,1.3s
J08A Circle Bar Ran 67.59 52 *e*P P 11 08 37.2 +1.0
comp=Z,35nm,1.1s
AFI Afiamalu 67.60 134 P P 11 08 37.0 +0.6
comp=Z,29nm,0.8s,baz=281,slow=6.3,SNR=5.4
AFI Afiamalu 67.60 134 P P 11 08 37.0 +0.6
AFI pmax pmax
comp=Z,29nm,0.8s
AFI Afiamalu 67.60 134 P P 11 08 37.0 +0.6
VORR Voronezh 67.60 320 *e*P P 11 08 34.0 -1.9
VORR pmax pmax
comp=Z,450nm,1.2s
VSR Storozhevoye 67.90 319 *e*P P 11 08 37.6 -0.2
VSR pmax pmax
comp=Z,110nm,0.7s
ORV Oroville 67.92 56 *e*P P 11 08 38.6 +0.4
ORV pmax pmax
comp=Z,91nm,1.4s
ORV Oroville 67.92 56 *e*P P 11 08 38.6 +0.4
comp=Z,91nm,1.4s
WVOR Wild Horse Val 68.03 52 *e*P P 11 08 39.8 +0.8
WVOR pmax pmax
comp=Z,56nm,1.4s
WVOR Wild Horse Val 68.03 52 *e*P P 11 08 39.8 +0.8
comp=Z,56nm,1.4s
MSO Missoula 68.15 47 P P 11 08 40.0 +0.3
baz=307,SNR=9.1
MSO Missoula 68.15 47 *e*P P 11 08 40.0 +0.3
comp=Z,15nm,0.8s
BEKR Beckworth 68.46 56 *e*P P 11 08 42.9 +1.0
comp=Z,56nm,1.2s
VSU Vasula 68.59 330 *c i*P P 11 08 42.1 +0.1
VSU pmax pmax
comp=Z,286nm,1.1s
AFDM Forest Hills D 68.61 57 *e*P P 11 08 43.1 +0.6
comp=Z,60nm,1.5s
SCO Scoresbysund 68.64 355 *i*P P 11 08 42.9 +0.8
comp=Z,233nm,1.8s
SCO Scoresbysund 68.64 355 *i*P P 11 08 42.9 +0.8
SCO pmax pmax
comp=Z,230nm,1.8s
SCO Scoresbysund 68.64 355 *e*P P 11 08 42.9 +0.8
comp=Z,160nm,1.6s
NSS Namsos 68.72 340 *e*P P 11 08 43.0 +0.3
RDG13 Poverty Ridge 69.00 58 *e*P P 11 08 46.6 +1.5
comp=Z,276nm,1.8s
FFC Flin Flon 69.08 35 *e*P P 11 08 45.4 +0.2
FFC pmax pmax
comp=Z,52nm,1.3s
FFC Flin Flon 69.08 35 *e*P P 11 08 45.4 +0.2
comp=Z,52nm,1.3s
MFID Camas Ranch 69.11 50 *e*P P 11 08 46.4 +0.6
comp=Z,74nm,1.8s
GROC Groznyy 69.15 309 *e*P P 11 08 45.6 -0.2
GROC *e* 11 09 08.6
GROC *e* 11 11 17.9
GROC pmax pmax
comp=Z,152nm,1.9s
PAHR Pah Rah Range 69.16 55 *e*P P 11 08 47.0 +0.8
comp=Z,130nm,1.7s
VCNR Virginia City 69.24 56 *e*P P 11 08 48.2 +1.5
comp=Z,119nm,1.8s
HRY Holter Researc 69.38 46 *e*P P 11 08 48.0 +0.6
FCC Fort Churchill 69.43 28 *e*P P 11 08 47.3 +0.1
FCC pmax pmax
comp=Z,132nm,1.5s
FCC Fort Churchill 69.43 28 *e*P P 11 08 47.2 +0.1
comp=Z,132nm,1.5s
CMB Columbia Colle 69.51 57 *e*P P 11 08 49.0 +0.8
CMB pmax pmax
comp=Z,75nm,1.4s
CMB Columbia Colle 69.51 57 *e*P P 11 08 49.0 +0.8
comp=Z,75nm,1.4s
LRM Limekiln Ridge 69.58 47 *e*P P 11 08 49.3 +0.5
GOF Gofitskoye 69.62 312 ⇑ *e*P P 11 08 49.8 +1.1
GOF pmax pmax
comp=Z,365nm,1.3s
EGMT Eagleton 69.67 44 P P 11 08 49.3 +0.2
baz=309,SNR=8.4
EGMT Eagleton 69.67 44 *e*P P 11 08 49.6 +0.5
comp=Z,53nm,1.3s
YERR Yerington 69.68 56 *e*P P 11 08 50.4 +1.0
comp=Z,121nm,1.5s
ILULI Ilulissat 69.69 6 ⇓ *i*P P 11 08 48.8 +0.2
comp=Z,84nm,1.1s
ILULI Ilulissat 69.69 6 ⇓ *i*P P 11 08 48.8 +0.2
ILULI pmax pmax
comp=Z,84nm,1.1s
ILULI Ilulissat 69.69 6 *e*P P 11 08 48.8 +0.2
comp=Z,84nm,1.1s
DLMT Dillon 69.78 47 *e*P P 11 08 50.8 +0.9
comp=Z,108nm,1.8s
WAKR Walker 69.84 56 *e*P P 11 08 46.9 -3.5
comp=Z,49nm,1.3s
HLID Hailey 69.85 50 P P 11 08 51.0 +0.6
baz=308,SNR=8.1
HLID Hailey 69.85 50 *e*P P 11 08 51.3 +0.9
comp=Z,18nm,1.1s
MCMT McKenzie Canyo 69.97 48 *e*P P 11 08 51.8 +0.6
BMN Battle Mountai 70.07 54 *e*P P 11 08 52.9 +1.1
BMN pmax pmax
comp=Z,27nm,0.9s
BMN Battle Mountai 70.07 54 *e*P P 11 08 52.9 +1.1
comp=Z,27nm,0.9s
BOZ Bozeman (W) 70.17 47 P P 11 08 52.6 +0.3
baz=308,SNR=25
BOZ Bozeman (W) 70.17 47 *e*P P 11 08 52.9 +0.6
BOZ pmax pmax
comp=Z,92nm,1.6s
BOZ Bozeman (W) 70.17 47 *e*P P 11 08 52.9 +0.6
comp=Z,92nm,1.6s
NCK Nalchik 70.25 311 *e*P P 11 08 53.1 +0.4
NCK pmax pmax
comp=Z,102nm,1.0s
PMPB Monarch Peak 70.32 59 *e*P P 11 08 55.3 +2.1
comp=Z,188nm,1.9s
RYN Ryan 70.34 56 *e*P P 11 08 54.4 +0.9
comp=Z,49nm,1.3s
KIV Kislovodsk 70.49 312 *e*P P 11 08 55.2 +1.0
KIV pmax pmax
comp=Z,280nm,1.1s
KIV Kislovodsk 70.49 312 *e*P P 11 08 55.0 +0.7
comp=Z,320nm,1.1s
KIV Kislovodsk 70.49 312 P P 11 08 55.6 +1.4
SNR=44
KIV Kislovodsk 70.49 312 P P 11 08 55.6 +1.4
SNR=44
KIV Kislovodsk 70.49 312 *i*P P 11 08 55.4 +1.2
SNR=26
ZEI Tsey 70.51 310 *e*P P 11 08 51.8 -2.7
ZEI pmax pmax
comp=Z,84nm,1.1s
KBZ Khabaz 70.51 311 P P 11 08 55.1 +1.0
comp=Z,82nm,0.9s,baz=54,slow=4.2,SNR=49
KBZ Khabaz 70.51 311 P P 11 08 55.2 +1.0
KBZ pmax pmax
comp=Z,82nm,0.9s
KBZ Khabaz 70.51 311 P P 11 08 55.1 +1.0
MDPB Devils Postpil 70.58 57 *e*P P 11 08 56.5 +1.4
comp=Z,33nm,1.2s
NV01 Mina Array Sit 70.60 56 *e*P P 11 08 56.0 +1.0
NVAR Mina Array Bea 70.60 56 P P 11 08 56.1 +1.0
comp=Z,14nm,0.6s,baz=296,slow=6.4,SNR=30
NVAR PKP2bc 11 36 47.4
comp=Z,0.8nm,0.9s,baz=123,slow=3.3,SNR=5.2
NVAR Mina Array Bea 70.60 56 P P 11 08 56.1 +1.0
NVAR ⇑ *e* 11 36 47.4
TBLG Delisi 70.67 309 *e*P P 11 08 56.1 +0.9
TBLG Delisi 70.67 309 *e*P P 11 08 56.7 +1.5
TBLG pmax pmax
comp=Z,168nm,1.2s
TBLG Delisi 70.67 309 *e*P P 11 08 56.7 +1.5
comp=Z,168nm,1.2s
NV11 Mina Array Sit 70.69 56 *e*P P 11 08 56.5 +0.9
comp=Z,5.5nm,1.5s
IZAR Zarasai 70.69 328 *e*P P 11 08 55.5 +0.5
IZAR IAmb IAmb 11 08 56.7
comp=Z,25nm,0.7s
MLAC Mammoth, Mammo 70.74 57 P P 11 08 56.6 +0.6
baz=307
QLMT Earthquake Lak 70.76 47 *e*P P 11 08 57.2 +1.3
IDID Didziasalis 70.80 328 *e*P P 11 08 56.2 +0.5
IDID IAmb IAmb 11 08 57.5
comp=Z,54nm,0.9s
ISAL Salakas 70.86 328 *e*P P 11 08 56.6 +0.5
ISAL IAmb IAmb 11 08 58.0
comp=Z,65nm,0.9s
NEY Neytrino 70.91 311 *c i*P P 11 08 57.5 +0.6
NEY pmax pmax
comp=Z,15nm,1.3s
YHB Horse Butte 70.94 47 *e*P P 11 08 58.4 +1.3
comp=Z,33nm,1.3s
PAGB Antelope Grade 70.97 59 *e*P P 11 08 58.8 +1.6
comp=Z,163nm,1.3s
IIGN Ignalina 70.98 328 *e*P P 11 08 57.4 +0.6
IIGN IAmb IAmb 11 08 58.7
comp=Z,73nm,1.0s
NACGM Naroch 71.07 327 *e* P 11 08 57.0 -0.4
YHH Holmes Hill 71.11 47 *e*P P 11 08 59.3 +1.1
comp=Z,24nm,1.3s
ARMA Armidale 71.11 174 *e*P P 11 08 58.9 +1.0
comp=Z,34nm,1.0s
YMR Madison River 71.12 47 *e*P P 11 08 59.6 +1.4
comp=Z,14nm,0.8s
GCMT Greycliff 71.12 45 *e*P P 11 08 59.4 +1.3
YNR Norris Junctio 71.25 47 *e*P P 11 09 01.0 +2.0
comp=Z,30nm,1.3s
RCTC Rector, Farmer 71.27 58 P P 11 08 59.6 +0.7
baz=307,SNR=6.2
YFT Old Faithful 71.33 47 *e*P P 11 09 02.1 +2.6
comp=Z,83nm,1.6s
SMMC Simmler 71.38 59 P P 11 09 01.5 +1.8
baz=307,SNR=11
YPP Pitchstone Pla 71.46 47 *e*P P 11 09 02.7 +2.4
comp=Z,39nm,1.4s
MOL Molde 71.46 341 *e*P P 11 08 58.7 -0.9
TIN Tinemaha, Big 71.47 57 P P 11 09 01.3 +1.0
baz=308
H17A Grant Village 71.51 47 P P 11 09 02.8 +2.2
baz=309,SNR=15
H17A Grant Village 71.51 47 *e*P P 11 09 03.0 +2.5
comp=Z,57nm,1.3s
DOMB Dombas 71.51 340 *e*P P 11 09 00.2 +0.2
AKH Akhalkalaki 71.60 309 *e*P P 11 09 02.6 +1.5
AKH Akhalkalaki 71.60 309 ⇓ *i*P P 11 09 02.7 +1.6
AKH Akhalkalaki 71.60 309 *e*P P 11 09 03.0 +1.9
AKH pmax pmax
comp=Z,251nm,1.9s
AKH Akhalkalaki 71.60 309 *e*P P 11 09 03.0 +1.9
comp=Z,251nm,1.9s
IMW Indian Meadow 71.62 48 *e*P P 11 09 02.9 +1.6
comp=Z,31nm,0.9s
GNI Garni 71.63 307 P P 11 09 02.1 +0.8
comp=Z,15nm,0.5s,baz=120,slow=0.5,SNR=17
GNI Garni 71.63 307 *ce*P P 11 09 02.6 +1.3
GNI pmax pmax
comp=Z,389nm,1.7s
GNI Garni 71.63 307 *e*P P 11 09 02.8 +1.5
comp=Z,276nm,1.6s
GNI Garni 71.63 307 P P 11 09 03.2 +1.9
SNR=15
GNI Garni 71.63 307 P P 11 09 03.2 +1.9
SNR=15
GNI Garni 71.63 307 *i*P P 11 09 02.7 +1.5
SNR=11
VES Vestal, Richgr 71.66 58 P P 11 09 01.7 +0.5
baz=307,SNR=24
FXWY Fox Creek 71.73 48 *e*P P 11 09 03.3 +1.3
comp=Z,120nm,1.9s
NB2 NORSAR Subarra 71.76 338 P P 11 09 01.5 0.0
comp=Z,67nm,0.7s,baz=35,slow=6.2
NB2 NORSAR Subarra 71.76 338 P P 11 09 01.5 0.0
comp=Z,67nm,0.7s,baz=35,slow=6.2
NOA NORSAR Array B 71.76 338 P P 11 09 01.6 0.0
comp=Z,48nm,0.7s,baz=37,slow=6.0,SNR=76
NOA NORSAR Array B 71.76 338 P P 11 09 01.6 0.0
NOA pmax pmax
comp=Z,78nm,0.9s
NOA NORSAR Array B 71.76 338 P P 11 09 01.6 0.0
PKM Mcpherson Peak 71.76 60 P P 11 09 03.5 +1.4
baz=307,SNR=20
RLMT Red Lodge 71.77 46 P P 11 09 02.6 +0.5
baz=310,SNR=8.5
RLMT Red Lodge 71.77 46 *e*P P 11 09 02.9 +0.8
comp=Z,91nm,1.8s
HFS Hagfors 71.77 337 P P 11 09 01.8 +0.3
comp=Z,37nm,0.5s,baz=56,slow=5.6,SNR=63
HFS Hagfors 71.77 337 P P 11 09 01.8 +0.3
HFS pmax pmax
comp=Z,37nm,0.5s
HFS Hagfors 71.77 337 P P 11 09 01.8 +0.3
MOOW Moose Ponds 71.82 48 *e*P P 11 09 03.7 +1.3
comp=Z,124nm,1.9s
TPAW Teton Pass 71.87 48 *e*P P 11 09 03.5 +0.7
comp=Z,122nm,1.6s
HVU Hansel Valley 71.90 50 *e*P P 11 09 04.3 +1.5
HVU pmax pmax
comp=Z,39nm,1.2s
HVU Hansel Valley 71.90 50 *e*P P 11 09 04.3 +1.5
comp=Z,39nm,1.2s
SFJD Kangerlussuaq 71.90 6 P P 11 09 02.4 +0.2
comp=Z,32nm,1.1s,baz=356,slow=10.0,SNR=11
SFJD Kangerlussuaq 71.90 6 *i*P P 11 09 02.7 +0.5
comp=Z,47nm,1.2s
SFJD Kangerlussuaq 71.90 6 *i*P P 11 09 02.7 +0.5
SFJD pmax pmax
comp=Z,47nm,1.2s
SFJD Kangerlussuaq 71.90 6 *e*P P 11 09 02.4 +0.2
comp=Z,67nm,1.2s
NC602 NORSAR Array S 71.91 338 *e*P P 11 09 01.7 -0.7
AKN Aaknes 71.93 341 *e*P P 11 09 03.3 +0.8
CWC Cottonwood Cre 71.94 57 P P 11 09 03.5 +0.3
baz=308
LOHW Long Hollow 71.99 48 *e*P P 11 09 04.2 +0.7
comp=Z,117nm,1.9s
SNOW Snow King Moun 72.00 48 *e*P P 11 09 05.4 +1.8
comp=Z,94nm,1.8s
REDW Red Top Meadow 72.01 48 *e*P P 11 09 04.7 +1.1
comp=Z,60nm,1.4s
GRAC Grapevine Rang 72.06 57 P P 11 09 04.8 +1.1
baz=308,SNR=18
SBC Santa Barbara 72.09 60 P P 11 09 04.8 +0.9
baz=308
ISA Isabella, Lake 72.16 58 P P 11 09 03.9 -0.5
baz=308,SNR=15
ISA Isabella, Lake 72.16 58 *e*P P 11 09 04.2 -0.2
ISA pmax pmax
comp=Z,39nm,1.3s
ISA Isabella, Lake 72.16 58 *e*P P 11 09 04.2 -0.2
comp=Z,39nm,1.3s
DGMT Dagmar 72.22 41 P P 11 09 04.4 -0.1
baz=312,SNR=6.1
AHID Auburn Hatcher 72.24 49 *e*P P 11 09 06.1 +1.1
comp=Z,54nm,1.4s
ARVC Arvin 72.25 59 P P 11 09 05.5 +0.7
baz=308,SNR=11
BGU Big Grassy Mou 72.28 51 *e*P P 11 09 06.5 +1.4
comp=Z,26nm,1.2s
R11A Troy Canyon, C 72.34 54 P P 11 09 06.2 +0.7
baz=308,SNR=28
R11A Troy Canyon, C 72.34 54 *e*P P 11 09 06.3 +0.7
comp=Z,171nm,2.0s
DAC Darwin (Calif) 72.35 57 *e*P P 11 09 06.3 +0.6
DAC pmax pmax
comp=Z,31nm,0.9s
DAC Darwin (Calif) 72.35 57 *e*P P 11 09 06.3 +0.6
comp=Z,31nm,0.9s
STKA Stephens Creek 72.36 183 P P 11 09 05.0 -0.2
comp=Z,18nm,0.7s,baz=356,slow=6.7,SNR=25
STKA Stephens Creek 72.36 183 P P 11 09 05.1 -0.2
STKA pmax pmax
comp=Z,18nm,0.7s
STKA Stephens Creek 72.36 183 *e*P P 11 09 05.3 0.0
comp=Z,4.1nm,0.8s
LAO LASA Array 72.37 43 P P 11 09 05.7 +0.3
baz=311,SNR=8.6
LAO LASA Array 72.37 43 *e*P P 11 09 06.6 +1.1
comp=Z,48nm,1.3s
SPUT South Promonto 72.38 50 *e*P P 11 09 07.4 +1.6
comp=Z,72nm,1.5s
SOC Sochi 72.40 313 *e*P P 11 09 03.4 -2.2
SOC *e* 11 09 21.8
SOC *e* 11 11 42.2
SOC *eS* S 11 18 28.1 -0.6
SOC pmax pmax
comp=Z,120nm,1.4s
SCZ2 Santa Cruz Isl 72.42 60 P P 11 09 06.6 +0.7
baz=308
WSAR Wadi Sarin 72.51 286 P P 11 09 06.8 +0.3
comp=Z,13nm,1.0s,baz=61,slow=5.8,SNR=10
WSAR Wadi Sarin 72.51 286 P P 11 09 06.8 +0.3
MPMC Manual Prospec 72.55 57 P P 11 09 07.4 +0.5
baz=308,SNR=32
BANOM Banah 72.57 289 P P 11 09 07.8 +0.8
SNR=21
BANOM Banah 72.57 289 P P 11 09 07.8 +0.8
SNR=21
BANOM Banah 72.57 289 *i*P P 11 09 06.7 -0.3
SNR=45
SHME Shamm 72.61 290 *i*P P 11 09 06.9 -0.3
SNR=30
OSI Osito Audit: C 72.64 59 P P 11 09 08.1 +0.9
baz=308
OSI Osito Audit: C 72.64 59 *e*P P 11 09 08.8 +1.6
comp=Z,84nm,1.3s
WBK Wadi Bani Khal 72.64 285 P P 11 09 09.0 +1.6
SNR=7.3
WBK Wadi Bani Khal 72.64 285 P P 11 09 09.0 +1.6
SNR=7.3
FURC Furnace Creek, 72.70 57 P P 11 09 08.2 +0.8
baz=308,SNR=46
BIDO Bidbid 72.70 286 P P 11 09 09.0 +1.3
SNR=15
BIDO Bidbid 72.70 286 P P 11 09 09.0 +1.3
SNR=15
HWUT Hardware Ranch 72.71 50 *e*P P 11 09 08.7 +0.9
comp=Z,68nm,1.3s
BLG Laguna Peak, P 72.72 60 P P 11 09 07.9 +0.2
baz=308,SNR=6.3
CLDR Caldiran 72.75 307 *e*P P 11 09 08.1 0.0
LRMC Laurel Mtn Rad 72.78 58 P P 11 09 07.9 -0.3
baz=308
OSL Oslo 72.80 338 *e*P P 11 09 09.0 +1.3
DUG Dugway, Tooele 72.87 52 P P 11 09 09.6 +0.9
baz=309,SNR=24
DUG Dugway, Tooele 72.87 52 *e*P P 11 09 09.7 +1.0
DUG pmax pmax
comp=Z,45nm,1.1s
DUG Dugway, Tooele 72.87 52 *e*P P 11 09 09.7 +1.0
comp=Z,44nm,1.1s
ANN Anapa 72.87 315 *e*P P 11 09 07.0 -1.3
ANN pmax pmax
comp=Z,215nm,1.8s
FOO Floro 72.91 341 *e*P P 11 09 09.4 +1.1
SNCC San Nicolas Is 72.94 61 P P 11 09 09.4 +0.4
baz=308
SNCC San Nicolas Is 72.94 61 *e*P P 11 09 10.6 +1.6
comp=Z,112nm,1.0s
EDW2 Edwards Air Fo 72.95 59 P P 11 09 09.9 +0.8
baz=308,SNR=37
MDH Madha 72.95 289 *i*P P 11 09 10.0 +0.8
SNR=6.4
AKASG Malin Array Be 72.97 323 P P 11 09 08.9 0.0
comp=Z,44nm,0.6s,baz=42,slow=6.3,SNR=95
AKASG Malin Array Be 72.97 323 P P 11 09 08.9 0.0
AKASG pmax pmax
comp=Z,41nm,0.5s
AKASG Malin Array Be 72.97 323 P P 11 09 08.9 0.0
AKBB Malin Array Si 72.97 323 *e*P P 11 09 09.0 +0.1
AKBB pmax pmax
comp=Z,147nm,0.9s
AKBB Malin Array Si 72.97 323 *e*P P 11 09 09.0 +0.1
comp=Z,147nm,0.9s
KIEV Kiev 72.98 323 *d i*P P 11 09 08.4 -0.5
KIEV pmax pmax
comp=Z,142nm,1.0s
KIEV Kiev 72.98 323 *e*P P 11 09 08.8 -0.1
comp=Z,155nm,1.0s
KIEV Kiev 72.98 323 *i*P P 11 09 08.8 -0.1
SNR=37
HYA Hoyanger 73.00 340 *e*P P 11 09 09.4 +0.6
AK11 Malin Array Si 73.01 323 *e*P P 11 09 09.0 -0.1
MSFE Esma-Masafi 73.01 289 *i*P P 11 09 09.4 -0.2
SNR=9.6
AGRB Hanur-Agry 73.04 308 *e*P P 11 09 11.4 +1.6
DECC Green Verdugo 73.11 59 P P 11 09 10.7 +0.6
baz=308,SNR=5.6
TCUT Toone Canyon 73.11 50 *e*P P 11 09 11.6 +1.4
comp=Z,138nm,1.3s
BW06 Boulder Array 73.12 48 P P 11 09 10.4 +0.2
baz=310,SNR=14
BW06 Boulder Array 73.12 48 *e*P P 11 09 10.5 +0.2
comp=Z,56nm,1.4s
PD31 Pinedale Array 73.12 48 *e*P P 11 09 10.6 +0.4
PDAR Pinedale Array 73.12 48 P P 11 09 10.7 +0.5
comp=Z,6.5nm,0.5s,baz=269,slow=1.0,SNR=53
PDAR Pinedale Array 73.12 48 *e*P P 11 09 08.9 -1.3
SUW Suwalki 73.17 328 *e*P P 11 09 10.0 0.0
SUW Suwalki 73.17 328 *e*P P 11 09 09.9 0.0
SUW pmax pmax
comp=Z,211nm,1.1s
SUW Suwalki 73.17 328 *e*P P 11 09 09.9 0.0
comp=Z,211nm,1.1s
CTU Camp Tracy 73.18 51 *e*P P 11 09 11.7 +1.2
comp=Z,36nm,1.1s
UOSS Minazif 73.23 289 *e*P P 11 09 10.6 -0.3
comp=Z,95nm,0.9s
UOSS Minazif 73.23 289 *i*P P 11 09 10.1 -0.7
SNR=9.1
PASC Pasadena Art C 73.26 59 *e*P P 11 09 11.9 +1.0
comp=Z,154nm,1.7s

HOQ	Hoqain	73.26	287	P		P		11 09 15.0	+3.9		
	SNR=7.4										
HOQ	Hoqain	73.26	287	P		P		11 09 15.0	+3.9		
	SNR=7.4										
UMQ	Umm Al-Quwin	73.27	289	*i* P		P		11 09 11.8	+0.8		
	SNR=7.1										
MWC	Mount Wilson	73.31	59	*e*P		P		11 09 12.5	+1.1		
MWC				pmax	pmax						
	comp=Z,94nm,1.3s										
MWC	Mount Wilson	73.31	59	*e*P		P		11 09 12.5	+1.1		
	comp=Z,94nm,1.3s										
HATD	Hatta, Dubai	73.36	289	P		P		11 09 12.0	+0.4		
	SNR=25										
HATD	Hatta, Dubai	73.36	289	P		P		11 09 12.0	+0.4		
	SNR=25										
HATD	Hatta, Dubai	73.36	289	*i* P		P		11 09 11.4	-0.2		
	SNR=30										
KONO	Kongsberg	73.36	338	*ce*P		P		11 09 10.2	-0.8		
KONO				pmax	pmax						
	comp=Z,55nm,1.7s										
KONO	Kongsberg	73.36	338	*e*P		P		11 09 11.2	+0.2		
JLU	Jordanelle	73.42	51	*e*P		P		11 09 13.3	+1.3		
	comp=Z,69nm,1.5s										
SHOC	Shoshone, Teco	73.42	57	P		P		11 09 12.6	+0.8		
	baz=309,SNR=13										
SUE	Sulen	73.45	341	*e*P		P		11 09 11.8	+0.4		
GSC	Goldstone, Bar	73.45	58	P		P		11 09 12.6	+0.5		
	baz=308,SNR=13										
GSC	Goldstone, Bar	73.45	58	*e*P		P		11 09 12.9	+0.8		
GSC				pmax	pmax						
	comp=Z,39nm,1.1s										
GSC	Goldstone, Bar	73.45	58	*e*P		P		11 09 12.9	+0.8		
	comp=Z,39nm,1.1s										
NLU	North Lily Min	73.46	51	*e*P		P		11 09 13.4	+1.1		
	comp=Z,25nm,1.0s										
FMP	Fort Macarthur	73.47	60	P		P		11 09 12.9	+0.8		
	baz=308										
SOHO	SOHO	73.49	288	*i* P		P		11 09 11.7	-0.6		
	SNR=18										
ASHO	Ashiyiah	73.50	288	P		P		11 09 12.7	+0.3		
	SNR=25										
ASHO	Ashiyiah	73.50	288	P		P		11 09 12.7	+0.3		
	SNR=25										
ASHO	Ashiyiah	73.50	288	*i* P		P		11 09 12.1	-0.3		
	SNR=28										
BFSC	Mount Baldy Ra	73.56	59	P		P		11 09 13.4	+0.6		
	baz=308,SNR=22										
CIS	Catalina Islan	73.58	60	P		P		11 09 13.5	+0.6		
	baz=308,SNR=5.1										
NAZ	Nazwa, Dubai	73.60	289	P		P		11 09 14.0	+1.0		
	SNR=12										
NAZ	Nazwa, Dubai	73.60	289	P		P		11 09 14.0	+1.0		
	SNR=12										
NAZ	Nazwa, Dubai	73.60	289	*i* P		P		11 09 13.3	+0.3		
	SNR=5.7										
MPU	Maple Canyon	73.68	51	*e*P		P		11 09 14.9	+1.4		
	comp=Z,65nm,1.3s										
SHPR	Sheep Range	73.75	56	*e*P		P		11 09 15.1	+1.2		
	comp=Z,81nm,1.3s										
SCI2	San Clemente I	73.76	60	P		P		11 09 14.1	+0.3		
	baz=308										
ASK	Askoy	73.84	341	*e*P		P		11 09 14.3	+0.6		
BSY	Bisya	73.85	286	P		P		11 09 19.0	+4.4		
	SNR=9.1										
BSY	Bisya	73.85	286	P		P		11 09 19.0	+4.4		
	SNR=9.1										
KLNR	Kaliningrad	73.88	330	*e*P		P		11 09 13.5	-0.6		
KLNR				pmax	pmax						
	comp=Z,252nm,1.1s										
BER	Bergen	73.89	340	*e*P		P		11 09 14.2	+0.2		
TUQ	Turquoise Moun	73.93	57	P		P		11 09 15.8	+0.8		
	baz=309,SNR=17										
ODD1	Odda	73.95	340	*e*P		P		11 09 15.2	+0.7		
BBRC	Big Bear Solar	74.03	59	P		P		11 09 16.1	+0.5		
	baz=309,SNR=20										
HEC	Hector,Ludlow	74.05	58	P		P		11 09 16.2	+0.6		
	baz=309,SNR=12										
ALNE	Al Ain	74.10	288	*i* P		P		11 09 15.4	-0.6		
	SNR=20										
CUKT	Cukurca	74.14	306	*e*P		P		11 09 15.6	-0.5		
CCUT	Cedar City	74.21	54	*e*P		P		11 09 18.5	+1.8		
BAYT	Ayd¨–ntepe-Bay	74.21	310	*e*P		P		11 09 18.1	+1.5		
BORG	Borgarnes	74.26	354	P		P		11 09 16.9	+0.8		
	comp=Z,46nm,1.0s,baz=3.2,slow=4.8,SNR=5.5										
BORG	Borgarnes	74.26	354	P		P		11 09 16.9	+0.8		
BORG				pmax	pmax						
	comp=Z,46nm,1.0s										
BORG	Borgarnes	74.26	354	P		P		11 09 16.9	+0.8		
MURC	Murrieta	74.26	59	P		P		11 09 17.7	+0.9		
	baz=309,SNR=17										
GURO	Guroymak-BITLI	74.27	307	*e*P		P		11 09 17.9	+1.0		
MSU	Marysvale	74.32	53	*e*P		P		11 09 18.7	+1.4		
MSU	Marysvale	74.32	53	*e*P		P		11 09 18.6	+1.4		
AJN	Ajban	74.34	289	*i* P		P		11 09 16.9	-0.4		
	SNR=11										
SZCU	Shurtz Canyon	74.35	54	*e*P		P		11 09 18.8	+1.3		
	comp=Z,83nm,1.6s										
TMUT	Trail Mountain	74.39	51	*e*P		P		11 09 19.1	+1.2		
	comp=Z,25nm,1.1s										
BLS5	Blasjo	74.42	339	*e*P		P		11 09 18.0	+0.8		
GMRC	Granite Mounta	74.51	57	P		P		11 09 19.0	+0.7		
	baz=309,SNR=35										
SIM	Simferopol'	74.53	316	*e*P		P		11 09 19.0	+0.9		
SIM				pmax	pmax						
	comp=Z,61nm,1.0s										
P17A	Butcher Ranch,	74.56	51	*e*P		P		11 09 19.7	+1.1		
	comp=Z,83nm,1.2s										
MTPU	Mount Pierson	74.61	53	*e*P		P		11 09 20.8	+1.6		
	comp=Z,175nm,2.0s										
LCMT	Little Creek M	74.62	54	*e*P		P		11 09 20.2	+1.3		
	comp=Z,92nm,1.4s										
Q16A	Castle Valley	74.66	52	*e*P		P		11 09 20.8	+1.5		
	comp=Z,99nm,1.6s										
LDFC	Landfair	74.68	57	*e*P		P		11 09 20.1	+0.8		
	comp=Z,151nm,1.3s										
ESPY	Espiye-Giresun	74.69	311	*e*P		P		11 09 19.9	+0.8		
SIRT	Sirnak	74.69	306	*e*P		P		11 09 20.0	+0.7		
PFO	Pinyon Flats O	74.73	59	P		P		11 09 20.1	+0.5		
	baz=309,SNR=13										
PFO	Pinyon Flats O	74.73	59	*e*P		P		11 09 20.3	+0.6		
PFO				pmax	pmax						
	comp=Z,56nm,1.1s										
PFO	Pinyon Flats O	74.73	59	*e*P		P		11 09 20.3	+0.6		
	comp=Z,56nm,1.1s										
XPFO	Piæon Flat	74.73	59	*e*P		P		11 09 20.2	+0.5		
	comp=Z,65nm,1.1s										
P18A	Preston Nutter	74.75	51	*e*P		P		11 09 21.2	+1.3		
	comp=Z,35nm,1.1s										
109C	Camp Elliot, M	74.76	60	P		P		11 09 20.2	+0.6		
	baz=309,SNR=9.8										
BELC	Belle Mtn. Jos	74.78	58	P		P		11 09 20.0	0.0		
	baz=309,SNR=23										
HOMB	Homborsund	74.83	338	*e*P		P		11 09 20.1	+0.6		
ULM	Lac du Bonnet	74.88	35	P		P		11 09 19.8	-0.2		
	comp=Z,8.9nm,0.9s,baz=343,slow=4.6,SNR=6.1										
ULM	Lac du Bonnet	74.88	35	*e*P		P		11 09 19.6	-0.5		
ULM				pmax	pmax						
	comp=Z,66nm,1.7s										
ULM	Lac du Bonnet	74.88	35	*e*P		P		11 09 19.6	-0.5		
	comp=Z,66nm,1.7s										
KNB	Kanab	74.88	54	*e*P		P		11 09 22.4	+1.8		
KNB				pmax	pmax						
	comp=Z,149nm,1.5s										
KNB	Kanab	74.88	54	*e*P		P		11 09 22.4	+1.8		
	comp=Z,148nm,1.5s										
K22A	Casper	74.88	46	P		P		11 09 20.3	-0.2		
	baz=312,SNR=13										
K22A	Casper	74.88	46	*e*P		P		11 09 20.7	+0.2		
	comp=Z,116nm,1.4s										
MDND	Maddock	74.89	39	*e*P		P		11 09 21.0	+0.9		
	comp=Z,114nm,1.4s										
KMY	Karmoy	74.92	340	*e*P		P		11 09 21.1	+1.0		
SRU	San Rafael Swe	74.92	51	*e*P		P		11 09 21.5	+0.8		
SRU				pmax	pmax						
	comp=Z,71nm,1.2s										
SRU	San Rafael Swe	74.92	51	*e*P		P		11 09 21.5	+0.8		
	comp=Z,70nm,1.2s										
SNART	Snartemo	75.14	338	*e*P		P		11 09 22.3	+0.9		
RWWY	Rawlins	75.14	48	*e*P		P		11 09 20.8	-1.2		
	comp=Z,59nm,1.2s										
BAR	Barrett	75.18	60	*e*P		P		11 09 22.7	+0.6		
	comp=Z,39nm,1.0s										
NEE2	Needles Airpor	75.19	57	P		P		11 09 22.2	+0.1		
	baz=310										
MONP2	Monument Peak	75.21	59	P		P		11 09 23.0	+0.5		
	baz=309,SNR=10										
RSSD	Black Hills	75.23	44	P		P		11 09 21.8	-0.7		
	baz=313										
RSSD	Black Hills	75.23	44	*e*P		P		11 09 22.5	0.0		
RSSD				pmax	pmax						
	comp=Z,49nm,1.4s										
RSSD	Black Hills	75.23	44	*e*P		P		11 09 22.5	0.0		
	comp=Z,49nm,1.4s										
IRM	Iron Mountain	75.23	58	P		P		11 09 22.9	+0.5		
	baz=310,SNR=33										
BC3	Big Chuckawall	75.35	58	P		P		11 09 23.7	+0.5		
	baz=309,SNR=30										
B31A	Greenbush Farm	75.39	38	P		P		11 09 22.9	-0.1		
	baz=316										
BSD	Bornholm Skovb	75.40	333	*i* P		P		11 09 23.1	+0.2		
	comp=Z,174nm,1.1s										
BSD	Bornholm Skovb	75.40	333	*i* P		P		11 09 23.1	+0.2		
BSD				pmax	pmax						
	comp=Z,170nm,1.1s										
IKP	In-Ko-Pah, Jac	75.56	59	P		P		11 09 25.0	+0.6		
	baz=309,SNR=11										
A32A	Rocking H Ranc	75.57	37	P		P		11 09 23.8	-0.2		
	baz=317,SNR=7.4										
SWSC	Sam W. Stewart	75.58	59	P		P		11 09 24.9	+0.6		
	baz=310,SNR=11										
O20A	White River Ci	75.58	49	P		P		11 09 24.7	+0.1		
	baz=312,SNR=15										
O20A	White River Ci	75.58	49	*e*P		P		11 09 24.9	+0.4		
	comp=Z,44nm,1.0s										
PTK	Pertek	75.62	309	*e*P		P		11 09 26.8	+2.0		
ILIC	ilic-Erzincan	75.74	310	*e*P		P		11 09 25.8	+0.4		
BEL	Belsk	75.76	328	*e*P		P		11 09 26.1	+1.0		
BEL	Belsk	75.76	328	*e*P		P		11 09 26.1	+1.0		
COP	Copenhagen	75.77	334	*i* P		P		11 09 25.4	+0.4		
COP	Copenhagen	75.77	334	*e*P		P		11 09 25.4	+0.4		
KIS	Kishinev	75.78	321	*e*P		P		11 09 24.0	-1.2		
KIS				XM				11 09 25.0			
	comp=Z,400nm,1.5s										
KIS	Kishinev	75.78	321	*e*P		P		11 09 24.0	-1.2		
KIS				*i*				11 09 30.0			
KIS				pmax	pmax						
	comp=Z,360nm,1.5s										
PDMCI	Parker Dam,Lak	75.78	57	P		P		11 09 26.5	+1.0		
	baz=310,SNR=20										
DYBB	Diyarbakir	75.79	308	*e*P		P		11 09 27.2	+1.6		
C31A	Landman Farms,	75.81	38	P		P		11 09 25.1	-0.3		
	baz=316										
CAN	Canberra	75.82	177	*e*P		P		11 09 26.2	+0.8		
CAN				pmax	pmax						
	comp=Z,32nm,1.0s										
CAN	Canberra	75.82	177	*e*P		P		11 09 26.2	+0.8		
	comp=Z,32nm,1.0s										
RSDY	Resadiye-TOKAT	75.83	311	*e*P		P		11 09 25.5	-0.2		
Y12C	Blythe	75.89	58	P		P		11 09 27.0	+0.9		
	baz=310,SNR=19										
Y12C	Blythe	75.89	58	*e*P		P		11 09 27.1	+0.9		
	comp=Z,56nm,1.0s										
LVV	L'vov	75.92	325	*e*P		P		11 09 26.5	+0.5		
SNOP	Sinop	75.93	314	*e*P		P		11 09 26.0	-0.2		
B32A	Ashes, Strandq	75.93	37	P		P		11 09 25.8	-0.3		
	baz=317,SNR=9.6										
MAZI	Mazidag	75.93	307	*e*P		P		11 09 27.2	+0.7		
GKP	Gorka Klasztor	76.03	331	*e*P		P		11 09 27.3	+0.7		
GKP	Gorka Klasztor	76.03	331	*e*P		P		11 09 27.3	+0.7		
A33A	Warroad	76.05	36	P		P		11 09 26.1	-0.7		
	baz=317										
KVT	Kavak	76.09	313	*e*P		P		11 09 28.9	+1.6		
LLD	Lille Linde	76.13	334	*i* P		P		11 09 28.1	+1.0		
LLD	Lille Linde	76.13	334	*i* P		P		11 09 28.1	+1.0		
GLA	Glamis	76.14	58	P		P		11 09 28.7	+1.0		
	baz=310,SNR=12										
GLA	Glamis	76.14	58	*e*P		P		11 09 28.7	+1.0		
GLA				pmax	pmax						
	comp=Z,60nm,1.0s										
GLA	Glamis	76.14	58	*e*P		P		11 09 28.7	+1.0		
	comp=Z,60nm,1.0s										
PV09	Paradox Valley	76.14	51	*e*P		P		11 09 29.2	+1.3		
DIKM	Dikmen	76.15	313	*e*P		P		11 09 28.6	+1.1		
MUD	Monsted U'grnd	76.16	336	*i* P		P		11 09 28.0	+0.8		
	comp=Z,93nm,1.4s										
MUD	Monsted U'grnd	76.16	336	*i* P		P		11 09 28.0	+0.8		
MUD				pmax	pmax						
	comp=Z,93nm,1.4s										
IAS	Iasi	76.23	321	⇑*i* P		P		11 09 28.4	+0.6		
PV10	Paradox Valley	76.28	51	*e*P		P		11 09 29.9	+1.2		
AGMN	Agassiz Nation	76.31	37	P		P		11 09 27.6	-0.7		
	baz=317,SNR=8.7										
AGMN	Agassiz Nation	76.31	37	*e*P		P		11 09 27.7	-0.6		
	comp=Z,83nm,1.5s										
SVSK	Karacayir	76.34	311	*e*P		P		11 09 30.2	+1.7		
PHWY	Pilot Hill	76.38	47	*e*P		P		11 09 29.4	+0.2		
	comp=Z,98nm,1.9s										
N23A	Red Feather La	76.38	47	P		P		11 09 29.7	+0.6		
	baz=313,SNR=12										
N23A	Red Feather La	76.38	47	*e*P		P		11 09 30.6	+1.4		
	comp=Z,79nm,1.3s										
RGN	Rugen	76.40	333	*e*P		P		11 09 30.0	+1.4		
	comp=Z,185nm,1.0s										
LEOM	Leova	76.42	321	⇑*i* P		P		11 09 29.3	+0.4		
PV05	Paradox Valley	76.44	51	*e*P		P		11 09 30.5	+1.0		
B33A	Robert and Kas	76.45	37	P		P		11 09 28.8	-0.2		
	baz=317										
MALT	Malatya	76.57	309	*e*P		P		11 09 31.3	+1.2		
E31A	Nome	76.62	39	P		P		11 09 29.3	-0.8		
	baz=316										
KWP	Kalwaria Pacla	76.63	326	*e*P		P		11 09 31.3	+1.2		
KWP	Kalwaria Pacla	76.63	326	*e*P		P		11 09 31.3	+1.2		
KWP	Kalwaria Pacla	76.63	326	*e*P		P		11 09 31.3	+1.2		
	comp=Z,3um,1.1s										
PV01	Paradox Valley	76.72	51	*e*P		P		11 09 31.7	+0.6		
B34A	Aery, Baudette	76.72	36	P		P		11 09 29.8	-0.8		
	baz=318,SNR=8.4										
WUAZ	Wupatki	76.74	55	P		P		11 09 32.4	+1.2		
	baz=311,SNR=38										
WUAZ	Wupatki	76.74	55	*e*P		P		11 09 32.4	+1.2		
	comp=Z,80nm,1.1s										
Y14A	Wickenburg	76.74	57	*e*P		P		11 09 31.9	+0.8		
C33A	Trail	76.74	37	P		P		11 09 30.1	-0.7		
	baz=317,SNR=6.3										
URFA	Urfa	76.92	308	*e*P		P		11 09 32.8	+0.8		
SMCO	Snowmass	76.95	49	*e*P		P		11 09 33.4	+0.8		
	comp=Z,56nm,1.4s										
DARE	Darende-Malaty	76.95	310	*e*P		P		11 09 33.9	+1.7		
113A	Mohawk Valley,	77.01	58	*e*P		P		11 09 33.5	+1.0		
BUR08	Bucovina Ar. S	77.01	323	*e*P		P		11 09 33.2	+0.8		
BUR04	Bucovina Ar. S	77.02	323	*e*P		P		11 09 32.3	-0.2		
BURAR	Bucovina Array	77.02	323	⇓*i* P		P		11 09 33.3	+0.9		
TLCR		77.07	319	⇑*i* P		P		11 09 33.2	+0.6		
TESR	Tescani	77.16	321	⇓*i* P		P		11 09 33.1	0.0		
D33A	AnnSam, Waubun	77.17	38	P		P		11 09 32.4	-0.8		
	baz=317										
C34A	RKJ Ranch, Bem	77.22	37	P		P		11 09 32.4	-1.0		
	baz=318										
B35A	Bob, Littlefor	77.22	36	P		P		11 09 33.0	-0.5		
	baz=318,SNR=8.6										
ISCO	Idaho Springs	77.31	48	P		P		11 09 34.8	+0.3		
	baz=313,SNR=18										
ISCO	Idaho Springs	77.31	48	*e*P		P		11 09 35.3	+0.8		
ISCO				pmax	pmax						
	comp=Z,79nm,1.6s										
ISCO	Idaho Springs	77.31	48	*e*P		P		11 09 35.3	+0.8		
	comp=Z,79nm,1.6s										
MVCO	Mesa Verde	77.37	52	P		P		11 09 35.2	+0.4		
	baz=312,SNR=16										
MVCO	Mesa Verde	77.37	52	*e*P		P		11 09 35.7	+0.9		
	comp=Z,161nm,1.8s										
OJC	Ojcow	77.41	327	*e*P		P		11 09 35.3	+0.9		
OJC	Ojcow	77.41	327	*e*P		P		11 09 35.2	+0.8		
OJC				pmax	pmax						
	comp=Z,316nm,1.2s										
OJC	Ojcow	77.41	327	*e*P		P		11 09 35.2	+0.8		
	comp=Z,316nm,1.2s										
ILGA	Ilgaz	77.41	314	*e*P		P		11 09 36.9	+2.0		
	comp=Z,247nm,1.4s										
CFR	Carcaliu	77.41	320	⇓*i* P		P		11 09 35.1	+0.6		
X16A	Lo Mia Camp, P	77.41	55	*e*P		P		11 09 36.2	+1.2		
STHS	Stebnicka Huta	77.42	326	*e*P		P		11 09 36.2	+1.6		
STHS				pmax	pmax						
	comp=Z,63nm,1.3s										
STHS	Stebnicka Huta	77.42	326	*e*P		P		11 09 36.2	+1.6		
PETR	Petresti	77.46	321	⇓*i* P		P		11 09 36.6	+1.9		
CORM	Corum	77.50	313	*e*P		P		11 09 35.3	0.0		
ODBI	Odobesti	77.51	321	⇑*i* P		P		11 09 37.0	+1.9		
E33A	Westby DABS, E	77.56	38	P		P		11 09 35.2	-0.1		
	baz=317,SNR=9.8										
UZH	Uzhgorod	77.57	325	⇑*i* P		P		11 09 34.9	-0.4		
UZH				*e*				11 09 43.2			
VRI	Vrincioaia	77.59	321	⇑*i* P		P		11 09 36.4	+0.8		
C35A	Jirik Farms, M	77.60	36	P		P		11 09 34.9	-0.7		
	baz=318,SNR=9.5										
SUSD	Miller	77.62	41	P		P		11 09 35.5	-0.2		
	baz=316										
PLOR	Plostina	77.64	321	⇓*i* P		P		11 09 36.7	+0.8		
NWAO	Narrogin (SRO)	77.67	204	P		P		11 09 35.8	0.0		
	comp=Z,50nm,0.8s,baz=254,slow=5.2,SNR=11										
NWAO	Narrogin (SRO)	77.67	204	P		P		11 09 35.8	0.0		
NWAO				pmax	pmax						
	comp=Z,50nm,0.8s										
NWAO	Narrogin (SRO)	77.67	204	*e*P		P		11 09 36.0	+0.2		
	comp=Z,59nm,0.9s										
BNN	Bunyan	77.71	311	*e*P		P		11 09 36.7	+0.2		
CRVS	Cervenica-Dubn	77.72	326	*e*P		P		11 09 37.2	+1.0		
CRVS	Cervenica-Dubn	77.72	326	*e*P		P		11 09 37.1	+0.9		
G32A	Webster	77.75	40	P		P		11 09 36.0	-0.5		
	baz=317										
BMR	Baia Mare	77.76	324	⇓*i* P		P		11 09 37.5	+1.1		
CANT	Cankiri	77.77	313	*e*P		P		11 09 37.6	+0.9		
TIRR	Tirgusor	77.79	319	⇓*i* P		P		11 09 37.1	+0.5		
ARCR	ARCALIA	77.81	323	⇓*i* P		P		11 09 38.3	+1.6		
NIE	Niedzica	77.82	327	*e*P		P		11 09 38.0	+1.2		
NIE	Niedzica	77.82	327	*e*P		P		11 09 38.0	+1.2		
GRER		77.83	320	⇑*i* P		P		11 09 39.9	+3.0		
TRPA	Tarpa	77.84	325	⇓*e*P		P		11 09 38.1	+1.3		
HARR	Harsova	77.86	319	⇓*i* P		P		11 09 38.2	+1.2		
F33A	5 Mile Ranch,	77.91	39	P		P		11 09 37.0	-0.3		
	baz=317,SNR=9.5										
SHAO	Shalim	77.93	283	P		P		11 09 39.7	+1.9		
	SNR=7.5										
SHAO	Shalim	77.93	283	P		P		11 09 39.7	+1.9		
	SNR=7.5										
SHAO	Shalim	77.93	283	*i* P		P		11 09 37.5	-0.4		
	SNR=9.7										
S22A	4UR Ranch, Cre	78.00	50	P		P		11 09 39.1	+0.8		
	baz=313,SNR=25										
S22A	4UR Ranch, Cre	78.00	50	*e*P		P		11 09 39.5	+1.1		
	comp=Z,109nm,1.6s										
KMRS	Kahramanmaras	78.01	309	*e*P		P		11 09 38.8	+0.7		
W18A	Petrified Fore	78.01	54	P		P		11 09 39.2	+0.9		
	baz=312,SNR=15										
W18A	Petrified Fore	78.01	54	*e*P		P		11 09 39.9	+1.5		
	comp=Z,32nm,1.1s										
D35A	Remer	78.03	37	P		P		11 09 37.4	-0.6		
	baz=318										
GAZ	Gaziantep	78.05	309	*e*P		P		11 09 40.0	+1.6		
NRS	Narsarsuaq	78.07	5	*i* P		P		11 09 38.0	+0.1		
NRS	Narsarsuaq	78.07	5	*i* P		P		11 09 38.0	+0.1		
C36A	Pine Crest Far	78.07	36	P		P		11 09 38.1	-0.1		
	baz=319,SNR=9.8										
Q24A	Divide	78.14	48	P		P		11 09 39.3	+0.2		
	baz=313,SNR=8.1										
Q24A	Divide	78.14	48	*e*P		P		11 09 39.7	+0.6		
	comp=Z,19nm,1.1s										
214A	Organ Pipe Nat	78.15	58	P		P		11 09 39.5	+0.6		
	baz=311,SNR=33										
DOPR	Dopca	78.16	322	⇓*i* P		P		11 09 40.4	+1.7		
RAC	Raciborz	78.16	328	*e*P		P		11 09 39.4	+0.8		
ISR	Istrita	78.23	320	⇓*i* P		P		11 09 40.5	+1.3		
MLR	Muntele Rosu	78.24	321	P		P		11 09 40.1	+0.7		
	comp=Z,6.8nm,0.9s,baz=4.1,slow=3.9,SNR=19										
MLR	Muntele Rosu	78.24	321	⇓*i* P		P		11 09 40.1	+0.7		
MLR	Muntele Rosu	78.24	321	*e*P		P		11 09 39.9	+0.6		
MLR				pmax	pmax						
	comp=Z,153nm,1.5s										
ML

baz=318,SNR=6.0
CEYT Ceyhan 79.02 310 *e*P P 11 09 44.9 +1.3
K31A O'Neill 79.03 42 P P 11 09 43.4 -0.3
baz=316,SNR=9.8
VYHS Vyhne 79.14 327 *e*P P 11 09 44.7 +0.6
VYHS pmax pmax
comp=Z,68nm,1.3s
VYHS Vyhne 79.14 327 *e*P P 11 09 44.7 +0.6
VYHS *e*PP PP 11 12 46.8 +4.0
PSZ Piszkesteto 79.14 326 ⇓*i*P P 11 09 45.2 +1.0
PSZ Piszkesteto 79.14 326 *e*P P 11 09 44.6 +0.4
PSZ pmax pmax
comp=Z,198nm,1.2s
PSZ Piszkesteto 79.14 326 ⇓*e*P P 11 09 45.2 +1.0
PSZ Piszkesteto 79.14 326 *e*P P 11 09 44.6 +0.4
comp=Z,198nm,1.2s
CLL Collm 79.16 332 ⇓*i*P P 11 09 44.3 +0.2
CLL *i* 11 09 48.0
CLL pmax pmax
comp=Z,164nm,1.1s
CLL Collm 79.16 332 ⇓*i*P P 11 09 44.3 +0.2
comp=Z,164nm,1.1s
CLL *i* pP pP 11 09 48.0 -0.9
CLL *e* 11 09 56.0
CLL Collm 79.16 332 *e*P P 11 09 44.2 +0.2
comp=Z,108nm,0.9s
SGRR Singureni 79.16 320 ⇑*i*P P 11 09 44.7 +0.5
BRG Berggiesshubel 79.17 331 *i* P P 11 09 44.6 +0.4
comp=Z,82nm,1.2s
BRG *i* PP PP 11 12 43.5 +0.7
BRG Berggiesshubel 79.17 331 *i* P P 11 09 44.6 +0.4
BRG *i* 11 12 43.5
BRG pmax pmax
comp=Z,82nm,1.2s
BRG MLR MLR
comp=N,9μm,18.2s
BRG MLR MLR
comp=E,9μm,15.8s
BRG MLR MLR
comp=Z,13μm,15.7s
MDUB Mudurnu 79.18 315 *e*P P 11 09 44.4 -0.2
F36A Milaca 79.19 37 P P 11 09 43.5 -0.9
baz=319
C39A Grand Marais 79.20 34 P P 11 09 43.6 -0.8
baz=321
TUC Tucson 79.21 57 P P 11 09 45.5 +0.6
baz=312
TUC Tucson 79.21 57 *e*P P 11 09 45.7 +0.9
TUC pmax pmax
comp=Z,54nm,1.1s
TUC Tucson 79.21 57 *e*P P 11 09 45.7 +0.9
comp=Z,54nm,1.1s
YURE YUREGIR 79.21 310 *e*P P 11 09 45.6 +0.9
PVCC Panska Ves 79.22 330 *e*P P 11 09 45.4 +1.0
PVCC Panska Ves 79.22 330 *e*P P 11 09 45.4 +1.0
G35A Watkins 79.22 38 P P 11 09 44.3 -0.3
baz=318
ECSD EROS Data Cent 79.30 40 P P 11 09 44.6 -0.5
baz=317,SNR=15
ECSD EROS Data Cent 79.30 40 *e*P P 11 09 44.9 -0.1
comp=Z,52nm,1.3s
VRAC Vranov 79.41 329 ⇓*i*P P 11 09 46.7 +1.2
J33A Davis 79.43 41 P P 11 09 45.1 -0.7
baz=317
I34A Hadley 79.44 40 P P 11 09 45.3 -0.5
baz=318
H35A Sunnyside Ranc 79.45 39 P P 11 09 45.7 -0.1
baz=318,SNR=17
YAYL Yayladag 79.47 309 *e*P P 11 09 46.6 +0.3
SULT Sultanhani-AKS 79.49 312 *e*P P 11 09 47.3 +1.0
SPNC Sapanca-Adapaz 79.51 315 *e*P P 11 09 46.6 +0.4
E38A The Farm, Brul 79.51 36 P P 11 09 45.9 -0.3
baz=320,SNR=6.6
KSCO Kaye Shedlock' 79.53 47 P P 11 09 46.5 0.0
baz=315,SNR=8.4
KSCO Kaye Shedlock' 79.53 47 *e*P P 11 09 47.1 +0.6
comp=Z,109nm,1.4s
G36A St. Michael 79.55 38 P P 11 09 45.9 -0.5
baz=319
CHBY Cihanbeyli 79.58 312 *e*P P 11 09 46.0 -0.7
GULT Gulveren 79.58 315 *e*P P 11 09 46.7 0.0
GOPC GO Pecny, Ondr 79.63 330 *e*P P 11 09 47.5 +0.8
GOPC *ex* x 11 09 58.9
GOPC GO Pecny, Ondr 79.63 330 *e*P P 11 09 47.5 +0.8
GOPC *e* 11 09 58.9
SIRR Siria 79.64 324 ⇓*i*P P 11 09 47.7 +0.8
MHTCO State Highway 79.66 50 *e*P P 11 09 49.0 +1.6
comp=Z,220nm,1.7s
PRU Pruhonice 79.66 330 *e*P P 11 09 47.6 +0.7
PRU Pruhonice 79.66 330 *e*P P 11 09 47.6 +0.7
F37A Hinrichs Farm, 79.70 37 P P 11 09 46.9 -0.3
baz=320
SMOL Smolenice 79.71 328 *e*P P 11 09 48.5 +1.3
SMOL Smolenice 79.71 328 *e*P P 11 09 48.5 +1.3
T25A Trinidad 79.82 49 P P 11 09 48.7 +0.4
baz=314,SNR=16
T25A Trinidad 79.82 49 *e*P P 11 09 49.0 +0.7
comp=Z,56nm,1.2s
BUD Budapest 79.85 326 ⇓*e*P P 11 09 48.9 +1.0
TREC Trest 79.86 329 *e*P P 11 09 48.8 +0.8
TREC *ep*P pP 11 09 52.6 -0.2
TREC Trest 79.86 329 *e*P P 11 09 48.8 +0.8
TREC *e* 11 09 52.6
L32A Elgin 79.86 42 P P 11 09 48.1 -0.1
baz=317
F38A Pierce - Schro 79.86 36 P P 11 09 47.9 -0.2
baz=320,SNR=15
ZIMR 79.88 320 ⇓*i*P P 11 09 48.9 +0.8
MODS Modra-Piesok 79.88 328 *e*P P 11 09 49.7 +1.6
MODS Modra-Piesok 79.88 328 *e*P P 11 09 49.7 +1.6
SRO Srobarova 79.89 327 *e*P P 11 09 49.7 +1.6
SRO Srobarova 79.89 327 *e*P P 11 09 49.6 +1.5
K33A Hardington 79.93 41 P P 11 09 48.5 -0.1
baz=317
J34A George 79.95 40 P P 11 09 48.5 0.0
baz=318
H36A Jessenland, He 79.97 38 P P 11 09 48.6 0.0
baz=319
ADVT Abdulvahap 79.99 315 *e*P P 11 09 49.6 +0.8
I35A Creekview Farm 80.00 39 P P 11 09 48.3 -0.6
baz=318
SPMN Marine on St. 80.00 37 P P 11 09 48.5 -0.3
baz=320,SNR=6.9
SPMN Marine on St. 80.00 37 *e*P P 11 09 48.9 +0.1
comp=Z,61nm,1.4s
ZST Bratislava 80.09 328 *e*P P 11 09 49.9 +0.7
ZST pmax pmax
comp=Z,96nm,1.2s
ZST Bratislava 80.09 328 *e*P P 11 09 49.9 +0.7
CAVI Cavuskoy 80.10 315 *e*P P 11 09 49.9 +0.4
OUZ Omahuta 80.10 156 *e*P P 11 09 51.9 +2.7
comp=Z,50nm,1.1s
ANMO Albuquerque 80.12 52 P P 11 09 51.0 +1.1
baz=313
ANMO Albuquerque 80.12 52 *e*P P 11 09 50.9 +1.1
ANMO pmax pmax
comp=Z,92nm,1.4s
ANMO Albuquerque 80.12 52 *e*P P 11 09 50.9 +1.1
comp=Z,92nm,1.4s
L33A Hoskins 80.12 42 P P 11 09 49.0 -0.5
baz=317
E39A Mellen 80.13 35 P P 11 09 48.8 -0.7
baz=321,SNR=14
BZS Buzias 80.16 323 ⇓*i*P P 11 09 49.9 +0.3
BGNE Belgrade 80.22 43 P P 11 09 49.9 -0.2
baz=317,SNR=6.4
BGNE Belgrade 80.22 43 *e*P P 11 09 50.2 +0.2
comp=Z,148nm,1.3s
NKC Novy Kostel 80.24 331 *e*P P 11 09 50.5 +0.5
NKC Novy Kostel 80.24 331 *e*P P 11 09 50.5 +0.5
RAR Rarotonga 80.26 129 P P 11 09 49.6 -0.7
comp=Z,10nm,0.8s,baz=262,slow=15,SNR=2.1
RAR Rarotonga 80.26 129 P P 11 09 49.7 -0.7
RAR pmax pmax
comp=Z,10.0nm,0.8s
RAR Rarotonga 80.26 129 P P 11 09 49.6 -0.7
CSKK Cs˘‡kako 80.27 326 ⇓*e*P P 11 09 51.0 +0.8
GEMT Gemlik 80.28 316 *e*P P 11 09 49.9 -0.5
PHSR Pinarhisar 80.28 318 *e*P P 11 09 51.0 +0.6
K34A Le Mars 80.32 41 P P 11 09 50.1 -0.5
baz=318
F39A Loretta 80.33 36 P P 11 09 49.9 -0.6
baz=321,SNR=13
I36A Fitzsimmons Fa 80.34 39 P P 11 09 50.3 -0.4
baz=319,SNR=5.3
HERR Herculane 80.36 323 ⇓*i*P P 11 09 50.9 +0.2
ARMT Armutlu 80.36 316 *e*P P 11 09 50.1 -0.8
E40A Wakefield 80.36 35 P P 11 09 50.6 -0.2
baz=321,SNR=24
Y22D IRIS PASSCAL I 80.43 53 P P 11 09 52.5 +1.0
baz=313
Y22D IRIS PASSCAL I 80.43 53 *e*P P 11 09 53.6 +2.1
Y22E IRIS PASSCAL I 80.43 53 P P 11 09 52.4 +0.9
baz=313
H37A Dierke Farm, C 80.44 38 P P 11 09 51.2 +0.1
baz=320,SNR=5.4
D41A Chassel 80.46 34 P P 11 09 50.9 -0.3
baz=322,SNR=9.1
EKA Eskdalemuir Ar 80.46 342 P P 11 09 51.7 +0.7
comp=Z,13nm,0.6s,baz=27,slow=4.9,SNR=35
EKA PP PP 11 12 52.0 -1.4
comp=Z,1.2nm,0.5s,baz=20,slow=6.3,SNR=4.5
EKA Eskdalemuir Ar 80.46 342 P P 11 09 51.8 +0.7
EKA 11 12 52.0
EKA Eskdalemuir Ar 80.46 342 P P 11 09 51.8 +0.7
EKA PP PP 11 12 52.0 -1.4
G38A Ridgeland 80.48 37 P P 11 09 50.8 -0.6
baz=320,SNR=7.2
EDRB Edirne 80.52 318 *e*P P 11 09 53.6 +1.9
CRLT Corlu 80.54 317 *e*P P 11 09 53.2 +1.4
M33A Taylor Creek F 80.59 42 P P 11 09 52.1 +0.1
baz=317
I37A Lemond, Waseca 80.64 38 P P 11 09 52.3 0.0
baz=319,SNR=16
H38A Maiden Rock 80.66 37 P P 11 09 51.9 -0.5
baz=320
F40A Park Falls 80.68 35 P P 11 09 52.0 -0.4
baz=321,SNR=8.7
G39A Holcombe 80.70 36 P P 11 09 51.5 -1.0
baz=320,SNR=5.6
J36A Seneca 1, Swea 80.71 39 P P 11 09 52.3 -0.4
baz=319
WTSB Winterswijk 80.71 335 *e*P P 11 09 52.7 +0.2
comp=Z,265nm,1.6s
L34A Svendsen Farm, 80.72 42 P P 11 09 52.3 -0.5
baz=318
SOP Sopron 80.72 328 ⇓*e*P P 11 09 54.0 +1.4
KHC Kasperske Hory 80.72 330 *e*P P 11 09 53.4 +0.7
KHC *ex* x 11 09 57.1
KHC *ex* x 11 10 05.5
KHC Kasperske Hory 80.72 330 *e*P P 11 09 53.4 +0.7
KHC *e* 11 10 05.5
KHC Kasperske Hory 80.72 330 *e*P P 11 09 52.9 +0.2
comp=Z,64nm,1.1s
E41A Kenton 80.75 34 P P 11 09 52.8 0.0
baz=322,SNR=18
MDVR Moldovita 80.75 323 ⇓*i*P P 11 09 53.1 +0.2
319A Douglas 80.79 56 *e*P P 11 09 54.5 +1.0
CONA Conrad Observa 80.81 328 *ep*P P 11 09 54.5 +1.3
comp=Z,146nm,1.3s,SNR=54
SHUT Suhut-Afyon 80.89 314 *e*P P 11 09 55.7 +1.8
GEC2 GERESS Array S 80.91 330 *e*P P 11 09 54.1 +0.4
GEC2 pmax pmax
comp=Z,62nm,1.1s
GEC2 GERESS Array S 80.91 330 *e*P P 11 09 54.1 +0.4
comp=Z,62nm,1.1s
GERES GERESS Array B 80.91 330 P P 11 09 54.0 +0.2
comp=Z,21nm,0.9s,baz=35,slow=4.9,SNR=53
GERES GERESS Array B 80.91 330 P P 11 09 54.0 +0.2
GERES pmax pmax
comp=Z,21nm,0.9s
GERES GERESS Array B 80.91 330 P P 11 09 54.0 +0.2
GEA0 GERESS Array S 80.92 330 *e*P P 11 09 53.4 -0.4
121A Cookes Peak, D 80.94 55 P P 11 09 55.5 +1.2
baz=313,SNR=38
121A Cookes Peak, D 80.94 55 *e*P P 11 09 55.4 +1.0
comp=Z,63nm,0.9s
COWI Conover 80.97 35 *e*P P 11 09 53.4 -0.6
comp=Z,76nm,1.5s
SCHQ Schefferville 80.97 18 P P 11 09 54.5 +0.7
comp=Z,20nm,1.0s,baz=359,slow=5.7,SNR=12
SCHQ Schefferville 80.97 18 *e*P P 11 09 54.0 +0.2
comp=Z,47nm,1.1s
MORH M¯‡r¡gy, Hung 81.01 325 ⇓*e*P P 11 09 54.1 -0.1
L35A Bielow Farm, R 81.02 41 P P 11 09 53.8 -0.6
baz=318
N33A J Bar K, Exete 81.07 43 P P 11 09 54.2 -0.5
baz=312
J37A Redenius Farm, 81.10 39 P P 11 09 54.4 -0.4
baz=319,SNR=9.3
H39A Augusta 81.11 37 P P 11 09 54.5 -0.3
baz=320
I38A Scanlan Farm, 81.12 38 P P 11 09 54.1 -0.7
baz=320,SNR=6.3
GRFO Grafenberg 81.14 332 *e*P P 11 09 55.7 +0.9
GRFO pmax pmax
comp=Z,171nm,1.1s
GRFO Grafenberg 81.14 332 *e*P P 11 09 55.7 +0.9
comp=Z,171nm,1.1s
G40A Rib Lake 81.15 36 P P 11 09 54.5 -0.4
baz=321,SNR=9.1
K36A Gilmore City 81.17 40 P P 11 09 54.6 -0.5
baz=319
E42A Champion 81.23 34 P P 11 09 54.9 -0.4
baz=322,SNR=18
CBKS Cedar Bluff 81.25 46 P P 11 09 55.4 -0.3
baz=316
CBKS Cedar Bluff 81.25 46 *e*P P 11 09 55.6 -0.1
CBKS pmax pmax
comp=Z,52nm,1.1s
CBKS Cedar Bluff 81.25 46 *e*P P 11 09 55.6 -0.1
comp=Z,52nm,1.1s
F41A Three Lakes 81.26 35 P P 11 09 55.5 -0.1
baz=322,SNR=20
HSIG 81.29 59 *e*P P 11 09 56.8 +0.8
comp=Z,63nm,1.2s
KRBG Karabiga-Canak 81.31 317 *e*P P 11 09 56.2 +0.4
M35A Neola 81.43 41 P P 11 09 56.3 -0.3
baz=318
ISP Isparta 81.43 313 ⇓*i*P P 11 09 56.4 -0.3
ISP Isparta 81.43 313 *ce*P P 11 09 56.2 -0.5
ISP pmax pmax
comp=Z,48nm,1.7s
ISP Isparta 81.43 313 *e*P P 11 09 57.0 +0.3
comp=Z,30nm,1.1s
L36A Harm Buss Farm 81.47 40 P P 11 09 56.2 -0.5
baz=319
K37A Belmond 81.47 39 P P 11 09 56.5 -0.2
baz=319,SNR=5.3
N34A Lincoln 81.48 42 P P 11 09 56.4 -0.5
baz=318
O33A Hebron 81.48 43 P P 11 09 56.4 -0.5
baz=317
ARSA Arzberg 81.49 328 *ep*P P 11 09 57.6 +0.8
comp=Z,45nm,1.0s,SNR=18
MOA Molln 81.50 329 *e*P P 11 09 57.5 +0.7
comp=Z,75nm,1.8s,SNR=16
ERIK Erikli-Kesan 81.51 317 *e*P P 11 09 58.1 +1.2
LFK Lefkose 81.51 310 *e*P P 11 09 57.7 +0.6
SRIG Santa Rosalia 81.56 61 *e*P P 11 09 57.9 +0.5
H40A Chili 81.56 36 P P 11 09 56.4 -0.7
baz=321,SNR=11
ALN Alexandroupoli 81.58 318 *e*P P 11 09 58.7 +1.4
BEHE Becsehely 81.60 327 ⇓*e*P P 11 09 57.7 +0.4
J38A Wedel Dairy, R 81.60 38 P P 11 09 56.9 -0.5
baz=320,SNR=5.2
ASF Jabal al Asfar 81.63 305 P P 11 09 58.4 +0.6
comp=Z,16nm,1.0s,baz=294,slow=4.3,SNR=7.1
ASF Jabal al Asfar 81.63 305 P P 11 09 58.4 +0.6
ASF pmax pmax
comp=Z,16nm,1.0s
ASF Jabal al Asfar 81.63 305 P P 11 09 58.4 +0.6
I39A Houston 81.64 38 P P 11 09 57.0 -0.6
baz=320,SNR=7.8
G41A Antigo 81.64 35 P P 11 09 57.2 -0.4
baz=322
E43A Lone Tree Farm 81.66 33 P P 11 09 57.2 -0.4
baz=323,SNR=8.6
F42A Maple Grove Fa 81.67 34 P P 11 09 57.6 -0.1
baz=322
RAYN Ar Rayn 81.70 294 *e*P P 11 09 58.2 -0.1
comp=Z,122nm,1.6s
VTS Vitosha 81.72 321 ⇓*i*P P 11 09 59.1 +0.8
VTS Vitosha 81.72 321 *e*P P 11 09 59.0 +0.8
VTS pmax pmax
comp=Z,81nm,0.9s
VTS Vitosha 81.72 321 *e*P P 11 09 59.0 +0.8
comp=Z,81nm,0.9s
GELI Tayfur-Gelibol 81.73 317 *e*P P 11 09 58.3 +0.2
CSS Mathiatis 81.85 310 *e*P P 11 09 59.1 +0.3
comp=Z,14nm,0.9s
O34A Beatrice 81.87 43 P P 11 09 58.3 -0.6
baz=318,SNR=8.5
M36A Felix, Anita 81.88 41 P P 11 09 58.7 -0.3
baz=319
L37A Phoenix Point, 81.90 40 P P 11 09 58.5 -0.5
baz=319,SNR=6.8
H41A Junction City 81.90 36 P P 11 09 58.5 -0.4
baz=322,SNR=8.0
N35A Tabor 81.90 42 P P 11 09 58.9 -0.1
baz=318,SNR=8.7
E44A Grand Marais A 81.91 33 P P 11 09 58.9 0.0
baz=324
G42A Mountain 81.95 35 P P 11 09 58.7 -0.5
baz=322,SNR=12
J39A Decorah 81.95 38 P P 11 09 58.2 -1.0
baz=320,SNR=11
MMAI Mount Meron Ar 81.96 307 P P 11 10 00.9 +1.3
comp=Z,47nm,0.9s,baz=27,slow=5.6,SNR=16
MMAI Mount Meron Ar 81.96 307 P P 11 10 00.9 +1.3
K38A Parkersburg 81.97 39 P P 11 09 58.9 -0.5
baz=320
F43A Flat Rock, Esc 82.02 34 P P 11 09 58.9 -0.6
baz=323,SNR=9.8
MANT Manisa 82.02 315 *e*P P 11 09 56.0 -4.0
comp=Z,1μm,0.5s
HGN Heimansgroeve 82.03 335 *e*P P 11 09 59.6 +0.1
comp=Z,172nm,1.3s
I40A Norwalk 82.03 37 P P 11 09 59.2 -0.4
baz=321,SNR=6.5
DIVS Divibare 82.07 323 *e*P P 11 09 59.3 -0.7
comp=Z,50nm,1.0s
BEBN Eben Emael 82.08 335 ⇑P P 11 10 00.2 +0.5
MEM Membach 82.14 335 ⇓P P 11 10 00.1 0.0
comp=Z,57nm,1.3s
PERS Pernice 82.15 328 *i* P P 11 10 00.6 +0.3
SOKA Soboth 82.15 328 *i* P P 11 10 00.9 +0.6
comp=Z,108nm,0.9s,SNR=62
O35A Humboldt 82.21 42 P P 11 10 00.3 -0.4
baz=318
F44A Big Bay de Noc 82.22 33 P P 11 09 59.9 -0.6
baz=323,SNR=13
EZN Ezine 82.23 317 *e*P P 11 10 00.9 +0.2
I41A Arkdale 82.23 36 P P 11 10 00.3 -0.4
baz=321,SNR=6.4
EPT El Paso 82.25 55 *e*P P 11 10 02.2 +1.0
comp=Z,77nm,1.3s
G43A Wallace 82.25 34 P P 11 10 00.3 -0.5
baz=323,SNR=14
P34A Walnut Farm, R 82.27 43 P P 11 10 00.4 -0.6
baz=318,SNR=7.8
L38A Oak Wood Farm, 82.27 39 P P 11 10 00.7 -0.3
baz=320,SNR=7.5
N36A Muff Farm, Cla 82.28 41 P P 11 10 01.0 0.0
baz=319,SNR=6.0
M37A Trindle Farm, 82.29 41 P P 11 10 01.0 -0.1
baz=319
SCIA State Center 82.32 40 P P 11 10 01.5 +0.3
baz=320,SNR=6.2
SCIA State Center 82.32 40 *e*P P 11 10 02.0 +0.8
comp=Z,272nm,1.6s
K39A Oelwein 82.35 38 P P 11 10 00.8 -0.5
baz=320,SNR=9.8
J40A Soldiers Grove 82.35 37 P P 11 10 00.6 -0.7
baz=321
E45A Wooded Hills, 82.42 32 P P 11 10 01.6 0.0
baz=324
H42A Shiocton 82.48 35 P P 11 10 02.0 0.0
baz=322
OBKA Obir 82.48 328 *e*P P 11 10 02.2 +0.1
comp=Z,49nm,1.1s,SNR=13
KBA Koelnbreinsper 82.50 329 *ep*P P 11 10 03.1 +0.8
comp=Z,117nm,1.1s,SNR=56
BCLA Clavier 82.52 335 ⇓P P 11 10 02.1 0.0
comp=Z,58nm,1.4s
STU Stuttgart 82.63 332 *e*P P 11 10 03.3 +0.6
STU pmax pmax
comp=Z,125nm,1.1s
STU Stuttgart 82.63 332 *e*P P 11 10 03.3 +0.6
comp=Z,125nm,1.1s
Q34A Chapman 82.67 44 P P 11 10 02.7 -0.4
baz=318,SNR=7.6
P35A Duane Minner, 82.70 43 P P 11 10 02.7 -0.6
baz=318
N37A Lee Faris, Mou 82.70 41 P P 11 10 03.7 +0.5
baz=319,SNR=6.6
M38A Pleasantville 82.70 40 P P 11 10 02.7 -0.5
baz=320,SNR=13
K40A Colesburg 82.71 38 P P 11 10 02.7 -0.5
baz=321,SNR=6.8
J41A Loganville 82.71 37 P P 11 10 03.0 -0.2
baz=321,SNR=11
KSU1 Kansas State U 82.71 44 P P 11 10 02.8 -0.5
baz=318
KSU1 Kansas State U 82.71 44 *e*P P 11 10 03.2 -0.1
comp=Z,44nm,1.3s
L39A Vinton 82.74 39 P P 11 10 03.1 -0.3
baz=320,SNR=20
MYKA Terra Mystica 82.75 329 *i* P P 11 10 03.3 -0.1
comp=Z,104nm,1.3s,SNR=25
SNF Seneffe 82.77 336 ⇓P P 11 10 03.3 -0.1
comp=Z,49nm,1.2s
AYDB Zeytinkoy-Aydi 82.78 315 *e*P P 11 10 03.7 -0.1
O36A Bolckow 82.79 42 P P 11 10 03.8 +0.1
baz=319
BLY Banja Luka 82.80 325 ⇓*i*P P 11 10 03.8 +0.2
BLY Banja Luka 82.80 325 *e*P P 11 10 03.8 +0.2
comp=Z,72nm,1.3s
I42A Draeger Farm, 82.80 36 P P 11 10 03.4 -0.2
baz=322,SNR=14
F45A CMU Biological 82.83 33 P P 11 10 03.4 -0.3
baz=324,SNR=6.2
H43A Windswept, Lux 82.84 35 P P 11 10 03.6 -0.3
baz=323,SNR=11
WLF Walferdange 82.91 334 ⇑P P 11 10 04.3 +0.3
comp=Z,54nm,1.8s
WLF Walferdange 82.91 334 *e*P P 11 10 04.4 +0.3
WLF pmax pmax
comp=Z,69nm,1.2s
WLF Walferdange 82.91 334 *e*P P 11 10 04.4 +0.4
comp=Z,69nm,1.2s
PLE Pljevlja 82.94 323 ⇓*i*P P 11 10 04.3 -0.3
JFWS Jewell Farm 82.95 37 P P 11 10 03.5 -0.9
baz=321,SNR=5.3
JFWS Jewell Farm 82.95 37 *e*P P 11 10 04.4 -0.1
JFWS pmax pmax
comp=Z,96nm,1.8s
JFWS Jewell Farm 82.95 37 *e*P P 11 10 04.3 -0.1
comp=Z,96nm,1.8s
R34A Isabella, Hill 82.96 45 P P 11 10 04.2 -0.5
baz=318
WATA Walderalm 82.96 330 *ep*P P 11 10 05.5 +0.9
comp=Z,28nm,0.6s,SNR=23
AMTX Amarillo 82.97 49 P P 11 10 05.4 +0.6
baz=316
AMTX Amarillo 82.97 49 *e*P P 11 10 05.6 +0.7
comp=Z,39nm,0.9s
MSTX Muleshoe 82.98 51 P P 11 10 04.9 -0.1
baz=315,SNR=17
MSTX Muleshoe 82.98 51 *e*P P 11 10 05.7 +0.7
comp=Z,99nm,1.3s
VAY Valandovo 82.99 320 *i* P P 11 10 05.3 +0.6
MNTX Cornudas Mount 83.00 54 P P 11 10 05.1 +0.2
baz=314,SNR=52
MNTX Cornudas Mount 83.00 54 *e*P P 11 10 05.7 +0.7
comp=Z,69nm,1.2s
WTTA Wattenberg 83.00 330 *e*P P 11 10 05.4 +0.5
comp=Z,122nm,1.6s,SNR=25
BOJS Bojanci 83.01 327 *i* P P 11 10 04.8 +0.1
DOU Dourbes 83.03 336 ⇓P P 11 10 04.6 -0.2
comp=Z,31nm,1.5s
SKO Skopje 83.04 321 *i* P P 11 10 06.0 +1.0
P36A Good Intent, A 83.05 42 P P 11 10 04.6 -0.5
baz=319,SNR=8.0
IVA Berane 83.07 323 ⇓*i*P P 11 10 05.2 0.0
F46A Macinaw City C 83.07 33 P P 11 10 04.5 -0.5
baz=324
ABTA Abfaltersbach 83.09 329 *e*P P 11 10 04.8 -0.4
comp=Z,69nm,1.2s,SNR=19
DSB Dublin 83.12 343 *e*P P 11 10 05.5 +0.4
comp=Z,118nm,1.1s
MOTA Moosalm 83.13 330 *e*P P 11 10 06.0 +0.5
comp=Z,120nm,1.0s,SNR=50
I43A Langenfeld Bro 83.14 36 P P 11 10 04.8 -0.6
baz=322,SNR=7.6
RETA Reutte 83.14 331 *e*P P 11 10 06.0 +0.6
comp=Z,165nm,1.6s,SNR=34
J42A Columbus 83.15 37 P P 11 10 05.0 -0.5
baz=322,SNR=10

M39A **Webster** 83.15 39 P P 11 10 05.3 -0.3
baz=320,SNR=18
L40A **Anamosa** 83.16 39 P P 11 10 04.9 -0.6
baz=321,SNR=16
N38A **Joes South For** 83.16 41 P P 11 10 05.4 -0.2
baz=320,SNR=9.8
K41A **Shullsburg** 83.17 38 P P 11 10 04.6 -0.9
baz=321,SNR=8.0
JAVS **Javornik** 83.18 328 *i* P P 11 10 05.0 -0.8
O37A **Wolven Farm, M** 83.18 41 P P 11 10 05.7 0.0
baz=319
PVY **Plav** 83.25 322 ⇓*i* P P 11 10 05.8 -0.4
KOME **Kolasin** 83.26 323 ⇓*i* P P 11 10 06.5 +0.3
BFO **Black Forest** 83.31 332 *i* P P 11 10 06.5 +0.2
BFO **Black Forest** 83.31 332 *eP* P 11 10 05.6 -0.7
comp=Z,119nm,1.2s
TAU **Tasmania Unive** 83.33 178 *eP* P
TAU pmax pmax
comp=Z,110nm,1.2s
TAU **Tasmania Unive** 83.33 178 *eP* P 11 10 07.3 +1.3
comp=Z,110nm,1.2s
J43A **Natural Harves** 83.42 36 P P 11 10 06.6 -0.3
baz=322
TRI **Trieste** 83.45 328 *eP* P 11 10 05.6 -1.3
TRI pmax pmax
comp=Z,121nm,1.1s
TRI **Trieste** 83.45 328 *eP* P 11 10 05.6 -1.3
comp=Z,121nm,1.1s
K42A **Prairie Point,** 83.47 37 P P 11 10 06.5 -0.6
baz=322,SNR=12
L41A **Preston** 83.49 38 P P 11 10 06.5 -0.7
baz=321,SNR=12
R35A **Emporia Munici** 83.50 44 P P 11 10 07.2 -0.3
baz=318,SNR=6.0
P37A **Lathrop** 83.51 42 P P 11 10 07.1 -0.4
baz=319,SNR=11
HIZ **Hauiti** 83.53 157 *eP* P 11 10 09.5 +2.3
comp=Z,175nm,1.2s
M40A **Post Highland** 83.53 39 P P 11 10 07.1 -0.4
baz=321,SNR=16
FETA **Feichten** 83.55 330 *eP* P 11 10 08.1 +0.4
comp=Z,106nm,1.3s,SNR=31
O38A **Galt** 83.55 41 P P 11 10 07.5 -0.2
baz=320,SNR=6.0
NKME **Niksic** 83.58 323 ⇓*i* P P 11 10 07.5 -0.3
KRUS **Krusevo** 83.59 321 *i* P P 11 10 08.2 +0.3
DAVA **Damuels** 83.64 331 *eP* P 11 10 08.6 +0.5
comp=Z,91nm,1.1s,SNR=26
PDG **Podgorica** 83.70 323 ⇓*i* P P 11 10 08.6 +0.3
TTG **Podgorica** 83.70 323 ⇓*i* P P 11 10 08.3 0.0
TTG **Podgorica** 83.70 323 *eP* P 11 10 08.4 0.0
TTG pmax pmax
comp=Z,175nm,1.0s
TTG **Podgorica** 83.70 323 *eP* P 11 10 08.4 0.0
comp=Z,175nm,1.0s
CEME **Cevo** 83.77 323 ⇓*i* P P 11 10 08.6 -0.2
ECH **Echery** 83.81 333 *eP* P 11 10 08.9 +0.1
ECH pmax pmax
comp=Z,106nm,1.2s
ECH **Echery** 83.81 333 *eP* P 11 10 08.9 +0.1
comp=Z,106nm,1.2s
BIA **Bitola** 83.83 321 *i* P P 11 10 09.4 +0.3
N40A **Mertquake, Sal** 83.89 39 P P 11 10 09.2 -0.2
baz=321,SNR=13
P38A **Dawn** 83.90 41 P P 11 10 09.3 0.0
baz=320,SNR=15
GLMI **Grayling** 83.90 33 P P 11 10 09.2 -0.2
baz=325
GLMI **Grayling** 83.90 33 *eP* P 11 10 10.1 +0.7
comp=Z,163nm,1.2s
O39A **Kirksville** 83.91 40 P P 11 10 09.3 -0.2
baz=320,SNR=9.0
DRME **Dracevica, Mon** 83.93 323 ⇓*i* P P 11 10 09.5 0.0
L42A **Oliver, Polo** 83.93 38 P P 11 10 08.6 -0.9
baz=322
BUM **Brajici-Budva** 83.97 323 ⇓*i* P P 11 10 09.7 -0.1
K43A **Burlington** 83.99 36 P P 11 10 09.3 -0.5
baz=322,SNR=8.5
URZ **Urewera** 83.99 155 *eP* P 11 10 08.9 -0.6
comp=Z,57nm,1.0s
Q37A **Longview Farm,** 84.00 42 P P 11 10 09.3 -0.6
baz=319
OHR **Ohrid** 84.01 321 *i* P P 11 10 09.9 -0.1
M41A **Milan** 84.01 39 P P 11 10 09.7 -0.3
baz=321,SNR=16
HCY **Herceg Novi** 84.04 323 ⇓*i* P P 11 10 09.6 -0.5
FUORN **Ofenpass-Fuorn** 84.06 330 *eP* P 11 10 11.1 +0.7
comp=Z,286nm,1.1s
STON **Ston** 84.06 324 *i* P P 11 10 07.9 -2.2
ULC **Ulcinj** 84.08 322 ⇓*i* P P 11 10 10.0 -0.3
L43A **Garden Prairie** 84.22 37 P P 11 10 10.6 -0.4
baz=322,SNR=5.6
TIR **Tirane** 84.27 322 ⇓*i* P P 11 10 11.6 +0.4
TIR **Tirane** 84.27 322 *eP* P 11 10 11.2 0.0
TIR pmax pmax
comp=Z,108nm,0.9s
TIR **Tirane** 84.27 322 *eP* P 11 10 11.2 0.0
comp=Z,108nm,0.9s
M42A **Sheffield** 84.32 38 P P 11 10 11.2 -0.3
baz=322
O40A **La Belle** 84.34 40 P P 11 10 11.4 -0.3
baz=320,SNR=16
Q38A **Cooks Store, C** 84.36 42 P P 11 10 11.2 -0.6
baz=320,SNR=13
N41A **Harden Midland** 84.38 39 P P 11 10 11.7 -0.2
baz=321,SNR=12
P39B **Salisbury** 84.39 41 P P 11 10 11.9 -0.1
baz=320,SNR=11
TUE **Stuetta** 84.52 331 *eP* P 11 10 13.1 +0.3
comp=Z,144nm,1.2s
L44A **Lake County Fo** 84.60 37 P P 11 10 12.6 -0.3
baz=323
Q39A **Willow Grove F** 84.62 41 P P 11 10 12.9 -0.2
baz=320,SNR=12
BKZ **Black Stump Fm** 84.63 156 *eP* P 11 10 12.8 -0.1
comp=Z,81nm,1.3s
N42A **Yates City** 84.68 39 P P 11 10 13.1 -0.2
baz=322,SNR=8.4
APE **Apeiranthos** 84.69 316 *eP* P 11 10 12.8 -0.7
APE pmax pmax
comp=Z,76nm,1.1s
M43A **Waltham Townsh** 84.71 38 P P 11 10 13.1 -0.4
baz=322,SNR=11
P40A **Paris** 84.71 41 P P 11 10 13.3 -0.2
baz=320,SNR=23
WMOK **Wichita Mounta** 84.73 48 P P 11 10 13.7 0.0
baz=317,SNR=27
WMOK **Wichita Mounta** 84.73 48 *eP* P 11 10 14.1 +0.3
WMOK pmax pmax
comp=Z,69nm,1.2s
WMOK **Wichita Mounta** 84.73 48 *eP* P 11 10 14.1 +0.3
comp=Z,69nm,1.2s
R38A **Fenwick Farm,** 84.80 43 P P 11 10 13.3 -0.7
baz=319,SNR=14
O41A **Passleys Farm,** 84.83 40 P P 11 10 13.7 -0.4
baz=321,SNR=19
AGG **Agios Georgios** 84.87 319 *eP* P 11 10 13.6 -0.8
AGG pmax pmax
comp=Z,110nm,1.1s
AGG **Agios Georgios** 84.87 319 *eP* P 11 10 13.6 -0.8
comp=Z,110nm,1.1s
N43A **Stutzman Famil** 85.00 38 P P 11 10 14.7 -0.2
baz=322,SNR=13
LPIG **La Paz** 85.00 62 P P 11 10 15.9 +0.7
comp=Z,13nm,0.3s,baz=67,slow=23,SNR=7.4
LPIG **La Paz** 85.00 62 P P 11 10 15.9 +0.7
P41A **Barry, Barry** 85.08 40 P P 11 10 15.0 -0.4
baz=321,SNR=16
Q40A **Laux Farm, Aux** 85.11 41 P P 11 10 15.4 -0.2
baz=320,SNR=14
R39A **Chumby, Stover** 85.14 42 P P 11 10 15.3 -0.4
baz=320,SNR=18
O42A **Bath** 85.15 39 P P 11 10 15.0 -0.7
baz=322
M44A **Midewin, Midew** 85.17 37 P P 11 10 15.2 -0.5
baz=323,SNR=12
KLBO **Killbear Provi** 85.21 30 P P 11 10 15.3 -0.6
baz=328,SNR=7.1
S38A **Stockton** 85.22 43 P P 11 10 15.6 -0.5
baz=320,SNR=14
HDIL **Hopedale** 85.24 38 P P 11 10 16.0 -0.2
baz=322,SNR=10
HDIL **Hopedale** 85.24 38 *eP* P 11 10 16.1 0.0
comp=Z,109nm,1.1s
SENIN **Lac Senin/Sane** 85.36 332 *eP* P 11 10 17.1 +0.2
comp=Z,102nm,1.0s
BUKO **Buck Lake** 85.44 30 P P 11 10 16.1 -0.9
baz=328,SNR=7.9
O43A **Sugar Creek Fa** 85.45 39 P P 11 10 16.8 -0.4
baz=322
BMRO **Meriville Lake** 85.46 31 P P 11 10 17.2 +0.1
baz=327,SNR=5.4
T38A **Diamond** 85.47 44 P P 11 10 17.2 -0.2
baz=319,SNR=45
S39A **Bolivar** 85.47 43 P P 11 10 16.5 -0.9
baz=320,SNR=27
P42A **Winchester** 85.50 40 P P 11 10 17.0 -0.5
baz=321,SNR=16
TUL1 **Leonard** 85.51 45 P P 11 10 17.4 -0.2
baz=318,SNR=10
TUL1 **Leonard** 85.51 45 *eP* P 11 10 18.0 +0.3
comp=Z,68nm,1.1s
R40A **Maddies Statio** 85.55 42 P P 11 10 17.4 -0.4
baz=321,SNR=25
Q41A **Truxton** 85.56 40 P P 11 10 17.6 -0.2
baz=321,SNR=20
N44A **Piper City** 85.59 37 P P 11 10 17.5 -0.4
baz=323
TX31 **Lajitas Ar. Si** 85.70 55 *eP* P 11 10 19.3 +0.5
TXAR **Lajitas Array** 85.70 55 P P 11 10 19.3 +0.5
comp=Z,66nm,0.9s,baz=291,slow=4.0,SNR=116
TXAR PKKP PKKPdf 11 28 10.1 -0.8
comp=Z,0.4nm,0.9s,baz=122,slow=4.5,SNR=3.7
TXAR PKKPbc PKKPbc 11 28 21.3 +2.0
comp=Z,0.6nm,0.7s,baz=145,slow=6.4,SNR=7.6
TXAR PKPPKP P'P'df 11 36 22.9 -9.2
comp=Z,0.4nm,0.9s,baz=140,slow=3.2,SNR=3.7
TXAR **Lajitas Array** 85.70 55 P P 11 10 19.3 +0.5
TXAR pmax pmax
comp=Z,67nm,0.9s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR **Lajitas Array** 85.70 55 P P 11 10 19.3 +0.5
TXAR PKKP PKKPdf 11 28 10.1 -0.8
TXAR PKKPbc PKKPbc 11 28 21.2 +2.0
TXAR P'P' 11 36 22.9
BASO **Ashfield** 85.77 32 P P 11 10 19.1 +0.4
baz=327,SNR=6.9
ABTX **Abilene, Hawle** 85.77 50 P P 11 10 19.5 +0.5
baz=317,SNR=28
ABTX **Abilene, Hawle** 85.77 50 *eP* P 11 10 20.0 +1.0
comp=Z,164nm,1.3s
N45A **Kentland** 85.84 37 P P 11 10 19.2 +0.1
baz=323,SNR=6.6
P43A **Skaggs, Pawnee** 85.85 39 P P 11 10 18.8 -0.4
baz=322
M46A **Old House Fiel** 85.92 36 P P 11 10 19.5 0.0
baz=324
Q42A **Golden Eagle** 85.93 40 P P 11 10 19.6 -0.1
baz=321,SNR=13
O44A **Mansfield** 85.95 38 P P 11 10 19.3 -0.4
baz=322
T39A **Clever** 85.95 43 P P 11 10 19.5 -0.3
baz=320,SNR=13
S40A **Lebanon** 85.96 42 P P 11 10 19.5 -0.3
baz=320,SNR=19
THZ **Tophouse** 85.99 159 *eP* P 11 10 20.0 +0.4
comp=Z,215nm,1.6s
R41A **Rosebud** 85.99 41 P P 11 10 20.3 +0.4
baz=321,SNR=26
VLC **Villacollemand** 86.08 329 *eP* P 11 10 21.9 +1.6
comp=Z,82nm,1.2s
SADO **Sadowa** 86.11 30 *eP* P 11 10 20.1 -0.2
comp=Z,24nm,1.1s
HPIG 86.12 58 *eP* P 11 10 21.5 +0.5
comp=Z,125nm,1.1s
O45A **Potomac** 86.22 38 P P 11 10 21.0 0.0
baz=323,SNR=18
HHAR **Hobbs** 86.22 44 *eP* P 11 10 20.9 -0.2
comp=Z,36nm,1.0s
CCM **Cathedral Cave** 86.25 41 P P 11 10 20.7 -0.5
baz=321
CCM **Cathedral Cave** 86.25 41 *eP* P 11 10 21.2 0.0
CCM pmax pmax
comp=Z,155nm,1.3s
CCM **Cathedral Cave** 86.25 41 *eP* P 11 10 21.2 0.0
comp=Z,156nm,1.3s
MATE **Matera** 86.28 323 ⇓*i* P P 11 10 21.0 -0.3
SLM **Saint Louis** 86.29 40 *eP* P 11 10 22.1 +0.7
SLM pmax pmax
comp=Z,203nm,1.4s
SLM **Saint Louis** 86.29 40 *eP* P 11 10 22.1 +0.7
comp=Z,203nm,1.4s
R42A **Luebbering** 86.30 41 P P 11 10 21.4 -0.1
baz=321,SNR=18
T40A **Mansfield** 86.30 42 P P 11 10 21.0 -0.5
baz=320,SNR=20
Q43A **New Douglas** 86.31 40 P P 11 10 21.3 -0.2
baz=322
BANO **Bancroft** 86.35 29 P P 11 10 21.3 -0.3
baz=329,SNR=12
AQU **L'Aquila** 86.35 326 *eP* P 11 10 22.1 +0.4
AQU pmax pmax
comp=Z,88nm,1.2s
AQU **L'Aquila** 86.35 326 *eP* P 11 10 22.1 +0.4
comp=Z,88nm,1.2s
S41A **Jillco Farms,** 86.36 42 P P 11 10 21.4 -0.4
baz=321,SNR=11
AAM **Ann Arbor** 86.36 34 P P 11 10 21.2 -0.5
baz=325
IDI **Anoyia** 86.37 315 P P 11 10 21.8 -0.1
comp=Z,7.9nm,0.4s,baz=55,slow=8.6,SNR=13
IDI **Anoyia** 86.37 315 P P 11 10 21.8 -0.1
U39A **Green Forest** 86.39 44 P P 11 10 21.6 -0.4
baz=320,SNR=33
SFIN **Lafayette** 86.40 37 P P 11 10 21.7 -0.2
baz=323,SNR=11
SFIN **Lafayette** 86.40 37 *eP* P 11 10 21.9 0.0
comp=Z,92nm,1.3s
P44A **Sand Creek, Wi** 86.42 39 P P 11 10 22.0 0.0
baz=322,SNR=13
TRQ **Mont Tremblant** 86.49 26 *eP* P 11 10 21.9 -0.5
ELFO **Elginfield** 86.59 32 P P 11 10 22.1 -0.7
baz=327,SNR=7.5
PLVO **Plevna** 86.64 28 P P 11 10 22.4 -0.6
baz=330,SNR=7.7
PLVO **Plevna** 86.64 28 *eP* P 11 10 22.9 -0.2
comp=Z,33nm,1.0s
Q44A **Meyer Farm, Va** 86.67 39 P P 11 10 23.3 0.0
baz=322,SNR=6.6
S42A **Caledonia** 86.69 41 P P 11 10 23.4 0.0
baz=321,SNR=47
BNI **Bardonecchia** 86.71 332 *eP* P 11 10 23.8 +0.3
BNI pmax pmax
comp=Z,50nm,1.0s
BNI **Bardonecchia** 86.71 332 *eP* P 11 10 23.8 +0.3
comp=Z,50nm,1.0s
FVM **French Village** 86.71 41 *eP* P 11 10 23.8 +0.3
FVM pmax pmax
comp=Z,114nm,1.4s
FVM **French Village** 86.71 41 *eP* P 11 10 23.8 +0.3
comp=Z,114nm,1.4s
V39A **Pettigrew** 86.71 44 P P 11 10 23.4 -0.2
baz=320,SNR=24
R43A **Red Bud** 86.72 40 P P 11 10 23.5 -0.1
baz=322,SNR=15
U40A **Yellville** 86.73 43 P P 11 10 23.3 -0.4
baz=320,SNR=35
T41A **Mountain View** 86.77 42 P P 11 10 23.5 -0.3
baz=321,SNR=29
LTZ **Lake Taylor** 86.78 160 *eP* P 11 10 24.6 +1.2
comp=Z,71nm,1.2s
P45A **Graceland, Par** 86.78 38 P P 11 10 23.9 +0.1
baz=323,SNR=9.4
FOZ **Fox Glacier** 86.88 162 *eP* P 11 10 25.6 +1.8
comp=Z,103nm,1.4s
DELO **Deloro Mine** 86.89 29 P P 11 10 23.9 -0.3
baz=329,SNR=8.4
ALFO **Alfred** 86.90 27 P P 11 10 23.8 -0.4
baz=331,SNR=9.6
O47A **Sheridan** 86.94 37 P P 11 10 24.3 -0.2
baz=324,SNR=8.5
P46A **Rosedale** 86.96 38 P P 11 10 24.7 0.0
baz=323,SNR=17
Q45A **Warren Harvey,** 87.09 39 P P 11 10 25.5 +0.2
baz=323,SNR=18
WLVO **Wesleyville** 87.11 30 P P 11 10 25.2 -0.1
baz=328,SNR=5.7
T42A **Van Buren** 87.11 42 P P 11 10 25.4 -0.1
baz=321,SNR=32
W39A **Magazine** 87.13 44 P P 11 10 25.5 0.0
baz=320,SNR=11
R44A **Waltonville** 87.16 40 P P 11 10 25.8 +0.1
baz=322,SNR=14
V40A **Witts Springs** 87.17 43 P P 11 10 25.4 -0.4
baz=320,SNR=11
S43A **Fulton Ridge,** 87.20 41 P P 11 10 25.7 -0.2
baz=322,SNR=19
CUC **Castrocucco** 87.21 323 *eP* P 11 10 24.6 -1.3
comp=Z,20nm,1.3s
U41A **Viola** 87.22 43 P P 11 10 26.0 -0.1
baz=321,SNR=14
OXZ **Oxford** 87.23 161 *eP* P 11 10 26.4 +0.8
comp=Z,148nm,1.2s
JCT **Junction City** 87.23 51 P P 11 10 26.4 +0.2
baz=317,SNR=20
JCT **Junction City** 87.23 51 *eP* P 11 10 26.3 +0.1
JCT pmax pmax
comp=Z,78nm,1.1s
JCT **Junction City** 87.23 51 *eP* P 11 10 26.3 +0.1
comp=Z,78nm,1.1s
OLIL **Olney** 87.25 39 *eP* P 11 10 26.5 +0.4
comp=Z,157nm,1.3s
SSB **Saint Sauveur** 87.26 333 *eP* P 11 10 26.6 +0.5
SSB pmax pmax
comp=Z,56nm,1.0s
SSB **Saint Sauveur** 87.26 333 *eP* P 11 10 26.6 +0.5
comp=Z,56nm,1.0s
Q46A **CEJHS Indians,** 87.36 38 P P 11 10 26.4 -0.2
baz=323
TIP **Timpagrande** 87.44 322 ⇓*i* P P 11 10 26.9 -0.2
TIP **Timpagrande** 87.44 322 *eP* P 11 10 27.2 +0.1
comp=Z,54nm,1.2s
X39A **Fountain Ranch** 87.47 45 P P 11 10 27.5 +0.3
baz=320,SNR=18
T43A **Greenville** 87.48 41 P P 11 10 27.3 0.0
baz=322,SNR=28
WHTX **Lake Whitney,** 87.49 49 P P 11 10 27.6 +0.2
baz=318,SNR=15
WHTX **Lake Whitney,** 87.49 49 *eP* P 11 10 28.3 +0.9
comp=Z,128nm,1.3s
P47A **Martinsville** 87.50 37 P P 11 10 27.3 0.0
baz=324,SNR=9.1
W40A **Ferguson Farm,** 87.51 44 P P 11 10 27.5 +0.1
baz=320,SNR=8.6
W40A **Ferguson Farm,** 87.51 44 *eP* P 11 10 28.0 +0.6
comp=Z,124nm,1.2s
R45A **Skylar, Fairfi** 87.51 39 P P 11 10 27.5 +0.1
baz=323
S44A **Carbondale** 87.51 40 P P 11 10 27.6 +0.2
baz=322,SNR=28
SIUC **Southern Illin** 87.51 40 *eP* P 11 10 27.5 +0.2
V41A **Mountainview** 87.53 43 P P 11 10 27.2 -0.3
baz=320,SNR=25
U42A **Revenden** 87.57 42 P P 11 10 27.5 -0.2
baz=321,SNR=8.6
BLO **Bloomington** 87.64 37 *eP* P 11 10 28.6 +0.7
BLO pmax pmax
comp=Z,103nm,1.4s
BLO **Bloomington** 87.64 37 *eP* P 11 10 28.6 +0.7
comp=Z,103nm,1.4s
PBMO **Poplar Bluff** 87.64 41 *eP* P 11 10 28.8 +0.7
comp=Z,182nm,1.3s
MIAR **Mount Ida** 87.73 45 P P 11 10 28.6 +0.1
baz=320,SNR=29
MIAR **Mount Ida** 87.73 45 *eP* P 11 10 28.8 +0.3
MIAR pmax pmax
comp=Z,72nm,1.0s
MIAR **Mount Ida** 87.73 45 *eP* P 11 10 28.8 +0.3
comp=Z,72nm,1.0s
MEDO **Medina** 87.73 30 P P 11 10 28.1 -0.3
baz=329,SNR=6.0
LBZ **Lake Benmore** 87.78 162 *eP* P 11 10 30.3 +2.1
comp=Z,97nm,1.3s
T44A **Benton** 87.82 41 P P 11 10 28.9 0.0
baz=322,SNR=8.7
X301 **Greenbrier Sit** 87.82 44 *eP* P 11 10 29.1 +0.2
comp=Z,125nm,1.4s
WHAR **Wooly Hollow** 87.84 43 *eP* P 11 10 28.8 -0.2
comp=Z,143nm,1.2s
S45A **Carrier Mills** 87.85 40 P P 11 10 29.1 +0.1
baz=322,SNR=19
Q47A **Bedord North L** 87.87 38 P P 11 10 29.2 +0.1
baz=324,SNR=14
LONY **Lake Ozonia** 87.88 27 P P 11 10 28.7 -0.4
baz=331,SNR=5.2
LONY **Lake Ozonia** 87.88 27 *eP* P 11 10 28.8 -0.2
comp=Z,71nm,1.6s
V42A **Cord** 87.91 43 P P 11 10 29.1 -0.3
baz=321,SNR=17
R46A **Gibon Southern** 87.94 39 P P 11 10 29.5 +0.1
baz=323
W41B **Gary Mavity, V** 87.95 44 P P 11 10 29.7 +0.2
baz=320,SNR=22
U43A **Rector** 87.97 42 P P 11 10 29.7 0.0
baz=322,SNR=8.9
ERPA **Erie** 88.02 32 P P 11 10 30.1 +0.3
baz=328,SNR=10
ERPA **Erie** 88.02 32 *eP* P 11 10 30.5 +0.8
comp=Z,190nm,1.3s
USIN **University of** 88.06 39 *eP* P 11 10 30.8 +0.8
comp=Z,74nm,1.1s
X40A **Basin Creek Fa** 88.17 44 P P 11 10 31.0 +0.4
baz=320,SNR=23
UALR **University of** 88.21 44 *eP* P 11 10 31.5 +0.7
comp=Z,137nm,1.8s
U44A **Portageville** 88.23 41 P P 11 10 30.7 -0.1
baz=322
W42A **Bald Knob** 88.25 43 P P 11 10 30.6 -0.4
baz=321
S46A **Don Dixon Farm** 88.26 39 P P 11 10 31.1 +0.1
baz=323,SNR=9.4
Y40A **Okolona** 88.30 45 P P 11 10 31.3 +0.1
baz=320,SNR=6.1
435B **Jarrell** 88.31 50 P P 11 10 31.4 +0.1
baz=318
MMNY **Mt. Morris Dam** 88.31 30 *eP* P 11 10 31.4 +0.3
comp=Z,103nm,1.3s
X41A **Kaden, Bauxite** 88.33 44 P P 11 10 31.2 -0.1
baz=320
R47A **Wooly Knot Far** 88.34 38 P P 11 10 31.2 -0.1
baz=324,SNR=11
T45A **Paducah** 88.34 40 P P 11 10 31.1 -0.2
baz=322
ACSO **Alum Creek Sta** 88.35 35 P P 11 10 31.4 0.0
baz=326,SNR=15
ACSO **Alum Creek Sta** 88.35 35 *eP* P 11 10 31.9 +0.6
comp=Z,99nm,1.1s
ALLY **Alegheny Colle** 88.36 32 *eP* P 11 10 31.7 +0.4
comp=Z,151nm,1.1s
V43A **Jonesboro** 88.36 42 P P 11 10 31.8 +0.4
baz=321,SNR=8.8
HBAR **Harrisburg** 88.48 42 *eP* P 11 10 33.1 +1.1
WCI **Wyandotte Cave** 88.50 38 P P 11 10 31.9 -0.1
baz=324
WCI **Wyandotte Cave** 88.50 38 *eP* P 11 10 32.8 +0.7
WCI pmax pmax
comp=Z,76nm,1.1s
WCI **Wyandotte Cave** 88.50 38 *eP* P 11 10 32.8 +0.7
comp=Z,76nm,1.1s
ODZ **Otahua Downs** 88.50 162 *eP* P 11 10 33.8 +2.2
comp=Z,252nm,1.8s
U44B **Burton Farm, H** 88.53 41 P P 11 10 32.7 +0.5
baz=322,SNR=14
R48A **Northridge Ran** 88.56 38 P P 11 10 32.6 +0.3
baz=324,SNR=5.9
NCB **Newcomb** 88.58 27 *eP* P 11 10 32.6 +0.3
comp=Z,39nm,1.1s
V44A **Blytheville** 88.66 42 P P 11 10 32.9 0.0
baz=322
M54A **Oil Creek Stat** 88.67 32 P P 11 10 32.8 0.0
baz=328,SNR=14
M54A **Oil Creek Stat** 88.67 32 *eP* P 11 10 33.1 +0.3
comp=Z,140nm,1.2s
T46A **Princeton** 88.69 40 P P 11 10 33.3 +0.3
baz=323,SNR=30
Y41A **Eaglette Beard** 88.75 45 P P 11 10 33.6 +0.3
baz=320
X42A **Stuttgart** 88.76 44 P P 11 10 32.9 -0.5
baz=321
VT1 **Waterbury** 88.76 26 *eP* P 11 10 33.9 +0.7
comp=Z,75nm,1.3s
UTMT **University of** 88.77 41 *eP* P 11 10 34.3 +1.0
comp=Z,204nm,1.0s
Z40A **Long Farm, Mag** 88.81 45 P P 11 10 34.1 +0.5
baz=320,SNR=13
U45A **Rockin P Farm,** 88.81 41 P P 11 10 34.0 +0.4
baz=322,SNR=5.5
W43A **Forest City** 88.82 43 P P 11 10 33.8 +0.2
baz=321
N54A **Moraine State** 89.00 32 P P 11 10 34.2 -0.2
baz=328,SNR=18
N54A **Moraine State** 89.00 32 *eP* P 11 10 34.8 +0.4

PKME	**Peaks-Kenny Pk**	89.02	23	P		P	11 10 34.5	+0.1
	baz=335							
833A	**Chaparral WMA,**	89.04	53	P		P	11 10 35.0	+0.2
	baz=317,SNR=5.8							
S48A	**Wiedeman Farm,**	89.07	38	P		P	11 10 34.9	+0.1
	baz=324,SNR=18							
U46A	**Springville**	89.09	40	P		P	11 10 35.0	+0.1
	baz=323							
T47A	**Sharon Grove**	89.11	39	P		P	11 10 35.4	+0.4
	baz=323,SNR=21							
LBNH	**Lisbon**	89.11	26	P		P	11 10 34.8	-0.1
	baz=333							
LBNH	**Lisbon**	89.11	26	*e*P		P	11 10 35.9	+1.0
LBNH				pmax		pmax		
	comp=Z,176nm,2.0s							
LBNH	**Lisbon**	89.11	26	*e*P		P	11 10 35.9	+1.0
	comp=Z,176nm,2.0s							
Z41A	**Richland Creek**	89.13	45	P		P	11 10 35.9	+0.8
	baz=320,SNR=5.4							
CCAR	**Cane Creek**	89.17	44	*e*P		P	11 10 36.6	+1.4
	comp=Z,136nm,1.1s							
X43A	**Marvell**	89.17	43	P		P	11 10 36.0	+0.7
	baz=321,SNR=7.6							
140A	**Cam and Jess,**	89.18	46	P		P	11 10 35.9	+0.5
	baz=320							
MET	**Memphis--Engin**	89.19	42	*e*P		P	11 10 36.1	+0.8
	comp=Z,410nm,1.5s							
V45A	**Humboldt**	89.19	41	P		P	11 10 35.8	+0.5
	baz=322							
Y42A	**Garnett, Star**	89.22	44	P		P	11 10 36.0	+0.5
	baz=321,SNR=11							
NATX	**Nacogdoches**	89.25	47	P		P	11 10 36.4	+0.7
	baz=319,SNR=5.1							
NATX	**Nacogdoches**	89.25	47	*e*P		P	11 10 37.8	+2.1
	comp=Z,112nm,1.3s							
ACCN	**Adirondack Com**	89.28	27	*e*P		P	11 10 36.2	+0.5
	comp=Z,77nm,1.2s							
T48A	**Bowling Green**	89.35	39	P		P	11 10 36.7	+0.6
	baz=324,SNR=12							
WVT	**Waverly**	89.44	40	P		P	11 10 37.0	+0.4
	baz=323							
WVT	**Waverly**	89.44	40	*e*P		P	11 10 36.7	+0.1
WVT				pmax		pmax		
	comp=Z,58nm,1.1s							
WVT	**Waverly**	89.44	40	*e*P		P	11 10 36.7	+0.1
	comp=Z,58nm,1.1s							
U47A	**Clarksville**	89.46	40	P		P	11 10 36.9	+0.3
	baz=323,SNR=16							
BINY	**Binghamton**	89.49	29	P		P	11 10 36.8	+0.1
	baz=330,SNR=11							
BINY	**Binghamton**	89.49	29	*e*P		P	11 10 37.3	+0.6
	comp=Z,93nm,1.2s							
240A	**Hunter Patters**	89.53	47	P		P	11 10 37.2	+0.2
	baz=320							
W45A	**Hickory Valley**	89.54	42	P		P	11 10 37.2	+0.2
	baz=322,SNR=12							
V46A	**Holladay**	89.56	41	P		P	11 10 37.1	0.0
	baz=323,SNR=22							
X44A	**Crenshaw**	89.57	43	P		P	11 10 37.5	+0.4
	baz=322							
141A	**Papa Simpson,**	89.57	46	P		P	11 10 37.4	+0.2
	baz=320							
Z42A	**Norrel Spur, H**	89.57	45	P		P	11 10 37.7	+0.5
	baz=321,SNR=10							
Y43A	**Makayla and Ka**	89.62	43	P		P	11 10 38.1	+0.7
	baz=321,SNR=6.1							
U48A	**Cassie Pea, Po**	89.76	39	P		P	11 10 38.2	+0.2
	baz=324,SNR=13							
V47A	**Nunnelly**	89.83	40	P		P	11 10 38.6	+0.2
	baz=323,SNR=28							
VAE	**Valguarnera**	89.89	323	P		P	11 10 38.8	+0.1
	comp=Z,6.7nm,0.3s,baz=333,slow=14,SNR=2.6							
VAE	**Valguarnera**	89.89	323	P		P	11 10 38.8	+0.1
OXF	**Oxford**	89.93	42	P		P	11 10 39.0	+0.1
	baz=322,SNR=20							
OXF	**Oxford**	89.93	42	*e*P		P	11 10 39.3	+0.5
OXF				pmax		pmax		
	comp=Z,190nm,1.1s							
OXF	**Oxford**	89.93	42	*e*P		P	11 10 39.3	+0.5
	comp=Z,190nm,1.1s							
Y44A	**Strider, Charl**	89.95	43	P		P	11 10 39.4	+0.5
	baz=322,SNR=17							
W46A	**Michie**	89.96	41	P		P	11 10 39.1	+0.1
	baz=323							
Z43A	**Armstrong Fami**	90.00	44	P		P	11 10 39.4	+0.3
	baz=321							
241A	**Mo Tay, Goldon**	90.01	46	P		P	11 10 39.5	+0.3
	baz=320							
X45A	**UM Field Stati**	90.01	42	P		P	11 10 39.2	0.0
	baz=322,SNR=14							
SSPA	**Standing Stone**	90.11	31	P		P	11 10 39.6	0.0
	baz=329							
SSPA	**Standing Stone**	90.11	31	*e*P		P	11 10 40.0	+0.4
	comp=Z,115nm,1.3s							
142A	**Monroe**	90.13	45	P		P	11 10 40.3	+0.5
	baz=321							
MCWV	**Mont Chateau**	90.16	33	P		P	11 10 39.3	-0.5
	baz=328							
O56A	**Blue Knob Stat**	90.16	32	P		P	11 10 40.0	+0.1
	baz=329,SNR=10							
O56A	**Blue Knob Stat**	90.16	32	*e*P		P	11 10 40.2	+0.3
	comp=Z,59nm,1.1s							
PLAL	**Pickwick Lake**	90.23	41	*e*P		P	11 10 40.4	+0.1
	comp=Z,35nm,1.1s							
V48A	**Smith Brothers**	90.25	40	P		P	11 10 40.6	+0.3
	baz=324,SNR=19							
W47A	**Westpoint**	90.26	40	P		P	11 10 40.7	+0.3
	baz=323,SNR=19							
143A	**Socs Landing,**	90.30	45	P		P	11 10 41.0	+0.4
	baz=321,SNR=5.6							
X46A	**Booneville**	90.32	42	P		P	11 10 40.8	+0.1
	baz=323,SNR=5.1							
Z44A	**Pea Ridge, Bel**	90.37	44	P		P	11 10 41.2	+0.3
	baz=322							
Y45A	**Yeager Farm, C**	90.37	43	P		P	11 10 41.3	+0.3
	baz=322,SNR=22							
242A	**Grayson**	90.39	45	P		P	11 10 41.3	+0.3
	baz=321							
341A	**Kurthwood**	90.40	47	P		P	11 10 41.7	+0.6
	baz=320							
VSL	**Villasalto**	90.41	327	*e*P		P	11 10 40.1	-0.9
	comp=Z,26nm,1.0s							
W48A	**Pulaski**	90.67	40	P		P	11 10 42.4	+0.1
	baz=324,SNR=34							
Z45A	**Winona**	90.68	43	P		P	11 10 43.0	+0.7
	baz=322,SNR=5.9							
N59A	**State Game Lan**	90.69	30	P		P	11 10 42.7	+0.4
	baz=330,SNR=18							
N59A	**State Game Lan**	90.69	30	*e*P		P	11 10 43.2	+0.9
	comp=Z,145nm,1.3s							
Y46A	**Houston**	90.71	42	P		P	11 10 42.6	+0.1
	baz=322,SNR=18							
X47A	**Russelville**	90.71	41	P		P	11 10 42.4	-0.1
	baz=323,SNR=14							
QUA2	**Belchertown**	90.71	27	*e*P		P	11 10 43.7	+1.3
	comp=Z,30nm,1.1s							
HRV	**Adam Dziewonsk**	90.78	26	P		P	11 10 42.7	+0.1
	baz=333							
PAGS	**Pennsylvania G**	90.92	31	*e*P		P	11 10 44.3	+1.0
WES	**Weston**	90.97	26	*e*P		P	11 10 44.7	+1.2
WES				pmax		pmax		
	comp=Z,68nm,1.0s							
WES	**Weston**	90.97	26	*e*P		P	11 10 44.6	+1.2
	comp=Z,68nm,1.0s							
ODNJ	**Ogdensburg**	90.97	29	*e*P		P	11 10 44.2	+0.6
	comp=Z,58nm,1.3s							
ZAIG	**Zacatecas**	91.04	59	*e*P		P	11 10 45.5	+0.9
	comp=Z,31nm,1.0s							
LUPA	**Lehigh Univers**	91.11	29	*e*P		P	11 10 45.0	+0.8
	comp=Z,6.5nm,1.6s							
TZTN	**Tazewell**	91.14	37	P		P	11 10 44.9	+0.4
	baz=326,SNR=11							
TZTN	**Tazewell**	91.14	37	*e*P		P	11 10 45.1	+0.7
	comp=Z,79nm,1.2s							
VBMS	**Vicksburg**	91.15	44	P		P	11 10 44.8	+0.3
	baz=322							
VBMS	**Vicksburg**	91.15	44	*e*P		P	11 10 45.9	+1.4
	comp=Z,186nm,1.5s							
145A	**Houston Renfro**	91.16	44	P		P	11 10 45.6	+1.0
	baz=322,SNR=6.5							
X48A	**Hartselle**	91.17	41	P		P	11 10 44.4	-0.2
	baz=323,SNR=10							
244A	**Avery, Jackson**	91.20	44	P		P	11 10 45.1	+0.4
	baz=321,SNR=10							
Y47A	**UCPARC, Winfie**	91.20	41	P		P	11 10 44.8	0.0
	baz=323							
Z46A	**Louisville**	91.21	43	P		P	11 10 45.4	+0.5
	baz=322,SNR=13							
MVL	**Millersville**	91.26	30	*e*P		P	11 10 45.7	+0.8
	comp=Z,75nm,1.6s							
PAL	**Palisades**	91.29	28	P		P	11 10 44.8	-0.2
	baz=332							
BRNJ	**Basking Ridge**	91.34	29	*e*P		P	11 10 46.1	+0.9
	comp=Z,86nm,1.3s							
CPNY	**Central Park**	91.46	28	*e*P		P	11 10 47.2	+1.4
	comp=Z,152nm,1.8s							
LNIG	**Linares**	91.48	55	*e*P		P	11 10 45.4	-0.8
ATD	**Arta Tunnel**	91.51	287	P		P	11 10 47.3	+0.7
	comp=Z,32nm,1.1s,baz=82,slow=4.1,SNR=7.4							
ATD	**Arta Tunnel**	91.51	287	*e*P		P	11 10 47.8	+1.3
Y48A	**Jasper**	91.54	41	P		P	11 10 46.0	-0.3
	baz=323,SNR=6.4							
245A	**Little AP, Sta**	91.62	44	P		P	11 10 47.0	+0.2
	baz=322							
Z47A	**Carrollton**	91.65	42	P		P	11 10 47.1	+0.2
	baz=323,SNR=8.7							
PSUB	**Penn St. - Bra**	91.67	30	*e*P		P	11 10 47.7	+0.9
TKL	**Tuckaleechee C**	91.76	38	P		P	11 10 47.3	0.0
	comp=Z,25nm,0.9s,baz=241,slow=0.1,SNR=20							
TKL	**Tuckaleechee C**	91.76	38	P		P	11 10 47.3	0.0
TKL				pmax		pmax		
	comp=Z,25nm,1.0s							
TKL	**Tuckaleechee C**	91.76	38	*e*P		P	11 10 47.5	+0.1
	comp=Z,54nm,1.1s							
Z48A	**Northport**	91.77	42	P		P	11 10 47.0	-0.4
	baz=323							
X50A	**Fort Payne**	91.84	40	P		P	11 10 47.7	-0.1
	baz=324,SNR=9.7							
Y49A	**Blount Mountai**	91.96	41	P		P	11 10 48.1	-0.2
	baz=324,SNR=7.9							
147A	**Livingston**	91.96	42	P		P	11 10 48.4	+0.1
	baz=323,SNR=12							
BLA	**Blacksburg**	91.97	35	P		P	11 10 48.4	0.0
	baz=327							
BLA	**Blacksburg**	91.97	35	*e*P		P	11 10 49.2	+0.8
BLA				pmax		pmax		
	comp=Z,57nm,1.3s							
BLA	**Blacksburg**	91.97	35	*e*P		P	11 10 49.1	+0.8
	comp=Z,57nm,1.3s							
VWCC	**Virginia Weste**	92.14	34	*e*P		P	11 10 49.5	+0.4
IP04	**Greensprings**	92.21	33	*e*P		P	11 10 50.2	+0.9
Y50A	**Piedmont**	92.26	40	P		P	11 10 49.3	-0.4
	baz=324							
IP03	**Louisa**	92.30	33	*e*P		P	11 10 50.5	+0.7
LRAL	**Lakeview Retre**	92.32	41	P		P	11 10 49.4	-0.6
	baz=323							
LRAL	**Lakeview Retre**	92.32	41	*e*P		P	11 10 50.2	+0.2
	comp=Z,19nm,1.3s							
CVRD	**Centerville Ro**	92.34	32	*e*P		P	11 10 50.1	+0.1
	comp=Z,34nm,1.0s							
148A	**Greensboro**	92.34	42	P		P	11 10 49.5	-0.5
	baz=323							
SPRD	**Spring Road, M**	92.35	32	*e*P		P	11 10 50.8	+0.8
	comp=Z,34nm,1.3s							
Z49A	**Columbiana**	92.43	41	P		P	11 10 50.0	-0.5
	baz=324,SNR=8.4							
Z50A	**Ashland**	92.68	41	P		P	11 10 51.8	+0.1
	baz=324,SNR=29							
248A	**Dixon Mills**	92.70	42	P		P	11 10 51.3	-0.4
	baz=323							
BG3	**Lake Jocassee**	92.70	38	*e*P		P	11 10 52.5	+0.8
	comp=Z,46nm,1.1s							
149A	**Jones**	92.78	42	P		P	11 10 52.5	+0.4
	baz=324,SNR=8.1							
347A	**Saraland**	92.83	43	P		P	11 10 52.4	0.0
	baz=322							
249A	**Camden**	93.11	42	P		P	11 10 54.1	+0.5
	baz=323,SNR=6.9							
150A	**Eclectic**	93.16	41	P		P	11 10 53.8	0.0
	baz=324,SNR=8.5							
KMSC	**Kings Mountain**	93.30	36	P		P	11 10 54.4	-0.1
	baz=327,SNR=5.4							
KMSC	**Kings Mountain**	93.30	36	*e*P		P	11 10 54.8	+0.3
250A	**Grady**	93.54	42	P		P	11 10 55.8	+0.2
	baz=324,SNR=9.7							
349A	**Repton**	93.57	43	P		P	11 10 55.3	-0.4
	baz=323							
KEST	**Kesra**	93.61	325	P		P	11 10 55.7	-0.3
	comp=Z,22nm,0.9s,baz=318,slow=2.9,SNR=12							
KEST	**Kesra**	93.61	325	*e*P		P	11 10 56.0	+0.1
HODGE	**Hodges**	93.64	38	*e*P		P	11 10 56.5	+0.5
	comp=Z,22nm,1.0s							
GOGA	**Godfrey**	93.75	39	P		P	11 10 56.8	+0.2
	baz=326,SNR=7.2							
GOGA	**Godfrey**	93.75	39	*e*P		P	11 10 57.2	+0.7
GOGA	**Godfrey**	93.75	39	*e*P		P	11 10 57.2	+0.7
BRAL	**Brewton**	93.79	43	P		P	11 10 56.6	-0.1
	baz=323							
251A	**Midway**	93.88	41	P		P	11 10 57.2	0.0
	baz=324,SNR=5.9							
PBRG	**Braganca**	93.88	339	*e*P		P	11 10 57.0	-0.1
	comp=Z,34nm,1.5s							
350A	**Dozier**	93.95	42	P		P	11 10 57.3	-0.3
	baz=324							
JSC	**Jenkinsville**	94.05	37	*e*P		P	11 10 58.6	+0.7
JSC				pmax		pmax		
	comp=Z,17nm,1.0s							
JSC	**Jenkinsville**	94.05	37	*e*P		P	11 10 58.6	+0.7
	comp=Z,16nm,1.0s							
PGAV	**Gavieira, Arco**	94.13	340	*e*P		P	11 10 57.9	-0.4
	comp=Z,49nm,1.3s							
351A	**Pinckard**	94.44	42	P		P	11 11 00.0	+0.3
	baz=324,SNR=6.3							
253A	**Americus**	94.53	40	P		P	11 11 00.2	0.0
	baz=325							
POLO	**Lamas de Olo**	94.56	340	*e*P		P	11 11 00.3	0.0
	comp=Z,28nm,1.2s							
352A	**Blakely**	94.61	41	P		P	11 11 00.7	+0.1
	baz=325,SNR=6.0							
451A	**Vernon**	94.90	42	P		P	11 11 01.7	-0.2
	baz=324							
452A	**Marianna**	94.99	41	P		P	11 11 02.0	-0.3
	baz=324							
ES19	**SONSECA Array**	95.00	336	*e*P		P	11 11 02.3	0.0
ESDC	**Sonseca Array**	95.05	336	P		P	11 11 02.6	+0.1
	comp=Z,0.6nm,0.4s,baz=19,slow=3.5,SNR=7.0							
ESDC				PP		PP	11 14 49.1	-1.8
	comp=Z,1.0nm,0.7s,baz=19,slow=6.2,SNR=4.9							
ESDC	**Sonseca Array**	95.05	336	P		P	11 11 02.6	+0.1
ESDC				PP		PP	11 14 49.0	-1.8
353A	**Camilla**	95.07	41	P		P	11 11 02.6	-0.1
	baz=325,SNR=8.1							
PVIS	**Viseu**	95.20	340	*e*P		P	11 11 03.5	+0.3
	comp=Z,37nm,1.7s							
PAB	**San Pablo**	95.28	337	*e*P		P	11 11 03.0	-0.6
PAB				pmax		pmax		
	comp=Z,15nm,1.5s							
PAB	**San Pablo**	95.28	337	*e*P		P	11 11 03.0	-0.6
	comp=Z,15nm,1.5s							
MTE	**Manteigas**	95.40	339	*e*P		P	11 11 04.3	+0.2
	comp=Z,33nm,1.2s							
453A	**Whigham**	95.42	41	P		P	11 11 04.1	-0.2
	baz=325							
454A	**Quitman**	95.88	40	P		P	11 11 06.2	-0.1
	baz=325							
553A	**Crawfordville**	95.91	41	P		P	11 11 06.4	-0.1
	baz=325							
455A	**Stateville**	96.15	40	P		P	11 11 07.6	0.0
	baz=326							
554A	**Perry**	96.36	41	P		P	11 11 09.1	+0.5
	baz=325							
555A	**McAlpin**	96.69	40	P		P	11 11 10.3	+0.3
	baz=326							
556A	**Lake Butler**	97.06	40	P		Pdif	11 11 12.0	+0.2
	baz=326							
656A	**Willston**	97.52	40	P		P	11 11 13.6	-0.2
	baz=326							
657A	**Interlachen**	97.67	40	P		P	11 11 14.3	-0.2
	baz=326							
857A	**Zephyrhills**	98.58	41	P		Pdif	11 11 18.8	+0.2
	baz=326							
859A	**Kemper Cattle**	99.40	40	P		**Pdif**	11 11 22.2	0.0
	baz=327							
KMBO	**Kilima Mbogo**	104.06	281	Pdiff		**Pdif**	11 11 42.4	-1.1
	comp=Z,4.3nm,1.0s,baz=41,slow=8.9,SNR=5.0							
KMBO	**Kilima Mbogo**	104.06	281	*e*P		**Pdif**	11 11 43.2	-0.3
KMBO				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KMBO	**Kilima Mbogo**	104.06	281	*e*Pdif		**Pdif**	11 11 43.2	-0.3
	comp=Z,5.6nm,1.0s							
TORD	**Torodi Ar. Bea**	116.45	319	PKP		**PKPdf**	11 16 22.8	-1.1
	comp=Z,2.1nm,0.4s,baz=18,slow=2.3,SNR=31							
TORD				PP		**PP**	11 17 23.7	-5.8
	comp=Z,8.1nm,1.1s,baz=31,slow=5.4,SNR=9.0							
TORD				PKKPbc		**PKKPbc**	11 26 50.4	-0.2
	comp=Z,0.9nm,0.7s,baz=214,slow=3.9,SNR=7.3							
TORD				PKKPab		**PKKPab**	11 26 57.7	-0.7
	comp=Z,1.2nm,0.7s,baz=212,slow=4.1,SNR=9.4							
TORD				SKKP			11 30 51.8	
	comp=Z,1.2nm,1.1s,baz=216,slow=4.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**116.45**	**319**	PKP		**PKPdf**	**11 16 22.8**	**-1.1**
TORD				PP		**PP**	**11 17 23.7**	**-5.8**
TORD				PKKPbc		**PKKPbc**	**11 26 50.4**	**-0.2**
TORD				PKKPab		**PKKPab**	**11 26 57.7**	**-0.7**
TORD				SKKP			11 30 51.8	
KOWA	**Kowa**	**117.91**	**326**	PKP		**PKPdf**	**11 16 26.1**	**-0.5**
	comp=Z,3.5nm,0.5s,baz=44,slow=2.2,SNR=11							
KOWA				PP		**PP**	**11 17 37.3**	**-2.3**
	comp=Z,18nm,1.1s,baz=32,slow=8.4,SNR=7.5							
KOWA	**Kowa**	**117.91**	**326**	PKP		**PKPdf**	**11 16 26.1**	**-0.5**
KOWA				PP		**PP**	**11 17 37.3**	**-2.3**
VNDA	**Vanda**	**118.49**	**176**	PKP		**PKPdf**	**11 16 25.5**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=290,slow=3.7,SNR=6.5							
VNDA	**Vanda**	**118.49**	**176**	PKIKP		**PKPdf**	**11 16 25.5**	**-0.3**
VNDA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
VNDA	**Vanda**	**118.49**	**176**	PKP		**PKPdf**	**11 16 25.5**	**-0.3**
SDV	**Santo Domingo**	**120.71**	**42**	PKP		**PKPdf**	**11 16 32.3**	**0.0**
	comp=Z,13nm,0.8s,baz=352,slow=1.6,SNR=11							
SDV	**Santo Domingo**	**120.71**	**42**	*e*PKPdf		**PKPdf**	**11 16 31.5**	**-0.8**
ROSC	**El Rosal**	**122.12**	**48**	PKP		**PKPdf**	**11 16 35.9**	**+0.7**
	comp=Z,4.2nm,0.4s,baz=265,slow=8.4,SNR=4.2							
ROSC	**El Rosal**	**122.12**	**48**	PKP		**PKPdf**	**11 16 35.9**	**+0.7**
BBTS	**Babate**	**122.22**	**339**	PKP		**PKPdf**	**11 16 35.9**	**+1.1**
	comp=Z,26nm,0.9s,baz=281,slow=4.3,SNR=4.2							
BBTS	**Babate**	**122.22**	**339**	PKP		**PKPdf**	**11 16 36.0**	**+1.1**
MATP	**Matopo**	**122.86**	**271**	PKP		**PKPdf**	**11 16 35.5**	**-0.5**
	comp=Z,11nm,0.6s,baz=54,slow=1.8,SNR=25							
MATP	**Matopo**	**122.86**	**271**	PKP		**PKPdf**	**11 16 35.5**	**-0.5**
MAW	**Mawson**	**124.10**	**207**	PKP		**PKPdf**	**11 16 36.9**	**+0.1**
	comp=Z,8.5nm,0.8s,baz=92,slow=6.8,SNR=6.0							
MAW	**Mawson**	**124.10**	**207**	PKIKP		**PKPdf**	**11 16 36.9**	**+0.1**
MAW				pmax		pmax		
	comp=Z,9.0nm,0.8s							
MAW	**Mawson**	**124.10**	**207**	PKP		**PKPdf**	**11 16 36.9**	**+0.1**
DBIC	**Dimbokro**	**125.22**	**322**	PKP		**PKPdf**	**11 16 40.2**	**-0.5**
	comp=Z,7.2nm,0.9s,baz=44,slow=3.1,SNR=9.2							
DBIC				PP		**PP**	**11 18 29.3**	**-0.1**
	comp=Z,9.5nm,1.0s,baz=16,slow=11,SNR=3.7							
DBIC	**Dimbokro**	**125.22**	**322**	PKIKP		**PKPdf**	**11 16 40.2**	**-0.5**
DBIC							11 18 29.3	
DBIC				pmax		pmax		
	comp=Z,7.0nm,0.9s							
DBIC				pmax		pmax		
	comp=Z,10.0nm,1.0s							
DBIC	**Dimbokro**	**125.22**	**322**	PKP		**PKPdf**	**11 16 40.2**	**-0.5**
DBIC				PP		**PP**	**11 18 29.3**	**-0.1**
TIC	**Toumodi**	**125.31**	**322**	*e*PKIKP		**PKPdf**	**11 16 39.2**	**-1.7**
KIC	**Kosan Boka**	**125.43**	**322**	*e*PKIKP		**PKPdf**	**11 16 39.4**	**-1.7**
	comp=Z,28nm,1.1s							
LIC	**Lamto**	**125.69**	**322**	*e*PKIKP		**PKPdf**	**11 16 39.9**	**-1.7**
	comp=Z,44nm,1.2s							
BOSA	**Boshof**	**129.81**	**264**	PKP		**PKPdf**	**11 16 50.1**	**+0.9**
	comp=Z,7.6nm,0.8s,baz=88,slow=3.7,SNR=6.9							
BOSA	**Boshof**	**129.81**	**264**	PKIKP		**PKPdf**	**11 16 50.1**	**+0.9**
BOSA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
BOSA	**Boshof**	**129.81**	**264**	PKP		**PKPdf**	**11 16 50.0**	**+0.9**
TSUM	**Tsumeb**	**130.38**	**279**	*e*PKPdf		**PKPdf**	**11 16 47.5**	**-3.0**
SYO	**Syowa Base**	**132.78**	**208**	*e*Pdiff		**Pdif**	**11 13 44.6**	**-4.8**
PTGA	**Pitinga**	**134.20**	**36**	PKP		**PKPdf**	**11 16 58.5**	**+0.7**
	comp=Z,5.7nm,0.7s,baz=342,slow=2.7,SNR=5.6							
PTGA	**Pitinga**	**134.20**	**36**	PKP		**PKPdf**	**11 16 58.5**	**+0.7**
SAML	**Samuel**	**139.68**	**46**	*e*PKPdf		**PKPdf**	**11 17 07.0**	**-0.9**
NVL	**N'lazarevskaya**	**141.79**	**203**	*e*PKIKP		PKPpre	11 17 04.6	
NVL				pmax		pmax		
	comp=Z,38nm,1.5s							
LPAZ	**La Paz**	**142.44**	**59**	PKhKP		PKPpre	11 17 08.6	
	comp=Z,6.1nm,0.8s,baz=326,slow=3.1,SNR=11							
LPAZ	**La Paz**	**142.44**	**59**	PKPpre		PKPpre	11 17 08.6	
SNAA	**Sanae**	**145.12**	**197**	PKP		**PKPbc**	**11 17 14.5**	**-0.9**
SNAA	**Sanae**	**145.12**	**197**	PKPbc		**PKPbc**	**11 17 14.4**	**-0.9**
	comp=Z,209nm,0.9s,baz=123,slow=2.8,SNR=103							
SNAA	**Sanae**	**145.12**	**197**	*e*PKIKP		**PKPbc**	**11 17 14.2**	**-1.2**
SNAA	**Sanae**	**145.12**	**197**	*e*PKPdf		**PKPbc**	**11 17 14.2**	**-1.2**
RCBR	**Riachuelo**	**145.19**	**1**	PKPbc		**PKPbc**	**11 17 17.1**	**-0.2**
	comp=Z,58nm,0.9s,baz=358,slow=4.1,SNR=10							
RCBR	**Riachuelo**	**145.19**	**1**	*e*PKPbc		**PKPab**	**11 17 17.2**	**-0.1**
SIV	**San Ignacio**	**146.59**	**50**	PKPbc		**PKPdf**	**11 17 20.4**	**+0.4**
	comp=Z,73nm,0.8s,baz=314,slow=2.0,SNR=55							
SIV	**San Ignacio**	**146.59**	**50**	PKPbc		**PKPdf**	**11 17 20.4**	**+0.4**
VNA2	**Neumayer--Watz**	**146.67**	**196**	PKP		**PKPbc**	**11 17 19.3**	**-0.7**
	baz=121,slow=2.1

*ISCJB **14** 11:13:03.9±0.7,40˚.95N±0˙.04×145˚.07E±0˙.07,h33km, mb3.5/7, Error ellipse: s-maj=8.2km s-min=5.6km az=172.9*

ISC 14 11:13:06.3±0.9,**40˚.93N**±0˙.06×**144˚.99E**±0˙.07,**h35**km,**n20,** σ1§**88**/27,**mb3.5/7,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.75**	**309**	P	**Pn**	**11 13 32.3**	**-1.8**
JEM				*e*S	**Sn**	**11 13 54.7**	**-0.4**
JAK	**Akkeshi**	**2.07**	**354**	*e*S	**Sn**	**11 14 02.9**	**-0.2**
JCH	**Churui**	**2.07**	**325**	P	**Pn**	**11 13 37.5**	**-1.1**
JCH				S	**Sn**	**11 14 02.4**	**-0.7**
JOB	**Onbets**	**2.15**	**337**	*e*S	**Sn**	**11 14 04.9**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.15**	**309**	P	**Pn**	**11 13 38.8**	**-0.8**
JNBK				*e*S	**Sn**	**11 14 05.9**	**+0.9**
NEM2	**Nemuro 2**	**2.49**	**13**	P	**Pn**	**11 13 42.2**	**-2.1**
NEM2				S	**Sn**	**11 14 11.4**	**-2.1**
JAR	**Ashorobuto**	**2.53**	**339**	P	**Pn**	**11 13 43.8**	**-1.0**
JAR				*e*S	**Sn**	**11 14 13.7**	**-0.7**
JNK	**Nakash**	**2.66**	**356**	P	**Pn**	**11 13 44.4**	**-2.2**
JNK				*e*S	**Sn**	**11 14 14.8**	**-2.8**
JANG	**Nango**	**2.70**	**259**	*e*S	**Sn**	**11 14 13.4**	**-5.2**
JFR	**Furan**	**2.85**	**322**	*e*S	**Sn**	**11 14 20.9**	**-1.5**
JRA	**Rausu**	**3.00**	**2**	*e*S	**Sn**	**11 14 23.4**	**-2.7**
ASAJ	**Asahikawa**	**3.64**	**332**	Pn	**Pn**	**11 14 00.5**	**+0.4**
	1.1nm,0.3s,baz=202,slow=16,SNR=4.6						
ASAJ				Sn	**Sn**	**11 14 39.1**	**-2.7**
	1.7nm,0.3s,baz=113,slow=15,SNR=3.7						
MJAR	**Matsushiro Arr**	**6.88**	**233**	Pn	**Pn**	**11 14 43.9**	**-0.7**
	0.2nm,0.3s,baz=68,slow=12,SNR=3.9						
SONM	**Songino Array**	**28.20**	**297**	P	**P**	**11 18 58.1**	**+2.5**
	0.4nm,0.5s,baz=94,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**44.52**	**299**	P	**P**	**11 21 14.5**	**+0.2**
	0.3nm,0.5s,baz=84,slow=8.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**45.90**	**306**	P	**P**	**11 21 25.3**	**+0.1**
	0.9nm,0.8s,baz=79,slow=8.5,SNR=4.5						
YKA	**Yellowknife Ar**	**59.03**	**32**	P	**P**	**11 23 03.4**	**+1.2**
	0.1nm,0.6s,baz=301,slow=6.2,SNR=3.5						
WRA	**Warramunga Arr**	**61.37**	**191**	P	**P**	**11 23 17.5**	**-1.1**
	1.0nm,0.8s,baz=11,slow=6.9,SNR=5.0						
ASAR	**Alice Springs**	**65.09**	**191**	P	**P**	**11 23 43.3**	**+0.1**
	0.6nm,0.9s,baz=17,slow=9.7,SNR=4.0						
TXAR	**Lajitas Array**	**85.57**	**55**	P	**P**	**11 25 42.4**	**+1.2**
	0.3nm,0.8s,baz=295,slow=3.2,SNR=3.8						

*NEIC **14** 11:21:44.8±0.0,37˚.16S×176˚.89E,h234km,ML4.5(WEL), After WEL.*

WEL 14 11:21:46.1±0.7,**37˚S**±4˚×**177˚E**±˚,**h224**km±5km,**North Island**

Code	Station Name	Δ°	AZ°	Op	Phase ID ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.62**	**171**	P	Pn	11 22 17.4	+1.0
OPRZ	**Ohinepanea**	**0.65**	**201**	Pn	Pn	11 22 16.2	-0.3
OPRZ				Sn	S	11 22 41.7	+1.3
OPRZ	**Ohinepanea**	**0.65**	**201**	P	Pn	11 22 16.3	-0.2
OPRZ	**Ohinepanea**	**0.65**	**201**	S	S	11 22 42.2	+1.8
TGRZ	**Tauranga**	**0.68**	**224**	P	Pn	11 22 16.6	0.0
MARZ	**Manawahe**	**0.76**	**191**	P	Pn	11 22 16.1	-0.9
EDRZ	**Edgecumbe**	**0.87**	**186**	P	Pn	11 22 18.1	+0.5
HAZ	**Te Kaha**	**0.90**	**125**	P	Pn	11 22 17.5	-0.2
HAZ	**Te Kaha**	**0.90**	**125**	S	S	11 22 41.9	-0.5
KARZ	**Kaharoa**	**0.92**	**212**	P	Pn	11 22 15.6	-2.3
KMRZ	**Kaimai**	**0.95**	**230**	P	Pn	11 22 18.3	+0.2
OMRZ	**Omania**	**0.95**	**204**	P	Pn	11 22 18.5	+0.5
MKRZ	**Makatiti**	**0.95**	**199**	P	Pn	11 22 19.4	+1.3
RUGZ	**Raukumara Rang**	**0.98**	**138**	P	Pn	11 22 17.5	-0.8
RUGZ	**Raukumara Rang**	**0.98**	**138**	S	S	11 22 40.9	-2.6
NGRZ	**Ngongotaha**	**1.01**	**195**	P	Pn	11 22 19.4	+0.9
KUZ	**Kuaotunu**	**1.03**	**298**	Pn	Pn	11 22 17.4	-1.2
KUZ	**Kuaotunu**	**1.03**	**298**	P	Pn	11 22 17.8	-0.8
TARZ	**Mount Tarawera**	**1.03**	**195**	Pn	Pn	11 22 19.3	+0.7
TARZ	**Mount Tarawera**	**1.03**	**195**	P	Pn	11 22 19.4	+0.8
URZ	**Urewera**	**1.04**	**169**	Pn	Pn	11 22 18.3	-0.2
URZ	**Urewera**	**1.04**	**169**	P	Pn	11 22 18.3	-0.2
URZ	**Urewera**	**1.04**	**169**	S	S	11 22 42.4	-1.6
UTU	**Utuhina**	**1.07**	**209**	P	Pn	11 22 19.8	+1.1
HLRZ	**Highlands Stat**	**1.09**	**201**	P	Pn	11 22 19.7	+0.8
RRRZ	**Republican Roa**	**1.13**	**194**	Pn	Pn	11 22 19.5	+0.3
RRRZ	**Republican Roa**	**1.13**	**194**	P	Pn	11 22 19.6	+0.4
PKGZ	**Pakihiroa**	**1.17**	**124**	P	Pn	11 22 20.0	+0.5
HSRZ	**Hossack Road**	**1.18**	**204**	P	Pn	11 22 20.3	+0.8
TOZ	**Tahuroa Road**	**1.18**	**245**	Pn	Pn	11 22 19.7	+0.2
TOZ	**Tahuroa Road**	**1.18**	**245**	P	Pn	11 22 19.8	+0.3
MXZ	**Matakaoa Point**	**1.20**	**106**	Pn	Pn	11 22 19.7	+0.1
MXZ	**Matakaoa Point**	**1.20**	**106**	P	Pn	11 22 19.7	+0.1
MWZ	**Matawai**	**1.22**	**154**	Pn	Pn	11 22 19.7	-0.1
MWZ	**Matawai**	**1.22**	**154**	P	Pn	11 22 19.7	-0.1
MWZ	**Matawai**	**1.22**	**154**	S	S	11 22 45.8	-0.4
HRRZ	**Handcock Road**	**1.24**	**201**	P	Pn	11 22 20.6	+0.7
MUGZ	**Murupara**	**1.24**	**183**	P	Pn	11 22 19.9	0.0
MUGZ	**Murupara**	**1.24**	**183**	S	S	11 22 45.8	-0.6
GRRZ	**Galatos Road**	**1.26**	**208**	P	Pn	11 22 21.0	+0.9
TWGZ	**Tauwhareparae**	**1.29**	**137**	Pn	Pn	11 22 21.2	+0.8
TWGZ	**Tauwhareparae**	**1.29**	**137**	P	Pn	11 22 21.2	+0.9
TWGZ	**Tauwhareparae**	**1.29**	**137**	S	S	11 22 48.0	+0.8
PRRZ	**Plateau Road**	**1.31**	**196**	Pn	Pn	11 22 20.9	+0.4
PRRZ				Sn	S	11 22 46.4	-0.9
PRRZ	**Plateau Road**	**1.31**	**196**	P	Pn	11 22 21.0	+0.6
PRRZ	**Plateau Road**	**1.31**	**196**	S	S	11 22 47.5	+0.2
RAGZ	**Rawiri**	**1.33**	**161**	Pn	Pn	11 22 21.1	+0.4
RAGZ	**Rawiri**	**1.33**	**161**	P	Pn	11 22 21.1	+0.4
MKAZ	**Moumakai**	**1.36**	**275**	Pn	Pn	11 22 20.4	-0.4
MKAZ	**Moumakai**	**1.36**	**275**	P	Pn	11 22 20.7	-0.1
WMGZ	**Waiomatatini S**	**1.37**	**116**	Pn	Pn	11 22 21.4	+0.5
WMGZ	**Waiomatatini S**	**1.37**	**116**	P	Pn	11 22 21.4	+0.5
RTZ	**Ruatahuna**	**1.38**	**176**	P	Pn	11 22 21.0	0.0
ALRZ	**Allen Road**	**1.38**	**197**	Pn	Pn	11 22 21.4	+0.4
ALRZ	**Allen Road**	**1.38**	**197**	P	Pn	11 22 21.4	+0.4
PUZ	**Puketiti**	**1.39**	**127**	Pn	Pn	11 22 21.3	+0.3
PUZ	**Puketiti**	**1.39**	**127**	P	Pn	11 22 21.4	+0.3
WPRZ	**Whakapapatarin**	**1.39**	**203**	P	Pn	11 22 21.7	+0.6
TKGZ	**Te Karaka**	**1.43**	**147**	Pn	Pn	11 22 21.8	+0.4
TKGZ	**Te Karaka**	**1.43**	**147**	P	Pn	11 22 21.7	+0.3
WIAZ	**Waiheke Island**	**1.45**	**287**	P	Pn	11 22 21.1	-0.4
KUTZ	**Kaahu Road**	**1.49**	**213**	P	Pn	11 22 22.9	+1.1
GRZ	**Great Barrier**	**1.49**	**311**	P	Pn	11 22 21.0	-0.9
TLZ	**Tolley Road**	**1.51**	**223**	Pn	Pn	11 22 22.6	+0.6
TLZ	**Tolley Road**	**1.51**	**223**	P	Pn	11 22 22.8	+0.8
ETAZ	**East Tamaki Re**	**1.57**	**280**	P	Pn	11 22 22.4	-0.1
SNGZ	**Shannon Statio**	**1.59**	**166**	Pn	Pn	11 22 23.1	+0.4
SNGZ	**Shannon Statio**	**1.59**	**166**	P	Pn	11 22 23.1	+0.5
MTHZ	**Maungataniwha**	**1.61**	**180**	P	Pn	11 22 23.0	+0.1
MRHZ	**Matea Rd**	**1.63**	**192**	P	Pn	11 22 23.2	+0.2
RIGZ	**Rimuhau**	**1.63**	**154**	P	Pn	11 22 23.8	+0.8
CNGZ	**Carnagh Statio**	**1.64**	**140**	P	Pn	11 22 24.2	+1.2
RAHZ	**Arahi**	**1.69**	**174**	P	Pn	11 22 24.1	+0.6
WATZ	**Wairara**	**1.71**	**211**	Pn	Pn	11 22 24.5	+0.7
WATZ	**Wairara**	**1.71**	**211**	P	Pn	11 22 24.5	+0.7
EPAZ	**Eden Park BICE**	**1.73**	**281**	P	Pn	11 22 23.8	-0.1
ABAZ	**Army Bay**	**1.74**	**291**	P	Pn	11 22 23.8	-0.2
HBAZ	**Herne Bay Bore**	**1.74**	**282**	P	Pn	11 22 23.8	-0.2
HATZ	**Hinemaiaia**	**1.76**	**200**	P	Pn	11 22 24.4	+0.3
AWAZ	**Awhitu Peninsu**	**1.78**	**275**	P	Pn	11 22 24.1	-0.2
RATZ	**Rangitukua**	**1.84**	**207**	Pn	Pn	11 22 25.3	+0.4
RATZ	**Rangitukua**	**1.84**	**207**	P	Pn	11 22 25.3	+0.4
WTAZ	**Waiatarua**	**1.85**	**279**	P	Pn	11 22 24.9	-0.2
NMHZ	**Naumai**	**1.86**	**181**	Pn	Pn	11 22 25.8	+0.7
NMHZ	**Naumai**	**1.86**	**181**	P	Pn	11 22 25.9	+0.8
WHHZ	**Waihua**	**1.86**	**171**	P	Pn	11 22 25.7	+0.6
PRGZ	**Paritu Road**	**1.87**	**155**	Pn	Pn	11 22 25.8	+0.7
PRGZ				Sn	S	11 22 51.6	-4.0
PRGZ	**Paritu Road**	**1.87**	**155**	P	Pn	11 22 25.9	+0.8
RVAZ	**Riverhead Bore**	**1.88**	**284**	P	Pn	11 22 24.8	-0.5
KNZ	**Kokohu**	**1.89**	**160**	P	Pn	11 22 25.6	+0.3
RITZ	**Rihia Road**	**1.91**	**204**	Pn	Pn	11 22 26.2	+0.7
RITZ	**Rihia Road**	**1.91**	**204**	P	Pn	11 22 26.2	+0.7
BKZ	**Black Stump Fm**	**1.94**	**188**	Pn	Pn	11 22 25.7	-0.3
BKZ	**Black Stump Fm**	**1.94**	**188**	P	Pn	11 22 25.7	-0.2
KATZ	**Kakaramea**	**1.96**	**207**	P	Pn	11 22 27.2	+1.1
ARHZ	**Aropaoanui**	**2.02**	**177**	Pn	Pn	11 22 27.2	+0.6
ARHZ	**Aropaoanui**	**2.02**	**177**	P	Pn	11 22 27.2	+0.6
HIZ	**Hauiti**	**2.03**	**231**	Pn	Pn	11 22 27.6	+0.9
HIZ	**Hauiti**	**2.03**	**231**	P	Pn	11 22 27.6	+1.0
MHGZ	**Mahia Peninsul**	**2.08**	**157**	Pn	Pn	11 22 27.7	+0.5
MHGZ	**Mahia Peninsul**	**2.08**	**157**	P	Pn	11 22 27.7	+0.5
KRVZ	**Karewarewa**	**2.08**	**207**	Pn	Pn	11 22 27.6	+0.3
KRVZ	**Karewarewa**	**2.08**	**207**	P	Pn	11 22 27.9	+0.5
WTVZ	**West Tongariro**	**2.12**	**208**	Pn	Pn	11 22 27.8	+0.1
WTVZ	**West Tongariro**	**2.12**	**208**	P	Pn	11 22 28.2	+0.5
OTVZ	**Oturere**	**2.14**	**206**	Pn	Pn	11 22 28.2	+0.3
TWVZ	**Taurewa**	**2.14**	**211**	Pn	Pn	11 22 28.3	+0.3
TWVZ	**Taurewa**	**2.14**	**211**	P	Pn	11 22 28.3	+0.4
NGZ	**Ngauruhoe**	**2.17**	**207**	Pn	Pn	11 22 28.5	+0.3
NGZ	**Ngauruhoe**	**2.17**	**207**	P	Pn	11 22 28.6	+0.4
MCHZ	**McNeill Hill**	**2.21**	**183**	Pn	Pn	11 22 28.9	+0.5
MCHZ	**McNeill Hill**	**2.21**	**183**	P	Pn	11 22 29.0	+0.6
KWHZ	**Kaweka Forest**	**2.21**	**189**	P	Pn	11 22 28.7	+0.2
COVZ	**Chateau Observ**	**2.21**	**207**	P	Pn	11 22 28.8	+0.2
TUVZ	**Tukino**	**2.24**	**205**	Pn	Pn	11 22 29.1	+0.2
TUVZ	**Tukino**	**2.24**	**205**	P	Pn	11 22 29.1	+0.2
FWVZ	**Far West T-bar**	**2.26**	**207**	Pn	Pn	11 22 29.1	-0.2
FWVZ	**Far West T-bar**	**2.26**	**207**	P	Pn	11 22 29.1	-0.1
WHVZ	**Whangaehu Hut**	**2.27**	**206**	Pn	Pn	11 22 29.4	+0.1
WHVZ	**Whangaehu Hut**	**2.27**	**206**	P	Pn	11 22 29.5	+0.1
DRZ	**Dome Shelter**	**2.27**	**206**	Pn	Pn	11 22 29.6	+0.1
DRZ	**Dome Shelter**	**2.27**	**206**	P	Pn	11 22 29.9	+0.4
WNVZ	**Wahianoa**	**2.31**	**205**	Pn	Pn	11 22 29.6	0.0
BHHZ	**Black Hill Sta**	**2.33**	**195**	Pn	Pn	11 22 29.5	-0.3
BHHZ				Sn	S	11 23 01.7	-2.3
BHHZ	**Black Hill Sta**	**2.33**	**195**	P	Pn	11 22 29.5	-0.3
MOVZ	**Moawhango**	**2.33**	**201**	Pn	Pn	11 22 29.4	-0.4
MOVZ	**Moawhango**	**2.33**	**201**	P	Pn	11 22 29.4	-0.4
PKVZ	**Pokaka**	**2.37**	**210**	Pn	Pn	11 22 30.2	+0.1
PKVZ	**Pokaka**	**2.37**	**210**	P	Pn	11 22 30.4	+0.2
WCZ	**Waipu Caves**	**2.40**	**302**	P	Pn	11 22 29.8	-0.7
MTVZ	**Mangateitei**	**2.40**	**207**	Pn	Pn	11 22 30.7	+0.2
MTVZ	**Mangateitei**	**2.40**	**207**	P	Pn	11 22 30.7	+0.2
CKHZ	**Cape Kidnapper**	**2.42**	**176**	Pn	Pn	11 22 30.9	+0.2
CKHZ	**Cape Kidnapper**	**2.42**	**176**	P	Pn	11 22 30.9	+0.3
KRHZ	**Kereru**	**2.43**	**189**	P	Pn	11 22 30.5	-0.2
VRZ	**Vera Road**	**2.50**	**221**	Pn	Pn	11 22 32.4	+0.9
VRZ	**Vera Road**	**2.50**	**221**	P	Pn	11 22 32.4	+0.9
KAHZ	**Kahuranaki**	**2.55**	**180**	Pn	Pn	11 22 32.2	+0.2
KAHZ	**Kahuranaki**	**2.55**	**180**	P	Pn	11 22 32.2	+0.2
PNHZ	**Pukenui**	**2.72**	**191**	Pn	Pn	11 22 33.4	-0.5
PNHZ	**Pukenui**	**2.72**	**191**	P	Pn	11 22 33.4	-0.5
PXZ	**Pawanui**	**2.79**	**180**	Pn	Pn	11 22 34.1	-0.5
PXZ	**Pawanui**	**2.79**	**180**	P	Pn	11 22 34.2	-0.3
WPHZ	**Waipukurau**	**2.84**	**186**	Pn	Pn	11 22 34.6	-0.6
WPHZ	**Waipukurau**	**2.84**	**186**	P	Pn	11 22 34.7	-0.4
DREZ	**Durham Road**	**2.86**	**226**	P	Pn	11 22 36.9	+1.5
TSZ	**Takapari Road**	**2.90**	**194**	Pn	Pn	11 22 35.1	-0.8
TSZ	**Takapari Road**	**2.90**	**194**	P	Pn	11 22 35.2	-0.7
WAZ	**Wanganui**	**2.91**	**210**	Pn	Pn	11 22 35.7	-0.3
WAZ	**Wanganui**	**2.91**	**210**	P	Pn	11 22 35.7	-0.2
LREZ	**Lake Rotokare**	**2.94**	**220**	P	Pn	11 22 37.1	+0.8
NEZ	**North Egmont**	**2.97**	**226**	Pn	Pn	11 22 38.1	+1.4
PREZ	**Palmer Road**	**2.98**	**224**	Pn	Pn	11 22 37.9	+1.1
PREZ	**Palmer Road**	**2.98**	**224**	P	Pn	11 22 37.9	+1.1
PKE	**Pukeiti**	**2.99**	**228**	P	Pn	11 22 38.3	+1.5
PRHZ	**Porangahau**	**3.03**	**183**	Pn	Pn	11 22 36.7	-0.6
PRHZ	**Porangahau**	**3.03**	**183**	P	Pn	11 22 36.7	-0.6
KHEZ	**Kahui Hut**	**3.04**	**227**	Pn	Pn	11 22 38.7	+1.2
DVHZ	**Dannevirke**	**3.10**	**190**	Pn	Pn	11 22 37.2	-0.9
DVHZ	**Dannevirke**	**3.10**	**190**	P	Pn	11 22 37.2	-0.9
NWEZ	**Newall Road**	**3.11**	**228**	Pn	Pn	11 22 39.6	+1.4
NMEZ	**Namu Road**	**3.19**	**226**	P	Pn	11 22 40.2	+1.1
OHWZ	**Ohakea**	**3.20**	**202**	P	Pn	11 22 38.9	-0.3
ANWZ	**Angora Road**	**3.23**	**185**	P	Pn	11 22 38.9	-0.6
POWZ	**Post Office Ro**	**3.26**	**195**	Pn	Pn	11 22 39.1	-0.9
POWZ	**Post Office Ro**	**3.26**	**195**	P	Pn	11 22 39.1	-0.9
OUZ	**Omahuta**	**3.32**	**306**	P	Pn	11 22 39.9	-0.8
PRWZ	**Pori Road**	**3.38**	**191**	Pn	Pn	11 22 40.6	-0.7
PRWZ	**Pori Road**	**3.38**	**191**	P	Pn	11 22 40.7	-0.7
BFZ	**Birch Farm**	**3.47**	**188**	Pn	Pn	11 22 41.6	-0.7
BFZ	**Birch Farm**	**3.47**	**188**	P	Pn	11 22 41.3	+1.1
MRZ	**Mangatainoka R**	**3.56**	**196**	Pn	Pn	11 22 41.9	-1.5
MRZ	**Mangatainoka R**	**3.56**	**196**	P	Pn	11 22 42.0	-1.5
TIWZ	**Tintock**	**3.61**	**192**	Pn	Pn	11 22 43.0	-1.1
TIWZ	**Tintock**	**3.61**	**192**	P	Pn	11 22 43.2	-0.9
CPWZ	**Castlepoint**	**3.70**	**188**	Pn	Pn	11 22 44.8	-0.3
CPWZ	**Castlepoint**	**3.70**	**188**	P	Pn	11 22 44.8	-0.3
HOWZ	**Holdsworth Sta**	**3.80**	**196**	Pn	Pn	11 22 44.6	-1.7
HOWZ	**Holdsworth Sta**	**3.80**	**196**	P	Pn	11 22 44.6	-1.7
OGWZ	**Otaki Gorge**	**3.81**	**200**	Pn	Pn	11 22 44.8	-1.5
OGWZ	**Otaki Gorge**	**3.81**	**200**	P	Pn	11 22 44.8	-1.5
KIW	**Kapiti Island**	**3.92**	**202**	Pn	Pn	11 22 45.9	-1.9
KIW	**Kapiti Island**	**3.92**	**202**	P	Pn	11 22 45.9	-1.9
TMWZ	**Te Maipa**	**3.94**	**191**	Pn	Pn	11 22 46.4	-1.5
TMWZ	**Te Maipa**	**3.94**	**191**	P	Pn	11 22 46.4	-1.5
MTW	**Mount Morrison**	**4.05**	**195**	Pn	Pn	11 22 47.3	-2.0
MTW	**Mount Morrison**	**4.05**	**195**	P	Pn	11 22 47.3	-2.1
CAW	**Cannon Point**	**4.11**	**199**	Pn	Pn	11 22 47.9	-2.0
CAW	**Cannon Point**	**4.11**	**199**	P	Pn	11 22 48.1	-1.9
DUWZ	**D'Urville Isla**	**4.23**	**212**	Pn	Pn	11 22 50.3	-1.2
DUWZ	**D'Urville Isla**	**4.23**	**212**	P	Pn	11 22 50.3	-1.2
TRWZ	**Traveller**	**4.25**	**192**	Pn	Pn	11 22 49.9	-1.9
TRWZ	**Traveller**	**4.25**	**192**	P	Pn	11 22 49.9	-1.9
PAWZ	**Paruwai Farm**	**4.28**	**195**	Pn	Pn	11 22 50.1	-2.1
PAWZ	**Paruwai Farm**	**4.28**	**195**	P	Pn	11 22 50.0	-2.2
WEL	**Wellington**	**4.35**	**201**	Pn	Pn	11 22 50.9	-2.0
MSWZ	**Moikau Station**	**4.35**	**196**	Pn	Pn	11 22 50.8	-2.2
MSWZ	**Moikau Station**	**4.35**	**196**	P	Pn	11 22 50.8	-2.2
BHW	**Baring Head**	**4.44**	**200**	Pn	Pn	11 22 51.7	-2.4
BHW	**Baring Head**	**4.44**	**200**	P	Pn	11 22 51.7	-2.4
TCW	**Tory Channel**	**4.44**	**206**	Pn	Pn	11 22 51.9	-2.2
TCW	**Tory Channel**	**4.44**	**206**	P	Pn	11 22 51.9	-2.2
PLWZ	**Palliser**	**4.50**	**195**	Pn	Pn	11 22 52.5	-2.3
PLWZ	**Palliser**	**4.50**	**195**	P	Pn	11 22 52.5	-2.3
TUWZ	**Tuamarina**	**4.72**	**207**	Pn	Pn	11 22 55.5	-2.5
TUWZ	**Tuamarina**	**4.75**	**207**	P	Pn	11 22 55.5	-2.4
NNZ	**Nelson**	**4.80**	**213**	Pn	Pn	11 22 55.7	-2.8
NNZ	**Nelson**	**4.80**	**213**	P	Pn	11 22 55.7	-2.8
QRZ	**Quartz Range**	**4.92**	**222**	Pn	Pn	11 22 57.5	-2.5
QRZ	**Quartz Range**	**4.92**	**222**	P	Pn	11 22 57.5	-2.5
CMWZ	**Cape Campbell**	**4.95**	**204**	P	Pn	11 22 58.7	-1.6
BSWZ	**Blackbirch Sta**	**5.03**	**206**	Pn	Pn	11 22 59.0	-2.4
BSWZ	**Blackbirch Sta**	**5.03**	**206**	P	Pn	11 22 59.0	-2.3
THZ	**Tophouse**	**5.45**	**213**	Pn	Pn	11 23 04.2	-2.6
THZ	**Tophouse**	**5.45**	**213**	P	Pn	11 23 04.2	-2.5
KHZ	**Kahutara**	**5.77**	**205**	Pn	Pn	11 23 08.2	-2.5
KHZ	**Kahutara**	**5.77**	**205**	P	Pn	11 23 08.3	-2.3
DSZ	**Denniston Nort**	**5.96**	**219**	Pn	Pn	11 23 09.9	-3.2
DSZ	**Denniston Nort**	**5.96**	**219**	P	Pn	11 23 10.0	-3.2
LTZ	**Lake Taylor**	**6.56**	**211**	Pn	Pn	11 23 17.0	-3.8
LTZ	**Lake Taylor**	**6.56**	**211**	P	Pn	11 23 18.2	-2.6
INZ	**Inchbonnie**	**6.88**	**215**	P	Pn	11 23 20.9	-3.9
EYCZ	**Eyrewell**	**7.07**	**208**	P	Pn	11 23 24.2	-3.1
CRLZ	**Canterbury Las**	**7.10**	**206**	Pn	Pn	11 23 24.8	-2.9
CRLZ	**Canterbury Las**	**7.10**	**206**	P	Pn	11 23 24.9	-2.8
OXZ	**Oxford**	**7.11**	**210**	Pn	Pn	11 23 24.3	-3.5
OXZ	**Oxford**	**7.11**	**210**	P	Pn	11 23 24.4	-3.4
MQZ	**McQueen's Vall**	**7.21**	**205**	P	Pn	11 23 25.1	-4.0
WVZ	**Waitaha Valley**	**7.48**	**217**	Pn	Pn	11 23 29.6	-2.9
WVZ	**Waitaha Valley**	**7.48**	**217**	P	Pn	11 23 29.9	-2.6
RPZ	**Rata Peaks**	**7.83**	**213**	Pn	Pn	11 23 34.0	-3.1
RPZ	**Rata Peaks**	**7.83**	**213**	P	Pn	11 23 34.2	-2.9
FOZ	**Fox Glacier**	**8.27**	**218**	Pn	Pn	11 23 39.1	-3.6
FOZ	**Fox Glacier**	**8.27**	**218**	P	Pn	11 23 39.6	-3.0
LBZ	**Lake Benmore**	**8.75**	**213**	Pn	Pn	11 23 45.5	-3.3
LBZ	**Lake Benmore**	**8.75**	**213**	P	Pn	11 23 46.0	-2.8
ODZ	**Otahua Downs**	**9.09**	**209**	Pn	Pn	11 23 50.4	-2.8
ODZ	**Otahua Downs**	**9.09**	**209**	P	Pn	11 23 50.9	-2.3
JCZ	**Jackson Bay**	**9.17**	**219**	Pn	Pn	11 23 50.4	-4.0
JCZ	**Jackson Bay**	**9.17**	**219**	P	Pn	11 23 50.8	-3.5
WKZ	**Wanaka**	**9.62**	**216**	Pn	Pn	11 23 56.4	-3.5
WKZ	**Wanaka**	**9.62**	**216**	P	Pn	11 23 56.5	-3.5
TUZ	**Tuapeka**	**10.25**	**210**	Pn	Pn	11 24 06.4	-1.6
TUZ	**Tuapeka**	**10.25**	**210**	P	Pn	11 24 06.4	-1.6

*IDC **14** 11:23:20.2±0.8,40˚.86N×145˚.09E,h0km,mb3.6/11, mb1 3.8/13,mb1mx3.6/78,mbtmp3.6/13,ML3.2/2,MS4.2/1, Ms1 4.2/1,ms1mx3.5/76,Error ellipse: s-maj=23.1km s-min=17.0km az=109.0*

*JMA **14** 11:23:21.8±0.2,40˚.94N×145˚.29E,h61km±3km,M3.6*

*ISCJB **14** 11:23:22.1±1.6,40˚.92N±0˙.03×145˚.06E±0˙.05, h27km±12km,mb3.6/11,Error ellipse: s-maj=6.2km s-min=5.6km az=11.0*

ISC 14 11:23:24.8±2.6,**40˚.97N**±0˙.05×**145˚.04E**±0˙.04,**h31**km±20km, **n30,**σ1§**44**/41,**mb3.7**/11,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.76**	**307**	P	**Pn**	**11 23 53.2**	**+0.1**
JEM				*e*S	**Sn**	**11 24 15.3**	**+0.9**
JAK	**Akkeshi**	**2.04**	**353**	P	Pn	11 23 55.2	-1.8
JAK				S	**Sn**	**11 24 20.2**	**-1.2**
JCH	**Churui**	**2.07**	**323**	P	**Pn**	**11 23 57.0**	**-0.3**
JCH				S	**Sn**	**11 24 21.9**	**-0.1**
JOB	**Onbets**	**2.13**	**335**	P	**Pn**	**11 23 57.6**	**-0.6**
JOB				S	**Sn**	**11 24 23.7**	**+0.1**
JNBK	**Urakawa-nobuka**	**2.16**	**308**	P	**Pn**	**11 23 59.3**	**+0.7**
JNBK				S	**Sn**	**11 24 26.6**	**+2.4**
NEM2	**Nemuro 2**	**2.45**	**12**	P	**Pn**	**11 24 00.8**	**-1.8**
NEM2				S	**Sn**	**11 24 28.1**	**-3.4**
JAR	**Ashorobuto**	**2.51**	**338**	P	Pn	11 24 02.2	-1.2
JAR				*e*S	**Sn**	**11 24 31.5**	**-1.5**
JNK	**Nakash**	**2.62**	**355**	P	Pn	11 24 02.7	-2.3
JNK				*e*S	**Sn**	**11 24 31.9**	**-3.9**
**JBT2

MAT				*e*S		**Sn**	**11 32 21.8**	**-3.0**
JHJ2	**Mitsune**	**8.79**	**210**	*e*Pn		**Pn**	**11 31 33.3**	**-1.4**
USRK	**Ussuriysk Ar.**	**10.15**	**293**	Pn		**Pn**	**11 31 54.1**	**+0.8**
	0.3nm,0.3s,baz=105,slow=14,SNR=7.9							
MDJ	**Mudanjiang**	**11.92**	**293**	*e*Pn		**Pn**	**11 32 13.4**	**-4.1**
SEY	**Seymchan**	**22.52**	**9**	P		**P**	**11 34 25.8**	**-0.8**
	1.0nm,0.7s,baz=194,slow=8.0,SNR=8.3							
YAK	**Yakutsk**	**23.11**	**342**	*e*P		**P**	**11 34 34.4**	**+1.7**
	6.2nm,0.7s							
ULN	**Ulaanbaatar**	**27.79**	**297**	*e*P		**P**	**11 35 15.5**	**-0.3**
	2.7nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.18**	**132**	T		T	12 04 51.0	
	baz=324,slow=76,SNR=6.7							
H11N1	**WAKE ISLAND Hy**	**28.19**	**132**	T		T	12 04 56.3	
	baz=324,slow=76,SNR=6.6							
H11N3	**WAKE ISLAND Hy**	**28.20**	**132**	T		T	12 04 52.0	
	baz=324,slow=76,SNR=5.8							
SONM	**Songino Array**	**28.23**	**297**	P		**P**	**11 35 18.8**	**-1.0**
	2.2nm,0.6s,baz=82,slow=11,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**29.05**	**134**	T		T	12 05 54.2	
	baz=325,slow=74,SNR=8.5							
H11S3	**WAKE ISLAND Hy**	**29.06**	**134**	T		T	12 05 55.2	
	baz=325,slow=74,SNR=6.6							
H11S2	**WAKE ISLAND Hy**	**29.07**	**134**	T		T	12 05 55.7	
	baz=325,slow=74,SNR=7.7							
ZALV	**Zalesovo Beam**	**41.51**	**309**	P		**P**	**11 37 14.0**	**+0.3**
	1.2nm,0.7s,baz=86,slow=7.4,SNR=4.3							
MKAR	**Makanchi Array**	**44.55**	**300**	P		**P**	**11 37 38.5**	**+0.1**
	1.0nm,0.6s,baz=81,slow=9.9,SNR=10							
ILAR	**Eielson Array**	**44.75**	**34**	P		**P**	**11 37 40.3**	**+0.5**
	0.6nm,0.9s,baz=225,slow=7.6,SNR=4.4							
KURK	**Kurchatov**	**45.85**	**306**	P		**P**	**11 37 49.4**	**+0.7**
KURBB	**Kurchatov Arra**	**45.93**	**306**	P		**P**	**11 37 49.4**	**+0.1**
	3.5nm,0.6s,baz=76,slow=8.8,SNR=7.5							
INK	**Inuvik**	**49.69**	**29**	P		**P**	**11 38 19.3**	**+1.2**
	1.5nm,1.0s,baz=301,slow=4.5,SNR=5.1							
BVAR	**Borovoye Array**	**50.12**	**311**	P		**P**	**11 38 22.3**	**+0.7**
	1.4nm,0.8s,baz=81,slow=8.3,SNR=5.3							
ABKAR	**Akbulak array**	**57.62**	**309**	*e*P		**P**	**11 39 17.0**	**+0.5**
	1.2nm,0.7s							
RES	**Resolute Bay**	**58.17**	**16**	P		**P**	**11 39 21.0**	**+1.1**
	3.4nm,0.8s,baz=308,slow=5.7,SNR=8.6							
YKA	**Yellowknife Ar**	**59.08**	**32**	P		**P**	**11 39 27.1**	**+0.7**
	0.3nm,0.7s,baz=300,slow=6.5,SNR=6.8							
WRAB	**Tennant Creek**	**61.30**	**191**	*e*P		**P**	**11 39 41.9**	**-0.2**
	7.4nm,1.6s							
WRA	**Warramunga Arr**	**61.32**	**191**	P		**P**	**11 39 41.5**	**-0.7**
	1.9nm,0.9s,baz=7.5,slow=7.0,SNR=7.3							
ASAR	**Alice Springs**	**65.04**	**191**	P		**P**	**11 40 07.2**	**+0.4**
	0.4nm,0.8s,baz=9.4,slow=7.8,SNR=3.9							
FINES	**FINESS Array B**	**66.69**	**333**	P		**P**	**11 40 17.3**	**+0.3**
	1.4nm,0.6s,baz=20,slow=6.3,SNR=6.7							
KBZ	**Khabaz**	**70.49**	**311**	P		**P**	**11 40 42.8**	**+1.8**
	2.1nm,0.8s,baz=76,slow=6.7,SNR=5.3							
NB2	**NORSAR Subarra**	**71.68**	**338**	P		**P**	**11 40 48.5**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=35,slow=6.2							
NOA	**NORSAR Array B**	**71.68**	**338**	P		**P**	**11 40 48.6**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=36,slow=6.0,SNR=4.4							
HFS	**Hagfors**	**71.70**	**337**	P		**P**	**11 40 47.7**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=99,slow=9.2,SNR=4.4							
AKASG	**Malin Array Be**	**72.93**	**323**	P		**P**	**11 40 55.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=45,slow=5.8,SNR=6.9							
BRTR	**Keskin Array B**	**78.34**	**313**	P		**P**	**11 41 29.6**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=42,slow=4.5,SNR=2.8							
EKA	**Eskdalemuir Ar**	**80.38**	**342**	P		**P**	**11 41 37.8**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=30,slow=5.9,SNR=3.5							
TXAR	**Lajitas Array**	**85.60**	**55**	P		**P**	**11 42 06.3**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=303,slow=4.3,SNR=6.3							

IDC 14 11:32:09.2±5.7, 12°.51S×167°.59E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/55, mbtmp3.6/3, Error ellipse: s-maj=291.3km s-min=32.3km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.73**	**253**	P	P	11 38 43.8	-0.2
	0.9nm,1.0s,baz=84,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**33.80**	**246**	P	P	11 38 53.4	+0.1
	0.3nm,0.5s,baz=76,slow=9.2,SNR=6.3						
ILAR	**Eielson Array**	**84.33**	**18**	P	P	11 44 42.8	0.0
	0.7nm,0.6s,baz=234,slow=5.5,SNR=13						

IDC 14 11:33:04.7±3.3, 54°.21N×87°.35E, h0km, mb1 2.6/2, mb1mx2.5/81, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=28.9km s-min=19.9km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**261**	*i*		11 43 10.0	
	baz=82,slow=338,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.52**	**261**	Pg	Pn	11 33 31.5	-1.5
	2.4nm,0.3s,baz=83,slow=14,SNR=22						
ZALV				Lg	Lg	11 33 52.3	
	2.5nm,0.3s,baz=66,slow=26,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.48**	**240**	Pn	Pn	11 34 41.7	+0.4
	0.1nm,0.3s,baz=58,slow=14,SNR=5.0						
KURBB				Lg	Lg	11 36 32.8	
	0.0nm,0.3s,baz=58,slow=35,SNR=4.6						
MKAR	**Makanchi Array**	**8.09**	**206**	Pn	Pn	11 35 04.8	+1.4
	0.1nm,0.3s,baz=24,slow=14,SNR=5.4						
MKAR				Lg	Lg	11 37 24.2	
	0.1nm,0.3s,baz=31,slow=24,SNR=5.4						

*IDC **14** 11:37:25.5±0.9, 40°.87N×145°.12E, h0km, mb3.8/10, mb1 4.0/13, mb1mx3.7/82, mbtmp3.8/13, ML3.0/3, Error ellipse: s-maj=23.0km s-min=18.0km az=94.0*
*JMA **14** 11:37:26.8±0.2, 40°.91N×145°.15E, h60km±3km, M4.0*
*ISCJB **14** 11:37:28.1±0.6, 40°.93N±0°.03×144°.96E±0°.06, h33km, mb3.7/10, Error ellipse: s-maj=6.4km s-min=4.2km az=14.9*

ISC 14 11:37:30.1±0.8, 40°.96N±0°.05×145°.02E±0°.07, h35km, n30, σ1s81/38, mb3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.75**	**308**	P	**Pn**	**11 37 56.9**	**-1.1**
JEM				*e*S	**Sn**	**11 38 18.3**	**-0.8**
JAK	**Akkeshi**	**2.05**	**353**	S	**Sn**	**11 38 25.7**	**-0.8**
JCH	**Churui**	**2.07**	**324**	P	**Pn**	**11 38 01.3**	**-1.0**
JCH				S	**Sn**	**11 38 25.5**	**-1.4**
JOB	**Onbets**	**2.14**	**336**	S	**Sn**	**11 38 27.9**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.15**	**309**	P	**Pn**	**11 38 03.2**	**-0.3**
JNBK				S	**Sn**	**11 38 29.5**	**+0.5**
NEM2	**Nemuro 2**	**2.47**	**12**	P	**Pn**	**11 38 06.2**	**-1.6**
NEM2				S	**Sn**	**11 38 34.2**	**-2.5**
JAR	**Ashorobuto**	**2.52**	**339**	P	**Pn**	**11 38 07.8**	**-0.7**
JAR				S	**Sn**	**11 38 36.2**	**-1.7**
JNK	**Nakash**	**2.64**	**355**	P	**Pn**	**11 38 08.0**	**-2.2**
JNK				S	**Sn**	**11 38 37.3**	**-3.6**
JBT2	**Biratori 2**	**2.69**	**313**	*e*S	**Sn**	**11 38 43.7**	**+1.4**
JANG	**Nango**	**2.73**	**259**	P	**Pn**	**11 38 09.3**	**-2.1**
JFR	**Furan**	**2.85**	**321**	P	**Pn**	**11 38 12.3**	**-0.8**
JRA	**Rausu**	**2.98**	**1**	S	**Sn**	**11 38 45.7**	**-3.6**
JOT	**Ohata**	**3.03**	**279**	S	**Sn**	**11 38 47.7**	**-2.8**
JTKR	**Abashiri--Toko**	**3.12**	**345**	P	**Pn**	**11 38 15.9**	**-0.9**
JTKR				S	**Sn**	**11 38 51.7**	**-1.2**
JOM	**Ohasama**	**3.21**	**244**	P	**Pn**	**11 38 16.5**	**-1.6**
JOM				S	**Sn**	**11 38 52.1**	**-3.1**
JKK2	**Kamakawa 2**	**3.37**	**331**	P	**Pn**	**11 38 20.2**	**0.0**
ASAJ	**Asahikawa**	**3.63**	**331**	Pn	**Pn**	**11 38 24.0**	**+0.2**
	1.6nm,0.3s,baz=190,slow=19,SNR=7.3						
ASAJ				Sn	**Sn**	**11 39 00.6**	**-4.8**
	1.9nm,0.3s,baz=138,slow=9.4,SNR=6.3						
MJAR	**Matsushiro Arr**	**6.91**	**233**	Pn	**Pn**	**11 39 07.4**	**-1.5**
	0.5nm,0.3s,baz=42,slow=11,SNR=10						
MAT	**Matsushiro**	**6.91**	**233**	P	**Pn**	**11 39 07.4**	**-1.5**
MAT				*e*S	**Sn**	**11 40 26.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**10.14**	**293**	Pn	**Pn**	**11 39 54.5**	**+1.3**
	0.2nm,0.3s,baz=102,slow=12,SNR=3.8						
SEY	**Seymchan**	**22.44**	**9**	P	**P**	**11 42 26.8**	**+1.1**
	1.4nm,0.7s,baz=180,slow=8.5,SNR=10						
SONM	**Songino Array**	**28.21**	**297**	P	P	11 43 22.3	+2.8
	3.0nm,1.2s,baz=94,slow=7.9,SNR=7.7						
MKAR	**Makanchi Array**	**44.53**	**299**	P	**P**	**11 45 39.0**	**+0.7**
	0.5nm,0.8s,baz=70,slow=8.4,SNR=3.9						
ILAR	**Eielson Array**	**44.68**	**34**	P	**P**	**11 45 39.3**	**+0.2**
	0.6nm,0.8s,baz=266,slow=7.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**45.91**	**306**	P	**P**	**11 45 49.2**	**+0.1**
	0.9nm,0.7s,baz=73,slow=9.2,SNR=4.2						
WRA	**Warramunga Arr**	**61.39**	**191**	P	**P**	**11 47 42.4**	**-0.2**
	3.9nm,1.2s,baz=12,slow=6.9,SNR=4.8						
ASAR	**Alice Springs**	**65.12**	**191**	P	**P**	**11 48 08.0**	**+0.7**
	0.7nm,1.0s,baz=8.9,slow=6.6,SNR=3.8						
KBZ	**Khabaz**	**70.46**	**311**	P	**P**	**11 48 42.3**	**+1.5**
	1.5nm,0.8s,baz=14,slow=6.6,SNR=3.9						
NOA	**NORSAR Array B**	**71.62**	**338**	P	P	11 48 49.6	+2.0
	0.4nm,0.6s,baz=31,slow=6.0,SNR=2.9						
TXAR	**Lajitas Array**	**85.53**	**55**	P	**P**	**11 50 06.0**	**+1.1**
	0.3nm,0.7s,baz=299,slow=2.0,SNR=4.8						

JMA 14 11:38:54.7±0.4, 40°.95N×145°.09E, h69km±4km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.80**	**307**	P	Pn	11 39 23.7	+0.1
JEM				*e*S	Sn	11 39 45.1	-0.4
JAK	**Akkeshi**	**2.07**	**352**	*e*S	Sn	11 39 52.7	+0.8
JCH	**Churui**	**2.11**	**323**	P	Pn	11 39 28.8	+1.1
JCH				*e*S	Sn	11 39 52.8	-0.1
JOB	**Onbets**	**2.17**	**335**	*e*S	Sn	11 39 54.7	+0.4
JNBK	**Urakawa-nobuka**	**2.20**	**308**	*e*S	Sn	11 39 56.8	+1.6
NEM2	**Nemuro 2**	**2.46**	**11**	*e*S	Sn	11 40 00.2	-1.3
JAR	**Ashorobuto**	**2.54**	**338**	P	Pn	11 39 34.1	+0.5
JAR				*e*S	Sn	11 40 03.0	-0.5
JNK	**Nakash**	**2.65**	**354**	*e*S	Sn	11 40 04.5	-1.6
JBT2	**Biratori 2**	**2.74**	**313**	*e*S	Sn	11 40 10.2	+2.0
JANG	**Nango**	**2.78**	**259**	*e*S	Sn	11 40 07.0	-2.3
JFR	**Furan**	**2.89**	**321**	*e*S	Sn	11 40 11.4	-0.6
JRA	**Rausu**	**2.99**	**0**	*e*S	Sn	11 40 12.7	-1.6
JOT	**Ohata**	**3.08**	**279**	*e*S	Sn	11 40 15.1	-1.5
JTKR	**Abashiri--Toko**	**3.14**	**344**	P	Pn	11 39 43.7	+1.9
JTKR				*e*S	Sn	11 40 19.0	+0.9
JOM	**Ohasama**	**3.26**	**244**	P	Pn	11 39 44.5	+1.1

*NIED **14** 11:40:00.40°.90N×145°.10E, h5km, Mw5.5 Best double couple: M0 2.08000×10^17 NP1:φs251.00000°, δ39.00000°, λ-89.00000°. NP2:φs69.00000°, δ51.00000°, λ-91.00000°.*
*JMA **14** 11:40:15.6±0.1, 40°.88N×145°.13E, h65km±2km, M5.5*
JMA Felt I J1.
*IDC **14** 11:40:15.0±0.3, 40°.89N×144°.99E, h0km, mb5.0/54, mb1 5.1/61, mb1mx5.0/82, mbtmp5.0/61, ML4.5/6, MS5.2/27, Ms1 5.2/27, ms1mx4.9/75, Error ellipse: s-maj=10.0km s-min=8.9km az=137.0*
*ISCJB **14** 11:40:16.2±0.1, 40°.91N±0°.02×144°.91E±0°.01, h15km, mb5.3/425, MS5.5/49, Error ellipse: s-maj=2.3km s-min=1.5km az=168.5*
*BJI **14** 11:40:16.3, 41°.02N×144°.68E, h11km, mb5.1/67, mB5.8/34, Ms5.4/58, Ms7 5.2/55*
*MOS **14** 11:40:17.6±1.2, 41°.01N×144°.83E, h22km, mb5.6/130, MS5.4/22, Error ellipse: s-maj=5.5km s-min=3.4km az=103.6*
*NEIC **14** 11:40:17.1±0.1, 40°.91N×144°.85E, h10km, mb5.4/293, Error ellipse: s-maj=3.3km s-min=2.0km az=153.0*
NEIC Recorded [1 JMA] in Aomori and Iwate.

ISC 14 11:40:16.8±0.5, 40°.96N±0°.03×144°.97E±0°.03, h10km±2km, h10km:pP-P, n1428, σ1s38/1523, mb5.4/442, MS5.4/49, 54C-58D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.72**	**308**	*ce*P	**Pn**	**11 40 46.1**	**-0.7**
ERM				pmax	pmax		
	comp=Z,3μm,2.5s						
ERM	**Erimo**	**1.72**	**308**	*e*Pn	**Pn**	**11 40 46.2**	**-0.7**
ERM				*e*Sn	**Sn**	**11 41 07.8**	**-1.0**
JEM	**Erimo**	**1.72**	**308**	P	**Pn**	**11 40 46.0**	**-0.8**
JEM				*e*S	**Sn**	**11 41 07.9**	**-0.9**
JCH	**Churui**	**2.04**	**325**	P	**Pn**	**11 40 50.4**	**-0.8**
JCH				*e*S	**Sn**	**11 41 15.1**	**-1.7**
JAK	**Akkeshi**	**2.05**	**354**	P	**Pn**	**11 40 49.7**	**-1.6**
JAK				*e*S	**Sn**	**11 41 14.3**	**-2.5**
JOB	**Onbets**	**2.12**	**337**	P	**Pn**	**11 40 51.4**	**-0.9**
JOB				*e*S	**Sn**	**11 41 18.4**	**-0.2**
JNBK	**Urakawa-nobuka**	**2.12**	**309**	P	**Pn**	**11 40 52.4**	**+0.1**
JNBK				*e*S	**Sn**	**11 41 18.7**	**0.0**
NEM2	**Nemuro 2**	**2.47**	**13**	P	**Pn**	**11 40 55.2**	**-1.9**
NEM2				*e*S	**Sn**	**11 41 24.3**	**-3.0**
JAR	**Ashorobuto**	**2.50**	**340**	P	**Pn**	**11 40 56.5**	**-1.0**
JAR				*e*S	**Sn**	**11 41 26.8**	**-1.3**
JNK	**Nakash**	**2.63**	**356**	P	**Pn**	**11 40 57.3**	**-2.0**
JNK				*e*S	**Sn**	**11 41 27.4**	**-3.9**
JBT2	**Biratori 2**	**2.66**	**314**	P	**Pn**	**11 40 59.4**	**-0.3**
JBT2				*e*S	**Sn**	**11 41 32.0**	**0.0**
JANG	**Nango**	**2.69**	**259**	P	**Pn**	**11 40 58.1**	**-2.0**
JANG				*e*S	**Sn**	**11 41 28.2**	**-4.5**
GLVR	**Golovnino**	**2.81**	**8**	*e*P	**Pn**	**11 41 01.0**	**-0.7**
GLVR				*i* S	**Sn**	**11 41 31.9**	**-3.7**
JFR	**Furan**	**2.83**	**322**	P	**Pn**	**11 41 01.4**	**-0.6**
JFR				*e*S	**Sn**	**11 41 34.0**	**-2.1**
JTM	**Tenmabayashi**	**2.96**	**268**	P	**Pn**	**11 41 02.9**	**-0.9**
JTM				*e*S	**Sn**	**11 41 36.6**	**-2.8**
JRA	**Rausu**	**2.98**	**2**	P	**Pn**	**11 41 02.4**	**-1.7**
JRA				*e*S	**Sn**	**11 41 35.5**	**-4.3**
JOT	**Ohata**	**2.99**	**279**	P	**Pn**	**11 41 03.5**	**-0.7**
JOT				*e*S	**Sn**	**11 41 37.1**	**-3.0**
GRPR	**Tuman**	**3.09**	**11**	*e*P	**Pn**	**11 41 05.2**	**-0.4**
GRPR				*i* S	**Sn**	**11 41 39.0**	**-3.6**
JKB	**Kayabe**	**3.10**	**289**	P	**Pn**	**11 41 05.1**	**-0.7**
JKB				*e*S	**Sn**	**11 41 40.8**	**-2.0**
JTKR	**Abashiri--Toko**	**3.11**	**346**	P	**Pn**	**11 41 05.3**	**-0.6**
JTKR				*e*S	**Sn**	**11 41 41.8**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**3.15**	**12**	*d* iP	**Pn**	**11 41 05.0**	**-1.3**
YUK				*i* S	**Sn**	**11 41 38.8**	**-5.1**
YUK				pmax	pmax		
	comp=N,261nm,0.3s						
YUK				pmax	pmax		
	comp=E,657nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				smax	smax		
	comp=N,6μm,0.5s						
YUK				smax	smax		
	comp=E,10μm,0.4s						
YUK				MLR	MLR		
	comp=Z,32μm,7.0s						
LAGR	**Lagunnoye**	**3.15**	**11**	*e*P	**Pn**	**11 41 06.0**	**-0.5**
LAGR				*i* S	**Sn**	**11 41 40.7**	**-3.4**
JOM	**Ohasama**	**3.18**	**243**	P	**Pn**	**11 41 05.0**	**-1.9**
JOM				*e*S	**Sn**	**11 41 40.2**	**-4.6**
SHO	**Shikotan**	**3.22**	**25**	*c* iP	**Pn**	**11 41 05.3**	**-2.1**
SHO				*i* S	**Sn**	**11 41 39.7**	**-6.1**
SHO				pmax	pmax		
	comp=N,284nm,0.5s						
SHO				pmax	pmax		
	comp=Z,851nm,0.5s						
SHO				pmax	pmax		
	comp=E,321nm,0.2s						
SHO				smax	smax		
	comp=N,2μm,0.4s						
SHO				smax	smax		
	comp=E,3μm,0.3s						
SHO				MLR	MLR		
	comp=Z,41μm,7.0s						
JEW	**Eniwo**	**3.23**	**307**	P	**Pn**	**11 41 08.0**	**+0.5**
JEW				*e*S	**Sn**	**11 41 46.0**	**0.0**
JKK2	**Kamakawa 2**	**3.34**	**331**	P	**Pn**	**11 41 09.2**	**+0.1**
JAH	**Hinai**	**3.39**	**258**	P	**Pn**	**11 41 08.6**	**-1.1**
JAH				*e*S	**Sn**	**11 41 47.0**	**-2.9**
JMK	**Ichinoseki**	**3.51**	**236**	P	**Pn**	**11 41 09.5**	**-1.9**
JMK				*e*S	**Sn**	**11 41 48.2**	**-4.9**
ASAJ	**Asahikawa**	**3.61**	**332**	Pn	**Pn**	**11 41 12.8**	**0.0**
	comp=Z,22nm,0.3s,baz=193,slow=15,SNR=28						
ASAJ				Sn	**Sn**	**11 41 52.4**	**-3.0**
	comp=Z,42nm,0.3s,baz=114,slow=20,SNR=7.9						
ASAJ				LR	LR	11 42 58.3	
	comp=Z,234nm,18.3s,baz=135,slow=44						
JRG	**Rokugo**	**3.67**	**246**	P	**Pn**	**11 41 12.4**	**-1.2**
JRG				*e*S	**Sn**	**11 41 54.4**	**-2.5**
JYK	**Kaneyama**	**4.09**	**242**	P	**Pn**	**11 41 17.6**	**-1.7**
JYK				*e*S	**Sn**	**11 42 03.1**	**-4.1**
JOU	**Okura**	**4.21**	**233**	P	**Pn**	**11 41 19.1**	**-2.0**
JOU				*e*S	**Sn**	**11 42 06.0**	**-4.3**
KUR	**Kuril'sk**	**4.77**	**25**	*e*P	**Pn**	**11 41 28.3**	**-0.4**
KUR				*i* S	**Sn**	**11 42 20.0**	**-4.0**
KUR				pmax	pmax		
	comp=Z,783nm,0.6s						
KUR				pmax	pmax		
	comp=N,416nm,0.3s						
KUR				pmax	pmax		
	comp=E,176nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.5s						
KUR				smax	smax		
	comp=E,2μm,0.5s						
KUR				MLR	MLR		
	comp=Z,15μm,9.0s						
JFT	**Otama**	**4.97**	**228**	P	**Pn**	**11 41 29.1**	**-2.4**
JFT				*e*S	**Sn**	**11 42 23.0**	**-6.0**
YSS	**Yuzh-Sakhalins**	**6.20**	**346**	⇑*e*P	**Pn**	**11 41 48.5**	**+0.1**
YSS				*e*S	**Sn**	**11 42 58.4**	**-0.9**
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				pmax	pmax		
	comp=E,30nm,0.7s						
YSS				smax	smax		
	comp=E,120nm,1.0s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS				MLR	MLR		
	comp=Z,18μm,20.0s						
YSS				MLR	MLR		
	comp=N,20μm,18.0s						
YSS				MLR	MLR		
	comp=E,12μm,12.0s						
YSS	**Yuzh-Sakhalins**	**6.20**	**346**	*e*Pn	**Pn**	**11 41 48.8**	**+0.4**
YSS				*e*Sn	**Sn**	**11 42 55.1**	**-4.1**
MJAR	**Matsushiro Arr**	**6.88**	**232**	Pn	**Pn**	**11 41 56.6**	**-1.1**
	comp=E,6.7nm,0.3s,baz=42,slow=11,SNR=54						
MJAR				Sn	**Sn**	**11 43 21.4**	**+5.4**
	baz=31,slow=24,SNR=2.2						
MJAR				LR	LR	11 45 10.3	
	comp=E,14μm,18.3s,baz=55,slow=43						
MAJO	**Matsushiro**	**6.88**	**232**	*c* iP	**Pn**	**11 41 56.7**	**-1.0**
MAJO	**Matsushiro**	**6.88**	**232**	*e*Pn	**Pn**	**11 41 56.5**	**-1.2**
MAT	**Matsushiro**	**6.88**	**232**	P	**Pn**	**11 41 56.9**	**-0.8**
MAT				*e*S	**Sn**	**11 43 10.4**	**-5.7**
MJB9	**Matsu-Tunnel**	**6.88**	**232**	*e*Pn	**Pn**	**11 41 56.5**	**-1.2**
TEY	**Ternei**	**7.36**	**306**	*e*P	**Pn**	**11 42 04.2**	**-0.1**
TEY				pmax	pmax		
	comp=Z,52nm,0.8s						
INU	**Inuyama**	**8.40**	**231**	*e*Pn	**Pn**	**11 42 17.9**	**-0.7**
JHJ2	**Mitsune**	**8.85**	**209**	*e*Pn	**Pn**	**11 42 25.7**	**+1.1**
JHJ2				*e*Sn	**Sn**	**11 43 58.4**	**-6.0**
JHJ	**Hachijo jima 2**	**8.85**	**210**	Pn	**Pn**	**11 42 22.2**	**-2.5**
	comp=Z,53nm,0.3s,baz=82,slow=22,SNR=5.3						
JHJ				Sn	Sn	11 43 53.0	-12
	comp=Z,127nm,0.3s,baz=66,slow=19,SNR=8.5						
VLA	**Vladivostok**	**9.97**	**287**	‖ *i* P	**Pn**	**11 42 41.2**	**+1.2**
TYV	**Tymovskoe**	**10.04**	**352**	*e*P	**Pn**	**11 42 42.6**	**+1.7**
TYV				*e*S	**Sn**	**11 44 33.4**	**-0.1**
TYV				pmax	pmax		
	comp=Z,3μm,6.3s						
TYV				pmax	pmax		
	comp=Z,131nm,1.1s						
TYV				smax	smax		
	comp=E,2μm,4.9s						
TYV				smax	smax		
	comp=N,40nm,1.7s						
TYV				MLR	MLR		
	comp=Z,10μm,15.0s						
TYV				MLR	MLR		
	comp=N,12μm,15.0s						
USRK	**Ussuriysk Ar.**	**10.11**	**293**	Pn	**Pn**	**11 42 43.0**	**+1.1**
	comp=N,2.0nm,0.3s,baz=104,slow=14,SNR=60						
USRK				LR	LR	11 46 49.8	
	comp=N,2μm,20.6s,baz=101,slow=39						
GRNR	**Gornyy**	**11.47**	**332**	*e*P	**Pn**	**11 43 01.4**	**+0.8**
GRNR				pmax	pmax		
	comp=N,140nm,1.0s						
GRNR				pmax	pmax		
	comp=E,100nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,180nm,1.0s						
MDJ	**Mudanjiang**	**11.87**	**293**	P	**Pn**	**11 43 05.9**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,95nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,4μm,12.9s						
MDJ	**Mudanjiang**	**11.87**	**293**	*e*Pn	**Pn**	**11 43 05.2**	**-0.9**
	comp=Z,79nm,1.1s						
SKR	**Severo-Kuril's**	**12.44**	**35**	*e*P	**Pn**	**11 43 11.9**	**-1.8**
SKR				pmax	pmax		
	comp=Z,183nm,0.8s						
SKR				MLR	MLR		
	comp=Z,13μm,14.0s						
SKR				MLR	MLR		
	comp=Z,12μm,16.0s						
KLR	**Kul'dur**	**12.46**	**316**	Pn	**Pn**	**11 43 14.4**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=123,slow=13,SNR=40						
KLR				LR	LR	11 48 28.5	
	comp=Z,1μm,21.2s,baz=136,slow=39						
KLR				PcP	**PcP**	**11 48 55.0**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=15,slow=2.3,SNR=5.9						
NKL	**Nikolayevsk**	**12.54**	**348**	*i* P	**Pn**	**11 43 15.0**	**-0.1**
NKL				pmax	pmax

ZEA MLR MLR
comp=E,8μm,15.0s
ZEA MLR MLR
comp=N,15μm,17.0s
DL2 Dalian 18.01 271 ⇓*i*P **Pn 11 44 26.9 -0.2**
DL2 S **Sn 11 47 44.8 -3.1**
DL2 pmax pmax
comp=N,72nm,1.2s
DL2 pmax pmax
comp=N,3μm,7.3s
DL2 LR LR
comp=N,4μm,13.3s
DL2 LR LR
comp=N,4μm,13.7s
DL2 LR LR
comp=N,7μm,14.1s
MA2 Magadan 18.99 9 P **P 11 44 37.8 -0.4**
comp=N,0.6nm,0.3s,baz=190,slow=8.3,SNR=41
MA2 LR LR 11 51 03.9
comp=N,5μm,21.4s,baz=198,slow=34
HIA Hailar 19.58 304 *e*P **P 11 44 43.9 -0.9**
HIA pmax pmax
comp=Z,48nm,0.8s
HIA Hailar 19.58 304 *e*P **P 11 44 43.9 -0.9**
comp=Z,48nm,0.8s
JOW Kunigami 19.71 230 *e*P **P 11 44 45.7 -0.6**
comp=Z,1μm,1.8s
CLNS Chul'man 20.53 327 *e*P **P 11 44 54.3 -0.8**
CLNS *e**PP **sP 11 45 02.9 +3.5**
CLNS *e* 11 45 12.8
CLNS *e*S Sn 11 48 46.7 -1.9
CLNS *e* 11 48 59.7
CLNS *e*SS SnSn 11 49 23.1 +20
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS pmax pmax
comp=Z,52nm,0.9s
CLNS pmax pmax
comp=N,28nm,0.9s
CLNS pmax pmax
comp=E,24nm,1.0s
CLNS pmax pmax
comp=Z,41nm,0.9s
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS smax smax
comp=N,2μm,11.2s
CLNS smax smax
comp=E,1μm,11.9s
CLNS MLR MLR
comp=E,2μm,10.0s
CLNS MLR MLR
comp=Z,5μm,12.0s
CLNS MLR MLR
comp=N,3μm,15.0s
BJI Beijing 21.88 277 P **P 11 45 08.0 -1.7**
BJI pmax pmax
comp=N,72nm,0.8s
BJI LR LR
comp=N,6μm,11.9s
BJI LR LR
comp=N,6μm,13.1s
BJT Baijiatuau 21.89 277 *e*P **P 11 45 07.2 -2.6**
BJT pmax pmax
comp=Z,48nm,0.9s
BJT Baijiatuau 21.89 277 *e*P **P 11 45 07.2 -2.6**
comp=Z,48nm,0.9s
TIA Tai'an 22.23 267 P **P 11 45 11.6 -2.0**
SEY Seymchan 22.45 9 P **P 11 45 14.9 -0.7**
comp=Z,40nm,0.8s,baz=187,slow=7.7,SNR=126
SEY S **S 11 49 15.8 -5.9**
comp=Z,1.7nm,0.7s,baz=253,slow=18,SNR=2.3
SEY Seymchan 22.45 9*ce*P **P 11 45 13.9 -1.7**
NJ2 Nanjing 22.73 255 *e*P **P 11 45 17.0 -1.9**
NJ2 pP **pP 11 45 21.6 -0.2**
NJ2 sP **sP 11 45 25.9 +2.8**
NJ2 pmax pmax
comp=E,44nm,0.9s
NJ2 pmax pmax
comp=Z,3μm,11.1s
NJ2 LR LR
comp=Z,3μm,12.0s
NJ2 LR LR
comp=Z,9μm,13.9s
NJ2 LR LR
comp=Z,9μm,14.3s
YAK Yakutsk 23.03 341 P **P 11 45 19.7 -2.0**
comp=Z,27nm,0.4s,baz=190,slow=0.6,SNR=14
YAK S **S 11 49 23.3 -8.9**
comp=Z,31nm,0.7s,baz=172,slow=22,SNR=11
YAK LR LR 11 54 08.3
comp=Z,5μm,20.7s,baz=98,slow=36
YAK Yakutsk 23.03 341 *e*P **P 11 45 16.5 -5.2**
YAK *e**PP **pP 11 45 24.7 0.0**
YAK *e*S **S 11 49 22.5 -10**
YAK *e**SS **pS 11 49 28.6 -6.2**
YAK pmax pmax
comp=E,63nm,1.1s
YAK pmax pmax
comp=N,20nm,1.7s
YAK pmax pmax
comp=E,21nm,1.6s
YAK smax smax
comp=N,1μm,2.3s
YAK smax smax
comp=E,352nm,2.1s
YAK MLR MLR
comp=Z,5μm,19.0s
YAK MLR MLR
comp=N,20μm,23.0s
YAK MLR MLR
comp=E,6μm,18.0s
YAK Yakutsk 23.03 341 *e*P **P 11 45 20.5 -1.3**
comp=E,94nm,0.7s
YAK S **S 11 49 23.3 -8.9**
YAK *e*S **S 11 49 29.3 -2.9**
CIT Chita 24.11 308 *e*P **P 11 45 29.6 -2.9**
CIT *e* 11 46 04.8
CIT *e* 11 46 15.7
CIT pmax pmax
comp=Z,592nm,2.8s
HHC Hu-ho-hao-te 25.16 281 *e*P **P 11 45 43.1 +0.8**
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,2μm,6.7s
TATO Taipei 25.23 238 *e*P **P 11 45 43.0 +0.2**
comp=Z,313nm,1.5s
TIY Taiyuan 25.29 273 *e*P **P 11 45 45.3 +1.9**
YHNB Yeheng 25.51 238 *e*P **P 11 45 48.0 +2.5**
comp=Z,81nm,1.2s
BOD Bodaibo 25.95 321 *e*P **P 11 45 48.4 -0.7**
BOD pmax pmax
comp=Z,100nm,1.5s
SSLB Suanglung 26.41 237 *e*P **P 11 45 54.3 +0.7**
comp=Z,35nm,1.0s
YULB Yu-li 26.48 236 *e*P **P 11 45 54.0 -0.1**
comp=Z,27nm,0.8s
WHN Wuhan 26.81 257 ⇑*i*P **P 11 45 57.4 +0.3**
TPUB Ta-pu 26.97 237 *e*P **P 11 45 57.8 -0.9**
comp=Z,76nm,1.1s
TWG Pinlang 27.04 235 *e*P **P 11 46 03.5 +4.3**
comp=Z,310nm,1.1s
QZH Quanzhou 27.15 242 ⇑*i*P **P 11 46 00.6 +0.4**
QZH pmax pmax
comp=Z,3μm,6.6s
QZH LR LR
comp=Z,3μm,13.3s
QZH LR LR
comp=Z,2μm,13.7s
QZH LR LR
comp=Z,2μm,15.2s
GUMO Guam 27.27 180 LR LR 11 54 31.4
comp=Z,3μm,21.5s,baz=90,slow=32
ULN Ulaanbaatar 27.74 297*ce*P **P 11 46 05.6 +0.1**
ULN pmax pmax
comp=Z,333nm,2.5s
ULN Ulaanbaatar 27.74 297 *e*P **P 11 46 05.4 -0.1**
comp=Z,134nm,1.2s
ULN Ulaanbaatar 27.74 297 P **P 11 46 05.6 +0.1**
SNR=75
SONA1 Songino Array 28.17 297 *e*P **P 11 46 09.4 +0.1**
SONM Songino Array 28.18 297 P **P 11 46 09.8 +0.4**
comp=Z,47nm,1.0s,baz=92,slow=7.9,SNR=49
SONM PcP **PcP 11 49 24.0 +1.0**
comp=Z,5.7nm,1.0s,baz=124,slow=2.7,SNR=4.4
SONM LR LR 11 57 51.9
comp=Z,7μm,19.9s,baz=70,slow=37
H11N2 WAKE ISLAND Hy 28.24 132 T T 12 15 39.7
baz=324,slow=76,SNR=42
H11N1 WAKE ISLAND Hy 28.25 132 T T 12 15 44.5
baz=324,slow=76,SNR=36
H11N3 WAKE ISLAND Hy 28.26 132 T T 12 15 39.8
baz=324,slow=76,SNR=40
H11S1 WAKE ISLAND Hy 29.12 134 T T 12 16 42.8
baz=325,slow=76,SNR=48
H11S3 WAKE ISLAND Hy 29.12 134 T T 12 16 49.6
baz=325,slow=76,SNR=44
H11S2 WAKE ISLAND Hy 29.13 134 T T 12 16 53.2
baz=325,slow=76,SNR=23
XAN Xi'an 29.27 268 P **P 11 46 18.8 -0.3**
XAN pP sP 11 46 24.6 +1.0
XAN sP pP 11 46 27.6 +5.3
XAN PP **PnPn 11 47 13.3 +1.2**
XAN S **S 11 51 06.8 -5.2**
XAN pmax pmax
comp=Z,54nm,1.4s
XAN LR LR
comp=Z,4μm,13.0s
XAN LR LR
comp=Z,4μm,14.6s
XAN LR LR
comp=Z,4μm,14.1s
BILL Bilibino 29.49 16*d i*P **P 11 46 20.4 -0.3**
BILL *e* 11 47 16.3
BILL *e*PPP PPP 11 47 25.9
BILL *e* 11 49 26.7
BILL *i*S **S 11 51 14.8 +0.1**
BILL pmax pmax
comp=Z,44nm,1.0s
BILL MLR MLR
comp=Z,5μm,17.0s
IRK Irkutsk 29.77 306 *e*P **P 11 46 24.4 +1.1**
IRK pmax pmax
comp=Z,297nm,2.9s
TLY Talaya 30.11 305 P **P 11 46 27.2 +0.9**
comp=Z,8.3nm,0.7s,baz=98,slow=4.9,SNR=8.6
TLY LR LR 11 59 03.2
comp=Z,5μm,19.7s,baz=69,slow=37
TLY Talaya 30.11 305 *e*P **P 11 46 27.0 +0.7**
TLY pmax pmax
comp=Z,107nm,1.6s
TLY MLR MLR
comp=Z,6μm,19.0s
TLY Talaya 30.11 305 *e*P **P 11 46 26.8 +0.5**
comp=Z,48nm,0.9s
ZAK Zakamensk 30.26 302 *e*P **P 11 46 26.8 -1.0**
ZAK pmax pmax
comp=Z,45nm,1.2s
ENH Enshi 30.56 261 *e*P **P 11 46 30.1 -0.5**
comp=Z,58nm,1.1s
MOY Mondy 31.75 305 *e*P **P 11 46 41.0 0.0**
MOY pmax pmax
comp=Z,202nm,2.1s
TIXI Tiksi 31.80 350 P **P 11 46 40.8 -0.2**
comp=Z,4.9nm,0.7s,baz=147,slow=7.5,SNR=16
TIXI Tiksi 31.80 350‖ *e*P **P 11 46 40.5 -0.5**
TIXI pmax pmax
comp=Z,34nm,2.5s
TIXI Tiksi 31.80 350 *e*P **P 11 46 40.8 -0.2**
comp=Z,45nm,1.8s
TIXI *e*PcP **PcP 11 49 32.8 +1.1**
GZH Guangzhou 31.95 246 *e*P **P 11 46 41.5 -1.3**
GZH S **S 11 51 48.3 -5.8**
GZH LR LR
comp=Z,4μm,13.1s
GZH LR LR
comp=Z,2μm,13.5s
LZH Lanzhou 32.32 275 ⇓P **P 11 46 47.3 +1.1**
LZH pP sP 11 46 52.0 +1.4
LZH sP pP 11 46 55.8 +6.4
LZH PP **PnPn 11 47 53.3 +0.8**
LZH pmax pmax
comp=Z,160nm,1.0s
LZH LR LR
comp=Z,2μm,14.2s
LZH LR LR
comp=Z,3μm,12.9s
LZH LR LR
comp=Z,3μm,15.2s
SPIA Saint Paul Isl 32.82 45 *e*P **P 11 46 51.6 +1.5**
comp=Z,170nm,1.2s
GAMB Gambell 33.93 33 *e*P **P 11 47 01.1 +1.5**
comp=Z,23nm,1.2s
GTA Gaotai 34.24 283 P **P 11 47 03.1 +0.2**
GTA pP sP 11 47 09.1 +1.8
GTA sP pP 11 47 12.3 +6.3
GTA PcP **PcP 11 49 40.3 +1.0**
GTA PcS **PcS 11 53 26.0 +0.4**
GTA ScS ScS 11 57 27.3 +0.6
GTA pmax pmax
comp=Z,87nm,1.1s
GTA LR LR
comp=Z,3μm,14.7s
GTA LR LR
comp=Z,2μm,15.2s
GTA LR LR
comp=Z,4μm,13.3s
CD2 Chengdu 34.56 266 P **P 11 47 05.3 -0.4**
CD2 pP sP 11 47 12.0 +1.9
CD2 PP **PP 11 48 23.3 -0.6**
CD2 S **S 11 52 32.5 -2.2**
CD2 sS sS 11 52 44.0 +4.1
CD2 pmax pmax
comp=Z,180nm,0.7s
CD2 pmax pmax
comp=Z,2μm,6.2s
CD2 LR LR
comp=Z,5μm,13.1s
CD2 LR LR
comp=Z,5μm,14.5s
CD2 LR LR
comp=Z,7μm,13.1s
GYA Guiyang 34.70 257 ⇓*i*P **P 11 47 05.8 -1.1**
GYA pP sP 11 47 14.3 +2.9
GYA PcP **PcP 11 49 41.8 +1.0**
GYA S **S 11 52 38.9 +2.0**
GYA ScP **ScP 11 53 25.0 -1.1**
GYA SS **SnSn 11 54 45.5 -4.0**
GYA pmax pmax
comp=Z,110nm,1.0s
GYA pmax pmax
comp=Z,160nm,6.2s
GYA LR LR
comp=Z,3μm,15.5s
GYA LR LR
comp=Z,5μm,17.3s
GYA LR LR
comp=Z,5μm,16.1s
DAV Davao City (W) 37.92 212 LR LR 12 01 16.6
comp=Z,3μm,21.7s,baz=127,slow=33
KMI Kunming 38.36 259 P **P 11 47 38.8 +0.5**
KMI pP sP 11 47 44.5 +1.7
KMI sP pP 11 47 47.9 +6.4
KMI pmax pmax
comp=Z,57nm,0.9s
KMI pmax pmax
comp=Z,670nm,3.4s
KMI LR LR
comp=Z,3μm,14.5s
KMI LR LR
comp=Z,4μm,16.2s
KMI LR LR
comp=Z,4μm,15.9s
DGZ Jazzator, Alta 40.48 302 *i* P **P 11 47 56.2 +0.5**
DGZ pmax pmax
comp=Z,24nm,0.9s
SVW2 Sparrevohn 40.73 40 *e*P **P 11 47 58.1 +0.6**
comp=Z,110nm,1.2s
ZAA0 Zalesovo Array 41.45 309 *e*P **P 11 48 03.6 +0.2**
comp=Z,290nm,2.0s
ZALV Zalesovo Beam 41.45 309 P **P 11 48 03.5 +0.1**
comp=Z,13nm,0.8s,baz=89,slow=7.1,SNR=47
ZALV PcP **PcP 11 50 01.3 +0.3**
comp=Z,19nm,0.7s,baz=91,slow=2.7,SNR=7.7
ZALV LR LR 12 06 15.1
comp=Z,3μm,19.8s,baz=357,slow=38
ZALV Zalesovo Beam 41.45 309 *e*P **P 11 48 02.5 -0.9**
ZALV 11 50 01.3
ZALV Zalesovo Beam 41.45 309 *e*P **P 11 48 02.5 -0.9**
ZALV PcP **PcP 11 50 01.3 +0.3**
WMQ Urumqi 41.67 294 P **P 11 48 06.3 +0.8**
WMQ pP sP 11 48 13.8 +3.8
WMQ sP pP 11 48 16.3 +7.6
WMQ PcP **PcP 11 50 04.3 +2.2**
WMQ pmax pmax
comp=Z,86nm,1.3s
WMQ LR LR
comp=Z,10μm,15.1s
WMQ LR LR
comp=Z,11μm,13.7s
WMQ LR LR
comp=Z,4μm,18.7s
OHAK Old Harbor 42.02 46 *e*P **P 11 48 08.0 +0.1**
comp=Z,70nm,0.9s
NVS Novosibirsk 42.26 311 ⇑*i*P **P 11 48 11.2 +1.2**
NVS *e* 11 49 50.6
NVS *e*S **S 11 54 35.5 +5.3**
NVS pmax pmax
comp=E,77nm,1.9s
NVS pmax pmax
comp=Z,95nm,1.9s
NVS pmax pmax
comp=Z,121nm,2.3s
NVS pmax pmax
comp=E,56nm,2.1s
NVS smax smax
comp=E,80nm,2.4s
KDAK Kodiak Island 42.35 45 P **P 11 48 10.7 0.0**
comp=E,105nm,0.9s,baz=280,slow=5.9,SNR=43
KDAK Kodiak Island 42.35 45 *e*P **P 11 48 10.8 +0.2**
comp=E,162nm,1.0s
PPLA Purkeypile 42.37 37 *e*P **P 11 48 13.0 +2.0**
comp=E,212nm,1.4s
CAST Castle Rocks 42.43 36 *e*P **P 11 48 12.8 +1.5**
comp=E,101nm,1.2s
SPU Mount Spurr 42.44 40 *e*P **P 11 48 12.9 +1.4**
SKNT Sakolnakorn 42.56 248 P **P 11 48 12.6 -0.3**
comp=E,50nm,0.9s
ZSN Zaisan 42.63 300 *e*P **P 11 48 14.0 +0.9**
comp=E,142nm,1.3s
ZSN LR LR 12 05 19.8
comp=E,614nm,13.8s
UBPT Khong Chiam 42.69 245 P **P 11 48 14.9 +1.0**
comp=E,66nm,2.0s
MYLDM Lahad Datu 42.79 221 ⇑P **P 11 48 19.2 +4.5**
BPAW Bear Paw Mtn. 42.93 35 *e*P **P 11 48 17.2 +1.8**
comp=E,37nm,1.1s
KTH Kantishna Hill 42.95 36 *e*P **P 11 48 16.7 +1.1**
comp=E,150nm,1.2s
MLY Manley 43.05 34 *e*P **P 11 48 17.8 +1.4**
comp=E,101nm,1.3s
SDKM Sandakan 43.06 223 ⇑P **P 11 48 18.4 +1.5**
SUA Susitna One 43.07 39 *e*P **P 11 48 17.8 +1.2**
comp=E,49nm,0.9s
BRLK Bradley Lake 43.09 42 *e*P **P 11 48 18.6 +1.9**
comp=E,158nm,1.7s
TRF Thorofare Moun 43.23 36 *e*P **P 11 48 19.5 +1.5**
comp=E,55nm,1.0s
COLD Coldfoot 43.38 31 *e*P **P 11 48 20.4 +1.5**
comp=E,49nm,1.1s
JAY Jayapura 43.44 186 P **P 11 48 19.1 -0.9**
comp=E,277nm,0.8s
GENI Genyem 43.56 187 P **P 11 48 22.0 +1.1**
comp=E,55nm,1.0s
RC01 Rabbit Creek A 43.57 40 *e*P **P 11 48 20.3 -0.3**
comp=E,109nm,1.1s
TOLK Toolik Lake Re 43.71 29 P **P 11 48 23.3 +1.6**
baz=266,SNR=48
TOLK Toolik Lake Re 43.71 29 *e*P **P 11 48 22.8 +1.1**
comp=E,180nm,1.5s
SEW Seward 43.78 41 *e*P **P 11 48 23.2 +1.0**
comp=E,73nm,1.1s
KHON Khomkaen 43.80 249 P **P 11 48 23.8 +0.9**
comp=E,20nm,0.9s,comp=E,930nm
PMR Palmer 43.83 39 *e*P **P 11 48 22.5 -0.1**
PMR pmax pmax
comp=Z,106nm,1.3s
PMR Palmer 43.83 39 *e*P **P 11 48 22.5 -0.1**
comp=Z,106nm,1.3s
MCK McKinley 43.84 36 *e*P **P 11 48 23.3 +0.6**
MCK pmax pmax
comp=Z,92nm,1.2s
MCK McKinley 43.84 36 *e*P **P 11 48 23.3 +0.6**
comp=Z,92nm,1.2s
RND Reindeer 43.88 36 *e*P **P 11 48 23.8 +0.7**
RND pmax pmax
comp=Z,102nm,1.2s
RND Reindeer 43.88 36 *e*P **P 11 48 23.8 +0.7**
comp=Z,102nm,1.2s
MDM Murphy Dome 44.12 34 *e*P **P 11 48 26.2 +1.2**
comp=Z,164nm,1.4s
CMAI Chiengmai2 44.20 256 P **P 11 48 27.7 +1.4**
comp=Z,554nm,1.6s
SML Sawmill 44.20 39 *e*P **P 11 48 26.7 +1.1**
SML pmax pmax
comp=Z,195nm,1.3s
SML Sawmill 44.20 39 *e*P **P 11 48 26.7 +1.1**
comp=Z,195nm,1.3s
COLA College 44.28 34 *e*P **P 11 48 27.9 +1.7**
COLA pmax pmax
comp=Z,155nm,1.4s
COLA College 44.28 34 *e*P **P 11 48 27.9 +1.7**
comp=Z,155nm,1.4s
CCB Clear Creek Bu 44.31 35 *e*P **P 11 48 27.9 +1.5**
comp=Z,154nm,1.9s
MK01 Makanchi Array 44.50 299 *e*P **P 11 48 27.6 -0.7**
MK31 Makanchi Array 44.50 299 *i* P **P 11 48 26.8 -1.4**
MK31 pmax pmax
comp=Z,34nm,1.0s
MK31 Makanchi Array 44.50 299 *e*P **P 11 48 28.0 -0.3**
MKAR Makanchi Array 44.50 299 P **P 11 48 27.7 -0.5**
comp=Z,27nm,1.0s,baz=81,slow=8.1,SNR=8.8
MKAR S **S 11 55 03.5 +0.2**
comp=Z,0.2nm,0.7s,baz=81,slow=18,SNR=2.3
MKAR Makanchi Array 44.50 299 *e*P **P 11 48 27.8 -0.4**
comp=Z,160nm,0.7s
MKAR S **S 11 55 03.5 +0.2**
DHY Denali Highway 44.56 37 *e*P **P 11 48 29.1 +0.4**
comp=Z,95nm,1.3s
LAMP Lampang 44.66 254 P **P 11 48 30.5 +0.8**
comp=Z,12nm,1.2s,comp=Z,127nm
SCM Sheep Creek Mo 44.67 39 *e*P **P 11 48 30.6 +1.1**
SCM pmax pmax
comp=Z,121nm,1.1s
SCM Sheep Creek Mo 44.67 39 *e*P **P 11 48 30.6 +1.1**
comp=Z,121nm,1.1s
CHAI Chaiyaphum 44.69 249 P **P 11 48 30.2 +0.2**
comp=Z,15nm,0.9s,comp=Z,167nm
LSA Lhasa 44.69 273 P **P 11 48 31.5 +1.0**
LSA Lhasa 44.69 273 *e*P **P 11 48 31.6 +1.0**
LSA pmax pmax
comp=Z,51nm,1.2s
LSA Lhasa 44.69 273 *e*P **P 11 48 31.6 +1.0**
comp=Z,51nm,1.2s
LSA Lhasa 44.69 273 P **P 11 48 31.5 +1.0**
IL1 Eielson Array 44.70 34 *e*P **P 11 48 29.8 +0.2**
ILAR Eielson Array 44.70 34 P **P 11 48 29.8 +0.2**
comp=Z,14nm,0.7s,baz=260,slow=6.0,SNR=78
ILB Eielson Array 44.70 34 *e*P **P 11 48 29.9 +0.3**
MAKZ Makanchi 44.70 300 *i* P **P 11 48 29.1 -0.7**
MAKZ pmax pmax
comp=Z,73nm,1.4s
MAKZ Makanchi 44.70 300 *e*P **P 11 48 29.2 -0.7**
comp=Z,53nm,1.1s
SEM Semipalatinsk 44.86 305 *e*P **P 11 48 31.1 -0.3**
comp=Z,527nm,1.0s
SEM *i*S **S 11 55 09.4 +0.5**
SEM LR LR 12 07 40.5
comp=Z,1μm,14.8s
PHIT Phitsanulok 44.95 252 P **P 11 48 33.1 +1.0**
comp=Z,18nm,1.1s,comp=Z,217nm
CMMT Chiang Mai 44.97 255 P **P 11 48 31.3 -1.0**
comp=Z,38nm,1.3s
CHTO Chiang Mai 44.97 255 P **P 11 48 32.4 +0.1**
comp=Z,171nm,1.3s
CHTO Chiang Mai 44.97 255 *e*P **P 11 48 32.3 0.0**
CHTO pmax pmax
comp=Z,59nm,1.3s
CHTO Chiang Mai 44.97 255 *e*P **P 11 48 32.3 0.0**
comp=Z,59nm,1.3s
CHTO Chiang Mai 44.97 255 P **P 11 48 32.7 +0.4**
SNR=22
CMAR Chiang Mai Arr 45.20 254 P **P 11 48 34.0 0.0**
comp=Z,7.5nm,0.8s,baz=50,slow=6.7,SNR=34
CMAR PcP **PcP 11 50 15.2 +1.0**
comp=Z,3.1nm,1.0s,baz=7.7,slow=3.0,SNR=4.6
CMAR Chiang Mai Arr 45.20 254 P **P 11 48 34.1 0.0**
CMAR 11 50 15.2
CMAR pmax pmax

comp=Z,7,0nm,0.8s
CM01 Chiang Mai Air 45.21 254 *e*P **P 11 48 33.8 -0.3**
FYU Fort Yukon 45.33 32 *e*P **P 11 48 36.8 +2.4**
comp=Z,814nm,2.0s
KLU Klutina 45.37 39 *e*P **P 11 48 36.4 +1.4**
comp=Z,110nm,1.1s
MRSI Marisa 45.38 213 P **P 11 48 34.7 -0.8**
comp=Z,76nm,1.4s
RABL Rabaul 45.41 170 *e*P **P 11 48 36.3 +0.6**
comp=Z,84nm,0.8s
PAX Paxson 45.44 37 *e*P **P 11 48 37.0 +1.4**
PAX pmax pmax
comp=Z,576nm,3.1s
PAX Paxson 45.44 37 *e*P **P 11 48 37.0 +1.4**
comp=Z,576nm,3.1s
DIV Divide 45.48 40 *e*P **P 11 48 37.3 +1.4**
comp=Z,159nm,1.2s
EYAK Cordova Ski Ar 45.57 40 *e*P **P 11 48 39.4 +2.9**
comp=Z,73nm,1.1s
HARP HAARP 45.64 38 *e*P **P 11 48 37.9 +0.9**
comp=Z,139nm,1.2s
RIDG Independ'e Rid 45.65 36 *e*P **P 11 48 38.3 +1.1**
comp=Z,118nm,1.6s
KURK Kurchatov 45.80 306⇓ *i*P **P 11 48 37.7 -0.7**
KURK pmax pmax
comp=Z,628nm,2.5s
KURK Kurchatov 45.80 306 *e*P **P 11 48 38.1 -0.4**
comp=Z,71nm,0.8s
KURK S S 11 55 31.2 +9.3
KURK Kurchatov 45.80 306 P **P 11 48 38.4 0.0**
SNR=37
KURBB Kurchatov Arra 45.88 306 P **P 11 48 39.3 +0.2**
comp=Z,45nm,0.8s,baz=76,slow=8.7,SNR=112
KURBB S **S 11 55 31.2 +8.2**
comp=Z,3.2nm,1.0s,baz=83,slow=17,SNR=7.0
SRAK Srakaew 45.94 247 P **P 11 48 37.5 -2.5**
comp=Z,151nm,0.8s,comp=Z,1μm
DOT Dot Lake 46.01 36 *e*P **P 11 48 40.4 +0.5**
comp=Z,319nm,1.8s
BMRM Bremner River 46.07 40 *e*P **P 11 48 42.5 +2.0**
comp=Z,122nm,1.2s
RAGM Ragged Mountai 46.12 40 *e*P **P 11 48 44.6 +3.7**
comp=Z,68nm,1.0s
SANI Sanana 46.17 207 P P 11 48 35.6 -6.1
MENT Mentasta 46.24 37 *e*P **P 11 48 43.1 +1.3**
comp=Z,120nm,1.4s
NAYO Nakonayok 46.24 248 P **P 11 48 43.3 +1.0**
comp=Z,45nm,1.3s
APSI Ampana 46.76 213 P **P 11 48 46.2 -0.1**
comp=Z,105nm,1.2s,comp=Z,2μm
EGAK Eagle 47.15 34 *e*P **P 11 48 49.6 +0.8**
comp=Z,250nm,1.8s
PDGK Podgornoye 47.48 296 *i*P **P 11 48 50.5 -1.4**
PDGK pmax pmax
comp=Z,38nm,1.1s
TDK Taldyqorghan 47.63 298 *i*P **P 11 48 54.2 +1.3**
comp=Z,328nm,0.9s
TDK *i*S **S 11 55 50.6 +2.2**
UZB Uzynbulak 47.86 296 *i*P **P 11 48 54.9 -0.1**
comp=Z,180nm,1.1s
UZB LR LR 12 06 29.0
comp=Z,2μm,17.5s
DAWY Dawson 48.01 35 *e*P **P 11 48 57.5 +2.0**
comp=Z,88nm,1.8s
SATY Saty 48.32 296 *e*P **P 11 48 59.1 +0.7**
comp=Z,251nm,0.9s
PHET Kaeng Krachan 48.39 248 P **P 11 49 00.5 +1.4**
comp=Z,23nm,0.8s,comp=Z,251nm
MDOK Medeo 49.20 296 *e*P **P 11 49 05.3 +0.1**
comp=Z,218nm,1.9s
AAA Alma-Ata 49.27 297 *e*P **P 11 49 06.7 +1.0**
KUU Kurty 49.41 298 *e*P **P 11 49 06.5 -0.2**
comp=Z,131nm,0.9s
KUU LR LR 12 10 27.2
comp=Z,1μm,16.1s
JIRN Jiri 49.48 274 *e*P **P 11 49 07.6 -0.2**
comp=Z,304nm,1.4s
HYT Haines Junctio 49.51 39 *e*P **P 11 49 08.2 +1.0**
comp=Z,173nm,1.0s
GUN Gumba 49.58 274 *e*P **P 11 49 08.2 -0.3**
comp=Z,284nm,1.3s
INK Inuvik 49.63 29 P **P 11 49 08.8 +0.9**
comp=Z,22nm,0.8s,baz=280,slow=4.5,SNR=50
INK LR LR 12 11 20.3
comp=Z,3μm,20.7s,baz=277,slow=38
INK Inuvik 49.63 29 *e*P **P 11 49 08.8 +0.9**
INK pmax pmax
comp=Z,88nm,1.4s
INK Inuvik 49.63 29 *e*P **P 11 49 08.8 +0.9**
comp=Z,88nm,1.4s
BRZS Berezniki 49.65 306 *e*P **P 11 49 08.9 +0.5**
comp=Z,55nm,1.0s
MTKI Muara Teweh, K 49.86 221 P **P 11 49 09.9 -0.4**
comp=Z,70nm,1.0s
BVA0 Borovoye Array 50.06 311 *i*P **P 11 49 11.1 -0.3**
BVA0 pmax pmax
comp=Z,34nm,1.0s
BVAR Borovoye Array 50.06 311 P **P 11 49 11.4 0.0**
comp=Z,18nm,0.7s,baz=76,slow=8.1,SNR=74
BVAR PcP **PcP 11 50 30.8 -0.3**
comp=Z,8.5nm,0.7s,baz=56,slow=6.1,SNR=3.8
BVAR S **S 11 56 26.6 +4.3**
comp=Z,0.4nm,0.6s,baz=56,slow=8.8,SNR=2.1
KKN Kakani 50.10 274 *e*P **P 11 49 12.1 -0.2**
comp=Z,175nm,1.2s
BRVK Borovoye 50.11 311⇑ *i*P **P 11 49 11.6 -0.2**
BRVK pmax pmax
comp=Z,319nm,2.5s
BRVK Borovoye 50.11 311 *e*P **P 11 49 11.9 +0.1**
BRVK Borovoye 50.11 311 P **P 11 49 12.5 +0.7**
SNR=33
PKI Pulchoki 50.11 274 *e*P **P 11 49 12.0 -0.6**
comp=Z,226nm,1.4s
PKIN Phulchoki 50.12 274 *e*P **P 11 49 12.1 -0.5**
comp=Z,46nm,1.1s
PMG Port Moresby 50.15 177 P **P 11 49 12.8 +0.4**
comp=Z,9.7nm,0.7s,baz=353,slow=8.1,SNR=4.2
PMG Port Moresby 50.15 177 P **P 11 49 12.8 +0.4**
PMG pmax pmax
comp=Z,6.0nm,0.5s
BMNS Besmoynak 50.16 297 *e*P **P 11 49 13.0 +0.5**
comp=Z,340nm,1.0s
BMNS *i*S **S 11 56 25.4 +1.2**
BMNS LR LR 12 11 47.8
comp=Z,1μm,13.4s
KSM Kuching 50.25 228 *e*P **P 11 49 13.7 +0.5**
comp=Z,43nm,1.2s
TKM2 Tokmak 2 50.28 297 *i*P **P 11 49 13.3 -0.2**
TKM2 pmax pmax
comp=Z,71nm,1.2s
DMN Daman 50.32 274 *e*P **P 11 49 13.8 -0.3**
comp=Z,132nm,1.2s
OTUK Ortayu 50.45 304 P P 11 49 23.8 +9.3
OTUK pmax pmax
comp=Z,91nm,1.5s
BTLS Baital 50.51 300 *i*P **P 11 49 15.8 +0.9**
comp=Z,157nm,0.9s
WHY Whitehorse 50.79 39 *e*P **P 11 49 18.8 +1.8**
comp=Z,76nm,1.4s
SKAG Skagway 50.91 40 *e*P **P 11 49 19.7 +1.9**
comp=Z,59nm,1.5s
DANN Dangsing 50.95 276 *e*P **P 11 49 18.8 -0.1**
FRU Bishkek 50.97 297 *e*P **P 11 49 19.0 +0.5**
AAK Ala-Archa 51.13 297 P **P 11 49 19.9 0.0**
comp=Z,8.9nm,0.9s,baz=81,slow=8.1,SNR=12
AAK Ala-Archa 51.13 297⇓ *i*P **P 11 49 19.7 -0.2**
AAK pmax pmax
comp=Z,51nm,2.4s
AAK Ala-Archa 51.13 297 *e*P **P 11 49 20.2 +0.3**
comp=Z,29nm,1.4s
AAK Ala-Archa 51.13 297 *i*P **P 11 49 20.3 +0.4**
SNR=6.5
KOLN Koldanda 51.38 275 *e*P **P 11 49 21.6 -0.3**
comp=Z,258nm,1.5s
BESE Bessie Mountai 51.40 41 *e*P **P 11 49 24.8 +3.3**
comp=Z,79nm,1.4s
KSH Kashi 51.40 292 P **P 11 49 26.0 +4.1**
KSH pP sP 11 49 32.4 +6.0
KSH sP pP 11 49 35.1 +10
KSH PcS **PcS 11 54 37.1 +2.8**
KSH S **S 11 56 44.1 +2.5**
KSH sS sS 11 56 54.1 +7.2
KSH ScS **ScS 11 59 11.3 -1.2**
KSH pmax pmax
comp=Z,37nm,1.2s
KSH pmax pmax
comp=Z,2μm,8.5s
KSH LR LR
KSH comp=Z,2μm,12.3s LR LR
KSH comp=Z,2μm,12.6s LR LR
KSH comp=Z,2μm,15.8s LR LR
KTGM Kuala Trenggan 51.53 238⇑P **P 11 49 24.6 +1.7**
PYUN Piuthan 51.66 276 *e*P **P 11 49 23.8 -0.3**
comp=Z,201nm,1.2s
SURT Suratani 51.74 245 P **P 11 49 24.8 +0.3**
comp=Z,21nm,1.1s,comp=Z,689nm
TRTT Trang 51.94 243 P **P 11 49 26.0 0.0**
comp=Z,14nm,2.8s
HNR Honiara 52.01 161 LR LR 12 08 22.5
comp=Z,2μm,21.6s,baz=330,slow=32
PKDT Phuket 52.82 245 P **P 11 49 32.8 +0.2**
comp=Z,38nm,1.5s,comp=Z,2μm
SFK Sufi-Kurgan 52.91 294 *i*P **P 11 49 32.3 -0.9**
SFK pmax pmax
comp=Z,65nm,1.2s
DZA Taraz 53.16 298 *e*P **P 11 49 35.9 +1.1**
comp=Z,737nm,0.9s
DZA LR LR 12 12 29.5
comp=Z,1μm,17.5s
KULM Kulim 53.17 240⇓P **P 11 49 36.0 +0.9**
KULM Kulim 53.17 240 *e*P **P 11 49 35.5 +0.4**
comp=Z,30nm,0.9s
IPM Ipoh 53.53 239⇓P **P 11 49 37.8 0.0**
IPM Ipoh 53.53 239 *e*P **P 11 49 37.4 -0.5**
comp=Z,165nm,2.0s
KK31 Karatay Array 53.61 299 *i*P **P 11 49 37.1 -1.0**
KK31 pmax pmax
comp=Z,25nm,0.8s
KKAR Karatay Array 53.61 299 *e*P **P 11 49 38.0 -0.1**
KKAR Karatay Array 53.61 299 *e*P **P 11 49 38.0 -0.1**
MYKOM Kota Tinggi 53.80 235⇑P **P 11 49 39.9 +0.2**
MYKOM Kota Tinggi 53.80 235 *e*P **P 11 49 39.9 +0.2**
comp=Z,78nm,1.5s
DLBC Dease Lake 53.84 40 *e*P **P 11 49 42.0 +2.4**
comp=Z,44nm,1.3s
KGM Kluang 53.96 235⇑P **P 11 49 42.2 +1.3**
SVE Sverdlovsk 54.09 318⇓ *e*P **P 11 49 42.2 +0.9**
SVE pmax pmax
comp=Z,94nm,1.5s
SVE MLR MLR
comp=Z,5μm,18.0s
BRLS Borolday 54.09 299 *e*P **P 11 49 43.5 +1.9**
comp=Z,11nm,0.9s
IUG luzhnay 54.34 298 *e*P **P 11 49 44.1 +0.6**
comp=Z,526nm,1.2s
IUG LR LR 12 13 05.8
comp=Z,2μm,14.1s
CHM Chimkent 54.55 298 *e*P **P 11 49 45.9 +0.9**
comp=Z,610nm,1.1s
CHM LR LR 12 13 32.6
comp=Z,2μm,16.1s
COEN Coen 54.66 182 *e*P **P 11 49 46.0 +0.1**
comp=Z,28nm,1.1s
SOKR Solikamsk 54.94 322 *c i*P **P 11 49 46.7 -0.7**
SOKR pmax pmax
comp=Z,36nm,0.8s
ARU Arti 55.30 318 P **P 11 49 50.4 +0.3**
comp=Z,22nm,0.8s,baz=69,slow=3.7,SNR=30
ARU Arti 55.30 318 *c i*P **P 11 49 50.7 +0.6**
ARU 11 50 51.5
ARU 11 51 51.9
ARU S **S 11 57 37.7 +4.0**
ARU SS **SS 12 01 17.2 -0.2**
ARU pmax pmax
comp=Z,119nm,1.7s
ARU MLR MLR
comp=Z,7μm,22.0s
ARU Arti 55.30 318 *e*P **P 11 49 50.4 +0.3**
comp=Z,183nm,1.7s
PSI Prapat 56.17 240 *e*P **P 11 49 56.7 -0.3**
PSI pmax pmax
comp=Z,19nm,0.8s
PSI Prapat 56.17 240 *e*P **P 11 49 56.7 -0.3**
comp=Z,19nm,0.8s
KCSI Kotacane, Aceh 56.39 242 P **P 11 49 56.6 -1.9**
comp=Z,14nm,1.2s
BKNI Bangkinang 56.69 236 P **P 11 50 00.4 -0.2**
comp=Z,176nm,0.9s,comp=Z,20μm
BKNI Bangkinang 56.69 236 *e*P **P 11 50 01.8 +1.2**
comp=Z,167nm,1.0s
SPA0 Spitsbergen Ar 57.21 349 *e*P **P 11 50 05.3 +1.8**
SPITS Spitsbergen Ar 57.21 349 P **P 11 50 02.7 -0.8**
comp=Z,13nm,0.8s,baz=57,slow=8.8,SNR=9.5
SPITS LR LR 12 18 28.0
comp=Z,1μm,18.4s,baz=235,slow=40
MNSI Mandailing Nat 57.26 238 P **P 11 50 04.0 -0.6**
comp=Z,13nm,0.7s,comp=Z,2μm
KBS Kingsbay 57.27 350 *e*P **P 11 50 05.6 +1.8**
KBS pmax pmax
comp=Z,110nm,1.1s
KBS Kingsbay 57.27 350 *e*P **P 11 50 05.6 +1.8**
comp=Z,110nm,1.1s
PWJI Pagerwojo 57.50 220 P **P 11 50 04.8 -1.4**
comp=Z,66nm,0.8s
AB31 Akbulak array 57.57 309 *i*P **P 11 50 05.5 -0.9**
AB31 pmax pmax
comp=Z,17nm,0.7s
ABKAR Akbulak array 57.57 309 *e*P **P 11 50 06.2 -0.2**
comp=Z,136nm,0.7s
RES Resolute Bay 58.10 16 P **P 11 50 09.9 +0.2**
comp=Z,54nm,0.9s,baz=306,slow=7.6,SNR=35
RES Resolute Bay 58.10 16 *e*P **P 11 50 10.1 +0.3**
comp=Z,64nm,0.9s
AKTO Aktyubinsk 58.15 311 P **P 11 50 10.8 +0.4**
comp=Z,8.4nm,0.7s,baz=52,slow=6.7,SNR=25
AKTO Aktyubinsk 58.15 311 *i*P **P 11 50 09.8 -0.7**
AKTO pmax pmax
comp=Z,25nm,1.1s
GSI Gunungsitoli 58.17 240 P **P 11 50 11.0 -0.1**
comp=Z,94nm,2.6s
GSI Gunungsitoli 58.17 240 *e*P **P 11 50 10.7 -0.4**
comp=Z,180nm,1.4s
MDSI Maura Dua 58.60 230 P **P 11 50 12.9 -1.1**
comp=Z,50nm,1.3s
LEM Lembang 58.62 225 P **P 11 50 13.8 -0.5**
comp=Z,64nm,0.8s,baz=359,slow=9.5,SNR=9.5
LEM Lembang 58.62 225 P **P 11 50 12.9 -1.4**
comp=Z,797nm,1.0s
KBL Kabul 58.63 290 *e*P **P 11 50 13.7 -0.6**
KBL pmax pmax
comp=Z,55nm,1.0s
KBL Kabul 58.63 290 *e*P **P 11 50 13.7 -0.6**
comp=Z,55nm,1.0s
MASI Maura Aman, Be 58.67 232 P **P 11 50 13.9 -0.7**
comp=Z,132nm,0.9s,comp=Z,4μm
YKW3 Yellowknife Ar 58.98 32 *e*P **P 11 50 16.2 +0.2**
comp=Z,42nm,1.3s
YKA Yellowknife Ar 59.02 32 P **P 11 50 16.4 +0.1**
comp=Z,9.0nm,0.9s,baz=296,slow=6.8,SNR=60
YKA Yellowknife Ar 59.02 32 *i*P **P 11 50 16.3 0.0**
YKA pmax pmax
comp=Z,9.0nm,0.9s
LVZ Lovozero 59.67 336 *c e*P **P 11 50 20.4 -0.4**
LVZ pmax pmax
comp=Z,19nm,0.8s
LVZ Lovozero 59.67 336 *e*P **P 11 50 21.0 +0.2**
comp=Z,27nm,0.9s
APA Apatity 60.25 336⇓ *i*P **P 11 50 24.7 0.0**
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,4μm,17.0s
TMCR Tamitsa 60.64 331 *e*P **P 11 50 28.2 +0.8**
TMCR pmax pmax
comp=Z,108nm,1.1s
TULEG Thule 60.83 9 *e*P **P 11 50 27.9 -0.7**
comp=Z,43nm,1.0s
HYB Hyderabad 61.08 268 *i*P **P 11 50 30.5 -0.7**
ARCES ARCESS Array B 61.30 340 P **P 11 50 31.9 +0.1**
comp=Z,10nm,0.9s,baz=35,slow=6.9,SNR=9.4
WRAB Tennant Creek 61.38 191 *c e*P **P 11 50 31.1 -1.8**
WRAB pmax pmax
comp=Z,348nm,1.7s
WRAB Tennant Creek 61.38 191 *e*P **P 11 50 31.8 -1.1**
comp=Z,147nm,1.4s
WRA Warramunga Arr 61.39 191 P **P 11 50 31.4 -1.6**
comp=Z,58nm,1.0s,baz=8.9,slow=6.8,SNR=99
LLLB Lillooet 61.53 46 *e*P **P 11 50 35.0 +1.3**
comp=Z,27nm,1.1s
KLMR Klimovskoe 61.92 328 *e*P **P 11 50 35.4 -0.8**
KLMR *e* 11 52 51.9
KLMR pmax pmax
comp=Z,74nm,1.5s
KLMR Klimovskoe 61.92 328 *e*P **P 11 50 35.4 -0.8**
KLMR AMP 11 50 40.0
comp=Z,74nm,1.5s
KLMR *e*PP **PP 11 52 51.9 -0.1**
A04D Lummi Island 62.03 49 P **P 11 50 38.6 +1.5**
baz=301
DAG Danmarks Havn 62.09 356 *i*P **P 11 50 37.9 +0.8**
comp=Z,26nm,0.9s
DAG Danmarks Havn 62.09 356 *i*P **P 11 50 37.9 +0.8**
DAG pmax pmax
comp=Z,26nm,0.9s
B05A Bryant 62.62 49 P **P 11 50 41.8 +0.8**
baz=302
E03A Lebam 62.67 51 *e*P **P 11 50 44.2 +2.8**
comp=Z,85nm,1.1s
B06A Marblemount 62.83 48 *e*P **P 11 50 44.4 +2.0**
comp=Z,27nm,1.1s
D05A Enumclaw 63.25 50 *e*P **P 11 50 48.2 +2.9**
comp=Z,46nm,1.3s
C06D Leavenworth 63.48 49 P **P 11 50 47.4 +0.6**
baz=302
LON Longmire 63.59 50 *e*P **P 11 50 49.7 +2.1**
LON pmax pmax
comp=Z,20nm,1.2s
LON Longmire 63.59 50 *e*P **P 11 50 49.7 +2.1**
comp=Z,20nm,1.2s
KULLO Kullorsuaq 63.80 6 *i*P **P 11 50 48.6 +0.2**
comp=Z,44nm,1.0s
KULLO Kullorsuaq 63.80 6 *i*P **P 11 50 48.6 +0.2**
KULLO pmax pmax
comp=Z,44nm,1.0s
LTY Liberty 63.97 49 *e*P **P 11 50 51.3 +1.1**
comp=Z,32nm,1.3s
B08A Colville Reser 64.13 48 *e*P **P 11 50 51.2 +0.1**
comp=Z,41nm,1.4s
GEYT Alibeck 64.37 299 P **P 11 50 53.1 +0.3**
comp=Z,22nm,1.0s,baz=29,slow=3.4,SNR=24
EDM Edmonton 64.56 41 *e*P **P 11 50 54.1 +0.2**
EDM pmax pmax
comp=Z,45nm,1.0s
EDM Edmonton 64.56 41 *e*P **P 11 50 54.1 +0.2**
comp=Z,45nm,1.0s
G05D Wamic, OR 64.69 51 P **P 11 50 55.9 +1.0**
baz=303
E07A Sunnyside 64.82 49 *e*P **P 11 50 56.3 +0.6**
comp=Z,33nm,1.1s
I04A Tendick Farm, 64.83 53 P **P 11 50 55.8 0.0**
baz=303,SNR=6.5
C09A Chrisman Ranch 65.03 48 *e*P **P 11 50 57.5 +0.5**
comp=Z,25nm,1.0s
D08A Wollman Farm, 65.08 49 *e*P **P 11 50 57.5 +0.3**
comp=Z,21nm,1.0s
G06A Carlson Farm, 65.10 51 *e*P **P 11 50 60.0 +2.4**
comp=Z,39nm,1.5s
AS01 Alice Springs 65.10 191 *e*P **P 11 50 56.0 -1.6**
AS31 Alice Springs 65.11 191 *e*P **P 11 50 57.1 -0.5**
comp=Z,21nm,1.8s
ASAR Alice Springs 65.11 191 P **P 11 50 56.6 -1.0**
comp=Z,11nm,0.8s,baz=11,slow=6.2,SNR=88
F07A Phinny Hill Vi 65.15 50 *e*P **P 11 50 59.9 +2.1**
comp=Z,30nm,1.1s
HUMO Hull Mountain 65.15 54 *e*P **P 11 51 02.1 +4.2**
comp=Z,95nm,1.8s
I05D Terrebonne, OR 65.18 52 P **P 11 50 58.4 +0.4**
baz=304
E08A Dider Farm, El 65.31 49 *e*P **P 11 50 59.7 +0.9**
comp=Z,14nm,0.9s
J04D Umpqua Nationa 65.32 53 P **P 11 50 59.5 +0.3**
baz=304
NEW Newport 65.41 47 P **P 11 50 59.6 +0.2**
comp=Z,16nm,0.9s,baz=313,slow=4.9,SNR=21
NEW Newport 65.41 47 P **P 11 50 59.7 +0.2**
baz=304,SNR=19
NEW Newport 65.41 47 *e*P **P 11 51 00.0 +0.5**
comp=Z,38nm,1.3s
PINE Pine Mountain 65.72 52 *e*P **P 11 51 03.3 +1.6**
comp=Z,55nm,1.1s
MOS Moscow 65.74 324 *e*P **P 11 50 59.8 -1.6**
MOS *e* 11 53 23.7
MOS *e*S **S 11 59 53.9 +6.6**
MOS pmax pmax
comp=Z,239nm,2.0s
MOS MLR MLR
comp=Z,3μm,17.0s
YBH Yreka Blue Hor 65.79 55 P **P 11 51 03.3 +1.1**
comp=Z,11nm,1.0s,baz=296,slow=2.4,SNR=13
YBH Yreka Blue Hor 65.79 55 *e*P **P 11 51 04.2 +2.1**
comp=Z,16nm,1.0s
E09A Wood Farm, Sta 65.82 49 *e*P **P 11 51 02.7 +0.5**
comp=Z,34nm,1.1s
J05D Fort Rock, OR 65.83 53 P **P 11 51 03.1 +0.7**
baz=304,SNR=12
M02C Callahan 65.89 55 P **P 11 51 03.5 +0.7**
baz=304
PALK Pallekele 65.90 258 P **P 11 51 02.6 -0.5**
comp=Z,18nm,0.8s,baz=114,slow=1.9,SNR=12
PALK Pallekele 65.90 258 *e*P **P 11 51 03.1 0.0**
PALK pmax pmax
comp=Z,38nm,1.1s
PALK Pallekele 65.90 258 *e*P **P 11 51 03.1 0.0**
comp=Z,38nm,1.1s
PALK Pallekele 65.90 258 *i*P **P 11 51 02.9 -0.2**
SNR=6.1
G08A Pilot Rock 66.05 50 *e*P **P 11 51 04.5 +0.8**
comp=Z,12nm,1.2s
N02D Trinity Center 66.22 56 P **P 11 51 05.1 +0.3**
baz=304
M04C Macdoel 66.30 55 P **P 11 51 06.0 +0.5**
baz=304,SNR=8.2
K05A Summer Lake 66.35 53 *e*P **P 11 51 08.0 +2.1**
comp=Z,63nm,1.1s
VRH Novokhopyorsk 66.52 318 *e*P **P 11 51 06.4 -0.1**
VRH pmax pmax
comp=Z,40nm,0.7s
WDC Whiskeytown Da 66.54 56 *e*P **P 11 51 08.5 +1.7**
WDC pmax pmax
comp=Z,261nm,3.0s
WDC Whiskeytown Da 66.54 56 *e*P **P 11 51 08.5 +1.7**
comp=Z,261nm,3.0s
OBN Obninsk 66.60 324 P **P 11 51 07.3 +0.4**
comp=Z,22nm,0.3s,baz=173,slow=2.2,SNR=10
OBN LR LR 12 23 20.2
comp=Z,6μm,18.1s,baz=54,slow=39
OBN Obninsk 66.60 324 *d e*P **P 11 51 07.1 +0.2**
OBN *i* *SP **sP 11 51 14.0 +2.5**
OBN 11 51 36.0
OBN 11 53 35.0
OBN *e*S **S 11 59 54.8 -3.0**
OBN pmax pmax
comp=Z,178nm,2.5s
OBN MLR MLR
comp=Z,5μm,18.0s
FIA1 FINESS Array S 66.62 333 *e*P **P 11 51 07.3 +0.4**
FINES FINESS Array B 66.62 333 P **P 11 51 07.1 +0.1**
comp=Z,32nm,0.8s,baz=55,slow=7.2,SNR=38
FINES LR LR 12 23 10.6
comp=Z,6μm,19.5s,baz=55,slow=39
F10A Beach Ranch, E 66.66 49 *e*P **P 11 51 09.5 +1.9**
WALA Waterton Lakes 66.69 45 *e*P **P 11 51 09.1 +1.3**
comp=Z,32nm,1.2s
SUMG Summit 66.74 1⇓ *i*P **P 11 51 09.9 +1.8**
comp=Z,63nm,0.9s
SUMG Summit 66.74 1⇓ *i*P **P 11 51 09.9 +1.8**
SUMG pmax pmax
comp=Z,63nm,0.9s
SUMG Summit 66.74 1 *e*P **P 11 51 09.1 +1.0**
comp=Z,133nm,1.3s
JMIC Jan Mayen 66.75 351 LR LR 12 21 17.4
comp=Z,814nm,18.9s,baz=26,slow=37
LPSR Galich'ya Gora 67.06 320 *e*P **P 11 51 10.5 +0.6**
LPSR pmax pmax
comp=Z,60nm,0.8s
O03D Paynes Creek 67.17 56 P **P 11 51 11.1 +0.2**
baz=305
BMO Blue Mountains 67.26 50 *e*P **P 11 51 12.3 +0.8**
BMO pmax pmax
comp=Z,19nm,1.2s
BMO Blue Mountains 67.26 50 *e*P **P 11 51 12.3 +0.8**
comp=Z,19nm,1.2s
JTMT Jette 67.26 46 *e*P **P 11 51 12.4 +0.9**
comp=Z,21nm,1.0s
J08A Circle Bar Ran 67.44 52 *e*P **P 11 51 13.9 +1.2**
comp=Z,28nm,1.1s
VORR Voronezh 67.49 320 P **P 11 51 11.0 -1.7**
VORR pmax pmax
comp=Z,300nm,1.0s

ORV Oroville 67.78 56 *e*P **P 11 51 15.0 +0.3**
ORV pmax pmax
comp=Z,12nm,1.1s
ORV Oroville 67.78 56 *e*P **P 11 51 15.0 +0.3**
comp=Z,12nm,1.1s
VSR Storozhevoye 67.79 319 *e*P **P 11 51 14.6 0.0**
VSR pmax pmax
comp=Z,50nm,0.7s
WVOR Wild Horse Val 67.88 53 *e*P **P 11 51 16.5 +1.0**
WVOR pmax pmax
comp=Z,23nm,1.1s
WVOR Wild Horse Val 67.88 53 *e*P **P 11 51 16.4 +1.0**
comp=Z,23nm,1.1s
MSO Missoula 67.99 47 P **P 11 51 15.7 -0.4**
baz=307,SNR=14
MSO Missoula 67.99 47 *e*P **P 11 51 16.0 -0.1**
comp=Z,26nm,1.2s
VSU Vasula 68.46 330⇑ *i*P **P 11 51 19.2 +0.6**
VSU pmax pmax
comp=Z,312nm,2.5s
SCO Scoresbysund 68.47 355 *i* P **P 11 51 19.6 +1.1**
comp=Z,47nm,1.3s
SCO Scoresbysund 68.47 355 *i* P **P 11 51 19.6 +1.1**
SCO pmax pmax
comp=Z,47nm,1.3s
AFDM Forest Hills D 68.47 57 *e*P **P 11 51 21.1 +2.0**
comp=Z,304nm,2.9s
FFC Flin Flon 68.91 35 *e*P **P 11 51 21.8 +0.3**
FFC pmax pmax
comp=Z,34nm,1.1s
FFC Flin Flon 68.91 35 *e*P **P 11 51 21.8 +0.3**
comp=Z,34nm,1.1s
MFID Camas Ranch 68.97 50 *e*P **P 11 51 23.2 +1.0**
comp=Z,9.7nm,1.0s
PAHR Pah Rah Range 69.02 55 *e*P **P 11 51 23.1 +0.4**
comp=Z,18nm,1.1s
GROC Groznyy 69.08 309 *e*P **P 11 51 23.2 +0.5**
GROC *e* 11 51 46.4
GROC *e* 11 53 52.8
GROC *e*S **S 12 00 28.3 +0.5**
GROC pmax pmax
comp=Z,31nm,1.0s
HRY Holter Researc 69.22 46 *e*P **P 11 51 24.4 +0.7**
FCC Fort Churchill 69.25 29 *e*P **P 11 51 23.9 +0.4**
FCC pmax pmax
comp=Z,49nm,1.1s
FCC Fort Churchill 69.25 29 *e*P **P 11 51 23.9 +0.4**
comp=Z,49nm,1.1s
CMB Columbia Colle 69.38 57 *e*P **P 11 51 26.3 +1.5**
CMB pmax pmax
comp=Z,31nm,1.5s
CMB Columbia Colle 69.38 57 *e*P **P 11 51 26.3 +1.5**
comp=Z,31nm,1.5s
LRM Limekiln Ridge 69.43 47 *e*P **P 11 51 25.3 +0.1**
ILULI Ilulissat 69.50 6 *i* P **P 11 51 25.8 +0.9**
comp=Z,59nm,1.1s
ILULI Ilulissat 69.50 6 *e*P **P 11 51 25.5 +0.6**
ILULI pmax pmax
comp=Z,56nm,1.1s
ILULI Ilulissat 69.50 6 *e*P **P 11 51 25.5 +0.6**
comp=Z,56nm,1.1s
EGMT Eagleton 69.51 44 P **P 11 51 25.3 -0.2**
baz=309,SNR=18
EGMT Eagleton 69.51 44 *e*P **P 11 51 25.7 +0.2**
comp=Z,33nm,0.9s
GOF Gofitskoye 69.53 312⇑ *e*P **P 11 51 27.1 +1.6**
GOF pmax pmax
comp=Z,130nm,1.0s
YERR Yerington 69.54 56 *e*P **P 11 51 26.9 +1.0**
comp=Z,28nm,1.1s
DLMT Dillon 69.63 47 *e*P **P 11 51 27.1 +0.8**
comp=Z,25nm,1.1s
HLID Hailey 69.70 50 P **P 11 51 27.1 +0.2**
baz=308
MCMT McKenzie Canyo 69.81 48 *e*P **P 11 51 28.1 +0.5**
BMN Battle Mountai 69.92 54 *e*P **P 11 51 29.5 +1.2**
BMN pmax pmax
comp=Z,26nm,1.1s
BMN Battle Mountai 69.92 54 *e*P **P 11 51 29.5 +1.2**
comp=Z,26nm,1.1s
BOZ Bozeman (W) 70.02 47 P **P 11 51 28.9 +0.1**
baz=308,SNR=45
BOZ Bozeman (W) 70.02 47 *e*P **P 11 51 28.9 +0.1**
BOZ pmax pmax
comp=Z,20nm,0.8s
BOZ Bozeman (W) 70.02 47 *e*P **P 11 51 28.9 +0.1**
comp=Z,20nm,0.8s
RYN Ryan 70.20 56 *e*P **P 11 51 31.0 +1.0**
comp=Z,15nm,1.0s
KVAR Kislovodsk Arr 70.40 311 P **P 11 51 31.9 +0.8**
comp=Z,67nm,0.9s,baz=4.5,slow=2.1,SNR=52
KVAR LR LR 12 27 18.3
comp=Z,3µm,18.1s,baz=23,slow=40
KIV Kislovodsk 70.41 311 *e*P **P 11 51 32.4 +1.3**
KIV *e* 11 51 55.0
KIV *e*S **S 12 00 45.8 +2.1**
KIV pmax pmax
comp=Z,147nm,1.1s
KIV pmax pmax
comp=Z,810nm,7.1s
KIV MLR MLR
comp=Z,3µm,18.0s
KIV Kislovodsk 70.41 311 *e*P **P 11 51 32.5 +1.5**
comp=Z,158nm,1.0s
KIV Kislovodsk 70.41 311 P **P 11 51 32.0 +0.9**
SNR=55
KIV Kislovodsk 70.41 311 *i* P **P 11 51 31.9 +0.8**
SNR=34
KBZ Khabaz 70.43 311 P **P 11 51 31.7 +0.7**
comp=Z,47nm,0.9s,baz=62,slow=3.7,SNR=99
ZEI Tsey 70.43 310 *e*P **P 11 51 28.8 -2.6**
ZEI pmax pmax
comp=Z,41nm,1.1s
NV01 Mina Array Sit 70.46 56 *e*P **P 11 51 31.7 +0.1**
NVAR Mina Array Bea 70.46 56 P **P 11 51 32.1 +0.4**
comp=Z,11nm,0.9s,baz=288,slow=6.4,SNR=36
NV11 Mina Array Sit 70.55 56 *e*P **P 11 51 32.3 +0.2**
comp=Z,0.9nm,1.3s
IZAR Zarasai 70.56 328 *e*P **P 11 51 32.4 +0.7**
IZAR IAmb IAmb 11 51 35.7
comp=Z,9.4nm,0.8s
TBLG Delisi 70.59 309 *e*P **P 11 51 32.5 +0.4**
TBLG Delisi 70.59 309 *e*P **P 11 51 34.0 +1.9**
TBLG pmax pmax
comp=Z,166nm,1.5s
TBLG Delisi 70.59 309 *e*P **P 11 51 34.0 +1.9**
comp=Z,166nm,1.5s
MLAC Mammoth, Mammo 70.60 57 P **P 11 51 32.9 +0.4**
baz=307
QLMT Earthquake Lak 70.61 47 *e*P **P 11 51 33.5 +1.0**
IDID Didziasalis 70.67 328 *e*P **P 11 51 33.1 +0.7**
IDID IAmb IAmb 11 51 34.6
comp=Z,15nm,0.8s
ISAL Salakas 70.73 328 *e*P **P 11 51 33.4 +0.7**
ISAL IAmb IAmb 11 51 35.0
comp=Z,18nm,0.8s
YHB Horse Butte 70.78 47 *e*P **P 11 51 34.7 +1.2**
comp=Z,24nm,1.1s
NEY Neytrino 70.83 311⇓ *e*P **P 11 51 36.0 +2.2**
NEY pmax pmax
comp=Z,7.0nm,1.0s
PAGB Antelope Grade 70.84 59 *e*P **P 11 51 36.3 +2.5**
comp=Z,36nm,1.2s
IIGN Ignalina 70.85 328 *e*P **P 11 51 34.1 +0.7**
IIGN IAmb IAmb 11 51 35.8
comp=Z,24nm,1.1s
NACGM Naroch 70.94 327 *e* **P 11 51 33.0 -1.0**
YHH Holmes Hill 70.95 47 *e*P **P 11 51 35.5 +0.9**
comp=Z,21nm,1.2s
YMR Madison River 70.97 47 *e*P **P 11 51 36.0 +1.4**
comp=Z,22nm,1.1s
GCMT Greycliff 70.97 46 *e*P **P 11 51 35.5 +1.0**
YNR Norris Junctio 71.09 47 *e*P **P 11 51 38.5 +3.0**
comp=Z,28nm,1.3s
RCTC Rector, Farmer 71.14 58 P **P 11 51 36.0 +0.5**
baz=307
YFT Old Faithful 71.17 47 *e*P **P 11 51 38.8 +2.9**
comp=Z,27nm,1.0s
SMMC Simmler 71.25 59 P **P 11 51 37.3 +1.0**
baz=307
YPP Pitchstone Pla 71.31 47 *e*P **P 11 51 40.0 +3.3**
comp=Z,17nm,1.3s
TIN Tinemaha, Big 71.33 57 P **P 11 51 36.7 -0.2**
baz=308
H17A Grant Village 71.35 47 P **P 11 51 38.8 +1.8**
baz=309,SNR=33
H17A Grant Village 71.35 47 *e*P **P 11 51 39.0 +2.0**
comp=Z,34nm,1.0s
IMW Indian Meadow 71.47 48 *e*P **P 11 51 39.4 +1.6**
comp=Z,34nm,1.2s
AKH Akhalkalaki 71.52 309 *e*P **P 11 51 40.8 +2.8**
AKH Akhalkalaki 71.52 309⇑ *i*P **P 11 51 40.2 +2.2**
AKH Akhalkalaki 71.52 309 *e*P **P 11 51 40.4 +2.4**
AKH pmax pmax
comp=Z,152nm,1.8s
AKH Akhalkalaki 71.52 309 *e*P **P 11 51 40.4 +2.4**
comp=Z,152nm,1.8s
VES Vestal, Richgr 71.52 58 P **P 11 51 37.8 0.0**
baz=308
GNI Garni 71.56 307 P **P 11 51 38.3 +0.1**
comp=Z,6.7nm,0.7s,baz=116,slow=1.0,SNR=13
GNI Garni 71.56 307 *i* P **P 11 51 39.5 +1.3**
GNI pmax pmax
comp=Z,43nm,1.3s
GNI Garni 71.56 307 *e*P **P 11 51 40.2 +2.0**
comp=Z,132nm,1.8s
GNI Garni 71.56 307 *i* P **P 11 51 39.5 +1.3**
SNR=17
FXWY Fox Creek 71.58 48 *e*P **P 11 51 39.2 +0.8**
comp=Z,22nm,1.1s
NB2 NORSAR Subarra 71.61 338 P **P 11 51 38.0 0.0**
comp=Z,100nm,1.4s,baz=36,slow=6.2
NB2 NORSAR Subarra 71.61 338 P **P 11 51 38.0 0.0**
baz=36,slow=6.2
NOA NORSAR Array B 71.61 338 P **P 11 51 38.2 +0.3**
comp=Z,25nm,0.9s,baz=37,slow=6.0,SNR=42
NOA PP **PP 11 54 13.3 -2.9**
comp=Z,1.9nm,0.8s,baz=34,slow=8.6,SNR=2.3
NOA LR LR 12 26 29.1
comp=Z,3µm,21.4s,baz=55,slow=39
RLMT Red Lodge 71.61 46 P **P 11 51 38.7 +0.2**
baz=310,SNR=11
RLMT Red Lodge 71.61 46 *e*P **P 11 51 39.0 +0.5**
comp=Z,29nm,1.3s
HFS Hagfors 71.62 337 P **P 11 51 38.1 0.0**
comp=Z,14nm,0.7s,baz=72,slow=6.2,SNR=20
HFS LR LR 12 26 46.6
comp=Z,3µm,18.9s,baz=43,slow=39
PKM Mcpherson Peak 71.63 60 P **P 11 51 39.6 +0.8**
baz=308,SNR=5.3
MOOW Moose Ponds 71.67 48 *e*P **P 11 51 39.8 +0.9**
comp=Z,26nm,1.1s
SFJD Kangerlussuaq 71.72 6 P **P 11 51 38.7 +0.3**
comp=Z,15nm,0.9s,baz=339,slow=4.7,SNR=6.7
SFJD LR LR 12 24 12.3
comp=Z,2µm,19.2s,baz=344,slow=37
SFJD Kangerlussuaq 71.72 6 *i* P **P 11 51 38.8 +0.3**
comp=Z,35nm,1.1s
SFJD Kangerlussuaq 71.72 6 *e*P **P 11 51 39.3 +0.9**
SFJD pmax pmax
comp=Z,46nm,1.3s
SFJD Kangerlussuaq 71.72 6 *e*P **P 11 51 39.3 +0.9**
comp=Z,46nm,1.3s
TPAW Teton Pass 71.72 48 *e*P **P 11 51 39.5 +0.3**
comp=Z,27nm,1.1s
HVU Hansel Valley 71.75 50 *e*P **P 11 51 40.5 +1.1**
HVU pmax pmax
comp=Z,25nm,1.0s
HVU Hansel Valley 71.75 50 *e*P **P 11 51 40.5 +1.1**
comp=Z,25nm,1.0s
CWC Cottonwood Cre 71.81 57 P **P 11 51 40.1 +0.4**
baz=308
SNOW Snow King Moun 71.84 48 *e*P **P 11 51 41.8 +1.8**
comp=Z,18nm,0.9s
REDW Red Top Meadow 71.85 48 *e*P **P 11 51 41.6 +1.5**
comp=Z,26nm,1.3s
GRAC Grapevine Rang 71.92 57 P **P 11 51 40.9 +0.6**
baz=308,SNR=6.9
SBC Santa Barbara 71.97 60 P **P 11 51 41.2 +0.7**
baz=308
ISA Isabella, Lake 72.03 58 P **P 11 51 41.1 +0.1**
baz=308
ISA Isabella, Lake 72.03 58 *e*P **P 11 51 41.9 +0.9**
ISA pmax pmax
comp=Z,11nm,1.2s
ISA Isabella, Lake 72.03 58 *e*P **P 11 51 41.9 +0.9**
comp=Z,11nm,1.2s
DGMT Dagmar 72.06 41 P **P 11 51 40.9 0.0**
baz=312,SNR=7.9
DGMT Dagmar 72.06 41 *e*P **P 11 51 41.3 +0.4**
comp=Z,35nm,1.0s
AHID Auburn Hatcher 72.09 49 *e*P **P 11 51 42.5 +1.0**
comp=Z,16nm,1.0s
ARVC Arvin 72.12 59 P **P 11 51 42.0 +0.5**
baz=308
BGU Big Grassy Mou 72.14 51 *e*P **P 11 51 42.6 +0.9**
comp=Z,12nm,1.1s
R11A Troy Canyon, C 72.20 55 P **P 11 51 42.4 +0.3**
baz=308,SNR=20
LAO LASA Array 72.21 43 P **P 11 51 42.2 +0.4**
baz=311,SNR=14
LAO LASA Array 72.21 43 *e*P **P 11 51 42.7 +0.8**
comp=Z,47nm,1.2s
DAC Darwin (Calif) 72.21 57 *e*P **P 11 51 43.1 +0.8**
DAC pmax pmax
comp=Z,14nm,1.1s
DAC Darwin (Calif) 72.21 57 *e*P **P 11 51 43.1 +0.8**
comp=Z,14nm,1.1s
SPUT South Promonto 72.23 51 *e*P **P 11 51 44.8 +2.5**
comp=Z,38nm,1.4s
KARS Kars 72.25 309 *i* P **P 11 51 44.3 +1.9**
SCZ2 Santa Cruz Isl 72.29 60 P **P 11 51 42.6 +0.1**
baz=308
FRB Frobisher Bay 72.30 15 P **P 11 51 42.4 +0.4**
comp=Z,52nm,0.9s,baz=157,slow=6.5,SNR=72
SOC Sochi 72.31 313 *e*P **P 11 51 41.4 -1.1**
SOC *e**PP **pP 11 51 44.6 -1.2**
SOC pmax pmax
comp=Z,105nm,2.0s
SOC MLR MLR
comp=Z,2µm,17.0s
MPMC Manual Prospec 72.42 57 P **P 11 51 43.9 +0.4**
baz=308,SNR=17
STKA Stephens Creek 72.54 183 P **P 11 51 42.9 -0.8**
comp=Z,2.2nm,0.5s,baz=346,slow=7.8,SNR=7.9
BANOM Banah 72.56 289 P **P 11 51 45.7 +1.4**
SNR=13
BANOM Banah 72.56 289 *i* P **P 11 51 44.2 -0.1**
SNR=23
HWUT Hardware Ranch 72.56 50 *e*P **P 11 51 45.2 +1.0**
comp=Z,31nm,1.1s
FURC Furnace Creek, 72.56 57 P **P 11 51 44.1 +0.1**
baz=308,SNR=26
BLG Laguna Peak, P 72.59 60 P **P 11 51 44.3 0.0**
baz=308
SHME Shamm 72.59 290 *i* P **P 11 51 44.4 -0.1**
SNR=20
WBK Wadi Bani Khal 72.64 285 pP **P 11 51 47.0 +2.2**
SNR=5.9
LRMC Laurel Mtn Rad 72.65 58 P **P 11 51 44.8 0.0**
baz=308
CLDR Caldiran 72.68 307 *e*P **P 11 51 45.3 +0.2**
BIDO Bidbid 72.70 286 P **P 11 51 47.0 +1.9**
SNR=20
DUG Dugway, Tooele 72.72 52 P **P 11 51 45.8 +0.6**
baz=309,SNR=31
DUG Dugway, Tooele 72.72 52 *e*P **P 11 51 45.7 +0.6**
DUG pmax pmax
comp=Z,25nm,1.0s
DUG Dugway, Tooele 72.72 52 *e*P **P 11 51 45.7 +0.6**
comp=Z,25nm,1.0s
SENK Senkaya-Erzuru 72.73 309 *e*P **P 11 51 47.7 +2.4**
ANN Anapa 72.78 315 *e*P **P 11 51 45.8 +0.6**
ANN pmax pmax
comp=Z,196nm,2.4s
EDW2 Edwards Air Fo 72.81 59 P **P 11 51 46.4 +0.7**
baz=308,SNR=15
AKASG Malin Array Be 72.86 323 P **P 11 51 45.1 -0.4**
comp=Z,24nm,0.7s,baz=43,slow=6.0,SNR=69
AKASG PP **PP 11 54 24.1 -3.0**
comp=Z,5.9nm,0.9s,baz=40,slow=8.4,SNR=3.9
AKBB Malin Array Si 72.86 323 *e*P **P 11 51 45.6 0.0**
AKBB pmax pmax
comp=Z,39nm,0.9s
AKBB Malin Array Si 72.86 323 *e*P **P 11 51 45.6 0.0**
comp=Z,38nm,0.9s
KIEV Kiev 72.87 323⇑ *i*P **P 11 51 44.9 -0.7**
KIEV Kiev 72.87 323 *e*P **P 11 51 45.2 -0.4**
comp=Z,41nm,1.0s
KIEV Kiev 72.87 323 *i* P **P 11 51 46.2 +0.6**
SNR=11
AK11 Malin Array Si 72.90 323 *e*P **P 11 51 45.8 0.0**
MDH Madha 72.94 289 *i* P **P 11 51 48.1 +1.6**
SNR=12
BW06 Boulder Array 72.96 48 P **P 11 51 46.8 +0.1**
baz=310,SNR=6.6
PD31 Pinedale Array 72.96 48 *e*P **P 11 51 46.9 +0.2**
PDAR Pinedale Array 72.96 48 P **P 11 51 46.5 -0.2**
comp=Z,6.2nm,0.8s,baz=261,slow=1.6,SNR=38
PDAR Pinedale Array 72.96 48 *e*P **P 11 51 45.7 -0.9**
TCUT Toone Canyon 72.96 50 *e*P **P 11 51 47.8 +1.1**
comp=Z,38nm,1.1s
AGRB Hanur-Agry 72.97 308 *e*P **P 11 51 48.5 +1.8**
DECC Green Verdugo 72.98 59 P **P 11 51 46.6 -0.1**
baz=308
MSFE Esma-Masafi 73.00 289 *i* P **P 11 51 48.3 +1.4**
SNR=12
CTU Camp Tracy 73.03 51 *e*P **P 11 51 48.0 +0.9**
comp=Z,21nm,1.1s
SUW Suwalki 73.04 328 *e*P **P 11 51 46.9 +0.3**
SUW Suwalki 73.04 328 *e*P **P 11 51 46.9 +0.3**
MWC Mount Wilson 73.18 59 *e*P **P 11 51 50.1 +2.1**
MWC pmax pmax
comp=Z,77nm,1.8s
MWC Mount Wilson 73.18 59 *e*P **P 11 51 50.1 +2.1**
comp=Z,77nm,1.8s
KONO Kongsberg 73.21 338 *ce*P **P 11 51 47.5 0.0**
KONO pmax pmax
comp=Z,147nm,2.5s
UOSS Minazif 73.22 289 *e*P **P 11 51 47.9 -0.3**
comp=Z,49nm,0.9s
UOSS Minazif 73.22 289 *i* P **P 11 51 47.9 -0.3**
SNR=15
UMQ Umm Al-Quwin 73.25 289 *i* P **P 11 51 50.8 +2.4**
SNR=5.1
JLU Jordanelle 73.27 51 *e*P **P 11 51 49.5 +1.0**
comp=Z,20nm,1.2s
NLU North Lily Min 73.31 51 *e*P **P 11 51 49.7 +0.9**
comp=Z,24nm,1.0s
GSC Goldstone, Bar 73.32 58 P **P 11 51 49.0 +0.2**
baz=309,SNR=8.2
GSC Goldstone, Bar 73.32 58 *e*P **P 11 51 49.6 +0.9**
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC Goldstone, Bar 73.32 58 *e*P **P 11 51 49.6 +0.9**
comp=Z,8.6nm,0.9s
HATD Hatta, Dubai 73.34 289 P **P 11 51 50.0 +1.1**
SNR=23
HATD Hatta, Dubai 73.34 289 *i* P **P 11 51 49.1 +0.2**
SNR=18
VANB Van 73.35 307 *e*P **P 11 51 52.0 +3.1**
BFSC Mount Baldy Ra 73.43 59 P **P 11 51 49.7 +0.2**
baz=308,SNR=8.1
CIS Catalina Islan 73.45 60 P **P 11 51 49.8 +0.4**
baz=308
SOHO SOHO 73.48 288 *i* P **P 11 51 49.6 -0.1**
SNR=16
ASHO Ashiyiah 73.48 288 P **P 11 51 50.7 +0.9**
SNR=21
ASHO Ashiyiah 73.48 288 *i* P **P 11 51 49.9 +0.1**
SNR=19
MPU Maple Canyon 73.53 51 *e*P **P 11 51 50.9 +0.9**
comp=Z,23nm,1.0s
NAZ Nazwa, Dubai 73.58 289 P **P 11 51 52.0 +1.7**
SNR=13
NAZ Nazwa, Dubai 73.58 289 *i* P **P 11 51 52.0 +1.7**
SNR=13
SHPR Sheep Range 73.61 56 *e*P **P 11 51 51.7 +1.2**
comp=Z,37nm,1.5s
TUQ Turquoise Moun 73.80 57 P **P 11 51 51.9 +0.3**
baz=309
BBRC Big Bear Solar 73.89 59 P **P 11 51 52.6 +0.3**
baz=309,SNR=5.4
HEC Hector,Ludlow 73.92 58 P **P 11 51 52.3 0.0**
baz=309
KTUT Trabzon 73.96 311 *e*P **P 11 51 53.1 +0.9**
CUKT Cukurca 74.07 306 *e*P **P 11 51 53.1 0.0**
BORG Borgarnes 74.08 354 P **P 11 51 53.6 +1.1**
comp=Z,42nm,1.0s,baz=39,slow=6.1,SNR=3.9
ALNE Al Ain 74.09 288 *i* P **P 11 51 53.8 +0.5**
SNR=12
BAYT Ayd¯–ntepe-Bay 74.13 310 *e*P **P 11 51 55.2 +1.7**
MSU Marysvale 74.17 53 *e*P **P 11 51 55.4 +1.5**
MSU Marysvale 74.17 53 *e*P **P 11 51 55.4 +1.5**
GURO Guroymak-BITLI 74.20 307 *e*P **P 11 51 55.5 +1.6**
SZCU Shurtz Canyon 74.20 54 *e*P **P 11 51 56.3 +2.2**
comp=Z,12nm,1.1s
TMUT Trail Mountain 74.25 52 *e*P **P 11 51 55.5 +1.1**
comp=Z,17nm,1.0s
AJN Ajban 74.33 289 *i* P **P 11 51 56.1 +1.4**
SNR=16
GMRC Granite Mounta 74.38 57 P **P 11 51 55.6 +0.6**
baz=309,SNR=17
P17A Butcher Ranch, 74.41 51 *e*P **P 11 51 55.8 +0.7**
comp=Z,39nm,1.1s
MTPU Mount Pierson 74.47 53 *e*P **P 11 51 57.4 +1.7**
comp=Z,292nm,2.8s
LCMT Little Creek M 74.48 54 *e*P **P 11 51 56.4 +0.9**
comp=Z,22nm,1.1s
Q16A Castle Valley 74.51 52 *e*P **P 11 51 57.0 +1.3**
comp=Z,29nm,1.3s
PFO Pinyon Flats O 74.60 59 P **P 11 51 56.5 +0.2**
baz=309,SNR=5.7
PFO Pinyon Flats O 74.60 59 *e*P **P 11 51 57.7 +1.4**
PFO pmax pmax
comp=Z,76nm,1.8s
PFO Pinyon Flats O 74.60 59 *e*P **P 11 51 57.7 +1.4**
comp=Z,76nm,1.8s
P18A Preston Nutter 74.60 51 *e*P **P 11 51 57.4 +0.9**
comp=Z,25nm,1.0s
ESPY Espiye-Giresun 74.60 311 *e*P **P 11 51 56.6 +0.6**
XPFO Piæon Flat 74.60 59 *e*P **P 11 51 57.7 +1.4**
comp=Z,87nm,1.9s
SIRT Sirnak 74.62 306 *e*P **P 11 51 58.2 +1.9**
BELC Belle Mtn. Jos 74.65 58 P **P 11 51 56.5 -0.1**
baz=309,SNR=7.3
ULM Lac du Bonnet 74.71 36 P **P 11 51 55.4 -1.0**
comp=Z,9.4nm,1.0s,baz=310,slow=6.6,SNR=13
ULM Lac du Bonnet 74.71 36 *e*P **P 11 51 56.1 -0.3**
comp=Z,7nm,1.4s
MDND Maddock 74.72 39 P **P 11 51 56.3 -0.3**
baz=315
MDND Maddock 74.72 39 *e*P **P 11 51 57.7 +1.1**
comp=Z,46nm,0.9s
K22A Casper 74.73 46 P **P 11 51 56.5 -0.4**
baz=312,SNR=15
K22A Casper 74.73 46 *e*P **P 11 51 57.3 +0.4**
comp=Z,31nm,1.0s
KNB Kanab 74.74 54 *e*P **P 11 51 58.5 +1.4**
KNB pmax pmax
comp=Z,34nm,1.3s
KNB Kanab 74.74 54 *e*P **P 11 51 58.5 +1.4**
comp=Z,34nm,1.3s
SRU San Rafael Swe 74.77 51 *e*P **P 11 51 58.0 +0.7**
SRU pmax pmax
comp=Z,37nm,0.9s
SRU San Rafael Swe 74.77 51 *e*P **P 11 51 58.0 +0.7**
comp=Z,37nm,0.9s
RWWY Rawlins 74.99 48 *e*P **P 11 51 57.9 -0.6**
comp=Z,35nm,1.1s
BAR Barrett 75.05 60 *e*P **P 11 52 00.5 +1.8**
comp=Z,65nm,1.9s
NEE2 Needles Airpor 75.05 57 P **P 11 51 58.3 -0.4**
baz=310
RSSD Black Hills 75.07 44 P **P 11 51 58.6 -0.4**
baz=313
RSSD Black Hills 75.07 44 *e*P **P 11 51 59.1 +0.1**
RSSD pmax pmax
comp=Z,24nm,1.0s
RSSD Black Hills 75.07 44 *e*P **P 11 51 59.1 +0.1**
comp=Z,24nm,1.0s
MONP2 Monument Peak 75.08 59 P **P 11 51 59.3 +0.1**
baz=309
IRM Iron Mountain 75.10 58 P **P 11 51 59.6 +0.5**
baz=310,SNR=12
BC3 Big Chuckawall 75.22 58 P **P 11 52 00.1 +0.2**
baz=310,SNR=9.9
B31A Greenbush Farm 75.23 38 P **P 11 51 59.3 -0.2**
baz=316
BSD Bornholm Skovb 75.26 333 *i* P **P 11 52 00.7 +1.2**
comp=Z,56nm,1.1s
BSD Bornholm Skovb 75.26 333 *i* P **P 11 52 00.7 +1.2**
BSD pmax pmax
comp=Z,56nm,1.1s
A32A Rocking H Ranc 75.40 37 P **P 11 51 59.9 -0.5**
baz=317,SNR=7.8
IKP In-Ko-Pah, Jac 75.43 59 P **P 11 52 01.2 +0.2**
baz=310
O20A White River Ci 75.43 49 P **P 11 52 00.7 -0.4**
baz=312,SNR=14

SWSC **Sam W. Stewart** 75.45 59 P P 11 52 00.9 -0.1
baz=310
PTK **Pertek** 75.55 309 eP P 11 52 03.3 +1.6
C31A **Landman Farms,** 75.64 38 P P 11 52 01.7 -0.2
baz=316
PDMCI **Parker Dam,Lak** 75.65 57 P P 11 52 02.3 +0.1
baz=310,SNR=6.6
ILIC **ilic-Erzincan** 75.66 310 eP P 11 52 04.9 +2.6
KIS **Kishinev** 75.67 321 eP P 11 52 00.0 -2.0
KIS XM 11 52 03.0
comp=Z,300nm,2.5s
KIS **Kishinev** 75.67 321 eP P 11 52 00.0 -2.0
KIS e 11 52 08.0
KIS pmax pmax
comp=Z,300nm,2.5s
DYBB **Diyarbakir** 75.72 308 eP P 11 52 04.9 +2.3
RSDY **Resadiye-TOKAT** 75.74 311 eP P 11 52 02.9 +0.3
Y12C **Blythe** 75.76 58 P P 11 52 02.9 +0.2
baz=310,SNR=5.6
Y12C **Blythe** 75.76 58 eP P 11 52 03.8 +1.0
comp=Z,48nm,1.5s
B32A **Ashes, Strandq** 75.76 37 P P 11 52 01.3 -1.3
baz=317,SNR=11
LVV **L'vov** 75.80 325 eP P 11 52 04.1 +1.4
SNOP **Sinop** 75.84 314 eP P 11 52 04.1 +1.0
MAZI **Mazidag** 75.86 307 eP P 11 52 04.3 +0.9
A33A **Warroad** 75.88 36 P P 11 52 02.6 -0.6
baz=317,SNR=16
GKP **Gorka Klasztor** 75.89 331 eP P 11 52 04.5 +1.3
GKP **Gorka Klasztor** 75.89 331 eP P 11 52 04.5 +1.3
PV09 **Paradox Valley** 75.99 51 eP P 11 52 05.0 +0.5
KVT **Kavak** 76.01 313 eP P 11 52 06.5 +2.4
GLA **Glamis** 76.01 58 P P 11 52 04.3 0.0
baz=310
DIKM **Dikmen** 76.06 313 eP P 11 52 05.4 +1.0
PV10 **Paradox Valley** 76.13 51 eP P 11 52 05.9 +0.8
AGMN **Agassiz Nation** 76.14 37 P P 11 52 03.8 -0.9
baz=317,SNR=6.2
AGMN **Agassiz Nation** 76.14 37 eP P 11 52 04.4 -0.3
comp=Z,27nm,1.2s
N23A **Red Feather La** 76.23 48 P P 11 52 05.9 +0.2
baz=313,SNR=20
N23A **Red Feather La** 76.23 48 eP P 11 52 06.8 +1.1
comp=Z,29nm,1.0s
TOKT **Tokat** 76.24 312 eP P 11 52 06.7 +1.2
SVSK **Karacayir** 76.25 311 eP P 11 52 07.3 +1.8
B33A **Robert and Kas** 76.28 37 P P 11 52 05.2 -0.3
baz=317
PV05 **Paradox Valley** 76.29 51 eP P 11 52 06.7 +0.6
D32A **Dogwood Acres,** 76.45 38 P P 11 52 06.2 -0.3
baz=317
E31A **Nome** 76.46 39 P P 11 52 06.1 -0.4
baz=316,SNR=5.5
MALT **Malatya** 76.50 309 eP P 11 52 09.4 +2.4
KWP **Kalwaria Pacla** 76.51 326 eP P 11 52 08.3 +1.5
KWP **Kalwaria Pacla** 76.51 326 eP P 11 52 07.7 +0.9
KWP **Kalwaria Pacla** 76.51 326 eP P 11 52 07.7 +0.9
comp=Z,1µm,1.2s
B34A **Aery, Baudette** 76.55 36 P P 11 52 06.5 -0.6
baz=318
PV01 **Paradox Valley** 76.57 51 eP P 11 52 07.9 +0.3
C33A **Trail** 76.57 37 P P 11 52 06.5 -0.7
baz=317,SNR=6.5
WUAZ **Wupatki** 76.60 55 P P 11 52 08.0 +0.3
baz=311,SNR=14
WUAZ **Wupatki** 76.60 55 eP P 11 52 08.9 +1.2
comp=Z,22nm,1.1s
Y14A **Wickenburg** 76.60 57 eP P 11 52 08.6 +0.9
F31A **Hecla** 76.78 40 P P 11 52 07.8 -0.6
baz=316
SMCO **Snowmass** 76.80 49 eP P 11 52 09.8 +0.7
comp=Z,14nm,1.0s
URFA **Urfa** 76.84 308 eP P 11 52 11.2 +2.2
DARE **Darende-Malaty** 76.88 310 eP P 11 52 11.8 +2.6
BUR08 **Bucovina Ar. S** 76.89 323 eP P 11 52 09.8 +0.6
BUR04 **Bucovina Ar. S** 76.91 323 eP P 11 52 09.4 +0.2
BURAR **Bucovina Array** 76.91 323 ⇓iP P 11 52 10.1 +0.9
BURAR **Bucovina Array** 76.91 323 ⇓P P 11 52 10.1 +0.9
TLCR 76.96 319 ⇓iP P 11 52 10.5 +1.1
TLCR 76.96 319 ⇓P P 11 52 10.5 +1.1
D33A **AnnSam, Waubun** 77.00 38 P P 11 52 09.0 -0.6
baz=317
C34A **RKJ Ranch, Bem** 77.05 37 P P 11 52 08.9 -1.0
baz=318
B35A **Bob, Littlefor** 77.05 36 P P 11 52 09.4 -0.5
baz=318,SNR=8.3
TESR **Tescani** 77.05 321 ⇓iP P 11 52 10.4 +0.5
ISCO **Idaho Springs** 77.15 48 P P 11 52 11.5 +0.5
baz=313,SNR=13
ISCO **Idaho Springs** 77.15 48 eP P 11 52 11.9 +0.9
ISCO pmax pmax
comp=Z,19nm,1.2s
ISCO **Idaho Springs** 77.15 48 eP P 11 52 11.9 +0.9
comp=Z,19nm,1.2s
MVCO **Mesa Verde** 77.22 52 P P 11 52 11.2 -0.2
baz=312,SNR=11
MVCO **Mesa Verde** 77.22 52 eP P 11 52 12.2 +0.8
comp=Z,66nm,1.8s
G31A **Conde** 77.26 40 P P 11 52 11.1 0.0
baz=316
OJC **Ojcow** 77.28 327 eP P 11 52 12.3 +1.2
OJC **Ojcow** 77.28 327 eP P 11 52 12.1 +1.0
OJC pmax pmax
comp=Z,90nm,1.1s
OJC **Ojcow** 77.28 327 eP P 11 52 12.1 +1.0
comp=Z,90nm,1.1s
STHS **Stebnicka Huta** 77.30 326 eP P 11 52 13.3 +2.0
STHS pmax pmax
comp=Z,44nm,1.9s
STHS **Stebnicka Huta** 77.30 326 eP P 11 52 13.3 +2.0
CFR **Carcaliu** 77.30 320 ⇓iP P 11 52 11.8 +0.5
CFR **Carcaliu** 77.30 320 ⇓P P 11 52 11.8 +0.5
F32A **Veblen** 77.32 39 P P 11 52 10.7 -0.7
baz=317
PETR **Petresti** 77.35 321 ⇑iP P 11 52 13.8 +2.3
E33A **Westby DABS, E** 77.39 38 P P 11 52 11.5 -0.3
baz=317,SNR=9.1
YOZ **Yozgat** 77.39 312 eP P 11 52 12.3 +0.2
ODBI **Odobesti** 77.40 321 ⇑iP P 11 52 14.2 +2.3
C35A **Jirik Farms, M** 77.43 36 P P 11 52 11.2 -0.8
baz=318,SNR=9.9
UZH **Uzhgorod** 77.45 325 eP P 11 52 13.2 +1.2
UZH e 11 52 22.6
SUSD **Miller** 77.46 41 P P 11 52 12.4 +0.1
baz=316
VRI **Vrincioaia** 77.48 321 ⇓iP P 11 52 13.9 +1.6
VRI **Vrincioaia** 77.48 321 ⇓P P 11 52 14.0 +1.6
PLOR **Plostina** 77.53 321 ⇑iP P 11 52 13.7 +1.0
PLOR **Plostina** 77.53 321 ⇑P P 11 52 13.7 +1.0
G32A **Webster** 77.59 40 P P 11 52 12.5 -0.4
baz=317
CRVS **Cervenica-Dubn** 77.60 326 eP P 11 52 13.9 +1.0
CRVS **Cervenica-Dubn** 77.60 326 eP P 11 52 13.9 +1.0
BNN **Bunyan** 77.63 311 eP P 11 52 15.2 +1.7
H31A **Wolsey** 77.67 41 P P 11 52 12.8 -0.6
baz=316
ARCR **ARCALIA** 77.69 323 ⇑iP P 11 52 15.7 +2.2
NIE **Niedzica** 77.69 327 eP P 11 52 14.2 +0.7
NIE **Niedzica** 77.69 327 eP P 11 52 14.2 +0.7
TRPA **Tarpa** 77.72 325 ⇑eP P 11 52 15.1 +1.5
F33A **5 Mile Ranch,** 77.74 39 P P 11 52 13.5 -0.3
baz=317,SNR=9.3
E34A **Wadena** 77.77 38 P P 11 52 13.2 -0.8
baz=318
TLB **Topalu** 77.78 319 ⇑iP P 11 52 15.3 +1.4
TLB **Topalu** 77.78 319 ⇑P P 11 52 15.3 +1.4
S22A **4UR Ranch, Cre** 77.85 50 P P 11 52 15.4 +0.4
baz=313,SNR=17
S22A **4UR Ranch, Cre** 77.85 50 eP P 11 52 16.1 +1.2
comp=Z,19nm,1.1s
D35A **Remer** 77.86 37 P P 11 52 13.5 -0.9
baz=318,SNR=5.4
C36A **Pine Crest Far** 77.90 36 P P 11 52 13.9 -0.7
baz=319,SNR=10
KMRS **Kahramanmaras** 77.93 309 eP P 11 52 17.4 +2.4
GAZ **Gaziantep** 77.97 309 eP P 11 52 16.4 +1.1
Q24A **Divide** 77.99 49 P P 11 52 15.6 0.0
baz=313,SNR=6.3
Q24A **Divide** 77.99 49 eP P 11 52 17.7 +2.0
comp=Z,14nm,0.9s
214A **Organ Pipe Nat** 78.02 58 P P 11 52 15.8 +0.2
baz=311,SNR=10
DOPR **Dopca** 78.04 322 ⇓iP P 11 52 17.7 +2.2
E35A **Pequot Lakes** 78.09 37 P P 11 52 15.2 -0.6
baz=318

ISR **Istrita** 78.12 320 ⇓iP P 11 52 18.0 +2.1
ISR **Istrita** 78.12 320 ⇓P P 11 52 18.1 +2.1
MLR **Muntele Rosu** 78.13 321 P P 11 52 17.8 +1.7
comp=Z,2.0nm,0.7s,baz=346,slow=5.7,SNR=12
MLR **Muntele Rosu** 78.13 321 ⇓iP P 11 52 17.3 +1.2
MLR **Muntele Rosu** 78.13 321 ⇓P P 11 52 17.3 +1.2
MLR **Muntele Rosu** 78.13 321 eP P 11 52 18.6 +2.5
comp=Z,30nm,1.1s
H32A **Carlson Farm,** 78.16 40 P P 11 52 15.4 -0.8
baz=317
KSP **Ksiaz** 78.17 330 eP P 11 52 17.3 +1.2
KSP **Ksiaz** 78.17 330 eP P 11 52 17.3 +1.2
D36A **Goodland** 78.19 36 P P 11 52 15.4 -0.9
baz=319
C37A **Embarrass** 78.21 35 P P 11 52 15.7 -0.6
baz=320,SNR=12
LANS **Liptovska Anna** 78.24 327 eP P 11 52 18.2 +1.6
LANS e 11 55 13.4
LANS **Liptovska Anna** 78.24 327 eP P 11 52 18.2 +1.6
LANS ePP PP 11 55 13.4 +0.8
OKC **Ostrava-Krasne** 78.25 328 eP P 11 52 17.8 +1.3
OKC AMS AMS 12 28 20.0
comp=Z,4µm,18.6s
OKC **Ostrava-Krasne** 78.25 328 eP P 11 52 17.8 +1.3
OKC MLR MLR
comp=Z,4µm,18.6s
F34A **Alexandria** 78.26 38 P P 11 52 16.1 -0.6
baz=318
BR131 **Keskin Array S** 78.28 313 eP P 11 52 17.6 +0.5
BRTR **Keskin Array B** 78.28 313 P P 11 52 17.6 +0.5
comp=Z,7.9nm,0.9s,baz=60,slow=3.3,SNR=26
BRTR PP PP 11 55 15.9 +2.6
comp=Z,6.6nm,1.1s,baz=51,slow=11,SNR=6.5
BRTR LR LR 12 32 19.1
comp=Z,1µm,19.1s,baz=38,slow=40
CJR **Cluj-Napoca** 78.31 323 ⇓iP P 11 52 18.6 +1.6
CJR **Cluj-Napoca** 78.31 323 ⇓P P 11 52 18.6 +1.6
KECS **Kecovo** 78.33 326 eP P 11 52 18.0 +1.0
KECS pmax pmax
comp=Z,9.0nm,1.0s
KECS **Kecovo** 78.33 326 eP P 11 52 18.0 +1.0
OGNE **Ogallala** 78.34 45 P P 11 52 17.1 -0.2
baz=315,SNR=10
OGNE **Ogallala** 78.34 45 eP P 11 52 17.7 +0.4
comp=Z,51nm,1.0s
EYMN **Ely** 78.34 35 P P 11 52 16.0 -1.0
baz=320,SNR=11
EYMN **Ely** 78.34 35 eP P 11 52 17.0 -0.1
comp=Z,41nm,1.1s
H33A **Prehn Over Nor** 78.37 40 P P 11 52 16.5 -0.9
baz=317,SNR=26
J31A **Geddes** 78.39 42 P P 11 52 17.0 -0.5
baz=316
G34A **Benson** 78.49 39 P P 11 52 17.2 -0.7
baz=318,SNR=7.0
I32A **Karley and Nic** 78.50 41 P P 11 52 17.1 -1.0
baz=317
D37A **Cotton** 78.53 36 P P 11 52 17.1 -1.0
baz=320
MORC **Moravsky Berou** 78.53 328 ⇓iP P 11 52 19.7 +1.5
MORC **Moravsky Berou** 78.53 328 ⇓P P 11 52 19.7 +1.5
MORC **Moravsky Berou** 78.53 328 eP P 11 52 18.7 +0.5
comp=Z,248nm,1.2s
F35A **Swanville** 78.53 38 P P 11 52 17.4 -0.8
baz=318
UPC **Upice** 78.55 330 eP P 11 52 19.6 +1.4
UPC AMS AMS 12 29 50.0
comp=Z,5µm,17.6s
UPC **Upice** 78.55 330 eP P 11 52 19.6 +1.4
UPC MLR MLR
comp=Z,5µm,17.6s
DPC **Dobruska-Polom** 78.56 329 eP P 11 52 19.0 +0.7
DPC AMS AMS 12 28 50.0
comp=Z,4µm,19.9s
DPC **Dobruska-Polom** 78.56 329 eP P 11 52 19.0 +0.7
DPC MLR MLR
comp=Z,4µm,19.9s
KOZT **Kozan** 78.58 310 eP P 11 52 20.1 +1.5
VOIR 78.60 321 ⇓iP P 11 52 20.1 +1.5
VOIR 78.60 321 ⇓P P 11 52 20.1 +1.5
C38A **Sawbill Land.** 78.61 35 P P 11 52 18.0 -0.6
baz=320,SNR=12
SDCO **Great Sand Dun** 78.62 50 P P 11 52 19.1 -0.1
baz=313,SNR=12
SDCO **Great Sand Dun** 78.62 50 eP P 11 52 20.1 +0.9
comp=Z,11nm,1.1s
ANTO **Ankara** 78.64 313 eP P 11 52 20.7 +1.7
ANTO pmax pmax
comp=Z,47nm,0.9s
ANTO **Ankara** 78.64 313 eP P 11 52 20.7 +1.7
comp=Z,47nm,0.9s
ANTO **Ankara** 78.64 313 P P 11 52 20.6 +1.7
SNR=8.4
E36A **McGregor** 78.65 37 P P 11 52 18.4 -0.4
baz=319,SNR=12
DRGR 78.66 324 ⇓iP P 11 52 20.2 +1.3
DRGR 78.66 324 ⇓P P 11 52 20.2 +1.3
BR231 **Keskin MP Arra** 78.67 313 eP P 11 52 18.0 -1.2
J32A **Parkston** 78.78 41 P P 11 52 18.8 -0.8
baz=317
I33A **Coleman** 78.81 40 P P 11 52 19.2 -0.5
baz=317,SNR=5.5
ARR **Arges** 78.84 322 ⇓iP P 11 52 21.5 +1.5
H34A **Spellman Lake,** 78.85 39 P P 11 52 19.7 -0.2
baz=318,SNR=7.5
K31A **O'Neill** 78.87 42 P P 11 52 19.9 -0.2
baz=316,SNR=9.7
CEYT **Ceyhan** 78.94 310 eP P 11 52 21.2 +0.6
E37A **Wrenshall** 79.00 36 P P 11 52 19.8 -0.9
baz=320
F36A **Milaca** 79.02 37 P P 11 52 19.9 -0.9
baz=319,SNR=5.7
VYHS **Vyhne** 79.02 327 eP P 11 52 22.0 +1.2
VYHS pmax pmax
comp=Z,160nm,2.5s
VYHS **Vyhne** 79.02 327 eP P 11 52 22.0 +1.2
CLL **Collm** 79.02 332 ⇑iP P 11 52 21.0 +0.3
CLL i 11 52 23.4
CLL pmax pmax
comp=Z,72nm,1.2s
CLL MLR MLR
comp=Z,7µm,18.6s
CLL **Collm** 79.02 332 ⇑iP P 11 52 21.0 +0.3
comp=Z,72nm,1.2s
CLL i pP pP 11 52 23.4 -0.7
CLL e 11 52 34.0
CLL Lm MLR 12 30 00.0
comp=N,3µm,20.0s
CLL Lm MLR 12 30 00.0
comp=E,2µm,18.9s
CLL Lm MLR 12 30 00.0
comp=Z,7µm,18.6s
CLL **Collm** 79.02 332 eP P 11 52 20.9 +0.3
comp=Z,62nm,1.1s
PSZ **Piszkesteto** 79.02 326 ⇓iP P 11 52 22.5 +1.6
PSZ **Piszkesteto** 79.02 326 ⇓P P 11 52 22.5 +1.6
PSZ **Piszkesteto** 79.02 326 ⇑eP P 11 52 21.7 +0.8
PSZ **Piszkesteto** 79.02 326 eP P 11 52 22.1 +1.2
comp=Z,102nm,1.5s
C39A **Grand Marais** 79.03 34 P P 11 52 19.6 -1.3
baz=321
BRG **Berggiesshubel** 79.03 331 iP P 11 52 21.4 +0.7
comp=Z,38nm,1.3s
BRG i PP PP 11 55 18.3 -0.8
comp=Z,14nm,1.5s
BRG **Berggiesshubel** 79.03 331 iP P 11 52 21.5 +0.7
BRG i 11 55 18.3
BRG pmax pmax
comp=Z,38nm,1.3s
BRG pmax pmax
comp=Z,14nm,1.5s
G35A **Watkins** 79.05 38 P P 11 52 20.4 -0.7
baz=318
TUC **Tucson** 79.08 57 P P 11 52 21.5 0.0
baz=312
TUC **Tucson** 79.08 57 eP P 11 52 22.3 +0.8
TUC pmax pmax
comp=Z,19nm,1.4s
TUC **Tucson** 79.08 57 eP P 11 52 22.3 +0.8
comp=Z,19nm,1.4s
PVCC **Panska Ves** 79.08 330 eP P 11 52 22.6 +1.5
PVCC AMS AMS 12 30 00.0
comp=Z,5µm,20.8s
PVCC **Panska Ves** 79.08 330 eP P 11 52 22.6 +1.5
PVCC MLR MLR
comp=Z,5µm,20.8s

ECSD **EROS Data Cent** 79.13 40 P P 11 52 20.9 -0.7
baz=317,SNR=25
ECSD **EROS Data Cent** 79.13 40 eP P 11 52 21.0 -0.5
comp=Z,28nm,1.0s
K32A **Verdigre** 79.24 42 P P 11 52 20.9 -1.3
baz=317
J33A **Davis** 79.26 41 P P 11 52 21.7 -0.5
baz=317
I34A **Hadley** 79.27 40 P P 11 52 22.0 -0.3
baz=318
H35A **Sunnyside Ranc** 79.28 39 P P 11 52 22.3 0.0
baz=318,SNR=23
VRAC **Vranov** 79.28 329 LR LR 12 30 19.1
comp=Z,6µm,20.2s,baz=34,slow=38
VRAC **Vranov** 79.28 329 ⇑iP P 11 52 23.9 +1.7
VRAC **Vranov** 79.28 329 ⇑P P 11 52 23.9 +1.7
E38A **The Farm, Brul** 79.34 36 P P 11 52 22.0 -0.6
baz=320
C40A **Isle Royale Na** 79.36 34 P P 11 52 21.7 -0.9
baz=322
KSCO **Kaye Shedlock'** 79.37 47 P P 11 52 22.9 -0.2
baz=315
G36A **St. Michael** 79.39 38 P P 11 52 22.9 +0.1
baz=319
YAYL **Yayladag** 79.40 309 eP P 11 52 24.1 +0.9
GOPC **GO Pecny, Ondr** 79.50 330 eP P 11 52 24.5 +1.1
GOPC AMS AMS 12 30 30.0
comp=Z,6µm,17.6s
GOPC **GO Pecny, Ondr** 79.50 330 eP P 11 52 24.5 +1.1
GOPC MLR MLR
comp=Z,6µm,17.6s
MHTCO **State Highway** 79.51 50 eP P 11 52 25.4 +1.5
comp=Z,70nm,2.0s
SIRR **Siria** 79.53 324 ⇓iP P 11 52 24.9 +1.3
PRU **Pruhonice** 79.53 330 eP P 11 52 24.7 +1.2
PRU AMS AMS 12 30 20.0
comp=Z,7µm,17.8s
PRU **Pruhonice** 79.53 330 eP P 11 52 24.7 +1.2
PRU MLR MLR
comp=Z,7µm,17.8s
F37A **Hinrichs Farm,** 79.53 37 P P 11 52 22.7 -0.9
baz=320
T25A **Trinidad** 79.67 49 P P 11 52 24.6 -0.2
baz=314,SNR=16
T25A **Trinidad** 79.67 49 eP P 11 52 25.5 +0.7
comp=Z,23nm,1.0s
F38A **Pierce - Schro** 79.69 36 P P 11 52 24.2 -0.3
baz=320,SNR=20
L32A **Elgin** 79.70 42 P P 11 52 24.5 -0.1
baz=317
TREC **Trest** 79.73 329 eP P 11 52 26.1 +1.4
TREC AMS AMS 12 30 00.0
comp=Z,5µm,18.6s
TREC **Trest** 79.73 329 eP P 11 52 26.1 +1.4
TREC MLR MLR
comp=Z,5µm,18.6s
BUD **Budapest** 79.73 326 ⇑eP P 11 52 26.4 +1.7
MODS **Modra-Piesok** 79.75 328 eP P 11 52 26.7 +1.9
MODS **Modra-Piesok** 79.75 328 eP P 11 52 26.7 +1.9
K33A **Hardington** 79.77 41 P P 11 52 24.9 -0.1
baz=317
J34A **George** 79.78 40 P P 11 52 24.3 -0.8
baz=318
H36A **Jessenland, He** 79.80 38 P P 11 52 25.1 0.0
baz=319,SNR=10
SPMN **Marine on St.** 79.83 37 P P 11 52 25.0 -0.3
baz=320
SPMN **Marine on St.** 79.83 37 eP P 11 52 26.6 +1.3
comp=Z,13nm,0.8s
I35A **Creekview Farm** 79.83 40 P P 11 52 25.2 -0.1
baz=318
L33A **Hoskins** 79.95 42 P P 11 52 25.2 -0.9
baz=317
E39A **Mellen** 79.96 35 P P 11 52 25.1 -0.8
baz=321,SNR=14
ZST **Bratislava** 79.96 328 eP P 11 52 27.6 +1.7
ZST pmax pmax
comp=Z,60nm,1.5s
ZST **Bratislava** 79.96 328 eP P 11 52 27.6 +1.7
ANMO **Albuquerque** 79.97 52 P P 11 52 26.7 +0.3
comp=Z,7.0nm,0.9s,baz=133,slow=7.3,SNR=21
ANMO **Albuquerque** 79.97 52 P P 11 52 26.7 +0.3
baz=313
ANMO **Albuquerque** 79.97 52 ceP P 11 52 26.5 0.0
ANMO pmax pmax
comp=Z,39nm,2.5s
ANMO **Albuquerque** 79.97 52 eP P 11 52 27.6 +1.1
comp=Z,18nm,1.1s
SRE **Strehaia** 80.04 322 ⇓iP P 11 52 28.1 +1.7
SRE **Strehaia** 80.04 322 ⇓P P 11 52 28.1 +1.7
BZS **Buzias** 80.04 323 ⇑iP P 11 52 27.5 +1.1
BZS **Buzias** 80.04 323 ⇑P P 11 52 27.5 +1.1
BGNE **Belgrade** 80.06 43 P P 11 52 26.2 -0.4
baz=317
BGNE **Belgrade** 80.06 43 eP P 11 52 27.5 +0.9
comp=Z,53nm,0.9s
J35A **Milford** 80.09 40 P P 11 52 25.8 -1.0
baz=318
NKC **Novy Kostel** 80.11 331 eP P 11 52 27.5 +0.8
NKC AMS AMS 12 31 00.0
comp=Z,6µm,18.6s
NKC **Novy Kostel** 80.11 331 eP P 11 52 27.5 +0.8
NKC MLR MLR
comp=Z,6µm,18.6s
CSKK **Cs˙ˇkako** 80.15 326 ⇑eP P 11 52 28.4 +1.5
F39A **Loretta** 80.15 36 P P 11 52 26.2 -0.8
baz=321,SNR=11
K34A **Le Mars** 80.16 41 P P 11 52 26.7 -0.4
baz=318
I36A **Fitzsimmons Fa** 80.18 39 P P 11 52 27.1 0.0
baz=319
E40A **Wakefield** 80.19 35 P P 11 52 27.1 -0.1
baz=321,SNR=20
HERR **Herculane** 80.24 323 ⇓iP P 11 52 28.3 +0.8
H37A **Dierke Farm, C** 80.27 38 P P 11 52 27.4 -0.3
baz=320
D41A **Chassel** 80.28 34 P P 11 52 27.5 -0.2
baz=322
Y22E **IRIS PASSCAL I** 80.28 53 P P 11 52 28.5 +0.3
baz=313
EKA **Eskdalemuir Ar** 80.31 342 P P 11 52 28.1 +0.5
comp=Z,4.2nm,0.5s,baz=29,slow=5.1,SNR=21
G38A **Ridgeland** 80.31 37 P P 11 52 27.3 -0.6
baz=320,SNR=6.7
M33A **Taylor Creek F** 80.43 42 P P 11 52 28.2 -0.4
baz=317
I37A **Lemond, Waseca** 80.47 39 P P 11 52 28.4 -0.4
baz=319,SNR=19
H38A **Maiden Rock** 80.49 37 P P 11 52 28.4 -0.5
baz=320
F40A **Park Falls** 80.50 35 P P 11 52 28.6 -0.3
baz=321,SNR=7.6
G39A **Holcombe** 80.53 36 P P 11 52 28.3 -0.7
baz=320
J36A **Seneca 1, Swea** 80.54 40 P P 11 52 28.9 -0.2
baz=319
L34A **Svendsen Farm,** 80.55 42 P P 11 52 28.5 -0.8
baz=318
K35A **Storm Lake** 80.56 40 P P 11 52 28.3 -1.0
baz=318
E41A **Kenton** 80.58 34 P P 11 52 28.7 -0.6
baz=322,SNR=12
KHC **Kasperske Hory** 80.59 330 eP P 11 52 29.8 +0.4
KHC ex x 11 52 42.5
KHC AMS AMS 12 31 00.0
comp=Z,6µm,18.4s
KHC **Kasperske Hory** 80.59 330 eP P 11 52 29.8 +0.4
KHC e 11 52 42.5
KHC MLR MLR
comp=Z,6µm,18.4s
KHC **Kasperske Hory** 80.59 330 eP P 11 52 29.2 -0.2
comp=Z,27nm,1.2s
SOP **Sopron** 80.59 328 ⇑eP P 11 52 31.5 +2.2
319A **Douglas** 80.65 57 eP P 11 52 31.1 +1.1
comp=Z,33nm,0.9s
CONA **Conrad Observa** 80.68 328 epP P 11 52 31.1 +1.2
comp=Z,28nm,1.1s
CONA i pP pP 11 52 31.4 -1.9
SNR=21
MPEP **Malo Peshtene** 80.78 321 iP P 11 52 30.6 +0.2
GEC2 **GERESS Array S** 80.78 330 eP P 11 52 30.8 +0.3
GEC2 pmax pmax
comp=Z,21nm,1.0s
GEC2 **GERESS Array S** 80.78 330 eP P 11 52 30.8 +0.3
comp=Z,21nm,1.0s
GERES **GERESS Array B** 80.78 330 P P 11 52 30.6 +0.1
comp=Z,11nm,0.8s,baz=35,slow=4.9,SNR=43

GERES PKKPbc **PKKPbc** 12 11 08.6 +0.3
comp=Z,0.2nm,0.3s,baz=29,slow=3.0,SNR=4.2
GERES LR LR 12 31 12.7
comp=Z,6µm,20.5s,baz=32,slow=38
SCHQ Schefferville 80.78 18 P **P** 11 52 30.4 +0.2
comp=Z,10nm,0.9s,baz=339,slow=5.4,SNR=8.3
SCHQ Schefferville 80.78 18 *e*P **P** 11 52 30.7 +0.5
comp=Z,28nm,1.3s
GEA0 GERESS Array S 80.79 330 *e*P **P** 11 52 29.9 -0.6
M34A Aspy Farms, Fr 80.79 42 P **P** 11 52 29.6 -1.0
baz=318
COWI Conover 80.79 35 *e*P **P** 11 52 30.3 -0.2
comp=Z,24nm,1.3s
121A Cookes Peak, D 80.80 55 P **P** 11 52 31.5 +0.6
baz=313,SNR=12
L35A Bielow Farm, R 80.86 41 P **P** 11 52 30.1 -0.8
baz=318
MORH M*r*igy, Hung 80.89 325⇑*e*P **P** 11 52 32.1 +1.2
N33A J Bar K, Exete 80.91 43 P **P** 11 52 30.4 -0.7
baz=317
J37A Redenius Farm, 80.93 39 P **P** 11 52 30.8 -0.5
baz=319,SNR=6.4
H39A Augusta 80.94 37 P **P** 11 52 30.4 -0.9
baz=320
I38A Scanlan Farm, 80.95 38 P **P** 11 52 30.3 -1.0
baz=320,SNR=7.1
G40A Rib Lake 80.97 36 P **P** 11 52 30.6 -0.9
baz=321,SNR=18
GRFO Grafenberg 81.00 332 *e*P **P** 11 52 32.8 +1.3
GRFO pmax pmax
comp=Z,54nm,1.0s
GRFO Grafenberg 81.00 332 *e*P **P** 11 52 32.8 +1.3
comp=Z,54nm,1.0s
K36A Gilmore City 81.00 40 P **P** 11 52 31.1 -0.6
baz=319
E42A Champion 81.06 34 P **P** 11 52 31.0 -0.9
baz=322,SNR=11
F41A Three Lakes 81.09 35 P **P** 11 52 31.5 -0.6
baz=322,SNR=8.0
CBKS Cedar Bluff 81.09 46 P **P** 11 52 31.3 -0.9
baz=316
CBKS Cedar Bluff 81.09 46 *e*P **P** 11 52 32.8 +0.6
CBKS pmax pmax
comp=Z,20nm,0.9s
CBKS Cedar Bluff 81.09 46 *e*P **P** 11 52 32.8 +0.6
comp=Z,20nm,0.9s
PGB Panagyurishte 81.18 320 *i*P **P** 11 52 34.8 +2.2
KDZ Kurdzhali 81.23 319 *i*P **P** 11 52 34.8 +1.9
M35A Neola 81.26 42 P **P** 11 52 32.5 -0.5
baz=318
K37A Belmond 81.30 39 P **P** 11 52 32.5 -0.7
baz=319
L36A Harm Buss Farm 81.30 41 P **P** 11 52 32.5 -0.8
baz=319
N34A Lincoln 81.32 42 P **P** 11 52 32.2 -1.2
baz=318
O33A Hebron 81.32 44 P **P** 11 52 32.3 -1.1
baz=317
ARSA Arzberg 81.36 328 *e*pP **P** 11 52 34.1 +0.6
comp=Z,8.4nm,0.7s
ARSA *i*pP **P** 11 52 34.5 +1.0
SNR=12
MOA Molln 81.37 329 *i*pP **P** 11 52 34.6 +1.1
comp=Z,19nm,1.2s
MOA *i*pP **P** 11 52 34.7 +1.1
SNR=9.9
H40A Chili 81.39 36 P **P** 11 52 33.0 -0.6
baz=321,SNR=11
J38A Wedel Dairy, R 81.43 38 P **P** 11 52 33.3 -0.6
baz=320
G41A Antigo 81.47 35 P **P** 11 52 33.4 -0.7
baz=322
I39A Houston 81.47 38 P **P** 11 52 33.2 -0.9
baz=320,SNR=5.9
BEHE Becsehely 81.47 327 *e*P **P** 11 52 34.6 +0.5
E43A Lone Tree Farm 81.48 33 P **P** 11 52 33.6 -0.5
baz=323
F42A Maple Grove Fa 81.49 34 P **P** 11 52 33.4 -0.8
baz=322
RZN Rozhen 81.56 319 *i*P **P** 11 52 37.0 +2.2
VTS Vitosha 81.61 321⇑*i*P **P** 11 52 36.4 +1.4
VTS Vitosha 81.61 321 ⇑P **P** 11 52 36.4 +1.4
VTS Vitosha 81.61 321 *e*P **P** 11 52 35.6 +0.6
comp=Z,91nm,1.3s
VTS Vitosha 81.61 321 *i*P **P** 11 52 35.7 +0.6
RAYN Ar Rayn 81.67 294 *e*P **P** 11 52 35.9 +0.3
comp=Z,44nm,1.4s
O34A Beatrice 81.71 43 P **P** 11 52 34.4 -1.1
baz=318
M36A Felix, Anita 81.72 41 P **P** 11 52 34.6 -0.9
baz=319
H41A Junction City 81.73 36 P **P** 11 52 34.4 -1.1
baz=322,SNR=6.4
L37A Phoenix Point, 81.73 40 P **P** 11 52 34.6 -0.9
baz=319
E44A Grand Marais A 81.73 33 P **P** 11 52 34.7 -0.7
baz=324
N35A Tabor 81.74 42 P **P** 11 52 34.5 -1.1
baz=318,SNR=8.3
G42A Mountain 81.77 35 P **P** 11 52 34.0 -1.7
baz=322,SNR=6.9
J39A Decorah 81.78 38 P **P** 11 52 34.6 -1.1
baz=320,SNR=12
K38A Parkersburg 81.81 39 P **P** 11 52 35.1 -0.8
baz=320
F43A Flat Rock, Esc 81.84 34 P **P** 11 52 35.4 -0.6
baz=323,SNR=6.0
I40A Norwalk 81.86 37 P **P** 11 52 35.2 -0.9
baz=321
MMAI Mount Meron Ar 81.89 307 P **P** 11 52 38.3 +1.6
comp=Z,39nm,1.0s,baz=0.0,slow=2.8,SNR=8.2
MANT Manisa 81.93 315 *e*P **P** 11 52 38.3 +1.4
comp=Z,147nm,1.3s
BEBN Eben Emael 81.94 335 P **P** 11 52 37.1 +0.7
DIVS Divbare 81.95 323 *e*P **P** 11 52 37.2 +0.4
comp=Z,55nm,1.4s
MEM Membach 81.99 335 ⇓P **P** 11 52 37.4 +0.7
comp=Z,25nm,1.2s
SOKA Soboth 82.02 328 *i*P **P** 11 52 37.3 +0.2
SNR=31
SOKA *e*pP **P** 11 52 37.6 +0.5
comp=Z,28nm,0.8s
PERS Pernice 82.02 328 *e*P **P** 11 52 37.2 +0.2
F44A Big Bay de Noc 82.05 33 P **P** 11 52 36.6 -0.4
baz=323,SNR=9.6
O35A Humboldt 82.05 42 P **P** 11 52 36.2 -1.0
baz=318
I41A Arkdale 82.06 37 P **P** 11 52 36.5 -0.7
baz=321
G43A Wallace 82.08 35 P **P** 11 52 36.5 -0.7
baz=323,SNR=9.4
L38A Oak Wood Farm, 82.10 40 P **P** 11 52 36.3 -1.1
baz=320
P34A Walnut Farm, R 82.11 43 P **P** 11 52 36.2 -1.4
baz=318,SNR=9.5
MMB Musomiste 82.12 320 *i*P **P** 11 52 39.5 +1.9
N36A Muff Farm, Cla 82.12 42 P **P** 11 52 37.2 -0.3
baz=319
M37A Trindle Farm, 82.13 41 P **P** 11 52 37.4 -0.2
baz=319
SCIA State Center 82.16 40 P **P** 11 52 37.5 -0.3
baz=320
SCIA State Center 82.16 40 *e*P **P** 11 52 39.6 +1.8
comp=Z,68nm,1.3s
K39A Oelwein 82.18 39 P **P** 11 52 36.4 -1.4
baz=320,SNR=12
J40A Soldiers Grove 82.18 37 P **P** 11 52 37.0 -0.8
baz=321
KKB Krupnik 82.22 320 *i*P **P** 11 52 40.0 +1.9
NVR Nevrokopi 82.23 319 P **P** 11 52 38.7 +0.5
E45A Wooded Hills, 82.25 32 P **P** 11 52 37.9 -0.2
baz=324
H42A Shiocton 82.31 35 P **P** 11 52 38.1 -0.4
baz=322
OBKA Obir 82.35 328 *e*pP **P** 11 52 39.2 +0.4
comp=Z,15nm,0.7s
OBKA *i*pP **P** 11 52 39.3 +0.4
SNR=12
KBA Koelnbreinsper 82.36 329 *i*pP **P** 11 52 39.7 +0.8
comp=Z,35nm,0.8s
KBA *i*pP **P** 11 52 39.8 +0.8
SNR=37
BCLA Clavier 82.38 335 ⇑P **P** 11 52 39.0 +0.3
STU Stuttgart 82.49 332 *e*P **P** 11 52 38.6 -0.8
STU pmax pmax
comp=Z,33nm,0.8s
STU Stuttgart 82.49 332 *e*P **P** 11 52 38.6 -0.8
comp=Z,32nm,0.8s
Q34A Chapman 82.51 44 P **P** 11 52 38.8 -0.8
baz=318
M38A Pleasantville 82.54 40 P **P** 11 52 39.2 -0.6
baz=320,SNR=8.3
N37A Lee Faris, Mou 82.54 41 P **P** 11 52 39.2 -0.6
baz=319
K40A Colesburg 82.54 38 P **P** 11 52 38.4 -1.3
baz=321,SNR=14
P35A Duane Minner, 82.54 43 P **P** 11 52 39.3 -0.5
baz=318
J41A Loganville 82.54 37 P **P** 11 52 39.1 -0.6
baz=321,SNR=6.7
SRS Serrai 82.54 319 P **P** 11 52 40.1 +0.3
KSU1 Kansas State U 82.55 44 P **P** 11 52 39.3 -0.5
baz=318
KSU1 Kansas State U 82.55 44 *e*P **P** 11 52 39.8 0.0
comp=Z,16nm,1.0s
L39A Vinton 82.58 39 P **P** 11 52 39.5 -0.4
baz=320,SNR=23
MYKA Terra Mystica 82.62 329 *e*P **P** 11 52 40.2 +0.1
comp=Z,18nm,0.7s
MYKA *i*P **P** 11 52 40.4 +0.2
SNR=11
SNF Seneffe 82.62 336 ⇑P **P** 11 52 39.9 -0.1
I42A Draeger Farm, 82.62 36 P **P** 11 52 39.1 -1.1
baz=322,SNR=10
O36A Bolckow 82.63 42 P **P** 11 52 39.9 -0.3
baz=319
F45A CMU Biological 82.66 33 P **P** 11 52 40.0 -0.2
baz=324
H43A Windswept, Lux 82.67 35 P **P** 11 52 39.4 -1.0
baz=323,SNR=7.5
BLY Banja Luka 82.67 325 *e*P **P** 11 52 42.1 +1.7
comp=Z,112nm,1.9s
WLF Walferdange 82.76 334 *e*P **P** 11 52 41.7 +0.9
WLF pmax pmax
comp=Z,63nm,1.6s
WLF Walferdange 82.76 334 *e*P **P** 11 52 41.6 +0.9
comp=Z,63nm,1.6s
JFWS Jewell Farm 82.78 37 P **P** 11 52 40.1 -0.9
baz=321
JFWS Jewell Farm 82.78 37 *e*P **P** 11 52 41.5 +0.5
JFWS pmax pmax
comp=Z,20nm,1.0s
JFWS Jewell Farm 82.78 37 *e*P **P** 11 52 41.5 +0.5
comp=Z,20nm,1.0s
R34A Isabella, Hill 82.80 45 P **P** 11 52 40.6 -0.6
baz=318
AMTX Amarillo 82.82 50 P **P** 11 52 41.6 +0.1
baz=316
AMTX Amarillo 82.82 50 *e*P **P** 11 52 42.9 +1.5
comp=Z,25nm,1.0s
PLE Pljevlja 82.82 323⇓*i*P **P** 11 52 41.7 +0.4
WATA Walderalm 82.83 330 *e*pP **P** 11 52 41.9 +0.6
comp=Z,10nm,0.6s
MSTX Muleshoe 82.83 51 P **P** 11 52 41.1 -0.4
baz=315,SNR=8.5
MSTX Muleshoe 82.83 51 *e*P **P** 11 52 42.6 +1.0
comp=Z,18nm,1.1s
KNT Kendrikon 82.85 320 P **P** 11 52 42.0 +0.6
MNTX Cornudas Mount 82.86 54 P **P** 11 52 42.0 +0.4
baz=314,SNR=15
MNTX Cornudas Mount 82.86 54 *e*P **P** 11 52 42.2 +0.6
comp=Z,8.3nm,1.0s
WTTA Wattenberg 82.87 330 *e*pP **P** 11 52 42.0 +0.4
comp=Z,9.8nm,0.6s
WTTA *i*pP **P** 11 52 42.6 +1.0
SNR=10
SOH Sokhos 82.88 319 P **P** 11 52 41.4 -0.2
BOJS Bojanci 82.88 327 *i*P **P** 11 52 42.1 +0.7
VAY Valandovo 82.89 320 *i*P **P** 11 52 42.3 +0.8
DOU Dourbes 82.89 336 ⇑P **P** 11 52 41.4 +0.1
P36A Good Intent, A 82.89 42 P **P** 11 52 41.0 -0.6
baz=319,SNR=5.8
F46A Macinaw City C 82.89 33 P **P** 11 52 40.7 -0.8
baz=324
SKO Skopje 82.93 321 *i*P **P** 11 52 43.3 +1.5
IVA Berane 82.95 323⇓*i*P **P** 11 52 42.1 +0.1
ABTA Abfaltersbach 82.96 329 *e*P **P** 11 52 41.6 -0.4
comp=Z,16nm,1.0s
ABTA *i*pP **P** 11 52 42.8 +0.8
SNR=10
DSB Dublin 82.96 343 *e*P **P** 11 52 42.5 +0.8
comp=Z,48nm,1.0s
I43A Langenfeld Bro 82.97 36 P **P** 11 52 41.4 -0.5
baz=322
J42A Columbus 82.98 37 P **P** 11 52 41.3 -0.7
baz=322,SNR=6.7
M39A Webster 82.99 39 P **P** 11 52 41.5 -0.6
baz=320,SNR=14
L40A Anamosa 82.99 39 P **P** 11 52 41.1 -1.0
baz=321,SNR=8.0
N38A Joes South For 82.99 41 P **P** 11 52 41.3 -0.8
baz=320
K41A Shullsburg 83.00 38 P **P** 11 52 41.5 -0.6
baz=321,SNR=5.1
MOTA Moosalm 83.00 330 *e*pP **P** 11 52 42.7 +0.5
comp=Z,28nm,0.7s
MOTA *i*pP **P** 11 52 43.4 +1.1
SNR=25
RETA Reutte 83.01 331 *e*pP **P** 11 52 42.9 +0.7
comp=Z,28nm,0.8s
RETA *i*pP **P** 11 52 43.1 +1.0
SNR=20
O37A Wolven Farm, M 83.02 41 P **P** 11 52 41.9 -0.3
baz=319
JAVS Javornik 83.05 328 *i*P **P** 11 52 42.3 -0.2
PVY Plav 83.14 322⇓*i*P **P** 11 52 42.8 -0.2
KOME Kolasin 83.14 323 *e*P **P** 11 52 43.2 +0.2
BFO Black Forest 83.17 333 *i*P **P** 11 52 43.8 +0.8
BFO Black Forest 83.17 333 *e*P **P** 11 52 43.5 +0.5
comp=Z,67nm,1.5s
PLG Polygyros 83.18 319 P **P** 11 52 42.9 -0.2
GRG Griva 83.25 320 P **P** 11 52 43.8 +0.3
J43A Natural Harves 83.25 36 P **P** 11 52 42.8 -0.6
baz=322,SNR=6.4
K42A Prairie Point, 83.30 37 P **P** 11 52 42.7 -0.9
baz=322,SNR=6.9
PMOR Pomariorio Ree 83.32 116 *e*T T 13 24 26.3
comp=Z,7.5nm,0.2s
L41A Preston 83.32 38 P **P** 11 52 42.9 -0.9
baz=321,SNR=6.6
TRI Trieste 83.32 328 *e*P **P** 11 52 42.7 -1.0
TRI pmax pmax
comp=Z,46nm,1.2s
TRI Trieste 83.32 328 *e*P **P** 11 52 42.7 -1.0
comp=Z,46nm,1.2s
R35A Emporia Munici 83.34 44 P **P** 11 52 43.6 -0.4
baz=318,SNR=7.1
P37A Lathrop 83.35 42 P **P** 11 52 43.4 -0.6
baz=319,SNR=5.9
M40A Post Highland 83.36 39 P **P** 11 52 43.4 -0.6
baz=321,SNR=8.7
O38A Galt 83.39 41 P **P** 11 52 43.6 -0.6
baz=320
FETA Feichten 83.41 330 *e*pP **P** 11 52 44.9 +0.5
comp=Z,12nm,0.8s
FETA *i*pP **P** 11 52 45.2 +0.9
SNR=13
NKME Niksic 83.46 323 *e*P **P** 11 52 44.2 -0.4
KRUS Krusevo 83.48 321 *i*P **P** 11 52 45.3 +0.5
DAVA Damuels 83.50 331 *e*pP **P** 11 52 45.3 +0.5
comp=Z,19nm,0.7s
DAVA *i*pP **P** 11 52 45.5 +0.7
SNR=12
PDG Podgorica 83.59 323⇑*i*P **P** 11 52 45.7 +0.6
TTG Podgorica 83.59 323⇓*i*P **P** 11 52 45.2 +0.1
TTG Podgorica 83.59 323 *e*P **P** 11 52 45.0 -0.1
TTG pmax pmax
comp=Z,134nm,1.3s
TTG Podgorica 83.59 323 *e*P **P** 11 52 45.0 -0.1
comp=Z,134nm,1.3s
CEME Cevo 83.65 323⇓*i*P **P** 11 52 46.1 +0.5
ECH Echery 83.68 333 *e*P **P** 11 52 45.7 +0.1
ECH pmax pmax
comp=Z,22nm,1.0s
ECH Echery 83.68 333 *e*P **P** 11 52 45.7 +0.1
comp=Z,22nm,1.0s
BIA Bitola 83.72 321 *i*P **P** 11 52 47.3 +1.4
GLMI Grayling 83.72 33 P **P** 11 52 44.2 -1.7
baz=325
GLMI Grayling 83.72 33 *e*P **P** 11 52 47.2 +1.4
comp=Z,63nm,1.0s
N40A Mertquake, Sal 83.73 40 P **P** 11 52 45.6 -0.3
baz=321,SNR=5.6
P38A Dawn 83.73 41 P **P** 11 52 45.1 -0.9
baz=320,SNR=11
O39A Kirksville 83.74 40 P **P** 11 52 45.4 -0.6
baz=320
L42A Oliver, Polo 83.76 38 P **P** 11 52 45.2 -0.8
baz=322
DRME Dracevica, Mon 83.81 323⇓*i*P **P** 11 52 46.1 -0.2
K43A Burlington 83.82 36 P **P** 11 52 45.6 -0.7
baz=322
Q37A Longview Farm, 83.83 43 P **P** 11 52 45.8 -0.7
baz=319
M41A Milan 83.84 39 P **P** 11 52 45.8 -0.7
baz=321
BUM Brajici-Budva 83.86 323⇓*i*P **P** 11 52 46.2 -0.4
LIT Litokhoron 83.86 319 P **P** 11 52 46.6 0.0
LIT Litokhoron 83.86 319 P **P** 11 52 46.6 0.0
FNA Florina 83.88 320 P **P** 11 52 46.6 -0.1
OHR Ohrid 83.90 321 *i*P **P** 11 52 45.9 -0.9
FUORN Ofenpass-Fuorn 83.92 330 *e*P **P** 11 52 48.0 +0.9
comp=Z,181nm,1.5s
HCY Herceg Novi 83.92 323⇓*i*P **P** 11 52 47.1 +0.2
ULC Ulcinj 83.96 322⇓*i*P **P** 11 52 46.9 -0.2
PPT2 Papeete2 84.03 119 *e*LR LR 12 19 13.8
comp=Z,2µm,22.2s
L43A Garden Prairie 84.05 37 P **P** 11 52 46.7 -0.8
baz=322
URZ Urewera 84.14 155 P **P** 11 52 46.8 -0.8
comp=Z,13nm,1.0s,baz=64,slow=4.0,SNR=4.4
M42A Sheffield 84.15 38 P **P** 11 52 47.2 -0.8
baz=322
TIR Tirane 84.16 322 *e*P **P** 11 52 49.2 +1.1
TIR pmax pmax
comp=Z,75nm,1.0s
TIR Tirane 84.16 322 *e*P **P** 11 52 49.2 +1.1
comp=Z,75nm,1.0s
O40A La Belle 84.17 40 P **P** 11 52 47.6 -0.6
baz=321,SNR=10
Q38A Cooks Store, C 84.19 42 P **P** 11 52 47.4 -0.9
baz=320,SNR=9.2
N41A Harden Midland 84.21 39 P **P** 11 52 47.7 -0.7
baz=321
P39B Salisbury 84.23 41 P **P** 11 52 47.3 -1.2
baz=320,SNR=7.1
NEST Nestorio 84.32 320 P **P** 11 52 49.1 0.0
NEST Nestorio 84.32 320 P **P** 11 52 49.1 0.0
TUE Stuetta 84.39 331 *e*P **P** 11 52 49.5 0.0
comp=Z,85nm,1.5s
L44A Lake County Fo 84.43 37 P **P** 11 52 48.9 -0.5
baz=323
PENT Pentalofos 84.44 320 P **P** 11 52 49.0 -0.7
PENT Pentalofos 84.44 320 P **P** 11 52 49.0 -0.7
Q39A Willow Grove F 84.45 42 P **P** 11 52 48.3 -1.3
baz=320,SNR=7.6
EIL Elat 84.49 305 P P 11 52 59.5 +10
comp=Z,37nm,1.1s,baz=33,slow=3.8,SNR=14
N42A Yates City 84.51 39 P **P** 11 52 49.2 -0.7
baz=322
TAOE Nuku Hiva Isla 84.53 107 *e*LR LR 12 19 28.6
comp=Z,2µm,23.3s
M43A Waltham Townsh 84.54 38 P **P** 11 52 49.6 -0.4
baz=322
P40A Paris 84.54 41 P **P** 11 52 49.4 -0.7
baz=320,SNR=11
WMOK Wichita Mounta 84.58 48 P **P** 11 52 50.0 -0.4
baz=317,SNR=16
WMOK Wichita Mounta 84.58 48 *e*P **P** 11 52 50.1 -0.3
WMOK pmax pmax
comp=Z,16nm,1.1s
WMOK Wichita Mounta 84.58 48 *e*P **P** 11 52 50.0 -0.3
comp=Z,16nm,1.1s
R38A Fenwick Farm, 84.63 43 P **P** 11 52 49.6 -1.0
baz=320,SNR=8.1
O41A Passleys Farm, 84.66 40 P **P** 11 52 49.7 -0.9
baz=321,SNR=10
LKR Lokris 84.71 318 P **P** 11 52 49.6 -1.3
N43A Stutzman Famil 84.83 38 P **P** 11 52 51.1 -0.4
baz=322
P41A Barry, Barry 84.92 40 P **P** 11 52 51.2 -0.7
baz=321,SNR=9.0
Q40A Laux Farm, Aux 84.94 41 P **P** 11 52 51.9 -0.2
baz=320
R39A Chumby, Stover 84.98 42 P **P** 11 52 51.6 -0.7
baz=320,SNR=6.1
O42A Bath 84.98 39 P **P** 11 52 51.8 -0.5
baz=322
M44A Midewin, Midew 85.00 37 P **P** 11 52 51.8 -0.5
baz=323
JAN Janina 85.00 320 P **P** 11 52 53.7 +1.3
S38A Stockton 85.06 43 P **P** 11 52 51.6 -1.1
baz=320,SNR=5.8
HDIL Hopedale 85.07 38 P **P** 11 52 52.3 -0.4
baz=322
HDIL Hopedale 85.07 38 *e*P **P** 11 52 53.9 +1.2
comp=Z,37nm,1.0s
SENIN Lac Senin/Sane 85.22 332 *e*P **P** 11 52 54.1 +0.4
comp=Z,31nm,0.9s
O43A Sugar Creek Fa 85.28 39 P **P** 11 52 53.1 -0.6
baz=322
DSL Palalon Diasel 85.29 320 P **P** 11 52 53.5 -0.4
T38A Diamond 85.31 44 P **P** 11 52 53.3 -0.7
baz=319,SNR=31
S39A Bolivar 85.31 43 P **P** 11 52 53.1 -0.9
baz=320,SNR=18
P42A Winchester 85.33 40 P **P** 11 52 53.4 -0.6
baz=322,SNR=6.4
SGD Sagiada 85.33 320 P **P** 11 52 53.6 -0.4
TUL1 Leonard 85.36 45 P **P** 11 52 54.0 -0.2
baz=319
TUL1 Leonard 85.36 45 *e*P **P** 11 52 55.2 +0.9
comp=Z,28nm,1.1s
M45A Boilermakers S 85.36 37 P **P** 11 52 53.7 -0.4
baz=323
R40A Maddies Statio 85.39 42 P **P** 11 52 53.2 -1.1
baz=320,SNR=8.1
Q41A Truxton 85.39 41 P **P** 11 52 53.5 -0.8
baz=321
N44A Piper City 85.42 38 P **P** 11 52 53.9 -0.5
baz=323
TX31 Lajitas Ar. Si 85.56 55 *e*P **P** 11 52 55.5 0.0
TXAR Lajitas Array 85.56 55 P **P** 11 52 55.5 0.0
comp=Z,19nm,0.9s,baz=296,slow=2.5,SNR=99
TXAR PKKPbc **PKKPbc** 12 10 57.8 +0.9
comp=Z,0.9nm,1.0s,baz=150,slow=3.8,SNR=5.1
GUR Goura 85.59 318 P **P** 11 52 55.0 -0.5
ABTX Abilene, Hawle 85.62 50 P **P** 11 52 55.7 +0.1
baz=317,SNR=8.3
ABTX Abilene, Hawle 85.62 50 *e*P **P** 11 52 56.3 +0.6
comp=Z,45nm,1.2s
PDO Prodromos 85.66 319 P **P** 11 52 54.7 -1.0
N45A Kentland 85.67 37 P **P** 11 52 55.3 -0.4
baz=323
P43A Skaggs, Pawnee 85.69 39 P **P** 11 52 55.2 -0.6
baz=322
M46A Old House Fiel 85.74 36 P **P** 11 52 55.4 -0.7
baz=324
Q42A Golden Eagle 85.77 40 P **P** 11 52 55.9 -0.3
baz=321
LKD2 Lefkada island 85.77 320 P **P** 11 52 56.4 +0.1
O44A Mansfield 85.78 38 P **P** 11 52 55.4 -0.8
baz=323
T39A Clever 85.79 43 P **P** 11 52 55.8 -0.6
baz=320
S40A Lebanon 85.80 42 P **P** 11 52 55.5 -0.9
baz=320,SNR=9.5
R41A Rosebud 85.83 41 P **P** 11 52 56.1 -0.4
baz=321,SNR=8.2
RLS Riolos of Patr 85.94 319 P **P** 11 52 57.2 +0.1
VLC Villacollemand 85.94 329 *e*P **P** 11 52 57.9 +0.8
comp=Z,53nm,1.1s
N46A Monticello 85.98 37 P **P** 11 52 56.6 -0.7
baz=324
HPIG 85.99 58 *e*P **P** 11 52 57.8 0.0
comp=Z,34nm,1.1s
O45A Potomac 86.05 38 P **P** 11 52 56.9 -0.6
baz=323
HHAR Hobbs 86.06 44 *e*P **P** 11 52 57.6 -0.2
comp=Z,22nm,1.1s
CCM Cathedral Cave 86.08 41 P **P** 11 52 57.3 -0.4
baz=321
CCM Cathedral Cave 86.08 41 *e*P **P** 11 52 57.4 -0.4
CCM pmax pmax
comp=Z,33nm,1.0s
CCM Cathedral Cave 86.08 41 *e*P **P** 11 52 57.4 -0.4
comp=Z,33nm,1.0s
R42A Luebbering 86.13 41 P **P** 11 52 57.7 -0.3
baz=321
T40A Mansfield 86.14 42 P **P** 11 52 57.4 -0.7
baz=320,SNR=12

Q43A	New Douglas baz=322	86.15	40	P		P	11 52 57.9	-0.2
MATE	Matera	86.17	323	‖ *i*P		P	11 52 57.8	-0.3
BANO	Bancroft baz=329,SNR=6.2	86.17	29	P		P	11 52 57.5	-0.6
S41A	Jillco Farms, baz=321,SNR=7.8	86.19	42	P		P	11 52 57.9	-0.5
U39A	Green Forest baz=320,SNR=30	86.22	44	P		P	11 52 57.7	-0.9
SFIN	Lafayette baz=323	86.23	37	P		P	11 52 57.5	-1.0
SFIN	Lafayette comp=Z,18nm,1.0s	86.23	37	*e*P		P	11 52 59.1	+0.7
P44A	Sand Creek, Wi baz=322	86.25	39	P		P	11 52 58.3	-0.3
TRQ	Mont Tremblant	86.31	26	*e*P		P	11 52 59.8	+1.0
ITM	Ithomi	86.38	318	P		P	11 52 58.1	-1.2
ELFO	Elginfield baz=327,SNR=7.2	86.41	32	P		P	11 52 57.7	-1.6
PLVO	Plevna baz=330,SNR=6.1	86.46	28	P		P	11 52 58.1	-1.4
PLVO	Plevna comp=Z,27nm,1.1s	86.46	28	*e*P		P	11 52 59.8	+0.2
Q44A	Meyer Farm, Va baz=322	86.51	39	P		P	11 52 59.3	-0.5
S42A	Caledonia baz=321,SNR=14	86.53	41	P		P	11 52 59.6	-0.4
FVM	French Village	86.54	41	*e*P		P	11 53 01.6	+1.5
FVM	comp=Z,30nm,1.3s			pmax	pmax			
FVM	French Village comp=Z,30nm,1.3s	86.54	41	*e*P		P	11 53 01.6	+1.5
V39A	Pettigrew baz=320,SNR=14	86.55	44	P		P	11 52 59.7	-0.5
R43A	Red Bud baz=322	86.56	40	P		P	11 52 59.4	-0.7
BNI	Bardonecchia	86.57	332	*e*P		P	11 53 00.8	+0.5
BNI	comp=Z,43nm,1.1s			pmax	pmax			
BNI	Bardonecchia comp=Z,43nm,1.1s	86.57	332	*e*P		P	11 53 00.8	+0.5
U40A	Yellville baz=320,SNR=29	86.57	43	P		P	11 52 59.5	-0.8
T41A	Mountain View baz=321,SNR=11	86.60	42	P		P	11 52 59.9	-0.5
P45A	Graceland, Par baz=323	86.61	38	P		P	11 52 59.8	-0.5
ALFO	Alfred baz=331,SNR=7.8	86.72	27	P		P	11 53 00.2	-0.6
O47A	Sheridan baz=324	86.77	37	P		P	11 53 00.5	-0.7
P46A	Rosedale baz=323,SNR=7.3	86.79	38	P		P	11 53 01.1	-0.1
Q45A	Warren Harvey, baz=323	86.92	39	P		P	11 53 00.8	-1.1
T42A	Van Buren baz=321,SNR=11	86.95	42	P		P	11 53 01.3	-0.8
W39A	Magazine baz=320,SNR=6.5	86.97	45	P		P	11 53 01.3	-0.9
R44A	Waltonville baz=322	86.99	40	P		P	11 53 01.5	-0.7
V40A	Witts Springs baz=320,SNR=5.7	87.01	44	P		P	11 53 01.3	-1.2
S43A	Fulton Ridge, baz=322,SNR=8.0	87.04	41	P		P	11 53 01.5	-1.0
U41A	Viola baz=321,SNR=9.5	87.06	43	P		P	11 53 01.9	-0.7
JCT	Junction City baz=317	87.08	51	P		P	11 53 02.6	-0.3
JCT	Junction City	87.08	51	*e*P		P	11 53 04.3	+1.4
JCT	comp=Z,31nm,1.4s			pmax	pmax			
JCT	Junction City comp=Z,31nm,1.4s	87.08	51	*e*P		P	11 53 04.2	+1.4
SSB	Saint Sauveur	87.12	333	*e*P		P	11 53 02.5	-0.3
SSB	comp=Z,43nm,1.2s			pmax	pmax			
SSB	Saint Sauveur comp=Z,43nm,1.2s	87.12	333	*e*P		P	11 53 02.5	-0.3
Q46A	CEJHS Indians, baz=323	87.20	38	P		P	11 53 02.9	-0.3
X39A	Fountain Ranch baz=320,SNR=13	87.31	45	P		P	11 53 03.9	0.0
T43A	Greenville baz=322,SNR=11	87.31	41	P		P	11 53 03.1	-0.7
TIP	Timpagrande	87.32	322	‖ *i*P		P	11 53 04.1	+0.2
TIP	Timpagrande comp=Z,63nm,1.6s	87.32	322	*e*P		P	11 53 04.2	+0.3
P47A	Martinsville baz=324	87.33	37	P		P	11 53 03.5	-0.4
R45A	Skylar, Fairfi baz=323	87.34	39	P		P	11 53 03.6	-0.3
WHTX	Lake Whitney, baz=318	87.34	49	P		P	11 53 03.7	-0.4
WHTX	Lake Whitney, comp=Z,35nm,1.1s	87.34	49	*e*P		P	11 53 05.9	+1.8
S44A	Carbondale baz=322	87.34	40	P		P	11 53 03.8	-0.2
SIUC	Southern Illin comp=Z,45nm,1.0s	87.34	40	*e*P		P	11 53 04.8	+0.9
W40A	Ferguson Farm, baz=320,SNR=8.7	87.35	44	P		P	11 53 03.5	-0.5
W40A	Ferguson Farm, comp=Z,34nm,1.0s	87.35	44	*e*P		P	11 53 04.7	+0.6
V41A	Mountainview baz=321,SNR=12	87.37	43	P		P	11 53 03.4	-0.8
OXZ	Oxford comp=Z,41nm,1.0s	87.38	161	*e*P		P	11 53 05.8	+2.1
U42A	Revenden baz=321	87.40	42	P		P	11 53 03.8	-0.5
PBMO	Poplar Bluff comp=Z,43nm,1.1s	87.48	41	*e*P		P	11 53 04.4	-0.2
MIAR	Mount Ida baz=320,SNR=17	87.57	45	P		P	11 53 04.6	-0.5
MIAR	Mount Ida	87.57	45	*e*P		P	11 53 05.5	+0.4
MIAR	Mount Ida	87.57	45	*e*P		P	11 53 05.5	+0.4
T44A	Benton baz=322	87.66	41	P		P	11 53 05.2	-0.3
X301	Greenbrier Sit comp=Z,37nm,1.4s	87.66	44	*e*P		P	11 53 05.4	-0.1
WHAR	Wooly Hollow comp=Z,34nm,1.0s	87.68	44	*e*P		P	11 53 05.6	0.0
S45A	Carrier Mills baz=323,SNR=5.7	87.69	40	P		P	11 53 05.3	-0.3
Q47A	Bedord North L baz=324	87.70	38	P		P	11 53 05.4	-0.2
V42A	Cord baz=321,SNR=7.0	87.75	43	P		P	11 53 05.3	-0.7
R46A	Gibon Southern baz=323	87.77	39	P		P	11 53 05.9	-0.1
W41B	Gary Mavity, V baz=321,SNR=14	87.79	44	P		P	11 53 06.0	-0.1
U43A	Rector baz=322	87.81	42	P		P	11 53 05.5	-0.7
ERPA	Erie baz=328	87.85	32	P		P	11 53 05.9	-0.5
ERPA	Erie comp=Z,51nm,1.1s	87.85	32	*e*P		P	11 53 08.2	+1.9
X40A	Basin Creek Fa baz=320,SNR=5.4	88.01	44	P		P	11 53 06.9	-0.3
U44A	Portageville baz=322	88.07	41	P		P	11 53 07.3	-0.2
W42A	Bald Knob baz=321	88.09	43	P		P	11 53 07.1	-0.5
S46A	Don Dixon Farm baz=323	88.09	39	P		P	11 53 06.5	-1.1
MMNY	Mt. Morris Dam comp=Z,61nm,1.5s	88.14	30	*e*P		P	11 53 09.1	+1.4
Y40A	Okolona baz=320	88.14	45	P		P	11 53 07.4	-0.4
435B	Jarrell baz=318	88.16	50	P		P	11 53 07.8	-0.3
R47A	Wooly Knot Far baz=324	88.17	38	P		P	11 53 07.8	-0.1
T45A	Paducah baz=323	88.17	40	P		P	11 53 07.9	-0.1
X41A	Kaden, Bauxite baz=320	88.17	44	P		P	11 53 07.8	-0.2
ACSO	Alum Creek Sta baz=326	88.18	35	P		P	11 53 07.6	-0.3
ACSO	Alum Creek Sta comp=Z,34nm,1.0s	88.18	35	*e*P		P	11 53 09.2	+1.3
ALLY	Alegheny Colle comp=Z,77nm,1.3s	88.18	32	*e*P		P	11 53 09.0	+1.1
V43A	Jonesboro baz=322	88.20	42	P		P	11 53 07.8	-0.3
TBI	Tubuai comp=Z,2µm,23.5s	88.25	123	*e*LR		LR	12 21 10.7	
WCI	Wyandotte Cave baz=324	88.33	38	P		P	11 53 08.6	0.0
WCI	Wyandotte Cave	88.33	38	*e*P		P	11 53 10.0	+1.3
WCI	comp=Z,57nm,1.0s			pmax	pmax			
WCI	Wyandotte Cave comp=Z,57nm,1.0s	88.33	38	*e*P		P	11 53 10.0	+1.3
U44B	Burton Farm, H baz=322	88.36	41	P		P	11 53 08.8	-0.1
R48A	Northridge Ran baz=324	88.39	38	P		P	11 53 08.8	-0.2
NCB	Newcomb comp=Z,36nm,1.5s	88.40	27	*e*P		P	11 53 09.8	+0.9
WLAR	White Oak Lake comp=Z,67nm,1.4s	88.47	45	*e*P		P	11 53 11.6	+2.2
V44A	Blytheville baz=322	88.49	42	P		P	11 53 09.5	0.0
M54A	Oil Creek Stat baz=328,SNR=8.1	88.49	32	P		P	11 53 08.9	-0.5
M54A	Oil Creek Stat comp=Z,58nm,1.2s	88.49	32	*e*P		P	11 53 09.3	-0.1
T46A	Princeton baz=323,SNR=9.7	88.52	40	P		P	11 53 09.7	+0.1
VT1	Waterbury comp=Z,32nm,1.2s	88.58	26	*e*P		P	11 53 11.6	+1.9
Y41A	Eaglette Beard baz=320	88.59	45	P		P	11 53 10.0	0.0
X42A	Stutgart baz=321	88.60	44	P		P	11 53 09.6	-0.3
U45A	Rockin P Farm, baz=322	88.65	41	P		P	11 53 10.1	-0.1
Z40A	Long Farm, Mag baz=320	88.65	46	P		P	11 53 10.1	-0.1
N54A	Moraine State baz=328,SNR=5.8	88.82	32	P		P	11 53 10.7	-0.3
PKME	Peaks-Kenny Pk baz=335	88.84	23	P		P	11 53 09.6	-1.3
833A	Chaparral WMA, baz=317	88.89	53	P		P	11 53 11.6	+0.1
S48A	Wiedeman Farm, baz=324,SNR=6.0	88.90	38	P		P	11 53 11.0	-0.4
U46A	Springville baz=323	88.93	40	P		P	11 53 11.1	-0.4
LBNH	Lisbon baz=333	88.93	26	P		P	11 53 10.7	-0.7
T47A	Sharon Grove baz=324,SNR=6.9	88.94	39	P		P	11 53 11.7	+0.1
Z41A	Richland Creek baz=320	88.97	45	P		P	11 53 11.6	-0.1
X43A	Marvell baz=321	89.01	43	P		P	11 53 11.8	-0.1
140A	Cam and Jess, baz=320	89.02	46	P		P	11 53 12.2	+0.2
V45A	Humboldt baz=322	89.03	41	P		P	11 53 12.2	+0.2
Y42A	Garnett, Star baz=321	89.06	44	P		P	11 53 12.1	-0.1
NATX	Nacogdoches baz=319	89.09	47	P		P	11 53 12.2	-0.2
ACCN	Adirondack Com comp=Z,31nm,1.3s	89.11	27	*e*P		P	11 53 13.0	+0.8
T48A	Bowling Green baz=324	89.18	39	P		P	11 53 12.4	-0.4
WVT	Waverly baz=323	89.28	40	P		P	11 53 12.8	-0.3
WVT	Waverly	89.28	40	*e*P		P	11 53 14.0	+0.8
WVT	comp=Z,15nm,1.0s			pmax	pmax			
WVT	Waverly comp=Z,15nm,1.0s	89.28	40	*e*P		P	11 53 14.0	+0.8
U47A	Clarksville baz=323	89.29	40	P		P	11 53 13.0	-0.2
BINY	Binghamton baz=330,SNR=6.2	89.31	29	P		P	11 53 12.4	-0.9
BINY	Binghamton comp=Z,54nm,1.3s	89.31	29	*e*P		P	11 53 13.9	+0.7
W45A	Hickory Valley baz=322	89.38	42	P		P	11 53 13.3	-0.3
240A	Hunter Patters baz=320	89.38	47	P		P	11 53 13.9	+0.2
V46A	Holladay baz=323	89.40	41	P		P	11 53 13.4	-0.3
X44A	Crenshaw baz=322	89.40	43	P		P	11 53 13.3	-0.5
Z42A	Norrel Spur, H baz=321	89.41	45	P		P	11 53 13.6	-0.2
Y43A	Makayla and Ka baz=321	89.46	44	P		P	11 53 13.7	-0.4
U48A	Cassie Pea, Po baz=324	89.60	39	P		P	11 53 14.6	0.0
V47A	Nunnelly baz=323,SNR=7.2	89.67	40	P		P	11 53 14.6	-0.4
TRY	Troy comp=Z,39nm,1.2s	89.68	27	*e*P		P	11 53 16.8	+1.9
OXF	Oxford baz=322,SNR=8.5	89.77	42	P		P	11 53 14.5	-1.0
OXF	Oxford	89.77	42	*e*P		P	11 53 15.8	+0.3
OXF	comp=Z,53nm,1.1s			pmax	pmax			
OXF	Oxford comp=Z,53nm,1.1s	89.77	42	*e*P		P	11 53 15.8	+0.3
Y44A	Strider, Charl baz=322	89.79	43	P		P	11 53 15.3	-0.3
W46A	Michie baz=323	89.80	41	P		P	11 53 15.1	-0.5
Z43A	Armstrong Fami baz=321	89.84	44	P		P	11 53 15.8	0.0
X45A	UM Field Stati baz=322	89.85	42	P		P	11 53 15.6	-0.3
241A	Mo Tay, Goldon baz=320	89.85	46	P		P	11 53 16.3	+0.4
SSPA	Standing Stone baz=329	89.94	31	P		P	11 53 15.7	-0.5
SSPA	Standing Stone comp=Z,41nm,1.1s	89.94	31	*e*P		P	11 53 17.2	+1.0
142A	Monroe baz=321	89.97	45	P		P	11 53 16.1	-0.3
MCWV	Mont Chateau baz=328	89.98	33	P		P	11 53 16.7	+0.3
MCWV	Mont Chateau comp=Z,67nm,1.4s	89.98	33	*e*P		P	11 53 18.2	+1.8
O56A	Blue Knob Stat baz=329,SNR=5.8	89.98	32	P		P	11 53 16.0	-0.4
O56A	Blue Knob Stat comp=Z,29nm,1.1s	89.98	32	*e*P		P	11 53 16.9	+0.4
PLAL	Pickwick Lake comp=Z,27nm,1.4s	90.07	41	*e*P		P	11 53 18.1	+1.2
V48A	Smith Brothers baz=324	90.08	40	P		P	11 53 16.6	-0.4
W47A	Westpoint baz=323	90.09	41	P		P	11 53 16.8	-0.2
143A	Socs Landing, baz=321	90.14	45	P		P	11 53 17.2	0.0
X46A	Booneville baz=323	90.15	42	P		P	11 53 16.7	-0.6
Y45A	Yeager Farm, C baz=322,SNR=5.9	90.21	43	P		P	11 53 17.5	-0.1
Z44A	Ridge, Bel baz=322	90.21	44	P		P	11 53 17.7	+0.2
341A	Kurthwood baz=320	90.24	47	P		P	11 53 17.5	-0.2
VSL	Villasalto comp=Z,15nm,1.1s	90.28	327	*e*P		P	11 53 18.0	+0.1
N59A	State Game Lan baz=330,SNR=8.1	90.51	30	P		P	11 53 19.0	+0.1
N59A	State Game Lan comp=Z,44nm,1.1s	90.51	30	*e*P		P	11 53 20.0	+1.1
W48A	Pulaski baz=324,SNR=14	90.51	40	P		P	11 53 18.2	-0.8
Z45A	Winona baz=322	90.52	43	P		P	11 53 18.5	-0.5
Y46A	Houston baz=322,SNR=8.0	90.55	42	P		P	11 53 18.2	-0.9
X47A	Russelville baz=323	90.55	41	P		P	11 53 18.0	-1.2
HRV	Adam Dziewonsk baz=333	90.60	26	P		P	11 53 18.5	-0.7
342A	Flagon Creek P baz=321	90.67	46	P		P	11 53 19.5	-0.2
441A	DeRidder baz=320	90.67	47	P		P	11 53 20.1	+0.3
144A	Alexander Plac baz=322	90.72	44	P		P	11 53 19.7	-0.3
243A	Waterproof baz=321	90.74	45	P		P	11 53 19.9	-0.1
ZAIG	Zacatecas comp=Z,12nm,1.0s	90.91	59	*e*P		P	11 53 22.5	+1.1
TZTN	Tazewell baz=326	90.97	37	P		P	11 53 21.0	-0.1
TZTN	Tazewell comp=Z,24nm,1.3s	90.97	37	*e*P		P	11 53 21.4	+0.3
VBMS	Vicksburg baz=322	90.99	44	P		P	11 53 21.5	+0.3
145A	Houston Renfro baz=322	91.00	44	P		P	11 53 21.4	+0.2
X48A	Hartselle baz=324	91.00	41	P		P	11 53 20.4	-0.9
244A	Avery, Jackson baz=321	91.04	45	P		P	11 53 21.4	0.0
Y47A	UCPARC, Winfie baz=323	91.04	42	P		P	11 53 21.0	-0.4
Z46A	Louisville baz=322	91.05	43	P		P	11 53 21.2	-0.3
PAL	Palisades baz=322	91.11	28	P		P	11 53 20.8	-0.8
BRNJ	Basking Ridge comp=Z,50nm,1.3s	91.16	29	*e*P		P	11 53 23.6	+1.8
X49A	Woodville baz=324,SNR=5.1	91.31	40	P		P	11 53 21.9	-0.8
LNIG	Linares comp=Z,17nm,1.3s	91.34	55	*e*P		P	11 53 22.6	-0.4
Y48A	Jasper baz=323	91.37	41	P		P	11 53 22.2	-0.8
146A	Union baz=322	91.43	43	P		P	11 53 22.9	-0.3
443A	Delano Plantat baz=321	91.44	46	P		P	11 53 23.1	-0.2
245A	Little AP, Sta baz=322	91.46	44	P		P	11 53 23.6	+0.1
Z47A	Carrollton baz=323	91.49	42	P		P	11 53 22.9	-0.6
542A	Morse baz=320	91.51	47	P		P	11 53 23.9	+0.2
TKL	Tuckaleechee C comp=Z,13nm,1.0s,baz=295,slow=2.2,SNR=10	91.59	38	P		P	11 53 24.2	+0.3
TKL	Tuckaleechee C	91.59	38	*e*P		P	11 53 24.6	+0.6
TKL	comp=Z,21nm,1.1s			pmax	pmax			
TKL	Tuckaleechee C comp=Z,21nm,1.1s	91.59	38	*e*P		P	11 53 24.6	+0.6
Z48A	Northport baz=323	91.61	42	P		P	11 53 23.3	-0.7
X50A	Fort Payne baz=324	91.68	40	P		P	11 53 23.8	-0.6
Y49A	Blount Mountai baz=324	91.79	41	P		P	11 53 24.7	-0.3
BLA	Blacksburg baz=328	91.80	35	P		P	11 53 24.8	-0.2
BLA	Blacksburg	91.80	35	*e*P		P	11 53 26.5	+1.5
BLA	comp=Z,22nm,1.1s			pmax	pmax			
BLA	Blacksburg comp=Z,22nm,1.1s	91.80	35	*e*P		P	11 53 26.5	+1.5
147A	Livingston baz=323	91.80	43	P		P	11 53 24.5	-0.5
246A	Jackson Lee, B baz=322	91.88	44	P		P	11 53 25.7	+0.3
345A	Thompson Farm, baz=322	91.96	45	P		P	11 53 25.3	-0.4
444A	Pine Grove baz=321	92.04	45	P		P	11 53 26.3	+0.2
Y50A	Piedmont baz=324	92.10	40	P		P	11 53 25.9	-0.5
247A	Quitman baz=323	92.12	43	P		P	11 53 26.5	0.0
LRAL	Lakeview Retre baz=324	92.16	41	P		P	11 53 26.5	-0.1
CVRD	Centerville Ro comp=Z,19nm,1.0s	92.17	32	*e*P		P	11 53 28.2	+1.6
148A	Greensboro baz=323	92.18	42	P		P	11 53 26.4	-0.3
346A	Big Creek Wild baz=322	92.20	44	P		P	11 53 26.8	-0.1
445A	Amite baz=322	92.25	45	P		P	11 53 26.9	-0.2
Z49A	Columbiana baz=324	92.27	41	P		P	11 53 26.4	-0.7
Z50A	Ashland baz=324,SNR=13	92.52	41	P		P	11 53 27.6	-0.7
BG3	Lake Jocassee comp=Z,18nm,1.2s	92.53	38	*e*P		P	11 53 30.1	+1.8
149A	Jones baz=324	92.61	42	P		P	11 53 28.0	-0.8
446A	Poplarville baz=322	92.72	44	P		P	11 53 29.4	+0.1
249A	Camden baz=323	92.94	42	P		P	11 53 30.5	+0.2
150A	Eclectic baz=324	92.99	41	P		P	11 53 30.2	-0.3
348A	Jackson baz=323	92.99	43	P		P	11 53 30.3	-0.2
447A	Lucedale baz=322	93.09	44	P		P	11 53 30.5	-0.4
645A	Chauvin baz=321	93.10	46	P		P	11 53 30.7	-0.2
KMSC	Kings Mountain baz=327	93.13	36	P		P	11 53 31.0	-0.1
250A	Grady baz=324	93.37	42	P		P	11 53 32.1	-0.1
KEST	Kesra comp=Z,11nm,0.9s,baz=303,slow=3.0,SNR=11	93.48	325	P		P	11 53 31.9	-0.9
KEST				ScS		S	12 04 49.1	+8.0
KEST	comp=Z,2.7nm,0.5s,baz=93,slow=2.9,SNR=3.8 Kesra	93.48	325	*e*P		P	11 53 32.5	-0.3
KEST	comp=Z,25nm,1.1s			ScS		S	12 04 49.1	+8.0
GOGA	Godfrey baz=326	93.58	39	P		P	11 53 32.9	-0.3
BRAL	Brewton baz=323	93.62	43	P		P	11 53 33.5	+0.1
251A	Midway baz=324	93.71	41	P		P	11 53 33.3	-0.5
PBRG	Braganca comp=Z,20nm,1.8s	93.72	339	*e*P		P	11 53 33.4	-0.4
PGAV	Gavieira, Arco	93.97	340	*e*P		P	11 53 35.1	+0.1
PCAB	Cabril	94.15	340	*e*P		P	11 53 35.9	+0.2
MVO	Moncorvo	94.40	339	*e*P		P	11 53 37.0	+0.1
POLO	Lamas de Olo comp=Z,13nm,1.2s	94.41	340	*e*P		P	11 53 37.0	0.0
352A	Blakely baz=325	94.45	41	P		P	11 53 36.7	-0.5
452A	Marianna baz=324	94.83	42	P		P	11 53 38.7	-0.3
ES19	SONSECA Array	94.86	336	*e*P		P	11 53 39.4	+0.4
ESDC	Sonseca Array comp=Z,2.9nm,1.0s,baz=25,slow=2.8,SNR=6.7	94.90	336	P		P	11 53 38.9	-0.3
MTE	Manteigas	95.25	339	*e*P		P	11 53 40.9	+0.1
453A	Whigham baz=325	95.26	41	P		P	11 53 40.7	-0.2
RKT	Rikitea comp=Z,1µm,31.5s	97.73	114	*e*LR		LR	12 25 30.5	
KMBO	Kilima Mbogo comp=Z,5.3nm,0.8s,baz=6.7,slow=24,SNR=6.6	104.07	281	PKPPKP		P'P'df	12 18 17.3	-16
TORD	Torodi Ar. Bea comp=Z,2.4nm,0.8s,baz=17,slow=1.6,SNR=16	116.34	319	PKP		PKPdf	11 59 00.3	-0.7
TORD				PP		PP	12 00 03.7	-2.4
TORD	comp=Z,3.5nm,1.0s,baz=19,slow=8.2,SNR=8.5			PKKPbc		PKKPbc	12 09 30.4	+2.1
VNDA	comp=Z,0.9nm,1.0s,baz=227,slow=2.9,SNR=3.8 Vanda	118.67	176	PKP		PKPdf	11 59 02.4	-1.2
SDV	comp=Z,3.3nm,0.9s,baz=334,slow=1.4,SNR=7.2 Santo Domingo	120.55	42	*e*PKPdf		PKPdf	11 59 08.9	-0.5
DBIC	Dimbokro comp=Z,6.3nm,0.8s,baz=41,slow=4.2,SNR=8.2	125.10	322	PKP		PKPdf	11 59 17.2	-0.6
TIC	Toumodi	125.20	323	*e*PKIKP		PKPdf	11 59 17.6	-0.5
KIC	Kosan Boka comp=Z,35nm,1.1s	125.32	322	*e*PKIKP		PKPdf	11 59 17.6	-0.7
LIC	Lamto comp=Z,42nm,1.5s	125.57	322	*e*PKIKP		PKPdf	11 59 18.1	-0.7
SYO	Syowa Base	132.96	208	‖ *e*Pdiff		Pdif	11 56 27.8	+0.2
SYO	Syowa Base	132.96	208	‖ *e*pPKiKP		PKPdf	11 59 39.0	+8.0
NNA	Nana	133.40	64	*i* PKIKP		PKPdf	11 59 36.4	+2.8
LPAZ	La Paz baz=107,slow=1.9	142.31	59	PKhKP		PKPpre	11 59 47.7	
SNAA	comp=Z,7.1nm,0.9s,baz=4.3,slow=6.6,SNR=22 Sanae	145.31	197	PKP		PKPbc	11 59 52.3	-1.1
SNAA	Sanae comp=Z,70nm,1.1s,baz=129,slow=3.2,SNR=30	145.31	197	PKPbc		PKPbc	11 59 52.7	-0.8
SNAA	Sanae	145.31	197	*e*PKP2		PKPbc	11 59 52.1	-1.3
SNAA	Sanae	145.31	197	*e*PKPdf		PKPbc	11 59 52.0	-1.3
VNA2	Neumayer--Watz baz=107,slow=1.9	146.85	196	PKP		PKPbc	11 59 58.4	+0.3
VNA3	Neumayer Olymp	147.06	195	PKP		PKPdf	11 59 56.9	+0.4
VNA1	Neumayer--Stat	147.25	196	PKP		PKPbc	11 59 58.1	-1.0
LCO	Las Campanas	148.65	79	*e*PKPdf		PKPdf	12 00 00.5	-0.3
LCO				*e*PKPbc		PKPbc	12 00 04.9	+0.4

PLCA	**Paso Flores**	**153.24**	**101**	PKP	**PKPdf**	**12 00 07.8 +0.6**
	comp=Z,5.5nm,1.0s,baz=328,slow=2.3,SNR=7.5					
PLCA				PKPbc	**PKiKP**	**12 00 15.3 +0.5**
	comp=Z,10.0nm,0.9s,baz=299,slow=3.4,SNR=12					
CPUP	**Villa Florida**	**156.48**	**59**	PKP	**PKPdf**	**12 00 11.7 -0.3**
	comp=Z,8.5nm,1.1s,baz=340,slow=2.0,SNR=11					

JMA 14 11:44:02.5±0.3, 40°.95N×145°.07E, h67km±4km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.79**	**307**	P			Pn	11 44 32.2	+1.0
JEM				*e*S			Sn	11 44 53.0	0.0
JAK	**Akkeshi**	**2.06**	**352**	*e*S			Sn	11 45 00.6	+1.0
JCH	**Churui**	**2.10**	**323**	P			Pn	11 44 35.2	-0.2
JCH				*e*S			Sn	11 44 59.9	-0.5
JOB	**Onbets**	**2.16**	**335**	P			Pn	11 44 38.3	+2.1
JOB				*e*S			Sn	11 45 03.7	+1.8
JNBK	**Urakawa-nobuka**	**2.19**	**308**	*e*S			Sn	11 45 03.5	+0.9
NEM2	**Nemuro 2**	**2.46**	**11**	*e*S			Sn	11 45 07.9	-1.4
JAR	**Ashorobuto**	**2.54**	**338**	*e*S			Sn	11 45 11.0	-0.1
JBT2	**Biratori 2**	**2.72**	**313**	*e*S			Sn	11 45 18.1	+2.4
JANG	**Nango**	**2.77**	**259**	*e*S			Sn	11 45 14.0	-2.7
JRA	**Rausu**	**2.99**	**1**	*e*S			Sn	11 45 21.5	-0.5
JOT	**Ohata**	**3.07**	**279**	P			Pn	11 44 49.4	+0.9
JTKR	**Abashiri--Toko**	**3.14**	**344**	P			Pn	11 44 50.4	+0.9
JTKR				*e*S			Sn	11 45 26.8	+1.0
JOM	**Ohasama**	**3.25**	**244**	*e*S			Sn	11 45 25.6	-2.9
JEW	**Eniwo**	**3.30**	**306**	*e*S			Sn	11 45 30.6	+0.9

*ISCJB **14** 11:47:06.8±0.5, 42°.91N±0°.02×78°.00E±0°.02, h4km±4km, Error ellipse: s-maj=3.8km s-min=2.9km az=158.9*
*NNC **14** 11:47:06.2±2.4, 43°.49N×77°.94E, h0km, mb2.8, mpv2.7, Error ellipse: s-maj=46.5km s-min=4.9km az=170.0*
*KRNET **14** 11:47:07.2±0.1, 42°.90N×78°.01E, h21km, mb2.9*
*SOME **14** 11:47:07.1, 42°.88N×78°.00E, h15km*
*KNET **14** 11:47:09.0±0.3, 42°.82N×77°.80E, h4km±2km, ml2.6, Error ellipse: s-maj=4.9km s-min=1.9km az=153.0*

ISC 14 11:47:06.8±1.0, 42°.90N±0°.03×78°.01E±0°.02, h10km±9km, n43, σ0s85/83, 27C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.33**	**60**	*e*P			**Pg**	**11 47 13.9**	**+0.5**
	51nm,0.1s								
SATY				*e*S			**Sg**	**11 47 18.8**	**+0.9**
	503nm,0.2s								
PRZ	**Przheval'sk**	**0.50**	**145**	⇓*i*P			**Pg**	**11 47 17.1**	**+0.5**
	baz=44								
PRZ				⇓*i*S			**Sb**	**11 47 25.0**	**-0.2**
	baz=44								
KURS	**Kuram**	**0.60**	**11**	*e*P			**Pg**	**11 47 18.9**	**+0.4**
KURS				*e*S			**Sg**	**11 47 27.4**	**+0.9**
KOTS	**Kotyrbulak**	**0.74**	**297**	*e*P			**Pg**	**11 47 21.1**	**-0.1**
	15nm,0.1s								
KOTS				*e*S			**Sg**	**11 47 31.1**	**+0.2**
	44nm,0.2s								
KPKS	**Kokpek**	**0.75**	**40**	*e*P			**Pg**	**11 47 21.5**	**+0.2**
	5.6nm,0.1s								
KPKS				*e*S			**Sg**	**11 47 31.7**	**+0.6**
	151nm,0.3s								
MDOK	**Medeo**	**0.76**	**291**	P			**Pg**	**11 47 21.0**	**-0.5**
	4.1nm,0.4s								
MDOK				S			**Sg**	**11 47 30.8**	**-0.5**
	42nm,0.5s								
MDOK	**Medeo**	**0.76**	**291**	*e*P			**Pg**	**11 47 21.1**	**-0.3**
	12nm,0.5s								
MDOK				*e*S			**Sg**	**11 47 30.8**	**-0.5**
	64nm,0.5s								
MDOK	**Medeo**	**0.76**	**291**	*e*P			**Pg**	**11 47 21.1**	**-0.3**
	baz=91								
MDOK				*e*S			**Sg**	**11 47 30.9**	**-0.5**
	baz=91								
UZB	**Uzynbulak**	**0.78**	**71**	*e*P			**Pg**	**11 47 21.6**	**-0.3**
	6.0nm,0.2s								
UZB				*e*S			**Sg**	**11 47 32.1**	**0.0**
	85nm,0.1s								
TNSS	**Tian-Shan**	**0.80**	**281**	*e*P			**Pg**	**11 47 22.2**	**0.0**
	5.5nm,0.1s								
TNSS				*e*S			**Sg**	**11 47 33.0**	**+0.3**
	44nm,0.2s								
TNSS	**Tian-Shan**	**0.80**	**281**	*e*P			**Pg**	**11 47 22.2**	**0.0**
	baz=80								
TNSS				*e*S			**Sg**	**11 47 33.0**	**+0.3**
	baz=80								
KDJ	**Kajisay**	**0.98**	**219**	⇑*i*P			**Pb**	**11 47 25.1**	**-0.9**
	baz=18								
KDJ				⇑*i*S			**Sb**	**11 47 38.2**	**-0.9**
	baz=18								
IZV	**Izvestkoviy**	**1.04**	**278**	*e*P			**Pb**	**11 47 25.9**	**-1.0**
	20nm,0.1s								
IZV				*e*S			**Sb**	**11 47 39.6**	**-1.1**
	213nm,0.6s								
IZV	**Izvestkoviy**	**1.04**	**278**	*e*P			**Pb**	**11 47 25.9**	**-1.0**
	baz=78								
IZV				*e*S			**Sb**	**11 47 39.6**	**-1.1**
	baz=78								
PDGK	**Podgornoye**	**1.16**	**68**	⇑P			**Pn**	**11 47 28.4**	**-0.9**
	1.1nm,0.3s								
PDGK				⇓S			**Sb**	**11 47 43.4**	**-0.9**
	6.7nm,0.5s								
PDGK	**Podgornoye**	**1.16**	**68**	⇓*i*P			**Pn**	**11 47 28.1**	**-1.2**
	baz=68								
PDGK				⇓*i*S			**Sb**	**11 47 43.5**	**-0.8**
	baz=68								
CHKK	**Chushkaly**	**1.22**	**322**	*e*P			**Pb**	**11 47 29.7**	**-0.2**
	12nm,0.1s								
CHKK				*e*S			**Sg**	**11 47 46.0**	**0.0**
	138nm,0.3s								
CHKK	**Chushkaly**	**1.22**	**322**	*e*P			**Pb**	**11 47 29.7**	**-0.2**
	baz=23								
CHKK				*e*S			**Sg**	**11 47 45.9**	**0.0**
	baz=23								
MNBS	**Baschi**	**1.22**	**13**	*e*P			**Pn**	**11 47 29.5**	**-0.5**
	17nm,0.2s								
MNBS				*e*S			**Sb**	**11 47 45.7**	**-0.1**
	38nm,0.3s								
KTBS	**Karatobe**	**1.27**	**310**	*e*P			**Pb**	**11 47 30.6**	**-0.2**
	7.9nm,0.2s								
KTBS				*e*S			**Sn**	**11 47 47.3**	**-0.4**
	96nm,0.3s								
ARXS	**Arharly**	**1.32**	**354**	*e*P			**Pn**	**11 47 31.3**	**-0.1**
	18nm,0.7s								
ARXS				*e*S			**Sn**	**11 47 48.9**	**-0.3**
	44nm,0.2s								
ULHL	**Ulahol**	**1.46**	**244**	⇓P			**Pb**	**11 47 33.7**	**-0.5**
	11nm,0.1s,SNR=7.0								
ULHL				⇓S			**Sb**	**11 47 52.9**	**0.0**
	31nm,0.2s								
ULHL	**Ulahol**	**1.46**	**244**	⇑*i*P			**Pn**	**11 47 33.5**	**+0.1**
	baz=44								
ULHL				⇑*i*S			**Sb**	**11 47 52.7**	**-0.2**
	baz=44								
BOOM	**Boomskoye usch**	**1.58**	**256**	⇓*i*P			**Pb**	**11 47 35.4**	**-0.8**
	baz=56								
BOOM				⇓*i*S			**Sb**	**11 47 55.4**	**-0.9**
	baz=56								
DGS	**Degeres**	**1.68**	**283**	*e*P			**Pb**	**11 47 37.8**	**0.0**
	2.1nm,0.1s								
DGS				*e*S			**Sg**	**11 47 59.7**	**-1.1**
	70nm,0.3s								
DGS	**Degeres**	**1.68**	**283**	*e*P			**Pb**	**11 47 37.8**	**0.0**
	baz=83								
DGS				*e*S			**Sg**	**11 47 59.7**	**-1.1**
	baz=83								
TKM2	**Tokmak 2**	**1.78**	**272**	⇑P			**Pb**	**11 47 39.8**	**+0.3**
	4.4nm,0.3s								
TKM2				⇑S			**Sb**	**11 48 02.1**	**+0.1**
	12nm,0.3s								
TKM2	**Tokmak 2**	**1.78**	**272**	⇓P			**Pb**	**11 47 39.6**	**0.0**
	2.7nm,0.1s,SNR=25								
TKM2				⇑S			**Sg**	**11 48 03.8**	**-0.1**
	30nm,0.1s								
TKM2	**Tokmak 2**	**1.78**	**272**	⇑*i*P			**Pb**	**11 47 39.0**	**-0.6**
	baz=72								
TKM2				⇑*i*S			**Sb**	**11 48 02.0**	**+0.1**
	baz=72								
NRN	**Naryn**	**2.09**	**226**	⇑*e*P			**Pb**	**11 47 44.6**	**-0.4**
	baz=26								
NRN				⇑*i*S			**Sb**	**11 48 11.0**	**-0.2**
	baz=26								
KZA	**Kyzart**	**2.20**	**249**	⇓*e*P			**Pb**	**11 47 45.7**	**-1.2**
	baz=49								
KZA				⇓*i*S			**Sb**	**11 48 13.5**	**-0.9**
	baz=49								
KBK	**Karagaybulak**	**2.27**	**265**	⇑P			**Pb**	**11 47 48.2**	**+0.3**
	6.3nm,0.2s,SNR=14								
KBK				⇑S			**Sg**	**11 48 18.9**	**-0.8**
	20nm,0.3s								
KBK	**Karagaybulak**	**2.27**	**265**	⇑*i*P			**Pn**	**11 47 45.2**	**+0.7**
	baz=65								
KBK				⇑*i*S			**Sb**	**11 48 14.2**	**-1.9**
	baz=65								
CHMS	**Chumysh**	**2.40**	**274**	⇑P			**Pb**	**11 47 49.0**	**-1.0**
	12nm,0.3s,SNR=5.2								
CHMS				⇑S			**Sb**	**11 48 21.4**	**+1.8**
	3.2nm,0.2s								
CHMS	**Chumysh**	**2.40**	**274**	⇓*e*P			**Pn**	**11 47 47.4**	**+1.3**
	baz=74								
CHMS				⇓*e*S			**Sn**	**11 48 16.9**	**+1.3**
	baz=74								
KAPS	**Kapalarasan**	**2.58**	**22**	*e*P			**Pb**	**11 47 54.1**	**+0.9**
KAPS				*e*S			**Sg**	**11 48 27.6**	**-2.0**
USP	**Ospenovka**	**2.60**	**279**	⇑P			**Pb**	**11 47 52.6**	**-0.9**
	3.0nm,0.1s,SNR=7.0								
USP	**Ospenovka**	**2.60**	**279**	⇑*e*P			**Pn**	**11 47 49.9**	**+1.0**
	baz=79								
USP				⇑*i*S			**Sn**	**11 48 21.5**	**+0.9**
	baz=79								
AAK	**Ala-Archa**	**2.60**	**265**	⇓Pg			**Pb**	**11 47 52.3**	**-1.3**
	5.6nm,0.8s								
AAK				⇑Lg			Lg	11 48 27.1	
	20nm,0.9s								
AAK	**Ala-Archa**	**2.60**	**265**	⇓*i*P			**Pn**	**11 47 50.3**	**+1.2**
	baz=65								
AAK				⇓*i*S			**Sn**	**11 48 22.1**	**+1.3**
	baz=65								
UCH	**Uchtor**	**2.67**	**257**	⇑P			**Pb**	**11 47 54.0**	**-1.0**
	2.4nm,0.3s,SNR=7.8								
UCH	**Uchtor**	**2.67**	**257**	⇑*i*P			**Pn**	**11 47 51.8**	**+1.5**
	baz=57								
UCH				⇑*i*S			**Sn**	**11 48 23.8**	**+0.9**
	baz=57								
AML	**Almayashu**	**3.28**	**258**	⇑*e*P			**Pn**	**11 48 00.1**	**+1.5**
	baz=58								
AML				⇑*i*S			**Sn**	**11 48 40.1**	**+2.2**
	baz=58								

JMA 14 11:49:02.1±0.2, 40°.91N×145°.13E, h63km±4km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.85**	**307**	P			Pn	11 49 32.2	+0.7
JEM				*e*S			Sn	11 49 52.4	-1.5
JAK	**Akkeshi**	**2.11**	**351**	P			Pn	11 49 35.8	+0.7
JAK				*e*S			Sn	11 50 00.1	-0.1
JCH	**Churui**	**2.16**	**323**	P			Pn	11 49 36.6	+0.9
JCH				*e*S			Sn	11 50 00.8	-0.5
JOB	**Onbets**	**2.21**	**335**	*e*S			Sn	11 50 03.0	+0.3
JNBK	**Urakawa-nobuka**	**2.25**	**308**	P			Pn	11 49 38.4	+1.5
JNBK				*e*S			Sn	11 50 04.4	+0.8
NEM2	**Nemuro 2**	**2.50**	**10**	P			Pn	11 49 41.1	+0.8
NEM2				*e*S			Sn	11 50 09.5	-0.1
JAR	**Ashorobuto**	**2.59**	**337**	P			Pn	11 49 42.1	+0.5
JAR				*e*S			Sn	11 50 11.3	-0.6
JNK	**Nakash**	**2.69**	**354**	P			Pn	11 49 43.3	+0.3
JNK				*e*S			Sn	11 50 13.5	-0.9
JBT2	**Biratori 2**	**2.79**	**313**	P			Pn	11 49 45.7	+1.4
JBT2				*e*S			Sn	11 50 17.5	+0.8
JANG	**Nango**	**2.80**	**260**	P			Pn	11 49 44.4	-0.1
JANG				*e*S			Sn	11 50 14.2	-2.9
JFR	**Furan**	**2.94**	**321**	P			Pn	11 49 47.3	+0.9
JFR				*e*S			Sn	11 50 19.5	-1.0
JOT	**Ohata**	**3.12**	**280**	P			Pn	11 49 48.5	+0.7
JOT				*e*S			Sn	11 50 22.7	-2.1
JTKR	**Abashiri--Toko**	**3.19**	**344**	P			Pn	11 49 51.3	+1.5
JTKR				*e*S			Sn	11 50 27.4	+0.9
JKB	**Kayabe**	**3.23**	**289**	P			Pn	11 49 51.3	+0.9
JOM	**Ohasama**	**3.27**	**245**	*e*S			Sn	11 50 26.9	-1.7
JEW	**Eniwo**	**3.36**	**306**	*e*S			Sn	11 50 31.4	+0.7

JMA 14 11:51:54.4±0.2, 40°.89N×145°.18E, h65km±4km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.89**	**307**	P			Pn	11 52 25.2	+0.8
JEM				*e*S			Sn	11 52 46.8	-0.5
JAK	**Akkeshi**	**2.13**	**350**	*e*S			Sn	11 52 53.2	0.0
JCH	**Churui**	**2.19**	**322**	P			Pn	11 52 29.4	+0.8
JCH				S			Sn	11 52 54.1	-0.5
JOB	**Onbets**	**2.25**	**334**	P			Pn	11 52 31.2	+1.9
JOB				*e*S			Sn	11 52 57.2	+1.3
JNBK	**Urakawa-nobuka**	**2.29**	**308**	*e*S			Sn	11 52 58.2	+1.3
NEM2	**Nemuro 2**	**2.51**	**9**	*e*S			Sn	11 53 01.4	-0.8
JAR	**Ashorobuto**	**2.62**	**337**	P			Pn	11 52 34.8	+0.4
JAR				*e*S			Sn	11 53 04.8	-0.3
JNK	**Nakash**	**2.71**	**353**	*e*S			Sn	11 53 06.3	-1.0
JANG	**Nango**	**2.84**	**261**	S			Sn	11 53 08.2	-2.1
JFR	**Furan**	**2.98**	**321**	*e*S			Sn	11 53 12.4	-1.4
JRA	**Rausu**	**3.05**	**359**	*e*S			Sn	11 53 14.9	-0.5
JOT	**Ohata**	**3.16**	**280**	P			Pn	11 52 42.1	+0.4
JOT				*e*S			Sn	11 53 16.3	-1.9
JEW	**Eniwo**	**3.40**	**306**	*e*S			Sn	11 53 24.8	+0.8
JKK2	**Kamakawa 2**	**3.48**	**330**	P			Pn	11 52 48.6	+2.5
JKK2				*e*S			Sn	11 53 29.2	+3.1

*CSEM **14** 11:52:16.7±0.2, 38°.58N×21°.69E, h2km, ML1.2, Error ellipse: s-maj=4.9km s-min=3.3km az=48.0*

ATH 14 11:52:16.2, 38°.58N×21°.68E, h15km±3km, ML1.2/5, Error ellipse: s-maj=3.1km s-min=0.9km az=272.0, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.12**	**285**	P			Pg	11 52 19.1	-0.6
PVO				S			Sg	11 52 22.2	+0.2
PVO				AML			AML	11 52 23.1	
	comp=E,174μm,0.2s								
PVO				AML			AML	11 52 23.9	
	comp=N,178μm,0.3s								
PVO	**Paravola**	**0.12**	**285**	P			Pg	11 52 19.4	-0.3
PVO				S			Sg	11 52 22.2	+0.2
ANX	**Ano Chora**	**0.19**	**87**	P			Pg	11 52 20.0	-0.7
ANX				S			Sg	11 52 23.4	-0.4
ANX	**Ano Chora**	**0.19**	**87**	P			Pn	11 52 20.3	-0.4
ANX				S			Sg	11 52 23.6	-0.2
EFP	**Efpalio**	**0.24**	**131**	P			Pg	11 52 21.0	-0.4
EFP				S			Sb	11 52 25.8	-0.4
EFP				AML			AML	11 52 25.9	
	comp=E,226μm,0.2s								
EFP				AML			AML	11 52 26.1	
	comp=N,202μm,0.2s								
EFP	**Efpalio**	**0.24**	**131**	P			Pg	11 52 21.2	-0.2
EFP				S			Sg	11 52 25.5	+0.6
SERG	**Sergoula**	**0.34**	**120**	P			Pb	11 52 24.0	0.0
SERG				S			Sb	11 52 28.9	-0.4
SERG				AML			AML	11 52 29.8	
	comp=E,147μm,0.2s								
SERG				AML			AML	11 52 29.9	
	comp=N,195μm,0.3s								
SERG	**Sergoula**	**0.34**	**120**	P			Pg	11 52 23.6	+0.4
SERG				S			Sg	11 52 28.6	+0.6
EVR	**Evrytania**	**0.35**	**17**	P			Pg	11 52 22.7	-0.7
EVR				S			Sg	11 52 28.6	+0.4
EVR				AML			AML	11 52 29.0	
	comp=E,128μm,0.3s								
EVR				AML			AML	11 52 29.2	
	comp=N,119μm,0.1s								
EVR	**Evrytania**	**0.35**	**17**	P			Pg	11 52 23.0	-0.4
EVR				S			Sg	11 52 28.5	+0.2
TRIZ	**Trizonia**	**0.38**	**125**	P			Pg	11 52 23.1	-0.7
TRIZ				S			Sg	11 52 29.6	+0.6
TRIZ	**Trizonia**	**0.38**	**125**	P			Pg	11 52 23.4	-0.4
TRIZ				S			Sg	11 52 29.5	+0.5
PDO	**Prodromos**	**0.39**	**272**	P			Pb	11 52 24.5	-0.2
PDO				S			Sb	11 52 30.9	+0.3
PDO	**Prodromos**	**0.39**	**272**	P			Pg	11 52 24.3	+0.3
PDO				S			Sb	11 52 30.3	-0.3
KALE	**Kalithea**	**0.41**	**118**	P			Pb	11 52 24.9	-0.3
KALE				AML			AML	11 52 30.7	
	comp=E,61μm,0.5s								
KALE				AML			AML	11 52 30.7	
	comp=N,87μm,0.4s								
KALE				S			Sb	11 52 30.8	-0.4
KALE	**Kalithea**	**0.41**	**118**	P			Pg	11 52 24.6	+0.2
KALE				S			Sg	11 52 30.6	+0.5
LAKA	**Lakka**	**0.42**	**145**	P			Pb	11 52 25.4	+0.1
LAKA	**Lakka**	**0.42**	**145**	P			Pg	11 52 24.9	+0.4
KLV	**Kalavryta, Ach**	**0.66**	**145**	P			Pg	11 52 27.7	-1.3
KLV				S			Sg	11 52 37.7	+0.1
KLV	**Kalavryta, Ach**	**0.66**	**145**	P			Pg	11 52 28.2	-0.8
KLV				S			Sg	11 52 37.9	+0.2
AGG	**Agios Georgios**	**0.67**	**49**	P			Pg	11 52 29.4	+0.1
AGG				S			Sb	11 52 39.6	+0.8
AGG	**Agios Georgios**	**0.67**	**49**	P			Pg	11 52 29.2	-0.1
AGG				S			Sb	11 52 39.1	+0.3

*CSEM **14** 11:57:37.4±0.1, 45°.00N×16°.91E, h2km, ML2.8, Error ellipse: s-maj=4.4km s-min=2.2km az=33.0*
*BEO **14** 11:57:38.7±0.8, 44°.99N×16°.94E, h0km±2km, M2.6/9*
*VIE **14** 11:57:42.7±1.0, 45°.36N×16°.81E, h5km±3km, mb2.3/5, ML2.4/7, Error ellipse: s-maj=7.4km s-min=6.4km az=155.0*

ISC 14 11:57:37.2±1.1, 45°.03N±0°.02×16°.94E±0°.02, h3km±9km, n67, σ1s04/110, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.33**	**148**	*e*Pg			**Pg**	**11 57 43.6**	**0.0**
BLY				*e*Sg			**Sg**	**11 57 47.5**	**-0.3**
BLY	**Banja Luka**	**0.33**	**148**	*e*Pg			**Pg**	**11 57 43.4**	**-0.2**
BLY				*e*Sg			**Sg**	**11 57 47.5**	**-0.3**
DOB	**Doboj**	**0.88**	**109**	*e*Pg			**Pg**	**11 57 52.9**	**-1.1**
DOB				*e*Sg			**Sg**	**11 58 04.9**	**-0.5**
UDBI	**Udbina**	**0.97**	**240**	*i*Pg			**Pg**	**11 57 56.3**	**+0.3**
UDBI				Sg			**Sb**	**11 58 09.4**	**-0.6**
UDBI	**Udbina**	**0.97**	**240**	*i*Pg			**Pg**	**11 57 56.2**	**+0.3**
UDBI				Sg			**Sb**	**11 58 09.4**	**-0.6**
OZLJ	**Ozalj**	**1.19**	**300**	*e*Pg			**Pn**	**11 58 00.7**	**0.0**
OZLJ				Sg			**Sn**	**11 58 17.0**	**-0.4**
OZLJ	**Ozalj**	**1.19**	**300**	*e*Pg			**Pn**	**11 58 00.7**	**0.0**
OZLJ				Sg			**Sn**	**11 58 17.0**	**-0.4**
GCIS	**Gornji Cirnik**	**1.25**	**313**	*i*Pg			**Pn**	**11 58 01.6**	**+0.1**
GCIS	**Gornji Cirnik**	**1.25**	**313**	*i*Pg			**Pn**	**11 58 01.6**	**+0.1**
	22nm,0.2s								
BOJS	**Bojanci**	**1.28**	**292**	*i*Pg			**Pn**	**11 58 02.2**	**+0.2**
BOJS				*i*Sg			**Sn**	**11 58 19.9**	**+0.3**
BOJS	**Bojanci**	**1.28**	**292**	*i*Pg			**Pn**	**11 58 02.2**	**+0.2**
BOJS				*i*Sg			**Sn**	**11 58 19.9**	**+0.3**
	62nm,0.3s								
CRES	**Cresnjev**	**1.31**	**308**	*i*Pg			**Pg**	**11 58 02.3**	**-0.1**
CRES	**Cresnjev**	**1.31**	**308**	⇑*i*Pg			**Pg**	**11 58 02.1**	**-0.3**
CRES				*e*Sg			**Sb**	**11 58 20.0**	**+0.3**
BEHE	**Becsehely**	**1.45**	**356**	⇓*e*Pn			**Pg**	**11 58 05.0**	**0.0**
BEHE				*ex*			x	11 58 07.7	
BEHE				*e*Sn			**Sn**	**11 58 24.6**	**+0.9**
BEHE	**Becsehely**	**1.45**	**356**	*e*Pg			**Pb**	**11 58 04.7**	**-0.1**
BEHE	**Becsehely**	**1.45**	**356**	⇓*e*Pn			**Pg**	**11 58 05.0**	**0.0**
BEHE				*e*Sg			**Sn**	**11 58 24.4**	**+0.7**
DOBS	**Dobrina**	**1.52**	**318**	*i*Pg			**Pn**	**11 58 05.7**	**+0.3**
DOBS	**Dobrina**	**1.52**	**318**	*i*Pg			**Pn**	**11 58 05.7**	**+0.3**
	19nm,0.1s								
NVLJ	**Novalja**	**1.54**	**253**	*e*Pn			**Pn**	**11 58 06.0**	**+0.5**
NVLJ				Sn			**Sg**	**11 58 27.4**	**+0.6**
NVLJ	**Novalja**	**1.54**	**253**	*e*Pn			**Pn**	**11 58 06.0**	**+0.5**
NVLJ				Sn			**Sg**	**11 58 27.4**	**+0.6**
MORH	**M¯‡r^igy, Hung**	**1.69**	**45**	*e*Pn			**Pg**	**11 58 09.5**	**0.0**
MORH				*e*Sn			**Sg**	**11 58 31.8**	**+0.4**
MORH	**M¯‡r^igy, Hung**	**1.69**	**45**	*e*Pn			**Pg**	**11 58 09.5**	**0.0**
MORH				*e*Sn			**Sg**	**11 58 31.8**	**+0.4**
HAPS	**Han Pijesak,Bl**	**1.72**	**123**	*e*Pg			**Pn**	**11 58 08.8**	**+0.7**
HAPS				*e*Sg			**Sb**	**11 58 31.7**	**+0.2**
HAPS	**Han Pijesak,Bl**	**1.72**	**123**	*e*Pn			**Pn**	**11 58 06.9**	**-1.2**
HAPS	**Han Pijesak,Bl**	**1.72**	**123**	*e*Pg			**Pn**	**11 58 08.8**	**+0.7**
HAPS				*e*Sn			**Sn**	**11 58 30.2**	**-0.4**
HAPS				*e*Sg			**Sb**	**11 58 31.7**	**+0.2**
TEKS	**Tekeris**	**1.91**	**104**	*e*Pn			**Pb**	**11 58 12.1**	**-0.5**
TEKS				*e*Sn			**Sb**	**11 58 36.3**	**-0.5**
TEKS	**Tekeris**	**1.91**	**104**	*e*Pn			**Pn**	**11 58 10.0**	**-0.6**
TEKS				*e*Sn			**Sn**	**11 58 35.1**	**0.0**
CEY	**Cerknica**	**1.91**	**293**	*e*Pn			**Pn**	**11 58 09.9**	**-0.7**
CEY				*e*Sn			**Sn**	**11 58 34.8**	**-0.3**
LJU	**Ljubljana**	**1.98**	**302**	*e*Sn			**Sn**	**11 58 37.7**	**+0.9**
FGSL	**Fruska Gora**	**2.04**	**85**	*e*Pn			**Pb**	**11 58 14.8**	**-0.1**
FGSL				*e*Sn			**Sb**	**11 58 40.5**	**-0.1**
FRGS	**Fruska Gora**	**2.04**	**85**	*e*Pn			**Pb**	**11 58 14.8**	**-0.1**
FRGS				*e*Sn			**Sb**	**11 58 40.5**	**-0.1**
FRGS	**Fruska Gora**	**2.04**	**85**	*e*Pn			**Pn**	**11 58 12.5**	**+0.1**
FRGS			

Ms5.9/98,Ms7 5.8/86

NIED ***14*** *12:05:00, 35.80N×141.10E,h11km,Mw5.8 Best double couple: M0 5.11000×1017 NP1:φ=30.00000°,δ48.00000°, λ-56.00000°. NP2:φ=165.00000°,δ52.00000°, λ-122.00000°.*

IDC ***14*** *12:05:02.8±0.3, 35.67N×140.82E,h0km,mb5.4/57, mb1 5.5/61,mb1mx5.4/73,mbtmp5.4/61,ML5.2/4,MS5.4/60, Ms1 5.4/60,ms1mx5.4/69,Error ellipse: s-maj=10.3km s-min=7.7km az=91.0*

GCMT ***14*** *12:05:04.5±0.2, 35.83N×140.89E,h23km,MW6.0/110, Moment Tensor Solution. s65,c80; s110,c209; Duration: 24 Moment tensor: Scale 1018Nm; Mrr-1.17±.04; Mθθ0.20±.02; Mφφ0.97±.02; Mrθ0.46±.05; Mθφ0.23±.01; Mφr0.04±.03; Best double couple: M0 1.17600×1018 NP1:φ=212.00000°,δ52.00000°, λ-69.00000°. NP2:φ=0.00000°,δ43.00000°,λ-114.00000°. Principal axes: T 1.0440, Plg4.0000°, Azm287.0000°; N 0.2680, Plg16.0000°, Azm19.0000°; P -1.3090, Plg73.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***14*** *12:05:04.3±0.1, 35.75N×140.93E,h15km±1km,M6.1*

NEIC ***14*** *12:05:04.5±0.1, 35.69N×140.70E,h10km,mb5.7/296, MS5.6/148,Error ellipse: s-maj=2.4km s-min=1.8km az=144.0*

NEIC Felt [VII] at Kamisu; [VI] at Chiba; [IV] at Ayase, Hitachinaka, Kawasaki, Tokyo and Zama; [III] at Sagamihara, Tachikawa, Yamato, Yokohama, Yokosuka and Zushi. Felt in much of eastern Honshu. Recorded [5U JMA] in Chiba and Ibaraki.

ISCJB ***14*** *12:05:04.6±0.4, 35.69N±0.01×140.81E±0.01, h20km±2km, mb5.6/481,MS5.6/244,Error ellipse: s-maj=2.5km s-min=1.8km az=168.9*

MOS ***14*** *12:05:06.4±1.0, 35.72N×140.79E, h33km, mb5.9/164, MS5.6/79,Error ellipse: s-maj=5.9km s-min=3.7km az=114.4*

ISC 14 12:05:06.0±0.4, 35.75N±0.02×140.83E±0.02, h20km±1km, h20km:pP-P,n1922,σ1§44/1959,mb5.7/511,MS5.6/245, 55C-109D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.05**	**148**	⇓P	**Pg**	**12 05 07.2**	**-2.4**
I30JP	**ISUMI INFRASON**	**0.60**	**224**	Pg	**Pg**	**12 05 18.0**	**-0.1**
	baz=58,slow=35,SNR=6.5						
I30JP				Lg	Lg	12 05 30.6	
	baz=16,slow=427						
JCN	**Nagara**	**0.60**	**237**	⇑P	**Pg**	**12 05 18.3**	**+0.2**
JYT	**Yasato**	**0.70**	**313**	⇑P	**Pb**	**12 05 18.5**	**-1.0**
JYT				S	**Sg**	**12 05 29.2**	**0.0**
BSO4	**Boso 4**	**0.85**	**208**	P	**Pb**	**12 05 21.9**	**-0.2**
JHO	**Hitachi**	**0.89**	**347**	⇑P	**Pb**	**12 05 21.0**	**-1.7**
JHO				S	**Sb**	**12 05 33.4**	**-0.7**
BSO3	**Boso 3**	**0.98**	**195**	⇓P	**Pb**	**12 05 23.1**	**-1.0**
BSO1	**Boso 1**	**1.10**	**173**	P	**Pn**	**12 05 23.5**	**-2.3**
JAG	**Ashikaga**	**1.30**	**302**	⇑P	**Pn**	**12 05 27.0**	**-2.1**
JOD2	**Odawara 2**	**1.50**	**252**	⇑P	**Pn**	**12 05 31.8**	**0.0**
JIM2	**Oshima 3**	**1.54**	**228**	P	**Pn**	**12 05 31.3**	**-1.0**
JRY	**Ryogami san**	**1.58**	**280**	⇑P	**Pn**	**12 05 31.6**	**-1.4**
JYN	**Shimob**	**1.88**	**263**	⇑P	**Pn**	**12 05 37.6**	**+0.6**
JIZS	**Izushimoda**	**1.90**	**238**	⇑P	**Pn**	**12 05 36.7**	**-0.6**
JGK	**Kuni**	**1.95**	**295**	P	**Pn**	**12 05 37.0**	**-1.0**
JHK	**Hiroka**	**2.09**	**316**	⇑P	**Pn**	**12 05 39.4**	**-0.5**
SHZ3	**Shizuoka 3**	**2.24**	**253**	⇑P	**Pn**	**12 05 43.2**	**+1.1**
MJAR	**Matsushiro Arr**	**2.26**	**291**	Pn	**Pn**	**12 05 41.6**	**-0.7**
	265nm,0.3s,baz=92,slow=8.5,SNR=960						
MJAR				LR	LR	12 06 11.5	
	comp=Z,71μm,18.3s,baz=110,slow=30						
MJAR				Sn	**Sg**	**12 06 17.9**	**-0.9**
	431nm,0.3s,baz=98,slow=26,SNR=6.6						
MAJO	**Matsushiro**	**2.26**	**291**	*c i*P	**Pn**	**12 05 42.8**	**+0.5**
MAJO	**Matsushiro**	**2.26**	**291**	*e*Pn	**Pn**	**12 05 41.5**	**-0.9**
MAJO				*e*Sn	**Sn**	**12 06 10.3**	**+0.6**
MAT	**Matsushiro**	**2.26**	**291**	P	**Pn**	**12 05 42.0**	**-0.3**
MAT				*e*S	**Sg**	**12 06 16.7**	**-2.2**
MAT	**Matsushiro**	**2.26**	**291**	P	**Pn**	**12 05 42.0**	**-0.3**
MJB9	**Matsu-Tunnel**	**2.27**	**291**	*e*Pn	**Pn**	**12 05 42.8**	**+0.4**
JNG	**Nsakai**	**2.30**	**287**	⇑P	**Pn**	**12 05 42.6**	**-0.3**
JNS	**Sasagawa**	**2.40**	**330**	⇑P	**Pn**	**12 05 43.9**	**-0.2**
JSG	**Sagara**	**2.41**	**244**	P	**Pb**	**12 05 46.9**	**-1.8**
JNY	**Yasuok**	**2.45**	**262**	⇑P	**Pn**	**12 05 46.7**	**+1.8**
JIZZ	**Izumozaki**	**2.46**	**317**	⇑P	**Pn**	**12 05 46.2**	**+1.2**
JHJ2	**Mitsune**	**2.76**	**198**	*e*Pn	**Pn**	**12 05 49.1**	**0.0**
JHJ	**Hachijo jima 2**	**2.76**	**198**	Pn	**Pn**	**12 05 48.1**	**-1.0**
	528nm,0.3s,baz=87,slow=2.6,SNR=40						
JHJ				Sn	**Sn**	**12 06 20.7**	**-1.2**
	904nm,0.3s,baz=73,slow=19,SNR=6.3						
JHJ				LR	LR	12 06 37.5	
	comp=Z,18μm,19.2s,baz=76,slow=35						
JGF	**Kuroka**	**2.83**	**268**	⇑P	**Pn**	**12 05 52.4**	**+2.3**
JSD	**Sado**	**3.07**	**319**	P	**Pn**	**12 05 53.5**	**+0.1**
INU	**Inuyama**	**3.13**	**264**	*e*Pn	**Pn**	**12 05 56.4**	**+2.1**
JHG	**Hegura jima**	**3.77**	**305**	P	**Pn**	**12 06 03.6**	**+0.6**
ERM	**Erimo**	**6.52**	**15**	*ce*P	**Pn**	**12 06 39.6**	**-1.1**
ERM				pmax	pmax		
	comp=Z,573nm,0.8s						
ERM	**Erimo**	**6.52**	**15**	*e*Pn	**Pn**	**12 06 40.2**	**-0.6**
ERM				*e*Sn	**Sn**	**12 07 53.1**	**-1.3**
ASAJ	**Asahikawa**	**8.47**	**9**	Pn	**Pn**	**12 07 06.2**	**-1.3**
	comp=Z,48nm,0.3s,baz=198,slow=11,SNR=62						
ASAJ				Sn	**Sn**	**12 08 42.2**	**-0.3**
	comp=Z,7.4nm,0.3s,baz=1.9,slow=24,SNR=4.2						
ASAJ	**Asahikawa**	**8.47**	**9**	*e*Pn	**Pn**	**12 07 06.4**	**-1.1**
ASAJ				*e*Sn	**Sn**	**12 08 41.2**	**-1.3**
JNU	**Nakatsue**	**8.62**	**255**	Pn	**Pn**	**12 07 11.8**	**+2.1**
	comp=Z,3.0nm,0.3s,baz=58,slow=7.6,SNR=27						
JNU				Sn	Sn	12 09 02.5	+16
	baz=300,slow=20,SNR=1.5						
JNU				LR	LR	12 10 30.9	
	comp=Z,25μm,19.2s,baz=63,slow=38						
JNU	**Nakatsue**	**8.62**	**255**	*e*Pn	**Pn**	**12 07 05.7**	**-4.1**
JNU				*e*Sn	Sn	12 09 06.1	+20
CBIJ	**Chichi jima**	**8.70**	**172**	*e*Pn	**Pn**	**12 07 07.2**	**-3.6**
CBIJ				Sn	**Sn**	**12 08 41.6**	**-6.8**
CBIJ				*e*Sn	**Sn**	**12 08 46.7**	**-1.6**
JCJ	**Chichijima**	**8.70**	**172**	Pn	**Pn**	**12 07 07.5**	**-3.3**
	comp=Z,83nm,0.3s,baz=313,slow=13,SNR=37						
JCJ				Sn	**Sn**	**12 08 41.6**	**-6.8**
	comp=Z,48nm,0.3s,baz=107,slow=19,SNR=2.7						
GLVR	**Golovnino**	**8.76**	**23**	P	**Pn**	**12 07 07.0**	**-4.5**
GLVR				*e*S	**Sn**	**12 08 43.5**	**-6.1**
GRPR	**Tuman**	**9.07**	**23**	P	Pn	12 07 10.9	-4.8
LAGR	**Lagunnoye**	**9.13**	**23**	*e*P	**Pn**	**12 07 14.0**	**-2.6**
LAGR				*e*S	**Sn**	**12 08 55.4**	**-3.3**
YUK	**Yuzh-Kuril'sk**	**9.13**	**24**	*e*P	**Pn**	**12 07 13.9**	**-2.7**
YUK				*e*S	**Sn**	**12 08 55.7**	**-3.1**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,947nm,0.3s						
YUK				pmax	pmax		
	comp=E,486nm,0.3s						
YUK				MLR	MLR		
	comp=Z,26μm,13.0s						
YUK				MLR	MLR		
	comp=N,17μm,11.0s						
YUK				MLR	MLR		
	comp=E,21μm,13.0s						
SHO	**Shikotan**	**9.33**	**28**	*e*P	Pn	12 07 12.6	-6.7
SHO				pmax	pmax		
	comp=N,386nm,0.3s						
SHO				pmax	pmax		
	comp=E,234nm,0.3s						
SHO				pmax	pmax		
	comp=Z,315nm,0.3s						
SHO				MLR	MLR		
	comp=N,34μm,13.0s						
SHO				MLR	MLR		
	comp=E,24μm,13.0s						
SHO				MLR	MLR		
	comp=Z,25μm,13.0s						
JTN	**Tanegashima 3**	**9.68**	**241**	P	Pn	12 07 29.1	+4.8
TEY	**Ternei**	**9.82**	**342**	*e*P	**Pn**	**12 07 27.0**	**+1.0**
TEY				pmax	pmax		
	comp=Z,86nm,1.0s						
VLA	**Vladivostok**	**10.09**	**320**	*i* P	**Pn**	**12 07 33.7**	**+3.9**
KSRS	**Korea Array**	**10.51**	**283**	Pn	**Pn**	**12 07 39.9**	**+4.3**
	comp=Z,1.7nm,0.3s,baz=97,slow=14,SNR=40						
KSRS				Sn	Sn	12 09 50.5	+18
	baz=312,slow=20,SNR=1.8						
KSRS				LR	LR	12 11 41.7	
	comp=Z,27μm,21.0s,baz=87,slow=38						
KSRS				PcP	**PcP**	**12 13 40.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=106,slow=0.6,SNR=4.9						
KS01	**Wonju Array Si**	**10.54**	**283**	*e*Pn	**Pn**	**12 07 40.2**	**+4.3**
KS15	**Wonju Array Si**	**10.54**	**283**	*e*Pn	**Pn**	**12 07 40.1**	**+4.2**
KSAR	**Wonju Array Be**	**10.54**	**283**	P	**Pn**	**12 07 39.9**	**+3.9**
KSAR	**Wonju Array Be**	**10.54**	**283**	Pn	**Pn**	**12 07 39.9**	**+3.9**
KSAR				Sn	Sn	12 09 50.5	+17
KSAR				PcP	**PcP**	**12 13 40.5**	**+0.9**
USRK	**Ussuriysk Ar.**	**10.82**	**324**	Pn	**Pn**	**12 07 43.5**	**+3.8**
	comp=Z,2.8nm,0.3s,baz=136,slow=13,SNR=80						
USRK				Sn	**Sn**	**12 09 48.7**	**+8.5**
	baz=140,slow=21,SNR=1.8						
USRK				LR	LR	12 11 31.5	
	comp=Z,46μm,19.0s,baz=125,slow=36						
KUR	**Kuril'sk**	**10.88**	**27**	*c i*P	**Pn**	**12 07 38.1**	**-2.4**
KUR				*e*S	**Sn**	**12 09 35.3**	**-6.4**
KUR				pmax	pmax		
	comp=Z,468nm,0.8s						
KUR				pmax	pmax		
	comp=N,253nm,0.7s						
KUR				pmax	pmax		
	comp=E,129nm,0.2s						
KUR				MLR	MLR		
	comp=Z,22μm,14.0s						
KUR				MLR	MLR		
	comp=E,28μm,11.0s						
KUR				MLR	MLR		
	comp=N,9μm,9.0s						
TJN	**Taejon**	**10.92**	**277**	⇑*i*P	**Pn**	**12 07 45.7**	**+4.6**
YSS	**Yuzh-Sakhalins**	**11.29**	**7**	⇑*e*P	**Pn**	**12 07 44.2**	**-1.9**
YSS				*e*S	**Sn**	**12 09 47.9**	**-3.8**
YSS				pmax	pmax		
	comp=N,690nm,0.8s						
YSS				pmax	pmax		
	comp=Z,770nm,0.8s						
YSS				pmax	pmax		
	comp=E,330nm,0.7s						
YSS				pmax	pmax		
	comp=Z,2μm,10.0s						
YSS				MLR	MLR		
	comp=Z,27μm,12.0s						
YSS				MLR	MLR		
	comp=N,18μm,11.0s						
YSS				MLR	MLR		
	comp=E,23μm,16.0s						
YSS	**Yuzh-Sakhalins**	**11.29**	**7**	*e*Pn	**Pn**	**12 07 44.2**	**-1.9**
YSS				*e*Sn	**Sn**	**12 09 52.6**	**+1.0**
INCN	**Inchon**	**11.54**	**283**	P	**Pn**	**12 07 51.0**	**+1.4**
INCN	**Inchon**	**11.54**	**283**	*e*Pn	**Pn**	**12 07 47.2**	**-2.5**
INCN				*e*Sn	Sn	12 10 09.0	+11
INCN	**Inchon**	**11.54**	**283**	PnPn	Pn	12 07 59.9	+10
SNR=14							
MDJ	**Mudanjiang**	**12.33**	**319**	P	**Pn**	**12 08 02.3**	**+1.9**
MDJ				S	Sn	12 10 31.4	+14
MDJ				pmax	pmax		
	comp=E,300nm,2.1s						
MDJ				pmax	pmax		
	comp=E,8μm,8.3s						
MDJ				LR	LR		
	comp=E,37μm,18.1s						
MDJ				LR	LR		
	comp=E,15μm,15.3s						
MDJ				LR	LR		
	comp=E,46μm,17.3s						
MDJ	**Mudanjiang**	**12.33**	**319**	*e*Pn	**Pn**	**12 07 56.2**	**-4.1**
	comp=E,1μm,1.4s						
MDJ				*e*Sn	**Sn**	**12 10 16.0**	**-1.1**
JOW	**Kunigami**	**13.92**	**234**	*e*Pn	**Pn**	**12 08 21.4**	**-0.9**
JOW				*e*Sn	**Sn**	**12 11 01.7**	**+5.5**
CN2	**Changchun**	**14.29**	**309**	*e*P	**Pn**	**12 08 28.0**	**+0.9**
CN2				*es*P	P	12 08 34.6	+0.4
CN2				*e*S	**Sn**	**12 11 06.6**	**+1.7**
CN2				pmax	pmax		
	comp=E,140nm,1.2s						
CN2				pmax	pmax		
	comp=E,200nm,4.0s						
CN2				LR	LR		
	comp=E,33μm,14.0s						
CN2				LR	LR		
	comp=E,26μm,14.0s						
CN2				LR	LR		
	comp=E,14μm,16.0s						
SNY	**Shenyang**	**14.75**	**299**	⇑P	**Pn**	**12 08 34.6**	**+1.2**
SNY				S	**S**	**12 11 26.9**	**-7.7**
SNY				pmax	pmax		
	comp=E,150nm,1.6s						
SNY				pmax	pmax		
	comp=E,10μm,10.1s						
SNY				LR	LR		
	comp=E,25μm,14.2s						
SNY				LR	LR		
	comp=E,28μm,16.5s						
SNY				LR	LR		
	comp=E,35μm,16.9s						
KLR	**Kul'dur**	**15.03**	**336**	Pn	**Pn**	**12 08 36.2**	**-0.9**
	comp=E,0.1nm,0.3s,baz=134,slow=14,SNR=18						
KLR				Sn	**S**	**12 11 38.3**	**-2.0**
	baz=52,slow=19,SNR=1.7						
KLR				LR	LR	12 14 14.8	
	comp=E,2μm,19.0s,baz=152,slow=36						
TYV	**Tymovskoe**	**15.17**	**4**	*e*P	**Pn**	**12 08 36.2**	**-2.8**
TYV				*e*S	**Sn**	**12 11 18.5**	**-7.8**
TYV				pmax	pmax		
	comp=Z,4μm,4.6s						
TYV				pmax	pmax		
	comp=Z,717nm,1.2s						
TYV				smax	smax		
	comp=N,89nm,1.5s						
TYV				smax	smax		
	comp=N,3μm,5.2s						
TYV				MLR	MLR		
	comp=E,21μm,19.0s						
TYV				MLR	MLR		
	comp=Z,33μm,16.0s						
GRNR	**Gornyy**	**15.35**	**349**	*e*P	**Pn**	**12 08 37.8**	**-3.6**
GRNR				pmax	pmax		
	comp=N,42nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,36nm,1.0s						
DL2	**Dalian**	**15.59**	**287**	⇑*i*P	**P**	**12 08 48.0**	**-0.7**
DL2				S	**S**	**12 11 45.5**	**-6.4**
DL2				pmax	pmax		
	comp=Z,620nm,1.5s						
DL2				pmax	pmax		
	comp=Z,8μm,5.3s						
DL2				LR	LR		
	comp=Z,18μm,15.9s						
DL2				LR	LR		
	comp=Z,19μm,19.4s						
DL2				LR	LR		
	comp=Z,24μm,17.8s						
SSE	**Sheshan**	**17.03**	**260**	P	**P**	**12 09 04.1**	**-0.6**
SSE				S	**Sn**	**12 12 10.1**	**-1.7**
SSE				pmax	pmax		
	comp=Z,1μm,3.8s						
SSE				LR	LR		
	comp=Z,8μm,11.3s						
SSE				LR	LR		
	comp=Z,2μm,12.6s						
NKL	**Nikolayevsk**	**17.40**	**360**	*i* P	**Pn**	**12 09 03.0**	**-4.4**
NKL				pmax	pmax		
	comp=N,55nm,1.1s						
NKL				pmax	pmax		
	comp=Z,70nm,1.1s						
SKR	**Severo-Kuril's**	**18.57**	**32**	*e*P	**P**	**12 09 21.3**	**-0.3**
SKR				*e*S	**Sn**	**12 12 49.5**	**+0.7**
SKR				pmax	pmax		
	comp=Z,827nm,1.2s						
SKR				MLR	MLR		
	comp=Z,6μm,15.0s						
SKR				MLR	MLR		
	comp=Z,7μm,14.0s						
NJ2	**Nanjing**	**18.60**	**265**	*e*P	**P**	**12 09 22.0**	**0.0**
NJ2				pP	**pP**	**12 09 25.3**	**-2.3**
NJ2				sP	**sP**	**12 09 29.9**	**-0.3**
NJ2				S	**S**	**12 12 52.8**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,36nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,7μm,6.9s						
NJ2				LR	LR		
	comp=Z,29μm,11.0s						
NJ2				LR	LR		
	comp=Z,13μm,15.7s						
NJ2				LR	LR		
	comp=Z,22μm,15.2s						
TIA	**Tai'an**	**19.18**	**278**	P	**P**	**12 09 27.9**	**-0.5**
TIA				pmax	pmax		
	comp=Z,210nm,1.7s						
TIA				pmax	pmax		
	comp=Z,5μm,10.2s						
TIA				LR	LR		
	comp=Z,15μm,18.1s						
TIA				LR	LR		
	comp=Z,18μm,15.2s						
TIA				LR	LR		
	comp=Z,23μm,14.5s						
TATO	**Taipei**	**19.81**	**242**	*e*P	**P**	**12 09 32.8**	**-2.5**
	comp=Z,52nm,0.9s						
BJI	**Beijing**	**19.90**	**290**	P	**P**	**12 09 34.4**	**-1.8**
BJI				S	**S**	**12 13 16.6**	**-2.7**
BJI				pmax	pmax		
	comp=Z,140nm,1.5s						
BJI				pmax	pmax		
	comp=Z,9μm,12.4s						
BJI				LR	LR		
	comp=Z,3μm,13.3s						
BJI				LR	LR		
	comp=Z,2μm,12.0s						
BJT	**Baijiatuan**	**19.90**	**290**	*e*P	**P**	**12 09 34.6**	**-1.7**
BJT				*e*S	**S**	**12 13 12.8**	**-6.6**
BJT				pmax	pmax		
	comp=Z,382nm,1.1s						
BJT	**Baijiatuau**	**19.90**	**290**	*e*P	**P**	**12 09 34.6**	**-1.7**
	comp=Z,382nm,1.1s						
BJT				*e*S	**S**	**12 13 12.8**	**-6.6**
YHNB	**Yeheng**	**20.07**	**242**	*e*P	**P**	**12 09 36.8**	**-1.5**
	comp=Z,162nm,1.5s						
NACB	**Ninganchiao**	**20.22**	**240**	*e*P	**P**	**12 09 37.5**	**-2.4**
	comp=Z,48nm,0.5s						
ZEA	**Zeya**	**20.34**	**336**	*e*P	**P**	**12 09 38.1**	**-2.8**
ZEA				*i*		12 13 24.0	
ZEA				pmax	pmax		
	comp=N,220nm,0.8s						
ZEA				pmax	pmax		
	comp=E,110nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,650nm,1.4s						
ZEA				MLR	MLR		
	comp=Z,29μm,16.0s						
ZEA				MLR	MLR		
	comp=E,16μm,13.0s						
ZEA				MLR	MLR		
	comp=N,24μm,15.0s						
HIA	**Hailar**	**20.50**	**318**	*e*P	**P**	**12 09 39.6**	**-3.1**
HIA				*e*S	**S**	**12 13 27.2**	**-4.0**
HIA				pmax	pmax		
	comp=Z,213nm,1.4s						
HIA				MLR	MLR		
	comp=Z,22μm,19.0s						
HIA	**Hailar**	**20.50**	**318**	*e*P	**P**	**12 09 39.6**	**-3.1**
	comp=Z,214nm,1.4s						
HIA				*e*S	**S**	**12 13 27.2**	**-4.0**
HIA				LR	LR		
	comp=Z,22μm,19.0s						
SSLB	**Suanglung**	**20.92**	**241**	*e*P	**P**	**12 09 45.0**	**-2.5**
	comp=Z,64nm,0.8s						
YULB	**Yu-li**	**20.93**	**239**	*e*P	**P**	**12 09 44.0**	**-3.6**
	comp=Z,52nm,0.9s						
PEA0B	**Petropavlovsk-**	**21.04**	**29**	*e*P	**P**	**12 09 49.6**	**+1.1**
	comp=Z,942nm,1.1s						
PETK	**Petropavlovsk-**	**21.04**	**29**	P	**P**	**12 09 49.0**	**+0.6**
	comp=Z,490nm,1.0s,baz=205,slow=6.6,SNR=247						
PETK				PcP	**PcP**	**12 13 55.0**	**+0.2**
	comp=Z,17nm,0.9s,baz=202,slow=1.9,SNR=3.9						
PETK				LR	LR	12 17 38.7	
	comp=Z,6μm,20.0s,baz=218,slow=36						
PETK	**Petropavlovsk-**	**21.04**	**29**	P	**P**	**12 09 49.1**	**+0.6**
PETK						12 13 55.0	
PETK				pmax	pmax		
	comp=Z,475nm,1.0s						
PETK				pmax	pmax		
	comp=Z,17nm,0.9s						
PETK				MLR	MLR		
	comp=Z,6μm,20.0s						
PETK	**Petropavlovsk-**	**21.04**	**29**	*e*P	**P**	**12 09 49.4**	**+1.0**
PETK				*e*S	Sn	12 13 55.5	+7.3
PET	**Petropavlovsk**	**21.36**	**31**	*i* P	**P**	**12 09 52.1**	**+0.2**
PET				*i* S	**S**	**12 13 42.6**	**-5.5**
PET				pmax	pmax		
	comp=Z,846nm,1.3s						
PET				pmax	pmax		
	comp=Z,6μm,7.3s						
PET				pmax	pmax		
	comp=Z,8μm,9.9s						
PET				MLR	MLR		
	comp=Z,13μm,17.0s						
PET				MLR	MLR		
	comp=Z,12μm,17.0s						
PET	**Petropavlovsk**	**21.36**	**31**	*e*P	**P**	**12 09 52.5**	**+0.6**
	comp=Z,484nm,1.0s						
PET				LR	LR		
	comp=Z,12μm,19.0s						
TPUB	**Ta-pu**	**21.46**	**240**	*e*P	**P**	**12 09 51.3**	**-1.9**
	comp=Z,78nm,0.7s						
TWG	**Pinlang**	**21.46**	**238**	*e*P	**P**	**12 09 51.0**	**-2.2**
	comp=Z,535nm,1.0s						
QZH	**Quanzhou**	**21.95**	**247**	⇓*i*P	**P**	**12 09 54.8**	**-3.7**
QZH				S	**S**	**12 13 55.0**	**-5.1**
QZH				pmax	pmax		
	comp=Z,62nm,1.3s						
QZH				LR	LR		
	comp=Z,14μm,15.6s						
QZH				LR	LR		
	comp=Z,10μm,11.4s						
QZH				LR	LR		
	comp=Z,16μm,14.2s						
GUMO	**Guam**	**22.36**	**170**	P	**P**	**12 10 01.7**	**-1.2**
	comp=Z,171nm,0.8s,baz=6.3,slow=9.2,SNR=4.9						
GUMO	**Guam**	**22.36**	**170**	*e*P	**P**	**12 10 02.6**	**-0.3**
	comp=Z,1μm,1.2s						
GUMO				*e*S	Sn	12 14 20.9	+0.5
GUMO				LR	LR		
	comp=Z,14μm,20.0s						
WHN	**Wuhan**	**22.73**	**264**	⇑P	**P**	**12 10 05.9**	**-0.9**
WHN				pP	**pP**	**12 10 12.0**	**-0.4**
WHN				S	**S**	**12 14 15.1**	**+0.6**
WHN				pmax	pmax		
	comp=Z,220nm,1.1s						
WHN				LR	LR		
	comp=Z,12μm,9.6s						
WHN				LR	LR		
	comp=Z,54μm,11.9s						
WHN				LR	LR		
	comp=Z,65μm,13.0s						
TIY	**Taiyuan**	**22.81**	**283**	*e*P	**P**	**12 10 08.9**	**+1.3**
TIY				S	**S**	**12 14 12.1**	**-3.7**
TIY				sS	**pS**	**12 14 21.8**	**-0.6**
TIY				pmax	pmax		
	comp=Z,70nm,0.9s						
TIY				pmax	pmax		
	comp=Z,3μm,10.5s						
TIY				LR	LR		
	comp=Z,11μm,13.1s						
TIY				LR	LR		
	comp=Z,10μm,11.4s						
TIY				LR	LR		
	comp=Z,23μm,15.2s						
HHC	**Hu-ho-hao-te**	**23.46**	**291**	*e*P	**P**	**12 10 11.3**	**-3.0**
HHC				sP	pP	12 10 19.1	-1.0
HHC				PP	**PnPn**	**12 10 48.3**	**+7.4**
HHC				S	**S**	**12 14 22.8**	**-4.1**
HHC				sS	pS	12 14 32.1	-1.0
HHC				SS	**SnSn**	**12 15 09.1**	**+6.2**
HHC				pmax	pmax		
	comp=Z,55nm,1.0s						
HHC				pmax	pmax		
	comp=Z,2μm,8.0s						
HHC				LR	LR		
	comp=Z,13μm,14.7s						
HHC				LR	LR		
	comp=Z,12μm,13.2s						
HHC				LR	LR		
	comp=Z,12μm,12.0s						
CLNS	**Chul'man**	**23.68**	**338**	*e*P	**P**	**12 10 14.5**	**-1.7**
CLNS				*e*'PP	**sP**	**12 10 23.4**	**-1.1**
CLNS				*e*		12 13 59.7	
CLNS				*e*S	**S**	**12 14 29.0**	**-0.9**
CLNS				*e*SS	**SnSn**	**12 15 17.0**	**+9.2**
CLNS				*i*		12 21 19.3	

CLNS pmax pmax
comp=Z,329nm,1.4s
CLNS pmax pmax
comp=E,76nm,1.1s
CLNS pmax pmax
comp=N,347nm,1.3s
CLNS pmax pmax
comp=E,122nm,0.9s
CLNS pmax pmax
comp=Z,147nm,1.1s
CLNS pmax pmax
comp=N,94nm,0.9s
CLNS smax smax
comp=N,6µm,10.7s
CLNS smax smax
comp=E,3µm,11.0s
CLNS MLR MLR
comp=Z,20µm,13.0s
CLNS MLR MLR
comp=N,15µm,13.0s
CLNS MLR MLR
comp=E,9µm,11.0s
BTO Baotou 24.63 291 *e*P **P 12 10 25.4 +0.2**
MA2 Magadan 24.71 12 P **P 12 10 26.0 +0.4**
comp=E,382nm,0.9s,baz=198,slow=9.2,SNR=272
MA2 Magadan 24.71 12 P **P 12 10 26.0 +0.4**
MA2 pmax pmax
comp=Z,383nm,0.9s
CIT Chita 25.30 319 *e*P **P 12 10 29.1 -2.0**
CIT *e* 12 10 44.7
CIT *e* 12 11 08.4
CIT *e* 12 11 28.4
CIT *e* 12 14 07.2
CIT pmax pmax
comp=Z,277nm,1.3s
XAN Xi'an 26.17 276 P **P 12 10 37.6 -1.6**
XAN pP pP 12 10 42.0 -3.1
XAN sP sP 12 10 44.5 -3.1
XAN PP **PnPn 12 11 20.1 +2.3**
XAN S **S 12 15 05.6 -4.5**
XAN pmax pmax
comp=Z,99nm,1.9s
XAN LR LR
comp=Z,13µm,14.6s
XAN LR LR
comp=Z,10µm,12.5s
XAN LR LR
comp=Z,13µm,13.6s
ENH Enshi 26.77 267 *e*P **P 12 10 43.9 -0.7**
comp=Z,203nm,0.8s
ENH *e*S **S 12 15 29.0 +9.3**
ENH LR LR
comp=Z,18µm,20.0s
GZH Guangzhou 26.96 250 P **P 12 10 40.8 -5.5**
GZH S **S 12 15 20.9 -1.7**
GZH LR LR
comp=Z,13µm,16.1s
GZH LR LR
comp=Z,21µm,16.5s
YAK Yakutsk 27.23 349 P **P 12 10 47.9 -0.4**
comp=Z,60nm,0.4s,baz=67,slow=2.3,SNR=127
YAK LR LR 12 21 38.5
comp=Z,17µm,19.3s,baz=94,slow=36
YAK Yakutsk 27.23 349*d* iP **P 12 10 47.4 -0.9**
YAK *e**PP **pP 12 10 55.4 +1.1**
YAK *e*S **S 12 15 25.0 -1.1**
YAK *e**SS **sS 12 15 36.9 +0.9**
YAK pmax pmax
comp=Z,694nm,1.6s
YAK pmax pmax
comp=E,134nm,1.5s
YAK pmax pmax
comp=N,476nm,1.7s
YAK pmax pmax
comp=Z,345nm,1.3s
YAK pmax pmax
comp=N,682nm,1.6s
YAK pmax pmax
comp=E,369nm,1.7s
YAK smax smax
comp=N,1µm,3.7s
YAK smax smax
comp=E,1µm,3.5s
YAK MLR MLR
comp=Z,28µm,19.0s
YAK MLR MLR
comp=E,9µm,20.0s
YAK MLR MLR
comp=N,17µm,16.0s
YAK Yakutsk 27.23 349 *e*P **P 12 10 48.1 -0.3**
comp=N,509nm,1.1s
ULN Ulaanbaatar 27.71 306*d* iP **P 12 10 52.3 -0.7**
ULN pmax pmax
comp=Z,129nm,1.2s
ULN Ulaanbaatar 27.71 306 *e*P **P 12 10 52.7 -0.3**
comp=Z,133nm,1.0s
ULN LR LR
comp=Z,10µm,20.0s
ULN Ulaanbaatar 27.71 306 P **P 12 10 52.7 -0.3**
SNR=96
ULN Ulaanbaatar 27.71 306 P **P 12 10 52.7 -0.3**
SNR=96
H11N2 WAKE ISLAND Hy 27.93 118 T T 12 39 53.1
baz=311,slow=75,SNR=1751
H11N1 WAKE ISLAND Hy 27.94 118 T T 12 39 51.2
baz=311,slow=75,SNR=2906
H11N3 WAKE ISLAND Hy 27.95 118 T T 12 39 51.0
baz=311,slow=75,SNR=2249
TGY Tagaytay City 27.99 225 LR LR 12 20 12.2
comp=Z,4µm,21.4s,baz=30,slow=33
WAKE Wake Island 28.05 119 PFAKE 12 11 10.0 +14
WAKE LR LR
comp=Z,12µm,19.0s
SONA1 Songino Array 28.13 306 *e*P **P 12 10 55.7 -1.1**
SONM Songino Array 28.13 306 P **P 12 10 56.8 0.0**
comp=Z,32nm,0.9s,baz=107,slow=9.2,SNR=66
SONM ScP **ScP 12 17 52.6 +2.2**
comp=Z,2.8nm,1.1s,baz=131,slow=1.3,SNR=3.7
SONM LR LR 12 22 09.5
comp=Z,10µm,19.7s,baz=96,slow=36
SEY Seymchan 28.14 11 P **P 12 10 57.7 +1.2**
comp=Z,195nm,1.1s,baz=207,slow=7.0,SNR=160
SEY LR LR 12 23 52.5
comp=Z,15µm,18.0s,baz=204,slow=40
BOD Bodaibo 28.38 329⇓ *i*P **P 12 10 59.0 +0.3**
BOD pmax pmax
comp=Z,174nm,1.7s
H11S1 WAKE ISLAND Hy 28.59 120 T T 12 40 41.6
baz=312,slow=75
H11S3 WAKE ISLAND Hy 28.59 120 T T 12 40 42.3
baz=312,slow=75,SNR=9565
H11S2 WAKE ISLAND Hy 28.61 120 T T 12 40 42.8
baz=312,slow=75
LZH Lanzhou 29.84 282⇓ P **P 12 11 11.6 -0.5**
LZH pP pP 12 11 16.0 -2.1
LZH sP sP 12 11 18.4 -2.2
LZH S **S 12 16 05.4 -2.7**
LZH pmax pmax
comp=Z,180nm,1.2s
LZH pmax pmax
comp=Z,1µm,7.0s
LZH LR LR
comp=Z,12µm,12.8s
LZH LR LR
comp=Z,20µm,14.2s
LZH LR LR
comp=Z,22µm,14.4s
GYA Guiyang 30.55 262⇑ *i*P **P 12 11 17.3 -1.2**
GYA PP **PnPn 12 12 19.0 +1.3**
GYA S **S 12 16 18.3 -1.1**
GYA SS **ScP 12 17 59.8 +1.3**
GYA ScS **ScS 12 21 54.0 -1.0**
GYA pmax pmax
comp=Z,160nm,1.1s
GYA pmax pmax
comp=Z,210nm,5.4s
GYA LR LR
comp=Z,9µm,17.9s
GYA LR LR
comp=Z,9µm,18.8s
GYA LR LR
comp=Z,14µm,15.1s
IRK Irkutsk 30.63 314 *e*P **P 12 11 19.1 +0.4**
IRK *e*S **S 12 16 25.4 +5.5**
IRK pmax pmax
comp=Z,111nm,2.6s

ZAK Zakamensk 30.71 310 *e*P **P 12 11 19.0 -0.6**
ZAK pmax pmax
comp=Z,34nm,1.5s
TLY Talaya 30.83 313 LR LR 12 23 08.7
comp=Z,9µm,19.5s,baz=106,slow=35
TLY Talaya 30.83 313 *e*P **P 12 11 21.5 +0.9**
TLY *e*S **S 12 16 19.3 -3.8**
TLY pmax pmax
comp=Z,89nm,1.8s
TLY MLR MLR
comp=Z,9µm,13.0s
TLY Talaya 30.83 313 *e*P **P 12 11 21.7 +1.2**
comp=Z,29nm,0.8s
TLY Talaya 30.83 313 pP **P 12 11 21.8 +1.2**
SNR=21
TLY Talaya 30.83 313 P **P 12 11 21.8 +1.2**
SNR=21
CD2 Chengdu 31.22 272⇑ P **P 12 11 24.0 -0.2**
CD2 pP pP 12 11 28.8 -1.4
CD2 sP sP 12 11 30.9 -1.8
CD2 S **S 12 16 29.1 -0.5**
CD2 pmax pmax
comp=Z,140nm,0.8s
CD2 pmax pmax
comp=Z,4µm,8.0s
CD2 LR LR
comp=Z,31µm,16.4s
CD2 LR LR
comp=Z,29µm,13.9s
CD2 LR LR
comp=Z,25µm,18.4s
DAV Davao City (W) 31.78 210 LR LR 12 21 39.3
comp=Z,6µm,21.7s,baz=48,slow=31
QIZ Qiongzhong 31.98 247 P **P 12 11 32.5 +1.6**
QIZ S **S 12 16 43.3 +1.8**
QIZ LR LR
comp=Z,7µm,28.4s
QIZ LR LR
comp=Z,9µm,20.1s
QIZ LR LR
comp=Z,7µm,20.1s
QIZ Qiongzhong 31.98 247 PFAKE 12 11 40.0 +9.1
QIZ LR LR
comp=Z,9µm,21.0s
MOY Mondy 32.42 312 *e*P **P 12 11 35.2 +0.5**
MOY pmax pmax
comp=Z,112nm,3.5s
GTA Gaotai 32.51 289⇑ P **P 12 11 36.3 +0.7**
GTA pP pP 12 11 42.1 +0.5
GTA sP sP 12 11 45.3 +1.2
GTA PcP **PcP 12 14 22.4 +0.3**
GTA ScP **ScP 12 18 03.8 -1.1**
GTA ScS **ScS 12 22 05.3 +0.9**
GTA pmax pmax
comp=Z,53nm,1.4s
GTA LR LR
comp=Z,9µm,17.6s
GTA LR LR
comp=Z,8µm,14.3s
GTA LR LR
comp=Z,9µm,14.3s
KMI Kunming 34.31 263 P **P 12 11 50.9 -0.6**
KMI pP pP 12 11 55.8 -1.8
KMI sP sP 12 11 58.3 -1.7
KMI PP **PnPn 12 13 06.4 +0.4**
KMI S **S 12 17 12.8 -5.3**
KMI sS pS 12 17 26.1 +1.0
KMI SS **SnSn 12 19 26.5 -1.3**
KMI pmax pmax
comp=Z,91nm,1.4s
KMI pmax pmax
comp=Z,3µm,8.2s
KMI LR LR
comp=Z,6µm,17.4s
KMI LR LR
comp=Z,16µm,13.0s
KMI LR LR
comp=Z,15µm,14.0s
BILL Bilibino 35.39 16*d* iP **P 12 11 59.3 -0.8**
BILL *e*PPP PPP 12 13 25.8
BILL *i* 12 14 29.1
BILL *i* S **S 12 17 33.0 -0.4**
BILL *e*SS **SnSn 12 19 54.4 +1.8**
BILL pmax pmax
comp=Z,644µm,1.4s
BILL pmax pmax
comp=Z,373nm,1.1s
BILL MLR MLR
comp=Z,9µm,14.0s
MIDW Midway 36.03 90 PFAKE 12 12 20.0 +14
MIDW LR LR
comp=Z,5µm,21.0s
KDM Kudat 36.16 223⇓ P **P 12 12 05.5 -1.6**
TIXI Tiksi 36.51 354 LR LR 12 28 05.7
comp=Z,9µm,18.4s,baz=164,slow=38
TIXI Tiksi 36.51 354*d* iP **P 12 12 09.1 -0.5**
TIXI pmax pmax
comp=Z,182nm,1.7s
TIXI Tiksi 36.51 354 *e*P **P 12 12 09.2 -0.4**
comp=Z,121nm,1.1s
MYLDM Lahad Datu 36.72 219⇑ P **P 12 12 10.4 -1.5**
MYLDM Lahad Datu 36.72 219 *e*P **P 12 12 11.5 -0.5**
comp=Z,59nm,1.1s
HVS Khovu-Aksy 36.83 310⇓ *i*P **P 12 12 14.7 +2.0**
HVS pmax pmax
comp=Z,68nm,0.9s
SDKM Sandakan 37.02 222⇑ P **P 12 12 13.2 -1.4**
KKM Kota Kinabalu 37.22 223 PFAKE 12 12 30.0 +14
KKM LR LR
comp=Z,7µm,20.0s
SWI Sorong 37.50 196 P **P 12 12 19.3 +0.7**
UBPT Khong Chiam 37.57 246 P **P 12 12 18.3 -0.9**
comp=Z,59nm,1.7s
TSM Tawau 37.79 219⇓ P **P 12 12 19.7 -1.4**
JAY Jayapura 38.06 180 P **P 12 12 26.3 +2.9**
GENI Genyem 38.15 181 P **P 12 12 27.0 +3.0**
LBMI Labuha 38.27 202 P **P 12 12 27.4 +2.3**
KMSI Cibinong 38.34 208 P P 12 12 32.6 +6.9
SPIA Saint Paul Isl 38.84 41 *e*P **P 12 12 31.1 +1.6**
comp=Z,115nm,1.1s
KHON Khomkaen 38.92 250 P **P 12 12 31.2 +0.6**
comp=Z,34nm,0.9s,comp=Z,899nm
MRSI Marisa 39.24 211 P **P 12 12 34.1 +0.8**
FAKI Fak Fak 39.29 194 P **P 12 12 32.8 -0.8**
FAKI Fak Fak 39.29 194 *e*P **P 12 12 32.9 -0.8**
comp=Z,100nm,0.8s
KMPI Kaimana, Papua 39.77 191 P **P 12 12 40.0 +2.4**
comp=Z,265nm,0.7s,comp=Z,4µm
CHAI Chaiyaphum 39.82 250 P **P 12 12 37.1 -1.0**
comp=Z,39nm,1.0s,comp=Z,294nm
CMAI Chiengmai2 39.84 258 P **P 12 12 38.6 +0.1**
comp=Z,327nm,1.3s
GAMB Gambell 40.06 31 *e*P **P 12 12 40.7 +1.1**
comp=Z,125nm,1.5s
GAMB *e*S **S 12 18 49.7 +5.5**
SANI Sanana 40.08 203 P **P 12 12 38.4 -1.8**
comp=Z,157nm,0.8s,comp=Z,2µm
LAMP Lampang 40.14 256 P **P 12 12 40.9 +0.1**
comp=Z,17nm,0.9s,comp=Z,132nm
MPSI Mapaga 40.25 214 P **P 12 12 45.4 +3.7**
comp=Z,28nm,0.8s
PHIT Phitsanulok 40.28 253 P **P 12 12 42.1 +0.2**
comp=Z,34nm,1.0s,comp=Z,308nm
LUWI Luwuk 40.29 209 *e*P **P 12 12 40.1 -1.8**
comp=Z,73nm,0.8s
MSAI Masohi 40.45 198 P P 12 12 50.7 +7.4
UNV Unalaska Valle 40.47 47 *e*P **P 12 12 42.8 -0.2**
CMMT Chiang Mai 40.52 257 P **P 12 12 42.2 -1.8**
comp=Z,45nm,1.1s
CHTO Chiang Mai 40.52 257 P **P 12 12 43.2 -0.8**
comp=Z,204nm,1.1s
CHTO Chiang Mai 40.52 257 *e*P **P 12 12 43.0 -1.0**
CHTO pmax pmax
comp=Z,44nm,1.0s
CHTO MLR MLR
comp=Z,10µm,20.0s
CHTO Chiang Mai 40.52 257 *e*P **P 12 12 43.0 -1.0**
comp=Z,44nm,1.0s
CHTO LR LR
comp=Z,10µm,20.0s
CHTO Chiang Mai 40.52 257 P **P 12 12 43.4 -0.6**
SNR=25
CHTO Chiang Mai 40.52 257 P **P 12 12 43.4 -0.6**
SNR=25
APSI Ampana 40.62 210 P **P 12 12 42.8 -1.9**
comp=Z,294nm,1.2s,comp=Z,3µm

CMAR Chiang Mai Arr 40.72 256 P **P 12 12 45.1 -0.4**
comp=Z,5.8nm,0.6s,baz=42,slow=7.9,SNR=34
CMAR PcP **PcP 12 14 48.5 +1.5**
comp=Z,14nm,1.1s,baz=26,slow=2.6,SNR=5.2
CMAR LR LR 12 30 33.3
comp=Z,7µm,20.3s,baz=64,slow=38
DGZ Jazzator, Alta 40.77 307*d* iP **P 12 12 47.1 +1.2**
DGZ pmax pmax
comp=Z,113nm,0.7s
SRAK Srakaew 40.94 248 P **P 12 12 43.2 -4.2**
comp=Z,198nm,1.1s,comp=Z,2µm
AAI Ambon 40.98 199 P **P 12 12 48.7 +1.1**
comp=Z,327nm,0.7s,comp=Z,4µm
WMQ Urumqi 41.01 298 P **P 12 12 48.8 +1.0**
WMQ sP sP 12 12 58.8 +2.4
WMQ PcP **PcP 12 14 49.3 +1.7**
WMQ PcS **PcS 12 18 37.5 -1.0**
WMQ S **S 12 19 02.3 +3.2**
WMQ pmax pmax
comp=Z,360nm,1.3s
WMQ pmax pmax
comp=Z,8µm,8.3s
WMQ LR LR
comp=Z,29µm,21.3s
WMQ LR LR
comp=Z,13µm,15.5s
WMQ LR LR
comp=Z,8µm,18.3s
RABL Rabaul 41.13 163 *e*P **P 12 12 48.1 -0.8**
comp=Z,46nm,0.8s
NAYO Nakonayok 41.30 249 P **P 12 12 49.7 -0.6**
comp=Z,34nm,0.9s
BTM Bintulu 41.31 225⇑ P **P 12 12 49.3 -1.1**
BNDI Bandanaira 41.35 197 P **P 12 12 53.3 +2.6**
comp=Z,696nm,1.4s
CHBT CHBT 41.52 246 P P 12 12 59.7 +7.6
LSA Lhasa 41.87 276 P **P 12 12 56.3 +0.8**
LSA pmax pmax
comp=Z,120nm,1.4s
LSA LR LR
comp=Z,2µm,20.3s
LSA LR LR
comp=Z,3µm,18.4s
LSA LR LR
comp=Z,11µm,18.4s
LSA Lhasa 41.87 276 *e*P **P 12 12 56.2 +0.8**
LSA pmax pmax
comp=Z,247nm,1.1s
LSA MLR MLR
comp=Z,11µm,19.0s
LSA Lhasa 41.87 276 *e*P **P 12 12 56.1 +0.7**
comp=Z,247nm,1.1s
LSA LR LR
comp=Z,11µm,19.0s
LSA Lhasa 41.87 276 *i* P **P 12 12 56.3 +0.8**
SNR=50
SBUM Sibu 42.42 225⇑ P **P 12 12 58.1 -1.4**
SBUM Sibu 42.42 225 *e*P **P 12 12 57.2 -2.3**
comp=Z,5.8nm,0.7s
ZAA0 Zalesovo Array 42.44 313 *e*P **P 12 12 58.6 -0.6**
comp=Z,136nm,0.8s
ZALV Zalesovo Beam 42.44 313 P **P 12 12 59.1 -0.1**
comp=Z,42nm,0.5s,baz=92,slow=6.0,SNR=208
ZALV PcP **PcP 12 14 53.7 +1.7**
comp=Z,17nm,0.7s,baz=104,slow=2.1,SNR=3.8
ZALV LR LR 12 30 45.1
comp=Z,4µm,19.6s,baz=90,slow=36
ZALV Zalesovo Beam 42.44 313 *e*P **P 12 12 58.3 -0.9**
ZALV 12 14 53.7
ZALV Zalesovo Beam 42.44 313 *e*P **P 12 12 58.3 -0.9**
ZALV PcP **PcP 12 14 53.7 +1.7**
ZSN Zaisan 42.59 304⇓ *i*P **P 12 13 01.9 +1.3**
comp=Z,946nm,1.2s
ZSN *i* S **S 12 19 27.5 +5.2**
ZSN LR LR 12 31 10.0
comp=Z,2µm,13.9s
SHL Shillong 42.93 270 *e*P **P 12 13 03.0 -0.8**
SHL *e*S **S 12 19 27.5 -0.5**
SRDT SRDT 42.96 251 P **P 12 13 03.6 -0.3**
comp=Z,125nm,1.0s,comp=Z,5µm
NVS Novosibirsk 43.39 315 *i* P **P 12 13 07.8 +0.8**
NVS *e*S **S 12 19 33.2 -0.6**
NVS pmax pmax
comp=E,143nm,1.0s
NVS pmax pmax
comp=Z,210nm,1.0s
NVS smax smax
comp=E,196nm,2.7s
PHET Kaeng Krachan 43.45 249 P **P 12 13 07.9 0.0**
comp=E,27nm,0.8s,comp=E,304nm
MTKI Muara Teweh, K 43.78 219 P **P 12 13 13.9 +3.4**
comp=E,79nm,0.9s
KSM Kuching 44.32 227⇑ P **P 12 13 14.0 -0.8**
KSM Kuching 44.32 227 *e*P **P 12 13 14.3 -0.5**
comp=E,28nm,0.7s
KSM LR LR
comp=Z,3µm,20.0s
MK01 Makanchi Array 44.41 303 *e*P **P 12 13 14.7 -0.6**
MK31 Makanchi Array 44.41 303 *i* P **P 12 13 15.4 +0.1**
MK31 pmax pmax
comp=Z,168nm,0.9s
MK31 Makanchi Array 44.41 303 *e*P **P 12 13 15.7 +0.4**
MKAR Makanchi Array 44.41 303 P **P 12 13 15.9 +0.6**
comp=Z,77nm,0.8s,baz=90,slow=10.0,SNR=476
MKAR LR LR 12 32 17.6
comp=Z,6µm,19.4s,baz=88,slow=37
MKAR Makanchi Array 44.41 303 *i* P **P 12 13 15.8 +0.5**
MKAR pmax pmax
comp=Z,77nm,0.9s
MKAR Makanchi Array 44.41 303 *e*P **P 12 13 15.7 +0.5**
comp=Z,770nm,0.9s
SAUI Saumlaki 44.41 194 P P 12 13 24.9 +9.4
SAUI Saumlaki 44.41 194 *e*P **P 12 13 15.9 +0.4**
comp=Z,349nm,0.8s
BNSI Bone 44.41 210 P **P 12 13 15.6 +0.1**
comp=Z,157nm,1.1s,comp=Z,3µm
MAKZ Makanchi 44.62 303 *e*P **P 12 13 17.2 +0.2**
MAKZ pmax pmax
comp=Z,150nm,0.9s
MAKZ Makanchi 44.62 303 *e*P **P 12 13 17.2 +0.2**
comp=Z,150nm,0.9s
STKI Sintang 44.79 224 P **P 12 13 19.2 +0.6**
comp=Z,41nm,0.6s,comp=Z,18µm
KAPI Kappang 45.12 210 *e*P **P 12 13 20.4 -0.7**
comp=Z,157nm,1.2s
KAPI LR LR
comp=Z,3µm,22.0s
KAPI Kappang 45.12 210 P P 12 13 26.4 +5.3
SNR=6.8
PMG Port Moresby 45.31 171 P **P 12 13 22.3 -0.3**
comp=Z,13nm,0.7s,baz=346,slow=4.2,SNR=5.1
PMG LR LR 12 30 41.6
comp=Z,3µm,21.9s,baz=0.5,slow=34
PMG Port Moresby 45.31 171⇑ *i*P **P 12 13 22.9 +0.3**
PMG pmax pmax
comp=Z,479nm,1.8s
PMG Port Moresby 45.31 171 *e*P **P 12 13 22.5 -0.1**
comp=Z,81nm,1.1s
SEM Semipalatinsk 45.36 308⇓ *i*P **P 12 13 22.6 -0.5**
comp=Z,1µm,1.4s
SEM *i* S **S 12 20 04.0 +1.0**
SEM LR LR 12 32 38.7
comp=Z,10µm,13.5s
TARA Tarawa 45.37 132 PFAKE 12 13 40.0 +17
TARA LR LR
comp=Z,409nm,19.0s
KTGM Kuala Trenggan 46.00 238⇓ P **P 12 13 27.5 -0.7**
KURK Kurchatov 46.36 309*d* iP **P 12 13 30.6 0.0**
KURK pmax pmax
comp=Z,939nm,1.0s
KURK Kurchatov 46.36 309 *e*P **P 12 13 30.5 -0.2**
comp=Z,252nm,0.8s
KURK LR LR
comp=Z,12µm,19.0s
KURK Kurchatov 46.36 309 P **P 12 13 30.8 +0.2**
SNR=135
KURK Kurchatov 46.36 309 P **P 12 13 30.8 +0.2**
SNR=135
KURBB Kurchatov Arra 46.43 309 P **P 12 13 31.6 +0.4**
comp=Z,157nm,0.9s,baz=84,slow=8.1,SNR=344
SKLT Songkhla 46.48 242 P **P 12 13 33.7 +1.7**
comp=Z,57nm,1.3s
SURT Suratani 46.61 246 P **P 12 13 31.9 -1.1**
comp=Z,19nm,1.1s
JIRN Jiri 46.67 276 *e*P **P 12 13 34.2 +0.4**
comp=Z,842nm,1.3s
TRTT Trang 46.70 244 P **P 12 13 32.4 -1.3**

comp=Z,23nm,1.0s
GUN Gumba 46.82 277 *e*P **P 12 13 35.2 +0.2**
comp=Z,252nm,0.8s
SVW2 Sparrevohn 46.83 37 *e*P **P 12 13 35.9 +1.7**
comp=Z,122nm,1.0s
PDGK Podgornoye 46.97 299 *i* P **P 12 13 35.7 0.0**
PDGK pmax pmax
comp=Z,443nm,1.4s
PKI Pulchoki 47.34 276 *e*P **P 12 13 38.8 -0.2**
comp=Z,171nm,1.0s
UZB Uzynbulak 47.34 299⇓*i*P **P 12 13 38.9 +0.2**
comp=Z,668nm,1.0s
UZB *i* S **S 12 20 33.3 +1.9**
UZB LR LR 12 34 36.1
comp=Z,3μm,15.3s
PKIN Phulchoki 47.35 276 *e*P **P 12 13 39.4 +0.4**
comp=Z,110nm,0.7s
KKN Kakani 47.35 277 *e*P **P 12 13 39.3 +0.3**
comp=Z,97nm,0.7s
TDK Taldyqorghan 47.38 301⇓*i*P **P 12 13 39.6 +0.9**
comp=Z,907nm,1.3s
TDK *e*S **S 12 20 34.4 +2.7**
TDK LR LR 12 34 01.0
comp=Z,8μm,16.2s
KPKS Kokpek 47.51 299 *i* P **P 12 13 40.6 +0.7**
comp=Z,126nm,1.4s
KPKS *e*S **S 12 20 36.2 +2.5**
KPKS LR LR 12 34 05.5
comp=Z,2μm,13.5s
DMN Daman 47.57 277 *e*P **P 12 13 40.8 +0.1**
comp=Z,334nm,1.4s
PKDT Phuket 47.66 245 P **P 12 13 41.1 -0.1**
comp=Z,28nm,1.0s,comp=Z,936nm
KULM Kulim 47.76 240⇓P **P 12 13 41.5 -0.5**
KULM Kulim 47.76 240 *e*P **P 12 13 41.2 -0.8**
comp=Z,30nm,1.1s
KULM LR LR
comp=Z,4μm,21.0s
GKN Gorkha 47.78 277 *e*P **P 12 13 42.7 +0.4**
SATY Saty 47.80 299⇓*i*P **P 12 13 42.7 +0.5**
comp=Z,874nm,1.4s
SATY *i* S **S 12 20 40.2 +2.3**
SATY LR LR 12 34 43.3
comp=Z,4μm,14.4s
SOEI Soe 47.88 202 P **P 12 13 42.7 -0.2**
comp=Z,494nm,0.8s,comp=Z,5μm
SOEI Soe 47.88 202 *e*P **P 12 13 41.6 -1.3**
comp=Z,206nm,0.8s
OHAK Old Harbor 48.02 42 *e*P **P 12 13 43.4 0.0**
comp=Z,122nm,1.1s
IPM Ipoh 48.07 239⇓P **P 12 13 43.5 -0.9**
IPM Ipoh 48.07 239 *e*P **P 12 13 42.1 -2.3**
comp=Z,39nm,0.8s
MYKOM Kota Tinggi 48.12 234⇓P **P 12 13 43.8 -0.9**
KGM Kluang 48.30 235⇓P **P 12 13 45.4 -0.7**
DANN Dangsing 48.35 278 *e*P **P 12 13 48.0 +1.2**
comp=Z,68nm,0.9s
KDAK Kodiak Island 48.38 41 LR LR 12 33 58.0
comp=Z,5μm,20.2s,baz=242,slow=36
KDAK Kodiak Island 48.38 41 *i* P **P 12 13 46.4 +0.2**
KDAK Kodiak Island 48.38 41 *e*P **P 12 13 46.7 +0.6**
comp=Z,133nm,0.8s
HNR Honiara 48.42 154 LR LR 12 32 06.7
comp=Z,6μm,22.0s,baz=329,slow=34
HNR Honiara 48.42 154 P **P 12 13 47.0 0.0**
HNR Honiara 48.42 154 *e*P **P 12 13 47.8 +0.8**
HNR pmax pmax
comp=Z,150nm,0.8s
HNR Honiara 48.42 154 *e*P **P 12 13 47.8 +0.8**
comp=Z,150nm,0.8s
DGPR DIGLIPUR 48.47 255 *e*P **P 12 13 46.7 -0.8**
BATI Baumata 48.49 203 P **P 12 13 46.9 -0.7**
comp=Z,242nm,0.6s,baz=50,slow=1.4,SNR=22
BATI LR LR 12 31 50.9
comp=Z,2μm,21.6s,baz=48,slow=33
BATI Baumata 48.49 203 P **P 12 13 48.1 +0.5**
comp=Z,195nm,0.7s,comp=Z,3μm
PPLA Purkeypile 48.49 34 *e*P **P 12 13 49.1 +1.8**
comp=Z,84nm,0.8s
SPU Mount Spurr 48.55 37 *e*P **P 12 13 48.5 +0.9**
CAST Castle Rocks 48.56 34 *e*P **P 12 13 49.0 +1.4**
comp=Z,80nm,0.9s
BOK Bokaro 48.59 272 *e*P **P 12 13 48.5 +0.1**
BOK lAmb lAmb 12 13 53.5
comp=Z,59nm,1.0s
KOLN Koldanda 48.72 277 *e*P **P 12 13 49.9 +0.4**
comp=Z,1μm,1.5s
MDOK Medeo 48.74 299 *i* P **P 12 13 50.3 +0.8**
comp=Z,1μm,1.2s
MDOK *e*S **S 12 20 54.0 +2.7**
MDOK LR LR 12 34 37.9
comp=Z,6μm,16.7s
AAA Alma-Ata 48.83 299 *i* P **P 12 13 51.2 +1.2**
AAA *e*S **S 12 20 46.7 -5.6**
AAA pmax pmax
comp=Z,2μm,3.9s
AAA smax smax
comp=E,2μm,10.2s
AAA MLR MLR
comp=Z,8μm,17.0s
AAA Alma-Ata 48.83 299⇓*i*P **P 12 13 51.1 +1.1**
comp=Z,615nm,1.4s
AAA LR LR 12 34 38.4
comp=Z,3μm,17.1s
KDJ Kajisay 48.90 298 P **P 12 13 51.7 +0.9**
BPAW Bear Paw Mtn. 49.06 33 *e*P **P 12 13 53.2 +1.8**
KUU Kurty 49.07 300⇓*i*P **P 12 13 51.8 0.0**
comp=Z,724nm,1.2s
KUU *i* S **S 12 20 57.3 +1.7**
KUU LR LR 12 35 07.2
comp=Z,2μm,13.9s
PYUN Piuthan 49.07 278 *e*P **P 12 13 52.7 +0.4**
comp=Z,619nm,0.9s
KTH Kantishna Hill 49.08 33 *e*P **P 12 13 52.5 +0.9**
comp=Z,121nm,1.1s
BRLK Bradley Lake 49.16 38 *e*P **P 12 13 53.8 +1.6**
comp=Z,91nm,1.0s
SUA Susitna One 49.17 36 *e*P **P 12 13 52.8 +0.3**
comp=Z,95nm,0.9s
MTN Manton Dam 49.19 193 *e*P **P 12 13 52.3 -0.6**
comp=Z,127nm,0.9s
MLY Manley 49.19 31 *e*P **P 12 13 53.8 +1.3**
comp=Z,86nm,0.8s
TRF Thorofare Moun 49.36 34 *e*P **P 12 13 55.3 +1.3**
comp=Z,67nm,1.1s
PLAI Plampang 49.38 211 P **P 12 13 57.2 +2.9**
comp=Z,118nm,0.9s
COEN Coen 49.48 177 *e*P **P 12 13 55.2 +0.1**
comp=Z,66nm,0.8s
COLD Coldfoot 49.51 29 *e*P **P 12 13 55.1 +0.4**
comp=Z,5.5nm,0.7s
PBA Port Blair 49.52 253 *e*P P 12 13 53.7 -1.9
ULHL Ulahol 49.55 298 P **P 12 13 57.1 +1.4**
SNR=28
RC01 Rabbit Creek A 49.67 37 *e*P **P 12 13 56.6 +0.5**
comp=Z,160nm,1.2s
BMNS Besmoynak 49.73 299⇓*i*P **P 12 13 57.8 +0.7**
comp=Z,3μm,1.3s
BMNS *e*S **S 12 21 07.6 +2.4**
BMNS LR LR 12 35 18.0
comp=Z,3μm,16.2s
TOLK Toolik Lake Re 49.83 27 P **P 12 13 58.5 +1.2**
baz=266
TOLK S **S 12 21 06.3 +0.6**
baz=266
TOLK Toolik Lake Re 49.83 27 *e*P **P 12 13 57.7 +0.4**
comp=Z,112nm,1.1s
TKM2 Tokmak 2 49.83 299 *i* P **P 12 13 58.9 +1.0**
TKM2 pmax pmax
comp=Z,202nm,1.2s
TKM2 Tokmak 2 49.83 299 P **P 12 13 58.8 +0.9**
SNR=195
SEW Seward 49.87 38 *e*P **P 12 13 58.1 +0.6**
comp=Z,89nm,0.8s
NRN Naryn 49.94 297 P **P 12 13 59.7 +0.9**
PMR Palmer 49.94 36 *e*P **P 12 13 58.7 +0.6**
PMR pmax pmax
comp=Z,87nm,0.9s
PMR Palmer 49.94 36 *e*P **P 12 13 58.6 +0.6**
comp=Z,87nm,0.9s
MCK McKinley 49.97 33 *e*P **P 12 13 58.7 +0.4**
MCK pmax pmax
comp=Z,105nm,1.0s
MCK McKinley 49.97 33 *e*P **P 12 13 58.7 +0.4**
comp=Z,105nm,1.0s
RND Reindeer 50.01 34 *e*P **P 12 13 58.9 +0.2**
RND pmax pmax
comp=Z,80nm,0.8s
RND Reindeer 50.01 34 *e*P **P 12 13 58.9 +0.2**
comp=Z,80nm,0.8s
MDM Murphy Dome 50.26 32 *e*P **P 12 14 00.6 +0.1**
comp=Z,244nm,0.9s
KZA Kyzart 50.30 298 P **P 12 14 04.1 +2.4**
SNR=36
SML Sawmill 50.31 36 *e*P **P 12 14 02.0 +1.0**
SML pmax pmax
comp=Z,129nm,0.8s
SML Sawmill 50.31 36 *e*P **P 12 14 02.0 +1.0**
comp=Z,129nm,0.8s
KBK Karagaybulak 50.36 299 P **P 12 14 03.5 +1.6**
SNR=101
BTLS Baital 50.39 302⇓*i*P **P 12 14 01.9 +0.1**
comp=Z,1μm,1.2s
BTLS *i* S **S 12 21 15.9 +1.9**
BTLS LR LR 12 35 34.2
comp=Z,4μm,14.8s
CHMS Chumysh 50.41 300 P **P 12 14 03.4 +1.3**
SNR=28
COLA College 50.42 32 *e*P **P 12 14 02.9 +1.2**
COLA pmax pmax
comp=Z,136nm,0.9s
COLA MLR MLR
comp=Z,4μm,20.0s
COLA College 50.42 32 *e*P **P 12 14 02.9 +1.2**
comp=Z,136nm,0.9s
COLA LR LR
comp=Z,4μm,20.0s
CCB Clear Creek Bu 50.44 32 *e*P **P 12 14 02.5 +0.6**
comp=Z,44nm,1.0s
KSH Kashi 50.51 295 P **P 12 14 06.8 +3.9**
KSH pP sP 12 14 11.9 +0.3
KSH sP pP 12 14 13.8 +4.6
KSH PcP **PcP 12 15 24.1 +3.3**
KSH S **S 12 21 19.6 +3.6**
KSH ScS **ScS 12 23 54.6 +1.6**
KSH pmax pmax
comp=Z,140nm,1.7s
KSH pmax pmax
comp=Z,680nm,4.3s
KSH LR LR
comp=Z,4μm,14.5s
KSH LR LR
comp=Z,5μm,16.3s
KSH LR LR
comp=Z,4μm,15.8s
USP Ospenovka 50.52 300 P **P 12 14 04.2 +1.3**
SNR=43
FRU1 Bishkek 50.55 299 P **P 12 14 04.7 +1.6**
FRU Bishkek 50.55 299 *i* P **P 12 14 04.0 +0.9**
FRU *e*S **S 12 21 22.0 +5.6**
FRU pmax pmax
comp=Z,500nm,1.8s
AAK Ala-Archa 50.69 299*d* *i*P **P 12 14 04.1 -0.2**
AAK pmax pmax
comp=Z,81nm,1.1s
AAK Ala-Archa 50.69 299 P **P 12 14 05.6 +1.3**
SNR=44
AAK Ala-Archa 50.69 299 *e*P **P 12 14 05.1 +0.7**
comp=Z,79nm,1.1s
AAK LR LR
comp=Z,10μm,20.0s
AAK Ala-Archa 50.69 299 pP **P 12 14 04.8 +0.5**
SNR=75
AAK Ala-Archa 50.69 299 P **P 12 14 04.8 +0.5**
SNR=75
AAK Ala-Archa 50.69 299 *i* P **P 12 14 04.7 +0.4**
SNR=26
DHY Denali Highway 50.69 34 *e*P **P 12 14 03.9 -0.1**
comp=Z,43nm,0.9s
PSI Prapat 50.73 240 P **P 12 14 03.9 -0.9**
comp=Z,28nm,0.8s,baz=38,slow=6.6,SNR=16
PSI LR LR 12 34 41.2
comp=Z,3μm,20.8s,baz=38,slow=35
PSI Prapat 50.73 240 *e*P **P 12 14 03.8 -1.0**
PSI pmax pmax
comp=Z,35nm,0.8s
PSI Prapat 50.73 240 *e*P **P 12 14 03.8 -1.0**
comp=Z,35nm,0.8s
SCM Sheep Creek Mo 50.78 36 *e*P **P 12 14 06.0 +1.4**
SCM pmax pmax
comp=Z,126nm,0.9s
SCM Sheep Creek Mo 50.78 36 *e*P **P 12 14 06.0 +1.4**
comp=Z,126nm,0.9s
UCH Uchtor 50.79 299 P **P 12 14 06.2 +0.7**
SNR=42
OTUK Ortayu 50.80 307 P P 12 14 15.1 +10
OTUK pmax pmax
comp=Z,230nm,1.1s
HDA Harding Lake 50.82 32 *e*P **P 12 14 05.3 +0.5**
comp=Z,133nm,0.9s
IL1 Eielson Array 50.83 32 *e*P **P 12 14 04.0 -0.9**
ILAR Eielson Array 50.83 32 P **P 12 14 04.4 -0.5**
comp=Z,37nm,0.8s,baz=265,slow=4.8,SNR=303
ILAR Eielson Array 50.83 32 P **P 12 14 04.4 -0.5**
ILAR pmax pmax
comp=Z,35nm,0.8s
ILB Eielson Array 50.83 32 *e*P **P 12 14 04.7 -0.2**
GLI Glacier Island 50.97 37 *e*P **P 12 14 07.4 +1.5**
comp=Z,67nm,0.9s
KCSI Kotacane, Aceh 51.04 241 P **P 12 14 06.0 -1.1**
comp=Z,31nm,1.0s
BKNI Bangkinang 51.07 235 P P 12 14 15.9 +8.7
BKNI Bangkinang 51.07 235 *e*P **P 12 14 06.8 -0.5**
comp=Z,145nm,0.8s
BVA0 Borovoye Array 51.09 313 *i* P **P 12 14 06.8 -0.2**
BVA0 pmax pmax
comp=Z,133nm,1.4s
BVAR Borovoye Array 51.09 313 P **P 12 14 07.6 +0.6**
comp=Z,38nm,0.8s,baz=82,slow=6.6,SNR=151
BVAR LR LR 12 36 55.2
comp=Z,5μm,18.4s,baz=76,slow=37
BVAR Borovoye Array 51.09 313 P **P 12 14 07.6 +0.6**
BVAR pmax pmax
comp=Z,29nm,0.6s
BVAR MLR MLR
comp=Z,5μm,18.4s
BRVK Borovoye 51.15 313*d* *i*P **P 12 14 07.8 +0.4**
BRVK pmax pmax
comp=Z,339nm,1.2s
BRVK Borovoye 51.15 313 *e*P **P 12 14 07.8 +0.4**
comp=Z,116nm,1.1s
BRVK LR LR
comp=Z,3μm,21.0s
BRVK Borovoye 51.15 313 P **P 12 14 07.8 +0.4**
SNR=91
BRVK Borovoye 51.15 313 P **P 12 14 07.8 +0.4**
SNR=91
EKS2 Erkin-Say 51.19 299 P **P 12 14 08.8 +0.7**
SNR=41
AML Almayashu 51.40 299 P **P 12 14 11.1 +1.1**
SNR=191
FYU Fort Yukon 51.46 29 *e*P **P 12 14 11.4 +1.9**
comp=Z,113nm,1.0s
KLU Klutina 51.48 36 *e*P **P 12 14 10.2 +0.3**
comp=Z,130nm,1.0s
PAX Paxson 51.56 34 *e*P **P 12 14 11.3 +0.8**
PAX pmax pmax
comp=Z,55nm,1.0s
PAX Paxson 51.56 34 *e*P **P 12 14 11.3 +0.8**
comp=Z,55nm,1.0s
DIV Divide 51.59 36 *e*P **P 12 14 12.1 +1.4**
comp=Z,203nm,1.1s
EYAK Cordova Ski Ar 51.66 37 *e*P **P 12 14 12.8 +1.7**
comp=Z,111nm,0.9s
HARP HAARP 51.76 35 *e*P **P 12 14 13.8 +1.9**
comp=Z,157nm,0.7s
RIDG Independ'e Rid 51.78 33 *e*P **P 12 14 12.8 +0.7**
comp=Z,143nm,1.2s
DDI Dehra Dun 52.12 283 *e*P **P 12 14 15.2 +0.1**
DDI lAmb lAmb 12 14 19.1
comp=Z,208nm,1.3s
DOT Dot Lake 52.14 33 *e*P **P 12 14 14.8 +0.1**
comp=Z,184nm,0.8s
MNAS Manas 52.14 299 *i* P **P 12 14 15.8 +0.6**
MNAS pmax pmax
comp=Z,134nm,1.0s
SFK Sufi-Kurgan 52.17 296 *i* P **P 12 14 15.7 +0.2**
SFK pmax pmax
comp=Z,105nm,1.2s
BMRM Bremner River 52.17 37 *e*P **P 12 14 16.5 +1.5**
comp=Z,242nm,1.2s
RAGM Ragged Mountai 52.21 37 *e*P **P 12 14 17.3 +2.0**
comp=Z,188nm,0.9s
MENT Mentasta 52.36 34 *e*P **P 12 14 17.9 +1.5**
comp=Z,125nm,1.0s
SMLA Simla 52.50 284 *e*P **P 12 14 17.5 -0.3**
SMLA lAmb lAmb 12 14 21.8
comp=Z,126nm,0.7s
LEM Lembang 52.62 223 P **P 12 14 18.4 -0.6**
comp=Z,123nm,0.8s,baz=1.5,slow=8.5,SNR=14
LEM LR LR 12 38 04.3
comp=Z,2μm,19.3s,baz=12,slow=38
GSI Gunungsitoli 52.73 239 *e*P **P 12 14 18.6 -1.1**
comp=Z,154nm,1.1s
DHRM DHARAMSHALA 52.75 286 *e*P **P 12 14 18.9 -1.0**
DZA Taraz 52.85 300 *i* P **P 12 14 21.0 +0.7**
comp=Z,2μm,1.5s
DZA *i* S **S 12 21 50.6 +2.6**
DZA LR LR 12 36 24.2
comp=Z,3μm,15.3s
CISI Cisompet, Garu 53.11 222 *e*P **P 12 14 20.1 -2.3**
comp=Z,54nm,0.8s
EGAK Eagle 53.28 32 *e*P **P 12 14 23.9 +0.9**
comp=Z,75nm,1.0s
EGAK LR LR
comp=Z,3μm,20.0s
KK31 Karatay Array 53.37 301 *i* P **P 12 14 24.2 +0.1**
KK31 pmax pmax
comp=Z,118nm,1.1s
KKAR Karatay Array 53.37 301 *e*P **P 12 14 24.5 +0.4**
KKAR Karatay Array 53.37 301 *e*P **P 12 14 24.5 +0.4**
VIS Vishakhapatnam 53.66 266 *i* P **P 12 14 26.4 -0.1**
VIS *e*S **S 12 21 57.9 -1.5**
BRLS Borolday 53.86 301⇓*i*P **P 12 14 29.5 +1.8**
comp=Z,45nm,1.5s
BRLS *i* S **S 12 22 06.5 +4.8**
BRLS LR LR 12 38 00.0
comp=Z,211nm,14.9s
IUG luzhnay 53.99 300⇓*i*P **P 12 14 29.8 +0.9**
comp=Z,2μm,1.7s
IUG *i* S **S 12 22 06.5 +2.8**
IUG LR LR 12 37 59.1
comp=Z,3μm,15.3s
DAWY Dawson 54.14 32 *e*P **P 12 14 30.3 +0.8**
comp=Z,29nm,1.1s
CHM Chimkent 54.24 300⇓*i*P **P 12 14 31.4 +0.9**
comp=Z,998nm,1.7s
CHM *e*S **S 12 22 09.5 +2.7**
CHM LR LR 12 38 15.3
comp=Z,2μm,14.9s
OPA Opana 54.65 87 *e*P **P 12 14 35.9 +2.2**
OPA pmax pmax
comp=Z,156nm,1.0s
OPA Opana 54.65 87 *e*P **P 12 14 35.9 +2.2**
comp=Z,156nm,1.0s
KIP Kipapa 54.77 88 PFAKE 12 14 50.0 +15
KIP LR LR
comp=Z,5μm,19.0s
PVM Polavaram 55.29 267 *e*P **P 12 14 38.4 +0.1**
PVM lAmb lAmb 12 14 40.1
comp=Z,294nm,1.7s
NGP Nagpur 55.41 272 *e*P **P 12 14 38.2 -1.0**
NGP *ex* x 12 14 39.8
HYT Haines Junctio 55.61 36 *e*P **P 12 14 41.2 +0.9**
comp=Z,138nm,1.1s
WRAB Tennant Creek 55.72 187*d* *i*P **P 12 14 39.4 -1.8**
WRAB Tennant Creek 55.72 187 *e*P **P 12 14 40.0 -1.2**
comp=Z,105nm,1.0s
WRAB LR LR
comp=Z,6μm,22.0s
BHPL Bhopal 55.72 276 *e*P **P 12 14 40.1 -1.3**
BHPL lAmb lAmb 12 14 41.3
comp=Z,51nm,0.9s
WRA Warramunga Arr 55.73 187 P **P 12 14 39.8 -1.5**
comp=Z,62nm,0.7s,baz=6.8,slow=7.6,SNR=471
WRA S **S 12 22 27.7 +0.8**
comp=Z,1.3nm,0.7s,baz=10,slow=14,SNR=3.6
WRA LR LR 12 37 45.9
comp=Z,2μm,21.0s,baz=0.0,slow=35
WRA PKPPKP **P'P'df 12 44 43.1 +7.3**
comp=Z,1.5nm,0.9s,baz=174,slow=2.3,SNR=3.4
INK Inuvik 55.75 27 P **P 12 14 41.5 +0.6**
comp=Z,48nm,0.8s,baz=285,slow=6.1,SNR=135
INK Inuvik 55.75 27 *e*P **P 12 14 41.5 +0.6**
comp=Z,86nm,1.0s
CTA Charters Tower 55.77 174 P **P 12 14 40.8 -0.8**
comp=Z,15nm,0.6s,baz=348,slow=7.3,SNR=15
CTAO Charters Tower 55.77 174 *e*P **P 12 14 41.4 -0.2**
CTAO pmax pmax
comp=Z,32nm,0.9s
CTAO MLR MLR
comp=Z,5μm,21.0s
CTAO Charters Tower 55.77 174 *e*P **P 12 14 41.4 -0.2**
comp=Z,32nm,0.9s
CTAO LR LR
comp=Z,5μm,21.0s
SVE Sverdlovsk 55.80 319*c* *i*P **P 12 14 42.2 +0.7**
SVE *e*S **S 12 22 29.1 +1.8**
SVE pmax pmax
comp=Z,252nm,1.6s
SVE MLR MLR
comp=Z,10μm,15.0s
SVE MLR MLR
comp=N,6μm,16.0s
SVE MLR MLR
comp=E,7μm,15.0s
RPR Rampur 56.35 270 *e*P **P 12 14 45.8 -0.2**
RPR lAmb lAmb 12 14 48.0
comp=Z,147nm,1.2s
WHY Whitehorse 56.91 36 *e*P **P 12 14 51.2 +1.8**
comp=Z,103nm,0.9s
FUNA Funafuti 56.97 133 PFAKE 12 15 00.0 +10
FUNA LR LR
comp=Z,4μm,19.0s
SKAG Skagway 57.00 37 *e*P **P 12 14 51.6 +1.7**
comp=Z,103nm,1.0s
ARU Arti 57.01 319 P **P 12 14 51.0 +0.8**
comp=Z,92nm,0.8s,baz=76,slow=4.2,SNR=36
ARU Arti 57.01 319*d* *i*P **P 12 14 49.3 -0.8**
ARU 12 15 40.6
ARU 12 16 52.1
ARU S **S 12 22 43.1 -0.2**
ARU 12 24 39.2
ARU pmax pmax
comp=Z,369nm,1.7s
ARU MLR MLR
comp=Z,9μm,16.0s
ARU Arti 57.01 319 *e*P **P 12 14 50.3 +0.2**
comp=Z,238nm,1.1s
ARU LR LR
comp=Z,3μm,21.0s
SOKR Solikamsk 57.06 323*d* *i*P **P 12 14 48.3 -2.0**
SOKR pmax pmax
comp=Z,191nm,1.5s
SOKR MLR MLR
comp=Z,10μm,18.0s
SRSP Sriramsagar 57.09 271 *e*P **P 12 14 50.9 -0.3**
SRSP lAmb lAmb 12 14 52.6
comp=Z,276nm,1.3s
ADKI Addanki 57.38 266 *e*P **P 12 14 53.5 +0.3**
ADKI lAmb lAmb 12 14 55.2
comp=Z,228nm,1.8s
KBL Kabul 57.44 292 *e*P **P 12 14 53.9 +0.2**
KBL pmax pmax
comp=Z,46nm,1.0s
KBL Kabul 57.44 292 *e*P **P 12 14 53.9 +0.2**
comp=Z,46nm,1.0s
BESE Bessie Mountai 57.48 38 *e*P **P 12 14 55.4 +1.9**
comp=Z,98nm,1.2s
NJS Nagarjunasagar 57.54 268 *e*P **P 12 14 54.0 -0.4**
NJS lAmb lAmb 12 14 55.8
comp=Z,163nm,1.5s
POHA Pohakuloa 57.62 88 *e*P **P 12 14 57.0 +1.8**
comp=Z,85nm,0.9s
POHA LR LR
comp=Z,3μm,20.0s
MLOA Mauna Loa Obse 57.69 88 *e*P **P 12 14 56.8 +0.8**
comp=Z,116nm,1.0s
HYB Hyderabad 57.70 269 *i* P **P 12 14 55.5 -0.1**
HYB Hyderabad 57.70 269 *e*P **P 12 14 53.9 -1.7**
HYBB Hyderabad (bro 57.70 269 *e*P **P 12 14 55.0 -0.5**
HYBB lAmb lAmb 12 14 59.6
comp=Z,70nm,0.8s
KHU Kahuku 57.81 89 *e*P **P 12 14 58.6 +2.1**
KHU pmax pmax
comp=Z,125nm,1.0s
KHU Kahuku 57.81 89 *e*P **P 12 14 58.6 +2.1**
comp=Z,125nm,1.0s
SRLM Srisailam 58.12 267 *e*P **P 12 14 58.2 -0.3**
SRLM lAmb lAmb 12 14 59.7

AB31 Akbulak array 58.41 311 *i* P **P** **12 14 59.6 -0.4**
AB31 pmax pmax
comp=Z,167nm,1.3s
ABKAR Akbulak array 58.41 311 *e*P **P** **12 15 00.0 0.0**
comp=Z,553nm,0.9s
MDRS Chennai 58.66 264 *e*P **P** **12 15 01.5 -0.7**
MDRS IAmb IAmb 12 15 04.6
comp=Z,141nm,1.2s
SKHT Srikalahasti 58.73 265 *e*P **P** **12 15 03.1 +0.4**
SKHT IAmb IAmb 12 15 04.7
comp=Z,403nm,1.5s
KLRI Killari 58.95 271 *e*P **P** **12 15 03.5 -0.8**
KLRI IAmb IAmb 12 15 05.9
comp=Z,144nm,1.0s
AKTO Aktyubinsk 59.18 312 P **P** **12 15 05.0 -0.4**
comp=Z,27nm,0.9s,baz=78,slow=8.0,SNR=48
AKTO LR LR 12 42 02.3
comp=Z,5μm,19.3s,baz=65,slow=38
AKTO Aktyubinsk 59.18 312 *i* P **P** **12 15 04.7 -0.7**
AKTO pmax pmax
comp=Z,92nm,1.4s
WRAK Wrangell Islan 59.43 40 *e*P **P** **12 15 05.5 -1.5**
comp=Z,43nm,1.0s
WRAK LR LR
comp=Z,4μm,20.0s
AS01 Alice Springs 59.45 187 *e*P **P** **12 15 05.3 -2.2**
AS31 Alice Springs 59.45 187 *e*P **P** **12 15 07.0 -0.5**
comp=Z,14nm,0.6s
ASAR Alice Springs 59.45 187 P **P** **12 15 06.5 -1.0**
comp=Z,20nm,0.7s,baz=16,slow=7.5,SNR=169
ASAR S **S** **12 23 20.6 +4.8**
comp=Z,4.5nm,1.1s,baz=18,slow=16,SNR=6.8
ASAR LR LR 12 40 00.2
comp=Z,3μm,19.3s,baz=13,slow=35
ASAR PKPPKP **P'P'df** **12 44 36.5 +6.2**
comp=Z,1.6nm,0.9s,baz=132,slow=2.6,SNR=5.2
DLBC Dease Lake 59.93 37 *e*P **P** **12 15 12.3 +1.7**
comp=Z,95nm,1.0s
MBWA Marble Bar 60.02 203 *e*P **P** **12 15 10.8 -0.6**
MBWA LR LR
comp=Z,2μm,19.0s
URV Uravakonda 60.06 267 *e*P **P** **12 15 12.0 +0.1**
URV IAmb IAmb 12 15 13.3
comp=Z,280nm,1.6s
POO Poona 60.95 273 *e*P **P** **12 15 16.7 -1.3**
POO IAmb IAmb 12 15 17.9
comp=Z,5μm,4.1s
HOPEN Hopen 61.17 346 *e*P **P** **12 15 19.8 +1.2**
EIDS Eidsvold 61.55 169 *e*P **P** **12 15 22.0 +0.2**
comp=Z,55nm,0.8s
BOM Bombay 61.60 274 *ex* P 12 15 27.7 +5.3
BOM *ex* S 12 23 55.6 +12
PALK Pallekele 61.63 258 *e*P **P** **12 15 23.5 +0.8**
PALK pmax pmax
comp=Z,67nm,1.0s
PALK Pallekele 61.63 258 *e*P **P** **12 15 23.5 +0.8**
comp=Z,67nm,1.0s
PALK Pallekele 61.63 258 P **P** **12 15 23.5 +0.8**
SNR=12
PALK Pallekele 61.63 258 P **P** **12 15 23.5 +0.8**
SNR=12
PALK Pallekele 61.63 258 *i* P **P** **12 15 23.1 +0.4**
SNR=9.9
SPA0 Spitsbergen Ar 61.69 349 *e*P **P** **12 15 23.8 +1.6**
SPA0 Spitsbergen Ar 61.69 349 *e*P **P** **12 15 23.8 +1.6**
SPITS Spitsbergen Ar 61.69 349 P **P** **12 15 22.7 +0.6**
comp=Z,34nm,0.9s,baz=31,slow=8.7,SNR=10
SPITS LR LR 12 42 45.1
comp=Z,3μm,20.0s,baz=20,slow=37
SPITS Spitsbergen Ar 61.69 349 P **P** **12 15 22.7 +0.6**
SPITS pmax pmax
comp=Z,34nm,0.9s
SPITS MLR MLR
comp=Z,3μm,20.0s
KBS Kingsbay 61.84 350 *e*P **P** **12 15 24.7 +1.6**
KBS pmax pmax
comp=Z,150nm,1.0s
KBS MLR MLR
comp=Z,3μm,20.0s
KBS Kingsbay 61.84 350 *e*P **P** **12 15 24.7 +1.6**
comp=Z,150nm,1.0s
KBS LR LR
comp=Z,3μm,20.0s
KBS Kingsbay 61.84 350 *e*P **P** **12 15 24.8 +1.7**
BHJ Bhuj 61.98 280 *e*P **P** **12 15 22.9 -2.0**
BHJ IAmb IAmb 12 15 26.8
comp=Z,126nm,1.3s
DZM Mont Dzumac 62.41 153 LR LR 12 40 50.3
comp=Z,4μm,20.1s,baz=338,slow=34
DZM Mont Dzumac 62.41 153 *e*P **P** **12 15 28.3 +0.6**
comp=Z,387nm,1.4s
DZM *e*S **S** **12 23 50.3 -3.4**
comp=Z,9μm,28.9s
DZM *e*LQ LQ 12 31 07.1
comp=Z,13μm,33.9s
DZM *e*LR LR 12 34 04.8
comp=Z,7μm,21.6s
DZM Mont Dzumac 62.41 153 *e*P **P** **12 15 29.0 +1.3**
comp=Z,95nm,1.1s
GOA Goa 62.56 270 *e*P **P** **12 15 29.2 +0.4**
HSPB Hornsund (broa 62.60 348 *e*P **P** **12 15 29.9 +1.7**
LVZ Lovozero 63.09 336⇑ *i*P **P** **12 15 31.3 -0.4**
LVZ pmax pmax
comp=Z,124nm,1.7s
LVZ Lovozero 63.09 336 *e*P **P** **12 15 32.1 +0.4**
comp=Z,50nm,0.8s
LVZ LR LR
comp=Z,10μm,19.0s
COCO West Island 63.24 230 *i* P **P** **12 15 37.7 +4.4**
TMCR Tamitsa 63.65 332 *e*P **P** **12 15 33.7 -1.6**
TMCR pmax pmax
comp=Z,159nm,1.1s
APA Apatity 63.66 336⇑ *i*P **P** **12 15 34.4 -1.0**
APA pmax pmax
comp=Z,52nm,0.9s
APA MLR MLR
comp=Z,11μm,16.0s
MSVF Nonsavu 63.82 140 *e*P **P** **12 15 38.4 +1.3**
MSVF pmax pmax
comp=Z,24nm,0.9s
MSVF MLR MLR
comp=Z,3μm,20.0s
MSVF Nonsavu 63.82 140 *e*P **P** **12 15 38.4 +1.3**
comp=Z,24nm,0.9s
MSVF LR LR
comp=Z,3μm,20.0s
TRD Trivandrum 63.90 261 *e*P **P** **12 15 38.2 +0.4**
RES Resolute Bay 63.96 14 P **P** **12 15 37.9 +0.6**
comp=Z,167nm,1.0s,baz=310,slow=6.8,SNR=240
RES Resolute Bay 63.96 14 *e*P **P** **12 15 37.2 -0.1**
RES pmax pmax
comp=Z,178nm,1.0s
RES Resolute Bay 63.96 14 *e*P **P** **12 15 37.2 -0.1**
comp=Z,178nm,1.0s
GEYT Alibeck 64.04 299 P **P** **12 15 39.3 +0.8**
comp=Z,48nm,1.1s,baz=46,slow=4.3,SNR=46
GEYT LR LR 12 44 07.1
comp=Z,4μm,18.6s,baz=80,slow=37
KEV Kevo 64.47 339 *e*P **P** **12 15 41.5 +0.8**
KEV pmax pmax
comp=Z,64nm,1.1s
KEV MLR MLR
comp=Z,4μm,20.0s
KEV Kevo 64.47 339 *e*P **P** **12 15 41.5 +0.8**
comp=Z,64nm,1.1s
KEV LR LR
comp=Z,4μm,20.0s
KLMR Klimovskoe 64.59 328 *e*P **P** **12 15 38.8 -2.8**
KLMR *e* 12 18 01.0
KLMR pmax pmax
comp=Z,140nm,1.1s
KLMR Klimovskoe 64.59 328 *e*P **P** **12 15 38.9 -2.7**
KLMR AMP 12 15 47.2
comp=Z,140nm,1.1s
KLMR *e*PP **PP** **12 18 01.1 -2.1**
KLMR LQ LQ 12 38 37.0
KLMR LQ LQ 12 38 37.0
KLMR LR LR 12 44 06.5
ARCES ARCESS Array B 65.03 339 P **P** **12 15 45.0 +0.7**
comp=Z,34nm,0.9s,baz=56,slow=9.0,SNR=28
ARCES LR LR 12 46 22.0
comp=Z,4μm,21.9s,baz=66,slow=38
ARCES ARCESS Array B 65.03 339 *e*P **P** **12 15 44.6 +0.2**
ARCES ARCESS Array B 65.03 339 *e*P **P** **12 15 44.6 +0.2**

ARE0 ARCESS Array S 65.03 339 *e*P **P** **12 15 45.3 +0.9**
comp=Z,62nm,0.9s
ARE0 ARCESS Array S 65.03 339 *e*P **P** **12 15 45.2 +0.9**
YKA Yellowknife Ar 65.16 30 P **P** **12 15 45.4 +0.2**
comp=Z,19nm,0.8s,baz=296,slow=6.5,SNR=189
YKA PKPPKP P'P'df 12 44 20.1 -14
comp=Z,0.8nm,1.1s,baz=105,slow=3.2,SNR=5.5
YKA LR LR 12 47 52.3
comp=Z,175nm,18.4s,baz=0.0,slow=39
HEF Hetta 66.24 339 *e*P **P** **12 15 52.8 +0.6**
TULEG Thule 66.43 7 *e*P **P** **12 15 52.4 -0.8**
comp=Z,54nm,1.0s
ARMA Armidale 66.60 170 *e*P **P** **12 15 55.4 +0.5**
comp=Z,72nm,0.9s
KIF Kilpisjarvi 66.68 340 *e*P **P** **12 15 55.0 +0.1**
AFI Afiamalu 66.69 129 P **P** **12 15 55.6 -0.2**
comp=Z,30nm,0.8s,baz=311,slow=9.3,SNR=5.1
AFI LR LR 12 39 17.6
comp=Z,2μm,20.3s,baz=324,slow=31
AFI Afiamalu 66.69 129 *e*P **P** **12 15 56.4 +0.6**
AFI pmax pmax
comp=Z,34nm,0.8s
AFI Afiamalu 66.69 129 *e*P **P** **12 15 56.4 +0.6**
comp=Z,34nm,0.8s
TRO Tromso 66.78 341 *e*P **P** **12 15 56.2 +0.7**
DAG Danmarks Havn 67.01 355⇓ *i*P **P** **12 15 57.0 0.0**
comp=Z,83nm,1.3s
DAG Danmarks Havn 67.01 355⇓ *i*P **P** **12 15 57.0 0.0**
DAG pmax pmax
comp=Z,83nm,1.3s
STKA Stephens Creek 67.27 179 P **P** **12 15 59.0 -0.2**
comp=Z,52nm,0.8s,baz=348,slow=7.7,SNR=56
STKA LR LR 12 45 16.8
comp=Z,3μm,20.4s,baz=357,slow=36
STKA Stephens Creek 67.27 179 *e*P **P** **12 15 58.9 -0.2**
STKA pmax pmax
comp=Z,13nm,0.9s
STKA Stephens Creek 67.27 179 *e*P **P** **12 15 58.9 -0.2**
comp=Z,13nm,0.9s
LLLB Lilloet 67.51 43 *e*P **P** **12 16 01.6 +0.9**
comp=Z,53nm,1.0s
NLWA Neilton Lookou 67.94 47 *e*P **P** **12 16 05.4 +2.0**
comp=Z,146nm,0.9s
NLWA LR LR
comp=Z,2μm,20.0s
A04D Lummi Island 67.97 45 P **P** **12 16 04.6 +1.2**
baz=299
MOS Moscow 68.00 324 *e*P **P** **12 16 01.5 -2.0**
MOS *e* 12 16 26.7
MOS *e* 12 18 32.0
MOS *e*S **S** **12 25 02.5 +1.1**
MOS *e* 12 25 26.9
MOS pmax pmax
comp=Z,250nm,1.7s
MOS pmax pmax
comp=Z,700nm,2.0s
MOS MLR MLR
comp=N,5μm,17.0s
MOS MLR MLR
comp=Z,6μm,17.0s
VRH Novokhopyorsk 68.21 318 *e*P **P** **12 16 04.5 -0.4**
VRH *e*S **S** **12 25 01.0 -3.1**
VRH pmax pmax
comp=Z,70nm,0.8s
VRH smax smax
comp=N,1μm,8.6s
VRH MLR MLR
comp=Z,8μm,14.0s
BBOO Buckleboo 68.35 184 *e*P **P** **12 16 05.6 -0.2**
comp=Z,85nm,0.9s
E03A Lebam 68.53 48 *e*P **P** **12 16 08.9 +1.9**
comp=Z,143nm,1.1s
B05A Bryant 68.55 45 P **P** **12 16 08.2 +1.1**
baz=300,SNR=20
B06A Marblemount 68.77 45 *e*P **P** **12 16 09.1 +0.6**
comp=Z,86nm,0.9s
OBN Obninsk 68.84 323 P **P** **12 16 09.1 +0.3**
comp=Z,28nm,0.4s,baz=60,slow=5.6,SNR=23
OBN Obninsk 68.84 323 *d* *i*P **P** **12 16 09.0 +0.3**
OBN *e*'SP **sP** **12 16 18.2 +0.6**
OBN *e* 12 16 26.0
OBN *e* 12 16 31.6
OBN *i*S **S** **12 25 15.2 +3.8**
OBN pmax pmax
comp=Z,232nm,1.7s
OBN MLR MLR
comp=Z,8μm,16.0s
OBN Obninsk 68.84 323 *e*P **P** **12 16 09.5 +0.7**
comp=Z,79nm,0.9s
OBN LR LR
comp=Z,7μm,21.0s
MAK Makhachkala 68.88 308 *e*P P 12 16 01.6 -7.6
MAK *e*PPP PPP 12 20 18.2
MAK *e*S **S** **12 25 04.2 -8.1**
MAK *e*SS **SS** **12 29 32.5 -4.5**
MAK pmax pmax
comp=Z,143nm,1.2s
MAK MLR MLR
comp=Z,13μm,16.0s
STEI Steigen 68.92 341 *e*P **P** **12 16 10.3 +1.3**
LPSR Galich'ya Gora 68.98 320 *e*P **P** **12 16 09.9 +0.2**
LPSR *e*S **S** **12 25 10.5 -2.7**
LPSR pmax pmax
comp=Z,100nm,0.9s
LPSR smax smax
comp=E,2μm,4.8s
LPSR MLR MLR
comp=Z,9μm,13.0s
F04D Rainier, OR 69.09 48 P **P** **12 16 09.5 -1.1**
baz=300
D05A Enumclaw 69.15 46 *e*P **P** **12 16 12.8 +1.9**
comp=Z,68nm,0.9s
KULLO Kullorsuaq 69.30 5⇓ *i*P **P** **12 16 11.3 0.0**
comp=Z,278nm,1.3s
KULLO Kullorsuaq 69.30 5⇓ *i*P **P** **12 16 11.3 0.0**
KULLO pmax pmax
comp=Z,280nm,1.3s
VORR Voronezh 69.32 319⇑ *i*P **P** **12 16 11.0 -0.8**
VORR pmax pmax
comp=Z,350nm,1.4s
G03D McMinnville, O 69.38 49 P **P** **12 16 13.6 +1.3**
baz=300
C06D Leavenworth 69.41 45 P **P** **12 16 13.5 +0.9**
baz=301,SNR=9.9
LON Longmire 69.48 47 *e*P **P** **12 16 14.0 +1.0**
LON pmax pmax
comp=Z,28nm,0.9s
LON Longmire 69.48 47 *e*P **P** **12 16 14.0 +1.0**
comp=Z,28nm,0.9s
VSR Storozhevoye 69.59 319 *e*P **P** **12 16 12.9 -0.6**
VSR *e*S **S** **12 25 16.2 -4.2**
VSR pmax pmax
comp=Z,100nm,1.0s
VSR smax smax
comp=N,2μm,10.9s
VSR MLR MLR
comp=Z,8μm,16.0s
COR Corvallis 69.67 49 *e*P **P** **12 16 14.0 -0.1**
COR pmax pmax
comp=Z,140nm,1.0s
COR Corvallis 69.67 49 *e*P **P** **12 16 14.0 -0.1**
comp=Z,140nm,1.0s
FIA1 FINESS Array S 69.73 332 *e*P **P** **12 16 14.0 -0.1**
FINES FINESS Array B 69.73 332 P **P** **12 16 14.5 +0.3**
comp=Z,52nm,0.9s,baz=68,slow=6.6,SNR=78
FINES LR LR 12 48 49.1
comp=Z,5μm,19.6s,baz=47,slow=38
FINES FINESS Array B 69.73 332 *i* P **P** **12 16 14.6 +0.4**
FINES pmax pmax
comp=Z,81nm,0.9s
GROC Groznyy 69.84 309 *e*P **P** **12 16 14.8 -0.4**
GROC *i* 12 16 36.4
GROC pmax pmax
comp=Z,177nm,1.8s
LTY Liberty 69.89 46 *e*P **P** **12 16 16.5 +1.0**
comp=Z,34nm,0.8s
B08A Colville Reser 70.08 44 *e*P **P** **12 16 17.1 +0.4**
comp=Z,71nm,1.0s
MOR8 Moi Rana 70.40 340 *e*P **P** **12 16 17.9 -0.4**
G05D Wamic, OR 70.55 48 P **P** **12 16 20.5 +0.9**
baz=301
GOF Gofitskoye 70.59 312 *e*P **P** **12 16 19.3 -0.5**
GOF pmax pmax
comp=Z,233nm,1.3s
I04A Tendick Farm, 70.63 50 P **P** **12 16 20.8 +0.7**
baz=301,SNR=10

EDM Edmonton 70.65 38 *e*P **P** **12 16 20.0 -0.1**
EDM pmax pmax
comp=Z,147nm,1.1s
EDM Edmonton 70.65 38 *e*P **P** **12 16 19.9 -0.1**
comp=Z,147nm,1.1s
STOK Stokkvaagen 70.68 340 *e*P **P** **12 16 22.4 +2.5**
L02D Cave Junction, 70.72 52 P **P** **12 16 21.9 +1.3**
baz=301
E07A Sunnyside 70.73 46 *e*P **P** **12 16 21.9 +1.3**
comp=Z,101nm,1.1s
WSAR Wadi Sarin 70.74 285 LR LR 12 50 18.7
comp=Z,1μm,18.9s,baz=70,slow=38
WBK Wadi Bani Khal 70.80 284 pP **P** **12 16 25.0 +3.5**
SNR=9.6
WBK Wadi Bani Khal 70.80 284 P **P** **12 16 25.0 +3.5**
SNR=9.6
HUMO Hull Mountain 70.90 51 *e*P **P** **12 16 22.7 +1.0**
comp=Z,22nm,1.0s
G06A Carlson Farm, 70.96 48 *e*P **P** **12 16 23.4 +1.3**
comp=Z,76nm,1.1s
C09A Chrisman Ranch 70.98 44 *e*P **P** **12 16 23.1 +1.0**
comp=Z,85nm,1.0s
BIDO Bidbid 70.99 286 pP **P** **12 16 24.0 +1.4**
SNR=39
BIDO Bidbid 70.99 286 P **P** **12 16 24.0 +1.4**
SNR=39
I05D Terrebonne, OR 71.00 49 P **P** **12 16 23.1 +0.7**
baz=302,SNR=6.3
D08A Wollman Farm, 71.01 45 *e*P **P** **12 16 22.4 +0.1**
comp=Z,72nm,0.9s
F07A Phinny Hill Vi 71.03 47 *e*P **P** **12 16 23.9 +1.5**
comp=Z,92nm,0.9s
NCK Nalchik 71.07 310⇑ *i*P **P** **12 16 23.7 +0.9**
NCK pmax pmax
comp=Z,109nm,0.8s
J04D Umpqua Nationa 71.10 50 P **P** **12 16 23.9 +0.7**
baz=302,SNR=9.0
CAN Canberra 71.11 173 *e*P **P** **12 16 23.2 +0.3**
CAN pmax pmax
comp=Z,44nm,0.9s
CAN MLR MLR
comp=Z,3μm,21.0s
CAN Canberra 71.11 173 *e*P **P** **12 16 23.1 +0.3**
comp=Z,44nm,0.9s
CAN LR LR
comp=Z,3μm,21.0s
BANOM Banah 71.17 289 pP **P** **12 16 24.7 +1.0**
SNR=28
BANOM Banah 71.17 289 P **P** **12 16 24.7 +1.0**
SNR=28
BANOM Banah 71.17 289 *i* P **P** **12 16 23.9 +0.2**
SNR=34
SHME Shamm 71.23 289 *i* P **P** **12 16 24.3 +0.2**
SNR=29
E08A Dider Farm, El 71.23 46 *e*P **P** **12 16 24.7 +1.1**
comp=Z,72nm,1.0s
ZEI Tsey 71.25 309 *e*P **P** **12 16 20.6 -3.5**
ZEI pmax pmax
comp=Z,49nm,0.9s
TBLG Delisi 71.27 308 *e*P **P** **12 16 25.2 +1.2**
TBLG pmax pmax
comp=Z,93nm,1.1s
TBLG Delisi 71.27 308 *e*P **P** **12 16 25.2 +1.2**
comp=Z,92nm,1.1s
SMDO Samad 71.29 285 P **P** **12 16 28.0 +3.4**
SNR=14
KHMM Horse Mountain 71.30 53 *e*P **P** **12 16 26.8 +2.5**
comp=Z,55nm,0.9s
VSU Vasula 71.32 330 *d* *i*P **P** **12 16 24.0 +0.1**
VSU pmax pmax
comp=Z,560nm,1.7s
KBZ Khabaz 71.38 311 P **P** **12 16 25.0 +0.5**
comp=Z,67nm,0.9s,baz=48,slow=6.8,SNR=105
KBZ LR LR 12 49 18.0
comp=Z,4μm,20.0s,baz=51,slow=37
KBZ Khabaz 71.38 311 P **P** **12 16 25.0 +0.5**
KBZ pmax pmax
comp=Z,67nm,0.9s
KBZ MLR MLR
comp=Z,4μm,20.0s
NEW Newport 71.38 44 P **P** **12 16 25.1 +0.5**
comp=Z,13nm,0.7s,baz=303,slow=5.0,SNR=24
NEW Newport 71.38 44 P **P** **12 16 24.8 +0.2**
baz=303,SNR=30
NEW Newport 71.38 44 *e*P **P** **12 16 25.1 +0.5**
comp=Z,68nm,1.1s
NEW LR LR
comp=Z,2μm,20.0s
KVAR Kislovodsk Arr 71.38 311 P **P** **12 16 25.5 +0.7**
comp=Z,114nm,1.0s,baz=28,slow=6.7,SNR=93
KIV Kislovodsk 71.39 311 *e*P **P** **12 16 25.5 +0.7**
KIV *e*S **S** **12 25 44.1 +2.2**
KIV pmax pmax
comp=Z,232nm,1.0s
KIV pmax pmax
comp=Z,515nm,3.7s
KIV MLR MLR
comp=Z,5μm,18.0s
KIV Kislovodsk 71.39 311 *e*P **P** **12 16 25.3 +0.5**
comp=Z,218nm,0.9s
KIV LR LR
comp=Z,5μm,19.0s
KIV Kislovodsk 71.39 311 pP **P** **12 16 25.5 +0.7**
SNR=96
KIV Kislovodsk 71.39 311 P **P** **12 16 25.5 +0.7**
SNR=96
KIV Kislovodsk 71.39 311 *i* P **P** **12 16 25.2 +0.5**
SNR=57
MDH Madha 71.49 288 *i* P **P** **12 16 24.5 -1.1**
SNR=15
YBH Yreka Blue Hor 71.51 52 P **P** **12 16 26.6 +1.1**
comp=Z,17nm,1.0s,baz=360,slow=1.9,SNR=20
YBH LR LR 12 44 23.2
comp=Z,980nm,18.4s,baz=292,slow=33
YBH Yreka Blue Hor 71.51 52 *e*P **P** **12 16 26.6 +1.1**
comp=Z,38nm,1.0s
PINE Pine Mountain 71.53 49 *e*P **P** **12 16 27.5 +1.7**
comp=Z,127nm,1.0s
MSFE Esma-Masafi 71.57 288 *i* P **P** **12 16 25.8 -0.3**
SNR=24
M02C Callahan 71.59 52 P **P** **12 16 27.4 +1.4**
baz=302,SNR=8.8
HOQ Hoqain 71.60 286 pP P 12 16 33.0 +6.7
SNR=8.4
JMDO Jabal Madar 71.61 285 pP **P** **12 16 30.0 +3.6**
SNR=7.3
JMDO Jabal Madar 71.61 285 P **P** **12 16 30.0 +3.6**
SNR=7.3
J05D Fort Rock, OR 71.62 50 P **P** **12 16 27.2 +0.9**
baz=302,SNR=14
K04D Chiloquin, OR 71.65 50 P **P** **12 16 27.2 +0.8**
baz=302
KMRM Mail Ridge 71.65 53 *e*P **P** **12 16 28.8 +2.4**
comp=Z,68nm,1.2s
NEY Neytrino 71.74 310 *c* *i*P **P** **12 16 28.9 +1.9**
NEY pmax pmax
comp=Z,31nm,1.2s
E09A Wood Farm, Sta 71.75 46 *e*P **P** **12 16 27.4 +0.6**
comp=Z,109nm,0.9s
UOSS Minazif 71.75 288 *e*P **P** **12 16 26.8 -0.3**
comp=Z,56nm,1.0s
UOSS Minazif 71.75 288 *i* P **P** **12 16 26.9 -0.3**
SNR=19
NWAO Narrogin (SRO) 71.80 201 *e*P **P** **12 16 26.6 -0.5**
NWAO pmax pmax
comp=Z,84nm,1.0s
NWAO MLR MLR
comp=Z,2μm,19.0s
NWAO Narrogin (SRO) 71.80 201 *e*P **P** **12 16 26.6 -0.5**
comp=Z,84nm,1.0s
NWAO LR LR
comp=Z,2μm,19.0s
UMQ Umm Al-Quwin 71.87 289 *i* P **P** **12 16 29.1 +1.3**
SNR=10
HATD Hatta, Dubai 71.87 288 pP **P** **12 16 29.1 +1.2**
SNR=35
HATD Hatta, Dubai 71.87 288 P **P** **12 16 29.1 +1.2**
SNR=35
HATD Hatta, Dubai 71.87 288 *i* P **P** **12 16 28.1 +0.2**
SNR=34
N02D Trinity Center 71.91 52 P **P** **12 16 29.3 +1.3**
baz=302,SNR=22
SOHO SOHO 71.92 287 *i* P **P** **12 16 27.6 -0.5**
SNR=22
G08A Pilot Rock 71.93 47 *e*P **P** **12 16 28.7 +0.7**
SUMG Summit 71.97 360⇓ *i*P **P** **12 16 29.4 +1.3**
comp=Z,347nm,1.4s
SUMG Summit 71.97 360⇓ *i*P **P** **12 16 29.4 +1.3**

SUMG pmax pmax
comp=Z,350nm,1.4s
SUMG Summit 71.97 360 *e*P **P 12 16 29.0 +0.9**
comp=Z,124nm,1.1s
ASHO Ashiyiah 72.00 288 pP **P 12 16 29.7 +1.0**
SNR=41
ASHO Ashiyiah 72.00 288 P **P 12 16 29.7 +1.0**
SNR=41
ASHO Ashiyiah 72.00 288 *i* P **P 12 16 28.9 +0.2**
SNR=40
KCPM Cahto Peak 72.02 54 *e*P **P 12 16 30.4 +1.7**
comp=Z,97nm,1.1s
M04C Macdoel 72.04 51 P **P 12 16 29.9 +1.2**
baz=302,SNR=28
GNI Garni 72.09 307 P **P 12 16 29.2 +0.1**
comp=Z,53nm,0.8s,baz=165,slow=7.0,SNR=35
GNI LR LR 12 49 18.8
comp=Z,4µm,21.6s,baz=66,slow=37
GNI Garni 72.09 307 *d i*P **P 12 16 30.4 +1.2**
GNI pmax pmax
comp=Z,840nm,1.7s
GNI Garni 72.09 307 *e*P **P 12 16 31.0 +1.8**
comp=Z,116nm,0.9s
GNI Garni 72.09 307 pP **P 12 16 30.9 +1.8**
SNR=41
GNI Garni 72.09 307 P **P 12 16 30.9 +1.8**
SNR=41
GNI Garni 72.09 307 *i* P **P 12 16 30.2 +1.0**
SNR=24
BSY Bisya 72.12 285 pP P 12 16 35.0 +5.6
SNR=20
K05A Summer Lake 72.13 50 *e*P **P 12 16 31.1 +1.8**
comp=Z,123nm,1.0s
NAZ Nazwa, Dubai 72.15 288 P **P 12 16 30.0 +0.5**
SNR=29
NAZ Nazwa, Dubai 72.15 288 P **P 12 16 30.0 +0.5**
SNR=29
NAZ Nazwa, Dubai 72.15 288 *i* P **P 12 16 31.0 +1.5**
SNR=7.9
WDC Whiskeytown Da 72.22 53 *e*P **P 12 16 31.1 +1.4**
WDC pmax pmax
comp=Z,31nm,0.9s
WDC Whiskeytown Da 72.22 53 *e*P **P 12 16 31.1 +1.4**
comp=Z,31nm,0.9s
AKH Akhalkalaki 72.23 308 *e*P **P 12 16 30.5 +0.5**
AKH Akhalkalaki 72.23 308 ǁ *i*P **P 12 16 31.8 +1.8**
AKH Akhalkalaki 72.23 308 *e*P **P 12 16 31.8 +1.8**
AKH pmax pmax
comp=Z,81nm,1.0s
AKH Akhalkalaki 72.23 308 *e*P **P 12 16 31.8 +1.8**
comp=Z,81nm,1.0s
I07A Izee 72.26 48 *e*P **P 12 16 31.4 +1.4**
comp=Z,12nm,0.9s
EAK Akyaka 72.54 308 *i* P **P 12 16 31.2 -0.6**
ALNE Al Ain 72.56 287 *i* P **P 12 16 32.2 +0.1**
SNR=16
F10A Beach Ranch, E 72.58 46 *e*P **P 12 16 32.9 +1.0**
comp=Z,38nm,0.9s
IGDI IGDIR 72.67 307 *i* P **P 12 16 34.1 +1.6**
WALA Waterton Lakes 72.71 42 *e*P **P 12 16 33.7 +1.1**
comp=Z,40nm,0.9s
O03D Paynes Creek 72.85 53 P **P 12 16 33.7 +0.1**
baz=302,SNR=13
AJN Ajban 72.89 288 *i* P **P 12 16 33.7 -0.2**
SNR=33
KARS Kars 72.91 308 *e*P **P 12 16 34.5 +0.5**
BMO Blue Mountains 73.15 47 *e*P **P 12 16 35.8 +0.5**
BMO pmax pmax
comp=Z,45nm,0.9s
BMO MLR MLR
comp=Z,3µm,19.0s
BMO Blue Mountains 73.15 47 *e*P **P 12 16 35.8 +0.5**
comp=Z,45nm,0.9s
BMO LR LR
comp=Z,3µm,19.0s
CLDR Caldiran 73.17 306 *e*P **P 12 16 35.7 +0.1**
CLDR Caldiran 73.17 306 *i* P **P 12 16 35.8 +0.1**
IZAR Zarasai 73.23 328 *e*P **P 12 16 35.9 +0.4**
IZAR IAmb IAmb 12 16 43.1
comp=Z,54nm,1.1s
JTMT Jette 73.25 43 *e*P **P 12 16 36.5 +0.5**
comp=Z,103nm,1.0s
J08A Circle Bar Ran 73.28 48 *e*P **P 12 16 36.4 +0.3**
comp=Z,79nm,1.1s
MICGM Minsk 73.29 326ǁ *e*P **P 12 16 36.0 +0.2**
MICGM PM 12 16 37.0
comp=Z,0.5nm,1.8s
MICGM *e*S **SKiKP 12 26 08.0 +2.0**
MICGM *e*LR LR 12 49 54.0
MICGM LRM MLR 12 51 48.0
comp=Z,10nm,18.0s
MNK Minsk 73.29 326ǁ *e*P **P 12 16 36.0 +0.2**
MNK *e*S **SKiKP 12 26 08.0 +2.0**
MNK pmax pmax
comp=Z,490nm,1.8s
MNK MLR MLR
comp=Z,10µm,18.0s
IDID Didziasalis 73.29 327 *e*P **P 12 16 36.2 +0.5**
IDID IAmb IAmb 12 16 41.4
comp=Z,42nm,1.0s
SCO Scoresbysund 73.34 354 *i* P **P 12 16 36.9 +1.1**
comp=Z,107nm,1.3s
SCO Scoresbysund 73.34 354 *i* P **P 12 16 36.9 +1.1**
SCO pmax pmax
comp=Z,110nm,1.3s
SCO Scoresbysund 73.34 354 *e*P **P 12 16 37.4 +1.6**
comp=Z,35nm,1.1s
ARTV Artvin 73.35 309 *i* P **P 12 16 36.1 -0.6**
SOC Sochi 73.40 312 *i* P **P 12 16 34.9 -1.7**
SOC *e* 12 16 49.2
SOC pmax pmax
comp=Z,208nm,2.2s
SOC MLR MLR
comp=Z,2µm,14.0s
ISAL Salakas 73.40 327 *e*P **P 12 16 37.0 +0.6**
ISAL IAmb IAmb 12 16 43.3
comp=Z,106nm,1.2s
DAGI Agillar 73.41 309 *i* P **P 12 16 37.9 +1.0**
ORV Oroville 73.45 53 *e*P **P 12 16 37.1 +0.1**
ORV pmax pmax
comp=Z,45nm,0.9s
ORV Oroville 73.45 53 *e*P **P 12 16 37.1 +0.1**
comp=Z,45nm,0.9s
IIGN Ignalina 73.50 327 *e*P **P 12 16 37.5 +0.5**
IIGN IAmb IAmb 12 16 42.6
comp=Z,58nm,1.0s
NACGM Naroch 73.53 327 *e* **P 12 16 37.0 -0.2**
AGRB Hanur-Agry 73.54 307 *e*P **P 12 16 39.6 +1.8**
DBAD Bademkaya 73.58 309 *i* P **P 12 16 39.3 +1.4**
DDEM Demirkent 73.62 309 *i* P **P 12 16 39.5 +1.4**
WVOR Wild Horse Val 73.69 49 *e*P **P 12 16 39.2 +0.7**
WVOR pmax pmax
comp=Z,51nm,1.1s
WVOR MLR MLR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 73.69 49 *e*P **P 12 16 39.2 +0.7**
comp=Z,52nm,1.1s
WVOR LR LR
comp=Z,2µm,19.0s
EATA Eleskirt 73.71 307 *i* P **P 12 16 40.9 +2.0**
TBLU Trondheim 73.78 339 *e*P **P 12 16 36.9 -1.6**
MSO Missoula 73.97 44 P **P 12 16 40.1 0.0**
baz=305,SNR=47
MSO Missoula 73.97 44 *e*P **P 12 16 40.7 +0.6**
comp=Z,52nm,1.0s
HOMI Horasan 73.98 308 *i* P **P 12 16 41.1 +0.7**
ANN Anapa 74.08 314 *e*P **P 12 16 40.3 -0.3**
ANN *e*S **S 12 26 14.0 +1.7**
ANN pmax pmax
comp=Z,279nm,1.7s
ANN MLR MLR
comp=E,2µm,17.0s
ANN MLR MLR
comp=Z,5µm,17.0s
AFDM Forest Hills D 74.12 53 *e*P **P 12 16 41.9 +0.9**
comp=Z,35nm,1.1s
ADCV BITLIS_Adilcev 74.13 306 *i* P **P 12 16 42.6 +1.4**
HAKT HAKKARI 74.16 305 *i* P **P 12 16 42.5 +1.0**
GEVA Gevas 74.18 306 *i* P **P 12 16 42.9 +1.4**
CUKT Cukurca 74.40 305 *e*P **P 12 16 41.6 -1.2**
ERZM Erzurum 74.41 308 *i* P **P 12 16 44.2 +1.3**
RDG13 Poverty Ridge 74.44 55 *e*P **P 12 16 44.1 +1.1**
comp=Z,41nm,1.0s
GURO Guroymak-BITLI 74.72 307 *e*P **P 12 16 45.8 +1.1**
PAHR Pah Rah Range 74.73 52 *e*P **P 12 16 45.7 +1.0**
comp=Z,64nm,1.0s

VCNR Virginia City 74.79 52 *e*P **P 12 16 46.5 +1.3**
comp=Z,38nm,0.9s
KTUT Trabzon 74.82 310 *e*P **P 12 16 44.6 -0.4**
MFID Camas Ranch 74.84 47 *e*P **P 12 16 45.7 +0.5**
comp=Z,32nm,0.8s
BAYT Ayd¯–ntepe-Bay 74.91 309 *e*P **P 12 16 47.1 +1.3**
BAYB BAYBURT 74.92 309 *i* P **P 12 16 47.6 +1.8**
ILULI Ilulissat 74.98 4ǁ *i*P **P 12 16 46.2 +0.8**
ILULI Ilulissat 74.98 4ǁ *i*P **P 12 16 46.2 +0.8**
ILULI Ilulissat 74.98 4 *e*P **P 12 16 46.2 +0.8**
comp=Z,85nm,1.0s
SAO San Andreas Ge 75.00 55 *e*P **P 12 16 47.1 +0.9**
SAO pmax pmax
comp=Z,43nm,1.1s
SAO San Andreas Ge 75.00 55 *e*P **P 12 16 47.1 +0.9**
comp=Z,43nm,1.1s
CMB Columbia Colle 75.00 54 *e*P **P 12 16 46.8 +0.6**
CMB pmax pmax
comp=Z,62nm,0.9s
CMB Columbia Colle 75.00 54 *e*P **P 12 16 46.8 +0.6**
comp=Z,62nm,0.9s
AKASG Malin Array Be 75.02 322 P **P 12 16 45.6 -0.3**
comp=Z,42nm,0.8s,baz=46,slow=6.3,SNR=189
AKASG LR LR 12 52 29.5
comp=Z,11µm,19.1s,baz=55,slow=38
AKBB Malin Array Si 75.02 322 *e*P **P 12 16 45.8 -0.2**
AKBB pmax pmax
comp=Z,69nm,0.8s
AKBB Malin Array Si 75.02 322 *e*P **P 12 16 45.8 -0.2**
comp=Z,69nm,0.8s
KIEV Kiev 75.03 322 *d i*P **P 12 16 45.7 -0.3**
KIEV pmax pmax
comp=Z,200nm,1.7s
KIEV Kiev 75.03 322 *e*P **P 12 16 45.6 -0.3**
comp=Z,83nm,1.0s
KIEV LR LR
comp=Z,12µm,19.0s
KIEV Kiev 75.03 322 *i* P **P 12 16 45.8 -0.2**
SNR=12
SIRT Sirnak 75.03 305 *e*P **P 12 16 47.5 +1.1**
FFC Flin Flon 75.04 32 *e*P **P 12 16 45.7 -0.3**
FFC pmax pmax
comp=Z,100nm,1.0s
FFC MLR MLR
comp=Z,3µm,21.0s
FFC Flin Flon 75.04 32 *e*P **P 12 16 45.7 -0.3**
comp=Z,100nm,1.0s
FFC LR LR
comp=Z,3µm,21.0s
HFS Hagfors 75.06 336 P **P 12 16 46.4 +0.4**
comp=Z,32nm,1.0s,baz=73,slow=5.1,SNR=46
HFS LR LR 12 52 19.8
comp=Z,8µm,18.9s,baz=34,slow=38
AK11 Malin Array Si 75.06 322 *e*P **P 12 16 45.9 -0.3**
DOMB Dombas 75.07 339 *e*P **P 12 16 46.8 +0.7**
MOL Molde 75.09 340 *e*P **P 12 16 45.8 -0.4**
SRTM Siirt_Merkez 75.10 306 *i* P **P 12 16 48.1 +1.3**
NB2 NORSAR Subarra 75.19 337 P **P 12 16 46.8 0.0**
comp=Z,72nm,0.8s,baz=40,slow=5.9
NB2 NORSAR Subarra 75.19 337 P **P 12 16 46.8 0.0**
baz=40,slow=5.9
NOA NORSAR Array B 75.19 337 P **P 12 16 46.8 0.0**
comp=Z,49nm,0.9s,baz=39,slow=5.7,SNR=87
NOA PP **PP 12 19 34.5 0.0**
comp=Z,11nm,0.9s,baz=37,slow=7.1,SNR=4.3
NOA LR LR 12 52 55.6
comp=Z,8µm,19.5s,baz=35,slow=38
HRY Holter Researc 75.22 43 *e*P **P 12 16 47.9 +0.6**
YERR Yerington 75.22 53 *e*P **P 12 16 48.8 +1.2**
comp=Z,100nm,1.0s
FCC Fort Churchill 75.36 26 P **P 12 16 46.9 -0.8**
FCC pmax pmax
comp=Z,102nm,0.9s
FCC Fort Churchill 75.36 26 *e*P **P 12 16 46.9 -0.8**
comp=Z,102nm,0.9s
WAKR Walker 75.36 53 *e*P **P 12 16 50.0 +1.5**
comp=Z,52nm,1.0s
LRM Limekiln Ridge 75.40 44 *e*P **P 12 16 48.9 +0.3**
RAO Raoul Island 75.43 143 PFAKE 12 17 00.0 +12
RAO LR LR
comp=Z,3µm,19.0s
EGMT Eagleton 75.55 41 P **P 12 16 49.5 +0.3**
baz=308,SNR=71
EGMT Eagleton 75.55 41 *e*P **P 12 16 49.3 +0.1**
comp=Z,102nm,0.9s
EGMT LR LR
comp=Z,3µm,19.0s
AKN Aaknes 75.56 340 *e*P **P 12 16 49.8 +0.9**
BTMN Batman 75.59 306 *i* P **P 12 16 51.3 +1.7**
DLMT Dillon 75.59 44 *e*P **P 12 16 50.5 +0.9**
comp=Z,139nm,1.0s
HLID Hailey 75.60 47 P **P 12 16 50.4 +0.7**
baz=306
HLID Hailey 75.60 47 *e*P **P 12 16 50.3 +0.7**
comp=Z,18nm,0.9s
HLID *e*PP **PP 12 19 42.4 +3.8**
HLID LR LR
comp=Z,2µm,19.0s
KELT Kelkit 75.61 309 *i* P **P 12 16 50.1 +0.3**
BMN Battle Mountai 75.69 50 *e*P **P 12 16 51.1 +0.8**
BMN pmax pmax
comp=Z,61nm,0.9s
BMN Battle Mountai 75.69 50 *e*P **P 12 16 51.1 +0.8**
comp=Z,61nm,0.9s
LCCM Lewis and Clar 75.71 44 *e*P **P 12 16 50.8 +0.6**
SUW Suwalki 75.71 327 *e*P **P 12 16 49.8 -0.1**
SUW Suwalki 75.71 327 *e*P **P 12 16 49.7 -0.1**
SUW Suwalki 75.71 327 *e*P **P 12 16 50.4 +0.5**
comp=Z,176nm,1.1s
MCMT McKenzie Canyo 75.76 45 *e*P **P 12 16 50.9 +0.2**
HANI Diyarbakir_Han 75.86 307 *i* P **P 12 16 51.0 -0.2**
RYN Ryan 75.89 53 *e*P **P 12 16 52.1 +0.7**
comp=Z,57nm,0.9s
SHAO Shalim 75.90 282 pP **P 12 16 52.7 +1.1**
SNR=8.8
SHAO Shalim 75.90 282 P **P 12 16 52.7 +1.1**
SNR=8.8
SHAO Shalim 75.90 282 *i* P **P 12 16 51.7 +0.1**
SNR=12
SIM Simferopol' 75.91 315 *e*P **P 12 16 51.9 +0.7**
SIM pmax pmax
comp=Z,85nm,0.8s
SIM MLR MLR
comp=Z,6µm,16.0s
BOZ Bozeman (W) 76.00 44 P **P 12 16 52.5 +0.7**
baz=307,SNR=104
BOZ Bozeman (W) 76.00 44 *e*P **P 12 16 52.3 +0.4**
BOZ pmax pmax
comp=Z,82nm,1.1s
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 76.00 44 *e*P **P 12 16 52.3 +0.4**
comp=Z,82nm,1.1s
BOZ LR LR
comp=Z,2µm,19.0s
TNCL Tunceli-Merkez 76.02 308 *i* P **P 12 16 52.8 +0.7**
MDPB Devils Postpil 76.09 54 *e*P **P 12 16 54.1 +1.4**
comp=Z,30nm,0.9s
COMI Craters of Moo 76.14 46 *e*P **P 12 16 54.1 +1.3**
NV01 Mina Array Sit 76.14 53 *e*P **P 12 16 52.9 -0.1**
NVAR Mina Array Bea 76.14 53 P **P 12 16 53.8 +0.9**
comp=Z,12nm,0.7s,baz=283,slow=6.2,SNR=95
NVAR LR LR 12 46 31.4
comp=Z,2µm,19.2s,baz=69,slow=33
OSL Oslo 76.19 337 *e*P **P 12 16 53.9 +1.4**
MARD Mardin 76.23 306 *i* P **P 12 16 53.7 +0.3**
NV11 Mina Array Sit 76.24 53 *e*P **P 12 16 54.1 +0.8**
comp=Z,2.7nm,1.0s
SUSE Susehri 76.24 310 *i* P **P 12 16 52.1 -1.2**
PTK Pertek 76.24 308 *e*P **P 12 16 54.8 +1.4**
MLAC Mammoth, Mammo 76.25 54 P **P 12 16 54.7 +1.1**
baz=305,SNR=20
DYBB Diyarbakir 76.29 307 *e*P **P 12 16 55.2 +1.6**
MAZI Mazidag 76.37 306 *e*P **P 12 16 55.1 +1.0**
PAGB Antelope Grade 76.38 56 *e*P **P 12 16 55.2 +1.1**
comp=Z,126nm,1.1s
ILIC ilic-Erzincan 76.44 309 *e*P **P 12 16 55.9 +1.4**
QLMT Earthquake Lak 76.57 44 *e*P **P 12 16 56.5 +1.3**
KEMA Kemaliye 76.60 309 *i* P **P 12 16 56.2 +0.9**
HYA Hoyanger 76.61 339 *e*P **P 12 16 56.5 +1.7**
RSDY Resadiye-TOKAT 76.67 310 *e*P **P 12 16 54.1 -1.6**
CUZAR Zara_SIVAS 76.69 310 *i* P **P 12 16 57.3 +1.3**
RCTC Rector, Farmer 76.73 55 P **P 12 16 55.8 -0.2**
baz=305
YHB Horse Butte 76.75 44 *e*P **P 12 16 57.8 +1.5**
comp=Z,85nm,1.0s

KONO Kongsberg 76.77 337 *d i*P **P 12 16 55.1 -0.7**
KONO pmax pmax
comp=Z,525nm,1.7s
KONO Kongsberg 76.77 337 *e*P **P 12 16 56.5 +0.7**
comp=Z,47nm,1.1s
KONO Kongsberg 76.77 337 *e*P **P 12 16 56.5 +0.7**
SMMC Simmler 76.79 56 P **P 12 16 57.2 +0.8**
baz=305,SNR=6.0
CRMT Chrome Mountai 76.91 43 *e*P **P 12 16 57.6 +0.3**
YHH Holmes Hill 76.92 44 *e*P **P 12 16 58.6 +1.3**
comp=Z,60nm,1.2s
YMR Madison River 76.93 44 *e*P **P 12 16 58.9 +1.6**
comp=Z,97nm,1.1s
OUZ Omahuta 76.93 153 *e*P **P 12 16 59.1 +2.3**
GCMT Greycliff 76.97 43 *e*P **P 12 16 57.9 +0.5**
TIN Tinemaha, Big 76.97 54 P **P 12 16 58.3 +0.7**
baz=305
KVT Kavak 77.06 311 *e*P **P 12 16 59.1 +1.2**
YNR Norris Junctio 77.06 44 *e*P **P 12 17 00.1 +2.1**
comp=Z,17nm,1.0s
MCID Moose Creek 77.10 45 *e*P **P 12 16 59.8 +1.5**
VES Vestal, Richgr 77.10 55 P **P 12 16 58.0 -0.1**
baz=305,SNR=27
YFT Old Faithful 77.14 44 *e*P **P 12 17 00.5 +2.0**
comp=Z,74nm,1.0s
PKM Mcpherson Peak 77.15 56 P **P 12 16 59.8 +1.1**
baz=305,SNR=14
SVSK Karacayir 77.16 310 *e*P **P 12 16 59.9 +1.6**
HEKM Malatya_Hekimh 77.16 309 *i* P **P 12 17 00.5 +1.8**
MALT Malatya 77.19 308 *e*P **P 12 16 59.4 +0.7**
DIKM Dikmen 77.20 312 *e*P **P 12 16 59.8 +1.2**
SFJD Kangerlussuaq 77.20 5 P **P 12 16 58.5 +0.4**
comp=Z,36nm,1.0s,baz=345,slow=6.6,SNR=22
SFJD LR LR 12 51 42.3
comp=Z,2µm,21.6s,baz=346,slow=36
SFJD Kangerlussuaq 77.20 5ǁ *i*P **P 12 16 58.5 +0.4**
comp=Z,205nm,1.6s
SFJD Kangerlussuaq 77.20 5 *e*P **P 12 16 58.3 +0.3**
SFJD pmax pmax
comp=Z,78nm,1.1s
SFJD Kangerlussuaq 77.20 5 *e*P **P 12 16 58.3 +0.3**
comp=Z,78nm,1.1s
YPP Pitchstone Pla 77.27 44 *e*P **P 12 17 01.7 +2.4**
comp=Z,46nm,1.1s
LKWY Lake 77.31 44 P **P 12 17 00.1 +0.6**
LKWY pmax pmax
comp=Z,118nm,1.0s
LKWY MLR MLR
comp=Z,3µm,19.0s
LKWY Lake 77.31 44 P **P 12 17 00.1 +0.6**
comp=Z,118nm,1.0s
LKWY LR LR
comp=Z,3µm,19.0s
H17A Grant Village 77.32 44 P **P 12 17 02.0 +2.5**
baz=308,SNR=76
H17A Grant Village 77.32 44 *e*P **P 12 17 01.8 +2.3**
comp=Z,163nm,1.0s
IMW Indian Meadow 77.42 45 *e*P **P 12 17 01.4 +1.3**
comp=Z,86nm,0.9s
CWC Cottonwood Cre 77.42 54 P **P 12 17 00.6 +0.4**
baz=305
WHFO Wadi Hawf 77.43 283 pP **P 12 17 02.0 +1.7**
SNR=8.8
WHFO Wadi Hawf 77.43 283 P **P 12 17 02.0 +1.7**
SNR=8.8
URFA Urfa 77.44 307 *e*P **P 12 17 00.7 +0.6**
ASK Askoy 77.45 339 *e*P **P 12 17 01.2 +1.7**
SBC Santa Barbara 77.47 57 P **P 12 17 00.7 +0.5**
baz=305
BER Bergen 77.49 339 *e*P **P 12 16 59.9 +0.2**
ODD1 Odda 77.49 338 *e*P **P 12 17 01.1 +1.3**
YTP The Promontory 77.49 44 *e*P **P 12 17 02.2 +1.7**
AKCD Akcadag 77.52 308 *i* P **P 12 17 01.9 +1.3**
FXWY Fox Creek 77.53 45 *e*P **P 12 17 01.7 +1.0**
comp=Z,53nm,1.1s
KIS Kishinev 77.56 319 *e*P **P 12 16 58.5 -2.0**
KIS LRM MLR 12 54 08.0
comp=Z,19µm,16.0s
KIS Kishinev 77.56 319 *e*P **P 12 16 58.5 -2.0**
KIS MLR MLR
comp=N,10µm,16.0s
KIS MLR MLR
comp=E,9µm,16.0s
KIS MLR MLR
comp=Z,19µm,16.0s
KIS MLR MLR
comp=Z,19µm,16.0s
GRAC Grapevine Rang 77.57 53 P **P 12 17 01.7 +0.9**
baz=306,SNR=7.3
RLMT Red Lodge 77.60 43 P **P 12 17 01.8 +0.8**
baz=309,SNR=52
RLMT Red Lodge 77.60 43 *e*P **P 12 17 01.7 +0.6**
comp=Z,59nm,1.0s
RLMT LR LR
comp=Z,2µm,19.0s
ISA Isabella, Lake 77.61 55 P **P 12 17 00.5 -0.5**
baz=305,SNR=6.2
ISA Isabella, Lake 77.61 55 *e*P **P 12 17 01.2 +0.1**
ISA pmax pmax
comp=Z,16nm,0.9s
ISA Isabella, Lake 77.61 55 *e*P **P 12 17 01.2 +0.1**
comp=Z,16nm,0.9s
MOOW Moose Ponds 77.62 45 *e*P **P 12 17 02.1 +0.9**
comp=Z,32nm,1.0s
HVU Hansel Valley 77.63 47 *e*P **P 12 17 02.0 +0.9**
HVU pmax pmax
comp=Z,60nm,0.8s
HVU Hansel Valley 77.63 47 *e*P **P 12 17 02.0 +0.9**
comp=Z,60nm,0.8s
DARE Darende-Malaty 77.64 309 *e*P **P 12 17 03.0 +1.8**
TPAW Teton Pass 77.66 45 *e*P **P 12 17 01.9 +0.5**
comp=Z,60nm,1.0s
ARVC Arvin 77.68 56 P **P 12 17 01.8 +0.4**
baz=305,SNR=7.2
BZK Bozkurt 77.77 313 *e*P **P 12 17 01.9 +0.2**
SCZ2 Santa Cruz Isl 77.78 57 P **P 12 17 02.3 +0.3**
baz=305
LOHW Long Hollow 77.78 45 *e*P **P 12 17 03.2 +1.1**
comp=Z,21nm,0.9s
SNOW Snow King Moun 77.79 45 *e*P **P 12 17 03.9 +1.7**
comp=Z,61nm,1.0s
REDW Red Top Meadow 77.79 45 *e*P **P 12 17 03.2 +1.0**
comp=Z,33nm,1.1s
DAC Darwin (Calif) 77.84 54 *e*P **P 12 17 03.3 +0.8**
DAC pmax pmax
comp=Z,27nm,0.9s
DAC Darwin (Calif) 77.84 54 *e*P **P 12 17 03.2 +0.8**
comp=Z,27nm,0.9s
MTUT Morton Thiokol 77.86 47 *e*P **P 12 17 03.3 +0.9**
R11A Troy Canyon, C 77.93 51 P **P 12 17 03.6 +0.7**
baz=306,SNR=41
R11A Troy Canyon, C 77.93 51 *e*P **P 12 17 03.4 +0.4**
comp=Z,49nm,1.0s
BLS5 Blasjo 77.93 338 *e*P **P 12 17 03.2 +0.8**
BGU Big Grassy Mou 77.99 48 *e*P **P 12 17 04.2 +1.0**
comp=Z,25nm,0.8s
BEI Bear River Ran 78.01 47 *e*P **P 12 17 04.4 +1.0**
AHID Auburn Hatcher 78.02 46 *e*P **P 12 17 04.4 +1.0**
comp=Z,30nm,0.9s
AHID LR LR
comp=Z,3µm,19.0s
MPMC Manual Prospec 78.03 54 P **P 12 17 03.9 +0.4**
baz=306,SNR=38
OSI Osito Audit: C 78.04 56 P **P 12 17 03.8 +0.4**
baz=305
OSI Osito Audit: C 78.04 56 *e*P **P 12 17 04.3 +0.9**
comp=Z,22nm,0.3s
BLG Laguna Peak, P 78.10 57 P **P 12 17 03.9 +0.2**
baz=305
SPUT South Promonto 78.11 48 *e*P **P 12 17 05.3 +1.5**
comp=Z,33nm,0.9s
LVV L'vov 78.14 324 *e*P **P 12 17 02.2 -1.4**
LVV *e*S **S 12 26 54.3 -2.5**
LVV MLR MLR
comp=E,3µm,16.0s
LVV MLR MLR
comp=N,2µm,15.0s
LVV MLR MLR
comp=Z,3µm,16.0s
DGMT Dagmar 78.14 38 P **P 12 17 03.7 0.0**
baz=311,SNR=23
DGMT Dagmar 78.14 38 *e*P **P 12 17 04.2 +0.5**
comp=Z,139nm,1.1s
DGMT LR LR
comp=Z,2µm,19.0s
LEOM Leova 78.20 319ǁ *i*P **P 12 17 04.9 +0.9**
FURC Furnace Creek, 78.21 54 P **P 12 17 05.0 +0.8**

baz=306,SNR=18
HOMB Homborsund 78.21 336 *e*P P 12 17 04.3 +0.5
HDU Hyde Park 78.21 47 *e*P P 12 17 05.2 +0.8
LRMC Laurel Mtn Rad 78.24 55 P P 12 17 05.0 +0.3
baz=306
LAO LASA Array 78.26 40 P P 12 17 04.8 +0.4
baz=310,SNR=62
LAO LASA Array 78.26 40 *e*P P 12 17 05.0 +0.5
comp=Z,144nm,1.0s
LAO LR LR
comp=Z,2µm,19.0s
BEL Belsk 78.26 327 *e*P P 12 17 05.2 +1.0
BEL Belsk 78.26 327 *e*P P 12 17 05.2 +1.0
SNCC San Nicolas Is 78.28 58 P P 12 17 05.3 +0.5
baz=305
SNCC San Nicolas Is 78.28 58 *e*P P 12 17 06.1 +1.4
comp=Z,101nm,1.1s
BSD Bornholm Skovb 78.35 332 ⇓ *i*P P 12 17 04.6 -0.1
comp=Z,75nm,0.9s
BSD Bornholm Skovb 78.35 332 ⇓ *i*P P 12 17 04.6 -0.1
BSD pmax pmax
comp=Z,75nm,0.9s
EDW2 Edwards Air Fo 78.38 55 P P 12 17 06.1 +0.8
baz=306,SNR=17
BMUT Black Mountain 78.43 46 *e*P P 12 17 06.6 +0.9
HWUT Hardware Ranch 78.45 47 *e*P P 12 17 06.1 +0.4
comp=Z,95nm,1.0s
HWUT LR LR
comp=Z,2µm,20.0s
CORM Corum 78.47 311 *e*P P 12 17 06.4 +0.6
KMY Karmoy 78.47 338 *e*P P 12 17 07.1 +1.9
FSU Fish Springs 78.49 49 *e*P P 12 17 06.7 +0.8
ILGA Ilgaz 78.49 312 *e*P P 12 17 08.0 +1.9
comp=Z,93nm,0.8s
TAU Tasmania Unive 78.51 175 *e*P P 12 17 06.2 +0.8
TAU pmax pmax
comp=Z,19nm,0.8s
TAU MLR MLR
comp=Z,4µm,20.0s
TAU Tasmania Unive 78.51 175 *e*P P 12 17 06.2 +0.8
comp=Z,19nm,0.8s
TAU LR LR
comp=Z,4µm,20.0s
BNN Bunyan 78.51 310 *e*P P 12 17 06.4 +0.3
DECC Green Verdugo 78.51 56 P P 12 17 06.3 +0.2
baz=306
DUG Dugway, Tooele 78.56 49 P P 12 17 07.1 +0.8
baz=307,SNR=82
DUG Dugway, Tooele 78.56 49 *e*P P 12 17 07.1 +0.8
DUG pmax pmax
comp=Z,69nm,0.9s
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway, Tooele 78.56 49 *e*P P 12 17 07.1 +0.8
comp=Z,69nm,0.9s
DUG LR LR
comp=Z,2µm,19.0s
SNART Snartemo 78.57 337 *e*P P 12 17 07.0 +1.1
MCU Monte Cristo P 78.57 47 *e*P P 12 17 07.3 +0.7
KURC Kurucasile-Bar 78.58 314 *e*P P 12 17 07.7 +1.5
GAZ Gaziantep 78.64 308 *e*P P 12 17 08.3 +1.6
KMRS Kahramanmaras 78.64 308 *e*P P 12 17 08.1 +1.4
PASC Pasadena Art C 78.66 56 *e*P P 12 17 07.6 +0.8
comp=Z,7.7nm,0.9s
PRAR RASCA 78.67 321 ⇑ *i*P P 12 17 07.9 +1.2
MWC Mount Wilson 78.72 56 *e*P P 12 17 08.2 +0.8
MWC pmax pmax
comp=Z,20nm,0.9s
MWC Mount Wilson 78.72 56 *e*P P 12 17 08.2 +0.8
comp=Z,20nm,0.9s
TLCR 78.72 318 ⇑ *i*P P 12 17 07.6 +0.7
GKP Gorka Klasztor 78.77 329 *e*P P 12 17 07.1 +0.1
GKP *e*S **SKSac** 12 27 26.3 +5.2
GKP Gorka Klasztor 78.77 329 *e*P P 12 17 07.1 +0.1
GKP *e*S **SKSac** 12 27 26.3 +5.2
CANT Cankiri 78.82 312 *e*P P 12 17 08.3 +0.6
TCUT Toone Canyon 78.84 47 *e*P P 12 17 09.4 +1.4
comp=Z,102nm,0.9s
FMP Fort Macarthur 78.85 57 P P 12 17 08.1 +0.2
baz=306
COP Copenhagen 78.86 333 ⇓ *i*P P 12 17 08.3 +0.9
comp=Z,58nm,0.8s
COP Copenhagen 78.86 333 ⇓ *i*P P 12 17 08.3 +0.9
COP pmax pmax
comp=Z,58nm,0.8s
BORG Borgarnes 78.86 352 P P 12 17 09.5 +2.2
comp=Z,38nm,0.7s,baz=72,slow=2.7,SNR=9.5
BORG Borgarnes 78.86 352 *e*P P 12 17 09.3 +2.0
BORG pmax pmax
comp=Z,106nm,0.9s
BORG MLR MLR
comp=Z,1µm,20.0s
BORG Borgarnes 78.86 352 *e*P P 12 17 09.3 +2.0
comp=Z,106nm,0.9s
BORG LR LR
comp=Z,1µm,20.0s
KWP Kalwaria Pacla 78.89 324 *e*P P 12 17 08.7 +0.9
KWP *e*S S 12 27 09.4 +4.4
KWP Kalwaria Pacla 78.89 324 *e*P P 12 17 08.7 +0.9
KWP *e*S S 12 27 09.4 +4.4
KWP Kalwaria Pacla 78.89 324 *e*P P 12 17 08.8 +0.9
comp=Z,2µm,1.1s
CTU Camp Tracy 78.90 48 *e*P P 12 17 09.4 +1.2
comp=Z,52nm,0.9s
BW06 Boulder Array 78.91 45 P P 12 17 08.3 0.0
baz=309,SNR=21
BW06 Boulder Array 78.91 45 *e*P P 12 17 08.5 +0.2
comp=Z,45nm,1.1s
BW06 LR LR
comp=Z,2µm,19.0s
PD31 Pinedale Array 78.91 45 *e*P P 12 17 08.8 +0.4
PDAR Pinedale Array 78.91 45 P P 12 17 08.4 +0.1
comp=Z,11nm,0.6s,baz=269,slow=1.4,SNR=75
PDAR LR LR 12 51 12.4
comp=Z,845nm,20.2s,baz=334,slow=35
PDAR Pinedale Array 78.91 45 *e*P P 12 17 07.5 -0.8
SHOC Shoshone, Teco 78.92 54 P P 12 17 08.4 +0.1
baz=306
GSC Goldstone, Bar 78.93 54 P P 12 17 08.9 +0.5
baz=306,SNR=11
GSC Goldstone, Bar 78.93 54 *e*P P 12 17 08.7 +0.3
GSC pmax pmax
comp=Z,22nm,0.9s
GSC Goldstone, Bar 78.93 54 *e*P P 12 17 08.7 +0.3
comp=Z,22nm,0.9s
CIS Catalina Islan 78.95 57 P P 12 17 08.5 +0.1
baz=306
GMU Granite Mounta 78.96 48 *e*P P 12 17 09.1 +0.4
BFSC Mount Baldy Ra 78.98 56 P P 12 17 08.7 -0.1
baz=306,SNR=10.0
BUR08 Bucovina Ar. S 79.01 322 *e*P P 12 17 09.7 +1.0
TESR Tescani 79.02 320 ⇓ *i*P P 12 17 08.6 +0.1
BUR04 Bucovina Ar. S 79.02 322 *e*P P 12 17 08.1 -0.6
BURAR Bucovina Array 79.02 322 ⇓ *i*P P 12 17 09.7 +1.0
RRX Edison Barstow 79.05 55 P P 12 17 09.4 +0.5
baz=306
CFR Carcaliu 79.09 318 ⇑ *i*P P 12 17 09.7 +0.8
SCI2 San Clemente I 79.11 57 P P 12 17 09.3 0.0
baz=306
JLU Jordanelle 79.14 48 *e*P P 12 17 11.0 +1.3
comp=Z,43nm,1.1s
NLU North Lily Min 79.15 48 *e*P P 12 17 10.1 +0.4
comp=Z,75nm,1.1s
LLD Lille Linde 79.20 333 *i*P P 12 17 09.8 +0.5
LLD Lille Linde 79.20 333 *i*P P 12 17 09.8 +0.5
PETR Petresti 79.22 319 ⇓ *i*P P 12 17 11.8 +2.2
ODBI Odobesti 79.29 319 ⇓ *i*P P 12 17 11.9 +1.9
SHPR Sheep Range 79.29 53 *e*P P 12 17 11.2 +0.8
comp=Z,30nm,1.0s
KOZT Kozan 79.34 309 *e*P P 12 17 11.9 +1.4
BR131 Keskin Array S 79.35 311 *e*P P 12 17 11.5 +0.8
BRTR Keskin Array B 79.35 311 P P 12 17 11.0 +0.3
comp=Z,30nm,0.9s,baz=107,slow=4.1,SNR=73
BRTR PKKPbc **PKKPbc** 12 36 00.1 +0.6
comp=Z,1.2nm,0.8s,baz=224,slow=3.2,SNR=5.4
BRTR LR LR 12 56 46.5
comp=Z,2µm,18.1s,baz=45,slow=39
MPU Maple Canyon 79.39 48 *e*P P 12 17 12.2 +1.3
comp=Z,57nm,0.8s
RGN Rugen 79.39 332 *e*P P 12 17 07.8 -2.6
comp=Z,59nm,0.6s
VRI Vrincioaia 79.40 320 ⇑ *i*P P 12 17 12.8 +2.2
TIRR Tirgusor 79.40 318 ⇑ *i*P P 12 17 11.3 +0.6
TIRR Tirgusor 79.40 318 *e*P P 12 17 11.3 +0.6
TIRR pmax pmax
comp=Z,30nm,1.0s
TIRR Tirgusor 79.40 318 *e*P P 12 17 11.3 +0.6
comp=Z,30nm,1.0s
MUD Monsted U'grnd 79.42 335 *i*P P 12 17 10.9 +0.4
comp=Z,126nm,1.4s
MUD Monsted U'grnd 79.42 335 *i*P P 12 17 10.9 +0.4
MUD pmax pmax
comp=Z,130nm,1.4s
TUQ Turquoise Moun 79.43 54 P P 12 17 11.6 +0.4
baz=306,SNR=6.1
FLU Fool Peak 79.45 49 *e*P P 12 17 12.1 +0.8
PLOR Plostina 79.45 320 ⇓ *i*P P 12 17 12.2 +1.2
BBRC Big Bear Solar 79.46 55 P P 12 17 11.7 +0.3
baz=306,SNR=6.8
HEC Hector,Ludlow 79.52 55 P P 12 17 12.0 +0.4
baz=306,SNR=8.1
HARR Harsova 79.52 318 ⇓ *i*P P 12 17 11.7 +0.4
TLB Topalu 79.53 318 ⇓ *i*P P 12 17 12.0 +0.7
EFOR EFORIE 79.53 317 ⇑ *i*P P 12 17 18.7 +7.4
MURC Murrieta 79.66 56 P P 12 17 12.7 +0.4
baz=306,SNR=12
CEYT Ceyhan 79.67 308 *e*P P 12 17 12.9 +0.6
STHS Stebnicka Huta 79.73 325 *e*P P 12 17 13.6 +1.2
STHS pmax pmax
comp=Z,48nm,1.1s
STHS Stebnicka Huta 79.73 325 *e*P P 12 17 13.6 +1.2
ANTO Ankara 79.77 312 *e*P P 12 17 13.7 +0.8
ANTO Ankara 79.77 312 *e*P P 12 17 14.1 +1.2
ANTO pmax pmax
comp=Z,55nm,0.9s
ANTO MLR MLR
comp=Z,2µm,20.0s
ANTO Ankara 79.77 312 *e*P P 12 17 14.1 +1.2
comp=Z,55nm,0.9s
ANTO LR LR
comp=Z,2µm,20.0s
ANTO Ankara 79.77 312 pP P 12 17 14.6 +1.7
SNR=16
ANTO Ankara 79.77 312 P P 12 17 14.6 +1.7
SNR=16
LOD Lodumlu 79.78 312 *e*P P 12 17 11.5 -1.4
UZH Uzhgorod 79.78 324 *e*P P 12 17 12.4 -0.2
UZH *e* 12 17 28.6
BR231 Keskin MP Arra 79.80 312 *e*P P 12 17 11.5 -1.6
RAR Rarotonga 79.80 125 LR LR 12 45 36.8
comp=Z,2µm,19.8s,baz=308,slow=30
RAR Rarotonga 79.80 125 PFAKE 12 17 20.0 +7.0
RAR LR LR
comp=Z,42µm,21.0s
ARCR ARCALIA 79.81 322 ⇓ *i*P P 12 17 14.4 +1.5
CCUT Cedar City 79.82 51 *e*P P 12 17 14.3 +1.0
OJC Ojcow 79.84 326 *e*P P 12 17 13.5 +0.5
OJC Ojcow 79.84 326 *e*P P 12 17 13.4 +0.5
OJC pmax pmax
comp=Z,111nm,1.1s
OJC Ojcow 79.84 326 *e*P P 12 17 13.4 +0.5
comp=Z,111nm,1.1s
AFSR Af'ar-Bala (A 79.86 311 *e*P P 12 17 12.1 -1.3
PGOR Pogoanele 79.89 319 ⇓ *i*P P 12 17 15.2 +1.9
SZCU Shurtz Canyon 79.96 51 *e*P P 12 17 15.1 +0.9
comp=Z,27nm,1.0s
MSU Marysvale 79.97 50 *e*P P 12 17 15.3 +1.1
MSU Marysvale 79.97 50 *e*P P 12 17 15.3 +1.1
ISR Istrita 79.98 319 ⇓ *i*P P 12 17 15.4 +1.5
CRVS Cervenica-Dubn 79.99 324 *e*P P 12 17 14.3 +0.5
CRVS Cervenica-Dubn 79.99 324 *e*P P 12 17 14.3 +0.5
GMRC Granite Mounta 79.99 54 P P 12 17 14.7 +0.5
baz=307,SNR=25
TRPA Tarpa 80.00 323 ⇓ *e*x P 12 17 14.7 +0.9
YAYL Yayladag 80.03 307 *e*P P 12 17 15.6 +1.2
DOPR Dopca 80.03 320 ⇑ *i*P P 12 17 15.9 +1.8
PSN Preselentsi 80.03 317 *i*P P 12 17 14.7 +0.6
MLR Muntele Rosu 80.06 320 P P 12 17 14.8 +0.4
comp=Z,2.3nm,0.8s,baz=14,slow=5.5,SNR=16
MLR LR LR 12 55 42.2
comp=Z,2µm,18.7s,baz=46,slow=38
MLR Muntele Rosu 80.06 320 ⇓ *i*P P 12 17 15.2 +0.8
MLR Muntele Rosu 80.06 320 *e*P P 12 17 14.2 -0.2
MLR pmax pmax
comp=Z,29nm,1.1s
MLR Muntele Rosu 80.06 320 *e*P P 12 17 14.2 -0.2
comp=Z,29nm,1.1s
TMUT Trail Mountain 80.09 49 *e*P P 12 17 16.1 +1.2
comp=Z,21nm,0.8s
KMRZ Kaimai 80.13 152 P P 12 17 16.3 +1.8
109C Camp Elliot, M 80.14 57 P P 12 17 15.4 +0.5
baz=306
PFO Pinyon Flats O 80.15 56 P P 12 17 15.2 +0.1
baz=306,SNR=25
PFO Pinyon Flats O 80.15 56 *e*P P 12 17 15.9 +0.8
PFO pmax pmax
comp=Z,74nm,1.1s
PFO MLR MLR
comp=Z,5µm,19.0s
PFO Pinyon Flats O 80.15 56 *e*P P 12 17 15.9 +0.8
comp=Z,74nm,1.1s
PFO LR LR
comp=Z,5µm,19.0s
XPFO Pæon Fiat 80.16 56 *e*P P 12 17 15.9 +0.8
comp=Z,87nm,1.1s
NIE Niedzica 80.17 325 *e*P P 12 17 15.4 +0.6
NIE Niedzica 80.17 325 *e*P P 12 17 15.4 +0.6
LDFC Landfair 80.18 54 *e*P P 12 17 16.4 +1.1
comp=Z,43nm,1.1s
LCMT Little Creek M 80.22 51 *e*P P 12 17 16.2 +0.8
comp=Z,43nm,0.9s
BELC Belle Mtn. Jos 80.23 55 P P 12 17 15.3 -0.3
baz=307,SNR=20
MTPU Mount Pierson 80.26 50 *e*P P 12 17 17.0 +1.1
comp=Z,40nm,0.9s
P17A Butcher Ranch, 80.26 48 *e*P P 12 17 16.6 +1.0
comp=Z,112nm,0.9s
HIZ Hauiti 80.32 154 *e*P P 12 17 17.2 +1.8
comp=Z,94nm,1.1s
Q16A Castle Valley 80.34 49 *e*P P 12 17 17.4 +1.3
comp=Z,49nm,1.1s
MDUB Mudurnu 80.35 313 *e*P P 12 17 15.0 -1.0
SULT Sultanhani-AKS 80.36 310 *e*P P 12 17 17.1 +1.0
SULR 80.43 319 ⇑ *i*P P 12 17 18.7 +2.5
CJR Cluj-Napoca 80.45 322 ⇓ *i*P P 12 17 18.1 +1.7
P18A Preston Nutter 80.46 48 *e*P P 12 17 17.6 +0.7
comp=Z,62nm,1.1s
KNB Kanab 80.48 51 *e*P P 12 17 18.1 +1.2
KNB pmax pmax
comp=Z,48nm,0.8s
KNB Kanab 80.48 51 *e*P P 12 17 18.1 +1.2
comp=Z,48nm,0.8s
BAR Barrett 80.56 57 *e*P P 12 17 17.3 +0.1
comp=Z,71nm,1.1s
VOIR 80.56 320 ⇓ *i*P P 12 17 17.9 +0.9
MONP2 Monument Peak 80.60 56 P P 12 17 18.1 +0.4
baz=307,SNR=18
SRU San Rafael Swe 80.62 48 *e*P P 12 17 17.9 +0.3
SRU pmax pmax
comp=Z,71nm,0.8s
SRU San Rafael Swe 80.62 48 *e*P P 12 17 17.9 +0.3
comp=Z,71nm,0.8s
RAC Raciborz 80.66 327 *e*P P 12 17 18.5 +1.1
RAC MLR MLR
comp=Z,8µm,15.6s
NEE2 Needles Airpor 80.69 54 P P 12 17 18.0 +0.2
baz=307
SAUV Serdivan-Sakar 80.69 314 *e*P P 12 17 17.0 -0.7
RAYN Ar Rayn 80.70 292 *e*P P 12 17 18.3 +0.2
comp=Z,64nm,0.8s
RAYN LR LR
comp=Z,2µm,19.0s
IRM Iron Mountain 80.70 55 P P 12 17 18.4 +0.5
baz=307,SNR=42
K22A Casper 80.70 44 P P 12 17 18.0 +0.1
baz=311,SNR=20
K22A Casper 80.70 44 *e*P P 12 17 18.0 +0.1
comp=Z,72nm,1.1s
MMU Miners Mountai 80.71 49 *e*P P 12 17 19.2 +1.0
KECS Kecovo 80.75 324 *e*P P 12 17 19.1 +1.2
KECS pmax pmax
comp=Z,23nm,1.3s
KECS Kecovo 80.75 324 *e*P P 12 17 19.1 +1.2
KECS *e* 12 17 21.7
LANS Liptovska Anna 80.75 325 *e*P P 12 17 19.6 +1.7
LANS Liptovska Anna 80.75 325 *e*P P 12 17 19.6 +1.7
GULT Gulveren 80.78 314 *e*P P 12 17 18.2 -0.1
BC3 Big Chuckawall 80.80 55 P P 12 17 19.1 +0.5
baz=307,SNR=38
MDND Maddock 80.82 36 P P 12 17 18.6 +0.3
baz=314,SNR=8.4
MDND Maddock 80.82 36 *e*P P 12 17 19.3 +0.9
comp=Z,106nm,0.8s
VRZ Vera Road 80.83 154 P P 12 17 19.6 +1.4
ARR Arges 80.83 320 ⇓ *i*P P 12 17 20.3 +1.9
ULM Lac du Bonnet 80.84 33 P P 12 17 17.7 -0.6
comp=Z,44nm,1.1s,baz=318,slow=6.9,SNR=38
ULM LR LR 12 54 56.1
comp=Z,1µm,19.2s,baz=330,slow=37
DRGR 80.84 322 ⇑ *i*P P 12 17 19.5 +1.0
OKC Ostrava-Krasne 80.86 326 *e*P P 12 17 19.1 +0.7
OKC AMS AMS 12 57 00.0
comp=Z,7µm,16.5s
OKC Ostrava-Krasne 80.86 326 *e*P P 12 17 19.1 +0.7
OKC MLR MLR
comp=Z,7µm,16.5s
URZ Urewera 80.94 152 *e*P P 12 17 18.0 -0.7
comp=Z,21nm,1.1s
RWWY Rawlins 80.94 45 *e*P P 12 17 18.7 -0.7
comp=Z,77nm,0.9s
KSP Ksiaz 80.94 328 *e*P P 12 17 19.4 +0.5
KSP *e*S **SKSac** 12 27 36.9 +0.4
KSP Ksiaz 80.94 328 *e*P P 12 17 19.4 +0.5
KSP *e*S **SKSac** 12 27 36.9 +0.4
IKP In-Ko-Pah, Jac 80.96 56 P P 12 17 19.9 +0.5
baz=307,SNR=16
SWSC Sam W. Stewart 80.99 56 P P 12 17 19.7 +0.3
baz=307,SNR=15
RSSD Black Hills 81.10 41 P P 12 17 19.8 -0.3
baz=312
RSSD Black Hills 81.10 41 *e*P P 12 17 19.9 -0.3
RSSD pmax pmax
comp=Z,27nm,0.8s
RSSD Black Hills 81.10 41 *e*P P 12 17 19.9 -0.2
comp=Z,28nm,0.8s
KLYT Kilyos 81.11 315 *e*P P 12 17 18.0 -1.9
MORC Moravsky Berou 81.17 327 ⇓ *i*P P 12 17 21.0 +0.8
MORC Moravsky Berou 81.17 327 *e*P P 12 17 20.5 +0.3
MORC pmax pmax
comp=Z,171nm,1.0s
MORC Moravsky Berou 81.17 327 *e*P P 12 17 20.5 +0.3
comp=Z,171nm,1.0s
COVZ Chateau Observ 81.17 153 P P 12 17 20.1 -0.1
A31A Linda, St. Vin 81.19 34 P P 12 17 19.8 -0.4
baz=316
HUMR Humele 81.21 319 ⇓ *i*P P 12 17 21.2 +0.8
LOT Lotru 81.22 321 ⇓ *i*P P 12 17 21.3 +0.7
ADVT Abdulvahap 81.24 314 *e*P P 12 17 20.8 +0.2
PDMCI Parker Dam,Lak 81.28 54 P P 12 17 21.6 +0.6
baz=308,SNR=10
DPC Dobruska-Polom 81.29 328 *e*P P 12 17 22.0 +1.2
DPC AMS AMS 12 57 50.0
comp=Z,6µm,15.7s
DPC Dobruska-Polom 81.29 328 *e*P P 12 17 22.0 +1.2
DPC MLR MLR
comp=Z,6µm,15.7s
UPC Upice 81.31 328 *e*P P 12 17 21.8 +1.0
UPC AMS AMS 12 57 50.0
comp=Z,8µm,15.8s
UPC Upice 81.31 328 *e*P P 12 17 21.8 +1.0
UPC MLR MLR
comp=Z,8µm,15.8s
BGKT Bogazkoy 81.32 315 *e*P P 12 17 20.9 -0.1
CAVI Cavuskoy 81.32 314 *e*P P 12 17 22.1 +1.0
O20A White River Ci 81.34 46 P P 12 17 21.6 +0.2
baz=310,SNR=23
O20A White River Ci 81.34 46 *e*P P 12 17 20.7 -0.8
comp=Z,69nm,0.8s
B31A Greenbush Farm 81.34 35 P P 12 17 20.7 -0.4
baz=316
Y12C Blythe 81.36 55 P P 12 17 21.9 +0.5
baz=307,SNR=14
Y12C Blythe 81.36 55 *e*P P 12 17 22.5 +1.1
comp=Z,61nm,1.0s
PSZ Piszkesteto 81.42 324 ⇓ *i*P P 12 17 23.1 +1.5
PSZ Piszkesteto 81.42 324 *e*P P 12 17 22.2 +0.6
PSZ pmax pmax
comp=Z,88nm,1.1s
PSZ MLR MLR
comp=Z,5µm,20.0s
PSZ Piszkesteto 81.42 324 ⇓ *e*SKsac P 12 17 22.4 +0.8
PSZ Piszkesteto 81.42 324 *e*P P 12 17 22.2 +0.6
comp=Z,88nm,1.1s
PSZ LR LR
comp=Z,5µm,20.0s
CTKS Kestanelik-??a 81.43 315 *e*P P 12 17 21.2 -0.4
VYHS Vyhne 81.51 325 *e*P P 12 17 23.1 +1.1
VYHS pmax pmax
comp=Z,435nm,3.0s
VYHS Vyhne 81.51 325 *e*P P 12 17 23.1 +1.1
A32A Rocking H Ranc 81.52 34 P P 12 17 21.6 -0.4
baz=316,SNR=22
SZH Strazhica 81.54 318 *i*P P 12 17 22.5 +0.3
GEMT Gemlik 81.56 314 *e*P P 12 17 22.2 -0.1
GLA Glamis 81.58 55 P P 12 17 23.2 +0.5
baz=307,SNR=17
GLA Glamis 81.58 55 *e*P P 12 17 23.4 +0.7
GLA pmax pmax
comp=Z,100nm,1.0s
GLA Glamis 81.58 55 *e*P P 12 17 23.4 +0.7
comp=Z,100nm,1.0s
QRZ Quartz Range 81.58 156 P P 12 17 22.6 +0.5
ZIMR 81.59 319 ⇓ *i*P P 12 17 24.1 +1.7
AKKU Akkuyu-Mersin 81.59 309 *e*P P 12 17 22.6 0.0
BHHZ Black Hill Sta 81.62 153 P P 12 17 21.8 -0.6
ARMT Armutlu 81.66 314 *e*P P 12 17 23.2 +0.3
SIRR Siria 81.72 322 ⇓ *i*P P 12 17 24.2 +1.1
PHSR Pinarhisar 81.74 316 *e*P P 12 17 24.1 +0.8
C31A Landman Farms, 81.75 36 P P 12 17 23.1 -0.2
baz=316,SNR=9.3
MDNY Mudanya-Bursa 81.78 314 *e*P P 12 17 23.3 -0.2
ASF Jabal al Asfar 81.83 304 P P 12 17 24.8 +0.8
comp=Z,22nm,0.8s,baz=30,slow=2.8,SNR=9.2
ASF LR LR 12 56 10.9
comp=Z,2µm,20.2s,baz=6.0,slow=38
PV09 Paradox Valley 81.85 48 *e*P P 12 17 25.2 +0.9
B32A Ashes, Strandq 81.88 35 P P 12 17 23.3 -0.6
baz=316,SNR=18
PVCC Panska Ves 81.91 329 *e*P P 12 17 25.1 +1.1
PVCC *e*pP **PcP** 12 17 29.2 -0.4
PVCC Panska Ves 81.91 329 *e*P P 12 17 25.1 +1.1
BRG Berggiesshubel 81.91 329 *i*P P 12 17 24.4 +0.4
comp=Z,65nm,1.1s
BRG *i*PP PP 12 20 17.3 -14
comp=Z,27nm,1.3s
BRG Berggiesshubel 81.91 329 *i*P P 12 17 24.4 +0.4
BRG pmax pmax
comp=Z,65nm,1.1s
BRG pmax pmax
comp=Z,27nm,1.3s
BRG MLR MLR
comp=N,6µm,14.5s
BRG MLR MLR
comp=E,6µm,14.7s
BRG MLR MLR
comp=Z,9µm,14.4s
VRAC Vranov 81.94 327 P P 12 17 24.9 +0.7
comp=Z,26nm,0.8s,baz=50,slow=5.0,SNR=42
VRAC Vranov 81.94 327 ⇓ *i*P P 12 17 25.4 +1.2
CRLT Corlu 81.94 315 *e*P P 12 17 24.9 +0.5
CLL Collm 81.97 330 ⇓ *i*P P 12 17 24.2 -0.1
CLL pmax pmax
comp=Z,87nm,1.0s
CLL Collm 81.97 330 ⇓ *i*P P 12 17 24.2 -0.1
comp=Z,87nm,1.0s
CLL *i* (pP) **PcP** 12 17 28.9 -0.9
comp=Z,108nm,1.1s
CLL *e* 12 20 15.0
CLL *e*PP **PP** 12 20 31.0 -0.3
CLL *e*(SS) 12 33 30.0
PV10 Paradox Valley 81.98 48 *e*P P 12 17 25.9 +1.0
A33A Warroad 82.01 34 P P 12 17 23.9 -0.6
baz=317,SNR=25
EDRB Edirne 82.03 316 *e*P P 12 17 25.1 +0.3
PV04 Paradox Valley 82.05 48 *e*P P 12 17 26.0 +0.7
TSZ Takapari Road 82.08 154 P P 12 17 24.5 -0.3
PV05 Paradox Valley 82.13 48 *e*P P 12 17 26.2 +0.4
SMOL Smolenice 82.14 326 *e*P P 12 17 26.7 +1.4
SMOL Smolenice 82.14 326 *e*P P 12 17 26.7 +1.4
BUD Budapest 82.15 324 ⇓ *e*P P 12 17 26.0 +0.7
LFK Lefkose 82.15 308 *e*P P 12 17 24.7 -0.9
KCTX Karacabey (Bur 82.15 314 *e*P P 12 17 25.3 -0.2
DSZ Denniston Nort 82.18 157 P P 12 17 25.1 -0.2
N23A Red Feather La 82.18 45 P P 12 17 26.7 +0.8
baz=311,SNR=60
PHWY Pilot Hill 82.19 44 *e*P P 12 17 26.9 +0.9

	comp=Z,32nm,1.1s										
BZS	**Buzias**	**82.20**	**322**	ǁ	*i*	P		**P**	**12 17 26.3**	**+0.7**
NNZ	**Nelson**	**82.21**	**156**			P		**P**	**12 17 25.3**	**-0.1**
AGMN	**Agassiz Nation**	**82.26**	**34**			P		**P**	**12 17 25.3**	**-0.6**
	baz=317,SNR=17										
AGMN	**Agassiz Nation**	**82.26**	**34**		*e*	P		**P**	**12 17 25.7**	**-0.2**
	comp=Z,25nm,0.8s										
AGMN						LR		LR			
	comp=Z,3µm,20.0s										
GOPC	**GO Pecny, Ondr**	**82.28**	**328**		*e*	P		**P**	**12 17 27.1**	**+1.1**
GOPC						AMS		AMS	12 58 40.0		
	comp=Z,7µm,15.0s										
GOPC	**GO Pecny, Ondr**	**82.28**	**328**		*e*	P		**P**	**12 17 27.1**	**+1.1**
GOPC						MLR		MLR			
	comp=Z,7µm,15.0s										
D31A	**Mcclaflin, Tow**	**82.29**	**36**			P		**P**	**12 17 25.5**	**-0.6**
	baz=316										
C32A	**Crookston**	**82.30**	**35**			P		**P**	**12 17 25.3**	**-0.8**
	baz=316										
MODS	**Modra-Piesok**	**82.31**	**326**		*e*	P		**P**	**12 17 27.5**	**+1.3**
MODS	**Modra-Piesok**	**82.31**	**326**		*e*	P		**P**	**12 17 27.5**	**+1.3**
MMAI	**Mount Meron Ar**	**82.32**	**305**			P		**P**	**12 17 27.6**	**+1.0**
	comp=Z,32nm,0.9s,baz=27,slow=3.5,SNR=5.8										
MMAI						LR		LR	12 57 51.6		
	comp=Z,4µm,19.0s,baz=35,slow=38										
PRU	**Pruhonice**	**82.33**	**328**		*e*	P		**P**	**12 17 26.9**	**+0.7**
PRU					*e*	pP		**PcP**	**12 17 31.1**	**-0.3**
PRU						AMS		AMS	12 58 40.0		
	comp=Z,6µm,15.5s										
PRU	**Pruhonice**	**82.33**	**328**		*e*	P		**P**	**12 17 26.9**	**+0.7**
PRU						MLR		MLR			
	comp=Z,6µm,15.5s										
WUAZ	**Wupatki**	**82.33**	**52**			P		**P**	**12 17 27.3**	**+0.6**
	baz=309,SNR=17										
WUAZ	**Wupatki**	**82.33**	**52**		*e*	P		**P**	**12 17 28.1**	**+1.4**
	comp=Z,34nm,0.9s										
WUAZ						LR		LR			
	comp=Z,2µm,20.0s										
EDC	**Edincik**	**82.38**	**315**		*e*	P		**P**	**12 17 26.7**	**0.0**
B33A	**Robert and Kas**	**82.41**	**34**			P		**P**	**12 17 26.1**	**-0.6**
	baz=317										
PV01	**Paradox Valley**	**82.42**	**48**		*e*	P		**P**	**12 17 27.2**	**0.0**
ISP	**Isparta**	**82.44**	**311**		*e*	P		**P**	**12 17 27.1**	**-0.1**
ISP						pmax		pmax			
	comp=Z,40nm,0.9s										
ISP						MLR		MLR			
	comp=Z,2µm,20.0s										
ISP	**Isparta**	**82.44**	**311**		*e*	P		**P**	**12 17 27.1**	**-0.1**
	comp=Z,40nm,0.9s										
ISP						LR		LR			
	comp=Z,2µm,20.0s										
TREC	**Trest**	**82.44**	**327**		*e*	P		**P**	**12 17 27.8**	**+1.0**
TREC						AMS		AMS	13 02 40.0		
	comp=Z,6µm,15.1s										
TREC	**Trest**	**82.44**	**327**		*e*	P		**P**	**12 17 27.8**	**+1.0**
TREC						MLR		MLR			
	comp=Z,6µm,15.1s										
CSS	**Mathiatis**	**82.47**	**308**		*e*	P		**P**	**12 17 27.9**	**+0.6**
CSS	**Mathiatis**	**82.47**	**308**			PFAKE			12 17 40.0	+13	
CSS						LR		LR			
	comp=Z,530nm,22.0s										
MRZ	**Mangatainoka R**	**82.48**	**154**			P		**P**	**12 17 26.1**	**-0.7**
ZST	**Bratislava**	**82.52**	**326**		*e*	P		**P**	**12 17 26.8**	**-0.4**
ZST						pmax		pmax			
	comp=Z,267nm,2.1s										
ZST	**Bratislava**	**82.52**	**326**		*e*	P		**P**	**12 17 26.8**	**-0.4**
THZ	**Tophouse**	**82.55**	**156**		*e*	P		**P**	**12 17 27.3**	**+0.1**
	comp=Z,64nm,1.0s										
THZ	**Tophouse**	**82.55**	**156**			P		**P**	**12 17 26.7**	**-0.5**
RKY	**Sarkoy-Tekirda**	**82.55**	**315**		*e*	P		**P**	**12 17 28.5**	**+0.9**
E31A	**Nome**	**82.56**	**36**			P		**P**	**12 17 27.4**	**-0.1**
	baz=316,SNR=13										
D32A	**Dogwood Acres,**	**82.57**	**36**			P		**P**	**12 17 27.1**	**-0.4**
	baz=316										
CSKK	**Cs˙ŧkako**	**82.59**	**325**	ǁ	*e*	P		**P**	**12 17 28.5**	**+0.9**
TUWZ	**Tuamarina**	**82.59**	**156**			P		**P**	**12 17 27.0**	**-0.4**
MPEP	**Malo Peshtene**	**82.66**	**319**		*i*	P		**P**	**12 17 28.6**	**+0.5**
B34A	**Aery, Baudette**	**82.67**	**34**			P		**P**	**12 17 27.3**	**-0.7**
	baz=318,SNR=18										
KRBG	**Karabiga-Canak**	**82.68**	**315**		*e*	P		**P**	**12 17 28.9**	**+0.7**
C33A	**Trail**	**82.70**	**35**			P		**P**	**12 17 27.6**	**-0.6**
	baz=317,SNR=12										
SMCO	**Snowmass**	**82.70**	**47**		*e*	P		**P**	**12 17 29.4**	**+0.5**
	comp=Z,62nm,1.0s										
SNZO	**South Karori**	**82.75**	**155**			PFAKE			12 17 40.0	+12	
SNZO						LR		LR			
	comp=Z,3µm,19.0s										
BALB	**Balikesir**	**82.84**	**314**		*e*	P		**P**	**12 17 29.3**	**+0.3**
F31A	**Hecla**	**82.88**	**37**			P		**P**	**12 17 29.0**	**-0.2**
	baz=315,SNR=11										
KDZ	**Kurdzhali**	**82.91**	**317**		*i*	P		**P**	**12 17 30.6**	**+1.2**
E32A	**Braaten, Kindr**	**82.93**	**36**			P		**P**	**12 17 28.9**	**-0.5**
	baz=316										
ERIK	**Erikli-Kesan**	**82.94**	**316**		*e*	P		**P**	**12 17 29.5**	**0.0**
PGB	**Panagyurishte**	**82.98**	**318**		*i*	P		**P**	**12 17 30.1**	**+0.3**
PLD	**Plovdiv**	**82.99**	**318**		*i*	P		**P**	**12 17 30.1**	**+0.3**
LPK	**Lapseki**	**83.00**	**315**		*e*	P		**P**	**12 17 29.3**	**-0.6**
NKC	**Novy Kostel**	**83.02**	**330**		*e*	P		**P**	**12 17 30.2**	**+0.4**
NKC					*e*	pP		**PcP**	**12 17 33.9**	**-0.6**
NKC						AMS		AMS	12 58 00.0		
	comp=Z,10µm,15.3s										
NKC	**Novy Kostel**	**83.02**	**330**		*e*	P		**P**	**12 17 30.2**	**+0.4**
NKC						MLR		MLR			
	comp=Z,10µm,15.3s										
MVCO	**Mesa Verde**	**83.05**	**49**			P		**P**	**12 17 31.1**	**+0.6**
	baz=310,SNR=29										
MVCO	**Mesa Verde**	**83.05**	**49**		*e*	P		**P**	**12 17 31.4**	**+0.8**
	comp=Z,34nm,1.1s										
MVCO						LR		LR			
	comp=Z,2µm,19.0s										
ALN	**Alexandroupoli**	**83.06**	**316**		*e*	P		**P**	**12 17 30.6**	**+0.5**
ALN	**Alexandroupoli**	**83.06**	**316**			P		**P**	**12 17 30.0**	**-0.1**
ALN	**Alexandroupoli**	**83.06**	**316**			P		**P**	**12 17 30.0**	**-0.1**
ALN	**Alexandroupoli**	**83.06**	**316**			P		**P**	**12 17 30.0**	**-0.1**
KORT	**Korkueli**	**83.06**	**311**		*e*	P		**P**	**12 17 28.9**	**-1.6**
ISCO	**Idaho Springs**	**83.09**	**45**			P		**P**	**12 17 31.6**	**+0.9**
	baz=312,SNR=34										
ISCO	**Idaho Springs**	**83.09**	**45**		*e*	P		**P**	**12 17 32.1**	**+1.3**
ISCO						pmax		pmax			
	comp=Z,23nm,0.8s										
ISCO						MLR		MLR			
	comp=Z,2µm,19.0s										
ISCO	**Idaho Springs**	**83.09**	**45**		*e*	P		**P**	**12 17 32.1**	**+1.3**
	comp=Z,23nm,0.8s										
ISCO						LR		LR			
	comp=Z,2µm,19.0s										
ENEZ	**Enez**	**83.10**	**316**		*e*	P		**P**	**12 17 30.3**	**-0.1**
KULA	**Kula-Manisa**	**83.11**	**313**		*e*	P		**P**	**12 17 31.1**	**+0.5**
D33A	**AnnSam, Waubun**	**83.11**	**35**			P		**P**	**12 17 30.0**	**-0.4**
	baz=317,SNR=6.4										
GELI	**Tayfur-Gelibol**	**83.15**	**316**		*e*	P		**P**	**12 17 31.4**	**+0.8**
SOP	**Sopron**	**83.15**	**326**	ǁ	*e*	P		**P**	**12 17 31.5**	**+1.0**
C34A	**RKJ Ranch, Bem**	**83.17**	**34**			P		**P**	**12 17 30.0**	**-0.6**
	baz=318										
RDO	**Rodhopi**	**83.18**	**317**			P		**P**	**12 17 30.1**	**-0.7**
RDO	**Rodhopi**	**83.18**	**317**			P		**P**	**12 17 30.1**	**-0.7**
B35A	**Bob, Littlefor**	**83.18**	**33**			P		**P**	**12 17 30.2**	**-0.4**
	baz=318,SNR=26										
MANT	**Manisa**	**83.19**	**313**		*e*	P		**P**	**12 17 31.9**	**+0.7**
	comp=Z,140nm,1.1s										
FOZ	**Fox Glacier**	**83.21**	**159**		*e*	P		**P**	**12 17 30.9**	**+0.4**
	comp=Z,21nm,0.8s										
MORH	**M˙ŧr˙gy, Hung**	**83.24**	**324**	ǁ	*e*	P		**P**	**12 17 31.0**	**0.0**
RZN	**Rozhen**	**83.27**	**317**		*i*	P		**P**	**12 17 32.3**	**+0.8**
CONA	**Conrad Observa**	**83.28**	**326**		*i*	pP		**P**	**12 17 32.4**	**+1.1**
	comp=Z,97nm,1.7s,SNR=40										
KHZ	**Kahutara**	**83.34**	**156**		*e*	P		**P**	**12 17 30.9**	**-0.3**
	comp=Z,24nm,1.0s										
G31A	**Conde**	**83.36**	**38**			P		**P**	**12 17 31.4**	**-0.3**
	baz=316,SNR=14										
KHC	**Kasperske Hory**	**83.39**	**328**		*e*	P		**P**	**12 17 32.6**	**+0.8**
KHC						AMS		AMS	12 58 00.0		
	comp=Z,7µm,18.7s										
KHC	**Kasperske Hory**	**83.39**	**328**		*e*	P		**P**	**12 17 31.1**	**-0.7**
KHC						pmax		pmax			
	comp=Z,27nm,1.0s										
KHC	**Kasperske Hory**	**83.39**	**328**		*e*	P		**P**	**12 17 31.1**	**-0.7**
	comp=Z,27nm,1.0s										
F32A	**Veblen**	**83.42**	**37**			P		**P**	**12 17 31.3**	**-0.7**
	baz=316										
VTS	**Vitosha**	**83.47**	**319**	ǁ	*i*	P		**P**	**12 17 33.6**	**+1.1**
VTS	**Vitosha**	**83.47**	**319**		*e*	P		**P**	**12 17 32.2**	**-0.3**
VTS	**Vitosha**	**83.47**	**319**		*e*	P		**P**	**12 17 32.2**	**-0.3**
VTS	**Vitosha**	**83.47**	**319**		*i*	P		**P**	**12 17 34.0**	**+1.5**
ELL	**Elmali**	**83.50**	**311**		*e*	P		**P**	**12 17 32.4**	**-0.3**
E33A	**Westby DABS, E**	**83.50**	**36**			P		**P**	**12 17 32.1**	**-0.3**
	baz=317,SNR=16										
SUSD	**Miller**	**83.53**	**39**			P		**P**	**12 17 32.2**	**-0.4**
	baz=315										
GERES	**GERESS Array B**	**83.55**	**328**			P		**P**	**12 17 32.5**	**-0.1**
	comp=Z,18nm,0.8s,baz=36,slow=5.0,SNR=77										
GERES						PP		PP	12 20 35.9	-8.5	
	comp=Z,2.3nm,0.8s,baz=47,slow=5.8,SNR=3.5										
GERES						PKKPbc		**PKKPbc**	**12 35 49.6**	**-0.6**	
	comp=Z,1.0nm,0.8s,baz=193,slow=3.0,SNR=7.2										
C35A	**Jirik Farms, M**	**83.56**	**34**			P		**P**	**12 17 32.0**	**-0.6**
	baz=318,SNR=28										
214A	**Organ Pipe Nat**	**83.60**	**55**			P		**P**	**12 17 33.5**	**+0.4**
	baz=308,SNR=41										
214A	**Organ Pipe Nat**	**83.60**	**55**		*e*	P		**P**	**12 17 33.8**	**+0.6**
	comp=Z,276nm,1.1s										
EZN	**Ezine**	**83.61**	**315**		*e*	P		**P**	**12 17 33.2**	**+0.2**
GADA	**Gvkgeada**	**83.61**	**316**		*e*	P		**P**	**12 17 33.0**	**0.0**
W18A	**Petrified Fore**	**83.62**	**51**			P		**P**	**12 17 34.3**	**+0.8**
	baz=310,SNR=13										
W18A	**Petrified Fore**	**83.62**	**51**		*e*	P		**P**	**12 17 33.8**	**+0.4**
	comp=Z,182nm,1.9s										
SMTH	**Samothraki Isl**	**83.63**	**316**			P		**P**	**12 17 32.4**	**-0.8**
SMTH	**Samothraki Isl**	**83.63**	**316**			P		**P**	**12 17 32.4**	**-0.8**
OXZ	**Oxford**	**83.68**	**158**		*e*	P		**P**	**12 17 33.2**	**+0.2**
	comp=Z,42nm,1.2s										
G32A	**Webster**	**83.68**	**37**			P		**P**	**12 17 33.2**	**-0.2**
	baz=316,SNR=28										
S22A	**4UR Ranch, Cre**	**83.72**	**48**			P		**P**	**12 17 35.3**	**+1.3**
	baz=311,SNR=72										
RPZ	**Rata Peaks**	**83.74**	**158**		*e*	P		**P**	**12 17 33.3**	**+0.1**
	comp=Z,29nm,1.1s										
H31A	**Wolsey**	**83.75**	**38**			P		**P**	**12 17 33.1**	**-0.6**
	baz=315										
DKL	**Dikili**	**83.78**	**314**		*e*	P		**P**	**12 17 33.8**	**-0.1**
KAVA	**Kavala**	**83.85**	**317**			P		**P**	**12 17 34.0**	**-0.2**
KAVA	**Kavala**	**83.85**	**317**			P		**P**	**12 17 34.0**	**-0.2**
WTSB	**Winterswijk**	**83.85**	**333**		*e*	P		**P**	**12 17 33.5**	**-0.4**
	comp=Z,614nm,2.5s										
F33A	**5 Mile Ranch,**	**83.85**	**36**			P		**P**	**12 17 34.0**	**-0.1**
	baz=317,SNR=52										
MMB	**Musomiste**	**83.88**	**318**		*i*	P		**P**	**12 17 35.2**	**+0.8**
E34A	**Wadena**	**83.89**	**35**			P		**P**	**12 17 33.7**	**-0.6**
	baz=317										
Q24A	**Divide**	**83.91**	**46**			P		**P**	**12 17 35.4**	**+0.4**
	baz=312,SNR=19										
AYDB	**Zeytinkoy-Aydi**	**83.94**	**313**		*e*	P		**P**	**12 17 36.0**	**+1.1**
BEHE	**Becsehely**	**83.94**	**325**	ǁ	*e*	P		**P**	**12 17 35.0**	**+0.4**
ARSA	**Arzberg**	**83.94**	**326**		*i*	pP		**P**	**12 17 35.5**	**+0.9**
	comp=Z,38nm,1.1s,SNR=27										
GRFO	**Grafenberg**	**83.94**	**330**		*e*	P		**P**	**12 17 35.0**	**+0.4**
GRFO						pmax		pmax			
	comp=Z,6.0nm,0.6s										
GRFO	**Grafenberg**	**83.94**	**330**		*e*	P		**P**	**12 17 35.0**	**+0.4**
	comp=Z,6.0nm,0.6s										
NVR	**Nevrokopi**	**83.97**	**318**			P		**P**	**12 17 34.9**	**0.0**
NVR	**Nevrokopi**	**83.97**	**318**			P		**P**	**12 17 34.9**	**0.0**
D35A	**Remer**	**83.99**	**34**			P		**P**	**12 17 34.1**	**-0.8**
	baz=318,SNR=8.1										
AKAS	**Kas**	**84.02**	**311**		*e*	P		**P**	**12 17 37.4**	**+2.0**
C36A	**Pine Crest Far**	**84.03**	**33**			P		**P**	**12 17 34.4**	**-0.6**
	baz=319,SNR=23										
PRK	**Paraskevi**	**84.03**	**315**			P		**P**	**12 17 35.4**	**+0.2**
PRK	**Paraskevi**	**84.03**	**315**			P		**P**	**12 17 35.4**	**+0.2**
PRK	**Paraskevi**	**84.03**	**315**			P		**P**	**12 17 35.4**	**+0.2**
KKB	**Krupnik**	**84.04**	**318**		*i*	P		**P**	**12 17 36.1**	**+0.9**
I31A	**Royce, Wessing**	**84.04**	**39**			P		**P**	**12 17 34.7**	**-0.5**
	baz=315										
MOA	**Molln**	**84.06**	**327**		*i*	pP		**P**	**12 17 36.0**	**+0.8**
	comp=Z,56nm,1.2s,SNR=31										
FETY	**Fethiye**	**84.08**	**311**		*e*	P		**P**	**12 17 33.8**	**-1.7**
LBZ	**Lake Benmore**	**84.09**	**159**		*e*	P		**P**	**12 17 35.7**	**+0.6**
	comp=Z,43nm,1.0s										
PMOR	**Pomariorio Ree**	**84.11**	**113**		*e*	P		**P**	**12 17 37.0**	**+1.2**
	comp=Z,184nm,1.2s										
PMOR	**Pomariorio Ree**	**84.11**	**113**		*e*	T			13 49 52.0		
	comp=Z,144nm,0.2s										
EKA	**Eskdalemuir Ar**	**84.18**	**340**			P		**P**	**12 17 36.1**	**+0.5**
	comp=Z,6.9nm,0.6s,baz=35,slow=4.6,SNR=24										
EKA						PP		**PP**	**12 20 43.3**	**-5.9**	
	comp=Z,7.4nm,1.0s,baz=40,slow=9.2,SNR=3.1										
EKA						LR		LR	12 58 56.2		
	comp=Z,3µm,18.9s,baz=15,slow=38										
E35A	**Pequot Lakes**	**84.21**	**35**			P		**P**	**12 17 35.4**	**-0.6**
	baz=318,SNR=6.1										
LIA	**Limnos Island**	**84.22**	**316**			P		**P**	**12 17 35.6**	**-0.5**
LIA	**Limnos Island**	**84.22**	**316**			P		**P**	**12 17 35.6**	**-0.5**
DALY	**Dalyan (Mu˙la**	**84.22**	**312**		*e*	P		**P**	**12 17 36.6**	**+0.4**
G33A	**Ortonville**	**84.25**	**37**			P		**P**	**12 17 36.1**	**-0.1**
	baz=317,SNR=21										
H32A	**Carlson Farm,**	**84.25**	**38**			P		**P**	**12 17 35.7**	**-0.6**
	baz=316,SNR=12										
SRS	**Serrai**	**84.27**	**318**			P		**P**	**12 17 36.1**	**-0.3**
SRS	**Serrai**	**84.27**	**318**			P		**P**	**12 17 36.1**	**-0.3**
SRS	**Serrai**	**84.27**	**318**			P		**P**	**12 17 36.1**	**-0.3**
D36A	**Goodland**	**84.32**	**34**			P		**P**	**12 17 35.9**	**-0.6**
	baz=319,SNR=6.8										
C37A	**Embarrass**	**84.34**	**33**			P		**P**	**12 17 36.0**	**-0.6**
	baz=319,SNR=20										
OGNE	**Ogallala**	**84.34**	**43**			P		**P**	**12 17 36.9**	**0.0**
	baz=314,SNR=11										
OGNE	**Ogallala**	**84.34**	**43**		*e*	P		**P**	**12 17 37.5**	**+0.6**
	comp=Z,56nm,0.8s										
OGNE						LR		LR			
	comp=Z,2µm,19.0s										
F34A	**Alexandria**	**84.38**	**36**			P		**P**	**12 17 36.5**	**-0.4**
	baz=317,SNR=13										
HRFI	**Mount Harif**	**84.39**	**303**		*e*	P		**P**	**12 17 36.9**	**-0.3**
MLSB	**Milas**	**84.44**	**312**		*e*	P		**P**	**12 17 37.9**	**+0.6**
J31A	**Geddes**	**84.46**	**39**			P		**P**	**12 17 37.0**	**-0.4**
	baz=315										
H33A	**Prehn Over Nor**	**84.47**	**37**			P		**P**	**12 17 37.1**	**-0.2**
	baz=316,SNR=40										
EYMN	**Ely**	**84.47**	**32**			P		**P**	**12 17 36.9**	**-0.4**
	baz=320,SNR=22										
EYMN	**Ely**	**84.47**	**32**		*e*	P		**P**	**12 17 37.4**	**+0.1**
	comp=Z,41nm,0.9s										
EYMN						LR		LR			
	comp=Z,2µm,20.0s										
PPT	**Papeete**	**84.49**	**116**			LR		LR	12 47 58.0		
	comp=Z,3µm,21.5s,baz=294,slow=30										
GCAM	**G?elcaml?**	**84.49**	**313**		*e*	P		**P**	**12 17 35.4**	**-2.1**
PPT2	**Papeete2**	**84.50**	**116**		*e*	P		**P**	**12 17 39.0**	**+1.1**
	comp=Z,98nm,1.4s										
PPT2	**Papeete2**	**84.50**	**116**		*e*	S		**S**	**12 27 58.9**	**-4.9**
	comp=Z,5µm,30.5s										
PPT2	**Papeete2**	**84.50**	**116**		*e*	LR		LR	12 43 38.8		
	comp=Z,6µm,22.5s,baz=315										
PPT2	**Papeete2**	**84.50**	**116**		*e*	T		T	13 50 21.8		
	comp=Z,20nm,0.3s										
SDCO	**Great Sand Dun**	**84.51**	**47**			P		**P**	**12 17 39.0**	**+1.0**
	baz=312,SNR=90										
SDCO	**Great Sand Dun**	**84.51**	**47**		*e*	P		**P**	**12 17 38.6**	**+0.6**
	comp=Z,30nm,1.0s										
SDCO						LR		LR			
	comp=Z,2µm,19.0s										
PAE	**Paea**	**84.55**	**116**		*e*	T		T	13 50 24.7		
	comp=Z,4.3nm,0.3s										
I32A	**Karley and Nic**	**84.58**	**38**			P		**P**	**12 17 37.4**	**-0.5**
	baz=316										
PERS	**Pernice**	**84.59**	**326**		*i*	P		**P**	**12 17 37.8**	**-0.2**
SOKA	**Soboth**	**84.59**	**326**		*i*	P		**P**	**12 17 38.2**	**+0.1**
	comp=Z,82nm,1.0s,SNR=60										
OUR	**Ouranopolis**	**84.59**	**317**		*e*	P		**P**	**12 17 37.7**	**-0.3**
OUR	**Ouranopolis**	**84.59**	**317**			P		**P**	**12 17 38.1**	**+0.1**
OUR	**Ouranopolis**	**84.59**	**317**			P		**P**	**12 17 38.1**	**+0.1**
OUR	**Ouranopolis**	**84.59**	**317**			P		**P**	**12 17 38.1**	**+0.1**
G34A	**Benson**	**84.60**	**36**			P		**P**	**12 17 37.8**	**-0.1**
	baz=317,SNR=22										
SOH	**Sokhos**	**84.61**	**317**			P		**P**	**12 17 37.3**	**-0.9**
SOH	**Sokhos**	**84.61**	**317**			P		**P**	**12 17 37.3**	**-0.9**
SOH	**Sokhos**	**84.61**	**317**			P		**P**	**12 17 37.3**	**-0.9**
KNT	**Kendrikon**	**84.62**	**318**		*e*	P		**P**	**12 17 38.3**	**+0.1**
KNT	**Kendrikon**	**84.62**	**318**			P		**P**	**12 17 38.0**	**-0.2**
KNT	**Kendrikon**	**84.62**	**318**			P		**P**	**12 17 38.0**	**-0.2**
KNT	**Kendrikon**	**84.62**	**318**			P		**P**	**12 17 38.0**	**-0.2**
F35A	**Swanville**	**84.65**	**35**			P		**P**	**12 17 37.9**	**-0.4**
	baz=318,SNR=11										
TIAR	**Tiarei**	**84.65**	**116**		*e*	P		**P**	**12 17 39.6**	**+1.1**
	comp=Z,37nm,1.2s										
TIAR	**Tiarei**	**84.65**	**116**		*e*	T		T	13 50 31.9		
	comp=Z,9.9nm,0.3s										
D37A	**Cotton**	**84.66**	**33**			P		**P**	**12 17 37.3**	**-1.0**
	baz=319										
EIL	**Elat**	**84.67**	**303**		*e*	P		**P**	**12 17 38.3**	**-0.3**
VAY	**Valandovo**	**84.69**	**318**		*i*	P		**P**	**12 17 38.9**	**+0.4**
TUC	**Tucson**	**84.72**	**54**			P		**P**	**12 17 39.5**	**+0.5**
	baz=309										
TUC	**Tucson**	**84.72**	**54**		*e*	P		**P**	**12 17 39.3**	**+0.4**
TUC						pmax		pmax			
	comp=Z,49nm,1.0s										
TUC						MLR		MLR			
	comp=Z,5µm,19.0s										
TUC	**Tucson**	**84.72**	**54**		*e*	P		**P**	**12 17 39.3**	**+0.4**
	comp=Z,49nm,1.0s										
TUC						LR		LR			
	comp=Z,5µm,19.0s										
C38A	**Sawbill Land.**	**84.75**	**32**			P		**P**	**12 17 38.0**	**-0.7**
	baz=320,SNR=29										
E36A	**McGregor**	**84.77**	**34**			P		**P**	**12 17 38.4**	**-0.5**
	baz=319,SNR=20										
SKO	**Skopje**	**84.84**	**319**		*i*	P		**P**	**12 17 40.1**	**+0.8**
J32A	**Parkston**	**84.86**	**39**			P		**P**	**12 17 38.7**	**-0.6**
	baz=316										
PLG	**Polygyros**	**84.86**	**317**			P		**P**	**12 17 38.4**	**-1.1**
PLG	**Polygyros**	**84.86**	**317**			P		**P**	**12 17 38.4**	**-1.1**
PLG	**Polygyros**	**84.86**	**317**			P		**P**	**12 17 38.4**	**-1.1**
TVO	**Taravao**	**84.86**	**116**		*e*	P		**P**	**12 17 41.0**	**+1.3**
	comp=Z,40nm,1.4s										
TVO	**Taravao**	**84.86**	**116**		*e*	T		T	13 50 47.3		
	comp=Z,2.1nm,0.3s										
BODT	**Bodrum**	**84.87**	**313**		*e*	P		**P**	**12 17 37.9**	**-1.6**
I33A	**Coleman**	**84.90**	**38**			P		**P**	**12 17 39.3**	**-0.2**
	baz=316,SNR=7.4										
HORT	**Hortiatis**	**84.90**	**317**		*e*	P		**P**	**12 17 40.1**	**+0.4**
HORT	**Hortiatis**	**84.90**	**317**			P		**P**	**12 17 38.6**	**-1.1**
HORT	**Hortiatis**	**84.90**	**317**			P		**P**	**12 17 38.6**	**-1.1**
K31A	**O'Neill**	**84.93**	**40**			P		**P**	**12 17 39.6**	**-0.1**
	baz=315,SNR=27										
ARG	**Arkhangelos**	**84.93**	**311**			P		**P**	**12 17 40.0**	**+0.2**
ARG	**Arkhangelos**	**84.93**	**311**			P		**P**	**12 17 40.0**	**+0.2**
ARG	**Arkhangelos**	**84.93**	**311**			P		**P**	**12 17 40.0**	**+0.2**
OBKA	**Obir**	**84.94**	**326**		*i*	P		**P**	**12 17 39.6**	**-0.2**
	comp=Z,21nm,0.9s,SNR=11										
PLE	**Pljevlja**	**84.94**	**321**	ǁ	*i*	P		**P**	**12 17 40.0**	**+0.1**
H34A	**Spellman Lake,**	**84.95**	**37**			P		**P**	**12 17 39.6**	**-0.1**
	baz=317,SNR=22										
BLY	**Banja Luka**	**85.01**	**323**	ǁ	*i*	P		**P**	**12 17 40.5**	**+0.5**
BLY	**Ban

TRI	Trieste	85.90	326	eP		P		12 17 43.5	-1.0
TRI					pmax	pmax				
	comp=Z,49nm,1.1s									
TRI	Trieste	85.90	326	eP		P		12 17 43.5	-1.0
	comp=Z,49nm,1.1s									
H36A	Jessenland, He	85.91	36	P		P		12 17 44.9	+0.4
	baz=318,SNR=6.9									
I35A	Creekview Farm	85.94	37	P		P		12 17 44.1	-0.6
	baz=318									
BUM	Brajici-Budva	85.94	321	⇓iP		P		12 17 44.7	-0.1
SNF	Seneffe	85.95	334	⇑P		P		12 17 45.1	+0.5
SPMN	Marine on St.	85.95	35	P		P		12 17 44.6	-0.2
	baz=319,SNR=8.8									
SPMN	Marine on St.	85.95	35	eP		P		12 17 44.7	0.0
	comp=Z,90nm,1.3s									
WLF	Walferdange	85.96	332	⇓P		P		12 17 45.6	+0.9
WLF	Walferdange	85.96	332	eP		P		12 17 45.4	+0.7
WLF					pmax	pmax				
	comp=Z,33nm,0.8s									
WLF					MLR	MLR				
	comp=Z,5µm,20.0s									
WLF	Walferdange	85.96	332	eP		P		12 17 45.4	+0.7
	comp=Z,33nm,0.8s									
WLF					LR	LR				
	comp=Z,5µm,20.0s									
ULC	Ulcinj	86.00	320	⇓iP		P		12 17 44.8	-0.3
L33A	Hoskins	86.02	39	P		P		12 17 44.5	-0.7
	baz=316									
HCY	Herceg Novi	86.04	321	⇓iP		P		12 17 44.5	-0.7
Y22E	IRIS PASSCAL I	86.06	50	P		P		12 17 46.6	+0.9
	baz=311									
Y22D	IRIS PASSCAL I	86.06	50	P		P		12 17 46.6	+0.9
	baz=311									
E39A	Mellen	86.09	33	P		P		12 17 45.0	-0.4
	baz=321,SNR=25									
BGNE	Belgrade	86.11	40	P		P		12 17 45.2	-0.5
	baz=316,SNR=8.0									
BGNE	Belgrade	86.11	40	eP		P		12 17 45.7	+0.1
	comp=Z,137nm,0.7s									
TIR	Tirane	86.12	320		PFAKE			12 18 00.0	+14
TIR					LR	LR				
	comp=Z,13µm,19.0s									
STON	Ston	86.13	322	iP		P		12 17 43.7	-1.9
DOU	Dourbes	86.18	333	⇓P		P		12 17 45.6	-0.2
	comp=Z,25nm,1.8s									
J35A	Milford	86.19	37	P		P		12 17 45.7	-0.3
	baz=318									
BFO	Black Forest	86.19	330	eP		P		12 17 45.5	-0.4
BFO					pmax	pmax				
	comp=Z,62nm,0.9s									
BFO					MLR	MLR				
	comp=Z,3µm,21.0s									
BFO	Black Forest	86.19	330	eP		P		12 17 45.5	-0.4
	comp=Z,62nm,0.9s									
BFO					LR	LR				
	comp=Z,3µm,21.0s									
FETA	Feichten	86.23	328	iPcP		P		12 17 46.5	+0.3
	comp=Z,28nm,1.0s,SNR=19									
K34A	Le Mars	86.24	38	P		P		12 17 45.8	-0.4
	baz=317,SNR=13									
NVLJ	Novalja	86.25	325	iP		P		12 17 45.3	-0.9
F39A	Loretta	86.28	33	P		P		12 17 46.2	-0.2
	baz=320,SNR=26									
I36A	Fitzsimmons Fa	86.28	36	P		P		12 17 46.4	0.0
	baz=318,SNR=7.4									
KPRO	Kipourio	86.30	318	P		P		12 17 44.2	-2.5
LKR	Lokris	86.30	316	P		P		12 17 44.3	-2.3
LKR	Lokris	86.30	316	P		P		12 17 44.3	-2.3
E40A	Wakefield	86.33	32	P		P		12 17 46.8	+0.3
	baz=321,SNR=47									
TAOE	Nuku Hiva Isla	86.33	104	eS		S		12 28 18.4	-3.6
	comp=Z,4µm,31.7s									
TAOE	Nuku Hiva Isla	86.33	104	eLR		LR		12 44 14.6		
	comp=Z,5µm,24.2s									
DAVA	Damuels	86.38	329	iPcP		P		12 17 47.5	+0.5
	comp=Z,74nm,1.2s,SNR=23									
H37A	Dierke Farm, C	86.38	35	P		P		12 17 46.9	+0.1
	baz=319,SNR=9.2									
D41A	Chassel	86.42	31	P		P		12 17 46.9	-0.1
	baz=322,SNR=9.3									
AGG	Agios Georgios	86.42	317	eP		P		12 17 46.2	-1.0
G38A	Ridgeland	86.43	34	P		P		12 17 46.6	-0.5
	baz=320,SNR=11									
SANT	Santorini	86.44	313		PFAKE			12 18 00.0	+13
SANT					LR	LR				
	comp=Z,2µm,19.0s									
M33A	Taylor Creek F	86.49	40	P		P		12 17 46.8	-0.6
	baz=316									
121A	Cookes Peak, D	86.52	52	P		P		12 17 48.8	+0.7
	baz=311,SNR=25									
121A	Cookes Peak, D	86.52	52	eP		P		12 17 48.5	+0.4
	comp=Z,50nm,1.1s									
121A					ePP	PP		12 21 10.1	+0.9
I37A	Lemond, Waseca	86.58	36	P		P		12 17 48.2	+0.4
	baz=319,SNR=44									
H38A	Maiden Rock	86.61	35	P		P		12 17 47.8	-0.2
	baz=320,SNR=19									
L34A	Svendsen Farm,	86.62	39	P		P		12 17 47.7	-0.5
	baz=317,SNR=11									
F40A	Park Falls	86.64	33	P		P		12 17 47.7	-0.4
	baz=321,SNR=23									
J36A	Seneca 1, Swea	86.64	37	P		P		12 17 47.9	-0.3
	baz=318,SNR=14									
K35A	Storm Lake	86.65	38	P		P		12 17 47.5	-0.7
	baz=318									
G39A	Holcombe	86.65	34	P		P		12 17 47.6	-0.6
	baz=320,SNR=6.0									
HSIG		86.68	56	eP		P		12 17 49.1	+0.5
SCHQ	Schefferville	86.70	16	P		P		12 17 48.6	+0.4
	comp=Z,41nm,1.1s,baz=353,slow=5.3,SNR=22									
SCHQ					LR	LR		12 59 08.6		
	comp=Z,3µm,20.1s,baz=342,slow=37									
E41A	Kenton	86.72	32	P		P		12 17 48.1	-0.4
	baz=322,SNR=23									
ECH	Echery	86.75	331	eP		P		12 17 48.2	-0.4
ECH					pmax	pmax				
	comp=Z,29nm,0.8s									
ECH					MLR	MLR				
	comp=Z,3µm,20.0s									
ECH	Echery	86.75	331	eP		P		12 17 48.2	-0.4
	comp=Z,29nm,0.8s									
ECH					LR	LR				
	comp=Z,3µm,20.0s									
JAN	Janina	86.79	318	P		P		12 17 50.1	+1.1
JAN	Janina	86.79	318	P		P		12 17 50.1	+1.1
JAN	Janina	86.79	318	P		P		12 17 50.1	+1.1
M34A	Aspy Farms, Fr	86.86	39	P		P		12 17 48.7	-0.6
	baz=317									
SRIG	Santa Rosalia	86.86	58	eP		P		12 17 46.7	-2.9
DSB	Dublin	86.91	341	eP		P		12 17 48.6	-0.6
	comp=Z,41nm,1.1s									
COWI	Conover	86.93	32	eP		P		12 17 49.8	+0.2
	comp=Z,27nm,0.9s									
COWI					LR	LR				
	comp=Z,2µm,20.0s									
L35A	Bielow Farm, R	86.94	38	P		P		12 17 49.0	-0.6
	baz=317,SNR=11									
ANX	Ano Chora	86.95	317	P		P		12 17 51.0	+1.1
N33A	J Bar K, Exete	86.96	40	P		P		12 17 49.1	-0.7
	baz=316									
DSL	Palaion Diasel	87.03	317	P		P		12 17 50.6	+0.4
DSL	Palaion Diasel	87.03	317	P		P		12 17 50.6	+0.4
J37A	Redenius Farm,	87.04	36	P		P		12 17 50.2	+0.1
	baz=319,SNR=21									
H39A	Augusta	87.07	34	P		P		12 17 49.9	-0.3
	baz=320,SNR=17									
I38A	Scanlan Farm,	87.07	35	P		P		12 17 49.9	-0.3
	baz=320,SNR=23									
EFP	Efpalio	87.07	316	P		P		12 17 52.1	+1.7
CBKS	Cedar Bluff	87.09	43	P		P		12 17 50.0	-0.6
	baz=315,SNR=19									
CBKS	Cedar Bluff	87.09	43	eP		P		12 17 50.5	0.0
CBKS					pmax	pmax				
	comp=Z,70nm,1.0s									
CBKS					MLR	MLR				
	comp=Z,2µm,20.0s									
CBKS	Cedar Bluff	87.09	43	eP		P		12 17 50.5	0.0
	comp=Z,70nm,1.0s									
CBKS					LR	LR				
	comp=Z,2µm,20.0s									
K36A	Gilmore City	87.10	37	P		P		12 17 50.1	-0.3
	baz=318,SNR=6.9									
G40A	Rib Lake	87.11	33	P		P		12 17 50.1	-0.4
	baz=321,SNR=39									
PVO	Paravola	87.15	317	P		P		12 17 50.3	-0.4
SGD	Sagiada	87.16	318	P		P		12 17 54.7	+4.0
IGT	Igoumenitsa	87.16	318	P		P		12 17 51.4	+0.6
IGT	Igoumenitsa	87.16	318	P		P		12 17 51.4	+0.6
E42A	Champion	87.19	31	P		P		12 17 50.7	-0.1
	baz=322,SNR=22									
F41A	Three Lakes	87.22	32	P		P		12 17 50.8	-0.1
	baz=322,SNR=34									
TUE	Stuetta	87.25	329	eP		P		12 17 50.9	-0.4
	comp=Z,7.8nm,1.1s									
TUE					LR	LR				
	comp=Z,6µm,20.0s									
M35A	Neola	87.34	39	P		P		12 17 51.4	-0.2
	baz=317,SNR=20									
PDO	Prodromos	87.36	317	P		P		12 17 51.4	-0.3
O33A	Hebron	87.36	41	P		P		12 17 50.9	-0.9
	baz=316,SNR=7.6									
N34A	Lincoln	87.38	40	P		P		12 17 51.1	-0.8
	baz=317,SNR=8.5									
L36A	Harm Buss Farm	87.39	38	P		P		12 17 51.5	-0.3
	baz=318									
K37A	Belmond	87.40	37	P		P		12 17 51.7	-0.2
	baz=319,SNR=23									
IDI	Anoyia	87.51	313	P		P		12 17 52.7	0.0
	comp=Z,15nm,0.8s,baz=28,slow=5.9,SNR=4.4									
H40A	Chili	87.52	34	P		P		12 17 52.3	-0.1
	baz=321,SNR=28									
J38A	Wedel Dairy, R	87.55	36	P		P		12 17 52.2	-0.3
	baz=319,SNR=12									
I39A	Houston	87.59	35	P		P		12 17 52.2	-0.6
	baz=320,SNR=20									
G41A	Antigo	87.60	33	P		P		12 17 52.4	-0.5
	baz=322									
E43A	Lone Tree Farm	87.62	31	P		P		12 17 52.7	-0.2
	baz=323,SNR=17									
F42A	Maple Grove Fa	87.63	32	P		P		12 17 52.6	-0.3
	baz=322									
O34A	Beatrice	87.76	40	P		P		12 17 52.7	-0.9
	baz=317,SNR=17									
M36A	Felix, Anita	87.80	38	P		P		12 17 53.7	-0.2
	baz=318,SNR=8.5									
N35A	Tabor	87.81	39	P		P		12 17 53.8	-0.1
	baz=317,SNR=12									
L37A	Phoenix Point,	87.83	37	P		P		12 17 53.6	-0.3
	baz=319,SNR=16									
H41A	Junction City	87.86	33	P		P		12 17 53.7	-0.3
	baz=321,SNR=26									
E44A	Grand Marais A	87.87	30	P		P		12 17 54.2	+0.2
	baz=324									
J39A	Decorah	87.90	35	P		P		12 17 53.4	-0.9
	baz=320,SNR=29									
G42A	Mountain	87.91	32	P		P		12 17 54.0	-0.3
	baz=322,SNR=26									
K38A	Parkersburg	87.91	36	P		P		12 17 54.1	-0.3
	baz=319,SNR=6.4									
ITM	Ithomi	87.94	316	P		P		12 17 55.2	+0.6
ITM	Ithomi	87.94	316	P		P		12 17 55.2	+0.6
I40A	Norwalk	87.98	34	P		P		12 17 54.4	-0.2
	baz=321,SNR=9.4									
F43A	Flat Rock, Esc	87.98	31	P		P		12 17 54.6	0.0
	baz=323,SNR=23									
O35A	Humboldt	88.11	40	P		P		12 17 54.6	-0.7
	baz=317,SNR=8.3									
P34A	Walnut Farm, R	88.15	41	P		P		12 17 54.9	-0.6
	baz=317,SNR=39									
F44A	Big Bay de Noc	88.18	31	P		P		12 17 55.5	-0.1
	baz=323,SNR=32									
I41A	Arlale	88.19	34	P		P		12 17 55.2	-0.4
	baz=321,SNR=13									
N36A	Muff Farm, Cla	88.19	39	P		P		12 17 55.8	+0.1
	baz=318,SNR=13									
L38A	Oak Wood Farm,	88.20	37	P		P		12 17 55.6	-0.1
	baz=319,SNR=13									
M37A	Trindle Farm,	88.21	38	P		P		12 17 56.0	+0.2
	baz=318,SNR=9.4									
G43A	Wallace	88.22	32	P		P		12 17 55.7	0.0
	baz=323,SNR=30									
PYL	PYLOS	88.24	315	P		P		12 17 53.5	-2.5
PYL	PYLOS	88.24	315	P		P		12 17 53.5	-2.5
SCIA	State Center	88.25	37	P		P		12 17 56.1	+0.1
	baz=319,SNR=12									
SCIA	State Center	88.25	37	eP		P		12 17 56.9	+0.9
	comp=Z,108nm,1.0s									
SCIA					LR	LR				
	comp=Z,2µm,20.0s									
MATE	Matera	88.27	321	⇑iP		P		12 17 56.4	+0.4
TBI	Tubuai	88.28	120	eS		S		12 28 36.8	-3.4
	comp=Z,2µm,34.8s									
TBI	Tubuai	88.28	120	eLR		LR		12 45 16.7		
	comp=Z,5µm,21.8s,baz=306									
TBI	Tubuai	88.28	120	eT		T		13 55 02.8		
	comp=Z,54nm,0.3s									
K39A	Oelwein	88.29	36	P		P		12 17 55.2	-1.0
	baz=320,SNR=18									
J40A	Soldiers Grove	88.30	35	P		P		12 17 55.4	-0.8
	baz=321									
E45A	Wooded Hills,	88.38	30	P		P		12 17 56.6	+0.1
	baz=324,SNR=7.3									
H42A	Shiocton	88.44	33	P		P		12 17 56.8	0.0
	baz=322									
Q34A	Chapman	88.54	41	P		P		12 17 57.1	-0.3
	baz=317,SNR=21									
KSU1	Kansas State U	88.59	41	P		P		12 17 57.1	-0.6
	baz=317,SNR=14									
KSU1	Kansas State U	88.59	41	eP		P		12 17 57.4	-0.2
	comp=Z,94nm,0.8s									
KSU1					LR	LR				
	comp=Z,2µm,19.0s									
P35A	Duane Minner,	88.59	40	P		P		12 17 57.1	-0.6
	baz=317,SNR=16									
MNTX	Cornudas Mount	88.60	51	P		P		12 17 58.0	+0.2
	baz=312,SNR=17									
MNTX	Cornudas Mount	88.60	51	eP		P		12 17 58.0	+0.2
	comp=Z,8.2nm,0.8s									
MNTX					LR	LR				
	comp=Z,2µm,19.0s									
N37A	Lee Faris, Mou	88.62	39	P		P		12 17 57.8	+0.1
	baz=318,SNR=6.2									
VLC	Villacollemand	88.62	327	eP		P		12 17 57.0	-0.7
	comp=Z,414nm,2.3s									
VLC					LR	LR				
	comp=Z,4µm,19.0s									
AQU	L'Aquila	88.62	324	eP		P		12 17 58.5	+0.7
AQU					pmax	pmax				
	comp=Z,74nm,0.8s									
AQU					MLR	MLR				
	comp=Z,9µm,20.0s									
AQU	L'Aquila	88.62	324	eP		P		12 17 58.5	+0.7
	comp=Z,74nm,0.8s									
AQU					LR	LR				
	comp=Z,9µm,20.0s									
M38A	Pleasantville	88.63	38	P		P		12 17 58.0	+0.2
	baz=319,SNR=34									
K40A	Colesburg	88.65	36	P		P		12 17 57.4	-0.4
	baz=320,SNR=24									
J41A	Loganville	88.66	34	P		P		12 17 57.4	-0.4
	baz=321,SNR=18									
L39A	Vinton	88.68	36	P		P		12 17 57.7	-0.3
	baz=320,SNR=37									
MSTX	Muleshoe	88.69	48	P		P		12 17 58.0	-0.3
	baz=313,SNR=11									
MSTX	Muleshoe	88.69	48	eP		P		12 17 58.5	+0.1
	comp=Z,23nm,1.1s									
O36A	Bolckow	88.70	39	P		P		12 17 58.1	0.0
	baz=318,SNR=25									
AMTX	Amarillo	88.72	47	P		P		12 17 58.9	+0.5
	baz=314									
AMTX	Amarillo	88.72	47	eP		P		12 17 59.5	+1.1
	comp=Z,126nm,1.1s									
I42A	Draeger Farm,	88.75	33	P		P		12 17 58.1	-0.2
	baz=322,SNR=20									
F45A	CMU Biological	88.79	30	P		P		12 17 58.5	+0.1
	baz=324,SNR=16									
H43A	Windswept, Lux	88.80	32	P		P		12 17 58.5	0.0
	baz=322,SNR=18									
R34A	Isabella, Hill	88.82	42	P		P		12 17 58.7	-0.1
	baz=316,SNR=18									
JFWS	Jewell Farm	88.91	35	P		P		12 17 58.5	-0.5
	baz=321,SNR=9.8									
JFWS	Jewell Farm	88.91	35	eP		P		12 17 58.8	-0.2
JFWS					pmax	pmax				
	comp=Z,39nm,0.8s									
JFWS					MLR	MLR				
	comp=Z,2µm,20.0s									
JFWS	Jewell Farm	88.91	35	eP		P		12 17 58.8	-0.2
	comp=Z,39nm,0.8s									
JFWS					LR	LR				
	comp=Z,2µm,20.0s									
P36A	Good Intent, A	88.95	40	P		P		12 17 58.8	-0.5
	baz=318,SNR=17									
F46A	Macinaw City C	89.03	30	P		P		12 17 59.6	+0.1
	baz=325,SNR=8.6									
N38A	Joes South For	89.08	38	P		P		12 17 59.8	-0.1
	baz=319,SNR=11									
M39A	Webster	89.09	37	P		P		12 17 59.7	-0.2
	baz=320,SNR=20									
O37A	Wolven Farm, M	89.09	39	P		P		12 18 00.0	+0.1
	baz=318									
I43A	Langenfeld Bro	89.10	33	P		P		12 17 59.8	-0.1
	baz=322,SNR=9.1									
L40A	Anamosa	89.10	36	P		P		12 17 59.4	-0.6
	baz=320,SNR=17									
J42A	Columbus	89.11	34	P		P		12 17 59.4	-0.5
	baz=322,SNR=13									
K41A	Shullsburg	89.12	35	P		P		12 17 59.7	-0.4
	baz=321,SNR=28									
CUC	Castrocucco	89.21	321	eP		P		12 17 59.6	-0.9
CUC					LR	LR				
	comp=Z,15nm,1.0s									
CUC					LR	LR				
	comp=Z,3µm,20.0s									
TIP	Timpagrande	89.32	320	⇑iP		P		12 18 02.5	+1.3
TIP	Timpagrande	89.32	320	eP		P		12 18 00.5	-0.7
	comp=Z,144nm,1.8s									
TIP					LR	LR				
	comp=Z,5µm,20.0s									
R35A	Emporia Munici	89.37	41	P		P		12 18 01.6	+0.3
	baz=317,SNR=31									
J43A	Natural Harves	89.38	34	P		P		12 18 00.9	-0.3
	baz=322,SNR=20									
P37A	Lathrop	89.42	39	P		P		12 18 01.1	-0.4
	baz=318,SNR=8.8									
K42A	Prairie Point,	89.43	34	P		P		12 18 00.7	-0.8
	baz=322,SNR=14									
L41A	Preston	89.44	36	P		P		12 18 01.2	-0.4
	baz=321,SNR=17									
M40A	Post Highland	89.47	37	P		P		12 18 01.6	0.0
	baz=320,SNR=18									
O38A	Galt	89.47	39	P		P		12 18 01.7	0.0
	baz=319,SNR=8.7									
BNI	Bardonecchia	89.50	329	eP		P		12 18 01.8	-0.2
BNI					pmax	pmax				
	comp=Z,28nm,1.1s									
BNI					MLR	MLR				
	comp=Z,4µm,20.0s									
BNI	Bardonecchia	89.50	329	eP		P		12 18 01.8	-0.2
	comp=Z,28nm,1.1s									
BNI					ePP	PP		12 21 25.9	-6.6
BNI					LR	LR				
	comp=Z,4µm,20.0s									
ATD	Arta Tunnel	89.72	284	P		P		12 18 03.4	+0.1
	comp=Z,3.8nm,0.3s,baz=27,slow=9.0,SNR=3.8									
ATD					LR	LR		13 04 55.7		
	comp=Z,986nm,18.3s,baz=52,slow=40									
P38A	Dawn	89.81	39	P		P		12 18 03.2	-0.1
	baz=319,SNR=18									
N40A	Mertquake, Sal	89.83	37	P		P		12 18 03.4	0.0
	baz=320,SNR=20									
O39A	Kirksville	89.83	38	P		P		12 18 03.5	+0.1
	baz=319,SNR=7.4									
GLMI	Grayling	89.86	30	P		P		12 18 03.9	+0.4
	baz=325,SNR=6.9									
GLMI	Grayling	89.86	30	eP		P		12 18 03.9	+0.4
	comp=Z,266nm,1.1s									
GLMI					LR	LR				
	comp=Z,3µm,20.0s									
L42A	Oliver, Polo	89.88	35	P		P		12 18 03.1	-0.5
	baz=321,SNR=10									
Q37A	Longview Farm,	89.89	40	P		P		12 18 03.0	-0.7
	baz=318									
K43A	Burlington	89.95	34	P		P		12 18 03.4	-0.5
	baz=322,SNR=7.8									
M41A	Milan	89.95	36	P		P		12 18 03.7	-0.3
	baz=321,SNR=15									
L43A	Garden Prairie	90.17	34	P		P		12 18 04.5	-0.5
	baz=322,SNR=8.1									
SSB	Saint Sauveur	90.18	331	eP		P		12 18 04.9	-0.1
SSB					pmax	pmax				
	comp=Z,17nm,1.1s									
SSB					MLR	MLR				
	comp=Z,4µm,19.0s									
SSB	Saint Sauveur	90.18	331	eP		P		12 18 04.8	-0.1
	comp=Z,17nm,1.1s									
SSB					LR	LR				
	comp=Z,4µm,19.0s									
LPIG	La Paz	90.24	60	LR		LR		13 00 06.7		
	comp=Z,858nm,18.3s,baz=301,slow=37									
Q38A	Cooks Store, C	90.26	39	P		P		12 18 05.1	-0.3
	baz=319,SNR=11									
M42A	Sheffield	90.27	36	P		P		12 18 05.0	-0.4
	baz=321,SNR=6.1									
O40A	La Belle	90.27	38	P		P		12 18 05.4	0.0
	baz=320,SNR=34									
P39B	Salisbury	90.31	39	P		P		12 18 05.4	-0.2
	baz=319,SNR=17									
N41A	Harden Midland	90.32	37	P		P		12 18 05.4	-0.3
	baz=320									
CEL	Celeste	90.46	320	eP		P		12 18 07.5	+1.1
	comp=Z,57nm,0.9s									
CEL					LR	LR				
	comp=Z,3µm,20.0s									
WMOK	Wichita Mounta	90.52	45	P		P		12 18 07.0	+0.2
	baz=316,SNR=45									
WMOK	Wichita Mounta	90.52	45	eP		P		12 18 06.6	-0.1
WMOK					pmax	pmax				
	comp=Z,123nm,1.5s									
WMOK					MLR	MLR				
	comp=Z,2µm,19.0s									
WMOK	Wichita Mounta	90.52	45	eP		P		12 18 06.6	-0.1
	comp=Z,123nm,1.5s									
WMOK					LR	LR				
	comp=Z,2µm,19.0s									
Q39A	Willow Grove F	90.53	39	P		P		12 18 06.6	0.0
	baz=319,SNR=39									
L44A	Lake County Fo	90.56	34	P		P		12 18 06.3	-0.4
	baz=322									
N42A	Yates City	90.62	36	P		P		12 18 06.9	-0.2
	baz=321,SNR=14									
P40A	Paris	90.63	38	P		P		12 18 07.2	+0.1
	baz=320,SNR=35									
M43A	Waltham Townsh	90.66	35	P		P		12 18 07.1	-0.1
	baz=322,SNR=18									
R38A	Fenwick Farm,	90.69	40	P		P		12 18 06.3	-1.1
	baz=318,SNR=14									
O41A	Passleys Farm,	90.76	37	P		P		12 18 07.5	-0.2
	baz=320,SNR=21									
N43A	Stutzman Famil	90.94	35	P		P		12 18 08.3	-0.3
	baz=322									
P41A	Barry, Barry	91.01	37	P		P		12 18 08.9	0.0
	baz=320,SNR=22									
Q40A	Laux Farm, Aux	91.02	38	P		P

baz=321,SNR=19
R40A Maddies Statio 91.46 39 P P 12 18 10.7 -0.3
baz=320,SNR=24
Q41A Truxton 91.48 38 P P 12 18 10.9 -0.1
baz=320,SNR=12
M45A Boilermakers S 91.48 34 P P 12 18 10.4 -0.6
baz=323
ABTX Abilene, Hawle 91.51 47 P P 12 18 11.5 +0.1
baz=315,SNR=25
ABTX Abilene, Hawle 91.51 47 eP P 12 18 11.2 -0.2
comp=Z,138nm,1.3s
N44A Piper City 91.55 35 P P 12 18 11.3 -0.1
baz=322,SNR=6.4
BASO Ashfield 91.72 29 P P 12 18 12.7 +0.6
baz=327,SNR=11
P43A Skaggs, Pawnee 91.79 36 P P 12 18 12.4 -0.1
baz=321
N45A Kentland 91.79 35 P P 12 18 12.6 +0.1
baz=323,SNR=8.6
VAE Valguarnera 91.82 320 LR LR 13 03 15.3
comp=Z,4µm,18.6s,baz=32,slow=38
T39A Clever 91.84 41 P P 12 18 12.4 -0.5
baz=319,SNR=15
BWLO Walkerton 91.84 29 P P 12 18 13.1 +0.4
baz=327,SNR=5.2
Q42A Golden Eagle 91.86 38 P P 12 18 12.7 -0.1
baz=321,SNR=5.6
S40A Lebanon 91.86 40 P P 12 18 12.4 -0.5
baz=319,SNR=26
M46A Old House Fiel 91.87 34 P P 12 18 12.4 -0.5
baz=324
O44A Mansfield 91.89 36 P P 12 18 12.6 -0.4
baz=322
R41A Rosebud 91.91 38 P P 12 18 12.9 -0.2
baz=320,SNR=30
N46A Monticello 92.11 34 P P 12 18 13.5 -0.5
baz=323
CCM Cathedral Cave 92.16 39 P P 12 18 14.0 -0.2
baz=320
CCM Cathedral Cave 92.16 39 eP P 12 18 14.1 -0.2
CCM pmax pmax
comp=Z,243nm,0.9s
CCM Cathedral Cave 92.16 39 eP P 12 18 14.1 -0.2
comp=Z,243nm,0.9s
O45A Potomac 92.17 35 P P 12 18 14.1 -0.2
baz=323,SNR=6.8
T40A Mansfield 92.19 40 P P 12 18 13.8 -0.6
baz=319,SNR=27
R42A Luebbering 92.22 38 P P 12 18 14.3 -0.2
baz=320,SNR=6.7
Q43A New Douglas 92.25 37 P P 12 18 14.4 -0.2
baz=321
S41A Jillco Farms, 92.26 39 P P 12 18 14.3 -0.5
baz=320,SNR=12
U39A Green Forest 92.26 41 P P 12 18 14.3 -0.5
baz=319,SNR=51
BANO Bancroft 92.29 26 P P 12 18 14.5 -0.3
baz=330,SNR=20
AAM Ann Arbor 92.32 31 P P 12 18 14.9 0.0
baz=325
AAM Ann Arbor 92.32 31 eP P 12 18 15.8 +0.8
AAM e 12 21 55.6
AAM MLR MLR
comp=Z,2µm,19.0s
AAM Ann Arbor 92.32 31 eP P 12 18 15.8 +0.8
AAM ePP PP 12 21 55.6 +0.9
AAM LR LR
comp=Z,2µm,19.0s
SFIN Lafayette 92.36 35 P P 12 18 15.1 0.0
baz=323,SNR=7.1
SFIN Lafayette 92.36 35 eP P 12 18 15.5 +0.3
comp=Z,115nm,1.5s
P44A Sand Creek, Wi 92.36 36 P P 12 18 15.1 0.0
baz=322,SNR=9.5
CLTB Caltabellotta 92.36 321 PFAKE 12 18 30.0 +15
CLTB LR LR
comp=Z,2µm,19.0s
PLVO Plevna 92.57 26 P P 12 18 15.9 -0.1
baz=330,SNR=9.8
V39A Pettigrew 92.58 41 P P 12 18 16.0 -0.4
baz=319,SNR=27
S42A Caledonia 92.61 38 P P 12 18 16.2 -0.1
baz=320,SNR=22
Q44A Meyer Farm, Va 92.61 37 P P 12 18 16.2 -0.1
baz=322,SNR=5.9
U40A Yellville 92.62 41 P P 12 18 16.0 -0.4
baz=319,SNR=59
FVM French Village 92.63 38 eP P 12 18 15.8 -0.6
FVM pmax pmax
comp=Z,116nm,0.9s
FVM French Village 92.63 38 eP P 12 18 15.8 -0.6
comp=Z,116nm,0.9s
R43A Red Bud 92.65 38 P P 12 18 16.0 -0.5
baz=321,SNR=6.2
T41A Mountain View 92.67 40 P P 12 18 16.0 -0.6
baz=320,SNR=24
P45A Graceland, Par 92.73 35 P P 12 18 16.8 -0.1
baz=322
VSL Villasalto 92.76 325 PFAKE 12 18 30.0 +13
VSL LR LR
comp=Z,4µm,21.0s
ALFO Alfred 92.81 24 P P 12 18 16.6 -0.5
baz=332,SNR=17
DELO Deloro Mine 92.83 26 P P 12 18 16.9 -0.3
baz=330,SNR=8.5
O47A Sheridan 92.89 34 P P 12 18 17.1 -0.5
baz=324
P46A Rosedale 92.91 35 P P 12 18 17.4 -0.3
baz=323
JCT Junction City 92.92 49 P P 12 18 17.6 -0.4
baz=315,SNR=20
JCT Junction City 92.92 49 eP P 12 18 18.3 +0.3
JCT pmax pmax
comp=Z,53nm,1.1s
JCT MLR MLR
comp=Z,2µm,22.0s
JCT Junction City 92.92 49 eP P 12 18 18.3 +0.3
comp=Z,53nm,1.1s
JCT LR LR
comp=Z,2µm,22.0s
W39A Magazine 92.99 42 P P 12 18 17.8 -0.3
baz=319,SNR=26
WDD Wied Dalam 93.00 319 PFAKE 12 18 30.0 +12
WDD LR LR
comp=Z,3µm,19.0s
T42A Van Buren 93.02 39 P P 12 18 17.9 -0.4
baz=320,SNR=25
Q45A Warren Harvey, 93.03 36 P P 12 18 18.2 0.0
baz=322,SNR=12
V40A Witts Springs 93.05 41 P P 12 18 17.9 -0.6
baz=319,SNR=13
R44A Waltonville 93.09 37 P P 12 18 18.4 -0.2
baz=322,SNR=5.6
U41A Viola 93.12 40 P P 12 18 18.2 -0.6
baz=320,SNR=17
S43A Fulton Ridge, 93.12 38 P P 12 18 18.5 -0.3
baz=321,SNR=5.5
H06E1 SOCORRO T-PHAS 93.17 64 T T 14 01 51.3
SNR=84
OLIL Olney 93.19 36 eP P 12 18 19.4 +0.5
comp=Z,95nm,1.3s
OLIL ePP PP 12 22 07.7 +6.1
WHTX Lake Whitney, 93.25 46 P P 12 18 19.9 +0.4
baz=316,SNR=14
WHTX Lake Whitney, 93.25 46 eP P 12 18 20.3 +0.9
comp=Z,165nm,1.1s
Q46A CEJHS Indians, 93.31 36 P P 12 18 19.1 -0.4
baz=323
X39A Fountain Ranch 93.32 43 P P 12 18 19.9 +0.2
baz=318,SNR=52
W40A Ferguson Farm, 93.38 42 P P 12 18 19.7 -0.2
baz=319,SNR=9.4
T43A Greenville 93.39 39 P P 12 18 19.7 -0.3
baz=321,SNR=9.4
V41A Mountainview 93.42 41 P P 12 18 19.5 -0.7
baz=320,SNR=26
S44A Carbondale 93.44 38 P P 12 18 19.9 -0.3
baz=322,SNR=10
SIUC Southern Illin 93.44 38 eP P 12 18 20.6 +0.5
comp=Z,59nm,1.1s
R45A Skylar, Fairfi 93.45 37 P P 12 18 20.5 +0.3
baz=322
P47A Martinsville 93.45 35 P P 12 18 19.8 -0.4
baz=324
U42A Revenden 93.47 40 P P 12 18 19.7 -0.6
baz=320,SNR=6.5
MIAR Mount Ida 93.59 42 P P 12 18 21.0 +0.1
baz=319,SNR=52
MIAR Mount Ida 93.59 42 eP P 12 18 20.7 -0.2
MIAR e 12 22 06.7
MIAR pmax pmax
comp=Z,115nm,1.2s
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR Mount Ida 93.59 42 eP P 12 18 20.7 -0.2
comp=Z,115nm,1.2s
MIAR ePP PP 12 22 06.7 +1.7
MIAR LR LR
comp=Z,2µm,20.0s
T44A Benton 93.74 38 P P 12 18 21.2 -0.3
baz=321
S45A Carrier Mills 93.78 37 P P 12 18 21.5 -0.3
baz=322
LONY Lake Ozonia 93.80 24 P P 12 18 21.2 -0.5
baz=332
LONY Lake Ozonia 93.80 24 PFAKE 12 18 30.0 +8.3
LONY LR LR
comp=Z,2µm,19.0s
V42A Cord 93.81 40 P P 12 18 21.2 -0.6
baz=320,SNR=6.5
Q47A Bedord North L 93.82 35 P P 12 18 21.7 -0.1
baz=323
W41B Gary Mavity, V 93.83 41 P P 12 18 21.7 -0.3
baz=320,SNR=16
R46A Gibon Southern 93.88 36 P P 12 18 21.9 -0.3
baz=323
U43A Rector 93.88 39 P P 12 18 22.0 -0.3
baz=321
ERPA Erie 93.98 29 P P 12 18 22.4 -0.2
baz=328
X40A Basin Creek Fa 94.03 42 P P 12 18 22.9 -0.1
baz=319,SNR=17
435B Jarrell 94.05 47 P P 12 18 23.1 0.0
baz=316
UALR University of 94.08 41 eP P 12 18 22.9 -0.2
comp=Z,39nm,1.4s
W42A Bald Knob 94.14 41 P P 12 18 23.0 -0.4
baz=320
U44A Portageville 94.15 39 P P 12 18 23.0 -0.4
baz=321
Y40A Okolona 94.15 42 P P 12 18 23.3 -0.2
baz=319
S46A Don Dixon Farm 94.20 37 P P 12 18 23.3 -0.4
baz=322
X41A Kaden, Bauxite 94.20 42 P P 12 18 23.6 -0.1
baz=319
V43A Jonesboro 94.26 40 P P 12 18 24.0 +0.1
baz=321
T45A Paducah 94.27 38 P P 12 18 23.6 -0.4
baz=322
R47A Wooly Knot Far 94.28 35 P P 12 18 23.9 -0.2
baz=323
ACSO Alum Creek Sta 94.31 32 P P 12 18 23.8 -0.4
baz=326
ACSO Alum Creek Sta 94.31 32 eP P 12 18 24.4 +0.2
comp=Z,30nm,0.8s
ACSO LR LR
comp=Z,2µm,19.0s
HBAR Harrisburg 94.38 40 eP P 12 18 25.1 +0.6
GNAR Gosnell 94.39 39 eP P 12 18 24.9 +0.4
comp=Z,1µm,1.2s
U44B Burton Farm, H 94.44 38 P P 12 18 24.4 -0.4
baz=321
WCI Wyandotte Cave 94.45 35 P P 12 18 24.4 -0.4
baz=323
WCI Wyandotte Cave 94.45 35 eP P 12 18 25.2 +0.4
WCI pmax pmax
comp=Z,89nm,0.8s
WCI Wyandotte Cave 94.45 35 eP P 12 18 25.2 +0.4
comp=Z,89nm,0.8s
R48A Northridge Ran 94.51 35 P P 12 18 25.0 -0.1
baz=324
V44A Blytheville 94.56 39 P P 12 18 25.2 -0.1
baz=321
Y41A Eaglette Beard 94.61 42 P P 12 18 25.5 -0.2
baz=319
T46A Princeton 94.62 37 P P 12 18 25.8 +0.2
baz=322,SNR=13
M54A Oil Creek Stat 94.63 29 P P 12 18 25.5 -0.1
baz=328,SNR=6.6
X42A Stuttgart 94.63 41 P P 12 18 25.2 -0.5
baz=320
Z40A Long Farm, Mag 94.64 43 P P 12 18 25.9 +0.2
baz=319
833A Chaparral WMA, 94.69 50 P P 12 18 26.4 +0.3
baz=315
W43A Forest City 94.71 40 P P 12 18 25.7 -0.3
baz=320
U45A Rockin P Farm, 94.73 38 P P 12 18 25.8 -0.4
baz=322
PKME Peaks-Kenny Pk 94.88 21 P P 12 18 27.3 +0.7
baz=336,SNR=5.6
PKME Peaks-Kenny Pk 94.88 21 eP P 12 18 27.3 +0.7
comp=Z,66nm,1.3s
N54A Moraine State 94.96 30 P P 12 18 27.1 0.0
baz=328,SNR=6.3
Z41A Richland Creek 94.97 43 P P 12 18 27.2 -0.1
baz=319
140A Cam and Jess, 95.01 44 P P 12 18 27.5 +0.1
baz=319
LBNH Lisbon 95.01 23 P P 12 18 29.1 +1.8
baz=334
S48A Wiedeman Farm, 95.02 36 P P 12 18 27.2 -0.2
baz=324,SNR=12
U46A Springville 95.02 38 P P 12 18 27.0 -0.5
baz=322
NATX Nacogdoches 95.05 45 P P 12 18 27.8 +0.2
baz=318
NATX Nacogdoches 95.05 45 PFAKE 12 18 40.0 +12
NATX LR LR
comp=Z,2µm,20.0s
T47A Sharon Grove 95.05 37 P P 12 18 27.5 -0.1
baz=323,SNR=8.0
X43A Marvell 95.06 41 P P 12 18 27.1 -0.6
baz=320
Y42A Garnett, Star 95.09 42 P P 12 18 28.2 +0.4
baz=320
V45A Humboldt 95.11 39 P P 12 18 27.7 -0.1
baz=322
T48A Bowlins Green 95.29 36 P P 12 18 28.4 -0.3
baz=323
240A Hunter Patters 95.35 44 P P 12 18 29.1 +0.1
baz=318
WVT Waverly 95.37 38 P P 12 18 28.8 -0.2
baz=322
U47A Clarksville 95.39 37 P P 12 18 29.0 -0.1
baz=323,SNR=5.1
141A Papa Simpson, 95.41 43 P P 12 18 29.1 -0.2
baz=319
Z42A Norrel Spur, H 95.43 42 P P 12 18 29.4 +0.1
baz=320
BINY Binghamton 95.43 27 P P 12 18 28.6 -0.6
baz=331
BINY Binghamton 95.43 27 PFAKE 12 18 40.0 +11
BINY LR LR
comp=Z,5µm,19.0s
W45A Hickory Valley 95.45 39 P P 12 18 29.1 -0.3
baz=321
X44A Crenshaw 95.46 40 P P 12 18 29.2 -0.3
baz=321
V46A Holladay 95.49 38 P P 12 18 29.1 -0.5
baz=322,SNR=6.2
Y43A Makayla and Ka 95.50 41 P P 12 18 29.8 +0.1
baz=320
U48A Cassie Pea, Po 95.70 37 P P 12 18 30.0 -0.6
baz=323,SNR=5.2
KEST Kesra 95.75 322 P P 12 18 30.5 -0.4
comp=Z,9.7nm,0.9s,baz=90,slow=2.0,SNR=6.8
KEST LR LR 13 05 25.8
comp=Z,4µm,18.3s,baz=353,slow=38
V47A Nunnelly 95.76 38 P P 12 18 30.4 -0.5
baz=322,SNR=7.1
OXF Oxford 95.83 40 P P 12 18 30.5 -0.7
baz=321,SNR=6.1
OXF Oxford 95.83 40 eP P 12 18 31.3 +0.1
OXF pmax pmax
comp=Z,56nm,1.3s
OXF Oxford 95.83 40 eP P 12 18 31.3 +0.1
comp=Z,56nm,1.3s
241A Mo Tay, Goldon 95.84 44 P P 12 18 31.5 +0.2
baz=319
Y44A Strider, Charl 95.84 41 P P 12 18 31.1 -0.1
baz=321
Z43A Armstrong Fami 95.86 42 P P 12 18 31.2 -0.1
baz=320
W46A Michie 95.88 39 P P 12 18 30.6 -0.8
baz=322
X45A UM Field Stati 95.91 40 P P 12 18 30.9 -0.6
baz=321
CMAH Djebel Manchou 95.98 324 P P 12 18 31.4 -0.5
142A Monroe 95.98 43 P P 12 18 31.9 0.0
baz=320
SSPA Standing Stone 96.07 29 P P 12 18 31.9 -0.2
baz=329
O56A Blue Knob Stat 96.12 29 P P 12 18 32.3 -0.1
baz=329,SNR=6.5
MCWV Mont Chateau 96.12 30 P P 12 18 32.4 0.0
baz=328
CAEH `Ain El Ouahch 96.13 324 P P 12 18 38.9 +6.4
143A Socs Landing, 96.16 42 P P 12 18 32.6 -0.1
baz=320
KVTX Kingsville 96.17 50 PFAKE 12 18 40.0 +7.2
KVTX LR LR
comp=Z,2µm,20.0s
V48A Smith Brothers 96.18 37 P P 12 18 32.4 -0.4
baz=323
W47A Westpoint 96.18 38 P P 12 18 32.0 -0.8
baz=322,SNR=6.2
341A Kurthwood 96.21 44 P P 12 18 33.0 0.0
baz=319
X46A Booneville 96.22 39 P P 12 18 32.1 -0.9
baz=322
ABSA Djebel Ababsia 96.23 324 P P 12 18 30.6 -2.5
242A Grayson 96.24 43 P P 12 18 33.2 +0.1
baz=319
Z44A Pea Ridge, Bel 96.25 41 P P 12 18 32.9 -0.1
baz=320
Y45A Yeager Farm, C 96.27 40 P P 12 18 32.9 -0.2
baz=321
ZAIG Zacatecas 96.46 56 eP P 12 18 35.4 +0.8
CKFL Kef-Lekhel 96.50 324 P P 12 18 33.8 -0.5
W48A Pulaski 96.60 38 P P 12 18 34.0 -0.7
baz=323,SNR=8.0
Y46A Houston 96.61 40 P P 12 18 34.1 -0.6
baz=322
X47A Russelville 96.63 39 P P 12 18 34.3 -0.5
baz=322
N59A State Game Lan 96.63 27 P P 12 18 34.4 -0.4
baz=331,SNR=6.0
342A Flagon Creek P 96.66 44 P P 12 18 35.0 0.0
baz=319
HRV Adam Dziewonsk 96.69 24 P P 12 18 35.3 +0.4
baz=334
243A Waterproof 96.74 43 P P 12 18 35.1 -0.3
baz=320
144A Alexander Plac 96.75 42 P P 12 18 35.3 -0.1
baz=320
DFRA Djebel Bou Aff 96.77 325 P P 12 18 35.5 -0.1
VBMS Vicksburg 97.01 42 P Pdif 12 18 36.6 0.0
baz=320
145A Houston Renfro 97.03 41 P Pdif 12 18 36.7 0.0
baz=321
244A Avery, Jackson 97.06 42 P P 12 18 36.6 -0.2
baz=320
X48A Hartselle 97.09 38 P P 12 18 35.9 -0.9
baz=323
TZTN Tazewell 97.09 35 P P 12 18 36.5 -0.4
baz=325
TZTN Tazewell 97.09 35 eP P 12 18 36.7 -0.2
comp=Z,13nm,1.0s
442A Mamou 97.10 44 P Pdif 12 18 37.2 +0.1
baz=319
Z46A Louisville 97.10 40 P Pdif 12 18 37.1 0.0
baz=321
541A Lake Charles 97.15 45 P P 12 18 37.0 -0.2
baz=319
PAL Palisades 97.23 26 P P 12 18 37.1 -0.2
baz=332
X49A Woodville 97.40 38 P P 12 18 37.6 -0.6
baz=323
443A Delano Plantat 97.42 44 P P 12 18 38.0 -0.5
baz=320
146A Union 97.47 41 P Pdif 12 18 38.7 0.0
baz=321
344A Westbrook Farm 97.48 42 P Pdif 12 18 38.9 +0.1
baz=320
245A Little AP, Sta 97.49 42 P P 12 18 38.4 -0.4
baz=321
Z47A Carrollton 97.55 40 P P 12 18 38.2 -0.8
baz=322
Z48A Northport 97.68 39 P P 12 18 38.9 -0.6
baz=322
ABMS Boumerdes 97.70 327 P P 12 18 37.6 -2.0
TKL Tuckaleechee C 97.71 35 P P 12 18 39.7 0.0
comp=Z,14nm,1.1s,baz=321,slow=2.3,SNR=8.4
TKL LR LR 13 06 01.1
comp=Z,1µm,19.4s,baz=336,slow=37
X50A Fort Payne 97.78 37 P P 12 18 39.5 -0.6
baz=324
147A Livingston 97.86 40 P P 12 18 40.0 -0.4
baz=322
Y49A Blount Mountai 97.88 38 P P 12 18 39.6 -0.9
baz=323
246A Jackson Lee, B 97.92 41 P P 12 18 40.4 -0.2
baz=321
BLA Blacksburg 97.94 32 P P 12 18 40.2 -0.5
baz=327
BLA Blacksburg 97.94 32 PFAKE 12 18 50.0 +9.2
BLA LR LR
comp=Z,2µm,21.0s
345A Thompson Farm, 97.98 42 P P 12 18 40.7 -0.2
baz=321
444A Pine Grove 98.04 43 P P 12 18 41.1 -0.1
baz=320
AKET Djebel Ketaf 98.10 326 P P 12 18 38.2 -3.4
247A Quitman 98.16 41 P P 12 18 41.2 -0.6
baz=322
Y50A Piedmont 98.19 38 P P 12 18 40.8 -1.1
baz=324
ADJB Djebel Djouab 98.21 326 P Pdif 12 18 42.8 +0.7
346A Big Creek Wild 98.22 42 P P 12 18 41.8 -0.2
baz=321
ESDC Sonseca Array 98.23 333 P Pdif 12 18 42.1 +0.1
comp=Z,1.1nm,0.6s,baz=19,slow=4.3,SNR=12
ESDC LR LR 13 07 27.9
comp=Z,3µm,18.6s,baz=30,slow=38
RER Riviere de l'E 98.25 250 PFAKE 12 18 50.0 +7.6
RER LR LR
comp=Z,3µm,22.0s
Z49A Columbiana 98.34 39 Pdiff P 12 18 41.9 -0.7
baz=323
CBN Corbin Frederi 98.36 29 PFAKE 12 18 50.0 +7.5
CBN LR LR
comp=Z,2µm,20.0s
PAB San Pablo 98.48 333 PFAKE 12 18 50.0 +6.8
PAB LR LR
comp=Z,4µm,20.0s
Z50A Ashland 98.61 38 Pdiff P 12 18 43.3 -0.5
baz=323
149A Jones 98.69 39 Pdiff P 12 18 43.7 -0.4
baz=323
347A Saraland 98.71 41 Pdiff Pdif 12 18 44.3 +0.1
baz=322
RKT Rikitea 98.71 112 eSS SS 12 36 57.8 -1.8
comp=Z,2µm,28.0s
RKT Rikitea 98.71 112 eLR LR 12 50 18.3
comp=Z,4µm,30.5s,baz=306
MTE Manteigas 98.83 336 PFAKE 12 19 00.0 +15
MTE LR LR
comp=Z,3µm,21.0s
546A Slidell 98.97 43 Pdiff Pdif 12 18 45.6 +0.2
baz=321
249A Camden 99.01 40 Pdiff Pdif 12 18 45.3 -0.3
baz=322
150A Eclectic 99.07 39 Pdiff Pdif 12 18 45.3 -0.6
baz=323
KMSC Kings Mountain 99.26 34 Pdiff Pdif 12 18 46.2 -0.5
baz=327
250A Grady 99.45 39 Pdiff Pdif 12 18 47.1 -0.4
baz=323
151A Opelika 99.49 38 Pdiff Pdif 12 18 46.8 -0.9
baz=324
BRAL Brewton 99.68 40 Pdiff Pdif 12 18 48.4 -0.1
baz=322
BRAL Brewton 99.68 40 PFAKE 12 19 00.0 +11
BRAL LR LR
comp=Z,1µm,20.0s
GOGA Godfrey 99.69 36 Pdiff Pdif 12 18 48.3 -0.3
baz=325
GOGA Godfrey 99.69 36 PFAKE 12 19 00.0 +11
GOGA LR LR
comp=Z,2µm,19.0s
251A Midway 99.79 38 Pdiff Pdif 12 18 48.3 -0.7
baz=324

351A	**Pinckard**	**100.35**	**39**	Pdiff	**Pdif**	**12 18 50.9**	**-0.7**
	baz=323							
352A	**Blakely**	**100.53**	**38**	Pdiff	**Pdif**	**12 18 51.8**	**-0.5**
	baz=324							
CNNC	**Cliffs of the**	**100.69**	**31**	PFAKE		12 19 00.0	+7.0
CNNC				LR	LR			
	comp=Z,2µm,21.0s							
451A	**Vernon**	**100.80**	**40**	Pdiff	**Pdif**	**12 18 53.1**	**-0.4**
	baz=323							
452A	**Marianna**	**100.90**	**39**	Pdiff	**Pdif**	**12 18 53.9**	**-0.1**
	baz=324							
353A	**Camilla**	**100.99**	**38**	Pdiff	**Pdif**	**12 18 53.8**	**-0.6**
	baz=324							
NHSC	**New Hope**	**101.48**	**34**	PFAKE		12 19 10.0	+13
NHSC				LR	LR			
	comp=Z,2µm,20.0s							
KMBO	**Kilima Mbogo**	**101.67**	**277**	PFAKE		12 19 10.0	+12
KMBO				LR	LR			
	comp=Z,2µm,19.0s							
455A	**Stateville**	**102.08**	**38**	Pdiff	**Pdif**	**12 18 58.7**	**-0.5**
	baz=325							
555A	**McAlpin**	**102.61**	**38**	Pdiff	**Pdif**	**12 19 01.3**	**-0.3**
	baz=325							
656A	**Willston**	**103.44**	**38**	Pdiff	**Pdif**	**12 19 04.6**	**-0.7**
	baz=325							
ABPO	**Ambohimpanom**	**103.69**	**256**	PFAKE		12 19 20.0	+13
ABPO				LR	LR			
	comp=Z,713nm,21.0s							
RTC	**Rabat Centre**	**104.33**	**333**	PFAKE		12 19 20.0	+11
RTC				LR	LR			
	comp=Z,8µm,22.0s							
CASY	**Casey**	**104.34**	**192**	PFAKE		12 19 20.0	+12
CASY				LR	LR			
	comp=Z,311nm,21.0s							
857A	**Zephyrhills**	**104.50**	**38**	Pdiff	**Pdif**	**12 19 09.6**	**-0.4**
	baz=325							
CMLA	**Cha da Macela**	**105.77**	**349**	PFAKE		12 23 40.0		
CMLA				LR	LR			
	comp=Z,2µm,19.0s							
MBAR	**Mbarara**	**106.58**	**282**	PFAKE		12 23 40.0		
MBAR				LR	LR			
	comp=Z,890nm,20.0s							
TAM	**Tamanrasset**	**108.03**	**317**	*e*PKPdf	**PKiKP**	**12 23 34.0**	**+1.0**
TAM				LR	LR			
	comp=Z,2µm,20.0s							
BBSR	**BB Station**	**108.14**	**23**	PFAKE		12 23 40.0		
BBSR				LR	LR			
	comp=Z,1µm,20.0s							
GTBY	**Guantanamo Bay**	**115.00**	**38**	PFAKE		12 24 00.0	+14
GTBY				LR	LR			
	comp=Z,2µm,20.0s							
MTDJ	**Mount Denham**	**115.18**	**41**	PFAKE		12 24 00.0	+13
MTDJ				LR	LR			
	comp=Z,2µm,20.0s							
GRTK	**Grand Turk**	**115.51**	**33**	PFAKE		12 24 00.0	+13
GRTK				LR	LR			
	comp=Z,2µm,20.0s							
LSZ	**Lusaka**	**117.03**	**270**	PFAKE		12 24 00.0	+10
LSZ				LR	LR			
	comp=Z,2µm,20.0s							
JTS	**JuntasAbangare**	**117.07**	**52**	PFAKE		12 24 00.0	+10
JTS				LR	LR			
	comp=Z,1µm,19.0s							
SDDR	**Presa de Saban**	**117.64**	**35**	PFAKE		12 24 00.0	+8.8
SDDR				LR	LR			
	comp=Z,3µm,19.0s							
TORD	**Torodi Ar. Bea**	**117.89**	**314**	PKP	**PKPdf**	**12 23 51.5**	**-0.3**
	comp=Z,6.8nm,1.0s,baz=7.3,slow=2.3,SNR=21							
TORD				PKKPbc	**PKKPbc**	**12 34 12.9**	**+1.9**
	comp=Z,4.5nm,0.9s,baz=208,slow=3.5,SNR=11							
MAW	**Mawson**	**118.18**	**205**	PKP	**PKPdf**	**12 23 50.7**	**+0.2**
	comp=Z,6.9nm,1.0s,baz=72,slow=3.2,SNR=4.1							
MATP	**Matopo**	**119.45**	**265**	PKP	**PKPdf**	**12 23 54.7**	**0.0**
	comp=Z,3.3nm,0.5s,baz=20,slow=1.7,SNR=7.7							
KOWA	**Kowa**	**119.96**	**320**	PKP	**PKPdf**	**12 23 56.0**	**+0.3**
	comp=Z,7.7nm,0.6s,baz=33,slow=2.1,SNR=17							
SJG	**San Juan**	**120.65**	**30**	PFAKE		12 24 10.0	+13
SJG				LR	LR			
	comp=Z,1µm,21.0s							
BCIP	**Isla Barro Col**	**121.15**	**49**	PFAKE		12 24 10.0	+12
BCIP				LR	LR			
	comp=Z,1µm,20.0s							
PAYG	**Puerto Ayora**	**121.16**	**65**	PFAKE		12 24 10.0	+12
PAYG				LR	LR			
	comp=Z,2µm,19.0s							
ANWB	**Willy Bob**	**122.72**	**26**	PFAKE		12 24 10.0	+9.1
ANWB				LR	LR			
	comp=Z,2µm,19.0s							
MOTC	**Monteria, Cord**	**123.93**	**45**	*e*P	**PKPdf**	**12 24 02.6**	**-0.8**
ZARC	**Zaragoza, Cauc**	**125.44**	**45**	*e*P	**PKPdf**	**12 24 05.9**	**-0.4**
BBTS	**Babate**	**125.47**	**333**	PKP	**PKPdf**	**12 24 06.4**	**+0.1**
	comp=Z,16nm,0.9s,baz=44,slow=1.1,SNR=3.8							
FDF	**Fort de France**	**125.65**	**26**	PFAKE		12 24 20.0	+13
FDF				LR	LR			
	comp=Z,2µm,20.0s							
BOSA	**Boshof**	**125.86**	**258**	PKP	**PKPdf**	**12 24 06.9**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=346,slow=1.6,SNR=9.5							
PTBC	**PUERTO BERRIO**	**126.44**	**46**	*e*P	**PKPdf**	**12 24 06.5**	**-1.7**
SDV	**Santo Domingo**	**126.61**	**40**	*e*PKPdf	**PKPdf**	**12 24 08.8**	**0.0**
SDV				LR	LR			
	comp=Z,2µm,20.0s							
SYO	**Syowa Base**	**126.84**	**206**	⇓*i*PKPdf	**PKPdf**	**12 24 06.2**	**-1.0**
SYO	**Syowa Base**	**126.84**	**206**	⇑*i*PKiKP	**PKiKP**	**12 24 10.1**	**+2.4**
DBIC	**Dimbokro**	**126.89**	**316**	PKP	**PKPdf**	**12 24 09.1**	**0.0**
	comp=Z,12nm,1.0s,baz=23,slow=3.0,SNR=9.2							
DBIC				PP	**PP**	**12 26 05.4**	**-0.4**
	comp=Z,5.1nm,0.7s,baz=32,slow=9.0,SNR=3.7							
GUYC	**Guyana, Colomb**	**126.94**	**47**	*e*P	**PKPdf**	**12 24 05.2**	**-4.5**
GRGC	**Isla de Gorgon**	**126.95**	**52**	⇑*e*P	**PKPdf**	**12 24 09.9**	**+0.7**
TIC	**Toumodi**	**127.00**	**316**	*e*PKIKP	**PKPdf**	**12 24 08.7**	**-0.6**
KIC	**Kosan Boka**	**127.07**	**315**	*e*PKIKP	**PKPdf**	**12 24 08.9**	**-0.5**
	comp=Z,74nm,1.2s							
BARC	**Barichara**	**127.13**	**44**	*e*P	**PKPdf**	**12 24 08.5**	**-1.3**
RREF	**El Recreo**	**127.22**	**48**	*e*P	**PKPdf**	**12 24 10.5**	**0.0**
YOTC	**Yotoco, Valle**	**127.34**	**49**	⇑*e*P	**PKPdf**	**12 24 10.5**	**+0.5**
LIC	**Lamto**	**127.35**	**315**	*e*PKIKP	**PKPdf**	**12 24 09.0**	**-0.9**
	comp=Z,98nm,1.3s							
SACV	**Santiago Islan**	**127.45**	**341**	PFAKE		12 24 20.0	+10
SACV				LR	LR			
	comp=Z,686nm,19.0s							
HORQ	**Saladito**	**127.56**	**50**	*e*P	**PKPdf**	**12 24 10.8**	**+0.1**
BBGH	**Gun Hill**	**127.69**	**25**	PFAKE		12 24 20.0	+9.5
BBGH				LR	LR			
	comp=Z,3µm,21.0s							
TSUM	**Tsumeb**	**127.70**	**273**	*e*PKPdf	**PKPdf**	**12 24 10.6**	**0.0**
TSUM				LR	LR			
	comp=Z,2µm,20.0s							
ROSC	**El Rosal**	**127.89**	**47**	PKP	**PKPdf**	**12 24 12.1**	**+0.7**
	comp=Z,6.7nm,0.4s,baz=23,slow=1.5,SNR=11							
CHIC	**Chingaza**	**128.40**	**46**	*e*P	**PKPdf**	**12 24 12.5**	**+0.1**
VILC	**Villavicencio,**	**128.84**	**47**	*e*P	**PKPdf**	**12 24 11.2**	**-1.8**
OTAV	**Otavalo**	**128.85**	**54**	*e*PKPdf	**PKPdf**	**12 24 13.8**	**+0.4**
OTAV				LR	LR			
	comp=Z,1µm,19.0s							
SUR	**Sutherland**	**130.87**	**256**	PFAKE		12 24 30.0	+14
SUR				LR	LR			
	comp=Z,3µm,20.0s							
NVL	**N'lazarevskaya**	**135.92**	**202**	*e*PKIKP	**PKPdf**	**12 24 17.4**	**-6.9**
NVL				pmax	pmax			
	comp=Z,53nm,1.7s							
NNA	**Nana**	**138.60**	**65**	*e*PKIKP	**PKPdf**	**12 24 30.5**	**-0.5**
NNA				MLR	MLR			
	comp=Z,1µm,19.0s							
NNA	**Nana**	**138.60**	**65**	*e*PKPdf	**PKPdf**	**12 24 30.5**	**-0.5**
NNA				LR	LR			
	comp=Z,1µm,19.0s							
SNAA	**Sanae**	**139.38**	**197**	PKP	PKPpre	12 24 24.7		
SNAA	**Sanae**	**139.38**	**197**	PKhKP	PKPpre	12 24 24.7		
	comp=Z,3.2nm,0.6s,baz=218,slow=7.0,SNR=6.4							
VNA2	**Neumayer--Watz**	**140.95**	**196**	PKP	PKPpre	12 24 29.8		
	baz=119,slow=3.6							
VNA3	**Neumayer Olymp**	**141.20**	**195**	PKP	PKPpre	12 24 29.9		
VNA1	**Neumayer--Stat**	**141.35**	**196**	PKP	PKPpre	12 24 27.7		
ASCN	**Ascension**	**144.21**	**315**	PFAKE		12 24 50.0	+8.9
ASCN				LR	LR			
	comp=Z,947nm,22.0s							
SHEL	**Horse Pasture**	**144.29**	**295**	PFAKE		12 24 50.0	+8.8
SHEL				LR	LR			
	comp=Z,475nm,22.0s							
SAML	**Samuel**	**145.49**	**45**	*e*PKPdf	**PKPdf**	**12 24 42.7**	**-0.6**
SAML				LR	LR			
	comp=Z,1µm,19.0s							
PMSA	**Palmer Station**	**147.33**	**160**	PFAKE		12 25 00.0	+11
PMSA				LR	LR			
	comp=Z,1µm,19.0s							
LPAZ	**La Paz**	**147.75**	**61**	PKPbc	**PKPbc**	**12 24 49.7**	**-0.9**
	comp=Z,92nm,0.9s,baz=7.2,slow=3.5,SNR=95							
RCBR	**Riachuelo**	**150.07**	**353**	*e*PKPbc	**PKPbc**	**12 24 56.4**	**+0.5**
RCBR				LR	LR			
	comp=Z,4µm,20.0s							
LCO	**Las Campanas**	**152.62**	**85**	*e*PKPdf	**PKPdf**	**12 24 55.2**	**+0.5**
LCO				*e*PKPbc	**PKiKP**	**12 25 02.7**	**+0.8**
LCO				LR	LR			
	comp=Z,2µm,20.0s							
PLCA	**Paso Flores**	**154.94**	**111**	PKP	**PKPdf**	**12 24 57.5**	**+0.1**
	comp=Z,8.8nm,1.1s,baz=284,slow=2.8,SNR=8.4							
PLCA				PKPbc	**PKiKP**	**12 25 06.1**	**0.0**
	comp=Z,9.7nm,1.0s,baz=292,slow=4.4,SNR=7.5							
EFI	**East Falkland**	**159.12**	**146**	PFAKE		12 25 10.0	+7.8
EFI				LR	LR			
	comp=Z,2µm,20.0s							
HOPE	**Hope Point**	**161.37**	**185**	PFAKE		12 25 20.0	+15
HOPE				LR	LR			
	comp=Z,1µm,21.0s							
TRQA	**Tornquist**	**161.62**	**104**	*e*PKPdf	**PKPdf**	**12 25 04.5**	**-0.9**
TRQA				*e*SKPdf	**SKPdf**	**12 28 27.4**	**-9.0**
TRQA				LR	LR			
	comp=Z,2µm,20.0s							
CPUP	**Villa Florida**	**161.85**	**64**	PKP	**PKPdf**	**12 25 05.9**	**-0.1**
	comp=Z,16nm,1.2s,baz=321,slow=1.5,SNR=13							
SPB	**Sao Paulo**	**165.93**	**33**	*e*PKPdf	**PKPdf**	**12 25 10.5**	**+0.7**
SPB				LR	LR			
	comp=Z,2µm,20.0s							

JMA 14 12:05:50.1±0.2,40.83N×145.40E,h65km±3km, M4.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**2.06**	**306**	P	Pn	12 06 23.1	+0.7
JAK	**Akkeshi**	**2.23**	**347**	P	Pn	12 06 25.4	+0.7
JAK				*e*S	Sn	12 06 51.4	+0.3
JCH	**Churui**	**2.35**	**320**	P	Pn	12 06 27.1	+0.8
JOB	**Onbets**	**2.38**	**331**	P	Pn	12 06 27.9	+1.2
JOB				*e*S	Sn	12 06 56.1	+1.3
JNBK	**Urakawa-nobuka**	**2.46**	**307**	P	Pn	12 06 29.4	+1.6
NEM2	**Nemuro 2**	**2.55**	**6**	P	Pn	12 06 30.4	+1.4
NEM2				*e*S	Sn	12 06 59.4	+0.5
JAR	**Ashorobuto**	**2.75**	**334**	P	Pn	12 06 32.3	+0.5
JNK	**Nakash**	**2.80**	**350**	P	Pn	12 06 32.9	+0.4
JNK				*e*S	Sn	12 07 03.9	-1.2
JBT2	**Biratori 2**	**2.99**	**312**	P	Pn	12 06 35.4	+0.3
JANG	**Nango**	**2.99**	**262**	*e*S	Sn	12 07 07.0	-2.8
JRA	**Rausu**	**3.11**	**356**	P	Pn	12 06 37.8	+1.1
JFR	**Furan**	**3.13**	**319**	P	Pn	12 06 38.0	+1.0
JTKR	**Abashiri--Toko**	**3.33**	**341**	P	Pn	12 06 41.5	+1.8
JOT	**Ohata**	**3.33**	**281**	*e*S	Sn	12 07 15.8	-2.3
JEW	**Eniwo**	**3.57**	**306**	P	Pn	12 06 45.2	+2.2
JKK2	**Kamakawa 2**	**3.62**	**328**	P	Pn	12 06 45.4	+1.7

JMA 14 12:06:39.2±0.1,35.75N×140.88E,h12km±1km, M3.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.05**	**200**	P	Pg	12 06 41.7	+0.2
CHOJ				S	Sg	12 06 43.5	+0.3

JMA 14 12:14:53.2±0.2,40.91N×145.02E,h67km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.78**	**309**	P	Pn	12 15 22.4	+0.6
JEM				*e*S	Sn	12 15 43.8	+0.3
JAK	**Akkeshi**	**2.10**	**354**	P	Pn	12 15 26.7	+0.6
JAK				*e*S	Sn	12 15 50.8	+0.3
JCH	**Churui**	**2.11**	**324**	P	Pn	12 15 27.1	+0.9
JCH				*e*S	Sn	12 15 50.9	-0.5
JOB	**Onbets**	**2.18**	**336**	P	Pn	12 15 28.2	+1.0
JOB				*e*S	Sn	12 15 54.1	+1.0
JNBK	**Urakawa-nobuka**	**2.18**	**310**	P	Pn	12 15 28.9	+1.7
JNBK				*e*S	Sn	12 15 54.8	+1.6
NEM2	**Nemuro 2**	**2.51**	**12**	*e*S	Sn	12 16 00.5	-0.7
JAR	**Ashorobuto**	**2.56**	**339**	P	Pn	12 15 32.7	+0.4
JAR				*e*S	Sn	12 16 02.3	-0.1
JNK	**Nakash**	**2.68**	**355**	*e*S	Sn	12 16 03.8	-1.6
JANG	**Nango**	**2.72**	**260**	P	Pn	12 15 34.5	0.0
JBT2	**Biratori 2**	**2.73**	**314**	P	Pn	12 15 35.9	+1.3
JBT2				*e*S	Sn	12 16 08.1	+1.7
JFR	**Furan**	**2.89**	**322**	P	Pn	12 15 37.7	+0.9
JFR				*e*S	Sn	12 16 09.5	-0.9
JTM	**Tenmabayashi**	**3.00**	**269**	P	Pn	12 15 39.2	+0.9
JTM				*e*S	Sn	12 16 11.2	+0.1
JOT	**Ohata**	**3.04**	**280**	P	Pn	12 15 39.6	+0.8
JOT				*e*S	Sn	12 16 12.7	-1.3
JKB	**Kayabe**	**3.15**	**289**	P	Pn	12 15 41.7	+1.3
JKB				*e*S	Sn	12 16 16.9	0.0
JTKR	**Abashiri--Toko**	**3.17**	**345**	*e*S	Sn	12 16 17.7	+0.5
JOM	**Ohasama**	**3.20**	**245**	P	Pn	12 15 41.9	+0.9
JEW	**Eniwo**	**3.29**	**307**	P	Pn	12 15 44.5	+2.2
JEW				*e*S	Sn	12 16 21.6	+1.4
JKK2	**Kamakawa 2**	**3.41**	**331**	P	Pn	12 15 45.6	+1.7
JMK	**Ichinoseki**	**3.52**	**237**	P	Pn	12 15 46.0	+0.6

BUC 14 12:15:43.5±0.4,46.42N×23.15E,h18km, MD2.3/2,6C-4D, Error ellipse: s-maj=4.3km s-min=3.4km az=44.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRGR		**0.48**	**322**	⇓*i*P	Pb	12 15 53.7	+0.3
DRGR				*i* S	Sb	12 16 01.8	+1.6
DRGR		**0.48**	**322**	⇓*i*P	Pb	12 15 53.7	+0.3
DRGR				*i* S	Sb	12 16 01.8	+1.6
SIRR	**Siria**	**1.04**	**262**	⇑*i*P	Pb	12 16 02.7	-0.2
SIRR	**Siria**	**1.04**	**262**	⇑*i*P	Pb	12 16 02.7	-0.2
SIRR				*i* S	Sn	12 16 17.2	0.0
LOT	**Lotru**	**1.06**	**156**	⇑*i*P	Pb	12 16 02.2	-1.2
LOT	**Lotru**	**1.06**	**156**	⇑*i*P	Pb	12 16 02.2	-1.2
BZS	**Buzias**	**1.33**	**234**	⇓*i*P	Pb	12 16 07.8	-0.1
BZS	**Buzias**	**1.33**	**234**	⇓*i*P	Pb	12 16 07.8	-0.1
BZS				*i* S	Sg	12 16 25.6	-1.0
VOIR		**1.65**	**126**	⇑*i*P	Pb	12 16 12.7	-0.7
VOIR		**1.65**	**126**	⇑*i*P	Pb	12 16 12.7	-0.7

IDC ***14*** *12:18:19.7±1.2,40.77N×145.04E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.3/66,mbtmp3.5/5,ML3.0/1, Error ellipse: s-maj=40.9km s-min=23.7km az=89.0*
ISCJB ***14*** *12:18:21.7±0.7,40.93N±0.03×145.17E±0.06,h33km, mb3.6/4, Error ellipse: s-maj=6.6km s-min=4.9km az=11.2*
JMA ***14*** *12:18:21.1±0.2,40.91N×145.28E,h63km±3km,M3.5*
ISC 14 12:18:22.7±1.2,40.88N±0.06×145.22E±0.07,h35km,n23, σ1s70/37,mb3.6/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.93**	**307**	P	**Pn**	**12 18 52.6**	**-0.3**
JEM				*e*S	**Sn**	**12 19 15.6**	**-0.3**
JAK	**Akkeshi**	**2.15**	**350**	P	**Pn**	**12 18 55.0**	**-1.1**
JAK				*e*S	**Sn**	**12 19 20.6**	**-0.9**
JCH	**Churui**	**2.23**	**322**	P	**Pn**	**12 18 56.4**	**-0.7**
JCH				*e*S	**Sn**	**12 19 21.8**	**-1.5**
JOB	**Onbets**	**2.27**	**333**	P	**Pn**	**12 18 57.2**	**-0.5**
JOB				*e*S	**Sn**	**12 19 23.9**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.32**	**308**	P	**Pn**	**12 18 58.9**	**+0.5**
JNBK				*e*S	**Sn**	**12 19 25.5**	**-0.2**
NEM2	**Nemuro 2**	**2.52**	**9**	P	**Pn**	**12 19 00.2**	**-0.8**
NEM2				*e*S	**Sn**	**12 19 28.7**	**-1.8**
JAR	**Ashorobuto**	**2.65**	**336**	P	**Pn**	**12 19 01.8**	**-1.1**
JAR				*e*S	**Sn**	**12 19 30.8**	**-3.0**
JNK	**Nakash**	**2.73**	**352**	P	**Pn**	**12 19 02.5**	**-1.5**
JNK				*e*S	**Sn**	**12 19 32.2**	**-3.6**
JBT2	**Biratori 2**	**2.86**	**313**	*e*S	**Sn**	**12 19 39.2**	**+0.2**
JANG	**Nango**	**2.87**	**261**	P	**Pn**	**12 19 04.8**	**-1.1**
JANG				*e*S	**Sn**	**12 19 35.0**	**-4.2**
JFR	**Furan**	**3.01**	**320**	P	**Pn**	**12 19 07.5**	**-0.4**
JFR				*e*S	**Sn**	**12 19 39.8**	**-2.9**
JRA	**Rausu**	**3.06**	**359**	*e*S	**Sn**	**12 19 41.5**	**-2.4**
JOT	**Ohata**	**3.19**	**280**	P	**Pn**	**12 19 10.0**	**-0.4**
JOT				*e*S	**Sn**	**12 19 44.5**	**-2.7**
JTKR	**Abashiri--Toko**	**3.24**	**343**	P	**Pn**	**12 19 11.1**	**+0.1**
JTKR				*e*S	**Sn**	**12 19 47.1**	**-1.2**
JKB	**Kayabe**	**3.31**	**289**	P	**Pn**	**12 19 11.7**	**-0.3**
JOM	**Ohasama**	**3.32**	**246**	P	**Pn**	**12 19 11.9**	**-0.3**
JOM				*e*S	**Sn**	**12 19 47.3**	**-3.1**
JEW	**Eniwo**	**3.43**	**306**	P	**Pn**	**12 19 14.7**	**+1.0**
JEW				*e*S	**Sn**	**12 19 52.7**	**-0.4**
JKK2	**Kamakawa 2**	**3.51**	**329**	*e*S	**Sn**	**12 19 55.8**	**+0.8**
ASAJ	**Asahikawa**	**3.77**	**330**	Pn	**Pn**	**12 19 18.7**	**+0.4**
	0.9nm,0.3s,baz=174,slow=16,SNR=15						
ASAJ				Sn	**Sn**	**12 19 59.9**	**-1.6**
	0.9nm,0.3s,baz=138,slow=13,SNR=2.9						
ILAR	**Eielson Array**	**44.66**	**34**	P	P	12 26 35.0	+3.5
	0.3nm,0.7s,baz=273,slow=7.0,SNR=3.8						
KURBB	**Kurchatov Arra**	**46.08**	**306**	P	**P**	**12 26 44.9**	**+1.9**
	0.2nm,0.5s,baz=73,slow=8.9,SNR=3.2						
WRA	**Warramunga Arr**	**61.35**	**192**	P	**P**	**12 28 36.2**	**+1.3**
	0.7nm,0.7s,baz=8.6,slow=6.9,SNR=7.5						
ASAR	**Alice Springs**	**65.07**	**191**	P	**P**	**12 29 00.8**	**+1.3**
	1.1nm,1.1s,baz=17,slow=6.1,SNR=4.3						

ISCJB ***14*** *12:24:42.7±0.4,33.61N±0.05×137.41E±0.06, h350km±2km,mb3.6/17,Error ellipse: s-maj=9.0km s-min=7.4km az=155.8*
JMA ***14*** *12:24:42.9±0.2,33.61N×137.40E,h351km±2km,M3.7*
IDC ***14*** *12:24:43.4±0.9,33.53N×137.40E,h344km±9km,mb3.4/17, mb1 3.6/23,mb1mx3.3/71,mbtmp4.2/23,Error ellipse: s-maj=13.1km s-min=9.7km az=77.0*
ISC 14 12:24:43.5±0.7,33.66N±0.07×137.42E±0.06,h344km±5km, n46,σ1s23/57,mb3.6/17,12C,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.18**	**53**	P	**Pn**	**12 25 26.7**	**+0.6**
TTO3	**TONANKAI O.B.S**	**0.20**	**355**	⇑P	**Pn**	**12 25 27.4**	**+1.1**
TTO2	**TONANKAI O.B.S**	**0.34**	**283**	⇑P	**Pn**	**12 25 27.2**	**+0.9**
TTO2				*e*S	**S**	**12 26 02.2**	**+1.6**
TTO4	**TONANKAI O.B.S**	**0.36**	**16**	⇑P	**Pn**	**12 25 27.2**	**+0.9**
TK02	**Tokai 2**	**0.40**	**44**	⇑P	**Pn**	**12 25 27.3**	**+0.9**
TTO1	**TONANKAI O.B.S**	**0.53**	**266**	⇑P	**Pn**	**12 25 27.4**	**+0.7**
TTO5	**TONANKAI O.B.S**	**0.64**	**23**	P	**Pn**	**12 25 28.1**	**+1.1**
TK03	**Tokai 3**	**0.68**	**42**	⇑P	**Pn**	**12 25 28.4**	**+1.2**
IIE	**Ise**	**0.94**	**321**	⇑P	**Pn**	**12 25 28.9**	**+0.7**
JIE				*e*S	**S**	**12 26 04.4**	**+0.3**
JWZ	**Kozaga**	**1.43**	**265**	⇑P	**Pn**	**12 25 30.4**	**-0.2**
JWZ				*e*S	**S**	**12 26 07.6**	**-0.7**
JWY	**Kouya**	**1.62**	**291**	⇑P	**Pn**	**12 25 32.4**	**+0.7**
JWY				S	**S**	**12 26 10.4**	**0.0**
JHJ	**Hachijo jima 2**	**2.05**	**105**	P	**Pn**	**12 25 34.5**	**0.0**
	26nm,0.3s,baz=200,slow=23,SNR=3.6						
JHJ				S	**S**	**12 26 15.1**	**-0.4**
	28nm,0.3s,baz=54,slow=18,SNR=3.4						
JYN	**Shimob**	**2.06**	**27**	P	**Pn**	**12 25 35.2**	**+0.6**
JOD2	**Odawara 2**	**2.11**	**40**	P	**Pn**	**12 25 35.6**	**+0.7**
JOD2				*e*S	**S**	**12 26 16.9**	**+0.6**
JWT	**Wachi**	**2.32**	**315**	⇑P	**Pn**	**12 25 37.3**	**+0.8**
JWT				S	**S**	**12 26 18.1**	**-0.2**
JAI	**Aioi**	**2.48**	**274**	⇑P	**Pn**	**12 25 38.1**	**+0.3**
JAI				S	**S**	**12 26 20.8**	**-0.6**
JRY	**Ryogami san**	**2.65**	**27**	P	**Pn**	**12 25 40.1**	**+0.9**
JKG	**Kaga**	**2.76**	**341**	P	**Pn**	**12 25 41.0**	**+0.9**
MJAR	**Matsushiro Arr**	**2.95**	**12**	P	**Pn**	**12 25 42.2**	**+0.4**
	15nm,0.3s,baz=195,slow=10,SNR=150						
MJAR				S	**S**	**12 26 27.3**	**-1.5**
	4.6nm,0.3s,baz=104,slow=34,SNR=8.2						
MAT	**Matsushiro**	**2.95**	**12**	P	**Pn**	**12 25 42.1**	**+0.3**
MAT	**Matsushiro**	**2.95**	**12**	P	**Pn**	**12 25 42.4**	**+0.6**
MAT				S	**S**	**12 26 29.4**	**+0.7**
JMN	**Monobe**	**2.95**	**272**	⇑P	**Pn**	**12 25 42.4**	**+0.5**
JAG	**Ashikaga**	**3.23**	**31**	P	**Pn**	**12 25 44.0**	**-0.3**
JNU	**Nakatsue**	**5.50**	**266**	P	**Pn**	**12 26 08.9**	**+0.5**
	4.3nm,0.3s,baz=95,slow=2.1,SNR=45						
JCJ	**Chichijima**	**7.73**	**147**	S	S	12 27 51.6	-13
	baz=287,slow=19						
KSRS	**Korea Array**	**8.61**	**299**	P	**P**	**12 26 46.3**	**-1.3**
	3.5nm,0.3s,baz=111,slow=13,SNR=111						
ASAJ	**Asahikawa**	**11.19**	**20**	P	**Pn**	**12 27 16.0**	**+0.6**
	0.5nm,0.3s,baz=241,slow=15,SNR=2.2						
ASAJ				S	**S**	**12 29 13.8**	**-6.9**
	0.4nm,0.3s,baz=293,slow=28,SNR=2.9						
USRK	**Ussuriysk Ar.**	**11.34**	**340**	P	**P**	**12 27 18.6**	**+0.7**
	4.5nm,0.3s,baz=151,slow=11,SNR=62						

RTLL eS Sn 12 27 01.6 -1.1
RTLL IAML 12 27 04.8
comp=Z,963nm,0.3s
ARCO CERRO ARCO 0.99 165 eP Pn 12 26 49.2 +0.3
ARCO eS Sn 12 27 05.8 +0.4
ARCO IAML 12 27 07.4
comp=Z,768nm,0.3s
AMOG MOGNA 1.13 34 i P Pn 12 26 50.9 +0.6
AMOG eS Sn 12 27 07.5 -0.2
AAGR Agrelo 1.25 164 eP Pn 12 26 51.7 +0.1
AAGR eS Sn 12 27 09.8 -0.4
FCH Farellones 1.69 211⇑ iP Pn 12 26 57.9 +0.9
FCH i S Sn 12 27 21.3 +1.6
FCH IAML 12 27 23.7
comp=E,109nm,0.1s
AVIZ Vizcacheras 1.70 159 i P Pn 12 26 56.9 +0.1
AVIZ i S Sn 12 27 19.1 -0.3
PEL Peldehue 1.75 224⇑ iP Pn 12 26 57.3 -0.1
PEL i S Sn 12 27 19.8 -0.8
PEL IAML 12 27 21.7
comp=E,50nm,0.3s
ACAN Cantantal 1.79 103 i P Pn 12 26 58.1 +0.3
ACAN i S Sn 12 27 20.6 -0.5
ROCH El Roble 1.85 233⇑ iP Pn 12 26 58.3 -0.5
ROCH i S Sn 12 27 21.6 -1.3
CLCH Cerro Calan 1.87 216 eP Pn 12 27 00.0 +1.2
CLCH i S Sn 12 27 24.2 +1.3
AGUA GUANDACOL 2.47 15 eP Pn 12 27 07.8 +1.2
AGUA eS Sn 12 27 38.6 +1.9
APLL PUNTA DE LOS L 2.76 58 eP Pn 12 27 10.0 -0.2
APLL i S Sn 12 27 42.8 -0.4
APLL IAML 12 27 45.4
comp=Z,55nm,0.2s
RFA San Rafael 2.96 168 i P Pn 12 27 11.9 -0.9
RFA IAML 12 27 47.8
comp=Z,51nm,0.5s
LCO Las Campanas 3.12 336 eP Pn 12 27 15.0 -0.3
LCO eS Sn 12 27 50.6 -1.6
VCA Vinchina 3.26 16 IAML 12 28 00.4
comp=Z,84nm,0.3s

JMA 14 12:27:04.0±0.1, 35.78N×140.91E, h13±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**208**	P	Pg	12 27 06.6	-0.2
CHOJ				S	Sg	12 27 08.8	0.0
JYT	**Yasato**	**0.73**	**308**	P	Pg	12 27 17.7	-0.5
JYT				S	Sg	12 27 27.3	-0.6
JHO	**Hitachi**	**0.87**	**342**	P	Pg	12 27 20.6	-0.3
JHO				eS	Sg	12 27 31.7	-0.7
MAT	**Matsushiro**	**2.32**	**290**	P	Pn	12 27 42.1	+0.2
MAT				eS	Sn	12 28 09.1	-1.1

JMA 14 12:29:48.7±0.1, 35.77N×140.89E, h12km±1km, M3.5, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**201**	⇓P	Pg	12 29 51.1	-0.1
CHOJ				S	Sg	12 29 53.0	0.0
JCN	**Nagara**	**0.66**	**238**	⇑P	Pb	12 30 02.4	+0.2
JYT	**Yasato**	**0.73**	**309**	⇑P	Pg	12 30 02.1	-0.7
JYT				S	Sg	12 30 12.2	-0.1
JHO	**Hitachi**	**0.88**	**343**	⇑P	Pg	12 30 04.4	-1.3
JHO				S	Sg	12 30 16.0	-1.2
BSO4	**Boso 4**	**0.90**	**210**	P	Pg	12 30 05.7	-0.3
BSO3	**Boso 3**	**1.01**	**198**	P	Pb	12 30 07.3	-0.7
MAT	**Matsushiro**	**2.30**	**290**	P	Pn	12 30 25.7	-0.8
MAT				eS	Sn	12 30 54.7	-0.1

JMA 14 12:31:39.7±0.2, 40.93N×145.26E, h60km±4km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.92**	**305**	P	Pn	12 32 11.3	+1.3
JEM				S	Sn	12 32 32.0	-1.0
JAK	**Akkeshi**	**2.11**	**349**	eS	Sn	12 32 37.7	+0.1
JCH	**Churui**	**2.20**	**320**	P	Pn	12 32 15.5	+1.6
JCH				S	Sn	12 32 39.3	-0.7
JOB	**Onbets**	**2.24**	**332**	S	Sn	12 32 41.7	+0.8
JNBK	**Urakawa-nobuka**	**2.31**	**306**	P	Pn	12 32 17.2	+1.8
JNBK				eS	Sn	12 32 43.3	+0.6
NEM2	**Nemuro 2**	**2.46**	**8**	eS	Sn	12 32 47.1	+0.9
JAR	**Ashorobuto**	**2.61**	**335**	P	Pn	12 32 21.5	+2.0
JAR				S	Sn	12 32 50.1	+0.1
JNK	**Nakash**	**2.68**	**352**	eS	Sn	12 32 51.4	-0.4
JBT2	**Biratori 2**	**2.84**	**311**	S	Sn	12 32 58.2	+2.5
JANG	**Nango**	**2.90**	**260**	P	Pn	12 32 23.2	-0.3
JFR	**Furan**	**2.99**	**319**	S	Sn	12 32 57.5	-1.7
JTKR	**Abashiri--Toko**	**3.20**	**342**	S	Sn	12 33 05.1	+0.8
JOT	**Ohata**	**3.21**	**279**	P	Pn	12 32 28.4	+0.7
JOT				S	Sn	12 33 01.8	-2.9
JKB	**Kayabe**	**3.32**	**288**	eS	Sn	12 33 05.4	-1.9
JOM	**Ohasama**	**3.37**	**246**	P	Pn	12 32 30.4	+0.6
JOM				eS	Sn	12 33 05.7	-2.9
JEW	**Eniwo**	**3.42**	**305**	S	Sn	12 33 11.5	+1.6

KRSC 14 12:40:57.0±0.5, 58.58N×164.03E, h6km±3km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.84**	**324**	eP	Pb	12 41 14.1	+0.1
OSSR				eS	Sb	12 41 25.6	+0.2
TILK	**Tilichiki**	**2.16**	**29**	eP	Pb	12 41 35.2	-1.3
TILK				eS	Sb	12 42 02.5	-1.0
PALN	**Palana**	**2.17**	**285**	eP	Pn	12 41 34.9	+1.3
PALN				eS	Sb	12 42 03.4	-0.4
KBTR	**Krutoberegovo**	**2.47**	**196**	eP	Pb	12 41 39.8	-1.9
KMSK	**Kamenskaya**	**4.04**	**15**	eP	Pn	12 42 03.4	+4.0

*IDC **14** 12:44:57.8±3.2, 40.98N×145.93E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.2/66, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=91.5km s-min=24.5km az=69.0*
*JMA **14** 12:45:01.1±0.2, 40.88N×145.33E, h61km±4km, M3.6*
ISC 14 12:44:59.9±2.2, 40.76N±0.08×145.38E±0.10, h35km, n22, σ1§65/33, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.09**	**308**	P	Pn	12 45 33.3	+1.0
JEM				S	Sn	12 45 56.2	-0.8
JAK	**Akkeshi**	**2.29**	**347**	P	Pn	12 45 35.8	+0.7
JAK				S	Sn	12 46 01.0	-1.0
JCH	**Churui**	**2.39**	**321**	P	Pn	12 45 37.2	+0.8
JCH				eS	Sn	12 46 02.4	-2.1
JOB	**Onbets**	**2.43**	**332**	P	Pn	12 45 37.8	+0.8
JOB				S	Sn	12 46 04.6	-0.9
JNBK	**Urakawa-nobuka**	**2.48**	**308**	P	Pn	12 45 39.8	+2.0
JNBK				eS	Sn	12 46 07.2	+0.3
NEM2	**Nemuro 2**	**2.62**	**6**	P	Pn	12 45 40.6	+1.0
NEM2				S	Sn	12 46 09.2	-0.9
JAR	**Ashorobuto**	**2.80**	**335**	P	Pn	12 45 43.0	+0.9
JAR				eS	Sn	12 46 12.5	-2.2
JNK	**Nakash**	**2.86**	**350**	P	Pn	12 45 43.2	+0.2
JNK				S	Sn	12 46 13.1	-3.1
JANG	**Nango**	**2.97**	**264**	P	Pn	12 45 44.9	+0.5
JANG				eS	Sn	12 46 15.4	-3.4
JBT2	**Biratori 2**	**3.02**	**313**	P	Pn	12 45 47.4	+2.2
JBT2				eS	Sn	12 46 21.3	+1.2
JFR	**Furan**	**3.17**	**320**	P	Pn	12 45 48.2	+0.9
JFR				S	Sn	12 46 21.5	-2.3
JOT	**Ohata**	**3.33**	**282**	P	Pn	12 45 50.3	+0.9
JOT				S	Sn	12 46 25.1	-2.6
JOM	**Ohasama**	**3.38**	**249**	P	Pn	12 45 52.2	+2.0
JOM				S	Sn	12 46 27.6	-1.5
JTKR	**Abashiri--Toko**	**3.38**	**342**	P	Pn	12 45 51.7	+1.5
JTKR				S	Sn	12 46 27.9	-1.2
JKB	**Kayabe**	**3.46**	**290**	P	Pn	12 45 53.0	+1.8
JKB				eS	Sn	12 46 29.0	-1.9
JEW	**Eniwo**	**3.59**	**307**	P	Pn	12 45 55.1	+2.1
JEW				eS	Sn	12 46 34.1	-0.1
ASAJ	**Asahikawa**	**3.93**	**329**	Pn	Pn	12 45 59.3	+1.6
	0.7nm,0.3s,baz=201,slow=14,SNR=6.6						
ASAJ				Sn	Sn	12 46 43.2	+0.7
	1.0nm,0.3s,baz=108,slow=20,SNR=4.2						
JHJ	**Hachijo jima 2**	**8.84**	**212**	Pn	Pn	12 47 12.0	+6.8
	34nm,0.3s,baz=263,slow=18,SNR=3.7						
SONM	**Songino Array**	**28.54**	**298**	P	P	12 50 58.7	+6.5
	0.4nm,0.6s,baz=90,slow=8.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**46.24**	**306**	P	P	12 53 25.7	+4.3
	0.4nm,0.8s,baz=79,slow=8.7,SNR=5.0						
WRA	**Warramunga Arr**	**61.26**	**192**	P	P	12 55 15.9	+4.4
	0.7nm,0.8s,baz=5.9,slow=7.0,SNR=4.0						
ASAR	**Alice Springs**	**64.98**	**192**	P	P	12 55 42.3	+6.1
	0.4nm,0.9s,baz=9.3,slow=6.6,SNR=3.0						

*IDC **14** 12:47:36.7±0.8, 40.82N×145.36E, h0km, mb3.5/10, mb1 3.7/12, mb1mx3.6/65, mbtmp3.5/12, ML3.4/2, Error ellipse: s-maj=23.4km s-min=16.4km az=115.0*
*JMA **14** 12:47:38.7±0.2, 40.94N×145.32E, h63km±3km, M3.7*
*ISCJB **14** 12:47:39.5±0.6, 40.93N±0.03×145.15E±0.05, h33km, mb3.6/10, Error ellipse: s-maj=5.6km s-min=4.0km az=17.5*
ISC 14 12:47:41.0±0.9, 40.92N±0.05×145.22E±0.07, h35km, n27, σ1§68/39, mb3.5/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.90**	**306**	P	Pn	12 48 10.2	-0.7
JEM				eS	Sn	12 48 32.7	-0.9
JAK	**Akkeshi**	**2.11**	**349**	P	Pn	12 48 12.4	-1.4
JAK				eS	Sn	12 48 36.9	-1.9
JCH	**Churui**	**2.19**	**321**	P	Pn	12 48 14.2	-0.7
JCH				S	Sn	12 48 39.0	-1.8
JOB	**Onbets**	**2.24**	**333**	P	Pn	12 48 14.8	-0.7
JOB				eS	Sn	12 48 40.9	-1.0
JNBK	**Urakawa-nobuka**	**2.30**	**307**	P	Pn	12 48 16.8	+0.5
JNBK				S	Sn	12 48 43.6	+0.2
NEM2	**Nemuro 2**	**2.48**	**9**	P	Pn	12 48 17.7	-1.1
NEM2				S	Sn	12 48 46.3	-1.4
JAR	**Ashorobuto**	**2.61**	**336**	P	Pn	12 48 19.4	-1.3
JAR				S	Sn	12 48 49.2	-1.9
JNK	**Nakash**	**2.69**	**352**	P	Pn	12 48 19.8	-2.0
JNK				S	Sn	12 48 49.3	-3.8
JBT2	**Biratori 2**	**2.83**	**312**	P	Pn	12 48 24.2	-0.5
JBT2				eS	Sn	12 48 57.0	+0.5
JANG	**Nango**	**2.87**	**260**	P	Pn	12 48 22.6	-1.7
JANG				eS	Sn	12 48 53.7	-3.9
JFR	**Furan**	**2.98**	**320**	S	Sn	12 48 58.3	-1.9
JRA	**Rausu**	**3.02**	**359**	eS	Sn	12 48 58.6	-2.5
JOT	**Ohata**	**3.19**	**280**	P	Pn	12 48 27.7	-0.8
JOT				eS	Sn	12 49 02.1	-3.2
JTKR	**Abashiri--Toko**	**3.20**	**343**	P	Pn	12 48 28.5	-0.3
JTKR				S	Sn	12 49 04.7	-1.0
JOM	**Ohasama**	**3.34**	**246**	P	Pn	12 48 29.2	-1.5
JOM				S	Sn	12 49 06.8	-2.3
ASAJ	**Asahikawa**	**3.74**	**330**	Pn	Pn	12 48 36.8	+0.6
	3.2nm,0.3s,baz=202,slow=16,SNR=16						
ASAJ				Sn	Sn	12 49 19.6	+0.6
	2.6nm,0.3s,baz=83,slow=29,SNR=5.8						
MJAR	**Matsushiro Arr**	**7.01**	**234**	Pn	Pn	12 49 20.4	-0.8
	0.3nm,0.3s,baz=83,slow=15,SNR=4.6						
MJAR				Sn	Sn	12 50 41.6	+2.0
	0.1nm,0.3s,baz=52,slow=48,SNR=2.6						
SEY	**Seymchan**	**22.46**	**9**	P	P	12 52 37.6	+0.9
	0.7nm,0.6s,baz=185,slow=8.2,SNR=5.4						
SONM	**Songino Array**	**28.37**	**297**	P	P	12 53 34.8	+3.0
	0.7nm,0.6s,baz=92,slow=10,SNR=5.9						
ILAR	**Eielson Array**	**44.62**	**34**	P	P	12 55 48.7	-0.8
	0.6nm,0.7s,baz=256,slow=6.4,SNR=7.2						
MKAR	**Makanchi Array**	**44.68**	**300**	P	P	12 55 52.2	+1.9
	0.3nm,0.7s,baz=87,slow=8.9,SNR=3.5						
KURBB	**Kurchatov Arra**	**46.05**	**306**	P	P	12 56 02.8	+1.8
	0.8nm,0.4s,baz=75,slow=8.6,SNR=5.1						
INK	**Inuvik**	**49.57**	**29**	P	P	12 56 30.6	+2.6
	0.4nm,0.4s,baz=301,slow=5.9,SNR=6.8						
YKA	**Yellowknife Ar**	**58.95**	**32**	P	P	12 57 37.5	+1.1
	0.2nm,0.6s,baz=299,slow=6.7,SNR=3.4						
WRA	**Warramunga Arr**	**61.39**	**192**	P	P	12 57 53.7	+0.2
	1.4nm,0.5s,baz=8.4,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**65.11**	**191**	P	P	12 58 18.8	+0.7
	0.5nm,0.7s,baz=9.9,slow=6.3,SNR=7.6						
TXAR	**Lajitas Array**	**85.43**	**55**	P	P	13 00 17.4	+2.2
	0.2nm,0.7s,baz=285,slow=4.6,SNR=2.9						

JMA 14 12:59:25.8±0.1, 35.77N×140.89E, h12km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**201**	P	Pg	12 59 28.1	-0.2
CHOJ				S	Sg	12 59 30.0	-0.1
JCN	**Nagara**	**0.66**	**238**	P	Pb	12 59 39.5	+0.2
JYT	**Yasato**	**0.73**	**309**	P	Pg	12 59 39.4	-0.5
JYT				eS	Sg	12 59 49.4	0.0
JHO	**Hitachi**	**0.88**	**343**	P	Pg	12 59 41.9	-0.9
JHO				eS	Sg	12 59 53.4	-0.9
MAT	**Matsushiro**	**2.30**	**290**	P	Pn	13 00 04.7	+1.1
MAT				eS	Sn	13 00 31.5	-0.4

MAN 14 13:05:11, 12.39N×123.68E, h7km, mb3.7, ML2.5, MS2.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.06**	**242**	⇓iP	Pg	13 05 13.4	+0.7
MMPH				i S	Sg	13 05 15.0	+1.1
CNP	**Catarman**	**0.97**	**83**	eP	Pb	13 05 30.0	-0.1
CNP				eS	Sn	13 05 44.8	-0.2
RCP	**Roxas**	**1.23**	**228**⇑	eP	Pb	13 05 34.3	-0.3
RCP				eS	Sn	13 05 51.9	+0.4

*IDC **14** 13:16:48.9±0.7, 40.82N×145.17E, h0km, mb3.7/15, mb1 3.9/19, mb1mx3.7/73, mbtmp3.7/19, ML2.9/3, MS4.0/1, Ms1 4.2/1, ms1mx3.2/67, Error ellipse: s-maj=18.1km s-min=15.1km az=129.0*
*NEIC **14** 13:16:50.3±0.3, 40.82N×145.16E, h10km, mb4.2/2, Error ellipse: s-maj=8.1km s-min=5.4km az=112.0*
*JMA **14** 13:16:50.3±0.3, 40.89N×145.34E, h52km, M3.9*
*ISCJB **14** 13:16:51.5±0.4, 40.87N±0.03×145.12E±0.04, h33km, mb3.8/17, MS4.0/1, Error ellipse: s-maj=4.6km s-min=3.9km az=171.7*
ISC 14 13:16:53.6±0.6, 40.89N±0.05×145.22E±0.06, h35km, n45, σ1§82/61, mb3.6/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.91**	**307**	ePn	Pn	13 17 22.6	-1.0
JEM	**Erimo**	**1.91**	**307**	P	Pn	13 17 22.6	-1.0
JEM				eS	Sn	13 17 44.8	-1.6
JAK	**Akkeshi**	**2.14**	**350**	P	Pn	13 17 24.7	-2.0
JAK				S	Sn	13 17 49.6	-2.4
JCH	**Churui**	**2.21**	**322**	P	Pn	13 17 26.5	-1.2
JCH				S	Sn	13 17 51.6	-2.2
JOB	**Onbets**	**2.26**	**333**	P	Pn	13 17 27.2	-1.2
JOB				S	Sn	13 17 53.3	-1.7
JNBK	**Urakawa-nobuka**	**2.31**	**308**	P	Pn	13 17 28.8	-0.3
JNBK				S	Sn	13 17 55.8	-0.5
NEM2	**Nemuro 2**	**2.50**	**9**	P	Pn	13 17 29.5	-2.2
NEM2				eS	Sn	13 17 56.9	-4.1
JAR	**Ashorobuto**	**2.63**	**336**	P	Pn	13 17 32.0	-1.5
JAR				S	Sn	13 18 01.6	-2.6
JNK	**Nakash**	**2.72**	**352**	P	Pn	13 17 32.0	-2.7
JNK				eS	Sn	13 18 01.7	-4.6
JBT2	**Biratori 2**	**2.84**	**312**	P	Pn	13 17 36.7	+0.2
JBT2				eS	Sn	13 18 10.0	+0.5
JANG	**Nango**	**2.86**	**261**	P	Pn	13 17 34.7	-2.0
JANG				S	Sn	13 18 06.9	-3.1
JFR	**Furan**	**2.99**	**320**	P	Pn	13 17 37.8	-0.7
JFR				S	Sn	13 18 10.4	-2.8
JRA	**Rausu**	**3.04**	**359**	eS	Sn	13 18 11.2	-3.2
JOT	**Ohata**	**3.19**	**280**	P	Pn	13 17 40.1	-1.0
JOT				eS	Sn	13 18 15.1	-2.8
JTKR	**Abashiri--Toko**	**3.23**	**343**	P	Pn	13 17 40.7	-1.0
JTKR				eS	Sn	13 18 16.9	-1.9
JKB	**Kayabe**	**3.30**	**289**	P	Pn	13 17 42.1	-0.6
JKB				eS	Sn	13 18 19.3	-1.4
JOM	**Ohasama**	**3.32**	**246**	P	Pn	13 17 41.7	-1.3
JOM				S	Sn	13 18 18.1	-3.2
JEW	**Eniwo**	**3.42**	**306**	P	Pn	13 17 44.7	+0.3
JEW				S	Sn	13 18 23.5	-0.2
JKK2	**Kamakawa 2**	**3.49**	**329**	P	Pn	13 17 45.5	+0.1
ASAJ	**Asahikawa**	**3.76**	**330**	Pn	Pn	13 17 48.9	-0.1
	1.4nm,0.3s,baz=195,slow=14,SNR=13						
ASAJ				Sn	Sn	13 18 30.4	-1.6
	2.9nm,0.3s,baz=212,slow=27,SNR=6.3						
MAJO	**Matsushiro**	**6.99**	**234**	ePn	Pn	13 18 32.5	-1.0
MJAR	**Matsushiro Arr**	**6.99**	**234**	Pn	Pn	13 18 32.5	-0.9
	0.3nm,0.3s,baz=35,slow=14,SNR=4.7						
JHJ2	**Mitsune**	**8.89**	**211**	ePn	Pn	13 18 57.0	-2.4
USRK	**Ussuriysk Ar.**	**10.30**	**293**	Pn	Pn	13 19 18.8	0.0
	0.2nm,0.3s,baz=94,slow=16,SNR=3.3						
CBIJ	**Chichi jima**	**13.99**	**191**	Pn	Pn	13 20 06.2	-3.0
JCJ	**Chichijima**	**13.99**	**191**	Pn	Pn	13 20 06.2	-3.1
	baz=0.0,slow=20						
SEY	**Seymchan**	**22.48**	**9**	P	P	13 21 48.8	-0.8
	1.0nm,0.6s,baz=160,slow=7.5,SNR=8.1						
SONM	**Songino Array**	**28.38**	**297**	P	P	13 22 43.7	-0.7
	1.1nm,1.0s,baz=98,slow=8.9,SNR=2.5						
KDAK	**Kodiak Island**	**42.26**	**45**	P	P	13 24 43.9	+0.7
	4.1nm,0.9s,baz=278,slow=2.8,SNR=6.1						
ILAR	**Eielson Array**	**44.65**	**34**	P	P	13 25 03.6	+1.3
	0.8nm,0.8s,baz=260,slow=6.4,SNR=8.4						
MKAR	**Makanchi Array**	**44.69**	**300**	P	P	13 25 03.8	+0.8
	0.5nm,0.9s,baz=89,slow=9.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	**45.36**	**255**	LR	LR	13 44 36.5	
	comp=Z,193nm,19.9s,baz=356,slow=37						
KURK	**Kurchatov**	**45.99**	**306**	eP	P	13 25 13.0	-0.1
	7.4nm,0.6s						
KURBB	**Kurchatov Arra**	**46.07**	**306**	P	P	13 25 14.4	+0.7
	1.3nm,0.7s,baz=76,slow=8.8,SNR=8.4						
INK	**Inuvik**	**49.59**	**29**	P	P	13 25 42.3	+1.6
	0.7nm,0.5s,baz=297,slow=6.0,SNR=8.7						
BVAR	**Borovoye Array**	**50.24**	**311**	P	P	13 25 47.1	+1.1
	0.7nm,0.6s,baz=60,slow=7.3,SNR=4.4						
ABKAR	**Akbulak array**	**57.75**	**309**	P	P	13 26 41.6	+0.8
	0.2nm,0.4s						
RES	**Resolute Bay**	**58.11**	**16**	P	P	13 26 44.1	+1.2
	1.3nm,0.7s,baz=308,slow=4.2,SNR=5.6						
YKA	**Yellowknife Ar**	**58.98**	**32**	P	P	13 26 50.2	+1.1
	0.2nm,0.6s,baz=301,slow=6.5,SNR=4.9						
WRAB	**Tennant Creek**	**61.35**	**192**	eP	P	13 27 06.0	+0.2
WRA	**Warramunga Arr**	**61.36**	**192**	P	P	13 27 05.8	-0.1
	0.6nm,0.5s,baz=8.4,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**65.08**	**191**	P	P	13 27 30.8	+0.3
	0.3nm,0.6s,baz=9.3,slow=6.6,SNR=4.7						
FINES	**FINESS Array B**	**66.76**	**333**	P	P	13 27 41.9	+1.0
	3.6nm,1.1s,baz=24,slow=7.6,SNR=2.8						
NVAR	**Mina Array Bea**	**70.34**	**56**	P	P	13 28 05.1	+1.2
	0.2nm,0.3s,baz=284,slow=3.6,SNR=2.8						
TXAR	**Lajitas Array**	**85.45**	**55**	P	P	13 29 29.6	+1.7
	0.2nm,0.6s,baz=289,slow=2.8,SNR=2.6						

*IDC **14** 13:19:51.1±0.8, 40.84N×145.08E, h0km, mb3.5/11, mb1 3.7/14, mb1mx3.6/68, mbtmp3.5/14, ML2.8/3, Error ellipse: s-maj=21.2km s-min=18.0km az=123.0*
*JMA **14** 13:19:52.4±0.3, 40.89N×145.19E, h54km, M3.8*
*ISCJB **14** 13:19:53.8±0.5, 40.91N±0.03×145.01E±0.05, h33km, mb3.6/12, Error ellipse: s-maj=5.1km s-min=4.6km az=5.3*
ISC 14 13:19:55.7±0.8, 40.92N±0.05×145.09E±0.06, h35km, n39, σ1§76/48, mb3.5/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.82**	**308**	P	Pn	13 20 23.3	-1.2
JEM				eS	Sn	13 20 45.3	-1.0
JCH	**Churui**	**2.13**	**323**	P	Pn	13 20 27.3	-1.5
JCH				eS	Sn	13 20 52.1	-1.9
JOB	**Onbets**	**2.19**	**335**	P	Pn	13 20 28.2	-1.4
JOB				eS	Sn	13 20 54.3	-1.2
JNBK	**Urakawa-nobuka**	**2.22**	**309**	P	Pn	13 20 30.1	+0.1
JNBK				S	Sn	13 20 56.6	+0.5
NEM2	**Nemuro 2**	**2.49**	**11**	P	Pn	13 20 31.9	-1.9
NEM2				eS	Sn	13 20 58.7	-4.2
JAR	**Ashorobuto**	**2.57**	**338**	P	Pn	13 20 33.2	-1.7
JAR				S	Sn	13 21 02.2	-2.7
JNK	**Nakash**	**2.68**	**354**	P	Pn	13 20 33.7	-2.6
JNK				S	Sn	13 21 03.0	-4.6
JBT2	**Biratori 2**	**2.76**	**313**	P	Pn	13 20 37.6	+0.2
JBT2				eS	Sn	13 21 10.6	+1.2
JANG	**Nango**	**2.77**	**260**	P	Pn	13 20 35.6	-2.0
JFR	**Furan**	**2.91**	**321**	P	Pn	13 20 38.2	-1.4
JFR				eS	Sn	13 21 10.5	-2.8
JRA	**Rausu**	**3.02**	**0**	P	Pn	13 20 40.2	-0.8
JTM	**Tenmabayashi**	**3.05**	**269**	P	Pn	13 20 40.4	-1.0
JTM				eS	Sn	13 21 14.1	-2.6
JOT	**Ohata**	**3.08**	**280**	P	Pn	13 20 40.8	-1.1
JOT				S	Sn	13 21 14.9	-2.6
JTKR	**Abashiri--Toko**	**3.17**	**344**	P	Pn	13 20 42.0	-1.1
JTKR				S	Sn	13 21 18.2	-1.5
JKB	**Kayabe**	**3.20**	**289**	eS	Sn	13 21 18.7	-1.7
JOM	**Ohasama**	**3.24**	**245**	P	Pn	13 20 42.9	-1.2
JOM				S	Sn	13 21 18.6	-2.9
JEW	**Eniwo**	**3.33**	**306**	eS	Sn	13 21 23.6	+0.1
JKK2	**Kamakawa 2**	**3.42**	**330**	P	Pn	13 20 47.2	+0.6
JKK2				eS	Sn	13 21 26.2	+0.3
ASAJ	**Asahikawa**	**3.69**	**331**	Pn	Pn	13 20 49.4	-0.8
	1.0nm,0.3s,baz=143,slow=15,SNR=4.9						
ASAJ				Sn	Sn	13 21 31.6	-0.8
	2.9nm,0.3s,baz=121,slow=19,SNR=8.3						
MJAR	**Matsushiro Arr**	**6.93**	**233**	Pn	Pn	13 21 33.6	-1.2
	0.4nm,0.3s,baz=41,slow=12,SNR=5.0						
USRK	**Ussuriysk Ar.**	**10.21**	**293**	Pn	Pn	13 22 19.0	-0.6
	0.2nm,0.3s,baz=112,slow=11,SNR=3.0						
SEY	**Seymchan**	**22.47**	**9**	P	P	13 24 51.2	-0.4
	0.6nm,0.6s,baz=180,slow=11,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.15**	**132**	T	T	13 55 13.5	
	baz=322,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.16**	**132**	T	T	13 55 17.4	
	baz=322,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.16**	**132**	T	T	13 55 20.4	
	baz=322,slow=75,SNR=11						
SONM	**

ISC 14 13:28:08.5±1.4, 38°63N±0°.05×141°99E±0°.09, h47km±11km, n23, σ1°76/32, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.52**	**331**	P			**Pn**	**13 28 20.4**	**+0.6**
OFUJ				*eS*			**Sn**	**13 28 27.9**	**+0.1**
JIO	**Ouri**	**0.53**	**251**	P			**Pn**	**13 28 20.2**	**+0.2**
JIO				*eS*			**Sn**	**13 28 27.6**	**-0.5**
JMK	**Ichinoseki**	**0.68**	**298**	P			**Pn**	**13 28 22.2**	**+0.3**
JMK				*eS*			**Sn**	**13 28 31.2**	**-0.4**
JOM	**Ohasama**	**1.00**	**327**	P			**Pn**	**13 28 26.7**	**+0.5**
JOU	**Okura**	**1.07**	**256**	P			**Pn**	**13 28 27.2**	**0.0**
JOU				*eS*			**Sn**	**13 28 40.2**	**-0.8**
JMM	**Marumori**	**1.21**	**231**	P			**Pn**	**13 28 28.9**	**-0.1**
JMM				*eS*			**Sn**	**13 28 43.4**	**-0.9**
JRG	**Rokugo**	**1.30**	**306**	P			**Pn**	**13 28 30.6**	**+0.3**
JRG				*eS*			**Sn**	**13 28 45.4**	**-1.2**
JYK	**Kaneyama**	**1.31**	**283**	P			**Pn**	**13 28 30.6**	**+0.2**
JFK	**Kawauchi**	**1.54**	**215**	P			**Pn**	**13 28 33.8**	**+0.2**
JFK				*eS*			**Sn**	**13 28 51.5**	**-0.9**
JYS	**Shirataka**	**1.57**	**256**	P			**Pn**	**13 28 34.2**	**+0.3**
MJAR	**Matsushiro Arr**	**3.66**	**236**	P			**Pn**	**13 29 02.9**	**+0.3**
	1.9nm,0.3s,baz=36,slow=12,SNR=12								
MAT	**Matsushiro**	**3.66**	**236**	P			**Pn**	**13 29 04.5**	**+1.9**
MAT				*eS*			**Sn**	**13 29 47.0**	**+2.5**
ASAJ	**Asahikawa**	**5.50**	**5**	P			**Pn**	**13 29 28.2**	**+0.3**
	1.2nm,0.3s,baz=202,slow=9.7,SNR=8.9								
ASAJ				*S*			**Sn**	**13 30 29.8**	**0.0**
	0.3nm,0.3s,baz=248,slow=19,SNR=2.6								
USRK	**Ussuriysk Ar.**	**9.35**	**310**	P			**Pn**	**13 30 21.1**	**+0.5**
	0.2nm,0.3s,baz=128,slow=13,SNR=3.8								
SEY	**Seymchan**	**25.14**	**11**	P			**P**	**13 33 29.1**	**+0.2**
	1.2nm,0.8s,baz=174,slow=10,SNR=8.2								
ZALV	**Zalesovo Beam**	**41.20**	**311**	P			**P**	**13 35 48.0**	**-0.4**
	1.2nm,0.5s,baz=68,slow=5.4,SNR=4.2								
MKAR	**Makanchi Array**	**43.68**	**301**	P			**P**	**13 36 08.8**	**+0.1**
	0.5nm,0.5s,baz=83,slow=9.9,SNR=6.2								
KURBB	**Kurchatov Arra**	**45.40**	**307**	P			**P**	**13 36 22.0**	**-0.2**
	4.0nm,0.5s,baz=82,slow=8.1,SNR=24								
ILAR	**Eielson Array**	**47.91**	**33**	P			**P**	**13 36 41.4**	**-0.4**
	0.1nm,0.6s,baz=272,slow=6.2,SNR=3.4								
BVAR	**Borovoye Array**	**49.85**	**311**	P			**P**	**13 36 56.9**	**+0.1**
	0.7nm,0.5s,baz=90,slow=8.8,SNR=5.5								
WRA	**Warramunga Arr**	**58.70**	**188**	P			**P**	**13 38 01.1**	**-0.3**
	0.8nm,1.0s,baz=6.2,slow=7.2,SNR=3.5								
HFS	**Hagfors**	**72.83**	**336**	P			**P**	**13 39 32.0**	**+0.1**
	3.2nm,1.0s,baz=52,slow=9.5,SNR=3.2								
AKASG	**Malin Array Be**	**73.32**	**322**	P			**P**	**13 39 34.6**	**-0.4**
	0.4nm,0.4s,baz=44,slow=5.9,SNR=2.1								

*NIED **14** 13:29:00, 35°.80N×141°.00E, h17km, Mw4.1 Best double couple: M₀1.56000×10¹⁵ NP1:φs27.00000°, δ41.00000°, λ-95.00000°. NP2:φs213.00000°, δ49.00000°, λ-86.00000°.*
*IDC **14** 13:29:50.8±0.6, 35°.67N×140°.91E, h0km, mb4.0/21, mb1 4.1/27, mb1mx3.9/78, mbtmp4.0/27, ML3.5/4, MS4.1/1, Ms1 4.1/1, ms1mx3.0/71, Error ellipse: s-maj=15.0km s-min=12.6km az=115.0*
*ISCJB **14** 13:29:51.7±0.6, 35°.72N±0°.03×140°.97E±0°.05, h19km±4km, mb4.0/27, MS4.0/1, Error ellipse: s-maj=7.2km s-min=5.3km az=168.8*
*JMA **14** 13:29:52.9±0.1, 35°.79N×140°.90E, h13km±1km, M4.3*
JMA Felt III J1.
*NEIC **14** 13:29:52.4±3.1, 35°.73N×140°.87E, h9km±20km, mb4.7/3, Error ellipse: s-maj=9.4km s-min=7.1km az=104.0*
NEIC Recorded [3 JMA] in Ibaraki.

ISC 14 13:29:53.2±0.9, 35°.77N±0°.04×140°.88E±0°.06, h12km±5km, n54, σ1°49/54, mb4.0/26, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**198**	||P		**Pg**	**13 29 55.7**	**0.0**
CHOJ				*S*			**Sg**	**13 29 57.6**	**+0.1**
JCN	**Nagara**	**0.65**	**238**	↑↑P			**Pn**	**13 30 07.0**	**-1.2**
JYT	**Yasato**	**0.72**	**310**	↑↑P			**Pg**	**13 30 06.3**	**-1.0**
JYT				*S*			**Sg**	**13 30 16.1**	**-0.7**
JHO	**Hitachi**	**0.88**	**343**	P			**Pg**	**13 30 08.7**	**-1.6**
BSO4	**Boso 4**	**0.89**	**210**	P			**Pn**	**13 30 10.2**	**-1.2**
BSO3	**Boso 3**	**1.01**	**198**	P			**Pn**	**13 30 12.0**	**-0.9**
MJAR	**Matsushiro Arr**	**2.30**	**290**	Pn			**Pn**	**13 30 29.8**	**-1.1**
	24nm,0.3s,baz=95,slow=8.3,SNR=40								
MJAR				*Sn*			**Sn**	**13 31 00.1**	**+0.9**
	24nm,0.3s,baz=122,slow=29,SNR=5.7								
MAJO	**Matsushiro**	**2.30**	**291**	*e*Pn			**Pn**	**13 30 30.0**	**-0.9**
MAT	**Matsushiro**	**2.30**	**291**	P			**Pn**	**13 30 30.1**	**-0.8**
MAT				*eS*			**Sn**	**13 31 00.3**	**+1.1**
JHJ2	**Mitsune**	**2.79**	**199**	*e*P			**Pn**	**13 30 39.1**	**+1.4**
JHJ	**Hachijo jima 2**	**2.79**	**199**	Pn			**Pn**	**13 30 36.1**	**-1.5**
	19nm,0.3s,baz=47,slow=17,SNR=2.5								
JHJ				*Sn*			**Sn**	**13 31 09.3**	**-1.9**
	31nm,0.3s,baz=232,slow=19,SNR=2.7								
ERM	**Erimo**	**6.49**	**15**	P			**Pn**	**13 31 28.0**	**-0.4**
ASAJ	**Asahikawa**	**8.45**	**8**	Pn			**Pn**	**13 31 54.1**	**-1.2**
	2.3nm,0.3s,baz=209,slow=12,SNR=4.8								
ASAJ				*Sn*			**Sn**	**13 33 26.4**	**-4.1**
	0.4nm,0.3s,baz=225,slow=20,SNR=2.3								
JNU	**Nakatsue**	**8.67**	**255**	Pn			**Pn**	**13 31 57.6**	**-0.9**
	0.1nm,0.3s,baz=60,slow=14,SNR=3.0								
CBIJ	**Chichi jima**	**8.71**	**172**	*e*Pn			**Pn**	**13 31 57.2**	**-1.9**
JCJ	**Chichijima**	**8.71**	**172**	Pn			**Pn**	**13 31 57.0**	**-2.1**
	9.3nm,0.3s,baz=308,slow=20,SNR=5.6								
KSRS	**Korea Array**	**10.55**	**283**	Pn			**Pn**	**13 32 25.6**	**+1.4**
	baz=104,slow=14,SNR=2.8								
KSAR	**Wonju Array Be**	**10.59**	**283**	Pn			**Pn**	**13 32 25.6**	**+1.0**
USRK	**Ussuriysk Ar.**	**10.84**	**324**	Pn			**Pn**	**13 32 31.4**	**+3.4**
	0.2nm,0.3s,baz=133,slow=13,SNR=3.4								
PETK	**Petropavlovsk-**	**21.00**	**29**	P			**P**	**13 34 37.4**	**+1.2**
	1.4nm,0.6s,baz=224,slow=6.0,SNR=3.1								
MA2	**Magadan**	**24.68**	**12**	P			**P**	**13 35 14.2**	**+0.6**
	3.8nm,0.5s,baz=194,slow=9.3,SNR=18								
H11N2	**WAKE ISLAND Hy**	**27.90**	**118**	T			T	14 04 24.6	
	baz=316,slow=75,SNR=100								
H11N1	**WAKE ISLAND Hy**	**27.91**	**118**	T			T	14 04 29.2	
	baz=316,slow=75,SNR=142								
H11N3	**WAKE ISLAND Hy**	**27.92**	**118**	T			T	14 04 24.5	
	baz=316,slow=75,SNR=141								
SEY	**Seymchan**	**28.12**	**11**	P			**P**	**13 35 45.3**	**+0.7**
	1.5nm,1.0s,baz=168,slow=5.4,SNR=5.8								
SONM	**Songino Array**	**28.16**	**306**	P			**P**	**13 35 46.5**	**+1.2**
	0.9nm,0.5s,baz=100,slow=8.5,SNR=7.1								
SONM				*LR*			LR	13 45 59.0	
	comp=Z,350nm,19.0s,baz=317,slow=34								
H11S1	**WAKE ISLAND Hy**	**28.56**	**120**	T			T	14 05 23.3	
	baz=318,slow=76,SNR=108								
H11S3	**WAKE ISLAND Hy**	**28.56**	**120**	T			T	14 05 23.4	
	baz=318,slow=76,SNR=179								
H11S2	**WAKE ISLAND Hy**	**28.58**	**120**	T			T	14 05 21.3	
	baz=318,slow=76,SNR=131								
TIXI	**Tiksi**	**36.50**	**354**	P			**P**	**13 36 57.3**	**-0.5**
	0.8nm,0.4s,baz=150,slow=2.4,SNR=3.7								
ZALV	**Zalesovo Beam**	**42.46**	**313**	P			**P**	**13 37 48.2**	**+0.4**
	1.1nm,0.5s,baz=84,slow=6.1,SNR=6.0								
MKAR	**Makanchi Array**	**44.44**	**303**	P			**P**	**13 38 03.8**	**-0.1**
	1.7nm,0.7s,baz=88,slow=9.4,SNR=14								
KURK	**Kurchatov**	**46.39**	**309**	*e*P			**P**	**13 38 18.3**	**-0.9**
	56nm,0.9s								
KURBB	**Kurchatov Arra**	**46.45**	**309**	P			**P**	**13 38 19.4**	**-0.3**
	1.3nm,0.4s,baz=85,slow=8.1,SNR=9.8								
KDAK	**Kodiak Island**	**48.33**	**41**	P			**P**	**13 38 33.7**	**-0.5**
	11nm,1.1s,baz=270,slow=6.8,SNR=5.1								
ILAR	**Eielson Array**	**50.80**	**32**	P			**P**	**13 38 53.0**	**+0.1**
	2.3nm,0.7s,baz=268,slow=6.4,SNR=22								
BVAR	**Borovoye Array**	**51.12**	**313**	P			**P**	**13 38 56.1**	**+0.5**
	0.9nm,0.6s,baz=102,slow=9.0,SNR=5.1								
BRVK	**Borovoye**	**51.17**	**313**	P			**P**	**13 38 58.2**	**+2.3**
	13nm,1.3s								
INK	**Inuvik**	**55.71**	**27**	P			**P**	**13 39 29.3**	**+0.3**
	1.4nm,0.6s,baz=306,slow=6.6,SNR=15								
WRAB	**Tennant Creek**	**55.74**	**187**	*e*P			**P**	**13 39 28.3**	**-1.4**
	32nm,1.6s								
WRA	**Warramunga Arr**	**55.75**	**187**	P			**P**	**13 39 28.5**	**-1.3**
	1.2nm,0.6s,baz=6.9,slow=7.6,SNR=11								
ABKAR	**Akbulak array**	**58.43**	**311**	*e*P			**P**	**13 39 47.9**	**-0.7**
	1.2nm,0.5s								
AKTO	**Aktyubinsk**	**59.21**	**312**	P			**P**	**13 39 53.0**	**-1.0**
	0.9nm,0.7s,baz=54,slow=8.7,SNR=3.3								
ASAR	**Alice Springs**	**59.48**	**187**	P			**P**	**13 39 54.6**	**-1.5**
	0.6nm,0.6s,baz=17,slow=12,SNR=9.3								
MBWA	**Marble Bar**	**60.06**	**203**	*e*P			**P**	**13 39 58.9**	**-1.1**
GEYT	**Alibeck**	**64.08**	**299**	P			**P**	**13 40 28.1**	**+1.0**
	1.2nm,0.5s,baz=161,slow=6.3,SNR=4.1								
YKA	**Yellowknife Ar**	**65.12**	**30**	P			**P**	**13 40 33.2**	**-0.2**
	0.6nm,0.8s,baz=303,slow=6.7,SNR=12								
FINES	**FINESS Array B**	**69.74**	**332**	P			**P**	**13 41 01.8**	**-0.8**
	3.2nm,1.0s,baz=28,slow=6.3,SNR=3.7								
AKASG	**Malin Array Be**	**75.04**	**322**	P			**P**	**13 41 33.3**	**-1.1**
	0.8nm,0.6s,baz=44,slow=6.3,SNR=3.9								
NOA	**NORSAR Array B**	**75.19**	**337**	P			**P**	**13 41 34.6**	**-0.6**
	0.4nm,0.5s,baz=47,slow=7.0,SNR=3.0								
NVAR	**Mina Array Bea**	**76.09**	**53**	P			**P**	**13 41 43.9**	**+2.9**
	0.5nm,0.6s,baz=292,slow=6.1,SNR=3.9								
PDAR	**Pinedale Array**	**78.86**	**45**	P			**P**	**13 41 56.1**	**-0.3**
	0.3nm,0.5s,baz=298,slow=3.2,SNR=4.1								
TXAR	**Lajitas Array**	**91.23**	**52**	P			**P**	**13 43 02.9**	**+4.2**
	0.1nm,0.4s,baz=298,slow=4.0,SNR=3.9								
LPAZ	**La Paz**	**147.69**	**61**	PKPbc			**PKPbc**	**13 49 39.0**	**+0.1**
	1.8nm,0.8s,baz=346,slow=5.0,SNR=6.2								

IDC 14 13:33:54.5±9.6, 1°.45N×99°.92E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.2/72, mbtmp3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx3.0/63, Error ellipse: s-maj=538.1km s-min=27.8km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.89**	**124**	P			P	13 41 29.9	-0.6
	0.6nm,0.6s,baz=301,slow=8.0,SNR=5.0								
ASAR	**Alice Springs**	**41.41**	**129**	P			P	13 41 43.4	+0.4
	1.0nm,0.8s,baz=300,slow=8.2,SNR=5.5								
KSRS	**Korea Array**	**44.15**	**32**	LR			LR	14 00 54.2	
	comp=Z,63nm,20.5s,baz=230,slow=37								
MKAR	**Makanchi Array**	**47.71**	**344**	P			P	13 42 32.9	-0.1
	0.2nm,0.7s,baz=168,slow=7.4,SNR=2.6								

*IDC **14** 13:36:19.9±0.7, 40°.80N×145°.25E, h0km, mb3.8/17, mb1 4.0/21, mb1mx3.8/76, mbtmp3.8/21, ML3.2/3, Error ellipse: s-maj=17.7km s-min=14.8km az=125.0*
*NEIC **14** 13:36:21.6±0.4, 40°.83N×145°.25E, h10km, mb4.3/3, Error ellipse: s-maj=9.8km s-min=7.2km az=128.0*
*JMA **14** 13:36:21.9±0.2, 40°.95N×145°.40E, h63km±3km, M4.4*
*ISCJB **14** 13:36:23.1±0.4, 40°.91N±0°.03×145°.14E±0°.04, h33km, mb3.9/20, Error ellipse: s-maj=4.6km s-min=3.7km az=23.8*

ISC 14 13:36:25.2±0.7, 40°92N±0°.05×145°23E±0°.06, h35km, n46, σ1°93/68, mb3.9/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.91**	**306**	*e*Pn			**Pn**	**13 36 54.1**	**-1.1**
JEM	**Erimo**	**1.91**	**306**	P			**Pn**	**13 36 54.1**	**-1.1**
JEM				*eS*			**Sn**	**13 37 16.6**	**-1.4**
JAK	**Akkeshi**	**2.12**	**349**	P			**Pn**	**13 36 55.7**	**-2.4**
JAK				*S*			**Sn**	**13 37 21.0**	**-2.2**
JCH	**Churui**	**2.20**	**321**	P			**Pn**	**13 36 58.0**	**-1.2**
JCH				*S*			**Sn**	**13 37 22.8**	**-2.4**
JOB	**Onbets**	**2.24**	**333**	P			**Pn**	**13 36 58.3**	**-1.5**
JOB				*S*			**Sn**	**13 37 25.0**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.31**	**307**	P			**Pn**	**13 37 00.4**	**-0.3**
JNBK				*S*			**Sn**	**13 37 27.7**	**-0.1**
NEM2	**Nemuro 2**	**2.48**	**9**	P			**Pn**	**13 37 00.1**	**-2.9**
NEM2				*eS*			**Sn**	**13 37 28.6**	**-3.4**
JAR	**Ashorobuto**	**2.62**	**336**	P			**Pn**	**13 37 02.9**	**-2.1**
JAR				*S*			**Sn**	**13 37 32.6**	**-2.9**
JNK	**Nakash**	**2.70**	**352**	P			**Pn**	**13 37 03.1**	**-3.0**
JNK				*eS*			**Sn**	**13 37 32.7**	**-4.7**
JBT2	**Biratori 2**	**2.84**	**312**	P			**Pn**	**13 37 06.0**	**-2.0**
JBT2				*eS*			**Sn**	**13 37 38.5**	**-2.5**
JANG	**Nango**	**2.88**	**260**	P			**Pn**	**13 37 06.4**	**-2.2**
JANG				*S*			**Sn**	**13 37 37.6**	**-4.4**
JFR	**Furan**	**2.98**	**320**	P			**Pn**	**13 37 08.6**	**-1.4**
JFR				*S*			**Sn**	**13 37 41.7**	**-2.9**
JRA	**Rausu**	**3.02**	**358**	P			**Pn**	**13 37 07.9**	**-2.6**
JRA				*eS*			**Sn**	**13 37 41.6**	**-3.9**
JTM	**Tenmabayashi**	**3.16**	**269**	P			**Pn**	**13 37 11.0**	**-1.4**
JTM				*S*			**Sn**	**13 37 46.1**	**-2.8**
JOT	**Ohata**	**3.19**	**280**	P			**Pn**	**13 37 11.5**	**-1.4**
JOT				*S*			**Sn**	**13 37 46.8**	**-2.9**
JTKR	**Abashiri--Toko**	**3.21**	**343**	P			**Pn**	**13 37 11.7**	**-1.4**
JTKR				*eS*			**Sn**	**13 37 48.0**	**-2.0**
JKB	**Kayabe**	**3.31**	**288**	P			**Pn**	**13 37 13.4**	**-1.0**
JKB				*eS*			**Sn**	**13 37 51.0**	**-1.4**
JOM	**Ohasama**	**3.34**	**246**	P			**Pn**	**13 37 13.4**	**-1.6**
JOM				*eS*			**Sn**	**13 37 50.0**	**-3.4**
JEW	**Eniwo**	**3.42**	**306**	P			**Pn**	**13 37 16.1**	**+0.1**
JEW				*eS*			**Sn**	**13 37 54.6**	**-0.6**
JKK2	**Kamakawa 2**	**3.48**	**329**	P			**Pn**	**13 37 16.2**	**-0.7**
ASAJ	**Asahikawa**	**3.75**	**330**	Pn			**Pn**	**13 37 20.5**	**0.0**
	2.0nm,0.3s,baz=187,slow=13,SNR=16								
ASAJ				*Sn*			**Sn**	**13 38 04.7**	**+1.3**
	3.5nm,0.3s,baz=253,slow=19,SNR=8.0								
MAJO	**Matsushiro**	**7.01**	**234**	*e*Pn			**Pn**	**13 38 04.2**	**-1.2**
MJAR	**Matsushiro Arr**	**7.01**	**234**	Pn			**Pn**	**13 38 03.8**	**-1.6**
	0.6nm,0.3s,baz=35,slow=14,SNR=4.5								
MJAR				*Sn*			**Sn**	**13 39 24.7**	**+0.8**
	0.7nm,0.3s,baz=50,slow=16,SNR=3.0								
MAT	**Matsushiro**	**7.01**	**234**	P			**Pn**	**13 38 04.2**	**-1.2**
MAT				*eS*			**Sn**	**13 39 20.3**	**-3.6**
USRK	**Ussuriysk Ar.**	**10.31**	**293**	Pn			**Pn**	**13 38 51.2**	**+0.7**
	0.5nm,0.3s,baz=95,slow=15,SNR=6.2								
MA2	**Magadan**	**19.00**	**9**	P			**Pn**	**13 40 43.9**	**-0.6**
	0.3nm,0.3s,baz=164,slow=15,SNR=2.1								
SEY	**Seymchan**	**22.46**	**9**	P			**P**	**13 41 20.7**	**-0.3**
	0.8nm,0.8s,baz=164,slow=7.5,SNR=6.3								
ULN	**Ulaanbaatar**	**27.93**	**297**	*e*P			**P**	**13 42 15.3**	**+3.1**
	2.7nm,0.6s								
SONM	**Songino Array**	**28.38**	**297**	P			**P**	**13 42 16.6**	**+0.5**
	1.7nm,0.8s,baz=90,slow=8.7,SNR=9.1								
ZALV	**Zalesovo Beam**	**41.63**	**309**	P			**P**	**13 44 09.9**	**+0.2**
	1.0nm,0.6s,baz=86,slow=6.2,SNR=4.3								
ZALV				*PcP*			**PcP**	**13 46 06.9**	**+0.8**
	0.9nm,0.5s,baz=87,slow=3.6,SNR=3.7								
ILAR	**Eielson Array**	**44.62**	**34**	P			**P**	**13 44 34.5**	**+0.8**
	0.6nm,0.6s,baz=265,slow=6.9,SNR=10								
MKAR	**Makanchi Array**	**44.69**	**300**	P			**P**	**13 44 35.0**	**+0.4**
	0.4nm,0.7s,baz=82,slow=7.3,SNR=4.1								
KURK	**Kurchatov**	**45.98**	**306**	*e*P			**P**	**13 44 44.8**	**0.0**
	16nm,0.6s								
KURBB	**Kurchatov Arra**	**46.06**	**306**	P			**P**	**13 44 45.7**	**+0.3**
	2.6nm,0.6s,baz=76,slow=8.7,SNR=14								
INK	**Inuvik**	**49.57**	**29**	P			**P**	**13 45 13.5**	**+1.3**
	1.3nm,0.6s,baz=291,slow=6.8,SNR=14								
BVAR	**Borovoye Array**	**50.23**	**311**	P			**P**	**13 45 17.7**	**+0.1**
	0.9nm,0.7s,baz=77,slow=9.3,SNR=5.5								
ABKAR	**Akbulak array**	**57.75**	**309**	*e*P			**P**	**13 46 12.7**	**+0.3**
	0.7nm,0.6s								
YKA	**Yellowknife Ar**	**58.95**	**32**	P			**P**	**13 46 21.2**	**+0.6**
	0.4nm,0.7s,baz=301,slow=6.4,SNR=8.0								
WRA	**Warramunga Arr**	**61.39**	**192**	P			**P**	**13 46 36.9**	**-0.8**
	1.7nm,0.6s,baz=8.7,slow=6.9,SNR=22								
ASAR	**Alice Springs**	**65.11**	**19**	P			**P**	**13 47 01.1**	**-1.2**
	0.3nm,0.5s,baz=8.9,slow=6.6,SNR=3.4								
FINES	**FINESS Array B**	**66.75**	**333**	P			**P**	**13 47 12.6**	**+0.2**
	2.4nm,1.0s,baz=51,slow=4.4,SNR=6.2								
KBZ	**Khabaz**	**70.61**	**311**	P			**P**	**13 47 38.3**	**+1.5**
	1.6nm,0.8s,baz=26,slow=7.6,SNR=5.3								
HFS	**Hagfors**	**71.74**	**337**	P			**P**	**13 47 43.5**	**+0.1**
	1.0nm,0.8s,baz=22,slow=8.2,SNR=3.5								
PDAR	**Pinedale Array**	**72.84**	**48**	P			**P**	**13 47 51.2**	**+0.6**
	0.2nm,0.5s,baz=330,slow=3.1,SNR=3.1								
AKASG	**Malin Array Be**	**73.01**	**323**	P			**P**	**13 47 51.5**	**+0.4**
	0.6nm,0.4s,baz=44,slow=6.4,SNR=3.6								
TXAR	**Lajitas Array**	**85.43**	**55**	P			**P**	**13 49 00.1**	**+0.8**
	0.5nm,0.9s,baz=281,slow=2.0,SNR=3.9								

*NIED **14** 13:43:00, 40°.90N×145°.10E, h5km, Mw4.7 Best double couple: M₀1.20000×10¹⁶ NP1:φs251.00000°, δ45.00000°, λ-73.00000°. NP2:φs48.00000°, δ47.00000°, λ-106.00000°.*
*BJI **14** 13:43:09.5, 41°.13N×144°.74E, h5km, mb4.8/59, mB5.1/35, Ms4.4/24, Ms7 4.2/25*
*ISCJB **14** 13:43:09.8±0.1, 40°.93N±0°.02×144°.81E±0°.02, h10km, mb4.8/256, MS4.4/16, Error ellipse: s-maj=2.5km s-min=2.1km az=159.0*
*IDC **14** 13:43:09.7±0.4, 40°.92N×144°.90E, h0km, mb4.6/36, mb1 4.7/42, mb1mx4.6/72, mbtmp4.6/42, ML4.1/6, MS4.1/9, Ms1 4.1/9, ms1mx3.6/62, Error ellipse: s-maj=11.8km s-min=9.9km az=109.0*
*NEIC **14** 13:43:10.3±1.5, 40°.93N×144°.80E, h4km±9km, mb4.9/153, Error ellipse: s-maj=3.6km s-min=2.4km az=142.0*
*JMA **14** 13:43:10.2±0.1, 40°.88N×145°.08E, h66km±2km, M4.7*
*MOS **14** 13:43:13.1±1.1, 40°.97N×144°.78E, h33km, mb5.1/81, MS4.2/4, Error ellipse: s-maj=6.1km s-min=4.0km az=105.1*

ISC 14 13:43:09.9±0.9, 40°94N±0°.03×144°93E±0°.04, h5km±5km, n535, σ1°38/569, mb4.8/256, MS4.3/16, 21C-21D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.71**	**310**	*c iP*			**Pn**	**13 43 40.4**	**0.0**
ERM				pmax			pmax		
	comp=Z,394nm,0.7s								
ERM	**Erimo**	**1.71**	**310**	*e*Pn			**Pn**	**13 43 40.2**	**-0.2**
JEM	**Erimo**	**1.71**	**310**	P			**Pn**	**13 43 40.2**	**-0.2**
JEM				*eS*			**Sn**	**13 44 01.5**	**-1.1**
JCH	**Churui**	**2.04**	**326**	P			**Pn**	**13 43 44.8**	**-0.1**
JCH				*S*			**Sn**	**13 44 08.7**	**-2.1**
JAK	**Akkeshi**	**2.06**	**355**	P			**Pn**	**13 43 44.3**	**-0.9**
JAK				*S*			**Sn**	**13 44 10.2**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.11**	**310**	P			**Pn**	**13 43 46.5**	**+0.6**
JNBK				*S*			**Sn**	**13 44 12.2**	**-0.3**
JOB	**Onbets**	**2.13**	**338**	P			**Pn**	**13 43 46.2**	**+0.1**
JOB				*S*			**Sn**	**13 44 12.1**	**-0.8**
NEM2	**Nemuro 2**	**2.50**	**14**	P			**Pn**	**13 43 50.0**	**-1.2**
JAR	**Ashorobuto**	**2.51**	**340**	P			**Pn**	**13 43 50.8**	**-0.5**
JAR				*S*			**Sn**	**13 44 20.2**	**-2.1**
JNK	**Nakash**	**2.65**	**357**	P			**Pn**	**13 43 51.8**	**-1.5**
JNK				*S*			**Sn**	**13 44 21.4**	**-4.4**
JBT2	**Biratori 2**	**2.66**	**315**	P			**Pn**	**13 43 53.7**	**+0.4**
JBT2				*S*			**Sn**	**13 44 26.4**	**+0.5**
JANG	**Nango**	**2.66**	**259**	P			**Pn**	**13 43 52.2**	**-1.2**
JANG				*S*			**Sn**	**13 44 23.1**	**-2.9**
JFR	**Furan**	**2.82**	**323**	P			**Pn**	**13 43 55.6**	**-0.1**
JFR				*eS*			**Sn**	**13 44 27.7**	**-2.4**
JTM	**Tenmabayashi**	**2.93**	**268**	P			**Pn**	**13 43 56.9**	**-0.2**
JTM				*S*			**Sn**	**13 44 30.3**	**-2.4**
JOT	**Ohata**	**2.96**	**280**	P			**Pn**	**13 43 57.3**	**-0.3**
JOT				*S*			**Sn**	**13 44 30.5**	**-3.0**
JRA	**Rausu**	**3.00**	**3**	P			**Pn**	**13 43 56.9**	**-1.2**
JRA				*eS*			**Sn**	**13 44 31.0**	**-3.4**
JKB	**Kayabe**	**3.08**	**289**	P			**Pn**	**13 43 58.8**	**-0.4**
JKB				*S*			**Sn**	**13 44 34.3**	**-2.1**
JTKR	**Abashiri--Toko**	**3.12**	**346**	P			**Pn**	**13 44 00.0**	**+0.2**
JTKR				*S*			**Sn**	**13 44 37.1**	**-0.3**
JOM	**Ohasama**	**3.15**	**243**	P			**Pn**	**13 43 59.5**	**-0.6**
JOM				*S*			**Sn**	**13 44 34.7**	**-3.3**

CBIJ Sn Sn 13 48 48.2 -16
JCJ Chichijima 13.99 190 Pn Pn 13 46 25.3 -3.6
comp=Z,4.4nm,0.3s,baz=143,slow=20,SNR=3.1
JCJ Sn Sn 13 48 48.2 -16
comp=Z,5.7nm,0.3s,baz=37,slow=20,SNR=3.5
TJN Taejon 14.46 257 *ce*P *e*P **Pn 13 46 34.4 -0.7**
CN2 Changchun 14.68 288 *e*P **Pn 13 46 36.5 -1.7**
CN2 *es*P P 13 46 43.5 -1.0
CN2 pmax pmax
comp=Z,10.0nm,1.0s
PEA0B Petropavlovsk- 14.94 31 *e*Pn **Pn 13 46 38.1 -3.5**
comp=Z,31nm,1.3s
PETK Petropavlovsk- 14.94 31 Pn **Pn 13 46 37.6 -4.0**
baz=202,slow=11,SNR=4.6
PET Petropavlovsk 15.26 33 *e*P Pn 13 46 38.5 -7.3
PET pmax pmax
comp=Z,20nm,1.2s
PET Petropavlovsk 15.26 33 *e*Pn Pn 13 46 38.5 -7.3
comp=Z,20nm,1.2s
SNY Shenyang 16.05 280 ⇑P **P 13 47 00.5 +0.8**
SNY S **Sn 13 49 56.4 +1.9**
SNY pmax pmax
comp=Z,11nm,0.8s
SNY pmax pmax
comp=Z,550nm,12.0s
SNY LR LR
comp=Z,330nm,9.1s
SNY LR LR
comp=Z,360nm,10.8s
SNY LR LR
comp=Z,790nm,14.1s
ZEA Zeya 17.47 323 *e*P **Pn 13 47 11.2 -2.9**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,46nm,1.0s
DL2 Dalian 17.98 271 P **Pn 13 47 19.3 -1.2**
DL2 pmax pmax
comp=Z,26nm,1.0s
MA2 Magadan 19.01 9 P **P 13 47 31.9 -0.4**
comp=Z,0.2nm,0.3s,baz=195,slow=8.4,SNR=14
HIA Hailar 19.56 304 *e*P **P 13 47 37.3 -1.2**
HIA Hailar 19.56 304 *e*P **P 13 47 37.3 -1.2**
JOW Kunigami 19.68 230 *e*P **P 13 47 38.3 -1.5**
comp=Z,74nm,1.0s
CLNS Chul'man 20.53 328 *e*P **P 13 47 46.1 -2.8**
CLNS pmax pmax
comp=Z,14nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,0.9s
BJI Beijing 21.85 277 P **P 13 48 00.9 -2.3**
BJI pmax pmax
comp=N,12nm,1.2s
BJT Baijiatuau 21.86 277 *e*P **P 13 48 01.3 -2.0**
BJT pmax pmax
comp=Z,13nm,0.6s
BJT Baijiatuau 21.86 277 *e*P **P 13 48 01.3 -2.0**
comp=Z,13nm,0.6s
SEY Seymchan 22.47 9 P **P 13 48 09.0 -0.7**
comp=Z,9.1nm,0.9s,baz=187,slow=8.1,SNR=42
SEY Seymchan 22.47 9 *ce*P **P 13 48 09.7 0.0**
NJ2 Nanjing 22.70 255 *e*P **P 13 48 09.8 -2.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
YAK Yakutsk 23.04 342 P **P 13 48 14.0 -1.7**
comp=Z,24nm,0.5s,baz=126,slow=0.4,SNR=12
YAK Yakutsk 23.04 342 *e*P **P 13 48 13.0 -2.7**
YAK *e**PP **sP 13 48 18.2 +0.5**
YAK *e*S **S 13 52 21.0 -5.7**
YAK *e* 13 59 32.2
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,11nm,1.3s
YAK smax smax
comp=N,193nm,1.4s
YAK smax smax
comp=E,164nm,1.3s
YAK MLR MLR
comp=Z,428nm,19.0s
YAK MLR MLR
comp=E,165nm,17.0s
YAK MLR MLR
comp=N,367nm,16.0s
YAK Yakutsk 23.04 342 *e*P **P 13 48 13.5 -2.2**
comp=N,31nm,0.6s
HHC Hu-ho-hao-te 25.14 281 *e*P **P 13 48 34.5 -1.4**
HHC pmax pmax
comp=N,17nm,0.8s
HHC pmax pmax
comp=N,200nm,9.5s
BOD Bodaibo 25.95 321 *e*P **P 13 48 42.0 -0.9**
BOD pmax pmax
comp=Z,26nm,1.2s
YULB Yu-li 26.44 236 *e*P **P 13 48 47.6 -0.2**
comp=Z,25nm,1.1s
WHN Wuhan 26.78 257 ⇓P **P 13 48 51.0 +0.3**
ULN Ulaanbaatar 27.72 297 *ce*P **P 13 48 59.8 +0.6**
ULN pmax pmax
comp=Z,44nm,1.7s
ULN Ulaanbaatar 27.72 297 *e*P **P 13 48 58.0 -1.3**
comp=Z,20nm,0.9s
ULN Ulaanbaatar 27.72 297 P **P 13 49 02.1 +2.9**
SNR=14
ULN Ulaanbaatar 27.72 297 P **P 13 49 02.1 +2.9**
SNR=14
SONA1 Songino Array 28.16 297 *e*P **P 13 49 03.1 0.0**
SONM Songino Array 28.16 297 P **P 13 49 03.6 +0.5**
comp=Z,6.6nm,0.5s,baz=74,slow=8.6,SNR=40
H11N2 WAKE ISLAND Hy 28.25 132 T T 14 18 32.6
baz=324,slow=74,SNR=27
H11N1 WAKE ISLAND Hy 28.26 132 T T 14 18 36.7
baz=324,slow=74,SNR=25
H11N3 WAKE ISLAND Hy 28.27 132 T T 14 18 33.6
baz=324,slow=74,SNR=24
H11S1 WAKE ISLAND Hy 29.12 134 T T 14 19 37.9
baz=325,slow=74,SNR=40
H11S3 WAKE ISLAND Hy 29.13 134 T T 14 19 37.7
baz=325,slow=74,SNR=36
H11S2 WAKE ISLAND Hy 29.14 134 T T 14 19 39.1
baz=325,slow=74,SNR=49
XAN Xi'an 29.24 268 P **P 13 49 13.6 +0.8**
XAN pP sP 13 49 17.6 +2.8
XAN sP pP 13 49 20.3 +6.1
XAN PP **PnPn 13 50 08.3 +2.9**
XAN S **S 13 54 03.5 -2.5**
XAN sS sS 13 54 10.5 +2.1
XAN SS **SnSn 13 55 32.9 +2.3**
XAN pmax pmax
comp=Z,20nm,0.7s
XAN LR LR
comp=Z,230nm,13.0s
XAN LR LR
comp=Z,410nm,14.1s
XAN LR LR
comp=Z,320nm,14.1s
BILL Bilibino 29.52 16 *i*P **P 13 49 15.6 +0.8**
BILL *e* 13 49 27.8
BILL *e* 13 50 08.8
BILL *e* 13 52 19.6
BILL pmax pmax
comp=Z,14nm,1.2s
BILL MLR MLR
comp=Z,259nm,16.0s
IRK Irkutsk 29.76 306 *e*P **P 13 49 17.5 +0.4**
IRK pmax pmax
comp=Z,27nm,2.0s
TLY Talaya 30.09 305 P **P 13 49 21.1 +1.0**
comp=Z,4.7nm,0.6s,baz=117,slow=2.4,SNR=9.6
TLY Talaya 30.09 305 *e*P **P 13 49 20.7 +0.5**
TLY pmax pmax
comp=Z,18nm,1.5s
TLY Talaya 30.09 305 *e*P **P 13 49 19.1 -1.0**
comp=Z,8.5nm,0.8s
TLY Talaya 30.09 305 P **P 13 49 20.6 +0.5**
SNR=7.1
TLY Talaya 30.09 305 P **P 13 49 20.6 +0.5**
SNR=7.1
ZAK Zakamensk 30.25 302 *e*P **P 13 49 20.6 -1.0**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
ZAK pmax pmax
comp=Z,3.0nm,1.4s
ENH Enshi 30.53 261 *e*P **P 13 49 21.4 -2.8**
comp=Z,9.3nm,0.6s
MOY Mondy 31.74 305 *e*P **P 13 49 35.1 +0.4**
MOY pmax pmax
comp=Z,30nm,1.6s
TIXI Tiksi 31.82 350 P **P 13 49 34.6 -0.4**
comp=Z,1.9nm,0.6s,baz=178,slow=2.4,SNR=9.8
TIXI Tiksi 31.82 350 *ce*P **P 13 49 34.9 -0.1**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 31.82 350 *e*P **P 13 49 33.8 -1.3**
comp=Z,3.4nm,1.0s
LZH Lanzhou 32.30 275 *e*P **P 13 49 41.3 +1.4**
LZH pP sP 13 49 49.8 +7.9
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,130nm,5.9s
GTA Gaotai 34.22 283 ⇓P **P 13 49 57.6 +1.0**
GTA pP sP 13 50 03.3 +4.7
GTA sP pP 13 50 06.3 +8.3
GTA PcP **PcP 13 52 34.4 +1.2**
GTA PcS **PcS 13 56 20.9 +1.4**
GTA pmax pmax
comp=Z,24nm,1.0s
CD2 Chengdu 34.53 266 P **P 13 49 59.0 -0.3**
CD2 pmax pmax
comp=Z,120nm,5.2s
GYA Guiyang 34.67 257 ⇑*i*P **P 13 50 00.9 +0.4**
GYA PP **PP 13 51 17.3 -1.7**
GYA PcP **PcP 13 52 36.0 +1.3**
GYA S **S 13 55 28.9 -2.0**
GYA ScP **ScP 13 56 20.4 -0.2**
GYA SS **SnSn 13 57 38.9 -3.9**
GYA ScS **ScS 14 00 21.5 -2.4**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,120nm,6.0s
GYA LR LR
comp=Z,540nm,15.5s
GYA LR LR
comp=Z,500nm,17.3s
GYA LR LR
comp=Z,520nm,16.1s
HVS Khovu-Aksy 36.31 304 *e*P **P 13 50 15.3 +0.9**
KMI Kunming 38.33 259 P **P 13 50 32.8 +0.8**
KMI sP sP 13 50 40.4 +6.4
KMI pmax pmax
comp=Z,29nm,1.1s
DGZ Jazzator, Alta 40.47 302 *d i*P **P 13 50 50.8 +1.3**
DGZ pmax pmax
comp=Z,12nm,0.9s
SVW2 Sparrevohn 40.77 40 *e*P **P 13 50 53.6 +2.0**
comp=Z,26nm,1.1s
ZAA0 Zalesovo Array 41.44 309 *e*P **P 13 50 57.9 +0.7**
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 41.44 309 P **P 13 50 57.8 +0.5**
comp=Z,5.6nm,0.7s,baz=92,slow=7.5,SNR=22
ZALV PcP **PcP 13 52 55.4 +0.4**
comp=Z,1.8nm,0.5s,baz=87,slow=3.2,SNR=3.3
ZALV Zalesovo Beam 41.44 309 *e*P **P 13 50 57.1 -0.1**
ZALV 13 52 55.4
ZALV Zalesovo Beam 41.44 309 *e*P **P 13 50 57.1 -0.1**
ZALV PcP **PcP 13 52 55.4 +0.4**
WMQ Urumqi 41.66 294 P **P 13 51 00.4 +1.2**
WMQ pP sP 13 51 03.8 +2.5
WMQ sP pP 13 51 11.6 +11
WMQ pmax pmax
comp=Z,31nm,0.9s
WMQ LR LR
comp=Z,470nm,17.5s
WMQ LR LR
comp=Z,250nm,20.1s
WMQ LR LR
comp=Z,430nm,21.5s
OHAK Old Harbor 42.05 46 *e*P **P 13 51 02.5 +0.4**
comp=Z,20nm,1.0s
NVS Novosibirsk 42.25 311 *e*P **P 13 51 02.2 -1.6**
NVS *e* 13 52 52.6
NVS *e*S **S 13 57 24.7 +0.2**
NVS pmax pmax
comp=Z,7.0nm,0.8s
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS smax smax
comp=E,14nm,1.9s
KDAK Kodiak Island 42.38 45 *e*P **P 13 51 05.3 +0.5**
KDAK pmax pmax
comp=Z,36nm,0.9s
KDAK Kodiak Island 42.38 45 *e*P **P 13 51 05.3 +0.5**
comp=Z,36nm,0.9s
PPLA Purkeypile 42.41 37 *e*P **P 13 51 07.5 +2.3**
comp=Z,57nm,1.6s
CAST Castle Rocks 42.46 36 *e*P **P 13 51 07.5 +2.0**
comp=Z,17nm,1.1s
SPU Mount Spurr 42.48 40 *e*P **P 13 51 07.6 +1.9**
SKNT Sakolnakorn 42.52 248 P **P 13 51 06.9 +0.4**
comp=Z,13nm,0.9s
MYLDM Lahad Datu 42.76 221 *e*P **P 13 51 11.1 +2.8**
comp=Z,64nm,1.5s
KTH Kantishna Hill 42.98 36 *e*P **P 13 51 11.2 +1.4**
comp=Z,31nm,1.1s
MLY Manley 43.09 34 *e*P **P 13 51 11.7 +1.1**
comp=Z,19nm,1.2s
SUA Susitna One 43.10 39 *e*P **P 13 51 12.1 +1.3**
comp=Z,14nm,0.9s
COLD Coldfoot 43.41 31 *e*P **P 13 51 14.5 +1.5**
comp=Z,11nm,1.2s
RC01 Rabbit Creek A 43.60 40 *e*P **P 13 51 15.3 +0.6**
comp=Z,32nm,1.0s
TOLK Toolik Lake Re 43.74 29 *e*P **P 13 51 17.4 +1.6**
comp=Z,14nm,0.9s
KHON Khomkaen 43.77 249 P **P 13 51 18.0 +1.5**
comp=Z,12nm,0.8s
PMR Palmer 43.87 39 *e*P **P 13 51 17.4 +0.6**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 43.87 39 *e*P **P 13 51 17.4 +0.6**
comp=Z,14nm,1.0s
MCK McKinley 43.87 36 *e*P **P 13 51 17.8 +0.9**
MCK pmax pmax
comp=Z,14nm,1.0s
MCK McKinley 43.87 36 *e*P **P 13 51 17.8 +0.9**
comp=Z,14nm,1.0s
RND Reindeer 43.91 36 *e*P **P 13 51 18.2 +0.9**
RND pmax pmax
comp=Z,20nm,1.1s
RND Reindeer 43.91 36 *e*P **P 13 51 18.2 +0.9**
comp=Z,20nm,1.1s
MDM Murphy Dome 44.15 34 *e*P **P 13 51 20.9 +1.7**
comp=Z,44nm,1.4s
SML Sawmill 44.23 39 *e*P **P 13 51 21.1 +1.3**
SML pmax pmax
comp=Z,33nm,1.1s
SML Sawmill 44.23 39 *e*P **P 13 51 21.1 +1.3**
comp=Z,33nm,1.1s
COLA College 44.32 34 *e*P **P 13 51 21.5 +1.2**
COLA pmax pmax
comp=Z,20nm,1.4s
COLA College 44.32 34 *e*P **P 13 51 21.5 +1.2**
comp=Z,20nm,1.4s
CCB Clear Creek Bu 44.34 35 *e*P **P 13 51 21.7 +1.2**
comp=Z,8.9nm,1.0s
MK01 Makanchi Array 44.48 299 *e*P **P 13 51 21.3 -0.7**
MK31 Makanchi Array 44.48 299 *i*P **P 13 51 21.8 -0.2**
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MK31 Makanchi Array 44.48 299 *e*P **P 13 51 21.8 -0.2**
MKAR Makanchi Array 44.48 299 P **P 13 51 22.3 +0.3**
comp=Z,6.9nm,0.7s,baz=84,slow=9.8,SNR=83
MKAR LR LR 14 11 21.5
comp=Z,236nm,20.2s,baz=24,slow=38
MKAR Makanchi Array 44.48 299 *e*P **P 13 51 21.6 -0.4**
MKAR pmax pmax
comp=Z,66nm,0.7s
MKAR Makanchi Array 44.48 299 *e*P **P 13 51 21.6 -0.4**
comp=Z,66nm,0.7s
DHY Denali Highway 44.60 37 *e*P **P 13 51 22.9 0.0**
comp=Z,18nm,1.1s
LAMP Lampang 44.62 254 P **P 13 51 24.8 +1.4**
comp=Z,4.9nm,1.1s,comp=Z,137nm
CHAI Chaiyaphum 44.66 249 P **P 13 51 24.4 +0.8**
comp=Z,7.8nm,1.1s
LSA Lhasa 44.66 273 *e*P **P 13 51 25.0 +0.8**
LSA pmax pmax
comp=Z,8.0nm,1.0s
LSA Lhasa 44.66 273 *e*P **P 13 51 25.0 +0.8**
comp=Z,8.2nm,1.0s
MAKZ Makanchi 44.68 300 *i*P **P 13 51 23.5 -0.1**
MAKZ pmax pmax
comp=Z,11nm,0.9s
MAKZ Makanchi 44.68 300 *e*P **P 13 51 23.6 0.0**
comp=Z,12nm,0.9s
SCM Sheep Creek Mo 44.71 39 *e*P **P 13 51 25.0 +1.4**
SCM pmax pmax
comp=Z,20nm,0.9s
SCM Sheep Creek Mo 44.71 39 *e*P **P 13 51 25.0 +1.4**
comp=Z,20nm,0.9s
HDA Harding Lake 44.72 35 *e*P **P 13 51 24.5 +0.9**
comp=Z,14nm,0.9s
IL1 Eielson Array 44.73 34 *e*P **P 13 51 24.3 +0.6**
ILAR Eielson Array 44.73 34 P **P 13 51 24.9 +1.2**
comp=Z,7.1nm,0.9s,baz=261,slow=5.9,SNR=52
ILAR PcP **PcP 13 53 05.7 -0.1**
comp=Z,0.5nm,0.6s,baz=270,slow=2.7,SNR=3.4
ILB Eielson Array 44.73 34 *e*P **P 13 51 24.5 +0.8**
PHIT Phitsanulok 44.92 252 P **P 13 51 28.1 +2.4**
comp=Z,5.3nm,1.3s
CMMT Chiang Mai 44.94 255 P **P 13 51 25.6 -0.3**
comp=Z,17nm,1.0s
CHTO Chiang Mai 44.94 255 P **P 13 51 26.7 +0.8**
comp=Z,74nm,1.2s
CHTO Chiang Mai 44.94 255 *e*P **P 13 51 25.9 0.0**
CHTO pmax pmax
comp=Z,11nm,0.8s
CHTO Chiang Mai 44.94 255 *e*P **P 13 51 25.9 0.0**
comp=Z,11nm,0.8s
CHTO Chiang Mai 44.94 255 P **P 13 51 27.2 +1.3**
SNR=6.8
CHTO Chiang Mai 44.94 255 P **P 13 51 27.2 +1.3**
SNR=6.8
CMAR Chiang Mai Arr 45.17 254 P **P 13 51 28.7 +1.0**
comp=Z,2.5nm,0.7s,baz=50,slow=6.9,SNR=19
CMAR PcP **PcP 13 53 09.3 +1.2**
comp=Z,1.8nm,0.8s,baz=14,slow=1.9,SNR=7.0
CM01 Chiang Mai Arr 45.18 254 *e*P **P 13 51 27.9 +0.1**
MRSI Marisa 45.35 213 P **P 13 51 30.3 +1.2**
comp=Z,36nm,1.4s,comp=Z,1μm
FYU Fort Yukon 45.36 32 *e*P **P 13 51 31.4 +2.8**
comp=Z,41nm,1.3s
RABL Rabaul 45.40 170 *e*P **P 13 51 29.9 +0.4**
comp=Z,44nm,0.9s
KLU Klutina 45.41 39 *e*P **P 13 51 31.0 +1.8**
comp=Z,33nm,1.1s
PAX Paxson 45.47 37 *e*P **P 13 51 30.8 +1.1**
PAX pmax pmax
comp=Z,20nm,1.5s
PAX Paxson 45.47 37 *e*P **P 13 51 30.8 +1.1**
comp=Z,20nm,1.5s
DIV Divide 45.52 40 *e*P **P 13 51 31.9 +1.8**
comp=Z,49nm,1.2s
HARP HAARP 45.67 38 *e*P **P 13 51 32.7 +1.5**
comp=Z,74nm,1.6s
KURK Kurchatov 45.78 306 *d i*P **P 13 51 32.5 +0.3**
KURK pmax pmax
comp=Z,130nm,1.2s
KURK Kurchatov 45.78 306 *e*P **P 13 51 32.3 +0.1**
comp=Z,24nm,0.8s
KURK Kurchatov 45.78 306 P **P 13 51 32.9 +0.6**
SNR=10.0
KURK Kurchatov 45.78 306 P **P 13 51 32.9 +0.6**
SNR=10.0
KURBB Kurchatov Arra 45.86 306 P **P 13 51 33.4 +0.6**
comp=Z,21nm,0.7s,baz=78,slow=8.7,SNR=72
SRAK Srakaew 45.91 247 P **P 13 51 31.6 -2.0**
comp=Z,86nm,0.9s,comp=Z,739nm
DOT Dot Lake 46.04 36 *e*P **P 13 51 34.8 +0.7**
comp=Z,19nm,1.1s
SANI Sanana 46.14 207 P **P 13 51 35.3 0.0**
comp=Z,29nm,1.2s
NAYO Nakonayok 46.20 248 P **P 13 51 38.1 +2.2**
comp=Z,20nm,0.7s
MENT Mentasta 46.27 37 *e*P **P 13 51 38.2 +2.2**
comp=Z,18nm,1.1s
APSI Ampana 46.72 213 P **P 13 51 38.3 -1.7**
comp=Z,57nm,1.3s
EGAK Eagle 47.18 34 *e*P **P 13 51 43.9 +1.0**
comp=Z,13nm,1.1s
PDGK Podgornoye 47.46 296 *i*P **P 13 51 45.2 -0.5**
PDGK pmax pmax
comp=Z,6.0nm,0.8s
PHET Kaeng Krachan 48.36 248 P **P 13 51 55.0 +2.3**
comp=Z,11nm,0.8s
JIRN Jiri 49.45 274 *e*P **P 13 52 01.9 +0.4**
comp=Z,18nm,0.4s
HYT Haines Junctio 49.54 39 *e*P **P 13 52 03.0 +1.6**
comp=Z,59nm,1.0s
GUN Gumba 49.55 274 *e*P **P 13 52 02.6 +0.4**
comp=Z,34nm,0.4s
INK Inuvik 49.66 29 *e*P **P 13 52 03.7 +1.7**
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 49.66 29 *e*P **P 13 52 03.7 +1.7**
comp=Z,17nm,1.1s
MTKI Muara Teweh, K 49.83 221 P **P 13 52 05.9 +2.0**
comp=Z,48nm,0.9s
BVA0 Borovoye Array 50.05 311 *i*P **P 13 52 05.4 +0.2**
BVA0 pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 50.05 311 P **P 13 52 06.0 +0.8**
comp=Z,8.1nm,0.6s,baz=73,slow=8.5,SNR=49
KKN Kakani 50.07 274 *e*P **P 13 52 06.4 +0.4**
comp=Z,20nm,0.7s
PKI Pulchoki 50.09 274 *e*P **P 13 52 06.3 0.0**
comp=Z,66nm,1.4s
PKIN Phulchoki 50.09 274 *e*P **P 13 52 06.4 +0.1**
comp=Z,17nm,0.8s
BRVK Borovoye 50.10 311 *d i*P **P 13 52 06.4 +0.8**
BRVK pmax pmax
comp=Z,60nm,1.7s
BRVK Borovoye 50.10 311 *e*P **P 13 52 05.9 +0.3**
comp=Z,12nm,0.8s
BRVK Borovoye 50.10 311 P **P 13 52 06.8 +1.2**
SNR=6.9
BRVK Borovoye 50.10 311 P **P 13 52 06.8 +1.2**
SNR=6.9
PMG Port Moresby 50.13 177 *e*P **P 13 52 06.7 +0.5**
PMG pmax pmax
comp=Z,64nm,1.2s
TKM2 Tokmak 2 50.26 297 *i*P **P 13 52 07.7 +0.4**
TKM2 pmax pmax
comp=Z,23nm,1.2s
DMN Daman 50.30 274 *e*P **P 13 52 08.1 +0.3**
comp=Z,24nm,0.8s
WHY Whitehorse 50.83 39 *e*P **P 13 52 13.7 +2.5**
comp=Z,10nm,1.0s
DANN Dangsing 50.92 276 *e*P **P 13 52 12.7 +0.1**
FRU Bishkek 50.96 297 *e*P **P 13 52 13.0 +0.7**
AAK Ala-Archa 51.12 297 P **P 13 52 13.6 0.0**
comp=Z,3.0nm,0.7s,baz=131,slow=4.0,SNR=11
AAK Ala-Archa 51.12 297 *e*P **P 13 52 13.0 -0.7**
AAK pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 51.12 297 *e*P **P 13 52 13.0 -0.7**
comp=Z,3.7nm,0.6s
AAK Ala-Archa 51.12 297 *i*P **P 13 52 13.7 0.0**
SNR=5.8
KOLN Koldanda 51.35 275 *e*P **P 13 52 15.7 0.0**
comp=Z,58nm,1.3s
KSH Kashi 51.38 292 P **P 13 52 19.8 +4.1**
KSH pP sP 13 52 23.8 +6.0
KSH sP pP 13 52 26.8 +10
KSH S **S 13 59 39.1 +3.3**
KSH sS sS 13 59 47.3 +9.0
KSH SS **SS 14 03 12.8 +1.7**
KSH pmax pmax
comp=Z,10.0nm,1.3s
KSH pmax pmax
comp=Z,170nm,5.4s
KSH LR LR
comp=Z,310nm,12.3s
KSH LR LR
comp=Z,240nm,13.3s

KSH LR LR
comp=Z,310nm,14.5s
PYUN Piuthan 51.63 276 *eP* **P 13 52 18.1 +0.3**
comp=Z,47nm,1.1s
SURT Suratani 51.71 245 P **P 13 52 19.4 +1.2**
comp=Z,7.3nm,1.1s
TRTT Trang 51.91 243 P **P 13 52 21.0 +1.3**
comp=Z,5.6nm,1.1s
MNAS Manas 52.52 297 *i* P **P 13 52 24.3 +0.1**
MNAS pmax pmax
comp=Z,20nm,0.8s
SFK Sufi-Kurgan 52.89 294 *i* P **P 13 52 26.0 -1.0**
SFK pmax pmax
comp=Z,11nm,0.8s
KULM Kulim 53.14 240 *eP* **P 13 52 29.7 +0.9**
comp=Z,21nm,0.9s
IPM Ipoh 53.50 239 *eP* **P 13 52 31.6 +0.1**
comp=Z,16nm,0.9s
KK31 Karatay Array 53.60 299 *i* P **P 13 52 31.7 -0.2**
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 53.60 299 *eP* **P 13 52 31.6 -0.3**
KKAR Karatay Array 53.60 299 *eP* **P 13 52 31.6 -0.3**
DLBC Dease Lake 53.87 40 *eP* **P 13 52 35.7 +1.9**
comp=Z,13nm,1.4s
SVE Sverdlovsk 54.08 318⇓ *i* P **P 13 52 36.6 +1.4**
SVE pmax pmax
comp=Z,24nm,0.9s
COEN Coen 54.64 182 *eP* **P 13 52 40.0 +0.4**
comp=Z,18nm,1.0s
SOKR Solikamsk 54.94 322 *eP* **P 13 52 38.7 -2.6**
SOKR pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 55.29 318 *d i* P **P 13 52 44.3 +0.3**
ARU 13 54 46.1
ARU PPP PPP 13 55 56.8
ARU S **S** **14 00 30.6 +2.5**
ARU SS **SS** **14 04 05.0 -6.8**
ARU pmax pmax
comp=Z,27nm,1.7s
ARU Arti 55.29 318 *eP* **P 13 52 44.1 +0.1**
comp=Z,12nm,0.8s
PSI Prapat 56.13 240 P **P 13 52 51.3 +0.6**
comp=Z,10nm,0.7s,baz=351,slow=5.8,SNR=8.0
PSI Prapat 56.13 240 *eP* **P 13 52 50.7 0.0**
PSI pmax pmax
comp=Z,15nm,0.9s
PSI Prapat 56.13 240 *eP* **P 13 52 50.6 0.0**
comp=Z,15nm,0.9s
MNSI Mandailing Nat 57.22 238 P **P 13 53 00.1 +1.8**
comp=Z,16nm,0.6s,comp=Z,0m
SPITS Spitsbergen Ar 57.23 349 P **P 13 52 58.2 +0.7**
comp=Z,8.3nm,1.0s,baz=54,slow=7.3,SNR=5.4
AB31 Akbulak array 57.55 309 *i* P **P 13 53 00.6 +0.4**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 57.55 309 *eP* **P 13 53 00.7 +0.5**
comp=Z,92nm,0.6s
RES Resolute Bay 58.12 16 *eP* **P 13 53 04.5 +0.6**
RES pmax pmax
comp=Z,22nm,0.8s
RES Resolute Bay 58.12 16 *eP* **P 13 53 04.5 +0.6**
comp=Z,22nm,0.8s
AKTO Aktyubinsk 58.14 311 P **P 13 53 05.0 +0.7**
comp=Z,4.9nm,0.7s,baz=68,slow=13,SNR=17
AKTO LR LR 14 18 32.0
comp=Z,200nm,19.0s,baz=45,slow=36
AKTO Aktyubinsk 58.14 311 *i* P **P 13 53 04.5 +0.2**
AKTO pmax pmax
comp=Z,7.0nm,1.0s
GSI Gunungsitoli 58.14 240 P **P 13 53 07.0 +2.3**
comp=Z,26nm,1.4s
GSI Gunungsitoli 58.14 240 *eP* **P 13 53 04.5 -0.2**
comp=Z,672nm,0.8s
MDSI Maura Dua 58.57 230 P **P 13 53 07.8 +0.1**
comp=Z,23nm,1.5s
LEM Lembang 58.58 225 P **P 13 53 08.0 0.0**
comp=Z,53nm,0.9s,baz=45,slow=17,SNR=6.9
KBL Kabul 58.61 290 *eP* **P 13 53 07.5 -0.6**
KBL pmax pmax
comp=Z,25nm,1.3s
KBL Kabul 58.61 290 *eP* **P 13 53 07.5 -0.6**
comp=Z,25nm,1.3s
MASI Maura Aman, Be 58.63 232 P **P 13 53 09.4 +1.2**
comp=Z,134nm,0.7s
YKW3 Yellowknife Ar 59.02 32 *eP* **P 13 53 10.7 +0.5**
comp=Z,4.4nm,0.9s
YKA Yellowknife Ar 59.05 32 P **P 13 53 11.3 +0.8**
comp=Z,4.4nm,0.8s,baz=298,slow=6.6,SNR=76
APA Apatity 60.26 336⇑ *iP* **P 13 53 18.5 -0.2**
APA pmax pmax
comp=Z,7.0nm,0.8s
APA MLR MLR
comp=Z,600nm,17.0s
TMCR Tamitsa 60.64 331 *eP* **P 13 53 17.9 -3.5**
TMCR pmax pmax
comp=Z,13nm,0.9s
CTA Charters Tower 60.73 179 P **P 13 53 22.4 0.0**
comp=Z,5.3nm,0.9s,baz=6.8,slow=5.3,SNR=6.6
TULEG Thule 60.86 9 *eP* **P 13 53 22.6 -0.1**
comp=Z,10nm,0.8s
HYB Hyderabad 61.05 268 *i* P **P 13 53 25.0 +0.1**
ARCES ARCESS Array B 61.31 340 P **P 13 53 26.7 +0.9**
comp=Z,1.9nm,0.8s,baz=28,slow=5.5,SNR=6.9
WRAB Tennant Creek 61.35 191 *eP* **P 13 53 26.2 -0.5**
comp=Z,33nm,0.8s
WB2 Warramunga Ar 61.36 191 *eP* **P 13 53 25.3 -1.4**
WRA Warramunga Arr 61.36 191 P **P 13 53 26.3 -0.5**
comp=Z,30nm,1.0s,baz=9.6,slow=7.2,SNR=70
FITZ Fitzroy Crossi 61.41 201 P **P 13 53 27.4 +0.4**
comp=Z,19nm,0.9s,baz=36,slow=6.6
KLMR Klimovskoe 61.93 328 *eP* **P 13 53 25.9 -4.2**
KLMR pmax pmax
comp=Z,15nm,1.2s
KLMR Klimovskoe 61.93 328 *eP* **P 13 53 26.0 -4.2**
KLMR AMP 13 53 33.3
comp=Z,15nm,1.2s
B08A Colville Reser 64.16 48 *eP* **P 13 53 45.8 +0.5**
comp=Z,22nm,1.7s
GEYT Alibeck 64.35 299 P **P 13 53 47.0 +0.3**
comp=Z,6.7nm,0.8s,baz=29,slow=3.4,SNR=14
EDM Edmonton 64.59 41 *eP* **P 13 53 47.9 -0.1**
EDM pmax pmax
comp=Z,13nm,0.8s
EDM Edmonton 64.59 41 *eP* **P 13 53 47.9 -0.1**
comp=Z,13nm,0.8s
C09A Chrisman Ranch 65.06 48 *eP* **P 13 53 51.5 +0.4**
comp=Z,12nm,1.0s
AS01 Alice Springs 65.08 191 *eP* **P 13 53 51.2 -0.1**
AS31 Alice Springs 65.08 191 *eP* **P 13 53 51.2 -0.2**
comp=Z,6.9nm,0.5s
ASAR Alice Springs 65.09 191 P **P 13 53 51.6 +0.2**
comp=Z,4.6nm,0.8s,baz=7.1,slow=6.1,SNR=34
NEW Newport 65.44 47 *eP* **P 13 53 53.7 +0.1**
NEW pmax pmax
comp=Z,9.0nm,0.9s
NEW Newport 65.44 47 *eP* **P 13 53 53.7 +0.1**
comp=Z,8.5nm,0.9s
YBH Yreka Blue Hor 65.83 55 P **P 13 53 58.0 +1.7**
comp=Z,5.6nm,0.8s,baz=349,slow=10,SNR=9.4
E09A Wood Farm, Sta 65.86 49 *eP* **P 13 53 57.5 +1.2**
comp=Z,17nm,1.2s
K05A Summer Lake 66.38 53 *eP* **P 13 54 01.7 +1.8**
comp=Z,22nm,0.9s
VRH Novokhopyorsk 66.52 318 *eP* **P 13 54 00.1 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 66.60 324⇑ *iP* **P 13 54 01.5 +0.7**
OBN *e* 13 54 08.7
OBN 13 54 32.0
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,205nm,17.0s
FIA1 FINESS Array S 66.62 333 *eP* **P 13 54 01.2 +0.3**
FINES FINESS Array B 66.62 333 P **P 13 54 01.2 +0.4**
comp=Z,6.3nm,0.6s,baz=48,slow=7.2,SNR=31
SUMG Summit 66.76 1 *i* P **P 13 54 03.5 +1.4**
comp=Z,14nm,0.9s
SUMG Summit 66.76 1 *eP* **P 13 54 03.0 +0.9**
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 66.76 1 *eP* **P 13 54 03.0 +0.9**
comp=Z,13nm,0.8s
LPSR Galich'ya Gora 67.05 320 *eP* **P 13 54 04.2 +0.4**
LPSR pmax pmax
comp=Z,20nm,0.8s

BMO Blue Mountains 67.29 50 *eP* **P 13 54 06.9 +1.3**
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO Blue Mountains 67.29 50 *eP* **P 13 54 06.9 +1.3**
comp=Z,5.5nm,1.0s
J08A Circle Bar Ran 67.48 52 *eP* **P 13 54 07.1 +0.3**
comp=Z,7.2nm,1.0s
VSR Storozhevoye 67.79 319 *eP* **P**
VSR pmax pmax
comp=Z,20nm,0.6s
WVOR Wild Horse Val 67.92 53 *eP* **P 13 54 11.2 +1.6**
WVOR pmax pmax
comp=Z,7.0nm,1.0s
WVOR Wild Horse Val 67.92 53 *eP* **P 13 54 11.2 +1.6**
comp=Z,6.9nm,1.0s
MSO Missoula 68.03 47 *eP* **P 13 54 10.9 +0.6**
comp=Z,6.5nm,0.9s
SCO Scoresbysund 68.48 355 *i* P P 13 54 17.7 +5.2
SCO Scoresbysund 68.48 355 *eP* P 13 54 17.7 +5.2
FFC Flin Flon 68.94 35 *eP* **P 13 54 16.0 +0.4**
FFC pmax pmax
comp=Z,14nm,1.2s
FFC Flin Flon 68.94 35 *eP* **P 13 54 16.0 +0.4**
comp=Z,14nm,1.2s
PAHR Pah Rah Range 69.06 55 *eP* **P 13 54 17.7 +0.9**
comp=Z,6.0nm,0.8s
HRY Holter Researc 69.25 46 *eP* **P 13 54 18.6 +0.7**
LRM Limekiln Ridge 69.46 47 *eP* **P 13 54 20.1 +0.7**
GOF Gofitskoye 69.52 312⇑ *eP* **P 13 54 21.0 +1.6**
EGMT Eagleton 69.55 44 *eP* **P 13 54 20.2 +0.6**
comp=Z,9.3nm,0.8s
YERR Yerington 69.57 56 *eP* **P 13 54 21.4 +1.3**
comp=Z,9.1nm,0.9s
DLMT Dillon 69.66 47 *eP* **P 13 54 21.8 +1.3**
comp=Z,6.5nm,0.9s
BOZ Bozeman (W) 70.05 47 *eP* **P 13 54 23.6 +0.7**
BOZ pmax pmax
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 70.05 47 *eP* **P 13 54 23.6 +0.7**
comp=Z,8.7nm,0.8s
NCK Nalchik 70.16 311 *eP* **P 13 54 24.7 +1.3**
NCK pmax pmax
comp=Z,4.8nm,0.8s
RYN Ryan 70.24 56 *eP* **P 13 54 25.5 +1.3**
comp=Z,4.8nm,0.9s
GUDG Gudauri 70.28 309 P **P 13 54 25.2 +0.8**
KVAR Kislovodsk Arr 70.39 311 LR LR 14 30 39.4
comp=Z,160nm,18.2s,slow=40
KIV Kislovodsk 70.40 311 *eP* **P 13 54 26.1 +1.1**
KIV pmax pmax
comp=Z,49nm,1.1s
KIV Kislovodsk 70.40 311 *eP* **P 13 54 26.5 +1.5**
comp=Z,41nm,1.0s
KIV Kislovodsk 70.40 311 P **P 13 54 27.1 +2.1**
SNR=11
KIV Kislovodsk 70.40 311 P **P 13 54 27.1 +2.1**
SNR=11
KIV Kislovodsk 70.40 311 *i* P **P 13 54 26.3 +1.3**
SNR=7.5
KBZ Khabaz 70.42 311 P **P 13 54 26.2 +1.3**
comp=Z,15nm,0.8s,baz=52,slow=5.0,SNR=47
ZEI Tsey 70.42 310 *eP* **P 13 54 25.0 -0.3**
ZEI pmax pmax
comp=Z,8.0nm,0.7s
NV01 Mina Array Sit 70.49 56 *eP* **P 13 54 26.8 +1.0**
NVAR Mina Array Bea 70.49 56 P **P 13 54 27.3 +1.5**
comp=Z,5.4nm,0.8s,baz=287,slow=6.6,SNR=32
ONI Oni 70.80 310 P **P 13 54 29.4 +2.0**
ONI Oni 70.80 310 *eP* **P 13 54 29.4 +2.0**
NEY Neytrino 70.82 311 *eP* **P 13 54 27.6 0.0**
NEY pmax pmax
comp=Z,2.0nm,0.9s
YHH Holmes Hill 70.99 47 *eP* **P 13 54 29.8 +1.0**
comp=Z,5.2nm,0.9s
GCMT Greycliff 71.00 46 *eP* **P 13 54 30.0 +1.3**
YFT Old Faithful 71.21 47 *eP* **P 13 54 32.1 +2.0**
comp=Z,5.8nm,0.7s
H17A Grant Village 71.39 47 *eP* **P 13 54 33.7 +2.5**
comp=Z,10nm,0.9s
IMW Indian Meadow 71.50 48 *eP* **P 13 54 33.5 +1.6**
comp=Z,6.6nm,0.8s
GNI Garni 71.55 307 *ceP* **P 13 54 33.6 +1.5**
GNI pmax pmax
comp=Z,67nm,1.2s
FXWY Fox Creek 71.61 48 *eP* **P 13 54 34.1 +1.5**
comp=Z,4.8nm,0.9s
NB2 NORSAR Subarra 71.61 338 P **P 13 54 32.1 +0.1**
comp=Z,5.3nm,0.8s,baz=37,slow=6.2
NOA NORSAR Array B 71.61 338 P **P 13 54 32.4 +0.4**
comp=Z,4.7nm,0.8s,baz=37,slow=6.1,SNR=16
HFS Hagfors 71.63 337 P **P 13 54 32.2 +0.2**
comp=Z,6.0nm,0.8s,baz=59,slow=5.6,SNR=12
RLMT Red Lodge 71.64 46 *eP* **P 13 54 33.8 +1.2**
comp=Z,4.9nm,1.0s
MOOW Moose Ponds 71.70 48 *eP* **P 13 54 34.6 +1.6**
comp=Z,6.9nm,1.0s
TPAW Teton Pass 71.75 48 *eP* **P 13 54 34.4 +1.0**
comp=Z,7.2nm,1.0s
HVU Hansel Valley 71.78 50 *eP* **P 13 54 34.6 +1.1**
HVU pmax pmax
comp=Z,8.0nm,1.0s
HVU Hansel Valley 71.78 50 *eP* **P 13 54 34.6 +1.1**
comp=Z,7.7nm,1.0s
REDW Red Top Meadow 71.89 48 *eP* **P 13 54 35.6 +1.5**
comp=Z,9.0nm,1.1s
BGU Big Grassy Mou 72.17 51 *eP* **P 13 54 37.0 +1.2**
comp=Z,5.2nm,1.1s
R11A Troy Canyon, C 72.23 55 *eP* **P 13 54 36.7 +0.4**
comp=Z,4.7nm,0.9s
DAC Darwin (Calif) 72.25 57 *eP* **P 13 54 37.2 +0.8**
DAC pmax pmax
comp=Z,5.0nm,0.9s
DAC Darwin (Calif) 72.25 57 *eP* **P 13 54 37.2 +0.8**
comp=Z,4.7nm,0.9s
BANOM Banah 72.54 289 P **P 13 54 39.7 +1.6**
SNR=5.1
BANOM Banah 72.54 289 P **P 13 54 39.7 +1.6**
SNR=5.1
BANOM Banah 72.54 289 *i* P **P 13 54 38.6 +0.5**
SNR=10
HWUT Hardware Ranch 72.59 50 *eP* **P 13 54 39.6 +1.2**
comp=Z,9.8nm,1.1s
DUG Dugway, Tooele 72.76 52 *eP* **P 13 54 40.6 +1.3**
DUG pmax pmax
comp=Z,10.0nm,0.8s
DUG Dugway, Tooele 72.76 52 *eP* **P 13 54 40.6 +1.3**
comp=Z,10nm,0.8s
AKASG Malin Array Be 72.86 323 P **P 13 54 39.9 +0.4**
comp=Z,8.9nm,0.6s,baz=43,slow=6.1,SNR=27
AKBB Malin Array Si 72.86 323 *eP* **P 13 54 39.6 +0.1**
AKBB pmax pmax
comp=Z,15nm,0.9s
AKBB Malin Array Si 72.86 323 *eP* **P 13 54 39.6 +0.1**
comp=Z,15nm,0.9s
KIEV Kiev 72.87 323 *d iP* **P 13 54 39.5 -0.1**
KIEV pmax pmax
comp=Z,13nm,0.9s
KIEV Kiev 72.87 323 *eP* **P 13 54 39.4 -0.1**
comp=Z,13nm,0.8s
KIEV Kiev 72.87 323 *i* P **P 13 54 39.9 +0.4**
SNR=6.7
AK11 Malin Array Si 72.90 323 *eP* **P 13 54 39.7 -0.1**
BW06 Boulder Array 73.00 48 *eP* **P 13 54 41.6 +0.7**
comp=Z,3.4nm,0.8s
PD31 Pinedale Array 73.00 48 *eP* **P 13 54 41.2 +0.3**
PDAR Pinedale Array 73.00 48 P **P 13 54 41.5 +0.7**
comp=Z,2.1nm,0.7s,baz=274,slow=1.5,SNR=24
PDAR Pinedale Array 73.00 48 *eP* **P 13 54 41.0 +0.2**
UOSS Minazif 73.20 289 *i* P **P 13 54 41.9 0.0**
SNR=6.5
HATD Hatta, Dubai 73.32 288 *i* P **P 13 54 43.3 +0.5**
SNR=6.6
ASHO Ashiyiah 73.46 288 P **P 13 54 46.7 +3.1**
SNR=5.7
ASHO Ashiyiah 73.46 288 P **P 13 54 46.7 +3.1**
SNR=5.7
ASHO Ashiyiah 73.46 288 *i* P **P 13 54 43.9 +0.3**
SNR=5.9
MPU Maple Canyon 73.57 51 *eP* **P 13 54 45.4 +1.2**
comp=Z,8.4nm,0.9s
SHPR Sheep Range 73.65 56 *eP* **P 13 54 46.0 +1.3**
comp=Z,4.5nm,0.9s
P17A Butcher Ranch, 74.45 51 *eP* **P 13 54 50.4 +1.1**
comp=Z,13nm,0.9s
MTPU Mount Pierson 74.50 53 *eP* **P 13 54 51.5 +1.6**
comp=Z,4.6nm,0.9s
LCMT Little Creek M 74.52 54 *eP* **P 13 54 50.7 +1.0**
comp=Z,6.4nm,0.9s
PFO Pinyon Flats O 74.63 59 *eP* **P 13 54 51.4 +1.0**
PFO pmax pmax
comp=Z,7.0nm,0.9s
PFO Pinyon Flats O 74.63 59 *eP* **P 13 54 51.4 +1.0**
comp=Z,7.2nm,0.9s
P18A Preston Nutter 74.64 51 *eP* **P 13 54 50.8 +0.2**
comp=Z,6.7nm,0.9s
XPFO Pinon Flat 74.64 59 *eP* **P 13 54 51.3 +0.9**
comp=Z,7.7nm,0.9s
ULM Lac du Bonnet 74.74 36 P **P 13 54 50.2 -0.4**
comp=Z,3.1nm,0.9s,baz=320,slow=8.1,SNR=5.7
K22A Casper 74.76 46 *eP* **P 13 54 51.6 +0.5**
comp=Z,10nm,1.0s
SRU San Rafael Swe 74.81 51 *eP* **P 13 54 52.5 +1.0**
SRU pmax pmax
comp=Z,15nm,0.8s
SRU San Rafael Swe 74.81 51 *eP* **P 13 54 52.5 +1.0**
comp=Z,15nm,0.8s
RWWY Rawlins 75.02 48 *eP* **P 13 54 52.4 -0.3**
comp=Z,8.9nm,0.9s
RSSD Black Hills 75.11 44 *eP* **P 13 54 52.9 -0.2**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 75.11 44 *eP* **P 13 54 52.9 -0.2**
comp=Z,8.3nm,0.9s
W13A Hualapai Mount 75.34 56 *eP* **P 13 54 55.6 +1.0**
comp=Z,2.7nm,0.8s
O20A White River Ci 75.47 49 *eP* **P 13 54 55.9 +0.6**
comp=Z,7.6nm,0.9s
U15A North Rim 75.48 54 *eP* **P 13 54 56.9 +1.5**
comp=Z,7.6nm,1.0s
PV09 Paradox Valley 76.03 51 *eP* **P 13 54 58.2 -0.4**
GLA Glamis 76.04 58 *eP* **P 13 54 59.5 +1.1**
GLA pmax pmax
comp=Z,6.0nm,0.8s
GLA Glamis 76.04 58 *eP* **P 13 54 59.5 +1.1**
comp=Z,5.8nm,0.8s
PV10 Paradox Valley 76.17 51 *eP* **P 13 55 00.7 +1.3**
PV04 Paradox Valley 76.23 51 *eP* **P 13 55 00.9 +1.3**
N23A Red Feather La 76.26 48 *eP* **P 13 55 00.9 +1.1**
comp=Z,15nm,1.2s
PV05 Paradox Valley 76.33 51 *eP* **P 13 55 01.0 +0.8**
KWP Kalwaria Pacla 76.51 326 *eP* **P 13 55 02.0 +1.2**
KWP Kalwaria Pacla 76.51 326 *eP* **P 13 55 01.6 +0.8**
KWP pmax pmax
comp=Z,345nm,0.8s
KWP Kalwaria Pacla 76.51 326 *eP* **P 13 55 01.6 +0.8**
comp=Z,345nm,0.8s
PV01 Paradox Valley 76.60 51 *eP* **P 13 55 02.5 +0.7**
WUAZ Wupatki 76.63 55 *eP* **P 13 55 03.3 +1.4**
comp=Z,6.1nm,0.9s
SMCO Snowmass 76.83 49 *eP* **P 13 55 04.2 +0.9**
comp=Z,4.2nm,0.9s
BUR08 Bucovina Ar. S 76.89 323 *eP* **P 13 55 04.0 +0.9**
BUR04 Bucovina Ar. S 76.90 323 *eP* **P 13 55 03.7 +0.6**
BURAR Bucovina Array 76.90 323⇑ *iP* **P 13 55 04.3 +1.2**
113A Mohawk Valley, 76.91 58 *eP* **P 13 55 03.6 +0.4**
comp=Z,3.7nm,0.9s
TESR Tescani 77.05 321⇓ *iP* **P 13 55 04.5 +0.7**
ISCO Idaho Springs 77.19 48 *eP* **P 13 55 06.2 +1.1**
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO Idaho Springs 77.19 48 *eP* **P 13 55 06.2 +1.1**
comp=Z,3.2nm,0.9s
MVCO Mesa Verde 77.26 52 *eP* **P 13 55 06.6 +1.1**
comp=Z,2.5nm,0.6s
OJC Ojcow 77.28 327 *eP* **P 13 55 06.6 +1.5**
OJC Ojcow 77.28 327 *eP* **P 13 55 06.0 +0.9**
OJC pmax pmax
comp=Z,20nm,0.9s
OJC Ojcow 77.28 327 *eP* **P 13 55 06.0 +0.9**
comp=Z,20nm,0.9s
CFR Carcaliu 77.30 320⇓ *iP* **P 13 55 06.1 +0.9**
STHS Stebnicka Huta 77.30 326 *eP* **P 13 55 07.0 +1.8**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 77.30 326 *eP* **P 13 55 07.0 +1.8**
X16A Lo Mia Camp, P 77.31 55 *eP* **P 13 55 07.3 +1.6**
comp=Z,3.4nm,0.8s
VRI Vrincioaia 77.48 321⇓ *iP* **P 13 55 07.8 +1.5**
TIRR Tirgusor 77.68 319⇑ *iP* **P 13 55 07.8 +0.4**
TLB Topalu 77.77 319⇓ *iP* **P 13 55 09.0 +1.1**
NWAO Narrogin (SRO) 77.82 204 P **P 13 55 08.9 +0.9**
comp=Z,15nm,0.7s,baz=269,slow=6.7,SNR=10
NWAO Narrogin (SRO) 77.82 204 P **P 13 55 09.0 +0.9**
S22A 4UR Ranch, Cre 77.88 50 *eP* **P 13 55 10.6 +1.5**
comp=Z,3.9nm,0.9s
Q24A Divide 78.02 49 *eP* **P 13 55 10.8 +0.9**
comp=Z,7.2nm,1.1s
DOPR Dopca 78.04 322⇓ *iP* **P 13 55 10.9 +1.5**
ISR Istrita 78.11 320⇓ *iP* **P 13 55 11.8 +1.9**
KSP Ksiaz 78.18 330 *eP* **P 13 55 11.2 +1.2**
KSP Ksiaz 78.18 330 *eP* **P 13 55 11.2 +1.2**
LANS Liptovska Anna 78.24 327 *eP* **P 13 55 12.5 +2.0**
LANS Liptovska Anna 78.24 327 *eP* **P 13 55 12.5 +2.0**
BR131 Keskin Array S 78.27 313 *eP* **P 13 55 11.0 +0.1**
BRTR Keskin Array B 78.27 313 P **P 13 55 11.6 +0.7**
comp=Z,2.3nm,0.8s,baz=92,slow=3.7,SNR=9.6
KECS Kecovo 78.33 326 *eP* **P 13 55 12.9 +1.9**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 78.33 326 *eP* **P 13 55 12.9 +1.9**
EYMN Ely 78.37 35 *eP* **P 13 55 11.2 0.0**
comp=Z,12nm,1.0s
MORC Moravsky Berou 78.53 328⇑ *iP* **P 13 55 13.6 +1.5**
MORC Moravsky Berou 78.53 328 *eP* **P 13 55 12.7 +0.6**
MORC pmax pmax
comp=Z,43nm,1.1s
MORC Moravsky Berou 78.53 328 *eP* **P 13 55 12.7 +0.6**
comp=Z,43nm,1.1s
UPC Upice 78.55 330 *eP* **P 13 55 13.5 +1.4**
UPC Upice 78.55 330 *eP* **P 13 55 13.5 +1.4**
DPC Dobruska-Polom 78.56 329 *eP* **P 13 55 13.6 +1.4**
DPC *ex* x 13 55 18.3
DPC Dobruska-Polom 78.56 329 *eP* **P 13 55 13.6 +1.4**
DPC *e* 13 55 18.3
VOIR 78.59 321⇑ *iP* **P 13 55 14.3 +1.7**
SDCO Great Sand Dun 78.65 50 *eP* **P 13 55 12.9 -0.4**
comp=Z,2.8nm,1.0s
BR231 Keskin MP Arra 78.66 313 *eP* **P 13 55 12.2 -0.9**
ARR Arges 78.84 322⇓ *iP* **P 13 55 15.2 +1.3**
VYHS Vyhne 79.02 327 *eP* **P 13 55 16.2 +1.4**
VYHS pmax pmax
comp=Z,20nm,2.4s
VYHS Vyhne 79.02 327 *eP* **P 13 55 16.2 +1.4**
PSZ Piszkesteto 79.02 326⇓ *iP* **P 13 55 16.3 +1.4**
PSZ Piszkesteto 79.02 326 *eP* **P 13 55 15.5 +0.6**
PSZ pmax pmax
comp=Z,24nm,1.5s
PSZ Piszkesteto 79.02 326 *eP* **P 13 55 15.5 +0.6**
comp=Z,24nm,1.5s
CLL Collm 79.03 332⇓ *iP* **P 13 55 15.2 +0.5**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL MLR MLR
comp=Z,300nm,19.3s
CLL Collm 79.03 332⇓ *iP* **P 13 55 15.2 +0.5**
comp=Z,11nm,0.9s
CLL *e* PcP **PcP** **13 55 24.0 +0.8**
CLL LmH 14 32 00.0
comp=N,200nm,20.5s
CLL LmH 14 32 00.0
comp=E,100nm,20.1s
CLL LmV 14 34 00.0
comp=Z,300nm,19.3s
CLL Collm 79.03 332 *eP* **P 13 55 14.9 +0.2**
comp=Z,11nm,0.7s
BRG Berggiesshubel 79.04 331 *eP* **P 13 55 15.8 +1.0**
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 79.04 331 *eP* **P 13 55 15.8 +1.0**
BRG pmax pmax
comp=Z,9.0nm,1.2s
ECSD EROS Data Cent 79.17 40 *eP* **P 13 55 15.9 +0.3**
comp=Z,6.8nm,0.9s
VRAC Vranov 79.28 328⇓ *iP* **P 13 55 17.0 +0.8**
GOPC GO Pecny, Ondr 79.50 330 *eP* **P 13 55 18.6 +1.2**
GOPC GO Pecny, Ondr 79.50 330 *eP* **P 13 55 18.6 +1.2**
PRU Pruhonice 79.53 330 *eP* **P 13 55 18.0 +0.5**
PRU AMS AMS 14 32 30.0
comp=Z,500nm,20.9s
PRU Pruhonice 79.53 330 *eP* **P 13 55 18.0 +0.5**
PRU MLR MLR
comp=Z,500nm,20.9s
MHTCO State Highway 79.55 50 *eP* **P 13 55 19.8 +1.7**

	comp=Z,5.8nm,1.0s								
T25A	**Trinidad**		**79.70**	**49**	*e*P		**P**	**13 55 19.3**	**+0.3**
	comp=Z,9.4nm,1.0s								
MODS	**Modra-Piesok**		**79.75**	**328**	*e*P		**P**	**13 55 21.3**	**+2.5**
MODS	**Modra-Piesok**		**79.75**	**328**	*e*P		**P**	**13 55 21.3**	**+2.5**
ANMO	**Albuquerque**		**80.00**	**52**	*c*e*P*		**P**	**13 55 20.7**	**+0.1**
ANMO					pmax		pmax		
	comp=Z,6.0nm,1.7s								
ANMO	**Albuquerque**		**80.00**	**52**	*e*P		**P**	**13 55 22.1**	**+1.5**
	comp=Z,3.3nm,0.8s								
NKC	**Novy Kostel**		**80.11**	**331**	*e*P		**P**	**13 55 22.0**	**+1.3**
NKC	**Novy Kostel**		**80.11**	**331**	*e*P		**P**	**13 55 22.0**	**+1.3**
EKA	**Eskdalemuir Ar**		**80.31**	**342**	P		**P**	**13 55 22.3**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=30,slow=5.8,SNR=7.6								
KHC	**Kasperske Hory**		**80.59**	**330**	*e*P		**P**	**13 55 24.3**	**+1.0**
KHC					*ex*		x	13 55 29.6	
KHC	**Kasperske Hory**		**80.59**	**330**	*e*P		**P**	**13 55 24.3**	**+1.0**
KHC					*e*			13 55 29.6	
KHC	**Kasperske Hory**		**80.59**	**330**	*e*P		**P**	**13 55 24.1**	**+0.7**
	comp=Z,3.7nm,0.8s								
MDVR	**Moldovita**		**80.64**	**323**	*i*P		**P**	**13 55 24.3**	**+0.6**
CONA	**Conrad Observa**		**80.68**	**328**	*i* P		**P**	**13 55 25.8**	**+2.0**
	comp=Z,11nm,1.3s								
319A	**Douglas**		**80.69**	**57**	*e*P		**P**	**13 55 23.8**	**-0.5**
	comp=Z,14nm,0.8s								
GEC2	**GERESS Array S**		**80.78**	**330**	*e*P		**P**	**13 55 24.8**	**+0.4**
GEC2					pmax		pmax		
	comp=Z,4.0nm,0.7s								
GEC2	**GERESS Array S**		**80.78**	**330**	*e*P		**P**	**13 55 24.8**	**+0.4**
	comp=Z,3.5nm,0.7s								
GERES	**GERESS Array B**		**80.78**	**330**	P		**P**	**13 55 24.8**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=34,slow=5.0,SNR=17								
GERES					LR		LR	14 34 35.4	
	comp=Z,356nm,18.3s,baz=352,slow=38								
GEA0	**GERESS Array S**		**80.79**	**330**	*e*P		**P**	**13 55 24.4**	**0.0**
MOA	**Molln**		**81.38**	**329**	*i* P		**P**	**13 55 27.9**	**+0.4**
	comp=Z,2.1nm,0.6s								
VTS	**Vitosha**		**81.61**	**321**	*i*P		**P**	**13 55 30.4**	**+1.4**
VTS	**Vitosha**		**81.61**	**321**	*e*P		**P**	**13 55 29.5**	**+0.5**
VTS					pmax		pmax		
	comp=Z,12nm,0.9s								
VTS	**Vitosha**		**81.61**	**321**	*e*P		**P**	**13 55 29.5**	**+0.5**
	comp=Z,12nm,0.9s								
DIVS	**Divibare**		**81.95**	**323**	*e*P		**P**	**13 55 31.0**	**+0.3**
	comp=Z,4.7nm,0.9s								
SOKA	**Soboth**		**82.02**	**328**	*i* P		**P**	**13 55 31.5**	**+0.5**
	comp=Z,9.5nm,0.7s,SNR=9.1								
OBKA	**Obir**		**82.35**	**328**	*i* P		**P**	**13 55 33.8**	**+1.0**
	comp=Z,12nm,0.7s								
KBA	**Koelnbreinsper**		**82.37**	**329**	*i* P		**P**	**13 55 34.5**	**+1.6**
	comp=Z,8.3nm,0.7s,SNR=5.5								
MYKA	**Terra Mystica**		**82.62**	**329**	*i* P		**P**	**13 55 34.6**	**+0.4**
	comp=Z,3.7nm,0.6s								
WATA	**Walderalm**		**82.83**	**330**	*i* P		**P**	**13 55 36.4**	**+1.1**
	comp=Z,7.1nm,0.8s								
AMTX	**Amarillo**		**82.86**	**50**	*e*P		**P**	**13 55 36.7**	**+1.1**
	comp=Z,11nm,0.8s								
WTTA	**Wattenberg**		**82.87**	**330**	*i* P		**P**	**13 55 36.8**	**+1.3**
	comp=Z,5.5nm,0.7s								
MNTX	**Cornudas Mount**		**82.89**	**54**	*e*P		**P**	**13 55 36.2**	**+0.5**
	comp=Z,3.0nm,0.8s								
ABTA	**Abfaltersbach**		**82.96**	**329**	*i* P		**P**	**13 55 36.3**	**+0.4**
	comp=Z,1.6nm,0.6s								
MOTA	**Moosalm**		**83.00**	**330**	*e*P		**P**	**13 55 37.3**	**+1.1**
	comp=Z,10nm,0.8s,SNR=6.0								
RETA	**Reutte**		**83.01**	**331**	*i* P		**P**	**13 55 36.8**	**+0.6**
	comp=Z,9.1nm,0.8s,SNR=6.0								
BFO	**Black Forest**		**83.18**	**332**	*i* P		**P**	**13 55 38.2**	**+1.3**
FETA	**Feichten**		**83.42**	**330**	*i* P		**P**	**13 55 39.5**	**+1.1**
	comp=Z,9.1nm,1.0s								
DAVA	**Damuels**		**83.51**	**331**	*i* P		**P**	**13 55 39.2**	**+0.4**
	comp=Z,7.5nm,0.7s								
PDG	**Podgorica**		**83.59**	**323**	*i*P		**P**	**13 55 40.0**	**+0.9**
TTG	**Podgorica**		**83.59**	**323**	*e*P		**P**	**13 55 39.5**	**+0.4**
TTG					pmax		pmax		
	comp=Z,16nm,0.9s								
TTG	**Podgorica**		**83.59**	**323**	*e*P		**P**	**13 55 39.5**	**+0.4**
	comp=Z,16nm,0.9s								
FUORN	**Ofenpass-Fuorn**		**83.92**	**330**	*e*P		**P**	**13 55 41.5**	**+0.4**
	comp=Z,76nm,1.9s								
PPT	**Papeete**		**84.03**	**119**	LR		LR	14 29 53.6	
	comp=Z,89nm,19.5s,baz=211,slow=33								
TUE	**Stuetta**		**84.39**	**331**	*e*P		**P**	**13 55 43.4**	**0.0**
	comp=Z,12nm,1.2s								
SENIN	**Lac Senin/Sane**		**85.22**	**332**	*e*P		**P**	**13 55 47.9**	**+0.3**
	comp=Z,5.8nm,0.7s								
TX31	**Lajitas Ar. Si**		**85.60**	**55**	*e*P		**P**	**13 55 50.5**	**+0.8**
TXAR	**Lajitas Array**		**85.60**	**55**	P		**P**	**13 55 50.8**	**+1.2**
	comp=Z,9.6nm,0.9s,baz=293,slow=3.6,SNR=73								
HPIG			**86.02**	**58**	*e*P		**P**	**13 55 52.5**	**+0.6**
	comp=Z,14nm,1.1s								
CCM	**Cathedral Cave**		**86.11**	**41**	*e*P		**P**	**13 55 52.3**	**+0.4**
CCM					pmax		pmax		
	comp=Z,9.0nm,0.9s								
CCM	**Cathedral Cave**		**86.11**	**41**	*e*P		**P**	**13 55 52.3**	**+0.4**
	comp=Z,8.9nm,0.9s								
BNI	**Bardonecchia**		**86.57**	**332**	*e*P		**P**	**13 55 54.8**	**+0.5**
BNI					pmax		pmax		
	comp=Z,5.0nm,0.7s								
BNI	**Bardonecchia**		**86.57**	**332**	*e*P		**P**	**13 55 54.8**	**+0.5**
	comp=Z,5.2nm,0.7s								
SSB	**Saint Sauveur**		**87.12**	**333**	*e*P		**P**	**13 55 57.6**	**+0.8**
SSB					pmax		pmax		
	comp=Z,7.0nm,0.9s								
SSB	**Saint Sauveur**		**87.12**	**333**	*e*P		**P**	**13 55 57.5**	**+0.8**
	comp=Z,6.8nm,0.9s								
MIAR	**Mount Ida**		**87.61**	**45**	*e*P		**P**	**13 55 59.8**	**+0.5**
MIAR					pmax		pmax		
	comp=Z,9.0nm,1.0s								
MIAR	**Mount Ida**		**87.61**	**45**	*e*P		**P**	**13 55 59.8**	**+0.5**
	comp=Z,8.9nm,1.0s								
WHAR	**Wooly Hollow**		**87.72**	**43**	*e*P		**P**	**13 55 59.9**	**+0.1**
	comp=Z,9.3nm,0.9s								
N59A	**State Game Lan**		**90.54**	**30**	*e*P		**P**	**13 56 13.5**	**+0.5**
	comp=Z,15nm,1.0s								
ESDC	**Sonseca Array**		**94.91**	**336**	LR		LR	14 45 35.4	
	comp=Z,72nm,18.1s,baz=320,slow=40								
MATP	**Matopo**		**122.87**	**271**	PKP		**PKPdf**	**14 02 07.7**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=333,slow=2.3,SNR=7.7								
LPAZ	**La Paz**		**142.34**	**59**	PKhKP		PKPpre	14 02 42.2	
	comp=Z,1.9nm,0.8s,baz=318,slow=3.2,SNR=6.2								
LPAZ	**La Paz**		**142.34**	**59**	*e*PKPpre		PKPpre	14 02 41.9	
PB11	**IPOC Station P**		**143.78**	**65**	*e*PKPdf		PKPbc	14 02 44.7	+0.5
PB01	**IPOC Station P**		**144.77**	**66**	*e*PKPdf		**PKPdf**	**14 02 47.9**	**-0.3**
SNAA	**Sanae**		**145.28**	**197**	PKP		**PKPbc**	**14 02 47.0**	**-0.4**
SNAA	**Sanae**		**145.28**	**197**	PKPbc		**PKPbc**	**14 02 46.9**	**-0.4**
	comp=Z,28nm,0.9s,baz=168,slow=4.2,SNR=19								
VNA2	**Neumayer--Watz**		**146.83**	**196**	PKP		**PKPbc**	**14 02 51.7**	**-0.3**
	baz=118,slow=1.7								
VNA3	**Neumayer Olymp**		**147.04**	**195**	PKP		**PKPbc**	**14 02 52.0**	**-0.6**
VNA1	**Neumayer--Stat**		**147.22**	**196**	PKP		**PKPbc**	**14 02 52.8**	**-0.2**
LCO	**Las Campanas**		**148.68**	**79**	*e*PKPbc		**PKPbc**	**14 02 59.0**	**+0.5**

*ISCJB **14** 13:44:17.7±0.6,50.38N±0.04×18.80E±0.03,h0km, Error ellipse: s-maj=5.6km s-min=2.6km az=17.1*
*CSEM **14** 13:44:18.8±0.3,50.38N×18.84E,h1km,ML2.8/7, Error ellipse: s-maj=6.0km s-min=2.5km az=10.0*
*WAR **14** 13:44:19.7,50.36N×18.92E,h1km,Mw2.6*
*IPEC **14** 13:44:19.0±0.3,50.38N×18.90E,h2km,2km,ML2.0/3, Error ellipse: s-maj=2.7km s-min=1.1km az=171.0*
*PRU **14** 13:44:19.7,50.36N×18.82E,h0km*

ISC 14 13:44:19.1±0.9,50.35N±0.04×18.83E±0.02,h0km,n31, σ0s73/51,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**		**0.64**	**101** *e*Pg	**Pg**	**13 44 30.8**	**-0.5**
OJC				*e*Sg	**Sg**	**13 44 39.7**	**+0.2**
OJC	**Ojcow**		**0.64**	**101** *e*Pg	**Pg**	**13 44 30.8**	**-0.5**
OJC				*e*Sg	**Sg**	**13 44 39.7**	**+0.2**
OJC	**Ojcow**		**0.64**	**101** *e*Pg	**Pg**	**13 44 30.8**	**-0.5**
OJC				*e*Sg	**Sg**	**13 44 39.7**	**+0.2**
OKC	**Ostrava-Krasne**		**0.67**	**221** *e*PG	**Pb**	**13 44 33.4**	**-0.2**
OKC				*e*SG	**Sg**	**13 44 42.0**	**+1.4**
	comp=Z,26nm,0.5s						
OKC	**Ostrava-Krasne**		**0.67**	**221** Pg	**Pb**	**13 44 33.4**	**-0.2**
OKC				Sg	**Sg**	**13 44 42.0**	**+1.4**
	26nm,0.5s						
MORC	**Moravsky Berou**		**1.00**	**236** *e*Pg	**Pb**	**13 44 39.5**	**+0.1**
	baz=55						
MORC				*e*Sg	**Sb**	**13 44 52.2**	**-0.9**
	25nm,0.3s,baz=55						
LANS	**Liptovska Anna**		**1.27**	**161** *e*Pg	**Pg**	**13 44 43.5**	**+0.2**
LANS				*e*Sg	**Sb**	**13 45 01.0**	**+0.3**
NIE	**Niedzica**		**1.33**	**134** *e*Pg	**Pn**	**13 44 45.1**	**+0.2**
NIE				*e*Sg	**Sn**	**13 45 04.0**	**+0.6**
NIE	**Niedzica**		**1.33**	**134** *e*Pg	**Pn**	**13 44 45.1**	**+0.2**
NIE				*e*Sg	**Sn**	**13 45 04.0**	**+0.6**
NIE	**Niedzica**		**1.33**	**134** *e*Pg	**Pn**	**13 44 45.1**	**+0.2**
NIE				*e*Sg	**Sn**	**13 45 04.0**	**+0.6**
DPC	**Dobruska-Polom**		**1.60**	**271** *e*PG	**Pn**	**13 44 48.7**	**0.0**
DPC				*e*SG	**Sg**	**13 45 11.2**	**+0.6**
	comp=Z,8.3nm,0.3s						
DPC	**Dobruska-Polom**		**1.60**	**271** Pg	**Pn**	**13 44 48.7**	**0.0**
DPC				Sg	**Sg**	**13 45 11.2**	**+0.6**
	8.3nm,0.3s						
KSP	**Ksiaz**		**1.69**	**288** *e*Pg	**Pg**	**13 44 51.3**	**-0.1**
KSP				*e*Sg	**Sg**	**13 45 14.6**	**+1.3**
KSP	**Ksiaz**		**1.69**	**288** *e*Pg	**Pg**	**13 44 51.3**	**-0.1**
KSP				*e*Sg	**Sg**	**13 45 14.6**	**+1.3**
VRAC	**Vranov**		**1.78**	**235** *e*Pn	**Pn**	**13 44 51.8**	**+0.7**
	baz=53						
VRAC				*e*Sg	**Sg**	**13 45 16.5**	**+0.3**
	12nm,0.4s,baz=53						
UPC	**Upice**		**1.81**	**276** *e*SG	**Sg**	**13 45 17.6**	**+0.5**
	comp=Z,10.0nm,0.5s						
UPC	**Upice**		**1.81**	**276** Sg	**Sg**	**13 45 17.6**	**+0.5**
	10.0nm,0.5s						
VYHS	**Vyhne**		**1.85**	**180** *e*Pn	**Pn**	**13 44 52.2**	**+0.1**
VYHS				*e*Sn	**Sn**	**13 45 15.7**	**-0.5**
VYHS	**Vyhne**		**1.85**	**180** *e*PN	**Pn**	**13 44 52.2**	**+0.1**
VYHS				*e*SN	**Sn**	**13 45 15.7**	**-0.5**
VYHS				eLG	Lg	13 45 19.5	
KRUC	**Moravsky**		**2.04**	**232** *e*Pn	**Pn**	**13 44 55.0**	**+0.4**
	baz=50						
KRUC				*e*Sg	**Sg**	**13 45 24.4**	**0.0**
	10.0nm,0.5s,baz=50						
KECS	**Kecovo**		**2.16**	**149** *e*Sn	**Sn**	**13 45 21.5**	**-2.2**
KECS	**Kecovo**		**2.16**	**149** *e*SN	**Sn**	**13 45 21.5**	**-2.2**
KECS				eLG	Lg	13 45 32.0	
CRVS	**Cervenica-Dubn**		**2.24**	**129** *e*PG	**Pb**	**13 45 00.9**	**+0.5**
GOPC	**GO Pecny, Ondr**		**2.63**	**262** *e*SG	**Sg**	**13 45 43.4**	**-0.3**
	comp=Z,9.5nm,0.4s						
GOPC	**GO Pecny, Ondr**		**2.63**	**262** Sg	**Sg**	**13 45 43.4**	**-0.3**
	9.5nm,0.4s						
PRU	**Pruhonice**		**2.78**	**264** *e*SG	**Sg**	**13 45 47.5**	**-0.8**
PRU	**Pruhonice**		**2.78**	**264** Sg	**Sg**	**13 45 47.5**	**-0.8**
BRG	**Berggiesshubel**		**3.16**	**282** PG	**Pg**	**13 45 19.5**	**0.0**
BRG				SG	**Sg**	**13 46 01.2**	**+0.8**
	4.6nm,0.7s						
KHC	**Kasperske Hory**		**3.62**	**252** *e*SG	**Sg**	**13 46 14.6**	**-0.5**
KHC	**Kasperske Hory**		**3.62**	**252** Sg	**Sg**	**13 46 14.6**	**-0.5**

*JMA **14** 13:49:04.9±0.2,40.85N×145.17E,h59km±4km,M3.8*
*ISCJB **14** 13:49:07.5±0.9,40.93N±0.04×144.89E±0.07,h35km, mb3.5/4, Error ellipse: s-maj=7.9km s-min=4.4km az=23.9*
*IDC **14** 13:49:12.1±9.6,41.10N×143.76E,h0km,mb3.6/4, mb1 3.5/6,mb1mx3.3/64,mbtmp3.5/6,ML3.0/2, Error ellipse: s-maj=179.9km s-min=31.9km az=101.0*

ISC 14 13:49:08.1±1.5,40.89N±0.06×145.02E±0.09,h35km,n23, σ1s59/37,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**		**1.79**	**309** P	**Pn**	**13 49 35.9**	**-0.6**
JEM				*e*S	**Sn**	**13 49 56.7**	**-1.4**
JAK	**Akkeshi**		**2.12**	**354** S	**Sn**	**13 50 05.1**	**-0.9**
JCH	**Churui**		**2.12**	**325** P	**Pn**	**13 49 40.4**	**-0.6**
JCH				S	**Sn**	**13 50 04.3**	**-1.9**
JNBK	**Urakawa-nobuka**		**2.19**	**310** P	**Pn**	**13 49 42.3**	**+0.3**
JNBK				S	**Sn**	**13 50 07.6**	**-0.4**
JOB	**Onbets**		**2.20**	**337** S	**Sn**	**13 50 07.3**	**-0.7**
NEM2	**Nemuro 2**		**2.53**	**12** S	**Sn**	**13 50 13.9**	**-2.3**
JAR	**Ashorobuto**		**2.58**	**339** P	**Pn**	**13 49 46.4**	**-0.9**
JAR				S	**Sn**	**13 50 15.5**	**-1.9**
JNK	**Nakash**		**2.70**	**355** P	**Pn**	**13 49 47.4**	**-1.6**
JNK				S	**Sn**	**13 50 16.8**	**-3.7**
JANG	**Nango**		**2.72**	**260** P	**Pn**	**13 49 47.8**	**-1.4**
JANG				*e*S	**Sn**	**13 50 18.7**	**-2.2**
JBT2	**Biratori 2**		**2.74**	**314** P	**Pn**	**13 49 50.2**	**+0.7**
JBT2				*e*S	**Sn**	**13 50 21.6**	**+0.2**
JFR	**Furan**		**2.90**	**322** P	**Pn**	**13 49 51.3**	**-0.5**
JFR				*e*S	**Sn**	**13 50 22.8**	**-2.6**
JTM	**Tenmabayashi**		**3.00**	**269** P	**Pn**	**13 49 52.5**	**-0.6**
JTM				*e*S	**Sn**	**13 50 25.5**	**-2.3**
JOT	**Ohata**		**3.04**	**281** P	**Pn**	**13 49 52.9**	**-0.8**
JOT				*e*S	**Sn**	**13 50 26.0**	**-2.8**
JKB	**Kayabe**		**3.16**	**290** P	**Pn**	**13 49 55.2**	**-0.1**
JTKR	**Abashiri--Toko**		**3.19**	**345** P	**Pn**	**13 49 55.6**	**-0.1**
JTKR				*e*S	**Sn**	**13 50 31.5**	**-0.9**
JOM	**Ohasama**		**3.19**	**245** P	**Pn**	**13 49 55.1**	**-0.6**
JOM				*e*S	**Sn**	**13 50 30.4**	**-2.1**
JEW	**Eniwo**		**3.30**	**307** P	**Pn**	**13 49 58.1**	**+0.8**
JEW				*e*S	**Sn**	**13 50 34.7**	**-0.6**
ASAJ	**Asahikawa**		**3.69**	**332** Pn	**Pn**	**13 50 03.5**	**+0.9**
	1.0nm,0.3s,baz=213,slow=17,SNR=6.6						
ASAJ				Sn	**Sn**	**13 50 42.0**	**-2.8**
	3.2nm,0.3s,baz=203,slow=12,SNR=4.7						
MJAR	**Matsushiro Arr**		**6.87**	**233** Pn	**Pn**	**13 50 46.5**	**+0.1**
	0.4nm,0.3s,baz=38,slow=12,SNR=4.3						
SONM	**Songino Array**		**28.25**	**297** P	**P**	**13 54 59.0**	**+1.2**
	0.7nm,0.9s,baz=76,slow=10,SNR=3.2						
ZALV	**Zalesovo Beam**		**41.52**	**309** P	**P**	**13 56 53.4**	**+1.7**
	0.7nm,0.6s,baz=88,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**		**44.56**	**300** P	**P**	**13 57 17.6**	**+1.1**
	0.3nm,0.5s,baz=82,slow=9.8,SNR=4.2						
KURBB	**Kurchatov Arra**		**45.95**	**306** P	**P**	**13 57 29.0**	**+1.7**
	0.9nm,0.5s,baz=77,slow=8.9,SNR=5.7						

*ISCJB **14** 13:51:13.6±0.6,3.17S±0.06×139.74E±0.10,h50km, mb4.0/9,MS3.8/1,Error ellipse: s-maj=14.1km s-min=8.8km az=168.9*
*IDC **14** 13:51:15.7±0.9,3.16S×140.07E,h62km±7km,mb3.8/9, mb1 4.1/11,mb1mx3.7/42,mbtmp4.2/11,MS3.8/1, Ms1 3.8/1,ms1mx3.0/46,Error ellipse: s-maj=32.2km s-min=14.4km az=91.0*
*NEIC **14** 13:51:18.5±1.1,3.21S×139.86E,h86km±11km,mb4.7/3, Error ellipse: s-maj=11.3km s-min=7.7km az=47.0*

ISC 14 13:51:16.2±0.6,3.35S±0.07×139.67E±0.08,h50km,n24, σ3s18/27,mb4.0/8,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**		**0.90**	**33** P	Pn	13 51 38.0	+5.4
JAY	**Jayapura**		**1.32**	**51** P	**Pn**	**13 51 41.0**	**+2.7**
FAKI	**Fak Fak**		**7.43**	**273** *e*Pn	**Pn**	**13 53 06.5**	**+4.5**
PMG	**Port Moresby**		**9.56**	**129** P	**Pn**	**13 53 33.6**	**+2.3**
	0.9nm,0.3s,baz=320,slow=20,SNR=8.4						
PMG				S	Sn	13 55 02.6	-15
	0.7nm,0.3s,baz=212,slow=18,SNR=2.0						
COEN	**Coen**		**11.09**	**162** *e*Pn	**Pn**	**13 53 54.4**	**+2.2**
	12nm,0.6s						
SOEI	**Soe**		**16.57**	**247** Pn	**P**	**13 55 08.6**	**+1.4**
WRAB	**Tennant Creek**		**17.28**	**197** *e*Pn	**P**	**13 55 16.8**	**+1.9**
	40nm,0.9s						
WRA	**Warramunga Arr**		**17.29**	**197** P	**P**	**13 55 16.5**	**+1.5**
	1.4nm,0.3s,baz=17,slow=13,SNR=54						
WRA				S	**Sn**	**13 58 17.2**	**-8.6**
	0.8nm,0.3s,baz=16,slow=22,SNR=4.8						
CTA	**Charters Tower**		**17.83**	**159** P	**Pn**	**13 55 20.2**	**-0.6**
	0.3nm,0.3s,baz=343,slow=14,SNR=6.5						
CTAO	**Charters Tower**		**17.83**	**159** *e*P	**P**	**13 55 22.5**	**+1.5**
	26nm,0.6s						
FITZ	**Fitzroy Crossi**		**20.09**	**222** P	Pn	13 55 48.2	+0.2
	9.3nm,0.6s,baz=52,slow=17						
FITZ				S	**S**	**13 59 24.4**	**-4.5**
	6.3nm,0.5s,baz=90,slow=8.1,SNR=5.7						
ASAR	**Alice Springs**		**20.95**	**195** P	**P**	**13 55 56.9**	**+1.8**
	6.4nm,0.6s,baz=26,slow=10,SNR=44						
ASAR				pP	**pP**	**13 56 09.9**	**+3.2**
	11nm,0.6s,baz=24,slow=9.2,SNR=12						
ASAR				sP	**sP**	**13 56 18.4**	**+5.4**
	23nm,0.6s,baz=22,slow=9.3,SNR=13						
ASAR				S	**S**	**13 59 42.4**	**-3.6**
	4.0nm,0.9s,baz=20,slow=20,SNR=5.7						
EIDS	**Eidsvold**		**24.49**	**154** *e*P	**P**	**13 56 31.4**	**+0.6**
	57nm,1.1s						
STKA	**Stephens Creek**		**28.43**	**177** P	**P**	**13 57 05.9**	**-0.4**
	3.9nm,0.8s,baz=354,slow=11,SNR=4.3						
JNU	**Nakatsue**		**37.22**	**348** LR	LR	14 14 27.5	
	comp=Z,136nm,18.9s,baz=310,slow=38						
SONM	**Songino Array**		**58.71**	**334** P	**P**	**14 01 08.1**	**-0.8**
	0.1nm,0.4s,baz=134,slow=6.2,SNR=2.3						
MKAR	**Makanchi Array**		**70.88**	**322** P	**P**	**14 02 27.0**	**-1.1**
	0.8nm,0.6s,baz=107,slow=8.0,SNR=7.8						
KURK	**Kurchatov**		**74.79**	**325** P	**P**	**14 02 49.7**	**-1.3**
KURBB	**Kurchatov Arra**		**74.80**	**325** P	**P**	**14 02 49.7**	**-1.4**
	0.3nm,0.5s,baz=111,slow=5.4,SNR=5.3						
VNDA	**Vanda**		**75.06**	**175** P	**P**	**14 02 51.3**	**-0.9**
	1.6nm,0.8s,baz=329,slow=5.4,SNR=5.3						
BVAR	**Borovoye Array**		**80.39**	**325** P	**P**	**14 03 20.7**	**-1.5**
	1.1nm,0.7s,baz=116,slow=6.6,SNR=6.2						
ILAR	**Eielson Array**		**86.02**	**24** P	**P**	**14 03 46.5**	**-4.5**
	1.4nm,0.7s,baz=257,slow=4.7,SNR=17						
ILAR				sP	**sP**	**14 04 11.8**	**+0.6**
	0.8nm,0.9s,baz=250,slow=3.8,SNR=2.8						
YKA	**Yellowknife Ar**		**100.20**	**27** P	**Pdif**	**14 04 53.1**	**-3.5**
	0.1nm,0.5s,baz=284,slow=4.6,SNR=3.9						
LPAZ	**La Paz**		**146.29**	**126** PKPbc	**PKPdf**	**14 10 50.8**	**-1.2**
	0.9nm,0.6s,baz=244,slow=5.5,SNR=7.1						

IDC 14 13:52:41.7±445.0,66.25N×43.18E,h0km,Error ellipse: s-maj=263.5km s-min=154.4km az=43.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**		**17.61**	**147** *i*		15 40 00.0	
	baz=336,slow=336,SNR=0.2						
I46RU	**ZALESOVO INFRA**		**23.60**	**101** *i*		16 18 00.0	
	baz=318,slow=330,SNR=1.0						
I18DK	**QAANAAQ INFRAS**		**30.85**	**337** *i*		17 01 00.0	
	baz=39,slow=348,SNR=0.2						

JMA 14 13:56:04.2±0.3,40.89N×145.00E,h49km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**		**1.78**	**310** P	Pn	13 56 33.0	+0.5
JEM				*e*S	Sn	13 56 54.5	+0.5
JCH	**Churui**		**2.11**	**325** P	Pn	13 56 38.0	+0.9
JCH				*e*S	Sn	13 57 02.2	+0.1
JNBK	**Urakawa-nobuka**		**2.18**	**310** P	Pn	13 56 39.8	+1.8
JNBK				S	Sn	13 57 06.1	+2.3
JOB	**Onbets**		**2.19**	**337** *e*S	Sn	13 57 05.4	+1.4
JAR	**Ashorobuto**		**2.57**	**340** *e*S	Sn	13 57 13.2	-0.2
JANG	**Nango**		**2.70**	**260** *e*S	Sn	13 57 15.0	-1.6
JNK	**Nakash**		**2.70**	**356** P	Pn	13 56 45.1	0.0
JNK				*e*S	Sn	13 57 15.7	-0.9
JBT2	**Biratori 2**		**2.73**	**315** S	Sn	13 57 19.5	+2.3
JFR	**Furan**		**2.89**	**323** *e*S	Sn	13 57 20.3	-1.0
JTM	**Tenmabayashi**		**2.98**	**269** *e*S	Sn	13 57 22.6	-0.9
JOT	**Ohata**		**3.02**	**281** P	Pn	13 56 50.7	+1.2
JOT				*e*S	Sn	13 57 24.0	-0.5
JKB	**Kayabe**		**3.15**	**290** *e*S	Sn	13 57 26.8	-0.7
JOM	**Ohasama**		**3.17**	**245** P	Pn	13 56 52.5	+0.9
JOM				*e*S	Sn	13 57 27.7	-0.5
JTKR	**Abashiri--Toko**		**3.18**	**346** *e*S	Sn	13 57 29.6	+1.2
JEW	**Eniwo**		**3.29**	**307** P	Pn	13 56 55.4	+2.2
JEW				*e*S	Sn	13 57 33.1	+2.0
JKK2	**Kamakawa 2**		**3.42**	**332** *e*S	Sn	13 57 36.5	+2.3

*NIED **14** 14:04:00,40.90N×145.10E,h8km,Mw4.1 Best double couple: M0 1.80000×10^15 NP1:φs77.00000°,δ41.00000°, λ-106.00000°. NP2:φs278.00000°,δ51.00000°, λ-76.00000°.*
*BJI **14** 14:04:05.9,41.03N×145

	comp=E,1.4nm,0.3s,baz=41,slow=11,SNR=22							
MJAR					Sn		**Sn**	14 07 06.3 -1.8
	comp=E,0.5nm,0.3s,baz=77,slow=12,SNR=2.7							
MAJO	**Matsushiro**		**6.87**	**233**	*e*P		**Pn**	14 05 49.2 -0.4
MAJO	**Matsushiro**		**6.87**	**233**	*e*Pn		**Pn**	14 05 49.2 -0.4
MAT	**Matsushiro**		**6.87**	**233**	P		**Pn**	14 05 49.3 -0.3
MAT					*e*S		**Sn**	14 07 04.3 -3.8
MJB9	**Matsu-Tunnel**		**6.87**	**233**	*e*Pn		**Pn**	14 05 49.3 -0.3
INU	**Inuyama**		**8.39**	**231**	*e*Pn		**Pn**	14 06 10.8 +0.3
USRK	**Ussuriysk Ar.**		**10.12**	**293**	Pn		**Pn**	14 06 34.8 +0.6
	comp=E,0.9nm,0.3s,baz=95,slow=13,SNR=10.0							
USRK					LR		LR	14 10 27.2
	comp=E,242nm,19.2s,baz=118,slow=38							
KLR	**Kul'dur**		**12.48**	**316**	Pn		**Pn**	14 07 06.9 +0.5
	comp=E,0.0nm,0.3s,baz=115,slow=15,SNR=6.4							
KLR	**Kul'dur**		**12.48**	**316**	*e*P		**Pn**	14 07 05.5 -0.9
NKL	**Nikolayevsk**		**12.56**	**348**	*e*P		**Pn**	14 07 08.2 +0.8
NKL					pmax	pmax		
	comp=N,3.0nm,0.8s							
NKL					pmax	pmax		
	comp=Z,6.0nm,0.8s							
KSRS	**Korea Array**		**13.68**	**261**	Pn		**Pn**	14 07 22.3 -0.5
	comp=Z,0.1nm,0.3s,baz=74,slow=13,SNR=2.8							
JNU	**Nakatsue**		**13.69**	**240**	*e*Pn		**Pn**	14 07 21.2 -1.8
KS01	**Wonju Array Si**		**13.69**	**261**	*e*Pn		**Pn**	14 07 23.7 +0.7
KSAR	**Wonju Array Be**		**13.71**	**261**	P		**Pn**	14 07 22.3 -0.9
KSAR	**Wonju Array Be**		**13.71**	**261**	Pn		**Pn**	14 07 22.2 -0.9
CN2	**Changchun**		**14.72**	**288**	*e*P		**Pn**	14 07 37.4 +0.4
ZEA	**Zeya**		**17.50**	**323**	*i* P		**Pn**	14 08 12.0 -0.7
MA2	**Magadan**		**19.01**	**9**	P		**Pn**	14 08 31.4 +0.2
	comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=4.8							
SEY	**Seymchan**		**22.47**	**9**	P		**P**	14 09 07.6 -0.3
	comp=Z,2.3nm,0.8s,baz=176,slow=9.8,SNR=7.4							
NJ2	**Nanjing**		**22.73**	**255**	*e*P		**P**	14 09 11.3 +0.3
NJ2					pmax	pmax		
	comp=Z,17nm,0.5s							
YAK	**Yakutsk**		**23.06**	**341**	P		**P**	14 09 14.6 +0.5
	comp=Z,6.8nm,0.4s,baz=184,slow=1.2,SNR=4.1							
HHC	**Hu-ho-hao-te**		**25.18**	**281**	*e*P		**P**	14 09 36.8 +2.3
HHC					pmax	pmax		
	comp=Z,11nm,1.0s							
HHC					pmax	pmax		
	comp=Z,190nm,6.0s							
BOD	**Bodaibo**		**25.98**	**321**	*e*P		**P**	14 09 40.3 -1.1
BOD					pmax	pmax		
	comp=Z,6.0nm,1.1s							
ULN	**Ulaanbaatar**		**27.76**	**297**	*ce*P		**P**	14 09 57.2 -0.6
ULN					pmax	pmax		
	comp=Z,8.0nm,1.0s							
ULN	**Ulaanbaatar**		**27.76**	**297**	*e*P		**P**	14 09 57.6 -0.2
	comp=Z,8.4nm,1.1s							
SONA1	**Songino Array**		**28.19**	**297**	*e*P		**P**	14 10 01.7 0.0
SONM	**Songino Array**		**28.20**	**297**	P		**P**	14 10 01.8 +0.1
	comp=Z,3.5nm,0.8s,baz=95,slow=8.5,SNR=19							
H11N2	**WAKE ISLAND Hy**		**28.22**	**132**	T		T	14 39 34.4
	baz=324,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**		**28.23**	**132**	T		T	14 39 34.2
	baz=324,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**		**28.23**	**132**	T		T	14 39 32.3
	baz=324,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**		**29.09**	**134**	T		T	14 40 39.1
	baz=325,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**		**29.10**	**134**	T		T	14 40 35.8
	baz=325,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**		**29.11**	**134**	T		T	14 40 38.6
	baz=325,slow=76,SNR=21							
BILL	**Bilibino**		**29.51**	**16**	*e*P		**P**	14 10 12.5 -0.4
BILL					*e*PPP		PPP	14 11 12.8
BILL					pmax	pmax		
	comp=Z,2.0nm,1.0s							
ZAK	**Zakamensk**		**30.28**	**302**	*e*P		**P**	14 10 18.8 -1.3
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.2s							
MOY	**Mondy**		**31.77**	**305**	*e*P		P	14 10 38.3 +5.0
LZH	**Lanzhou**		**32.34**	**275**	*e*P		**P**	14 10 38.5 +0.1
LZH					pP		sP	14 10 44.6 +3.2
LZH					sP		pP	14 10 49.1 +8.5
LZH					pmax	pmax		
	comp=Z,15nm,0.7s							
GTA	**Gaotai**		**34.26**	**283**	P		**P**	14 10 55.4 +0.3
GTA					pP		sP	14 11 00.6 +2.5
GTA					sP		pP	14 11 03.8 +6.5
GTA					pmax	pmax		
	comp=Z,6.0nm,1.0s							
CD2	**Chengdu**		**34.57**	**266**	*e*P		**P**	14 10 57.5 -0.3
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
KMI	**Kunming**		**38.37**	**259**	P		**P**	14 11 30.1 -0.4
KMI					pmax	pmax		
	comp=Z,12nm,1.0s							
DGZ	**Jazzator, Alta**		**40.51**	**302**	*d i* P		**P**	14 11 48.6 +0.6
ZAA0	**Zalesovo Array**		**41.47**	**309**	*e*P		**P**	14 11 55.7 0.0
	comp=Z,2.7nm,0.8s							
ZALV	**Zalesovo Beam**		**41.47**	**309**	P		**P**	14 11 56.2 +0.5
	comp=Z,2.2nm,0.4s,baz=105,slow=8.2,SNR=8.5							
ZALV					PcP		**PcP**	14 13 53.4 +0.1
	comp=Z,0.7nm,0.5s,baz=90,slow=1.4,SNR=4.0							
ZALV	**Zalesovo Beam**		**41.47**	**309**	*e*P		**P**	14 11 55.5 -0.2
ZALV								14 13 53.4
ZALV	**Zalesovo Beam**		**41.47**	**309**	*e*P		**P**	14 11 55.5 -0.2
ZALV					PcP		**PcP**	14 13 53.4 +0.1
WMQ	**Urumqi**		**41.69**	**294**	P		**P**	14 11 59.6 +1.9
WMQ					pP		sP	14 12 05.9 +5.1
WMQ					pmax	pmax		
	comp=Z,11nm,0.6s							
KDAK	**Kodiak Island**		**42.36**	**45**	P		**P**	14 12 03.5 +0.6
	comp=Z,4.4nm,0.8s,baz=265,slow=6.5,SNR=5.9							
BPAW	**Bear Paw Mtn.**		**42.94**	**35**	*e*P		**P**	14 12 09.0 +1.4
	comp=Z,9.3nm,0.7s							
MK31	**Makanchi Array**		**44.52**	**299**	*e*P		**P**	14 12 20.1 -0.4
MK31	**Makanchi Array**		**44.52**	**299**	*e*P		**P**	14 12 20.1 -0.4
MKAR	**Makanchi Array**		**44.52**	**299**	P		**P**	14 12 20.3 -0.2
	comp=Z,1.6nm,0.6s,baz=84,slow=9.7,SNR=29							
MKAR	**Makanchi Array**		**44.52**	**299**	*e*P		**P**	14 12 20.1 -0.4
	comp=Z,19nm,0.6s							
MK01	**Makanchi Array**		**44.52**	**299**	*e*P		**P**	14 12 20.1 -0.4
ILAR	**Eielson Array**		**44.71**	**34**	P		**P**	14 12 22.5 +0.7
	comp=Z,0.8nm,0.7s,baz=259,slow=6.2,SNR=14							
MAKZ	**Makanchi**		**44.72**	**300**	*e*P		**P**	14 12 20.9 -1.2
MAKZ					pmax	pmax		
	comp=Z,3.0nm,0.6s							
MAKZ	**Makanchi**		**44.72**	**300**	*e*P		**P**	14 12 20.9 -1.2
	comp=Z,3.0nm,0.6s							
CMAR	**Chiang Mai Arr**		**45.20**	**254**	P		**P**	14 12 26.7 +0.4
	comp=Z,0.5nm,0.5s,baz=46,slow=6.4,SNR=3.7							
KURK	**Kurchatov**		**45.82**	**306**	*ce*P		**P**	14 12 30.8 +0.1
KURK					pmax	pmax		
	comp=Z,28nm,1.2s							
KURK	**Kurchatov**		**45.82**	**306**	*e*P		**P**	14 12 30.4 -0.3
	comp=Z,11nm,0.5s							
KURBB	**Kurchatov Arra**		**45.90**	**306**	P		**P**	14 12 31.4 +0.1
	comp=Z,5.8nm,0.6s,baz=77,slow=8.6,SNR=34							
INK	**Inuvik**		**49.64**	**29**	P		**P**	14 13 01.7 +1.6
	comp=Z,1.0nm,0.7s,baz=295,slow=5.5,SNR=6.3							
BVAR	**Borovoye Array**		**50.08**	**311**	P		**P**	14 13 04.4 +0.7
	comp=Z,2.0nm,0.6s,baz=72,slow=9.3,SNR=13							
BRVK	**Borovoye**		**50.13**	**311**	*ce*P		**P**	14 13 04.7 +0.6
BRVK					pmax	pmax		
	comp=Z,5.0nm,0.7s							
KSH	**Kashi**		**51.42**	**293**	*e*P		**P**	14 13 17.5 +3.3
KSH					S		**S**	14 20 36.9 +2.6
KSH					pmax	pmax		
	comp=Z,230nm,6.5s							
KSH					LR		LR	
	comp=Z,230nm,14.4s							
KSH					LR		LR	
	comp=Z,200nm,17.8s							
KSH					LR		LR	
	comp=Z,190nm,18.2s							
KKAR	**Karatay Array**		**53.63**	**299**	*e*P		**P**	14 13 30.0 -0.4
KKAR	**Karatay Array**		**53.63**	**299**	*e*P		**P**	14 13 30.0 -0.4
ARU	**Arti**		**55.32**	**318**	*d i* P		**P**	14 13 42.2 -0.2
ARU								14 14 37.8
ARU								14 15 45.7
ARU					S		**S**	14 21 26.7 +0.2
ARU					SS		**SS**	14 25 06.6 -3.6
ARU					pmax	pmax		
	comp=Z,9.0nm,1.7s							
PSI	**Prapat**		**56.16**	**240**	P		**P**	14 13 49.9 +0.8
	comp=Z,1.9nm,0.5s,baz=27,slow=2.3,SNR=3.4							
SPITS	**Spitsbergen Ar**		**57.24**	**349**	P		**P**	14 13 56.3 +0.5
	comp=Z,16nm,1.1s,baz=14,slow=8.0,SNR=3.8							
ABKAR	**Akbulak array**		**57.59**	**309**	*e*P		**P**	14 13 58.6 0.0
	comp=Z,28nm,0.6s							
RES	**Resolute Bay**		**58.12**	**16**	*e*P		**P**	14 14 02.6 +0.6
RES					pmax	pmax		
	comp=Z,4.0nm,0.8s							
RES	**Resolute Bay**		**58.12**	**16**	*e*P		**P**	14 14 02.6 +0.6
	comp=Z,3.9nm,0.8s							
AKTO	**Aktyubinsk**		**58.17**	**311**	P		**P**	14 14 01.6 -1.2
	comp=Z,1.7nm,0.7s,baz=52,slow=19,SNR=3.7							
LEM	**Lembang**		**58.61**	**225**	P		**P**	14 14 06.6 +0.3
	comp=Z,1.5nm,0.4s,baz=354,slow=16,SNR=2.5							
YKA	**Yellowknife Ar**		**59.04**	**32**	P		**P**	14 14 09.4 +0.9
	comp=Z,0.4nm,0.6s,baz=300,slow=6.5,SNR=7.2							
ARCES	**ARCESS Array B**		**61.32**	**340**	P		**P**	14 14 24.5 +0.4
	comp=Z,1.4nm,0.8s,baz=31,slow=10,SNR=3.5							
WRAB	**Tennant Creek**		**61.36**	**191**	*e*P		**P**	14 14 25.0 +0.1
WRAB					pmax	pmax		
	comp=Z,9.0nm,1.2s							
WRA	**Warramunga Arr**		**61.37**	**191**	P		**P**	14 14 24.7 -0.3
	comp=Z,6.3nm,1.0s,baz=10,slow=7.3,SNR=18							
WRA	**Warramunga Arr**		**61.37**	**191**	*i* P		**P**	14 14 24.8 -0.2
WRA					pmax	pmax		
	comp=Z,6.0nm,1.0s							
GEYT	**Alibeck**		**64.39**	**299**	P		**P**	14 14 45.4 +0.2
	comp=Z,2.9nm,0.8s,baz=323,slow=4.5,SNR=4.3							
ASAR	**Alice Springs**		**65.09**	**191**	P		**P**	14 14 49.2 -0.5
	comp=Z,1.1nm,0.7s,baz=11,slow=5.7,SNR=15							
FINES	**FINESS Array B**		**66.64**	**333**	P		**P**	14 14 59.4 +0.2
	comp=Z,2.0nm,0.5s,baz=46,slow=7.1,SNR=12							
BOZ	**Bozeman (W)**		**70.03**	**47**	*e*P		**P**	14 15 21.7 +0.8
BOZ					pmax	pmax		
	comp=Z,8.0nm,1.6s							
BOZ	**Bozeman (W)**		**70.03**	**47**	*e*P		**P**	14 15 21.7 +0.8
	comp=Z,8.1nm,1.6s							
KIV	**Kislovodsk**		**70.43**	**312**	*e*P		**P**	14 15 23.4 0.0
KIV					pmax	pmax		
	comp=Z,13nm,1.1s							
KBZ	**Khabaz**		**70.45**	**311**	P		**P**	14 15 24.4 +1.1
	comp=Z,4.2nm,0.8s,baz=62,slow=3.4,SNR=12							
NVAR	**Mina Array Bea**		**70.46**	**56**	P		**P**	14 15 25.4 +1.6
	comp=Z,0.6nm,0.7s,baz=297,slow=6.2,SNR=4.7							
NOA	**NORSAR Array B**		**71.63**	**338**	P		**P**	14 15 30.7 +0.4
	comp=Z,0.9nm,0.9s,baz=54,slow=14,SNR=3.9							
HFS	**Hagfors**		**71.65**	**337**	P		**P**	14 15 30.6 +0.3
	comp=Z,0.9nm,0.4s,baz=54,slow=7.3,SNR=6.8							
AKASG	**Malin Array Be**		**72.88**	**323**	P		**P**	14 15 37.7 -0.1
	comp=Z,2.5nm,0.5s,baz=42,slow=6.2,SNR=11							
AKASG	**Malin Array Be**		**72.88**	**323**	*ce*P		**P**	14 15 37.7 -0.1
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.4s							
KIEV	**Kiev**		**72.89**	**323**	*e*P		**P**	14 15 37.0 -0.9
KIEV					pmax	pmax		
	comp=Z,2.0nm,0.8s							
PDAR	**Pinedale Array**		**72.97**	**48**	P		**P**	14 15 39.5 +0.6
	comp=Z,0.5nm,0.6s,baz=299,slow=1.9,SNR=6.3							
BUR08	**Bucovina Ar. S**		**76.92**	**323**	*e*P		**P**	14 16 01.9 +0.5
BUR04	**Bucovina Ar. S**		**76.93**	**323**	*e*P		**P**	14 16 02.0 +0.5
BURAR	**Bucovina Array**		**76.93**	**323**	*i* P		**P**	14 16 02.2 +0.7
MLR	**Muntele Rosu**		**78.16**	**321**	*i* P		**P**	14 16 10.1 +1.7
BRTR	**Keskin Array B**		**78.30**	**313**	P		**P**	14 16 09.9 +0.6
	comp=Z,0.7nm,0.7s,baz=78,slow=2.5,SNR=3.5							
VOIR			**78.62**	**322**	*i* P		**P**	14 16 11.3 +0.4
CLL	**Collm**		**79.05**	**332**	*e*P		**P**	14 16 13.0 0.0
CLL					pmax	pmax		
	comp=Z,5.0nm,0.4s							
CLL	**Collm**		**79.05**	**332**	*e*P		**P**	14 16 13.0 0.0
	comp=Z,5.0nm,0.4s							
GERES	**GERESS Array B**		**80.81**	**330**	P		**P**	14 16 22.8 +0.1
	comp=Z,0.7nm,0.4s,baz=46,slow=5.8,SNR=5.3							
TX31	**Lajitas Ar. Si**		**85.57**	**55**	*e*P		**P**	14 16 48.3 +0.6
TXAR	**Lajitas Array**		**85.57**	**55**	P		**P**	14 16 48.6 +1.0
	comp=Z,0.5nm,0.5s,baz=303,slow=3.8,SNR=9.2							

ISCJB ***14*** *14:05:19.7±0.3, 34°.73N±0°.01×116°.26W±0°.02, h4km±2km, Error ellipse: s-maj=2.5km s-min=2.3km az=18.8*
NEIC ***14*** *14:05:21.0±0.0, 34°.73N×116°.30W, h6km, ML2.9(PAS), After PAS.*

ISC 14 14:05:20.6±0.9, 34°.73N±0°.02×116°.28W±0°.02, h10km±7km, n74, σ0°86/99, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.11**	**335**	P		P	**Pg**	**14 05 23.3**	**-0.2**
	baz=163,SNR=1000								
HEC				S			**Sg**	**14 05 25.2**	**-0.3**
	baz=163								
HEC	**Hector,Ludlow**	**0.11**	**335**	*e*Pg		**Pg**	**Pg**	**14 05 23.3**	**-0.2**
DSCC	**Desert Studies**	**0.44**	**19**	*e*Pg		**Pg**	**Pg**	**14 05 29.2**	**0.0**
GMRC	**Granite Mounta**	**0.51**	**83**	P		**Pg**	**Pg**	**14 05 30.7**	**+0.1**
	baz=264,SNR=57								
GMRC				S			**Sg**	**14 05 37.9**	**+0.5**
	baz=264								
GMRC	**Granite Mounta**	**0.51**	**83**	*e*Pg		**Pg**	**Pg**	**14 05 30.8**	**+0.1**
RRX	**Edison Barstow**	**0.61**	**284**	P		**Pg**	**Pg**	**14 05 32.1**	**-0.4**
	baz=104								
RRX				S			**Sg**	**14 05 40.4**	**-0.1**
	baz=104								
TPC	**Twentynine Pal**	**0.65**	**163**	*e*Pg		**Pg**	**Pg**	**14 05 33.3**	**+0.1**
BBRC	**Big Bear Solar**	**0.70**	**229**	P		**Pg**	**Pg**	**14 05 33.8**	**-0.4**
	baz=48,SNR=25								
BBRC				S			**Sg**	**14 05 43.6**	**+0.1**
	baz=48								
BBRC	**Big Bear Solar**	**0.70**	**229**	*e*Pg		**Pg**	**Pg**	**14 05 33.9**	**-0.4**
GSC	**Goldstone, Bar**	**0.72**	**323**	P		**Pg**	**Pg**	**14 05 34.3**	**-0.3**
	baz=144,SNR=147								
GSC				S			**Sg**	**14 05 43.9**	**-0.1**
	baz=144								
GSC	**Goldstone, Bar**	**0.72**	**323**	*e*Pg		**Pg**	**Pg**	**14 05 34.3**	**-0.3**
GSC				*e*Sg		**Sg**	**Sg**	**14 05 43.8**	**-0.3**
DANC	**Danby, Needles**	**0.74**	**97**	*e*Pg		**Pg**	**Pg**	**14 05 36.0**	**+1.0**
BELC	**Belle Mtn. Jos**	**0.76**	**162**	P		**Pg**	**Pg**	**14 05 35.0**	**-0.3**
	baz=341,SNR=114								
BELC				S			**Sg**	**14 05 45.6**	**+0.4**
	baz=341								
TUQ	**Turquoise Moun**	**0.77**	**22**	P		**Pg**	**Pg**	**14 05 35.1**	**-0.4**
	baz=203,SNR=31								
TUQ				S			**Sg**	**14 05 45.6**	**+0.1**
	baz=203								
TUQ	**Turquoise Moun**	**0.77**	**22**	*e*Pg		**Pg**	**Pg**	**14 05 35.3**	**-0.2**
TUQ				*e*Sg		**Sg**	**Sg**	**14 05 45.7**	**+0.3**
BLKC	**Black Mountain**	**0.85**	**295**	*e*Pg		**Pg**	**Pg**	**14 05 36.5**	**-0.6**
VTV	**Victorville**	**0.88**	**260**	*e*Sg		**Sg**	**Sg**	**14 05 48.8**	**-0.4**
SVD	**Seven Oaks Dam**	**0.92**	**228**	*e*Pg		**Pg**	**Pg**	**14 05 37.7**	**-0.6**
LDFC	**Landfair**	**1.02**	**70**	*e*Pg		**Pg**	**Pg**	**14 05 39.5**	**-0.8**
LDFC				*e*Sg		**Sg**	**Sg**	**14 05 52.5**	**-1.1**
LDFC				*e*Sn		**Sb**	**Sb**	**14 05 52.9**	**-1.2**
EL2	**El Mirage 2**	**1.06**	**260**	*e*Pg		**Pn**	**Pn**	**14 05 42.1**	**+0.3**
EL2				*e*Sn		**Sn**	**Sn**	**14 05 56.7**	**0.0**
IRM	**Iron Mountain**	**1.09**	**121**	P		**Pg**	**Pg**	**14 05 40.7**	**-0.9**
	baz=301,SNR=238								
IRM	**Iron Mountain**	**1.09**	**121**	*e*Pg		**Pg**	**Pg**	**14 05 40.9**	**-0.7**
IRM				*e*Sn		**Sg**	**Sg**	**14 05 56.5**	**+0.7**
CTW	**Cottonwood Mou**	**1.10**	**162**	*e*Pg		**Pg**	**Pg**	**14 05 41.4**	**-0.3**
PFO	**Pinyon Flats O**	**1.12**	**188**	P		**Pg**	**Pg**	**14 05 41.2**	**-1.0**
	baz=6.9,SNR=42								
PFO				S			**Sg**	**14 05 56.3**	**-0.5**
	baz=6.9								
PFO	**Pinyon Flats O**	**1.12**	**188**	*e*Pg		**Pg**	**Pg**	**14 05 41.2**	**-1.0**
PFO				*e*Sg		**Sg**	**Sg**	**14 05 56.0**	**-0.8**
XPFO	**Piæon Flat**	**1.12**	**188**	*e*Pg		**Pg**	**Pg**	**14 05 41.1**	**-1.1**
HAY	**Hayfield**	**1.13**	**154**	*e*Pn		**Pg**	**Pg**	**14 05 42.5**	**+0.2**
SHOC	**Shoshone, Teco**	**1.17**	**0**	P		**Pg**	**Pg**	**14 05 41.9**	**-1.3**
	baz=181,SNR=41								
SHOC				S			**Sg**	**14 05 57.9**	**-0.5**
	baz=181								
DNR	**Dunn Ranch,Anz**	**1.19**	**194**	*e*Pn		**Pb**	**Pb**	**14 05 44.2**	**+0.7**
DNR				*e*Sn		**Sg**	**Sg**	**14 05 59.3**	**+0.2**
SNDA	**J Saunders Pla**	**1.20**	**194**	*e*Pn		**Pb**	**Pb**	**14 05 44.3**	**+0.7**
CRY	**Cary Ranch**	**1.22**	**198**	*e*Pg		**Pg**	**Pg**	**14 05 43.4**	**-0.7**
BFSC	**Mount Baldy Ra**	**1.24**	**247**	P		**Pg**	**Pg**	**14 05 43.1**	**-1.3**
	baz=66								
BFSC				S			**Sg**	**14 05 59.4**	**-1.2**
	baz=66								
FRD	**Ford Ranch, An**	**1.26**	**193**	*e*Pn		**Pg**	**Pg**	**14 05 44.3**	**-0.5**
BC3	**Big Chuckawall**	**1.27**	**147**	P		**Pn**	**Pn**	**14 05 43.1**	**-1.4**
	baz=327,SNR=63								
BC3				S			**Sg**	**14 06 01.3**	**-0.1**
	baz=327								
SSK	**Sunset Peak**	**1.28**	**247**	*e*Pn		**Pg**	**Pg**	**14 05 44.4**	**-0.8**
BATC	**Bat Cave Butte**	**1.31**	**164**	*e*Pn		**Pb**	**Pb**	**14 05 46.2**	**+0.8**
HOLC	**Holcomb Ridge**	**1.32**	**259**	*e*Pn		**Pn**	**Pn**	**14 05 44.8**	**-0.5**
MURC	**Murrieta**	**1.36**	**214**	Pb			**Pn**	**14 05 45.2**	**-0.5**
	baz=33								
NEE2	**Needles Airpor**	**1.37**	**88**	Pg			**Pn**	**14 05 46.3**	**+0.5**
	baz=269								
NEE2				S			**Sb**	**14 06 04.8**	**+1.0**
	baz=269								
LRMC	**Laurel Mtn Rad**	**1.38**	**304**	Pg			**Pn**	**14 05 46.3**	**+0.2**
	baz=123								
PSRC	**Puddingstone R**	**1.42**	**244**	*e*Pn			**Pn**	**14 05 47.2**	**+0.8**
PSRC				*e*Sn			**Sb**	**14 06 05.4**	**+0.1**
EDW2	**Edwards Air Fo**	**1.42**	**277**	P			**Pn**	**14 05 45.2**	**-1.4**
	baz=96,SNR=20								
EDW2				S			**Sb**	**14 06 05.4**	**-0.1**
	baz=96								
EDW2	**Edwards Air Fo**	**1.42**	**277**	*e*Pn			**Pn**	**14 05 47.1**	**+0.5**
FRK	**Frink**	**1.42**	**158**	*e*Pn			**Pn**	**14 05 47.7**	**+1.1**
CCAC	**Calif City Air**	**1.49**	**287**	*e*Pn			**Pn**	**14 05 48.1**	**+0.5**
CHFC	**Chilao Flat St**	**1.50**	**255**	*e*Pn			**Pn**	**14 05 48.1**	**+0.4**
CLC	**China Lake**	**1.53**	**316**	*e*Pn			**Pn**	**14 05 48.5**	**+0.3**
CLC				*e*Sn			**Sn**	**14 06 09.0**	**+0.8**
MWC	**Mount Wilson**	**1.56**	**252**	*e*Pn			**Pn**	**14 05 49.1**	**+0.5**
MWC				*e*Sn			**Sb**	**14 06 09.9**	**+0.4**
MPMC	**Manual Prospec**	**1.66**	**324**	P			**Pn**	**14 05 48.8**	**-1.2**
	baz=144,SNR=38								
RCWM	**Renegade Canyo**	**1.66**	**318**	*e*Pn			**Pn**	**14 05 50.6**	**+0.6**
PASC	**Pasadena Art C**	**1.67**	**251**	*e*Pn			**Pn**	**14 05 50.1**	**0.0**
Y12C	**Blythe**	**1.75**	**123**	P			**Pn**	**14 05 49.9**	**-1.2**
	baz=304,SNR=13								
Y12C	**Blythe**	**1.75**	**123**	*e*Pn			**Pn**	**14 05 49.6**	**-1.4**
WWPM	**Walker Pass**	**1.79**	**305**	*e*Pn			**Pn**	**14 05 50.7**	**-1.1**
MONP2	**Monument Peak**	**1.83**	**184**	Pg			**Pb**	**14 05 54.8**	**+0.3**
	baz=3.2								
DAC	**Darwin (Calif)**	**1.88**	**326**	*e*Pn			**Pn**	**14 05 52.0**	**-1.2**
SHPR	**Sheep Range**	**2.00**	**27**	*e*Pn			**Pn**	**14 05 54.0**	**-0.7**
W13A	**Hualapai Mount**	**2.00**	**79**	*e*Pn			**Pn**	**14 05 53.9**	**-0.8**
OSI	**Osito Audit: C**	**2.02**	**268**	*e*Pn			**Pn**	**14 05 56.6**	**+1.7**
ISA	**Isabella, Lake**	**2.03**	**298**	P			**Pn**	**14 05 53.8**	**-1.2**
	baz=117,SNR=21								
ISA				Sb			**Sb**	**14 06 24.3**	**+1.3**
	baz=117								
ISA	**Isabella, Lake**	**2.03**	**298**	*e*Pn			**Pn**	**14 05 53.7**	**-1.3**
DREC	**Desert Rsrch C**	**2.04**	**160**	*e*Sn			**Sb**	**14 06 23.5**	**+0.4**
GLA	**Glamis**	**2.06**	**144**	P			**Pn**	**14 05 53.8**	**-1.6**
	baz=324,SNR=11								
GLA	**Glamis**	**2.06**	**144**	*e*Pn			**Pn**	**14 05 53.8**	**-1.6**
IKP	**In-Ko-Pah, Jac**	**2.08**	**176**	Sb			**Sb**	**14 06 26.4**	**+2.0**
	baz=356								
BLG	**Laguna Peak, P**	**2.39**	**256**	Sb			**Sb**	**14 06 34.9**	**+1.6**
	baz=74								
Y14A	**Wickenburg**	**2.82**	**105**	*e*Pn			**Pn**	**14 06 04.5**	**-1.3**
113A	**Mohawk Valley,**	**2.86**	**132**	*e*Pn			**Pn**	**14 06 04.4**	**-1.9**
LCMT	**Little Creek M**	**3.36**	**46**	*e*Pn			**Pn**	**14 06 13.2**	**-0.1**
R11A	**Troy Canyon, C**	**3.66**	**9**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.44**	**90**	P	**Pn**	**14 20 48.3**	**-1.2**
GSI				S	**Sn**	**14 20 55.4**	**-1.2**
TPTI		**1.94**	**1**	P	**Pn**	**14 21 09.5**	**-0.7**
TPTI				S	**Sn**	**14 21 33.3**	**-0.4**
KCSI	**Kotacane, Aceh**	**2.29**	**16**	P	**Pn**	**14 21 14.4**	**-0.6**
KCSI				S	**Sn**	**14 21 41.9**	**-0.5**
PSI	**Prapat**	**2.32**	**50**	Pn	**Pn**	**14 21 16.6**	**+1.1**
	1.5nm,0.3s,baz=170,slow=11,SNR=6.3						
PSI				Sn	Sb	14 21 58.4	+10
	0.6nm,0.3s,baz=218,slow=19,SNR=3.9						
MNSI	**Mandailing Nat**	**2.50**	**102**	P	**Pn**	**14 21 17.3**	**-0.5**
MNSI				S	**Sn**	**14 21 47.1**	**-0.3**
MLSI	**Meulaboh, Aceh**	**3.03**	**346**	P	**Pn**	**14 21 24.4**	**-0.8**
MLSI				S	**Sn**	**14 21 59.7**	**-0.9**
SISI	**Saibi**	**3.26**	**143**	P	**Pn**	**14 21 28.0**	**-0.4**
LHMI	**Lhok Sumawe**	**3.90**	**357**	P	**Pn**	**14 21 36.2**	**-1.0**
H08S2	**Diego Garcia H**	**26.14**	**250**	T	T	14 53 11.8	
	baz=71,slow=76,SNR=309						
H08S3	**Diego Garcia H**	**26.14**	**250**	T	T	14 53 08.6	
	baz=71,slow=76,SNR=244						
H08S1	**Diego Carcia H**	**26.16**	**250**	T	T	14 53 07.1	
	baz=71,slow=76,SNR=353						
SONM	**Songino Array**	**47.04**	**9**	P	**P**	**14 29 09.0**	**+0.8**
	0.2nm,0.5s,baz=179,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**14 29 09.4**	**+0.7**
	0.3nm,0.5s,baz=158,slow=8.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**53.44**	**351**	P	**P**	**14 29 57.2**	**+0.7**
	0.4nm,0.4s,baz=161,slow=6.1,SNR=2.9						

JMA 14 14:29:18.9±0.2, 40.84N×144.79E, h37km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**2.07**	**329**	P	Pn	14 29 52.2	+1.1
JCH				*e*S	Sn	14 30 17.0	+1.4
JANG	**Nango**	**2.54**	**260**	P	Pn	14 29 58.8	+1.3
JANG				*e*S	Sn	14 30 28.2	+1.1
JTM	**Tenmabayashi**	**2.83**	**270**	P	Pn	14 30 03.9	+2.5
JTM				*e*S	Sn	14 30 36.3	+2.1
JOM	**Ohasama**	**3.01**	**244**	P	Pn	14 30 05.9	+1.9
JOM				*e*S	Sn	14 30 40.1	+1.4
JAH	**Hinai**	**3.23**	**260**	P	Pn	14 30 09.6	+2.6
JMK	**Ichinoseki**	**3.33**	**237**	P	Pn	14 30 10.0	+1.6
JMK				*e*S	Sn	14 30 47.6	+0.9
JRG	**Rokugo**	**3.50**	**247**	P	Pn	14 30 13.4	+2.7
JRG				*e*S	Sn	14 30 52.8	+2.0
JYK	**Kaneyama**	**3.91**	**242**	P	Pn	14 30 18.3	+1.9
JYK				*e*S	Sn	14 31 00.7	-0.3

*ISCJB **14** 14:31:01.9±0.3, 63.65N±0.02×22.96E±0.05, h0km, Error ellipse: s-maj=3.4km s-min=3.2km az=18.3*
*CSEM **14** 14:31:02.8±0.2, 63.64N×22.93E, h2km, ML1.6, Error ellipse: s-maj=4.2km s-min=3.8km az=173.0, Mining explosion.*
*UPP **14** 14:31:03.7, 63.66N×22.75E, h0km, ML2.0, Suspected Mining explosion.*
*HEL **14** 14:31:03.0±0.1, 63.65N×22.96E, h0km, ML1.6, ML2.0(UPP), Explosion*

ISC 14 14:31:02.6±0.8, 63.64N±0.02×22.92E±0.02, h0km, n46, σ0.76/73, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAF	**Ylistaro**	**0.61**	**191**	P	**Pg**	**14 31 14.0**	**-0.3**
VAF	**Ylistaro**	**0.61**	**191**	*e*P	**Pg**	**14 31 14.0**	**-0.3**
	baz=12						
UMAU	**Umeaa**	**1.03**	**285**	P	**Pg**	**14 31 21.4**	**-0.8**
UMAU				S	**Sg**	**14 31 35.2**	**-0.3**
UMAU	**Umeaa**	**1.03**	**285**	P	**Pg**	**14 31 21.4**	**-0.8**
UMAU				S	**Sg**	**14 31 35.2**	**-0.3**
UMAU	**Umeaa**	**1.03**	**285**	*e*P	**Pg**	**14 31 21.4**	**-0.8**
	baz=103						
UMAU				*e*SB	**Sb**	**14 31 38.2**	**+1.1**
OUF	**Merijarvi**	**1.08**	**47**	Pb	**Pg**	**14 31 22.5**	**-0.7**
OUF				Sb	**Sg**	**14 31 36.8**	**-0.4**
OUF	**Merijarvi**	**1.08**	**47**	*e*PB	**Pg**	**14 31 22.5**	**-0.7**
OUF				MSG		14 31 35.2	
	comp=Z,2.0nm,0.2s						
OUF				*e*SB	**Sg**	**14 31 36.8**	**-0.4**
BURU	**Burvik**	**1.16**	**325**	P	**Pg**	**14 31 24.4**	**-0.4**
BURU				S	**Sg**	**14 31 40.2**	**+0.3**
BURU	**Burvik**	**1.16**	**325**	P	**Pg**	**14 31 24.4**	**-0.4**
BURU				S	**Sg**	**14 31 40.1**	**+0.3**
BURU	**Burvik**	**1.16**	**325**	*e*PB	**Pg**	**14 31 24.3**	**-0.5**
HUSU	**Husum**	**1.69**	**261**	P	**Pn**	**14 31 33.5**	**+0.2**
HUSU				S	**Sn**	**14 31 55.1**	**-0.5**
HUSU	**Husum**	**1.69**	**261**	P	**Pn**	**14 31 33.5**	**+0.3**
HUSU				S	**Sn**	**14 31 55.1**	**-0.5**
HUSU	**Husum**	**1.69**	**261**	*e*P	**Pn**	**14 31 33.5**	**+0.3**
HUSU				*e*S	**Sn**	**14 31 55.1**	**-0.5**
SVAU	**Svanoeiden**	**1.70**	**302**	P	**Pn**	**14 31 33.3**	**-0.1**
SVAU				S	**Sn**	**14 31 55.6**	**-0.3**
SVAU	**Svanoeiden**	**1.70**	**302**	P	**Pn**	**14 31 33.3**	**-0.1**
SVAU				S	**Sn**	**14 31 55.6**	**-0.3**
SVAU	**Svanoeiden**	**1.70**	**302**	*e*P	**Pn**	**14 31 33.3**	**-0.1**
SVAU				*e*S	**Sn**	**14 31 55.6**	**-0.3**
KEF	**Keuruu**	**1.73**	**148**	Pn	**Pn**	**14 31 34.0**	**+0.2**
KEF				Sn	**Sn**	**14 31 57.1**	**+0.5**
KEF	**Keuruu**	**1.73**	**148**	*e*PN	**Pn**	**14 31 34.1**	**+0.2**
	baz=327						
KEF				MSG		14 31 54.4	
	comp=Z,4.4nm,0.2s						
KEF				*e*SN	**Sn**	**14 31 57.1**	**+0.5**
SUF	**Sumiainen**	**1.73**	**121**	Pn	**Pn**	**14 31 34.0**	**+0.1**
SUF				Sn	**Sn**	**14 31 56.8**	**+0.2**
SUF	**Sumiainen**	**1.73**	**121**	*e*PN	**Pn**	**14 31 34.1**	**+0.2**
SUF				MSG		14 31 54.4	
	comp=Z,4.1nm,0.2s						
SUF				*e*SN	**Sn**	**14 31 56.8**	**+0.2**
OUL	**Oulu**	**1.94**	**40**	P	**Pn**	**14 31 36.4**	**-0.3**
OUL				S	**Sn**	**14 32 01.4**	**-0.4**
OUL	**Oulu**	**1.94**	**40**	*e*P	**Pn**	**14 31 36.5**	**-0.3**
OUL				*e*S	**Sn**	**14 32 01.4**	**-0.4**
BREU	**Bredtraesk**	**1.95**	**279**	P	**Pn**	**14 31 37.5**	**+0.7**
BREU	**Bredtraesk**	**1.95**	**279**	P	**Pn**	**14 31 37.6**	**+0.8**
BREU	**Bredtraesk**	**1.95**	**279**	*e*P	**Pn**	**14 31 37.6**	**+0.8**
SJUU	**Sjulsmark**	**1.96**	**344**	P	**Pn**	**14 31 37.7**	**+0.8**
SJUU	**Sjulsmark**	**1.96**	**344**	P	**Pn**	**14 31 37.8**	**+0.8**
SJUU	**Sjulsmark**	**1.96**	**344**	*e*P	**Pn**	**14 31 37.8**	**+0.8**
KAF	**Kangasniemi**	**2.18**	**133**	*e*PG	**Pn**	**14 31 41.5**	**+1.4**
	baz=319						
KAF				MSG		14 32 07.3	
	comp=Z,7.9nm,0.2s						
KAF				*e*SG	**Sb**	**14 32 10.3**	**-0.1**
KALU	**Kalix**	**2.23**	**5**	P	**Pn**	**14 31 42.3**	**+1.6**
KALU	**Kalix**	**2.23**	**5**	P	**Pn**	**14 31 42.3**	**+1.6**
KALU	**Kalix**	**2.23**	**5**	*e*PB	**Pn**	**14 31 42.2**	**+1.4**
KALU				*e*SG	**Sb**	**14 32 11.3**	**-0.5**
HEMU	**Hemsoen**	**2.42**	**249**	P	**Pn**	**14 31 44.5**	**+1.2**
HEMU	**Hemsoen**	**2.42**	**249**	*e*P	**Pn**	**14 31 44.6**	**+1.2**
	baz=62						
HEMU				*e*SB	**Sb**	**14 32 16.9**	**-0.3**
TOF	**Tornio**	**2.52**	**13**	S	**Sn**	**14 32 17.1**	**+1.1**
TOF	**Tornio**	**2.52**	**13**	*e*PB	**Pn**	**14 31 46.9**	**+2.2**
TOF				MSG		14 32 16.6	
	comp=Z,2.4nm,0.2s						
TOF				*e*S	**Sn**	**14 32 17.1**	**+1.1**
FIA0	**FINESS Array S**	**2.65**	**145**	*e*PB	**Pn**	**14 31 48.4**	**+2.0**
FIA0				*e*SB	**Sb**	**14 32 22.6**	**-1.2**
RAF	**Rauma**	**2.69**	**192**	MSG		14 32 22.4	
	comp=Z,1.2nm,0.2s						
RAF				*e*SG	**Sb**	**14 32 25.3**	**+0.5**
ERTU	**Ertsjaerv**	**2.94**	**354**	S	**Sn**	**14 32 27.3**	**+0.9**
ERTU	**Ertsjaerv**	**2.94**	**354**	*e*PG	**Pb**	**14 31 55.3**	**-0.4**
ERTU				*e*S	**Sn**	**14 32 27.4**	**+0.9**
MSF	**Maaselka**	**3.47**	**46**	P	**Pn**	**14 31 58.2**	**+0.5**
MSF	**Maaselka**	**3.47**	**46**	*e*P	**Pn**	**14 31 58.3**	**+0.5**
KU6	**Riekki**	**3.82**	**48**	P	**Pn**	**14 32 02.6**	**+0.1**
KU6				S	**Sn**	**14 32 48.2**	**+0.2**
KU6	**Riekki**	**3.82**	**48**	*e*P	**Pn**	**14 32 02.6**	**+0.1**
KU6				*e*S	**Sn**	**14 32 48.2**	**+0.2**
LANU	**Lannavaara**	**4.44**	**355**	P	**Pn**	**14 32 12.0**	**+0.9**
LANU	**Lannavaara**	**4.44**	**355**	*e*P	**Pn**	**14 32 12.1**	**+0.9**
	baz=175						

*JMA **14** 14:33:36.6±0.1, 40.88N×145.11E, h64km±3km, M3.7*
*IDC **14** 14:33:36.1±0.8, 40.88N×144.94E, h0km, mb3.5/10, mb1 3.7/12, mb1mx3.5/65, mbtmp3.5/12, ML3.0/2, Error ellipse: s-maj=21.8km s-min=18.4km az=111.0*
*ISCJB **14** 14:33:38.6±0.5, 40.89N±0.03×144.85E±0.05, h33km, mb3.5/10, Error ellipse: s-maj=5.4km s-min=3.4km az=20.4*

ISC 14 14:33:40.0±0.9, 40.89N±0.04×145.00E±0.06, h35km, n40, σ1.99/47, mb3.6/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.79**	**310**	P	**Pn**	**14 34 06.9**	**-1.4**
JEM				*e*S	**Sn**	**14 34 27.9**	**-1.9**
JCH	**Churui**	**2.12**	**325**	P	**Pn**	**14 34 11.2**	**-1.7**
JCH				*e*S	**Sn**	**14 34 35.7**	**-2.2**
JAK	**Akkeshi**	**2.12**	**354**	*e*S	**Sn**	**14 34 36.0**	**-2.0**
JNBK	**Urakawa-nobuka**	**2.19**	**310**	P	**Pn**	**14 34 13.0**	**-0.8**
JNBK				*e*S	**Sn**	**14 34 39.4**	**-0.3**
JOB	**Onbets**	**2.19**	**337**	P	**Pn**	**14 34 12.8**	**-1.1**
JOB				*e*S	**Sn**	**14 34 38.7**	**-1.1**
NEM2	**Nemuro 2**	**2.54**	**12**	P	**Pn**	**14 34 16.2**	**-2.4**
NEM2				*e*S	**Sn**	**14 34 44.1**	**-4.2**
JAR	**Ashorobuto**	**2.58**	**340**	*e*S	**Sn**	**14 34 46.6**	**-2.7**
JANG	**Nango**	**2.70**	**260**	P	**Pn**	**14 34 18.8**	**-2.1**
JNK	**Nakash**	**2.71**	**356**	P	**Pn**	**14 34 18.3**	**-2.6**
JNK				*e*S	**Sn**	**14 34 48.4**	**-4.0**
JBT2	**Biratori 2**	**2.73**	**315**	P	**Pn**	**14 34 20.9**	**-0.4**
JBT2				*e*S	**Sn**	**14 34 53.1**	**0.0**
JFR	**Furan**	**2.90**	**323**	*e*S	**Sn**	**14 34 54.6**	**-2.6**
JTM	**Tenmabayashi**	**2.99**	**269**	P	**Pn**	**14 34 23.6**	**-1.2**
JTM				*e*S	**Sn**	**14 34 56.4**	**-3.0**
JOT	**Ohata**	**3.03**	**281**	P	**Pn**	**14 34 23.9**	**-1.5**
JOT				*e*S	**Sn**	**14 34 57.2**	**-3.2**
JOM	**Ohasama**	**3.17**	**245**	P	**Pn**	**14 34 26.2**	**-1.2**
JOM				*e*S	**Sn**	**14 35 00.9**	**-3.1**
JTKR	**Abashiri--Toko**	**3.19**	**346**	P	**Pn**	**14 34 26.2**	**-1.3**
JTKR				*e*S	**Sn**	**14 35 02.7**	**-1.6**
JEW	**Eniwo**	**3.29**	**308**	P	**Pn**	**14 34 28.6**	**-0.4**
JEW				*e*S	**Sn**	**14 35 05.8**	**-1.2**
JAH	**Hinai**	**3.40**	**260**	P	**Pn**	**14 34 29.4**	**-1.1**
JAH				*e*S	**Sn**	**14 35 06.9**	**-2.7**
JKK2	**Kamakawa 2**	**3.42**	**332**	P	**Pn**	**14 34 29.5**	**-1.3**
JMK	**Ichinoseki**	**3.49**	**238**	*e*S	**Sn**	**14 35 08.2**	**-3.6**
JRG	**Rokugo**	**3.66**	**247**	P	**Pn**	**14 34 33.5**	**-0.6**
JRG				*e*S	**Sn**	**14 35 14.3**	**-1.8**
ASAJ	**Asahikawa**	**3.69**	**332**	Pn	**Pn**	**14 34 33.8**	**-0.6**
	1.0nm,0.3s,baz=194,slow=13,SNR=7.8						
ASAJ				Sn	**Sn**	**14 35 15.9**	**-0.7**
	1.4nm,0.3s,baz=115,slow=31,SNR=4.2						
JYK	**Kaneyama**	**4.08**	**243**	P	**Pn**	**14 34 38.8**	**-1.0**
JOU	**Okura**	**4.19**	**234**	P	**Pn**	**14 34 40.1**	**-1.3**
JOU				*e*S	**Sn**	**14 35 26.1**	**-3.0**
MJAR	**Matsushiro Arr**	**6.86**	**233**	Pn	**Pn**	**14 35 17.5**	**-0.5**
	0.3nm,0.3s,baz=33,slow=13,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.17**	**132**	T	T	15 09 02.9	
	baz=324,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**28.18**	**132**	T	T	15 09 03.3	
	baz=324,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**28.19**	**132**	T	T	15 09 02.6	
	baz=324,slow=75,SNR=5.8						
SONM	**Songino Array**	**28.23**	**297**	P	**P**	**14 39 30.4**	**+0.8**
	1.4nm,0.8s,baz=87,slow=8.8,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**29.05**	**134**	T	T	15 10 08.3	
	baz=325						
H11S3	**WAKE ISLAND Hy**	**29.05**	**134**	T	T	15 10 08.9	
	baz=325						
H11S2	**WAKE ISLAND Hy**	**29.07**	**134**	T	T	15 10 10.1	
	baz=325						
MKAR	**Makanchi Array**	**44.55**	**300**	P	**P**	**14 41 49.4**	**+1.1**
	0.1nm,0.5s,baz=64,slow=5.0,SNR=3.3						
ILAR	**Eielson Array**	**44.74**	**34**	P	P	14 41 51.2	+1.7
	0.7nm,0.9s,baz=263,slow=6.4,SNR=5.7						
KURBB	**Kurchatov Arra**	**45.94**	**306**	P	**P**	**14 42 00.2**	**+1.0**
	0.3nm,0.5s,baz=78,slow=8.9,SNR=6.2						
INK	**Inuvik**	**49.68**	**29**	P	**P**	**14 42 29.2**	**+1.4**
	1.1nm,0.9s,baz=258,slow=7.5,SNR=4.1						
BVAR	**Borovoye Array**	**50.12**	**311**	P	**P**	**14 42 32.4**	**+0.9**
	0.3nm,0.5s,baz=63,slow=9.9,SNR=2.9						
YKA	**Yellowknife Ar**	**59.07**	**32**	P	**P**	**14 43 37.5**	**+1.4**
	0.1nm,0.5s,baz=295,slow=5.9,SNR=4.5						
WRA	**Warramunga Arr**	**61.32**	**191**	P	**P**	**14 43 52.6**	**+0.6**
	1.1nm,0.9s,baz=9.1,slow=6.8,SNR=4.4						
ASAR	**Alice Springs**	**65.05**	**191**	P	P	14 44 18.7	+2.0
	0.3nm,0.7s,baz=8.9,slow=6.6,SNR=3.5						
TXAR	**Lajitas Array**	**85.58**	**55**	P	P	14 46 17.1	+2.1
	0.3nm,0.6s,baz=317,slow=6.2,SNR=3.9						

IDC 14 14:34:24.6±4.4, 12.64S×167.26E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/45, mbtmp3.5/4, MS4.0/1, Ms1 4.0/1, ms1mx2.9/30, Error ellipse: s-maj=187.6km s-min=32.4km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**26.98**	**163**	LR	LR	14 49 05.3	
	comp=Z,324nm,20.3s,baz=194,slow=33						
WRA	**Warramunga Arr**	**32.38**	**253**	P	P	14 40 56.7	+0.4
	0.2nm,0.5s,baz=86,slow=9.4,SNR=1.0						
ASAR	**Alice Springs**	**33.46**	**246**	P	P	14 41 05.6	-0.1
	0.3nm,0.7s,baz=76,slow=9.4,SNR=5.6						
ILAR	**Eielson Array**	**84.56**	**18**	P	P	14 46 59.6	+0.3
	0.5nm,0.5s,baz=231,slow=5.3,SNR=11						
MKAR	**Makanchi Array**	**95.70**	**317**	P	P	14 47 51.5	-0.9
	0.1nm,0.5s,baz=93,slow=6.8,SNR=3.1						

JMA 14 14:35:59.7±0.2, 40.88N×145.31E, h57km±4km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**2.16**	**348**	P	Pn	14 36 34.0	+0.7
JAK				*e*S	Sn	14 36 58.6	-0.4
JCH	**Churui**	**2.26**	**321**	P	Pn	14 36 35.9	+1.2
JCH				*e*S	Sn	14 37 01.0	-0.4
JOB	**Onbets**	**2.30**	**332**	P	Pn	14 36 36.7	+1.5
JOB				*e*S	Sn	14 37 02.6	+0.2
JNBK	**Urakawa-nobuka**	**2.37**	**307**	P	Pn	14 36 38.1	+1.9
JNBK				*e*S	Sn	14 37 05.9	+1.8
JAR	**Ashorobuto**	**2.67**	**335**	P	Pn	14 36 41.3	+1.0
JAR				*e*S	Sn	14 37 10.5	-1.0
JNK	**Nakash**	**2.74**	**351**	P	Pn	14 36 41.8	+0.6
JBT2	**Biratori 2**	**2.91**	**312**	P	Pn	14 36 44.8	+1.3
JBT2				*e*S	Sn	14 37 19.1	+1.9
JANG	**Nango**	**2.93**	**261**	P	Pn	14 36 43.9	+0.1
JFR	**Furan**	**3.05**	**319**	P	Pn	14 36 46.7	+1.2
JFR				*e*S	Sn	14 37 19.3	-1.4
JTM	**Tenmabayashi**	**3.22**	**270**	P	Pn	14 36 48.9	+1.1
JTM				*e*S	Sn	14 37 23.4	-1.5
JOT	**Ohata**	**3.26**	**280**	P	Pn	14 36 49.3	+1.0
JOT				*e*S	Sn	14 37 24.2	-1.6
JTKR	**Abashiri--Toko**	**3.26**	**342**	P	Pn	14 36 50.1	+1.8
JTKR				*e*S	Sn	14 37 26.5	+0.7
JKB	**Kayabe**	**3.37**	**289**	P	Pn	14 36 50.9	+1.1
JOM	**Ohasama**	**3.38**	**247**	P	Pn	14 36 50.8	+0.8
JEW	**Eniwo**	**3.48**	**305**	P	Pn	14 36 53.7	+2.3
JEW				*e*S	Sn	14 37 32.6	+1.2
JAH	**Hinai**	**3.63**	**261**	P	Pn	14 36 54.6	+1.2
JAH				*e*S	Sn	14 37 33.6	-1.3
JMK	**Ichinoseki**	**3.69**	**240**	P	Pn	14 36 55.0	+0.8
JMK				*e*S	Sn	14 37 33.2	-3.2
JRG	**Rokugo**	**3.88**	**249**	P	Pn	14 36 58.3	+1.5
JRG				*e*S	Sn	14 37 40.1	-1.0
JOU	**Okura**	**4.38**	**237**	S	Sn	14 37 51.1	-2.3
JFT	**Otama**	**5.12**	**231**	*e*S	Sn	14 38 08.5	-3.0

KRSC 14 14:37:45.2±0.6, 55.02N×162.49E, h40km±16km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.20**	**9**	*e*P	Pn	14 38 07.1	+1.6
KBTR				*e*S	Sn	14 38 22.7	+2.1
KZV	**Kizimen**	**1.27**	**275**	*i* P	Pn	14 38 07.3	+1.1
KZV				*e*S	Sn	14 38 23.3	+0.9
TUMR	**Tumrok**	**1.37**	**282**	*e*P	Pn	14 38 09.5	+1.6
TUMR				*e*S	Sn	14 38 27.0	+2.1
BZMR	**Bezymyannaya**	**1.46**	**310**	*e*P	Pn	14 38 10.4	+1.2
LGNR	**Loginova**	**1.47**	**317**	*e*P	Pn	14 38 11.5	+2.0
BZWR	**Bezymyannyi-We**	**1.48**	**311**	*e*P	Pn	14 38 10.5	+1.1
KMNR	**Kamenistaya**	**1.48**	**301**	*e*P	Pn	14 38 11.0	+1.6
KMNR				*e*S	Sn	14 38 29.3	+1.7
KPT	**Kopyto**	**1.60**	**307**	P	Pn	14 38 12.2	+1.2
KRSR	**Krestovskiy**	**1.62**	**318**	*e*P	Pn	14 38 12.5	+1.2
KLY	**Klyuchi**	**1.66**	**322**	*e*P	Pn	14 38 12.7	+1.0
SMKR	**Semkarok**	**1.67**	**340**	*e*P	Pn	14 38 14.0	+2.1
SMKR				*e*S	Sn	14 38 34.5	+2.4
SRKR	**Sorokina**	**1.80**	**336**	*e*P	Pn	14 38 15.9	+2.2
SRKR				*e*S	Sn	14 38 37.8	+2.5
KOZ	**Kozyrevsk**	**1.81**	**306**	*e*P	Pn	14 38 16.2	+2.3
BKI	**Bering**	**2.01**	**83**	*e*P	Pn	14 38 19.7	+3.2
BKI				*e*S	Sn	14 38 43.7	+3.3
KII	**Karymskiy**	**2.03**	**242**	*e*P	Pn	14 38 19.5	+2.6
KII				*e*S	Sn	14 38 44.1	+3.1
ESO	**Esso**	**2.34**	**294**	*e*P	Pn	14 38 22.5	+1.4
SPN	**Mys Shipunski**	**2.42**	**218**	*e*P	Pn	14 38 24.7	+2.6
SPN				*e*S	Sn	14 38 51.5	+1.1
NLC	**Nalytchevo**	**2.62**	**226**	*e*P	Pn	14 38 28.1	+3.2
NLC				*e*S	Sn	14 38 58.9	+3.4
SDLR	**Sedlovina**	**2.75**	**232**	*e*P	Pn	14 38 30.1	+3.3
SMAR	**Somma**	**2.79**	**232**	*e*P	Pn	14 38 30.9	+3.3
SMAR				*e*S	Sn	14 39 04.0	+3.9
KRX	**Arik**	**2.81**	**235**	*e*P	Pn	14 38 31.6	+4.0
UGLR	**Uglovaya**	**2.82**	**231**	*e*P	Pn	14 38 31.3	+3.5
UGLR				*e*S	Sn	14 39 04.7	+4.1
AVH	**Avacha**	**2.82**	**233**	*e*P	Pn	14 38 31.6	+3.8
AVH				*e*S	Sn	14 39 04.7	+4.1
DALK	**Dalny**	**2.97**	**229**	*e*P	Pn	14 38 32.9	+3.1
DALK				*e*S	Sn	14 39 07.3	+3.2
GNL	**Ganaly**	**2.97**	**245**	*e*P	Pn	14 38 33.3	+3.4
PET	**Petropavlovsk**	**3.02**	**230**	*e*P	Pn	14 38 34.0	+3.6
PET				*e*S	Sn	14 39 09.5	+4.2
RUS	**Russkaya**	**3.51**	**224**	*e*P	Pn	14 38 40.5	+3.4
MTVR	**Mutnovka**	**3.61**	**227**	*e*P	Pn	14 38 42.8	+4.2
MTVR				*e*S	Sn	14 39 24.9	+4.9
APC	**Apacha**	**3.78**	**238**	*e*P	Pn	14 38 45.3	+4.4
APC				*e*S	Sn	14 39 30.1	+6.0
ASAK	**Asacha**	**3.80**	**228**	*e*P	Pn	14 38 46.0	+4.8
KDTR	**Khodutka, Kamc**	**4.16**	**221**	*e*P	Pn	14 38 49.9	+3.8
KDTR				*e*S	Sn	14 39 37.4	+3.9
OSSR	**Ossora**	**4.25**	**4**	*e*P	Pn	14 38 51.3	+4.0

JMA 14 14:37:58.4±0.2, 40.71N×144.85E, h53km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.82**	**316**	*e*S	Sn	14 38 50.0	+0.7
JCH	**Churui**	**2.21**	**330**	P	Pn	14 38 33.7	+1.2
JCH				*e*S	Sn	14 38 59.2	+0.6
JNBK	**Urakawa-nobuka**	**2.22**	**316**	*e*S	Sn	14 39 01.2	+2.1
JAK	**Akkeshi**	**2.29**	**357**	*e*S	Sn	14 39 00.9	+0.3
JANG	**Nango**	**2.56**	**264**	P	Pn	14 38 38.1	+0.6
JAR	**Ashorobuto**	**2.71**	**343**	*e*S	Sn	14 39 11.0	0.0
NEM2	**Nemuro 2**	**2.73**	**14**	P	Pn	14 38 40.1	+0.3
NEM2				*e*S	Sn	14 39 10.6	-1.0
JBT2	**Biratori 2**	**2.78**	**319**	*e*S	Sn	14 39 43.6	+1.9
JTM	**Tenmabayashi**	**2.87**	**273**	P	Pn	14 38 43.2	+1.5
JTM				*e*S	Sn	14 39 15.1	+0.1
JOT	**Ohata**	**2.95**	**284**	P	Pn	14 38 44.3	+1.5
JOT				*e*S	Sn	14 39 16.5	-0.5
JFR	**Furan**	**2.97**	**326**	*e*S	Sn	14 39 17.1	-0.4
JOM	**Ohasama**	**3.00**	**247**	P	Pn	14 38 44.9	+1.5
JOM				*e*S	Sn	14 39 18.0	-0.1
JAH	**Hinai**	**3.26**	**262**	P	Pn	14 38 48.7	+1.7
JAH				*e*S	Sn	14 39 24.8	+0.3
JMK	**Ichinoseki**	**3.30**	**239**	P	Pn	14 38 48.8	+1.3
JMK				*e*S	Sn	14 39 24.5	-1.0
JTKR	**Abashiri--Toko**	**3.33**	**348**	P	Pn	14 38 49.1	+1.1
JTKR				*e*S	Sn	14 39 27.1	+0.8
JRG	**Rokugo**	**3.49**	**249**	P	Pn	14 38 52.3	+2.1
JRG				*e*S	Sn	14 39 31.5	+1.3
JYK	**Kaneyama**	**3.89**	**244**	P	Pn	14 38 57.1	+1.4
JYK				*e*S	Sn	14 39 40.7	+0.6

ellipse: s-maj=8.2km s-min=4.7km az=97.9

ISC 14 14:54:19.8±1.0, 40°99N×0.04×145°00E±0.05, h9km±5km, n172, σ1s56/202, mb4.4/59, 17C-7D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.72**	**307**	*c iP*	**Pn**	**14 54 49.3**	**-0.5**
ERM				pmax	pmax		
	comp=Z,90nm,0.6s						
ERM	**Erimo**	**1.72**	**307**	*e*Pn	**Pn**	**14 54 49.1**	**-0.7**
ERM				*e*Sn	**Sn**	**14 55 09.2**	**-2.6**
JEM	**Erimo**	**1.72**	**307**	P	**Pn**	**14 54 49.4**	**-0.4**
JEM				S	**Sn**	**14 55 10.4**	**-1.4**
JAK	**Akkeshi**	**2.02**	**354**	P	**Pn**	**14 54 52.9**	**-1.0**
JAK				S	**Sn**	**14 55 18.1**	**-1.1**
JCH	**Churui**	**2.03**	**324**	P	**Pn**	**14 54 53.7**	**-0.4**
JCH				*e*S	**Sn**	**14 55 17.8**	**-1.8**
JOB	**Onbets**	**2.10**	**336**	P	**Pn**	**14 54 54.8**	**-0.2**
JOB				S	**Sn**	**14 55 20.7**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.12**	**308**	P	**Pn**	**14 54 55.5**	**+0.2**
JNBK				S	**Sn**	**14 55 21.6**	**-0.1**
NEM2	**Nemuro 2**	**2.44**	**13**	P	**Pn**	**14 54 58.5**	**-1.2**
NEM2				*e*S	**Sn**	**14 55 26.9**	**-2.7**
JAR	**Ashorobuto**	**2.48**	**339**	P	**Pn**	**14 54 59.3**	**-1.0**
JAR				S	**Sn**	**14 55 28.8**	**-1.8**
JNK	**Nakash**	**2.60**	**356**	P	**Pn**	**14 55 00.6**	**-1.4**
JNK				*e*S	**Sn**	**14 55 30.6**	**-3.1**
JBT2	**Biratori 2**	**2.66**	**313**	P	**Pn**	**14 55 02.2**	**-0.5**
JBT2				*e*S	**Sn**	**14 55 35.7**	**+0.7**
JANG	**Nango**	**2.72**	**258**	P	**Pn**	**14 55 01.7**	**-1.8**
JANG				*e*S	**Sn**	**14 55 32.0**	**-4.5**
GLVR	**Golovnino**	**2.77**	**8**	*⇑i* P	**Pn**	**14 55 03.3**	**-1.0**
GLVR				*i* S	**Sn**	**14 55 36.0**	**-1.9**
JFR	**Furan**	**2.81**	**321**	P	**Pn**	**14 55 04.6**	**-0.3**
JFR				*e*S	**Sn**	**14 55 36.7**	**-2.2**
JRA	**Rausu**	**2.95**	**2**	P	**Pn**	**14 55 05.6**	**-1.1**
JOT	**Ohata**	**3.00**	**279**	P	**Pn**	**14 55 06.7**	**-0.8**
JOT				S	**Sn**	**14 55 40.0**	**-3.6**
GRPR	**Tuman**	**3.06**	**11**	*e*P	**Pn**	**14 55 07.0**	**-1.2**
GRPR				*i* S	**Sn**	**14 55 41.6**	**-3.2**
JTKR	**Abashiri--Toko**	**3.09**	**345**	P	**Pn**	**14 55 08.6**	**0.0**
JTKR				S	**Sn**	**14 55 44.8**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**3.11**	**12**	*d iP*	**Pn**	**14 55 07.6**	**-1.3**
YUK				*i* S	**Sn**	**14 55 42.3**	**-3.8**
YUK				pmax	pmax		
	comp=Z,359nm,0.4s						
YUK				pmax	pmax		
	comp=N,38nm,0.2s						
YUK				pmax	pmax		
	comp=E,74nm,0.4s						
YUK				smax	smax		
	comp=N,726nm,0.3s						
YUK				smax	smax		
	comp=E,876nm,0.3s						
JKB	**Kayabe**	**3.11**	**288**	P	**Pn**	**14 55 08.1**	**-0.8**
LAGR	**Lagunnoye**	**3.12**	**11**	*e*P	**Pn**	**14 55 09.0**	**0.0**
LAGR				*i* S	**Sn**	**14 55 43.5**	**-2.9**
SHO	**Shikotan**	**3.18**	**25**	*d iP*	**Pn**	**14 55 08.5**	**-1.4**
SHO				*i* S	**Sn**	**14 55 44.1**	**-3.8**
SHO				pmax	pmax		
	comp=Z,103nm,0.4s						
SHO				pmax	pmax		
	comp=N,57nm,0.3s						
SHO				pmax	pmax		
	comp=E,69nm,0.2s						
SHO				smax	smax		
	comp=N,334nm,0.2s						
SHO				smax	smax		
	comp=E,245nm,0.2s						
JOM	**Ohasama**	**3.21**	**243**	P	**Pn**	**14 55 09.2**	**-1.2**
JOM				S	**Sn**	**14 55 44.5**	**-4.2**
JEW	**Eniwo**	**3.23**	**306**	P	**Pn**	**14 55 11.5**	**+1.0**
JEW				S	**Sn**	**14 55 48.6**	**-0.5**
JKK2	**Kamakawa 2**	**3.33**	**331**	P	**Pn**	**14 55 12.2**	**+0.3**
JMK	**Ichinoseki**	**3.54**	**236**	P	**Pn**	**14 55 13.7**	**-1.2**
JMK				*e*S	**Sn**	**14 55 51.9**	**-5.0**
ASAJ	**Asahikawa**	**3.59**	**331**	Pn	**Pn**	**14 55 15.6**	**0.0**
	comp=E,7.0nm,0.3s,baz=182,slow=14,SNR=56						
ASAJ				Sn	**Sn**	**14 55 57.9**	**-0.1**
	comp=E,8.3nm,0.3s,baz=175,slow=19,SNR=6.0						
KUR	**Kuril'sk**	**4.73**	**25**	*c iP*	**Pn**	**14 55 31.5**	**+0.3**
KUR				*i* S	**Sn**	**14 56 23.1**	**-3.1**
KUR				pmax	pmax		
	comp=Z,134nm,0.4s						
KUR				pmax	pmax		
	comp=N,71nm,0.3s						
KUR				pmax	pmax		
	comp=E,64nm,0.3s						
KUR				smax	smax		
	comp=N,207nm,0.2s						
KUR				smax	smax		
	comp=E,135nm,0.2s						
YSS	**Yuzh-Sakhalins**	**6.18**	**346**	*e*P	**Pn**	**14 55 52.4**	**+1.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.18**	**346**	*e*Pn	**Pn**	**14 55 51.8**	**+0.7**
MAJO	**Matsushiro**	**6.92**	**232**	*e*P	**Pn**	**14 56 00.5**	**-0.7**
MAJO	**Matsushiro**	**6.92**	**232**	*e*Pn	**Pn**	**14 56 00.5**	**-0.7**
MAT	**Matsushiro**	**6.92**	**232**	P	**Pn**	**14 56 01.5**	**+0.2**
MAT				*e*S	**Sn**	**14 57 16.5**	**-3.5**
MJAR	**Matsushiro Arr**	**6.92**	**232**	Pn	**Pn**	**14 56 00.5**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=39,slow=11,SNR=22						
MJAR				Sn	**Sn**	**14 57 21.8**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=84,slow=27,SNR=4.3						
MJB9	**Matsu-Tunnel**	**6.92**	**232**	*e*Pn	**Pn**	**14 56 00.5**	**-0.7**
INU	**Inuyama**	**8.44**	**231**	*e*Pn	**Pn**	**14 56 21.8**	**-0.3**
JHJ2	**Mitsune**	**8.88**	**209**	*e*Pn	**Pn**	**14 56 26.9**	**-1.4**
VLA	**Vladivostok**	**9.98**	**287**	*e*P	**Pn**	**14 56 43.4**	**+0.2**
VLA				pmax	pmax		
	comp=Z,29nm,1.0s						
TYV	**Tymovskoe**	**10.01**	**351**	*e*P	**Pn**	**14 56 42.8**	**-0.8**
TYV				pmax	pmax		
	comp=Z,7.0nm,1.3s						
USRK	**Ussuriysk Ar.**	**10.11**	**293**	Pn	**Pn**	**14 56 44.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=104,slow=13,SNR=11						
GRNR	**Gornyy**	**11.45**	**332**	*e*P	**Pn**	**14 57 04.2**	**+0.8**
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
MDJ	**Mudanjiang**	**11.88**	**293**	*e*Pn	**Pn**	**14 57 08.8**	**-0.4**
KLR	**Kul'dur**	**12.45**	**316**	Pn	**Pn**	**14 57 17.1**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=119,slow=16,SNR=12						
KLR	**Kul'dur**	**12.45**	**316**	*e*P	**Pn**	**14 57 16.6**	**-0.4**
NKL	**Nikolayevsk**	**12.51**	**348**	*e*P	**Pn**	**14 57 17.0**	**-0.8**
NKL				pmax	pmax		
	comp=N,6.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,14nm,0.9s						
KSRS	**Korea Array**	**13.70**	**261**	Pn	**Pn**	**14 57 36.4**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=45,slow=15,SNR=3.7						
KS01	**Wonju Array Si**	**13.71**	**261**	*e*Pn	**Pn**	**14 57 32.6**	**-1.7**
JNU	**Nakatsue**	**13.73**	**240**	*e*Pn	**Pn**	**14 57 32.8**	**-1.8**
KSAR	**Wonju Array Be**	**13.73**	**261**	P	**Pn**	**14 57 36.4**	**+1.9**
KSAR	**Wonju Array Be**	**13.73**	**261**	Pn	**Pn**	**14 57 36.4**	**+1.9**
CBIJ	**Chichi jima**	**14.05**	**190**	*e*Pn	**Pn**	**14 57 38.5**	**-0.4**
CN2	**Changchun**	**14.71**	**287**	*e*P	**Pn**	**14 57 48.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**14.87**	**31**	*e*Pn	**Pn**	**14 57 46.5**	**-3.5**
PETK	**Petropavlovsk-**	**14.87**	**31**	Pn	**Pn**	**14 57 46.1**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=179,slow=9.6,SNR=4.7						
PETK	**Petropavlovsk-**	**14.87**	**31**	*e*P	**Pn**	**14 57 46.7**	**-3.3**
PETK	**Petropavlovsk-**	**14.87**	**31**	*e*Pn	**Pn**	**14 57 46.7**	**-3.3**
ZEA	**Zeya**	**17.46**	**323**	*e*P	**Pn**	**14 58 20.2**	**-3.1**
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
MA2	**Magadan**	**18.95**	**9**	P	**P**	**14 58 41.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=197,slow=9.5,SNR=8.5						
HIA	**Hailar**	**19.58**	**303**	*e*P	**P**	**14 58 44.9**	**-2.9**
HIA	**Hailar**	**19.58**	**303**	*e*P	**P**	**14 58 44.9**	**-2.9**
SEY	**Seymchan**	**22.41**	**9**	P	**P**	**14 59 17.5**	**-0.8**
	comp=Z,5.2nm,0.9s,baz=187,slow=7.5,SNR=30						
SEY	**Seymchan**	**22.41**	**9**	*ce*P	**P**	**14 59 18.2**	**-0.1**
NJ2	**Nanjing**	**22.76**	**255**	*e*P	**P**	**14 59 23.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
YAK	**Yakutsk**	**23.01**	**341**	*e*P	**P**	**14 59 20.4**	**-4.2**
YAK				*e**PP	**sP**	**14 59 29.0**	**+0.5**
YAK				*e*		14 59 49.5	
YAK				*e*S	**S**	**15 03 28.9**	**-6.0**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				smax	smax		
	comp=N,40nm,1.5s						
YAK				smax	smax		
	comp=E,29nm,1.8s						
YAK	**Yakutsk**	**23.01**	**341**	*e*P	**P**	**14 59 22.0**	**-2.5**
	comp=E,14nm,0.6s						
HHC	**Hu-ho-hao-te**	**25.18**	**281**	*e*P	**P**	**14 59 48.0**	**+2.5**
HHC				pmax	pmax		
	comp=E,15nm,0.8s						
HHC				pmax	pmax		
	comp=E,100nm,6.8s						
BOD	**Bodaibo**	**25.94**	**321**	*e*P	**P**	**14 59 50.7**	**-1.4**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ULN	**Ulaanbaatar**	**27.74**	**297**	*ce*P	**P**	**15 00 08.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,15nm,1.7s						
ULN	**Ulaanbaatar**	**27.74**	**297**	*e*P	**P**	**15 00 08.7**	**+0.1**
	comp=Z,9.4nm,1.1s						
SONA1	**Songino Array**	**28.18**	**297**	*e*P	**P**	**15 00 11.9**	**-0.6**
SONM	**Songino Array**	**28.18**	**297**	P	**P**	**15 00 12.8**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=94,slow=8.7,SNR=17						
H11N2	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	15 29 41.0	
	baz=324,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.26**	**132**	T	T	15 29 46.1	
	baz=324,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.27**	**132**	T	T	15 29 43.0	
	baz=324,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.12**	**134**	T	T	15 30 46.0	
	baz=325,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	15 30 45.8	
	baz=325,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**29.14**	**134**	T	T	15 30 47.4	
	baz=325,slow=76,SNR=29						
BILL	**Bilibino**	**29.45**	**16**	*⇓i* P	**P**	**15 00 24.2**	**+0.8**
BILL				*e*		15 01 20.4	
BILL				*e*		15 03 28.9	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,114nm,17.0s						
TLY	**Talaya**	**30.10**	**305**	*e*P	**P**	**15 00 29.7**	**+0.3**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TLY	**Talaya**	**30.10**	**305**	*e*P	**P**	**15 00 29.7**	**+0.3**
	comp=Z,6.8nm,1.2s						
TIXI	**Tiksi**	**31.78**	**350**	P	**P**	**15 00 43.8**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=142,slow=5.2,SNR=4.9						
LZH	**Lanzhou**	**32.34**	**275**	*e*P	**P**	**15 00 50.1**	**+0.7**
LZH				pP	sP	15 00 54.4	+0.9
LZH				sP	pP	15 00 57.5	+5.2
LZH				pmax	pmax		
	comp=Z,12nm,0.7s						
GTA	**Gaotai**	**34.26**	**283**	P	**P**	**15 01 06.8**	**+0.7**
GTA				pP	sP	15 01 11.4	+1.3
GTA				sP	pP	15 01 13.8	+4.9
GTA				S	**S**	**15 06 33.3**	**+0.2**
GTA				sS	sS	15 06 41.0	+3.2
GTA				SS	**SnSn**	**15 08 44.0**	**+2.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,84nm,4.7s						
GTA				LR	LR		
	comp=Z,82nm,15.2s						
GTA				LR	LR		
	comp=Z,110nm,14.7s						
GTA				LR	LR		
	comp=Z,150nm,16.6s						
CD2	**Chengdu**	**34.59**	**266**	*e*P	**P**	**15 01 08.0**	**-0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI	**Kunming**	**38.39**	**259**	P	**P**	**15 01 42.6**	**+0.9**
KMI				pP	pP	15 01 45.1	+0.6
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DGZ	**Jazzator, Alta**	**40.48**	**302**	*e*P	**P**	**15 01 59.7**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZAA0	**Zalesovo Array**	**41.45**	**309**	*e*P	**P**	**15 02 06.8**	**+0.4**
	comp=Z,5.7nm,0.9s						
ZALV	**Zalesovo Beam**	**41.45**	**309**	P	**P**	**15 02 07.4**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=87,slow=7.0,SNR=13						
ZALV				PcP	**PcP**	**15 04 04.9**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=90,slow=4.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**41.45**	**309**	*e*P	**P**	**15 02 06.6**	**+0.2**
ZALV						15 04 04.9	
ZALV	**Zalesovo Beam**	**41.45**	**309**	*e*P	**P**	**15 02 06.6**	**+0.2**
ZALV				PcP	**PcP**	**15 04 04.9**	**+0.8**
WMQ	**Urumqi**	**41.68**	**294**	P	**P**	**15 02 08.9**	**+0.3**
WMQ				pP	sP	15 02 13.6	+0.9
WMQ				pmax	pmax		
	comp=Z,13nm,0.8s						
NVS	**Novosibirsk**	**42.25**	**311**	*e*P	**P**	**15 02 13.4**	**+0.4**
KDAK	**Kodiak Island**	**42.31**	**45**	P	**P**	**15 02 13.9**	**+0.5**
	comp=Z,7.2nm,0.8s,baz=297,slow=4.4,SNR=5.8						
TOLK	**Toolik Lake Re**	**43.67**	**29**	*e*P	**P**	**15 02 25.8**	**+1.4**
	comp=Z,6.7nm,0.9s						
COLA	**College**	**44.25**	**34**	*e*P	**P**	**15 02 28.8**	**-0.2**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MK01	**Makanchi Array**	**44.50**	**299**	*e*P	**P**	**15 02 30.9**	**-0.5**
MKAR	**Makanchi Array**	**44.50**	**299**	P	**P**	**15 02 31.7**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=82,slow=10,SNR=18						
ILAR	**Eielson Array**	**44.66**	**34**	P	**P**	**15 02 33.4**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=263,slow=6.5,SNR=23						
ILB	**Eielson Array**	**44.66**	**34**	*e*P	**P**	**15 02 33.5**	**+1.1**
IL1	**Eielson Array**	**44.66**	**34**	*e*P	**P**	**15 02 33.0**	**+0.7**
MAKZ	**Makanchi**	**44.70**	**300**	*e*P	**P**	**15 02 33.2**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MAKZ	**Makanchi**	**44.70**	**300**	*e*P	**P**	**15 02 33.2**	**+0.3**
	comp=Z,4.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**45.23**	**254**	P	**P**	**15 02 38.4**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=46,slow=6.4,SNR=2.9						
KURK	**Kurchatov**	**45.79**	**306**	*d iP*	**P**	**15 02 41.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,23nm,0.7s						
KURK	**Kurchatov**	**45.79**	**306**	*e*P	**P**	**15 02 41.5**	**+0.1**
	comp=Z,15nm,0.6s						
KURK				PcP	**PcP**	**15 04 19.8**	**+1.0**
KURBB	**Kurchatov Arra**	**45.87**	**306**	P	**P**	**15 02 42.7**	**+0.5**
	comp=Z,6.5nm,0.7s,baz=79,slow=9.2,SNR=43						
KURBB				PcP	**PcP**	**15 04 19.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=90,slow=4.6,SNR=2.5						
INK	**Inuvik**	**49.59**	**29**	P	**P**	**15 03 12.5**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=294,slow=8.9,SNR=9.7						
INK	**Inuvik**	**49.59**	**29**	*e*P	**P**	**15 03 12.3**	**+1.6**
INK				pmax	pmax		
	comp=Z,9.0nm,1.6s						
INK	**Inuvik**	**49.59**	**29**	*e*P	**P**	**15 03 12.3**	**+1.6**
	comp=Z,9.2nm,1.6s						
BVAR	**Borovoye Array**	**50.05**	**311**	P	**P**	**15 03 15.0**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=70,slow=7.7,SNR=15						
BRVK	**Borovoye**	**50.10**	**311**	*ce*P	**P**	**15 03 15.9**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,14nm,1.7s						
AAK	**Ala-Archa**	**51.14**	**297**	*e*P	**P**	**15 03 21.9**	**-1.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KSH	**Kashi**	**51.41**	**292**	*e*P	**P**	**15 03 27.0**	**+1.9**
KSH				pmax	pmax		
	comp=Z,92nm,5.7s						
KKAR	**Karatay Array**	**53.62**	**299**	*e*P	**P**	**15 03 41.3**	**+0.1**
KKAR	**Karatay Array**	**53.62**	**299**	*e*P	**P**	**15 03 41.3**	**+0.1**
ARU	**Arti**	**55.29**	**318**	*d iP*	**P**	**15 03 52.7**	**-0.4**
ARU						15 04 50.4	
ARU						15 05 53.4	
ARU				S	**S**	**15 11 38.1**	**+1.3**
ARU				SS	**SS**	**15 15 19.2**	**-1.2**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
ARU	**Arti**	**55.29**	**318**	*e*P	**P**	**15 03 53.3**	**+0.2**
	comp=Z,4.1nm,0.7s						
ABKAR	**Akbulak array**	**57.56**	**309**	*e*P	**P**	**15 04 09.7**	**+0.3**
	comp=Z,32nm,0.7s						
RES	**Resolute Bay**	**58.06**	**16**	*e*P	**P**	**15 04 13.3**	**+0.7**
RES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RES	**Resolute Bay**	**58.06**	**16**	*e*P	**P**	**15 04 13.3**	**+0.7**
	comp=Z,8.2nm,0.8s						
AKTO	**Aktyubinsk**	**58.14**	**311**	P	**P**	**15 04 14.7**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=60,slow=12,SNR=8.9						
YKA	**Yellowknife Ar**	**58.98**	**32**	P	**P**	**15 04 20.2**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=301,slow=6.7,SNR=11						
WRAB	**Tennant Creek**	**61.41**	**191**	*e*P	**P**	**15 04 35.0**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**61.42**	**191**	P	**P**	**15 04 36.0**	**-0.4**
	comp=Z,8.5nm,1.1s,baz=11,slow=7.1,SNR=12						
WRA	**Warramunga Arr**	**61.42**	**191**	*i* P	**P**	**15 04 36.2**	**-0.1**
WRA				pmax	pmax		
	comp=Z,11nm,1.2s						
GEYT	**Alibeck**	**64.37**	**299**	P	**P**	**15 04 56.6**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=42,slow=2.3,SNR=6.0						
AS01	**Alice Springs**	**65.14**	**191**	*e*P	**P**	**15 05 00.5**	**-0.5**
ASAR	**Alice Springs**	**65.15**	**191**	P	**P**	**15 05 01.6**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=11,slow=5.3,SNR=13						
FINES	**FINESS Array B**	**66.60**	**333**	P	**P**	**15 05 10.4**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=46,slow=8.2,SNR=13						
FINES	**FINESS Array B**	**66.60**	**333**	*i* P	**P**	**15 05 10.6**	**+0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SUMG	**Summit**	**66.71**	**1**	*e*P	**P**	**15 05 11.7**	**+0.7**
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SUMG	**Summit**	**66.71**	**1**	*e*P	**P**	**15 05 11.7**	**+0.7**
	comp=Z,6.6nm,0.7s						
VSR	**Storozhevoye**	**67.78**	**319**	*e*P	**P**	**15 05 18.1**	**+0.5**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BEKR	**Beckworth**	**68.28**	**56**	*e*P	**P**	**15 05 21.3**	**0.0**
	comp=Z,27nm,0.7s						
BOZ	**Bozeman (W)**	**69.98**	**47**	*e*P	**P**	**15 05 31.3**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.8s						
BOZ	**Bozeman (W)**	**69.98**	**47**	*e*P	**P**	**15 05 31.3**	**-0.3**
	comp=Z,10nm,1.8s						
KIV	**Kislovodsk**	**70.40**	**311**	*e*P	**P**	**15 05 35.2**	**+1.1**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KIV	**Kislovodsk**	**70.40**	**311**	*e*P	**P**	**15 05 33.3**	**-0.8**
	comp=Z,16nm,1.1s						
KBZ	**Khabaz**	**70.42**	**311**	P	**P**	**15 05 35.8**	**+1.7**
	comp=Z,5.7nm,0.8s,baz=62,slow=4.3,SNR=16						
NVAR	**Mina Array Bea**	**70.42**	**56**	P	**P**	**15 05 36.4**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=275,slow=6.9,SNR=4.3						
NB2	**NORSAR Subarra**	**71.59**	**338**	P	**P**	**15 05 41.2**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**71.59**	**339**	P	**P**	**15 05 41.4**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=38,slow=6.1,SNR=4.7						
HFS	**Hagfors**	**71.60**	**337**	P	**P**	**15 05 41.5**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=69,slow=7.9,SNR=5.3						
AKASG	**Malin Array Be**	**72.84**	**323**	P	**P**	**15 05 49.1**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=42,slow=5.9,SNR=21						
AKASG	**Malin Array Be**	**72.84**	**323**	*ce*P	**P**	**15 05 48.7**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KIEV	**Kiev**	**72.86**	**323**	*e*P	**P**	**15 05 47.6**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PDAR	**Pinedale Array**	**72.93**	**48**	P	**P**	**15 05 50.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=313,slow=2.0,SNR=4.8						
ARGU	**Argyle Ridge**	**74.26**	**51**	*e*P	**P**	**15 05 58.0**	**+0.4**
BUR08	**Bucovina Ar. S**	**76.88**	**323**	*e*P	**P**	**15 06 12.9**	**+0.8**
BUR04	**Bucovina Ar. S**	**76.89**	**323**	*e*P	**P**	**15 06 12.8**	**+0.6**
BURAR	**Bucovina Array**	**76.89**	**323**	*⇑i* P	**P**	**15 06 13.5**	**+1.3**
BURAR	**Bucovina Array**	**76.89**	**323**	*⇑*P	**P**	**15 06 13.5**	**+1.3**
TESR	**Tescani**	**77.04**	**321**	*⇑i* P	**P**	**15 06 13.6**	**+0.7**
CFR	**Carcaliu**	**77.29**	**320**	*⇑i* P	**P**	**15 06 14.2**	**-0.1**
CFR	**Carcaliu**	**77.29**	**320**	*⇑*P	**P**	**15 06 14.2**	**-0.1**
DOPR	**Dopca**	**78.03**	**322**	*⇑i* P	**P**	**15 06 21.3**	**+2.8**
BRTR	**Keskin Array B**	**78.27**	**313**	P	**P**	**15 06 21.4**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=56,slow=5.4,SNR=3.7						
MORC	**Moravsky Berou**	**78.52**	**328**	*⇑i* P	**P**	**15 06 22.1**	**+0.9**
MORC	**Moravsky Berou**	**78.52**	**328**	*⇑*P	**P**	**15 06 22.1**	**+0.9**
VOIR		**78.58**	**322**	*⇓i* P	**P**	**15 06 23.5**	**+1.9**
VOIR		**78.58**	**322**	*⇓*P	**P**	**15 06 23.5**	**+1.9**
CLL	**Collm**	**79.00**	**332**	*i* P	**P**	**15 06 23.8**	**+0.1**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CLL	**Collm**	**79.00**	**332**	*i* P	**P**	**15 06 23.8**	**+0.1**
	comp=Z,4.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**80.28**	**342**	P	**P**	**15 06 31.6**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=17,slow=5.2,SNR=2.7						
KHC	**Kasperske Hory**	**80.58**	**330**	*e*P	**P**	**15 06 32.1**	**-0.3**
KHC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KHC	**Kasperske Hory**	**80.58**	**330**	*e*P	**P**	**15 06 32.1**	**-0.3**
	comp=Z,1.6nm,0.8s			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.09**	**62**	P	Pg	15 05 26.1	-0.5
UPR				S	Sg	15 05 29.5	+0.5
UPR	**University Cam**	**0.09**	**62**	P	Pg	15 05 26.3	-0.3
UPR				S	Sg	15 05 29.5	+0.4
UPR	**University Cam**	**0.09**	**62**	P	Pg	15 05 27.2	+0.6
UPR				S	Sg	15 05 29.5	+0.4
RLS	**Riolos of Patr**	**0.25**	**223**	P	Pg	15 05 28.6	-0.1
RLS				S	Sb	15 05 32.7	0.0
RLS				AML	AML	15 05 33.2	
	comp=N,2660μm,0.2s						
RLS				AML	AML	15 05 33.3	
	comp=E,2115μm,0.2s						
RLS	**Riolos of Patr**	**0.25**	**223**	P	Pg	15 05 28.4	-0.3
RLS				S	Sg	15 05 32.6	+0.1
RLS	**Riolos of Patr**	**0.25**	**223**	P	Pg	15 05 28.4	-0.3
RLS				S	Sb	15 05 33.1	+0.4
EFP	**Efpalio**	**0.26**	**43**	P	Pg	15 05 28.4	-0.5
EFP				S	Sb	15 05 33.4	+0.3
EFP				AML	AML	15 05 33.7	
	comp=E,813μm,0.2s						
EFP				AML	AML	15 05 35.2	
	comp=N,348μm,0.2s						
EFP	**Efpalio**	**0.26**	**43**	P	Pg	15 05 28.5	-0.3
EFP				S	Sb	15 05 33.2	+0.1
EFP	**Efpalio**	**0.26**	**43**	P	Pg	15 05 28.5	-0.3
EFP				S	Sb	15 05 33.4	+0.3
DRO	**Drossia**	**0.29**	**175**	P	Pg	15 05 29.1	-0.2
DRO				S	Sg	15 05 33.9	+0.2
DRO				AML	AML	15 05 34.5	
	comp=N,1379μm,0.2s						
DRO				AML	AML	15 05 34.7	
	comp=E,2188μm,0.3s						
DRO	**Drossia**	**0.29**	**175**	P	Pg	15 05 29.1	-0.3
DRO				S	Sg	15 05 33.8	+0.1
DRO	**Drossia**	**0.29**	**175**	P	Pg	15 05 29.1	-0.3
DRO				S	Sb	15 05 34.2	+0.2
TRIZ	**Trizonia**	**0.33**	**68**	P	Pg	15 05 29.8	-0.3
TRIZ				S	Sb	15 05 35.4	-0.1
TRIZ	**Trizonia**	**0.33**	**68**	P	Pg	15 05 29.8	-0.3
TRIZ				S	Sb	15 05 35.3	-0.1
SERG	**Sergoula**	**0.34**	**60**	P	Pg	15 05 30.0	-0.3
SERG				S	Sg	15 05 34.8	-0.5
SERG				AML	AML	15 05 35.7	
	comp=N,610μm,0.2s						
SERG				AML	AML	15 05 36.6	
	comp=E,386μm,0.2s						
SERG	**Sergoula**	**0.34**	**60**	P	Pg	15 05 30.0	-0.3
SERG				S	Sb	15 05 35.1	-0.2
SERG	**Sergoula**	**0.34**	**60**	P	Pg	15 05 30.0	-0.3
SERG				S	Sb	15 05 35.7	-0.1
KALE	**Kalithea**	**0.39**	**67**	P	Pg	15 05 30.0	-0.7
KALE				S	Sg	15 05 36.4	-0.2
KALE				AML	AML	15 05 38.3	
	comp=N,189μm,0.2s						
KALE				AML	AML	15 05 40.0	
	comp=E,269μm,0.2s						
KALE	**Kalithea**	**0.39**	**67**	P	Pg	15 05 30.7	-0.5
KALE				S	Sg	15 05 36.7	0.0
KALE	**Kalithea**	**0.39**	**67**	P	Pg	15 05 30.7	-0.5
KALE				S	Sg	15 05 36.8	+0.1
PVO	**Paravola**	**0.40**	**342**	P	Pg	15 05 31.1	-0.1
PVO				S	Sg	15 05 36.9	+0.2
PVO				AML	AML	15 05 37.8	
	comp=N,302μm,0.3s						
PVO				AML	AML	15 05 38.7	
	comp=E,310μm,0.2s						
PVO	**Paravola**	**0.40**	**342**	P	Pg	15 05 30.8	-0.4
PVO				S	Sg	15 05 36.7	-0.1
PVO	**Paravola**	**0.40**	**342**	P	Pg	15 05 30.8	-0.4
PVO				S	Sb	15 05 37.8	+0.5
ANX	**Ano Chora**	**0.40**	**28**	P	Pg	15 05 30.8	-0.5
ANX				S	Sb	15 05 37.7	+0.2
ANX				AML	AML	15 05 38.9	
	comp=N,199μm,0.2s						
ANX				AML	AML	15 05 40.3	
	comp=E,224μm,0.5s						
ANX	**Ano Chora**	**0.40**	**28**	P	Pg	15 05 30.8	-0.5
ANX				S	Sb	15 05 37.4	-0.1
ANX	**Ano Chora**	**0.40**	**28**	P	Pg	15 05 30.8	-0.5
ANX				S	Sb	15 05 37.7	+0.2
KLV	**Kalavryta, Ach**	**0.42**	**118**	P	Pg	15 05 31.2	-0.4
KLV				S	Sg	15 05 37.5	0.0
KLV				AML	AML	15 05 39.2	
	comp=E,138μm,0.3s						
KLV				AML	AML	15 05 39.4	
	comp=N,112μm,0.1s						
KLV	**Kalavryta, Ach**	**0.42**	**118**	P	Pg	15 05 31.3	-0.3
KLV				S	Sg	15 05 37.5	0.0
KLV	**Kalavryta, Ach**	**0.42**	**118**	P	Pg	15 05 31.3	-0.3
KLV				S	Sg	15 05 37.5	0.0
PDO	**Prodromos**	**0.53**	**313**	P	Pg	15 05 33.0	-0.7
PDO				S	Sb	15 05 41.6	+0.5
PDO				AML	AML	15 05 42.0	
	comp=E,301μm,0.3s						
PDO				AML	AML	15 05 43.3	
	comp=N,564μm,0.3s						
PDO	**Prodromos**	**0.53**	**313**	P	Pg	15 05 32.9	-0.7
PDO				S	Sb	15 05 41.0	-0.1
PDO	**Prodromos**	**0.53**	**313**	P	Pg	15 05 32.9	-0.7
PDO				S	Sb	15 05 41.5	+0.4
GUR	**Goura**	**0.60**	**120**	P	Pg	15 05 34.1	-0.9
GUR				S	Sb	15 05 44.1	+0.8
GUR				AML	AML	15 05 45.9	
	comp=N,570μm,0.3s						
GUR				AML	AML	15 05 47.4	
	comp=E,396μm,0.3s						
GUR	**Goura**	**0.60**	**120**	P	Pg	15 05 34.4	-0.6
GUR				S	Sb	15 05 43.7	+0.5
GUR	**Goura**	**0.60**	**120**	P	Pg	15 05 34.4	-0.6
GUR				S	Sb	15 05 44.3	+1.1
DSF	**Desfina**	**0.69**	**75**	P	Pb	15 05 35.1	-1.4
DSF	**Desfina**	**0.69**	**75**	P	Pb	15 05 35.6	-0.9
DSF				S	Sg	15 05 46.5	+0.8
DSF	**Desfina**	**0.69**	**75**	P	Pb	15 05 35.6	-0.9
DSF				S	Sg	15 05 46.5	+0.8
AMT	**Artemida-Makis**	**0.71**	**178**	P	Pb	15 05 36.6	-0.2
AMT				S	Sg	15 05 46.7	+0.4
AMT	**Artemida-Makis**	**0.71**	**178**	P	Pb	15 05 36.4	-0.4
AMT				S	Sg	15 05 46.5	+0.2
AMT	**Artemida-Makis**	**0.71**	**178**	P	Pb	15 05 36.5	-0.3
AMT				S	Sg	15 05 46.8	+0.5
KFL	**Anninata**	**0.71**	**260**	P	Pb	15 05 36.1	-0.8
KFL	**Anninata**	**0.71**	**260**	P	Pb	15 05 36.1	-0.8
KFL				S	Sg	15 05 47.6	+1.0
KFL	**Anninata**	**0.71**	**260**	P	Pb	15 05 36.1	-0.8
KFL				S	Sg	15 05 47.6	+1.0
VLS	**Valsamata**	**0.86**	**266**	P	Pb	15 05 37.8	-1.7
VLS	**Valsamata**	**0.86**	**266**	P	Pb	15 05 38.2	-1.2
VLS				S	Sg	15 05 51.4	+0.2
VLS	**Valsamata**	**0.86**	**266**	P	Pb	15 05 38.2	-1.2
VLS				S	Sg	15 05 51.4	+0.2
AXAR	**Agios Charalam**	**0.93**	**55**	P	Pn	15 05 41.5	+0.3
AXAR	**Agios Charalam**	**0.93**	**55**	P	Pg	15 05 40.9	-0.2
AGG	**Agios Georgios**	**0.93**	**33**	P	Pb	15 05 39.8	-0.9
AGG	**Agios Georgios**	**0.93**	**33**	P	Pb	15 05 40.1	-0.6
LKD2	**Lefkada island**	**0.97**	**305**	P	Pb	15 05 39.3	-2.1
LKD2	**Lefkada island**	**0.97**	**305**	P	Pb	15 05 40.1	-1.2
LKD2				S	Sg	15 05 54.9	+0.2
LKD2	**Lefkada island**	**0.97**	**305**	P	Pb	15 05 40.1	-1.2
LKD2				S	Sg	15 05 54.9	+0.2
PYL	**PYLOS**	**1.34**	**178**	P	Pb	15 05 47.6	0.0
PYL	**PYLOS**	**1.34**	**178**	P	Pb	15 05 47.7	+0.1
DID	**Didima**	**1.43**	**120**	P	Pg	15 05 50.2	-0.5
DID	**Didima**	**1.43**	**120**	P	Pb	15 05 49.7	+0.5

*JMA **14** 15:11:30.8±0.1, 40°.88N×145°.15E, h61km±3km, M3.5*
*IDC **14** 15:11:31.0±2.1, 41°.03N×144°.83E, h0km, mb3.5/7, mb1 3.5/9, mb1mx3.4/75, mbtmp3.4/9, ML3.0/2, MS3.8/3, Ms1 3.8/3, ms1mx2.8/64, Error ellipse: s-maj=39.6km s-min=26.2km az=143.0*
*ISCJB **14** 15:11:32.7±0.6, 40°.93N±0°.03×144°.90E±0°.05, h33km, mb3.3/7, MS3.8/3, Error ellipse: s-maj=6.1km s-min=3.1km az=27.6*

ISC 14 15:11:33.4±1.1, 40°.89N±0°.05×145°.04E±0°.07, h35km, n41, σ1§56/52, mb3.3/7, MS3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.81**	**309**	P	**Pn**	**15 12 01.4**	**-0.7**
JEM				S	**Sn**	**15 12 20.8**	**-2.9**
JAK	**Akkeshi**	**2.12**	**353**	P	**Pn**	**15 12 04.5**	**-1.8**
JAK				S	**Sn**	**15 12 29.8**	**-1.6**
JCH	**Churui**	**2.13**	**324**	P	**Pn**	**15 12 05.6**	**-0.9**
JCH				S	**Sn**	**15 12 29.7**	**-2.0**
JNBK	**Urakawa-nobuka**	**2.21**	**310**	P	**Pn**	**15 12 07.6**	**0.0**
JNBK				S	**Sn**	**15 12 33.7**	**+0.1**
NEM2	**Nemuro 2**	**2.53**	**12**	P	**Pn**	**15 12 10.6**	**-1.3**
NEM2				S	**Sn**	**15 12 38.9**	**-2.6**
JAR	**Ashorobuto**	**2.58**	**339**	P	**Pn**	**15 12 11.3**	**-1.4**
JAR				S	**Sn**	**15 12 40.8**	**-2.1**
JTH	**Tanohata**	**2.60**	**250**	P	**Pn**	**15 12 12.0**	**-1.0**
JTH				eS	**Sn**	**15 12 40.5**	**-3.0**
JANG	**Nango**	**2.73**	**260**	P	**Pn**	**15 12 13.5**	**-1.3**
JANG				S	**Sn**	**15 12 43.5**	**-3.1**
MIYJ	**Miyakonagasawa**	**2.79**	**243**	P	**Pn**	**15 12 15.2**	**-0.4**
MIYJ				eS	**Sn**	**15 12 44.7**	**-3.4**
JFR	**Furan**	**2.91**	**322**	P	**Pn**	**15 12 16.4**	**-0.9**
JFR				S	**Sn**	**15 12 48.4**	**-2.6**
JTM	**Tenmabayashi**	**3.02**	**269**	P	**Pn**	**15 12 18.3**	**-0.4**
JTM				S	**Sn**	**15 12 51.2**	**-2.4**
JRA	**Rausu**	**3.05**	**1**	P	**Pn**	**15 12 18.5**	**-0.6**
JRA				eS	**Sn**	**15 12 52.5**	**-1.8**
JOT	**Ohata**	**3.06**	**281**	P	**Pn**	**15 12 18.7**	**-0.5**
JOT				S	**Sn**	**15 12 52.1**	**-2.4**
JKB	**Kayabe**	**3.18**	**290**	P	**Pn**	**15 12 20.8**	**-0.1**
JTKR	**Abashiri--Toko**	**3.19**	**345**	P	**Pn**	**15 12 20.5**	**-0.6**
JTKR				S	**Sn**	**15 12 56.1**	**-1.7**
JOM	**Ohasama**	**3.20**	**245**	P	**Pn**	**15 12 21.3**	**+0.1**
JOM				S	**Sn**	**15 12 56.4**	**-1.8**
JEW	**Eniwo**	**3.31**	**307**	P	**Pn**	**15 12 23.7**	**+0.9**
JEW				eS	**Sn**	**15 13 00.6**	**-0.3**
JAH	**Hinai**	**3.43**	**260**	P	**Pn**	**15 12 24.6**	**+0.2**
JAH				S	**Sn**	**15 13 02.2**	**-1.6**
JKK2	**Kamakawa 2**	**3.43**	**331**	P	**Pn**	**15 12 24.6**	**+0.2**
JKK2				eS	**Sn**	**15 13 04.8**	**+1.0**
JMK	**Ichinoseki**	**3.52**	**238**	P	**Pn**	**15 12 25.4**	**-0.2**
JMK				S	**Sn**	**15 13 03.5**	**-2.5**
JRG	**Rokugo**	**3.69**	**248**	P	**Pn**	**15 12 28.4**	**+0.4**
JRG				S	**Sn**	**15 13 09.6**	**-0.7**
ASAJ	**Asahikawa**	**3.69**	**332**	Pn	**Pn**	**15 12 28.0**	**0.0**
	1.3nm,0.3s,baz=178,slow=14,SNR=16						
ASAJ				Sn	**Sn**	**15 13 09.9**	**-0.4**
	2.2nm,0.3s,baz=259,slow=31,SNR=7.4						
JYK	**Kaneyama**	**4.11**	**243**	P	**Pn**	**15 12 33.5**	**-0.2**
JOU	**Okura**	**4.22**	**235**	P	**Pn**	**15 12 35.2**	**0.0**
MJAR	**Matsushiro Arr**	**6.88**	**233**	Pn	**Pn**	**15 13 13.5**	**+1.7**
	0.2nm,0.3s,baz=35,slow=12,SNR=4.9						
SEY	**Seymchan**	**22.51**	**9**	P	**P**	**15 16 30.2**	**+0.6**
	0.6nm,0.7s,baz=121,slow=6.2,SNR=3.9						
H11N2	**WAKE ISLAND Hy 28.16**	**132**		T	T	15 46 57.5	
	baz=324,slow=76,SNR=6.3						
H11N1	**WAKE ISLAND Hy 28.16**	**132**		T	T	15 46 54.5	
	baz=324,slow=76,SNR=8.2						
H11N3	**WAKE ISLAND Hy 28.17**	**132**		T	T	15 46 58.9	
	baz=324,slow=76,SNR=5.4						
SONM	**Songino Array**	**28.26**	**297**	P	**P**	**15 17 24.0**	**+0.7**
	0.3nm,0.5s,baz=104,slow=11,SNR=3.3						
H11S1	**WAKE ISLAND Hy 29.03**	**134**		T	T	15 47 58.9	
	baz=325,slow=74,SNR=6.9						
H11S3	**WAKE ISLAND Hy 29.03**	**134**		T	T	15 48 00.3	
	baz=325,slow=74,SNR=4.8						
H11S2	**WAKE ISLAND Hy 29.05**	**134**		T	T	15 47 58.7	
	baz=325,slow=74,SNR=5.6						
ZALV	**Zalesovo Beam**	**41.54**	**309**	P	**P**	**15 19 18.3**	**+1.1**
	0.3nm,0.3s,baz=100,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**44.58**	**300**	P	**P**	**15 19 41.4**	**-0.6**
	0.1nm,0.6s,baz=81,slow=9.1,SNR=4.2						
ILAR	**Eielson Array**	**44.72**	**34**	P	P	15 19 45.4	+2.6
	0.3nm,0.8s,baz=290,slow=8.3,SNR=5.3						
KURBB	**Kurchatov Arra**	**45.96**	**306**	P	**P**	**15 19 54.1**	**+1.4**
	0.7nm,0.6s,baz=76,slow=8.8,SNR=5.6						
BVAR	**Borovoye Array**	**50.14**	**311**	LR	LR	15 45 02.6	
	comp=Z,56nm,19.5s,baz=23,slow=40						
ARCES	**ARCESS Array B**	**61.38**	**340**	LR	LR	15 51 59.2	
	comp=Z,63nm,18.0s,baz=264,slow=40						
FINES	**FINESS Array B**	**66.70**	**333**	P	**P**	**15 22 22.0**	**+1.7**
	1.0nm,0.8s,baz=53,slow=5.6,SNR=2.4						
KVAR	**Kislovodsk Arr**	**70.49**	**312**	LR	LR	15 55 17.7	
	comp=Z,80nm,18.7s,slow=37						

*IDC **14** 15:12:44.7±1.0, 54°.10N×35°.50W, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.4/79, mbtmp3.5/8, MS3.2/1, Ms1 3.2/1, ms1mx2.6/66, Error ellipse: s-maj=33.7km s-min=22.1km az=10.0*
*ISCJB **14** 15:12:45.0±1.0, 54°.1N±0°.2×35°.6W±0°.2, h16km, mb3.6/8, Error ellipse: s-maj=30.0km s-min=19.8km az=15.9*

ISC 14 15:12:47.1±1.0, 54°.1N±0°.2×35°.5W±0°.2, h16km, n10, σ0§81/10, mb3.7/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**19.38**	**313**	LR	LR	15 23 03.9	
	comp=Z,77nm,19.7s,baz=228,slow=32						
YKA	**Yellowknife Ar**	**39.88**	**315**	P	**P**	**15 20 20.6**	**+1.0**
	0.6nm,0.9s,baz=64,slow=8.9,SNR=2.9						
YKA				PcP	**PcP**	**15 22 25.6**	**+0.7**
	0.4nm,0.9s,baz=69,slow=3.4,SNR=3.3						
BRTR	**Keskin Array B**	**47.48**	**78**	P	**P**	**15 21 21.4**	**+0.3**
	0.6nm,0.9s,baz=354,slow=9.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**50.23**	**130**	P	**P**	**15 21 42.6**	**+0.4**
	1.3nm,0.9s,baz=322,slow=7.3,SNR=6.1						
TXAR	**Lajitas Array**	**54.17**	**272**	P	**P**	**15 22 10.5**	**-1.0**
	0.1nm,0.3s,baz=27,slow=6.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.99**	**41**	P	**P**	**15 23 04.7**	**-1.2**
	0.3nm,0.6s,baz=332,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**66.56**	**41**	P	**P**	**15 23 35.4**	**-0.5**
	0.4nm,0.7s,baz=334,slow=6.5,SNR=3.8						
MA2	**Magadan**	**66.60**	**357**	P	**P**	**15 23 35.9**	**0.0**
	0.7nm,0.5s,baz=8.9,slow=8.6,SNR=4.0						
SONM	**Songino Array**	**73.49**	**26**	P	**P**	**15 24 18.7**	**+0.1**
	0.3nm,0.4s,baz=319,slow=6.3,SNR=3.1						
ASAR	**Alice Springs**	**148.62**	**19**	PKPbc	**PKPbc**	**15 32 33.1**	**0.0**
	1.0nm,0.8s,baz=353,slow=2.0,SNR=11						

JMA 14 15:19:53.0±0.2, 40°.75N×145°.19E, h28km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.98**	**310**	P	Pn	15 20 26.2	+1.5
JEM				eS	Sn	15 20 46.7	-1.9
JAK	**Akkeshi**	**2.27**	**351**	P	Pn	15 20 29.3	+0.6
JAK				S	Sn	15 20 55.5	-0.2
JCH	**Churui**	**2.31**	**324**	P	Pn	15 20 30.2	+1.0
JCH				S	Sn	15 20 54.8	-1.9
JNBK	**Urakawa-nobuka**	**2.38**	**311**	P	Pn	15 20 32.0	+1.8
JNBK				S	Sn	15 20 57.9	-0.6
NEM2	**Nemuro 2**	**2.65**	**9**	P	Pn	15 20 35.8	+2.0
NEM2				eS	Sn	15 21 03.7	-1.2
JTH	**Tanohata**	**2.67**	**253**	P	Pn	15 20 35.2	+1.1
JTH				S	Sn	15 21 02.9	-2.6
JAR	**Ashorobuto**	**2.76**	**338**	P	Pn	15 20 36.8	+1.5
JAR				eS	Sn	15 21 05.5	-2.2
JANG	**Nango**	**2.83**	**264**	P	Pn	15 20 37.2	+0.9
JANG				eS	Sn	15 21 07.0	-2.4
JFR	**Furan**	**3.09**	**322**	P	Pn	15 20 41.1	+1.1
JFR				S	Sn	15 21 13.4	-2.6
JTM	**Tenmabayashi**	**3.13**	**272**	P	Pn	15 20 42.4	+2.0
JRA	**Rausu**	**3.19**	**359**	P	Pn	15 20 42.2	+1.0
JRA				S	Sn	15 21 15.9	-2.3
JOT	**Ohata**	**3.19**	**283**	P	Pn	15 20 42.6	+1.3
JOT				S	Sn	15 21 15.7	-2.7
JOM	**Ohasama**	**3.25**	**248**	P	Pn	15 20 44.1	+2.0
JOM				S	Sn	15 21 18.5	-1.3
JKB	**Kayabe**	**3.33**	**291**	P	Pn	15 20 44.9	+1.7
JKB				S	Sn	15 21 20.4	-1.4
JTKR	**Abashiri--Toko**	**3.36**	**344**	P	Pn	15 20 45.5	+2.0
JTKR				eS	Sn	15 21 21.5	-0.9
JEW	**Eniwo**	**3.49**	**308**	P	Pn	15 20 48.3	+2.9
JAH	**Hinai**	**3.52**	**262**	P	Pn	15 20 47.8	+2.0
JAH				S	Sn	15 21 24.9	-1.6
JMK	**Ichinoseki**	**3.54**	**241**	P	Pn	15 20 48.0	+1.9
JMK				S	Sn	15 21 25.8	-1.3
JRG	**Rokugo**	**3.75**	**250**	P	Pn	15 20 51.6	+2.7
JRG				S	Sn	15 21 31.8	-0.3
JYK	**Kaneyama**	**4.14**	**245**	P	Pn	15 20 56.8	+2.4
JOU	**Okura**	**4.23**	**237**	P	Pn	15 20 58.0	+2.4
JOU				S	Sn	15 21 43.4	-0.7

JMA 14 15:23:10.5±0.1, 35°.65N×140°.92E, h18km±1km, M3.7, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**317**	||P	Pg	15 23 13.7	-0.2
CHOJ				eS	Sg	15 23 16.1	-0.1
JCN	**Nagara**	**0.63**	**249**	↑P	Pg	15 23 23.4	+0.4
BSO4	**Boso 4**	**0.81**	**216**	P	Pg	15 23 26.3	-0.1
JYT	**Yasato**	**0.82**	**315**	↑P	Pb	15 23 25.6	-0.7
JYT				eS	Sb	15 23 36.6	-0.5
BSO3	**Boso 3**	**0.91**	**202**	P	Pb	15 23 27.1	-0.5
MAT	**Matsushiro**	**2.37**	**293**	P	Pn	15 23 48.9	+0.4
MAT				eS	Sn	15 24 17.5	+0.3

*IDC **14** 15:37:10.8±1.0, 6°.66S×130°.42E, h0km, mb4.1/6, mb1 4.2/10, mb1mx3.8/59, mbtmp4.1/10, ML4.0/4, Error ellipse: s-maj=45.5km s-min=17.9km az=76.0*

ISC 14 15:37:12.3±1.0, 6°.86S±0°.09×130°.5E±0°.2, h10km, n11, σ3§04/13, mb4.1/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.55**	**243**	Pn	**Pn**	**15 39 03.7**	**+1.1**
	5.8nm,0.3s,baz=42,slow=12,SNR=6.0						
BATI				Sn	Sn	15 40 17.9	-10
	4.1nm,0.3s,baz=108,slow=20,SNR=6.7						
FITZ	**Fitzroy Crossi**	**12.14**	**203**	Pn	**Pn**	**15 40 06.7**	**+1.2**
	0.3nm,0.3s,baz=26,slow=11,SNR=12						
FITZ				Sn	Sn	15 42 06.9	-14
	baz=301,slow=1.2						
WRA	**Warramunga Arr**	**13.52**	**164**	Pn	**Pn**	**15 40 28.1**	**+3.8**
	0.8nm,0.3s,baz=348,slow=13,SNR=45						
WRA				Sn	**Sn**	**15 42 50.4**	**-4.5**
	2.7nm,0.3s,baz=340,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.02**	**169**	P	**P**	**15 41 14.6**	**+2.1**
	0.8nm,0.3s,baz=345,slow=10.0,SNR=42						
ASAR				S	**Sn**	**15 44 14.4**	**-5.6**
	0.7nm,0.3s,baz=343,slow=25,SNR=10.0						
STKA	**Stephens Creek**	**26.95**	**159**	P	**P**	**15 42 56.4**	**+2.3**
	2.1nm,0.4s,baz=336,slow=8.0,SNR=11						
SONM	**Songino Array**	**58.48**	**341**	P	**P**	**15 47 08.9**	**+0.2**
	0.5nm,0.7s,baz=172,slow=7.7,SNR=3.6						
MKAR	**Makanchi Array**	**68.40**	**327**	P	**P**	**15 48 13.5**	**-0.8**
	1.0nm,0.5s,baz=131,slow=8.2,SNR=9.9						
ZALV	**Zalesovo Beam**	**71.69**	**334**	P	**P**	**15 48 32.9**	**-1.4**
	0.8nm,0.6s,baz=144,slow=5.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**72.67**	**328**	P	**P**	**15 48 38.8**	**-1.4**
	1.3nm,0.2s,baz=121,slow=4.7,SNR=5.0						
BVAR	**Borovoye Array**	**78.22**	**328**	P	**P**	**15 49 10.7**	**-1.5**
	0.6nm,0.8s,baz=157,slow=7.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**129.29**	**281**	PKP	**PKPdf**	**15 56 19.3**	**-2.8**
	0.2nm,0.5s,baz=52,slow=2.5,SNR=2.8						

*IDC **14** 15:38:53.3±1.2, 10°.48N×93°.80E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.6/75, mbtmp3.9/9, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/67, Error ellipse: s-maj=40.5km s-min=19.7km az=54.0*
*ISCJB **14** 15:38:56.7±0.7, 10°.5N±0°.1×93°.9E±0°.1, h35km, mb4.0/10, MS3.4/1, Error ellipse: s-maj=21.4km s-min=13.1km az=146.2*
*NEIC **14** 15:39:03.1±1.8, 10°.70N×93°.99E, h74km±16km, mb4.3/2, Error ellipse: s-maj=24.4km s-min=9.7km az=69.0*

ISC 14 15:39:00.2±0.9, 10°.7N±0°.1×93°.8E±0°.2, h35km, n19, σ1§89/12, mb4.1/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.17**	**32**	Pn	**Pn**	**15 41 10.8**	**+0.7**
	0.1nm,0.3s,baz=212,slow=17,SNR=3.2						
PSI	**Prapat**	**9.37**	**147**	Pn	**Pn**	**15 41 15.6**	**+2.7**
	0.6nm,0.3s,baz=328,slow=6.5,SNR=7.8						
PALK	**Pallekele**	**13.37**	**256**	LR	LR	15 46 15.3	
	comp=Z,61nm,21.1s,baz=116,slow=33						
H08S3	**Diego Garcia H**	**27.96**	**230**	T	T	16 13 54.1	
	baz=49,slow=76,SNR=6.2						
H08S2	**Diego Garcia H**	**27.96**	**230**	T	T	16 13 49.9	
	baz=49,slow=76,SNR=9.7						
H08S1	**Diego Carcia H**	**27.98**	**230**	T	T	16 14 00.2	
	baz=49,slow=76,SNR=7.7						
MKAR	**Makanchi Array**	**37.26**	**347**	P	P	15 46 07.1	-1.5
	3.6nm,0.7s,baz=142,slow=8.6,SNR=5.8						
SONM	**Songino Array**	**38.50**	**14**	P	**P**	**15 46 19.1**	**0.0**
	1.0nm,1.0s,baz=221,slow=15,SNR=4.4						
KURBB	**Kurchatov Arra**	**41.73**	**345**	P	**P**	**15 46 46.1**	**+0.5**
	0.7nm,0.5s,baz=148,slow=8.0,SNR=5.0						
KURK	**Kurchatov**	**41.79**	**346**	P	**P**	**15 46 46.1**	**0.0**
GEYT	**Alibeck**	**41.89**	**316**	P	**P**	**15 46 48.1**	**+0.8**
	3.9nm,0.7s,baz=125,slow=9.3,SNR=9.9						
ZALV	**Zalesovo Beam**	**43.72**	**352**	P	**P**	**15 47 02.0**	**+0.3**
	1.4nm,0.7s,baz=169,slow=8.8,SNR=5.5						
MJAR	**Matsushiro Arr**	**47.56**	**50**	LR	LR	16 08 35.2	
	comp=Z,37nm,18.4s,baz=50,slow=37						
WRA	**Warramunga

	6.1nm,1.2s							
SONM	**Songino Array**	**26.82**	**18**	P	**P**	**15 45 52.1**	**+0.7**
	0.3nm,0.8s,baz=188,slow=7.3,SNR=2.8							
KURBB	**Kurchatov Arra**	**30.33**	**340**	P	**P**	**15 46 23.1**	**+0.8**
	1.4nm,0.5s,baz=146,slow=8.1,SNR=16							
KURK	**Kurchatov**	**30.38**	**340**	*eP*	**P**	**15 46 23.2**	**+0.5**
	3.7nm,0.8s							
ZAA0	**Zalesovo Array**	**31.89**	**350**	*eP*	**P**	**15 46 36.4**	**+0.4**
	4.4nm,1.1s							
ZALV	**Zalesovo Beam**	**31.89**	**350**	P	**P**	**15 46 36.5**	**+0.5**
	1.5nm,0.4s,baz=182,slow=7.4,SNR=8.7							
ZALV	**Zalesovo Beam**	**31.89**	**350**	*eP*	**P**	**15 46 36.2**	**+0.2**
BVAR	**Borovoye Array**	**35.19**	**335**	P	**P**	**15 47 05.8**	**+1.1**
	1.2nm,0.5s,baz=134,slow=10,SNR=8.2							
ABKAR	**Akbulak array**	**37.71**	**323**	*eP*	**P**	**15 47 28.4**	**+2.2**
	0.9nm,0.5s							
AKTO	**Aktyubinsk**	**39.39**	**324**	P	**P**	**15 47 41.8**	**+1.6**
	1.7nm,0.8s,baz=111,slow=8.6,SNR=6.9							
ARU	**Arti**	**42.50**	**331**	P	**P**	**15 48 06.7**	**+1.1**
	2.5nm,0.3s,baz=142,slow=3.2,SNR=5.2							
FITZ	**Fitzroy Crossi**	**50.99**	**140**	P	**P**	**15 49 11.6**	**-0.5**
	3.9nm,0.9s,baz=14,slow=8.3,SNR=4.6							
TIXI	**Tiksi**	**52.71**	**13**	P	**P**	**15 49 21.1**	**-3.1**
	1.5nm,0.3s,baz=239,slow=1.0,SNR=14							
AKASG	**Malin Array Be**	**56.91**	**317**	P	**P**	**15 49 55.4**	**+0.5**
	0.6nm,0.5s,baz=82,slow=6.7,SNR=5.5							
WRA	**Warramunga Arr**	**57.82**	**134**	P	**P**	**15 50 02.0**	**+0.4**
	2.5nm,0.5s,baz=323,slow=7.4,SNR=38							
MLR	**Muntele Rosu**	**59.02**	**310**	P	**P**	**15 50 11.7**	**+1.9**
	0.7nm,0.6s,baz=252,slow=8.7,SNR=3.5							
NWAO	**Narrogin (SRO)**	**59.64**	**158**	P	**P**	**15 50 14.5**	**+0.5**
	7.5nm,0.8s,baz=181,slow=14,SNR=3.2							
FINES	**FINESS Array B**	**59.77**	**329**	P	**P**	**15 50 15.8**	**+1.2**
	1.3nm,0.5s,baz=82,slow=9.0,SNR=6.3							
ASAR	**Alice Springs**	**60.22**	**138**	P	**P**	**15 50 18.9**	**+0.7**
	2.3nm,0.5s,baz=320,slow=7.0,SNR=27							
ASAR				*pP*	**pP**	**15 50 42.2**	**-1.7**
	0.6nm,0.7s,baz=324,slow=6.1,SNR=2.0							
ARCES	**ARCESS Array B**	**61.39**	**338**	P	**P**	**15 50 26.2**	**+0.8**
	3.2nm,1.0s,baz=104,slow=7.7,SNR=7.6							
SPITS	**Spitsbergen Ar**	**65.33**	**347**	P	**P**	**15 50 51.7**	**+0.4**
	2.2nm,0.7s,baz=91,slow=12,SNR=4.2							
HFS	**Hagfors**	**65.79**	**327**	P	**P**	**15 50 55.3**	**+0.8**
	1.9nm,0.5s,baz=93,slow=6.2,SNR=12							
NB2	**NORSAR Subarra**	**66.93**	**328**	P	**P**	**15 51 02.3**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=84,slow=6.5							
NOA	**NORSAR Array B**	**66.93**	**328**	P	**P**	**15 51 02.2**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=86,slow=6.4,SNR=6.2							

*ROM **14** 15:40:24.7±0.2, 44.05N×7.61E, h8km±4km, Md2.1/5, Ml1.2/7, Error ellipse: s-maj=2.8km s-min=1.4km az=50.0*
*GEN **14** 15:40:25.5, 44.04N×7.62E, h10km, ML0.9*
*ISCJB **14** 15:40:25.4±0.5, 44.06N±0.02×7.63E±0.03, h14km±4km, Error ellipse: s-maj=3.5km s-min=3.5km az=27.1*
*CSEM **14** 15:40:25.9±0.1, 44.07N×7.63E, h2km, ML1.8/11, Error ellipse: s-maj=2.4km s-min=2.1km az=46.0*
*LDG **14** 15:40:25.9±0.1, 44.07N×7.66E, h2km, Md2.3/1, Ml2.5/4, Error ellipse: s-maj=2.4km s-min=2.2km az=82.0*
*STR **14** 15:40:26.0±1.1, 44°N±3°×±°, h5km, M1.8/6, MLv1.8/6*

ISC 14 15:40:26.1±0.9, 44.07N±0.02×7.64E±0.02, h6km±10km, n39, σ0964/69, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ENR	**Entracque**	**0.22**	**316**	P		**Pg**	**15 40 30.6**	**0.0**
ENR				S		**Sg**	**15 40 34.1**	**+0.5**
ENR	**Entracque**	**0.22**	**316**	Pg		**Pg**	**15 40 30.6**	**0.0**
ENR				Sg		**Sg**	**15 40 34.3**	**+0.7**
	30nm,0.3s							
NEGI	**Seborga**	**0.22**	**167**	P		**Pg**	**15 40 29.7**	**-0.8**
NEGI				S		**Sg**	**15 40 32.2**	**-1.3**
NEGI				Sg		Sg	15 40 33.1	-0.4
	68nm,0.7s							
NEGI	**Seborga**	**0.22**	**167**	Pg		**Pg**	**15 40 29.6**	**-0.9**
NEGI				Sg		**Sg**	**15 40 33.1**	**-0.4**
	68nm,0.7s							
GBOS	**Grotte di Boss**	**0.23**	**40**	P		**Pg**	**15 40 30.8**	**+0.1**
GBOS				S		**Sg**	**15 40 34.4**	**+0.6**
GBOS				Sg		Sg	15 40 35.0	+1.2
	29nm,0.5s							
GBOS	**Grotte di Boss**	**0.23**	**40**	Pg		**Pg**	**15 40 30.8**	**+0.1**
GBOS				Sg		**Sg**	**15 40 35.0**	**+1.2**
	29nm,0.5s							
IMI	**Imperia**	**0.24**	**130**	P		**Pg**	**15 40 30.8**	**-0.1**
IMI				S		**Sg**	**15 40 34.5**	**+0.4**
IMI				Sg		Sg	15 40 35.1	+1.0
	79nm,0.7s							
IMI	**Imperia**	**0.24**	**130**	Pg		**Pg**	**15 40 30.9**	**0.0**
IMI				Sg		**Sg**	**15 40 35.1**	**+1.0**
	79nm,0.7s							
SBF	**Sospel**	**0.25**	**216**	*eP*		**Pg**	**15 40 31.6**	**+0.6**
SBF				*eS*		**Sg**	**15 40 34.2**	**-0.1**
	70nm,0.3s							
SBF	**Sospel**	**0.25**	**216**	*eP*		**Pg**	**15 40 31.6**	**+0.6**
SBF				*eS*		**Sg**	**15 40 34.2**	**-0.1**
	35nm,0.3s							
LUCF	**Luceram**	**0.27**	**230**	Sg		**Sg**	**15 40 35.9**	**+0.9**
LUCF	**Luceram**	**0.27**	**230**	Pg		**Pg**	**15 40 31.9**	**+0.5**
STV	**Sant Anna di V**	**0.29**	**309**	P		**Pg**	**15 40 30.7**	**-1.1**
STV				S		**Sg**	**15 40 34.4**	**-1.2**
STV				Sg		**Sg**	**15 40 35.1**	**-0.5**
	26nm,0.8s							
STV	**Sant Anna di V**	**0.29**	**309**	Pg		**Pg**	**15 40 30.7**	**-1.1**
STV				Sg		**Sg**	**15 40 35.1**	**-0.5**
	26nm,0.8s							
RORO	**Rocca Rossa**	**0.31**	**81**	P		**Pg**	**15 40 31.5**	**-0.8**
RORO				S		**Sg**	**15 40 36.7**	**+0.3**
RORO				Sg		**Sg**	**15 40 37.0**	**+0.6**
	32nm,0.8s							
RORO	**Rocca Rossa**	**0.31**	**81**	Pg		**Pg**	**15 40 31.5**	**-0.8**
RORO				Sg		**Sg**	**15 40 37.0**	**+0.6**
	32nm,0.8s							
MVIF	**Mont Vial**	**0.39**	**244**	Pg		**Pg**	**15 40 34.0**	**+0.3**
ISO	**Isola**	**0.44**	**286**	Pg		**Pg**	**15 40 34.6**	**0.0**
ISO	**Isola**	**0.44**	**286**	Sg		**Sg**	**15 40 41.2**	**+0.9**
PZZ	**Stroppo**	**0.58**	**320**	P		**Pg**	**15 40 36.7**	**-0.6**
PZZ				S		**Sg**	**15 40 44.5**	**-0.4**
PZZ				Sg		**Sg**	**15 40 44.9**	**0.0**
	20nm,0.3s							
PZZ	**Stroppo**	**0.58**	**320**	Pg		**Pg**	**15 40 36.6**	**-0.7**
PZZ				Sg		**Sg**	**15 40 44.9**	**0.0**
	20nm,0.3s							
CALF	**Calern**	**0.60**	**239**	Pg		**Pg**	**15 40 38.0**	**+0.3**
CALF	**Calern**	**0.60**	**239**	Sg		**Sb**	**15 40 46.7**	**-1.2**
SURF	**Saint Ours**	**0.72**	**305**	Sg		**Sb**	**15 40 51.4**	**0.0**
SURF	**Saint Ours**	**0.72**	**305**	Pg		**Pg**	**15 40 40.0**	**-0.1**
BHB	**Bricherasio**	**0.82**	**341**	P		**Pg**	**15 40 41.0**	**-0.9**
BHB				S		**Sg**	**15 40 51.4**	**-1.2**
FRF	**La Foret Royal**	**0.88**	**235**	*eP*		**Pg**	**15 40 42.8**	**-0.1**
FRF				*eS*		**Sb**	**15 40 54.9**	**-0.8**
FRF	**La Foret Royal**	**0.88**	**235**	*eP*		**Pg**	**15 40 42.8**	**-0.1**
FRF				*eS*		**Sb**	**15 40 54.9**	**-0.8**
MBDF	**Montbardon**	**0.91**	**317**	*eP*		**Pg**	**15 40 43.3**	**-0.3**
MBDF				*eS*		**Sg**	**15 40 55.8**	**+0.5**
	8.8nm,0.4s							
MBDF	**Montbardon**	**0.91**	**317**	*eP*		**Pg**	**15 40 43.3**	**-0.3**
MBDF				*eS*		**Sg**	**15 40 55.8**	**+0.5**
	4.4nm,0.4s							
LMR	**La Mourre**	**1.10**	**229**	*eP*		**Pg**	**15 40 47.0**	**-0.1**
LMR				*eS*		**Sg**	**15 41 01.0**	**-0.3**
	30nm,0.4s							
LMR	**La Mourre**	**1.10**	**229**	*eP*		**Pg**	**15 40 47.0**	**-0.1**
LMR				*eS*		**Sg**	**15 41 01.0**	**-0.3**
	15nm,0.4s							
SMRF	**Simiane la Rot**	**1.49**	**267**	*eP*		**Pg**	**15 40 54.4**	**-0.3**
SMRF				*eS*		**Sg**	**15 41 13.9**	**-0.1**
	22nm,0.4s							
SMRF	**Simiane la Rot**	**1.49**	**267**	*eP*		**Pg**	**15 40 54.4**	**-0.3**
SMRF				*eS*		**Sg**	**15 41 13.9**	**-0.1**
	11nm,0.4s							
ORIF	**Oris-en-Rattie**	**1.52**	**305**	*eP*		**Pb**	**15 40 54.5**	**-0.2**
ORIF				*eS*		**Sg**	**15 41 15.7**	**+0.8**
	5.5nm,0.4s							
ORIF	**Oris-en-Rattie**	**1.52**	**305**	*eP*		**Pb**	**15 40 54.5**	**-0.2**
ORIF				*eS*		**Sg**	**15 41 15.7**	**+0.8**
	2.8nm,0.4s							
ORIF	**Oris-en-Rattie**	**1.52**	**305**	Pg		**Pb**	**15 40 54.6**	**-0.2**
VIVF	**Saint-Julien-l**	**2.26**	**291**	*eP*		**Pn**	**15 41 05.2**	**+1.1**
VIVF	**Saint-Julien-l**	**2.26**	**291**	*eP*		**Pn**	**15 41 05.2**	**+1.1**

*NIED **14** 15:42:00, 40.80N×145.30E, h20km, Mw3.8 Best double couple: Ms5.94000×10^14 NP1:φ=259.00000°, δ=46.00000°, λ=-38.00000°. NP2:φ=17.00000°, δ=64.00000°, λ=-129.00000°.*
*IDC **14** 15:42:39.2±0.7, 40.74N×145.23E, h0km, mb3.8/16, mb1 4.0/20, mb1mx3.8/71, mbtmp3.8/20, ML4.2/3, Error ellipse: s-maj=16.6km s-min=15.3km az=115.0*
*JMA **14** 15:42:40.6±0.2, 40.80N×145.30E, h65km±3km, M4.5*
*ISCJB **14** 15:42:42.3±0.4, 40.85N±0.03×145.09E±0.04, h33km, mb4.0/22, Error ellipse: s-maj=4.6km s-min=3.8km az=8.6*
*NEIC **14** 15:42:42.5±2.3, 40.79N×145.18E, h20km±16km, mb4.7/3, Error ellipse: s-maj=10.4km s-min=6.1km az=109.0*

ISC 14 15:42:44.3±0.6, 40.82N±0.05×145.17E±0.06, h35km, n49, σ1984/69, mb4.0/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.93**	**309**	*ePn*		**Pn**	**15 43 13.2**	**-1.3**
JEM	**Erimo**	**1.93**	**309**	P		**Pn**	**15 43 13.2**	**-1.3**
JEM				*eS*		**Sn**	**15 43 35.9**	**-1.6**
JAK	**Akkeshi**	**2.20**	**351**	P		**Pn**	**15 43 16.1**	**-2.2**
JAK				*eS*		**Sn**	**15 43 41.9**	**-2.4**
JCH	**Churui**	**2.24**	**324**	P		**Pn**	**15 43 17.5**	**-1.4**
JCH				*eS*		**Sn**	**15 43 42.9**	**-2.5**
JOB	**Onbets**	**2.31**	**335**	P		**Pn**	**15 43 18.4**	**-1.4**
JOB				*eS*		**Sn**	**15 43 45.6**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.33**	**310**	P		**Pn**	**15 43 19.4**	**-0.6**
JNBK				*eS*		**Sn**	**15 43 47.0**	**-0.4**
NEM2	**Nemuro 2**	**2.58**	**9**	P		**Pn**	**15 43 21.1**	**-2.4**
NEM2				*eS*		**Sn**	**15 43 49.7**	**-3.9**
JAR	**Ashorobuto**	**2.68**	**338**	P		**Pn**	**15 43 22.9**	**-2.1**
JAR				*eS*		**Sn**	**15 43 53.8**	**-2.4**
JNK	**Nakash**	**2.78**	**353**	P		**Pn**	**15 43 23.6**	**-2.7**
JNK				*eS*		**Sn**	**15 43 54.3**	**-4.4**
JANG	**Nango**	**2.81**	**262**	P		**Pn**	**15 43 24.6**	**-2.2**
JANG				*eS*		**Sn**	**15 43 56.0**	**-3.5**
JBT2	**Biratori 2**	**2.87**	**314**	P		**Pn**	**15 43 26.1**	**-1.4**
JBT2				*eS*		**Sn**	**15 44 00.3**	**-0.4**
JFR	**Furan**	**3.03**	**322**	P		**Pn**	**15 43 27.9**	**-1.8**
JFR				*eS*		**Sn**	**15 44 01.7**	**-3.0**
JRA	**Rausu**	**3.12**	**359**	P		**Pn**	**15 43 28.4**	**-2.5**
JRA				*eS*		**Sn**	**15 44 02.8**	**-4.0**
JOT	**Ohata**	**3.16**	**282**	P		**Pn**	**15 43 30.1**	**-1.4**
JOT				*eS*		**Sn**	**15 44 04.4**	**-3.6**
JOM	**Ohasama**	**3.26**	**247**	P		**Pn**	**15 43 31.6**	**-1.3**
JOM				*eS*		**Sn**	**15 44 08.9**	**-1.5**
JTKR	**Abashiri--Toko**	**3.28**	**344**	P		**Pn**	**15 43 31.8**	**-1.4**
JTKR				*eS*		**Sn**	**15 44 09.0**	**-2.0**
JKB	**Kayabe**	**3.29**	**290**	P		**Pn**	**15 43 31.8**	**-1.5**
JKB				*eS*		**Sn**	**15 44 08.7**	**-2.4**
JEW	**Eniwo**	**3.43**	**307**	P		**Pn**	**15 43 35.3**	**0.0**
JEW				*eS*		**Sn**	**15 44 13.3**	**-1.4**
JKK2	**Kamakawa 2**	**3.54**	**330**	P		**Pn**	**15 43 35.6**	**-1.1**
JKK2				*eS*		**Sn**	**15 44 16.0**	**-1.3**
JMK	**Ichinoseki**	**3.56**	**240**	P		**Pn**	**15 43 35.5**	**-1.5**
JMK				*eS*		**Sn**	**15 44 13.6**	**-4.3**
ASAJ	**Asahikawa**	**3.80**	**331**	Pn		**Pn**	**15 43 39.8**	**-0.6**
	12nm,0.3s,baz=196,slow=15,SNR=110							
ASAJ				Sn		**Sn**	**15 44 26.6**	**+2.8**
	7.2nm,0.3s,baz=273,slow=30,SNR=3.8							
YSS	**Yuzh-Sakhalins**	**6.37**	**345**	*ePn*		**Pn**	**15 44 15.3**	**-0.3**
	7.7nm,0.4s							
MJAR	**Matsushiro Arr**	**6.92**	**234**	Pn		**Pn**	**15 44 22.8**	**-0.3**
	0.4nm,0.3s,baz=54,slow=9.2,SNR=4.0							
MAJO	**Matsushiro**	**6.92**	**234**	Pn		**Pn**	**15 44 23.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**10.30**	**293**	Pn		**Pn**	**15 45 09.1**	**-0.3**
	0.4nm,0.3s,baz=107,slow=13,SNR=11							
KLR	**Kul'dur**	**12.66**	**316**	Pn		**Pn**	**15 45 42.3**	**+0.6**
	0.0nm,0.3s,baz=118,slow=15,SNR=7.0							
MA2	**Magadan**	**19.10**	**9**	P		**Pn**	**15 47 04.6**	**-0.2**
	0.2nm,0.3s,baz=216,slow=7.7,SNR=3.0							
SONM	**Songino Array**	**28.38**	**297**	P		**P**	**15 48 36.1**	**+0.9**
	0.6nm,0.5s,baz=84,slow=8.6,SNR=4.6							
ZALV	**Zalesovo Beam**	**41.65**	**309**	P		**P**	**15 50 30.5**	**+1.5**
	0.6nm,0.3s,baz=87,slow=10,SNR=3.2							
ZALV				PcP		**PcP**	**15 52 25.5**	**+0.3**
	0.8nm,0.5s,baz=76,slow=3.1,SNR=3.6							
MKAR	**Makanchi Array**	**44.69**	**300**	P		**P**	**15 50 53.6**	**-0.1**
	0.2nm,0.7s,baz=84,slow=9.1,SNR=2.9							
ILAR	**Eielson Array**	**44.73**	**34**	P		**P**	**15 50 54.4**	**+0.7**
	0.6nm,0.8s,baz=250,slow=5.7,SNR=6.0							
CMAR	**Chiang Mai Arr**	**45.31**	**255**	P		**P**	**15 50 59.2**	**+0.3**
	0.2nm,0.5s,baz=46,slow=7.7,SNR=4.0							
KURK	**Kurchatov**	**46.00**	**306**	*eP*		**P**	**15 51 04.2**	**+0.3**
	32nm,0.7s							
KURBB	**Kurchatov Arra**	**46.08**	**306**	P		**P**	**15 51 06.5**	**+2.0**
	4.7nm,0.2s,baz=76,slow=9.9,SNR=9.0							
INK	**Inuvik**	**49.68**	**29**	P		**P**	**15 51 32.5**	**+0.4**
	1.0nm,0.6s,baz=299,slow=4.1,SNR=6.6							
BVAR	**Borovoye Array**	**50.26**	**311**	P		**P**	**15 51 37.5**	**+0.7**
	0.9nm,0.7s,baz=90,slow=5.8,SNR=5.0							
ABKAR	**Akbulak array**	**57.77**	**309**	*eP*		**P**	**15 52 31.8**	**+0.2**
	0.8nm,0.4s							
RES	**Resolute Bay**	**58.19**	**16**	*eP*		**P**	**15 52 34.6**	**+0.5**
	5.7nm,0.6s							
YKA	**Yellowknife Ar**	**59.06**	**32**	P		**P**	**15 52 40.7**	**+0.3**
	0.3nm,0.7s,baz=302,slow=6.5,SNR=5.3							
WRAB	**Tennant Creek**	**61.27**	**192**	P		**P**	**15 52 55.3**	**-0.7**
	9.0nm,1.1s							
WRA	**Warramunga Arr**	**61.28**	**192**	P		**P**	**15 52 55.3**	**-0.8**
	2.4nm,0.7s,baz=8.6,slow=6.8,SNR=11							
ARCES	**ARCESS Array B**	**61.48**	**340**	P		**P**	**15 52 59.1**	**+2.2**
	2.2nm,0.9s,baz=24,slow=6.9,SNR=2.8							
ASAR	**Alice Springs**	**65.00**	**191**	P		**P**	**15 53 20.6**	**-0.1**
	1.1nm,0.8s,baz=9.5,slow=6.5,SNR=8.1							
FINES	**FINESS Array B**	**66.81**	**333**	P		**P**	**15 53 32.0**	**+0.1**
	1.0nm,0.5s,baz=41,slow=7.4,SNR=4.9							
NVAR	**Mina Array Bea**	**70.41**	**56**	P		**P**	**15 53 55.8**	**+0.7**
	0.2nm,0.5s,baz=289,slow=5.6,SNR=2.8							
NB2	**NORSAR Subarra**	**71.79**	**338**	P		**P**	15 54 12.3	+9.5
	comp=Z,3.6nm,1.1s,baz=35,slow=6.2							
HFS	**Hagfors**	**71.81**	**337**	P		**P**	**15 54 02.9**	**0.0**
	comp=Z,4.5nm,1.1s,baz=61,slow=12,SNR=4.2							
AKASG	**Malin Array Be**	**73.06**	**323**	P		**P**	**15 54 10.2**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=44,slow=5.9,SNR=4.4							
TXAR	**Lajitas Array**	**85.52**	**55**	P		**P**	**15 55 19.6**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=343,slow=3.0,SNR=4.2							

IDC 14 15:51:38.5±1.9, 28.16N×139.90E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.2/66, mbtmp3.7/3, ML3.3/2, Error ellipse: s-maj=43.6km s-min=33.4km az=77.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.29**	**117**	Pn		Pn	15 52 17.5	0.0
	4.3nm,0.3s,baz=65,slow=18,SNR=3.3							
MJAR	**Matsushiro Arr**	**8.48**	**351**	Pn		Pn	15 53 42.4	-0.3
	0.8nm,0.3s,baz=171,slow=11,SNR=4.9							
WRA	**Warramunga Arr**	**48.12**	**187**	P		P	16 00 20.2	-0.1
	0.7nm,0.3s,baz=5.4,slow=7.9,SNR=41							
ASAR	**Alice Springs**	**51.85**	**187**	P		P	16 00 48.5	-0.1
	0.5nm,0.3s,baz=9.6,slow=6.1,SNR=12							

*IDC **14** 16:01:21.6±0.9, 40.80N×145.29E, h0km, mb3.5/11, mb1 3.6/12, mb1mx3.5/66, mbtmp3.5/12, ML3.0/1, Error ellipse: s-maj=23.9km s-min=17.8km az=83.0*
*JMA **14** 16:01:23.3±0.4, 40.80N×145.19E, h67km, M3.6*
*ISCJB **14** 16:01:24.7±0.7, 40.80N±0.04×145.05E±0.08, h33km, mb3.5/11, Error ellipse: s-maj=8.9km s-min=5.8km az=179.7*

ISC 14 16:01:26.7±0.9, 40.77N±0.06×145.08E±0.10, h35km, n26, σ1974/22, mb3.4/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.91**	**311**	*eS*		**Sn**	**16 02 18.5**	**-1.0**
JAK	**Akkeshi**	**2.24**	**353**	*eS*		**Sn**	**16 02 25.3**	**-2.5**
JOB	**Onbets**	**2.33**	**337**	*eS*		**Sn**	**16 02 28.2**	**-1.6**
JAR	**Ashorobuto**	**2.71**	**339**	*eS*		**Sn**	**16 02 35.9**	**-3.3**
JANG	**Nango**	**2.74**	**263**	*eS*		**Sn**	**16 02 37.5**	**-2.6**
JTKR	**Abashiri--Toko**	**3.31**	**345**	P		**Pn**	**16 02 14.8**	**-1.2**
JTKR				*eS*		**Sn**	**16 02 52.1**	**-2.1**
JMK	**Ichinoseki**	**3.48**	**240**	P		**Pn**	**16 02 17.5**	**-0.8**
JMK				*eS*		**Sn**	**16 02 55.5**	**-2.7**
ASAJ	**Asahikawa**	**3.82**	**332**	Pn		**Pn**	**16 02 23.9**	**+0.9**
	0.9nm,0.3s,baz=152,slow=20,SNR=6.7							
ASAJ				Sn		**Sn**	**16 03 08.2**	**+1.6**
	1.0nm,0.3s,baz=83,slow=27,SNR=3.9							
USRK	**Ussuriysk Ar.**	**10.26**	**294**	Pn		Pn	16 04 01.3	+10
	0.1nm,0.3s,baz=100,slow=14,SNR=5.2							
SEY	**Seymchan**	**22.62**	**9**	P		**P**	**16 06 23.1**	**-1.0**
	0.6nm,0.7s,baz=241,slow=19,SNR=4.4							
H11N2	**WAKE ISLAND Hy**	**28.05**	**132**	T		T	16 36 14.4	
	baz=312							
H11N1	**WAKE ISLAND Hy**	**28.06**	**132**	T		T	16 36 09.4	
	baz=312							
H11N3	**WAKE ISLAND Hy**	**28.07**	**132**	T		T	16 36 11.7	
	baz=312							
SONM	**Songino Array**	**28.34**	**297**	P		**P**	**16 07 20.1**	**+2.8**
	0.4nm,0.5s,baz=90,slow=8.6,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**28.93**	**134**	T		T	16 37 02.1	
	baz=311							
H11S3	**WAKE ISLAND Hy**	**28.93**	**134**	T		T	16 36 58.8	
	baz=311							
H11S2	**WAKE ISLAND Hy**	**28.94**	**134**	T		T	16 36 58.9	
	baz=311							
ZALV	**Zalesovo Beam**	**41.63**	**309**	P		**P**	**16 09 12.0**	**+0.8**
	0.5nm,0.6s,baz=96,slow=12,SNR=2.2							
MKAR	**Makanchi Array**	**44.66**	**300**	P		**P**	**16 09 35.8**	**0.0**
	0.1nm,0.5s,baz=73,slow=9.7,SNR=2.4							
ILAR	**Eielson Array**	**44.81**	**34**	P		**P**	**16 09 35.8**	**-0.9**
	0.3nm,0.8s,baz=270,slow=7.1,SNR=3.7							
KURBB	**Kurchatov Arra**	**46.05**	**306**	P		**P**	**16 09 47.7**	**+1.0**
	0.8nm,0.6s,baz=81,slow=8.3,SNR=3.3							
BVAR	**Borovoye Array**	**50.24**	**311**	P		**P**	**16 10 19.5**	**+0.4**
	0.4nm,0.6s,baz=64,slow=6.6,SNR=3.1							
YKA	**Yellowknife Ar**	**59.14**	**32**	P		**P**	**16 11 23.0**	**-0.4**
	0.1nm,0.4s,baz=302,slow=7.0,SNR=2.9							
WRA	**Warramunga Arr**	**61.22**	**192**	P		**P**	**16 11 38.5**	**+0.4**
	0.8nm,0.7s,baz=13,slow=6.8,SNR=7.9							
ASAR	**Alice Springs**	**64.94**	**191**	P		**P**	**16 12 03.8**	**+1.1**
	0.4nm,0.8s,baz=24,slow=9.2,SNR=3.8							
FINES	**FINESS Array B**	**66.83**	**333**	P		**P**	**16 12 14.6**	**+0.2**
	1.3nm,0.8s,baz=46,slow=4.0,SNR=3.1							

*NNC **14** 16:03:55.9±3.4, 38.03N×71.75E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=25.6km s-min=20.9km az=163.0*

ISC 14 16:03:56.2±4.5, 37.8N±0.2×71.9E±0.1, h100km, n10, σ0982/15, 8C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.58**	**28**	⇑Pn		**Pn**	**16 04 37.2**	**+0.6**
	7.9nm,0.3s							
SFK				⇑Sn		**Sn**	**16 05 09.2**	**+1.6**
	30nm,0.4s							
AML	**Almayashu**	**4.59**	**17**	P		**Pn**	**16 05 03.4**	**-0.2**
	SNR=87							
MNAS	**Manas**	**4.76**	**5**	⇑Pn		**Pn**	**16 05 05.8**	**+0.1**
	1.9nm,0.3s							
MNAS				⇑Sn		**Sn**	**16 05 59.8**	**+0.1**
	1.7nm,0.4s							
UCH	**Uchtor**	**4.90**	**23**	P		**Pn**	**16 05 07.4**	**-0.5**
	SNR=13							
EKS2	**Erkin-Say**	**5.11**	**16**	P		**Pn**	**16 05 11.5**	**+1.0**
	SNR=7.1							
AAK	**Ala-Archa**	**5.27**	**21**	Pn		**Pn**	**16 05 11.8**	**-0.8**
	3.3nm,0.4s							
AAK				Sn		**Sn**	**16 06 11.2**	**-1.0**
	2.8nm,0.5s							
AAK	**Ala-Archa**	**5.27**	**21**	P		**Pn**	**16 05 12.8**	**+0.1**
	SNR=9.6							
KK31	**Karatay Array**	**5.46**	**349**	⇑Pn		**Pn**	**16 05 15.4**	**+0.3**
	0.6nm,0.3s,baz=173,slow=14,SNR=11							
KK31				⇑Sn		**Sn**	**16 06 15.8**	**-0.7**

JANG	**Nango**	**2.71**	**260**	P	**Pn**	**16 24 29.5**	**-2.4**
JANG				*eS*	**Sn**	**16 25 00.5**	**-3.0**
JBT2	**Biratori 2**	**2.71**	**314**	P	**Pn**	**16 24 30.8**	**-1.1**
JBT2				*eS*	**Sn**	**16 25 03.1**	**-0.4**
JFR	**Furan**	**2.88**	**322**	P	**Pn**	**16 24 32.9**	**-1.3**
JFR				*eS*	**Sn**	**16 25 04.6**	**-3.0**
JRA	**Rausu**	**3.02**	**2**	P	**Pn**	**16 24 34.2**	**-2.0**
JRA				*eS*	**Sn**	**16 25 08.1**	**-3.0**
JOT	**Ohata**	**3.02**	**280**	P	**Pn**	**16 24 34.5**	**-1.7**
JOT				*eS*	**Sn**	**16 25 07.9**	**-3.3**
JKB	**Kayabe**	**3.14**	**289**	P	**Pn**	**16 24 36.2**	**-1.6**
JKB				*eS*	**Sn**	**16 25 11.1**	**-3.0**
JTKR	**Abashiri--Toko**	**3.16**	**345**	P	**Pn**	**16 24 37.1**	**-1.0**
JTKR				*eS*	**Sn**	**16 25 12.7**	**-1.8**
JOM	**Ohasama**	**3.19**	**244**	P	**Pn**	**16 24 36.8**	**-1.7**
JEW	**Eniwo**	**3.28**	**307**	P	**Pn**	**16 24 39.8**	**+0.1**
JEW				*eS*	**Sn**	**16 25 16.4**	**-1.1**
JKK2	**Kamakawa 2**	**3.40**	**331**	P	**Pn**	**16 24 40.5**	**-0.8**
ASAJ	**Asahikawa**	**3.66**	**332**	Pn	**Pn**	**16 24 45.3**	**+0.3**
	1.4nm,0.3s,baz=167,slow=12,SNR=24						
ASAJ				Sn	**Sn**	**16 25 24.2**	**-2.7**
	5.4nm,0.3s,baz=154,slow=15,SNR=6.6						
MJAR	**Matsushiro Arr**	**6.88**	**233**	Pn	**Pn**	**16 25 28.0**	**-1.2**
	0.3nm,0.3s,baz=41,slow=11,SNR=5.2						
SEY	**Seymchan**	**22.48**		9 P	**P**	**16 28 48.1**	**+1.3**
	0.2nm,0.3s,baz=263,slow=17,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.19**	**132**	T	T	16 59 09.6	
	baz=324,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**28.20**	**132**	T	T	16 59 10.8	
	baz=324,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.21**	**132**	T	T	16 59 11.5	
	baz=324,slow=76,SNR=16						
SONM	**Songino Array**	**28.22**	**297**	P	**P**	**16 29 43.2**	**+2.8**
	0.6nm,0.8s,baz=70,slow=8.8,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**29.07**	**134**	T	T	17 00 14.3	
	baz=325,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.07**	**134**	T	T	17 00 15.9	
	baz=325,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.08**	**134**	T	T	17 00 15.5	
	baz=325,slow=76,SNR=21						
MKAR	**Makanchi Array**	**44.54**	**299**	P	**P**	**16 31 59.7**	**+0.6**
	0.2nm,0.6s,baz=82,slow=9.9,SNR=4.3						
ILAR	**Eielson Array**	**44.72**	**34**	P	**P**	**16 32 02.0**	**+1.8**
	0.5nm,0.9s,baz=264,slow=7.2,SNR=3.9						
KURBB	**Kurchatov Arra**	**45.92**	**306**	P	**P**	**16 32 10.5**	**+0.6**
	0.9nm,0.6s,baz=73,slow=8.9,SNR=5.6						
BVAR	**Borovoye Array**	**50.10**	**311**	P	**P**	**16 32 43.6**	**+1.4**
	0.5nm,0.7s,baz=88,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**59.04**	**32**	P	**P**	**16 33 47.9**	**+1.1**
	0.1nm,0.3s,baz=300,slow=6.1,SNR=4.2						
WRA	**Warramunga Arr**	**61.35**	**191**	P	**P**	**16 34 03.4**	**+0.3**
	1.0nm,0.9s,baz=8.3,slow=6.1,SNR=4.1						
FITZ	**Fitzroy Crossi**	**61.41**	**201**	P	**P**	**16 34 02.5**	**-1.0**
	4.3nm,0.9s,baz=323,slow=5.1,SNR=4.4						
ASAR	**Alice Springs**	**65.08**	**191**	P	**P**	**16 34 26.9**	**-0.8**
	0.4nm,0.9s,baz=2.5,slow=6.5,SNR=3.1						
FINES	**FINESS Array B**	**66.67**	**333**	P	**P**	**16 34 37.9**	**+0.3**
	1.4nm,0.9s,baz=64,slow=6.7,SNR=2.9						

*NIED **14** 16:26:00,40.90N×145.10E,h5km,Mw3.9 Best double couple: M0 7.90000×10^14 NP1:φs247.00000°,δ42.00000°, λ-75.00000°. NP2:φs46.00000°,δ50.00000°, λ-103.00000°.*

*IDC **14** 16:26:48.7±0.8,40.91N×144.96E,h0km,mb3.8/14, mb1 3.9/17,mb1mx3.7/76,mbtmp3.7/17,ML2.8/4, Error ellipse: s-maj=20.4km s-min=17.7km az=86.0*

*NEIC **14** 16:26:50.0±0.4,40.88N×144.90E,h10km,mb4.7/4, Error ellipse: s-maj=8.4km s-min=5.7km az=113.0*

*JMA **14** 16:26:49.5±0.2,40.91N×145.05E,h66km,3km,M4.0*

*ISCJB **14** 16:26:51.4±0.5,40.92N±0.03×144.81E±0.05,h33km, mb3.9/17,Error ellipse: s-maj=5.0km s-min=3.9km az=8.2*

ISC 14 16:26:53.5±0.7,40.93N±0.05×144.92E±0.06,h35km,n58, σ1s86/65,mb3.9/17,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.71**	**310**	*eP*n	**Pn**	**16 27 19.4**	**-1.4**
JEM	**Erimo**	**1.71**	**310**	P	**Pn**	**16 27 19.2**	**-1.6**
JEM				*eS*	**Sn**	**16 27 39.7**	**-1.7**
JCH	**Churui**	**2.04**	**326**	P	**Pn**	**16 27 23.6**	**-1.8**
JCH				S	**Sn**	**16 27 47.4**	**-2.3**
JAK	**Akkeshi**	**2.07**	**356**	S	**Sn**	**16 27 47.5**	**-2.8**
JNBK	**Urakawa-nobuka**	**2.11**	**310**	P	**Pn**	**16 27 25.5**	**-0.8**
JNBK				S	**Sn**	**16 27 51.1**	**-0.2**
JOB	**Onbets**	**2.13**	**338**	S	**Sn**	**16 27 49.9**	**-1.9**
NEM2	**Nemuro 2**	**2.51**	**14**	S	**Sn**	**16 27 56.8**	**-4.3**
JAR	**Ashorobuto**	**2.51**	**341**	P	**Pn**	**16 27 29.8**	**-2.1**
JAR				S	**Sn**	**16 27 58.7**	**-2.6**
JANG	**Nango**	**2.65**	**259**	P	**Pn**	**16 27 31.2**	**-2.5**
JANG				S	**Sn**	**16 28 00.7**	**-3.9**
JBT2	**Biratori 2**	**2.65**	**315**	S	**Sn**	**16 28 04.6**	**-0.1**
JNK	**Nakash**	**2.66**	**357**	P	**Pn**	**16 27 30.8**	**-3.0**
JNK				S	**Sn**	**16 28 00.2**	**-4.6**
JFR	**Furan**	**2.82**	**323**	P	**Pn**	**16 27 34.5**	**-1.6**
JFR				S	**Sn**	**16 28 06.3**	**-2.6**
JTM	**Tenmabayashi**	**2.92**	**268**	P	**Pn**	**16 27 35.9**	**-1.6**
JTM				S	**Sn**	**16 28 08.8**	**-2.5**
JOT	**Ohata**	**2.96**	**280**	P	**Pn**	**16 27 36.2**	**-1.7**
JOT				S	**Sn**	**16 28 09.5**	**-2.6**
JKB	**Kayabe**	**3.07**	**289**	S	**Sn**	**16 28 13.2**	**-1.8**
JTKR	**Abashiri--Toko**	**3.13**	**347**	S	**Sn**	**16 28 14.3**	**-2.1**
JOM	**Ohasama**	**3.13**	**243**	P	**Pn**	**16 27 38.6**	**-1.8**
JOM				S	**Sn**	**16 28 13.5**	**-3.1**
JEW	**Eniwo**	**3.21**	**308**	S	**Sn**	**16 28 17.9**	**-0.7**
ASAJ	**Asahikawa**	**3.62**	**332**	Pn	**Pn**	**16 27 47.3**	**+0.3**
	2.3nm,0.3s,baz=186,slow=16,SNR=8.4						
ASAJ				Sn	**Sn**	**16 28 27.2**	**-1.3**
	8.0nm,0.3s,baz=122,slow=19,SNR=9.1						
ASAJ	**Asahikawa**	**3.62**	**332**	*e*Pn	**Pn**	**16 27 46.0**	**-1.0**
ASAJ				Sn	**Sn**	**16 28 27.2**	**-1.3**
MAJO	**Matsushiro**	**6.83**	**232**	*e*Pn	**Pn**	**16 28 29.4**	**-1.9**
MJAR	**Matsushiro Arr**	**6.83**	**232**	Pn	**Pn**	**16 28 30.0**	**-1.2**
	0.5nm,0.3s,baz=39,slow=12,SNR=7.1						
MJB9	**Matsu-Tunnel**	**6.83**	**232**	*e*Pn	**Pn**	**16 28 29.3**	**-1.9**
INU	**Inuyama**	**8.35**	**231**	*e*Pn	**Pn**	**16 28 49.3**	**-2.7**
USRK	**Ussuriysk Ar.**	**10.08**	**293**	Pn	**Pn**	**16 29 15.2**	**-0.5**
	0.1nm,0.3s,baz=137,slow=43,SNR=3.4						
KLR	**Kul'dur**	**12.45**	**316**	Pn	**Pn**	**16 29 49.2**	**+1.0**
	0.0nm,0.3s,baz=128,slow=14,SNR=4.8						
SEY	**Seymchan**	**22.48**		9 P	**P**	**16 31 49.1**	**-0.3**
	0.8nm,0.8s,baz=201,slow=10,SNR=5.4						
SONA1	**Songino Array**	**28.15**	**297**	*e*P	**P**	**16 32 42.9**	**+0.5**
SONM	**Songino Array**	**28.16**	**297**	P	**P**	**16 32 43.0**	**+0.5**
	1.3nm,0.7s,baz=79,slow=7.8,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	17 02 12.0	
	baz=324,slow=76,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**28.26**	**132**	T	T	17 02 16.1	
	baz=324,slow=76,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**28.27**	**132**	T	T	17 02 13.5	
	baz=324,slow=76,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	17 03 16.1	
	baz=325,slow=74,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	17 03 18.4	
	baz=325,slow=74,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**29.14**	**134**	T	T	17 03 19.1	
	baz=325,slow=74,SNR=9.0						
GTA	**Gaotai**	**34.21**	**283**	*e*P	**P**	**16 33 36.8**	**+1.0**
GTA				pP	pP	16 33 41.4	-4.5
GTA				sP	sP	16 33 43.8	-6.4
CD2	**Chengdu**	**34.52**	**266**	*e*P	**P**	**16 33 37.5**	**-1.0**
ZALV	**Zalesovo Beam**	**41.44**	**309**	P	**P**	**16 34 36.8**	**+0.3**
	0.6nm,0.8s,baz=77,slow=6.4,SNR=2.3						
WMQ	**Urumqi**	**41.65**	**294**	P	**P**	**16 34 35.6**	**-2.8**
WMQ				pP	pP	16 34 44.1	-4.6
WMQ				PP	**PnPn**	**16 36 23.0**	**+3.1**
MK01	**Makanchi Array**	**44.48**	**299**	*e*P	**P**	**16 35 01.1**	**-0.1**
MK31	**Makanchi Array**	**44.48**	**299**	*e*P	**P**	**16 35 01.1**	**-0.1**
MKAR	**Makanchi Array**	**44.48**	**299**	P	**P**	**16 35 01.4**	**+0.2**
	0.5nm,0.6s,baz=83,slow=9.3,SNR=6.1						
MKAR	**Makanchi Array**	**44.48**	**299**	*e*P	**P**	**16 35 01.2**	**0.0**
	8.7nm,0.6s						
ILAR	**Eielson Array**	**44.74**	**34**	P	**P**	**16 35 02.8**	**-0.3**
	0.7nm,1.0s,baz=244,slow=3.9,SNR=4.5						
KURK	**Kurchatov**	**45.78**	**306**	*e*P	**P**	**16 35 10.8**	**-0.7**
	3.6nm,0.6s						
KURBB	**Kurchatov Arra**	**45.86**	**306**	P	**P**	**16 35 12.4**	**+0.3**
	2.4nm,0.8s,baz=78,slow=8.6,SNR=12						
BVAR	**Borovoye Array**	**50.04**	**311**	P	**P**	**16 35 45.1**	**+0.6**
	0.9nm,0.6s,baz=92,slow=13,SNR=6.4						
KSH	**Kashi**	**51.38**	**292**	*e*P	**P**	**16 35 57.3**	**+2.5**
ABKAR	**Akbulak array**	**57.55**	**309**	*e*P	**P**	**16 36 39.7**	**+0.4**
	11nm,0.6s						

RES	**Resolute Bay**	**58.13**	**16**	*e*P	**P**	**16 36 43.6**	**+0.6**
	11nm,1.9s							
YKA	**Yellowknife Ar**	**59.07**	**32**	P	**P**	**16 36 50.4**	**+0.8**
	0.5nm,0.9s,baz=297,slow=6.9,SNR=5.3							
WRA	**Warramunga Arr**	**61.35**	**191**	P	**P**	**16 37 05.6**	**-0.2**
	2.0nm,0.9s,baz=9.6,slow=7.1,SNR=7.0							
ASAR	**Alice Springs**	**65.08**	**191**	P	**P**	**16 37 31.5**	**+1.1**
	0.4nm,0.6s,baz=4.9,slow=6.9,SNR=6.5							
FINES	**FINESS Array B**	**66.62**	**333**	P	**P**	**16 37 40.4**	**+0.4**
	2.1nm,0.9s,baz=43,slow=8.6,SNR=3.8							
KBZ	**Khabaz**	**70.42**	**311**	P	**P**	**16 38 05.5**	**+1.5**
	1.0nm,0.8s,baz=99,slow=5.5,SNR=4.5							
AKASG	**Malin Array Be**	**72.86**	**323**	P	**P**	**16 38 18.7**	**+0.2**
	0.5nm,0.4s,baz=42,slow=6.4,SNR=4.2							
TXAR	**Lajitas Array**	**85.61**	**55**	P	**P**	**16 39 29.5**	**+0.8**
	0.2nm,0.5s,baz=301,slow=4.8,SNR=3.6							
SNAA	**Sanae**	**145.27**	**197**	PKP	**PKPdf**	**16 46 25.6**	**-0.6**

*NEIC **14** 16:31:39.5±0.4, 18.30N×102.12W,h35km,mb4.3/61, MD4.0(MEX),Error ellipse: s-maj=7.5km s-min=5.4km az=22.0*

NEIC Felt at Arteaga and Lazaro Cardenas. Also felt at Union de Tula, Jalisco.

*MEX **14** 16:31:43.9±0.8, 18.31N×102.35W,h30km±21km,MD4.0*

*IDC **14** 16:31:47.0±2.8, 18.62N×102.03W,h92km±22km,mb4.0/25, mb1 4.1/28,mb1mx4.0/56,mbtmp4.3/28,MS3.5/8, Ms1 3.5/8,ms1mx3.1/52,Error ellipse: s-maj=25.5km s-min=10.8km az=47.0*

ISC 14 16:31:41.6±0.8,18.32N±0.04×102.33W±0.03,h62km±7km, n361,σ1s39/376,mb4.3/57,Michoacan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.97**	**268**	*e*P	**Pn**	**16 31 58.8**	**-0.5**
MMIG				*eS*	**Sn**	**16 32 10.6**	**-1.8**
MMIG	**Aquila**	**0.97**	**268**	*e*P	**Pn**	**16 31 58.8**	**-0.5**
MMIG				*eS*	**Sn**	**16 32 10.6**	**-1.8**
ZIIG	**Zihuatanejo**	**1.08**	**131**	*e*P	**Pn**	**16 32 01.4**	**+0.6**
ZIIG				*eS*	**Sn**	**16 32 14.3**	**-0.9**
ZIIG	**Zihuatanejo**	**1.08**	**131**	*e*P	**Pn**	**16 32 01.4**	**+0.6**
ZIIG				*eS*	**Sn**	**16 32 14.3**	**-0.9**
EZ5V		**1.67**	**314**	*e*P	**Pn**	**16 32 09.7**	**+0.8**
EZ5V				*eS*	**Sn**	**16 32 29.9**	**+0.4**
MOIG	**Morelia**	**1.73**	**38**	*e*P	**Pn**	**16 32 10.5**	**+0.8**
MOIG				*i* S	**Sn**	**16 32 30.4**	**-0.5**
MOIG	**Morelia**	**1.73**	**38**	*e*Pn	**Pn**	**16 32 10.4**	**+0.8**
MOIG				*i* S	**Sn**	**16 32 30.4**	**-0.5**
ARIG	**Puente Sto Nin**	**1.88**	**91**	*e*P	**Pn**	**16 32 12.7**	**+1.2**
ARIG				*i* S	**Sn**	**16 32 34.0**	**-0.3**
CAIG	**El Cayaco**	**2.34**	**122**	*e*P	**Pn**	**16 32 18.7**	**+1.0**
CAIG				*i* S	**Sn**	**16 32 46.1**	**+0.8**
CAIG	**El Cayaco**	**2.34**	**122**	*e*P	**Pn**	**16 32 18.7**	**+1.0**
CAIG				*i* S	**Sn**	**16 32 46.1**	**+0.8**
MEIG	**Mezcala**	**2.61**	**98**	*i* P	Pn	16 32 26.0	+4.5
MEIG				*i* S	**Sn**	**16 32 52.9**	**+0.9**
MEIG	**Mezcala**	**2.61**	**98**	*i* P	Pn	16 32 26.0	+4.5
MEIG				*i* S	**Sn**	**16 32 52.9**	**+0.9**
PLIG	**Platanillo**	**2.69**	**88**	*e*P	**Pn**	**16 32 24.0**	**+1.5**
PLIG				*e*S	**Sn**	**16 32 55.5**	**+1.5**
PLIG	**Platanillo**	**2.69**	**88**	*e*P	**Pn**	**16 32 24.0**	**+1.5**
PLIG				*e*S	**Sn**	**16 32 55.5**	**+1.5**
ACX	**Acapulco**	**2.76**	**121**	*e*P	**Pn**	**16 32 21.1**	**-2.4**
ACX				*i* S	**Sn**	**16 32 52.7**	**-3.1**
ACX	**Acapulco**	**2.76**	**121**	*e*P	**Pn**	**16 32 21.1**	**-2.4**
ACX				*i* S	**Sn**	**16 32 52.7**	**-3.1**
CJM	**Chamela**	**2.83**	**295**	*e*P	**Pn**	**16 32 24.3**	**-0.1**
CJM				*i* S	**Sn**	**16 32 56.8**	**-0.4**
CJM	**Chamela**	**2.83**	**295**	*e*P	**Pn**	**16 32 24.3**	**-0.1**
CJM				*i* S	**Sn**	**16 32 56.8**	**-0.4**
UNM	**Universidad Na**	**3.15**	**71**	*e*Pn	**Pn**	**16 32 24.4**	**-4.7**
ZAIG	**Zacatecas**	**4.43**	**357**	*e*Pn	**Pn**	**16 32 48.2**	**+1.6**
LVIG	**Laguna Verde**	**5.76**	**75**	*e*Pn	**Pn**	**16 33 00.8**	**-3.8**
LNIG	**Linares**	**7.07**	**22**	*e*Pn	**Pn**	**16 33 19.9**	**-2.6**
CMIG	**Matias Romero**	**7.20**	**99**	P	**Pn**	**16 33 27.4**	**+3.1**
	2.5nm,0.3s,baz=265,slow=13,SNR=21							
CMIG				S	**Sn**	**16 34 44.2**	**-0.4**
	1.3nm,0.3s,baz=338,slow=19,SNR=2.9							
TX31	**Lajitas Ar. Si**	**11.03**	**354**	*e*Pn	**Pn**	**16 34 19.1**	**+2.4**
TXAR	**Lajitas Array**	**11.03**	**354**	P	**Pn**	**16 34 20.1**	**+3.4**
	0.1nm,0.3s,baz=172,slow=13,SNR=13							
TXAR				LR	LR	16 38 58.3		
	comp=Z,155nm,22.0s,baz=0.0,slow=40							
JCT	**Junction City**	**12.32**	**10**	P	**Pn**	**16 34 35.8**	**+1.5**
	baz=190							
JCT	**Junction City**	**12.32**	**10**	*e*Pn	**Pn**	**16 34 34.4**	**0.0**
MNTX	**Cornudas Mount**	**13.61**	**349**	P	**Pn**	**16 34 55.0**	**+3.3**
	baz=166							
MNTX	**Cornudas Mount**	**13.61**	**349**	*e*Pn	**Pn**	**16 34 53.8**	**+2.1**
WHTX	**Lake Whitney,**	**14.31**	**17**	P	**Pn**	**16 35 00.1**	**-0.9**
	baz=198							
WHTX	**Lake Whitney,**	**14.31**	**17**	*e*Pn	**Pn**	**16 34 58.9**	**-2.1**
319A	**Douglas**	**14.44**	**335**	*e*Pn	**Pn**	**16 35 04.4**	**+1.5**
ABTX	**Abilene, Hawle**	**14.45**	**9**	P	**Pn**	**16 35 04.7**	**+1.8**
	baz=189							
ABTX	**Abilene, Hawle**	**14.45**	**9**	*e*P	**P**	**16 35 05.6**	**-2.3**
	67nm,1.3s							
121A	**Cooks Peak, D**	**14.98**	**342**	P	**P**	**16 35 12.6**	**-1.4**
	baz=158							
NATX	**Nacogdoches**	**15.07**	**26**	*e*P	**Pn**	**16 35 10.6**	**-0.3**
MSTX	**Muleshoe**	**15.59**	**359**	P	**Pn**	**16 35 18.6**	**+0.9**
	baz=177							
MSTX	**Muleshoe**	**15.59**	**359**	*e*Pn	**Pn**	**16 35 17.9**	**+0.3**
	53nm,1.3s							
TUC	**Tucson**	**15.88**	**333**	P	**P**	**16 35 23.3**	**-0.6**
	baz=148							
TUC	**Tucson**	**15.88**	**333**	*e*Pn	**Pn**	**16 35 22.4**	**+1.1**
	23nm,1.8s							
BNM	**Barren Site**	**16.23**	**347**	*e*Pn	**Pn**	**16 35 26.4**	**+0.5**
AMTX	**Amarillo**	**16.51**	**2**	P	**Pn**	**16 35 29.7**	**+0.4**
	baz=181							
AMTX	**Amarillo**	**16.51**	**2**	*e*Pn	**Pn**	**16 35 29.1**	**-0.1**
	20nm,0.9s							
214A	**Organ Pipe Nat**	**16.55**	**327**	P	**P**	**16 35 31.1**	**-0.2**
	baz=141							
WMOK	**Wichita Mounta**	**16.66**	**10**	P	**P**	**16 35 32.0**	**-0.4**
	baz=191							
WMOK	**Wichita Mounta**	**16.66**	**10**	*e*Pn	**Pn**	**16 35 31.0**	**+0.1**
	20nm,1.0s							
Z40A	**Long Farm, Mag**	**16.90**	**27**	P	**Pn**	**16 35 32.1**	**-1.8**
	baz=210							
ANMO	**Albuquerque**	**16.96**	**348**	P	**P**	**16 35 37.5**	**+1.5**
	0.1nm,0.3s,baz=345,slow=14,SNR=3.1							
ANMO	**Albuquerque**	**16.96**	**348**	*e*P	**P**	**16 35 37.4**	**+1.3**
	10nm,1.2s							
244A	**Avery, Jackson**	**17.24**	**35**	P	**Pn**	**16 35 35.5**	**-2.7**
	baz=220							
113A	**Mohawk Valley,**	**17.69**	**327**	*e*P	**P**	**16 35 45.9**	**+2.1**
	9.2nm,1.3s							
X39A	**Fountain Ranch**	**17.71**	**23**	P	**P**	**16 35 44.6**	**+0.5**
	baz=206							
MIAR	**Mount Ida**	**17.95**	**24**	P	**Pn**	**16 35 46.8**	**0.0**
	baz=207							
MIAR	**Mount Ida**	**17.95**	**24**	*e*P	**P**	**16 35 46.0**	**-0.7**
	11nm,1.0s							
X16A	**Lo Mia Camp, P**	**17.98**	**335**	*e*P	**Pn**	**16 35 49.6**	**+2.2**
	4.4nm,0.9s							
W18A	**Petrified Fore**	**17.98**	**340**	P	**Pn**	**16 35 49.0**	**+1.6**
	baz=156							
W18A	**Petrified Fore**	**17.98**	**340**	*e*P	**Pn**	**16 35 49.1**	**+1.6**
	7.5nm,0.9s							
Z44A	**Pea Ridge, Bel**	**18.32**	**33**	P	**P**	**16 35 48.9**	**-1.9**
	baz=218							
W39A	**Magazine**	**18.45**	**23**	P	**P**	**16 35 49.8**	**-2.3**
	baz=206							
TUL1	**Leonard**	**18.45**	**17**	P	**P**	**16 35 50.1**	**-2.2**
	baz=199							
TUL1	**Leonard**	**18.45**	**17**	*e*P	**P**	**16 35 52.1**	**-0.2**
	22nm,0.6s							
Z45A	**Winona**	**18.79**	**35**	P	**P**	**16 35 53.0**	**-2.9**
	baz=220							
T25A	**Trinidad**	**18.84**	**355**	*e*P	**Pn**	**16 35 57.4**	**-0.5**
	11nm,0.8s							
BRAL	**Brewton**	**18.85**	**44**	*e*P	**P**	**16 35 54.5**	**-2.1**
	134nm,1.8s							
Y12C	**Blythe**	**18.85**	**327**	*e*P	**Pn**	**16 35 60.0**	**+2.3**
	21nm,1.5s							
MHTCO	**State Highway**	**18.85**	**354**	*e*P	**P**	**16 35 57.3**	**+0.5**
	22nm,1.3s							
WUAZ	**Wupatki**	**18.92**	**337**	P	**Pn**	**16 36 00.7**	**+2.0**
	baz=152							
WUAZ	**Wupatki**	**18.92**	**337**	*e*P	**Pn**	**16 36 00.7**	**+2.0**
	7.7nm,0.9s							
X301	**Greenbrier Sit**	**19.02**	**26**	*e*P	**P**	**16 35 57.2**	**-1.3**
	7.4nm,0.8s							
W41B	**Gary Mavity, V**	**19.03**	**26**	P	**P**	**16 35 57.5**	**-1.0**
	baz=210							
V39A	**Pettigrew**	**19.07**	**22**	P	**Pn**	**16 35 59.7**	**-0.7**
	baz=206							
Z46A	**Louisville**	**19.07**	**36**	P	**P**	**16 35 54.9**	**-4.1**
	baz=222							
147A	**Livingston**	**19.09**	**39**	P	**P**	**16 35 55.6**	**-3.6**
	baz=225							
WHAR	**Wooly Hollow**	**19.11**	**26**	*e*P	**P**	**16 35 58.5**	**-0.9**
	23nm,1.5s							
Y45A	**Yeager Farm, C**	**19.25**	**34**	P	**P**	**16 36 00.7**	**-0.2**
	baz=219,SNR=5.9							
V40A	**Witts Springs**	**19.34**	**24**	P	**P**	**16 36 01.3**	**-0.7**
	baz=208							
HHAR	**Hobbs**	**19.37**	**21**	*e*P	**P**	**16 36 02.5**	**+0.2**
	13nm,0.9s							
IRM	**Iron Mountain**	**19.49**	**327**	P	**Pn**	**16 36 05.1**	**-0.2**
	baz=140							
SDCO	**Great Sand Dun**	**19.55**	**352**	P	**Pn**	**16 36 05.9**	**-0.4**
	baz=170,SNR=13							
SDCO	**Great Sand Dun**	**19.55**	**352**	*e*P	**Pn**	**16 36 06.1**	**-0.3**
	60nm,1.8s							
MVCO	**Mesa Verde**	**19.59**	**345**	P	**Pn**	**16 36 06.5**	**-0.3**
	baz=161							
MVCO	**Mesa Verde**	**19.59**	**345**	*e*P	**Pn**	**16 36 06.3**	**-0.4**
	34nm,1.8s							
V41A	**Mountainview**	**19.59**	**25**	P	**P**	**16 36 03.9**	**-0.8**
	baz=210,SNR=6.7							
U39A	**Green Forest**	**19.62**	**22**	P	**P**	**16 36 04.0**	**-1.0**
	baz=205							
Y46A	**Houston**	**19.63**	**35**	P	**P**	**16 36 04.9**	**-0.2**
	baz=221,SNR=19							
S22A	**4UR Ranch, Cre**	**19.75**	**349**	P	**Pn**	**16 36 08.0**	**-0.8**
	baz=166							
S22A	**4UR Ranch, Cre**	**19.75**	**349**	*e*P	**Pn**	**16 36 08.5**	**-0.2**
	4.3nm,0.8s							
X45A	**UM Field Stati**	**19.76**	**33**	P	**P**	**16 36 05.4**	**-1.1**
	baz=219							
XPFO	**Piæon Flat**	**19.80**	**323**	*e*P	**Pn**	**16 36 09.7**	**+0.6**
	6.5nm,1.0s							
PFO	**Pinyon Flats O**	**19.80**	**323**	P	**Pn**	**16 36 09.4**	**+0.3**
	baz=136							
PFO	**Pinyon Flats O**	**19.80**	**323**	*e*P	**Pn**	**16 36 09.9**	**+0.8**
	6.0nm,1.0s							
OXF	**Oxford**	**19.82**	**33**	P	**P**	**16 36 06.3**	**-0.9**
	baz=218,SNR=6.8							
OXF	**Oxford**	**19.82**	**33**	*e*P	**P**	**16 36 06.4**	**-0.7**
	45nm,0.8s							
U40A	**Yellville**	**19.82**	**23**	P	**P**	**16 36 06.3**	**-0.9**
	baz=207							
BELC	**Belle Mtn. Jos**	**19.83**	**325**	P	**Pn**	**16 36 09.5**	**0.0**
	baz=138							
V42A	**Cord**	**19.93**	**27**	P	**P**	**16 36 07.4**	**-1.0**
	baz=211							
149A	**Jones**	**19.94**	**42**	P	**P**	**16 36 07.5**	**-1.0**
	baz=228							
Z48A	**Northport**	**20.00**	**39**	P	**P**	**16 36 07.7**	**-1.4**
	baz=225							
U15A	**North Rim**	**20.07**	**336**	*e*P	Pn	16 36 12.5	0.0
	7.8nm,1.1s							
LRAL	**Lakeview Retre**	**20.11**	**40**	P	**P**	**16 36 09.9**	**-0.3**
	baz=227,SNR=6.2							
LRAL	**Lakeview Retre**	**20.11**	**40**	*e*P	**P**	**16 36 10.0**	**-0.3**
	11nm,0.4s							
U41A	**Viola**

	baz=202								
CCM	**Cathedral Cave**	21.92	24	P		P	16 36 29.1	-0.7	
	baz=209								
CCM	**Cathedral Cave**	21.92	24	*e*P		P	16 36 28.2	-1.6	
	9.5nm,1.0s								
S43A	**Fulton Ridge,**	21.98	27	P		P	16 36 29.1	-1.4	
	baz=212								
R41A	**Rosebud**	22.08	23	P		P	16 36 30.5	-1.0	
	baz=208								
FURC	**Furnace Creek,**	22.16	328	P		P	16 36 34.0	+1.7	
	baz=140								
MPMC	**Manual Prospec**	22.18	326	P		P	16 36 33.7	+0.9	
	baz=138,SNR=7.6								
Q39A	**Willow Grove F**	22.20	20	P		P	16 36 32.1	-0.6	
	baz=204								
R42A	**Luebbering**	22.29	25	P		P	16 36 32.8	-1.0	
	baz=210								
P37A	**Lathrop**	22.30	16	P		P	16 36 32.6	-1.2	
	baz=200								
O34A	**Beatrice**	22.33	11	P		P	16 36 33.6	-0.5	
	baz=194								
O20A	**White River Ci**	22.33	348	P		P	16 36 35.0	+0.6	
	baz=164								
U47A	**Clarksville**	22.40	33	P		P	16 36 32.3	-2.6	
	baz=220,SNR=6.2								
ISA	**Isabella, Lake**	22.43	324	P		P	16 36 36.3	+0.9	
	baz=135								
S44A	**Carbondale**	22.45	28	P		P	16 36 33.8	-1.6	
	baz=214								
Q40A	**Laux Farm, Aux**	22.45	21	P		P	16 36 33.7	-1.7	
	baz=206								
OGNE	**Ogallala**	22.55	1	P		P	16 36 36.3	-0.3	
	baz=180								
P38A	**Dawn**	22.56	18	P		P	16 36 35.4	-1.2	
	baz=202								
T46A	**Princeton**	22.56	31	P		P	16 36 35.2	-1.5	
	baz=218								
GOGA	**Godfrey**	22.61	45	P		P	16 36 34.7	-2.5	
	baz=233								
P39B	**Salisbury**	22.67	20	P		P	16 36 36.5	-1.3	
	baz=204								
PKM	**Mcpherson Peak**	22.67	320	P		P	16 36 39.7	+1.6	
	baz=131								
N23A	**Red Feather La**	22.71	353	P		P	16 36 39.6	+1.1	
	baz=170								
Q41A	**Truxton**	22.71	23	P		P	16 36 36.5	-1.7	
	baz=208,SNR=5.2								
S45A	**Carrier Mills**	22.74	29	P		P	16 36 37.1	-1.4	
	baz=215								
U48A	**Cassie Pea, Po**	22.85	34	P		P	16 36 37.5	-2.2	
	baz=221,SNR=6.7								
O37A	**Wolven Farm, M**	22.89	16	P		P	16 36 39.5	-0.6	
	baz=200								
T47A	**Sharon Grove**	22.92	33	P		P	16 36 38.5	-1.8	
	baz=220								
P40A	**Paris**	22.94	21	P		P	16 36 39.2	-1.3	
	baz=205,SNR=5.9								
R44A	**Waltonville**	22.98	28	P		P	16 36 39.9	-1.1	
	baz=214,SNR=5.6								
N34A	**Lincoln**	23.00	11	P		P	16 36 40.7	-0.4	
	baz=194								
O38A	**Galt**	23.04	18	P		P	16 36 40.6	-0.9	
	baz=201								
R11A	**Troy Canyon, C**	23.07	333	P		P	16 36 43.3	+1.2	
	baz=145								
R11A	**Troy Canyon, C**	23.07	333	*e*P		P	16 36 41.5	-0.6	
	8.7nm,1.6s								
Q43A	**New Douglas**	23.30	26	P		P	16 36 43.2	-0.9	
	baz=211								
R45A	**Skylar, Fairfi**	23.38	29	P		P	16 36 43.7	-1.1	
	baz=215								
T48A	**Bowling Green**	23.38	34	P		P	16 36 43.1	-1.7	
	baz=221,SNR=7.3								
USIN	**University of**	23.40	30	*e*P		P	16 36 43.4	-1.7	
P41A	**Barry, Barry**	23.41	22	P		P	16 36 43.6	-1.5	
	baz=207								
N37A	**Lee Faris, Mou**	23.43	16	P		P	16 36 44.2	-1.1	
	baz=199								
O39A	**Kirksville**	23.43	19	P		P	16 36 43.9	-1.4	
	baz=203								
O40A	**La Belle**	23.53	20	P		P	16 36 44.6	-1.6	
	baz=205,SNR=5.1								
Q44A	**Meyer Farm, Va**	23.55	27	P		P	16 36 45.2	-1.2	
	baz=213								
P42A	**Winchester**	23.60	24	P		P	16 36 45.7	-1.1	
	baz=209								
DUG	**Dugway, Tooele**	23.61	340	P		P	16 36 48.0	+0.9	
	baz=154								
M34A	**Aspy Farms, Fr**	23.63	11	P		P	16 36 46.3	-0.8	
	baz=193								
N38A	**Joes South For**	23.73	17	P		P	16 36 47.2	-0.8	
	baz=201								
TKL	**Tuckaleechee C**	23.84	40	P		P	16 36 47.4	-1.7	
	8.9nm,0.6s,baz=226,slow=8.3,SNR=13								
TKL	**Tuckaleechee C**	23.84	40	*e*P		P	16 36 46.6	-2.5	
	10.0nm,0.6s								
O41A	**Passleys Farm,**	23.87	22	P		P	16 36 48.0	-1.2	
	baz=207								
Q45A	**Warren Harvey,**	23.92	28	P		P	16 36 48.5	-1.3	
	baz=215								
S48A	**Wiedeman Farm,**	23.97	33	P		P	16 36 48.9	-1.3	
	baz=221,SNR=9.4								
P43A	**Skaggs, Pawnee**	23.97	25	P		P	16 36 49.3	-0.9	
	baz=211								
P44A	**Sand Creek, Wi**	24.19	27	P		P	16 36 51.2	-1.1	
	baz=213								
MDPB	**Devils Postpil**	24.20	326	*e*P		P	16 36 54.3	+1.6	
	4.9nm,0.9s								
R47A	**Wooly Knot Far**	24.22	31	P		P	16 36 51.1	-1.4	
	baz=219,SNR=10								
WCI	**Wyandotte Cave**	24.28	32	P		P	16 36 52.1	-1.0	
	baz=219								
WCI	**Wyandotte Cave**	24.28	32	*e*P		P	16 36 51.3	-1.8	
	32nm,0.8s								
N40A	**Mertquake, Sal**	24.31	20	P		P	16 36 52.1	-1.2	
	baz=205								
M38A	**Pleasantville**	24.32	17	P		P	16 36 52.6	-0.7	
	baz=201,SNR=5.9								
NV11	**Mina Array Sit**	24.33	329	*e*P		P	16 36 55.2	+1.5	
	0.8nm,1.1s								
NV01	**Mina Array Sit**	24.40	328	*e*P		P	16 36 55.8	+1.4	
NVAR	**Mina Array Bea**	24.40	328	P		P	16 36 56.5	+2.0	
	5.1nm,0.7s,baz=146,slow=9.9,SNR=31								
NVAR					LR	LR	16 46 02.1		
	comp=Z,37nm,20.7s,baz=273,slow=35								
K22A	**Casper**	24.52	353	P		P	16 36 55.3	-0.1	
	baz=170								
K22A	**Casper**	24.52	353	*e*P		P	16 36 55.2	-0.1	
	20nm,0.9s								
K32A	**Verdigre**	24.55	8	P		P	16 36 55.6	+0.2	
	baz=189								
TZTN	**Tazewell**	24.57	39	P		P	16 36 54.1	-1.6	
	baz=227								
P45A	**Graceland, Par**	24.62	28	P		P	16 36 55.2	-0.9	
	baz=215								
R48A	**Northridge Ran**	24.62	32	P		P	16 36 55.8	-0.4	
	baz=220								
M39A	**Webster**	24.67	19	P		P	16 36 55.0	-1.5	
	baz=203								
Q47A	**Bedord North L**	24.76	31	P		P	16 36 55.7	-1.7	
	baz=218								
SCIA	**State Center**	24.77	16	P		P	16 36 56.5	-0.9	
	baz=200								
N42A	**Yates City**	24.80	23	P		P	16 36 56.1	-1.6	
	baz=208,SNR=5.8								
M40A	**Post Highland**	24.81	20	P		P	16 36 56.6	-1.2	
	baz=205,SNR=5.4								
L37A	**Phoenix Point,**	24.83	15	P		P	16 36 57.5	-0.5	
	baz=199								
HDIL	**Hopedale**	24.84	24	P		P	16 36 56.9	-1.2	
	baz=210								
HDIL	**Hopedale**	24.84	24	*e*P		P	16 36 56.8	-1.4	
	32nm,0.7s								
WAKR	**Walker**	25.04	327	*e*P		P	16 37 02.4	+2.2	
	27nm,1.7s								
K35A	**Storm Lake**	25.06	12	P		P	16 36 58.9	-1.2	
	baz=196								
KMSC	**Kings Mountain**	25.06	44	P		P	16 36 57.9	-2.3	
	baz=233								
KMSC	**Kings Mountain**	25.06	44	*e*P		P	16 36 59.3	-1.0	
	10nm,0.6s								
M41A	**Milan**	25.10	21	P		P	16 36 58.9	-1.6	
	baz=207								
BW06	**Boulder Array**	25.13	347	P		P	16 37 01.2	+0.1	
	baz=163								
BW06	**Boulder Array**	25.13	347	*e*P		P	16 37 01.1	+0.1	
	7.9nm,1.3s								
PD31	**Pinedale Array**	25.13	347	*e*P		P	16 37 00.3	-0.7	
PDAR	**Pinedale Array**	25.13	347	P		P	16 37 01.6	+0.6	
	1.6nm,0.7s,baz=149,slow=9.5,SNR=16								
PDAR					LR	LR	16 46 37.2		
	comp=Z,106nm,19.5s,baz=155,slow=36								
PDAR	**Pinedale Array**	25.13	347	*e*P		P	16 37 00.6	-0.5	
N43A	**Stutzman Famil**	25.22	24	P		P	16 37 00.3	-1.2	
	baz=210								
P47A	**Martinsville**	25.27	30	P		P	16 37 00.4	-1.6	
	baz=218								
L39A	**Vinton**	25.31	18	P		P	16 37 01.2	-1.1	
	baz=203								
J33A	**Davis**	25.33	9	P		P	16 37 03.7	+1.1	
	baz=191								
K37A	**Belmond**	25.46	15	P		P	16 37 03.0	-0.7	
	baz=199								
J34A	**George**	25.47	11	P		P	16 37 04.0	+0.3	
	baz=194,SNR=5.7								
L40A	**Anamosa**	25.49	19	P		P	16 37 02.9	-1.1	
	baz=205								
N44A	**Piper City**	25.51	26	P		P	16 37 03.0	-1.2	
	baz=212								
SFIN	**Lafayette**	25.61	28	P		P	16 37 04.0	-1.0	
	baz=215								
L41A	**Preston**	25.74	21	P		P	16 37 04.1	-2.2	
	baz=206								
ECSD	**EROS Data Cent**	25.79	10	P		P	16 37 05.9	-0.9	
	baz=192								
N45A	**Kentland**	25.81	26	P		P	16 37 04.4	-2.5	
	baz=214								
K39A	**Oelwein**	25.88	18	P		P	16 37 06.3	-1.2	
	baz=203								
L42A	**Oliver, Polo**	25.96	22	P		P	16 37 07.0	-1.3	
	baz=208								
K40A	**Colesburg**	26.10	19	P		P	16 37 07.9	-1.6	
	baz=204								
FXWY	**Fox Creek**	26.29	346	*e*P		P	16 37 11.5	0.0	
	17nm,1.8s								
MOOW	**Moose Ponds**	26.33	346	*e*P		P	16 37 11.8	0.0	
	2.7nm,0.9s								
M45A	**Boilermakers S**	26.37	26	P		P	16 37 10.5	-1.5	
	baz=213								
H32A	**Carlson Farm,**	26.43	8	P		P	16 37 12.0	-0.5	
	baz=190								
L43A	**Garden Prairie**	26.45	23	P		P	16 37 11.3	-1.4	
	baz=210								
J39A	**Decorah**	26.51	18	P		P	16 37 12.4	-0.8	
	baz=203								
JFWS	**Jewell Farm**	26.57	20	P		P	16 37 12.2	-1.5	
	baz=206								
JFWS	**Jewell Farm**	26.57	20	*e*P		P	16 37 12.1	-1.7	
	9.2nm,0.6s								
I37A	**Lemond, Waseca**	26.70	14	P		P	16 37 13.7	-1.2	
	baz=199								
K42A	**Prairie Point,**	26.76	22	P		P	16 37 13.8	-1.6	
	baz=208								
H17A	**Grant Village**	26.91	347	P		P	16 37 17.1	0.0	
	baz=162								
BLA	**Blacksburg**	26.91	41	P		P	16 37 14.5	-2.4	
	baz=231								
I38A	**Scanlan Farm,**	26.99	16	P		P	16 37 16.8	-0.7	
	baz=201								
I39A	**Houston**	27.04	17	P		P	16 37 16.8	-1.2	
	baz=203								
H35A	**Sunnyside Ranc**	27.04	12	P		P	16 37 17.4	-0.6	
	baz=195								
J41A	**Loganville**	27.05	20	P		P	16 37 17.0	-1.1	
	baz=206								
H36A	**Jessenland, He**	27.11	13	P		P	16 37 18.0	-0.6	
	baz=197								
HLID	**Hailey**	27.16	341	P		P	16 37 19.3	0.0	
	baz=154								
J42A	**Columbus**	27.31	21	P		P	16 37 19.0	-1.4	
	baz=208								
RLMT	**Red Lodge**	27.35	349	P		P	16 37 21.0	0.0	
	baz=165								
J43A	**Natural Harves**	27.61	22	P		P	16 37 21.5	-1.6	
	baz=209								
G36A	**St. Michael**	27.78	13	P		P	16 37 24.7	+0.1	
	baz=197								
H39A	**Augusta**	27.86	17	P		P	16 37 24.4	-0.9	
	baz=202								
I43A	**Langenfeld Bro**	28.15	22	P		P	16 37 26.7	-1.1	
	baz=209								
G38A	**Ridgeland**	28.16	16	P		P	16 37 26.9	-1.1	
	baz=201								
BOZ	**Bozeman (W)**	28.28	346	P		P	16 37 30.0	+0.8	
	baz=160								
BOZ	**Bozeman (W)**	28.28	346	*e*P		P	16 37 29.4	+0.1	
	7.1nm,1.3s								
F36A	**Milaca**	28.42	13	P		P	16 37 28.9	-1.3	
	baz=197								
G39A	**Holcombe**	28.45	17	P		P	16 37 29.5	-1.1	
	baz=202								
LRM	**Limekiln Ridge**	28.69	345	*e*P		P	16 37 32.5	-0.4	
	5.2nm,0.9s								
AAM	**Ann Arbor**	28.70	30	P		P	16 37 31.7	-1.1	
	baz=219								
M04C	**Macdoel**	28.71	329	P		P	16 37 34.4	+1.3	
	baz=138								
E35A	**Pequot Lakes**	28.91	11	P		P	16 37 34.2	-0.4	
	baz=195								
E36A	**McGregor**	29.10	13	P		P	16 37 35.4	-0.9	
	baz=197								
D33A	**AnnSam, Waubun**	29.23	9	P		P	16 37 36.5	-1.1	
	baz=192								
G42A	**Mountain**	29.24	20	P		P	16 37 36.2	-1.3	
	baz=207								
F40A	**Park Falls**	29.33	18	P		P	16 37 37.5	-0.9	
	baz=204								
MDND	**Maddock**	29.54	4	P		P	16 37 39.9	-0.3	
	baz=185								
E38A	**The Farm, Brul**	29.58	15	P		P	16 37 40.1	-0.4	
	baz=201								
E39A	**Mellen**	29.63	17	P		P	16 37 39.7	-1.2	
	baz=203								
C31A	**Landman Farms,**	29.64	6	P		P	16 37 41.0	-0.1	
	baz=188								
E40A	**Wakefield**	29.87	17	P		P	16 37 42.2	-1.0	
	baz=204								
D37A	**Cotton**	29.89	14	P		P	16 37 42.1	-1.2	
	baz=199								
C35A	**Jirik Farms, M**	30.09	11	P		P	16 37 44.8	-0.3	
	baz=196								
E41A	**Kenton**	30.16	19	P		P	16 37 44.5	-1.3	
	baz=206								
F43A	**Flat Rock, Esc**	30.18	21	P		P	16 37 44.6	-1.3	
	baz=209								
EGMT	**Eagleton**	30.24	350	P		P	16 37 47.1	+0.6	
	baz=165								
AGMN	**Agassiz Nation**	30.36	9	P		P	16 37 46.9	-0.6	
	baz=192,SNR=6.4								
AGMN	**Agassiz Nation**	30.36	9	*e*P		P	16 37 46.7	-0.7	
	15nm,0.6s								
B32A	**Ashes, Strandq**	30.37	8	P		P	16 37 46.7	-0.8	
	baz=190								
C36A	**Pine Crest Far**	30.37	13	P		P	16 37 46.5	-1.0	
	baz=198								
B33A	**Robert and Kas**	30.38	9	P		P	16 37 46.9	-0.7	
	baz=192								
E42A	**Champion**	30.46	20	P		P	16 37 46.9	-1.5	
	baz=207								
I04A	**Tendick Farm,**	30.51	331	P		P	16 37 49.6	+0.7	
	baz=139								
F44A	**Big Bay de Noc**	30.57	22	P		P	16 37 47.7	-1.5	
	baz=210								
E43A	**Lone Tree Farm**	30.72	21	P		P	16 37 50.1	-0.6	
	baz=209								
B34A	**Aery, Baudette**	30.73	10	P		P	16 37 49.8	-0.9	
	baz=194								
B35A	**Bob, Littlefor**	30.77	11	P		P	16 37 50.2	-0.8	
	baz=196								
D41A	**Chassel**	30.82	19	P		P	16 37 50.3	-1.1	
	baz=206								
EYMN	**Ely**	30.85	14	P		P	16 37 50.7	-1.0	
	baz=200								
A33A	**Warroad**	31.06	9	P		P	16 37 52.7	-0.8	
	baz=192								
SDV	**Santo Domingo**	32.15	103	P		P	16 38 05.5	+1.7	
	3.9nm,0.7s,baz=166,slow=17,SNR=5.7								
ULM	**Lac du Bonnet**	32.27	8	P		P	16 38 02.3	-1.9	
	3.7nm,0.5s,baz=198,slow=9.7,SNR=7.7								
ULM					LR	LR	16 51 54.7		
	comp=Z,61nm,20.0s,baz=187,slow=38								
ULM	**Lac du Bonnet**	32.27	8	*e*P		P	16 38 02.5	-1.7	
	15nm,1.4s								
FFC	**Flin Flon**	36.34	0	*e*P		P	16 38 38.6	-0.7	
	5.9nm,0.8s								
YKA	**Yellowknife Ar**	44.95	352	P		P	16 39 49.6	-0.6	
	3.3nm,0.6s,baz=162,slow=7.6,SNR=48								
YKA					PcP	PcP	16 41 31.9	+1.4	
	0.7nm,0.8s,baz=154,slow=3.7,SNR=5.4								
YKW3	**Yellowknife Ar**	45.02	352	*e*P		P	16 39 49.7	-1.0	
	5.3nm,0.8s								
SCHQ	**Schefferville**	45.39	28	P		P	16 39 52.1	-1.7	
	1.7nm,0.3s,baz=229,slow=14,SNR=4.6								
PTGA	**Pitinga**	45.74	110	P		P	16 39 57.4	+0.2	
	0.9nm,0.3s,baz=304,slow=10,SNR=5.5								
SAML	**Samuel**	47.19	122	*e*P		P	16 40 07.0	-1.4	
	6.0nm,0.8s								
LPAZ	**La Paz**	48.13	134	P		P	16 40 18.7	+2.3	
	1.0nm,0.6s,baz=240,slow=6.4,SNR=4.8								
INK	**Inuvik**	53.69	346	P		P	16 40 57.1	+0.4	
	4.4nm,0.6s,baz=138,slow=6.4,SNR=25								
INK					LR	LR	17 06 36.4		
	comp=Z,44nm,20.1s,baz=184,slow=39								
INK	**Inuvik**	53.69	346	*e*P		P	16 40 56.7	0.0	
	4.9nm,0.8s								
RIDG	**Independ'e Rid**	53.75	338	*e*P		P	16 40 57.8	+0.4	
KDAK	**Kodiak Island**	53.90	329	P		P	16 40 59.5	+1.0	
	3.4nm,0.9s,baz=213,slow=5.2,SNR=4.8								
SUA	**Susitna One**	54.77	334	*e*P		P	16 41 06.1	+1.2	
	308nm,0.6s								
RND	**Reindeer**	55.03	337	*e*P		P	16 41 07.7	+1.0	
	18nm,1.0s								
IL1	**Eielson Array**	55.09	338	*e*P		P	16 41 07.7	+0.7	
ILAR	**Eielson Array**	55.09	338	P		P	16 41 07.7	+0.7	
	5.6nm,0.9s,baz=147,slow=6.3,SNR=36								
ILAR					PcP	PcP	16 42 08.7	+1.0	
	0.7nm,0.6s,baz=144,slow=2.1,SNR=6.2								
ILB	**Eielson Array**	55.09	338	*e*P		P	16 41 07.6	+0.7	
TRF	**Thorofare Moun**	55.60	336	*e*P		P	16 41 12.0	+1.1	
	37nm,0.5s								
FYU	**Fort Yukon**	55.62	341	*e*P		P	16 41 11.9	+1.2	
	59nm,1.9s								
RES	**Resolute Bay**	56.53	2	P		P	16 41 16.3	-0.8	
	0.9nm,0.7s,baz=170,slow=6.1,SNR=3.5								
RES					PcP	PcP	16 42 14.2	+1.2	
	1.3nm,0.6s,baz=197,slow=3.5,SNR=3.8								
TOLK	**Toolik Lake Re**	58.20	342	P		P	16 41 29.7	+0.7	
	baz=124,SNR=9.8								
TOLK	**Toolik Lake Re**	58.20	342	*e*P		P	16 41 29.8	+0.7	
	5.7nm,0.6s								
SFJD	**Kangerlussuaq**	58.76	21	LR		LR	17 10 36.6		
	comp=Z,69nm,19.4s,baz=192,slow=40								
CPUP	**Villa Florida**	62.29	134	P		P	16 41 58.8	+1.3	
	2.5nm,0.7s,baz=326,slow=8.9,SNR=7.2								
SUMG	**Summit**	64.92	17	*e*P		P	16 42 14.3	-0.3	
	5.4nm,0.7s								
SPITS	**Spitsbergen Ar**	77.78	11	P		P	16 43 32.3	+0.7	
	1.4nm,0.4s,baz=318,slow=6.2,SNR=22								
EKA	**Eskdalemuir Ar**	80.22	35	P		P	16 43 46.2	+0.9	
	2.8nm,0.8s,baz=290,slow=4.4,SNR=5.6								
EKA					LR	LR	17 19 50.1		
	comp=Z,83nm,18.1s,baz=315,slow=36								
SEY	**Seymchan**	80.61	333	P		P	16 43 48.8	+1.6	
	3.1nm,0.7s,baz=89,slow=2.9,SNR=33								
PETK	**Petropavlovsk-**	81.37	323	P		P	16 43 53.3	+1.8	
	2.8nm,0.7s,baz=75,slow=11,SNR=10								
MA2	**Magadan**	82.63	331	P		P	16 43 59.7	+1.7	
	1.9nm,0.7s,baz=76,slow=6.1,SNR=4.2								
TIXI	**Tiksi**	83.81	346	P		P	16 44 04.5	+0.6	
	4.7nm,0.8s,baz=43,slow=3.3,SNR=17								
TIXI	**Tiksi**	83.81	346	*e*P		P	16 44 04.3	+0.4	
	7.8nm,0.9s								
ESDC	**Sonseca Array**	84.72	50	P		P	16 44 10.5	+1.3	
	1.0nm,0.6s,baz=304,slow=4.7,SNR=8.0								
ES19	**SONSECA Array**	84.76	50	*e*P		P	16 44 10.1	+0.7	
NOA	**NORSAR Array B**	84.94	27	P		P	16 44 10.2	+0.4	
	1.0nm,0.9s,baz=299,slow=4.3,SNR=3.4								
NOA					LR	LR	17 25 13.0		
	comp=Z,58nm,19.0s,baz=10.0,slow=38								
ARCES	**ARCESS Array B**	84.98	16	P		P	16 44 10.9	+1.0	
	3.0nm,0.7s,baz=1.2,slow=2.1,SNR=14								
FINES	**FINESS Array B**	90.55	22	P		P	16 44 36.5	-0.2	
	1.2nm,0.8s,baz=46,slow=4.0,SNR=3.3								
GERES	**GERESS Array B**	92.34	36	P		P	16 44 45.2	-0.2	
	0.8nm,0.6s,baz=343,slow=4.2,SNR=6.3								
HHC	**Hu-ho-hao-te**	113.24	333	*e*PKP		PKiKP	16 50 08.5	-4.1	
HHC				PP		PP	16 50 58.8	-3.6	
HHC				SKS		SKSdf	16 57 01.3	-18	
HHC				SKKS		SKKSac	16 57 42.1	-18	
HHC	**Hu-ho-hao-te**	113.24	333	SS		SS	17 06 39.8	-2.7	
KSH	**Kashi**	122.45	2	*e*PKP		PKPdf	16 50 26.0	-4.4	
KSH				sPKP			16 51 04.0		
WRA	**Warramunga Arr**	126.65	258	PKP		PKPdf	16 50 40.1	+1.4	
	0.6nm,0.7s,baz=83,slow=2.6,SNR=7.7								
CMAR	**Chiang Mai Arr**	137.90	329	PKP		PKPdf	16 51 01.6	+1.6	
	0.3nm,0.5s,baz=280,slow=1.1,SNR=5.9								

ISCJB **14** *16:33:51.1±0.4, 4.72S±0.08×106.73E±0.06, h350km, mb3.5/5, Error ellipse: s-maj=13.1km s-min=4.5km az=32.6*

DJA **14** *16:33:51.3±0.3, 5.7S×10.6E±°, h381km±5km, M4.3/15, mB5.0/2, mb4.3/14, MLv4.4/15, Mw(mB)4.4/2*

IDC **14** *16:33:52.9±4.1, 4.60S×106.82E, h352km±62km, mb3.6/4, mb1 3.7/5, mb1mx2.9/65, mbtmp4.3/5, Error ellipse: s-maj=129.2km s-min=14.5km az=50.0*

ISC 14 16:33:51.5±0.7, 4.9S±0.1×106.54E±0.08, h350km, n31, σ1°84/36, mb3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLSI	**Bandar Lampung**	1.39	248	P	Pn	16 34 42.1	+3.1
CGJI	**Cibinong**	1.95	206	P	Pn	16 34 43.3	+0.9
CGJI				S	S	16 35 20.8	-2.5
KASI	**Kota Agung**	2.15	252	P	Pn	16 34 46.3	+2.5
KASI				S	S	16 35 24.8	-1.0
LEM	**Lembang**	2.24	152	S	S	16 35 30.7	+3.2
	3.1nm,0.3s,baz=315,slow=20,SNR=2.5						
MDSI	**Maura Dua**	2.38	279	P	Pn	16 34 47.7	+2.1
LWLI	**Liwa**	2.48	266

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**201**	P	Pg	16 39 46.0	-0.1
CHOJ				S	Sg	16 39 48.1	0.0
JCN	**Nagara**	**0.68**	**237**	P	Pb	16 39 57.5	+0.3
JYT	**Yasato**	**0.72**	**308**	P	Pg	16 39 57.1	-0.3
JYT				S	Sg	16 40 06.6	-0.2
JHO	**Hitachi**	**0.86**	**342**	P	Pg	16 39 59.5	-0.6
JHO				S	Sg	16 40 10.9	-0.4
MAT	**Matsushiro**	**2.31**	**290**	P	Pn	16 40 20.4	-0.8
MAT				*e*S	Sn	16 40 48.2	-1.3

*IDC **14** 16:41:09.0±0.9,59°.17N×154°.42W,h109km±11km, mb3.7/19,mb1 3.8/22,mb1mx3.5/84,mbtmp4.0/22,Error ellipse: s-maj=12.0km s-min=10.3km az=21.0*

*ISCJB **14** 16:41:09.5±0.3,59°.03N±0°.04×154°.18W±0°.08, h142km±3km,mb3.9/20,Error ellipse: s-maj=7.8km s-min=4.8km az=43.3*

*NEIC **14** 16:41:11.7±0.0,59°.00N×154°.17W,h134km,ML3.6(AEIC), After AEIC.*

ISC 14 16:41:11.0±0.6,59°.08N±0°.05×154°.22W±0°.05, h135km±5km,n86,σ0s99/95,mb3.8/20,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FONW	**Fourpeaked Sta**	**0.29**	**147**	P	**Pn**	**16 41 29.4**	**-0.3**
CDD	**Cape Douglas**	**0.34**	**117**	P	**Pn**	**16 41 29.6**	**-0.2**
FOSS	**Fourpeaked Sta**	**0.39**	**136**	P	**Pn**	**16 41 29.7**	**-0.4**
AUI	**Augustine Isla**	**0.48**	**58**	P	**Pn**	**16 41 30.6**	**+0.2**
AUI				S	**Sn**	**16 41 45.2**	**-0.1**
AUW	**Augustine West**	**0.48**	**53**	P	**Pn**	**16 41 30.8**	**+0.4**
AUNW	**Augustine NWes**	**0.48**	**52**	P	**Pn**	**16 41 30.8**	**+0.3**
KAPH	**Katmai Pasha**	**0.49**	**188**	P	**Pn**	**16 41 30.2**	**-0.5**
KAPH				S	**Sn**	**16 41 44.7**	**-0.8**
KARR	**Katmai Rainbow**	**0.64**	**203**	P	**Pn**	**16 41 31.0**	**-0.4**
KABU	**Katmai Buttres**	**0.98**	**215**	P	**Pn**	**16 41 33.8**	**-0.5**
KELA	**Mount Kelaz**	**1.02**	**232**	P	**Pn**	**16 41 34.0**	**-0.6**
ILS	**Iliamna Low So**	**1.06**	**93**	P	**Pn**	**16 41 35.4**	**+0.5**
ILW	**Iliamna West**	**1.13**	**29**	P	**Pn**	**16 41 36.0**	**+0.3**
HOM	**Homer**	**1.44**	**65**	P	**Pn**	**16 41 39.5**	**+0.8**
HOM				S	**Sn**	**16 42 00.6**	**+0.7**
KDAK	**Kodiak Island**	**1.56**	**146**	P	**Pn**	**16 41 38.6**	**-1.4**
KDAK	286nm,0.3s,baz=37,slow=1.9,SNR=7086			S	**Sn**	**16 42 00.0**	**-2.1**
KDAK	281nm,0.3s,baz=207,slow=22,SNR=29			LR	LR	16 42 17.0	
KDAK	comp=Z,154nm,18.2s,baz=36,slow=40 **Kodiak Island**	**1.56**	**146**	P	**Pn**	**16 41 38.9**	**-1.2**
RDWB	**Redoubt West**	**1.57**	**26**	P	**Pn**	**16 41 40.7**	**+0.3**
REF	**Redoubt East F**	**1.61**	**28**	P	**Pn**	**16 41 41.4**	**+0.6**
RDJH	**Redoubt Jeurge**	**1.68**	**25**	P	**Pn**	**16 41 42.0**	**+0.5**
DFR	**Drift River**	**1.70**	**26**	P	**Pn**	**16 41 42.2**	**+0.4**
PLK3	**Peulik 3**	**1.76**	**219**	P	**Pn**	**16 41 42.1**	**-0.3**
BRLK	**Bradley Lake**	**1.84**	**67**	P	**Pn**	**16 41 43.0**	**-0.3**
BRLK				S	**Sn**	**16 42 06.9**	**-1.1**
OHAK	**Old Harbor**	**1.93**	**165**	P	**Pn**	**16 41 42.8**	**-1.4**
SVW2	**Sparrevohn**	**2.13**	**342**	P	**Pn**	**16 41 47.4**	**+0.6**
CKL	**Chakachamna La**	**2.32**	**23**	P	**Pn**	**16 41 49.8**	**+0.6**
SPWE	**Spurr West**	**2.35**	**20**	P	**Pn**	**16 41 50.5**	**+1.0**
SPCP	**Crater Peak Br**	**2.42**	**24**	P	**Pn**	**16 41 51.1**	**+0.7**
SLKM	**Skilak Lake**	**2.48**	**53**	P	**Pn**	**16 41 51.1**	**0.0**
SEW	**Seward**	**2.63**	**65**	P	**Pn**	**16 41 52.9**	**0.0**
STLK	**Strandline Lak**	**2.70**	**25**	P	**Pn**	**16 41 54.9**	**+1.0**
FIB	**Fire Island**	**2.91**	**42**	P	**Pn**	**16 41 57.5**	**+1.1**
SUA	**Susitna One**	**2.95**	**34**	P	**Pn**	**16 41 57.5**	**+0.4**
RC01	**Rabbit Creek A**	**3.02**	**48**	P	**Pn**	**16 41 57.9**	**0.0**
SKT	**Skwentna**	**3.20**	**23**	P	**Pn**	**16 42 00.5**	**+0.3**
PMR	**Palmer**	**3.57**	**43**	*e*Pn	**Pn**	**16 42 04.3**	**-0.7**
KNK	**Knik Glacier**	**3.71**	**48**	P	**Pn**	**16 42 06.1**	**-0.8**
GHO	**Glory Hole Cre**	**3.77**	**42**	P	**Pn**	**16 42 06.5**	**-1.2**
TT01	**Tatalina**	**3.94**	**348**	P	**Pn**	**16 42 10.5**	**+0.6**
PPLA	**Purkeypile**	**3.96**	**14**	P	**Pn**	**16 42 11.5**	**+1.2**
SML	**Sawmill**	**4.00**	**44**	P	**Pn**	**16 42 09.8**	**-1.0**
GLI	**Glacier Island**	**4.01**	**60**	P	**Pn**	**16 42 10.0**	**-0.8**
FID	**Port Fidalgo**	**4.24**	**63**	P	**Pn**	**16 42 12.9**	**-1.0**
SCM	**Sheep Creek Mo**	**4.39**	**48**	P	**Pn**	**16 42 15.2**	**-0.8**
CAST	**Castle Rocks**	**4.47**	**12**	P	**Pn**	**16 42 17.7**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.52**	**67**	P	**Pn**	**16 42 17.2**	**-0.4**
DIV	**Divide**	**4.70**	**60**	*e*Pn	**Pn**	**16 42 20.1**	**0.0**
KTH	**Kantishna Hill**	**4.76**	**18**	P	**Pn**	**16 42 20.6**	**-0.2**
TRF	**Thorofare Moun**	**4.78**	**22**	*e*Pn	**Pn**	**16 42 21.1**	**-0.1**
KLU	**Klutina**	**4.79**	**56**	P	**Pn**	**16 42 20.7**	**-0.5**
RND	**Reindeer**	**5.05**	**29**	P	**Pn**	**16 42 23.9**	**-0.9**
BMRM	**Bremner River**	**5.18**	**64**	P	**Pn**	**16 42 26.3**	**-0.2**
DHY	**Denali Highway**	**5.21**	**37**	P	**Pn**	**16 42 25.9**	**-1.0**
PS11	**TAPS Pump St11**	**5.26**	**51**	P	**Pn**	**16 42 28.1**	**+0.7**
BPAW	**Bear Paw Mtn.**	**5.27**	**16**	P	**Pn**	**16 42 27.4**	**-0.2**
MCK	**McKinley**	**5.31**	**26**	P	**Pn**	**16 42 27.8**	**-0.4**
HARP	**HAARP**	**5.56**	**49**	P	**Pn**	**16 42 31.2**	**-0.3**
PAX	**Paxson**	**5.77**	**44**	*e*Pn	**Pn**	**16 42 33.8**	**-0.5**
ILAR	**Eielson Array**	**6.67**	**28**	P	**Pn**	**16 42 45.1**	**-1.3**
ILAR	2.1nm,0.3s,baz=220,slow=13,SNR=46			S	**Sn**	**16 43 57.0**	**-4.0**
DOT	1.5nm,0.3s,baz=223,slow=18,SNR=5.2 **Dot Lake**	**6.69**	**42**	*e*Pn	**Pn**	**16 42 46.9**	**+0.3**
COLD	**Coldfoot**	**8.38**	**11**	*e*Pn	**Pn**	**16 43 08.1**	**-1.1**
EGAK	**Eagle**	**8.39**	**42**	*e*Pn	**Pn**	**16 43 09.6**	**+0.2**
DAWY	**Dawson**	**8.65**	**48**	*e*Pn	**Pn**	**16 43 13.6**	**+0.6**
INK	**Inuvik**	**12.95**	**36**	P	**Pn**	**16 44 09.0**	**-0.7**
INK	0.5nm,0.3s,baz=242,slow=12,SNR=15			S	**S**	**16 46 45.8**	**-2.2**
INK	0.4nm,0.3s,baz=16,slow=32,SNR=18 **Inuvik**	**12.95**	**36**	*e*Pn	**Pn**	**16 44 08.8**	**-0.9**
INK				*e*S	**S**	**16 46 46.2**	**-1.7**
YKA	**Yellowknife Ar**	**19.41**	**63**	P	**P**	**16 45 27.3**	**+1.1**
YKA	0.2nm,0.3s,baz=274,slow=9.7,SNR=24			PcP	**PcP**	**16 49 42.0**	**+0.5**
NEW	0.0nm,0.3s,baz=281,slow=1.9,SNR=5.5 **Newport**	**24.17**	**100**	P	**P**	**16 46 16.3**	**+1.9**
SEY	1.2nm,0.4s,baz=327,slow=12,SNR=3.5 **Seymchan**	**25.53**	**302**	P	**P**	**16 46 26.2**	**-0.4**
RES	2.2nm,0.5s,baz=89,slow=23,SNR=23 **Resolute Bay**	**26.42**	**31**	P	**P**	**16 46 35.6**	**+1.3**
PETK	0.8nm,0.6s,baz=252,slow=6.4,SNR=2.9 **Petropavlovsk-**	**26.97**	**279**	P	**P**	**16 46 39.6**	**0.0**
MA2	2.6nm,0.9s,baz=66,slow=14,SNR=8.8 **Magadan**	**27.39**	**295**	P	**P**	**16 46 43.7**	**+0.4**
NVAR	4.3nm,0.8s,baz=71,slow=9,SNR=14 **Mina Array Bea**	**30.85**	**116**	P	**P**	**16 47 17.1**	**+2.8**
TIXI	0.7nm,0.6s,baz=298,slow=7.7,SNR=7.0 **Tiksi**	**31.86**	**324**	P	**P**	**16 47 22.0**	**-0.6**
YAK	1.1nm,0.3s,baz=89,slow=13,SNR=6.1 **Yakutsk**	**35.54**	**308**	P	**P**	**16 47 54.1**	**-0.3**
FRB	19nm,0.6s,baz=350,slow=0.6,SNR=16 **Frobisher Bay**	**38.34**	**46**	P	**P**	**16 48 18.9**	**+0.8**
KLR	9.1nm,0.6s,baz=127,slow=9.5,SNR=44 **Klr dur**	**42.22**	**290**	P	**P**	**16 48 51.0**	**+0.3**
SPITS	0.7nm,0.7s,baz=58,slow=7.6,SNR=34 **Spitsbergen Ar**	**42.87**	**3**	P	**P**	**16 48 54.0**	**-1.1**
TXAR	4.8nm,0.9s,baz=2.4,slow=10,SNR=6.5 **Lajitas Array**	**45.26**	**108**	P	**P**	**16 49 16.8**	**+2.0**
ARCES	1.3nm,0.9s,baz=319,slow=6.2,SNR=10 **ARCESS Array B**	**51.68**	**0**	PcP	**PcP**	**16 51 14.4**	**-0.4**
KSRS	1.7nm,0.8s,baz=358,slow=5.4,SNR=3.7 **Korea Array**	**52.77**	**282**	P	**P**	**16 50 11.0**	**-0.7**
SONM	0.5nm,0.5s,baz=51,slow=8.3,SNR=3.1 **Songino Array**	**54.82**	**306**	P	**P**	**16 50 27.7**	**+1.0**
ZALV	3.9nm,0.8s,baz=40,slow=6.8,SNR=26 **Zalesovo Beam**	**57.74**	**323**	P	**P**	**16 50 46.6**	**-0.5**
KURBB	1.3nm,0.3s,baz=22,slow=6.5,SNR=9.2 **Kurchatov Arra**	**62.54**	**325**	P	**P**	**16 51 19.0**	**-0.8**
BVAR	0.8nm,0.6s,baz=27,slow=6.4,SNR=6.3 **Borovoye Array**	**62.59**	**331**	P	**P**	**16 51 19.1**	**-1.0**
MKAR	1.6nm,0.7s,baz=29,slow=7.4,SNR=16 **Makanchi Array**	**64.76**	**321**	P	**P**	**16 51 33.4**	**-1.1**
AAK	0.9nm,0.8s,baz=46,slow=6.9,SNR=8.6 **Ala-Archa**	**70.94**	**324**	P	**P**	**16 52 12.9**	**-0.5**
CMAR	0.5nm,0.6s,baz=253,slow=1.1,SNR=5.5 **Chiang Mai Arr**	**82.67**	**294**	P	**P**	**16 53 18.3**	**-1.0**
BOSA	0.3nm,0.6s,baz=10,slow=6.0,SNR=3.3 **Boshof**	**149.54**	**1**	PKPbc	**PKPbc**	**17 00 42.9**	**-1.0**
	2.0nm,0.6s,baz=1.5,slow=1.1,SNR=7.1						

*NIED **14** 16:52:00,35°.80N×141°.00E,h23km,Mw3.9 Best double couple: M₀8.69000×10¹⁴ NP1:φs176.00000°,δ38.00000°, λ-83.00000°. NP2:φs346.00000°,δ52.00000°, λ-96.00000°.*

*IDC **14** 16:52:02.3±0.6,35°.70N×140°.96E,h0km,mb3.7/17, mb1 3.8/21,mb1mx3.7/78,mbtmp3.7/21,ML3.7/3,MS3.0/4, Ms1 3.0/4,ms1mx2.7/66,Error ellipse: s-maj=17.5km s-min=13.8km az=102.0*

*ISCJB **14** 16:52:04.4±0.7,35°.76N±0°.04×140°.97E±0°.08,h23km±4km, mb3.8/18,MS3.3/2,Error ellipse: s-maj=10.9km s-min=6.2km az=171.5*

*JMA **14** 16:52:05.4±0.1,35°.76N×140°.93E,h17km±1km,M4.1 JMA Felt II J1.*

ISC 14 16:52:05.3±0.8,35°.75N±0°.05×140°.89E±0°.06,h17km±5km, n39,σ1s23/37,mb3.7/19,4C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**206**	⇓P	**Pg**	**16 52 08.7**	**+0.3**
CHOJ				S	**Sg**	**16 52 10.9**	**+0.4**
JCN	**Nagara**	**0.65**	**239**	⇑P	**Pn**	**16 52 19.3**	**-0.4**
JYT	**Yasato**	**0.74**	**310**	⇑P	**Pg**	**16 52 19.3**	**-0.4**
JYT				S	**Sg**	**16 52 29.3**	**-0.2**
BSO4	**Boso 4**	**0.88**	**211**	P	**Pn**	**16 52 23.4**	**+0.6**
JHO	**Hitachi**	**0.90**	**343**	⇓P	**Pg**	**16 52 21.4**	**-1.3**
JHO				*e*S	**Sg**	**16 52 32.9**	**-1.6**
BSO3	**Boso 3**	**1.00**	**198**	⇑P	**Pn**	**16 52 23.8**	**-0.4**
BSO1	**Boso 1**	**1.10**	**176**	⇑P	**Pb**	**16 52 24.2**	**-1.2**
MJAR	**Matsushiro Arr**	**2.31**	**291**	P	**Pn**	**16 52 41.7**	**-0.8**
MJAR	6.0nm,0.3s,baz=200,slow=8.1,SNR=88			Sn	**Sg**	**16 53 18.9**	**-0.6**
MJAR	8.9nm,0.3s,baz=137,slow=15,SNR=7.1			LR	LR	16 53 35.0	
MAT	comp=Z,63nm,20.9s,baz=115,slow=40 **Matsushiro**	**2.31**	**291**	P	**Pn**	**16 52 42.8**	**+0.3**
MAT				*e*S	**Sb**	**16 53 15.1**	**+0.4**
JHJ	**Hachijo jima 2**	**2.78**	**199**	LR	LR	16 54 04.2	
ASAJ	comp=Z,199nm,21.7s,baz=0.5,slow=44 **Asahikawa**	**8.46**	**8**	Pn	**Pn**	**16 54 06.4**	**-0.6**
JCJ	0.9nm,0.3s,baz=222,slow=10,SNR=9.0 **Chichijima**	**8.70**	**172**	Pn	**Pn**	**16 54 07.4**	**-2.9**
KSRS	3.4nm,0.3s,baz=266,slow=19,SNR=2.9 **Korea Array**	**10.56**	**283**	Pn	**Pn**	**16 54 38.0**	**+2.3**
PETK	baz=92,slow=15,SNR=2.9 **Petropavlovsk-**	**21.01**	**29**	P	**P**	**16 56 51.9**	**+4.1**
MA2	1.1nm,0.7s,baz=208,slow=6.0,SNR=4.1 **Magadan**	**24.69**	**12**	P	**P**	**16 57 26.1**	**+0.9**
MA2	3.7nm,0.7s,baz=209,slow=7.8,SNR=15			LR	LR	17 09 08.9	
H11N2	comp=Z,33nm,18.8s,baz=358,slow=42 **WAKE ISLAND Hy 27.89**	**118**		T	T	17 26 50.4	
H11N1	baz=311,slow=75,SNR=250 **WAKE ISLAND Hy 27.90**	**118**		T	T	17 26 53.2	
H11N3	baz=311,slow=75,SNR=183 **WAKE ISLAND Hy 27.91**	**118**		T	T	17 26 51.8	
SEY	baz=311,slow=75,SNR=238 **Seymchan**	**28.13**	**11**	P	**P**	**16 57 57.3**	**+1.2**
H11S3	1.2nm,0.9s,baz=137,slow=6.3,SNR=4.9 **WAKE ISLAND Hy 28.55**	**120**		T	T	17 27 42.0	
H11S1	baz=312,slow=75,SNR=303 **WAKE ISLAND Hy 28.55**	**120**		T	T	17 27 42.1	
H11S2	baz=312,slow=75,SNR=381 **WAKE ISLAND Hy 28.57**	**120**		T	T	17 27 43.1	
DAV	baz=312,slow=75,SNR=304 **Davao City (W)**	**31.81**	**210**	P	**P**	**16 58 28.8**	**-0.3**
TIXI	216nm,0.4s,baz=42,slow=1.9,SNR=3.7 **Tiksi**	**36.51**	**354**	P	**P**	**16 59 08.1**	**-1.2**
ZALV	1.0nm,0.8s,baz=190,slow=3.0,SNR=3.9 **Zalesovo Beam**	**42.48**	**313**	P	**P**	**16 59 59.9**	**+0.7**
MKAR	0.8nm,0.6s,baz=90,slow=7.8,SNR=4.3 **Makanchi Array**	**44.45**	**303**	P	**P**	**17 00 16.0**	**+0.7**
KURBB	0.7nm,0.7s,baz=91,slow=9.8,SNR=11 **Kurchatov Arra**	**46.47**	**309**	P	**P**	**17 00 31.1**	**-0.1**
AAK	0.9nm,0.4s,baz=82,slow=7.9,SNR=4.7 **Ala-Archa**	**50.73**	**299**	P	**P**	**17 01 05.0**	**+0.7**
ILAR	0.3nm,0.3s,baz=204,slow=20,SNR=2.6 **Eielson Array**	**50.80**	**32**	P	**P**	**17 01 05.0**	**+0.7**
INK	0.5nm,0.6s,baz=267,slow=5.7,SNR=6.6 **Inuvik**	**55.72**	**27**	P	**P**	**17 01 41.6**	**+1.2**
WRA	0.5nm,0.7s,baz=108,slow=0.6,SNR=3.0 **Warramunga Arr**	**55.73**	**187**	P	**P**	**17 01 40.5**	**-0.5**
ASAR	0.6nm,0.4s,baz=6.0,slow=7.7,SNR=12 **Alice Springs**	**59.46**	**187**	P	**P**	**17 02 07.4**	**+0.2**
YKA	0.3nm,0.5s,baz=12,slow=9.7,SNR=7.0 **Yellowknife Ar**	**65.13**	**30**	Pn	**P**	**17 02 44.9**	**+0.1**
FINES	0.1nm,0.3s,baz=54,slow=41,SNR=3.3 **FINESS Array B**	**69.75**	**332**	P	**P**	**17 03 13.9**	**-0.1**
AKASG	2.2nm,0.9s,baz=60,slow=8.2,SNR=2.7 **Malin Array Be**	**75.05**	**322**	P	**P**	**17 03 46.3**	**+0.5**
NOA	0.3nm,0.4s,baz=51,slow=6.1,SNR=3.3 **NORSAR Array B**	**75.20**	**337**	P	**P**	**17 03 45.0**	**-1.6**
NOA	0.4nm,0.5s,baz=41,slow=5.9,SNR=3.1			LR	LR	17 43 30.3	
PDAR	comp=Z,47nm,18.1s,baz=290,slow=41 **Pinedale Array**	**78.87**	**45**	P	**P**	**17 04 07.0**	**-0.8**
TXAR	0.1nm,0.3s,baz=280,slow=5.3,SNR=2.7 **Lajitas Array**	**91.24**	**52**	P	**P**	**17 05 10.3**	**+0.3**
LPAZ	0.2nm,0.8s,baz=331,slow=7.2,SNR=3.0 **La Paz**	**147.70**	**61**	PKPbc	**PKPdf**	**17 11 47.5**	**+0.1**
	2.9nm,0.6s,baz=269,slow=14,SNR=11						

MAN 14 16:54:52,9°.98N×123°.12E,h1km,mb5.3,ML4.3,MS4.5, 3C-2D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.65**	**169**	⇑*i*P	Pb	16 55 07.1	+1.0
SNPH				*i* S	Sn	16 55 17.7	-1.6
TBP	**Tagbilaran**	**0.79**	**111**	*e*P	Pb	16 55 08.3	-0.3
GUIM	**Jordan**	**0.82**	**321**	*e*P	Pb	16 55 08.7	-0.5
GUIM				*e*S	Sb	16 55 20.4	-0.4
LLP	**Lapu-Lapu**	**0.90**	**68**	⇓*e*P	Pg	16 55 09.1	-0.2
LLP				*e*S	Sg	16 55 21.2	+0.2
JAP	**San Jose, Anti**	**1.38**	**304**	⇓*e*P	Pb	16 55 20.4	+1.8
DCPH	**Dipolog City**	**1.41**	**170**	⇓*e*P	Pg	16 55 19.0	-0.1
DCPH				*i* S	Sn	16 55 38.9	+0.9
RCP	**Roxas**	**1.61**	**347**	⇓*e*P	Pb	16 55 22.3	-0.3
RCP				*e*S	Sg	16 55 44.1	+0.2
MSLP	**Maasin**	**1.72**	**85**	*e*P	Pn	16 55 23.7	+0.5
MSLP				*e*S	Sg	16 55 47.4	-0.1
OCLP	**Ormoc**	**1.81**	**54**	*e*P	Pn	16 55 24.3	-0.1
OTRP	**Odiongan**	**2.60**	**336**	*e*P	Pn	16 55 37.2	+2.0
BUSP	**Coron**	**3.50**	**305**	*e*P	Pn	16 55 49.2	+1.6

*NIED **14** 16:57:00,36°.70N×140°.60E,h5km,Mw3.7 Best double couple: M₀4.08000×10¹⁴ NP1:φs358.00000°,δ28.00000°, λ-115.00000°. NP2:φs206.00000°,δ65.00000°, λ-78.00000°.*

*IDC **14** 16:57:16.6±0.8,36°.68N×140°.59E,h0km,mb3.6/14, mb1 3.8/15,mb1mx3.6/78,mbtmp3.6/15,ML3.3/1,MS2.8/1, Ms1 2.8/1,ms1mx2.2/62,Error ellipse: s-maj=19.9km s-min=15.7km az=140.0*

*ISCJB **14** 16:57:17.2±0.7,36°.65N±0°.04×140°.71E±0°.06,h15km±4km, mb3.5/14,Error ellipse: s-maj=8.4km s-min=4.5km az=33.8*

*JMA **14** 16:57:18.5,36°.70N×140°.60E,h8km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φs180.00000°,δ55.00000°,λ-95.00000°. NP2:φs9.00000°, δ35.00000°,λ-83.00000°. Principal axes: T Plg10.0000°, Azm274.0000°; N Plg4.0000°, Azm183.0000°; P Plg79.0000°, Azm72.0000°;*

JMA Felt III J1.

ISC 14 16:57:18.2±0.9,36°.69N±0°.03×140°.63E±0°.05,h10km±6km, n30,σ0s67/32,mb3.6/14,3C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.09**	**212**	⇓P	**Pg**	**16 57 20.8**	**+0.1**
JHO				S	**Sg**	**16 57 22.4**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.43**	**18**	⇑P	**Pg**	**16 57 26.8**	**0.0**
ONAJ				S	**Sg**	**16 57 32.9**	**+0.4**
JYT	**Yasato**	**0.58**	**217**	⇑P	**Pg**	**16 57 29.4**	**-0.1**
JYT				S	**Sg**	**16 57 37.2**	**+0.1**
JSB	**Shiboa**	**0.63**	**296**	⇑P	**Pg**	**16 57 30.6**	**+0.1**
JSB				S	**Sg**	**16 57 39.8**	**+1.0**
JFK	**Kawauchi**	**0.70**	**16**	⇓P	**Pg**	**16 57 31.5**	**-0.4**
JFK				S	**Sg**	**16 57 41.0**	**-0.1**
JFT	**Otama**	**0.86**	**344**	P	**Pg**	**16 57 34.5**	**-0.3**
JFT				S	**Sg**	**16 57 45.5**	**-0.5**
MJAR	**Matsushiro Arr**	**1.95**	**266**	Pn	**Pn**	**16 57 51.5**	**0.0**
MJAR	30nm,0.3s,baz=87,slow=15,SNR=95			Sn	**Sn**	**16 58 16.5**	**+0.4**
MAT	69nm,0.3s,baz=81,slow=26,SNR=25 **Matsushiro**	**1.95**	**266**	P	**Pn**	**16 57 51.9**	**+0.4**
MAT				S	**Sb**	**16 58 18.1**	**-0.3**
ASAJ	**Asahikawa**	**7.57**	**11**	Pn	**Pn**	**16 59 08.3**	**-0.3**
ASAJ	0.5nm,0.3s,baz=180,slow=13,SNR=3.3			Sn	**Sn**	**17 00 36.6**	**+2.1**
KSRS	0.1nm,0.3s,baz=76,slow=34,SNR=2.1 **Korea Array**	**10.18**	**278**	LR	LR	17 03 13.0	
MA2	comp=Z,47nm,18.7s,baz=35,slow=35 **Magadan**	**23.82**	**13**	P	**P**	**17 02 30.3**	**-0.9**
SEY	2.4nm,0.6s,baz=203,slow=8.3,SNR=9.8 **Seymchan**	**27.25**	**12**	P	**P**	**17 03 02.5**	**+0.2**
SONM	1.1nm,0.9s,baz=255,slow=8.1,SNR=5.4 **Songino Array**	**27.46**	**305**	P	**P**	**17 03 03.8**	**-0.7**
H11N2	0.6nm,0.6s,baz=105,slow=9.0,SNR=4.7 **WAKE ISLAND Hy 28.52**	**119**		T	T	17 32 57.1	
H11N1	baz=312,slow=75,SNR=35 **WAKE ISLAND Hy 28.53**	**119**		T	T	17 32 59.7	
H11N3	baz=312,slow=75,SNR=58 **WAKE ISLAND Hy 28.54**	**119**		T	T	17 33 00.6	
H11S1	baz=312,slow=75,SNR=82 **WAKE ISLAND Hy 29.21**	**121**		T	T	17 33 49.7	
H11S3	baz=314,slow=76,SNR=316 **WAKE ISLAND Hy 29.21**	**121**		T	T	17 33 49.8	
H11S2	baz=314,slow=76,SNR=190 **WAKE ISLAND Hy 29.23**	**121**		T	T	17 33 50.9	
ZALV	baz=314,slow=76,SNR=117 **Zalesovo Beam**	**41.68**	**313**	P	**P**	**17 05 06.1**	**-0.7**
MKAR	0.9nm,0.5s,baz=78,slow=6.0,SNR=5.4 **Makanchi Array**	**43.77**	**302**	P	**P**	**17 05 23.8**	**-0.2**
KURBB	0.3nm,0.7s,baz=101,slow=8.3,SNR=3.3 **Kurchatov Arra**	**45.72**	**308**	P	**P**	**17 05 38.4**	**-1.0**
ILAR	1.1nm,0.6s,baz=84,slow=7.9,SNR=10 **Eielson Array**	**50.12**	**32**	P	**P**	**17 06 13.7**	**+0.4**
INK	0.5nm,1.0s,baz=270,slow=7.2,SNR=3.6 **Inuvik**	**54.98**	**27**	P	**P**	**17 06 49.2**	**0.0**
WRA	0.4nm,0.6s,baz=291,slow=5.0,SNR=3.6 **Warramunga Arr**	**56.64**	**187**	P	**P**	**17 07 00.9**	**-0.7**
PDAR	0.3nm,0.7s,baz=4.1,slow=7.3,SNR=5.9 **Pinedale Array**	**78.36**	**45**	P	**P**	**17 09 19.4**	**+0.3**
TXAR	0.3nm,0.6s,baz=316,slow=3.8,SNR=3.8 **Lajitas Array**	**90.83**	**52**	P	**P**	**17 10 23.0**	**+0.7**
	0.2nm,0.6s,baz=297,slow=4.6,SNR=2.8						

*IDC **14** 17:01:41.5±0.6,10°.51N×93°.90E,h0km,mb4.0/18, mb1 4.1/19,mb1mx3.8/72,mbtmp4.0/19,ML3.5/1,MS3.3/4, Ms1 3.4/4,ms1mx2.9/62,Error ellipse: s-maj=22.0km s-min=14.4km az=57.0*

*ISCJB **14** 17:01:42.5±0.4,10°.57N±0°.06×94°.06E±0°.06,h19km, mb4.2/22,MS3.4/2,Error ellipse: s-maj=9.8km s-min=6.8km az=142.3*

*NEIC **14** 17:01:50.6±1.5,10°.68N×94°.00E,h68km±14km,mb4.9/4, Error ellipse: s-maj=16.0km s-min=7.2km az=66.0*

ISC 14 17:01:44.5±0.7,10°.54N±0°.09×93°.90E±0°.10,h19km,n53, σ1s41/47,mb4.2/22,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.58**	**315**	*e*P	Pn	17 02 12.6	+1.0
PBA				*e*S	Sn	17 02 34.4	+2.8
DGPR	**DIGLIPUR**	**2.79**	**340**	*e*P	**Pn**	**17 02 30.2**	**+2.0**
DGPR				*e*S	**Sn**	**17 03 04.2**	**+3.0**
PSI	**Prapat**	**9.17**	**147**	Pn	Pn	17 04 04.8	+8.8
PSI	2.3nm,0.3s,baz=329,slow=18,SNR=8.9 **Prapat**	**9.17**	**147**	*e*Pn	Pn	17 04 04.4	+8.4
CMAR	**Chiang Mai Arr**	**9.26**	**31**	Pn	**Pn**	**17 03 56.6**	**-0.6**
CMAR	0.1nm,0.3s,baz=222,slow=12,SNR=3.0			LR	LR	17 07 55.0	
SAIH	comp=Z,227nm,18.4s,baz=218,slow=40 **SAIHA**	**11.91**	**356**	*e*P	**Pn**	**17 04 32.3**	**-1.4**
VIS	**Vishakhapatnam**	**12.49**	**306**	*i* P	**Pn**	**17 04 43.4**	**+2.1**
VIS				*i* S	**Sn**	**17 06 54.2**	**-5.8**
PALK	**Pallekele**	**13.43**	**257**	LR	LR	17 09 15.3	
MDRS	comp=Z,75nm,21.9s,baz=116,slow=34 **Chennai**	**13.60**	**282**	*e*P	**Pn**	**17 04 58.9**	**+2.4**
MDRS				IAmb	IAmb	17 04 59.7	
IMP	comp=Z,8.7nm,0.4s **Imphal**	**14.21**	**0**	*e*P	**Pn**	**17 05 03.5**	**-1.5**
KOHI	**KOHIMA**	**15.10**	**1**	*e*P	**Pn**	**17 05 14.1**	**-3.0**
MOKO	**MOKOCHONG**	**15.71**	**2**	*e*P	**Pn**	**17 05 23.7**	**-1.4**
MOKO				IAmb	IAmb	17 05 32.4	
LSA	comp=Z,31nm,0.8s **Lhasa**	**19.24**	**353**	*e*P	**P**	**17 06 08.4**	**+0.1**
H08S3	comp=Z,4.3nm,0.8s **Diego Garcia H**	**27.93**	**231**	T	T	17 36 35.8	

IDC ***14*** *17:09:28.4±1.1,24.˝56S×177.˝00W,h0km,mb4.1/5, mb1 4.4/8,mb1mx4.0/42,mbtmp4.3/8,ML4.0/3,Error ellipse: s-maj=51.0km s-min=21.9km az=153.0*

ISC 14 17:09:29.8±0.7,**24.˚6S**-0.˚1×**176.˚9W**±0.˚1,**h10km,n23,** σ1§**22**/26,**mb4.3/7,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.67**	**25**	Pn	**Pn**	**17 12 16.4**	**-0.2**
	7.8nm,0.3s,baz=192,slow=12,SNR=12						
AFI				Sn	Sn	17 14 16.3	-11
	2.0nm,0.3s,baz=238,slow=19,SNR=3.8						
AFI	**Afiamalu**	**11.67**	**25**	*e*Pn	**Pn**	**17 12 16.9**	**+0.3**
AFI				*e*		17 12 17.3	
AFI				Sn	Sn	17 14 16.3	-11
URZ	**Urewera**	**14.55**	**199**	Pn	**Pn**	**17 12 56.3**	**+0.6**
	0.3nm,0.3s,baz=35,slow=12,SNR=2.4						
URZ				Sn	Sn	17 15 22.0	-15
	0.6nm,0.3s,baz=12,slow=20,SNR=4.6						
RAR	**Rarotonga**	**16.14**	**81**	Pn	**P**	**17 13 18.7**	**-1.5**
	2.0nm,0.3s,baz=254,slow=13,SNR=6.0						
RAR				Sn	Sn	17 15 57.4	-19
	0.7nm,0.3s,baz=225,slow=7.1,SNR=3.0						
CTA	**Charters Tower**	**34.30**	**270**	P	**P**	**17 16 17.7**	**+1.0**
	2.3nm,0.4s,baz=95,slow=12,SNR=12						
AS31	**Alice Springs**	**44.71**	**261**	*e*P	**P**	**17 17 42.3**	**-1.2**
	1.0nm,0.8s						
ASAR	**Alice Springs**	**44.71**	**261**	P	**P**	**17 17 42.3**	**-1.2**
	0.7nm,0.5s,baz=94,slow=6.9,SNR=29						
ASAR				PcP	**PcP**	**17 19 24.8**	**-1.1**
	0.4nm,0.8s,baz=111,slow=4.1,SNR=2.6						
WR1	**Warramunga Arr**	**45.17**	**266**	*e*P	**P**	**17 17 45.7**	**-1.5**
	17nm,1.3s						
WR1				*e*PcP	**PcP**	**17 19 27.0**	**-0.5**
WRA	**Warramunga Arr**	**45.17**	**266**	P	**P**	**17 17 45.7**	**-1.5**
	2.3nm,0.5s,baz=99,slow=7.5,SNR=49						
WRA				PcP	**PcP**	**17 19 27.0**	**-0.6**
	0.5nm,0.8s,baz=106,slow=3.3,SNR=2.3						
MWC	**Mount Wilson**	**80.88**	**46**	*e*P	**P**	**17 21 45.5**	**+1.0**
BFSC	**Mount Baldy Ra**	**81.15**	**46**	*e*P	**P**	**17 21 46.6**	**+0.8**
NVAR	**Mina Array Bea**	**83.32**	**42**	P	**P**	**17 21 57.8**	**+0.6**
	0.4nm,0.6s,baz=243,slow=3.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**92.42**	**289**	P	**P**	**17 22 42.2**	**+0.8**
	0.4nm,0.3s,baz=143,slow=3.2,SNR=3.3						
KURK	**Kurchatov**	**117.65**	**316**	*e*PKPdf	**PKPdf**	**17 28 15.7**	**-0.3**
KURBB	**Kurchatov Arra**	**117.70**	**316**	PKP	**PKPdf**	**17 28 15.7**	**-0.4**
	0.2nm,0.4s,baz=104,slow=1.9,SNR=3.3						
ARA0	**ARCESS Array S**	**133.10**	**349**	*e*PKPdf	**PKPdf**	**17 28 47.1**	**+2.1**
ARCES	**ARCESS Array B**	**133.10**	**349**	PKP	**PKPdf**	**17 28 47.1**	**+2.1**
	6.6nm,1.2s,baz=48,slow=1.3,SNR=2.3						
AKASG	**Malin Array Be**	**147.04**	**329**	PKPbc	**PKPbc**	**17 29 11.3**	**-1.4**
	0.7nm,0.3s,baz=45,slow=4.3,SNR=11						
BR101	**Keskin Array S**	**150.24**	**308**	*e*PKPbc	**PKPbc**	**17 29 19.9**	**-1.7**
BRTR	**Keskin Array B**	**150.24**	**308**	PKPbc	**PKPbc**	**17 29 19.9**	**-1.7**
	0.8nm,0.9s,baz=65,slow=3.5,SNR=3.5						
MMAI	**Mount Meron Ar**	**150.56**	**294**	PKPbc	**PKPbc**	**17 29 22.0**	**-0.4**
	3.9nm,0.7s,baz=84,slow=6.5,SNR=3.8						
MMAI	**Mount Meron Ar**	**150.56**	**294**	PKPbc	**PKPbc**	**17 29 22.0**	**-0.4**
CLL	**Collm**	**152.25**	**347**	*e*PKPbc	**PKPbc**	**17 29 27.0**	**+1.4**

JMA 14 17:10:32.5±0.1,**35.˚78N×140.˚89E,h12km**±1**km,M3.6, 3C-1D Broadband fault plane solution: P waves. NP1:**φ**39.00000°,δ54.00000°,λ-92.00000°. NP2: φ222.00000°,δ36.00000°,λ-87.00000°. Principal axes:** T Plg9.0000°, Azm130.0000°; N Plg2.0000°, Azm40.0000°; P Plg81.0000°, Azm299.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.08**	**198**	⇓P	Pg	17 10 35.0	-0.1
CHOJ				S	Sg	17 10 36.7	-0.3
JCN	**Nagara**	**0.67**	**237**	⇑P	Pb	17 10 46.3	+0.2
JYT	**Yasato**	**0.72**	**309**	⇑P	Pg	17 10 46.0	-0.5
JYT				S	Sg	17 10 55.4	-0.5
JHO	**Hitachi**	**0.87**	**343**	P	Pg	17 10 48.3	-1.0
JHO				S	Sg	17 10 59.7	-1.0
BSO4	**Boso 4**	**0.91**	**210**	P	Pg	17 10 50.0	0.0
BSO3	**Boso 3**	**1.02**	**198**	⇑P	Pb	17 10 51.5	-0.5
MAT	**Matsushiro**	**2.30**	**290**	P	Pn	17 11 09.8	-0.5
MAT				*e*S	Sn	17 11 38.5	0.0

IDC ***14*** *17:22:05.1±1.1,24.˝37S×116.˝59W,h0km,mb3.8/7, mb1 4.2/7,mb1mx4.0/35,mbtmp3.8/7,MS3.7/8,Ms1 3.8/8, ms1mx3.4/31 Error ellipse: s-maj=44.9km s-min=24.2km az=43.0*

NEIC ***14*** *17:22:06.6±0.7,24.˚42S×116.˚35W,h10km,mb4.7/6,Error ellipse: s-maj=25.2km s-min=14.5km az=55.0*

ISC 14 17:22:06.9±1.2,**24.˚3S**±0.˚2×**116.˚3W**±0.˚2,**h10km,n47,** σ1§**47**/34,**mb4.2**/14,**MS3.8**/7,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.87**	**116**	LR	LR	17 25 47.3	
	comp=Z,1μm,18.2s,baz=296,slow=31						
RKT	**Rikitea**	**17.16**	**270**	*e*LQ	LQ	17 29 38.0	
	721nm,27.0s						
RKT				*e*LR	LR	17 30 20.6	
	494nm,26.5s						
RKT	**Rikitea**	**17.16**	**270**	*e*T	T	17 44 25.2	
	2.5nm,0.3s						
TAOE	**Nuku Hiva Isla**	**27.48**	**300**	*e*LQ	LQ	17 33 44.0	
	5μm,29.3s						
TAOE				*e*LR	LR	17 34 50.0	
	495nm,25.7s						
TBI	**Tubuai**	**30.33**	**265**	*e*LR	LR	17 36 28.3	
	190nm,27.8s						
PPT2	**Papeete2**	**31.75**	**276**	*e*LQ	LQ	17 35 45.5	
	176nm,25.5s						
PPT2				*e*LR	LR	17 37 01.2	
	221nm,26.8s						
PLCA	**Paso Flores**	**41.41**	**125**	P	**P**	**17 29 55.8**	**+2.2**
	3.0nm,1.1s,baz=280,slow=14,SNR=2.4						
PLCA				LR	LR	17 42 59.8	
	comp=Z,137nm,19.0s,baz=278,slow=30						
PB10	**IPOC Station P**	**41.66**	**99**	*e*P	**P**	**17 29 53.9**	**-1.9**
	41nm,1.2s						
LPAZ	**La Paz**	**45.67**	**89**	P	**P**	**17 30 29.5**	**+0.6**
	1.1nm,0.6s,baz=261,slow=6.5,SNR=4.0						
LPAZ				LR	LR	17 45 15.2	
	comp=Z,100nm,19.6s,baz=247,slow=30						
LPAZ	**La Paz**	**45.67**	**89**	*e*P	**P**	**17 30 26.4**	**-2.5**
LPAZ				*ep*P	**pP**	**17 30 27.8**	**-4.3**
LPIG	**La Paz**	**48.46**	**7**	LR	LR	17 46 12.9	
	comp=Z,47nm,18.3s,baz=307,slow=30						
CPUP	**Villa Florida**	**52.92**	**105**	P	**P**	**17 31 25.7**	**+2.1**
	1.1nm,0.7s,baz=256,slow=4.2,SNR=3.3						
CPUP				LR	LR	17 48 46.2	
	comp=Z,108nm,22.0s,baz=225,slow=30						
AFI	**Afiamalu**	**53.16**	**271**	LR	LR	17 48 52.7	
	comp=Z,79nm,19.9s,baz=71,slow=30						
TXAR	**Lajitas Array**	**54.69**	**14**	P	**P**	**17 31 37.7**	**+1.3**
	0.7nm,0.9s,baz=207,slow=3.8,SNR=5.0						
LTX	**Lajitas**	**54.69**	**14**	*e*P	**P**	**17 31 37.7**	**+1.3**
TX31	**Lajitas Ar. Si**	**54.69**	**14**	*e*P	**P**	**17 31 37.3**	**+1.0**
MNTX	**Cornudas Mount**	**56.65**	**11**	*e*P	**P**	**17 31 50.5**	**+0.2**
	4.4nm,1.1s						
JCT	**Junction City**	**56.71**	**17**	*e*P	**P**	**17 31 51.2**	**+0.4**
	11nm,1.0s						
CIAC	**Catalina I. Ai**	**57.42**	**358**	*e*P	**P**	**17 31 58.0**	**+2.3**
ANMO	**Albuquerque**	**59.65**	**9**	LR	LR	17 53 54.8	
	comp=Z,38nm,19.5s,baz=18,slow=32						
PKLM	**Kerr Lake**	**59.87**	**356**	*e*P	**P**	**17 32 13.7**	**+0.9**
U15A	**North Rim**	**60.52**	**4**	*e*P	**P**	**17 32 18.4**	**+0.9**
	4.6nm,1.1s						
NV01	**Mina Array Sit**	**62.43**	**358**	*e*P	**P**	**17 32 30.7**	**+0.4**
NVAR	**Mina Array Bea**	**62.43**	**358**	P	**P**	**17 32 30.7**	**+0.4**
	0.9nm,0.7s,baz=185,slow=9.5,SNR=4.7						
BG3	**Lake Jocassee**	**66.91**	**29**	*e*P	**P**	**17 32 59.8**	**+0.4**
	12nm,1.0s						
PD31	**Pinedale Array**	**67.02**	**5**	*e*P	**P**	**17 32 59.9**	**-0.4**
PDAR	**Pinedale Array**	**67.02**	**5**	P	**P**	**17 33 00.9**	**+0.7**
	0.4nm,0.8s,baz=190,slow=6.5,SNR=3.2						
KEBM	**Edson Butte**	**67.25**	**354**	*e*P	**P**	**17 33 00.1**	**-1.3**
	261nm,1.7s						
HLID	**Hailey**	**67.55**	**1**	*e*P	**P**	**17 33 05.2**	**+1.7**
	2.7nm,0.9s						
NEW	**Newport**	**72.23**	**359**	LR	LR	17 58 43.5	
	comp=Z,46nm,19.5s,baz=271,slow=30						
H11S2	**WAKE ISLAND Hy**	**86.24**	**292**	T	T	19 10 43.9	
	baz=113,slow=75						
H11S1	**WAKE ISLAND Hy**	**86.25**	**292**	T	T	19 10 44.9	
	baz=113,slow=75						
H11S3	**WAKE ISLAND Hy**	**86.26**	**292**	T	T	19 10 46.1	
	baz=113,slow=75						
YKA	**Yellowknife Ar**	**86.50**	**1**	P	**P**	**17 34 49.6**	**+0.2**
	0.9nm,1.0s,baz=177,slow=5.1,SNR=14						
H11N3	**WAKE ISLAND Hy**	**86.63**	**293**	T	T	19 11 08.9	
	baz=116,slow=78						
H11N1	**WAKE ISLAND Hy**	**86.64**	**293**	T	T	19 11 08.7	
	baz=116,slow=78						
H11N2	**WAKE ISLAND Hy**	**86.64**	**293**	T	T	19 11 17.6	
	baz=116,slow=78						
ZAA1	**Zalesovo Array**	**146.43**	**337**	*e*PKPdf	**PKPbc**	**17 41 46.7**	**-1.1**
ZALV	**Zalesovo Beam**	**146.44**	**337**	PKPbc	**PKPbc**	**17 41 46.7**	**-1.1**
	0.2nm,0.3s,baz=42,slow=2.3,SNR=2.8						
CMAR	**Chiang Mai Arr**	**146.75**	**267**	PKPbc	**PKPdf**	**17 41 47.7**	**-0.4**
	0.1nm,0.3s,baz=116,slow=2.1,SNR=2.8						
BR101	**Keskin Array S**	**150.39**	**51**	*e*PKPbc	**PKPbc**	**17 41 58.9**	**-0.1**
BRTR	**Keskin Array B**	**150.39**	**51**	PKPbc	**PKPbc**	**17 41 58.9**	**-0.1**
	1.8nm,1.2s,baz=289,slow=4.4,SNR=2.4						
BVAR	**Borovoye Array**	**150.87**	**352**	PKPbc	**PKPbc**	**17 41 58.6**	**-0.8**
	0.5nm,0.7s,baz=228,slow=42,SNR=2.5						
KURK	**Kurchatov**	**151.22**	**340**	*e*PKPbc	**PKPbc**	**17 42 00.9**	**+0.6**
KURBB	**Kurchatov Arra**	**151.32**	**340**	PKPbc	**PKPbc**	**17 42 00.9**	**+0.4**
	0.5nm,0.8s,baz=26,slow=1.9,SNR=2.8						
MK32	**Makanchi Array**	**153.08**	**331**	*e*PKPbc	**PKPbc**	**17 42 04.9**	**+0.2**
MK32				*e*PKPab	**PKPab**	**17 42 14.2**	**-1.9**
MKAR	**Makanchi Array**	**153.08**	**331**	PKPbc	**PKPbc**	**17 42 04.9**	**+0.2**
	0.1nm,0.3s,baz=50,slow=4.5,SNR=3.0						
MKAR				PKPab	**PKPab**	**17 42 14.2**	**-1.9**
	0.5nm,0.7s,baz=41,slow=1.9,SNR=5.0						

NIED ***14*** *17:26:00,40.˚90N×145.˚10E,h5km,Mw4.4 Best double couple: M0:4.24000×10*^{15} *NP1:*φ*206.00000°,*δ*36.00000°, λ-92.00000°. NP2:*φ*28.00000°,*δ*54.00000°,λ-89.00000°.*

IDC ***14*** *17:26:13.8±0.5,40.˚86N×144.˚91E,h0km,mb4.2/30, mb1 4.3/35,mb1mx4.2/68,mbtmp4.2/35,ML3.7/4,MS3.7/22, Ms1 3.7/22,ms1mx3.4/62,Error ellipse: s-maj=13.9km s-min=11.2km az=140.0*

ISCJB ***14*** *17:26:14.4±0.9,40.˚91N±0.˚02×144.˚81E±0.˚03,h11km±5km, mb4.4/90,MS3.8/24,Error ellipse: s-maj=3.8km s-min=3.1km az=37.2*

NEIC ***14*** *17:26:14.3±2.0,40.˚87N×144.˚90E,h1km±12km,mb4.7/39, Error ellipse: s-maj=5.8km s-min=3.9km az=140.0*

JMA ***14*** *17:26:14.5±0.2,40.˚87N×145.˚11E,h67km±2km,M4.3*

BJI ***14*** *17:26:14.4,41.˚08N×144.˚71E,h7km,mb4.6/31,mB4.8/19, Ms4.1/6,Ms7 3.8/6*

MOS ***14*** *17:26:17.4±0.9,40.˚92N×144.˚79E,h33km,mb4.7/37,Error ellipse: s-maj=7.4km s-min=5.1km az=104.4*

ISC 14 17:26:16.0±1.0,**40.˚93N**±0.˚04×**144.˚91E**±0.˚05,**h13km**±5km, **n248,**σ1§**34**/271,**mb4.5**/90,**MS3.9**/24,**13C-1D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.71**	**310**	*ce*P	**Pn**	**17 26 44.6**	**-0.8**
ERM				pmax	pmax		
	comp=Z,141nm,0.7s						
ERM	**Erimo**	**1.71**	**310**	*e*Pn	**Pn**	**17 26 43.8**	**-1.6**
JEM	**Erimo**	**1.71**	**310**	P	**Pn**	**17 26 44.8**	**-0.6**
JEM				*e*S	**Sn**	**17 27 05.8**	**-1.3**
JCH	**Churui**	**2.05**	**326**	P	**Pn**	**17 26 49.4**	**-0.7**
JCH				*e*S	**Sn**	**17 27 13.8**	**-1.6**
JAK	**Akkeshi**	**2.08**	**356**	P	**Pn**	**17 26 48.8**	**-1.7**
JAK				*e*S	**Sn**	**17 27 14.3**	**-1.8**
JNBK	**Urakawa-nobuka**	**2.11**	**311**	P	**Pn**	**17 26 51.3**	**+0.4**
JNBK				*e*S	**Sn**	**17 27 17.8**	**+0.8**
JOB	**Onbets**	**2.13**	**338**	P	**Pn**	**17 26 50.7**	**-0.6**
JOB				*e*S	**Sn**	**17 27 16.8**	**-0.8**
NEM2	**Nemuro 2**	**2.52**	**14**	P	**Pn**	**17 26 55.0**	**-1.5**
NEM2				*e*S	**Sn**	**17 27 23.2**	**-3.8**
JAR	**Ashorobuto**	**2.52**	**341**	P	**Pn**	**17 26 55.1**	**-1.5**
JAR				*e*S	**Sn**	**17 27 25.1**	**-2.0**
JANG	**Nango**	**2.64**	**259**	P	**Pn**	**17 26 56.8**	**-1.4**
JANG				*e*S	**Sn**	**17 27 26.8**	**-3.3**
JBT2	**Biratori 2**	**2.65**	**315**	P	**Pn**	**17 26 58.9**	**+0.5**
JBT2				*e*S	**Sn**	**17 27 31.0**	**+0.6**
JNK	**Nakash**	**2.66**	**357**	P	**Pn**	**17 26 56.5**	**-2.0**
JNK				*e*S	**Sn**	**17 27 27.3**	**-3.3**
JFR	**Furan**	**2.82**	**323**	P	**Pn**	**17 27 00.3**	**-0.5**
JOT	**Ohata**	**2.95**	**280**	P	**Pn**	**17 27 02.0**	**-0.5**
JOT				*e*S	**Sn**	**17 27 35.1**	**-2.6**
JRA	**Rausu**	**3.02**	**3**	P	**Pn**	**17 27 01.7**	**-1.7**
JRA				*e*S	**Sn**	**17 27 35.9**	**-3.4**
JKB	**Kayabe**	**3.07**	**290**	P	**Pn**	**17 27 03.5**	**-0.6**
JKB				*e*S	**Sn**	**17 27 38.8**	**-1.9**
JOM	**Ohasama**	**3.13**	**244**	P	**Pn**	**17 27 04.1**	**-0.8**
JOM				*e*S	**Sn**	**17 27 38.7**	**-3.4**
JTKR	**Abashiri--Toko**	**3.13**	**347**	P	**Pn**	**17 27 04.3**	**-0.7**
JTKR				*e*S	**Sn**	**17 27 40.8**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**3.19**	**12**	*e*P	**Pn**	**17 27 05.0**	**-0.7**
YUK				*i* S	**Sn**	**17 27 40.3**	**-3.2**
YUK				pmax	pmax		
	comp=Z,131nm,0.5s						
YUK				pmax	pmax		
	comp=E,62nm,0.4s						
YUK				pmax	pmax		
	comp=N,47nm,0.2s						
YUK				MLR	MLR		
	comp=Z,915nm,11.0s						
JEW	**Eniwo**	**3.21**	**308**	P	**Pn**	**17 27 06.4**	**+0.3**
JEW				*e*S	**Sn**	**17 27 44.7**	**+0.5**
SHO	**Shikotan**	**3.27**	**25**	*e*P	**Pn**	**17 27 04.4**	**-2.5**
SHO				*e*S	**Sn**	**17 27 39.3**	**-6.3**
SHO				pmax	pmax		
	comp=Z,47nm,0.3s						
JKK2	**Kamakawa 2**	**3.35**	**332**	P	**Pn**	**17 27 07.9**	**-0.1**
JKK2				*e*S	**Sn**	**17 27 46.9**	**-0.8**
JMK	**Ichinoseki**	**3.45**	**236**	P	**Pn**	**17 27 08.3**	**-1.1**
JMK				*e*S	**Sn**	**17 27 46.4**	**-3.7**
ASAJ	**Asahikawa**	**3.62**	**333**	Pn	**Pn**	**17 27 12.6**	**+0.9**
	comp=Z,4.5nm,0.3s,baz=199,slow=16,SNR=43						
ASAJ				Sn	**Sn**	**17 27 53.4**	**-0.8**
	comp=Z,7.3nm,0.3s,baz=90,slow=20,SNR=11						
ASAJ				LR	LR	17 28 57.7	
	comp=Z,5.1nm,18.3s,baz=130,slow=45						
ASAJ	**Asahikawa**	**3.62**	**333**	*e*Pn	**Pn**	**17 27 12.1**	**+0.4**
ASAJ				Sn	**Sn**	**17 27 53.4**	**-0.8**
KUR	**Kuril'sk**	**4.82**	**26**	*e*P	**Pn**	**17 27 27.3**	**-0.9**
KUR				*e*S	**Sn**	**17 28 20.2**	**-3.6**
KUR				pmax	pmax		
	comp=Z,49nm,0.3s						
KUR				pmax	pmax		
	comp=E,18nm,0.2s						
KUR				pmax	pmax		
	comp=N,11nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.22**	**346**	*e*P	**Pn**	**17 27 51.1**	**+3.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS				MLR	MLR		
	comp=Z,600nm,12.0s						
YSS	**Yuzh-Sakhalins**	**6.22**	**346**	*e*Pn	**Pn**	**17 27 48.6**	**+1.1**
MJAR	**Matsushiro Ar**	**6.82**	**232**	Pn	**Pn**	**17 27 55.4**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=39,slow=12,SNR=59						
MJAR				Sn	**Sn**	**17 29 12.6**	**-0.7**
	baz=45,slow=19,SNR=2.4						
MJAR				LR	LR	17 30 45.5	
	comp=Z,150nm,20.6s,baz=40,slow=40						
MAJO	**Matsushiro**	**6.82**	**232**	*e*P	**Pn**	**17 27 55.3**	**-0.5**
MAJO	**Matsushiro**	**6.82**	**232**	*e*Pn	**Pn**	**17 27 55.3**	**-0.5**
MAJO				*e*Sn	**Sn**	**17 29 12.6**	**-0.7**
MAT	**Matsushiro**	**6.82**	**232**	P	**Pn**	**17 27 55.0**	**-0.8**
MAT				*e*S	**Sn**	**17 29 10.3**	**-3.0**
MJB9	**Matsu-Tunnel**	**6.82**	**232**	*e*Pn	**Pn**	**17 27 55.6**	**-0.1**
INU	**Inuyama**	**8.34**	**231**	*e*Pn	**Pn**	**17 28 16.1**	**-0.4**
JHJ	**Hachijo-jima 2**	**9.80**	**209**	LR	LR	17 32 31.6	
	comp=Z,104nm,18.0s,baz=58,slow=43						
VLA	**Vladivostok**	**9.94**	**287**	*e*P	**Pn**	**17 28 38.1**	**-0.3**
TYV	**Tymovskoe**	**10.06**	**352**	*e*P	Pn	17 28 48.4	+8.3
TYV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**10.08**	**293**	Pn	**Pn**	**17 28 40.0**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=101,slow=13,SNR=6.2						
USRK				LR	LR	17 32 33.4	
	comp=Z,341nm,21.8s,baz=130,slow=38						
GRNR	**Gornyy**	**11.48**	**332**	*e*P	**Pn**	**17 29 01.0**	**+1.5**
MDJ	**Mudanjiang**	**11.85**	**293**	*e*Pn	**Pn**	**17 29 05.7**	**+1.2**
KLR	**Kul'dur**	**12.45**	**316**	Pn	**Pn**	**17 29 13.0**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=117,slow=15,SNR=8.6						
KLR	**Kul'dur**	**12.45**	**316**	*e*P	**Pn**	**17 29 12.9**	**+0.2**
NKL	**Nikolayevsk**	**12.56**	**348**	*e*P	**Pn**	**17 29 13.2**	**-1.0**
NKL				pmax	pmax		
	comp=N,13nm,1.0s						
NKL				pmax	pmax		
	comp=Z,15nm,1.0s						
NKL				MLR	MLR		
	comp=Z,450nm,16.0s						
KSRS	**Korea Array**	**13.62**	**261**	Pn	**Pn**	**17 29 28.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=77,slow=12,SNR=7.1						
JNU	**Nakatsue**	**13.64**	**240**	Pn	**Pn**	**17 29 27.7**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=61,slow=4.6,SNR=8.1						
JNU				LR	LR	17 35 09.3	
	comp=Z,127nm,21.2s,baz=20,slow=39						
KSAR	**Wonju Array Be**	**13.66**	**261**	P	**Pn**	**17 29 28.8**	**-0.5**
KSAR	**Wonju Array Be**	**13.66**	**261**	Pn	**Pn**	**17 29 28.8**	**-0.5**
TJN	**Taejon**	**14.44**	**257**	*e*P	**Pn**	**17 29 40.4**	**+0.4**
PETK	**Petropavlovsk-**	**14.96**	**31**	Pn	**Pn**	**17 29 44.6**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=195,slow=10,SNR=3.8						
ZEA	**Zeya**	**17.47**	**323**	*e*P	**Pn**	**17 30 18.2**	**-1.0**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,14.0s						
ZEA				MLR	MLR		
	comp=N,300nm,15.0s						
MA2	**Magadan**	**19.03**	**9**	P	**Pn**	**17 30 40.2**	**+2.0**
	comp=N,0.2nm,0.3s,baz=186,slow=10,SNR=9.3						
TIA	**Tai'an**	**22.18**	**267**	P	**P**	**17 31 08.3**	**-3.5**
TIA				pmax	pmax		
	comp=N,9.0nm,1.3s						
SEY	**Seymchan**	**22.49**	**9**	P	**P**	**17 31 13.8**	**-0.9**
	comp=N,3.6nm,0.9s,baz=187,slow=8.3,SNR=20						
SEY	**Senchan**	**22.49**	**9**	*ce*P	**P**	**17 31 14.3**	**-0.5**
YAK	**Yakutsk**	**23.05**	**342**	P	**P**	**17 31 20.5**	**-0.1**
	comp=N,5.6nm,0.3s,baz=136,slow=1.6,SNR=5.2						
YAK	**Yakutsk**	**23.05**	**342**	*e*P	**P**	**17 31 17.4**	**-3.2**
YAK				*e**PP	**sP**	**17 31 25.2**	**-1.0**
YAK				*e*S	**S**	**17 35 26.4**	**-4.5**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.6s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,123nm,4.4s						
YAK				pmax	pmax		
	comp=E,64nm,4.3s						
YAK				pmax	pmax		
	comp=N,73nm,5.1s						
YAK				smax	smax		
	comp=N,72nm,1.5s						
YAK				smax	smax		
	comp=E,58nm,1.6s						
YAK				MLR	MLR		
	comp=Z,67nm,8.0s						
YAK				MLR	MLR		
	comp=N,147nm,14.0s						
YAK				MLR	MLR		
	comp=E,100nm,14.0s						
YAK	**Yakutsk**	**23.05**	**342**	*e*P	**P**	**17 31 21.4**	**+0.8**
	comp=E,11nm,0.6s						
HHC	**Hu-ho-hao-te**	**25.13**	**281**	*e*P	**P**	**17 31 41.3**	**+0.7**
HHC				PP	**PnPn**	**17 32 15.8**	**+1.5**
HHC				S	**S**	**17 36 00.0**	**-5.1**
HHC				pmax	pmax		
	comp=E,17nm,1.0s						
HHC				pmax	pmax		
	comp=E,80nm,4.6s						
HHC				LR	LR		
	comp=E,140nm,9.4s						
HHC				LR	LR		
	comp=E,120nm,11.8s						
HHC				LR	LR		
	comp=E,120nm,10.6s						
BOD	**Bodaibo**	**25.95**	**321**	*e*P	**P**	**17 31 47.2**	**-0.6**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GUMO	**Guam**	**27.23**	**180**	LR	LR	17 41 03.0	
	comp=Z,34nm,20.4s,baz=115,slow=33						
ULN	**Ulaanbaatar**	**27.71**	**297**	*ce*P	**P**	**17 32 04.2**	**+0.2**
ULN				pmax	pmax		
	comp=Z,20nm,1.7s						
ULN	**Ulaanbaatar**	**27.71**	**297**	*e*P	**P**	**17 32 06.5**	**+2.5**
	comp=Z,12nm,1.1s						
SONA1	**Songino Array**	**28.15**	**297**	*e*P	**P**	**17 32 08.2**	**+0.3**
SONA0	**Songino Array**	**28.15**	**297**	*e*P	**P**	**17 32 08.2**	**+0.3**
SONM	**Songino Array**	**28.15**	**297**	P	**P**	**17 32 08.2**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=90,slow=7.8,SNR=20						
SONM				LR	LR	17 43 59.7	
	comp=Z,231nm,20.9s,baz=65,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	18 01 36.4	
	baz=330,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.26**	**132**	T

MLY	**Manley**	43.11	34	*e*P		P	17 34 17.5	+2.0	
	comp=Z,22nm,1.7s								
TOLK	**Toolik Lake Re**	43.76	29	*e*P		P	17 34 22.4	+1.7	
	comp=Z,8.1nm,1.1s								
MCK	**McKinley**	43.89	36	*e*P		P	17 34 22.9	+1.1	
MCK				pmax	pmax				
	comp=Z,11nm,1.2s								
MCK	**McKinley**	43.89	36	*e*P		P	17 34 22.9	+1.1	
	comp=Z,11nm,1.2s								
RND	**Reindeer**	43.93	36	*e*P		P	17 34 23.5	+1.3	
RND				pmax	pmax				
	comp=Z,24nm,1.6s								
RND	**Reindeer**	43.93	36	*e*P		P	17 34 23.5	+1.3	
	comp=Z,24nm,1.6s								
MDM	**Murphy Dome**	44.17	34	*e*P		P	17 34 25.9	+1.8	
	comp=Z,19nm,1.4s								
COLA	**College**	44.34	34	*e*P		P	17 34 25.9	+0.6	
COLA				pmax	pmax				
	comp=Z,4.0nm,1.2s								
MK01	**Makanchi Array**	44.47	299	*e*P		P	17 34 26.7	0.0	
MK31	**Makanchi Array**	44.47	299	*e*P		P	17 34 27.2	+0.5	
MK31	**Makanchi Array**	44.47	299	*e*P		P	17 34 27.2	+0.5	
MK32	**Makanchi Array**	44.47	299	*e*P		P	17 34 27.0	+0.3	
MKAR	**Makanchi Array**	44.47	299	P		P	17 34 27.0	+0.3	
	comp=Z,2.5nm,0.8s,baz=81,slow=9.7,SNR=24								
MKAR				LR	LR		17 54 35.2		
	comp=Z,143nm,18.2s,baz=80,slow=38								
MKAR	**Makanchi Array**	44.47	299	*e*P		P	17 34 27.2	+0.5	
	comp=Z,23nm,0.8s								
LSA	**Lhasa**	44.65	273	*e*P		P	17 34 29.4	+0.5	
LSA				pmax	pmax				
	comp=Z,11nm,1.5s								
LSA	**Lhasa**	44.65	273	*e*P		P	17 34 29.4	+0.5	
	comp=Z,11nm,1.5s								
MAKZ	**Makanchi**	44.67	300	*e*P		P	17 34 28.9	+0.6	
MAKZ				pmax	pmax				
	comp=Z,6.0nm,1.0s								
MAKZ	**Makanchi**	44.67	300	*e*P		P	17 34 28.9	+0.6	
	comp=Z,6.3nm,1.0s								
IL1	**Eielson Array**	44.75	34	*e*P		P	17 34 28.7	+0.1	
ILAR	**Eielson Array**	44.75	34	P		P	17 34 28.5	-0.2	
	comp=Z,3.1nm,1.0s,baz=266,slow=6.4,SNR=18								
ILB	**Eielson Array**	44.75	34	*e*P		P	17 34 29.4	+0.7	
CHTO	**Chiang Mai**	44.92	255	*e*P		P	17 34 31.6	+1.0	
CHTO				pmax	pmax				
	comp=Z,6.0nm,0.9s								
CHTO	**Chiang Mai**	44.92	255	*e*P		P	17 34 31.6	+1.0	
	comp=Z,5.9nm,0.9s								
CM31	**Chiang Mai Arr**	45.15	254	*e*P		P	17 34 33.5	+1.1	
CMAR	**Chiang Mai Arr**	45.15	254	P		P	17 34 33.2	+0.8	
	comp=Z,1.7nm,0.8s,baz=44,slow=7.6,SNR=15								
CMAR				PcP		PcP	17 36 11.0	-1.7	
	comp=Z,0.6nm,0.8s,baz=30,slow=3.4,SNR=3.7								
CM01	**Chiang Mai Arr**	45.16	254	*e*P		P	17 34 33.1	+0.6	
KURK	**Kurchatov**	45.78	306	*e*P		P	17 34 37.2	+0.2	
KURK				*e*			17 36 14.7		
KURK				pmax	pmax				
	comp=Z,19nm,1.3s								
KURK	**Kurchatov**	45.78	306	*e*P		P	17 34 37.2	+0.2	
	comp=Z,19nm,1.3s								
KURK				*e*PcP		PcP	17 36 14.7	+0.3	
KURBB	**Kurchatov Arra**	45.86	306	P		P	17 34 37.6	0.0	
	comp=Z,5.1nm,0.6s,baz=78,slow=8.5,SNR=42								
KURBB				PcP		PcP	17 36 14.7	0.0	
	comp=Z,1.2nm,0.8s,baz=78,slow=4.8,SNR=3.0								
TARG	**Taragay, Kyrgy**	49.20	294	*e*P		P	17 35 05.3	+1.1	
	comp=Z,3.7nm,0.9s								
JIRN	**Jiri**	49.43	274	*e*P		P	17 35 06.3	+0.2	
	comp=Z,9.7nm,0.5s								
GUN	**Gumba**	49.54	274	*e*P		P	17 35 07.2	+0.3	
	comp=Z,15nm,0.4s								
HYT	**Haines Junctio**	49.56	39	*e*P		P	17 35 08.0	+1.6	
	comp=Z,23nm,1.1s								
INK	**Inuvik**	49.68	29	P		P	17 35 08.2	+1.2	
	comp=Z,3.7nm,0.9s,baz=274,slow=6.6,SNR=16								
INK	**Inuvik**	49.68	29	*e*P		P	17 35 08.2	+1.2	
INK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
INK	**Inuvik**	49.68	29	*e*P		P	17 35 08.2	+1.2	
	comp=Z,5.4nm,0.9s								
BVAR	**Borovoye Array**	50.04	311	P		P	17 35 10.6	+0.6	
	comp=Z,2.0nm,0.6s,baz=70,slow=8.6,SNR=15								
BVAR				LR		LR	17 58 09.6		
	comp=Z,139nm,18.4s,baz=78,slow=38								
KKN	**Kakani**	50.05	274	*e*P		P	17 35 10.5	-0.2	
	comp=Z,22nm,1.2s								
PKI	**Pulchoki**	50.07	274	*e*P		P	17 35 10.9	0.0	
	comp=Z,7.4nm,0.7s								
PKIN	**Phulchoki**	50.08	274	*e*P		P	17 35 10.6	-0.3	
	comp=Z,7.0nm,0.7s								
BRVK	**Borovoye**	50.09	311	*ce*P		P	17 35 09.5	-0.9	
BRVK				pmax	pmax				
	comp=Z,22nm,1.7s								
BRVK	**Borovoye**	50.09	311	*e*P		P	17 35 11.1	+0.7	
	comp=Z,9.2nm,1.3s								
PMG	**Port Moresby**	50.12	177	*e*P		P	17 35 12.8	+1.9	
PMG				pmax	pmax				
	comp=Z,43nm,1.0s								
DMN	**Daman**	50.28	274	*e*P		P	17 35 12.9	+0.5	
	comp=Z,32nm,1.4s								
DANN	**Dangsing**	50.91	276	*e*P		P	17 35 18.2	+0.9	
AAK	**Ala-Archa**	51.11	297	LR		LR	17 58 02.6		
	comp=Z,84nm,21.2s,baz=62,slow=37								
AAK	**Ala-Archa**	51.11	297	*e*P		P	17 35 18.2	-0.2	
AAK				pmax	pmax				
	comp=Z,2.0nm,1.2s								
AAK	**Ala-Archa**	51.11	297	*e*P		P	17 35 18.9	+0.5	
	comp=Z,5.0nm,1.3s								
KOLN	**Koldanda**	51.33	275	*e*P		P	17 35 20.5	+0.2	
	comp=Z,27nm,1.3s								
KSH	**Kashi**	51.37	292	*e*P		P	17 35 24.6	+4.2	
PYUN	**Piuthan**	51.62	276	*e*P		P	17 35 22.7	+0.2	
KULM	**Kulim**	53.12	240	*e*P		P	17 35 34.1	+0.7	
	comp=Z,8.1nm,0.8s								
KKAR	**Karatay Array**	53.59	299	*e*P		P	17 35 36.8	+0.1	
KKAR	**Karatay Array**	53.59	299	*e*P		P	17 35 36.8	+0.1	
SVE	**Sverdlovsk**	54.08	318	*e*P		P	17 35 41.0	+1.0	
ARU	**Arti**	55.29	318	*e*P		P	17 35 48.8	0.0	
ARU				pmax	pmax				
	comp=Z,30nm,1.8s								
ARU	**Arti**	55.29	318	*e*P		P	17 35 48.8	0.0	
	comp=Z,30nm,1.8s								
PSI	**Prapat**	56.11	240	P		P	17 35 55.4	+0.1	
	comp=Z,3.7nm,0.4s,baz=40,slow=12,SNR=6.6								
ABKAR	**Akbulak array**	57.55	309	*e*P		P	17 36 05.5	+0.5	
	comp=Z,24nm,0.7s								
AKTO	**Aktyubinsk**	58.13	311	P		P	17 36 09.2	+0.1	
	comp=Z,1.7nm,0.6s,baz=84,slow=9.2,SNR=3.4								
AKTO				LR		LR	18 02 57.3		
	comp=Z,127nm,20.2s,baz=49,slow=38								
RES	**Resolute Bay**	58.14	16	*e*P		P	17 36 09.7	+1.0	
RES				pmax	pmax				
	comp=Z,10.0nm,0.8s								
RES	**Resolute Bay**	58.14	16	*e*P		P	17 36 09.7	+1.0	
	comp=Z,9.8nm,0.8s								
KBL	**Kabul**	58.60	290	*e*P		P	17 36 12.4	-0.4	
KBL				pmax	pmax				
	comp=Z,10.0nm,1.1s								
KBL	**Kabul**	58.60	290	*e*P		P	17 36 12.4	-0.4	
	comp=Z,9.6nm,1.1s								
YKA	**Yellowknife Ar**	59.07	32	P		P	17 36 15.9	+0.5	
	comp=Z,1.1nm,0.7s,baz=298,slow=6.5,SNR=20								
YKA				PcP		PcP	17 37 04.5	+0.5	
	comp=Z,0.5nm,0.7s,baz=302,slow=4.1,SNR=5.4								
YKB5	**Yellowknife Ar**	59.07	32	*e*PcP		PcP	17 37 04.5	+0.5	
WR1	**Warramunga Arr**	61.35	191	*e*P		P	17 36 30.4	-1.0	
	comp=Z,62nm,1.8s								
WRA	**Warramunga Arr**	61.35	191	P		P	17 36 30.4	-1.0	
	comp=Z,4.6nm,0.7s,baz=11,slow=7.2,SNR=35								
WRA	**Warramunga Arr**	61.35	191	*i* P		P	17 36 30.3	-1.1	
WRA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
GEYT	**Alibeck**	64.34	299	P		P	17 36 51.6	+0.2	
	comp=Z,2.1nm,0.7s,baz=321,slow=3.8,SNR=8.9								
GEYT				LR		LR	18 07 20.7		
	comp=Z,183nm,18.9s,baz=350,slow=38								
AS01	**Alice Springs**	65.06	191	*e*P		P	17 36 55.5	-0.5	
AS31	**Alice Springs**	65.07	191	*e*P		P	17 36 55.0	-1.0	
	comp=Z,6.8nm,1.8s								
ASAR	**Alice Springs**	65.07	191	P		P	17 36 55.0	-1.0	
	comp=Z,1.8nm,0.6s,baz=11,slow=5.9,SNR=37								
YBH	**Yreka Blue Hor**	65.85	55	P		P	17 37 02.1	+1.0	
	comp=Z,0.8nm,0.4s,baz=309,slow=6.5,SNR=2.5								
OBN	**Obninsk**	66.60	324	*e*P		P	17 37 06.1	+0.5	
OBN							17 37 35.0		
OBN				*e*SS		SS	17 50 19.3	+6.8	
OBN				pmax	pmax				
	comp=Z,5.0nm,0.8s								
OBN				MLR	MLR				
	comp=Z,97nm,14.0s								
FIA0	**FINESS Array S**	66.63	333	*e*P		P	17 37 05.7	0.0	
FIA0	**FINESS Array S**	66.63	333	*e*P		P	17 37 05.7	0.0	
FINES	**FINESS Array B**	66.63	333	P		P	17 37 05.7	0.0	
	comp=Z,2.6nm,0.6s,baz=45,slow=7.4,SNR=15								
FINES				LR		LR	18 09 19.2		
	comp=Z,130nm,18.4s,baz=32,slow=39								
SUMG	**Summit**	66.78	1	*e*P		P	17 37 07.9	+1.0	
SUMG				pmax	pmax				
	comp=Z,39nm,2.0s								
SUMG	**Summit**	66.78	1	*e*P		P	17 37 07.9	+1.0	
	comp=Z,39nm,2.0s								
AFI	**Afiamalu**	67.70	134	LR		LR	18 05 41.2		
	comp=Z,15nm,18.9s,baz=298,slow=35								
VSR	**Storozhevoye**	67.79	319	*e*P		P	17 37 12.6	-0.6	
VSR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
FFC	**Flin Flon**	68.96	35	*i* P		P	17 37 21.9	+1.4	
GOF	**Gofitskoye**	69.52	312	*e*P		P	17 37 25.2	+1.1	
NCK	**Nalchik**	70.16	311	*e*P		P	17 37 29.3	+1.1	
NCK				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KIV	**Kislovodsk**	70.40	311	*e*P		P	17 37 29.9	+0.2	
KIV				pmax	pmax				
	comp=Z,23nm,1.0s								
KIV	**Kislovodsk**	70.40	311	*e*P		P	17 37 31.7	+2.0	
	comp=Z,26nm,1.1s								
KBZ	**Khabaz**	70.42	311	P		P	17 37 30.9	+1.2	
	comp=Z,6.8nm,0.9s,baz=76,slow=1.7,SNR=14								
KBZ				LR		LR	18 10 36.7		
	comp=Z,90nm,19.4s,baz=14,slow=38								
ZEI	**Tsey**	70.42	310	*e*P		P	17 37 29.4	-0.6	
ZEI				pmax	pmax				
	comp=Z,5.0nm,0.8s								
NV01	**Mina Array Sit**	70.51	56	*e*P		P	17 37 31.6	+1.0	
NVAR	**Mina Array Bea**	70.51	56	P		P	17 37 31.6	+1.0	
	comp=Z,4.0nm,0.3s,baz=297,slow=6.0,SNR=6.4								
NEY	**Neytrino**	70.81	311	*e*P		P	17 37 32.3	-0.1	
NEY				pmax	pmax				
	comp=Z,2.0nm,1.2s								
MCID	**Moose Creek**	71.20	48	*e*P		P	17 37 37.1	+2.3	
H17A	**Grant Village**	71.41	47	*e*P		P	17 37 38.3	+2.3	
	comp=Z,3.7nm,0.9s								
GNI	**Garni**	71.54	307	*e*P		P	17 37 37.5	+0.7	
GNI				pmax	pmax				
	comp=Z,23nm,1.3s								
NB2	**NORSAR Subarra**	71.62	338	P		P	17 37 36.8	+0.1	
	comp=Z,1.0nm,0.7s,baz=35,slow=6.5								
NB200	**NORSAR Array S**	71.62	338	*e*P		P	17 37 36.5	-0.2	
NOA	**NORSAR Array B**	71.62	338	P		P	17 37 36.5	-0.2	
	comp=Z,1.6nm,0.8s,baz=36,slow=6.1,SNR=4.8								
NOA				LR		LR	18 12 28.0		
	comp=Z,70nm,19.9s,baz=35,slow=39								
HFS	**Hagfors**	71.64	337	P		P	17 37 36.9	+0.1	
	comp=Z,1.4nm,0.6s,baz=56,slow=5.4,SNR=4.6								
HVU	**Hansel Valley**	71.81	50	*e*P		P	17 37 38.6	+0.2	
HVU				pmax	pmax				
	comp=Z,3.0nm,0.9s								
HVU	**Hansel Valley**	71.81	50	*e*P		P	17 37 38.5	+0.2	
	comp=Z,2.8nm,0.9s								
DUG	**Dugway, Tooele**	72.78	52	*e*P		P	17 37 45.3	+1.1	
DUG				pmax	pmax				
	comp=Z,3.0nm,0.8s								
DUG	**Dugway, Tooele**	72.78	52	*e*P		P	17 37 45.3	+1.1	
	comp=Z,2.6nm,0.8s								
AKASG	**Malin Array Be**	72.86	323	P		P	17 37 44.3	+0.1	
	comp=Z,2.8nm,0.6s,baz=43,slow=6.3,SNR=16								
AKASG	**Malin Array Be**	72.86	323	*i* P		P	17 37 44.2	0.0	
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.6s								
AKBB	**Malin Array Si**	72.86	323	*e*P		P	17 37 44.3	+0.1	
AKBB				pmax	pmax				
	comp=Z,4.0nm,0.8s								
AKBB	**Malin Array Si**	72.86	323	*e*P		P	17 37 44.3	+0.1	
	comp=Z,3.7nm,0.8s								
KIEV	**Kiev**	72.87	323	*e*P		P	17 37 44.0	-0.3	
KIEV				pmax	pmax				
	comp=Z,5.0nm,1.3s								
PD31	**Pinedale Array**	73.02	48	*e*P		P	17 37 45.8	+0.1	
PDAR	**Pinedale Array**	73.02	48	P		P	17 37 45.7	+0.1	
	comp=Z,0.5nm,0.6s,baz=300,slow=2.7,SNR=6.8								
UOSS	**Minazif**	73.19	289	*e*P		P	17 37 47.1	+0.5	
	comp=Z,8.9nm,0.8s								
MWC	**Mount Wilson**	73.23	59	*e*P		P	17 37 46.9	-0.1	
MWC	**Mount Wilson**	73.23	59	*e*P		P	17 37 46.9	-0.1	
CIAC	**Catalina I. Ai**	73.51	60	*e*P		P	17 37 46.3	-2.1	
CIAC				*e*pP		P	17 37 48.5	+0.1	
DPP	**Dos Picos Cty**	74.73	60	*e*P		P	17 37 56.3	+0.7	
SRU	**San Rafael Swe**	74.83	51	*e*P		P	17 37 57.2	+0.9	
SRU				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SRU	**San Rafael Swe**	74.83	51	*e*P		P	17 37 57.2	+0.9	
	comp=Z,5.5nm,0.9s								
PV10	**Paradox Valley**	76.19	51	*e*P		P	17 38 05.9	+1.7	
BUR08	**Bucovina Ar. S**	76.89	323	*e*P		P	17 38 08.9	+1.1	
BUR04	**Bucovina Ar. S**	76.90	323	*e*P		P	17 38 08.5	+0.6	
BURAR	**Bucovina Array**	76.90	323	*i*P		P	17 38 08.3	+0.4	
TESR	**Tescani**	77.05	321	*i*P		P	17 38 09.0	+0.4	
CFR	**Carcaliu**	77.30	320	*i*P		P	17 38 08.8	-1.1	
BR101	**Keskin Array S**	78.26	313	*e*P		P	17 38 15.7	0.0	
BRTR	**Keskin Array B**	78.26	313	P		P	17 38 15.7	0.0	
	comp=Z,1.5nm,0.9s,baz=108,slow=4.0,SNR=5.8								
BRTR				LR		LR	18 18 09.1		
	comp=Z,38nm,18.8s,baz=352,slow=40								
BRTR	**Keskin Array B**	78.26	313	*i* P		P	17 38 15.6	-0.1	
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
VOIR		78.59	321	*i*P		P	17 38 18.6	+1.3	
BR231	**Keskin MP Arra**	78.66	313	*e*P		P	17 38 17.3	-0.5	
VYHS	**Vyhne**	79.02	327	*e*P		P	17 38 20.8	+1.3	
VYHS	**Vyhne**	79.02	327	*e*P		P	17 38 20.8	+1.3	
CLL	**Collm**	79.03	332	*i* P		P	17 38 19.4	0.0	
CLL				*e*			17 38 23.0		
CLL				pmax	pmax				
	comp=Z,7.0nm,1.2s								
CLL	**Collm**	79.03	332	*i* P		P	17 38 19.4	0.0	
	comp=Z,7.0nm,1.2s								
CLL				*e*			17 38 23.0		
ANMO	**Albuquerque**	80.03	52	*ce*P		P	17 38 26.3	+0.8	
ANMO				pmax	pmax				
	comp=Z,4.0nm,1.7s								
EKA	**Eskdalemuir Ar**	80.32	342	P		P	17 38 25.7	-0.7	
	comp=Z,0.8nm,0.6s,baz=24,slow=7.4,SNR=3.8								
KHC	**Kasperske Hory**	80.60	330	*e*P		P	17 38 29.2	+1.1	
KHC	**Kasperske Hory**	80.60	330	*e*P		P	17 38 29.2	+1.1	
KHC	**Kasperske Hory**	80.60	330	*e*P		P	17 38 29.3	+1.1	
	comp=Z,1.6nm,0.9s								
CONA	**Conrad Observa**	80.68	328	*i* P		P	17 38 30.3	+1.7	
	comp=Z,4.6nm,1.0s								
GERES	**GERESS Array B**	80.78	330	P		P	17 38 29.5	+0.3	
	comp=Z,0.9nm,0.7s,baz=28,slow=6.0,SNR=6.6								
GERES				LR		LR	18 18 13.4		
	comp=Z,103nm,18.6s,baz=10.0,slow=39								
GEA0	**GERESS Array S**	80.79	330	*e*P		P	17 38 29.4	+0.3	
SCHQ	**Schefferville**	80.83	18	LR		LR	18 16 33.4		
	comp=Z,30nm,20.4s,baz=324,slow=37								
VTS	**Vitosha**	81.61	321	*i* P		P	17 38 35.0	+1.3	
VTS	**Vitosha**	81.61	321	*e*P		P	17 38 35.0	+1.3	
VTS				pmax	pmax				
	comp=Z,10.0nm,1.3s								
VTS	**Vitosha**	81.61	321	*e*P		P	17 38 35.0	+1.3	
	comp=Z,10nm,1.3s								
RAYN	**Ar Rayn**	81.64	294	*e*P		P	17 38 34.7	+0.6	
	comp=Z,15nm,1.6s								
SOKA	**Soboth**	82.03	328	*i* P		P	17 38 36.1	+0.4	
	comp=Z,7.3nm,1.0s								
OBKA	**Obir**	82.36	328	*i* P		P	17 38 36.2	-1.3	
	comp=Z,0.4nm,0.4s								
KBA	**Koelnbreinsper**	82.37	329	*i* P		P	17 38 38.0	+0.4	
	comp=Z,3.7nm,0.8s								
MOTA	**Moosalm**	83.01	330	*i* P		P	17 38 41.8	+0.8	
	comp=Z,2.1nm,0.6s								
RETA	**Reutte**	83.02	331	*i* P		P	17 38 41.9	+1.0	
	comp=Z,1.0nm,0.5s								
PPT	**Papeete**	84.04	119	LR		LR	18 10 57.0		
	comp=Z,67nm,21.2s,baz=344,slow=32								
URZ	**Urewera**	84.13	155	LR		LR	18 10 25.7		
	comp=Z,69nm,19.6s,baz=2.0,slow=32								
TX31	**Lajitas Ar. Si**	85.62	55	*e*P		P	17 38 54.8	+0.3	
LTX	**Lajitas**	85.62	55	*e*P		P	17 38 54.9	+0.4	
LTX	**Lajitas**	85.62	55	*e*P		P	17 38 54.9	+0.4	
TXAR	**Lajitas Array**	85.62	55	P		P	17 38 54.9	+0.4	
	comp=Z,2.1nm,0.8s,baz=298,slow=2.7,SNR=15								
RPZ	**Rata Peaks**	87.49	161	LR		LR	18 15 24.9		
	comp=Z,31nm,19.2s,baz=277,slow=34								
KEST	**Kesra**	93.48	325	P		P	17 39 31.1	-0.3	
	comp=Z,1.9nm,0.7s,baz=53,slow=5.1,SNR=3.5								
SNAA	**Sanae**	145.26	197	PKPbc		PKPbc	17 45 51.1	-0.8	
	comp=Z,6.0nm,0.8s,baz=156,slow=2.5,SNR=5.0								

*ISCJB **14** 17:37:05.7±0.9, 41°.70N±0°.04×71°.93E±0°.04, h2km±6km,*
Error ellipse: s-maj=6.3km s-min=4.4km az=19.4
*SOME **14** 17:37:05.5, 41°.72N×71°.95E, h5km*
*KRNET **14** 17:37:06.5±0.1, 41°.70N×71°.96E, h20km, mb2.0*
*NNC **14** 17:37:06.0±0.8, 41°.74N×71°.93E, h0km, mb2.5, mpv2.1,*
Error ellipse: s-maj=6.0km s-min=4.7km az=91.0

ISC 14 17:37:06.6±1.4, **41.72N**±0°.04×**71.93E**±0°.03, **h21**km±4km, **n16**, σ0.896/30, **17C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	0.08	15	↓*i*	P		Pb	17 37 10.2	-0.6
	baz=10.0								
ARK				↓*i*	S		Sb	17 37 13.8	+0.1
	baz=10.0								
TOKL	**Toktogul**	0.73	72	↓*e*	P		Pb	17 37 19.9	-0.9
	baz=70								
TOKL				↓*i*	S		Sb	17 37 30.6	+0.2
	baz=70								
MNAS	**Manas**	0.88	29	↑	P		Pb	17 37 22.6	-0.6
	0.7nm,0.4s								
MNAS				↑	S		Sn	17 37 34.9	-1.2
	1.2nm,0.3s								
MNAS	**Manas**	0.88	29	↑*i*	P		Pn	17 37 23.0	-0.9
	baz=27								
MNAS				↑*i*	S		Sn	17 37 35.1	-1.0
	baz=27								
ARSB	**Arslanbob**	0.88	116	↑*e*	P		Pb	17 37 22.0	-1.3
	baz=16								
ARSB				↑*i*	S		Sb	17 37 34.5	-0.2
	baz=16								
AML	**Almayashu**	1.38	72	↓*i*	P		Pb	17 37 31.1	-0.8
	baz=71								
AML				↓*i*	S		Sb	17 37 49.8	+0.6
	baz=71								
MRKS	**Merke**	1.41	43	*e*	P		Pb	17 37 32.4	+0.2
	3.5nm,0.1s								
MRKS				*e*	S		Sb	17 37 51.5	+1.8
	12nm,0.5s								
IUG	**Iuzhnay**	1.48	287	*e*	P		Pb	17 37 33.2	-0.4
	22nm,0.2s								
IUG				*e*	S		Sb	17 37 52.7	+0.7
	20nm,0.3s								
EKS2	**Erkin-Say**	1.66	55	↑*e*	P		Pb	17 37 36.9	+0.3
	baz=54								
EKS2				↑*i*	S		Sb	17 37 57.9	+0.7
	baz=54								
KK31	**Karatay Array**	1.74	323	↑	P		Pb	17 37 36.9	-1.0
	1.0nm,0.3s,baz=133,slow=17,SNR=20								
KK31				↑	S		Sb	17 37 59.9	+0.6
	3.2nm,0.4s,baz=139,slow=30,SNR=11								
UCH	**Uchtor**	1.99	74	↓*e*	P		Pb	17 37 41.7	-0.7
	baz=74								
UCH				↓*i*	S		Sb	17 38 06.3	-0.6
	baz=74								
BRLS	**Borolday**	2.03	311	*e*	P		Pb	17 37 42.2	-0.6
	1.0nm,0.3s								
BRLS				*e*	S		Sb	17 38 08.1	+0.4
	5.1nm,0.3s								
SFK	**Sufi-Kurgan**	2.08	145	↑Pn			Pb	17 37 42.9	-0.8
	0.3nm,0.3s								
SFK				↑Sn			Sb	17 38 10.0	+0.8
	3.3nm,0.3s								
SFK	**Sufi-Kurgan**	2.08	145	↑*i*	P		Pb	17 37 42.5	-1.2
	baz=45								
SFK				↑*i*	S		Sn	17 38 07.3	+1.5
	baz=45								
AAK	**Ala-Archa**	2.11	63	↓Pn			Pb	17 37 43.7	-0.6
	1.5nm,1.0s								
AAK				↑Lg			Lg	17 38 12.0	
	1.0nm,0.8s								
TKM2	**Tokmak 2**	2.97	65	↑Pn			Pn	17

TOA1	**Torodi Ar. Sit**	**89.55**	**283**	*eP*	**P**	**17 54 02.0**	**-1.0**
SCM	**Sheep Creek Mo**	**93.79**	**25**	*eP*	**P**	**17 54 19.5**	**-2.3**
	56nm,1.6s						

DJA 14 17:46:11.4±1.4, 9°S±5'×11°7E±', h24km±15km, M3.7/12, MLv3.7/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.28**	**63**	P	Pn	17 46 33.9	+0.1
PLAI				S	Sb	17 46 50.6	-0.3
IGBI	**Denpasar**	**1.57**	**292**	P	Pn	17 46 37.8	0.0
IGBI				S	Sn	17 46 57.9	+0.5
DNP	**Denpasar**	**1.57**	**297**	P	Pn	17 46 37.9	+0.1
DNP				S	Sn	17 46 58.1	+0.7
SRBI	**Singaraja**	**1.92**	**313**	P	Pn	17 46 42.5	0.0
JAGI	**Jajag, Banyuwa**	**2.61**	**291**	P	Pn	17 46 51.9	-0.2
WBSI	**Waikabubak, Su**	**2.74**	**95**	P	Pn	17 46 54.1	+0.1
ABJI	**Asem Bagus**	**2.85**	**304**	P	Pn	17 46 55.4	0.0
BLJI	**Banyuglugur**	**3.42**	**299**	P	Pn	17 47 03.2	0.0
KMMI	**Kalianget**	**3.52**	**312**	P	Pn	17 47 05.2	+0.6

*ISCJB **14** 17:47:18.1±1.1, 10°.8N±0°.1×94°.3E±0°.2, h11km, mb3.4/7, Error ellipse: s-maj=28.4km s-min=16.7km az=154.3*
*IDC **14** 17:47:18.1±1.5, 10°.77N×94°.29E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.4/67, mbtmp3.4/8, ML2.8/1, Error ellipse: s-maj=51.2km s-min=21.4km az=59.0*

ISC 14 17:47:19.7±1.4, 10°.8N±0°.2×94°.3E±0°.2, h11km, n8, σ0.967/8, mb3.4/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.90**	**30**	Pn	**Pn**	**17 49 28.8**	**+0.4**
	0.0nm,0.3s,baz=218,slow=18,SNR=3.4						
MKAR	**Makanchi Array**	**37.33**	**346**	P	**P**	**17 54 31.3**	**-0.8**
	0.2nm,0.7s,baz=167,slow=7.0,SNR=2.6						
SONM	**Songino Array**	**38.35**	**13**	P	**P**	**17 54 40.3**	**-0.6**
	0.1nm,0.4s,baz=186,slow=5.8,SNR=2.1						
KURBB	**Kurchatov Arra**	**41.81**	**345**	P	**P**	**17 55 09.4**	**0.0**
	0.2nm,0.6s,baz=141,slow=6.0,SNR=2.5						
GEYT	**Alibeck**	**42.19**	**316**	P	**P**	**17 55 13.3**	**+0.6**
	1.3nm,0.6s,baz=141,slow=5.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**43.74**	**352**	P	**P**	**17 55 24.8**	**-0.2**
	0.3nm,0.4s,baz=193,slow=5.9,SNR=2.0						
WRA	**Warramunga Arr**	**49.87**	**128**	P	**P**	**17 56 14.1**	**+0.6**
	1.1nm,0.8s,baz=307,slow=8.8,SNR=3.6						
ASAR	**Alice Springs**	**51.70**	**132**	P	**P**	**17 56 26.7**	**-0.6**
	1.2nm,0.9s,baz=300,slow=6.7,SNR=5.2						

MEX 14 17:52:47.2±0.3, 14°.85N×93°.23W, h32km±9km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.85**	**1**	*i* P	Pn	17 53 00.9	-2.0
PCIG				*e*S	Sn	17 53 11.4	-2.8
CCIG	**Comitan**	**1.77**	**36**	*i* P	Pn	17 53 14.3	-1.5
CCIG				*e*S	Sn	17 53 35.2	-2.1
TGIG		**1.92**	**3**	*i* P	Pn	17 53 15.9	-1.8
TGIG				*i* S	Sn	17 53 37.6	-3.2

*JMA **14** 17:57:48.9±0.1, 23°.96N×122°.29E, h31km±5km, M1.9*
*ISCJB **14** 17:57:49.4±0.4, 24°.09N±0°.02×122°.26E±0°.02, h23km±4km, Error ellipse: s-maj=4.1km s-min=2.8km az=148.6*
*TAP **14** 17:57:49.9, 24°.14N×122°.26E, h32km, ML2.7, C*

ISC 14 17:57:48.2±1.2, 24°.05N±0°.02×122°.29E±0°.02, h22km±5km, n67, σ0.965/94, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.52**	**344**	*e*P	**Pb**	**17 57 59.2**	**+0.5**
	baz=339						
EOS1				*e*S	**Sb**	**17 58 06.2**	**+0.4**
	baz=339						
ENAH	**Nanao**	**0.59**	**313**	*e*P	**Pb**	**17 58 00.7**	**+0.7**
	baz=314						
NANB	**Nanao**	**0.62**	**308**	*e*P	**Pb**	**17 58 00.7**	**+0.2**
	baz=309						
NANB				*e*S	**Sb**	**17 58 08.6**	**-0.2**
	baz=309						
ENA	**Nanau**	**0.63**	**307**	*e*P	**Pb**	**17 58 00.8**	**+0.2**
	baz=309						
ENA				*e*S	**Sb**	**17 58 08.7**	**-0.3**
	baz=309						
TWD	**Chiawan**	**0.63**	**273**	*e*P	**Pn**	**17 58 02.0**	**+0.1**
	baz=264						
NACB	**Ninganchiao**	**0.65**	**281**	*e*P	**Pn**	**17 58 01.8**	**-0.3**
	baz=260						
NACB				*e*S	**Sb**	**17 58 10.7**	**+1.2**
	baz=260						
TWC	**Suao**	**0.69**	**324**	*e*P	**Pb**	**17 58 01.2**	**-0.3**
	baz=321						
TWC				*e*S	**Sb**	**17 58 09.2**	**-1.4**
	baz=321						
JYNG	**Yonagunijimaku**	**0.72**	**56**	P	**Pn**	**17 58 03.4**	**+0.3**
JYNG				S	**Sn**	**17 58 13.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.78**	**58**	*e*P	**Pn**	**17 58 04.5**	**+0.5**
	baz=64						
YOJ				*e*S	**Sn**	**17 58 14.7**	**-0.2**
	baz=64						
YOJ	**Yonaguni jima**	**0.78**	**58**	P	**Pn**	**17 58 04.3**	**+0.4**
YOJ				S	**Sn**	**17 58 14.7**	**-0.2**
ESL	**Shilin**	**0.82**	**254**	*e*P	**Pn**	**17 58 04.5**	**+0.1**
	baz=236						
ESL				*e*S	**Sn**	**17 58 15.7**	**-0.1**
	baz=236						
ILA	**Ilan**	**0.87**	**326**	*e*P	**Pb**	**17 58 05.0**	**+0.4**
	baz=323						
TWE	**Neicheng**	**0.88**	**320**	P	**Pn**	**17 58 05.5**	**+0.2**
	baz=321						
TWE				*e*S	**Sb**	**17 58 15.5**	**-0.5**
	baz=321						
ENTT	**Nioudou**	**0.88**	**312**	*e*P	**Pn**	**17 58 05.5**	**+0.1**
	baz=316						
ENTT				*e*S	**Sb**	**17 58 16.4**	**+0.1**
	baz=316						
NNSB	**Datong**	**0.91**	**295**	*e*P	**Pn**	**17 58 06.1**	**+0.3**
	baz=278						
NNSH	**Datong**	**0.91**	**295**	*e*P	**Pb**	**17 58 04.6**	**-0.8**
	baz=289						
NNS	**Nan Shan**	**0.92**	**295**	*e*P	**Pn**	**17 58 06.2**	**+0.2**
	baz=279						
HGSD	**Ruisui**	**0.97**	**235**	*e*P	**Pn**	**17 58 07.0**	**+0.5**
	baz=230						
TWB1	**Santiao Chiao**	**0.99**	**344**	*e*P	**Pb**	**17 58 06.1**	**-0.7**
	baz=343						
TIPB	**Shuangxi**	**1.01**	**335**	P	**Pb**	**17 58 06.7**	**-0.4**
	baz=333						
TIPB				S	**Sb**	**17 58 18.6**	**-1.4**
	baz=333						
CHGB	**Renai**	**1.02**	**271**	P	**Pn**	**17 58 07.6**	**+0.2**
	baz=255						
CHGB				*e*S	**Sn**	**17 58 20.9**	**-0.3**
	baz=255						
NWLT	**Wulai**	**1.02**	**316**	*e*P	**Pn**	**17 58 08.5**	**+1.2**
	baz=312						
NWLT				*e*S	**Sb**	**17 58 20.8**	**+0.6**
	baz=312						
OWD	**Renai**	**1.02**	**265**	*e*P	**Pn**	**17 58 07.6**	**+0.2**
	baz=260						
OWD				*e*S	**Sn**	**17 58 20.9**	**-0.3**
	baz=260						
EHY	**Hungye**	**1.04**	**239**	*e*P	**Pn**	**17 58 08.1**	**+0.6**
	baz=247						
YHNB	**Yeheng**	**1.04**	**307**	*e*P	**Pn**	**17 58 08.1**	**+0.6**
	baz=291						
YHNB				*e*S	**Sb**	**17 58 20.8**	**+0.1**
	baz=291						
NWF	**Wu-fen Shan**	**1.12**	**336**	*e*P	**Pn**	**17 58 08.8**	**+0.1**
	baz=348						
WFSB	**Wu-fen Shan**	**1.12**	**336**	*e*P	**Pn**	**17 58 08.6**	**0.0**
	baz=347						
WFSB				*e*S	**Sb**	**17 58 22.9**	**-0.1**
	baz=347						
YULB	**Yu-li**	**1.12**	**234**	*e*P	**Pb**	**17 58 08.9**	**0.0**
	baz=245						
YULB				*e*S	**Sn**	**17 58 23.8**	**+0.5**
	baz=245						
TWA	**Mucha**	**1.13**	**325**	*e*P	**Pb**	**17 58 09.9**	**+0.8**
	baz=323						
TWF1	**Yuli**	**1.14**	**233**	*e*P	**Pb**	**17 58 09.3**	**0.0**
	baz=220						
TATO	**Taipei**	**1.18**	**322**	*e*P	**Pb**	**17 58 10.1**	**+0.2**
	baz=319						
WLTB	**Daxi**	**1.24**	**311**	*e*P	**Pb**	**17 58 11.7**	**+0.8**
	baz=307						
FULB	**Fuli**	**1.24**	**227**	*e*P	**Pb**	**17 58 10.4**	**-0.7**
	baz=212						
DPDB	**Guoxing**	**1.25**	**270**	*e*P	**Pb**	**17 58 11.3**	**+0.3**
	baz=265						
SSLB	**Suanglung**	**1.25**	**258**	*e*P	**Pb**	**17 58 10.7**	**-0.4**
	baz=245						
YM07	**YM07**	**1.28**	**332**	*e*P	**Pn**	**17 58 09.7**	**-1.1**
	baz=342						
YM07				*e*S	**Sn**	**17 58 27.1**	**-0.2**
	baz=342						
SMLT	**Sun Moon Lake**	**1.28**	**263**	*e*P	**Pb**	**17 58 11.3**	**-0.4**
	baz=259						
SMLT				*e*S	**Sb**	**17 58 27.7**	**0.0**
	baz=259						
YM10	**YM10**	**1.29**	**329**	*e*P	**Pn**	**17 58 11.4**	**+0.4**
	baz=341						
YM04	**YM04**	**1.30**	**328**	*e*P	**Pb**	**17 58 11.7**	**-0.2**
	baz=340						
YM08	**YM08**	**1.30**	**331**	*e*P	**Pb**	**17 58 12.9**	**+0.9**
	baz=343						
LIOB	**Emei**	**1.30**	**297**	*e*P	**Pb**	**17 58 12.5**	**+0.4**
	baz=294						
NSTT	**Nanjuang**	**1.31**	**297**	*e*P	**Pb**	**17 58 12.4**	**+0.3**
	baz=293						
YM03	**YM03**	**1.32**	**329**	*e*P	**Pn**	**17 58 11.8**	**+0.4**
	baz=341						
TYC	**Yuchr**	**1.32**	**264**	*e*P	**Pb**	**17 58 12.2**	**-0.1**
	baz=260						
YUS	**Yu-Shan**	**1.34**	**246**	*e*P	**Pb**	**17 58 13.1**	**0.0**
	baz=230						
YUS				*e*S	**Sb**	**17 58 30.3**	**+0.4**
	baz=230						
IRIF	**Iriomote-Funau**	**1.35**	**77**	P	**Pb**	**17 58 13.6**	**+0.8**
IRIF				*e*S	**Sb**	**17 58 32.6**	**+3.0**
TWQ1	**Liyutan**	**1.42**	**282**	*e*P	**Pb**	**17 58 14.3**	**+0.4**
	baz=279						
ELDTW	**Lidau**	**1.45**	**234**	*e*P	**Pn**	**17 58 13.3**	**+0.1**
	baz=219						
ALS	**Alishan**	**1.46**	**249**	*e*P	**Pb**	**17 58 14.8**	**0.0**
	baz=245						
ALS				*e*S	**Sb**	**17 58 33.0**	**-0.1**
	baz=245						
WNT	**Mingjian**	**1.48**	**264**	*e*P	**Pb**	**17 58 15.3**	**+0.3**
	baz=251						
TWH	**Lutao**	**1.53**	**209**	*e*P	**Pn**	**17 58 14.2**	**0.0**
	baz=207						
CHN5	**Tsauling**	**1.54**	**253**	*e*P	**Pb**	**17 58 16.2**	**+0.1**
	baz=250						
CHN5				*e*S	**Sb**	**17 58 36.1**	**+0.8**
	baz=250						
TWGBT	**Beinan**	**1.65**	**222**	*e*P	**Pn**	**17 58 16.3**	**+0.3**
	baz=221						
TWG	**Pinlang**	**1.66**	**223**	*e*P	**Pn**	**17 58 16.4**	**+0.3**
	baz=221						
STYT	**Tauyuan**	**1.66**	**238**	*e*P	**Pb**	**17 58 17.8**	**-0.3**
	baz=225						
TPUB	**Ta-pu**	**1.69**	**244**	*e*P	**Pb**	**17 58 18.4**	**-0.3**
	baz=242						
TPUB				*e*S	**Sb**	**17 58 39.9**	**+0.4**
	baz=242						
WTP	**Ta-pu**	**1.73**	**243**	*e*P	**Pb**	**17 58 19.1**	**-0.3**
	baz=240						
RLNB	**Erlin**	**1.77**	**265**	*e*P	**Pn**	**17 58 18.1**	**+0.5**
	baz=263						
CHN1	**Nanshi**	**1.83**	**242**	*e*P	**Pb**	**17 58 20.1**	**-0.9**
	baz=240						
CHN1				*e*S	**Sb**	**17 58 44.3**	**+0.8**
	baz=240						
SGST	**Jiashian**	**1.84**	**239**	*e*P	**Pb**	**17 58 20.6**	**-0.5**
	baz=237						
SLGT	**Liugui**	**1.84**	**235**	*e*P	**Pb**	**17 58 20.4**	**-0.8**
	baz=223						
ECL	**Taimali**	**1.90**	**221**	*e*P	**Pb**	**17 58 22.4**	**+0.2**
	baz=228						
JISG	**Ishigakijimahi**	**1.92**	**73**	P	**Pb**	**17 58 21.0**	**-1.6**
JISG				*e*S	**Sb**	**17 58 44.8**	**-1.3**
SSD	**Sandimen**	**2.00**	**230**	*e*P	**Pb**	**17 58 23.2**	**-0.7**
	baz=221						
MASBT	**Mashibuluo**	**2.09**	**227**	*e*P	**Pb**	**17 58 24.9**	**-0.5**
	baz=218						
EAST	**Anshuo**	**2.12**	**219**	*e*P	**Pb**	**17 58 25.0**	**-1.0**
	baz=218						
VWUC	**VWUC**	**2.75**	**291**	*e*P	**Pn**	**17 58 31.0**	**0.0**
	baz=289						

*NIED **14** 18:05:00, 40°.90N×145°.40E, h5km, Mw3.8 Best double couple: M0 5.90000×10^14 NP1:ϕs 54.00000°, δ 43.00000°, λ -90.00000°. NP2:ϕs 235.00000°, δ 47.00000°, λ -90.00000°.*
*IDC **14** 18:05:58.0±0.7, 40°.71N×145°.20E, h0km, mb3.7/16, mb1 3.9/20, mb1mx3.8/71, mbtmp3.7/20, ML3.1/3, Error ellipse: s-maj=17.7km s-min=16.3km az=143.0*
*JMA **14** 18:05:59.8±0.2, 40°.91N×145°.35E, h59km±3km, M4.0*
*ISCJB **14** 18:06:01.7±0.5, 40°.94N±0°.03×145°.11E±0°.05, h33km, mb3.7/16, Error ellipse: s-maj=5.0km s-min=4.5km az=10.2*

ISC 14 18:06:03.6±0.7, 40°.92N±0°.05×145°.17E±0°.06, h35km, n45, σ2.503/56, mb3.7/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.87**	**307**	P	**Pn**	**18 06 32.0**	**-1.1**
JEM				*e*S	**Sn**	**18 06 53.9**	**-1.6**
JAK	**Akkeshi**	**2.11**	**350**	P	**Pn**	**18 06 33.7**	**-2.6**
JAK				*e*S	**Sn**	**18 06 59.5**	**-1.8**
JCH	**Churui**	**2.17**	**322**	P	**Pn**	**18 06 35.7**	**-1.5**
JCH				*e*S	**Sn**	**18 07 00.9**	**-2.0**
JOB	**Onbets**	**2.22**	**334**	P	**Pn**	**18 06 36.4**	**-1.5**
JOB				*e*S	**Sn**	**18 07 02.7**	**-1.4**
JNBK	**Urakawa-nobuka**	**2.27**	**308**	P	**Pn**	**18 06 38.3**	**-0.3**
JNBK				*e*S	**Sn**	**18 07 05.3**	**0.0**
NEM2	**Nemuro 2**	**2.48**	**10**	P	**Pn**	**18 06 38.9**	**-2.6**
JAR	**Ashorobuto**	**2.60**	**337**	P	**Pn**	**18 06 41.2**	**-1.9**
JAR				*e*S	**Sn**	**18 07 10.5**	**-2.9**
JNK	**Nakash**	**2.69**	**353**	P	**Pn**	**18 06 41.3**	**-3.0**
JNK				*e*S	**Sn**	**18 07 10.9**	**-4.8**
JBT2	**Biratori 2**	**2.80**	**312**	P	**Pn**	**18 06 45.7**	**-0.2**
JBT2				*e*S	**Sn**	**18 07 18.8**	**+0.3**
JANG	**Nango**	**2.83**	**260**	P	**Pn**	**18 06 44.2**	**-2.2**
JANG				*e*S	**Sn**	**18 07 15.1**	**-4.2**
JFR	**Furan**	**2.96**	**320**	P	**Pn**	**18 06 47.0**	**-1.0**
JFR				*e*S	**Sn**	**18 07 19.5**	**-2.7**
JRA	**Rausu**	**3.02**	**359**	P	**Pn**	**18 06 46.0**	**-2.9**
JRA				*e*S	**Sn**	**18 07 19.8**	**-4.0**
JOT	**Ohata**	**3.15**	**280**	P	**Pn**	**18 06 49.6**	**-1.0**
JOT				*e*S	**Sn**	**18 07 24.0**	**-3.0**
JTKR	**Abashiri--Toko**	**3.19**	**343**	P	**Pn**	**18 06 49.9**	**-1.3**
JTKR				*e*S	**Sn**	**18 07 26.0**	**-2.0**
JKB	**Kayabe**	**3.26**	**289**	P	**Pn**	**18 06 51.2**	**-1.0**
JOM	**Ohasama**	**3.30**	**245**	P	**Pn**	**18 06 51.2**	**-1.6**
JOM				*e*S	**Sn**	**18 07 27.9**	**-2.9**
JEW	**Eniwo**	**3.38**	**306**	P	**Pn**	**18 06 53.9**	**+0.1**
JEW				*e*S	**Sn**	**18 07 32.8**	**+0.1**
JKK2	**Kamakawa 2**	**3.46**	**330**	P	**Pn**	**18 06 55.0**	**+0.1**
ASAJ	**Asahikawa**	**3.72**	**330**	Pn	**Pn**	**18 06 58.3**	**-0.2**
	2.3nm,0.3s,baz=183,slow=13,SNR=27						
ASAJ				Sn	**Sn**	**18 07 39.9**	**-1.2**
	3.8nm,0.3s,baz=22,slow=19,SNR=3.9						
MJAR	**Matsushiro Arr**	**6.98**	**233**	Pn	**Pn**	**18 07 38.7**	**-4.6**
	0.6nm,0.3s,baz=37,slow=12,SNR=8.8						
MJAR				Sn	**Sn**	**18 09 05.1**	**+3.6**
	0.5nm,0.3s,baz=70,slow=22,SNR=3.6						
USRK	**Ussuriysk Ar.**	**10.27**	**293**	Pn	**Pn**	**18 08 27.0**	**-1.3**
	0.2nm,0.3s,baz=104,slow=12,SNR=3.5						
KLR	**Kul'dur**	**12.60**	**316**	Pn	**Pn**	**18 08 59.4**	**-0.8**
	0.0nm,0.3s,baz=117,slow=15,SNR=3.4						
MA2	**Magadan**	**19.01**	**9**	P	**Pn**	**18 10 25.3**	**+2.3**
	0.2nm,0.3s,baz=176,slow=14,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.10**	**132**	T	T	18 41 15.4	
	baz=324,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.11**	**132**	T	T	18 41 13.4	
	baz=324,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.12**	**132**	T	T	18 41 17.9	
	baz=324,slow=75						
SONM	**Songino Array**	**28.34**	**297**	P	**P**	**18 11 54.9**	**+0.8**
	0.9nm,0.9s,baz=89,slow=8.2,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**28.98**	**134**	T	T	18 42 24.3	
	baz=325						
H11S3	**WAKE ISLAND Hy**	**28.98**	**134**	T	T	18 42 20.7	
	baz=325						
H11S2	**WAKE ISLAND Hy**	**28.99**	**134**	T	T	18 42 26.4	
	baz=325						
ZALV	**Zalesovo Beam**	**41.60**	**309**	P	**P**	**18 13 50.3**	**+2.4**
	1.0nm,0.7s,baz=96,slow=9.1,SNR=4.6						
ILAR	**Eielson Array**	**44.65**	**34**	P	**P**	**18 14 13.2**	**+0.8**
	0.7nm,0.7s,baz=258,slow=6.3,SNR=7.6						
MKAR	**Makanchi Array**	**44.65**	**300**	P	**P**	**18 14 13.1**	**+0.4**
	0.2nm,0.5s,baz=80,slow=7.9,SNR=6.7						
KURBB	**Kurchatov Arra**	**46.02**	**306**	P	**P**	**18 14 23.8**	**+0.4**
	0.8nm,0.7s,baz=77,slow=8.8,SNR=7.5						
INK	**Inuvik**	**49.59**	**29**	P	**P**	**18 14 51.8**	**+1.0**
	1.1nm,0.6s,baz=308,slow=6.6,SNR=6.3						
BVAR	**Borovoye Array**	**50.20**	**311**	P	**P**	**18 14 56.6**	**+0.9**
	0.4nm,0.8s,baz=74,slow=9.0,SNR=3.1						
RES	**Resolute Bay**	**58.10**	**16**	P	**P**	**18 15 53.6**	**+0.8**
	0.8nm,0.5s,baz=307,slow=8.8,SNR=5.4						
YKA	**Yellowknife Ar**	**58.98**	**32**	P	**P**	**18 15 59.8**	**+0.7**
	0.3nm,0.6s,baz=302,slow=6.8,SNR=6.1						
WRA	**Warramunga Arr**	**61.38**	**192**	P	**P**	**18 16 14.9**	**-1.1**
	2.2nm,0.4s,baz=7.3,slow=7.2,SNR=6.2						
ASAR	**Alice Springs**	**65.10**	**191**	P	**P**	**18 16 39.0**	**-1.6**
	0.8nm,0.7s,baz=31,slow=6.7,SNR=2.8						
FINES	**FINESS Array B**	**66.73**	**333**	P	**P**	**18 16 51.1**	**+0.4**
	1.2nm,0.7s,baz=50,slow=7.5,SNR=4.3						
KBZ	**Khabaz**	**70.57**	**311**	P	**P**	**18 17 16.4**	**+1.5**
	0.8nm,0.8s,baz=29,slow=7.9,SNR=3.7						
PDAR	**Pinedale Array**	**72.88**	**48**	P	**P**	**18 17 29.1**	**0.0**
	0.2nm,0.5s,baz=312,slow=4.5,SNR=2.8						
AKASG	**Malin Array Be**	**72.98**	**323**	P	**P**	**18 17 29.5**	**+0.2**
	0.4nm,0.4s,baz=42,slow=6.2,SNR=3.2						
TXAR	**Lajitas Array**	**85.46**	**55**	P	**P**	**18 18 38.4**	**+0.4**
	0.2nm,0.6s,baz=316,slow=3.8,SNR=2.6						

*NIED **14** 18:08:00, 40°.80N×145°.10E, h5km, Mw3.8 Best double couple: M0 5.22000×10^14 NP1:ϕs 176.00000°, δ 33.00000°, λ -99.00000°. NP2:ϕs 7.00000°, δ 57.00000°, λ -84.00000°.*
*IDC **14** 18:08:06.9±0.8, 40°.79N×144°.95E, h0km, mb3.8/15, mb1 3.8/18, mb1mx3.7/68, mbtmp3.8/18, ML2.6/3, MS3.1/2, Ms1 3.0/2, ms1mx2.4/61, Error ellipse: s-maj=19.1km s-min=17.2km az=100.0*
*NEIC **14** 18:08:07.9±3.4, 40°.75N×144°.96E, h8km±21km, mb4.6/3, Error ellipse: s-maj=10.4km s-min=7.0km az=112.0*
*JMA **14** 18:08:08.2±0.3, 40°.78N×145°.14E, h69km, M3.7*
*ISCJB **14** 18:08:09.8±0.5, 40°.78N±0°.03×144°.87E±0°.05, h33km, mb4.0/18, MS3.5/1, Error ellipse: s-maj=5.3km s-min=4.1km az=15.2*

ISC 14 18:08:11.8±0.7, 40°.79N±0°.05×144°.96E±0°.06, h35km, n50, σ1.961/58, mb3.9/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.82**	**313**	*e*Pn	**Pn**	**18 08 39.5**	**-1.1**
JEM	**Erimo**	**1.82**	**313**	P	**Pn**	**18 08 39.7**	**-0.9**
JEM				S	**Sn**	**18 09 00.5**	**-2.0**
JCH	**Churui**	**2.18**	**327**	P	**Pn**	**18 08 44.5**	**-1.0**
JAK	**Akkeshi**	**2.21**	**355**	*e*S	**Sn**	**18 09 10.2**	**-1.9**
JNBK	**Urakawa-nobuka**	**2.23**	**313**	P	**Pn**	**18 08 45.8**	**-0.3**
JNBK				*e*S	**Sn**	**18 09 12.1**	**-0.3**
NEM2	**Nemuro 2**	**2.64**	**13**	P	**Pn**	**18 08 48.8**	**-3.0**
NEM2				*e*S	**Sn**	**18 09 18.5**	**-4.1**
JANG	**Nango**	**2.65**	**262**	P	**Pn**	**18 08 50.2**	**-1.8**
JANG				*e*S	**Sn**	**18 09 19.5**	**-3.4**
JAR	**Ashorobuto**	**2.66**	**341**	*e*S	**Sn**	**18 09 21.4**	**-1.6**
JNK	**Nakash**	**2.80**	**356**	P	**Pn**	**18 08 51.0**	**-3.0**
JNK				*e*S	**Sn**	**18 09 22.6**	**-3.9**
JFR	**Furan**	**2.95**	**324**	P	**Pn**	**18 08 55.2**	**-1.0**
JFR				*e*S	**Sn**	**18 09 28.2**	**-2.2**
JOT	**Ohata**	**3.01**	**283**	P	**Pn**	**18 08 55.9**	**-1.0**
JOT				*e*S	**Sn**	**18 09 29.6**	**-2.2**
JOM	**Ohasama**	**3.10**	**246**	P	**Pn**	**18 08 57.1**	**-1.1**
JOM				*e*S	**Sn**	**18 09 30.5**	**-3.5**
JKB	**Kayabe**	**3.15**	**292**	P	**Pn**	**18 08 58.2**	**-0.6**
JTKR	**Abashiri--Toko**	**3.27**	**347**	P	**Pn**	**18 08 59.1**	**-1.4**
JTKR				*e*S	**Sn**	**18 09 36.0**	**-2.2**
JEW	**Eniwo**	**3.33**	**309**	P	**Pn**	**18 09 01.4**	**+0.2**
JEW				*e*S	**Sn**	**18 09 39.6**	**+0.1**
JMK	**Ichinoseki**	**3.41**	**239**	P	**Pn**	**18 09 01.1**	**-1.3**
JMK				*e*S	**Sn**	**18 09 38.4**	**-3.2**
ASAJ	**Asahikawa**	**3.75**	**333**	Pn	**Pn**	**18 09 06.7**	**-0.5**
	0.4nm,0.3s,baz=221,slow=9.3,SNR=3.8						
ASAJ				Sn	**Sn**	**18 09 49.5**	**-0.6**
	1.2nm,0.3s,baz=81,slow=19,SNR=2.8						
MAJO	**Matsushiro**	**6.77**	**233**	*e*Pn	**Pn**	**18 09 47.2**	**-1.4**
MJAR	**Matsushiro Arr**	**6.77**	**233**	Pn	**Pn**	**18 09 47.2**	**-1.4**
	0.4nm,0.3s,baz=42,slow=11,SNR=4.8						
USRK	**Ussuriysk Ar.**	**10.16**	**294**	Pn	**Pn**	**18 10 34.7**	**-0.4**
	0.1nm,0.3s,baz=113,slow=12,SNR=4.0						
USRK				LR	LR	18 14 26.3	
	comp=Z,50nm,21.4s,baz=108,slow=37						
SEY	**Seymchan**	**22.61**	**9**	P	**P**	**18 13 08.5**	**-0.6**
	0.6nm,0.3s,baz=212,slow=14,SNR=4.9						
ULN	**Ulaanbaatar**	**27.80**	**298**	*e*P	**P**	**18 13 58.4**	**+0.8**
	6.3nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**28.14**	**132**	T	T	18 43 33.9	
	baz=324,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.15**	**132**	T	T	18 43 31.9	
	baz=324						
H11N3	**WAKE ISLAND Hy**	**28.15**	**132**	T	T	18 43 33.4	
	baz=324,slow=75						
SONA0	**Songino Array**	**28.25**	**297**	*e*P	**P**	**18 14 02.4**	**+0.9**
SONM	**Songino Array**	**28.25**	**297**	P	**P**	**18 14 02.4**	**+0.9**
	1.1nm,0.6s,baz=80,slow=9.0,SNR=7.7						
ZAA1	**Zalesovo Array**	**41

PMG				S		**Sn**	**18 11 05.7**	**+1.1**
	72nm,0.3s,baz=159,slow=23,SNR=17								
CTA	**Charters Tower**	**14.78**	**194**	P		**Pn**	**18 12 27.3**	**+1.3**
	0.1nm,0.3s,baz=27,slow=14,SNR=4.3								
EIDS	**Eidsvold**	**19.64**	**177**	*eP*		**Pn**	**18 13 24.4**	**-0.1**
	18nm,0.9s								
WRAB	**Tennant Creek**	**20.75**	**225**	*eP*		**P**	**18 13 34.0**	**+0.2**
	17nm,1.0s								
WR1	**Warramunga Arr**	**20.76**	**225**	*eP*		**P**	**18 13 34.5**	**+0.5**
WR1				*ep*P		**pP**	**18 13 58.3**	**+0.1**
WR1				eS		**S**	**18 17 17.8**	**-0.8**
WRA	**Warramunga Arr**	**20.76**	**225**	P		**P**	**18 13 34.5**	**+0.5**
	7.1nm,0.4s,baz=48,slow=11,SNR=86								
WRA				pP		**pP**	**18 13 58.3**	**+0.1**
	6.1nm,0.6s,baz=49,slow=11,SNR=5.4								
WRA				S		**S**	**18 17 17.8**	**-0.8**
	3.0nm,0.8s,baz=38,slow=19,SNR=4.3								
DZM	**Mont Dzumac**	**22.85**	**137**	P		**P**	**18 13 55.3**	**-0.2**
	10nm,0.9s,baz=293,slow=8.2,SNR=6.9								
AS01	**Alice Springs**	**23.60**	**219**	*eP*		**P**	**18 14 03.2**	**+0.9**
AS31	**Alice Springs**	**23.63**	**219**	*eP*		**P**	**18 14 03.8**	**+1.1**
	2.5nm,0.6s								
AS31				eS		**S**	**18 18 06.5**	**-0.9**
AS31				*e*ScP		**ScP**	**18 21 09.6**	**-0.3**
ASAR	**Alice Springs**	**23.63**	**219**	P		**P**	**18 14 03.1**	**+0.4**
	3.6nm,0.4s,baz=54,slow=8.7,SNR=179								
ASAR				pP		**pP**	**18 14 28.0**	**-1.2**
	5.4nm,0.7s,baz=44,slow=14,SNR=6.5								
ASAR				S		**S**	**18 18 06.5**	**-0.9**
	1.8nm,0.7s,baz=46,slow=14,SNR=6.4								
ASAR				ScP		**ScP**	**18 21 09.6**	**-0.3**
	0.4nm,0.7s,baz=30,slow=2.5,SNR=4.0								
FITZ	**Fitzroy Crossi**	**26.74**	**240**	P		**P**	**18 14 30.5**	**-0.2**
	6.9nm,0.3s,baz=50,slow=9.3,SNR=45								
FITZ				pP		**pP**	**18 14 58.1**	**-1.1**
	18nm,0.8s,baz=123,slow=7.2,SNR=5.9								
JNU	**Nakatsue**	**42.58**	**336**	P		**P**	**18 16 47.0**	**+0.6**
	6.2nm,0.5s,baz=155,slow=14,SNR=14								
JNU	**Nakatsue**	**42.58**	**336**	*eP*		**P**	**18 16 47.0**	**+0.6**
	72nm,1.7s								
MJAR	**Matsushiro Arr**	**43.38**	**346**	P		**P**	**18 16 53.4**	**+0.7**
	3.6nm,0.6s,baz=174,slow=6.6,SNR=4.6								
MAJO	**Matsushiro**	**43.38**	**346**	*eP*		**P**	**18 16 53.4**	**+0.6**
KSRS	**Korea Array**	**47.54**	**336**	P		**P**	**18 17 26.4**	**+1.0**
	4.3nm,0.7s,baz=158,slow=7.8,SNR=15								
KSAR	**Wonju Array Be**	**47.54**	**336**	P		**P**	**18 17 26.4**	**+1.0**
ASAJ	**Asahikawa**	**49.98**	**353**	P		**P**	**18 17 45.1**	**+1.2**
	13nm,0.6s,baz=236,slow=7.3,SNR=5.3								
ASAJ	**Asahikawa**	**49.98**	**353**	*eP*		**P**	**18 17 45.8**	**+1.9**
	14nm,0.7s								
USRK	**Ussuriysk Ar.**	**52.19**	**344**	P		**P**	**18 18 01.5**	**+1.1**
	5.0nm,0.7s,baz=157,slow=6.2,SNR=7.7								
MDJ	**Mudanjiang**	**53.27**	**342**	*eP*		**P**	**18 18 10.0**	**+1.7**
	8.9nm,0.8s								
CMAR	**Chiang Mai Arr**	**55.66**	**297**	P		**P**	**18 18 24.7**	**-1.4**
	0.5nm,0.6s,baz=108,slow=5.8,SNR=3.4								
KLR	**Kul'dur**	**56.91**	**346**	P		**P**	**18 18 35.0**	**+0.6**
	0.5nm,0.7s,baz=160,slow=3.6,SNR=19								
PETK	**Petropavlovsk-**	**58.91**	**5**	P		**P**	**18 18 48.9**	**+0.6**
	6.1nm,0.5s,baz=156,slow=6.1,SNR=42								
PETK				pP		**pP**	**18 19 20.7**	**+0.5**
	1.1nm,0.5s,baz=19,slow=15,SNR=3.2								
PETK	**Petropavlovsk-**	**58.91**	**5**	*eP*		**P**	**18 18 49.3**	**+1.0**
PETK				pP		**pP**	**18 19 20.7**	**+0.5**
PEA1	**Petropavlovsk-**	**58.91**	**5**	*eP*		**P**	**18 18 48.9**	**+0.6**
PEA1				*ep*P		**pP**	**18 19 20.7**	**+0.5**
MA2	**Magadan**	**65.03**	**0**	P		**P**	**18 19 28.6**	**-0.4**
	0.7nm,0.3s,baz=144,slow=9.8,SNR=5.7								
SONA0	**Songino Array**	**65.55**	**329**	*eP*		**P**	**18 19 32.9**	**0.0**
SONA0				*ep*P		**pP**	**18 20 06.2**	**+0.8**
SONM	**Songino Array**	**65.55**	**329**	P		**P**	**18 19 32.9**	**0.0**
	2.9nm,0.5s,baz=144,slow=5.3,SNR=48								
SONM				pP		**pP**	**18 20 06.2**	**+0.8**
	1.0nm,0.8s,baz=135,slow=7.3,SNR=2.7								
SONA1	**Songino Array**	**65.55**	**329**	*eP*		**P**	**18 19 33.3**	**+0.5**
LSA	**Lhasa**	**66.37**	**306**	*eP*		**P**	**18 19 38.8**	**-0.1**
	12nm,1.9s								
SEY	**Seymchan**	**68.42**	**1**	P		**P**	**18 19 50.9**	**+0.4**
	1.1nm,0.2s,baz=180,slow=3.6,SNR=9.7								
YAK	**Yakutsk**	**69.27**	**350**	P		**P**	**18 19 56.1**	**+0.4**
	13nm,0.4s,baz=174,slow=1.3,SNR=3.2								
YAK	**Yakutsk**	**69.27**	**350**	*eP*		**P**	**18 19 56.1**	**+0.4**
	14nm,0.5s								
VNDA	**Vanda**	**72.10**	**177**	P		**P**	**18 20 12.8**	**0.0**
	1.1nm,0.5s,baz=339,slow=6.9,SNR=12								
VNDA	**Vanda**	**72.10**	**177**	*eP*		**P**	**18 20 14.6**	**+1.8**
MK32	**Makanchi Array**	**79.09**	**320**	*eP*		**P**	**18 20 52.1**	**-1.1**
MK32				*ep*P		**pP**	**18 21 25.6**	**-1.2**
MKAR	**Makanchi Array**	**79.09**	**320**	P		**P**	**18 20 52.1**	**-1.1**
	0.4nm,0.4s,baz=95,slow=8.8,SNR=14								
MKAR				pP		**pP**	**18 21 25.6**	**-1.2**
	0.5nm,0.8s,baz=99,slow=7.6,SNR=2.9								
ZALV	**Zalesovo Beam**	**80.28**	**327**	P		**P**	**18 20 57.5**	**-1.9**
	1.8nm,0.5s,baz=116,slow=5.6,SNR=9.1								
ZAA1	**Zalesovo Array**	**80.28**	**327**	*eP*		**P**	**18 20 57.5**	**-1.9**
RND	**Reindeer**	**82.64**	**23**	*eP*		**P**	**18 21 10.9**	**-0.8**
	34nm,1.8s								
KURK	**Kurchatov**	**82.68**	**323**	*eP*		**P**	**18 21 10.1**	**-1.9**
KURBB	**Kurchatov Arra**	**82.71**	**323**	P		**P**	**18 21 10.1**	**-2.1**
	0.6nm,0.5s,baz=110,slow=3.6,SNR=9.9								
DHY	**Denali Highway**	**83.08**	**24**	*eP*		**P**	**18 21 15.2**	**+1.1**
	32nm,2.0s								
ILAR	**Eielson Array**	**84.04**	**23**	P		**P**	**18 21 16.9**	**-1.9**
	0.9nm,0.5s,baz=248,slow=4.9,SNR=17								
BVAR	**Borovoye Array**	**88.20**	**324**	P		**P**	**18 21 37.2**	**-2.2**
	0.4nm,0.5s,baz=127,slow=4.2,SNR=5.2								
BVAR				pP		**pP**	**18 22 11.7**	**-2.0**
	1.0nm,0.8s,baz=84,slow=7.4,SNR=3.6								
INK	**Inuvik**	**90.28**	**21**	P		**P**	**18 21 47.4**	**-1.3**
	0.8nm,0.6s,baz=319,slow=6.1,SNR=11								
BGH	**Bear Gulch**	**91.60**	**53**	*eP*		**P**	**18 21 57.4**	**+1.8**
LVP	**Lakeview Peak**	**92.42**	**44**	*eP*		**P**	**18 21 59.5**	**+0.1**
DPP	**Dos Picos Cty**	**95.68**	**57**	*eP*		**P**	**18 22 16.2**	**+1.7**
YKA	**Yellowknife Ar**	**97.52**	**28**	P		**P**	**18 22 20.6**	**-1.4**
	0.1nm,0.4s,baz=277,slow=4.8,SNR=4.0								
PLCA	**Paso Flores**	**120.78**	**145**	PKP		**PKPdf**	**18 27 40.7**	**+0.4**
	0.7nm,0.5s,baz=12,slow=2.3,SNR=7.2								
LPAZ	**La Paz**	**136.50**	**121**	PKP		**PKPdf**	**18 28 11.9**	**+0.5**
	1.6nm,0.6s,baz=246,slow=4.9,SNR=6.6								
CPUP	**Villa Florida**	**138.67**	**142**	PKP		**PKPdf**	**18 28 14.2**	**-0.2**
	1.2nm,0.7s,baz=346,slow=4.2,SNR=3.2								
SDV	**Santo Domingo**	**139.67**	**83**	PKP		**PKPdf**	**18 28 17.7**	**+0.9**
	3.5nm,0.5s,baz=243,slow=4.5,SNR=5.4								
PCRV	**Puerto La Cruz**	**145.50**	**80**	PKPbc		**PKPdf**	**18 28 26.4**	**-0.5**
	4.5nm,0.4s,baz=297,slow=2.3,SNR=4.0								
TORD	**Torodi Ar. Bea**	**147.80**	**286**	PKPbc		**PKPbc**	**18 28 33.0**	**-0.8**
	1.1nm,0.5s,baz=94,slow=2.6,SNR=9.3								
TOA1	**Torodi Ar. Sit**	**147.80**	**286**	*e*PKPdf		**PKPbc**	**18 28 33.0**	**-0.8**
PTGA	**Pitinga**	**149.50**	**101**	PKPbc		**PKPbc**	**18 28 37.5**	**-0.7**
	9.7nm,0.3s,baz=274,slow=6.1,SNR=11								
KOWA	**Kowa**	**152.90**	**291**	PKPbc		**PKPbc**	**18 28 45.5**	**-0.4**
	1.3nm,0.4s,baz=32,slow=3.4,SNR=4.8								

IDC 14 18:14:15.3±9.5, 21.53N×143.32E, h236km±91km, mb3.2/10, mb1 3.4/10, mb1mx3.0/66, mbtmpb3.8/10, Error ellipse: s-maj=27.4km s-min=14.3km az=73.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.15**	**193**	P	P	18 21 45.1	+0.2
	0.3nm,0.3s,baz=16,slow=8.3,SNR=8.5						
ASAR	**Alice Springs**	**45.85**	**192**	P	P	18 22 13.6	-0.7
	0.1nm,0.3s,baz=14,slow=7.2,SNR=4.1						
MKAR	**Makanchi Array**	**54.90**	**313**	P	P	18 23 22.3	+0.7
	0.3nm,0.5s,baz=93,slow=7.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**57.73**	**317**	P	P	18 23 41.6	+0.1
	0.7nm,0.4s,baz=92,slow=7.7,SNR=10.0						
AAK	**Ala-Archa**	**60.36**	**308**	P	P	18 23 59.5	-0.4
	0.7nm,0.6s,baz=117,slow=6.8,SNR=3.0						
ILAR	**Eielson Array**	**62.13**	**27**	P	P	18 24 10.6	-0.6
	0.2nm,0.4s,baz=262,slow=5.1,SNR=4.6						
BVAR	**Borovoye Array**	**62.88**	**320**	P	P	18 24 16.4	+0.1
	0.9nm,0.3s,baz=103,slow=7.3,SNR=8.9						
YKA	**Yellowknife Ar**	**76.54**	**28**	P	P	18 25 39.8	+0.5
	0.8nm,0.6s,baz=291,slow=5.6,SNR=12						
ARCES	**ARCESS Array B**	**79.17**	**342**	P	P	18 25 53.1	-0.2
	0.8nm,0.5s,baz=74,slow=7.6,SNR=11						
FINES	**FINESS Array B**	**83.38**	**335**	P	P	18 26 14.3	-1.5
	1.0nm,0.7s,baz=57,slow=5.5,SNR=5.2						
PLCA	**Paso Flores**	**145.56**	**132**	PKPbc	PKPdf	18 33 25.4	-0.2
	1.3nm,0.7s,baz=244,slow=4.2,SNR=5.6						
LPAZ	**La Paz**	**149.83**	**85**	PKPbc	PKPbc	18 33 39.0	0.0
	0.6nm,0.5s,baz=307,slow=5.1,SNR=3.4						

*ISCJB **14** 18:14:17.2±0.6, 36.11N×0.06×140.10E±0.06, h77km±4km, mb3.5/7, Error ellipse: s-maj=10.3km s-min=7.7km az=170.1*
*IDC **14** 18:14:17.3±2.9, 36.17N×140.28E, h64km±25km, mb3.3/7, mb1 3.5/8, mb1mx3.2/67, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=28.9km s-min=15.3km az=60.0*
*JMA **14** 18:14:19.5±0.1, 36.18N×139.99E, h64km±1km, M2.7*
ISC 14 18:14:18.3±0.8, 36.13N±0.06×140.07E±0.05, h71km±6km, n16, σ1°00/24, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.14**	**46**	P	**Pn**	**18 14 29.4**	**+0.6**
JYT				*i* S	**Sn**	**18 14 36.6**	**+0.2**
JAG	**Ashikaga**	**0.58**	**301**	P	**Pn**	**18 14 31.9**	**-0.1**
JAG				S	**Sn**	**18 14 40.9**	**-1.2**
JHO	**Hitachi**	**0.63**	**40**	P	**Pn**	**18 14 33.1**	**+0.6**
JHO				S	**Sn**	**18 14 43.0**	**0.0**
JHU	**Hanno**	**0.70**	**247**	P	**Pn**	**18 14 33.3**	**0.0**
JHU				S	**Sn**	**18 14 43.5**	**-0.8**
JKT	**Katashina**	**0.92**	**314**	P	**Pn**	**18 14 35.6**	**-0.3**
JKT				S	**Sn**	**18 14 48.4**	**-0.6**
JRY	**Ryogami san**	**0.95**	**264**	P	**Pn**	**18 14 36.4**	**+0.1**
JRY				S	**Sn**	**18 14 49.3**	**-0.4**
MJAR	**Matsushiro Arr**	**1.56**	**286**	P	**Pn**	**18 14 43.8**	**-0.2**
	7.8nm,0.3s,baz=132,slow=8.9,SNR=63						
MJAR				S	**Sn**	**18 15 05.3**	**+1.8**
	6.1nm,0.3s,baz=306,slow=24,SNR=8.3						
MAT	**Matsushiro**	**1.56**	**286**	P	**Pn**	**18 14 44.4**	**+0.3**
MAT				*e*S	**Sn**	**18 15 05.5**	**+1.9**
JHJ	**Hachijo jima 2**	**3.01**	**185**	P	**Pn**	**18 15 04.0**	**+0.3**
	21nm,0.3s,baz=307,slow=20,SNR=3.7						
MKAR	**Makanchi Array**	**43.69**	**303**	P	**P**	**18 22 18.1**	**+2.0**
	0.1nm,0.4s,baz=81,slow=9.2,SNR=2.3						
KURBB	**Kurchatov Arra**	**45.71**	**309**	P	**P**	**18 22 32.6**	**+0.5**
	0.2nm,0.4s,baz=84,slow=7.7,SNR=4.2						
INK	**Inuvik**	**55.68**	**27**	P	**P**	**18 23 45.8**	**-0.9**
	1.0nm,1.0s,baz=234,slow=8.7,SNR=2.1						
WRA	**Warramunga Arr**	**56.03**	**187**	P	**P**	**18 23 50.1**	**+0.3**
	0.6nm,0.4s,baz=2.7,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**59.76**	**187**	P	**P**	**18 24 15.3**	**-0.6**
	0.5nm,0.9s,baz=23,slow=10.0,SNR=4.3						
FINES	**FINESS Array B**	**69.11**	**332**	P	**P**	**18 25 17.3**	**+0.8**
	1.2nm,0.8s,baz=45,slow=6.5,SNR=4.9						
GERES	**GERESS Array B**	**82.90**	**328**	P	**P**	**18 26 33.4**	**-1.8**
	0.2nm,0.3s,baz=32,slow=5.8,SNR=3.4						

*NIED **14** 18:14:00, 40.90N×145.20E, h5km, Mw3.7 Best double couple: M₀4.42000×10¹⁴ NP1:φ=196.00000°, δ37.00000°, λ=86.00000°. NP2:φ=11.00000°, δ53.00000°, λ=93.00000°.*
*IDC **14** 18:14:18.0±0.9, 40.93N×145.04E, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.6/65, mbtmp3.6/8, ML3.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/60, Error ellipse: s-maj=28.9km s-min=20.7km az=73.0*
*ISCJB **14** 18:14:19.5±1.9, 40.94N±0.03×144.97E±0.05, h23km±15km, mb3.6/8, Error ellipse: s-maj=7.0km s-min=5.7km az=18.1*
*JMA **14** 18:14:19.5±0.2, 40.91N×145.16E, h65km±3km, M3.7*
ISC 14 18:14:21.7±3.6, 40.94N±0.05×144.95E±0.06, h28km±26km, n25, σ1°18/29, mb3.6/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.72**	**309**	P	**Pn**	**18 14 50.1**	**+0.3**
JEM				*e*S	**Sn**	**18 15 11.4**	**+0.6**
JCH	**Churui**	**2.05**	**325**	P	**Pn**	**18 14 54.4**	**+0.1**
JCH				*e*S	**Sn**	**18 15 19.0**	**0.0**
JAK	**Akkeshi**	**2.06**	**355**	P	Pn	18 14 53.5	-1.0
JAK				*e*S	**Sn**	**18 15 18.8**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.12**	**310**	*e*S	**Sn**	**18 15 22.8**	**+2.1**
JOB	**Onbets**	**2.13**	**337**	*e*S	**Sn**	**18 15 21.7**	**+0.8**
NEM2	**Nemuro 2**	**2.50**	**13**	P	Pn	18 14 58.6	-1.8
NEM2				*e*S	**Sn**	**18 15 27.2**	**-2.7**
JAR	**Ashorobuto**	**2.51**	**340**	P	Pn	18 14 59.8	-0.9
JAR				*e*S	**Sn**	**18 15 29.9**	**-0.5**
JNK	**Nakash**	**2.65**	**356**	P	Pn	18 15 00.8	-1.8
JANG	**Nango**	**2.67**	**259**	P	Pn	18 15 02.1	-0.7
JANG				*e*S	**Sn**	**18 15 33.5**	**-0.7**
JFR	**Furan**	**2.83**	**323**	*e*S	**Sn**	**18 15 38.0**	**-0.2**
JOT	**Ohata**	**2.98**	**280**	P	Pn	18 15 07.1	+0.1
JOT				*e*S	**Sn**	**18 15 40.4**	**-1.4**
JKB	**Kayabe**	**3.09**	**289**	P	**Pn**	**18 15 08.8**	**+0.2**
JKB				*e*S	**Sn**	**18 15 44.6**	**0.0**
JTKR	**Abashiri--Toko**	**3.13**	**346**	*e*S	**Sn**	**18 15 44.8**	**-0.7**
JOM	**Ohasama**	**3.16**	**244**	P	**Pn**	**18 15 09.4**	**-0.1**
JOM				*e*S	**Sn**	**18 15 44.4**	**-1.9**
JEW	**Eniwo**	**3.23**	**307**	*e*S	**Sn**	**18 15 50.1**	**+2.1**
ASAJ	**Asahikawa**	**3.62**	**332**	Pn	**Pn**	**18 15 16.3**	**+0.5**
	0.9nm,0.3s,baz=192,slow=15,SNR=8.9						
ASAJ				Sn	**Sn**	**18 15 56.8**	**-0.8**
	1.5nm,0.3s,baz=62,slow=32,SNR=8.5						
JHJ	**Hachijo jima 2**	**8.83**	**209**	LR	LR	18 19 17.8	
	comp=Z,51nm,20.7s,baz=60,slow=34						
ZALV	**Zalesovo Beam**	**41.45**	**309**	P	**P**	**18 22 07.5**	**+1.8**
	0.4nm,0.6s,baz=109,slow=7.5,SNR=2.2						
ZALV				PcP	**PcP**	**18 24 02.0**	**-1.0**
	0.9nm,0.6s,baz=64,slow=3.4,SNR=4.1						
MKAR	**Makanchi Array**	**44.49**	**299**	P	**P**	**18 22 31.2**	**+0.8**
	0.3nm,0.6s,baz=93,slow=9.2,SNR=3.1						
ILAR	**Eielson Array**	**44.73**	**34**	P	**P**	**18 22 31.9**	**-0.1**
	0.7nm,0.8s,baz=258,slow=5.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**45.87**	**306**	P	**P**	**18 22 42.4**	**+1.1**
	0.5nm,0.5s,baz=78,slow=8.8,SNR=6.5						
WRA	**Warramunga Arr**	**61.37**	**191**	P	**P**	**18 24 35.7**	**+0.7**
	0.9nm,0.8s,baz=7.5,slow=6.5,SNR=4.3						
ASAR	**Alice Springs**	**65.09**	**191**	P	**P**	**18 25 00.7**	**+1.0**
	0.5nm,0.7s,baz=9.6,slow=6.5,SNR=6.2						
AKASG	**Malin Array Be**	**72.86**	**323**	P	**P**	**18 25 48.5**	**+0.8**
	0.8nm,0.6s,baz=39,slow=6.2,SNR=5.2						
TXAR	**Lajitas Array**	**85.59**	**55**	P	**P**	**18 26 58.9**	**+1.1**
	0.2nm,0.7s,baz=324,slow=4.5,SNR=3.9						

MAN 14 18:15:06, 8.31N×122.56E, h22km, mb4.4, ML3.2, MS3.0, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.83**	**71**	*i*P	Pb	18 15 21.1	-0.7
PAGZ	**Pagadian**	**0.93**	**119**	*e*P	Pn	18 15 24.3	+0.5
PAGZ				*e*S	Sn	18 15 37.1	+0.6
SNPH	**Sibulan**	**1.23**	**33**	*i*P	Pn	18 15 27.6	-0.4
ZCP	**Zamboanga City**	**1.45**	**199**	*i*P	Pb	18 15 35.1	+2.8
ZCP				*i* S	Sb	18 15 55.7	+5.4
GUIM	**Jordan**	**2.31**	**1**	*e*P	Pn	18 15 42.2	-0.5
GUIM				*e*S	Sb	18 16 12.7	-2.2
BUKP	**Musuan**	**2.51**	**100**	*e*P	Pn	18 15 46.6	+1.0
MSLP	**Maasin**	**2.91**	**51**	*e*P	Pn	18 15 51.5	+0.6
RCP	**Roxas**	**3.24**	**3**	*e*P	Pn	18 15 57.0	+1.5

*ISCJB **14** 18:22:31.6±0.5, 38.80N±0.02×29.48E±0.04, h2km±8km, Error ellipse: s-maj=5.1km s-min=4.0km az=161.2*
*CSEM **14** 18:22:31.8±0.1, 38.80N×29.48E, h2km, ML2.6, Error ellipse: s-maj=1.9km s-min=1.9km az=73.0*
*DDA **14** 18:22:31.4, 38.80N×29.46E, h10km, Ml2.6*
*ISK **14** 18:22:31.6, 38.82N×29.46E, h5km, ML1.9/6*
ISC 14 18:22:31.9±1.0, 38.81N±0.02×29.48E±0.02, h9km±11km, n26, σ0°52/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.28**	**1**	*i*P	**Pg**	**18 22 37.4**	**-0.2**
GDZ				*i* S	**Sg**	**18 22 41.8**	**+0.4**
GDZ	**Gediz**	**0.28**	**1**	P	**Pg**	**18 22 37.4**	**-0.2**
GDZ				S	**Sg**	**18 22 41.8**	**+0.4**
KHAL	**Karahalli**	**0.43**	**178**	*i*P	**Pg**	**18 22 40.3**	**-0.1**
KHAL				*i* S	**Sg**	**18 22 45.8**	**-0.3**
KHAL	**Karahalli**	**0.43**	**178**	P	**Pg**	**18 22 40.3**	**-0.1**
KHAL				S	**Sg**	**18 22 45.8**	**-0.3**
SIMA	**Simav-Kutahya**	**0.47**	**306**	PG	**Pg**	**18 22 41.2**	**+0.1**
SIMA				SG	**Sb**	**18 22 48.8**	**-0.8**
SIMA	**Simav-Kutahya**	**0.47**	**306**	*e*Pg	**Pg**	**18 22 41.2**	**+0.1**
SIMA				*e*Sg	**Sb**	**18 22 48.8**	**-0.8**
TVSB	**Tavsanli**	**0.64**	**359**	PG	**Pg**	**18 22 43.9**	**-0.4**
TVSB				SG	**Sg**	**18 22 52.6**	**-0.2**
TVSB	**Tavsanli**	**0.64**	**359**	*e*Pg	**Pg**	**18 22 43.9**	**-0.4**
TVSB				*e*Sg	**Sg**	**18 22 52.6**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**246**	PG	**Pg**	**18 22 45.5**	**+0.1**
KULA				SG	**Sb**	**18 22 55.1**	**-1.0**
KULA	**Kula-Manisa**	**0.70**	**246**	*e*Pg	**Pg**	**18 22 45.5**	**+0.1**
KULA				*e*Sg	**Sb**	**18 22 55.1**	**-1.0**
KZIL	**AFYON_Kizioren**	**0.76**	**136**	*i*P	**Pg**	**18 22 46.4**	**-0.1**
KZIL				*i* S	**Sg**	**18 22 57.0**	**+0.6**
KZIL	**AFYON_Kizioren**	**0.76**	**136**	P	**Pg**	**18 22 46.4**	**-0.1**
KZIL				S	**Sg**	**18 22 57.0**	**+0.6**
MANT	**Manisa**	**0.78**	**247**	*i*P	**Pg**	**18 22 46.8**	**-0.2**
MANT				*i* S	**Sg**	**18 22 57.1**	**-0.1**
MANT	**Manisa**	**0.78**	**247**	P	**Pg**	**18 22 46.8**	**-0.2**
MANT				S	**Sg**	**18 22 57.1**	**-0.1**
SHUT	**Suhut-Afyon**	**0.88**	**106**	PG	**Pb**	**18 22 49.3**	**-0.1**
SHUT	**Suhut-Afyon**	**0.88**	**106**	*e*Pg	**Pb**	**18 22 49.3**	**-0.1**
BOLV	**Bolvadin**	**1.16**	**94**	*i*P	**Pg**	**18 22 53.3**	**-0.8**
BOLV				*i* S	**Sg**	**18 23 09.3**	**+0.2**
BOLV	**Bolvadin**	**1.16**	**94**	P	**Pg**	**18 22 53.3**	**-0.8**
BOLV				S	**Sg**	**18 23 09.3**	**+0.2**
BORA	**Eskisehir**	**1.31**	**35**	*i*P	**Pb**	**18 22 56.9**	**+0.1**
BORA				*i* S	**Sg**	**18 23 14.1**	**-0.1**
BORA	**Eskisehir**	**1.31**	**35**	P	**Pb**	**18 22 56.9**	**+0.1**
BORA				S	**Sg**	**18 23 14.1**	**-0.1**
CAVI	**Cavuskoy**	**1.42**	**11**	PN	**Pg**	**18 22 58.9**	**-0.3**
CAVI	**Cavuskoy**	**1.42**	**11**	*e*Pn	**Pg**	**18 22 58.9**	**-0.3**
GULT	**Gulveren**	**1.81**	**26**	PN	**Pn**	**18 23 04.5**	**+1.1**
GULT	**Gulveren**	**1.81**	**26**	*e*Pn	**Pn**	**18 23 04.5**	**+1.1**
ARMT	**Armutlu**	**1.82**	**345**	PN	**Pn**	**18 23 04.2**	**+0.8**
ARMT	**Armutlu**	**1.82**	**345**	*e*Pn	**Pn**	**18 23 04.2**	**+0.8**

IDC 14 18:22:37.1±6.8, 10.64N×93.68E, h198km±64km, mb3.1/7, mb1 3.2/8, mb1mx2.9/68, mbtmpb3.6/8, Error ellipse: s-maj=53.9km s-min=13.1km az=50.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.29**	**33**	P	Pn	18 24 46.9	-0.3
	0.1nm,0.3s,baz=222,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**37.30**	**347**	P	P	18 29 31.2	+1.1
	0.4nm,0.7s,baz=172,slow=8.0,SNR=4.9						
KURBB	**Kurchatov Arra**	**41.77**	**346**	P	P	18 30 06.7	-0.2
	0.2nm,0.7s,baz=161,slow=9.2,SNR=3.1						
GEYT	**Alibeck**	**41.87**	**316**	P	P	18 30 08.7	+0.7
	1.9nm,0.6s,baz=142,slow=5.4,SNR=6.3						
ZALV	**Zalesovo Beam**	**43.77**	**352**	P	P	18 30 22.0	-0.9
	0.4nm,0.4s,baz=168,slow=7.4,SNR=3.0						
WRA	**Warramunga Arr**	**50.26**	**127**	P	P	18 31 13.8	+0.1
	1.3nm,0.7s,baz=306,slow=8.6,SNR=14						
ASAR	**Alice Springs**	**52.06**	**131**	P	P	18 31 26.8	-0.2
	1.1nm,0.8s,baz=307,slow=6.9,SNR=10						
**BRTR

MAW	**Mawson**	**52.10**	**182**	LR	LR	19 06 27.8	
	comp=Z,54nm,18.0s,baz=270,slow=31						
MKAR	**Makanchi Array**	**63.66**	**12**	P	P	18 50 13.8	-0.7
	0.7nm,0.8s,baz=217,slow=7.0,SNR=3.0						
ASAR	**Alice Springs**	**63.67**	**109**	P	P	18 50 15.0	-0.2
	0.5nm,0.9s,baz=269,slow=5.1,SNR=4.0						
WRA	**Warramunga Arr**	**64.53**	**105**	P	P	18 50 20.4	-0.5
	2.0nm,1.1s,baz=269,slow=6.2,SNR=4.3						
KURBB	**Kurchatov Arra**	**66.71**	**8**	P	P	18 50 33.5	-0.8
	0.5nm,0.2s,baz=205,slow=6.8,SNR=2.6						
BVAR	**Borovoye Array**	**68.34**	**3**	P	P	18 50 43.9	-0.6
	0.5nm,0.8s,baz=165,slow=6.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**70.97**	**11**	P	P	18 51 01.7	+1.0
	1.1nm,0.8s,baz=224,slow=6.0,SNR=5.3						
SONM	**Songino Array**	**72.50**	**27**	P	P	18 51 10.2	0.0
	0.3nm,0.8s,baz=224,slow=4.0,SNR=3.7						
PDAR	**Pinedale Array**	**152.61**	**353**	PKPbc	PKPbc	18 59 42.0	+1.3
	0.9nm,0.9s,baz=82,slow=2.2,SNR=4.6						

MAN 14 18:41:14.9±0.90N×123°14.E±0.1,h1km±1km,mb4.8,ML3.7,MS3.6, 5C,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.56**	**170**	⇑*iP*	Pb	18 41 26.4	-0.3
SNPH				*i* S	Sb	18 41 34.3	-0.9
TBP	**Tagbilaran**	**0.74**	**106**	*eP*	Pg	18 41 28.8	+0.6
GUIM	**Jordan**	**0.90**	**323**	*eP*	Pg	18 41 31.9	+0.6
LLP	**Lapu-Lapu**	**0.92**	**63**	⇑*eP*	Pg	18 41 31.2	-0.4
LLP				*eS*	Sg	18 41 44.2	+0.7
DCPH	**Dipolog City**	**1.32**	**171**	⇑*eP*	Pg	18 41 38.3	-1.1
DCPH				*eS*	Sg	18 41 56.3	-0.3
JAP	**San Jose, Anti**	**1.44**	**306**	⇑*eP*	Pg	18 41 43.0	+1.3
RCP	**Roxas**	**1.70**	**347**	⇑*eP*	Pb	18 41 46.1	0.0
RCP				*eS*	Sg	18 42 09.8	+1.2
MSLP	**Maasin**	**1.71**	**82**	*eP*	Pn	18 41 45.1	+0.1
MSLP				*eS*	Sg	18 42 08.9	-0.2
OCLP	**Ormoc**	**1.85**	**52**	*eP*	Pn	18 41 46.4	-0.5
OCLP				*eS*	Sb	18 42 12.6	+0.3
PAGZ	**Pagadian**	**2.05**	**173**	*eP*	Pn	18 41 50.8	+1.2
PAGZ				*eS*	Sn	18 42 15.4	-0.6
BUKP	**Musuan**	**2.76**	**136**	*eP*	Pn	18 41 59.8	+0.3
BUSP	**Coron**	**3.56**	**306**	*eP*	Pn	18 42 11.3	+0.8

*TIR **14** 18:47:39.3,42°.23N×19°.41E,h22km,ML3.2*
*CSEM **14** 18:47:41.2±0.1,42°.17N×19°.38E,h10km,ML3.0/4,Error ellipse: s-maj=2.8km s-min=2.6km az=20.0*
*ISCJB **14** 18:47:41.9±0.2,42°.19N±0°.01×19°.33E±0°.02,h24km±2km, Error ellipse: s-maj=2.7km s-min=2.2km az=42.3*
*PDG **14** 18:47:41.3±0.4,42°.19N×19°.41E,h15km,MD3.1/7, ML3.1/10,Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*BEO **14** 18:47:42.2±0.3,42°.21N×19°.39E,h13km±2km,M3.0/1*
*PRU **14** 18:47:43.1,42°.32N×19°.62E,h0km*

ISC 14 18:47:42.1±0.8,42°20N±0°.01×19°38E±0°.01,h18km±4km, n148,σ1s38/243,33C-14D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRME	**Dracevica, Mon**	**0.14**	**267**	*ePg*	**Pg**	**18 47 45.7**	**-0.5**
DRME				*eSg*	**Sg**	**18 47 49.2**	**+0.2**
DRME	**Dracevica, Mon**	**0.14**	**267**	⇑*iPg*	**Pg**	**18 47 45.7**	**-0.5**
DRME				*eSg*	**Sg**	**18 47 49.2**	**+0.2**
PDG	**Podgorica**	**0.25**	**339**	*ePg*	**Pg**	**18 47 47.1**	**-0.7**
PDG				*eSg*	**Sg**	**18 47 52.0**	**+0.3**
PDG	**Podgorica**	**0.25**	**339**	⇑*iP*	**Pg**	**18 47 47.1**	**-0.8**
PDG				*i* S	**Sg**	**18 47 52.4**	**+0.7**
PDG	**Podgorica**	**0.25**	**339**	⇑*iPg*	**Pg**	**18 47 46.9**	**-0.8**
PDG				*i* Sg	**Sg**	**18 47 51.8**	**+0.1**
PDG				S	**Sg**	**18 47 52.4**	**+0.7**
TTG	**Podgorica**	**0.25**	**339**	⇑*iPg*	**Pg**	**18 47 46.9**	**-0.8**
TTG				*i* Sg	**Sg**	**18 47 51.8**	**+0.1**
ULC	**Ulcinj**	**0.25**	**203**	⇑*iPg*	**Pg**	**18 47 46.7**	**-1.1**
ULC				*i* Sg	**Sg**	**18 47 51.5**	**-0.2**
ULC	**Ulcinj**	**0.25**	**203**	⇑*iPg*	**Pg**	**18 47 46.7**	**-1.1**
ULC				*i* Sg	**Sg**	**18 47 51.5**	**-0.2**
BUM	**Brajici-Budva**	**0.37**	**286**	⇑*iPg*	**Pb**	**18 47 49.3**	**-1.0**
BUM				*eSg*	**Sb**	**18 47 55.8**	**0.0**
BUM	**Brajici-Budva**	**0.37**	**286**	⇑*iPg*	**Pb**	**18 47 49.3**	**-1.0**
BUM				*eSg*	**Sb**	**18 47 55.8**	**0.0**
PUK	**Puka**	**0.41**	**112**	*iPG*	**Pg**	**18 47 49.2**	**-1.4**
PUK				*i* SG	**Sg**	**18 47 56.2**	**-0.1**
PUK	**Puka**	**0.41**	**112**	*i* Pg	**Pg**	**18 47 49.2**	**-1.4**
PUK				*i* Sg	**Sg**	**18 47 56.2**	**-0.1**
CEME	**Cevo**	**0.49**	**316**	⇑*iPg*	**Pg**	**18 47 50.7**	**-1.5**
CEME				*i* Sg	**Sb**	**18 47 59.2**	**+0.1**
CEME	**Cevo**	**0.49**	**316**	⇑*iPg*	**Pb**	**18 47 50.7**	**-1.5**
CEME				*i* Sg	**Sb**	**18 47 59.2**	**+0.1**
PVY	**Plav**	**0.59**	**47**	⇑*iPg*	**Pg**	**18 47 52.5**	**-1.3**
PVY				*i* Sg	**Sg**	**18 48 01.8**	**+0.1**
PVY	**Plav**	**0.59**	**47**	⇑*iPg*	**Pg**	**18 47 52.5**	**-1.3**
PVY				*i* Sg	**Sg**	**18 48 01.8**	**+0.1**
NKME	**Niksic**	**0.65**	**331**	⇑*iPg*	**Pg**	**18 47 53.6**	**-1.4**
NKME				*i* Sg	**Sb**	**18 48 04.3**	**+0.6**
NKME	**Niksic**	**0.65**	**331**	⇑*iPg*	**Pg**	**18 47 53.6**	**-1.4**
NKME				*i* Sg	**Sb**	**18 48 04.3**	**+0.6**
KOME	**Kolasin**	**0.66**	**9**	⇓*iPg*	**Pg**	**18 47 53.9**	**-1.3**
KOME				*i* Sg	**Sb**	**18 48 04.4**	**+0.3**
KOME	**Kolasin**	**0.66**	**9**	⇓*iPg*	**Pg**	**18 47 53.9**	**-1.3**
KOME				*i* Sg	**Sb**	**18 48 04.4**	**+0.3**
NKY	**Niksic**	**0.68**	**335**	⇓*iPg*	**Pg**	**18 47 54.2**	**-1.3**
NKY				*i* Sg	**Sb**	**18 48 05.3**	**+0.7**
NKY	**Niksic**	**0.68**	**335**	⇓*iPg*	**Pg**	**18 47 54.2**	**-1.3**
NKY				*i* Sg	**Sb**	**18 48 05.3**	**+0.7**
HCY	**Herceg Novi**	**0.70**	**291**	⇑*iPg*	**Pb**	**18 47 54.5**	**-1.2**
HCY				*i* Sg	**Sb**	**18 48 06.3**	**+1.2**
HCY	**Herceg Novi**	**0.70**	**291**	⇑*iPg*	**Pb**	**18 47 54.6**	**-1.2**
HCY				*eSg*	**Sb**	**18 48 05.8**	**+0.7**
BEY	**Berane**	**0.78**	**29**	⇓*iPg*	**Pg**	**18 47 55.7**	**-1.6**
BEY				*i* Sg	**Sb**	**18 48 08.0**	**+0.6**
IVA	**Berane**	**0.78**	**29**	⇓*iPg*	**Pg**	**18 47 55.7**	**-1.6**
IVA				*i* Sg	**Sb**	**18 48 08.0**	**+0.6**
TIR	**Tirane**	**0.92**	**157**	*iPG*	**Pg**	**18 47 58.2**	**-1.8**
TIR				*i* SG	**Sn**	**18 48 13.9**	**+1.0**
TIR	**Tirane**	**0.92**	**157**	*ePg*	**Pg**	**18 47 58.1**	**-1.9**
TIR				*eSg*	**Sn**	**18 48 13.9**	**+1.0**
TIR	**Tirane**	**0.92**	**157**	⇑*iP*	**Pn**	**18 48 02.0**	**+1.9**
TIR				S	**Sn**	**18 48 14.7**	**+1.8**
TIR	**Tirane**	**0.92**	**157**	*ePg*	**Pg**	**18 47 58.1**	**-1.9**
TIR	**Tirane**	**0.92**	**157**	⇑*iP*	**Pn**	**18 48 02.0**	**+1.9**
TIR				*i* Sg	**Sn**	**18 48 13.9**	**+1.0**
TIR				S	**Sn**	**18 48 14.7**	**+1.8**
TREB	**Trebinje**	**0.92**	**305**	*ePg*	**Pb**	**18 47 58.6**	**-0.9**
TREB				*eSg*	**Sn**	**18 48 13.0**	**0.0**
TREB	**Trebinje**	**0.92**	**305**	*ePg*	**Pb**	**18 47 58.6**	**-0.9**
TREB				*eSg*	**Sb**	**18 48 11.7**	**+0.2**
PHP	**Peshkopia**	**0.94**	**122**	*iPG*	**Pg**	**18 47 58.2**	**-2.2**
PHP				*i* SG	**Sb**	**18 48 13.5**	**+1.4**
PHP	**Peshkopia**	**0.94**	**122**	*i* Pg	**Pg**	**18 47 58.2**	**-2.2**
PHP				*i* Sg	**Sb**	**18 48 13.5**	**+1.4**
PLE	**Pljevlja**	**1.13**	**0**	⇑*iPg*	**Pg**	**18 48 02.4**	**-1.6**
PLE				*eSg*	**Sn**	**18 48 20.1**	**+1.7**
PLE	**Pljevlja**	**1.13**	**0**	⇑*iPg*	**Pg**	**18 48 02.4**	**-1.6**
PLE				*eSg*	**Sn**	**18 48 20.1**	**+1.7**
SJES	**Sjenica**	**1.15**	**22**	*ePg*	**Pg**	**18 48 02.5**	**-1.9**
SJES				*eSg*	**Sg**	**18 48 18.6**	**-0.9**
SJES	**Sjenica**	**1.15**	**22**	*ePg*	**Pg**	**18 48 02.5**	**-1.9**
SJES				*eSg*	**Sg**	**18 48 18.6**	**-0.9**
STON	**Ston**	**1.41**	**299**	*i* Pn	**Pn**	**18 48 05.5**	**-1.3**
STON				Sn	**Sn**	**18 48 26.9**	**+1.9**
STON	**Ston**	**1.41**	**299**	*ePg*	**Pb**	**18 48 07.5**	**-0.4**
STON	**Ston**	**1.41**	**299**	*i* Pn	**Pn**	**18 48 05.5**	**-1.3**
STON	**Ston**	**1.41**	**299**	*ePg*	**Pb**	**18 48 07.5**	**-0.4**
STON				*eSg*	**Sn**	**18 48 27.0**	**+2.0**
IVAS	**Ivanjica**	**1.49**	**22**	*ePg*	**Pn**	**18 48 08.4**	**+0.3**
IVAS				*eSg*	**Sn**	**18 48 29.6**	**+2.5**
IVAS	**Ivanjica**	**1.49**	**22**	*ePg*	**Pn**	**18 48 08.4**	**+0.3**
IVAS				*eSg*	**Sn**	**18 48 29.6**	**+2.5**
OHR	**Ohrid**	**1.52**	**135**	*i* Pn	**Pg**	**18 48 09.9**	**-1.4**
OHR				*i* Sn	**Sg**	**18 48 32.1**	**+0.9**
SKO	**Skopje**	**1.55**	**98**	*ePn*	**Pn**	**18 48 09.5**	**+0.7**
SKO				*eSn*	**Sn**	**18 48 29.1**	**+0.6**
SKO	**Skopje**	**1.55**	**98**	*ePn*	**Pn**	**18 48 09.5**	**+0.7**
SKO				*eSn*	**Sn**	**18 48 29.1**	**+0.6**
SKO	**Skopje**	**1.55**	**98**	*i* Pn	**Pn**	**18 48 09.7**	**+0.9**
SKO				*i* Sn	**Sg**	**18 48 31.6**	**-0.5**
KRUS	**Krusevo**	**1.62**	**120**	*i* Pn	**Pn**	**18 48 11.1**	**+1.2**
KRUS				*i* Sn	**Sb**	**18 48 33.0**	**+1.2**
SELS	**Selova**	**1.64**	**51**	*ePn*	**Pn**	**18 48 09.7**	**-0.4**
SELS				*eSn*	**Sn**	**18 48 31.6**	**+0.8**
SELS	**Selova**	**1.64**	**51**	*ePn*	**Pn**	**18 48 09.7**	**-0.4**
SELS				*eSn*	**Sn**	**18 48 31.6**	**+0.8**
BBLS	**Lazići**	**1.67**	**1**	*ePn*	**Pb**	**18 48 12.0**	**-0.3**
BBLS				*eSn*	**Sn**	**18 48 32.6**	**+1.1**
BBLS	**Lazići**	**1.67**	**1**	⇓*iPn*	**Pn**	**18 48 11.4**	**+0.9**
BBLS				*eSn*	**Sn**	**18 48 32.8**	**+1.3**
BIA	**Bitola**	**1.87**	**128**	*i* Pn	**Pb**	**18 48 15.6**	**-0.2**
BIA				*i* Sn	**Sg**	**18 48 41.4**	**-1.1**
BARS	**Barje**	**1.91**	**70**	*ePn*	**Pn**	**18 48 13.8**	**+0.1**
BARS				*eSn*	**Sn**	**18 48 38.0**	**+0.7**
BARS	**Barje**	**1.91**	**70**	*ePn*	**Pn**	**18 48 13.8**	**+0.1**
BARS				*eSn*	**Sn**	**18 48 38.0**	**+0.7**
HAPS	**Han Pijesak,Bl**	**1.92**	**351**	*ePn*	**Pn**	**18 48 14.3**	**+0.4**
HAPS				*eSn*	**Sn**	**18 48 38.1**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.92**	**351**	⇑*iPn*	**Pn**	**18 48 14.5**	**+0.6**
HAPS				*eSn*	**Sn**	**18 48 38.2**	**+0.6**
DIVS	**Divibare**	**1.95**	**13**	*ePn*	**Pn**	**18 48 14.7**	**+0.3**
DIVS				*eSn*	**Sn**	**18 48 38.6**	**0.0**
DIVS	**Divibare**	**1.95**	**13**	⇓*iPn*	**Pn**	**18 48 14.7**	**+0.3**
DIVS				*eSn*	**Sn**	**18 48 39.0**	**+0.4**
GRUS	**Gruza**	**1.96**	**30**	*ePn*	**Pn**	**18 48 14.7**	**+0.3**
GRUS	**Gruza**	**1.96**	**30**	*ePn*	**Pn**	**18 48 14.7**	**+0.3**
FASA	**Fasano**	**2.05**	**228**	*ePn*	**Pn**	**18 48 14.8**	**-0.9**
FNA	**Florina**	**2.06**	**133**	*i* PN	**Pn**	**18 48 17.2**	**+1.4**
FNA				*i* SN	**Sb**	**18 48 45.2**	**+0.9**
FNA	**Florina**	**2.06**	**133**	*ePn*	**Pn**	**18 48 16.8**	**+1.0**
FNA	**Florina**	**2.06**	**133**	*ePn*	**Pn**	**18 48 16.8**	**+1.0**
FNA				*i* Sn	**Sb**	**18 48 45.2**	**+0.9**
TRUS	**Trudelj**	**2.16**	**20**	*ePn*	**Pn**	**18 48 17.7**	**+0.5**
TRUS	**Trudelj**	**2.16**	**20**	*ePn*	**Pn**	**18 48 17.7**	**+0.5**
BAI	**Bari**	**2.17**	**241**	*ePn*	**Pn**	**18 48 16.2**	**-1.0**
BOVS	**Bovan**	**2.23**	**49**	*ePn*	**Pn**	**18 48 18.6**	**+0.4**
BOVS	**Bovan**	**2.23**	**49**	*ePn*	**Pn**	**18 48 18.6**	**+0.4**
MASS	**Massafra**	**2.29**	**228**	*ePn*	**Pn**	**18 48 17.5**	**-1.5**
TEKS	**Tekeris**	**2.35**	**3**	*ePn*	**Pn**	**18 48 20.6**	**+0.7**
TEKS	**Tekeris**	**2.35**	**3**	*ePn*	**Pn**	**18 48 20.4**	**+0.5**
TEKS				*eSn*	**Sn**	**18 48 48.8**	**+0.4**
SRN	**Sarande**	**2.36**	**168**	*i* PN	Pn	18 48 14.5	-5.4
SRN				*i* SN	**Sn**	**18 48 49.0**	**+0.6**
SG1	**Sgolgore (BA)**	**2.44**	**237**	*ePn*	**Pn**	**18 48 20.2**	**-0.8**
MATE	**Matera**	**2.54**	**233**	⇑*iP*	**Pb**	**18 48 26.8**	**-0.2**
MATE	**Matera**	**2.54**	**233**	S	**Sb**	**18 48 58.3**	**+0.5**
MATE	**Matera**	**2.54**	**233**	⇑*iP*	**Pb**	**18 48 26.8**	**-0.2**
VAY	**Valandovo**	**2.54**	**109**	*ePn*	**Pn**	**18 48 23.6**	**+1.2**
VAY				*eSn*	**Sn**	**18 48 54.6**	**+1.7**
MS1	**Monte Sant'Ang**	**2.61**	**260**	*ePn*	**Pn**	**18 48 22.3**	**-1.1**
ZAPS	**Zavoj**	**2.63**	**65**	*ePn*	**Pn**	**18 48 24.5**	**+0.8**
ZAPS				*eSn*	**Sn**	**18 48 56.5**	**+1.4**
ZAPS	**Zavoj**	**2.63**	**65**	*ePn*	**Pn**	**18 48 24.5**	**+0.8**
ZAPS				*eSn*	**Sn**	**18 48 56.5**	**+1.4**
ZAGS	**Zajecar**	**2.65**	**51**	*ePn*	**Pn**	**18 48 24.2**	**+0.4**
ZAGS				*eSn*	**Sn**	**18 48 57.0**	**+1.5**
ZAGS	**Zajecar**	**2.65**	**51**	*ePn*	**Pn**	**18 48 24.2**	**+0.4**
ZAGS				*eSn*	**Sn**	**18 48 57.0**	**+1.5**
IGT	**Igoumenitsa**	**2.76**	**164**	*ePn*	**Pn**	**18 48 25.0**	**-0.4**
IGT	**Igoumenitsa**	**2.76**	**164**	*ePn*	**Pn**	**18 48 25.0**	**-0.4**
KUBS	**Kucevo**	**2.78**	**36**	*ePn*	**Pn**	**18 48 24.9**	**-0.8**
KUBS	**Kucevo**	**2.78**	**36**	*ePn*	**Pn**	**18 48 24.9**	**-0.8**
VTS	**Vitosha**	**2.87**	**81**	⇓*iP*	**Pn**	**18 48 28.6**	**+1.6**
VTS	**Vitosha**	**2.87**	**81**	⇓*iP*	**Pn**	**18 48 28.6**	**+1.6**
VTS				*eSn*	**Sn**	**18 49 01.8**	**+0.7**
VTS				S	**Sb**	**18 49 03.9**	**-3.6**
FGSL	**Fruska Gora**	**2.98**	**6**	*ePn*	**Pn**	**18 48 28.6**	**+0.2**
FRGS	**Fruska Gora**	**2.98**	**6**	*ePn*	**Pn**	**18 48 28.6**	**+0.2**
BLY	**Banja Luka**	**3.01**	**329**	⇓*iP*	**Pn**	**18 48 28.4**	**+2.9**
BLY	**Banja Luka**	**3.01**	**329**	*ePn*	**Pn**	**18 48 29.6**	**+0.7**
BLY	**Banja Luka**	**3.01**	**329**	⇓*iP*	**Pn**	**18 48 31.8**	**+2.9**
BLY				*eSn*	**Sn**	**18 49 05.8**	**+1.3**
BLY				S	**Sb**	**18 49 09.1**	**-2.4**
BANR	**Banloc**	**3.43**	**21**	S	**Sn**	**18 49 17.9**	**+3.1**
BANR	**Banloc**	**3.43**	**21**	S	**Sn**	**18 49 17.9**	**+3.1**
UDBI	**Udbina**	**3.52**	**313**	*ePn*	**Pn**	**18 48 37.9**	**+2.0**
UDBI				Sn	**Sn**	**18 49 20.6**	**+3.5**
UDBI	**Udbina**	**3.52**	**313**	*ePn*	**Pn**	**18 48 37.9**	**+2.0**
UDBI				Sn	**Sn**	**18 49 20.5**	**+3.5**
TIP	**Timpagrande**	**3.61**	**214**	⇓*iP*	**Pn**	**18 48 34.9**	**-2.3**
TIP	**Timpagrande**	**3.61**	**214**	⇓*iP*	**Pn**	**18 48 34.9**	**-2.3**
TIP				S	**Sn**	**18 49 17.7**	**-1.7**
BZS	**Buzias**	**3.78**	**25**	⇑*iP*	**Pn**	**18 48 39.9**	**+0.4**
BZS	**Buzias**	**3.78**	**25**	⇑*iP*	**Pn**	**18 48 39.9**	**+0.4**
BZS				S	**Sn**	**18 49 24.4**	**+0.9**
NVLJ	**Novalja**	**4.05**	**307**	*ePn*	**Pn**	**18 48 43.5**	**+0.3**
NVLJ				Sn	**Sn**	**18 49 30.0**	**0.0**
NVLJ	**Novalja**	**4.05**	**307**	*ePn*	**Pn**	**18 48 43.4**	**+0.3**
NVLJ				Sn	**Sn**	**18 49 30.0**	**0.0**
SIRR	**Siria**	**4.39**	**21**	⇑*iP*	**Pn**	**18 48 48.3**	**+0.5**
SIRR	**Siria**	**4.39**	**21**	⇑*iP*	**Pn**	**18 48 48.3**	**+0.5**
SIRR				S	**Sn**	**18 49 38.3**	**-0.2**
BOJS	**Bojanci**	**4.45**	**319**	*i* Pn	**Pn**	**18 48 50.4**	**+1.7**
BOJS	**Bojanci**	**4.45**	**319**	*i* Pn	**Pn**	**18 48 50.4**	**+1.7**
LOT	**Lotru**	**4.55**	**43**	S	**Sn**	**18 49 42.5**	**0.0**
LOT	**Lotru**	**4.55**	**43**	S	**Sn**	**18 49 42.5**	**0.0**
CRES	**Cresnjev**	**4.60**	**323**	*i* Pn	**Pn**	**18 48 52.6**	**+1.9**
CRES	**Cresnjev**	**4.60**	**323**	*ePn*	**Pn**	**18 48 51.4**	**+0.7**
CRES				*eSn*	**Sn**	**18 49 43.1**	**-0.6**
VISS	**Visnje**	**4.87**	**319**	*i* Pn	**Pn**	**18 48 56.4**	**+2.0**
VISS	**Visnje**	**4.87**	**319**	*i* Pn	**Pn**	**18 48 56.4**	**+2.0**
PDKS	**Podkum**	**4.99**	**322**	*i* Pn	**Pn**	**18 48 58.0**	**+2.0**
PDKS	**Podkum**	**4.99**	**322**	*i* Pn	**Pn**	**18 48 58.0**	**+2.0**
CEY	**Cerknica**	**5.03**	**316**	*ePn*	**Pn**	**18 48 57.1**	**+0.5**
CEY				*eSn*	**Sn**	**18 49 53.5**	**+0.8**
DRGR		**5.18**	**26**	S	**Sn**	**18 49 58.9**	**+0.9**
DRGR		**5.18**	**26**	S	**Sn**	**18 49 58.9**	**+0.9**
VOIR		**5.23**	**50**	⇑*iP*	**Pn**	**18 49 00.6**	**+1.2**
VOIR		**5.23**	**50**	⇑*iP*	**Pn**	**18 49 00.6**	**+1.2**
VOIR				S	**Sn**	**18 50 00.9**	**+1.6**
SOKA	**Soboth**	**5.46**	**327**	Pn	**Pn**	**18 49 05.2**	**+2.7**
	1.0nm,0.3s						
SOKA				Sn	**Sn**	**18 50 06.0**	**+1.2**
	1.4nm,0.5s						
SOKA	**Soboth**	**5.46**	**327**	*i* Pn	**Pn**	**18 49 05.2**	**+2.7**
	1.0nm,0.3s						
SOKA				*eSn*	**Sn**	**18 50 06.0**	**+1.2**
	1.4nm,0.5s						
OBKA	**Obir**	**5.53**	**323**	Pn	**Pn**	**18 49 02.0**	**-1.6**
	0.7nm,0.2s						
OBKA	**Obir**	**5.53**	**323**	*ePn*	**Pn**	**18 49 02.0**	**-1.6**
	0.7nm,0.2s						
OBKA				*eSn*	**Sn**	**18 50 11.6**	**+4.9**
	6.6nm,0.9s						
PSZ	**Piszkesteto**	**5.73**	**3**	⇑*iP*	**Pn**	**18 49 06.8**	**+0.5**
PSZ	**Piszkesteto**	**5.73**	**3**	⇑*iP*	**Pn**	**18 49 06.8**	**+0.5**
PSZ				S	**Sn**	**18 50 13.9**	**+2.2**
ARSA	**Arzberg**	**5.75**	**333**	Pn	**Pn**	**18 49 09.4**	**+2.9**
	1.9nm,0.5s						
ARSA				Sn	**Sn**	**18 50 12.1**	**0.0**
ARSA	**Arzberg**	**5.75**	**333**	*i* Pn	**Pn**	**18 49 09.4**	**+2.9**
	1.9nm,0.5s						
ARSA				*eSn*	**Sn**	**18 50 12.1**	**0.0**
CONA	**Conrad Observa**	**6.25**	**338**	*ePn*	**Pn**	**18 49 17.6**	**+4.2**
CONA				*i* Sn	**Sn**	**18 50 25.2**	**+0.8**
	3.7nm,0.5s						
VYHS	**Vyhne**	**6.31**	**357**	*ePn*	**Pn**	**18 49 15.4**	**+1.2**
VYHS	**Vyhne**	**6.31**	**357**	*ePN*	**Pn**	**18 49 15.4**	**+1.2**
VYHS				*eSN*	**Sn**	**18 50 23.8**	**-2.0**
KECS	**Kecovo**	**6.34**	**7**	*ePn*	**Pn**	**18 49 16.4**	**+1.9**
KECS	**Kecovo**	**6.34**	**7**	*ePN*	**Pn**	**18 49 16.3**	**+1.8**
KECS				*eSN*	**Sn**	**18 50 24.8**	**-1.6**
MODS	**Modra-Piesok**	**6.35**	**347**	*eSn*	**Sn**	**18 50 26.9**	**0.0**
MODS	**Modra-Piesok**	**6.35**	**347**	*eSN*	**Sn**	**18 50 26.9**	**0.0**
ABTA	**Abfaltersbach**	**6.69**	**315**	Pn	**Pn**	**18 49 20.9**	**+1.4**
	0.3nm,0.2s						
ABTA				Sn	**Sn**	**18 50 37.0**	**+1.7**
	1.1nm,0.4s						
ABTA	**Abfaltersbach**	**6.69**	**315**	*ePn*	**Pn**	**18 49 20.9**	**+1.4**
	0.3nm,0.2s						
ABTA				*i* Sn	**Sn**	**18 50 37.0**	**+1.7**
	1.1nm,0.4s						
MOA	**Molln**	**6.71**	**329**	Pn	**Pn**	**18 49 21.8**	**+2.1**
MOA				Sn	**Sn**	**18 50 36.9**	**+1.2**
	2.9nm,0.5s						
MOA	**Molln**	**6.71**	**329**	*ePn*	**Pn**	**18 49 21.8**	**+2.1**
MOA				Sn	**Sn**	**18 50 36.9**	**+1.2**
	2.9nm,0.5s						
BURAR	**Bucovina Array**	**6.82**	**35**	⇑*iP*	**Pn**	**18 49 23.1**	**+1.8**
BURAR	**Bucovina Array**	**6.82**	**35**	⇑*iP*	**Pn**	**18 49 23.1**	**+1.8**
CRVS	**Cervenica-Dubn**	**6.87**	**12**	*ePn*	**Pn**	**18 49 22.9**	**+1.1**
CRVS	**Cervenica-Dubn**	**6.87**	**12**	*ePN*	**Pn**	**18 49 22.9**	**+1.1**
KHC	**Kasperske Hory**	**8.04**	**332**	*eSN*	**Sn**	**18 51 09.2**	**+0.9**

*IDC **14** 18:50:51.5±6.3,10°.86N×94°.12E,h94km±57km,mb3.3/9, mb1 3.4/10,mb1mx3.2/68,mbtmp3.6/10,ML3.5/1,MS3.3/1, Ms1 3.3/1,ms1mx2.6/36,Error ellipse: s-maj=45.3km s-min=15.6km az=52.0*

ISC 14 18:50:45.3±1.3,10.8N±0°.2×94°1E±0°.3,h35km,n10, σ0s33/9,mb3.7/9,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.93**	**31**	P	Pn	18 52 57.0	+5.2
	0.1nm,0.3s,baz=211,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**37.23**	**347**	P	**P**	**18 57 53.6**	**+0.2**
	0.3nm,0.6s,baz=161,slow=7.7,SNR=5.0						
MKAR				LR	LR	19 15 37.7	
	comp=Z,43nm,18.0s,baz=278,slow=40						
SONM	**Songino Array**	**38.32**	**13**	P	**P**	**18 58 02.6**	**-0.2**
	0.2nm,0.5s,baz=204,slow=6.3,SNR=2.1						
KURBB	**Kurchatov Arra**	**41.70**	**345**	P	**P**	**18 58 30.2**	**-0.4**
	0.4nm,0.9s,baz=159,slow=8.0,SNR=3.3						
GEYT	**Alibeck**	**42.03**	**316**	P	**P**	**18 58 33.9**	**+0.4**
	4.0nm,0.7s,baz=131,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**43.65**	**352**	P	**P**	**18 58 46.5**	**+0.2**
	1.0nm,0.7s,baz=180,slow=8.2,SNR=4.1						
BVAR	**Borovoye Array**	**46.21**	**340**	P	**P**	**18 59 06.8**	**+0.1**
	0.2nm,0.5s,baz=157,slow=7.8,SNR=2.3						
WRA	**Warramunga Arr**	**50.04**	**128**	P	**P**	**18 59 36.8**	**-0.1**
	1.2nm,0.7s,baz=305,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**51.86**	**132**	P	**P**	**18 59 50.7**	**+0.2**
	1.4nm,0.8s,baz=305,slow=6.7,SNR=12						
BRTR	**Keskin Array B**	**60.51**	**310**	P	**P**	**19 00 51.8**	**-0.5**
	0.4nm,0.7s,baz=115,slow=8.8,SNR=2.

WRA	**Warramunga Arr**	**54.35**	**183**	P	**P**	**19 07 08.3**	**-0.9**
	6.2nm,0.3s,baz=0.6,slow=7.6,SNR=350						
AKTO	**Aktyubinsk**	**57.41**	**312**	P	**P**	**19 07 31.1**	**+0.8**
	4.3nm,0.7s,baz=74,slow=14,SNR=9.8						
ASAR	**Alice Springs**	**58.07**	**183**	P	**P**	**19 07 34.6**	**-0.6**
	2.3nm,0.3s,baz=358,slow=5.5,SNR=162						
GEYT	**Alibeck**	**61.61**	**298**	P	**P**	**19 07 58.5**	**-0.5**
	1.7nm,0.8s,baz=102,slow=6.6,SNR=4.3						
ARCES	**ARCESS Array B**	**64.84**	**339**	P	**P**	**19 08 20.1**	**+0.6**
	3.1nm,1.0s,baz=47,slow=9.1,SNR=6.7						
STKA	**Stephens Creek**	**66.35**	**175**	P	**P**	**19 08 28.9**	**-0.6**
	1.7nm,0.6s,baz=353,slow=5.5,SNR=4.5						
YKA	**Yellowknife Ar**	**67.73**	**28**	P	**P**	**19 08 38.8**	**+1.1**
	0.4nm,0.4s,baz=302,slow=6.2,SNR=6.6						
FINES	**FINESS Array B**	**69.09**	**331**	P	**P**	**19 08 46.1**	**+0.1**
	0.8nm,0.5s,baz=104,slow=8.0,SNR=7.1						
KBZ	**Khabaz**	**69.50**	**309**	P	**P**	**19 08 48.6**	**-0.2**
	2.7nm,0.8s,baz=31,slow=4.2,SNR=6.4						
AKASG	**Malin Array Be**	**73.77**	**321**	P	**P**	**19 09 13.6**	**-0.4**
	0.4nm,0.4s,baz=49,slow=6.8,SNR=4.6						
HFS	**Hagfors**	**74.61**	**334**	P	**P**	**19 09 18.5**	**-0.1**
	0.8nm,0.6s,baz=59,slow=6.9,SNR=4.1						
NOA	**NORSAR Array B**	**74.83**	**336**	P	**P**	**19 09 20.1**	**+0.1**
	0.5nm,0.7s,baz=50,slow=7.0,SNR=2.5						
NVAR	**Mina Array Bea**	**79.45**	**51**	P	**P**	**19 09 46.8**	**+0.7**
	0.5nm,0.5s,baz=284,slow=5.3,SNR=6.2						
PDAR	**Pinedale Array**	**82.02**	**43**	P	**P**	**19 10 00.0**	**+0.5**
	0.6nm,0.7s,baz=298,slow=1.9,SNR=7.2						
GERES	**GERESS Array B**	**82.62**	**326**	P	**P**	**19 10 02.1**	**-0.2**
	0.2nm,0.4s,baz=46,slow=8.4,SNR=2.3						
ULM	**Lac du Bonnet**	**83.53**	**31**	P	**P**	**19 10 06.2**	**-0.5**
	1.1nm,0.7s,baz=338,slow=5.4,SNR=3.2						
TXAR	**Lajitas Array**	**94.57**	**50**	P	**P**	**19 11 00.5**	**+1.1**
	0.5nm,0.6s,baz=297,slow=2.9,SNR=7.3						
TORD	**Torodi Ar. Bea**	**116.10**	**310**	PKP	**PKPdf**	**19 16 19.6**	**-0.4**
	0.2nm,0.4s,baz=25,slow=3.0,SNR=2.8						
LPAZ	**La Paz**	**151.18**	**57**	PKPbc	**PKPbc**	**19 17 31.2**	**+0.2**
	1.1nm,0.6s,baz=40,slow=6.2,SNR=6.5						

JMA 14 19:04:20.2±0.3**, 40.88N**×**145.29E, h62**km**, M2.9, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.96**	**306**	*e*S	Sn	19 05 15.0	+0.3
JAK	**Akkeshi**	**2.16**	**348**	P	Pn	19 04 55.0	+1.2
JAK				*e*S	Sn	19 05 19.3	-0.2
JOB	**Onbets**	**2.29**	**332**	*e*S	Sn	19 05 23.3	+0.5
JNBK	**Urakawa-nobuka**	**2.36**	**307**	P	Pn	19 04 58.6	+2.0
NEM2	**Nemuro 2**	**2.51**	**8**	P	Pn	19 04 59.3	+0.8
NEM2				*e*S	Sn	19 05 27.1	-0.8
JAR	**Ashorobuto**	**2.67**	**335**	P	Pn	19 05 01.7	+1.0
JAR				*e*S	Sn	19 05 31.0	-0.9
JNK	**Nakash**	**2.74**	**351**	P	Pn	19 05 02.1	+0.4
JNK				*e*S	Sn	19 05 31.9	-1.7
JANG	**Nango**	**2.92**	**261**	P	Pn	19 05 04.4	+0.2
JANG				*e*S	Sn	19 05 34.8	-3.2
JFR	**Furan**	**3.04**	**320**	*e*S	Sn	19 05 40.8	-0.2
JOT	**Ohata**	**3.24**	**280**	*e*S	Sn	19 05 44.6	-1.4
JTKR	**Abashiri--Toko**	**3.25**	**342**	*e*S	Sn	19 05 47.1	+0.9
JOM	**Ohasama**	**3.37**	**247**	P	Pn	19 05 09.9	-0.4
JOM				*e*S	Sn	19 05 47.0	-2.1

JMA 14 19:04:39.3±0.2**, 42.42N**×**141.57E, h100**km**, M1.4, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.40**	**277**	P	Pn	19 04 54.3	-0.1
JNB				*e*S	Sn	19 05 05.8	+0.1
JEW	**Eniwo**	**0.43**	**348**	P	Pn	19 04 54.7	+0.1
JEW				*e*S	Sn	19 05 06.3	+0.3
JKB	**Kayabe**	**0.67**	**217**	P	Pn	19 04 56.5	+0.1
JKB				*e*S	Sn	19 05 09.2	0.0
JBT2	**Biratori 2**	**0.69**	**58**	P	Pn	19 04 56.6	0.0
JBT2				*e*S	Sn	19 05 09.5	0.0
JYM2	**Yakumo 2**	**0.94**	**252**	P	Pn	19 04 59.6	+0.5
JOT	**Ohata**	**1.11**	**201**	P	Pn	19 05 01.2	+0.3
JOT				*e*S	Sn	19 05 17.2	0.0
JAB	**Ashibetsu**	**1.19**	**24**	*e*S	Sn	19 05 19.4	+0.7
JSR	**Shiriuchi**	**1.24**	**224**	P	Pn	19 05 03.2	+0.8
JCH	**Churui**	**1.34**	**81**	*e*S	Sn	19 05 21.9	0.0
JCH	**Churui**	**1.34**	**81**	*e*S	Sn	19 05 21.9	0.0
JKK2	**Kamakawa 2**	**1.69**	**30**	P	Pn	19 05 08.4	+0.5
JKK2				*e*S	Sn	19 05 29.6	0.0

ROM ***14*** *19:07:06.6±0.2, 43.14N×13.46E, h19km±3km, Md2.2/12, Ml1.9/14, Error ellipse: s-maj=2.0km s-min=1.4km az=78.0*
CSEM ***14*** *19:07:06.0±0.2, 43.15N×13.52E, h15km, ML2.5/10, Error ellipse: s-maj=4.3km s-min=3.3km az=65.0*
ISC 14 19:07:05.6±1.0**, 43.15N**±0.02×**13.53E**±0.02**, h10**km±9km**, n30**, σ0**.84/56, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.24**	**152**	Pg	**Pb**	**19 07 13.0**	**+0.9**
	347nm,0.5s						
OFFI	**Offida**	**0.24**	**152**	Pg	**Pb**	**19 07 13.0**	**+0.9**
	347nm,0.5s						
GUMA	**Gualdo di Mace**	**0.31**	**106**	Pg	**Pg**	**19 07 10.6**	**-1.2**
GUMA	**Gualdo di Mace**	**0.31**	**106**	Pg	**Pg**	**19 07 10.6**	**-1.2**
GUMA				Sg	**Sg**	**19 07 13.8**	**-2.2**
	653nm,0.2s						
CING	**Cingoli**	**0.33**	**313**	Pg	**Pg**	**19 07 13.1**	**+0.9**
CING				Sg	**Sb**	**19 07 18.5**	**-0.5**
	49nm,0.3s						
CING	**Cingoli**	**0.33**	**313**	Pg	**Pg**	**19 07 13.1**	**+0.9**
CING				Sg	**Sb**	**19 07 18.5**	**-0.5**
	49nm,0.3s						
AOI	**Ancona**	**0.40**	**8**	Pg	**Pb**	**19 07 15.3**	**+0.4**
AOI	**Ancona**	**0.40**	**8**	Pg	**Pb**	**19 07 15.3**	**+0.4**
AOI				Sg	**Sb**	**19 07 22.8**	**+1.7**
	47nm,0.2s						
NRCA	**Norcia**	**0.44**	**224**	Pg	**Pg**	**19 07 14.5**	**+0.3**
NRCA				Sg	**Sb**	**19 07 20.9**	**-1.2**
	828nm,0.1s						
NRCA	**Norcia**	**0.44**	**224**	Pg	**Pg**	**19 07 14.5**	**+0.3**
NRCA				Sg	**Sb**	**19 07 20.9**	**-1.2**
	828nm,0.1s						
SNTG	**Esanatoglia**	**0.44**	**284**	Pg	**Pg**	**19 07 14.5**	**+0.2**
SNTG				Sg	**Sg**	**19 07 20.9**	**+0.8**
	69nm,0.2s						
SNTG	**Esanatoglia**	**0.44**	**284**	Pg	**Pg**	**19 07 14.5**	**+0.2**
SNTG				Sg	**Sg**	**19 07 20.9**	**+0.8**
	69nm,0.2s						
CESI	**CESI - Serrava**	**0.48**	**253**	Pg	**Pg**	**19 07 15.0**	**+0.1**
CESI				Sg	**Sb**	**19 07 22.0**	**-1.3**
	24nm,0.3s						
CESI	**CESI - Serrava**	**0.48**	**253**	Pg	**Pg**	**19 07 15.0**	**+0.1**
CESI				Sg	**Sb**	**19 07 22.0**	**-1.3**
	24nm,0.3s						
TERO	**Teramo**	**0.53**	**174**	Pg	**Pg**	**19 07 16.8**	**+0.9**
TERO				Sg	**Sb**	**19 07 25.8**	**+1.1**
	67nm,0.2s						
TERO	**Teramo**	**0.53**	**174**	Pg	**Pg**	**19 07 16.8**	**+0.9**
TERO				Sg	**Sb**	**19 07 25.8**	**+1.1**
	67nm,0.2s						
SMA1	**SAN MARTINO**	**0.54**	**195**	Pg	**Pg**	**19 07 16.5**	**+0.4**
SMA1				Sg	**Sb**	**19 07 25.1**	**+0.1**
	120nm,0.4s						
SMA1	**SAN MARTINO**	**0.54**	**195**	Pg	**Pg**	**19 07 16.5**	**+0.4**
SMA1				Sg	**Sb**	**19 07 25.1**	**+0.1**
	120nm,0.4s						
CAMP	**Campotosto**	**0.62**	**188**	Pg	**Pg**	**19 07 18.1**	**+0.5**
CAMP				Sg	**Sb**	**19 07 27.7**	**+0.3**
	44nm,0.4s						
CAMP	**Campotosto**	**0.62**	**188**	Pg	**Pg**	**19 07 18.1**	**+0.5**
CAMP				Sg	**Sb**	**19 07 27.7**	**+0.3**
	44nm,0.4s						
LNSS	**Leonessa**	**0.65**	**213**	Pg	**Pg**	**19 07 18.3**	**0.0**
LNSS				Sg	**Sb**	**19 07 28.2**	**-0.1**
	99nm,0.4s						
LNSS	**Leonessa**	**0.65**	**213**	Pg	**Pg**	**19 07 18.3**	**0.0**
LNSS				Sg	**Sb**	**19 07 28.2**	**-0.1**
	99nm,0.4s						
FRON	**Frontone**	**0.69**	**302**	Pg	**Pg**	**19 07 19.4**	**+0.5**
FRON				Sg	**Sb**	**19 07 29.5**	**+0.2**
	15nm,0.4s						
FRON	**Frontone**	**0.69**	**302**	Pg	**Pg**	**19 07 19.4**	**+0.5**
FRON				Sg	**Sb**	**19 07 29.5**	**+0.2**
	15nm,0.4s						
MURB	**Monte Urbino**	**0.74**	**279**	Pg	**Pg**	**19 07 19.9**	**0.0**
MURB				Sg	**Sb**	**19 07 30.9**	**+0.1**
	42nm,0.3s						
MURB	**Monte Urbino**	**0.74**	**279**	Pg	**Pg**	**19 07 19.9**	**0.0**
MURB				Sg	**Sb**	**19 07 30.9**	**+0.1**
	42nm,0.3s						
PIEI	**Pieia**	**0.82**	**298**	Pg	**Pb**	**19 07 21.4**	**-0.6**
PIEI				Sg	**Sn**	**19 07 33.6**	**-1.9**
	10.0nm,0.6s						
PIEI	**Pieia**	**0.82**	**298**	Pg	**Pb**	**19 07 21.4**	**-0.6**
PIEI				Sg	**Sn**	**19 07 33.6**	**-1.9**
	10.0nm,0.6s						
NVLJ	**Novalja**	**1.71**	**34**	*e*Pn	**Pn**	**19 07 36.1**	**+0.6**
NVLJ				Sn	**Sn**	**19 07 57.2**	**-0.2**
NVLJ	**Novalja**	**1.71**	**34**	*e*Pn	**Pn**	**19 07 36.1**	**+0.6**
NVLJ				Sn	**Sn**	**19 07 57.2**	**-0.2**

ISCJB ***14*** *19:07:40.8±0.8, 45.05S±0.02×166.72E±0.03, h0km±5km, mb4.8/28, MS4.0/10, Error ellipse: s-maj=3.8km s-min=3.4km az=160.9*
IDC ***14*** *19:07:41.5±0.5, 45.11S×166.83E, h0km, mb4.6/14, mb1 4.7/15, mb1mx4.5/38, mbtmp4.6/15, ML5.0/2, MS3.8/9, Ms1 3.7/9, ms1mx3.5/36, Error ellipse: s-maj=18.5km s-min=14.9km az=48.0*
BJI ***14*** *19:07:41.7, 45.25S×166.61E, h8km, mb5.0/11, Ms5.3/5, Ms7 4.8/2*
NEIC ***14*** *19:07:42.8±1.2, 45.13S×166.70E, h9km±7km, mb4.9/13, MW4.7, ML5.4(WEL), Error ellipse: s-maj=4.9km s-min=4.1km az=141.0, Moment Tensor Solution. s25 Moment tensor: Scale 10¹⁶Nm; Mrr0.73; Mθθ0.35; Mφφ-1.08; Mrθ0.35; Mθφ0.59; Mφr0.53; Best double couple: Mo1.30000×10¹⁶ NP1:ϕs 12.00000°, δ66.00000°, λ131.00000°. NP2:ϕs 127.00000°, δ47.00000°, λ35.00000°. Principal axes: T 1.1900, Plg51.0000°, Azm329.0000°; N 0.1700, Plg37.0000°, Azm172.0000°; P -1.3600, Plg11.0000°, Azm73.0000°;*
NEIC Felt at Dunedin.
WEL ***14*** *19:07:43.8, 45°S±9'×16°7E±', h5km, ML5.5/18*
ISC 14 19:07:43.7±1.1**, 45.14S**±0.03×**166.73E**±0.04**, h14**km±7km**, n265, σ1$33/257, mb4.8/28, MS3.9/10, 8C-1D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.44**	**138**	*e*Pg	**Pg**	**19 07 52.4**	**0.0**
DCZ	**Deep Cove**	**0.44**	**138**	P	**Pb**	**19 07 52.8**	**-0.4**
DCZ	**Deep Cove**	**0.44**	**138**	S	**Sb**	**19 07 59.2**	**-0.5**
MSZ	**Milford Sound**	**0.97**	**62**	P	**Pb**	**19 08 01.9**	**-0.3**
MSZ	**Milford Sound**	**0.97**	**62**	S	**Sn**	**19 08 16.1**	**-0.2**
MLZ	**Mavora Lakes**	**1.00**	**104**	*e*Pg	**Pg**	**19 08 02.6**	**-0.5**
MLZ	**Mavora Lakes**	**1.00**	**104**	P	**Pg**	**19 08 02.6**	**-0.5**
MLZ	**Mavora Lakes**	**1.00**	**104**	S	**Sg**	**19 08 15.6**	**-0.5**
PYZ	**Puysegur Point**	**1.03**	**182**	*e*Pg	**Pb**	**19 08 01.5**	**-1.7**
PYZ	**Puysegur Point**	**1.03**	**182**	P	**Pb**	**19 08 01.7**	**-1.5**
PYZ	**Puysegur Point**	**1.03**	**182**	S	**Sg**	**19 08 17.0**	**+0.1**
WHZ	**Wether Hill Ro**	**1.14**	**132**	*e*Pg	**Pb**	**19 08 04.2**	**-0.8**
WHZ	**Wether Hill Ro**	**1.14**	**132**	P	**Pb**	**19 08 04.3**	**-0.8**
WHZ	**Wether Hill Ro**	**1.14**	**132**	S	**Sb**	**19 08 19.4**	**-0.4**
WKZ	**Wanaka**	**1.65**	**80**	*e*Pn	**Pb**	**19 08 14.0**	**+0.2**
WKZ	**Wanaka**	**1.65**	**80**	P	**Pb**	**19 08 13.9**	**0.0**
WKZ	**Wanaka**	**1.65**	**80**	S	**Sg**	**19 08 38.7**	**+1.9**
JCZ	**Jackson Bay**	**1.81**	**55**	Pn	**Pn**	**19 08 13.9**	**-0.6**
JCZ	**Jackson Bay**	**1.81**	**55**	P	**Pg**	**19 08 18.1**	**-0.4**
JCZ	**Jackson Bay**	**1.81**	**55**	S	**Sg**	**19 08 42.5**	**+0.6**
EAZ	**Earnscleugh**	**1.82**	**94**	Pn	**Pb**	**19 08 15.9**	**-0.9**
EAZ	**Earnscleugh**	**1.82**	**94**	P	**Pb**	**19 08 16.2**	**-0.5**
APZ	**The Paps**	**1.91**	**153**	Pn	**Pn**	**19 08 16.7**	**+1.0**
APZ	**The Paps**	**1.91**	**153**	P	**Pn**	**19 08 16.8**	**+1.0**
SYZ	**Scrubby Hill**	**2.19**	**131**	Pn	**Pn**	**19 08 20.2**	**+0.7**
SYZ	**Scrubby Hill**	**2.19**	**131**	P	**Pn**	**19 08 20.2**	**+0.7**
SYZ	**Scrubby Hill**	**2.19**	**131**	S	**Sb**	**19 08 48.3**	**-1.6**
TUZ	**Tuapeka**	**2.19**	**113**	Pn	**Pn**	**19 08 20.0**	**+0.3**
TUZ	**Tuapeka**	**2.19**	**113**	P	**Pn**	**19 08 20.4**	**+0.8**
LBZ	**Lake Benmore**	**2.57**	**74**	*e*Pn	**Pn**	**19 08 26.0**	**+1.1**
LBZ	**Lake Benmore**	**2.57**	**74**	P	**Pn**	**19 08 26.2**	**+1.3**
FOZ	**Fox Glacier**	**2.73**	**55**	*e*Pn	**Pn**	**19 08 29.3**	**+2.2**
FOZ	**Fox Glacier**	**2.73**	**55**	P	**Pb**	**19 08 32.0**	**-0.3**
ODZ	**Otahua Downs**	**2.77**	**89**	*e*Pn	**Pn**	**19 08 28.0**	**+0.4**
ODZ	**Otahua Downs**	**2.77**	**89**	P	**Pn**	**19 08 28.1**	**+0.4**
HHSZ	**Highcliff Hill**	**2.82**	**107**	Pn	**Pn**	**19 08 29.0**	**+0.8**
HHSZ	**Highcliff Hill**	**2.82**	**107**	P	**Pn**	**19 08 29.2**	**+0.9**
RPZ	**Rata Peaks**	**3.41**	**67**	Pn	**Pn**	**19 08 36.4**	**0.0**
	563nm,0.3s,baz=229,slow=6.0,SNR=439						
RPZ				Sn	**Sn**	**19 09 18.0**	**+1.4**
	190nm,0.3s,baz=99,slow=19,SNR=5.0						
RPZ				LR	LR	19 09 20.0	
	comp=Z,985nm,19.7s,baz=234,slow=30						
RPZ	**Rata Peaks**	**3.41**	**67**	P	**Pn**	**19 08 36.5**	**+0.2**
WVZ	**Waitaha Valley**	**3.54**	**56**	Pn	**Pn**	**19 08 37.0**	**-1.2**
WVZ	**Waitaha Valley**	**3.54**	**56**	P	**Pn**	**19 08 37.1**	**-1.2**
INZ	**Inchbonnie**	**4.17**	**56**	P	**Pn**	**19 08 46.0**	**-0.8**
OXZ	**Oxford**	**4.22**	**66**	*e*Pn	**Pn**	**19 08 47.3**	**-0.2**
OXZ	**Oxford**	**4.22**	**66**	P	**Pn**	**19 08 47.8**	**+0.2**
EYCZ	**Eyrewell**	**4.39**	**69**	P	**Pn**	**19 08 50.6**	**+0.8**
MQZ	**McQueen's Vall**	**4.48**	**73**	*e*Pn	**Pn**	**19 08 51.0**	**-0.1**
MQZ	**McQueen's Vall**	**4.48**	**73**	P	**Pn**	**19 08 51.1**	**+0.1**
CRLZ	**Canterbury Las**	**4.50**	**72**	*e*Pn	**Pn**	**19 08 51.8**	**+0.4**
CRLZ	**Canterbury Las**	**4.50**	**72**	P	**Pn**	**19 08 53.0**	**+1.6**
LTZ	**Lake Taylor**	**4.64**	**61**	*e*Pn	**Pn**	**19 08 52.8**	**-0.5**
LTZ	**Lake Taylor**	**4.64**	**61**	P	**Pn**	**19 08 52.3**	**-1.1**
DSZ	**Denniston Nort**	**5.01**	**49**	Pn	**Pn**	**19 08 57.0**	**-1.5**
DSZ	**Denniston Nort**	**5.01**	**49**	P	**Pn**	**19 08 57.0**	**-1.5**
THZ	**Tophouse**	**5.62**	**55**	*e*Pn	**Pn**	**19 09 05.7**	**-1.1**
THZ	**Tophouse**	**5.62**	**55**	P	**Pn**	**19 09 06.0**	**-0.8**
KHZ	**Kahutara**	**5.63**	**63**	*e*Pn	**Pn**	**19 09 07.0**	**+0.1**
KHZ	**Kahutara**	**5.63**	**63**	P	**Pn**	**19 09 06.3**	**-0.5**
QRZ	**Quartz Range**	**6.05**	**47**	Pn	**Pn**	**19 09 11.3**	**-1.4**
QRZ	**Quartz Range**	**6.05**	**47**	P	**Pn**	**19 09 11.3**	**-1.4**
BSWZ	**Blackbirch Sta**	**6.22**	**59**	P	**Pn**	**19 09 16.6**	**+1.6**
NNZ	**Nelson**	**6.24**	**53**	Pn	**Pn**	**19 09 14.4**	**-0.8**
NNZ	**Nelson**	**6.24**	**53**	P	**Pn**	**19 09 14.5**	**-0.7**
CMWZ	**Cape Campbell**	**6.41**	**61**	P	**Pn**	**19 09 21.9**	**+4.3**
TUWZ	**Tuamarina**	**6.43**	**57**	Pn	**Pn**	**19 09 18.9**	**+0.9**
TUWZ	**Tuamarina**	**6.43**	**57**	P	**Pn**	**19 09 19.2**	**+1.2**
TUWZ	**Tuamarina**	**6.43**	**57**	P	**Pn**	**19 09 19.2**	**+1.2**
TCW	**Tory Channel**	**6.77**	**57**	Pn	**Pn**	**19 09 23.6**	**+1.1**
TCW	**Tory Channel**	**6.77**	**57**	P	**Pn**	**19 09 23.6**	**+1.1**
DUWZ	**D'Urville Isla**	**6.82**	**53**	Pn	**Pn**	**19 09 23.7**	**+0.3**
DUWZ	**D'Urville Isla**	**6.82**	**53**	P	**Pn**	**19 09 24.0**	**+0.7**
SNZO	**South Karori**	**6.97**	**59**	*e*Pn	**Pn**	**19 09 24.4**	**-0.8**
BHW	**Baring Head**	**7.01**	**61**	P	**Pn**	**19 09 27.2**	**+1.4**
MSWZ	**Moikau Station**	**7.24**	**62**	P	**Pn**	**19 09 29.1**	**+0.1**
CAW	**Cannon Point**	**7.31**	**59**	P	**Pn**	**19 09 29.7**	**-0.2**
KIW	**Kapiti Island**	**7.36**	**57**	P	**Pn**	**19 09 30.8**	**+0.1**
PAWZ	**Paruwai Farm**	**7.37**	**62**	P	**Pn**	**19 09 35.1**	**+4.3**
TRWZ	**Traveller**	**7.53**	**63**	P	**Pn**	**19 09 33.8**	**+0.9**
OGWZ	**Otaki Gorge**	**7.54**	**58**	P	**Pn**	**19 09 33.4**	**+0.3**
MTW	**Mount Morrison**	**7.54**	**61**	P	**Pn**	**19 09 32.8**	**-0.3**
HOWZ	**Holdsworth Sta**	**7.70**	**60**	P	**Pn**	**19 09 35.2**	**-0.2**
NMEZ	**Namu Road**	**7.79**	**45**	P	**Pn**	**19 09 35.5**	**-1.1**
TMWZ	**Te Maipa**	**7.81**	**62**	P	**Pn**	**19 09 36.7**	**-0.2**
MRZ	**Mangatainoka R**	**7.88**	**59**	P	**Pn**	**19 09 38.7**	**+0.9**
MRZ	**Mangatainoka R**	**7.88**	**59**	P	**Pn**	**19 09 39.9**	**+2.1**
NWEZ	**Newall Road**	**7.89**	**45**	Pn	**Pn**	**19 09 37.0**	**-0.9**
KHEZ	**Kahui Hut**	**7.95**	**45**	Pn	**Pn**	**19 09 37.8**	**-1.1**
PREZ	**Palmer Road**	**7.99**	**46**	Pn	**Pn**	**19 09 39.0**	**-0.3**
PREZ	**Palmer Road**	**7.99**	**46**	P	**Pn**	**19 09 38.8**	**-0.5**
PKE	**Pukeiti**	**8.02**	**45**	Pn	**Pn**	**19 09 38.5**	**-1.1**
PKE	**Pukeiti**	**8.02**	**45**	P	**Pn**	**19 09 38.6**	**-1.1**
LREZ	**Lake Rotokare**	**8.03**	**48**	P	**Pn**	**19 09 40.2**	**+0.4**
LREZ	**Lake Rotokare**	**8.03**	**48**	P	**Pn**	**19 09 40.2**	**+0.4**
DREZ	**Durham Road**	**8.13**	**46**	P	**Pn**	**19 09 41.1**	**0.0**
WAZ	**Wanganui**	**8.13**	**51**	P	**Pn**	**19 09 43.1**	**+1.8**
PRWZ	**Pori Road**	**8.19**	**59**	P	**Pn**	**19 09 44.3**	**+2.3**
DVHZ	**Dannevirke**	**8.46**	**58**	P	**Pn**	19 09 53.0	+7.3
VRZ	**Vera Road**	**8.46**	**48**	P	**Pn**	**19 09 45.8**	**+0.1**
TSZ	**Takapari Road**	**8.49**	**56**	P	**Pn**	**19 09 50.0**	**+3.9**
PKVZ	**Pokaka**	**8.66**	**51**	Pn	**Pn**	**19 09 48.8**	**+0.3**
PKVZ	**Pokaka**	**8.66**	**51**	P	**Pn**	**19 09 48.8**	**+0.3**
PNHZ	**Pukenui**	**8.72**	**57**	P	**Pn**	**19 09 53.6**	**+4.2**
DRZ	**Dome Shelter**	**8.79**	**51**	P	**Pn**	**19 09 52.3**	**+1.8**
DRZ	**Dome Shelter**	**8.79**	**51**	P	**Pn**	**19 09 53.2**	**+2.7**
FWVZ	**Far West T-bar**	**8.79**	**51**	Pn	**Pn**	**19 09 51.5**	**+0.9**
FWVZ	**Far West T-bar**	**8.79**	**51**	P	**Pn**	**19 09 51.0**	**+0.4**
WHVZ	**Whangaehu Hut**	**8.79**	**51**	P	**Pn**	**19 09 52.0**	**+1.4**
MOVZ	**Moawhango**	**8.80**	**53**	P	**Pn**	**19 09 52.1**	**+1.6**
COVZ	**Chateau Observ**	**8.83**	**51**	P	**Pn**	**19 09 52.4**	**+1.5**
TUVZ	**Tukino**	**8.84**	**52**	Pn	**Pn**	**19 09 52.0**	**+0.9**
TUVZ	**Tukino**	**8.84**	**52**	P	**Pn**	**19 09 52.5**	**+1.4**
TWVZ	**Taurewa**	**8.86**	**50**	P	**Pn**	**19 09 51.8**	**+0.4**
NGZ	**Ngauruhoe**	**8.88**	**51**	Pn	**Pn**	**19 09 52.2**	**+0.6**
NGZ	**Ngauruhoe**	**8.88**	**51**	P	**Pn**	**19 09 52.4**	**+0.8**
WTVZ	**West Tongariro**	**8.91**	**51**	P	**Pn**	**19 09 53.5**	**+1.4**
BHHZ	**Black Hill Sta**	**8.92**	**54**	P	**Pn**	**19 09 52.5**	**+0.3**
KRVZ	**Karewarewa**	**8.96**	**51**	P	Pn	19 09 57.5	+4.8
HIZ	**Hauiti**	**8.97**	**45**	*e*Pn	**Pn**	**19 09 50.7**	**-2.0**
HIZ	**Hauiti**	**8.97**	**45**	P	**Pn**	**19 09 52.4**	**-0.4**
RATZ	**Rangitukua**	**9.19**	**50**	P	**Pn**	**19 09 57.5**	**+1.7**
WATZ	**Wairara**	**9.28**	**49**	P	**Pn**	**19 09 57.9**	**+0.8**
BKZ	**Black Stump Fm**	**9.38**	**54**	*e*Pn	**Pn**	**19 09 58.6**	**+0.2**
TLZ	**Tolley Road**	**9.46**	**47**	P	**Pn**	**19 09 59.2**	**-0.3**
URZ	**Urewera**	**10.36**	**52**	Pn	**Pn**	**19 10 09.2**	**-2.5**
	2.8nm,0.3s,baz=249,slow=7.5,SNR=8.7						
URZ				P	Sn	**19 11 59.5**	**-8.1**
	5.0nm,0.3s,baz=267,slow=18,SNR=4.2						
URZ				LR	LR	19 14 42.7	
	comp=Z,976nm,19.1s,baz=228,slow=41						
OUZ	**Omahuta**	**11.21**	**30**	*e*Pn	**Pn**	**19 10 22.2**	**-1.1**
MXZ	**Matakaoa Point**	**11.52**	**53**	*e*Pn	**Pn**	**19 10 26.9**	**-0.8**
TAU	**Tasmania Unive**	**14.14**	**272**	*e*Pn	**Pn**	**19 11 01.0**	**-2.4**
MOO	**Moorlands**	**14.37**	**274**	P	**Pn**	**19 11 05.8**	**-0.8**
	baz=14,SNR=9.0						
MILA	**Mila**	**15.50**	**295**	P	**Pn**	**19 11 20.4**	**-1.4**
	baz=15,SNR=8.8						
RIV	**Riverview**	**16.46**	**308**	P	**Pn**	**19 11 34.4**	**+0.3**
	baz=16						
CNB	**Canberra Magne**	**16.47**	**301**	P	**P**	**19 11 36.2**	**-0.8**
	baz=16,SNR=8.6						
CAN	**Canberra**	**16.69**	**300**	*e*Pn	**Pn**	**19 11 35.0**	**-2.1**
	31nm,0.9s						
MGCD	**Mangrove Creek**	**16.95**	**309**	P	**P**	**19 11 42.1**	**-0.2**
	baz=17,SNR=4.6						
TOO	**Toolangi**	**17.62**	**288**	P	**P**	**19 11 49.9**	**+0.2**
	baz=18,SNR=12						
ARMA	**Armidale**	**18.89**	**316**	P	**Pn**	**19 12 05.2**	**+0.9**
	baz=19,SNR=4.2						
CMSA	**Cobar Meteorol**	**21.29**	**302**	P	**P**	**19 12 31.0**	**+1.2**
	baz=21,SNR=13						
DZM	**Mont Dzumac**	**23.01**	**359**	P	**P**	**19 12 48.8**	**+0.6**
	39nm,1.1s,baz=150,slow=8.6,SNR=7.2						
DZM				LR	LR	19 21 12.7	
	comp=Z,136nm,18.0s,baz=197,slow=35						
DZM	**Mont Dzumac**	**23.01**	**359**	*

CM01	**Chiang Mai Arr**	**88.15 298**	*e*P		**P**	**19 20 34.9**	**+0.8**	
CM31	**Chiang Mai Arr**	**88.19 298**	*e*P		**P**	**19 20 35.3**	**+1.0**	
CMAR	**Chiang Mai Arr**	**88.19 298**	P		**P**	**19 20 35.3**	**+1.1**	
	7.2nm,0.9s,baz=156,slow=3.3,SNR=47							
CHTO	**Chiang Mai**	**88.45 299**	*e*P		**P**	**19 20 36.3**	**+0.8**	
	4.2nm,0.7s							
KSRS	**Korea Array**	**89.36 330**	P		**P**	**19 20 40.5**	**+1.2**	
	2.1nm,1.0s,baz=126,slow=6.4,SNR=5.0							
KSAR	**Wonju Array Be**	**89.37 330**	P		**P**	**19 20 40.5**	**+1.2**	
GYA	**Guiyang**	**89.80 309**	P		**P**	**19 20 44.0**	**+2.2**	
GYA			pmax	pmax				
	comp=Z,10.0nm,1.0s							
KMI	**Kunming**	**90.97 305**	P		**P**	**19 20 48.4**	**+1.0**	
KMI			sP	sP		19 20 54.4	+0.6	
KMI			pmax	pmax				
	comp=Z,9.0nm,1.3s							
ENH	**Enshi**	**91.32 313**	*e*P		**P**	**19 20 49.4**	**+0.8**	
	21nm,1.2s							
CN2	**Changchun**	**95.86 331**	*e*P		**P**	**19 21 11.8**	**+2.6**	
LZH	**Lanzhou**	**98.80 313**	*e*P	Pdif		19 21 25.3	+2.4	
LZH			pP	sP		19 21 30.1	+0.8	
LZH			sP	pP		19 21 32.8	+5.2	
LZH			pmax	pmax				
	comp=Z,9.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**98.84 321**	*e*P	Pdif		19 21 25.5	+2.6	
HHC			SKS	**SKSac**		**19 32 00.3**	**+0.1**	
HHC			S	**ScS**		**19 32 53.1**	**+0.8**	
HHC			sS	sS		19 32 59.5	-0.6	
HHC			pmax	pmax				
	comp=Z,7.0nm,0.8s							
HHC			LR	LR				
	comp=N,180nm,15.8s							
HHC			LR	LR				
	comp=E,230nm,17.7s							
WMQ	**Urumqi**	**112.96 309**	*e*PKP	**PKiKP**		**19 26 19.3**	**-0.4**	
WMQ			LR	LR				
	comp=N,220nm,20.1s							
WMQ			LR	LR				
	comp=E,240nm,20.1s							
WMQ			LR	LR				
	comp=Z,240nm,21.3s							
ILAR	**Eielson Array**	**115.41 20**	PKP	**PKPdf**		**19 26 22.4**	**-1.2**	
	0.7nm,0.8s,baz=291,slow=3.3,SNR=9.6							
KSH	**Kashi**	**117.06 300**	*e*PKP	**PKPdf**		**19 26 27.9**	**+0.1**	
MK32	**Makanchi Array**	**117.79 309**	*e*PKPdf	**PKPdf**		**19 26 27.3**	**-1.6**	
MKAR	**Makanchi Array**	**117.79 309**	PKP	**PKPdf**		**19 26 27.3**	**-1.6**	
	1.0nm,0.8s,baz=158,slow=2.0,SNR=5.1							
ZALV	**Zalesovo Beam**	**120.73 317**	PKP	**PKPdf**		**19 26 32.5**	**-1.7**	
	0.5nm,0.5s,baz=180,slow=2.7,SNR=2.2							
ZAA1	**Zalesovo Array**	**120.73 317**	*e*PKPdf	**PKPdf**		**19 26 32.5**	**-1.7**	
KURBB	**Kurchatov Arra**	**122.04 311**	PKP	**PKPdf**		**19 26 35.9**	**-0.9**	
	2.9nm,0.7s,baz=114,slow=1.8,SNR=19							
KURK	**Kurchatov**	**122.04 311**	*e*PKPdf	**PKPdf**		**19 26 35.9**	**-0.9**	
YKA	**Yellowknife Ar**	**124.13 33**	PKP	**PKPdf**		**19 26 39.0**	**-1.5**	
	0.7nm,0.6s,baz=253,slow=1.7,SNR=15							
YKA	**Yellowknife Ar**	**124.13 33**	PKP	**PKPdf**		**19 26 39.0**	**-1.5**	
BVAR	**Borovoye Array**	**127.61 311**	PKP	**PKPdf**		**19 26 47.2**	**-0.2**	
	1.0nm,0.6s,baz=126,slow=2.0,SNR=3.1							
M54A	**Oil Creek Stat**	**132.78 70**	*e*PKPdf	**PKPdf**		**19 26 55.9**	**-1.8**	
O56A	**Blue Knob Stat**	**132.93 72**	*e*PKPdf	**PKPdf**		**19 26 56.8**	**-1.2**	
DBIC	**Dimbokro**	**140.99 193**	PKhKP	PKPpre		19 27 06.3		
	2.9nm,0.6s,baz=149,slow=4.0,SNR=11							
SPA0	**Spitsbergen Ar**	**144.90 350**	*e*PKPdf	**PKPab**		**19 27 17.9**	**0.0**	
SPITS	**Spitsbergen Ar**	**144.90 350**	PKP	**PKPab**		**19 27 17.6**	**-0.3**	
	17nm,0.7s,baz=171,slow=2.8,SNR=21							
BR101	**Keskin Array S**	**145.35 278**	*e*PKPbc	**PKPab**		**19 27 20.9**	**0.0**	
BR131	**Keskin Array S**	**145.35 278**	*e*PKPbc	**PKPab**		**19 27 20.9**	**+0.1**	
BRTR	**Keskin Array B**	**145.35 278**	PKPbc	**PKPab**		**19 27 20.9**	**+0.1**	
	31nm,0.9s,baz=145,slow=4.5,SNR=101							
TOA0	**Torodi Ar. Sit**	**145.66 206**	*e*PKPdf	**PKPdf**		**19 27 21.8**	**0.0**	
TORD	**Torodi Ar. Bea**	**145.66 206**	PKPbc	**PKPdf**		**19 27 21.8**	**-0.1**	
	41nm,0.6s,baz=148,slow=2.1,SNR=254							
TOA1	**Torodi Ar. Sit**	**145.67 206**	*e*PKPdf	**PKPdf**		**19 27 21.8**	**-0.1**	
BR231	**Keskin MP Arra**	**146.00 278**	*e*PKPdf	**PKPdf**		**19 27 21.6**	**-0.2**	
MANT	**Manisa**	**148.40 273**	*e*PKPdf	**PKPdf**		**19 27 26.7**	**+0.7**	
KOWA	**Kowa**	**148.47 197**	PKPbc	**PKPbc**		**19 27 29.6**	**-0.5**	
	7.0nm,0.6s,baz=121,slow=4.1,SNR=21							
ARA0	**ARCESS Array S**	**148.80 335**	*e*PKPbc	**PKPbc**		**19 27 29.4**	**0.0**	
ARCES	**ARCESS Array B**	**148.80 335**	PKPbc	**PKPbc**		**19 27 29.4**	**0.0**	
	7.9nm,0.5s,baz=71,slow=3.6,SNR=50							
IDI	**Anoyia**	**149.49 265**	PKPbc	**PKPbc**		**19 27 34.3**	**+2.1**	
	34nm,1.2s,baz=126,slow=5.7,SNR=3.4							
TIRR	**Tirgusor**	**150.65 284** ⇑	*i*P	**PKPbc**		**19 27 35.2**	**+0.6**	
TLB	**Topalu**	**150.94 284** ⇑	*i*P	**PKPbc**		**19 27 35.7**	**+0.4**	
CFR	**Carcaliu**	**151.03 285** ⇑	*i*P	**PKPbc**		**19 27 35.5**	**0.0**	
HARR	**Harsova**	**151.04 284** ⇑	*i*P	**PKPbc**		**19 27 36.6**	**+1.1**	
AKASG	**Malin Array Be**	**151.29 297**	PKPbc	**PKPbc**		**19 27 35.9**	**0.0**	
	11nm,0.7s,baz=76,slow=2.6,SNR=42							
AKBB	**Malin Array Si**	**151.29 297**	*e*PKPbc	**PKPbc**		**19 27 36.0**	**+0.1**	
KIEV	**Kiev**	**151.30 297**	*e*PKPbc	**PKPbc**		**19 27 36.0**	**+0.1**	
AK11	**Malin Array Si**	**151.33 297**	*e*PKPbc	**PKPbc**		**19 27 36.0**	**0.0**	
FIA1	**FINESS Array S**	**151.95 320**	*e*PKPbc	**PKPbc**		**19 27 37.0**	**0.0**	
FIA0	**FINESS Array S**	**151.95 320**	*e*PKPbc	**PKPbc**		**19 27 36.9**	**-0.2**	
FINES	**FINESS Array B**	**151.95 320**	PKPbc	**PKPbc**		**19 27 36.9**	**-0.2**	
	12nm,0.6s,baz=96,slow=3.8,SNR=19							
MLR	**Muntele Rosu**	**152.61 285**	PKPbc	**PKPbc**		**19 27 39.2**	**-0.1**	
	1.5nm,0.9s,baz=185,slow=5.6,SNR=3.9							
MLR	**Muntele Rosu**	**152.61 285** ⇑	*i*P	**PKPbc**		**19 27 39.4**	**+0.1**	
MLR	**Muntele Rosu**	**152.61 285**	*e*PKPbc	**PKPbc**		**19 27 39.4**	**+0.1**	
IDID	**Didziasalis**	**152.82 306**	*e*P	**PKPbc**		**19 27 35.9**	**-3.3**	
TAM	**Tamanrasset**	**152.93 221**	*e*PKPdf	**PKPdf**		**19 27 30.9**	**-2.5**	
IZAR	**Zarasai**	**153.05 307**	*e*P	**PKPdf**		**19 27 39.9**	**+1.5**	
DOPR	**Dopca**	**153.09 286** ⇑	*i*P	**PKPbc**		**19 27 41.3**	**+1.1**	
IIGN	**Ignalina**	**153.11 307**	*e*P	**PKPdf**		**19 27 29.0**	**-3.5**	
ISAL	**Salakas**	**153.14 307**	*e*P	**PKPdf**		**19 27 32.6**	**+0.1**	
BURAR	**Bucovina Array**	**153.51 289** ⇑	*i*P	**PKPbc**		**19 27 46.3**	**+5.2**	
BUR04	**Bucovina Ar. S**	**153.52 289**	*e*PKPdf	**PKPdf**		**19 27 34.0**	**+0.6**	
VTS	**Vitosha**	**153.72 277** ⇑	*i*P	**PKPab**		**19 27 55.4**	**+0.6**	
VTS	**Vitosha**	**153.72 277**	*e*PKPab	**PKPab**		**19 27 55.1**	**+0.4**	
STHS	**Stebnicka Huta**	**156.33 293**	*e*PKP	**PKPab**		**19 28 07.1**	**+1.6**	
VYHS	**Vyhne**	**157.87 290**	*e*PKP	**PKPab**		**19 28 13.0**	**+0.8**	
MODS	**Modra-Piesok**	**158.90 290**	*e*PKP	**PKPab**		**19 28 17.5**	**+0.8**	
KEST	**Kesra**	**160.44 249**	PKPab	**PKPab**		**19 28 25.5**	**+1.7**	
	7.7nm,0.9s,baz=304,slow=1.8,SNR=7.7							
GEA0	**GERESS Array S**	**161.27 291**	*e*PKPab	**PKPab**		**19 28 27.4**	**+0.3**	
GERES	**GERESS Array B**	**161.27 291**	PKPab	**PKPab**		**19 28 27.0**	**-0.1**	
	1.2nm,0.7s,baz=101,slow=4.2,SNR=12							
ES19	**SONSECA Array**	**171.20 235**	*e*PKPdf	**PKPdf**		**19 27 51.3**	**+0.1**	
ES19			*e*PKPab	**PKPab**		**19 29 11.5**	**+0.5**	
ESDC	**Sonseca Array**	**171.22 235**	PKP	**PKPdf**		**19 27 51.2**	**+0.1**	
	0.9nm,0.8s,baz=61,slow=0.6,SNR=6.5							
ESDC			PKPab	**PKPab**		**19 29 11.6**	**+0.5**	
	1.3nm,0.8s,baz=118,slow=3.8,SNR=9.8							

*ISCJB **14** 19:14:20.1±0.2, 1.89N±0.02×122.67E±0.03, h33km, mb4.6/55, MS3.9/20, Error ellipse: s-maj=4.5km s-min=3.5km az=171.1*

*BJI **14** 19:14:20.0, 1.80N×122.60E, h30km, mb4.6/27, mB5.0/19, Ms4.5/8, Ms7 4.2/8*

*NEIC **14** 19:14:21.6±0.2, 1.80N×122.64E, h35km, mb4.8/29, Error ellipse: s-maj=6.9km s-min=4.6km az=57.0*

*IDC **14** 19:14:23.0±3.5, 1.77N×122.67E, h50km±32km, mb4.1/19, mb1 4.2/21,mb1mx4.0/59, mbtmp4.4/21, ML4.8/2, MS3.9/21, Ms1 3.9/21, ms1mx3.7/56, Error ellipse: s-maj=21.0km s-min=10.3km az=72.0*

*DJA **14** 19:14:25.5±0.4, 2.1N±4°×12.3E±°, h42km±4km, M4.8/13, mb4.7/13, mB5.6/3, ML4.8/1, Mw(mB)5.1/3*

ISC 14 19:14:22.0±0.4, **1.86N**±0.04×**122.70E**±0.05, **h35km, n123, σ1°64/128, mb4.7/55, MS4.0/20, 1C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
MRSI	**Marisa**	**1.56**	**209**	P		P	**Pn**	**19 14 48.1**	**+0.8**
MRSI				S		S	**Sn**	**19 15 04.8**	**-1.6**
KMSI	**Cibinong**	**1.81**	**135**	P		P	**Pn**	**19 14 53.3**	**+2.7**
KMSI				S		S	**Sn**	**19 15 13.1**	**+0.8**
LUWI	**Luwuk**	**2.88**	**179**	P		P	**Pn**	**19 15 05.8**	**+0.4**
LUWI	**Luwuk**	**2.88**	**179**	*e*Pn		P	**Pn**	**19 15 05.2**	**-0.2**
APSI	**Ampana**	**2.94**	**201**	P		P	**Pn**	**19 15 06.9**	**+0.6**
MPSI	**Mapaga**	**3.18**	**242**	P		P	**Pn**	**19 15 12.1**	**+2.6**
GSPH	**General Santos**	**4.77**	**28**	⇑ *i*P		P	**Pn**	**19 15 30.8**	**-0.6**
TNTI	**Ternate**	**4.79**	**103**	*e*Pn		P	**Pn**	**19 15 33.3**	**+1.6**
SANI	**Sanana**	**5.08**	**140**	P		P	**Pn**	**19 15 39.1**	**+3.3**
MYLDM	**Lahad Datu**	**5.33**	**308**	*e*Pn		P	**Pn**	**19 15 39.0**	**-0.2**
LBMI	**Labuha**	**5.40**	**117**	P		P	**Pn**	**19 15 43.3**	**+3.2**
TTSI	**Tana Toraja**	**5.66**	**211**	P		P	**Pn**	**19 15 44.7**	**+1.1**
KDI	**Kendari**	**5.77**	**181**	P		P	**Pn**	**19 15 44.6**	**-0.6**
	120nm,1.5s								
DAV	**Davao City (W)**	**5.92**	**29**	P		P	**Pn**	**19 15 49.6**	**+2.4**
	57nm,0.3s,baz=147,slow=7.7,SNR=4.8								
DAV				S		**Sn**		**19 16 57.6**	**+3.7**
	baz=187,slow=8.1,SNR=1.5								
DAV				LR		LR		19 18 15.8	
	comp=Z,902nm,20.4s,baz=140,slow=39								
BNSI	**Bone**	**6.73**	**203**	P		**Pn**		**19 15 59.9**	**+1.5**
BNSI				S		**Pn**		**19 15 58.0**	**-0.4**
MSAI	**Masohi**	**8.09**	**130**	P		**Pn**		**19 16 18.3**	**+1.2**
MTKI	**Muara Teweh, K**	**8.28**	**250**	P		**Pn**		**19 16 21.4**	**+1.7**
MTKI				S		**Sn**		**19 17 53.3**	**+1.2**
SBUM	**Sibu**	**10.49**	**273**	*e*Pn		**Pn**		**19 16 48.0**	**-1.9**
BATI	**Baumata**	**12.02**	**175**	LR		LR		19 22 04.3	
	comp=Z,2µm,18.7s,baz=358,slow=39								
TGY	**Tagaytay City**	**12.29**	**352**	LR		LR		19 21 45.0	
	comp=Z,292nm,21.5s,baz=138,slow=36								
LEM	**Lembang**	**17.35**	**240**	LR		LR		19 26 34.4	
	comp=Z,752nm,18.4s,baz=10.0,slow=42								
MDSI	**Maura Dua**	**19.55**	**251**	P		**Pn**		**19 18 48.8**	**+0.5**
KASI	**Kota Agung**	**19.60**	**248**	P		**Pn**		**19 18 51.9**	**+2.9**
LWLI	**Liwa**	**19.83**	**250**	P		**Pn**		**19 18 54.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**20.04**	**172**	P		**P**		**19 18 50.2**	**-1.9**
	1.2nm,0.3s,baz=5.7,slow=10,SNR=19								
MASI	**Maura Aman, Be**	**21.05**	**256**	P		**P**		**19 19 09.2**	**+6.0**
TPUB	**Ta-pu**	**21.41**	**355**	*e*P		**P**		**19 19 07.5**	**+0.6**
	40nm,0.9s								
YULB	**Yu-li**	**21.45**	**356**	*e*P		**P**		**19 19 07.9**	**+0.5**
	22nm,1.0s								
IPM	**Ipoh**	**21.80**	**277**	*e*P		**P**		**19 19 10.2**	**-1.1**
	50nm,1.5s								
KULM	**Kulim**	**22.27**	**279**	*e*P		**P**		**19 19 15.8**	**-0.5**
	22nm,1.2s								
MNSI	**Mandailing Nat**	**23.14**	**268**	P		**P**		**19 19 28.3**	**+2.9**
PPSI	**Pulau Pagai**	**23.14**	**259**	P		**P**		**19 19 28.7**	**+3.3**
PSI	**Prapat**	**23.77**	**273**	LR		LR		19 31 00.7	
	comp=Z,328nm,18.7s,baz=94,slow=42								
PSI	**Prapat**	**23.77**	**273**	*e*P		**P**		**19 19 30.6**	**-1.1**
	53nm,1.2s								
WRAB	**Tennant Creek**	**24.49**	**153**	*e*P		**P**		**19 19 37.8**	**-0.3**
	22nm,0.8s								
WRA	**Warramunga Arr**	**24.49**	**153**	P		**P**		**19 19 35.6**	**-2.5**
	11nm,0.9s,baz=336,slow=9.8,SNR=14								
WR1	**Warramunga Arr**	**24.49**	**153**	*e*P		**P**		**19 19 35.6**	**-2.5**
	24nm,0.8s								
GUMO	**Guam**	**24.84**	**61**	LR		LR		19 27 59.0	
	comp=Z,144nm,21.7s,baz=143,slow=33								
KCSI	**Kotacane, Aceh**	**24.95**	**274**	P		**P**		**19 19 41.2**	**-1.2**
	28nm,1.3s,466nm								
TPTI		**25.53**	**274**	P		P		19 19 57.1	+9.5
MLSI	**Meulaboh, Aceh**	**26.36**	**276**	P		**P**		**19 19 50.6**	**-4.6**
PMG	**Port Moresby**	**26.81**	**115**	P		**P**		**19 19 59.2**	**0.0**
	19nm,0.9s,baz=293,slow=7.4,SNR=5.6								
PMG	**Port Moresby**	**26.81**	**115**	*e*P		**P**		**19 19 59.4**	**+0.2**
	26nm,1.1s								
AS31	**Alice Springs**	**27.61**	**157**	*e*P		**P**		**19 20 07.0**	**+0.7**
	1.9nm,0.6s								
ASAR	**Alice Springs**	**27.61**	**157**	P		**P**		**19 20 04.8**	**-1.5**
	2.2nm,0.7s,baz=333,slow=7.1,SNR=21								
ASAR				PcP		**PcP**		**19 23 22.3**	**-1.2**
	0.7nm,0.7s,baz=0.6,slow=2.6,SNR=4.2								
ASAR				LR		LR		19 33 15.4	
	comp=Z,457nm,18.4s,baz=344,slow=41								
AS01	**Alice Springs**	**27.63**	**157**	*e*P		**P**		**19 20 07.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**28.55**	**307**	P		**P**		**19 20 15.3**	**+0.6**
	0.5nm,0.9s,baz=130,slow=8.4,SNR=3.7								
CMAR				LR		LR		19 34 17.2	
	comp=Z,183nm,18.1s,baz=136,slow=42								
RABL	**Rabaul**	**30.05**	**102**	*e*P		**P**		**19 20 28.8**	**+0.6**
	25nm,0.6s								
NJ2	**Nanjing**	**30.25**	**354**	*e*P		P		19 20 35.4	+5.7
NJ2				pmax		pmax			
	comp=Z,13nm,0.5s								
JNU	**Natsue**	**32.04**	**13**	LR		LR		19 33 16.3	
	comp=Z,41nm,21.9s,baz=186,slow=35								
CD2	**Chengdu**	**34.01**	**330**	*e*P		**P**		**19 21 06.6**	**+3.9**
CD2				pP		pP		19 21 10.3	-2.5
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.0s								
CD2				LR		LR			
	comp=N,430nm,12.4s								
CD2				LR		LR			
	comp=E,460nm,12.4s								
CD2				LR		LR			
	comp=Z,420nm,14.4s								
XAN	**Xi'an**	**34.51**	**340**	P		**P**		**19 21 05.1**	**-1.9**
XAN				pmax		pmax			
	comp=Z,8.0nm,0.9s								
XAN				pmax		pmax			
	comp=Z,75nm,6.2s								
JHJ	**Hachijo jima 2**	**34.99**	**25**	LR		LR		19 33 25.1	
	comp=Z,139nm,20.0s,baz=118,slow=32								
KSAR	**Wonju Array Be**	**35.73**	**7**	P		**P**		**19 21 17.6**	**+0.1**
KSRS	**Korea Array**	**35.75**	**7**	P		**P**		**19 21 17.6**	**0.0**
	3.1nm,0.9s,baz=186,slow=9.8,SNR=6.6								
KSRS				LR		LR		19 35 32.1	
	comp=Z,100nm,22.0s,baz=187,slow=35								
MAJO	**Matsushiro**	**37.38**	**21**	*e*P		**P**		**19 21 30.3**	**-1.2**
MJAR	**Matsushiro Arr**	**37.38**	**21**	P		**P**		**19 21 30.3**	**-1.2**
	6.7nm,0.7s,baz=198,slow=10.0,SNR=20								
MJAR				LR		LR		19 34 39.6	
	comp=Z,147nm,21.8s,baz=215,slow=32								
STKA	**Stephens Creek**	**38.04**	**153**	P		**P**		**19 21 37.0**	**-0.1**
	4.8nm,0.7s,baz=350,slow=9.7,SNR=7.3								
STKA				LR		LR		19 40 20.9	
	comp=Z,352nm,18.4s,baz=335,slow=41								
STKA	**Stephens Creek**	**38.04**	**153**	*e*P		**P**		**19 21 37.7**	**+0.6**
	2.4nm,0.8s								
BJI	**Beijing**	**38.47**	**352**	P		**P**		**19 21 39.8**	**-0.8**
BJI				pmax		pmax			
	comp=Z,19nm,0.7s								
HNR	**Honiara**	**38.76**	**107**	P		**P**		**19 21 44.8**	**+1.3**
	48nm,0.4s,baz=123,slow=4.5,SNR=3.8								
HHC	**Hu-ho-hao-te**	**40.10**	**347**	*e*P		**P**		**19 21 55.6**	**+1.2**
HHC				PP		**PnPn**		**19 23 35.8**	**+5.0**
HHC				S		**S**		**19 27 59.8**	**+1.3**
HHC				sS		sS		19 28 14.6	-0.8
HHC				SS		**SS**		**19 30 51.3**	**-5.7**
HHC				pmax		pmax			
	comp=Z,12nm,1.1s								
HHC				pmax		pmax			
	comp=Z,100nm,4.2s								
HHC				LR		LR			
	comp=N,180nm,15.1s								
HHC				LR		LR			
	comp=E,190nm,13.3s								
HHC				LR		LR			
	comp=Z,150nm,13.7s								
LSA	**Lhasa**	**40.81**	**316**	*e*P		**P**		**19 21 60.0**	**-0.9**
	3.3nm,1.0s								
PALK	**Pallekele**	**42.19**	**279**	LR		LR		19 43 24.0	
	comp=Z,243nm,18.4s,baz=115,slow=41								
GTA	**Gaotai**	**42.80**	**334**	*e*P		**P**		**19 22 18.3**	**+1.7**
GTA				pP		pP		19 22 22.6	-4.3
GTA				sP		sP		19 22 25.3	-5.8
GTA				pmax		pmax			
	comp=Z,5.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,110nm,4.5s								
GTA				LR		LR			
	comp=N,190nm,12.8s								
GTA				LR		LR			
	comp=E,300nm,14.3s								
GTA				LR		LR			
	comp=Z,220nm,16.6s								
USRK	**Ussuriysk Ar.**	**42.96**	**10**	P		**P**		**19 22 17.7**	**+0.1**
	3.7nm,0.7s,baz=202,slow=6.7,SNR=6.6								
USRK				LR		LR		19 38 12.9	
	comp=Z,101nm,21.8s,baz=197,slow=33								
CAN	**Canberra**	**44.42**	**149**	*e*P		**P**		**19 22 29.8**	**+0.1**
	14nm,0.8s								
ASAJ	**Asahikawa**	**45.64**	**20**	P		**P**		**19 22 39.5**	**+0.4**
	11nm,0.8s,baz=51,slow=31,SNR=5.9								
ASAJ	**Asahikawa**	**45.64**	**20**	*e*P		**P**		**19 22 39.5**	**+0.4**
	13nm,0.7s								
WAKE	**Wake Island**	**46.35**	**65**	*e*P		**P**		**19 22 42.8**	**-2.3**
	143nm,0.8s								
ULN	**Ulaanbaatar**	**47.79**	**346**	*e*P		**P**		**19 22 55.8**	**-0.3**
	3.6nm,0.9s								
KLR	**Kul'dur**	**47.83**	**8**	P		**P**		**19 22 56.1**	**-0.1**
	0.2nm,0.6s,baz=222,slow=3.8,SNR=12								
SONA0	**Songino Array**	**47.93**	**345**	*e*P		**P**		**19 22 57.3**	**+0.2**
SONM	**Songino Array**	**47.93**	**345**	P		**P**		**19 22 57.3**	**+0.2**
	2.1nm,1.0s,baz=168,slow=11,SNR=12								
SONM				LR		LR		19 46 04.1	
	comp=Z,94nm,18.6s,baz=168,slow=40								
SONA1	**Songino Array**	**47.94**	**345**	*e*P		**P**		**19 22 57.1**	**-0.1**
TLY	**Talaya**	**52.17**	**345**	*e*P		**P**		**19 23 29.6**	**+0.5**
	4.9nm,0.8s								
TARG	**Taragay, Kyrgy**	**56.54**	**321**	*e*P		**P**		**19 24 02.0**	**+0.4**
	6.3nm,1.1s								
KSH	**Kashi**	**56.61**	**318**	*e*P		**P**		**19 24 02.8**	**+1.1**
KSH				sP		pP		19 24 12.3	-0.1
KSH				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KSH				pmax		pmax			
	comp=Z,98nm,5.6s								
MK01	**Makanchi Array**	**56.87**	**328**	*e*P		**P**		**19 24 03.3**	**0.0**
MK01				*e*pP		**pP**		**19 24 14.0**	**0.0**
MK31	**Makanchi Array**	**56.89**	**328**	*e*P		**P**		**19 24 03.8**	**+0.3**
MK31				*e*pP		**pP**		**19 24 14.0**	**-0.1**
MK32	**Makanchi Array**	**56.89**	**328**	*e*P		**P**		**19 24 03.7**	**+0.2**
MKAR	**Makanchi Array**	**56.89**	**328**	P		**P**		**19 24 03.7**	**+0.3**
	8.1nm,0.7s,baz=124,slow=8.5,SNR=102								
MKAR	**Makanchi Array**	**56.89**	**328**	*e*P		**P**		**19 24 03.8**	**+0.3**
	47nm,0.7s								
MKAR				*e*pP		**pP**		**19 24 14.1**	**0.0**
MAKZ	**Makanchi**	**57.06**	**328**	*e*P		**P**		**19 24 04.9**	**+0.2**
MAKZ				*e*pP		**pP**		**19 24 15.0**	**-0.3**
KDJ	**Kajisay**	**57.15**	**321**	*e*P		**P**		**19 24 06.8**	**+1.1**
	5.1nm,0.8s								
TKM2	**Tokmak 2**	**58.56**	**321**	P		**P**		**19 24 16.1**	**+0.5**
	SNR=8.2								
PETK	**Petropavlovsk-**	**58.72**	**24**	P		**P**		**19 24 16.6**	**+0.5**
	3.7nm,0.8s,baz=176,slow=2.4,SNR=6.3								
PETK	**Petropavlovsk-**	**58.72**	**24**	*e*P		**P**		**19 24 16.8**	**+0.6**
PEA1	**Petropavlovsk-**	**58.72**	**24**	*e*P		**P**		**19 24 16.6**	**+0.5**
KBK	**Karagaybulak**	**58.84**	**320**	P		**P**		**19 24 18.7**	**+1.3**
	SNR=6.6								
UCH	**Uchtor**	**58.90**	**320**	P		**P**		**19 24 19.5**	**+1.3**
	SNR=6.5								
AAK	**Ala-Archa**	**59.12**	**320**	P		**P**		**19 24 20.2**	**+0.8**
	SNR=5.5								
AAK	**Ala-Archa**	**59.12**	**320**	*e*P		**P**		**19 24 20.1**	**+0.7**
	9.1nm,1.2s								
AML	**Almayashu**	**59.39**	**319**	P		**P**		**19 24 22.3**	**+0.8**
	SNR=8.9								
USP	**Ospenovka**	**59.43**	**321**	P		**P**		**19 24 22.1**	**+0.7**
	SNR=9.4								
KBL	**Kabul**	**59.53**	**310**	*e*P		**P**		**19 24 22.3**	**-0.1**
	11nm,1.0s								
EKS2	**Erkin-Say**	**59.59**	**320**	P		**P**		**19 24 23.2**	**+0.6**
	SNR=11								
YAK	**Yakutsk**	**60.26**	**4**	*e*P		**P**		**19 24 26.0**	**-0.6**
YAK				*e*pP		**pP**		**19 24 36.4**	**-0.8**
ZAA0	**Zalesovo Array**	**60.51**	**335**	*e*P		**P**		**19 24 27.8**	**-0.7**
	12nm,1.1s								
ZALV	**Zalesovo Beam**	**60.51**	**335**	P		**P**		**19 24 27.3**	**-1

BRTR	**Keskin Array B**	**75.12**	**312**	P		**P**	**19 30 38.6**	**-3.6**
	0.6nm,0.9s,baz=104,slow=6.0,SNR=2.8							
TXAR	**Lajitas Array**	**144.89**	**40**	PKPbc		**PKPdf**	**19 38 37.5**	**+0.3**
	0.3nm,0.5s,baz=299,slow=2.6,SNR=4.2							

JMA 14 19:20:17.9±0.3, 40°.95N×145°.10E, h67km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JEM	**Erimo**	**1.81**	**307**	*e*S		Sn	19 21 08.5	-0.3
JAK	**Akkeshi**	**2.07**	**352**	*e*S		Sn	19 21 16.3	+1.2
JCH	**Churui**	**2.11**	**323**	P		Pn	19 20 51.9	+1.0
JCH				*e*S		Sn	19 21 15.7	-0.4
JNBK	**Urakawa-nobuka**	**2.21**	**308**	P		Pn	19 20 54.2	+2.0
JNBK				*e*S		Sn	19 21 19.5	+1.1
NEM2	**Nemuro 2**	**2.46**	**11**	*e*S		Sn	19 21 24.9	+0.3
JAR	**Ashorobuto**	**2.54**	**338**	P		Pn	19 20 57.3	+0.5
JAR				*e*S		Sn	19 21 26.5	-0.2
JNK	**Nakash**	**2.65**	**354**	P		Pn	19 20 58.5	+0.2
JANG	**Nango**	**2.79**	**259**	P		Pn	19 20 59.7	-0.4
JFR	**Furan**	**2.89**	**321**	*e*S		Sn	19 21 34.3	-1.0
JOT	**Ohata**	**3.09**	**279**	*e*S		Sn	19 21 37.5	-2.5
JTKR	**Abashiri--Toko**	**3.15**	**344**	*e*S		Sn	19 21 41.8	+0.5
JEW	**Eniwo**	**3.31**	**306**	*e*S		Sn	19 21 46.1	+0.6

DJA 14 19:20:45.8±0.7, 11°S±5°×112°4E±°, h10km, M3.7/7, MLv3.7/7, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**0.42**	**348**	P		Pg	19 20 54.5	+0.4
BATI				S		Sb	19 21 01.1	-0.7
SOEI	**Soe**	**1.00**	**31**	P		Pg	19 21 04.7	-0.4
SOEI				S		Sb	19 21 19.2	+0.6
EDFI	**Ende, Flores**	**2.75**	**312**	P		Pn	19 21 30.2	+0.1
BASI	**Baing, Sumba**	**3.15**	**277**	P		Pn	19 21 35.3	-0.1
WSI	**Waingapu**	**3.53**	**285**	P		Pn	19 21 40.6	-0.1
WBSI	**Waikabubak, Su**	**4.40**	**282**	P		Pn	19 21 52.8	0.0

*ISCJB **14** 19:22:22.8±0.2, 59°.44N±0°.01×5°.49E±0°.03, h11km, Error ellipse: s-maj=2.3km s-min=1.9km az=42.5*
*CSEM **14** 19:22:25.5±0.1, 59°.50N×5°.52E, h15km, ML3.2, Error ellipse: s-maj=3.0km s-min=2.4km az=135.0*
*LDG **14** 19:22:26.6±0.2, 59°.57N×5°.26E, h25km, Ml4.0/6, Error ellipse: s-maj=5.4km s-min=3.9km az=118.0*
*HEL **14** 19:22:26.7±0.1, 59°.53N×5°.63E, h14km, ML3.1, ML2.6(UPP), ML3.2(BER)*
*NAO **14** 19:22:26.7±1.7, 59°.68N×5°.77E, ML3.1*
*IDC **14** 19:22:26.2±1.7, 59°.68N×5°.68E, h0km, mb2.8/1, mb1 3.5/6, mb1mx3.1/69, mbtmp3.3/6, ML3.4/5, Error ellipse: s-maj=24.0km s-min=11.7km az=139.0*
*NEIC **14** 19:22:27.9±0.0, 59°.54N×5°.60E, h6km, ML3.5(BER), ML3.6(BGS), After BER.*
NEIC Felt at Haugesund and Stavanger.
*BER **14** 19:22:27.9±1.4, 59°.52N×5°.58E, h14km±3km, ML3.2, ML3.1(NAO)*
*BGS **14** 19:22:28.1±0.7, 59°.53N×5°.52E, h18km±3km, ML3.6*
*UPP **14** 19:22:30.4, 59°.42N×6°.38E, h0km, ML2.6*

ISC 14 19:22:23.7±0.6, 59°.49N±0°.02×5°.53E±0°.02, h11km, n331, σ2s11/479, 1C, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMY	**Karmoy**	**0.31**	**207**	*e*Pg		**Pn**	**19 22 35.3**	**+1.0**
KMY				*e*Sg		**Sb**	**19 22 40.3**	**+3.9**
KMY	**Karmoy**	**0.31**	**207**	P		**Pn**	**19 22 35.2**	**+1.0**
KMY				*e*S		**Sb**	**19 22 40.3**	**+3.9**
	SNR=99							
KMY	**Karmoy**	**0.31**	**207**	*e*P		**Pn**	**19 22 35.3**	**+1.0**
KMY				*e*S		**Sb**	**19 22 40.3**	**+3.9**
KMY				IAML			19 22 40.7	
	comp=Z,12μm,0.1s							
KMY	**Karmoy**	**0.31**	**207**	*i* P		**Pn**	**19 22 35.3**	**+1.0**
KMY				*i* S		**Sb**	**19 22 40.3**	**+3.9**
KMY				IAML			19 22 40.7	
	comp=Z,2μm,0.1s							
BLS5	**Blasjo**	**0.48**	**98**	*e*Pg		**Pb**	**19 22 36.4**	**+2.2**
BLS5				*e*Sg		**Sb**	**19 22 42.4**	**+1.1**
BLS5	**Blasjo**	**0.48**	**98**	*e*P		**Pb**	**19 22 36.4**	**+2.2**
	SNR=96							
BLS5				S		**Sb**	**19 22 42.3**	**+1.1**
BLS5	**Blasjo**	**0.48**	**98**	*e*P		**Pb**	**19 22 36.4**	**+2.2**
BLS5				*e*S		**Sb**	**19 22 42.4**	**+1.1**
BLS5				IAML			19 22 42.5	
	comp=Z,6μm,0.1s							
BLS5	**Blasjo**	**0.48**	**98**	*i* P		**Pb**	**19 22 36.4**	**+2.2**
BLS5				*i* S		**Sb**	**19 22 42.4**	**+1.1**
BLS5				IAML			19 22 42.5	
	comp=Z,6μm,0.1s							
STAV	**Stavanger**	**0.56**	**171**	*e*P		**Pn**	**19 22 38.8**	**+1.1**
	SNR=93							
STAV				Sb		**Sb**	**19 22 46.6**	**+3.0**
STAV	**Stavanger**	**0.56**	**171**	*e*P		**Pn**	**19 22 38.8**	**+1.1**
STAV				*e*Sg		**Sb**	**19 22 46.7**	**+3.0**
STAV				IAML			19 22 46.9	
	comp=Z,2μm,0.3s							
STAV	**Stavanger**	**0.56**	**171**	*i* P		**Pn**	**19 22 38.8**	**+1.1**
STAV				*i* SB		**Sb**	**19 22 46.7**	**+3.0**
STAV				IAML			19 22 46.9	
	comp=Z,2μm,0.3s							
ODD1	**Odda**	**0.70**	**52**	*e*Pn		**Pb**	**19 22 39.8**	**+1.8**
ODD1				*e*Sg		**Sg**	**19 22 48.0**	**+1.5**
ODD1	**Odda**	**0.70**	**52**	*e*P		**Pb**	**19 22 39.8**	**+1.8**
	SNR=93							
ODD1				S		**Sg**	**19 22 47.9**	**+1.5**
ODD1	**Odda**	**0.70**	**52**	*e*P		**Pb**	**19 22 39.8**	**+1.8**
ODD1				*e*S		**Sg**	**19 22 48.0**	**+1.5**
ODD1				IAML			19 22 48.3	
	comp=Z,5μm,0.4s							
ODD1	**Odda**	**0.70**	**52**	*i* P		**Pb**	**19 22 39.8**	**+1.8**
ODD1				*i* S		**Sg**	**19 22 48.0**	**+1.5**
ODD1				IAML			19 22 48.3	
	comp=Z,5μm,0.4s							
BER	**Bergen**	**0.90**	**354**	*e*Pn		**Pn**	**19 22 43.5**	**+1.2**
BER				*e*Sn		**Sb**	**19 22 54.9**	**+1.5**
BER	**Bergen**	**0.90**	**354**	*e*P		**Pn**	**19 22 43.6**	**+1.2**
BER				*e*S		**Sb**	**19 22 54.9**	**+1.5**
	comp=Z,1μm,0.2s							
BER	**Bergen**	**0.90**	**354**	*e*P		**Pn**	**19 22 43.5**	**+1.2**
BER				*e*S		**Sb**	**19 22 54.9**	**+1.5**
BER				IAML			19 22 56.9	
	comp=Z,2μm,0.4s							
BER	**Bergen**	**0.90**	**354**	*i* P		**Pn**	**19 22 43.5**	**+1.2**
BER				*i* S		**Sb**	**19 22 54.9**	**+1.5**
BER				IAML			19 22 56.9	
	comp=Z,2μm,0.4s							
BER	**Bergen**	**0.90**	**354**	*e*P		**Pn**	**19 22 43.6**	**+1.2**
BER				*e*S		**Sb**	**19 22 54.9**	**+1.5**
BER				AML	AML		19 22 56.5	
	comp=N,885nm,0.2s							
BER				AML	AML		19 22 56.7	
	comp=E,1μm,0.2s							
ASK	**Askoy**	**1.01**	**351**	*e*Pn		**Pn**	**19 22 45.3**	**+1.5**
ASK				*e*Sn		**Sb**	**19 22 57.7**	**+1.2**
ASK	**Askoy**	**1.01**	**351**	*e*P		**Pn**	**19 22 45.3**	**+1.5**
ASK				*e*S		**Sb**	**19 22 57.7**	**+1.2**
ASK				IAML			19 22 59.4	
	comp=Z,2μm,0.1s							
ASK	**Askoy**	**1.01**	**351**	*e*P		**Pn**	**19 22 45.3**	**+1.5**
ASK				*e*S		**Sb**	**19 22 57.7**	**+1.2**
ASK				IAML			19 22 59.4	
	comp=Z,2μm,0.1s							
SNART	**Snartemo**	**1.45**	**142**	*e*P		**Pb**	**19 22 52.4**	**+1.7**
	SNR=55							
SNART	**Snartemo**	**1.45**	**142**	*e*P		**Pb**	**19 22 52.4**	**+1.7**
SNART				*e*Pg		**Pg**	**19 22 53.4**	**+1.9**
SNART				*e*Sg		**Sg**	**19 23 12.2**	**+1.9**
SNART				IAML			19 23 12.7	
	comp=Z,5μm,0.3s							
SNART	**Snartemo**	**1.45**	**142**	*e*P		**Pb**	**19 22 52.4**	**+1.7**
SNART				*e*PG		**Pg**	**19 22 53.4**	**+1.9**
SNART				*e*SN		**Sg**	**19 23 12.2**	**+1.9**
SNART				IAML			19 23 12.7	
	comp=Z,5μm,0.3s							
SUE	**Sulen**	**1.62**	**347**	P		**Pn**	**19 22 53.8**	**+1.7**
SUE	**Sulen**	**1.62**	**347**	*e*P		**Pn**	**19 22 53.9**	**+1.7**
SUE				*e*Pg		**Pg**	**19 22 55.9**	**+1.2**
SUE				*e*Sg		**Sg**	**19 23 16.6**	**+0.9**
SUE				IAML			19 23 17.9	
	comp=Z,1μm,0.2s							
SUE	**Sulen**	**1.62**	**347**	*e*P		**Pn**	**19 22 53.9**	**+1.7**
SUE				*e*PG		**Pg**	**19 22 55.9**	**+1.2**
SUE				*e*SG		**Sg**	**19 23 16.6**	**+0.9**
SUE				IAML			19 23 17.9	
	comp=Z,1μm,0.2s							
HYA	**Hoyanger**	**1.71**	**11**	*e*P		**Pn**	**19 22 55.3**	**+1.9**
	SNR=55							
HYA				Sg		**Sg**	**19 23 19.0**	**+0.2**
HYA	**Hoyanger**	**1.71**	**11**	*e*P		**Pn**	**19 22 55.3**	**+1.9**
HYA				*e*Sg		**Sg**	**19 23 19.0**	**+0.2**
HYA				IAML			19 23 20.1	
	comp=Z,630nm,0.4s							
HYA	**Hoyanger**	**1.71**	**11**	*e*P		**Pn**	**19 22 55.3**	**+1.9**
HYA				*e*SG		**Sg**	**19 23 19.0**	**+0.2**
HYA				IAML			19 23 20.1	
	comp=Z,630nm,0.4s							
HOMB	**Homborsund**	**1.97**	**127**	P		**Pn**	**19 22 59.4**	**+2.4**
HOMB	**Homborsund**	**1.97**	**127**	*e*P		**Pn**	**19 22 59.5**	**+2.4**
HOMB				*e*Pg		**Pb**	**19 23 02.0**	**+2.4**
HOMB				*e*Sg		**Sb**	**19 23 26.8**	**+2.7**
HOMB				IAML			19 23 27.1	
	comp=Z,1μm,0.4s							
HOMB	**Homborsund**	**1.97**	**127**	*e*P		**Pn**	**19 22 59.5**	**+2.4**
HOMB				*e*PG		**Pb**	**19 23 02.0**	**+2.4**
HOMB				*e*SG		**Sb**	**19 23 26.8**	**+2.7**
HOMB				IAML			19 23 27.1	
	comp=Z,1μm,0.4s							
KONO	**Kongsberg**	**2.08**	**84**	*e*Pn		**Pn**	**19 23 00.6**	**+2.2**
KONO	**Kongsberg**	**2.08**	**84**	*e*P		**Pn**	**19 23 00.4**	**+1.9**
KONO	**Kongsberg**	**2.08**	**84**	*e*P		**Pn**	**19 23 00.6**	**+2.2**
KONO				*e*Pg		**Pb**	**19 23 03.0**	**+1.6**
KONO				IAML			19 23 30.2	
	comp=Z,145nm,0.2s							
KONO	**Kongsberg**	**2.08**	**84**	*e*P		**Pn**	**19 23 00.6**	**+2.2**
KONO				*e*PG		**Pb**	**19 23 03.0**	**+1.6**
KONO				IAML			19 23 30.2	
	comp=Z,145nm,0.2s							
KONO	**Kongsberg**	**2.08**	**84**	*e*P		**Pn**	**19 23 00.4**	**+1.9**
FOO	**Floro**	**2.13**	**354**	P		**Pn**	**19 23 00.8**	**+1.7**
FOO	**Floro**	**2.13**	**354**	*e*P		**Pn**	**19 23 00.9**	**+1.7**
FOO				*e*Pg		**Pb**	**19 23 03.8**	**+1.6**
FOO				*e*Sg		**Sb**	**19 23 30.6**	**+1.9**
FOO				IAML			19 23 32.5	
	comp=Z,388nm,0.4s							
FOO	**Floro**	**2.13**	**354**	*e*P		**Pn**	**19 23 00.9**	**+1.7**
FOO				*e*PG		**Pb**	**19 23 03.8**	**+1.6**
FOO				*e*SG		**Sb**	**19 23 30.6**	**+1.9**
FOO				IAML			19 23 32.5	
	comp=Z,388nm,0.4s							
OSL	**Oslo**	**2.67**	**78**	*e*P		**Pn**	**19 23 09.9**	**+3.3**
	SNR=55							
OSL	**Oslo**	**2.67**	**78**	*e*P		**Pn**	**19 23 09.9**	**+3.3**
OSL				*e*Pg		**Pb**	**19 23 12.8**	**+1.4**
OSL				*e*Sg		**Sb**	**19 23 46.1**	**+1.9**
OSL	**Oslo**	**2.67**	**78**	*e*P		**Pn**	**19 23 09.9**	**+3.3**
OSL				*e*PG		**Pb**	**19 23 12.8**	**+1.4**
OSL				*e*SG		**Sb**	**19 23 46.1**	**+1.9**
AKN	**Aaknes**	**2.79**	**14**	Pn		**Pn**	**19 23 10.2**	**+1.8**
AKN				Pg		**Pb**	**19 23 14.5**	**+0.9**
AKN				Sn		**Sn**	**19 23 42.0**	**0.0**
AKN				Lg			19 23 50.5	
AKN	**Aaknes**	**2.79**	**14**	Pn		**Pn**	**19 23 10.2**	**+1.8**
AKN	**Aaknes**	**2.79**	**14**	Pg		**Pb**	**19 23 14.4**	**+0.9**
AKN				Sn		**Sn**	**19 23 42.0**	**0.0**
	SNR=55							
AKN				Lg		Lg	19 23 50.5	
AKN	**Aaknes**	**2.79**	**14**	*e*P		**Pn**	**19 23 10.2**	**+1.8**
AKN				*e*Pg		**Pb**	**19 23 14.5**	**+0.9**
AKN				*e*S		**Sn**	**19 23 42.0**	**0.0**
AKN				*e*SG		**Sb**	**19 23 50.5**	**+2.7**
AKN				IAML			19 23 53.5	
	comp=Z,260nm,0.3s							
AKN	**Aaknes**	**2.79**	**14**	*e*P		**Pn**	**19 23 10.2**	**+1.8**
AKN				*e*PG		**Pb**	**19 23 14.5**	**+0.9**
AKN				*e*S		**Sn**	**19 23 42.0**	**0.0**
AKN				*e*SG		**Sb**	**19 23 50.5**	**+2.7**
AKN				IAML			19 23 53.5	
	comp=Z,260nm,0.3s							
STRU	**Stroemstad**	**2.94**	**97**	P		**Pn**	**19 23 11.6**	**+1.3**
STRU				S		**Sn**	**19 23 44.5**	**-1.0**
STRU	**Stroemstad**	**2.94**	**97**	P		**Pn**	**19 23 11.6**	**+1.3**
STRU				S		**Sn**	**19 23 44.5**	**-1.0**
STRU	**Stroemstad**	**2.94**	**97**	*e*P		**Pn**	**19 23 11.6**	**+1.3**
STRU				*e*S		**Sn**	**19 23 44.5**	**-1.0**
NAO	**NORSAR Subarra**	**2.97**	**61**	Pn		**Pn**	**19 23 12.8**	**+2.1**
NAO				Lg		Lg	19 23 55.1	
NAO	**NORSAR Subarra**	**2.97**	**61**	P		**Pn**	**19 23 12.8**	**+2.1**
NAO	**NORSAR Subarra**	**2.97**	**61**	Pb		**Pb**	**19 23 17.0**	**+0.4**
NAO				Lg		Lg	19 23 55.2	
NAO	**NORSAR Subarra**	**2.97**	**61**	Pn		**Pn**	**19 23 12.8**	**+2.1**
NAO				Pg		**Pb**	**19 23 17.1**	**+0.4**
NAO				Lg		Lg	19 23 55.1	
NAO	**NORSAR Subarra**	**2.97**	**61**	*e*P		**Pn**	**19 23 12.8**	**+2.1**
NAO				*e*PB		**Pb**	**19 23 17.1**	**+0.4**
NAO				*e*SG		**Sb**	**19 23 55.1**	**+2.3**
NAO01	**NORSAR Array S**	**3.00**	**61**	*e*Pn		**Pn**	**19 23 13.4**	**+2.2**
NAO01	**NORSAR Array S**	**3.00**	**61**	*e*P		**Pn**	**19 23 13.3**	**+2.1**
	SNR=55							
NAO01	**NORSAR Array S**	**3.00**	**61**	*e*P		**Pn**	**19 23 13.3**	**+2.1**
NAO01	**NORSAR Array S**	**3.00**	**61**	*e*P		**Pn**	**19 23 13.3**	**+2.1**
NBO	**NORSAR Subarra**	**3.04**	**57**	Pn		**Pn**	**19 23 14.1**	**+2.3**
NBO				Pg		**Pb**	**19 23 18.6**	**+0.8**
NBO				Lg		Lg	19 23 56.5	
NBO	**NORSAR Subarra**	**3.04**	**57**	P		**Pn**	**19 23 14.0**	**+2.3**
NBO				Lg		Lg	19 23 56.5	
NBO	**NORSAR Subarra**	**3.04**	**57**	Pn		**Pn**	**19 23 14.1**	**+2.3**
NBO				Pg		**Pb**	**19 23 18.6**	**+0.8**
NBO				Lg		Lg	19 23 56.5	
NBO	**NORSAR Subarra**	**3.04**	**57**	*e*P		**Pn**	**19 23 14.1**	**+2.3**
NBO				*e*PG		**Pb**	**19 23 18.6**	**+0.8**
NBO				*e*SG		**Sb**	**19 23 56.5**	**+1.6**
NBO00	**NORSAR Array S**	**3.04**	**57**	*e*Pn		**Pn**	**19 23 14.1**	**+2.3**
NBO00	**NORSAR Array S**	**3.04**	**57**	*e*Pn		**Pn**	**19 23 14.1**	**+2.3**
NBO02	**NORSAR Array S**	**3.08**	**57**	*e*Pn		**Pn**	**19 23 13.8**	**+1.5**
NBO02	**NORSAR Array S**	**3.08**	**57**	*e*Pn		**Pn**	**19 23 13.8**	**+1.5**
DOMB	**Dombas**	**3.09**	**33**	*e*P		**Pn**	**19 23 14.9**	**+2.4**
	SNR=55							
DOMB				*e*S		**Sn**	**19 23 50.2**	**+0.8**
	SNR=55							
DOMB	**Dombas**	**3.09**	**33**	*e*P		**Pn**	**19 23 14.9**	**+2.4**
DOMB				*e*Pg		**Pb**	**19 23 20.3**	**+1.6**
DOMB				*e*S		**Sn**	**19 23 50.2**	**+0.8**
DOMB				*e*Sg		**Sb**	**19 23 59.7**	**+3.3**
DOMB				IAML			19 24 03.7	
	comp=Z,227nm,0.7s							
DOMB	**Dombas**	**3.09**	**33**	*e*P		**Pn**	**19 23 14.9**	**+2.4**
DOMB				*e*PG		**Pb**	**19 23 20.3**	**+1.6**
DOMB				*e*S		**Sn**	**19 23 50.2**	**+0.8**
DOMB				*e*SG		**Sb**	**19 23 59.7**	**+3.3**
DOMB				IAML			19 24 03.7	
	comp=Z,227nm,0.7s							
NC204	**NORSAR Array S**	**3.16**	**53**	*e*Pn		**Pn**	**19 23 15.5**	**+2.1**
NC204	**NORSAR Array S**	**3.16**	**53**	*e*Pn		**Pn**	**19 23 15.5**	**+2.1**
NC2	**NORSAR Subarra**	**3.19**	**53**	Pn		**Pn**	**19 23 15.9**	**+2.1**
NC2				Pg		**Pb**	**19 23 20.2**	**-0.1**
NC2				Lg		Lg	19 24 01.2	
NC2	**NORSAR Subarra**	**3.19**	**53**	P		**Pn**	**19 23 15.9**	**+2.1**
NC2	**NORSAR Subarra**	**3.19**	**53**	Pb		**Pb**	**19 23 20.2**	**-0.1**
NC2				Lg		Lg	19 24 01.2	
NC2	**NORSAR Subarra**	**3.19**	**53**	Pn		**Pn**	**19 23 15.9**	**+2.1**
NC2				Pg		**Pb**	**19 23 20.2**	**-0.1**
NC2				Lg		Lg	19 24 02.3	
NC2	**NORSAR Subarra**	**3.19**	**53**	*e*P		**Pn**	**19 23 15.9**	**+2.1**
NC2				*e*PB		**Pb**	**19 23 20.2**	**-0.1**
NC2				*e*SG		**Sb**	**19 24 02.3**	**+3.1**
NC605	**NORSAR Array S**	**3.21**	**64**	*e*Pn		**Pn**	**19 23 15.6**	**+1.5**
NC605	**NORSAR Array S**	**3.21**	**64**	*e*Pn		**Pn**	**19 23 15.6**	**+1.5**
NC6	**NORSAR Subarra**	**3.23**	**64**	Pn		**Pn**	**19 23 15.8**	**+1.6**
NC6				Pg		**Pb**	**19 23 21.3**	**+0.4**
NC6				Lg		Lg	19 24 02.3	
NC6	**NORSAR Subarra**	**3.23**	**64**	P		**Pn**	**19 23 15.8**	**+1.6**
NC6	**NORSAR Subarra**	**3.23**	**64**	Pb		**Pb**	**19 23 21.3**	**+0.4**
NC6				Lg		Lg	19 24 02.3	
NC6	**NORSAR Subarra**	**3.23**	**64**	Pn		**Pn**	**19 23 15.8**	**+1.6**
NC6				Pg		**Pb**	**19 23 21.3**	**+0.4**
NC6				Lg		Lg	19 24 03.2	
NC6	**NORSAR Subarra**	**3.23**	**64**	*e*P		**Pn**	**19 23 15.8**	**+1.6**
NC6				*e*PB		**Pb**	**19 23 21.3**	**+0.4**
NC6				*e*SG		**Sb**	**19 24 03.2**	**+3.0**
NB2	**NORSAR Subarra**	**3.23**	**59**	Pn		**Pn**	**19 23 16.1**	**+1.6**
	baz=242,slow=14							
NB2				Pg		**Pb**	**19 23 22.2**	**+1.2**
NB2				Lg		Lg	19 24 02.7	
NB2	**NORSAR Subarra**	**3.23**	**59**	P		**Pn**	**19 23 16.0**	**+1.6**
NB2				Lg		Lg	19 24 02.7	
NB2	**NORSAR Subarra**	**3.23**	**59**	Pn		**Pn**	**19 23 16.1**	**+1.6**
	baz=242,slow=14							
NB2				Pg		**Pb**	**19 23 22.2**	**+1.2**
NB2				Lg		Lg	19 24 02.7	
NB2	**NORSAR Subarra**	**3.23**	**59**	*e*P		**Pn**	**19 23 16.1**	**+1.6**
NB2				*e*PG		**Pb**	**19 23 22.2**	**+1.2**
NB2				*e*SG		**Sb**	**19 24 02.7**	**+2.2**
NOA	**NORSAR Array B**	**3.23**	**59**	Pn		**Pn**	**19 23 15.1**	**+0.7**
	comp=Z,10nm,0.3s,baz=21,slow=12,SNR=39							
NOA				Sn		**Sn**	**19 23 51.3**	**-1.6**
	comp=Z,16nm,0.3s,baz=50,slow=25,SNR=4.5							
NOA				Lg		Lg	19 24 02.3	
	comp=Z,66nm,0.3s,baz=221,slow=16,SNR=15							
MOL	**Molde**	**3.24**	**17**	*e*P		**Pn**	**19 23 15.4**	**+0.9**
	SNR=55							
MOL				*e*S		**Sn**	**19 23 51.3**	**-1.7**
	SNR=55							
MOL	**Molde**	**3.24**	**17**	*e*P		**Pn**	**19 23 15.4**	**+0.9**
MOL				*e*S		**Sn**	**19 23 51.3**	**-1.7**
MOL				IAML			19 24 08.9	
	comp=Z,110nm,0.1s							
MOL	**Molde**	**3.24**	**17**	*e*P		**Pn**	**19 23 15.4**	**+0.9**
MOL				*e*S		**Sn**	**19 23 51.3**	**-1.7**
MOL				IAML			19 24 08.9	
	comp=Z,110nm,0.1s							
MOL	**Molde**	**3.24**	**17**	*i*P		**Pn**	**19 23 15.3**	**+0.9**
MOL				*e*S		**Sn**	**19 23 51.2**	**-1.7**
MOL				AML	AML		19 24 05.5	
	comp=E,147nm,0.1s							
MOL				AML	AML		19 24 09.2	
	comp=N,191nm,0.4s							
NC602	**NORSAR Array S**	**3.26**	**65**	*e*Pn		**Pn**	**19 23 16.2**	**+1.5**
NC602	**NORSAR Array S**	**3.26**	**65**	*e*Pn		**Pn**	**19 23 16.2**	**+1.5**
NRA0	**NORESS Array S**	**3.26**	**65**	Pn		**Pn**	**19 23 15.5**	**+0.8**
	baz=242,slow=14							
NRA0				Pg		**Pb**	**19 23 20.9**	**-0.6**
	baz=254,slow=18							
NRA0				Lg		Lg	19 24 02.4	
	baz=261,slow=37							
NRA0	**NORESS Array S**	**3.26**	**65**	Pn		**Pn**	**19 23 15.5**	**+0.8**
	SNR=55							
NRA0	**NORESS Array S**	**3.26**	**65**	Pg		**Pb**	**19 23 20.9**	**-0.6**
	SNR=5.0							
NRA0	**NORESS Array S**	**3.26**	**65**	Pn		**Pn**	**19 23 15.5**	**+0.8**
	baz=249,slow=14							
NRA0				Pg		**Pb**	**19 23 21.6**	**+0.1**
	baz=253,slow=18							
NRA0				Lg		Lg	19 24 02.4	
	baz=254,slow=37							
NRA0	**NORESS Array S**	**3.26**	**65**	*e*P		**Pn**	**19 23 15.5**	**+0.8**
NRA0				*e*PB		**Pb**	**19 23 21.6**	**+0.1**
NRA0				*e*SB		**Sb**	**19 24 02.4**	**+1.2**
NB201	**NORSAR Array S**	**3.27**	**59**	*e*Pn		**Pn**	**19 23 15.5**	**+0.6**
NB201	**NORSAR Array S**	**3.27**	**59**	*e*Pn		**Pn**	**19 23 15.5**	**+0.6**
NC303	**NORSAR Array S**	**3.38**	**57**	*e*Pn		**Pn**	**19 23 18.1**	**+1.7**
NC303	**NORSAR Array S**	**3.38**	**57**	*e*Pn		**Pn**	**19 23 18.1**	**+1.7**
NC3	**NORSAR Subarra**	**3.42**	**56**	Pn		**Pn**	**19 23 18.5**	**+1.5**
NC3				Pg		**Pb**	**19 23 23.2**	**-1.1**
NC3				Lg		Lg	19 24 08.7	
NC3	**NORSAR Subarra**	**3.42**	**56**	Pn		**Pn**	**19 23 18.5**	**+1.5**
	SNR=55							
NC3	**NORSAR Subarra**	**3.42**	**56**	Pn		**Pn**	**19 23 18.5**	**+1.5**
NC3				Lg		Lg	19 24 08.7	
NC3	**NORSAR Subarra**	**3.42**	**56**	*e*P		**Pn**	**19 23 18.5**	**+1.5**
NC3				*e*SG		**Sb**	**19 24 08.7**	**+2.9**
LRW	**Lerwick**	**3.45**	**284**	*e*Pn		**Pn**	**19 23 18.8**	**+1.5**
LRW				*e*Sn		**Sn**	**19 23 56.5**	**-1.6**
LRW	**Lerwick**	**3.45**	**284**	P		**Pn**	**19 23 18.7**	**+1.5**
LRW				S		**Sn**	**19 23 56.5**	**-1.6**
	comp=N,19nm,0.1s							
LRW	**Lerwick**	**3.45**	**284**	*e*P		**Pn**	**19 23 18.8**	**+1.5**
LRW				*e*S		**Sn**	**19 23 56.5**	**-1.6**
LRW				AML	AML		19 23 60.0	
	comp=E,20nm,0.1s							
LRW				AML	AML		19 24 05.2	
	comp=N,19nm,0.1s							
LRW	**Lerwick**	**3.45**	**284**	*e*P		**Pn**	**19 23 18.8**	**+1.5**
LRW

HFS	**Hagfors**	**4.17**	**78**	Pn		**Pn**	**19 23 28.6**	**+1.3**
	baz=259,slow=14								
HFS				Pg		**Pb**	**19 23 35.3**	**-1.8**
	baz=267,slow=14								
HFS				Lg		Lg	19 24 29.4		
	baz=270,slow=37								
HFS	**Hagfors**	**4.17**	**78**	*e*P		**Pn**	**19 23 28.6**	**+1.3**
HFS				*e*PB		**Pb**	**19 23 35.3**	**-1.8**
HFS				*e*SB		**Sb**	**19 24 29.4**	**+1.9**
BORU	**Boraas**	**4.22**	**113**	P		**Pn**	**19 23 29.6**	**+1.7**
BORU				S		**Sn**	**19 24 15.6**	**-1.6**
BORU	**Boraas**	**4.22**	**113**	*e*P		**Pn**	**19 23 29.6**	**+1.7**
BORU				*e*S		**Sn**	**19 24 15.6**	**-1.6**
FKPU	**Falk**	**4.46**	**104**	P		**Pn**	**19 23 32.8**	**+1.6**
FKPU	**Falk**	**4.46**	**104**	P		**Pn**	**19 23 32.8**	**+1.6**
FKPU	**Falk**	**4.46**	**104**	*e*P		**Pn**	**19 23 32.8**	**+1.6**
FABU	**Falkenberg**	**4.54**	**120**	P		**Pn**	**19 23 34.1**	**+1.8**
FABU				S		**Sn**	**19 24 22.4**	**-2.6**
FABU	**Falkenberg**	**4.54**	**120**	P		**Pn**	**19 23 34.1**	**+1.8**
FABU				S		**Sn**	**19 24 22.5**	**-2.6**
FABU	**Falkenberg**	**4.54**	**120**	*e*P		**Pn**	**19 23 34.1**	**+1.8**
FABU				*e*S		**Sn**	**19 24 22.5**	**-2.6**
ASKU	**Askersund**	**4.82**	**93**	P		**Pn**	**19 23 37.2**	**+1.1**
ASKU	**Askersund**	**4.82**	**93**	P		**Pn**	**19 23 37.2**	**+1.1**
ASKU	**Askersund**	**4.82**	**93**	*e*P		**Pn**	**19 23 37.2**	**+1.1**
NRAU	**Nora**	**4.84**	**85**	P		**Pn**	**19 23 37.9**	**+1.5**
NRAU	**Nora**	**4.84**	**85**	P		**Pn**	**19 23 37.9**	**+1.5**
NRAU	**Nora**	**4.84**	**85**	*e*P		**Pn**	**19 23 37.9**	**+1.5**
GNOU	**Gnosjoe**	**4.86**	**113**	P		**Pn**	**19 23 38.9**	**+2.3**
GNOU	**Gnosjoe**	**4.86**	**113**	P		**Pn**	**19 23 39.0**	**+2.3**
GNOU	**Gnosjoe**	**4.86**	**113**	*e*P		**Pn**	**19 23 39.0**	**+2.3**
DRUM	**Mains of Drumt**	**4.96**	**242**	*e*P		**Pn**	**19 23 40.6**	**+2.5**
	SNR=53								
DRUM				*e*S		**Sn**	**19 24 33.7**	**-1.8**
	comp=E,43nm,0.3s								
DRUM	**Mains of Drumt**	**4.96**	**242**	*e*P		**Pn**	**19 23 40.6**	**+2.5**
DRUM				*e*S		**Sn**	**19 24 33.7**	**-1.8**
DRUM				AML		AML	19 24 43.5		
	comp=E,32nm,0.3s								
DRUM				AML		AML	19 24 44.1		
	comp=N,43nm,0.3s								
DRUM	**Mains of Drumt**	**4.96**	**242**	*e*P		**Pn**	**19 23 40.6**	**+2.5**
DRUM				*e*S		**Sn**	**19 24 33.7**	**-1.8**
DRUM				AML		AML	19 24 43.5		
	comp=E,32nm,0.3s								
DRUM				AML		AML	19 24 44.1		
	comp=N,43nm,0.3s								
MME1	**Meikle Cairn**	**4.97**	**248**	P		**Pn**	**19 23 40.4**	**+2.2**
MME1	**Meikle Cairn**	**4.97**	**248**	*e*P		**Pn**	**19 23 40.5**	**+2.2**
MME1	**Meikle Cairn**	**4.97**	**248**	*e*P		**Pn**	**19 23 40.5**	**+2.2**
MME1	**Meikle Cairn**	**4.97**	**248**	*e*P		**Pn**	**19 23 40.5**	**+2.2**
BIGH	**Upper Bighouse**	**4.98**	**263**	P		**Pn**	**19 23 40.2**	**+1.9**
BIGH				S		**Sn**	**19 24 32.7**	**-3.1**
	comp=N,52nm,0.3s								
BIGH	**Upper Bighouse**	**4.98**	**263**	*e*P		**Pn**	**19 23 40.3**	**+1.9**
BIGH				*e*S		**Sn**	**19 24 32.8**	**-3.1**
BIGH				AML		AML	19 24 37.6		
	comp=N,59nm,0.4s								
BIGH				AML		AML	19 24 41.3		
	comp=E,52nm,0.3s								
BIGH	**Upper Bighouse**	**4.98**	**263**	*e*P		**Pn**	**19 23 40.3**	**+1.9**
BIGH				*e*S		**Sn**	**19 24 32.8**	**-3.1**
BIGH				AML		AML	19 24 37.6		
	comp=N,59nm,0.4s								
BIGH				AML		AML	19 24 41.3		
	comp=E,52nm,0.3s								
MCD	**Coleburn Disti**	**4.98**	**251**	*e*Pn		**Pn**	**19 23 40.4**	**+2.0**
MCD	**Coleburn Disti**	**4.98**	**251**	*e*P		**Pn**	**19 23 40.4**	**+2.0**
MCD				*e*S		**Sn**	**19 24 34.9**	**-1.0**
MCD				AML		AML	19 24 45.4		
	comp=E,25nm,0.3s								
MCD				AML		AML	19 24 48.3		
	comp=N,32nm,0.5s							

ERPM	**east rand prop**	**1.44**	**67**	*eP*	**Pb**	**19 29 55.0**	**+1.0**
ERPM				*eS*	**Sg**	**19 30 13.6**	**+1.1**
ERPM				AML	AML	19 30 28.0	
	comp=Z,117nm,0.9s						
SLR	**Silverton**	**1.80**	**50**	*eP*	**Pn**	**19 29 59.1**	**+0.5**
SLR				*eS*	**Sn**	**19 30 21.0**	**-1.1**
SLR				AML	AML	19 30 25.3	
	comp=Z,1μm,0.4s						
BOSA	**Boshof**	**2.16**	**218**	Pn	**Pb**	**19 30 05.2**	**-1.1**
	comp=Z,33nm,0.3s,baz=37,slow=15,SNR=11						
BOSA				Lg	Lg	19 30 34.5	
	comp=Z,68nm,0.3s,baz=312,slow=17,SNR=12						
BOSA	**Boshof**	**2.16**	**218**	*eP*	**Pn**	**19 30 03.4**	**-0.2**
BOSA				*eS*	**Sn**	**19 30 31.1**	**+0.1**
BOSA				AML	AML	19 30 46.0	
	comp=Z,305nm,0.6s						
LBTB	**Lobatse**	**2.16**	**331**	Pn	**Pg**	**19 30 06.6**	**-1.2**
	comp=Z,41nm,0.3s,baz=149,slow=16,SNR=19						
LBTB				Lg	Lg	19 30 35.8	
	comp=Z,242nm,0.3s,baz=52,slow=23,SNR=33						
LBTB	**Lobatse**	**2.16**	**331**	*eP*	**Pg**	**19 30 06.3**	**-1.5**
LBTB				*eS*	**Sg**	**19 30 33.8**	**-2.0**
LBTB				AML	AML	19 30 37.5	
	comp=Z,630nm,0.4s						
LBTB	**Lobatse**	**2.16**	**331**	*e*Pn	**Pn**	**19 30 03.8**	**+0.2**
KSD	**Kokstad**	**4.30**	**148**	*eP*	**Pn**	**19 30 33.3**	**+0.3**
KSD				*eS*	**Sn**	**19 31 21.0**	**-2.9**
KSD				AML	AML	19 31 42.2	
	comp=Z,102nm,0.6s						
CNG	**Changalane**	**4.89**	**84**	*eP*	**Pn**	**19 30 38.1**	**-3.0**
CNG				*eS*	**Sn**	**19 31 32.2**	**-6.2**
CNG				AML	AML	19 32 14.5	
	comp=Z,32nm,0.6s						
MSNA	**Messina**	**5.43**	**34**	*eP*	**Pn**	**19 30 49.4**	**+0.9**
MSNA				*eS*	**Sn**	**19 31 46.5**	**-5.1**
MSNA				AML	AML	19 32 23.9	
	comp=Z,63nm,0.4s						
SOE	**Somerset East**	**5.87**	**190**	*eP*	**Pn**	**19 30 55.1**	**+0.5**
SOE				*eS*	**Sn**	**19 31 59.3**	**-3.3**
SOE				AML	AML	19 32 49.5	
	comp=Z,16nm,0.6s						
AUGR	**Augrabies**	**5.94**	**252**	*eP*	**Pn**	**19 30 57.2**	**+1.7**
AUGR				*eS*	**Sn**	**19 32 02.2**	**-2.0**
AUGR				AML	AML	19 32 45.2	
	comp=Z,70nm,0.8s						
ARMS	**Ukamas**	**6.34**	**258**	*eP*	**Pn**	**19 31 03.1**	**+2.1**
ARMS				*eS*	**Sn**	**19 32 11.3**	**-2.9**
ARMS				AML	AML	19 32 54.0	
	comp=Z,55nm,0.5s						
BUFB	**Buffelsbos**	**7.42**	**193**	*eP*	**Pn**	**19 31 16.6**	**+0.8**
BUFB				*eS*	**Sn**	**19 32 36.3**	**-4.3**
BUFB				AML	AML	19 33 24.6	
	comp=Z,10nm,0.5s						
KROM	**Kromhout**	**7.44**	**194**	*eP*	**Pn**	**19 31 16.5**	**+0.5**
KROM				*eS*	**Sn**	**19 32 36.8**	**-4.3**
KROM				AML	AML	19 32 42.0	
	comp=Z,2.6nm,1.0s						
SUR	**Sutherland**	**7.52**	**222**	Pn	**Pn**	**19 31 18.9**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=84,slow=17,SNR=2.5						
SUR				Sn	**Sn**	**19 32 41.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=308,slow=5.7,SNR=3.8						
SUR				Lg	Lg	19 33 23.3	
	comp=Z,0.8nm,0.3s,baz=127,slow=20,SNR=4.5						
SUR	**Sutherland**	**7.52**	**222**	*eP*	**Pn**	**19 31 18.1**	**+0.8**
SUR				AML	AML	19 32 59.2	
	comp=Z,68nm,0.5s						
SUR	**Sutherland**	**7.52**	**222**	*e*Pn	**Pn**	**19 31 18.3**	**+1.0**
SUR				*e*Lg	Lg	19 33 23.3	
CVNA	**Calvinia**	**7.63**	**232**	*eP*	**Pn**	**19 31 19.3**	**+0.6**
CVNA				*eS*	**Sn**	**19 32 41.7**	**-4.2**
CVNA				AML	AML	19 33 29.6	
	comp=Z,102nm,0.4s						
KOMG	**Komaggas**	**8.67**	**248**	*eP*	**Pn**	**19 31 34.5**	**+1.6**
KOMG				*eS*	**Sn**	**19 33 08.1**	**-3.3**
KOMG				AML	AML	19 34 04.8	
	comp=Z,40nm,0.5s						
ELIM	**Elim**	**9.75**	**217**	*eP*	**Pn**	**19 31 48.5**	**+0.7**
ELIM				*eS*	**Sn**	**19 33 33.6**	**-4.4**
ELIM				AML	AML	19 34 26.3	
	comp=Z,5.0nm,0.4s						
TSUM	**Tsumeb**	**11.41**	**310**	Pn	**Pn**	**19 32 11.9**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=134,slow=14,SNR=8.8						
TSUM				Lg	Lg	19 35 25.2	
	comp=Z,1.4nm,0.3s,baz=238,slow=14,SNR=4.7						
TSUM	**Tsumeb**	**11.41**	**310**	*e*Pn	**Pn**	**19 32 10.3**	**-0.4**
TSUM				*e*Lg	Lg	19 35 25.2	
LSZ	**Lusaka**	**11.65**	**7**	Pn	**Pn**	**19 32 13.0**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=189,slow=12,SNR=13						
LSZ				Sn	**Sn**	**19 34 18.0**	**-6.9**
	comp=Z,0.7nm,0.3s,baz=360,slow=3.2,SNR=3.3						
LSZ				Lg	Lg	19 35 30.6	
	comp=Z,0.9nm,0.3s,baz=97,slow=23,SNR=5.7						
LSZ	**Lusaka**	**11.65**	**7**	*e*Pn	**Pn**	**19 32 12.0**	**-2.0**
LSZ				*e*Sn	**Sn**	**19 34 18.5**	**-6.4**
TOA0	**Torodi Ar. Sit**	**46.68**	**325**	*eP*	**P**	**19 37 57.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**46.68**	**325**	P	**P**	**19 37 57.3**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=158,slow=7.2,SNR=8.3						
TOA1	**Torodi Ar. Sit**	**46.68**	**325**	*eP*	**P**	**19 37 57.3**	**+0.5**
SNAA	**Sanae**	**47.72**	**192**	*eP*	**P**	**19 38 05.0**	**+0.5**
	comp=Z,8.2nm,1.2s						
MMAI	**Mount Meron Ar**	**60.16**	**8**	P	**P**	**19 39 38.0**	**+2.3**
	comp=Z,10.0nm,1.0s,baz=188,slow=8.7,SNR=3.0						
GEYT	**Alibeck**	**70.89**	**26**	P	**P**	**19 40 44.2**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=193,slow=6.2,SNR=4.2						
ESDC	**Sonseca Array**	**72.18**	**336**	P	**P**	**19 40 54.0**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=154,slow=5.9,SNR=3.2						
VNDA	**Vanda**	**72.43**	**171**	*eP*	**P**	**19 40 55.7**	**+1.9**
	comp=Z,3.7nm,1.4s						
AKASG	**Malin Array Be**	**77.30**	**2**	P	**P**	**19 41 23.0**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=183,slow=5.1,SNR=7.5						
FIA0	**FINESS Array S**	**88.04**	**360**	*eP*	**P**	**19 42 19.1**	**+1.3**
FINES	**FINESS Array B**	**88.04**	**360**	P	**P**	**19 42 19.1**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=159,slow=8.3,SNR=3.7						
BVAR	**Borovoye Array**	**88.19**	**25**	P	**P**	**19 42 19.6**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=226,slow=38,SNR=3.0						
MK32	**Makanchi Array**	**88.85**	**35**	*eP*	**P**	**19 42 22.5**	**+0.5**
MKAR	**Makanchi Array**	**88.85**	**35**	P	**P**	**19 42 22.5**	**+0.5**
	comp=Z,0.4nm,1.0s,baz=248,slow=6.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**89.72**	**30**	P	**P**	**19 42 26.3**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=282,slow=1.8,SNR=2.9						
KURK	**Kurchatov**	**89.82**	**30**	*eP*	**P**	**19 42 26.4**	**-0.1**
ASAR	**Alice Springs**	**93.53**	**119**	P	**P**	**19 42 46.6**	**+2.1**
	comp=Z,0.3nm,0.8s,baz=241,slow=4.8,SNR=4.4						
LTX	**Lajitas**	**136.48**	**285**	*e*PKPdf	**PKPdf**	**19 48 53.0**	**+2.4**
TXAR	**Lajitas Array**	**136.48**	**285**	PKP	**PKPdf**	**19 48 53.0**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=132,slow=1.3,SNR=3.2						
PDAR	**Pinedale Array**	**141.28**	**306**	PKP	**PKPdf**	**19 49 00.2**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=333,slow=1.0,SNR=2.4						
NVAR	**Mina Array Bea**	**148.61**	**300**	PKPbc	**PKPab**	**19 49 18.5**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=74,slow=4.2,SNR=9.0						

*IDC **14** 19:32:07.3±1.6,2°.73N×93°.17E,h0km,mb3.6/6,mb1 3.7/9, mb1mx3.4/69,mbtmp3.6/9,ML3.3/3,MS3.5/1,Ms1 3.5/1, ms1mx2.7/59,Error ellipse: s-maj=44.4km s-min=23.1km az=41.0*

*ISCJB **14** 19:32:10.9±1.0,2°.8N±0°.1×93°.23E±0°.06,h33km,mb3.6/6, MS3.5/1,Error ellipse: s-maj=15.5km s-min=8.2km az=14.9*

*DJA **14** 19:32:18.6±1.4,3°N±7°×9°4E±2°6,h27km±43km,M4.0/6, mb3.9/1,MLv4.0/6*

ISC 14 19:32:12.6±1.2,2°.7N±0°.1×93°29E±0°.09,h35km,n16, σ2s07/18,mb3.4/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.49**	**63**	P	**Pn**	**19 33 07.0**	**+2.6**
MLSI				S	**Sn**	**19 33 45.3**	**+0.8**
TPTI		**3.93**	**81**	P	**Pn**	**19 33 12.7**	**+2.2**
TPTI				S	**Sn**	**19 33 54.5**	**-0.9**
LHMI	**Lhok Sumawe**	**4.44**	**55**	P	**Pn**	**19 33 20.3**	**+2.8**
GSI	**Gunungsitoli**	**4.50**	**108**	P	**Pn**	**19 33 20.7**	**+2.4**
GSI				S	**Sn**	**19 34 08.9**	**-0.5**
KCSI	**Kotacane, Aceh**	**4.55**	**79**	P	**Pn**	**19 33 21.3**	**+2.2**
TSI	**Tuntungan**	**5.33**	**81**	P	**Pn**	**19 33 32.0**	**+2.2**
PSI	**Prapat**	**5.63**	**89**	Pn	**Pn**	**19 33 34.8**	**+0.8**
	0.6nm,0.3s,baz=297,slow=16,SNR=4.2						
PSI				Sn	**Sn**	**19 34 33.1**	**-4.4**
	1.7nm,0.3s,baz=166,slow=16,SNR=2.7						
PALK	**Pallekele**	**13.34**	**290**	Pn	Pn	19 35 14.4	-5.2
	0.3nm,0.3s,baz=113,slow=15,SNR=3.2						
PALK				Sn	Sn	19 37 26.8	-20
	1.0nm,0.3s,baz=114,slow=5.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**16.63**	**19**	Pn	**Pn**	**19 36 01.0**	**-2.2**
	0.0nm,0.3s,baz=206,slow=12,SNR=3.9						
NWAO	**Narrogin (SRO)**	**42.04**	**149**	LR	LR	19 53 24.1	
	comp=Z,69nm,20.5s,baz=212,slow=30						
MKAR	**Makanchi Array**	**44.97**	**349**	P	**P**	**19 40 23.4**	**-1.0**
	0.3nm,0.6s,baz=165,slow=7.7,SNR=4.5						
WRA	**Warramunga Arr**	**46.14**	**121**	P	**P**	**19 40 34.3**	**+0.3**
	0.6nm,1.0s,baz=299,slow=10,SNR=2.8						
SONM	**Songino Array**	**46.39**	**12**	P	**P**	**19 40 35.2**	**-0.5**
	0.2nm,0.5s,baz=198,slow=8.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**49.38**	**348**	P	**P**	**19 40 57.9**	**-0.8**
	0.1nm,0.3s,baz=168,slow=7.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**51.58**	**354**	P	**P**	**19 41 14.7**	**-0.5**
	0.4nm,0.4s,baz=156,slow=7.4,SNR=2.7						
HFS	**Hagfors**	**82.50**	**330**	P	**P**	**19 44 32.1**	**+0.6**
	6.0nm,1.2s,baz=107,slow=4.9,SNR=2.7						

DJA 14 19:36:43.3±0.4,0°S±3°×12°3E±°,h67km±12km,M3.6/6, mb3.9/1,MLv3.5/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.96**	**196**	P	Pn	19 37 01.1	-0.1
LUWI				S	Sn	19 37 15.7	+1.2
MRSI	**Marisa**	**1.24**	**298**	P	Pn	19 37 04.6	-0.2
MRSI				S	Sn	19 37 20.2	-0.7
APSI	**Ampana**	**1.60**	**240**	P	Pn	19 37 10.6	+1.1
MPSI	**Mapaga**	**3.17**	**278**	P	Pn	19 37 30.9	0.0
SANI	**Sanana**	**3.52**	**123**	P	Pn	19 37 35.0	-0.6
SANI				S	Sn	19 38 11.4	-4.7
KDI	**Kendari**	**3.84**	**186**	P	Pn	19 37 39.8	-0.3
BNSI	**Bone**	**5.17**	**214**	P	Pn	19 37 58.7	+0.5

*IDC **14** 19:40:04.6±2.3,3°.52N×127°.82E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.1/57,mbtmp3.3/3,Error ellipse: s-maj=175.3km s-min=24.5km az=68.0*

*ISCJB **14** 19:40:25.1±1.3,3°.26N±0°.10×127°.3E±0°.1,h200km, mb3.1/3,Error ellipse: s-maj=19.2km s-min=13.3km az=170.5*

*DJA **14** 19:40:28.8±0.9,3°N±4°×12°7E±°,h127km±17km,M4.0/8, mb4.1/4,MLv4.0/8*

ISC 14 19:40:27.3±1.6,3°.2N±0°.1×127°.2E±0°.1,h200km,n9, σ1s25/9,mb3.3/3,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.72**	**287**	P	Pn	19 40 58.4	-4.6
LBMI	**Labuha**	**3.81**	**175**	P	**Pn**	**19 41 26.7**	**-0.1**
KMSI	**Cibinong**	**4.11**	**231**	P	**Pn**	**19 41 30.1**	**-0.4**
SANI	**Sanana**	**5.33**	**193**	P	**Pn**	**19 41 47.1**	**+1.1**
	14nm,0.9s,0.1nm						
SANI				S	**Sn**	**19 42 47.8**	**-0.4**
	14nm,0.9s,0.1nm						
MRSI	**Marisa**	**5.88**	**243**	P	**Pn**	**19 41 52.0**	**-1.1**
	49nm,1.0s,0.1nm						
LUWI	**Luwuk**	**6.08**	**226**	P	**Pn**	**19 41 57.7**	**+2.0**
WRA	**Warramunga Arr**	**24.04**	**163**	P	**P**	**19 45 23.0**	**-1.2**
	0.4nm,0.5s,baz=346,slow=9.9,SNR=8.1						
ASAR	**Alice Springs**	**27.48**	**167**	P	**P**	**19 45 54.5**	**-0.7**
	0.7nm,0.9s,baz=353,slow=7.9,SNR=7.9						
MKAR	**Makanchi Array**	**58.25**	**325**	P	**P**	**19 50 01.6**	**+0.7**
	0.1nm,0.4s,baz=125,slow=7.9,SNR=2.7						

JMA 14 19:40:45.8±0.1,40°.85N×145°.09E,h69km±3km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.86**	**309**	P	Pn	19 41 16.3	+0.8
JEM				*eS*	Sn	19 41 37.7	-0.4
JAK	**Akkeshi**	**2.17**	**352**	P	Pn	19 41 20.2	+0.6
JAK				*eS*	Sn	19 41 45.7	+0.3
JCH	**Churui**	**2.19**	**324**	P	Pn	19 41 20.8	+0.9
JCH				*eS*	Sn	19 41 45.2	-0.7
JOB	**Onbets**	**2.26**	**336**	*eS*	Sn	19 41 48.3	+0.7
JNBK	**Urakawa-nobuka**	**2.26**	**310**	P	Pn	19 41 22.7	+1.8
JNBK				*eS*	Sn	19 41 48.6	+0.8
NEM2	**Nemuro 2**	**2.56**	**11**	P	Pn	19 41 25.6	+0.7
NEM2				*eS*	Sn	19 41 54.2	-0.8
JAR	**Ashorobuto**	**2.63**	**339**	P	Pn	19 41 26.4	+0.7
JAR				*eS*	Sn	19 41 56.6	-0.3
JNK	**Nakash**	**2.75**	**354**	P	Pn	19 41 27.9	+0.4
JNK				*eS*	Sn	19 41 58.3	-1.3
JANG	**Nango**	**2.76**	**261**	P	Pn	19 41 27.9	+0.2
JANG				*eS*	Sn	19 41 57.3	-2.7
JBT2	**Biratori 2**	**2.80**	**314**	*eS*	Sn	19 42 02.7	+1.7
JFR	**Furan**	**2.97**	**322**	*eS*	Sn	19 42 03.9	-1.1
JTM	**Tenmabayashi**	**3.05**	**270**	P	Pn	19 41 32.9	+1.2
JTM				*eS*	Sn	19 42 05.2	-1.8
JRA	**Rausu**	**3.09**	**0**	P	Pn	19 41 33.6	+1.5
JOT	**Ohata**	**3.10**	**281**	P	Pn	19 41 33.2	+0.9
JOM	**Ohasama**	**3.22**	**246**	P	Pn	19 41 34.8	+0.9
JOM				*eS*	Sn	19 42 09.6	-1.5
JKB	**Kayabe**	**3.23**	**290**	P	Pn	19 41 35.6	+1.6
JKB				*eS*	Sn	19 42 10.2	-1.0
JTKR	**Abashiri--Toko**	**3.24**	**345**	P	Pn	19 41 36.2	+2.0
JTKR				*eS*	Sn	19 42 12.1	+0.6
JEW	**Eniwo**	**3.37**	**307**	*eS*	Sn	19 42 16.9	+1.1
JKK2	**Kamakawa 2**	**3.48**	**331**	*eS*	Sn	19 42 19.9	+2.3
JMK	**Ichinoseki**	**3.53**	**239**	P	Pn	19 41 39.1	+0.9
JMK				*eS*	Sn	19 42 16.7	-2.0

*ISCJB **14** 19:42:35.9±0.4,45°.04S±0°.02×166°.69E±0°.05,h12km, mb4.2/6,MS3.2/3,Error ellipse: s-maj=5.3km s-min=3.5km az=176.7*

*IDC **14** 19:42:35.4±0.7,45°.13S×166°.77E,h0km,mb4.0/4, mb1 4.4/6,mb1mx4.0/39,mbtmp4.2/6,ML4.4/2,MS3.3/5, Ms1 3.3/5,ms1mx3.1/30,Error ellipse: s-maj=33.6km s-min=21.3km az=1.0*

*NEIC **14** 19:42:36.4±0.6,45°.11S×166°.66E,h6km±4km,mb4.6/2, ML4.4(WEL),Error ellipse: s-maj=5.9km s-min=4.2km az=153.0*

*WEL **14** 19:42:38.0,45°S±12°×16°7E±°,h12km,ML5.0/17*

ISC 14 19:42:37.1±0.5,45°.12S±0°.03×166°.63E±0°.04,h12km,n130, σ1s38/129,mb4.1/6,MS3.2/3,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.50**	**133**	*e*Pg	**Pg**	**19 42 46.5**	**-0.5**
DCZ	**Deep Cove**	**0.50**	**133**	P	**Pg**	**19 42 46.8**	**-0.1**
DCZ	**Deep Cove**	**0.50**	**133**	S	**Sg**	**19 42 53.4**	**-0.2**
PYZ	**Puysegur Point**	**1.04**	**178**	*e*Pg	**Pb**	**19 42 55.8**	**-1.3**
PYZ				Sn	**Sb**	**19 43 07.5**	**-3.3**
PYZ				Sn	**Sg**	**19 43 11.6**	**+0.7**
PYZ	**Puysegur Point**	**1.04**	**178**	P	**Pb**	**19 42 56.7**	**-1.6**
MLZ	**Mavora Lakes**	**1.08**	**104**	*e*Pg	**Pb**	**19 42 56.7**	**-1.0**
MLZ	**Mavora Lakes**	**1.08**	**104**	P	**Pb**	**19 42 56.6**	**-1.0**
WHZ	**Wether Hill Ro**	**1.20**	**130**	*e*Pg	**Pb**	**19 42 58.4**	**-1.4**
WHZ	**Wether Hill Ro**	**1.20**	**130**	P	**Pb**	**19 42 58.4**	**-1.4**
WHZ	**Wether Hill Ro**	**1.20**	**130**	S	**Sb**	**19 43 13.9**	**-1.5**
WKZ	**Wanaka**	**1.72**	**81**	*e*Pn	**Pb**	**19 43 09.1**	**+0.5**
WKZ				Sn	**Sg**	**19 43 33.0**	**+0.6**
WKZ	**Wanaka**	**1.72**	**81**	P	**Pb**	**19 43 08.0**	**-0.6**
WKZ	**Wanaka**	**1.72**	**81**	S	**Sg**	**19 43 32.5**	**+0.2**
JCZ	**Jackson Bay**	**1.86**	**56**	Pn	**Pn**	**19 43 07.8**	**-1.1**
JCZ	**Jackson Bay**	**1.86**	**56**	S	**Sg**	**19 43 36.4**	**-0.5**
JCZ	**Jackson Bay**	**1.86**	**56**	P	**Pb**	**19 43 11.5**	**+0.5**
EAZ	**Earnscleugh**	**1.90**	**94**	Pn	**Pn**	**19 43 10.3**	**+1.0**
EAZ	**Earnscleugh**	**1.90**	**94**	P	**Pn**	**19 43 10.3**	**+1.0**
APZ	**The Paps**	**1.95**	**152**	Pn	**Pn**	**19 43 10.8**	**+0.8**
APZ	**The Paps**	**1.95**	**152**	P	**Pn**	**19 43 10.6**	**+0.5**
APZ	**The Paps**	**1.95**	**152**	S	**Sb**	**19 43 36.9**	**-0.1**
SYZ	**Scrubby Hill**	**2.25**	**130**	Pn	**Pn**	**19 43 14.1**	**0.0**
SYZ	**Scrubby Hill**	**2.25**	**130**	P	**Pn**	**19 43 14.2**	**+0.1**
SYZ	**Scrubby Hill**	**2.25**	**130**	S	**Sn**	**19 43 41.7**	**-0.1**
TUZ	**Tuapeka**	**2.27**	**113**	Pn	**Pn**	**19 43 14.8**	**+0.5**
TUZ	**Tuapeka**	**2.27**	**113**	P	**Pn**	**19 43 14.4**	**+0.1**
LBZ	**Lake Benmore**	**2.63**	**75**	*e*Pn	**Pn**	**19 43 20.1**	**+0.7**
LBZ	**Lake Benmore**	**2.63**	**75**	P	**Pn**	**19 43 20.0**	**+0.6**
FOZ	**Fox Glacier**	**2.78**	**56**	*e*Pn	**Pn**	**19 43 21.4**	**0.0**
FOZ	**Fox Glacier**	**2.78**	**56**	P	**Pn**	**19 43 19.6**	**-1.8**
ODZ	**Otahua Downs**	**2.84**	**90**	*e*Pn	**Pn**	**19 43 23.1**	**+0.9**
ODZ	**Otahua Downs**	**2.84**	**90**	P	**Pn**	**19 43 22.1**	**-0.2**
HHSZ	**Highcliff Hill**	**2.89**	**107**	Pn	**Pn**	**19 43 23.3**	**+0.4**
HHSZ	**Highcliff Hill**	**2.89**	**107**	P	**Pn**	**19 43 23.8**	**+0.9**
RPZ	**Rata Peaks**	**3.47**	**68**	Pn	**Pn**	**19 43 30.4**	**-0.4**
	63nm,0.3s,baz=231,slow=5.4,SNR=150						
RPZ				Sn	**Sn**	**19 44 12.9**	**+1.1**
	75nm,0.3s,baz=340,slow=21,SNR=8.1						
RPZ				LR	LR	19 44 42.1	
	comp=Z,495nm,18.9s,baz=296,slow=38						
RPZ	**Rata Peaks**	**3.47**	**68**	*e*Pn	**Pn**	**19 43 30.0**	**-0.9**
RPZ				*e*Sn	**Sn**	**19 44 12.9**	**+1.1**
RPZ	**Rata Peaks**	**3.47**	**68**	P	**Pn**	**19 43 30.5**	**-0.4**
WVZ	**Waitaha Valley**	**3.60**	**57**	Pn	**Pn**	**19 43 30.9**	**-1.7**
WVZ	**Waitaha Valley**	**3.60**	**57**	P	**Pn**	**19 43 30.9**	**-1.7**
INZ	**Inchbonnie**	**4.22**	**57**	P	**Pn**	**19 43 39.7**	**-1.5**
OXZ	**Oxford**	**4.28**	**67**	*e*Pn	**Pn**	**19 43 40.3**	**-1.7**
OXZ	**Oxford**	**4.28**	**67**	P	**Pn**	**19 43 41.8**	**-0.2**
MQZ	**McQueen's Vall**	**4.54**	**74**	*e*Pn	**Pn**	**19 43 44.9**	**-0.7**
MQZ	**McQueen's Vall**	**4.54**	**74**	P	**Pn**	**19 43 45.0**	**-0.5**
CRLZ	**Canterbury Las**	**4.57**	**72**	*e*Pn	**Pn**	**19 43 46.0**	**+0.1**
LTZ	**Lake Taylor**	**4.70**	**62**	*e*Pn	**Pn**	**19 43 48.1**	**+0.3**
LTZ	**Lake Taylor**	**4.70**	**62**	P	**Pn**	**19 43 47.0**	**-0.7**
DSZ	**Denniston Nort**	**5.06**	**50**	Pn	**Pn**	**19 43 50.7**	**-2.1**
DSZ	**Denniston Nort**	**5.06**	**50**	P	**Pn**	**19 43 50.6**	**-2.1**
THZ	**Tophouse**	**5.67**	**56**	*e*Pn	**Pn**	**19 44 01.0**	**-0.2**
THZ	**Tophouse**	**5.67**	**56**	P	**Pn**	**19 43 59.7**	**-1.5**
KHZ	**Kahutara**	**5.69**	**64**	*e*Pn	**Pn**	**19 44 02.1**	**+0.8**
KHZ	**Kahutara**	**5.69**	**64**	P	**Pn**	**19 44 02.3**	**+1.0**
QRZ	**Quartz Range**	**6.09**	**47**	Pn	**Pn**	**19 44 03.2**	**-3.7**
QRZ	**Quartz Range**	**6.09**	**47**	P	**Pn**	**19 44 03.2**	**-3.7**
BSWZ	**Blackbirch Sta**	**6.28**	**60**	P	**Pn**	**19 44 10.3**	**+0.8**
NNZ	**Nelson**	**6.29**	**54**	Pn	**Pn**	**19 44 08.8**	**-0.8**
NNZ	**Nelson**	**6.29**	**54**	P	**Pn**	**19 44 08.8**	**-0.8**
CMWZ	**Cape Campbell**	**6.47**	**61**	P	**Pn**	**19 44 15.6**	**+3.6**
TUWZ	**Tuamarina**	**6.49**	**58**	Pn	**Pn**	**19 44 12.3**	**0.0**
TUWZ	**Tuamarina**	**6.49**	**58**	P	**Pn**	**19 44 13.0**	**+0.7**
TCW	**Tory Channel**	**6.82**	**58**	Pn	**Pn**	**19 44 17.0**	**+0.1**
TCW	**Tory Channel**	**6.82**	**58**	P	**Pn**	**19 44 16.9**	**+0.1**
DUWZ	**D'Urville Isla**	**6.87**	**54**	Pn	**Pn**	**19 44 17.4**	**-0.2**
DUWZ	**D'Urville Isla**	**6.87**	**54**	P	**Pn**	**19 44 17.4**	**-0.2**
CAW	**Cannon Point**	**7.36**	**60**	Pn	**Pn**	**19 44 22.3**	**-2.0**
CAW	**Cannon Point**	**7.36**	**60**	P	**Pn**	**19 44 22.3**	**-2.0**
KIW	**Kapiti Island**	**7.41**	**58**	P	**Pn**	**19 44 24.6**	**-0.4**
TRWZ	**Traveller**	**7.58**	**64**	P	**Pn**	**19 44 30.6**	**+3.2**
OGWZ	**Otaki Gorge**	**7.59**	**58**	P	**Pn**	**19 44 26.6**	**-0.9**
MTW	**Mount Morrison**	**7.60**	**62**	P	**Pn**	**19 44 26.5**	**-1.1**
HOWZ	**Holdsworth Sta**	**7.76**	**60**	P	**Pn**	**19 44 34.2**	**+4.5**
NWEZ	**Newall Road**	**7.93**	**45**	Pn	**Pn**	**19 44 30.3**	**-1.8**
PREZ	**Palmer Road**	**8.03**	**47**	Pn	**Pn**	**19 44 32.8**	**-0.7**
PREZ	**Palmer Road**	**8.03**	**47**	P	**Pn**	**19 44 32.8**	**-0.7**
PKE	**Pukeiti**	**8.05**	**45**	P	**Pn**	**19 44 32.0**	**-1.1**
WAZ	**Wanganui**	**8.18**	**52**	P	**Pn**	**19 44 36.2**	**+0.6**
VRZ	**Vera Road**	**8.50**	**48**	P	**Pn**	**19 44 39.0**	**-1.0**
PKVZ	**Pokaka**	**8.70**	**51**	Pn	**Pn**	**19 44 42.8**	**0.0**
PKVZ	**Pokaka**	**8.70**	**51**	P	**Pn**	**19 44 42.6**	**-0.2**
FWVZ	**Far West T-bar**	**8.84**	**52**	P	**Pn**	**19 44 44.5**	**-0.3**
FWVZ	**Far West T-bar**	**8.84**	**52**	P	**Pn**	**19 44 45.4**	**+0.6**
TUVZ	**Tukino**

n214,σ1ş55/221,mb4.4/74,MS3.9/24,15C-9D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.71**	**309**	*ce*P	**Pn**	**19 55 31.3**	**-1.4**
ERM				pmax	pmax		
	comp=Z,99nm,0.7s						
ERM	**Erimo**	**1.71**	**309**	*e*Pn	**Pn**	**19 55 31.8**	**-1.0**
JEM	**Erimo**	**1.71**	**309**	P	**Pn**	**19 55 31.3**	**-1.4**
JEM				S	**Sn**	**19 55 52.9**	**-0.5**
JCH	**Churui**	**2.03**	**325**	P	**Pn**	**19 55 35.7**	**-1.5**
JCH				S	**Sn**	**19 55 59.8**	**-1.6**
JAK	**Akkeshi**	**2.04**	**355**	P	**Pn**	**19 55 34.9**	**-2.5**
JAK				S	**Sn**	**19 56 00.4**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.10**	**310**	P	**Pn**	**19 55 37.7**	**-0.5**
JNBK				S	**Sn**	**19 56 03.7**	**+0.4**
JOB	**Onbets**	**2.11**	**337**	P	**Pn**	**19 55 37.0**	**-1.3**
JOB				S	**Sn**	**19 56 02.7**	**-0.7**
NEM2	**Nemuro 2**	**2.48**	**14**	P	**Pn**	**19 55 40.6**	**-2.7**
NEM2				*e*S	**Sn**	**19 56 10.0**	**-2.4**
JAR	**Ashorobuto**	**2.49**	**340**	P	**Pn**	**19 55 41.3**	**-2.3**
JAR				S	**Sn**	**19 56 11.0**	**-1.8**
JNK	**Nakash**	**2.63**	**356**	P	**Pn**	**19 55 42.6**	**-2.8**
JNK				S	**Sn**	**19 56 13.3**	**-2.9**
JBT2	**Biratori 2**	**2.65**	**314**	P	**Pn**	**19 55 44.5**	**-1.2**
JBT2				*e*S	**Sn**	**19 56 17.0**	**+0.4**
JANG	**Nango**	**2.67**	**258**	P	**Pn**	**19 55 43.6**	**-2.4**
JANG				S	**Sn**	**19 56 14.8**	**-2.4**
JFR	**Furan**	**2.81**	**322**	P	**Pn**	**19 55 46.8**	**-1.1**
JFR				*e*S	**Sn**	**19 56 17.8**	**-2.9**
JTM	**Tenmabayashi**	**2.94**	**268**	P	**Pn**	**19 55 47.7**	**-2.0**
JTM				S	**Sn**	**19 56 20.9**	**-3.0**
JOT	**Ohata**	**2.97**	**279**	P	**Pn**	**19 55 48.8**	**-1.3**
JOT				S	**Sn**	**19 56 21.9**	**-2.6**
JRA	**Rausu**	**2.98**	**3**	P	**Pn**	**19 55 47.8**	**-2.4**
JKB	**Kayabe**	**3.08**	**289**	P	**Pn**	**19 55 50.8**	**-0.8**
JTKR	**Abashiri--Toko**	**3.10**	**346**	P	**Pn**	**19 55 50.5**	**-1.4**
JTKR				S	**Sn**	**19 56 26.8**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**3.15**	**12***c*	*i*P	**Pn**	**19 55 50.6**	**-1.9**
YUK				*i* S	**Sn**	**19 56 25.2**	**-3.8**
YUK				pmax	pmax		
	comp=N,24nm,0.2s						
YUK				pmax	pmax		
	comp=Z,267nm,0.2s						
YUK				pmax	pmax		
	comp=E,45nm,0.1s						
SHO				pmax	pmax		
	comp=E,19nm,0.1s						
SHO				pmax	pmax		
	comp=N,57nm,0.2s						
JKK2	**Kamakawa 2**	**3.33**	**332**	P	**Pn**	**19 55 54.2**	**-0.9**
JAH	**Hinai**	**3.37**	**258**	P	**Pn**	**19 55 54.5**	**-1.1**
JAH				S	**Sn**	**19 56 32.6**	**-1.8**
ASAJ	**Asahikawa**	**3.60**	**332**	Pn	**Pn**	**19 55 58.4**	**-0.4**
	comp=N,5.6nm,0.3s,baz=185,slow=9.5,SNR=35						
ASAJ				Sn	**Sn**	**19 56 39.1**	**-1.0**
	comp=N,8.8nm,0.3s,baz=74,slow=26,SNR=9.9						
JRG	**Rokugo**	**3.65**	**246**	P	**Pn**	**19 55 58.3**	**-1.2**
JYK	**Kaneyama**	**4.07**	**241**	P	**Pn**	**19 56 03.7**	**-1.5**
JOU	**Okura**	**4.20**	**233**	P	**Pn**	**19 56 05.0**	**-2.0**
JOU				S	**Sn**	**19 56 51.4**	**-3.5**
KUR	**Kuril'sk**	**4.78**	**26***d*	*i*P	**Pn**	**19 56 13.9**	**-1.0**
KUR				*i* S	**Sn**	**19 57 05.8**	**-3.4**
KUR				pmax	pmax		
	comp=E,39nm,0.3s						
KUR				pmax	pmax		
	comp=Z,74nm,0.3s						
KUR				pmax	pmax		
	comp=N,25nm,0.2s						
JFT	**Otama**	**4.96**	**228**	P	**Pn**	**19 56 14.5**	**-3.0**
YSS	**Yuzh-Sakhalins**	**6.20**	**346**	*e*P	**Pn**	**19 56 34.6**	**+0.2**
YSS				*e*S	**Sn**	**19 57 48.4**	**+4.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MJAR	**Matsushiro Arr**	**6.86**	**232**	Pn	**Pn**	**19 56 42.1**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=77,slow=15,SNR=10.0						
MJAR				Sn	**Sn**	**19 58 02.9**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=70,slow=38,SNR=2.8						
MJAR				LR	LR	19 59 31.7	
	comp=Z,557nm,20.8s,baz=55,slow=40						
MAJO	**Matsushiro**	**6.86**	**232**	*e*P	**Pn**	**19 56 42.1**	**-1.6**
MAJO	**Matsushiro**	**6.86**	**232**	*e*Pn	**Pn**	**19 56 42.3**	**-1.3**
MAJO				*e*Sn	**Sn**	**19 58 02.9**	**+2.3**
MJB9	**Matsu-Tunnel**	**6.86**	**232**	*e*Pn	**Pn**	**19 56 42.3**	**-1.4**
JHJ	**Hachijo jima 2**	**8.84**	**209**	LR	LR	20 00 48.8	
	comp=Z,175nm,20.5s,baz=114,slow=40						
VLA	**Vladivostok**	**9.95**	**287**	*e*P	**Pn**	**19 57 24.6**	**-1.3**
VLA				pmax	pmax		
	comp=Z,33nm,1.1s						
USRK	**Ussuriysk Ar.**	**10.09**	**293**	Pn	**Pn**	**19 57 28.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=109,slow=14,SNR=9.5						
USRK				LR	LR	20 01 39.3	
	comp=Z,554nm,19.2s,baz=123,slow=40						
GRNR	**Gornyy**	**11.46**	**332**	*e*P	**Pn**	**19 57 46.2**	**-0.3**
KLR	**Kul'dur**	**12.45**	**316**	Pn	**Pn**	**19 57 59.1**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=117,slow=15,SNR=8.0						
KLR				LR	LR	20 03 13.2	
	comp=Z,34nm,20.5s,baz=134,slow=40						
KLR	**Kul'dur**	**12.45**	**316**	*e*P	**Pn**	**19 57 58.6**	**-1.4**
NKL	**Nikolayevsk**	**12.53**	**348**	*e*P	**Pn**	**19 58 01.8**	**+0.7**
NKL				pmax	pmax		
	comp=Z,13nm,0.9s						
NKL				MLR	MLR		
	comp=Z,500nm,15.0s						
KSRS	**Korea Array**	**13.65**	**261**	Pn	**Pn**	**19 58 16.6**	**+0.1**
	baz=68,slow=14,SNR=3.5						
KSRS				LR	LR	20 03 19.1	
	comp=Z,406nm,19.1s,baz=72,slow=36						
JNU	**Nakatsue**	**13.68**	**240**	LR	LR	20 04 13.2	
	comp=Z,290nm,18.2s,baz=36,slow=40						
KSAR	**Wonju Array Be**	**13.69**	**261**	P	**Pn**	**19 58 16.6**	**-0.4**
KSAR	**Wonju Array Be**	**13.69**	**261**	Pn	**Pn**	**19 58 16.6**	**-0.4**
JCJ	**Chichijima**	**14.02**	**190**	LR	LR	20 04 11.1	
	comp=Z,53nm,20.1s,baz=90,slow=39						
PETK	**Petropavlovsk-**	**14.91**	**31**	LR	LR	20 03 51.0	
	comp=Z,118nm,21.5s,baz=220,slow=36						
ZEA	**Zeya**	**17.46**	**323**	*e*P	**Pn**	**19 59 02.9**	**-3.2**
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,14.0s						
ZEA				MLR	MLR		
	comp=E,200nm,14.0s						
ZEA				MLR	MLR		
	comp=N,400nm,15.0s						
MA2	**Magadan**	**18.99**	**9**	P	**P**	**19 59 21.9**	**-1.9**
	comp=N,0.2nm,0.3s,baz=234,slow=7.2,SNR=3.7						
MA2				LR	LR	20 07 50.4	
	comp=N,163nm,18.1s,baz=192,slow=40						
SEY	**Seymchan**	**22.45**	**9**	P	**P**	**19 59 60.0**	**-1.2**
	comp=N,3.0nm,0.9s,baz=189,slow=8.8,SNR=17						
SEY	**Seymchan**	**22.45**	**9***ce*	P	**P**	**19 59 59.6**	**-1.6**
YAK	**Yakutsk**	**23.02**	**342**	P	**P**	**20 00 05.7**	**-1.5**
	comp=N,6.6nm,0.4s,baz=270,slow=0.6,SNR=5.3						
YAK				LR	LR	20 08 16.3	
	comp=N,96nm,22.0s,baz=107,slow=34						
YAK	**Yakutsk**	**23.02**	**342**	*e*P	**P**	**20 00 05.7**	**-1.5**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**23.02**	**342**	*e*P	**P**	**20 00 05.7**	**-1.5**
	comp=Z,10nm,0.8s						
HHC	**Hu-ho-hao-te**	**25.14**	**281**	*e*P	**P**	**20 00 26.8**	**-0.7**
HHC				S	**S**	**20 04 46.9**	**-3.4**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,45nm,4.4s						
HHC				LR	LR		
	comp=Z,180nm,12.0s						
HHC				LR	LR		
	comp=Z,130nm,13.0s						
HHC				LR	LR		
	comp=Z,220nm,13.1s						
BOD	**Bodaibo**	**25.94**	**321**	*e*P	**P**	**20 00 33.1**	**-1.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GUMO	**Guam**	**27.27**	**180**	LR	LR	20 11 30.3	
	comp=Z,24nm,19.1s,baz=93,slow=36						
ULN	**Ulaanbaatar**	**27.72**	**297**	*ce*P	**P**	**20 00 49.6**	**-1.1**
ULN				pmax	pmax		
	comp=Z,20nm,1.7s						
ULN	**Ulaanbaatar**	**27.72**	**297**	*e*P	**P**	**20 00 51.0**	**+0.4**
	comp=Z,15nm,1.2s						
SONA1	**Songino Array**	**28.15**	**297**	*e*P	**P**	**20 00 54.5**	**-0.1**
SONA0	**Songino Array**	**28.16**	**297**	*e*P	**P**	**20 00 54.9**	**+0.3**
SONM	**Songino Array**	**28.16**	**297**	P	**P**	**20 00 54.9**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=91,slow=8.8,SNR=16						
SONM				LR	LR	20 13 16.3	
	comp=Z,362nm,18.5s,baz=98,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.26**	**132**	T	T	20 30 21.1	
	baz=324,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**28.27**	**132**	T	T	20 30 27.3	
	baz=324,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**28.27**	**132**	T	T	20 30 26.4	
	baz=324,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	20 31 29.9	
	baz=325,slow=74,SNR=26						
H11S3	**WAKE ISLAND Hy**	**29.14**	**134**	T	T	20 31 31.7	
	baz=325,slow=74,SNR=21						
H11S2	**WAKE ISLAND Hy**	**29.15**	**134**	T	T	20 31 29.8	
	baz=325,slow=74,SNR=24						
XAN	**Xi'an**	**29.25**	**268**	P	**P**	**20 01 04.8**	**+0.5**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL	**Bilibino**	**29.49**	**16**	*e*P	**P**	**20 01 06.5**	**+0.5**
BILL				*e*		20 02 02.7	
BILL				*e*		20 04 10.3	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TLY	**Talaya**	**30.09**	**305**	*e*P	P	20 01 17.4	+5.9
TLY				pmax	pmax		
	comp=Z,10.0nm,1.5s						
TLY				MLR	MLR		
	comp=Z,222nm,17.0s						
ZAK	**Zakamensk**	**30.24**	**302**	*e*P	**P**	**20 01 11.2**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MOY	**Mondy**	**31.73**	**305**	*e*P	P	20 01 32.4	+6.3
TIXI	**Tiksi**	**31.80**	**350**	*e*P	**P**	**20 01 25.5**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.2s						
LZH	**Lanzhou**	**32.30**	**275**	*e*P	**P**	**20 01 32.3**	**+1.0**
LZH				pP	pP	20 01 36.6	-4.1
LZH				sP	sP	20 01 39.6	-5.0
LZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA	**Gaotai**	**34.22**	**283**	P	**P**	**20 01 48.9**	**+0.9**
GTA				pP	pP	20 01 53.1	-4.3
GTA				sP	sP	20 01 55.9	-5.4
GTA				S	**S**	**20 07 05.3**	**-7.4**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,72nm,5.2s						
GTA				LR	LR		
	comp=Z,160nm,16.2s						
GTA				LR	LR		
	comp=Z,220nm,18.5s						
GTA				LR	LR		
	comp=Z,280nm,17.6s						
DGZ	**Jazzator, Alta**	**40.47**	**302**	*e*P	**P**	**20 02 41.2**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZAA1	**Zalesovo Array**	**41.43**	**309**	*e*P	**P**	**20 02 48.9**	**+0.4**
ZAA1				*e*PcP	**PcP**	**20 04 46.0**	**+0.2**
ZAA0	**Zalesovo Array**	**41.43**	**309**	*e*P	**P**	**20 02 49.0**	**+0.5**
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**41.43**	**309**	P	**P**	**20 02 48.9**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=83,slow=7.9,SNR=8.3						
ZALV				PcP	**PcP**	**20 04 46.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=142,slow=2.4,SNR=3.6						
ZALV				LR	LR	20 21 19.0	
	comp=Z,170nm,18.9s,baz=70,slow=38						
ZALV	**Zalesovo Beam**	**41.43**	**309**	*e*P	**P**	**20 02 48.5**	**0.0**
ZALV						20 04 46.1	
ZALV	**Zalesovo Beam**	**41.43**	**309**	*e*P	**P**	**20 02 48.5**	**0.0**
ZALV				PcP	**PcP**	**20 04 46.0**	**+0.2**
NVS	**Novosibirsk**	**42.24**	**311**	*e*P	**P**	**20 02 51.4**	**-3.7**
KDAK	**Kodiak Island**	**42.36**	**45**	P	**P**	**20 02 56.5**	**+0.5**
	comp=Z,11nm,1.1s,baz=274,slow=9.6,SNR=4.5						
KDAK				LR	LR	20 19 55.5	
	comp=Z,118nm,21.2s,baz=197,slow=35						
MDM	**Murphy Dome**	**44.13**	**34**	*e*P	**P**	**20 03 10.8**	**+0.5**
	comp=Z,22nm,1.7s						
COLA	**College**	**44.30**	**34**	*e*P	**P**	**20 03 10.9**	**-0.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MK01	**Makanchi Array**	**44.48**	**299**	*e*P	**P**	**20 03 13.3**	**0.0**
MK31	**Makanchi Array**	**44.48**	**299**	*e*P	**P**	**20 03 13.7**	**+0.4**
MK31	**Makanchi Array**	**44.48**	**299**	*e*P	**P**	**20 03 13.7**	**+0.4**
MK32	**Makanchi Array**	**44.48**	**299**	*e*P	**P**	**20 03 13.8**	**+0.4**
MKAR	**Makanchi Array**	**44.48**	**299**	P	**P**	**20 03 13.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=83,slow=9.7,SNR=23						
MKAR				LR	LR	20 23 12.6	
	comp=Z,185nm,20.4s,baz=76,slow=38						
MKAR	**Makanchi Array**	**44.48**	**299**	*e*P	**P**	**20 03 13.7**	**+0.4**
	comp=Z,19nm,0.8s						
DHY	**Denali Highway**	**44.58**	**37**	*e*P	**P**	**20 03 15.1**	**+1.0**
	comp=Z,16nm,1.4s						
MAKZ	**Makanchi**	**44.68**	**300**	*e*P	**P**	**20 03 15.4**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAKZ	**Makanchi**	**44.68**	**300**	*e*P	**P**	**20 03 15.4**	**+0.5**
	comp=Z,3.8nm,0.9s						
IL1	**Eielson Array**	**44.71**	**34**	*e*P	**P**	**20 03 15.9**	**+1.0**
ILAR	**Eielson Array**	**44.71**	**34**	P	**P**	**20 03 15.6**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=258,slow=6.2,SNR=13						
ILB	**Eielson Array**	**44.71**	**34**	*e*P	**P**	**20 03 15.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**45.18**	**254**	P	**P**	**20 03 19.2**	**0.0**
	comp=Z,0.6nm,0.8s,baz=43,slow=7.9,SNR=5.5						
CMAR				LR	LR	20 22 20.1	
	comp=Z,57nm,19.7s,baz=70,slow=36						
KURK	**Kurchatov**	**45.78**	**306**	*ce*P	**P**	**20 03 23.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,24nm,0.7s						
KURK	**Kurchatov**	**45.78**	**306**	*e*P	**P**	**20 03 23.7**	**+0.2**
	comp=Z,9.2nm,0.6s						
KURBB	**Kurchatov Arra**	**45.86**	**306**	P	**P**	**20 03 24.7**	**+0.5**
	comp=Z,5.9nm,0.7s,baz=78,slow=8.9,SNR=37						
HYT	**Haines Junctio**	**49.52**	**39**	*e*P	**P**	**20 03 53.5**	**+1.0**
	comp=Z,72nm,2.0s						
INK	**Inuvik**	**49.64**	**29**	P	**P**	**20 03 54.2**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=268,slow=6.2,SNR=5.3						
INK	**Inuvik**	**49.64**	**29**	P	**P**	**20 03 54.2**	**+1.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**50.04**	**311**	P	**P**	**20 03 57.2**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=88,slow=7.4,SNR=11						
BVAR				LR	LR	20 26 03.3	
	comp=Z,163nm,19.5s,baz=78,slow=37						
BRVK	**Borovoye**	**50.09**	**311**	*ce*P	**P**	**20 03 56.9**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,14nm,1.2s						
AAK	**Ala-Archa**	**51.12**	**297**	*e*P	**P**	**20 04 04.6**	**-0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AAK	**Ala-Archa**	**51.12**	**297**	*e*P	**P**	**20 04 04.9**	**-0.1**
	comp=Z,5.1nm,1.5s						
HNR	**Honiara**	**52.02**	**161**	LR	LR	20 25 28.2	
	comp=Z,22nm,18.7s,baz=264,slow=35						
KKAR	**Karatay Array**	**53.59**	**299**	*e*P	**P**	**20 04 23.5**	**+0.3**
KKAR	**Karatay Array**	**53.59**	**299**	*e*P	**P**	**20 04 23.5**	**+0.3**
SVE	**Sverdlovsk**	**54.07**	**318**	*e*P	**P**	**20 04 27.2**	**+0.8**
ARU	**Arti**	**55.28**	**318**	*e*P	**P**	**20 04 35.4**	**+0.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU	**Arti**	**55.28**	**318**	*e*P	**P**	**20 04 35.4**	**+0.2**
	comp=Z,4.1nm,0.9s						
SPITS	**Spitsbergen Ar**	**57.21**	**349**	P	**P**	**20 04 48.5**	**-0.2**
	comp=Z,7.3nm,1.1s,baz=76,slow=6.1,SNR=2.1						
ABKAR	**Akbulak array**	**57.55**	**309**	*e*P	**P**	**20 04 51.6**	**+0.2**
	comp=Z,30nm,0.7s						
RES	**Resolute Bay**	**58.10**	**16**	P	**P**	**20 04 55.7**	**+0.8**
	comp=Z,5.2nm,0.7s,baz=314,slow=6.2						
RES	**Resolute Bay**	**58.10**	**16**	*e*P	**P**	**20 04 56.0**	**+1.1**
	comp=Z,6.0nm,0.8s						
AKTO	**Aktyubinsk**	**58.13**	**311**	LR	LR	20 32 03.5	
	comp=Z,91nm,18.6s,baz=58,slow=38						
YKA	**Yellowknife Ar**	**59.03**	**32**	P	**P**	**20 05 02.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=298,slow=6.6,SNR=9.0						
ARA0	**ARCESS Array S**	**61.29**	**340**	*e*P	**P**	**20 05 17.3**	**+0.4**
ARCES	**ARCESS Array B**	**61.29**	**340**	P	**P**	**20 05 17.3**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=50,slow=8.6,SNR=3.1						

BJI **14** *19:54:57.9,40˚.99N×145˚.14E,h5km,mb4.4/23,mB4.7/12, Ms4.1/8,Ms7 3.9/7*

IDC **14** *19:55:00.7±0.5,40˚.93N×144˚.93E,h0km,mb4.1/30, mb1 4.2/35,mb1mx4.1/68,mbtmp4.1/35,ML3.5/3,MS3.6/30, Ms1 3.6/30,ms1mx3.4/69,Error ellipse: s-maj=14.1km s-min=12.0km az=122.0*

NIED **14** *19:55:00,40˚.90N×145˚.10E,h5km,Mw4.5 Best double couple: M0 6.87000×10¹⁵ NP1:φs 179.00000°,δ37.00000°, λ-94.00000°. NP2:φs 3.00000°,δ53.00000°,λ-87.00000°.*

JMA **14** *19:55:01.1±0.1,40˚.89N×145˚.14E,h66km±2km,M4.4*

NEIC **14** *19:55:02.3±0.2,40˚.93N×144˚.91E,h10km,mb4.8/24,Error ellipse: s-maj=4.3km s-min=3.4km az=139.0*

MOS **14** *19:55:04.2±1.1,41˚.01N×144˚.82E,h33km,mb4.6/20,Error ellipse: s-maj=8.4km s-min=4.9km az=105.0*

ISC 14 19:55:05.3±2.4,**40˚.96N**±0˚.04×**144˚.94E**±0˚.05,**h32**km±17km,

WRAB	**Tennant Creek**	**61.38**	**191**	*ce*P		**P**	**20 05 16.3**	**-1.7**
WRAB					pmax	pmax		
	comp=Z,42nm,1.2s							
WRAB	**Tennant Creek**	**61.38**	**191**	*e*P		**P**	**20 05 18.0**	**-0.1**
	comp=Z,13nm,1.0s							
WR1	**Warramunga Arr**	**61.38**	**191**	*e*P		**P**	**20 05 17.5**	**-0.6**
	comp=Z,49nm,1.6s							
WRA	**Warramunga Arr**	**61.38**	**191**	P		**P**	**20 05 17.5**	**-0.6**
	comp=Z,9.6nm,0.9s,baz=9.5,slow=7.1,SNR=31							
SHUK	**Shuksan-Mt. Ba**	**62.56**	**48**	*e*P		**P**	**20 05 26.0**	**0.0**
GEYT	**Alibeck**	**64.35**	**299**	P		**P**	**20 05 37.8**	**0.0**
	comp=Z,2.3nm,0.8s,baz=74,slow=6.3,SNR=6.9							
GEYT					LR	LR	20 36 06.4	
	comp=Z,258nm,18.5s,baz=75,slow=38							
AS01	**Alice Springs**	**65.10**	**191**	*e*P		**P**	**20 05 42.6**	**-0.1**
AS31	**Alice Springs**	**65.11**	**191**	*e*P		**P**	**20 05 42.2**	**-0.5**
	comp=Z,5.2nm,1.8s							
ASAR	**Alice Springs**	**65.11**	**191**	P		**P**	**20 05 42.5**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=12,slow=6.1,SNR=17							
YBH	**Yreka Blue Hor**	**65.81**	**55**	LR		LR	20 30 58.5	
	comp=Z,14nm,19.8s,baz=331,slow=33							
FIA0	**FINESS Array S**	**66.61**	**333**	*e*P		**P**	**20 05 52.5**	**+0.5**
FIA0	**FINESS Array S**	**66.61**	**333**	*e*P		**P**	**20 05 52.5**	**+0.5**
FINES	**FINESS Array B**	**66.61**	**333**	P		**P**	**20 05 52.5**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=50,slow=7.5,SNR=14							
FINES					LR	LR	20 37 01.8	
	comp=Z,114nm,18.9s,baz=314,slow=38							
SUMG	**Summit**	**66.74**	**1**	*e*P		**P**	**20 05 54.7**	**+1.5**
SUMG					pmax	pmax		
	comp=Z,17nm,1.4s							
SUMG	**Summit**	**66.74**	**1**	*e*P		**P**	**20 05 54.7**	**+1.5**
	comp=Z,17nm,1.4s							
AFI	**Afiamalu**	**67.70**	**134**	LR		LR	20 28 15.0	
	comp=Z,33nm,21.5s,baz=346,slow=30							
VSR	**Storozhevoye**	**67.78**	**319**	*e*P		**P**	**20 06 00.5**	**+0.9**
VSR					pmax	pmax		
	comp=Z,6.0nm,0.7s							
VSU	**Vasula**	**68.44**	**330**	*ce*P		**P**	**20 06 03.8**	**+0.2**
VSU					pmax	pmax		
	comp=Z,65nm,1.7s							
FFC	**Flin Flon**	**68.92**	**35**	*i* P		**P**	**20 06 06.6**	**-0.1**
GOF	**Gofitskoye**	**69.51**	**312**⇑	*e*P		**P**	**20 06 11.5**	**+1.0**
NCK	**Nalchik**	**70.16**	**311**	*e*P		**P**	**20 06 14.8**	**+0.3**
KIV	**Kislovodsk**	**70.39**	**311**	*e*P		**P**	**20 06 16.9**	**+0.8**
KIV					pmax	pmax		
	comp=Z,18nm,1.1s							
KIV	**Kislovodsk**	**70.39**	**311**	*e*P		**P**	**20 06 17.1**	**+1.0**
	comp=Z,13nm,0.9s							
KBZ	**Khabaz**	**70.41**	**311**	P		**P**	**20 06 17.8**	**+1.8**
	comp=Z,5.9nm,0.9s,baz=64,slow=4.9,SNR=12							
NVAR	**Mina Array Bea**	**70.47**	**56**	P		**P**	**20 06 18.6**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=286,slow=5.7,SNR=4.0							
NV01	**Mina Array Sit**	**70.47**	**56**	*e*P		**P**	**20 06 17.4**	**+0.6**
NEY	**Neytrino**	**70.81**	**311**	*e*P		**P**	**20 06 19.6**	**+0.9**
NEY					pmax	pmax		
	comp=Z,1.0nm,1.0s							
GNI	**Garni**	**71.54**	**307**	LR		LR	20 39 36.3	
	comp=Z,72nm,20.9s,baz=33,slow=37							
NB2	**NORSAR Subarra**	**71.60**	**338**	P		**P**	**20 06 23.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=38,slow=6.5							
NB200	**NORSAR Array S**	**71.60**	**338**	*e*P		**P**	**20 06 23.3**	**+0.3**
NOA	**NORSAR Array B**	**71.60**	**338**	P		**P**	**20 06 23.3**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=36,slow=6.0,SNR=3.8							
HFS	**Hagfors**	**71.61**	**337**	P		**P**	**20 06 23.5**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=88,slow=13,SNR=5.9							
STKA	**Stephens Creek**	**72.54**	**183**	P		**P**	**20 06 29.8**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=338,slow=7.1,SNR=3.0							
BTPC	**Burnt Peak**	**72.58**	**59**	*e*P		**P**	**20 06 28.9**	**-0.6**
AKASG	**Malin Array Be**	**72.84**	**323**	P		**P**	**20 06 30.6**	**0.0**
	comp=Z,2.1nm,0.5s,baz=42,slow=6.0,SNR=17							
AKBB	**Malin Array Si**	**72.84**	**323**	*e*P		**P**	**20 06 31.1**	**+0.6**
AKBB					pmax	pmax		
	comp=Z,6.0nm,0.9s							
AKBB	**Malin Array Si**	**72.84**	**323**	*e*P		**P**	**20 06 31.1**	**+0.6**
	comp=Z,5.5nm,0.9s							
KIEV	**Kiev**	**72.85**	**323**	*e*P		**P**	**20 06 30.0**	**-0.6**
KIEV					pmax	pmax		
	comp=Z,5.0nm,1.0s							
PDAR	**Pinedale Array**	**72.98**	**48**	P		**P**	**20 06 32.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=205,slow=0.4,SNR=4.4							
BUR08	**Bucovina Ar. S**	**76.80**	**323**	*e*P		**P**	**20 06 55.4**	**+1.3**
BUR04	**Bucovina Ar. S**	**76.89**	**323**	*e*P		**P**	**20 06 55.0**	**+0.8**
BURAR	**Bucovina Array**	**76.89**	**323**⇑	*i*P		**P**	**20 06 55.4**	**+1.2**
BURAR	**Bucovina Array**	**76.89**	**323**⇑	P		**P**	**20 06 55.4**	**+1.2**
TESR	**Tescani**	**77.03**	**321**⇓	*i*P		**P**	**20 06 55.4**	**+0.5**
DOPR	**Dopca**	**78.03**	**322**⇑	*i*P		**P**	**20 07 02.1**	**+1.7**
BR101	**Keskin Array S**	**78.26**	**313**	*e*P		**P**	**20 07 02.4**	**+0.4**
BRTR	**Keskin Array B**	**78.26**	**313**	P		**P**	**20 07 02.4**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=52,slow=5.3,SNR=3.8							
BRTR					LR	LR	20 46 53.4	
	comp=Z,33nm,20.7s,baz=358,slow=40							
DPC	**Dobruska-Polom**	**78.55**	**329**	*e*P		**P**	**20 07 05.0**	**+1.7**
DPC	**Dobruska-Polom**	**78.55**	**329**	*e*P		**P**	**20 07 05.0**	**+1.7**
VOIR		**78.58**	**321**⇓	*i*P		**P**	**20 07 05.3**	**+1.7**
VOIR		**78.58**	**321**⇓	P		**P**	**20 07 05.3**	**+1.7**
DRGR		**78.64**	**324**⇓	*i*P		**P**	**20 07 04.5**	**+0.6**
DRGR		**78.64**	**324**⇓	P		**P**	**20 07 04.5**	**+0.6**
MTUR	**Matau**	**78.73**	**321**⇑	*i*P		**P**	**20 07 02.7**	**-1.7**
MTUR	**Matau**	**78.73**	**321**⇑	P		**P**	**20 07 02.7**	**-1.7**
ARR	**Arges**	**78.83**	**322**⇑	*i*P		**P**	**20 07 07.1**	**+2.2**
CLL	**Collm**	**79.01**	**332**	*i* P		**P**	**20 07 06.5**	**+0.8**
CLL	**Collm**	**79.01**	**332**	*i* P		**P**	**20 07 06.5**	**+0.8**
GOPC	**GO Pecny, Ondr**	**79.48**	**330**	*e*P		**P**	**20 07 09.7**	**+1.3**
GOPC	**GO Pecny, Ondr**	**79.48**	**330**	*e*P		**P**	**20 07 09.7**	**+1.3**
PRU	**Pruhonice**	**79.52**	**330**	*e*P		**P**	**20 07 10.0**	**+1.5**
PRU	**Pruhonice**	**79.52**	**330**	*e*P		**P**	**20 07 10.0**	**+1.5**
EKA	**Eskdalemuir Ar**	**80.30**	**342**	P		**P**	**20 07 13.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=33,slow=7.1,SNR=3.9							
KHC	**Kasperske Hory**	**80.58**	**330**	*e*P		**P**	**20 07 15.8**	**+1.5**
KHC	**Kasperske Hory**	**80.58**	**330**	*e*P		**P**	**20 07 14.9**	**+0.6**
KHC					pmax	pmax		
	comp=Z,2.0nm,0.9s							
KHC	**Kasperske Hory**	**80.58**	**330**	*e*P		**P**	**20 07 14.9**	**+0.6**
	comp=Z,1.6nm,0.9s							
GERES	**GERESS Array B**	**80.77**	**330**	P		**P**	**20 07 15.7**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=42,slow=6.2,SNR=6.7							
GERES					LR	LR	20 49 07.8	
	comp=Z,89nm,18.6s,baz=0.5,slow=40							
VTS	**Vitosha**	**81.59**	**321**⇓	*i*P		**P**	**20 07 21.4**	**+1.4**
VTS	**Vitosha**	**81.59**	**321**⇓	P		**P**	**20 07 21.4**	**+1.4**
VTS	**Vitosha**	**81.59**	**321**	*e*P		**P**	**20 07 21.2**	**+1.2**
	comp=Z,4.5nm,0.9s							
SOKA	**Soboth**	**82.01**	**328**	*i* pP		**P**	**20 07 23.2**	**+1.2**
	comp=Z,5.6nm,0.8s							
OBKA	**Obir**	**82.34**	**328**	*i* pP		**P**	**20 07 24.8**	**+1.0**
	comp=Z,1.8nm,0.5s							
KBA	**Koelnbreinsper**	**82.35**	**329**	*i* pP		**P**	**20 07 24.9**	**+1.0**
	comp=Z,2.1nm,0.6s							
MOTA	**Moosalm**	**82.99**	**330**	*i* pP		**P**	**20 07 28.2**	**+1.0**
	comp=Z,3.6nm,0.7s							
RETA	**Reute**	**83.00**	**331**	*i* pP		**P**	**20 07 28.7**	**+1.5**
	comp=Z,2.8nm,0.7s							
FETA	**Feichten**	**83.40**	**330**	*i* P		**P**	**20 07 33.1**	**+3.8**
	comp=Z,7.2nm,1.6s							
PPT	**Papeete**	**84.04**	**119**	LR		LR	20 36 35.8	
	comp=Z,65nm,21.3s,baz=359,slow=30							
LPIG	**La Paz**	**84.90**	**63**	LR		LR	20 38 55.2	
	comp=Z,30nm,20.3s,baz=228,slow=31							
LTX	**Lajitas**	**85.58**	**55**	*e*P		**P**	**20 07 41.8**	**+1.2**
LTX	**Lajitas**	**85.58**	**55**	*e*P		**P**	**20 07 41.8**	**+1.2**
TX31	**Lajitas Ar. Si**	**85.58**	**55**	*e*P		**P**	**20 07 41.8**	**+1.1**
TXAR	**Lajitas Array**	**85.58**	**55**	P		**P**	**20 07 41.8**	**+1.2**
	comp=Z,1.8nm,1.1s,baz=298,slow=2.7,SNR=6.0							
MCWV	**Mont Chateau**	**89.99**	**33**	*e*P		**P**	**20 08 05.3**	**+3.9**
	comp=Z,58nm,0.6s							
ATD	**Arta Tunnel**	**91.48**	**287**	LR		LR	20 53 56.7	
	comp=Z,30nm,20.7s,baz=64,slow=39							
TKL	**Tuckaleechee C**	**91.60**	**38**	LR		LR	20 51 50.1	
	comp=Z,27nm,20.8s,baz=5.5,slow=37							
TKL	**Tuckaleechee C**	**91.60**	**38**	*e*P		**P**	**20 08 05.9**	**-3.1**
TKL					pmax	pmax		
	comp=Z,18nm,0.6s							
TKL	**Tuckaleechee C**	**91.60**	**38**	*e*P		**P**	**20 08 05.9**	**-3.1**
	comp=Z,18nm,0.6s							
BG3	**Lake Jocassee**	**92.54**	**38**	*e*P		**P**	**20 08 14.7**	**+1.4**
	comp=Z,14nm,0.5s							
PAULI	**Pauline**	**93.19**	**37**	*e*P		**P**	**20 08 17.7**	**+1.4**
	comp=Z,16nm,0.8s							
SNAA	**Sanae**	**145.30**	**197**	PKPbc		**PKPbc**	**20 14 38.1**	**-0.2**
	comp=Z,9.0nm,1.1s,baz=234,slow=0.8,SNR=6.1							

MEX 14 19:55:30.4±0.4, 17°.34N×101°.71W, h9km±5km, MD3.5,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.36**	**41**	*i* P	Pg	19 55 37.0	-0.5
ZIIG				*e*S	Sg	19 55 42.3	+0.1
ARIG	**Puente Sto Nin**	**1.60**	**54**	*e*P	Pn	19 55 56.2	-2.8
ARIG				*e*S	Sn	19 56 14.2	-5.6
MMIG	**Aquila**	**1.82**	**302**	*e*P	Pn	19 55 58.6	-3.4
MMIG				*i* S	Sn	19 56 20.5	-4.8
MOIG	**Morelia**	**2.38**	**12**	*i* P	Pn	19 56 06.2	-3.7
MOIG				*i* S	Sn	19 56 35.8	-3.6
EZ5V		**2.79**	**320**	*e*P	Pn	19 56 12.8	-2.8
EZ5V				*i* S	Sn	19 56 44.8	-4.7

*NEIC **14** 19:57:16.4±0.0, 17°.35N×101°.77W, h3km, MD4.2(MEX), After MEX.*

MEX 14 19:57:16.4±0.5, 17°.35N×101°.77W, h3km±4km, MD4.2,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.39**	**49**	*i* P	Pg	19 57 23.3	-0.7
ZIIG				*i* S	Sg	19 57 29.7	+0.6
ZIIG	**Zihuatanejo**	**0.39**	**49**	*i* P	Pg	19 57 23.3	-0.7
ZIIG				*i* S	Sg	19 57 29.7	+0.6
CAIG	**El Cayaco**	**1.47**	**102**	*e*P	Pn	19 57 40.2	-3.6
CAIG				*e*S	Sb	19 57 58.7	-4.8
CAIG	**El Cayaco**	**1.47**	**102**	*e*P	Pn	19 57 40.2	-3.6
CAIG				*e*S	Sb	19 57 58.7	-4.8
ARIG	**Puente Sto Nin**	**1.65**	**56**	*e*P	Pn	19 57 42.9	-3.3
ARIG				*i* S	Sn	19 58 03.0	-4.9
MMIG	**Aquila**	**1.77**	**302**	*e*P	Pn	19 57 44.4	-3.4
MMIG				*i* S	Sn	19 58 05.6	-5.2
MMIG	**Aquila**	**1.77**	**302**	*e*P	Pn	19 57 44.4	-3.4
MMIG				*i* S	Sn	19 58 05.6	-5.2
ACX	**Acapulco**	**1.89**	**104**	*i* P	Pn	19 57 44.4	-5.2
ACX				*e*S	Sn	19 58 07.5	-6.5
ACX	**Acapulco**	**1.89**	**104**	*i* P	Pn	19 57 44.4	-5.2
ACX				*e*S	Sn	19 58 07.5	-6.5
MEIG	**Mezcala**	**2.13**	**74**	*e*P	Pn	19 57 49.8	-3.1
MEIG				*e*S	Sn	19 58 14.8	-5.2
MEIG	**Mezcala**	**2.13**	**74**	*e*P	Pn	19 57 49.8	-3.1
MEIG				*e*S	Sn	19 58 14.8	-5.2
MOIG	**Morelia**	**2.38**	**13**	*i* P	Pn	19 57 53.2	-2.8
MOIG				*i* S	Sn	19 58 21.9	-4.5
MOIG	**Morelia**	**2.38**	**13**	*i* P	Pn	19 57 53.8	-2.8
MOIG				*i* S	Sn	19 58 21.9	-4.5
PLIG	**Platanillo**	**2.40**	**64**	*e*P	Pn	19 57 53.5	-3.2
PLIG				*i* S	Sn	19 58 22.5	-4.1
PLIG	**Platanillo**	**2.40**	**64**	*e*P	Pn	19 57 53.5	-3.2
PLIG				*i* S	Sn	19 58 22.5	-4.1
EZ5V		**2.74**	**321**	*e*P	Pn	19 57 58.0	-3.5
EZ5V				*i* S	Sn	19 58 31.4	-3.8
SFJM	**Santa Fe**	**3.34**	**339**	*e*P	Pn	19 58 07.3	-2.4
SFJM				*i* S	Sn	19 58 46.2	-3.8
SFJM	**Santa Fe**	**3.34**	**339**	*e*P	Pn	19 58 07.3	-2.4
SFJM				*i* S	Sn	19 58 46.2	-3.8
CJM	**Chamela**	**3.77**	**305**	*i* P	Pn	19 58 13.7	-1.7
CJM				*i* S	Sn	19 58 56.7	-3.6
CJM	**Chamela**	**3.77**	**305**	*i* P	Pn	19 58 13.7	-1.7
CJM				*i* S	Sn	19 58 56.7	-3.6

*CSEM **14** 19:57:31.7±0.4, 50°.14N×19°.06E, h2km, ML2.6/5, Error ellipse: s-maj=9.7km s-min=5.0km az=13.0*
*ISCJB **14** 19:57:32.0±0.5, 50°.06N±0°.03×19°.01E±0°.04, h0km, Error ellipse: s-maj=4.9km s-min=3.0km az=29.3*
*PRU **14** 19:57:32.6, 50°.15N×19°.07E, h0km*
*WAR **14** 19:57:33.1, 50°.10N×19°.20E, h1km, Mw2.3*

ISC 14 19:57:32.8±0.8, 50°.07N±0°.03×19°.20E±0°.02, h0km, n28,
σ0§93/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.26**	**329**	*e*Pg	**Pg**	**19 57 38.7**	**+0.9**
CHZP				*e*Sg	**Sg**	**19 57 41.5**	**+0.4**
CHZP	**Chorzow**	**0.26**	**329**	*e*Pg	**Pg**	**19 57 38.7**	**+0.9**
CHZP				*e*Sg	**Sg**	**19 57 41.5**	**+0.4**
OJC	**Ojcow**	**0.41**	**68**	*e*Pg	**Pg**	**19 57 40.8**	**+0.1**
OJC				*e*Sg	**Sg**	**19 57 46.7**	**+0.7**
OJC	**Ojcow**	**0.41**	**68**	*e*Pg	**Pg**	**19 57 40.8**	**+0.1**
OJC				*e*Sg	**Sg**	**19 57 46.7**	**+0.7**
OJC	**Ojcow**	**0.41**	**68**	*e*Pg	**Pg**	**19 57 40.8**	**+0.1**
OJC				*e*Sg	**Sg**	**19 57 46.8**	**+0.7**
OKC	**Ostrava-Krasne**	**0.72**	**252**	*e*PG	**Pg**	**19 57 46.5**	**0.0**
OKC				*e*SG	**Sg**	**19 57 56.7**	**+0.9**
	comp=Z,12nm,0.4s						
OKC	**Ostrava-Krasne**	**0.72**	**252**	Pg	**Pg**	**19 57 46.5**	**0.0**
LANS	**Liptovska Anna**	**0.93**	**169**	*e*Pg	**Pb**	**19 57 51.7**	**-0.2**
LANS				*e*Sg	**Sb**	**19 58 05.3**	**+0.5**
LANS	**Liptovska Anna**	**0.93**	**169**	*e*PG	**Pb**	**19 57 51.7**	**-0.2**
LANS				*e*SG	**Sb**	**19 58 05.3**	**+0.5**
NIE	**Niedzica**	**0.96**	**132**	*e*Pg	**Pn**	**19 57 53.2**	**-0.4**
NIE				*e*Sg	**Sn**	**19 58 07.6**	**-0.5**
NIE	**Niedzica**	**0.96**	**132**	*e*Pg	**Pn**	**19 57 53.2**	**-0.4**
NIE				*e*Sg	**Sn**	**19 58 07.6**	**-0.5**
NIE	**Niedzica**	**0.96**	**132**	*e*Pg	**Pn**	**19 57 53.2**	**-0.4**
NIE				*e*Sg	**Sn**	**19 58 07.6**	**-0.5**
VYHS	**Vyhne**	**1.59**	**189**	*e*Pg	**Pn**	**19 58 01.6**	**-0.7**
VYHS				*e*Sn	**Sb**	**19 58 23.1**	**-0.7**
VYHS	**Vyhne**	**1.59**	**189**	*e*PG	**Pn**	**19 58 01.6**	**-0.7**
VYHS				*e*SN	**Sb**	**19 58 23.1**	**-0.7**
VYHS				*e*LG	Lg	19 58 24.4	
KECS	**Kecovo**	**1.79**	**152**	*e*Sn	**Sn**	**19 58 28.4**	**-0.1**
KECS	**Kecovo**	**1.79**	**152**	*e*SN	**Sn**	**19 58 28.4**	**-0.1**
KECS				*e*LG	Lg	19 58 33.9	
DPC	**Dobruska-Polom**	**1.87**	**280**	*e*PG	**Pn**	**19 58 04.7**	**-1.4**
DPC				*e*SG	**Sn**	**19 58 29.3**	**-1.1**
	comp=Z,5.6nm,0.4s						
DPC	**Dobruska-Polom**	**1.87**	**280**	Pg	**Pn**	**19 58 04.7**	**-1.4**
DPC				Sg	**Sn**	**19 58 29.3**	**-1.1**
	5.6nm,0.4s						
CRVS	**Cervenica-Dubn**	**1.88**	**127**	*e*PN	**Pg**	**19 58 09.4**	**+0.6**
CRVS				*e*SN	**Sg**	**19 58 34.0**	**+0.8**
UPC	**Upice**	**2.09**	**283**	*e*SG	**Sb**	**19 58 37.2**	**-0.9**
	comp=Z,5.3nm,0.5s						
UPC	**Upice**	**2.09**	**283**	Sg	**Sb**	**19 58 37.2**	**-0.9**
	5.3nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.85**	**269**	*e*SG	**Sb**	**19 59 00.6**	**+0.6**
	comp=Z,3.6nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.85**	**269**	Sg	**Sb**	**19 59 00.6**	**+0.6**
	3.6nm,0.3s						
PRU	**Pruhonice**	**3.00**	**270**	*e*SG	**Sb**	**19 59 04.7**	**+0.3**
	comp=Z,4.3nm,0.5s						
PRU	**Pruhonice**	**3.00**	**270**	Sg	**Sb**	**19 59 04.7**	**+0.3**
	4.3nm,0.5s						
BRG	**Berggiesshubel**	**3.45**	**286**	SG	**Sg**	**19 59 25.4**	**+1.7**
	1.6nm,0.3s						
KHC	**Kasperske Hory**	**3.77**	**258**	*e*SG	**Sb**	**19 59 29.3**	**+2.7**
	comp=Z,2.2nm,0.4s						
KHC	**Kasperske Hory**	**3.77**	**258**	Sg	**Sb**	**19 59 29.3**	**+2.7**
	2.2nm,0.4s						

*NIED **14** 20:00:00.40°.80N×145°.00E, h5km, Mw3.8 Best double couple: M0 6.27000×10^14 NP1:φs 171.00000°, δ28.00000°, λ-143.00000°. NP2:φs 47.00000°, δ74.00000°, λ-67.00000°.*
*JMA **14** 20:00:54.1±0.2, 40°.82N×144°.96E, h50km±4km, M4.3*
*NEIC **14** 20:00:55.9±2.1, 40°.82N×144°.77E, h25km±15km, mb4.9/7, Error ellipse: s-maj=7.7km s-min=6.0km az=112.0*
*IDC **14** 20:00:56.1±6.6, 40°.85N×144°.82E, h28km±45km, mb3.8/22, mb1 3.9/25, mb1mx3.7/68, mbtmp3.9/25, ML3.3/3, Error ellipse: s-maj=18.7km s-min=14.8km az=110.0*

ISC 14 20:00:51.6±4.2, 40°.81N±0°.05×144°.88E±0°.06, h2km±26km,
n68, σ1§45/84, mb4.2/26, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.77**	**314**	*e*Pn	**Pn**	**20 01 24.1**	**+0.8**
JEM	**Erimo**	**1.77**	**314**	P	**Pn**	**20 01 24.0**	**+0.8**
JEM				*e*S	**Sn**	**20 01 45.0**	**-1.4**
JCH	**Churui**	**2.13**	**328**	P	**Pn**	**20 01 28.6**	**+0.4**
JCH				*e*S	**Sn**	**20 01 53.4**	**-1.9**
JNBK	**Urakawa-nobuka**	**2.17**	**313**	P	**Pn**	**20 01 30.2**	**+1.4**
JNBK				*e*S	**Sn**	**20 01 56.4**	**+0.2**
JAK	**Akkeshi**	**2.19**	**356**	P	**Pn**	**20 01 28.6**	**-0.4**
JAK				*e*S	**Sn**	**20 01 53.9**	**-2.8**
JOB	**Onbets**	**2.24**	**340**	P	**Pn**	**20 01 30.9**	**+1.3**
JOB				S	**Sn**	**20 01 57.7**	**-0.1**
JANG	**Nango**	**2.60**	**262**	P	**Pn**	**20 01 34.0**	**-0.6**
JANG				*e*S	**Sn**	**20 02 02.5**	**-4.3**
JAR	**Ashorobuto**	**2.62**	**342**	P	**Pn**	**20 01 35.2**	**+0.2**
JAR				*e*S	**Sn**	**20 02 06.0**	**-1.4**
NEM2	**Nemuro 2**	**2.64**	**14**	P	**Pn**	**20 01 34.1**	**-1.0**
NEM2				*e*S	**Sn**	**20 02 04.0**	**-3.7**
JBT2	**Biratori 2**	**2.73**	**317**	P	**Pn**	**20 01 37.2**	**+0.8**
JBT2				*e*S	**Sn**	**20 02 10.3**	**+0.4**
JNK	**Nakash**	**2.78**	**358**	P	**Pn**	**20 01 36.4**	**-0.7**
JNK				*e*S	**Sn**	**20 02 08.1**	**-3.1**
JTM	**Tenmabayashi**	**2.90**	**271**	P	**Pn**	**20 01 38.5**	**-0.2**
JTM				*e*S	**Sn**	**20 02 10.6**	**-3.4**
JFR	**Furan**	**2.91**	**325**	P	**Pn**	**20 01 39.6**	**+0.7**
JFR				*e*S	**Sn**	**20 02 12.1**	**-2.3**
JOT	**Ohata**	**2.95**	**282**	P	**Pn**	**20 01 39.9**	**+0.4**
JOT				S	**Sn**	**20 02 12.5**	**-3.0**
JOM	**Ohasama**	**3.06**	**245**	P	**Pn**	**20 01 41.1**	**+0.2**
JTKR	**Abashiri--Toko**	**3.24**	**347**	P	**Pn**	**20 01 44.5**	**+1.0**
JTKR				S	**Sn**	**20 02 22.0**	**-0.6**
JEW	**Eniwo**	**3.27**	**310**	P	**Pn**	**20 01 45.6**	**+1.7**
JEW				S	**Sn**	**20 02 23.7**	**+0.3**
JAH	**Hinai**	**3.29**	**261**	P	**Pn**	**20 01 44.7**	**+0.5**
ASAJ	**Asahikawa**	**3.71**	**334**	Pn	**Pn**	**20 01 51.6**	**+1.7**
	4.7nm,0.3s,baz=202,slow=18,SNR=22						
ASAJ					Sn	**Sn**	**20 02 33.1**	**-1.1**
	7.8nm,0.3s,baz=36,slow=22,SNR=7.3						
MJAR	**Matsushiro Arr**	**6.74**	**233**	Pn	**Pn**	**20 02 31.9**	**+0.4**
	0.3nm,0.3s,baz=36,slow=14,SNR=5.5						
MAJO	**Matsushiro**	**6.74**	**233**	*e*Pn	**Pn**	**20 02 31.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.11**	**294**	Pn	**Pn**	**20 03 18.4**	**+0.7**
	0.4nm,0.3s,baz=104,slow=14,SNR=7.9						
KLR	**Kul'dur**	**12.53**	**317**	Pn	**Pn**	**20 03 50.2**	**-0.5**
	0.0nm,0.3s,baz=121,slow=17,SNR=4.1						
PETK	**Petropavlovsk-**	**15.07**	**31**	Pn	**Pn**	**20 04 23.0**	**-2.4**
	0.1nm,0.3s,baz=172,slow=10,SNR=4.7						
PEA1	**Petropavlovsk-**	**15.07**	**31**	*e*Pn	**Pn**	**20 04 23.0**	**-2.5**
SEY	**Seymchan**	**22.61**	**9**	P	**P**	**20 05 53.3**	**+0.1**
	0.6nm,0.3s,baz=252,slow=16,SNR=7.0						
SONA0	**Songino Array**	**28.19**	**297**	*e*P	**P**	**20 06 45.8**	**+0.3**
SONM	**Songino Array**	**28.19**	**297**	P	**P**	**20 06 45.8**	**+0.3**
	0.8nm,0.7s,baz=97,slow=7.8,SNR=4.9						
TIXI	**Tiksi**	**31.94**	**350**	P	**P**	**20 07 18.2**	**-0.1**
	1.3nm,0.3s,baz=114,slow=6.9,SNR=3.9						
ZAA1	**Zalesovo Array**	**41.49**	**309**	*e*P	**P**	**20 08 40.3**	**+0.5**
ZALV	**Zalesovo Beam**	**41.49**	**309**	P	**P**	**20 08 40.3**	**+0.5**
	1.0nm,0.7s,baz=81,slow=9.2,SNR=5.1						
MK01	**Makanchi Array**	**44.51**	**300**	*e*P	**P**	**20 09 04.8**	**+0.4**
MK31	**Makanchi Array**	**44.51**	**300**	*e*P	**P**	**20 09 04.8**	**+0.3**
MK32	**Makanchi Array**	**44.51**	**300**	*e*P	**P**	**20 09 04.8**	**+0.4**
MKAR	**Makanchi Array**	**44.51**	**300**	P	**P**	**20 09 04.8**	**+0.4**
	0.8nm,0.7s,baz=82,slow=9.6,SNR=8.3						
MKAR	**Makanchi Array**	**44.51**	**300**	*e*P	**P**	**20

baz=324,slow=75,SNR=7.1
H11N3 WAKE ISLAND Hy 28.27 132 T T 20 41 03.9
baz=324,slow=75,SNR=6.6
H11S1 WAKE ISLAND Hy 29.13 134 T T 20 42 06.7
baz=325,slow=74,SNR=12
H11S3 WAKE ISLAND Hy 29.14 134 T T 20 42 07.3
baz=325,slow=74,SNR=7.7
H11S2 WAKE ISLAND Hy 29.15 134 T T 20 42 08.3
baz=325,slow=74,SNR=8.0
TLY Talaya 30.11 305 LR LR 20 24 59.0
comp=Z,47nm,18.6s,baz=122,slow=38
ZALV Zalesovo Beam 41.44 309 P **P** **20 13 28.6 +1.5**
0.4nm,0.4s,baz=88,slow=8.2,SNR=2.7
MKAR Makanchi Array 44.51 299 P **P** **20 13 51.3 -0.7**
0.5nm,0.8s,baz=83,slow=10,SNR=4.2
ILAR Eielson Array 44.60 34 P **P** **20 13 52.1 -0.4**
0.3nm,0.8s,baz=278,slow=6.2,SNR=4.1
KURBB Kurchatov Arra 45.87 306 P **P** **20 14 02.1 -0.7**
1.1nm,0.7s,baz=74,slow=8.8,SNR=8.2
BVAR Borovoye Array 50.05 311 P **P** **20 14 36.1 +1.1**
0.6nm,0.6s,baz=80,slow=10,SNR=3.4
WRA Warramunga Arr 61.48 191 P **P** **20 15 56.2 -0.9**
2.4nm,1.1s,baz=17,slow=8.8,SNR=3.4
ASAR Alice Springs 65.20 191 P **P** **20 16 23.5 +1.7**
0.4nm,0.8s,baz=16,slow=7.2,SNR=4.1
FINES FINESS Array B 66.57 333 P **P** **20 16 30.3 +0.1**
1.2nm,0.8s,baz=57,slow=7.5,SNR=2.5

DJA 14 20:06:16.1±1.8,11°S±17°×11°6E±°,h15km±24km,M3.6/7, MLv3.6/7,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**2.05**	**333**	P	Pn	20 06 50.1	0.0
DNP	**Denpasar**	**2.15**	**336**	P	Pn	20 06 51.4	-0.1
PLAI	**Plampang**	**2.47**	**43**	P	Pn	20 06 55.8	0.0
PLAI				S	Sn	20 07 26.6	+0.9
SRBI	**Singaraja**	**2.70**	**341**	P	Pn	20 06 59.1	+0.1
JAGI	**Jajag, Banyuwa**	**2.90**	**319**	P	Pn	20 07 01.7	0.0

ISCJB ***14*** *20:16:30.8±0.8,82.2°2N±0.1°×120.0°E±0.5,h10km,mb3.4/10, MS3.2/1,Error ellipse: s-maj=17.6km s-min=9.9km az=13.1*
IDC ***14*** *20:16:31.1±1.1,82.2°21N×119.93°E,h0km,mb3.5/10, mb1 3.8/11,mb1mx3.4/78,mbtmp3.6/11,ML3.6/1,MS3.3/1, Ms1 3.3/1,ms1mx2.5/55,Error ellipse: s-maj=37.7km s-min=15.7km az=165.0*
ISC 14 20:16:32.8±0.9,82.2°N±0.1°×119.52°E±0.09,h10km,n14, σ1s63/15,mb3.5/10,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**10.07**	**299**	*i* P	**Pn**	**20 18 57.0**	**-0.2**
ZFI2				*i* S	**Sn**	**20 20 46.8**	**-3.2**
SPA0	**Spitsbergen Ar**	**15.64**	**312**	*i* P	**Pn**	**20 20 14.7**	**+1.8**
SPA0				*i* S	**Sn**	**20 23 08.5**	**+2.6**
SPITS	**Spitsbergen Ar**	**15.64**	**312**	Pn	**Pn**	**20 20 11.6**	**-1.3**
	baz=30,slow=12,SNR=8.8						
ARCES	**ARCESS Array B**	**22.48**	**293**	P	**P**	**20 21 32.3**	**+0.6**
	5.3nm,1.0s,baz=23,slow=11,SNR=6.6						
INK	**Inuvik**	**25.20**	**57**	P	**P**	**20 21 57.5**	**-0.4**
	1.2nm,0.8s,baz=334,slow=11,SNR=4.6						
ILAR	**Eielson Array**	**26.95**	**71**	P	**P**	**20 22 12.1**	**-1.7**
	0.4nm,0.6s,baz=341,slow=6.5,SNR=6.9						
ZALV	**Zalesovo Beam**	**30.08**	**222**	LR	LR	20 35 06.5	
	comp=Z,48nm,18.2s,baz=250,slow=37						
YKA	**Yellowknife Ar**	**32.83**	**44**	P	**P**	**20 23 06.7**	**+0.8**
	0.1nm,0.7s,baz=348,slow=8.5,SNR=2.7						
MKAR	**Makanchi Array**	**37.40**	**223**	P	**P**	**20 23 46.3**	**+0.9**
	0.3nm,0.7s,baz=1.4,slow=8.1,SNR=5.3						
AKASG	**Malin Array Be**	**40.17**	**280**	P	**P**	**20 24 08.9**	**+0.4**
	0.3nm,0.4s,baz=35,slow=3.4,SNR=2.8						
GERES	**GERESS Array B**	**44.02**	**294**	P	**P**	**20 24 41.6**	**+1.6**
	0.1nm,0.3s,baz=7.4,slow=9.0,SNR=2.2						
BRTR	**Keskin Array B**	**50.34**	**272**	P	**P**	**20 25 28.2**	**-1.3**
	0.5nm,0.7s,baz=4.2,slow=7.9,SNR=2.8						
TXAR	**Lajitas Array**	**66.67**	**41**	P	**P**	**20 27 22.8**	**-0.6**
	0.6nm,0.9s,baz=18,slow=5.3,SNR=7.0						
TORD	**Torodi Ar. Bea**	**80.69**	**299**	P	**P**	**20 28 45.0**	**-0.6**
	0.7nm,0.5s,baz=5.0,slow=5.4,SNR=7.1						

NIED ***14*** *20:16:00,40.90N×145.00E,h5km,Mw3.5 Best double couple: Mo1.73000×10^14 NP1:ϕs198.00000°,δ41.00000°, λ-86.00000°. NP2:ϕs12.00000°,δ49.00000°,λ-94.00000°.*
IDC ***14*** *20:16:30.9±2.4,40.78N×145.11E,h0km,mb3.3/5, mb1 3.3/7,mb1mx3.2/72,mbtmp3.3/7,ML3.1/2,Error ellipse: s-maj=49.0km s-min=29.6km az=154.0*
ISCJB ***14*** *20:16:32.8±1.6,40.94N±0.04°×144.93E±0.07, h28km±16km,mb3.2/5,Error ellipse: s-maj=9.1km s-min=4.9km az=28.6*
JMA ***14*** *20:16:32.9±0.2,40.93N×145.01E,h60km,M3.6*
ISC 14 20:16:35.8±2.7,40.94N±0.05°×144.92E±0.07,h33km±24km, n27,σ1s52/35,mb3.3/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.71**	**310**	P	**Pn**	**20 17 02.1**	**-1.1**
JEM				*e*S	**Sn**	**20 17 23.1**	**-0.8**
JCH	**Churui**	**2.04**	**326**	P	Pn	20 17 06.5	-1.3
JCH				S	**Sn**	**20 17 30.6**	**-1.6**
JAK	**Akkeshi**	**2.07**	**355**	P	Pn	20 17 05.9	-2.2
JAK				*e*S	**Sn**	**20 17 31.5**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.11**	**310**	P	**Pn**	**20 17 07.9**	**-0.8**
JNBK				*e*S	**Sn**	**20 17 34.0**	**+0.2**
JOB	**Onbets**	**2.13**	**338**	*e*S	**Sn**	**20 17 33.7**	**-0.5**
NEM2	**Nemuro 2**	**2.50**	**14**	*e*S	**Sn**	**20 17 40.6**	**-2.9**
JAR	**Ashorobuto**	**2.51**	**340**	P	Pn	20 17 12.4	-1.9
JAR				*e*S	**Sn**	**20 17 41.5**	**-2.2**
JANG	**Nango**	**2.65**	**259**	P	**Pn**	**20 17 15.6**	**-0.6**
JNK	**Nakash**	**2.65**	**357**	P	Pn	20 17 13.4	-2.8
JNK				*e*S	**Sn**	**20 17 44.1**	**-3.1**
JBT2	**Biratori 2**	**2.65**	**315**	P	**Pn**	**20 17 16.4**	**+0.2**
JBT2				*e*S	**Sn**	**20 17 47.8**	**+0.6**
JFR	**Furan**	**2.82**	**323**	P	Pn	20 17 17.2	-1.4
JFR				*e*S	**Sn**	**20 17 50.0**	**-1.4**
JTM	**Tenmabayashi**	**2.93**	**268**	P	**Pn**	**20 17 19.1**	**-0.9**
JTM				*e*S	**Sn**	**20 17 52.1**	**-1.9**
JOT	**Ohata**	**2.96**	**280**	P	Pn	20 17 18.6	-1.8
JOT				*e*S	**Sn**	**20 17 52.2**	**-2.6**
JKB	**Kayabe**	**3.08**	**289**	P	**Pn**	**20 17 21.2**	**-0.8**
JTKR	**Abashiri--Toko**	**3.12**	**346**	P	**Pn**	**20 17 21.6**	**-1.1**
JTKR				S	**Sn**	**20 17 58.5**	**-0.3**
JOM	**Ohasama**	**3.14**	**243**	P	**Pn**	**20 17 21.6**	**-1.3**
JEW	**Eniwo**	**3.22**	**307**	S	**Sn**	**20 18 01.6**	**+0.5**
JAH	**Hinai**	**3.35**	**259**	P	**Pn**	**20 17 25.3**	**-0.5**
JAH				S	**Sn**	**20 18 03.0**	**-1.4**
JMK	**Ichinoseki**	**3.47**	**236**	P	**Pn**	**20 17 25.7**	**-1.7**
ASAJ	**Asahikawa**	**3.61**	**332**	Pn	**Pn**	**20 17 29.5**	**+0.1**
	1.4nm,0.3s,baz=185,slow=11,SNR=8.4						
ASAJ				Sn	**Sn**	**20 18 09.9**	**-1.0**
	1.5nm,0.3s,baz=94,slow=14,SNR=4.6						
JRG	**Rokugo**	**3.63**	**246**	P	**Pn**	**20 17 28.8**	**-0.8**
JRG				S	**Sn**	**20 18 10.5**	**-0.8**
MJAR	**Matsushiro Arr**	**6.84**	**232**	Pn	**Pn**	**20 18 11.9**	**-1.8**
	0.2nm,0.3s,baz=37,slow=13,SNR=4.1						
SONM	**Songino Array**	**28.16**	**297**	P	**P**	**20 22 25.5**	**+0.5**
	0.5nm,0.8s,baz=95,slow=8.5,SNR=2.6						
ZALV	**Zalesovo Beam**	**41.44**	**309**	P	**P**	**20 24 21.5**	**+2.5**
	0.3nm,0.3s,baz=87,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**44.48**	**299**	P	**P**	**20 24 45.8**	**+2.0**
	0.1nm,0.4s,baz=82,slow=9.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**45.86**	**306**	P	**P**	**20 24 56.3**	**+1.7**
	0.5nm,0.4s,baz=78,slow=8.4,SNR=3.2						
YKA	**Yellowknife Ar**	**59.06**	**32**	P	**P**	**20 26 32.5**	**+0.3**
	0.1nm,0.7s,baz=291,slow=5.2,SNR=3.0						

DSN ***14*** *20:28:38.5±1.6,27.47N×58.09E,h16km,ML3.3/6,Error ellipse: s-maj=28.7km s-min=7.5km az=155.0*
ISCJB ***14*** *20:28:41.0±0.5,27.48N±0.04°×57.71E±0.05,h25km, mb3.4/7,Error ellipse: s-maj=6.8km s-min=5.3km az=7.5*
TEH ***14*** *20:28:42.5,27.29N×57.64E,h16km,ML3.3*
CSEM ***14*** *20:28:43.4±0.5,27.42N×57.43E,h15km,ML3.4,Error ellipse: s-maj=16.1km s-min=11.8km az=169.0*
IDC ***14*** *20:28:44.0±5.5,27.52N×57.61E,h35km±52km,mb3.4/7, mb1 3.5/9,mb1mx3.2/65,mbtmp3.6/9,ML3.4/2,Error ellipse: s-maj=28.8km s-min=20.6km az=124.0*
OMAN ***14*** *20:28:53.9±99.0,26.84N×57.07E,h16km,Error ellipse: s-maj=465.8km s-min=23.4km az=34.0*
ISC 14 20:28:41.9±0.7,27.47N±0.03°×57.68E±0.04,h25km,n37, σ1s78/43,mb3.4/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**0.76**	**277**	*e*Pg	**Pn**	**20 28 56.4**	**-0.6**
NIAN				*e*AMB	AMB	20 29 15.6	
	comp=Z,30μm,0.1s						
GENO	**Geno**	**1.34**	**268**	*e*Sg	**Sb**	**20 29 23.7**	**+0.4**
GENO				*e*Pg	**Pb**	**20 29 06.2**	**-0.3**
GENO				*e*AMB	AMB	20 29 24.7	
	comp=Z,18μm,0.1s						
BNDS	**Bandar-Abbas**	**1.34**	**267**	*e*Pg	**Pn**	**20 29 03.5**	**-1.7**
BNDS				*e*Sg	**Sn**	**20 29 19.7**	**-2.7**
BANOM	**Banah**	**1.97**	**219**	Pb	**Pb**	**20 29 15.7**	**-1.5**
	SNR=127						
BANOM	**Banah**	**1.97**	**219**	P	**Pb**	**20 29 15.7**	**-1.5**
	SNR=127						
BANOM	**Banah**	**1.97**	**219**	P	**Pb**	**20 29 15.2**	**-1.9**
	SNR=132						
BANOM	**Banah**	**1.97**	**219**	Pb	**Pb**	**20 29 15.7**	**-1.5**
	SNR=127						
BANOM				S	**Sb**	**20 29 43.2**	**+1.9**
BANOM	**Banah**	**1.97**	**219**	*e*P	**Pb**	**20 29 15.2**	**-1.9**
	SNR=132						
BANOM				S	**Sb**	**20 29 43.2**	**+1.9**
SHME	**Shamm**	**1.97**	**225**	P	**Pb**	**20 29 15.3**	**-1.9**
	SNR=62						
SHME	**Shamm**	**1.97**	**225**	*e*P	**Pb**	**20 29 15.3**	**-1.9**
	SNR=37						
SHME				S	**Sb**	**20 29 42.7**	**+1.4**
NGRK	**Negar Kerman**	**2.33**	**339**	*e*Pn	**Pb**	**20 29 22.0**	**-1.4**
NGRK				*e*AMB	AMB	20 29 54.2	
	comp=Z,99nm,0.1s						
CHMN	**Cheshme madani**	**2.39**	**357**	*e*Pn	**Pb**	**20 29 23.5**	**-1.0**
CHMN				*e*AMB	AMB	20 29 29.3	
	comp=Z,99nm,0.1s						
MDH	**Madha**	**2.49**	**210**	P	**Pn**	**20 29 21.1**	**+0.2**
UOSS	**Minazif**	**2.84**	**208**	P	**Pn**	**20 29 25.2**	**-0.5**
UOSS	**Minazif**	**2.84**	**208**	P	**Pn**	**20 29 25.2**	**-0.5**
HATD	**Hatta, Dubai**	**2.98**	**208**	P	**Pn**	**20 29 27.6**	**0.0**
HATD	**Hatta, Dubai**	**2.98**	**208**	P	**Pn**	**20 29 27.6**	**0.0**
KHGB	**Koh Gabri**	**3.08**	**340**	*e*Pn	**Pb**	**20 29 33.2**	**-3.0**
KHGB				*e*AMB	AMB	20 30 16.7	
	comp=Z,99nm,0.2s						
CHBR	**Chabahar**	**3.13**	**126**	*e*P	**Pb**	**20 29 33.3**	**-3.5**
ASHO	**Ashiyiah**	**3.13**	**208**	pPn	**Pb**	**20 29 33.1**	**-3.8**
	SNR=12						
ASHO	**Ashiyiah**	**3.13**	**208**	P	**Pb**	**20 29 33.1**	**-3.8**
	SNR=12						
ASHO	**Ashiyiah**	**3.13**	**208**	P	**Pn**	**20 29 31.3**	**+1.5**
	SNR=12						
ASHO	**Ashiyiah**	**3.13**	**208**	*i* P	**Pn**	**20 29 31.3**	**+1.5**
	SNR=12						
ZHSF	**Zahedan**	**3.46**	**51**	*e*Pn	**Pb**	**20 29 40.1**	**-2.5**
SOHO	**SOHO**	**3.48**	**198**	*i* P	**Pn**	**20 29 33.6**	**-0.8**
	SNR=11						
ALNE	**Al Ain**	**3.81**	**208**	*i* P	**Pn**	**20 29 39.7**	**+0.5**
	SNR=5.4						
GHIR	**Ghir-Karzin**	**4.23**	**282**	*e*Pn	**Pn**	**20 29 45.7**	**+0.7**
WSAR	**Wadi Sarin**	**4.30**	**168**	Pn	**Pn**	**20 29 48.4**	**+2.7**
	comp=Z,2.8nm,0.3s,baz=347,slow=5.6,SNR=54						
WSAR				Sn	**Sn**	**20 30 36.6**	**+1.5**
	comp=Z,6.1nm,0.3s,baz=260,slow=21,SNR=14						
IBAF	**Bafgh**	**4.50**	**336**	*e*Pn	**Pn**	**20 29 51.3**	**+2.6**
IBAF				*e*AMB	AMB	20 31 09.2	
	comp=Z,153nm,0.2s						
GEYT	**Alibeck**	**10.44**	**2**	Pn	**Pn**	**20 31 10.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=209,slow=18,SNR=2.6						
BRTR	**Keskin Array B**	**23.38**	**308**	P	**P**	**20 33 49.0**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=124,slow=15,SNR=3.8						
BVAR	**Borovoye Array**	**27.23**	**17**	P	**P**	**20 34 24.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=188,slow=8.4,SNR=6.6						
MKAR	**Makanchi Array**	**27.33**	**39**	P	**P**	**20 34 25.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=234,slow=9.4,SNR=4.5						
KURBB	**Kurchatov Arra**	**28.04**	**29**	P	**P**	**20 34 32.1**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=158,slow=8.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**33.13**	**30**	P	**P**	**20 35 16.1**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=232,slow=8.8,SNR=6.1						
FINES	**FINESS Array B**	**40.01**	**337**	P	**P**	**20 36 14.5**	**+0.1**
	comp=Z,1.8nm,1.0s,baz=157,slow=18,SNR=3.1						
TORD	**Torodi Ar. Bea**	**53.99**	**267**	P	**P**	**20 38 04.4**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=57,slow=6.9,SNR=4.7						

IDC 14 20:30:05.3±2.0,6.62S×130.05E,h0km,mb3.5/1, mb1 3.7/4,mb1mx3.3/47,mbtmp3.6/4,ML3.6/3,Error ellipse: s-maj=52.4km s-min=30.8km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.25**	**240**	Pn	Pn	20 31 54.0	+1.4
	3.7nm,0.3s,baz=65,slow=14,SNR=4.9						
BATI				Sn	Sn	20 33 04.9	-11
	3.8nm,0.3s,baz=62,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**13.88**	**163**	Pn	Pn	20 33 23.1	-0.3
	0.3nm,0.3s,baz=340,slow=13,SNR=6						
WRA				Sn	Sn	20 35 45.4	-13
	0.6nm,0.3s,baz=336,slow=22,SNR=7.2						
ASAR	**Alice Springs**	**17.35**	**168**	P	Pn	20 34 08.5	-0.5
	0.1nm,0.3s,baz=351,slow=8.5,SNR=3.2						
ASAR				S	Sn	20 37 07.5	-15
	0.2nm,0.3s,baz=344,slow=23,SNR=5.9						
MKAR	**Makanchi Array**	**67.94**	**327**	P	P	20 41 05.9	-0.1
	0.3nm,0.5s,baz=122,slow=5.2,SNR=7.4						

ISCJB ***14*** *20:48:24.6±0.3,35.81N±0.03°×81.68E±0.06,h10km, mb3.8/17,MS3.1/2,Error ellipse: s-maj=7.3km s-min=3.8km az=164.0*
IDC ***14*** *20:48:24.8±0.7,35.78N×81.64E,h0km,mb3.8/15, mb1 3.9/21,mb1mx3.8/69,mbtmp3.8/21,ML3.3/6,MS3.2/5, Ms1 3.2/5,ms1mx2.9/68,Error ellipse: s-maj=21.1km s-min=13.0km az=47.0*
BJI ***14*** *20:48:28.2,35.90N×81.55E,h10km,mb3.9/3,mB4.1/1, ML4.2/7,Ms3.7/5,Ms7 3.3/3*
NEIC ***14*** *20:48:30.9±1.5,35.86N×81.65E,h41km±12km,mb4.1/5, Error ellipse: s-maj=13.7km s-min=8.6km az=197.0*
NNC ***14*** *20:48:31.0±2.6,36.14N×81.69E,h0km,mb4.4,mpv4.2, Error ellipse: s-maj=23.2km s-min=16.1km az=145.0*
ISC 14 20:48:26.7±0.5,35.76N±0.06°×81.69E±0.06,h10km,n67, σ1s89/70,mb3.7/17,11C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.88**	**311**	Pn	Pn	20 49 57.9	+3.9
KSH				Sn	**Sn**	**20 51 07.1**	**+5.5**
KSH				*s*max	*s*max		
	comp=N,1μm,1.2s						
KSH				*s*max	*s*max		
	comp=E,800nm,0.8s						
KSH	**Kashi**	**5.88**	**311**	Pn	Pn	20 49 57.9	+3.9
KSH				Sn	**Sn**	**20 51 07.1**	**+5.5**
TARG	**Taragay, Kyrgy**	**6.68**	**334**	*e*Pn	**Pn**	**20 50 07.1**	**+1.8**
KDJ	**Kajisay**	**7.26**	**332**	*e*Pn	**Pn**	**20 50 12.4**	**-0.6**
PYUN	**Piuthan**	**7.72**	**171**	*e*P	**Pn**	**20 50 17.7**	**-1.7**
	29nm,0.9s						
SFK	**Sufi-Kurgan**	**7.74**	**306**	⇑Pn	**Pn**	**20 50 20.3**	**+0.7**
	4.5nm,0.7s						
SFK				⇑Pg	Pg	20 50 48.8	-6.0
	17nm,0.7s						
SFK				⇑Lg	Lg	20 52 28.4	
	62nm,0.6s						
PDGK	**Podgornoye**	**7.74**	**348**	⇓Pn	**Pn**	**20 50 20.1**	**+0.5**
	24nm,0.6s						
PDGK				⇑Lg	Lg	20 52 25.0	
	98nm,0.9s						
KOLN	**Koldanda**	**8.13**	**168**	*e*P	**Pn**	**20 50 23.8**	**-1.2**
	15nm,0.8s						
KKN	**Kakani**	**8.52**	**158**	*e*P	**Pn**	**20 50 30.9**	**+0.6**
	16nm,0.6s						
TKM2	**Tokmak 2**	**8.56**	**328**	⇓Pn	Pn	20 50 34.9	+4.0
	3.8nm,1.1s						
TKM2				⇓Pg	Pg	20 51 02.7	-7.8
	15nm,0.8s						
TKM2				⇓Lg	Lg	20 52 52.7	
	36nm,0.9s						
GUN	**Gumba**	**8.60**	**154**	*e*P	**Pn**	**20 50 32.5**	**+0.9**
	22nm,0.6s						
DMN	**Daman**	**8.63**	**159**	*e*P	**Pn**	**20 50 32.7**	**+0.7**
	18nm,0.6s						
PKIN	**Phulchoki**	**8.75**	**158**	*e*P	**Pn**	**20 50 34.8**	**+1.2**
	26nm,0.6s						
PKI	**Pulchoki**	**8.76**	**158**	*e*P	**Pn**	**20 50 34.6**	**+0.8**
	31nm,0.6s						
AAK	**Ala-Archa**	**8.85**	**323**	Pn	**Pn**	**20 50 34.0**	**-0.7**
	0.1nm,0.3s,baz=162,slow=14,SNR=3.6						
AAK				Pg	Pg	20 51 03.9	-12
	0.8nm,0.3s,baz=160,slow=14,SNR=14						
AAK				Lg	Lg	20 53 04.7	
	1.7nm,0.3s,baz=275,slow=18,SNR=6.7						
AAK				LR	LR	20 54 35.1	
	comp=Z,141nm,21.1s,baz=124,slow=42						
AAK	**Ala-Archa**	**8.85**	**323**	⇑Pn	**Pn**	**20 50 36.8**	**+2.1**
	2.0nm,0.8s						
AAK				⇑Pg	Pg	20 51 06.2	-10
	27nm,1.0s						
AAK				⇓Lg	Lg	20 52 57.8	
	49nm,0.8s						
AAK	**Ala-Archa**	**8.85**	**323**	*e*Pn	**Pn**	**20 50 36.6**	**+1.9**
AAK				*e*		20 51 03.9	
AAK				*e*		20 53 04.7	
JIRN	**Jiri**	**8.94**	**153**	*e*P	**Pn**	**20 50 37.5**	**+1.2**
	50nm,0.7s						
WMQ	**Urumqi**	**9.28**	**28**	P	**Pn**	**20 50 41.9**	**+1.4**
WMQ				pP		20 50 46.8	
WMQ				sP		20 50 52.6	
WMQ				S	**Sn**	**20 52 30.3**	**+5.3**
WMQ				sS		20 52 34.9	
WMQ				LR	LR		
	comp=N,380nm,20.7s						
WMQ				LR	LR		
	comp=E,430nm,25.3s						
MNAS	**Manas**	**9.79**	**316**	⇑Pn	**Pn**	**20 50 48.8**	**+1.1**
	1.5nm,0.8s						
MNAS				⇑Pg		20 51 26.0	
	6.5nm,0.7s						
MNAS				⇑Lg	Lg	20 53 37.2	
	32nm,1.1s						
MK01	**Makanchi Array**	**11.01**	**2**	*e*Pn	**Pn**	**20 51 04.2**	**+0.1**
MK31	**Makanchi Array**	**11.03**	**2**	⇑Pn	**Pn**	**20 51 04.0**	**-0.5**
	12nm,0.9s,baz=178,slow=15,SNR=109						
MK31				Sn	**Sn**	**20 53 08.0**	**+0.1**
	5.4nm,0.6s,baz=187,slow=25,SNR=2.7						
MK31	**Makanchi Array**	**11.03**	**2**	*e*Pn	**Pn**	**20 51 04.0**	**-0.5**
MK32	**Makanchi Array**	**11.03**	**2**	*e*Pn	**Pn**	**20 51 04.5**	**0.0**
MK32				*e*Sn	**Sn**	**20 53 06.8**	**-1.1**
MKAR	**Makanchi Array**	**11.03**	**2**	Pn	**Pn**	**20 51 04.5**	**0.0**
	1.5nm,0.3s,baz=182,slow=13,SNR=103						
MKAR				Sn	**Sn**	**20 53 06.8**	**-1.1**
	0.8nm,0.3s,baz=190,slow=27,SNR=5.2						
MKAR				LR	LR	20 56 10.8	
	comp=Z,74nm,18.8s,baz=240,slow=42						
MKAR	**Makanchi Array**	**11.03**	**2**	*e*Pn	**Pn**	**20 51 04.0**	**-0.5**
MKAR				Sn	**Sn**	**20 53 06.8**	**-1.1**
MAKZ	**Makanchi**	**11.04**	**1**	⇓Pn	**Pn**	**20 51 04.5**	**-0.1**
	7.6nm,0.5s						
MAKZ				⇑Sn	**Sn**	**20 53 04.1**	**-3.9**
	11nm,1.0s						
MAKZ	**Makanchi**	**11.04**	**1**	*e*Pn	**Pn**	**20 51 04.1**	**-0.4**
KK31	**Karatay Array**	**11.32**	**314**	⇓Pg	Pn	20 51 52.1	+44
	4.9nm,0.8s,baz=136,slow=17,SNR=5.2						
KK31				⇓Lg	Lg	20 54 25.4	
	7.6nm,0.8s,baz=114,slow=23,SNR=3.6						
GTA	**Gaotai**	**14.82**	**70**	*e*P	**P**	**20 52 04.8**	**+2.4**
GTA				pP	pP	20 52 08.3	
GTA				sP	sP	20 52 11.8	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				LR	LR		
	comp=N,98nm,14.3s						
GTA				LR	LR		
	comp=E,83nm,16.2s						
GTA				LR	LR		
	comp=Z,120nm,14.7s						
KURBB	**Kurchatov Arra**	**15.03**	**352**	Pn	**Pn**	**20 51 55.2**	**-3.8**
	0.0nm,0.3s,baz=173,slow=12,SNR=11						
KURK	**Kurchatov**	**15.11**	**352**	*e*Pn	**Pn**	**20 51 55.2**	**-4.9**
ZAA0	**Zalesovo Array**	**18.31**	**6**	*e*P	**P**	**20 52 39.6**	**-1.1**
	6.5nm,0.9s						
ZALV	**Zalesovo Beam**	**18.31**	**6**	P	**Pn**	**20 52 38.7**	**-2.0**
	0.4nm,0.3s,baz=196,slow=10,SNR=22						
ZALV				LR	LR	21 00 42.7	
	comp=Z,71nm,18.8s,baz=253,slow=40						
ZALV	**Zalesovo Beam**	**18.31**	**6**	*e*Pn	**Pn**	**20 52 37.5**	**-3.2**
ZAA1	**Zalesovo Array**	**18.32**	**6**	*e*P	**Pn**	**20 52 38.7**	**-2.1**
GEYT	**Alibeck**	**18.98**	**284**	P	**Pn**	**20 52 48.3**	**-0.7**
	0.1nm,0.3s,baz=104,slow=12,SNR=4.2						
BVAR	**Borovoye Array**	**19.01**	**339**	P	**Pn**	**20 52 48.6**	**-0.6**
	0.3nm,0.3s,baz=140,slow=9.4,SNR=31						
CD2	**Chengdu**	**19.05**	**98**	*e*P	**Pn**	**20 52 50.0**	**+0.1**
BRVK	**Borovoye**	**19.07**	**339**	*e*P	**Pn**	**20 52 48.9**	**-1.0**
	12nm,0.9s						
ABKAR	**Akbulak array**	**20.85**	**317**	*e*P	Pn	20 53 08.1	-2.9
	25nm,0.9s						
SONA0	**Songino Array**	**21.91**	**49**	*e*P	**P**	**20 53 21.1**	**+1.0**
SONM	**Songino Array**	**21.91**	**49**	P	**P**	**20 53 21.1**	**+1.0**
	0.8nm,0.6s,baz=244,slow=10.0,SNR=7.5						
SONA1	**Songino Array**	**21.92**	**49**	*e*P	**P**	**20 53 22.9**	**+2.7**
ULN	**Ulaanbaatar**	**22.33**	**49**	*e*P	**P**	**20 53 25.2**	**+0.6**
	3.0nm,1.1s						
AKTO	**Aktyubinsk**	**22.53**	**318**	P	**P**	**20 53 26.6**	**0.0**
	2.1nm,0.6s,

SWI	**Sorong**	**2.70**	**359**	P	**Pn**	**20 53 21.1**	**-0.9**
SWI				S	**Sn**	**20 53 52.6**	**-1.3**
NLAI	**Namlea**	**4.20**	**274**	P	**Pn**	**20 53 45.7**	**+2.9**
LBMI	**Labuha**	**4.79**	**308**	P	**Pn**	**20 53 51.6**	**+0.8**
SANI	**Sanana**	**5.52**	**286**	P	**Pn**	**20 54 00.8**	**0.0**
MTN	**Manton Dam**	**9.21**	**181**	*e*Pn	**Pn**	**20 54 52.7**	**+1.1**
FITZ	**Fitzroy Crossi** baz=16,slow=12	**15.46**	**201**	Pn	**Pn**	**20 56 12.0**	**-4.8**
FITZ				Sn	**Sn**	**20 58 58.4**	**-9.1**
	0.1nm,0.3s,baz=214,slow=15,SNR=2.6						
WR1	**Warramunga Arr** 59nm,1.9s	**16.53**	**170**	*e*Pn	**Pn**	**20 56 28.4**	**-2.2**
WR1				*e*Sn	Sn	20 59 22.3	-11
WRA	**Warramunga Arr**	**16.53**	**170**	Pn	**Pn**	**20 56 28.4**	**-2.2**
	0.2nm,0.3s,baz=351,slow=12,SNR=9.3						
WRA				Sn	Sn	20 59 22.3	-11
	0.2nm,0.3s,baz=352,slow=23,SNR=4.1						
ASAR	**Alice Springs** 2.1nm,0.5s,baz=360,slow=11,SNR=36	**20.13**	**173**	P	Pn	20 57 13.7	-0.9
ASAR				S	**S**	**21 00 53.4**	**-4.3**
	0.4nm,1.0s,baz=356,slow=25,SNR=3.4						
AS01	**Alice Springs**	**20.13**	**173**	*e*P	Pn	20 57 14.6	0.0
CTA	**Charters Tower**	**21.95**	**140**	P	**P**	**20 57 34.9**	**+2.6**
	3.3nm,0.3s,baz=294,slow=10.0,SNR=8.5						
RPZ	**Rata Peaks** comp=Z,383nm,21.8s,baz=196,slow=34	**53.20**	**145**	LR	LR	21 22 37.8	
RAO	**Raoul Island** comp=Z,570nm,21.2s,baz=122,slow=32	**54.44**	**124**	LR	LR	21 22 08.2	
MK32	**Makanchi Array**	**66.12**	**325**	*e*P	**P**	**21 03 25.9**	**+0.4**
MKAR	**Makanchi Array**	**66.12**	**325**	P	**P**	**21 03 25.9**	**+0.4**
	0.5nm,0.6s,baz=118,slow=7.7,SNR=6.3						
ZALV	**Zalesovo Beam**	**69.13**	**333**	P	**P**	**21 03 43.5**	**-0.8**
	0.8nm,0.5s,baz=135,slow=6.3,SNR=3.9						
ZAA1	**Zalesovo Array**	**69.13**	**333**	*e*P	**P**	**21 03 43.5**	**-0.8**
KURBB	**Kurchatov Arra**	**70.31**	**327**	P	**P**	**21 03 52.1**	**+0.4**
	1.5nm,0.7s,baz=129,slow=5.7,SNR=16						
KURK	**Kurchatov**	**70.32**	**328**	*e*P	**P**	**21 03 52.1**	**+0.4**
BVAR	**Borovoye Array**	**75.89**	**327**	P	**P**	**21 04 25.8**	**+1.2**
	0.6nm,0.6s,baz=104,slow=6.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**129.33**	**284**	PKP	**PKPdf**	**21 11 47.7**	**0.0**
	0.2nm,0.6s,baz=114,slow=2.6,SNR=4.3						
TOA1	**Torodi Ar. Sit**	**129.33**	**284**	*e*PKPdf	**PKPdf**	**21 11 47.7**	**0.0**

DJA 14 21:08:22.5±0.7,**7°S**±4°×**10°5E**±°,**h21**km±4km,**M3.5**/7,
MLv3.5/7,**Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.36**	**57**	P	Pn	21 08 32.2	-0.3
CGJI				S	Sb	21 08 37.0	+1.8
SBJI	**Serang**	**1.00**	**47**	P	Pn	21 08 42.0	+0.6
SBJI				S	Sn	21 08 55.7	+0.8
SKJI	**Sukabumi**	**1.17**	**100**	P	Pb	21 08 44.6	+0.5
SKJI				S	Sn	21 08 59.6	+0.5
BLSI	**Bandar Lampung**	**1.44**	**354**	P	Pn	21 08 47.9	+0.5
BLSI				S	Sn	21 09 06.1	+0.4
KASI	**Kota Agung**	**1.56**	**325**	P	Pn	21 08 48.1	-0.9
KASI				S	Sn	21 09 08.8	+0.3
LWLI	**Liwa**	**2.22**	**323**	P	Pn	21 08 58.0	-0.2
CISI	**Cisompet, Garu**	**2.52**	**107**	P	Pn	21 09 01.6	-0.7
CISI				S	Sn	21 09 32.2	-0.2
MDSI	**Maura Dua**	**2.60**	**332**	P	Pn	21 09 04.1	+0.7
CMJI	**Cimerak**	**3.19**	**108**	P	Pn	21 09 11.6	+0.2

*ISCJB **14** 21:13:07.8±0.7,5°.58S±0°.02×151°.01E±0°.02,h34km±6km, mb5.6/367,MS6.0/524,Error ellipse: s-maj=3.4km s-min=2.8km az=11.3*

*MOS **14** 21:13:07.9±1.0,5°.49S×151°.04E,h33km,mb5.9/75, MS6.0/81,Error ellipse: s-maj=6.2km s-min=4.9km az=89.1*

*WEL **14** 21:13:08.0,5°.60S×151°.04E,h28km*

*NEIC **14** 21:13:08.0±0.1,5°.60S×151°.04E,h28km,mb5.7/246, ME5.3,MS6.0/300,MW6.1,MW6.2,MW6.2,Error ellipse: s-maj=3.9km s-min=3.5km az=144.0,Moment Tensor Solution. s43 Moment tensor: Scale 10^18^Nm; Mrr1.46; Mθθ-1.31; Mϕϕ-0.15; Mrθ0.67; Mθϕ-0.19; Mϕr-0.06; Best double couple: M0 1.60000×10^18^ NP1:ϕs86.00000°, δ58.00000°,λ96.00000°. NP2:ϕs256.00000°,δ33.00000°, λ81.00000°. Principal axes: T 1.6200, Plg77.0000°, Azm14.0000°; N -0.1300, Plg5.0000°; Azm263.0000°; P -1.4900, Plg13.0000°, Azm172.0000°; Broadband fault plane solution: P waves. NP1:ϕs265.00000°,δ30.00000°, λ90.00000°. NP2:ϕs85.00000°,δ60.00000°,λ90.00000°. Principal axes: T Plg75.0000°, Azm355.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm175.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Kimbe.

*GCMT **14** 21:13:08.0±0.1,5°.98S×151°.00E,h48km,MW6.2/148, Moment Tensor Solution. s148,c320; s136,c471; Duration: 3s0 Moment tensor: Scale 10^18^Nm; Mrr2.01±.01; Mθθ-2.21±.01; Mϕϕ0.20±.01; Mrθ0.70±.01; Mθϕ-0.46±.01; Mϕr-0.27±.01; Best double couple: M0 2.28800×10^18^ NP1:ϕs91.00000°,δ54.00000°, λ104.00000°. NP2:ϕs247.00000°,δ38.00000°,λ71.00000°. Principal axes: T 2.1840, Plg76.0000°, Azm45.0000°; N 0.2100, Plg11.0000°, Azm262.0000°; P -2.3910, Plg8.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **14** 21:13:10.5,5°.55S×151°.00E,h50km,mb5.6/89,mB5.9/75, Ms6.0/98,Ms7 5.9/87*

*IDC **14** 21:13:11.0±1.4,5°.56S×151°.06E,h51km±11km,mb5.1/40, mb1 5.1/42,mb1mx5.0/50,mbtmp5.3/42,ML4.4/2,MS5.6/38, Ms1 5.6/38,ms1mx5.5/43,Error ellipse: s-maj=9.9km s-min=8.0km az=90.0*

*NEIC **14** 21:13:11.0±0.0,5°.84S×151°.02E,h45km,Moment Tensor Solution. s65 Moment tensor: Scale 10^18^Nm; Mrr1.92; Mθθ-1.98; Mϕϕ0.06; Mrθ1.59; Mθϕ-0.57; Mϕr0.25; Best double couple: M0 2.60000×10^18^ NP1:ϕs79.00000°, δ64.00000°,λ94.00000°. NP2:ϕs251.00000°,δ26.00000°, λ83.00000°. Principal axes: T 2.4900, Plg70.0000°, Azm356.0000°; N 0.2000, Plg3.0000°, Azm257.0000°; P -2.6900, Plg19.0000°, Azm166.0000°;*

*DJA **14** 21:13:18.1±0.6,6°S±3°×15°1E±°,h96km±5km,M5.7/62, mb5.6/62,mB6.0/44,MLv6.5/1,Mw(mB)5.6/44,Mwp6.0/9*

*NEIC **14** 21:13:30.5±0.0,6°.06S×150°.07E,h38km,Moment Tensor Solution. s24 Moment tensor: Scale 10^18^Nm; Mrr2.11; Mθθ-2.06; Mϕϕ-0.05; Mrθ0.98; Mθϕ-0.61; Mϕr-0.67; Best double couple: M0 2.50000×10^18^ NP1:ϕs236.00000°, δ38.00000°,λ58.00000°. NP2:ϕs94.00000°,δ58.00000°, λ113.00000°. Principal axes: T 2.5700, Plg68.0000°, Azm51.0000°; N -0.2000, Plg19.0000°, Azm262.0000°; P -2.3700, Plg10.0000°, Azm168.0000°;*

ISC 14 21:13:10.3±0.3,**5°.58S**±0°.03×**151°.09E**±0°.03,**h47**km±2km, **h47**km:**pP-P,n1627,**σ1**80**/1585,**mb5.7**/356,**MS6.0**/538, **57C-29D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.75**	**38**	*e*Pn	**Pn**	**21 13 42.4**	**+4.3**
MANU	**Manus Island**	**5.12**	**313**	*e*Pn	Pn	21 14 29.2	+4.8
PMG	**Port Moresby**	**5.44**	**226**	P	**Pn**	**21 14 30.6**	**+1.7**
	204nm,0.3s,baz=57,slow=5.5,SNR=434						
PMG				S	**Sn**	**21 15 31.0**	**+0.8**
	629nm,0.3s,baz=40,slow=22,SNR=8.3						
PMG	**Port Moresby**	**5.44**	**226**	*ce*P	**Pn**	**21 14 30.1**	**+1.3**
PMG	**Port Moresby**	**5.44**	**226**	*e*Pn	**Pn**	**21 14 30.2**	**+1.3**
PMG				*e*Sn	**Sn**	**21 15 31.2**	**+0.9**
HNR	**Honiara**	**9.57**	**114**	P	**Pn**	**21 15 27.5**	**+1.9**
	26nm,0.3s,baz=271,slow=11,SNR=20						
HNR				S	**Sn**	**21 17 15.2**	**+3.3**
	38nm,0.3s,baz=222,slow=17,SNR=3.7						
HNR				LR	LR	21 18 04.9	
	comp=Z,13μm,21.9s,baz=282,slow=31						
HNR	**Honiara**	**9.57**	**114**	*e*P	**Pn**	**21 15 26.0**	**+0.4**
HNR				*e*S	**Sn**	**21 17 14.0**	**+2.1**
HNR	**Honiara**	**9.57**	**114**	*e*P	**Pn**	**21 15 26.8**	**+1.2**
HNR				S	**Sn**	**21 17 15.2**	**+3.3**
HNR	**Honiara**	**9.57**	**114**	*e*Pn	**Pn**	**21 15 26.8**	**+1.2**
HNR				S	**Sn**	**21 17 15.2**	**+3.3**
JAY	**Jayapura**	**10.80**	**286**	P	Pn	21 15 47.6	+5.2
GENI	**Genyem**	**11.29**	**285**	P	Pn	21 15 55.8	+6.7
COEN	**Coen**	**11.40**	**223**	P	**Pn**	**21 15 50.6**	**0.0**
	baz=11,SNR=106						
COEN	**Coen**	**11.40**	**223**	*e*Pn	**Pn**	**21 15 50.4**	**-0.3**
MTSU	**Mount Surprise** baz=14,SNR=31	**14.12**	**207**	P	**Pn**	**21 16 28.6**	**+0.9**
PATS	**Pohnpei** baz=14,SNR=3.5	**14.29**	**30**	P	**P**	**21 16 34.1**	**-1.9**
PATS	**Pohnpei**	**14.29**	**30**	*e*Pn	**Pn**	**21 16 29.4**	**-0.6**
CTA	**Charters Tower** baz=18,slow=13	**15.17**	**198**	P	**Pn**	**21 16 42.4**	**+0.8**
CTA				LR	LR	21 22 06.9	
	comp=Z,37μm,20.2s,baz=0.0,slow=35						
CTAO	**Charters Tower**	**15.17**	**198**	*e*P	**Pn**	**21 16 40.2**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,700nm,1.4s						
CTAO	**Charters Tower** comp=Z,700nm,1.4s	**15.17**	**198**	*e*Pn	**Pn**	**21 16 40.2**	**-1.3**
KMPI	**Kaimana, Papua**	**17.43**	**276**	P	**P**	**21 17 13.2**	**+2.2**
QIS	**Mount Isa** baz=18,SNR=89	**18.60**	**216**	P	**Pn**	**21 17 24.5**	**0.0**
FAKI	**Fak Fak**	**18.98**	**277**	P	**Pn**	**21 17 29.3**	**+0.3**
FAKI	**Fak Fak** comp=Z,198nm,1.0s	**18.98**	**277**	*e*P	**P**	**21 17 25.9**	**-2.1**
EIDS	**Eidsvold** baz=20,SNR=19	**19.67**	**180**	P	**P**	**21 17 36.2**	**+0.7**
EIDS	**Eidsvold** comp=Z,2μm,1.9s	**19.67**	**180**	*e*P	**Pn**	**21 17 36.5**	**-0.7**
GUMO	**Guam** comp=Z,12nm,0.3s,baz=177,slow=7.3,SNR=13	**20.02**	**342**	P	Pn	21 17 43.3	+1.8
GUMO				LR	LR	21 24 08.9	
	comp=Z,19μm,19.8s,baz=170,slow=33						
GUMO	**Guam**	**20.02**	**342**	*e*P	Pn	21 17 43.5	+2.0
GUMO				pmax	pmax		
	comp=Z,6μm,1.4s						
GUMO	**Guam** comp=Z,6μm,1.4s	**20.02**	**342**	*e*P	Pn	21 17 43.5	+2.0
SWI	**Sorong**	**20.34**	**283**	P	Pn	21 17 46.3	+1.0
RMQ	**Roma** baz=21,SNR=189	**20.91**	**186**	P	**P**	**21 17 50.0**	**+1.1**
MTN	**Manton Dam** baz=21,SNR=24	**20.97**	**248**	P	**P**	**21 17 49.9**	**+0.2**
MTN	**Manton Dam** comp=Z,2μm,1.5s	**20.97**	**248**	*e*P	**P**	**21 17 49.4**	**-0.3**
MTN				*e*S	**S**	**21 21 37.6**	**-3.4**
PALU	**Palu** baz=21,SNR=10	**20.97**	**308**	P	Pn	21 17 53.9	+1.2
BNDI	**Bandanaira** comp=Z,614nm,1.6s,comp=Z,13μm	**21.13**	**272**	P	**P**	**21 17 53.4**	**+2.0**
WR3	**Warramunga Arr** baz=22	**21.63**	**227**	P	**P**	**21 17 56.5**	**-0.2**
WRAB	**Tennant Creek**	**21.65**	**227**	*ce*P	**P**	**21 17 56.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,876nm,0.8s						
WRAB	**Tennant Creek** comp=Z,1μm,1.0s	**21.65**	**227**	*e*P	**P**	**21 17 55.2**	**-1.7**
WRA	**Warramunga Arr** comp=Z,356nm,0.9s,baz=53,slow=10,SNR=176	**21.66**	**227**	P	**P**	**21 17 56.9**	**-0.2**
WRA				S	**S**	**21 21 51.5**	**-3.1**
	comp=Z,49nm,1.0s,baz=57,slow=17,SNR=8.0						
WRA				ScP	**ScP**	**21 25 31.1**	**+0.2**
	comp=Z,18nm,1.1s,baz=54,slow=3.1,SNR=4.5						
WRA				LR	LR	21 26 31.2	
	comp=Z,22μm,21.1s,baz=45,slow=37						
QLP	**Quilpie** baz=22,SNR=59	**21.88**	**197**	P	**P**	**21 17 59.6**	**+0.2**
DZM	**Mont Dzumac** comp=Z,46nm,0.8s,baz=354,slow=8.9,SNR=24	**22.12**	**139**	P	**P**	**21 18 02.0**	**0.0**
DZM				LR	LR	21 25 48.0	
	comp=Z,43μm,19.6s,baz=314,slow=34						
DZM	**Mont Dzumac** comp=Z,579nm,1.2s	**22.12**	**139**	*e*P	**P**	**21 18 02.0**	**0.0**
DZM				*e*S	**S**	**21 21 57.5**	**-5.8**
	comp=Z,43μm,25.9s						
DZM				*e*LQ	LQ	21 22 29.6	
	comp=Z,79μm,28.9s						
DZM				*e*LR	LR	21 23 25.2	
	comp=Z,81μm,24.6s						
DZM	**Mont Dzumac** comp=Z,222nm,1.0s	**22.12**	**139**	*e*P	**P**	**21 18 02.2**	**+0.1**
SARN	**Sarigan**	**22.75**	**347**	*e*P	**P**	**21 18 10.3**	**+1.5**
TARA	**Tarawa** comp=Z,937nm,1.4s	**22.87**	**73**	*e*P	**P**	**21 18 10.9**	**+0.9**
TARA				LR	LR		
	comp=Z,24μm,22.0s						
AAI	**Ambon** comp=Z,158nm,0.8s,comp=Z,4μm	**22.90**	**274**	P	**P**	**21 18 16.7**	**+6.4**
LBMI	**Labuha** comp=Z,380nm,1.4s,comp=Z,6μm	**24.06**	**281**	P	**P**	**21 18 23.9**	**+2.5**
KNRA	**Kununurra** baz=24,SNR=72	**24.10**	**244**	P	**P**	**21 18 21.9**	**+0.1**
AS01	**Alice Springs**	**24.41**	**221**	*e*P	**P**	**21 18 24.8**	**+0.2**
AS31	**Alice Springs** comp=Z,223nm,0.9s	**24.43**	**221**	*e*P	**P**	**21 18 25.1**	**+0.3**
ASAR	**Alice Springs** comp=Z,102nm,0.6s,baz=54,slow=8.7,SNR=241	**24.44**	**221**	P	**P**	**21 18 25.1**	**+0.2**
ASAR				S	**S**	**21 22 39.4**	**-2.4**
	comp=Z,13nm,0.9s,baz=41,slow=14,SNR=2.7						
ASAR				ScP	**ScP**	**21 25 38.0**	**-0.2**
	comp=Z,15nm,1.2s,baz=47,slow=2.8,SNR=5.1						
ASAR				LR	LR	21 28 04.3	
	comp=Z,22μm,20.7s,baz=76,slow=37						
TNTI	**Ternate** comp=Z,622nm,1.5s	**24.52**	**284**	*e*P	**P**	**21 18 26.7**	**+1.0**
TNTI				LR	LR		
	comp=Z,9μm,21.0s						
ARMA	**Armidale** baz=25,SNR=10	**24.71**	**179**	P	**P**	**21 18 28.6**	**+1.3**
ARMA	**Armidale** comp=Z,592nm,1.4s	**24.71**	**179**	*e*P	**P**	**21 18 28.7**	**+1.4**
SANI	**Sanana**	**25.29**	**277**	P	P	21 18 44.0	+11
CMSA	**Cobar Meteorol** baz=26,SNR=54	**26.31**	**190**	P	**P**	**21 18 41.5**	**-0.2**
SOEI	**Soe** comp=Z,362nm,1.4s,comp=Z,7μm	**26.90**	**259**	P	**P**	**21 18 53.3**	**+6.0**
SOEI	**Soe** comp=Z,487nm,1.1s	**26.90**	**259**	*e*P	**P**	**21 18 46.3**	**-1.0**
MGCD	**Mangrove Creek** baz=27,SNR=7.0	**27.49**	**180**	P	**P**	**21 18 53.5**	**+1.3**
BATI	**Baumata** comp=Z,122nm,0.7s,baz=151,slow=13,SNR=6.9	**27.55**	**259**	P	**P**	**21 18 55.0**	**+2.0**
BATI				LR	LR	21 31 54.7	
	comp=Z,41μm,21.7s,baz=108,slow=41						
BATI	**Baumata** comp=Z,134nm,0.9s	**27.55**	**259**	P	**P**	**21 18 59.3**	**+6.3**
STKA	**Stephens Creek** comp=Z,29nm,0.8s,baz=16,slow=10.0,SNR=17	**27.63**	**198**	P	**P**	**21 18 53.7**	**+0.1**
STKA				ScP	**ScP**	**21 25 47.9**	**+0.7**
	comp=Z,54nm,1.2s,baz=18,slow=3.1,SNR=6.5						
STKA				LR	LR	21 30 19.1	
	comp=Z,24μm,19.8s,baz=16,slow=37						
STKA	**Stephens Creek** baz=28,SNR=25	**27.63**	**198**	P	**P**	**21 18 53.3**	**-0.2**
STKA	**Stephens Creek**	**27.63**	**198**	*e*P	**P**	**21 18 53.3**	**-0.2**
STKA				pmax	pmax		
	comp=Z,78nm,1.3s						
STKA	**Stephens Creek** comp=Z,78nm,1.3s	**27.63**	**198**	*e*P	**P**	**21 18 53.2**	**-0.2**
STKA				ScP	**ScP**	**21 25 47.9**	**+0.7**
KMSI	**Cibinong**	**27.75**	**282**	P	P	21 19 08.3	+13
FITZ	**Fitzroy Crossi** comp=Z,135nm,0.8s,baz=69,slow=8.5,SNR=95	**27.79**	**241**	P	**P**	**21 18 55.2**	**+0.1**
FITZ				LR	LR	21 31 26.5	
	comp=Z,15μm,19.7s,baz=70,slow=39						
FITZ	**Fitzroy Crossi** baz=28,SNR=146	**27.79**	**241**	P	**P**	**21 18 54.8**	**-0.3**
FITZ	**Fitzroy Crossi** comp=Z,1μm,1.4s	**27.79**	**241**	*e*P	**P**	**21 18 54.9**	**-0.3**
RIV	**Riverview** baz=28,SNR=4.2	**28.11**	**180**	P	**P**	**21 18 58.2**	**+0.5**
DAV	**Davao City (W)** comp=Z,8μm,19.1s,baz=114,slow=37	**28.39**	**296**	LR	LR	21 30 31.3	
KDI	**Kendari**	**28.42**	**272**	P	P	21 19 17.2	+16
LUWI	**Luwuk**	**28.62**	**278**	P	P	21 19 18.4	+16
LUWI	**Luwuk**	**28.62**	**278**	PFAKE		21 19 10.0	+7.4
LUWI				LR	LR		
	comp=Z,7μm,22.0s						
YNG	**Young** baz=29,SNR=19	**28.68**	**185**	P	**P**	**21 19 03.5**	**+0.6**
MSVF	**Nonsavu**	**28.98**	**117**	*e*P	**P**	**21 19 07.2**	**+1.4**
MSVF				pmax	pmax		
	comp=Z,225nm,1.3s						
MSVF	**Nonsavu** comp=Z,225nm,1.3s	**28.98**	**117**	*e*P	**P**	**21 19 07.2**	**+1.4**
WAKE	**Wake Island**	**29.08**	**31**	PFAKE		21 19 20.0	+13
WAKE				LR	LR		
	comp=Z,16μm,21.0s						
WRKA	**Warakurna** baz=29,SNR=259	**29.19**	**226**	P	**P**	**21 19 07.2**	**-0.3**
EDFI	**Ende, Flores** comp=Z,98nm,0.8s,comp=Z,5μm	**29.34**	**262**	P	**P**	**21 19 12.3**	**+3.2**
CNB	**Canberra Magne** baz=30,SNR=8.9	**29.63**	**183**	P	**P**	**21 19 12.9**	**+1.5**
CAN	**Canberra**	**29.66**	**183**	*e*P	**P**	**21 19 13.3**	**+1.7**
CAN				pmax	pmax		
	comp=Z,138nm,1.4s						
CAN				MLR	MLR		
	comp=Z,25μm,20.0s						
CAN	**Canberra** comp=Z,138nm,1.4s	**29.66**	**183**	*e*P	**P**	**21 19 13.3**	**+1.7**
CAN				LR	LR		
	comp=Z,25μm,20.0s						
MRSI	**Marisa**	**29.72**	**281**	P	P	21 19 28.1	+16
APSI	**Ampana** comp=Z,83nm,1.5s,comp=Z,2μm	**29.75**	**278**	P	**P**	**21 19 12.7**	**+0.1**
HTT	**Hallett** baz=30,SNR=28	**29.93**	**201**	P	**P**	**21 19 14.2**	**+0.2**
BBOO	**Buckleboo** baz=30,SNR=16	**30.50**	**205**	P	**P**	**21 19 19.0**	**-0.1**
BBOO	**Buckleboo** comp=Z,165nm,1.1s	**30.50**	**205**	*e*P	**P**	**21 19 18.8**	**-0.3**
BBOO				*e*PP	**PnPn**	**21 20 19.6**	**+0.2**
BBOO				LR	LR		
	comp=Z,28μm,20.0s						
BASI	**Baing, Sumba**	**30.56**	**259**	P	P	21 19 36.4	+17
WSI	**Waingapu**	**30.78**	**261**	P	P	21 19 37.8	+16
KAPI	**Kappang**	**31.21**	**270**	PFAKE		21 19 40.0	+14
KAPI				LR	LR		
	comp=Z,5μm,22.0s						
WBSI	**Waikabubak, Su** comp=Z,429nm,0.9s	**31.67**	**261**	P	P	21 19 35.1	+5.5
MPSI	**Mapaga** comp=Z,37nm,0.9s,comp=Z,1μm	**31.70**	**280**	P	**P**	**21 19 31.0**	**+1.2**
ARPS	**Mount Arapiles** baz=32,SNR=13	**32.18**	**194**	P	**P**	**21 19 34.9**	**+1.2**
TOO	**Toolangi** baz=32,SNR=8.1	**32.25**	**188**	P	**P**	**21 19 35.6**	**+1.2**
RCP	**Roxas**	**32.95**	**301**	⇓*e*P	**P**	**21 19 42.7**	**+2.0**
PLAI	**Plampang** comp=Z,151nm,0.8s	**33.20**	**262**	P	**P**	**21 19 42.8**	**-0.2**
CBIJ	**Chichi jima** comp=Z,30μm,22.0s	**33.61**	**346**	P	**P**	**21 19 45.4**	**-0.9**
CBIJ				LR	LR		
JCJ	**Chichijima** comp=Z,33nm,0.6s,baz=32,slow=5.9,SNR=2.4	**33.61**	**346**	P	**P**	**21 19 45.4**	**-0.9**
MBWA	**Marble Bar** comp=Z,343nm,1.1s	**34.11**	**240**	*e*P	**P**	**21 19 50.7**	**-0.1**
MBWA				LR	LR		
	comp=Z,14μm,20.0s						
MBWA	**Marble Bar** SNR=14	**34.11**	**240**	P	**P**	**21 19 52.0**	**+1.2**
MBWA	**Marble Bar** SNR=14	**34.11**	**240**	P	**P**	**21 19 52.0**	**+1.2**
MYLDM	**Lahad Datu**	**34.26**	**288**	⇓P	**P**	**21 19 55.2**	**+3.1**
MYLDM	**Lahad Datu** comp=Z,203nm,1.3s	**34.26**	**288**	*e*P	**P**	**21 19 54.7**	**+2.6**
DNP	**Denpasar** comp=Z,423nm,1.1s	**35.73**	**263**	P	**P**	**21 20 06.2**	**+1.4**
TGY	**Tagaytay City** comp=Z,325nm,0.7s,baz=221,slow=2.3,SNR=9.1	**35.75**	**303**	P	**P**	**21 20 07.4**	**+2.3**
TGY				LR	LR	21 32 34.0	
	comp=Z,17μm,21.6s,baz=116,slow=33						
IGBI	**Denpasar**	**35.80**	**263**	P	**P**	**21 20 03.8**	**-1.6**
OUZ	**Omahuta** comp=Z,204nm,1.3s	**36.06**	**148**	*e*P	**P**	**21 20 09.2**	**+1.7**
OUZ	**Omahuta**	**36.06**	**148**	P	**P**	**21 20 08.8**	**+1.4**
MTKI	**Muara Teweh, K** comp=Z,33nm,0.6s,comp=Z,5μm	**36.42**	**276**	P	P	21 20 17.3	+6.5
KKM	**Kota Kinabalu** comp=Z,58nm,1.1s	**36.68**	**288**	*e*P	**P**	**21 20 13.9**	**+0.8**
KKM				*e*PP	**PP**	**21 21 34.9**	**-2.5**
KKM				LR	LR		
	comp=Z,7μm,21.0s						
JAGI	**Jajag, Banyuwa** comp=Z,352nm,0.9s	**36.76**	**263**	P	**P**	**21 20 16.2**	**+2.5**
JAGI	**Jajag, Banyuwa** comp=Z,297nm,0.9s	**36.76**	**263**	*e*P	**P**	**21 20 12.2**	**-1.5**
JAGI				*e*PcP	**PcP**	**21 22 35.6**	**+0.1**
JAGI				LR	LR		
	comp=Z,10μm,22.0s						
MOO	**Moorlands** baz=37,SNR=6.0	**36.87**	**185**	P	**P**	**21 20 16.6**	**+2.4**
KNTN	**Kanton** comp=Z,404nm,1.5s	**37.19**	**87**	*e*P	**P**	**21 20 18.2**	**+0.9**
TAU	**Tasmania Unive**	**37.32**	**185**	*e*P	**P**	**21 20 19.4**	**+1.4**
TAU				pmax	pmax		
	comp=Z,325nm,1.1s						
TAU				MLR	MLR		
	comp=Z,37μm,22.0s						
TAU	**Tasmania Unive** comp=Z,325nm,1.1s	**37.32**	**185**	*e*P	**P**	**21 20 19.4**	**+1.4**
TAU				LR	LR		
	comp=Z,37μm,22.0s						
MEEK	**Meekatharra** baz=37,SNR=88	**37.38**	**232**	P	**P**	**21 20 18.8**	**-0.1**
AFI	**Afiamalu** comp=Z,49nm,0.7s,baz=279,slow=5.0,SNR=14	**37.47**	**106**	P	**P**	**21 20 21.4**	**+1.6**
AFI				LR	LR	21 33 45.3	
	comp=Z,5μm,21.1s,baz=277,slow=33						
AFI	**Afiamalu**	**37.47**	**106**	*e*P	**P**	**21 20 19.6**	**-0.2**
AFI				pmax	pmax		
	comp=Z,185nm,1.2s						
AFI	**Afiamalu** comp=Z,185nm,1.2s	**37.47**	**106**	*e*P	**P**	**21 20 19.6**	**-0.2**
KMBL	**Kambalda** baz=38,SNR=42	**37.52**	**223**	P	**P**	**21 20 19.5**	**-0.4**
JOW	**Kunigami** comp=Z,423nm,1.3s	**39.07**	**327**	*e*P	**P**	**21 20 30.2**	**-2.7**
PWJI	**Pagerwojo** comp=Z,161nm,0.9s	**39.08**	**264**	P	**P**	**21 20 37.1**	**+3.9**
HIZ	**Hauiti** comp=Z,235nm,1.4s	**39.23**	**150**	*e*P	**P**	**21 20 34.8**	**+0.6**
GIRL	**Giralia** baz=39,SNR=48	**39.40**	**241**	P	**P**	**21 20 36.2**	**+0.4**
SBUM	**Sibu** comp=Z,36nm,1.0s	**39.64**	**281**	*e*P	**P**	**21 20 36.3**	**-1.7**
PCJI	**Pacitan** comp=Z,292nm,1.2s	**39.70**	**264**	P	**P**	**21 20 41.4**	**+3.0**
JHJ2	**Mitsune** comp=Z,2μm,1.7s	**39.94**	**345**	*e*P	**P**	**21 20 40.0**	**-0.1**
JHJ2				LR	LR		
	comp=Z,17μm,22.0s						
STKI	**Sintang**	**39.95**	**277**	P	P	21 20 56.5	+16
JHJ	**Hachijo jima 2** comp=Z,15μm,21.5s,baz=164,slow=32	**39.96**	**345**	LR	LR	21 34 27.3	
URZ	**Urewera** comp=Z,26nm,1.0s,baz=18,slow=5.1,SNR=5.2	**40.21**	**148**	P	**P**	**21 20 43.1**	**+0.9**
URZ	**Urewera** comp=Z,269nm,1.7s	**40.21**	**148**	*e*P	**P**	**21 20 43.3**	**+1.1**
URZ				LR	LR		
	comp=Z,16μm,22.0s						
UGM	**Wanagama** comp=Z,302nm

YULB *e*PcP **PcP** **21 22 50.6 +2.2**
YULB LR LR
comp=Z,23µm,22.0s
TSZ **Takapari Road** **40.97 151** P **P**
TCW **Tory Channel** **41.09 153** P **P** **21 20 49.2 +0.6**
TUWZ **Tuamarina** **41.11 154** P **P** **21 20 50.4 +0.9**
OGWZ **Otaki Gorge** **41.18 152** P **P** **21 20 50.9 +1.2**
FOZ **Fox Glacier** **41.24 159** PFAKE **21 20 51.0 +0.7**
FOZ LR LR 21 21 00.0 +9.3
comp=Z,13µm,20.0s
NACB **Ninganchiao** **41.25 317** *e*P **P** **21 20 52.0 +1.0**
comp=Z,283nm,0.9s
NACB *e*PcP **PcP** **21 22 51.7 +2.4**
KSM **Kuching** **41.33 279** *e*P **P** **21 20 52.1 +0.2**
comp=Z,50nm,1.1s
KSM LR LR
comp=Z,3µm,22.0s
TPUB **Ta-pu** **41.34 315** *e*P **P** **21 20 52.8 +0.9**
comp=Z,105nm,0.8s
TPUB LR LR
comp=Z,16µm,21.0s
SNZO **South Karori** **41.36 153** *e*P **P** **21 20 52.5 +0.7**
comp=Z,440nm,1.7s
SNZO LR LR
comp=Z,26µm,20.0s
HOWZ **Holdsworth Sta** **41.41 152** P **P** **21 20 53.1 +0.9**
SSLB **Suanglung** **41.43 316** *e*P **P** **21 20 52.8 +0.2**
comp=Z,110nm,0.8s
SSLB LR LR
comp=Z,22µm,20.0s
LTZ **Lake Taylor** **41.52 156** *e*P **P** **21 20 54.1 +0.9**
comp=Z,319nm,1.2s
LTZ LR LR
comp=Z,20µm,20.0s
BFZ **Birch Farm** **41.59 151** PFAKE 21 21 10.0 +16
BFZ LR LR
comp=Z,24µm,22.0s
MTW **Mount Morrison** **41.60 152** P **P** **21 20 54.0 +0.2**
NWAO **Narrogin (SRO)** **41.63 225** P **P** **21 20 53.5 -0.6**
comp=Z,76nm,0.9s,baz=293,slow=6.9,SNR=20
NWAO **Narrogin (SRO)** **41.63 225** P **P** **21 20 53.6 -0.6**
baz=42,SNR=18
NWAO P **P** **21 20 53.6 -0.6**
baz=42,SNR=18
NWAO **Narrogin (SRO)** **41.63 225** *e*P **P** **21 20 53.5 -0.6**
NWAO pmax pmax
comp=Z,655nm,1.5s
NWAO MLR MLR
comp=Z,22µm,21.0s
NWAO **Narrogin (SRO)** **41.63 225** *e*P **P** **21 20 53.5 -0.6**
comp=Z,655nm,1.5s
NWAO LR LR
comp=Z,22µm,21.0s
NWAO **Narrogin (SRO)** **41.63 225** P **P** **21 20 54.4 +0.3**
SNR=16
NWAO **Narrogin (SRO)** **41.63 225** P **P** **21 20 54.4 +0.3**
SNR=16
MSWZ **Moikau Station** **41.69 152** P **P** **21 20 54.7 +0.2**
YHNB **Yeheng** **41.73 317** *e*P **P** **21 20 57.5 +2.4**
comp=Z,759nm,1.2s
YHNB LR LR
comp=Z,13µm,22.0s
KHZ **Kahutara** **41.74 155** *e*P **P** **21 20 55.2 +0.4**
comp=Z,170nm,1.2s
KHZ LR LR
comp=Z,14µm,20.0s
KHZ **Kahutara** **41.74 155** P **P** **21 20 55.1 +0.2**
PLWZ **Palliser** **41.81 153** P **P** **21 20 55.7 +0.2**
RPZ **Rata Peaks** **41.85 158** P **P** **21 20 56.9 +1.1**
comp=Z,22nm,0.6s,baz=335,slow=3.9,SNR=9.6
RPZ **Rata Peaks** **41.85 158** *e*P **P** **21 20 56.0 +0.2**
comp=Z,474nm,1.8s
RPZ LR LR
comp=Z,28µm,20.0s
TATO **Taipei** **41.86 318** *e*P **P** **21 20 57.8 +1.8**
comp=Z,626nm,1.2s
TATO LR LR
comp=Z,20µm,22.0s
MUN **Mundaring** **41.86 227** P **P** **21 20 55.7 -0.3**
baz=42,SNR=32
OXZ **Oxford** **41.89 157** *e*P **P** **21 20 55.2 -0.9**
comp=Z,143nm,1.0s
OXZ LR LR
comp=Z,23µm,21.0s
WKZ **Wanaka** **42.12 161** PFAKE 21 21 10.0 +12
WKZ LR LR
comp=Z,15µm,20.0s
DCZ **Deep Cove** **42.12 163** *e*P **P** **21 20 58.7 +0.8**
comp=Z,194nm,1.2s
LBZ **Lake Benmore** **42.12 160** *e*P **P** **21 20 57.4 -0.5**
comp=Z,195nm,1.4s
LBZ LR LR
comp=Z,16µm,20.0s
MLZ **Mavora Lakes** **42.32 162** *e*P **P** **21 20 59.1 -0.4**
comp=Z,293nm,1.3s
MLZ LR LR
comp=Z,10µm,19.0s
CRLZ **Canterbury Las** **42.33 157** *e*P **P** **21 21 00.6 +1.0**
comp=Z,419nm,1.2s
CRLZ LR LR
comp=Z,17µm,20.0s
CMJI **Cimerak** **42.40 265** P **P** **21 21 01.4 +0.8**
comp=Z,465nm,0.7s
MQZ **McQueen's Vall** **42.45 157** *e*P **P** **21 21 00.9 +0.3**
comp=Z,316nm,1.2s
JCJI **Jatiwangi** **42.59 266** P P 21 21 16.7 +15
WHZ **Wether Hill Ro** **42.74 163** *e*P **P** **21 21 03.3 +0.4**
comp=Z,83nm,1.0s
RKGY **Rocky Gully** **42.75 223** P **P** **21 21 03.6 +0.4**
baz=43,SNR=18
INU **Inuyama** **42.81 343** *e*P **P** **21 21 03.7 0.0**
comp=Z,193nm,1.6s
INU LR LR
comp=Z,13µm,21.0s
ODZ **Otahua Downs** **42.85 160** PFAKE 21 21 20.0 +16
ODZ LR LR
comp=Z,14µm,20.0s
JNU **Nakatsue** **43.01 335** P **P** **21 21 07.2 +1.9**
comp=Z,263nm,1.0s,baz=133,slow=3.8,SNR=61
JNU LR LR 21 37 09.1
comp=Z,6µm,21.8s,baz=170,slow=34
JNU **Nakatsue** **43.01 335** *e*P **P** **21 21 07.2 +1.9**
comp=Z,273nm,0.7s
CISI **Cisompet, Garu** **43.02 265** P **P** **21 21 05.9 +0.1**
comp=Z,589nm,1.3s,comp=Z,8µm
CISI **Cisompet, Garu** **43.02 265** *e*P **P** **21 21 05.4 -0.4**
comp=Z,346nm,0.7s
CISI LR LR
comp=Z,8µm,22.0s
LEM **Lembang** **43.23 266** P **P** **21 21 07.7 +0.1**
comp=Z,66nm,0.7s,baz=341,slow=5.1,SNR=9.0
LEM LR LR 21 43 34.9
comp=Z,5µm,19.2s,baz=98,slow=42
MJAR **Matsushiro Arr** **43.61 345** P **P** **21 21 09.1 -0.9**
comp=Z,16nm,1.0s,baz=171,slow=8.8,SNR=19
MJAR ScP **ScP** **21 26 43.7 -1.2**
comp=Z,7.9nm,1.1s,baz=194,slow=5.7,SNR=4.9
MJAR LR LR 21 39 11.6
comp=Z,9µm,18.6s,baz=165,slow=36
MAJO **Matsushiro** **43.61 345** *e*P **P** **21 21 10.3 +0.2**
MAJO pmax pmax
comp=Z,24nm,1.0s
MAJO **Matsushiro** **43.61 345** *e*P **P** **21 21 09.8 -0.3**
comp=Z,62nm,1.0s
MAJO LR LR
comp=Z,12µm,19.0s
MAT **Matsushiro** **43.61 345** P **P** **21 21 08.8 -1.3**
MAT S **S** **21 27 42.4 +6.0**
MJB9 **Matsu-Tunnel** **43.61 345** *e*P **P** **21 21 09.8 -0.3**
comp=Z,64nm,1.0s
MJB9 LR LR
comp=Z,12µm,19.0s
QZH **Quanzhou** **43.82 315**⇑ *i*P **P** **21 21 14.3 +2.4**
QZH S **S** **21 27 40.5 +0.8**
QZH pmax pmax
comp=Z,250nm,0.9s
QZH pmax pmax
comp=Z,2µm,3.7s
QZH LR LR
comp=Z,7µm,18.5s
QZH LR LR
comp=Z,8µm,20.2s
QZH LR LR
comp=Z,12µm,20.8s
JOHN **Johnston Islan** **44.80 60** PFAKE 21 21 30.0 +10
JOHN LR LR
comp=Z,19µm,22.0s

H01W1 **Cape Leeuwin H** **44.85 224** P **P** **21 21 22.9 +3.1**
baz=80,slow=6.9,SNR=3.7
H01W3 **Cape Leeuwin H** **44.85 224** P **P** **21 21 15.9 -3.9**
baz=80,slow=6.9,SNR=3.6
H01W2 **Cape Leeuwin H** **44.86 224** P **P** **21 21 23.1 +3.1**
baz=80,slow=6.9,SNR=5.6
CGJI **Cibinong** **45.14 266** P **P** **21 21 23.1 +0.4**
comp=Z,320nm,1.0s,comp=Z,3µm
XMIS **Christmas Isla** **45.22 261** *e*P **P** **21 21 23.6 +0.3**
comp=Z,4µm,2.1s
MIDW **Midway** **45.32 40** PFAKE 21 21 40.0 +16
MIDW LR LR
comp=Z,13µm,22.0s
SSE **Sheshan** **46.33 324** P **P** **21 21 33.9 +2.1**
SSE S **S** **21 28 20.0 +4.1**
SSE pmax pmax
comp=Z,33nm,0.9s
SSE LR LR
comp=Z,4µm,21.7s
KASI **Kota Agung** **46.37 268** P **P** **21 21 32.6 +0.2**
comp=Z,166nm,0.9s,comp=Z,2µm
GZH **Guangzhou** **46.60 309** P **P** **21 21 37.8 +3.7**
GZH PcP **PcP** **21 23 06.8 -0.8**
GZH S **S** **21 28 25.3 +5.3**
GZH LR LR
comp=Z,5µm,20.8s
GZH LR LR
comp=Z,18µm,21.0s
MDSI **Maura Dua** **46.74 269** P **P** **21 21 35.1 -0.2**
comp=Z,72nm,1.1s,comp=Z,1µm
LWLI **Liwa** **46.83 268** P **P** **21 21 37.6 +1.5**
comp=Z,141nm,0.8s,comp=Z,8µm
TJN **Taejon** **47.29 334***c i*P **P** **21 21 40.0 +0.8**
QIZ **Qiongzhong** **47.42 302** P **P** **21 21 42.1 +1.6**
QIZ pP **pP** **21 21 54.3 +1.0**
QIZ PP **PP** **21 23 34.6 +2.3**
QIZ S **S** **21 28 38.1 +6.3**
QIZ sS **sS** **21 28 51.3 -1.9**
QIZ LR LR
comp=Z,6µm,26.0s
QIZ LR LR
comp=Z,9µm,24.5s
QIZ LR LR
comp=Z,18µm,27.5s
QIZ **Qiongzhong** **47.42 302** *e*P **P** **21 21 39.5 -1.1**
comp=Z,107nm,1.4s
QIZ LR LR
comp=Z,18µm,22.0s
MYKOM **Kota Tinggi** **47.75 277**⇓ P **P** **21 21 44.0 +0.9**
MYKOM **Kota Tinggi** **47.75 277** *e*P **P** **21 21 44.1 +0.9**
comp=Z,144nm,1.7s
ERM **Erimo** **47.92 352** PFAKE 21 22 00.0 +16
ERM LR LR
comp=Z,12µm,21.0s
KSRS **Korea Array** **47.96 335** P **P** **21 21 46.0 +1.7**
comp=Z,34nm,0.8s,baz=153,slow=7.9,SNR=49
KSRS LR LR 21 42 48.9
comp=Z,2µm,18.0s,baz=154,slow=37
MNAI **Manna** **47.96 269** PFAKE 21 22 00.0 +15
MNAI LR LR
comp=Z,5µm,22.0s
KS15 **Wonju Array Si** **47.96 335** *e*P **P** **21 21 46.0 +1.6**
KSAR **Wonju Array Be** **47.96 335** P **P** **21 21 46.0 +1.6**
KSAR **Wonju Array Be** **47.96 335** P **P** **21 21 46.0 +1.6**
KS01 **Wonju Array Si** **47.99 335** *e*P **P** **21 21 45.6 +1.0**
KGM **Kluang** **48.31 278**⇑ P **P** **21 21 48.1 +0.6**
NJ2 **Nanjing** **48.41 323** *e*P **P** **21 21 50.3 +2.4**
NJ2 pP **pP** **21 22 02.8 +2.1**
NJ2 sP **sP** **21 22 05.8 -0.4**
NJ2 S **S** **21 28 45.3 -0.1**
NJ2 sS **sS** **21 29 03.8 -3.0**
NJ2 pmax pmax
comp=Z,110nm,1.0s
NJ2 pmax pmax
comp=Z,2µm,6.8s
NJ2 LR LR
comp=Z,10µm,21.6s
NJ2 LR LR
comp=Z,7µm,22.1s
NJ2 LR LR
comp=Z,14µm,24.3s
INCN **Inchon** **48.53 334** *e*P **P** **21 21 51.4 +2.6**
comp=Z,395nm,1.0s
INCN LR LR
comp=Z,8µm,21.0s
INCN **Inchon** **48.53 334** P **P** **21 21 51.8 +3.0**
SNR=19
INCN **Inchon** **48.53 334** P **P** **21 21 51.8 +3.0**
SNR=19
MASI **Maura Aman, Be** **48.76 271** P P 21 21 56.8 +5.8
YUK **Yuzh-Kuril'sk** **49.61 355***c i*P **P** **21 21 54.9 -2.0**
YUK *i* S **S** **21 29 07.4 +5.5**
YUK *e**SS **sS** **21 29 26.3 +2.9**
YUK MLR MLR
comp=N,4µm,18.0s
YUK MLR MLR
comp=Z,4µm,18.0s
RAR **Rarotonga** **50.03 113** LR LR 21 42 54.7
comp=Z,578nm,19.0s,baz=278,slow=36
ASAJ **Asahikawa** **50.06 352** P **P** **21 22 01.1 +0.8**
comp=Z,22nm,0.7s,baz=142,slow=1.5,SNR=15
ASAJ **Asahikawa** **50.06 352** *e*P **P** **21 22 01.4 +1.0**
comp=Z,35nm,0.7s
FRIM **Kepong** **50.18 279**⇓ P **P** **21 22 00.1 -1.7**
WHN **Wuhan** **50.27 318**⇑ *i*P **P** **21 22 04.6 +2.5**
WHN pP **pP** **21 22 16.5 +1.5**
WHN S **S** **21 29 18.6 +7.1**
WHN pmax pmax
comp=Z,310nm,1.1s
WHN LR LR
comp=Z,22µm,22.0s
WHN LR LR
comp=Z,16µm,18.4s
WHN LR LR
comp=Z,31µm,20.7s
BKNI **Bangkinang** **50.32 275** *e*P **P** **21 22 01.8 -1.1**
comp=Z,120nm,1.1s
KUR **Kuril'sk** **50.67 357***c i*P **P** **21 22 04.2 -0.7**
KUR *i* *PP **pP** **21 22 10.2 -7.6**
KUR *i* S **S** **21 29 22.4 +5.8**
KUR pmax pmax
comp=Z,998nm,1.7s
KUR pmax pmax
comp=Z,383nm,1.2s
KUR MLR MLR
comp=Z,4µm,21.0s
KUR MLR MLR
comp=N,2µm,16.0s
KUR MLR MLR
comp=E,2µm,18.0s
IPM **Ipoh** **50.99 280** *e*P **P** **21 22 07.8 -0.1**
comp=E,38nm,0.9s
IPM LR LR
comp=Z,3µm,22.0s
VLA **Vladivostok** **51.51 342** *i* P **P** **21 22 10.6 -0.6**
VLA pmax pmax
comp=Z,43nm,1.1s
KULM **Kulim** **51.51 281**⇑ P **P** **21 22 11.5 -0.3**
KULM **Kulim** **51.51 281** *e*P **P** **21 22 11.1 -0.7**
comp=Z,30nm,0.9s
KULM LR LR
comp=Z,5µm,22.0s
SKNT **Sakolnakorn** **51.67 297** P **P** **21 22 13.7 +0.8**
comp=Z,33nm,1.5s
MNSI **Mandailing Nat** **51.83 275** P **P** **21 22 13.5 -0.7**
comp=Z,81nm,0.7s,comp=Z,1µm
DL2 **Dalian** **52.00 331**⇑ *i*P **P** **21 22 16.9 +1.9**
DL2 S **S** **21 29 40.1 +4.9**
DL2 pmax pmax
comp=Z,50nm,1.4s
DL2 pmax pmax
comp=Z,1µm,6.6s
DL2 LR LR
comp=Z,4µm,21.4s
DL2 LR LR
comp=Z,4µm,21.4s
DL2 LR LR
comp=Z,8µm,21.0s
TEY **Ternei** **52.04 347** *i* P **P** **21 22 18.0 +2.8**
SISI **Saibi** **52.06 273** P **P** **21 22 20.6 +4.7**
comp=Z,63nm,1.0s,comp=Z,1µm
TIA **Tai'an** **52.36 325** P **P** **21 22 18.8 +1.1**
TIA S **S** **21 29 47.3 +7.1**
TIA pmax pmax
comp=Z,87nm,1.4s
TIA pmax pmax
comp=Z,1µm,5.9s
TIA LR LR
comp=Z,4µm,21.4s
TIA LR LR
comp=Z,6µm,22.1s
TIA LR LR
comp=Z,10µm,27.9s
USRK **Ussuriysk Ar.** **52.46 343** P **P** **21 22 19.6 +1.3**
comp=Z,13nm,0.7s,baz=161,slow=9.2,SNR=25
USRK LR LR 21 43 07.4
comp=Z,7µm,21.8s,baz=147,slow=34
KHON **Khomkaen** **52.48 295** P **P** **21 22 21.8 +2.9**
comp=Z,11nm,0.9s,comp=Z,848nm
PSI **Prapat** **52.77 278** P **P** **21 22 20.1 -1.2**
comp=Z,12nm,0.7s,baz=151,slow=5.7,SNR=14
PSI LR LR 21 47 28.8
comp=Z,5µm,21.9s,baz=126,slow=39
PSI **Prapat** **52.77 278** *e*P **P** **21 22 20.3 -1.0**
PSI pmax pmax
comp=Z,45nm,1.2s
PSI **Prapat** **52.77 278** *e*P **P** **21 22 20.3 -1.0**
comp=Z,45nm,1.2s
YSS **Yuzh-Sakhalins** **52.83 353**⇑ *e*P **P** **21 22 20.9 -0.1**
YSS *e*PPP PPP 21 25 28.4
YSS *e*S **S** **21 29 42.5 -3.7**
YSS *e*SS **SS** **21 33 24.4 -1.4**
YSS *e*SSS SSS 21 35 05.5
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,900nm,10.3s
YSS MLR MLR
comp=Z,2µm,20.0s
YSS MLR MLR
comp=N,3µm,18.0s
YSS MLR MLR
comp=E,4µm,18.0s
YSS **Yuzh-Sakhalins** **52.83 353** *e*P **P** **21 22 20.8 -0.1**
comp=E,48nm,1.0s
TRTT **Trang** **52.98 284** P **P** **21 22 22.3 -0.4**
comp=E,9.4nm,1.1s,comp=E,375nm
NAYO **Nakonayok** **53.17 292** P **P** **21 22 28.5 +4.4**
comp=E,127nm,1.4s,comp=E,13µm
SNY **Shenyang** **53.45 335**⇑ P **P** **21 22 26.5 +0.8**
SNY pP **sP** **21 22 44.9 +0.9**
SNY S **S** **21 30 00.4 +5.5**
SNY pmax pmax
comp=E,34nm,2.5s
SNY pmax pmax
comp=E,2µm,12.0s
SNY LR LR
comp=E,7µm,22.2s
SNY LR LR
comp=E,8µm,21.7s
SNY LR LR
comp=E,15µm,21.8s
ENH **Enshi** **53.46 314** *e*P **P** **21 22 27.3 +1.2**
comp=E,347nm,1.3s
ENH *e*PcP **PcP** **21 23 27.5 -5.2**
ENH LR LR
comp=Z,13µm,22.0s
GYA **Guiyang** **53.53 309**⇑ *i*P **P** **21 22 27.9 +1.2**
GYA pP sP 21 22 42.8 -2.3
GYA PcP **PcP** **21 23 35.0 +1.9**
GYA PP **PP** **21 24 32.5 +4.7**
GYA ScP **ScP** **21 27 28.6 +1.2**
GYA S **S** **21 29 58.3 +1.5**
GYA sS sS 21 30 20.0 +1.5
GYA SS **SKiKP** **21 33 38.8 0.0**
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,160nm,8.4s
GYA LR LR
comp=Z,11µm,18.5s
GYA LR LR
comp=Z,10µm,19.3s
GYA LR LR
comp=Z,14µm,19.1s
MDJ **Mudanjiang** **53.58 341** P **P** **21 22 25.9 -0.7**
MDJ pmax pmax
comp=Z,28nm,0.9s
MDJ pmax pmax
comp=Z,8µm,7.9s
MDJ LR LR
comp=Z,6µm,23.5s
MDJ LR LR
comp=Z,4µm,21.0s
MDJ LR LR
comp=Z,12µm,23.0s
MDJ **Mudanjiang** **53.58 341** *e*P **P** **21 22 27.6 +1.0**
comp=Z,40nm,0.9s
MDJ *e*PcP **PcP** **21 23 34.5 +1.7**
MDJ LR LR
comp=Z,8µm,22.0s
GSI **Gunungsitoli** **53.88 276** P **P** **21 22 28.5 -0.9**
comp=Z,87nm,0.8s
GSI **Gunungsitoli** **53.88 276** *e*P **P** **21 22 28.1 -1.3**
comp=Z,127nm,1.1s
GSI LR LR
comp=Z,6µm,22.0s
COCO **West Island** **53.93 259** *e*P **P** **21 22 31.1 +1.4**
COCO pmax pmax
comp=Z,472nm,1.1s
COCO MLR MLR
comp=Z,8µm,21.0s
COCO **West Island** **53.93 259** *e*P **P** **21 22 31.1 +1.4**
comp=Z,472nm,1.1s
COCO LR LR
comp=Z,8µm,21.0s
KCSI **Kotacane, Aceh** **54.02 278** P **P** **21 22 28.8 -1.6**
comp=Z,28nm,0.6s,comp=Z,640nmcomp=Z,8µm
SURT **Suratani** **54.10 285** P **P** **21 22 30.4 -0.5**
comp=Z,8.8nm,1.1s
PKDT **Phuket** **54.30 284** P **P** **21 22 31.1 -1.3**
comp=Z,14nm,0.9s,comp=Z,382nm
PHET **Kaeng Krachan** **54.33 290** P P 21 22 38.7 +6.2
comp=Z,6.1nm,0.9s
CN2 **Changchun** **54.34 337** *e*P **P** **21 22 32.9 +0.8**
CN2 *e*pP pP 21 22 45.5 +0.4
CN2 *e*S **S** **21 30 07.4 +0.6**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,6µm,20.0s
CN2 LR LR
comp=Z,3µm,20.0s
CN2 LR LR
comp=Z,3µm,20.0s
TPTI **54.56 278** P **P** **21 22 36.6 +2.3**
comp=Z,37nm,0.9s,comp=Z,1µm
PHIT **Phitsanulok** **54.93 295** P **P** **21 22 39.0 +2.1**
comp=Z,14nm,1.1s,comp=Z,283nm
LHMI **Lhok Sumawe** **55.12 280** P **P** **21 22 39.2 +0.8**
comp=Z,99nm,1.0s
LHMI **Lhok Sumawe** **55.12 280** *e*P **P** **21 22 38.3 -0.1**
comp=Z,69nm,0.8s
LHMI LR LR
comp=Z,3µm,22.0s
SRDT **SRDT** **55.22 292** P **P** **21 22 41.9 +2.9**
comp=Z,51nm,0.7s,comp=Z,4µm
NANT **Nan** **55.24 297** P **P** **21 22 40.7 +1.6**
comp=Z,12nm,0.8s,comp=Z,168nm
KEKH **Kekaha** **55.41 59** *e*P **P** **21 22 42.6 +2.3**
KEKH LR LR
comp=Z,18µm,22.0s
MLSI **Meulaboh, Aceh** **55.49 279** P **P** **21 22 39.8 -1.2**
comp=Z,102nm,0.7s
BJT **Baijiatuau** **55.61 328** *e*P **P** **21 22 43.1 +1.7**
BJT pmax pmax
comp=Z,360nm,1.5s
BJT **Baijiatuau** **55.61 328** *e*P **P** **21 22 43.1 +1.7**
comp=Z,360nm,1.5s
BJI **Beijing** **55.62 328** P **P** **21 22 42.5 +1.0**
BJI S **S** **21 30 25.3 +1.1**
BJI pmax pmax
comp=Z,78nm,1.6s
BJI pmax pmax
comp=Z,2µm,6.3s
KMI **Kunming** **56.03 305** P **P** **21 22 46.4 +1.4**
KMI pP pP 21 22 59.5 +1.5
KMI sP sP 21 23 04.3 +0.9
KMI PP **PP** **21 24 48.9 -1.5**
KMI S **S** **21 30 28.3 -2.3**
KMI sS sS 21 30 51.8 -0.6

KMI SS **SS** **21 34 16.3 -1.2**
KMI pmax pmax
comp=Z,80nm,1.1s
KMI pmax pmax
comp=Z,1µm,9.6s
KMI LR LR
comp=Z,5µm,23.5s
KMI LR LR
comp=Z,5µm,21.9s
KMI LR LR
comp=Z,13µm,28.7s
XAN Xi'an 56.03 318 P **P** **21 22 45.4 +0.8**
XAN pP pP 21 22 57.9 +0.2
XAN sP sP 21 23 03.4 +0.3
XAN PP **PP** **21 24 48.0 -2.0**
XAN S **S** **21 30 28.8 -1.2**
XAN sS sS 21 30 49.8 -2.0
XAN ScS **ScS** **21 32 27.3 -2.9**
XAN SS **SS** **21 34 16.4 -0.5**
XAN pmax pmax
comp=Z,79nm,1.3s
XAN pmax pmax
comp=Z,820nm,3.5s
XAN LR LR
comp=Z,6µm,19.1s
XAN LR LR
comp=Z,5µm,19.1s
XAN LR LR
comp=Z,11µm,19.0s
LAMP Lampang 56.09 297 P **P** **21 22 47.5 +2.3**
comp=Z,9.1nm,0.7s,comp=Z,102nm
TIY Taiyuan 56.12 323 *e*P **P** **21 22 45.5 +0.3**
TIY pP **sP** **21 23 01.1 -2.5**
TIY PP **PP** **21 24 54.0 +3.3**
TIY S **S** **21 30 31.5 +0.5**
TIY pmax pmax
comp=Z,68nm,1.3s
TIY pmax pmax
comp=Z,940nm,7.9s
TIY LR LR
comp=Z,3µm,15.6s
TIY LR LR
comp=Z,3µm,17.3s
TIY LR LR
comp=Z,8µm,20.5s
PAYA Payao 56.17 298 P **P** **21 22 47.7 +1.9**
comp=Z,13nm,0.9s,comp=Z,188nm
SKR Severo-Kuril's 56.21 4 *e*P **P** **21 22 41.7 -3.7**
SKR *e*S **S** **21 30 24.6 -6.9**
SKR pmax pmax
comp=Z,900nm,11.0s
SKR pmax pmax
comp=Z,2µm,17.1s
SKR MLR MLR
comp=Z,4µm,16.0s
HON Honolulu 56.62 60 *e*P **P** **21 22 49.5 +0.6**
HON MLR MLR
comp=Z,10µm,20.0s
HON Honolulu 56.62 60 *e*P **P** **21 22 49.5 +0.6**
HON LR LR
comp=Z,10µm,20.0s
KIP Kipapa 56.64 60 *ce*P **P** **21 22 48.4 -0.7**
KIP pmax pmax
comp=Z,2µm,1.2s
KIP Kipapa 56.64 60 *e*P **P** **21 22 50.3 +1.2**
comp=Z,195nm,0.8s
CM01 Chiang Mai Arr 56.65 296 *e*P **P** **21 22 49.5 +0.2**
CM31 Chiang Mai Arr 56.68 296 *e*P **P** **21 22 49.9 +0.4**
CMAR Chiang Mai Arr 56.68 296 P **P** **21 22 51.0 +1.5**
comp=Z,6.5nm,0.8s,baz=125,slow=5.8,SNR=54
CMAR PKiKP **PKiKP** **21 30 13.4 -0.2**
comp=Z,0.3nm,0.3s,baz=215,slow=1.3,SNR=4.4
CMAR LR LR 21 43 51.9
comp=Z,3µm,21.7s,baz=123,slow=32
CMAR PKP2bc 21 52 57.6
comp=Z,6.0nm,0.9s,baz=290,slow=4.1,SNR=18
TYV Tymovskoe 56.69 354 *e*P **P** **21 22 49.2 +0.3**
TYV *e* 21 30 39.0
TYV pmax pmax
comp=Z,65nm,0.6s
OPA Opana 56.75 60 *e*P **P** **21 22 52.2 +2.3**
OPA *e* 21 23 45.1
OPA MLR MLR
comp=Z,11µm,19.0s
OPA Opana 56.75 60 *e*P **P** **21 22 52.1 +2.3**
OPA *e*PcP **PcP** **21 23 45.1 -0.4**
OPA LR LR
comp=Z,11µm,19.0s
CMMT Chiang Mai 56.80 297 P **P** **21 22 50.6 +0.3**
comp=Z,26nm,1.3s,comp=Z,725nm
CHTO Chiang Mai 56.80 297 P **P** **21 22 51.7 +1.4**
comp=Z,68nm,1.6s,comp=Z,3µm
CHTO Chiang Mai 56.80 297 *e*P **P** **21 22 50.8 +0.5**
CHTO pmax pmax
comp=Z,39nm,1.1s
CHTO Chiang Mai 56.80 297 *e*P **P** **21 22 50.8 +0.5**
comp=Z,40nm,1.1s
CHTO Chiang Mai 56.80 297 P **P** **21 22 53.7 +3.4**
SNR=10
CHTO Chiang Mai 56.80 297 P **P** **21 22 53.7 +3.4**
SNR=10
CMAI Chiengmai2 57.10 298 P **P** **21 22 56.3 +3.7**
comp=Z,865nm,1.2s
KLR Kul'dur 57.13 345 P **P** **21 22 52.6 +0.5**
comp=Z,1.8nm,0.7s,baz=155,slow=5.2,SNR=66
KLR LR LR 21 46 48.7
comp=Z,470nm,19.1s,baz=169,slow=35
GRNR Gornyy 57.54 349 *e*P **P** **21 22 54.3 -0.6**
GRNR pmax pmax
comp=Z,42nm,1.0s
KKH Kailua Kona 57.75 63 *e*P **P** **21 22 56.8 -0.1**
KKH Kailua Kona 57.75 63 *e*P **P** **21 22 56.8 -0.1**
KHLH Kahului Airpor 57.83 61 *e*P **P** **21 22 59.5 +2.1**
KHLH LR LR
comp=Z,12µm,22.0s
KHLU Kahalu'u 57.84 63 *e*P **P** **21 22 59.3 +1.6**
KHLU LR LR
comp=Z,7µm,21.0s
HUH Hualalai 57.92 63 *e*P **P** **21 22 58.3 -0.2**
comp=Z,676nm,1.3s
HLK Haleakala 57.93 61 *e*P **P** **21 23 00.4 +1.9**
HLK LR LR
comp=Z,13µm,21.0s
KHU Kahuku 57.97 63 *e*P **P** **21 22 58.8 0.0**
KHU pmax pmax
comp=Z,724nm,1.3s
KHU Kahuku 57.97 63 *e*P **P** **21 22 58.8 0.0**
comp=Z,724nm,1.3s
CD2 Chengdu 57.97 312 ⇑P **P** **21 22 59.5 +1.1**
CD2 pP pP 21 23 13.1 +1.6
CD2 sP sP 21 23 18.9 +2.0
CD2 PcS **PcS** **21 27 52.5 +0.8**
CD2 S **S** **21 30 57.8 +2.1**
CD2 sS sS 21 31 20.8 +3.2
CD2 SS **SS** **21 34 50.9 +3.4**
CD2 pmax pmax
comp=Z,140nm,0.8s
CD2 pmax pmax
comp=Z,2µm,6.2s
CD2 LR LR
comp=Z,13µm,21.8s
CD2 LR LR
comp=Z,18µm,24.3s
CD2 LR LR
comp=Z,22µm,22.8s
MHA Mahukona 58.03 62 *e*P **P** **21 22 58.5 -0.4**
MHA Mahukona 58.03 62 *e*P **P** **21 22 58.5 -0.4**
MLOA Mauna Loa Obse 58.10 63 *e*P **P** **21 22 59.4 -0.5**
MLOA LR LR
comp=Z,8µm,21.0s
AIN Ainahou 58.15 63 *e*P **P** **21 22 59.8 -0.2**
comp=Z,854nm,1.5s
HPAH Hawaii Prepara 58.16 62 *e*P **P** **21 23 00.4 +0.5**
HPAH LR LR
comp=Z,9µm,21.0s
HMH Humu'ula Sheep 58.20 63 *e*P **P** **21 23 01.6 +1.1**
comp=Z,633nm,1.1s
POHA Pohakuloa 58.21 63 *e*P **P** **21 23 00.8 +0.3**
comp=Z,491nm,0.8s
POHA LR LR
comp=Z,8µm,21.0s
MLH Mauna Loa 58.25 63 *e*P **P** **21 23 01.8 +1.0**
MLH pmax pmax
comp=Z,830nm,1.6s
MLH Mauna Loa 58.25 63 *e*P **P** **21 23 01.8 +1.0**
comp=Z,830nm,1.6s

UWE Uwekahuna 58.31 63 PFAKE 21 23 10.0 +8.9
UWE LR LR
comp=Z,6µm,22.0s
HULD Heiheiahulu Di 58.59 63 *e*P **P** **21 23 04.2 +1.2**
comp=Z,247nm,1.0s
HHC Hu-ho-hao-te 58.71 326 *e*P **P** **21 23 04.9 +1.5**
HHC pP pP 21 23 16.9 +0.3
HHC sP sP 21 23 21.0 -0.9
HHC PP **PP** **21 25 17.8 +4.0**
HHC S **S** **21 31 05.8 +0.8**
HHC sS sS 21 31 27.8 +0.8
HHC pmax pmax
comp=Z,37nm,0.8s
HHC pmax pmax
comp=Z,1µm,6.7s
HHC LR LR
comp=Z,6µm,20.8s
HHC LR LR
comp=Z,5µm,20.6s
HHC LR LR
comp=Z,10µm,21.2s
PET Petropavlovsk 58.74 5 *ce*P **P** **21 23 02.7 -0.4**
PET *e* 21 23 51.7
PET *e* 21 25 12.2
PET *e*S **S** **21 31 00.8 -3.8**
PET *e*SS **SS** **21 34 53.6 -5.0**
PET pmax pmax
comp=Z,1µm,16.5s
PET pmax pmax
comp=Z,1µm,20.9s
PET pmax pmax
comp=Z,59nm,0.6s
PET pmax pmax
comp=Z,600nm,16.3s
PET MLR MLR
comp=Z,4µm,20.0s
PET MLR MLR
comp=Z,6µm,20.0s
PET Petropavlovsk 58.74 5 *e*P **P** **21 23 02.8 -0.4**
comp=Z,40nm,0.5s
PET LR LR
comp=Z,8µm,22.0s
PEA0B Petropavlovsk- 58.74 5 *e*P **P** **21 23 03.2 0.0**
comp=Z,68nm,0.6s
PEA0B LR LR
comp=Z,10µm,22.0s
PETK Petropavlovsk- 58.74 5 P **P** **21 23 03.0 -0.2**
comp=Z,30nm,0.6s,baz=159,slow=4.8,SNR=44
PETK LR LR 21 44 52.1
comp=Z,8µm,22.0s,baz=190,slow=32
PPT2 Papeete2 59.12 107 *e*P **P** **21 23 09.4 +2.7**
comp=Z,92nm,1.5s
PPT2 *e*S **S** **21 31 11.0 -0.1**
comp=Z,7µm,25.8s
PPT2 *e*LQ LQ 21 37 50.6
comp=Z,19µm,34.0s
PPT2 *e*LR LR 21 40 33.2
comp=Z,4µm,25.2s
PAE Paea 59.12 107 *e*P **P** **21 23 08.7 +2.1**
comp=Z,16nm,1.2s
NKL Nikolayevsk 59.17 353 *i* P **P** **21 23 06.5 +0.3**
NKL *e* 21 31 22.0
NKL *e* 21 35 05.0
NKL pmax pmax
comp=N,55nm,1.1s
NKL pmax pmax
comp=Z,83nm,1.1s
NKL pmax pmax
comp=N,700nm,14.0s
NKL pmax pmax
comp=Z,1µm,14.0s
NKL MLR MLR
comp=N,2µm,17.0s
NKL MLR MLR
comp=Z,4µm,17.0s
TIAR Tiarei 59.34 107 *e*P **P** **21 23 10.5 +2.4**
comp=Z,74nm,1.4s
BTO Baotou 59.43 324 *e*P **P** **21 23 09.5 +1.1**
TVO Taravao 59.44 107 *e*P **P** **21 23 11.3 +2.4**
comp=Z,43nm,1.4s
TBI Tubuai 59.80 114 *e*S **S** **21 31 19.2 -0.3**
comp=Z,6µm,29.8s
TBI *e*LQ LQ 21 38 18.7
comp=Z,25µm,34.2s
TBI *e*LR LR 21 40 50.0
comp=Z,10µm,35.2s
PBA Port Blair 60.51 287 *e*P P 21 23 15.2 -0.9
PMOR Pomariorio Ree 60.60 104 *e*P **P** **21 23 19.0 +2.3**
comp=Z,318nm,1.2s
PMOR *e*pP **pP** **21 23 30.1 +0.2**
comp=Z,426nm,1.1s
LZH Lanzhou 60.62 317 ⇑P **P** **21 23 18.8 +2.0**
LZH pP pP 21 23 30.8 +0.8
LZH sP sP 21 23 34.9 -0.4
LZH PP **PP** **21 25 37.3 +6.4**
LZH S **S** **21 31 26.1 -3.9**
LZH sS sS 21 31 49.0 -3.0
LZH pmax pmax
comp=Z,120nm,1.1s
LZH pmax pmax
comp=Z,990nm,5.1s
LZH LR LR
comp=Z,4µm,18.0s
LZH LR LR
comp=Z,3µm,17.2s
LZH LR LR
comp=Z,6µm,18.6s
DGPR DIGLIPUR 60.69 288 *e*P **P** **21 23 13.7 -3.7**
DGPR IAMs_20 IAMs_20 21 55 21.8
comp=Z,4µm,23.6s
VAH Vaihoa 60.86 104 *e*P **P** **21 23 20.7 +2.1**
comp=Z,81nm,1.0s
VAH *e*pP **pP** **21 23 31.9 +0.1**
comp=Z,192nm,1.0s
HIA Hailar 61.07 337 *e*P **P** **21 23 20.3 +0.9**
HIA MLR MLR
comp=Z,6µm,20.0s
HIA Hailar 61.07 337 *e*P **P** **21 23 20.3 +0.9**
HIA LR LR
comp=Z,6µm,20.0s
SMY Shemya 61.29 16 PFAKE 21 23 30.0 +9.3
SMY LR LR
comp=Z,8µm,22.0s
ZEA Zeya 62.41 344 *e*P **P** **21 23 28.9 +0.6**
ZEA *e*S **S** **21 31 55.0 +3.3**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,52nm,1.0s
ZEA pmax pmax
comp=Z,1µm,12.0s
ZEA smax smax
comp=N,1µm,14.0s
MA2 Magadan 64.95 360 P **P** **21 23 44.5 -0.4**
comp=N,27nm,0.7s,baz=163,slow=5.9,SNR=30
MA2 LR LR 21 48 25.0
comp=N,8µm,21.7s,baz=189,slow=33
GTA Gaotai 65.09 318 ⇑P **P** **21 23 47.6 +1.2**
GTA S **S** **21 32 28.6 +2.8**
GTA sS sS 21 32 46.4 -1.6
GTA pmax pmax
comp=N,28nm,1.1s
GTA pmax pmax
comp=N,1µm,8.0s
GTA LR LR
comp=N,3µm,20.9s
GTA LR LR
comp=N,4µm,19.5s
GTA LR LR
comp=N,6µm,20.9s
SHL Shillong 65.25 301 ⇑ *i*P **P** **21 23 48.0 +0.3**
SHL IAmb IAmb 21 23 51.6
comp=Z,38nm,0.3s
SHL *e*S **S** **21 32 30.0 +1.7**
CIT Chita 65.69 336 *e*P **P** **21 23 51.3 +1.4**
CIT *e* 21 24 02.2
CIT *e* 21 24 10.2
CIT *e* 21 24 21.1
CIT pmax pmax
comp=Z,133nm,1.2s
ULN Ulaanbaatar 65.77 329 *ce*P **P** **21 23 51.0 +0.3**
ULN pmax pmax
comp=Z,34nm,1.0s
ULN Ulaanbaatar 65.77 329 *e*P **P** **21 23 52.2 +1.5**
comp=Z,175nm,1.8s
ULN LR LR
comp=Z,9µm,21.0s
ULN Ulaanbaatar 65.77 329 P **P** **21 23 52.5 +1.9**
SNR=24
ULN Ulaanbaatar 65.77 329 P **P** **21 23 52.5 +1.9**
SNR=24
CLNS Chul'man 65.79 345 *e*P **P** **21 23 51.3 +0.9**
CLNS *e**PP **pP** **21 24 01.4 -2.4**
CLNS *e* 21 24 22.0
CLNS *e* 21 26 16.6
CLNS *e*PPP PPP 21 27 48.5
CLNS *e*S **S** **21 32 37.2 +3.7**
CLNS pmax pmax
comp=Z,53nm,0.9s
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,0.8s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.2s
CLNS smax smax
comp=E,295nm,11.4s
CLNS smax smax
comp=N,853nm,12.5s
SONM Songino Array 66.09 329 P **P** **21 23 53.9 +1.2**
comp=N,21nm,0.7s,baz=138,slow=5.1,SNR=144
SONM LR LR 21 52 10.6
comp=N,13µm,21.6s,baz=134,slow=35
SONM PKPPKP **P'P'df** **21 52 22.4 -4.5**
comp=N,1.1nm,1.0s,baz=270,slow=1.2,SNR=4.3
SONM PKP2bc 21 52 30.0
comp=N,1.9nm,0.8s,baz=284,slow=2.4,SNR=7.3
SONA1 Songino Array 66.10 329 *e*P **P** **21 23 53.6 +0.9**
CASY Casey 66.78 197 *e*P **P** **21 23 55.8 -0.8**
comp=N,246nm,1.2s
CASY LR LR
comp=Z,8µm,22.0s
LSA Lhasa 67.29 305 P **P** **21 24 02.4 +1.3**
LSA pmax pmax
comp=Z,36nm,1.3s
LSA LR LR
comp=Z,3µm,24.1s
LSA LR LR
comp=Z,2µm,28.1s
LSA LR LR
comp=Z,7µm,28.1s
LSA Lhasa 67.29 305 *e*P **P** **21 24 02.1 +1.0**
LSA pmax pmax
comp=Z,77nm,1.3s
LSA MLR MLR
comp=Z,5µm,22.0s
LSA Lhasa 67.29 305 *e*P **P** **21 24 02.1 +1.0**
comp=Z,77nm,1.3s
LSA LR LR
comp=Z,5µm,22.0s
TAOE Nuku Hiva Isla 68.22 97 *e*P **P** **21 24 08.7 +1.9**
comp=Z,159nm,1.4s
TAOE *e*pP **pP** **21 24 20.3 +0.1**
comp=Z,292nm,1.2s
TAOE *e*S **S** **21 33 05.1 +0.7**
comp=Z,5µm,26.2s
TAOE Nuku Hiva Isla 68.22 97 *e*LR LR 21 44 53.9
comp=Z,4µm,23.3s
TAOE Nuku Hiva Isla 68.22 97 *e*P **P** **21 24 07.3 +0.5**
comp=Z,207nm,1.2s
SEY Seymchan 68.33 1 P **P** **21 24 06.2 -0.2**
comp=Z,13nm,0.7s,baz=179,slow=5.3,SNR=24
SEY LR LR 21 48 39.6
comp=Z,5µm,21.5s,baz=178,slow=31
SEY PKP2bc 21 52 23.6
comp=Z,1.1nm,0.2s,baz=359,slow=1.9,SNR=7.2
UNV Unalaska Valle 69.05 25 *e*P **P** **21 24 10.5 -0.5**
comp=Z,63nm,1.0s
UNV LR LR
comp=Z,8µm,21.0s
ZAK Zakamensk 69.29 330 *e*P **P** **21 24 12.8 +0.1**
ZAK pmax pmax
comp=Z,66nm,1.1s
YAK Yakutsk 69.41 349 P **P** **21 24 13.1 +0.1**
comp=Z,72nm,0.8s,baz=188,slow=4.4,SNR=22
YAK LR LR 21 52 40.4
comp=Z,5µm,21.8s,baz=92,slow=34
YAK Yakutsk 69.41 349 *c i*P **P** **21 24 12.9 -0.2**
YAK *e* 21 24 30.5
YAK *e**PP **PcP** **21 24 37.1 +0.9**
YAK *e* 21 26 47.3
YAK *e*PPP PPP 21 28 31.4
YAK *e*S **S** **21 33 13.8 -2.8**
YAK *e**SS **SKiKP** **21 33 58.7 +0.3**
YAK pmax pmax
comp=Z,97nm,1.0s
YAK pmax pmax
comp=N,29nm,1.4s
YAK pmax pmax
comp=E,16nm,1.4s
YAK pmax pmax
comp=Z,30nm,1.3s
YAK pmax pmax
comp=E,23nm,1.6s
YAK pmax pmax
comp=N,54nm,2.2s
YAK smax smax
comp=N,2µm,11.9s
YAK smax smax
comp=E,321nm,9.4s
YAK Yakutsk 69.41 349 *e*P **P** **21 24 13.2 +0.1**
comp=E,86nm,0.8s
AKUT Akutan 69.56 25 PFAKE 21 24 30.0 +16
AKUT LR LR
comp=Z,6µm,20.0s
BOK Bokaro 69.91 298 *e*P **P** **21 24 15.1 -1.8**
BOK IAmb IAmb 21 24 20.1
comp=Z,11nm,0.8s
BOK IAMs_20 IAMs_20 21 48 59.0
comp=Z,7µm,30.8s
TLY Talaya 69.91 331 P **P** **21 24 17.1 +0.6**
comp=Z,17nm,0.8s,baz=173,slow=2.7,SNR=21
TLY LR LR 21 52 53.4
comp=Z,6µm,21.6s,baz=124,slow=34
TLY Talaya 69.91 331 *e*P **P** **21 24 17.2 +0.7**
TLY pmax pmax
comp=Z,43nm,1.2s
TLY Talaya 69.91 331 *e*P **P** **21 24 17.2 +0.7**
comp=Z,43nm,1.2s
TLY Talaya 69.91 331 P **P** **21 24 17.6 +1.1**
SNR=16
TLY Talaya 69.91 331 P **P** **21 24 17.6 +1.1**
SNR=16
BOD Bodaibo 69.92 340 *e*P **P** **21 24 16.6 +0.3**
BOD pmax pmax
comp=Z,74nm,1.4s
IRK Irkutsk 69.97 331 *e*P **P** **21 24 16.2 -0.6**
IRK pmax pmax
comp=Z,120nm,3.2s
SPIA Saint Paul Isl 69.99 21 *e*P **P** **21 24 17.1 +0.4**
comp=Z,67nm,1.0s
SPIA LR LR
comp=Z,10µm,22.0s
JIRN Jiri 70.74 302 *e*P **P** **21 24 21.8 -0.7**
comp=Z,53nm,0.7s
VIS Vishakhapatnam 70.75 291 *i* P **P** **21 24 22.2 +0.1**
FALS False Pass 71.06 26 PFAKE 21 24 40.0 +17
FALS LR LR
comp=Z,9µm,20.0s
GUN Gumba 71.08 302 *e*P **P** **21 24 24.1 -0.4**
comp=Z,51nm,0.4s
PKI Pulchoki 71.38 301 *e*P **P** **21 24 24.7 -1.6**
comp=Z,64nm,1.2s
PALK Pallekele 71.38 280 *e*P **P** **21 24 25.2 -1.0**
PALK pmax pmax
comp=Z,45nm,1.1s
PALK MLR MLR
comp=Z,3µm,22.0s
PALK Pallekele 71.38 280 *e*P **P** **21 24 25.2 -1.0**
comp=Z,45nm,1.1s
PALK LR LR
comp=Z,3µm,22.0s
PKIN Phulchoki 71.39 301 *e*P **P** **21 24 25.1 -1.2**
KKN Kakani 71.55 302 *e*P **P** **21 24 26.3 -0.9**
comp=Z,44nm,1.0s
DMN Daman 71.64 301 *e*P **P** **21 24 26.5 -1.3**
comp=Z,86nm,1.0s
VNDA Vanda 72.12 178 P **P** **21 24 29.8 +0.4**
comp=Z,14nm,0.8s,baz=334,slow=7.2,SNR=55

VNDA	**Vanda**	**72.12**	**178**	*e*P		**P**		**21 24 30.0**	**+0.6**
VNDA				pmax		pmax			
	comp=Z,95nm,1.3s								
VNDA	**Vanda**	**72.12**	**178**	*e*P		**P**		**21 24 30.0**	**+0.6**
	comp=Z,95nm,1.3s								
PVM	**Polavaram**	**72.24**	**290**	*e*P		**P**		**21 24 30.0**	**-1.1**
PVM				lAmb		lAmb		21 24 34.1	
	comp=Z,79nm,1.9s								
PVM				IVMs_BB		IVMs_BB		21 49 38.7	
	comp=Z,983nm,28.3s								
MIR	**Mirnyy**	**72.59**	**201**	*e*P		P		21 24 45.0	+13
MIR				pmax		pmax			
	comp=Z,2µm,2.0s								
SDPT	**Sand Point**	**72.67**	**27**	PFAKE				21 24 50.0	+17
SDPT				LR		LR			
	comp=Z,4µm,20.0s								
SBA	**Scott Base**	**72.69**	**177**	*e*P		**P**		**21 24 34.6**	**+1.8**
SBA				pmax		pmax			
	comp=Z,161nm,1.4s								
SBA	**Scott Base**	**72.69**	**177**	*e*P		**P**		**21 24 34.6**	**+1.8**
	comp=Z,161nm,1.4s								
KOLN	**Koldanda**	**72.97**	**301**	*e*P		**P**		**21 24 34.3**	**-1.4**
	comp=Z,68nm,0.8s								
DANN	**Dangsing**	**73.00**	**302**	*e*P		**P**		**21 24 36.2**	**+0.3**
RKT	**Rikitea**	**73.06**	**112**	*e*P		**P**		**21 24 37.5**	**+1.5**
	comp=Z,102nm,1.2s								
RKT				*e*pP		**pP**		**21 24 49.6**	**+0.1**
	comp=Z,161nm,1.0s								
RKT				*e*S		**S**		**21 34 00.8**	**+0.4**
	comp=Z,2µm,26.0s								
SKHT	**Srikalahasti**	**73.38**	**286**	*e*P		**P**		**21 24 36.9**	**-1.1**
SKHT				lAmb		lAmb		21 24 41.8	
	comp=Z,48nm,1.6s								
SKHT				IVMs_BB		IVMs_BB		21 51 26.0	
	comp=Z,877nm,34.6s								
ADKI	**Addanki**	**73.52**	**288**	*e*P		**P**		**21 24 37.3**	**-1.5**
ADKI				lAmb		lAmb		21 24 42.6	
	comp=Z,25nm,1.1s								
ADKI				IVMs_BB		IVMs_BB		22 01 36.5	
	comp=Z,722nm,21.8s								
PYUN	**Piuthan**	**73.58**	**301**	*e*P		**P**		**21 24 39.2**	**-0.1**
	comp=Z,89nm,0.7s								
CHGN	**Chignik**	**74.17**	**27**	PFAKE				21 24 50.0	+8.2
CHGN				LR		LR			
	comp=Z,3µm,20.0s								
BILL	**Bilibino**	**74.23**	**6***c*	*i*P		**P**		**21 24 41.6**	**-0.3**
BILL				*e*				21 24 54.1	
BILL				*e*				21 27 29.0	
BILL				*e*PPP		PPP		21 29 12.7	
BILL				*e*S		**S**		**21 34 08.8**	**-3.0**
BILL				*e*SS		**SS**		**21 39 06.8**	**+8.5**
BILL				pmax		pmax			
	comp=Z,25nm,0.8s								
NJS	**Nagarjunasagar**	**74.28**	**289**	*e*P		**P**		**21 24 41.5**	**-1.8**
NJS				lAmb		lAmb		21 24 46.7	
	comp=Z,113nm,1.9s								
NJS				IVMs_BB		IVMs_BB		22 01 10.7	
	comp=Z,874nm,22.6s								
SRLM	**Srisailam**	**74.58**	**288**	*e*P		**P**		**21 24 43.4**	**-1.6**
SRLM				lAmb		lAmb		21 24 51.0	
	comp=Z,30nm,1.1s								
SRLM				IVMs_BB		IVMs_BB		21 59 52.0	
	comp=Z,825nm,17.4s								
GAMB	**Gambell**	**74.60**	**16**	*e*P		**P**		**21 24 44.5**	**+0.4**
	comp=Z,24nm,1.0s								
GAMB				LR		LR			
	comp=Z,9µm,22.0s								
RPR	**Rampur**	**74.73**	**291**	*e*P		**P**		**21 24 44.5**	**-1.4**
RPR				lAmb		lAmb		21 24 48.2	
	comp=Z,24nm,0.8s								
RPR				IVMs_BB		IVMs_BB		21 51 33.6	
	comp=Z,767nm,24.6s								
HYB	**Hyderabad**	**75.14**	**290**	*i*P		**P**		**21 24 47.5**	**-0.8**
HYB	**Hyderabad**	**75.14**	**290**	*e*P		**P**		**21 24 47.8**	**-0.5**
HYBB	**Hyderabad (bro**	**75.15**	**290**	*e*P		**P**		**21 24 46.7**	**-1.7**
HYBB				lAmb		lAmb		21 25 02.0	
	comp=Z,18nm,1.0s								
HYBB				IVMs_BB		IVMs_BB		21 51 32.2	
	comp=Z,976nm,27.2s								
WMQ	**Urumqi**	**75.17**	**318**	P		**P**		**21 24 48.8**	**+0.8**
WMQ				pP		PcP		21 25 00.8	-0.5
WMQ				S		**S**		**21 34 25.9**	**+2.5**
WMQ				pmax		pmax			
	comp=Z,140nm,1.3s								
WMQ				pmax		pmax			
	comp=Z,3µm,5.3s								
WMQ				LR		LR			
	comp=Z,5µm,19.1s								
WMQ				LR		LR			
	comp=Z,8µm,20.5s								
WMQ				LR		LR			
	comp=Z,8µm,20.5s								
TRD	**Trivandrum**	**75.23**	**280**	*e*P		**P**		**21 24 47.4**	**-1.4**
NGP	**Nagpur**	**75.42**	**293**	*e*P		**P**		**21 24 49.4**	**-0.4**
NGP				lAmb		lAmb		21 24 57.2	
	comp=Z,161nm,2.5s								
SRSP	**Sriramsagar**	**75.63**	**291**	*e*P		**P**		**21 24 49.0**	**-2.0**
SRSP				lAmb		lAmb		21 24 53.0	
	comp=Z,24nm,0.9s								
SRSP				IVMs_BB		IVMs_BB		21 51 26.4	
	comp=Z,887nm,35.8s								
URV	**Uravakonda**	**75.93**	**287**	*e*P		**P**		**21 24 51.7**	**-1.2**
URV				lAmb		lAmb		21 25 08.9	
	comp=Z,14nm,0.8s								
URV				IVMs_BB		IVMs_BB		21 53 59.1	
	comp=Z,1µm,24.4s								
OHAK	**Old Harbor**	**77.02**	**27**	*e*P		**P**		**21 24 58.6**	**+0.6**
	comp=Z,51nm,1.1s								
OHAK				LR		LR			
	comp=Z,4µm,20.0s								
KLRI	**Killari**	**77.09**	**290**	*e*P		**P**		**21 24 57.2**	**-2.2**
KLRI				lAmb		lAmb		21 25 01.6	
	comp=Z,17nm,0.8s								
KLRI				IVMs_BB		IVMs_BB		21 52 11.8	
	comp=Z,1µm,23.7s								
BHPL	**Bhopal**	**77.32**	**295**	*e*P		**P**		**21 24 58.3**	**-2.3**
BHPL				lAmb		lAmb		21 25 00.8	
	comp=Z,17nm,0.6s								
KDAK	**Kodiak Island**	**77.64**	**27**	P		**P**		**21 25 01.7**	**+0.2**
	comp=Z,11nm,0.4s,baz=176,slow=2.3,SNR=17								
KDAK	**Kodiak Island**	**77.64**	**27**	*e*P		**P**		**21 25 01.4**	**-0.1**
	comp=Z,46nm,1.0s								
KDAK				LR		LR			
	comp=Z,4µm,21.0s								
DGZ	**Jazzator, Alta**	**77.69**	**323***c*	*i*P		**P**		**21 25 02.3**	**+0.1**
DGZ				pmax		pmax			
	comp=Z,13nm,1.0s								
SVW2	**Sparrevohn**	**78.21**	**23**	*e*P		**P**		**21 25 05.0**	**+0.3**
	comp=Z,32nm,0.7s								
SVW2				LR		LR			
	comp=Z,10µm,22.0s								
DDI	**Dehra Dun**	**78.31**	**302**	*e*P		**P**		**21 25 04.5**	**-1.5**
DDI				lAmb		lAmb		21 25 08.0	
	comp=Z,3µm,4.5s								
DDI				IAMs_20		IAMs_20		22 00 13.6	
	comp=Z,6µm,29.7s								
ZSN	**Zaisan**	**78.38**	**321**	*i*P		**P**		**21 25 06.3**	**+0.3**
	comp=Z,58nm,1.6s								
ZSN				*e*S		**S**		**21 34 60.0**	**+1.7**
ZSN				LR		LR		21 56 02.9	
	comp=Z,873nm,21.2s								
TIXI	**Tiksi**	**78.45**	**353**	P		**P**		**21 25 03.9**	**-1.9**
	comp=Z,12nm,0.9s,baz=124,slow=5.0,SNR=16								
TIXI	**Tiksi**	**78.45**	**353***c*	*i*P		**P**		**21 25 04.6**	**-1.2**
TIXI				pmax		pmax			
	comp=Z,17nm,1.1s								
TIXI	**Tiksi**	**78.45**	**353**	*e*P		**P**		**21 25 04.3**	**-1.5**
	comp=Z,24nm,1.1s								
HOM	**Homer**	**79.05**	**26**	PFAKE				21 25 20.0	+11
HOM				LR		LR			
	comp=Z,3µm,18.0s								
SMLA	**Simla**	**79.24**	**303**	*e*P		**P**		**21 25 10.8**	**-0.2**
SMLA				lAmb		lAmb		21 25 11.8	
	comp=Z,506nm,2.8s								
GOA	**Goa**	**79.29**	**287**	*e*P		**P**		**21 25 11.1**	**-0.4**
BRLK	**Bradley Lake**	**79.43**	**26**	*e*P		**P**		**21 25 11.7**	**+0.2**
	comp=Z,55nm,1.1s								
BRLK				LR		LR			
	comp=Z,4µm,20.0s								
H08N1	**Diego Carcia H**	**79.57**	**265**	P		**P**		**21 25 10.6**	**-2.2**
	baz=158,slow=3.1,SNR=4.3								
H08N2	**Diego Garcia H**	**79.58**	**265**	P		**P**		**21 25 11.4**	**-1.4**
	baz=158,slow=3.1,SNR=4.8								
H08N3	**Diego Garcia H**	**79.59**	**265**	P		P		21 25 23.0	+10
	baz=158,slow=3.1,SNR=3.3								
SPU	**Mount Spurr**	**79.68**	**24**	*e*P		**P**		**21 25 13.8**	**+1.0**
POO	**Poona**	**79.75**	**290**	*e*P		**P**		**21 25 12.5**	**-1.5**
MK01	**Makanchi Array**	**79.79**	**319**	*e*P		**P**		**21 25 12.1**	**-1.6**
MK01				*e*PP		**PP**		**21 28 16.4**	**+1.0**
MK31	**Makanchi Array**	**79.80**	**319**	*i*P		**P**		**21 25 13.6**	**-0.2**
MK31				pmax		pmax			
	comp=Z,31nm,1.1s								
MK31	**Makanchi Array**	**79.80**	**319**	*e*P		**P**		**21 25 12.2**	**-1.5**
MK31				*e*PP		**PP**		**21 28 16.0**	**+0.4**
MKAR	**Makanchi Array**	**79.80**	**319**	P		**P**		**21 25 13.8**	**0.0**
	comp=Z,15nm,0.8s,baz=102,slow=5.2,SNR=80								
MKAR				PKiKP		**PKiKP**		**21 30 44.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=192,slow=1.4,SNR=4.6								
MKAR				PKKPbc		**PKKPbc**		**21 44 00.1**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=290,slow=1.5,SNR=5.7								
MKAR				LR		LR		21 59 10.7	
	comp=Z,4µm,21.6s,baz=92,slow=35								
MKAR	**Makanchi Array**	**79.80**	**319**	*e*P		**P**		**21 25 12.2**	**-1.5**
MKAR				*e*				21 28 16.0	
MKAR				pmax		pmax			
	comp=Z,152nm,0.8s								
MKAR	**Makanchi Array**	**79.80**	**319**	*e*P		**P**		**21 25 12.2**	**-1.5**
	comp=Z,152nm,0.8s								
MKAR				*e*PP		**PP**		**21 28 16.0**	**+0.4**
MKAR				PKiKP		**PKiKP**		**21 30 44.8**	**+0.2**
MKAR				PKKPbc		**PKKPbc**		**21 44 00.1**	**-2.1**
MAKZ	**Makanchi**	**80.01**	**319**	*e*P		**P**		**21 25 14.9**	**0.0**
MAKZ				pmax		pmax			
	comp=Z,82nm,1.1s								
MAKZ	**Makanchi**	**80.01**	**319**	*e*P		**P**		**21 25 14.9**	**0.0**
	comp=Z,82nm,1.1s								
DHRM	**DHARAMSHALA**	**80.22**	**304**	*e*P		**P**		**21 25 14.9**	**-1.7**
DHRM				lAmb		lAmb		21 25 18.1	
	comp=Z,63nm,0.7s								
SEW	**Seward**	**80.23**	**26**	*e*P		**P**		**21 25 16.1**	**+0.4**
	comp=Z,95nm,1.2s								
SEW				LR		LR			
	comp=Z,5µm,21.0s								
SUA	**Susitna One**	**80.37**	**24**	*e*P		**P**		**21 25 16.0**	**-0.5**
	comp=Z,34nm,0.9s								
PPLA	**Purkeypile**	**80.55**	**23**	*e*P		**P**		**21 25 17.1**	**-0.4**
	comp=Z,79nm,1.4s								
PPLA				LR		LR			
	comp=Z,11µm,20.0s								
RC01	**Rabbit Creek A**	**80.60**	**25**	*e*P		**P**		**21 25 17.5**	**-0.2**
	comp=Z,75nm,1.2s								
RC01				LR		LR			
	comp=Z,6µm,20.0s								
PDGK	**Podgornoye**	**80.61**	**315**	*i*P		**P**		**21 25 18.1**	**-0.2**
PDGK				pmax		pmax			
	comp=Z,44nm,1.0s								
ZAA0	**Zalesovo Array**	**80.86**	**327**	*e*P		**P**		**21 25 18.3**	**-1.0**
	comp=Z,23nm,0.8s								
ZAA0				LR		LR			
	comp=Z,8µm,22.0s								
ZALV	**Zalesovo Beam**	**80.86**	**327**	P		**P**		**21 25 18.2**	**-1.0**
	comp=Z,26nm,0.7s,baz=111,slow=5.4,SNR=64								
ZALV				LR		LR		22 00 25.8	
	comp=Z,6µm,21.8s,baz=120,slow=35								
ZALV	**Zalesovo Beam**	**80.86**	**327**	*e*P		**P**		**21 25 18.1**	**-1.1**
ZALV				*e*S		**S**		**21 35 30.1**	**+6.0**
ZALV	**Zalesovo Beam**	**80.86**	**327**	*e*P		**P**		**21 25 18.1**	**-1.1**
ZALV				*e*S		**S**		**21 35 30.1**	**+6.0**
CAST	**Castle Rocks**	**80.87**	**22**	*e*P		**P**		**21 25 18.6**	**-0.5**
	comp=Z,33nm,0.9s								
CAST				LR		LR			
	comp=Z,8µm,22.0s								
UZB	**Uzynbulak**	**80.89**	**315**	⇑*i*P		**P**		**21 25 20.1**	**+0.3**
	comp=Z,425nm,1.4s								
UZB				*i* sP		**sP**		**21 25 43.7**	**+4.9**
UZB				*e*S		**S**		**21 35 25.1**	**-0.1**
UZB				LR		LR		21 57 42.3	
	comp=Z,880nm,20.3s								
PMR	**Palmer**	**81.10**	**25**	*e*P		**P**		**21 25 19.8**	**-0.5**
PMR				pmax		pmax			
	comp=Z,36nm,1.1s								
PMR				MLR		MLR			
	comp=Z,3µm,20.0s								
PMR	**Palmer**	**81.10**	**25**	*e*P		**P**		**21 25 19.8**	**-0.5**
	comp=Z,36nm,1.1s								
PMR				LR		LR			
	comp=Z,3µm,20.0s								
KPKS	**Kokpek**	**81.21**	**315**	*i*P		**P**		**21 25 22.2**	**+0.7**
KPKS				LR		LR		21 58 15.5	
	comp=Z,661nm,20.3s								
SATY	**Saty**	**81.29**	**315**	⇑*i*P		**P**		**21 25 22.4**	**+0.4**
	comp=Z,448nm,1.4s								
SATY				*e*S		**S**		**21 35 29.2**	**-0.2**
SATY				LR		LR		21 59 12.6	
	comp=Z,904nm,18.4s								
KTH	**Kantishna Hill**	**81.38**	**23**	*e*P		**P**		**21 25 21.3**	**-0.6**
	comp=Z,51nm,1.2s								
KTH				LR		LR			
	comp=Z,8µm,21.0s								
SML	**Sawmill**	**81.54**	**25**	*e*P		**P**		**21 25 23.1**	**+0.4**
SML				pmax		pmax			
	comp=Z,74nm,1.0s								
SML				MLR		MLR			
	comp=Z,5µm,22.0s								
SML	**Sawmill**	**81.54**	**25**	*e*P		**P**		**21 25 23.1**	**+0.4**
	comp=Z,74nm,1.0s								
SML				LR		LR			
	comp=Z,5µm,22.0s								
TRF	**Thorofare Moun**	**81.57**	**23**	*e*P		**P**		**21 25 22.2**	**-0.8**
	comp=Z,18nm,0.7s								
TRF				LR		LR			
	comp=Z,9µm,20.0s								
GLI	**Glacier Island**	**81.62**	**26**	PFAKE				21 25 30.0	+6.9
GLI				LR		LR			
	comp=Z,4µm,22.0s								
BPAW	**Bear Paw Mtn.**	**81.64**	**22**	PFAKE				21 25 30.0	+6.8
BPAW				LR		LR			
	comp=Z,7µm,22.0s								
FID	**Port Fidalgo**	**81.83**	**26**	PFAKE				21 25 40.0	+16
FID				LR		LR			
	comp=Z,3µm,20.0s								
TDK	**Taldygorghan**	**81.83**	**317**	*i*P		**P**		**21 25 25.2**	**+0.6**
	comp=Z,475nm,1.1s								
TDK				*i* PP		**PP**		**21 28 33.1**	**+0.7**
TDK				*e*S		**S**		**21 35 34.1**	**-0.6**
TDK				LR		LR		22 00 01.4	
	comp=Z,2µm,21.6s								
SCM	**Sheep Creek Mo**	**81.97**	**25**	*e*P		**P**		**21 25 25.5**	**+0.4**
SCM				pmax		pmax			
	comp=Z,70nm,1.1s								
SCM				MLR		MLR			
	comp=Z,6µm,22.0s								
SCM	**Sheep Creek Mo**	**81.97**	**25**	*e*P		**P**		**21 25 25.5**	**+0.4**
	comp=Z,70nm,1.1s								
SCM				LR		LR			
	comp=Z,6µm,22.0s								
NVS	**Novosibirsk**	**82.06**	**327**	⇑*i*P		**P**		**21 25 24.5**	**-1.0**
NVS				*e*S		**S**		**21 35 34.2**	**-2.2**
NVS				*e*PS		**PnS**		**21 36 22.2**	**-8.2**
NVS				pmax		pmax			
	comp=Z,71nm,1.6s								
NVS				pmax		pmax			
	comp=N,30nm,1.7s								
NVS				pmax		pmax			
	comp=E,40nm,1.7s								
NVS				pmax		pmax			
	comp=Z,70nm,2.0s								
NVS				pmax		pmax			
	comp=N,27nm,2.1s								
NVS				pmax		pmax			
	comp=E,48nm,2.1s								
NVS				smax		smax			
	comp=E,27nm,2.1s								
EYAK	**Cordova Ski Ar**	**82.06**	**26**	PFAKE				21 25 40.0	+15
EYAK				LR		LR			
	comp=Z,6µm,21.0s								
RND	**Reindeer**	**82.11**	**23**	*e*P		**P**		**21 25 25.0**	**-0.8**
RND				pmax		pmax			
	comp=Z,57nm,0.8s								
RND				MLR		MLR			
	comp=Z,11µm,21.0s								
RND	**Reindeer**	**82.11**	**23**	*e*P		**P**		**21 25 25.0**	**-0.8**
	comp=Z,57nm,0.8s								
RND				*e*PP		**PP**		**21 28 27.2**	**-7.1**
RND				LR		LR			
	comp=Z,11µm,21.0s								
KSH	**Kashi**	**82.16**	**311**	P		**P**		**21 25 28.1**	**+1.5**
KSH				pP		pP		21 25 40.1	-0.2
KSH				sP		sP		21 25 45.3	-0.2
KSH				PP		**PP**		**21 28 36.9**	**+1.5**
KSH				S		**S**		**21 35 36.3**	**-2.1**
KSH				sS		sS		21 36 00.6	-0.8
KSH				SS		**SS**		**21 41 01.1**	**+2.1**
KSH				pmax		pmax			
	comp=Z,310nm,1.7s								
KSH				pmax		pmax			
	comp=Z,750nm,8.1s								
KSH				LR		LR			
	comp=Z,2µm,15.8s								
KSH				LR		LR			
	comp=Z,3µm,18.6s								
KSH				LR		LR			
	comp=Z,5µm,21.2s								
MLY	**Manley**	**82.22**	**21**	*e*P		**P**		**21 25 26.1**	**-0.1**
	comp=Z,29nm,0.8s								
MLY				LR		LR			
	comp=Z,6µm,22.0s								
MCK	**McKinley**	**82.24**	**23**	*e*P		**P**		**21 25 25.4**	**-0.9**
MCK				*e*				21 28 31.8	
MCK				pmax		pmax			
	comp=Z,86nm,1.0s								
MCK				MLR		MLR			
	comp=Z,12µm,21.0s								
MCK	**McKinley**	**82.24**	**23**	*e*P		**P**		**21 25 25.4**	**-0.9**
	comp=Z,86nm,1.0s								
MCK				*e*PP		**PP**		**21 28 31.8**	**-3.5**
MCK				LR		LR			
	comp=Z,12µm,21.0s								
SEM	**Semipalatinsk**	**82.26**	**322**	⇑*i*P		**P**		**21 25 25.9**	**-1.1**
	comp=Z,234nm,1.1s								
SEM				*e*PP		**PP**		**21 28 35.1**	**-1.0**
SEM				*e*S		**S**		**21 35 38.0**	**-1.1**
SEM				LR		LR		21 58 33.9	
	comp=Z,2µm,21.2s								
MDOK	**Medeo**	**82.28**	**315**	*i*P		**P**		**21 25 27.7**	**+0.5**
	comp=Z,306nm,1.1s								
MDOK				*i* sP		**sP**		**21 25 51.4**	**+5.3**
MDOK				LR		LR		21 58 31.1	
	comp=Z,2µm,22.1s								
DIV	**Divide**	**82.31**	**26**	*e*P		**P**		**21 25 27.4**	**+0.6**
	comp=Z,26nm,0.6s								
DIV				LR		LR			
	comp=Z,5µm,20.0s								
AAA	**Alma-Ata**	**82.39**	**315**	*i*P		**P**		**21 25 28.1**	**+0.5**
AAA				pmax		pmax			
	comp=Z,500nm,6.4s								
AAA				MLR		MLR			
	comp=Z,2µm,22.0s								
AAA	**Alma-Ata**	**82.39**	**315**	*e*P		**P**		**21 25 27.9**	**+0.2**
	comp=Z,158nm,1.3s								
AAA				*e*S		**S**		**21 35 40.5**	**0.0**
AAA				LR		LR		21 58 40.3	
	comp=Z,854nm,21.2s								
KLU	**Klutina**	**82.41**	**26**	*e*P		**P**		**21 25 27.8**	**+0.4**
	comp=Z,85nm,1.2s								
KLU				LR		LR			
	comp=Z,3µm,22.0s								
RAGM	**Ragged Mountai**	**82.47**	**27**	PFAKE				21 25 40.0	+12
RAGM				LR		LR			
	comp=Z,6µm,20.0s								
DHY	**Denali Highway**	**82.54**	**24**	*e*P		**P**		**21 25 28.2**	**+0.2**
	comp=Z,36nm,0.8s								
DHY				LR		LR			
	comp=Z,6µm,20.0s								
ULHL	**Ulahol**	**82.62**	**314**	P		**P**		**21 25 29.6**	**+0.5**
	SNR=40								
BMRM	**Bremner River**	**82.75**	**26**	*e*P		**P**		**21 25 31.6**	**+2.5**
	comp=Z,68nm,1.1s								
BMRM				LR		LR			
	comp=Z,5µm,20.0s								
KUU	**Kurty**	**82.97**	**315**	⇑*i*P		**P**		**21 25 30.7**	**+0.2**
	comp=Z,425nm,1.1s								
KUU				*e*S		**S**		**21 35 45.8**	**-0.5**
KUU				LR		LR		21 58 56.9	
	comp=Z,1µm,20.7s								
MDM	**Murphy Dome**	**83.11**	**22**	*e*P		**P**		**21 25 30.0**	**-0.8**
	comp=Z,33nm,1.2s								
MDM				LR		LR			
	comp=Z,4µm,20.0s								
CCB	**Clear Creek Bu**	**83.12**	**22**	*e*P		**P**		**21 25 29.6**	**-1.2**
	comp=Z,26nm,0.8s								
CCB				LR		LR			
	comp=Z,8µm,20.0s								
HARP	**HAARP**	**83.14**	**25**	*e*P		**P**		**21 25 32.0**	**+1.0**
	comp=Z,54nm,1.0s								
HARP				LR		LR			
	comp=Z,6µm,21.0s								
COLA	**College**	**83.21**	**22**	*e*P		**P**		**21 25 30.6**	**-0.7**
COLA				pmax		pmax			
	comp=Z,56nm,1.0s								
COLA				MLR		MLR			
	comp=Z,4µm,20.0s								
COLA	**College**	**83.21**	**22**	*e*P		**P**		**21 25 30.6**	**-0.7**
	comp=Z,56nm,1.0s								
COLA				LR		LR			
	comp=Z,4µm,20.0s								
BMNS	**Besmoynak**	**83.24**	**314**	⇑*i*P		**P**		**21 25 32.5**	**+0.3**
	comp=Z,534nm,0.9s								
BMNS				*e*S		**S**		**21 35 48.4**	**-1.0**
BMNS				LR		LR		22 00 56.6	
	comp=Z,745nm,18.4s								
BMNS				LR		LR		22 00 56.6	
	comp=Z,745nm,18.4s								
TKM2	**Tokmak 2**	**83.25**	**314**	*i*P		**P**		**21 25 32.3**	**0.0**
TKM2				pmax		pmax			
	comp=Z,39nm,1.0s								
TKM2	**Tokmak 2**	**83.25**	**314**	P		**P**		**21 25 32.7**	**+0.4**
	SNR=52								
PAX	**Paxson**	**83.26**	**24**	*e*P		**P**		**21 25 31.7**	**-0.1**
PAX				pmax		pmax			
	comp=Z,25nm,1.2s								
PAX				MLR		MLR			
	comp=Z,4µm,22.0s								
PAX	**Paxson**	**83.26**	**24**	*e*P		**P**		**21 25 31.7**	**-0.1**
	comp=Z,25nm,1.2s								
PAX				LR		LR			
	comp=Z,4µm,22.0s								
KZA	**Kyzart**	**83.30**	**313**	P		**P**		**21 25 34.1**	**+1.2**
	SNR=36								
HDA	**Harding Lake**	**83.33**	**23**	*e*P		**P**		**21 25 30.8**	**-1.1**
	comp=Z,31nm,1.1s								
KURK	**Kurchatov**	**83.34**	**322**	*ce*P		**P**		**21 25 32.0**	**-0.3**
KURK				pmax		pmax			
	comp=Z,473nm,1.7s								
KURK	**Kurchatov**	**83.34**	**322**	*e*P		**P**		**21 25 32.0**	**-0.3**
	comp=Z,121nm,1.2s								
KURK				P'P'				21 52 00.7	
KURK	**Kurchatov**	**83.34**	**322**	P		**P**		**21 25 32.3**	**0.0**
	SNR=43								
KURK	**Kurchatov**	**83.34**	**322**	P		**P**		**21 25 32.3**	**0.0**
	SNR=43								
KURBB	**Kurchatov Arra**	**83.37**	**322**	P		**P**		**21 25 32.3**	**-0.1**
	comp=Z,29nm,0.9s,baz=108,slow=4.2,SNR=72								
KURBB				PKPPKP		**P'P'df**		**21 52 00.7**	**+3.9**
	comp=Z,1.2nm,0.8s,baz=280,slow=2.

comp=Z,7µm,22.0s
AAK Ala-Archa 83.97 314 P P 21 25 36.5 +0.6
comp=Z,17nm,0.7s,baz=103,slow=4.6,SNR=86
AAK Ala-Archa 83.97 314 *i* P **P 21 25 36.4 +0.4**
AAK pmax pmax
comp=Z,62nm,1.3s
AAK Ala-Archa 83.97 314 P P 21 25 36.5 +0.6
SNR=40
AAK Ala-Archa 83.97 314 *e*P **P 21 25 36.3 +0.3**
comp=Z,95nm,1.3s
AAK LR LR
comp=Z,7µm,20.0s
AAK Ala-Archa 83.97 314 P P 21 25 36.8 +0.8
SNR=37
AAK Ala-Archa 83.97 314 P P 21 25 36.8 +0.8
SNR=37
USP Ospenovka 84.11 314 P P 21 25 36.9 +0.4
SNR=97
SFK Sufi-Kurgan 84.12 311 *i* P **P 21 25 37.1 +0.2**
SFK pmax pmax
comp=Z,122nm,1.1s
DOT Dot Lake 84.13 24 *e*P **P 21 25 36.0 -0.1**
comp=Z,129nm,1.0s
MAW Mawson 84.20 203 P P 21 25 36.5 +0.2
comp=Z,46nm,0.6s,baz=94,slow=6.8,SNR=32
MAW LR LR 22 00 15.8
comp=Z,9µm,21.7s,baz=86,slow=34
MAW Mawson 84.20 203 P P 21 25 36.7 +0.4
baz=84,SNR=7.5
MAW Mawson 84.20 203 *e*P **P 21 25 37.0 +0.7**
MAW pmax pmax
comp=Z,63nm,1.4s
MAW Mawson 84.20 203 *e*P **P 21 25 37.0 +0.7**
comp=Z,63nm,1.4s
BHJ Bhuj 84.36 294 *e*P **P 21 25 37.4 -0.7**
BHJ IAmb IAmb 21 25 39.8
comp=Z,50nm,0.4s
PCA Pinnacle 84.38 28 PFAKE 21 25 50.0 +12
PCA LR LR
comp=Z,3µm,20.0s
QSPA South Pole Qui 84.38 180 PFAKE 21 25 50.0 +12
QSPA LR LR
comp=Z,4µm,21.0s
AML Almayashu 84.44 313 P P 21 25 39.5 +0.9
SNR=228
TOLK Toolik Lake Re 84.49 18 P P 21 25 38.1 +0.2
baz=239
TOLK Toolik Lake Re 84.49 18 *e*P **P 21 25 38.1 +0.2**
comp=Z,36nm,1.0s
TOLK LR LR
comp=Z,13µm,22.0s
EKS2 Erkin-Say 84.49 314 P P 21 25 39.2 +0.7
SNR=140
BTLS Baital 84.83 316⇑ *i*P **P 21 25 40.4 +0.3**
comp=Z,1µm,1.0s
BTLS *i* PcP **PcP 21 25 43.5 +0.2**
BTLS *i* pP **sP 21 25 57.3 -1.8**
BTLS LR LR 22 02 01.1
comp=Z,892nm,19.3s
FYU Fort Yukon 84.95 21 *e*P **P 21 25 40.9 +0.8**
comp=Z,35nm,1.0s
FYU LR LR
comp=Z,3µm,22.0s
MNAS Manas 85.38 313 *i* P **P 21 25 43.1 +0.1**
MNAS pmax pmax
comp=Z,232nm,1.1s
EGAK Eagle 85.75 23 *e*P **P 21 25 44.4 +0.2**
comp=Z,39nm,0.8s
EGAK LR LR
comp=Z,8µm,22.0s
SIT Sitka 85.83 32 PFAKE 21 26 00.0 +15
SIT LR LR
comp=Z,10µm,21.0s
HYT Haines Junctio 85.91 28 *e*P **P 21 25 45.4 +0.2**
comp=Z,53nm,1.0s
DAWY Dawson 86.20 24 *e*P **P 21 25 47.2 +0.7**
comp=Z,59nm,1.3s
DAWY LR LR
comp=Z,11µm,22.0s
DZA Taraz 86.30 314 *e*P **P 21 25 47.9 +0.4**
comp=Z,2µm,1.0s
DZA LR LR 22 01 19.7
comp=Z,2µm,23.0s
DIB Dawson Inlet, 86.37 36 PFAKE 21 26 00.0 +13
DIB LR LR
comp=Z,6µm,20.0s
BESE Bessie Mountai 86.51 30 PFAKE 21 26 00.0 +12
BESE LR LR
comp=Z,8µm,22.0s
SKAG Skagway 86.53 29 *e*P **P 21 25 49.7 +1.6**
comp=Z,175nm,1.9s
SKAG LR LR
comp=Z,5µm,21.0s
CRAG Craig 86.58 34 PFAKE 21 26 00.0 +12
CRAG LR LR
comp=Z,8µm,20.0s
KBL Kabul 86.61 305 *e*P **P 21 25 48.1 -1.3**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 86.61 305 *e*P **P 21 25 48.1 -1.3**
comp=Z,16nm,0.8s
OTUK Ortayu 86.68 319 *i* P **P 21 25 48.5 -0.7**
OTUK pmax pmax
comp=Z,41nm,1.0s
BRZS Berezniki 86.83 321⇑ *i*P **P 21 25 48.3 -1.6**
comp=Z,46nm,1.5s
KK31 Karatay Array 86.93 314 *i* P **P 21 25 49.9 -0.6**
KK31 pmax pmax
comp=Z,73nm,1.1s
KKAR Karatay Array 86.93 314 *e*P **P 21 25 50.4 -0.1**
KKAR Karatay Array 86.93 314 *e*P **P 21 25 50.4 -0.1**
WHY Whitehorse 87.09 28 *e*P **P 21 25 52.2 +1.2**
comp=Z,192nm,2.0s
WHY LR LR
comp=Z,5µm,21.0s
IUG Iuzhnay 87.11 313 *i* P **P 21 25 51.6 0.0**
comp=Z,641nm,1.2s
IUG *e*S **SKSac 21 36 12.9 -2.4**
IUG LR LR 22 01 23.4
comp=Z,2µm,23.0s
WRAK Wrangell Islan 87.24 33 PFAKE 21 26 00.0 +8.4
WRAK LR LR
comp=Z,8µm,21.0s
BRLS Borolday 87.41 313 *i* P **P 21 25 53.1 +0.3**
comp=Z,15nm,1.2s
BRLS *e*S **SKSac 21 36 14.9 -2.0**
BRLS LR LR 22 02 59.1
comp=Z,165nm,23.0s
BBB Bella Bella 88.75 37 PFAKE 21 26 10.0 +11
BBB LR LR
comp=Z,6µm,21.0s
BVAR Borovoye Array 88.85 323 P **P 21 25 57.9 -1.5**
comp=Z,12nm,0.8s,baz=106,slow=5.3,SNR=42
BVAR LR LR 22 07 39.0
comp=Z,3µm,19.2s,baz=84,slow=37
BRVK Borovoye 88.92 323 *ce*P **P 21 25 58.6 -1.1**
BRVK pmax pmax
comp=Z,85nm,1.7s
BRVK Borovoye 88.92 323 *e*P **P 21 25 58.7 -1.0**
comp=Z,34nm,1.2s
BRVK LR LR
comp=Z,4µm,20.0s
BRVK Borovoye 88.92 323 P P 21 25 58.6 -1.1
SNR=11
BRVK Borovoye 88.92 323 P P 21 25 58.6 -1.1
SNR=11
DLBC Dease Lake 88.92 31 *e*P **P 21 26 01.3 +1.5**
comp=Z,90nm,1.5s
JCC Jacoby Creek, 89.74 49 PFAKE 21 26 20.0 +16
JCC LR LR
comp=Z,4µm,19.0s
KBO Bosley Butte 89.78 48 PFAKE 21 26 20.0 +16
KBO LR LR
comp=Z,6µm,20.0s
INK Inuvik 89.79 21 P **P 21 26 03.0 -0.5**
comp=Z,24nm,1.1s,baz=236,slow=5.3,SNR=21
INK PKKPbc **PKKPdf 21 43 35.3 +0.7**
comp=Z,2.8nm,1.0s,baz=75,slow=5.4,SNR=5.1
INK Inuvik 89.79 21 P **P 21 26 03.0 -0.5**
INK MLR MLR
comp=Z,5µm,20.0s
INK Inuvik 89.79 21 P **P 21 26 03.0 -0.5**
INK PKKPbc **PKKPdf 21 43 35.3 +0.7**
INK LR LR
comp=Z,5µm,20.0s
KMRM Mail Ridge 89.91 50 *e*P **P 21 26 06.8 +2.1**
comp=Z,49nm,1.0s
KMRM LR LR
comp=Z,7µm,22.0s
KRMB Red Mountain 89.92 48 *e*P **P 21 26 07.1 +2.2**
KCPM Cahto Peak 89.94 50 *e*P **P 21 26 04.5 -0.5**
comp=Z,56nm,0.9s
KCPM LR LR
comp=Z,9µm,22.0s
KHMM Horse Mountain 89.97 49 *e*P **P 21 26 05.7 +0.5**
comp=Z,119nm,1.4s
KHMM LR LR
comp=Z,4µm,21.0s
L02D Cave Junction, 90.23 48 P **P 21 26 07.5 +1.4**
baz=263
HOPS Hopland Field 90.24 51 *e*P **P 21 26 07.8 +1.6**
comp=Z,196nm,1.9s
HOPS LR LR
comp=Z,10µm,22.0s
MCCM Marconi Confer 90.29 52 PFAKE 21 26 20.0 +14
MCCM LR LR
comp=Z,12µm,22.0s
GDXM Geysers 90.44 51 PFAKE 21 26 20.0 +13
GDXM LR LR
comp=Z,12µm,21.0s
M02C Callahan 90.69 49 P **P 21 26 09.5 +1.1**
baz=263,SNR=16
NLWA Neilton Lookou 90.71 43 *e*P **P 21 26 09.6 +1.3**
comp=Z,35nm,0.9s
NLWA LR LR
comp=Z,6µm,22.0s
COR Corvallis 90.75 45 PFAKE 21 26 20.0 +12
COR LR LR
comp=Z,8µm,22.0s
N02D Trinity Center 90.76 49 P **P 21 26 10.3 +1.5**
baz=263,SNR=19
HUMO Hull Mountain 90.76 47 *e*P **P 21 26 10.1 +1.5**
comp=Z,56nm,0.8s
HUMO LR LR
comp=Z,6µm,21.0s
E03A Lebam 90.81 43 *e*P **P 21 26 10.1 +1.4**
comp=Z,95nm,0.9s
E03A LR LR
comp=Z,9µm,20.0s
WDC Whiskeytown Da 90.84 49 *e*P **P 21 26 10.1 +1.1**
WDC pmax pmax
comp=Z,55nm,1.2s
WDC MLR MLR
comp=Z,5µm,22.0s
WDC Whiskeytown Da 90.84 49 *e*P **P 21 26 10.1 +1.1**
comp=Z,54nm,1.2s
WDC LR LR
comp=Z,5µm,22.0s
YBH Yreka Blue Hor 90.84 48 P **P 21 26 10.5 +1.5**
comp=Z,35nm,1.1s,baz=259,slow=2.7,SNR=28
YBH LR LR 22 01 00.4
comp=Z,5µm,20.2s,baz=282,slow=32
YBH Yreka Blue Hor 90.84 48 *e*P **P 21 26 10.6 +1.5**
YBH pmax pmax
comp=Z,68nm,1.2s
YBH Yreka Blue Hor 90.84 48 *e*P **P 21 26 10.6 +1.5**
comp=Z,68nm,1.2s
RDG13 Poverty Ridge 91.11 53 *e*P **P 21 26 11.7 +1.2**
comp=Z,57nm,1.1s
RDG13 LR LR
comp=Z,10µm,21.0s
F04D Rainier, OR 91.14 44 P **P 21 26 11.5 +1.3**
baz=263
PGC Sidney 91.15 41 PFAKE 21 26 20.0 +10
PGC LR LR
comp=Z,6µm,22.0s
SAO San Andreas Ge 91.27 53 PFAKE 21 26 20.0 +8.9
SAO LR LR
comp=Z,9µm,22.0s
I04A Tendick Farm, 91.30 46 P **P 21 26 11.6 +0.5**
baz=264
O03D Paynes Creek 91.37 50 P **P 21 26 12.1 +0.6**
baz=264,SNR=15
MRIV Mauritius Mete 91.45 250 *e*P **P 21 26 11.3 -0.9**
J04D Umpqua Nationa 91.45 47 P **P 21 26 13.0 +0.9**
baz=264,SNR=12
M04C Macdoel 91.50 48 P **P 21 26 13.2 +1.0**
baz=264,SNR=18
ORV Oroville 91.52 51 *e*P **P 21 26 13.1 +0.9**
ORV pmax pmax
comp=Z,65nm,1.4s
ORV MLR MLR
comp=Z,7µm,22.0s
ORV Oroville 91.52 51 *e*P **P 21 26 13.1 +0.9**
comp=Z,65nm,1.4s
ORV LR LR
comp=Z,7µm,22.0s
H04A Detroit Lake 91.56 45 *e*P **P 21 26 12.6 +0.4**
comp=Z,177nm,2.0s
H04A LR LR
comp=Z,7µm,22.0s
PMPB Monarch Peak 91.73 54 *e*P **P 21 26 13.3 0.0**
comp=Z,129nm,1.3s
PMPB LR LR
comp=Z,11µm,20.0s
AFDM Forest Hills D 91.87 51 *e*P **P 21 26 15.1 +1.3**
comp=Z,64nm,1.1s
AFDM LR LR
comp=Z,10µm,22.0s
D05A Enumclaw 91.96 43 *e*P **P 21 26 16.4 +2.4**
comp=Z,31nm,0.7s
D05A LR LR
comp=Z,7µm,21.0s
B05A Bryant 92.00 42 P **P 21 26 15.0 +0.8**
baz=264
LON Longmire 92.04 43 *e*P **P 21 26 14.4 -0.1**
LON pmax pmax
comp=Z,21nm,1.2s
LON MLR MLR
comp=Z,6µm,20.0s
LON Longmire 92.04 43 *e*P **P 21 26 14.4 -0.1**
comp=Z,21nm,1.2s
LON LR LR
comp=Z,6µm,20.0s
J05D Fort Rock, OR 92.09 47 P **P 21 26 16.2 +1.2**
baz=264
I05D Terrebonne, OR 92.12 46 P **P 21 26 15.9 +0.9**
baz=264
PAGB Antelope Grade 92.13 54 *e*P **P 21 26 16.0 +0.9**
comp=Z,154nm,1.4s
PAGB LR LR
comp=Z,12µm,22.0s
G05D Wamic, OR 92.23 45 P **P 21 26 16.3 +1.0**
baz=264
CMB Columbia Colle 92.24 52 *e*P **P 21 26 16.5 +0.9**
CMB pmax pmax
comp=Z,46nm,1.2s
CMB MLR MLR
comp=Z,10µm,21.0s
CMB Columbia Colle 92.24 52 *e*P **P 21 26 16.5 +0.9**
comp=Z,46nm,1.2s
CMB LR LR
comp=Z,10µm,21.0s
K05A Summer Lake 92.29 47 *e*P **P 21 26 17.2 +1.3**
comp=Z,65nm,0.9s
K05A LR LR
comp=Z,4µm,20.0s
SMMC Simmler 92.30 55 P **P 21 26 18.0 +2.0**
baz=265
SHUK Shuksan-Mt. Ba 92.34 41 *e*P **P 21 26 16.0 +0.1**
PINE Pine Mountain 92.36 46 *e*P **P 21 26 17.3 +1.1**
comp=Z,261nm,1.9s
PINE LR LR
comp=Z,8µm,22.0s
SYO Syowa Base 92.37 200⇓ *i*P **P 21 26 13.4 -2.0**
SYO Syowa Base 92.37 200⇓ *i*pP pP 21 26 25.0 -4.3
LLLB Lillooet 92.38 40 *e*P **P 21 26 16.8 +0.8**
comp=Z,41nm,1.3s
LLLB LR LR
comp=Z,3µm,19.0s
PKM Mcpherson Peak 92.41 55 P **P 21 26 18.6 +2.0**
baz=265
BEKR Beckworth 92.42 50 *e*P **P 21 26 18.1 +1.5**
comp=Z,62nm,0.6s
BEKR LR LR
comp=Z,9µm,22.0s
B06A Marblemount 92.43 42 *e*P **P 21 26 17.1 +1.0**
comp=Z,19nm,0.8s
B06A LR LR
comp=Z,4µm,19.0s
SBC Santa Barbara 92.46 56 P **P 21 26 18.3 +1.7**
baz=265
SCZ2 Santa Cruz Isl 92.48 56 P **P 21 26 18.0 +1.2**
baz=265
SNCC San Nicolas Is 92.51 57 P **P 21 26 19.2 +2.3**
baz=265
SNCC San Nicolas Is 92.51 57 *e*P **P 21 26 18.5 +1.6**
comp=Z,131nm,0.9s
SNCC LR LR
comp=Z,10µm,20.0s
RUBR Rubicon Trail 92.51 51 PFAKE 21 26 30.0 +13
RUBR LR LR
comp=Z,12µm,22.0s
MOD Modoc Plateau 92.65 48 *e*P **P 21 26 18.7 +1.1**
comp=Z,63nm,1.0s
MOD LR LR
comp=Z,5µm,20.0s
G06A Carlson Farm, 92.71 45 *e*P **P 21 26 18.2 +0.7**
comp=Z,60nm,1.6s
G06A LR LR
comp=Z,6µm,21.0s
LTY Liberty 92.86 43 *e*P **P 21 26 18.9 +0.6**
comp=Z,23nm,1.2s
LTY LR LR
comp=Z,7µm,20.0s
VCNR Virginia City 92.92 51 *e*P **P 21 26 20.5 +1.6**
comp=Z,35nm,0.9s
VCNR LR LR
comp=Z,10µm,22.0s
BLG Laguna Peak, P 92.96 56 P **P 21 26 20.5 +1.5**
baz=265
WAKR Walker 93.02 52 *e*P **P 21 26 21.0 +1.5**
comp=Z,37nm,1.0s
WAKR LR LR
comp=Z,13µm,22.0s
VES Vestal, Richgr 93.09 54 P **P 21 26 20.2 +0.7**
baz=265,SNR=8.7
PAHR Pah Rah Range 93.16 51 *e*P **P 21 26 21.0 +1.1**
comp=Z,46nm,1.2s
PAHR LR LR
comp=Z,9µm,22.0s
YERR Yerington 93.21 51 *e*P **P 21 26 21.3 +1.0**
comp=Z,56nm,1.2s
YERR LR LR
comp=Z,10µm,22.0s
MDPB Devils Postpil 93.23 53 *e*P **P 21 26 21.2 +0.7**
comp=Z,68nm,1.1s
MDPB LR LR
comp=Z,11µm,22.0s
ARVC Arvin 93.24 55 P **P 21 26 21.5 +1.2**
baz=266
F07A Phinny Hill Vi 93.26 44 PFAKE 21 26 30.0 +10
F07A LR LR
comp=Z,4µm,20.0s
OSI Osito Audit: C 93.28 56 P **P 21 26 21.6 +1.0**
baz=266
OSI Osito Audit: C 93.28 56 *e*P **P 21 26 20.0 -0.5**
comp=Z,51nm,0.8s
OSI LR LR
comp=Z,9µm,22.0s
I07A Izee 93.41 46 *e*P **P 21 26 22.0 +1.0**
comp=Z,34nm,1.1s
I07A LR LR
comp=Z,5µm,21.0s
MLAC Mammoth, Mammo 93.43 53 P **P 21 26 21.9 +0.6**
baz=266
CIS Catalina Islan 93.45 57 P **P 21 26 23.0 +1.7**
baz=266,SNR=12
ISA Isabella, Lake 93.57 55 P **P 21 26 22.9 +1.1**
baz=266,SNR=21
ISA Isabella, Lake 93.57 55 *e*P **P 21 26 23.0 +1.2**
ISA pmax pmax
comp=Z,65nm,1.3s
ISA MLR MLR
comp=Z,9µm,21.0s
ISA Isabella, Lake 93.57 55 *e*P **P 21 26 23.0 +1.2**
comp=Z,65nm,1.3s
ISA LR LR
comp=Z,9µm,21.0s
FMP Fort Macarthur 93.57 57 P **P 21 26 23.0 +1.2**
baz=266
DECC Green Verdugo 93.58 56 P **P 21 26 23.0 +1.1**
baz=266,SNR=5.1
PASC Pasadena Art C 93.69 56 *e*P **P 21 26 24.0 +1.6**
comp=Z,118nm,1.0s
PASC LR LR
comp=Z,8µm,21.0s
RYN Ryan 93.75 52 *e*P **P 21 26 24.1 +1.4**
comp=Z,62nm,1.2s
RYN LR LR
comp=Z,11µm,22.0s
MWC Mount Wilson 93.80 56 *e*P **P 21 26 24.6 +1.5**
MWC pmax pmax
comp=Z,193nm,1.0s
MWC MLR MLR
comp=Z,8µm,21.0s
MWC Mount Wilson 93.80 56 *e*P **P 21 26 24.6 +1.5**
comp=Z,193nm,1.0s
MWC LR LR
comp=Z,8µm,21.0s
B08A Colville Reser 93.85 42 *e*P **P 21 26 23.0 +0.3**
comp=Z,34nm,1.4s
B08A LR LR
comp=Z,5µm,22.0s
TIN Tinemaha, Big 93.87 53 P **P 21 26 24.7 +1.5**
baz=266
TIN Tinemaha, Big 93.87 53 *e*P **P 21 26 23.5 +0.3**
TIN Tinemaha, Big 93.87 53 *e*P **P 21 26 23.5 +0.3**
G08A Pilot Rock 93.89 45 *e*P **P 21 26 23.7 +0.6**
comp=Z,54nm,1.5s
G08A LR LR
comp=Z,6µm,22.0s
E08A Dider Farm, El 93.90 44 *e*P **P 21 26 22.1 -0.9**
comp=Z,22nm,0.9s
E08A LR LR
comp=Z,6µm,20.0s
EDW2 Edwards Air Fo 93.90 55 P **P 21 26 25.0 +1.7**
baz=266,SNR=42
WVOR Wild Horse Val 93.93 48 *e*P **P 21 26 24.2 +0.8**
WVOR pmax pmax
comp=Z,67nm,1.3s
WVOR MLR MLR
comp=Z,4µm,19.0s
WVOR Wild Horse Val 93.93 48 *e*P **P 21 26 24.2 +0.8**
comp=Z,67nm,1.3s
WVOR LR LR
comp=Z,4µm,19.0s
CWC Cottonwood Cre 93.94 54 P **P 21 26 24.9 +1.2**
baz=266
D08A Wollman Farm, 94.04 43 *e*P **P 21 26 24.7 +1.1**
comp=Z,43nm,1.5s
D08A LR LR
comp=Z,6µm,20.0s
KVN Kaiserville 94.11 51 *e*P **P 21 26 25.5 +1.1**
KVN pmax pmax
comp=Z,64nm,1.3s
KVN MLR MLR
comp=Z,9µm,22.0s
KVN Kaiserville 94.11 51 *e*P **P 21 26 25.5 +1.1**
comp=Z,64nm,1.3s
KVN LR LR
comp=Z,9µm,22.0s
J08A Circle Bar Ran 94.11 47 *e*P **P 21 26 24.4 +0.2**
comp=Z,59nm,1.4s
J08A LR LR
comp=Z,5µm,21.0s
BFSC Mount Baldy Ra 94.14 56 P **P 21 26 25.9 +1.3**
baz=266,SNR=18
LRMC Laurel Mtn Rad 94.20 55 P **P 21 26 26.0 +1.1**
baz=266,SNR=7.4
DAC Darwin (Calif) 94.32 54 *e*P **P 21 26 26.9 +1.4**
DAC pmax pmax
comp=Z,98nm,1.1s
DAC MLR MLR
comp=Z,12µm,20.0s
DAC Darwin (Calif) 94.32 54 *e*P **P 21 26 26.9 +1.4**
comp=Z,98nm,1.1s
DAC LR LR
comp=Z,12µm,20.0s
MPMC Manual Prospec 94.39 54 P **P 21 26 27.1 +1.3**
baz=266,SNR=49
WSAR Wadi Sarin 94.43 293 P **P 21 26 23.4 -2.5**
comp=Z,6.4nm,1.1s,baz=67,slow=4.1,SNR=7.6
WSAR PKKPbc **PKKPbc 21 43 25.6 0.0**
comp=Z,4.3nm,0.8s,baz=306,slow=2.8,SNR=4.8
WSAR LR LR 22 10 20.5
comp=Z,996nm,21.0s,baz=102,slow=36
MURC Murrieta 94.48 57 P **P 21 26 27.5 +1.5**
baz=266,SNR=5.6
109C Camp Elliot, M 94.51 58 P **P 21 26 28.0 +1.9**
baz=266
C09A Chrisman Ranch 94.52 43 *e*P **P 21 26 25.7 -0.2**
comp=Z,15nm,0.7s

C09A LR LR
comp=Z,6µm,20.0s
E09A Wood Farm, Sta 94.53 44 *e*P **P 21 26 26.7 +0.8**
comp=Z,31nm,0.8s
E09A LR LR
comp=Z,5µm,19.0s
GRAC Grapevine Rang 94.55 53 P **P 21 26 27.5 +1.2**
baz=266,SNR=12
RRX Edison Barstow 94.72 56 P **P 21 26 28.4 +1.4**
baz=266
BBRC Big Bear Solar 94.75 56 P **P 21 26 28.8 +1.3**
baz=266
BBRC Big Bear Solar 94.75 56 *e*P **P 21 26 29.3 +1.9**
BAR Barrett 94.86 58 *e*P **P 21 26 26.4 -1.4**
comp=Z,40nm,1.1s
BAR LR LR
comp=Z,8µm,21.0s
BMN Battle Mountai 94.86 50 *e*P **P 21 26 28.9 +1.1**
BMN pmax pmax
comp=Z,41nm,1.3s
BMN MLR MLR
comp=Z,6µm,22.0s
BMN Battle Mountai 94.86 50 *e*P **P 21 26 28.9 +1.1**
comp=Z,41nm,1.3s
BMN LR LR
comp=Z,6µm,22.0s
GSC Goldstone, Bar 94.90 55 P **P 21 26 29.4 +1.4**
baz=267,SNR=27
GSC Goldstone, Bar 94.90 55 *e*P **P 21 26 29.5 +1.5**
GSC pmax pmax
comp=Z,60nm,1.1s
GSC MLR MLR
comp=Z,9µm,22.0s
GSC Goldstone, Bar 94.90 55 *e*P **P 21 26 29.5 +1.5**
comp=Z,60nm,1.1s
GSC LR LR
comp=Z,9µm,22.0s
BIDO Bidbid 94.91 293 P **P 21 26 30.0 +1.9**
SNR=7.4
BIDO Bidbid 94.91 293 P **P 21 26 30.0 +1.9**
SNR=7.4
FURC Furnace Creek, 94.92 54 P **P 21 26 29.3 +1.4**
baz=267,SNR=5.7
AB31 Akbulak array 94.94 319 *i* P **P 21 26 24.6 -3.1**
AB31 pmax pmax
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 94.94 319 *e*P **P 21 26 25.7 -2.0**
comp=Z,44nm,0.8s
ABKAR *e*PP **PP 21 30 16.2 -1.0**
BMO Blue Mountains 95.03 46 *e*P **P 21 26 28.8 +0.4**
BMO pmax pmax
comp=Z,56nm,1.5s
BMO MLR MLR
comp=Z,6µm,22.0s
BMO Blue Mountains 95.03 46 *e*P **P 21 26 28.8 +0.4**
comp=Z,56nm,1.5s
BMO LR LR
comp=Z,6µm,22.0s
MONP2 Monument Peak 95.08 58 P **P 21 26 31.1 +2.1**
baz=267,SNR=27
PFO Pinyon Flats O 95.09 57 P **P 21 26 30.6 +1.7**
baz=267,SNR=30
PFO Pinyon Flats O 95.09 57 *e*P **P 21 26 30.5 +1.5**
PFO pmax pmax
comp=Z,57nm,1.0s
PFO MLR MLR
comp=Z,10µm,20.0s
PFO Pinyon Flats O 95.09 57 *e*P **P 21 26 30.5 +1.5**
comp=Z,57nm,1.0s
PFO LR LR
comp=Z,10µm,20.0s
XPFO Piæon Flat 95.09 57 *e*P **P 21 26 30.5 +1.5**
comp=Z,61nm,1.0s
XPFO LR LR
comp=Z,10µm,20.0s
F10A Beach Ranch, E 95.14 44 *e*P **P 21 26 29.2 +0.4**
comp=Z,34nm,0.8s
F10A LR LR
comp=Z,4µm,21.0s
HEC Hector,Ludlow 95.26 56 P **P 21 26 30.8 +1.2**
baz=267,SNR=7.6
NEW Newport 95.31 42 P **P 21 26 29.9 +0.4**
baz=268
NEW Newport 95.31 42 *e*P **P 21 26 29.9 +0.4**
NEW pmax pmax
comp=Z,15nm,0.9s
NEW MLR MLR
comp=Z,5µm,21.0s
NEW Newport 95.31 42 *e*P **P 21 26 29.9 +0.4**
comp=Z,15nm,0.9s
NEW LR LR
comp=Z,5µm,21.0s
IKP In-Ko-Pah, Jac 95.33 58 P **P 21 26 31.9 +1.9**
baz=267,SNR=9.5
SHOC Shoshone, Teco 95.37 55 P **P 21 26 31.3 +1.3**
baz=267,SNR=21
BELC Belle Mtn. Jos 95.50 56 P **P 21 26 32.3 +1.5**
baz=267,SNR=56
SWSC Sam W. Stewart 95.61 58 P **P 21 26 33.0 +1.9**
baz=267,SNR=11
TUQ Turquoise Moun 95.63 55 P **P 21 26 32.7 +1.3**
baz=267,SNR=11
GEYT Alibeck 95.74 307 P **P 21 26 30.8 -0.9**
comp=Z,10nm,1.1s,baz=122,slow=1.9,SNR=22
GEYT LR LR 22 13 02.2
comp=Z,2µm,18.9s,baz=90,slow=38
GMRC Granite Mounta 95.81 56 P **P 21 26 33.6 +1.4**
baz=267,SNR=46
BC3 Big Chuckawall 95.93 57 P **P 21 26 34.7 +1.9**
baz=267,SNR=35
RPN Rapa Nui 95.95 118 LR LR 22 02 36.2
comp=Z,854nm,21.6s,baz=272,slow=31
ARU Arti 96.01 326 LR LR 22 09 31.9
comp=Z,10µm,21.5s,baz=78,slow=35
ARU Arti 96.01 326 *e*P **P 21 26 30.0 -2.4**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 96.01 326 *e*P **P 21 26 30.0 -2.4**
comp=Z,10nm,1.0s
R11A Troy Canyon, C 96.03 52 P **P 21 26 34.3 +1.1**
baz=268
R11A Troy Canyon, C 96.03 52 *e*P **P 21 26 34.2 +1.1**
comp=Z,38nm,1.4s
R11A LR LR
comp=Z,10µm,22.0s
MFID Camas Ranch 96.04 47 *e*P **P 21 26 34.1 +1.1**
comp=Z,22nm,1.1s
MFID LR LR
comp=Z,5µm,21.0s
IRM Iron Mountain 96.21 56 P **P 21 26 35.7 +1.7**
baz=268,SNR=54
AKTO Aktyubinsk 96.23 320 P **P 21 26 31.7 -1.9**
comp=Z,3.1nm,0.9s,baz=86,slow=5.1,SNR=8.4
AKTO LR LR 22 10 30.7
comp=Z,4µm,20.4s,baz=86,slow=36
LDFC Landfair 96.28 55 *e*P **P 21 26 36.6 +2.3**
comp=Z,164nm,1.2s
LDFC LR LR
comp=Z,7µm,21.0s
SHPR Sheep Range 96.30 54 *e*P **P 21 26 36.1 +1.7**
comp=Z,44nm,1.2s
SHPR LR LR
comp=Z,8µm,20.0s
GLA Glamis 96.43 57 P **P 21 26 37.2 +2.3**
baz=268,SNR=6.9
GLA Glamis 96.43 57 *e*P **P 21 26 37.4 +2.5**
GLA pmax pmax
comp=Z,58nm,1.3s
GLA MLR MLR
comp=Z,7µm,21.0s
GLA Glamis 96.43 57 *e*P **P 21 26 37.4 +2.5**
comp=Z,58nm,1.3s
GLA LR LR
comp=Z,7µm,21.0s
NEE2 Needles Airpor 96.67 56 P **P 21 26 37.7 +1.7**
baz=268,SNR=5.8
Y12C Blythe 96.71 57 P **P 21 26 37.8 +1.7**
baz=268,SNR=5.9
Y12C Blythe 96.71 57 *e*P **P 21 26 38.2 +2.0**
comp=Z,23nm,0.9s
Y12C LR LR
comp=Z,6µm,21.0s
UOSS Minazif 96.75 294 *e*P **P 21 26 35.2 -1.3**
comp=Z,9.6nm,1.0s
UOSS LR LR
comp=Z,1µm,22.0s
YKW3 Yellowknife Ar 96.90 28 *e*P **P 21 26 36.3 +0.1**
comp=Z,12nm,1.1s
YKW3 LR LR
comp=Z,4µm,20.0s
YKA Yellowknife Ar 96.91 28 P **P 21 26 36.2 -0.1**
comp=Z,2.6nm,0.7s,baz=270,slow=4.7,SNR=48
YKA PKiKP **PKiKP 21 31 12.8 +0.5**
comp=Z,1.3nm,0.7s,baz=278,slow=1.4,SNR=7.8
YKA PKKPbc **PKKPbc 21 43 16.7 -3.6**
comp=Z,1.1nm,0.7s,baz=88,slow=2.7,SNR=11
YKA LR LR 22 06 53.5
comp=Z,504nm,20.7s,baz=0.0,slow=33
SOKR Solikamsk 96.96 329 *e*P **P 21 26 33.0 -3.6**
SOKR pmax pmax
comp=Z,8.0nm,0.9s
SOKR MLR MLR
comp=Z,2µm,18.0s
PDMCI Parker Dam,Lak 97.05 56 P Pdif 21 26 39.2 +1.5
baz=268,SNR=14
HLID Hailey 97.07 47 P Pdif 21 26 38.3 +0.4
baz=269
HLID Hailey 97.07 47 *e*P Pdif 21 26 38.0 +0.1
comp=Z,11nm,0.8s
HLID LR LR
comp=Z,5µm,20.0s
JTMT Jette 97.21 43 *e*P Pdif 21 26 38.4 +0.1
comp=Z,10nm,1.2s
JTMT LR LR
comp=Z,6µm,20.0s
W13A Hualapai Mount 97.28 55 *e*P Pdif 21 26 41.1 +2.1
comp=Z,45nm,1.1s
W13A LR LR
comp=Z,8µm,22.0s
113A Mohawk Valley, 97.31 58 *e*P Pdif 21 26 40.4 +1.5
comp=Z,17nm,1.0s
113A *e*PP **PP 21 30 34.1 -1.9**
113A LR LR
comp=Z,6µm,21.0s
MSO Missoula 97.44 44 PFAKE 21 26 50.0 +11
MSO LR LR
comp=Z,4µm,20.0s
WALA Waterton Lakes 97.46 41 *e*P Pdif 21 26 40.0 +0.6
comp=Z,38nm,1.0s
WALA LR LR
comp=Z,6µm,22.0s
CCUT Cedar City 97.77 53 *e*P Pdif 21 26 43.1 +1.9
EDM Edmonton 97.77 37 *e*P Pdif 21 26 41.5 +0.9
EDM *e* 21 30 37.7
EDM pmax pmax
comp=Z,49nm,1.1s
EDM MLR MLR
comp=Z,6µm,22.0s
EDM Edmonton 97.77 37 *e*P Pdif 21 26 41.5 +0.9
comp=Z,49nm,1.1s
EDM *e*PP **PP 21 30 37.7 -1.3**
EDM LR LR
comp=Z,6µm,22.0s
LCMT Little Creek M 97.85 54 *e*P Pdif 21 26 43.5 +2.0
comp=Z,54nm,1.6s
LCMT LR LR
comp=Z,6µm,20.0s
Y14A Wickenburg 97.98 57 *e*P Pdif 21 26 43.4 +1.4
comp=Z,108nm,1.4s
Y14A *e*PP **PP 21 30 36.7 -4.6**
Y14A LR LR
comp=Z,30µm,22.0s
SZCU Shurtz Canyon 97.98 53 *e*P Pdif 21 26 43.7 +1.6
comp=Z,31nm,1.0s
SZCU LR LR
comp=Z,9µm,21.0s
BGU Big Grassy Mou 98.07 50 *e*P **P 21 26 41.3 -1.0**
comp=Z,8.5nm,1.0s
BGU LR LR
comp=Z,5µm,22.0s
KNB Kanab 98.19 54 *e*P Pdif 21 26 44.9 +1.9
KNB pmax pmax
comp=Z,145nm,1.8s
KNB MLR MLR
comp=Z,7µm,22.0s
KNB Kanab 98.19 54 *e*P Pdif 21 26 44.9 +1.9
comp=Z,145nm,1.8s
KNB LR LR
comp=Z,7µm,22.0s
MCMT McKenzie Canyo 98.20 46 *e*P Pdif 21 26 43.1 +0.1
DUG Dugway, Tooele 98.23 50 Pdiff Pdif 21 26 43.6 +0.6
baz=270
DUG Dugway, Tooele 98.23 50 *e*P Pdif 21 26 43.9 +0.9
DUG pmax pmax
comp=Z,11nm,1.2s
DUG MLR MLR
comp=Z,5µm,22.0s
DUG Dugway, Tooele 98.23 50 *e*P Pdif 21 26 43.9 +0.9
comp=Z,11nm,1.2s
DUG LR LR
comp=Z,5µm,22.0s
HVU Hansel Valley 98.26 49 *e*P **P 21 26 42.9 -0.2**
HVU pmax pmax
comp=Z,24nm,1.1s
HVU MLR MLR
comp=Z,5µm,22.0s
HVU Hansel Valley 98.26 49 *e*P **P 21 26 42.9 -0.2**
comp=Z,24nm,1.1s
HVU LR LR
comp=Z,5µm,22.0s
DLMT Dillon 98.38 45 PFAKE 21 27 00.0 +16
DLMT LR LR
comp=Z,4µm,22.0s
SRIG Santa Rosalia 98.45 63 PFAKE 21 27 00.0 +16
SRIG LR LR
comp=Z,10µm,21.0s
LRM Limekiln Ridge 98.47 45 *e*P Pdif 21 26 44.7 +0.5
TCRU Three Creeks R 98.50 52 PFAKE 21 27 00.0 +16
TCRU LR LR
comp=Z,12µm,22.0s
SPUT South Promonto 98.51 49 *e*P **P 21 26 43.1 -1.1**
comp=Z,26nm,1.3s
SPUT LR LR
comp=Z,4µm,22.0s
PKCU Pink Cliffs 98.60 53 PFAKE 21 27 00.0 +15
PKCU LR LR
comp=Z,8µm,22.0s
U15A North Rim 98.61 54 *e*P Pdif 21 26 46.7 +1.7
comp=Z,18nm,1.0s
U15A LR LR
comp=Z,8µm,22.0s
MTPU Mount Pierson 98.70 52 *e*P Pdif 21 26 45.9 +0.4
comp=Z,22nm,1.0s
MTPU LR LR
comp=Z,10µm,22.0s
MSU Marysvale 98.71 52 *e*P Pdif 21 26 47.0 +1.6
MSU Marysvale 98.71 52 *e*P Pdif 21 26 47.0 +1.6
NLU North Lily Min 98.79 51 *e*P Pdif 21 26 46.9 +1.2
comp=Z,16nm,1.2s
NLU LR LR
comp=Z,6µm,22.0s
HRY Holter Researc 98.89 44 *e*P **P 21 26 45.6 -0.2**
CTU Camp Tracy 99.04 50 *e*P **Pdif 21 26 47.0 +0.3**
comp=Z,5.9nm,0.8s
CTU LR LR
comp=Z,4µm,22.0s
BOZ Bozeman (W) 99.05 45 Pdiff **Pdif 21 26 47.2 +0.5**
baz=271
BOZ Bozeman (W) 99.05 45 *e*P **Pdif 21 26 47.3 +0.7**
BOZ pmax pmax
comp=Z,8.0nm,0.9s
BOZ MLR MLR
comp=Z,4µm,22.0s
BOZ Bozeman (W) 99.05 45 *e*P **Pdif 21 26 47.3 +0.7**
comp=Z,8.2nm,0.9s
BOZ LR LR
comp=Z,4µm,22.0s
MPU Maple Canyon 99.13 50 *e*P **Pdif 21 26 47.3 +0.1**
comp=Z,8.4nm,1.1s
MPU LR LR
comp=Z,6µm,22.0s
NVL N'lazarevskaya 99.13 193 *e*P **Pdif 21 26 57.3 +11**
NVL *e* 21 30 58.1
NVL *e*PPP PPP 21 33 03.5
NVL *e*PS **PS 21 39 37.9 -7.6**
NVL *e*SS SS 21 45 11.4 +10
NVL pmax pmax
comp=Z,71nm,1.9s
NVL MLR MLR
comp=Z,13µm,28.0s
HWUT Hardware Ranch 99.17 49 *e*P **Pdif 21 26 47.1 -0.1**
comp=Z,7.8nm,0.8s
HWUT LR LR
comp=Z,4µm,20.0s
QLMT Earthquake Lak 99.21 46 *e*P **Pdif 21 26 48.0 +0.6**
JLU Jordanelle 99.27 50 *e*P **Pdif 21 26 49.1 +1.3**
comp=Z,21nm,1.4s
JLU LR LR
comp=Z,5µm,22.0s
X16A Lo Mia Camp, P 99.28 56 *e*P **Pdif 21 26 49.7 +1.7**
comp=Z,10nm,1.0s
X16A LR LR
comp=Z,6µm,20.0s
TCUT Toone Canyon 99.29 49 PFAKE 21 27 00.0 +12
TCUT LR LR
comp=Z,7µm,22.0s
WUAZ Wupatki 99.34 55 Pdiff **Pdif 21 26 48.2 0.0**
baz=270
WUAZ Wupatki 99.34 55 *e*P **Pdif 21 26 49.1 +0.9**
comp=Z,17nm,0.8s
WUAZ *e*PP **PP 21 30 46.2 -5.6**
WUAZ LR LR
comp=Z,9µm,21.0s
YHB Horse Butte 99.38 46 PFAKE 21 27 00.0 +12
YHB LR LR
comp=Z,7µm,22.0s
TMUT Trail Mountain 99.47 51 *e*P **Pdif 21 26 49.8 +1.0**
comp=Z,15nm,0.8s
TMUT LR LR
comp=Z,6µm,21.0s
AHID Auburn Hatcher 99.50 48 *e*P **Pdif 21 26 48.6 -0.1**
AHID LR LR
comp=Z,6µm,22.0s
Q16A Castle Valley 99.50 52 *e*P **Pdif 21 26 49.9 +1.1**
comp=Z,11nm,0.9s
Q16A LR LR
comp=Z,9µm,22.0s
FXWY Fox Creek 99.53 47 *e*Pdif **Pdif 21 26 48.6 -0.3**
comp=Z,8.8nm,0.8s
YMR Madison River 99.55 46 *e*Pdif **Pdif 21 26 48.3 -0.7**
comp=Z,13nm,1.0s
YMR LR LR
comp=Z,7µm,22.0s
IMW Indian Meadow 99.59 47 *e*Pdif **Pdif 21 26 49.8 +0.6**
comp=Z,8.2nm,0.9s
IMW LR LR
comp=Z,6µm,20.0s
TPAW Teton Pass 99.59 47 *e*Pdif **Pdif 21 26 47.6 -1.6**
comp=Z,8.6nm,0.8s
TPAW LR LR
comp=Z,6µm,20.0s
YHH Holmes Hill 99.62 46 PFAKE 21 27 00.0 +11
YHH LR LR
comp=Z,6µm,22.0s
HSIG 99.63 62 PFAKE 21 27 00.0 +11
HSIG LR LR
comp=Z,10µm,21.0s
YFT Old Faithful 99.65 46 PFAKE 21 27 00.0 +11
YFT LR LR
comp=Z,7µm,22.0s
REDW Red Top Meadow 99.66 47 *e*Pdif **Pdif 21 26 48.7 -0.8**
comp=Z,30nm,1.6s
REDW LR LR
comp=Z,5µm,20.0s
YPP Pitchstone Pla 99.67 46 PFAKE 21 27 00.0 +10
YPP LR LR
comp=Z,8µm,20.0s
MOOW Moose Ponds 99.73 47 *e*Pdif **Pdif 21 26 50.2 +0.5**
comp=Z,4.9nm,0.8s
MOOW LR LR
comp=Z,7µm,21.0s
SNOW Snow King Moun 99.73 47 PFAKE 21 27 00.0 +10
SNOW LR LR
comp=Z,6µm,20.0s
YNR Norris Junctio 99.75 46 *e*Pdif **Pdif 21 26 48.1 -1.8**
comp=Z,24nm,1.5s
YNR LR LR
comp=Z,6µm,22.0s
TUC Tucson 99.82 58 Pdiff **Pdif 21 26 50.6 +0.4**
baz=270
TUC Tucson 99.82 58 PFAKE 21 27 00.0 +10
TUC LR LR
comp=Z,6µm,22.0s
P17A Butcher Ranch, 99.83 51 *e*Pdif **Pdif 21 26 49.9 -0.3**
comp=Z,14nm,1.0s
P17A LR LR
comp=Z,7µm,22.0s
H17A Grant Village 99.83 46 Pdiff **Pdif 21 26 50.3 +0.1**
baz=272
H17A Grant Village 99.83 46 *e*Pdif **Pdif 21 26 50.6 +0.4**
comp=Z,7.9nm,0.9s
H17A LR LR
comp=Z,10µm,22.0s
SRU San Rafael Swe 100.00 51 *e*P **Pdif 21 26 50.7 -0.3**
SRU MLR MLR
comp=Z,7µm,21.0s
SRU San Rafael Swe 100.00 51 *e*Pdif **Pdif 21 26 50.6 -0.3**
SRU LR LR
comp=Z,7µm,21.0s
P18A Preston Nutter 100.20 51 *e*Pdif **Pdif 21 26 52.3 +0.2**
P18A LR LR
comp=Z,8µm,22.0s
EGMT Eagleton 100.25 42 Pdiff **Pdif 21 26 52.2 +0.4**
baz=273
EGMT Eagleton 100.25 42 *e*Pdif **Pdif 21 26 51.8 0.0**
EGMT LR LR
comp=Z,4µm,20.0s
SLBS Sierra La Lagu 100.42 67 PFAKE 21 27 00.0 +6.9
SLBS LR LR
comp=Z,7µm,20.0s
X18A Snowflake 100.52 56 *e*Pdif **Pdif 21 26 53.0 -0.5**
X18A LR LR
comp=Z,6µm,22.0s
BW06 Boulder Array 100.63 48 Pdiff **Pdif 21 26 53.6 -0.2**
baz=272
BW06 Boulder Array 100.63 48 *e*Pdif **Pdif 21 26 52.7 -1.1**
BW06 LR LR
comp=Z,5µm,22.0s
PD31 Pinedale Array 100.63 48 *e*Pdif **Pdif 21 26 51.5 -2.3**
PDAR Pinedale Array 100.63 48 P **Pdif 21 26 53.7 -0.1**
comp=Z,6.2nm,0.6s,baz=242,slow=2.6,SNR=46
PDAR PKiKP **PKiKP 21 31 20.2 +0.3**
comp=Z,0.8nm,0.8s,baz=222,slow=1.2,SNR=3.1
PDAR PKKPbc **PKKPbc 21 43 08.1 -1.4**
comp=Z,1.0nm,0.8s,baz=97,slow=4.8,SNR=4.9
PDAR Pinedale Array 100.63 48 *e*Pdif **Pdif 21 26 52.5 -1.3**
PDAR PKiKP **PKiKP 21 31 20.2 +0.3**
PDAR PKKPbc **PKKPbc 21 43 08.1 -1.4**
W18A Petrified Fore 100.69 55 Pdiff **Pdif 21 26 54.5 +0.3**
baz=271
W18A Petrified Fore 100.69 55 *e*Pdif **Pdif 21 26 55.9 +1.7**
W18A LR LR
comp=Z,8µm,22.0s
RLMT Red Lodge 100.73 45 Pdiff **Pdif 21 26 54.8 +0.6**
baz=273
RLMT Red Lodge 100.73 45 PFAKE 21 27 10.0 +16
RLMT LR LR
comp=Z,3µm,20.0s
SNAA Sanae 101.02 188 P **Pdif 21 26 54.4 -0.3**
SNAA Sanae 101.02 188 *e*P **Pdif 21 26 53.5 -1.2**
SNAA MLR MLR
comp=Z,8µm,20.0s
SNAA Sanae 101.02 188 *e*Pdif **Pdif 21 26 53.5 -1.2**
SNAA LR LR
comp=Z,8µm,20.0s
PV09 Paradox Valley 101.10 52 *e*Pdif **Pdif 21 26 56.0 0.0**
PV05 Paradox Valley 101.14 52 *e*Pdif **Pdif 21 26 56.5 +0.3**
ABPO Ambohimpanom 101.21 249 PFAKE 21 27 10.0 +13
ABPO LR LR
comp=Z,4µm,22.0s
RES Resolute Bay 101.58 14 *e*P **Pdif 21 26 56.4 -0.6**
RES MLR MLR
comp=Z,2µm,21.0s
RES Resolute Bay 101.58 14 *e*Pdif **Pdif 21 26 56.4 -0.6**
RES LR LR
comp=Z,2µm,21.0s
MVCO Mesa Verde 101.64 53 Pdiff **Pdif 21 26 58.4 0.0**
baz=272
MVCO Mesa Verde 101.64 53 *e*Pdif **Pdif 21 26 58.4 0.0**
MVCO LR LR
comp=Z,6µm,21.0s
O20A White River Ci 101.73 50 Pdiff **Pdif 21 26 59.3 +0.6**
baz=273
O20A White River Ci 101.73 50 PFAKE 21 27 10.0 +11
O20A LR LR
comp=Z,6µm,22.0s
VNA3 Neumayer Olymp 102.27 186 P **Pdif 21 26 59.2 -1.1**
121A Cookes Peak, D 102.35 58 Pdiff **Pdif 21 27 02.4 +0.8**
baz=271
RWWY Rawlins 102.43 49 PFAKE 21 27 10.0 +8.2
RWWY LR LR

comp=Z,4µm,22.0s
LAO LASA Array 102.74 44 Pdiff **Pdif 21 27 03.8 +0.9**
baz=276
LAO LASA Array 102.74 44 *e*Pdif **Pdif 21 27 02.9 0.0**
LAO LR LR
comp=Z,3µm,19.0s
SMCO Snowmass 102.76 51 *e*Pdif **Pdif 21 27 03.9 +0.3**
SMCO LR LR
comp=Z,8µm,22.0s
LAZ Ladron 102.84 56 *e*Pdif **Pdif 21 27 04.5 +0.7**
K22A Casper 102.87 48 Pdiff **Pdif 21 27 04.0 +0.3**
baz=274
K22A Casper 102.87 48 PFAKE 21 27 20.0 +16
K22A LR LR
comp=Z,3µm,21.0s
S22A 4UR Ranch, Cre 102.95 53 Pdiff **Pdif 21 27 04.7 +0.4**
baz=273
S22A 4UR Ranch, Cre 102.95 53 *e*Pdif **Pdif 21 27 04.7 +0.4**
S22A LR LR
comp=Z,11µm,22.0s
Y22D IRIS PASSCAL I 103.03 56 PFAKE 21 27 20.0 +15
Y22D LR LR
comp=Z,6µm,22.0s
ANMO Albuquerque 103.38 56 Pdiff **Pdif 21 27 06.7 +0.5**
baz=273
ANMO Albuquerque 103.38 56 *e*P **Pdif 21 27 07.4 +1.2**
ANMO MLR MLR
comp=Z,4µm,22.0s
ANMO Albuquerque 103.38 56 *e*Pdif **Pdif 21 27 07.4 +1.2**
ANMO LR LR
comp=Z,4µm,22.0s
N23A Red Feather La 103.43 49 Pdiff **Pdif 21 27 06.8 +0.4**
baz=274
N23A Red Feather La 103.43 49 *e*Pdif **Pdif 21 27 07.8 +1.5**
N23A LR LR
comp=Z,4µm,22.0s
EPT El Paso 103.46 59 PFAKE 21 27 20.0 +14
EPT LR LR
comp=Z,5µm,20.0s
MAK Makhachkala 103.73 313 *e*P **Pdif 21 27 03.1 -4.1**
MAK *i* 21 31 24.7
MAK *e*PPP PPP 21 33 37.2
MAK *e* 21 38 24.6
MAK *e*PS **PS 21 40 41.3 +5.6**
MAK *e*SS SS 21 46 10.0 +2.7
MAK *e*SSS SSS 21 50 09.8
MAK pmax pmax
comp=Z,292nm,1.3s
ISCO Idaho Springs 103.77 51 Pdiff **Pdif 21 27 08.2 +0.2**
baz=274
ISCO Idaho Springs 103.77 51 *e*P **Pdif 21 27 06.9 -1.0**
ISCO MLR MLR
comp=Z,4µm,22.0s
ISCO Idaho Springs 103.77 51 *e*Pdif **Pdif 21 27 06.9 -1.0**
ISCO LR LR
comp=Z,4µm,22.0s
PHWY Pilot Hill 103.77 49 PFAKE 21 27 20.0 +12
PHWY LR LR
comp=Z,2µm,22.0s
SPITS Spitsbergen Ar 103.83 351 Pdiff **Pdif 21 27 09.1 +2.1**
comp=Z,11nm,1.1s,baz=37,slow=4.3,SNR=3.9
SPITS PKKPbc **PKKPbc 21 43 00.9 +0.1**
comp=Z,2.9nm,0.7s,baz=222,slow=1.1,SNR=11
DGMT Dagmar 103.91 42 Pdiff **Pdif 21 27 08.1 +0.2**
baz=277
DGMT Dagmar 103.91 42 PFAKE 21 27 20.0 +12
DGMT LR LR
comp=Z,4µm,22.0s
KBS Kingsbay 103.91 353 PFAKE 21 27 20.0 +13
KBS LR LR
comp=Z,2µm,20.0s
SDCO Great Sand Dun 104.00 53 Pdiff **Pdif 21 27 08.5 -0.4**
baz=274
SDCO Great Sand Dun 104.00 53 *e*Pdif **Pdif 21 27 08.7 -0.3**
SDCO LR LR
comp=Z,10µm,22.0s
Q24A Divide 104.19 51 Pdiff **Pdif 21 27 09.5 -0.3**
baz=274
Q24A Divide 104.19 51 *e*Pdif **Pdif 21 27 10.5 +0.7**
Q24A LR LR
comp=Z,9µm,22.0s
FFC Flin Flon 104.29 35 PFAKE 21 27 20.0 +11
FFC LR LR
comp=Z,7µm,21.0s
HPIG 104.31 64 PFAKE 21 27 20.0 +10
HPIG LR LR
comp=Z,10µm,22.0s
MNTX Cornudas Mount 104.42 59 Pdiff **Pdif 21 27 10.2 -0.4**
baz=272
MNTX Cornudas Mount 104.42 59 *e*Pdif **Pdif 21 27 06.9 -3.7**
MNTX LR LR
comp=Z,4µm,22.0s
RSSD Black Hills 104.54 46 Pdiff **Pdif 21 27 11.3 +0.2**
baz=276
RSSD Black Hills 104.54 46 *e*P **Pdif 21 27 09.6 -1.5**
RSSD MLR MLR
comp=Z,3µm,21.0s
RSSD Black Hills 104.54 46 *e*Pdif **Pdif 21 27 09.6 -1.5**
RSSD LR LR
comp=Z,3µm,21.0s
MHTCO State Highway 104.68 53 PFAKE 21 27 20.0 +8.1
MHTCO LR LR
comp=Z,3µm,20.0s
LVZ Lovozero 104.90 339 PFAKE 21 27 20.0 +8.0
LVZ LR LR
comp=Z,4µm,22.0s
T25A Trinidad 104.91 53 Pdiff **Pdif 21 27 13.5 +0.5**
baz=274
T25A Trinidad 104.91 53 PFAKE 21 27 20.0 +7.1
T25A LR LR
comp=Z,4µm,22.0s
TMCR Tamitsa 104.93 335 *e*P **Pdif 21 27 10.0 -2.1**
TMCR pmax pmax
comp=Z,15nm,0.9s
KLMR Klimovskoe 105.27 332 *e*P **Pdif 21 27 09.8 -3.9**
KLMR *e* 21 37 44.1
KLMR *e*PS **PS 21 40 42.0 -9.0**
KLMR pmax pmax
comp=Z,8.0nm,1.5s
KLMR MLR MLR
comp=Z,1µm,20.0s
KLMR Klimovskoe 105.27 332 *e*Pdif **Pdif 21 27 09.9 -3.8**
KLMR AMP 21 27 15.1
comp=Z,8.0nm,1.5s
KLMR *e*P **PKiKP 21 31 29.0 +1.5**
KLMR *e*SKSac **SKSac 21 37 44.1 -5.7**
KLMR *e*SKSac **SKSac 21 37 44.1 -5.7**
KLMR *e*SP **SP 21 40 36.6 -8.0**
KLMR *e*PS **PS 21 40 42.1 -9.0**
KLMR *e*PS **PS 21 40 42.1 -9.0**
KLMR *e*PKKPbc **PKKPbc 21 42 54.2 -1.8**
KLMR *e*PKKP **PKKPdf 21 43 06.3 0.0**
KLMR *e*SS **SS 21 46 18.8 -8.5**
KLMR *e*SS **SS 21 46 18.8 -8.5**
KLMR LQ LQ 22 08 14.2
KLMR LQ LQ 22 08 14.2
KLMR LR LR 22 13 22.0
KLMR AMP 22 16 15.2
comp=Z,1µm,19.8s
APA Apatity 105.47 339 *i*P **Pdif 21 27 22.1 +7.7**
APA *i* 21 31 42.0
APA *i*PS **PS 21 40 48.0 -4.9**
APA pmax pmax
comp=Z,5.0nm,0.8s
APA MLR MLR
comp=Z,4µm,25.0s
TULEG Thule 105.83 9 PFAKE 21 31 40.0
TULEG LR LR
comp=Z,4µm,22.0s
TX31 Lajitas Ar. Si 106.00 61 *e*Pdif **Pdif 21 27 15.4 -2.4**
TXAR Lajitas Array 106.00 61 Pdiff **Pdif 21 27 20.1 +2.3**
comp=Z,2.0nm,0.8s,baz=254,slow=4.3,SNR=12
TXAR PKiKP **PKiKP 21 31 30.1 +0.2**
comp=Z,1.2nm,0.9s,baz=207,slow=1.4,SNR=4.7
TXAR PP **PP 21 31 41.8 +0.1**
comp=Z,4.1nm,1.0s,baz=266,slow=6.2,SNR=4.5
TXAR PKKPab **PKKPdf 21 43 04.5 +0.1**
comp=Z,1.7nm,0.9s,baz=104,slow=3.8,SNR=4.1
KSCO Kaye Shedlock' 106.14 51 PFAKE 21 31 40.0
KSCO LR LR
comp=Z,8µm,22.0s
OGNE Ogallala 106.38 49 PFAKE 21 31 40.0
OGNE LR LR
comp=Z,6µm,22.0s
MSTX Muleshoe 106.48 56 Pdiff **Pdif 21 27 20.8 +0.9**
baz=274
MSTX Muleshoe 106.48 56 *e*Pdif **Pdif 21 27 16.4 -3.5**
MSTX LR LR
comp=Z,4µm,20.0s
RAYN Ar Rayn 106.49 293 PFAKE 21 31 40.0
RAYN LR LR
comp=Z,2µm,20.0s
KEV Kevo 106.55 342 PFAKE 21 31 40.0
KEV LR LR
comp=Z,2µm,20.0s
AKH Akhalkalaki 106.86 311 ‖ *i*P **PKiKP 21 31 33.7 +2.4**
AKH Akhalkalaki 106.86 311 PFAKE 21 31 40.0
AKH LR LR
comp=Z,4µm,22.0s
KBZ Khabaz 106.97 314 PKiKP **PKiKP 21 31 32.7 +1.6**
comp=Z,2.2nm,1.0s,baz=93,slow=2.1,SNR=1.9
MDND Maddock 107.04 42 PFAKE 21 31 40.0
MDND LR LR
comp=Z,4µm,21.0s
KIV Kislovodsk 107.09 314 *e*P **Pdif 21 27 20.6 -1.7**
KIV *e* 21 31 47.8
KIV *e* 21 37 55.4
KIV *e*PS **PS 21 41 12.2 +1.4**
KIV *e*SS SS 21 46 53.5 +0.2
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,5µm,21.0s
KIV Kislovodsk 107.09 314 PFAKE 21 31 40.0
KIV LR LR
comp=Z,3µm,20.0s
ARCES ARCESS Array B 107.11 343 Pdiff **Pdif 21 27 22.8 +1.1**
comp=Z,5.0nm,1.0s,baz=54,slow=4.6,SNR=4.9
ARCES PKiKP **PKiKP 21 31 30.7 0.0**
comp=Z,4.5nm,0.9s,baz=109,slow=1.5,SNR=22
ARCES PKKPbc **PKKPbc 21 42 48.1 -2.5**
comp=Z,1.7nm,0.6s,baz=248,slow=3.0,SNR=11
ARE0 ARCESS Array S 107.11 343 PFAKE 21 31 40.0
ARE0 LR LR
comp=Z,3µm,20.0s
ZAIG Zacatecas 107.20 68 PFAKE 21 31 40.0
ZAIG LR LR
comp=Z,4µm,19.0s
AMTX Amarillo 107.30 55 PFAKE 21 31 40.0
AMTX LR LR
comp=Z,5µm,21.0s
FCC Fort Churchill 107.47 30 PFAKE 21 31 40.0
FCC LR LR
comp=Z,8µm,20.0s
CBKS Cedar Bluff 108.40 51 PFAKE 21 31 50.0
CBKS LR LR
comp=Z,11µm,22.0s
OBN Obninsk 108.45 327 PFAKE 21 31 50.0
OBN LR LR
comp=Z,8µm,22.0s
MOIG Morelia 108.53 71 PFAKE 21 31 50.0
MOIG LR LR
comp=Z,6µm,20.0s
A32A Rocking H Ranc 108.84 40 PKiKP **PKiKP 21 31 34.4 -0.2**
baz=284
ULM Lac du Bonnet 108.91 39 Pdiff **Pdif 21 27 28.9 -1.2**
comp=Z,1.1nm,0.7s,baz=243,slow=6.8,SNR=3.0
ULM PKiKP **PKiKP 21 31 34.1 -0.5**
comp=Z,2.9nm,0.8s,baz=289,slow=5.3,SNR=5.6
ULM Lac du Bonnet 108.91 39 P **Pdif 21 27 28.9 -1.2**
ULM MLR MLR
comp=Z,6µm,21.0s
ULM Lac du Bonnet 108.91 39 Pdif **Pdif 21 27 28.9 -1.2**
ULM PKiKP **PKiKP 21 31 34.1 -0.5**
ULM LR LR
comp=Z,6µm,21.0s
B32A Ashes, Strandq 108.94 41 PKiKP **PKiKP 21 31 34.0 -0.8**
baz=283
ATD Arta Tunnel 108.94 280 PFAKE 21 31 50.0
ATD LR LR
comp=Z,1µm,22.0s
ABTX Abilene, Hawle 109.21 58 PFAKE 21 31 50.0
ABTX LR LR
comp=Z,4µm,22.0s
BGNE Belgrade 109.21 48 PFAKE 21 31 50.0
BGNE LR LR
comp=Z,4µm,20.0s
JCT Junction City 109.27 60 PFAKE 21 31 50.0
JCT LR LR
comp=Z,5µm,22.0s
AGMN Agassiz Nation 109.40 41 PFAKE 21 31 50.0
AGMN LR LR
comp=Z,6µm,22.0s
A33A Warroad 109.55 40 PKiKP **PKiKP 21 31 35.6 -0.3**
baz=284
H33A Prehn Over Nor 109.61 45 PKiKP **PKiKP 21 31 36.4 +0.2**
baz=282
WMOK Wichita Mounta 109.69 55 PKiKP **PKiKP 21 31 36.4 -0.2**
baz=277
WMOK Wichita Mounta 109.69 55 PFAKE 21 31 50.0
WMOK LR LR
comp=Z,4µm,22.0s
G33A Ortonville 109.71 44 PKiKP **PKiKP 21 31 35.9 -0.4**
baz=282
ECSD EROS Data Cent 109.89 46 PKiKP **PKiKP 21 31 36.5 -0.3**
baz=282
ECSD EROS Data Cent 109.89 46 PFAKE 21 31 50.0
ECSD LR LR
comp=Z,3µm,20.0s
LNIG Linares 109.96 66 PFAKE 21 31 50.0
LNIG LR LR
comp=Z,6µm,21.0s
B34A Aery, Baudette 110.13 40 PKiKP **PKiKP 21 31 37.1 +0.1**
baz=285
UNM Universidad Na 110.43 72 PFAKE 21 31 50.0
UNM LR LR
comp=Z,3µm,22.0s
KSU1 Kansas State U 110.77 50 PFAKE 21 31 50.0
KSU1 LR LR
comp=Z,8µm,22.0s
F35A Swanville 110.84 43 PKiKP **PKiKP 21 31 38.5 +0.1**
baz=284
D35A Remer 110.88 42 PKiKP **PKiKP 21 31 38.6 +0.1**
baz=285
FINES FINESS Array B 111.05 335 Pdiff **Pdif 21 27 38.8 -0.6**
comp=Z,1.5nm,0.6s,baz=57,slow=5.8,SNR=6.0
FINES PKiKP **PKiKP 21 31 37.7 -0.6**
comp=Z,5.9nm,1.1s,baz=67,slow=2.3,SNR=10
FINES PKKPbc **PKKPbc 21 42 37.4 -0.4**
comp=Z,0.4nm,0.4s,baz=238,slow=3.6,SNR=4.8
KVTX Kingsville 111.19 63 PFAKE 21 31 50.0
KVTX LR LR
comp=Z,5µm,19.0s
D36A Goodland 111.44 41 PKiKP **PKiKP 21 31 39.2 -0.4**
baz=286
C36A Pine Crest Far 111.50 41 PKiKP **PKiKP 21 31 39.5 -0.1**
baz=286
F36A Milaca 111.55 43 PKiKP **PKiKP 21 31 39.4 -0.4**
baz=285
G36A St. Michael 111.55 43 PKiKP **PKiKP 21 31 39.8 +0.1**
baz=284
D37A Cotton 111.93 41 PKiKP **PKiKP 21 31 41.0 +0.5**
baz=286
J37A Redenius Farm, 112.16 45 PKiKP **PKiKP 21 31 41.9 +0.9**
baz=284
SPMN Marine on St. 112.20 43 PKiKP **PKiKP 21 31 41.5 +0.5**
baz=285
L37A Phoenix Point, 112.29 47 PKiKP **PKiKP 21 31 41.7 +0.4**
baz=283
EYMN Ely 112.31 40 PFAKE 21 31 50.0
EYMN LR LR
comp=Z,5µm,22.0s
F38A Pierce - Schro 112.63 42 PKiKP **PKiKP 21 31 42.6 +0.7**
baz=286
SCIA State Center 112.73 47 PFAKE 21 31 50.0
SCIA LR LR
comp=Z,5µm,22.0s
SUMG Summit 112.82 3 *i*P **PKKPbc 21 42 28.8 -3.9**
comp=Z,7.1nm,1.0s
SUMG Summit 112.82 3 PFAKE 21 31 50.0
SUMG LR LR
comp=Z,2µm,22.0s
M38A Pleasantville 112.86 47 PKiKP **PKiKP 21 31 42.4 0.0**
baz=283
G38A Ridgeland 112.86 43 PKiKP **PKiKP 21 31 42.8 +0.5**
baz=286
T38A Diamond 112.94 52 PKiKP **PKiKP 21 31 42.5 -0.1**
baz=281
O38A Galt 112.94 49 PKiKP **PKiKP 21 31 42.3 -0.2**
baz=283
FURI Furi 112.94 277 PFAKE 21 32 00.0
FURI LR LR
comp=Z,2µm,20.0s
P38A Dawn 113.01 49 PKiKP **PKiKP 21 31 42.6 -0.2**
baz=282
S38A Stockton 113.12 51 PKiKP **PKiKP 21 31 42.8 -0.2**
baz=281
F39A Loretta 113.28 42 PKiKP **PKiKP 21 31 42.6 -0.4**
baz=287
G39A Holcombe 113.30 43 PKiKP **PKiKP 21 31 43.1 0.0**
baz=286
MICGM Minsk 113.36 328 *e* PKiKP 21 32 05.0 +22
H39A Augusta 113.39 44 PKiKP **PKiKP 21 31 42.5 -0.8**
baz=286
E39A Mellen 113.39 42 PKiKP **PKiKP 21 31 42.5 -0.7**
baz=288
I39A Houston 113.45 44 PKiKP **PKiKP 21 31 42.8 -0.7**
baz=286
NATX Nacogdoches 113.50 58 PFAKE 21 32 00.0
NATX LR LR
comp=Z,5µm,22.0s
X39A Fountain Ranch 113.53 55 PKiKP **PKiKP 21 31 43.8 -0.1**
baz=280
Q39A Willow Grove F 113.55 50 PKiKP **PKiKP 21 31 43.6 -0.2**
baz=282
L39A Vinton 113.56 46 PKiKP **PKiKP 21 31 43.2 -0.5**
baz=285
S39A Bolivar 113.57 51 PKiKP **PKiKP 21 31 43.5 -0.4**
baz=282
M39A Webster 113.59 47 PKiKP **PKiKP 21 31 43.5 -0.3**
baz=284
KMBO Kilima Mbogo 113.60 266 PKiKP **PKiKP 21 31 45.2 +0.3**
comp=Z,1.4nm,0.5s,baz=90,slow=1.5,SNR=5.1
KMBO Kilima Mbogo 113.60 266 PKIKP **PKiKP 21 31 45.2 +0.3**
KMBO MLR MLR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 113.60 266 PKiKP **PKiKP 21 31 45.2 +0.3**
KMBO LR LR
comp=Z,2µm,20.0s
IDID Didziasalis 113.60 329 *e*P **PKiKP 21 31 39.9 -3.5**
O39A Kirksville 113.61 48 PKiKP **PKiKP 21 31 44.0 +0.1**
baz=283
P39B Salisbury 113.62 49 PKiKP **PKiKP 21 31 43.6 -0.3**
baz=283
IZAR Zarasai 113.66 330 *e*P **PKiKP 21 31 50.1 +6.7**
T39A Clever 113.66 52 PKiKP **PKiKP 21 31 43.6 -0.5**
baz=281
R39A Chumby, Stover 113.66 51 PKiKP **PKiKP 21 31 44.1 +0.1**
baz=282
V39A Pettigrew 113.67 53 PKiKP **PKiKP 21 31 43.5 -0.7**
baz=281
W39A Magazine 113.68 54 PKiKP **PKiKP 21 31 43.9 -0.2**
baz=280
ISAL Salakas 113.80 329 *e*P **PKiKP 21 31 44.4 +0.6**
E40A Wakefield 113.80 41 PKiKP **PKiKP 21 31 43.5 -0.5**
baz=288
F40A Park Falls 113.81 42 PKiKP **PKiKP 21 31 43.7 -0.4**
baz=288
C40A Isle Royale Na 113.82 40 PKiKP **PKiKP 21 31 44.0 0.0**
baz=289
IIGN Ignalina 113.85 329 *e*P **PKiKP 21 31 40.2 -3.6**
G40A Rib Lake 113.96 43 PKiKP **PKiKP 21 31 44.3 -0.1**
baz=287
MIAR Mount Ida 113.96 55 PKiKP **PKiKP 21 31 44.1 -0.6**
baz=280
MIAR Mount Ida 113.96 55 PFAKE 21 32 00.0
MIAR LR LR
comp=Z,7µm,22.0s
H40A Chili 114.02 43 PKiKP PKPdf 21 31 44.0 -0.5
baz=287
K40A Colesburg 114.03 46 PKiKP PKPdf 21 31 43.8 -0.8
baz=285
NAI Nairobi 114.03 266 PFAKE 21 32 00.0 +14
NAI LR LR
comp=Z,2µm,20.0s
M40A Post Highland 114.09 47 PKiKP PKPdf 21 31 44.3 -0.4
baz=285
AKASG Malin Array Be 114.13 324 PKP PKPdf 21 31 43.9 -0.6
comp=Z,2.7nm,0.5s,baz=64,slow=2.2,SNR=8.6
AKASG PKKPbc **PKKPbc 21 42 25.2 -1.9**
comp=Z,1.9nm,0.5s,baz=264,slow=3.8,SNR=8.0
AKBB Malin Array Si 114.13 324 PFAKE 21 32 00.0 +16
AKBB LR LR
comp=Z,6µm,22.0s
L40A Anamosa 114.13 46 PKiKP PKPdf 21 31 44.2 -0.6
baz=285
KIEV Kiev 114.14 324 PFAKE 21 32 00.0 +15
KIEV LR LR
comp=Z,6µm,22.0s
O40A La Belle 114.14 48 PKiKP PKPdf 21 31 44.6 -0.2
baz=284
P40A Paris 114.15 49 PKiKP **PKiKP 21 31 45.0 +0.1**
baz=283
U40A Yellville 114.20 53 PKiKP PKPdf 21 31 44.6 -0.5
baz=281
S40A Lebanon 114.22 51 PKiKP PKPdf 21 31 44.7 -0.4
baz=282
Q40A Laux Farm, Aux 114.25 50 PKiKP PKPdf 21 31 44.7 -0.4
baz=283
W40A Ferguson Farm, 114.25 54 PKiKP PKPdf 21 31 45.0 -0.3
baz=281
W40A Ferguson Farm, 114.25 54 PFAKE 21 32 00.0 +15
W40A LR LR
comp=Z,4µm,21.0s
R40A Maddies Statio 114.26 50 PKiKP PKPdf 21 31 44.7 -0.4
baz=283
T40A Mansfield 114.30 52 PKiKP PKPdf 21 31 45.1 -0.3
baz=282
V40A Witts Springs 114.33 53 PKiKP PKPdf 21 31 45.2 -0.2
baz=281
E41A Kenton 114.41 41 PKiKP **PKiKP 21 31 45.3 +0.1**
baz=289
COWI Conover 114.41 42 PFAKE 21 32 00.0 +15
COWI LR LR
comp=Z,5µm,22.0s
D41A Chassel 114.47 40 PKiKP **PKiKP 21 31 45.8 +0.5**
baz=285
MMAI Mount Meron Ar 114.51 304 PKP PKPdf 21 31 45.6 -0.4
comp=Z,1.6nm,0.5s,baz=66,slow=2.0,SNR=3.5
H41A Junction City 114.52 43 PKiKP PKPdf 21 31 45.1 -0.4
baz=287
BRTR Keskin Array B 114.55 311 PKP PKPdf 21 31 45.6 -0.2
comp=Z,2.1nm,0.6s,baz=149,slow=5.3,SNR=7.6
BRTR PKKPbc **PKKPbc 21 42 25.7 +0.1**
comp=Z,1.2nm,0.8s,baz=233,slow=3.3,SNR=4.5
F41A Three Lakes 114.55 42 PKiKP PKPdf 21 31 45.3 -0.2
baz=288
X40A Basin Creek Fa 114.57 55 PKiKP PKPdf 21 31 45.6 -0.3
baz=281
JFWS Jewell Farm 114.60 45 PKiKP PKPdf 21 31 44.8 -0.8
baz=286
JFWS Jewell Farm 114.60 45 PFAKE 21 32 00.0 +14
JFWS LR LR
comp=Z,4µm,21.0s
J41A Loganville 114.64 45 PKiKP PKPdf 21 31 45.0 -0.7
baz=287
L41A Preston 114.65 46 PKiKP PKPdf 21 31 45.0 -0.7
baz=286
N41A Harden Midland 114.75 48 PKiKP **PKiKP 21 31 45.5 -0.6**
baz=285
ILULI Ilulissat 114.79 9 PFAKE 21 32 00.0 +15
ILULI LR LR
comp=Z,3µm,20.0s
Z41A Richland Creek 114.82 56 PKiKP PKPdf 21 31 46.2 -0.2
baz=280
Y41A Eaglette Beard 114.86 55 PKiKP PKPdf 21 31 45.9 -0.5
baz=280
V41A Mountainview 114.87 53 PKiKP PKPdf 21 31 45.7 -0.7
baz=282
O41A Passleys Farm, 114.88 48 PKiKP **PKiKP 21 31 45.9 -0.3**
baz=284
Q41A Truxton 114.90 50 PKiKP **PKiKP 21 31 46.2 -0.1**
baz=284
W41B Gary Mavity, V 114.92 54 PKiKP **PKiKP 21 31 46.0 -0.5**
baz=281
T41A Mountain View 114.92 52 PKiKP **PKiKP 21 31 46.0 -0.4**
baz=282
R41A Rosebud 114.94 50 PKiKP **PKiKP 21 31 46.0 -0.4**
baz=283
U41A Viola 114.94 53 PKiKP **PKiKP 21 31 46.1 -0.5**
baz=282
CCM Cathedral Cave 115.09 51 PKiKP **PKiKP 21 31 46.1 -0.6**
baz=283
CCM Cathedral Cave 115.09 51 PFAKE 21 32 00.0 +13
CCM LR LR
comp=Z,11µm,22.0s
G42A Mountain 115.16 42 PKiKP **PKiKP 21 31 45.7 -1.0**
baz=289

I42A	**Draeger Farm,**	**115.25**	**44**	PKiKP	**PKiKP**	**21 31 46.2**	**-0.7**		
	baz=288								
L42A	**Oliver, Polo**	**115.27**	**46**	PKiKP	**PKiKP**	**21 31 46.4**	**-0.5**		
	baz=286								
J42A	**Columbus**	**115.27**	**44**	PKiKP	**PKiKP**	**21 31 46.2**	**-0.7**		
	baz=287								
N42A	**Yates City**	**115.32**	**47**	PKiKP	**PKiKP**	**21 31 46.7**	**-0.5**		
	baz=286								
R42A	**Luebbering**	**115.39**	**50**	PKiKP	**PKiKP**	**21 31 47.2**	**-0.2**		
	baz=284								
P42A	**Winchester**	**115.41**	**49**	PKiKP	**PKiKP**	**21 31 46.7**	**-0.6**		
	baz=285								
Q42A	**Golden Eagle**	**115.44**	**49**	PKiKP	**PKiKP**	**21 31 47.2**	**-0.1**		
	baz=284								
T42A	**Van Buren**	**115.44**	**52**	PKiKP	**PKiKP**	**21 31 46.8**	**-0.7**		
	baz=283								
V42A	**Cord**	**115.47**	**53**	PKiKP	**PKiKP**	**21 31 46.8**	**-0.8**		
	baz=282								
U42A	**Revenden**	**115.48**	**52**	PKiKP	**PKiKP**	**21 31 46.9**	**-0.7**		
	baz=282								
S42A	**Caledonia**	**115.51**	**51**	PKiKP	**PKiKP**	**21 31 46.9**	**-0.7**		
	baz=284								
242A	**Grayson**	**115.56**	**57**	PKiKP	**PKPdf**	**21 31 47.7**	**-0.1**		
	baz=280								
G43A	**Wallace**	**115.65**	**42**	PKiKP	**PKiKP**	**21 31 47.0**	**-0.6**		
	baz=289								
KIS	**Kishinev**	**115.74**	**320**	*e*	PP	21 32 41.0	-10		
KIS	**Kishinev**	**115.74**	**320**	*e*PP	**PP**	**21 32 48.0**	**-2.9**		
KIS	**Kishinev**	**115.74**	**320**	*e*PS	PS	21 42 36.0	+3.4		
KIS	**Kishinev**	**115.74**	**320**	*e*PPS	PPS	21 43 50.0			
KIS				*e*SS	SS	21 49 52.0	+64		
KIS				*e*SSS	SSS	21 53 48.0			
KIS				*e*L	L	22 11 52.0			
KIS				LRM	MLR	22 23 46.0			
	comp=Z,4μm,22.0s								
KIS	**Kishinev**	**115.74**	**320**	*e*P	**PKKPbc**	**21 42 24.0**	**+2.5**		
J43A	**Natural Harves**	**115.74**	**44**	PKiKP	**PKiKP**	**21 31 47.4**	**-0.5**		
	baz=288								
I43A	**Langenfeld Bro**	**115.78**	**44**	PKiKP	**PKiKP**	**21 31 47.4**	**-0.5**		
	baz=288								
F43A	**Flat Rock, Esc**	**115.80**	**41**	PKiKP	**PKiKP**	**21 31 47.7**	**-0.2**		
	baz=290								
H43A	**Windswept, Lux**	**115.85**	**43**	PKiKP	**PKiKP**	**21 31 47.3**	**-0.7**		
	baz=289								
M43A	**Waltham Townsh**	**115.93**	**46**	PKiKP	**PKPdf**	**21 31 47.3**	**-1.0**		
	baz=287								
HDIL	**Hopedale**	**115.94**	**47**	*e*PKPdf	**PKPdf**	**21 31 48.6**	**+0.3**		
HDIL				LR	LR				
	comp=Z,4μm,22.0s								
P43A	**Skaggs, Pawnee**	**116.01**	**48**	PKiKP	**PKPdf**	**21 31 48.0**	**-0.5**		
	baz=285								
SUW	**Suwalki**	**116.04**	**329**	*e*PKP	**PKPdf**	**21 31 48.7**	**+0.6**		
SUW	**Suwalki**	**116.04**	**329**	*e*PKIKP	**PKPdf**	**21 31 48.7**	**+0.6**		
SUW	**Suwalki**	**116.04**	**329**	*e*PKPdf	**PKPdf**	**21 31 48.6**	**+0.6**		
SUW				LR	LR				
	comp=Z,5μm,22.0s								
T43A	**Greenville**	**116.06**	**51**	PKiKP	**PKPdf**	**21 31 48.4**	**-0.2**		
	baz=284								
F44A	**Big Bay de Noc**	**116.24**	**41**	PKiKP	**PKPdf**	**21 31 48.3**	**-0.4**		
	baz=291								
M44A	**Midewin, Midew**	**116.61**	**46**	PKiKP	**PKPdf**	**21 31 48.6**	**-1.0**		
	baz=287								
S44A	**Carbondale**	**116.71**	**51**	PKiKP	**PKPdf**	**21 31 49.7**	**-0.2**		
	baz=285								
P44A	**Sand Creek, Wi**	**116.73**	**48**	PKiKP	**PKPdf**	**21 31 49.8**	**-0.1**		
	baz=286								
HFS	**Hagfors**	**116.77**	**338**	PKP	**PKPdf**	**21 31 49.0**	**-0.3**		
	comp=Z,2.7nm,0.5s,baz=62,slow=3.4,SNR=11								
244A	**Avery, Jackson**	**116.79**	**57**	PKiKP	**PKPdf**	**21 31 50.1**	**-0.1**		
	baz=281								
CFR	**Carcaliu**	**116.83**	**318**	⇓*i*P	**PKPdf**	**21 31 50.3**	**+0.5**		
CFR	**Carcaliu**	**116.83**	**318**	⇓PKIKP	**PKPdf**	**21 31 50.3**	**+0.5**		
NC405	**NORSAR Array S**	**116.83**	**339**	*e*PKPdf	**PKPdf**	**21 31 48.6**	**-0.8**		
SFJD	**Kangerlussuaq**	**116.89**	**9**	PFAKE		21 32 00.0	+11		
SFJD				LR	LR				
	comp=Z,3μm,21.0s								
TIRR	**Tirgusor**	**116.89**	**317**	⇓*i*P	**PKPdf**	**21 31 50.5**	**+0.5**		
TIRR	**Tirgusor**	**116.89**	**317**	⇓PKIKP	**PKPdf**	**21 31 50.5**	**+0.5**		
VBMS	**Vicksburg**	**116.90**	**57**	PFAKE		21 32 00.0	+10		
VBMS				LR	LR				
	comp=Z,4μm,21.0s								
NC204	**NORSAR Array S**	**117.05**	**340**	*e*PKPdf	**PKPdf**	**21 31 49.4**	**-0.5**		
NB2	**NORSAR Subarra**	**117.06**	**339**	PKPdf	**PKPdf**	**21 31 49.3**	**-0.6**		
	comp=Z,2.5nm,0.7s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.06**	**339**	PKP	**PKPdf**	**21 31 49.0**	**-0.9**		
	comp=Z,5.9nm,0.8s,baz=48,slow=1.9,SNR=14								
HARR	**Harsova**	**117.13**	**318**	⇓*i*P	**PKPdf**	**21 31 50.9**	**+0.4**		
HARR	**Harsova**	**117.13**	**318**	⇓PKIKP	**PKPdf**	**21 31 50.9**	**+0.4**		
N45A	**Kentland**	**117.15**	**47**	PKiKP	**PKPdf**	**21 31 50.5**	**-0.2**		
	baz=287								
NC602	**NORSAR Array S**	**117.15**	**339**	*e*PKPdf	**PKPdf**	**21 31 49.5**	**-0.6**		
NC605	**NORSAR Array S**	**117.17**	**339**	*e*PKPdf	**PKPdf**	**21 31 49.9**	**-0.2**		
NBO02	**NORSAR Array S**	**117.17**	**340**	*e*PKPdf	**PKPdf**	**21 31 49.7**	**-0.4**		
NBO00	**NORSAR Array S**	**117.21**	**340**	*e*PKPdf	**PKPdf**	**21 31 49.7**	**-0.5**		
Q45A	**Warren Harvey,**	**117.23**	**49**	PKiKP	**PKPdf**	**21 31 50.8**	**0.0**		
	baz=286								
PRAR	**RASCA**	**117.24**	**321**	⇓*i*P	**PKPdf**	**21 31 50.8**	**+0.2**		
R45A	**Skylar, Fairfi**	**117.30**	**50**	PKiKP	**PKPdf**	**21 31 51.0**	**0.0**		
	baz=286								
TESR	**Tescani**	**117.30**	**320**	⇓*i*P	**PKPdf**	**21 31 49.7**	**-1.1**		
OXF	**Oxford**	**117.34**	**54**	PFAKE		21 32 00.0	+8.8		
OXF				LR	LR				
	comp=Z,5μm,22.0s								
Z45A	**Winona**	**117.35**	**55**	PKiKP	**PKPdf**	**21 31 50.5**	**-0.8**		
	baz=282								
P45A	**Graceland, Par**	**117.36**	**48**	PKiKP	**PKPdf**	**21 31 50.7**	**-0.4**		
	baz=287								
W45A	**Hickory Valley**	**117.37**	**53**	PKiKP	**PKPdf**	**21 31 50.5**	**-0.7**		
	baz=283								
ISP	**Isparta**	**117.38**	**310**	PFAKE		21 32 00.0	+8.7		
ISP				LR	LR				
	comp=Z,3μm,22.0s								
SFIN	**Lafayette**	**117.59**	**47**	PKiKP	**PKPdf**	**21 31 51.3**	**-0.2**		
	baz=288								
N46A	**Monticello**	**117.70**	**46**	PKiKP	**PKPdf**	**21 31 51.4**	**-0.3**		
	baz=288								
P46A	**Rosedale**	**117.73**	**48**	PKiKP	**PKPdf**	**21 31 51.5**	**-0.3**		
	baz=287								
BUR08	**Bucovina Ar. S**	**117.76**	**322**	*e*PKPdf	**PKPdf**	**21 31 51.2**	**-0.6**		
BURAR	**Bucovina Array**	**117.76**	**322**	⇓*i*P	**PKPdf**	**21 31 53.0**	**+1.2**		
BURAR	**Bucovina Array**	**117.76**	**322**	⇓PKIKP	**PKPdf**	**21 31 53.0**	**+1.2**		
BUR04	**Bucovina Ar. S**	**117.76**	**322**	*e*PKPdf	**PKPdf**	**21 31 51.0**	**-0.8**		
BOSA	**Boshof**	**117.79**	**234**	PKP	**PKPdf**	**21 31 52.2**	**-0.3**		
	comp=Z,4.0nm,0.8s,baz=150,slow=2.7,SNR=8.3								
BOSA				PKKPbc	**PKKPbc**	**21 42 14.6**	**+0.7**		
	comp=Z,6.8nm,0.9s,baz=286,slow=1.9,SNR=9.0								
BOSA	**Boshof**	**117.79**	**234**	*e*PKIKP	**PKPdf**	**21 31 51.7**	**-0.8**		
BOSA	**Boshof**	**117.79**	**234**	*e*PKPdf	**PKPdf**	**21 31 51.7**	**-0.8**		
BOSA				PKKPbc	**PKKPbc**	**21 42 14.6**	**+0.7**		
GLMI	**Grayling**	**117.84**	**42**	PFAKE		21 32 00.0	+8.1		
GLMI				LR	LR				
	comp=Z,7μm,22.0s								
Y46A	**Houston**	**117.92**	**55**	PKiKP	**PKPdf**	**21 31 51.7**	**-0.7**		
	baz=283								
T46A	**Princeton**	**117.92**	**51**	PKiKP	**PKPdf**	**21 31 52.2**	**0.0**		
	baz=285								
V46A	**Holladay**	**118.06**	**52**	PKiKP	**PKPdf**	**21 31 51.6**	**-1.0**		
	baz=284								
MLR	**Muntele Rosu**	**118.15**	**319**	PKP	**PKPdf**	**21 31 53.9**	**+1.3**		
	comp=Z,1.0nm,0.5s,baz=312,slow=2.9,SNR=7.3								
MLR	**Muntele Rosu**	**118.15**	**319**	⇑*i*P	**PKPdf**	**21 31 54.1**	**+1.5**		
MLR	**Muntele Rosu**	**118.15**	**319**	⇑PKIKP	**PKPdf**	**21 31 54.1**	**+1.5**		
MLR	**Muntele Rosu**	**118.15**	**319**	*e*PKPdf	**PKPdf**	**21 31 50.2**	**-2.4**		
MLR				LR	LR				
	comp=Z,3μm,21.0s								
WVT	**Waverly**	**118.21**	**52**	PFAKE		21 32 00.0	+7.2		
WVT				LR	LR				
	comp=Z,7μm,22.0s								
PLAL	**Pickwick Lake**	**118.30**	**53**	PFAKE		21 32 00.0	+7.0		
PLAL				LR	LR				
	comp=Z,3μm,22.0s								
O47A	**Sheridan**	**118.31**	**47**	PKiKP	**PKPdf**	**21 31 52.5**	**-0.4**		
	baz=288								
DOPR	**Dopca**	**118.32**	**320**	⇑*i*P	**PKPdf**	**21 31 53.9**	**+1.1**		
BLO	**Bloomington**	**118.37**	**48**	*e*PKIKP	**PKPdf**	**21 31 52.0**	**-1.0**		
BLO	**Bloomington**	**118.37**	**48**	*e*PKPdf	**PKPdf**	**21 31 52.0**	**-1.0**		
KWP	**Kalwaria Pacla**	**118.38**	**325**	*e*PKP	**PKPdf**	**21 31 53.5**	**+0.8**		
KWP	**Kalwaria Pacla**	**118.38**	**325**	*e*PKIKP	**PKPdf**	**21 31 53.5**	**+0.8**		
KWP	**Kalwaria Pacla**	**118.38**	**325**	*e*PKPdf	**PKPdf**	**21 31 52.9**	**+0.1**		
KWP				LR	LR				
	comp=Z,23μm,21.0s								
P47A	**Martinsville**	**118.47**	**48**	PKiKP	**PKPdf**	**21 31 52.9**	**-0.3**		
	baz=288								
T47A	**Sharon Grove**	**118.55**	**51**	PKiKP	**PKPdf**	**21 31 53.2**	**-0.3**		
	baz=286								
U47A	**Clarksville**	**118.55**	**51**	PKiKP	**PKPdf**	**21 31 52.8**	**-0.6**		
	baz=285								
KONO	**Kongsberg**	**118.61**	**339**	PFAKE		21 32 00.0	+7.1		
KONO				LR	LR				
	comp=Z,3μm,22.0s								
W47A	**Westpoint**	**118.61**	**53**	PKiKP	**PKPdf**	**21 31 52.8**	**-0.9**		
	baz=284								
R47A	**Wooly Knot Far**	**118.62**	**49**	PKiKP	**PKPdf**	**21 31 53.1**	**-0.4**		
	baz=287								
MANT	**Manisa**	**118.68**	**311**	*e*PKPdf	**PKPdf**	**21 31 53.2**	**-0.8**		
VOIR		**118.75**	**320**	⇑*i*P	**PKPdf**	**21 31 54.3**	**+0.6**		
VOIR		**118.75**	**320**	⇑PKIKP	**PKPdf**	**21 31 54.3**	**+0.6**		
WCI	**Wyandotte Cave**	**118.82**	**49**	PKiKP	**PKPdf**	**21 31 53.0**	**-0.9**		
	baz=287								
WCI	**Wyandotte Cave**	**118.82**	**49**	*e*PKIKP	**PKPdf**	**21 31 53.6**	**-0.3**		
WCI				MLR	MLR				
	comp=Z,8μm,21.0s								
WCI	**Wyandotte Cave**	**118.82**	**49**	*e*PKPdf	**PKPdf**	**21 31 53.6**	**-0.3**		
WCI				LR	LR				
	comp=Z,8μm,21.0s								
MTUR	**Matau**	**118.82**	**319**	⇑*i*P	**PKPdf**	**21 31 59.5**	**+5.6**		
MTUR	**Matau**	**118.82**	**319**	⇑PKIKP	**PKPdf**	**21 31 59.5**	**+5.6**		
LBTB	**Lobatse**	**118.93**	**238**	*e*PKIKP	**PKPdf**	**21 31 54.9**	**+0.2**		
LBTB	**Lobatse**	**118.93**	**238**	*e*PKPdf	**PKPdf**	**21 31 54.9**	**+0.2**		
ARR	**Arges**	**119.04**	**320**	⇓*i*P	**PKPdf**	**21 31 55.3**	**+1.0**		
UZH	**Uzhgorod**	**119.08**	**324**	*i* PKIKP	**PKPdf**	**21 31 56.7**	**+2.6**		
UZH				*e*		21 32 07.1			
V48A	**Smith Brothers**	**119.10**	**52**	PKiKP	**PKPdf**	**21 31 53.7**	**-0.9**		
	baz=285								
HUMR	**Humele**	**119.15**	**319**	⇓*i*P	**PKPdf**	**21 31 52.2**	**-2.2**		
STHS	**Stebnicka Huta**	**119.32**	**325**	*e*PKIKP	**PKPdf**	**21 31 55.4**	**+0.8**		
STHS	**Stebnicka Huta**	**119.32**	**325**	*e*PKP	**PKPdf**	**21 31 55.4**	**+0.8**		
AAM	**Ann Arbor**	**119.41**	**44**	PFAKE		21 32 10.0	+15		
AAM				LR	LR				
	comp=Z,5μm,21.0s								
CRVS	**Cervenica-Dubn**	**119.44**	**324**	*e*PKIKP	**PKPdf**	**21 31 55.5**	**+0.7**		
CRVS	**Cervenica-Dubn**	**119.44**	**324**	*e*PKP	**PKPdf**	**21 31 55.5**	**+0.7**		
CRVS				*e*		21 43 23.6			
SUR	**Sutherland**	**119.54**	**228**	PFAKE		21 32 10.0	+14		
SUR				LR	LR				
	comp=Z,4μm,20.0s								
LOT	**Lotru**	**119.57**	**320**	⇑*i*P	**PKPdf**	**21 31 55.2**	**-0.1**		
LRAL	**Lakeview Retre**	**119.63**	**55**	PKiKP	**PKPdf**	**21 31 55.5**	**-0.1**		
	baz=284								
LRAL	**Lakeview Retre**	**119.63**	**55**	*e*PKPdf	**PKPdf**	**21 31 55.8**	**+0.2**		
LRAL				LR	LR				
	comp=Z,4μm,22.0s								
DRGR		**119.66**	**322**	⇓*i*P	**PKPdf**	**21 31 55.3**	**-0.1**		
DRGR		**119.66**	**322**	⇓PKIKP	**PKPdf**	**21 31 55.3**	**-0.1**		
OJC	**Ojcow**	**119.74**	**326**	*e*PKP	**PKPdf**	**21 31 55.1**	**-0.2**		
OJC	**Ojcow**	**119.74**	**326**	*e*PKIKP	**PKPdf**	**21 31 55.4**	**0.0**		
OJC	**Ojcow**	**119.74**	**326**	*e*PKPdf	**PKPdf**	**21 31 55.4**	**0.0**		
249A	**Camden**	**119.77**	**56**	PKiKP	**PKPdf**	**21 31 55.9**	**0.0**		
	baz=283								
LSZ	**Lusaka**	**119.77**	**249**	*e*PKIKP	**PKPdf**	**21 31 56.7**	**+0.2**		
LSZ				MLR	MLR				
	comp=Z,2μm,21.0s								
LSZ	**Lusaka**	**119.77**	**249**	*e*PKPdf	**PKPdf**	**21 31 56.7**	**+0.2**		
LSZ				LR	LR				
	comp=Z,2μm,21.0s								
349A	**Repton**	**119.85**	**57**	PKiKP	**PKiKP**	**21 31 56.4**	**+0.2**		
	baz=283								
NIE	**Niedzica**	**119.86**	**325**	*e*PKP	**PKPdf**	**21 31 56.2**	**+0.5**		
NIE	**Niedzica**	**119.86**	**325**	*e*PKIKP	**PKPdf**	**21 31 56.2**	**+0.5**		
149A	**Jones**	**119.90**	**56**	PKiKP	**PKPdf**	**21 31 55.9**	**-0.3**		
	baz=284								
BRAL	**Brewton**	**120.01**	**57**	PFAKE		21 32 10.0	+14		
BRAL				LR	LR				
	comp=Z,4μm,22.0s								
HOPE	**Hope Point**	**120.02**	**175**	PFAKE		21 32 10.0	+14		
HOPE				LR	LR				
	comp=Z,4μm,20.0s								
MBAR	**Mbarara**	**120.13**	**266**	*e*PKIKP	**PKPdf**	**21 31 57.1**	**-0.3**		
MBAR	**Mbarara**	**120.13**	**266**	*e*PKPdf	**PKPdf**	**21 31 57.0**	**-0.3**		
PLCA	**Paso Flores**	**120.16**	**144**	PKP	**PKPdf**	**21 31 56.9**	**+0.3**		
	comp=Z,2.2nm,0.6s,baz=264,slow=2.3,SNR=10								
PLCA				PKKPbc	**PKKPbc**	**21 42 05.9**	**+0.3**		
	comp=Z,1.7nm,0.8s,baz=81,slow=9.4,SNR=4.8								
PLCA				PKKPab	**PKKPab**	**21 42 11.1**	**+4.1**		
	comp=Z,1.0nm,0.6s,baz=188,slow=1.1,SNR=5.2								
PLCA	**Paso Flores**	**120.16**	**144**	*e*PKIKP	**PKPdf**	**21 31 57.3**	**+0.7**		
PLCA	**Paso Flores**	**120.16**	**144**	*e*PKPdf	**PKPdf**	**21 31 57.3**	**+0.7**		
PLCA				PKKPbc	**PKKPbc**	**21 42 05.9**	**+0.3**		
PLCA				PKKPab	**PKKPab**	**21 42 11.1**	**+4.1**		
LANS	**Liptovska Anna**	**120.46**	**325**	*e*PKIKP	**PKPdf**	**21 31 57.7**	**+0.9**		
LANS	**Liptovska Anna**	**120.46**	**325**	*e*PKP	**PKPdf**	**21 31 57.7**	**+0.9**		
RGN	**Rugen**	**120.53**	**333**	PFAKE		21 32 10.0	+13		
RGN				LR	LR				
	comp=Z,4μm,19.0s								
150A	**Eclectic**	**120.53**	**55**	PKiKP	**PKPdf**	**21 31 57.1**	**-0.3**		
	baz=284								
SIRR	**Siria**	**120.54**	**322**	⇑*i*P	**PKPdf**	**21 31 57.3**	**+0.3**		
ACSO	**Alum Creek Sta**	**120.61**	**46**	PKiKP	**PKPdf**	**21 31 56.5**	**-0.8**		
	baz=291								
ACSO	**Alum Creek Sta**	**120.61**	**46**	*e*PKPdf	**PKPdf**	**21 31 57.3**	**0.0**		
ACSO				LR	LR				
	comp=Z,3μm,21.0s								
TEIG	**Tepich**	**120.63**	**70**	PFAKE		21 32 10.0	+12		
TEIG				LR	LR				
	comp=Z,1μm,20.0s								
HERR	**Herculane**	**120.67**	**320**	⇑*i*P	**PKPdf**	**21 31 57.2**	**-0.1**		
BORG	**Borgarnes**	**120.70**	**356**	PKP	**PKPdf**	**21 31 59.3**	**+2.6**		
	comp=Z,6.2nm,0.5s,baz=342,slow=3.2,SNR=4.1								
PSZ	**Piszkesteto**	**120.83**	**324**	*e*PKIKP	**PKPdf**	**21 31 57.6**	**0.0**		
PSZ				MLR	MLR				
	comp=Z,4μm,22.0s								
PSZ	**Piszkesteto**	**120.83**	**324**	⇑*e*PKPdf	**PKPdf**	**21 32 01.2**	**+3.6**		
PSZ	**Piszkesteto**	**120.83**	**324**	*e*PKPdf	**PKPdf**	**21 31 57.6**	**0.0**		
PSZ				LR	LR				
	comp=Z,4μm,22.0s								
OKC	**Ostrava-Krasne**	**120.84**	**326**	*e*PKPdf	**PKPdf**	**21 31 57.5**	**0.0**		
OKC				*ex*	x	21 32 13.6			
OKC				*e*PP	**PP**	**21 33 33.0**	**+7.0**		
OKC				*ex*	x	21 36 05.5			
OKC				*e*SP	SP	21 43 15.0	+3.1		
OKC				*ex*	x	21 50 09.7			
OKC				AMS	AMS	22 25 40.0			
	comp=Z,4μm,22.7s								
OKC	**Ostrava-Krasne**	**120.84**	**326**	*e*PKIKP	**PKPdf**	**21 31 57.5**	**0.0**		
OKC				*e*		21 32 13.6			
OKC				*e*		21 33 33.0			
OKC				*e*		21 36 05.5			
OKC				*e*PS	**PS**	**21 43 15.0**	**-3.4**		
OKC				*e*SS	SS	21 50 09.7	+16		
OKC				MLR	MLR				
	comp=Z,4μm,22.7s								
BZS	**Buzias**	**120.86**	**321**	⇓*i*P	**PKPdf**	**21 31 57.8**	**+0.2**		
BZS	**Buzias**	**120.86**	**321**	⇓PKIKP	**PKPdf**	**21 31 57.8**	**+0.2**		
VTS	**Vitosha**	**121.10**	**317**	⇑*i*P	**PKPdf**	**21 31 58.2**	**-0.2**		
VTS	**Vitosha**	**121.10**	**317**	⇑PKIKP	**PKPdf**	**21 31 58.2**	**-0.2**		
VTS	**Vitosha**	**121.10**	**317**	*e*PKPdf	**PKPdf**	**21 31 57.5**	**-0.9**		
VTS				LR	LR				
	comp=Z,3μm,22.0s								
VTS	**Vitosha**	**121.10**	**317**	P	**PKPdf**	**21 31 57.5**	**-0.9**		
151A	**Opelika**	**121.12**	**55**	PKiKP	**PKPdf**	**21 31 58.1**	**-0.5**		
	baz=284								
NVR	**Nevrokopi**	**121.13**	**316**	P	**PKPdf**	**21 31 57.2**	**-1.1**		
VYHS	**Vyhne**	**121.16**	**325**	*e*PKIKP	**PKPdf**	**21 31 58.5**	**+0.4**		
VYHS				*e*		21 33 30.1			
VYHS	**Vyhne**	**121.16**	**325**	*e*PKP	**PKPdf**	**21 31 58.5**	**+0.4**		
VYHS				*e*PP	**PP**	**21 33 30.1**	**+1.8**		
VYHS				*e*		21 43 32.8			
VYHS				*e*SS	SS	21 50 54.1	+56		
VYHS				*e*L	L	22 20 16.4			
251A	**Midway**	**121.16**	**56**	PKiKP	**PKPdf**	**21 31 58.5**	**-0.1**		
	baz=284								
MDVR	**Moldovita**	**121.17**	**320**	⇓*i*P	**PKPdf**	**21 31 57.5**	**-0.8**		
MORC	**Moravsky Berou**	**121.21**	**327**	⇓*i*P	**PKPdf**	**21 31 58.9**	**+0.7**		
MORC	**Moravsky Berou**	**121.21**	**327**	⇓PKIKP	**PKPdf**	**21 31 58.9**	**+0.7**		
MORC	**Moravsky Berou**	**121.21**	**327**	*e*PKPdf	**PKPdf**	**21 31 58.4**	**+0.2**		
TZTN	**Tazewell**	**121.41**	**50**	PKiKP	**PKiKP**	**21 31 59.3**	**+0.1**		
	baz=288								
TZTN	**Tazewell**	**121.41**	**50**	*e*PKPdf	**PKPdf**	**21 31 56.4**	**-2.6**		
TZTN				LR	LR				
	comp=Z,10μm,22.0s								
SADO	**Sadowa**	**121.42**	**40**	*e*PKPdf	**PKPdf**	**21 31 58.8**	**0.0**		
SADO				LR	LR				
	comp=Z,4μm,21.0s								
TKL	**Tuckaleechee C**	**121.50**	**51**	PKP	**PKPdf**	**21 31 59.2**	**0.0**		
	comp=Z,13nm,0.8s,baz=135,slow=4.1,SNR=7.8								
TKL	**Tuckaleechee C**	**121.50**	**51**	*e*PKIKP	**PKPdf**	**21 31 59.8**	**+0.6**		
TKL				MLR	MLR				
	comp=Z,10μm,21.0s								
TKL	**Tuckaleechee C**	**121.50**	**51**	*e*PKPdf	**PKPdf**	**21 31 59.8**	**+0.6**		
TKL				LR	LR				
	comp=Z,10μm,21.0s								
DPC	**Dobruska-Polom**	**121.55**	**328**	*e*PKPdf	**PKPdf**	**21 31 58.8**	**-0.1**		
DPC				*ex*	x	21 32 15.2			
DPC				*e*PP	**PP**	**21 33 37.9**	**+7.0**		
DPC				*ex*	x	21 36 14.8			
DPC				*e*PKKP	**PKKPab**	**21 41 59.4**	**-0.3**		
DPC				*ex*	x	21 42 11.9			
DPC				*e*SP	SP	21 43 19.7	+1.5		
DPC				*ex*	x	21 50 20.1			
DPC				AMS	AMS	22 26 10.0			
	comp=Z,5μm,20.7s								
DPC	**Dobruska-Polom**	**121.55**	**328**	*e*PKIKP	**PKPdf**	**21 31 58.8**	**-0.1**		
DPC				*e*		21 32 15.2			
DPC				*e*		21 33 37.9			
DPC				*e*		21 36 14.8			
DPC				*e*PS	**PS**	**21 43 19.7**	**-5.1**		
DPC				*e*SS	SS	21 50 20.1	+17		
DPC				MLR	MLR				
	comp=Z,5μm,20.7s								
UPC	**Upice**	**121.63**	**328**	*e*PKPdf	**PKPdf**	**21 31 59.3**	**+0.3**		
UPC				*e*PP	**PP**	**21 33 37.1**	**+5.8**		
UPC				*ex*	x	21 36 09.6			
UPC				*e*SP	SP	21 43 20.1	+1.3		
UPC				*ex*	x	21 50 22.4			
UPC				AMS	AMS	22 26 30.0			
	comp=Z,6μm,21.3s								
UPC	**Upice**	**121.63**	**328**	*e*PKIKP	**PKPdf**	**21 31 59.3**	**+0.3**		
UPC				*e*		21 33 37.1			
UPC				*e*		21 36 09.6			
UPC				*e*PS	**PS**	**21 43 20.1**	**-5.3**		
UPC				*e*SS	SS	21 50 22.4	+19		
UPC				MLR	MLR				
	comp=Z,6μm,21.3s								
452A	**Marianna**	**121.64**	**57**	PKiKP	**PKiKP**	**21 31 59.9**	**+0.2**		
	baz=284								
VRAC	**Vranov**	**121.98**	**327**	⇓*i*P	**PKPdf**	**21 31 59.5**	**-0.2**		
VRAC	**Vranov**	**121.98**	**327**	⇓PKIKP	**PKPdf**	**21 31 59.5**	**-0.2**		
ERPA	**Erie**	**121.99**	**43**	PFAKE		21 32 10.0	+10		
ERPA				LR	LR				
	comp=Z,5μm,22.0s								
TGUH	**Tegucigalpa,Un**	**122.00**	**77**	PFAKE		21 32 10.0	+9.4		
TGUH				LR	LR				
	comp=Z,2μm,20.0s								
MODS	**Modra-Piesok**	**122.11**	**325**	*e*PKIKP	**PKPdf**	**21 32 00.2**	**+0.2**		
MODS	

CLL LR LR
comp=Z,5µm,22.0s
PRU Pruhonice 122.70 328 *e*PKPdf **PKPdf** 21 32 01.2 +0.2
PRU *ex* x 21 32 17.2
PRU *e*PP **PP** **21 33 42.5 +3.9**
PRU *ex* x 21 36 22.4
PRU *e*SP SP 21 43 26.5 -1.8
PRU *ex* x 21 50 30.6
PRU AMS AMS 22 25 00.0
comp=Z,6µm,22.8s
PRU Pruhonice 122.70 328 *e*PKIKP **PKPdf** **21 32 01.2 +0.2**
PRU *e* 21 32 17.2
PRU *e* 21 33 42.5
PRU *e* 21 36 22.4
PRU *e*PS **PS** **21 43 26.5 -8.4**
PRU *e*SS SS 21 50 30.6 +13
PRU MLR MLR
comp=Z,6µm,22.8s
TIGA Tifton 122.82 56 PKiKP **PKiKP** **21 32 02.1 0.0**
baz=285
TIGA Tifton 122.82 56 *e*PKPdf **PKPdf** **21 32 01.7 -0.1**
SOP Sopron 122.88 325⇑ *e*PKPdf **PKPdf** **21 32 01.2 -0.3**
KRUS Krusevo 122.93 316 *i* PKP **PKPdf** **21 32 00.8 -1.1**
454A Quitman 122.97 57 PKiKP **PKPdf** **21 32 02.1 0.0**
baz=284
MCWV Mont Chateau 123.07 46 PKiKP **PKPdf** **21 32 02.0 0.0**
baz=293
MCWV Mont Chateau 123.07 46 *e*PKPdf **PKPdf** **21 32 01.7 -0.4**
MCWV LR LR
comp=Z,6µm,22.0s
554A Perry 123.08 58 PKiKP **PKPdf** **21 32 02.4 0.0**
baz=284
FNA Florina 123.08 316 P **PKPdf** **21 32 00.7 -1.4**
AGG Agios Georgios 123.09 314 *e*PKIKP **PKPdf** **21 32 00.8 -1.4**
AGG Agios Georgios 123.09 314 *e*PKPdf **PKPdf** **21 32 00.8 -1.4**
AGG Agios Georgios 123.09 314 P **PKPdf** **21 32 01.5 -0.7**
HODGE Hodges 123.12 53 *e*PKPdf **PKPdf** **21 32 01.8 -0.5**
MMNY Mt. Morris Dam 123.13 42 *e*PKPdf **PKPdf** **21 32 00.8 -1.2**
CONA Conrad Observa 123.14 326 *e*PKPdf **PKPdf** **21 32 01.6 -0.5**
comp=Z,3.9nm,0.7s
CONA *i* PKKPab **PKKPab** **21 41 53.3 +0.4**
comp=Z,8.7nm,1.7s
NRS Narsarsuaq 123.18 9 PFAKE **21 32 10.0 +8.4**
NRS LR LR
comp=Z,4µm,22.0s
DSF Desfina 123.18 313 P **PKPdf** **21 32 02.2 -0.2**
OHR Ohrid 123.34 316 *i* PKP **PKPdf** **21 32 01.6 -1.0**
KPRO Kipourio 123.42 315 P **PKPdf** **21 32 03.4 +0.6**
455A Stateville 123.47 57 PKiKP **PKiKP** **21 32 03.2 -0.1**
baz=285
GUR Goura 123.49 312 P **PKPdf** **21 32 03.3 +0.2**
ANX Ano Chora 123.55 313 P **PKPdf** **21 32 02.6 -0.6**
BLA Blacksburg 123.56 49 PKiKP **PKPdf** **21 32 03.1 0.0**
baz=291
BLA Blacksburg 123.56 49 *e*PKIKP **PKPdf** **21 32 03.6 +0.5**
BLA MLR MLR
comp=Z,8µm,21.0s
BLA Blacksburg 123.56 49 *e*PKPdf **PKPdf** **21 32 03.6 +0.5**
BLA LR LR
comp=Z,8µm,21.0s
KMSC Kings Mountain 123.56 51 *e*PKPdf **PKPdf** **21 32 03.6 +0.4**
655A Horseshoe Beac 123.58 58 PKiKP **PKPdf** **21 32 03.4 +0.1**
baz=284
NKC Novy Kostel 123.63 329 *e*PKPdf **PKPdf** **21 32 02.8 -0.1**
NKC *ep*PKP **pPKPdf** **21 32 15.9 -1.3**
NKC *ex* x 21 32 19.1
NKC *e*PP **PP** **21 33 52.4 +7.5**
NKC *ex* x 21 36 30.4
NKC *e*SP SP 21 43 38.8 +2.3
NKC *e*SS **SS** **21 50 35.2 +6.2**
NKC AMS AMS 22 21 30.0
comp=Z,6µm,26.3s
NKC Novy Kostel 123.63 329 *e*PKIKP **PKPdf** **21 32 02.8 -0.1**
NKC *e* 21 32 15.9
NKC *e* 21 33 52.4
NKC *e* 21 36 30.4
NKC *e*PS **PS** **21 43 38.8 -4.4**
NKC *e*SS SS 21 50 35.2 +6.2
NKC MLR MLR
comp=Z,6µm,26.3s
555A McAlpin 123.67 57 PKiKP **PKPdf** **21 32 03.6 +0.1**
baz=285
ARSA Arzberg 123.71 325 *i* PKPdf **PKPdf** **21 32 02.4 -0.7**
comp=Z,5.8nm,0.9s
ARSA *i* PKKPab **PKKPbc** **21 41 51.3 -0.8**
comp=Z,3.5nm,1.1s
KHC Kasperske Hory 123.71 328 *e*PKPdf **PKPdf** **21 32 02.9 -0.2**
KHC *ex* x 21 32 17.1
KHC *e*PP **PP** **21 33 51.3 +5.8**
KHC *ex* x 21 36 31.0
KHC *e*PKKP **PKKPbc** **21 41 51.8 -0.3**
KHC *e*SP SP 21 43 39.6 +2.3
KHC *ex* x 21 50 44.9
KHC AMS AMS 22 25 30.0
comp=Z,7µm,21.4s
KHC Kasperske Hory 123.71 328 *e*PKIKP **PKPdf** **21 32 02.9 -0.2**
KHC *e* 21 32 17.1
KHC *e* 21 33 51.3
KHC *e* 21 36 31.0
KHC *e*PS **PS** **21 43 39.6 -4.3**
KHC *e*SS SS 21 50 44.9 +15
KHC MLR MLR
comp=Z,7µm,21.4s
KHC Kasperske Hory 123.71 328 *e*PKPdf **PKPdf** **21 32 02.3 -0.8**
O56A Blue Knob Stat 123.73 45 PKiKP **PKPdf** **21 32 03.4 0.0**
baz=294
O56A Blue Knob Stat 123.73 45 *e*PKPdf **PKPdf** **21 32 01.8 -1.6**
O56A LR LR
comp=Z,4µm,20.0s
GEC2 GERESS Array S 123.81 327 *e*PKIKP **PKPdf** **21 32 03.0 -0.4**
GEC2 MLR MLR
comp=Z,5µm,21.0s
GEC2 GERESS Array S 123.81 327 *e*PKPdf **PKPdf** **21 32 03.0 -0.4**
GEC2 LR LR
comp=Z,5µm,21.0s
GERES GERESS Array B 123.81 327 PKP **PKPdf** **21 32 02.9 -0.4**
comp=Z,7.9nm,0.6s,baz=67,slow=1.5,SNR=41
GERES PKKPbc **PKKPbc** **21 41 54.8 +3.0**
comp=Z,0.4nm,0.6s,baz=199,slow=2.8,SNR=5.3
TTG Podgorica 123.81 318 PFAKE **21 32 20.0 +17**
TTG LR LR
comp=Z,5µm,22.0s
GEA0 GERESS Array S 123.82 327 *e*PKPdf **PKPdf** **21 32 02.8 -0.6**
TIR Tirane 123.88 317 PFAKE **21 32 20.0 +16**
TIR LR LR
comp=Z,3µm,22.0s
JSC Jenkinsville 123.89 52 *e*PKIKP **PKPdf** **21 32 03.8 0.0**
JSC Jenkinsville 123.89 52 *e*PKPdf **PKPdf** **21 32 03.8 0.0**
DSL Palaion Diasel 123.94 314 P **PKPdf** **21 32 10.0 +6.2**
DRO Drossia 123.95 313 P **PKPdf** **21 32 10.0 +6.2**
BLY Banja Luka 124.03 322⇑ *i*P **PKPdf** **21 32 03.1 -0.7**
BLY Banja Luka 124.03 322 *e*PKPdf **PKPdf** **21 32 02.7 -1.1**
BLY LR LR
comp=Z,3µm,21.0s
SSPA Standing Stone 124.05 44 PKiKP **PKPdf** **21 32 03.9 0.0**
baz=295
SSPA Standing Stone 124.05 44 *e*PKPdf **PKPdf** **21 32 04.3 +0.3**
SSPA LR LR
comp=Z,4µm,19.0s
MOA Molln 124.08 326 *e*PKPdf **PKPdf** **21 32 03.1 -0.7**
comp=Z,7.1nm,0.9s
MOA *i* PKKPab **PKKPab** **21 41 49.4 +0.5**
comp=Z,6.1nm,1.6s
PDO Prodromos 124.08 313 P **PKPdf** **21 32 04.1 +0.1**
556A Lake Butler 124.17 57 PKiKP **PKiKP** **21 32 04.6 -0.1**
baz=285
656A Willston 124.22 58 PKiKP **PKPdf** **21 32 04.6 +0.1**
baz=284
PERS Pernice 124.28 325 *i* PKPdf **PKPdf** **21 32 03.6 -0.6**
SOKA Soboth 124.30 325 *i* PKPdf **PKPdf** **21 32 03.8 -0.5**
comp=Z,9.1nm,1.0s,SNR=8.7
SOKA *i* SKKPbc SKKPbc 21 45 30.9 -6.2
comp=Z,6.7nm,1.5s
456A Hilliard 124.30 56 PKiKP **PKPdf** **21 32 04.5 -0.2**
baz=286
JTS JuntasAbangare 124.35 81 PKP **PKPdf** **21 32 05.3 +0.1**
comp=Z,7.0nm,0.5s,baz=263,slow=1.8,SNR=4.4
LONY Lake Ozonia 124.36 38 PKiKP **PKPdf** **21 32 04.5 +0.1**
baz=300
LONY Lake Ozonia 124.36 38 PFAKE **21 32 20.0 +16**
LONY LR LR
comp=Z,6µm,22.0s
MCD Coleburn Disti 124.38 344 *e*P **PKPdf** **21 32 04.0 0.0**
NCAT North Carolina 124.44 50 *e*PKPdf **PKPdf** **21 32 04.1 -0.7**
NCAT LR LR
comp=Z,8µm,21.0s
MME1 Meikle Cairn 124.53 343 *e*P **PKPdf** **21 32 03.4 -1.0**
GRFO Grafenberg 124.59 329 *e*PKIKP **PKPdf** **21 32 04.5 -0.2**
GRFO MLR MLR
comp=Z,5µm,22.0s
GRFO Grafenberg 124.59 329 *e*PKPdf **PKPdf** **21 32 04.5 -0.2**
GRFO LR LR
comp=Z,5µm,22.0s
BINY Binghamton 124.63 41 PKiKP **PKiKP** **21 32 05.4 0.0**
baz=298
BINY Binghamton 124.63 41 *e*PKPdf **PKiKP** **21 32 05.3 0.0**
BINY LR LR
comp=Z,8µm,22.0s
ROC1 El Roble 124.63 137 *e*PKPdf **PKPdf** **21 32 06.2 +0.5**
OBKA Obir 124.67 325 *i* PKKPab PKKPab 21 41 47.3 +0.8
OBKA *i* SKKPbc SKKPbc 21 45 31.0 -4.8
comp=Z,10nm,1.5s
857A Zephyrhills 124.75 59 PKiKP **PKiKP** **21 32 06.0 0.0**
baz=284
BOJS Bojanci 124.81 323 *i* PKPdf **PKPdf** **21 32 05.3 +0.1**
FRNY Flat Rock 124.85 38 *e*PKPdf **PKPdf** **21 32 05.4 0.0**
VISS Visnje 124.89 324 *i* PKPdf **PKPdf** **21 32 05.1 -0.3**
NCB Newcomb 124.91 39 *e*PKPdf **PKPdf** **21 32 05.9 +0.4**
IP04 Greensprings 124.94 47 *e*PKPdf **PKPdf** **21 32 05.0 -0.6**
IP03 Louisa 125.02 47 *e*PKPdf **PKPdf** **21 32 05.2 -0.6**
PAGS Pennsylvania G 125.02 44 *e*PKPdf **PKPdf** **21 32 04.7 -1.0**
PAGS LR LR
comp=Z,6µm,21.0s
KBA Koelnbreinsper 125.03 326 *e*PKPdf **PKPdf** **21 32 04.7 -1.2**
comp=Z,13nm,1.1s,SNR=5.2
IP07 Quail 125.05 47 *e*PKPdf **PKPdf** **21 32 03.3 -2.6**
IP06 Yanceyville 125.08 47 *e*PKPdf **PKPdf** **21 32 04.8 -1.1**
IP06 LR LR
comp=Z,2µm,19.0s
NHSC New Hope 125.11 53 PKiKP **PKPdf** **21 32 06.3 +0.2**
baz=288
NHSC New Hope 125.11 53 PFAKE **21 32 20.0 +14**
NHSC LR LR
comp=Z,3µm,22.0s
SPRD Spring Road, M 125.12 47 *e*PKPdf **PKPdf** **21 32 05.2 -0.9**
IP01 Cuckoo 125.12 47 *e*PKPdf **PKPdf** **21 32 04.9 -1.1**
MYKA Terra Mystica 125.12 325 *i* PKPdf **PKPdf** **21 32 05.0 -0.9**
comp=Z,8.7nm,0.9s
CVRD Centerville Ro 125.15 47 *e*PKPdf **PKPdf** **21 32 05.2 -0.9**
WTSB Winterswijk 125.17 334 *e*PKP **PKPdf** **21 32 04.9 -0.8**
comp=Z,54nm,1.3s
PTRD Partlow Road 125.27 47 *e*PKPdf **PKPdf** **21 32 05.2 -1.1**
658A Bunnell 125.29 58 PKiKP **PKPdf** **21 32 06.8 +0.2**
baz=285
IP05 Hopewell Churc 125.29 47 *e*PKPdf **PKPdf** **21 32 06.0 -0.4**
SDMD Soldier's Deli 125.29 45 *e*PKPdf **PKPdf** **21 32 06.9 +0.5**
JAVS Javornik 125.30 324 *i* PKPdf **PKPdf** **21 32 05.0 -1.3**
958A Wauchula 125.32 60 PKiKP **PKiKP** **21 32 07.3 +0.2**
baz=284
SPFD Spotsylvania F 125.33 46 *e*PKPdf **PKPdf** **21 32 06.7 +0.2**
N59A State Game Lan 125.37 43 PKiKP **PKiKP** **21 32 06.7 -0.1**
baz=297
N59A State Game Lan 125.37 43 *e*PKPdf **PKPdf** **21 32 07.0 +0.6**
N59A LR LR
comp=Z,6µm,21.0s
MVL Millersville 125.38 44 *e*PKPdf **PKPdf** **21 32 06.9 +0.4**
CBN Corbin Frederi 125.41 46 *e*PKPdf **PKPdf** **21 32 06.7 +0.1**
CBN LR LR
comp=Z,6µm,22.0s
DWPF Disney Wildern 125.47 59 PFAKE **21 32 20.0 +13**
DWPF LR LR
comp=Z,3µm,21.0s
TRI Trieste 125.57 324 *e*PKIKP **PKPdf** **21 32 06.3 -0.3**
TRI Trieste 125.57 324 *e*PKPdf **PKPdf** **21 32 06.3 -0.3**
VT1 Waterbury 125.62 38 *e*PKPdf **PKPdf** **21 32 07.6 +0.7**
ABTA Abfaltersbach 125.69 326 *i* PKPdf **PKPdf** **21 32 06.1 -0.9**
comp=Z,11nm,0.9s,SNR=10
WATA Walderalm 125.86 327 *i* PKPdf **PKPdf** **21 32 06.8 -0.6**
comp=Z,16nm,1.2s,SNR=9.1
WTTA Wattenberg 125.87 327 *i* PKiKP **PKPdf** **21 32 07.1 -0.3**
comp=Z,19nm,1.2s,SNR=8.0
TRY Troy 125.88 40 *e*PKPdf **PKPdf** **21 32 05.9 -1.5**
859A Kempfer Cattle 125.94 59 PKiKP **PKiKP** **21 32 08.1 -0.2**
baz=284
PSUB Penn St. - Bra 126.03 44 *e*PKPdf **PKPdf** **21 32 06.7 -1.1**
PSUB LR LR
comp=Z,5µm,20.0s
ODNJ Ogdensburg 126.07 42 *e*PKPdf **PKPdf** **21 32 08.1 +0.4**
MOTA Moosalm 126.11 327 *i* PKPdf **PKPdf** **21 32 07.1 -0.7**
comp=Z,24nm,0.9s,SNR=20
CNNC Cliffs of the 126.17 50 PKiKP **PKPdf** **21 32 08.2 +0.1**
baz=292
CNNC Cliffs of the 126.17 50 *e*PKPdf **PKPdf** **21 32 08.4 +0.3**
CNNC LR LR
comp=Z,7µm,22.0s
LBNH Lisbon 126.17 37 PKiKP **PKiKP** **21 32 08.6 +0.2**
baz=303
LBNH Lisbon 126.17 37 *e*PKIKP **PKPdf** **21 32 08.7 +0.8**
LBNH MLR MLR
comp=Z,3µm,20.0s
LBNH Lisbon 126.17 37 *e*PKPdf **PKPdf** **21 32 08.7 +0.8**
LBNH LR LR
comp=Z,3µm,20.0s
RETA Reutte 126.20 328 *i* PKPdf **PKPdf** **21 32 07.5 -0.4**
comp=Z,13nm,1.0s
STU Stuttgart 126.20 330 *e*PKIKP **PKPdf** **21 32 07.7 -0.1**
STU MLR MLR
comp=Z,5µm,22.0s
STU Stuttgart 126.20 330 *e*PKPdf **PKPdf** **21 32 07.7 -0.1**
STU LR LR
comp=Z,5µm,22.0s
HNH Hanover 126.24 38 *e*PKPdf **PKPdf** **21 32 08.3 +0.3**
EKA Eskdalemuir Ar 126.27 342 PKP **PKPdf** **21 32 08.0 +0.3**
comp=Z,4.1nm,0.6s,baz=27,slow=3.6,SNR=17
BRNJ Baking Ridge 126.29 42 *e*PKPdf **PKPdf** **21 32 08.9 +0.7**
EDMD Edmundbyers 126.31 341 *e*P **PKPdf** **21 32 07.4 -0.4**
EDMD IAMs_20 IAMs_20 22 27 09.0
comp=Z,4µm,19.3s
HGN Heimansgroeve 126.40 333 *e*PKP **PKPdf** **21 32 07.7 -0.4**
comp=Z,54nm,1.3s
HGN *e*PP **PP** **21 34 09.9 +6.8**
MEM Membach 126.48 333⇑ PKP **PKPdf** **21 32 08.1 -0.2**
FETA Feichten 126.51 327 *i* PKiKP **PKPdf** **21 32 08.4 -0.2**
comp=Z,32nm,1.0s,SNR=15
PAL Palisades 126.57 42 PKiKP **PKPdf** **21 32 08.8 +0.1**
baz=299
PAL Palisades 126.57 42 *e*PKIKP **PKPdf** **21 32 09.4 +0.7**
PAL MLR MLR
comp=Z,7µm,21.0s
PAL Palisades 126.57 42 *e*PKPdf **PKPdf** **21 32 09.4 +0.7**
PAL LR LR
comp=Z,7µm,21.0s
DAVA Damuels 126.80 328 *i* PKiKP **PKPdf** **21 32 09.1 -0.1**
comp=Z,14nm,0.9s,SNR=7.2
TRQA Tornquist 126.81 147 *e*PKPdf **PKPdf** **21 32 09.3 0.0**
TRQA LR LR
comp=Z,2µm,21.0s
KESW Keswick, Cumbr 126.88 342 *e*P **PKPdf** **21 32 07.6 -1.3**
KESW IAMs_20 IAMs_20 22 22 52.0
comp=Z,5µm,22.2s
BFO Black Forest 126.92 330 *i* PKIKP **PKPdf** **21 32 09.5 +0.3**
BFO Black Forest 126.92 330 *e*PKPdf **PKPdf** **21 32 07.2 -2.0**
BFO LR LR
comp=Z,4µm,22.0s
BCLA Clavier 126.93 333⇑ PKP **PKPdf** **21 32 09.0 -0.1**
QUA2 Belchertown 126.95 40 *e*PKPdf **PKPdf** **21 32 08.7 -0.7**
TIP Timpagrande 126.97 316⇓ P **PKPdf** **21 32 10.3 +0.6**
FUORN Ofenpass-Fuorn 127.00 327 *e*PKPpre PKPpre 21 31 56.3
FUORN *e*PKPdf **PKPdf** **21 32 08.3 -1.4**
FUORN LR LR
comp=Z,7µm,22.0s
PQI Presque Isle 127.01 33 *e*PKPdf **PKPdf** **21 32 09.9 +0.5**
YLE Yale 127.06 41 PFAKE **21 32 20.0 +10**
YLE LR LR
comp=Z,5µm,21.0s
UCC Uccle 127.07 334 *e*PKIKP **PKPdf** **21 32 09.4 +0.1**
UCC Uccle 127.07 334 *e*PKPdf **PKPdf** **21 32 09.4 +0.1**
WLF Walferdange 127.07 332⇑ PKP **PKPdf** **21 32 10.4 +0.9**
WLF Walferdange 127.07 332 *e*PKIKP **PKPdf** **21 32 09.7 +0.3**
WLF MLR MLR
comp=Z,5µm,21.0s
WLF Walferdange 127.07 332 *e*PKPdf **PKPdf** **21 32 09.7 +0.3**
WLF LR LR
comp=Z,5µm,21.0s
LCO Las Campanas 127.11 133 *e*PKPdf **PKPdf** **21 32 11.2 +0.7**
PKME Peaks-Kenny Pk 127.15 35 PKiKP **PKPdf** **21 32 09.9 +0.3**
baz=306
SNF Seneffe 127.32 334⇑ PKP **PKPdf** **21 32 10.3 +0.5**
HRV Adam Dziewonsk 127.33 39 PFAKE **21 32 20.0 +10**
HRV LR LR
comp=Z,5µm,20.0s
DOU Dourbes 127.48 333⇑ PKP **PKPdf** **21 32 10.3 +0.1**
ECH Echery 127.58 330 *e*PKIKP **PKPdf** **21 32 09.7 -0.8**
ECH MLR MLR
comp=Z,6µm,22.0s
ECH Echery 127.58 330 *e*PKPdf **PKPdf** **21 32 09.7 -0.8**
ECH LR LR
comp=Z,6µm,22.0s
TUE Stuetta 127.59 327 *e*PKPdf **PKPdf** **21 32 08.7 -2.1**
TUE LR LR
comp=Z,5µm,20.0s
AQU L'Aquila 127.62 321 *e*PKIKP **PKPdf** **21 32 09.9 -0.9**
AQU MLR MLR
comp=Z,6µm,22.0s
AQU L'Aquila 127.62 321 *e*PKPdf **PKPdf** **21 32 09.9 -0.9**
AQU LR LR
comp=Z,6µm,22.0s
CEL Celeste 127.99 315 PFAKE **21 32 20.0 +8.4**
CEL LR LR
comp=Z,2µm,22.0s
TSUM Tsumeb 128.02 240 *e*PKPdf **PKPdf** **21 32 09.6 -2.7**
TSUM LR LR
comp=Z,2µm,20.0s
WPM1 Penmaenmawr 128.26 341 *e*P **PKPdf** **21 32 11.7 +0.1**
WLF1 Llynfaes 128.39 341 *e*P **PKPdf** **21 32 11.6 -0.2**
WLF1 IAMs_20 IAMs_20 22 23 32.2
comp=Z,11µm,31.7s
VLC Villacollemand 128.43 324 *e*PKPdf **PKPdf** **21 32 11.7 -0.5**
VLC LR LR
comp=Z,5µm,21.0s
HLM1 Long Mynd 128.54 340 *e*P **PKPdf** **21 32 11.4 -0.8**
HLM1 IAMs_20 IAMs_20 22 31 10.4
comp=Z,5µm,21.8s
SSW Stow on the Wo 128.63 339 *e*P **PKPdf** **21 32 12.0 -0.3**
SENIN Lac Senin/Sane 128.75 328 *e*PKPdf **PKPdf** **21 32 11.4 -1.6**
WOL Wolverton 128.93 338 *e*P **PKPdf** **21 32 12.4 -0.5**
WOL IAMs_20 IAMs_20 22 30 42.9
comp=Z,6µm,19.5s
SWN1 Swindon 128.98 339 *e*P **PKPdf** **21 32 13.6 +0.6**
SWN1 IAMs_20 IAMs_20 22 26 48.2
comp=Z,6µm,30.1s
MCH1 Michaelchurch 129.01 340 *e*P **PKPdf** **21 32 12.0 -1.0**
MCH1 IAMs_20 IAMs_20 22 30 50.0
comp=Z,7µm,20.0s
ATAH Atahualpa 129.03 104 PKP **PKPdf** **21 32 16.4 +1.7**
comp=Z,29nm,0.9s,baz=309,slow=2.3,SNR=22
NNA Nana 129.24 110 PKP **PKPdf** **21 32 14.8 +0.2**
comp=Z,17nm,0.8s,baz=329,slow=1.0,SNR=7.3
NNA Nana 129.24 110 *e*PKIKP **PKPdf** **21 32 15.8 +1.2**
NNA MLR MLR
comp=Z,1µm,20.0s
NNA Nana 129.24 110 *e*PKPdf **PKPdf** **21 32 15.8 +1.2**
NNA LR LR
comp=Z,1µm,20.0s
BNI Bardonecchia 129.94 327 *e*PKIKP **PKPdf** **21 32 14.1 -1.1**
BNI MLR MLR
comp=Z,9µm,22.0s
BNI Bardonecchia 129.94 327 *e*PKPdf **PKPdf** **21 32 14.1 -1.1**
BNI LR LR
comp=Z,9µm,22.0s
WDD Wied Dalam 130.06 313 PFAKE **21 32 30.0 +14**
WDD LR LR
comp=Z,1µm,21.0s
PB10 IPOC Station P 130.12 127 PFAKE **21 32 30.0 +14**
PB10 LR LR
comp=Z,2µm,20.0s
CLTB Caltabellotta 130.18 316 *e*PKPdf **PKPdf** **21 32 16.0 +0.2**
CLTB LR LR
comp=Z,3µm,21.0s
OTAV Otavalo 130.26 94 *e*PKPdf **PKPdf** **21 32 18.4 +1.2**
OTAV LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 130.26 94 *e*P **PKPdf** **21 32 15.6 -1.6**
HTL Hartland 130.36 340 IAMs_20 IAMs_20 22 31 52.7
comp=Z,3µm,19.9s
SSB Saint Sauveur 130.90 329 *e*PKIKP **PKPdf** **21 32 16.5 -0.5**
SSB MLR MLR
comp=Z,6µm,22.0s
SSB Saint Sauveur 130.90 329 *e*PKPdf **PKPdf** **21 32 16.4 -0.5**
SSB LR LR
comp=Z,6µm,22.0s
MTDJ Mount Denham 130.94 71 PFAKE **21 32 30.0 +12**
MTDJ LR LR
comp=Z,2µm,20.0s
PB04 IPOC Station P 131.03 126 *e*PKPdf **PKPdf** **21 32 18.1 +0.1**
PB04 LR LR
comp=Z,3µm,22.0s
VAL Valentia 131.27 345 *e*PP PP 21 34 35.1 +0.4
CCA1 Carnmenellis 131.30 340 IAMs_20 IAMs_20 22 32 18.5
comp=Z,5µm,19.1s
GCUF Volcan Galeras 131.47 93 *e*P **PKPdf** **21 32 19.6 +0.1**
VSL Villasalto 131.74 320 *e*PKPdf **PKPdf** **21 32 18.7 +0.1**
VSL LR LR
comp=Z,1µm,20.0s
PB01 IPOC Station P 132.19 125 *e*PKPdf **PKPdf** **21 32 18.4 -1.7**
PB01 LR LR
comp=Z,2µm,22.0s
POPC Popayan, Colom 132.27 92 *e*P **PKPdf** **21 32 20.2 -0.4**
SOTA Rioblanco 132.30 92 *e*P **PKPdf** **21 32 19.6 -1.5**
HORQ Saladito 132.40 90 *e*P **PKPdf** **21 32 20.9 -0.1**
PCON Cinco Dias 132.53 92 *e*P **PKPdf** **21 32 20.9 -0.7**
PB11 IPOC Station P 132.66 123 *e*PKPdf **PKPdf** **21 32 21.8 +0.6**
YOTC Yotoco, Valle 132.71 90 *e*P **PKPdf** **21 32 19.6 -1.8**
GTBY Guantanamo Bay 132.91 68 PFAKE **21 32 30.0 +8.7**
GTBY LR LR
comp=Z,2µm,21.0s
MNMC Minye Minye 133.01 123 *e*PKPdf **PKPdf** **21 32 21.2 -0.8**
MARP Paez Belalcaza 133.01 91 *e*P **PKPdf** **21 32 19.6 -2.6**
FLOC Florencia 133.19 93 *e*P **PKPdf** **21 32 21.6 -0.6**
MOTC Monteria, Cord 133.52 83 *e*P **PKPdf** **21 32 23.2 +0.5**
HELC Santa Helena 133.63 87 *e*PKPdf **PKPdf** **21 32 24.2 +0.8**
HELC Santa Helena 133.63 87 *e*P **PKPdf** **21 32 23.5 +0.2**
RREF El Recreo 133.76 89 *e*P **PKPdf** **21 32 24.2 +0.3**
KEST Kesra 133.80 316 PKP **PKPdf** **21 32 22.8 +0.1**
comp=Z,7.2nm,0.9s,baz=219,slow=1.0,SNR=6.6
KEST Kesra 133.80 316 *e*PKPdf **PKPdf** **21 32 22.7 -0.1**
KEST LR LR
comp=Z,2µm,21.0s
PRAC Prado 134.14 90 *e*PKPdf **PKPdf** **21 32 21.4 -2.6**
PRAC Prado 134.14 90 *e*P **PKPdf** **21 32 20.9 -3.1**
ZARC Zaragoza, Cauc 134.32 85 *e*P **PKPdf** **21 32 23.5 -0.7**
CMAH Djebel Manchou 134.63 318 P **PKPdf** **21 32 24.0 -0.2**
ROSC El Rosal 134.78 89 PKP **PKPdf** **21 32 25.6 +0.1**
comp=Z,17nm,0.4s,baz=353,slow=1.3,SNR=12
ROSC El Rosal 134.78 89 *e*PKPdf **PKPdf** **21 32 27.1 +1.5**
ROSC El Rosal 134.78 89 *e*P **PKPdf** **21 32 24.2 -1.3**
ABSA Djebel Ababsia 134.78 318 P **PKPdf** **21 32 25.3 +0.7**
CAEH ´Ain El Ouahch 134.92 319 P **PKPdf** **21 32 26.5 +1.8**
CKFL Kef-Lekhel 135.22 318 P **PKPdf** **21 32 25.9 +0.5**
CHIC Chingaza 135.35 89 *e*P **PKPdf** **21 32 23.5 -3.1**
BRRC Barranca, Sant 135.46 86 *e*P **PKPdf** **21 32 24.2 -2.1**
LPAZ La Paz 135.53 120 PKhKP PKPpre 21 32 14.0
comp=Z,2.5nm,0.7s,baz=262,slow=2.8,SNR=6.6
LPAZ PKP **PKPdf** **21 32 27.2 +0.1**
comp=Z,13nm,0.7s,baz=309,slow=3.9,SNR=19
LPAZ La Paz 135.53 120 PKhKP PKPpre 21 32 14.0
LPAZ *e* 21 32 26.3
LPAZ La Paz 135.53 120 PKPpre PKPpre 21 32 14.0
LPAZ *e*PKPdf **PKPdf** **21 32 26.3 -0.8**
CTEI Djebel Teioual 135.62 318 P **PKPdf** **21 32 28.1 +1.9**
CODC Agust´n Codaz 135.69 82 *e*P **PKPdf** **21 32 26.2 -0.5**
DFRA Djebel Bou Aff 135.69 319 P **PKPdf** **21 32 29.3 +3.0**
RUSC La Rusia 136.05 87 *e*PKPdf **PKPdf** **21 32 27.2 -0.9**
RUSC La Rusia 136.05 87 *e*P **PKPdf** **21 32 24.9 -3.2**
GRTK Grand Turk 136.18 65 PFAKE **21 32 40.0 +13**
GRTK LR LR
comp=Z,2µm,20.0s
CKHR Kef el Ahmar 136.24 319 P **PKPdf** **21 32 29.7 +2.4**
SDDR Presa de Saban 136.63 68 PFAKE **21 32 40.0 +12**
SDDR LR LR
comp=Z,2µm,21.0s
URIC Uribia, Colomb 137.01 79 *e*P **PKPdf** **21 32 26.9 -2.3**
CPUP Villa Florida 137.98 140 PKhKP PKPpre 21 32 19.0
comp=Z,2.2nm,0.7s,baz=230,slow=3.3,SNR=4.8
CPUP PKP **PKPdf** **21 32 31.1 +0.4**
comp=Z,6.7nm,0.7s,baz=283,slow=2.5,SNR=11
CPUP Villa Florida 137.98 140 *e*PKHKP PKPpre 21 32 23.9
CPUP *e* 21 32 31.5
CPUP Villa Florida 137.98 140 *e*PKPpre PKPpre 21 32 23.9
CPUP *e*PKPdf **PKPdf** **21 32 31.5 +0.9**
SDV Santo Domingo 138.49 83 PKhKP PKPpre 21 32 23.1
comp=Z,8.0nm,0.6s,baz=294,slow=8.2,SNR=9.4
SDV PKP **PKPdf** **21 32 32.3 +0.2**

comp=Z,55nm,0.8s,baz=262,slow=4.2,SNR=31
SDV Santo Domingo 138.49 83 *e*PKPpre PKPpre 21 32 23.2
SDV *e*PKPdf **PKPdf 21 32 32.1 0.0**
SDV LR LR
comp=Z,2μm,22.0s
SDV Santo Domingo 138.49 83 *e*P PKPpre 21 32 26.9
ES19 SONSECA Array 139.23 330 *e*PKPpre PKPpre 21 32 23.2
ES19 *e*PKPdf **PKPdf 21 32 32.9 +0.3**
CART Cartagena 139.24 325 PFAKE 21 32 40.0 +7.4
CART LR LR
comp=Z,3μm,22.0s
ESDC Sonseca Array 139.28 330 PKhKP PKPpre 21 32 24.0
comp=Z,0.7nm,0.5s,baz=25,slow=3.8,SNR=5.6
ESDC PKP **PKPdf 21 32 31.2 -1.6**
comp=Z,0.6nm,0.5s,baz=22,slow=3.2,SNR=6.6
ESDC PP **PP 21 35 25.7 -0.1**
comp=Z,4.5nm,1.0s,baz=28,slow=7.2,SNR=8.6
ESLA Sonseca Array 139.29 330 *e*PKPdf **PKPdf 21 32 32.8 0.0**
ESLA LR LR
comp=Z,2μm,21.0s
PGAV Gavieira, Arco 139.38 336 *e*PKPdf **PKPdf 21 32 33.1 +0.2**
PGAV Gavieira, Arco 139.38 336 *e*LR LR 22 28 45.9
comp=Z,2μm,22.0s
PCAB Cabril 139.50 336 *e*PKPdf **PKPdf 21 32 36.7 +3.7**
MVO Moncorvo 139.53 334 *e*PKPdf **PKPdf 21 32 33.7 +0.5**
MVO Moncorvo 139.53 334 *e*LR LR 22 26 31.1
comp=Z,2μm,22.0s
PAB San Pablo 139.57 330 *e*PKIKP **PKPdf 21 32 30.6 -2.7**
PAB MLR MLR
comp=Z,3μm,22.0s
PAB San Pablo 139.57 330 *e*PKPdf **PKPdf 21 32 30.6 -2.7**
PAB LR LR
comp=Z,3μm,22.0s
POLO Lamas de Olo 139.68 335 *e*PKPdf **PKPdf 21 32 34.1 +0.6**
PVRL Vila Real 139.73 335 *e*PKPdf **PKPdf 21 32 33.5 0.0**
PVIS Viseu 140.27 335 *e*PKPdf **PKPdf 21 32 36.0 +1.5**
MTE Manteigas 140.38 334 *e*PKPdf **PKPdf 21 32 35.4 +0.7**
MTE Manteigas 140.38 334 *e*LR LR 22 26 43.3
comp=Z,3μm,22.0s
MTE Manteigas 140.38 334 *e*PKPdf **PKPdf 21 32 34.8 0.0**
MTE LR LR
comp=Z,4μm,22.0s
PCBR Castelo Branco 140.81 334 *e*PKPdf **PKPdf 21 32 34.8 -0.6**
PCAS Casmilo, Conde 141.07 335 *e*PKPdf **PKPdf 21 32 36.5 +0.6**
PMRV Marv??o 141.10 333 *e*PKPdf PKPpre 21 32 30.5
PMRV Marv??o 141.10 333 *e*LR LR 22 26 16.4
comp=Z,3μm,22.0s
PTOM Tomar 141.40 334 *e*PKPdf **PKPdf 21 32 35.1 -1.4**
SJG San Juan 141.58 68 PKhKP PKPpre 21 32 30.9
comp=Z,14nm,0.5s,baz=292,slow=1.8,SNR=2.8
SJG PKP **PKPdf 21 32 36.0 -1.3**
comp=Z,23nm,0.7s,baz=231,slow=1.4,SNR=6.1
SJG San Juan 141.58 68 *e*PKHKP PKPpre 21 32 31.4
SJG *e* 21 32 37.6
SJG MLR MLR
comp=Z,2μm,22.0s
SJG San Juan 141.58 68 *e*PKPpre PKPpre 21 32 31.4
SJG *e*PKPdf **PKPdf 21 32 37.6 +0.2**
SJG LR LR
comp=Z,2μm,22.0s
SIV San Ignacio 141.62 124 PKhKP PKPpre 21 32 30.7
comp=Z,9.8nm,0.9s,baz=248,slow=3.1,SNR=32
PMTG Montargil 141.77 334 *e*PKPdf **PKPdf 21 32 38.4 +1.2**
HUMP Col San Antoni 141.85 68 *e*PKPdf **PKPdf 21 32 35.9 -1.9**
ALMR Almeirim 141.85 334 *e*PKPdf **PKPdf 21 32 36.9 -0.4**
ALMR AMS AMS 22 37 57.6
comp=Z,3μm,21.4s
ALMR Almeirim 141.85 334 *e*PKPdf **PKPdf 21 32 36.9 -0.4**
ALMR Almeirim 141.85 334 A A 22 37 57.6
comp=E,3μm,23.8s
LIS Lisbon 142.47 334 *e*PKIKP **PKPdf 21 32 37.8 -0.6**
LIS AMS AMS 22 40 07.0
comp=E,3μm,23.8s
LIS Lisbon 142.47 334 *e*PKIKP **PKPdf 21 32 37.8 -0.6**
STVI Saint Thomas 142.62 67 *e*PKPpre PKPpre 21 32 35.8
TAM Tamanrasset 142.64 301 *e*PKIKP **PKPdf 21 32 37.1 -2.3**
TAM MLR MLR
comp=Z,1μm,21.0s
TAM Tamanrasset 142.64 301 *e*PKPdf **PKPdf 21 32 37.1 -2.3**
TAM LR LR
comp=Z,1μm,21.0s
PNCL Nicolau / Gran 142.69 333 *e*PKPdf **PKPdf 21 32 38.2 -0.6**
MESJ Messejana 142.77 332 *e*PKPdf **PKPdf 21 32 38.5 -0.5**
MESJ AMS AMS 22 38 33.5
comp=Z,3μm,18.3s
MESJ Messejana 142.77 332 *e*PKPdf **PKPdf 21 32 38.0 -1.0**
MESJ Messejana 142.77 332 *e*PKIKP **PKPdf 21 32 38.5 -0.5**
PCVE Castro Verde 142.86 332 *e*PKPdf **PKPdf 21 32 37.6 -1.6**
PCVE Castro Verde 142.86 332 *e*PP PP 21 35 50.4 +3.0
PVAQ Vaqueiros 142.89 332 *e*PKPdf **PKPdf 21 32 37.1 -2.1**
PVAQ Vaqueiros 142.89 332 *e*LR LR 22 27 22.2
comp=Z,3μm,22.0s
SAML Samuel 142.91 113 PFAKE 21 32 50.0 +10
SAML LR LR
comp=Z,800nm,22.0s
PBDV Barranco-do-Ve 143.12 332 *e*PP PP 21 35 47.7 -1.4
PTEO Sao Teotonio 143.24 333 *e*PKPdf **PKPdf 21 32 40.8 +1.0**
MORF Marmelete 143.41 332 *e*PKPdf **PKPdf 21 32 39.6 -0.6**
MORF AMS AMS 22 38 45.5
comp=N,2μm,21.9s
MORF Marmelete 143.41 332 *e*PKPdf **PKPdf 21 32 40.5 +0.3**
MORF Marmelete 143.41 332 *e*PKIKP **PKPdf 21 32 39.6 -0.6**
PFVI Vila Bisbo 143.63 332 *e*PKPdf **PKPdf 21 32 40.9 +0.4**
PFVI Vila Bisbo 143.63 332 *e*PKPdf **PKPdf 21 32 40.1 -0.4**
PCRV Puerto La Cruz 144.33 80 PKP **PKPab 21 32 40.5 0.0**
comp=N,53nm,0.6s,baz=348,slow=4.1,SNR=16
SABA Saba 144.38 67 PFAKE 21 32 50.0 +7.6
SABA LR LR
comp=Z,3μm,22.0s
SABA Saba 144.38 67 *e*P **PKPab 21 32 40.0 -0.6**
SMRT St. Maarten 144.42 67 *e*PKPdf **PKPab 21 32 40.7 +0.1**
SMRT LR LR
comp=Z,2μm,22.0s
SMRT St. Maarten 144.42 67 *e*P **PKPab 21 32 40.2 -0.4**
SEUS St. Eustatius 144.65 68 *e*PKPdf **PKPab 21 32 41.2 -0.2**
SEUS St. Eustatius 144.65 68 *e*P **PKPab 21 32 41.3 -0.2**
RTC Rabat Centre 145.11 327 *e*PKPbc **PKPbc 21 32 42.7 0.0**
NEV Hard Times 145.12 68 *e*P **PKPdf 21 32 44.6 +1.0**
MBWH 145.58 68 *e*P **PKPbc 21 32 44.8 +0.1**
MLYT Lee's Yard 145.58 68 *e*P **PKPbc 21 32 44.7 0.0**
ANWB Willy Bob 145.70 67 *e*PKPdf **PKPab 21 32 45.2 -0.1**
ANWB LR LR
comp=Z,2μm,20.0s
ANWB Willy Bob 145.70 67 *e*P **PKPdf 21 32 43.6 -1.0**
BPA Boggy Peak 145.81 68 *e*P **PKPab 21 32 46.1 +0.2**
SPB Sao Paulo 145.83 149 *e*PKPdf **PKPab 21 32 46.2 +0.6**
SPB LR LR
comp=Z,3μm,21.0s
GDHS Morne Mazeau, 146.09 69 *e*PKPdf **PKPbc 21 32 46.1 -0.2**
H07S1 FLORES T-PHASE 46.29 3 *e*PKPdf **PKPdf 21 32 44.3 -0.8**
TBG Guadaloupe-3 146.31 70 *e*P **PKPdf 21 32 46.0 +0.3**
BBL Barber's Block 146.55 70 *e*P **PKPbc 21 32 47.5 -0.2**
MDPO Dominica; Chan 146.56 70 *e*P **PKPbc 21 32 47.5 -0.1**
MDVC Dominica, Viel 146.59 70 *e*P **PKPab 21 32 48.3 -0.5**
MGG Marie-Galante 146.60 70 *e*P **PKPbc 21 32 47.5 -0.2**
MGG Marie-Galante 146.60 70 *e*P **PKPbc 21 32 47.9 +0.1**
MDN Morne-Daniel 146.67 71 *e*P **PKPbc 21 32 48.2 +0.2**
DSHT Scott's Head 146.71 71 *e*P **PKPbc 21 32 48.4 +0.3**
DBCT Belle View Cho 146.72 71 *e*P **PKPdf 21 32 45.5 -1.0**
DEG La Desirade 146.74 69 *e*P **PKPdf 21 32 45.4 -1.1**
DLPL La Plaine 146.80 71 *e*P **PKPbc 21 32 48.1 -0.3**
PCM Pelee Case Pet 146.95 71 *e*P **PKPab 21 32 50.1 -0.2**
CXM Morne La Croix 146.99 71 *e*P **PKPbc 21 32 49.1 0.0**
ROSA Rosais 147.01 359 *e*PKPdf **PKPdf 21 32 45.2 -1.1**
FDF Fort de France 147.03 72 *e*PKP2 **PKPdf 21 32 48.0 +1.0**
FDF MLR MLR
comp=Z,2μm,22.0s
FDF Fort de France 147.03 72 *e*PKPdf **PKPdf 21 32 48.0 +1.0**
FDF LR LR
comp=Z,2μm,22.0s
FDF Fort de France 147.03 72 *e*P **PKPdf 21 32 47.7 +0.7**
PMAN Manadas 147.09 359 *e*PKPdf **PKPdf 21 32 45.5 -0.9**
TRMF Trois Ilets 147.16 72 *e*P **PKPab 21 32 51.1 0.0**
ZAM Aeronautique 147.18 72 *e*P **PKPab 21 32 51.0 -0.1**
SVB Belmont 147.22 74 *e*PKPdf **PKPbc 21 32 48.5 -1.1**
SVB Belmont 147.22 74 *e*P **PKPbc 21 32 48.7 -0.9**
PICO Pico 147.23 359 *e*PKPdf **PKPdf 21 32 45.8 -1.0**
LPMF Morne Lapointe 147.24 72 *e*P **PKPbc 21 32 50.0 +0.4**
SVV Soufriere Volc 147.25 74 *e*P **PKPbc 21 32 49.9 +0.2**
PCAN Candelaria 147.27 359 *e*PKPdf **PKPdf 21 32 45.8 -1.0**
SSV Crater Summit 147.27 74 *e*P **PKPdf 21 32 48.5 +1.1**
MVM Montagne Vaucl 147.31 72 *e*P **PKPbc 21 32 50.2 +0.4**
SLB Belfond 147.32 73 *e*P **PKPbc 21 32 49.2 -0.7**
SVCV St. Vincent, C 147.32 74 *e*P **PKPdf 21 32 46.9 -0.6**
MCLT Moule a Chique 147.44 73 *e*P **PKPdf 21 32 47.2 -0.4**
TPP Pointe-a-Pierr 147.44 80 *e*P **PKPdf 21 32 46.1 -1.6**
TRN Trinidad (W) 147.46 79 *e*P **PKPbc 21 32 49.7 -0.5**
BART Pico Bartolome 147.77 354 *e*PKPdf **PKPdf 21 32 46.8 -0.9**
TBH Brigand Hill 147.80 79 *e*P **PKPab 21 32 52.6 -1.1**
CMLA Cha da Macela 147.82 355 *e*PKPdf **PKPdf 21 32 46.8 -0.9**
CMLA Cha da Macela 147.82 355 *e*PKP2 **PKPab 21 32 51.9 -1.1**
CMLA Cha da Macela 147.82 355 *e*PKPbc **PKPab 21 32 51.9 -1.1**
BOT Bacolet 148.06 78 *e*P **PKPbc 21 32 52.6 +0.7**
TOSP Speyside 148.22 78 *e*P **PKPbc 21 32 53.1 +0.8**
PTGA Pitinga 148.36 100 PKP **PKPdf 21 32 49.6 +0.3**
comp=Z,103nm,0.9s,baz=297,slow=3.2,SNR=34
PTGA PKPbc **PKPbc 21 32 52.6 -0.1**
comp=Z,103nm,0.9s,baz=271,slow=3.3,SNR=43
PTGA Pitinga 148.36 100 *e*PKPdf **PKPdf 21 32 49.9 +0.6**
PTGA *e*PKPbc **PKPbc 21 32 53.5 +0.8**
PTGA LR LR
comp=Z,2μm,20.0s
PSMN Pico do Norte, 148.53 354 *e*PKPdf **PKPdf 21 32 47.8 -1.1**
PSMA Santa Maria 148.54 354 *e*PKPdf **PKPdf 21 32 47.9 -1.0**
SHEL Horse Pasture 148.63 227 *e*PKPdf **PKPdf 21 32 47.9 -1.7**
SHEL *e*PKPbc **PKiKP 21 32 55.2 +0.3**
SHEL LR LR
comp=Z,3μm,22.0s
BBGH Gun Hill 148.87 74 PFAKE 21 33 00.0 +2.1
BBGH LR LR
comp=Z,5μm,22.0s
BBGH Gun Hill 148.87 74 *e*P **PKPbc 21 32 52.6 -1.4**
TOC2 Torodi Ar. Sit 148.88 286 PFAKE 21 33 00.0 +2.0
TOC2 LR LR
comp=Z,3μm,22.0s
TOC3 Torodi Ar. Sit 148.89 286 PFAKE 21 33 00.0 +2.0
TOC3 LR LR
comp=Z,3μm,22.0s
TOB2 Torodi Ar. Sit 148.90 286 PFAKE 21 33 00.0 +1.9
TOB2 LR LR
comp=Z,2μm,22.0s
TOC1 Torodi Ar. Sit 148.90 286 PFAKE 21 33 00.0 +1.9
TOC1 LR LR
comp=Z,3μm,22.0s
TOB3 Torodi Ar. Sit 148.90 286 PFAKE 21 33 00.0 +1.9
TOB3 LR LR
comp=Z,3μm,22.0s
TOA2 Torodi Ar. Sit 148.91 286 PFAKE 21 33 00.0 +1.9
TOA2 LR LR
comp=Z,2μm,22.0s
TOA0 Torodi Ar. Sit 148.91 286 *e*PKPdf **PKPdf 21 32 49.4 -0.7**
TOA0 *e*PKPbc **PKPbc 21 32 54.2 +0.2**
TOA0 LR LR
comp=Z,3μm,22.0s
TORD Torodi Ar. Bea 148.91 286 PKP **PKPdf 21 32 49.5 -0.6**
comp=Z,88nm,0.9s,baz=38,slow=1.0,SNR=47
TORD PKPbc **PKPbc 21 32 53.9 -0.2**
comp=Z,87nm,0.9s,baz=43,slow=0.9,SNR=72
TOC4 Torodi Ar. Sit 148.91 286 PFAKE 21 33 00.0 +1.9
TOC4 LR LR
comp=Z,3μm,22.0s
TOA1 Torodi Ar. Sit 148.91 286 PFAKE 21 33 00.0 +1.9
TOA1 LR LR
comp=Z,2μm,22.0s
TOA3 Torodi Ar. Sit 148.91 286 PFAKE 21 33 00.0 +1.9
TOA3 LR LR
comp=Z,2μm,22.0s
TOB4 Torodi Ar. Sit 148.92 286 PFAKE 21 33 00.0 +1.8
TOB4 LR LR
comp=Z,3μm,22.0s
TOB5 Torodi Ar. Sit 148.92 286 PFAKE 21 33 00.0 +1.8
TOB5 LR LR
comp=Z,2μm,22.0s
TOC7 Torodi Ar. Sit 148.92 286 PFAKE 21 33 00.0 +1.8
TOC7 LR LR
comp=Z,3μm,22.0s
TOC5 Torodi Ar. Sit 148.93 286 PFAKE 21 33 00.0 +1.8
TOC5 LR LR
comp=Z,3μm,22.0s
TOC6 Torodi Ar. Sit 148.94 286 PFAKE 21 33 00.0 +1.8
TOC6 LR LR
comp=Z,3μm,22.0s
PMPS Porto Santo 150.26 338 *e*PKPbc **PKPbc 21 32 56.0 -0.9**
PMAR Madeira 150.77 339 *e*PKPbc **PKPbc 21 32 57.5 -0.9**
PMOZ Porto Moniz, M 150.78 340 *e*PKPbc **PKPbc 21 32 59.6 +1.3**
PMOZ Porto Moniz, M 150.78 340 *e*LR LR 22 27 54.6
comp=Z,779nm,24.0s
FUL Funchal 150.83 339 *e*PKPdf **PKPdf 21 32 51.0 -1.6**
FUL Funchal 150.83 339 *e*PKPbc **PKPbc 21 32 58.0 -0.2**
KOWA Kowa 153.96 292 PKP **PKPdf 21 32 57.3 -0.5**
comp=Z,18nm,1.1s,baz=108,slow=3.9,SNR=27
KOWA PKPbc **PKiKP 21 33 05.9 +0.1**
comp=Z,25nm,0.5s,baz=58,slow=3.0,SNR=58
KOWA PKPab **PKPab 21 33 18.4 -0.8**
comp=Z,36nm,0.6s,baz=60,slow=4.6,SNR=9.9
KOWA Kowa 153.96 292 *e*PKPdf **PKPdf 21 32 57.1 -0.6**
KOWA PKPbc **PKiKP 21 33 05.9 +0.1**
KOWA PKPab **PKPab 21 33 18.4 -0.8**
KOWA LR LR
comp=Z,3μm,22.0s
KIC Kosan Boka 155.95 273 *e*P **PKPdf 21 32 58.7 -1.8**
comp=Z,103nm,1.0s
DBIC Dimbokro 156.06 274 PKP **PKPdf 21 33 00.1 -0.6**
comp=Z,14nm,0.9s,baz=24,slow=2.2,SNR=14
DBIC PKPbc **pPKPdf 21 33 10.5 -4.6**
comp=Z,35nm,0.8s,baz=65,slow=2.2,SNR=13
DBIC PKPab **PKPab 21 33 28.6 +0.4**
comp=Z,7.9nm,0.5s,baz=103,slow=2.3,SNR=6.0
DBIC Dimbokro 156.06 274 *e*PKIKP **PKPdf 21 33 00.6 0.0**
DBIC 21 33 10.5
DBIC 21 33 28.6
DBIC Dimbokro 156.06 274 *e*PKPdf **PKPdf 21 33 00.6 0.0**
DBIC PKPbc 21 33 10.5
DBIC PKPab **PKPab 21 33 28.6 +0.4**
TIC Toumodi 156.22 274 *e*P **PKPdf 21 32 59.1 -1.8**
LIC Lamto 156.24 273 *e*P **PKPdf 21 32 56.6 -4.3**
comp=Z,154nm,1.0s
BBTS Babate 164.85 307 PKP **PKPdf 21 33 10.1 -0.1**
comp=Z,48nm,1.0s,baz=55,slow=1.4,SNR=6.3
RCBR Riachuelo 166.69 148 *e*PKPdf **PKPdf 21 33 09.2 -2.7**
SACV Santiago Islan 169.32 331 *e*PKPdf **PKPdf 21 33 13.2 -0.4**

JMA 14 21:34:38.9±0.2, 40.89N×145.25E, h67km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.93**	**306**	P	Pn	21 35 10.1	+0.6
JEM				*e*S	Sn	21 35 32.2	-0.7
JAK	**Akkeshi**	**2.15**	**349**	*e*S	Sn	21 35 38.2	+0.2
JCH	**Churui**	**2.23**	**321**	P	Pn	21 35 14.5	+1.0
JCH				*e*S	Sn	21 35 38.8	-1.2
NEM2	**Nemuro 2**	**2.50**	**8**	P	Pn	21 35 18.5	+1.3
NEM2				*e*S	Sn	21 35 46.3	-0.3
JAR	**Ashorobuto**	**2.65**	**336**	P	Pn	21 35 19.9	+0.7
JAR				*e*S	Sn	21 35 49.4	-0.8
JNK	**Nakash**	**2.72**	**352**	P	Pn	21 35 20.8	+0.5
JANG	**Nango**	**2.89**	**261**	P	Pn	21 35 21.7	-0.8
JANG				*e*S	Sn	21 35 52.6	-3.5
JTM	**Tenmabayashi**	**3.17**	**270**	P	Pn	21 35 26.9	+0.5
JTM				*e*S	Sn	21 36 00.4	-2.7
JOT	**Ohata**	**3.21**	**280**	P	Pn	21 35 27.2	+0.3
JOT				*e*S	Sn	21 36 01.8	-2.2
JTKR	**Abashiri--Toko**	**3.23**	**343**	*e*S	Sn	21 36 05.5	+1.0
JKB	**Kayabe**	**3.33**	**289**	*e*S	Sn	21 36 05.2	-1.5

*NIED **14** 21:38:00, 35.60N×141.80E, h20km, Mw5.0 Best double couple: M₀4.02000×10¹⁶ NP1:φs172.00000°, δ23.00000°, λ-14.00000°. NP2:φs274.00000°, δ85.00000°, λ-112.00000°.*
*IDC **14** 21:38:50.5±0.3, 35.55N×141.68E, h0km, mb4.8/43, mb1 4.9/46, mb1mx4.8/67, mbtmp4.9/46, ML4.3/2, MS4.5/2, Ms1 4.5/2, ms1mx3.6/73, Error ellipse: s-maj=11.5km s-min=8.7km az=100.0*
*JMA **14** 21:38:53.6±0.2, 35.64N×141.77E, h57km±2km, M5.0 Broadband fault plane solution: P waves. NP1: φs103.00000°, δ86.00000°, λ-80.00000°. NP2: φs215.00000°, δ11.00000°, λ-158.00000°. Principal axes: T Plg40.0000°, Azm184.0000°; N Plg10.0000°, Azm283.0000°; P Plg48.0000°, Azm24.0000°;*
JMA Felt II J1.
*BJI **14** 21:38:53.8, 35.75N×141.55E, h29km, mb5.0/57, mB5.3/25, Ms5.0/32, Ms7 4.8/31*
*ISCJB **14** 21:38:53.0±0.7, 35.54N±0.02×141.65E±0.02, h23km±4km, mb5.1/240, MS5.0/12, Error ellipse: s-maj=3.4km s-min=2.7km az=147.0*
*NEIC **14** 21:38:55.4±1.4, 35.50N×141.61E, h30km±10km, mb5.2/117, Error ellipse: s-maj=4.1km s-min=3.0km az=124.0*
NEIC Felt at Mito and Tokyo. Recorded [2 JMA] in Chiba and Ibaraki.
*MOS **14** 21:38:57.5±0.9, 36.19N×141.63E, h33km, mb5.2/82, Error ellipse: s-maj=6.2km s-min=3.9km az=103.9*
ISC 14 21:38:54.6±0.4, 35.62N±0.03×141.72E±0.04, h27km±2km, h27km:pP-P, n708, σ1s75/757, mb5.1/245, MS4.9/13, 40C-21D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.71**	**277**	⇑P	**Pn**	**21 39 08.4**	**-0.5**
CHOJ				S	**Sn**	**21 39 19.2**	**+0.3**
BSO1	**Boso 1**	**1.14**	**213**	P	**Pn**	**21 39 13.8**	**-0.5**
KTR	**Katsuura**	**1.24**	**248**	P	**Pn**	**21 39 16.1**	**-0.1**
BSO3	**Boso 3**	**1.28**	**231**	⇓P	**Pn**	**21 39 16.4**	**-0.1**
BSO4	**Boso 4**	**1.29**	**242**	P	**Pn**	**21 39 16.8**	**0.0**
JHO	**Hitachi**	**1.36**	**317**	⇑P	**Pn**	**21 39 16.5**	**-1.4**
JFK	**Kawauchi**	**1.88**	**339**	⇑P	**Pn**	**21 39 23.3**	**-1.7**
JFK				S	**Sn**	**21 39 45.6**	**-2.2**
JSB	**Shiboa**	**1.99**	**313**	⇑P	**Pn**	**21 39 26.0**	**-0.5**
JAG	**Ashikaga**	**2.01**	**294**	⇑P	**Pn**	**21 39 26.3**	**-0.5**
JAG				*e*S	**Sn**	**21 39 51.3**	**+0.3**
JIM2	**Oshima 3**	**2.08**	**245**	P	**Pn**	**21 39 26.9**	**-0.9**
JOD2	**Odawara 2**	**2.18**	**261**	⇓P	**Pn**	**21 39 28.8**	**-0.3**
JOD2				S	**Sn**	**21 39 55.6**	**+0.3**
JFT	**Otama**	**2.20**	**330**	⇑P	**Pn**	**21 39 28.7**	**-0.7**
JKT	**Katashina**	**2.31**	**301**	⇑P	**Pn**	**21 39 30.9**	**-0.1**
JMM	**Marumori**	**2.37**	**342**	⇑P	**Pn**	**21 39 30.1**	**-1.6**
JYN	**Shimob**	**2.59**	**268**	⇓P	**Pn**	**21 39 34.7**	**-0.2**
JHK	**Hiroka**	**2.72**	**308**	⇑P	**Pn**	**21 39 36.8**	**+0.2**
JHJ2	**Mitsune**	**2.96**	**213**	*e*Pn	**Pn**	**21 39 38.6**	**-1.1**
JHJ2				*e*S	**Sn**	**21 40 13.2**	**-1.2**
JHJ	**Hachijo jima 2**	**2.96**	**213**	Pn	**Pn**	**21 39 38.5**	**-1.3**
	866nm,0.3s,baz=60,slow=20,SNR=70						
JHJ				Sn	**Sn**	**21 40 12.6**	**-1.9**
	1μm,0.3s,baz=238,slow=9.2,SNR=5.0						
MJAR	**Matsushiro Arr**	**2.99**	**289**	Pn	**Pn**	**21 39 41.3**	**+0.9**
	40nm,0.3s,baz=98,slow=14,SNR=190						
MAJO	**Matsushiro**	**3.00**	**289**	*c iP*	**Pn**	**21 39 41.5**	**+1.2**
MAJO	**Matsushiro**	**3.00**	**289**	*e*Pn	**Pn**	**21 39 41.8**	**+1.4**
MAT	**Matsushiro**	**3.00**	**289**	P	**Pn**	**21 39 41.5**	**+1.2**
MAT				*e*S	**Sn**	**21 40 12.1**	**-3.3**
MAT	**Matsushiro**	**3.00**	**289**	P	**Pn**	**21 39 41.7**	**+1.4**
MJB9	**Matsu-Tunnel**	**3.00**	**289**	*e*Pn	**Pn**	**21 39 41.7**	**+1.3**
JNG	**Nsakai**	**3.04**	**286**	P	**Pn**	**21 39 42.2**	**+1.1**
INU	**Inuyama**	**3.85**	**267**	*e*Pn	**Pn**	**21 39 52.7**	**+0.6**
ERM	**Erimo**	**6.49**	**9**	*c e*P	**Pn**	**21 40 24.7**	**-3.5**
ERM				pmax	pmax		
	comp=Z,150nm,0.8s						
ERM	**Erimo**	**6.49**	**9**	*e*Pn	**Pn**	**21 40 25.1**	**-3.1**
ERM				*e*S	**Sn**	**21 41 38.2**	**-3.1**
MRT2	**Murotomisaki 2**	**6.64**	**253**	P	**Pn**	**21 40 31.7**	**+1.2**
JTO	**Tosashimizu**	**7.88**	**252**	P	**Pn**	**21 40 48.4**	**+0.9**
CBIJ	**Chichi jima**	**8.50**	**177**	*e*Pn	**Pn**	**21 40 52.2**	**-3.8**
	comp=Z,660nm,0.9s						
CBIJ				*e*S	Sn	21 42 21.0	-10
JCJ	**Chichijima**	**8.50**	**177**	Pn	**Pn**	**21 40 52.9**	**-3.1**
	comp=Z,154nm,0.3s,baz=346,slow=6.0,SNR=73						
JCJ				Sn	**Sn**	**21 42 22.9**	**-8.2**
	baz=0.0,slow=20						
JCJ				LR	LR	21 44 14.9	
	comp=Z,3μm,20.3s,baz=247,slow=38						
ASAJ	**Asahikawa**	**8.52**	**4**	Pn	**Pn**	**21 40 53.6**	**-2.5**
	comp=Z,23nm,0.3s,baz=206,slow=15,SNR=56						
ASAJ				Sn	**Sn**	**21 42 28.3**	**-2.9**
	comp=Z,3.3nm,0.3s,baz=75,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**8.52**	**4**	*e*Pn	**Pn**	**21 40 53.3**	**-2.8**
	comp=Z,29nm,0.4s						
ASAJ				*e*S	Sn	21 42 14.6	-17
ASAJ				Sn	**Sn**	**21 42 28.3**	**-2.9**
YUK	**Yuzh-Kuril'sk**	**8.99**	**19**	*e*P	**Pn**	**21 40 59.5**	**-3.1**
YUK				*e*S	Sn	21 42 32.2	-11
YUK				pmax	pmax		
	comp=Z,232nm,0.5s						
YUK				pmax	pmax		
	comp=N,129nm,0.3s						
YUK				pmax	pmax		
	comp=E,75nm,0.3s						
SHO	**Shikotan**	**9.13**	**24**	*e*P	**Pn**	**21 40 59.8**	**-4.7**
SHO				*e*S	Sn	21 42 33.4	-13
SHO				pmax	pmax		
	comp=Z,98nm,0.5s						
SHO				pmax	pmax		
	comp=N,84nm,0.4s						
SHO				pmax	pmax		
	comp=E,43nm,0.4s						
JNU	**Nakatsue**	**9.30**	**258**	Pn	**Pn**	**21 41 08.7**	**+1.7**
	comp=E,1.8nm,0.3s,baz=54,slow=7.8,SNR=20						
JNU	**Nakatsue**	**9.30**	**258**	P	**Pn**	**21 41 08.7**	**+1.7**
JNU	**Nakatsue**	**9.30**	**258**	*e*Pn	**Pn**	**21 41 08.1**	**+1.1**
TEY	**Ternei**	**10.19**	**339**	*e*P	**Pn**	**21 41 17.9**	**-1.1**
TEY				pmax	pmax		
	comp=N,30nm,0.9s						
TEY				pmax	pmax		
	comp=Z,26nm,0.8s						
VLA	**Vladivostok**	**10.68**	**318**	*e*P	**Pn**	**21 41 23.9**	**-1.8**
KUR	**Kuril'sk**	**10.68**	**24**	P	**Pn**	**21 41 22.3**	**-3.4**
KUR				*e*S	Sn	21 43 14.0	-10
KUR				smax	smax		
	comp=E,157nm,0.5s						
KUR				smax	smax		
	comp=N,76nm,0.7s						
KSRS	**Korea Array**	**11.26**	**283**	Pn	**Pn**	**21 41 37.6**	**+4.0**
	comp=N,0.5nm,0.3s,baz=93,slow=13,SNR=13						
KS01	**Wonju Array Si**	**11.28**	**284**	*e*Pn	**Pn**	**21 41 35.0**	**+1.0**
KS15	**Wonju Array Si**	**11.29**	**283**	*e*Pn	**Pn**	**21 41 34.9**	**+0.8**
KSAR	**Wonju Array Be**	**11.29**	**283**	P	**Pn**	**21 41 37.7**	**+3.6**
KSAR	**Wonju Array Be**	**11.29**	**283**	Pn	**Pn**	**21 41 37.6**	**+3.6**
YSS	**Yuzh-Sakhalins**	**11.35**	**4**	*e*P	**Pn**	**21 41 32.3**	**-2.6**
YSS				*e*S	**Sn**	**21 43 35.1**	**-5.7**
YSS				pmax	pmax		
	comp=Z,140nm,0.5s						
YSS				MLR	MLR		
	comp=Z,3μm,16.0s						
YSS	**Yuzh-Sakhalins**	**11.35**	**4**	*e*Pn	**Pn**	**21 41 32.4**	**-2.6**
USRK	**Ussuriysk Ar.**	**11.37**	**322**	Pn	**Pn**	**21 41 35.6**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=133,slow=13,SNR=43						
TJN	**Taejon**	**11.66**	**278**	*c e*P	**Pn**	**21 41 41.5**	**+2.3**
MDJ	**Mudanjiang**	**12.91**	**318**	*e*Pn	**Pn**	**21 41 57.0**	**+0.7**
	comp=Z,42nm,0.8s						
JOW	**Kunigami**	**14.45**	**236**	*e*Pn	**Pn**	**21 42 15.7**	**-1.7**
CN2	**Changchun**	**14.94**	**308**	*e*P	**Pn**	**21 42 21.4**	**-2.5**
CN2				*es*P	P	21 42 30.8	+1.6
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
TYV	**Tymovskoe**	**15.26**	**2**	*e*P	**Pn**	**21 42 24.6**	**-3.4**
TYV				pmax	pmax		
	comp=Z,64nm,0.8s						
TYV				MLR	MLR		
	comp=N,3μm,20.0s						
TYV				MLR	MLR		
	comp=Z,4μm,20.0s						
KLR	**Kul'dur**	**15.45**	**335**	Pn	**Pn**	**21 42 27.1**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=142,slow=12,SNR=36						
KLR	**Kul'dur**	**15.45**	**335**	*e*P	**Pn**	**21 42 26.7**	**-3.9**
SNY	**Shenyang**	**15.45**	**299**	⇑P	**Pn**

comp=Z,3µm,17.4s
DL2 LR LR
comp=Z,3µm,19.0s
NKL Nikolayevsk 17.55 358 *e*P **Pn 21 42 52.0 -5.1**
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=Z,50nm,1.0s
SKR Severo-Kuril's 18.31 30 *e*P **P 21 43 05.7 -0.7**
SKR pmax pmax
comp=Z,109nm,1.2s
NJ2 Nanjing 19.32 266 *e*P **P 21 43 16.0 -1.7**
TIA Tai'an 19.93 279 P **P 21 43 21.5 -2.8**
TIA pmax pmax
comp=Z,19nm,1.0s
BJI Beijing 20.63 290 P **P 21 43 31.3 -0.6**
BJI pmax pmax
comp=Z,40nm,0.6s
BJT Baijiatuau 20.64 290 *e*P **P 21 43 31.1 -0.9**
BJT pmax pmax
comp=Z,39nm,0.7s
BJT Baijiatuau 20.64 290 *e*P **P 21 43 31.1 -0.9**
comp=Z,39nm,0.7s
YHNB Yeheng 20.66 244 *e*P **P 21 43 29.0 -3.5**
comp=Z,290nm,1.9s
ZEA Zeya 20.76 335 *e*P **P 21 43 30.2 -3.0**
ZEA pmax pmax
comp=E,62nm,0.8s
ZEA pmax pmax
comp=N,110nm,1.0s
ZEA pmax pmax
comp=Z,180nm,1.0s
PEA0B Petropavlovsk- 20.80 28 *e*P **P 21 43 32.4 -1.3**
comp=Z,114nm,1.1s
PETK Petropavlovsk- 20.80 28 P **P 21 43 34.3 +0.6**
comp=Z,18nn,0.9s,baz=201,slow=7.9,SNR=27
PETK Petropavlovsk- 20.80 28 *e*P **P 21 43 33.9 +0.2**
PETK Petropavlovsk- 20.80 28 *e*P **P 21 43 33.9 +0.2**
NACB Ninganchiao 20.80 242 *e*P **P 21 43 28.6 -5.3**
comp=Z,94nm,1.5s
HIA Hailar 21.09 317 *e*P **P 21 43 35.4 -1.5**
HIA pmax pmax
comp=Z,34nm,0.8s
HIA Hailar 21.09 317 *e*P **P 21 43 35.4 -1.5**
comp=Z,34nm,0.8s
PET Petropavlovsk 21.11 29 *e*P **P 21 43 37.0 +0.1**
PET pmax pmax
comp=Z,66nm,1.4s
PET Petropavlovsk 21.11 29 *e*P **P 21 43 36.6 -0.3**
comp=Z,99nm,1.3s
YULB Yu-li 21.50 241 *e*P **P 21 43 36.3 -5.1**
comp=Z,41nm,1.2s
YULB *e*S S 21 47 26.8 -12
SSLB Suanglung 21.50 242 *e*P **P 21 43 37.3 -4.2**
comp=Z,34nm,0.9s
TWG Pinlang 22.02 240 *e*P **P 21 43 43.8 -3.2**
comp=Z,409nm,1.5s
TPUB Ta-pu 22.04 242 *e*P **P 21 43 43.7 -3.5**
comp=Z,114nm,1.6s
GUMO Guam 22.12 172 P **P 21 43 51.9 +3.9**
comp=Z,642nm,1.1s,baz=46,slow=4.0,SNR=7.4
GUMO Guam 22.12 172 *e*P **P 21 43 48.5 +0.5**
GUMO Guam 22.12 172 *e*P **P 21 43 48.5 +0.5**
WHN Wuhan 23.45 265 ⇑P **P 21 44 02.3 +0.5**
CLNS Chul'man 24.08 337 *e*P **P 21 44 05.7 -1.9**
CLNS pmax pmax
comp=N,25nm,0.9s
CLNS pmax pmax
comp=Z,53nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.9s
HHC Hu-ho-hao-te 24.19 292 *e*P **P 21 44 09.1 +0.2**
HHC pmax pmax
comp=E,23nm,0.8s
MA2 Magadan 24.69 11 P **P 21 44 13.5 +0.4**
comp=E,44nm,0.8s,baz=198,slow=9.2,SNR=65
APYP Conner 25.35 231 *e*P **P 21 44 14.8 -4.6**
CIT Chita 25.89 318 *e*P **P 21 44 19.5 -4.6**
CIT *e* 21 44 33.0
CIT *e* 21 45 04.8
CIT pmax pmax
comp=Z,109nm,2.4s
XAN Xi'an 26.91 276 P **P 21 44 32.6 -0.9**
XAN pP pP 21 44 41.6 +0.2
XAN sP sP 21 44 45.6 +0.8
XAN S **S 21 49 02.5 -6.3**
XAN pmax pmax
comp=Z,21nm,0.6s
XAN LR LR
comp=Z,950nm,18.4s
XAN LR LR
comp=Z,2µm,15.2s
XAN LR LR
comp=Z,1µm,15.2s
H11N2 WAKE ISLAND Hy 27.23 119 T T 22 13 11.2
baz=311,slow=75,SNR=89
H11N1 WAKE ISLAND Hy 27.23 119 T T 22 13 19.2
baz=311,slow=75,SNR=101
H11N3 WAKE ISLAND Hy 27.24 119 T T 22 13 06.4
baz=311,slow=75,SNR=95
ENH Enshi 27.50 268 *e*P **P 21 44 37.0 -1.8**
comp=Z,34nm,0.6s
YAK Yakutsk 27.50 348 P **P 21 44 38.2 -0.2**
comp=Z,111nm,0.6s,baz=254,slow=0.3,SNR=27
YAK Yakutsk 27.50 348*c i*P **P 21 44 38.0 -0.5**
YAK *e**PP **pP 21 44 44.0 -2.4**
YAK *e*PPP PPP 21 45 27.7
YAK *e* 21 47 57.2
YAK *e*S **S 21 49 18.9 +1.4**
YAK *e*SS **SnSn 21 50 19.2 -9.5**
YAK *e* 21 55 29.3
YAK pmax pmax
comp=Z,82nm,0.8s
YAK pmax pmax
comp=N,27nm,1.1s
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=Z,161nm,1.5s
YAK pmax pmax
comp=N,73nm,1.4s
YAK pmax pmax
comp=E,84nm,1.4s
YAK smax smax
comp=N,282nm,2.0s
YAK smax smax
comp=E,202nm,2.6s
YAK MLR MLR
comp=Z,3µm,20.0s
YAK MLR MLR
comp=N,4µm,19.0s
YAK MLR MLR
comp=E,2µm,22.0s
YAK Yakutsk 27.50 348 *e*P **P 21 44 38.2 -0.2**
comp=E,188nm,1.0s
H11S1 WAKE ISLAND Hy 27.90 121 T T 22 14 14.5
baz=312,slow=76,SNR=146
H11S3 WAKE ISLAND Hy 27.90 121 T T 22 14 38.4
baz=312,slow=76,SNR=149
H11S2 WAKE ISLAND Hy 27.91 121 T T 22 14 28.4
baz=312,slow=76,SNR=146
SEY Seymchan 28.13 10 P **P 21 44 45.4 +1.3**
comp=E,11nm,0.7s,baz=199,slow=6.7,SNR=58
SEY Seymchan 28.13 10 *e*P **P 21 44 43.6 -0.5**
ULN Ulaanbaatar 28.38 306*ce*P **P 21 44 47.0 +0.4**
ULN pmax pmax
comp=Z,14nm,0.6s
ULN Ulaanbaatar 28.38 306 *e*P **P 21 44 46.8 +0.1**
comp=Z,26nm,0.8s
ULN Ulaanbaatar 28.38 306 P **P 21 44 49.8 +3.1**
SNR=17
ULN Ulaanbaatar 28.38 306 P **P 21 44 49.8 +3.1**
SNR=17
SONA1 Songino Array 28.80 306 *e*P **P 21 44 50.4 0.0**
SONM Songino Array 28.80 306 P **P 21 44 50.7 +0.3**
comp=Z,8.8nm,0.6s,baz=110,slow=9.0,SNR=54
BOD Bodaibo 28.86 329 *e*P **P 21 44 50.5 -0.2**
BOD pmax pmax
comp=Z,85nm,1.2s
LZH Lanzhou 30.58 282 *e*P **P 21 45 06.1 -0.2**
LZH pP pP 21 45 13.8 -0.5
LZH sP sP 21 45 17.8 +0.2
LZH PP **PnPn 21 46 04.3 -1.6**
LZH S **S 21 50 04.8 -2.0**
LZH sS sS 21 50 17.0 -2.9
LZH SS **ScP 21 51 45.4 +0.2**
LZH pmax pmax
comp=Z,23nm,0.8s
LZH pmax pmax
comp=Z,160nm,5.9s
LZH LR LR
comp=Z,1µm,12.9s
LZH LR LR
comp=Z,1µm,13.8s
LZH LR LR
comp=Z,2µm,15.0s
GYA Guiyang 31.26 263⇑*i*P **P 21 45 09.6 -2.8**
GYA pP sP 21 45 23.3 -0.3
GYA PcP **PcP 21 48 07.9 +1.5**
GYA S **S 21 50 16.4 -1.1**
GYA sS sS 21 50 33.5 +2.9
GYA SS **SnSn 21 52 02.9 +1.7**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.3s
GYA LR LR
comp=Z,740nm,17.5s
GYA LR LR
comp=Z,600nm,17.3s
GYA LR LR
comp=Z,720nm,17.8s
ZAK Zakamensk 31.36 310 *e*P **P 21 45 12.3 -0.6**
ZAK pmax pmax
comp=Z,14nm,1.0s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 31.46 313 P **P 21 45 14.1 +0.3**
comp=Z,13nm,0.7s,baz=138,slow=3.2,SNR=10
TLY Talaya 31.46 313 *e*P **P 21 45 14.8 +1.1**
TLY pmax pmax
comp=Z,22nm,0.7s
TLY Talaya 31.46 313 *e*P **P 21 45 14.6 +0.8**
comp=Z,30nm,0.9s
TLY Talaya 31.46 313 P **P 21 45 14.5 +0.8**
SNR=11
TLY Talaya 31.46 313 P **P 21 45 14.5 +0.8**
SNR=11
CD2 Chengdu 31.96 273 P **P 21 45 18.8 +0.4**
CD2 pP sP 21 45 28.6 -1.0
CD2 sP pP 21 45 33.0 +6.7
CD2 S **S 21 50 27.9 -0.2**
CD2 sS sS 21 50 44.8 +3.5
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 pmax pmax
comp=Z,220nm,6.2s
CD2 LR LR
comp=Z,2µm,17.9s
CD2 LR LR
comp=Z,3µm,22.8s
CD2 LR LR
comp=Z,2µm,20.8s
DAV Davao City (W) 32.04 211 LR LR 21 55 60.0
comp=Z,1µm,21.9s,baz=357,slow=32
GTA Gaotai 33.24 289 P **P 21 45 29.8 +0.2**
GTA pP sP 21 45 40.1 -0.8
GTA sP pP 21 45 44.0 +6.4
GTA PcP **PcP 21 48 12.9 +1.2**
GTA PcS **PcS 21 51 57.6 +0.3**
GTA LR LR
comp=Z,1µm,16.2s
GTA LR LR
comp=Z,1µm,16.2s
GTA LR LR
comp=Z,2µm,17.6s
KMI Kunming 35.02 264 P **P 21 45 45.3 0.0**
KMI pP sP 21 45 56.6 0.0
KMI sP pP 21 46 00.8 +7.5
KMI pmax pmax
comp=Z,12nm,1.1s
BILL Bilibino 35.32 16 *e*P **P 21 45 46.8 -0.3**
BILL *e* 21 45 54.7
BILL *e*PPP PPP 21 47 21.1
BILL *e* 21 48 15.5
BILL pmax pmax
comp=Z,40nm,1.3s
BILL MLR MLR
comp=Z,2µm,19.0s
TIXI Tiksi 36.72 353 P **P 21 45 58.9 -0.1**
comp=Z,23nm,0.7s,baz=147,slow=6.6,SNR=58
TIXI Tiksi 36.72 353*ce*P **P 21 45 58.9 -0.1**
TIXI pmax pmax
comp=Z,34nm,1.0s
TIXI Tiksi 36.72 353 *e*P **P 21 45 59.0 -0.1**
comp=Z,26nm,0.7s
MYLDM Lahad Datu 37.09 221 *e*P **P 21 46 02.8 +0.1**
comp=Z,32nn,1.0s
TNTI Ternate 37.15 204 *e*P **P 21 46 02.1 -1.2**
comp=Z,180nn,1.0s
SWI Sorong 37.58 197 P **P 21 46 07.9 +1.0**
KKM Kota Kinabalu 37.63 225 *e*P **P 21 46 06.7 -0.8**
comp=Z,33nn,1.4s
GENI Genyem 38.04 183 P **P 21 46 12.9 +2.2**
UBPT Khong Chiam 38.19 247 P **P 21 46 10.6 -1.5**
comp=Z,44nn,0.9s
SKNT Sakolnakorn 38.30 251 P **P 21 46 11.1 -1.9**
comp=Z,9.1nn,1.2s
LBMI Labuha 38.43 203 P **P 21 46 16.0 +1.9**
KMSI Cibinong 38.58 209 P **P 21 46 16.0 +0.7**
FAKI Fak Fak 39.35 195 P **P 21 46 23.8 +2.0**
FAKI Fak Fak 39.35 195 *e*P **P 21 46 20.6 -1.1**
comp=Z,50nn,1.0s
MRSI Marisa 39.52 212 P P 21 46 14.0 -9.2
SANI Sanana 40.26 205 P **P 21 46 27.4 -1.9**
comp=Z,239nm,0.8s,comp=Z,2µm
CMAI Chiengmai2 40.53 259 P **P 21 46 33.9 +2.1**
comp=Z,419nn,1.2s
LUWI Luwuk 40.53 210 *e*P **P 21 46 29.2 -2.4**
comp=Z,156nn,0.4s
MPSI Mapaga 40.56 215 P **P 21 46 31.7 -0.1**
comp=Z,21nn,0.6s
MSAI Masohi 40.57 200 P **P 21 46 35.0 +3.1**
comp=Z,19nn,1.6s,comp=Z,2µm
LAMP Lampang 40.82 257 P **P 21 46 33.8 -0.2**
comp=Z,5.6nn,0.7s
APSI Ampana 40.88 212 P **P 21 46 34.1 -0.4**
comp=Z,193nn,0.5s,comp=Z,2µm
PHIT Phitsanulok 40.95 254 P **P 21 46 35.0 0.0**
comp=Z,10nn,0.9s
NLAI Namlea 41.01 203 P **P 21 46 37.1 +1.6**
comp=Z,90nn,0.9s,comp=Z,1µm
AAI Ambon 41.10 201 P **P 21 46 37.4 +1.1**
comp=Z,152nn,0.7s
CMMT Chiang Mai 41.21 258 P **P 21 46 35.3 -1.9**
comp=Z,60nn,1.4s
CHTO Chiang Mai 41.21 258 P **P 21 46 36.4 -0.8**
comp=Z,48nn,0.8s
CHTO Chiang Mai 41.21 258 *e*P **P 21 46 36.1 -1.1**
CHTO *e* 21 48 36.3
CHTO pmax pmax
comp=Z,8.0nn,0.8s
CHTO Chiang Mai 41.21 258 *e*P **P 21 46 36.1 -1.1**
comp=Z,8.2nn,0.8s
CHTO *e*PcP **PcP 21 48 36.3 +0.3**
CM31 Chiang Mai Arr 41.40 257 *e*P **P 21 46 38.9 +0.1**
CMAR Chiang Mai Arr 41.40 257 P **P 21 46 37.4 -1.4**
comp=Z,3.7nn,0.6s,baz=49,slow=7.8,SNR=43
CMAR PcP **PcP 21 48 37.3 +0.6**
comp=Z,3.1nn,1.0s,baz=25,slow=3.5,SNR=6.1
CM01 Chiang Mai Arr 41.41 257 *e*P **P 21 46 36.8 -2.1**
DGZ Jazzator, Alta 41.44 307 *e*P **P 21 46 40.0 +1.1**
DGZ pmax pmax
comp=Z,34nn,0.8s
SRAK Srakaew 41.57 249 P **P 21 46 35.7 -4.5**
comp=Z,68nn,0.9s,comp=Z,576nm
WMQ Urumqi 41.72 298 P **P 21 46 42.5 +1.3**
WMQ pP sP 21 46 55.1 +2.5
WMQ sP pP 21 46 58.8 +9.4
WMQ PcP **PcP 21 48 33.0 -4.4**
WMQ S **S 21 52 58.6 +2.1**
WMQ sS sS 21 53 13.0 +3.1
WMQ pmax pmax
comp=Z,120nm,0.9s
WMQ LR LR
comp=Z,5µm,19.7s
WMQ LR LR
comp=Z,5µm,21.7s
WMQ LR LR
comp=Z,8µm,20.3s
NAYO Nakonayok 41.94 250 P **P 21 46 42.4 -0.8**
comp=Z,17nn,0.7s,comp=Z,4µm
LSA Lhasa 42.61 277 P **P 21 46 49.9 +0.8**
LSA pmax pmax
comp=Z,4.0nn,0.6s
LSA Lhasa 42.61 277 *e*P **P 21 46 49.1 0.0**
LSA pmax pmax
comp=Z,21nn,1.0s
LSA Lhasa 42.61 277 *e*P **P 21 46 49.1 0.0**
comp=Z,21nn,1.0s
ZALV Zalesovo Beam 43.06 314 P **P 21 46 52.3 +0.4**
comp=Z,28nn,0.7s,baz=90,slow=6.7,SNR=60
KDI Kendari 43.25 208 P **P 21 46 56.4 +2.6**
comp=Z,46nn,1.3s
ZSN Zaisan 43.27 304 *e*P **P 21 46 55.8 +2.0**
comp=Z,143nn,0.8s
ZSN LR LR 22 05 39.2
comp=Z,189nm,13.7s
SRDT SRDT 43.61 252 P **P 21 46 55.5 -1.3**
comp=Z,23nm,1.3s
SHL Shillong 43.66 271 *e*P **P 21 46 57.0 -0.3**
NVS Novosibirsk 44.01 315⇑*i*P **P 21 46 59.8 +0.3**
NVS *e*S **S 21 53 30.1 +0.4**
NVS pmax pmax
comp=Z,48nn,1.1s
NVS pmax pmax
comp=N,8.0nn,1.0s
NVS pmax pmax
comp=E,43nn,1.1s
NVS smax smax
comp=N,6.0nn,1.5s
NVS smax smax
comp=E,16nn,1.7s
MTKI Muara Teweh, K 44.15 220 P **P 21 47 01.5 +0.4**
comp=E,52nn,0.9s,comp=E,3µm
BBSI Bau Bau 44.67 208 P **P 21 47 08.0 +2.8**
comp=E,28nn,1.1s,comp=E,3µm
BNSI Bone 44.68 211 P **P 21 47 05.7 +0.4**
comp=E,169nn,1.1s
KSM Kuching 44.77 228 *e*P **P 21 47 05.5 -0.6**
comp=E,36nn,0.6s
PMG Port Moresby 45.07 172 P **P 21 47 08.4 0.0**
comp=E,48nn,1.1s,baz=352,slow=10,SNR=8.8
PMG Port Moresby 45.07 172*d i*P **P 21 47 07.9 -0.5**
PMG pmax pmax
comp=Z,194nn,1.0s
PMG Port Moresby 45.07 172 *e*P **P 21 47 08.6 +0.2**
comp=Z,51nn,1.0s
MK01 Makanchi Array 45.09 303 *e*P **P 21 47 09.6 +1.3**
MK31 Makanchi Array 45.09 303 *e*P **P 21 47 09.1 +0.7**
MK31 Makanchi Array 45.09 303 *e*P **P 21 47 09.1 +0.7**
MKAR Makanchi Array 45.09 303 P **P 21 47 08.4 0.0**
comp=Z,20nn,0.7s,baz=85,slow=10,SNR=159
MKAR Makanchi Array 45.09 303 *i* P **P 21 47 08.3 -0.1**
MKAR pmax pmax
comp=Z,21nn,0.7s
MKAR Makanchi Array 45.09 303 *e*P **P 21 47 09.1 +0.7**
comp=Z,156nn,0.8s
STKI Sintang 45.21 225 P **P 21 47 10.6 +1.1**
comp=Z,58nn,0.8s,comp=Z,5µm
MAKZ Makanchi 45.31 303 *i* P **P 21 47 10.9 +0.9**
MAKZ pmax pmax
comp=Z,18nn,0.8s
MAKZ Makanchi 45.31 303 *e*P **P 21 47 10.9 +0.9**
comp=Z,30nn,0.8s
KAPI Kappang 45.38 212 *e*P **P 21 47 09.9 -0.9**
comp=Z,149nn,1.2s
SVW2 Sparrevohn 46.50 37 *e*P **P 21 47 18.9 -0.3**
comp=Z,23nn,1.0s
KURK Kurchatov 47.01 309*ce*P **P 21 47 23.3 0.0**
KURK pmax pmax
comp=Z,69nn,0.8s
KURK Kurchatov 47.01 309 *e*P **P 21 47 23.4 0.0**
comp=Z,82nn,0.8s
KURK Kurchatov 47.01 309 P **P 21 47 24.0 +0.7**
SNR=29
KURK Kurchatov 47.01 309 P **P 21 47 24.0 +0.7**
SNR=29
KURBB Kurchatov Arra 47.08 309 P **P 21 47 23.9 0.0**
comp=Z,38nn,0.6s,baz=85,slow=8.2,SNR=119
TRTT Trang 47.30 245 P **P 21 47 24.8 -1.2**
comp=Z,23nn,0.9s
JIRN Jiri 47.41 277 *e*P **P 21 47 27.6 +0.3**
comp=Z,179nn,1.0s
GUN Gumba 47.56 277 *e*P **P 21 47 28.4 0.0**
comp=Z,41nn,0.7s
PDGK Podgornoye 47.67 299 *i* P **P 21 47 30.0 +1.2**
PDGK pmax pmax
comp=Z,41nn,0.8s
KDAK Kodiak Island 47.99 41 P **P 21 47 30.9 0.0**
comp=Z,15nn,0.8s,baz=270,slow=5.5,SNR=11
KDAK Kodiak Island 47.99 41 *e*P **P 21 47 31.0 +0.1**
comp=Z,36nn,0.8s
SOEI Soe 48.04 203 P **P 21 47 34.1 +2.3**
comp=Z,236nn,0.9s
SOEI Soe 48.04 203 *e*P **P 21 47 30.4 -1.4**
comp=Z,208nn,1.0s
UZB Uzynbulak 48.04 299 *e*P **P 21 47 31.9 +0.2**
comp=Z,129nn,0.8s
UZB *i* S **S 21 54 28.7 +0.3**
UZB LR LR 22 08 42.7
comp=Z,618nn,17.7s
PKI Pulchoki 48.08 277 *e*P **P 21 47 32.0 -0.4**
comp=Z,48nn,0.8s
PKIN Phulchoki 48.09 277 *e*P **P 21 47 32.6 +0.2**
comp=Z,70nn,0.9s
KKN Kakani 48.09 277 *e*P **P 21 47 32.2 -0.2**
comp=Z,85nn,0.9s
PPLA Purkeypile 48.19 34 *e*P **P 21 47 33.9 +1.3**
comp=Z,90nn,1.6s
KPKS Kokpek 48.21 299 *e*P **P 21 47 33.3 +0.3**
comp=Z,24nn,0.7s
KPKS *e*S **S 21 54 31.4 +0.8**
SPU Mount Spurr 48.21 36 *e*P **P 21 47 33.9 +1.3**
CAST Castle Rocks 48.26 33 *e*P **P 21 47 34.2 +1.3**
comp=Z,15nn,0.8s
PKDT Phuket 48.27 246 P **P 21 47 32.5 -1.0**
comp=Z,22nn,1.8s
DMN Daman 48.31 277 *e*P **P 21 47 34.0 -0.1**
comp=Z,46nn,1.0s
KULM Kulim 48.34 241 *e*P **P 21 47 33.1 -1.0**
comp=Z,33nn,1.5s
GKN Gorkha 48.53 278 *e*P **P 21 47 35.8 +0.2**
IPM Ipoh 48.64 240 *e*P **P 21 47 34.9 -1.5**
comp=Z,40nn,1.2s
BATI Baumata 48.66 204 P **P 21 47 35.8 -0.8**
comp=Z,149nn,0.8s,baz=3.8,slow=2.0,SNR=5.7
BATI Baumata 48.66 204 P **P 21 47 38.7 +2.2**
comp=Z,105nn,1.0s
BPAW Bear Paw Mtn. 48.77 33 *e*P **P 21 47 38.6 +1.8**
comp=Z,54nn,1.8s
KTH Kantishna Hill 48.78 33 *e*P **P 21 47 38.2 +1.2**
comp=Z,45nn,1.1s
MLY Manley 48.92 31 *e*P **P 21 47 39.7 +1.7**
comp=Z,22nn,0.9s
TRF Thorofare Moun 49.07 33 *e*P **P 21 47 39.4 +0.1**
comp=Z,18nn,1.1s
DANN Dangsing 49.09 279 *e*P **P 21 47 41.0 +0.9**
comp=Z,19nn,0.9s
MTN Manton Dam 49.23 194 *e*P **P 21 47 40.7 0.0**
comp=Z,288nn,1.8s
COLD Coldfoot 49.27 28 *e*P **P 21 47 41.7 +1.1**
comp=Z,8.2nn,0.8s
COEN Coen 49.32 178 *e*P **P 21 47 41.1 -0.4**
comp=Z,79nn,1.0s
RC01 Rabbit Creek A 49.34 37 *e*P **P 21 47 40.8 -0.4**
comp=Z,25nn,1.0s
MDOK Medeo 49.44 299 *e*P **P 21 47 43.2 +0.8**
comp=Z,79nn,0.8s
MDOK LR LR 22 04 56.6
comp=Z,761nm,22.5s
KOLN Koldanda 49.46 278 *e*P **P 21 47 43.0 +0.2**
comp=Z,73nn,1.0s
SEW Seward 49.52 38 *e*P **P 21 47 43.8 +1.2**
comp=Z,85nn,1.5s
PMR Palmer 49.62 36 *e*P **P 21 47 43.6 +0.4**
PMR pmax pmax
comp=Z,24nn,1.0s
PMR Palmer 49.62 36 *e*P **P 21 47 43.6 +0.4**
comp=Z,24nn,1.0s
TOLK Toolik Lake Re 49.62 27 P **P 21 47 44.8 +1.5**
baz=265
TOLK Toolik Lake Re 49.62 27 *e*P **P 21 47 44.6 +1.3**
comp=Z,15nn,0.8s
MCK McKinley 49.67 33 *e*P **P 21 47 44.7 +0.9**
MCK pmax pmax
comp=Z,27nn,1.1s
MCK McKinley 49.67 33 *e*P **P 21 47 44.7 +0.9**
comp=Z,26nn,1.1s

RND Reindeer 49.71 34 *e*P **P 21 47 44.8 +0.7**
RND pmax pmax
comp=Z,27nm,1.0s
RND Reindeer 49.71 34 *e*P **P 21 47 44.8 +0.7**
comp=Z,27nm,1.0s
KUU Kurty 49.77 301 *i* P **P 21 47 45.2 +0.5**
comp=Z,57nm,1.2s
KUU eS **S 21 54 53.0 +0.7**
PYUN Piuthan 49.82 279 *e*P **P 21 47 45.9 +0.3**
comp=Z,170nm,1.0s
MDM Murphy Dome 49.98 31 *e*P **P 21 47 47.5 +1.4**
comp=Z,42nm,0.8s
SML Sawmill 49.99 36 *e*P **P 21 47 47.0 +0.8**
SML pmax pmax
comp=Z,27nm,0.8s
SML Sawmill 49.99 36 *e*P **P 21 47 47.0 +0.8**
comp=Z,27nm,0.8s
COLA College 50.15 32 *e*P **P 21 47 48.3 +1.1**
COLA pmax pmax
comp=Z,25nm,0.7s
COLA College 50.15 32 *e*P **P 21 47 48.2 +1.1**
comp=Z,25nm,0.7s
CCB Clear Creek Bu 50.17 32 *e*P **P 21 47 48.2 +0.8**
comp=Z,21nm,1.5s
ULHL Ulahol 50.25 299 P **P 21 47 52.6 +3.9**
SNR=7.1
DHY Denali Highway 50.39 34 *e*P **P 21 47 52.1 +2.8**
BMNS Besmoynak 50.43 300 *e*P **P 21 47 50.6 +0.6**
comp=Z,315nm,0.7s
SCM Sheep Creek Mo 50.47 36 *e*P **P 21 47 52.8 +3.0**
SCM pmax pmax
comp=Z,38nm,1.1s
SCM Sheep Creek Mo 50.47 36 *e*P **P 21 47 52.8 +3.0**
comp=Z,38nm,1.1s
TKM2 Tokmak 2 50.53 300 *i* P **P 21 47 51.6 +0.8**
TKM2 pmax pmax
comp=Z,11nm,0.8s
TKM2 Tokmak 2 50.53 300 P **P 21 47 51.9 +1.1**
SNR=16
IL1 Eielson Array 50.56 32 *e*P **P 21 47 50.4 0.0**
ILAR Eielson Array 50.56 32 P **P 21 47 50.5 +0.1**
comp=Z,18nm,0.7s,baz=263,slow=5.6,SNR=87
ILB Eielson Array 50.56 32 *e*P **P 21 47 50.9 +0.5**
BRZS Berezniki 50.88 309 *e*P **P 21 47 53.8 +0.7**
comp=Z,41nm,0.7s
JAGI Jajag, Banyuwa 50.98 216 P **P 21 47 55.4 +1.3**
comp=Z,108nm,1.0s
KZA Kyzart 51.01 299 P **P 21 47 58.0 +3.3**
SNR=8.2
KBK Karagaybulak 51.06 299 P **P 21 47 55.6 +0.8**
SNR=19
BTLS Baital 51.08 303 *e*P **P 21 47 55.3 +0.7**
comp=Z,73nm,0.9s
KLU Klutina 51.16 36 *e*P **P 21 47 57.8 +2.8**
comp=Z,40nm,1.2s
FYU Fort Yukon 51.21 29 *e*P **P 21 47 57.7 +2.4**
KSH Kashi 51.22 295 P **P 21 48 00.1 +4.2**
KSH pP sP 21 48 10.1 +2.6
KSH sP pP 21 48 13.5 +9.3
KSH PcP **PcP 21 49 13.6 +2.6**
KSH S **S 21 55 15.8 +2.9**
KSH sS sS 21 55 31.3 +4.8
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,150nm,6.0s
KSH LR LR
comp=Z,1μm,17.4s
KSH LR LR
comp=Z,1μm,16.8s
KSH LR LR
comp=Z,2μm,18.8s
FRU Bishkek 51.25 300 *e*P **P 21 47 59.0 +3.0**
FRU *i* 21 48 04.0
FRU pmax pmax
comp=Z,60nm,2.0s
DIV Divide 51.26 36 *e*P **P 21 47 57.3 +1.5**
comp=Z,38nm,1.0s
PAX Paxson 51.26 34 *e*P **P 21 47 56.9 +1.1**
PAX pmax pmax
comp=Z,6.0nm,1.1s
PAX Paxson 51.26 34 *e*P **P 21 47 56.9 +1.1**
comp=Z,6.2nm,1.1s
PSI Prapat 51.30 240 P **P 21 47 55.5 -1.2**
comp=Z,13nm,0.6s,baz=16,slow=6.1,SNR=18
PSI Prapat 51.30 240 *e*P **P 21 47 55.9 -0.9**
comp=Z,16nm,0.7s
AAK Ala-Archa 51.39 299 *i* P **P 21 47 57.1 -0.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 51.39 299 *e*P **P 21 47 57.8 +0.6**
comp=Z,11nm,0.8s
HARP HAARP 51.45 35 *e*P **P 21 47 58.8 +1.7**
comp=Z,45nm,0.9s
OTUK Ortayu 51.47 307 *i* P **P 21 47 58.1 +0.6**
OTUK pmax pmax
comp=Z,19nm,0.7s
RIDG Independ'e Rid 51.49 33 *e*P **P 21 47 59.4 +1.8**
comp=Z,24nm,1.2s
KCSI Kotacane, Aceh 51.62 242 P **P 21 47 57.5 -1.5**
comp=Z,18nm,0.8s
BVAR Borovoye Array 51.72 313 P **P 21 47 59.4 +0.2**
comp=Z,3.8nm,0.7s,baz=84,slow=10,SNR=19
PWJI Pagerwojo 51.76 219 P **P 21 47 58.6 -1.3**
comp=Z,240nm,0.8s
BRVK Borovoye 51.77 313 *ce*P **P 21 47 59.4 -0.3**
BRVK pmax pmax
comp=Z,44nm,1.0s
BRVK Borovoye 51.77 313 *e*P **P 21 47 59.2 -0.5**
comp=Z,22nm,0.9s
BRVK Borovoye 51.77 313 P **P 21 48 02.6 +2.9**
SNR=12
BRVK Borovoye 51.77 313 P **P 21 48 02.6 +2.9**
SNR=12
BMRM Bremner River 51.84 37 *e*P **P 21 48 01.6 +1.4**
comp=Z,19nm,1.3s
DOT Dot Lake 51.85 33 *e*P **P 21 48 00.3 +0.2**
EKS2 Erkin-Say 51.89 300 P **P 21 48 01.7 +0.8**
SNR=8.8
MENT Mentasta 52.06 34 *e*P **P 21 48 04.7 +3.0**
comp=Z,26nm,1.0s
AML Almayashu 52.10 299 P **P 21 48 04.3 +1.5**
SNR=29
MLSI Meulaboh, Aceh 52.11 244 P **P 21 48 02.1 -0.5**
comp=Z,50nm,0.7s
MNSI Mandailing Nat 52.26 238 P **P 21 48 02.8 -0.9**
comp=Z,32nm,0.6s
MNAS Manas 52.84 300 *i* P **P 21 48 08.8 +0.8**
MNAS pmax pmax
comp=Z,13nm,0.9s
EGAK Eagle 53.01 32 *e*P **P 21 48 08.9 +0.2**
comp=Z,12nm,0.8s
LEM Lembang 53.03 224 P **P 21 48 09.4 -0.2**
comp=Z,308nm,0.8s,baz=86,slow=12,SNR=47
KLI Kotabumi 53.08 228 P **P 21 48 08.9 -0.9**
comp=Z,342nm,1.0s,comp=Z,3μm
MDSI Maura Dua 53.20 229 P **P 21 48 09.7 -1.0**
comp=Z,205nm,1.0s,comp=Z,2μm
BLSI Bandar Lampung 53.24 228 P **P 21 48 09.9 -1.1**
GSI Gunungsitoli 53.30 240 P **P 21 48 10.9 -0.6**
comp=Z,175nm,1.3s
GSI Gunungsitoli 53.30 240 *e*P **P 21 48 10.7 -0.8**
comp=Z,121nm,0.8s
MASI Maura Aman, Be 53.39 232 P **P 21 48 11.9 -0.2**
comp=Z,230nm,1.0s
CISI Cisompet, Garu 53.51 223 *e*P **P 21 48 11.0 -2.0**
comp=Z,258nm,1.5s
DZA Taraz 53.55 301 *e*P **P 21 48 14.3 +1.3**
comp=Z,107nm,0.8s
DZA LR LR 22 11 42.4
comp=Z,553nm,16.9s
LWLI Liwa 53.69 229 P **P 21 48 13.2 -1.2**
comp=Z,191nm,0.8s
KASI Kota Agung 53.82 228 P **P 21 48 13.2 -2.0**
comp=Z,135nm,1.1s
DAWY Dawson 53.86 32 *e*P **P 21 48 15.7 +0.7**
KK31 Karatay Array 54.06 301 *i* P **P 21 48 17.6 +0.9**
KK31 pmax pmax
comp=Z,46nm,1.3s
KKAR Karatay Array 54.06 301 *e*P **P 21 48 17.8 +1.0**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 54.06 301 *e*P **P 21 48 17.8 +1.0**
comp=Z,7.9nm,0.8s
IUG luzhnay 54.70 300⇓ *i* P **P 21 48 22.2 +0.8**
comp=Z,343nm,0.8s
HYT Haines Junctio 55.29 36 *e*P **P 21 48 27.7 +2.2**

INK Inuvik 55.53 27 P **P 21 48 27.9 +0.9**
comp=Z,7.2nm,0.7s,baz=305,slow=7.2,SNR=32
INK Inuvik 55.53 27 *e*P **P 21 48 27.9 +0.9**
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 55.53 27 *e*P **P 21 48 27.9 +0.9**
comp=Z,4.6nm,0.6s
CTAO Charters Tower 55.57 175 *e*P **P 21 48 27.1 -0.6**
CTAO pmax pmax
comp=Z,14nm,0.6s
CTAO Charters Tower 55.57 175 *e*P **P 21 48 27.1 -0.6**
comp=Z,14nm,0.6s
WRAB Tennant Creek 55.69 188 *d* iP **P 21 48 27.8 -0.8**
WRAB pmax pmax
comp=Z,82nm,1.1s
WRAB Tennant Creek 55.69 188 *e*P **P 21 48 27.7 -0.8**
comp=Z,85nm,1.0s
WRA Warramunga Arr 55.70 188 P **P 21 48 27.7 -1.0**
comp=Z,66nm,1.0s,baz=7.1,slow=7.5,SNR=172
SVE Sverdlovsk 56.38 319 *e*P **P 21 48 34.0 +0.8**
SVE pmax pmax
comp=Z,40nm,0.9s
WHY Whitehorse 56.58 36 *e*P **P 21 48 37.1 +2.4**
ARU Arti 57.59 319 *c i*P **P 21 48 40.7 -1.1**
ARU 21 49 32.3
ARU 21 50 47.5
ARU S **S 21 56 38.0 +0.1**
ARU SS **SS 22 00 25.9 -1.6**
ARU pmax pmax
comp=Z,18nm,0.7s
ARU Arti 57.59 319 *e*P **P 21 48 40.6 -1.2**
comp=Z,47nm,0.8s
SOKR Solikamsk 57.60 323 *e*P P 21 48 34.5 -7.3
SOKR pmax pmax
comp=Z,10.0nm,1.0s
HYB Hyderabad 58.43 270 *i* P **P 21 48 48.0 -0.3**
HYB *ep*P **sP 21 48 58.0 -1.9**
AB31 Akbulak array 59.05 311 *i* P **P 21 48 51.7 -0.4**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 59.05 311 *e*P **P 21 48 52.1 0.0**
comp=Z,20nm,0.7s
AS01 Alice Springs 59.42 188 *e*P **P 21 48 53.3 -1.5**
AS31 Alice Springs 59.42 188 *e*P **P 21 48 54.5 -0.4**
ASAR Alice Springs 59.42 188 P **P 21 48 54.1 -0.7**
comp=Z,23nm,0.7s,baz=8.0,slow=6.0,SNR=133
ASAR PKP2bc 22 18 36.6
comp=Z,1.1nm,0.8s,baz=163,slow=2.0,SNR=7.2
AKTO Aktyubinsk 59.81 313 P **P 21 48 58.4 +1.1**
comp=Z,9.2nm,0.7s,baz=75,slow=12,SNR=23
AKTO Aktyubinsk 59.81 313 *i* P **P 21 48 57.2 -0.2**
AKTO pmax pmax
comp=Z,9.0nm,0.6s
MBWA Marble Bar 60.19 204 *e*P **P 21 48 59.7 -0.4**
comp=Z,91nm,0.7s
EIDS Eidsvold 61.30 170 *e*P **P 21 49 07.8 +0.2**
comp=Z,22nm,1.0s
POO Poona 61.69 273⇑ *i*P P 21 49 01.0 -10
comp=Z,40nm,1.0s
DZM Mont Dzumac 61.97 154 P **P 21 49 13.3 +0.9**
comp=Z,26nm,1.0s,baz=31,slow=10,SNR=7.1
DZM Mont Dzumac 61.97 154 *e*P **P 21 49 13.2 +0.9**
comp=Z,18nm,0.8s
PALK Pallekele 62.32 259 *e*P **P 21 49 15.4 +0.5**
PALK pmax pmax
comp=Z,11nm,0.8s
PALK Pallekele 62.32 259 *e*P **P 21 49 15.3 +0.5**
comp=Z,11nm,0.8s
MSVF Nonsavu 63.25 141 *e*P **P 21 49 22.1 +1.2**
MSVF Nonsavu 63.25 141 *e*P **P 21 49 22.1 +1.2**
COCO West Island 63.72 230 *i* P **P 21 49 25.5 +1.5**
RES Resolute Bay 63.91 14 P **P 21 49 24.9 +0.4**
comp=Z,13nm,0.8s,baz=310,slow=5.4,SNR=45
RES Resolute Bay 63.91 14 *e*P **P 21 49 24.7 +0.2**
RES pmax pmax
comp=Z,9.0nm,0.7s
RES Resolute Bay 63.91 14 *e*P **P 21 49 24.7 +0.2**
comp=Z,8.7nm,0.7s
APA Apatity 64.08 336⇓ *i*P **P 21 49 29.4 +3.7**
APA pmax pmax
comp=Z,6.0nm,0.8s
APA MLR MLR
comp=Z,5μm,22.0s
TMCR Tamitsa 64.11 332 *e*P **P 21 49 25.9 0.0**
TMCR pmax pmax
comp=Z,11nm,0.8s
GEYT Alibeck 64.75 300 P **P 21 49 31.1 +0.4**
comp=Z,3.7nm,0.7s,baz=5.7,slow=4.5,SNR=12
KEV Kevo 64.85 340 *e*P **P 21 49 32.3 +1.6**
KEV pmax pmax
comp=Z,21nm,1.1s
KEV Kevo 64.85 340 *e*P **P 21 49 32.3 +1.6**
comp=Z,21nm,1.1s
YKA Yellowknife Ar 64.91 30 P **P 21 49 31.5 +0.3**
comp=Z,6.7nm,0.7s,baz=301,slow=6.6,SNR=76
KLMR Klimovskoe 65.09 328 *e*P **P 21 49 30.0 -2.3**
KLMR *e* 21 51 53.5
KLMR pmax pmax
comp=Z,18nm,0.9s
KLMR Klimovskoe 65.09 328 *e*P **P 21 49 30.1 -2.3**
KLMR AMP 21 49 42.8
comp=Z,18nm,0.9s
KLMR *ePP* **PP 21 51 53.6 -1.7**
ARCES ARCESS Array B 65.41 340 P **P 21 49 34.4 0.0**
comp=Z,5.3nm,0.8s,baz=39,slow=4.7,SNR=7.9
ARMA Armidale 66.34 171 *e*P **P 21 49 41.8 +0.9**
TULEG Thule 66.47 7 *e*P **P 21 49 40.9 -0.2**
STKA Stephens Creek 67.14 180 P **P 21 49 45.4 -0.4**
comp=Z,18nm,0.8s,baz=340,slow=8.0,SNR=25
STKA Stephens Creek 67.14 180 *e*P **P 21 49 45.9 +0.1**
BBOO Buckleboo 68.28 185 *e*P **P 21 49 52.1 -0.8**
comp=Z,22nm,0.6s
MOS Moscow 68.54 324 *e*P P 21 50 02.1 +7.7
MOS *e* 21 50 12.2
MOS pmax pmax
comp=Z,31nm,0.7s
VRH Novokhopyorsk 68.80 318 *e*P **P 21 49 56.1 -0.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
C06D Leavenworth 68.98 46 P **P 21 49 58.9 +1.4**
baz=300
KULLO Kullorsuaq 69.36 5 *i* P **P 21 50 00.7 +1.4**
comp=Z,23nm,0.9s
KULLO Kullorsuaq 69.36 5 *i* P **P 21 50 00.7 +1.4**
KULLO pmax pmax
comp=Z,23nm,0.9s
OBN Obninsk 69.38 324⇑ *e*P **P 21 49 59.5 -0.2**
OBN *i* *PP **sP 21 50 09.7 -1.7**
OBN *SP **pP 21 50 13.0 +4.8**
OBN *e* 21 50 18.1
OBN pmax pmax
comp=Z,25nm,1.7s
OBN MLR MLR
comp=Z,3μm,20.0s
LTY Liberty 69.45 46 *e*P **P 21 50 01.9 +1.5**
LPSR Galich'ya Gora 69.55 321 *e*P **P 21 50 00.9 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
B08A Colville Reser 69.67 45 *e*P **P 21 50 02.7 +1.1**
VSR Storozhevoye 70.16 319 *e*P **P 21 50 04.8 +0.2**
VSR pmax pmax
comp=Z,10.0nm,0.6s
FIA1 FINESS Array S 70.18 333 *e*P **P 21 50 05.1 +0.6**
FINES FINESS Array B 70.18 333 P **P 21 50 04.7 +0.1**
comp=Z,7.6nm,0.7s,baz=69,slow=6.9,SNR=20
EDM Edmonton 70.30 38 *e*P **P 21 50 06.8 +1.3**
EDM pmax pmax
comp=Z,11nm,0.9s
EDM Edmonton 70.30 38 *e*P **P 21 50 06.8 +1.3**
comp=Z,11nm,0.9s
C09A Chrisman Ranch 70.56 45 *e*P **P 21 50 08.3 +1.2**
D08A Wollman Farm, 70.58 46 *e*P **P 21 50 08.3 +1.1**
NEW Newport 70.97 44 P **P 21 50 11.4 +1.7**
baz=302
NEW Newport 70.97 44 *e*P **P 21 50 11.0 +1.3**
NEW Newport 70.97 44 *e*P **P 21 50 11.0 +1.3**
YBH Yreka Blue Hor 71.01 52 P **P 21 50 12.0 +1.9**
comp=Z,4.4nm,0.8s,baz=232,slow=2.4,SNR=9.2
YBH Yreka Blue Hor 71.01 52 P **P 21 50 12.0 +1.9**
PINE Pine Mountain 71.06 49 *e*P **P 21 50 12.7 +2.2**
GOF Gofitskoye 71.23 312⇓ *e*P **P 21 50 11.4 +0.2**
E09A Wood Farm, Sta 71.32 46 *e*P **P 21 50 13.5 +1.7**
N02D Trinity Center 71.41 53 P **P 21 50 14.4 +1.9**
baz=301
WSAR Wadi Sarin 71.48 286 P **P 21 50 13.6 +0.5**

comp=Z,3.6nm,0.8s,baz=101,slow=6.6,SNR=4.1
M04C Macdoel 71.55 52 P **P 21 50 14.7 +1.3**
baz=302
K05A Summer Lake 71.65 50 *e*P **P 21 50 16.2 +2.1**
NCK Nalchik 71.71 311 *e*P **P 21 50 14.4 +0.2**
NCK pmax pmax
comp=Z,4.0nm,1.0s
WDC Whiskeytown Da 71.72 53 *e*P **P 21 50 16.6 +2.4**
WDC Whiskeytown Da 71.72 53 *e*P **P 21 50 16.6 +2.4**
VSU Vasula 71.80 330 *e*P **P 21 50 15.4 +1.0**
VSU pmax pmax
comp=Z,40nm,1.2s
ZEI Tsey 71.89 310 *e*P **P 21 50 16.2 +0.7**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
BANOM Banah 71.90 289 P **P 21 50 16.1 +0.5**
NWAO Narrogin (SRO) 71.94 202 *e*P **P 21 50 14.5 -0.9**
NWAO pmax pmax
comp=Z,112nm,0.6s
NWAO Narrogin (SRO) 71.94 202 *e*P **P 21 50 14.5 -0.9**
comp=Z,112nm,0.6s
SHME Shamm 71.96 289 P **P 21 50 16.1 +0.1**
KBZ Khabaz 72.02 311 P **P 21 50 16.6 +0.7**
comp=Z,6.1nm,0.8s,baz=58,slow=3.5,SNR=12
KIV Kislovodsk 72.03 311 *e*P **P 21 50 18.9 +2.7**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 72.03 311 *e*P **P 21 50 19.1 +3.0**
KIV Kislovodsk 72.03 311 P P 21 50 25.1 +8.9
SNR=5.9
SUMG Summit 72.10 0 *i* P **P 21 50 18.6 +2.1**
comp=Z,22nm,1.0s
SUMG Summit 72.10 0 *e*P **P 21 50 17.5 +1.0**
SUMG Summit 72.10 0 *e*P **P 21 50 17.5 +1.0**
F10A Beach Ranch, E 72.14 46 *e*P **P 21 50 19.3 +2.4**
MSFE Esma-Masafi 72.30 289 *i* P **P 21 50 18.4 +0.4**
SNR=5.9
O03D Paynes Creek 72.35 53 P **P 21 50 19.1 +1.0**
baz=302
NEY Neytrino 72.38 311 *e*P **P 21 50 18.9 +0.5**
NEY pmax pmax
comp=Z,1.0nm,0.8s
MOD Modoc Plateau 72.46 51 *e*P **P 21 50 20.5 +1.6**
comp=Z,2.5nm,0.6s
UOSS Minazif 72.48 288 *e*P **P 21 50 19.4 +0.3**
UOSS Minazif 72.48 288 P **P 21 50 18.3 -0.8**
HATD Hatta, Dubai 72.60 288 *i* P **P 21 50 20.1 +0.3**
SNR=8.4
SOHO SOHO 72.65 287 *i* P **P 21 50 20.3 +0.3**
SNR=8.2
BMO Blue Mountains 72.71 47 *e*P **P 21 50 21.7 +1.4**
BMO Blue Mountains 72.71 47 *e*P **P 21 50 21.7 +1.4**
ASHO Ashiyiah 72.73 288 P **P 21 50 20.7 +0.1**
GNI Garni 72.76 307 P **P 21 50 23.1 +2.5**
comp=Z,2.9nm,0.7s,baz=44,slow=15,SNR=3.0
J08A Circle Bar Ran 72.81 49 *e*P **P 21 50 22.8 +1.9**
JTMT Jette 72.85 43 *e*P **P 21 50 22.4 +1.3**
AKH Akhalkalaki 72.89 309⇓ *i*P **P 21 50 25.0 +3.6**
ORV Oroville 72.94 53 *e*P **P 21 50 22.9 +1.3**
ORV Oroville 72.94 53 *e*P **P 21 50 22.9 +1.3**
WVOR Wild Horse Val 73.22 50 *e*P **P 21 50 25.6 +2.3**
WVOR Wild Horse Val 73.22 50 *e*P **P 21 50 25.6 +2.3**
ALNE Al Ain 73.30 288 *i* P **P 21 50 24.0 0.0**
SNR=10
SCO Scoresbysund 73.55 354 *i* P **P 21 50 27.1 +2.6**
SCO Scoresbysund 73.55 354 *e*P **P 21 50 27.1 +2.6**
MSO Missoula 73.56 44 *e*P **P 21 50 26.5 +1.3**
IZAR Zarasai 73.74 328 *e*P **P 21 50 26.6 +0.6**
IDID Didziasalis 73.80 327 *e*P **P 21 50 26.9 +0.6**
MICGM Minsk 73.81 326 *e*P **P 21 50 22.0 -4.4**
MICGM *e*LR LR 22 16 08.0
MICGM LRM MLR 22 21 10.0
comp=Z,6.8nm,20.0s
MNK Minsk 73.81 326 *e*P **P 21 50 22.0 -4.4**
ISAL Salakas 73.90 328 *e*P **P 21 50 27.5 +0.6**
IIGN Ignalina 74.00 328 *e*P **P 21 50 28.1 +0.6**
NACGM Naroch 74.05 327 *e* **P 21 50 28.0 +0.2**
NACGM *e*LR LR 22 14 52.0
PAHR Pah Rah Range 74.23 52 *e*P **P 21 50 31.4 +2.1**
MFID Camas Ranch 74.39 48 *e*P **P 21 50 31.5 +1.3**
comp=Z,5.0nm,0.7s
CMB Columbia Colle 74.49 54 *e*P **P 21 50 32.2 +1.4**
CMB pmax pmax
comp=Z,18nm,0.8s
CMB Columbia Colle 74.49 54 *e*P **P 21 50 32.2 +1.4**
comp=Z,18nm,0.8s
ANN Anapa 74.69 314 *e*P **P 21 50 31.6 -0.1**
ANN pmax pmax
comp=Z,93nm,2.0s
FFC Flin Flon 74.76 33 *e*P **P 21 50 32.4 +0.5**
FFC Flin Flon 74.76 33 *e*P **P 21 50 32.4 +0.5**
WAKR Walker 74.86 53 *e*P **P 21 50 35.5 +2.5**
LRM Limekiln Ridge 74.98 44 *e*P **P 21 50 34.9 +1.1**
HLID Hailey 75.15 47 P **P 21 50 35.5 +0.8**
baz=305
HLID Hailey 75.15 47 *e*P **P 21 50 36.3 +1.7**
FCC Fort Churchill 75.15 26 *e*P **P 21 50 34.3 +0.2**
FCC pmax pmax
comp=Z,22nm,1.0s
FCC Fort Churchill 75.15 26 *e*P **P 21 50 34.3 +0.2**
comp=Z,22nm,1.0s
EGMT Eagleton 75.17 41 P **P 21 50 35.1 +0.5**
baz=307
EGMT Eagleton 75.17 41 *e*P **P 21 50 36.0 +1.5**
BMN Battle Mountai 75.21 51 *e*P **P 21 50 36.6 +1.6**
BMN pmax pmax
comp=Z,15nm,0.9s
BMN Battle Mountai 75.21 51 *e*P **P 21 50 36.6 +1.6**
comp=Z,15nm,0.9s
MCMT McKenzie Canyo 75.34 45 *e*P **P 21 50 37.0 +1.2**
RYN Ryan 75.38 53 *e*P **P 21 50 38.5 +2.4**
HFS Hagfors 75.48 336 P **P 21 50 36.4 +0.4**
comp=Z,3.3nm,0.6s,baz=55,slow=5.6,SNR=16
AKASG Malin Array Be 75.57 323 P **P 21 50 36.9 +0.3**
comp=Z,6.6nm,0.6s,baz=46,slow=6.0,SNR=36
AKASG Malin Array Be 75.57 323 *i* P **P 21 50 37.2 +0.5**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
MDPB Devils Postpil 75.57 54 *e*P **P 21 50 39.9 +2.6**
BOZ Bozeman (W) 75.58 44 P **P 21 50 37.7 +0.6**
baz=306
BOZ Bozeman (W) 75.58 44 *e*P **P 21 50 37.6 +0.5**
BOZ pmax pmax
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 75.58 44 *e*P **P 21 50 37.5 +0.5**
comp=Z,7.1nm,0.7s
KIEV Kiev 75.58 323 *d* iP **P 21 50 37.1 +0.4**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 75.58 323 *e*P **P 21 50 36.8 +0.1**
comp=Z,15nm,0.6s
KIEV Kiev 75.58 323 *i* P **P 21 50 36.0 -0.7**
SNR=7.8
NB2 NORSAR Subarra 75.59 338 P **P 21 50 36.9 +0.2**
comp=Z,28nm,0.8s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.59 338 P **P 21 50 36.9 +0.2**
baz=41,slow=5.9
NOA NORSAR Array B 75.59 338 P **P 21 50 36.5 -0.2**
comp=Z,4.6nm,0.7s,baz=43,slow=5.4,SNR=5.2
PAGB Antelope Grade 75.85 56 *e*P **P 21 50 41.1 +2.5**
PKM Mcpherson Peak 76.61 57 P **P 21 50 45.2 +2.1**
baz=304
YFT Old Faithful 76.72 45 *e*P **P 21 50 47.1 +3.4**
comp=Z,13nm,0.7s
H17A Grant Village 76.90 45 P **P 21 50 47.1 +2.4**
baz=307
H17A Grant Village 76.90 45 *e*P **P 21 50 47.6 +2.9**
comp=Z,20nm,0.9s
CWC Cottonwood Cre 76.90 55 P **P 21 50 45.8 +1.0**
baz=305
HVU Hansel Valley 77.17 48 *e*P **P 21 50 47.6 +1.4**
HVU pmax pmax
comp=Z,12nm,0.8s
HVU Hansel Valley 77.17 48 *e*P **P 21 50 47.5 +1.4**
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 77.27 5 P **P 21 50 43.8 -2.2**
comp=Z,198nm,0.7s,baz=178,slow=5.8,SNR=112
SFJD Kangerlussuaq 77.27 5 *i* P **P 21 50 43.6 -2.4**
comp=Z,172nm,0.6s
SFJD Kangerlussuaq 77.27 5 *i* P **P 21 50 43.6 -2.4**
SFJD pmax pmax
comp=Z,170nm,0.6s
R11A Troy Canyon, C 77.44 52 P **P 21 50 49.1 +1.4**
baz=306
R11A Troy Canyon, C 77.44 52 *e*P **P 21 50 48.9 +1.2**

comp=Z,11nm,0.9s
MPMC Manual Prospec 77.51 55 P **P** 21 50 49.4 +1.2
baz=305
BGU Big Grassy Mou 77.53 48 *e*P **P** 21 50 49.5 +1.4
comp=Z,7.7nm,0.8s
EDW2 Edwards Air Fo 77.85 56 P **P** 21 50 51.3 +1.3
baz=305
HWUT Hardwire Ranch 78.00 47 *e*P **P** 21 50 52.6 +1.7
comp=Z,23nm,1.1s
FRB Frobisher Bay 78.09 13 P **P** 21 50 51.0 +0.4
comp=Z,11nm,0.7s,baz=149,slow=5.7,SNR=29
FRB Frobisher Bay 78.09 13 P **P** 21 50 51.0 +0.4
DUG Dugway, Tooele 78.09 49 P **P** 21 50 52.9 +1.6
baz=307
DUG Dugway, Tooele 78.09 49 *e*P **P** 21 50 52.6 +1.3
DUG pmax pmax
comp=Z,14nm,0.8s
DUG Dugway, Tooele 78.09 49 *e*P **P** 21 50 52.6 +1.3
comp=Z,14nm,0.8s
PDAR Pinedale Array 78.48 45 P **P** 21 50 54.3 +0.8
comp=Z,5.0nm,0.7s,baz=262,slow=2.2,SNR=11
LVV L'vov 78.67 324 *e*P **P** 21 50 55.0 +0.9
LVV *e*S **S** 22 00 45.0 -4.4
JLU Jordanelle 78.68 48 *e*P **P** 21 50 56.9 +2.3
comp=Z,11nm,0.9s
NLU North Lily Min 78.69 49 *e*P **P** 21 50 56.5 +1.7
comp=Z,9.2nm,0.9s
MPU Maple Canyon 78.92 49 *e*P **P** 21 50 57.8 +1.8
comp=Z,48nm,0.9s
HEC Hector,Ludlow 78.99 55 P **P** 21 50 56.9 +0.7
baz=306
PRAR RASCA 79.24 321⇑ *i*P **P** 21 50 59.1 +1.8
KWP Kalwaria Pacla 79.43 325 *e*P **P** 21 51 00.2 +1.9
KWP Kalwaria Pacla 79.43 325 *e*P **P** 21 51 00.2 +1.9
MSU Marysvale 79.50 50 *e*P **P** 21 51 01.1 +1.9
MSU pmax pmax
comp=Z,3.0nm,1.4s
MSU Marysvale 79.50 50 *e*P **P** 21 51 01.1 +1.9
comp=Z,2.8nm,1.4s
BURAR Bucovina Array 79.58 322⇑ *i*P **P** 21 51 00.9 +1.6
TESR Tescani 79.58 321⇑ *i*P **P** 21 51 00.8 +1.6
PFO Pinyon Flats O 79.62 56 P **P** 21 51 00.4 +0.6
baz=306
PFO Pinyon Flats O 79.62 56 *e*P **P** 21 51 01.3 +1.5
PFO pmax pmax
comp=Z,8.0nm,1.0s
PFO Pinyon Flats O 79.62 56 *e*P **P** 21 51 01.3 +1.5
comp=Z,8.0nm,1.0s
TPFO Pinon Flats 79.62 56 P **P** 21 51 00.8 +1.0
baz=306
LLD Lille Linde 79.65 333 *i*P **P** 21 51 00.2 +0.9
LLD Lille Linde 79.65 333 *e*P **P** 21 51 00.2 +0.9
BELC Belle Mtn. Jos 79.70 56 P **P** 21 51 01.3 +1.0
baz=306
VRI Vrincioaia 79.97 320⇓ *i*P **P** 21 51 03.4 +2.1
BRTR Keskin Array B 79.98 312 P **P** 21 51 02.5 +0.9
comp=Z,3.0nm,0.7s,baz=96,slow=2.1,SNR=13
PLOR Plostina 80.02 320⇑ *i*P **P** 21 51 02.7 +1.1
MONP2 Monument Peak 80.06 57 P **P** 21 51 03.2 +0.9
baz=306
IRM Iron Mountain 80.18 55 P **P** 21 51 03.9 +1.2
baz=306
STHS Stebnicka Huta 80.26 325 *e*P **P** 21 51 05.2 +2.4
STHS Stebnicka Huta 80.26 325 *e*P **P** 21 51 05.2 +2.4
BC3 Big Chuckawall 80.27 56 P **P** 21 51 04.0 +0.7
baz=306
OJC Ojcow 80.36 326 *e*P **P** 21 51 04.8 +1.5
OJC Ojcow 80.36 326 *e*P **P** 21 51 04.8 +1.5
IKP In-Ko-Pah, Jac 80.42 57 P **P** 21 51 05.4 +1.4
baz=306
CRVS Cervenica-Dubn 80.52 325 *e*P **P** 21 51 06.0 +1.8
CRVS *e* 21 51 14.7
CRVS Cervenica-Dubn 80.52 325 *e*P **P** 21 51 06.0 +1.8
CRVS *e* 21 51 14.7
ULM Lac du Bonnet 80.55 33 P **P** 21 51 05.3 +1.0
comp=Z,5.6nm,0.8s,baz=328,slow=5.9,SNR=11
DOPR Dopca 80.60 321⇓ *i*P **P** 21 51 07.1 +2.4
NIE Niedzica 80.70 326 *e*P **P** 21 51 07.2 +1.9
NIE Niedzica 80.70 326 *e*P **P** 21 51 07.1 +1.9
PDMCI Parker Dam,Lak 80.76 54 P **P** 21 51 07.4 +1.6
baz=307
GLA Glamis 81.05 56 P **P** 21 51 08.9 +1.5
baz=307
GLA Glamis 81.05 56 *e*P **P** 21 51 08.5 +1.1
GLA pmax pmax
comp=Z,21nm,0.8s
GLA Glamis 81.05 56 *e*P **P** 21 51 08.5 +1.1
comp=Z,21nm,0.8s
VOIR 81.13 320⇓ *i*P **P** 21 51 10.1 +2.5
A32A Rocking H Ranc 81.22 35 P **P** 21 51 08.6 +0.7
baz=316
LANS Liptovska Anna 81.27 326 *e*P **P** 21 51 08.2 0.0
LANS *e* 21 51 23.8
LANS Liptovska Anna 81.27 326 *e*P **P** 21 51 08.2 0.0
LANS *e* 21 51 12.1
LANS *e* 21 51 23.8
KECS Kecovo 81.28 325 *e*P **P** 21 51 10.7 +2.5
KECS Kecovo 81.28 325 *e*P **P** 21 51 10.7 +2.5
DRGR 81.39 323⇑ *i*P **P** 21 51 09.9 +0.9
ARR Arges 81.39 321⇑ *i*P **P** 21 51 11.3 +2.3
RAYN Ar Rayn 81.43 293 *e*P **P** 21 51 09.2 -0.3
comp=Z,8.6nm,0.6s
C31A Landman Farms, 81.43 36 P **P** 21 51 10.2 +1.1
baz=315
B32A Ashes, Strandq 81.57 35 P **P** 21 51 10.2 +0.4
baz=316
MORC Moravsky Berou 81.68 327⇑ *i*P **P** 21 51 11.5 +1.1
MORC Moravsky Berou 81.68 327 *e*P **P** 21 51 10.7 +0.3
MORC pmax pmax
comp=Z,34nm,0.9s
MORC Moravsky Berou 81.68 327 *e*P **P** 21 51 10.7 +0.3
comp=Z,34nm,0.9s
A33A Warroad 81.71 34 P **P** 21 51 10.6 +0.1
baz=316
N23A Red Feather La 81.75 45 P **P** 21 51 12.2 +0.9
baz=310
DPC Dobruska-Polom 81.79 328 *e*P **P** 21 51 12.0 +1.0
DPC *e*PCP **PcP** 21 51 17.1 +0.4
DPC *ex* x 21 51 25.9
DPC *e*PP **PP** 21 54 15.2 -2.3
DPC Dobruska-Polom 81.79 328 *e*P **P** 21 51 12.0 +1.0
DPC *e* 21 51 17.1
DPC *e* 21 51 25.9
DPC *e* 21 54 15.2
UPC Upice 81.81 328 *e*P **P** 21 51 12.3 +1.3
UPC *ex* x 21 51 25.6
UPC Upice 81.81 328 *e*P **P** 21 51 12.3 +1.3
UPC *e* 21 51 25.6
WUAZ Wupatki 81.83 52 *e*P **P** 21 51 13.3 +1.7
comp=Z,11nm,0.9s
AGMN Agassiz Nation 81.95 35 P **P** 21 51 12.4 +0.6
baz=316
AGMN Agassiz Nation 81.95 35 *e*P **P** 21 51 12.2 +0.4
comp=Z,4.3nm,0.8s
PSZ Piszkesteto 81.95 325⇓ *i*P **P** 21 51 13.8 +1.9
PSZ Piszkesteto 81.95 325 *e*P **P** 21 51 13.4 +1.5
PSZ pmax pmax
comp=Z,15nm,0.8s
PSZ Piszkesteto 81.95 325⇓ *e*P **P** 21 51 14.2 +2.3
PSZ Piszkesteto 81.95 325 *e*P **P** 21 51 13.4 +1.5
comp=Z,15nm,0.8s
VYHS Vyhne 82.03 326 *e*P **P** 21 51 13.8 +1.6
VYHS *e* 21 54 18.8
VYHS Vyhne 82.03 326 *e*P **P** 21 51 13.8 +1.6
VYHS *e*PP **PP** 21 54 18.8 -0.7
E31A Nome 82.23 37 P **P** 21 51 14.1 +0.8
baz=315
SIRR Siria 82.28 323⇓ *i*P **P** 21 51 14.1 +0.5
C33A Trail 82.39 35 P **P** 21 51 15.1 +1.0
baz=316
BRG Berggiesshubel 82.40 330 *e*P **P** 21 51 14.8 +0.8
comp=Z,4.1nm,0.7s
BRG *e* 21 51 23.8
comp=Z,14nm,0.9s
BRG Berggiesshubel 82.40 330 *e*P **P** 21 51 14.9 +0.8
BRG *e* 21 51 23.8
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,14nm,0.9s
PVCC Panska Ves 82.40 329 *e*P **P** 21 51 15.9 +1.8
PVCC *e*pP **PcP** 21 51 20.5 +1.2
PVCC *e*sP **sP** 21 51 28.8 +2.8
PVCC Panska Ves 82.40 329 *e*P **P** 21 51 15.9 +1.8
PVCC *e* 21 51 28.8

VRAC Vranov 82.44 327⇑ *i*P **P** 21 51 14.4 0.0
CLL Collm 82.45 330 *e*P **P** 21 51 14.0 -0.3
CLL *i* 21 51 23.8
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 82.45 330 *e*P **P** 21 51 14.0 -0.3
comp=Z,9.0nm,0.7s
CLL *i* PcP **PcP** 21 51 19.4 0.0
CLL *i* pP **sP** 21 51 23.8 -2.4
comp=Z,19nm,0.9s
CLL *i* sP **pP** 21 51 27.9 +4.9
CLL *e*PP **PP** 21 54 21.0 -1.8
ASF Jabal al Asfar 82.51 304 P **P** 21 51 16.0 +0.9
comp=Z,5.8nm,1.0s,baz=204,slow=3.1,SNR=3.9
ASF Jabal al Asfar 82.51 304 P **P** 21 51 16.0 +0.9
F31A Hecla 82.54 38 P **P** 21 51 15.6 +0.6
baz=315
BZS Buzias 82.75 322⇑ *i*P **P** 21 51 17.3 +1.3
GOPC GO Pecny, Ondr 82.77 329 *e*P **P** 21 51 17.2 +1.1
GOPC *e*pP **sP** 21 51 26.6 -1.4
GOPC *ex* x 21 51 30.6
GOPC GO Pecny, Ondr 82.77 329 *e*P **P** 21 51 17.2 +1.1
GOPC *e* 21 51 26.6
GOPC *e* 21 51 30.6
PRU Pruhonice 82.82 329 *e*P **P** 21 51 17.6 +1.3
PRU *e*pP **sP** 21 51 26.8 -1.4
PRU *e*sP **pP** 21 51 30.8 +5.8
PRU Pruhonice 82.82 329 *e*P **P** 21 51 17.6 +1.3
PRU *e* 21 51 26.8
PRU *e* 21 51 30.8
MODS Modra-Piesok 82.83 326 *e*P **P** 21 51 18.4 +2.0
MODS *e* 21 51 24.2
MODS Modra-Piesok 82.83 326 *e*P **P** 21 51 18.3 +1.9
MODS *e* 21 51 24.1
B35A Bob, Littlefor 82.89 34 P **P** 21 51 16.7 0.0
baz=318
TREC Trest 82.94 328 *e*P **P** 21 51 17.8 +0.8
TREC Trest 82.94 328 *e*P **P** 21 51 17.8 +0.8
MMAI Mount Meron Ar 82.99 306 P **P** 21 51 18.9 +1.2
comp=Z,6.6nm,0.8s,baz=46,slow=6.2,SNR=4.3
214A Organ Pipe Nat 83.07 56 *e*P **P** 21 51 19.6 +1.6
comp=Z,11nm,0.8s
D34A Park Rapids 83.14 35 P **P** 21 51 19.0 +0.9
baz=317
C35A Jirik Farms, M 83.26 34 P **P** 21 51 18.7 0.0
baz=310
S22A 4UR Ranch, Cre 83.27 48 P **P** 21 51 20.2 +1.0
baz=310
MDVR Moldovita 83.29 322⇓ *i*P **P** 21 51 20.4 +1.5
NKC Novy Kostel 83.50 330 *e*P **P** 21 51 21.2 +1.3
NKC Novy Kostel 83.50 330 *e*P **P** 21 51 21.2 +1.3
F33A 5 Mile Ranch, 83.52 37 P **P** 21 51 21.2 +1.2
baz=316
SOP Sopron 83.67 326⇓ *e*P **P** 21 51 22.6 +1.9
C36A Pine Crest Far 83.73 34 P **P** 21 51 21.3 +0.3
baz=318
MORH M¯ţr¡gy, Hung 83.78 324⇓ *e*P **P** 21 51 22.6 +1.3
CONA Conrad Observa 83.80 327 *i*P **P** 21 51 21.9 +0.4
comp=Z,5.0nm,0.8s,SNR=7.0
CONA *i* PP **PP** 21 54 33.1 -0.9
comp=Z,2.5nm,0.9s
RZN Rozhen 83.86 318 *e*P **P** 21 51 23.4 +1.4
KHC Kasperske Hory 83.88 329 *e*P **P** 21 51 22.7 +0.9
KHC *e*pP **sP** 21 51 32.2 -1.5
KHC *e*PP **PP** 21 54 32.1 -2.5
KHC Kasperske Hory 83.88 329 *e*P **P** 21 51 22.7 +0.9
KHC *e* 21 51 32.2
KHC *e* 21 54 32.1
KHC Kasperske Hory 83.88 329 *e*P **P** 21 51 22.3 +0.4
comp=Z,4.3nm,0.8s
G33A Ortonville 83.91 37 P **P** 21 51 22.9 +0.8
baz=316
GERES GERESS Array B 84.05 328 P **P** 21 51 22.8 0.0
comp=Z,4.1nm,0.7s,baz=36,slow=5.1,SNR=40
VTS Vitosha 84.05 319⇑ *i*P **P** 21 51 25.1 +2.1
VTS Vitosha 84.05 319 *e*P **P** 21 51 25.0 +2.1
C37A Embarrass 84.05 33 P **P** 21 51 22.9 +0.2
baz=319
SDCO Great Sand Dun 84.06 47 P **P** 21 51 25.0 +1.7
baz=311
H33A Prehn Over Nor 84.13 38 P **P** 21 51 24.0 +0.8
baz=316
EYMN Ely 84.19 33 *e*P **P** 21 51 23.7 +0.3
comp=Z,17nm,1.0s
TUC Tucson 84.20 54 P **P** 21 51 25.3 +1.5
baz=309
TUC Tucson 84.20 54 *e*P **P** 21 51 25.3 +1.5
TUC pmax pmax
comp=Z,27nm,1.1s
TUC Tucson 84.20 54 *e*P **P** 21 51 25.3 +1.5
comp=Z,27nm,1.1s
D37A Cotton 84.37 34 P **P** 21 51 24.5 +0.2
baz=318
GRFO Grafenberg 84.42 330 *e*P **P** 21 51 25.8 +1.2
GRFO pmax pmax
comp=Z,16nm,0.8s
GRFO Grafenberg 84.42 330 *e*P **P** 21 51 25.8 +1.2
comp=Z,16nm,0.8s
ARSA Arzberg 84.46 326 *i*PcP **P** 21 51 26.4 +1.6
comp=Z,6.9nm,1.1s
C38A Sawbill Land. 84.46 33 P **P** 21 51 25.3 +0.5
baz=319
MMB Musomiste 84.46 318 *e*P **P** 21 51 25.8 +0.9
E36A McGregor 84.47 35 P **P** 21 51 25.0 +0.2
baz=318
EKA Eskdalemuir Ar 84.55 341 P **P** 21 51 24.8 -0.2
comp=Z,1.1nm,0.5s,baz=35,slow=4.9,SNR=7.1
MOA Molln 84.56 328 *i*PcP **P** 21 51 26.1 +0.8
comp=Z,9.4nm,1.1s
KKB Krupnik 84.62 319 *e*P **P** 21 51 28.0 +2.3
G35A Watkins 84.84 36 P **P** 21 51 27.2 +0.5
baz=317
ECSD EROS Data Cent 84.87 38 P **P** 21 51 27.6 +0.6
baz=316
H35A Sunnyside Ranc 85.06 37 P **P** 21 51 28.7 +0.9
baz=317
SOKA Soboth 85.11 326 *i*PcP **P** 21 51 28.9 +0.7
comp=Z,4.2nm,0.7s,SNR=8.9
E38A The Farm, Brul 85.18 34 P **P** 21 51 28.6 +0.2
baz=319
ANMO Albuquerque 85.31 50 P **P** 21 51 30.5 +1.0
baz=311
ANMO Albuquerque 85.31 50 *ce*P **P** 21 51 29.6 +0.1
ANMO pmax pmax
comp=Z,7.0nm,1.2s
OBKA Obir 85.45 326 *i*PcP **PcP** 21 51 31.5 -1.4
comp=Z,4.1nm,0.8s
OBKA *i* PP **PP** 21 54 46.8 -0.8
comp=Z,5.2nm,1.1s
F38A Pierce - Schro 85.52 34 P **P** 21 51 30.6 +0.5
baz=319
BLY Banja Luka 85.55 324⇓ *i*P **P** 21 51 31.7 +1.4
KBA Koelnbreinsper 85.56 327 *i* P **P** 21 51 30.7 +0.2
comp=Z,4.0nm,0.8s
H36A Jessenland, He 85.58 36 P **P** 21 51 31.6 +1.2
baz=318
MEM Membach 85.69 334⇑ P **P** 21 51 32.4 +1.5
MYKA Terra Mystica 85.77 327 *i*PcP **P** 21 51 31.9 +0.5
comp=Z,4.8nm,0.8s
E39A Mellen 85.80 33 P **P** 21 51 31.9 +0.4
baz=320
121A Cookes Peak, D 86.02 52 *e*P **P** 21 51 34.5 +1.4
comp=Z,16nm,1.0s
E40A Wakefield 86.04 33 P **P** 21 51 33.8 +1.1
baz=320
BCLA Clavier 86.10 334⇓ P **P** 21 51 33.4 +0.5
comp=Z,11nm,1.4s
ABTA Abfaltersbach 86.17 328 *i*pP P 21 51 42.9 +9.5
comp=Z,3.4nm,0.7s
PDG Podgorica 86.22 321⇑ *i*P **P** 21 51 35.0 +1.4
I37A Lemond, Waseca 86.25 36 P **P** 21 51 34.6 +0.8
baz=318
MOTA Moosalm 86.31 329 *i*PcP **P** 21 51 34.5 +0.2
MOTA *i* PP **PP** 21 54 54.2 -0.3
comp=Z,2.3nm,0.7s
RETA Reutte 86.34 329 *i*PcP **P** 21 51 37.5 +3.2
SQTA Sankt Quirin 86.36 329 *i*PcP **P** 21 51 35.2 +0.8
SNF Seneffe 86.39 334⇑ P **P** 21 51 34.4 +0.2
WLF Walferdange 86.41 333⇓ P **P** 21 51 35.3 +0.8
E41A Kenton 86.44 32 P **P** 21 51 34.8 +0.1
baz=321
DOU Dourbes 86.62 334⇑ P **P** 21 51 36.3 +0.8
SCHQ Schefferville 86.63 16 P **P** 21 51 36.3 +0.8
comp=Z,5.5nm,0.8s,baz=7.6,slow=5.7,SNR=3.7
BFO Black Forest 86.66 331 *e*P **P** 21 51 36.1 +0.4

BFO pmax pmax
comp=Z,8.0nm,0.7s
BFO Black Forest 86.66 331 *e*P **P** 21 51 36.1 +0.4
comp=Z,8.1nm,0.7s
J37A Redenius Farm, 86.70 37 P **P** 21 51 36.1 +0.1
baz=318
FETA Feichten 86.72 329 *i*PcP **P** 21 51 36.7 +0.5
I38A Scanlan Farm, 86.75 36 P **P** 21 51 36.0 -0.3
baz=319
H39A Augusta 86.76 35 P **P** 21 51 36.8 +0.5
baz=319
G40A Rib Lake 86.81 34 P **P** 21 51 37.1 +0.6
baz=320
DAVA Damuels 86.87 329 *i*PcP **P** 21 51 39.0 +2.0
F41A Three Lakes 86.94 33 P **P** 21 51 37.7 +0.6
baz=321
K37A Belmond 87.06 37 P **P** 21 51 38.1 +0.4
baz=318
ECH Echery 87.21 332 *e*P **P** 21 51 38.9 +0.5
ECH pmax pmax
comp=Z,8.0nm,1.0s
ECH Echery 87.21 332 *e*P **P** 21 51 38.9 +0.5
comp=Z,7.5nm,1.0s
H40A Chili 87.22 34 P **P** 21 51 39.2 +0.7
baz=320
I39A Houston 87.27 35 P **P** 21 51 39.4 +0.7
baz=319
M36A Felix, Anita 87.45 39 P **P** 21 51 40.6 +0.9
baz=317
J39A Decorah 87.58 36 P **P** 21 51 40.3 0.0
baz=319
P34A Walnut Farm, R 87.77 41 P **P** 21 51 39.8 -1.4
baz=316
I41A Arkdale 87.89 34 P **P** 21 51 42.6 +0.9
baz=320
M38A Pleasantville 88.29 38 P **P** 21 51 44.8 +1.1
baz=318
K40A Colesburg 88.33 36 P **P** 21 51 44.5 +0.6
baz=320
L39A Vinton 88.35 37 P **P** 21 51 44.5 +0.6
baz=319
L40A Anamosa 88.77 36 P **P** 21 51 46.8 +0.8
baz=320
K41A Shullsburg 88.80 36 P **P** 21 51 46.9 +0.8
baz=320
J43A Natural Harves 89.08 34 P **P** 21 51 47.7 +0.3
baz=321
AQU L'Aquila 89.16 324 *e*P **P** 21 51 49.4 +1.6
AQU pmax pmax
comp=Z,15nm,0.8s
AQU L'Aquila 89.16 324 *e*P **P** 21 51 49.4 +1.6
comp=Z,15nm,0.8s
GLMI Grayling 89.60 31 *e*P **P** 21 51 50.6 +0.9
comp=Z,30nm,0.5s
Q38A Cooks Store, C 89.89 40 P **P** 21 51 51.8 +0.6
baz=318
P40A Paris 90.28 39 P **P** 21 51 53.2 +0.2
baz=319
R38A Fenwick Farm, 90.32 41 P **P** 21 51 53.4 +0.2
baz=318
R39A Chumby, Stover 90.68 40 P **P** 21 51 55.2 +0.3
baz=318
TXAR Lajitas Array 90.78 53 P **P** 21 51 56.9 +1.2
comp=Z,3.1nm,0.8s,baz=292,slow=3.4,SNR=28
T38A Diamond 90.96 42 P **P** 21 51 56.6 +0.4
baz=318
S39A Bolivar 90.99 41 P **P** 21 51 56.2 -0.2
baz=318
R40A Maddies Statio 91.10 40 P **P** 21 51 57.4 +0.5
baz=319
T39A Clever 91.46 41 P **P** 21 51 59.0 +0.4
baz=318
S40A Lebanon 91.49 40 P **P** 21 51 58.7 0.0
baz=319
CCM Cathedral Cave 91.80 39 P **P** 21 52 00.3 +0.1
baz=320
CCM Cathedral Cave 91.80 39 *e*P **P** 21 52 00.3 +0.1
CCM pmax pmax
comp=Z,38nm,0.8s
CCM Cathedral Cave 91.80 39 *e*P **P** 21 52 00.3 +0.1
comp=Z,38nm,0.8s
U39A Green Forest 91.88 42 P **P** 21 52 00.8 +0.3
baz=318
S41A Jillco Farms, 91.90 40 P **P** 21 52 01.2 +0.6
baz=319
V39A Pettigrew 92.19 42 P **P** 21 52 02.8 +0.8
baz=318
U40A Yellville 92.24 41 P **P** 21 52 02.9 +0.7
baz=318
S42A Caledonia 92.25 39 P **P** 21 52 02.9 +0.7
baz=320
T41A Mountain View 92.30 40 P **P** 21 52 03.0 +0.6
baz=319
T42A Van Buren 92.66 40 P **P** 21 52 05.1 +1.0
baz=320
X39A Fountain Ranch 92.91 43 P **P** 21 52 06.7 +1.3
baz=318
W40A Ferguson Farm, 92.99 42 P **P** 21 52 07.0 +1.4
baz=318
T43A Greenville 93.03 39 P **P** 21 52 06.9 +1.1
baz=320
V41A Mountainview 93.04 41 P **P** 21 52 06.0 +0.1
baz=319
MIAR Mount Ida 93.19 43 P **P** 21 52 07.3 +0.7
baz=318
MIAR Mount Ida 93.19 43 *e*P **P** 21 52 07.1 +0.5
MIAR pmax pmax
comp=Z,13nm,0.9s
MIAR Mount Ida 93.19 43 *e*P **P** 21 52 07.1 +0.5
comp=Z,13nm,0.9s
ESDC Sonseca Array 98.67 334 P **P** 21 52 31.5 0.0
comp=Z,0.6nm,0.7s,baz=18,slow=4.0,SNR=6.2
TORD Torodi Ar. Bea 118.50 315 PKP **PKPdf** 21 57 39.9 -0.5
comp=Z,1.4nm,0.8s,baz=19,slow=2.8,SNR=8.9
TORD PKKPbc **PKKPbc** 22 07 58.3 +2.0
comp=Z,0.8nm,0.8s,baz=226,slow=3.4,SNR=4.0
KOWA Kowa 120.53 321 PKP **PKPdf** 21 57 43.9 -0.4
comp=Z,4.2nm,0.7s,baz=54,slow=2.3,SNR=15
SDV Santo Domingo 126.24 41 PKP **PKPdf** 21 57 54.7 -0.8
comp=Z,8.0nm,0.7s,baz=43,slow=2.6,SNR=12
SDV Santo Domingo 126.24 41 *e*PKPdf **PKPdf** 21 57 55.5 -0.1
BOSA Bosque 126.55 258 PKP **PKPdf** 21 57 54.9 -0.7
comp=Z,4.3nm,0.9s,baz=357,slow=1.8,SNR=4.8
DBIC Dimbokro 127.49 316 PKP **PKPdf** 21 57 57.4 -0.3
comp=Z,2.9nm,0.8s,baz=346,slow=7.3,SNR=3.6
NVL N'lazarevskaya 136.07 201 *e*P **Pdif** 21 55 33.1 +16
NVL pmax pmax
comp=Z,12nm,1.0s
SAML Samuel 145.06 47 *e*PKPdf **PKPbc** 21 58 29.4 0.0
LPAZ La Paz 147.17 62 PKPbc **PKPbc** 21 58 35.9 -0.7
comp=Z,7.8nm,0.7s,baz=328,slow=1.7,SNR=20
LCO Las Campanas 151.90 86 *e*PKPbc **PKPbc** 21 58 47.9 +0.3
PLCA Paso Flores 154.21 111 PKPbc **PKPbc** 21 58 52.0 -0.1
comp=Z,2.2nm,1.0s,baz=281,slow=4.3,SNR=3.4
PLCA PKPab **PKPab** 21 59 06.1 +0.1
comp=Z,2.0nm,0.9s,baz=301,slow=6.4,SNR=3.7

ATH ***14*** *21:44:41.3, 37°.67N×20°.03E, h13km±1km, ML2.9/3, Error ellipse: s-maj=4.6km s-min=1.7km az=79.0*
CSEM ***14*** *21:44:41.5±0.3, 37°.66N×20°.00E, h2km, ML2.7, Error ellipse: s-maj=5.0km s-min=3.5km az=73.0*
THE ***14*** *21:44:43.0, 37°.71N×20°.09E, h0km±1km, ML2.7/15, Error ellipse: s-maj=2.1km s-min=1.1km az=245.0*

ISC 14 21:44:39.7±1.6, **37°.66N**±0°.04×**19°.93E**±0°.05, **h7**km±10km, **n68**, **σ0°89**/111, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.73**	**45**	P	**Pg**	**21 44 53.7**	**-0.1**
VLS				S	**Sg**	**21 45 02.7**	**-0.6**
VLS				AML	AML	21 45 08.4	
	comp=N,2781μm,0.3s						
VLS				AML	AML	21 45 09.9	
	comp=E,2148μm,0.3s						
VLS	**Valsamata**	**0.73**	**45**	P	**Pg**	**21 44 54.0**	**+0.2**
VLS				S	**Sg**	**21 45 03.3**	**0.0**
VLS	**Valsamata**	**0.73**	**45**	P	**Pg**	**21 44 54.0**	**+0.2**
VLS				S	**Sg**	**21 45 03.3**	**0.0**
KFL	**Anninata**	**0.81**	**56**	P	**Pg**	**21 44 54.9**	**-0.4**
KFL				S	**Sg**	**21 45 05.5**	**-0.4**
KFL	**Anninata**	**0.81**	**56**	P	**Pg**	**21 44 55.3**	**0.0**
KFL				S	**Sg**	**21 45 05.7**	**-0.1**
KFL	**Anninata**	**0.81**	**56**	P	**Pg**	**21 44 55.3**	**0.0**
KFL				S	**Sg**	**21 45 05.5**	**-0.4**
VTN	**Vitineika**	**1.02**	**75**	P	**Pn**	**21 45 00.6**	**0.0**

VTN	**Vitineika**	**1.02**	**75**	P	**Pn**	21 44 59.9	**-0.6**
LKD2	**Lefkada island**	**1.26**	**27**	P	**Pg**	21 45 04.7	**+0.8**
LKD2				S	**Sn**	21 45 21.8	**+0.7**
LKD2				AML	AML	21 45 25.0	
	comp=E,786μm,0.5s						
LKD2				AML	AML	21 45 27.2	
	comp=N,820μm,0.3s						
LKD2	**Lefkada island**	**1.26**	**27**	P	**Pg**	21 45 05.8	**+1.9**
LKD2				S	**Sn**	21 45 21.4	**+0.3**
LKD2	**Lefkada island**	**1.26**	**27**	P	**Pg**	21 45 05.8	**+1.9**
LKD2				S	**Sn**	21 45 22.8	**+1.7**
RLS	**Riolos of Patr**	**1.28**	**72**	P	**Pg**	21 45 04.0	**-0.2**
RLS	**Riolos of Patr**	**1.28**	**72**	P	**Pg**	21 45 04.0	**-0.2**
RLS				S	**Sg**	21 45 21.9	**+1.1**
RLS	**Riolos of Patr**	**1.28**	**72**	P	**Pg**	21 45 04.0	**-0.2**
RLS				S	**Sg**	21 45 21.9	**+1.1**
PDO	**Prodromos**	**1.36**	**46**	P	**Pb**	21 45 05.2	**-0.3**
PDO	**Prodromos**	**1.36**	**46**	P	**Pb**	21 45 05.5	**0.0**
PDO				S	**Sg**	21 45 25.1	**+1.7**
PDO	**Prodromos**	**1.36**	**46**	P	**Pb**	21 45 05.3	**-0.2**
PDO				S	**Sg**	21 45 25.1	**+1.7**
AMT	**Artemida-Makis**	**1.42**	**95**	P	**Pg**	21 45 07.0	**+0.1**
AMT	**Artemida-Makis**	**1.42**	**95**	P	**Pg**	21 45 06.8	**-0.1**
AMT				S	**Sg**	21 45 26.3	**+1.0**
AMT	**Artemida-Makis**	**1.42**	**95**	P	**Pg**	21 45 06.8	**-0.1**
AMT				S	**Sg**	21 45 26.3	**+1.0**
DRO	**Drossia**	**1.44**	**78**	P	**Pg**	21 45 07.0	**-0.3**
DRO	**Drossia**	**1.44**	**78**	P	**Pg**	21 45 07.3	**0.0**
DRO				S	**Sg**	21 45 26.8	**+0.9**
DRO	**Drossia**	**1.44**	**78**	P	**Pg**	21 45 07.3	**0.0**
DRO				S	**Sg**	21 45 26.8	**+0.9**
MES3	**Kyparissia**	**1.45**	**106**	P	**Pb**	21 45 06.8	**-0.2**
MES3	**Kyparissia**	**1.45**	**106**	P	**Pg**	21 45 07.0	**-0.4**
PVO	**Paravola**	**1.58**	**52**	P	**Pg**	21 45 09.9	**-0.1**
PVO	**Paravola**	**1.58**	**52**	P	**Pg**	21 45 09.8	**-0.2**
PVO				S	**Sg**	21 45 30.0	**-0.4**
PVO	**Paravola**	**1.58**	**52**	P	**Pg**	21 45 09.8	**-0.2**
PVO				S	**Sg**	21 45 30.0	**-0.4**
PYL	**PYLOS**	**1.63**	**117**	P	**Pg**	21 45 10.6	**-0.4**
PYL	**PYLOS**	**1.63**	**117**	P	**Pg**	21 45 10.6	**-0.4**
PYL	**PYLOS**	**1.63**	**117**	P	**Pg**	21 45 10.6	**-0.4**
ITM	**Ithomi**	**1.66**	**106**	P	**Pg**	21 45 11.1	**-0.4**
ITM				S	**Sb**	21 45 31.9	**+0.1**
ITM	**Ithomi**	**1.66**	**106**	P	**Pg**	21 45 11.1	**-0.4**
ITM				S	**Sb**	21 45 31.9	**+0.1**
DSL	**Palaion Diasel**	**1.73**	**32**	P	**Pb**	21 45 11.9	**0.0**
DSL				S	**Sg**	21 45 35.9	**+0.6**
DSL				AML	AML	21 45 38.6	
	comp=N,1353μm,0.5s						
DSL				AML	AML	21 45 38.8	
	comp=E,794μm,0.5s						
DSL	**Palaion Diasel**	**1.73**	**32**	P	**Pb**	21 45 12.2	**+0.3**
DSL				S	**Sg**	21 45 34.8	**-0.5**
DSL	**Palaion Diasel**	**1.73**	**32**	P	**Pb**	21 45 12.1	**+0.2**
DSL				S	**Sg**	21 45 34.8	**-0.5**
EFP	**Efpalio**	**1.73**	**63**	P	**Pb**	21 45 11.5	**-0.4**
EFP	**Efpalio**	**1.73**	**63**	P	**Pb**	21 45 11.9	**0.0**
EFP				S	**Sb**	21 45 33.9	**0.0**
EFP	**Efpalio**	**1.73**	**63**	P	**Pb**	21 45 11.9	**0.0**
EFP				S	**Sb**	21 45 33.9	**0.0**
KLV	**Kalavryta, Ach**	**1.80**	**77**	P	**Pg**	21 45 10.9	**-0.2**
KLV	**Kalavryta, Ach**	**1.80**	**77**	P	**Pb**	21 45 13.3	**+0.3**
KLV	**Kalavryta, Ach**	**1.80**	**77**	P	**Pb**	21 45 13.3	**+0.3**
ANX	**Ano Chora**	**1.82**	**59**	P	**Pb**	21 45 13.4	**-0.1**
ANX				S	**Sn**	21 45 35.4	**+0.3**
ANX	**Ano Chora**	**1.82**	**59**	P	**Pb**	21 45 13.4	**-0.1**
ANX				S	**Sn**	21 45 35.4	**+0.3**
TRIZ	**Trizonia**	**1.83**	**67**	P	**Pb**	21 45 13.2	**-0.3**
TRIZ	**Trizonia**	**1.83**	**67**	P	**Pb**	21 45 13.4	**-0.1**
SERG	**Sergoula**	**1.84**	**65**	P	**Pb**	21 45 13.3	**-0.4**
SERG	**Sergoula**	**1.84**	**65**	P	**Pb**	21 45 13.5	**-0.1**
SERG				S	**Sg**	21 45 38.0	**-0.8**
SERG	**Sergoula**	**1.84**	**65**	P	**Pb**	21 45 13.6	**-0.1**
SERG				S	**Sg**	21 45 38.0	**-0.8**
KALE	**Kalithea**	**1.89**	**67**	P	**Pb**	21 45 14.6	**0.0**
KALE	**Kalithea**	**1.89**	**67**	P	**Pb**	21 45 14.3	**-0.3**
KALE				S	**Sb**	21 45 38.5	**0.0**
KALE	**Kalithea**	**1.89**	**67**	P	**Pb**	21 45 14.3	**-0.3**
KALE				S	**Sb**	21 45 38.5	**0.0**
IGT	**Igoumenitsa**	**1.89**	**9**	P	**Pb**	21 45 14.6	**0.0**
IGT				S	**Sg**	21 45 39.7	**-0.9**
IGT	**Igoumenitsa**	**1.89**	**9**	P	**Pb**	21 45 14.6	**0.0**
IGT				S	**Sg**	21 45 39.7	**-0.9**
GUR	**Goura**	**1.93**	**81**	P	**Pb**	21 45 14.8	**-0.5**
GUR	**Goura**	**1.93**	**81**	P	**Pb**	21 45 14.8	**-0.5**
GUR				S	**Sb**	21 45 40.2	**+0.6**
GUR	**Goura**	**1.93**	**81**	P	**Pb**	21 45 14.8	**-0.5**
GUR				S	**Sb**	21 45 40.2	**+0.6**
EVR	**Evrytania**	**1.94**	**49**	P	**Pg**	21 45 16.8	**-0.1**
EVR	**Evrytania**	**1.94**	**49**	P	**Pb**	21 45 15.8	**+0.4**
EVR	**Evrytania**	**1.94**	**49**	P	**Pb**	21 45 15.8	**+0.4**
DSF	**Desfina**	**2.18**	**69**	P	**Pb**	21 45 18.3	**-1.3**
DSF				S	**Sb**	21 45 46.1	**-0.8**
DSF	**Desfina**	**2.18**	**69**	P	**Pb**	21 45 18.3	**-1.3**
DSF				S	**Sb**	21 45 46.1	**-0.8**
AGG	**Agios Georgios**	**2.32**	**54**	P	**Pb**	21 45 20.6	**-1.4**
AGG				S	**Sn**	21 45 48.7	**+1.4**
AGG	**Agios Georgios**	**2.32**	**54**	P	**Pb**	21 45 20.6	**-1.4**
AGG				S	**Sn**	21 45 48.7	**+1.4**
THL	**Klokotos Trika**	**2.50**	**40**	P	**Pb**	21 45 23.5	**-1.5**
THL				S	**Sb**	21 45 53.6	**-2.5**
THL	**Klokotos Trika**	**2.50**	**40**	P	**Pb**	21 45 23.5	**-1.5**
THL				S	**Sb**	21 45 53.6	**-2.5**
STON	**Ston**	**5.48**	**343**	*e*Pn	**Pn**	21 46 01.3	**-0.4**
STON				Sn	**Sn**	21 47 01.2	**-3.8**
UDBI	**Udbina**	**7.54**	**337**	*e*Pn	**Pn**	21 46 33.3	**+3.1**

MAN 14 21:45:12,10.01N×123.24E,h3km,mb4.2,ML3.0,MS2.7, 3C-1D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.67**	**180**	⇑*i*P	Pb	21 45 26.8	**+0.4**
SNPH				*i* S	Sb	21 45 36.8	+0.7
TBP	**Tagbilaran**	**0.69**	**117**	*e*P	Pb	21 45 26.1	-0.7
LLP	**Lapu-Lapu**	**0.78**	**67**	⇓*e*P	Pg	21 45 26.3	-0.7
LLP				*e*S	Sg	21 45 36.6	-0.5
GUIM	**Jordan**	**0.88**	**314**	*e*P	Pg	21 45 29.0	+0.1
GUIM				*e*S	Sb	21 45 41.9	-0.2
DCPH	**Dipolog City**	**1.43**	**175**	⇓*e*P	Pn	21 45 36.1	-0.5
DCPH				*e*S	Sn	21 45 58.8	+0.7
MSLP	**Maasin**	**1.60**	**86**	*e*P	Pn	21 45 41.0	-0.2
MSLP				*e*S	Sg	21 46 03.6	+0.1
RCP	**Roxas**	**1.61**	**343**	⇑*e*P	Pb	21 45 42.1	-0.3
RCP				*e*S	Sg	21 46 04.1	+0.3
OCLP	**Ormoc**	**1.70**	**53**	*e*P	Pn	21 45 40.4	-2.2

JMA 14 21:46:10.7±0.2,40.89N×145.18E,h60km±3km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.89**	**307**	P	Pn	21 46 41.7	+1.1
JEM				*e*S	Sn	21 47 02.8	-0.6
JAK	**Akkeshi**	**2.13**	**350**	P	Pn	21 46 44.6	+0.6
JAK				*e*S	Sn	21 47 08.8	-0.5
JCH	**Churui**	**2.19**	**322**	P	Pn	21 46 45.5	+0.7
JCH				*e*S	Sn	21 47 10.4	-0.4
JNBK	**Urakawa-nobuka**	**2.29**	**308**	P	Pn	21 46 47.8	+1.7
NEM2	**Nemuro 2**	**2.51**	**9**	P	Pn	21 46 49.8	+0.8
NEM2				*e*S	Sn	21 47 17.2	-1.2
JAR	**Ashorobuto**	**2.62**	**337**	P	Pn	21 46 51.2	+0.6
JAR				*e*S	Sn	21 47 20.2	-1.1
JNK	**Nakash**	**2.71**	**353**	P	Pn	21 46 52.3	+0.4
JNK				*e*S	Sn	21 47 21.6	-1.9
JANG	**Nango**	**2.84**	**261**	P	Pn	21 46 53.9	+0.4
JANG				*e*S	Sn	21 47 24.3	-2.2
JOT	**Ohata**	**3.16**	**280**	P	Pn	21 46 59.0	+1.1
JOT				*e*S	Sn	21 47 32.5	-1.9
JTKR	**Abashiri--Toko**	**3.22**	**343**	P	Pn	21 47 00.6	+1.9
JTKR				*e*S	Sn	21 47 36.4	+0.6
JOM	**Ohasama**	**3.30**	**246**	P	Pn	21 47 01.0	+1.2
JOM				*e*S	Sn	21 47 36.4	-1.4
JEW	**Eniwo**	**3.40**	**306**	P	Pn	21 47 03.4	+2.2
JKK2	**Kamakawa 2**	**3.48**	**330**	P	Pn	21 47 04.7	+2.3

CSEM ***14*** *21:48:49.4,37.05N×28.48E,h7km,ML2.7,Suspected Mining explosion. After DDA*

DDA 14 21:48:49.4,37.05N×28.48E,h7km,Ml2.7,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.20**	**151**	*i* P	Pg	21 48 56.4	+2.9
TURN				*i* S	Sg	21 49 02.5	+6.3
TURN	**Turunc**	**0.20**	**151**	P	Pg	21 48 56.4	+2.9
TURN				S	Sg	21 49 02.5	+6.3
DALY	**Dalyan (Mu¨la**	**0.27**	**149**	*i* P	Pg	21 48 55.1	+0.3
DALY				*i* S	Sg	21 48 59.8	+1.4
DALY	**Dalyan (Mu¨la**	**0.27**	**149**	P	Pg	21 48 55.1	+0.3
DALY				S	Sg	21 48 59.8	+1.4
TAVA	**DENIZLI_Tavas**	**0.54**	**40**	*i* P	Pg	21 48 58.9	-1.0
TAVA				*i* S	Sg	21 49 07.2	+0.2
TAVA	**DENIZLI_Tavas**	**0.54**	**40**	P	Pg	21 48 58.9	-1.0
TAVA				S	Sg	21 49 07.2	+0.3
AYDN	**Tasoluk**	**0.78**	**322**	*i* P	Pb	21 49 05.1	-0.2
AYDN				*i* S	Sg	21 49 14.9	+0.4
AYDN	**Tasoluk**	**0.78**	**322**	P	Pb	21 49 05.1	-0.2
AYDN				S	Sg	21 49 14.9	+0.5

ROM 14 21:48:50.2±0.2,39.91N×15.96E,h5km,Md1.8/3,Ml0.8/2, Error ellipse: s-maj=1.6km s-min=0.0km az=128.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.04**	**131**	Pg	Pg	21 48 51.4	+0.1
MMN				Sg	Sg	21 48 52.6	+0.5
	147nm,0.1s						
CUC	**Castrocucco**	**0.13**	**306**	Pg	Pg	21 48 53.6	+0.7
CUC				Sg	Sg	21 48 56.1	+1.3
	29nm,0.6s						
MGR	**Morigerati**	**0.38**	**306**	Pg	Pg	21 48 58.1	+0.5
MGR				Sg	Sb	21 49 05.0	-0.7
	14nm,1.0s						

ISK ***14*** *21:56:27.7,37.68N×35.86E,h5km,ML1.7/5*
ISCJB ***14*** *21:56:28.1±0.4,37.56N±0.03×35.91E±0.02,h0km,Error ellipse: s-maj=4.2km s-min=2.8km az=0.5*
CSEM ***14*** *21:56:28.3±0.4,37.62N×35.90E,h1km,ML1.7,Error ellipse: s-maj=8.1km s-min=7.0km az=139.0,Suspected Mining explosion.*
DDA ***14*** *21:56:28.1,37.55N×35.90E,h7km,Ml2.7,Suspected Mining explosion.*

ISC 14 21:56:27.0±0.8,37.62N±0.03×35.97E±0.02,h0km,n26, σ1§13/43,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.18**	**220**	PG	**Pg**	**21 56 32.3**	**+1.9**
KOZT				SG	**Sg**	**21 56 35.7**	**+3.0**
KOZT	**Kozan**	**0.18**	**220**	*e*Pg	**Pg**	**21 56 32.3**	**+1.9**
KOZT				*e*Sg	**Sg**	**21 56 35.7**	**+3.0**
ANDN	**Andirin**	**0.30**	**97**	*i* P	**Pb**	**21 56 35.7**	**+0.4**
ANDN				*i* S	**Sb**	**21 56 41.2**	**+0.3**
ANDN	**Andirin**	**0.30**	**97**	P	**Pb**	**21 56 35.7**	**+0.4**
ANDN				S	**Sb**	**21 56 41.2**	**+0.3**
SAIM	**ADANA**	**0.37**	**14**	*i* P	**Pb**	**21 56 36.5**	**0.0**
SAIM				*i* S	**Sb**	**21 56 44.5**	**+1.7**
SAIM	**ADANA**	**0.37**	**14**	P	**Pb**	**21 56 36.5**	**0.0**
SAIM				S	**Sb**	**21 56 44.5**	**+1.7**
AKO	**Adana**	**0.45**	**250**	*i* P	**Pg**	**21 56 35.9**	**+0.4**
AKO				*i* S	**Sg**	**21 56 42.3**	**+1.0**
CEYT	**Ceyhan**	**0.63**	**196**	PG	**Pb**	**21 56 40.9**	**0.0**
CEYT	**Ceyhan**	**0.63**	**196**	*e*Pg	**Pb**	**21 56 40.9**	**0.0**
YAHY	**KAYSERI_Yahyal**	**0.68**	**315**	*i* P	**Pb**	**21 56 41.2**	**-0.5**
YAHY				*i* S	**Sb**	**21 56 51.0**	**-0.7**
YAHY	**KAYSERI_Yahyal**	**0.68**	**315**	P	**Pb**	**21 56 41.2**	**-0.5**
KAMA	**Osmaniye**	**0.70**	**128**	*i* P	**Pb**	**21 56 42.7**	**+0.5**
KAMA				*i* S	**Sb**	**21 56 51.6**	**-0.8**
KMRS	**Kahramanmaras**	**0.75**	**98**	PG	**Pn**	**21 56 44.5**	**-0.3**
KMRS				SG	**Sn**	**21 56 55.8**	**-1.1**
KMRS	**Kahramanmaras**	**0.75**	**98**	*e*Pg	**Pn**	**21 56 44.5**	**-0.3**
KMRS				*e*Sg	**Sn**	**21 56 55.8**	**-1.1**
HCB	**Kahramanmara¯**	**0.80**	**110**	*i* P	**Pb**	**21 56 43.9**	**+0.2**
HCB				*i* S	**Sb**	**21 56 54.2**	**-0.9**
KARA	**Karaisali**	**0.81**	**244**	PG	**Pg**	**21 56 42.0**	**-0.5**
KARA				SG	**Sg**	**21 56 53.7**	**+0.7**
KARA	**Karaisali**	**0.81**	**244**	*e*Pg	**Pg**	**21 56 42.0**	**-0.5**
KARA				*e*Sg	**Sg**	**21 56 53.7**	**+0.7**
DED	**Mersin**	**1.14**	**235**	*i* P	**Pg**	**21 56 46.0**	**-2.8**
DED				*i* S	**Sg**	**21 57 01.9**	**-1.7**
KUZU	**Kuzuini**	**1.22**	**133**	*i* P	**Pb**	**21 56 50.6**	**-0.4**
KUZU				*i* S	**Sg**	**21 57 05.9**	**-0.3**
KUZU	**Kuzuini**	**1.22**	**133**	P	**Pb**	**21 56 50.6**	**-0.4**
KUZU				S	**Sg**	**21 57 05.9**	**-0.3**
BNN	**Bunyan**	**1.23**	**356**	PN	**Pg**	**21 56 50.8**	**+0.1**
BNN	**Bunyan**	**1.23**	**356**	*e*Pn	**Pg**	**21 56 50.8**	**+0.1**
DARE	**Darende-Malaty**	**1.53**	**51**	PN	**Pg**	**21 56 56.6**	**+0.4**
DARE	**Darende-Malaty**	**1.53**	**51**	*e*Pn	**Pg**	**21 56 56.6**	**+0.4**
MALT	**Malatya**	**2.06**	**70**	PN	**Pb**	**21 57 05.4**	**0.0**
MALT	**Malatya**	**2.06**	**70**	*e*Pn	**Pb**	**21 57 05.4**	**0.0**

IDC ***14*** *21:58:41.6±5.2,7.77S×118.44E,h66km±57km,mb3.2/3, mb1 3.5/4,mb1mx3.2/55,mbtmp3.6/4,ML4.0/1,Error ellipse: s-maj=128.9km s-min=14.3km az=51.0*
ISCJB ***14*** *21:59:01.1±0.6,7.82S±0.09×119.3E±0.1,h300km, mb3.2/3,Error ellipse: s-maj=15.0km s-min=12.6km az=2.3*
DJA ***14*** *21:59:03.9±0.9,8°S±6°×11°9E±°,h265km±10km,M3.6/6, MLv3.6/6*

ISC 14 21:59:02.7±1.0,7.81S±0.08×119.3E±0.1,h300km,n11, σ2§29/12,mb3.1/3,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.80**	**236**	P	**Pn**	**21 59 47.0**	**-0.9**
PLAI				S	**S**	**22 00 20.8**	**-3.2**
WBSI	**Waikabubak, Su**	**1.83**	**177**	P	**Pn**	**21 59 46.3**	**-1.9**
BSSI	**Bau Bau, Buton**	**2.04**	**36**	P	**Pn**	**21 59 47.4**	**-2.4**
WSI	**Waingapu**	**2.11**	**152**	P	**Pn**	**21 59 48.5**	**-1.8**
EDFI	**Ende, Flores**	**2.56**	**112**	P	**Pn**	**21 59 52.0**	**-2.4**
BKSI	**Bulukumba**	**2.61**	**19**	P	**Pn**	**21 59 53.0**	**-1.7**
BASI	**Baing, Sumba**	**2.72**	**152**	P	**Pn**	**21 59 54.7**	**-1.0**
WRA	**Warramunga Arr**	**18.93**	**131**	P	**P**	**22 03 04.2**	**+1.7**
	0.4nm,0.3s,baz=302,slow=12,SNR=25						
WRA				S	S	22 06 43.4	+22
	baz=304,slow=25,SNR=2.8						
ASAR	**Alice Springs**	**21.11**	**140**	P	**P**	**22 03 27.6**	**+2.9**
	1.1nm,0.3s,baz=315,slow=8.9,SNR=19						
SONM	**Songino Array**	**56.56**	**350**	P	**P**	**22 08 15.8**	**+1.2**
	0.4nm,0.7s,baz=166,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**63.53**	**332**	P	**P**	**22 09 02.6**	**+1.1**
	0.3nm,0.6s,baz=148,slow=6.7,SNR=5.3						

DDA ***14*** *22:03:47.6,38.61N×37.39E,h7km,Ml2.3*
ISCJB ***14*** *22:03:48.5±0.5,38.62N±0.03×37.41E±0.03,h3km±5km, Error ellipse: s-maj=4.2km s-min=4.0km az=158.2*
CSEM ***14*** *22:03:48.4±0.2,38.62N×37.41E,h2km,ML2.6,Error ellipse: s-maj=3.7km s-min=3.1km az=141.0*
ISK ***14*** *22:03:48.7,38.62N×37.46E,h5km,ML2.6/4*

ISC 14 22:03:48.5±0.9,38.61N±0.02×37.41E±0.02,h5km±7km, n28,σ0§67/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.07**	**123**	PG	**Pg**	**22 03 50.1**	**-0.2**
DARE				SG	**Sg**	**22 03 51.8**	**+0.3**
DARE	**Darende-Malaty**	**0.07**	**123**	*e*Pg	**Pg**	**22 03 50.1**	**-0.2**
DARE				*e*Sg	**Sg**	**22 03 51.8**	**+0.3**
CUGUR	**Gurin_S¨VAS**	**0.15**	**317**	*i* P	**Pg**	**22 03 51.0**	**-0.7**
CUGUR				*i* S	**Sg**	**22 03 53.9**	**0.0**
CUGUR	**Gurin_S¨VAS**	**0.15**	**317**	P	**Pg**	**22 03 51.0**	**-0.7**
CUGUR				S	**Sg**	**22 03 53.8**	**0.0**
ELBS	**KAHRAMANMARAS**	**0.36**	**217**	*i* P	**Pg**	**22 03 55.0**	**-0.5**
ELBS				*i* S	**Sg**	**22 04 01.4**	**+1.1**
ELBS	**KAHRAMANMARAS**	**0.36**	**217**	P	**Pg**	**22 03 55.0**	**-0.5**
ELBS				S	**Sg**	**22 04 01.4**	**+1.1**
HEKM	**Malatya_Hekimh**	**0.51**	**58**	*i* P	**Pg**	**22 03 58.9**	**+0.5**
HEKM				*i* S	**Sb**	**22 04 06.6**	**-1.3**
HEKM	**Malatya_Hekimh**	**0.51**	**58**	P	**Pg**	**22 03 58.9**	**+0.5**
HEKM				S	**Sb**	**22 04 06.6**	**-1.3**
AKCD	**Akcadag**	**0.51**	**128**	*i* P	**Pg**	**22 03 58.1**	**-0.3**
AKCD				*i* S	**Sb**	**22 04 06.8**	**-1.1**
AKCD	**Akcadag**	**0.51**	**128**	P	**Pg**	**22 03 58.1**	**-0.3**
AKCD				S	**Sb**	**22 04 06.8**	**-1.1**
CUKAN	**kangal_SIVAS**	**0.71**	**4**	*i* P	**Pg**	**22 04 01.0**	**-1.1**
CUKAN				*i* S	**Sg**	**22 04 11.7**	**+0.4**
CUKAN	**kangal_SIVAS**	**0.71**	**4**	P	**Pg**	**22 04 01.0**	**-1.1**
CUKAN				S	**Sg**	**22 04 11.7**	**+0.4**
MALT	**Malatya**	**0.85**	**110**	PG	**Pg**	**22 04 04.1**	**-0.9**
MALT				SG	**Sg**	**22 04 16.7**	**+0.6**
MALT	**Malatya**	**0.85**	**110**	*e*Pg	**Pg**	**22 04 04.1**	**-0.9**
MALT				*e*Sg	**Sg**	**22 04 16.7**	**+0.6**
KEMA	**Kemaliye**	**1.07**	**52**	*i* P	**Pg**	**22 04 09.1**	**0.0**
KEMA				*i* S	**Sb**	**22 04 23.8**	**-0.2**
KEMA	**Kemaliye**	**1.07**	**52**	P	**Pg**	**22 04 09.1**	**0.0**
KEMA				S	**Sb**	**22 04 23.8**	**-0.2**
KMRS	**Kahramanmaras**	**1.17**	**200**	PN	**Pn**	**22 04 12.0**	**+0.4**
KMRS	**Kahramanmaras**	**1.17**	**200**	*e*Pn	**Pn**	**22 04 12.0**	**+0.4**
SAIM	**ADANA**	**1.22**	**239**	*i* P	**Pn**	**22 04 12.9**	**+0.6**
SAIM				*i* S	**Sg**	**22 04 27.5**	**-0.2**
SAIM	**ADANA**	**1.22**	**239**	P	**Pn**	**22 04 12.9**	**+0.6**
SAIM				S	**Sg**	**22 04 27.5**	**-0.2**
ILIC	**ilic-Erzincan**	**1.23**	**47**	PN	**Pn**	**22 04 12.5**	**-0.1**
ILIC				SN	**Sb**	**22 04 28.8**	**+0.1**
ILIC	**ilic-Erzincan**	**1.23**	**47**	*e*Pn	**Pn**	**22 04 12.5**	**-0.1**
ILIC				*e*Sn	**Sb**	**22 04 28.8**	**+0.1**
BNN	**Bunyan**	**1.24**	**282**	PN	**Pn**	**22 04 13.7**	**+1.0**
BNN	**Bunyan**	**1.24**	**282**	*e*Pn	**Pn**	**22 04 13.7**	**+1.0**
SVSK	**Karacayir**	**1.34**	**346**	PN	**Pg**	**22 04 14.7**	**+0.4**
SVSK	**Karacayir**	**1.34**	**346**	*e*Pn	**Pg**	**22 04 14.7**	**+0.4**
URFA	**Urfa**	**1.62**	**136**	PN	**Pn**	**22 04 18.2**	**+0.4**
URFA	**Urfa**	**1.62**	**136**	*e*Pn	**Pn**	**22 04 18.2**	**+0.4**

JMA 14 22:11:50.9±0.1,35.75N×140.86E,h9km±1km,M3.5,3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**181**	⇓P	Pg	22 11 52.7	0.0
CHOJ				S	Sg	22 11 54.0	0.0
JCN	**Nagara**	**0.63**	**239**	⇑P	Pg	22 12 04.1	0.0
JYT	**Yasato**	**0.72**	**312**	⇑P	Pg	22 12 04.7	-0.1
JYT				S	Sg	22 12 14.0	-0.2
BSO4	**Boso 4**	**0.87**	**210**	P	Pb	22 12 08.2	+0.1
JHO	**Hitachi**	**0.89**	**345**	P	Pg	22 12 07.3	-0.8
JHO				S	Sg	22 12 19.2	-0.5
BSO3	**Boso 3**	**0.99**	**197**	⇑P	Pg	22 12 09.8	-0.1
MAT	**Matsushiro**	**2.29**	**291**	P	Pn	22 12 28.3	-0.6
MAT				*e*S	Sn	22 12 55.8	-1.4

MEX 14 22:19:39.9±0.3,19.12N×104.14W,h8km±4km,MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.62**	**55**	*e*P	Pg	22 19 51.2	-0.8
EZ5V				*e*S	Sg	22 19 59.7	-0.4
CJM	**Chamela**	**0.93**	**294**	*i* P	Pg	22 19 55.5	-2.4
CJM				*e*S	Sg	22 20 07.4	-2.6
MMIG	**Aquila**	**1.12**	**138**	*e*P	Pg	22 19 57.9	-3.5
MMIG				*e*S	Sg	22 20 12.3	-3.6
ARIG	**Puente Sto Nin**	**3.69**	**102**	*i* P	Pn	22 20 34.4	-2.9
ARIG				*i* S	Sn	22 21 17.8	-3.2

IDC ***14*** *22:31:19.8±1.0,6.98S×131.31E,h0km,mb4.0/4, mb1 4.2/7,mb1mx3.8/50,mbtmp4.1/7,ML4.4/2,Error ellipse: s-maj=64.4km s-min=23.8km az=64.0*
ISCJB ***14*** *22:31:20.8±0.6,6.97S±0.04×132.2E±0.1,h35km,mb3.9/5, Error ellipse: s-maj=15.6km s-min=5.9km az=169.8*
DJA ***14*** *22:31:24.2±0.7,7°S±4°×13°2E±°,h111km±15km,M4.7/6, mB5.9/1,mb5.0/2,MLv4.5/6,Mw(mB)5.5/1*

ISC 14 22:31:24.6±0.7,6.79S±0.05×132.19E±0.08,h35km,n17, σ3§42/20,mb4.0/5,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.47**	**217**	P	**Pn**	**22 31 50.7**	**+2.0**
SAUI				S	**Sn**	**22 32 12.0**	**+5.3**
BNDI	**Bandanaira**	**3.20**	**315**	P	**Pn**	**22 32 12.4**	**0.0**
KMPI	**Kaimana, Papua**	**3.46**	**26**	P	**Pn**	**22 32 16.7**	**+0.7**
FAKI	**Fak Fak**	**3.85**	**1**	P	**Pn**	**22 32 21.6**	**+0.2**
MSAI	**Masohi**	**4.72**	**316**	P	**Pn**	**22 32 32.7**	**

3.4nm,1.2s,baz=289,slow=3.5,SNR=4.9

RES	**Resolute Bay**	**58.04**	**16**	P	**P**	**22 49 27.9**	**+0.7**
	1.1nm,0.8s,baz=304,slow=7.3,SNR=9.8							
YKA	**Yellowknife Ar**	**58.95**	**32**	P	**P**	**22 49 34.2**	**+0.5**
	0.1nm,0.6s,baz=298,slow=6.2,SNR=3.3							
WRA	**Warramunga Arr**	**61.44**	**192**	P	**P**	**22 49 49.8**	**-1.4**
	1.2nm,0.7s,baz=87,slow=6.9,SNR=9.7							
TXAR	**Lajitas Array**	**85.46**	**55**	P	**P**	**22 52 14.0**	**+1.0**
	0.1nm,0.6s,baz=284,slow=3.6,SNR=2.5							

IDC **14** *22:47:54.0±1.5,40.96N×145.19E,h0km,mb3.5/7, mb1 3.6/9,mb1mx3.4/72,mbtmp3.5/9,ML3.1/2,Error ellipse: s-maj=35.5km s-min=21.8km az=167.0*
JMA **14** *22:47:55.1±0.2,40.94N×145.37E,h61km±3km,M3.6*
ISCJB **14** *22:47:56.4±0.7,40.99N±0.04×145.23E±0.06,h33km, mb3.5/7,Error ellipse: s-maj=6.6km s-min=5.7km az=6.4*
ISC 14 22:47:57.7±0.9,40.90N±0.06×145.24E±0.07,h35km,n25, σ2.527,mb3.5/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JEM	**Erimo**	**1.92**	**306**	P		**Pn**	**22 48 26.9**	**-1.0**
JEM				*e*S		Sn	22 48 48.1	-2.7
JAK	**Akkeshi**	**2.14**	**349**	*e*S		**Sn**	**22 48 53.6**	**-2.6**
JCH	**Churui**	**2.22**	**321**	P		**Pn**	**22 48 30.7**	**-1.3**
JCH				*e*S		**Sn**	**22 48 55.8**	**-2.3**
JOB	**Onbets**	**2.26**	**333**	*e*S		**Sn**	**22 48 57.8**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.32**	**307**	P		**Pn**	**22 48 33.4**	**0.0**
JNBK				*e*S		**Sn**	**22 49 00.2**	**-0.5**
NEM2	**Nemuro 2**	**2.50**	**9**	P		**Pn**	**22 48 33.1**	**-2.7**
NEM2				*e*S		**Sn**	**22 49 01.3**	**-3.7**
JAR	**Ashorobuto**	**2.64**	**336**	*e*S		**Sn**	**22 49 05.4**	**-3.1**
JNK	**Nakash**	**2.72**	**352**	P		**Pn**	**22 48 36.4**	**-2.4**
JNK				*e*S		**Sn**	**22 49 06.0**	**-4.4**
JBT2	**Biratori 2**	**2.85**	**312**	P		**Pn**	**22 48 40.9**	**+0.2**
JBT2				*e*S		**Sn**	**22 49 13.4**	**-0.4**
JANG	**Nango**	**2.88**	**261**	*e*S		**Sn**	**22 49 09.6**	**-4.9**
JRA	**Rausu**	**3.04**	**358**	*e*S		**Sn**	**22 49 15.3**	**-3.2**
JOT	**Ohata**	**3.20**	**280**	P		**Pn**	**22 48 43.9**	**-1.6**
JOT				*e*S		**Sn**	**22 49 18.7**	**-3.7**
JTKR	**Abashiri--Toko**	**3.23**	**343**	P		**Pn**	**22 48 45.0**	**-0.8**
JTKR				*e*S		**Sn**	**22 49 21.2**	**-1.8**
JOM	**Ohasama**	**3.34**	**246**	P		**Pn**	**22 48 45.3**	**-2.1**
JOM				*e*S		**Sn**	**22 49 21.1**	**-4.7**
JEW	**Eniwo**	**3.43**	**306**	P		**Pn**	**22 48 49.0**	**+0.3**
JEW				*e*S		**Sn**	**22 49 27.3**	**-0.8**
ASAJ	**Asahikawa**	**3.77**	**330**	Pn		**Pn**	**22 48 53.5**	**+0.3**
	1.2nm,0.3s,baz=261,slow=5.2,SNR=5.7							
ASAJ				Sn		**Sn**	**22 49 36.8**	**+0.5**
	2.1nm,0.3s,baz=261,slow=31,SNR=6.1							
MJAR	**Matsushiro Arr**	**7.00**	**234**	Pn		**Pn**	**22 49 38.5**	**+0.8**
	0.3nm,0.3s,baz=70,slow=12,SNR=4.1							
SONM	**Songino Array**	**28.39**	**297**	P		**P**	**22 53 50.2**	**+1.5**
	0.8nm,1.0s,baz=92,slow=11,SNR=6.5							
ILAR	**Eielson Array**	**44.64**	**34**	P		**P**	**22 56 07.5**	**+1.2**
	0.6nm,0.8s,baz=261,slow=6.1,SNR=5.5							
MKAR	**Makanchi Array**	**44.70**	**300**	P		**P**	**22 56 07.3**	**+0.1**
	0.2nm,0.8s,baz=86,slow=7.8,SNR=2.9							
KURBB	**Kurchatov Arra**	**46.08**	**306**	P		**P**	**22 56 18.5**	**+0.6**
	1.1nm,0.7s,baz=76,slow=8.6,SNR=8.2							
INK	**Inuvik**	**49.59**	**29**	P		**P**	**22 56 46.0**	**+1.1**
	0.5nm,0.5s,baz=300,slow=10,SNR=5.1							
YKA	**Yellowknife Ar**	**58.97**	**32**	P		**P**	**22 57 54.8**	**+1.6**
	0.1nm,0.5s,baz=299,slow=6.3,SNR=2.9							
FINES	**FINESS Array B**	**66.77**	**333**	P		**P**	**22 58 45.8**	**+0.8**
	1.1nm,0.9s,baz=43,slow=6.5,SNR=3.7							
SIV	**San Ignacio**	**146.32**	**50**	PKPbc		**PKPab**	**23 07 35.7**	**-0.1**
	1.1nm,0.7s,baz=280,slow=2.3,SNR=6.5							

MEX 14 22:50:54.5±0.8,14.89N×93.23W,h44km±22km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**0.81**	**1**	*e*P		Pn	22 51 08.1	-1.5
PCIG				*e*S		Sn	22 51 18.4	-2.1
THIG		**0.93**	**89**	*i*P		Pn	22 51 09.8	-1.4
THIG				*e*S		Sn	22 51 21.8	-1.6
CCIG	**Comitan**	**1.74**	**37**	*e*P		Pn	22 51 21.7	-0.7
CCIG				*e*S		Sn	22 51 42.2	-1.3
TGIG		**1.88**	**3**	*e*P		Pn	22 51 22.2	-2.1
TGIG				*e*S		Sn	22 51 44.6	-2.2

IDC 14 22:53:00.6±10.0,7.24S×131.68E,h83km±114km,mb3.4/3, mb1 3.7/6,mb1mx3.2/55,mbtmp3.8/6,ML3.8/3,Error ellipse: s-maj=87.8km s-min=48.4km az=46.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**12.29**	**208**	P		Pn	22 55 53.2	+0.7
	0.5nm,0.3s,baz=37,slow=13,SNR=11							
WRA	**Warramunga Arr**	**12.88**	**169**	P		Pn	22 55 59.9	-0.7
	0.6nm,0.3s,baz=345,slow=14,SNR=18							
WRA				S		Sn	22 58 22.1	-0.2
	1.0nm,0.3s,baz=354,slow=24,SNR=8.7							
ASAR	**Alice Springs**	**16.47**	**173**	P		P	22 56 48.6	+0.7
	0.3nm,0.3s,baz=349,slow=9.2,SNR=12							
ASAR				S		Sn	22 59 48.1	-0.9
	0.2nm,0.3s,baz=358,slow=27,SNR=4.5							
MKAR	**Makanchi Array**	**69.35**	**326**	P		P	23 03 60.0	+0.6
	0.6nm,0.4s,baz=121,slow=8.0,SNR=22							
ZALV	**Zalesovo Beam**	**72.55**	**333**	P		P	23 04 17.9	-0.6
	0.4nm,0.6s,baz=116,slow=6.6,SNR=3.1							
KURBB	**Kurchatov Arra**	**73.59**	**328**	P		P	23 04 24.6	-0.2
	0.4nm,0.6s,baz=129,slow=4.8,SNR=5.9							

IDC 14 22:53:17.0±2.2,14.05S×167.82E,h0km,mb4.3/6, mb1 4.4/6,mb1mx3.9/50,mbtmp4.3/6,Error ellipse: s-maj=82.6km s-min=29.9km az=128.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**21.46**	**251**	P		P	22 58 11.0	+3.7
	4.8nm,0.8s,baz=73,slow=12,SNR=3.5							
STKA	**Stephens Creek**	**29.84**	**229**	P		P	22 59 27.1	+1.0
	3.0nm,0.4s,baz=61,slow=9.1,SNR=7.8							
WRA	**Warramunga Arr**	**32.51**	**255**	P		P	22 59 49.2	-0.7
	2.2nm,0.5s,baz=87,slow=9.5,SNR=4.9							
ASAR	**Alice Springs**	**33.42**	**248**	P		P	22 59 57.1	-0.7
	0.7nm,0.5s,baz=352,slow=8.8,SNR=5.0							
SONM	**Songino Array**	**82.27**	**323**	P		P	23 05 41.4	+0.9
	0.3nm,0.4s,baz=119,slow=5.6,SNR=3.7							
MKAR	**Makanchi Array**	**97.08**	**316**	P		P	23 06 51.1	0.0
	0.5nm,0.6s,baz=91,slow=6.0,SNR=5.9							
ZALV	**Zalesovo Beam**	**97.16**	**324**	P		P	23 06 50.9	-0.4
	0.5nm,0.5s,baz=126,slow=7.3,SNR=2.6							
ARCES	**ARCESS Array B**	**119.73**	**346**	PKP		PKPdf	23 12 07.8	-0.8
	1.1nm,0.6s,baz=62,slow=2.0,SNR=11							
FINES	**FINESS Array B**	**125.29**	**339**	PKP		PKPdf	23 12 19.0	-0.5
	1.7nm,0.9s,baz=249,slow=3.7,SNR=4.2							

MEX 14 22:54:13.9±0.5,14.86N×93.23W,h36km±41km,MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**0.84**	**1**	*i*P		Pn	22 54 27.5	-1.7
PCIG				*i*S		Sn	22 54 38.0	-2.4
THIG		**0.94**	**87**	*i*P		Pn	22 54 29.3	-1.2
THIG				*i*S		Sn	22 54 40.5	-2.2
CCIG	**Comitan**	**1.76**	**37**	*e*P		Pn	22 54 40.6	-1.5
CCIG				*i*S		Sn	22 55 02.0	-1.4
TGIG		**1.91**	**3**	*i*P		Pn	22 54 42.5	-1.5
TGIG				*i*S		Sn	22 55 03.9	-3.0

ISCJB **14** *22:58:18.5±0.5,41.39N±0.03×43.88E±0.03,h2km±5km, Error ellipse: s-maj=4.5km s-min=2.9km az=158.1*
CSEM **14** *22:58:18.6±0.2,41.39N×43.88E,h2km,ML2.1,Error ellipse: s-maj=4.2km s-min=2.5km az=156.0*
DDA **14** *22:58:18.4,41.36N×43.92E,h7km,Ml2.7*
TIF **14** *22:58:18.4,41.41N×43.92E,h18km*
ISC 14 22:58:18.4±1.1,41.39N±0.03×43.93E±0.02,h6km±10km, n29,σ0.962/57,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKH	**Akhalkalaki**	**0.33**	**273**	P		**Pg**	**22 58 25.5**	**+0.6**
AKH						S	**Sg**	**22 58 29.9**	**+0.7**
AKH	**Akhalkalaki**	**0.33**	**273**	P		**Pg**	**22 58 25.5**	**+0.6**
AKH						S	**Sg**	**22 58 29.9**	**+0.7**
KZR	**Kazreti**	**0.36**	**92**	P		**Pb**	**22 58 26.7**	**-0.6**
KZR						S	**Sb**	**22 58 32.2**	**-1.0**
KZR	**Kazreti**	**0.36**	**92**	P		**Pb**	**22 58 26.7**	**-0.6**
KZR						S	**Sb**	**22 58 32.2**	**-1.0**
TBLG	**Delisi**	**0.69**	**61**	P		**Pb**	**22 58 32.7**	**-0.1**
TBLG						S	**Sb**	**22 58 43.1**	**+0.4**
TBLG	**Delisi**	**0.69**	**61**	P		**Pb**	**22 58 32.7**	**-0.1**
TBLG						S	**Sb**	**22 58 42.8**	**+0.1**
BTNK	**Botanikuri**	**0.71**	**66**	P		**Pb**	**22 58 33.1**	**-0.1**
BTNK	**Botanikuri**	**0.71**	**66**	P		**Pb**	**22 58 33.1**	**-0.1**
BTNK						S	**Sb**	**22 58 43.0**	**-0.2**
EAK	**Akyaka**	**0.75**	**199**	*i*P		**Pg**	**22 58 32.1**	**-0.6**
EAK				*i*S		**Sg**	**22 58 42.9**	**+0.5**
EAK	**Akyaka**	**0.75**	**199**	P		**Pg**	**22 58 32.1**	**-0.6**
EAK						S	**Sg**	**22 58 42.9**	**+0.5**
SEAG	**Tbilisi Sea**	**0.75**	**60**	P		**Pb**	**22 58 34.5**	**+0.6**
SEAG						S	**Sb**	**22 58 45.7**	**+1.3**
SEAG	**Tbilisi Sea**	**0.75**	**60**	P		**Pb**	**22 58 34.4**	**+0.6**
SEAG						S	**Sb**	**22 58 45.7**	**+1.3**
EPOS	**Posof**	**0.91**	**277**	*i*P		**Pg**	**22 58 34.7**	**-1.1**
EPOS				*i*S		**Sg**	**22 58 46.3**	**-1.4**
EPOS	**Posof**	**0.91**	**277**	P		**Pg**	**22 58 34.7**	**-1.1**
EPOS						S	**Sg**	**22 58 46.3**	**-1.4**
DIGO	**Kars**	**1.06**	**203**	*i*P		**Pg**	**22 58 38.4**	**-0.4**
DIGO				*i*S		**Sg**	**22 58 52.7**	**+0.1**
DIGO	**Kars**	**1.06**	**203**	P		**Pg**	**22 58 38.4**	**-0.4**
DIGO						S	**Sg**	**22 58 52.7**	**+0.1**
DGRG	**David-gareji**	**1.09**	**86**	P		**Pb**	**22 58 39.5**	**0.0**
DGRG						S	**Sn**	**22 58 56.3**	**+0.8**
DGRG	**David-gareji**	**1.09**	**86**	P		**Pb**	**22 58 39.6**	**0.0**
DGRG						S	**Sn**	**22 58 55.5**	**0.0**
GUDG	**Gudauri**	**1.15**	**21**	P		**Pg**	**22 58 39.7**	**-0.6**
GUDG						S	**Sb**	**22 58 55.7**	**-0.2**
GUDG	**Gudauri**	**1.15**	**21**	P		**Pg**	**22 58 39.7**	**-0.6**
GUDG						S	**Sb**	**22 58 55.7**	**-0.2**
ONI	**Oni**	**1.25**	**344**	P		**Pg**	**22 58 42.0**	**-0.3**
ONI						S	**Sb**	**22 58 59.0**	**+0.3**
IGDI	**IGDIR**	**1.53**	**176**	*i*P		**Pn**	**22 58 46.7**	**+0.5**
IGDI				*i*S		**Sg**	**22 59 07.5**	**+0.1**
DAGI	**Agillar**	**1.55**	**259**	*i*P		**Pb**	**22 58 47.6**	**+0.1**
DAGI				*i*S		**Sg**	**22 59 08.0**	**-0.3**
DBOC	**Borcka**	**1.70**	**269**	*i*P		**Pn**	**22 58 49.1**	**+0.5**
DBOC				*i*S		**Sn**	**22 59 10.1**	**-0.6**
DBOC	**Borcka**	**1.70**	**269**	P		**Pn**	**22 58 49.1**	**+0.5**
DBOC						S	**Sn**	**22 59 10.1**	**-0.6**
DDEM	**Demirkent**	**1.72**	**254**	*i*P		**Pb**	**22 58 50.3**	**-0.1**
DDEM				*i*S		**Sn**	**22 59 11.1**	**-0.1**
DDEM	**Demirkent**	**1.72**	**254**	P		**Pb**	**22 58 50.3**	**-0.1**
DDEM						S	**Sn**	**22 59 11.1**	**-0.1**
DBAD	**Bademkaya**	**1.73**	**258**	*i*P		**Pb**	**22 58 50.5**	**0.0**
DBAD				*i*S		**Sn**	**22 59 11.9**	**+0.5**
DBAD	**Bademkaya**	**1.73**	**258**	P		**Pb**	**22 58 50.5**	**0.0**
DBAD						S	**Sn**	**22 59 11.9**	**+0.5**

NIED **14** *23:01:00,40.90N×145.20E,h5km,Mw4.4 Best double couple: M₀4.40000×10¹⁵ NP1:φ₁243.00000°,δ25.00000°, λ-62.00000°. NP2:φ₂33.00000°,δ68.00000°, λ-102.00000°.*
ISCJB **14** *23:01:50.2±0.9,40.98N±0.02×144.95E±0.04,h5km±5km, mb4.4/78,MS4.1/8,Error ellipse: s-maj=5.0km s-min=3.7km az=34.4*
IDC **14** *23:01:50.1±0.6,40.89N×145.10E,h0km,mb4.2/24, mb1 4.3/29,mb1mx4.1/69,mbtmp4.1/29,ML3.7/4,MS3.5/6, Ms1 3.5/6,ms1mx3.2/66,Error ellipse: s-maj=16.0km s-min=12.9km az=142.0*
JMA **14** *23:01:51.0±0.2,40.91N×145.22E,h62km±3km,M4.3*
NEIC **14** *23:01:52.6±2.1,40.91N×144.97E,h12km±13km,mb4.7/23, Error ellipse: s-maj=6.3km s-min=4.4km az=139.0*
MOS **14** *23:01:53.7±1.0,40.96N×144.98E,h33km,mb4.7/30,Error ellipse: s-maj=8.1km s-min=5.1km az=108.7*
BJI **14** *23:01:53.3,41.20N×144.89E,h24km,mb4.5/44,mB4.8/18, Ms4.3/14,Ms7 4.0/14*
ISC 14 23:01:52.6±1.7,40.97N±0.05×145.05E±0.05,h14km±10km, n201,σ1.833/228,mb4.6/84,MS4.2/8,13C-11D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERM	**Erimo**	**1.77**	**307**	*e*P		**Pn**	**23 02 22.2**	**-0.6**
ERM				*e*S		**Sn**	**23 02 43.9**	**-1.2**
ERM	**Erimo**	**1.77**	**307**	*e*Pn		**Pn**	**23 02 22.2**	**-0.6**
ERM				*e*S		**Sn**	**23 02 43.9**	**-1.2**
JEM	**Erimo**	**1.77**	**307**	P		**Pn**	**23 02 21.9**	**-0.9**
JEM				*e*S		**Sn**	**23 02 43.5**	**-1.6**
JAK	**Akkeshi**	**2.04**	**353**	P		**Pn**	**23 02 24.9**	**-1.7**
JAK				*e*S		**Sn**	**23 02 49.1**	**-2.8**
JCH	**Churui**	**2.08**	**323**	P		**Pn**	**23 02 26.1**	**-0.9**
JOB	**Onbets**	**2.14**	**335**	P		**Pn**	**23 02 27.2**	**-0.7**
JOB				*e*S		**Sn**	**23 02 52.8**	**-1.4**
JNBK	**Urakawa-nobuka**	**2.17**	**308**	P		**Pn**	**23 02 28.5**	**+0.2**
NEM2	**Nemuro 2**	**2.45**	**12**	P		**Pn**	**23 02 30.0**	**-2.1**
NEM2				*e*S		**Sn**	**23 02 58.2**	**-3.7**
JAR	**Ashorobuto**	**2.52**	**338**	P		**Pn**	**23 02 31.5**	**-1.6**
JAR				*e*S		**Sn**	**23 03 00.5**	**-3.0**
JNK	**Nakash**	**2.63**	**355**	P		**Pn**	**23 02 32.3**	**-2.3**
JNK				*e*S		**Sn**	**23 03 01.9**	**-4.4**
JBT2	**Biratori 2**	**2.70**	**313**	P		**Pn**	**23 02 34.6**	**-1.1**
JANG	**Nango**	**2.76**	**259**	P		**Pn**	**23 02 34.3**	**-2.1**
JANG				*e*S		**Sn**	**23 03 04.9**	**-4.6**
JFR	**Furan**	**2.86**	**321**	P		**Pn**	**23 02 37.1**	**-0.7**
JRA	**Rausu**	**2.97**	**1**	P		**Pn**	**23 02 37.4**	**-1.9**
JOT	**Ohata**	**3.05**	**279**	P		**Pn**	**23 02 39.3**	**-1.1**
JOT				*e*S		**Sn**	**23 03 12.9**	**-3.9**
JTKR	**Abashiri--Toko**	**3.12**	**345**	P		**Pn**	**23 02 40.7**	**-0.6**
JTKR				*e*S		**Sn**	**23 03 16.6**	**-1.8**
YUK	**Yuzh-Kuril'sk**	**3.12**	**11**	*e*P		**Pn**	**23 02 40.8**	**-0.6**
YUK				*i*S		**Sn**	**23 03 17.0**	**-1.5**
YUK					pmax	pmax		
	comp=Z,178nm,0.4s							
YUK					pmax	pmax		
	comp=N,45nm,0.3s							
YUK					pmax	pmax		
	comp=E,106nm,0.2s							
YUK					MLR	MLR		
	comp=Z,1μm,6.0s							
JKB	**Kayabe**	**3.16**	**288**	P		**Pn**	**23 02 41.0**	**-0.9**
SHO	**Shikotan**	**3.18**	**24**	*c*P		**Pn**	**23 02 40.2**	**-2.0**
SHO				*i*S		**Sn**	**23 03 15.9**	**-4.1**
SHO					pmax	pmax		
	comp=Z,58nm,0.2s							
JOM	**Ohasama**	**3.24**	**244**	P		**Pn**	**23 02 41.5**	**-1.6**
JOM				*e*S		**Sn**	**23 03 17.2**	**-4.3**
JEW	**Eniwo**	**3.28**	**306**	P		**Pn**	**23 02 44.1**	**+0.6**
ASAJ	**Asahikawa**	**3.63**	**331**	Pn		**Pn**	**23 02 48.7**	**+0.3**
	comp=Z,3.6nm,0.3s,baz=165,slow=9.5,SNR=17							
ASAJ				Sn		**Sn**	**23 03 30.3**	**-0.8**
	comp=Z,9.0nm,0.3s,baz=104,slow=32,SNR=13							
ASAJ	**Asahikawa**	**3.63**	**331**	*e*Pn		**Pn**	**23 02 48.7**	**+0.3**
ASAJ				*e*S		**Sn**	**23 03 30.6**	**-0.5**
KUR	**Kuril'sk**	**4.73**	**25**	*c*P		**Pn**	**23 03 03.4**	**-0.1**
KUR				*e*S		**Sn**	**23 03 54.7**	**-3.5**
KUR					pmax	pmax		
	comp=Z,78nm,0.3s							
KUR					pmax	pmax		
	comp=N,67nm,0.2s							
KUR					pmax	pmax		
	comp=E,43nm,0.2s							
KUR					smax	smax		
	comp=E,172nm,0.3s							
KUR					smax	smax		
	comp=N,80nm,0.2s							
YSS	**Yuzh-Sakhalins**	**6.21**	**345**	*e*P		**Pn**	**23 03 22.9**	**-0.9**
YSS					pmax	pmax		
	comp=Z,10.0nm,0.3s							
YSS					MLR	MLR		
	comp=Z,600nm,13.0s							
YSS					MLR	MLR		
	comp=N,600nm,15.0s							
MJAR	**Matsushiro Arr**	**6.94**	**233**	Pn		**Pn**	**23 03 33.1**	**-0.8**
	comp=N,1.2nm,0.3s,baz=38,slow=11,SNR=16							
MJAR				Sn		**Sn**	**23 04 52.0**	**-0.6**
	comp=N,1.0nm,0.3s,baz=28,slow=21,SNR=4.2							
MJAR				LR		LR	23 06 46.0	
	comp=N,308nm,19.5s,baz=60,slow=43							
MAJO	**Matsushiro**	**6.94**	**233**	*e*P		**Pn**	**23 03 32.9**	**-1.0**
MAJO	**Matsushiro**	**6.94**	**233**	*e*Pn		**Pn**	**23 03 32.9**	**-1.0**
MAT	**Matsushiro**	**6.94**	**233**	P		**Pn**	**23 03 32.9**	**-1.0**
MAT				*e*S		**Sn**	**23 04 53.8**	**+1.2**
MJB9	**Matsu-Tunnel**	**6.94**	**233**	*e*Pn		**Pn**	**23 03 33.4**	**-0.5**
JHJ	**Hachijo jima 2**	**8.89**	**210**	LR		LR	23 07 52.0	
	comp=N,139nm,18.5s,baz=114,slow=41							
VLA	**Vladivostok**	**10.03**	**287**	*e*P		**Pn**	**23 04 17.4**	**+1.2**
VLA					pmax	pmax		
	comp=Z,38nm,0.9s							
TYV	**Tymovskoe**	**10.04**	**351**	*e*P		**Pn**	**23 04 18.7**	**+2.4**
TYV					pmax	pmax		
	comp=Z,6.0nm,1.9s							
USRK	**Ussuriysk Ar.**	**10.16**	**293**	Pn		**Pn**	**23 04 18.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=105,slow=14,SNR=6.8							
KLR	**Kul'dur**	**12.50**	**316**	Pn		**Pn**	**23 04 49.9**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=130,slow=14,SNR=6.3							
KLR					LR	LR	23 10 13.5	
	comp=Z,40nm,18.0s,baz=58,slow=40							
NKL	**Nikolayevsk**	**12.54**	**348**	*e*P		**Pn**	**23 04 49.3**	**-1.2**
KSRS	**Korea Array**	**13.74**	**261**	Pn		**Pn**	**23 05 06.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=72,slow=14,SNR=3.5							
JNU	**Nakatsue**	**13.76**	**240**	Pn		**Pn**	**23 05 06.0**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=339,slow=8.6,SNR=3.5							
KSAR	**Wonju Array Be**	**13.77**	**261**	P		**Pn**	**23 05 06.3**	**-1.1**
KSAR	**Wonju Array Be**	**13.77**	**261**	Pn		**Pn**	**23 05 06.3**	**-1.1**
PETK	**Petropavlovsk-**	**14.86**	**31**	LR		LR	23 11 28.8	
	comp=Z,164nm,18.0s,baz=289,slow=39							
ZEA	**Zeya**	**17.50**	**323**	*e*P		**Pn**	**23 05 55.0**	**-1.1**
ZEA					pmax	pmax		
	comp=Z,36nm,1.2s							
MA2	**Magadan**	**18.97**	**9**	LR		LR	23 12 23.6	
	comp=Z,192nm,21.6s,baz=352,slow=33							
HIA	**Hailar**	**19.63**	**304**	*e*P		**Pn**	**23 06 21.6**	**-0.4**
HIA					pmax	pmax		
	comp=Z,8.0nm,1.1s							
SEY	**Seymchan**	**22.43**	**9**	P		**P**	**23 06 50.2**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=186,slow=8.4,SNR=11							
SEY	**Seymchan**	**22.43**	**9**	*c*eP		**P**	**23 06 49.4**	**-1.3**
NJ2	**Nanjing**	**22.80**	**255**	*e*P		**P**	**23 06 56.1**	**+1.3**
NJ2					pmax	pmax		
	comp=Z,5.0nm,0.5s							
YAK	**Yakutsk**	**23.04**	**341**	*e*P		**P**	**23 06 57.5**	**+0.4**
YAK				*e*			23 07 21.8	
YAK				*e*			23 10 52.7	
YAK				*e*S		**S**	**23 11 03.1**	**-4.2**
YAK					pmax	pmax		
	comp=N,3.0nm,0.9s							
YAK					pmax	pmax		
	comp=Z,10.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,3.0nm,1.0s							
YAK					pmax	pmax		
	comp=Z,48nm,2.9s							
YAK					smax	smax		
	comp=N,80nm,1.5s							
YAK					smax	smax		
	comp=E,67nm,1.4s							
YAK					MLR	MLR		
	comp=Z,273nm,21.0s							
YAK					MLR	MLR		
	comp=E,130nm,19.0s							
YAK					MLR	MLR		
	comp=N,246nm,22.0s							
HHC	**Hu-ho-hao-te**	**25.23**	**281**	*e*P		**P**	**23 07 18.5**	**+0.4**
HHC					pmax	pmax		
	comp=N,12nm,0.9s							
HHC					pmax	pmax		
	comp=N,130nm,7.1s							
BOD	**Bodaibo**	**25.98**	**321**	*e*P		**P**	**23 07 24.2**	**-0.5**
BOD					pmax	pmax		
	comp=Z,13nm,1.3s							
ULN	**Ulaanbaatar**	**27.79**	**297**	*c*eP		**P**	**23 07 40.7**	**-0.5**
ULN					pmax	pmax		
	comp=Z,23nm,1.7s							
ULN	**Ulaanbaatar**	**27.79**	**297**	*e*P		**P**	**23 07 41.5**	**+0.3**
	comp=Z,32nm,1.6s							
H11N2	**WAKE ISLAND Hy**	**28.20**	**132**	T		T	23 37 19.1	
	baz=316							
H11N1	**WAKE ISLAND Hy**	**28.21**	**132**	T		T	23 37 19.1	
	baz=316,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.22**	**132**	T		T	23 37 15.8	
	baz=316,slow=74							
SONM	**Songino Array**	**28.23**	**297**	P		**P**	**23 07 45.7**	**+0.6**
	comp=Z,4.3nm,1.0s,baz=89,slow=8.6,SNR=24							
H11S1	**WAKE ISLAND Hy**	**29.08**	**134**	T		T	23 38 21.1	
	baz=327							
H11S3	**WAKE ISLAND Hy**	**29.08**	**134**	T		T	23 38 26.2	
	baz=327							
H11S2	**WAKE ISLAND Hy**	**29.09**	**134**	T		T	23 38 24.8	
	baz=327							
BILL	**Bilibino**	**29.46**	**16**	*e*P		**P**	**23 07 56.0**	**+0.3**

WMQ				sP	pP	23 09 53.9	+8.5	
WMQ				pmax	pmax			
	comp=Z,20nm,1.1s							
WMQ				LR	LR			
	comp=Z,400nm,25.7s							
WMQ				LR	LR			
	comp=Z,320nm,27.9s							
WMQ				LR	LR			
	comp=Z,250nm,30.1s							
KDAK	**Kodiak Island**	**42.30**	**45**	P	**P**	**23 09 44.9**	**-0.6**	
	comp=Z,19nm,1.1s,baz=294,slow=6.5,SNR=5.1							
NVS	**Novosibirsk**	**42.30**	**311**	*eP*	**P**	**23 09 43.9**	**-1.6**	
CAST	**Castle Rocks**	**42.38**	**36**	*eP*	**P**	**23 09 48.2**	**+2.0**	
	comp=Z,22nm,1.6s							
KTH	**Kantishna Hill**	**42.90**	**36**	*eP*	**P**	**23 09 51.4**	**+1.0**	
	comp=Z,19nm,1.3s							
RND	**Reindeer**	**43.83**	**36**	*eP*	**P**	**23 09 58.7**	**+0.8**	
RND				pmax	pmax			
	comp=Z,12nm,1.2s							
RND	**Reindeer**	**43.83**	**36**	*eP*	**P**	**23 09 58.7**	**+0.8**	
	comp=Z,12nm,1.2s							
MDM	**Murphy Dome**	**44.08**	**34**	*eP*	**P**	**23 10 01.5**	**+1.6**	
	comp=Z,18nm,1.3s							
CCB	**Clear Creek Bu**	**44.26**	**35**	*eP*	**P**	**23 10 04.6**	**+3.3**	
	comp=Z,18nm,1.7s							
MK01	**Makanchi Array**	**44.55**	**299**	*eP*	**P**	**23 10 03.5**	**-0.3**	
MK31	**Makanchi Array**	**44.55**	**299**	*eP*	**P**	**23 10 03.9**	**+0.1**	
MK31	**Makanchi Array**	**44.55**	**299**	*eP*	**P**	**23 10 03.9**	**+0.1**	
MKAR	**Makanchi Array**	**44.55**	**299**	P	**P**	**23 10 04.0**	**+0.1**	
	comp=Z,3.6nm,1.0s,baz=83,slow=9.4,SNR=22							
MKAR	**Makanchi Array**	**44.55**	**299**	*ceP*	**P**	**23 10 04.0**	**+0.1**	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**44.55**	**299**	*eP*	**P**	**23 10 03.9**	**+0.1**	
	comp=Z,25nm,0.8s							
IL1	**Eielson Array**	**44.65**	**34**	*eP*	**P**	**23 10 04.5**	**+0.1**	
ILAR	**Eielson Array**	**44.65**	**34**	P	**P**	**23 10 05.1**	**+0.7**	
	comp=Z,2.6nm,0.9s,baz=260,slow=6.4,SNR=23							
ILB	**Eielson Array**	**44.65**	**34**	*eP*	**P**	**23 10 05.5**	**+1.1**	
MAKZ	**Makanchi**	**44.75**	**300**	*eP*	**P**	**23 10 05.8**	**+0.3**	
MAKZ				pmax	pmax			
	comp=Z,7.0nm,1.1s							
MAKZ	**Makanchi**	**44.75**	**300**	*eP*	**P**	**23 10 05.8**	**+0.3**	
	comp=Z,6.9nm,1.1s							
CHTO	**Chiang Mai**	**45.04**	**255**	*eP*	**P**	**23 10 08.4**	**+0.4**	
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CHTO	**Chiang Mai**	**45.04**	**255**	*eP*	**P**	**23 10 08.4**	**+0.4**	
	comp=Z,3.6nm,0.9s							
CMAR	**Chiang Mai Arr**	**45.27**	**254**	P	**P**	**23 10 08.7**	**-1.2**	
	comp=Z,0.8nm,0.4s,baz=52,slow=6.7,SNR=8.0							
CMAR	**Chiang Mai Arr**	**45.27**	**254**	*ceP*	**P**	**23 10 10.6**	**+0.8**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KURK	**Kurchatov**	**45.84**	**306**	*ceP*	**P**	**23 10 13.6**	**-0.4**	
KURK				pmax	pmax			
	comp=Z,48nm,1.2s							
KURK	**Kurchatov**	**45.84**	**306**	*eP*	**P**	**23 10 14.2**	**+0.1**	
	comp=Z,8.8nm,0.9s							
KURBB	**Kurchatov Arra**	**45.92**	**306**	P	**P**	**23 10 14.6**	**0.0**	
	comp=Z,8.7nm,1.0s,baz=78,slow=8.6,SNR=35							
EGAK	**Eagle**	**47.10**	**34**	*eP*	**P**	**23 10 25.2**	**+1.5**	
	comp=Z,15nm,1.4s							
HYT	**Haines Junctio**	**49.46**	**39**	*eP*	**P**	**23 10 44.0**	**+1.9**	
	comp=Z,22nm,1.1s							
INK	**Inuvik**	**49.59**	**29**	P	**P**	**23 10 43.1**	**+0.3**	
	comp=Z,2.2nm,0.9s,baz=282,slow=6.8,SNR=7.3							
INK	**Inuvik**	**49.59**	**29**	*eP*	**P**	**23 10 43.8**	**+1.0**	
	comp=Z,12nm,1.6s							
BVAR	**Borovoye Array**	**50.10**	**311**	P	**P**	**23 10 47.6**	**+0.6**	
	comp=Z,2.6nm,0.8s,baz=80,slow=8.9,SNR=12							
BRVK	**Borovoye**	**50.15**	**311**	*ceP*	**P**	**23 10 48.2**	**+0.9**	
BRVK				pmax	pmax			
	comp=Z,27nm,1.7s							
AAK	**Ala-Archa**	**51.19**	**297**	*eP*	**P**	**23 10 53.8**	**-1.7**	
AAK				pmax	pmax			
	comp=Z,3.0nm,1.3s							
AAK	**Ala-Archa**	**51.19**	**297**	*eP*	**P**	**23 10 55.6**	**0.0**	
	comp=Z,2.9nm,1.2s							
KSH	**Kashi**	**51.46**	**293**	P	**P**	**23 11 01.3**	**+3.7**	
KSH				pP	sP	23 11 09.3	+5.7	
KSH				PcS	**PcS**	**23 16 12.4**	**+2.6**	
KSH				S	**S**	**23 18 18.6**	**+1.4**	
KSH				ScS	**ScS**	**23 20 46.6**	**-1.1**	
KSH				SS	**SS**	**23 21 52.5**	**-0.3**	
KSH				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KSH				pmax	pmax			
	comp=Z,91nm,5.5s							
KSH				LR	LR			
	comp=Z,98nm,6.3s							
KSH				LR	LR			
	comp=Z,86nm,6.9s							
KSH				LR	LR			
	comp=Z,170nm,14.5s							
KKAR	**Karatay Array**	**53.66**	**299**	*eP*	**P**	**23 11 13.5**	**-0.2**	
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KKAR	**Karatay Array**	**53.66**	**299**	*eP*	**P**	**23 11 13.4**	**-0.2**	
	comp=Z,1.5nm,0.6s							
ARU	**Arti**	**55.33**	**318**	*d iP*	**P**	**23 11 25.6**	**0.0**	
ARU						23 12 24.6		
ARU						23 13 26.2		
ARU				S	**S**	**23 19 12.6**	**+3.5**	
ARU				SS	**SS**	**23 22 50.8**	**-2.1**	
ARU				pmax	pmax			
	comp=Z,14nm,1.7s							
ARU	**Arti**	**55.33**	**318**	*eP*	**P**	**23 11 26.0**	**+0.4**	
	comp=Z,10nm,1.2s							
ABKAR	**Akbulak array**	**57.61**	**309**	*eP*	**P**	**23 11 42.3**	**+0.4**	
	comp=Z,1.9nm,0.7s							
RES	**Resolute Bay**	**58.07**	**16**	*eP*	**P**	**23 11 45.2**	**+0.5**	
RES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
RES	**Resolute Bay**	**58.07**	**16**	*eP*	**P**	**23 11 45.2**	**+0.5**	
	comp=Z,4.4nm,0.8s							
AKTO	**Aktyubinsk**	**58.19**	**311**	P	**P**	**23 11 46.0**	**+0.1**	
	comp=Z,1.6nm,1.0s,baz=71,slow=11,SNR=4.1							
KBL	**Kabul**	**58.69**	**290**	*eP*	**P**	**23 11 49.1**	**-0.9**	
KBL				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KBL	**Kabul**	**58.69**	**290**	*eP*	**P**	**23 11 49.1**	**-0.9**	
	comp=Z,8.9nm,1.1s							
YKA	**Yellowknife Ar**	**58.98**	**32**	P	**P**	**23 11 51.7**	**+0.4**	
	comp=Z,1.1nm,1.0s,baz=296,slow=6.9,SNR=11							
WRAB	**Tennant Creek**	**61.40**	**191**	P	**P**	**23 12 08.7**	**+0.4**	
WRAB				pmax	pmax			
	comp=Z,22nm,1.6s							
WRAB	**Tennant Creek**	**61.40**	**191**	P	**P**	**23 12 08.7**	**+0.4**	
	comp=Z,22nm,1.6s							
WRA	**Warramunga Arr**	**61.41**	**191**	P	**P**	**23 12 07.3**	**-1.1**	
	comp=Z,4.8nm,1.0s,baz=8.0,slow=6.7,SNR=18							
KLMR	**Klimovskoe**	**61.95**	**328**	*eP*	**P**	**23 12 09.6**	**-2.0**	
KLMR				pmax	pmax			
	comp=Z,15nm,1.5s							
KLMR	**Klimovskoe**	**61.95**	**328**	*eP*	**P**	**23 12 09.7**	**-1.9**	
KLMR				AMP		23 12 12.7		
	comp=Z,15nm,1.5s							
GEYT	**Alibeck**	**64.42**	**299**	P	**P**	**23 12 28.8**	**+0.4**	
	comp=Z,2.8nm,0.8s,baz=29,slow=3.4,SNR=10							
ASAR	**Alice Springs**	**65.13**	**191**	P	**P**	**23 12 33.0**	**0.0**	
	comp=Z,1.0nm,0.6s,baz=8.0,slow=6.3,SNR=8.0							
VRH	**Novokhopyorsk**	**66.56**	**318**	*eP*	**P**	**23 12 41.1**	**-0.8**	
VRH				pmax	pmax			
	comp=Z,8.0nm,1.0s							
OBN	**Obninsk**	**66.63**	**324**	⇑*iP*	**P**	**23 12 42.5**	**+0.2**	
OBN				S	**S**	**23 21 34.0**	**+1.0**	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.6s							
OBN				MLR	MLR			
	comp=Z,285nm,18.0s							
FINES	**FINESS Array B**	**66.64**	**333**	P	**P**	**23 12 42.5**	**+0.2**	
	comp=Z,4.0nm,0.9s,baz=69,slow=6.3,SNR=7.8							
LPSR	**Galich'ya Gora**	**67.09**	**320**	*eP*	**P**	**23 12 45.3**	**0.0**	
LPSR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
VSR	**Storozhevoye**	**67.83**	**319**	*eP*	**P**	**23 12 49.8**	**-0.2**	
VSR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
NCK	**Nalchik**	**70.22**	**311**	*eP*	**P**	**23 13 05.8**	**+0.8**	
NCK				pmax	pmax			
	comp=Z,11nm,1.1s							
KIV	**Kislovodsk**	**70.45**	**312**	*eP*	**P**	**23 13 07.6**	**+1.1**	
KIV				pmax	pmax			
	comp=Z,25nm,1.1s							
KIV	**Kislovodsk**	**70.45**	**312**	*eP*	**P**	**23 13 07.9**	**+1.4**	
	comp=Z,16nm,0.9s							
KBZ	**Khabaz**	**70.47**	**311**	P	**P**	**23 13 07.5**	**+0.9**	
	comp=Z,8.2nm,0.9s,baz=66,slow=5.2,SNR=11							
NB2	**NORSAR Subarra**	**71.62**	**338**	P	**P**	**23 13 12.8**	**-0.5**	
	comp=Z,4.0nm,1.0s,baz=36,slow=6.2							
NOA	**NORSAR Array B**	**71.62**	**338**	P	**P**	**23 13 13.4**	**+0.1**	
	comp=Z,1.6nm,0.8s,baz=36,slow=6.0,SNR=4.2							
HFS	**Hagfors**		**71.64**	**337**	P	**P**	**23 13 13.4**	**0.0**
	comp=Z,1.4nm,0.6s,baz=72,slow=9.3,SNR=5.7							
AKASG	**Malin Array Be**	**72.89**	**323**	P	**P**	**23 13 20.4**	**-0.5**	
	comp=Z,3.8nm,0.9s,baz=41,slow=6.5,SNR=17							
KIEV	**Kiev**	**72.90**	**323**	*eP*	**P**	**23 13 21.0**	**0.0**	
KIEV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PDAR	**Pinedale Array**	**72.91**	**48**	P	**P**	**23 13 21.5**	**-0.1**	
	comp=Z,0.3nm,0.7s,baz=270,slow=0.6,SNR=5.3							
PDAR	**Pinedale Array**	**72.91**	**48**	*eP*	**P**	**23 13 21.2**	**-0.4**	
UOSS	**Minazif**	**73.28**	**289**	*eP*	**P**	**23 13 23.7**	**0.0**	
MTPU	**Mount Pierson**	**74.41**	**53**	*eP*	**P**	**23 13 31.4**	**+0.8**	
BUR08	**Bucovina Ar. S**	**76.92**	**323**	*eP*	**P**	**23 13 45.3**	**+0.8**	
BUR04	**Bucovina Ar. S**	**76.94**	**323**	*eP*	**P**	**23 13 44.3**	**-0.3**	
BURAR	**Bucovina Array**	**76.94**	**323**	⇓*iP*	**P**	**23 13 45.2**	**+0.6**	
CFR	**Carcaliu**	**77.33**	**320**	⇓*iP*	**P**	**23 13 47.7**	**+1.0**	
DOPR	**Dopca**	**78.08**	**322**	⇓*iP*	**P**	**23 13 52.9**	**+2.0**	
ISR	**Istrita**	**78.15**	**321**	⇓*iP*	**P**	**23 13 51.8**	**+0.5**	
BRTR	**Keskin Array B**	**78.31**	**313**	P	**P**	**23 13 53.0**	**+0.5**	
	comp=Z,1.3nm,0.9s,baz=64,slow=2.9,SNR=5.2							
MORC	**Moravsky Berou**	**78.56**	**328**	⇑*iP*	**P**	**23 13 54.6**	**+1.1**	
MORC	**Moravsky Berou**	**78.56**	**328**	*eP*	**P**	**23 13 54.1**	**+0.6**	
MORC	**Moravsky Berou**	**78.56**	**328**	*eP*	**P**	**23 13 54.1**	**+0.6**	
UPC	**Upice**	**78.58**	**330**	*eP*	**P**	**23 13 54.5**	**+1.0**	
UPC	**Upice**	**78.58**	**330**	*eP*	**P**	**23 13 54.5**	**+1.0**	
DPC	**Dobruska-Polom**	**78.58**	**329**	*eP*	**P**	**23 13 54.6**	**+1.0**	
DPC				ePCP	**PcP**	**23 14 04.6**	**+2.0**	
DPC	**Dobruska-Polom**	**78.58**	**329**	*eP*	**P**	**23 13 54.6**	**+1.0**	
DPC				*e*		23 14 04.6		
VOIR			**78.63**	**322**	⇓*iP*	**P**	**23 13 54.7**	**+0.7**
BR231	**Keskin MP Arra**	**78.71**	**313**	*eP*	**P**	**23 13 53.6**	**-1.0**	
ARR	**Arges**	**78.88**	**322**	⇓*iP*	**P**	**23 13 57.0**	**+1.6**	
CLL	**Collm**	**79.04**	**332**	⇑*iP*	**P**	**23 13 56.4**	**+0.3**	
CLL				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CLL	**Collm**	**79.04**	**332**	⇑*iP*	**P**	**23 13 56.4**	**+0.3**	
	comp=Z,10.0nm,1.2s							
VYHS	**Vyhne**	**79.04**	**327**	*eP*	**P**	**23 13 57.2**	**+1.0**	
VYHS				pmax	pmax			
	comp=Z,12nm,1.9s							
VYHS	**Vyhne**	**79.04**	**327**	*eP*	**P**	**23 13 57.2**	**+1.0**	
BRG	**Berggiesshubel**	**79.06**	**331**	*eP*	**P**	**23 13 56.7**	**+0.6**	
	comp=Z,4.9nm,1.2s							
BRG	**Berggiesshubel**	**79.06**	**331**	*eP*	**P**	**23 13 56.7**	**+0.6**	
BRG				pmax	pmax			
	comp=Z,5.0nm,1.2s							
VRAC	**Vranov**	**79.31**	**329**	⇓*iP*	**P**	**23 13 58.6**	**+1.0**	
GOPC	**GO Pecny, Ondr**	**79.52**	**330**	*eP*	**P**	**23 13 59.3**	**+0.6**	
GOPC	**GO Pecny, Ondr**	**79.52**	**330**	*eP*	**P**	**23 13 59.3**	**+0.6**	
PRU	**Pruhonice**	**79.55**	**330**	*eP*	**P**	**23 13 59.7**	**+0.8**	
PRU	**Pruhonice**	**79.55**	**330**	*eP*	**P**	**23 13 59.7**	**+0.8**	
MODS	**Modra-Piesok**	**79.78**	**328**	*eP*	**P**	**23 14 01.8**	**+1.6**	
MODS	**Modra-Piesok**	**79.78**	**328**	*eP*	**P**	**23 14 01.8**	**+1.6**	
ANMO	**Albuquerque**	**79.91**	**52**	*eP*	**P**	**23 14 01.7**	**+0.3**	
ANMO				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BZS	**Buzias**	**80.07**	**324**	⇓*iP*	**P**	**23 14 02.0**	**+0.2**	
KHC	**Kasperske Hory**	**80.62**	**330**	*eP*	**P**	**23 14 05.6**	**+0.9**	
KHC				*ep*P	**PcP**	**23 14 11.8**	**+0.3**	
KHC	**Kasperske Hory**	**80.62**	**330**	*eP*	**P**	**23 14 05.6**	**+0.9**	
KHC				*e*		23 14 11.8		
CONA	**Conrad Observa**	**80.70**	**328**	*i* pP	**P**	**23 14 06.7**	**+1.5**	
	comp=Z,11nm,1.6s							
GERES	**GERESS Array B**	**80.80**	**330**	P	**P**	**23 14 06.0**	**+0.2**	
	comp=Z,0.5nm,0.6s,baz=36,slow=3.4,SNR=6.8							
GERES				LR	LR	23 52 15.3		
	comp=Z,174nm,19.3s,baz=16,slow=37							
ARSA	**Arzberg**	**81.39**	**328**	*i* P	**P**	**23 14 07.2**	**-1.6**	
	comp=Z,2.8nm,0.9s							
MOA	**Molln**	**81.40**	**329**	*i* pP	**P**	**23 14 09.7**	**+0.9**	
	comp=Z,4.1nm,1.4s							
VTS	**Vitosha**	**81.64**	**321**	⇓*iP*	**P**	**23 14 11.3**	**+0.9**	
RAYN	**Ar Rayn**	**81.73**	**294**	*eP*	**P**	**23 14 11.4**	**+0.3**	
SOKA	**Soboth**	**82.05**	**328**	*i* P	**P**	**23 14 12.9**	**+0.5**	
	comp=Z,7.4nm,1.1s							
OBKA	**Obir**	**82.38**	**328**	*i* P	P	23 14 08.2	-5.9	
	comp=Z,4.5nm,1.1s							
KBA	**Koelnbreinsper**	**82.39**	**329**	*i* pP	**P**	**23 14 15.6**	**+1.3**	
	comp=Z,5.7nm,1.1s							
WATA	**Walderalm**	**82.85**	**330**	*i* pP	**P**	**23 14 17.4**	**+0.8**	
	comp=Z,1.3nm,0.5s							
WTTA	**Wattenberg**	**82.89**	**330**	*i* pP	**P**	**23 14 17.7**	**+0.8**	
	comp=Z,6.6nm,1.4s							
ABTA	**Abfaltersbach**	**82.98**	**329**	*i* P	**P**	**23 14 16.9**	**-0.4**	
	comp=Z,3.4nm,1.0s							
MOTA	**Moosalm**	**83.02**	**330**	*i* P	**P**	**23 14 18.2**	**+0.6**	
	comp=Z,4.1nm,0.8s							
RETA	**Reutte**	**83.03**	**331**	*i* pP	**P**	**23 14 18.4**	**+0.9**	
	comp=Z,4.4nm,1.0s							
FETA	**Feichten**	**83.44**	**330**	*i* P	**P**	**23 14 20.2**	**+0.5**	
	comp=Z,7.1nm,1.3s							
DAVA	**Damuels**	**83.53**	**331**	*i* P	**P**	**23 14 20.8**	**+0.6**	
	comp=Z,6.1nm,1.2s							
FUORN	**Ofenpass-Fuorn**	**83.94**	**331**	*eP*	**P**	**23 14 23.3**	**+0.9**	
SENIN	**Lac Senin/Sane**	**85.24**	**332**	*eP*	**P**	**23 14 29.4**	**+0.5**	
TX31	**Lajitas Ar. Si**	**85.50**	**55**	*eP*	**P**	**23 14 30.9**	**+0.5**	
TXAR	**Lajitas Array**	**85.50**	**55**	P	**P**	**23 14 29.4**	**-1.1**	
	comp=Z,0.7nm,0.8s,baz=295,slow=2.1,SNR=7.5							
TORD	**Torodi Ar. Bea**	**116.38**	**320**	PKP	**PKPdf**	**23 20 35.9**	**-0.4**	
	comp=Z,0.2nm,0.8s,baz=270,slow=1.4,SNR=2.6							

*SJA **14** 23:04:02.4±0.7,35°.00S×72°.88W,h30km, ML3.9, MW3.7*
*ISCJB **14** 23:04:08.1±0.8,35°.07S±0°.04×71°.92W±0°.08, h44km±8km, Error ellipse: s-maj=10.9km s-min=6.6km az=11.4*
*GUC **14** 23:04:08.3±0.5,35°.08S×71°.91W, h42km±1km, ML3.9*

ISC 14 23:04:08.7±1.2, 35°.08S±0°.04×71°.92W±0°.06, h34km±3km, n22, σ0.95/33, 5C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO05	**Hualaæø**	**0.07**	**353**	⇑*iP*		**Pb**		**23 04 14.9**	**+0.3**
GO05				*i* S		**Sb**		**23 04 19.8**	**+1.2**
GO05				IAML				23 04 21.0	
	comp=N,11μm,0.2s								
NICH	**Los Niches**	**0.57**	**82**	⇓*iP*		**Pn**		**23 04 19.3**	**-1.1**
NICH				*i* S		**Sn**		**23 04 28.1**	**-0.5**
CHPI	**Pichilemu**	**0.69**	**354**	⇑*iP*		**Pn**		**23 04 21.2**	**-0.9**
CHPI				*i* S		**Sn**		**23 04 32.1**	**+0.5**
CCHI	**Chillan**	**1.52**	**185**	*eP*		**Pn**		**23 04 32.9**	**-0.6**
CCHI				*eS*		**Sb**		**23 04 54.5**	**-0.8**
CCHI	**Chillan**	**1.52**	**185**	*eP*		**Pn**		**23 04 33.4**	**-0.1**
CCHI				*i* S		**Sn**		**23 04 52.7**	**+0.6**
CCHI				IAML				23 04 58.0	
	comp=N,2μm,0.2s								
ANTU	**Antumapu**	**1.85**	**36**	IAML				23 05 05.3	
	comp=E,3μm,0.5s								
LMEL	**Las Melosas**	**1.88**	**49**	⇓*iP*		**Pn**		**23 04 38.1**	**-0.5**
LMEL				⇑*iP*		**Pn**		**23 04 38.2**	**-0.3**
LMEL				*eS*		**Sn**		**23 05 01.6**	**+0.4**
LMEL				*i* S		**Sn**		**23 05 02.5**	**+1.4**
LMEL				IAML				23 05 10.1	
	comp=N,2μm,0.3s								
CLCH	**Cerro Calan**	**2.04**	**35**	⇑*iP*		**Pn**		**23 04 40.4**	**-0.2**
CLCH				*i* S		**Sn**		**23 05 05.2**	**+0.3**
CLCH				IAML				23 05 11.8	
	comp=E,1μm,0.1s								
PEL	**Peldehue**	**2.19**	**28**	⇑*iP*		**Pn**		**23 04 42.6**	**-0.1**
PEL				*i* S		**Sn**		**23 05 08.8**	**+0.1**
FCH	**Farellones**	**2.21**	**38**	IAML				23 05 16.8	
	comp=N,1μm,0.1s								
ROC1	**El Roble**	**2.23**	**20**	*eP*		**Pn**		**23 04 43.5**	**0.0**
ROC1				*eS*		**Sb**		**23 05 16.1**	**+0.1**
ROCH	**El Roble**	**2.24**	**20**	⇓*iP*		**Pn**		**23 04 43.2**	**-0.4**
ROCH				IAML				23 05 17.7	
	comp=N,2μm,0.6s								
RFA	**San Rafael**	**2.85**	**85**	*eP*		**Pn**		**23 04 52.6**	**+0.7**
RFA				*eS*		Sn		23 05 08.8	-16
AAGR	**Agrelo**	**3.25**	**53**	*eP*		**Pn**		**23 04 58.7**	**+1.3**
ARCO	**CERRO ARCO**	**3.34**	**49**	*eP*		**Pn**		**23 05 01.0**	**+2.3**
ARCO				IAML				23 05 19.0	
	comp=Z,211nm,0.6s								
AUSP	**Uspallata**	**3.55**	**37**	*eP*		**Pn**		**23 05 03.0**	**+1.3**
AUSP				*eS*		**Sb**		**23 05 52.8**	**-0.9**
ASAL	**Salagasta**	**3.57**	**47**	*eP*		**Pn**		**23 05 02.2**	**+0.4**
ASAL				*eS*		**Sb**		**23 05 52.2**	**-2.1**
RTLS	**Leoncito**	**3.94**	**35**	*eP*		**Pn**		**23 05 08.3**	**+1.2**
RTLS				IAML				23 05 14.4	
	comp=Z,98nm,0.5s								
RTCV	**Cerro Valdivia**	**4.28**	**42**	*eP*		**Pn**		**23 05 11.1**	**-0.4**
ACAN	**Cantantal**	**4.84**	**56**	*eP*		**Pn**		**23 05 19.6**	**+0.4**
AMOG	**MOGNA**	**5.04**	**36**	*eP*		**Pn**		**23 05 21.5**	**-0.5**
AGUA	**GUANDACOL**	**6.29**	**28**	*eP*		**Pn**		**23 05 38.0**	**-1.1**

DJA 14 23:08:50.5±1.4, 5°N±4°×96°E±°, h10km, M3.6/4, MLv3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.63**	**148**	P		Pg		23 09 02.9	+0.2
MLSI				S		Sb		23 09 12.1	-0.3
LHMI	**Lhok Sumawe**	**0.97**	**64**	P		Pg		23 09 08.6	-0.6
LHMI				S		Sb		23 09 22.9	+0.5
TPTI		**1.89**	**144**	P		Pn		23 09 23.2	+0.4
TPTI				S		Sn		23 09 47.7	+1.0
KCSI	**Kotacane, Aceh**	**2.12**	**127**	P		Pn		23 09 26.3	+0.3

IDC 14 23:15:32.0±1.4, 51°.02N×96°.06E, h0km, mb1 2.8/2, mb1mx2.6/73, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=38.4km s-min=12.5km az=174.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLY	**Talaya**	**4.80**	**79**	Pg		Pg	Pb	23 16 55.9	-1.1
	0.0nm,0.3s,baz=270,slow=15,SNR=6.3								
SONM	**Songino Array**	**7.45**	**111**	Pg		Pg	Pb	23 17 48.3	+6.0
	0.1nm,0.3s,baz=296,slow=18,SNR=5.0								
SONM				Lg		Lg	Lg	23 19 30.7	
	0.3nm,0.3s,baz=296,slow=30,SNR=5.4								
ZALV	**Zalesovo Beam**	**7.46**	**298**	Pn		Pn	Pn	23 17 23.1	+1.0
	0.1nm,0.3s,baz=114,slow=11,SNR=2.3								
ZALV				Sn		Sn	Sn	23 18 46.7	-0.7
	0.2nm,0.3s,baz=120,slow=23,SNR=3.8								
MKAR	**Makanchi Array**	**10.00**	**250**	Pn		Pn	Pn	23 17 57.3	+0.4
	0.1nm,0.3s,baz=65,slow=11,SNR=3.5								
MKAR				Lg		Lg	Lg	23 20 48.7	
	0.1nm,0.3s,baz=63,slow=31,SNR=4.4								

*IDC **14** 23:27:28.1±0.9, 40°.78N×145°.09E, h0km, mb3.7/16, mb1 3.8/18, mb1mx3.7/63, mbtmp3.7/18, ML2.8/2, Error ellipse: s-maj=22.3km s-min=20.1km az=76.0*
*JMA **14** 23:27:29.8±0.2, 40°.90N×145°.24E, h68km±3km, M4.0*
*ISCJB **14** 23:27:30.3±1.9, 40°.94N±0°.04×145°.03E±0°.05, h24km±14km, mb3.7/16, Error ellipse: s-maj=7.0km s-min=6.4km az=169.9*

ISC 14 23:27:29.3±3.7, 40°.91N±0°.05×144°.99E±0°.06, h7km±22km, n38, σ1.70/41, mb3.7/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.77**	**309**	P		**Pb**		**23 28 01.2**	**-0.9**
JEM				*eS*		**Sb**		**23 28 22.7**	**-1.7**
JCH	**Churui**	**2.10**	**325**	*eS*		**Sn**		**23 28 30.5**	**-0.6**
JAK	**Akkeshi**	**2.10**	**354**	P		**Pn**		**23 28 04.2**	**-0.6**
JAK				*eS*		**Sn**		**23 28 28.7**	**-2.5**
JNBK	**Urakawa-nobuka**	**2.17**	**310**	*eS*		**Sb**		**23 28 33.2**	**-2.8**
JOB	**Onbets**	**2.17**	**337**	*eS*		**Sn**		**23 28 32.6**	**-0.4**
NEM2	**Nemuro 2**	**2.52**	**13**	P		**Pn**		**23 28 09.0**	**-1.6**
NEM2				*eS*		**Sn**		**23 28 38.0**	**-3.5**
JAR	**Ashorobuto**	**2.56**	**340**	P		**Pn**		**23 28 10.6**	**-0.5**
JAR				*eS*		**Sn**		**23 28 40.0**	**-2.5**
JNK	**Nakash**	**2.68**	**356**	P		**Pn**		**23 28 11.4**	**-1.5**

JTKR				*e*S		**Sn**	**23 55 26.1**	**-1.1**
JEW	**Eniwo**	**3.24**	**308**	P		**Pn**	**23 54 52.1**	**+0.4**
JMK	**Ichinoseki**	**3.43**	**237**	P		**Pn**	**23 54 53.3**	**-1.1**
ASAJ	**Asahikawa**	**3.65**	**333**	Pn		**Pn**	**23 54 57.0**	**-0.3**
	1.4nm,0.3s,baz=141,slow=10,SNR=4.6							
ASAJ				Sn		**Sn**	**23 55 39.3**	**+0.1**
	1.3nm,0.3s,baz=37,slow=20,SNR=2.5							
USRK	**Ussuriysk Ar.**	**10.09**	**293**	Pn		**Pn**	**23 56 24.8**	**-1.0**
	0.2nm,0.3s,baz=105,slow=12,SNR=6.4							
KLR	**Kul'dur**	**12.48**	**316**	Pn		**Pn**	**23 56 59.4**	**+1.0**
	0.0nm,0.3s,baz=127,slow=17,SNR=4.7							
SEY	**Seymchan**	**22.52**	**9**	P		**P**	**23 58 59.9**	**+0.1**
	1.2nm,0.6s,baz=203,slow=9.4,SNR=8.8							
SONM	**Songino Array**	**28.17**	**297**	P		**P**	**23 59 53.5**	**+1.0**
	1.1nm,0.5s,baz=83,slow=8.6,SNR=13							
H11N2	**WAKE ISLAND Hy**	**28.23**	**132**	T		T	00 29 27.6	
	baz=324,slow=76,SNR=9.2							
H11N1	**WAKE ISLAND Hy**	**28.24**	**132**	T		T	00 29 28.9	
	baz=324,slow=76,SNR=6.8							
H11N3	**WAKE ISLAND Hy**	**28.25**	**132**	T		T	00 29 30.3	
	baz=324,slow=76,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**29.10**	**134**	T		T	00 30 31.0	
	baz=325,slow=76,SNR=10							
H11S3	**WAKE ISLAND Hy**	**29.10**	**134**	T		T	00 30 32.7	
	baz=325,slow=76,SNR=9.4							
H11S2	**WAKE ISLAND Hy**	**29.12**	**134**	T		T	00 30 33.1	
	baz=325,slow=76,SNR=8.2							
ZALV	**Zalesovo Beam**	**41.46**	**309**	P		**P**	**00 01 47.7**	**+1.2**
	0.5nm,0.5s,baz=81,slow=8.9,SNR=3.1							
MKAR	**Makanchi Array**	**44.49**	**299**	P		**P**	**00 02 12.2**	**+1.0**
	0.5nm,0.5s,baz=88,slow=10,SNR=9.2							
ILAR	**Eielson Array**	**44.78**	**34**	P		P	00 02 16.0	+2.8
	0.2nm,0.7s,baz=270,slow=6.3,SNR=3.3							
KURBB	**Kurchatov Arra**	**45.88**	**306**	P		**P**	**00 02 23.1**	**+1.1**
	1.4nm,0.6s,baz=77,slow=8.6,SNR=11							
BVAR	**Borovoye Array**	**50.07**	**311**	P		P	00 02 56.1	+1.7
	0.6nm,0.6s,baz=78,slow=9.0,SNR=5.9							
RES	**Resolute Bay**	**58.18**	**16**	P		P	00 03 54.7	+1.5
	0.7nm,0.5s,baz=338,slow=6.5,SNR=4.9							
YKA	**Yellowknife Ar**	**59.10**	**32**	P		P	00 04 01.4	+1.6
	0.1nm,0.8s,baz=298,slow=5.5,SNR=2.7							
WRA	**Warramunga Arr**	**61.31**	**191**	P		**P**	**00 04 15.4**	**+0.1**
	1.4nm,0.9s,baz=10,slow=7.0,SNR=4.7							
FINES	**FINESS Array B**	**66.66**	**333**	P		**P**	**00 04 50.4**	**+0.4**
	3.8nm,1.2s,baz=57,slow=7.0,SNR=5.3							
STKA	**Stephens Creek**	**72.47**	**183**	P		P	00 05 29.9	+3.8
	5.3nm,1.1s,baz=32,slow=5.1,SNR=3.1							
AKASG	**Malin Array Be**	**72.89**	**323**	P		**P**	**00 05 29.3**	**+0.8**
	0.2nm,0.3s,baz=46,slow=6.3,SNR=3.2							

*ISCJB **14** 23:57:50.2±0.5, 39.°05N±0.°02×29.°59E±0.°03, h3km±5km, Error ellipse: s-maj=4.2km s-min=3.8km az=26.6*
*CSEM **14** 23:57:50.4±0.1, 39.°06N×29.°58E, h0km±1km, ML2.5, Error ellipse: s-maj=1.6km s-min=1.4km az=10.0*
*DDA **14** 23:57:50.2, 39.°04N×29.°57E, h8km, Ml2.5*
*ISK **14** 23:57:50.1, 39.°08N×29.°56E, h5km, ML2.0/6*

ISC 14 23:57:50.2±0.9, 39.°07N±0.°02×29.°56E±0.°02, h8km±6km, n34, σ0=85/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GDZ	**Gediz**	**0.06**	**291**	*i* P	**Pg**	**23**	**57 52.2**	**0.0**
GDZ				*i* S	**Sg**	**23**	**57 54.0**	**+0.3**
GDZ	**Gediz**	**0.06**	**291**	P	**Pg**	**23**	**57 52.2**	**0.0**
GDZ				S	**Sg**	**23**	**57 54.0**	**+0.3**
TVSB	**Tavsanli**	**0.39**	**349**	PG	**Pg**	**23**	**57 57.9**	**0.0**
TVSB				SG	**Sg**	**23**	**58 03.3**	**+0.3**
TVSB	**Tavsanli**	**0.39**	**349**	*e*Pg	**Pg**	**23**	**57 57.9**	**0.0**
TVSB				*e*Sg	**Sg**	**23**	**58 03.3**	**+0.3**
SIMA	**Simav-Kutahya**	**0.45**	**272**	PG	**Pb**	**23**	**57 59.9**	**-0.5**
SIMA				SG	**Sg**	**23**	**58 05.9**	**+1.1**
SIMA	**Simav-Kutahya**	**0.45**	**272**	*e*Pg	**Pb**	**23**	**57 59.9**	**-0.5**
SIMA				*e*Sg	**Sg**	**23**	**58 05.9**	**+1.1**
DEMI	**Demirci**	**0.66**	**268**	*i* P	**Pb**	**23**	**58 03.8**	**-0.1**
DEMI				*i* S	**Sg**	**23**	**58 06.2**	**-5.3**
DEMI	**Demirci**	**0.66**	**268**	P	**Pb**	**23**	**58 03.8**	**-0.1**
KHAL	**Karahalli**	**0.70**	**184**	*i* P	**Pg**	**23**	**58 04.1**	**+0.5**
KHAL				*i* S	**Sg**	**23**	**58 12.7**	**0.0**
KHAL	**Karahalli**	**0.70**	**184**	P	**Pg**	**23**	**58 04.1**	**+0.5**
KHAL				S	**Sg**	**23**	**58 12.7**	**0.0**
KULA	**Kula-Manisa**	**0.89**	**232**	PG	**Pg**	**23**	**58 07.5**	**+0.2**
KULA				SG	**Sb**	**23**	**58 19.8**	**-0.2**
KULA	**Kula-Manisa**	**0.89**	**232**	*e*Pg	**Pg**	**23**	**58 07.5**	**+0.2**
KULA				*e*Sg	**Sb**	**23**	**58 19.8**	**-0.2**
KZIL	**AFYON_Kizioren**	**0.93**	**150**	*i* P	**Pg**	**23**	**58 08.3**	**+0.3**
KZIL				*i* S	**Sg**	**23**	**58 20.5**	**+0.4**
KZIL	**AFYON_Kizioren**	**0.93**	**150**	P	**Pg**	**23**	**58 08.3**	**+0.3**
KZIL				S	**Sg**	**23**	**58 20.5**	**+0.4**
SHUT	**Suhut-Afyon**	**0.93**	**123**	PG	**Pg**	**23**	**58 08.2**	**+0.1**
SHUT	**Suhut-Afyon**	**0.93**	**123**	*e*Pg	**Pg**	**23**	**58 08.2**	**+0.1**
MANT	**Manisa**	**0.97**	**234**	*i* P	**Pg**	**23**	**58 08.9**	**+0.1**
MANT				*i* S	**Sg**	**23**	**58 21.0**	**-0.4**
MANT	**Manisa**	**0.97**	**234**	P	**Pg**	**23**	**58 08.9**	**+0.1**
MANT				S	**Sg**	**23**	**58 21.0**	**-0.4**
BORA	**Eskisehir**	**1.07**	**40**	*i* P	**Pg**	**23**	**58 10.6**	**-0.1**
BORA				*i* S	**Sg**	**23**	**58 23.9**	**-0.7**
BORA	**Eskisehir**	**1.07**	**40**	P	**Pg**	**23**	**58 10.6**	**-0.1**
BORA				S	**Sg**	**23**	**58 23.9**	**-0.7**
BOLV	**Bolvadin**	**1.14**	**107**	*i* P	**Pg**	**23**	**58 12.0**	**-0.1**
BOLV				*i* S	**Sg**	**23**	**58 27.0**	**+0.1**
BOLV	**Bolvadin**	**1.14**	**107**	P	**Pg**	**23**	**58 12.0**	**-0.1**
BOLV				S	**Sg**	**23**	**58 27.0**	**+0.1**
ADVT	**Abdulvahap**	**1.37**	**6**	PN	**Pg**	**23**	**58 16.9**	**+0.4**
ADVT	**Abdulvahap**	**1.37**	**6**	*e*Pn	**Pg**	**23**	**58 16.9**	**+0.4**
AKHS	**Akhisar**	**1.37**	**263**	*i* P	**Pg**	**23**	**58 16.6**	**+0.1**
AKHS				*i* S	**Sg**	**23**	**58 34.8**	**+0.5**
AKHS	**Akhisar**	**1.37**	**263**	P	**Pg**	**23**	**58 16.6**	**+0.1**
AKHS				S	**Sg**	**23**	**58 34.8**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.40**	**338**	PN	**Pg**	**23**	**58 17.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.40**	**338**	*e*Pn	**Pg**	**23**	**58 17.3**	**+0.2**
BALB	**Balikesir**	**1.42**	**294**	PN	**Pg**	**23**	**58 17.8**	**+0.4**
BALB	**Balikesir**	**1.42**	**294**	*e*Pn	**Pg**	**23**	**58 17.8**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.46**	**283**	*i* P	**Pg**	**23**	**58 18.6**	**+0.4**
STEP				*i* S	**Sg**	**23**	**58 38.5**	**+1.3**
STEP	**BALIKESIR_Sava**	**1.46**	**283**	P	**Pg**	**23**	**58 18.6**	**+0.4**
STEP				S	**Sg**	**23**	**58 38.5**	**+1.3**
GULT	**Gulveren**	**1.55**	**28**	PN	**Pb**	**23**	**58 19.4**	**+0.2**
GULT	**Gulveren**	**1.55**	**28**	*e*Pn	**Pb**	**23**	**58 19.4**	**+0.2**

IDC 15 00:00:39.4±1.2, 10.°35N×93.°65E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.5/64, mbtmp3.7/8, Error ellipse: s-maj=49.7km s-min=20.0km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MKAR	**Makanchi Array**	**37.59**	**347**	P		00	07 55.4	-0.3
	0.6nm,0.8s,baz=160,slow=7.4,SNR=6.2							
SONM	**Songino Array**	**38.88**	**14**	P		00	08 06.7	+0.1
	0.7nm,1.0s,baz=179,slow=6.5,SNR=4.1							
GEYT	**Alibeck**	**42.06**	**317**	P		00	08 34.7	+1.6
	1.4nm,0.4s,baz=182,slow=10,SNR=6.9							
ZALV	**Zalesovo Beam**	**44.06**	**352**	P		00	08 48.6	-0.3
	0.5nm,0.3s,baz=168,slow=9.0,SNR=5.8							
WRA	**Warramunga Arr**	**50.10**	**127**	P		00	09 36.6	-0.1
	0.8nm,0.6s,baz=306,slow=8.8,SNR=6.3							
ASAR	**Alice Springs**	**51.88**	**131**	P		00	09 50.0	0.0
	0.7nm,0.8s,baz=325,slow=8.1,SNR=5.3							
BRTR	**Keskin Array B**	**60.47**	**310**	P		00	10 50.0	-1.4
	0.9nm,0.7s,baz=125,slow=7.7,SNR=4.4							
ARCES	**ARCESS Array B**	**72.79**	**340**	P		00	12 09.2	-0.2
	1.1nm,0.8s,baz=92,slow=8.3,SNR=3.0							

*ISCJB **15** 00:09:09.8±0.8, 39.°13N±0.°03×144.°26E±0.°02, h5km±5km, mb4.7/152, MS4.1/23, Error ellipse: s-maj=4.6km s-min=2.8km az=159.6*
*IDC **15** 00:09:09.4±0.5, 38.°95N×144.°45E, h0km, mb4.5/30, mb1 4.6/37, mb1mx4.5/67, mbtmp4.5/37, ML4.2/7, MS3.7/18, Ms1 3.8/18, ms1mx3.5/65, Error ellipse: s-maj=13.9km s-min=12.4km az=131.0*
*BJI **15** 00:09:11.2, 39.°18N×144.°08E, h8km, mb4.6/60, mB4.9/45, Ms4.3/41, MS7 4.1/40*
*NEIC **15** 00:09:13.6±1.1, 38.°99N×144.°31E, h25km±8km, mb4.7/78, Error ellipse: s-maj=4.9km s-min=3.4km az=146.0*
NEIC Recorded [1 JMA] in Miyagi.
*JMA **15** 00:09:13.9±0.2, 39.°09N×144.°23E, h50km, M4.6*
JMA Felt I J1.
*MOS **15** 00:09:14.9±0.9, 39.°34N×144.°19E, h33km, mb4.9/67, Error ellipse: s-maj=7.0km s-min=4.0km az=110.7*

ISC 15 00:09:13.4±0.8, 39.°12N±0.°04×144.°40E±0.°04, h23km±4km, n396, σ1=51/443, mb4.8/160, MS4.1/23, 16C-40D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MIYJ	**Miyakonagasawa**	**2.05**	**284**	P	**Pn**	**00**	**09 45.2**	**-1.2**
MIYJ				S	**Sn**	**00**	**10 08.3**	**-3.0**
JTH	**Tanohata**	**2.12**	**293**	P	**Pn**	**00**	**09 46.2**	**-1.2**
JTH				S	**Sn**	**00**	**10 11.2**	**-1.8**
OFUJ	**Ofunato**	**2.12**	**270**	P	**Pn**	**00**	**09 45.9**	**-1.5**
OFUJ				S	**Sn**	**00**	**10 09.2**	**-3.9**
JOM	**Ohasama**	**2.43**	**279**	P	**Pn**	**00**	**09 50.9**	**-0.8**
JOM				S	**Sn**	**00**	**10 18.1**	**-2.7**
JMK	**Ichinoseki**	**2.48**	**267**	P	**Pn**	**00**	**09 51.1**	**-1.2**
JMK				S	**Sn**	**00**	**10 18.4**	**-3.5**
JANG	**Nango**	**2.55**	**300**	P	**Pn**	**00**	**09 52.0**	**-1.3**
JANG				*e*S	**Sn**	**00**	**10 19.9**	**-3.7**
ERM	**Erimo**	**3.04**	**342**	*ce*P	**Pn**	**00**	**09 59.7**	**-0.3**
ERM				pmax	pmax			
	comp=Z,75nm,0.7s							
ERM	**Erimo**	**3.04**	**342**	*e*Pn	**Pn**	**00**	**10 00.1**	**+0.1**
ERM				*e*S	**Sn**	**00**	**10 33.8**	**-1.9**
JYK	**Kaneyama**	**3.15**	**268**	P	**Pn**	**00**	**10 00.7**	**-0.9**
JYK				S	**Sn**	**00**	**10 37.2**	**-1.3**
JNBK	**Urakawa-nobuka**	**3.39**	**339**	P	**Pn**	**00**	**10 04.7**	**-0.2**
JNBK				S	**Sn**	**00**	**10 43.2**	**-1.2**
JOT	**Ohata**	**3.41**	**312**	P	**Pn**	**00**	**10 04.6**	**-0.6**
JOT				*e*S	**Sn**	**00**	**10 42.1**	**-2.8**
JFT	**Otama**	**3.57**	**245**	P	**Pn**	**00**	**10 05.9**	**-1.5**
JFT				S	**Sn**	**00**	**10 44.9**	**-4.0**
JCH	**Churui**	**3.57**	**348**	P	**Pn**	**00**	**10 06.2**	**-1.2**
JCH				*e*S	**Sn**	**00**	**10 45.8**	**-3.1**
JKB	**Kayabe**	**3.77**	**318**	P	**Pn**	**00**	**10 09.9**	**-0.1**
JAK	**Akkeshi**	**3.88**	**3**	P	**Pn**	**00**	**10 10.3**	**-1.2**
JAK				S	**Sn**	**00**	**10 53.6**	**-2.7**
NEM2	**Nemuro 2**	**4.36**	**13**	P	**Pn**	**00**	**10 16.1**	**-2.0**
NEM2				*e*S	**Sn**	**00**	**11 03.9**	**-4.3**
JOSM	**Okushiri--Mats**	**4.77**	**310**	P	**Pn**	**00**	**10 24.1**	**+0.3**
JTKR	**Abashiri--Toko**	**4.86**	**356**	P	**Pn**	**00**	**10 24.3**	**-0.7**
JTKR				*e*S	**Sn**	**00**	**11 16.8**	**-3.7**
YUK	**Yuzh-Kuril'sk**	**5.03**	**12**	*d* iP	**Pn**	**00**	**10 26.3**	**-1.1**
YUK				*i* S	**Sn**	**00**	**11 20.3**	**-4.4**
YUK				pmax	pmax			
	comp=Z,344nm,0.3s							
YUK				pmax	pmax			
	comp=E,137nm,0.1s							
YUK				pmax	pmax			
	comp=N,120nm,0.2s							
SHO	**Shikotan**	**5.08**	**20**	*d* iP	**Pn**	**00**	**10 25.5**	**-2.6**
SHO				*i* S	**Sn**	**00**	**11 20.0**	**-6.0**
SHO				pmax	pmax			
	comp=Z,237nm,0.4s							
SHO				pmax	pmax			
	comp=N,126nm,0.3s							
SHO				pmax	pmax			
	comp=E,91nm,0.4s							
ASAJ	**Asahikawa**	**5.17**	**345**	Pn	**Pn**	**00**	**10 29.3**	**0.0**
	comp=E,8.4nm,0.3s,baz=202,slow=11,SNR=26							
ASAJ				Sn	**Sn**	**00**	**11 27.0**	**-1.2**
	comp=E,8.1nm,0.3s,baz=338,slow=8.6,SNR=7.8							
ASAJ	**Asahikawa**	**5.17**	**345**	*e*Pn	**Pn**	**00**	**10 29.5**	**+0.2**
ASAJ				*e*S	**Sn**	**00**	**11 24.8**	**-3.4**
BSO1	**Boso 1**	**5.24**	**213**	P	**Pn**	**00**	**10 26.4**	**-3.4**
JRY	**Ryogami san**	**5.35**	**236**	P	**Pn**	**00**	**10 29.4**	**-2.5**
JRY				S	**Sn**	**00**	**11 26.6**	**-6.3**
MAJO	**Matsushiro**	**5.53**	**244**	*e*P	**Pn**	**00**	**10 33.8**	**-0.6**
MAJO	**Matsushiro**	**5.53**	**244**	*e*Pn	**Pn**	**00**	**10 33.8**	**-0.6**
MAJO				*e*S	Sn	00	11 28.4	-8.9
MJAR	**Matsushiro Arr**	**5.53**	**244**	Pn	**Pn**	**00**	**10 34.1**	**-0.3**
	comp=E,32nm,0.3s,baz=64,slow=11,SNR=116							
MJAR				Sn	**Sn**	**00**	**11 38.6**	**+1.3**
	comp=E,9.1nm,0.3s,baz=49,slow=23,SNR=5.3							
MJAR				LR	LR	00	12 58.8	
	comp=E,676nm,19.3s,baz=70,slow=42							
MAT	**Matsushiro**	**5.54**	**244**	P	**Pn**	**00**	**10 34.1**	**-0.3**
MAT				*e*S	**Sn**	**00**	**11 35.6**	**-1.7**
MJB9	**Matsu-Tunnel**	**5.54**	**244**	*e*Pn	**Pn**	**00**	**10 34.2**	**-0.2**
JOD2	**Odawara 2**	**5.73**	**229**	P	**Pn**	**00**	**10 34.6**	**-2.4**
JOD2				S	Sn	00	11 34.2	-7.8
KUR	**Kuril'sk**	**6.63**	**22**	*d* iP	**Pn**	**00**	**10 48.0**	**-1.3**
KUR				*i* S	**Sn**	**00**	**11 58.8**	**-5.3**
KUR				pmax	pmax			
	comp=N,27nm,0.3s							
KUR				pmax	pmax			
	comp=Z,141nm,0.3s							
KUR				pmax	pmax			
	comp=E,36nm,0.4s							
KUR				smax	smax			
	comp=E,298nm,0.6s							
KUR				smax	smax			
	comp=N,188nm,0.7s							
KUR				MLR	MLR			
	comp=Z,1μm,4.0s							
INU	**Inuyama**	**6.99**	**240**	*e*Pn	**Pn**	**00**	**10 53.4**	**-0.9**
JHJ2	**Mitsune**	**7.05**	**213**	Pn	**Pn**	**00**	**10 52.3**	**-2.9**
JHJ2				*e*S	Sn	00	12 05.5	-9.1
JHJ	**Hachijo jima 2**	**7.06**	**213**	Pn	**Pn**	**00**	**10 52.5**	**-2.8**
	comp=Z,48nm,0.3s,baz=90,slow=20,SNR=4.0							
JHJ				Sn	Sn	00	12 04.8	-10
	comp=Z,70nm,0.3s,baz=77,slow=19,SNR=6.5							
YSS	**Yuzh-Sakhalins**	**7.92**	**352**	*e*P	**Pn**	**00**	**11 07.4**	**+0.4**
YSS				*e*S	**Sn**	**00**	**12 32.3**	**-3.5**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s							
YSS				smax	smax			
	comp=E,40nm,0.7s							
YSS				MLR	MLR			
	comp=Z,600nm,13.0s							
YSS	**Yuzh-Sakhalins**	**7.92**	**352**	*e*Pn	**Pn**	**00**	**11 09.2**	**+2.2**
	comp=Z,12nm,0.4s							
TEY	**Ternei**	**8.27**	**318**	*e*P	**Pn**	**00**	**11 12.0**	**+0.1**
TEY				pmax	pmax			
	comp=N,33nm,0.9s							
TEY				pmax	pmax			
	comp=Z,40nm,0.9s							
VLA	**Vladivostok**	**10.25**	**297**	*e*P	**Pn**	**00**	**11 38.6**	**-0.4**
VLA				pmax	pmax			
	comp=Z,24nm,0.9s							
USRK	**Ussuriysk Ar.**	**10.57**	**303**	Pn	**Pn**	**00**	**11 45.1**	**+1.7**
	comp=Z,4.0nm,0.3s,baz=102,slow=12,SNR=37							
USRK				LR	LR	00	15 35.8	
	comp=Z,321nm,19.4s,baz=91,slow=36							
TYV	**Tymovskoe**	**11.80**	**355**	*e*P	**Pn**	**00**	**11 58.6**	**-1.6**
TYV				*e*S	**Sn**	**00**	**14 02.2**	**-8.9**
TYV				pmax	pmax			
	comp=Z,12nm,0.9s							
TYV				smax	smax			
	comp=E,4.0nm,0.6s							
CBIJ	**Chichi jima**	**12.14**	**189**	Pn	Pn	00	12 01.0	-3.9
CBIJ				*e*S	Sn	00	14 02.8	-17
JCJ	**Chichijima**	**12.14**	**189**	Pn	Pn	00	12 00.7	-4.3
	comp=E,10nm,0.3s,baz=78,slow=23,SNR=5.0							
JCJ				Sn	Sn	00	14 03.9	-16
	comp=E,14nm,0.3s,baz=238,slow=23,SNR=5.7							
MDJ	**Mudanjiang**	**12.32**	**301**	P	**Pn**	**00**	**12 06.6**	**-0.7**
MDJ				sP	P	00	12 11.1	-8.2
MDJ				pmax	pmax			
	comp=E,52nm,1.0s							
MDJ				pmax	pmax			
	comp=E,370nm,3.7s							
MDJ				LR	LR			
	comp=E,650nm,15.5s							
MDJ				LR	LR			
	comp=E,760nm,16.3s							
MDJ				LR	LR			
	comp=E,1μm,17.9s							
MDJ	**Mudanjiang**	**12.32**	**301**	*e*Pn	**Pn**	**00**	**12 08.0**	**+0.7**
JNU	**Nakatsue**	**12.46**	**245**	Pn	**Pn**	**00**	**12 06.9**	**-2.4**
	comp=E,0.3nm,0.3s,baz=49,slow=9.1,SNR=4.0							
JNU				LR	LR	00	17 10.6	
	comp=E,658nm,20.9s,baz=60,slow=39							
JNU	**Nakatsue**	**12.46**	**245**	*e*Pn	**Pn**	**00**	**12 07.9**	**-1.4**
KSRS	**Korea Array**	**13.05**	**268**	Pn	**Pn**	**00**	**12 18.2**	**+0.9**
	comp=E,0.8nm,0.3s,baz=83,slow=12,SNR=8.1							
KSRS				LR	LR	00	16 49.7	
	comp=E,147nm,20.0s,baz=16,slow=35							
KSAR	**Wonju Array Be**	**13.08**	**268**	P	**Pn**	**00**	**12 18.3**	**+0.5**
KSAR	**Wonju Array Be**	**13.08**	**268**	Pn	**Pn**	**00**	**12 18.2**	**+0.5**
KLR	**Kul'dur**	**13.56**	**322**	Pn	**Pn**	**00**	**12 23.0**	**-1.2**
	comp=E,0.0nm,0.3s,baz=132,slow=13,SNR=27							
KLR				LR	LR	00	19 02.8	
	comp=E,35nm,18.2s,baz=92,slow=43							
KLR	**Kul'dur**	**13.56**	**322**	*e*P	**Pn**	**00**	**12 22.0**	**-2.2**
NKL	**Nikolayevsk**	**14.26**	**351**	*e*P	**Pn**	**00**	**12 33.0**	**-0.7**
CN2	**Changchun**	**14.95**	**294**	*e*P	**Pn**	**00**	**12 41.6**	**-1.6**
CN2				pmax	pmax			
	comp=E,10.0nm,0.7s							
PEA0B	**Petropavlovsk-**	**16.71**	**29**	*e*Pn	**P**	**00**	**13 09.7**	**+1.6**
	comp=E,60nm,1.1s							
PETK	**Petropavlovsk-**	**16.71**	**29**	Pn	**Pn**	**00**	**13 02.5**	**-3.4**
	comp=E,0.1nm,0.3s,baz=199,slow=9.4,SNR=3.5							
PETK				LR	LR	00	19 24.9	
	comp=E,34nm,21.1s,baz=235,slow=36							
PETK	**Petropavlovsk-**	**16.71**	**29**	*e*Pn	**P**	**00**	**13 08.1**	**0.0**
PET	**Petropavlovsk**	**17.01**	**31**	⇑*i*P	**P**	**00**	**13 13.3**	**+1.9**
PET				pmax	pmax			
	comp=Z,43nm,1.4s							
PET	**Petropavlovsk**	**17.01**	**31**	*e*Pn	**P**	**00**	**13 12.0**	**+0.6**
	comp=Z,81nm,1.4s							
DL2	**Dalian**	**17.69**	**276**	P	**Pn**	**00**	**13 15.6**	**-2.6**
DL2				S	**Sn**	**00**	**16 32.6**	**-2.0**
DL2				pmax	pmax			
	comp=Z,28nm,1.3s							
DL2				pmax	pmax			
	comp=Z,160nm,11.0s							
DL2				LR	LR			
	comp=Z,430nm,14.1s							
DL2				LR	LR			
	comp=Z,360nm,15.4s							
DL2				LR	LR			
	comp=Z,450nm,18.4s							
ZEA	**Zeya**	**18.72**	**327**	*e*P	**P**	**00**	**13 28.6**	**-1.6**
ZEA				pmax	pmax			
	comp=N,35nm,1.0s							
ZEA				pmax	pmax			
	comp=E,24nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,43nm,1.2s							
HIA	**Hailar**	**20.29**	**308**	*e*P	**P**	**00**	**13 46.2**	**-1.3**
HIA				pmax	pmax			
	comp=Z,13nm,0.9s							
HIA	**Hailar**	**20.29**	**308**	*e*P	**P**	**00**	**13 46.1**	**-1.3**
	comp=Z,16nm,0.7s							
MA2	**Magadan**	**20.87**	**9**	LR	LR	00	21 17.1	
	comp=Z,148nm,19.8s,baz=78,slow=35							
BJI	**Beijing**	**21.74**	**281**	⇑*i*P	**P**	**00**	**14 01.8**	**-1.2**
BJI				pmax	pmax			
	comp=Z,17nm,0.7s							
BJI				LR	LR			
	comp=E,580nm,14.0s							
BJI				LR	LR			
	comp=Z,600nm,16.6s							
BJT	**Baijiatuau**	**21.75**	**281**	*e*P	**P**	**00**	**14 00.2**	**-2.9**
BJT				pmax	pmax			
	comp=Z,27nm,1.1s							
BJT	**Baijiatuau**	**21.75**	**281**	*e*P	**P**	**00**	**14 00.2**	**-2.9**
	comp=Z,27nm,1.1s							
TIA	**Tai'an**	**21.75**	**271**	P	**P**	**00**	**14 03.8**	**+0.5**
TIA				pmax	pmax			
	comp=Z,13nm,0.8s							
CLNS	**Chul'man**	**21.87**	**330**	*e*P	**P**	**00**	**14 04.9**	**+0.5**
CLNS				pmax	pmax			
	comp=Z,16nm,0.8s							
CLNS				pmax	pmax			
	comp=N,10.0nm,0.9s							
CLNS				pmax	pmax			
	comp=E,6.0nm,0.8s							
NJ2	**Nanjing**	**21.89**	**259**	*e*P	**P**	**00**	**14 02.3**	**-2.5**
NJ2				pmax	pmax			
	comp=E,21nm,0.5s							
SEY	**Seymchan**	**24.32**	**9**	P	**P**	**00**	**14 30.3**	**+1.3**
	comp=E,25nm,1.0s,baz=183,slow=7.2,SNR=55							
SEY	**Seymchan**	**24.32**	**9**	*ce*P	**P**	**00**	**14 29.9**	**+0.9**
YAK	**Yakutsk**	**24.64**	**343**	P	**P**	**00**	**14 32.5**	**+0.6**
	comp=E,12nm,0.4s,baz=27,slow=0.7,SNR=6.9							
YAK				S	**S**	**00**	**18 51.7**	**-0.1**
	comp=E,8.1nm,0.3s,baz=290,slow=3.3,SNR=2.8							
YAK				LR	LR	00	26 21.1	
	comp=E,146nm,18.3s,baz=86,slow=42							
YAK	**Yakutsk**	**24.64**	**343**	*e*P	**P**	**00**	**14 31.6**	**-0.3**
YAK				*e**PP	**pP**	**00**	**14 39.4**	**+0.6**
YAK				*e*		00	15 08.2	
YAK				*e*

GYA	**Guiyang**	**33.90**	**260**⇑	*i*P	**P**	**00 15 54.1**	**-0.7**
GYA				PP	**PnPn**	**00 17 08.4**	**+0.7**
GYA				PcP	**PcP**	**00 18 34.5**	**+1.5**
GYA				S	**S**	**00 21 18.0**	**-0.2**
GYA				SS	**SnSn**	**00 23 22.8**	**-1.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,510nm,16.8s						
GYA				LR	LR		
	comp=Z,480nm,17.2s						
GYA				LR	LR		
	comp=Z,460nm,17.0s						
CD2	**Chengdu**	**34.05**	**269**	P	**P**	**00 15 54.8**	**-1.1**
CD2				pP	pP	00 15 58.5	-4.3
CD2				sP	sP	00 16 00.0	-5.7
CD2				S	**S**	**00 21 20.4**	**+0.2**
CD2				sS	pS	00 21 26.3	-1.8
CD2				pmax	pmax		
	comp=Z,30nm,0.4s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=Z,480nm,14.4s						
CD2				LR	LR		
	comp=Z,440nm,12.9s						
GTA	**Gaotai**	**34.25**	**285**	P	**P**	**00 15 58.6**	**+0.9**
GTA				pP	pP	00 16 07.6	+3.0
GTA				PcP	**PcP**	**00 18 34.6**	**+0.8**
GTA				S	**S**	**00 21 22.3**	**-1.0**
GTA				SS	**SnSn**	**00 23 31.4**	**-1.3**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,99nm,5.2s						
GTA				LR	LR		
	comp=Z,290nm,19.0s						
GTA				LR	LR		
	comp=Z,290nm,17.1s						
GTA				LR	LR		
	comp=Z,370nm,19.0s						
DAV	**Davao City (W)**	**36.14**	**213**	LR	LR	00 28 51.2	
	comp=Z,161nm,21.2s,baz=332,slow=33						
KMI	**Kunming**	**37.61**	**261**	P	**P**	**00 16 26.9**	**+0.2**
KMI				pP	pP	00 16 29.3	-4.4
KMI				sP	sP	00 16 30.8	-5.7
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,160nm,4.9s						
KMI				LR	LR		
	comp=Z,270nm,18.0s						
KMI				LR	LR		
	comp=Z,230nm,15.8s						
KMI				LR	LR		
	comp=Z,340nm,19.7s						
WMQ	**Urumqi**	**42.03**	**295**	P	**P**	**00 17 03.8**	**+0.7**
WMQ				pP	pP	00 17 07.3	-2.8
WMQ				sP	sP	00 17 11.1	-1.9
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,240nm,3.7s						
WMQ				LR	LR		
	comp=Z,290nm,16.3s						
WMQ				LR	LR		
	comp=Z,320nm,19.5s						
WMQ				LR	LR		
	comp=Z,170nm,21.1s						
ZAA0	**Zalesovo Array**	**42.29**	**311**	*e*P	**P**	**00 17 05.6**	**+0.7**
	comp=Z,13nm,0.6s						
ZALV	**Zalesovo Beam**	**42.29**	**311**	P	**P**	**00 17 05.6**	**+0.6**
	comp=Z,7.4nm,0.5s,baz=89,slow=7.6,SNR=40						
ZALV				PcP	**PcP**	**00 18 58.6**	**+0.3**
	comp=Z,5.0nm,0.7s,baz=98,slow=3.4,SNR=6.5						
ZALV				LR	LR	00 35 33.6	
	comp=Z,123nm,19.2s,baz=70,slow=37						
ZALV	**Zalesovo Beam**	**42.29**	**311**	*e*P	**P**	**00 17 04.8**	**-0.1**
ZALV				*e*		00 18 58.4	
ZALV	**Zalesovo Beam**	**42.29**	**311**	*e*P	**P**	**00 17 04.8**	**-0.1**
ZALV				*e*PcP	**PcP**	**00 18 58.4**	**+0.1**
SVW2	**Sparrevohn**	**42.43**	**39**	*e*P	**P**	**00 17 07.7**	**+1.6**
	comp=Z,13nm,1.1s						
NVS	**Novosibirsk**	**43.14**	**312**	*e*P	**P**	**00 17 09.8**	**-2.0**
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KDAK	**Kodiak Island**	**43.97**	**43**	*i*P	**P**	**00 17 20.0**	**+1.6**
CHTO	**Chiang Mai**	**44.08**	**256**	*e*P	**P**	**00 17 19.8**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**44.08**	**256**	*e*P	**P**	**00 17 19.8**	**-0.1**
	comp=Z,5.0nm,0.9s						
SPU	**Mount Spurr**	**44.14**	**39**	*e*P	**P**	**00 17 20.0**	**+0.1**
CAST	**Castle Rocks**	**44.17**	**35**	*e*P	**P**	**00 17 22.3**	**+2.3**
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.30**	**256**	P	**P**	**00 17 21.2**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=52,slow=7.0,SNR=6.9						
CMAR	**Chiang Mai Arr**	**44.30**	**256**	*i*P	**P**	**00 17 21.8**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLY	**Manley**	**44.83**	**33**	*e*P	**P**	**00 17 27.5**	**+2.2**
	comp=Z,12nm,1.0s						
MK01	**Makanchi Array**	**45.03**	**301**	*e*P	**P**	**00 17 27.3**	**+0.1**
MK31	**Makanchi Array**	**45.04**	**301**	*i*P	**P**	**00 17 26.9**	**-0.3**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MK31	**Makanchi Array**	**45.04**	**301**	*e*P	**P**	**00 17 27.4**	**+0.2**
MKAR	**Makanchi Array**	**45.04**	**301**	P	**P**	**00 17 27.4**	**+0.2**
	comp=Z,7.3nm,0.8s,baz=84,slow=9.5,SNR=83						
MKAR				PcP	**PcP**	**00 19 08.0**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=99,slow=4.5,SNR=2.3						
MKAR				LR	LR	00 36 59.6	
	comp=Z,171nm,19.3s,baz=54,slow=37						
MKAR	**Makanchi Array**	**45.04**	**301**	*e*P	**P**	**00 17 27.4**	**+0.2**
	comp=Z,53nm,0.7s						
MKAR				PcP	**PcP**	**00 19 08.0**	**+0.2**
COLD	**Coldfoot**	**45.18**	**30**	*e*P	**P**	**00 17 29.3**	**+1.3**
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**45.24**	**301**	*e*P	**P**	**00 17 27.6**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAKZ	**Makanchi**	**45.24**	**301**	*e*P	**P**	**00 17 27.6**	**-1.2**
	comp=Z,9.5nm,1.0s						
TOLK	**Toolik Lake Re**	**45.53**	**28**	*e*P	**P**	**00 17 32.4**	**+1.5**
	comp=Z,9.4nm,1.0s						
RND	**Reindeer**	**45.62**	**35**	*e*P	**P**	**00 17 32.6**	**+0.9**
RND				pmax	pmax		
	comp=Z,18nm,1.4s						
RND	**Reindeer**	**45.62**	**35**	*e*P	**P**	**00 17 32.6**	**+0.9**
	comp=Z,18nm,1.4s						
MDM	**Murphy Dome**	**45.89**	**33**	*e*P	**P**	**00 17 35.4**	**+1.7**
	comp=Z,17nm,1.0s						
COLA	**College**	**46.05**	**33**	*e*P	**P**	**00 17 36.0**	**+1.1**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
COLA	**College**	**46.05**	**33**	*e*P	**P**	**00 17 36.0**	**+1.1**
	comp=Z,4.0nm,0.8s						
CCB	**Clear Creek Bu**	**46.07**	**34**	*e*P	**P**	**00 17 36.1**	**+1.0**
	comp=Z,24nm,2.0s						
IL1	**Eielson Array**	**46.46**	**33**	*e*P	**P**	**00 17 38.5**	**+0.4**
ILAR	**Eielson Array**	**46.46**	**33**	P	**P**	**00 17 38.8**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=262,slow=6.6,SNR=56						
ILB	**Eielson Array**	**46.46**	**33**	*e*P	**P**	**00 17 39.1**	**+0.9**
KURK	**Kurchatov**	**46.53**	**307**	*ce*P	**P**	**00 17 38.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,102nm,1.2s						
KURK	**Kurchatov**	**46.53**	**307**	*e*P	**P**	**00 17 38.9**	**0.0**
	comp=Z,29nm,0.6s						
KURBB	**Kurchatov Arra**	**46.60**	**307**	P	**P**	**00 17 40.0**	**+0.5**
	comp=Z,14nm,0.7s,baz=80,slow=8.2,SNR=114						
FYU	**Fort Yukon**	**47.12**	**31**	*e*P	**P**	**00 17 46.0**	**+2.7**
	comp=Z,52nm,1.6s						
PDGK	**Podgornoye**	**47.90**	**297**	*i*P	**P**	**00 17 48.9**	**-0.9**
PDGK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MENT	**Mentasta**	**47.97**	**36**	*e*P	**P**	**00 17 50.8**	**+0.8**
	comp=Z,14nm,1.2s						
EGAK	**Eagle**	**48.91**	**33**	*e*P	**P**	**00 17 57.9**	**+0.8**
	comp=Z,9.3nm,1.1s						
PRZ	**Przheval'sk**	**48.93**	**296**	P	**P**	**00 17 58.8**	**+0.9**
JIRN	**Jiri**	**49.18**	**275**	*e*P	**P**	**00 18 00.4**	**+0.2**
	comp=Z,10nm,0.5s						
GUN	**Gumba**	**49.30**	**275**	*e*P	**P**	**00 18 01.4**	**+0.4**
	comp=Z,55nm,1.0s						
KKN	**Kakani**	**49.82**	**276**	*e*P	**P**	**00 18 05.2**	**+0.3**
	comp=Z,30nm,0.9s						
PKI	**Pulchoki**	**49.83**	**275**	*e*P	**P**	**00 18 04.7**	**-0.4**
PKIN	**Phulchoki**	**49.83**	**275**	*e*P	**P**	**00 18 04.9**	**-0.1**
KDJ	**Kajisay**	**49.90**	**296**	P	**P**	**00 18 05.2**	**-0.1**
DMN	**Daman**	**50.04**	**276**	*e*P	**P**	**00 18 06.9**	**+0.3**
DANN	**Dangsing**	**50.72**	**277**	*e*P	**P**	**00 18 12.8**	**+1.0**
TKM2	**Tokmak 2**	**50.72**	**298**	*i*P	**P**	**00 18 11.7**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,24nm,1.4s						
BVA0	**Borovoye Array**	**50.93**	**312**	*i*P	**P**	**00 18 12.7**	**0.0**
BVA0				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BVAR	**Borovoye Array**	**50.93**	**312**	P	**P**	**00 18 13.4**	**+0.8**
	comp=Z,6.4nm,0.8s,baz=74,slow=8.5,SNR=36						
BVAR				LR	LR	00 41 27.4	
	comp=Z,184nm,18.0s,baz=76,slow=38						
NRN	**Naryn**	**50.98**	**296**	P	**P**	**00 18 13.7**	**+0.1**
BRVK	**Borovoye**	**50.98**	**312**	*ce*P	**P**	**00 18 13.5**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,66nm,2.5s						
BRVK	**Borovoye**	**50.98**	**312**	*e*P	**P**	**00 18 13.7**	**+0.6**
	comp=Z,9.8nm,0.9s						
OTUK	**Ortayu**	**51.13**	**305**	P	**P**	**00 18 13.9**	**-0.4**
OTUK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KOLN	**Koldanda**	**51.13**	**277**	*e*P	**P**	**00 18 15.1**	**+0.3**
	comp=Z,44nm,1.2s						
HYT	**Haines Junctio**	**51.21**	**38**	*e*P	**P**	**00 18 17.1**	**+2.3**
	comp=Z,28nm,0.9s						
PYUN	**Piuthan**	**51.44**	**277**	*e*P	**P**	**00 18 17.5**	**+0.4**
	comp=Z,56nm,1.0s						
INK	**Inuvik**	**51.45**	**28**	*e*P	**P**	**00 18 17.4**	**+1.1**
INK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
INK	**Inuvik**	**51.45**	**28**	*e*P	**P**	**00 18 17.4**	**+1.1**
	comp=Z,9.8nm,1.0s						
AAK	**Ala-Archa**	**51.58**	**298**	*e*P	**P**	**00 18 16.6**	**-1.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	**Ala-Archa**	**51.58**	**298**	*e*P	**P**	**00 18 16.6**	**-1.3**
	comp=Z,4.6nm,1.0s						
KSH	**Kashi**	**51.72**	**294**	P	**P**	**00 18 23.4**	**+4.5**
KSH				pP	pP	00 18 27.1	+1.0
KSH				sP	sP	00 18 30.3	+1.4
KSH				S	**S**	**00 25 45.4**	**+6.1**
KSH				sS	sS	00 25 54.0	+2.9
KSH				ScS	**ScS**	**00 28 09.3**	**+1.5**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,68nm,5.4s						
KSH				LR	LR		
	comp=Z,120nm,10.2s						
KSH				LR	LR		
	comp=Z,110nm,12.5s						
KSH				LR	LR		
	comp=Z,110nm,18.9s						
MNAS	**Manas**	**53.00**	**298**	*i*P	**P**	**00 18 28.1**	**-0.4**
MNAS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SVE	**Sverdlovsk**	**55.15**	**318**⇑	*e*P	**P**	**00 18 44.8**	**+1.1**
SVE				pmax	pmax		
	comp=Z,30nm,1.2s						
SOKR	**Solikamsk**	**56.11**	**322**	*e*P	**P**	**00 18 48.0**	**-2.5**
SOKR				pmax	pmax		
	comp=Z,23nm,1.1s						
ARU	**Arti**	**56.36**	**318**	*di*P	**P**	**00 18 52.9**	**+0.5**
ARU						00 19 49.1	
ARU						00 20 52.4	
ARU				S	**S**	**00 26 42.4**	**+1.1**
ARU				SS	**SS**	**00 30 26.2**	**-1.5**
ARU				pmax	pmax		
	comp=Z,42nm,1.2s						
ARU	**Arti**	**56.36**	**318**	*e*P	**P**	**00 18 52.8**	**+0.5**
	comp=Z,31nm,1.0s						
AB31	**Akbulak array**	**58.40**	**310**	*i*P	**P**	**00 19 06.9**	**+0.1**
AB31				pmax	pmax		
	comp=Z,12nm,0.6s						
ABKAR	**Akbulak array**	**58.40**	**310**	*e*P	**P**	**00 19 07.1**	**+0.3**
	comp=Z,132nm,0.6s						
KBL	**Kabul**	**58.86**	**291**	*e*P	**P**	**00 19 10.5**	**-0.1**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBL	**Kabul**	**58.86**	**291**	*e*P	**P**	**00 19 10.5**	**-0.1**
	comp=Z,6.8nm,0.9s						
SPITS	**Spitsbergen Ar**	**58.93**	**349**	P	**P**	**00 19 11.3**	**+1.1**
	comp=Z,4.5nm,0.9s,baz=7.1,slow=5.8,SNR=3.1						
AKTO	**Aktyubinsk**	**59.03**	**312**	P	**P**	**00 19 11.8**	**+0.5**
	comp=Z,12nm,0.8s,baz=72,slow=14,SNR=33						
AKTO	**Aktyubinsk**	**59.03**	**312**	*i*P	**P**	**00 19 10.7**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**59.49**	**191**	*e*P	**P**	**00 19 12.7**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WRAB	**Tennant Creek**	**59.49**	**191**	*e*P	**P**	**00 19 12.7**	**-2.0**
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**59.51**	**191**	P	**P**	**00 19 12.7**	**-2.1**
	comp=Z,3.9nm,1.0s,baz=8.8,slow=7.0,SNR=14						
RES	**Resolute Bay**	**59.98**	**15**	*e*P	**P**	**00 19 18.2**	**+0.8**
RES				pmax	pmax		
	comp=Z,18nm,1.0s						
RES	**Resolute Bay**	**59.98**	**15**	*e*P	**P**	**00 19 18.2**	**+0.8**
	comp=Z,18nm,1.0s						
HYB	**Hyderabad**	**60.60**	**269**	*i*P	**P**	**00 19 22.5**	**0.0**
YKW3	**Yellowknife Ar**	**60.77**	**31**	*e*P	**P**	**00 19 23.4**	**+0.4**
	comp=Z,16nm,1.5s						
YKA	**Yellowknife Ar**	**60.81**	**31**	P	**P**	**00 19 23.8**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=300,slow=6.8,SNR=23						
TMCR	**Tamitsa**	**62.04**	**332**	*e*P	**P**	**00 19 31.9**	**+0.4**
TMCR				pmax	pmax		
	comp=Z,23nm,1.1s						
ARCES	**ARCESS Array B**	**62.86**	**340**	P	**P**	**00 19 37.7**	**+0.7**
	comp=Z,5.1nm,0.8s,baz=46,slow=6.9,SNR=10						
AS01	**Alice Springs**	**63.22**	**191**	*e*P	**P**	**00 19 38.2**	**-1.6**
ASAR	**Alice Springs**	**63.23**	**191**	P	**P**	**00 19 38.6**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=13,slow=5.4,SNR=11						
KLMR	**Klimovskoe**	**63.24**	**328**	*e*P	**P**	**00 19 36.7**	**-2.8**
KLMR				pmax	pmax		
	comp=Z,23nm,1.4s						
KLMR	**Klimovskoe**	**63.24**	**328**	*e*P	**P**	**00 19 36.8**	**-2.8**
KLMR				AMP		00 19 41.9	
	comp=Z,23nm,1.4s						
GEYT	**Alibeck**	**64.87**	**299**	P	**P**	**00 19 51.5**	**+0.7**
	comp=Z,10.0nm,0.8s,baz=29,slow=3.4,SNR=23						
EDM	**Edmonton**	**66.24**	**40**	*e*P	**P**	**00 20 00.3**	**+0.9**
EDM				pmax	pmax		
	comp=Z,17nm,1.4s						
EDM	**Edmonton**	**66.24**	**40**	*e*P	**P**	**00 20 00.3**	**+0.9**
	comp=Z,17nm,1.4s						
NEW	**Newport**	**66.99**	**46**	*e*P	**P**	**00 20 05.7**	**+1.4**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	**Newport**	**66.99**	**46**	*e*P	**P**	**00 20 05.7**	**+1.4**
	comp=Z,4.4nm,0.9s						
VRH	**Novokhopyorsk**	**67.60**	**318**	*e*P	**P**	**00 20 07.6**	**-0.3**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OBN	**Obninsk**	**67.82**	**324**⇓	*e*P	**P**	**00 20 08.4**	**-0.8**
OBN				*e*		00 20 34.7	
OBN				*e*		00 22 36.5	
OBN				*e*PPP	PPP	00 24 16.0	
OBN				pmax	pmax		
	comp=Z,36nm,1.7s						
OBN				MLR	MLR		
	comp=Z,176nm,17.0s						
FIA1	**FINESS Array S**	**68.05**	**333**	*e*P	**P**	**00 20 10.9**	**+0.3**
FINES	**FINESS Array B**	**68.05**	**333**	P	**P**	**00 20 11.2**	**+0.6**
	comp=Z,8.5nm,0.8s,baz=45,slow=8.4,SNR=23						
FINES				LR	LR	00 54 01.5	
	comp=Z,159nm,18.0s,baz=359,slow=40						
FINES	**FINESS Array B**	**68.05**	**333**	*i*P	**P**	**00 20 11.1**	**+0.5**
FINES				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LPSR	**Galich'ya Gora**	**68.19**	**321**	*e*P	**P**	**00 20 11.0**	**-0.6**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
SUMG	**Summit**	**68.58**	**1**	*e*P	**P**	**00 20 15.7**	**+1.4**
SUMG				*e*S	**S**	**00 29 16.3**	**+1.1**
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SUMG	**Summit**	**68.58**	**1**	*e*P	**P**	**00 20 15.7**	**+1.4**
	comp=Z,7.6nm,0.9s						
SUMG				*e*S	**S**	**00 29 16.3**	**+1.1**
JTMT	**Jette**	**68.86**	**45**	*e*P	**P**	**00 20 17.8**	**+1.7**
	comp=Z,6.9nm,1.0s						
VSR	**Storozhevoye**	**68.89**	**319**	*e*P	**P**	**00 20 15.5**	**-0.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
J08A	**Circle Bar Ran**	**68.93**	**51**	*e*P	**P**	**00 20 18.6**	**+1.9**
	comp=Z,9.2nm,1.3s						
WVOR	**Wild Horse Val**	**69.35**	**52**	*e*P	**P**	**00 20 21.3**	**+2.1**
WVOR	**Wild Horse Val**	**69.35**	**52**	*e*P	**P**	**00 20 21.3**	**+2.1**
VSU	**Vasula**	**69.83**	**330**	*ce*P	**P**	**00 20 22.4**	**+0.7**
VSU				pmax	pmax		
	comp=Z,54nm,1.7s						
GOF	**Gofitskoye**	**70.44**	**312**⇑	*e*P	**P**	**00 20 26.6**	**+0.9**
FFC	**Flin Flon**	**70.67**	**34**	*e*P	**P**	**00 20 27.3**	**+0.4**
FFC				pmax	pmax		
	comp=Z,12nm,1.1s						
FFC	**Flin Flon**	**70.67**	**34**	*e*P	**P**	**00 20 27.3**	**+0.4**
	comp=Z,12nm,1.1s						
LRM	**Limekiln Ridge**	**71.01**	**46**	*e*P	**P**	**00 20 30.4**	**+1.0**
NCK	**Nalchik**	**71.04**	**311**	*e*P	**P**	**00 20 29.8**	**+0.4**
NCK				pmax	pmax		
	comp=Z,15nm,1.0s						
EGMT	**Eagleton**	**71.14**	**43**	*e*P	**P**	**00 20 31.0**	**+0.9**
	comp=Z,11nm,1.0s						
ZEI	**Tsey**	**71.27**	**310**	*e*P	**P**	**00 20 29.2**	**-1.9**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIV	**Kislovodsk**	**71.30**	**312**	*e*P	**P**	**00 20 30.6**	**-0.5**
KIV				pmax	pmax		
	comp=Z,51nm,1.1s						
KIV	**Kislovodsk**	**71.30**	**312**	*e*P	**P**	**00 20 32.4**	**+1.3**
	comp=Z,43nm,1.0s						
KIV	**Kislovodsk**	**71.30**	**312**	*i*P	**P**	**00 20 31.5**	**+0.5**
	SNR=10						
KBZ	**Khabaz**	**71.31**	**311**	P	**P**	**00 20 32.6**	**+1.6**
	comp=Z,16nm,0.9s,baz=51,slow=3.0,SNR=23						
BMN	**Battle Mountai**	**71.37**	**53**	*e*P	**P**	**00 20 31.7**	**0.0**
BMN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BMN	**Battle Mountai**	**71.37**	**53**	*e*P	**P**	**00 20 31.7**	**0.0**
	comp=Z,5.0nm,0.8s						
BOZ	**Bozeman (W)**	**71.60**	**46**	*e*P	**P**	**00 20 33.9**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOZ	**Bozeman (W)**	**71.60**	**46**	*e*P	**P**	**00 20 33.9**	**+0.9**
	comp=Z,3.9nm,0.8s						
NEY	**Neytrino**	**71.70**	**311**	*e*P	**P**	**00 20 33.2**	**-0.4**
NEY				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NV01	**Mina Array Sit**	**71.86**	**55**	*e*P	**P**	**00 20 35.6**	**+0.9**
NVAR	**Mina Array Bea**	**71.86**	**55**	P	**P**	**00 20 36.2**	**+1.5**
	comp=Z,2.4nm,0.8s,baz=286,slow=5.9,SNR=15						
GNI	**Garni**	**72.32**	**308**	*ce*P	**P**	**00 20 38.6**	**+1.2**
GNI				pmax	pmax		
	comp=Z,80nm,1.7s						
GNI	**Garni**	**72.32**	**308**	*e*P	**P**	**00 20 38.5**	**+1.2**
	comp=Z,17nm,1.1s						
BANOM	**Banah**	**72.75**	**290**	P	**P**	**00 20 40.4**	**+0.4**
SHME	**Shamm**	**72.79**	**290**	P	**P**	**00 20 40.5**	**+0.2**
H17A	**Grant Village**	**72.93**	**46**	*e*P	**P**	**00 20 38.7**	**-2.4**
	comp=Z,8.9nm,1.1s						
NC405	**NORSAR Array S**	**72.94**	**338**	*e*P	**P**	**00 20 40.4**	**-0.1**
IMW	**Indian Meadow**	**73.03**	**47**	*e*P	**P**	**00 20 40.9**	**-0.8**
	comp=Z,5.7nm,1.0s						
NC204	**NORSAR Array S**	**73.08**	**339**	*e*P	**P**	**00 20 40.1**	**-1.3**
HFS	**Hagfors**	**73.13**	**337**	P	**P**	**00 20 42.2**	**+0.6**
	comp=Z,8.2nm,0.8s,baz=55,slow=7.6,SNR=17						
HFS				LR	LR	00 59 38.5	
	comp=Z,165nm,20.0s,baz=3.5,slow=41						
FXWY	**Fox Creek**	**73.14**	**47**	*e*P	**P**	**00 20 44.4**	**+2.1**
	comp=Z,6.0nm,1.2s						
NB2	**NORSAR Subarra**	**73.15**	**338**	P	**P**	**00 20 42.1**	**+0.3**
	comp=Z,15nm,1.0s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**73.15**	**338**	P	**P**	**00 20 42.4**	**+0.6**
	comp=Z,7.9nm,0.9s,baz=38,slow=6.0,SNR=18						
NOA				LR	LR	00 57 46.9	
	comp=Z,72nm,18.8s,baz=270,slow=40						
MOOW	**Moose Ponds**	**73.23**	**47**	*e*P	**P**	**00 20 44.8**	**+2.0**
	comp=Z,16nm,1.6s						
NBO02	**NORSAR Array S**	**73.24**	**338**	*e*P	**P**	**00 20 42.8**	**+0.5**
TPAW	**Teton Pass**	**73.28**	**47**	*e*P	**P**	**00 20 44.5**	**+1.4**
	comp=Z,3.8nm,0.9s						
UOSS	**Minazif**	**73.39**	**289**	*e*P	**P**	**00 20 44.1**	**+0.3**
	comp=Z,11nm,0.8s						
UOSS	**Minazif**	**73.39**	**289**	*i*P	**P**	**00 20 43.5**	**-0.3**
	SNR=7.9						
REDW	**Red Top Meadow**	**73.41**	**47**	*e*P	**P**	**00 20 44.6**	**+0.7**
	comp=Z,14nm,1.6s						
HATD	**Hatta, Dubai**	**73.51**	**289**	*i*P	**P**	**00 20 44.8**	**+0.3**
	SNR=11						
SOHO	**SOHO**	**73.62**	**288**	*i*P	**P**	**00 20 45.0**	**-0.1**
	SNR=6.3						
R11A	**Troy Canyon, C**	**73.63**	**54**	*e*P	**P**	**00 20 46.2**	**+1.0**
	comp=Z,4.4nm,1.1s						
ASHO	**Ashiyiah**	**73.65**	**289**	P	**P**	**00 20 45.4**	**+0.1**
AKASG	**Malin Array Be**	**74.06**	**323**	P	**P**	**00 20 47.5**	**+0.2**
	comp=Z,5.9nm,0.6s,baz=43,slow=6.1,SNR=36						
AKBB	**Malin Array Si**	**74.06**	**323**	*e*P	**P**	**00 20 47.3**	**+0.1**
AKBB				pmax	pmax		
	comp=Z,20nm,1.0s						
AKBB	**Malin Array Si**	**74.06**	**323**	*e*P	**P**	**00 20 47.3**	**+0.1**
	comp=Z,20nm,1.0s						
KIEV	**Kiev**	**74.07**	**323**	*e*P	**P**	**00 20 46.7**	**-0.6**
KIEV				pmax	pmax		
	comp=Z,16nm,1.0s						
KIEV	**Kiev**	**74.07**	**323**	*e*P	**P**	**00 20 47.0**	**-0.3**
	comp=Z,18nm,1.0s						
KIEV	**Kiev**	**74.07**	**323**	*i*P	**P**	**00 20 47.2**	**-0.1**
	SNR=9.8						
AK11	**Malin Array Si**	**74.10**	**323**	*e*P	**P**	**00 20 48.0**	**+0.5**
DUG	**Dugway, Tooele**	**74.21**	**51**	*e*P	**P**	**00 20 50.2**	**+1.6**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DUG	**Dugway, Tooele**	**74.21**	**51**	*e*P	**P**	**00 20 50.1**	**+1.6**
	comp=Z,3.7nm,0.8s						
ALNE	**Al Ain**	**74.24**	**288**	*i*P	**P**	**00 20 48.9**	**+0.1**
	SNR=7.0						
PD31	**Pinedale Array**	**74.52**	**47**	*e*P	**P**	**00 20 50.9**	**+0.5**
PDAR	**Pinedale Array**	**74.52**	**47**	P	**P**	**00 20 51.0**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=272,slow=1.6,SNR=21						
PDAR	**Pinedale Array**	**74.52**	**47**	*e*P	**P**	**00 20 50.2**	**-0.2**
KONO	**Kongsberg**	**74.75**	**338**	*ce*P	**P**	**00 20 51.1**	**0.0**
KONO				pmax	pmax		
	comp=Z,230nm,2.5s						
SHPR	**Sheep Range**	**75.01**	**55**	*e*P	**P**	**00 20 53.5**	**+0.2**
	comp=Z,5.2nm,1.1s						
SIM	**Simferopol'**	**75.46**	**317**	P	**P**	**00 20 56.3**	**+0.8**
SIM				pmax	pmax		
	comp=Z,19nm,1.0s						
P17A	**Butcher Ranch,**	**75.91**	**50**	*e*P	**P**	**00 20 58.3**	**0.0**
	comp=Z,4.7nm,0.7s						
LCMT	**Little Creek M**	**75.91**	**54**	*e*P	**P**	**00 20 59.3**	**+0.9**
	comp=Z,10.0nm,1.8s						
KNB	**Kanab**	**76.17**	**54**	*e*P	**P**	**00 21 00.8**	**+0.9**
KNB				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KNB	**Kanab**	**76.17**	**54**	*e*P	**P**	**00 21 00.8**	**+0.9**
	comp=Z,10nm,1.3s						
SRU	**San Rafael Swe**	**76.27**	**51**	*e*P	**P**	**00 21 01.8**	**+1.4**
SRU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SRU	**San Rafael Swe**	**76.27**	**51**	*e*P	**P**	**00 21 01.8**	**+1.4**
	comp=Z,6.8nm,0.9s						
ULM	**Lac du Bonnet**	**76.45**	**35**	P	**P**	**00 21 01.1**	**0.0**
	comp=Z,1.9nm,0.8s,baz=335,slow=4.7,SNR=3.6						
U15A	**North Rim**	**76.87**	**54**	*e*P	**P**	**00 21 04.5**	**+0.5**
	comp=Z,15nm,1.8s						
LVV	**L'vov**	**77.05**	**325**	*e*P	**P**	**00 21 05.3**	**+0.9**
LEOM	**Leova**	**77.45**	**321**⇓	*i*P	**P**	**00 21 07.5**	**+0.8**
LEOM	**Leova**	**77.45**	**321**	⇓P	**P**	**00 21 07.5**	**+0.8**
KWP	**Kalwaria Pacla**	**77.77**	**326**	*e*P	**P**	**00 21 10.2**	**+1.7**
KWP	**Kalwaria Pacla**	**77.77**	**326**	*e*P	**P**	**00 21 09.7**	**+1.2**
KWP				pmax	pmax		
	comp=Z,412nm,1.2s						
KWP	**Kalwaria Pacla**	**77.77**	**326**	*e*P	**P**	**00 21 09.7**	**+1.2**
	comp=Z,412nm,1.2s						
BUR08	**Bucovina Ar. S**	**78.09**	**323**	*e*P	**P**	**00 21 11.6**	**+1.2**
BUR04	**Bucovina Ar. S**	**78.10**	**323**	*e*P	**P**	**00 21 11.2**	**+0.7**
BURAR	**Bucovina Array**	**78.10**	**323**⇓	*i*P	**P**	**00 21 11.3**	**+0.8**
BURAR	**Bucovina Array**	**78.10**	**323**	⇓P	**P**	**00 21 11.3**	**+0.8**
TESR	**Tescani**	**78.21**	**321**⇓	*i*P	**P**	**00 21 11.0**	**+0.1**
CFR	**Carcaliu**	**78.41**	**320**⇓	*i*P	**P**	**00 21 12.6**	**+0.6**
CFR	**Carcaliu**	**78.41**	**320**	⇓P	**P**	**00 21 12.6**	**+0.6**

PETR	Petresti	78.48	320	⇓	*i*	P	P	00 21 14.8 +2.4
ODBI	Odobesti	78.54	321	⇓	*i*	P	P	00 21 14.7 +1.9
STHS	Stebnicka Huta	78.57	326		*e*	P	P	00 21 14.6 +1.7
STHS						pmax	pmax	
	comp=Z,9.0nm,1.3s							
STHS	Stebnicka Huta	78.57	326		*e*	P	P	00 21 14.6 +1.7
OJC	Ojcow	78.58	327		*e*	P	P	00 21 13.9 +1.0
OJC	Ojcow	78.58	327		*e*	P	P	00 21 13.9 +1.0
OJC	Ojcow	78.58	327		*e*	P	P	00 21 13.9 +1.0
	comp=Z,29nm,1.2s							
VRI	Vrincioaia	78.63	321	⇓	*i*	P	P	00 21 14.4 +1.1
VRI	Vrincioaia	78.63	321	⇓	*i*	P	P	00 21 14.4 +1.1
X16A	Lo Mia Camp, P	78.68	55		*e*	P	P	00 21 15.7 +1.7
	comp=Z,5.5nm,1.3s							
UZH	Uzhgorod	78.70	325		*e*	P	P	00 21 14.5 +0.9
UZH					*e*			00 21 22.5
MVCO	Mesa Verde	78.71	51		*e*	P	P	00 21 15.6 +1.4
	comp=Z,4.0nm,0.9s							
CRVS	Cervenica-Dubn	78.86	326		*e*	P	P	00 21 15.0 +0.5
CRVS	Cervenica-Dubn	78.86	326		*e*	P	P	00 21 15.0 +0.5
ARCR	ARCALIA	78.89	323	⇓	*i*	P	P	00 21 16.7 +2.0
NIE	Niedzica	78.98	327		*e*	P	P	00 21 16.8 +1.6
NIE	Niedzica	78.98	327		*e*	P	P	00 21 16.8 +1.6
PGOR	Pogoanele	79.18	320	⇓	*i*	P	P	00 21 17.9 +1.6
BR131	Keskin Array S	79.20	313		*e*	P	P	00 21 17.6 +0.9
BRTR	Keskin Array B	79.20	313		P	P	P	00 21 17.2 +0.6
	comp=Z,2.5nm,0.6s,baz=86,slow=2.7,SNR=16							
DOPR	Dopca	79.21	322	⇓	*i*	P	P	00 21 18.3 +1.8
ISR	Istrita	79.25	320	⇓	*i*	P	P	00 21 18.3 +1.5
ISR	Istrita	79.25	320	⇓	P	P	P	00 21 18.3 +1.5
CJR	Cluj-Napoca	79.51	323	⇓	*i*	P	P	00 21 19.3 +1.1
CJR	Cluj-Napoca	79.51	323	⇓	P	P	P	00 21 19.3 +1.1
LANS	Liptovska Anna	79.54	327		*e*	P	P	00 21 20.2 +2.0
LANS	Liptovska Anna	79.54	327		*e*	P	P	00 21 20.2 +2.0
OKC	Ostrava-Krasne	79.56	328		*e*	P	P	00 21 19.9 +1.6
OKC	Ostrava-Krasne	79.56	328		*e*	P	P	00 21 19.9 +1.6
ANTO	Ankara	79.58	313		*e*	P	P	00 21 20.2 +1.5
ANTO						pmax	pmax	
	comp=Z,13nm,0.8s							
ANTO	Ankara	79.58	313		*e*	P	P	00 21 20.2 +1.5
	comp=Z,13nm,0.8s							
BR231	Keskin MP Arra	79.61	313		*e*	P	P	00 21 18.2 -0.7
VOIR		79.75	321	⇓	*i*	P	P	00 21 21.0 +1.5
VOIR		79.75	321	⇓	P	P	P	00 21 21.0 +1.5
MORC	Moravsky Berou	79.86	328	⇓	*i*	P	P	00 21 20.9 +0.9
MORC	Moravsky Berou	79.86	328		*e*	P	P	00 21 20.9 +0.9
MORC						pmax	pmax	
	comp=Z,36nm,1.0s							
MORC	Moravsky Berou	79.86	328		*e*	P	P	00 21 20.9 +0.9
	comp=Z,36nm,1.0s							
DRGR		79.87	324	⇓	*i*	P	P	00 21 21.0 +0.9
DRGR		79.87	324	⇓	P	P	P	00 21 21.0 +0.9
DPC	Dobruska-Polom	79.91	329		*e*	P	P	00 21 21.4 +1.2
DPC	Dobruska-Polom	79.91	329		*e*	P	P	00 21 21.4 +1.2
UPC	Upice	79.91	329		*e*	P	P	00 21 21.5 +1.3
UPC	Upice	79.91	329		*e*	P	P	00 21 21.5 +1.3
ARR	Arges	80.01	322	⇓	*i*	P	P	00 21 22.3 +1.4
PSZ	Piszkesteto	80.29	326		*e*	P	P	00 21 22.8 +0.4
PSZ						pmax	pmax	
	comp=Z,21nm,1.3s							
PSZ	Piszkesteto	80.29	326		*e*	P	P	00 21 22.8 +0.4
	comp=Z,22nm,1.3s							
VYHS	Vyhne	80.31	327		*e*	P	P	00 21 23.6 +1.2
VYHS						pmax	pmax	
	comp=Z,7.0nm,1.3s							
VYHS	Vyhne	80.31	327		*e*	P	P	00 21 23.6 +1.2
BRG	Berggiesshubel	80.42	331		*e*	P	P	00 21 23.2 +0.3
	comp=Z,5.2nm,1.0s							
BRG	Berggiesshubel	80.42	331		*e*	P	P	00 21 23.2 +0.3
BRG						pmax	pmax	
	comp=Z,5.0nm,1.0s							
CLL	Collm	80.42	331	⇓	*i*	P	P	00 21 23.3 +0.4
CLL						pmax	pmax	
	comp=Z,13nm,1.0s							
CLL	Collm	80.42	331	⇓	*i*	P	P	00 21 23.3 +0.4
	comp=Z,13nm,1.0s							
CLL					*es*	P	sP	00 21 36.0 +2.9
CLL	Collm	80.42	331		*e*	P	P	00 21 23.1 +0.2
	comp=Z,11nm,0.9s							
PVCC	Panska Ves	80.45	330		*e*	P	P	00 21 24.4 +1.3
PVCC	Panska Ves	80.45	330		*e*	P	P	00 21 24.4 +1.3
VRAC	Vranov	80.61	328	⇓	*i*	P	P	00 21 25.1 +1.1
VRAC	Vranov	80.61	328	⇓	P	P	P	00 21 25.1 +1.1
ECSD	EROS Data Cent	80.81	40		*e*	P	P	00 21 25.4 +0.2
	comp=Z,8.8nm,1.2s							
GOPC	GO Pecny, Ondr	80.86	330		*e*	P	P	00 21 26.1 +0.8
GOPC	GO Pecny, Ondr	80.86	330		*e*	P	P	00 21 26.1 +0.8
PRU	Pruhonice	80.89	330		*e*	P	P	00 21 26.7 +1.2
PRU	Pruhonice	80.89	330		*e*	P	P	00 21 26.7 +1.2
TREC	Trest	81.07	329		*e*	P	P	00 21 27.4 +0.9
TREC	Trest	81.07	329		*e*	P	P	00 21 27.4 +0.9
BZS	Buzias	81.25	323	⇓	*i*	P	P	00 21 28.0 +0.5
BZS	Buzias	81.25	323	⇓	P	P	P	00 21 28.0 +0.5
ANMO	Albuquerque	81.44	52		*ce*	P	P	00 21 30.0 +1.1
ANMO						pmax	pmax	
	comp=Z,7.0nm,2.5s							
NKC	Novy Kostel	81.50	331		*e*	P	P	00 21 29.2 +0.5
NKC	Novy Kostel	81.50	331		*e*	P	P	00 21 29.2 +0.5
MDVR	Moldovita	81.83	323	⇓	*i*	P	P	00 21 31.1 +0.5
EKA	Eskdalemuir Ar	81.91	342		P	P	P	00 21 31.5 +0.8
	comp=Z,1.5nm,0.8s,baz=26,slow=3.9,SNR=4.3							
KHC	Kasperske Hory	81.96	330		*e*	P	P	00 21 32.1 +0.9
KHC	Kasperske Hory	81.96	330		*e*	P	P	00 21 31.7 +0.5
KHC						pmax	pmax	
	comp=Z,4.0nm,1.2s							
KHC	Kasperske Hory	81.96	330		*e*	P	P	00 21 31.6 +0.5
	comp=Z,3.6nm,1.2s							
CONA	Conrad Observa	82.00	328		*i*	P	P	00 21 32.9 +1.4
	comp=Z,9.8nm,1.5s							
RAYN	Ar Rayn	82.01	294		*e*	P	P	00 21 31.6 -0.3
	comp=Z,4.7nm,0.9s							
GEC2	GERESS Array S	82.14	330		*e*	P	P	00 21 32.9 +0.7
GEC2						pmax	pmax	
	comp=Z,6.0nm,1.2s							
GEC2	GERESS Array S	82.14	330		*e*	P	P	00 21 32.9 +0.7
	comp=Z,6.0nm,1.2s							
GERES	GERESS Array B	82.14	330		P	P	P	00 21 32.8 +0.6
	comp=Z,1.1nm,0.6s,baz=40,slow=5.6,SNR=13							
GEA0	GERESS Array S	82.15	330		*e*	P	P	00 21 32.5 +0.2
GRFO	Grafenberg	82.40	331		*e*	P	P	00 21 34.3 +0.9
GRFO						pmax	pmax	
	comp=Z,12nm,1.1s							
GRFO	Grafenberg	82.40	331		*e*	P	P	00 21 34.3 +0.9
	comp=Z,12nm,1.1s							
MMAI	Mount Meron Ar	82.64	307		P	P	P	00 21 36.0 +0.9
	comp=Z,5.8nm,0.7s,baz=45,slow=4.5,SNR=3.3							
MMAI						LR	LR	01 01 58.8
	comp=Z,60nm,20.2s,baz=5.0,slow=38							
ARSA	Arzberg	82.67	328		*i*	P	P	00 21 35.7 +0.8
	comp=Z,3.2nm,0.9s							
MOA	Molln	82.71	329		*i*	PcP	P	00 21 36.9 +1.7
	comp=Z,7.1nm,1.4s							
VTS	Vitosha	82.74	320	⇓	*i*	P	P	00 21 36.5 +0.9
VTS	Vitosha	82.74	320	⇓	P	P	P	00 21 36.5 +0.9
VTS	Vitosha	82.74	320		*e*	P	P	00 21 36.4 +0.8
	comp=Z,8.9nm,0.9s							
SOKA	Soboth	83.33	328		*i*	P	P	00 21 39.1 +0.6
	comp=Z,14nm,1.3s,SNR=9.7							
OBKA	Obir	83.67	328		*i*	P	P	00 21 40.4 +0.2
	comp=Z,2.9nm,0.8s							
KBA	Koelnbreinsper	83.70	329		*i*	PcP	P	00 21 41.9 +1.4
	comp=Z,8.6nm,1.4s							
WATA	Walderalm	84.20	330		*i*	PcP	P	00 21 44.0 +1.1
	comp=Z,5.8nm,1.0s							
WTTA	Wattenberg	84.23	330		*i*	PcP	P	00 21 43.7 +0.5
	comp=Z,1.8nm,0.6s							
MNTX	Cornudas Mount	84.29	53		*e*	P	P	00 21 43.6 +0.1
	comp=Z,8.5nm,1.6s							
ABTA	Abfaltersbach	84.31	329		*i*	P	P	00 21 43.7 +0.3
	comp=Z,6.7nm,1.2s							
MOTA	Moosalm	84.37	330		*i*	PcP	P	00 21 44.4 +0.6
	comp=Z,6.6nm,0.8s,SNR=6.2							
RETA	Reutte	84.39	330		*i*	PcP	P	00 21 44.6 +0.8
	comp=Z,9.7nm,0.7s,SNR=6.4							
BFO	Black Forest	84.59	332		*e*	P	P	00 21 44.6 -0.2
BFO						pmax	pmax	
	comp=Z,22nm,1.4s							
BFO	Black Forest	84.59	332		*e*	P	P	00 21 44.6 -0.2
	comp=Z,22nm,1.4s							
FETA	Feichten	84.78	330		*i*	PcP	P	00 21 46.6 +0.6
	comp=Z,6.7nm,0.7s							
DAVA	Damuels	84.89	331		*i*	PcP	P	00 21 47.0 +0.5
	comp=Z,12nm,0.8s,SNR=7.3							
ECH	Echery	85.11	333		*e*	P	P	00 21 47.5 +0.1
ECH						pmax	pmax	
	comp=Z,7.0nm,0.9s							
ECH	Echery	85.11	333		*e*	P	P	00 21 47.5 +0.1
	comp=Z,7.2nm,0.9s							
FUORN	Ofenpass-Fuorn	85.30	330		*e*	P	P	00 21 47.6 -1.1
	comp=Z,18nm,0.7s							
SENIN	Lac Senin/Sane	86.63	332		*e*	P	P	00 21 53.9 -1.2
	comp=Z,3.0nm,0.8s							
TX31	Lajitas Ar. Si	86.99	54		*e*	P	P	00 21 57.3 +0.2
TXAR	Lajitas Array	86.99	54		P	P	P	00 21 57.5 +0.4
	comp=Z,0.9nm,0.9s,baz=298,slow=2.7,SNR=8.7							
ESDC	Sonseca Array	96.40	336		P	P	P	00 22 40.5 -0.1
	comp=Z,0.1nm,0.4s,baz=343,slow=35,SNR=3.2							
ESDC						LR	LR	01 13 55.7
	comp=Z,76nm,18.5s,baz=350,slow=40							
TORD	Torodi Ar. Bea	117.43	318			PKP	PKPdf	00 27 56.9 -0.8
	comp=Z,0.9nm,0.7s,baz=17,slow=1.8,SNR=14							
KOWA	Kowa	119.04	325			PKP	PKPdf	00 28 00.3 -0.5
	comp=Z,1.4nm,0.8s,baz=81,slow=3.6,SNR=4.2							
SDV	Santo Domingo	122.21	42			PKP	PKPdf	00 28 06.2 -0.9
	comp=Z,1.6nm,0.3s,baz=319,slow=9.3,SNR=2.8							
SNAA	Sanae	143.43	197			PKhKP	PKPpre	00 28 40.7
	comp=Z,6.2nm,1.1s,baz=45,slow=4.3,SNR=3.9							
VNA2	Neumayer--Watz	144.97	196			PKP	PKPbc	00 28 46.4 -0.5
	baz=146,slow=3.0							
VNA3	Neumayer Olymp	145.18	194			PKP	PKPbc	00 28 46.2 -1.3
VNA1	Neumayer--Stat	145.37	196			PKP	PKPbc	00 28 47.1 -0.9
PLCA	Paso Flores	153.26	105			PKPbc	PKPbc	00 29 08.3 -0.9
	comp=Z,1.8nm,0.9s,baz=243,slow=4.5,SNR=3.2							

JMA 15 00:20:39.3±0.2, 40°93N×145°06E, h63km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.79	308	P	Pn	00 21 08.6	+0.6
JAK	Akkeshi	2.08	353	P	Pn	00 21 12.6	+0.7
JAK				*eS*	Sn	00 21 36.4	-0.3
JCH	Churui	2.11	324	P	Pn	00 21 13.2	+1.0
JCH				*eS*	Sn	00 21 37.2	-0.2
JOB	Onbets	2.17	336	P	Pn	00 21 14.5	+1.4
JNBK	Urakawa-nobuka	2.19	309	P	Pn	00 21 15.2	+1.8
NEM2	Nemuro 2	2.49	12	P	Pn	00 21 18.2	+0.8
NEM2				*eS*	Sn	00 21 46.5	0.0
JAR	Ashorobuto	2.55	338	P	Pn	00 21 18.9	+0.6
JAR				*eS*	Sn	00 21 47.9	-0.3
JNK	Nakash	2.67	355	P	Pn	00 21 20.2	+0.4
JNK				*eS*	Sn	00 21 49.5	-1.5
JBT2	Biratori 2	2.73	313	P	Pn	00 21 21.9	+1.2
JANG	Nango	2.75	260	P	Pn	00 21 21.0	0.0
JANG				*eS*	Sn	00 21 50.1	-3.0
JFR	Furan	2.89	321	P	Pn	00 21 24.0	+1.1
JTM	Tenmabayashi	3.03	269	P	Pn	00 21 25.7	+0.9
JTM				*eS*	Sn	00 21 58.3	-1.6
JOT	Ohata	3.06	280	P	Pn	00 21 26.1	+0.9
JTKR	Abashiri--Toko	3.16	345	P	Pn	00 21 28.3	+1.8
JOM	Ohasama	3.23	244	P	Pn	00 21 28.4	+0.8
JOM				*eS*	Sn	00 22 03.1	-1.7
JEW	Eniwo	3.30	306	P	Pn	00 21 31.1	+2.6
JEW				*eS*	Sn	00 22 07.3	+0.7

MEX 15 00:23:08.9±0.8, 15°38N×91°87W, h203km±8km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.61	219	*i* P	Pn	00 23 35.3	-1.5
THIG				*i* S	S	00 23 56.5	-2.0
CCIG	Comitan	0.93	344	*i* P	Pn	00 23 38.0	-0.8
CCIG				*i* S	S	00 23 59.1	-2.9
PCIG		1.34	284	*i* P	Pn	00 23 40.1	-1.4
PCIG				*i* S	S	00 24 04.5	-1.9
TGIG		1.83	319	*e* P	Pn	00 23 45.6	-0.5
TGIG				*eS*	S	00 24 12.2	-2.4

IDC 15 01:06:39.3±0.9, 20°25N×120°41E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.6/63, mbtmp3.6/10, ML3.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/62, Error ellipse: s-maj=39.7km s-min=18.8km az=67.0

ISCJB 15 01:06:41.5±0.5, 20°30N±0°04×120°4E±0°1, h26km, mb3.7/11, Error ellipse: s-maj=13.7km s-min=5.8km az=10.5

NEIC 15 01:06:44.5±0.3, 20°31N×120°48E, h35km, mb4.2/2, Error ellipse: s-maj=11.2km s-min=5.9km az=86.0

ISC 15 01:06:43.5±0.9, 20°33N±0°08×120°4E±0°2, h26km, n30, σ1§05/34, mb3.7/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	2.56	14	*e* Pn	Pn	01 07 23.2	0.0
TWG				*eSn*	Sn	01 07 54.1	+0.5
TPUB	Ta-pu	2.96	4	*e* Pn	Pn	01 07 27.7	-1.2
TPUB				*eSn*	Sn	01 08 00.1	-3.6
YULB	Yu-li	3.16	15	*e* Pn	Pn	01 07 30.8	-0.8
YULB				*eSn*	Sn	01 08 10.0	+1.5
NACB	Ninganchiao	3.98	16	*e* Pn	Pn	01 07 42.6	-0.3
NACB				*eSn*	Sn	01 08 26.7	-2.1
YHNB	Yeheng	4.42	12	*e* Pn	Pn	01 07 49.3	+0.4
YHNB				*eSn*	Sn	01 08 38.6	-0.9
JNU	Nakatsue	15.80	34	LR	LR	01 16 24.2	
	comp=Z,45nm,20.0s,baz=302,slow=37						
KS15	Wonju Array Si	18.26	19	*e* P	P	01 10 56.0	+1.0
KSAR	Wonju Array Be	18.26	19	P	P	01 10 56.0	+1.0
KSRS	Korea Array	18.28	19	P	Pn	01 10 56.0	+0.8
	0.3nm,0.3s,baz=200,slow=13,SNR=3.3						
SONA0	Songino Array	29.69	341	*e* P	P	01 12 48.1	+0.8
SONM	Songino Array	29.69	341	P	P	01 12 48.1	+0.8
	0.8nm,0.8s,baz=156,slow=9.5,SNR=7.7						
SONA1	Songino Array	29.70	341	*e* P	P	01 12 47.9	+0.5
MK01	Makanchi Array	40.66	319	*e* P	P	01 14 21.9	+0.3
MK32	Makanchi Array	40.68	319	*e* P	P	01 14 22.5	+0.8
MKAR	Makanchi Array	40.68	319	P	P	01 14 22.5	+0.8
	0.3nm,0.5s,baz=123,slow=7.2,SNR=4.7						
WR1	Warramunga Arr	42.29	160	*e* P	P	01 14 33.6	-1.5
	21nm,1.4s						
WRA	Warramunga Arr	42.29	160	P	P	01 14 33.6	-1.5
	1.2nm,0.9s,baz=342,slow=8.9,SNR=3.7						
ZALV	Zalesovo Beam	43.13	330	P	P	01 14 41.5	-0.1
	0.9nm,0.7s,baz=109,slow=7.8,SNR=4.5						
ZALV	Zalesovo Beam	43.13	330	*e* P	P	01 14 41.9	+0.4
ZAA1	Zalesovo Array	43.13	330	*e* P	P	01 14 41.5	-0.1
KURK	Kurchatov	44.64	323	*e* P	P	01 14 54.3	+0.6
KURBB	Kurchatov Arra	44.65	323	P	P	01 14 54.3	+0.5
	1.1nm,0.6s,baz=117,slow=7.8,SNR=12						
AS31	Alice Springs	45.67	163	*e* P	P	01 15 02.0	-0.2
	1.5nm,1.1s						
ASAR	Alice Springs	45.67	163	P	P	01 15 02.0	-0.2
	0.4nm,0.4s,baz=344,slow=6.7,SNR=5.8						
BVAR	Borovoye Array	50.24	323	P	P	01 15 36.9	-0.4
	0.5nm,0.7s,baz=90,slow=8.8,SNR=4.4						
ILAR	Eielson Array	72.97	27	P	P	01 18 10.4	0.0
	0.2nm,0.5s,baz=270,slow=5.8,SNR=3.7						
ILB	Eielson Array	72.97	27	*e* P	P	01 18 10.4	0.0
FIA1	FINESS Array S	74.40	330	*e* P	P	01 18 18.7	-0.2
YKA	Yellowknife Ar	86.79	22	P	P	01 19 25.5	+0.3
	0.4nm,0.7s,baz=317,slow=4.9,SNR=9.5						
YKB5	Yellowknife Ar	86.79	22	*e* P	P	01 19 25.5	+0.3

CSEM 15 01:07:52.5, 38°37N×21°83E, h11km, ML1.0/3, After ATH

ATH 15 01:07:52.5, 38°37N×21°83E, h11km±3km, ML1.0/3, Error ellipse: s-maj=3.8km s-min=1.1km az=60.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.08	49	P	Pg	01 07 54.2	-0.8
EFP				S	Sg	01 07 56.4	-0.5
EFP	Efpalio	0.08	49	P	Pg	01 07 54.6	-0.4
EFP				S	Sg	01 07 56.7	-0.2
SERG	Sergoula	0.19	77	P	Pg	01 07 56.7	+0.1
SERG				AML	AML	01 08 00.3	
	comp=N,110μm,0.1s						
SERG				S	Sg	01 08 00.4	+1.0
SERG				AML	AML	01 08 02.3	
	comp=E,108μm,0.1s						
SERG	Sergoula	0.19	77	P	Pg	01 07 56.6	0.0
SERG				S	Sg	01 08 00.0	+0.6
TRIZ	Trizonia	0.19	92	P	Pg	01 07 56.5	-0.1
TRIZ				S	Sg	01 08 00.8	+1.2
TRIZ	Trizonia	0.19	92	P	Pg	01 07 56.6	-0.1
TRIZ				S	Sg	01 08 00.3	+0.7
ANX	Ano Chora	0.23	19	P	Pg	01 07 57.1	-0.4
ANX				AML	AML	01 08 01.6	
	comp=E,159μm,0.2s						
ANX				AML	AML	01 08 01.9	
	comp=N,217μm,0.2s						
ANX				S	Sg	01 08 02.2	+1.3
ANX	Ano Chora	0.23	19	P	Pg	01 07 57.2	-0.3
ANX				S	Sg	01 08 01.6	+0.8
KALE	Kalithea	0.25	85	P	Pg	01 07 57.7	0.0
KALE	Kalithea	0.25	85	P	Pg	01 07 57.7	0.0
PVO	Paravola	0.34	316	P	Pg	01 07 59.2	-0.1
PVO	Paravola	0.34	316	P	Pg	01 07 59.3	0.0
KLV	Kalavryta, Ach	0.42	142	P	Pg	01 07 59.9	-0.8
KLV	Kalavryta, Ach	0.42	142	P	Pg	01 08 00.3	-0.4
RLS	Riolos of Patr	0.42	222	P	Pg	01 08 00.5	-0.4
RLS				S	Sb	01 08 08.0	-0.3
RLS				AML	AML	01 08 08.4	
	comp=E,25μm,0.3s						
RLS				AML	AML	01 08 09.5	
	comp=N,36μm,0.1s						
RLS	Riolos of Patr	0.42	222	P	Pg	01 08 00.6	-0.2
RLS				S	Sb	01 08 07.5	-0.9
EVR	Evrytania	0.54	359	P	Pg	01 08 02.8	-0.4
EVR	Evrytania	0.54	359	P	Pg	01 08 02.9	-0.3

CSEM 15 01:08:25.0±0.1, 43°20N×17°77E, h2km, ML3.6/6, Error ellipse: s-maj=3.0km s-min=2.0km az=30.0

BEO 15 01:08:25.0±0.3, 43°19N×17°69E, h0km, M3.4/1

PDG 15 01:08:25.7±0.6, 43°19N×17°86E, h6km±1km, MD3.5/5, ML3.5/9, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0

LDG 15 01:08:26.1±0.1, 43°18N×17°83E, h2km, Ml3.6/11, Error ellipse: s-maj=4.4km s-min=2.5km az=22.0

PRU 15 01:08:29.9, 43°19N×17°87E, h28km

ISC 15 01:08:24.9±1.1, 43°21N±0°02×17°79E±0°02, h3km±9km, n199, σ1§85/307, 29C-24D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.35	192	*e* Pg	Pg	01 08 30.9	-0.7
STON				Sg	Sg	01 08 36.9	+0.9
STON	Ston	0.35	192	*e* Pg	Pg	01 08 31.1	-0.5
STON				*eSg*	Sg	01 08 35.5	-0.6
STON	Ston	0.35	192	*e* Pg	Pg	01 08 31.1	-0.5
STON				*eSg*	Sg	01 08 35.5	-0.6
TREB	Trebinje	0.64	140	*e* Pg	Pg	01 08 36.9	-0.3
TREB				*eSg*	Sg	01 08 46.7	+1.2
TREB	Trebinje	0.64	140	*e* Pg	Pg	01 08 46.7	-0.3
TREB				*eSg*	Sg	01 08 46.7	+1.2
HCY	Herceg Novi	0.92	146	⇓ *i* Pg	Pg	01 08 41.8	-0.8
HCY				*eSg*	Sb	01 08 55.3	-0.9
HCY	Herceg Novi	0.92	146	⇓ *i* Pg	Pg	01 08 41.8	-0.8
HCY				*eSg*	Sb	01 08 55.3	-0.9
NKME	Niksic	0.96	117	⇑ *i* Pg	Pg	01 08 42.4	-0.9
NKME				*eSg*	Sb	01 08 56.5	-0.9
NKME	Niksic	0.96	117	⇑ *i* Pg	Pg	01 08 42.4	-0.9
NKME				*eSg*	Sb	01 08 56.5	-0.9
NKY	Niksic	0.97	114	⇑ *i* Pg	Pg	01 08 42.5	-0.9
NKY				*eSg*	Sb	01 08 56.8	-0.8
NKY	Niksic	0.97	114	⇑ *i* Pg	Pg	01 08 42.5	-0.9
NKY				*eSg*	Sb	01 08 56.8	-0.8
CEME	Cevo	1.06	128	⇑ *i* Pg	Pg	01 08 44.2	-1.0
CEME				*eSg*	Sb	01 08 59.6	-0.7
CEME	Cevo	1.06	128	⇑ *i* Pg	Pg	01 08 44.2	-1.0
CEME				*eSg*	Sb	01 08 59.6	-0.7
PLE	Pljevlja	1.17	84	⇑ *i* Pg	Pg	01 08 47.2	-0.2
PLE				*eSg*	Sb	01 09 04.1	+0.6
PLE	Pljevlja	1.17	84	⇑ *i* Pg	Pg	01 08 47.2	-0.2
PLE				*eSg*	Sb	01 09 04.1	+0.6
HAPS	Han Pijesak,Bl	1.21	43	*e* Pg	Pg	01 08 47.1	-1.1
HAPS				*eSg*	Sg	01 09 03.8	-0.1
HAPS	Han Pijesak,Bl	1.21	43	*e* Pg	Pg	01 08 47.1	-1.1
HAPS				*eSg*	Sg	01 09 03.8	-0.1
BUM	Brajici-Budva	1.22	138	⇑ *i* Pg	Pg	01 08 47.4	-0.9
BUM				*eSg*	Sb	01 09 05.1	+0.3
BUM	Brajici-Budva	1.22	138	⇑ *i* Pg	Pg	01 08 47.4	-0.9
BUM				*eSg*	Sb	01 09 05.1	+0.3
KOME	Kolasin	1.31	105	⇓ *i* Pg	Pg	01 08 49.4	-0.7
KOME				*eSg*	Sn	01 09 08.0	-0.4
KOME	Kolasin	1.31	105	⇓ *i* Pg	Pg	01 08 49.4	-0.7
KOME				*eSg*	Sn	01 09 08.0	-0.4
PDG	Podgorica	1.33

BEO	**Beograd**	**2.51**	**49**	*e*Pn	**Pb**	**01 09 08.8**	**-1.8**
BEO				*e*Sn	**Sb**	**01 09 40.3**	**-1.5**
BEO	**Beograd**	**2.51**	**49**	*e*Pn	**Pb**	**01 09 08.8**	**-1.8**
BEO				*e*Sn	**Sb**	**01 09 40.3**	**-1.5**
NVLJ	**Novalja**	**2.51**	**304**	*e*Pn	**Pb**	**01 09 09.7**	**-0.9**
NVLJ				Sn	**Sb**	**01 09 40.1**	**-1.8**
NVLJ	**Novalja**	**2.51**	**304**	*e*Pn	**Pb**	**01 09 09.7**	**-0.9**
NVLJ				Sn	**Sb**	**01 09 40.1**	**-1.8**
SG1	**Sgolgore (BA)**	**2.51**	**200**	*e*Pn	**Pn**	**01 09 06.9**	**+0.2**
CGL1	**Ceglie Messapi**	**2.57**	**185**	*e*Pn	**Pb**	**01 09 10.4**	**-1.2**
MASS	**Massafra**	**2.62**	**191**	*e*Pn	**Pn**	**01 09 09.3**	**+1.1**
MATE	**Matera**	**2.69**	**198** ⇓	*i*P	**Pn**	**01 09 10.9**	**+1.8**
MATE	**Matera**	**2.69**	**198** ⇓	*i*P	**Pn**	**01 09 10.9**	**+1.8**
TAR1	**Taranto**	**2.71**	**188**	*e*Pn	**Pn**	**01 09 10.8**	**+1.4**
BOVS	**Bovan**	**2.88**	**80**	*e*Pn	**Pn**	**01 09 13.1**	**+1.3**
BOVS	**Bovan**	**2.88**	**80**	*e*Pn	**Pn**	**01 09 13.1**	**+1.3**
ZAG	**Zagreb**	**2.92**	**334**	*e*Pn	**Pn**	**01 09 12.0**	**-0.3**
ZAG				*e*Sn	**Sn**	**01 09 47.6**	**-0.2**
OZLJ	**Ozalj**	**2.92**	**326**	*e*Pn	**Pn**	**01 09 14.7**	**+2.3**
OZLJ	**Ozalj**	**2.92**	**326**	*e*Pn	**Pn**	**01 09 14.6**	**+2.3**
BOJS	**Bojanci**	**2.93**	**322**	*i* Pn	**Pn**	**01 09 14.8**	**+2.4**
BOJS	**Bojanci**	**2.93**	**322**	*i* Pn	**Pn**	**01 09 14.8**	**+2.4**
SKO	**Skopje**	**2.96**	**113**	*e*Pn	**Pn**	**01 09 15.3**	**+2.4**
SKO				*i* Sn	**Sb**	**01 09 55.0**	**0.0**
BARS	**Barje**	**2.98**	**96**	*e*Pn	**Pn**	**01 09 14.4**	**+1.3**
BARS	**Barje**	**2.98**	**96**	*e*Pn	**Pn**	**01 09 14.4**	**+1.3**
KUBS	**Kucevo**	**3.06**	**66**	*e*Pn	**Pn**	**01 09 15.5**	**+1.3**
KUBS	**Kucevo**	**3.06**	**66**	*e*Pn	**Pn**	**01 09 15.5**	**+1.3**
MORH	**M¨‡r¡gy, Hung**	**3.06**	**11** ⇑	*e*Pn	**Pn**	**01 09 13.8**	**-0.5**
MORH				*e*Sn	**Sg**	**01 10 03.7**	**+0.4**
OHR	**Ohrid**	**3.06**	**132**	*e*Pn	**Pb**	**01 09 17.4**	**-2.8**
OHR				*i* Sn	**Sb**	**01 09 55.2**	**-2.8**
CRES	**Cresnjev**	**3.10**	**328**	*e*Pn	**Pn**	**01 09 14.6**	**-0.2**
CRES				*e*Sn	**Sn**	**01 09 51.9**	**-0.5**
KRUS	**Krusevo**	**3.16**	**125**	*i* Pn	**Pn**	**01 09 17.6**	**+2.0**
KRUS				*i* Sn	**Sb**	**01 10 01.2**	**+0.5**
ZAGS	**Zajecar**	**3.28**	**78**	*e*Pn	**Pn**	**01 09 18.2**	**+0.9**
ZAGS	**Zajecar**	**3.28**	**78**	*e*Pn	**Pn**	**01 09 18.2**	**+0.9**
BEHE	**Becsehely**	**3.34**	**348**	*e*Pn	**Pn**	**01 09 17.6**	**-0.5**
BEHE				*e*Sn	**Sn**	**01 09 57.6**	**-0.6**
AQU	**L'Aquila**	**3.34**	**257** ⇑	*i*Pn	**Pn**	**01 09 18.6**	**+0.4**
AQU				*e*Sn	**Sn**	**01 09 57.8**	**-0.7**
BIA	**Bitola**	**3.42**	**129**	*i* Pn	**Pn**	**01 09 21.5**	**+2.3**
BIA				*i* Sn	**Sb**	**01 10 05.6**	**-2.6**
CEY	**Cerknica**	**3.49**	**318**	*e*Pn	**Pn**	**01 09 20.5**	**+0.3**
CEY				*e*Sn	**Sn**	**01 10 00.8**	**-1.3**
ZAPS	**Zavoj**	**3.54**	**87**	*e*Pn	**Pn**	**01 09 22.3**	**+1.5**
SKDS	**Skadanscina**	**3.58**	**312**	*i* Pn	**Pn**	**01 09 22.6**	**+1.2**
SKDS	**Skadanscina**	**3.58**	**312**	*i* Pn	**Pn**	**01 09 22.5**	**+1.2**
GROS	**Grobnik**	**3.63**	**334**	*i* Pn	**Pn**	**01 09 23.1**	**+0.9**
GROS	**Grobnik**	**3.63**	**334**	*i* Pn	**Pn**	**01 09 23.1**	**+0.9**
BZS	**Buzias**	**3.64**	**47** ⇑	*i*P	**Pn**	**01 09 22.0**	**-0.3**
BZS	**Buzias**	**3.64**	**47** ⇑	*i*P	**Pn**	**01 09 22.0**	**-0.3**
BZS				S	**Sn**	**01 10 03.6**	**-2.2**
LJU	**Ljubljana**	**3.67**	**322**	*e*Pn	**Pn**	**01 09 22.5**	**-0.1**
LJU				*e*Sn	**Sn**	**01 10 05.2**	**-1.2**
SOKA	**Soboth**	**3.98**	**331**	Pn	**Pn**	**01 09 28.0**	**+1.0**
	9.0nm,0.3s,SNR=25						
SOKA				Sn	**Sn**	**01 10 16.0**	**+1.8**
	23nm,0.6s						
SOKA	**Soboth**	**3.98**	**331**	*e*Pn	**Pn**	**01 09 28.0**	**+1.0**
	9.0nm,0.3s,SNR=25						
SOKA				*i* Sn	**Sn**	**01 10 16.0**	**+1.8**
	23nm,0.6s						
VAY	**Valandovo**	**4.02**	**116**	*e*Pn	**Pn**	**01 09 26.2**	**-1.1**
OBKA	**Obir**	**4.02**	**326**	Pn	**Pn**	**01 09 29.2**	**+1.6**
	8.3nm,0.4s						
OBKA				Sg	**Sg**	**01 10 34.6**	**+0.5**
	83nm,0.6s						
OBKA	**Obir**	**4.02**	**326**	*e*Pn	**Pn**	**01 09 29.2**	**+1.6**
	8.3nm,0.4s						
OBKA				*i* Sg	**Sg**	**01 10 34.6**	**+0.5**
	83nm,0.6s						
VTS	**Vitosha**	**4.03**	**97** ⇑	*i*P	**Pn**	**01 09 28.9**	**+1.3**
VTS	**Vitosha**	**4.03**	**97** ⇑	*i*P	**Pn**	**01 09 28.9**	**+1.3**
VTS				S	**Sn**	**01 10 17.6**	**+2.2**
VTS	**Vitosha**	**4.03**	**97**	P	**Pn**	**01 09 30.2**	**+2.6**
TIP	**Timpagrande**	**4.10**	**191** ⇑	*i*P	**Pn**	**01 09 30.0**	**+1.3**
TIP	**Timpagrande**	**4.10**	**191** ⇑	*i*P	**Pn**	**01 09 30.0**	**+1.3**
SIRR	**Siria**	**4.11**	**41** ⇓	*i*P	**Pn**	**01 09 29.1**	**+0.4**
SIRR	**Siria**	**4.11**	**41**	S	**Sn**	**01 10 12.1**	**-5.3**
SIRR	**Siria**	**4.11**	**41** ⇓	*i*P	**Pn**	**01 09 29.1**	**+0.4**
KKB	**Krupnik**	**4.13**	**107**	*e*P	**Pn**	**01 09 31.9**	**+2.9**
CADS	**Cadrg**	**4.18**	**318**	*i* Pn	**Pn**	**01 09 31.5**	**+1.8**
CADS	**Cadrg**	**4.18**	**318**	*i* Pn	**Pn**	**01 09 31.5**	**+1.8**
ARSA	**Arzberg**	**4.35**	**339**	Pn	**Pn**	**01 09 32.7**	**+0.8**
	10nm,0.3s,SNR=25						
ARSA				Sn	**Sn**	**01 10 23.6**	**+0.5**
	9.8nm,0.5s						
ARSA	**Arzberg**	**4.35**	**339**	*i* Pn	**Pn**	**01 09 32.7**	**+0.8**
	10nm,0.3s,SNR=25						
ARSA				*i* Sn	**Sn**	**01 10 23.6**	**+0.5**
	9.8nm,0.5s						
MYKA	**Terra Mystica**	**4.51**	**321**	Pn	**Pn**	**01 09 35.3**	**+1.0**
MYKA				Sg	**Sg**	**01 10 49.9**	**+0.1**
	18nm,0.5s						
MYKA	**Terra Mystica**	**4.51**	**321**	*e*Pn	**Pn**	**01 09 35.3**	**+1.0**
MYKA				*i* Sg	**Sg**	**01 10 49.9**	**+0.1**
	18nm,0.5s						
SOP	**Sopron**	**4.56**	**349**	*ex*	**Pn**	**01 09 38.5**	**+3.7**
SOP	**Sopron**	**4.56**	**349**	*e*Pn	**Pn**	**01 09 38.5**	**+3.7**
LOT	**Lotru**	**4.83**	**60** ⇑	*i*P	**Pn**	**01 09 39.7**	**+1.0**
LOT	**Lotru**	**4.83**	**60** ⇑	*i*P	**Pn**	**01 09 39.7**	**+1.0**
LOT				S	**Sn**	**01 10 35.9**	**+0.6**
CONA	**Conrad Observa**	**4.91**	**345**	Pn	**Pn**	**01 09 41.2**	**+1.5**
	1.0nm,0.3s						
CONA				Sn	**Sn**	**01 10 36.5**	**-0.6**
	14nm,0.5s						
CONA	**Conrad Observa**	**4.91**	**345**	*e*Pn	**Pn**	**01 09 41.2**	**+1.5**
	1.0nm,0.3s						
CONA				*i* Sn	**Sn**	**01 10 36.5**	**-0.6**
	14nm,0.5s						
PSZ	**Piszkesteto**	**4.93**	**17** ⇑	*i*P	**Pn**	**01 09 39.7**	**-0.3**
PSZ	**Piszkesteto**	**4.93**	**17** ⇑	*i*P	**Pn**	**01 09 39.7**	**-0.3**
KBA	**Koelnbreinsper**	**4.99**	**322**	Pn	**Pn**	**01 09 43.0**	**+2.2**
	0.7nm,0.3s,SNR=8.8						
KBA				Sn	**Sn**	**01 10 42.1**	**+3.0**
	10nm,0.6s						
KBA	**Koelnbreinsper**	**4.99**	**322**	*i* Pn	**Pn**	**01 09 43.0**	**+2.2**
	0.7nm,0.3s,SNR=8.8						
KBA				*i* Sn	**Sn**	**01 10 42.1**	**+3.0**
	10nm,0.6s						
DRGR		**5.00**	**43** ⇓	*i*P	**Pn**	**01 09 41.5**	**+0.6**
DRGR		**5.00**	**43** ⇓	*i*P	**Pn**	**01 09 41.5**	**+0.6**
DRGR				S	**Sn**	**01 10 37.6**	**-1.6**
ABTA	**Abfaltersbach**	**5.15**	**315**	Pn	**Pn**	**01 09 44.1**	**+1.1**
	1.8nm,0.2s,SNR=6.6						
ABTA	**Abfaltersbach**	**5.15**	**315**	*e*Pn	**Pn**	**01 09 44.1**	**+1.1**
	1.8nm,0.2s,SNR=6.6						
ABTA				*e*Sn	**Sn**	**01 10 47.5**	**+4.5**
	20nm,0.7s						
MOA	**Molln**	**5.26**	**333**	Pn	**Pn**	**01 09 46.8**	**+2.3**
	12nm,0.3s,SNR=9.4						
MOA				Sn	**Sn**	**01 10 47.2**	**+1.6**
	19nm,0.5s						
MOA	**Molln**	**5.26**	**333**	*e*Pn	**Pn**	**01 09 46.8**	**+2.3**
	12nm,0.3s,SNR=9.4						
MOA				*i* Sn	**Sn**	**01 10 47.2**	**+1.6**
	19nm,0.5s						
SMOL	**Smolenice**	**5.31**	**357**	*e*Pn	**Pn**	**01 09 45.9**	**+0.8**
SMOL				*e*Sn	**Sn**	**01 10 43.2**	**-3.6**
SMOL	**Smolenice**	**5.31**	**357**	*e*PN	**Pn**	**01 09 45.8**	**+0.7**
SMOL				*e*SN	**Sn**	**01 10 43.2**	**-3.6**
VYHS	**Vyhne**	**5.33**	**7**	*e*Pn	**Pn**	**01 09 45.6**	**+0.1**
VYHS				*e*Sn	**Sn**	**01 10 47.9**	**+0.5**
VYHS	**Vyhne**	**5.33**	**7**	*e*PN	**Pn**	**01 09 45.6**	**+0.1**
VYHS				*e*SN	**Sn**	**01 10 47.9**	**+0.5**
ARR	**Arges**	**5.36**	**64** ⇓	*i*P	**Pn**	**01 09 47.6**	**+1.7**
ARR	**Arges**	**5.36**	**64** ⇓	*i*P	**Pn**	**01 09 47.6**	**+1.7**
KECS	**Kecovo**	**5.60**	**19**	*e*PN	**Pn**	**01 09 52.2**	**+3.1**
KECS				*e*SN	**Sn**	**01 10 50.8**	**-3.1**
VOIR		**5.66**	**64**	S	**Sn**	**01 10 57.8**	**+2.2**
VOIR		**5.66**	**64**	S	**Sn**	**01 10 57.8**	**+2.2**
WTTA	**Wattenberg**	**5.94**	**315**	Pn	**Pn**	**01 09 57.3**	**+3.3**
	4.1nm,0.3s						
WATA	**Walderalm**	**6.02**	**315**	*i* Pn	**Pn**	**01 09 57.7**	**+2.6**
	6.3nm,0.3s,SNR=18						
MOTA	**Moosalm**	**6.27**	**314**	*i* Pn	**Pn**	**01 10 00.7**	**+2.2**
	14nm,0.4s,SNR=27						
FETA	**Feichten**	**6.28**	**310**	*e*Pn	**Pn**	**01 10 00.6**	**+1.9**
	2.1nm,0.4s						
FETA				*i* Sg	**Sg**	**01 11 50.3**	**+3.6**
	16nm,0.8s						
PGF	**Pioggiola**	**6.50**	**267**	*e*Pn	**Pn**	**01 10 02.1**	**+0.6**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**01 11 11.6**	**-4.6**
	3.4nm,0.5s						
PGF	**Pioggiola**	**6.50**	**267**	*e*Pn	**Pn**	**01 10 02.1**	**+0.6**
	SNR=1.0						
RETA	**Reutte**	**6.54**	**313**	Pn	**Pn**	**01 10 04.0**	**+1.8**
RETA	**Reutte**	**6.54**	**313**	*e*Pn	**Pn**	**01 10 04.0**	**+1.8**
RETA				*i* Sn	**Sn**	**01 11 20.5**	**+3.2**
	8.0nm,0.4s						
MORC	**Moravsky Berou**	**6.57**	**359** ⇑	*i*P	**Pn**	**01 10 03.9**	**+1.4**
MORC	**Moravsky Berou**	**6.57**	**359** ⇑	*i*P	**Pn**	**01 10 03.9**	**+1.4**
KHC	**Kasperske Hory**	**6.60**	**335**	*e*PN	**Pn**	**01 10 05.4**	**+2.5**
KHC				*e*SN	**Sn**	**01 11 17.2**	**-1.5**
OKC	**Ostrava-Krasne**	**6.63**	**2**	*e*SN	**Sn**	**01 11 16.7**	**-2.7**
BURAR	**Bucovina Array**	**6.83**	**47** ⇑	*i*P	**Pb**	**01 10 20.5**	**-3.8**
DAVA	**Damuels**	**6.91**	**309**	Pn	**Pn**	**01 10 09.1**	**+1.8**
	2.4nm,0.4s						
DAVA	**Damuels**	**6.91**	**309**	*e*Pn	**Pn**	**01 10 09.1**	**+1.8**
	2.4nm,0.4s						
DAVA				*i* Sn	**Sn**	**01 11 30.9**	**+4.3**
	8.9nm,0.6s						
SBF	**Sospel**	**7.56**	**278**	*e*Pn	**Pn**	**01 10 15.2**	**-0.9**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**01 11 37.0**	**-5.3**
	9.9nm,0.5s						
SBF	**Sospel**	**7.56**	**278**	*e*Pn	**Pn**	**01 10 15.2**	**-0.9**
	SNR=1.0						
MBDF	**Montbardon**	**8.10**	**285**	*e*Pn	**Pn**	**01 10 22.2**	**-1.3**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**01 11 50.4**	**-5.2**
	7.3nm,0.5s						
MBDF	**Montbardon**	**8.10**	**285**	*e*Pn	**Pn**	**01 10 22.2**	**-1.3**
	SNR=1.0						
BRG	**Berggiesshubel**	**8.10**	**342**	SG	Sb	01 12 16.5	-6.2
	4.5nm,0.7s						
FRF	**La Foret Royal**	**8.13**	**276**	*e*Pn	**Pn**	**01 10 23.7**	**-0.1**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**01 11 50.4**	**-5.8**
	2.9nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	**8.13**	**276**	*e*Pn	**Pn**	**01 10 23.7**	**-0.1**
	SNR=1.0						
LMR	**La Mourre**	**8.24**	**275**	*e*Pn	**Pn**	**01 10 25.0**	**-0.3**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**01 11 52.3**	**-6.6**
	1.0nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**8.24**	**275**	*e*Pn	**Pn**	**01 10 25.0**	**-0.3**
	SNR=1.0						
LPG	**La Plagne**	**8.24**	**290**	*e*Pn	**Pn**	**01 10 24.2**	**-1.4**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**01 11 52.7**	**-6.6**
	11nm,0.6s,SNR=1.0						
LPG	**La Plagne**	**8.24**	**290**	*e*Pn	**Pn**	**01 10 24.2**	**-1.4**
	SNR=1.0						
LPL	**La Plagne**	**8.25**	**290**	*e*Pn	**Pn**	**01 10 25.2**	**-0.6**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**01 11 53.2**	**-6.4**
	9.1nm,0.4s						
LPL	**La Plagne**	**8.25**	**290**	*e*Pn	**Pn**	**01 10 25.2**	**-0.6**
	SNR=1.0						
CLL	**Collm**	**8.73**	**340**	*e*Sb	Sn	01 12 27.0	+16
CLL				*e*Sg	**Sg**	**01 13 06.0**	**+1.1**
ORIF	**Oris-en-Rattie**	**8.75**	**285**	*e*Pn	**Pn**	**01 10 31.2**	**-1.2**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**01 12 06.0**	**-5.6**
	8.2nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**8.75**	**285**	*e*Pn	**Pn**	**01 10 31.2**	**-1.2**
	SNR=1.0						
HINF	**Hinteralfeld**	**8.95**	**305**	*e*Pn	**Pn**	**01 10 35.1**	**-0.1**
HINF				*e*Sn	**Sn**	**01 12 10.3**	**-6.2**
	12nm,0.6s						
HINF	**Hinteralfeld**	**8.95**	**305**	*e*Pn	**Pn**	**01 10 35.1**	**-0.1**
CABF	**La Chapelle**	**8.97**	**296**	*e*Pn	**Pn**	**01 10 34.8**	**-0.7**
	SNR=1.0						
CABF	**La Chapelle**	**8.97**	**296**	*e*Pn	**Pn**	**01 10 34.8**	**-0.7**
	SNR=1.0						
CDF	**Champ du Feu**	**9.00**	**309**	*e*Pn	**Pn**	**01 10 35.0**	**-0.8**
CDF	**Champ du Feu**	**9.00**	**309**	*e*Pn	**Pn**	**01 10 35.0**	**-0.8**
VIVF	**Saint-Julien-l**	**9.60**	**284**	*e*Pn	**Pn**	**01 10 42.7**	**-1.3**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**9.60**	**284**	*e*Pn	**Pn**	**01 10 42.7**	**-1.3**
	SNR=1.0						
LASF	**Ste Croix**	**10.14**	**280**	*e*Pn	**Pn**	**01 10 50.2**	**-1.3**
LASF	**Ste Croix**	**10.14**	**280**	*e*Pn	**Pn**	**01 10 50.2**	**-1.3**
SMF	**Signal de Mont**	**10.47**	**294**	*e*Pn	**Pn**	**01 10 54.3**	**-1.7**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**01 12 47.0**	**-6.8**
	6.5nm,0.5s,SNR=1.0						
SMF	**Signal de Mont**	**10.47**	**294**	*e*Pn	**Pn**	**01 10 54.3**	**-1.7**
	SNR=1.0						
LOR	**Lormes**	**10.63**	**297**	*e*Pn	**Pn**	**01 10 57.3**	**-0.8**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**01 12 51.5**	**-6.1**
	4.9nm,0.4s,SNR=1.0						
LOR	**Lormes**	**10.63**	**297**	*e*Pn	**Pn**	**01 10 57.3**	**-0.8**
	SNR=1.0						
AVF	**Avril sur Loir**	**10.83**	**294**	*e*Pn	**Pn**	**01 10 59.9**	**-1.0**
	SNR=1.0						
BGF	**Bois d'Agland**	**11.12**	**293**	*e*Pn	**Pn**	**01 11 03.3**	**-1.5**
BGF	**Bois d'Agland**	**11.12**	**293**	*e*Pn	**Pn**	**01 11 03.3**	**-1.5**
CAF	**Calviac**	**11.45**	**284**	*e*Pn	**Pn**	**01 11 08.0**	**-1.3**
CAF	**Calviac**	**11.45**	**284**	*e*Pn	**Pn**	**01 11 08.0**	**-1.3**
NB2	**NORSAR Subarra**	**18.29**	**350**	P	**P**	**01 12 46.0**	**+6.2**
	comp=Z,2.1nm,1.0s,baz=165,slow=11						

ISC 15 01:23:51.4±1.8, 51.42N±0.09×16.10E±0.05, h0km, n9, σ0.59/20, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC	**Upice**	**0.92**	**184**	*e*PG	**Pg**	**01 24 08.9**	**-0.1**
UPC				*e*SG	**Sg**	**01 24 21.9**	**+1.0**
	comp=Z,14nm,0.4s						
DPC	**Dobruska-Polom**	**1.08**	**173**	*e*PG	**Pg**	**01 24 11.7**	**-0.5**
DPC				*e*SG	**Sg**	**01 24 26.5**	**+0.3**
	comp=Z,6.4nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.73**	**209**	*e*PG	**Pb**	**01 24 24.0**	**0.0**
GOPC				*e*SG	**Sg**	**01 24 46.7**	**-0.2**
	comp=Z,2.4nm,0.2s						
PRU	**Pruhonice**	**1.75**	**215**	*e*PG	**Pn**	**01 24 22.9**	**-0.1**
PRU				*e*SG	**Sg**	**01 24 48.4**	**+0.9**
	comp=Z,3.5nm,0.2s						
CLL	**Collm**	**1.95**	**268**	*e*Pg	**Pn**	**01 24 26.0**	**+0.3**
CLL				*e*Sg	**Sb**	**01 24 52.0**	**-0.5**
OKC	**Ostrava-Krasne**	**2.05**	**140**	*e*PG	**Pb**	**01 24 29.4**	**-0.2**
OKC				*e*SG	**Sb**	**01 24 56.2**	**+0.6**
	comp=Z,5.8nm,0.6s						
TREC	**Trest**	**2.17**	**191**	*e*PN	**Pn**	**01 24 29.2**	**+0.4**
TREC				*e*PG	**Pb**	**01 24 31.1**	**-0.4**
TREC				*e*SG	**Sg**	**01 25 00.3**	**-0.7**
	comp=Z,3.6nm,0.4s						
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**01 24 33.9**	**-0.9**
NKC				*e*PG	**Pb**	**01 24 40.1**	**+1.1**
NKC				*e*SG	**Sg**	**01 25 14.8**	**-0.3**
	comp=Z,4.8nm,0.3s						
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PG	**Pb**	**01 24 42.7**	**+0.2**
KHC				*e*SG	**Sg**	**01 25 21.4**	**-0.2**
	comp=Z,1.8nm,0.4s						

*IDC **15** 01:23:58.4±0.9, 37.59N×143.81E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.5/68, mbtmp3.6/9, ML3.7/2, Error ellipse: s-maj=26.8km s-min=19.6km az=109.0*
*ISCJB **15** 01:24:01.5±0.7, 37.68N±0.05×143.66E±0.06, h33km, mb3.5/7, Error ellipse: s-maj=7.0km s-min=6.3km az=32.1*
*JMA **15** 01:24:02.1±0.1, 37.72N×143.62E, h53km, M3.8*

ISC 15 01:24:03.0±0.9, 37.61N±0.05×143.67E±0.08, h35km, n23, σ2.9/01/30, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.02**	**295**	P	**Pn**	**01 24 33.7**	**-0.8**
JIO				S	**Sn**	**01 24 57.0**	**-1.6**
OFUJ	**Ofunato**	**2.15**	**314**	P	**Pn**	**01 24 34.7**	**-1.7**
OFUJ				*e*S	**Sn**	**01 24 59.4**	**-2.5**
JFK	**Kawauchi**	**2.24**	**265**	P	**Pn**	**01 24 37.2**	**-0.4**
JFK				*e*S	**Sn**	**01 25 03.3**	**-0.7**
JMK	**Ichinoseki**	**2.35**	**306**	P	**Pn**	**01 24 38.0**	**-1.1**
JMK				S	**Sn**	**01 25 04.9**	**-1.8**
JOM	**Ohasama**	**2.64**	**316**	P	**Pn**	**01 24 42.0**	**-1.0**
JOM				S	**Sn**	**01 25 11.7**	**-2.1**
JFT	**Otama**	**2.65**	**269**	P	**Pn**	**01 24 43.7**	**+0.4**
JFT				*e*S	**Sn**	**01 25 13.9**	**-0.3**
JYK	**Kaneyama**	**2.92**	**298**	P	**Pn**	**01 24 46.5**	**-0.4**
JYK				*e*S	**Sn**	**01 25 18.9**	**-1.8**
JAG	**Ashikaga**	**3.58**	**252**	P	**Pn**	**01 24 56.5**	**+0.5**
JAG				S	**Sn**	**01 25 38.1**	**+1.1**
JRY	**Ryogami san**	**4.14**	**249**	P	**Pn**	**01 25 04.0**	**+0.2**
JOT	**Ohata**	**4.28**	**333**	P	**Pn**	**01 25 04.7**	**-0.9**
MJAR	**Matsushiro Arr**	**4.50**	**258**	Pn	**Pn**	**01 25 10.1**	**+1.5**
	1.7nm,0.3s,baz=75,slow=15,SNR=6.6						
MAT	**Matsushiro**	**4.50**	**258**	P	**Pn**	**01 25 10.6**	**+2.0**
MAT				*e*S	**Sn**	**01 25 55.7**	**-4.0**
JHJ	**Hachijo jima 2**	**5.49**	**217**	Pn	**Pn**	**01 25 21.2**	**-1.0**
	12nm,0.3s,baz=75,slow=20,SNR=3.0						
JHJ				Sn	**Sn**	**01 26 17.0**	**-7.2**
	26nm,0.3s,baz=71,slow=18,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**26.95**	**125**	T	T	01 57 59.6	
	baz=317,slow=74,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**26.95**	**125**	T	T	01 58 00.8	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**26.96**	**125**	T	T	01 57 57.0	
	baz=317,slow=74,SNR=3.8						
MKAR	**Makanchi Array**	**45.34**	**302**	P	**P**	**01 32 18.7**	**+1.1**
	0.5nm,0.8s,baz=83,slow=9.9,SNR=5.4						
KURBB	**Kurchatov Arra**	**47.07**	**308**	P	**P**	**01 32 31.8**	**+0.7**
	0.5nm,0.5s,baz=82,slow=8.1,SNR=7.0						
ILAR	**Eielson Array**	**48.04**	**33**	P	**P**	**01 32 38.5**	**0.0**
	0.5nm,0.7s,baz=252,slow=6.5,SNR=7.5						
BVAR	**Borovoye Array**	**51.52**	**312**	P	**P**	**01 33 06.5**	**+1.5**
	0.2nm,0.4s,baz=60,slow=8.5,SNR=2.2						
WRA	**Warramunga Arr**	**57.91**	**190**	P	**P**	**01 33 51.8**	**+0.2**
	1.3nm,0.8s,baz=9.1,slow=7.0,SNR=6.3						
ASAR	**Alice Springs**	**61.64**	**190**	P	**P**	**01 34 18.3**	**+1.1**
	0.3nm,0.6s,baz=330,slow=38,SNR=2.8						
YKA	**Yellowknife Ar**	**62.40**	**31**	P	**P**	**01 34 22.4**	**+0.6**
	0.1nm,0.8s,baz=298,slow=6.3,SNR=2.9						

MEX 15 01:25:47.9±0.4, 14.82N×93.24W, h16km±29km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.88**	**1**	*i* P	**Pb**	**01 26 01.8**	**-2.9**
PCIG				*i* S	**Sb**	**01 26 12.4**	**-3.7**
CCIG	**Comitan**	**1.80**	**36**	*i* P	**Pn**	**01 26 15.5**	**-2.9**
CCIG				*i* S	**Sn**	**01 26 36.5**	**-4.5**
TGIG		**1.95**	**3**	*e*P	**Pn**	**01 26 17.3**	**-3.0**
TGIG				*e*S	**Sn**	**01 26 39.6**	**-4.9**

MEX 15 01:30:25.2±0.6, 16.22N×98.01W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**325**	*i* P	**Pg**	**01 30 28.5**	**-0.7**
PNIG				*i* S	**Sg**	**01 30 31.8**	**-0.2**
TLIG	**Tlapa**	**1.44**	**338**	*e*P	**Pn**	**01 30 48.5**	**-3.6**
TLIG				*i* S	**Sb**	**01 31 06.8**	**-4.5**
VHO	**Vista Hermosa**	**1.48**	**55**	*e*P	**Pn**	**01 30 49.1**	**-3.6**
VHO				*e*S	**Sn**	**01 31 07.3**	**-5.3**
**HU

TIN	**Tinemaha, Big**	**74.81**	**43**	*e*P	**P**		**01 53 01.9**	**+1.3**
NV01	**Mina Array Sit**	**75.56**	**42**	*e*P	**P**		**01 53 05.1**	**0.0**
NVAR	**Mina Array Bea**	**75.56**	**42**	P	**P**		**01 53 05.3**	**+0.3**
	3.1nm,0.9s,baz=228,slow=11,SNR=17							
NVAR				LR	LR		02 18 55.2	
	comp=Z,56nm,19.0s,baz=303,slow=30							
NV11	**Mina Array Sit**	**75.65**	**42**	*e*P	**P**		**01 53 06.1**	**+0.6**
	0.5nm,1.0s							
SBUM	**Sibu**	**75.70**	**277**	*e*P	**P**		**01 53 07.8**	**+1.6**
	139nm,1.9s							
Y14A	**Wickenburg**	**76.67**	**48**	*e*P	**P**		**01 53 11.9**	**+0.7**
	18nm,1.0s							
KMOR	**Kings Mountain**	**77.01**	**33**	*e*P	**P**		**01 53 12.8**	**-0.2**
R11A	**Troy Canyon, C**	**77.27**	**43**	*e*P	**P**		**01 53 15.1**	**+0.4**
	4.9nm,1.4s							
TUC	**Tucson**	**77.46**	**50**	*e*P	**P**		**01 53 17.3**	**+1.6**
	4.3nm,1.0s							
X16A	**Lo Mia Camp, P**	**78.03**	**48**	*e*P	**P**		**01 53 19.8**	**+0.8**
	4.1nm,0.9s							
LCMT	**Little Creek M**	**78.10**	**45**	*e*P	**P**		**01 53 20.1**	**+0.8**
	5.7nm,1.1s							
KNB	**Kanab**	**78.39**	**45**	*e*P	**P**		**01 53 22.0**	**+1.0**
	5.8nm,1.1s							
U15A	**North Rim**	**78.45**	**46**	*e*P	**P**		**01 53 22.6**	**+1.1**
	5.4nm,1.0s							
MTPU	**Mount Pierson**	**79.36**	**45**	*e*P	**P**		**01 53 28.1**	**+1.6**
	9.9nm,1.3s							
MSU	**Marysvale**	**79.61**	**44**	*e*P	**P**		**01 53 29.0**	**+1.3**
HLID	**Hailey**	**80.90**	**39**	*e*P	**P**		**01 53 35.0**	**+0.6**
	5.0nm,1.0s							
HVU	**Hansel Valley**	**80.94**	**41**	*e*P	**P**		**01 53 35.0**	**+0.4**
	3.4nm,1.0s							
MNTX	**Cornudas Mount**	**81.24**	**53**	*e*P	**P**		**01 53 37.2**	**+0.9**
	3.7nm,1.1s							
TCUT	**Toone Canyon**	**81.47**	**42**	*e*P	**P**		**01 53 38.7**	**+1.1**
	10nm,0.9s							
LTX	**Lajitas**	**81.57**	**56**	*e*P	**P**		**01 53 38.7**	**+0.5**
TX31	**Lajitas Ar. Si**	**81.57**	**56**	*e*P	**P**		**01 53 38.7**	**+0.5**
TXAR	**Lajitas Array**	**81.57**	**56**	P	**P**		**01 53 38.7**	**+0.5**
	1.2nm,1.1s,baz=229,slow=5.8,SNR=8.2							
PV09	**Paradox Valley**	**81.66**	**46**	*e*P	**P**		**01 53 40.1**	**+1.3**
ANMO	**Albuquerque**	**81.89**	**50**	LR	LR		02 23 58.9	
	comp=Z,52nm,19.7s,baz=154,slow=31							
ANMO	**Albuquerque**	**81.89**	**50**	*e*P	**P**		**01 53 40.8**	**+0.9**
	6.0nm,1.4s							
MCK	**McKinley**	**82.67**	**11**	*e*P	**P**		**01 53 42.7**	**-0.4**
	8.5nm,0.9s							
S22A	**4UR Ranch, Cre**	**82.90**	**47**	*e*P	**P**		**01 53 46.0**	**+0.8**
	8.6nm,1.0s							
REDW	**Red Top Meadow**	**82.98**	**41**	*e*P	**P**		**01 53 46.3**	**+0.9**
	9.1nm,1.1s							
TPAW	**Teton Pass**	**82.98**	**41**	*e*P	**P**		**01 53 45.3**	**-0.2**
	5.5nm,0.9s							
FXWY	**Fox Creek**	**83.02**	**40**	*e*P	**P**		**01 53 46.0**	**+0.4**
	4.7nm,1.1s							
SNOW	**Snow King Moun**	**83.09**	**41**	*e*P	**P**		**01 53 46.7**	**+0.6**
	9.4nm,1.0s							
IMW	**Indian Meadow**	**83.20**	**40**	*e*P	**P**		**01 53 47.2**	**+0.5**
	6.0nm,0.9s							
MCID	**Moose Creek**	**83.21**	**40**	*e*P	**P**		**01 53 43.8**	**-2.8**
SMCO	**Snowmass**	**83.47**	**46**	*e*P	**P**		**01 53 48.9**	**+0.6**
	4.7nm,1.0s							
BW06	**Boulder Array**	**83.50**	**42**	*e*P	**P**		**01 53 47.9**	**-0.2**
	4.3nm,0.8s							
PD31	**Pinedale Array**	**83.50**	**42**	*e*P	**P**		**01 53 47.9**	**-0.2**
PDAR	**Pinedale Array**	**83.50**	**42**	P	**P**		**01 53 47.5**	**-0.7**
	4.3nm,0.8s,baz=217,slow=3.4,SNR=35							
PDAR				LR	LR		02 24 44.3	
	comp=Z,52nm,20.8s,baz=328,slow=31							
PDAR	**Pinedale Array**	**83.50**	**42**	*e*P	**P**		**01 53 46.8**	**-1.3**
BOZ	**Bozeman (W)**	**83.67**	**39**	*e*P	**P**		**01 53 49.3**	**+0.5**
	6.9nm,1.0s							
CCB	**Clear Creek Bu**	**83.71**	**11**	*e*P	**P**		**01 53 47.4**	**-1.0**
	3.2nm,0.8s							
IL1	**Eielson Array**	**83.99**	**11**	*e*P	**P**		**01 53 48.3**	**-1.5**
ILAR	**Eielson Array**	**83.99**	**11**	P	**P**		**01 53 48.8**	**-1.0**
	0.8nm,0.8s,baz=231,slow=5.8,SNR=12							
ILB	**Eielson Array**	**83.99**	**11**	*e*P	**P**		**01 53 48.8**	**-1.0**
HRY	**Holter Researc**	**84.14**	**38**	*e*P	**P**		**01 53 51.3**	**+0.1**
MSTX	**Muleshoe**	**84.20**	**52**	*e*P	**P**		**01 53 52.3**	**+0.6**
	13nm,1.2s							
ABTX	**Abilene, Hawle**	**86.05**	**54**	*e*P	**P**		**01 54 01.5**	**+0.5**
	13nm,1.0s							
YKA	**Yellowknife Ar**	**91.56**	**23**	P	**P**		**01 54 25.8**	**-0.5**
	0.7nm,1.0s,baz=233,slow=4.1,SNR=9.1							
YKB5	**Yellowknife Ar**	**91.56**	**23**	*e*P	**P**		**01 54 25.8**	**-0.5**
CLL	**Collm**	**145.34**	**353**	*e*PKPbc	**PKPbc**		**02 00 57.0**	**-0.4**
DPC	**Dobruska-Polom**	**145.76**	**349**	*e*PKP	**PKPab**		**02 00 59.5**	**+0.3**
DPC				*ex*	x		02 01 19.5	
BR101	**Keskin Array S**	**147.28**	**319**	*e*PKPbc	**PKPbc**		**02 01 03.9**	**+0.1**
BRTR	**Keskin Array B**	**147.28**	**319**	PKPbc	**PKPbc**		**02 01 03.9**	**+0.1**
	0.9nm,0.7s,baz=82,slow=1.7,SNR=3.7							
KHC	**Kasperske Hory**	**147.40**	**351**	*e*PKP	**PKPab**		**02 01 04.7**	**-0.9**
KHC				*ex*	x		02 01 25.5	
GERES	**GERESS Array B**	**147.66**	**351**	PKPbc	**PKPbc**		**02 01 04.0**	**-0.4**
	0.7nm,0.9s,baz=4.3,slow=5.4,SNR=5.6							

MAN 15 01:46:45.1±0.6N×125.9±1.6E,h131km,mb4.3,ML3.1, MS2.8,1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.03**	**274**	*e*P	Pn	01 47 09.2	+0.9
MSLP				*e*S	Sn	01 47 27.9	+1.9
BUTP	**Butuan**	**1.12**	**195**	*e*P	Pn	01 47 10.2	+1.0
PLP	**Palo**	**1.43**	**320**	*e*P	Pn	01 47 14.1	+1.7
PLP				*i* S	Sn	01 47 35.9	+2.6
BESP	**Borongan**	**1.60**	**343**	*e*P	Pn	01 47 21.0	+6.6
BESP				*e*S	Sn	01 47 39.5	+2.8
BUKP	**Musuan**	**2.32**	**201**	*e*P	Pn	01 47 25.5	+2.4

VIE ***15*** *02:00:49.4±3.8, 44.°48N×12.°44E, h8km±19km, mb1.7/1, ML2.2/4, Error ellipse: s-maj=18.9km s-min=4.2km az=9.0*
ISCJB ***15*** *02:00:50.8±0.9, 44.°53N±0.°05×12.°53E±0.°07, h29km±7km, Error ellipse: s-maj=8.5km s-min=7.8km az=4.3*
CSEM ***15*** *02:00:50.5±0.2, 44.°48N×12.°49E, h15km, ML2.7/9, Error ellipse: s-maj=7.3km s-min=3.4km az=86.0*
ROM ***15*** *02:00:50.1±0.2, 44.°54N×12.°56E, h22km±4km, Md2.4/18, Ml1.8/12, Error ellipse: s-maj=3.3km s-min=2.6km az=74.0*

ISC 15 02:00:51.0±1.1, 44.°47N±0.°02×12.°52E±0.°04, h19km±4km, n43, σ0§86/62, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLA	**Bellaria**	**0.33**	**186**	Pg	**Pb**	**02 00 58.5**	**+0.2**
BLLA				Sg	**Sn**	**02 01 05.4**	**-1.5**
	13μm,10.0s						
BLLA	**Bellaria**	**0.33**	**186**	Pg	**Pb**	**02 00 58.5**	**+0.2**
BLLA				Sg	**Sn**	**02 01 05.4**	**-1.5**
	13μm,10.0s						
PESA	**Pesaro**	**0.58**	**156**	Pg	**Pb**	**02 01 02.9**	**+0.5**
PESA				Sg	**Sn**	**02 01 12.2**	**-0.9**
	25nm,0.2s						
PESA	**Pesaro**	**0.58**	**156**	Pg	**Pb**	**02 01 02.9**	**+0.5**
PESA				Sg	**Sn**	**02 01 12.2**	**-0.9**
	25nm,0.2s						
SFI	**Santa Sofia**	**0.74**	**221**	Pg	**Pb**	**02 01 04.8**	**-0.5**
SFI	**Santa Sofia**	**0.74**	**221**	Pg	**Pb**	**02 01 04.8**	**-0.5**
FSSB	**Fossombrone**	**0.80**	**166**	Pg	**Pb**	**02 01 06.3**	**0.0**
FSSB				Sg	**Sn**	**02 01 19.3**	**+0.7**
	73nm,0.3s						
FSSB	**Fossombrone**	**0.80**	**166**	Pg	**Pb**	**02 01 06.3**	**0.0**
FSSB				Sg	**Sn**	**02 01 19.3**	**+0.7**
	73nm,0.3s						
PARC	**Parchiule**	**0.85**	**194**	Pg	**Pg**	**02 01 06.9**	**-0.6**
PARC	**Parchiule**	**0.85**	**194**	Pg	**Pg**	**02 01 06.9**	**-0.6**
MPAG	**Monte Paganucc**	**0.86**	**168**	Pg	**Pg**	**02 01 07.1**	**-0.7**
MPAG				Sg	**Sn**	**02 01 20.4**	**+0.2**
	25nm,0.2s						
MPAG	**Monte Paganucc**	**0.86**	**168**	Pg	**Pg**	**02 01 07.1**	**-0.7**
MPAG				Sg	**Sn**	**02 01 20.4**	**+0.2**
	25nm,0.2s						
VMG	**Vicchio**	**0.87**	**234**	Pg	**Pn**	**02 01 08.2**	**+0.1**
VMG	**Vicchio**	**0.87**	**234**	Pg	**Pn**	**02 01 08.2**	**+0.1**
PIEI	**Pieia**	**0.94**	**179**	Pg	**Pb**	**02 01 08.2**	**-0.4**
PIEI				Sg	**Sn**	**02 01 23.1**	**+1.1**
	18nm,0.3s						
PIEI	**Pieia**	**0.94**	**179**	Pg	**Pb**	**02 01 08.2**	**-0.4**
PIEI				Sg	**Sn**	**02 01 23.1**	**+1.1**
	18nm,0.3s						
CRE	**Caprese Michel**	**0.94**	**206**	Pg	**Pn**	**02 01 09.3**	**0.0**
CRE	**Caprese Michel**	**0.94**	**206**	Pg	**Pn**	**02 01 09.3**	**0.0**
FRON	**Frontone**	**0.96**	**171**	Pg	**Pg**	**02 01 08.9**	**-0.9**
	25nm,1.0s						
FRON	**Frontone**	**0.96**	**171**	Pg	**Pg**	**02 01 08.9**	**-0.9**
	25nm,1.0s						
BADI	**Badiali**	**0.98**	**192**	Pg	**Pn**	**02 01 09.4**	**-0.3**
BADI				Sg	**Sn**	**02 01 24.4**	**+1.3**
	15nm,0.3s						
BADI	**Badiali**	**0.98**	**192**	Pg	**Pn**	**02 01 09.4**	**-0.3**
BADI				Sg	**Sn**	**02 01 24.4**	**+1.3**
	15nm,0.3s						
ATPC	**Poggio Castell**	**0.99**	**183**	Pg	**Pg**	**02 01 09.4**	**-0.9**
ATPC				Sg	**Sn**	**02 01 24.7**	**+1.4**
	51nm,1.0s						
ATPC	**Poggio Castell**	**0.99**	**183**	Pg	**Pg**	**02 01 09.4**	**-0.9**
ATPC				Sg	**Sn**	**02 01 24.7**	**+1.4**
	51nm,1.0s						
ARVD	**Arcevia**	**1.02**	**162**	Pg	**Pb**	**02 01 09.5**	**-0.5**
	38nm,1.8s						
ARVD	**Arcevia**	**1.02**	**162**	Pg	**Pb**	**02 01 09.5**	**-0.5**
	38nm,1.8s						
TEOL	**Teolo**	**1.07**	**326**	Pg	**Pb**	**02 01 10.2**	**-0.8**
TEOL	**Teolo**	**1.07**	**326**	Pg	**Pb**	**02 01 10.2**	**-0.8**
ATVO	**AVT- Monte Val**	**1.09**	**184**	Pg	**Pb**	**02 01 10.8**	**-0.4**
ATVO	**AVT- Monte Val**	**1.09**	**184**	Pg	**Pb**	**02 01 10.8**	**-0.4**
MURB	**Monte Urbino**	**1.21**	**180**	Pg	**Pg**	**02 01 13.7**	**-0.7**
	28nm,0.3s						
MURB	**Monte Urbino**	**1.21**	**180**	Pg	**Pg**	**02 01 13.7**	**-0.7**
	28nm,0.3s						
SNTG	**Esanatoglia**	**1.25**	**166**	Pg	**Pg**	**02 01 14.4**	**-0.8**
	14nm,0.8s						
SNTG	**Esanatoglia**	**1.25**	**166**	Pg	**Pg**	**02 01 14.4**	**-0.8**
	14nm,0.8s						
ATCC	**AVT- Casa Cast**	**1.29**	**176**	Pg	**Pb**	**02 01 14.3**	**-0.3**
	22nm,0.7s						
ATCC	**AVT- Casa Cast**	**1.29**	**176**	Pg	**Pb**	**02 01 14.3**	**-0.3**
	22nm,0.7s						
NVLJ	**Novalja**	**1.69**	**86**	*e*Pg	**Pn**	**02 01 19.0**	**-0.3**
NVLJ				Sg	**Sn**	**02 01 38.6**	**-1.8**
ABTA	**Abfaltersbach**	**2.28**	**360**	Pg	**Pg**	**02 01 34.0**	**-0.7**
	0.8nm,0.2s						
ABTA				Sg	**Sg**	**02 02 05.0**	**+0.7**
	2.0nm,0.4s						
ABTA	**Abfaltersbach**	**2.28**	**360**	Pg	**Pg**	**02 01 34.0**	**-0.7**
	0.8nm,0.2s						
ABTA				*i* Sg	**Sg**	**02 02 05.0**	**+0.7**
	2.0nm,0.4s						
OBKA	**Obir**	**2.49**	**34**	Pn	**Pn**	**02 01 31.0**	**+0.5**
	1.0nm,0.4s						
OBKA				Sg	**Sg**	**02 02 12.6**	**+1.6**
	2.5nm,0.3s						
OBKA	**Obir**	**2.49**	**34**	Pn	**Pn**	**02 01 31.0**	**+0.5**
	1.0nm,0.4s						
OBKA				*i* Sg	**Sg**	**02 02 12.6**	**+1.6**
	2.5nm,0.3s						
MOTA	**Moosalm**	**3.04**	**342**	Sg	**Sg**	**02 02 30.2**	**+1.6**
	1.3nm,0.4s						
MOTA	**Moosalm**	**3.04**	**342**	*i* Sg	**Sg**	**02 02 30.2**	**+1.6**
	1.3nm,0.4s						

EAF ***15*** *02:00:39.7±1.8, 19.°78S×33.°58E, h0km±65km, MD4.3*
BUL ***15*** *02:00:43.0±3.5, 19.°66S×33.°51E, h0km±87km, MD4.3*
PRE ***15*** *02:00:49.7±1.5, 19.°51S×32.°29E, h5km, ML4.6*

ISC 15 02:00:50.3±3.2, 19.°6S±0.°2×32.°3E±0.°1, h10km, n15, σ3§19/22, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.43**	**218**	*e*P	**Pn**	**02 01 47.2**	**+3.3**
MSNA				*e*S	**Sn**	**02 02 30.1**	**+5.4**
MSNA				AML	AML	02 02 52.6	
	comp=Z,250nm,0.4s						
BLWY	**Bulawayo**	**3.49**	**261**	*i* P	**Pb**	**02 01 49.7**	**-2.7**
BLWY				*i* S	**Sg**	**02 02 44.5**	**+1.9**
BLWY	**Bulawayo**	**3.49**	**261**	*i* P	**Pb**	**02 01 49.7**	**-2.7**
BLWY				*i* S	**Sg**	**02 02 44.5**	**+1.9**
LSZ	**Lusaka**	**5.83**	**317**	*i* P	Pn	02 02 20.4	+3.3
LSZ	**Lusaka**	**5.83**	**317**	*i* P	Pn	02 02 20.4	+3.3
CNG	**Changalane**	**6.63**	**181**	*e*P	**Pn**	**02 02 30.7**	**+2.8**
CNG				*e*S	**Sn**	**02 03 43.4**	**-0.2**
CNG				AML	AML	02 03 55.8	
	comp=Z,5.6nm,0.3s						
LBTB	**Lobatse**	**8.18**	**228**	*i* P	**Pn**	**02 02 52.8**	**+3.4**
LBTB	**Lobatse**	**8.18**	**228**	*e*P	**Pn**	**02 02 51.8**	**+2.4**
LBTB				*e*S	**Sn**	**02 04 20.7**	**-1.3**
LBTB				AML	AML	02 05 25.9	
	comp=Z,39nm,0.5s						
LBTB	**Lobatse**	**8.18**	**228**	*i* P	**Pn**	**02 02 52.8**	**+3.4**
PRYS	**Parys**	**8.55**	**211**	*e*P	**Pn**	**02 02 57.7**	**+3.2**
PRYS				*e*S	**Sn**	**02 04 30.3**	**-0.9**
PRYS				AML	AML	02 05 41.3	
	comp=Z,18nm,0.4s						
SWZ	**Schweizer**	**9.86**	**219**	*e*P	**Pn**	**02 03 14.5**	**+2.2**
SWZ				*e*S	**Sn**	**02 04 59.5**	**-3.7**
SWZ				AML	AML	02 06 14.2	
	comp=Z,18nm,0.6s						
BOSA	**Boshof**	**11.00**	**214**	*i* P	**Pn**	**02 03 25.2**	**-2.8**
BOSA				*i* S	Sn	02 05 24.2	-7.1
BOSA	**Boshof**	**11.00**	**214**	*e*P	**Pn**	**02 03 30.1**	**+2.1**
BOSA				*e*S	**Sn**	**02 05 28.3**	**-3.0**
BOSA				AML	AML	02 06 59.8	
	comp=Z,7.4nm,0.4s						
BOSA	**Boshof**	**11.00**	**214**	*i* P	**Pn**	**02 03 25.2**	**-2.8**
BOSA				*i* S	Sn	02 05 24.2	-7.1
ARMS	**Ukamas**	**14.20**	**232**	*e*P	**Pn**	**02 04 14.1**	**+2.5**
ARMS				*e*S	**Sn**	**02 06 44.0**	**-5.3**
ARMS				AML	AML	02 08 29.4	
	comp=Z,3.1nm,0.5s						

IDC ***15*** *02:04:31.5±1.1, 40.°86N×144.°96E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.5/65, mbtmp3.7/10, ML3.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/65, Error ellipse: s-maj=35.1km s-min=21.3km az=79.0*
JMA ***15*** *02:04:32.5±0.2, 40.°89N×145.°17E, h67km±3km, M3.8*
ISCJB ***15*** *02:04:34.2±0.6, 40.°96N±0.°03×144.°98E±0.°06, h33km, mb3.6/9, Error ellipse: s-maj=6.5km s-min=4.8km az=17.9*

ISC 15 02:04:35.5±1.0, 40.°92N±0.°06×145.°08E±0.°07, h35km, n35, σ1§87/33, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.81**	**308**	P	**Pn**	**02 05 02.9**	**-1.3**
JAK	**Akkeshi**	**2.10**	**352**	P	**Pn**	**02 05 05.9**	**-2.2**
JAK				*e*S	**Sn**	**02 05 30.8**	**-2.1**
JCH	**Churui**	**2.13**	**323**	P	**Pn**	**02 05 07.7**	**-0.8**
JCH				*e*S	**Sn**	**02 05 31.7**	**-1.9**
JOB	**Onbets**	**2.19**	**335**	P	**Pn**	**02 05 08.7**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.21**	**309**	P	**Pn**	**02 05 08.3**	**-1.4**
JNBK				*e*S	**Sn**	**02 05 35.7**	**-0.1**
NEM2	**Nemuro 2**	**2.50**	**11**	P	**Pn**	**02 05 11.8**	**-1.7**
NEM2				*e*S	**Sn**	**02 05 39.8**	**-2.9**
JAR	**Ashorobuto**	**2.57**	**338**	P	**Pn**	**02 05 13.0**	**-1.6**
JAR				*e*S	**Sn**	**02 05 42.2**	**-2.4**
JNK	**Nakash**	**2.68**	**354**	P	**Pn**	**02 05 14.1**	**-2.0**
JNK				*e*S	**Sn**	**02 05 43.8**	**-3.5**
JBT2	**Biratori 2**	**2.75**	**313**	P	**Pn**	**02 05 17.2**	**+0.1**
JANG	**Nango**	**2.76**	**260**	P	**Pn**	**02 05 16.1**	**-1.2**
JANG				*e*S	**Sn**	**02 05 46.5**	**-2.9**
JFR	**Furan**	**2.91**	**321**	*e*S	**Sn**	**02 05 50.6**	**-2.4**
JOT	**Ohata**	**3.08**	**280**	*e*S	**Sn**	**02 05 53.8**	**-3.3**
JTKR	**Abashiri--Toko**	**3.17**	**345**	P	**Pn**	**02 05 22.3**	**-0.5**
JTKR				*e*S	**Sn**	**02 05 58.3**	**-1.1**
JOM	**Ohasama**	**3.24**	**245**	P	**Pn**	**02 05 22.3**	**-1.5**
JOM				*e*S	**Sn**	**02 05 57.6**	**-3.5**
JEW	**Eniwo**	**3.32**	**307**	*e*S	**Sn**	**02 06 03.5**	**+0.4**
ASAJ	**Asahikawa**	**3.69**	**331**	Pn	**Pn**	**02 05 30.6**	**+0.7**
	1.0nm,0.3s,baz=240,slow=20,SNR=2.8						
ASAJ				Sn	**Sn**	**02 06 12.0**	**-0.1**
	2.3nm,0.3s,baz=117,slow=33,SNR=7.3						
JHJ	**Hachijo jima 2**	**8.86**	**210**	LR	LR	02 10 12.3	
	comp=Z,180nm,18.3s,baz=113,slow=39						
USRK	**Ussuriysk Ar.**	**10.20**	**293**	Pn	Pn	02 07 02.2	+2.9
	0.1nm,0.3s,baz=95,slow=12,SNR=3.2						
PETK	**Petropavlovsk-**	**14.90**	**31**	LR	LR	02 14 50.5	
	comp=Z,35nm,18.2s,baz=264,slow=41						
H11N2	**WAKE ISLAND Hy**	**28.15**	**132**	T	T	02 39 57.5	
	baz=324,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**28.16**	**132**	T	T	02 40 00.6	
	baz=324						
H11N3	**WAKE ISLAND Hy**	**28.17**	**132**	T	T	02 39 57.4	
	baz=324						
SONM	**Songino Array**	**28.27**	**297**	P	**P**	**02 10 25.3**	**-0.2**
	0.7nm,0.9s,baz=90,slow=7.6,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**29.03**	**134**	T	T	02 41 02.8	
	baz=323						
H11S3	**WAKE ISLAND Hy**	**29.03**	**134**	T	T	02 41 04.1	
	baz=323						
H11S2	**WAKE ISLAND Hy**	**29.05**	**134**	T	T	02 41 03.3	
	baz=323						
ZALV	**Zalesovo Beam**	**41.54**	**309**	PcP	**PcP**	**02 14 17.9**	**+1.8**
	0.8nm,0.5s,baz=93,slow=3.5,SNR=4.6						
MKAR	**Makanchi Array**	**44.59**	**299**	P	**P**	**02 12 45.0**	**+1.0**
	0.3nm,0.7s,baz=83,slow=10,SNR=3.7						
ILAR	**Eielson Array**	**44.69**	**34**	P	P	02 12 46.5	+2.0
	0.4nm,0.8s,baz=256,slow=6.4,SNR=4.4						
KURBB	**Kurchatov Arra**	**45.97**	**306**	P	**P**	**02 12 56.2**	**+1.3**
	1.0nm,0.5s,baz=78,slow=8.7,SNR=7.8						
WRA	**Warramunga Arr**	**61.37**	**192**	P	**P**	**02 14 48.5**	**+0.6**
	1.6nm,0.9s,baz=7.5,slow=7.1,SNR=5.2						
ASAR	**Alice Springs**	**65.09**	**191**	P	P	02 15 13.8	+1.4
	0.4nm,0.7s,baz=13,slow=7.2,SNR=4.4						
FINES	**FINESS Array B**	**66.69**	**333**	P	P	02 15 24.3	+1.9
	1.4nm,0.8s,baz=74,slow=8.1,SNR=3.6						
HFS	**Hagfors**	**71.69**	**337**	P	**P**	**02 15 54.9**	**+1.6**
	1.1nm,0.7s,baz=118,slow=8.5,SNR=3.0						
GERES	**GERESS Array B**	**80.86**	**330**	P	**P**	**02 16 46.1**	**+0.4**
	0.2nm,0.5s,baz=17,slow=7.2,SNR=3.8						

ISCJB ***15*** *02:09:43.9±1.1, 10.°8N±0.°2×94.°3E±0.°2, h11km, mb3.8/8, MS3.5/2, Error ellipse: s-maj=42.2km s-min=16.4km az=142.9*
IDC ***15*** *02:09:44.1±1.3, 10.°81N×94.°26E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.5/71, mbtmp3.8/8, MS3.3/3, Ms1 3.3/3, ms1mx2.7/70, Error ellipse: s-maj=50.8km s-min=19.0km az=53.0*

ISC 15 02:09:45.8±1.4, 10.°8N±0.°2×94.°3E±0.°3, h11km, n11, σ0§63/8, mb3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.84**	**30**	LR	LR	02 15 36.9	
	comp=Z,79nm,18.5s,baz=210,slow=40						
MKAR	**Makanchi Array**	**37.27**	**346**	P	**P**	**02 16 57.3**	**-0.4**
	0.6nm,0.8s,baz=169,slow=8.5,SNR=5.5						
KSRS	**Korea Array**	**40.20**	**43**	P	P	02 17 22.4	+0.1
	1.5nm,0.4s,baz=64,slow=17,SNR=4.2						
KURBB	**Kurchatov Arra**	**41.75**	**345**	P	**P**	**02 17 34.6**	**-0.3**
	0.7nm,1.0s,baz=158,slow=7.1,SNR=4.1						
GEYT	**Alibeck**	**42.15**	**316**	P	**P**	**02 17 39.1**	**+0.6**
	3.7nm,0.7s,baz=132,slow=8.9,SNR=11						
ZALV	**Zalesovo Beam**	**43.68**	**352**	P	**P**	**02 17 51.3**	**+0.8**
	0.5nm,0.3s,baz=156,slow=7.8,SNR=5.4						
WRA	**Warramunga Arr**	**49.90**	**128**	P	**P**	**02 18 39.9**	**+0.1**
	0.9nm,0.6s,baz=305,slow=8.8,SNR=7.8						
ASAR	**Alice Springs**	**51.73**	**132**	P	**P**	**02 18 53.5**	**-0.1**
	0.8nm,0.9s,baz=306,slow=7.9,SNR=3.8						
STKA	**Stephens Creek**	**62.05**	**135**	LR	LR	02 48 31.7	
	comp=Z,27nm,19.1s,baz=207,slow=38						
ARCES	**ARCESS Array B**	**72.56**	**340**	P	**P**	**02 21 11.8**	**-0.8**
	1.7nm,1.0s,baz=104,slow=7.5,SNR=3.1						
DZM	**Mont Dzumac**	**77.91**	**115**	LR	LR	03 00 52.0	
	comp=Z,29nm,19.0s,baz=181,slow=39						

IDC 15 02:43:57.3±7.0, 8.°09N×94.°91E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.2/72, mbtmp3.6/3, Error ellipse: s-maj=377.4km s-min=27.3km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.05**	**347**	P	P	02 51 34.1	-0.1
	0.2nm,0.5s,baz=155,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**47.77**	**126**	P	P	02 52 36.4	-0.3
	1.2nm,0.8s,baz=305,slow=8.8,SNR=8.8						
ASAR	**Alice Springs**	**49.47**	**131**	P	P	02 52 49.9	+0.1
	1.0nm,0.8s,baz=311,slow=7.3,SNR=6.3						

IDC ***15*** *02:53:23.6±3.1, 35.°37S×179.°17W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.9/36, mbtmp4.0/3, ML3.6/1, Error ellipse: s-maj=76.7km s-min=35.9km az=129.0*
ISCJB ***15*** *02:53:24.8±1.4, 35.°

EZN				S	Sg	02 59 50.7	-0.1	
PRK	**Paraskevi**	**0.39**	**154**	P	Pb	02 59 48.5	-0.3	
PRK				S	Sb	02 59 54.5	-0.1	
PRK				AML	AML	02 59 54.7		
	comp=N,3581μm,0.4s							
PRK				AML	AML	02 59 55.6		
	comp=E,4620μm,0.7s							
PRK	**Paraskevi**	**0.39**	**154**	P	Pb	02 59 48.2	-0.6	
PRK				S	Sb	02 59 54.3	-0.3	
PRK	**Paraskevi**	**0.39**	**154**	P	Pb	02 59 48.2	-0.6	
PRK				S	Sb	02 59 54.3	-0.3	
BAYC	**CANAKKALE_Bayr**	**0.41**	**69**	*i* P	Pg	02 59 48.1	+0.1	
BAYC				*i* S	Sg	02 59 53.9	+0.1	
BAYC	**CANAKKALE_Bayr**	**0.41**	**69**	P	Pg	02 59 48.1	-0.1	
BAYC				S	Sg	02 59 53.8	+0.1	
SIGR	**SIGRI**	**0.42**	**202**	PG	Pg	02 59 48.1	-0.3	
SIGR				SG	Sb	02 59 55.1	-0.3	
SIGR	**SIGRI**	**0.42**	**202**	P	Pg	02 59 48.3	-0.1	
SIGR				S	Sg	02 59 54.5	+0.5	
SIGR				AML	AML	02 59 55.6		
	comp=N,1144μm,0.5s							
SIGR				AML	AML	02 59 57.1		
	comp=E,826μm,0.2s							
SIGR	**SIGRI**	**0.42**	**202**	*e*Pg	Pg	02 59 48.1	-0.3	
SIGR	**SIGRI**	**0.42**	**202**	P	Pg	02 59 48.5	+0.1	
SIGR				S	Sb	02 59 54.8	-0.6	
SIGR				*e*Sg	Sb	02 59 55.1	-0.3	
SIGR	**SIGRI**	**0.42**	**202**	P	Pg	02 59 48.5	+0.1	
SIGR				S	Sb	02 59 54.8	-0.6	
GADA	**Gvkgeada**	**0.60**	**349**	PG	Pg	02 59 51.2	-0.6	
GADA				SG	Sb	03 00 00.1	-0.7	
GADA	**Gvkgeada**	**0.60**	**349**	P	Pg	02 59 51.3	-0.6	
GADA				S	Sg	02 59 59.2	-0.7	
GADA				*e*Sg	Sb	03 00 00.1	-0.7	
GADA	**Gvkgeada**	**0.60**	**349**	P	Pg	02 59 51.3	-0.6	
GADA				S	Sg	02 59 59.2	-0.7	
GOKC	**Gokceada-Canak**	**0.61**	**350**	PG	Pg	02 59 51.6	-0.4	
GOKC				SG	Sg	02 59 59.8	-0.3	
GOKC	**Gokceada-Canak**	**0.61**	**350**	*e*Pg	Pg	02 59 51.6	-0.4	
GOKC				*e*Sg	Sg	02 59 59.8	-0.3	
LIA	**Limnos Island**	**0.73**	**294**	P	Pb	02 59 54.3	-0.4	
LIA				S	Sb	03 00 05.4	+0.8	
LIA				AML	AML	03 00 07.3		
	comp=E,454μm,0.3s							
LIA				AML	AML	03 00 07.9		
	comp=N,472μm,0.3s							
LIA	**Limnos Island**	**0.73**	**294**	P	Pb	02 59 54.1	-0.6	
LIA				S	Sb	03 00 04.8	+0.2	
LIA	**Limnos Island**	**0.73**	**294**	P	Pb	02 59 54.1	-0.6	
LIA				S	Sb	03 00 04.8	+0.2	
EFSA	**Agios Efstrati**	**0.83**	**266**	P	Pb	02 59 56.0	-0.2	
EFSA				S	Sb	03 00 08.0	+0.8	
EFSA				AML	AML	03 00 09.4		
	comp=E,616μm,0.3s							
EFSA				AML	AML	03 00 10.0		
	comp=N,774μm,0.3s							
EFSA	**Agios Efstrati**	**0.83**	**266**	P	Pb	02 59 55.9	-0.3	
EFSA				S	Sb	03 00 07.9	+0.7	
DKL	**Dikili**	**0.84**	**128**	PG	Pb	02 59 56.8	+0.3	
DKL				SG	Sn	03 00 10.3	+0.5	
DKL	**Dikili**	**0.84**	**128**	*e*Pg	Pb	02 59 56.8	+0.3	
DKL				*e*Sg	Sn	03 00 10.3	+0.5	
GELI	**Tayfur-Gelibol**	**0.86**	**22**	PG	Pg	02 59 56.0	-0.8	
GELI				SG	Sb	03 00 08.4	+0.1	
GELI	**Tayfur-Gelibol**	**0.86**	**22**	*e*Pg	Pg	02 59 56.0	-0.8	
GELI				*e*Sg	Sb	03 00 08.4	+0.1	
LPK	**Lapseki**	**0.94**	**35**	PG	Pg	02 59 57.2	-1.1	
LPK	**Lapseki**	**0.94**	**35**	*e*Pg	Pg	02 59 57.2	-1.1	
SMTH	**Samothraki Isl**	**0.96**	**335**	P	Pg	02 59 57.7	-1.0	
SMTH	**Samothraki Isl**	**0.96**	**335**	P	Pg	02 59 58.0	-0.6	
SMTH				S	Sb	03 00 11.6	+0.5	
SMTH	**Samothraki Isl**	**0.96**	**335**	P	Pg	02 59 58.0	-0.6	
SMTH				S	Sb	03 00 11.6	+0.5	
FOCM	**Foˆşa**	**1.03**	**149**	PG	Pn	03 00 00.7	+0.6	
FOCM	**Foˆşa**	**1.03**	**149**	*e*Pg	Pn	03 00 00.7	+0.6	
PSRA	**Psara**	**1.12**	**200**	P	Pg	03 00 00.8	-0.8	
PSRA	**Psara**	**1.12**	**200**	P	Pg	03 00 00.9	-0.8	
ERIK	**Erikli-Kesan**	**1.13**	**18**	PN	Pg	03 00 00.9	-0.9	
ERIK	**Erikli-Kesan**	**1.13**	**18**	*e*Pn	Pg	03 00 00.9	-0.9	
ENEZ	**Enez**	**1.14**	**4**	PN	Pg	03 00 01.1	-0.9	
ENEZ	**Enez**	**1.14**	**4**	P	Pg	03 00 01.1	-0.9	
ENEZ	**Enez**	**1.14**	**4**	P	Pg	03 00 01.1	-0.9	
CHOS	**Chios island**	**1.21**	**180**	PN	Pn	03 00 03.4	+0.7	
CHOS	**Chios island**	**1.21**	**180**	P	Pg	03 00 02.5	-1.0	
CHOS	**Chios island**	**1.21**	**180**	P	Pg	03 00 02.4	-1.0	
CHOS	**Chios island**	**1.21**	**180**	*e*Pn	Pn	03 00 03.4	+0.7	
CHOS	**Chios island**	**1.21**	**180**	P	Pg	03 00 02.4	-1.0	
BALY	**Balya**	**1.22**	**83**	*i* P	Pg	03 00 02.9	-1.3	
BALY				*i* S	Sg	03 00 18.9	-0.5	
BALY	**Balya**	**1.22**	**83**	*i* P	Sg	03 00 02.9	-0.6	
BALY				*i* S	Sg	03 00 18.3	-1.1	
BALY	**Balya**	**1.22**	**83**	P	Pg	03 00 02.2	-1.3	
BALY				S	Sg	03 00 18.9	-0.5	
KRBG	**Karabiga-Canak**	**1.24**	**50**	PN	Pg	03 00 03.3	-0.7	
KRBG	**Karabiga-Canak**	**1.24**	**50**	*e*Pn	Pg	03 00 03.3	-0.7	
ALN	**Alexandroupoli**	**1.30**	**360**	PN	Pb	03 00 04.8	+0.5	
ALN	**Alexandroupoli**	**1.30**	**360**	P	Pn	03 00 03.4	-0.4	
ALN				S	Sb	03 00 21.2	+0.4	
ALN				AML	AML	03 00 22.2		
	comp=E,269μm,0.4s							
ALN				AML	AML	03 00 22.9		
	comp=N,141μm,0.6s							
ALN	**Alexandroupoli**	**1.30**	**360**	P	Pn	03 00 03.6	-0.2	
ALN	**Alexandroupoli**	**1.30**	**360**	*e*Pn	Pb	03 00 04.8	+0.5	
ALN				S	Sb	03 00 21.4	+0.6	
ALN	**Alexandroupoli**	**1.30**	**360**	P	Pn	03 00 03.6	-0.2	
URLA	**Izmir**	**1.31**	**161**	PN	Pn	03 00 03.7	-0.3	
URLA	**Izmir**	**1.31**	**161**	*i* P	Pn	03 00 03.3	-0.7	
URLA				*i* S	Sg	03 00 19.9	-2.3	
URLA	**Izmir**	**1.31**	**161**	*i* P	Pn	03 00 02.9	-1.0	
URLA				*i* S	Sg	03 00 21.0	-1.2	
URLA	**Izmir**	**1.31**	**161**	P	Pn	03 00 03.3	-0.7	
URLA	**Izmir**	**1.31**	**161**	*e*Pn	Pn	03 00 03.7	-0.3	
URLA				S	Sg	03 00 19.9	-2.3	
STEP	**BALIKESIR_Sava**	**1.31**	**99**	*i* P	Pn	03 00 03.9	-0.1	
STEP				*i* S	Sg	03 00 19.8	-2.5	
STEP	**BALIKESIR_Sava**	**1.31**	**99**	*i* P	Sg	03 00 05.2	0.0	
STEP				*i* S	Sn	03 00 23.0	+1.7	
STEP	**BALIKESIR_Sava**	**1.31**	**99**	P	Pn	03 00 03.9	-0.1	
STEP				S	Sg	03 00 19.8	-2.4	
KESN	**Edirne-Kesan**	**1.32**	**21**	*i* P	Pg	03 00 04.6	-0.8	
KESN				*i* S	Sn	03 00 23.1	+1.1	
KESN	**Edirne-Kesan**	**1.32**	**21**	*i* P	Pb	03 00 07.0	+2.2	
KESN				*i* S	Sg	03 00 21.9	-0.8	
KESN	**Edirne-Kesan**	**1.32**	**21**	P	Pg	03 00 04.6	-0.9	
KESN				S	Sn	03 00 23.1	+1.1	
GONE	**Gonen-Balikesi**	**1.33**	**70**	PN	Pg	03 00 05.5	-0.2	
GONE	**Gonen-Balikesi**	**1.33**	**70**	*e*Pn	Pg	03 00 05.5	-0.2	
RKY	**Sarkoy-Tekirda**	**1.39**	**38**	PN	Pb	03 00 05.8	0.0	
RKY	**Sarkoy-Tekirda**	**1.39**	**38**	*e*Pn	Pb	03 00 05.8	0.0	
SART	**Tekirdag**	**1.39**	**38**	*i* P	Pn	03 00 03.4	-1.8	
SART				*i* S	Sb	03 00 22.7	-0.9	
SART	**Tekirdag**	**1.39**	**38**	*i* P	Pn	03 00 04.2	-1.0	
SART				*i* S	Sb	03 00 21.8	-1.7	
SART	**Tekirdag**	**1.39**	**38**	P	Pn	03 00 03.4	-1.8	
SART				S	Sb	03 00 22.7	-0.8	
ZEY	**ˆzmir**	**1.40**	**165**	*i* P	Pg	03 00 06.6	-0.4	
ZEY				*i* S	Sg	03 00 25.2	-0.1	
ZEY	**ˆzmir**	**1.40**	**165**	*i* P	Sb	03 00 05.9	+0.7	
ZEY				*i* S	Sb	03 00 24.2	+0.4	
BALB	**Balikesir**	**1.41**	**88**	PN	Pn	03 00 05.8	+0.4	
BALB	**Balikesir**	**1.41**	**88**	*e*Pn	Pn	03 00 05.8	+0.4	
AKHS	**Akhisar**	**1.54**	**117**	*i* P	Pn	03 00 07.7	+0.5	
AKHS				*i* S	Sg	03 00 32.4	+2.6	
AKHS	**Akhisar**	**1.54**	**117**	*i* P	Pn	03 00 07.2	0.0	
AKHS				*i* S	Sn	03 00 27.9	+0.8	
AKHS	**Akhisar**	**1.54**	**117**	P	Pn	03 00 07.7	+0.5	
AKHS				S	Sg	03 00 32.4	+2.6	
EDC	**Edincik**	**1.58**	**61**	PN	Pb	03 00 09.5	+0.4	
EDC	**Edincik**	**1.58**	**61**	*e*Pn	Pb	03 00 09.5	+0.4	
RDO	**Rodhopi**	**1.60**	**346**	P	Pb	03 00 09.0	-0.3	
RDO	**Rodhopi**	**1.60**	**346**	P	Pn	03 00 08.5	+0.6	
RDO	**Rodhopi**	**1.60**	**346**	P	Pn	03 00 08.6	+0.6	
DGB	**ˆzmir**	**1.67**	**157**	*i* P	Pg	03 00 11.9	-0.3	
DGB				*i* S	Sg	03 00 33.6	-0.4	
DGB	**ˆzmir**	**1.67**	**157**	*i* P	Sb	03 00 11.3	+0.7	
DGB				*i* S	Sg	03 00 33.2	-0.8	
OUR	**Ouranopolis**	**1.75**	**295**	PN	Pn	03 00 10.3	+0.2	
OUR	**Ouranopolis**	**1.75**	**295**	*e*Pn	Pn	03 00 10.3	+0.2	
TKR	**Tekirdag**	**1.79**	**39**	PN	Pb	03 00 12.2	-0.5	
TKR	**Tekirdag**	**1.79**	**39**	*e*Pn	Pb	03 00 12.2	-0.5	
KAVA	**Kavala**	**1.83**	**320**	P	Pn	03 00 11.0	-0.1	
KAVA	**Kavala**	**1.83**	**320**	P	Pn	03 00 11.0	-0.1	
KCTX	**Karacabey (Bur**	**1.89**	**69**	PN	Pb	03 00 13.8	-0.6	
KCTX	**Karacabey (Bur**	**1.89**	**69**	*e*Pn	Pb	03 00 13.8	-0.6	
SBT3	**Marmara-Eregli**	**1.95**	**48**	PN	Pb	03 00 14.8	-0.5	
SBT3	**Marmara-Eregli**	**1.95**	**48**	*e*Pn	Pb	03 00 14.8	-0.5	
CRLT	**Corlu**	**2.00**	**40**	PN	Pb	03 00 15.3	-0.9	
CRLT	**Corlu**	**2.00**	**40**	*e*Pn	Pb	03 00 15.3	-0.9	
DEMI	**Demirci**	**2.14**	**104**	*i* P	Pn	03 00 16.5	+1.0	
DEMI				*i* S	Sn	03 00 40.8	-1.0	
DEMI	**Demirci**	**2.14**	**104**	*i* P	Pn	03 00 16.2	+0.7	
DEMI				*i* S	Sn	03 00 42.9	+1.1	
DEMI	**Demirci**	**2.14**	**104**	P	Pn	03 00 16.5	+1.0	
DEMI				S	Sn	03 00 40.8	-1.0	
AYDB	**Zeytinkoy-Aydi**	**2.19**	**138**	PN	Pn	03 00 18.1	+1.9	
AYDB	**Zeytinkoy-Aydi**	**2.19**	**138**	*e*Pn	Pn	03 00 18.1	+1.9	
MANT	**Manisa**	**2.24**	**119**	*i* P	Pn	03 00 18.2	+1.2	
MANT				*i* S	Sg	03 00 51.0	-1.2	
MANT	**Manisa**	**2.24**	**119**	P	Pn	03 00 18.2	+1.2	
MANT				S	Sg	03 00 51.0	-1.2	
KULA	**Kula-Manisa**	**2.30**	**117**	PN	Pn	03 00 19.8	+2.1	
KULA	**Kula-Manisa**	**2.30**	**117**	*e*Pn	Pn	03 00 19.8	+2.1	
MDNY	**Mudanya-Bursa**	**2.31**	**70**	PN	Pb	03 00 20.1	-1.4	
MDNY	**Mudanya-Bursa**	**2.31**	**70**	*e*Pn	Pb	03 00 20.1	-1.4	
EDRB	**Edirne**	**2.31**	**13**	PN	Pn	03 00 19.5	+1.8	
EDRB	**Edirne**	**2.31**	**13**	*e*Pn	Pn	03 00 19.5	+1.8	
SLVT	**Silivri**	**2.32**	**45**	PN	Pn	03 00 19.8	+2.0	
SLVT	**Silivri**	**2.32**	**45**	P	Pn	03 00 15.0	-2.8	
SLVT	**Silivri**	**2.32**	**45**	*e*Pn	Pn	03 00 19.8	+2.0	
SIMA	**Simav-Kutahya**	**2.33**	**102**	PN	Pb	03 00 20.8	-1.1	
SIMA	**Simav-Kutahya**	**2.33**	**102**	*e*Pn	Pb	03 00 20.8	-1.1	
NVR	**Nevrokopi**	**2.42**	**317**	P	Pn	03 00 19.2	+0.2	
NVR	**Nevrokopi**	**2.42**	**317**	P	Pn	03 00 19.2	-0.1	
CTKS	**Kestanelik-??a**	**2.49**	**48**	PN	Pn	03 00 22.2	+2.1	
CTKS	**Kestanelik-??a**	**2.49**	**48**	*e*Pn	Pn	03 00 22.2	+2.1	
CTYL	**Yalikoy Yolu**	**2.53**	**42**	PN	Pn	03 00 23.2	+2.4	
CTYL	**Yalikoy Yolu**	**2.53**	**42**	*e*Pn	Pn	03 00 23.2	+2.4	
TVSB	**Tavsanli**	**2.64**	**92**	PN	Pn	03 00 24.5	+2.1	
TVSB	**Tavsanli**	**2.64**	**92**	*e*Pn	Pn	03 00 24.5	+2.1	
BUY	**Buyukada**	**2.66**	**61**	PN	Pn	03 00 24.8	+2.3	
BUY	**Buyukada**	**2.66**	**61**	*e*Pn	Pn	03 00 24.8	+2.3	
KLYT	**Kilyos**	**2.82**	**53**	PN	Pn	03 00 27.5	+2.8	
KLYT	**Kilyos**	**2.82**	**53**	*e*Pn	Pn	03 00 27.5	+2.8	
KNT	**Kendrikon**	**2.87**	**304**	PN	Pn	03 00 26.5	+1.0	
KNT	**Kendrikon**	**2.87**	**304**	*e*Pn	Pn	03 00 26.5	+1.0	

*CSEM **15** 03:07:37.8±0.3,38.°72N×43.°18E,h10km,ML1.8, Error ellipse: s-maj=5.9km s-min=5.5km az=63.0*
*DDA **15** 03:07:37.7,38.°72N×43.°23E,h7km,Ml2.7*
*ISK **15** 03:07:37.1,38.°69N×43.°16E,h5km,ML1.8/5*
*ISCJB **15** 03:07:38.2±0.6,38.°73N±0.°03×43.°19E±0.°04,h11km±6km, Error ellipse: s-maj=5.8km s-min=5.0km az=139.3*

ISC 15 03:07:38.2±1.0,**38.°72N**±0.°03×**43.°18E**±0.°03,**h12**km±8km, **n20**,σ0^{s}**83**/34,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.21**	**127**	PG	**Pg**	**03 07 42.9**	**+0.2**
VANB				SG	**Sg**	**03 07 46.9**	**+1.0**
VANB	**Van**	**0.21**	**127**	*e*Pg	**Pg**	**03 07 42.9**	**+0.2**
VANB				*e*Sg	**Sg**	**03 07 46.9**	**+1.0**
TVAN	**Van**	**0.26**	**137**	*i* P	**Pg**	**03 07 42.7**	**-1.0**
TVAN				*i* S	**Sg**	**03 07 47.0**	**-0.5**
TVAN	**Van**	**0.26**	**137**	P	**Pg**	**03 07 42.7**	**-1.0**
TVAN				S	**Sg**	**03 07 47.0**	**-0.5**
ERCV	**ERCIS-VAN**	**0.32**	**23**	PG	**Pg**	**03 07 44.5**	**-0.4**
ERCV				SG	**Sb**	**03 07 50.2**	**-1.2**
ERCV	**ERCIS-VAN**	**0.32**	**23**	*e*Pg	**Pg**	**03 07 44.5**	**-0.4**
ERCV				*e*Sg	**Sb**	**03 07 50.2**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.37**	**284**	*i* P	**Pg**	**03 07 45.6**	**0.0**
ADCV				*i* S	**Sb**	**03 07 52.7**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.37**	**284**	P	**Pg**	**03 07 45.6**	**0.0**
ADCV				S	**Sb**	**03 07 52.7**	**+0.1**
GEVA	**Gevas**	**0.42**	**193**	*i* P	**Pg**	**03 07 45.2**	**-1.4**
GEVA				*i* S	**Sb**	**03 07 54.8**	**+0.8**
GEVA	**Gevas**	**0.42**	**193**	P	**Pg**	**03 07 45.2**	**-1.4**
GEVA				S	**Sb**	**03 07 54.8**	**+0.8**
TUTA	**Tutak**	**0.74**	**337**	*i* P	**Pg**	**03 07 52.2**	**-0.4**
TUTA	**Tutak**	**0.74**	**337**	P	**Pg**	**03 07 52.2**	**-0.4**
GURO	**Guroymak-BITLI**	**0.91**	**260**	PG	**Pg**	**03 07 54.8**	**-1.1**
GURO				SG	**Sg**	**03 08 07.3**	**-0.5**
GURO	**Guroymak-BITLI**	**0.91**	**260**	*e*Pg	**Pg**	**03 07 54.8**	**-1.1**
GURO				*e*Sg	**Sg**	**03 08 07.3**	**-0.5**
SRTM	**Siirt_Merkez**	**1.23**	**234**	*i* P	**Pn**	**03 08 01.8**	**+0.5**
SRTM				*i* S	**Sn**	**03 08 19.3**	**+1.4**
SRTM	**Siirt_Merkez**	**1.23**	**234**	P	**Pn**	**03 08 01.8**	**+0.5**
SRTM				S	**Sn**	**03 08 19.3**	**+1.4**
SIRT	**Sirnak**	**1.35**	**206**	PN	**Pn**	**03 08 02.5**	**-0.5**
SIRT	**Sirnak**	**1.35**	**206**	*e*Pn	**Pn**	**03 08 02.5**	**-0.5**
CUKT	**Cukurca**	**1.51**	**167**	PN	**Pn**	**03 08 05.2**	**0.0**
CUKT	**Cukurca**	**1.51**	**167**	*e*Pn	**Pn**	**03 08 05.2**	**0.0**

*DDA **15** 03:09:27.0,42.°32N×25.°95E,h28km,Ml3.0*
*ATH **15** 03:09:28.8,42.°29N×26.°17E,h9km±4km,ML0.0,Error ellipse: s-maj=7.7km s-min=2.5km az=125.0*
*CSEM **15** 03:09:30.5±0.1,42.°14N×26.°19E,h2km,ML2.8, Error ellipse: s-maj=3.5km s-min=2.4km az=40.0*
*THE **15** 03:09:31.0,42.°15N×26.°20E,h0km±2km,ML2.9/3, Error ellipse: s-maj=3.8km s-min=1.5km az=54.0*
*ISK **15** 03:09:31.9,42.°08N×26.°34E,h7km,ML2.8/22*
*BEO **15** 03:09:35.8±0.9,42.°42N×25.°82E,h9km±9km,M2.5/6*

ISC 15 03:09:29.6±1.1,**42.°19N**±0.°01×**26.°17E**±0.°02,**h5**km±9km, **n146**,σ1^{s}**40**/182,**17C-5D,Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDRB	**Edirne**	**0.55**	**129**	PG	**Pg**	**03 09 39.7**	**-0.5**
EDRB				SG	**Sg**	**03 09 46.5**	**-0.9**
EDRB	**Edirne**	**0.55**	**129**	*e*Pg	**Pg**	**03 09 39.7**	**-0.5**
EDRB				*e*Sg	**Sg**	**03 09 46.5**	**-0.9**
PLD	**Plovdiv**	**1.09**	**266**	*e*Pg	**Pg**	**03 09 50.8**	**+0.2**
PLD	**Plovdiv**	**1.09**	**266**	*e*Pg	**Pg**	**03 09 50.8**	**+0.2**
RDO	**Rodhopi**	**1.15**	**205**	P	**Pn**	**03 09 53.6**	**+1.3**
RDO				S	**Sn**	**03 10 08.3**	**-0.1**
RDO	**Rodhopi**	**1.15**	**205**	P	**Pn**	**03 09 52.8**	**+0.5**
RDO				S	**Sn**	**03 10 08.4**	**0.0**
RDO	**Rodhopi**	**1.15**	**205**	P	**Pn**	**03 09 52.8**	**+0.5**
RDO				S	**Sn**	**03 10 08.4**	**0.0**
PHSR	**Pinarhisar**	**1.16**	**119**	PG	**Pg**	**03 09 50.4**	**-1.4**
PHSR				SG	**Sg**	**03 10 04.8**	**-2.0**
PHSR	**Pinarhisar**	**1.16**	**119**	*e*Pg	**Pg**	**03 09 50.4**	**-1.4**
PHSR				*e*Sg	**Sg**	**03 10 04.8**	**-2.0**
ALN	**Alexandroupoli**	**1.30**	**184**	PN	**Pb**	**03 09 54.7**	**+0.3**
ALN				SN	**Sn**	**03 10 12.6**	**+0.5**
ALN	**Alexandroupoli**	**1.30**	**184**	P	**Pb**	**03 09 54.8**	**+0.3**
ALN	**Alexandroupoli**	**1.30**	**184**	*e*Pn	**Pb**	**03 09 54.7**	**+0.3**
ALN				S	**Sn**	**03 10 12.3**	**+0.2**
ALN	**Alexandroupoli**	**1.30**	**184**	P	**Pb**	**03 09 54.8**	**+0.3**
ALN				S	**Sn**	**03 10 12.3**	**+0.2**
KESN	**Edirne-Kesan**	**1.42**	**164**	*i* P	**Pn**	**03 09 56.1**	**-0.2**
KESN				*i* S	**Sb**	**03 10 15.4**	**+0.1**
KESN	**Edirne-Kesan**	**1.42**	**164**	P	**Pn**	**03 09 56.2**	**-0.2**
KESN				S	**Sb**	**03 10 15.4**	**+0.1**
ENEZ	**Enez**	**1.46**	**181**	PN	**Pg**	**03 09 57.8**	**+0.3**
ENEZ	**Enez**	**1.46**	**181**	P	**Pb**	**03 09 57.3**	**+0.1**
ENEZ	**Enez**	**1.46**	**181**	*e*Pn	**Pg**	**03 09 57.8**	**+0.3**
ENEZ				S	**Sg**	**03 10 17.8**	**+1.4**
ENEZ	**Enez**	**1.46**	**181**	P	**Pb**	**03 09 57.3**	**+0.1**
ENEZ				S	**Sg**	**03 10 17.8**	**+1.4**
ERIK	**Erikli-Kesan**	**1.54**	**170**	PN	**Pn**	**03 09 57.9**	**+0.2**
ERIK				SN	**Sn**	**03 10 18.1**	**0.0**
ERIK	**Erikli-Kesan**	**1.54**	**170**	*e*Pn	**Pn**	**03 09 57.9**	**+0.2**
ERIK				*e*Sn	**Sn**	**03 10 18.1**	**0.0**
ZIMR		**1.58**	**338**	*i* P	**Pg**	**03 10 00.6**	**+0.7**
ZIMR		**1.58**	**338**	S	**Sg**	**03 10 23.6**	**+3.2**
CRLT	**Corlu**	**1.58**	**132**	PN	**Pb**	**03 09 59.3**	**-0.1**
CRLT	**Corlu**	**1.58**	**132**	*e*Pn	**Pb**	**03 09 59.3**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.68**	**153**	PN	**Pn**	**03 10 00.3**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.68**	**153**	*e*Pn	**Pn**	**03 10 00.3**	**+0.5**
SART	**Tekirdag**	**1.68**	**153**	*i* P	**Pn**	**03 09 59.7**	**0.0**
SART				*i* S	**Sn**	**03 10 21.5**	**-0.2**
SART	**Tekirdag**	**1.68**	**153**	P	**Pn**	**03 09 59.7**	**0.0**
SART				S	**Sn**	**03 10 21.5**	**-0.2**
KAVA	**Kavala**	**1.72**	**227**	P	**Pb**	**03 10 01.8**	**0.0**
KAVA				S	**Sg**	**03 10 26.9**	**+1.9**
KAVA	**Kavala**	**1.72**	**227**	P	**Pb**	**03 10 01.2**	**-0.6**
KAVA				S	**Sg**	**03 10 25.4**	**+0.4**
KAVA	**Kavala**	**1.72**	**227**	P	**Pb**	**03 10 01.2**	**-0.6**
KAVA				S	**Sg**	**03 10 25.4**	**+0.4**
CTYL	**Yalikoy Yolu**	**1.74**	**114**	PN	**Pn**	**03 10 00.8**	**+0.4**
CTYL	**Yalikoy Yolu**	**1.74**	**114**	*e*Pn	**Pn**	**03 10 00.8**	**+0.4**
SMTH	**Samothraki Isl**	**1.79**	**196**	P	**Pg**	**03 10 03.6**	**-0.3**
SMTH	**Samothraki Isl**	**1.79**	**196**	P	**Pn**	**03 10 02.0**	**+0.9**
SMTH	**Samothraki Isl**	**1.79**	**196**	P	**Pn**	**03 10 02.0**	**+0.9**
SLVT	**Silivri**	**1.81**	**122**	PN	**Pn**	**03 10 01.7**	**+0.3**
SLVT	**Silivri**	**1.81**	**122**	*e*Pn	**Pn**	**03 10 01.7**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.81**	**173**	PN	**Pn**	**03 10 01.6**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.81**	**173**	*e*Pn	**Pn**	**03 10 01.6**	**+0.2**
LPK	**Lapseki**	**1.87**	**166**	PN	**Pn**	**03 10 02.3**	**0.0**
LPK	**Lapseki**	**1.87**	**166**	*e*Pn	**Pn**	**03 10 02.3**	**0.0**
SBT3	**Marmara-Eregli**	**1.88**	**133**	PN	**Pn**	**03 10 03.0**	**+0.7**
SBT3	**Marmara-Eregli**	**1.88**	**133**	*e*Pn	**Pn**	**03 10 03.0**	**+0.7**
NVR	**Nevrokopi**	**1.92**	**245**	P	**Pn**	**03 10 03.2**	**+0.2**
NVR	**Nevrokopi**	**1.92**	**245**	P	**Pn**	**03 10 03.7**	**+0.7**
NVR	**Nevrokopi**	**1.92**	**245**	P	**Pn**	**03 10 03.7**	**+0.7**
KRBG	**Karabiga-Canak**	**1.99**	**154**	PN	**Pn**	**03 10 04.4**	**+0.5**
KRBG	**Karabiga-Canak**	**1.99**	**154**	*e*Pn	**Pn**	**03 10 04.4**	**+0.5**
ELBA	**Catalca**	**1.99**	**121**	*i* P	**Pb**	**03 10 05.3**	**-1.0**
ELBA	**Catalca**	**1.99**	**121**	P	**Pb**	**03 10 05.3**	**-1.0**
CTKS	**Kestanelik-??a**	**1.99**	**118**	PN	**Pn**	**03 10 04.6**	**+0.7**
CTKS	**Kestanelik-??a**	**1.99**	**118**	*e*Pn	**Pn**	**03 10 04.6**	**+0.7**
GADA	**Gvkgeada**	**2.01**	**186**	PN	**Pb**	**03 10 05.9**	**-0.7**
GADA	**Gvkgeada**	**2.01**	**186**	P	**Pn**	**03 10 04.6**	**+0.4**
GADA	**Gvkgeada**	**2.01**	**186**	*e*Pn	**Pb**	**03 10 05.9**	**-0.7**
GADA	**Gvkgeada**	**2.01**	**186**	P	**Pn**	**03 10 04.6**	**+0.4**
SGRR	**Singureni**	**2.03**	**356**	⇑*i* P	**Pg**	**03 10 07.6**	**-1.0**
SGRR	**Singureni**	**2.03**	**356**	⇑*i* P	**Pg**	**03 10 07.6**	**-1.0**
SGRR				S	**Sg**	**03 10 36.9**	**+1.9**
BGKT	**Bogazkoy**	**2.20**	**117

H11N2	**WAKE ISLAND Hy**	**23.28**	**68**	T	T	03 39 53.2			
	baz=255,slow=75,SNR=7.0								
H11N3	**WAKE ISLAND Hy**	**23.29**	**68**	T	T	03 39 52.3			
	baz=255,slow=75,SNR=6.2								
LUWI	**Luwuk**	**24.77**	**240**	*e*P	**P**	**03 15 29.9**	**0.0**		
	34nm,0.8s								
WR1	**Warramunga Arr**	**33.12**	**197**	*e*P	**P**	**03 16 44.2**	**-0.1**		
	29nm,1.9s								
WRA	**Warramunga Arr**	**33.12**	**197**	P	**P**	**03 16 44.2**	**-0.1**		
	0.9nm,0.6s,baz=21,slow=9.8,SNR=8.7								
AS31	**Alice Springs**	**36.78**	**196**	*e*P	**P**	**03 17 14.6**	**-1.3**		
	1.0nm,0.8s								
ASAR	**Alice Springs**	**36.78**	**196**	P	**P**	**03 17 17.0**	**+1.1**		
	0.4nm,0.5s,baz=19,slow=11,SNR=4.1								
CM31	**Chiang Mai Arr**	**43.90**	**284**	*e*P	**P**	**03 18 14.8**	**-0.1**		
CMAR	**Chiang Mai Arr**	**43.90**	**284**	P	**P**	**03 18 14.8**	**-0.1**		
	0.8nm,0.3s,baz=83,slow=7.4,SNR=3.8								
BBOO	**Buckleboo**	**45.18**	**189**	*e*P	**P**	**03 18 24.1**	**-0.7**		
	74nm,1.8s								
SONA0	**Songino Array**	**47.59**	**326**	*e*P	**P**	**03 18 43.6**	**-0.3**		
SONM	**Songino Array**	**47.59**	**326**	P	**P**	**03 18 43.6**	**-0.3**		
	0.6nm,0.5s,baz=149,slow=8.4,SNR=5.3								
SONA1	**Songino Array**	**47.60**	**326**	*e*P	**P**	**03 18 43.0**	**-0.9**		
HATHI	**Halema'uma'u T**	**58.66**	**75**	*e*P	**P**	**03 20 03.8**	**-2.0**		
	957nm,1.4s								
MK01	**Makanchi Array**	**62.08**	**317**	*e*P	**P**	**03 20 29.1**	**+0.4**		
MK31	**Makanchi Array**	**62.09**	**317**	*e*P	**P**	**03 20 29.4**	**+0.7**		
MK32	**Makanchi Array**	**62.09**	**317**	*e*P	**P**	**03 20 29.6**	**+0.9**		
MKAR	**Makanchi Array**	**62.09**	**317**	P	**P**	**03 20 29.6**	**+0.9**		
	0.6nm,0.7s,baz=92,slow=8.8,SNR=7.6								
MKAR	**Makanchi Array**	**62.09**	**317**	*e*P	**P**	**03 20 29.4**	**+0.7**		
	4.9nm,0.8s								
MAKZ	**Makanchi**	**62.31**	**317**	*e*P	**P**	**03 20 30.9**	**+0.7**		
	2.6nm,1.1s								
ZALV	**Zalesovo Beam**	**62.47**	**325**	P	**P**	**03 20 30.4**	**-0.7**		
	0.6nm,0.5s,baz=101,slow=12,SNR=2.7								
ZAA1	**Zalesovo Array**	**62.47**	**325**	*e*P	**P**	**03 20 30.4**	**-0.7**		
KURK	**Kurchatov**	**65.30**	**320**	*e*P	**P**	**03 20 49.5**	**-0.2**		
KURBB	**Kurchatov Arra**	**65.33**	**320**	P	**P**	**03 20 49.3**	**-0.7**		
	2.3nm,0.7s,baz=103,slow=6.9,SNR=21								
ILAR	**Eielson Array**	**70.36**	**25**	P	**P**	**03 21 20.9**	**-0.5**		
	0.6nm,0.6s,baz=246,slow=5.9,SNR=13								
ILB	**Eielson Array**	**70.36**	**25**	*e*P	**P**	**03 21 20.9**	**-0.5**		
TOLK	**Toolik Lake Re**	**70.40**	**21**	*e*P	**P**	**03 21 25.1**	**+3.4**		
	5.2nm,0.9s								
BVAR	**Borovoye Array**	**70.69**	**322**	P	**P**	**03 21 23.5**	**-0.1**		
	1.9nm,0.5s,baz=99,slow=8.7,SNR=14								
INK	**Inuvik**	**76.16**	**22**	P	**P**	**03 21 55.9**	**+0.4**		
	0.7nm,0.7s,baz=316,slow=8.3,SNR=7.2								
INK	**Inuvik**	**76.16**	**22**	*e*P	**P**	**03 21 55.9**	**+0.4**		
	3.5nm,0.8s								
ABKAR	**Akbulak array**	**77.19**	**318**	*e*P	**P**	**03 22 01.2**	**-0.6**		
	11nm,0.5s								
YKA	**Yellowknife Ar**	**84.66**	**27**	P	**P**	**03 22 42.1**	**+0.8**		
	0.5nm,0.4s,baz=285,slow=5.0,SNR=11								
YKB5	**Yellowknife Ar**	**84.66**	**27**	*e*P	**P**	**03 22 42.1**	**+0.8**		
PINE	**Pine Mountain**	**85.40**	**46**	*e*P	**P**	**03 22 42.3**	**-3.5**		
	26nm,1.3s								
RES	**Resolute Bay**	**86.30**	**13**	P	**P**	**03 22 50.4**	**+1.2**		
	0.9nm,0.6s,baz=67,slow=3.2,SNR=5.2								
RES	**Resolute Bay**	**86.30**	**13**	*e*P	**P**	**03 22 50.4**	**+1.2**		
	4.1nm,0.9s								
ARA0	**ARCESS Array S**	**88.36**	**342**	*e*P	**P**	**03 22 59.0**	**-0.4**		
ARCES	**ARCESS Array B**	**88.36**	**342**	P	**P**	**03 22 59.0**	**-0.4**		
	1.0nm,0.6s,baz=71,slow=7.0,SNR=7.1								
NV01	**Mina Array Sit**	**88.56**	**51**	*e*P	**P**	**03 23 05.4**	**+4.2**		
NVAR	**Mina Array Bea**	**88.56**	**51**	P	**P**	**03 23 05.4**	**+4.2**		
	0.4nm,0.4s,baz=266,slow=5.8,SNR=5.7								
FIA0	**FINESS Array S**	**92.27**	**335**	*e*P	**P**	**03 23 16.1**	**-1.6**		
FINES	**FINESS Array B**	**92.27**	**335**	P	**P**	**03 23 16.1**	**-1.6**		
	0.8nm,0.4s,baz=66,slow=4.8,SNR=7.0								

NIED ***15*** *03:17:00.40˙90N×145˙20E,h5km,Mw4.3 Best double couple: M♋3.68000×10¹⁵ NP1:♑233.00000°,δ37.00000°, λ-93.00000°. NP2:♑57.00000°,δ53.00000°,λ-88.00000°.*
JMA ***15*** *03:17:42.9±0.2,40˙90N×145˙24E,h64km±2km,M4.6*
NEIC ***15*** *03:17:42.9±1.8,40˙92N×144˙99E,h2km±11km,mb4.8/76, Error ellipse: s-maj=5.3km s-min=3.3km az=152.0*
IDC ***15*** *03:17:42.3±0.5,40˙93N×145˙07E,h0km,mb4.5/35, mb1 4.6/41,mb1mx4.4/80,mbtmp4.4/41,ML3.7/5,MS3.4/22, Ms1 3.4/22,ms1mx3.2/69,Error ellipse: s-maj=13.3km s-min=10.9km az=148.0*
ISCJB ***15*** *03:17:42.5±0.2,40˙95N±0˙02×144˙95E±0˙02,h10km, mb4.7/127,MS3.7/22,Error ellipse: s-maj=3.1km s-min=2.6km az=152.8*
BJI ***15*** *03:17:43.0,41˙19N×144˙94E,h11km,mb4.7/33,mB4.8/23, Ms4.2/5,Ms7 3.9/4*
MOS ***15*** *03:17:45.1±1.1,41˙03N×144˙94E,h27km,mb4.9/56,Error ellipse: s-maj=6.9km s-min=4.0km az=99.9*
ISC 15 03:17:43.3±0.4**,40˙92N**±0˙04×**145˙12E**±0˙04**,h10**km**,n316,** σ1§**61**/346**,mb4.7**/129**,MS3.7**/22**,9C-11D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.83**	**307**	*ce*P		**Pn**		**03 18 14.0**	**-0.8**
ERM						pmax	pmax		
	comp=Z,561nm,1.7s								
ERM	**Erimo**	**1.83**	**307**	*e*Pn		**Pn**		**03 18 14.1**	**-0.7**
ERM				*e*Sn		**Sn**		**03 18 36.0**	**-2.1**
JEM	**Erimo**	**1.83**	**307**	P		**Pn**		**03 18 14.0**	**-0.9**
JEM				*e*S		**Sn**		**03 18 35.6**	**-2.5**
JAK	**Akkeshi**	**2.10**	**352**	P		**Pn**		**03 18 16.9**	**-1.6**
JAK				S		**Sn**		**03 18 42.5**	**-2.1**
JCH	**Churui**	**2.14**	**323**	P		**Pn**		**03 18 18.2**	**-0.9**
JCH				S		**Sn**		**03 18 42.7**	**-3.0**
JOB	**Onbets**	**2.20**	**335**	P		**Pn**		**03 18 19.1**	**-0.8**
JOB				S		**Sn**		**03 18 45.2**	**-2.0**
JNBK	**Urakawa-nobuka**	**2.23**	**308**	P		**Pn**		**03 18 20.3**	**0.0**
JNBK				S		**Sn**		**03 18 47.3**	**-0.7**
NEM2	**Nemuro 2**	**2.49**	**11**	P		**Pn**		**03 18 22.0**	**-1.8**
NEM2				*e*S		**Sn**		**03 18 51.1**	**-3.1**
JAR	**Ashorobuto**	**2.58**	**338**	P		**Pn**		**03 18 23.6**	**-1.5**
JAR				S		**Sn**		**03 18 53.5**	**-3.0**
JNK	**Nakash**	**2.68**	**354**	P		**Pn**		**03 18 24.4**	**-2.1**
JNK				S		**Sn**		**03 18 54.1**	**-4.9**
JBT2	**Biratori 2**	**2.77**	**313**	P		**Pn**		**03 18 28.2**	**+0.5**
JBT2				S		**Sn**		**03 19 01.6**	**+0.4**
JANG	**Nango**	**2.79**	**260**	P		**Pn**		**03 18 26.4**	**-1.7**
JANG				S		**Sn**		**03 18 58.7**	**-3.1**
GLVR	**Golovnino**	**2.83**	**6**	*e*P		**Pn**		**03 18 27.5**	**-1.1**
GLVR				*i* S		**Sn**		**03 18 59.2**	**-3.5**
JFR	**Furan**	**2.93**	**321**	P		**Pn**		**03 18 29.0**	**-0.9**
JRA	**Rausu**	**3.02**	**0**	P		**Pn**		**03 18 29.1**	**-2.0**
JOT	**Ohata**	**3.11**	**280**	P		**Pn**		**03 18 31.5**	**-0.8**
JOT				S		**Sn**		**03 19 05.8**	**-3.7**
GRPR	**Tuman**	**3.11**	**9**	*e*P		**Pn**		**03 18 30.9**	**-1.5**
GRPR				*i* S		**Sn**		**03 19 04.3**	**-5.3**
YUK	**Yuzh-Kuril'sk**	**3.16**	**10**	*e*P		**Pn**		**03 18 31.5**	**-1.6**
YUK				*i* S		**Sn**		**03 19 05.6**	**-5.2**
YUK					pmax	pmax			
	comp=E,104nm,0.4s								
YUK					pmax	pmax			
	comp=Z,139nm,0.4s								
YUK					pmax	pmax			
	comp=N,41nm,0.2s								
YUK					smax	smax			
	comp=E,1μm,0.6s								
YUK					smax	smax			
	comp=N,595nm,0.4s								
LAGR	**Lagunnoye**	**3.17**	**9**	*e*P		**Pn**		**03 18 32.5**	**-0.7**
LAGR				*i* S		**Sn**		**03 19 08.2**	**-2.9**
JTKR	**Abashiri--Toko**	**3.18**	**344**	P		**Pn**		**03 18 32.6**	**-0.7**
JTKR				S		**Sn**		**03 19 09.0**	**-2.2**
SHO	**Shikotan**	**3.21**	**23**	*d* iP		**Pn**		**03 18 31.7**	**-2.1**
SHO				*i* S		**Sn**		**03 19 06.2**	**-5.8**
SHO					pmax	pmax			
	comp=Z,120nm,0.3s								
SHO					pmax	pmax			
	comp=N,88nm,0.4s								
SHO					pmax	pmax			
	comp=E,38nm,0.4s								
SHO					smax	smax			
	comp=N,34nm,0.4s								
SHO					smax	smax			
	comp=E,237nm,0.3s								
JKB	**Kayabe**	**3.22**	**289**	P		**Pn**		**03 18 33.1**	**-0.8**
JKB				*e*S		**Sn**		**03 19 09.7**	**-2.6**
JOM	**Ohasama**	**3.27**	**245**	P		**Pn**		**03 18 33.5**	**-1.0**
JOM				*e*S		**Sn**		**03 19 09.2**	**-4.2**
JEW	**Eniwo**	**3.34**	**306**	P		**Pn**		**03 18 36.0**	**+0.4**
JEW				*e*S		**Sn**		**03 19 14.3**	**-1.1**
JKK2	**Kamakawa 2**	**3.43**	**330**	P		**Pn**		**03 18 36.3**	**-0.6**
JKK2				*e*S		**Sn**		**03 19 16.7**	**-0.9**
JMK	**Ichinoseki**	**3.58**	**238**	P		**Pn**		**03 18 37.7**	**-1.2**
JMK				S		**Sn**		**03 19 16.8**	**-4.4**
ASAJ	**Asahikawa**	**3.70**	**331**	Pn		**Pn**		**03 18 40.5**	**0.0**
	comp=E,8.5nm,0.3s,baz=194,slow=9.3,SNR=52								
ASAJ				Sn		**Sn**		**03 19 22.5**	**-1.6**
	comp=E,9.1nm,0.3s,baz=129,slow=31,SNR=11								
ASAJ	**Asahikawa**	**3.70**	**331**	*e*Pn		**Pn**		**03 18 39.9**	**-0.6**
ASAJ				*e*Sn		**Sn**		**03 19 22.5**	**-1.6**
KUR	**Kuril'sk**	**4.76**	**24**	*d iP*		**Pn**		**03 18 54.5**	**-0.5**
KUR				*i* S		**Sn**		**03 19 45.4**	**-4.8**
KUR					pmax	pmax			
	comp=Z,193nm,0.4s								
KUR					pmax	pmax			
	comp=E,51nm,0.5s								
KUR					pmax	pmax			
	comp=N,95nm,0.4s								
KUR					smax	smax			
	comp=N,144nm,0.5s								
KUR					smax	smax			
	comp=E,207nm,0.5s								
YSS	**Yuzh-Sakhalins**	**6.27**	**345**	*e*P		**Pn**		**03 19 16.7**	**+0.9**
YSS					pmax	pmax			
	comp=Z,20nm,0.6s								
YSS					MLR	MLR			
	comp=Z,500nm,16.0s								
YSS	**Yuzh-Sakhalins**	**6.27**	**345**	*e*Pn		**Pn**		**03 19 17.0**	**+1.2**
MAJO	**Matsushiro**	**6.95**	**233**	*e*P		**Pn**		**03 19 25.1**	**0.0**
MAJO				*e*				03 20 42.6	
MAJO	**Matsushiro**	**6.95**	**233**	*e*Pn		**Pn**		**03 19 25.1**	**0.0**
MAJO				*e*Sn		**Sn**		**03 20 42.6**	**-1.6**
MAT	**Matsushiro**	**6.95**	**233**	P		**Pn**		**03 19 24.9**	**-0.2**
MAT				*e*S		**Sn**		**03 20 41.6**	**-2.6**
MJAR	**Matsushiro Arr**	**6.95**	**233**	Pn		**Pn**		**03 19 24.7**	**-0.4**
	comp=Z,2.6nm,0.3s,baz=38,slow=12,SNR=33								
MJAR				Sn		**Sn**		**03 20 42.6**	**-1.6**
	baz=24,slow=12,SNR=2.3								
MJAR				LR		LR		03 22 15.5	
	comp=Z,156nm,21.4s,baz=65,slow=40								
MJB9	**Matsu-Tunnel**	**6.95**	**233**	*e*Pn		**Pn**		**03 19 25.1**	**0.0**
TYV	**Tymovskoe**	**10.09**	**351**	*e*P		**Pn**		**03 20 10.2**	**+2.0**
TYV					pmax	pmax			
	comp=Z,15nm,0.9s								
USRK	**Ussuriysk Ar.**	**10.22**	**293**	Pn		**Pn**		**03 20 10.6**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=108,slow=13,SNR=21								
USRK					LR	LR		03 24 04.0	
	comp=Z,119nm,21.2s,baz=156,slow=38								
KLR	**Kul'dur**	**12.57**	**316**	Pn		**Pn**		**03 20 41.8**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=111,slow=14,SNR=12								
KLR					LR	LR		03 26 05.0	
	comp=Z,18nm,18.1s,baz=136,slow=40								
KLR	**Kul'dur**	**12.57**	**316**	*i* P		**Pn**		**03 20 42.0**	**0.0**
NKL	**Nikolayevsk**	**12.60**	**348**	*e*P		**Pn**		**03 20 42.0**	**-0.4**
NKL					pmax	pmax			
	comp=Z,22nm,1.0s								
JNU	**Nakatsue**	**13.77**	**240**	Pn		**Pn**		**03 20 57.7**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=90,slow=8.1,SNR=3.1								
KSRS	**Korea Array**	**13.78**	**261**	Pn		**Pn**		**03 20 57.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=70,slow=13,SNR=8.0								
KSRS					LR	LR		03 25 42.1	
	comp=Z,76nm,20.0s,baz=30,slow=35								
KS15	**Wonju Array Si**	**13.81**	**261**	*e*Pn		**Pn**		**03 20 57.6**	**-1.5**
KSAR	**Wonju Array Be**	**13.81**	**261**	P		**Pn**		**03 20 57.6**	**-1.5**
KSAR	**Wonju Array Be**	**13.81**	**261**	Pn		**Pn**		**03 20 57.6**	**-1.5**
TJN	**Taejon**	**14.59**	**258**	*ce*P		**Pn**		**03 21 08.7**	**-1.1**
CN2	**Changchun**	**14.82**	**288**	*e*P		**Pn**		**03 21 10.5**	**-2.4**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
PEA0B	**Petropavlovsk-**	**14.88**	**31**	*e*Pn		**Pn**		**03 21 10.2**	**-3.4**
PETK	**Petropavlovsk-**	**14.88**	**31**	Pn		Pn		03 21 08.8	-4.9
	comp=Z,0.3nm,0.3s,baz=193,slow=9.1,SNR=7.5								
PETK					LR	LR		03 27 30.4	
	comp=Z,49nm,19.0s,baz=237,slow=40								
PETK	**Petropavlovsk-**	**14.88**	**31**	*e*P		**Pn**		**03 21 09.6**	**-4.0**
PETK	**Petropavlovsk-**	**14.88**	**31**	*e*Pn		**Pn**		**03 21 09.6**	**-4.0**
PEA1	**Petropavlovsk-**	**14.88**	**31**	*e*Pn		Pn		03 21 08.8	-4.9
ZEA	**Zeya**	**17.57**	**323**	*e*P		**Pn**		**03 21 45.8**	**-2.3**
ZEA					pmax	pmax			
	comp=N,35nm,1.0s								
ZEA					pmax	pmax			
	comp=E,24nm,1.0s								
ZEA					pmax	pmax			
	comp=Z,41nm,1.0s								
ZEA					MLR	MLR			
	comp=Z,200nm,14.0s								
ZEA					MLR	MLR			
	comp=E,200nm,12.0s								
MA2	**Magadan**	**19.01**	**9**	P		**Pn**		**03 22 04.0**	**-1.6**
	comp=E,1.3nm,0.3s,baz=128,slow=19,SNR=2.8								
MA2					LR	LR		03 30 15.3	
	comp=E,36nm,19.7s,baz=172,slow=40								
JOW	**Kunigami**	**19.77**	**230**	*e*P		**P**		**03 22 07.2**	**-6.3**
	comp=E,51nm,1.4s								
CLNS	**Chul'man**	**20.62**	**327**	*e*P		**P**		**03 22 21.3**	**-1.3**
CLNS					pmax	pmax			
	comp=Z,11nm,1.1s								
CLNS					pmax	pmax			
	comp=E,4.0nm,1.1s								
CLNS					pmax	pmax			
	comp=N,8.0nm,0.9s								
CLNS					MLR	MLR			
	comp=Z,128nm,13.0s								
CLNS					MLR	MLR			
	comp=E,250nm,12.0s								
CLNS					MLR	MLR			
	comp=N,181nm,14.0s								
SEY	**Seymchan**	**22.47**	**9**	P		**P**		**03 22 41.6**	**-0.7**
	comp=N,8.0nm,0.8s,baz=180,slow=7.5,SNR=39								
YAK	**Yakutsk**	**23.10**	**341**	P		**P**		**03 22 47.9**	**-1.1**
	comp=N,7.6nm,0.3s,baz=40,slow=1.2,SNR=3.8								
YAK					LR	LR		03 31 58.6	
	comp=N,74nm,20.3s,baz=103,slow=37								
YAK	**Yakutsk**	**23.10**	**341**	*e*P		**P**		**03 22 46.6**	**-2.4**
YAK				*e*				03 23 14.0	
YAK				*e*				03 26 43.4	
YAK				*e*S		**S**		**03 26 54.9**	**-5.0**
YAK					pmax	pmax			
	comp=Z,14nm,0.9s								
YAK					pmax	pmax			
	comp=N,4.0nm,1.0s								
YAK					pmax	pmax			
	comp=E,6.0nm,1.2s								
YAK					pmax	pmax			
	comp=Z,46nm,2.0s								
YAK					pmax	pmax			
	comp=E,32nm,1.9s								
YAK					pmax	pmax			
	comp=N,23nm,2.3s								
YAK					smax	smax			
	comp=N,71nm,1.6s								
YAK					smax	smax			
	comp=E,58nm,1.6s								
YAK					MLR	MLR			
	comp=Z,82nm,17.0s								
YAK					MLR	MLR			
	comp=N,106nm,18.0s								
YAK	**Yakutsk**	**23.10**	**341**	*e*P		**P**		**03 22 47.9**	**-1.1**
	comp=N,30nm,0.6s								
HHC	**Hu-ho-hao-te**	**25.28**	**281**	*e*P		P		03 23 25.1	+15
HHC				S		**S**		**03 27 40.4**	**+4.7**
BOD	**Bodaibo**	**26.05**	**321**	*i* P		**P**		**03 23 15.3**	**-1.2**
BOD					pmax	pmax			
	comp=Z,19nm,1.1s								
GUMO	**Guam**	**27.23**	**181**	LR		LR		03 31 58.9	
	comp=Z,32nm,20.9s,baz=124,slow=31								
ULN	**Ulaanbaatar**	**27.85**	**297**	*e*P		**P**		**03 23 32.8**	**-0.3**
ULN					pmax	pmax			
	comp=Z,42nm,1.7s								
ULN	**Ulaanbaatar**	**27.85**	**297**	*e*P		**P**		**03 23 33.2**	**+0.1**
	comp=Z,43nm,1.4s								
H11N2	**WAKE ISLAND Hy**	**28.13**	**132**	T		T		03 53 08.0	
	baz=324,slow=76,SNR=14								
H11N1	**WAKE ISLAND Hy**	**28.14**	**132**	T		T		03 53 09.2	
	baz=324,slow=76,SNR=14								
H11N3	**WAKE ISLAND Hy**	**28.15**	**132**	T		T		03 53 10.0	
	baz=324,slow=76,SNR=12								
SONA1	**Songino Array**	**28.29**	**297**	*e*P		**P**		**03 23 37.1**	**+0.2**
SONA0	**Songino Array**	**28.30**	**297**	*e*P		**P**		**03 23 37.5**	**+0.5**
SONA0				*e*PcP		**PcP**		**03 26 50.1**	**+0.3**
SONM	**Songino Array**	**28.30**	**297**	P		**P**		**03 23 37.5**	**+0.5**
	comp=Z,9.1nm,1.0s,baz=93,slow=8.4,SNR=37								
SONM				PcP		**PcP**		**03 26 50.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=131,slow=4.4,SNR=3.8								
SONM				LR		LR		03 36 10.8	
	comp=Z,118nm,18.2s,baz=160,slow=39								
H11S1	**WAKE ISLAND Hy**	**29.01**	**134**	T		T		03 54 16.8	
	baz=325,slow=76,SNR=20								
H11S3	**WAKE ISLAND Hy**	**29.01**	**134**	T		T		03 54 15.9	
	baz=325,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy**	**29.03**	**134**	T		T		03 54 13.5	
	baz=325,slow=76,SNR=13								
XAN	**Xi'an**	**29.38**	**268**	P		**P**		**03 23 47.4**	**+0.8**
XAN				pmax		pmax			
	comp=Z,13nm,0.7s								
XAN				pmax		pmax			
	comp=Z,62nm,3.8s								
BILL	**Bilibino**	**29.50**	**16**	*c iP*		**P**		**03 23 47.7**	**+0.5**
BILL				*i*				03 24 03.7	
BILL					pmax	pmax			
	comp=E,8.0nm,1.0s								
BILL					MLR	MLR			
	comp=Z,64nm,18.0s								
TLY	**Talaya**	**30.22**	**305**	*e*P		**P**		**03 23 55.8**	**+1.9**
TLY								03 34 22.0	
TLY					pmax	pmax			
	comp=Z,23nm,1.5s								
TLY					MLR	MLR			
	comp=Z,149nm,19.0s								
TLY	**Talaya**	**30.22**	**305**	*e*P		P		03 23 58.2	+4.4
	comp=Z,14nm,1.0s								
ZAK	**Zakamensk**	**30.38**	**302**	*e*P		**P**		**03 23 54.0**	**-1.4**
ZAK					pmax	pmax			
	comp=Z,9.0nm,1.4s								
TIXI	**Tiksi**	**31.86**	**350**	P		**P**		**03 24 06.8**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=140,slow=5.6,SNR=4.2								
TIXI	**Tiksi**	**31.86**	**350**	*ce*P		**P**		**03 24 07.3**	**-0.7**
TIXI					pmax	pmax			
	comp=Z,9.0nm,2.5s								
TIXI	**Tiksi**	**31.86**	**350**	*e*P		**P**		**03 24 07.7**	**-0.3**
	comp=Z,2.7nm,0.8s								
TIXI				*e*S		**S**		**03 29 22.3**	**+4.0**
LZH	**Lanzhou**	**32.44**	**275**	*e*P		**P**		**03 24 15.3**	**+1.6**
LZH				pP		sP		03 24 25.0	+7.0
LZH					pmax	pmax			
	comp=Z,19nm,0.7s								
GTA	**Gaotai**	**34.36**	**283**	P		**P**		**03 24 31.3**	**+0.9**
GTA				pP		sP		03 24 37.1	+2.4
GTA				sP		pP		03 24 40.3	+6.8
GTA				PcP		**PcP**		**03 27 08.0**	**+1.8**
GTA				S		**S**		**03 29 55.8**	**-2.3**
GTA				SS		**SnSn**		**03 32 05.4**	**-2.1**
GTA					pmax	pmax			
	comp=Z,23nm,0.9s								
GTA					pmax	pmax			
	comp=Z,54nm,4.2s								
GTA					LR	LR			
	comp=Z,140nm,17.6s								
GTA					LR	LR			
	comp=Z,260nm,17.6s								
GTA					LR	LR			
	comp=Z,150nm,17.6s								
SVW2	**Sparrevohn**	**40.69**	**40**	*e*P		**P**		**03 25 26.2**	**+2.6**
	comp=Z,15nm,1.0s								
ZAA1	**Zalesovo Array**	**41.56**	**309**	*e*P		**P**		**03 25 31.4**	**+0.5**
ZAA1				*e*PcP		**PcP**		**03 27 28.6**	**+0.7**
ZAA0	**Zalesovo Array**	**41.56**	**309**	*e*P		**P**		**03 25 31.4**	**+0.5**
	comp=Z,9.8nm,1.0s								
ZALV	**Zalesovo Beam**	**41.56**	**309**	P		**P**		**03 25 31.4**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=88,slow=7.8,SNR=17								
ZALV				PcP		**PcP**		**03 27 28.6**	**+0.7**
	comp=Z,4.8nm,0.6s,baz=105,slow=2.2,SNR=9.0								
ZALV	**Zalesovo Beam**	**41.56**	**309**	*e*P		**P**		**03 25 30.9**	**+0.1**
ZALV				*e*				03 27 28.3	
ZALV	**Zalesovo Beam**	**41.56**	**309**	*e*P		**P**		**03 25 30.9**	**+0.1**
ZALV				*e*PcP		**PcP**		**03 27 28.2**	**+0.3**
KDAK	**Kodiak Island**	**42.30**	**45**	P		**P**		**03 25 37.6**	**+0.9**
	comp=Z,18nm,0.8s,baz=320,slow=4.1,SNR=6.8								
KDAK	**Kodiak Island**	**42.30**	**45**	*e*P		**P**		**03 25 36.5**	**-0.2**
KDAK					pmax	pmax			
	comp=Z,27nm,1.0s								
KDAK	**Kodiak Island**	**42.30**	**45**	*e*P		**P**		**03 25 36.5**	**-0.2**
	comp=Z,27nm,1.0s								
PPLA	**Purkeypile**	**42.33**	**37**	*e*P		**P**		**03 25 40.0**	**+2.8**
	comp=Z,43nm,1.6s								
NVS	**Novosibirsk**	**42.37**	**311**	*e*P		**P**		**03 25 36.6**	**-0.8**
CAST	**Castle Rocks**	**42.39**	**36**	*e*P		**P**		**03 25 39.8**	**+2.3**
	comp=Z,11nm,0.7s								
SPU	**Mount Spurr**	**42.40**	**40**	*e*P		**P**		**03 25 39.9**	**+2.2**
BPAW	**Bear Paw Mtn.**	**42.89**	**35**	*e*P	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FYU	**Fort Yukon**	**45.30**	**32**	*e*P	**P**	**03 26 03.7**	**+3.0**
	comp=Z,70nm,1.7s						
KLU	**Klutina**	**45.33**	**39**	*e*P	**P**	**03 26 03.2**	**+2.0**
	comp=Z,19nm,1.0s						
DIV	**Divide**	**45.44**	**40**	*e*P	**P**	**03 26 04.6**	**+2.5**
	comp=Z,35nm,1.1s						
KURK	**Kurchatov**	**45.91**	**306**	*d i*P	**P**	**03 26 05.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,94nm,1.2s						
KURK	**Kurchatov**	**45.91**	**306**	*e*P	**P**	**03 26 06.1**	**+0.3**
	comp=Z,16nm,0.8s						
DOT	**Dot Lake**	**45.97**	**36**	*e*P	**P**	**03 26 04.8**	**-1.4**
	comp=Z,29nm,1.3s						
KURBB	**Kurchatov Arra**	**45.99**	**306**	P	**P**	**03 26 06.7**	**+0.3**
	comp=Z,14nm,0.7s,baz=76,slow=8.6,SNR=88						
MENT	**Mentasta**	**46.20**	**37**	*e*P	**P**	**03 26 10.6**	**+2.6**
	comp=Z,9.1nm,1.0s						
EGAK	**Eagle**	**47.11**	**34**	*e*P	**P**	**03 26 16.0**	**+0.9**
	comp=Z,8.9nm,1.1s						
HYT	**Haines Junctio**	**49.46**	**39**	*e*P	**P**	**03 26 35.5**	**+2.1**
	comp=Z,31nm,1.1s						
INK	**Inuvik**	**49.61**	**29**	P	**P**	**03 26 35.9**	**+1.7**
	comp=Z,5.4nm,0.8s,baz=273,slow=7.1,SNR=20						
INK	**Inuvik**	**49.61**	**29**	*e*P	**P**	**03 26 35.9**	**+1.7**
INK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
INK	**Inuvik**	**49.61**	**29**	*e*P	**P**	**03 26 35.9**	**+1.7**
	comp=Z,8.0nm,1.0s						
BVA0	**Borovoye Array**	**50.17**	**311**	P	**P**	**03 26 38.4**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BVAR	**Borovoye Array**	**50.17**	**311**	P	**P**	**03 26 39.6**	**+0.8**
	comp=Z,5.9nm,0.8s,baz=65,slow=8.1,SNR=32						
BRVK	**Borovoye**	**50.22**	**311**	*d i*P	**P**	**03 26 39.8**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,40nm,1.7s						
BRVK	**Borovoye**	**50.22**	**311**	*e*P	**P**	**03 26 40.2**	**+1.1**
	comp=Z,8.9nm,0.9s						
TKM2	**Tokmak 2**	**50.40**	**297**	*i* P	**P**	**03 26 40.9**	**0.0**
TKM2				pmax	pmax		
	comp=Z,14nm,1.0s						
TKM2	**Tokmak 2**	**50.40**	**297**	P	**P**	**03 26 41.7**	**+0.8**
	SNR=14						
KBK	**Karagaybulak**	**50.94**	**297**	P	**P**	**03 26 45.0**	**+0.1**
	SNR=8.5						
KZA	**Kyzart**	**50.96**	**296**	P	**P**	**03 26 46.7**	**+1.3**
	SNR=6.4						
AAK	**Ala-Archa**	**51.25**	**297**	⇓*e*P	**P**	**03 26 47.1**	**-0.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**51.25**	**297**	*e*P	**P**	**03 26 47.9**	**+0.6**
	comp=Z,3.3nm,0.8s						
EKS2	**Erkin-Say**	**51.73**	**297**	P	**P**	**03 26 50.7**	**-0.1**
	SNR=8.6						
HNR	**Honiara**	**51.94**	**161**	LR	LR	03 45 49.2	
	comp=Z,43nm,21.6s,baz=351,slow=32						
AML	**Almayashu**	**52.00**	**297**	P	**P**	**03 26 53.4**	**+0.2**
	SNR=10.0						
MNAS	**Manas**	**52.66**	**297**	*i* P	**P**	**03 26 57.6**	**-0.2**
MNAS				pmax	pmax		
	comp=Z,14nm,0.7s						
SFK	**Sufi-Kurgan**	**53.03**	**294**	*i* P	**P**	**03 27 00.2**	**-0.4**
SFK				pmax	pmax		
	comp=Z,13nm,1.2s						
KK31	**Karatay Array**	**53.73**	**299**	*i* P	**P**	**03 27 05.3**	**-0.2**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KKAR	**Karatay Array**	**53.73**	**299**	*e*P	**P**	**03 27 05.8**	**+0.3**
KKAR	**Karatay Array**	**53.73**	**299**	*e*P	**P**	**03 27 05.8**	**+0.3**
SVE	**Sverdlovsk**	**54.19**	**318**	*e*P	**P**	**03 27 09.5**	**+0.9**
SVE				pmax	pmax		
	comp=Z,23nm,0.9s						
ARU	**Arti**	**55.40**	**318**	LR	LR	03 52 09.3	
	comp=Z,147nm,19.6s,baz=104,slow=37						
ARU	**Arti**	**55.40**	**318**	*d i*P	**P**	**03 27 17.6**	**+0.2**
ARU						03 28 13.0	
ARU						03 29 16.2	
ARU				S	**S**	**03 35 04.0**	**+2.3**
ARU				SS	**SS**	**03 38 45.3**	**-0.3**
ARU				pmax	pmax		
	comp=Z,23nm,1.7s						
ARU	**Arti**	**55.40**	**318**	*e*P	**P**	**03 27 17.3**	**-0.1**
	comp=Z,6.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**57.27**	**349**	P	**P**	**03 27 30.9**	**+0.4**
	comp=Z,9.3nm,1.0s,baz=15,slow=7.8,SNR=6.2						
AB31	**Akbulak array**	**57.68**	**309**	*i* P	**P**	**03 27 33.6**	**-0.1**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ABKAR	**Akbulak array**	**57.68**	**309**	*e*P	**P**	**03 27 34.2**	**+0.5**
	comp=Z,56nm,0.8s						
RES	**Resolute Bay**	**58.10**	**16**	P	**P**	**03 27 37.2**	**+0.9**
	comp=Z,8.9nm,0.7s,baz=314,slow=7.4,SNR=21						
RES	**Resolute Bay**	**58.10**	**16**	*e*P	**P**	**03 27 37.1**	**+0.8**
RES				pmax	pmax		
	comp=Z,11nm,0.9s						
RES	**Resolute Bay**	**58.10**	**16**	*e*P	**P**	**03 27 37.1**	**+0.8**
	comp=Z,11nm,0.9s						
AKTO	**Aktyubinsk**	**58.26**	**311**	*i* P	**P**	**03 27 37.4**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBL	**Kabul**	**58.75**	**290**	*e*P	**P**	**03 27 41.4**	**-0.3**
KBL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KBL	**Kabul**	**58.75**	**290**	*e*P	**P**	**03 27 41.4**	**-0.3**
	comp=Z,9.7nm,0.9s						
YKW3	**Yellowknife Ar**	**58.96**	**32**	*e*P	**P**	**03 27 43.5**	**+1.1**
	comp=Z,24nm,2.0s						
YKA	**Yellowknife Ar**	**58.99**	**32**	P	**P**	**03 27 43.4**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=301,slow=6.6,SNR=25						
YKB5	**Yellowknife Ar**	**58.99**	**32**	*e*P	**P**	**03 27 43.4**	**+0.8**
TMCR	**Tamitsa**	**60.73**	**331**	*e*P	**P**	**03 27 54.6**	**+0.1**
TMCR				pmax	pmax		
	comp=Z,17nm,1.0s						
ARA0	**ARCESS Array S**	**61.37**	**340**	*e*P	**P**	**03 27 59.2**	**+0.3**
ARCES	**ARCESS Array B**	**61.37**	**340**	P	**P**	**03 27 59.2**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=37,slow=8.3,SNR=6.5						
WR1	**Warramunga Arr**	**61.37**	**192**	*e*P	**P**	**03 27 59.2**	**-0.2**
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**61.37**	**192**	P	**P**	**03 27 59.2**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=8.7,slow=7.2,SNR=23						
KLMR	**Klimovskoe**	**62.02**	**328**	*e*P	**P**	**03 28 02.3**	**-1.0**
KLMR				*e*		03 30 18.2	
KLMR				pmax	pmax		
	comp=Z,15nm,1.4s						
KLMR	**Klimovskoe**	**62.02**	**328**	*e*P	**P**	**03 28 02.3**	**-1.0**
KLMR				AMP		03 28 06.7	
	comp=Z,15nm,1.4s						
KLMR				*e*PP	**PP**	**03 30 18.3**	**-1.0**
GEYT	**Alibeck**	**64.48**	**299**	P	**P**	**03 28 20.4**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=5.4,slow=3.1,SNR=9.3						
GEYT				LR	LR	03 58 50.9	
	comp=Z,108nm,18.5s,baz=20,slow=38						
EDM	**Edmonton**	**64.52**	**41**	*e*P	**P**	**03 28 21.1**	**+1.0**
EDM				pmax	pmax		
	comp=Z,10.0nm,0.9s						
EDM	**Edmonton**	**64.52**	**41**	*e*P	**P**	**03 28 21.1**	**+1.0**
	comp=Z,10.0nm,0.9s						
AS31	**Alice Springs**	**65.09**	**191**	*e*P	**P**	**03 28 25.0**	**+0.9**
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**65.09**	**191**	P	**P**	**03 28 25.0**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=12,slow=6.1,SNR=13						
NEW	**Newport**	**65.35**	**47**	P	**P**	**03 28 26.3**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=50,slow=5.0,SNR=4.0						
YBH	**Yreka Blue Hor**	**65.72**	**55**	P	**P**	**03 28 29.3**	**+1.1**
	comp=Z,3.9nm,1.1s,baz=255,slow=9.7,SNR=4.4						
DZM	**Mont Dzumac**	**65.73**	**158**	LR	LR	03 53 01.2	
	comp=Z,27nm,21.5s,baz=90,slow=32						
VRH	**Novokhopyorsk**	**66.63**	**318**	*e*P	**P**	**03 28 33.5**	**-0.2**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
OBN	**Obninsk**	**66.70**	**324**	⇓*e*P	**P**	**03 28 33.0**	**-1.1**
OBN				*e*		03 29 02.0	
OBN				*e*		03 30 58.1	
OBN				*e*PPP	PPP	03 32 33.2	
OBN				pmax	pmax		
	comp=Z,33nm,2.5s						
OBN				MLR	MLR		
	comp=Z,85nm,13.0s						
FIA1	**FINESS Array S**	**66.70**	**333**	*e*P	**P**	**03 28 34.6**	**+0.6**
FIA0	**FINESS Array S**	**66.70**	**333**	*e*P	**P**	**03 28 34.4**	**+0.4**
FIA0	**FINESS Array S**	**66.70**	**333**	*e*P	**P**	**03 28 34.4**	**+0.4**
FINES	**FINESS Array B**	**66.70**	**333**	P	**P**	**03 28 34.4**	**+0.4**
	comp=Z,4.2nm,0.6s,baz=51,slow=6.6,SNR=26						
FINES				LR	LR	03 58 44.5	
	comp=Z,156nm,18.1s,baz=9.0,slow=37						
SUMG	**Summit**	**66.78**	**1**	*i* P	**P**	**03 28 36.0**	**+1.2**
	comp=Z,6.8nm,0.8s						
SUMG	**Summit**	**66.78**	**1**	*e*P	**P**	**03 28 35.6**	**+0.8**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SUMG	**Summit**	**66.78**	**1**	*e*P	**P**	**03 28 35.6**	**+0.8**
	comp=Z,6.4nm,0.8s						
LPSR	**Galich'ya Gora**	**67.16**	**321**	*e*P	**P**	**03 28 37.2**	**+0.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JTMT	**Jette**	**67.21**	**46**	*e*P	**P**	**03 28 39.2**	**+1.5**
	comp=Z,7.7nm,1.2s						
VSR	**Storozhevoye**	**67.89**	**319**	*e*P	**P**	**03 28 41.7**	**0.0**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FFC	**Flin Flon**	**68.88**	**35**	*e*P	**P**	**03 28 48.5**	**+0.7**
FFC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FFC	**Flin Flon**	**68.88**	**35**	*e*P	**P**	**03 28 48.5**	**+0.7**
	comp=Z,5.2nm,1.0s						
GOF	**Gofitskoye**	**69.64**	**312**	⇑*e*P	**P**	**03 28 53.8**	**+1.1**
BOZ	**Bozeman (W)**	**69.96**	**47**	*e*P	**P**	**03 28 55.5**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BOZ	**Bozeman (W)**	**69.96**	**47**	*e*P	**P**	**03 28 55.5**	**+0.6**
	comp=Z,7.3nm,1.3s						
NV01	**Mina Array Sit**	**70.39**	**56**	*e*P	**P**	**03 28 59.1**	**+1.4**
NVAR	**Mina Array Bea**	**70.39**	**56**	P	**P**	**03 28 59.1**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=288,slow=6.2,SNR=10						
KVAR	**Kislovodsk Arr**	**70.51**	**312**	P	**P**	**03 28 59.5**	**+1.2**
	comp=Z,28nm,1.1s,baz=309,slow=6.5,SNR=6.3						
KIV	**Kislovodsk**	**70.52**	**312**	*e*P	**P**	**03 29 00.2**	**+1.9**
KIV				pmax	pmax		
	comp=Z,36nm,1.0s						
KIV				MLR	MLR		
	comp=Z,58nm,17.0s						
KIV	**Kislovodsk**	**70.52**	**312**	*e*P	**P**	**03 29 00.0**	**+1.8**
	comp=Z,29nm,0.9s						
KBZ	**Khabaz**	**70.54**	**311**	P	**P**	**03 28 60.0**	**+1.8**
	comp=Z,13nm,0.8s,baz=60,slow=4.9,SNR=17						
KBZ	**Khabaz**	**70.54**	**311**	*e*P	**P**	**03 29 00.0**	**+1.8**
ZEI	**Tsey**	**70.54**	**310**	*e*P	**P**	**03 28 58.2**	**-0.4**
ZEI				pmax	pmax		
	comp=Z,13nm,1.3s						
H17A	**Grant Village**	**71.30**	**47**	*e*P	**P**	**03 29 06.4**	**+3.2**
	comp=Z,4.9nm,1.1s						
FXWY	**Fox Creek**	**71.52**	**48**	*e*P	**P**	**03 29 06.5**	**+2.0**
	comp=Z,8.8nm,1.6s						
MOOW	**Moose Ponds**	**71.61**	**48**	*e*P	**P**	**03 29 07.0**	**+1.9**
	comp=Z,6.0nm,1.4s						
GNI	**Garni**	**71.67**	**307**	P	**P**	**03 29 07.2**	**+1.8**
	comp=Z,3.3nm,0.7s,baz=350,slow=17,SNR=2.8						
GNI	**Garni**	**71.67**	**307**	*i* P	**P**	**03 29 05.8**	**+0.4**
GNI				pmax	pmax		
	comp=Z,50nm,1.5s						
NB2	**NORSAR Subarra**	**71.69**	**338**	P	**P**	**03 29 05.1**	**+0.1**
	comp=Z,5.3nm,0.7s,baz=35,slow=6.2						
NB200	**NORSAR Array S**	**71.69**	**338**	*e*P	**P**	**03 29 05.2**	**+0.2**
NOA	**NORSAR Array B**	**71.69**	**338**	P	**P**	**03 29 05.2**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=37,slow=6.0,SNR=9.5						
NOA				LR	LR	04 06 43.4	
	comp=Z,43nm,18.7s,baz=320,slow=41						
HFS	**Hagfors**	**71.70**	**337**	P	**P**	**03 29 05.5**	**+0.5**
	comp=Z,3.0nm,0.5s,baz=48,slow=6.6,SNR=22						
HFS				LR	LR	04 06 07.2	
	comp=Z,123nm,18.7s,baz=353,slow=40						
OSI	**Osito Audit: C**	**72.43**	**59**	*e*P	**P**	**03 29 11.2**	**+1.2**
HWUT	**Hardware Ranch**	**72.50**	**50**	*e*P	**P**	**03 29 11.8**	**+1.4**
	comp=Z,6.4nm,1.3s						
STKA	**Stephens Creek**	**72.51**	**183**	LR	LR	04 01 27.5	
	comp=Z,14nm,19.4s,baz=36,slow=36						
DUG	**Dugway, Tooele**	**72.66**	**52**	*e*P	**P**	**03 29 13.0**	**+1.7**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DUG	**Dugway, Tooele**	**72.66**	**52**	*e*P	**P**	**03 29 12.9**	**+1.7**
	comp=Z,3.5nm,0.9s						
PD31	**Pinedale Array**	**72.91**	**48**	*e*P	**P**	**03 29 13.8**	**+0.9**
PDAR	**Pinedale Array**	**72.91**	**48**	P	**P**	**03 29 12.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=228,slow=1.1,SNR=8.5						
PDAR	**Pinedale Array**	**72.91**	**48**	*e*P	**P**	**03 29 12.3**	**-0.6**
AKASG	**Malin Array Be**	**72.95**	**323**	P	**P**	**03 29 12.9**	**+0.3**
	comp=Z,6.5nm,0.7s,baz=42,slow=5.9,SNR=4.4						
AKASG	**Malin Array Be**	**72.95**	**323**	*i* P	**P**	**03 29 10.0**	**-2.7**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AKBB	**Malin Array Si**	**72.95**	**323**	*e*P	**P**	**03 29 12.9**	**+0.3**
AKBB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKBB	**Malin Array Si**	**72.95**	**323**	*e*P	**P**	**03 29 12.9**	**+0.3**
	comp=Z,7.7nm,0.8s						
KIEV	**Kiev**	**72.97**	**323**	⇓*e*P	**P**	**03 29 12.8**	**+0.1**
KIEV				pmax	pmax		
	comp=Z,25nm,2.4s						
KIEV	**Kiev**	**72.97**	**323**	*e*P	**P**	**03 29 12.1**	**-0.6**
	comp=Z,15nm,1.2s						
AK11	**Malin Array Si**	**73.00**	**323**	*e*P	**P**	**03 29 13.2**	**+0.3**
UOSS	**Minazif**	**73.34**	**289**	*e*P	**P**	**03 29 15.8**	**+0.5**
	comp=Z,8.9nm,0.8s						
LCMT	**Little Creek M**	**74.41**	**54**	*e*P	**P**	**03 29 24.1**	**+2.4**
	comp=Z,2.3nm,1.0s						
SRU	**San Rafael Swe**	**74.71**	**51**	*e*P	**P**	**03 29 24.8**	**+1.3**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SRU	**San Rafael Swe**	**74.71**	**51**	*e*P	**P**	**03 29 24.8**	**+1.3**
	comp=Z,4.2nm,0.8s						
CAN	**Canberra**	**75.95**	**177**	*e*P	**P**	**03 29 27.6**	**-2.5**
CAN				pmax	pmax		
	comp=Z,43nm,1.1s						
CAN	**Canberra**	**75.95**	**177**	*e*P	**P**	**03 29 27.6**	**-2.5**
	comp=Z,43nm,1.1s						
PV10	**Paradox Valley**	**76.07**	**51**	*e*P	**P**	**03 29 33.4**	**+2.1**
KWP	**Kalwaria Pacla**	**76.61**	**326**	*e*P	**P**	**03 29 35.1**	**+1.2**
KWP	**Kalwaria Pacla**	**76.61**	**326**	*e*P	**P**	**03 29 34.5**	**+0.6**
KWP				pmax	pmax		
	comp=Z,231nm,1.2s						
KWP	**Kalwaria Pacla**	**76.61**	**326**	*e*P	**P**	**03 29 34.5**	**+0.6**
	comp=Z,231nm,1.2s						
BUR08	**Bucovina Ar. S**	**76.99**	**323**	*e*P	**P**	**03 29 37.1**	**+0.9**
BUR04	**Bucovina Ar. S**	**77.00**	**323**	*e*P	**P**	**03 29 36.9**	**+0.6**
OJC	**Ojcow**	**77.37**	**328**	*e*P	**P**	**03 29 39.3**	**+1.2**
OJC	**Ojcow**	**77.37**	**328**	*e*P	**P**	**03 29 38.8**	**+0.6**
OJC				pmax	pmax		
	comp=Z,12nm,0.9s						
OJC	**Ojcow**	**77.37**	**328**	*e*P	**P**	**03 29 38.8**	**+0.6**
	comp=Z,12nm,0.9s						
LANS	**Liptovska Anna**	**78.34**	**327**	*e*P	**P**	**03 29 45.5**	**+1.8**
LANS	**Liptovska Anna**	**78.34**	**327**	*e*P	**P**	**03 29 45.4**	**+1.8**
BR101	**Keskin Array S**	**78.38**	**313**	*e*P	**P**	**03 29 43.6**	**-0.6**
BR131	**Keskin Array S**	**78.38**	**313**	*e*P	**P**	**03 29 45.6**	**+1.5**
BRTR	**Keskin Array B**	**78.38**	**313**	P	**P**	**03 29 43.6**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=40,slow=6.4,SNR=10						
BRTR				LR	LR	04 09 54.2	
	comp=Z,51nm,18.1s,baz=2.0,slow=40						
BRTR	**Keskin Array B**	**78.38**	**313**	*i* P	**P**	**03 29 45.2**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	**Moravsky Berou**	**78.63**	**328**	*e*P	**P**	**03 29 46.1**	**+0.9**
MORC				pmax	pmax		
	comp=Z,34nm,1.0s						
MORC	**Moravsky Berou**	**78.63**	**328**	*e*P	**P**	**03 29 46.1**	**+0.9**
	comp=Z,34nm,1.0s						
UPC	**Upice**	**78.64**	**330**	*e*P	**P**	**03 29 46.4**	**+1.2**
UPC	**Upice**	**78.64**	**330**	*e*P	**P**	**03 29 46.4**	**+1.2**
DPC	**Dobruska-Polom**	**78.65**	**329**	*e*P	**P**	**03 29 46.9**	**+1.6**
DPC				*e*PCP	**PcP**	**03 29 54.9**	**+0.6**
DPC	**Dobruska-Polom**	**78.65**	**329**	*e*P	**P**	**03 29 46.9**	**+1.6**
DPC				*e*		03 29 54.9	
ANTO	**Ankara**	**78.75**	**313**	*e*P	**P**	**03 29 47.5**	**+1.4**
ANTO				pmax	pmax		
	comp=Z,14nm,0.9s						
ANTO	**Ankara**	**78.75**	**313**	*e*P	**P**	**03 29 47.5**	**+1.4**
	comp=Z,14nm,0.9s						
BR231	**Keskin MP Arra**	**78.78**	**313**	*e*P	**P**	**03 29 44.6**	**-1.7**
ECSD	**EROS Data Cent**	**79.09**	**41**	*e*P	**P**	**03 29 48.3**	**+0.5**
	comp=Z,3.6nm,1.1s						
CLL	**Collm**	**79.11**	**332**	⇓*i*P	**P**	**03 29 48.0**	**+0.3**
CLL				pmax	pmax		
	comp=Z,11nm,1.2s						
CLL	**Collm**	**79.11**	**332**	⇓*i*P	**P**	**03 29 48.0**	**+0.3**
	comp=Z,11nm,1.2s						
CLL	**Collm**	**79.11**	**332**	*e*P	**P**	**03 29 48.0**	**+0.3**
	comp=Z,8.9nm,1.0s						
VYHS	**Vyhne**	**79.11**	**327**	*e*P	**P**	**03 29 48.9**	**+1.1**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VYHS	**Vyhne**	**79.11**	**327**	*e*P	**P**	**03 29 48.9**	**+1.1**
PSZ	**Piszkesteto**	**79.12**	**326**	*e*P	**P**	**03 29 49.5**	**+1.6**
PSZ				pmax	pmax		
	comp=Z,33nm,1.8s						
PSZ	**Piszkesteto**	**79.12**	**326**	*e*P	**P**	**03 29 49.5**	**+1.6**
	comp=Z,33nm,1.8s						
VRAC	**Vranov**	**79.37**	**329**	P	**P**	**03 29 48.4**	**-0.9**
	comp=Z,5.3nm,0.8s,baz=31,slow=4.5,SNR=8.3						
GOPC	**GO Pecny, Ondr**	**79.59**	**330**	*e*P	**P**	**03 29 51.6**	**+1.2**
GOPC				*e*PCP	**PcP**	**03 30 00.4**	**+2.1**
GOPC	**GO Pecny, Ondr**	**79.59**	**330**	*e*P	**P**	**03 29 51.6**	**+1.2**
GOPC				*e*		03 30 00.4	
PRU	**Pruhonice**	**79.62**	**330**	*e*P	**P**	**03 29 51.7**	**+1.1**
PRU				*e*PCP	**PcP**	**03 30 00.6**	**+2.2**
PRU	**Pruhonice**	**79.62**	**330**	*e*P	**P**	**03 29 51.7**	**+1.1**
PRU				*e*		03 30 00.6	
TREC	**Trest**	**79.82**	**329**	*e*P	**P**	**03 29 52.9**	**+1.2**
TREC	**Trest**	**79.82**	**329**	*e*P	**P**	**03 29 52.9**	**+1.2**
ANMO	**Albuquerque**	**79.91**	**52**	*c e*P	**P**	**03 29 53.8**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**80.38**	**342**	P	**P**	**03 29 54.8**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=26,slow=5.1,SNR=5.5						
KHC	**Kasperske Hory**	**80.68**	**330**	*e*P	**P**	**03 29 57.4**	**+1.0**
KHC				*e*PCP	**PcP**	**03 30 06.4**	**+3.3**
KHC	**Kasperske Hory**	**80.68**	**330**	*e*P	**P**	**03 29 57.4**	**+1.0**
KHC				*e*		03 30 06.4	
KHC	**Kasperske Hory**	**80.68**	**330**	*e*P	**P**	**03 29 57.4**	**+1.0**
	comp=Z,3.2nm,0.9s						
GERES	**GERESS Array B**	**80.87**	**330**	P	**P**	**03 29 57.7**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=36,slow=5.7,SNR=15						
GERES				LR	LR	04 08 07.1	
	comp=Z,65nm,21.2s,baz=6.0,slow=37						
GEA0	**GERESS Array S**	**80.88**	**330**	*e*P	**P**	**03 29 57.7**	**+0.2**
VTS	**Vitosha**	**81.71**	**321**	*e*P	**P**	**03 30 03.2**	**+1.1**
VTS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VTS	**Vitosha**	**81.71**	**321**	*e*P	**P**	**03 30 03.2**	**+1.1**
	comp=Z,8.6nm,0.9s						
RAYN	**Ar Rayn**	**81.79**	**294**	*e*P	**P**	**03 30 03.5**	**+0.8**
	comp=Z,6.5nm,1.3s						
SOKA	**Soboth**	**82.11**	**328**	*i* pP	**P**	**03 30 04.9**	**+0.8**
	comp=Z,7.4nm,0.7s,SNR=10						
KBA	**Koelnbreinsper**	**82.46**	**329**	*e*pP	**P**	**03 30 07.2**	**+1.2**
	comp=Z,4.5nm,0.8s						
BFO	**Black Forest**	**83.26**	**333**	*i* P	**P**	**03 30 11.1**	**+1.2**
SENIN	**Lac Senin/Sane**	**85.31**	**332**	*e*P	**P**	**03 30 21.1**	**+0.5**
	comp=Z,22nm,0.6s						
LTX	**Lajitas**	**85.49**	**55**	*e*P	**P**	**03 30 22.8**	**+1.1**
LTX	**Lajitas**	**85.49**	**55**	*e*P	**P**	**03 30 22.8**	**+1.1**
TX31	**Lajitas Ar. Si**	**85.49**	**55**	*e*P	**P**	**03 30 22.9**	**+1.2**
TXAR	**Lajitas Array**	**85.49**	**55**	P	**P**	**03 30 22.8**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=290,slow=3.4,SNR=26						
SSB	**Saint Sauveur**	**87.20**	**333**	*e*P	**P**	**03 30 28.9**	**-0.9**
SSB				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SSB	**Saint Sauveur**	**87.20**	**333**	*e*P	**P**	**03 30 28.9**	**-0.9**
	comp=Z,1.7nm,0.8s						
KEST	**Kesra**	**93.58**	**325**	LR	LR	04 16 04.4	
	comp=Z,76nm,20.9s,baz=259,slow=37						
TORD	**Torodi Ar. Bea**	**116.44**	**320**	PP	PP	03 37 24.9	-8.4
	comp=Z,0.7nm,1.0s,baz=26,slow=6.6,SNR=3.2						
SNAA	**Sanae**	**145.31**	**197**	PKPbc	**PKPdf**	**03 37 18.9**	**-1.2**
	comp=Z,7.5nm,1.1s,baz=166,slow=4.2,SNR=5.3						
PLCA	**Paso Flores**	**153.12**	**101**	PKPbc	**PKPbc**	**03 37 41.0**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=242,slow=5.2,SNR=3.4						

JMA 15 03:25:55.7±0.2**, 40°.91N×145°.23E, h60**km±4km**, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.91**	**306**	P	Pn	03 26 26.6	+0.7
JEM				S	Sn	03 26 46.8	-2.0
JAK	**Akkeshi**	**2.12**	**349**	P	Pn	03 26 29.4	+0.6
JAK				S	Sn	03 26 53.6	-0.4
JCH	**Churui**	**2.20**	**321**	P	Pn	03 26 30.9	+1.0
JCH				*e*S	Sn	03 26 55.2	-0.8
JOB	**Onbets**	**2.25**	**333**	P	Pn	03 26 32.4	+1.9
JOB				*e*S	Sn	03 26 57.5	+0.4
JNBK	**Urakawa-nobuka**	**2.31**	**307**	P	Pn	03 26 32.4	+1.1
JNBK				*e*S	Sn	03 26 59.3	+0.7
NEM2	**Nemuro 2**	**2.48**	**9**	P	Pn	03 26 34.9	+1.2
NEM2				S	Sn	03 27 02.7	-0.1
JAR	**Ashorobuto**	**2.62**	**336**	P	Pn	03 26 37.0	+1.4
JAR				S	Sn	03 27 05.5	-0.7
JNK	**Nakash**	**2.70**	**352**	P	Pn	03 26 37.0	+0.3
JNK				S	Sn	03 27 07.2	-1.0
JANG	**Nango**	**2.88**	**260**	P	Pn	03 26 38.8	-0.3
JANG				S	Sn	03 27 09.0	-3.5
JFR	**Furan**	**2.99**	**320**	P	Pn	03 26 41.8	+1.2
JRA	**Rausu**	**3.03**	**359**	S	Sn	03 27 16.1	0.0
JTKR	**Abashiri--Toko**	**3.21**	**343**	P	Pn	03 26 45.5	+1.9
JTKR				S	Sn	03 27 21.1	+0.5
JOM	**Ohasama**	**3.34**	**246**	P	Pn	03 26 46.0	+0.6

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*ROM **15** 03:29:05.3±0.1, 42°.80N×13°.20E, h4km±1km, Ml4.0/61, Error ellipse: s-maj=1.3km s-min=0.8km az=65.0*
*ISCJB **15** 03:29:05.5±0.2, 42°.817N±0°.010×13°.16E±0°.01, h13km±1km, mb4.0/23, MS3.5/3, Error ellipse: s-maj=1.9km s-min=1.4km az=41.8*
*NEIC **15** 03:29:05.0±0.0, 42°.81N×13°.20E, h6km, mb4.7/4, ML3.9(ROM), After ROM.*
NEIC Felt [IV] at Norcia and Sarnano. Felt in Abruzzo, Marche, Lazio and Umbria.
*LDG **15** 03:29:06.5±0.1, 42°.89N×13°.32E, h2km, Ml3.9/16, Error ellipse: s-maj=3.4km s-min=2.0km az=21.0*
*CSEM **15** 03:29:06.4±0.1, 42°.83N×13°.16E, h5km, mb4.6/7, ML4.3/15, Error ellipse: s-maj=1.9km s-min=1.5km az=33.0*
*MOS **15** 03:29:06.7±1.2, 42°.92N×13°.22E, h16km, mb4.4/7, Error ellipse: s-maj=6.6km s-min=4.1km az=81.9*
*PDG **15** 03:29:06.5±0.5, 42°.84N×13°.19E, h13km, ML4.1/9, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*
*IDC **15** 03:29:06.1±0.6, 42°.89N×13°.16E, h0km, mb3.9/18, mb1 4.0/29, mb1mx3.9/72, mbtmp3.8/29, ML3.7/10, MS3.3/10, Ms1 3.3/10, ms1mx2.9/80, Error ellipse: s-maj=12.3km s-min=11.1km az=143.0*
*PRU **15** 03:29:07.3, 42°.77N×13°.48E, h10km, M4.7*
*STR **15** 03:29:07.1±0.3, 42°.91N±0°.01×13°.29E±0°.03, h10km, MLv3.9/24*

ISC 15 03:29:06.6±0.9**, 42°.83N**±0°.01×**13°.23E**±0°.02**, h5**km±6km**, n571, σ1§94**/716**, mb4.1**/23**, MS3.5**/3**, 23C-29D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.21**	**159**	Pg	**Pg**	**03 29 10.5**	**-0.3**
	78μm,0.6s						
SMA1	**SAN MARTINO**	**0.21**	**159**	Pg	**Pg**	**03 29 10.5**	**-0.3**
	78μm,0.6s						
FDMO	**Fiordimonte**	**0.24**	**333**	P	**Pg**	**03 29 10.1**	**-1.2**
FDMO				S	**Sg**	**03 29 14.5**	**+0.1**
FDMO	**Fiordimonte**	**0.24**	**333**	⇑*i*Pg	**Pg**	**03 29 10.1**	**-1.2**
FDMO				S	**Sg**	**03 29 14.5**	**+0.1**
FDMO	**Fiordimonte**	**0.24**	**333**	⇑*i*Pg	**Pg**	**03 29 10.1**	**-1.2**
FDMO				Sg	**Sg**	**03 29 14.6**	**+0.2**
	24μm,0.2s						
LNSS	**Leonessa**	**0.26**	**213**	P	**Pg**	**03 29 11.2**	**-0.6**
LNSS				S	**Sg**	**03 29 15.3**	**0.0**
LNSS	**Leonessa**	**0.26**	**213**	⇑*i*Pg	**Pg**	**03 29 11.2**	**-0.6**
LNSS				S	**Sg**	**03 29 15.3**	**0.0**
LNSS	**Leonessa**	**0.26**	**213**	⇑*i*Pg	**Pg**	**03 29 11.2**	**-0.6**
LNSS				Sg	**Sg**	**03 29 15.2**	**0.0**
	61μm,0.7s						
CESI	**CESI - Serrava**	**0.30**	**307**	P	**Pg**	**03 29 12.2**	**-0.3**
CESI				S	**Sg**	**03 29 17.2**	**+0.7**
CESI	**CESI - Serrava**	**0.30**	**307**	⇓*i*Pg	**Pg**	**03 29 12.2**	**-0.3**
CESI				S	**Sg**	**03 29 17.2**	**+0.7**
CESI	**CESI - Serrava**	**0.30**	**307**	⇓*i*Pg	**Pg**	**03 29 12.2**	**-0.3**
CESI				Sg	**Sg**	**03 29 17.4**	**+0.9**
	11μm,0.6s						
TERO	**Teramo**	**0.34**	**126**	Pg	**Pg**	**03 29 12.9**	**-0.3**
TERO				Sg	**Sg**	**03 29 18.4**	**+0.7**
	18μm,0.5s						
TERO	**Teramo**	**0.34**	**126**	Pg	**Pg**	**03 29 12.9**	**-0.3**
TERO				Sg	**Sg**	**03 29 18.4**	**+0.7**
	18μm,0.5s						
OFFI	**Offida**	**0.35**	**72**	⇑*i*Pg	**Pg**	**03 29 13.4**	**0.0**
OFFI				Sg	**Sb**	**03 29 20.9**	**-0.3**
	37μm,0.5s						
OFFI	**Offida**	**0.35**	**72**	⇑*i*Pg	**Pg**	**03 29 13.4**	**0.0**

OFFI				Sg	Sb	03 29 20.9	-0.3
	37µm,0.5s						
SNTG	Esanatoglia	0.48	334	Pg	Pg	03 29 15.6	-0.3
SNTG	Esanatoglia	0.48	334	Pg	Pg	03 29 15.6	-0.3
SNTG				Sg	Sb	03 29 23.6	-1.4
	9µm,0.6s						
AQU	L'Aquila	0.49	165	eP	Pg	03 29 15.5	-0.5
AQU				e		03 29 23.6	
AQU	L'Aquila	0.49	165	ePg	Pg	03 29 15.5	-0.5
AQU				eSg	Sg	03 29 23.6	+1.2
AQU	L'Aquila	0.49	165	eP	Pg	03 29 15.5	-0.5
AQU				eS	Sg	03 29 23.6	+1.2
AQU	L'Aquila	0.49	165	Pg	Pg	03 29 15.3	-0.7
	15µm,0.6s						
TRTR	Tortoreto Alta	0.50	92	Pg	Pb	03 29 17.5	-0.4
	58µm,0.9s						
TRTR	Tortoreto Alta	0.50	92	Pg	Pb	03 29 17.5	-0.4
	58µm,0.9s						
CING	Cingoli	0.55	357	Pg	Pg	03 29 17.0	-0.2
CING	Cingoli	0.55	357	Pg	Pg	03 29 17.0	-0.2
CING				Sg	Sb	03 29 26.6	-0.5
	8µm,0.4s						
ATCC	AVT- Casa Cast	0.56	310	Pg	Pg	03 29 16.9	-0.6
ATCC	AVT- Casa Cast	0.56	310	Pg	Pg	03 29 16.9	-0.6
ATCC				Sg	Sb	03 29 26.3	-1.1
	15µm,0.8s						
FIAM	Fiamignano	0.56	189	Pg	Pg	03 29 16.4	-1.1
FIAM				Sg	Sg	03 29 24.9	+0.1
	10µm,0.6s						
FIAM	Fiamignano	0.56	189	Pg	Pg	03 29 16.4	-1.1
FIAM				Sg	Sg	03 29 24.9	+0.1
	10µm,0.6s						
GUMA	Gualdo di Mace	0.57	65⇑	iPg	Pg	03 29 12.1	-5.5
GUMA				Sg	Sg	03 29 16.8	-8.2
	110µm,0.4s						
FAGN	Fagnano	0.62	155	Pg	Pg	03 29 17.6	-0.9
	19µm,0.5s						
FAGN	Fagnano	0.62	155	Pg	Pg	03 29 17.6	-0.9
	19µm,0.5s						
VCEL	Villa Celiera	0.62	134	Pg	Pg	03 29 18.2	-0.4
VCEL				Sg	Sb	03 29 28.3	-0.8
	6µm,0.4s						
VCEL	Villa Celiera	0.62	134	Pg	Pg	03 29 18.2	-0.4
VCEL				Sg	Sb	03 29 28.3	-0.8
	6µm,0.4s						
MURB	Monte Urbino	0.68	310	Pg	Pg	03 29 19.0	-0.7
	13µm,0.3s						
MURB	Monte Urbino	0.68	310	Pg	Pg	03 29 19.0	-0.7
	13µm,0.3s						
ARVD	Arcevia	0.70	343	Pg	Pg	03 29 19.6	-0.6
ARVD	Arcevia	0.70	343	Pg	Pg	03 29 19.6	-0.6
ARVD				Sg	Sb	03 29 31.2	-0.3
	4µm,0.5s						
ATTE	AVT- Monte Tez	0.74	300	Pg	Pg	03 29 20.0	-0.9
	3µm,0.6s						
ATTE	AVT- Monte Tez	0.74	300	Pg	Pg	03 29 20.0	-0.9
	3µm,0.6s						
AOI	Ancona	0.77	20	Pg	Pg	03 29 21.3	-0.2
AOI	Ancona	0.77	20	Pg	Pg	03 29 21.3	-0.2
AOI				Sg	Sb	03 29 34.3	+0.9
	6µm,0.5s						
FRON	Frontone	0.79	332	Pg	Pg	03 29 21.0	-0.7
FRON	Frontone	0.79	332	Pg	Pg	03 29 21.0	-0.7
FRON				Sg	Sb	03 29 33.4	-0.4
	8µm,0.4s						
PTQR	Pietraquaria	0.81	171	Pg	Pg	03 29 20.5	-1.7
PTQR	Pietraquaria	0.81	171	Pg	Pg	03 29 20.5	-1.7
ATVO	AVT- Monte Val	0.82	313	Pg	Pg	03 29 21.4	-1.0
	4µm,0.8s						
ATVO	AVT- Monte Val	0.82	313	Pg	Pg	03 29 21.4	-1.0
	4µm,0.8s						
MGAB	Montegabbione	0.83	276	Pg	Pg	03 29 21.7	-0.8
	8µm,0.7s						
MGAB	Montegabbione	0.83	276	Pg	Pg	03 29 21.7	-0.8
	8µm,0.7s						
ATPC	Poggio Castell	0.87	319	Pg	Pg	03 29 22.3	-1.0
	5µm,0.4s						
ATPC	Poggio Castell	0.87	319	Pg	Pg	03 29 22.3	-1.0
	5µm,0.4s						
PIEI	Pieia	0.87	325	Pg	Pg	03 29 22.3	-1.1
PIEI	Pieia	0.87	325	Pg	Pg	03 29 22.3	-1.1
PIEI				Sg	Sb	03 29 36.3	-0.1
	2µm,0.4s						
MPAG	Monte Paganucc	0.88	337	Pg	Pg	03 29 22.9	-0.5
MPAG	Monte Paganucc	0.88	337	Pg	Pg	03 29 22.9	-0.5
MPAG				Sg	Sb	03 29 36.7	+0.3
	6µm,0.3s						
SENI	Senigallia	0.88	0	Pg	Pg	03 29 23.7	+0.2
	6µm,0.8s						
SENI	Senigallia	0.88	0	Pg	Pg	03 29 23.7	+0.2
	6µm,0.8s						
MTCE	Montecelio	0.88	205	Pg	Pg	03 29 21.5	-2.0
	5µm,0.6s						
MTCE	Montecelio	0.88	205	Pg	Pg	03 29 21.5	-2.0
	5µm,0.6s						
CERT	Cerreto	0.90	192	Pg	Pg	03 29 21.9	-1.9
	5µm,0.5s						
CERT	Cerreto	0.90	192	Pg	Pg	03 29 21.9	-1.9
	5µm,0.5s						
FSSB	Fossombrone	0.93	339	Pg	Pg	03 29 24.0	-0.4
	16µm,0.4s						
FSSB	Fossombrone	0.93	339	Pg	Pg	03 29 24.0	-0.4
	16µm,0.4s						
INTR	Introdacqua	0.95	148	Pg	Pg	03 29 23.2	-1.7
	7µm,0.7s						
INTR	Introdacqua	0.95	148	Pg	Pg	03 29 23.2	-1.7
	7µm,0.7s						
SACS	San Casciano d	0.97	272	Pg	Pg	03 29 24.6	-0.7
	4µm,1.0s						
SACS	San Casciano d	0.97	272	Pg	Pg	03 29 24.6	-0.7
	4µm,1.0s						
ATMC	Monte Cedrone	0.98	310	Pg	Pg	03 29 24.6	-0.9
	3µm,0.4s						
ATMC	Monte Cedrone	0.98	310	Pg	Pg	03 29 24.6	-0.9
	3µm,0.4s						
BADI	Badiali	0.99	314	Pg	Pg	03 29 24.6	-1.1
	5µm,0.8s						
BADI	Badiali	0.99	314	Pg	Pg	03 29 24.6	-1.1
	5µm,0.8s						
VVLD	Villa Vallelon	1.00	163	Pg	Pg	03 29 24.4	-1.3
	3µm,0.6s						
VVLD	Villa Vallelon	1.00	163	Pg	Pg	03 29 24.4	-1.3
	3µm,0.6s						
CAFR	Castel Frentan	1.02	126	Pg	Pg	03 29 24.9	-1.2
	7µm,0.4s						
CAFR	Castel Frentan	1.02	126	Pg	Pg	03 29 24.9	-1.2
	7µm,0.4s						
GUAR	Guarcino	1.03	177	Pg	Pg	03 29 26.0	-0.4
	2µm,0.6s						
GUAR	Guarcino	1.03	177	Pg	Pg	03 29 26.0	-0.4
	2µm,0.6s						
LPEL	Lama dei Pelig	1.05	138	Pg	Pg	03 29 24.7	-2.1
	3µm,0.6s						
CAFI	Castiglion Fio	1.06	299	Pg	Pg	03 29 25.6	-1.3
	2µm,0.8s						
CAFI	Castiglion Fio	1.06	299	Pg	Pg	03 29 25.6	-1.3
	2µm,0.8s						
LATE	Laterza	1.07	259	Pg	Pg	03 29 26.4	-0.8
	4µm,0.6s						
LATE	Laterza	1.07	259	Pg	Pg	03 29 26.4	-0.8
	4µm,0.6s						
RMP	Rome, Mte Porz	1.09	201	Pg	Pg	03 29 26.9	-0.6
	6µm,0.7s						
RMP	Rome, Mte Porz	1.09	201	Pg	Pg	03 29 26.9	-0.6
	6µm,0.7s						
PARC	Parchiule	1.10	319	Pg	Pg	03 29 26.5	-1.2
	4µm,0.9s						
PARC	Parchiule	1.10	319	Pg	Pg	03 29 26.5	-1.2
	4µm,0.9s						
MA9	Marino	1.14	202	Pg	Pg	03 29 26.8	-1.6
	5µm,0.6s						
MA9	Marino	1.14	202	Pg	Pg	03 29 26.8	-1.6
	5µm,0.6s						
MCIV	Monte Civitell	1.15	268	Pg	Pg	03 29 27.3	-1.3
	1µm,0.8s						
MCIV	Monte Civitell	1.15	268	Pg	Pg	03 29 27.3	-1.3
	1µm,0.8s						
SAMA	S.Maria delle	1.15	205	Pg	Pg	03 29 26.6	-2.0
	2µm,0.7s						
SAMA	S.Maria delle	1.15	205	Pg	Pg	03 29 26.6	-2.0
	2µm,0.7s						
PESA	Pesaro	1.15	346	Pg	Pg	03 29 28.4	-0.3
	8µm,0.5s						
PESA	Pesaro	1.15	346	Pg	Pg	03 29 28.4	-0.3
	8µm,0.5s						
POFI	Posta Fibreno	1.16	162	Pg	Pg	03 29 27.8	-1.1
	2µm,0.7s						
POFI	Posta Fibreno	1.16	162	Pg	Pg	03 29 27.8	-1.1
	2µm,0.7s						
CPGN	Carpegna, Ital	1.18	326	Pg	Pg	03 29 28.8	-0.5
	1247µm,12.0s						
CPGN	Carpegna, Ital	1.18	326	Pg	Pg	03 29 28.8	-0.5
	1247µm,12.0s						
TOLF	Tolfa	1.19	231	Pg	Pg	03 29 27.3	-2.1
	2µm,0.6s						
TOLF	Tolfa	1.19	231	Pg	Pg	03 29 27.3	-2.1
	2µm,0.6s						
CRE	Caprese Michel	1.23	311	Pg	Pg	03 29 29.0	-1.2
	2µm,1.0s						
CRE	Caprese Michel	1.23	311	Pg	Pg	03 29 29.0	-1.2
	2µm,1.0s						
ARCI	Arcidosso	1.29	272	Pg	Pg	03 29 30.7	-0.7
	685nm,0.9s						
ARCI	Arcidosso	1.29	272	Pg	Pg	03 29 30.7	-0.7
	685nm,0.9s						
CERA	Filignano	1.36	154	Pg	Pn	03 29 30.1	-2.2
	3µm,0.8s						
MIDA	Miranda	1.41	147	Pg	Pn	03 29 30.8	-2.2
	1µm,0.6s						
SFI	Santa Sofia	1.48	317	Pg	Pn	03 29 33.0	-1.0
	2µm,1.3s						
SFI	Santa Sofia	1.48	317	Pg	Pn	03 29 33.0	-1.0
	2µm,1.3s						
CSNT	Castellina Chi	1.56	295	Pg	Pn	03 29 33.8	-1.3
	663nm,0.7s						
CSNT	Castellina Chi	1.56	295	Pg	Pn	03 29 33.8	-1.3
	663nm,0.7s						
FROS	Frosini	1.57	285	Pg	Pn	03 29 33.9	-1.3
FROS	Frosini	1.57	285	Pg	Pn	03 29 33.9	-1.3
MAON	Monte Argentar	1.60	256	Pg	Pn	03 29 34.1	-1.5
	630nm,1.0s						
MAON	Monte Argentar	1.60	256	Pg	Pn	03 29 34.1	-1.5
	630nm,1.0s						
TRIF	Trifonti	1.73	280	Pg	Pn	03 29 36.2	-1.3
	432nm,0.5s						
TRIF	Trifonti	1.73	280	Pg	Pn	03 29 36.2	-1.3
	432nm,0.5s						
CASP	Castiglione de	1.74	270	Pg	Pn	03 29 36.0	-1.6
	281nm,0.8s						
PTRJ	Pietraroja	1.75	146	Pg	Pn	03 29 38.2	+0.5
	2µm,0.9s						
MELA	Melanico ??? S	1.80	128	Pg	Pn	03 29 38.9	+0.6
	2µm,0.5s						
SACR	S. Croce Del S	1.80	142	Pg	Pn	03 29 39.1	+0.7
	761nm,0.8s						
CRMI	Carmignano	1.91	301	Pg	Pn	03 29 38.7	-1.2
	400nm,0.9s						
NVLJ	Novalja	2.10	34	i Pn	Pn	03 29 42.0	-0.6
NVLJ				Sn	Sn	03 30 08.9	-0.2
NVLJ	Novalja	2.10	34	i Pn	Pn	03 29 41.9	-0.6
NVLJ				Sn	Sn	03 30 08.8	-0.2
MS1	Monte Sant'Ang	2.30	118	i Pn	Pn	03 29 46.5	+1.2
VLC	Villacollemand	2.46	304	ePn	Pn	03 29 46.1	-1.4
VLC				eSn	Sn	03 30 16.9	-1.1
VLC	Villacollemand	2.46	304	ePn	Pn	03 29 46.1	-1.4
VLC				eSn	Sn	03 30 16.9	-1.1
UDBI	Udbina	2.50	46	i Pn	Pn	03 29 49.1	+1.0
UDBI				Sn	Sn	03 30 17.8	-1.3
UDBI	Udbina	2.50	46	i Pn	Pn	03 29 49.0	+1.0
UDBI				Sn	Sn	03 30 17.7	-1.3
RIY	Rijeka	2.66	19⇑	iPn	Pn	03 29 49.9	-0.2
RIY				eSn	Sn	03 30 22.3	-0.4
SKDS	Skadanscina	2.78	11	i Pn	Pn	03 29 51.0	-0.8
SKDS				eSn	Sn	03 30 25.3	-0.5
SKDS	Skadanscina	2.78	11	Pn	Pn	03 29 51.0	-0.8
SKDS				eSn	Sn	03 30 25.3	-0.5
	512nm,0.3s						
TRI	Trieste	2.91	7	eP	Pn	03 29 52.5	-1.1
TRI				e		03 30 27.4	
TRI	Trieste	2.91	7	ePn	Pn	03 29 52.5	-1.1
TRI				eSn	Sn	03 30 27.4	-1.5
TRI	Trieste	2.91	7	eP	Pn	03 29 52.5	-1.1
TRI				eS	Sn	03 30 27.4	-1.5
CEY	Cerknica	3.04	16	ePn	Pn	03 29 54.6	-0.8
CEY				eSn	Sn	03 30 31.5	-0.6
BOJS	Bojanci	3.05	28	i Pn	Pn	03 29 56.2	+0.7
BOJS				eSn	Sn	03 30 33.0	+0.7
BOJS	Bojanci	3.05	28	i Pn	Pn	03 29 56.2	+0.7
BOJS				eSn	Sn	03 30 33.0	+0.7
	192nm,0.4s						
PGF	Pioggiola	3.13	266	ePn	Pn	03 29 56.3	-0.5
	SNR=1.0						
PGF				eSn	Sn	03 30 33.1	-1.5
	28nm,0.4s						
PGF	Pioggiola	3.13	266	ePn	Pn	03 29 56.3	-0.5
	SNR=1.0						
PGF				eSn	Sn	03 30 33.1	-1.5
	14nm,0.4s						
BAI	Bari	3.22	121	i Pn	Pn	03 29 58.2	+0.4
OZLJ	Ozalj	3.22	29	ePn	Pn	03 29 58.2	+0.4
OZLJ	Ozalj	3.22	29	ePn	Pn	03 29 58.2	+0.4
SG1	Sgolgore (BA)	3.25	126	i Pn	Pn	03 29 58.9	+0.6
STON	Ston	3.29	88	ePn	Pn	03 29 57.8	-0.9
STON				Sn	Sn	03 30 37.2	-1.0
STON	Ston	3.29	88⇓	iPn	Pn	03 29 57.9	-0.9
STON				Sn	Sn	03 30 37.2	-1.0
LJU	Ljubljana	3.35	16	ePn	Pn	03 29 59.3	-0.3
LJU				eSn	Sn	03 30 38.5	-1.3
MATE	Matera	3.39	129⇓	iP	Pn	03 30 00.8	+0.7
MATE	Matera	3.39	129⇓	iP	Pn	03 30 00.8	+0.7
MATE				S	Sn	03 30 41.6	+0.9
CRES	Cresnjev	3.40	27	ePn	Pn	03 29 59.9	-0.4
CRES				eSn	Sn	03 30 39.5	-1.5
CADS	Cadrg	3.42	6	i Pn	Pn	03 29 60.0	-0.7
CADS	Cadrg	3.42	6	i Pn	Pn	03 30 00.0	-0.7
	184nm,0.6s						
CUC	Castrocucco	3.43	145	ePn	Pn	03 30 02.7	+1.9
CUC	Castrocucco	3.43	145	ePn	Pn	03 30 02.7	+1.9
BLY	Banja Luka	3.45	55⇓	iP	Pn	03 30 01.9	+0.9
BLY	Banja Luka	3.45	55	ePn	Pn	03 30 01.8	+0.9
BLY				eSn	Sn	03 30 40.4	-1.8
BLY	Banja Luka	3.45	55	ePn	Pn	03 30 01.8	+0.8
BLY				eSn	Sn	03 30 40.8	-1.4
ZAG	Zagreb	3.59	32	ePn	Pn	03 30 02.2	-0.8
ZAG				eSn	Sn	03 30 44.1	-1.7
MASS	Massafra	3.66	125	i Pn	Pn	03 30 04.4	+0.5
FASA	Fasano	3.68	122	i Pn	Pn	03 30 04.5	+0.4
TREB	Trebinje	3.77	90	ePn	Pn	03 30 04.2	-1.2
TREB				eSn	Sn	03 30 47.1	-3.1
OBKA	Obir	3.80	14	Pn	Pn	03 30 05.7	-0.2
	8.5nm,0.2s						
OBKA				Sn	Sn	03 30 51.8	+0.7
	175nm,0.5s						
OBKA	Obir	3.80	14	ePn	Pn	03 30 05.7	-0.2
	8.5nm,0.2s						
OBKA				i Sn	Sn	03 30 51.8	+0.7
	175nm,0.5s						
TAR1	Taranto	3.81	126	i Pn	Pn	03 30 05.5	-0.4
MYKA	Terra Mystica	3.81	4	Pn	Pn	03 30 06.2	+0.1
	10nm,0.2s,SNR=17						
MYKA				Sn	Sn	03 30 50.9	-0.5
	77nm,0.3s						
MYKA	Terra Mystica	3.81	4	i Pn	Pn	03 30 06.2	+0.1
	10nm,0.2s,SNR=17						
MYKA				i Sn	Sn	03 30 50.9	-0.5
	77nm,0.3s						
CGL1	Ceglie Messapi	3.84	123	ePn	Pn	03 30 08.6	+2.1
HCY	Herceg Novi	3.90	94⇑	iPn	Pn	03 30 07.8	+0.6
HCY				eSn	Sn	03 30 54.9	+1.5
HCY	Herceg Novi	3.90	94⇑	iPn	Pn	03 30 07.8	+0.6
HCY				eSn	Sn	03 30 54.9	+1.5
ABTA	Abfaltersbach	3.96	353	Pn	Pn	03 30 08.6	+0.6
	90nm,0.5s,SNR=86						
ABTA	Abfaltersbach	3.96	353	i Pn	Pn	03 30 08.6	+0.6
	90nm,0.5s,SNR=86						
DOB	Doboj	4.01	60	ePn	Pn	03 30 07.7	-1.0
SOKA	Soboth	4.06	18	Sn	Sn	03 30 57.8	+0.4
	31nm,0.4s						
SOKA	Soboth	4.06	18	i Sn	Sn	03 30 57.8	+0.4
	31nm,0.4s						
CEME	Cevo	4.20	92⇑	iPn	Pn	03 30 12.3	+0.9
CEME				eSn	Sn	03 31 01.8	+0.9
CEME	Cevo	4.20	92⇑	iPn	Pn	03 30 12.3	+0.9
CEME				eSn	Sn	03 31 01.8	+0.9
NKME	Niksic	4.21	89⇓	iPn	Pn	03 30 12.5	+1.0
NKME				eSn	Sn	03 31 02.3	+1.2
NKME	Niksic	4.21	89⇓	iPn	Pn	03 30 12.5	+1.0
NKME				eSn	Sn	03 31 02.3	+1.2
BUM	Brajici-Budva	4.21	95⇓	iPn	Pn	03 30 12.5	+0.9
BUM				eSn	Sn	03 31 02.5	+1.3
BUM	Brajici-Budva	4.21	95⇓	iPn	Pn	03 30 12.5	+0.9
BUM				eSn	Sn	03 31 02.5	+1.3
KOGS	Kog	4.21	30	i Pn	Pn	03 30 10.8	-0.7
KOGS	Kog	4.21	30	i Pn	Pn	03 30 10.8	-0.7
	347nm,1.4s						
NKY	Niksic	4.24	88⇓	iPn	Pn	03 30 12.5	+0.5
NKY				eSn	Sn	03 31 03.0	+1.1
NKY	Niksic	4.24	88⇓	iPn	Pn	03 30 12.5	+0.5
NKY				eSn	Sn	03 31 03.0	+1.1
KBA	Koelnbreinsper	4.25	1	Pn	Pn	03 30 12.8	+0.6
	25nm,0.2s						
KBA				Sn	Sn	03 31 01.9	-0.4
	126nm,0.5s						
KBA	Koelnbreinsper	4.25	1	ePn	Pn	03 30 12.8	+0.6
	25nm,0.2s						
KBA				i Sn	Sn	03 31 01.9	-0.4
	126nm,0.5s						
FUORN	Ofenpass-Fuorn	4.34	332	eP	Pn	03 30 14.9	+1.4
	63nm,0.6s						
FUORN	Ofenpass-Fuorn	4.34	332	ePn	Pn	03 30 14.9	+1.4
FUORN				eSn	Sn	03 31 05.5	+0.8
FUORN	Ofenpass-Fuorn	4.34	332	ePn	Pn	03 30 14.9	+1.4
FUORN				eSn	Sn	03 31 05.5	+0.8
HAPS	Han Pijesak,Bl	4.35	71	ePn	Pn	03 30 12.2	-1.3
HAPS				eSn	Sn	03 31 01.5	-3.1
SBF	Sospel	4.35	286	ePn	Pn	03 30 12.9	-0.6
	SNR=1.0						
SBF				eSn	Sn	03 31 01.4	-3.3
	39nm,0.4s,SNR=1.0						
REVF	Revere	4.38	284	P	Pn	03 30 13.1	-0.7
REVF	Revere	4.38	284	S	Sn	03 31 09.4	+4.2
VSL	Villasalto	4.42	222	ePn	Pn	03 30 14.1	-0.3
VSL				eSn	Sn	03 31 04.3	-1.9
VSL	Villasalto	4.42	222	ePn	Pn	03 30 14.1	-0.3
VSL				eSn	Sn	03 31 04.3	-1.9
LUCF	Luceram	4.42	286	S	Sn	03 31 10.2	+3.8
LUCF	Luceram	4.42	286	P	Pn	03 30 14.2	-0.3
LUCF	Luceram	4.42	286	S	Sn	03 31 10.3	+3.8
BEHE	Becsehely	4.43	34	eP	Pn	03 30 17.5	+2.9
BEHE	Becsehely	4.43	34	ePn	Pn	03 30 13.5	-1.1
BEHE				eSn	Sn	03 31 04.5	-2.0
DRME	Dracevica, Mon	4.45	96⇑	iPn	Pn	03 30 15.7	+1.0
DRME				eSn	Sn	03 31 08.5	+1.7
DRME	Dracevica, Mon	4.45	96⇑	iPn	Pn	03 30 15.7	+1.0
DRME				eSn	Sn	03 31 08.5	+1.7
PDG	Podgorica	4.46	93	ePn	Pn	03 30 15.8	+0.9
PDG				S	Sn	03 31 06.6	-0.6
PDG				eSn	Sn	03 31 08.2	+1.0
TTG	Podgorica	4.46	93	ePn	Pn	03 30 15.8	+0.9
TTG				eSn	Sn	03 31 08.2	+1.0
TTG	Podgorica	4.46	93	eP	Pn	03 30 16.0	+1.1
TTG				e		03 31 07.6	
TTG	Podgorica	4.46	93	ePn	Pn	03 30 16.0	+1.1
TTG				eSn	Sn	03 31 07.6	+0.4
TTG	Podgorica	4.46	93	eP	Pn	03 30 16.0	+1.1
TTG				eS	Sn	03 31 07.6	+0.4
TIP	Timpagrande	4.51	143⇓	iP	Pn	03 30 18.1	+2.4
TIP	Timpagrande	4.51	143	ePn	Pn	03 30 18.3	+2.5
TIP	Timpagrande	4.51	143⇓	iP	Pn	03 30 18.1	+2.4
TIP	Timpagrande	4.51	143	P	Pn	03 30 17.5	+1.8
ULC	Ulcinj	4.54	99⇓	iPn	Pn	03 30 16.8	+0.8
ULC				eSn	Sn	03 31 10.2	+1.1
ULC	Ulcinj	4.54	99⇓	iPn	Pn	03 30 16.8	+0.8
ULC				eSn	Sn	03 31 10.2	+1.1
PLE	Pljevlja	4.54	82⇑	iPn	Pn	03 30 17.4	+1.3
PLE				eSn	Sn	03 31 10.4	+1.1
PLE	Pljevlja	4.54	82⇑	iPn	Pn	03 30 17.4	+1.3
PLE				eSn	Sn	03 31 10.4	+1.1
FETA	Feichten	4.56	338	Pn	Pn	03 30 19.0	+2.6
	13nm,0.6s,SNR=18						
FETA	Feichten	4.56	338	i Pn	Pn	03 30 19.0	+2.6
	13nm,0.6s,SNR=18						
FETA				i Sn	Sb	03 31 17.0	-5.4
	38nm,0.6s						
TUE	Stuetta	4.58	324	eP	Pn	03 30 17.1	+0.4
	64nm,1.2s						
TUE	Stuetta	4.58	324	ePn	Pn	03 30 17.1	+0.4
TUE				eSn	Sn	03 31 07.7	-2.7
TUE	Stuetta	4.58	324	ePn	Pn	03 30 17.1	+0.4
TUE				eSn	Sn	03 31 07.7	-2.7
WTTA	Wattenberg	4.58	346	Pn	Pn	03 30 18.6	+1.9
WTTA				Sn	Sn	03 31 12.2	+1.8
WTTA	Wattenberg	4.58	346	ePn	Pn	03 30 18.3	+1.6
	22nm,0.3s,SNR=9.7						
WTTA				i Sn	Sn	03 31 12.1	+1.8
	39nm,0.4s						
BBLS	Lazići	4.62	75	ePn	Pn	03 30 15.9	-1.3
BBLS				eSn	Sn	03 31 08.5	-2.7
KOME	Kolasin	4.62	88⇑	iPn	Pn	03 30 18.2	+1.0
KOME				eSn	Sn	03 31 12.1	+0.8
KOME	Kolasin	4.62	88⇑	iPn	Pn	03 30 18.2	+1.0
KOME				eSn	Sn	03 31 12.1	+0.8
WATA	Walderalm	4.66	346	Pn	Pn	03 30 19.6	+1.8
	16nm,0.2s,SNR=23						
WATA	Walderalm	4.66	346	ePn	Pn	03 30 19.6	+1.8
	16nm,0.2s,SNR=23						
ARSA	Arzberg	4.71	19	Pn	Pn	03 30 18.1	-0.3
	5.4nm,0.3s						
ARSA				Sn	Sn	03 31 11.3	-2.2
	37nm,0.4s						
ARSA	Arzberg	4.71	19	i Pn	Pn	03 30 18.1	-0.3
	5.4nm,0.3s						
ARSA				i Sn	Sn	03 31 11.3	-2.2
	37nm,0.4s						
FRF	La Foret Royal	4.87	281	ePn	Pn	03 30 19.4	-1.1
	SNR=1.0						
FRF				eSn	Sn	03 31 13.8	-3.5
	26nm,0.6s						
FRF	La Foret Royal	4.87	281	ePn	Pn	03 30 19.4	-1.1
	SNR=1.0						
FRF				eSn	Sn	03 31 13.8	-3.5
	13nm,0.6s						
TEKS	Tekeris	4.88	67	ePn	Pn	03 30 19.5	-1.2
TEKS				eSn	Sn	03 31 14.3	-3.3
BEY	Berane	4.90	87	ePn	Pn	03 30 22.6	+1.6
BEY				eSn	Sn	03 31 18.8	+0.7
IVA	Berane	4.90	87	ePn	Pn	03 30 22.6	+1.6
IVA				eSn	Sn	03 31 18.8	+0.7
LMR	La Mourre	4.95	278	ePn	Pn	03 30 19.9	-1.7
	SNR=1.0						
LMR	La Mourre	4.95	278	ePn	Pn	03 30 19.9	-1.7
	SNR=1.0						
PVY	Plav	4.96	90⇓	iPn	Pn	03 30 23.0	+1.1
PVY				eSn	Sn	03 31 20.6	+0.9
PVY	Plav	4.96	90⇓	iPn	Pn	03 30 23.0	+1.1
PVY				eSn	Sn	03 31 20.6	+0.9
RETA	Reutte	4.98	340	Pn	Pn	03 30 24.3	+2.2
	20nm,0.4s,SNR=9.6						
RETA	Reutte	4.98	340	i Pn	Pn	03 30 24.3	+2.2
	20nm,0.4s,SNR=9.6						
CEL	Celeste	4.99	155	ePn	Pn	03 30 25.2	+2.9
CEL	Celeste	4.99	155	ePn	Pn	03 30 25.2	+2.9
MBDF	Montbardon	5.05	294	ePn	Pn	03 30 22.6	-0.5
	SNR=1.0						
MBDF				eSn	Sn	03 31 17.7	-4.2
	43nm,0.6s						
MBDF	Montbardon	5.05	294	ePn	Pn	03 30 22.6	-0.5
	SNR=1.0						
MBDF				eSn	Sn	03 31 17.7	-4.2
	22nm,0.6s						
DAVA	Damuels	5.05	333	Pn	Pn	03 30 25.2	+2.0
	26nm,0.3s,SNR=17						
DAVA	Damuels	5.05	333	i Pn	Pn	03 30 25.2	+2.0
	26nm,0.3s,SNR=17						
DAVA				i Sn	Sn	03 31 27.8	+5.8
	56nm,0.4s						
MOA	Molln	5.08	8	Pn	Pn	03 30 23.5	+0.1
	3.0nm,0.2s						
MOA				Sn	Sn	03 31 22.4	0.0
	42nm,0.4s						
MOA	Molln	5.08	8	i Pn	Pn	03 30 23.5	+0.1
	3.0nm,0.2s						
MOA				i Sn	Sn	03 31 22.4	0.0
	42nm,0.4s						
DIVS	Divibare	5.08	73	ePn	Pn	03 30 23.8	+0.3
DIVS	Divibare	5.08	73	ePn	Pn	03 30 23.8	+0.3
DIVS				eSn	Sn	03 31 19.5	-3.1
IVAS	Ivanjica	5.11	79	ePn	Pn	03 30 24.5	+0.5
MORH	Mˆ‡rˆ¡gy, Hung	5.14	47⇓	eP	Pn	03 30 23.2	-1.1
MORH	Mˆ‡rˆ¡gy, Hung	5.14	47⇓	ePn	Pn	03 30 23.2	-1.1
TIR	Tirane	5.15	104⇓	iP	Pn	03 30 25.1	+0.6
TIR	Tirane	5.15	104	eP	Pn	03 30 25.0	+0.6
TIR				e		03 31 18.0	
TIR	Tirane	5.15	104	ePn	Pn	03 30 25.0	+0.6

TIR eSn Sn 03 31 18.0 -6.2
TIR Tirane 5.15 104 eP Pn 03 30 25.0 +0.6
TIR S Sn 03 31 21.8 -2.4
BNI Bardonecchia 5.23 297 eP Pn 03 30 25.8 +0.2
BNI Bardonecchia 5.23 297 ePn Pn 03 30 25.8 +0.2
BNI Bardonecchia 5.23 297 eP Pn 03 30 25.8 +0.2
CLTB Caltabellotta 5.24 180 ePn Pn 03 30 30.1 +4.4
CLTB Caltabellotta 5.24 180 ePn Pn 03 30 30.1 +4.4
FGSL Fruska Gora 5.29 62 ePn Pn 03 30 26.0 -0.3
LPG La Plagne 5.37 302 ePn Pn 03 30 27.9 +0.2
SNR=1.0
LPG eSn Sn 03 31 24.9 -5.2
50nm,0.6s
LPL La Plagne 5.39 302 ePn Pn 03 30 28.0 +0.1
SNR=1.0
SOP Sopron 5.39 25|| ePn Pn 03 30 27.5 -0.2
SOP eSn Sn 03 31 29.5 -0.7
SOP Sopron 5.39 25|| ePn Pn 03 30 27.5 -0.2
SOP eSn Sn 03 31 29.5 -0.7
VAE Valguarnera 5.42 170 Pn Pn 03 30 32.7 +4.6
0.7nm,0.3s,baz=78,slow=19,SNR=2.0
CONA Conrad Observa 5.43 19 Pn Pn 03 30 27.9 -0.4
4.3nm,0.2s,SNR=9.9
CONA Sn Sn 03 31 29.1 -2.1
23nm,0.4s
CONA Conrad Observa 5.43 19 ePn Pn 03 30 27.9 -0.4
4.3nm,0.2s,SNR=9.9
CONA *i* Sn Sn 03 31 29.1 -2.1
23nm,0.4s
SENIN Lac Senin/Sane 5.52 312 ePn Pn 03 30 30.8 +1.1
SENIN eSn Sn 03 31 28.6 -5.0
SENIN Lac Senin/Sane 5.52 312 ePn Pn 03 30 30.8 +1.1
LEPF PUYLOUBIER 5.55 280 P Pn 03 30 29.4 -0.5
LEPF PUYLOUBIER 5.55 280 P Pn 03 30 29.4 -0.5
GDM Grand'Maison 5.66 297 P Pn 03 30 30.9 -0.5
GDM Grand'Maison 5.66 297 P Pn 03 30 31.0 -0.5
SMRF Simiane la Rot 5.70 284 ePn Pn 03 30 32.4 +0.5
SNR=1.0
SMRF Simiane la Rot 5.70 284 ePn Pn 03 30 32.4 +0.5
SNR=1.0
ORIF Oris-en-Rattie 5.71 294 ePn Pn 03 30 32.6 +0.4
ORIF Oris-en-Rattie 5.71 294 ePn Pn 03 30 32.6 +0.4
OG01 Vacheresse 5.84 309 P Pn 03 30 33.1 -0.9
OG01 Vacheresse 5.84 309 S Sn 03 31 45.0 +3.6
OHR Ohrid 5.89 104 *i* Pn Pn 03 30 36.0 +1.3
OHR *i* Sn Sn 03 31 38.3 -4.3
GRN Grenoble 5.91 297 P Pn 03 30 34.5 -0.4
GRN Grenoble 5.91 297 P Pn 03 30 34.5 -0.4
GEA0 GERESS Array S 6.02 3 ePn Pn 03 30 35.4 -1.0
GEA0 eSn Sn 03 31 41.5 -4.2
GEA0 GERESS Array S 6.02 3 ePn Pn 03 30 35.4 -1.0
GEC2 GERESS Array S 6.03 3 eP Pn 03 30 35.9 -0.6
GEC2 *e* 03 31 43.2
GEC2 GERESS Array S 6.03 3 ePn Pn 03 30 35.9 -0.6
GEC2 eSn Sn 03 31 43.2 -2.8
GEC2 GERESS Array S 6.03 3 eP Pn 03 30 35.9 -0.6
GEC2 eS Sn 03 31 43.2 -2.8
GERES GERESS Array B 6.03 3 Pn Pn 03 30 35.6 -1.0
3.6nm,0.3s,baz=168,slow=13,SNR=67
GERES Sn Sn 03 31 42.3 -3.7
12nm,0.3s,baz=178,slow=25,SNR=12
GERES LR LR 03 33 28.9
comp=Z,146nm,18.1s,baz=166,slow=44
SKO Skopje 6.14 95 P Pn 03 30 38.9 +1.0
SKO Skopje 6.14 95 P Pn 03 30 38.9 +1.0
SKO Skopje 6.14 95 P Pn 03 30 38.9 +1.0
SKO Skopje 6.14 95 P Pn 03 30 38.9 +1.0
SKO Skopje 6.14 95 *i* Pn Pn 03 30 39.1 +1.2
SKO eSn Sn 03 31 44.5 -4.0
KRUS Krusevo 6.14 101 *i* Pn Pn 03 30 39.5 +1.5
KRUS eSn Sn 03 31 46.9 -1.8
SRO Srobarova 6.14 34 eSn Sn 03 31 47.4 -1.1
SRO Srobarova 6.14 34 eSN Sn 03 31 47.4 -1.1
SGD Sagiada 6.18 119 P Pn 03 30 39.5 +1.0
SGD Sagiada 6.18 119 P Pn 03 30 39.5 +1.0
FELD Feldberg im Sc 6.25 326 P Pn 03 30 38.4 -1.2
FELD Feldberg im Sc 6.25 326 P Pn 03 30 38.4 -1.2
FELD Feldberg im Sc 6.25 326 S Sn 03 31 54.0 +2.5
IGT Igoumenitsa 6.29 119 P Pn 03 30 41.1 +1.1
IGT Igoumenitsa 6.29 119 P Pn 03 30 41.1 +1.1
IGT Igoumenitsa 6.29 119 P Pn 03 30 41.1 +1.1
IGT Igoumenitsa 6.29 119 P Pn 03 30 41.1 +1.1
BIA Bitola 6.30 104 P Pn 03 30 41.8 +1.6
BIA Bitola 6.30 104 P Pn 03 30 41.8 +1.6
BIA Bitola 6.30 104 P Pn 03 30 41.8 +1.6
BIA Bitola 6.30 104 *i* Pn Pn 03 30 42.1 +1.9
BIA eSn Sn 03 31 51.5 -1.1
KHC Kasperske Hory 6.31 2 ePN Pn 03 30 39.6 -0.8
KHC *ex* x 03 30 48.4
KHC eSN Sn 03 31 49.7 -3.1
KHC *ex* x 03 32 06.3
KHC Kasperske Hory 6.31 2 eP Pn 03 30 39.6 -0.8
KHC *e* 03 31 49.7
KHC Kasperske Hory 6.31 2 ePn Pn 03 30 39.4 -1.0
KHC Kasperske Hory 6.31 2 Pn Pn 03 30 39.6 -0.8
NEST Nestorio 6.33 110 P Pn 03 30 42.4 +1.9
NEST Nestorio 6.33 110 P Pn 03 30 42.6 +1.9
CABF La Chapelle 6.34 309 ePn Pn 03 30 39.8 -1.0
SNR=1.0
CABF eSn Sn 03 31 48.9 -4.8
39nm,0.8s
CABF La Chapelle 6.34 309 ePn Pn 03 30 39.8 -1.0
SNR=1.0
SMOL Smolenice 6.40 26 eP Pn 03 30 41.3 -0.3
SMOL *e* 03 31 53.0
SMOL Smolenice 6.40 26 eP Pn 03 30 41.3 -0.3
SMOL eS Sn 03 31 53.0 -2.0
SMOL Smolenice 6.40 26 ePN Pn 03 30 41.3 -0.3
SMOL eSN Sn 03 31 53.0 -2.0
LOMF Lomont 6.40 317 P Pn 03 30 40.5 -1.2
LOMF Lomont 6.40 317 P Pn 03 30 40.5 -1.2
LOMF Lomont 6.40 317 S Sn 03 31 58.5 +3.3
FNA Florina 6.42 106 P Pn 03 30 42.6 +0.7
FNA Florina 6.42 106 P Pn 03 30 42.6 +0.7
FNA Florina 6.42 106 P Pn 03 30 42.6 +0.7
FNA Florina 6.42 106 P Pn 03 30 42.6 +0.7
MDVR Moldovita 6.44 69|| *iP* Pn 03 30 42.5 +0.3
BFO Black Forest 6.49 330 eP Pn 03 30 43.5 +0.7
BFO Black Forest 6.49 330 ePn Pn 03 30 43.5 +0.7
BFO Black Forest 6.49 330 eP Pn 03 30 43.5 +0.7
PENT Pentalofos 6.49 111 P Pn 03 30 44.6 +1.7
VIVF Saint-Julien-l 6.51 291 ePn Pn 03 30 42.9 -0.2
SNR=1.0
VIVF Saint-Julien-l 6.51 291 ePn Pn 03 30 42.9 -0.2
SNR=1.0
JAN Janina 6.56 116 P Pn 03 30 45.1 +1.4
JAN Janina 6.56 116 P Pn 03 30 45.1 +1.4
JAN Janina 6.56 116 P Pn 03 30 45.1 +1.4
JAN Janina 6.56 116 P Pn 03 30 45.1 +1.4
STU Stuttgart 6.58 336 ePg Pb 03 31 02.3 +0.8
MOF Molkenrain 6.61 322 P Pn 03 30 43.3 -1.2
MOF Molkenrain 6.61 322 P Pn 03 30 43.3 -1.2
MOF Molkenrain 6.61 322 S Sn 03 32 03.8 +3.5
BZS Buzias 6.64 62|| *iP* Pn 03 30 44.4 -0.4
TREC Trest 6.66 13 ePN Pn 03 30 44.2 -0.9
TREC eSN Sn 03 31 57.7 -3.6
TREC Trest 6.66 13 eP Pn 03 30 44.2 -0.9
TREC *e* 03 31 57.7
TREC Trest 6.66 13 Pn Pn 03 30 44.2 -0.9
HINF Hinteralfeld 6.72 320 ePn Pn 03 30 44.8 -1.1
SNR=1.0
HINF eSn Sn 03 31 56.4 -6.4
100nm,0.7s
HINF Hinteralfeld 6.72 320 ePn Pn 03 30 44.8 -1.1
SNR=1.0
SSB Saint Sauveur 6.72 294 eP Pn 03 30 47.7 +1.6
SSB Saint Sauveur 6.72 294 ePn Pn 03 30 47.7 +1.6
SSB Saint Sauveur 6.72 294 eP Pn 03 30 47.7 +1.6
KPRO Kipourio 6.75 112 P Pn 03 30 48.6 +2.1
ECH Echery 6.87 324 eP Pn 03 30 47.4 -0.6
ECH Echery 6.87 324 ePn Pn 03 30 47.4 -0.6
ECH Echery 6.87 324 eP Pn 03 30 47.4 -0.6
ECH Echery 6.87 324 P Pn 03 30 47.7 -0.4
ECH Echery 6.87 324 S Sn 03 32 10.0 +3.4
VRAC Vranov 6.89 19 Pn Pn 03 30 48.0 -0.3
0.7nm,0.3s,baz=223,slow=18,SNR=3.8
VRAC Sn Sn 03 32 03.4 -3.7
2.0nm,0.3s,baz=266,slow=14,SNR=5.0
VRAC LR LR 03 34 12.4
comp=Z,151nm,19.2s,baz=170,slow=45
VRAC Vranov 6.89 19|| *iP* Pn 03 30 49.2 +0.9
VRAC Vranov 6.89 19 P Pn 03 30 48.0 -0.3
VYHS Vyhne 6.89 33 eP Pn 03 30 48.5 +0.1
VYHS *e* 03 32 03.3
VYHS Vyhne 6.89 33 eP Pn 03 30 48.5 +0.1
VYHS Vyhne 6.89 33 ePN Pn 03 30 48.4 +0.1
VYHS eSN Sn 03 32 03.3 -3.8
PSZ Piszkesteto 6.92 40 eSn Sn 03 32 01.3 -6.6
LKD2 Lefkada island 6.93 123 P Pn 03 30 50.2 +1.4
LKD2 Lefkada island 6.93 123 P Pn 03 30 50.2 +1.4
LKD2 Lefkada island 6.93 123 P Pn 03 30 50.2 +1.4
LASF Ste Croix 6.94 284 ePn Pn 03 30 48.0 -0.9
SNR=1.0
LASF Ste Croix 6.94 284 ePn Pn 03 30 48.0 -0.9
SNR=1.0
CDF Champ du Feu 6.97 325 ePn Pn 03 30 48.6 -0.9
SNR=1.0
CDF eSn Sn 03 32 01.7 -7.5
33nm,0.5s
CDF Champ du Feu 6.97 325 ePn Pn 03 30 48.6 -0.9
SNR=1.0
DSL Palaion Diasel 7.00 119 P Pn 03 30 51.1 +1.3
DSL Palaion Diasel 7.00 119 P Pn 03 30 51.1 +1.3
DSL Palaion Diasel 7.00 119 P Pn 03 30 51.1 +1.3
GRFO Grafenberg 7.01 349 eP Pn 03 30 50.7 +0.8
GRFO Grafenberg 7.01 349 ePn Pn 03 30 50.6 +0.8
GRFO Grafenberg 7.01 349 eP Pn 03 30 50.7 +0.8
HAU Haudompre 7.09 319 ePn Pn 03 30 49.5 -1.5
SNR=1.0
HAU eSn Sn 03 32 04.6 -7.4
71nm,0.4s
VAY Valandovo 7.11 99 *i* Pn Pn 03 30 52.6 +1.3
VAY *i* Sn Sn 03 32 07.0 -5.4
GOPC GO Pecny, Ondr 7.17 8 ePN Pn 03 30 50.4 -1.7
GOPC *ex* x 03 31 00.6
GOPC eSN Sn 03 32 09.0 -5.0
GOPC *ex* x 03 32 23.0
GOPC GO Pecny, Ondr 7.17 8 eP Pn 03 30 50.4 -1.7
GOPC *e* 03 32 09.0
GOPC GO Pecny, Ondr 7.17 8 Pn Pn 03 30 50.4 -1.7
PRU Pruhonice 7.22 7 ePN Pn 03 30 52.0 -0.8
PRU *ex* x 03 31 03.6
PRU eSN Sn 03 32 10.3 -4.9
PRU *ex* x 03 32 23.9
PRU Pruhonice 7.22 7 eP Pn 03 30 52.0 -0.8
PRU *e* 03 32 10.3
PRU Pruhonice 7.22 7 Pn Pn 03 30 52.0 -0.8
LANF Langenberg 7.22 330 P Pn 03 30 52.2 -0.6
LANF Langenberg 7.22 330 P Pn 03 30 52.3 -0.6
VTS Vitosha 7.35 88|| *iP* Pn 03 30 55.7 +1.0
VTS Vitosha 7.35 88 S Sn 03 32 18.8 +0.2
VTS Vitosha 7.35 88 eP Pn 03 30 55.8 +1.0
VTS Vitosha 7.35 88 ePn Pn 03 30 55.8 +1.0
VTS Vitosha 7.35 88 eP Pn 03 30 55.8 +1.0
PDO Prodromos 7.37 122 P Pn 03 30 56.3 +1.5
THEF They Montfort 7.42 319 P Pn 03 30 54.7 -0.8
THEF They Montfort 7.42 319 P Pn 03 30 54.8 -0.8
THEF They Montfort 7.42 319 S Sn 03 32 24.9 +4.8
NKC Novy Kostel 7.43 356 ePN Pn 03 30 55.5 -0.2
NKC eSN Sn 03 32 16.8 -3.5
NKC Novy Kostel 7.43 356 eP Pn 03 30 55.5 -0.2
NKC *e* 03 32 16.8
NKC Novy Kostel 7.43 356 Pn Pn 03 30 55.5 -0.2
MORC Moravsky Berou 7.56 22 eP Pn 03 30 51.5 -6.1
MORC Moravsky Berou 7.56 22 ePn Pn 03 30 51.5 -6.1
PLDF La Plantade 7.57 298 P Pn 03 30 57.3 -0.3
PLDF La Plantade 7.57 298 P Pn 03 30 57.4 -0.3
EVR Evrytania 7.58 118 P Pn 03 30 59.5 +1.6
EVR Evrytania 7.58 118 P Pn 03 30 59.5 +1.6
EVR Evrytania 7.58 118 P Pn 03 30 59.5 +1.6
LBL Lubilhac 7.59 292 P Pn 03 30 58.2 +0.3
LBL Lubilhac 7.59 292 P Pn 03 30 58.3 +0.3
KECS Kecovo 7.60 39 eP Pn 03 30 59.3 +1.3
KECS Kecovo 7.60 39 eP Pn 03 30 59.3 +1.3
KECS Kecovo 7.60 39 ePN Pn 03 30 59.3 +1.3
LANS Liptovska Anna 7.67 32 eP Pn 03 30 56.5 -2.5
LANS Liptovska Anna 7.67 32 ePN Pn 03 30 56.5 -2.5
KEST Kesra 7.70 204 Pn Pn 03 31 01.0 +1.5
0.2nm,0.3s,baz=325,slow=12,SNR=4.8
KEST LR LR 03 34 00.2
comp=Z,222nm,21.1s,baz=251,slow=38
KEST Kesra 7.70 204 ePn Pn 03 31 05.1 +5.7
SMF Signal de Mont 7.70 303 ePn Pn 03 30 58.5 -0.9
SNR=1.0
SMF eSn Sn 03 32 21.1 -5.9
15nm,0.4s,SNR=1.0
SMF Signal de Mont 7.70 303 ePn Pn 03 30 58.5 -0.9
SNR=1.0
PAGF Fort de Pagny 7.77 320 ePn Pn 03 30 58.7 -1.7
PAGF eSn Sn 03 32 20.4 -8.3
8.7nm,0.6s
PAGF Fort de Pagny 7.77 320 ePn Pn 03 30 58.7 -1.7
OKC Ostrava-Krasne 7.79 24 eSN Sn 03 32 24.7 -4.5
DPC Dobruska-Polom 7.82 15 ePN Pn 03 31 01.0 -0.1
DPC *ex* x 03 31 10.6
DPC eSN Sn 03 32 24.2 -5.8
DPC *ex* x 03 32 37.1
DPC Dobruska-Polom 7.82 15 eP Pn 03 31 01.0 -0.1
DPC *e* 03 32 24.2
DPC Dobruska-Polom 7.82 15 Pn Pn 03 31 01.0 -0.1
ANX Ano Chora 7.84 120 P Pn 03 31 03.6 +2.2
AGG Agios Georgios 7.87 116 eP Pn 03 31 04.5 +2.8
AGG *e* 03 32 30.3
AGG Agios Georgios 7.87 116 ePn Pn 03 31 04.5 +2.8
AGG eSn Sn 03 32 30.2 -0.8
AGG Agios Georgios 7.87 116 eP Pn 03 31 04.5 +2.8
AGG eS Sn 03 32 30.3 -0.8
SFTF Sexfontaines 7.88 316 ePn Pn 03 31 01.6 -0.2
baz=132
SFTF eSn Sn 03 32 24.2 -7.0
21nm,0.5s
SFTF Sexfontaines 7.88 316 ePn Pn 03 31 01.6 -0.2
PYM Petit Puy Mans 7.90 295 P Pn 03 31 01.3 -0.8
PYM Petit Puy Mans 7.90 295 P Pn 03 31 01.4 -0.8
AGO Saint Agoulin 7.92 298 P Pn 03 31 02.5 +0.2
AGO Saint Agoulin 7.92 298 P Pn 03 31 02.5 +0.2
UPC Upice 7.92 13 eSN Sn 03 32 26.3 -6.0
EFP Efpalio 7.92 121 P Pn 03 31 04.7 +2.2
LOR Lormes 7.99 307 ePn Pn 03 31 01.0 -2.3
baz=127,SNR=1.0
LOR eSn Sn 03 32 27.0 -7.0
24nm,0.6s,baz=137
LOR Lormes 7.99 307 ePn Pn 03 31 01.0 -2.3
SNR=1.0
SERG Sergoula 8.03 120 P Pn 03 31 05.8 +1.9
MEZF Maizieres J'vi 8.06 318 ePn Pn 03 31 03.1 -1.2
baz=138,SNR=1.0
MEZF eSn Sn 03 32 27.6 -8.2
19nm,0.5s,baz=133,SNR=1.0
MEZF Maizieres J'vi 8.06 318 ePn Pn 03 31 03.1 -1.2
SNR=1.0
AVF Avril sur Loir 8.06 303 ePn Pn 03 31 03.2 -1.2
SNR=1.0
AVF eSn Sn 03 32 29.1 -6.8
13nm,0.8s,SNR=1.0
AVF Avril sur Loir 8.06 303 ePn Pn 03 31 03.2 -1.2
SNR=1.0
BRG Berggiesshubel 8.07 3 PN Pn 03 31 03.9 -0.6
BRG SN Sn 03 32 30.1 -5.8
BRG SG Sg 03 33 30.2 +4.8
18nm,0.8s
BRG Berggiesshubel 8.07 3 P Pn 03 31 03.8 -0.6
BRG 03 32 30.1
BRG smax smax
comp=N,18nm,0.8s
BRG Berggiesshubel 8.07 3 P Pn 03 31 03.8 -0.6
MTLF Montolieu 8.08 277 ePn Pn 03 31 04.0 -0.6
SNR=1.0
MTLF Montolieu 8.08 277 ePn Pn 03 31 04.0 -0.6
SNR=1.0
SSF Saint Saulge 8.09 305 ePn Pn 03 31 03.7 -1.1
SNR=1.0
SSF Saint Saulge 8.09 305 ePn Pn 03 31 03.7 -1.1
SNR=1.0
BGF Bois d'Agland 8.29 300 ePn Pn 03 31 06.4 -1.0
BGF eSn Sn 03 32 34.2 -7.2
comp=N,8.1nm,0.3s,SNR=1.0
BGF Bois d'Agland 8.29 300 ePn Pn 03 31 06.4 -1.0
CAF Calviac 8.34 288 ePn Pn 03 31 07.5 -0.7
SNR=1.0
CAF Calviac 8.34 288 ePn Pn 03 31 07.5 -0.7
SNR=1.0
CRVS Cervenica-Dubn 8.36 41 eP Pn 03 31 11.9 +3.5
CRVS Cervenica-Dubn 8.36 41 ePN Pn 03 31 11.9 +3.5
WLF Walferdange 8.41 327 eP Pn 03 31 14.1 +4.9
WLF Walferdange 8.41 327 ePn Pn 03 31 14.1 +5.0
CLL Collm 8.49 359 eP Pn 03 31 09.0 -1.1
CLL *e* 03 32 42.0
CLL Collm 8.49 359 ePn Pn 03 31 09.0 -1.1
CLL eSn Sn 03 32 42.0 -4.3
CLL eSg Sg 03 33 38.0 -0.9
CLL Collm 8.49 359 ePn Pn 03 31 09.7 -0.5
CLL Collm 8.49 359 eP Pn 03 31 09.0 -1.1
CLL Collm 8.49 359 ePn Pn 03 31 09.6 -0.5
GUR Goura 8.49 122 P Pn 03 31 12.6 +2.2
GUR Goura 8.49 122 P Pn 03 31 12.6 +2.2
GUR Goura 8.49 122 P Pn 03 31 12.6 +2.2
ARR Arges 8.59 69|| *iP* Pn 03 31 12.9 +1.2
TCF Toulx Ste Croi 8.60 298 ePn Pn 03 31 10.6 -1.1
SNR=1.0
TCF Toulx Ste Croi 8.60 298 ePn Pn 03 31 10.6 -1.1
SNR=1.0
RJF Les Rejaudoux 8.79 290 ePn Pn 03 31 14.6 +0.2
RJF Les Rejaudoux 8.79 290 ePn Pn 03 31 14.6 +0.2
VOIR 8.89 69|| *iP* Pn 03 31 17.5 +1.7
LFF La Frestale 9.27 287 ePn Pn 03 31 21.0 +0.1
SNR=1.0
LFF La Frestale 9.27 287 ePn Pn 03 31 21.0 +0.1
SNR=1.0
GIVF Givet 9.30 324 eP Pn 03 31 24.2 +2.9
KWP Kalwaria Pacla 9.45 41 eP Pn 03 31 29.5 +6.1
KWP Kalwaria Pacla 9.45 41 ePn Pn 03 31 29.5 +6.1
EPF Esparros 9.46 276 eP Pn 03 31 27.6 +4.0
MLR Muntele Rosu 9.52 69 Pn Pn 03 31 24.4 -0.1
comp=N,0.1nm,0.3s,baz=165,slow=6.7,SNR=5.0
BAIF Baives 9.54 322 eP Pn 03 31 26.9 +2.3
BUR04 Bucovina Ar. S 9.71 56 ePn Pn 03 31 27.7 +0.6
BUR04 Bucovina Ar. S 9.71 56 ePn Pn 03 31 27.7 +0.6
BUR08 Bucovina Ar. S 9.72 56 ePn Pn 03 31 27.7 +0.5
ETSF Etsaut 10.13 275 eP Pn 03 31 37.0 +4.2
MFF Saint Martin d 10.24 296 ePn Pn 03 31 33.5 -0.7
SNR=1.0
MFF Saint Martin d 10.24 296 ePn Pn 03 31 33.5 -0.7
SNR=1.0
FLN La Foliniere 11.26 307 ePn Pn 03 31 45.7 -2.4
baz=129,SNR=1.0
FLN La Foliniere 11.26 307 ePn Pn 03 31 45.7 -2.4
SNR=1.0
GRR Gorron 11.32 304 ePn Pn 03 31 47.7 -1.3
SNR=1.0
GRR Gorron 11.32 304 ePn Pn 03 31 47.7 -1.3
SNR=1.0
IDI Anoyia 11.77 126 Pn Pn 03 31 55.7 +0.4
comp=N,0.5nm,0.3s,baz=14,slow=4.2,SNR=3.4
IDI Sn Sn 03 34 01.5 -5.6
comp=N,0.3nm,0.3s,baz=281,slow=5.2,SNR=4.3
IDI LR LR 03 38 08.1
comp=N,47nm,19.7s,baz=81,slow=46
ESDC Sonseca Array 13.32 262 Pn Pn 03 32 15.5 -0.9
comp=N,0.1nm,0.3s,baz=73,slow=14,SNR=5.9
AKASG Malin Array Be 13.48 49 Pn Pn 03 32 18.4 0.0
comp=N,0.3nm,0.3s,baz=243,slow=12,SNR=2.7
AKBB Malin Array Si 13.48 49 eP Pn 03 32 18.4 0.0
AKBB Malin Array Si 13.48 49 ePn Pn 03 32 18.4 0.0
AKBB Malin Array Si 13.48 49 eP Pn 03 32 18.4 0.0
PAB San Pablo 13.64 262 eP Pn 03 32 20.5 -0.3
PAB San Pablo 13.64 262 ePn Pn 03 32 20.5 -0.3
PAB San Pablo 13.64 262 eP Pn 03 32 20.5 -0.3
BR101 Keskin Array S 15.65 95 ePn P 03 32 50.4 -1.8
BR101 Keskin Array S 15.65 95 eP P 03 32 50.4 -1.8
BRTR Keskin Array B 15.65 95 Pn P 03 32 50.4 -1.8
comp=N,0.1nm,0.3s,baz=286,slow=12,SNR=3.4
EKA Eskdalemuir Ar 16.44 325 Pn Pn 03 32 58.2 +0.4
baz=137,slow=14,SNR=5.6
HFS Hagfors 17.34 1 P P 03 33 10.2 -0.3
comp=N,0.1nm,0.3s,baz=186,slow=20,SNR=2.7
HFS LR LR 03 40 12.1
comp=N,181nm,18.2s,baz=318,slow=39
ANN Anapa 17.57 75 eP Pn 03 33 05.8 -6.3
ANN *eS* Sn 03 36 17.7 -10
ANN pmax pmax
comp=Z,38nm,1.0s
VSU Vasula 17.79 24|| *eP* P 03 33 15.9 +0.4
VSU pmax pmax
comp=Z,13nm,0.5s
NB200 NORSAR Array S 18.28 357 ePn P 03 33 21.9 +0.8
NOA NORSAR Array B 18.28 357 P P 03 33 21.9 +0.8
comp=Z,0.1nm,0.3s,baz=172,slow=12,SNR=3.1
NOA LR LR 03 41 17.4
comp=Z,80nm,20.4s,baz=170,slow=40
VSR Storozhevoye 19.49 56|| *eP* Pn 03 33 35.3 -0.2
VSR pmax pmax
comp=Z,10.0nm,0.4s
OBN Obninsk 19.53 43 LR LR 03 40 53.6
comp=Z,121nm,21.2s,baz=265,slow=36
OBN Obninsk 19.53 43 eP P 03 33 33.7 -1.0
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,124nm,18.0s
MMAI Mount Meron Ar 20.00 112 P Pn 03 33 41.2 -0.6
comp=Z,9.8nm,0.8s,baz=296,slow=14,SNR=3.5
FIA0 FINESS Array S 20.17 18 eP P 03 33 41.9 +0.2
FIA0 FINESS Array S 20.17 18 eP P 03 33 41.9 +0.2
FINES FINESS Array B 20.17 18 P P 03 33 41.9 +0.2
comp=Z,2.3nm,0.7s,baz=210,slow=9.4,SNR=6.7
KIV Kislovodsk 21.39 77 eP P 03 33 56.7 +1.6
KIV pmax pmax
comp=Z,11nm,1.1s
ASF Jabal al Asfar 21.51 112 P P 03 34 01.1 +4.6
comp=Z,5.6nm,0.9s,baz=265,slow=4.2,SNR=4.2
KBZ Khabaz 21.57 77 P P 03 33 59.1 +2.2
comp=Z,4.6nm,0.8s,baz=270,slow=11,SNR=6.8
KLMR Klimovskoe 24.00 32 eP P 03 34 17.3 -4.7
KLMR pmax pmax
comp=Z,12nm,1.5s
KLMR Klimovskoe 24.00 32 eP P 03 34 17.4 -4.6
KLMR AMP 03 34 28.3
ARA0 ARCESS Array S 27.52 9 eP P 03 34 55.5 +1.7
ARCES ARCESS Array B 27.52 9 P P 03 34 55.5 +1.7
comp=Z,2.1nm,0.8s,baz=183,slow=8.1,SNR=3.8
TOA1 Torodi Ar. Sit 31.21 202 eP P 03 35 27.0 +0.1
TOA0 Torodi Ar. Sit 31.21 202 eP P 03 35 27.0 +0.1
TORD Torodi Ar. Bea 31.21 202 P P 03 35 27.0 0.0
comp=Z,2.1nm,0.9s,baz=15,slow=7.1,SNR=20
AKTO Aktyubinsk 31.28 60 P P 03 35 26.6 -0.7
comp=Z,1.2nm,0.8s,baz=225,slow=5.7,SNR=3.7
ARU Arti 31.73 49 P P 03 35 30.8 -0.4
comp=Z,9.2nm,0.2s,baz=257,slow=4.8,SNR=6.3
ARU Arti 31.73 49*c iP* P 03 35 32.3 +1.1
ARU 03 36 37.4
ARU S S 03 40 46.3 +5.1
ARU SS SnSn 03 42 30.5 +3.2
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 31.73 49 *eP* P 03 35 30.8 -0.4
comp=Z,5.8nm,0.7s
KOWA Kowa 31.90 213 P P 03 35 33.2 +0.3
comp=Z,0.8nm,0.7s,baz=342,slow=6.4,SNR=3.0
BRVK Borovoye 38.60 54*ceP* P 03 36 32.6 +2.2
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 38.60 54 *eP* P 03 36 33.0 +2.6
comp=Z,6.5nm,0.8s
BVAR Borovoye Array 38.67 54 P P 03 36 32.5 +1.6
comp=Z,2.6nm,0.7s,baz=286,slow=5.4,SNR=15
KKAR Karatay Array 41.20 69 eP P 03 36 54.7 +2.5
KKAR Karatay Array 41.20 69 eP P 03 36 54.7 +2.5
KURBB Kurchatov Arra 44.11 56 P P 03 37 16.7 +1.1
comp=Z,0.5nm,0.8s,baz=294,slow=8.9,SNR=5.5
KURK Kurchatov 44.14 56 eP P 03 37 16.7 +0.8
KURK Kurchatov 44.14 56 eP P 03 37 16.7 +0.8
ZALV Zalesovo Beam 46.87 50 LR LR 03 58 45.8
comp=Z,54nm,18.5s,baz=250,slow=38
MK31 Makanchi Array 47.72 60 eP P 03 37 45.1 +0.9
MK31 Makanchi Array 47.72 60 eP P 03 37 45.1 +0.9
MK32 Makanchi Array 47.72 60 eP P 03 37 44.8 +0.6
MKAR Makanchi Array 47.72 60 P P 03 37 44.8 +0.6
comp=Z,1.3nm,0.7s,baz=288,slow=6.2,SNR=18
MKAR Makanchi Array 47.72 60 *eP* P 03 37 45.1 +0.9
comp=Z,7.9nm,0.7s
MK01 Makanchi Array 47.73 60 eP P 03 37 45.0 +0.6
SCHQ Schefferville 51.25 313 P P 03 38 09.4 -1.7
comp=Z,1.2nm,0.5s,baz=108,slow=9.6,SNR=3.6
TLY Talaya 58.22 47|| *eP* P 03 39 03.7 +2.1
TLY pmax pmax
comp=Z,2.0nm,0.9s
SONA1 Songino Array 61.76 50 eP P 03 39 27.1 +0.9
SONA0 Songino Array 61.76 50 eP P 03 39 27.0 +0.9
SONM Songino Array 61.76 50 P P 03 39 27.0 +0.9

comp=Z,1.2nm,0.8s,baz=288,slow=8.1,SNR=10

MATP	**Matopo**	**64.49**	**164**	LR	LR	04 08 52.6	
	comp=Z,52nm,18.1s,baz=169,slow=37						
YKA	**Yellowknife Ar**	**67.02**	**337**	P	**P**	**03 40 00.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=40,slow=5.9,SNR=22						
YKB5	**Yellowknife Ar**	**67.02**	**337**	*eP*	**P**	**03 40 00.3**	**+0.1**
ULM	**Lac du Bonnet**	**68.61**	**319**	P	**P**	**03 40 08.9**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=64,slow=5.8,SNR=6.8						
ULM	**Lac du Bonnet**	**68.61**	**319**	P	**P**	**03 40 09.0**	**-1.4**
ILAR	**Eielson Array**	**71.61**	**351**	P	**P**	**03 40 28.4**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=13,slow=6.1,SNR=4.9						
ILB	**Eielson Array**	**71.61**	**351**	*eP*	**P**	**03 40 28.4**	**-0.1**
CM31	**Chiang Mai Arr**	**74.61**	**79**	*eP*	**P**	**03 40 47.4**	**+0.3**
CM31	**Chiang Mai Arr**	**74.61**	**79**	*eP*	**P**	**03 40 47.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**74.61**	**79**	P	**P**	**03 40 47.4**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=302,slow=7.5,SNR=5.4						
CMAR				LR	LR	04 20 23.7	
	comp=Z,9.8nm,18.7s,baz=180,slow=41						
CMAR	**Chiang Mai Arr**	**74.61**	**79**	*i* P	**P**	**03 40 47.2**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**74.61**	**79**	*i* P	**P**	**03 40 47.2**	**+0.2**
	comp=Z,2.0nm,0.3s						
EGMT	**Eagleton**	**76.52**	**325**	*eP*	**P**	**03 40 57.5**	**-0.2**
	comp=Z,6.0nm,0.6s						
PETK	**Petropavlovsk-**	**79.66**	**21**	PKKP	PKKPdf	03 59 39.5	-8.6
	comp=Z,3.5nm,0.5s,baz=67,slow=3.7,SNR=5.9						
PD31	**Pinedale Array**	**80.51**	**321**	*eP*	**P**	**03 41 19.9**	**-0.1**
PDAR	**Pinedale Array**	**80.51**	**321**	P	**P**	**03 41 19.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=64,slow=6.1,SNR=3.9						
LTX	**Lajitas**	**87.74**	**309**	*eP*	**P**	**03 41 57.4**	**+0.6**
LTX	**Lajitas**	**87.74**	**309**	*eP*	**P**	**03 41 57.4**	**+0.6**
TXAR	**Lajitas Array**	**87.74**	**309**	P	**P**	**03 41 57.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=94,slow=4.1,SNR=3.3						

CSEM ***15*** *03:29:52.9, 38.07N×23.87E, h13km, ML1.5/4, After ATH*

ATH 15 03:29:52.9, 38.07N×23.87E, h13km±1km, ML1.5/4, Error ellipse: s-maj=1.9km s-min=1.1km az=234.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.02**	**192**	P	Pg	03 29 55.3	+0.1
PTL				S	Sg	03 29 56.6	-0.3
PTL				AML	AML	03 29 56.7	
	comp=E,289μm,0.1s						
PTL				AML	AML	03 29 56.8	
	comp=N,546μm,0.1s						
PTL	**Penteli**	**0.02**	**192**	P	Pg	03 29 55.2	0.0
PTL				S	Sg	03 29 56.7	-0.2
ATHU	**Athens Univers**	**0.12**	**214**	P	Pg	03 29 56.2	0.0
ATHU				S	Sg	03 29 58.3	-0.1
ATHU	**Athens Univers**	**0.12**	**214**	P	Pg	03 29 56.1	0.0
ATHU				S	Sg	03 29 58.4	0.0
ATH	**Athens Observa**	**0.15**	**232**	P	Pg	03 29 56.1	-0.5
ATH				S	Sg	03 29 59.2	+0.1
ATH				AML	AML	03 29 59.3	
	comp=E,765μm,0.2s						
ATH				AML	AML	03 29 59.5	
	comp=N,1351μm,0.2s						
ATH	**Athens Observa**	**0.15**	**232**	P	Pg	03 29 56.3	-0.3
ATH				S	Sg	03 29 59.2	0.0
VLY	**Voula,Athens**	**0.22**	**196**	P	Pb	03 29 58.4	-0.4
VLY				S	Sg	03 30 01.2	+0.2
VLY				AML	AML	03 30 01.3	
	comp=E,833μm,0.2s						
VLY				AML	AML	03 30 01.4	
	comp=N,401μm,0.2s						
VLY	**Voula,Athens**	**0.22**	**196**	P	Pg	03 29 58.0	+0.3
VLY				S	Sg	03 30 01.2	+0.2
KARY	**Karystos**	**0.45**	**94**	P	Pb	03 30 02.3	-0.3
KARY				AML	AML	03 30 08.4	
	comp=E,103μm,0.2s						
KARY				S	Sg	03 30 08.5	+0.7
KARY				AML	AML	03 30 09.4	
	comp=N,123μm,0.2s						
KARY	**Karystos**	**0.45**	**94**	P	Pg	03 30 02.0	+0.2
KARY				S	Sg	03 30 08.3	+0.5
VILL	**Villia**	**0.45**	**283**	P	Pg	03 30 01.6	-0.2
VIL2	**Platees**	**0.50**	**287**	P	Pg	03 30 01.6	-1.1
PROD	**Prodromos**	**0.79**	**284**	P	Pg	03 30 07.2	-0.9
PROD	**Prodromos**	**0.79**	**284**	P	Pg	03 30 07.6	-0.5
KRND	**KRANIDI**	**0.89**	**220**	P	Pg	03 30 09.7	-0.4
KRND				S	Sn	03 30 23.0	-0.8
KRND	**KRANIDI**	**0.89**	**220**	P	Pg	03 30 09.7	-0.4
KRND				S	Sb	03 30 22.6	+0.7
SERI	**Serifos**	**1.03**	**151**	P	Pb	03 30 11.9	-0.7
SERI				S	Sb	03 30 25.4	-0.5
SERI	**Serifos**	**1.03**	**151**	P	Pb	03 30 12.1	-0.4
SERI				S	Sb	03 30 26.0	+0.1

IDC ***15*** *03:34:52.2±14.0, 51.76N×172.44W, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.2/79, mbtmp3.1/4, ML2.9/1, Error ellipse: s-maj=270.8km s-min=62.3km az=84.0*

ISCJB ***15*** *03:34:58.8±1.0, 51.9N±0.1×171.97W±0.07, h35km, mb3.2/3, Error ellipse: s-maj=19.1km s-min=4.7km az=167.8*

NEIC ***15*** *03:35:00.1±0.0, 52.08N×172.08W, h50km, ML3.1(AEIC), After AEIC.*

ISC 15 03:34:59.5±1.4, 51.9N±0.2×172.03W±0.05, h35km, n22, σ0s81/22, mb3.4/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.34**	**288**	P	**Pn**	**03 35 21.8**	**+0.1**
KOFP				S	**Sn**	**03 35 38.1**	**-0.2**
KOKL	**Mount Kliuchef**	**1.41**	**289**	P	**Pn**	**03 35 22.9**	**+0.1**
KOWE	**Korovin West**	**1.45**	**290**	P	**Pn**	**03 35 23.9**	**+0.5**
OKSP	**Okmok Steeple**	**2.66**	**57**	P	**Pn**	**03 35 39.3**	**-0.7**
OKWE	**Okmok W'ng Wal**	**2.81**	**54**	P	**Pn**	**03 35 42.6**	**+0.7**
OKWE				S	**Sn**	**03 36 14.8**	**+0.4**
OKAK	**Okmok**	**2.81**	**51**	P	**Pn**	**03 35 41.0**	**-0.8**
OKAK				S	**Sn**	**03 36 13.9**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**2.86**	**57**	P	**Pn**	**03 35 42.8**	**+0.2**
OKTU				S	**Sn**	**03 36 15.7**	**-0.1**
MSOM	**Makushin Julie**	**3.64**	**56**	P	**Pn**	**03 35 54.4**	**+1.1**
MSOM				S	**Sn**	**03 36 34.5**	**-0.4**
MREP	**Makushin Rep't**	**3.74**	**57**	P	**Pn**	**03 35 55.8**	**+1.0**
MSW	**Makushin Switc**	**3.77**	**55**	P	**Pn**	**03 35 56.3**	**+1.1**
MTBL	**Makushin Table**	**3.86**	**55**	P	**Pn**	**03 35 57.8**	**+1.4**
UNV	**Unalaska Valle**	**3.89**	**57**	P	**Pn**	**03 35 56.7**	**0.0**
UNV				S	**Sn**	**03 36 40.1**	**-1.0**
ILAR	**Eielson Array**	**18.29**	**35**	P	**Pn**	**03 39 11.3**	**+1.2**
	0.0nm,0.3s,baz=230,slow=9.4,SNR=4.2						
YKA	**Yellowknife Ar**	**31.79**	**48**	P	**P**	**03 41 18.8**	**-1.4**
	0.1nm,0.5s,baz=270,slow=7.8,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**36.08**	**215**	T	T	04 20 27.2	
	baz=21,slow=76,SNR=42						
H11N3	**WAKE ISLAND Hy**	**36.09**	**215**	T	T	04 20 22.3	
	baz=21,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**36.10**	**215**	T	T	04 20 23.8	
	baz=21,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**37.27**	**215**	T	T	04 21 53.0	
	baz=21,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**37.29**	**215**	T	T	04 21 55.3	
	baz=21,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**37.29**	**215**	T	T	04 21 54.1	
	baz=21,slow=76,SNR=13						
PDAR	**Pinedale Array**	**42.11**	**77**	P	**P**	**03 42 48.6**	**+0.4**
	0.5nm,0.7s,baz=296,slow=4.8,SNR=4.3						
TXAR	**Lajitas Array**	**54.41**	**87**	P	**P**	**03 44 23.0**	**0.0**
	0.2nm,0.5s,baz=281,slow=5.4,SNR=3.0						

JMA 15 03:37:41.2±0.2, 22.93N×123.01E, h56km, M2.6, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**1.52**	**358**	P	Pn	03 38 06.4	+0.4
JYNG				S	Sn	03 38 25.4	+0.7
YOJ	**Yonaguni jima**	**1.52**	**0**	P	Pn	03 38 07.1	+1.0
YOJ				S	Sn	03 38 26.0	+1.1
IRIF	**Iriomote-Funau**	**1.55**	**25**	P	Pn	03 38 07.2	+0.8
IRIF				S	Sn	03 38 26.1	+0.7
JKRS	**Kuro-shima**	**1.59**	**35**	P	Pn	03 38 08.0	+0.9
JKRS				S	Sn	03 38 26.6	+0.1
JIJ	**Ishigaki jima**	**1.77**	**36**	P	Pn	03 38 10.0	+0.6
JIJ				S	Sn	03 38 30.3	-0.5
JISG	**Ishigakijimahi**	**2.04**	**36**	P	Pn	03 38 13.6	+0.5
JISG				*eS*	Sn	03 38 37.1	-0.3
JTJ	**Tarama**	**2.30**	**42**	P	Pn	03 38 17.6	+0.9
JTJ				S	Sn	03 38 44.2	+0.3
JIRB	**Irabujima**	**2.74**	**46**	P	Pn	03 38 23.8	+1.1
JIRB				S	Sn	03 38 55.4	+0.8

TAP 15 03:38:07.7, 23.05N×121.75E, h27km±1km, ML2.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWH	**Lutao**	**0.42**	**216**	*eP*	Pn	03 38 17.6	-0.5
	baz=212						
TWH				*eS*	Sn	03 38 25.2	+0.2
	baz=212						
FULB	**Fuli**	**0.44**	**289**	P	Pb	03 38 17.7	+0.6
	baz=288						
FULB				S	Sn	03 38 24.9	-0.6
	baz=288						
TWF1	**Yuli**	**0.51**	**306**	*eP*	Pb	03 38 18.7	+0.5
	baz=305						
TWF1				*eS*	Sn	03 38 26.6	-0.6
	baz=305						
TWG	**Pinlang**	**0.66**	**250**	*eS*	Sn	03 38 30.8	-0.1
	baz=249						

ISCJB ***15*** *03:45:02.1±1.3, 35.59N±0.05×21.93E±0.05, h24km±8km, mb3.5/7, Error ellipse: s-maj=9.1km s-min=5.5km az=41.6*

CSEM ***15*** *03:45:03.2±0.4, 35.69N×22.06E, h8km, ML2.9, Error ellipse: s-maj=7.3km s-min=3.8km az=40.0*

ATH ***15*** *03:45:03.2, 35.70N×22.06E, h24km±1km, ML3.0/9, Error ellipse: s-maj=2.7km s-min=1.2km az=40.0*

THE ***15*** *03:45:05.8, 35.80N×22.17E, h12km±2km, ML2.9/4, Error ellipse: s-maj=2.2km s-min=0.8km az=108.0*

IDC ***15*** *03:45:05.2±2.8, 36.42N×22.72E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.3/67, mbtmp3.6/7, ML2.3/1, Error ellipse: s-maj=63.0km s-min=21.6km az=38.0*

ISC 15 03:45:03.4±1.6, 35.74N±0.05×22.11E±0.05, h16km±9km, n64, σ1s39/90, mb3.5/7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.93**	**55**	P	**Pg**	**03 45 21.0**	**-0.4**
KYTH				S	**Sn**	**03 45 35.9**	**+1.0**
KYTH				AML	AML	03 45 36.7	
	comp=E,2530μm,0.6s						
KYTH				AML	AML	03 45 37.9	
	comp=N,2097μm,0.4s						
KYTH	**Kithira**	**0.93**	**55**	P	**Pg**	**03 45 21.7**	**+0.3**
KYTH				S	**Sn**	**03 45 35.9**	**+1.0**
KYTH	**Kithira**	**0.93**	**55**	P	**Pg**	**03 45 21.7**	**+0.3**
KYTH				S	**Sb**	**03 45 33.8**	**+0.5**
ANKY	**Antikythira Is**	**0.98**	**82**	P	**Pn**	**03 45 23.8**	**+1.2**
ANKY				S	**Sn**	**03 45 37.4**	**+1.2**
ANKY				AML	AML	03 45 38.5	
	comp=N,2093μm,0.4s						
ANKY				AML	AML	03 45 39.1	
	comp=E,2182μm,0.7s						
ANKY	**Antikythira Is**	**0.98**	**82**	P	**Pb**	**03 45 23.3**	**+1.2**
ANKY				S	**Sn**	**03 45 36.9**	**+0.7**
ANKY	**Antikythira Is**	**0.98**	**82**	P	**Pb**	**03 45 23.4**	**+1.3**
ANKY				S	**Sn**	**03 45 36.9**	**+0.7**
DYR	**Agios Nikonas**	**1.04**	**10**	P	**Pb**	**03 45 24.0**	**+0.9**
DYR				S	**Sn**	**03 45 39.5**	**+1.9**
DYR				AML	AML	03 45 41.4	
	comp=N,579μm,0.4s						
DYR				AML	AML	03 45 44.6	
	comp=E,1064μm,0.9s						
DYR	**Agios Nikonas**	**1.04**	**10**	P	**Pb**	**03 45 24.0**	**+0.9**
DYR				S	**Sn**	**03 45 39.3**	**+1.6**
VLI	**Veliai**	**1.19**	**34**	P	**Pb**	**03 45 26.1**	**+0.5**
VLI				S	**Sn**	**03 45 45.5**	**+4.2**
VLI				AML	AML	03 45 45.9	
	comp=E,919μm,0.5s						
VLI				AML	AML	03 45 46.6	
	comp=N,1198μm,0.7s						
VLI	**Veliai**	**1.19**	**34**	P	**Pg**	**03 45 26.5**	**+0.1**
VLI				S	**Sn**	**03 45 42.5**	**+1.2**
VLI	**Veliai**	**1.19**	**34**	P	**Pg**	**03 45 26.4**	**+0.1**
VLI				S	**Sn**	**03 45 42.5**	**+1.2**
PYL	**PYLOS**	**1.19**	**346**	P	**Pb**	**03 45 26.4**	**+0.8**
PYL				S	**Sn**	**03 45 43.4**	**+2.0**
PYL				AML	AML	03 45 48.1	
	comp=N,413μm,0.4s						
PYL				AML	AML	03 45 50.8	
	comp=E,624μm,0.7s						
PYL	**PYLOS**	**1.19**	**346**	P	**Pb**	**03 45 26.5**	**+0.8**
PYL				S	**Sn**	**03 45 43.1**	**+1.7**
PYL	**PYLOS**	**1.19**	**346**	P	**Pb**	**03 45 26.5**	**+0.8**
PYL				S	**Sn**	**03 45 43.1**	**+1.7**
ITM	**Ithomi**	**1.45**	**354**	P	**Pn**	**03 45 29.3**	**+0.3**
ITM	**Ithomi**	**1.45**	**354**	P	**Pn**	**03 45 29.9**	**+0.9**
ITM	**Ithomi**	**1.45**	**354**	P	**Pn**	**03 45 29.8**	**+0.8**
IMMV	**Iera Moni Meta**	**1.55**	**100**	P	**Pn**	**03 45 31.9**	**+1.3**
IMMV				S	**Sg**	**03 45 53.6**	**+0.1**
IMMV				AML	AML	03 46 06.1	
	comp=E,795μm,0.8s						
IMMV				AML	AML	03 46 10.2	
	comp=N,786μm,0.6s						
IMMV	**Iera Moni Meta**	**1.55**	**100**	P	**Pn**	**03 45 31.8**	**+1.3**
IMMV				S	**Sg**	**03 45 53.3**	**-0.2**
IMMV	**Iera Moni Meta**	**1.55**	**100**	P	**Pn**	**03 45 31.8**	**+1.3**
VLX	**Vlachokerasia**	**1.64**	**8**	P	**Pb**	**03 45 34.5**	**+1.0**
VLX				S	**Sg**	**03 45 55.3**	**-1.1**
VLX				AML	AML	03 46 04.2	
	comp=N,540μm,0.6s						
VLX				AML	AML	03 46 05.1	
	comp=E,548μm,0.5s						
VLX	**Vlachokerasia**	**1.64**	**8**	P	**Pn**	**03 45 33.0**	**+1.2**
VLX				S	**Sg**	**03 45 55.3**	**-1.1**
VLX	**Vlachokerasia**	**1.64**	**8**	P	**Pn**	**03 45 33.0**	**+1.2**
VAM	**Vamos**	**1.74**	**100**	P	**Pn**	**03 45 34.4**	**+1.4**
VAM				S	**Sn**	**03 45 55.8**	**+0.9**
VAM				AML	AML	03 46 07.9	
	comp=E,510μm,0.7s						
VAM				AML	AML	03 46 10.3	
	comp=N,672μm,0.8s						
VAM	**Vamos**	**1.74**	**100**	P	**Pn**	**03 45 34.4**	**+1.4**
VAM				S	**Sn**	**03 45 56.6**	**+1.7**
VAM	**Vamos**	**1.74**	**100**	P	**Pn**	**03 45 34.5**	**+1.5**
AMT	**Artemida-Makis**	**1.82**	**350**	P	**Pn**	**03 45 35.8**	**+1.7**
AMT				S	**Sb**	**03 45 59.6**	**+0.6**
AMT				AML	AML	03 46 12.4	
	comp=N,763μm,0.5s						
AMT				AML	AML	03 46 15.3	
	comp=E,670μm,0.5s						
AMT	**Artemida-Makis**	**1.82**	**350**	P	**Pn**	**03 45 35.7**	**+1.5**
AMT				S	**Sb**	**03 45 59.5**	**+0.6**
AMT	**Artemida-Makis**	**1.82**	**350**	P	**Pn**	**03 45 35.8**	**+2.0**
KRND	**KRANIDI**	**1.84**	**27**	P	**Pb**	**03 45 37.0**	**+0.2**
KRND				S	**Sb**	**03 45 59.8**	**+0.1**
KRND	**KRANIDI**	**1.84**	**27**	P	**Pb**	**03 45 36.7**	**-0.1**
KRND				S	**Sb**	**03 46 00.1**	**+0.4**
KRND	**KRANIDI**	**1.84**	**27**	P	**Pn**	**03 45 34.7**	**+0.2**
DID	**Didima**	**1.98**	**27**	P	**Pn**	**03 45 38.4**	**+1.9**
DID				S	**Sb**	**03 46 02.9**	**-0.9**
DID	**Didima**	**1.98**	**27**	P	**Pn**	**03 45 38.3**	**+1.9**
DID				S	**Sb**	**03 46 03.4**	**-0.4**
DID	**Didima**	**1.98**	**27**	P	**Pn**	**03 45 36.9**	**+0.4**
MHLO	**Agia Marina, M**	**2.08**	**62**	P	**Pn**	**03 45 37.6**	**-0.2**
MHLO	**Agia Marina, M**	**2.08**	**62**	P	**Pn**	**03 45 37.6**	**-0.2**
GUR	**Goura**	**2.20**	**5**	P	**Pn**	**03 45 42.3**	**+2.8**
GUR	**Goura**	**2.20**	**5**	P	**Pn**	**03 45 41.5**	**+2.0**
GUR	**Goura**	**2.20**	**5**	P	**Pn**	**03 45 41.5**	**+2.0**
KLV	**Kalavryta, Ach**	**2.30**	**1**	P	**Pn**	**03 45 42.0**	**+1.2**
KLV	**Kalavryta, Ach**	**2.30**	**1**	P	**Pn**	**03 45 42.3**	**+1.5**
KLV	**Kalavryta, Ach**	**2.30**	**1**	P	**Pn**	**03 45 41.8**	**+1.0**
IDI	**Anoyia**	**2.31**	**100**	Pn	**Pn**	**03 45 41.3**	**+0.3**
	comp=E,1.1nm,0.3s,baz=312,slow=14,SNR=20						
LTK	**Loutraki**	**2.38**	**17**	P	**Pn**	**03 45 43.3**	**+1.4**
LTK	**Loutraki**	**2.38**	**17**	P	**Pn**	**03 45 43.3**	**+1.4**
VLY	**Voula,Athens**	**2.51**	**32**	P	**Pn**	**03 45 44.1**	**+0.5**
VLY	**Voula,Athens**	**2.51**	**32**	P	**Pn**	**03 45 44.1**	**+0.5**
LKR	**Lokris**	**2.99**	**14**	P	**Pn**	**03 45 50.4**	**+0.1**
LKR	**Lokris**	**2.99**	**14**	P	**Pn**	**03 45 50.4**	**+0.1**
EVR	**Evrytania**	**3.18**	**356**	P	**Pn**	**03 45 54.2**	**+1.2**
EVR	**Evrytania**	**3.18**	**356**	P	**Pn**	**03 45 54.5**	**+1.5**
AGG	**Agios Georgios**	**3.28**	**3**	P	**Pn**	**03 45 56.6**	**+2.2**
AGG	**Agios Georgios**	**3.28**	**3**	P	**Pn**	**03 45 56.5**	**+2.2**
STON	**Ston**	**7.90**	**336**	*ePn*	**Pn**	**03 46 54.8**	**-2.8**
UDBI	**Udbina**	**10.03**	**333**	*ePn*	**Pn**	**03 47 26.3**	**-0.6**
UDBI					Sn	03 49 09.3	-10
NVLJ	**Novalja**	**10.40**	**330**	*ePn*	**Pn**	**03 47 31.7**	**-0.2**
NVLJ					Sn	03 49 18.0	-10
HFS	**Hagfors**	**25.01**	**350**	P	**P**	**03 50 24.9**	**-1.5**
	comp=E,1.0nm,0.5s,baz=138,slow=12,SNR=8.9						
FINES	**FINESS Array B**	**25.85**	**4**	P	**P**	**03 50 31.7**	**-2.2**
	comp=E,0.5nm,0.4s,baz=170,slow=12,SNR=4.8						
EKA	**Eskdalemuir Ar**	**26.15**	**326**	P	**P**	**03 50 38.7**	**+1.9**
	comp=E,0.2nm,0.4s,baz=125,slow=8.7,SNR=3.0						
NOA	**NORAR Array B**	**26.26**	**348**	P	**P**	**03 50 36.5**	**-1.2**
	comp=E,0.4nm,0.6s,baz=154,slow=10.0,SNR=3.9						
ARCES	**ARCESS Array B**	**33.90**	**2**	P	**P**	**03 51 43.4**	**-1.9**
	comp=E,1.1nm,0.5s,baz=184,slow=9.5,SNR=16						
KURBB	**Kurchatov Arra**	**42.70**	**51**	P	**P**	**03 52 57.3**	**-2.2**
	comp=E,0.2nm,0.4s,baz=274,slow=8.5,SNR=3.0						
MKAR	**Makanchi Array**	**45.54**	**57**	P	**P**	**03 53 20.1**	**-2.3**
	comp=E,1.2nm,0.3s,baz=268,slow=7.9,SNR=38						

IDC 15 03:51:05.0±3.6, 22.60S×114.55W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/33, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/22, Error ellipse: s-maj=432.8km s-min=78.8km az=97.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.54**	**135**	LR	LR	03 54 22.2	
	comp=Z,235nm,18.7s,baz=295,slow=30						
NVAR	**Mina Array Bea**	**60.81**	**357**	P	P	04 01 20.1	+1.0
	0.7nm,0.7s,baz=189,slow=10.0,SNR=6.0						
PDAR	**Pinedale Array**	**65.20**	**4**	P	P	04 01 47.4	-0.9
	0.3nm,0.7s,baz=186,slow=7.4,SNR=3.8						
YKA	**Yellowknife Ar**	**84.80**	**360**	P	P	04 03 40.0	-0.7
	0.3nm,0.9s,baz=178,slow=5.2,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**87.09**	**291**	T	T	05 40 19.8	
	baz=116,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**87.10**	**291**	T	T	05 40 22.0	
	baz=116,slow=75,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**87.11**	**291**	T	T	05 40 20.4	
	baz=116,slow=75,SNR=11						
BVAR	**Borovoye Array**	**149.39**	**354**	PKPbc	PKPbc	04 10 57.1	+1.4
	0.4nm,0.5s,baz=349,slow=2.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**150.22**	**343**	PKPbc	PKPbc	04 10 55.9	-1.9
	0.3nm,0.3s,baz=31,slow=4.3,SNR=3.1						

NIED ***15*** *03:54:00, 40.90N×145.30E, h5km, Mw3.8 Best double couple: M0 6.39000×10^14 NP1:φs275.00000°, δ27.00000°, λ-63.00000°. NP2:φs66.00000°, δ66.00000°, λ-103.00000°.*

IDC ***15*** *03:54:40.5±0.7, 40.83N×145.12E, h0km, mb3.9/21, mb1 4.0/24, mb1mx3.9/68, mbtmp3.9/24, ML3.1/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/67, Error ellipse: s-maj=16.6km s-min=15.2km az=173.0*

JMA ***15*** *03:54:41.9±0.2, 40.88N×145.26E, h61km±3km, M4.0*

NEIC ***15*** *03:54:45.7±0.3, 40.85N×145.11E, h35km, mb4.6/13, Error ellipse: s-maj=8.9km s-min=6.8km az=179.0*

ISC 15 03:54:42.1±4.6, 40.89N±0.05×145.15E±0.06, h12km±29km, n80, σ1s50/89, mb4.2/33, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.87**	**308**	*ePn*	**Pn**	**03 55 12.6**	**-1.3**
ERM				*eS*	**Sn**	**03 55 36.1**	**-1.4**
JEM	**Erimo**	**1.87**	**308**	P	**Pn**	**03 55 13.3**	**-0.6**
JEM				S	**Sn**	**03 55 34.6**	**-2.9**
JAK	**Akkeshi**	**2.13**	**351**	P	**Pn**	**03 55 16.2**	**-1.4**
JAK				S	**Sn**	**03 55 41.0**	**-3.0**
JCH	**Churui**	**2.18**	**323**	P	**Pn**	**03 55 17.4**	**-0.8**
JCH				S	**Sn**	**03 55 42.0**	**-3.1**
JOB	**Onbets**	**2.24**	**335**	P	**Pn**	**03 55 18.7**	**-0.3**
JOB				*eS*	**Sn**	**03 55 43.9**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.27**	**309**	P	**Pn**	**03 55 19.7**	**+0.3**
JNBK				S	**Sn**	**03 55 46.2**	**-1.2**
NEM2	**Nemuro 2**	**2.52**	**10**	P	**Pn**	**03 55 21.5**	**-1.3**
NEM2				S	**Sn**	**03 55 49.8**	**-3.6**
JAR	**Ashorobuto**	**2.62**	**337**	P	**Pn**	**03 55 23.3**	**-0.9**
JAR				S	**Sn**	**03 55 52.3**	**-3.6**
JNK	**Nakash**	**2.72**	**353**	P	**Pn**	**03 55 23.7**	**-1.9**
JNK				S	**Sn**	**03 55 53.4**	**-4.9**
JANG	**Nango**	**2.81**	**261**	P	**Pn**	**03 55 24.9**	**-1.9**
JBT2	**Biratori 2**	**2.81**	**313**	P	**Pn**	**03 55 27.7**	**+0.9**
JBT2				*eS*	**Sn**	**03 56 00.7**	**+0.1**
JFR	**Furan**	**2.97**	**321**	P	**Pn**	**03 55 28.7**	**-0.3**
JOT	**Ohata**	**3.13**	**280**	P	**Pn**	**03 55 30.4**	**-0.9**
JTKR	**Abashiri--Toko**	**3.22**	**344**	P	**Pn**	**03 55 32.1**	**-0.3**
JTKR				S	**Sn**	**03 56 08.3**	**-2.3**
JKB	**Kayabe**	**3.25**	**289**	P	**Pn**	**03 55 32.6**	**-0.3**
JOM	**Ohasama**	**3.27**	**246**	P	**Pn**	**03 55 32.1**	**-1.1**
JEW	**Eniwo**	**3.38**	**307**	P	**Pn**	**03 55 35.5**	**+0.8**
JEW				*eS*	**Sn**	**03 56 13.7**	**-1.0**
JMK	**Ichinoseki**	**3.58**	**239**	P	**Pn**	**03 55 36.3**	**-1.2**
JMK				S	**Sn**	**03 56 14.3**	**-5.4**
ASAJ	**Asahikawa**	**3.74**	**331**	Pn	**Pn**	**03 55 40.1**	**+0.6**
	1

	15nm,0.7s							
AKTO	**Aktyubinsk**	**58.29**	**311**	P		**P**	**04 04 37.0**	**+0.5**
	1.5nm,0.8s,baz=76,slow=9.9,SNR=6.2							
YKA	**Yellowknife Ar**	**59.01**	**32**	P		**P**	**04 04 42.1**	**+0.8**
	0.4nm,0.7s,baz=300,slow=6.5,SNR=9.2							
YKB5	**Yellowknife Ar**	**59.01**	**32**	*eP*		**P**	**04 04 42.1**	**+0.8**
WR1	**Warramunga Arr**	**61.34**	**192**	*eP*		**P**	**04 04 56.8**	**-0.9**
	15nm,1.5s							
WRA	**Warramunga Arr**	**61.34**	**192**	P		**P**	**04 04 56.8**	**-0.9**
	1.2nm,0.8s,baz=8.9,slow=6.6,SNR=5.1							
AS31	**Alice Springs**	**65.06**	**191**	*eP*		**P**	**04 05 22.4**	**+0.1**
	1.8nm,1.3s							
ASAR	**Alice Springs**	**65.07**	**191**	P		**P**	**04 05 22.5**	**+0.1**
	0.4nm,0.5s,baz=17,slow=6.8,SNR=4.3							
FIA0	**FINESS Array S**	**66.75**	**333**	*eP*		**P**	**04 05 33.0**	**+0.3**
FINES	**FINESS Array B**	**66.75**	**333**	P		**P**	**04 05 33.0**	**+0.3**
	1.4nm,0.6s,baz=39,slow=7.3,SNR=8.2							
NV01	**Mina Array Sit**	**70.39**	**56**	*eP*		**P**	**04 05 57.3**	**+1.1**
NVAR	**Mina Array Bea**	**70.39**	**56**	P		**P**	**04 05 57.3**	**+1.1**
	0.2nm,0.5s,baz=270,slow=7.2,SNR=3.0							
NB2	**NORSAR Subarra**	**71.72**	**338**	P		**P**	**04 06 03.9**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=36,slow=6.2							
NB200	**NORSAR Array S**	**71.72**	**338**	*eP*		**P**	**04 06 03.9**	**+0.2**
NOA	**NORSAR Array B**	**71.72**	**338**	P		**P**	**04 06 03.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=38,slow=5.8,SNR=4.6							
HFS	**Hagfors**	**71.74**	**337**	P		**P**	**04 06 03.9**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=117,slow=1.9,SNR=8.7							
PD31	**Pinedale Array**	**72.91**	**48**	*eP*		**P**	**04 06 11.8**	**+0.5**
PDAR	**Pinedale Array**	**72.91**	**48**	P		**P**	**04 06 11.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=330,slow=5.2,SNR=3.3							
AKASG	**Malin Array Be**	**73.00**	**323**	P		**P**	**04 06 11.7**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=44,slow=6.0,SNR=11							
AKBB	**Malin Array Si**	**73.00**	**323**	*eP*		**P**	**04 06 11.7**	**+0.3**
	comp=Z,2.9nm,0.8s							
BR101	**Keskin Array S**	**78.42**	**313**	*eP*		**P**	**04 06 43.4**	**+0.6**
BRTR	**Keskin Array B**	**78.42**	**313**	P		**P**	**04 06 43.4**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=90,slow=4.3,SNR=2.8							
CLL	**Collm**	**79.15**	**332**	*i* P		**P**	**04 06 47.0**	**+0.6**
	comp=Z,5.0nm,1.2s							
GERES	**GERESS Array B**	**80.91**	**330**	P		**P**	**04 06 56.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=41,slow=4.3,SNR=5.8							
LTX	**Lajitas**	**85.50**	**55**	*eP*		**P**	**04 07 18.9**	**-1.3**
TXAR	**Lajitas Array**	**85.50**	**55**	P		**P**	**04 07 18.9**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=256,slow=3.5,SNR=3.7							

JMA 15 03:59:33.9±0.2, 40.91N×145.01E, h67km±2km, M3.5, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.78**	**309**	P		Pn	04 00 03.2	+0.8
JEM				*eS*		Sn	04 00 24.5	+0.4
JAK	**Akkeshi**	**2.10**	**354**	P		Pn	04 00 07.2	+0.4
JAK				*eS*		Sn	04 00 31.9	+0.1
JCH	**Churui**	**2.10**	**325**	P		Pn	04 00 07.7	+0.9
JCH				*eS*		Sn	04 00 31.6	-0.3
JOB	**Onbets**	**2.18**	**337**	⇑P		Pn	04 00 09.1	+1.3
JOB				*eS*		Sn	04 00 35.0	+1.3
JNBK	**Urakawa-nobuka**	**2.18**	**310**	P		Pn	04 00 09.6	+1.8
NEM2	**Nemuro 2**	**2.51**	**12**	P		Pn	04 00 13.3	+0.9
JAR	**Ashorobuto**	**2.56**	**339**	P		Pn	04 00 13.8	+0.8
JAR				S		Sn	04 00 43.5	+0.5
JNK	**Nakash**	**2.68**	**355**	P		Pn	04 00 14.9	+0.2
JNK				*eS*		Sn	04 00 44.3	-1.8
JANG	**Nango**	**2.71**	**260**	P		Pn	04 00 15.1	0.0
JFR	**Furan**	**2.88**	**322**	P		Pn	04 00 18.8	+1.3
JFR				*eS*		Sn	04 00 50.3	-0.7
JTM	**Tenmabayashi**	**2.99**	**269**	P		Pn	04 00 20.2	+1.3
JTM				*eS*		Sn	04 00 53.3	-0.3
JOT	**Ohata**	**3.03**	**280**	P		Pn	04 00 19.9	+0.5
JTKR	**Abashiri--Toko**	**3.17**	**345**	P		Pn	04 00 22.9	+1.6
JTKR				S		Sn	04 00 59.0	+1.2
JOM	**Ohasama**	**3.19**	**244**	P		Pn	04 00 22.4	+0.8
JOM				*eS*		Sn	04 00 56.5	-1.9
JEW	**Eniwo**	**3.28**	**307**	*eS*		Sn	04 01 02.4	+1.6
JMK	**Ichinoseki**	**3.51**	**237**	P		Pn	04 00 26.6	+0.6
JMK				*eS*		Sn	04 01 04.0	-2.3

IDC 15 04:15:03.5±2.6, 46.77N×152.63E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.4/74, mbtmp3.6/7, ML2.3/1, Error ellipse: s-maj=66.0km s-min=29.2km az=177.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.14**	**25**	Pn		Pn	04 16 48.7	-0.5
	0.3nm,0.3s,baz=193,slow=12,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**29.39**	**152**	T		T	04 53 05.1	
	baz=341,slow=76,SNR=213							
H11N1	**WAKE ISLAND Hy**	**29.41**	**152**	T		T	04 53 08.1	
	baz=341,slow=76,SNR=261							
H11N3	**WAKE ISLAND Hy**	**29.41**	**152**	T		T	04 53 07.5	
	baz=341,slow=76,SNR=213							
H11S1	**WAKE ISLAND Hy**	**30.48**	**153**	T		T	04 54 27.4	
	baz=342,slow=76,SNR=254							
H11S3	**WAKE ISLAND Hy**	**30.48**	**153**	T		T	04 54 29.3	
	baz=342,slow=76,SNR=236							
H11S2	**WAKE ISLAND Hy**	**30.49**	**153**	T		T	04 54 29.3	
	baz=342,slow=76,SNR=242							
INK	**Inuvik**	**41.81**	**32**	P		P	04 22 54.5	+0.1
	0.5nm,0.6s,baz=273,slow=4.8,SNR=3.6							
KURBB	**Kurchatov Arra**	**47.16**	**303**	P		P	04 23 37.2	-0.2
	0.3nm,0.2s,baz=65,slow=6.5,SNR=2.2							
YKA	**Yellowknife Ar**	**51.11**	**37**	P		P	04 24 07.3	-0.1
	0.3nm,0.6s,baz=297,slow=7.0,SNR=6.1							
FINES	**FINESS Array B**	**63.88**	**335**	P		P	04 25 37.1	-0.4
	1.1nm,0.8s,baz=16,slow=10,SNR=4.3							
HFS	**Hagfors**	**68.32**	**339**	P		P	04 26 06.5	+0.5
	0.7nm,0.3s,baz=50,slow=4.6,SNR=10.0							
TXAR	**Lajitas Array**	**77.77**	**60**	P		P	04 27 02.7	0.0
	0.1nm,0.5s,baz=322,slow=5.7,SNR=3.2							

IDC 15 04:23:11.8±11.0, 35.29N×69.50E, h67km±77km, mb3.4/2, mb1 3.3/6, mb1mx3.0/69, mbtmp3.5/6, ML3.0/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/50, Error ellipse: s-maj=173.7km s-min=26.1km az=151.0

NNC 15 04:23:22.1±2.5, 36.70N×68.87E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=24.7km s-min=16.1km az=155.0

ISC 15 04:23:20.4±2.3, 36.3N±0.2×68.9E±0.1, h35km, n14, σ1s81/15, 7C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**5.18**	**43**	⇓P		**Pn**	**04 24 36.9**	**+1.2**
	1.4nm,0.3s							
SFK				⇑S		**Sn**	**04 25 37.3**	**+3.1**
	11nm,0.4s							
MNAS	**Manas**	**6.77**	**23**	⇑P		**Pn**	**04 24 59.3**	**+1.9**
	0.6nm,0.4s							
MNAS				⇑S		**Sn**	**04 26 12.8**	**-0.5**
	2.4nm,0.4s							
KK31	**Karatay Array**	**6.90**	**10**	⇑P		**Pn**	**04 25 00.5**	**+1.5**
	0.3nm,0.3s,baz=191,slow=12,SNR=7.9							
KK31				⇑S		**Sn**	**04 26 17.0**	**+0.7**
	1.3nm,0.3s,baz=195,slow=26,SNR=7.3							
AAK	**Ala-Archa**	**7.66**	**33**	P		**Pn**	**04 25 10.4**	**+0.9**
	0.8nm,0.3s,baz=113,slow=8.5,SNR=8.1							
AAK				S		**Sn**	**04 26 34.0**	**-1.1**
	0.2nm,0.3s,baz=113,slow=23,SNR=8.0							
AAK	**Ala-Archa**	**7.66**	**33**	⇑P		**Pn**	**04 25 10.6**	**+1.1**
	1.3nm,0.4s							
AAK				⇑S		**Sn**	**04 26 34.4**	**-0.7**
	5.3nm,0.8s							
GEYT	**Alibeck**	**8.77**	**284**	P		**Pn**	**04 25 25.5**	**+0.8**
	baz=102,slow=6.6,SNR=3.6							
MKAR	**Makanchi Array**	**14.48**	**40**	P		Pn	04 26 38.2	-4.5
	0.0nm,0.3s,baz=209,slow=12,SNR=2.5							
AB31	**Akbulak array**	**14.50**	**336**	⇓P		**Pn**	**04 26 42.8**	**-0.2**
	0.2nm,0.4s,baz=156,slow=13,SNR=8.4							
KURBB	**Kurchatov Arra**	**15.90**	**23**	P		**Pn**	**04 27 01.8**	**+0.4**
	0.0nm,0.3s,baz=213,slow=11,SNR=7.2							
AKTO	**Aktyubinsk**	**16.16**	**334**	⇓P		**Pn**	**04 27 04.4**	**-0.4**
	0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**20.82**	**27**	P		**P**	**04 27 54.6**	**-4.1**
	1.3nm,0.4s,baz=223,slow=11,SNR=6.7							
IDI	**Anoyia**	**35.49**	**282**	LR		LR	04 47 03.1	
	comp=Z,33nm,20.4s,baz=176,slow=40							
KSRS	**Korea Array**	**46.54**	**70**	LR		LR	04 52 18.8	
	comp=Z,36nm,18.4s,baz=50,slow=38							
TORD	**Torodi Ar. Bea**	**64.02**	**267**	P		P	04 33 41.7	-9.1
	0.2nm,0.3s,baz=52,slow=6.0,SNR=11							

IDC 15 04:23:22.5±3.9, 7.68S×103.16W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.7/33, mbtmp3.5/5, MS3.4/3, Ms1 3.4/3, ms1mx2.9/23, Error ellipse: s-maj=134.6km s-min=29.2km az=46.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**24.57**	**90**	LR	LR	04 35 31.5	
	comp=Z,62nm,18.1s,baz=304,slow=30						
CMIG	**Matias Romero**	**25.94**	**18**	LR	LR	04 35 55.9	
	comp=Z,82nm,21.7s,baz=181,slow=29						
LPAZ	**La Paz**	**35.27**	**107**	P	P	04 30 20.0	0.0
	2.5nm,0.7s,baz=269,slow=8.6,SNR=8.8						
TXAR	**Lajitas Array**	**36.80**	**359**	P	P	04 30 33.4	+1.0
	0.4nm,0.9s,baz=179,slow=8.8,SNR=3.6						
TXAR				LR	LR	04 43 26.1	
	comp=Z,70nm,18.0s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**50.55**	**354**	P	P	04 32 22.1	-1.0
	0.2nm,0.5s,baz=168,slow=9.0,SNR=3.1						
YKA	**Yellowknife Ar**	**70.52**	**354**	P	P	04 34 38.2	-0.7
	0.1nm,0.5s,baz=161,slow=5.6,SNR=4.6						
ILAR	**Eielson Array**	**79.22**	**342**	P	P	04 35 29.9	+0.7
	0.3nm,0.8s,baz=184,slow=7.2,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**92.48**	**289**	T	T	06 20 30.5	
	baz=96,slow=74,SNR=18						
H11N2	**WAKE ISLAND Hy**	**92.50**	**289**	T	T	06 20 31.4	
	baz=96,slow=74,SNR=19						
H11N1	**WAKE ISLAND Hy**	**92.50**	**289**	T	T	06 20 31.4	
	baz=96,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**92.52**	**288**	T	T	06 20 34.1	
	baz=90,slow=74,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**92.53**	**288**	T	T	06 20 32.5	
	baz=90,slow=74,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**92.54**	**288**	T	T	06 20 37.3	
	baz=90						

IDC 15 04:29:46.4±8.5, 5.41S×149.75E, h76km±63km, mb3.1/2, mb1 3.5/3, mb1mx3.1/43, mbtmp3.6/3, ML2.1/1, MS3.1/1, Ms1 3.0/1, ms1mx2.5/14, Error ellipse: s-maj=131.3km s-min=56.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.72**	**213**	P	Pn	04 30 55.0	-0.3
	6.3nm,0.3s,baz=39,slow=12,SNR=8.8						
PMG				S	Sn	04 31 49.9	+1.1
	5.6nm,0.3s,baz=68,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**20.81**	**225**	P	P	04 34 22.2	+0.3
	1.0nm,0.4s,baz=50,slow=10,SNR=13						
ASAR	**Alice Springs**	**23.71**	**218**	P	P	04 34 50.9	-0.8
	0.4nm,0.7s,baz=56,slow=8.2,SNR=3.9						
STKA	**Stephens Creek**	**27.41**	**195**	LR	LR	04 46 51.0	
	comp=Z,38nm,18.8s,baz=195,slow=37						
TORD	**Torodi Ar. Bea**	**147.58**	**286**	PKPbc	PKPbc	04 49 22.9	-0.3
	0.2nm,0.5s,baz=69,slow=1.7,SNR=3.8						

IDC 15 04:35:43.6±5.6, 36.36N×70.96E, h177km±66km, mb3.2/5, mb1 3.1/9, mb1mx2.8/68, mbtmp3.5/9, Error ellipse: s-maj=71.6km s-min=43.0km az=103.0

ISCJB 15 04:35:45.9±1.3, 36.7N±0.1×70.8E±0.1, h188km, mb3.5/5, Error ellipse: s-maj=18.8km s-min=9.0km az=41.3

NNC 15 04:35:53.8±2.8, 37.06N×71.31E, h225km±38km, mb1.7, mpv2.9, Error ellipse: s-maj=32.4km s-min=22.1km az=62.0

ISC 15 04:35:46.3±1.7, 36.6N±0.1×71.0E±0.1, h188km, n14, σ1s65/19, mb3.4/5, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.94**	**29**	⇑P		**Pn**	**04 36 49.4**	**+2.3**
	1.3nm,0.3s							
SFK				⇑S		**Sn**	**04 37 34.5**	**-0.3**
	14nm,0.3s							
MNAS	**Manas**	**6.00**	**11**	⇑P		**Pn**	**04 37 16.2**	**+2.7**
	0.7nm,0.3s							
MNAS				⇓S		**Sn**	**04 38 19.7**	**-2.6**
	11nm,0.8s							
KK31	**Karatay Array**	**6.51**	**357**	⇓P		**Pn**	**04 37 21.7**	**+1.6**
	0.2nm,0.3s,baz=176,slow=12,SNR=7.1							
KK31				⇑S		**Sn**	**04 38 32.5**	**-1.6**
	1.7nm,0.4s,baz=172,slow=22							
AAK	**Ala-Archa**	**6.61**	**23**	P		**Pn**	**04 37 21.5**	**+0.1**
	0.3nm,0.3s,baz=194,slow=12,SNR=2.7							
AAK				S		**Sn**	**04 38 35.0**	**-1.7**
	0.5nm,0.3s,baz=141,slow=24,SNR=8.7							
AAK	**Ala-Archa**	**6.61**	**23**	⇑P		**Pn**	**04 37 21.6**	**+0.1**
	0.7nm,0.5s							
AAK				⇓S		**Sn**	**04 38 35.0**	**-1.7**
	3.0nm,0.6s							
MKAR	**Makanchi Array**	**13.22**	**36**	P		**Pn**	**04 38 47.4**	**+0.6**
	0.1nm,0.3s,baz=224,slow=8.5,SNR=6.7							
AB31	**Akbulak array**	**15.00**	**331**	P		**P**	**04 39 12.5**	**+2.8**
	baz=149,slow=11,SNR=4.2							
KURBB	**Kurchatov Arra**	**15.04**	**19**	P		**P**	**04 39 10.3**	**+0.2**
	0.0nm,0.3s,baz=194,slow=8.6,SNR=3.3							
AKTO	**Aktyubinsk**	**16.70**	**330**	P		**Pn**	**04 39 28.5**	**-0.9**
	0.1nm,0.3s,baz=115,slow=14,SNR=3.4							
FINES	**FINESS Array B**	**37.40**	**326**	P		**P**	**04 42 40.6**	**-0.1**
	0.4nm,0.4s,baz=133,slow=16,SNR=3.7							
ARCES	**ARCESS Array B**	**41.06**	**338**	P		**P**	**04 43 10.3**	**-0.6**
	1.7nm,0.9s,baz=102,slow=6.6,SNR=4.2							
HFS	**Hagfors**	**42.99**	**322**	P		**P**	**04 43 26.4**	**-0.2**
	0.8nm,0.4s,baz=99,slow=10,SNR=11							
NOA	**NORSAR Array B**	**44.30**	**323**	P		**P**	**04 43 36.7**	**-0.5**
	0.8nm,0.7s,baz=97,slow=7.7,SNR=3.3							
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P		**P**	**04 46 09.3**	**-1.8**
	0.2nm,0.4s,baz=49,slow=5.9,SNR=7.5							

ISCJB 15 04:40:08.5±0.8, 6.34N±0.04×77.73W±0.05, h13km, mb3.2/3, Error ellipse: s-maj=7.3km s-min=5.9km az=0.5

IDC 15 04:40:09.9±2.1, 6.75N×77.54W, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/42, mbtmp3.4/5, ML2.0/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/20, Error ellipse: s-maj=62.9km s-min=23.2km az=23.0

RSNC 15 04:40:11.7±0.7, 6.29N×77.65W, h14km±4km, ML2.8

ISC 15 04:40:09.5±1.0, 6.24N±0.05×77.66W±0.06, h13km, n16, σ1s37/21, mb3.4/3, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.25**	**93**	*eP*		**Pb**	**04 40 16.4**	**+0.6**
SOLC				*eS*		**Sb**	**04 40 20.5**	**+0.5**
PLMC	**San Jos˜ del**	**1.91**	**134**	*eS*		**Sb**	**04 41 07.8**	**-0.1**
HELC	**Santa Helena**	**2.12**	**91**	*eP*		**Pn**	**04 40 45.6**	**+0.7**
HELC				*i*			04 40 52.0	
	comp=Z,60nm,0.5s							
HELC				*eS*		**Sn**	**04 41 12.5**	**+1.3**
MALC	**Bahia Malaga**	**2.23**	**172**	*eP*		**Pn**	**04 40 47.8**	**+1.5**
MALC				*eS*		**Sb**	**04 41 15.7**	**-1.7**
YOTC	**Yotoco, Valle**	**2.59**	**150**	*eP*		**Pn**	**04 40 52.0**	**+0.7**
RREF	**El Recreo**	**2.66**	**120**	*eP*		**Pn**	**04 40 54.5**	**+1.9**
RREF				*i*			04 41 02.8	
	comp=Z,62nm,0.6s							
TOLC	**Tolima**	**2.85**	**125**	*eP*		**Pn**	**04 40 56.5**	**+1.5**
ZARC	**Zaragoza, Cauc**	**3.04**	**66**	*eP*		**Pn**	**04 40 58.7**	**+1.3**
ZARC				*eS*		**Sn**	**04 41 33.6**	**-0.2**
ZARC				*i*			04 41 41.2	
	comp=Z,51nm,0.8s							
PTBC	**PUERTO BERRIO,**	**3.19**	**84**	*eP*		**Pn**	**04 41 01.0**	**+1.6**
PTBC				*i*			04 41 12.7	
	comp=Z,25nm,0.6s							
MOTC	**Monteria, Cord**	**3.20**	**38**	*eP*		**Pn**	**04 41 00.4**	**+0.9**
MOTC				*eS*		**Sn**	**04 41 36.5**	**-1.1**
MOTC				*i*			04 41 38.6	
	comp=Z,16nm,0.7s							
ROSC	**El Rosal**	**3.60**	**113**	Pn		**Pb**	**04 41 11.0**	**-2.2**
	comp=Z,1.7nm,0.3s,baz=167,slow=20,SNR=7.1							
SDV	**Santo Domingo**	**7.44**	**69**	Pn		**Pn**	**04 41 58.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=232,slow=19,SNR=5.7							
SDV				Sn		**Sn**	**04 43 19.8**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=161,slow=18,SNR=1.7							
SDV				LR	LR	04 44 54.9		
	comp=Z,53nm,21.8s,baz=243,slow=40							
JTS	**JuntasAbangare**	**8.27**	**300**	LR	LR	04 45 29.8		
	comp=Z,129nm,21.4s,baz=182,slow=39							
TXAR	**Lajitas Array**	**33.62**	**316**	P		**P**	**04 46 50.7**	**+0.7**
	comp=Z,0.1nm,0.7s,baz=127,slow=6.9,SNR=2.3							
YKA	**Yellowknife Ar**	**62.32**	**342**	P		**P**	**04 50 30.8**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=131,slow=7.3,SNR=4.9							
TORD	**Torodi Ar. Bea**	**78.27**	**78**	P		**P**	**04 52 10.0**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=255,slow=5.7,SNR=3.2							

IDC 15 04:49:53.6±8.9, 5.85S×151.22E, h89km±62km, mb3.0/2, mb1 3.3/3, mb1mx2.9/43, mbtmp3.4/3, ML1.8/1, Error ellipse: s-maj=127.7km s-min=56.9km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.36**	**228**	P	Pn	04 51 11.4	+0.3
	1.9nm,0.3s,baz=47,slow=19,SNR=3.2						
PMG				S	Sn	04 52 11.4	0.0
	1.9nm,0.3s,baz=120,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**21.57**	**228**	P	P	04 54 37.5	+1.3
	0.7nm,0.5s,baz=54,slow=9.9,SNR=6.4						
ASAR	**Alice Springs**	**24.32**	**222**	P	P	04 55 03.1	-0.1
	0.2nm,0.4s,baz=56,slow=9.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.11**	**286**	PKPbc	PKPbc	05 09 31.7	-1.0
	0.4nm,0.5s,baz=93,slow=2.7,SNR=6.6						

MAN 15 04:51:03.9±3.9, 3N×123.08E, h1km, mb4.2, ML3.0, MS2.7, 1C-4D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.60**	**165**	⇓*i*P	Pb	04 51 16.4	0.0
SNPH				*i* S	Sb	04 51 24.4	-1.0
TBP	**Tagbilaran**	**0.81**	**107**	*eP*	Pb	04 51 19.3	-0.5
TBP				*i* S	Sb	04 51 31.2	-0.1
GUIM	**Jordan**	**0.84**	**325**	*eP*	Pb	04 51 20.1	-0.4
GUIM				*eS*	Sb	04 51 31.9	-0.4
LLP	**Lapu-Lapu**	**0.95**	**66**	⇑*eP*	Pg	04 51 21.7	+0.4
LLP				*eS*	Sb	04 51 34.7	-0.8
DCPH	**Dipolog City**	**1.36**	**169**	⇓*i*P	Pg	04 51 28.3	-0.9
DCPH				*i* S	Sg	04 51 46.7	-0.2
JAP	**San Jose, Anti**	**1.38**	**306**	⇓*eP*	Pb	04 51 31.4	+1.8
RCP	**Roxas**	**1.65**	**349**	⇓*eP*	Pb	04 51 34.3	0.0
RCP				*eS*	Sg	04 51 57.1	+0.9
MSLP	**Maasin**	**1.77**	**83**	*eP*	Pb	04 51 35.8	-0.4
MSLP				*eS*	Sg	04 52 00.2	+0.4
PAGZ	**Pagadian**	**2.09**	**172**	*eP*	Pb	04 51 41.2	-0.5

DJA 15 04:51:39.3±2.5, 6˚S±9˚×107˚4E±˚, h26km±20km, M3.5/7, MLv3.5/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.83**	**40**	P	Pn	04 51 55.7	+0.3
KASI				S	Sn	04 52 06.7	-0.1
LWLI	**Liwa**	**1.15**	**5**	P	Pn	04 51 59.6	-0.2
BLSI	**Bandar Lampung**	**1.51**	**58**	P	Pn	04 52 04.8	+0.1
KLI	**Kotabumi**	**1.58**	**35**	P	Pn	04 52 06.2	+0.6
MDSI	**Maura Dua**	**1.69**	**7**	P	Pn	04 52 07.2	+0.1
CGJI	**Cibinong**	**1.78**	**104**	P	Pn	04 52 08.1	-0.3
MNAI	**Manna**	**2.06**	**331**	P	Pn	04 52 11.9	-0.3

DDA 15 04:54:41.5, 40.98N×39.96E, h23km, Ml3.0

CSEM 15 04:54:42.7±0.2, 40.90N×39.98E, h2km, ML3.0, Error ellipse: s-maj=4.8km s-min=3.2km az=169.0

ISK 15 04:54:42.9, 40.85N×39.88E, h5km, ML2.6/6

ISC 15 04:54:42.8±0.8, 40.90N±0.03×39.96E±0.02, h15km±6km, n42, σ0s70/74, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACK	**Trabzon**	**0.15**	**286**	*i* P		**Pg**	**04 54 46.8**	**0.0**
MACK				*i* S		**Sg**	**04 54 49.5**	**+0.1**
MACK	**Trabzon**	**0.15**	**286**	P		**Pg**	**04 54 46.8**	**0.0**
MACK				S		**Sg**	**04 54 49.5**	**+0.1**
KTUT	**Trabzon**	**0.17**	**300**	PG		**Pg**	**04 54 46.9**	**-0.1**
KTUT				SG		**Sg**	**04 54 49.5**	**-0.3**
KTUT	**Trabzon**	**0.17**	**300**	*e*Pg		**Pg**	**04 54 46.9**	**-0.1**
KTUT				*e*Sg		**Sg**	**04 54 49.5**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**0.53**	**165**	PG		**Pg**	**04 54 53.3**	**+0.1**
BAYT				SG		**Sg**	**04 55 00.4**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**0.53**	**165**	*e*Pg		**Pg**	**04 54 53.3**	**+0.1**
BAYT				*e*Sg		**Sg**	**04 55 00.4**	**+0.1**
GUMT	**Gumushane**	**0.57**	**220**	PG		**Pg**	**04 54 53.1**	**-1.0**
GUMT				SG		**Sg**	**

JRG	**Rokugo**	**1.40**	**306**	P	Pn	05 02 18.7	+0.9
JFK	**Kawauchi**	**1.55**	**219**	P	Pn	05 02 19.5	-0.3
JFK				*e*S	Sn	05 02 37.3	-1.5

DJA 15 05:22:07.0±0.5, 0°S±4°×12°4E±°, h94km±10km, M3.7/7, MLv3.7/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.90**	**357**	P	Pn	05 22 26.1	+0.2
KMSI				S	Sn	05 22 41.4	+1.4
LUWI	**Luwuk**	**1.44**	**241**	P	Pn	05 22 32.4	+0.2
LUWI				S	Sn	05 22 51.6	+0.3
MRSI	**Marisa**	**2.24**	**291**	P	Pn	05 22 41.9	-0.6
APSI	**Ampana**	**2.45**	**256**	P	Pn	05 22 45.6	+0.3
SANI	**Sanana**	**2.60**	**131**	P	Pn	05 22 47.0	-0.3
LBMI	**Labuha**	**3.48**	**95**	P	Pn	05 22 59.4	+0.2
LBMI				S	Sn	05 23 39.6	+0.1
NLAI	**Namlea**	**4.21**	**133**	S	Sn	05 23 58.2	+1.0

*IDC **15** 05:22:23.3±1.5, 24°.37S×176°.08W, h0km, mb3.9/5, mb1 4.5/7, mb1mx4.0/44, mbtmp4.2/7, ML4.2/2, MS3.5/14, Ms1 3.5/14, ms1mx3.3/46, Error ellipse: s-maj=71.9km s-min=23.0km az=156.0*
*ISCJB **15** 05:22:26.2±0.7, 24°.7S±0°.1×175°.99W±0°.09, h35km, mb4.2/8, MS3.6/13, Error ellipse: s-maj=16.6km s-min=10.1km az=25.9*
*NEIC **15** 05:22:27.6±0.7, 24°.90S×175°.95W, h35km, mb4.5/2, Error ellipse: s-maj=26.7km s-min=12.5km az=175.0*
ISC 15 05:22:27.9±0.9, 24°.8S±0°.2×176°.0W±0°.1, h35km, n35, σ1§19/14, mb4.1/8, MS3.5/13, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 76nm,0.8s	**8.99**	**321**	*e*Pn	**Pn**	**05 24 35.4**	**-0.1**
MSVF				*e*Sn	**Sn**	**05 26 15.2**	**-0.4**
AFI	**Afiamalu** 4.1nm,0.3s,baz=88,slow=12,SNR=4.4	**11.55**	**21**	Pn	Pn	05 25 02.4	-8.2
AFI				Sn	Sn	05 26 54.1	-24
RAR	**Rarotonga** 3.4nm,0.3s,baz=269,slow=7.3,SNR=15	**15.34**	**80**	**Pn**	**Pn**	**05 26 00.2**	**-1.6**
RAR				Sn	Sn	05 28 32.7	-18
DZM	**Mont Dzumac** comp=Z,145nm,20.2s,baz=88,slow=32	**16.37**	**276**	LR	LR	05 31 02.6	
DZM	**Mont Dzumac** 301nm,23.9s	**16.37**	**276**	*e*LR	LR	05 30 18.2	
TBI	**Tubuai** 212nm,23.8s	**24.23**	**92**	*e*LR	LR	05 33 37.8	
TBI	**Tubuai** 17nm,0.3s	**24.23**	**92**	*e*T	T	05 52 35.0	
PAE	**Paea** 9.8nm,0.3s	**25.58**	**79**	*e*T	T	05 54 05.6	
PPT2	**Papeete2** 215nm,23.0s	**25.60**	**79**	*e*LR	LR	05 34 11.0	
PPT2	**Papeete2** 8.3nm,0.4s	**25.60**	**79**	*e*T	T	05 54 09.2	
HNR	**Honiara** comp=Z,138nm,21.4s,baz=173,slow=33	**27.57**	**300**	LR	LR	05 37 10.5	
CTAO	**Charters Tower** 17nm,0.5s	**35.16**	**270**	*e*P	**P**	**05 29 19.0**	**+0.3**
RKT	**Rikitea** 8.7nm,0.4s	**37.40**	**96**	*e*T	T	06 09 04.3	
TAOE	**Nuku Hiva Isla** 80nm,24.6s	**37.63**	**71**	*e*LR	LR	05 39 43.6	
STKA	**Stephens Creek** comp=Z,139nm,20.7s,baz=37,slow=32	**37.82**	**249**	LR	LR	05 42 45.2	
ASAR	**Alice Springs** 1.5nm,0.7s,baz=89,slow=7.3,SNR=7.2	**45.51**	**261**	P	**P**	**05 30 45.6**	**+1.2**
ASAR				LR	LR	05 49 03.2	
WRAB	**Tennant Creek** 2.9nm,0.8s	**46.00**	**266**	*e*P	**P**	**05 30 47.3**	**-1.0**
WRA	**Warramunga Arr** 0.7nm,0.4s,baz=98,slow=8.2,SNR=17	**46.01**	**266**	P	**P**	**05 30 47.1**	**-1.2**
VNDA	**Vanda** comp=Z,33nm,20.7s,baz=250,slow=31	**53.80**	**186**	LR	LR	05 50 26.6	
GUMO	**Guam** comp=Z,40nm,21.7s,baz=108,slow=33	**54.02**	**311**	LR	LR	05 52 06.9	
RPN	**Rapa Nui** comp=Z,6.3nm,18.2s,baz=218,slow=33	**59.30**	**108**	LR	LR	05 55 34.7	
JNU	**Nakatsue** comp=Z,33nm,19.3s,baz=116,slow=31	**76.69**	**316**	LR	LR	06 01 53.9	
MAW	**Mawson** comp=Z,71nm,18.8s,baz=223,slow=36	**78.14**	**200**	LR	LR	06 09 40.5	
PETK	**Petropavlovsk-** comp=Z,24nm,20.6s,baz=153,slow=32	**80.92**	**344**	LR	LR	06 05 33.6	
ISA	**Isabella, Lake** 15nm,1.8s	**81.07**	**44**	*e*P	**P**	**05 34 41.9**	**+2.3**
KSRS	**Korea Array** comp=Z,17nm,18.1s,baz=130,slow=36	**81.35**	**318**	LR	LR	06 10 24.3	
TXAR	**Lajitas Array** 1.4nm,1.1s,baz=232,slow=4.1,SNR=6.4	**87.84**	**56**	P	**P**	**05 35 13.5**	**-0.5**
MA2	**Magadan** comp=Z,18nm,19.9s,baz=104,slow=33	**88.44**	**344**	LR	LR	06 10 21.4	
NEW	**Newport** comp=Z,36nm,19.9s,baz=294,slow=32	**89.80**	**35**	LR	LR	06 09 28.6	
PDAR	**Pinedale Array** 1.0nm,1.1s,baz=254,slow=3.8,SNR=4.1	**90.84**	**42**	P	**P**	**05 35 28.7**	**+0.7**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=215,slow=5.5,SNR=3.7	**92.11**	**12**	P	**P**	**05 35 33.2**	**+0.2**
INK	**Inuvik** comp=Z,33nm,18.2s,baz=140,slow=34	**97.95**	**15**	LR	LR	06 16 51.7	
AKASG	**Malin Array Be** 0.4nm,0.3s,baz=43,slow=4.0,SNR=6.3	**147.69**	**330**	PKPbc	**PKPbc**	**05 42 08.6**	**0.0**
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=156,slow=4.4,SNR=2.8	**151.06**	**308**	PKPbc	**PKPbc**	**05 42 16.4**	**-1.1**
WDD	**Wied Dalam**	**165.78**	**323**	*e*PKPdf	**PKPdf**	**05 42 28.1**	**-1.1**

IDC 15 05:36:50.4±6.6, 50°.90N×133°.42E, h0km, Error ellipse: s-maj=80.6km s-min=40.1km az=125.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur** 0.1nm,0.3s,baz=32,slow=18,SNR=11	**1.99**	**213**	Pn	Pn	05 37 25.2	0.0
KLR				Lg	Lg	05 37 53.6	
I45RU	**USSURIYSK INFR** baz=6.2,slow=329,SNR=3.5	**6.77**	**189**	*i*		06 16 50.0	
I44RU	**PETROPAVLOVSK** baz=272,slow=330,SNR=0.8	**15.11**	**72**	*i*		07 08 50.0	
I34MN	**SONGINO INFRAS** baz=71,slow=330,SNR=0.5	**17.83**	**271**	*i*		07 34 40.0	

*IDC **15** 05:40:55.6±0.6, 38°.76N×21°.30E, h0km, mb4.0/24, mb1 4.1/32, mb1mx4.0/76, mbtmp4.0/32, ML3.8/8, MS3.4/14, Ms1 3.4/14, ms1mx3.1/71, Error ellipse: s-maj=11.9km s-min=11.6km az=13.0*
*THE **15** 05:40:58.6, 38°.70N×21°.31E, h0km±2km, ML4.3/13, Error ellipse: s-maj=2.3km s-min=0.6km az=270.0*
*CSEM **15** 05:40:58.3±0.1, 38°.69N×21°.29E, h10km, mb4.2/16, Error ellipse: s-maj=2.7km s-min=1.8km az=41.0*
*ATH **15** 05:40:58.2, 38°.69N×21°.31E, h16km±1km, ML4.4/9, Error ellipse: s-maj=1.8km s-min=0.6km az=265.0*
*NEIC **15** 05:40:58.6±0.0, 38°.70N×21°.31E, h0km, mb4.4/10, ML4.3(THE), ML4.4(ATH), After THE.*
*PDG **15** 05:40:58.2±0.6, 38°.68N×21°.27E, h14km, ML4.1/9, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*MOS **15** 05:40:58.1±1.1, 38°.66N×21°.23E, h28km, mb4.3/9, Error ellipse: s-maj=6.4km s-min=3.6km az=76.5*
*ISCJB **15** 05:40:58.4±0.2, 38°.68N±0°.01×21°.25E±0°.01, h24km±2km, mb4.1/44, MS3.5/9, Error ellipse: s-maj=2.3km s-min=1.7km az=37.6*
*DDA **15** 05:41:43.7, 38°.79N×25°.98E, h7km, Ml3.0*
ISC 15 05:40:58.5±0.6, 38°.69N±0°.01×21°.29E±0°.01, h17km±3km, n576, σ1§53/678, mb4.1/44, MS3.5/9, 40C-27D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDO	**Prodromos**	**0.12**	**223**	P	**Pg**	**05 41 02.4**	**+0.1**
PDO				S	**Sg**	**05 41 04.0**	**-0.7**
PDO				AML	AML	05 41 06.7	
PDO				AML	AML	05 41 08.2	
PDO	**Prodromos**	**0.12**	**223**	P	**Pg**	**05 41 02.1**	**-0.2**
PDO				S	**Sg**	**05 41 04.3**	**-0.4**
PDO				S	Sg	05 41 04.3	-0.4
PVO	**Paravola**	**0.20**	**111**	P	**Pg**	**05 41 03.4**	**+0.1**
PVO				S	Sg	05 41 06.9	+0.4
PVO				AML	AML	05 41 07.3	
PVO				AML	AML	05 41 07.5	
PVO	**Paravola**	**0.20**	**111**	P	**Pg**	**05 41 03.0**	**-0.3**
PVO				S	**Sg**	**05 41 06.4**	**0.0**
PVO	**Paravola**	**0.20**	**111**	P	**Pg**	**05 41 03.0**	**-0.3**
PVO				S	**Sg**	**05 41 06.5**	**0.0**
EVR	**Evrytania**	**0.46**	**60**	P	**Pg**	**05 41 07.0**	**-0.8**
EVR				S	**Sg**	**05 41 13.6**	**-0.6**
EVR				AML	AML	05 41 15.8	
EVR				AML	AML	05 41 16.2	
EVR	**Evrytania**	**0.46**	**60**	P	**Pg**	**05 41 07.1**	**-0.8**
EVR				S	**Sb**	**05 41 15.1**	**+0.1**
EVR	**Evrytania**	**0.46**	**60**	P	**Pg**	**05 41 07.1**	**-0.8**
EVR				S	**Sg**	**05 41 13.7**	**-0.6**
EVR	**Evrytania**	**0.46**	**60**	P	**Pg**	**05 41 07.1**	**-0.8**
EVR				S	**Sb**	**05 41 15.1**	**+0.1**
DSL	**Palaion Diesel**	**0.47**	**341**	P	**Pg**	**05 41 07.5**	**-0.5**
DSL				S	**Sg**	**05 41 14.2**	**-0.2**
DSL				AML	AML	05 41 17.6	
DSL				AML	AML	05 41 19.3	
DSL	**Palaion Diesel**	**0.47**	**341**	P	**Pg**	**05 41 07.5**	**-0.5**
DSL				S	**Sb**	**05 41 15.9**	**+0.8**
DSL	**Palaion Diesel**	**0.47**	**341**	P	**Pg**	**05 41 07.5**	**-0.5**
DSL				S	**Sg**	**05 41 14.2**	**-0.2**
DSL	**Palaion Diesel**	**0.47**	**341**	P	**Pg**	**05 41 07.5**	**-0.5**
DSL				S	**Sb**	**05 41 15.9**	**+0.8**
ANX	**Ano Chora**	**0.50**	**101**	P	**Pg**	**05 41 08.2**	**-0.4**
ANX				S	**Sg**	**05 41 15.7**	**-0.3**
ANX	**Ano Chora**	**0.50**	**101**	P	**Pg**	**05 41 08.0**	**-0.6**
ANX				S	**Sg**	**05 41 15.4**	**0.0**
ANX	**Ano Chora**	**0.50**	**101**	P	**Pg**	**05 41 07.8**	**-0.8**
ANX				S	**Sb**	**05 41 16.1**	**0.0**
LKD2	**Lefkada island**	**0.51**	**282**	P	**Pg**	**05 41 08.0**	**-0.6**
LKD2				S	**Sg**	**05 41 14.4**	**-1.0**
LKD2	**Lefkada island**	**0.51**	**282**	P	**Pg**	**05 41 08.1**	**-0.5**
LKD2				S	**Sb**	**05 41 16.5**	**+0.4**
LKD2	**Lefkada island**	**0.51**	**282**	P	**Pg**	**05 41 08.1**	**-0.5**
LKD2				S	**Sg**	**05 41 15.1**	**-0.3**
LKD2	**Lefkada island**	**0.51**	**282**	P	**Pg**	**05 41 08.1**	**-0.5**
LKD2				S	**Sb**	**05 41 16.5**	**+0.4**
EFP	**Efpalio**	**0.55**	**118**	P	**Pg**	**05 41 09.0**	**-0.4**
EFP				S	**Sg**	**05 41 16.2**	**-0.5**
EFP				AML	AML	05 41 21.6	
EFP	comp=N,59750μm,0.5s			AML	AML	05 41 22.1	
EFP	comp=E,58595μm,0.5s						
EFP	**Efpalio**	**0.55**	**118**	P	**Pg**	**05 41 08.8**	**-0.6**
EFP				S	**Sg**	**05 41 16.3**	**-0.5**
EFP	**Efpalio**	**0.55**	**118**	P	**Pg**	**05 41 08.8**	**-0.6**
EFP				S	**Sb**	**05 41 17.8**	**+0.5**
UPR	**University Cam**	**0.56**	**136**	P	**Pb**	**05 41 10.2**	**+0.3**
UPR				S	**Sg**	**05 41 16.1**	**-1.0**
UPR	**University Cam**	**0.56**	**136**	P	**Pg**	**05 41 09.6**	**0.0**
UPR				S	**Sg**	**05 41 16.5**	**-0.6**
UPR	**University Cam**	**0.56**	**136**	P	**Pb**	**05 41 09.7**	**-0.2**
UPR				S	**Sb**	**05 41 18.2**	**+0.6**
RLS	**Riolos of Patr**	**0.65**	**168**	P	**Pg**	**05 41 10.8**	**-0.3**
RLS				S	**Sg**	**05 41 19.2**	**-0.5**
RLS	**Riolos of Patr**	**0.65**	**168**	P	**Pg**	**05 41 10.6**	**-0.6**
RLS				S	**Sb**	**05 41 21.7**	**+1.7**
RLS	**Riolos of Patr**	**0.65**	**168**	P	**Pg**	**05 41 10.6**	**-0.6**
RLS				S	**Sg**	**05 41 19.5**	**-0.3**
RLS	**Riolos of Patr**	**0.65**	**168**	P	**Pg**	**05 41 10.6**	**-0.6**
RLS				S	**Sb**	**05 41 21.7**	**+1.7**
SERG	**Sergoula**	**0.66**	**114**	P	**Pg**	**05 41 10.7**	**-0.8**
SERG				S	**Sb**	**05 41 21.7**	**+1.1**
SERG				AML	AML	05 41 24.6	
SERG	comp=E,40641μm,0.3s			AML	AML	05 41 26.8	
SERG	comp=N,44526μm,0.4s						
SERG	**Sergoula**	**0.66**	**114**	P	**Pg**	**05 41 10.7**	**-0.8**
SERG				S	**Sb**	**05 41 20.8**	**+0.3**
SERG	**Sergoula**	**0.66**	**114**	P	**Pg**	**05 41 10.3**	**-1.2**
SERG				S	**Sb**	**05 41 21.1**	**+0.6**
TRIZ	**Trizonia**	**0.69**	**117**	P	**Pg**	**05 41 10.8**	**-1.3**
TRIZ				S	**Sg**	**05 41 21.2**	**-0.1**
TRIZ	**Trizonia**	**0.69**	**117**	P	**Pg**	**05 41 11.1**	**-1.0**
TRIZ				S	**Sg**	**05 41 21.1**	**-0.1**
KFL	**Anninata**	**0.70**	**215**	P	**Pg**	**05 41 11.8**	**-0.4**
KFL				S	**Sg**	**05 41 20.9**	**-0.6**
KFL	**Anninata**	**0.70**	**215**	P	**Pg**	**05 41 11.8**	**-0.4**
KFL				S	**Sg**	**05 41 21.3**	**-0.2**
KFL	**Anninata**	**0.70**	**215**	P	**Pg**	**05 41 11.4**	**-0.8**
KALE	**Kalithea**	**0.73**	**114**	P	**Pg**	**05 41 11.9**	**-0.8**
KALE				S	**Sg**	**05 41 21.9**	**-0.6**
KALE				AML	AML	05 41 27.6	
KALE	comp=E,29949μm,0.4s			AML	AML	05 41 29.0	
KALE	comp=N,35405μm,0.5s						
KALE	**Kalithea**	**0.73**	**114**	P	**Pg**	**05 41 11.7**	**-1.1**
KALE				S	**Sb**	**05 41 22.8**	**+0.3**
KALE	**Kalithea**	**0.73**	**114**	P	**Pg**	**05 41 12.0**	**-0.8**
KALE				S	**Sg**	**05 41 22.0**	**-0.5**
KALE	**Kalithea**	**0.73**	**114**	P	**Pg**	**05 41 11.7**	**-1.1**
KALE				S	**Sb**	**05 41 22.8**	**+0.3**
VLS	**Valsamata**	**0.75**	**227**	P	**Pg**	**05 41 11.9**	**-1.3**
VLS	**Valsamata**	**0.75**	**227**	P	**Pg**	**05 41 11.9**	**-1.3**
VLS	**Valsamata**	**0.75**	**227**	P	**Pg**	**05 41 11.9**	**-1.3**
VLS	**Valsamata**	**0.75**	**227**	P	**Pg**	**05 41 11.9**	**-1.3**
VTN	**Vitineika**	**0.78**	**186**	P	**Pb**	**05 41 14.1**	**+0.6**
VTN	**Vitineika**	**0.78**	**186**	P	**Pg**	**05 41 13.6**	**0.0**
DRO	**Drossia**	**0.81**	**156**	P	**Pg**	**05 41 13.2**	**-1.0**
DRO				S	**Sb**	**05 41 25.5**	**+0.8**
DRO	**Drossia**	**0.81**	**156**	P	**Pg**	**05 41 13.4**	**-0.8**
DRO				S	**Sb**	**05 41 25.2**	**+0.5**
DRO	**Drossia**	**0.81**	**156**	P	**Pg**	**05 41 13.2**	**-1.0**
DRO				S	**Sn**	**05 41 26.7**	**0.0**
AGG	**Agios Georgios**	**0.88**	**67**	P	**Pg**	**05 41 14.9**	**-0.7**
AGG	**Agios Georgios**	**0.88**	**67**	*e*P	**Pg**	**05 41 14.9**	**-0.7**
AGG				*e*		05 41 27.7	
AGG	**Agios Georgios**	**0.88**	**67**	P	**Pg**	**05 41 15.0**	**-0.5**
AGG				S	**Sg**	**05 41 26.3**	**-0.9**
AGG				AML	AML	05 41 29.4	
AGG				AML	AML	05 41 30.0	
AGG	comp=E,93474μm,0.4s						
AGG	**Agios Georgios**	**0.88**	**67**	*e*Pg	**Pg**	**05 41 14.9**	**-0.7**
AGG				*e*Sg	**Sb**	**05 41 27.7**	**+0.9**
AGG	**Agios Georgios**	**0.88**	**67**	P	**Pg**	**05 41 14.9**	**-0.7**
AGG				S	**Sg**	**05 41 26.6**	**-0.6**
AGG	**Agios Georgios**	**0.88**	**67**	P	**Pg**	**05 41 14.8**	**-0.8**
AGG				S	**Sb**	**05 41 27.7**	**+0.9**
KLV	**Kalavryta, Ach**	**0.93**	**133**	P	**Pg**	**05 41 15.2**	**-1.4**
KLV				S	**Sg**	**05 41 27.0**	**-1.9**
KLV	**Kalavryta, Ach**	**0.93**	**133**	P	**Pg**	**05 41 15.2**	**-1.4**
KLV	**Kalavryta, Ach**	**0.93**	**133**	P	**Pg**	**05 41 15.5**	**-1.1**
KLV				S	**Sg**	**05 41 27.9**	**-1.0**
KLV	**Kalavryta, Ach**	**0.93**	**133**	P	**Pg**	**05 41 15.2**	**-1.4**
DSF	**Desfina**	**1.01**	**106**	P	**Pg**	**05 41 15.4**	**-2.6**
DSF				S	**Sb**	**05 41 31.4**	**+0.8**
DSF	**Desfina**	**1.01**	**106**	P	**Pg**	**05 41 16.3**	**-1.7**
DSF	**Desfina**	**1.01**	**106**	P	**Pg**	**05 41 16.3**	**-1.7**
DSF				S	**Sb**	**05 41 31.2**	**+0.6**
DSF	**Desfina**	**1.01**	**106**	P	**Pg**	**05 41 16.3**	**-1.7**
JAN	**Janina**	**1.02**	**341**	P	**Pg**	**05 41 18.0**	**-0.4**
JAN	**Janina**	**1.02**	**341**	P	**Pb**	**05 41 18.2**	**+0.3**
JAN				S	**Sg**	**05 41 30.3**	**-1.5**
JAN	**Janina**	**1.02**	**341**	P	**Pg**	**05 41 18.0**	**-0.4**
JAN	**Janina**	**1.02**	**341**	P	**Pg**	**05 41 18.0**	**-0.4**
JAN				S	**Sg**	**05 41 31.1**	**-0.7**
JAN	**Janina**	**1.02**	**341**	P	**Pg**	**05 41 18.0**	**-0.4**
THL	**Klokotos Trika**	**1.04**	**33**	P	**Pg**	**05 41 17.0**	**-1.7**
THL				S	**Sg**	**05 41 31.4**	**-0.9**
THL	**Klokotos Trika**	**1.04**	**33**	P	**Pg**	**05 41 17.4**	**-1.3**
THL				S	**Sb**	**05 41 31.7**	**+0.3**
THL	**Klokotos Trika**	**1.04**	**33**	P	**Pg**	**05 41 17.4**	**-1.3**
THL				S	**Sn**	**05 41 34.0**	**+1.5**
AXAR	**Agios Charalam**	**1.07**	**85**	P	**Pn**	**05 41 19.2**	**+0.4**
AXAR				S	**Sg**	**05 41 32.3**	**-1.0**
AXAR	**Agios Charalam**	**1.07**	**85**	P	**Pb**	**05 41 18.8**	**+0.2**
AXAR				S	**Sb**	**05 41 32.7**	**+0.3**
GUR	**Goura**	**1.12**	**132**	P	**Pg**	**05 41 18.2**	**-1.9**
GUR				S	**Sb**	**05 41 34.6**	**+0.9**
GUR	**Goura**	**1.12**	**132**	P	**Pg**	**05 41 18.4**	**-1.7**
GUR	**Goura**	**1.12**	**132**	P	**Pg**	**05 41 18.7**	**-1.4**
GUR				S	**Sb**	**05 41 34.6**	**+0.9**
GUR	**Goura**	**1.12**	**132**	P	**Pg**	**05 41 18.4**	**-1.7**
IGT	**Igoumenitsa**	**1.12**	**319**	P	**Pb**	**05 41 19.4**	**-0.1**
IGT	**Igoumenitsa**	**1.12**	**319**	P	**Pn**	**05 41 20.1**	**+0.6**
IGT				S	**Sn**	**05 41 36.1**	**+1.5**
IGT	**Igoumenitsa**	**1.12**	**319**	P	**Pb**	**05 41 19.4**	**-0.1**
IGT	**Igoumenitsa**	**1.12**	**319**	P	**Pb**	**05 41 19.8**	**+0.3**
IGT				S	**Sn**	**05 41 35.6**	**+1.0**
IGT	**Igoumenitsa**	**1.12**	**319**	P	**Pb**	**05 41 19.4**	**-0.1**
AMT	**Artemida-Makis**	**1.20**	**164**	P	**Pb**	**05 41 19.7**	**-1.1**
AMT				S	**Sn**	**05 41 38.1**	**+1.6**
AMT	comp=E,29540μm,0.8s			AML	AML	05 41 46.7	
AMT	comp=N,34742μm,0.9s			AML	AML	05 41 47.2	
AMT	**Artemida-Makis**	**1.20**	**164**	P	**Pb**	**05 41 20.3**	**-0.6**
AMT				S	**Sn**	**05 41 37.8**	**+1.3**
AMT	**Artemida-Makis**	**1.20**	**164**	P	**Pb**	**05 41 20.2**	**-0.6**
SGD	**Sagiada**	**1.23**	**319**	P	**Pn**	**05 41 21.4**	**+0.4**
SGD	**Sagiada**	**1.23**	**319**	P	**Pn**	**05 41 21.4**	**+0.4**
THAL	**Thalero**	**1.26**	**121**	P	**Pn**	**05 41 21.0**	**-0.3**
THAL	**Thalero**	**1.26**	**121**	P	**Pn**	**05 41 21.4**	**+0.1**
THAL	**Thalero**	**1.26**	**121**	P	**Pn**	**05 41 21.3**	**0.0**
KPRO	**Kipourio**	**1.27**	**3**	P	**Pn**	**05 41 21.8**	**+0.3**
KPRO	**Kipourio**	**1.27**	**3**	P	**Pn**	**05 41 21.8**	**+0.3**
PROD	**Prodromos**	**1.33**	**108**	P	**Pb**	**05 41 23.2**	**+0.1**
PROD	**Prodromos**	**1.33**	**108**	P	**Pb**	**05 41 23.2**	**+0.1**
LKR	**Lokris**	**1.34**	**91**	P	**Pn**	**05 41 22.5**	**+0.1**
LKR	**Lokris**	**1.34**	**91**	P	**Pn**	**05 41 22.5**	**+0.1**
LKR	**Lokris**	**1.34**	**91**	P	**Pn**	**05 41 22.5**	**+0.1**
FYTO	**Fytoko, Volos**	**1.47**	**60**	P	**Pb**	**05 41 25.4**	**0.0**
FYTO				S	**Sg**	**05 41 47.4**	**+1.4**
FYTO	**Fytoko, Volos**	**1.47**	**60**	P	**Pb**	**05 41 25.2**	**-0.2**
FYTO	**Fytoko, Volos**	**1.47**	**60**	P	**Pb**	**05 41 25.2**	**-0.2**
FYTO	**Fytoko, Volos**	**1.47**	**60**	P	**Pb**	**05 41 25.2**	**-0.2**
LTK	**Loutraki**	**1.48**	**116**	P	**Pg**	**05 41 26.2**	**-0.7**
LTK				S	**Sg**	**05 41 45.4**	**-0.8**
LTK	**Loutraki**	**1.48**	**116**	P	**Pb**	**05 41 25.5**	**0.0**
LTK	**Loutraki**	**1.48**	**116**	P	**Pb**	**05 41 25.5**	**0.0**
LTK				S	**Sg**	**05 41 45.7**	**-0.4**
LTK	**Loutraki**	**1.48**	**116**	P	**Pb**	**05 41 25.5**	**0.0**
LOUT	**Loutraki**	**1.50**	**117**	P	**Pg**	**05 41 26.6**	**-0.7**
LOUT	**Loutraki**	**1.50**	**117**	P	**Pg**	**05 41 26.6**	**-0.7**
PENT	**Pentalofos**	**1.51**	**356**	P	**Pb**	**05 41 26.3**	**+0.1**
PENT	**Pentalofos**	**1.51**	**356**	P	**Pb**	**05 41 26.3**	**+0.1**
VLX	**Vlachokerasia**	**1.57**	**147**	P	**Pg**	**05 41 28.1**	**-0.7**
VLX	**Vlachokerasia**	**1.57**	**147**	P	**Pn**	**05 41 26.6**	**+0.9**
VLX	**Vlachokerasia**	**1.57**	**147**	P	**Pn**	**05 41 26.6**	**+0.9**
VLX	**Vlachokerasia**	**1.57**	**147**	P	**Pn**	**05 41 26.6**	**+0.9**
ITM	**Ithomi**	**1.59**	**161**	P	**Pn**	**05 41 26.8**	**+0.9**
ITM	**Ithomi**	**1.59**	**161**	P	**Pn**	**05 41 26.8**	**+0.9**
ITM	**Ithomi**	**1.59**	**161**	P	**Pn**	**05 41 26.8**	**+0.9**
NEO	**Neokhori**	**1.63**	**67**	P	**Pn**	**05 41 27.4**	**+1.0**
NEO	**Neokhori**	**1.63**	**67**	P	**Pn**	**05 41 27.4**	**+1.0**
NEO	**Neokhori**	**1.63**	**67**	P	**Pn**	**05 41 27.4**	**+1.0**
XOR	**Xorichti**	**1.63**	**65**	P	**Pn**	**05 41 27.1**	**+0.6**
XOR	**Xorichti**	**1.63**	**65**	P	**Pn**	**05 41 27.1**	**+0.6**
XOR	**Xorichti**	**1.63**	**65**	P	**Pn**	**05 41 27.1**	**+0.6**
KZN	**Kozani**	**1.66**	**13**	P	**Pb**	**05 41 28.4**	**-0.3**
KZN	**Kozani**	**1.66**	**13**	P	**Pb**	**05 41 28.4**	**-0.3**
KZN	**Kozani**	**1.66**	**13**	P	**Pb**	**05 41 28.4**	**-0.3**
KZN	**Kozani**	**1.66**	**13**	P	**Pb**	**05 41 28.4**	**-0.3**
VILL	**Villia**	**1.67**	**108**	P	**Pn**	**05 41 28.1**	**+1.0**
VILL	**Villia**	**1.67**	**108**	P	**Pn**	**05 41 28.1**	**+1.0**
LIT	**Litokhoron**	**1.69**	**33**	P	**Pb**	**05 41 28.6**	**-0.6**
LIT	**Litokhoron**	**1.69**	**33**	P	**Pb**	**05 41 28.6**	**-0.6**
LIT	**Litokhoron**	**1.69**	**33**	P	**Pb**	**05 41 28.6**	**-0.6**
LIT	**Litokhoron**	**1.69**	**33**	P	**Pb**	**05 41 28.6**	**-0.6**
NEST	**Nestorio**	**1.73**	**354**	P	**Pg**	**05 41 30.9**	**-0.9**
NEST	**Nestorio**	**1.73**	**354**	P	**Pg**	**05 41 30.9**	**-0.9**
SKIA	**Skiathos**	**1.76**	**74**	P	**Pn**	**05 41 28.9**	**+0.6**
SKIA	**Skiathos**	**1.76**	**74**	P	**Pn**	**05 41 28.9**	**+0.6**
KTI	**Kastanea**	**1.82**	**20**	P	**Pb**	**05 41 31.3**	**-0.1**
KTI	**Kastanea**	**1.82**	**20**	P	**Pb**	**05 41 31.3**	**-0.1**
PYL	**PYLOS**	**1.82**	**169**	P	**Pb**	**05 41 31.2**	**-0.3**
PYL	**PYLOS**	**1.82**	**169**	P	**Pb**	**05 41 31.2**	**-0.3**
PYL	**PYLOS**	**1.82**	**169**	P	**Pb**	**05 41 31.2**	**-0.3**
DID	**Didima**	**1.94**	**127**	P	**Pb**	**05 41 32.7**	**-0.7**
DID	**Didima**	**1.94**	**127**	P	**Pb**	**05 41 32.7**	**-0.7**
DID	**Didima**	**1.94**	**127**	P	**Pb**	**05 41 32.7**	**-0.7**
KRND	**KRANIDI**	**1.96**	**131**	P	**Pb**	**05 41 33.0**	**-0.8**
KRND	**KRANIDI**	**1.96**	**131**	P	**Pb**	**05 41 33.0**	**-0.8**
ATH	**Athens Observa**	**2.04**	**110**	P	**Pn**	**05 41 33.8**	**+1.8**
ATH	**Athens Observa**	**2.04**	**110**	P	**Pn**	**05 41 33.8**	**+1.8**
ATH	**Athens Observa**	**2.04**	**110**	P	**Pn**	**05 41 33.8**	**+1.8**
ATH	**Athens Observa**	**2.04**	**110**	P	**Pn**	**05 41 33.8**	**+1.8**

SKO *i* Sn **Sb** 05 42 36.0 0.0
NVR Nevrokopi 3.31 36 P **Pn** 05 41 50.2 +0.6
NVR Nevrokopi 3.31 36 P **Pn** 05 41 50.2 +0.6
NVR Nevrokopi 3.31 36 P **Pn** 05 41 50.2 +0.6
KAVA Kavala 3.39 46 P **Pn** 05 41 51.1 +0.5
KAVA Kavala 3.39 46 P **Pn** 05 41 51.1 +0.5
KAVA Kavala 3.39 46 P **Pn** 05 41 51.1 +0.5
CGL1 Ceglie Messapi 3.54 305 *e*Pn **Pn** 05 41 54.4 +1.7
TIP Timpagrande 3.57 279⇑ *i*P **Pn** 05 41 54.0 +0.8
TIP Timpagrande 3.57 279 *e*Pn **Pn** 05 41 53.7 +0.5
TIP Timpagrande 3.57 279 *e*Pn **Pn** 05 41 53.7 +0.5
TIP Timpagrande 3.57 279⇑ *i*P **Pn** 05 41 54.0 +0.8
TIP S **Sn** 05 42 36.3 +1.3
TAR1 Taranto 3.60 302 *e*Pn **Pn** 05 41 53.2 -0.3
ULC Ulcinj 3.63 335⇓ *i*Pn **Pn** 05 41 54.5 +0.6
ULC *e*Sn **Sn** 05 42 38.2 +1.9
ULC Ulcinj 3.63 335⇓ *i*Pn **Pn** 05 41 54.5 +0.6
ULC *e*Sn **Sn** 05 42 38.2 +1.9
FASA Fasano 3.70 306 *i* Pn **Pn** 05 41 55.7 +0.7
APE Apeiranthos 3.72 114 *e*P **Pn** 05 41 57.5 +2.2
APE Apeiranthos 3.72 114⇑ *i*P **Pn** 05 41 58.2 +2.9
APE Apeiranthos 3.72 114 *ce*P **Pn** 05 41 57.8 +2.5
APE Apeiranthos 3.72 114 *e*P **Pn** 05 41 57.8 +2.5
APE S **Sn** 05 42 43.3 +4.5
MASS Massafra 3.74 303 *e*Pn **Pn** 05 41 56.2 +0.7
CHOS Chios island 3.75 93 *e*P **Pn** 05 41 57.5 +1.9
DRME Dracevica, Mon 3.85 336⇑ *i*Pn **Pn** 05 41 57.9 +1.0
DRME *e*Sn **Sn** 05 42 44.0 +2.3
DRME Dracevica, Mon 3.85 336⇑ *i*Pn **Pn** 05 41 57.9 +1.0
DRME *e*Sn **Sn** 05 42 44.0 +2.3
GADA Gvkgeada 3.87 66 *e*P **Pn** 05 41 57.9 +0.7
IMMV Iera Moni Meta 3.87 145 *e*P **Pb** 05 42 00.9 +1.3
PVY Plav 4.03 346⇓ *i*Pn **Pn** 05 42 48.6 +2.1
PVY *e*Sn **Sn** 05 42 48.6 +2.1
PVY Plav 4.03 346⇓ *i*Pn **Pn** 05 42 00.9 +1.3
PVY *e*Sn **Sn** 05 42 48.6 +2.1
SANT Santorini 4.04 124 *e*Pn **Pn** 05 42 00.3 +0.7
SANT Santorini 4.04 124 *e*Pn **Pn** 05 42 00.3 +0.7
BUM Brajici-Budva 4.04 334⇑ *i*Pn **Pn** 05 42 00.1 +0.4
BUM *e*Sn **Sn** 05 42 48.8 +2.1
BUM Brajici-Budva 4.04 334⇑ *i*Pn **Pn** 05 42 00.1 +0.4
BUM *e*Sn **Sn** 05 42 48.8 +2.1
MATE Matera 4.04 300⇑ *i*P **Pn** 05 42 01.0 +1.4
MATE Matera 4.04 300 S Sg 05 43 19.3 +11
MATE Matera 4.04 300⇑ *i*P **Pn** 05 42 01.0 +1.4
PDG Podgorica 4.05 338⇑ *i*P **Pn** 05 42 01.2 +1.6
PDG Podgorica 4.05 338⇑ *i*Pn **Pn** 05 42 00.9 +1.3
PDG Podgorica 4.05 338⇑ *i*P **Pn** 05 42 01.2 +1.6
PDG *e*Sn **Sn** 05 42 48.8 +2.2
TTG Podgorica 4.05 338⇑ *i*Pn **Pn** 05 42 00.9 +1.3
TTG *e*Sn **Sn** 05 42 48.8 +2.2
TTG Podgorica 4.05 338 *e*P **Pn** 05 42 00.6 +1.0
TTG Podgorica 4.05 338 *e*Pn **Pn** 05 42 00.6 +1.0
TTG Podgorica 4.05 338 *e*P **Pn** 05 42 00.6 +1.0
EZN Ezine 4.07 72 *e*P **Pn** 05 42 01.6 +1.6
BARS Barje 4.14 5 *e*Pn **Pn** 05 42 02.6 +1.6
SG1 Sgolgore (BA) 4.15 303 *i* Pn **Pn** 05 42 01.8 +0.6
VTS Vitosha 4.16 20⇓ *i*P **Pn** 05 42 04.0 +2.6
VTS Vitosha 4.16 20 *e*P **Pn** 05 42 03.3 +1.9
VTS Vitosha 4.16 20 *e*Pn **Pn** 05 42 03.3 +1.9
VTS Vitosha 4.16 20 *e*P **Pn** 05 42 03.3 +1.9
VTS S **Sn** 05 42 54.5 +4.7
BAI Bari 4.17 307 *i* Pn **Pn** 05 42 01.9 +0.6
URLA Izmir 4.17 93 *e*P **Pn** 05 42 03.3 +1.9
BAYC CANAKKALE_Bayr 4.22 74 *i* P **Pn** 05 42 03.6 +1.6
BAYC CANAKKALE_Bayr 4.22 74 P **Pn** 05 42 03.6 +1.6
CEME Cevo 4.26 336⇑ *i*Pn **Pn** 05 42 03.0 +0.4
CEME *e*Sn **Sn** 05 42 53.9 +2.0
CEME Cevo 4.26 336⇑ *i*Pn **Pn** 05 42 03.0 +0.4
CEME *e*Sn **Sn** 05 42 53.9 +2.0
CEL Celeste 4.26 266 *e*Pn **Pn** 05 42 03.0 +0.4
CEL Celeste 4.26 266 *e*Pn **Pn** 05 42 03.0 +0.4
ENEZ Enez 4.27 60 *e*P **Pn** 05 42 04.6 +1.9
ALN Alexandroupoli 4.28 57 *e*P **Pn** 05 42 04.3 +1.5
BEY Berane 4.31 346⇑ *i*Pn **Pn** 05 42 04.8 +1.4
BEY *e*Sn **Sn** 05 42 55.5 +2.2
IVA Berane 4.31 346⇑ *i*Pn **Pn** 05 42 04.8 +1.4
IVA *e*Sn **Sn** 05 42 55.5 +2.2
HCY Herceg Novi 4.32 331⇓ *i*Pn **Pn** 05 42 03.4 0.0
HCY *e*Sn **Sn** 05 42 55.2 +1.9
HCY Herceg Novi 4.32 331⇓ *i*Pn **Pn** 05 42 03.4 0.0
HCY *e*Sn **Sn** 05 42 55.2 +1.9
GELI Tayfur-Gelibol 4.36 65 *e*P **Pn** 05 42 05.8 +1.9
KOME Kolasin 4.37 343⇑ *i*Pn **Pn** 05 42 06.4 +2.2
KOME *e*Sn **Sn** 05 42 56.8 +2.0
KOME Kolasin 4.37 343⇑ *i*Pn **Pn** 05 42 06.4 +2.2
KOME *e*Sn **Sn** 05 42 56.8 +2.0
CUC Castrocucco 4.44 289 *e*Pn **Pn** 05 42 06.8 +1.7
CUC Castrocucco 4.44 289 *e*Pn **Pn** 05 42 06.8 +1.7
NKME Niksic 4.44 337⇑ *i*Pn **Pn** 05 42 05.8 +0.6
NKME *e*Sn **Sn** 05 42 58.5 +1.9
NKME Niksic 4.44 337⇑ *i*Pn **Pn** 05 42 05.8 +0.6
NKME *e*Sn **Sn** 05 42 58.5 +1.9
GVD Gavdhos 4.45 149 *e*P Pn 05 42 10.6 +5.4
IDI Anoyia 4.45 139 Pn **Pn** 05 42 06.7 +1.4
comp=N,1.4nm,0.3s,baz=291,slow=9.4,SNR=12
IDI Sn **Sn** 05 42 59.0 +2.2
comp=N,4.2nm,0.3s,baz=90,slow=20,SNR=2.8
IDI Anoyia 4.45 139⇓ *i*P **Pn** 05 42 08.6 +3.3
IDI Anoyia 4.45 139 *e*Pn **Pn** 05 42 05.9 +0.6
IDI Sn **Sn** 05 42 59.0 +2.2
IDI Anoyia 4.45 139 *e*Pn **Pn** 05 42 05.9 +0.6
IDI Anoyia 4.45 139⇓ *i*P **Pn** 05 42 08.6 +3.3
IDI Sn **Sn** 05 42 59.0 +2.2
NKY Niksic 4.47 338⇓ *i*Pn **Pn** 05 42 07.4 +1.8
NKY *e*Sn **Sn** 05 42 58.6 +1.2
NKY Niksic 4.47 338⇓ *i*Pn **Pn** 05 42 07.4 +1.8
NKY *e*Sn **Sn** 05 42 58.6 +1.2
ERIK Erikli-Kesan 4.49 62 *e*P **Pn** 05 42 07.3 +1.6
TREB Trebinje 4.60 332 *e*Pn **Pn** 05 42 06.9 -0.4
PLE Pljevlja 4.86 343⇓ *i*Pn **Pn** 05 42 12.2 +1.3
PLE *e*Sn **Sn** 05 43 08.6 +1.8
PLE Pljevlja 4.86 343⇓ *i*Pn **Pn** 05 42 12.2 +1.3
PLE *e*Sn **Sn** 05 43 08.6 +1.8
KRBG Karabiga-Canak 4.95 68 *e*P **Pn** 05 42 14.4 +2.4
BOVS Bovan 4.95 3 *e*Pn **Pn** 05 42 13.8 +1.6
IVAS Ivanjica 4.96 350 *e*Pn **Pn** 05 42 13.4 +1.1
STON Ston 4.99 328 *i* Pn **Pn** 05 42 11.2 -1.4
STON Sn **Sn** 05 43 05.8 -4.0
STON Ston 4.99 328 *i* Pn **Pn** 05 42 11.1 -1.4
BALY Balya 5.03 76 *i* P **Pn** 05 42 14.2 +1.0
BALY Balya 5.03 76 P **Pn** 05 42 14.2 +1.0
BODT Bodrum 5.03 107 *e*P **Pn** 05 42 16.2 +3.0
STEP BALIKESIR_Sava 5.05 80 *i* P **Pn** 05 42 12.2 -1.3
STEP BALIKESIR_Sava 5.05 80 P **Pn** 05 42 12.2 -1.3
MS1 Monte Sant'Ang 5.08 308 *i* Pn **Pn** 05 42 14.3 +0.3
ZAGS Zajecar 5.17 8 *e*Pn **Pn** 05 42 16.3 +1.2
GRUS Gruza 5.21 355 *e*Pn **Pn** 05 42 16.2 +0.5
EDRB Edirne 5.23 51 *e*P **Pn** 05 42 17.9 +2.0
AYDB Zeytinkoy-Aydi 5.24 96 *e*P **Pn** 05 42 18.7 +2.5
AYDN Tasoluk 5.29 99 *i* P **Pn** 05 42 18.6 +1.7
AYDN Tasoluk 5.29 99 P **Pn** 05 42 18.6 +1.7
BBLS Lazići 5.36 345 *e*Pn **Pn** 05 42 18.1 +0.3
DIVS Divibare 5.49 350 *e*Pn **Pn** 05 42 19.9 +0.3
DIVS Divibare 5.49 350 *e*Pn **Pn** 05 42 19.9 +0.3
VAE Valguarnera 5.56 260 Pn **Pn** 05 42 22.7 +2.2
comp=N,2.3nm,0.3s,baz=151,slow=2.8,SNR=4.2
VAE Sn **Sn** 05 43 26.9 +2.8
comp=N,5.0nm,0.3s,baz=217,slow=5.1,SNR=4.5
KARP Karpathos 5.64 122 *e*Pn **Pn** 05 42 21.0 -0.6
KARP Karpathos 5.64 122 *e*Pn **Pn** 05 42 21.0 -0.6
MANT Manisa 5.70 90 *e*Pn Pn 05 42 28.3 +5.8
TEKS Tekeris 6.00 348 *e*Pn **Pn** 05 42 26.7 +0.1
CTYL Yalikoy Yolu 6.04 60 *e*P **Pn** 05 42 28.8 +1.7
TURN Turunc 6.07 105 *i* P **Pn** 05 42 26.9 -0.6
TAVA DENIZLI_Tavas 6.14 99 *i* P **Pn** 05 42 32.1 +3.7
GDZ Gediz 6.40 84 *i* P **Pn** 05 42 34.4 +2.2
CLTB Caltabellotta 6.46 263 *e*Pn **Pn** 05 42 34.7 +1.8
CLTB Caltabellotta 6.46 263 *e*Pn **Pn** 05 42 34.7 +1.8
GOLH Golhisar 6.69 100 *i* P **Pn** 05 42 38.1 +1.9
BLY Banja Luka 6.79 334⇓ *i*P **Pn** 05 42 39.9 +2.6
BLY Banja Luka 6.79 334 *e*Pn **Pn** 05 42 39.3 +2.0
BLY Banja Luka 6.79 334 *e*Pn **Pn** 05 42 39.3 +2.0
BLY S **Sn** 05 43 55.4 +1.2
BZS Buzias 6.93 2⇓ *i*P **Pn** 05 42 41.5 +2.3
BZS Buzias 6.93 2 S **Sn** 05 43 56.2 -1.4
KZIL AFYON_Kizioren 6.96 91 *i* P **Pn** 05 42 42.4 +2.7
LOT Lotru 7.00 14⇓ *i*P **Pn** 05 42 42.6 +2.2
AQU L'Aquila 7.04 304 *e*P **Pn** 05 42 42.7 +1.9
AQU L'Aquila 7.04 304 *e*Pn **Pn** 05 42 42.7 +1.9
AQU L'Aquila 7.04 304 *e*P **Pn** 05 42 42.7 +1.9
MTUR Matau 7.11 22⇑ *i*P **Pn** 05 42 45.0 +3.2
ARR Arges 7.12 19⇓ *i*P **Pn** 05 42 44.6 +2.6
UDBI Udbina 7.15 326 *i* Pn **Pn** 05 42 43.1 +0.6
UDBI Sn **Sn** 05 44 00.6 -2.7
UDBI Udbina 7.15 326 *i* Pn **Pn** 05 42 43.0 +0.6
BORA Eskisehir 7.21 78 *i* P **Pn** 05 42 45.4 +2.2
VOIR 7.30 21⇑ *i*P **Pn** 05 42 47.2 +2.8
ISP Isparta 7.32 94 *e*P **Pn** 05 42 43.7 -1.0
ISP Isparta 7.32 94 *e*Pn **Pn** 05 42 43.7 -1.0
ISP Isparta 7.32 94 *e*P **Pn** 05 42 43.7 -1.0
ESKT Eskisehir 7.48 81 *i* P **Pn** 05 42 49.2 +2.3
ISR Istrita 7.52 30⇑ *i*P **Pn** 05 42 51.0 +3.5
SIRR Siria 7.58 2⇓ *i*P **Pn** 05 42 50.4 +2.2
NVLJ Novalja 7.59 323 *e*Pn **Pn** 05 42 48.3 0.0
NVLJ Sn **Sn** 05 44 08.9 -4.8
NVLJ Novalja 7.59 323 *e*Pn **Pn** 05 42 48.2 0.0
MLR Muntele Rosu 7.63 25 Pn **Pn** 05 42 49.5 +0.6
comp=N,0.5nm,0.3s,baz=200,slow=6.9,SNR=19
MLR Muntele Rosu 7.63 25⇓ *i*P **Pn** 05 42 52.3 +3.4
MLR Muntele Rosu 7.63 25 *e*Pn **Pn** 05 42 52.3 +3.4
SAHE Sakarya_HENDEK 7.68 71 *i* P **Pn** 05 42 51.5 +2.0
BTAS Taskesti 7.73 73 *i* P **Pn** 05 42 53.6 +3.3
MORH M¨ţr¡gy, Hung 7.77 346 *e*pPKPdf **Pn** 05 42 49.4 -1.4
MORH M¨ţr¡gy, Hung 7.77 346 *e*P **Pn** 05 42 49.4 -1.4
TIRR Tirgusor 7.85 41 *e*P **Pn** 05 42 52.9 +1.0
TIRR Tirgusor 7.85 41 *e*Pn **Pn** 05 42 52.9 +1.0
TIRR Tirgusor 7.85 41 *e*P **Pn** 05 42 52.9 +1.0
DOPR Dopca 7.88 21⇓ *i*P **Pn** 05 42 56.0 +3.7
OZLJ Ozalj 8.16 330 *e*Pn **Pn** 05 42 55.9 -0.2
OZLJ Ozalj 8.16 330 *e*Pn **Pn** 05 42 55.9 -0.2
DRGR 8.17 7⇓ *i*P **Pn** 05 42 58.7 +2.4
PLOR Plostina 8.18 27⇑ *i*P **Pn** 05 43 00.0 +3.5
VRI Vrincioaia 8.22 28⇑ *i*P **Pn** 05 43 00.3 +3.2
VRI Vrincioaia 8.22 28⇑ *i*P **Pn** 05 43 00.3 +3.2
CFR Carcaliu 8.25 36⇑ *i*P **Pn** 05 42 59.3 +2.0
CFR Carcaliu 8.25 36⇑ *i*P **Pn** 05 42 59.3 +2.0
BEHE Becsehely 8.46 338 *e*Pn **Pn** 05 43 02.7 +2.5
CEY Cerknica 8.69 326 *i* Pn **Pn** 05 43 04.0 +0.6
CEY Cerknica 8.69 326 *e*Pn **Pn** 05 43 02.6 -0.8
SKDS Skadanscina 8.73 324 *i* Pn **Pn** 05 43 03.2 -0.7
SKDS Skadanscina 8.73 324 Pn **Pn** 05 43 03.2 -0.7
TRI Trieste 8.96 324 *e*P **Pn** 05 43 08.2 +1.1
TRI Trieste 8.96 324 *e*Pn **Pn** 05 43 08.2 +1.1
TRI Trieste 8.96 324 *e*P **Pn** 05 43 08.2 +1.1
PSZ Piszkesteto 9.28 354⇓ *i*P **Pn** 05 43 13.9 +2.3
PSZ Piszkesteto 9.28 354 *e*P **Pn** 05 43 13.6 +2.0
PSZ Piszkesteto 9.28 354 *e*Pn **Pn** 05 43 12.8 +1.2
PSZ Piszkesteto 9.28 354 *e*Pn **Pn** 05 43 13.6 +2.0
PSZ Piszkesteto 9.28 354 *e*P **Pn** 05 43 12.8 +1.2
PSZ Piszkesteto 9.28 354 *e*Pn **Pn** 05 43 13.6 +2.0
VSL Villasalto 9.30 279 *e*Pn **Pn** 05 43 13.2 +1.4
VSL Villasalto 9.30 279 *e*Pn **Pn** 05 43 13.2 +1.4
BURAR Bucovina Array 9.37 17⇓ *i*P **Pn** 05 43 16.3 +3.5
BUR04 Bucovina Ar. S 9.37 17 *e*Pn **Pn** 05 43 17.3 +4.4
CADS Cadrg 9.37 326 *e*Pn **Pn** 05 43 12.2 -0.6
CADS Cadrg 9.37 326 *e*Pn **Pn** 05 43 12.2 -0.6
BUR08 Bucovina Ar. S 9.39 16 *e*Pn **Pn** 05 43 14.6 +1.4
BUR08 Bucovina Ar. S 9.39 16 *e*Pn **Pn** 05 43 14.6 +1.4
BR131 Keskin Array S 9.64 80 *e*Pn **Pn** 05 43 20.9 +4.3
BRTR Keskin Array B 9.64 80 Pn **Pn** 05 43 20.6 +3.9
comp=N,0.8nm,0.3s,baz=179,slow=18,SNR=17
BRTR LR LR 05 47 43.8
comp=N,160nm,20.1s,baz=260,slow=42
KECS Kecovo 9.81 357 *e*P **Pn** 05 43 20.3 +1.6
KECS Kecovo 9.81 357 *e*P **Pn** 05 43 20.3 +1.6
KECS Kecovo 9.81 357 *e*PN **Pn** 05 43 20.3 +1.6
VYHS Vyhne 9.96 351 *e*P **Pn** 05 43 22.9 +2.1
VYHS *e* 05 45 08.0
VYHS Vyhne 9.96 351 *e*P **Pn** 05 43 22.9 +2.1
VYHS Vyhne 9.96 351 *e*PN **Pn** 05 43 22.9 +2.1
VYHS *e*SN **Sn** 05 45 08.0 -4.2
UZH Uzhgorod 9.96 4 *e*P **Pn** 05 43 24.5 +3.7
UZH *e*S **Sn** 05 45 18.7 +6.5
UZH MLR MLR
comp=Z,400nm,14.0s
KEST Kesra 9.97 256 Pn **Pn** 05 43 23.4 +2.2
comp=Z,0.2nm,0.3s,baz=301,slow=2.6,SNR=12
ABTA Abfaltersbach 10.32 324 Pn **Pn** 05 43 25.3 -0.5
comp=Z,6.8nm,0.4s
ABTA Abfaltersbach 10.32 324 Pn **Pn** 05 43 25.3 -0.5
comp=Z,6.8nm,0.4s
ABTA *i* Sn **Sn** 05 45 19.9 -1.1
comp=Z,22nm,0.9s
WTTA Wattenberg 11.10 324 Pn **Pn** 05 43 37.9 +1.3
comp=Z,1.9nm,0.3s
WTTA Wattenberg 11.10 324 *e*Pn **Pn** 05 43 37.9 +1.3
comp=Z,1.9nm,0.3s
VRAC Vranov 11.14 344 Pn **Pn** 05 43 36.6 -0.4
comp=Z,0.3nm,0.3s,baz=252,slow=13,SNR=2.1
VRAC LR LR 05 49 05.6
comp=Z,136nm,18.6s,baz=160,slow=44
WATA Walderalm 11.18 324 Pn **Pn** 05 43 39.3 +1.6
comp=Z,1.5nm,0.2s
WATA Walderalm 11.18 324 *i* Pn **Pn** 05 43 39.3 +1.6
comp=Z,1.5nm,0.2s
LVV L'vov 11.30 9 *e*P Pn 05 43 49.3 +10
FETA Feichten 11.37 320 *e*Pn Pn 05 43 47.7 +7.5
comp=Z,9.1nm,1.0s
FETA *i* Sn **Sn** 05 45 50.2 +3.3
comp=Z,6.3nm,0.9s
TREC Trest 11.39 340 AMS AMS 05 48 40.0
comp=Z,800nm,10.8s
MORC Moravsky Berou 11.40 348⇓ *i*P Pn 05 43 46.3 +5.7
MORC Moravsky Berou 11.40 348 *e*P **Pn** 05 43 42.1 +1.5
MORC Moravsky Berou 11.40 348 *e*Pn **Pn** 05 43 42.1 +1.5
MORC Moravsky Berou 11.40 348 *e*P **Pn** 05 43 42.1 +1.5
MOTA Moosalm 11.41 323 Pn **Pn** 05 43 42.1 +1.3
comp=Z,8.3nm,0.6s
MOTA Sn **Sn** 05 45 47.6 -0.4
comp=Z,5.3nm,0.5s
MOTA Moosalm 11.41 323 *i* Pn **Pn** 05 43 42.1 +1.3
comp=Z,8.3nm,0.6s
MOTA *i* Sn **Sn** 05 45 47.6 -0.4
comp=Z,5.3nm,0.5s
GEA0 GERESS Array S 11.53 334 *e*Pn **Pn** 05 43 41.6 -0.7
GEA0 GERESS Array S 11.53 334 *e*Pn **Pn** 05 43 41.6 -0.7
GERES GERESS Array B 11.53 334 Pn **Pn** 05 43 42.3 -0.1
comp=Z,0.4nm,0.3s,baz=164,slow=14,SNR=8.9
GERES Sn **Sn** 05 45 46.3 -4.5
comp=Z,0.2nm,0.3s,baz=157,slow=23,SNR=3.9
GERES LR LR 05 47 53.1
comp=Z,75nm,20.7s,baz=146,slow=36
KHC Kasperske Hory 11.82 335 *e*P Pn 05 43 54.4 +8.1
KHC *ex* x 05 44 16.4
KHC *e*S **Sn** 05 45 56.2 -1.6
KHC AMS AMS 05 49 10.0
comp=Z,800nm,7.5s
KHC Kasperske Hory 11.82 335 *e*P **Pn** 05 43 47.4 +1.1
KHC Kasperske Hory 11.82 335 *e*Pn **Pn** 05 43 47.4 +1.1
DAVA Damuels 11.97 320 *e*Pn **Pn** 05 43 52.8 +4.3
comp=Z,1.1nm,0.3s
GOPC GO Pecny, Ondr 12.14 340 AMS AMS 05 49 00.0
comp=Z,800nm,11.6s
DPC Dobruska-Polom 12.18 345 AMS AMS 05 49 20.0
comp=Z,500nm,6.9s
PRU Pruhonice 12.28 339 AMS AMS 05 49 10.0
comp=Z,700nm,10.6s
UPC Upice 12.40 344 AMS AMS 05 49 20.0
comp=Z,600nm,9.4s
MMAI Mount Meron Ar 12.77 112 LR LR 05 49 54.9
comp=Z,72nm,19.0s,baz=75,slow=42
SENIN Lac Senin/Sane 12.85 311 *e*Pn **Pn** 05 44 00.9 +0.4
SENIN *e*Sn **Sn** 05 46 17.7 -5.4
SENIN Lac Senin/Sane 12.85 311 *e*Pn **Pn** 05 44 00.9 +0.4
NKC Novy Kostel 13.14 334 AMS AMS 05 49 50.0
comp=Z,500nm,12.2s
AK11 Malin Array Si 13.22 22 *e*Pn **Pn** 05 44 06.4 +1.0
KIEV Kiev 13.25 22⇑ *e*P **Pn** 05 44 07.8 +2.1
KIEV pmax pmax
comp=Z,3.0nm,0.7s
KIEV Kiev 13.25 22 *e*Pn **Pn** 05 44 05.8 +0.1
KIEV Kiev 13.25 22 *e*Pn **Pn** 05 44 05.8 +0.1
KIEV Kiev 13.25 22 *e*P **Pn** 05 44 07.8 +2.1
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 13.26 22 Pn **Pn** 05 44 07.5 +1.6
comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=4.3
AKBB Malin Array Si 13.26 22 *e*P **Pn** 05 44 05.8 -0.1
AKBB Malin Array Si 13.26 22 *e*Pn **Pn** 05 44 05.8 -0.1
AKBB Malin Array Si 13.26 22 *e*P **Pn** 05 44 05.8 -0.1
ANN Anapa 13.50 58 *e*P Pn 05 44 02.6 -6.6
ANN pmax pmax
comp=Z,41nm,1.0s
CLL Collm 13.90 338 *e*P **Pn** 05 44 19.0 +4.4
CLL Collm 13.90 338 *e*(P) **Pn** 05 44 19.0 +4.4
CLL *i* 05 44 23.6
CLL *i* 05 44 28.1
WLF Walferdange 15.41 320⇑ P **P** 05 44 41.0 +1.4
WLF Walferdange 15.41 320 P **P** 05 44 40.9 +1.4
MEM Membach 16.09 323⇑ P **P** 05 44 50.0 +2.9
MEM Membach 16.09 323 P **P** 05 44 50.0 +2.9
DOU Dourbes 16.46 319⇑ P **P** 05 44 52.3 +1.0
DOU Dourbes 16.46 319 P **P** 05 44 52.2 +1.0
KIV Kislovodsk 16.90 65 *e*P **P** 05 44 56.2 0.0
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,55nm,13.0s
KIV Kislovodsk 16.90 65 *e*P **P** 05 44 56.2 0.0
comp=Z,55nm,13.0s
KBZ Khabaz 17.01 66 Pn **P** 05 44 57.3 0.0
comp=Z,0.1nm,0.3s,baz=342,slow=3.2,SNR=2.7
ZEI Tsey 17.61 69 *e*P P 05 45 12.0 +7.9
ZEI pmax pmax
comp=Z,10.0nm,1.4s
VSR Storozhevoye 17.74 39 *e*P **Pn** 05 45 04.9 +0.3
VSR pmax pmax
comp=Z,4.0nm,0.5s
GNI Garni 18.17 78 LR LR 05 52 10.2
comp=Z,86nm,21.9s,baz=279,slow=37
GNI Garni 18.17 78⇓ *e*P **Pn** 05 45 09.5 -0.6
GNI pmax pmax
comp=Z,22nm,0.8s
GNI Garni 18.17 78 *e*Pn **Pn** 05 45 08.6 -1.5
comp=Z,47nm,1.8s
GNI Garni 18.17 78 *e*Pn **Pn** 05 45 08.6 -1.5
comp=Z,47nm,1.8s
GNI Garni 18.17 78 *e*P **Pn** 05 45 09.5 -0.6
comp=Z,22nm,0.8s
LPSR Galich'ya Gora 18.52 36 *e*P **P** 05 45 14.1 +0.2
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 18.52 36 *e*P **P** 05 45 14.1 +0.2
comp=Z,10.0nm,1.0s
VRH Novokhopyorsk 19.04 42 *e*P **P** 05 45 20.4 +0.8
VRH pmax pmax
comp=Z,9.0nm,1.2s
OBN Obninsk 19.39 27 *e*P **P** 05 45 23.8 +0.4
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,147nm,15.0s
ES19 SONSECA Array 19.54 281 *e*P **P** 05 45 25.9 +0.7
ES19 SONSECA Array 19.54 281 *e*P **P** 05 45 26.0 +0.7
ESDC Sonseca Array 19.59 281 P **P** 05 45 25.9 +0.2
comp=Z,0.2nm,0.3s,baz=82,slow=12,SNR=14
ESDC LR LR 05 53 21.6
comp=Z,68nm,18.1s,baz=305,slow=38
ESDC Sonseca Array 19.59 281 P **P** 05 45 26.0 +0.2
PAB San Pablo 19.90 281 *e*P **P** 05 45 30.4 +1.2
PAB pmax pmax
comp=Z,31nm,1.6s
PAB San Pablo 19.90 281 *e*P **P** 05 45 30.4 +1.2
comp=Z,31nm,1.6s
PAB San Pablo 19.90 281 *e*P **P** 05 45 30.4 +1.2
comp=Z,31nm,1.6s
VSU Vasula 20.10 8⇑ *e*P **P** 05 45 30.6 -0.5
VSU pmax pmax
comp=Z,18nm,0.7s
VSU Vasula 20.10 8 *e*P **P** 05 45 30.6 -0.5
comp=Z,18nm,0.7s
MAK Makhachkala 20.26 69 *e*P Pn 05 45 36.8 +1.8
MAK *e*S **S** 05 49 20.3 +0.8
MAK pmax pmax
comp=Z,138nm,1.2s
MAK MLR MLR
comp=Z,205nm,21.0s
TAM Tamanrasset 20.80 225 *e*P **P** 05 45 40.8 +1.6
TAM pmax pmax
comp=Z,7.0nm,1.3s
TAM Tamanrasset 20.80 225 *e*P **P** 05 45 40.8 +1.6
comp=Z,6.9nm,1.3s
TAM Tamanrasset 20.80 225 *e*P **P** 05 45 40.8 +1.6
comp=Z,6.9nm,1.3s
PBRG Braganca 21.58 287 *e*P **P** 05 45 48.0 +0.6
comp=Z,2.3nm,1.2s
PBRG Braganca 21.58 287 *e*P **P** 05 45 48.0 +0.6
comp=Z,2.3nm,1.2s
MVO Moncorvo 21.82 286 *e*P **P** 05 45 49.7 -0.3
comp=Z,3.8nm,0.9s
MVO Moncorvo 21.82 286 *e*P **P** 05 45 49.7 -0.3
comp=Z,3.8nm,0.9s
HFS Hagfors 22.00 350 P **P** 05 45 48.9 -2.6
comp=Z,4.8nm,0.7s,baz=153,slow=10.0,SNR=16
HFS LR LR 05 55 27.5
comp=Z,171nm,18.9s,baz=83,slow=40
PMRV Marv??o 22.25 281 *e*P **P** 05 45 55.7 +1.2
PMRV Marv??o 22.25 281 *e*P **P** 05 45 55.7 +1.2
MTE Manteigas 22.26 284 *e*P **P** 05 45 57.3 +2.6
comp=Z,5.9nm,0.8s
MTE Manteigas 22.26 284 *e*P **P** 05 45 57.3 +2.6
comp=Z,5.9nm,0.8s
PGAV Gavieira, Arco 22.72 288 *e*P **P** 05 45 58.6 -1.0
comp=Z,6.3nm,0.9s
PGAV Gavieira, Arco 22.72 288 *e*P **P** 05 45 58.6 -1.0
comp=Z,6.3nm,0.9s
PBEJ Beja 22.84 278 *e*P **P** 05 46 01.0 +0.3
PBEJ Beja 22.84 278 *e*P **P** 05 46 01.0 +0.3
NC602 NORSAR Array S 22.90 348 *e*P **P** 05 45 59.8 -1.4
PMTG Montargil 22.94 280 *e*P **P** 05 45 58.9 -2.9
comp=Z,6.1nm,1.0s
NC605 NORSAR Array S 22.96 348 *e*P **P** 05 46 00.9 -0.9
FINES FINESS Array B 22.97 6 P **P** 05 45 59.2 -2.7
comp=Z,9.9nm,0.7s,baz=157,slow=10,SNR=30
FINES LR LR 05 56 41.8
comp=Z,195nm,19.2s,baz=228,slow=41
FIA1 FINESS Array S 22.98 6 *e*P **P** 05 46 01.8 -0.1
FIA1 *e*sP **sP** 05 46 06.8 -2.1
PBDV Barranco-do-Ve 23.04 276 *e*P **P** 05 46 03.3 +0.4
comp=Z,11nm,0.9s
PBDV Barranco-do-Ve 23.04 276 *e*P **P** 05 46 03.3 +0.4
comp=Z,11nm,0.9s
NC405 NORSAR Array S 23.23 348 *e*P **P** 05 46 02.5 -2.1
NB2 NORSAR Subarra 23.24 348 P **P** 05 46 03.0 -1.8
comp=Z,7.5nm,0.8s,baz=161,slow=11
NOA NORSAR Array B 23.24 348 P **P** 05 46 03.6 -1.1
comp=Z,4.4nm,0.8s,baz=155,slow=9.4,SNR=15
NOA LR LR 05 56 49.2
comp=Z,90nm,21.4s,baz=160,slow=41
NBO00 NORSAR Array S 23.31 347 *e*P **P** 05 46 09.5 +4.1
PNCL Nicolau / Gran 23.33 278 *e*P **P** 05 46 04.0 -1.8
comp=Z,5.2nm,1.0s
EKA Eskdalemuir Ar 23.37 323 P **P** 05 46 05.2 -0.9
comp=Z,6.5nm,0.9s,baz=112,slow=11,SNR=12
NC303 NORSAR Array S 23.39 348 *e*P **P** 05 46 05.0 -1.2
NC204 NORSAR Array S 23.54 347 *e*P **P** 05 46 08.2 +0.5
KLMR Klimovskoe 24.94 21 *e*P **P** 05 46 18.5 -2.1
KLMR *e* 05 46 52.7
KLMR pmax pmax
comp=Z,14nm,1.2s
KLMR Klimovskoe 24.94 21 *e*P **P** 05 46 18.6 -2.1
KLMR AMP 05 46 27.8
comp=Z,14nm,1.2s
KLMR *e*PP **PnPn** 05 46 52.7 -0.9
AKTO Aktyubinsk 28.39 54 P **P** 05 46 54.1 +2.3
comp=Z,0.8nm,0.4s,baz=315,slow=5.7,SNR=2.9
GEYT Alibeck 28.79 80 LR LR 06 01 09.3
comp=Z,115nm,19.2s,baz=330,slow=42
**ABK

BRVK					pmax	pmax			
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**36.33**	**50**	P	**P**	**05 48 01.2**	**-0.1**		
	comp=Z,0.5nm,0.5s,baz=286,slow=4.7,SNR=4.4								
KKAR	**Karatay Array**	**37.04**	**67**	*eP*	**P**	**05 48 07.0**	**-0.5**		
KKAR	**Karatay Array**	**37.04**	**67**	*eP*	**P**	**05 48 07.0**	**-0.5**		
SPITS	**Spitsbergen Ar**	**39.65**	**358**	P	**P**	**05 48 28.6**	**-0.4**		
	comp=Z,9.8nm,0.9s,baz=173,slow=7.3,SNR=7.0								
AAK	**Ala-Archa**	**40.00**	**67**	*eP*	**P**	**05 48 32.4**	**-0.1**		
AAK					pmax	pmax			
	comp=Z,3.0nm,1.1s								
AAK	**Ala-Archa**	**40.00**	**67**	*eP*	**P**	**05 48 32.4**	**-0.1**		
	comp=Z,6.0nm,1.0s								
FRU	**Bishkek**	**40.05**	**66**	*eP*	**P**	**05 48 32.5**	**-0.2**		
NRN	**Naryn**	**41.38**	**68**	P	**P**	**05 48 44.0**	**-0.1**		
KURBB	**Kurchatov Arra**	**41.44**	**54**	P	**P**	**05 48 43.0**	**-1.0**		
	comp=Z,1.1nm,0.8s,baz=286,slow=9.3,SNR=8.6								
KURK	**Kurchatov**	**41.49**	**54**	*eP*	**P**	**05 48 43.5**	**-0.9**		
KURK					pmax	pmax			
	comp=Z,5.0nm,1.2s								
KURK	**Kurchatov**	**41.49**	**54**	*eP*	**P**	**05 48 43.3**	**-1.1**		
	comp=Z,4.8nm,1.1s								
KSH	**Kashi**	**41.88**	**71**	P	**P**	**05 48 46.8**	**-1.2**		
KSH				sP	sP	05 48 53.9	-1.4		
KSH				PcS	**PcS**	**05 54 34.1**	**-1.1**		
KSH				S	**S**	**05 55 02.3**	**-3.1**		
KSH				sS	pS	05 55 09.4	-2.1		
KDJ	**Kajisay**	**42.05**	**67**	P	**P**	**05 48 49.6**	**+0.2**		
NVS	**Novosibirsk**	**43.88**	**47**	*eP*	**P**	**05 49 02.4**	**-1.4**		
MK31	**Makanchi Array**	**44.52**	**59**	*eP*	**P**	**05 49 08.1**	**-1.0**		
MK31	**Makanchi Array**	**44.52**	**59**	*eP*	**P**	**05 49 08.1**	**-1.0**		
MKAR	**Makanchi Array**	**44.52**	**59**	P	**P**	**05 49 07.9**	**-1.2**		
	comp=Z,2.1nm,0.6s,baz=282,slow=6.5,SNR=11								
MKAR	**Makanchi Array**	**44.52**	**59**	*eP*	**P**	**05 49 07.9**	**-1.2**		
	comp=Z,23nm,0.7s								
MK01	**Makanchi Array**	**44.53**	**59**	*eP*	**P**	**05 49 07.9**	**-1.3**		
ZAA0	**Zalesovo Array**	**44.90**	**49**	*eP*	**P**	**05 49 10.9**	**-1.0**		
	comp=Z,8.0nm,0.6s								
ZALV	**Zalesovo Beam**	**44.90**	**49**	P	**P**	**05 49 10.8**	**-1.2**		
	comp=Z,5.6nm,0.4s,baz=275,slow=9.1,SNR=24								
ZALV	**Zalesovo Beam**	**44.90**	**49**	*eP*	**P**	**05 49 10.5**	**-1.5**		
ZALV	**Zalesovo Beam**	**44.90**	**49**	*eP*	**P**	**05 49 10.5**	**-1.5**		
WMQ	**Urumqi**	**48.98**	**62**	P	**P**	**05 49 45.8**	**+1.7**		
FRB	**Frobisher Bay**	**56.04**	**328**	P	**P**	**05 50 36.1**	**+0.1**		
	comp=Z,1.2nm,0.8s,baz=246,slow=6.7,SNR=5.3								
ZAK	**Zakamensk**	**56.77**	**49**	*eP*	P	05 50 31.3	-10		
ZAK					pmax	pmax			
	comp=Z,17nm,1.8s								
SCHQ	**Schefferville**	**58.49**	**317**	P	**P**	**05 50 53.0**	**-0.5**		
	comp=Z,1.8nm,0.8s,baz=50,slow=7.9,SNR=2.9								
TIXI	**Tiksi**	**58.96**	**21**	LR	LR	06 19 34.0			
	comp=Z,52nm,18.4s,baz=352,slow=39								
RES	**Resolute Bay**	**59.45**	**344**	P	**P**	**05 51 00.0**	**+0.3**		
	comp=Z,0.4nm,0.6s,baz=45,slow=14,SNR=2.2								
BOD	**Bodaibo**	**59.60**	**38**	*eP*	**P**	**05 50 57.8**	**-3.3**		
SONM	**Songino Array**	**59.67**	**51**	P	**P**	**05 51 00.8**	**-1.1**		
	comp=Z,0.4nm,0.6s,baz=290,slow=9.9,SNR=5.0								
ULN	**Ulaanbaatar**	**60.05**	**51**	*eP*	**P**	**05 51 03.3**	**-1.3**		
ULN					pmax	pmax			
	comp=Z,2.0nm,1.5s								
HHC	**Hu-ho-hao-te**	**66.25**	**56**	*eP*	**P**	**05 51 46.0**	**+0.2**		
KMI	**Kunming**	**68.39**	**75**	P	**P**	**05 52 00.3**	**+0.6**		
CMAR	**Chiang Mai Arr**	**69.22**	**83**	P	P	05 52 10.4	+5.7		
	comp=Z,2.5nm,0.3s,baz=301,slow=7.4,SNR=5.2								
BILL	**Bilibino**	**70.38**	**13**	*i* P	**P**	**05 52 09.8**	**-1.2**		
BILL				*i*		05 52 18.2			
BILL				*i*		05 52 33.5			
BILL					pmax	pmax			
	comp=Z,3.0nm,1.5s								
SEY	**Seymchan**	**71.44**	**21**	P	**P**	**05 52 17.6**	**0.0**		
	comp=Z,0.6nm,0.2s,baz=309,slow=7.2,SNR=5.4								
SEY	**Seymchan**	**71.44**	**21**	*eP*	**P**	**05 52 17.7**	**+0.2**		
INK	**Inuvik**	**71.66**	**350**	P	**P**	**05 52 17.9**	**-0.9**		
	comp=Z,0.6nm,0.5s,baz=10,slow=7.9,SNR=6.3								
YKA	**Yellowknife Ar**	**73.12**	**340**	P	**P**	**05 52 27.1**	**-0.4**		
	comp=Z,0.6nm,0.8s,baz=36,slow=5.2,SNR=13								
MA2	**Magadan**	**73.58**	**24**	P	**P**	**05 52 30.2**	**-0.1**		
	comp=Z,1.9nm,0.3s,baz=162,slow=20,SNR=5.0								
MA2					LR	LR	06 27 31.5		
	comp=Z,32nm,18.6s,baz=354,slow=38								
ULM	**Lac du Bonnet**	**75.65**	**324**	P	**P**	**05 52 42.2**	**-0.3**		
	comp=Z,4.1nm,1.0s,baz=36,slow=6.3,SNR=7.5								
ILAR	**Eielson Array**	**76.46**	**355**	P	**P**	**05 52 47.0**	**+0.2**		
	comp=Z,0.5nm,0.9s,baz=5.5,slow=5.8,SNR=6.9								
PDAR	**Pinedale Array**	**87.47**	**326**	P	**P**	**05 53 44.7**	**-0.7**		
	comp=Z,0.3nm,0.6s,baz=52,slow=1.0,SNR=2.0								
NVAR	**Mina Array Bea**	**94.74**	**329**	LR	LR	06 39 06.7			
	comp=Z,54nm,19.1s,baz=278,slow=37								
TXAR	**Lajitas Array**	**95.06**	**314**	P	**P**	**05 54 20.9**	**+0.1**		
	comp=Z,0.6nm,0.8s,baz=91,slow=6.3,SNR=5.0								
WRA	**Warramunga Arr**	**119.95**	**92**	PKP	**PKPdf**	**05 59 46.7**	**-1.7**		
	comp=Z,0.3nm,0.6s,baz=320,slow=1.7,SNR=2.1								
ASAR	**Alice Springs**	**121.63**	**96**	PKP	**PKPdf**	**05 59 49.6**	**-2.0**		
	comp=Z,0.5nm,0.7s,baz=344,slow=2.4,SNR=3.4								

*CSEM **15** 05:47:17.7±0.3,39.02N×25.18E,h5km, MD2.7, Error ellipse: s-maj=12.0km s-min=6.4km az=169.0*
*DDA **15** 05:47:27.1,39.34N×26.14E,h6km, Ml2.8*
ISK 15 05:47:27.7,39.34N×26.10E,h8km, MD2.7/8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.12**	**13**	PG	Pg	05 47 30.9	+0.5
GPNR				SG	Sg	05 47 33.9	+1.7
SIGR	**SIGRI**	**0.23**	**236**	PG	Pg	05 47 32.9	+0.6
SIGR				SG	Sg	05 47 36.5	+1.2
SIGR	**SIGRI**	**0.23**	**236**	*e*Pg	Pg	05 47 32.9	+0.6
EZN	**Ezine**	**0.52**	**20**	PG	Pg	05 47 37.9	+0.2
EZN				SG	Sb	05 47 45.9	-0.8
CAND	**Candarli**	**0.67**	**125**	PG	Pb	05 47 41.8	+0.2
DKL	**Dikili**	**0.68**	**113**	PG	Pg	05 47 41.2	+0.4
DKL	**Dikili**	**0.68**	**113**	*e*Pg	Pg	05 47 41.2	+0.4
FOCM	**Fo˜şa**	**0.80**	**142**	PG	Pg	05 47 43.2	+0.2
FOCM				SG	Sb	05 47 55.5	+0.8
FOCM	**Fo˜şa**	**0.80**	**142**	*e*Pg	Pg	05 47 43.2	+0.2
KRBN	**Karaburun**	**0.82**	**154**	PG	Pg	05 47 43.9	+0.4
KRBN				SG	Sb	05 47 55.9	+0.3
GADA	**Gvkgeada**	**0.86**	**350**	PG	Pb	05 47 44.9	-0.1
GADA				SG	Sb	05 47 57.5	+0.7
CHOS	**Chios island**	**0.95**	**182**	PG	Pb	05 47 46.5	0.0
URLA	**Izmir**	**1.05**	**158**	PG	Pg	05 47 46.8	-1.1
URLA	**Izmir**	**1.05**	**158**	*i* P	Pg	05 47 46.9	-1.0
URLA				*i* S	Sg	05 47 59.5	-2.1
URLA	**Izmir**	**1.05**	**158**	P	Pg	05 47 46.9	-1.0
URLA				S	Sg	05 47 59.5	-2.0
GELI	**Tayfur-Gelibol**	**1.10**	**15**	PN	Pb	05 47 49.1	+0.2
GELI	**Tayfur-Gelibol**	**1.10**	**15**	*e*Pn	Pb	05 47 49.1	+0.2
ZEY	**˙zmir**	**1.14**	**164**	*i* P	Pg	05 47 48.9	-0.7
ZEY				*i* S	Sg	05 48 03.7	-0.7
LPK	**Lapseki**	**1.15**	**26**	PN	Pg	05 47 48.9	-0.9
LPK	**Lapseki**	**1.15**	**26**	*e*Pn	Pg	05 47 48.9	-0.9
BALY	**Balya**	**1.24**	**71**	*i* P	Pb	05 47 50.0	-1.4
BALY				*i* S	Sg	05 48 06.8	-0.8
BALY	**Balya**	**1.24**	**71**	P	Pb	05 47 50.0	-1.5
STEP	**BALIKESIR_Sava**	**1.25**	**88**	*i* P	Pn	05 47 51.6	0.0
STEP				*i* S	Sb	05 48 07.6	-0.4
STEP	**BALIKESIR_Sava**	**1.25**	**88**	P	Pn	05 47 51.6	0.0
ERIK	**Erikli-Kesan**	**1.37**	**13**	PN	Pn	05 47 53.2	+0.1
ERIK	**Erikli-Kesan**	**1.37**	**13**	*e*Pn	Pn	05 47 53.2	+0.1
ENEZ	**Enez**	**1.40**	**2**	PN	Pg	05 47 54.9	+0.4
KRBG	**Karabiga-Canak**	**1.40**	**41**	PN	Pn	05 47 53.6	0.0
KRBG	**Karabiga-Canak**	**1.40**	**41**	*e*Pn	Pn	05 47 53.6	0.0
BALB	**Balikesir**	**1.41**	**77**	PN	Pn	05 47 53.9	+0.2
BALB	**Balikesir**	**1.41**	**77**	*e*Pn	Pn	05 47 53.9	+0.2
AKHS	**Akhisar**	**1.41**	**108**	*i* P	Pn	05 47 53.1	-0.6
AKHS				*i* S	Sb	05 48 12.1	-0.3
AKHS	**Akhisar**	**1.41**	**108**	P	Pn	05 47 53.1	-0.6
GONE	**Gonen-Balikesi**	**1.41**	**60**	PN	Pg	05 47 54.7	-0.1
GONE	**Gonen-Balikesi**	**1.41**	**60**	*e*Pn	Pg	05 47 54.7	-0.1
KESN	**Edirne-Kesan**	**1.55**	**17**	*i* P	Pb	05 47 56.6	-0.3
KESN				*i* S	Sg	05 48 17.6	0.0
KESN	**Edirne-Kesan**	**1.55**	**17**	P	Pb	05 47 56.6	-0.3
KESN				S	Sg	05 48 17.5	-0.1
ALN	**Alexandroupoli**	**1.56**	**358**	PN	Pg	05 47 57.3	-0.3
RKY	**Sarkoy-Tekirda**	**1.58**	**31**	PN	Pb	05 47 56.9	-0.3
RKY	**Sarkoy-Tekirda**	**1.58**	**31**	*e*Pn	Pb	05 47 56.9	-0.3
EDC	**Edincik**	**1.69**	**53**	PN	Pn	05 47 58.3	+0.7
EDC	**Edincik**	**1.69**	**53**	*e*Pn	Pn	05 47 58.3	+0.7
AYDB	**Zeytinkoy-Aydi**	**1.98**	**134**	PN	Pb	05 48 03.0	-1.0
MANT	**Manisa**	**2.10**	**113**	*i* P	Pn	05 48 02.9	-0.5
MANT				*i* S	Sg	05 48 34.9	-0.2
MANT	**Manisa**	**2.10**	**113**	P	Pn	05 48 02.9	-0.5
MANT				S	Sg	05 48 34.9	-0.2

*CSEM **15** 05:47:49.7±0.1,38.69N×21.27E,h18km±1km, ML2.2, Error ellipse: s-maj=2.6km s-min=2.3km az=169.0*
*THE **15** 05:47:50.3,38.67N±21.29E,h20km±1km, ML2.2/9, Error ellipse: s-maj=1.3km s-min=0.5km az=207.0*
ATH 15 05:47:49.6,38.69N×21.28E,h24km±2km, ML2.1/15**, Error ellipse: s-maj=2.1km s-min=0.8km az=260.0, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDO	**Prodromos**	**0.12**	**220**	P	Pb	05 47 54.4	+0.1
PDO				S	Sb	05 47 57.4	-0.1
PDO				AML	AML	05 47 57.5	
	comp=E,13826μm,0.2s						
PDO				AML	AML	05 47 57.7	
	comp=N,10550μm,0.2s						
PDO	**Prodromos**	**0.12**	**220**	P	Pb	05 47 54.3	0.0
PDO				S	Sb	05 47 57.5	+0.1
PDO	**Prodromos**	**0.12**	**220**	P	Pb	05 47 54.3	0.0
PDO				S	Sb	05 47 57.5	+0.1
PVO	**Paravola**	**0.21**	**110**	P	Pb	05 47 55.3	0.0
PVO				S	Sb	05 47 58.3	-0.8
PVO				AML	AML	05 47 59.5	
	comp=N,2636μm,0.3s						
PVO				AML	AML	05 47 59.6	
	comp=E,2595μm,0.2s						
PVO	**Paravola**	**0.21**	**110**	P	Pb	05 47 55.3	0.0
PVO				S	Sb	05 47 59.3	+0.2
PVO	**Paravola**	**0.21**	**110**	P	Pb	05 47 55.1	-0.2
PVO				S	Sb	05 47 59.3	+0.2
DSL	**Palaion Diasel**	**0.47**	**342**	P	Pn	05 48 00.3	-0.6
DSL				S	Sb	05 48 06.7	+0.8
DSL				AML	AML	05 48 08.2	
	comp=N,846μm,0.3s						
DSL				AML	AML	05 48 09.4	
	comp=E,1358μm,0.3s						
DSL	**Palaion Diasel**	**0.47**	**342**	P	Pb	05 47 59.8	+0.5
DSL				S	Sb	05 48 06.5	+0.6
DSL	**Palaion Diasel**	**0.47**	**342**	P	Pb	05 47 59.8	+0.5
DSL				S	Sn	05 48 07.9	-0.5
EVR	**Evrytania**	**0.47**	**61**	P	Pb	05 47 58.7	-0.7
EVR				S	Sb	05 48 06.8	+0.8
EVR				AML	AML	05 48 07.8	
	comp=E,496μm,0.6s						
EVR				AML	AML	05 48 08.4	
	comp=N,566μm,0.4s						
EVR	**Evrytania**	**0.47**	**61**	P	Pb	05 47 59.1	-0.3
EVR				S	Sb	05 48 06.7	+0.6
EVR	**Evrytania**	**0.47**	**61**	P	Pb	05 47 59.1	-0.3
EVR	**Evrytania**	**0.47**	**61**	P	Pb	05 47 59.1	-0.3
EVR				S	Sb	05 48 07.2	+1.1
LKD2	**Lefkada island**	**0.50**	**282**	P	Pn	05 48 00.8	-0.5
LKD2				AML	AML	05 48 12.3	
	comp=N,366μm,0.4s						
LKD2				AML	AML	05 48 14.8	
	comp=E,328μm,0.3s						
LKD2	**Lefkada island**	**0.50**	**282**	P	Pb	05 48 00.0	+0.2
LKD2	**Lefkada island**	**0.50**	**282**	P	Pb	05 48 00.0	+0.2
ANX	**Ano Chora**	**0.51**	**100**	P	Pb	05 47 60.0	-0.1
ANX				S	Sn	05 48 08.9	-0.6
ANX				AML	AML	05 48 09.4	
	comp=N,547μm,0.4s						
ANX				AML	AML	05 48 09.5	
	comp=E,502μm,0.3s						
ANX	**Ano Chora**	**0.51**	**100**	P	Pb	05 47 59.9	-0.2
ANX				S	Sb	05 48 07.5	+0.4
ANX	**Ano Chora**	**0.51**	**100**	P	Pb	05 48 00.0	-0.1
ANX	**Ano Chora**	**0.51**	**100**	P	Pb	05 47 59.9	-0.2
ANX				S	Sb	05 48 07.5	+0.4
EFP	**Efpalio**	**0.56**	**118**	P	Pb	05 48 01.1	+0.4
EFP				S	Sb	05 48 08.7	+0.4
EFP				AML	AML	05 48 12.2	
	comp=N,531μm,0.3s						
EFP				AML	AML	05 48 12.7	
	comp=E,440μm,0.3s						
EFP	**Efpalio**	**0.56**	**118**	P	Pb	05 48 00.8	+0.1
EFP				S	Sb	05 48 08.9	+0.6
EFP	**Efpalio**	**0.56**	**118**	P	Pb	05 48 01.0	+0.3
EFP	**Efpalio**	**0.56**	**118**	P	Pb	05 48 00.8	+0.1
EFP				S	Sb	05 48 09.1	+0.8
RLS	**Riolos of Patr**	**0.65**	**167**	P	Pn	05 48 03.4	+0.1
RLS				S	Sn	05 48 12.5	-0.2
RLS	**Riolos of Patr**	**0.65**	**167**	P	Pn	05 48 02.9	-0.4
RLS				S	Sn	05 48 12.2	-0.5
SERG	**Sergoula**	**0.67**	**114**	P	Pb	05 48 03.1	+0.4
SERG				AML	AML	05 48 16.1	
	comp=E,264μm,0.2s						
SERG				AML	AML	05 48 16.8	
	comp=N,412μm,0.2s						
SERG	**Sergoula**	**0.67**	**114**	P	Pb	05 48 02.8	+0.1
SERG	**Sergoula**	**0.67**	**114**	P	Pb	05 48 02.8	+0.1
KFL	**Anninata**	**0.69**	**214**	P	Pb	05 48 02.7	-0.4
KFL	**Anninata**	**0.69**	**214**	P	Pb	05 48 03.1	0.0
KFL				S	Sn	05 48 13.5	-0.5
KFL	**Anninata**	**0.69**	**214**	P	Pb	05 48 03.1	0.0
KFL				S	Sn	05 48 13.5	-0.5
TRIZ	**Trizonia**	**0.70**	**117**	P	Pb	05 48 02.6	-0.6
TRIZ				S	Sn	05 48 14.9	+0.9
TRIZ	**Trizonia**	**0.70**	**117**	P	Pb	05 48 03.0	-0.2
TRIZ				S	Sn	05 48 14.2	+0.1
LAKA	**Lakka**	**0.71**	**129**	P	Pb	05 48 00.5	-2.9
LAKA				S	Sb	05 48 13.1	+0.5
LAKA	**Lakka**	**0.71**	**129**	P	Pb	05 48 02.0	-1.3
KALE	**Kalithea**	**0.74**	**113**	P	Pn	05 48 04.3	-0.3
KALE				S	Sn	05 48 15.2	+0.1
KALE				AML	AML	05 48 17.3	
	comp=N,174μm,0.2s						
KALE				AML	AML	05 48 17.6	
	comp=E,193μm,0.2s						
KALE	**Kalithea**	**0.74**	**113**	P	Pb	05 48 04.2	+0.4
KALE				S	Sb	05 48 14.0	+0.5
KALE	**Kalithea**	**0.74**	**113**	P	Pb	05 48 04.1	+0.3
KALE				S	Sb	05 48 14.0	+0.5
VLS	**Valsamata**	**0.74**	**227**	P	Pb	05 48 02.2	-1.7
VLS				S	Sn	05 48 14.9	-0.3
VLS				AML	AML	05 48 16.9	
	comp=N,263μm,0.1s						
VLS				AML	AML	05 48 16.9	
	comp=E,469μm,0.1s						
VLS	**Valsamata**	**0.74**	**227**	P	Pb	05 48 03.2	-0.7
VLS				S	Sn	05 48 14.9	-0.3
VLS	**Valsamata**	**0.74**	**227**	P	Pb	05 48 03.2	-0.7
VLS				S	Sn	05 48 15.5	+0.3
DRO	**Drossia**	**0.81**	**155**	P	Pb	05 48 05.2	+0.1
DRO				S	Sn	05 48 17.0	+0.2
DRO				AML	AML	05 48 20.6	
	comp=E,498μm,0.2s						
DRO				AML	AML	05 48 21.6	
	comp=N,632μm,0.3s						
DRO	**Drossia**	**0.81**	**155**	P	Pb	05 48 05.2	+0.2
DRO				S	Sn	05 48 16.9	+0.1
DRO	**Drossia**	**0.81**	**155**	P	Pn	05 48 05.3	-0.3
DRO	**Drossia**	**0.81**	**155**	P	Pb	05 48 05.2	+0.2
AGG	**Agios Georgios**	**0.89**	**68**	P	Pb	05 48 06.3	-0.1
AGG				S	Sn	05 48 20.8	+2.0
AGG				AML	AML	05 48 21.6	
	comp=E,579μm,0.3s						
AGG				AML	AML	05 48 22.2	
	comp=N,665μm,0.4s						
AGG	**Agios Georgios**	**0.89**	**68**	P	Pn	05 48 06.6	0.0
AGG				S	Sn	05 48 19.2	+0.5
AGG	**Agios Georgios**	**0.89**	**68**	P	Sn	05 48 20.1	+1.4
AGG	**Agios Georgios**	**0.89**	**68**	P	Pn	05 48 06.4	0.0
AGG				S	Sn	05 48 19.2	+0.5
KLV	**Kalavryta, Ach**	**0.94**	**133**	P	Pb	05 48 07.0	-0.3
KLV				S	Sn	05 48 23.8	+3.7
KLV				AML	AML	05 48 26.9	
	comp=E,49μm,0.3s						
KLV				AML	AML	05 48 27.2	
	comp=N,67μm,0.6s						
KLV	**Kalavryta, Ach**	**0.94**	**133**	P	Pn	05 48 07.4	0.0
KLV				S	Sn	05 48 22.4	+2.3
KLV	**Kalavryta, Ach**	**0.94**	**133**	P	Pn	05 48 07.7	+0.3
THL	**Klokotos Trika**	**1.05**	**33**	P	Pn	05 48 08.1	-0.7
THL				AML	AML	05 48 27.5	
	comp=N,58μm,0.7s						
THL				AML	AML	05 48 28.5	
	comp=E,49μm,0.4s						
THL	**Klokotos Trika**	**1.05**	**33**	P	Pn	05 48 08.9	+0.1
THL	**Klokotos Trika**	**1.05**	**33**	P	Pb	05 48 09.3	+0.3
GUR	**Goura**	**1.12**	**132**	P	Pn	05 48 10.1	+0.2
GUR				AML	AML	05 48 30.0	
	comp=N,298μm,0.4s						
GUR				AML	AML	05 48 34.1	
	comp=E,116μm,0.4s						
GUR	**Goura**	**1.12**	**132**	P	Pb	05 48 10.6	+0.2
GUR	**Goura**	**1.12**	**132**	P	Pb	05 48 10.6	+0.2

IDC 15 05:54:21.5±7.8,18.61S×178.62W,h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/49, mbtmp3.5/2, Error ellipse: s-maj=366.4km s-min=115.5km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.31**	**260**	P	P	06 02 34.5	+0.9
	0.2nm,0.3s,baz=94,slow=8.2,SNR=6.3						
ASAR	**Alice Springs**	**44.41**	**255**	P	P	06 02 33.3	-1.1
	0.7nm,0.9s,baz=79,slow=9.7,SNR=3.6						
AKASG	**Malin Array Be**	**141.09**	**332**	PKP	PKPdf	06 13 53.1	-0.6
	0.1nm,0.3s,baz=40,slow=8.3,SNR=4.6						

*IDC **15** 05:59:28.1±2.0,40.82N×145.60E,h0km,mb3.7/7, mb1 3.8/9,mb1mx3.5/74,mbtmp3.7/9,ML3.2/2,Error ellipse: s-maj=64.6km s-min=23.3km az=67.0*
*JMA **15** 05:59:30.0±0.2,40.74N×145.30E,h65km±4km,M3.7*
*ISCJB **15** 05:59:31.6±0.8,40.81N±0.04×145.12E±0.07,h33km, mb3.6/7, Error ellipse: s-maj=8.4km s-min=4.9km az=17.4*
ISC 15 05:59:33.1±1.2,40.76N±0.06×145.16E±0.08,h35km,n26, σ1.979/36**,mb3.5/7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.96**	**310**	P	**Pn**	**06 00 02.9**	**-1.0**
JAK	**Akkeshi**	**2.26**	**351**	P	**Pn**	**06 00 06.4**	**-1.6**
JAK				*e*S	**Sn**	**06 00 32.6**	**-2.1**
JCH	**Churui**	**2.29**	**325**	P	**Pn**	**06 00 07.3**	**-1.1**
JCH				S	**Sn**	**06 00 33.4**	**-2.0**
JOB	**Onbets**	**2.36**	**336**	P	**Pn**	**06 00 08.8**	**-0.6**
JOB				*e*S	**Sn**	**06 00 36.0**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.36**	**311**	P	**Pn**	**06 00 09.2**	**-0.2**
NEM2	**Nemuro 2**	**2.64**	**9**	P	**Pn**	**06 00 11.8**	**-1.4**
NEM2				S	**Sn**	**06 00 41.2**	**-2.8**
JAR	**Ashorobuto**	**2.74**	**338**	P	**Pn**	**06 00 13.0**	**-1.6**
JAR				*e*S	**Sn**	**06 00 45.1**	**-1.4**
JANG	**Nango**	**2.80**	**263**	P	**Pn**	**06 00 13.6**	**-1.9**
JANG				*e*S	**Sn**	**06 00 45.0**	**-3.1**
JNK	**Nakash**	**2.84**	**354**	P	**Pn**	**06 00 14.0**	**-2.0**
JNK				S	**Sn**	**06 00 44.9**	**-4.1**
JBT2	**Biratori 2**	**2.91**	**315**	P	**Pn**	**06 00 17.2**	**+0.3**
JBT2				*e*S	**Sn**	**06 00 50.9**	**+0.3**
JFR	**Furan**	**3.07**	**322**	P	**Pn**	**06 00 18.3**	**-0.9**
JFR				*e*S	**Sn**	**06 00 52.6**	**-2.1**
JOT	**Ohata**	**3.17**	**283**	P	**Pn**	**06 00 19.3**	**-1.2**
JOT				*e*S	**Sn**	**06 00 53.9**	**-3.2**
JRA	**Rausu**	**3.18**	**359**	*e*S	**Sn**	**06 00 54.9**	**-2.3**
JOM	**Ohasama**	**3.23**	**248**	P	**Pn**	**06 00 20.3**	**-1.1**
JTKR	**Abashiri--Toko**	**3.34**	**344**	P	**Pn**	**06 00 22.6**	**-0.2**
JTKR				*e*S	**Sn**	**06 01 00.2**	**-1.1**
JEW	**Eniwo**	**3.47**	**308**	P	**Pn**	**06 00 24.9**	**+0.3**
JMK	**Ichinoseki**	**3.53**	**241**	P	**Pn**	**06 00 24.3**	**-1.1**
ASAJ	**Asahikawa**	**3.85**	**331**	Pn	**Pn**	**06 00 29.2**	**-0.7**
	2.9nm,0.3s,baz=232,slow=29,SNR=7.2						
ASAJ					Sn	**Sn**	**06 01 16.9**	**+3.0**
	1.3nm,0.3s,baz=319,slow=20,SNR=3.2						
USRK	**Usuriysk Ar.**	**10.32**	**294**	Pn	**Pn**	**06 01 59.9**	**+1.3**
	0.2nm,0.3s,baz=100,slow=14,SNR=6.0						
SONM	**Songino Array**	**28.40**	**298**	P	P	06 05 28.5	+4.2
	1.2nm,0.9s,baz=88,slow=8.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**41.69**	**309**	P	P	06 07 21.5	+3.4
	0.3nm,0.3s,baz=90,slow=7.2,SNR=2.6						
MKAR	**Makanchi Array**	**44.72**	**300**	P	**P**	**06 07 43.7**	**+0.9**
	0.2nm,0.7s,baz=72,slow=6.7,SNR=

*IDC **15** 06:17:05.0±0.9,32˚.07N×55˚.66E,h0km,mb3.8/16, mb1 3.9/21,mb1mx3.8/71,mbtmp3.9/21,ML3.9/5,MS3.4/14, Ms1 3.4/14,ms1mx3.1/65,Error ellipse: s-maj=19.4km s-min=13.8km az=138.0*

*CSEM **15** 06:17:06.9±0.1,32˚.09N×55˚.75E,h10km,mb4.3/10,Error ellipse: s-maj=5.4km s-min=4.5km az=166.0*

*THR **15** 06:17:06.0±0.4,32˚.17N×55˚.80E,h14km±6km, ML4.6*

*NEIC **15** 06:17:07.0±0.0,32˚.09N×55˚.00E,h8km,mb4.5/10, ML4.6(THR),MN4.5(TEH),After TEH.*

*MOS **15** 06:17:07.0±1.4,31˚.90N×55˚.76E,h33km,mb4.1/8,Error ellipse: s-maj=8.2km s-min=6.4km az=98.9*

*TEH **15** 06:17:07.1,32˚.09N×55˚.71E,h8km,ML4.5*

*DSN **15** 06:17:08.4±0.0,32˚.18N×55˚.76E,h35km,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 15 06:17:06.5±0.4,32˚.08N±0˚.03×55˚.77E±0˚.03,h10km,n150, σ1°67/152,mb4.0/26,MS3.5/7,5C-2D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.52**	**200**	*e*Sg	**Sg**	**06 17 23.0**	**-0.4**
IBAF				*e*AMB	AMB	06 17 24.3	
	comp=Z,68μm,0.1s						
IBAF	**Bafgh**	**0.52**	**200**	*e*Sg	**Sg**	**06 17 23.0**	**-0.4**
ICHK	**Chekchek**	**1.17**	**279**	*e*Pg	**Pb**	**06 17 27.0**	**-2.0**
ICHK				*e*Sg	**Sg**	**06 17 41.6**	**-2.6**
ICHK				*e*AMB	AMB	06 17 45.2	
	comp=Z,100μm,0.1s						
ICHK	**Chekchek**	**1.17**	**279**	*e*Pg	**Pb**	**06 17 27.0**	**-2.0**
ICHK				*e*Sg	**Sg**	**06 17 41.6**	**-2.6**
IMEH	**Mehriz**	**1.20**	**236**	*e*Pg	**Pb**	**06 17 28.6**	**-0.9**
IMEH				*e*AMB	AMB	06 17 45.6	
	comp=Z,90μm,0.1s						
IMEH	**Mehriz**	**1.20**	**236**	*e*Pg	**Pb**	**06 17 28.6**	**-0.9**
ISAD	**Sadrabad**	**1.78**	**265**	*e*Pn	**Pn**	**06 17 37.9**	**+0.3**
ISAD				*e*AMB	AMB	06 18 03.6	
	comp=Z,18μm,0.1s						
ISAD	**Sadrabad**	**1.78**	**265**	*e*Pn	**Pn**	**06 17 37.9**	**+0.3**
KHGB	**Koh Gabri**	**1.80**	**160**	*e*Pn	**Pb**	**06 17 39.6**	**-0.1**
KHGB	**Koh Gabri**	**1.80**	**160**	*e*Pn	**Pb**	**06 17 39.6**	**-0.1**
TABS	**Tabas**	**1.94**	**36**	*e*Pn	**Pn**	**06 17 39.2**	**-0.4**
TABS				*e*Sg	**Sn**	**06 18 04.3**	**+0.3**
TABS	**Tabas**	**1.94**	**36**	*e*Pg	**Pn**	**06 17 39.5**	**-0.1**
TABS				*e*Sg	**Sn**	**06 18 04.3**	**+0.3**
TABS				AML	AML	06 18 13.4	
	comp=N,5μm,0.7s						
KRBR	**Kerman**	**2.25**	**158**	*e*Pn	**Pb**	**06 17 46.3**	**-1.2**
KRBR	**Kerman**	**2.25**	**158**	*e*Pn	**Pb**	**06 17 46.3**	**-1.2**
NASN	**Na'in**	**2.61**	**287**	*e*Pn	**Pn**	**06 17 50.0**	**+1.0**
NASN	**Na'in**	**2.61**	**287**	*e*Pn	**Pn**	**06 17 50.0**	**+1.0**
NASN				AML	AML	06 18 28.9	
	comp=N,4μm,0.4s						
NASN				AML	AML	06 18 29.6	
	comp=E,3μm,0.4s						
ITEG	**Tejag**	**2.65**	**71**	*e*Pn	**Pn**	**06 17 50.1**	**+0.6**
ITEG				*e*AMB	AMB	06 18 36.4	
	comp=Z,17μm,0.2s						
ITEG	**Tejag**	**2.65**	**71**	*e*Pn	**Pn**	**06 17 50.1**	**+0.6**
IKOO	**Kooshah**	**2.76**	**82**	*e*Pn	**Pn**	**06 17 51.7**	**+0.6**
IKOO				*e*AMB	AMB	06 18 44.1	
	comp=Z,16μm,0.2s						
IKOO	**Kooshah**	**2.76**	**82**	*e*Pn	**Pn**	**06 17 51.7**	**+0.6**
IMON	**Monand**	**3.47**	**70**	*e*Pn	**Pn**	**06 18 02.1**	**+1.3**
IMON				*e*AMB	AMB	06 19 06.5	
	comp=Z,5μm,0.2s						
IMON	**Monand**	**3.47**	**70**	*e*Pn	**Pn**	**06 18 02.1**	**+1.3**
IDAH	**Dahanechah**	**3.53**	**78**	*e*Pn	**Pn**	**06 18 02.8**	**+1.2**
IDAH				*e*AMB	AMB	06 19 11.3	
	comp=Z,7μm,0.5s						
IDAH	**Dahanechah**	**3.53**	**78**	*e*Pn	**Pn**	**06 18 02.8**	**+1.2**
SHRO	**Shahrood**	**3.91**	**3**	*e*Pn	**Pn**	**06 18 06.6**	**-0.1**
SHRO	**Shahrood**	**3.91**	**3**	*e*Pn	**Pn**	**06 18 06.6**	**-0.1**
GHVR	**GHOM**	**4.45**	**304**	*e*Pn	**Pn**	**06 18 15.2**	**+1.1**
GHVR	**GHOM**	**4.45**	**304**	*e*Pn	**Pn**	**06 18 15.2**	**+1.1**
GHVR				AML	AML	06 19 34.9	
	comp=E,708nm,0.6s						
GHVR				AML	AML	06 19 46.9	
	comp=N,275nm,0.6s						
GHIR	**Ghir-Karzin**	**4.48**	**213**	*e*Pn	**Pn**	**06 18 16.7**	**+2.1**
GHIR	**Ghir-Karzin**	**4.48**	**213**	*e*Pn	**Pn**	**06 18 16.7**	**+2.1**
DAMV	**Damavand**	**4.75**	**319**	*e*Pn	**Pn**	**06 18 18.8**	**+0.3**
DAMV	**Damavand**	**4.75**	**319**	*e*Pn	**Pn**	**06 18 18.8**	**+0.3**
KHMZ	**Khomeyn**	**5.16**	**290**	*e*Pn	**Pn**	**06 18 25.1**	**+1.0**
KHMZ	**Khomeyn**	**5.16**	**290**	*e*Pn	**Pn**	**06 18 25.1**	**+1.0**
ASAO	**Ashtian**	**5.41**	**299**	*e*Pn	**Pn**	**06 18 28.2**	**+0.8**
ASAO	**Ashtian**	**5.41**	**299**	*e*Pn	**Pn**	**06 18 28.2**	**+0.8**
CHTH	**Charan**	**5.43**	**316**	*e*Pn	**Pn**	**06 18 28.1**	**+0.3**
CHTH	**Charan**	**5.43**	**316**	*e*Pn	**Pn**	**06 18 28.1**	**+0.3**
GEYT	**Alibeck**	**6.15**	**18**	Pn	**Pn**	**06 18 38.2**	**+0.8**
	comp=N,5.0nm,0.3s,baz=191,slow=14,SNR=36						
GEYT				Lg	Lg	06 20 21.1	
	comp=N,2.0nm,0.3s,baz=209,slow=26,SNR=2.7						
GEYT				LR	LR	06 21 17.2	
	comp=N,246nm,18.1s,baz=325,slow=41						
BANOM	**Banah**	**6.15**	**176**	P	**Pn**	**06 18 39.2**	**+1.8**
MSFE	**Esma-Masafi** SNR=10	**6.70**	**177**	*i* P	**Pn**	**06 18 46.6**	**+1.5**
NAZ	**Nazwa, Dubai**	**7.06**	**181**	P	**Pn**	**06 18 51.3**	**+1.3**
UOSS	**Minazif**	**7.12**	**177**	*e*Pn	**Pn**	**06 18 51.2**	**+0.5**
UOSS	**Minazif**	**7.12**	**177**	*e*Pn	**Pn**	**06 18 51.2**	**+0.5**
UOSS	**Minazif** SNR=11	**7.12**	**177**	*i* P	**Pn**	**06 18 51.3**	**+0.5**
HATD	**Hatta, Dubai**	**7.23**	**177**	P	**Pn**	**06 18 52.9**	**+0.5**
ASHO	**Ashiyiah** SNR=14	**7.37**	**178**	*i* P	**Pn**	**06 18 55.1**	**+0.8**
WSAR	**Wadi Sarin**	**9.16**	**163**	Pn	**Pn**	**06 19 19.5**	**+0.7**
	comp=N,0.3nm,0.3s,baz=4.1,slow=14,SNR=3.7						
KBL	**Kabul**	**11.37**	**74**	*e*P	**Pn**	**06 19 49.4**	**+0.1**
KBL	**Kabul**	**11.37**	**74**	*e*Pn	**Pn**	**06 19 49.4**	**+0.1**
KBL	**Kabul**	**11.37**	**74**	*e*P	**Pn**	**06 19 49.4**	**+0.1**
GNI	**Garni**	**12.01**	**315**	LR	LR	06 24 50.0	
	comp=N,229nm,18.7s,baz=107,slow=39						
GNI	**Garni**	**12.01**	**315**	*e*P	**Pn**	**06 20 02.2**	**+4.3**
GNI	**Garni**	**12.01**	**315**	*e*Pn	**Pn**	**06 20 02.2**	**+4.3**
GNI	**Garni**	**12.01**	**315**	*e*Pn	**Pn**	**06 20 02.2**	**+4.3**
RAYN	**Ar Rayn**	**12.45**	**229**	P	**Pn**	**06 20 04.9**	**+1.0**
RAYN	**Ar Rayn**	**12.45**	**229**	*e*Pn	**Pn**	**06 20 04.9**	**+1.0**
RAYN	**Ar Rayn**	**12.45**	**229**	P	**Pn**	**06 20 04.9**	**+1.0**
MAK	**Makhachkala**	**12.68**	**331**	*e*P	**Pn**	**06 20 08.8**	**+1.9**
MAK				*e*S	**Sn**	**06 22 31.3**	**+3.1**
MAK				pmax	pmax		
	comp=Z,126nm,1.1s						
MAK				MLR	MLR		
	comp=Z,135nm,20.0s						
MAK	**Makhachkala**	**12.68**	**331**	*e*P	**Pn**	**06 20 08.8**	**+1.9**
	comp=Z,126nm,1.1s						
NEY	**Neytrino**	**15.18**	**321⇑**	*e*P	**Pn**	**06 20 43.9**	**+2.8**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KIV	**Kislovodsk**	**15.69**	**323**	*e*P	**Pn**	**06 20 48.4**	**+0.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,32nm,11.0s						
ASF	**Jabal al Asfar**	**15.99**	**275**	Pn	**Pn**	**06 20 48.8**	**-2.9**
	comp=Z,1.5nm,0.3s,baz=42,slow=18,SNR=7.7						
KKAR	**Karatay Array**	**16.03**	**42**	*e*P	**Pn**	**06 20 50.4**	**-1.6**
KKAR	**Karatay Array**	**16.03**	**42**	*e*Pn	**Pn**	**06 20 50.4**	**-1.6**
KKAR	**Karatay Array**	**16.03**	**42**	*e*Pn	**Pn**	**06 20 50.4**	**-1.6**
MMAI	**Mount Meron Ar**	**17.20**	**279**	LR	LR	06 29 54.2	
	comp=Z,29nm,19.5s,baz=210,slow=45						
ABKAR	**Akbulak array**	**17.45**	**9**	*e*Pn	**Pn**	**06 21 10.5**	**+0.6**
	comp=Z,42nm,0.6s						
ABKAR	**Akbulak array**	**17.45**	**9**	*e*Pn	**Pn**	**06 21 10.5**	**+0.6**
	comp=Z,42nm,0.6s						
KSH	**Kashi**	**17.97**	**60**	P	**Pn**	**06 21 13.0**	**-3.6**
KSH				sP	pP	06 21 20.1	+0.2
KSH				PP	**PnPn**	**06 21 27.8**	**+0.4**
KSH				S	**Sn**	**06 24 27.1**	**-10**
KSH				sS	S	06 24 33.3	-10
EIL	**Elat**	**18.03**	**268**	LR	LR	06 29 48.7	
	comp=Z,143nm,18.6s,baz=81,slow=43						
AAK	**Ala-Archa**	**18.20**	**49**	LR	LR	06 29 32.1	
	comp=Z,175nm,18.0s,baz=248,slow=41						
AAK	**Ala-Archa**	**18.20**	**49⇑**	*e*P	**P**	**06 21 21.4**	**+1.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**18.20**	**49**	*e*Pn	**Pn**	**06 21 18.3**	**-1.1**
	comp=Z,8.1nm,1.2s						
AAK	**Ala-Archa**	**18.20**	**49**	*e*Pn	**Pn**	**06 21 18.3**	**-1.1**
	comp=Z,8.1nm,1.2s						
AAK	**Ala-Archa**	**18.20**	**49**	*e*P	**P**	**06 21 21.4**	**+1.7**
	comp=Z,2.0nm,0.9s						
FRU	**Bishkek**	**18.38**	**49**	*e*P	**P**	06 21 30.0	+8.5
AKTK	**Aktyubinsk**	**18.42**	**5**	P	**P**	**06 21 21.8**	**0.0**
AKTO	**Aktyubinsk**	**18.42**	**5**	P	**P**	**06 21 21.8**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=180,slow=12,SNR=9.9						
AKTO				LR	LR	06 29 11.2	
	comp=Z,74nm,18.9s,baz=174,slow=39						
NRN	**Naryn**	**18.67**	**54**	P	**P**	**06 21 25.5**	**+0.5**
NRN	**Naryn**	**18.67**	**54**	P	**P**	**06 21 25.5**	**+0.5**
ANN	**Anapa**	**19.12**	**317**	*e*P	**P**	**06 21 30.0**	**+0.4**
ANN				*e*S	**S**	**06 25 09.9**	**+3.6**
ANN				pmax	pmax		
	comp=Z,33nm,1.0s						
ANN	**Anapa**	**19.12**	**317**	*e*P	**P**	**06 21 30.0**	**+0.4**
	comp=Z,33nm,1.0s						
BR131	**Keskin Array S**	**19.46**	**299**	*e*P	**Pn**	**06 21 35.9**	**+1.3**
BR131	**Keskin Array S**	**19.46**	**299**	*e*P	**Pn**	**06 21 35.9**	**+1.3**
BRTR	**Keskin Array B**	**19.46**	**299**	P	**P**	**06 21 33.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=119,slow=14,SNR=5.2						
BRTR				LR	LR	06 29 51.0	
	comp=Z,124nm,18.5s,baz=98,slow=40						
KDJ	**Kajisay**	**19.76**	**53**	P	**Pn**	**06 21 38.3**	**0.0**
KDJ	**Kajisay**	**19.76**	**53**	P	**Pn**	**06 21 38.3**	**0.0**
BRVK	**Borovoye**	**23.45**	**22⇑**	*e*P	**P**	**06 22 16.8**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	**Borovoye**	**23.45**	**22**	*e*P	**P**	**06 22 17.6**	**+1.7**
	comp=Z,20nm,1.6s						
BVAR	**Borovoye Array**	**23.45**	**23**	P	**P**	**06 22 17.7**	**+1.8**
	comp=Z,5.0nm,0.9s,baz=212,slow=7.4,SNR=12						
ARU	**Arti**	**24.43**	**4**	*c i*P	**P**	**06 22 26.0**	**+0.9**
ARU				S	**S**	**06 26 49.4**	**+4.7**
ARU				SS	**SnSn**	**06 27 32.9**	**+4.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s						
MAKZ	**Makanchi**	**24.87**	**46**	*e*P	**P**	**06 22 30.0**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MAKZ	**Makanchi**	**24.87**	**46**	*e*P	**P**	**06 22 30.0**	**+0.7**
	comp=Z,7.7nm,1.4s						
MAKZ	**Makanchi**	**24.87**	**46**	*e*P	**P**	**06 22 30.0**	**+0.7**
	comp=Z,7.7nm,1.4s						
KURBB	**Kurchatov Arra**	**25.04**	**36**	P	**P**	**06 22 31.5**	**+0.8**
	comp=Z,0.4nm,0.2s,baz=237,slow=9.0,SNR=9.8						
MK01	**Makanchi Array**	**25.05**	**46**	*e*P	**P**	**06 22 31.2**	**+0.3**
MK01	**Makanchi Array**	**25.05**	**46**	*e*P	**P**	**06 22 31.2**	**+0.3**
MK31	**Makanchi Array**	**25.05**	**46**	*e*P	**P**	**06 22 31.2**	**+0.3**
MK31	**Makanchi Array**	**25.05**	**46**	*e*P	**P**	**06 22 31.2**	**+0.3**
MK31	**Makanchi Array**	**25.05**	**46**	*e*P	**P**	**06 22 31.2**	**+0.3**
MKAR	**Makanchi Array**	**25.05**	**46**	P	**P**	**06 22 31.1**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=230,slow=7.5,SNR=8.3						
MKAR	**Makanchi Array**	**25.05**	**46**	*e*P	**P**	**06 22 31.2**	**+0.2**
	comp=Z,10nm,0.8s						
MKAR	**Makanchi Array**	**25.05**	**46**	*e*P	**P**	**06 22 31.2**	**+0.2**
	comp=Z,10nm,0.8s						
KURK	**Kurchatov**	**25.14**	**36**	*i*P	**P**	**06 22 32.6**	**+1.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
KURK	**Kurchatov**	**25.14**	**36**	*e*P	**P**	**06 22 32.6**	**+1.0**
	comp=Z,8.2nm,0.9s						
KURK	**Kurchatov**	**25.14**	**36**	*e*P	**P**	**06 22 32.6**	**+1.0**
	comp=Z,8.2nm,0.9s						
MLR	**Muntele Rosu**	**26.66**	**309**	P	**P**	**06 22 46.6**	**+1.0**
	comp=Z,5.5nm,0.5s,baz=126,slow=14,SNR=2.6						
OBN	**Obninsk**	**26.73**	**335**	*e*P	**P**	**06 22 46.4**	**+0.5**
OBN				*e*		06 23 29.0	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**26.73**	**335**	*e*P	**P**	**06 22 46.4**	**+0.5**
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**27.03**	**321**	P	**P**	**06 22 48.3**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=126,slow=8.9,SNR=5.6						
AKBB	**Malin Array Si**	**27.03**	**321**	*e*P	**P**	**06 22 49.1**	**+0.4**
AKBB				pmax	pmax		
	comp=Z,22nm,1.8s						
AKBB	**Malin Array Si**	**27.03**	**321**	*e*P	**P**	**06 22 49.1**	**+0.4**
	comp=Z,22nm,1.8s						
AKBB	**Malin Array Si**	**27.03**	**321**	*e*P	**P**	**06 22 49.1**	**+0.4**
	comp=Z,22nm,1.8s						
KIEV	**Kiev**	**27.03**	**321⇑**	*e*P	**P**	**06 22 48.4**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KIEV	**Kiev**	**27.03**	**321**	*e*P	**P**	**06 22 49.4**	**+0.7**
	comp=Z,20nm,1.7s						
KIEV	**Kiev**	**27.03**	**321**	*e*P	**P**	**06 22 49.4**	**+0.7**
	comp=Z,20nm,1.7s						
AK11	**Malin Array Si**	**27.04**	**321**	*e*P	**P**	**06 22 49.4**	**+0.6**
WMQ	**Urumqi**	**27.60**	**56**	P	**P**	**06 22 54.5**	**+0.5**
WMQ				sP	sP	06 23 01.5	+3.2
ZALV	**Zalesovo Beam**	**30.12**	**35**	P	**P**	**06 23 16.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=236,slow=10,SNR=2.5						
ZALV				LR	LR	06 36 13.3	
	comp=Z,52nm,18.7s,baz=242,slow=38						
ZALV	**Zalesovo Beam**	**30.12**	**35**	*e*P	**P**	**06 23 16.4**	**+0.2**
SUW	**Suwalki**	**31.92**	**323**	*e*P	**P**	**06 23 34.5**	**+2.5**
SUW				pmax	pmax		
	comp=Z,113nm,2.0s						
SUW	**Suwalki**	**31.92**	**323**	*e*P	**P**	**06 23 34.5**	**+2.5**
	comp=Z,113nm,2.0s						
OJC	**Ojcow**	**32.18**	**315**	*e*P	**P**	**06 23 36.4**	**+2.0**
OJC				pmax	pmax		
	comp=Z,21nm,1.6s						
OJC	**Ojcow**	**32.18**	**315**	*e*P	**P**	**06 23 36.4**	**+2.0**
	comp=Z,21nm,1.6s						
OJC	**Ojcow**	**32.18**	**315**	*e*P	**P**	**06 23 36.4**	**+2.0**
	comp=Z,21nm,1.6s						
PALK	**Pallekele**	**33.88**	**131**	*e*P	**P**	**06 23 47.4**	**-2.3**
PALK	**Pallekele**	**33.88**	**131**	*e*P	**P**	**06 23 47.4**	**-2.3**
	comp=Z,17nm,1.1s						
FINES	**FINESS Array B**	**35.13**	**336**	P	**P**	**06 23 59.4**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=280,slow=3.5,SNR=3.8						
GEA0	**GERESS Array S**	**35.60**	**310**	*e*P	**P**	**06 24 03.6**	**-0.7**
GEA0	**GERESS Array S**	**35.60**	**310**	*e*P	**P**	**06 24 03.6**	**-0.7**
GERES	**GERESS Array B**	**35.60**	**311**	P	**P**	**06 24 03.2**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=97,slow=11,SNR=6.7						
GERES				LR	LR	06 42 57.6	
	comp=Z,58nm,18.3s,baz=37,slow=44						
GTA	**Gaotai**	**36.20**	**66**	*e*P	**P**	**06 24 11.1**	**+1.5**
GTA				pP	sP	06 24 15.6	+1.7
GTA				sP	pP	06 24 18.1	+5.4
GTA				S	**S**	**06 29 51.4**	**+1.6**
CLL	**Collm**	**36.62**	**314**	*e*P	P	06 24 21.0	+8.2
HFS	**Hagfors**	**39.38**	**328**	P	**P**	**06 24 35.7**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=96,slow=13,SNR=2.6						
NOA	**NORSAR Array B**	**40.88**	**329**	P	**P**	**06 24 47.6**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=108,slow=7.3,SNR=2.9						
CMAR	**Chiang Mai Arr**	**41.06**	**99**	LR	LR	06 43 34.2	
	comp=Z,31nm,19.8s,baz=180,slow=39						
CMAR	**Chiang Mai Arr**	**41.06**	**99**	*i* P	**P**	**06 24 47.7**	**-2.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**41.12**	**52**	P	**P**	**06 24 51.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=249,slow=7.1,SNR=2.6						
SONM				LR	LR	06 42 48.7	
	comp=Z,59nm,18.1s,baz=13,slow=38						
KMI	**Kunming**	**41.56**	**87**	P	**P**	**06 24 53.8**	**-1.0**
HHC	**Hu-ho-hao-te**	**45.06**	**62**	*e*P	**P**	**06 25 24.1**	**+1.4**
EKA	**Eskdalemuir Ar**	**46.84**	**318**	P	**P**	**06 25 35.2**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=114,slow=7.1,SNR=3.2						
PSI	**Prapat**	**49.89**	**117**	LR	LR	06 48 09.8	
	comp=Z,87nm,19.2s,baz=178,slow=37						
TOA0	**Torodi Ar. Sit**	**52.80**	**262**	*e*P	**P**	**06 26 21.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**52.80**	**262**	P	**P**	**06 26 20.7**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=54,slow=7.6,SNR=8.8						
TORD				LR	LR	06 51 34.9	
	comp=Z,91nm,20.4s,baz=260,slow=39						
KOWA	**Kowa**	**56.96**	**267**	P	**P**	**06 26 52.4**	**0.0**
	comp=Z,1.2nm,0.6s,baz=64,slow=11,SNR=3.0						
KSRS	**Korea Array**	**58.19**	**63**	LR	LR	06 54 42.5	
	comp=Z,38nm,18.1s,baz=210,slow=39						
MATP	**Matopo**	**58.38**	**210**	P	**P**	**06 27 02.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=37,slow=8.7,SNR=4.6						
SEY	**Seymchan**	**64.83**	**30⇓**	*e*P	**P**	**06 27 45.5**	**+0.2**
YKA	**Yellowknife Ar**	**85.44**	**356**	P	**P**	**06 29 43.1**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=5.4,slow=4.8,SNR=5.3						

*ISCJB **15** 06:30:33.6±0.4,33˚.23N±0˚.02×116˚.10W±0˚.02,h10km±3km, Error ellipse: s-maj=2.7km s-min=2.6km az=139.6*

*NEIC **15** 06:30:34.3±0.0,33˚.23N×116˚.10W,h14km,ML3.4(PAS), After PAS.*

NEIC Felt [IV] at Thermal. Also felt at Borrego Springs, Chula Vista, El Cajon, Indian Wells, Irvine, Julian, Lakeside, Newport Beach, Oceanside, Palm Springs, Pine Valley, Riverside, San Clemente, San Diego and Santa Ana. Felt at Yuma, Arizona.

*ECX **15** 06:30:35.1±0.6,33˚.21N×116˚.13W,h14km±3km, ML3.5*

ISC 15 06:30:32.3±1.0,33˚.25N±0˚.02×116˚.09W±0˚.02,h14km±9km, n55,σ0°84/81,4C-3D,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.26**	**121**	*e*Pg	**Pb**	**06 30 40.3**	**+1.5**
BORC	**Borrego Spring**	**0.28**	**274**	Pg	**Pb**	**06 30 39.6**	**+0.4**
BATC	**Bat Cave Butte**	**0.29**	**45**	Pg	**Pn**	**06 30 41.0**	**-1.3**
CBKC	**Canebrake**	**0.38**	**201**	Pg	**Pb**	**06 30 41.0**	**+0.2**
CBKC	**Canebrake**	**0.38**	**201**	*i*P	**Pb**	**06 30 41.0**	**+0.2**
CRR	**Carrizo Plain**	**0.38**	**165**	*e*Pg	**Pb**	**06 30 41.5**	**+0.6**
CRR	**Carrizo Plain**	**0.38**	**165**	*i*P	**Pb**	**06 30 41.5**	**+0.6**
SWSC	**Sam W. Stewart** baz=318,SNR=289	**0.39**	**141**	P	**Pb**	**06 30 41.8**	**+0.7**
SWSC				S	**Sb**	**06 30 47.2**	**+0.2**
	baz=318						
SWSC	**Sam W. Stewart**	**0.39**	**141**	*e*Pg	**Pb**	**06 30 41.8**	**+0.7**
MONP2	**Monument Peak** baz=38,SNR=172	**0.46**	**218**	P	**Pb**	**06 30 42.7**	**+0.4**
MONP2				S	**Sg**	**06 30 48.4**	**+0.8**
	baz=38						
PFO	**Pinyon Flats O** baz=142,SNR=109	**0.47**	**319**	P	**Pb**	**06 30 43.3**	**+0.7**
PFO				S	**Sb**	**06 30 49.8**	**+0.2**
	baz=142						
PFO	**Pinyon Flats O**	**0.47**	**319**	*e*Pg	**Pb**	**06 30 43.2**	**+0.6**
PFO				*e*Sg	**Sb**	**06 30 49.5**	**0.0**
WESC	**Westside Schoo**	**0.57**	**148**	*e*P	**Pb**	**06 30 44.9**	**+0.7**
IKP	**In-Ko-Pah, Jac** baz=0.2,SNR=137	**0.60**	**182**	P	**Pb**	**06 30 45.1**	**+0.4**
IKP				S	**Sb**	**06 30 53.1**	**+0.1**
	baz=0.2						
IKP	**In-Ko-Pah, Jac**	**0.60**	**182**	*e*P	**Pb**	**06 30 45.1**	**+0.4**
IKP				*e*S	**Sb**	**06 30 53.2**	**+0.1**
RMX	**La Rumorosa**	**0.65**	**179**	*e*P	**Pn**	**06 30 46.9**	**-0.4**
RMX				IAML		06 30 55.0	
	comp=E,2μm,0.2s						
RMX				*e*S	**Sb**	**06 30 56.1**	**+1.6**
BC3	**Big Chuckawall** baz=232,SNR=546	**0.67**	**53**	P	**Pn**	**06 30 47.0**	**-0.6**
BC3				S	**Sn**	**06 30 56.4**	**-1.5**
	baz=232						
DREC	**Desert Rsrch C**	**0.70**	**129**	*e*P	**Pn**	**06 30 47.3**	**-0.5**
BAR	**Barrett**	**0.75**	**221**	*e*Pg	**Pb**	**06 30 47.6**	**+0.4**
BAR				*e*Sg	**Sg**	**06 30 56.9**	**+0.1**
BAR	**Barrett**	**0.75**	**221⇑**	*e*P	**Pb**	**06 30 47.7**	**+0.4**
BAR				*e*S	**Sg**	**06 30 57.1**	**+0.3**
BELC	**Belle Mtn. Jos** baz=187,SNR=475	**0.75**	**6**	P	**Pn**	**06 30 48.6**	**-0.1**
BELC				S	**Sn**	**06 30 58.8**	**-1.3**
	baz=187						
SDRC	**San Diego Road**	**0.88**	**235⇑**	*e*P	**Pb**	**06 30 49.8**	**+0.3**
109C	**Camp Elliot, M** baz=68,SNR=227	**0.93**	**247**	P	**Pg**	**06 30 50.5**	**+0.2**
109C				S	**Sg**	**06 31 02.4**	**0.0**
	baz=68						
TJIG	**Tijuana**	**0.95**	**211**	*e*P	**Pg**	**06 30 50.5**	**-0.2**
MURC	**Murrieta** baz=112,SNR=148	**0.99**	**291**	P	**Pg**	**06 30 51.3**	**-0.2**
MURC				Sb	**Sb**	**06 31 05.1**	**+0.9**
	baz=112						
CBX	**Cerro Bola**	**1.05**	**208**	*e*P	**Pg**	**06 30 52.7**	**0.0**
CBX				IAML		06 31 08.0	
	comp=E,2μm,0.5s						
CBX				⇑*e*		06 31 08.0	
CPBX	**Cerro Prieto**	**1.06**	**141**	*e*S	**Sn**	**06 31 07.6**	**+0.2**
GLA	**Glamis** baz=280,SNR=82	**1.08**	**100**	P	**Pg**	**06

	baz=143							
PFO				S		Sg	06 31 38.6	-0.3
	baz=143							
PFO	**Pinyon Flats O**	**0.48**	**322**	*e*Pg		**Pg**	**06 31 32.2**	**-0.3**
PFO				*e*Sg		**Sg**	**06 31 38.5**	**-0.4**
CTW	**Cottonwood Mou**	**0.48**	**24**	*e*Pg		**Pg**	**06 31 32.4**	**-0.1**
FRD	**Ford Ranch, An**	**0.49**	**302**	*e*Pg		**Pg**	**06 31 32.7**	**+0.1**
CLIC	**Calipatria**	**0.49**	**101**	*e*Pg		**Pg**	**06 31 32.9**	**+0.2**
DNR	**Dunn Ranch,Anz**	**0.55**	**307**	*e*Pg		**Pg**	**06 31 34.0**	**+0.2**
DNR				*e*Sg		**Sg**	**06 31 41.9**	**+0.8**
WESC	**Westside Schoo**	**0.57**	**146**	*e*Pg		**Pg**	**06 31 34.3**	**+0.3**
WESC				*e*Sg		**Sb**	**06 31 43.0**	**+0.1**
WESC	**Westside Schoo**	**0.57**	**146**	*e*P		**Pg**	**06 31 34.0**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**0.58**	**180**	P		**Pg**	**06 31 34.0**	**-0.4**
	baz=360							
IKP				S		**Sg**	**06 31 42.0**	**0.0**
	baz=360							
IKP	**In-Ko-Pah, Jac**	**0.58**	**180**	*e*P		**Pg**	**06 31 34.0**	**-0.4**
HAY	**Hayfield**	**0.59**	**37**	*e*Pg		**Pg**	**06 31 34.7**	**+0.2**
YUH	**Yuha Desert**	**0.60**	**165**	*e*Pg		**Pg**	**06 31 34.3**	**-0.4**
YUH	**Yuha Desert**	**0.60**	**165**	*i*P		**Pg**	**06 31 34.3**	**-0.4**
CRY	**Cary Ranch**	**0.62**	**302**	*e*Pg		**Pg**	**06 31 35.1**	**0.0**
RMX	**La Rumorosa**	**0.63**	**178**	*e*P		**Pg**	**06 31 34.2**	**-1.0**
RMX				*e*P		**Pb**	**06 31 35.8**	**-0.2**
PLM	**Palomar**	**0.65**	**281**	*e*Pg		**Pg**	**06 31 35.5**	**0.0**
BC3	**Big Chuckawall**	**0.69**	**52**	P		**Pg**	**06 31 35.9**	**-0.5**
	baz=233							
BC3				S		**Sg**	**06 31 45.3**	**-0.2**
	baz=233							
DREC	**Desert Rsrch C**	**0.70**	**128**	*e*Pg		**Pg**	**06 31 36.3**	**-0.2**
DREC				*e*Sg		**Sb**	**06 31 48.5**	**+1.9**
DREC	**Desert Rsrch C**	**0.70**	**128**	*e*P		**Pg**	**06 31 36.2**	**-0.4**
BAR	**Barrett**	**0.73**	**221**	*e*Pg		**Pg**	**06 31 36.8**	**-0.3**
BAR				*e*			06 31 46.0	
BAR				*e*Sg		**Sg**	**06 31 46.1**	**-0.6**
BAR	**Barrett**	**0.73**	**221**	*e*P		**Sg**	**06 31 36.8**	**-0.3**
BAR				*e*S		**Sg**	**06 31 46.1**	**-0.6**
DPP	**Dos Picos Cty**	**0.74**	**252**	*e*Pg		**Pg**	**06 31 36.9**	**-0.4**
HWB	**Hans Werner Br**	**0.75**	**254**	*e*Pg		**Pg**	**06 31 36.9**	**-0.5**
BELC	**Belle Mtn. Jos**	**0.77**	**7**	P		**Pg**	**06 31 37.5**	**-0.4**
	baz=187							
BELC				S		**Sg**	**06 31 47.9**	**-0.2**
	baz=187							
BELC	**Belle Mtn. Jos**	**0.77**	**7**	*e*Pg		**Pg**	**06 31 37.6**	**-0.3**
BELC				*e*Sn		**Sg**	**06 31 48.1**	**0.0**
SDRC	**San Diego Road**	**0.86**	**235**	*e*P		**Pg**	**06 31 38.6**	**-1.0**
DGR	**Domenigoni Val**	**0.86**	**299**	*e*Pg		**Pg**	**06 31 39.2**	**-0.4**
TPC	**Twentynine Pal**	**0.87**	**3**	*e*Pg		**Pg**	**06 31 39.2**	**-0.6**
TPC				*e*Sg		**Sg**	**06 31 51.2**	**0.0**
HMTC	**Hemet**	**0.89**	**302**	*e*Pg		**Pg**	**06 31 39.6**	**-0.5**
109C	**Camp Elliot, M**	**0.91**	**248**	P		**Pg**	**06 31 39.6**	**-0.9**
	baz=67							
109C				S		**Sg**	**06 31 51.2**	**-1.1**
	baz=67							
CPE	**Camp Elliot**	**0.91**	**248**	*e*Pg		**Pg**	**06 31 39.7**	**-0.8**
CPE				*e*Sg		**Sg**	**06 31 51.3**	**-1.0**
TJIG	**Tijuana**	**0.93**	**211**	*e*P		**Pg**	**06 31 39.5**	**-1.4**
MURC	**Murrieta**	**0.98**	**292**	P		**Pg**	**06 31 41.0**	**-0.9**
	baz=112							
MURC				S		**Sg**	**06 31 54.1**	**-0.6**
	baz=112							
BBSC	**Beaumont Base**	**1.00**	**313**	*e*Pn		**Pg**	**06 31 42.0**	**-0.3**
CBX	**Cerro Bola**	**1.03**	**207**	*e*P		**Pg**	**06 31 42.0**	**-0.9**
CBX				*e*S		**Sg**	**06 31 55.1**	**-1.2**
CBX				IAML			06 31 57.9	
	comp=N,919nm,0.5s							
SVD	**Seven Oaks Dam**	**1.20**	**317**	*e*Pn		**Pn**	**06 31 45.9**	**+0.2**
SVD				*e*Sn		**Sb**	**06 32 01.0**	**-0.2**
IRM	**Iron Mountain**	**1.22**	**41**	S		**Sb**	**06 32 01.4**	**-0.3**
	baz=221							
IRM	**Iron Mountain**	**1.22**	**41**	*e*Sg		**Sb**	**06 32 01.9**	**+0.1**
BBRC	**Big Bear Solar**	**1.23**	**327**	S		**Sb**	**06 32 01.9**	**-0.4**
	baz=147							
BBRC	**Big Bear Solar**	**1.23**	**327**	*e*Pn		**Pn**	**06 31 46.7**	**+0.5**
BBRC				*e*Sn		**Sb**	**06 32 02.1**	**-0.1**
RVR	**Riverside**	**1.30**	**306**	*e*Pn		**Pn**	**06 31 47.7**	**+0.7**
RVR				*e*Sn		**Sb**	**06 32 04.2**	**+0.1**
Y12C	**Blythe**	**1.42**	**68**	Sb		**Sn**	**06 32 07.4**	**+0.3**
	baz=249							
Y12C	**Blythe**	**1.42**	**68**	*e*Pn		**Pn**	**06 31 48.9**	**+0.4**
Y12C				*e*Sn		**Sn**	**06 32 07.7**	**+0.5**
CHNC	**Chino**	**1.52**	**301**	*e*Sn		**Sn**	**06 32 10.8**	**+1.2**
PBX	**Punta Banda**	**1.58**	**200**	*e*P		**Pn**	**06 31 50.3**	**-0.4**
GMRC	**Granite Mounta**	**1.59**	**13**	Sb		**Sn**	**06 32 12.9**	**+1.2**
	baz=194							
ECNX	**Esteban Cantu**	**1.63**	**195**	*e*P		**Pn**	**06 31 51.2**	**-0.3**
BFSC	**Mount Baldy Ra**	**1.64**	**308**	Sb		**Sn**	**06 32 13.5**	**+0.7**
	baz=128							
SSK	**Sunset Peak**	**1.64**	**307**	*e*Pn		**Pn**	**06 31 53.1**	**+1.3**
PSRC	**Puddingstone R**	**1.66**	**302**	*e*Pn		**Pn**	**06 31 53.3**	**+1.4**
PSRC				*e*Sn		**Sn**	**06 32 14.6**	**+1.5**
VTV	**Victorville**	**1.67**	**323**	*e*Sn		**Sb**	**06 32 15.9**	**+1.2**
ZAX	**El Zacaton**	**1.72**	**185**	*e*P		**Pn**	**06 31 53.2**	**+0.4**
EL2	**El Mirage 2**	**1.76**	**318**	*e*Sn		**Sg**	**06 32 20.5**	**+0.9**
MWC	**Mount Wilson**	**1.90**	**302**	*e*Sn		**Sb**	**06 32 22.2**	**+0.6**
CIAC	**Catalina I. Ai**	**1.94**	**276**	*e*Pn		**Pn**	**06 31 57.4**	**+1.6**
PDMCI	**Parker Dam,Lak**	**1.95**	**56**	Sb		**Sb**	**06 32 23.0**	**+0.2**
	baz=237							
NEE2	**Needles Airpor**	**1.97**	**38**	Sb		**Sb**	**06 32 23.4**	**+0.2**
	baz=219							
PASC	**Pasadena Art C**	**1.97**	**299**	*e*Pn		**Pn**	**06 31 58.1**	**+1.9**
PASC				*e*Sn		**Sb**	**06 32 23.2**	**0.0**
DECC	**Green Verdugo**	**2.12**	**299**	Sb		**Sb**	**06 32 27.6**	**+0.1**
	baz=118							
GSC	**Goldstone, Bar**	**2.14**	**344**	Sb		**Sb**	**06 32 29.5**	**+1.2**
	baz=164							
TUQ	**Turquoise Moun**	**2.20**	**4**	Sb		**Sb**	**06 32 31.6**	**+1.5**
	baz=184							
BLCC	**Black Canyon**	**2.37**	**296**	*e*Sn		**Sn**	**06 32 32.1**	**+1.6**
WWPM	**Walker Pass**	**2.98**	**327**	*e*Pn		**Pn**	**06 32 08.3**	**-1.9**
WWPM				*e*Sn		**Sg**	**06 32 57.2**	**-1.6**
ISA	**Isabella, Lake**	**3.12**	**322**	*e*Pn		**Pn**	**06 32 10.1**	**-1.9**
GA1R	**Gnd/Air Tx Cnt**	**3.89**	**291**	*e*Sn		**Sn**	**06 33 10.6**	**+2.3**
X16A	**Lo Mia Camp, P**	**4.06**	**72**	*e*Pn		**Pn**	**06 32 23.5**	**-1.6**
SZCU	**Shurtz Canyon**	**5.00**	**29**	*e*Pg		**Pg**	**06 32 56.8**	**-2.0**
R11A	**Troy Canyon, C**	**5.12**	**5**	Pg		**Pg**	**06 32 58.7**	**-2.3**

JMA 15 06:35:12.8±0.2, 40.89N×145.20E, h68km±3km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.90**	**307**	P	Pn	06 35 43.8	+0.7
JEM				*e*S	Sn	06 36 05.2	-0.9
JAK	**Akkeshi**	**2.14**	**350**	P	Pn	06 35 46.9	+0.7
JAK				*e*S	Sn	06 36 11.4	-0.3
JCH	**Churui**	**2.20**	**322**	P	Pn	06 35 47.9	+0.8
JCH				*e*S	Sn	06 36 13.2	-0.2
JOB	**Onbets**	**2.25**	**334**	P	Pn	06 35 49.8	+2.0
JNBK	**Urakawa-nobuka**	**2.30**	**308**	P	Pn	06 35 50.1	+1.7
NEM2	**Nemuro 2**	**2.51**	**9**	P	Pn	06 35 52.3	+1.1
NEM2				*e*S	Sn	06 36 21.3	+0.6
JAR	**Ashorobuto**	**2.63**	**337**	P	Pn	06 35 53.5	+0.6
JAR				*e*S	Sn	06 36 23.7	0.0
JNK	**Nakash**	**2.72**	**353**	P	Pn	06 35 54.6	+0.5
JNK				*e*S	Sn	06 36 24.2	-1.6
JANG	**Nango**	**2.85**	**261**	P	Pn	06 35 55.9	0.0
JANG				*e*S	Sn	06 36 26.3	-2.8
JFR	**Furan**	**2.99**	**320**	P	Pn	06 35 59.3	+1.5
JFR				*e*S	Sn	06 36 31.8	-0.7
JOT	**Ohata**	**3.17**	**280**	P	Pn	06 36 01.0	+0.7
JOT				*e*S	Sn	06 36 35.6	-1.4
JTKR	**Abashiri--Toko**	**3.22**	**343**	P	Pn	06 36 01.8	+0.8
JTKR				*e*S	Sn	06 36 38.8	+0.6
JKB	**Kayabe**	**3.29**	**289**	*e*S	Sn	06 36 38.3	-1.5
JOM	**Ohasama**	**3.31**	**246**	P	Pn	06 36 03.0	+0.8
JOM				*e*S	Sn	06 36 38.3	-2.1
JEW	**Eniwo**	**3.41**	**306**	*e*S	Sn	06 36 44.2	+1.4

IDC 15 06:58:09.1±2.5, 53.63N×86.82E, h0km, mb1 2.6/2, mb1mx2.5/76, mbtmp2.6/2, ML2.3/2, 3D, Error ellipse: s-maj=22.7km s-min=13.7km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**286**	*i*		07 06 50.0	
	baz=105,slow=340,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.23**	**286**	Pg	Pg	06 58 31.9	-0.8
	0.6nm,0.3s,baz=102,slow=16,SNR=10						
ZALV				Lg	Lg	06 58 48.8	
	1.2nm,0.3s,baz=107,slow=28,SNR=8.0						
KURBB	**Kurchatov Arra**	**5.93**	**243**	Pn	Pn	06 59 39.1	+1.1
	0.0nm,0.3s,baz=60,slow=14,SNR=2.5						
KURBB				Lg	Lg	07 01 18.6	
	0.0nm,0.3s,baz=62,slow=32,SNR=3.2						
MK31	**Makanchi Array**	**7.43**	**205**	⇓Pn	Pn	06 59 59.7	+1.0
	0.1nm,0.3s,baz=28,slow=14,SNR=12						
MK31				⇓Sn	Sn	07 01 23.4	-0.2
	0.2nm,0.6s,baz=36,slow=27						
MK31				⇓Lg	Lg	07 02 01.6	
	0.5nm,0.7s,baz=34,slow=31						
MKAR	**Makanchi Array**	**7.43**	**205**	Pn	Pn	07 00 00.1	+1.4
	0.1nm,0.3s,baz=22,slow=11,SNR=8.2						
MKAR				Lg	Lg	07 02 03.4	
	0.0nm,0.3s,baz=26,slow=30,SNR=3.5						

NIED **15** *06:58:00, 40.90N×145.10E, h5km, Mw3.8 Best double couple: M0 5.21000×10^14 NP1:φ=208.00000°, δ45.00000°, λ=-88.00000°. NP2:φ=25.00000°, δ46.00000°, λ=-92.00000°.*
IDC **15** *06:58:21.8±0.8, 40.80N×144.96E, h0km, mb3.8/12, mb1 3.9/15, mb1mx3.7/74, mbtmp3.8/15, ML3.0/3, MS3.1/2, Ms1 3.2/2, ms1mx2.5/63, Error ellipse: s-maj=20.6km s-min=19.1km az=90.0*
JMA **15** *06:58:22.2±0.2, 40.87N×145.10E, h69km±3km, M3.7*
ISCJB **15** *06:58:24.5±0.6, 40.95N±0.04×144.96E±0.07, h33km, mb3.8/12, MS3.2/2, Error ellipse: s-maj=7.2km s-min=5.4km az=163.2*

ISC 15 06:58:27.1±0.8, 40.96N±0.06×144.95E±0.07, h35km, n34, σ1s65/35, mb3.9/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.71**	**309**	P	Pn	06 58 52.6	-1.8
JEM				*e*S	Sn	06 59 13.8	-1.2
JCH	**Churui**	**2.03**	**325**	P	Pn	06 58 56.9	-1.9
JCH				S	Sn	06 59 21.0	-2.0
JAK	**Akkeshi**	**2.04**	**355**	P	Pn	06 58 56.4	-2.5
JAK				*e*S	Sn	06 59 21.7	-1.5
JNBK	**Urakawa-nobuka**	**2.11**	**309**	P	Pn	06 58 58.8	-1.1
JNBK				*e*S	Sn	06 59 24.7	-0.1
JOB	**Onbets**	**2.11**	**337**	P	Pn	06 58 57.1	-2.8
JOB				*e*S	Sn	06 59 24.5	-0.4
NEM2	**Nemuro 2**	**2.47**	**14**	P	Pn	06 59 02.2	-2.7
NEM2				*e*S	Sn	06 59 31.3	-2.5
JAR	**Ashorobuto**	**2.49**	**340**	P	Pn	06 59 02.7	-2.5
JAR				*e*S	Sn	06 59 33.3	-1.0
JNK	**Nakash**	**2.63**	**356**	P	Pn	06 59 04.0	-3.0
JBT2	**Biratori 2**	**2.65**	**314**	P	Pn	06 59 06.2	-1.1
JBT2				S	Sn	06 59 38.1	-0.1
JANG	**Nango**	**2.68**	**258**	P	Pn	06 59 04.6	-3.1
ASAJ	**Asahikawa**	**3.60**	**332**	Pn	Pn	06 59 21.6	+1.2
	1.8nm,0.3s,baz=138,slow=14,SNR=4.8						
ASAJ				Sn	Sn	07 00 01.6	0.0
	1.7nm,0.3s,baz=112,slow=33,SNR=5.1						
MJAR	**Matsushiro Arr**	**6.87**	**232**	Pn	Pn	07 00 03.2	-2.2
	0.4nm,0.3s,baz=57,slow=12,SNR=3.8						
USRK	**Ussuriysk Ar.**	**10.09**	**293**	Pn	Pn	07 00 49.8	+0.4
	0.2nm,0.3s,baz=102,slow=13,SNR=5.1						
KLR	**Kul'dur**	**12.45**	**316**	Pn	Pn	07 01 21.4	-0.2
	0.0nm,0.3s,baz=122,slow=16,SNR=3.8						
SONM	**Songino Array**	**28.16**	**297**	P	P	07 04 16.5	+0.3
	2.6nm,1.1s,baz=86,slow=9.1,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	07 33 42.6	
	baz=324,slow=73,SNR=40						
H11N1	**WAKE ISLAND Hy**	**28.27**	**132**	T	T	07 33 46.5	
	baz=324,slow=73,SNR=31						
H11N3	**WAKE ISLAND Hy**	**28.27**	**132**	T	T	07 33 42.5	
	baz=324,slow=73,SNR=24						
H11S1	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	07 34 48.5	
	baz=325,slow=74,SNR=21						
H11S3	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	07 34 49.7	
	baz=325,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.15**	**134**	T	T	07 34 50.2	
	baz=325,slow=74,SNR=25						
MKAR	**Makanchi Array**	**44.48**	**299**	P	P	07 06 34.8	-0.1
	0.7nm,0.7s,baz=86,slow=9.2,SNR=8.6						
ILAR	**Eielson Array**	**44.70**	**34**	P	P	07 06 37.8	+1.4
	0.3nm,0.7s,baz=263,slow=7.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**45.19**	**254**	LR	LR	07 27 10.3	
	comp=Z,27nm,18.3s,baz=208,slow=38						
KURBB	**Kurchatov Arra**	**45.86**	**306**	P	P	07 06 46.3	+0.7
	2.2nm,0.7s,baz=78,slow=8.7,SNR=19						
BVAR	**Borovoye Array**	**50.04**	**311**	P	P	07 07 18.9	+0.9
	1.1nm,0.7s,baz=81,slow=9.3,SNR=6.6						
RES	**Resolute Bay**	**58.10**	**16**	P	P	07 08 16.8	+0.4
	1.1nm,0.9s,baz=318,slow=7.1,SNR=4.3						
YKA	**Yellowknife Ar**	**59.03**	**32**	P	P	07 08 23.6	+0.6
	0.3nm,0.9s,baz=290,slow=7.3,SNR=4.6						
WRA	**Warramunga Arr**	**61.39**	**191**	P	P	07 08 38.2	-1.4
	2.2nm,0.9s,baz=9.1,slow=7.3,SNR=7.8						
ASAR	**Alice Springs**	**65.11**	**191**	P	P	07 09 03.6	-0.7
	1.2nm,1.1s,baz=354,slow=5.6,SNR=3.7						
FINES	**FINESS Array B**	**66.61**	**333**	P	P	07 09 15.3	+1.9
	1.7nm,0.9s,baz=39,slow=9.0,SNR=2.3						
AFI	**Afiamalu**	**67.70**	**134**	LR	LR	07 32 58.4	
	comp=Z,12nm,21.8s,baz=150,slow=31						
AKASG	**Malin Array Be**	**72.84**	**323**	P	P	07 09 52.1	+0.1
	0.1nm,0.3s,baz=44,slow=6.0,SNR=4.7						
TXAR	**Lajitas Array**	**85.57**	**55**	P	P	07 11 02.9	+0.8
	0.6nm,0.7s,baz=311,slow=4.5,SNR=5.5						

NIED **15** *07:01:00, 40.90N×145.10E, h5km, Mw3.9 Best double couple: M0 8.23000×10^14 NP1:φ=28.00000°, δ35.00000°, λ=-103.00000°. NP2:φ=224.00000°, δ56.00000°, λ=-81.00000°.*
JMA **15** *07:01:30.7±0.1, 40.88N×145.10E, h64km±2km, M4.0*
IDC **15** *07:01:30.4±0.7, 40.83N×144.89E, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.9/74, mbtmp3.9/19, ML3.1/4, MS2.9/5, Ms1 2.9/5, ms1mx2.6/67, Error ellipse: s-maj=17.9km s-min=16.0km az=169.0*
ISCJB **15** *07:01:31.1±1.2, 40.91N±0.03×144.85E±0.04, h15km±8km, mb4.2/21, MS3.2/3, Error ellipse: s-maj=5.4km s-min=4.7km az=167.0*
NEIC **15** *07:01:32.1±0.3, 40.85N×144.83E, h10km, mb4.7/3, Error ellipse: s-maj=7.5km s-min=6.9km az=178.0*

ISC 15 07:01:30.8±4.7, 40.92N±0.04×144.94E±0.05, h4km±29km, n69, σ1s74/76, mb4.2/21, MS3.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.73**	**310**	*e*Pn	Pn	07 02 01.0	-0.6
ERM				*e*Sn	Sn	07 02 22.5	-1.6
JEM	**Erimo**	**1.73**	**310**	P	Pn	07 02 00.9	-0.7
JEM				S	Sn	07 02 22.5	-1.6
JCH	**Churui**	**2.06**	**326**	P	Pn	07 02 05.3	-0.9
JCH				S	Sn	07 02 29.3	-3.1
JAK	**Akkeshi**	**2.08**	**355**	P	Pn	07 02 05.1	-1.4
JAK				S	Sn	07 02 29.7	-3.2
JNBK	**Urakawa-nobuka**	**2.13**	**310**	P	Pn	07 02 07.2	+0.1
JNBK				S	Sn	07 02 32.9	-1.1
JOB	**Onbets**	**2.14**	**338**	P	Pn	07 02 06.6	-0.8
JOB				S	Sn	07 02 32.6	-1.8
NEM2	**Nemuro 2**	**2.52**	**14**	P	Pn	07 02 10.2	-2.2
NEM2				*e*S	Sn	07 02 39.4	-4.1
JAR	**Ashorobuto**	**2.53**	**340**	P	Pn	07 02 11.1	-1.5
JAR				S	Sn	07 02 40.6	-3.3
JANG	**Nango**	**2.66**	**259**	P	Pn	07 02 13.0	-1.4
JANG				*e*S	Sn	07 02 43.4	-3.8
JNK	**Nakash**	**2.67**	**357**	P	Pn	07 02 12.3	-2.3
JNK				*e*S	Sn	07 02 42.2	-5.1
JBT2	**Biratori 2**	**2.67**	**315**	P	Pn	07 02 14.2	-0.4
JBT2				*e*S	Sn	07 02 46.4	-1.0
JFR	**Furan**	**2.84**	**323**	P	Pn	07 02 16.3	-0.6
JFR				*e*S	Sn	07 02 48.7	-2.9
JOT	**Ohata**	**2.97**	**280**	P	Pn	07 02 18.1	-0.6
JOT				S	Sn	07 02 51.3	-3.5
JKB	**Kayabe**	**3.09**	**289**	P	Pn	07 02 19.9	-0.4
JTKR	**Abashiri--Toko**	**3.14**	**346**	P	Pn	07 02 20.3	-0.7
JTKR				S	Sn	07 02 56.7	-2.3
JOM	**Ohasama**	**3.14**	**244**	P	Pn	07 02 20.3	-0.8
JOM				S	Sn	07 02 54.7	-4.4
JEW	**Eniwo**	**3.23**	**308**	P	Pn	07 02 22.9	+0.6
JEW				S	Sn	07 03 00.6	-0.7
JKK2	**Kamakawa 2**	**3.37**	**332**	S	Sn	07 03 04.8	+0.2
JMK	**Ichinoseki**	**3.47**	**237**	P	Pn	07 02 24.6	-0.9
ASAJ	**Asahikawa**	**3.63**	**332**	Pn	Pn	07 02 27.5	-0.3
	4.7nm,0.3s,baz=103,slow=17,SNR=7.9						
ASAJ				Sn	Sn	07 03 09.8	-1.3
	3.5nm,0.3s,baz=99,slow=32,SNR=7.9						
ASAJ	**Asahikawa**	**3.63**	**332**	*e*Pn	Pn	07 02 27.6	-0.2
ASAJ				*e*Sn	Sn	07 03 08.5	-2.6
MJAR	**Matsushiro Arr**	**6.84**	**232**	Pn	Pn	07 03 11.0	-0.9
	0.6nm,0.3s,baz=40,slow=11,SNR=5.5						
MAJO	**Matsushiro**	**6.84**	**232**	*e*Pn	Pn	07 03 11.0	-0.9
USRK	**Ussuriysk Ar.**	**10.10**	**293**	Pn	Pn	07 03 57.8	+1.2
	0.4nm,0.3s,baz=106,slow=14,SNR=6.3						
KLR	**Kul'dur**	**12.47**	**316**	Pn	Pn	07 04 28.2	-0.7
	0.0nm,0.3s,baz=110,slow=15,SNR=5.6						
KLR				LR	LR	07 09 42.3	
	comp=Z,6.0nm,20.2s,baz=142,slow=39						
KSRS	**Korea Array**	**13.64**	**261**	LR	LR	07 09 17.2	
	comp=Z,39nm,21.1s,baz=90,slow=34						
SONA0	**Songino Array**	**28.17**	**297**	*e*P	P	07 07 24.5	+0.2
SONM	**Songino Array**	**28.17**	**297**	P	P	07 07 24.5	+0.2
	1.4nm,0.6s,baz=80,slow=9.6,SNR=9.9						
SONM				LR	LR	07 19 35.7	
	comp=Z,65nm,19.7s,baz=152,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.23**	**132**	T	T	07 36 51.5	
	baz=324,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	07 36 56.7	
	baz=324,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	07 36 57.2	
	baz=324,slow=75,SNR=18						
WAKE	**Wake Island**	**28.46**	**133**	*e*P	P	07 07 26.1	-0.7
	307nm,1.6s						
H11S1	**WAKE ISLAND Hy**	**29.11**	**134**	T	T	07 37 56.9	
	baz=325,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	07 37 59.7	
	baz=325,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	07 38 00.8	
	baz=325,slow=74,SNR=20						
ZAA1	**Zalesovo Array**	**41.45**	**309**	*e*P	P	07 09 19.7	+1.3
ZALV	**Zalesovo Beam**	**41.45**	**309**	P	P	07 09 19.7	+1.3
	1.3nm,0.4s,baz=93,slow=8.7,SNR=3.0						
ZALV				LR	LR	07 27 55.4	
	comp=Z,43nm,18.5s,baz=66,slow=38						
ZALV	**Zalesovo Beam**	**41.45**	**309**	*e*P	P	07 09 23.8	+5.4
MK01	**Makanchi Array**	**44.49**	**299**	*e*P	P	07 09 43.1	-0.1
MK31	**Makanchi Array**	**44.49**	**299**	*e*P	P	07 09 43.2	0.0
MK32	**Makanchi Array**	**44.49**	**299**	*e*P	P	07 09 42.9	-0.3
MKAR	**Makanchi Array**	**44.49**	**299**	P	P	07 09 42.9	-0.3
	1.2nm,0.6s,baz=85,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	**44.49**	**299**	*e*P	P	07 09 43.2	0.0
	11nm,0.7s						
ILAR	**Eielson Array**	**44.74**	**34**	P	P	07 09 46.1	+1.2
	0.6nm,0.7s,baz=259,slow=6.3,SNR=6.6						
ILB	**Eielson Array**	**44.74**	**34**	*e*P	P	07 09 45.9	+1.0
KURK	**Kurchatov**	**45.80**	**306**	*e*P	P	07 09 55.4	+2.0
KURBB	**Kurchatov Arra**	**45.88**	**306**	P	P	07 09 53.6	-0.4
	2.5nm,0.6s,baz=75,slow=8.7,SNR=15						
DOT	**Dot Lake**	**46.05**	**36**	*e*P	P	07 10 02.0	+6.7
	22nm,1.0s						
INK	**Inuvik**	**49.67**	**29**	P	P	07 10 25.1	+1.9
	1.3nm,0.9s,baz=326,slow=7.3,SNR=5.2						
BVAR	**Borovoye Array**	**50.06**	**311**	P	P	07 10 26.9	+0.4
	1.1nm,0.6s,baz=75,slow=9.2,SNR=6.0						
HNR	**Honiara**	**51.98**	**161**	LR	LR	07 31 12.8	
	comp=Z,18nm,19.8s,baz=278,slow=34						
KKAR	**Karatay Array**	**53.61**	**299**	*e*P	P	07 10 53.3	+0.2
RES	**Resolute Bay**	**58.14**	**16**	P	P	07 11 25.0	0.0
	1.7nm,0.8s,baz=330,slow=6.0,SNR=5.6						
YKA	**Yellowknife Ar**	**59.07**	**32**	P	P	07 11 32.4	+0.8
	0.3nm,0.7s,baz=299,slow=6.5,SNR=5.0						
WR1	**Warramunga Arr**	**61.35**	**191**	*e*P	P	07 11 46.6	-1

CHOS	**Chios island**	**0.94**	**183**		PG	**Pg**	**07 07 28.5**	**-0.6**
CHOS	**Chios island**	**0.94**	**183**		P	**Pb**	**07 07 28.9**	**-0.2**
CHOS					S	**Sb**	**07 07 42.2**	**+0.6**
CHOS					AML	AML	07 07 44.3	
	comp=E,5724μm,0.3s							
CHOS					AML	AML	07 07 45.7	
	comp=N,2925μm,0.3s							
CHOS	**Chios island**	**0.94**	**183**		P	**Pg**	**07 07 28.5**	**-0.6**
CHOS					S	**Sb**	**07 07 41.7**	**+0.2**
CHOS	**Chios island**	**0.94**	**183**		P	**Pg**	**07 07 28.4**	**-0.6**
CHOS					S	**Sb**	**07 07 41.8**	**+0.2**
CESE	**˜e˜me**	**1.00**	**171**		PG	**Pb**	**07 07 30.2**	**0.0**
CESE	**˜e˜me**	**1.00**	**171**		*e*Pg	**Pb**	**07 07 30.2**	**0.0**
URLA	**Izmir**	**1.04**	**158**		PG	**Pb**	**07 07 30.8**	**0.0**
URLA	**Izmir**	**1.04**	**158**		*i* P	**Pg**	**07 07 29.7**	**-1.2**
URLA	**Izmir**	**1.04**	**158**		P	**Pg**	**07 07 29.7**	**-1.2**
URLA	**Izmir**	**1.04**	**158**		*e*Pg	**Pb**	**07 07 30.8**	**0.0**
GELI	**Tayfur-Gelibol**	**1.11**	**15**		PN	**Pb**	**07 07 31.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.11**	**15**		*e*Pn	**Pb**	**07 07 31.7**	**-0.3**
ZEY	**˜zmir**	**1.13**	**164**		*i* P	**Pg**	**07 07 31.5**	**-1.2**
LPK	**Lapseki**	**1.16**	**25**		PN	**Pg**	**07 07 31.8**	**-1.5**
LPK	**Lapseki**	**1.16**	**25**		*e*Pn	**Pg**	**07 07 31.8**	**-1.5**
SMTH	**Samothraki Isl**	**1.23**	**339**		P	**Pn**	**07 07 34.0**	**+0.1**
SMTH					AML	AML	07 07 51.3	
	comp=E,803μm,0.5s							
SMTH					S	**Sn**	**07 07 51.5**	**+1.2**
SMTH					AML	AML	07 07 52.0	
	comp=N,1067μm,0.3s							
SMTH	**Samothraki Isl**	**1.23**	**339**		P	**Pn**	**07 07 33.8**	**-0.1**
SMTH					S	**Sn**	**07 07 51.1**	**+0.7**
SMTH	**Samothraki Isl**	**1.23**	**339**		P	**Pb**	**07 07 33.5**	**-0.6**
BALY	**Balya**	**1.24**	**70**		*i* P	**Pn**	**07 07 33.3**	**-0.8**
BALY					*i* S	**Sg**	**07 07 49.6**	**-1.4**
BALY	**Balya**	**1.24**	**70**		P	**Pn**	**07 07 33.3**	**-0.8**
BALY					S	**Sg**	**07 07 49.6**	**-1.4**
STEP	**BALIKESIR_Sava**	**1.25**	**87**		*i* P	**Pg**	**07 07 34.5**	**-0.5**
STEP					*i* S	**Sn**	**07 07 52.0**	**+1.1**
STEP	**BALIKESIR_Sava**	**1.25**	**87**		P	**Pg**	**07 07 34.5**	**-0.5**
STEP					S	**Sn**	**07 07 52.0**	**+1.1**
ERIK	**Erikli-Kesan**	**1.38**	**13**		PN	**Pn**	**07 07 36.0**	**+0.1**
ERIK	**Erikli-Kesan**	**1.38**	**13**		*e*Pn	**Pn**	**07 07 36.0**	**+0.1**
AKS	**Akhisar**	**1.40**	**108**		PN	**Pg**	**07 07 37.2**	**-0.7**
AKS	**Akhisar**	**1.40**	**108**		*e*Pn	**Pg**	**07 07 37.2**	**-0.7**
AKHS	**Akhisar**	**1.40**	**108**		*i* P	**Pn**	**07 07 36.3**	**0.0**
AKHS	**Akhisar**	**1.40**	**108**		P	**Pn**	**07 07 36.3**	**0.0**
KRBG	**Karabiga-Canak**	**1.40**	**40**		PN	**Pn**	**07 07 36.5**	**+0.2**
KRBG	**Karabiga-Canak**	**1.40**	**40**		*e*Pn	**Pn**	**07 07 36.5**	**+0.2**
BALB	**Balikesir**	**1.41**	**77**		PN	**Pg**	**07 07 37.6**	**-0.4**
BALB	**Balikesir**	**1.41**	**77**		*e*Pn	**Pg**	**07 07 37.6**	**-0.4**
DGB	**˜zmir**	**1.41**	**154**		*i* P	**Pn**	**07 07 35.5**	**-0.8**
ENEZ	**Enez**	**1.41**	**1**		PN	**Pn**	**07 07 36.6**	**+0.2**
ENEZ	**Enez**	**1.41**	**1**		P	**Pn**	**07 07 36.1**	**-0.3**
ENEZ	**Enez**	**1.41**	**1**		*e*Pn	**Pn**	**07 07 36.6**	**+0.2**
ENEZ	**Enez**	**1.41**	**1**		P	**Pn**	**07 07 36.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.41**	**59**		PN	**Pb**	**07 07 37.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**59**		*e*Pn	**Pb**	**07 07 37.2**	**0.0**
KESN	**Edirne-Kesan**	**1.56**	**16**		*i* P	**Pn**	**07 07 39.1**	**+0.3**
KESN	**Edirne-Kesan**	**1.56**	**16**		P	**Pn**	**07 07 39.1**	**+0.3**
ALN	**Alexandroupoli**	**1.57**	**358**		PN	**Pb**	**07 07 39.9**	**0.0**
ALN	**Alexandroupoli**	**1.57**	**358**		P	**Pb**	**07 07 38.3**	**-0.3**
ALN					S	**Sn**	**07 07 59.3**	**+0.5**
ALN					AML	AML	07 08 01.7	
	comp=E,454μm,0.6s							
ALN					AML	AML	07 08 02.5	
	comp=N,505μm,0.4s							
ALN	**Alexandroupoli**	**1.57**	**358**		P	**Pn**	**07 07 38.6**	**0.0**
ALN	**Alexandroupoli**	**1.57**	**358**		*e*Pn	**Pb**	**07 07 39.9**	**0.0**
ALN					S	**Sb**	**07 07 59.5**	**-0.2**
ALN	**Alexandroupoli**	**1.57**	**358**		P	**Pn**	**07 07 38.6**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.59**	**31**		PN	**Pn**	**07 07 39.4**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.59**	**31**		*e*Pn	**Pn**	**07 07 39.4**	**+0.5**
SART	**Tekirdag**	**1.59**	**31**		*i* P	**Pn**	**07 07 38.9**	**0.0**
SART	**Tekirdag**	**1.59**	**31**		P	**Pn**	**07 07 38.9**	**0.0**
EDC	**Edincik**	**1.69**	**52**		PN	**Pb**	**07 07 41.5**	**-0.5**
EDC	**Edincik**	**1.69**	**52**		*e*Pn	**Pb**	**07 07 41.5**	**-0.5**
GCAM	**G?zelcaml?**	**1.85**	**151**		PN	**Pn**	**07 07 43.4**	**+1.0**
GCAM	**G?zelcaml?**	**1.85**	**151**		*i* P	**Pg**	**07 07 45.8**	**-0.6**
GCAM	**G?zelcaml?**	**1.85**	**151**		*e*Pn	**Pn**	**07 07 43.4**	**+1.0**
GCAM	**G?zelcaml?**	**1.85**	**151**		P	**Pg**	**07 07 45.8**	**-0.6**
RDO	**Rodhopi**	**1.87**	**347**		P	**Pn**	**07 07 42.8**	**+0.1**
RDO	**Rodhopi**	**1.87**	**347**		P	**Pn**	**07 07 43.0**	**+0.3**
OUR	**Ouranopolis**	**1.92**	**302**		PN	**Pn**	**07 07 44.0**	**+0.6**
OUR	**Ouranopolis**	**1.92**	**302**		*e*Pn	**Pn**	**07 07 44.0**	**+0.6**
EREA	**Eretria**	**1.93**	**243**		P	**Pn**	**07 07 42.6**	**-0.9**
EREA	**Eretria**	**1.93**	**243**		P	**Pn**	**07 07 42.6**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.96**	**134**		PN	**Pb**	**07 07 45.4**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**1.96**	**134**		*e*Pn	**Pb**	**07 07 45.4**	**-1.2**
DST	**Dursunbey**	**1.96**	**81**		PN	**Pb**	**07 07 45.4**	**-1.2**
DST	**Dursunbey**	**1.96**	**81**		*e*Pn	**Pb**	**07 07 45.4**	**-1.2**
KCTX	**Karacabey (Bur**	**1.97**	**61**		PN	**Pn**	**07 07 44.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.97**	**61**		*e*Pn	**Pn**	**07 07 44.4**	**+0.3**
TKR	**Tekirdag**	**1.99**	**33**		PN	**Pb**	**07 07 45.9**	**-1.1**
TKR	**Tekirdag**	**1.99**	**33**		*e*Pn	**Pb**	**07 07 45.9**	**-1.1**
DEMI	**Demirci**	**2.05**	**97**		*i* P	**Pb**	**07 07 47.9**	**-0.1**
DEMI	**Demirci**	**2.05**	**97**		P	**Pb**	**07 07 47.9**	**-0.1**
MANT	**Manisa**	**2.08**	**113**		*i* P	**Pn**	**07 07 46.1**	**+0.2**
MANT	**Manisa**	**2.08**	**113**		P	**Pn**	**07 07 46.1**	**+0.2**
SBT3	**Marmara-Eregli**	**2.11**	**42**		PN	**Pb**	**07 07 47.8**	**-1.3**
SBT3	**Marmara-Eregli**	**2.11**	**42**		*e*Pn	**Pb**	**07 07 47.8**	**-1.3**
KULA	**Kula-Manisa**	**2.15**	**111**		PN	**Pn**	**07 07 47.2**	**+0.6**
KULA	**Kula-Manisa**	**2.15**	**111**		*e*Pn	**Pn**	**07 07 47.2**	**+0.6**
AYDN	**Tasoluk**	**2.17**	**140**		*i* P	**Pn**	**07 07 46.6**	**-0.2**
AYDN	**Tasoluk**	**2.17**	**140**		P	**Pn**	**07 07 46.6**	**-0.2**
SIMA	**Simav-Kutahya**	**2.25**	**95**		PN	**Pb**	**07 07 49.9**	**-1.6**
SIMA	**Simav-Kutahya**	**2.25**	**95**		*e*Pn	**Pb**	**07 07 49.9**	**-1.6**
APE	**Apeiranthos**	**2.30**	**192**		PN	**Pn**	**07 07 49.6**	**+0.9**
APE	**Apeiranthos**	**2.30**	**192**		*e*Pn	**Pn**	**07 07 49.6**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.38**	**63**		PN	**Pn**	**07 07 51.4**	**+1.7**
MDNY	**Mudanya-Bursa**	**2.38**	**63**		*e*Pn	**Pn**	**07 07 51.4**	**+1.7**
BODT	**Bodrum**	**2.45**	**157**		PN	**Pn**	**07 07 52.3**	**+1.6**
BODT	**Bodrum**	**2.45**	**157**		*e*Pn	**Pn**	**07 07 52.3**	**+1.6**
SLVT	**Silivri**	**2.49**	**40**		PN	**Pn**	**07 07 52.8**	**+1.6**
SLVT	**Silivri**	**2.49**	**40**		*e*Pn	**Pn**	**07 07 52.8**	**+1.6**
EDRB	**Edirne**	**2.56**	**11**		PN	**Pn**	**07 07 53.8**	**+1.6**
EDRB	**Edirne**	**2.56**	**11**		*e*Pn	**Pn**	**07 07 53.8**	**+1.6**
TVSB	**Tavsanli**	**2.60**	**86**		PN	**Pn**	**07 07 54.8**	**+1.9**
TVSB	**Tavsanli**	**2.60**	**86**		*e*Pn	**Pn**	**07 07 54.8**	**+1.9**
GDZ	**Gediz**	**2.63**	**94**		*i* P	**Pn**	**07 07 53.3**	**0.0**
GDZ	**Gediz**	**2.63**	**94**		P	**Pn**	**07 07 53.3**	**0.0**
CTKS	**Kestanelik-??a**	**2.65**	**43**		PN	**Pn**	**07 07 55.2**	**+1.8**
CTKS	**Kestanelik-??a**	**2.65**	**43**		*e*Pn	**Pn**	**07 07 55.2**	**+1.8**
CTYL	**Yalikoy Yolu**	**2.72**	**37**		PN	**Pn**	**07 07 56.4**	**+2.1**
CTYL	**Yalikoy Yolu**	**2.72**	**37**		*e*Pn	**Pn**	**07 07 56.4**	**+2.1**
BUY	**Buyukada**	**2.77**	**56**		PN	**Pn**	**07 07 56.8**	**+1.8**
BUY	**Buyukada**	**2.77**	**56**		*e*Pn	**Pn**	**07 07 56.8**	**+1.8**
ADVT	**Abdulvahap**	**3.00**	**67**		PN	**Pn**	**07 08 00.3**	**+2.0**
ADVT	**Abdulvahap**	**3.00**	**67**		*e*Pn	**Pn**	**07 08 00.3**	**+2.0**

DDA ***15*** *07:11:54.6, 39°.34N×26°.06E, h4km, Ml3.0*
ISCJB ***15*** *07:11:55.6±0.5, 39°.33N±0°.02×26°.09E±0°.03, h6km±4km, Error ellipse: s-maj=4.5km s-min=3.8km az=177.9*
THE ***15*** *07:11:55.5, 39°.32N×26°.10E, h10km±1km, ML2.7/5, Error ellipse: s-maj=1.5km s-min=0.6km az=135.0*
CSEM ***15*** *07:11:55.2±0.1, 39°.31N×26°.09E, h8km, ML2.7, Error ellipse: s-maj=3.2km s-min=2.5km az=77.0*
ATH ***15*** *07:11:55.6, 39°.32N×26°.10E, h12km±4km, ML2.7/5, Error ellipse: s-maj=4.2km s-min=1.1km az=149.0*

ISC 15 07:11:55.6±0.8, 39°.32N±0°.02×26°.10E±0°.02, h12km±6km, n36, σ0s54/61, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PRK	**Paraskevi**	**0.15**	**118**	P		**Pg**	**07 11 59.2**	**-0.1**
PRK				AML		AML	07 12 01.9	
	comp=N,10094μm,0.4s							
PRK				S		**Sg**	**07 12 02.0**	**+0.2**
PRK				AML		AML	07 12 02.3	
	comp=E,10128μm,0.4s							
PRK	**Paraskevi**	**0.15**	**118**	P		**Pg**	**07 11 59.1**	**-0.1**
PRK				S		**Sg**	**07 12 01.8**	**0.0**
PRK	**Paraskevi**	**0.15**	**118**	P		**Pg**	**07 11 59.1**	**-0.1**
PRK				S		**Sg**	**07 12 01.8**	**0.0**
SIGR	**SIGRI**	**0.22**	**240**	P		**Pg**	**07 12 00.1**	**-0.2**
SIGR				S		**Sg**	**07 12 03.2**	**-0.3**
SIGR				AML		AML	07 12 03.6	
	comp=N,13686μm,0.4s							
SIGR	**SIGRI**	**0.22**	**240**	P		**Pg**	**07 12 00.2**	**-0.1**
SIGR				S		**Sg**	**07 12 03.5**	**0.0**
SIGR	**SIGRI**	**0.22**	**240**	P		**Pg**	**07 12 00.2**	**-0.1**
SIGR				S		**Sg**	**07 12 03.5**	**0.0**
EZN	**Ezine**	**0.54**	**19**	P		**Pg**	**07 12 05.8**	**-0.3**
EZN				S		**Sg**	**07 12 13.6**	**+0.3**
EZN	**Ezine**	**0.54**	**19**	P		**Pg**	**07 12 05.8**	**-0.3**
EZN				S		**Sg**	**07 12 13.6**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.55**	**39**	*i* P		**Pg**	**07 12 05.8**	**-0.5**
BAYC				*i* S		**Sg**	**07 12 13.9**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.55**	**39**	P		**Pg**	**07 12 05.8**	**-0.5**
BAYC				S		**Sg**	**07 12 13.9**	**+0.3**
GADA	**Gvkgeada**	**0.88**	**350**	P		**Pg**	**07 12 12.1**	**-0.6**
GADA				S		**Sg**	**07 12 24.1**	**-0.2**
GADA	**Gvkgeada**	**0.88**	**350**	P		**Pg**	**07 12 12.1**	**-0.6**
GADA				S		**Sg**	**07 12 24.1**	**-0.2**
LIA	**Limnos Island**	**0.91**	**310**	P		**Pn**	**07 12 14.1**	**-0.1**
LIA				AML		AML	07 12 27.4	
	comp=E,1174μm,0.4s							
LIA				AML		AML	07 12 28.3	
	comp=N,966μm,0.4s							
LIA				S		**Sn**	**07 12 28.4**	**+1.1**
LIA	**Limnos Island**	**0.91**	**310**	P		**Pg**	**07 12 12.8**	**-0.5**
LIA				S		**Sb**	**07 12 26.1**	**+0.6**
LIA	**Limnos Island**	**0.91**	**310**	P		**Pg**	**07 12 12.8**	**-0.5**
LIA				S		**Sb**	**07 12 26.1**	**+0.6**
CHOS	**Chios island**	**0.93**	**182**	P		**Pg**	**07 12 13.2**	**-0.5**
CHOS				S		**Sb**	**07 12 26.7**	**+0.6**
CHOS				AML		AML	07 12 28.1	
	comp=N,714μm,0.4s							
CHOS				AML		AML	07 12 29.0	
	comp=E,1191μm,0.3s							
CHOS	**Chios island**	**0.93**	**182**	P		**Pg**	**07 12 13.0**	**-0.6**
CHOS				S		**Sg**	**07 12 25.9**	**+0.1**
CHOS	**Chios island**	**0.93**	**182**	P		**Pg**	**07 12 13.0**	**-0.6**
CHOS				S		**Sg**	**07 12 25.9**	**+0.1**
URLA	**Izmir**	**1.03**	**158**	*i* P		**Pg**	**07 12 14.2**	**-1.4**
URLA	**Izmir**	**1.03**	**158**	P		**Pg**	**07 12 14.2**	**-1.4**
ZEY	**˜zmir**	**1.12**	**163**	*i* P		**Pb**	**07 12 16.5**	**-0.5**
SMTH	**Samothraki Isl**	**1.23**	**339**	P		**Pn**	**07 12 18.5**	**-0.2**
SMTH				S		**Sn**	**07 12 35.7**	**+0.5**
SMTH				AML		AML	07 12 36.1	
	comp=E,237μm,0.4s							
SMTH				AML		AML	07 12 36.8	
	comp=N,212μm,0.3s							
SMTH	**Samothraki Isl**	**1.23**	**339**	P		**Pn**	**07 12 18.2**	**-0.5**
SMTH				S		**Sg**	**07 12 35.1**	**-0.2**
SMTH	**Samothraki Isl**	**1.23**	**339**	P		**Pn**	**07 12 18.2**	**-0.5**
SMTH				S		**Sg**	**07 12 35.1**	**-0.2**
BALY	**Balya**	**1.25**	**70**	*i* P		**Pn**	**07 12 18.5**	**-0.4**
BALY				*i* S		**Sb**	**07 12 34.9**	**-0.3**
BALY	**Balya**	**1.25**	**70**	P		**Pn**	**07 12 18.5**	**-0.4**
BALY				S		**Sb**	**07 12 34.9**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.26**	**87**	*i* P		**Pb**	**07 12 19.5**	**+0.2**
STEP				*i* S		**Sn**	**07 12 37.2**	**+1.3**
STEP	**BALIKESIR_Sava**	**1.26**	**87**	P		**Pb**	**07 12 19.5**	**+0.2**
STEP				S		**Sn**	**07 12 37.2**	**+1.3**
AKHS	**Akhisar**	**1.41**	**108**	*i* P		**Pb**	**07 12 22.2**	**+0.4**
AKHS	**Akhisar**	**1.41**	**108**	P		**Pb**	**07 12 22.2**	**+0.4**
DGB	**˜zmir**	**1.41**	**154**	*i* P		**Pg**	**07 12 22.6**	**-0.1**
KESN	**Edirne-Kesan**	**1.57**	**16**	*i* P		**Pn**	**07 12 23.5**	**-0.2**
KESN	**Edirne-Kesan**	**1.57**	**16**	P		**Pn**	**07 12 23.5**	**-0.2**
ALN	**Alexandroupoli**	**1.58**	**359**	P		**Pb**	**07 12 24.1**	**-0.6**
DEMI	**Demirci**	**2.05**	**97**	*i* P		**Pg**	**07 12 34.3**	**-0.7**
DEMI	**Demirci**	**2.05**	**97**	P		**Pg**	**07 12 34.3**	**-0.7**

MEX 15 07:21:00.1±0.3, 19°.70N×105°.60W, h4km±4km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CJM	**Chamela**	**0.56**	**111**	*i* P		Pg	07 21 10.4	-0.5
CJM				*i* S		Sg	07 21 18.8	+0.5
EZ5V		**1.90**	**96**	*e*P		Pn	07 21 30.1	-3.4
EZ5V				*i* S		Sn	07 21 53.4	-4.7
MMIG	**Aquila**	**2.56**	**123**	*e*P		Pn	07 21 39.8	-2.5
MMIG				*i* S		Sn	07 22 09.8	-4.2
ARIG	**Puente Sto Nin**	**5.17**	**105**	*e*P		Pn	07 22 15.4	-2.9
ARIG				*e*S		Sn	07 23 14.4	-4.1

IDC 15 07:29:42.0±2.2, 6°.99S×129°.00E, h0km, mb3.5/1, mb1 4.0/3, mb1mx3.5/54, mbtmp3.8/3, ML4.1/2, Error ellipse: s-maj=173.1km s-min=31.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**13.88**	**159**	Pn		Pn	07 32 59.9	-0.4
	0.9nm,0.3s,baz=341,slow=12,SNR=18							
WRA				Sn		Sn	07 35 21.5	-14
	2.0nm,0.3s,baz=340,slow=22,SNR=13							
ASAR	**Alice Springs**	**17.24**	**165**	P		Pn	07 33 44.8	+0.3
	0.9nm,0.3s,baz=338,slow=10,SNR=32							
ASAR				S		Sn	07 36 45.1	-12
	0.4nm,0.3s,baz=338,slow=24,SNR=6.0							
MKAR	**Makanchi Array**	**67.67**	**327**	P		P	07 40 41.1	0.0
	0.2nm,0.3s,baz=125,slow=6.5,SNR=7.1							

ISK ***15*** *07:45:22.9, 39°.32N×25°.96E, h3km, ML3.2/29*
DDA ***15*** *07:45:23.0, 39°.35N×25°.97E, h3km, Ml3.3*
ISCJB ***15*** *07:45:24.4±0.4, 39°.32N±0°.02×26°.05E±0°.03, h4km±3km, Error ellipse: s-maj=3.9km s-min=2.8km az=170.3*
CSEM ***15*** *07:45:24.3±0.1, 39°.33N×26°.02E, h2km, ML3.1, Error ellipse: s-maj=3.9km s-min=2.4km az=80.0*
THE ***15*** *07:45:25.0, 39°.34N×26°.09E, h2km±1km, ML3.1/6, Error ellipse: s-maj=1.8km s-min=0.6km az=200.0*

ISC 15 07:45:24.9±0.8, 39°.33N±0°.02×26°.05E±0°.02, h12km±5km, n105, σ0s94/126, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GPNR	**Gulpinar-Canak**	**0.14**	**29**	PG		**Pg**	**07 45 28.3**	**0.0**
GPNR				SG		**Sg**	**07 45 31.1**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.14**	**29**	*e*Pg		**Pg**	**07 45 28.3**	**0.0**
GPNR				*e*Sg		**Sg**	**07 45 31.1**	**+0.3**
SIGR	**SIGRI**	**0.19**	**231**	P		**Pg**	**07 45 29.4**	**+0.3**
SIGR	**SIGRI**	**0.19**	**231**	P		**Pg**	**07 45 29.4**	**+0.3**
SIGR				S		**Sg**	**07 45 32.8**	**+0.7**
PRK	**Paraskevi**	**0.20**	**116**	P		**Pg**	**07 45 28.3**	**-0.9**
PRK				S		**Sg**	**07 45 31.1**	**-1.1**
PRK	**Paraskevi**	**0.20**	**116**	P		**Pg**	**07 45 28.3**	**-0.9**
PRK				S		**Sg**	**07 45 31.1**	**-1.1**
EZN	**Ezine**	**0.54**	**24**	PG		**Pg**	**07 45 34.7**	**-0.7**
EZN				SG		**Sg**	**07 45 43.2**	**+0.6**
EZN	**Ezine**	**0.54**	**24**	*e*Pg		**Pg**	**07 45 34.7**	**-0.7**
EZN				*e*Sg		**Sg**	**07 45 43.2**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.56**	**43**	*i* P		**Pg**	**07 45 35.3**	**-0.6**
BAYC				*i* S		**Sg**	**07 45 43.6**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.56**	**43**	P		**Pg**	**07 45 35.3**	**-0.6**
BAYC				S		**Sg**	**07 45 43.6**	**+0.2**
CAND	**Candarli**	**0.70**	**122**	PG		**Pg**	**07 45 38.1**	**-0.4**
CAND				SG		**Sb**	**07 45 49.1**	**+0.5**
DKL	**Dikili**	**0.72**	**111**	PG		**Pg**	**07 45 38.2**	**-0.6**
DKL	**Dikili**	**0.72**	**111**	*e*Pg		**Pg**	**07 45 38.2**	**-0.6**
FOCM	**Fo˜ça**	**0.82**	**139**	PG		**Pg**	**07 45 39.8**	**-0.9**
FOCM	**Fo˜ça**	**0.82**	**139**	*e*Pg		**Pg**	**07 45 39.8**	**-0.9**
KRBN	**Karaburun**	**0.84**	**152**	PG		**Pg**	**07 45 40.2**	**-0.9**
KRBN	**Karaburun**	**0.84**	**152**	*e*Pg		**Pg**	**07 45 40.2**	**-0.9**
GADA	**Gvkgeada**	**0.86**	**352**	PG		**Pg**	**07 45 39.8**	**-1.8**
GADA	**Gvkgeada**	**0.86**	**352**	*e*Pg		**Pg**	**07 45 39.8**	**-1.8**
GOKC	**Gokceada-Canak**	**0.87**	**354**	PG		**Pg**	**07 45 40.6**	**-1.1**
GOKC	**Gokceada-Canak**	**0.87**	**354**	*e*Pg		**Pg**	**07 45 40.6**	**-1.1**
LIA	**Limnos Island**	**0.87**	**311**	P		**Pb**	**07 45 42.0**	**+0.1**
LIA	**Limnos Island**	**0.87**	**311**	P		**Pb**	**07 45 42.0**	**+0.1**
LIA				S		**Sn**	**07 45 55.3**	**-0.3**
CHOS	**Chios island**	**0.94**	**180**	PG		**Pb**	**07 45 40.9**	**-2.3**
CHOS	**Chios island**	**0.94**	**180**	*e*Pg		**Pb**	**07 45 40.9**	**-2.3**
CHOS	**Chios island**	**0.94**	**180**	P		**Pg**	**07 45 43.5**	**+0.4**
CHOS				S		**Sg**	**07 45 56.2**	**+0.7**
CHOS	**Chios island**	**0.94**	**180**	P		**Pg**	**07 45 43.5**	**+0.4**
CHOS				S		**Sg**	**07 45 56.2**	**+0.7**
CESE	**˜e˜me**	**1.02**	**169**	PG		**Pb**	**07 45 43.4**	**-1.1**
CESE	**˜e˜me**	**1.02**	**169**	*e*Pg		**Pb**	**07 45 43.4**	**-1.1**
URLA	**Izmir**	**1.06**	**156**	PG		**Pb**	**07 45 44.3**	**-0.9**
URLA	**Izmir**	**1.06**	**156**	*i* P		**Pb**	**07 45 43.9**	**-1.3**
URLA	**Izmir**	**1.06**	**156**	P		**Pb**	**07 45 43.9**	**-1.3**
URLA	**Izmir**	**1.06**	**156**	*e*Pg		**Pb**	**07 45 44.3**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.11**	**17**	PN		**Pb**	**07 45 45.5**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.11**	**17**	*e*Pn		**Pb**	**07 45 45.5**	**-0.6**
LPK	**Lapseki**	**1.18**	**28**	PN		**Pn**	**07 45 46.8**	**-0.3**
LPK	**Lapseki**	**1.18**	**28**	*e*Pn		**Pn**	**07 45 46.8**	**-0.3**
SMTH	**Samothraki Isl**	**1.20**	**341**	P		**Pn**	**07 45 46.8**	**-0.7**
SMTH				S		**Sg**	**07 46 04.3**	**+0.6**
SMTH	**Samothraki Isl**	**1.20**	**341**	P		**Pn**	**07 45 46.8**	**-0.7**
SMTH				S		**Sg**	**07 46 04.3**	**+0.6**
BALY	**Balya**	**1.28**	**71**	*i* P		**Pn**	**07 45 47.3**	**-1.3**
BALY				*i* S		**Sb**	**07 46 04.7**	**-0.7**
BALY	**Balya**	**1.28**	**71**	P		**Pn**	**07 45 47.3**	**-1.3**
BALY				S		**Sb**	**07 46 04.7**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.30**	**88**	*i* P		**Pn**	**07 45 48.9**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.30**	**88**	P		**Pn**	**07 45 48.9**	**+0.1**
ERIK	**Erikli-Kesan**	**1.38**	**15**	PN		**Pn**	**07 45 50.3**	**+0.3**
ERIK	**Erikli-Kesan**	**1.38**	**15**	*e*Pn		**Pn**	**07 45 50.3**	**+0.3**
ENEZ	**Enez**	**1.40**	**3**	PN		**Pb**	**07 45 50.8**	**-0.3**
ENEZ	**Enez**	**1.40**	**3**	P		**Pb**	**07 45 50.7**	**-0.3**
ENEZ				S		**Sg**	**07 46 10.2**	**+0.1**
ENEZ	**Enez**	**1.40**	**3**	P		**Pb**	**07 45 50.7**	**-0.3**
ENEZ				S		**Sg**	**07 46 10.2**	**+0.1**
KRBG	**Karabiga-Canak**	**1.43**	**42**	PN		**Pb**	**07 45 51.4**	**-0.1**
KRBG	**Karabiga-Canak**	**1.43**	**42**	*e*Pn		**Pb**	**07 45 51.4**	**-0.1**
DGB	**˜zmir**	**1.44**	**153**	*i* P		**Pn**	**07 45 50.5**	**-0.2**
AKS	**Akhisar**	**1.45**	**108**	PN		**Pb**	**07 45 51.9**	**+0.1**
AKS	**Akhisar**	**1.45**	**108**	*e*Pn		**Pb**	**07 45 51.9**	**+0.1**
BALB	**Balikesir**	**1.45**	**77**	PN		**Pb**	**07 45 52.4**	**+0.6**
BALB	**Balikesir**	**1.45**	**77**	*e*Pn		**Pb**	**07 45 52.4**	**+0.6**
ALN	**Alexandroupoli**	**1.56**	**360**	PN		**Pn**	**07 45 52.7**	**+0.3**
ALN	**Alexandroupoli**	**1.56**	**360**	P		**Pn**	**07 45 52.2**	**-0.2**
ALN	**Alexandroupoli**	**1.56**	**360**	*e*Pn		**Pn**	**07 45 52.7**	**+0.3**
ALN				S		**Sb**	**07 46 14.2**	**+

ASAJ *e*Sn **Sn** 07 52 21.4 +2.1
KUR Kuril'sk 4.75 25 *d i*P **Pn** 07 51 51.6 -0.7
KUR *i* S **Sn** 07 52 43.5 -3.0
KUR pmax pmax
comp=N,16nm,0.3s
KUR pmax pmax
comp=Z,74nm,0.3s
KUR pmax pmax
comp=E,32nm,0.2s
KUR smax smax
comp=N,182nm,0.6s
KUR smax smax
comp=E,78nm,0.4s
YSS Yuzh-Sakhalins 6.22 345 *e*P Pn 07 52 18.3 +5.7
MJAR Matsushiro Arr 6.92 233 Pn **Pn** 07 52 21.1 -1.2
comp=E,1.8nm,0.3s,baz=39,slow=11,SNR=12
MJAR LR LR 07 54 31.0
comp=E,31nm,19.0s,baz=55,slow=34
MAJO Matsushiro 6.93 233 *e*P **Pn** 07 52 20.7 -1.6
MAJO Matsushiro 6.93 233 *e*Pn **Pn** 07 52 20.7 -1.6
MAT Matsushiro 6.93 233 P **Pn** 07 52 20.9 -1.4
MAT *e*S **Sn** 07 53 37.5 -2.7
MJB9 Matsu-Tunnel 6.93 233 *e*Pn **Pn** 07 52 20.9 -1.4
INU Inuyama 8.44 231 *e*Pn **Pn** 07 52 42.4 -0.7
JHJ2 Mitsune 8.87 210 *e*Pn **Pn** 07 52 48.0 -1.0
USRK Ussuriysk Ar. 10.16 293 Pn **Pn** 07 53 07.9 +1.3
comp=E,0.3nm,0.3s,baz=94,slow=15,SNR=6.1
USRK LR LR 07 56 59.0
comp=E,103nm,21.9s,baz=150,slow=37
MDJ Mudanjiang 11.93 293 P **Pn** 07 53 30.8 0.0
MDJ pP 07 53 37.6
MDJ sP 07 53 40.9
MDJ S **Sn** 07 55 44.5 +1.5
MDJ ScP **ScP** 08 02 45.1 -2.2
MDJ PcS **PcS** 08 02 49.1 -1.2
MDJ pmax pmax
comp=E,7.0nm,1.0s
MDJ pmax pmax
comp=E,110nm,3.5s
MDJ LR LR
comp=E,160nm,4.0s
MDJ LR LR
comp=E,220nm,5.2s
KLR Kul'dur 12.51 316 Pn **Pn** 07 53 39.2 +0.5
comp=E,0.0nm,0.3s,baz=124,slow=14,SNR=4.4
KLR LR LR 07 59 01.5
comp=E,9.3nm,18.1s,baz=134,slow=40
KLR Kul'dur 12.51 316↑ *e*P **Pn** 07 53 38.5 -0.2
NKL Nikolayevsk 12.56 348 *e*P Pn 07 53 30.5 -8.8
KSRS Korea Array 13.73 261 Pn **Pn** 07 53 57.2 +1.8
baz=67,slow=15,SNR=3.4
KSRS LR LR 07 58 36.6
comp=E,59nm,19.1s,baz=45,slow=35
JNU Naktsug 13.74 240 LR LR 07 59 21.7
comp=E,23nm,21.9s,baz=292,slow=38
PETK Petropavlovsk- 14.88 31 Pn Pn 07 54 06.3 -4.6
comp=E,0.2nm,0.3s,baz=163,slow=11,SNR=5.1
PETK LR LR 07 59 59.3
comp=E,22nm,19.5s,baz=173,slow=38
PEA1 Petropavlovsk- 14.88 31 *e*Pn Pn 07 54 06.3 -4.7
ZEA Zeya 17.52 323 *e*P **Pn** 07 54 44.2 -0.4
ZEA pmax pmax
comp=Z,12nm,1.0s
MA2 Magadan 18.98 9 LR LR 08 03 01.7
comp=Z,21nm,21.2s,baz=136,slow=39
BJI Beijing 21.94 277↓ *e*P **P** 07 55 36.8 +2.9
BJI pmax pmax
comp=Z,8.0nm,0.5s
SEY Seymchan 22.44 9 P **P** 07 55 38.3 -0.8
comp=Z,2.6nm,0.7s,baz=193,slow=8.1,SNR=17
SEY Seymchan 22.44 9↓↓ *e*P **P** 07 55 38.5 -0.6
NJ2 Nanjing 22.79 255 *e*P **P** 07 55 41.6 -1.4
NJ2 pmax pmax
comp=Z,16nm,0.6s
HHC Hu-ho-hao-te 25.23 281 *e*P **P** 07 56 04.1 -2.1
HHC S **S** 08 00 22.3 -7.9
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,98nm,4.6s
HHC LR LR
comp=Z,100nm,13.1s
HHC LR LR
comp=Z,130nm,12.6s
BOD Bodaibo 25.99 321 *e*P **P** 07 56 07.1 -5.8
BOD pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 27.79 297↓↓ *e*P **P** 07 56 31.7 +2.3
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 27.79 297 *e*P **P** 07 56 32.5 +3.1
comp=Z,5.3nm,1.1s
H11N2 WAKE ISLAND Hy 28.19 132 T T 08 26 05.0
baz=324,slow=75,SNR=5.2
H11N1 WAKE ISLAND Hy 28.20 132 T T 08 26 06.6
baz=324,slow=75,SNR=7.9
H11N3 WAKE ISLAND Hy 28.21 132 T T 08 26 07.5
baz=324,slow=75,SNR=7.1
SONA1 Songino Array 28.23 297 *e*P **P** 07 56 33.5 +0.2
SONA0 Songino Array 28.24 297 *e*P **P** 07 56 33.6 +0.3
SONM Songino Array 28.24 297 P **P** 07 56 33.6 +0.3
comp=Z,0.8nm,0.5s,baz=68,slow=7.4,SNR=6.6
SONM LR LR 08 08 38.5
comp=Z,91nm,18.8s,baz=33,slow=38
WAKE Wake Island 28.41 133 *e*P **P** 07 56 38.2 +3.3
comp=Z,313nm,1.6s
H11S1 WAKE ISLAND Hy 29.07 134 T T 08 27 21.9
baz=325
H11S3 WAKE ISLAND Hy 29.07 134 T T 08 27 15.1
baz=325,slow=74
H11S2 WAKE ISLAND Hy 29.09 134 T T 08 27 09.1
baz=325,slow=74
BILL Bilibino 29.48 16 *i*P **P** 07 56 41.2 -2.7
BILL *i* 07 56 52.3
BILL *i* 07 57 43.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,40nm,15.0s
TLY Talaya 30.16 305 *e*P **P** 07 56 51.2 +1.0
TLY pmax pmax
comp=Z,1.0nm,0.6s
TLY MLR MLR
comp=Z,56nm,14.0s
ZAK Zakamensk 30.32 302 *e*P P 07 56 58.4 +6.7
ZAK pmax pmax
comp=Z,4.0nm,1.1s
LZH Lanzhou 32.38 275 *e*P P 07 57 14.8 +4.7
LZH pP sP 07 57 22.6 +1.6
LZH sP pP 07 57 25.8 +8.0
LZH pmax pmax
comp=Z,11nm,0.7s
GTA Gaotai 34.30 283 P **P** 07 57 27.9 +1.1
GTA pP pP 07 57 36.3 +1.8
GTA sP sP 07 57 40.8 +3.1
GTA pmax pmax
comp=Z,8.0nm,0.8s
CD2 Chengdu 34.63 267 *e*P **P** 07 57 28.5 -1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 38.42 259 P **P** 07 58 02.8 +0.6
KMI pmax pmax
comp=Z,21nm,0.5s
ZAA1 Zalesovo Array 41.50 309 *e*P **P** 07 58 27.8 +0.6
ZAA1 *e*PcP **PcP** 08 00 24.6 +0.3
ZAA0 Zalesovo Array 41.50 309 *e*P **P** 07 58 27.9 +0.8
comp=Z,3.7nm,0.7s
ZALV Zalesovo Beam 41.50 309 P **P** 07 58 27.8 +0.6
comp=Z,2.0nm,0.6s,baz=95,slow=8.5,SNR=7.3
ZALV PcP **PcP** 08 00 24.6 +0.3
comp=Z,2.7nm,0.5s,baz=108,slow=2.8,SNR=8.7
ZALV LR LR 08 16 49.1
comp=Z,60nm,19.4s,baz=70,slow=38
WMQ Urumqi 41.73 294 P **P** 07 58 29.9 +0.6
WMQ pP pP 07 58 38.3 +1.2
WMQ sP sP 07 58 41.9 +1.6
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ LR LR
comp=Z,110nm,20.5s
WMQ LR LR
comp=Z,110nm,19.5s
CAST Castle Rocks 42.40 36 *e*P **P** 07 58 36.1 +1.8
comp=Z,3.4nm,0.7s
COLA College 44.25 34↓↓ *e*P **P** 07 58 51.3 +2.0
COLA pmax pmax
comp=Z,17nm,2.6s
MK01 Makanchi Array 44.55 299 *e*P **P** 07 58 51.9 -0.1
MK31 Makanchi Array 44.55 299 *e*P **P** 07 58 52.3 +0.3
MK31 Makanchi Array 44.55 299 *e*P **P** 07 58 52.3 +0.3
MK32 Makanchi Array 44.55 299 *e*P **P** 07 58 51.9 -0.1
MKAR Makanchi Array 44.55 299 P **P** 07 58 51.9 0.0
comp=Z,1.8nm,0.7s,baz=83,slow=9.7,SNR=17
MKAR Makanchi Array 44.55 299 *i*P **P** 07 58 52.0 0.0
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 44.55 299 *e*P **P** 07 58 52.2 +0.3
comp=Z,19nm,0.7s
ILAR Eielson Array 44.67 34 P **P** 07 58 53.1 +0.5
comp=Z,1.9nm,0.8s,baz=261,slow=6.9,SNR=20
ILB Eielson Array 44.67 34 *e*P **P** 07 58 53.3 +0.7
MAKZ Makanchi 44.76 300 *e*P **P** 07 58 53.7 +0.1
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 44.76 300 *e*P **P** 07 58 53.7 +0.1
comp=Z,3.1nm,0.7s
KURK Kurchatov 45.85 306 *d i*P **P** 07 59 02.4 +0.3
KURK pmax pmax
comp=Z,39nm,1.2s
KURK Kurchatov 45.85 306 *e*P **P** 07 59 02.5 +0.3
comp=Z,7.1nm,0.8s
KURBB Kurchatov Arra 45.93 306 P **P** 07 59 02.8 0.0
comp=Z,7.6nm,0.6s,baz=77,slow=8.8,SNR=37
INK Inuvik 49.60 29 P **P** 07 59 32.1 +1.1
comp=Z,2.2nm,0.9s,baz=304,slow=5.8,SNR=7.6
INK Inuvik 49.60 29 *e*P **P** 07 59 32.1 +1.1
INK pmax pmax
comp=Z,18nm,1.9s
INK Inuvik 49.60 29 *e*P **P** 07 59 32.1 +1.1
comp=Z,18nm,1.9s
BVAR Borovoye Array 50.11 311 P **P** 07 59 35.5 +0.4
comp=Z,2.2nm,0.5s,baz=70,slow=8.5,SNR=19
BRVK Borovoye 50.16 311↓↓ *e*P **P** 07 59 36.0 +0.6
BRVK pmax pmax
comp=Z,14nm,2.5s
AAK Ala-Archa 51.19 297↑↑ *e*P **P** 07 59 43.3 -0.3
AAK pmax pmax
comp=Z,2.0nm,0.9s
KSH Kashi 51.46 293 *e*P P 07 59 50.6 +5.0
KKAR Karatay Array 53.67 299 *e*P **P** 08 00 02.1 +0.3
KKAR Karatay Array 53.67 299 *e*P **P** 08 00 02.1 +0.3
ARU Arti 55.34 318 *d i*P **P** 08 00 13.8 +0.1
ARU 08 02 15.0
ARU S **S** 08 07 58.9 +2.9
ARU SS **SS** 08 11 42.4 +2.4
ARU pmax pmax
comp=Z,9.0nm,1.7s
ABKAR Akbulak array 57.62 309 *e*P **P** 08 00 30.6 +0.6
comp=Z,1.6nm,0.4s
RES Resolute Bay 58.09 16 P **P** 08 00 33.4 +0.5
comp=Z,1.8nm,0.5s,baz=319,slow=9.0,SNR=15
RES Resolute Bay 58.09 16 *e*P **P** 08 00 33.4 +0.5
RES pmax pmax
comp=Z,12nm,1.5s
RES Resolute Bay 58.09 16 *e*P **P** 08 00 33.4 +0.5
comp=Z,12nm,1.5s
AKTO Aktyubinsk 58.20 311 P **P** 08 00 34.8 +0.7
comp=Z,1.7nm,0.7s,baz=56,slow=8.8,SNR=7.7
AKTO LR LR 08 28 59.6
comp=Z,44nm,18.5s,baz=349,slow=40
YKA Yellowknife Ar 58.99 32 P **P** 08 00 39.8 +0.5
comp=Z,0.6nm,0.6s,baz=301,slow=6.6,SNR=12
YKB5 Yellowknife Ar 58.99 32 *e*P **P** 08 00 39.1 -0.3
LVZ Lovozero 59.70 336↓↓ *e*P **P** 08 00 42.5 -1.8
LVZ pmax pmax
comp=Z,35nm,1.5s
WR1 Warramunga Arr 61.40 191 *e*P **P** 08 00 55.1 -1.1
comp=Z,58nm,1.9s
WRA Warramunga Arr 61.40 191 P **P** 08 00 55.1 -1.2
comp=Z,4.2nm,0.8s,baz=7.9,slow=6.7,SNR=22
GEYT Alibeck 64.42 299 LR LR 08 30 38.3
comp=Z,74nm,18.4s,baz=330,slow=37
ASAR Alice Springs 65.12 191 P **P** 08 01 20.3 -0.6
comp=Z,1.6nm,0.6s,baz=11,slow=6.1,SNR=22
FIA0 FINESS Array S 66.65 333 *e*P **P** 08 01 30.6 +0.2
FIA0 FINESS Array S 66.65 333 *e*P **P** 08 01 30.6 +0.2
FINES FINESS Array B 66.65 333 P **P** 08 01 30.5 +0.2
comp=Z,2.6nm,0.7s,baz=46,slow=8.2,SNR=9.0
FINES FINESS Array B 66.65 333 P **P** 08 01 30.5 +0.2
FINES pmax pmax
comp=Z,2.0nm,0.5s
NV01 Mina Array Sit 70.41 56 *e*P **P** 08 01 54.8 +0.2
NVAR Mina Array Bea 70.41 56 P **P** 08 01 55.1 +0.5
comp=Z,0.6nm,0.6s,baz=292,slow=6.3,SNR=8.3
KIV Kislovodsk 70.46 312 *e*P **P** 08 01 54.4 -0.2
KIV pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 70.48 311 P **P** 08 01 56.2 +1.7
comp=Z,5.3nm,0.8s,baz=18,slow=2.4,SNR=7.6
NB2 NORAR Subarra 71.64 338 P **P** 08 02 01.3 -0.1
comp=Z,1.0nm,0.6s,baz=35,slow=6.2
NB200 NORSAR Array S 71.64 338 *e*P **P** 08 02 01.6 +0.2
NOA NORSAR Array B 71.64 338 P **P** 08 02 01.6 +0.2
comp=Z,2.0nm,0.8s,baz=36,slow=6.0,SNR=5.3
NOA LR LR 08 39 58.5
comp=Z,40nm,18.1s,baz=350,slow=41
HFS Hagfors 71.65 337 P **P** 08 02 01.7 +0.3
comp=Z,1.5nm,0.5s,baz=66,slow=8.3,SNR=7.6
FRB Frobisher Bay 72.29 15 P **P** 08 02 04.4 -0.7
comp=Z,1.8nm,0.7s,baz=160,slow=7.2,SNR=5.8
AKASG Malin Array Be 72.90 323 P **P** 08 02 09.2 +0.2
comp=Z,2.3nm,0.5s,baz=42,slow=6.1,SNR=19
AKBB Malin Array Si 72.90 323 *e*P **P** 08 02 09.2 +0.2
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 72.90 323 *e*P **P** 08 02 09.2 +0.2
comp=Z,3.9nm,0.8s
KIEV Kiev 72.91 323↓↓ *e*P **P** 08 02 09.2 +0.1
KIEV pmax pmax
comp=Z,4.0nm,0.7s
PD31 Pinedale Array 72.92 48 *e*P **P** 08 02 10.3 +0.7
PDAR Pinedale Array 72.92 48 P **P** 08 02 09.3 -0.3
comp=Z,0.5nm,0.7s,baz=276,slow=2.3,SNR=8.0
BREC Barre Substati 73.44 60 *e*P **P** 08 02 13.4 +1.0
BUR08 Bucovina Ar. S 76.93 323 *e*P **P** 08 02 33.5 +1.0
BUR04 Bucovina Ar. S 76.95 323 *e*P **P** 08 02 29.9 -2.7
RAO Raoul Island 77.82 147 *e*P **P** 08 02 41.2 +3.8
RAO pmax pmax
comp=Z,3μm,0.6s
RAO Raoul Island 77.82 147 *e*P **P** 08 02 41.2 +3.8
comp=Z,3μm,0.6s
BR101 Keskin Array S 78.32 313 *e*P **P** 08 02 41.4 +0.9
BRTR Keskin Array B 78.32 313 P **P** 08 02 41.4 +0.9
comp=Z,1.4nm,0.8s,baz=116,slow=2.9,SNR=4.2
BR231 Keskin MP Arra 78.72 313 *e*P **P** 08 02 41.8 -0.8
CLL Collm 79.06 332↓↓ *i*P **P** 08 02 45.0 +0.9
CLL Collm 79.06 332↓↓ *i*P **P** 08 02 45.0 +0.9
GOPC GO Pecny, Ondr 79.53 330 *e*P **P** 08 02 48.0 +1.2
GOPC GO Pecny, Ondr 79.53 330 *e*P **P** 08 02 48.0 +1.2
SMOL Smolenice 79.62 328 *e*P P 08 02 38.7 -8.5
KHC Kasperske Hory 80.63 330 *e*P **P** 08 02 53.9 +1.2
KHC Kasperske Hory 80.63 330 *e*P **P** 08 02 53.9 +1.2
GERES GERESS Array B 80.81 330 P **P** 08 02 54.3 +0.5
comp=Z,0.5nm,0.4s,baz=23,slow=7.2,SNR=6.5
GERES LR LR 08 41 53.2
comp=Z,58nm,18.1s,baz=352,slow=38
LTX Lajitas 85.52 55 *e*P **P** 08 03 19.2 +0.7
LTX Lajitas 85.52 55 *e*P **P** 08 03 19.1 +0.7
TX31 Lajitas Ar. Si 85.52 55 *e*P **P** 08 03 17.5 -0.9
TXAR Lajitas Array 85.52 55 P **P** 08 03 19.1 +0.7
comp=Z,0.8nm,0.6s,baz=301,slow=3.6,SNR=14
BNI Bardonecchia 86.60 332 *e*P **P** 08 03 23.6 0.0
BNI pmax pmax
comp=Z,25nm,2.0s
BNI Bardonecchia 86.60 332 *e*P **P** 08 03 23.6 0.0
comp=Z,25nm,2.0s
SNAA Sanae 145.32 197 PKP **PKPbc** 08 10 14.7 -1.8
VNA2 Neumayer--Watz 146.87 196 PKP **PKPdf** 08 10 20.5 +1.3
baz=103,slow=2.3

IDC 15 08:07:16.5±314.0, 56°49'N×43°00'E, h0km, Error ellipse: s-maj=123.6km s-min=65.0km az=100.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.20**	**277**	*i*		08 27 10.0	
	baz=91,slow=343,SNR=0.9						
I31KZ	**AKTYUBINSK INF**	**10.83**	**118**	*i*		09 10 50.0	
	baz=310,slow=330,SNR=1.2						
I46RU	**ZALESOVO INFRA**	**23.73**	**78**	*i*		10 34 10.0	
	baz=290,slow=326,SNR=0.9						

IDC 15 08:11:09.9±3.4, 54°02'N×89°94E, h0km, mb1 3.0/3, mb1mx2.8/75, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=30.5km s-min=22.9km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.02**	**271**	*i*		08 33 30.0	
	baz=87,slow=338,SNR=7.3						
ZALV	**Zalesovo Beam**	**3.02**	**271**	Pn	Pn	08 12 00.8	+1.8
	0.6nm,0.3s,baz=94,slow=15,SNR=4.7						
ZALV				Lg	Lg	08 12 44.6	
	0.7nm,0.3s,baz=88,slow=27,SNR=5.9						
KURBB	**Kurchatov Arra**	**7.77**	**249**	Pn	Pn	08 13 04.1	-0.1
	0.1nm,0.3s,baz=62,slow=14,SNR=10						
KURBB				Sn	Sn	08 14 31.1	-1.7
	0.0nm,0.3s,baz=66,slow=25,SNR=2.8						
MKAR	**Makanchi Array**	**8.72**	**217**	Pn	Pn	08 13 17.8	+0.5
	0.2nm,0.3s,baz=31,slow=13,SNR=18						
MKAR				Sn	Sn	08 14 56.3	+0.1
	0.1nm,0.3s,baz=35,slow=27,SNR=3.2						

*ISCJB **15** 08:11:55.7±0.9, 59°20'N×0°03'×27°88E×0°1, h0km, Error ellipse: s-maj=7.8km s-min=4.2km az=20.4*
*CSEM **15** 08:11:56.8±0.5, 59°21'N×27°84E, h2km, ML1.9, Error ellipse: s-maj=10.7km s-min=5.2km az=112.0, Mining explosion.*
*HEL **15** 08:11:56.0±0.3, 59°18'N×27°99E, h0km, ML1.9, Explosion*
*IDC **15** 08:11:59.7±2.4, 59°39'N×27°93E, h0km, mb1 3.4/3, mb1mx2.9/68, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=21.3km s-min=13.9km az=109.0*

ISC 15 08:11:56.1±1.3, 59°21'N±0°04×27°88E±0°06, h0km, n29, σ0s90/51, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.96**	**219**	*e*P	**Pg**	**08 12 14.3**	**-0.2**
	SNR=90						
VSU				*e*S	**Sg**	**08 12 26.5**	**-0.4**
	49nm,0.9s,SNR=90						
VSU	**Vasula**	**0.96**	**219**	*e*P	**Pg**	**08 12 13.8**	**-0.7**
VSU				*e*S	**Sg**	**08 12 25.6**	**-1.3**
ARBE	**Arbavere**	**1.00**	**284**	P	**Pg**	**08 12 14.9**	**-0.3**
ARBE				S	**Sg**	**08 12 27.4**	**-0.7**
ARBE	**Arbavere**	**1.00**	**284**	*e*P	**Pg**	**08 12 15.0**	**-0.3**
ARBE				*e*S	**Sg**	**08 12 27.5**	**-0.7**
VJF	**Virojoki**	**1.34**	**353**	P	**Pg**	**08 12 20.7**	**-1.1**
VJF				Sb	**Sg**	**08 12 39.4**	**+0.2**
VJF	**Virojoki**	**1.34**	**353**	*e*P	**Pg**	**08 12 20.7**	**-1.1**
VJF				*e*SB	**Sg**	**08 12 39.4**	**+0.2**
PVF	**Pernaja**	**1.68**	**324**	P	**Pn**	**08 12 26.4**	**-0.3**
PVF				S	**Sn**	**08 12 48.4**	**-0.5**
PVF	**Pernaja**	**1.68**	**324**	*e*P	**Pn**	**08 12 26.5**	**-0.3**
PVF				*e*S	**Sn**	**08 12 48.4**	**-0.5**
PVF				MSG		08 12 52.6	
	comp=Z,8.2nm,0.2s						
MEF	**Metsahovi**	**2.03**	**301**	*e*P	**Pb**	**08 12 33.1**	**-0.8**
	SNR=68						
MEF				*e*S	**Sn**	**08 12 58.5**	**+0.9**
	comp=Z,8.9nm,0.3s,SNR=68						
MEF	**Metsahovi**	**2.03**	**301**	*e*PB	**Pn**	**08 12 32.7**	**+1.1**
MEF				*e*SB	**Sn**	**08 12 58.7**	**+1.1**
MEF				MSG		08 13 00.2	
	comp=Z,6.7nm,0.1s						
MTSE	**Matsula**	**2.16**	**258**	*e*P	**Pn**	**08 12 34.6**	**+1.2**
	SNR=68						
MTSE				*e*S	**Sn**	**08 13 02.1**	**+1.3**
	SNR=68						
MTSE				Sg	**Sb**	**08 13 03.4**	**0.0**
MTSE	**Matsula**	**2.16**	**258**	*e*PB	**Pn**	**08 12 34.5**	**+1.2**
MTSE				*e*SG	**Sb**	**08 13 03.4**	**0.0**
FIA0	**FINESS Array S**	**2.41**	**339**	P	**Pn**	**08 12 37.0**	**+0.3**
FIA0				S	**Sn**	**08 13 08.0**	**+1.0**
FIA0	**FINESS Array S**	**2.41**	**339**	*e*P	**Pn**	**08 12 37.1**	**+0.3**
FIA0				*e*S	**Sn**	**08 13 08.0**	**+1.0**
FIA0				MSG		08 13 13.9	
	comp=Z,3.0nm,0.1s						
FINES	**FINESS Array B**	**2.41**	**339**	Pn	**Pn**	**08 12 37.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=155,slow=17,SNR=8.9						
FINES				Pg	**Pb**	**08 12 40.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=156,slow=18,SNR=9.1						
FINES				Sn	**Sn**	**08 13 07.7**	**+0.7**
	comp=Z,4.2nm,0.3s,baz=156,slow=24,SNR=29						
FINES				Lg	Lg	08 13 11.4	
	comp=Z,4.2nm,0.3s,baz=163,slow=29,SNR=26						
FIA1	**FINESS Array S**	**2.41**	**339**	P	**Pn**	**08 12 37.2**	**+0.4**
FIA1	**FINESS Array S**	**2.41**	**339**	*e*P	**Pn**	**08 12 37.3**	**+0.4**
FIA1				*e*SG	**Sb**	**08 13 11.2**	**+0.6**
FIA1				MSG		08 13 13.3	
	comp=Z,5.9nm,0.1s						
KAF	**Kangasniemi**	**3.01**	**346**	S	**Sn**	**08 13 22.3**	**+0.5**
KAF	**Kangasniemi**	**3.01**	**346**	*e*S	**Sn**	**08 13 22.4**	**+0.5**
KEF	**Keuruu**	**3.31**	**335**	P	**Pn**	**08 12 50.5**	**+1.3**
KEF	**Keuruu**	**3.31**	**335**	*e*P	**Pn**	**08 12 50.5**	**+1.3**
KEF				*e*SG	**Sb**	**08 13 38.1**	**+1.6**
ELIT	**Slitere, Latvi**	**3.34**	**244**	*e*SG	**Sb**	**08 13 38.5**	**+1.2**
RAF	**Rauma**	**3.56**	**303**	*e*P	**Pn**	**08 12 53.2**	**+0.7**
	SNR=46						
RAF				S	**Sn**	**08 13 35.7**	**+0.5**
RAF	**Rauma**	**3.56**	**303**	*e*P	**Pn**	**08 12 53.5**	**+0.9**
RAF				*e*S	**Sn**	**08 13 35.8**	**+0.5**
VAF	**Ylistaro**	**4.60**	**329**	S	**Sn**	**08 14 00.0**	**-0.7**
VAF	**Ylistaro**	**4.60**	**329**	*e*S	**Sn**	**08 14 00.1**	**-0.7**
HFS	**Hagfors**	**7.24**	**283**	Pn	**Pn**	**08 13 43.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=84,slow=15,SNR=3.1						
HFS				Sn	**Sn**	**08 15 03.4**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=99,slow=25,SNR=3.1						
HFS				Lg	Lg	08 15 37.7	
	comp=Z,0.3nm,0.3s,baz=90,slow=32,SNR=4.7						
NOA	**NORSAR Array B**	**8.52**	**290**	Pn	**Pn**	**08 14 00.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=98,slow=13,SNR=2.5						
NOA				Lg	Lg	08 16 19.8	
	comp=Z,0.3nm,0.3s,baz=121,slow=22,SNR=4.2						
ARCES	**ARCESS Array B**	**10.41**	**355**	Pn	**Pn**	**08 14 25.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=173,slow=11,SNR=3.3						

*ISCJB **15** 08:18:37.6±0.2, 36°54N±0°02×70°92E±0°02, h197km±2km, mb4.3/53, Error ellipse: s-maj=2.9km s-min=2.6km az=142.5*
*MOS **15** 08:18:38.3±0.9, 36°53N×70°97E, h204km, mb4.4/27, Error ellipse: s-maj=9.2km s-min=5.2km az=93.0*
*NEIC **15** 08:18:38.6±0.4, 36°54N×70°89E, h194km±3km, mb4.4/21, Error ellipse: s-maj=4.9km s-min=3.2km az=149.0*
*BJI **15** 08:18:38.8, 36°74N×70°94E, h201km, mb4.3/20, mB4.7/14*
*IDC **15** 08:18:39.7±0.7, 36°45N×70°93E, h206km±6km, mb3.9/27, mb1 4.0/35, mb1mx3.7/75, mbtmp4.4/35, MS4.0/2, Ms1 4.0/2, ms1mx2.7/65, Error ellipse: s-maj=9.7km s-min=8.6km az=24.0*
*NNC **15** 08:18:42.2±2.8, 36°84N×70°76E, h187km±33km, mb3.6, mpv4.7, Error ellipse: s-maj=26.3km s-min=17.7km az=173.0*

ISC 15 08:18:38.8±0.4, 36°55N±0°03×70°93E±0°04, h197km±4km, h197km:pP-P, n212, σ1s87/257, mb4.4/53, 13C-18D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.53**	**218**	*e*PN	**Pn**	**08 19 24.3**	**+1.2**
KBL				*e*		08 19 57.8	
KBL	**Kabul**	**2.53**	**218**	*e*Pn	**Pn**	**08 19 24.3**	**+1.2**
KBL				*e*Sn	**Sn**	**08 19 57.8**	**+0.2**
CEP	**Cherat**	**2.84**	**163**	P	**Pn**	**08 19 28.0**	**+1.4**
CEP				S	**Sn**	**08 20 04.0**	**+0.2**
CHCP	**Chirah Chowk**	**3.46**	**146**	P	**Pn**	**08 19 35.3**	**+1.4**
THW	**Thamme Wali**	**3.81**	**170**	P	**Pn**	**08 19 39.2**	**+1.0**
SFK	**Sufi-Kurgan**	**4.00**	**30**	↓↓P	**Pn**	**08 19 42.3**	**+1.7**
	33nm,0.3s						
SFK				↑↑S	**Sn**	**08 20 28.3**	**-1.0**
	301nm,0.4s						
SFK	**Sufi-Kurgan**	**4.00**	**30**	PN	**Pn**	**08 19 41.0**	**+0.3**
SARP	**Sargodha**	**4.84**	**162**	P	**Pn**	**08 19 51.5**	**+0.4**
TAS	**Tashkent**	**4.94**	**345**	↑↑P	**Pn**	**08 19 53.3**	**+1.0**
	754nm,0.3s						
TAS				↑↑S	**Sn**	**08 20 47.8**	**-2.5**
	3μm,0.6s						
KSH	**Kashi**	**4.96**	**52**	P	**Pn**	**08 19 48.8**	**-3.9**

KSH S Sn 08 20 37.3 -14
KSH pmax pmax
comp=Z,110nm,0.5s
AML Almayashu 5.97 20 P **Pn 08 20 06.2 +0.3**
SNR=472
MNAS Manas 6.05 11 ⇓P **Pn 08 20 07.1 +0.4**
19nm,0.5s
MNAS ⇓S **Sn 08 21 13.8 -2.5**
212nm,0.5s
MNAS Manas 6.05 11 PN **Pn 08 20 07.0 +0.3**
DHRM DHARAMSHALA 6.17 133 *e*P **Pn 08 20 07.7 -0.8**
DHRM *e*S **Sn 08 21 15.7 -3.6**
NRN Naryn 6.27 37 PN **Pn 08 20 09.0 -0.8**
UCH Uchtor 6.31 25 P **Pn 08 20 10.8 +0.5**
SNR=45
KZA Kyzart 6.45 30 P **Pn 08 20 12.2 0.0**
SNR=21
EKS2 Erkin-Say 6.48 19 P **Pn 08 20 12.9 +0.6**
SNR=76
KK07 Karatay Array 6.54 357 *e*Pn **Pn 08 20 13.0 +0.1**
KK07 *e*Sn **Sn 08 21 24.4 -3.1**
KK06 Karatay Array 6.54 357 *e*Pn **Pn 08 20 13.1 +0.2**
KK06 *e*Sn **Sn 08 21 22.9 -4.7**
KK03 Karatay Array 6.55 357 *e*Pn **Pn 08 20 13.2 +0.1**
KK03 *e*Sn **Sn 08 21 22.9 -5.0**
KK02 Karatay Array 6.55 357 *e*Pn **Pn 08 20 13.2 +0.1**
KK02 *e*Sn **Sn 08 21 24.3 -3.5**
KK31 Karatay Array 6.55 357 ⇑P **Pn 08 20 13.2 +0.1**
13nm,0.3s,baz=187,slow=12,SNR=740
KK31 ⇓S **Sn 08 21 23.5 -4.3**
74nm,0.3s,baz=186,slow=24,SNR=20
KK31 Karatay Array 6.55 357 *e*PN **Pn 08 20 13.2 +0.1**
KK31 Karatay Array 6.55 357 *e*Pn **Pn 08 20 13.2 +0.1**
KK31 *e*Sn **Sn 08 21 24.2 -3.7**
KKAR Karatay Array 6.55 357 *e*PN **Pn 08 20 13.3 +0.2**
KKAR Karatay Array 6.55 357 *e*Pn **Pn 08 20 13.2 +0.2**
KKAR *e*Sn **Sn 08 21 23.9 -4.0**
KK01 Karatay Array 6.55 357 *e*Pn **Pn 08 20 13.3 +0.1**
KK01 *e*Sn **Sn 08 21 24.0 -3.9**
KK08 Karatay Array 6.55 357 *e*Pn **Pn 08 20 13.2 +0.1**
KK08 *e*Sn **Sn 08 21 24.5 -3.4**
KK04 Karatay Array 6.56 357 *e*Pn **Pn 08 20 13.3 +0.2**
KK04 *e*Sn **Sn 08 21 24.1 -3.9**
KK05 Karatay Array 6.56 357 *e*Pn **Pn 08 20 13.4 +0.1**
KK05 *e*Sn **Sn 08 21 23.8 -4.4**
AAK Ala-Archa 6.67 23 P **Pn 08 20 15.4 +0.6**
7.3nm,0.3s,baz=162,slow=6.7,SNR=60
AAK S **Sn 08 21 29.1 -1.8**
3.9nm,0.3s,baz=208,slow=18,SNR=4.3
AAK Ala-Archa 6.67 23 ⇓P **Pn 08 20 15.4 +0.6**
9.1nm,0.4s
AAK ⇑S **Sn 08 21 28.7 -2.2**
66nm,0.6s
AAK Ala-Archa 6.67 23 *d i*PN **Pn 08 20 15.2 +0.4**
AAK Ala-Archa 6.67 23 P **Pn 08 20 15.4 +0.6**
SNR=29
KBK Karagaybulak 6.84 26 P **Pn 08 20 18.6 +1.6**
SNR=19
ULHL Ulahol 7.01 34 P **Pn 08 20 20.2 +0.9**
SNR=14
CHMS Chumysh 7.08 23 P **Pn 08 20 20.6 +0.7**
SNR=9.8
TKM2 Tokmak 2 7.30 28 ⇓P **Pn 08 20 23.4 +0.3**
28nm,0.7s
TKM2 ⇓S **Sn 08 21 42.6 -3.3**
47nm,1.0s
TKM2 Tokmak 2 7.30 28 P **Pn 08 20 24.0 +0.9**
SNR=8.9
KDJ Kajisay 7.38 39 *e*Pn **Pn 08 20 24.4 +0.3**
KDJ *e*Sn **Sn 08 21 46.2 -1.4**
TARG Taragay, Kyrgy 7.43 44 *e*Pn **Pn 08 20 24.4 -0.5**
SMLA Simla 7.49 134 *e*P **Pn 08 20 24.9 -0.6**
SMLA *e*S **Sn 08 21 45.6 -4.6**
SMLA IAML 08 21 49.6
comp=E,825nm,0.6s
SMLA IAML 08 21 49.6
comp=N,740nm,0.6s
DDI Dehra Dun 8.60 134 *e*P **Pn 08 20 39.5 -0.5**
DDI *e*S **Sn 08 22 10.3 -6.3**
JOSI Joshimath 9.36 127 *e*P **Pn 08 20 49.6 -0.4**
JOSI *e*S **Sn 08 22 26.3 -8.5**
JOSI IAML 08 22 34.2
comp=E,793nm,1.4s
JOSI IAML 08 22 36.3
KHET Khetri 9.40 153 *e*P **Pn 08 20 48.5 -1.9**
KHET *e*S Sn 08 22 25.5 -10
KHET IAML 08 22 30.4
comp=N,142nm,0.4s
KHET IAML 08 22 30.6
comp=E,161nm,0.1s
PDGK Podgornoye 9.43 42 ⇓P **Pn 08 20 50.5 -0.2**
comp=E,3.2nm,0.5s
KUDL Kundal 9.61 149 *e*P **Pn 08 20 51.1 -2.0**
KUDL *e*S Sn 08 22 30.4 -10
KUDL IAML 08 22 34.8
comp=E,107nm,0.5s
KUDL IAML 08 22 36.6
comp=N,85nm,0.1s
SONA Sohna 9.77 146 *e*P **Pn 08 20 53.0 -2.2**
SONA *e*S Sn 08 22 34.7 -10
SONA IAML 08 22 38.7
comp=N,58nm,0.6s
SONA IAML 08 22 38.8
comp=E,182nm,0.1s
GYB1 ALIBECK ARRAY 10.30 281 *e*Pn **Pn 08 21 00.8 -1.2**
GYB1 *e*Sn **Sn 08 22 54.6 -2.4**
GYB2 ALIBECK ARRAY 10.30 282 *e*Pn **Pn 08 21 00.8 -1.2**
GYB2 *e*Sn **Sn 08 22 55.9 -1.1**
GYA2 ALIBECK ARRAY 10.31 282 *e*Pn **Pn 08 21 00.7 -1.4**
GYA2 *e*Sn **Sn 08 22 55.8 -1.3**
GYA1 ALIBECK ARRAY 10.31 281 *e*Pn **Pn 08 21 01.6 -0.5**
GYA1 *e*Sn **Sn 08 22 54.3 -2.9**
GEYT Alibeck 10.31 281 P **Pn 08 21 01.1 -1.0**
comp=E,3.6nm,0.3s,baz=104,slow=10,SNR=14
GEYT S **Sn 08 22 52.6 -4.6**
comp=E,2.5nm,0.3s,baz=158,slow=20,SNR=3.0
GYA0 ALIBECK ARRAY 10.31 281 *e*Pn **Pn 08 21 00.9 -1.2**
GYA0 *e*Sn **Sn 08 22 52.3 -4.9**
GYA0B ALIBECK ARRAY 10.31 281 *e*Pn **Pn 08 21 00.9 -1.2**
GYA0B *e*Sn **Sn 08 22 52.3 -4.9**
GYB3 ALIBECK ARRAY 10.31 282 *e*Pn **Pn 08 21 00.6 -1.6**
GYB3 *e*Sn **Sn 08 22 55.6 -1.6**
GYB5 ALIBECK ARRAY 10.32 281 *e*Pn **Pn 08 21 01.2 -1.0**
GYB4 ALIBECK ARRAY 10.33 282 *e*Pn **Pn 08 21 01.7 -0.6**
GYB4 *e*Sn **Sn 08 22 57.4 -0.2**
OTUK Ortayu 11.73 5 ⇓P **Pn 08 21 19.8 -0.5**
comp=E,2.7nm,0.7s
MAKZ Makanchi 13.14 35 *e*P **Pn 08 21 38.0 -0.1**
MAKZ Makanchi 13.14 35 *e*Pn **Pn 08 21 38.0 -0.1**
PYUN Piuthan 13.22 126 *e*P **Pn 08 21 37.0 -2.4**
comp=E,232nm,0.8s
MK01 Makanchi Array 13.27 36 *e*Pn **Pn 08 21 39.5 -0.2**
MK31 Makanchi Array 13.28 36 *e*P **Pn 08 21 40.0 +0.2**
MK31 Makanchi Array 13.28 36 *e*Pn **Pn 08 21 40.0 +0.2**
MK32 Makanchi Array 13.28 36 *e*Pn **Pn 08 21 40.1 +0.4**
MKAR Makanchi Array 13.28 36 P **Pn 08 21 40.1 +0.4**
comp=E,0.8nm,0.3s,baz=216,slow=13,SNR=22
MKAR Makanchi Array 13.28 36 *e*P **Pn 08 21 40.0 +0.2**
MKAR Makanchi Array 13.28 36 *e*Pn **Pn 08 21 40.0 +0.2**
DANN Dangsing 13.56 123 *e*P **Pn 08 21 42.7 -1.1**
comp=E,9.9nm,0.7s
KOLN Koldanda 13.84 126 *e*P **Pn 08 21 45.4 -1.7**
BHPL Bhopal 14.40 155 *e*P **Pn 08 21 54.7 +0.7**
BHPL *ex* x 08 24 22.3
WMQ Urumqi 14.71 55 P **Pn 08 21 57.3 -0.3**
WMQ sP sP 08 22 50.8
WMQ pmax pmax
comp=E,26nm,0.9s
WMQ pmax pmax
comp=E,250nm,4.7s
DMN Daman 14.95 123 *e*P **Pn 08 21 59.8 -1.0**
comp=E,73nm,0.5s
KKN Kakani 14.95 122 *e*P **Pn 08 22 00.0 -0.8**
comp=E,256nm,0.5s
AB07 Akbulak array 14.99 331 *e*Pn **Pn 08 22 00.1 -0.9**
AB08 Akbulak array 15.00 331 *e*Pn **Pn 08 22 00.2 -0.8**
AB06 Akbulak array 15.01 331 *e*Pn **Pn 08 22 00.2 -0.9**
AB03 Akbulak array 15.01 331 *e*Pn **Pn 08 22 00.3 -0.8**
AB01 Akbulak array 15.01 331 *e*Pn **Pn 08 22 00.2 -0.9**
AB31 Akbulak array 15.01 331 ⇑P **P 08 22 03.3 +1.4**
comp=E,9.1nm,0.5s,baz=145,slow=12,SNR=309
AB31 ⇓S **S 08 24 41.7 -6.3**
comp=E,4.8nm,0.5s,baz=152,slow=24,SNR=7.7
AB31 Akbulak array 15.01 331 *e*P **Pn 08 22 00.2 -0.9**
AB31 Akbulak array 15.01 331 *e*Pn **Pn 08 22 00.2 -0.9**
ABKAR Akbulak array 15.01 331 *e*Pn **Pn 08 22 00.3 -0.8**
comp=E,177nm,0.5s
AB02 Akbulak array 15.01 331 *e*Pn **Pn 08 22 00.2 -0.9**
AB04 Akbulak array 15.02 331 *e*Pn **Pn 08 22 00.3 -0.9**
AB05 Akbulak array 15.03 331 *e*Pn **Pn 08 22 00.4 -0.9**
AB09 Akbulak array 15.03 331 *e*Pn **Pn 08 22 00.4 -0.9**
KURBB Kurchatov Arra 15.09 19 P **P 08 22 02.9 +0.2**
comp=E,0.2nm,0.3s,baz=205,slow=11,SNR=11
PKIN Phulchoki 15.16 122 *e*P **Pn 08 22 02.5 -1.0**
comp=E,138nm,0.6s
KURK Kurchatov 15.20 19 ⇓*e*P **P 08 22 05.9 +2.0**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 15.20 19 *e*Pn **P 08 22 04.2 +0.4**
GUN Gumba 15.29 120 *e*P **Pn 08 22 04.2 -0.9**
comp=Z,107nm,0.4s
JIRN Jiri 15.66 120 *e*P **Pn 08 22 09.3 -0.3**
comp=Z,350nm,0.5s
BVA0 Borovoye Array 16.48 359 P **Pn 08 22 18.7 0.0**
comp=Z,6.3nm,0.6s,baz=154,slow=9.5,SNR=40
BVAR Borovoye Array 16.48 359 P **Pn 08 22 18.9 +0.1**
comp=Z,3.0nm,0.3s,baz=156,slow=10,SNR=28
BVAR S **S 08 25 17.2 -2.9**
comp=Z,0.5nm,0.3s,baz=167,slow=20,SNR=3.8
BRVK Borovoye 16.51 359 *c i*P **Pn 08 22 19.5 +0.3**
BRVK Borovoye 16.51 359 *e*P **Pn 08 22 19.3 +0.1**
comp=E,50nm,1.8s
AKL Akola 16.66 160 *ex* pP 08 22 58.5 +6.2
AKTO Aktyubinsk 16.71 330 P **Pn 08 22 21.9 +0.3**
comp=Z,4.2nm,0.3s,baz=139,slow=10,SNR=94
AKTO S **S 08 25 23.5 -1.3**
comp=Z,0.4nm,0.3s,baz=120,slow=14,SNR=4.6
AKTO Aktyubinsk 16.71 330 ⇑P **Pn 08 22 21.5 -0.1**
comp=Z,19nm,0.6s
AKTO ⇑S **S 08 25 26.9 +2.1**
comp=Z,7.6nm,0.9s
NGP Nagpur 16.90 153 *e*P **P 08 22 23.2 +0.3**
WSAR Wadi Sarin 17.00 222 P **P 08 22 23.3 -0.8**
comp=Z,0.2nm,0.3s,baz=18,slow=9.6,SNR=3.5
UOSS Mizil 17.13 232 *e*P **Pn 08 22 26.5 -0.3**
comp=Z,9.4nm,0.9s
BOK Bokaro 18.10 130 *e*P **Pn 08 22 37.6 -0.7**
POO Poona 18.14 171 *e*P **P 08 22 36.0 -0.5**
POO *e*P sP 08 23 23.5 -10
LSA Lhasa 18.24 106 P **Pn 08 22 40.8 +0.4**
LSA pmax pmax
comp=Z,39nm,1.1s
LSA Lhasa 18.24 106 *e*P **P 08 22 37.5 -0.6**
LSA pmax pmax
comp=Z,25nm,0.8s
LSA Lhasa 18.24 106 *e*P **P 08 22 37.5 -0.6**
comp=Z,25nm,0.8s
ZAA0 Zalesovo Array 19.89 25 *e*P **P 08 22 55.0 0.0**
comp=Z,5.3nm,0.7s
ZALV Zalesovo Beam 19.89 25 P **P 08 22 55.8 +0.8**
comp=Z,2.0nm,0.3s,baz=221,slow=11,SNR=20
ZALV S **S 08 26 25.1 -2.7**
baz=220,slow=20,SNR=3.0
ZALV Zalesovo Beam 19.89 25 *e*P **P 08 22 55.0 0.0**
ZAA1 Zalesovo Array 19.89 25 *e*P **P 08 22 55.8 +0.8**
ZAA1 *e*S **S 08 26 25.1 -2.8**
NVS Novosibirsk 20.15 21 *e*P **P 08 22 58.2 +0.4**
NVS *e* 08 23 54.7
NVS *e* 08 26 28.9
NVS *e* 08 27 20.0
NVS pmax pmax
comp=Z,5.0nm,0.7s
HYB Hyderabad 20.22 159 *i* P **P 08 22 58.0 -0.9**
HYB *e*S **S 08 26 32.0 -2.9**
HYB Hyderabad 20.22 159 *ex* P **P 08 22 54.3 -4.5**
GNI Garni 20.83 288 P **P 08 23 05.0 -0.3**
comp=Z,8.6nm,0.6s,baz=86,slow=19,SNR=2.0
GNI Garni 20.83 288 ⇓*e*P **P 08 23 05.3 0.0**
GNI pmax pmax
comp=Z,15nm,0.6s
SHL Shillong 20.98 116 *e*P **P 08 23 08.8 +1.7**
SHL *e*S **S 08 26 53.9 +4.5**
ARU Arti 21.57 341 P **P 08 23 13.6 +1.0**
comp=Z,16nm,0.2s,baz=140,slow=5.5,SNR=12
ARU Arti 21.57 341 *d i*P **P 08 23 13.4 +0.7**
ARU 08 23 44.6
ARU S **S 08 27 02.1 +3.8**
ARU pmax pmax
comp=Z,28nm,1.2s
KBZ Khabaz 22.53 297 P **P 08 23 22.6 +0.6**
comp=Z,2.2nm,0.8s,baz=139,slow=9.3,SNR=3.7
KIV Kislovodsk 22.72 298 *e*P **P 08 23 23.5 -0.4**
KIV pmax pmax
comp=Z,9.0nm,1.0s
GTA Gaotai 22.90 74 *e*P **P 08 23 27.8 +2.2**
GTA pP pP 08 24 05.6 +4.6
GTA sP sP 08 24 32.9 +7.2
GTA pmax pmax
comp=Z,8.0nm,1.1s
RAYN Ar Rayn 25.47 246 P **P 08 23 49.6 +0.6**
RAYN Ar Rayn 25.47 246 *e*P **P 08 23 49.5 +0.5**
comp=Z,9.8nm,0.9s
LZH Lanzhou 26.45 81 *e*P **P 08 23 59.3 +1.5**
LZH pP pP 08 24 39.1 +1.7
LZH sP PP 08 25 02.5 +0.9
LZH pmax pmax
comp=Z,15nm,0.7s
ANN Anapa 26.56 299 *e*P **P 08 23 53.4 -5.0**
ANN *e*S **S 08 28 11.9 -6.2**
ANN pmax pmax
comp=Z,48nm,1.0s
CD2 Chengdu 27.79 92 *e*P **P 08 24 09.0 -0.6**
SONA0 Songino Array 28.35 55 *e*P **P 08 24 15.2 +0.7**
SONM Songino Array 28.35 55 P **P 08 24 15.2 +0.7**
comp=Z,0.6nm,0.4s,baz=260,slow=8.2,SNR=3.0
BR101 Keskin Array S 29.37 288 *e*P **P 08 24 24.1 +0.5**
BRTR Keskin Array B 29.37 288 P **P 08 24 24.1 +0.4**
comp=Z,1.7nm,0.8s,baz=103,slow=9.8,SNR=7.4
KMI Kunming 29.46 104 P **P 08 24 27.0 +2.3**
KMI pmax pmax
comp=Z,7.0nm,0.5s
OBN Obninsk 29.86 319 ⇑*i*P **P 08 24 28.7 +1.2**
OBN *e* 08 25 34.3
OBN pmax pmax
comp=Z,11nm,0.5s
BR231 Keskin MP Arra 30.02 288 *e*P **P 08 24 25.9 -3.4**
CSS Mathiatis 30.43 278 *e*P **P 08 24 33.0 +0.1**
comp=Z,14nm,1.4s
PALK Pallekele 30.48 161 P **P 08 24 34.0 +0.6**
comp=Z,6.8nm,0.8s,baz=296,slow=3.9,SNR=3.7
PALK Pallekele 30.48 161 *e*P **P 08 24 34.0 +0.6**
PALK pmax pmax
comp=Z,12nm,1.1s
PALK Pallekele 30.48 161 *e*P **P 08 24 34.0 +0.6**
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 30.53 119 P **P 08 24 34.3 +0.4**
comp=Z,1.9nm,0.3s,baz=302,slow=8.4,SNR=13
KLMR Klimovskoe 31.41 331 *e*P **P 08 24 40.2 -0.8**
KLMR pmax pmax
comp=Z,11nm,0.9s
KLMR Klimovskoe 31.41 331 *e*P **P 08 24 40.3 -0.8**
KLMR AMP 08 24 42.4
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 31.80 70 *e*P **P 08 24 44.3 -0.6**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,65nm,4.1s
AKASG Malin Array Be 32.87 309 P **P 08 24 54.4 +0.4**
comp=Z,2.9nm,0.6s,baz=81,slow=7.2,SNR=19
AKBB Malin Array Si 32.87 309 *e*P **P 08 24 53.1 -0.8**
AKBB pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 32.87 309 *e*P **P 08 24 53.1 -0.8**
comp=Z,4.8nm,0.6s
KIEV Kiev 32.88 309 ⇓*i*P **P 08 24 54.8 +0.8**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 32.88 309 *e*P **P 08 24 54.8 +0.8**
comp=Z,4.7nm,0.6s
AK11 Malin Array Si 32.90 309 *e*P **P 08 24 55.0 +0.8**
NRIK Noril'sk 34.08 10 LR LR 08 39 49.9
comp=Z,370nm,18.3s,baz=60,slow=37
MLR Muntele Rosu 34.71 299 P **P 08 25 11.8 +1.8**
comp=Z,2.2nm,0.9s,baz=90,slow=7.1,SNR=8.9
MLR Muntele Rosu 34.71 299 *e*P **P 08 25 11.9 +1.8**
MLR pmax pmax
comp=Z,8.0nm,0.8s
MLR Muntele Rosu 34.71 299 *e*P **P 08 25 11.9 +1.8**
comp=Z,8.2nm,0.8s
BUR04 Bucovina Ar. S 35.22 303 *e*P **P 08 25 14.6 +0.2**
VSU Vasula 36.11 322 ⇓*e*P **P 08 25 21.8 +0.2**
VSU pmax pmax
comp=Z,31nm,0.7s
LVZ Lovozero 37.39 338 ⇑*i*P **P 08 25 33.0 +0.6**
LVZ pmax pmax
comp=Z,23nm,1.1s
FIA1 FINESS Array S 37.41 326 *e*P **P 08 25 33.4 +0.9**
comp=Z,18nm,0.9s
FIA0 FINESS Array S 37.41 326 *e*P **P 08 25 33.4 +0.9**
FIA0 FINESS Array S 37.41 326 *e*P **P 08 25 33.4 +0.9**
FINES FINESS Array B 37.41 326 P **P 08 25 33.4 +0.9**
comp=Z,11nm,0.7s,baz=119,slow=9.5,SNR=36
KLNR Kaliningrad 38.84 314 ⇓*e*P **P 08 25 46.9 +2.3**
KLNR pmax pmax
comp=Z,134nm,1.9s
ARA0 ARCESS Array S 41.08 338 *e*P **P 08 26 03.9 +1.2**
ARCES ARCESS Array B 41.08 338 P **P 08 26 03.9 +1.2**
comp=Z,11nm,0.5s,baz=111,slow=9.1,SNR=91
ARE0 ARCESS Array S 41.08 338 *e*P **P 08 26 04.0 +1.2**
KIF Kilpisjarvi 42.34 336 *e*P **P 08 26 13.7 +0.7**
HFS Hagfors 42.99 322 P **P 08 26 19.2 +0.8**
comp=Z,14nm,0.7s,baz=102,slow=11,SNR=25
MOR8 Moi Rana 43.74 331 *e*P **P 08 26 24.6 +0.3**
NC303 NORSAR Array S 44.25 323 *e*P **P 08 26 28.9 +0.5**
NB2 NORSAR Subarra 44.31 323 P **P 08 26 28.9 0.0**
comp=Z,10nm,0.7s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.31 323 P pP 08 27 14.5 +3.2
comp=Z,5.0nm,0.9s,baz=95,slow=8.6
NB200 NORSAR Array S 44.31 323 *e*P **P 08 26 29.2 +0.4**
NB200 *e*pP **pP 08 27 14.2 +2.9**
NOA NORSAR Array B 44.31 323 P **P 08 26 29.2 +0.4**
comp=Z,10nm,0.8s,baz=96,slow=7.8,SNR=30
NOA pP **pP 08 27 14.2 +2.9**
comp=Z,2.6nm,0.7s,baz=96,slow=8.2,SNR=3.4
TIXI Tiksi 45.74 22 ⇑*e*P **P 08 26 40.4 +0.4**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
SPITS Spitsbergen Ar 47.43 347 P **P 08 26 54.6 +1.6**
comp=Z,0.9nm,0.4s,baz=107,slow=7.1,SNR=9.3
KMBO Kilima Mbogo 48.83 227 P **P 08 27 06.5 +1.8**
comp=Z,2.8nm,0.4s,baz=40,slow=11,SNR=9.4
KEST Kesra 48.97 288 P **P 08 27 06.0 +0.6**
comp=Z,1.9nm,0.5s,baz=40,slow=4.2,SNR=5.3
KEST Kesra 48.97 288 *e*P **P 08 27 06.2 +0.7**
comp=Z,3.3nm,0.9s
EKA Eskdalemuir Ar 52.21 316 P **P 08 27 29.7 +0.5**
comp=Z,0.5nm,0.5s,baz=84,slow=7.7,SNR=3.5
ESDC Sonseca Array 57.38 298 P **P 08 28 07.3 +0.5**
comp=Z,1.5nm,0.7s,baz=57,slow=6.9,SNR=7.0
SUMG Summit 60.99 341 *i* P **P 08 28 32.7 +1.4**
comp=Z,5.1nm,0.8s
SUMG Summit 60.99 341 *i* P **P 08 28 32.7 +1.4**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
TOA0 Torodi Ar. Sit 65.67 269 *e*P **P 08 29 00.7 -1.7**
TOA1 Torodi Ar. Sit 65.67 269 *e*P **P 08 29 00.9 -1.5**
TORD Torodi Ar. Bea 65.67 269 P **P 08 29 00.9 -1.5**
comp=Z,6.1nm,0.7s,baz=50,slow=5.9,SNR=79
MATP Matopo 69.41 223 P **P 08 29 25.8 +0.1**
comp=Z,5.5nm,0.4s,baz=24,slow=7,SNR=21
KOWA Kowa 69.51 273 P **P 08 29 25.4 -1.0**
comp=Z,5.0nm,0.4s,baz=44,slow=3.9,SNR=20
KOWA Kowa 69.51 273 *e*P **P 08 29 25.4 -1.0**
comp=Z,6.0nm,0.5s
TOLK Toolik Lake Re 70.89 15 *e*P **P 08 29 34.7 +0.7**
comp=Z,7.2nm,0.6s
COLD Coldfoot 71.93 16 *e*P **P 08 29 41.0 +0.8**
comp=Z,6.3nm,1.1s
INK Inuvik 73.86 9 P **P 08 29 52.4 +0.8**
comp=Z,4.2nm,0.5s,baz=353,slow=6.9,SNR=48
INK Inuvik 73.86 9 *e*P **P 08 29 52.3 +0.8**
comp=Z,4.9nm,0.6s
MDM Murphy Dome 74.28 16 *e*P **P 08 29 54.8 +0.8**
comp=Z,6.4nm,1.0s
COLA College 74.44 16 ⇑*e*P **P 08 29 55.2 +0.3**
COLA pmax pmax
comp=Z,5.0nm,0.8s
DBIC Dimbokro 74.65 267 P **P 08 29 55.6 -1.3**
comp=Z,5.4nm,1.1s,baz=34,slow=7.3,SNR=3.8
DBIC Dimbokro 74.65 267 *e*P **P 08 29 55.5 -1.5**
comp=Z,20nm,1.4s
CAST Castle Rocks 74.65 19 *e*P **P 08 29 56.9 +0.8**
comp=Z,7.4nm,1.0s
IL1 Eielson Array 74.74 16 *e*P **P 08 29 56.2 -0.5**
ILAR Eielson Array 74.74 16 P **P 08 29 56.5 -0.2**
comp=Z,0.9nm,0.5s,baz=308,slow=5.1,SNR=13
ILAR pP **pP 08 30 45.8 +2.2**
comp=Z,0.5nm,0.9s,baz=311,slow=4.7,SNR=1.8
ILB Eielson Array 74.74 16 *e*P **P 08 29 56.3 -0.3**
YKA Yellowknife Ar 81.19 3 P **P 08 30 32.5 +0.4**
comp=Z,3.0nm,0.5s,baz=351,slow=5.4,SNR=94
YKA pP **pP 08 31 23.3 +3.5**
comp=Z,0.5nm,0.5s,baz=351,slow=5.5,SNR=3.9
WR1 Warramunga Arr 82.06 122 *e*P **P 08 30 35.9 -1.4**
comp=Z,42nm,1.7s
WR1 *e*pP **pP 08 31 26.9 +1.8**
WRA Warramunga Arr 82.06 122 P **P 08 30 35.9 -1.4**
comp=Z,2.1nm,0.4s,baz=324,slow=5.0,SNR=91
WRA pP **pP 08 31 26.9 +1.8**
comp=Z,0.6nm,0.7s,baz=325,slow=5.0,SNR=2.5
WRAB Tennant Creek 82.06 122 ⇓*e*P **P 08 30 36.0 -1.4**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
AS31 Alice Springs 84.33 125 *e*P **P 08 30 47.9 -1.0**
comp=Z,1.2nm,0.5s
ASAR Alice Springs 84.33 125 P **P 08 30 47.6 -1.2**
comp=Z,2.3nm,0.5s,baz=312,slow=4.9,SNR=40
FFC Flin Flon 88.88 356 *e*P **P 08 31 12.1 +1.6**
ULM Lac du Bonnet 92.79 352 P **P 08 31 28.7 0.0**
comp=Z,1.7nm,0.8s,baz=326,slow=3.6,SNR=4.0
HNR Honiara 94.75 98 LR LR 09 14 46.2
comp=Z,41nm,21.9s,baz=195,slow=36
CPUP Villa Florida 135.16 268 PKP **PKPdf 08 37 34.4 -0.5**
comp=Z,1.4nm,0.8s,baz=117,slow=3.0,SNR=3.9
PLCA Paso Flores 149.79 250 PKPbc **PKPbc 08 38 05.0 -0.3**
comp=Z,2.1nm,0.9s,baz=248,slow=3.3,SNR=6.7

ISK ***15*** *08:26:31.8,38°.73N×43°.22E,h22km, ML2.2/3*
ISCJB ***15*** *08:26:33.3±0.5,38°.76N±0°.03×43°.18E±0°.04,h7km±9km,*
Error ellipse: s-maj=5.1km s-min=4.2km az=28.4
CSEM ***15*** *08:26:33.0±0.2,38°.75N×43°.19E,h8km, ML2.2, Error*
ellipse: s-maj=3.7km s-min=3.0km az=131.0
DDA ***15*** *08:26:33.4,38°.72N×43°.22E,h7km, Ml2.6*
ISC 15 08:26:33.2±0.9,38°.74N±0°.02×43°.21E±0°.03,h17km±9km,
n20,σ0°60/37,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.20**	**136**	PG	**Pg**	**08 26 38.5**	**+0.4**
VANB				SG	**Sb**	**08 26 43.4**	**+1.3**
VANB	**Van**	**0.20**	**136**	*e*Pg	**Pg**	**08 26 38.5**	**+0.4**
TVAN	**Van**	**0.26**	**144**	*i* P	**Pg**	**08 26 38.5**	**-0.6**
TVAN				*i* S	**Sg**	**08 26 43.2**	**0.0**
TVAN	**Van**	**0.26**	**144**	P	**Pg**	**08 26 38.5**	**-0.6**
TVAN				S	**Sg**	**08 26 43.2**	**0.0**
VMUR	**Van-Muradiye**	**0.38**	**49**	*i* P	**Pg**	**08 26 40.9**	**-0.1**
VMUR				*i* S	**Sb**	**08 26 47.4**	**+0.3**
VMUR	**Van-Muradiye**	**0.38**	**49**	P	**Pg**	**08 26 40.9**	**-0.1**
VMUR				S	**Sb**	**08 26 47.4**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.39**	**280**	*i* P	**Pg**	**08 26 40.8**	**-0.4**
ADCV				*i* S	**Sb**	**08 26 48.4**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.39**	**280**	P	**Pg**	**08 26 40.8**	**-0.4**
ADCV				S	**Sb**	**08 26 48.4**	**+1.0**
GEVA	**Gevas**	**0.45**	**195**	*i* P	**Pg**	**08 26 41.6**	**-0.7**
GEVA				*i* S	**Sg**	**08 26 48.0**	**-0.3**
GEVA	**Gevas**	**0.45**	**195**	P	**Pg**	**08 26 41.6**	**-0.7**
GEVA				S	**Sg**	**08 26 48.0**	**-0.3**
CLDR	**Caldiran**	**0.68**	**54**	PG	**Pg**	**08 26 46.1**	**-0.5**
CLDR				SG	**Sg**	**08 26 55.7**	**0.0**
CLDR	**Caldiran**	**0.68**	**54**	*e*Pg	**Pg**	**08 26 46.1**	**-0.5**
CLDR				*e*Sg	**Sg**	**08 26 55.7**	**0.0**
TUTA	**Tutak**	**0.73**	**335**	*i* P	**Pg**	**08 26 47.0**	**-0.5**
TUTA	**Tutak**	**0.73**	**335**	P	**Pg**	**08 26 47.0**	**-0.5**
AGRB	**Hanur-Agry**	**0.85**	**349**	PG	**Pb**	**08 26 49.1**	**-0.5**
AGRB				SG	**Sg**	**08 27 01.8**	**+0.8**
AGRB	**Hanur-Agry**	**0.85**	**349**	*e*Pg	**Pb**	**08 26 49.1**	**-0.5**
AGRB				*e*Sg	**Sg**	**08 27 01.8**	**+0.8**
GURO	**Guroymak-BITLI**	**0.94**	**259**	PG	**Pb**	**08 26 50.3**	**-0.8**
GURO				SG	**Sb**	**08 27 03.5**	**+0.1**
GURO	**Guroymak-BITLI**	**0.94**	**259**	*e*Pg	**Pb**	**08 26 50.3**	**-0.8**
GURO				*e*Sg	**Sb**	**08 27 03.5**	**+0.1**

SRTM	**Siirt_Merkez**	**1.26**	**234**	*i* P	**Pb**	**08**	**26**	**56.8 +0.3**
SRTM				*i* S	**Sg**	**08**	**27**	**14.8 +0.8**
SRTM	**Siirt_Merkez**	**1.26**	**234**	P	**Pb**	**08**	**26**	**56.8 +0.3**
SRTM				S	**Sg**	**08**	**27**	**14.8 +0.8**

*ISCJB **15** 08:43:54.7±0.9,37°.83N×0°.06×26°.54E±0°.06,h10km±10km, Error ellipse: s-maj=11.7km s-min=5.8km az=32.3*
*CSEM **15** 08:43:54.8±0.2,37°.84N×26°.55E,h15km, ML2.3, Error ellipse: s-maj=5.2km s-min=3.0km az=50.0*
*ISK **15** 08:43:54.5, 37°.89N×26°.61E,h24km, ML2.3/2*
*DDA **15** 08:43:55.4, 37°.85N×26°.66E,h7km, Ml2.7.*

ISC 15 08:43:54.5±1.2,37.84N±0°.05×26.57E±0°.04,h14km±10km, n16,σ0°50/26,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**˜zmir**	**0.32**	**49**	*i* P	**Pb**	**08 44 01.8**	**-0.3**
URLA	**Izmir**	**0.52**	**2**	PG	**Pg**	**08 44 04.3**	**-0.5**
URLA	**Izmir**	**0.52**	**2**	*i* P	**Pg**	**08 44 04.5**	**-0.3**
URLA				*i* S	**Sb**	**08 44 13.4**	**+0.4**
URLA	**Izmir**	**0.52**	**2**	P	**Pg**	**08 44 04.5**	**-0.3**
URLA				S	**Sb**	**08 44 13.4**	**+0.4**
GCAM	**G?zelcaml?**	**0.54**	**105**	PG	**Pb**	**08 44 05.7**	**-0.1**
GCAM				SG	**Sb**	**08 44 14.3**	**+0.9**
GCAM	**G?zelcaml?**	**0.54**	**105**	*e*Pg	**Pb**	**08 44 05.7**	**-0.1**
GCAM				*e*Sg	**Sb**	**08 44 14.3**	**+0.9**
CHOS	**Chios island**	**0.68**	**323**	PG	**Pg**	**08 44 08.1**	**+0.2**
CHOS				SG	**Sb**	**08 44 18.3**	**+0.6**
CHOS	**Chios island**	**0.68**	**323**	*e*Pg	**Pg**	**08 44 08.1**	**+0.2**
CHOS				*e*Sg	**Sb**	**08 44 18.3**	**+0.6**
FOCM	**Fo˜§a**	**0.88**	**8**	PG	**Pg**	**08 44 11.8**	**+0.2**
FOCM	**Fo˜§a**	**0.88**	**8**	*e*Pg	**Pg**	**08 44 11.8**	**+0.2**
BDRM	**Kayabasi**	**1.04**	**138**	*i* P	**Pn**	**08 44 14.9**	**+0.2**
BDRM				*i* S	**Sg**	**08 44 28.0**	**-0.1**
BDRM	**Kayabasi**	**1.04**	**138**	P	**Pn**	**08 44 14.9**	**+0.2**
BDRM				S	**Sg**	**08 44 28.0**	**-0.1**
AYDN	**Tasoluk**	**1.05**	**99**	*i* P	**Pn**	**08 44 15.3**	**+0.4**
AYDN				*i* S	**Sn**	**08 44 28.5**	**-0.9**
AYDN	**Tasoluk**	**1.05**	**99**	P	**Pn**	**08 44 15.3**	**+0.4**
AYDN				S	**Sn**	**08 44 28.5**	**-0.9**
APE	**Apeiranthos**	**1.13**	**228**	PN	**Pn**	**08 44 15.9**	**-0.1**
APE	**Apeiranthos**	**1.13**	**228**	*e*Pn	**Pn**	**08 44 15.9**	**-0.1**

*NIED **15** 08:47:00, 40°.80N×145°.30E, h5km, Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φs34.00000°, δ34.00000°, λ-86.00000°. NP2:φs210.00000°, δ56.00000°, λ-93.00000°.*
*IDC **15** 08:47:28.6±0.7, 40°.76N×145°.15E, h0km, mb3.9/19, mb1 4.0/23, mb1mx3.9/76, mbtmp3.9/23, ML3.5/4, MS2.9/8, Ms1 2.9/8, ms1mx2.7/70, Error ellipse: s-maj=16.4km s-min=14.7km az=141.0*
*ISCJB **15** 08:47:29.1±1.1, 40°.82N±0°.02×145°.07E±0°.04, h13km±7km, mb4.2/27, MS3.2/3, Error ellipse: s-maj=5.1km s-min=4.1km az=11.7*
*JMA **15** 08:47:29.2±0.2, 40°.77N×145°.30E, h67km±3km, M4.1*
*NEIC **15** 08:47:30.4±0.3, 40°.78N×145°.12E, h10km, mb4.7/9, Error ellipse: s-maj=7.7km s-min=5.4km az=135.0*

ISC 15 08:47:31.1±4.1,40°.80N±0°.04×145°.12E±0°.06,h16km±26km, n83,σ1°80/98,mb4.1/27,MS3.2/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.92**	**310**	*e*Pn	**Pn**	**08 48 01.9**	**-1.0**
ERM				*e*Sn	**Sn**	**08 48 26.3**	**-0.3**
JEM	**Erimo**	**1.92**	**310**	P	**Pn**	**08 48 01.9**	**-1.1**
JEM				*e*S	**Sn**	**08 48 25.9**	**-0.8**
JAK	**Akkeshi**	**2.22**	**352**	P	**Pn**	**08 48 05.3**	**-1.9**
JAK				S	**Sn**	**08 48 31.9**	**-2.4**
JCH	**Churui**	**2.24**	**325**	P	**Pn**	**08 48 06.2**	**-1.3**
JCH				S	**Sn**	**08 48 31.6**	**-3.2**
JNBK	**Urakawa-nobuka**	**2.31**	**311**	P	**Pn**	**08 48 08.3**	**-0.2**
JNBK				*e*S	**Sn**	**08 48 35.9**	**-0.7**
JOB	**Onbets**	**2.31**	**336**	P	**Pn**	**08 48 07.5**	**-1.0**
JOB				*e*S	**Sn**	**08 48 35.5**	**-1.1**
NEM2	**Nemuro 2**	**2.61**	**10**	P	**Pn**	**08 48 10.5**	**-2.0**
NEM2				*e*S	**Sn**	**08 48 39.6**	**-4.2**
JAR	**Ashorobuto**	**2.69**	**339**	P	**Pn**	**08 48 11.8**	**-1.9**
JAR				*e*S	**Sn**	**08 48 43.5**	**-2.5**
JANG	**Nango**	**2.78**	**262**	P	**Pn**	**08 48 12.9**	**-1.9**
JANG				*e*S	**Sn**	**08 48 43.5**	**-4.5**
JNK	**Nakash**	**2.81**	**354**	P	**Pn**	**08 48 12.6**	**-2.6**
JNK				S	**Sn**	**08 48 43.0**	**-5.7**
JBT2	**Biratori 2**	**2.86**	**315**	P	**Pn**	**08 48 15.5**	**-0.5**
JBT2				S	**Sn**	**08 48 50.1**	**+0.1**
JFR	**Furan**	**3.02**	**322**	P	**Pn**	**08 48 17.1**	**-1.2**
JFR				*e*S	**Sn**	**08 48 50.4**	**-3.7**
JOT	**Ohata**	**3.13**	**282**	P	**Pn**	**08 48 18.4**	**-1.3**
JOT				S	**Sn**	**08 48 52.9**	**-3.8**
JRA	**Rausu**	**3.14**	**0**	P	**Pn**	**08 48 17.5**	**-2.3**
JRA				*e*S	**Sn**	**08 48 53.0**	**-3.9**
JOM	**Ohasama**	**3.22**	**247**	P	**Pn**	**08 48 19.7**	**-1.2**
JOM				S	**Sn**	**08 48 54.4**	**-4.5**
JKB	**Kayabe**	**3.27**	**291**	P	**Pn**	**08 48 21.1**	**-0.4**
JKB				*e*S	**Sn**	**08 48 58.1**	**-1.9**
JTKR	**Abashiri--Toko**	**3.30**	**345**	P	**Pn**	**08 48 21.1**	**-0.9**
JTKR				*e*S	**Sn**	**08 48 58.1**	**-2.7**
JEW	**Eniwo**	**3.42**	**308**	P	**Pn**	**08 48 23.8**	**+0.1**
JEW				S	**Sn**	**08 49 03.3**	**-0.6**
JMK	**Ichinoseki**	**3.52**	**240**	P	**Pn**	**08 48 23.8**	**-1.2**
JMK				S	**Sn**	**08 49 01.8**	**-4.5**
JKK2	**Kamakawa 2**	**3.54**	**331**	P	**Pn**	**08 48 24.6**	**-0.8**
ASAJ	**Asahikawa**	**3.81**	**331**	Pn	**Pn**	**08 48 28.7**	**-0.3**
	5.9nm,0.3s,baz=181,slow=8.6,SNR=31						
ASAJ				Sn	**Sn**	**08 49 11.7**	**-1.8**
	3.6nm,0.3s,baz=154,slow=7.4,SNR=5.7						
ASAJ	**Asahikawa**	**3.81**	**331**	*e*Pn	**Pn**	**08 48 28.2**	**-0.8**
ASAJ				*e*Sn	**Sn**	**08 49 14.8**	**+1.4**
MAJO	**Matsushiro**	**6.87**	**234**	*e*Pn	**Pn**	**08 49 10.7**	**-0.5**
MAJO				*e*Sn	**Sn**	**08 50 31.1**	**+2.1**
MAT	**Matsushiro**	**6.87**	**234**	P	**Pn**	**08 49 11.4**	**+0.2**
MAT				*e*S	**Sn**	**08 50 25.5**	**-3.5**
MJAR	**Matsushiro Arr**	**6.87**	**234**	Pn	**Pn**	**08 49 10.8**	**-0.4**
	0.7nm,0.3s,baz=72,slow=13,SNR=7.5						
MJAR				Sn	**Sn**	**08 50 31.1**	**+2.1**
	0.5nm,0.3s,baz=70,slow=26,SNR=3.2						
MJAR				LR	LR	08 51 58.6	
	comp=Z,22nm,21.4s,baz=35,slow=39						
MJB9	**Matsu-Tunnel**	**6.87**	**234**	*e*Pn	**Pn**	**08 49 10.7**	**-0.5**
INU	**Inuyama**	**8.39**	**232**	*e*Pn	**Pn**	**08 49 32.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**10.28**	**294**	Pn	**Pn**	**08 49 58.3**	**+0.5**
	0.7nm,0.3s,baz=108,slow=13,SNR=27						
USRK				LR	LR	08 54 37.0	
	comp=Z,43nm,18.7s,baz=41,slow=42						
KLR	**Kul'dur**	**12.66**	**316**	*i* Pn	**Pn**	**08 50 29.6**	**-0.7**
	0.0nm,0.3s,baz=127,slow=14,SNR=9.3						
JNU	**Nakatsue**	**13.71**	**241**	LR	LR	08 56 10.3	
	comp=Z,32nm,18.3s,baz=318,slow=38						
KSRS	**Korea Array**	**13.76**	**262**	Pn	**Pn**	**08 50 46.8**	**+1.5**
	0.2nm,0.3s,baz=76,slow=13,SNR=4.1						
KSRS				LR	LR	08 55 29.1	
	comp=Z,44nm,18.6s,baz=94,slow=35						
KSAR	**Wonju Array Be**	**13.79**	**262**	Pn	**Pn**	**08 50 46.9**	**+1.0**
MA2	**Magadan**	**19.13**	**9**	LR	LR	08 58 34.2	
	comp=Z,14nm,19.2s,baz=113,slow=35						
JOW	**Kunigami**	**19.70**	**230**	*e*P	**Pn**	**08 52 01.3**	**+0.2**
	65nm,1.4s						
SEY	**Seymchan**	**22.59**	**9**	P	**P**	**08 52 29.7**	**-0.8**
	1.2nm,0.8s,baz=181,slow=7.5,SNR=7.1						
ULN	**Ulaanbaatar**	**27.91**	**298**	*e*P	**P**	**08 53 23.2**	**+2.8**
	16nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**28.05**	**132**	T	T	09 22 54.6	
	baz=327						
H11N1	**WAKE ISLAND Hy**	**28.06**	**132**	T	T	09 22 53.9	
	baz=327,slow=74,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**28.06**	**132**	T	T	09 22 57.1	
	baz=327,slow=74,SNR=3.8						
SONA1	**Songino Array**	**28.35**	**297**	*e*P	**P**	**08 53 26.3**	**+2.1**
SONA0	**Songino Array**	**28.36**	**297**	*e*P	**P**	**08 53 24.1**	**-0.2**
SONM	**Songino Array**	**28.36**	**297**	P	**P**	**08 53 24.1**	**-0.2**
	3.0nm,0.6s,baz=88,slow=8.6,SNR=22						
SONM				LR	LR	09 04 56.6	
	comp=Z,58nm,18.9s,baz=13,slow=37						
H11S1	**WAKE ISLAND Hy**	**28.92**	**134**	T	T	09 24 01.1	
	baz=325,slow=76,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**28.92**	**134**	T	T	09 23 59.3	
	baz=325,slow=76,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**28.94**	**134**	T	T	09 24 02.3	
	baz=325,slow=76,SNR=4.3						
TLY	**Talaya**	**30.29**	**305**	LR	LR	09 06 09.7	
	comp=Z,49nm,19.4s,baz=69,slow=37						
ZAA1	**Zalesovo Array**	**41.64**	**309**	*e*P	**P**	**08 55 20.5**	**+2.2**
ZALV	**Zalesovo Beam**	**41.64**	**309**	P	**P**	**08 55 20.5**	**+2.2**
	2.4nm,0.6s,baz=86,slow=9.1,SNR=3.5						
ZALV				LR	LR	09 14 48.8	
	comp=Z,43nm,19.5s,baz=266,slow=39						
ZALV	**Zalesovo Beam**	**41.64**	**309**	*e*P	**P**	**08 55 19.9**	**+1.6**
MK01	**Makanchi Array**	**44.68**	**300**	*e*P	**P**	**08 55 43.1**	**+0.1**
MK31	**Makanchi Array**	**44.68**	**300**	*e*P	**P**	**08 55 43.1**	**+0.2**
MK32	**Makanchi Array**	**44.68**	**300**	*e*P	**P**	**08 55 43.2**	**+0.3**
MKAR	**Makanchi Array**	**44.68**	**300**	P	**P**	**08 55 43.2**	**+0.3**
	0.8nm,0.8s,baz=83,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**44.68**	**300**	*e*P	**P**	**08 55 43.3**	**+0.3**
	11nm,0.6s						
IL1	**Eielson Array**	**44.77**	**34**	*e*P	**P**	**08 55 43.8**	**+0.4**
ILAR	**Eielson Array**	**44.77**	**34**	P	**P**	**08 55 43.7**	**+0.3**
	0.9nm,0.9s,baz=257,slow=6.7,SNR=7.3						
MAKZ	**Makanchi**	**44.88**	**300**	*e*P	**P**	**08 55 44.1**	**-0.5**
	3.1nm,0.8s						
KURK	**Kurchatov**	**45.98**	**306**	*e*P	**P**	**08 55 55.0**	**+1.8**
KURBB	**Kurchatov Arra**	**46.06**	**306**	P	**P**	**08 55 54.4**	**+0.6**
	1.2nm,0.2s,baz=82,slow=8.9,SNR=4.5						
HYT	**Haines Junctio**	**49.56**	**39**	*e*P	**P**	**08 56 22.0**	**+1.0**
	9.1nm,1.0s						
INK	**Inuvik**	**49.72**	**29**	P	**P**	**08 56 22.6**	**+0.8**
	1.2nm,0.6s,baz=311,slow=5.9,SNR=7.5						
INK	**Inuvik**	**49.72**	**29**	*e*P	**P**	**08 56 21.9**	**0.0**
	17nm,1.9s						
BVAR	**Borovoye Array**	**50.25**	**311**	P	**P**	**08 56 26.8**	**+0.6**
	0.6nm,0.4s,baz=77,slow=12,SNR=2.8						
ABKAR	**Akbulak array**	**57.76**	**309**	*e*P	**P**	**08 57 22.0**	**+1.0**
	15nm,0.6s						
GSI	**Gunungsitoli**	**58.19**	**240**	*e*P	**P**	**08 57 23.0**	**-1.4**
	45nm,0.8s						
RES	**Resolute Bay**	**58.22**	**16**	*e*P	**P**	**08 57 24.8**	**+0.9**
	11nm,1.8s						
YKA	**Yellowknife Ar**	**59.10**	**32**	P	**P**	**08 57 30.6**	**+0.5**
	0.4nm,0.6s,baz=304,slow=6.9,SNR=7.4						
WR1	**Warramunga Arr**	**61.25**	**192**	*e*P	**P**	**08 57 44.9**	**-0.5**
	36nm,1.7s						
WRA	**Warramunga Arr**	**61.25**	**192**	P	**P**	**08 57 44.9**	**-0.5**
	3.8nm,0.8s,baz=9.2,slow=6.7,SNR=14						
ASAR	**Alice Springs**	**64.97**	**191**	P	**P**	**08 58 10.2**	**+0.1**
	1.0nm,0.7s,baz=12,slow=6.5,SNR=9.3						
FIA0	**FINESS Array S**	**66.82**	**333**	*e*P	**P**	**08 58 21.9**	**+0.5**
FINES	**FINESS Array B**	**66.82**	**333**	P	**P**	**08 58 21.9**	**+0.5**
	1.1nm,0.8s,baz=60,slow=6.6,SNR=3.1						
NVAR	**Mina Array Bea**	**70.45**	**56**	P	**P**	**08 58 45.2**	**+0.3**
	0.3nm,0.6s,baz=304,slow=6.4,SNR=3.7						
NB200	**NORSAR Array S**	**71.80**	**338**	*e*P	**P**	**08 58 52.4**	**0.0**
NOA	**NORSAR Array B**	**71.80**	**338**	P	**P**	**08 58 52.4**	**0.0**
	0.9nm,0.7s,baz=34,slow=6.0,SNR=3.5						
HFS	**Hagfors**	**71.82**	**337**	P	**P**	**08 58 52.8**	**+0.4**
	1.3nm,0.9s,baz=359,slow=7.9,SNR=3.3						
DGMT	**Dagmar**	**72.10**	**41**	*e*P	**P**	**08 58 56.5**	**+2.1**
	27nm,0.6s						
PDAR	**Pinedale Array**	**72.99**	**48**	P	**P**	**08 59 00.2**	**+0.1**
	0.5nm,0.8s,baz=343,slow=2.8,SNR=3.6						
AKASG	**Malin Array Be**	**73.06**	**323**	P	**P**	**08 58 59.7**	**-0.3**
	0.4nm,0.4s,baz=45,slow=6.8,SNR=2.9						
BR101	**Keskin Array S**	**78.47**	**313**	*e*P	**P**	**08 59 31.2**	**-0.2**
BRTR	**Keskin Array B**	**78.47**	**313**	P	**P**	**08 59 31.2**	**-0.2**
	0.5nm,0.6s,baz=41,slow=6.0,SNR=1.8						
LTX	**Lajitas**	**85.56**	**55**	*e*P	**P**	**09 00 09.5**	**+0.7**
TXAR	**Lajitas Array**	**85.56**	**55**	P	**P**	**09 00 09.5**	**+0.7**
	0.2nm,0.5s,baz=309,slow=4.6,SNR=5.5						

*IDC **15** 08:50:26.7±1.8,31°.80S×178°.33W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.8/40, mbtmp4.2/4, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/40, Error ellipse: s-maj=43.0km s-min=39.3km az=27.0*
*WEL **15** 08:50:31.0±0.8, 32°.5S±6°.×17°.8W±1°.7, h33km, ML4.8/14*

ISC 15 08:50:27.9±1.3,32.08S±0°.07×177.8W±0°.2,h24km,n44, σ1°56/44,mb4.3/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.81**	**358**	P	**Pb**	**08 51 15.5**	**-1.9**
GLKZ	**Green Lake**	**2.81**	**358**	*e*S	**Sn**	**08 51 45.6**	**+1.1**
PKGZ	**Pakihiroa**	**6.71**	**209**	P	**Pn**	**08 52 06.3**	**+1.3**
PKGZ	**Pakihiroa**	**6.71**	**209**	S	**Sn**	**08 53 21.1**	**+0.3**
HAZ	**Te Kaha**	**6.73**	**211**	P	**Pn**	**08 52 07.0**	**+1.8**
HAZ	**Te Kaha**	**6.73**	**211**	S	**Sn**	**08 53 21.6**	**+0.6**
PUZ	**Puketiti**	**6.80**	**207**	P	**Pn**	**08 52 07.2**	**+1.0**
PUZ	**Puketiti**	**6.80**	**207**	S	**Sn**	**08 53 20.4**	**-2.4**
RUGZ	**Raukumara Rang**	**6.95**	**211**	P	**Pn**	**08 52 09.9**	**+1.5**
RUGZ	**Raukumara Rang**	**6.95**	**211**	S	**Sn**	**08 53 26.4**	**-0.3**
TWGZ	**Tauwhareparae**	**7.00**	**208**	S	**Sn**	**08 53 27.1**	**-0.7**
TWGZ	**Tauwhareparae**	**7.00**	**208**	P	**Pn**	**08 52 09.6**	**+0.7**
CNGZ	**Carnagh Statio**	**7.18**	**206**	P	**Pn**	**08 52 13.3**	**+2.0**
MWZ	**Matawai**	**7.32**	**210**	P	**Pn**	**08 52 13.2**	**-0.2**
MWZ	**Matawai**	**7.32**	**210**	S	**Sn**	**08 53 34.9**	**-0.8**
OPRZ	**Ohinepanea**	**7.39**	**217**	P	**Pn**	**08 52 17.3**	**+3.1**
URZ	**Urewera**	**7.44**	**213**	Pn	**Pn**	**08 52 16.9**	**+1.9**
	0.9nm,0.3s,baz=34,slow=15,SNR=34						
URZ				Sn	**Sn**	**08 53 37.1**	**-1.6**
	1.5nm,0.3s,baz=285,slow=20,SNR=5.3						
URZ	**Urewera**	**7.44**	**213**	P	**Pn**	**08 52 15.7**	**+0.7**
URZ	**Urewera**	**7.44**	**213**	S	**Sn**	**08 53 37.3**	**-1.4**
RAGZ	**Rawiri**	**7.50**	**210**	P	**Pn**	**08 52 16.6**	**+0.7**
RIGZ	**Rimuhau**	**7.54**	**208**	P	**Pn**	**08 52 17.2**	**+0.8**
PRGZ	**Paritu Road**	**7.68**	**206**	P	**Pn**	**08 52 19.0**	**+0.6**
MUGZ	**Murupara**	**7.78**	**213**	P	**Pn**	**08 52 19.9**	**+0.3**
OUZ	**Omahuta**	**7.83**	**244**	P	**Pn**	**08 52 23.0**	**+2.7**
MHGZ	**Mahia Peninsul**	**7.88**	**205**	P	**Pn**	**08 52 21.3**	**+0.4**
RAHZ	**Arahi**	**8.00**	**210**	P	**Pn**	**08 52 24.5**	**+1.9**
MTHZ	**Maungataniwha**	**8.05**	**211**	P	**Pn**	**08 52 25.7**	**+2.3**
MTHZ	**Maungataniwha**	**8.05**	**211**	S	**Sn**	**08 53 51.4**	**-2.2**
NMHZ	**Naumai**	**8.27**	**211**	P	**Pn**	**08 52 28.1**	**+1.7**
ARHZ	**Aropaoanui**	**8.33**	**209**	P	**Pn**	**08 52 28.3**	**+1.2**
BKZ	**Black Stump Fm**	**8.46**	**212**	P	**Pn**	**08 52 29.4**	**+0.4**
MCHZ	**McNeill Hill**	**8.60**	**210**	P	**Pn**	**08 52 32.2**	**+1.2**
KWHZ	**Kaweka Forest**	**8.72**	**211**	P	**Pn**	**08 52 32.2**	**-0.1**
KAHZ	**Kahuranaki**	**8.83**	**208**	P	**Pn**	**08 52 33.6**	**-0.4**
KRHZ	**Kereru**	**8.91**	**210**	P	**Pn**	**08 52 34.4**	**-0.7**
BHHZ	**Black Hill Sta**	**8.92**	**212**	P	**Pn**	**08 52 35.8**	**+0.5**
FWVZ	**Far West T-bar**	**8.97**	**215**	P	**Pn**	**08 52 38.0**	**+1.8**
PNHZ	**Pukenui**	**9.21**	**210**	P	**Pn**	**08 52 38.9**	**-0.4**
DZM	**Mont Dzumac**	**17.20**	**302**	LR	LR	08 58 14.0	
	comp=Z,52nm,20.2s,baz=197,slow=28						
CTA	**Charters Tower**	**34.27**	**282**	P	**P**	**08 57 12.2**	**-0.2**
	2.0nm,0.5s,baz=110,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**43.22**	**269**	P	**P**	**08 58 25.5**	**-1.9**
	1.8nm,0.7s,baz=103,slow=7.4,SNR=29						
WRA	**Warramunga Arr**	**44.36**	**274**	P	**P**	**08 58 34.5**	**-2.1**
	2.1nm,0.5s,baz=114,slow=7.6,SNR=18						
HFS	**Hagfors**	**150.92**	**348**	PKPbc	**PKPbc**	**09 10 19.5**	**+1.7**
	1.3nm,0.6s,baz=15,slow=6.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**161.15**	**178**	PKPab	**PKPab**	**09 11 13.6**	**+3.5**
	0.7nm,0.8s,baz=186,slow=4.6,SNR=4.3						

*ISK **15** 08:50:57.9, 37°.84N×37°.34E, h6km, ML2.2/6*
*ISCJB **15** 08:50:58.7±0.6, 37°.75N±0°.03×37°.45E±0°.03, h0km±7km, Error ellipse: s-maj=4.9km s-min=3.7km az=37.4*
*DDA **15** 08:50:58.9, 37°.74N×37°.46E, h7km, Ml2.8*
*CSEM **15** 08:50:59.1±0.2, 37°.74N×37°.45E, h12km, ML2.2, Error ellipse: s-maj=5.8km s-min=4.4km az=139.0*

ISC 15 08:50:58.4±1.3,37.74N±0°.02×37.45E±0°.02,h3km±11km, n29,σ0°68/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.49**	**241**	PG	**Pg**	**08 51 07.6**	**-0.2**
KMRS				SG	**Sg**	**08 51 14.9**	**+0.7**
KMRS	**Kahramanmaras**	**0.49**	**241**	*e*Pg	**Pg**	**08 51 07.6**	**-0.2**
KMRS				*e*Sg	**Sg**	**08 51 14.9**	**+0.7**
HCB	**Kahramanmara˜**	**0.58**	**227**	*i* P	**Pg**	**08 51 08.9**	**-0.7**
GAZ	**Gaziantep**	**0.60**	**198**	PG	**Pb**	**08 51 11.6**	**0.0**
GAZ				SG	**Sb**	**08 51 21.2**	**+0.7**
GAZ	**Gaziantep**	**0.60**	**198**	*e*Pg	**Pb**	**08 51 11.6**	**0.0**
GAZ				*e*Sg	**Sb**	**08 51 21.2**	**+0.7**
ELBS	**KAHRAMANMARAS**	**0.63**	**337**	*i* P	**Pb**	**08 51 12.0**	**-0.2**
ELBS				*i* S	**Sb**	**08 51 21.0**	**-0.4**
ELBS	**KAHRAMANMARAS**	**0.63**	**337**	P	**Pb**	**08 51 12.0**	**-0.2**
ELBS				S	**Sb**	**08 51 21.0**	**-0.4**
DARE	**Darende-Malaty**	**0.83**	**2**	PG	**Pg**	**08 51 12.8**	**-1.5**
KAMA	**Osmaniye**	**0.83**	**228**	*i* P	**Pg**	**08 51 14.2**	**-0.1**
KAMA				*i* S	**Sb**	**08 51 28.0**	**+0.9**
ANDN	**Andirin**	**0.89**	**260**	*i* P	**Pb**	**08 51 16.5**	**0.0**
ANDN				*i* S	**Sb**	**08 51 28.5**	**-0.3**
ANDN	**Andirin**	**0.89**	**260**	P	**Pb**	**08 51 16.5**	**0.0**
ANDN				S	**Sb**	**08 51 28.5**	**-0.3**
MALT	**Malatya**	**0.96**	**53**	PG	**Pg**	**08 51 16.8**	**0.0**
MALT				SG	**Sb**	**08 51 31.2**	**+0.2**
MALT	**Malatya**	**0.96**	**53**	*e*Pg	**Pg**	**08 51 16.8**	**0.0**
MALT				*e*Sg	**Sb**	**08 51 31.2**	**+0.2**
KUZU	**Kuzuini**	**1.01**	**197**	*i* P	**Pg**	**08 51 18.4**	**+0.6**
KUZU				*i* S	**Sn**	**08 51 33.3**	**-1.0**
KUZU	**Kuzuini**	**1.01**	**197**	P	**Pg**	**08 51 18.4**	**+0.6**
KUZU				S	**Sn**	**08 51 33.3**	**-1.0**
SAIM	**ADANA**	**1.10**	**283**	*i* P	**Pg**	**08 51 20.0**	**+0.5**
SAIM				*i* S	**Sb**	**08 51 35.7**	**+0.7**
SAIM	**ADANA**	**1.10**	**283**	P	**Pg**	**08 51 20.0**	**+0.5**
SAIM				S	**Sb**	**08 51 35.7**	**+0.7**
URFA	**Urfa**	**1.13**	**105**	PN	**Pg**	**08 51 19.4**	**-0.7**
URFA	**Urfa**	**1.13**	**105**	*e*Pn	**Pg**	**08 51 19.4**	**-0.7**
HEKM	**Malatya_Hekimh**	**1.20**	**19**	*i* P	**Pn**	**08 51 22.5**	**+0.1**
HEKM				*i* S	**Sn**	**08 51 40.9**	**+1.5**
HEKM	**Malatya_Hekimh**	**1.20**	**19**	P	**Pn**	**08 51 22.5**	**+0.1**
HEKM				S	**Sn**	**08 51 40.8**	**+1.5**
SURC	**SANLIURFA_SURC**	**1.27**	**132**	*i* P	**Pn**	**08 51 22.5**	**-0.6**
SURC				*i* S	**Sn**	**08 51 40.8**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.27**	**132**	P	**Pn**	**08 51 22.5**	**-0.6**
SURC				S	**Sn**	**08 51 40.8**	**+0.1**
KOZT	**Kozan**	**1.31**	**259**	PN	**Pn**	**08 51 22.3**	**-1.3**
KOZT	**Kozan**	**1.31**	**259**	*e*Pn	**Pn**	**08 51 22.3**	**-1.3**
KEMA	**Kemaliye**	**1.73**	**28**	*i* P	**Pb**	**08 51 30.7**	**-0.2**
KEMA	**Kemaliye**	**1.73**	**28**	P	**Pb**	**08 51 30.7**	**-0.2**
PTK	**Pertek**	**1.91**	**53**	PN	**Pn**	**08 51 32.2**	**+0.1**
PTK	**Pertek**	**1.91**	**53**	*e*Pn	**Pn**	**08 51 32.2**	**+0.1**

*ISCJB **15** 08:52:54.7±0.6, 4°.5N±0°.1×127°.7E±0°.2, h150km, mb3.8/11, Error ellipse: s-maj=33.3km s-min=9.4km az=152.8*
*IDC **15** 08:52:57.4±8.4, 4°.55N×127°.75E, h158km±84km, mb3.7/10, mb1 3.8/10, mb1mx3.4/60, mbtmp4.1/10, Error ellipse: s-maj=60.1km s-min=13.8km az=76.0*

ISC 15 08:52:56.5±0.8,4°.5N±0°.1×127°.6E±0°.3,h150km,n13, σ0°57/13,mb3.9/11,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.23**	**321**	S	**Sn**	**08 54 25.5**	**-0.4**
	107nm,0.3s,baz=154,slow=4.9,SNR=1.8						
WRA	**Warramunga Arr**	**25.21**	**165**	P	**P**	**08 58 08.2**	**-0.3**
	1.6nm,0.4s,baz=338,slow=10,SNR=50						
ASAR	**Alice Springs**	**28.70**	**168**	P	**P**	**08 58 39.6**	**-0.1**
	0.4nm,0.5s,baz=345,slow=7.0,SNR=6.1						
KSRS	**Korea Array**	**32.76**	**0**	P	**P**	**08 59 15.1**	**-0.1**
	0.

JNTH	**Nagotoyohara**	**1.63**	**3**	P		**Pn**	**09 00 18.8**	**+0.2**
JNTH				*e*S		**Sn**	**09 00 37.3**	**-2.4**
JKE	**Kume jima 2**	**1.76**	**325**	P		**Pn**	**09 00 21.1**	**+0.7**
JKE				S		**Sn**	**09 00 40.9**	**-2.0**
JAGN	**Aguni-jima**	**1.81**	**340**	P		**Pn**	**09 00 21.8**	**+0.8**
JAGN				S		**Sn**	**09 00 42.2**	**-1.7**
JOW	**Kunigami**	**1.97**	**9**	P		**Pn**	**09 00 24.0**	**+0.8**
JOW				*e*S		**Sn**	**09 00 44.8**	**-3.2**
JIH	**Iheya**	**2.14**	**1**	*e*S		**Sn**	**09 00 50.8**	**-1.5**
JOGS	**Gusukube**	**2.29**	**267**	*e*S		**Sn**	**09 00 54.1**	**-1.7**
JMJ	**Miyako jima 2**	**2.38**	**269**	*e*S		**Sn**	**09 00 56.4**	**-1.8**
JIKM	**Ikemajima**	**2.42**	**272**	*e*S		**Sn**	**09 00 57.0**	**-2.2**
JIRB	**Irabujima**	**2.49**	**269**	P		**Pn**	**09 00 30.8**	**+0.4**
JIRB				S		**Sn**	**09 00 58.3**	**-2.6**
JOKE	**Okinoerabujima**	**2.54**	**13**	P		**Pn**	**09 00 32.9**	**+1.8**
JOKE				*e*S		**Sn**	**09 00 59.2**	**-2.8**
JTJ	**Tarama**	**2.93**	**266**	P		**Pn**	**09 00 37.2**	**+0.7**
JTJ				*e*S		**Sn**	**09 01 08.4**	**-3.4**
JTK	**Tokunoshima**	**3.04**	**18**	P		**Pn**	**09 00 39.6**	**+1.7**
JTK				*e*S		**Sn**	**09 01 10.8**	**-3.5**
JMZ	**Minamidaito 2**	**3.13**	**72**	P		**Pn**	**09 00 38.5**	**-0.7**
JMZ				*e*S		**Sn**	**09 01 12.7**	**-4.0**
JISG	**Ishigakijimahi**	**3.29**	**266**	P		**Pn**	**09 00 41.2**	**-0.2**
JISG				*e*S		**Sn**	**09 01 15.8**	**-4.8**
JAMN	**Amaminishikomi**	**3.53**	**18**	P		**Pn**	**09 00 46.5**	**+1.8**
KSRS	**Korea Array**	**12.53**	**0**	LR		LR	09 08 31.4	
	comp=Z,47nm,18.8s,baz=5.0,slow=40							
PMG	**Port Moresby**	**38.91**	**149**	LR		LR	09 22 57.9	
	comp=Z,42nm,18.1s,baz=122,slow=36							
MKAR	**Makanchi Array**	**42.23**	**313**	P		**P**	**09 07 43.8**	**+0.7**
	0.4nm,0.5s,baz=97,slow=10.0,SNR=5.6							
ZALV	**Zalesovo Beam**	**43.15**	**324**	P		**P**	**09 07 51.2**	**+0.7**
	0.7nm,0.6s,baz=109,slow=7.8,SNR=3.2							
WRA	**Warramunga Arr**	**44.99**	**171**	P		**P**	**09 08 06.9**	**+1.4**
	0.6nm,0.7s,baz=349,slow=8.7,SNR=7.7							
FINES	**FINESS Array B**	**73.89**	**331**	P		**P**	**09 11 26.5**	**+1.8**
	0.8nm,0.6s,baz=72,slow=6.3,SNR=2.1							

NIED ***15*** *09:06:00, 40˚.90N×145˚.10E, h8km, Mw3.5 Best double couple: M₀2.34000×10¹⁴ NP1:φs57.00000°, δ30.00000°, λ-122.00000°. NP2:φs273.00000°, δ65.00000°, λ-73.00000°.*

JMA 15 09:06:29.2±0.2, 40˚.88N×145˚.12E, h68km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.86**	**308**	P	Pn	09 06 59.6	+0.7
JEM				*e*S	Sn	09 07 20.8	-0.7
JAK	**Akkeshi**	**2.14**	**352**	P	Pn	09 07 03.3	+0.7
JCH	**Churui**	**2.17**	**323**	P	Pn	09 07 04.2	+1.1
JCH				*e*S	Sn	09 07 28.2	-0.9
JOB	**Onbets**	**2.24**	**335**	*e*S	Sn	09 07 31.2	+0.6
JNBK	**Urakawa-nobuka**	**2.26**	**309**	P	Pn	09 07 05.9	+1.6
JNBK				*e*S	Sn	09 07 31.8	+0.7
NEM2	**Nemuro 2**	**2.53**	**10**	P	Pn	09 07 08.9	+1.0
NEM2				*e*S	Sn	09 07 36.4	-1.1
JAR	**Ashorobuto**	**2.62**	**338**	P	Pn	09 07 09.7	+0.6
JNK	**Nakash**	**2.72**	**354**	P	Pn	09 07 11.0	+0.5
JNK				*e*S	Sn	09 07 41.1	-1.2
JANG	**Nango**	**2.79**	**261**	P	Pn	09 07 11.5	0.0
JBT2	**Biratori 2**	**2.80**	**314**	P	Pn	09 07 12.7	+1.1
JOT	**Ohata**	**3.12**	**281**	P	Pn	09 07 17.0	+1.1
JOT				*e*S	Sn	09 07 48.9	-3.1
JTKR	**Abashiri--Toko**	**3.22**	**344**	P	Pn	09 07 19.1	+1.8
JTKR				*e*S	Sn	09 07 55.6	+1.2
JOM	**Ohasama**	**3.25**	**246**	P	Pn	09 07 18.7	+0.9
JEW	**Eniwo**	**3.37**	**307**	P	Pn	09 07 21.9	+2.5
JMK	**Ichinoseki**	**3.56**	**239**	P	Pn	09 07 22.9	+0.9

KRSC 15 09:13:43.4±1.0, 48˚.72N×156˚.20E, h60km±27km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**2.78**	**8**	*e*P	Pn	09 14 27.9	+2.5
PAU				*e*S	Sn	09 15 01.2	+3.4
KDTR	**Khodutka, Kamc**	**3.32**	**21**	*e*P	Pn	09 14 35.8	+3.0
KDTR				*e*S	Sn	09 15 14.8	+3.8
ASAK	**Asacha**	**3.83**	**16**	*e*P	Pn	09 14 43.8	+4.0
RUS	**Russkaya**	**4.00**	**21**	*e*P	Pn	09 14 44.9	+2.8
RUS				*e*S	Sn	09 15 30.7	+3.1
KRMR	**Karymshinskiy**	**4.29**	**16**	*e*P	Pn	09 14 49.3	+3.2
KRMR				*e*S	Sn	09 15 39.2	+4.3
DALK	**Dalny**	**4.61**	**20**	*e*P	Pn	09 14 53.7	+3.3
DALK				*e*S	Sn	09 15 46.3	+3.7
UGLR	**Uglovaya**	**4.79**	**19**	*e*P	Pn	09 14 56.9	+3.8
AVH	**Avacha**	**4.83**	**18**	*e*P	Pn	09 14 57.3	+3.8
SMAR	**Somma**	**4.84**	**19**	*e*P	Pn	09 14 57.9	+4.1
SDLR	**Sedlovina**	**4.87**	**19**	*e*P	Pn	09 14 57.2	+3.1
SPN	**Mys Shipunski**	**5.01**	**27**	*e*P	Pn	09 14 59.5	+3.6
GNL	**Ganaly**	**5.10**	**12**	*e*P	Pn	09 15 00.4	+3.1

ISCJB ***15*** *09:15:04.3±1.2, 6˚.5S±0˚.2×155˚.4E±0˚.2, h56km, mb3.6/6, Error ellipse: s-maj=38.5km s-min=11.3km az=147.5*

IDC ***15*** *09:15:09.3±6.2, 6˚.48S×155˚.10E, h81km±49km, mb3.4/6, mb1 3.7/7, mb1mx3.4/47, mbtmp3.8/7, ML2.7/1, Error ellipse: s-maj=55.1km s-min=27.4km az=116.0*

ISC 15 09:15:05.8±1.3, 6˚.6S±0˚.3×155˚.4E±0˚.2, h56km, n11, σ1§08/11, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.66**	**250**	P	**Pn**	**09 17 08.5**	**0.0**
	4.5nm,0.3s,baz=60,slow=15,SNR=9.0						
PMG				S	**Sn**	**09 18 46.3**	**+1.5**
	0.7nm,0.3s,baz=139,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**24.42**	**235**	P	**P**	**09 20 18.7**	**-0.6**
	1.2nm,0.5s,baz=58,slow=9.7,SNR=24						
WRA				PcP	**PcP**	**09 23 57.8**	**+0.4**
	0.4nm,0.9s,baz=59,slow=2.8,SNR=7.6						
ASAR	**Alice Springs**	**26.79**	**228**	P	**P**	**09 20 39.6**	**-1.1**
	0.3nm,0.6s,baz=56,slow=9.2,SNR=5.1						
ASAR				PcP	**PcP**	**09 24 03.0**	**+0.3**
	0.3nm,0.6s,baz=72,slow=2.4,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**27.25**	**24**	T	T	09 48 58.6	
	baz=206,slow=73,SNR=17						
H11S2	**WAKE ISLAND Hy**	**27.26**	**24**	T	T	09 49 00.5	
	baz=206,slow=73,SNR=19						
H11S1	**WAKE ISLAND Hy**	**27.27**	**24**	T	T	09 48 59.4	
	baz=206,slow=73,SNR=9.1						
CMAR	**Chiang Mai Arr**	**60.98**	**295**	P	**P**	**09 25 13.2**	**-0.6**
	1.1nm,0.3s,baz=126,slow=5.1,SNR=4.1						
SONM	**Songino Array**	**69.20**	**327**	P	**P**	**09 26 05.6**	**-1.1**
	0.4nm,0.5s,baz=135,slow=3.3,SNR=4.9						
ILAR	**Eielson Array**	**82.81**	**21**	P	**P**	**09 27 24.7**	**+1.1**
	0.2nm,0.8s,baz=241,slow=4.9,SNR=4.9						
YKA	**Yellowknife Ar**	**95.75**	**28**	P	**P**	**09 28 26.5**	**+1.1**
	0.1nm,0.4s,baz=269,slow=4.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**153.32**	**286**	PKPbc	**PKPbc**	**09 34 57.5**	**-1.2**
	0.5nm,0.6s,baz=80,slow=2.6,SNR=3.7						

IDC 15 09:17:21.6±501.0, 48.86N×44.91E, h0km, Error ellipse: s-maj=171.7km s-min=154.8km az=27.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**8.66**	**75**	*i*		10 06 00.0	
	baz=265,slow=319,SNR=0.5						
I43RU	**DUBNA INFRASON**	**9.15**	**332**	*i*		10 12 40.0	
	baz=145,slow=342,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**25.16**	**63**	*i*		11 54 50.0	
	baz=273,slow=334,SNR=1.0						

IDC ***15*** *09:22:10.0±0.8, 36˚.65N×73˚.18E, h0km, mb3.8/14, mb1 4.0/20, mb1mx3.8/66, mbtmp3.8/20, ML3.6/6, MS3.2/12, Ms1 3.2/12, ms1mx3.0/74, Error ellipse: s-maj=17.1km s-min=15.7km az=169.0*

NEIC ***15*** *09:22:11.9±0.5, 36˚.64N×73˚.11E, h10km, mb4.1/5, Error ellipse: s-maj=7.3km s-min=5.4km az=171.0*

ISCJB ***15*** *09:22:13.9±0.2, 36˚.69N±0˚.02×73˚.02E±0˚.04, h42km, mb3.9/23, MS3.2/9, Error ellipse: s-maj=4.3km s-min=2.8km az=154.1*

NNC ***15*** *09:22:13.3±5.6, 36˚.66N×72˚.74E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=66.8km s-min=38.5km az=113.0*

MOS ***15*** *09:22:14.7±1.3, 36˚.81N×73˚.22E, h33km, mb4.2/5, Error ellipse: s-maj=11.2km s-min=5.6km az=89.2*

ISC 15 09:22:16.3±0.5, 36˚.71N±0˚.05×73˚.15E±0˚.05, h42km, n142, σ1§97/140, mb4.0/23, MS3.1/9, 6C-6D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**3.04**	**178**	P	Pn	09 23 07.7	+5.7
CEP	**Cherat**	**3.05**	**200**	P	Pn	09 23 07.4	+5.2
CEP				S	Sn	09 23 51.0	+13
SFK	**Sufi-Kurgan**	**3.31**	**5**	⇓Pn	**Pn**	**09 23 10.5**	**+4.6**
	76nm,0.5s						
SFK				⇓Sn	Sn	09 23 54.2	+10
	149nm,0.4s						
SFK	**Sufi-Kurgan**	**3.31**	**5**	PN	**Pn**	**09 23 10.5**	**+4.6**
KBL	**Kabul**	**3.98**	**238**	*e*PN	**Pn**	**09 23 18.8**	**+3.7**
KBL	**Kabul**	**3.98**	**238**	*e*Pn	**Pn**	**09 23 18.8**	**+3.7**
THW	**Thamme Wali**	**4.07**	**197**	P	Pn	09 23 20.8	+4.6
DHRM	**DHARAMSHALA**	**5.15**	**149**	*e*P	**Pn**	**09 23 33.1**	**+1.9**
DHRM				*e*S	**Sn**	**09 24 31.6**	**+2.2**
DHRM				IAML		09 24 42.3	
	comp=N,170nm,0.3s						
DHRM				IAML		09 24 46.3	
	comp=E,229nm,0.7s						
AML	**Almayashu**	**5.43**	**4**	P	**Pn**	**09 23 36.5**	**+1.4**
	SNR=22						
KZA	**Kyzart**	**5.60**	**16**	P	**Pn**	**09 23 40.5**	**+3.0**
	SNR=21						
UCH	**Uchtor**	**5.61**	**10**	P	**Pn**	**09 23 38.8**	**+1.2**
	SNR=32						
MNAS	**Manas**	**5.79**	**355**	⇑Pn	**Pn**	**09 23 41.9**	**+2.0**
	comp=E,6.9nm,0.5s						
MNAS				⇓Sn	**Sn**	**09 24 47.7**	**+2.6**
	comp=E,31nm,0.7s						
MNAS	**Manas**	**5.79**	**355**	PN	**Pn**	**09 23 41.9**	**+2.0**
EKS2	**Erkin-Say**	**5.97**	**4**	P	**Pn**	**09 23 44.4**	**+2.2**
	SNR=9.5						
AAK	**Ala-Archa**	**6.01**	**9**	Pn	**Pn**	**09 23 44.3**	**+1.5**
	comp=E,0.9nm,0.3s,baz=168,slow=7.4,SNR=9.1						
AAK				Sn	**Sn**	**09 24 55.3**	**+4.9**
	comp=E,1.1nm,0.3s,baz=134,slow=8.7,SNR=6.4						
AAK				Lg	Lg	09 25 19.0	
	comp=E,1.0nm,0.3s,baz=289,slow=21,SNR=4.9						
AAK	**Ala-Archa**	**6.01**	**9**	⇑Pn	**Pn**	**09 23 44.2**	**+1.3**
	comp=E,6.7nm,0.6s						
AAK				⇑Sn	**Sn**	**09 24 55.7**	**+5.2**
	comp=E,26nm,1.0s						
AAK	**Ala-Archa**	**6.01**	**9**	*e*PN	**Pn**	**09 23 44.0**	**+1.1**
AAK				*e*		09 24 55.3	
AAK	**Ala-Archa**	**6.01**	**9**	P	**Pn**	**09 23 44.6**	**+1.8**
	SNR=8.8						
AAK	**Ala-Archa**	**6.01**	**9**	*e*Pn	**Pn**	**09 23 44.0**	**+1.1**
AAK				*e*Pn	Pn	09 23 44.3	+1.5
AAK				*e*Sn	**Sn**	**09 24 55.3**	**+4.9**
AAK				*e*		09 25 19.0	
KBK	**Karagaybulak**	**6.10**	**13**	P	Pn	09 23 49.4	+5.3
	SNR=12						
TARG	**Taragay, Kyrgy**	**6.18**	**34**	*e*Pn	**Pn**	**09 23 41.0**	**-4.4**
FRU	**Bishkek**	**6.22**	**10**	*e*PN	Pn	09 23 53.0	+7.4
FRU				*e*		09 24 15.0	
FRU				*e*S	Sn	09 25 20.0	+25
FRU				pmax	pmax		
	comp=Z,60nm,1.8s						
FRU				smax	smax		
	comp=E,570nm,2.2s						
KDJ	**Kajisay**	**6.25**	**29**	*e*Pn	**Pn**	**09 23 45.7**	**-0.4**
TKM2	**Tokmak 2**	**6.48**	**16**	⇓Pn	**Pn**	**09 23 50.3**	**+0.9**
	comp=E,5.4nm,0.4s						
TKM2				⇑Sn	**Sn**	**09 25 04.8**	**+2.6**
	comp=E,23nm,0.7s						
TKM2	**Tokmak 2**	**6.48**	**16**	PN	**Pn**	**09 23 50.3**	**+0.9**
TKM2	**Tokmak 2**	**6.48**	**16**	P	**Pn**	**09 23 50.0**	**+0.6**
	SNR=20						
SMLA	**Simla**	**6.49**	**148**	*e*P	**Pn**	**09 23 51.2**	**+2.0**
SMLA				*e*S	**Sn**	**09 25 01.8**	**-0.2**
SMLA				IAML		09 25 10.7	
	comp=E,354nm,0.1s						
SMLA				IAML		09 25 11.2	
	comp=N,173nm,0.0s						
KK06	**Karatay Array**	**6.69**	**343**	*e*Pn	**Pn**	**09 23 52.0**	**-0.1**
KK07	**Karatay Array**	**6.69**	**343**	*e*Pn	**Pn**	**09 23 52.1**	**+0.1**
KK02	**Karatay Array**	**6.70**	**343**	*e*Pn	**Pn**	**09 23 52.3**	**+0.1**
KK31	**Karatay Array**	**6.70**	**343**	Pn	**Pn**	**09 23 52.3**	**0.0**
	comp=N,3.2nm,0.3s,baz=158,slow=13,SNR=71						
KK31				⇑Sn	**Sn**	**09 25 06.2**	**-1.1**
	comp=N,10nm,0.6s,baz=155,slow=24,SNR=4.9						
KK31	**Karatay Array**	**6.70**	**343**	*e*PN	**Pn**	**09 23 52.2**	**0.0**
KK31	**Karatay Array**	**6.70**	**343**	*e*Pn	**Pn**	**09 23 52.2**	**0.0**
KKAR	**Karatay Array**	**6.70**	**343**	*e*PN	**Pn**	**09 23 52.3**	**+0.1**
KKAR	**Karatay Array**	**6.70**	**343**	*e*Pn	**Pn**	**09 23 52.3**	**+0.1**
KK03	**Karatay Array**	**6.71**	**343**	*e*Pn	**Pn**	**09 23 52.3**	**+0.1**
KK01	**Karatay Array**	**6.71**	**343**	*e*Pn	**Pn**	**09 23 52.3**	**+0.1**
KK04	**Karatay Array**	**6.71**	**343**	*e*Pn	**Pn**	**09 23 52.5**	**+0.2**
KK08	**Karatay Array**	**6.71**	**343**	*e*Pn	**Pn**	**09 23 52.4**	**+0.1**
KK05	**Karatay Array**	**6.71**	**343**	*e*Pn	**Pn**	**09 23 53.0**	**+0.7**
DDI	**Dehra Dun**	**7.57**	**146**	*e*P	**Pn**	**09 24 06.8**	**+2.6**
DDI				*ex*	x	09 25 20.2	
JOSI	**Joshimath**	**8.13**	**137**	*e*P	**Pn**	**09 24 11.3**	**-0.7**
JOSI				*e*S	**Sn**	**09 25 43.5**	**+0.8**
JOSI				IAML		09 25 51.0	
	comp=E,137nm,1.0s						
JOSI				IAML		09 25 51.8	
	comp=N,422nm,0.9s						
NDI	**New Delhi**	**8.70**	**156**	*e*P	**Pn**	**09 24 20.0**	**+0.3**
NDI				*ex*	x	09 26 13.0	
KHET	**Khetri**	**8.89**	**165**	*e*P	**Pn**	**09 24 22.2**	**-0.1**
KHET				*e*S	**Sn**	**09 25 59.2**	**-2.0**
KUDL	**Kundal**	**8.99**	**161**	*e*P	**Pn**	**09 24 23.7**	**+0.1**
KUDL				*ex*	x	09 25 57.2	
SONA	**Sohna**	**9.06**	**157**	*e*P	**Pn**	**09 24 26.0**	**+1.4**
SONA				*ex*	x	09 26 02.8	
PYUN	**Piuthan**	**11.94**	**133**	*e*P	**Pn**	**09 25 01.3**	**-2.9**
	comp=N,58nm,0.5s						
GYB1	**ALIBECK ARRAY**	**12.03**	**280**	*e*Pn	**Pn**	**09 25 03.3**	**-1.9**
GYA2	**ALIBECK ARRAY**	**12.03**	**280**	*e*Pn	**Pn**	**09 25 03.4**	**-1.9**
GEYT	**Alibeck**	**12.04**	**280**	Pn	**Pn**	**09 25 03.3**	**-2.0**
	comp=N,1.7nm,0.3s,baz=98,slow=9.6,SNR=11						
GEYT				Sn	**Sn**	**09 27 15.4**	**-2.7**
	comp=N,0.8nm,0.3s,baz=65,slow=21,SNR=2.3						
GYA1	**ALIBECK ARRAY**	**12.04**	**280**	*e*Pn	**Pn**	**09 25 03.6**	**-1.7**
GYB3	**ALIBECK ARRAY**	**12.04**	**280**	*e*Pn	**Pn**	**09 25 03.9**	**-1.4**
GYB5	**ALIBECK ARRAY**	**12.04**	**280**	*e*Pn	**Pn**	**09 25 03.9**	**-1.4**
MAKZ	**Makanchi**	**12.04**	**30**	*e*P	**Pn**	**09 25 06.7**	**+1.4**
MAKZ	**Makanchi**	**12.04**	**30**	*e*Pn	**Pn**	**09 25 06.7**	**+1.4**
GYB4	**ALIBECK ARRAY**	**12.05**	**280**	*e*Pn	**Pn**	**09 25 04.0**	**-1.5**
MK01	**Makanchi Array**	**12.14**	**31**	*e*Pn	**Pn**	**09 25 07.0**	**+0.3**
MK31	**Makanchi Array**	**12.16**	**31**	⇓P	**Pn**	**09 25 06.5**	**-0.4**
	comp=N,1.7nm,0.8s,baz=206,slow=14,SNR=7.0						
MK31	**Makanchi Array**	**12.16**	**31**	*e*P	**Pn**	**09 25 07.8**	**+0.9**
MK31	**Makanchi Array**	**12.16**	**31**	*e*Pn	**Pn**	**09 25 07.8**	**+0.9**
MK32	**Makanchi Array**	**12.16**	**31**	*e*Pn	**Pn**	**09 25 06.3**	**-0.6**
MK32				*e*		09 29 51.6	
MKAR	**Makanchi Array**	**12.16**	**31**	Pn	**Pn**	**09 25 06.3**	**-0.6**
	comp=N,0.3nm,0.3s,baz=213,slow=14,SNR=12						
MKAR				LR	LR	09 29 51.6	
	comp=N,64nm,20.2s,baz=220,slow=38						
MKAR	**Makanchi Array**	**12.16**	**31**	*e*Pn	**Pn**	**09 25 07.7**	**+0.8**
KKN	**Kakani**	**13.57**	**127**	*e*P	**Pn**	**09 25 22.5**	**-3.9**
	comp=N,24nm,0.5s						
DMN	**Daman**	**13.58**	**129**	*e*P	**Pn**	**09 25 22.2**	**-4.5**
PKIN	**Phulchoki**	**13.79**	**128**	*e*P	**Pn**	**09 25 25.2**	**-4.3**
	comp=N,22nm,0.6s						
GUN	**Gumba**	**13.87**	**126**	*e*P	**Pn**	**09 25 26.8**	**-3.9**
BHPL	**Bhopal**	**13.92**	**163**	*e*P	**Pn**	**09 25 32.3**	**+1.3**
BHPL				*ex*	x	09 27 14.8	
JIRN	**Jiri**	**14.24**	**126**	*e*P	**Pn**	**09 25 31.3**	**-4.4**
	comp=N,83nm,0.5s						
KURBB	**Kurchatov Array**	**14.44**	**14**	Pn	**Pn**	**09 25 36.5**	**-1.4**
	comp=N,0.1nm,0.3s,baz=206,slow=12,SNR=7.4						
KURBB				Lg	Lg	09 29 46.9	
	comp=N,0.1nm,0.3s,baz=204,slow=34,SNR=4.2						
KURK	**Kurchatov**	**14.54**	**14**	*e*P	**Pn**	**09 25 36.5**	**-2.8**
KURK	**Kurchatov**	**14.54**	**14**	*e*Pn	**Pn**	**09 25 36.5**	**-2.8**
KURK				*e*Pn	P	09 25 39.6	-5.4
KURK				*e*		09 29 46.9	
AB07	**Akbulak array**	**15.79**	**327**	*e*Pn	**Pn**	**09 25 53.4**	**-2.1**
AB06	**Akbulak array**	**15.80**	**327**	*e*Pn	**Pn**	**09 25 52.8**	**-2.8**
AB08	**Akbulak array**	**15.80**	**327**	*e*Pn	**Pn**	**09 25 53.7**	**-2.0**
AB03	**Akbulak array**	**15.80**	**327**	*e*Pn	**Pn**	**09 25 53.8**	**-1.9**
AB01	**Akbulak array**	**15.80**	**327**	*e*Pn	**Pn**	**09 25 54.4**	**-1.4**
AB31	**Akbulak array**	**15.80**	**327**	P	**Pn**	**09 25 51.4**	**-4.3**
	comp=N,2.1nm,0.6s,baz=138,slow=12,SNR=32						
AB31	**Akbulak array**	**15.80**	**327**	*e*P	**Pn**	**09 25 53.6**	**-2.1**
AB31	**Akbulak array**	**15.80**	**327**	*e*Pn	**Pn**	**09 25 53.6**	**-2.1**
ABKAR	**Akbulak array**	**15.80**	**327**	*e*Pn	**Pn**	**09 25 52.7**	**-3.0**
	comp=N,35nm,0.6s						
AB02	**Akbulak array**	**15.80**	**327**	*e*Pn	**Pn**	**09 25 53.8**	**-2.0**
AB04	**Akbulak array**	**15.81**	**327**	*e*Pn	**Pn**	**09 25 53.9**	**-1.8**
AB05	**Akbulak array**	**15.82**	**327**	*e*Pn	**Pn**	**09 25 54.0**	**-1.9**
AB09	**Akbulak array**	**15.82**	**327**	*e*Pn	**Pn**	**09 25 54.5**	**-1.4**
BVA0	**Borovoye Array**	**16.43**	**354**	⇓P	**P**	**09 26 07.1**	**+1.1**
	comp=N,2.9nm,0.7s,baz=164,slow=9.9,SNR=11						
BVAR	**Borovoye Array**	**16.43**	**354**	Pn	**Pn**	**09 26 02.7**	**-1.0**
	comp=N,0.2nm,0.3s,baz=163,slow=10,SNR=3.3						
BVAR				LR	LR	09 32 27.6	
	comp=N,104nm,21.2s,baz=172,slow=38						
BRVK	**Borovoye**	**16.47**	**354**	*e*P	**Pn**	**09 26 03.7**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	**Borovoye**	**16.47**	**354**	*e*Pn	**Pn**	**09 26 03.7**	**-0.5**
	comp=Z,5.5nm,0.8s						
AKTO	**Aktyubinsk**	**17.52**	**326**	P	**Pn**	**09 26 16.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=119,slow=11,SNR=6.8						
AKTO				LR	LR	09 33 27.0	
	comp=Z,84nm,19.6s,baz=135,slow=38						
AKTO	**Aktyubinsk**	**17.52**	**326**	⇑P	**P**	**09 26 17.7**	**-0.3**
	comp=Z,4.0nm,0.7s						
WSAR	**Wadi Sarin**	**18.37**	**227**	P	**Pn**	**09 26 30.2**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=69,slow=13,SNR=4.7						
ZAA0	**Zalesovo Array**	**19.05**	**21**	*e*P	**P**	**09 26 33.5**	**-1.3**
	comp=Z,8.1nm,0.8s						
ZALV	**Zalesovo Beam**	**19.05**	**21**	P	**P**	**09 26 33.9**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=207,slow=12,SNR=9.1						
ZALV	**Zalesovo Beam**	**19.05**	**21**	*e*P	**P**	**09 26 33.5**	**-1.3**
ZALV	**Zalesovo Beam**	**19.05**	**21**	*e*P	**P**	**09 26 33.5**	**-1.3**
ZAA1	**Zalesovo Array**	**19.05**	**21**	*e*P	**P**	**09 26 33.9**	**-0.9**
NVS	**Novosibirsk**	**19.41**	**18**	*e*P	**P**	**09 26 38.0**	**-0.7**
ARU	**Arti**	**22.04**	**338**	P	**P**	**09 27 11.1**	**+4.0**
	comp=Z,5.1nm,0.3s,baz=143,slow=2.7,SNR=6.7						
ARU				LR	LR	09 36 13.0	
	comp=Z,112nm,20.5s,baz=104,slow=38						
ARU	**Arti**	**22.04**	**338**	*e*P	**P**	**09 27 06.1**	**-1.0**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	**Arti**	**22.04**	**338**	*e*P	**P**	**09 27 06.1**	**-1.0**
	comp=Z,8.9nm,0.9s						
ARU				*e*		09 36 13.0	
GNI	**Garni**	**22.48**	**287**	LR	LR	09 38 41.9	
	comp=Z,51nm,18.2s,baz=185,slow=44						
KBZ	**Khabaz**	**24.05**	**296**	P	**P**	**09 27 29.0**	**+1.6**
	comp=Z,2.2nm,0.8s,baz=98,slow=8.6,SNR=2.5						
KBZ				LR	LR	09 38 44.8	
	comp=Z,78nm,18.7s,baz=50,slow=41						
KVAR	**Kislovodsk Arr**	**24.23**	**297**	LR	LR	09 38 14.9	
	comp=Z,70nm,20.3s,baz=215,slow=40						
ZAK	**Zakamensk**	**25.55**	**48**	*e*P	**P**	**09 27 41.0**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TLY	**Talaya**	**26.25**	**46**	LR	LR	09 39 49.9	
	comp=Z,22nm,21.6s,baz=309,slow=40						
SONA0	**Songino Array**	**26.80**	**55**	*e*P	**P**	**09 27 52.6**	**+0.1**
SONM	**Songino Array**	**26.80**	**55**	P	**P**	**09 27 52.6**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=251,slow=9.8,SNR=9.7						
SONA1	**Songino Array**	**26.80**	**55**	*e*P	**P**	**09 27 52.7**	**+0.2**
ULN	**Ulaanbaatar**	**27.23**	**55**	*e*P	**P**	**09 27 56.9**	**+0.4**

MIYJ	**Miyakonagasawa**	**2.79**	**309**	P	**Pn**	**09 36 58.2**	**-0.5**
MIYJ				S	**Sn**	**09 37 29.4**	**-1.8**
JMK	**Ichinoseki**	**2.89**	**293**	P	**Pn**	**09 37 00.0**	**-0.1**
JMK				*e*S	**Sn**	**09 37 32.7**	**-0.9**
JOM	**Ohasama**	**3.07**	**303**	P	**Pn**	**09 37 02.7**	**+0.2**
JOM				S	**Sn**	**09 37 37.8**	**-0.3**
JFT	**Otama**	**3.42**	**266**	P	**Pn**	**09 37 07.2**	**-0.1**
JFT				S	**Sn**	**09 37 44.7**	**-1.9**
JANG	**Nango**	**3.50**	**317**	P	**Pn**	**09 37 08.0**	**-0.4**
JANG				*e*S	**Sn**	**09 37 47.9**	**-0.6**
JYK	**Kaneyama**	**3.52**	**289**	P	**Pn**	**09 37 09.0**	**+0.3**
JYK				S	**Sn**	**09 37 48.9**	**-0.2**
JOT	**Ohata**	**4.48**	**323**	P	**Pn**	**09 37 22.4**	**+0.5**
JOT				*e*S	**Sn**	**09 38 11.9**	**-0.9**
JCH	**Churui**	**4.86**	**349**	P	**Pn**	**09 37 26.7**	**-0.4**
JCH				*e*S	**Sn**	**09 38 19.7**	**-2.4**
JKB	**Kayabe**	**4.89**	**327**	P	**Pn**	**09 37 28.7**	**+1.2**
JKB				*e*S	**Sn**	**09 38 19.8**	**-3.1**
JRY	**Ryogami san**	**4.94**	**250**	*e*S	**Sn**	**09 38 19.2**	**-4.8**
JOD2	**Odawara 2**	**5.15**	**242**	*e*S	**Sn**	**09 38 24.4**	**-4.9**
MJAR	**Matsushiro Arr**	**5.29**	**258**	Pn	**Pn**	**09 37 33.6**	**+0.6**
	1.4nm,0.3s,baz=66,slow=12,SNR=6.4						
MJAR				Sn	**Sn**	**09 38 31.9**	**-0.7**
	0.2nm,0.3s,baz=52,slow=16,SNR=2.7						
NEM2	**Nemuro 2**	**5.58**	**8**	P	**Pn**	**09 37 34.6**	**-2.3**
NEM2				*e*S	**Sn**	**09 38 34.8**	**-5.0**
JTKR	**Abashiri--Toko**	**6.14**	**355**	P	**Pn**	**09 37 44.2**	**-0.5**
JTKR				S	**Sn**	**09 38 50.1**	**-3.6**
ASAJ	**Asahikawa**	**6.45**	**347**	Pn	**Pn**	**09 37 49.5**	**+0.6**
	3.5nm,0.3s,baz=188,slow=13,SNR=12						
ASAJ				Sn	**Sn**	**09 39 01.0**	**-0.2**
	1.7nm,0.3s,baz=37,slow=20,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**26.47**	**127**	T	T	10 09 25.6	
	baz=318,slow=75,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**26.48**	**127**	T	T	10 09 20.9	
	baz=318,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**26.49**	**127**	T	T	10 09 34.0	
	baz=318,slow=75,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**27.26**	**129**	T	T	10 09 52.4	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**27.26**	**129**	T	T	10 09 54.2	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**27.28**	**129**	T	T	10 09 58.4	
	baz=319						
MKAR	**Makanchi Array**	**45.86**	**302**	P	**P**	**09 44 36.9**	**+1.8**
	0.3nm,0.8s,baz=97,slow=8.8,SNR=2.3						
ILAR	**Eielson Array**	**47.44**	**33**	P	**P**	**09 44 47.6**	**+0.4**
	0.7nm,0.7s,baz=264,slow=6.6,SNR=9.0						
KURBB	**Kurchatov Arra**	**47.52**	**308**	P	**P**	**09 44 49.5**	**+1.4**
	0.9nm,0.5s,baz=78,slow=8.5,SNR=4.8						
INK	**Inuvik**	**52.49**	**28**	P	**P**	**09 45 26.4**	**+0.9**
	0.4nm,0.6s,baz=272,slow=6.3,SNR=3.1						
WRA	**Warramunga Arr**	**58.29**	**191**	P	**P**	**09 46 06.3**	**-1.5**
	0.4nm,0.3s,baz=8.6,slow=7.3,SNR=15						
YKA	**Yellowknife Ar**	**61.81**	**31**	P	**P**	**09 46 32.7**	**+1.3**
	0.2nm,0.7s,baz=300,slow=6.6,SNR=3.7						
PDAR	**Pinedale Array**	**75.26**	**47**	P	**P**	**09 47 57.1**	**+1.1**
	0.2nm,0.7s,baz=309,slow=4.3,SNR=3.0						

NIED ***15*** *09:37:00,40.80N×145.20E,h5km,Mw3.4 Best double couple: M₀1.63000×10¹⁴ NP1:φ₈11.00000°,δ45.00000°, λ-116.00000°. NP2:φ₈226.00000°,δ50.00000°, λ-66.00000°.*

JMA 15 09:37:27.0±0.5, 40.85N×145.20E, h75km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.93**	**308**	P	Pn	09 37 58.6	+0.9
JAK	**Akkeshi**	**2.18**	**350**	P	Pn	09 38 02.4	+1.3
JNBK	**Urakawa-nobuka**	**2.33**	**309**	P	Pn	09 38 03.7	+0.6
JBT2	**Biratori 2**	**2.87**	**313**	P	Pn	09 38 12.1	+1.7
JOT	**Ohata**	**3.18**	**281**	*e*S	Sn	09 38 48.2	-3.3
JOM	**Ohasama**	**3.29**	**247**	*e*S	Sn	09 38 50.5	-3.8
JEW	**Eniwo**	**3.44**	**307**	P	Pn	09 38 19.7	+1.6
JEW				*e*S	Sn	09 38 58.2	+0.5
JMK	**Ichinoseki**	**3.60**	**240**	*e*S	Sn	09 38 57.0	-4.7

NIED ***15*** *09:42:00,40.90N×145.40E,h5km,Mw3.6 Best double couple: M₀3.30000×10¹⁴ NP1:φ₈247.00000°,δ42.00000°, λ-90.00000°. NP2:φ₈67.00000°,δ48.00000°,λ-90.00000°.*
IDC ***15*** *09:42:03.3±1.2,40.77N×145.26E,h0km,mb3.5/7, mb1 3.6/9,mb1mx3.5/66,mbtmp3.5/9,ML3.2/2,MS3.0/3, Ms1 3.0/3,ms1mx2.5/61, Error ellipse: s-maj=28.9km s-min=24.1km az=120.0*
JMA ***15*** *09:42:04.5±0.2, 40.85N×145.38E, h64km±3km, M3.8*
ISCJB ***15*** *09:42:06.0±0.7,40.90N±0.03×145.20E±0.05,h33km, mb3.5/7,MS3.7/1,Error ellipse: s-maj=5.9km s-min=4.8km az=20.3*

ISC 15 09:42:08.0±0.9, 40.87N±0.06×145.25E±0.06, h35km, n29, σ1§96/41, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.95**	**307**	P	**Pn**	**09 42 38.1**	**-0.4**
JEM				*e*S	**Sn**	**09 43 00.8**	**-0.9**
JAK	**Akkeshi**	**2.17**	**349**	P	**Pn**	**09 42 39.7**	**-1.8**
JAK				S	**Sn**	**09 43 04.9**	**-2.2**
JCH	**Churui**	**2.25**	**322**	P	**Pn**	**09 42 41.4**	**-1.2**
JCH				*e*S	**Sn**	**09 43 06.6**	**-2.5**
JOB	**Onbets**	**2.29**	**333**	P	**Pn**	**09 42 42.1**	**-1.1**
JOB				S	**Sn**	**09 43 08.9**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.35**	**308**	P	**Pn**	**09 42 43.8**	**-0.2**
JNBK				*e*S	**Sn**	**09 43 11.3**	**-0.3**
NEM2	**Nemuro 2**	**2.52**	**8**	P	**Pn**	**09 42 44.7**	**-1.7**
NEM2				*e*S	**Sn**	**09 43 12.8**	**-3.1**
JAR	**Ashorobuto**	**2.67**	**336**	P	**Pn**	**09 42 46.5**	**-1.9**
JAR				S	**Sn**	**09 43 16.4**	**-3.1**
JNK	**Nakash**	**2.74**	**352**	P	**Pn**	**09 42 47.1**	**-2.4**
JNK				S	**Sn**	**09 43 17.4**	**-4.0**
JBT2	**Biratori 2**	**2.88**	**312**	P	**Pn**	**09 42 51.2**	**-0.1**
JBT2				*e*S	**Sn**	**09 43 25.4**	**+0.6**
JANG	**Nango**	**2.89**	**261**	P	**Pn**	**09 42 49.0**	**-2.4**
JANG				*e*S	**Sn**	**09 43 21.3**	**-3.6**
JFR	**Furan**	**3.03**	**320**	P	**Pn**	**09 42 52.5**	**-0.9**
JFR				*e*S	**Sn**	**09 43 25.1**	**-3.4**
JRA	**Rausu**	**3.07**	**358**	P	**Pn**	**09 42 52.0**	**-1.9**
JRA				*e*S	**Sn**	**09 43 26.7**	**-2.7**
JOT	**Ohata**	**3.22**	**281**	P	**Pn**	**09 42 54.3**	**-1.6**
JOT				*e*S	**Sn**	**09 43 29.6**	**-3.4**
JTKR	**Abashiri--Toko**	**3.26**	**343**	S	**Sn**	**09 43 32.6**	**-1.4**
JKB	**Kayabe**	**3.33**	**289**	P	**Pn**	**09 42 57.1**	**-0.5**
JKB				*e*S	**Sn**	**09 43 33.1**	**-2.8**
JOM	**Ohasama**	**3.34**	**247**	P	**Pn**	**09 42 55.9**	**-1.7**
JEW	**Eniwo**	**3.46**	**306**	S	**Sn**	**09 43 38.6**	**-0.4**
ASAJ	**Asahikawa**	**3.79**	**330**	Pn	**Pn**	**09 43 03.9**	**0.0**
	1.3nm,0.3s,baz=210,slow=8.1,SNR=5.9						
ASAJ				Sn	**Sn**	**09 43 47.8**	**+0.5**
	2.1nm,0.3s,baz=108,slow=20,SNR=6.7						
MJAR	**Matsushiro Arr**	**7.00**	**234**	Pn	**Pn**	**09 43 46.6**	**-1.3**
	0.4nm,0.3s,baz=38,slow=13,SNR=4.4						
JNU	**Nakatsue**	**13.84**	**241**	LR	LR	09 51 41.4	
	comp=Z,29nm,18.0s,baz=294,slow=42						
PETK	**Petropavlovsk-**	**14.87**	**30**	LR	LR	09 50 53.3	
	comp=Z,26nm,19.6s,baz=272,slow=35						
SONM	**Songino Array**	**28.41**	**297**	P	**P**	**09 48 00.7**	**+1.5**
	1.0nm,1.0s,baz=98,slow=8.1,SNR=5.1						
ILAR	**Eielson Array**	**44.65**	**34**	P	**P**	**09 50 18.0**	**+1.2**
	0.5nm,0.9s,baz=266,slow=6.2,SNR=5.5						
MKAR	**Makanchi Array**	**44.73**	**300**	P	**P**	**09 50 18.6**	**+1.0**
	0.2nm,0.6s,baz=86,slow=10,SNR=2.6						
KURBB	**Kurchatov Arra**	**46.10**	**306**	P	**P**	**09 50 28.9**	**+0.6**
	0.5nm,0.7s,baz=76,slow=8.6,SNR=4.6						
YKA	**Yellowknife Ar**	**58.98**	**32**	P	**P**	**09 52 04.9**	**+1.4**
	0.3nm,0.9s,baz=299,slow=6.5,SNR=3.6						
WRA	**Warramunga Arr**	**61.34**	**192**	P	**P**	**09 52 19.9**	**-0.2**
	0.9nm,0.9s,baz=9.3,slow=6.3,SNR=5.2						
FINES	**FINESS Array B**	**66.80**	**333**	P	**P**	**09 52 56.4**	**+0.9**
	0.8nm,0.7s,baz=28,slow=6.3,SNR=4.5						
KBZ	**Khabaz**	**70.65**	**311**	LR	LR	10 27 13.9	
	comp=Z,39nm,19.1s,baz=207,slow=38						

GUC 15 09:48:20.0±0.8, 36.72S×73.28W, h53km±42km, ML3.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.97**	**83**	*i*P	Pn	09 48 37.7	+0.2
CCHI				*e*S	Sn	09 48 50.2	-0.1
CCHI				IAML		09 49 01.3	
	comp=N,2μm,0.5s						
GO05	**HualaæØ**	**2.03**	**33**	*e*P	Pn	09 48 51.9	0.0
GO05				*i* S	Sn	09 49 15.9	-0.1
GO05				IAML		09 49 27.7	
	comp=E,740nm,0.4s						
TMU	**Temuco**	**2.08**	**165**	*e*P	Pn	09 48 52.3	-0.1
TMU				*i* S	Sn	09 49 16.8	-0.4
TMU				IAML		09 49 28.9	
	comp=E,506nm,0.6s						
GO06	**Curarrehue**	**3.19**	**154**	*i*P	Pn	09 49 08.7	+0.9
GO06				IAML		09 50 02.1	
	comp=E,52nm,0.5s						

MAN 15 09:49:07,9.68N×123.16E,h46km, mb3.9, ML2.7, MS2.2, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.34**	**167**	*i*P	Pn	09 49 19.3	+3.0
SNPH				*i* S	Sn	09 49 26.2	+3.3
GUIM	**Jordan**	**1.09**	**329**	*e*P	Pn	09 49 26.7	+0.8
GUIM				*e*S	Sn	09 49 42.0	+2.0
DCPH	**Dipolog City**	**1.11**	**170**	*i*P	Pn	09 49 27.1	+1.0
DCPH				*i* S	Sn	09 49 42.1	+1.8

IDC ***15*** *09:53:51.2±3.5,51.62N×96.26E,h0km,mb1 3.3/3, mb1mx3.1/70,mbtmp3.3/3,ML2.0/1,Error ellipse: s-maj=63.9km s-min=21.9km az=13.0*
MOS ***15*** *09:53:54.4±2.8,51.88N×95.48E,h10km,mb4.0/2,Error ellipse: s-maj=18.1km s-min=11.2km az=175.4*

ISC 15 09:53:51.6±0.8, 51.7N±0.1×96.21E±0.06, h10km, n16, σ2§11/14, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.66**	**253**	*c i*PG	**Pn**	**09 54 18.5**	**-2.2**
ORL	**Orlik**	**2.39**	**67**	*e*PN	**Pb**	**09 54 34.9**	**+0.2**
ORL				pmax	pmax		
	comp=Z,43nm,0.3s						
MOY	**Mondy**	**2.98**	**88**	*e*PN	**Pb**	**09 54 45.4**	**+0.7**
MOY				pmax	pmax		
	comp=Z,48nm,0.7s						
ARS	**Arshan**	**3.87**	**84**	*e*PN	**Pg**	**09 55 02.1**	**-3.5**
ARS				*e*		09 55 54.0	
ARS				pmax	pmax		
	comp=Z,29nm,0.4s						
ARS				smax	smax		
	comp=E,332nm,0.8s						
TLY	**Talaya**	**4.63**	**87**	*e*PN	**Pb**	**09 55 15.2**	**+2.4**
TLY				*e*		09 56 16.3	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ZAK	**Zakamensk**	**4.64**	**103**	*e*PN	**Pb**	**09 55 15.7**	**+2.7**
ZAK				*e*		09 56 18.6	
ZAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZAK				smax	smax		
	comp=N,78nm,1.0s						
IRK	**Irkutsk**	**5.02**	**80**	*e*PN	**Pb**	**09 55 22.4**	**+2.9**
IRK				*e*		09 56 25.4	
IRK				pmax	pmax		
	comp=Z,54nm,0.1s						
IRK				smax	smax		
	comp=N,185nm,0.7s						
ZALV	**Zalesovo Beam**	**7.28**	**293**	Pn	**Pn**	**09 55 39.2**	**+1.3**
	comp=N,0.1nm,0.3s,baz=99,slow=12,SNR=5.3						
ZALV				Lg	Lg	09 57 33.0	
	comp=N,1.3nm,0.3s,baz=110,slow=29,SNR=6.5						
SONM	**Songino Array**	**7.62**	**116**	Pg	Pb	09 56 08.7	+4.9
	comp=N,0.3nm,0.3s,baz=308,slow=16,SNR=9.0						
SONM				Lg	Lg	09 57 52.9	
	comp=N,1.3nm,0.3s,baz=301,slow=30,SNR=19						
MKAR	**Makanchi Array**	**10.32**	**247**	Pn	**Pn**	**09 56 20.9**	**+1.3**
	baz=58,slow=7.3,SNR=2.2						
MKAR				Lg	Lg	09 59 11.4	
	comp=N,0.2nm,0.3s,baz=68,slow=33,SNR=6.4						
KURK	**Kurchatov**	**11.09**	**272**	*e*P	**Pn**	**09 56 28.9**	**-1.1**
KURBB	**Kurchatov Arra**	**11.16**	**272**	Lg	Lg	09 59 38.6	
	comp=N,0.0nm,0.3s,baz=70,slow=31,SNR=9.1						
BRVK	**Borovoye**	**15.88**	**285**	*e*P	**Pn**	**09 57 34.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**17.25**	**247**	P	**P**	**09 57 54.0**	**-0.1**
	baz=64,slow=13,SNR=3.7						
TIXI	**Tiksi**	**24.76**	**24**	*e*P	**P**	**09 59 15.0**	**+2.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**34.80**	**300**	*e*P	**P**	**10 00 42.2**	**+0.2**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						

DDA ***15*** *09:54:40.4,39.37N×26.04E,h9km,Ml2.5*
ATH ***15*** *09:54:41.0,39.30N×26.11E,h20km±1km, ML2.2/5, Error ellipse: s-maj=2.0km s-min=1.0km az=146.0*
ISK ***15*** *09:54:41.0,39.30N×26.16E,h6km, ML2.5/11*
ISCJB ***15*** *09:54:41.4±0.4,39.30N±0.02×26.11E±0.03,h7km±3km, Error ellipse: s-maj=4.5km s-min=3.1km az=174.1*
CSEM ***15*** *09:54:41.5±0.1,39.31N×26.11E,h8km, ML2.2, Error ellipse: s-maj=3.9km s-min=2.5km az=83.0*
THE ***15*** *09:54:41.9,39.32N×26.10E,h9km±2km,ML2.2/2, Error ellipse: s-maj=2.5km s-min=0.5km az=95.0*

ISC 15 09:54:41.5±0.8, 39.32N±0.02×26.11E±0.02, h16km±4km, n56, σ0§87/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.14**	**7**	PG	**Pg**	**09 54 45.0**	**-0.5**
GPNR				SG	**Sg**	**09 54 47.6**	**-0.5**
GPNR	**Gulpinar-Canak**	**0.14**	**7**	*e*Pg	**Pg**	**09 54 45.0**	**-0.5**
GPNR				*e*Sg	**Sg**	**09 54 47.6**	**-0.5**
PRK	**Paraskevi**	**0.14**	**119**	P	**Pg**	**09 54 45.6**	**+0.1**
PRK				S	**Sg**	**09 54 47.9**	**-0.2**
PRK				AML	AML	09 54 48.1	
	comp=E,2951μm,0.4s						
PRK				AML	AML	09 54 48.3	
	comp=N,2698μm,0.3s						
PRK	**Paraskevi**	**0.14**	**119**	P	**Pg**	**09 54 45.3**	**-0.1**
PRK				S	**Sg**	**09 54 47.5**	**-0.5**
PRK	**Paraskevi**	**0.14**	**119**	P	**Pg**	**09 54 45.3**	**-0.1**
PRK				S	**Sg**	**09 54 47.5**	**-0.5**
SIGR	**SIGRI**	**0.23**	**242**	PG	**Pg**	**09 54 45.6**	**-0.2**
SIGR				SG	**Sg**	**09 54 50.7**	**+0.6**
SIGR	**SIGRI**	**0.23**	**242**	P	**Pg**	**09 54 46.6**	**-0.2**
SIGR				S	**Sg**	**09 54 49.3**	**-0.8**
SIGR				AML	AML	09 54 49.8	
	comp=E,2003μm,0.2s						
SIGR				AML	AML	09 54 49.9	
	comp=N,4135μm,0.3s						
SIGR	**SIGRI**	**0.23**	**242**	P	**Pg**	**09 54 46.5**	**-0.2**
SIGR				S	**Sg**	**09 54 49.8**	**-0.3**
SIGR				*e*Sg	Sg	09 54 50.7	+0.6
SIGR	**SIGRI**	**0.23**	**242**	P	**Pg**	**09 54 46.4**	**-0.2**
EZN	**Ezine**	**0.54**	**18**	PG	**Pb**	**09 54 52.3**	**-0.3**
EZN	**Ezine**	**0.54**	**18**	P	**Pb**	**09 54 52.2**	**-0.3**
EZN				S	**Sb**	**09 54 52.2**	**+0.3**
EZN	**Ezine**	**0.54**	**18**	P	**Pb**	**09 54 52.2**	**-0.3**
EZN				S	**Sb**	**09 55 00.2**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.54**	**38**	*i*P	**Pg**	**09 54 51.8**	**-0.5**
BAYC				*i* S	**Sg**	**09 54 59.5**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.54**	**38**	P	**Pg**	**09 54 51.8**	**-0.5**
BAYC				S	**Sg**	**09 54 59.5**	**-0.1**
CAND	**Candarli**	**0.65**	**124**	PG	**Pg**	**09 54 53.5**	**-0.7**
DKL	**Dikili**	**0.66**	**111**	PG	**Pg**	**09 54 53.5**	**-1.0**
DKL	**Dikili**	**0.66**	**111**	*e*Pg	**Pg**	**09 54 53.5**	**-1.0**
KRBN	**Karaburun**	**0.80**	**154**	PG	**Pg**	**09 54 55.7**	**-1.4**
KRBN	**Karaburun**	**0.80**	**154**	*e*Pg	**Pg**	**09 54 55.7**	**-1.4**
GADA	**Gvkgeada**	**0.89**	**349**	PG	**Pb**	**09 54 58.5**	**-0.1**
GADA	**Gvkgeada**	**0.89**	**349**	*e*Pg	**Pb**	**09 54 58.5**	**-0.1**
LIA	**Limnos Island**	**0.92**	**309**	P	**Pg**	**09 54 59.0**	**-0.5**
LIA				S	**Sg**	**09 55 11.2**	**-0.4**
LIA				AML	AML	09 55 14.4	
	comp=N,245μm,0.3s						
LIA				AML	AML	09 55 14.5	
	comp=E,311μm,0.4s						
LIA	**Limnos Island**	**0.92**	**309**	P	**Pg**	**09 54 58.9**	**-0.5**
LIA				S	**Sb**	**09 55 11.5**	**+0.3**
CHOS	**Chios island**	**0.93**	**183**	PG	**Pn**	**09 54 59.9**	**-0.1**
CHOS	**Chios island**	**0.93**	**183**	P	**Pg**	**09 54 58.2**	**-1.4**
CHOS				S	**Sb**	**09 55 12.6**	**+1.2**
CHOS				AML	AML	09 55 15.0	
	comp=N,209μm,0.3s						
CHOS				AML	AML	09 55 15.3	
	comp=E,423μm,0.3s						
CHOS	**Chios island**	**0.93**	**183**	P	**Pb**	**09 54 59.6**	**+0.3**
CHOS	**Chios island**	**0.93**	**183**	*e*Pg	**Pn**	**09 54 59.9**	**-0.1**
CHOS				S	**Sb**	**09 55 12.0**	**+0.6**
CHOS	**Chios island**	**0.93**	**183**	P	**Pb**	**09 54 59.6**	**+0.3**
CHOS				S	**Sb**	**09 55 12.5**	**+1.2**
URLA	**Izmir**	**1.03**	**158**	PG	**Pg**	**09 55 00.4**	**-0.9**
URLA	**Izmir**	**1.03**	**158**	*i* P	**Pg**	**09 55 00.5**	**-0.9**
URLA				*i* S	**Sg**	**09 55 13.5**	**-1.3**
URLA	**Izmir**	**1.03**	**158**	P	**Pg**	**09 55 00.5**	**-0.9**
URLA				S	**Sg**	**09 55 13.5**	**-1.3**
GELI	**Tayfur-Gelibol**	**1.12**	**14**	PN	**Pn**	**09 55 02.9**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.12**	**14**	*e*Pn	**Pn**	**09 55 02.9**	**+0.4**
LPK	**Lapseki**	**1.17**	**25**	PN	**Pb**	**09 55 02.9**	**-0.4**
LPK	**Lapseki**	**1.17**	**25**	*e*Pn	**Pb**	**09 55 02.9**	**-0.4**
SMTH	**Samothraki Isl**	**1.24**	**339**	P	**Pg**	**09 55 04.9**	**-0.5**
SMTH				AML	AML	09 55 22.2	
	comp=E,68μm,0.4s						
SMTH				S	**Sn**	**09 55 22.2**	**+1.7**
SMTH				AML	AML	09 55 22.9	
	comp=N,72μm,0.3s						
SMTH	**Samothraki Isl**	**1.24**	**339**	P	**Pg**	**09 55 04.8**	**-0.6**
SMTH				S	**Sn**	**09 55 22.0**	**+1.5**
STEP	**BALIKESIR_Sava**	**1.25**	**87**	*i* P	**Pg**	**09 55 06.2**	**+0.6**
STEP				*i* S	**Sn**	**09 55 22.7**	**+2.0**
STEP	**BALIKESIR_Sava**	**1.25**	**87**	P	**Pg**	**09 55 06.2**	**+0.6**
STEP				S	**Sn**	**09 55 22.7**	**+2.0**
ERIK	**Erikli-Kesan**	**1.39**	**13**	PN	**Pg**	**09 55 07.7**	**-0.6**
ERIK	**Erikli-Kesan**	**1.39**	**13**	*e*Pn	**Pg**	**09 55 07.7**	**-0.6**
AKHS	**Akhisar**	**1.39**	**108**	*i* P	**Pg**	**09 55 08.8**	**+0.4**
AKHS	**Akhisar**	**1.39**	**108**	P	**Pg**	**09 55 08.8**	**+0.4**
KRBG	**Karabiga-Canak**	**1.41**	**40**	PN	**Pb**	**09 55 07.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.41**	**40**	*e*Pn	**Pb**	**09 55 07.5**	**+0.1**
KESN	**Edirne-Kesan**	**1.57**	**16**	*i* P	**Pb**	**09 55 10.3**	**-0.1**
KESN				*i* S	**Sn**	**09 55 30.0**	**+0.8**
KESN	**Edirne-Kesan**	**1.57**	**16**	P	**Pb**	**09 55 10.3**	**-0.1**
KESN				S	**Sn**	**09 55 30.0**	**+0.8**
ALN	**Alexandroupoli**	**1.58**	**358**	PN	**Pb**	**09 55 10.4**	**+0.3**
ALN	**Alexandroupoli**	**1.58**	**358**	P	**Pn**	**09 55 09.8**	**+0.9**
ALN				S	**Sg**	**09 55 31.8**	**-0.7**
ALN	**Alexandroupoli**	**1.58**	**358**	P	**Pb**	**09 55 10.0**	**-0.3**
ALN	**Alexandroupoli**	**1.58**	**358**	*e*Pn	**Pb**	**09 55 10.6**	**+0.3**
ALN				S	**Sg**	**09 55 31.7**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.60**	**31**	PN	**Pb**	**09 55 10.9**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.60**	**31**	*e*Pn	**Pb**	**09 55 10.9**	**+0.3**
SART	**Tekirdag**	**1.60**	**31**	*i* P	**Pn**	**09 55 08.9**	**-0.2**
SART				*i* S	**Sn**	**09 55 26.3**	**-3.2**
SART	**Tekirdag**	**1.60**	**31**	P	**Pn**	**09 55 08.9**	**-0.2**
SART				S	**Sn**	**09 55 26.3**	**-3.2**
DEMI	**Demirci**	**2.04**	**97**	*i* P	**Pg**	**09 55 21.0**	**+0.3**
DEMI				*i* S	**Sg**	**09 55 46.6**	**-0.6**

NIED ***15*** *10:19:00,23.80N×125.80E,h14km,Mw3.6 Best double couple: M₀3.06000×10¹⁴ NP1:φ₈256.00000°,δ36.00000°, λ151.00000°. NP2:φ₈11.00000°,δ73.00000°,λ58.00000°.*

JMA 15 10:19:34.7±0.2, 23.79N×125.84E, h47km, M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.04**	**338**	P	Pn	10 19 53.3	+0.3
JMJ	**Miyako jima 2**	**1.14**	**334**	P	Pn	10 19 54.8	+0.6
JMJ				*e*S	Sn	10 20 09.6	+0.9
JIRB	**Irabujima**	**1.20**	**330**	P	Pn	10 19 55.3	+0.2
JIRB				*e*S	Sn	10 20 11.1	+0.9
JIKM	**Ikemajima**	**1.25**	**335**	P	Pn	10 19 56.2	+0.4
JTJ	**Tarama**	**1.34**	**309**	P	Pn	10 19 57.2	+0.2
JTJ				*e*S	Sn	10 20 14.4	+0.7
JISG	**Ishigakijimahi**	**1.61**	**300**	P	Pn	10 20 01.3	+0.7
JISG				*e*S	Sn	10 20 20.7	+0.5
JIJ	**Ishigaki jima**	**1.65**	**291**	P	Pn	10 20 02.5	+1.2
JIJ				*e*S	Sn	10 20 21.6	+0.3
JKRS	**Kuro-shima**	**1.73**	**285**	P	Pn	10 20 03.5	+1.2
JKRS				*e*S	Sn	10 20 23.1	-0.2
HATJ	**Hateruma jima**	**1.88**	**279**	P	Pn	10 20 05.5	+1.1
HATJ				*e*S	Sn	10 20 27.3	+0.4
IRIF	**Iriomote-Funau**	**2.00**	**286**	P	Pn	10 20 07.4	+1.3
JYNG	**Yonagunijimaku**	**2.73**	**285**	P	Pn	10 20 17.3	+1.3
JYNG				*e*S	Sn	10 20 46.2	-1.5
JAGN	**Aguni-jima**	**3.06**	**24**	P	Pn	10 20 22.4	+1.8

IDC ***15*** *10:28:57.7±1.2,7.41S×126.63E,h326km±12km,mb3.9/16, mb1 4.0/18,mb1mx3.7/48,mbtmp4.6/18,Error ellipse: s-maj=14.1km s-min=7.9km az=64.0*
NEIC ***15*** *10:

PWJI	**Pagerwojo**	**14.63**	**267**	P		**Pn**	**10 32 13.4**	**+1.0**
	77nm,0.5s							
JAY	**Jayapura**	**14.94**	**71**	P		**Pn**	**10 32 12.9**	**-3.1**
MBWA	**Marble Bar**	**15.05**	**205**	*eP*		**Pn**	**10 32 16.1**	**-1.0**
	22nm,0.8s							
PCJI	**Pacitan**	**15.26**	**267**	P		**Pn**	**10 32 20.2**	**+0.6**
	155nm,0.6s							
STKI	**Sintang**	**16.84**	**296**	P		**Pn**	**10 32 36.4**	**-1.7**
SBUM	**Sibu**	**17.43**	**304**	*eP*		**P**	**10 32 41.8**	**+1.1**
	20nm,0.7s							
WRKA	**Warakurna**	**17.46**	**175**	P		**P**	**10 32 42.4**	**+1.5**
	baz=18,SNR=507							
AS31	**Alice Springs**	**17.50**	**157**	*eP*		**P**	**10 32 42.1**	**+0.8**
	154nm,0.3s							
AS31				*eS*		**S**	**10 35 46.3**	**+1.2**
ASAR	**Alice Springs**	**17.50**	**157**	P		**P**	**10 32 42.2**	**+0.9**
	46nm,0.3s,baz=334,slow=11,SNR=3298							
ASAR				S		**S**	**10 35 46.3**	**+1.2**
	1.4nm,0.3s,baz=339,slow=21,SNR=8.9							
COEN	**Coen**	**17.50**	**113**	P		**P**	**10 32 40.4**	**-1.1**
	baz=18,SNR=60							
COEN	**Coen**	**17.50**	**113**	*eP*		**P**	**10 32 40.4**	**-1.1**
	26nm,0.8s							
AS01	**Alice Springs**	**17.51**	**157**	*eP*		**P**	**10 32 41.9**	**+0.4**
QIS	**Mount Isa**	**18.06**	**137**	P		**P**	**10 32 47.2**	**-0.1**
	baz=18,SNR=93							
MTSU	**Mount Surprise**	**20.23**	**123**	P		**P**	**10 33 09.2**	**-0.7**
	baz=20,SNR=19							
MEEK	**Meekatharra**	**20.43**	**201**	P		**P**	**10 33 12.3**	**+0.6**
	baz=21,SNR=12							
PMG	**Port Moresby**	**20.45**	**97**	P		**P**	**10 33 11.5**	**-0.5**
	11nm,0.5s,baz=266,slow=13,SNR=4.5							
CTA	**Charters Tower**	**22.78**	**125**	P		**P**	**10 33 33.6**	**+0.6**
	27nm,0.8s,baz=312,slow=12,SNR=26							
CTAO	**Charters Tower**	**22.78**	**125**	*eP*		**P**	**10 33 33.7**	**+0.6**
	24nm,0.8s							
KMBL	**Kambalda**	**24.09**	**190**	P		**P**	**10 33 46.0**	**+1.2**
	baz=24,SNR=21							
BLDU	**Ballidu**	**24.73**	**201**	P		**P**	**10 33 52.6**	**+2.1**
	baz=25,SNR=6.1							
KLBR	**Kellerberrin**	**25.29**	**198**	P		**P**	**10 33 56.3**	**+0.8**
	baz=26,SNR=5.3							
QLP	**Quilpie**	**25.30**	**141**	P		**P**	**10 33 56.6**	**+0.9**
	baz=26,SNR=17							
BBOO	**Buckleboo**	**26.63**	**162**	P		**P**	**10 34 08.3**	**+0.9**
	baz=27,SNR=57							
BBOO	**Buckleboo**	**26.63**	**162**	*eP*		**P**	**10 34 08.2**	**+0.8**
	33nm,0.5s							
NWAO	**Narrogin (SRO)**	**26.69**	**198**	P		**P**	**10 34 09.0**	**+1.1**
	13nm,0.5s,baz=254,slow=8.3,SNR=20							
NWAO	**Narrogin (SRO)**	**26.69**	**198**	P		**P**	**10 34 09.0**	**+1.1**
	baz=27,SNR=16							
NWAO				P		**P**	**10 34 09.0**	**+1.1**
	baz=27,SNR=16							
NWAO	**Narrogin (SRO)**	**26.69**	**198**	*eP*		**P**	**10 34 09.0**	**+1.1**
	19nm,0.8s							
STKA	**Stephens Creek**	**27.96**	**152**	P		**P**	**10 34 20.3**	**+1.1**
	40nm,0.6s,baz=325,slow=9.3,SNR=73							
STKA	**Stephens Creek**	**27.96**	**152**	P		**P**	**10 34 20.4**	**+1.1**
	baz=28,SNR=63							
STKA	**Stephens Creek**	**27.96**	**152**	*eP*		**P**	**10 34 20.4**	**+1.1**
	8.2nm,0.8s							
HTT	**Hallett**	**28.17**	**158**	P		**P**	**10 34 22.5**	**+1.4**
	baz=28,SNR=52							
RKGY	**Rocky Gully**	**28.33**	**197**	P		**P**	**10 34 25.0**	**+2.5**
	baz=29,SNR=6.8							
KULM	**Kulim**	**28.84**	**296**	*eP*		**P**	**10 34 27.3**	**+0.1**
	15nm,1.3s							
CMSA	**Cobar Meteorol**	**29.79**	**146**	P		**P**	**10 34 36.6**	**+1.2**
	baz=30,SNR=88							
QIZ	**Qiongzhong**	**31.14**	**328**	P		**P**	**10 34 48.4**	**+1.1**
QIZ				S		**S**	**10 39 30.8**	**+3.8**
QIZ				sS		**sS**	**10 41 26.9**	**-0.4**
ARPS	**Mount Arapiles**	**32.24**	**157**	P		**P**	**10 34 58.4**	**+1.8**
	baz=32,SNR=49							
ARMA	**Armidale**	**32.69**	**137**	P		**P**	**10 35 02.3**	**+1.6**
	baz=33,SNR=8.4							
YNG	**Young**	**33.36**	**146**	P		**P**	**10 35 08.1**	**+1.8**
	baz=34,SNR=20							
CAN	**Canberra**	**34.45**	**147**	*eP*		**P**	**10 35 18.0**	**+2.4**
	21nm,0.9s							
TOO	**Toolangi**	**34.46**	**153**	P		**P**	**10 35 18.3**	**+2.6**
	baz=35,SNR=19							
CMAR	**Chiang Mai Arr**	**37.56**	**314**	P		**P**	**10 35 42.1**	**+0.2**
	1.6nm,0.4s,baz=142,slow=6.7,SNR=5.9							
CMAR					PcP	**PcP**	**10 37 53.1**	**+1.4**
	1.5nm,0.6s,baz=162,slow=2.9,SNR=7.8							
KMI	**Kunming**	**39.92**	**325**	P		**P**	**10 36 02.5**	**+1.0**
NJ2	**Nanjing**	**40.07**	**350**	*eP*		**P**	**10 36 02.0**	**-0.3**
CD2	**Chengdu**	**44.05**	**331**	P		**P**	**10 36 34.5**	**+0.2**
CD2				S		**S**	**10 42 41.8**	**+1.9**
MJAR	**Matsushiro Arr**	**45.21**	**13**	P		**P**	**10 36 40.4**	**-2.8**
	2.6nm,0.8s,baz=191,slow=9.1,SNR=6.4							
MAJO	**Matsushiro**	**45.21**	**13**	*eP*		**P**	**10 36 40.4**	**-2.8**
MAJO				*e*			10 36 42.4	
MAJO				*eS*		**S**	**10 42 58.3**	**+2.2**
MAT	**Matsushiro**	**45.21**	**13**	P		**P**	**10 36 42.9**	**-0.3**
MJB9	**Matsu-Tunnel**	**45.21**	**13**	*eP*		**P**	**10 36 42.5**	**-0.7**
	82nm,1.8s							
HHC	**Hu-ho-hao-te**	**50.11**	**345**	*eP*		**P**	**10 37 21.8**	**+1.3**
JIRN	**Jiri**	**52.44**	**314**	*eP*		**P**	**10 37 37.9**	**-0.3**
	18nm,0.6s							
GUN	**Gumba**	**52.81**	**314**	*eP*		**P**	**10 37 40.5**	**-0.4**
	37nm,0.7s							
RPZ	**Rata Peaks**	**52.93**	**140**	*eP*		**P**	**10 37 42.1**	**+1.1**
	56nm,1.0s							
PKIN	**Phulchoki**	**52.97**	**313**	*eP*		**P**	**10 37 41.2**	**-0.7**
DMN	**Daman**	**53.20**	**313**	*eP*		**P**	**10 37 43.6**	**0.0**
KOLN	**Koldanda**	**54.39**	**312**	*eP*		**P**	**10 37 52.2**	**+0.1**
	24nm,0.8s							
PYUN	**Piuthan**	**55.02**	**312**	*eP*		**P**	**10 37 57.0**	**+0.5**
	42nm,0.8s							
SONA0	**Songino Array**	**57.97**	**344**	*eP*		**P**	**10 38 16.4**	**-0.2**
SONM	**Songino Array**	**57.97**	**344**	P		**P**	**10 38 16.4**	**-0.2**
	0.4nm,0.6s,baz=156,slow=7.4,SNR=3.1							
WMQ	**Urumqi**	**62.06**	**329**	P		**P**	**10 38 44.8**	**+0.6**
PETK	**Petropavlovsk-**	**65.96**	**20**	P		**P**	**10 39 09.0**	**0.0**
	2.5nm,0.5s,baz=178,slow=3.4,SNR=14							
PEA1	**Petropavlovsk-**	**65.96**	**20**	*eP*		**P**	**10 39 09.0**	**-0.1**
MK01	**Makanchi Array**	**66.85**	**329**	*eP*		**P**	**10 39 14.4**	**-0.4**
MK31	**Makanchi Array**	**66.87**	**329**	*eP*		**P**	**10 39 14.8**	**-0.2**
MK32	**Makanchi Array**	**66.87**	**329**	*eP*		**P**	**10 39 14.9**	**-0.1**
MKAR	**Makanchi Array**	**66.87**	**329**	P		**P**	**10 39 14.9**	**0.0**
	1.2nm,0.7s,baz=125,slow=7.9,SNR=11							
MKAR	**Makanchi Array**	**66.87**	**329**	*eP*		**P**	**10 39 15.0**	**0.0**
	7.4nm,0.4s							
AAK	**Ala-Archa**	**68.81**	**321**	P		**P**	**10 39 27.8**	**+0.6**
	1.9nm,0.6s,baz=124,slow=7.3,SNR=5.5							
ZALV	**Zalesovo Beam**	**70.62**	**335**	P		**P**	**10 39 36.8**	**-0.9**
	1.9nm,0.6s,baz=134,slow=5.3,SNR=10							
ZALV	**Zalesovo Beam**	**70.62**	**335**	*eP*		**P**	**10 39 36.7**	**-1.0**
ZAA1	**Zalesovo Array**	**70.62**	**335**	*eP*		**P**	**10 39 36.8**	**-0.9**
KURBB	**Kurchatov Arra**	**71.25**	**330**	P		**P**	**10 39 41.1**	**-0.3**
	1.7nm,0.5s,baz=137,slow=5.1,SNR=21							
KURK	**Kurchatov**	**71.26**	**330**	*eP*		**P**	**10 39 41.1**	**-0.4**
VNDA	**Vanda**	**72.33**	**172**	P		**P**	**10 39 48.5**	**+1.0**
	3.0nm,0.7s,baz=314,slow=6.6,SNR=21							
VNDA	**Vanda**	**72.33**	**172**	*eP*		**P**	**10 39 48.5**	**+1.0**
	23nm,1.9s							
MAW	**Mawson**	**73.20**	**201**	P		**P**	**10 39 54.6**	**+1.9**
	6.2nm,0.6s,baz=84,slow=4.7,SNR=4.5							
MAW	**Mawson**	**73.20**	**201**	P		**P**	**10 39 54.9**	**+2.2**
	baz=73,SNR=14							
MAW	**Mawson**	**73.20**	**201**	*eP*		**P**	**10 39 53.8**	**+1.2**
	6.3nm,1.4s							
BVAR	**Borovoye Array**	**76.75**	**329**	P		**P**	**10 40 13.1**	**+0.1**
	1.6nm,0.5s,baz=125,slow=7.4,SNR=14							
BRVK	**Borovoye**	**76.82**	**329**	*eP*		**P**	**10 40 13.2**	**-0.2**
	5.2nm,1.2s							
ABKAR	**Akbulak array**	**80.85**	**322**	*eP*		**P**	**10 40 34.9**	**-0.4**
	10.0nm,0.8s							
QSPA	**South Pole Qui**	**82.42**	**180**	*eP*		**P**	**10 40 44.3**	**+1.0**
	6.9nm,0.8s							
AKTO	**Aktyubinsk**	**82.45**	**323**	P		**P**	**10 40 43.5**	**-0.1**
	2.7nm,0.6s,baz=112,slow=6.9,SNR=12							
CAST	**Castle Rocks**	**92.84**	**26**	*eP*		**P**	**10 41 31.5**	**-1.5**
	16nm,0.2s							
SNAA	**Sanae**	**94.31**	**194**	P		**P**	**10 41 41.4**	**+1.8**
	2.5nm,0.6s,baz=315,slow=2.9,SNR=11							
SNAA	**Sanae**	**94.31**	**194**	*eP*		**P**	**10 41 41.4**	**+1.8**
	11nm,1.2s							
NVAR	**Mina Array Bea**	**114.30**	**51**	PKP		PKPdf	10 46 59.0	+0.3
	0.2nm,0.6s,baz=272,slow=3.1,SNR=4.4							
PD31	**Pinedale Array**	**119.69**	**45**	*e*PKPdf		**PKPdf**	**10 47 09.2**	**+0.2**
PDAR	**Pinedale Array**	**119.69**	**45**	PKP		**PKPdf**	**10 47 09.2**	**+0.2**
	0.5nm,0.7s,baz=127,slow=2.2,SNR=5.1							
ULM	**Lac du Bonnet**	**124.74**	**32**	PKP		**PKPdf**	**10 47 17.0**	**-1.2**
	1.2nm,0.7s,baz=314,slow=4.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**125.57**	**281**	PKP		**PKPdf**	**10 47 21.1**	**+0.4**
	0.8nm,0.8s,baz=32,slow=2.2,SNR=6.2							
TOA1	**Torodi Ar. Sit**	**125.57**	**281**	*e*PKPdf		**PKPdf**	**10 47 21.1**	**+0.4**
LTX	**Lajitas**	**128.13**	**59**	*e*PKPdf		**PKPdf**	**10 47 25.9**	**+0.5**
TXAR	**Lajitas Array**	**128.13**	**59**	PKP		**PKPdf**	**10 47 25.9**	**+0.5**
	0.3nm,0.6s,baz=212,slow=3.2,SNR=5.8							
JCT	**Junction City**	**131.03**	**56**	*e*PKPdf		**PKPdf**	**10 47 31.1**	**+0.3**
CPUP	**Villa Florida**	**146.10**	**174**	PKPbc		**PKPab**	**10 48 00.1**	**-0.9**
	7.1nm,0.8s,baz=196,slow=2.0,SNR=14							
CPUP	**Villa Florida**	**146.10**	**174**	*e*PKPdf		**PKPab**	**10 48 00.5**	**-0.6**
PB01	**IPOC Station P**	**147.49**	**151**	*e*PKPbc		**PKPab**	**10 48 04.8**	**-2.1**
PB11	**IPOC Station P**	**148.50**	**150**	*e*PKPbc		**PKPab**	**10 48 07.7**	**-3.4**
MNMC	**Minye Minye**	**149.06**	**149**	*e*PKPbc		**PKPab**	**10 48 09.7**	**-3.8**
LPAZ	**La Paz**	**152.20**	**149**	PKPbc		**PKPbc**	**10 48 16.9**	**+1.0**
	1.0nm,0.4s,baz=59,slow=2.9,SNR=9.0							
LPAZ				PKPab		**PKPab**	**10 48 28.1**	**+1.1**
	3.4nm,0.5s,baz=236,slow=3.5,SNR=12							
LPAZ	**La Paz**	**152.20**	**149**	*e*PKPbc		**PKPbc**	**10 48 15.8**	**-0.2**
LPAZ				*e*PKPab		**PKPab**	**10 48 28.1**	**+1.1**
SIV	**San Ignacio**	**155.41**	**162**	PKP		**PKPdf**	**10 48 14.0**	**+1.3**
	0.3nm,0.4s,baz=309,slow=3.2,SNR=3.6							
SIV				PKPab		**PKPab**	**10 48 40.5**	**+0.6**
	1.9nm,0.8s,baz=218,slow=4.5,SNR=7.7							

MEX 15 10:29:37.8±0.5, 15.05N×93.83W, h10km±28km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.88**	**42**	*i* P	Pg	10 29 52.0	-2.7
PCIG				*e*S	Sg	10 30 03.9	-2.3
TGIG		**1.85**	**22**	*e*P	Pn	10 30 06.3	-3.4
TGIG				*e*S	Sn	10 30 28.5	-4.7
CCIG	**Comitan**	**2.04**	**53**	*e*P	Pn	10 30 09.5	-3.0
CCIG				*i* S	Sn	10 30 32.8	-5.3

NIED ***15*** *10:42:00.3, 34.60N×140.70E, h47km, Mw3.7 Best double couple: M0=4.09000×10^14 NP1:φ=183.00000°, δ=31.00000°, λ=80.00000°. NP2:φ=14.00000°, δ=60.00000°, λ=96.00000°.*
IDC ***15*** *10:42:10.0±1.1, 34.62N×140.81E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.6/77, mbtmp3.8/11, ML3.5/3, MS2.6/2, Ms1 2.6/2, ms1mx2.4/69, Error ellipse: s-maj=27.0km s-min=15.1km az=86.0*
JMA ***15*** *10:42:14.7±0.1, 34.63N×140.68E, h55km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φ=348.00000°, δ=71.00000°, λ=97.00000°. NP2: φ=146.00000°, δ=20.00000°, λ=70.00000°. Principal axes: T Plg63.0000°, Azm269.0000°; N Plg7.0000°, Azm165.0000°; P Plg26.0000°, Azm72.0000°;*
JMA Felt I J1.
ISCJB ***15*** *10:42:15.0±0.6, 34.64N±0.04×140.67E±0.06, h51km±5km, mb3.7/8, MS4.6/1 Error ellipse: s-maj=8.6km s-min=6.5km az=174.2*

ISC 15 10:42:15.8±1.0, 34.65N±0.05×140.66E±0.06, h44km±9km, n30, σ=1°43/31, mb3.6/8, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.20**	**320**	↑P	**Pn**	**10 42 23.7**	**+0.5**
BSO1	**Boso 1**	**0.26**	**89**	↑P	**Pn**	**10 42 23.9**	**+0.6**
BSO4	**Boso 4**	**0.43**	**322**	↓P	**Pn**	**10 42 26.2**	**+0.5**
KTR	**Katsuura**	**0.57**	**330**	↓P	**Pn**	**10 42 27.8**	**+0.2**
KTR				S	**Sn**	**10 42 36.5**	**+0.4**
TATJ	**Tateyama 2**	**0.74**	**301**	↓P	**Pn**	**10 42 30.0**	**+0.2**
TATJ				S	**Sn**	**10 42 40.3**	**+0.3**
JCN	**Nagara**	**0.85**	**334**	↓P	**Pn**	**10 42 31.2**	**-0.2**
JCN				S	**Sn**	**10 42 43.3**	**+0.5**
JIM2	**Oshima 3**	**1.02**	**274**	↓P	**Pn**	**10 42 33.3**	**-0.3**
JIM2				*e*S	**Sn**	**10 42 46.3**	**-0.5**
JKO	**Kozu shima**	**1.34**	**250**	P	**Pn**	**10 42 37.9**	**-0.2**
JKO				S	**Sn**	**10 42 54.6**	**-0.2**
KTJJ	**Kamata 2**	**1.34**	**282**	↓P	**Pn**	**10 42 37.9**	**-0.2**
JHJ	**Hachijo jima 2**	**1.69**	**206**	Pn	**Pn**	**10 42 43.0**	**+0.2**
	41nm,0.3s,baz=338,slow=20,SNR=13						
JHJ				Sn	**Sn**	**10 43 03.4**	**+0.1**
	110nm,0.3s,baz=60,slow=20,SNR=11						
MJAR	**Matsushiro Arr**	**2.75**	**314**	Pn	**Pn**	**10 42 57.6**	**+0.3**
	7.3nm,0.3s,baz=175,slow=15,SNR=64						
MJAR				Sn	**Sn**	**10 43 29.7**	**+0.3**
	8.7nm,0.3s,baz=264,slow=25,SNR=7.3						
MJAR				LR	LR	10 44 19.6	
	comp=Z,74nm,21.8s,baz=130,slow=46						
MAT	**Matsushiro**	**2.75**	**314**	P	**Pn**	**10 42 58.1**	**+0.7**
MAT				S	**Sn**	**10 43 30.2**	**+0.8**
JNU	**Nakatsue**	**8.28**	**262**	Pn	**Pn**	**10 44 11.1**	**-2.2**
	0.4nm,0.3s,baz=42,slow=10,SNR=3.5						
ASAJ	**Asahikawa**	**9.57**		Pn	**Pn**	**10 44 29.9**	**-1.0**
	0.6nm,0.3s,baz=170,slow=13,SNR=4.4						
ASAJ				Sn	**Sn**	**10 46 10.8**	**-6.2**
	0.3nm,0.3s,baz=348,slow=20,SNR=3.0						
KSRS	**Korea Array**	**10.69**	**289**	LR	LR	10 48 43.5	
	comp=Z,37nm,18.1s,baz=90,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.56**	**116**	T	T	11 17 17.8	
	baz=306,SNR=57						
H11N1	**WAKE ISLAND Hy**	**27.56**	**116**	T	T	11 17 17.3	
	baz=306,slow=74,SNR=50						
H11N3	**WAKE ISLAND Hy**	**27.57**	**116**	T	T	11 17 19.1	
	baz=306,slow=74,SNR=36						
H11S3	**WAKE ISLAND Hy**	**28.18**	**118**	T	T	11 17 59.0	
	baz=311,slow=76,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**28.18**	**118**	T	T	11 18 01.3	
	baz=311,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.19**	**118**	T	T	11 18 03.2	
	baz=311,slow=76,SNR=12						
SONM	**Songino Array**	**28.69**	**308**	P	**P**	**10 48 10.1**	**+1.5**
	0.5nm,0.4s,baz=118,slow=9.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**43.10**	**314**	P	**P**	**10 50 12.4**	**+1.1**
	0.6nm,0.4s,baz=116,slow=6.6,SNR=3.2						
MKAR	**Makanchi Array**	**44.91**	**304**	P	**P**	**10 50 27.3**	**+1.3**
	0.5nm,0.6s,baz=91,slow=10,SNR=7.8						
KURBB	**Kurchatov Arra**	**47.02**	**310**	P	**P**	**10 50 43.1**	**+0.6**
	0.7nm,0.4s,baz=82,slow=7.4,SNR=11						
BVAR	**Borovoye Array**	**51.75**	**314**	P	**P**	**10 51 19.8**	**+1.2**
	0.3nm,0.4s,baz=60,slow=8.5,SNR=3.4						
ILAR	**Eielson Array**	**51.84**	**31**	P	**P**	**10 51 19.0**	**0.0**
	0.2nm,0.7s,baz=284,slow=5.8,SNR=4.1						
WRA	**Warramunga Arr**	**54.62**	**187**	P	**P**	**10 51 40.1**	**+0.1**
	1.3nm,0.3s,baz=22,slow=7.2,SNR=62						
ASAR	**Alice Springs**	**58.35**	**187**	P	**P**	**10 52 06.8**	**+0.3**
	0.6nm,0.6s,baz=14,slow=9.6,SNR=9.6						
URZ	**Urewera**	**80.03**	**152**	LR	LR	11 23 40.2	
	comp=Z,275nm,20.8s,baz=216,slow=31						

IDC 15 10:43:12.3±313.0, 56.46N×43.23E, h0km, Error ellipse: s-maj=123.4km s-min=67.7km az=101.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.34**	**277**	*i*		11 03 50.0	
	baz=91,slow=342,SNR=1.2						
I31KZ	**AKTYUBINSK INF**	**10.70**	**118**	*i*		11 42 30.0	
	baz=312,slow=330,SNR=3.5						
I46RU	**ZALESOVO INFRA**	**23.60**	**78**	*i*		13 10 39.3	
	baz=291,slow=324,SNR=1.2						

IDC ***15*** *10:46:29.2±0.7, 18.84N×121.34E, h0km, mb3.6/11, mb1 3.8/12, mb1mx3.6/74, mbtmp3.6/12, ML3.7/1, MS3.1/9, Ms1 3.2/9, ms1mx2.9/52, Error ellipse: s-maj=24.3km s-min=16.6km az=79.0*
MAN ***15*** *10:46:30, 19.32N×121.07E, h2km, mb5.3, ML4.3, MS4.4*
ISCJB ***15*** *10:46:35.3±0.5, 19.22N±0.04×121.19E±0.09, h39km, mb3.5/12, MS3.1/6, Error ellipse: s-maj=12.7km s-min=5.3km az=1.2*

ISC 15 10:46:36.3±0.6, 19.16N±0.06×121.24E±0.10, h39km, n24, σ=2°12/26, mb3.5/12, MS3.3/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.19**	**140**	*e*P	**Pn**	**10 46 56.4**	**-0.1**
APYP	**Conner**	**1.29**	**180**	*e*P	**Pn**	**10 46 56.5**	**-1.4**
APYP				*e*S	**Sn**	**10 47 13.7**	**-0.2**
CAUP	**Cauayan**	**2.27**	**166**	*e*P	**Pn**	**10 47 13.7**	**+2.4**
CAUP				*e*S	Sn	10 47 50.5	+12
BOLP	**Bolinao**	**3.04**	**205**	*e*P	**Pn**	**10 47 20.8**	**-1.1**
BOLP				*e*S	**Sn**	**10 48 00.3**	**+3.3**
BALP	**Baler**	**3.41**	**175**	*e*P	**Pn**	**10 47 28.4**	**+1.3**
BALP				*e*S	**Sn**	**10 48 11.7**	**+5.4**
PCPH	**Palayan**	**3.58**	**182**	*e*P	**Pn**	**10 47 30.6**	**+1.3**
TGY	**Tagaytay City**	**5.04**	**183**	LR	LR	10 50 12.2	
	comp=Z,166nm,18.8s,baz=136,slow=47						
JNU	**Nakatsue**	**16.36**	**30**	LR	LR	10 56 51.0	
	comp=Z,44nm,18.7s,baz=126,slow=38						
KSRS	**Korea Array**	**19.14**	**16**	P	**Pn**	**10 50 56.5**	**-0.7**
	0.2nm,0.3s,baz=198,slow=10,SNR=3.0						
KSRS				LR	LR	10 59 13.1	
	comp=Z,52nm,19.5s,baz=198,slow=39						
CMAR	**Chiang Mai Arr**	**21.12**	**272**	P	**P**	**10 51 17.6**	**-0.2**
	0.4nm,0.4s,baz=74,slow=8.8,SNR=5.0						
CMAR				LR	LR	11 00 13.4	
	comp=Z,40nm,20.3s,baz=80,slow=39						
MJAR	**Matsushiro Arr**	**22.85**	**37**	P	**P**	**10 51 37.0**	**+0.8**
	0.6nm,0.6s,baz=220,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**31.05**	**340**	P	**P**	**10 52 52.8**	**+2.2**
	0.4nm,0.5s,baz=148,slow=8.4,SNR=2.6						
SONM				LR	LR	11 07 46.4	
	comp=Z,81nm,18.3s,baz=200,slow=41						
KLR	**Kul'dur**	**31.17**	**13**	P	**P**	**10 52 52.7**	**+1.2**
	0.1nm,0.4s,baz=173,slow=9.1,SNR=3.7						
KLR				LR	LR	11 06 15.1	
	comp=Z,5.6nm,19.7s,baz=135,slow=38						
TLY	**Talaya**	**35.28**	**341**	LR	LR	11 09 52.9	
	comp=Z,41nm,19.2s,baz=230,slow=39						
WRA	**Warramunga Arr**	**40.93**	**161**	P	**P**	**10 54 10.6**	**-4.6**
	0.7nm,0.7s,baz=350,slow=8.8,SNR=5.3						
WRA				PcP	**PcP**	**10 56 13.7**	**-1.5**
	0.7nm,0.7s,baz=340,slow=3.3,SNR=4.8						
MKAR	**Makanchi Array**	**42.09**	**320**	P	**P**	**10 54 25.1**	**+0.7**
	0.6nm,0.8s,baz=120,slow=8.7,SNR=5.5						
MKAR				PcP	**PcP**	**10 56 18.1**	**-0.6**
	0.7nm,0.8s,baz=117,slow=4.5,SNR=4.6						
MKAR				LR	LR	11 12 44.8	
	comp=Z,54nm,18.7s,baz=286,slow=37						
ASAR	**Alice Springs**	**44.32**	**163**	P	**P**	**10 54 38.5**	**-4.2**
	0.9nm,0.6s,baz=345,slow=7.1,SNR=12						
KURBB	**Kurchatov Arra**	**46.06**	**323**	P	**P**	**10 54 56.6**	**+0.5**
	0.6nm,0.7s,baz=120,slow=8.0,SNR=4.5						
HNR	**Honiara**	**47.57**	**123**	LR	LR	11 13 54.7	
	comp=Z,52nm,18.7s,baz=210,slow=35						
SEY	**Seymchan**	**48.69**	**18**	P	**P**	**10 55 16.8**	**+0.4**
	0.6nm,0.6s,baz=240,slow=7.3,SNR=4.8						
BVAR	**Borovoye Array**	**51.65**	**323**	P	**P**	**10 55 39.5**	**+0.5**
	0.2nm,0.3s,baz=86,slow=8.8,SNR=2.5						
BVAR				PcP	**PcP**	**10 56 51.3**	**-1.0**
	0.7nm,0.7s,baz=101,slow=6.2,SNR=3.6						
ILAR	**Eielson Array**	**73.65**	**27**	P	**P**	**10 58 05.7**	**+0.1**
	0.3nm,0.7s,baz=271,slow=5.1,SNR=4.1						
YKA	**Yellowknife Ar**	**87.56**	**23**	P	**P**	**10 59 19.6**	**-0.4**
	1.5nm,0.9s,baz=310,slow=4.6,SNR=22						
TXAR	**Lajitas Array**	**115.19**	**43**	PKP	**PKPdf**	**11 05 13.6**	**-0.6**
	0.1nm,0.5s,baz=135,slow=0.4,SNR=3.5						

DDA ***15*** *10:49:28.7, 40.73N×27.37E, h4km, Ml3.3*
CSEM ***15*** *10:49:29.8±0.1, 40.73N×27.31E, h10km, ML2.8, Error ellipse: s-maj=1.8km s-min=1.3km az=161.0*
ATH ***15*** *10:49:29.6, 40.77N×27.32E, h29km±9km, ML2.8/7, Error ellipse: s-maj=11.9km s-min=2.3km az=61.0*
ISK ***15*** *10:49:29.4, 40.73N×27.32E, h13km, ML2.8/32*
ISCJB ***15*** *10:49:29.6±0.3, 40.74N±0.02×27.33E±0.02, h10km±2km, Error ellipse: s-maj=3.4km s-min=2.4km az=163.8*
THE ***15*** *10:49:31

GOKC	Gokceada-Canak	1.19	244	*e*Pn		Pb	10 49 51.9	-0.4
EDRB	Edirne	1.20	339	PN		Pg	10 49 52.8	0.0
EDRB	Edirne	1.20	339	*e*Pn		Pg	10 49 52.8	0.0
GADA	Gvkgeada	1.21	244	PN		Pg	10 49 52.8	-0.2
GADA	Gvkgeada	1.21	244	P		Pn	10 49 52.4	-0.1
GADA	Gvkgeada	1.21	244	*e*Pn		Pg	10 49 52.8	-0.2
GADA	Gvkgeada	1.21	244	P		Pn	10 49 52.4	-0.1
MDNY	Mudanya-Bursa	1.25	106	PN		Pn	10 49 52.7	-0.3
MDNY	Mudanya-Bursa	1.25	106	*e*Pn		Pn	10 49 52.7	-0.3
ISK	Istanbul-Kandi	1.36	75	PN		Pn	10 49 53.8	-0.8
ISK	Istanbul-Kandi	1.36	75	*e*Pn		Pn	10 49 53.8	-0.8
KAVV	Kandilli-Istan	1.36	75	PN		Pn	10 49 54.0	-0.6
KAVV	Kandilli-Istan	1.36	75	*e*Pn		Pn	10 49 54.0	-0.6
SMTH	Samothraki Isl	1.39	260	P		Pn	10 49 53.8	-1.1
SMTH				S		Sg	10 50 16.4	+2.0
SMTH				AML	AML		10 50 16.6	
	comp=E,474µm,0.2s							
SMTH				AML	AML		10 50 18.5	
	comp=N,722µm,0.2s							
SMTH	Samothraki Isl	1.39	260	P		Pn	10 49 54.4	-0.6
SMTH				S		Sg	10 50 14.6	+0.2
SMTH				AML	AML		10 50 16.6	
	comp=E,474µm,0.2s							
SMTH				AML	AML		10 50 18.5	
	comp=N,722µm,0.2s							
SMTH	Samothraki Isl	1.39	260	P		Pn	10 49 54.7	-0.2
SMTH				S		Sb	10 50 13.2	-0.1
SMTH	Samothraki Isl	1.39	260	P		Pn	10 49 54.6	-0.3
SMTH				S		Sb	10 50 13.2	-0.1
ORLT	Orhaneli	1.39	119	PN		Pb	10 49 55.4	-0.3
ORLT	Orhaneli	1.39	119	*e*Pn		Pb	10 49 55.4	-0.3
STEP	BALIKESIR_Sava	1.39	167	*i* P		Pn	10 49 55.0	0.0
STEP				*i* S		Sg	10 50 14.7	+0.2
STEP	BALIKESIR_Sava	1.39	167	P		Pn	10 49 55.0	0.0
STEP				S		Sg	10 50 14.6	+0.2
KLYT	Kilyos	1.41	68	PN		Pn	10 49 55.1	-0.1
KLYT	Kilyos	1.41	68	*e*Pn		Pn	10 49 55.1	-0.1
RDO	Rodhopi	1.41	288	P		Pb	10 49 56.1	+0.1
RDO				S		Sg	10 50 15.1	-0.1
RDO				AML	AML		10 50 16.0	
	comp=E,909µm,0.2s							
RDO				AML	AML		10 50 16.3	
	comp=N,721µm,0.3s							
RDO	Rodhopi	1.41	288	P		Pb	10 49 56.0	0.0
RDO				S		Sb	10 50 14.0	+0.1
RDO				AML	AML		10 50 16.0	
	comp=E,909µm,0.2s							
RDO				AML	AML		10 50 16.3	
	comp=N,721µm,0.3s							
RDO	Rodhopi	1.41	288	P		Pn	10 49 55.6	+0.3
RDO				S		Sn	10 50 13.9	+0.1
RDO	Rodhopi	1.41	288	P		Pn	10 49 55.6	+0.3
PRK	Paraskevi	1.69	209	P		Pn	10 49 59.8	+0.7
PRK				S		Sg	10 50 25.3	+1.2
PRK				AML	AML		10 50 26.4	
	comp=N,909µm,0.6s							
PRK				AML	AML		10 50 28.1	
	comp=E,774µm,0.5s							
PRK	Paraskevi	1.69	209	P		Pb	10 50 00.3	-0.4
PRK				S		Sg	10 50 24.6	+0.6
PRK				AML	AML		10 50 26.4	
	comp=N,909µm,0.6s							
PRK				AML	AML		10 50 28.1	
	comp=E,774µm,0.5s							
PRK	Paraskevi	1.69	209	P		Pn	10 49 59.7	+0.6
PRK				S		Sb	10 50 21.4	-0.5
PRK	Paraskevi	1.69	209	P		Pn	10 49 59.7	+0.6
PRK				S		Sb	10 50 21.4	-0.5
DKL	Dikili	1.69	191	PN		Pn	10 49 59.6	+0.5
DKL	Dikili	1.69	191	*e*Pn		Pn	10 49 59.6	+0.5
HRT	Hereke	1.79	86	PN		Pn	10 50 01.5	+1.0
HRT	Hereke	1.79	86	*e*Pn		Pn	10 50 01.5	+1.0
SILT	Sile	1.81	76	PN		Pn	10 50 01.5	+0.7
SILT	Sile	1.81	76	*e*Pn		Pn	10 50 01.5	+0.7
LIA	Limnos Island	1.83	244	P		Pn	10 50 01.1	0.0
LIA				S		Sg	10 50 28.8	+0.1
LIA				AML	AML		10 50 31.6	
	comp=E,279µm,0.3s							
LIA				AML	AML		10 50 32.2	
	comp=N,256µm,0.4s							
LIA	Limnos Island	1.83	244	P		Pn	10 50 00.2	-0.8
LIA				S		Sn	10 50 23.5	-0.7
LIA				AML	AML		10 50 31.6	
	comp=E,279µm,0.3s							
LIA				AML	AML		10 50 32.2	
	comp=N,256µm,0.4s							
LIA	Limnos Island	1.83	244	P		Pn	10 50 00.9	-0.1
LIA				S		Sn	10 50 24.2	+0.1
SIGR	SIGRI	1.89	217	PN		Pn	10 50 01.7	-0.1
SIGR	SIGRI	1.89	217	P		Pb	10 50 04.7	+0.5
SIGR				S		Sb	10 50 27.2	-0.5
SIGR				AML	AML		10 50 32.8	
	comp=N,471µm,0.3s							
SIGR				AML	AML		10 50 33.2	
	comp=E,545µm,0.3s							
SIGR	SIGRI	1.89	217	P		Pn	10 50 02.5	+0.6
SIGR				S		Sb	10 50 28.8	+1.1
SIGR				AML	AML		10 50 32.8	
	comp=N,471µm,0.3s							
SIGR				AML	AML		10 50 33.2	
	comp=E,545µm,0.3s							
SIGR	SIGRI	1.89	217	*e*Pn		Pn	10 50 01.7	-0.1
SIGR	SIGRI	1.89	217	P		Pn	10 50 02.5	+0.6
SIGR				S		Sn	10 50 25.1	-0.4
SIGR	SIGRI	1.89	217	P		Pn	10 50 02.7	+0.9
SIGR				S		Sn	10 50 25.1	-0.4
AKHS	Akhisar	1.89	168	*i* P		Pg	10 50 27.7	+22
AKHS				*i* S		Sg	10 50 31.1	+0.6
CAVI	Cavuskoy	2.00	105	PN		Pn	10 50 04.6	+1.2
CAVI	Cavuskoy	2.00	105	*e*Pn		Pn	10 50 04.6	+1.2
DEMI	Demirci	2.00	147	*i* P		Pn	10 50 03.7	+0.2
DEMI	Demirci	2.00	147	P		Pn	10 50 03.7	+0.2
TVSB	Tavsanli	2.08	127	PN		Pn	10 50 04.6	0.0
TVSB	Tavsanli	2.08	127	*e*Pn		Pn	10 50 04.6	0.0
SIMA	Simav-Kutahya	2.09	142	PN		Pn	10 50 05.4	+0.7
SIMA	Simav-Kutahya	2.09	142	*e*Pn		Pn	10 50 05.4	+0.7
KAVA	Kavala	2.14	278	P		Pn	10 50 05.4	0.0
KAVA				S		Sb	10 54.0	-1.0
KAVA	Kavala	2.14	278	P		Pn	10 50 05.3	0.0
KAVA				S		Sn	10 50 32.3	+0.4
KAVA				AML	AML		10 50 42.6	
	comp=N,120µm,0.3s							
KAVA				AML	AML		10 50 42.9	
	comp=E,90µm,0.2s							
KAVA	Kavala	2.14	278	P		Pn	10 50 05.5	+0.2
KAVA				S		Sn	10 50 32.1	+0.3
KAVA	Kavala	2.14	278	P		Pn	10 50 05.5	+0.2
KAVA				S		Sn	10 50 31.8	0.0
URLA	Izmir	2.43	193	PN		Pn	10 50 10.2	+0.8
URLA	Izmir	2.43	193	*i* P		Pg	10 50 15.6	-0.9
URLA	Izmir	2.43	193	*e*Pn		Pn	10 50 10.2	+0.8
MANT	Manisa	2.43	156	*i* P		Pn	10 50 09.7	+0.1
MANT	Manisa	2.43	156	P		Pn	10 50 09.7	+0.1
KULA	Kula-Manisa	2.44	154	PN		Pn	10 50 10.5	+0.9
KULA	Kula-Manisa	2.44	154	*e*Pn		Pn	10 50 10.5	+0.9
CHOS	Chios island	2.54	203	P		Pn	10 50 11.9	+1.1
CHOS	Chios island	2.54	203	P		Pn	10 50 11.8	+1.0
OUR	Ouranopolis	2.57	262	PN		Pn	10 50 11.8	+0.6
OUR	Ouranopolis	2.57	262	P		Pn	10 50 09.9	-1.3
OUR	Ouranopolis	2.57	262	P		Pn	10 50 10.9	-0.3
OUR	Ouranopolis	2.57	262	*e*Pn		Pn	10 50 11.8	+0.6
NVR	Nevrokopi	2.69	284	P		Pn	10 50 14.4	+1.6
NVR				S		Sn	10 50 44.8	-0.5
NVR	Nevrokopi	2.69	284	P		Pn	10 50 14.3	+1.5
NVR	Nevrokopi	2.69	284	P		Pn	10 50 13.7	+0.8
SRS	Serrai	2.85	279	P		Pn	10 50 15.2	+0.1

DJA 15 10:50:16.0±0.7, 0°N±6°×12°0E±°, h32km±24km, M3.8/6, MLv3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.54	269	P		Pn		10 50 28.3	+0.8
MRSI	Marisa	1.51	85	P		Pn		10 50 40.8	0.0
MRSI				S		Sn		10 51 00.2	+0.9
APSI	Ampana	1.74	136	P		Pn		10 50 44.0	0.0
APSI				S		Sn		10 51 06.5	+1.4
LUWI	Luwuk	2.71	121	P		Pn		10 50 57.2	-0.2
LUWI				S		Sn		10 51 29.1	0.0
TTSI	Tana Toraja	3.43	190	P		Pn		10 51 07.3	0.0

*IDC **15** 10:53:03.9±2.5, 14°.66N×93°.01W, h55km±7km, mb3.1/5, mb1 3.5/7, mb1mx3.3/51, mbtmp3.4/7, MS3.2/1, Ms1 3.2/1, ms1mx2.6/15, Error ellipse: s-maj=104.7km s-min=40.1km az=50.0*

*ISCJB **15** 10:53:05.6±0.8, 14°.94N±0°.07×93°.20W±0°.04, h63km±7km, mb3.4/5, Error ellipse: s-maj=11.7km s-min=6.4km az=17.1*

*NEIC **15** 10:53:07.7±0.0, 14°.96N×93°.19W, h64km, MD4.2(MEX), After MEX.*

*MEX **15** 10:53:07.6±0.6, 14°.95N×93°.19W, h64km±10km, MD4.2*

ISC 15 10:53:06.5±0.8, 14°.94N±0°.07×93°.18W±0°.04, h59km±7km, n22, σ1ᵽ49/36, mb3.6/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		0.76	357	*i* P		Pn		10 53 21.3	-0.1
PCIG				*i* S		Sn		10 53 31.8	-0.5
PCIG		0.76	357	*i* P		Pn		10 53 21.3	-0.1
PCIG				*i* S		Sn		10 53 31.8	-0.5
THIG		0.88	92	*i* P		Pn		10 53 23.2	+0.2
THIG				*i* S		Sn		10 53 35.6	+0.5
THIG		0.88	92	*i* P		Pn		10 53 23.2	+0.2
THIG				*i* S		Sn		10 53 35.6	+0.5
CCIG	Comitan	1.67	37	*e*P		Pn		10 53 34.3	+0.7
CCIG				*i* S		Sn		10 53 53.0	-1.0
CCIG	Comitan	1.67	37	*e*P		Pn		10 53 34.3	+0.7
TGIG		1.82	2	*e*P		Pn		10 53 35.6	0.0
TGIG				*e*S		Sn		10 53 56.2	-1.5
TGIG		1.82	2	*e*P		Pn		10 53 35.6	0.0
TGIG				*e*S		Sn		10 53 56.2	-1.5
CMIG	Matias Romero	2.69	323	P		Pn		10 53 47.6	+0.2
	14nm,0.3s,baz=156,slow=12,SNR=73								
CMIG				S		Sn		10 54 18.4	-0.5
	60nm,0.3s,baz=65,slow=16,SNR=10								
HUIG	Huatulco	2.94	287	*e*P		Pn		10 53 50.5	-0.3
HUIG				*i* S		Sn		10 54 23.6	-1.4
HUIG	Huatulco	2.94	287	*e*P		Pn		10 53 50.5	-0.3
VHO	Vista Hermosa	4.02	302	*e*P		Pn		10 54 06.3	+0.5
VHO				*i* S		Sn		10 54 51.9	+0.1
VHO	Vista Hermosa	4.02	302	*e*P		Pn		10 54 08.0	+2.2
JTS	JuntasAbangare	9.26	119	P		Pn		10 55 16.4	-1.1
	1.0nm,0.3s,baz=198,slow=20,SNR=2.6								
TXAR	Lajitas Array	17.29	328	P		P		10 57 06.1	+1.4
	0.1nm,0.3s,baz=144,slow=11,SNR=6.1								
SDV	Santo Domingo	22.85	103	LR		LR		11 07 02.5	
	comp=Z,57nm,18.5s,baz=91,slow=37								
ANMO	Albuquerque	23.23	331	P		P		10 58 09.6	+0.8
	0.7nm,0.5s,baz=328,slow=10,SNR=5.6								
ANMO				pP		pP		10 58 23.8	+1.6
	0.9nm,0.8s,baz=309,slow=7.5,SNR=3.5								
PDAR	Pinedale Array	31.10	336	P		P		10 59 20.1	+0.6
	0.6nm,0.9s,baz=151,slow=10,SNR=3.5								
NVAR	Mina Array Bea	32.23	321	P		P		10 59 30.6	+1.2
	0.5nm,0.6s,baz=138,slow=8.4,SNR=7.5								
NVAR				pP		pP		10 59 47.1	+3.0
	0.7nm,0.6s,baz=140,slow=9.6,SNR=5.5								
YKA	Yellowknife Ar	49.85	347	P		P		11 01 52.9	-0.6
	0.1nm,0.4s,baz=144,slow=8.1,SNR=4.0								
YKA				pP		pP		11 02 08.9	-0.1
	1.9nm,0.7s,baz=150,slow=7.5,SNR=26								
ILAR	Eielson Array	61.53	337	P		P		11 03 16.6	-0.5
	0.2nm,0.6s,baz=144,slow=6.3,SNR=5.4								
ILAR				pP		pP		11 03 33.2	+0.2
	0.6nm,1.0s,baz=119,slow=7.3,SNR=4.6								
CMAR	Chiang Mai Arr	144.73	340	PKPbc		PKPdf		11 12 35.8	-1.8
	0.6nm,0.3s,baz=350,slow=3.7,SNR=3.9								
CMAR				pPKPbc		pPKPdf		11 12 49.0	-6.0
	1.7nm,0.8s,baz=342,slow=4.7,SNR=2.8								

*IDC **15** 10:57:45.0±1.4, 2°.34S×139°.27E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.6/49, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=50.5km s-min=23.9km az=90.0*

*ISCJB **15** 10:57:48.8±1.2, 2°.4S±0°.1×139°.2E±0°.3, h35km, mb3.7/6, Error ellipse: s-maj=46.5km s-min=16.2km az=179.6*

ISC 15 10:57:50.2±1.4, 2°.4S±0°.2×139°.2E±0°.3, h35km, n7, σ0ᵽ53/7, mb3.7/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.07	195	P		P		11 01 58.5	-0.3
	0.3nm,0.3s,baz=17,slow=12,SNR=15								
ASAR	Alice Springs	21.75	193	P		P		11 02 39.2	+0.3
	1.4nm,0.7s,baz=13,slow=11,SNR=11								
CMAR	Chiang Mai Arr	44.74	299	P		P		11 06 00.7	+0.1
	0.5nm,0.4s,baz=111,slow=6.8,SNR=3.5								
MKAR	Makanchi Array	69.87	322	P		P		11 08 57.5	-0.1
	0.8nm,0.7s,baz=120,slow=7.2,SNR=4.5								
KURBB	Kurchatov Arra	73.78	325	P		P		11 09 20.3	-0.6
	0.8nm,1.0s,baz=113,slow=5.7,SNR=4.7								
BVAR	Borovoye Array	79.36	325	P		P		11 09 53.2	+0.7
	1.2nm,0.6s,baz=116,slow=6.7,SNR=8.4								
ILAR	Eielson Array	85.35	24	P		P		11 10 23.6	0.0
	0.3nm,0.7s,baz=259,slow=4.5,SNR=5.5								

*DDA **15** 10:59:13.9, 39°.31N×26°.08E, h7km, Ml3.2*

*ATH **15** 10:59:13.9, 39°.30N×26°.10E, h22km±1km, ML3.2/9, Error ellipse: s-maj=1.6km s-min=1.1km az=253.0*

*CSEM **15** 10:59:14.7±0.1, 39°.30N×26°.07E, h10km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.8km az=84.0*

*ISCJB **15** 10:59:14.4±0.3, 39°.31N±0°.02×26°.07E±0°.02, h8km±2km, Error ellipse: s-maj=3.2km s-min=2.6km az=178.8*

*ISK **15** 10:59:14.3, 39°.32N×26°.09E, h8km, ML3.3/18*

*THE **15** 10:59:15.0, 39°.32N×26°.09E, h7km±1km, ML3.2/5, Error ellipse: s-maj=1.6km s-min=0.6km az=133.0*

ISC 15 10:59:14.5±0.8, 39°.31N±0°.01×26°.07E±0°.02, h13km±5km, n127, σ0ᵽ78/169, 1C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.15	18	PG		Pg		10 59 17.9	-0.3
GPNR				SG		Sg		10 59 20.5	-0.2
GPNR	Gulpinar-Canak	0.15	18	*e*Pg		Pg		10 59 17.9	-0.3
GPNR				*e*Sg		Sg		10 59 20.5	-0.2
PRK	Paraskevi	0.17	113	P		Pg		10 59 18.4	0.0
PRK				S		Sg		10 59 20.4	-0.7
PRK				AML	AML			10 59 21.2	
	comp=E,76726µm,0.4s								
PRK				AML	AML			10 59 21.4	
	comp=N,41942µm,0.5s								
PRK	Paraskevi	0.17	113	P		Pg		10 59 18.5	+0.1
PRK				S		Sg		10 59 21.2	+0.1
PRK	Paraskevi	0.17	113	P		Pg		10 59 18.4	0.0
PRK				S		Sg		10 59 21.2	+0.1
SIGR	SIGRI	0.20	240	PG		Pg		10 59 19.2	+0.3
SIGR				SG		Sg		10 59 22.8	+0.9
SIGR	SIGRI	0.20	240	P		Pb		10 59 19.7	-0.3
SIGR				S		Sg		10 59 22.2	+0.3
SIGR				AML	AML			10 59 23.0	
	comp=E,35485µm,0.2s								
SIGR				AML	AML			10 59 23.0	
	comp=N,63820µm,0.4s								
SIGR	SIGRI	0.20	240	*e*Pg		Pg		10 59 19.2	+0.3
SIGR	SIGRI	0.20	240	P		Pb		10 59 19.6	-0.4
SIGR				S		Sg		10 59 22.8	+0.9
SIGR	SIGRI	0.20	240	P		Pb		10 59 19.6	-0.4
SIGR				S		Sb		10 59 22.9	-0.8
EZN	Ezine	0.55	21	PG		Pg		10 59 25.2	0.0
EZN				SG		Sg		10 59 33.1	+0.5
EZN	Ezine	0.55	21	P		Pg		10 59 25.3	0.0
EZN				*e*Sg		Sg		10 59 33.1	+0.5
EZN	Ezine	0.55	21	P		Pg		10 59 25.3	0.0
EZN				S		Sg		10 59 33.2	+0.6
BAYC	CANAKKALE_Bayr	0.56	40	*i* P		Pg		10 59 25.1	-0.5
BAYC				*i* S		Sg		10 59 33.3	+0.2
BAYC	CANAKKALE_Bayr	0.56	40	P		Pg		10 59 25.1	-0.5
BAYC				S		Sg		10 59 33.3	+0.2
DKL	Dikili	0.69	110	PG		Pg		10 59 27.9	0.0
DKL	Dikili	0.69	110	*e*Pg		Pg		10 59 27.9	0.0
FOCM	Foˇşa	0.79	139	PG		Pb		10 59 30.1	0.0
FOCM	Foˇşa	0.79	139	*e*Pg		Pb		10 59 30.1	0.0
KRBN	Karaburun	0.81	152	PG		Pg		10 59 30.3	+0.1
KRBN	Karaburun	0.81	152	*e*Pg		Pg		10 59 30.3	+0.1
GADA	Gvkgeada	0.89	351	PG		Pg		10 59 31.5	-0.3
GADA	Gvkgeada	0.89	351	*e*Pg		Pg		10 59 31.5	-0.3
GADA				S		Sb		10 59 44.1	+0.4
GADA	Gvkgeada	0.89	351	P		Pg		10 59 31.4	-0.3
GADA				S		Sb		10 59 44.1	+0.4
GOKC	Gokceada-Canak	0.90	352	PG		Pg		10 59 31.9	+0.1
GOKC	Gokceada-Canak	0.90	352	*e*Pg		Pg		10 59 31.9	+0.1
LIA	Limnos Island	0.90	311	P		Pn		10 59 32.9	-0.1
LIA				S		Sg		10 59 43.9	+0.1
LIA				AML	AML			10 59 46.8	
	comp=E,2315µm,0.4s								
LIA				AML	AML			10 59 47.6	
	comp=N,1715µm,0.3s								
LIA	Limnos Island	0.90	311	P		Pb		10 59 32.3	+0.2
LIA				S		Sb		10 59 44.4	+0.3
LIA	Limnos Island	0.90	311	P		Pb		10 59 32.3	+0.2
CHOS	Chios island	0.92	181	PG		Pb		10 59 32.7	+0.2
CHOS	Chios island	0.92	181	P		Pg		10 59 31.5	-0.9
CHOS				S		Sg		10 59 44.2	-0.2
CHOS				AML	AML			10 59 48.5	
	comp=E,5943µm,0.3s								
CHOS				AML	AML			10 59 49.8	
	comp=N,3124µm,0.3s								
CHOS	Chios island	0.92	181	P		Pg		10 59 31.5	-0.9
CHOS	Chios island	0.92	181	*e*Pg		Pb		10 59 32.7	+0.2
CHOS				S		Sg		10 59 44.2	-0.2
CHOS	Chios island	0.92	181	P		Pg		10 59 31.4	-0.9
CHOS				S		Sn		10 59 46.1	-0.4
CESE	ˆe¯me	0.99	170	PG		Pn		10 59 34.3	+0.1
CESE	ˆe¯me	0.99	170	*e*Pg		Pn		10 59 34.3	+0.1
URLA	Izmir	1.03	157	PG		Pb		10 59 33.3	-0.4
URLA	Izmir	1.03	157	*i* P		Pb		10 59 33.5	-0.8
URLA				*i* S		Sg		10 59 48.3	+0.4
URLA	Izmir	1.03	157	P		Pb		10 59 33.5	-0.8
URLA	Izmir	1.03	157	*e*Pg		Pb		10 59 33.9	-0.4
URLA				S		Sg		10 59 48.3	+0.4
GELI	Tayfur-Gelibol	1.13	16	PN		Pn		10 59 36.1	0.0
GELI	Tayfur-Gelibol	1.13	16	*e*Pn		Pn		10 59 36.1	0.0
LPK	Lapseki	1.19	26	PN		Pn		10 59 35.9	-1.0
LPK	Lapseki	1.19	26	*e*Pn		Pn		10 59 35.9	-1.0
SMTH	Samothraki Isl	1.23	340	P		Pg		10 59 38.4	+0.2
SMTH				S		Sg		10 59 54.9	+0.7
SMTH				AML	AML			10 59 56.2	
	comp=N,1068µm,0.3s								
SMTH				AML	AML			10 59 56.2	
	comp=E,915µm,0.4s								
SMTH	Samothraki Isl	1.23	340	P		Pg		10 59 38.1	-0.1
SMTH				S		Sg		10 59 54.5	+0.2
SMTH	Samothraki Isl	1.23	340	P		Pb		10 59 37.8	+0.1
SMTH				S		Sg		10 59 54.5	+0.2
SKY	Skiros Island	1.26	250	P		Pg		10 59 39.3	+0.5
SKY				S		Sg		10 59 55.6	+0.4
SKY				AML	AML			10 59 58.3	
	comp=E,1646µm,0.4s								
SKY				AML	AML			11 00 00.1	
	comp=N,1295µm,0.3s								
SKY	Skiros Island	1.26	250	P		Pg		10 59 38.8	0.0
SKY				S		Sg		10 59 55.7	+0.5
SKY	Skiros Island	1.26	250	P		Pg		10 59 39.0	+0.2
STEP	BALIKESIR_Sava	1.28	87	*i* P		Pn		10 59 38.2	0.0
STEP				*i* S		Sg		10 59 56.2	+0.5
STEP	BALIKESIR_Sava	1.28	87	P		Pn		10 59 38.2	0.0
STEP				S		Sg		10 59 56.2	+0.5
ERIK	Erikli-Kesan	1.40	14	PN		Pb		10 59 40.3	-0.2
ERIK	Erikli-Kesan	1.40	14	*e*Pn		Pb		10 59 40.3	-0.2
AKS	Akhisar	1.42	107	PN		Pb		10 59 40.9	0.0
AKS	Akhisar	1.42	107	*e*Pn		Pb		10 59 40.9	0.0
AKHS	Akhisar	1.42	107	*i* P		Pn		10 59 40.4	+0.3
AKHS				*i* S		Sg		11 00 01.1	+0.7
AKHS	Akhisar	1.42	107	P		Pn		10 59 40.4	+0.3
AKHS				S		Sg		11 00 01.0	+0.7
ENEZ	Enez	1.43	2	PN		Pb		10 59 40.9	-0.1
ENEZ	Enez	1.43	2	P		Pb		10 59 40.8	-0.2
ENEZ	Enez	1.43	2	P		Pb		10 59 40.8	-0.2
KRBG	Karabiga-Canak	1.43	41	PN		Pb		10 59 40.7	-0.4
KRBG	Karabiga-Canak	1.43	41	*e*Pn		Pb		10 59 40.7	-0.4
BALB	Balikesir	1.44	76	PN		Pb		10 59 40.9	-0.3
BALB	Balikesir	1.44	76	*e*Pn		Pb		10 59 40.9	-0.3
GONE	Gonen-Balikesi	1.45	59	PN		Pb		10 59 41.2	-0.1
GONE	Gonen-Balikesi	1.45	59	*e*Pn		Pb		10 59 41.2	-0.1
KESN	Edirne-Kesan	1.58	17	*i* P		Pn		10 59 42.6	0.0
KESN				*i* S		Sb		11 00 04.6	+0.6
KESN	Edirne-Kesan	1.58	17	P		Pn		10 59 42.7	0.0
KESN				S		Sb		11 00 04.6	+0.6
ALN	Alexandroupoli	1.58	359	PN		Pn		10 59 42.4	+0.1
ALN	Alexandroupoli	1.58	359	P		Pn		10 59 42.2	-0.1
ALN				S		Sn		11 00 03.0	+0.3
ALN				AML	AML			11 00 05.8	
	comp=E,584µm,0.6s								
ALN				AML	AML			11 00 06.6	
	comp=N,611µm,0.4s								
ALN	Alexandroupoli	1.58	359	P		Pn		10 59

mb1 4.1/1,mb1mx3.0/57,mbtmp4.0/1,ML2.8/1,Error ellipse: s-maj=54.1km s-min=33.2km az=9.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.67**	**310**	Pn	Pn	11 00 59.3	+0.5
	0.7nm,0.3s,baz=127,slow=17,SNR=3.2						
AKASG				Pg	Pb	11 01 05.6	-0.8
	1.2nm,0.3s,baz=126,slow=17,SNR=4.9						
AKASG				Sn	Sn	11 01 39.0	-3.7
	1.7nm,0.3s,baz=126,slow=27,SNR=4.7						
AKASG				Lg	Lg	11 01 56.3	
	2.6nm,0.3s,baz=127,slow=28,SNR=5.2						
AKASG				Rg	Rg	11 02 13.5	
	0.6nm,0.4s,baz=130,slow=33,SNR=8.5						
I43RU	**DUBNA INFRASON**	**8.58**	**13**	*i*		11 56 50.0	
	baz=193,slow=324,SNR=1.2						
I31KZ	**AKTYUBINSK INF**	**15.97**	**74**	*i*		12 42 45.0	
	baz=269,slow=317						
ARCES	**ARCESS Array B**	**21.54**	**352**	P	P	11 04 51.0	-0.2
	3.0nm,0.9s,baz=167,slow=12,SNR=4.4						

WEL ***15*** *11:15:18.5±1.4,45°.5S±6°×16°.6E±°,h5km,ML5.2/6*
IDC ***15*** *11:15:18.1±0.5,45°.06S×167°.06E,h0km,mb4.3/6, mb1 4.4/7,mb1mx4.1/36,mbtmp4.3/7,ML4.0/1,MS3.7/11, Ms1 3.7/11,ms1mx3.5/32,Error ellipse: s-maj=27.2km s-min=19.0km az=40.0*
ISCJB ***15*** *11:15:19.2±0.3,45°.08S±0°.03×166°.68E±0°.04,h14km, mb4.4/8,MS3.7/11,Error ellipse: s-maj=4.3km s-min=3.7km az=158.0*
NEIC ***15*** *11:15:19.4±0.0,45°.11S×166°.48E,h12km,mb4.5/5, ML5.2(WEL),After WEL.*
NEIC Felt at Dunedin, Invercargill, Queenstown and Te Anau.
GCMT ***15*** *11:15:19.4±0.5,45°.23S×166°.44E,h23km±1km,MW4.9/57, Moment Tensor Solution. s23,c30; s57,c82; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.02±.18; Mθθ0.15±.11; Mϕϕ-2.18±.11; Mrθ0.34±.20; Mrϕ-0.67±.09; Mθϕ-0.92±.13; Best double couple: M☐2.41000×10¹⁶ NP1:ϕ±180.00000°,δ57.00000°,λ72.00000°. NP2: ϕ±31.00000°,δ37.00000°,λ115.00000°. Principal axes: T 2.3170, Plg72.0000°, Azm46.0000°; N 0.1770, Plg15.0000°, Azm190.0000°; P -2.5030, Plg10.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 11:15:20.6±0.4,45°.17S±0°.04×166°.89E±0°.04,h14km,n127, σ1♀65/112,mb4.3/8,MS3.7/11,1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**148**	*e*Pg	**Pn**	**11 15 30.0**	**-1.2**
DCZ				*e*Sg	**Sb**	**11 15 32.5**	**-1.4**
DCZ	**Deep Cove**	**0.35**	**148**	P	**Pn**	**11 15 30.0**	**-1.2**
DCZ	**Deep Cove**	**0.35**	**148**	S	**Sn**	**11 15 38.0**	**0.0**
MLZ	**Mavora Lakes**	**0.89**	**103**	*e*Pg	**Pn**	**11 15 39.9**	**+1.2**
MLZ	**Mavora Lakes**	**0.89**	**103**	P	**Pn**	**11 15 39.8**	**+1.2**
PYZ	**Puysegur Point**	**1.01**	**188**	*e*Pg	**Pb**	**11 15 39.0**	**-0.9**
PYZ				*e*Sg	**Sb**	**11 15 51.6**	**-1.3**
PYZ	**Puysegur Point**	**1.01**	**188**	P	**Pb**	**11 15 38.9**	**-0.9**
PYZ	**Puysegur Point**	**1.01**	**188**	S	**Sb**	**11 15 51.8**	**-1.2**
WHZ	**Wether Hill Ro**	**1.04**	**135**	*e*Pg	**Pn**	**11 15 41.6**	**+0.9**
WHZ	**Wether Hill Ro**	**1.04**	**135**	P	**Pn**	**11 15 41.5**	**+0.9**
WHZ	**Wether Hill Ro**	**1.04**	**135**	S	**Sn**	**11 15 57.1**	**+2.1**
WKZ	**Wanaka**	**1.55**	**78**	*e*Pn	**Pg**	**11 15 51.2**	**+0.9**
WKZ				*e*Sn	**Sg**	**11 16 15.9**	**+5.5**
WKZ	**Wanaka**	**1.55**	**78**	P	**Pg**	**11 15 51.0**	**+0.8**
EAZ	**Earnscleugh**	**1.71**	**93**	Pn	**Pg**	**11 15 53.1**	**-0.2**
EAZ	**Earnscleugh**	**1.71**	**93**	P	**Pg**	**11 15 53.4**	**0.0**
JCZ	**Jackson Bay**	**1.74**	**52**	Pn	**Pn**	**11 15 50.7**	**+0.3**
JCZ	**Jackson Bay**	**1.74**	**52**	P	**Pn**	**11 15 50.9**	**+0.4**
APZ	**The Paps**	**1.83**	**156**	Pn	**Pb**	**11 15 53.6**	**-0.2**
APZ	**The Paps**	**1.83**	**156**	P	**Pb**	**11 15 53.6**	**-0.2**
TUZ	**Tuapeka**	**2.08**	**113**	Pn	**Pb**	**11 15 57.4**	**-0.6**
TUZ	**Tuapeka**	**2.08**	**113**	P	**Pb**	**11 15 57.6**	**-0.4**
SYZ	**Scrubby Hill**	**2.08**	**132**	Pn	**Pb**	**11 15 57.5**	**-0.6**
SYZ	**Scrubby Hill**	**2.08**	**132**	P	**Pb**	**11 15 57.5**	**-0.6**
SYZ	**Scrubby Hill**	**2.08**	**132**	S	**Sg**	**11 16 25.1**	**-2.4**
LBZ	**Lake Benmore**	**2.47**	**73**	*e*Pn	**Pb**	**11 16 03.2**	**-1.6**
LBZ	**Lake Benmore**	**2.47**	**73**	P	**Pb**	**11 16 03.1**	**-1.6**
FOZ	**Fox Glacier**	**2.66**	**53**	*e*Pn	**Pn**	**11 16 03.8**	**+0.8**
FOZ	**Fox Glacier**	**2.66**	**53**	P	**Pn**	**11 16 02.8**	**-0.2**
ODZ	**Otahua Downs**	**2.66**	**89**	*e*Pn	**Pb**	**11 16 05.6**	**-2.4**
ODZ	**Otahua Downs**	**2.66**	**89**	P	**Pb**	**11 16 07.2**	**-0.7**
HHSZ	**Highcliff Hill**	**2.70**	**107**	Pn	**Pb**	**11 16 06.8**	**-1.9**
HHSZ	**Highcliff Hill**	**2.70**	**107**	P	**Pb**	**11 16 06.9**	**-1.8**
RPZ	**Rata Peaks**	**3.32**	**65**	Pn	**Pn**	**11 16 13.2**	**+1.2**
	223nm,0.3s,baz=232,slow=5.7,SNR=352						
RPZ				Sn	**Sn**	**11 16 53.7**	**+2.5**
	158nm,0.3s,baz=263,slow=17,SNR=3.4						
WVZ	**Waitaha Valley**	**3.47**	**54**	Pn	**Pn**	**11 16 14.0**	**-0.1**
WVZ	**Waitaha Valley**	**3.47**	**54**	P	**Pn**	**11 16 14.0**	**-0.1**
OXZ	**Oxford**	**4.13**	**65**	*e*Pn	**Pn**	**11 16 23.6**	**+0.4**
OXZ	**Oxford**	**4.13**	**65**	P	**Pn**	**11 16 24.5**	**+1.3**
MQZ	**McQueen's Vall**	**4.38**	**73**	*e*Pn	**Pn**	**11 16 28.1**	**+1.5**
CRLZ	**Canterbury Las**	**4.41**	**71**	*e*Pn	**Pn**	**11 16 29.1**	**+2.1**
CRLZ	**Canterbury Las**	**4.41**	**71**	P	**Pn**	**11 16 28.6**	**+1.6**
LTZ	**Lake Taylor**	**4.56**	**60**	*e*Pn	**Pn**	**11 16 30.5**	**+1.4**
DSZ	**Denniston Nort**	**4.95**	**48**	Pn	**Pn**	**11 16 33.8**	**-0.7**
KHZ	**Kahutara**	**5.54**	**63**	*e*Pn	**Pn**	**11 16 44.4**	**+1.9**
THZ	**Tophouse**	**5.54**	**54**	*e*Pn	**Pn**	**11 16 43.4**	**+0.8**
NNZ	**Nelson**	**6.17**	**52**	Pn	**Pn**	**11 16 51.5**	**+0.2**
SNZO	**South Karori**	**6.88**	**59**	*e*Pn	**Pn**	**11 17 02.8**	**+1.8**
BFZ	**Birch Farm**	**8.20**	**60**	*e*Pn	**Pn**	**11 17 19.6**	**+0.5**
HIZ	**Hauiti**	**8.91**	**45**	*e*Pn	**Pn**	**11 17 29.4**	**+0.5**
BKZ	**Black Stump Fm**	**9.31**	**53**	*e*Pn	**Pn**	**11 17 37.9**	**+3.5**
URZ	**Urewera**	**10.29**	**51**	Pn	**Pn**	**11 17 46.3**	**-1.4**
	1.3nm,0.3s,baz=238,slow=8.7,SNR=7.7						
URZ				Sn	**Sn**	**11 19 35.9**	**-6.9**
	1.4nm,0.3s,baz=252,slow=20,SNR=2.2						
URZ	**Urewera**	**10.29**	**51**	*e*Pn	**Pn**	**11 17 49.5**	**+1.8**
URZ				Sn	**Sn**	**11 19 35.9**	**-6.9**
OUZ	**Omahuta**	**11.18**	**30**	*e*Pn	**Pn**	**11 18 01.4**	**+1.6**
TAU	**Tasmania Unive**	**14.26**	**272**	*e*Pn	Pn	11 18 38.5	-3.4
CAN	**Canberra**	**16.80**	**300**	*e*Pn	**Pn**	**11 19 14.6**	**-0.8**
	61nm,1.4s						
ARMA	**Armidale**	**18.98**	**316**	*e*P	**P**	**11 19 41.1**	**-0.6**
	40nm,1.6s						
EIDS	**Eidsvold**	**23.52**	**322**	*e*P	**P**	**11 20 30.8**	**+0.7**
	27nm,1.2s						
STKA	**Stephens Creek**	**23.71**	**295**	P	**P**	**11 20 33.3**	**+1.3**
	5.0nm,0.9s,baz=120,slow=11,SNR=5.6						
STKA				LR	LR	11 27 50.8	
	comp=Z,252nm,20.9s,baz=175,slow=32						
STKA	**Stephens Creek**	**23.71**	**295**	*e*P	**P**	**11 20 32.8**	**+0.8**
	9.4nm,1.6s						
MSVF	**Nonsavu**	**28.90**	**22**	*e*P	**P**	**11 21 18.8**	**-0.3**
	76nm,2.0s						
CTA	**Charters Tower**	**30.28**	**319**	P	**P**	**11 21 31.6**	**+0.4**
	2.6nm,0.9s,baz=207,slow=2.3,SNR=4.1						
AS01	**Alice Springs**	**34.27**	**298**	*e*P	**P**	**11 22 05.7**	**-0.5**
ASAR	**Alice Springs**	**34.29**	**298**	P	**P**	**11 22 05.5**	**-1.0**
	2.7nm,0.9s,baz=132,slow=7.9,SNR=14						
ASAR				PcP	**PcP**	**11 24 42.2**	**-0.4**
	1.6nm,0.7s,baz=140,slow=3.9,SNR=7.0						
ASAR				LR	LR	11 34 53.7	
	comp=Z,138nm,20.3s,baz=152,slow=34						
AFI	**Afiamalu**	**36.03**	**37**	LR	LR	11 36 37.4	
	comp=Z,78nm,19.2s,baz=196,slow=36						
HNR	**Honiara**	**36.11**	**348**	LR	LR	11 36 21.9	
	comp=Z,149nm,18.2s,baz=180,slow=35						
RAR	**Rarotonga**	**36.32**	**60**	LR	LR	11 36 05.0	
	comp=Z,142nm,20.0s,baz=248,slow=34						
WRA	**Warramunga Arr**	**36.81**	**302**	P	**P**	**11 22 27.1**	**-1.1**
	5.6nm,0.9s,baz=141,slow=8.5,SNR=17						
WRA				PcP	**PcP**	**11 24 49.6**	**-0.4**
	1.5nm,0.7s,baz=136,slow=2.8,SNR=11						
WRA				LR	LR	11 36 33.6	
	comp=Z,81nm,18.1s,baz=100,slow=35						
H01W1	**Cape Leeuwin H**	**41.01**	**266**	T	T	12 06 32.9	
	baz=120,slow=75,SNR=350						
H01W2	**Cape Leeuwin H**	**41.02**	**266**	T	T	12 06 33.7	
	baz=120,slow=75,SNR=329						
H01W3	**Cape Leeuwin H**	**41.03**	**266**	T	T	12 06 34.2	
	baz=120,slow=75,SNR=294						
TBI	**Tubuai**	**41.50**	**73**	*e*LR	LR	11 34 31.3	
	217nm,35.8s						
PPT2	**Papeete2**	**45.45**	**67**	*e*LR	LR	11 36 22.3	
	181nm,28.0s						
BATI	**Baumata**	**50.82**	**300**	LR	LR	11 45 55.6	
	comp=Z,109nm,18.3s,baz=6.0,slow=36						
RKT	**Rikitea**	**51.70**	**85**	*e*LR	LR	11 39 13.0	
	197nm,25.8s						
TAOE	**Nuku Hiva Isla**	**58.05**	**68**	*e*LR	LR	11 42 10.8	
	144nm,34.0s						
SYO	**Syowa Base**	**59.68**	**199**	*e*P	**P**	**11 25 22.2**	**-1.6**
SNAA	**Sanae**	**63.24**	**184**	P	**P**	**11 25 48.9**	**+0.9**
SNAA	**Sanae**	**63.24**	**184**	P	**P**	**11 25 48.6**	**+0.6**
	4.0nm,0.7s,baz=202,slow=12,SNR=11						
VNA3	**Neumayer Olymp**	**63.87**	**181**	P	P	11 25 41.5	-11
VNA2	**Neumayer--Watz**	**64.14**	**182**	P	**P**	**11 25 54.8**	**+0.9**
	baz=166,slow=4.3						
VNA1	**Neumayer--Stat**	**64.44**	**182**	P	**P**	**11 25 56.7**	**+0.9**
RPN	**Rapa Nui**	**67.11**	**106**	LR	LR	11 50 43.6	
	comp=Z,39nm,18.3s,baz=170,slow=32						
PSI	**Prapat**	**76.66**	**288**	LR	LR	12 00 40.4	
	comp=Z,60nm,21.8s,baz=164,slow=36						
PLCA	**Paso Flores**	**80.20**	**139**	P	**P**	**11 27 29.7**	**-0.8**
	2.1nm,0.8s,baz=275,slow=7.0,SNR=5.1						
PLCA				LR	LR	11 57 45.1	
	comp=Z,75nm,20.8s,baz=199,slow=32						
H08S2	**Diego Garcia H**	**87.73**	**262**	T	T	13 04 48.4	
	baz=136,slow=76,SNR=559						
H08S1	**Diego Garcia H**	**87.74**	**262**	T	T	13 04 47.6	
	baz=136,slow=76,SNR=384						
H08S3	**Diego Garcia H**	**87.75**	**262**	T	T	13 04 50.3	
	baz=136,slow=76,SNR=642						
CMAR	**Chiang Mai Arr**	**88.30**	**298**	LR	LR	12 08 04.7	
	comp=Z,22nm,21.5s,baz=220,slow=36						
NJ2	**Nanjing**	**88.38**	**321**	*e*P	**P**	**11 28 12.8**	**+1.1**
H08N1	**Diego Garcia H**	**89.68**	**261**	T	T	13 07 15.1	
	baz=132,slow=75,SNR=31						
H08N3	**Diego Garcia H**	**89.69**	**261**	T	T	13 07 13.8	
	baz=132,slow=75,SNR=28						
H08N2	**Diego Garcia H**	**89.70**	**261**	T	T	13 07 12.4	
	baz=132,slow=75,SNR=30						
CD2	**Chengdu**	**94.96**	**310**	*e*P	**P**	**11 28 44.0**	**+1.6**
LZH	**Lanzhou**	**98.90**	**313**	*e*P	Pdif	11 29 03.3	+3.0
LZH				pP	sP	11 29 08.8	+2.2
LZH				sP	pP	11 29 11.4	+6.5
HHC	**Hu-ho-hao-te**	**98.93**	**321**	*e*P	**Pdif**	**11 29 03.0**	**+2.8**
PDAR	**Pinedale Array**	**114.81**	**54**	PKP	PKPdf	11 33 60.0	-0.5
	0.2nm,0.7s,baz=167,slow=4.4,SNR=2.5						
ILAR	**Eielson Array**	**115.39**	**20**	PKP	**PKPdf**	**11 33 59.5**	**-1.0**
	0.6nm,0.6s,baz=290,slow=3.1,SNR=12						
KSH	**Kashi**	**117.18**	**300**	PKP	**PKPdf**	**11 34 08.1**	**+3.1**
KSH				PP	PP	11 35 24.1	+8.1
KSH				SKS	**SKSdf**	**11 41 13.4**	**-3.1**
MKAR	**Makanchi Array**	**117.89**	**309**	PKP	**PKPdf**	**11 34 05.1**	**-0.9**
	0.3nm,0.6s,baz=186,slow=1.3,SNR=3.4						
INK	**Inuvik**	**121.53**	**22**	PKP	**PKPdf**	**11 34 11.3**	**-0.9**
	2.1nm,0.7s,baz=22,slow=0.8,SNR=14						
KURBB	**Kurchatov Arra**	**122.14**	**311**	PKP	**PKPdf**	**11 34 13.2**	**-0.8**
	1.7nm,0.6s,baz=114,slow=1.8,SNR=22						
KURK	**Kurchatov**	**122.14**	**311**	*e*PKPdf	**PKPdf**	**11 34 13.4**	**-0.5**
YKA	**Yellowknife Ar**	**124.09**	**33**	PKP	**PKPdf**	**11 34 16.3**	**-1.0**
	0.7nm,0.6s,baz=259,slow=1.7,SNR=17						
ULM	**Lac du Bonnet**	**126.81**	**53**	PKP	**PKPdf**	**11 34 21.9**	**-1.0**
	1.1nm,0.6s,baz=174,slow=4.2,SNR=3.8						
BVAR	**Borovoye Array**	**127.71**	**311**	PKP	**PKPdf**	**11 34 24.9**	**+0.3**
	0.4nm,0.6s,baz=103,slow=3.1,SNR=3.4						
DBIC	**Dimbokro**	**140.98**	**193**	PKhKP	PKPpre	11 34 43.2	
	2.8nm,0.6s,baz=152,slow=3.2,SNR=4.1						
SPITS	**Spitsbergen Ar**	**144.95**	**350**	PKP	PKPbc	11 34 54.6	-0.4
	4.6nm,0.6s,baz=32,slow=6.9,SNR=8.9						
BR131	**Keskin Array S**	**145.46**	**278**	*e*PKPbc	**PKPdf**	**11 34 58.2**	**+0.3**
BRTR	**Keskin Array B**	**145.46**	**278**	PKPbc	**PKPdf**	**11 34 58.2**	**+0.3**
	8.1nm,0.8s,baz=146,slow=4.7,SNR=31						
TOA0	**Torodi Ar. Sit**	**145.69**	**206**	*e*PKPdf	**PKPdf**	**11 34 58.1**	**-0.7**
TOA0				*e*PKPdf	**PKPbc**	**11 34 58.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**145.69**	**206**	PKPbc	**PKPdf**	**11 34 58.8**	**0.0**
	26nm,0.6s,baz=143,slow=2.2,SNR=272						
BR231	**Keskin MP Arra**	**146.12**	**277**	*e*PKPdf	**PKPdf**	**11 34 58.0**	**-0.9**
KOWA	**Kowa**	**148.47**	**197**	PKPbc	**PKPbc**	**11 35 06.9**	**0.0**
	4.6nm,0.6s,baz=110,slow=3.0,SNR=15						
KOWA	**Kowa**	**148.47**	**197**	*e*PKPbc	**PKPbc**	**11 35 07.0**	**0.0**
ARCES	**ARCESS Array B**	**148.88**	**335**	PKPbc	**PKPbc**	**11 35 06.5**	**0.0**
	5.5nm,0.6s,baz=70,slow=3.5,SNR=42						
SFJD	**Kangerlussuaq**	**150.51**	**29**	PKPbc	**PKPbc**	**11 35 09.1**	**-1.3**
	3.6nm,0.5s,baz=212,slow=16,SNR=3.5						
AKASG	**Malin Array Be**	**151.41**	**297**	PKPbc	**PKPbc**	**11 35 13.0**	**-0.1**
	5.2nm,0.7s,baz=77,slow=2.5,SNR=31						
AKBB	**Malin Array Si**	**151.41**	**297**	*e*PKPbc	**PKPbc**	**11 35 13.3**	**+0.2**
KIEV	**Kiev**	**151.42**	**297**	*e*PKPbc	**PKPbc**	**11 35 13.1**	**0.0**
AK11	**Malin Array Si**	**151.44**	**296**	*e*PKPbc	**PKPbc**	**11 35 13.3**	**+0.2**
FIA1	**FINESS Array S**	**152.05**	**320**	*e*PKPbc	**PKPbc**	**11 35 14.1**	**-0.1**
FIA1				*e*PKPbc	**sPKPdf**	**11 35 14.2**	**+0.1**
FINES	**FINESS Array B**	**152.05**	**320**	PKPbc	**PKPbc**	**11 35 14.1**	**-0.1**
	8.4nm,0.6s,baz=85,slow=4.0,SNR=26						
MLR	**Muntele Rosu**	**152.72**	**285**	PKPbc	**PKPbc**	**11 35 16.5**	**+0.1**
	0.6nm,0.7s,baz=156,slow=18,SNR=2.8						
NOA	**NORSAR Array B**	**158.62**	**327**	PKP	**PKPdf**	**11 35 19.9**	**+3.3**
	0.3nm,0.5s,baz=32,slow=2.9,SNR=3.5						
CLL	**Collm**	**161.61**	**299**	*e*PKPdf	**PKPdf**	**11 35 22.0**	**+1.9**
SENIN	**Lac Senin/Sane**	**165.71**	**282**	*e*PKPdf	**PKPdf**	**11 35 27.2**	**+2.7**
EKA	**Eskdalemuir Ar**	**168.01**	**332**	PKP	**PKPdf**	**11 35 26.2**	**+0.6**
	0.6nm,0.5s,baz=57,slow=5.2,SNR=2.8						
ESDC	**Sonseca Array**	**171.29**	**234**	PKPab	**PKPab**	**11 36 49.0**	**+0.6**
	0.1nm,0.2s,baz=145,slow=4.7,SNR=2.8						

GCMT 15 11:15:44.0±0.4,43°.71S×41°.64E,h18km±2km,MW4.9/67, Moment Tensor Solution. s19,c22; s67,c93; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.34±.15; Mθθ0.80±.12; Mϕϕ-0.45±.10; Mrθ0.38±.24; Mθϕ1.55±.10; Mrϕ-1.67±.45; **Best double couple:** M☐2.35800×10¹⁶ **NP1:**ϕ±12.00000°,δ80.00000°, λ-139.00000°. **NP2:**ϕ±274.00000°,δ49.00000°, λ-13.00000°. **Principal axes:** T 2.0690, Plg20.0000°, Azm137.0000°; N 0.5780, Plg48.0000°, Azm23.0000°; P -2.6470, Plg36.0000°, Azm242.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Prince Edward Islands region**

ISCJB ***15*** *11:25:31.7±0.5,23°.86S±0°.05×179°.9E±0°.1,h500km, mb3.9/12 Error ellipse: s-maj=14.1km s-min=6.5km az=179.3*
IDC ***15*** *11:25:32.4±1.5,24°.14S×179°.97W,h511km±14km, mb3.5/12,mb1 3.7/13,mb1mx3.4/43,mbtmp4.3/13,Error ellipse: s-maj=18.7km s-min=13.4km az=156.0*
WEL ***15*** *11:25:38.6±1.3,24°.S±10°×18°0W±4°.4,h558km±28km*
ISC 15 11:25:31.9±0.6,23°.96S±0°.07×179°.9E±0°.1,h500km,n40, σ2♀37/45,mb3.7/12,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.64**	**160**	P	**P**	**11 27 06.9**	**+2.2**
GLKZ	**Green Lake**	**5.64**	**160**	S	**S**	**11 28 25.8**	**+5.2**
OUZ	**Omahuta**	**12.48**	**204**	P	**P**	**11 28 18.3**	**+2.9**
HAZ	**Te Kaha**	**13.87**	**187**	P	**P**	**11 28 32.2**	**+2.1**
HAZ	**Te Kaha**	**13.87**	**187**	S	**S**	**11 30 55.6**	**-1.5**
WMGZ	**Waiomatatini S**	**13.88**	**185**	P	**P**	**11 28 33.9**	**+3.8**
WMGZ	**Waiomatatini S**	**13.88**	**185**	S	**S**	**11 30 49.5**	**-7.6**
PKGZ	**Pakihiroa**	**13.97**	**186**	P	**P**	**11 28 33.3**	**+2.1**
PKGZ	**Pakihiroa**	**13.97**	**186**	S	**S**	**11 30 57.0**	**-2.1**
RUGZ	**Raukumara Rang**	**14.09**	**187**	P	**P**	**11 28 35.7**	**+3.1**
PUZ	**Puketiti**	**14.14**	**185**	P	**P**	**11 28 35.3**	**+2.4**
PUZ	**Puketiti**	**14.14**	**185**	S	**S**	**11 30 57.9**	**-4.4**
TWGZ	**Tauwhareparae**	**14.27**	**186**	P	**P**	**11 28 36.4**	**+2.1**
TWGZ	**Tauwhareparae**	**14.27**	**186**	S	**S**	**11 31 04.8**	**+0.1**
URZ	**Urewera**	**14.45**	**189**	P	**P**	**11 28 33.7**	**-2.5**
	1.5nm,0.3s,baz=324,slow=10,SNR=12						
URZ				S	**S**	**11 31 03.8**	**-4.4**
	0.9nm,0.3s,baz=37,slow=20,SNR=9.7						
URZ	**Urewera**	**14.45**	**189**	P	**P**	**11 28 36.3**	**+0.1**
URZ	**Urewera**	**14.45**	**189**	S	**S**	**11 31 05.6**	**-2.6**
MWZ	**Matawai**	**14.47**	**187**	P	**P**	**11 28 37.7**	**+1.2**
MUGZ	**Murupara**	**14.72**	**190**	P	**P**	**11 28 39.7**	**+0.7**
RIGZ	**Rimuhau**	**14.82**	**186**	P	**P**	**11 28 41.6**	**+1.5**
NMHZ	**Naumai**	**15.32**	**189**	P	**P**	**11 28 46.0**	**+0.6**
BKZ	**Black Stump Fm**	**15.48**	**190**	P	**P**	**11 28 46.0**	**-0.5**
CTA	**Charters Tower**	**31.36**	**270**	P	**P**	**11 31 13.1**	**+1.9**
	14nm,0.4s,baz=92,slow=11,SNR=65						
ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	**11 32 39.0**	**+0.6**
	2.7nm,0.5s,baz=98,slow=7.3,SNR=25						
ASAR				ScP	**ScP**	**11 37 24.9**	**-0.1**
	1.7nm,0.8s,baz=108,slow=4.1,SNR=11						
ASAR				S	**S**	**11 38 19.8**	**-0.4**
	0.3nm,0.7s,baz=90,slow=17,SNR=2.8						
WRA	**Warramunga Arr**	**42.29**	**266**	P	**P**	**11 32 41.5**	**+0.1**
	9.3nm,0.6s,baz=96,slow=8.3,SNR=96						
WRA				ScP	**ScP**	**11 37 27.1**	**+0.5**
	1.3nm,0.9s,baz=96,slow=3.7,SNR=4.8						
MAW	**Mawson**	**77.66**	**200**	P	**P**	**11 36 35.5**	**-0.3**
	1.6nm,0.5s,baz=143,slow=10,SNR=3.9						
KSRS	**Korea Array**	**78.22**	**320**	P	**P**	**11 36 40.6**	**+1.3**
	1.2nm,0.7s,baz=123,slow=5.4,SNR=5.1						
PETK	**Petropavlovsk-**	**79.13**	**347**	P	**P**	**11 36 43.8**	**0.0**
	1.7nm,0.6s,baz=106,slow=7.5,SNR=5.5						
SNAA	**Sanae**	**84.61**	**179**	P	**P**	**11 37 09.3**	**-2.5**
	4.3nm,1.1s,baz=191,slow=10,SNR=7.7						
NVAR	**Mina Array Bea**	**84.87**	**44**	P	**P**	**11 37 12.8**	**-1.0**
	0.7nm,0.6s,baz=224,slow=7.5,SNR=7.4						
SEY	**Seymchan**	**89.30**	**348**	P	**P**	**11 37 33.7**	**-0.1**
	0.3nm,0.2s,baz=180,slow=20,SNR=2.9						
CMAR	**Chiang Mai Arr**	**89.44**	**290**	P	**P**	**11 37 36.7**	**+1.1**
	0.3nm,0.3s,baz=123,slow=4.5,SNR=3.9						
TXAR	**Lajitas Array**	**90.55**	**58**	P	**P**	**11 37 40.8**	**+0.2**
	1.3nm,0.7s,baz=218,slow=6.6,SNR=15						
PDAR	**Pinedale Array**	**92.81**	**44**	P	**P**	**11 37 49.9**	**-0.9**
	0.4nm,0.7s,baz=205,slow=3.1,SNR=4.6						
ARCES	**ARCESS Array B**	**131.92**	**348**	PKP	**PKPdf**	**11 43 45.9**	**-1.4**
	4.2nm,1.0s,baz=321,slow=1.7,SNR=5.6						
FINES	**FINESS Array B**	**138.46**	**341**	PKP	**PKPdf**	**11 43 59.2**	**-0.5**
	4.2nm,1.2s,baz=62,slow=3.3,SNR=3.1						
FINES				SKPbc	**SKPbc**	**11 46 44.5**	**-2.4**
	1.1nm,0.7s,baz=67,slow=4.7,SNR=4.5						
HFS	**Hagfors**	**142.58**	**349**	PKhKP	PKPpre	11 44 02.9	
	1.6nm,0.3s,baz=64,slow=3.4,SNR=16						
AKASG	**Malin Array Be**	**144.96**	**327**	PKPbc	**PKPdf**	**11 44 11.1**	**-0.4**
	0.4nm,0.3s,baz=45,slow=3.8,SNR=3.7						
AKASG				SKPbc	**SKPbc**	**11 47 01.3**	**-2.2**
	1.1nm,0.5s,baz=50,slow=2.3,SNR=4.7						
BRTR	**Keskin Array B**	**147.52**	**307**	PKPbc	**PKPbc**	**11 44 18.9**	**-0.9**
	0.4nm,0.6s,baz=87,slow=3.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**169.11**	**189**	PKPab	**PKPab**	**11 45 55.9**	**-1.1**
	0.6nm,0.7s,baz=190,slow=3.6,SNR=3.8						

MAN 15 11:25:57,11.79N×125.38E,h15km,mb4.6,ML3.5,MS3.4, 1C,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.20**	**164**	*e*P	Pb	11 26 06.7	+4.3
BESP				*e*S	Sb	11 26 13.6	+7.6
CNP	**Catarman**	**1.00**	**315**	*e*P	Pb	11 26 15.4	-0.6
CNP				*e*S	Sb	11 26 29.2	+0.1
OCLP	**Ormoc**	**1.06**	**226**	*e*P	Pb	11 26 15.9	-1.1
OCLP				*e*S	Sg	11 26 31.5	+0.2
MSLP	**Maasin**	**1.73**	**197**	*e*P	Pn

JAR				S	**Sn**	**11 39 37.2**	**-2.2**
JNK	**Nakash**	**2.68**	**353**	*e*S	**Sn**	**11 39 39.4**	**-2.2**
JBT2	**Biratori 2**	**2.80**	**312**	P	**Pn**	**11 39 11.8**	**-0.3**
JBT2				*e*S	**Sn**	**11 39 45.4**	**+0.8**
JANG	**Nango**	**2.84**	**260**	P	**Pn**	**11 39 11.2**	**-1.5**
JANG				S	**Sn**	**11 39 43.0**	**-2.7**
JFR	**Furan**	**2.95**	**320**	P	**Pn**	**11 39 13.9**	**-0.2**
JFR				S	**Sn**	**11 39 45.9**	**-2.4**
JRA	**Rausu**	**3.01**	**359**	*e*S	**Sn**	**11 39 47.9**	**-1.8**
JTM	**Tenmabayashi**	**3.12**	**269**	P	**Pn**	**11 39 16.3**	**-0.2**
JTM				S	**Sn**	**11 39 49.9**	**-2.6**
JOT	**Ohata**	**3.15**	**280**	P	**Pn**	**11 39 16.5**	**-0.4**
JOT				S	**Sn**	**11 39 50.9**	**-2.4**
JTKR	**Abashiri--Toko**	**3.18**	**343**	P	**Pn**	**11 39 17.4**	**+0.1**
JTKR				S	**Sn**	**11 39 53.5**	**-0.5**
ASAJ	**Asahikawa**	**3.71**	**330**	Pn	**Pn**	**11 39 24.0**	**-0.7**
	1.7nm,0.3s,baz=169,slow=13,SNR=8.0						
ASAJ				Sn	**Sn**	**11 40 07.8**	**+0.7**
	1.6nm,0.3s,baz=100,slow=31,SNR=6.5						
MJAR	**Matsushiro Arr**	**6.99**	**233**	Pn	**Pn**	**11 40 08.9**	**-0.8**
	0.3nm,0.3s,baz=37,slow=13,SNR=4.2						
MJAR				LR	LR	11 42 45.8	
	comp=Z,33nm,20.0s,baz=80,slow=37						
ILAR	**Eielson Array**	**44.63**	**34**	P	**P**	**11 46 37.7**	**-0.8**
	0.3nm,0.9s,baz=254,slow=6.5,SNR=3.3						
MKAR	**Makanchi Array**	**44.65**	**300**	P	**P**	**11 46 40.8**	**+2.0**
	0.1nm,0.3s,baz=89,slow=8.6,SNR=2.1						
KURBB	**Kurchatov Arra**	**46.02**	**306**	P	**P**	**11 46 50.3**	**+0.7**
	0.4nm,0.2s,baz=77,slow=8.4,SNR=3.2						
PMG	**Port Moresby**	**50.12**	**177**	LR	LR	12 06 23.0	
	comp=Z,37nm,21.8s,baz=240,slow=34						
BVAR	**Borovoye Array**	**50.20**	**311**	LR	LR	12 12 01.0	
	comp=Z,48nm,18.0s,baz=311,slow=40						
WRA	**Warramunga Arr**	**61.39**	**192**	P	**P**	**11 48 42.8**	**+0.5**
	1.0nm,0.8s,baz=8.8,slow=6.9,SNR=6.7						
ASAR	**Alice Springs**	**65.11**	**191**	P	**P**	**11 49 07.9**	**+1.0**
	0.3nm,0.8s,baz=9.8,slow=6.3,SNR=5.2						
PLCA	**Paso Flores**	**153.08**	**101**	PKPbc	**PKPbc**	**11 58 25.4**	**+2.1**
	2.2nm,1.0s,baz=210,slow=5.1,SNR=3.3						

*SJA **15** 11:45:56.9±0.7,22.0°S×66.0°W,h269km±9km, ML3.2, MW3.4*
*ISCJB **15** 11:45:57.2±0.5,21.9°S±0.0°×66.1°W±0.0°,05, h262km, mb3.1/4, Error ellipse: s-maj=7.5km s-min=5.3km az=32.1*
*GUC **15** 11:45:57.6±0.3,21.8°S×66.9°W,h297km±13km, ML4.4*
*IDC **15** 11:45:57.1±5.7,21.7°S×65.6°W,h258km±41km, mb3.0/4, mb1 3.3/5, mb1mx3.1/34, mbtmp3.5/5, Error ellipse: s-maj=67.3km s-min=26.0km az=19.0*

ISC 15 11:45:56.7±0.8, 21.9°S±0.0°×66.0°W±0.0°,05, h262km, n27, σ1°22/37, mb3.1/4, 9C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.36**	**154**	*e*P	**Pn**	**11 46 37.0**	**+1.4**
HJA				IAML		11 46 37.5	
	comp=Z,50nm,0.4s						
HJA				*e*S	**S**	**11 47 05.8**	**-0.6**
AZAP	**Zapla**	**2.41**	**158**	*e*P	**Pn**	**11 46 44.8**	**+0.6**
AZAP				IAML		11 47 23.4	
	comp=Z,17nm,0.6s						
ASTB	**Santa Barbara**	**2.45**	**143**	*e*P	**Pn**	**11 46 45.1**	**+0.6**
ALOL	**LOMAS DE OLMED**	**2.64**	**134**	*e*P	**Pn**	**11 46 46.3**	**+0.1**
PB09	**IPOC Station P**	**2.97**	**273**	⇑*i*P	**Pn**	**11 46 51.1**	**+1.3**
PB09				*e*S	**S**	**11 47 31.5**	**-0.3**
PB09				IAML		11 47 38.8	
	comp=E,368nm,0.4s						
PB01	**IPOC Station P**	**3.33**	**286**	⇑*i*P	**Pn**	**11 46 54.4**	**+0.9**
PB01				*e*S	**S**	**11 47 37.8**	**-1.0**
PB01				IAML		11 47 39.4	
	comp=N,375nm,0.2s						
PB06	**IPOC Station P**	**3.34**	**257**	⇑*i*P	**Pn**	**11 46 55.5**	**+1.8**
PB06				*i* S	**S**	**11 47 39.2**	**+0.2**
PB06				IAML		11 47 42.5	
	comp=N,130nm,0.3s						
PB08	**IPOC Station P**	**3.42**	**302**	⇑*i*P	**Pn**	**11 46 56.6**	**+1.7**
PB07	**IPOC Station P**	**3.57**	**273**	⇑*i*P	**Pn**	**11 46 57.5**	**+1.2**
PB07				*i* S	**S**	**11 47 42.7**	**-0.9**
PB07				IAML		11 47 45.5	
	comp=N,306nm,0.3s						
PB02	**IPOC Station P**	**3.63**	**280**	⇑*i*P	**Pn**	**11 46 57.6**	**+0.6**
PB02				*i* S	**S**	**11 47 43.7**	**-1.2**
PB04	**IPOC Station P**	**3.81**	**264**	⇓*i*P	**Pn**	**11 47 00.1**	**+1.1**
PB04				*i* S	**S**	**11 47 47.2**	**-1.5**
PB04				IAML		11 47 50.0	
	comp=N,271nm,0.3s						
PB11	**IPOC Station P**	**4.03**	**303**	⇑*i*P	**Pn**	**11 47 02.2**	**+0.7**
PB11				*i* S	**S**	**11 47 51.8**	**-1.4**
PB10	**IPOC Station P**	**4.43**	**249**	*e*P	**Pn**	**11 47 06.0**	**0.0**
PB10	**IPOC Station P**	**4.43**	**249**	⇑*i*P	**Pn**	**11 47 06.0**	**0.0**
PB10				*i* S	**S**	**11 47 59.3**	**-2.9**
PSGC	**Pisagua**	**4.48**	**301**	*e*P	**Pn**	**11 47 06.9**	**+0.1**
PSGC				*i* S	**S**	**11 47 59.8**	**-2.9**
GO02	**Mina Guanaco**	**4.54**	**225**	⇑*i*P	**Pn**	**11 47 08.4**	**+0.8**
PB14	**IPOC Station P**	**4.79**	**236**	*e*P	**Pn**	**11 47 11.1**	**+0.4**
LPAZ	**La Paz**	**5.99**	**341**	P	**Pn**	**11 47 26.7**	**+1.1**
	comp=N,0.6nm,0.3s,baz=132,slow=5.8,SNR=9.0						
LPAZ				S	**S**	**11 48 35.6**	**-1.2**
	comp=N,0.2nm,0.3s,baz=98,slow=13,SNR=9.9						
VCA	**Vinchina**	**7.00**	**196**	IAML		11 47 38.9	
	comp=Z,18nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.03**	**69**	P	**P**	**11 57 08.4**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=254,slow=5.9,SNR=18						
PDAR	**Pinedale Array**	**75.88**	**328**	P	**P**	**11 57 15.5**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=114,slow=9.0,SNR=2.9						
NVAR	**Mina Array Bea**	**77.53**	**321**	P	**P**	**11 57 26.0**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=179,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**92.54**	**340**	P	**P**	**11 58 38.6**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=129,slow=4.8,SNR=3.3						
ASAR	**Alice Springs**	**130.65**	**204**	PKP	**PKPdf**	**12 04 37.6**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=138,slow=2.0,SNR=2.5						
WRA	**Warramunga Arr**	**133.81**	**207**	PKP	**PKPdf**	**12 04 43.3**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=150,slow=1.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**141.21**	**27**	PKP	**PKPdf**	**12 04 54.3**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=348,slow=6.2,SNR=2.4						
MKAR	**Makanchi Array**	**144.41**	**38**	PKP	**PKPdf**	**12 05 00.8**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=346,slow=3.0,SNR=3.4						

*CSEM **15** 11:49:21.9, 64.08N×27.75E, h0km, ML1.7, Mining explosion. After HEL*
*HEL **15** 11:49:21.9±0.2, 64.08N×27.75E, h0km, ML1.7, Explosion*
*IDC **15** 11:49:21.3±2.1, 63.83N×29.20E, h0km, mb1 3.0/4, mb1mx2.8/68, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=29.5km s-min=9.1km az=104.0*

ISC 15 11:49:19.8±0.9, 64.00N±0.03°×28.21E±0.06, h0km, n27, σ1°42/44, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUL	**Oulu**	**1.48**	**318**	P	**Pn**	**11 49 46.5**	**-1.2**
OUL	**Oulu**	**1.48**	**318**	*e*PN	**Pn**	**11 49 46.5**	**-1.2**
OUF	**Merijarvi**	**1.57**	**285**	Pn	**Pn**	**11 49 48.8**	**0.0**
OUF				Sn	**Sn**	**11 50 08.9**	**-0.9**
OUF	**Merijarvi**	**1.57**	**285**	*e*PN	**Pn**	**11 49 48.9**	**0.0**
OUF				MSG		11 50 06.0	
	comp=Z,7.5nm,0.2s						
OUF				*e*SN	**Sn**	**11 50 08.9**	**-0.9**
SUF	**Sumiainen**	**1.59**	**217**	P	**Pb**	**11 49 49.3**	**-0.6**
SUF				S	**Sn**	**11 50 10.1**	**-0.2**
SUF	**Sumiainen**	**1.59**	**217**	*e*P	**Pb**	**11 49 49.4**	**-0.6**
SUF				MSG		11 50 08.1	
	comp=Z,3.2nm,0.2s						
SUF				*e*S	**Sn**	**11 50 10.1**	**-0.2**
MSF	**Maaselka**	**1.95**	**10**	Pg	**Pg**	**11 49 56.3**	**-0.9**
MSF				S	**Sb**	**11 50 20.2**	**-0.9**
MSF	**Maaselka**	**1.95**	**10**	*e*PG	**Pg**	**11 49 56.4**	**-0.9**
MSF				*e*S	**Sb**	**11 50 20.2**	**-0.9**
KAF	**Kangasniemi**	**2.08**	**205**	P	**Pb**	**11 49 57.9**	**-0.5**
KAF				Sg	**Sg**	**11 50 26.4**	**-0.2**
KAF	**Kangasniemi**	**2.08**	**205**	*e*P	**Pb**	**11 49 57.9**	**-0.5**
KAF				MSG		11 50 22.9	
	comp=Z,4.5nm,0.2s						
KAF				*e*SG	**Sg**	**11 50 26.4**	**-0.2**
KU6	**Riekki**	**2.16**	**19**	Pg	**Pg**	**11 50 00.9**	**-0.2**
KU6	**Riekki**	**2.16**	**19**	*e*PG	**Pg**	**11 50 00.9**	**-0.2**
KU6				MSG		11 50 26.0	
	comp=Z,1.2nm,0.2s						
KEF	**Keuruu**	**2.39**	**221**	Pg	**Pb**	**11 50 02.9**	**-0.7**
KEF				Sg	**Sb**	**11 50 33.8**	**+0.3**
KEF	**Keuruu**	**2.39**	**221**	*e*PG	**Pb**	**11 50 03.0**	**-0.7**
KEF				MSG		11 50 30.9	
	comp=Z,5.4nm,0.2s						
KEF				*e*SG	**Sb**	**11 50 33.8**	**+0.3**
TOF	**Tornio**	**2.66**	**323**	Pg	**Pb**	**11 50 06.3**	**-1.9**
TOF	**Tornio**	**2.66**	**323**	*e*PG	**Pb**	**11 50 06.4**	**-1.9**
TOF				MSG		11 50 38.1	
	comp=Z,2.2nm,0.2s						
VAF	**Ylistaro**	**2.66**	**251**	Pg	**Pb**	**11 50 07.0**	**-1.3**
VAF				Sg	**Sb**	**11 50 41.6**	**+0.1**
VAF	**Ylistaro**	**2.66**	**251**	*e*PG	**Pb**	**11 50 07.0**	**-1.3**
VAF				MSG		11 50 37.9	
	comp=Z,2.7nm,0.2s						
VAF				*e*SG	**Sb**	**11 50 41.6**	**+0.1**
FIA0	**FINESS Array S**	**2.75**	**202**	Pb	**Pb**	**11 50 08.7**	**-1.1**
FIA0				Sb	**Sb**	**11 50 43.8**	**-0.1**
FIA0	**FINESS Array S**	**2.75**	**202**	*e*PB	**Pb**	**11 50 08.7**	**-1.1**
FIA0				*e*SB	**Sb**	**11 50 43.8**	**-0.1**
FINES	**FINESS Array B**	**2.75**	**202**	Pn	**Pb**	**11 50 08.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=29,slow=12,SNR=2.0						
FINES				Pg	**Pg**	**11 50 12.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=20,slow=17,SNR=2.0						
FINES				Sn	**Sb**	**11 50 43.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=30,slow=24,SNR=2.9						
FINES				Lg	Lg	11 50 47.4	
	comp=Z,0.6nm,0.3s,baz=21,slow=27,SNR=3.6						
ERTU	**Ertsjaerv**	**3.60**	**318**	Pb	**Pn**	**11 50 19.7**	**+2.9**
ERTU				Sb	**Sn**	**11 51 02.3**	**+2.3**
ERTU	**Ertsjaerv**	**3.60**	**318**	*e*PB	**Pn**	**11 50 19.8**	**+2.9**
ERTU				*e*SB	**Sn**	**11 51 02.3**	**+2.3**
HEMU	**Hemsoen**	**4.77**	**258**	*e*PB	Pn	11 50 37.8	+4.9
ARCES	**ARCESS Array B**	**5.66**	**350**	Pn	**Pn**	**11 50 47.1**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=167,slow=17,SNR=1.5						
ARCES				Sn	**Sn**	**11 51 54.1**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=170,slow=23,SNR=2.0						
HFS	**Hagfors**	**7.84**	**247**	Pn	**Pn**	**11 51 18.7**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=45,slow=14,SNR=1.3						
HFS				Lg	Lg	11 53 37.5	
	comp=Z,0.3nm,0.3s,baz=102,slow=26,SNR=5.1						
NOA	**NORSAR Array B**	**8.39**	**257**	Pn	Pn	11 51 27.6	+5.0
	comp=Z,0.1nm,0.3s,baz=50,slow=13,SNR=2.9						

IDC 15 11:52:29.8±3.0, 54.51N×86.58E, h0km, mb1 3.1/2, mb1mx2.8/71, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=23.0km s-min=15.6km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.18**	**242**	*i*		12 00 30.0	
	baz=62,slow=338,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.18**	**242**	Pg	Pg	11 52 51.1	-1.2
	1.2nm,0.3s,baz=59,slow=17,SNR=12						
ZALV				Lg	Lg	11 53 07.4	
	2.4nm,0.3s,baz=56,slow=28,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.26**	**235**	Pn	Pn	11 54 04.4	+1.1
	0.1nm,0.3s,baz=53,slow=14,SNR=12						
KURBB				Sn	Sn	11 55 15.8	+0.2
	baz=62,slow=25,SNR=2.4						
KURBB				Lg	Lg	11 55 50.5	
	0.0nm,0.3s,baz=49,slow=32,SNR=4.0						
MKAR	**Makanchi Array**	**8.19**	**201**	Pn	Pn	11 54 30.6	+0.7
	0.2nm,0.3s,baz=24,slow=14,SNR=5.2						
MKAR				Sn	Sn	11 56 02.3	-0.8
	0.1nm,0.3s,baz=21,slow=26,SNR=7.0						
MKAR				Lg	Lg	11 56 49.6	
	0.1nm,0.3s,baz=18,slow=32,SNR=3.2						

IDC 15 11:58:04.3±4.0, 15.58S×74.05W, h96km±25km, mb3.1/3, mb1 3.3/5, mb1mx3.1/43, mbtmp3.6/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/11, Error ellipse: s-maj=67.0km s-min=17.7km az=31.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.49**	**322**	P	Pn	11 59 08.7	-1.5
	1.8nm,0.3s,baz=131,slow=11,SNR=12						
NNA				S	Sn	12 00 02.3	+1.0
	13nm,0.3s,baz=238,slow=17,SNR=5.4						
LPAZ	**La Paz**	**5.74**	**98**	P	Pn	11 59 28.4	+0.8
	0.8nm,0.3s,baz=275,slow=11,SNR=13						
ATAH	**Atahualpa**	**9.41**	**333**	LR	LR	12 04 12.5	
	comp=Z,58nm,19.1s,baz=193,slow=39						
PTGA	**Pitinga**	**20.27**	**45**	P	P	12 02 32.5	0.0
	1.6nm,0.6s,baz=228,slow=17,SNR=5.9						
TXAR	**Lajitas Array**	**53.03**	**327**	P	P	12 07 12.2	+0.4
	0.2nm,0.5s,baz=143,slow=7.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**80.17**	**73**	P	P	12 10 04.5	-0.2
	0.2nm,0.4s,baz=269,slow=6.5,SNR=5.2						
TORD				pP	pP	12 10 25.1	-4.5
	0.2nm,0.5s,baz=236,slow=6.8,SNR=1.2						

WEL 15 12:09:04.1±1.2, 45°S±5°×167°E±°, h5km, ML3.7/6, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.49**	**127**	P	Pg	12 09 13.8	+0.3
DCZ	**Deep Cove**	**0.49**	**127**	S	Sg	12 09 20.0	+0.1
PYZ	**Puysegur Point**	**0.99**	**177**	P	Pg	12 09 23.1	-0.1
PYZ	**Puysegur Point**	**0.99**	**177**	S	Sb	12 09 38.2	+0.9
MLZ	**Mavora Lakes**	**1.09**	**101**	P	Pg	12 09 23.9	-1.2
WHZ	**Wether Hill Ro**	**1.19**	**128**	P	Pg	12 09 25.4	-1.6
WHZ	**Wether Hill Ro**	**1.19**	**128**	S	Sg	12 09 40.6	-1.8
WKZ	**Wanaka**	**1.75**	**79**	P	Pn	12 09 35.1	-0.1
WKZ	**Wanaka**	**1.75**	**79**	S	Sb	12 09 59.4	+0.3
JCZ	**Jackson Bay**	**1.91**	**56**	P	Pn	12 09 35.4	-2.1
JCZ	**Jackson Bay**	**1.91**	**56**	S	Sb	12 10 03.9	+0.2
EAZ	**Earnscleugh**	**1.92**	**93**	P	Pn	12 09 37.4	-0.1
EAZ	**Earnscleugh**	**1.92**	**93**	S	Sn	12 10 02.7	+0.8
APZ	**The Paps**	**1.92**	**150**	P	Pn	12 09 38.3	+0.7
SYZ	**Scrubby Hill**	**2.24**	**128**	P	Pn	12 09 41.3	-0.5
TUZ	**Tuapeka**	**2.27**	**111**	P	Pn	12 09 41.7	-0.6
LBZ	**Lake Benmore**	**2.67**	**74**	P	Pn	12 09 47.4	-0.4
FOZ	**Fox Glacier**	**2.83**	**56**	P	Pb	12 09 52.6	-2.5
ODZ	**Otahua Downs**	**2.87**	**89**	P	Pn	12 09 49.3	-1.2
HHSZ	**Highcliff Hill**	**2.90**	**106**	P	Pn	12 09 48.1	-2.9
RPZ	**Rata Peaks**	**3.51**	**67**	P	Pn	12 09 59.0	-0.4
WVZ	**Waitaha Valley**	**3.64**	**56**	P	Pn	12 09 58.3	-2.9
INZ	**Inchbonnie**	**4.27**	**57**	P	Pn	12 10 07.1	-2.7
OXZ	**Oxford**	**4.32**	**67**	P	Pn	12 10 08.7	-1.8
MQZ	**McQueen's Vall**	**4.58**	**73**	P	Pn	12 10 12.4	-1.6
LTZ	**Lake Taylor**	**4.74**	**62**	P	Pn	12 10 15.0	-1.3
DSZ	**Denniston Nort**	**5.11**	**50**	P	Pn	12 10 18.7	-2.6
THZ	**Tophouse**	**5.72**	**56**	P	Pn	12 10 28.4	-1.3
KHZ	**Kahutara**	**5.73**	**64**	P	Pn	12 10 29.1	-0.7
QRZ	**Quartz Range**	**6.15**	**47**	P	Pn	12 10 33.0	-2.5
NNZ	**Nelson**	**6.34**	**54**	P	Pn	12 10 39.2	+1.0
TUWZ	**Tuamarina**	**6.54**	**58**	P	Pn	12 10 40.6	-0.3
PREZ	**Palmer Road**	**8.08**	**47**	P	Pn	12 11 02.3	+0.1
PKE	**Pukeiti**	**8.11**	**45**	P	Pn	12 11 02.3	-0.3

IDC 15 12:17:37.7±1.6, 1.33S×138.16E, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.7/47, mbtmp3.9/7, ML4.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/44, Error ellipse: s-maj=83.4km s-min=18.3km az=76.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.87**	**191**	P	Pn	12 22 00.1	-0.1
	2.1nm,0.3s,baz=15,slow=11,SNR=88						
CTA	**Charters Tower**	**20.25**	**158**	P	Pn	12 22 16.1	-0.6
	5.9nm,0.9s,baz=335,slow=13,SNR=5.4						
ASAR	**Alice Springs**	**22.58**	**190**	P	P	12 22 40.5	+0.5
	5.1nm,0.7s,baz=10,slow=11,SNR=64						
STKA	**Stephens Creek**	**30.56**	**174**	P	P	12 23 51.5	-1.7
	1.9nm,0.7s,baz=355,slow=12,SNR=3.2						
KSRS	**Korea Array**	**39.74**	**347**	LR	LR	12 38 28.9	
	comp=Z,20nm,20.6s,baz=301,slow=32						
MKAR	**Makanchi Array**	**68.37**	**322**	P	P	12 28 41.4	+0.2
	0.4nm,0.8s,baz=115,slow=6.8,SNR=3.2						
KURBB	**Kurchatov Arra**	**72.29**	**325**	P	P	12 29 04.8	-0.2
	0.3nm,0.7s,baz=127,slow=5.9,SNR=2.8						
BVAR	**Borovoye Array**	**77.87**	**325**	P	P	12 29 37.4	+0.1
	0.3nm,0.6s,baz=120,slow=6.1,SNR=2.7						

MAN 15 12:21:14, 10.22N×123.19E, h0km, mb4.3, ML3.1, MS2.9, 2C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.71**	**304**	*e*P	Pb	12 21 29.3	0.0
GUIM				*e*S	Sb	12 21 41.2	+1.4
LLP	**Lapu-Lapu**	**0.77**	**83**	⇓*e*P	Pg	12 21 29.4	+0.6
LLP				*e*S	Sb	12 21 42.9	+1.5
SNPH	**Sibulan**	**0.87**	**177**	*i* P	Pb	12 21 32.5	+0.4
SNPH				*i* S	Sg	12 21 40.8	-1.4
RCP	**Roxas**	**1.40**	**342**	⇑*e*P	Pb	12 21 41.4	+0.3
OCLP	**Ormoc**	**1.62**	**59**	*e*P	Pn	12 21 44.0	+0.1
OCLP				*e*S	Sg	12 22 06.2	+0.1
DCPH	**Dipolog City**	**1.64**	**174**	⇑*e*P	Pn	12 21 44.1	0.0
DCPH				*e*S	Sb	12 22 06.2	-0.1
MSLP	**Maasin**	**1.65**	**93**	*e*P	Pb	12 21 44.8	-0.4
MSLP				*e*S	Sg	12 22 08.5	+1.5
BUKP	**Musuan**	**2.97**	**141**	*e*P	Pn	12 22 04.1	+1.6
BUKP				*e*S	Sb	12 22 42.2	-2.7

*ISCJB **15** 12:23:10.7±0.3, 37.79S±0.03°×177.70E±0.04, h99km±2km, mb4.4/9, Error ellipse: s-maj=5.1km s-min=4.4km az=155.4*
*IDC **15** 12:23:10.2±1.2, 38.24S×177.79E, h99km±5km, mb4.2/8, mb1 4.3/10, mb1mx3.9/40, mbtmp4.5/10, Error ellipse: s-maj=25.6km s-min=19.4km az=111.0*
*WEL **15** 12:23:12.0, 38°S±2°×178°E±°, h82km±2km*
*NEIC **15** 12:23:12.8±0.0, 37.72S×177.63E, h75km, ML4.7(WEL), After WEL.*
NEIC Felt [IV] at Opotiki. Also felt at Gisborne and Whakatane.

ISC 15 12:23:10.9±0.6, 37.83S±0.04°×177.66E±0.04, h100km±4km, n260, σ1°55/264, mb4.6/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.12**	**52**	P	**Pn**	**12 23 23.7**	**-1.1**
HAZ	**Te Kaha**	**0.12**	**52**	S	**Sn**	**12 23 32.6**	**-2.7**
RUGZ	**Raukumara Rang**	**0.14**	**175**	P	**Pn**	**12 23 23.9**	**-1.2**
RUGZ	**Raukumara Rang**	**0.14**	**175**	S	**Sn**	**12 23 33.2**	**-2.5**
PKGZ	**Pakihiroa**	**0.33**	**100**	P	**Pn**	**12 23 25.6**	**-0.1**
PKGZ	**Pakihiroa**	**0.33**	**100**	S	**Sn**	**12 23 36.0**	**-0.8**
TWGZ	**Tauwhareparae**	**0.43**	**144**	Pn	**Pn**	**12 23 27.1**	**+0.9**
TWGZ	**Tauwhareparae**	**0.43**	**144**	P	**Pn**	**12 23 27.1**	**+0.9**
TWGZ	**Tauwhareparae**	**0.43**	**144**	S	**Sn**	**12 23 40.0**	**+2.2**
WIZ	**White Island**	**0.48**	**309**	P*	**Pn**	**12 23 24.9**	**-1.6**
WIZ	**White Island**	**0.48**	**309**	P	**Pn**	**12 23 25.0**	**-1.5**
MWZ	**Matawai**	**0.51**	**192**	P*	**Pn**	**12 23 27.2**	**+0.4**
MWZ	**Matawai**	**0.51**	**192**	P	**Pn**	**12 23 27.5**	**+0.6**
MWZ	**Matawai**	**0.51**	**192**	S	**Sn**	**12 23 39.5**	**+0.7**
PUZ	**Puketiti**	**0.53**	**117**	Pn	**Pn**	**12 23 26.5**	**-0.4**
PUZ	**Puketiti**	**0.53**	**117**	P	**Pn**	**12 23 27.2**	**+0.2**
PUZ	**Puketiti**	**0.53**	**117**	S	**Sn**	**12 23 38.8**	**-0.1**
WHRZ	**Whale Island**	**0.55**	**267**	P	**Pn**	**12 23 26.8**	**-0.2**
MXZ	**Matakaoa Point**	**0.58**	**63**	P*	**Pn**	**12 23 26.9**	**-0.3**
MXZ	**Matakaoa Point**	**0.58**	**63**	P	**Pn**	**12 23 27.1**	**-0.1**
WMGZ	**Waiomatatini S**	**0.59**	**89**	Pn	**Pn**	**12 23 27.6**	**+0.2**
WMGZ	**Waiomatatini S**	**0.59**	**89**	P	**Pn**	**12 23 27.6**	**+0.2**
WMGZ	**Waiomatatini S**	**0.59**	**89**	S	**Sn**	**12 23 39.7**	**-0.1**
URZ	**Urewera**	**0.61**	**225**	P	**Pn**	**12 23 27.7**	**+0.2**
	886nm,0.3s,baz=269,slow=4.1,SNR=7862						
URZ				S	**Sn**	**12 23 39.4**	**-0.6**
	484nm,0.3s,baz=106,slow=20,SNR=99						
URZ				LR	LR	12 23 46.5	
	comp=Z,511nm,18.8s,baz=4.0,slow=68						
URZ	**Urewera**	**0.61**	**225**	P*	**Pn**	**12 23 27.4**	**-0.1**
URZ				S	**Sn**	**12 23 39.4**	**-0.6**
URZ	**Urewera**	**0.61**	**225**	P	**Pn**	**12 23 27.9**	**+0.4**
URZ	**Urewera**	**0.61**	**225**	S	**Sn**	**12 23 39.9**	**-0.1**
TKGZ	**Te Karaka**	**0.63**	**167**	Pn	**Pn**	**12 23 28.7**	**+1.0**
TKGZ	**Te Karaka**	**0.63**	**167**	P	**Pn**	**12 23 28.7**	**+1.0**
RAGZ	**Rawiri**	**0.69**	**196**	P*	**Pn**	**12 23 29.7**	**+1.4**
RAGZ	**Rawiri**	**0.69**

WTVZ	**West Tongariro**	**2.07**	**231**	P	**Pn**	**12**	**23**	**46.3 +1.8**
KRHZ	**Kereru**	**2.07**	**209**	P	**Pn**	**12**	**23**	**45.3 +0.9**
BHHZ	**Black Hill Sta**	**2.08**	**217**	Pn	**Pn**	**12**	**23**	**45.6 +1.1**
BHHZ	**Black Hill Sta**	**2.08**	**217**	P	**Pn**	**12**	**23**	**45.7 +1.2**
NGZ	**Ngauruhoe**	**2.10**	**230**	Pn	**Pn**	**12**	**23**	**46.6 +1.7**
NGZ	**Ngauruhoe**	**2.10**	**230**	P	**Pn**	**12**	**23**	**46.6 +1.7**
MKAZ	**Moumakai**	**2.12**	**289**	Pn	**Pn**	**12**	**23**	**44.7 -0.3**
MKAZ	**Moumakai**	**2.12**	**289**	P	**Pn**	**12**	**23**	**45.0 0.0**
TUVZ	**Tukino**	**2.13**	**227**	Pn	**Pn**	**12**	**23**	**46.8 +1.5**
TUVZ	**Tukino**	**2.13**	**227**	P	**Pn**	**12**	**23**	**46.8 +1.5**
TWVZ	**Taurewa**	**2.14**	**234**	Pn	**Pn**	**12**	**23**	**47.0 +1.6**
TWVZ	**Taurewa**	**2.14**	**234**	P	**Pn**	**12**	**23**	**47.1 +1.8**
COVZ	**Chateau Observ**	**2.15**	**230**	P	**Pn**	**12**	**23**	**47.2 +1.7**
MOVZ	**Moawhango**	**2.17**	**223**	Pn	**Pn**	**12**	**23**	**46.8 +1.1**
MOVZ	**Moawhango**	**2.17**	**223**	P	**Pn**	**12**	**23**	**46.8 +1.1**
WHVZ	**Whangaehu Hut**	**2.18**	**228**	Pn	**Pn**	**12**	**23**	**47.1 +1.2**
WHVZ	**Whangaehu Hut**	**2.18**	**228**	P	**Pn**	**12**	**23**	**47.4 +1.4**
FWVZ	**Far West T-bar**	**2.18**	**229**	Pn	**Pn**	**12**	**23**	**47.2 +1.2**
FWVZ	**Far West T-bar**	**2.18**	**229**	P	**Pn**	**12**	**23**	**47.5 +1.5**
DRZ	**Dome Shelter**	**2.19**	**228**	Pn	**Pn**	**12**	**23**	**47.8 +1.7**
DRZ	**Dome Shelter**	**2.19**	**228**	P	**Pn**	**12**	**23**	**47.9 +1.7**
WNVZ	**Wahianoa**	**2.20**	**227**	Pn	**Pn**	**12**	**23**	**47.5 +1.3**
WIAZ	**Waiheke Island**	**2.27**	**296**	P	**Pn**	**12**	**23**	**46.8 -0.1**
PXZ	**Pawanui**	**2.29**	**196**	Pn	**Pn**	**12**	**23**	**47.5 +0.3**
PXZ	**Pawanui**	**2.29**	**196**	P	**Pn**	**12**	**23**	**47.5 +0.3**
HIZ	**Hauiti**	**2.31**	**252**	Pn	**Pn**	**12**	**23**	**49.0 +1.4**
HIZ	**Hauiti**	**2.31**	**252**	P	**Pn**	**12**	**23**	**49.5 +2.0**
MTVZ	**Mangateitei**	**2.31**	**227**	Pn	**Pn**	**12**	**23**	**49.0 +1.5**
MTVZ	**Mangateitei**	**2.31**	**227**	P	**Pn**	**12**	**23**	**49.1 +1.5**
KBAZ	**Karaka Road Bo**	**2.33**	**288**	Pn	**Pn**	**12**	**23**	**48.5 +0.8**
KBAZ	**Karaka Road Bo**	**2.33**	**288**	P	**Pn**	**12**	**23**	**48.5 +0.8**
PKVZ	**Pokaka**	**2.33**	**231**	Pn	**Pn**	**12**	**23**	**49.5 +1.7**
PKVZ	**Pokaka**	**2.33**	**231**	P	**Pn**	**12**	**23**	**49.5 +1.7**
ETAZ	**East Tamaki Re**	**2.35**	**291**	Pn	**Pn**	**12**	**23**	**48.3 +0.4**
ETAZ	**East Tamaki Re**	**2.35**	**291**	P	**Pn**	**12**	**23**	**48.3 +0.4**
GRZ	**Great Barrier**	**2.37**	**311**	P	**Pn**	**12**	**23**	**47.7 -0.5**
PNHZ	**Pukenui**	**2.37**	**208**	Pn	**Pn**	**12**	**23**	**48.7 +0.3**
PNHZ	**Pukenui**	**2.37**	**208**	P	**Pn**	**12**	**23**	**48.7 +0.3**
WPHZ	**Waipukurau**	**2.43**	**203**	Pn	**Pn**	**12**	**23**	**49.5 +0.5**
WPHZ	**Waipukurau**	**2.43**	**203**	P	**Pn**	**12**	**23**	**49.5 +0.5**
MTAZ	**Motutapu**	**2.43**	**295**	Pn	**Pn**	**12**	**23**	**49.4 +0.3**
AWAZ	**Awhitu Peninsu**	**2.52**	**287**	P	**Pn**	**12**	**23**	**51.0 +0.8**
HBAZ	**Herne Bay Bore**	**2.53**	**292**	P	**Pn**	**12**	**23**	**51.4 +1.0**
PRHZ	**Porangahau**	**2.56**	**198**	Pn	**Pn**	**12**	**23**	**51.1 +0.3**
PRHZ	**Porangahau**	**2.56**	**198**	P	**Pn**	**12**	**23**	**51.1 +0.3**
ABAZ	**Army Bay**	**2.57**	**298**	Pn	**Pn**	**12**	**23**	**51.4 +0.5**
ABAZ	**Army Bay**	**2.57**	**298**	P	**Pn**	**12**	**23**	**51.4 +0.5**
TSZ	**Takapari Road**	**2.59**	**210**	Pn	**Pn**	**12**	**23**	**51.1 -0.1**
TSZ	**Takapari Road**	**2.59**	**210**	P	**Pn**	**12**	**23**	**51.4 +0.2**
WTAZ	**Waiataraua**	**2.62**	**289**	P	**Pn**	**12**	**23**	**52.6 +1.1**
WTAZ	**Waiataraua**	**2.62**	**289**	P	**Pn**	**12**	**23**	**53.8 +2.3**
VRZ	**Vera Road**	**2.62**	**240**	Pn	**Pn**	**12**	**23**	**53.5 +1.9**
VRZ	**Vera Road**	**2.62**	**240**	P	**Pn**	**12**	**23**	**53.7 +2.2**
RVAZ	**Riverhead Bore**	**2.68**	**292**	Pn	**Pn**	**12**	**23**	**52.8 +0.5**
RVAZ	**Riverhead Bore**	**2.68**	**292**	P	**Pn**	**12**	**23**	**52.8 +0.5**
DVHZ	**Dannevirke**	**2.73**	**205**	Pn	**Pn**	**12**	**23**	**52.7 -0.3**
DVHZ	**Dannevirke**	**2.73**	**205**	P	**Pn**	**12**	**23**	**52.7 -0.3**
ANWZ	**Angora Road**	**2.78**	**199**	P	**Pn**	**12**	**23**	**53.9 +0.2**
WAZ	**Wanganui**	**2.84**	**227**	Pn	**Pn**	**12**	**23**	**56.0 +1.6**
WAZ	**Wanganui**	**2.84**	**227**	P	**Pn**	**12**	**23**	**56.1 +1.6**
MHEZ	**Mangahewa**	**2.90**	**244**	Pn	**Pn**	**12**	**23**	**58.5 +3.2**
MHEZ	**Mangahewa**	**2.90**	**244**	P	**Pn**	**12**	**23**	**58.8 +3.5**
POWZ	**Post Office Ro**	**2.95**	**209**	Pn	**Pn**	**12**	**23**	**55.9 -0.1**
POWZ	**Post Office Ro**	**2.95**	**209**	P	**Pn**	**12**	**23**	**55.8 -0.1**
OHWZ	**Ohakea**	**3.00**	**217**	P	**Pn**	**12**	**23**	**57.7 +1.2**
PRWZ	**Pori Road**	**3.02**	**205**	Pn	**Pn**	**12**	**23**	**56.8 -0.1**
PRWZ	**Pori Road**	**3.02**	**205**	P	**Pn**	**12**	**23**	**56.9 0.0**
LREZ	**Lake Rotokare**	**3.03**	**236**	P	**Pn**	**12**	**23**	**59.2 +2.3**
DREZ	**Durham Road**	**3.04**	**242**	P	**Pn**	**12**	**24**	**00.5 +3.5**
BFZ	**Birch Farm**	**3.05**	**201**	Pn	**Pn**	**12**	**23**	**56.7 -0.6**
BFZ	**Birch Farm**	**3.05**	**201**	P	**Pn**	**12**	**23**	**56.8 -0.5**
PREZ	**Palmer Road**	**3.13**	**240**	Pn	**Pn**	**12**	**24**	**01.9 +3.5**
PREZ	**Palmer Road**	**3.13**	**240**	P	**Pn**	**12**	**24**	**01.9 +3.5**
NEZ	**North Egmont**	**3.15**	**242**	Pn	**Pn**	**12**	**24**	**01.3 +2.7**
PKE	**Pukeiti**	**3.19**	**244**	Pn	**Pn**	**12**	**24**	**01.7 +2.5**
PKE	**Pukeiti**	**3.19**	**244**	P	**Pn**	**12**	**24**	**01.7 +2.5**
KHEZ	**Kahui Hut**	**3.21**	**242**	Pn	**Pn**	**12**	**24**	**02.1 +2.6**
TIWZ	**Tintock**	**3.25**	**205**	Pn	Pn	12	23	54.7 -5.2
TIWZ	**Tintock**	**3.25**	**205**	P	**Pn**	**12**	**23**	**59.6 -0.4**
MRZ	**Mangatainoka R**	**3.26**	**209**	Pn	**Pn**	**12**	**23**	**59.1 -0.9**
WCZ	**Waipu Caves**	**3.26**	**304**	Pn	**Pn**	**12**	**24**	**00.3 +0.2**
WCZ	**Waipu Caves**	**3.26**	**304**	P	**Pn**	**12**	**24**	**00.2 +0.2**
CPWZ	**Castlepoint**	**3.28**	**200**	Pn	**Pn**	**12**	**24**	**00.5 +0.2**
CPWZ	**Castlepoint**	**3.28**	**200**	P	**Pn**	**12**	**24**	**00.4 +0.1**
NWEZ	**Newall Road**	**3.31**	**243**	Pn	**Pn**	**12**	**24**	**03.4 +2.7**
NMEZ	**Namu Road**	**3.36**	**241**	Pn	**Pn**	**12**	**24**	**03.5 +2.1**
NMEZ	**Namu Road**	**3.36**	**241**	P	**Pn**	**12**	**24**	**04.4 +3.1**
HOWZ	**Holdsworth Sta**	**3.49**	**208**	Pn	**Pn**	**12**	**24**	**01.9 -1.2**
TMWZ	**Te Maipa**	**3.55**	**202**	Pn	**Pn**	**12**	**24**	**02.9 -1.1**
OGWZ	**Otaki Gorge**	**3.55**	**212**	Pn	**Pn**	**12**	**24**	**03.2 -0.8**
KIW	**Kapiti Island**	**3.70**	**214**	Pn	**Pn**	**12**	**24**	**05.2 -0.9**
MTW	**Mount Morrison**	**3.72**	**206**	Pn	**Pn**	**12**	**24**	**04.7 -1.6**
CAW	**Cannon Point**	**3.84**	**211**	Pn	**Pn**	**12**	**24**	**06.6 -1.2**
TRWZ	**Traveller**	**3.88**	**203**	Pn	**Pn**	**12**	**24**	**07.1 -1.3**
PAWZ	**Paruwai Farm**	**3.94**	**205**	Pn	**Pn**	**12**	**24**	**07.6 -1.7**
MSWZ	**Moikau Station**	**4.04**	**207**	Pn	**Pn**	**12**	**24**	**08.6 -2.0**
WEL	**Wellington**	**4.11**	**212**	Pn	**Pn**	**12**	**24**	**10.1 -1.4**
SNZO	**South Karori**	**4.16**	**212**	*e*Pn	**Pn**	**12**	**24**	**10.5 -1.7**
PLWZ	**Palliser**	**4.17**	**206**	Pn	**Pn**	**12**	**24**	**10.2 -2.1**
BHW	**Baring Head**	**4.17**	**210**	Pn	**Pn**	**12**	**24**	**10.4 -2.0**
OUZ	**Omahuta**	**4.18**	**307**	Pn	**Pn**	**12**	**24**	**14.9 +2.4**
TCW	**Tory Channel**	**4.27**	**217**	Pn	**Pn**	**12**	**24**	**12.0 -1.7**
TUWZ	**Tuamarina**	**4.60**	**217**	Pn	**Pn**	**12**	**24**	**16.1 -2.3**
NNZ	**Nelson**	**4.73**	**223**	Pn	**Pn**	**12**	**24**	**18.3 -1.6**
BSWZ	**Blackbirch Sta**	**4.85**	**216**	Pn	**Pn**	**12**	**24**	**19.4 -2.2**
THZ	**Tophouse**	**5.37**	**222**	Pn	**Pn**	**12**	**24**	**26.5 -2.1**
KHZ	**Kahutara**	**5.56**	**213**	Pn	**Pn**	**12**	**24**	**28.2 -3.0**
DSZ	**Denniston Nort**	**5.97**	**227**	Pn	**Pn**	**12**	**24**	**34.0 -2.8**
CRLZ	**Canterbury Las**	**6.90**	**212**	Pn	**Pn**	**12**	**24**	**46.5 -2.7**
OXZ	**Oxford**	**6.96**	**216**	Pn	Pn	12	24	45.8 -4.4
MQZ	**McQueen's Vall**	**6.99**	**211**	Pn	Pn	12	24	46.2 -4.3
CTZ	**Chatham Island**	**7.32**	**145**	Pn	**Pn**	**12**	**24**	**56.8 +1.8**
WVZ	**Waitaha Valley**	**7.44**	**223**	Pn	**Pn**	**12**	**24**	**54.2 -2.4**
RPZ	**Rata Peaks**	**7.72**	**218**	P	**Pn**	**12**	**24**	**57.8 -2.7**
	3.7nm,0.3s,baz=237,slow=3.1,SNR=16							
RPZ				S	**Sn**	**12**	**26**	**19.3 -7.1**
	3.9nm,0.3s,baz=312,slow=17,SNR=15							
FOZ	**Fox Glacier**	**8.24**	**224**	Pn	**Pn**	**12**	**25**	**04.0 -3.5**
LBZ	**Lake Benmore**	**8.64**	**218**	Pn	**Pn**	**12**	**25**	**10.7 -2.4**
TUZ	**Tuapeka**	**10.08**	**214**	Pn	**Pn**	**12**	**25**	**29.6 -2.9**
DZM	**Mont Dzumac**	**18.45**	**325**	P	**Pn**	**12**	**27**	**21.2 +1.2**
	0.4nm,0.3s,baz=134,slow=18,SNR=3.9							
CTA	**Charters Tower**	**32.47**	**294**	P	**P**	**12**	**29**	**30.8 -1.0**
	2.2nm,0.7s,baz=114,slow=18,SNR=2.6							
PMG	**Port Moresby**	**39.44**	**308**	P	**P**	**12**	**30**	**31.3 0.0**
	28nm,1.1s,baz=55,slow=6.5,SNR=3.6							
ASAR	**Alice Springs**	**39.81**	**278**	P	**P**	**12**	**30**	**35.8 +1.4**
	1.9nm,0.5s,baz=127,slow=8.4,SNR=55							
ASAR				PcP	**PcP**	**12**	**32**	**38.3 -0.3**
	0.4nm,0.4s,baz=119,slow=4.0,SNR=4.3							
ASAR				ScP	**ScP**	**12**	**36**	**15.5 -2.8**
	0.5nm,0.9s,baz=123,slow=3.8,SNR=4.1							
WRA	**Warramunga Arr**	**41.50**	**283**	P	**P**	**12**	**30**	**49.5 +1.2**
	1.2nm,0.4s,baz=122,slow=8.3,SNR=29							
WRA				PcP	**PcP**	**12**	**32**	**43.5 -0.6**
	1.0nm,0.9s,baz=117,slow=3.2,SNR=3.8							
FITZ	**Fitzroy Crossi**	**49.31**	**279**	P	**P**	**12**	**31**	**51.3 +1.4**
	8.5nm,1.2s,baz=119,slow=10,SNR=3.7							
JNU	**Nakatsue**	**82.94**	**322**	P	**P**	**12**	**35**	**26.0 +1.5**
	5.3nm,0.7s,baz=107,slow=3.2,SNR=4.4							
KSRS	**Korea Array**	**87.86**	**323**	P	**P**	**12**	**35**	**51.7 +2.9**
	3.9nm,0.6s,baz=139,slow=5.7,SNR=19							
KSAR	**Wonju Array Be**	**87.87**	**323**	P	**P**	**12**	**35**	**51.7 +2.9**
PETK	**Petropavlovsk-**	**92.21**	**348**	P	**P**	**12**	**36**	**10.4 +1.7**
	0.9nm,0.6s,baz=142,slow=7.3,SNR=3.2							
CMAR	**Chiang Mai Arr**	**92.59**	**291**	P	**P**	**12**	**36**	**12.9 +1.6**
	2.7nm,0.6s,baz=152,slow=3.6,SNR=15							
MKAR	**Makanchi Array**	**119.65**	**308**	PKP	**PKPdf**	**12**	**41**	**48.2 -0.3**
	0.5nm,0.8s,baz=90,slow=1.2,SNR=4.4							
ZALV	**Zalesovo Beam**	**121.06**	**316**	PKP	**PKPdf**	**12**	**41**	**51.5 +0.5**
	0.4nm,0.5s,baz=126,slow=2.0,SNR=2.7							
KURK	**Kurchatov**	**123.41**	**311**	PKP	**PKPdf**	**12**	**41**	**54.0 -1.5**
KURBB	**Kurchatov Arra**	**123.43**	**311**	PKP	**PKPdf**	**12**	**41**	**54.0 -1.6**
	0.5nm,0.6s,baz=117,slow=1.9,SNR=5.4							
ARCES	**ARCESS Array B**	**144.88**	**343**	PKPbc	**PKPab**	**12**	**42**	**34.7 +0.3**
	3.3nm,0.6s,baz=76,slow=5.1,SNR=13							
FINES	**FINESS Array B**	**150.49**	**332**	PKPbc	**PKPbc**	**12**	**42**	**49.5 -0.4**
	2.1nm,0.7s,baz=31,slow=4.8,SNR=12							
BRTR	**Keskin Array B**	**152.00**	**285**	PKPbc	**PKPbc**	**12**	**42**	**52.6 -1.7**
	2.6nm,0.8s,baz=150,slow=3.8,SNR=8.5							
TORD	**Torodi Ar. Bea**	**155.16**	**189**	PKP	**PKPdf**	**12**	**42**	**51.0 -1.7**
	0.7nm,0.9s,baz=250,slow=4.2,SNR=3.6							
TORD				PKPbc	PKPbc	12	43	04.3
	0.4nm,0.5s,baz=165,slow=3.2,SNR=4.9							
TORD				PKPab	**PKPab**	**12**	**43**	**14.6 -3.0**
	0.5nm,0.8s,baz=180,slow=5.8,SNR=2.7							
HFS	**Hagfors**	**155.46**	**341**	PKPab	**PKPab**	**12**	**43**	**18.4 +0.6**
	1.3nm,0.6s,baz=11,slow=9.2,SNR=2.8							

***BUC* 15 12:23:35.6±0.2, 44.79N×28.61E, h9km±5km, MD2.0/2, 2C-6D, Error ellipse: s-maj=1.0km s-min=0.3km az=121.0, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
					Op	ISC	h	m	s	ISC
TIRR	**Tirgusor**	**0.35**	**203**	⇓*i*P		Pg	12	23	43.0 +0.4
TIRR	**Tirgusor**	**0.35**	**203**	S		Sg	12	23	48.3 +1.0
TIRR	**Tirgusor**	**0.35**	**203**	⇓*i*P		Pg	12	23	43.0 +0.4
TIRR				*i* S		Sg	12	23	48.3 +1.0
TLCR		**0.43**	**20**	⇓*i*P		Pg	12	23	44.4 +0.4
TLCR		**0.43**	**20**	⇓S		Sg	12	23	50.7 +1.1
TLCR		**0.43**	**20**	⇓*i*P		Pg	12	23	44.4 +0.4
TLCR				*i* S		Sg	12	23	50.7 +1.1
TLB	**Topalu**	**0.45**	**244**	⇓*i*P		Pg	12	23	44.8 +0.4
TLB	**Topalu**	**0.45**	**244**	S		Sb	12	23	51.4 -1.1
TLB	**Topalu**	**0.45**	**244**	⇓*i*P		Pg	12	23	44.8 +0.4
TLB				*i* S		Sb	12	23	51.4 -1.1
CFR	**Carcaliu**	**0.52**	**320**	⇑*i*P		Pg	12	23	45.5 -0.1
CFR	**Carcaliu**	**0.52**	**320**	⇑*i*P		Pg	12	23	45.5 -0.1

***IDC* 15 12:34:00.3±554.0, 47.91N×50.25E, h0km, Error ellipse: s-maj=205.4km s-min=114.6km az=54.0, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
					Op	ISC	h	m	s	ISC
I31KZ	**AKTYUBINSK INF**	**5.69**	**61**	*i*			13	07	20.0
	baz=247,slow=327,SNR=5.1								
I43RU	**DUBNA INFRASONI**	**11.87**	**323**	*i*			13	50	20.0
	baz=134,slow=332,SNR=0.9								
I46RU	**ZALESOVO INFRA**	**22.45**	**61**	*i*			14	52	20.0
	baz=269,slow=328,SNR=1.9								

IDC ***15*** *12:35:28.0±3.2, 35.27N×141.63E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/72, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=101.2km s-min=29.0km az=61.0*
ISCJB ***15*** *12:35:30.8±1.6, 35.16N±0.08×141.4E±0.2, h27km, mb3.6/3, Error ellipse: s-maj=20.3km s-min=12.0km az=177.2*
JMA ***15*** *12:35:31.8±0.2, 35.18N×141.30E, h42km±4km, M2.5*
ISC 15 12:35:32.6±1.8, 35.16N±0.08×141.3E±0.2, h27km, n15, σ1°35/9, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
					Op	ISC	h	m	s	ISC
BSO1	**Boso 1**	**0.57**	**209**	P		**Pb**	**12**	**35**	**43.8 +0.1**
CHOJ	**Chosi**	**0.66**	**326**	P		**Pn**	**12**	**35**	**44.4 -1.8**
BSO3	**Boso 3**	**0.75**	**242**	P		**Pn**	**12**	**35**	**46.0 -1.1**
BSO4	**Boso 4**	**0.82**	**259**	P		**Pn**	**12**	**35**	**47.3 -0.9**
JCN	**Nagara**	**0.95**	**286**	P		**Pn**	**12**	**35**	**49.2 -0.9**
MJAR	**Matsushiro Arr**	**2.88**	**300**	Pn		**Pn**	**12**	**36**	**18.1 +1.4**
	0.8nm,0.3s,baz=109,slow=15,SNR=8.5								
H11N2	**WAKE ISLAND Hy**	**27.30**	**118**	T		T	13	10	05.7
	baz=310,slow=75,SNR=5.5								
H11N1	**WAKE ISLAND Hy**	**27.31**	**118**	T		T	13	10	12.3
	baz=310,slow=75,SNR=7.1								
H11N3	**WAKE ISLAND Hy**	**27.32**	**118**	T		T	13	10	18.7
	baz=310,slow=75,SNR=5.9								
H11S3	**WAKE ISLAND Hy**	**27.95**	**120**	T		T	13	10	58.3
	baz=312,slow=76,SNR=15								
H11S1	**WAKE ISLAND Hy**	**27.95**	**120**	T		T	13	11	03.6
	baz=312,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy**	**27.97**	**120**	T		T	13	11	02.7
	baz=312,slow=76,SNR=16								
MKAR	**Makanchi Array**	**45.07**	**304**	P		**P**	**12**	**43**	**45.2 -0.9**
	0.3nm,0.4s,baz=102,slow=9.0,SNR=4.4								
KURBB	**Kurchatov Arra**	**47.11**	**309**	P		**P**	**12**	**44**	**03.4 +1.4**
	0.2nm,0.2s,baz=89,slow=7.6,SNR=3.6								
WRA	**Warramunga Arr**	**55.19**	**188**	P		**P**	**12**	**45**	**03.6 +0.5**
	0.3nm,0.4s,baz=3.2,slow=7.4,SNR=6.5								

TIR ***15*** *12:36:27.9, 42.48N×19.69E, h7km, ML2.7*
ISCJB ***15*** *12:36:28.8±0.3, 42.20N±0.02×19.36E±0.02, h10km±2km, Error ellipse: s-maj=3.4km s-min=2.4km az=140.7*
CSEM ***15*** *12:36:28.9±0.2, 42.21N×19.36E, h10km, ML2.9, Error ellipse: s-maj=3.4km s-min=2.7km az=41.0*
PDG ***15*** *12:36:28.6±0.2, 42.19N×19.41E, h17km, MD2.9/3, ML2.9/9, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
BEO ***15*** *12:36:29.2±0.3, 42.22N×19.41E, h4km±1km, M2.8/1*
ISC 15 12:36:29.4±0.8, 42.21N±0.02×19.39E±0.02, h16km±5km, n72, σ0°98/127, 13C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
					Op	ISC	h	m	s	ISC
DRME	**Dracevica, Mon**	**0.15**	**261**	⇓*i*Pg		**Pg**	**12**	**36**	**32.9 -0.6**
DRME				*e*Sg		**Sg**	**12**	**36**	**36.5 +0.3**
DRME	**Dracevica, Mon**	**0.15**	**261**	⇓*i*Pg		**Pg**	**12**	**36**	**32.9 -0.6**
DRME				*e*Sg		**Sg**	**12**	**36**	**36.5 +0.3**
PDG	**Podgorica**	**0.24**	**336**	*e*Pg		**Pg**	**12**	**36**	**34.4 -0.4**
PDG	**Podgorica**	**0.24**	**336**	⇑*i*Pg		**Pg**	**12**	**36**	**34.4 -0.4**
PDG				*e*Sg		**Sg**	**12**	**36**	**39.2 +0.7**
TTG	**Podgorica**	**0.24**	**336**	⇑*i*Pg		**Pg**	**12**	**36**	**34.4 -0.4**
TTG				*e*Sg		**Sg**	**12**	**36**	**39.2 +0.7**
ULC	**Ulcinj**	**0.27**	**203**	⇓*i*Pg		**Pg**	**12**	**36**	**34.1 -1.2**
ULC				*e*Sg		**Sg**	**12**	**36**	**39.1 -0.2**
ULC	**Ulcinj**	**0.27**	**203**	P		**Pg**	**12**	**36**	**34.1 -1.2**
ULC				*e*Sg		**Sg**	**12**	**36**	**39.1 -0.2**
PUK	**Puka**	**0.41**	**114**	*i* PG		**Pg**	**12**	**36**	**36.7 -1.1**
PUK				*i* SG		**Sb**	**12**	**36**	**43.8 -0.5**
PUK	**Puka**	**0.41**	**114**	*i* Pg		**Pg**	**12**	**36**	**36.7 -1.1**
PUK				*i* Sg		**Sb**	**12**	**36**	**43.8 -0.5**
CEME	**Cevo**	**0.48**	**314**	*e*Pg		**Pg**	**12**	**36**	**38.0 -1.1**
CEME				*e*Sg		**Sb**	**12**	**36**	**46.5 +0.1**
CEME	**Cevo**	**0.48**	**314**	*e*Pg		**Pg**	**12**	**36**	**38.0 -1.1**
CEME				*e*Sg		**Sb**	**12**	**36**	**46.5 +0.1**
PVY	**Plav**	**0.57**	**48**	⇑*i*Pg		**Pg**	**12**	**36**	**39.6 -1.1**
PVY				*e*Sg		**Sb**	**12**	**36**	**49.1 +0.1**
PVY	**Plav**	**0.57**	**48**	⇑*i*Pg		**Pg**	**12**	**36**	**39.6 -1.1**
PVY				*e*Sg		**Sb**	**12**	**36**	**49.1 +0.1**
NKME	**Niksic**	**0.64**	**330**	⇑*i*Pg		**Pg**	**12**	**36**	**41.1 -0.9**
NKME				*e*Sg		**Sb**	**12**	**36**	**51.8 +0.8**
NKME	**Niksic**	**0.64**	**330**	⇑*i*Pg		**Pg**	**12**	**36**	**41.1 -0.9**
NKME				*e*Sg		**Sb**	**12**	**36**	**51.8 +0.8**
KOME	**Kolasin**	**0.65**	**8**	⇑*i*Pg		**Pg**	**12**	**36**	**41.1 -1.0**
KOME				*e*Sg		**Sb**	**12**	**36**	**51.4 +0.3**
KOME	**Kolasin**	**0.65**	**8**	⇑*i*Pg		**Pg**	**12**	**36**	**41.1 -1.0**
KOME				*e*Sg		**Sb**	**12**	**36**	**51.4 +0.3**
NKY	**Niksic**	**0.67**	**334**	⇓*i*Pg		**Pg**	**12**	**36**	**41.6 -0.9**
NKY				*e*Sg		**Sb**	**12**	**36**	**52.8 +1.0**
NKY	**Niksic**	**0.67**	**334**	⇓*i*Pg		**Pg**	**12**	**36**	**41.6 -0.9**
NKY				*e*Sg		**Sb**	**12**	**36**	**52.8 +1.0**
HCY	**Herceg Novi**	**0.70**	**290**	⇓*i*Pg		**Pg**	**12**	**36**	**42.1 -1.1**
HCY				*e*Sg		**Sb**	**12**	**36**	**53.6 +0.9**
HCY	**Herceg Novi**	**0.70**	**290**	⇓*i*Pg		**Pg**	**12**	**36**	**42.1 -1.1**
HCY				*e*Sg		**Sb**	**12**	**36**	**53.1 +0.4**
BEY	**Berane**	**0.76**	**29**	P		**Pg**	**12**	**36**	**43.3 -0.9**
BEY				*e*Sg		**Sb**	**12**	**36**	**55.2 +0.9**
IVA	**Berane**	**0.76**	**29**	⇑*i*Pg		**Pg**	**12**	**36**	**43.1 -1.1**
IVA				*e*Sg		**Sb**	**12**	**36**	**55.2 +0.9**
PEJK	**Peje**	**0.79**	**57**	P		**Pg**	**12**	**36**	**43.3 -1.4**
PEJK				S		**Sb**	**12**	**36**	**55.9 +0.8**
TREB	**Trebinje**	**0.92**	**304**	⇑*i*Pg		**Pg**	**12**	**36**	**45.7 -1.5**
TREB				*e*Sg		**Sb**	**12**	**36**	**59.3 +0.4**
TIR	**Tirane**	**0.93**	**157**	*i* PN		**Pn**	**12**	**36**	**49.6 +1.8**
TIR	**Tirane**	**0.93**	**157**	*e*Pg		**Pg**	**12**	**36**	**45.9 -1.6**
TIR				*e*Sg		**Sb**	**12**	**36**	**59.7 +0.4**
TIR	**Tirane**	**0.93**	**157**	*e*Pg		**Pg**	**12**	**36**	**45.9 -1.6**
TIR	**Tirane**	**0.93**	**157**	*i* Pn		**Pn**	**12**	**36**	**49.6 +1.8**
TIR				*e*Sg		**Sb**	**12**	**36**	**59.7 +0.4**
PHP	**Peshkopia**	**0.94**	**124**	*i* PG		**Pg**	**12**	**36**	**46.8 -0.9**
PHP				*i* SG		**Sb**	**12**	**37**	**00.2 +0.5**
PHP	**Peshkopia**	**0.94**	**124**	*i* Pg		**Pg**	**12**	**36**	**46.8 -0.9**
PHP				*i* Sg		**Sb**	**12**	**37**	**00.2 +0.5**
UPM	**Unac-Piva**	**1.05**	**340**	⇓*i*Pg		**Pg**	**12**	**36**	**48.4 -1.4**
UPM				*e*Sg		**Sn**	**12**	**37**	**05.4 +1.3**
UPM	**Unac-Piva**	**1.05**	**340**	⇓*i*Pg		**Pg**	**12**	**36**	**48.4 -1.4**
UPM	**Unac-Piva**	**1.05**	**340**	P		**Pg**	**12**	**36**	**48.9 -0.9**
UPM				*e*Sg		**Sg**	**12**	**37**	**02.7 -0.9**
PLE	**Pljevlja**	**1.12**	**360**	⇑*i*Pg		**Pg**	**12**	**36**	**49.8 -1.2**
PLE				*e*Sg		**Sn**	**12**	**37**	**07.8 +2.2**
PLE	**Pljevlja**	**1.12**	**360**	⇑*i*Pg		**Pg**	**12**	**36**	**49.8 -1.2**

BAYC				S		Sg	12 37 40.7	-0.3
CAND	**Candarli**	**0.67**	**123**	PG		**Pb**	**12 37 36.2**	**-0.2**
DKL	**Dikili**	**0.69**	**111**	PG		**Pg**	**12 37 35.7**	**-0.5**
DKL	**Dikili**	**0.69**	**111**	*e*Pg		**Pg**	**12 37 35.7**	**-0.5**
FOCM	**Foça**	**0.79**	**140**	PG		**Pb**	**12 37 38.4**	**-0.1**
FOCM	**Foça**	**0.79**	**140**	*e*Pg		**Pb**	**12 37 38.4**	**-0.1**
KRBN	**Karaburun**	**0.81**	**153**	PG		**Pb**	**12 37 39.3**	**+0.4**
KRBN	**Karaburun**	**0.81**	**153**	*e*Pg		**Pb**	**12 37 39.3**	**+0.4**
GADA	**Gvkgeada**	**0.88**	**351**	PG		**Pg**	**12 37 39.6**	**-0.3**
GADA	**Gvkgeada**	**0.88**	**351**	P		**Pg**	**12 37 38.7**	**-1.2**
GADA	**Gvkgeada**	**0.88**	**351**	*e*Pg		**Pg**	**12 37 39.6**	**-0.3**
GADA	**Gvkgeada**	**0.88**	**351**	P		**Pg**	**12 37 38.7**	**-1.2**
GOKC	**Gokceada-Canak**	**0.89**	**352**	PG		**Pg**	**12 37 39.4**	**-0.6**
GOKC	**Gokceada-Canak**	**0.89**	**352**	*e*Pg		**Pg**	**12 37 39.4**	**-0.6**
LIA	**Limnos Island**	**0.90**	**310**	P		**Pb**	**12 37 40.2**	**-0.2**
LIA				S		**Sn**	**12 37 54.8**	**+0.6**
LIA				AML	AML		12 37 54.9	
	comp=E,838μm,0.5s							
LIA				AML	AML		12 37 55.4	
	comp=N,655μm,0.3s							
LIA	**Limnos Island**	**0.90**	**310**	P		**Pb**	**12 37 40.1**	**-0.3**
LIA				S		**Sb**	**12 37 52.2**	**-0.2**
LIA	**Limnos Island**	**0.90**	**310**	P		**Pb**	**12 37 40.1**	**-0.3**
LIA				S		**Sb**	**12 37 52.2**	**-0.2**
CHOS	**Chios island**	**0.93**	**181**	PG		**Pg**	**12 37 40.3**	**-0.6**
CHOS	**Chios island**	**0.93**	**181**	P		**Pb**	**12 37 40.5**	**-0.5**
CHOS				S		**Sg**	**12 37 51.1**	**-2.0**
CHOS				AML	AML		12 37 55.1	
	comp=N,676μm,0.4s							
CHOS				AML	AML		12 37 56.9	
	comp=E,981μm,0.3s							
CHOS	**Chios island**	**0.93**	**181**	*e*Pg		**Pg**	**12 37 40.3**	**-0.6**
CHOS				S		**Sg**	**12 37 51.8**	**-1.3**
CHOS	**Chios island**	**0.93**	**181**	P		**Pg**	**12 37 40.2**	**-0.6**
CHOS				S		**Sb**	**12 37 54.0**	**+0.7**
URLA	**Izmir**	**1.04**	**157**	PG		**Pg**	**12 37 41.5**	**-1.4**
URLA	**Izmir**	**1.04**	**157**	*i* P		**Pg**	**12 37 40.8**	**-2.1**
URLA				*i* S		**Sg**	**12 37 55.0**	**-1.5**
URLA	**Izmir**	**1.04**	**157**	P		**Pg**	**12 37 40.8**	**-2.1**
URLA	**Izmir**	**1.04**	**157**	*e*Pg		**Pg**	**12 37 41.5**	**-1.4**
URLA				S		**Sg**	**12 37 55.0**	**-1.5**
GELI	**Tayfur-Gelibol**	**1.12**	**15**	PN		**Pg**	**12 37 43.5**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.12**	**15**	*e*Pn		**Pg**	**12 37 43.5**	**-0.9**
LPK	**Lapseki**	**1.17**	**26**	PN		**Pb**	**12 37 44.1**	**-0.9**
LPK	**Lapseki**	**1.17**	**26**	*e*Pn		**Pb**	**12 37 44.1**	**-0.9**
SMTH	**Samothraki Isl**	**1.22**	**340**	P		**Pb**	**12 37 45.6**	**-0.3**
SMTH				S		**Sn**	**12 38 02.8**	**+0.5**
SMTH				AML	AML		12 38 03.1	
	comp=E,196μm,0.5s							
SMTH				AML	AML		12 38 03.9	
	comp=N,188μm,0.4s							
SMTH	**Samothraki Isl**	**1.22**	**340**	P		**Pb**	**12 37 45.7**	**-0.2**
SMTH				S		**Sg**	**12 38 02.0**	**-0.4**
SMTH	**Samothraki Isl**	**1.22**	**340**	P		**Pb**	**12 37 45.6**	**-0.3**
SMTH				S		**Sg**	**12 38 02.0**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.27**	**87**	*i* P		**Pn**	**12 37 46.2**	**-0.2**
STEP				*i* S		**Sn**	**12 38 04.9**	**+1.5**
STEP	**BALIKESIR_Sava**	**1.27**	**87**	P		**Pn**	**12 37 46.2**	**-0.2**
STEP				S		**Sn**	**12 38 04.9**	**+1.5**
ERIK	**Erikli-Kesan**	**1.39**	**14**	PN		**Pn**	**12 37 48.0**	**0.0**
ERIK	**Erikli-Kesan**	**1.39**	**14**	*e*Pn		**Pn**	**12 37 48.0**	**0.0**
ENEZ	**Enez**	**1.41**	**2**	PN		**Pn**	**12 37 48.6**	**+0.2**
ENEZ	**Enez**	**1.41**	**2**	*e*Pn		**Pn**	**12 37 48.6**	**+0.2**
AKHS	**Akhisar**	**1.42**	**108**	*i* P		**Pn**	**12 37 48.3**	**-0.1**
AKHS				*i* S		**Sg**	**12 38 08.5**	**0.0**
AKHS	**Akhisar**	**1.42**	**108**	P		**Pn**	**12 37 48.3**	**-0.1**
AKHS				S		**Sg**	**12 38 08.5**	**0.0**
KRBG	**Karabiga-Canak**	**1.42**	**41**	PN		**Pn**	**12 37 47.8**	**-0.6**
KRBG	**Karabiga-Canak**	**1.42**	**41**	*e*Pn		**Pn**	**12 37 47.8**	**-0.6**
BALB	**Balikesir**	**1.43**	**77**	PN		**Pb**	**12 37 49.2**	**-0.1**
BALB	**Balikesir**	**1.43**	**77**	*e*Pn		**Pb**	**12 37 49.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.43**	**59**	PN		**Pb**	**12 37 49.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.43**	**59**	*e*Pn		**Pb**	**12 37 49.1**	**-0.4**
KESN	**Edirne-Kesan**	**1.57**	**17**	*i* P		**Pn**	**12 37 50.9**	**0.0**
KESN				*i* S		**Sb**	**12 38 12.0**	**0.0**
KESN	**Edirne-Kesan**	**1.57**	**17**	P		**Pn**	**12 37 50.8**	**0.0**
KESN				S		**Sb**	**12 38 12.0**	**0.0**
ALN	**Alexandroupoli**	**1.57**	**359**	PN		**Pn**	**12 37 50.9**	**+0.3**
ALN	**Alexandroupoli**	**1.57**	**359**	P		**Pb**	**12 37 51.5**	**-0.4**
ALN				S		**Sg**	**12 38 13.3**	**-0.2**
ALN				AML	AML		12 38 13.4	
	comp=E,87μm,0.6s							
ALN				AML	AML		12 38 14.8	
	comp=N,107μm,0.7s							
ALN	**Alexandroupoli**	**1.57**	**359**	*e*Pn		**Pn**	**12 37 50.9**	**+0.3**
ALN	**Alexandroupoli**	**1.57**	**359**	P		**Pb**	**12 37 51.7**	**-0.2**
ALN				S		**Sg**	**12 38 13.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.60**	**31**	PN		**Pb**	**12 37 51.7**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.60**	**31**	*e*Pn		**Pb**	**12 37 51.7**	**-0.7**
EDC	**Edincik**	**1.71**	**53**	PN		**Pn**	**12 37 52.9**	**+0.5**
EDC	**Edincik**	**1.71**	**53**	*e*Pn		**Pn**	**12 37 52.9**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.97**	**134**	PN		**Pn**	**12 37 57.2**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.97**	**134**	*e*Pn		**Pn**	**12 37 57.2**	**+1.1**
DEMI	**Demirci**	**2.06**	**97**	*i* P		**Pg**	**12 38 01.2**	**-1.3**
DEMI				*i* S		**Sb**	**12 38 27.3**	**+1.4**
DEMI	**Demirci**	**2.06**	**97**	P		**Pg**	**12 38 01.2**	**-1.3**
DEMI				S		**Sb**	**12 38 27.3**	**+1.4**
MANT	**Manisa**	**2.10**	**112**	*i* P		**Pg**	**12 38 02.0**	**-1.2**
MANT				*i* S		**Sb**	**12 38 27.8**	**+0.7**
MANT	**Manisa**	**2.10**	**112**	P		**Pg**	**12 38 02.0**	**-1.2**
MANT				S		**Sb**	**12 38 27.8**	**+0.7**
KULA	**Kula-Manisa**	**2.17**	**111**	PN		**Pn**	**12 37 59.6**	**+0.8**
KULA	**Kula-Manisa**	**2.17**	**111**	*e*Pn		**Pn**	**12 37 59.6**	**+0.8**
GDZ	**Gediz**	**2.65**	**94**	*i* P		**Pn**	**12 38 07.5**	**+1.9**
GDZ				*i* S		**Sb**	**12 38 43.6**	**+0.8**
GDZ	**Gediz**	**2.65**	**94**	P		**Pn**	**12 38 07.4**	**+1.9**

*ISCJB **15** 12:38:51.5±0.9, 40.°68N±0.°08×63.°21E±0.°09, h15km, mb3.5/3, Error ellipse: s-maj=12.1km s-min=9.3km az=161.0*

*IDC **15** 12:38:52.2±1.2, 40.°48N×63.°08E, h0km, mb3.6/3, mb1 3.7/11, mb1mx3.4/75, mbtmp3.6/11, ML3.4/8, Error ellipse: s-maj=16.8km s-min=10.5km az=163.0*

ISC 15 12:38:53.1±1.1, 40.°6N±0.°1×63.°16E±0.°09, h15km, n11, σ2.°00/13, mb3.6/3, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**4.71**	**238**	Pn	**Pn**	**12 40 04.4**	**+0.7**
	5.1nm,0.3s,baz=61,slow=12,SNR=9.9						
GEYT				Sn	**Sn**	**12 40 56.0**	**-2.1**
	4.1nm,0.3s,baz=55,slow=12,SNR=2.4						
GEYT				Lg	Lg	12 41 16.6	
	4.6nm,0.3s,baz=79,slow=24,SNR=3.5						
AAK	**Ala-Archa**	**8.74**	**73**	Pn	**Pn**	**12 40 59.1**	**0.0**
	0.6nm,0.3s,baz=334,slow=1.5,SNR=6.9						
AAK				Lg	Lg	12 43 31.8	
	0.3nm,0.3s,baz=342,slow=20,SNR=3.3						
AKTO	**Aktyubinsk**	**10.51**	**342**	Pn	**Pn**	**12 41 24.4**	**+1.3**
	0.3nm,0.3s,baz=151,slow=10,SNR=6.0						
AKTO				Sn	**Sn**	**12 43 19.3**	**-1.3**
	0.1nm,0.3s,baz=90,slow=18,SNR=2.6						
AKTO				Lg	Lg	12 44 33.0	
	0.0nm,0.3s,baz=197,slow=20,SNR=2.4						
BVAR	**Borovoye Array**	**13.41**	**19**	Pn	**Pn**	**12 42 02.6**	**-0.1**
	0.2nm,0.3s,baz=205,slow=14,SNR=2.9						
BVAR				Sn	Sn	12 44 23.2	-8.2
	0.2nm,0.3s,baz=209,slow=30,SNR=2.7						
KURBB	**Kurchatov Arra**	**14.71**	**42**	Pn	**Pn**	**12 42 17.3**	**-3.1**
	0.1nm,0.3s,baz=238,slow=14,SNR=3.2						
KURBB				Lg	Lg	12 46 46.6	
	0.0nm,0.3s,baz=241,slow=34,SNR=3.4						
MKAR	**Makanchi Array**	**15.16**	**59**	Pn	**Pn**	**12 42 24.5**	**-2.2**
	0.3nm,0.3s,baz=249,slow=14,SNR=20						
MKAR				Lg	Lg	12 47 01.1	
	0.0nm,0.3s,baz=242,slow=23,SNR=3.5						
KBZ	**Khabaz**	**15.36**	**289**	Pn	**Pn**	**12 42 26.4**	**-2.8**
	0.3nm,0.3s,baz=86,slow=14,SNR=4.3						
ZALV	**Zalesovo Beam**	**19.79**	**40**	P	**P**	**12 43 24.0**	**+1.5**
	0.1nm,0.3s,baz=233,slow=9.1,SNR=2.9						
BRTR	**Keskin Array B**	**22.54**	**278**	P	**P**	**12 43 54.4**	**+1.8**
	0.5nm,0.6s,baz=88,slow=9.0,SNR=2.5						
FINES	**FINESS Array B**	**30.68**	**325**	P	**P**	**12 45 08.6**	**+1.8**
	0.8nm,0.7s,baz=121,slow=16,SNR=3.1						
NOA	**NORSAR Array B**	**37.40**	**321**	P	**P**	**12 46 05.7**	**+0.5**
	0.5nm,0.4s,baz=102,slow=6.4,SNR=2.2						

*ISCJB **15** 12:50:43.9±0.4, 37.°04N±0.°03×5.°24E±0.°05, h10km, Error ellipse: s-maj=6.5km s-min=3.4km az=138.6*

*CSEM **15** 12:50:44.8±0.2, 36.°86N×5.°23E, h10km, ML3.7, Error ellipse: s-maj=7.1km s-min=4.2km az=44.0*

*CRAAG **15** 12:50:44.8, 36.°76N×5.°13E, Ml3.7*

*MDD **15** 12:50:45.2±0.4, 36.°86N×5.°19E, h0km, mb4.1/3, Error ellipse: s-maj=6.6km s-min=4.3km az=41.0, PRXIMO*

*LDG **15** 12:50:48.1±0.5, 37.°28N×5.°03E, h2km, Ml3.1/3, Error ellipse: s-maj=9.6km s-min=5.5km az=172.0*

ISC 15 12:50:44.2±0.9, 36.°90N±0.°04×5.°23E±0.°03, h10km, n72, σ1.°37/78, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DFRA	**Djebel Bou Aff**	**0.63**	**124**	P	**Pg**	**12 50 57.2**	**+0.8**
DFRA	**Djebel Bou Aff**	**0.63**	**124**	P	**Pg**	**12 50 57.2**	**+0.8**
DFRA	**Djebel Bou Aff**	**0.63**	**124**	P	**Pg**	**12 50 57.2**	**+0.8**
SET	**Setif**	**0.71**	**169**	P	**Pg**	**12 50 57.0**	**-1.0**
SET	**Setif**	**0.71**	**169**	P	**Pg**	**12 50 57.0**	**-1.0**
SET	**Setif**	**0.71**	**169**	P	**Pg**	**12 50 57.0**	**-1.0**
CKHR	**Kef el Ahmar**	**0.91**	**165**	P	**Pg**	**12 51 00.5**	**-1.2**
CKHR	**Kef el Ahmar**	**0.91**	**165**	P	**Pg**	**12 51 00.5**	**-1.2**
CKHR	**Kef el Ahmar**	**0.91**	**165**	P	**Pg**	**12 51 00.5**	**-1.2**
CASM	**Ain Smara**	**1.20**	**122**	P	**Pb**	**12 51 07.8**	**+0.7**
CASM	**Ain Smara**	**1.20**	**122**	P	**Pb**	**12 51 07.8**	**+0.7**
CASM	**Ain Smara**	**1.20**	**122**	P	**Pb**	**12 51 07.8**	**+0.7**
CTEI	**Djebel Teioual**	**1.26**	**131**	P	**Pn**	**12 51 09.5**	**+1.4**
CTEI	**Djebel Teioual**	**1.26**	**131**	P	**Pn**	**12 51 09.5**	**+1.4**
CTEI	**Djebel Teioual**	**1.26**	**131**	P	**Pn**	**12 51 09.5**	**+1.4**
ATAF	**Djebel Tarf**	**1.28**	**217**	P	**Pn**	**12 51 08.0**	**-0.2**
ATAF	**Djebel Tarf**	**1.28**	**217**	P	**Pn**	**12 51 08.0**	**-0.2**
ATAF	**Djebel Tarf**	**1.28**	**217**	P	**Pn**	**12 51 08.0**	**-0.2**
CKFL	**Kef-Lekhel**	**1.30**	**112**	P	**Pn**	**12 51 10.1**	**+1.6**
CKFL	**Kef-Lekhel**	**1.30**	**112**	P	**Pn**	**12 51 10.1**	**+1.6**
CKFL	**Kef-Lekhel**	**1.30**	**112**	P	**Pn**	**12 51 10.1**	**+1.6**
CAEH	**'Ain El Ouahch**	**1.31**	**95**	P	**Pn**	**12 51 08.6**	**+0.1**
CAEH	**'Ain El Ouahch**	**1.31**	**95**	P	**Pn**	**12 51 08.6**	**+0.1**
CAEH	**'Ain El Ouahch**	**1.31**	**95**	P	**Pn**	**12 51 08.6**	**+0.1**
AKET	**Djebel Ketaf**	**1.38**	**232**	P	**Pn**	**12 51 11.0**	**+1.3**
AKET	**Djebel Ketaf**	**1.38**	**232**	P	**Pn**	**12 51 11.0**	**+1.3**
AKET	**Djebel Ketaf**	**1.38**	**232**	P	**Pn**	**12 51 11.0**	**+1.3**
CMAH	**Djebel Manchou**	**1.78**	**98**	P	**Pn**	**12 51 15.5**	**+0.4**
CMAH	**Djebel Manchou**	**1.78**	**98**	P	**Pn**	**12 51 15.5**	**+0.4**
CMAH	**Djebel Manchou**	**1.78**	**98**	P	**Pn**	**12 51 15.5**	**+0.4**
ABSA	**Djebel Ababsia**	**1.91**	**108**	P	**Pn**	**12 51 17.0**	**0.0**
ABSA	**Djebel Ababsia**	**1.91**	**108**	P	**Pn**	**12 51 17.0**	**0.0**
CABS	**Djebel Ababsia**	**1.91**	**108**	P	**Pn**	**12 51 17.0**	**0.0**
CABS	**Djebel Ababsia**	**1.91**	**108**	P	**Pn**	**12 51 17.0**	**0.0**
EMHD	**Djebel Mahouad**	**1.96**	**250**	P	**Pn**	**12 51 16.6**	**-1.1**
EMHD	**Djebel Mahouad**	**1.96**	**250**	P	**Pn**	**12 51 16.6**	**-1.1**
EMHD	**Djebel Mahouad**	**1.96**	**250**	P	**Pn**	**12 51 16.6**	**-1.1**
ETOS	**Mallorca**	**3.44**	**327**	P	**Pn**	**12 51 38.8**	**+1.0**
	2.9nm,0.2s,SNR=18						
ETOS				S	**Sn**	**12 52 17.4**	**-1.3**
	3.1nm,0.1s,SNR=4.6						
ETOS	**Mallorca**	**3.44**	**327**	P	**Pn**	**12 51 38.8**	**+1.0**
	2.9nm,0.2s,SNR=18						
ETOS				S	**Sn**	**12 52 17.4**	**-1.3**
	3.1nm,0.1s,SNR=4.6						
EIBI	**Ibiza**	**3.73**	**306**	P	**Pn**	**12 51 43.2**	**+1.3**
	0.6nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**12 52 24.9**	**-1.1**
	3.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.73**	**306**	P	**Pn**	**12 51 43.2**	**+1.3**
	0.6nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**12 52 24.9**	**-1.1**
	3.1nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.32**	**337**	P	**Pn**	**12 52 04.8**	**+1.0**
	1.6nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**12 53 02.5**	**-2.6**
	2.6nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.32**	**337**	P	**Pn**	**12 52 04.8**	**+1.0**
	1.6nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**12 53 02.5**	**-2.6**
	2.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.50**	**325**	P	**Pn**	**12 52 07.2**	**+1.0**
	0.5nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**12 53 06.0**	**-3.5**
	3.4nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.50**	**325**	P	**Pn**	**12 52 07.2**	**+1.0**
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.64**	**290**	P	**Pn**	**12 52 10.4**	**+2.2**
	0.8nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**12 53 14.7**	**+1.6**
	1.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.64**	**290**	P	**Pn**	**12 52 10.4**	**+2.2**
	0.8nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**12 53 14.7**	**+1.6**
	1.9nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.65**	**310**	P	**Pn**	**12 52 10.3**	**+1.9**
	0.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.65**	**310**	P	**Pn**	**12 52 10.3**	**+1.9**
	0.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.77**	**331**	P	**Pn**	**12 52 12.5**	**+2.5**
	4.3nm,0.2s,SNR=8.5						
EMIR				S	**Sn**	**12 53 15.3**	**-1.0**
	0.4nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.77**	**331**	P	**Pn**	**12 52 12.5**	**+2.5**
	4.3nm,0.2s,SNR=8.5						
EMIR				S	**Sn**	**12 53 15.3**	**-1.0**
	0.4nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**5.83**	**343**	P	**Pn**	**12 52 11.6**	**+0.9**
	0.3nm,0.1s,SNR=4.0						
EJON				S	**Sn**	**12 53 15.7**	**-1.9**
	1.0nm,0.2s,SNR=4.0						
EJON	**La Jonquera**	**5.83**	**343**	P	**Pn**	**12 52 11.6**	**+0.9**
	0.3nm,0.1s,SNR=4.0						
CLLI	**Llivia**	**6.11**	**337**	P	**Pn**	**12 52 17.1**	**+2.4**
	0.7nm,0.2s,SNR=7.9						
CLLI				S	**Sn**	**12 53 23.5**	**-1.3**
	0.3nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**6.11**	**337**	P	**Pn**	**12 52 17.1**	**+2.4**
	0.7nm,0.2s,SNR=7.9						
CLLI				S	**Sn**	**12 53 23.5**	**-1.3**
	0.3nm,0.3s,SNR=7.9						
PGF	**Pioggiola**	**6.35**	**26**	*e*Pn	**Pn**	**12 52 16.9**	**-1.0**
PGF				*e*Sn	Sn	12 53 22.2	-8.3
	3.0nm,0.3s						
PGF	**Pioggiola**	**6.35**	**26**	P	**Pn**	**12 52 16.9**	**-1.0**
PGF				S	Sn	12 53 22.2	-8.3
	1.5nm,0.3s						
PGF	**Pioggiola**	**6.35**	**26**	*e*Pn	**Pn**	**12 52 16.9**	**-1.0**
LMR	**La Mourre**	**6.50**	**8**	*e*Pn	**Pn**	12 52 17.0	-2.9
LMR				*e*Sn	Sn	12 53 23.2	-11
	5.8nm,0.6s						
LMR	**La Mourre**	**6.50**	**8**	P	Pn	12 52 17.0	-2.9
LMR				S	Sn	12 53 23.2	-11
	2.9nm,0.6s						
FRF	**La Foret Royal**	**6.74**	**9**	*e*Pn	Pn	12 52 20.6	-2.6
FRF	**La Foret Royal**	**6.74**	**9**	P	Pn	12 52 20.6	-2.6
MTLF	**Montolieu**	**6.84**	**341**	*e*P	**Pn**	**12 52 25.5**	**+1.0**
MTLF	**Montolieu**	**6.84**	**341**	P	**Pn**	**12 52 25.5**	**+1.0**
MTLF	**Montolieu**	**6.84**	**341**	*e*P	**Pn**	**12 52 25.5**	**+1.0**
SMRF	**Simiane la Rot**	**7.08**	**2**	*e*Sn	Sn	12 53 38.0	-10
	2.1nm,0.5s						
SMRF	**Simiane la Rot**	**7.08**	**2**	S	Sn	12 53 38.0	-10
	2.1nm,0.5s						
EPF	**Esparros**	**7.18**	**330**	*e*P	**Pn**	**12 52 30.6**	**+1.3**
EPF	**Esparros**	**7.18**	**330**	P	**Pn**	**12 52 30.6**	**+1.3**
EPF	**Esparros**	**7.18**	**330**	P	**Pn**	**12 52 30.6**	**+1.3**
ETSF	**Etsaut**	**7.46**	**325**	*e*Pn	Pn	12 52 29.2	-4.0
ETSF	**Etsaut**	**7.46**	**325**	P	Pn	12 52 29.2	-4.0

IDC 15 12:58:17.1±11.0, 2.°68N×128.°94E, h170km±109km, mb3.6/8, mb1 3.8/8, mb1mx3.3/53, mbtmp4.1/8, MS3.7/1, Ms1 3.7/1, ms1mx2.5/46, Error ellipse: s-maj=86.2km s-min=14.2km az=60.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.90**	**189**	P	P	13 02 45.0	-1.3
	8.1nm,1.1s,baz=17,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**23.10**	**167**	P	P	13 03 08.3	+0.2
	3.7nm,0.4s,baz=345,slow=10.0,SNR=32						
ASAR	**Alice Springs**	**26.63**	**170**	P	P	13 03 40.1	+0.1
	3.3nm,0.5s,baz=353,slow=7.5,SNR=70						
ASAR				PcP	PcP	13 06 59.0	-0.7
	0.5nm,0.4s,baz=355,slow=1.9,SNR=6.9						
CTA	**Charters Tower**	**28.30**	**144**	LR	LR	13 17 25.2	
	comp=Z,158nm,19.2s,baz=5.0,slow=41						
CMAR	**Chiang Mai Arr**	**33.30**	**300**	P	P	13 04 39.7	+0.8
	1.4nm,0.6s,baz=116,slow=6.7,SNR=8.6						
STKA	**Stephens Creek**	**36.41**	**162**	P	P	13 05 05.8	+0.4
	3.2nm,0.4s,baz=343,slow=8.9,SNR=16						
MKAR	**Makanchi Array**	**59.67**	**325**	P	P	13 08 03.6	0.0
	0.4nm,0.4s,baz=112,slow=7.3,SNR=8.0						
ZALV	**Zalesovo Beam**	**62.53**	**332**	P	P	13 08 22.3	-0.3
	0.2nm,0.3s,baz=111,slow=7.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**63.81**	**327**	P	P	13 08 30.7	-0.4
	0.6nm,0.4s,baz=129,slow=5.8,SNR=9.5						

IDC 15 13:00:04.8±313.0, 56.°39N×43.°30E, h0km, Error ellipse: s-maj=123.6km s-min=66.9km az=102.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.38**	**278**	*i*		13 21 00.0	
	baz=93,slow=344,SNR=0.9						
I31KZ	**AKTYUBINSK INF**	**10.63**	**118**	*i*		13 58 40.0	
	baz=311,slow=376,SNR=3.1						
I46RU	**ZALESOVO INFRA**	**23.58**	**78**	*i*		15 27 30.0	
	baz=291,slow=326,SNR=1.2						

IDC 15 13:00:55.1±1.7, 40.°43N×63.°00E, h0km, mb1 3.4/3, mb1mx3.0/60, mbtmp3.4/3, ML3.2/3, Error ellipse: s-maj=54.7km s-min=15.4km az=147.0, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**4.54**	**238**	Pn	Pn	13 02 06.0	+0.8
	2.9nm,0.3s,baz=55,slow=12,SNR=11						
GEYT				Pg	Pb	13 02 16.2	+0.5
	3.9nm,0.3s,baz=55,slow=9.6,SNR=4.1						
GEYT				Sn	Sn	13 02 59.3	+0.7
	1.7nm,0.3s,baz=59,slow=12,SNR=2.5						
GEYT				Lg	Lg	13 03 20.5	
	2.2nm,0.3s,baz=69,slow=20,SNR=3.3						
AKTO	**Aktyubinsk**	**10.60**	**342**	Sn	Sn	13 05 21.6	-5.9
	0.0nm,0.3s,baz=196,slow=19,SNR=2.6						
MKAR	**Makanchi Array**	**15.33**	**59**	Pn	Pn	13 04 28.1	-4.7
	0.1nm,0.3s,baz=249,slow=14,SNR=8.8						
ZALV	**Zalesovo Beam**	**19.96**	**40**	P	P	13 05 27.6	-1.0
	0.1nm,0.3s,baz=240,slow=14,SNR=2.5						

MEX 15 13:03:12.1±0.6, 15.°82N×97.°09W, h16km±7km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.95**	**93**	*i* P	Pb	13 03 27.0	-3.2
HUIG				*i* S	Sb	13 03 37.7	-4.8
PNIG	**Pinotepa**	**1.15**	**300**	*i* P	Pn	13 03 30.0	-3.6
PNIG				*e*S	Sb	13 03 42.8	-5.5
VHO	**Vista Hermosa**	**1.29**	**15**	*e*P	Pn	13 03 32.1	-3.7
VHO				*e*S	Sb	13 03 47.3	-5.4
PCIG		**3.73**	**91**	*e*P	Pn	13 04 06.0	-3.0
PCIG				*i* S	Sn	13 04 48.7	-4.0
TGIG		**3.93**	**75**	*e*P	Pn	13 04 10.1	-1.8
TGIG				*e*S	Sn	13 04 54.1	-3.6

IDC 15 13:03:49.1±1.9, 2.°70N×128.°41E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/58, mbtmp3.5/4, Error ellipse: s-maj=153.6km s-min=20.8km az=68.0, Halmahera

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couple: M≅5.27000×10¹⁵ NP1:ϕ≅195.00000°, δ19.00000°, λ81.00000°. NP2:ϕ≅24.00000°, δ72.00000°, λ93.00000°.
*BJI **15** 13:20:20.9, 39.˙84N×143.˙64E, h20ᵏᵐ, mb4.7/39, mB4.8/23, Ms4.3/18, Ms7 4.1/18*
*IDC **15** 13:20:23.2±0.6, 39.˚92N×143.˚26E, h0ᵏᵐ, mb4.3/29, mb1 4.4/33, mb1mx4.2/71, mbtmp4.3/33, ML3.8/4, MS3.7/18, Ms1 3.7/18, ms1mx3.4/61, Error ellipse: s-maj=15.7km s-min=12.3km az=119.0*
*ISCJB **15** 13:20:24.1±0.9, 39.˚93N±0.˚03×143.˚35E±0.˚04, h18ᵏᵐ±5ᵏᵐ, mb4.5/68, MS3.8/19, Error ellipse: s-maj=6.3km s-min=3.6km az=41.5*
*JMA **15** 13:20:25.0±0.2, 39.˚96N×143.˚23E, h14ᵏᵐ±3ᵏᵐ, M4.3*
JMA Felt I J1.
*MOS **15** 13:20:26.0±0.9, 39.˚92N×143.˚27E, h32ᵏᵐ, mb4.9/25, Error ellipse: s-maj=8.2km s-min=5.0km az=102.0*
*NEIC **15** 13:20:29.8±0.7, 39.˚98N×143.˚09E, h43ᵏᵐ±5ᵏᵐ, mb4.8/13, Error ellipse: s-maj=9.5km s-min=5.2km az=121.0*
NEIC Recorded [1 JMA] in Aomori, Iwate and Miyagi.
ISC 15 13:20:27.8±0.8, 39.˚94N±0.˚04×143.˚26E±0.˚05, h30ᵏᵐ±4ᵏᵐ, n181, σ1§57/188, mb4.6/68, MS3.9/20, 12C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.07**	**271**	P	**Pn**	**13 20 44.5**	**-2.2**
JTH				*e*S	**Sn**	**13 20 57.7**	**-2.9**
MIYJ	**Miyakonagasawa**	**1.17**	**253**	P	**Pn**	**13 20 46.3**	**-1.7**
MIYJ				*e*S	**Sn**	**13 21 01.2**	**-1.7**
JANG	**Nango**	**1.41**	**289**	P	**Pn**	**13 20 49.5**	**-1.8**
JANG				*e*S	**Sn**	**13 21 06.9**	**-2.0**
JOM	**Ohasama**	**1.59**	**254**	P	**Pn**	**13 20 53.1**	**-0.7**
JOM				*e*S	**Sn**	**13 21 14.0**	**+0.7**
JMK	**Ichinoseki**	**1.86**	**239**	P	**Pn**	**13 20 56.9**	**-0.6**
JMK				*e*S	**Sn**	**13 21 20.8**	**+0.8**
JTM	**Tenmabayashi**	**1.88**	**298**	P	**Pn**	**13 20 57.5**	**-0.3**
JTM				*e*S	**Sn**	**13 21 21.4**	**+0.9**
JAH	**Hinai**	**2.03**	**278**	P	**Pn**	**13 20 59.8**	**-0.1**
JAH				*e*S	**Sn**	**13 21 25.7**	**+1.5**
ERM	**Erimo**	**2.08**	**358**	*i*P	**Pn**	**13 21 01.4**	**+0.8**
ERM	**Erimo**	**2.08**	**358**	*e*Pn	**Pn**	**13 21 01.6**	**+1.0**
JEM	**Erimo**	**2.08**	**358**	P	**Pn**	**13 21 01.4**	**+0.8**
JIO	**Ouri**	**2.10**	**226**	P	**Pn**	**13 20 59.4**	**-1.4**
JIO				*e*S	**Sn**	**13 21 26.6**	**+0.8**
JRG	**Rokugo**	**2.10**	**256**	P	**Pn**	**13 21 00.6**	**-0.2**
JOT	**Ohata**	**2.22**	**311**	P	**Pn**	**13 21 02.6**	**+0.1**
JOT				*e*S	**Sn**	**13 21 31.5**	**+2.7**
JNBK	**Urakawa-nobuka**	**2.37**	**351**	P	**Pn**	**13 21 05.2**	**+0.6**
JYK	**Kaneyama**	**2.46**	**247**	P	**Pn**	**13 21 05.8**	**-0.1**
ASAJ	**Asahikawa**	**4.21**	**353**	Pn	**Pn**	**13 21 30.6**	**+0.8**
	4.5nm,0.3s,baz=201,slow=16,SNR=43						
ASAJ				Sn	**Sn**	**13 22 19.6**	**+1.7**
	9.0nm,0.3s,baz=199,slow=7.4,SNR=6.4						
YUK	**Yuzh-Kuril'sk**	**4.53**	**24**	*e*P	Pn	13 21 33.3	-1.0
YUK				*i* S	**Sn**	**13 22 23.2**	**-2.7**
YUK				pmax	pmax		
	comp=Z,154nm,0.2s						
SHO	**Shikotan**	**4.75**	**33**	*i*P	Pn	13 21 35.3	-1.9
SHO				*i* S	Sn	13 22 25.6	-5.6
SHO				pmax	pmax		
	comp=E,31nm,0.3s						
SHO				pmax	pmax		
	comp=Z,48nm,0.3s						
MAJO	**Matsushiro**	**5.22**	**231**	*c i*P	**Pn**	**13 21 44.5**	**+0.7**
MAJO	**Matsushiro**	**5.22**	**231**	*e*Pn	**Pn**	**13 21 44.7**	**+0.9**
MAT	**Matsushiro**	**5.22**	**231**	P	**Pn**	**13 21 44.5**	**+0.7**
MAT				*e*S	**Sn**	**13 22 49.0**	**+5.9**
MJAR	**Matsushiro Arr**	**5.22**	**231**	Pn	**Pn**	**13 21 44.5**	**+0.6**
	comp=Z,8.7nm,0.3s,baz=42,slow=12,SNR=185						
MJAR				LR	LR	13 23 57.4	
	comp=Z,571nm,19.5s,baz=50,slow=41						
MJB9	**Matsu-Tunnel**	**5.22**	**231**	*e*Pn	**Pn**	**13 21 44.7**	**+0.9**
KUR	**Kuril'sk**	**6.29**	**31**	*e*P	**Pn**	**13 21 58.4**	**0.0**
KUR				*i* S	**Sn**	**13 23 06.9**	**-2.3**
KUR				pmax	pmax		
	comp=Z,68nm,0.4s						
KUR				pmax	pmax		
	comp=N,25nm,0.2s						
KUR				pmax	pmax		
	comp=E,33nm,0.4s						
KUR				smax	smax		
	comp=N,133nm,0.8s						
KUR				smax	smax		
	comp=E,100nm,0.5s						
INU	**Inuyama**	**6.74**	**229**	*e*Pn	**Pn**	**13 22 07.0**	**+2.4**
YSS	**Yuzh-Sakhalins**	**7.03**	**357**	*e*P	**Pn**	**13 22 10.6**	**+2.1**
YSS				*e*S	**Sn**	**13 23 26.3**	**-1.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,600nm,14.0s						
YSS				MLR	MLR		
	comp=N,600nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.03**	**357**	*e*Pn	**Pn**	**13 22 09.5**	**+1.0**
TEY	**Ternei**	**7.08**	**318**	*i* P	**Pn**	**13 22 10.9**	**+1.6**
TEY				MLR	MLR		
	comp=Z,1μm,15.0s						
JHJ	**Hachijo jima 2**	**7.36**	**203**	Sn	Sn	13 23 25.9	-10
	comp=Z,16nm,0.3s,baz=59,slow=19,SNR=3.2						
USRK	**Ussuriysk Ar.**	**9.40**	**301**	Pn	**Pn**	**13 22 42.5**	**+1.5**
	comp=Z,2.8nm,0.3s,baz=90,slow=15,SNR=34						
USRK				LR	LR	13 26 10.6	
	comp=Z,662nm,19.1s,baz=92,slow=37						
TYV	**Tymovskoe**	**10.94**	**358**	*e*P	**Pn**	**13 23 02.7**	**+0.6**
TYV				*e*		13 25 03.2	
TYV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TYV				MLR	MLR		
	comp=Z,700nm,15.0s						
MDJ	**Mudanjiang**	**11.15**	**299**	*e*Pn	**Pn**	**13 23 08.2**	**+3.2**
JNU	**Nakatsue**	**12.05**	**240**	Pn	**Pn**	**13 23 15.3**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=90,slow=6.1,SNR=2.9						
JNU				LR	LR	13 28 13.1	
	comp=Z,499nm,18.2s,baz=53,slow=39						
KSRS	**Korea Array**	**12.24**	**263**	Pn	**Pn**	**13 23 20.9**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=75,slow=13,SNR=13						
KSRS				LR	LR	13 27 44.9	
	comp=Z,441nm,18.8s,baz=70,slow=36						
KS01	**Wonju Array Si**	**12.25**	**263**	*e*Pn	**Pn**	**13 23 24.7**	**+4.5**
KSAR	**Wonju Array Be**	**12.27**	**263**	P	**Pn**	**13 23 20.9**	**+0.5**
KSAR	**Wonju Array Be**	**12.27**	**263**	Pn	**Pn**	**13 23 20.9**	**+0.5**
KLR	**Kul'dur**	**12.38**	**322**	Pn	**Pn**	**13 23 21.2**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=146,slow=14,SNR=8.1						
KLR	**Kul'dur**	**12.38**	**322**	*e*P	**Pn**	**13 23 22.7**	**+0.9**
TJN	**Taejon**	**13.00**	**259**	*e*P	**Pn**	**13 23 29.9**	**-0.5**
NKL	**Nikolayevsk**	**13.34**	**353**	*e*P	**Pn**	**13 23 33.8**	**-1.0**
NKL				pmax	pmax		
	comp=N,17nm,1.0s						
NKL				pmax	pmax		
	comp=Z,17nm,1.0s						
NKL				MLR	MLR		
	comp=N,400nm,15.0s						
NKL				MLR	MLR		
	comp=Z,500nm,15.0s						
CN2	**Changchun**	**13.82**	**292**	*e*P	**Pn**	**13 23 39.4**	**-2.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,400nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
ZEA	**Zeya**	**17.56**	**327**	*e*P	**Pn**	**13 24 26.9**	**-3.2**
ZEA				pmax	pmax		
	comp=Z,31nm,0.8s						
ZEA				MLR	MLR		
	comp=E,700nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,16.0s						
MA2	**Magadan**	**20.22**	**11**	P	**P**	**13 24 59.7**	**-0.4**
	comp=Z,12nm,0.8s,baz=194,slow=9.5,SNR=47						
MA2				LR	LR	13 34 06.8	
	comp=Z,70nm,18.8s,baz=193,slow=41						
TIA	**Tai'an**	**20.88**	**268**	P	**P**	**13 25 05.8**	**-1.6**
TIA				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK	**Yakutsk**	**23.62**	**344**	P	**P**	**13 25 34.1**	**-1.8**
YAK				pmax	pmax		
	comp=Z,44nm,0.7s						
YAK	**Yakutsk**	**23.62**	**344**	*e*P	**P**	**13 25 34.1**	**-1.8**
	comp=Z,44nm,0.7s						
SEY	**Seymchan**	**23.67**	**10**	P	**P**	**13 25 35.1**	**-1.3**
	comp=Z,14nm,0.8s,baz=192,slow=6.7,SNR=30						
SEY	**Seymchan**	**23.67**	**10**	*e*P	**P**	**13 25 36.9**	**+0.5**
HHC	**Hu-ho-hao-te**	**24.09**	**282**	*e*P	**P**	**13 25 41.0**	**+0.3**
HHC				S	**S**	**13 29 50.6**	**-5.8**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,77nm,4.7s						
HHC				LR	LR		
	comp=Z,100nm,11.4s						
HHC				LR	LR		
	comp=Z,330nm,11.6s						
HHC				LR	LR		
	comp=Z,410nm,15.7s						
WHN	**Wuhan**	**25.31**	**257**	*i*P	**P**	**13 25 51.6**	**-0.1**
BOD	**Bodaibo**	**25.96**	**323**	*e*P	**P**	**13 25 56.9**	**-0.4**
BOD				pmax	pmax		
	comp=Z,19nm,0.9s						
ULN	**Ulaanbaatar**	**27.07**	**299**	*ce*P	**P**	**13 26 07.8**	**+0.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ULN	**Ulaanbaatar**	**27.07**	**299**	*e*P	**P**	**13 26 07.3**	**-0.4**
	comp=Z,7.6nm,0.8s						
SONA1	**Songino Array**	**27.50**	**299**	*e*P	**P**	**13 26 11.6**	**+0.1**
SONM	**Songino Array**	**27.51**	**299**	P	**P**	**13 26 12.0**	**+0.4**
	comp=Z,7.1nm,0.8s,baz=95,slow=8.9,SNR=33						
SONM	**Songino Array**	**27.51**	**299**	P	**P**	**13 26 12.0**	**+0.4**
XAN	**Xi'an**	**27.94**	**269**	P	**P**	**13 26 17.1**	**+1.7**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,110nm,3.3s						
H11N2	**WAKE ISLAND Hy**	**28.59**	**128**	T	T	13 57 11.0	
	baz=318,slow=75,SNR=884						
H11N1	**WAKE ISLAND Hy**	**28.60**	**128**	T	T	13 57 12.7	
	baz=318,slow=75,SNR=543						
H11N3	**WAKE ISLAND Hy**	**28.60**	**128**	T	T	13 57 11.0	
	baz=318,slow=75,SNR=648						
ENH	**Enshi**	**29.12**	**261**	*e*P	**P**	**13 26 24.4**	**-1.5**
	comp=Z,30nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**29.41**	**130**	T	T	13 57 21.9	
	baz=321,slow=74,SNR=74						
H11S3	**WAKE ISLAND Hy**	**29.41**	**130**	T	T	13 57 24.4	
	baz=321						
H11S2	**WAKE ISLAND Hy**	**29.43**	**130**	T	T	13 57 23.1	
	baz=321,slow=74,SNR=56						
TLY	**Talaya**	**29.64**	**307**	*e*P	**P**	**13 26 30.6**	**+0.2**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,170nm,14.0s						
ZAK	**Zakamensk**	**29.73**	**304**	*e*P	**P**	**13 26 29.7**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BILL	**Bilibino**	**30.84**	**17**	*i* P	P	13 26 37.4	-3.3
BILL				*i*		13 26 47.2	
BILL				*i*		13 27 43.1	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,71nm,19.0s						
TIXI	**Tiksi**	**32.61**	**352**	P	**P**	**13 26 55.5**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=139,slow=3.1,SNR=5.9						
TIXI	**Tiksi**	**32.61**	**352**	*i*P	**P**	**13 26 55.4**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.4s						
GTA	**Gaotai**	**33.20**	**283**	P	**P**	**13 27 02.4**	**+0.5**
GTA				pP	pP	13 27 07.4	-3.3
GTA				sP	sP	13 27 10.1	-4.3
GTA				PcP	**PcP**	**13 29 45.4**	**+1.3**
GTA				S	**S**	**13 32 22.5**	**+2.6**
GTA				sS	sS	13 32 39.1	+4.7
GTA				SS	**SnSn**	**13 34 27.4**	**+6.9**
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
GTA				pmax	pmax		
	comp=Z,57nm,5.2s						
GTA				LR	LR		
	comp=Z,150nm,14.7s						
GTA				LR	LR		
	comp=Z,390nm,16.6s						
GTA				LR	LR		
	comp=Z,480nm,17.6s						
ZAA0	**Zalesovo Array**	**41.10**	**310**	*e*P	**P**	**13 28 08.6**	**0.0**
	comp=Z,8.3nm,0.6s						
ZALV	**Zalesovo Beam**	**41.10**	**310**	P	**P**	**13 28 08.9**	**+0.3**
	comp=Z,8.6nm,0.5s,baz=91,slow=7.4,SNR=39						
ZALV				PcP	**PcP**	**13 30 08.3**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=126,slow=4.1,SNR=3.5						
ZALV				LR	LR	13 45 49.0	
	comp=Z,128nm,21.0s,baz=71,slow=37						
ZALV	**Zalesovo Beam**	**41.10**	**310**	*e*P	**P**	**13 28 08.3**	**-0.3**
ZALV						13 30 08.3	
ZALV	**Zalesovo Beam**	**41.10**	**310**	*e*P	**P**	**13 28 08.2**	**-0.3**
ZALV				PcP	**PcP**	**13 30 08.3**	**+0.7**
NVS	**Novosibirsk**	**41.95**	**311**	*e*P	**P**	**13 28 15.8**	**+0.3**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,2.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
CHAI	**Chaiyaphum**	**43.10**	**248**	P	**P**	**13 28 25.1**	**-0.2**
	comp=E,5.7nm,0.7s,comp=E,61nm						
CMMT	**Chiang Mai**	**43.44**	**254**	P	**P**	**13 28 27.2**	**-0.9**
	comp=E,8.6nm,0.8s,comp=E,441nm						
CHTO	**Chiang Mai**	**43.44**	**254**	P	**P**	**13 28 28.3**	**+0.2**
	comp=E,43nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.66**	**254**	P	**P**	**13 28 30.2**	**+0.4**
	comp=E,1.7nm,0.6s,baz=46,slow=6.2,SNR=13						
CMAR				LR	LR	13 46 11.4	
	comp=E,29nm,21.5s,baz=96,slow=36						
CM01	**Chiang Mai Arr**	**43.68**	**254**	*e*P	**P**	**13 28 28.4**	**-1.6**
MK01	**Makanchi Array**	**43.87**	**300**	*e*P	**P**	**13 28 30.5**	**-0.7**
MK31	**Makanchi Array**	**43.87**	**300**	*e*P	**P**	**13 28 30.3**	**-0.9**
MK31	**Makanchi Array**	**43.87**	**300**	*e*P	**P**	**13 28 30.3**	**-0.9**
MKAR	**Makanchi Array**	**43.87**	**300**	P	**P**	**13 28 31.2**	**0.0**
	comp=E,6.1nm,0.9s,baz=83,slow=9.4,SNR=46						
MKAR	**Makanchi Array**	**43.87**	**300**	*e*P	**P**	**13 28 30.3**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,37nm,0.6s						
MKAR	**Makanchi Array**	**43.87**	**300**	*e*P	**P**	**13 28 30.3**	**-0.9**
	comp=Z,37nm,0.6s						
MAKZ	**Makanchi**	**44.07**	**300**	*i* P	**P**	**13 28 32.0**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAKZ	**Makanchi**	**44.07**	**300**	*e*P	**P**	**13 28 32.0**	**-0.9**
	comp=Z,7.7nm,0.8s						
SRAK	**Srakaew**	**44.34**	**246**	P	**P**	**13 28 33.1**	**-2.2**
	comp=Z,30nm,1.0s						
KURK	**Kurchatov**	**45.34**	**306**	*c i*P	**P**	**13 28 42.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,17nm,1.1s						
KURK	**Kurchatov**	**45.34**	**306**	*e*P	**P**	**13 28 42.0**	**-0.9**
	comp=Z,17nm,0.7s						
KURK				PcP	**PcP**	**13 30 22.6**	**+0.6**
KURBB	**Kurchatov Arra**	**45.41**	**306**	P	**P**	**13 28 43.6**	**+0.1**
	comp=Z,9.4nm,0.5s,baz=80,slow=8.8,SNR=70						
KURBB				PcP	**PcP**	**13 30 22.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=79,slow=4.8,SNR=2.4						
ILAR	**Eielson Array**	**46.28**	**34**	P	**P**	**13 28 50.7**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=267,slow=6.2,SNR=7.3						
JIRN	**Jiri**	**48.24**	**274**	*e*P	**P**	**13 29 06.4**	**+0.1**
	comp=Z,20nm,0.5s						
GUN	**Gumba**	**48.35**	**274**	*e*P	**P**	**13 29 07.3**	**+0.1**
	comp=Z,55nm,0.7s						
KKN	**Kakani**	**48.87**	**274**	*e*P	**P**	**13 29 11.1**	**+0.1**
	comp=Z,29nm,0.6s						
PKIN	**Phulchoki**	**48.89**	**274**	*e*P	**P**	**13 29 10.7**	**-0.5**
DMN	**Daman**	**49.10**	**274**	*e*P	**P**	**13 29 12.9**	**+0.1**
TKM2	**Tokmak 2**	**49.57**	**297**	*i* P	**P**	**13 29 16.5**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,18nm,0.7s						
TKM2	**Tokmak 2**	**49.57**	**297**	P	**P**	**13 29 16.9**	**+0.7**
	SNR=34						
BVA0	**Borovoye Array**	**49.73**	**311**	*i* P	**P**	**13 29 17.0**	**0.0**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BVAR	**Borovoye Array**	**49.73**	**311**	P	**P**	**13 29 17.7**	**+0.7**
	comp=Z,8.2nm,0.5s,baz=65,slow=8.4,SNR=61						
BVAR				LR	LR	13 50 51.7	
	comp=Z,111nm,18.1s,baz=75,slow=37						
DANN	**Dangsing**	**49.76**	**276**	*e*P	**P**	**13 29 18.2**	**+0.3**
	comp=Z,3.1nm,0.8s						
BRVK	**Borovoye**	**49.78**	**311**	*c i*P	**P**	**13 29 17.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,13nm,0.7s						
BRVK	**Borovoye**	**49.78**	**311**	*e*P	**P**	**13 29 17.3**	**-0.1**
	comp=Z,11nm,0.9s						
KBK	**Karagaybulak**	**50.11**	**297**	P	**P**	**13 29 20.4**	**+0.1**
	SNR=23						
KZA	**Kyzart**	**50.12**	**296**	P	**P**	**13 29 22.0**	**+1.5**
	SNR=5.7						
KOLN	**Koldanda**	**50.17**	**275**	*e*P	**P**	**13 29 21.1**	**+0.2**
	comp=Z,27nm,1.0s						
AAK	**Ala-Archa**	**50.43**	**297**	*c i*P	**P**	**13 29 22.6**	**0.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AAK	**Ala-Archa**	**50.43**	**297**	P	**P**	**13 29 22.9**	**+0.2**
	SNR=5.3						
AAK	**Ala-Archa**	**50.43**	**297**	*e*P	**P**	**13 29 21.8**	**-0.9**
	comp=Z,4.4nm,0.6s						
PYUN	**Piuthan**	**50.47**	**276**	*e*P	**P**	**13 29 23.4**	**+0.2**
	comp=Z,62nm,1.0s						
KSH	**Kashi**	**50.59**	**293**	P	**P**	**13 29 27.5**	**+3.7**
KSH				sP	sP	13 29 36.5	0.0
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,96nm,6.4s						
KSH				LR	LR		
	comp=Z,140nm,8.1s						
KSH				LR	LR		
	comp=Z,160nm,10.7s						
KSH				LR	LR		
	comp=Z,140nm,8.2s						
EKS2	**Erkin-Say**	**50.91**	**297**	P	**P**	**13 29 26.4**	**+0.2**
	SNR=10						
INK	**Inuvik**	**51.15**	**28**	P	**P**	**13 29 28.5**	**+1.1**
	comp=Z,1.4nm,1.0s,baz=279,slow=6.9,SNR=4.5						
INK	**Inuvik**	**51.15**	**28**	*e*P	**P**	**13 29 29.2**	**+1.8**
	comp=Z,4.6nm,1.0s						
AML	**Almayashu**	**51.17**	**297**	P	**P**	**13 29 29.2**	**+0.8**
	SNR=13						
HNR	**Honiara**	**51.50**	**159**	LR	LR	13 48 49.7	
	comp=Z,55nm,21.6s,baz=218,slow=33						
MNAS	**Manas**	**51.85**	**297**	*i* P	**P**	**13 29 33.2**	**-0.1**
MNAS				pmax	pmax		
	comp=Z,18nm,0.7s						
SFK	**Sufi-Kurgan**	**52.13**	**294**	*i* P	**P**	**13 29 35.4**	**-0.1**
SFK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KK31	**Karatay Array**	**52.96**	**299**	*i* P	**P**	**13 29 41.1**	**-0.2**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SVE	**Sverdlovsk**	**53.96**	**318**	*e*P	**P**	**13 29 49.4**	**+1.0**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PSI	**Prapat**	**54.52**	**239**	LR	LR	13 52 32.6	
	comp=Z,48nm,21.8s,baz=28,slow=35						
SOKR	**Solikamsk**	**54.93**	**322**	*e*P	P	13 30 03.1	+7.8
SOKR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARU	**Arti**	**55.17**	**318**	*c i*P	**P**	**13 29 57.5**	**+0.3**
ARU						13 32 01.7	
ARU				S	**S**	**13 37 41.0**	**+2.9**
ARU				SS	**SS**	**13 41 24.3**	**+2.5**
ARU				pmax	pmax		
	comp=Z,11nm,1.0s						
ARU	**Arti**	**55.17**	**318**	*e*P	**P**	**13 29 57.0**	**-0.2**
	comp=Z,12nm,1.1s						
AB31	**Akbulak array**	**57.20**	**309**	*i* P	**P**	**13 30 12.0**	**+0.2**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ABKAR	**Akbulak array**	**57.20**	**309**	*e*P	**P**	**13 30 11.8**	**0.0**
KBL	**Kabul**	**57.76**	**290**	*e*P	**P**	**13 30 15.4**	**-0.8**
KBL				pmax	pmax		
	comp=Z,16nm,0.8s						
KBL	**Kabul**	**57.76**	**290**	*e*P	**P**	**13 30 15.4**	**-0.8**
	comp=Z,16nm,0.8s						
AKTO	**Aktyubinsk**	**57.84**	**311**	P	**P**	**13 30 16.2**	**0.0**
	comp=Z,5.2nm,0.8s,baz=93,slow=19,SNR=15						
AKTO				LR	LR	13 55 36.3	
	comp=Z,94nm,18.3s,baz=48,slow=36						
RES	**Resolute Bay**	**59.43**	**15**	P	**P**	**13 30 26.4**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=308,slow=7.4,SNR=7.4						
WRA	**Warramunga Arr**	**60.15**	**190**	P	**P**	**13 30 31.7**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=7.5,slow=6.9,SNR=20						
YKA	**Yellowknife Ar**	**60.58**	**31**	P	**P**	**13 30 36.1**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=303,slow=6.4,SNR=3.1						
ARCES	**ARCESS Array B**	**61.80**	**339**	P	**P**	**13 30 41.4**	**-1.8**
	comp=Z,2.8nm,0.9s,baz=32,slow=5.3,SNR=2.9						
KLMR	**Klimovskoe**	**62.09**	**327**	*e*P	**P**	**13 30 41.5**	**-3.7**
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KLMR	**Klimovskoe**	**62.09**	**327**	*e*P	**P**	**13 30 41.6**	**-3.7**
KLMR				AMP		13 30 44.0	
	comp=Z,8.0nm,1.2s						
GEYT	**Alibeck**	**63.71**	**299**	P	**P**	**13 30 56.4**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=40,slow=2.5,SNR=9.6						
ASAR	**Alice Springs**	**63.87**	**190**	P	**P**	**13 30 56.7**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=4.5,slow=5.4,SNR=23						
OBN	**Obninsk**	**66.64**	**323**	*e*P	**P**	**13 31 15.4**	**+0.3**
OBN				*e*		13 33 39.2	
OBN				*e*PPP	PPP	13 35 19.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	**FINESS Array B**	**66.92**	**332**	P	**P**	**13 31 17.3**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=46,slow=8.2,SNR=9.4						
FINES				LR	LR	14 03 07.6	
	comp=Z,171nm,18.7s,baz=8.5,slow=38						
SUMG	**Summit**	**67.78**	**1**	*i* P	**P**	**13 31 23.2**	**+0.6**
	comp=Z,3.8nm,0.8s						
SUMG	**Summit**	**67.78**	**1**	*e*P	**P**	**13 31 23.2**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AFI	**Afiamalu**	**67.94**	**132**	LR	LR	13 53 44.4	
	comp=Z,34nm,21.5s,baz=316,slow=30						
VSU	**Vasula**	**68.69**	**330**	*e*P	**P**	**13 31 28.5**	**+0.5**
VSU				pmax

KHC				*e*pP	**sP**	**13 32 50.5**	**-1.0**
KHC	**Kasperske Hory**	**80.81**	**329**	*e*P	**P**	**13 32 39.4**	**+1.0**
KHC				*e*		13 32 50.5	
EKA	**Eskdalemuir Ar**	**80.87**	**341**	P	**P**	**13 32 38.3**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=35,slow=7.8,SNR=3.6						
GERES	**GERESS Array B**	**80.99**	**329**	P	**P**	**13 32 39.9**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=46,slow=7.6,SNR=6.7						
GERES				LR	LR	14 11 29.5	
	comp=Z,81nm,18.3s,baz=356,slow=38						
PMOR	**Pomariorio Ree**	**84.05**	**115**	*e*T	T	15 05 06.4	
	comp=Z,6.0nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**84.15**	**330**	*e*P	**P**	**13 32 56.5**	**+0.3**
	comp=Z,6.6nm,0.8s						
PPT2	**Papeete2**	**84.69**	**118**	*e*LR	LR	13 59 03.1	
	comp=Z,84nm,22.8s						
PPT2	**Papeete2**	**84.69**	**118**	*e*T	T	15 05 54.7	
	comp=Z,3.5nm,0.3s						
TAOE	**Nuku Hiva Isla**	**85.50**	**105**	*e*LR	LR	14 00 13.1	
	comp=Z,69nm,21.9s						
LPIG	**La Paz**	**86.51**	**61**	LR	LR	14 06 41.6	
	comp=Z,30nm,18.3s,baz=25,slow=32						
TXAR	**Lajitas Array**	**87.22**	**54**	P	**P**	**13 33 13.5**	**+2.0**
	comp=Z,0.1nm,0.4s,baz=301,slow=3.7,SNR=2.6						
TBI	**Tubuai**	**88.80**	**122**	*e*T	T	15 11 01.2	
	comp=Z,10nm,0.3s						
ESDC	**Sonseca Array**	**95.30**	**335**	P	**P**	**13 33 48.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=67,slow=6.8,SNR=3.3						

ISCJB ***15*** *13:21:28.8±0.6, 13°.51S±0°.06×76°.33W±0°.09, h33km, mb3.9/8, MS3.1/2, Error ellipse: s-maj=14.5km s-min=4.4km az=143.7*

NEIC ***15*** *13:21:30.0±0.0, 13°.40S×76°.23W, h64km, ML4.4(ARE), After ARE.*

NEIC Felt [III] at Tambo de Mora and [II] at Chincha Alta and Pisco.

IDC ***15*** *13:21:32.6±3.1, 13°.37S×76°.44W, h46km±22km, mb3.6/9, mb1 3.9/11, mb1mx3.7/38, mbtmp3.8/11, ML4.0/2, MS3.1/5, Ms1 3.1/5, ms1mx2.8/31, Error ellipse: s-maj=41.2km s-min=14.6km az=46.0*

ISC 15 13:21:30.2±0.7, 13°.47S±0°.08×76°.46W±0°.10, h33km, n36, σ2s36/35, mb3.9/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NNA	**Nana**	**1.52**	**346**	P		**Pb**	**13 21 56.8**	**-1.0**
	79nm,0.3s,baz=168,slow=13,SNR=101							
NNA				S		**Sn**	**13 22 13.9**	**+0.1**
	219nm,0.3s,baz=207,slow=14,SNR=11							
NNA				LR		LR	13 22 44.8	
	comp=Z,327nm,18.5s,baz=246,slow=50							
NNA	**Nana**	**1.52**	**346**	*e*Pn		**Pb**	**13 21 56.9**	**-1.0**
NNA				*e*Sn		**Sn**	**13 22 12.5**	**-1.3**
ARE	**Arequipa**	**5.65**	**122**	*e*P		Pn	13 22 59.0	+6.8
ARE				*e*S		**Sn**	**13 24 04.0**	**+7.8**
ATAH	**Atahualpa**	**6.58**	**343**	P		Pn	13 23 10.8	+5.7
	5.8nm,0.3s,baz=138,slow=2.9,SNR=30							
ATAH				S		**Sn**	**13 24 25.1**	**+6.0**
	baz=117,slow=16,SNR=1.6							
ATAH				LR		LR	13 25 23.7	
	comp=Z,44nm,21.4s,baz=173,slow=36							
LPAZ	**La Paz**	**8.53**	**110**	P		**Pn**	**13 23 34.1**	**+2.1**
	1.9nm,0.3s,baz=283,slow=8.4,SNR=26							
LPAZ				S		**Sn**	**13 25 04.8**	**-2.7**
	baz=248,slow=11,SNR=1.3							
LPAZ				LR		LR	13 27 17.8	
	comp=Z,162nm,21.7s,baz=297,slow=40							
LPAZ	**La Paz**	**8.53**	**110**	*e*Pn		**Pn**	**13 23 33.8**	**+1.7**
LPAZ				S		**Sn**	**13 25 04.8**	**-2.7**
MNMC	**Minye Minye**	**8.67**	**131**	*e*Pn		**Pn**	**13 23 33.3**	**-0.4**
MNMC				*e*Sn		**Sn**	**13 25 08.4**	**-2.0**
PB11	**IPOC Station P**	**9.04**	**135**	*e*Pn		**Pn**	**13 23 38.7**	**+0.1**
PB11				*e*Sn		**Sn**	**13 25 15.0**	**-4.4**
PB01	**IPOC Station P**	**10.05**	**139**	*e*Pn		**Pn**	**13 23 53.8**	**+1.3**
PB01				*e*Sn		**Sn**	**13 25 40.2**	**-4.0**
PB10	**IPOC Station P**	**11.45**	**152**	*e*Pn		**Pn**	**13 24 12.1**	**+0.5**
PB10				*e*Sn		Sn	13 26 10.5	-7.9
OTAV	**Otavalo**	**13.76**	**352**	*e*P		**P**	**13 24 52.0**	**+0.3**
SAML	**Samuel**	**13.78**	**72**	*e*Pn		**Pn**	**13 24 41.1**	**-2.2**
SIV	**San Ignacio**	**15.10**	**101**	P		**Pn**	**13 25 02.0**	**+0.7**
	0.2nm,0.3s,baz=277,slow=12,SNR=4.6							
SIV				LR		LR	13 30 33.7	
	comp=Z,96nm,20.3s,baz=308,slow=36							
PTGA	**Pitinga**	**20.66**	**54**	P		**P**	**13 26 07.2**	**-0.2**
	1.5nm,0.5s,baz=163,slow=19,SNR=3.5							
CPUP	**Villa Florida**	**22.04**	**128**	LR		LR	13 36 14.0	
	comp=Z,64nm,20.9s,baz=332,slow=40							
PLCA	**Paso Flores**	**27.65**	**170**	LR		LR	13 35 12.8	
	comp=Z,63nm,18.2s,baz=202,slow=30							
TKL	**Tuckaleechee C**	**49.35**	**352**	P		**P**	**13 30 17.8**	**+1.4**
	4.8nm,0.4s,baz=189,slow=13,SNR=12							
TXAR	**Lajitas Array**	**50.01**	**329**	P		**P**	**13 30 20.3**	**-1.4**
	0.2nm,0.5s,baz=110,slow=11,SNR=4.0							
PDAR	**Pinedale Array**	**63.67**	**333**	P		**P**	**13 31 58.3**	**-0.2**
	0.2nm,0.5s,baz=165,slow=3.7,SNR=2.7							
NVAR	**Mina Array Bea**	**64.79**	**325**	P		**P**	**13 32 06.0**	**0.0**
	0.7nm,0.7s,baz=133,slow=6.7,SNR=7.0							
ULM	**Lac du Bonnet**	**65.69**	**346**	P		**P**	**13 32 11.6**	**+0.2**
	0.4nm,0.4s,baz=203,slow=13,SNR=2.1							
YKA	**Yellowknife Ar**	**81.36**	**343**	P		**P**	**13 33 43.7**	**+0.6**
	0.8nm,0.7s,baz=138,slow=5.7,SNR=18							
TORD	**Torodi Ar. Bea**	**81.83**	**74**	P		**P**	**13 33 46.8**	**+0.1**
	0.9nm,0.8s,baz=256,slow=5.5,SNR=4.3							
ILAR	**Eielson Array**	**93.98**	**336**	P		**P**	**13 34 45.0**	**+0.5**
	0.4nm,0.8s,baz=179,slow=3.0,SNR=5.0							
H11N3	**WAKE ISLAND Hy**	**119.23**	**285**	T		T	15 50 39.3	
	baz=96,slow=74,SNR=36							
H11N2	**WAKE ISLAND Hy**	**119.25**	**285**	T		T	15 50 39.3	
	baz=96,slow=74,SNR=34							
H11N1	**WAKE ISLAND Hy**	**119.25**	**285**	T		T	15 50 40.6	
	baz=96,slow=74,SNR=29							
H11S2	**WAKE ISLAND Hy**	**119.32**	**284**	T		T	15 50 40.3	
	baz=94,slow=74,SNR=21							
H11S1	**WAKE ISLAND Hy**	**119.33**	**284**	T		T	15 50 42.0	
	baz=94,slow=74,SNR=11							
H11S3	**WAKE ISLAND Hy**	**119.34**	**284**	T		T	15 50 41.4	
	baz=94,slow=74,SNR=16							
ASAR	**Alice Springs**	**132.63**	**219**	PKP		**PKPdf**	**13 40 43.0**	**+0.5**
	0.3nm,0.7s,baz=168,slow=1.4,SNR=4.4							
WRA	**Warramunga Arr**	**135.04**	**223**	PKP		**PKPdf**	**13 40 47.9**	**+0.8**
	0.5nm,0.5s,baz=131,slow=2.0,SNR=5.4							
ZALV	**Zalesovo Beam**	**137.00**	**16**	PKP		**PKPdf**	**13 40 50.6**	**+1.1**
	0.3nm,0.3s,baz=266,slow=3.8,SNR=3.3							
KURK	**Kurchatov**	**137.69**	**23**	PKP		**PKPdf**	**13 40 51.6**	**+0.7**
KURBB	**Kurchatov Arra**	**137.73**	**24**	PKP		**PKPdf**	**13 40 51.7**	**+0.6**
	0.6nm,0.9s,baz=285,slow=2.3,SNR=5.1							
SONM	**Songino Array**	**145.66**	**357**	PKPbc		**PKPab**	**13 41 06.8**	**+0.7**
	1.5nm,0.6s,baz=336,slow=2.5,SNR=8.2							

CSEM ***15*** *13:26:10.1, 35°.96N×22°.74E, h14km, ML1.7/4, After ATH*

ATH 15 13:26:10.1, 35°.99N×22°.81E, h28km±2km, ML1.7/4, Error ellipse: s-maj=4.6km s-min=1.2km az=54.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KYTH	**Kithira**	**0.34**	**35**	P		Pb	13 26 17.8	-0.2
KYTH				S		Sb	13 26 23.5	+0.2
KYTH				AML		AML	13 26 25.5	
	comp=E,258μm,0.3s							
KYTH				AML		AML	13 26 27.3	
	comp=N,327μm,0.3s							
KYTH	**Kithira**	**0.34**	**35**	P		Pb	13 26 18.1	+0.1
KYTH				S		Sb	13 26 23.3	0.0
KYTH				AML		AML	13 26 25.3	
	comp=E,258μm,0.3s							
KYTH				AML		AML	13 26 25.8	
	comp=N,323μm,0.2s							
KYTH	**Kithira**	**0.34**	**35**	P		Pb	13 26 18.0	0.0
KYTH				S		Sb	13 26 23.8	+0.5
ANKY	**Antikythira Is**	**0.42**	**106**	P		Pb	13 26 19.4	+0.3
ANKY				S		Sb	13 26 26.2	+0.9
ANKY				AML		AML	13 26 29.7	
	comp=E,238μm,0.7s							
ANKY				AML		AML	13 26 31.2	
	comp=N,217μm,0.3s							
ANKY	**Antikythira Is**	**0.42**	**106**	P		Pb	13 26 19.8	+0.6
ANKY				S		Sb	13 26 24.7	-0.6
ANKY				AML		AML	13 26 31.1	
	comp=N,217μm,0.3s							
ANKY				AML		AML	13 26 33.6	
	comp=E,347μm,0.7s							
ANKY	**Antikythira Is**	**0.42**	**106**	P		Pb	13 26 19.4	+0.2
ANKY				S		Sb	13 26 26.1	+0.8

VLI	**Veliai**	**0.74**	**8**	P		Pn	13 26 25.2	+0.5
VLI				S		Sn	13 26 35.7	+0.6
VLI				AML		AML	13 26 37.1	
	comp=N,86μm,0.2s							
VLI				AML		AML	13 26 38.6	
	comp=E,78μm,0.4s							
VLI	**Veliai**	**0.74**	**8**	P		Pn	13 26 25.5	+0.7
VLI				S		Sn	13 26 35.7	+0.6
VLI				AML		AML	13 26 37.0	
	comp=N,86μm,0.2s							
VLI				AML		AML	13 26 38.6	
	comp=E,78μm,0.4s							
VLI	**Veliai**	**0.74**	**8**	P		Pn	13 26 25.0	+0.2
VLI				S		Sn	13 26 35.6	+0.5
DYR	**Agios Nikonas**	**0.86**	**334**	P		Pn	13 26 26.4	-0.1
IMMV	**Iera Moni Meta**	**1.09**	**118**	P		Pb	13 26 30.9	+0.6
IMMV				S		Sb	13 26 46.4	+2.2
IMMV				AML		AML	13 26 51.7	
	comp=E,183μm,0.4s							
IMMV				AML		AML	13 26 54.8	
	comp=N,156μm,0.4s							
IMMV	**Iera Moni Meta**	**1.09**	**118**	P		Pb	13 26 31.1	+0.7
IMMV	**Iera Moni Meta**	**1.09**	**118**	P		Pb	13 26 31.0	+0.6
IMMV				S		Sb	13 26 46.4	+2.2
PYL	**PYLOS**	**1.25**	**317**	P		Pb	13 26 33.3	+0.3
PYL	**PYLOS**	**1.25**	**317**	P		Pb	13 26 33.4	+0.4
DID	**Didima**	**1.56**	**13**	P		Pb	13 26 40.8	+2.5
DID				S		Sb	13 27 01.5	+3.9

ISCJB ***15*** *13:26:41.8±0.8, 16°.4S±0°.1×71°.48W±0°.09, h150km, mb3.9/7, Error ellipse: s-maj=15.3km s-min=12.1km az=177.1*

IDC ***15*** *13:26:44.6±3.1, 16°.41S×71°.34W, h159km±24km, mb3.8/7, mb1 3.8/11, mb1mx3.5/40, mbtmp4.1/11, Error ellipse: s-maj=31.4km s-min=16.5km az=91.0*

ISC 15 13:26:43.4±1.0, 16°.4S±0°.1×71°.4W±0°.1, h150km, n11, σ1s39/12, mb4.0/7, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LPAZ	**La Paz**	**3.15**	**88**	P		**Pn**	**13 27 34.4**	**+1.1**
	3.2nm,0.3s,baz=319,slow=6.1,SNR=75							
LPAZ				S		**Sn**	**13 28 12.7**	**+0.9**
	1.7nm,0.3s,baz=274,slow=8.4,SNR=2.2							
SIV	**San Ignacio**	**9.94**	**89**	P		**Pn**	**13 29 01.6**	**-1.2**
	0.3nm,0.3s,baz=275,slow=11,SNR=4.4							
CPUP	**Villa Florida**	**16.39**	**129**	P		**Pn**	**13 30 23.8**	**-1.0**
	0.1nm,0.3s,baz=307,slow=15,SNR=3.2							
PTGA	**Pitinga**	**19.25**	**37**	P		**P**	**13 30 54.9**	**-1.5**
	3.6nm,0.3s,baz=208,slow=12,SNR=23							
PLCA	**Paso Flores**	**24.22**	**178**	P		**P**	**13 31 47.5**	**+1.2**
	3.1nm,0.9s,baz=14,slow=11,SNR=5.8							
SDV	**Santo Domingo**	**25.17**	**2**	P		**P**	**13 31 57.1**	**+2.0**
	1.8nm,0.4s,baz=292,slow=7.1,SNR=4.2							
SNAA	**Sanae**	**67.81**	**161**	P		**P**	**13 37 26.1**	**+1.2**
	2.2nm,1.0s,baz=222,slow=15,SNR=3.1							
KOWA	**Kowa**	**73.30**	**69**	P		**P**	**13 37 59.1**	**+0.2**
	1.8nm,0.6s,baz=243,slow=7.1,SNR=6.4							
TORD	**Torodi Ar. Bea**	**77.99**	**72**	P		**P**	**13 38 26.2**	**+0.5**
	1.7nm,0.7s,baz=254,slow=5.0,SNR=8.4							
YKA	**Yellowknife Ar**	**85.65**	**341**	P		**P**	**13 39 03.9**	**-0.8**
	0.5nm,0.5s,baz=136,slow=5.1,SNR=13							
MAW	**Mawson**	**89.83**	**164**	P		**P**	**13 39 22.9**	**-1.8**
	1.8nm,0.6s,baz=270,slow=5.1,SNR=3.0							

ISCJB ***15*** *13:37:44.6±0.4, 50°.06N±0°.03×18°.36E±0°.03, h0km, Error ellipse: s-maj=4.1km s-min=2.3km az=6.0*

IPEC ***15*** *13:37:45.4±0.2, 50°.04N×18°.49E, h0km, ML1.8/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*

CSEM ***15*** *13:37:45.5±0.3, 50°.06N×18°.39E, h1km, ML2.8/9, Error ellipse: s-maj=7.1km s-min=3.7km az=11.0*

WAR ***15*** *13:37:46.7, 50°.07N×18°.41E, h1km, Mw2.4*

PRU ***15*** *13:37:46.6, 50°.06N×18°.40E, h0km*

ISC 15 13:37:45.2±0.8, 50°.09N±0°.03×18°.47E±0°.02, h0km, n35, σ0s81/65, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAC	**Raciborz**	**0.18**	**268**	*e*Pg		**Pg**	**13 37 49.9**	**+1.2**
RAC				*e*Sg		**Sg**	**13 37 53.2**	**+2.2**
OKC	**Ostrava-Krasne**	**0.33**	**220**	*e*PG		**Pg**	**13 37 51.8**	**+0.3**
OKC				*e*SG		**Sg**	**13 37 56.5**	**+0.7**
	comp=Z,56nm,0.5s							
OKC	**Ostrava-Krasne**	**0.33**	**220**	Pg		**Pg**	**13 37 51.8**	**+0.3**
OKC				Sg		**Sg**	**13 37 56.5**	**+0.7**
	56nm,0.5s							
CHZP	**Chorzow**	**0.39**	**59**	*e*Pg		**Pb**	**13 37 54.4**	**-0.6**
CHZP				*e*Sg		**Sb**	**13 38 00.6**	**-0.9**
CHZP	**Chorzow**	**0.39**	**59**	*e*Pg		**Pb**	**13 37 54.4**	**-0.6**
CHZP				*e*Sg		**Sb**	**13 38 00.6**	**-0.9**
MORC	**Moravsky Berou**	**0.68**	**243**	*e*Pg		**Pg**	**13 37 58.0**	**-0.2**
MORC				*e*Sg		**Sg**	**13 38 06.3**	**-0.7**
	13nm,0.2s							
OJC	**Ojcow**	**0.86**	**81**	*e*Pg		**Pg**	**13 38 02.1**	**+0.3**
OJC				*e*Sg		**Sb**	**13 38 15.3**	**+0.1**
OJC	**Ojcow**	**0.86**	**81**	*e*Pg		**Pg**	**13 38 02.1**	**+0.3**
OJC				*e*Sg		**Sb**	**13 38 15.3**	**+0.1**
OJC	**Ojcow**	**0.86**	**81**	*e*Pg		**Pg**	**13 38 02.1**	**+0.3**
OJC				*e*Sg		**Sb**	**13 38 15.3**	**+0.1**
LANS	**Liptovska Anna**	**1.14**	**145**	*e*Pg		**Pg**	**13 38 07.2**	**+0.1**
LANS				*e*Sg		**Sb**	**13 38 23.7**	**+0.5**
LANS	**Liptovska Anna**	**1.14**	**145**	*e*PG		**Pg**	**13 38 07.2**	**+0.1**
LANS				*e*SG		**Sb**	**13 38 23.7**	**+0.5**
NIE	**Niedzica**	**1.36**	**119**	*e*Pg		**Pb**	**13 38 11.7**	**+0.1**
NIE				*e*Sg		**Sn**	**13 38 31.6**	**+1.3**
NIE	**Niedzica**	**1.36**	**119**	*e*Pg		**Pb**	**13 38 11.7**	**+0.1**
NIE				*e*Sg		**Sn**	**13 38 31.6**	**+1.3**
NIE	**Niedzica**	**1.36**	**119**	*e*Pg		**Pb**	**13 38 11.7**	**+0.1**
NIE				*e*Sg		**Sn**	**13 38 31.6**	**+1.3**
DPC	**Dobruska-Polom**	**1.41**	**281**	*e*PG		**Pg**	**13 38 11.7**	**-0.5**
DPC				*e*SG		**Sb**	**13 38 30.6**	**-0.3**
	comp=Z,21nm,0.5s							
DPC	**Dobruska-Polom**	**1.41**	**281**	Pg		**Pg**	**13 38 11.7**	**-0.5**
DPC				Sg		**Sb**	**13 38 30.6**	**-0.3**
	21nm,0.5s							
VRAC	**Vranov**	**1.45**	**238**	*e*Pg		**Pn**	**13 38 11.9**	**-0.8**
VRAC				*e*Sg		**Sg**	**13 38 30.4**	**-1.4**
	18nm,0.3s							
KSP	**Ksiaz**	**1.58**	**299**	*e*Pg		**Pg**	**13 38 16.8**	**+1.2**
KSP				*e*Sg		**Sg**	**13 38 36.8**	**+0.7**
KSP	**Ksiaz**	**1.58**	**299**	*e*Pg		**Pg**	**13 38 16.8**	**+1.2**
KSP				*e*Sg		**Sg**	**13 38 36.8**	**+0.7**
VYHS	**Vyhne**	**1.61**	**171**	*e*Pg		**Pb**	**13 38 15.8**	**-0.1**
VYHS				*e*Sn		**Sn**	**13 38 35.9**	**-0.6**
VYHS	**Vyhne**	**1.61**	**171**	*e*PG		**Pb**	**13 38 15.8**	**-0.1**
VYHS				*e*SN		**Sn**	**13 38 35.9**	**-0.6**
VYHS				eLG		Lg	13 38 36.1	
UPC	**Upice**	**1.63**	**286**	*e*Pg		**Pg**	**13 38 16.4**	**-0.1**
UPC				*e*SG		**Sg**	**13 38 37.6**	**-0.1**
	comp=Z,8.1nm,0.3s							
UPC	**Upice**	**1.63**	**286**	Pg		**Pg**	**13 38 16.4**	**-0.1**
UPC				Sg		**Sg**	**13 38 37.6**	**-0.1**
	8.1nm,0.3s							
KRUC	**Moravsky**	**1.70**	**234**	*e*Pg		**Pn**	**13 38 16.0**	**-0.1**
KRUC				*e*Sg		**Sn**	**13 38 38.0**	**-0.6**
	9.5nm,0.3s							
STHS	**Stebnicka Huta**	**1.92**	**110**	*e*Pn		**Pg**	**13 38 22.1**	**+0.1**
STHS	**Stebnicka Huta**	**1.92**	**110**	*e*PN		**Pg**	**13 38 22.1**	**+0.1**
STHS				eLG		Lg	13 39 01.6	
GOPC	**GO Pecny, Ondr**	**2.38**	**267**	*e*PG		**Pb**	**13 38 28.1**	**-0.9**
GOPC				*e*SG		**Sb**	**13 38 59.6**	**+0.6**
	comp=Z,3.7nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.38**	**267**	Pg		**Pb**	**13 38 28.1**	**-0.9**
GOPC				Sg		**Sb**	**13 38 59.6**	**+0.6**
	3.7nm,0.3s							
PRU	**Pruhonice**	**2.54**	**269**	*e*PG		**Pg**	**13 38 33.1**	**-0.7**
PRU				*e*SG		**Sb**	**13 39 03.9**	**+0.6**
	comp=Z,3.8nm,0.4s							
PRU	**Pruhonice**	**2.54**	**269**	Pg		**Pg**	**13 38 33.1**	**-0.7**
PRU				Sg		**Sb**	**13 39 03.9**	**+0.6**
	3.8nm,0.4s							
PVCC	**Panska Ves**	**2.54**	**281**	*e*SG		**Sg**	**13 39 07.1**	**+0.3**
	comp=Z,10nm,0.4s							
PVCC	**Panska Ves**	**2.54**	**281**	Sg		**Sg**	**13 39 07.1**	**+0.3**
	10nm,0.4s							
BRG	**Berggiesshubel**	**3.00**	**287**	SG		**Sg**	**13 39 19.8**	**-1.7**
	4.2nm,0.8s							
KHC	**Kasperske Hory**	**3.33**	**255**	*e*PG		**Pb**	**13 38 46.6**	**+1.5**
KHC				*e*SG		**Sg**	**13 39 30.7**	**-1.3**
	comp=Z,4.7nm,0.5s							
KHC	**Kasperske Hory**	**3.33**	**255**	Pg		**Pb**	**13 38 46.6**	**+1.5**
KHC				Sg		**Sg**	**13 39 30.7**	**-1.3**
	4.7nm,0.5s							

JMA 15 13:39:11.1±0.2, 40°.87N×145°.08E, h63km±4km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JEM	**Erimo**	**1.84**	**309**	P		Pn	13 39 41.2	+0.8
JEM				*e*S		Sn	13 40 02.4	-0.3
JAK	**Akkeshi**	**2.14**	**352**	P		Pn	13 39 45.1	+0.6
JAK				*e*S		Sn	13 40 10.5	+0.5
JCH	**Churui**	**2.17**	**324**	P		Pn	13 39 45.5	+0.7
JCH				*e*S		Sn	13 40 09.2	-1.4
JOB	**Onbets**	**2.23**	**336**	*e*S		Sn	13 40 12.8	+0.6
JNBK	**Urakawa-nobuka**	**2.24**	**310**	*e*S		Sn	13 40 13.4	+0.9
NEM2	**Nemuro 2**	**2.54**	**11**	*e*S		Sn	13 40 20.0	+0.3
JAR	**Ashorobuto**	**2.61**	**339**	P		Pn	13 39 51.9	+1.0
JAR				*e*S		Sn	13 40 20.8	-0.7
JNK	**Nakash**	**2.73**	**354**	*e*S		Sn	13 40 23.1	-1.2
JBT2	**Biratori 2**	**2.79**	**314**	P		Pn	13 39 55.3	+2.0
JTKR	**Abashiri--Toko**	**3.22**	**345**	*e*S		Sn	13 40 36.9	+0.7
JOM	**Ohasama**	**3.22**	**246**	P		Pn	13 40 00.1	+0.9
JOM				*e*S		Sn	13 40 35.1	-1.3
JEW	**Eniwo**	**3.35**	**307**	P		Pn	13 40 03.2	+2.2
JEW				*e*S		Sn	13 40 40.4	+0.9
JMK	**Ichinoseki**	**3.53**	**238**	P		Pn	13 40 04.6	+1.1
JMK				*e*S		Sn	13 40 42.2	-1.8

IDC 15 13:48:03.8±548.0, 47°.90N×49°.32E, h0km, Error ellipse: s-maj=199.9km s-min=133.4km az=52.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.24**	**63**	*i*			14 24 05.0	
	baz=250,slow=297,SNR=8.0							
I43RU	**DUBNA INFRASON**	**11.51**	**325**	*i*			15 02 20.0	
	baz=136,slow=341,SNR=0.7							
I46RU	**ZALESOVO INFRA**	**23.00**	**61**	*i*			16 10 00.0	
	baz=269,slow=327,SNR=2.0							

CSEM ***15*** *13:51:51.4±0.4, 67°.81N×20°.29E, h1km, ML0.3, Error ellipse: s-maj=9.7km s-min=6.9km az=5.0, Mining explosion.*

UPP ***15*** *13:51:52.3, 67°.86N×20°.17E, h0km, ML0.3, Suspected Mining explosion.*

HEL 15 13:51:52.0±0.1, 67°.81N×20°.29E, h0km, ML0.9, ML0.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUA	**Kurravaara**	**0.15**	**7**	P		Pg	13 51 54.8	0.0
KUA	**Kurravaara**	**0.15**	**7**	*i* P		Pg	13 51 54.8	0.0
KUA				*i* S		Sg	13 51 56.5	-0.2
RATU	**Laukkuluspa**	**0.27**	**273**	P		Pg	13 51 56.8	-0.3
RATU	**Laukkuluspa**	**0.27**	**273**	*i* P		Pg	13 51 56.8	-0.3
NIKU	**Nikkaluokta**	**0.48**	**277**	P		Pg	13 52 00.6	-0.6
NIKU	**Nikkaluokta**	**0.48**	**277**	*i* P		Pg	13 52 00.6	-0.5
LANU	**Lannavaara**	**0.69**	**69**	P		Pg	13 52 05.5	+0.4
LANU				S		Sg	13 52 14.5	+0.5
LANU	**Lannavaara**	**0.69**	**69**	*e*P		Pg	13 52 04.6	-0.5
LANU				*e*S		Sg	13 52 14.6	+0.6
MASU	**Masugnsbyn**	**0.74**	**118**	P		Pb	13 52 08.0	+0.2
MASU	**Masugnsbyn**	**0.74**	**118**	*i* P		Pb	13 52 08.0	+0.2
KIF	**Kilpisjarvi**	**1.22**	**9**	S		Sg	13 52 30.4	-0.6
KIF	**Kilpisjarvi**	**1.22**	**9**	*e*S		Sg	13 52 30.5	-0.5
HEF	**Hetta**	**1.40**	**63**	P		Pn	13 52 16.7	-2.1
HEF				S		Sg	13 52 35.2	-1.7
	0.8nm,0.2s							
HEF	**Hetta**	**1.40**	**63**	*e*P		Pn	13 52 16.8	-2.0
HEF				*e*S		Sg	13 52 35.2	-1.6
HEF				MSG			13 52 44.9	
	comp=Z,0.8nm,0.2s							
TOF	**Tornio**	**2.35**	**136**	Pb		Pn	13 52 33.1	+1.3
TOF				Sb		Sb	13 53 03.2	-1.6
TOF	**Tornio**	**2.35**	**136**	*e*PB		Pn	13 52 33.1	+1.3
TOF				*e*SB		Sb	13 53 03.2	-1.5
SGF	**Sodankyl

MJA0	**Matsu Arr-Jizo**	**3.32**	**244**	*e*P		**Pn**	**14 22 38.0**	**+0.9**
MJA0				pmax	pmax			
	comp=Z,17nm,0.3s							
MJAR	**Matsushiro Arr**	**3.35**	**244**	P		**Pn**	**14 22 38.0**	**+0.6**
	comp=Z,17nm,0.3s,baz=54,slow=10,SNR=122							
MJAR				S		Sn	14 23 29.2	+13
	comp=Z,14nm,0.3s,baz=24,slow=25,SNR=6.1							
MJAR				LR		LR	14 24 08.7	
	comp=Z,560nm,20.1s,baz=75,slow=44							
MAJO	**Matsushiro**	**3.35**	**244**	*d* i P		**Pn**	**14 22 38.5**	**+1.1**
MAJO	**Matsushiro**	**3.35**	**244**	*e*Pn		**Pn**	**14 22 38.6**	**+1.1**
MAT	**Matsushiro**	**3.35**	**244**	P		**Pn**	**14 22 38.4**	**+0.9**
MAT				S		**Sn**	**14 23 17.5**	**+1.5**
MJB9	**Matsu-Tunnel**	**3.35**	**244**	*e*Pn		**Pn**	**14 22 38.6**	**+1.1**
ERM	**Erimo**	**4.06**	**13**	*c* i P		**Pn**	**14 22 48.1**	**+1.0**
ERM	**Erimo**	**4.06**	**13**	*e*Pn		**Pn**	**14 22 48.1**	**+1.0**
INU	**Inuyama**	**4.80**	**237**	*e*Pn		**Pn**	**14 22 59.5**	**+2.1**
JHJ2	**Mitsune**	**5.23**	**200**	*e*Pn		**Pn**	**14 23 03.1**	**-0.2**
JHJ	**Hachijo jima 2**	**5.24**	**200**	P		**Pn**	**14 23 03.1**	**-0.2**
	comp=Z,47nm,0.3s,baz=124,slow=22,SNR=8.8							
JHJ				S		**Sn**	**14 24 00.5**	**-1.9**
	comp=Z,49nm,0.3s,baz=85,slow=23,SNR=6.5							
ASAJ	**Asahikawa**	**6.07**	**4**	P		**Pn**	**14 23 15.2**	**+0.4**
	comp=Z,3.3nm,0.3s,baz=216,slow=14,SNR=25							
ASAJ				S		Sn	14 24 32.7	+10
	comp=Z,2.9nm,0.3s,baz=217,slow=33,SNR=3.8							
YUK	**Yuzh-Kuril'sk**	**6.66**	**25**	*e*P		**Pn**	**14 23 21.6**	**-1.2**
YUK				*e*S		**Sn**	**14 24 33.3**	**-4.0**
YUK				pmax	pmax			
	comp=Z,205nm,0.2s							
YUK				pmax	pmax			
	comp=Z,92nm,0.1s							
SHO	**Shikotan**	**6.88**	**31**	*e*P		**Pn**	**14 23 23.0**	**-2.8**
SHO				*i* S		**Sn**	**14 24 36.3**	**-6.4**
SHO				pmax	pmax			
	comp=Z,33nm,0.5s							
SHO				pmax	pmax			
	comp=E,16nm,0.4s							
KUR	**Kuril'sk**	**8.42**	**30**	*i* P		**Pn**	**14 23 46.4**	**-0.6**
KUR				*e*S		**Sn**	**14 25 16.6**	**-4.0**
KUR				pmax	pmax			
	comp=Z,44nm,0.4s							
KUR				pmax	pmax			
	comp=N,21nm,0.5s							
KUR				smax	smax			
	comp=E,98nm,0.5s							
KUR				smax	smax			
	comp=N,80nm,0.4s							
YSS	**Yuzh-Sakhalins**	**8.91**	**4**	*e*P		**Pn**	**14 23 54.8**	**+1.2**
YSS				pmax	pmax			
	comp=Z,20nm,0.7s							
YSS	**Yuzh-Sakhalins**	**8.91**	**4**	*e*Pn		**Pn**	**14 23 53.8**	**+0.1**
VLA	**Vladivostok**	**9.18**	**307**	*e*P		**Pn**	**14 23 56.6**	**-0.7**
VLA				pmax	pmax			
	comp=Z,14nm,0.9s							
USRK	**Ussuriysk Ar.**	**9.70**	**312**	P		**Pn**	**14 24 06.4**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=125,slow=14,SNR=16							
USRK				LR		LR	14 27 43.0	
	comp=Z,56nm,19.1s,baz=129,slow=37							
JNU	**Nakatsue**	**10.28**	**245**	P		**Pn**	**14 24 13.7**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=356,slow=22,SNR=9.4							
JNU				LR		LR	14 28 30.5	
	comp=Z,254nm,21.1s,baz=121,slow=40							
CBIJ	**Chichi jima**	**10.93**	**179**	P		**Pn**	**14 24 22.2**	**+0.8**
CBIJ				S		Sn	14 26 13.1	-9.3
JCJ	**Chichijima**	**10.93**	**179**	P		**Pn**	**14 24 22.2**	**+0.8**
	comp=Z,16nm,0.3s,baz=293,slow=14,SNR=5.7							
JCJ				S		Sn	14 26 13.1	-9.3
	baz=270,slow=20							
KSRS	**Korea Array**	**11.13**	**271**	P		**Pn**	**14 24 27.6**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=84,slow=14,SNR=13							
KSRS				LR		LR	14 28 28.6	
	comp=Z,108nm,18.5s,baz=72,slow=36							
KSAR	**Wonju Array Be**	**11.16**	**271**	P		**Pn**	**14 24 27.6**	**+3.1**
KSAR	**Wonju Array Be**	**11.16**	**271**	P		**Pn**	**14 24 27.6**	**+3.1**
TJN	**Taejon**	**11.76**	**266**	*e*P		**Pn**	**14 24 36.3**	**+3.7**
KLR	**Kul'dur**	**13.38**	**330**	P		**P**	**14 25 00.3**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=145,slow=16,SNR=3.9							
KLR				LR		LR	14 30 10.2	
	comp=Z,8.1nm,19.0s,baz=132,slow=38							
NKL	**Nikolayevsk**	**15.12**	**357**	*e*P		**P**	**14 25 20.5**	**-1.9**
PETK	**Petropavlovsk-**	**18.59**	**31**	P		**P**	**14 26 01.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=197,slow=5.0,SNR=4.7							
PETK				LR		LR	14 34 25.5	
	comp=Z,44nm,18.3s,baz=223,slow=40							
MA2	**Magadan**	**22.27**	**12**	P		**P**	**14 26 41.2**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=202,slow=8.7,SNR=6.9							
MA2				LR		LR	14 34 40.7	
	comp=Z,63nm,21.4s,baz=204,slow=35							
HHC	**Hu-ho-hao-te**	**23.58**	**286**	*e*P		**P**	**14 26 54.0**	**-0.2**
HHC				S		**S**	**14 30 57.6**	**-7.6**
HHC				pmax	pmax			
	comp=Z,6.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,100nm,5.2s							
HHC				LR	LR			
	comp=Z,120nm,13.4s							
HHC				LR	LR			
	comp=Z,79nm,10.3s							
YAK	**Yakutsk**	**25.17**	**346**	*e*P		**P**	**14 27 09.3**	**+0.9**
YAK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
SEY	**Seymchan**	**25.70**	**11**	P		**P**	**14 27 15.5**	**+2.3**
	comp=Z,2.4nm,0.9s,baz=199,slow=7.7,SNR=14							
SEY	**Seymchan**	**25.70**	**11**	*e*P		**P**	**14 27 15.8**	**+2.6**
BOD	**Bodaibo**	**26.91**	**326**	*e*P		**P**	**14 27 22.9**	**-1.2**
BOD				pmax	pmax			
	comp=Z,4.0nm,1.6s							
XAN	**Xi'an**	**26.93**	**272**	P		**P**	**14 27 23.8**	**-0.8**
XAN				pmax	pmax			
	comp=Z,6.0nm,0.5s							
XAN				pmax	pmax			
	comp=Z,120nm,5.2s							
ULN	**Ulaanbaatar**	**27.15**	**302**	*e*P		**P**	**14 27 27.2**	**+0.5**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.2s							
SONA1	**Songino Array**	**27.59**	**302**	*e*P		**P**	**14 27 28.2**	**-2.4**
SONM	**Songino Array**	**27.59**	**302**	P		**P**	**14 27 30.9**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=101,slow=8.6,SNR=13							
SONM	**Songino Array**	**27.59**	**302**	*e*P		**P**	**14 27 31.4**	**+0.9**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ENH	**Enshi**	**27.86**	**264**	*e*P		**P**	**14 27 32.1**	**-0.9**
	comp=Z,21nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.32**	**123**	T		T	14 57 53.6	
	baz=316,slow=75,SNR=1614							
H11N1	**WAKE ISLAND Hy**	**28.33**	**123**	T		T	14 57 51.4	
	baz=316,slow=75,SNR=2216							
H11N3	**WAKE ISLAND Hy**	**28.34**	**123**	T		T	14 57 52.1	
	baz=316,slow=75,SNR=1784							
H11S1	**WAKE ISLAND Hy**	**29.07**	**125**	T		T	14 58 52.6	
	baz=317,slow=76,SNR=509							
H11S3	**WAKE ISLAND Hy**	**29.07**	**125**	T		T	14 58 52.9	
	baz=317,slow=76,SNR=632							
H11S2	**WAKE ISLAND Hy**	**29.09**	**125**	T		T	14 58 58.8	
	baz=317,slow=76,SNR=518							
ZAK	**Zakamensk**	**29.99**	**307**	*e*P		**P**	**14 27 50.2**	**-1.6**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.4s							
TLY	**Talaya**	**30.00**	**309**	LR	LR	LR	14 39 06.0	
	comp=Z,45nm,19.0s,baz=100,slow=35							
TLY	**Talaya**	**30.00**	**309**	*i* P		**P**	**14 27 52.2**	**+0.4**
TLY				pmax	pmax			
	comp=Z,3.0nm,1.7s							
GTA	**Gaotai**	**32.69**	**286**	*e*P		**P**	**14 28 15.1**	**-0.6**
GTA				pP		pP	14 28 18.8	-8.9
GTA				sP		sP	14 28 21.3	-12
GTA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BILL	**Bilibino**	**32.92**	**17**	*i* P		P	14 28 23.1	+5.8
BILL				*i*			14 29 21.7	
BILL				*i*			14 31 03.5	
BILL				pmax	pmax			
	comp=Z,4.0nm,1.2s							
BILL				MLR	MLR			
	comp=Z,66nm,22.0s							
ZALV	**Zalesovo Beam**	**41.55**	**312**	P		**P**	**14 29 30.5**	**0.0**
	comp=Z,2.4nm,0.4s,baz=91,slow=6.8,SNR=11							
ZALV				LR		LR	14 46 24.5	
	comp=Z,31nm,18.1s,baz=70,slow=36							
ZALV	**Zalesovo Beam**	**41.55**	**312**	*e*P		**P**	**14 29 30.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**42.18**	**255**	P		**P**	**14 29 35.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=40,slow=4.9,SNR=4.1							
CMAR	**Chiang Mai Arr**	**42.18**	**255**	*e*P		**P**	**14 29 36.3**	**+0.3**
MK01	**Makanchi Array**	**43.95**	**301**	*e*P		**P**	**14 29 50.2**	**+0.1**
MK31	**Makanchi Array**	**43.95**	**301**	*e*P		**P**	**14 29 48.7**	**-1.4**
MK31	**Makanchi Array**	**43.95**	**301**	*e*P		**P**	**14 29 48.7**	**-1.4**
MKAR	**Makanchi Array**	**43.95**	**301**	P		**P**	**14 29 49.8**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=85,slow=9.5,SNR=21							
MKAR	**Makanchi Array**	**43.95**	**301**	*e*P		**P**	**14 29 48.6**	**-1.4**
	comp=Z,18nm,0.6s							
MAKZ	**Makanchi**	**44.16**	**301**	*e*P		**P**	**14 29 51.6**	**-0.1**
MAKZ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
MAKZ	**Makanchi**	**44.16**	**301**	*e*P		**P**	**14 29 51.6**	**-0.1**
	comp=Z,3.6nm,1.1s							
KURK	**Kurchatov**	**45.65**	**307**	*c i*P		**P**	**14 30 02.9**	**-0.6**
KURK				pmax	pmax			
	comp=Z,11nm,1.2s							
KURK	**Kurchatov**	**45.65**	**307**	*e*P		**P**	**14 30 02.7**	**-0.7**
	comp=Z,7.6nm,0.4s							
KURBB	**Kurchatov Arra**	**45.72**	**307**	P		**P**	**14 30 03.7**	**-0.3**
	comp=Z,3.0nm,0.4s,baz=81,slow=8.0,SNR=42							
ILAR	**Eielson Array**	**48.40**	**33**	P		**P**	**14 30 26.0**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=270,slow=6.2,SNR=14							
ILAR	**Eielson Array**	**48.40**	**33**	*e*P		**P**	**14 30 26.2**	**+1.4**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**50.21**	**312**	P		**P**	**14 30 38.4**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=69,slow=8.4,SNR=6.6							
BVAR				PcP		**PcP**	**14 31 57.2**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=105,slow=3.2,SNR=5.2							
BRVK	**Borovoye**	**50.26**	**312**	*e*P		**P**	**14 30 39.6**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.4s							
AAK	**Ala-Archa**	**50.39**	**298**	P		**P**	**14 30 39.7**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=135,slow=3.5,SNR=7.0							
AAK	**Ala-Archa**	**50.39**	**298**	*e*P		**P**	**14 30 40.2**	**-0.2**
AAK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
INK	**Inuvik**	**53.28**	**27**	P		**P**	**14 31 02.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=276,slow=5.8,SNR=2.5							
SVE	**Sverdlovsk**	**54.67**	**318**	*e*P		**P**	**14 31 12.5**	**+0.8**
ARU	**Arti**	**55.88**	**318**	*c i*P		**P**	**14 31 20.3**	**-0.1**
ARU				*PP		**pP**	**14 31 32.3**	**-0.9**
ARU							14 33 23.1	
ARU				S		**S**	**14 39 06.3**	**+1.8**
ARU				SS		**SS**	**14 42 43.7**	**-6.4**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.2s							
KBL	**Kabul**	**57.46**	**291**	*e*P		**P**	**14 31 31.8**	**-0.4**
KBL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KBL	**Kabul**	**57.46**	**291**	*e*P		**P**	**14 31 31.8**	**-0.4**
	comp=Z,7.7nm,0.9s							
ABKAR	**Akbulak array**	**57.61**	**310**	*e*P		**P**	**14 31 32.5**	**-0.3**
WRAB	**Tennant Creek**	**58.12**	**188**	*e*P		**P**	**14 31 36.3**	**-0.3**
WRAB				pmax	pmax			
	comp=Z,7.0nm,0.8s							
WRAB	**Tennant Creek**	**58.12**	**188**	*e*P		**P**	**14 31 36.7**	**+0.1**
	comp=Z,3.0nm,0.6s							
WRA	**Warramunga Arr**	**58.13**	**188**	P		**P**	**14 31 36.5**	**-0.1**
	comp=Z,7.0nm,0.7s,baz=6.6,slow=7.2,SNR=69							
ASAR	**Alice Springs**	**61.86**	**188**	P		**P**	**14 32 02.5**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=8.7,slow=4.9,SNR=38							
YKA	**Yellowknife Ar**	**62.71**	**31**	P		**P**	**14 32 08.6**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=303,slow=7.1,SNR=3.6							
ARCES	**ARCESS Array B**	**63.19**	**339**	P		**P**	**14 32 10.8**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=52,slow=7.9,SNR=8.5							
OBN	**Obninsk**	**67.54**	**323**	*e*P		**P**	**14 32 39.0**	**+0.2**
OBN				*e*PPP	PPP		14 36 48.1	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
FINES	**FINESS Array B**	**68.11**	**332**	P		**P**	**14 32 42.6**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=37,slow=8.4,SNR=12							
KIV	**Kislovodsk**	**70.56**	**311**	*e*P		**P**	**14 32 58.2**	**+0.2**
KIV				pmax	pmax			
	comp=Z,11nm,1.1s							
KBZ	**Khabaz**	**70.56**	**311**	P		**P**	**14 32 58.6**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=216,slow=22,SNR=4.4							
WSAR	**Wadi Sarin**	**71.02**	**285**	P		**P**	**14 33 01.7**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=101,slow=2.3,SNR=5.2							
HFS	**Hagfors**	**73.33**	**336**	P		**P**	**14 33 14.9**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=46,slow=8.5,SNR=6.8							
NB2	**NORSAR Subarra**	**73.41**	**337**	P		**P**	**14 33 14.9**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=42,slow=6.2							
NOA	**NORSAR Array B**	**73.41**	**337**	P		**P**	**14 33 15.2**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=40,slow=5.9,SNR=4.1							
NOA				LR		LR	15 08 35.9	
	comp=Z,59nm,18.0s,baz=330,slow=38							
LRV	**Little Rabbit**	**73.44**	**57**	*e*P		**P**	**14 33 14.1**	**-1.2**
AKASG	**Malin Array Be**	**73.75**	**322**	P		**P**	**14 33 16.3**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=46,slow=6.1,SNR=13							
KIEV	**Kiev**	**73.77**	**322**	*e*P		**P**	**14 33 17.1**	**+0.3**
KIEV				pmax	pmax			
	comp=Z,6.0nm,1.4s							
NVAR	**Mina Array Bea**	**74.03**	**54**	P		**P**	**14 33 22.4**	**+3.5**
	comp=Z,2.1nm,0.5s,baz=289,slow=6.6,SNR=2.7							
PDAR	**Pinedale Array**	**76.64**	**46**	P		**P**	**14 33 35.4**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=271,slow=2.6,SNR=7.8							
BRTR	**Keskin Array B**	**78.50**	**312**	P		**P**	**14 33 44.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=76,slow=2.7,SNR=4.5							
CLL	**Collm**	**80.42**	**330**	*e*P		**P**	**14 33 55.0**	**+0.8**
CLL	**Collm**	**80.42**	**330**	*e*P		**P**	**14 33 55.0**	**+0.8**
GERES	**GERESS Array B**	**82.07**	**328**	P		**P**	**14 34 03.1**	**0.0**
	comp=Z,0.4nm,0.4s,baz=25,slow=6.6,SNR=3.8							
GERES	**GERESS Array B**	**82.07**	**328**	*e*P		**P**	**14 34 04.1**	**+1.0**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**89.16**	**53**	P		**P**	**14 34 39.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=301,slow=2.5,SNR=5.4							
TXAR	**Lajitas Array**	**89.16**	**53**	*e*P		**P**	**14 34 40.2**	**+1.5**
LPAZ	**La Paz**	**145.80**	**59**	PKPbc		**PKPab**	**14 41 23.9**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=1.1,slow=3.9,SNR=7.8							
LPAZ	**La Paz**	**145.80**	**59**	PKP2		**PKPab**	**14 41 24.0**	**+0.6**

*IDC **15** 14:25:01.5±1.2, 10°.34N×93°.56E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/64, mbtmp3.7/9, ML3.7/1, MS3.3/2, Ms1 3.4/2, ms1mx2.7/58, Error ellipse: s-maj=42.2km s-min=18.8km az=58.0*

*ISCJB **15** 14:25:03.8±1.0, 10°.4N±0°.1×93°.8E±0°.2, h25km, mb3.8/9, Error ellipse: s-maj=25.0km s-min=16.0km az=150.8*

ISC 15 14:25:06.1±1.2, 10°.4N±0°.2×93°.8E±0°.2, h25km, n11, σ1§46/10, mb3.8/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.12**	**146**	LR	LR	14 31 36.5	
	comp=Z,180nm,18.2s,baz=333,slow=43						
CMAR	**Chiang Mai Arr**	**9.44**	**31**	Pn	**Pn**	**14 27 20.5**	**0.0**
	0.2nm,0.3s,baz=216,slow=15,SNR=4.0						
CMAR				LR	LR	14 30 47.5	
	comp=Z,172nm,21.3s,baz=223,slow=36						
MKAR	**Makanchi Array**	**37.56**	**347**	P	**P**	**14 32 17.5**	**-0.8**
	0.9nm,0.7s,baz=167,slow=8.3,SNR=4.2						
SONM	**Songino Array**	**38.80**	**14**	P	**P**	**14 32 30.0**	**+1.1**
	0.5nm,0.8s,baz=191,slow=6.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**42.02**	**346**	P	**P**	**14 32 54.6**	**-0.8**
	1.2nm,1.0s,baz=163,slow=7.8,SNR=4.1						
GEYT	**Alibeck**	**42.11**	**317**	P	**P**	**14 32 58.4**	**+2.1**
	4.8nm,0.7s,baz=156,slow=8.1,SNR=6.9						
ZALV	**Zalesovo Beam**	**44.02**	**352**	P	**P**	**14 33 10.5**	**-1.0**
	0.7nm,0.4s,baz=170,slow=9.0,SNR=5.6						
BVAR	**Borovoye Array**	**46.50**	**341**	P	**P**	**14 33 28.9**	**-2.3**
	0.5nm,0.6s,baz=141,slow=5.5,SNR=3.0						
WRA	**Warramunga Arr**	**50.03**	**127**	P	**P**	**14 33 58.5**	**-0.5**
	1.1nm,0.5s,baz=302,slow=10.0,SNR=6.9						
ASAR	**Alice Springs**	**51.82**	**131**	P	**P**	**14 34 12.9**	**+0.5**
	1.9nm,0.9s,baz=313,slow=7.4,SNR=9.1						
BRTR	**Keskin Array B**	**60.53**	**310**	P	**P**	**14 35 13.6**	**-1.1**
	0.5nm,0.6s,baz=99,slow=5.7,SNR=2.6						

JMA 15 14:30:46.9±0.2, 40°.90N×145°.15E, h66km±2km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.87**	**307**	P	Pn	14 31 17.4	+0.8
JAK	**Akkeshi**	**2.12**	**351**	P	Pn	14 31 20.8	+0.7
JCH	**Churui**	**2.17**	**323**	P	Pn	14 31 21.7	+0.9
JCH				*e*S	Sn	14 31 46.0	-0.6
JOB	**Onbets**	**2.23**	**334**	P	Pn	14 31 22.7	+1.2
JOB				*e*S	Sn	14 31 48.6	+0.6
JNBK	**Urakawa-nobuka**	**2.27**	**308**	P	Pn	14 31 23.5	+1.5
JNBK				*e*S	Sn	14 31 49.5	+0.6
NEM2	**Nemuro 2**	**2.50**	**10**	P	Pn	14 31 26.4	+1.2
JAR	**Ashorobuto**	**2.61**	**337**	P	Pn	14 31 27.0	+0.3
JAR				*e*S	Sn	14 31 56.7	-0.5
JBT2	**Biratori 2**	**2.80**	**313**	P	Pn	14 31 30.6	+1.3
JANG	**Nango**	**2.81**	**260**	P	Pn	14 31 29.6	+0.1
JFR	**Furan**	**2.96**	**321**	P	Pn	14 31 32.5	+1.1
JFR				*e*S	Sn	14 32 04.4	-1.4
JOT	**Ohata**	**3.13**	**280**	P	Pn	14 31 34.6	+0.8
JOT				*e*S	Sn	14 32 07.9	-2.2
JTKR	**Abashiri--Toko**	**3.20**	**344**	P	Pn	14 31 36.5	+1.7
JTKR				*e*S	Sn	14 32 12.8	+1.1
JKB	**Kayabe**	**3.25**	**289**	P	Pn	14 31 36.4	+1.0
JKB				*e*S	Sn	14 32 11.8	-1.1
JOM	**Ohasama**	**3.28**	**246**	P	Pn	14 31 36.9	+1.0
JOM				*e*S	Sn	14 32 11.9	-1.8
JEW	**Eniwo**	**3.38**	**306**	P	Pn	14 31 39.4	+2.3
JEW				*e*S	Sn	14 32 16.8	+0.8
JKK2	**Kamakawa 2**	**3.46**	**330**	P	Pn	14 31 40.7	+2.4
JMK	**Ichinoseki**	**3.59**	**238**	P	Pn	14 31 41.0	+0.9

*ISCJB **15** 14:32:36.9±1.2, 38°.70N±0°.05×43°.63E±0°.10, h28km±6km, Error ellipse: s-maj=14.4km s-min=6.7km az=29.3*

*CSEM **15** 14:32:37.1±0.4, 38°.74N×43°.58E, h20km, ML2.3, Error ellipse: s-maj=10.6km s-min=5.9km az=123.0*

*DDA **15** 14:32:37.8, 38°.71N×43°.62E, h7km, Ml2.8*

*ISK **15** 14:32:37.2, 38°.78N×43°.49E, h12km, ML2.3/4*

ISC 15 14:32:37.4±0.9, 38°.77N±0°.03×43°.58E±0°.04, h17km±8km, n18, σ1§09/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.22**	**359**	*i* P	**Pb**	**14 32 43.5**	**+0.4**
VMUR				*i* S	**Sb**	**14 32 49.3**	**+2.4**
VMUR	**Van-Muradiye**	**0.22**	**359**	P	**Pb**	**14 32 43.5**	**+0.4**
VMUR				S	**Sb**	**14 32 49.3**	**+2.4**
VANB	**Van**	**0.23**	**220**	PG	**Pg**	**14 32 43.2**	**+0.4**
VANB				SG	**Sb**	**14 32 47.9**	**+0.8**
VANB	**Van**	**0.23**	**220**	*e*Pg	**Pg**	**14 32 43.2**	**+0.4**
VANB				*e*Sg	**Sb**	**14 32 47.9**	**+0.8**
TVAN	**Van**	**0.28**	**209**	*i* P	**Pg**	**14 32 43.1**	**-0.6**
TVAN				*i* S	**Sg**	**14 32 47.9**	**0.0**
TVAN	**Van**	**0.28**	**209**	P	**Pg**	**14 32 43.1**	**-0.6**
TVAN				S	**Sg**	**14 32 47.9**	**0.0**
ERCV	**ERCIS-VAN**	**0.31**	**323**	PG	**Pg**	**14 32 42.9**	**-1.3**
ERCV	**ERCIS-VAN**	**0.31**	**323**	*e*Pg	**Pg**	**14 32 42.9**	**-1.3**
CLDR	**Caldiran**	**0.46**	**35**	PG	**Pb**	**14 32 47.3**	**+0.1**
CLDR				SG	**Sb**	**14 32 54.7**	**+0.9**
CLDR	**Caldiran**	**0.46**	**35**	*i* P	**Pg**	**14 32 46.7**	**-0.1**
CLDR				*i* S	**Sn**	**14 32 55.7**	**-1.7**
CLDR	**Caldiran**	**0.46**	**35**	P	**Pg**	**14 32 46.7**	**-0.1**
CLDR	**Caldiran**	**0.46**	**35**	*e*Pg	**Pb**	**14 32 47.3**	**+0.1**
CLDR				*e*Sg	**Sb**	**14 32 54.7**	**+0.9**
CLDR				S	**Sn**	**14 32 55.7**	**-1.7**
TUTA	**Tutak**	**0.87**	**317**	*i* P	**Pb**	**14 32 54.4**	**+0.2**
TUTA				*i* S	**Sb**	**14 33 07.5**	**+1.7**
TUTA	**Tutak**	**0.87**	**317**	P	**Pb**	**14 32 54.4**	**+0.2**
TUTA				S	**Sb**	**14 33 07.3**	**+1.7**
AGRB	**Hanur-Agry**	**0.92**	**331**	PG	**Pb**	**14 32 54.9**	**-0.2**
AGRB	**Hanur-Agry**	**0.92**	**331**	*e*Pg	**Pb**	**14 32 54.9**	**-0.2**
GURO	**Guroymak-BITLI**	**1.23**	**260**	PN	**Pn**	**14 32 59.8**	**-0.2**
GURO	**Guroymak-BITLI**	**1.23**	**260**	*e*Pn	**Pn**	**14 32 59.8**	**-0.2**

*ISCJB **15** 14:33:09.0±0.6, 50°.08N±0°.04×18°.38E±0°.03, h0km, Error ellipse: s-maj=5.9km s-min=2.9km az=1.7*

*IPEC **15** 14:33:09.4±0.2, 50°.06N×18°.46E, h1km, 2km, ML1.8/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*

*CSEM **15** 14:33:09.4±0.3, 50°.08N×18°.40E, h1km, ML2.5/7, Error ellipse: s-maj=6.6km s-min=3.2km az=2.0*

*PRU **15** 14:33:10.4, 50°.08N×18°.36E, h0km*

ISC 15 14:33:09.2±0.8, 50°.09N±0°.04×18°.43E±0°.02, h0km, n23, σ0§89/38, 3D, Poland

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

mb4.2/19,MS3.4/1, Error ellipse: s-maj=13.5km s-min=7.3km az=142.3
*NEIC **15** 14:39:09.1±1.8, 10.75N×93.91E, h57km±17km, mb4.3/4, Error ellipse: s-maj=21.4km s-min=9.6km az=70.0*
ISC 15 14:39:04.3±0.8, 10.60N±0.10×93.8E±0.1, h19km, n38, σ1§10/36, mb4.3/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.50**	**315**	*eP*		Pn	14 39 30.6	+0.4
PBA				*eS*		Sg	14 39 51.7	-1.0
DGPR	**DIGLIPUR**	**2.71**	**341**	*eP*		**Pb**	**14 39 50.3**	**-1.8**
DGPR				*eS*		**Sn**	**14 40 18.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**9.25**	**32**	Pn		**Pn**	**14 41 18.9**	**+2.1**
	0.2nm,0.3s,baz=220,slow=14,SNR=9.3							
CMAR				LR		LR	14 45 14.7	
	comp=Z,309nm,18.2s,baz=220,slow=40							
PSI	**Prapat**	**9.25**	**147**	Pn		Pn	14 41 24.0	+7.1
	0.8nm,0.3s,baz=323,slow=14,SNR=8.3							
CHTO	**Chiang Mai**	**9.55**	**31**	*eP*		**Pn**	**14 41 18.4**	**-2.4**
	6.2nm,1.0s							
VIS	**Vishakhapatnam**	**12.40**	**306**	*i* P		**Pn**	**14 42 01.4**	**+1.6**
VIS				*eS*		Sn	14 44 07.2	-10
VIS				*ex*		x	14 44 13.8	
	comp=N,30nm,0.7s							
VIS				*ex*		x	14 44 20.1	
	comp=E,33nm,1.2s							
SHL	**Shillong**	**15.00**	**353**	*eP*		**Pn**	**14 42 36.2**	**+0.6**
JIRN	**Jiri**	**18.43**	**338**	*eP*		**Pn**	**14 43 20.2**	**+1.0**
	comp=E,41nm,0.9s							
PKIN	**Phulchoki**	**18.66**	**336**	*eP*		**Pn**	**14 43 22.8**	**+0.9**
	comp=E,22nm,0.9s							
GUN	**Gumba**	**18.77**	**338**	*eP*		**Pn**	**14 43 24.5**	**+1.2**
	comp=E,71nm,1.1s							
DMN	**Daman**	**18.81**	**335**	*eP*		**Pn**	**14 43 25.5**	**+1.9**
	comp=E,28nm,0.9s							
KKN	**Kakani**	**18.90**	**336**	*eP*		**Pn**	**14 43 25.3**	**+0.6**
	comp=E,25nm,1.1s							
LSA	**Lhasa**	**19.17**	**353**	*eP*		**P**	**14 43 27.1**	**-0.2**
	comp=E,13nm,0.7s							
KOLN	**Koldanda**	**19.60**	**332**	*eP*		**Pn**	**14 43 33.3**	**+0.1**
	comp=E,26nm,0.8s							
PYUN	**Piuthan**	**20.17**	**331**	*eP*		Pn	14 43 40.9	+1.0
	comp=E,34nm,0.8s							
ENH	**Enshi**	**24.41**	**34**	*eP*		**P**	**14 44 22.0**	**+0.3**
	comp=E,12nm,0.8s							
GTA	**Gaotai**	**29.18**	**10**	*eP*		**P**	**14 45 06.4**	**+1.7**
GTA				pP		pP	14 45 11.1	+0.6
GTA				sP		sP	14 45 13.4	+0.5
KSH	**Kashi**	**32.89**	**334**	*eP*		**P**	**14 45 36.3**	**-1.1**
KSH				pP		pP	14 45 40.4	-2.8
KSH				S		S	14 50 17.8	-37
AAK	**Ala-Archa**	**36.11**	**336**	*eP*		**P**	**14 46 04.6**	**-0.7**
	comp=E,3.3nm,0.8s							
MKAR	**Makanchi Array**	**37.38**	**347**	P		**P**	**14 46 15.8**	**0.0**
	comp=E,4.1nm,0.8s,baz=163,slow=8.5,SNR=42							
MKAR				LR		LR	15 04 16.5	
	comp=E,63nm,18.4s,baz=156,slow=40							
SONM	**Songino Array**	**38.59**	**14**	P		**P**	**14 46 26.8**	**+0.6**
	comp=E,2.7nm,1.0s,baz=197,slow=9.1,SNR=10							
KURBB	**Kurchatov Arra**	**41.85**	**345**	P		**P**	**14 46 53.0**	**+0.1**
	comp=E,2.8nm,0.8s,baz=162,slow=7.6,SNR=20							
KURK	**Kurchatov**	**41.91**	**346**	P		**P**	**14 46 53.0**	**-0.5**
GEYT	**Alibeck**	**42.00**	**316**	P		**P**	**14 46 56.7**	**+2.2**
	comp=E,18nm,0.8s,baz=134,slow=8.5,SNR=33							
ZALV	**Zalesovo Beam**	**43.83**	**352**	P		**P**	**14 47 09.2**	**+0.2**
	comp=E,9.1nm,0.8s,baz=176,slow=9.1,SNR=33							
BVAR	**Borovoye Array**	**46.33**	**341**	P		**P**	**14 47 28.4**	**-0.5**
	comp=E,1.9nm,0.7s,baz=140,slow=7.5,SNR=12							
ABKAR	**Akbulak array**	**47.72**	**330**	*eP*		**P**	**14 47 39.6**	**-0.1**
AKTO	**Aktyubinsk**	**49.43**	**330**	P		**P**	**14 47 52.7**	**-0.3**
	comp=E,2.2nm,0.7s,baz=112,slow=7.0,SNR=11							
WRA	**Warramunga Arr**	**50.12**	**127**	P		**P**	**14 47 58.5**	**-0.1**
	comp=E,5.5nm,0.9s,baz=305,slow=8.8,SNR=20							
WRAB	**Tennant Creek**	**50.12**	**127**	*eP*		**P**	**14 47 58.4**	**-0.3**
	comp=E,2.9nm,0.7s							
ASAR	**Alice Springs**	**51.91**	**131**	P		**P**	**14 48 11.9**	**-0.3**
	comp=E,3.2nm,0.8s,baz=310,slow=7.0,SNR=25							
BRTR	**Keskin Array B**	**60.44**	**310**	P		**P**	**14 49 11.9**	**-1.2**
	comp=E,1.6nm,0.7s,baz=127,slow=5.6,SNR=7.3							
AKASG	**Malin Array Be**	**65.85**	**321**	P		**P**	**14 49 46.8**	**-1.8**
	comp=E,0.2nm,0.3s,baz=86,slow=5.0,SNR=4.5							
FINES	**FINESS Array B**	**70.18**	**332**	P		**P**	**14 50 15.4**	**-0.2**
	comp=E,0.9nm,0.5s,baz=96,slow=5.7,SNR=6.1							
ARCES	**ARCESS Array B**	**72.61**	**340**	P		**P**	**14 50 30.5**	**+0.3**
	comp=E,2.4nm,0.8s,baz=82,slow=9.9,SNR=5.9							
GERES	**GERESS Array B**	**75.61**	**318**	P		**P**	**14 50 47.7**	**-0.5**
	comp=E,0.9nm,0.7s,baz=94,slow=5.4,SNR=5.7							
HFS	**Hagfors**		**75.96**	**329**	P	**P**	**14 50 48.9**	**-0.9**
	comp=E,1.4nm,0.7s,baz=232,slow=41,SNR=3.4							
TORD	**Torodi Ar. Bea**	**89.68**	**283**	P		**P**	**14 52 02.0**	**+0.2**
	comp=E,0.5nm,0.8s,baz=72,slow=4.8,SNR=3.5							

IDC 15 14:49:20.1±1.2, 10.44N×93.81E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/66, mbtmp3.6/5, Error ellipse: s-maj=89.7km s-min=21.9km az=46.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.53**	**347**	P		P	14 56 35.0	-0.9
	0.3nm,0.6s,baz=161,slow=8.0,SNR=4.0							
GEYT	**Alibeck**	**42.11**	**317**	P		P	14 57 15.8	+1.7
	2.7nm,0.6s,baz=126,slow=7.3,SNR=6.6							
WRA	**Warramunga Arr**	**50.03**	**127**	P		P	14 58 16.7	-0.1
	0.6nm,0.7s,baz=306,slow=8.6,SNR=3.9							
ASAR	**Alice Springs**	**51.82**	**131**	P		P	14 58 30.3	+0.1
	0.5nm,0.8s,baz=300,slow=6.8,SNR=4.9							
BRTR	**Keskin Array B**	**60.53**	**310**	P		P	14 59 31.4	-1.1
	0.6nm,0.6s,baz=127,slow=6.9,SNR=2.9							

IDC 15 14:50:09.6±2.0, 14.64S×67.05E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/66, mbtmp3.7/7, MS3.6/3, Ms1 3.7/3, ms1mx3.1/61, Error ellipse: s-maj=71.6km s-min=26.2km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**8.75**	**38**	T		T	15 01 47.4	
	baz=218,slow=76,SNR=109							
H08S2	**Diego Garcia H**	**8.76**	**38**	T		T	15 01 48.9	
	baz=218,slow=76,SNR=162							
H08S3	**Diego Garcia H**	**8.77**	**38**	T		T	15 01 49.5	
	baz=218,slow=76,SNR=140							
H08N3	**Diego Garcia H**	**9.11**	**26**	T		T	15 01 56.6	
	baz=205,slow=76,SNR=236							
H08N1	**Diego Garcia H**	**9.12**	**26**	T		T	15 02 08.1	
	baz=205,slow=76,SNR=384							
H08N2	**Diego Garcia H**	**9.13**	**26**	T		T	15 02 11.3	
	baz=205,slow=76,SNR=338							
PALK	**Pallekele**	**25.64**	**33**	LR		LR	15 02 25.6	
	comp=Z,77nm,21.9s,baz=116,slow=29							
CMAR	**Chiang Mai Arr**	**45.49**	**45**	LR		LR	15 16 01.0	
	comp=Z,97nm,18.5s,baz=216,slow=34							
MKAR	**Makanchi Array**	**62.66**	**12**	P		P	15 00 36.4	+0.4
	0.5nm,0.7s,baz=193,slow=5.6,SNR=6.2							
ASAR	**Alice Springs**	**63.31**	**109**	P		P	15 00 41.0	+0.1
	0.9nm,1.0s,baz=269,slow=5.9,SNR=5.2							
WRA	**Warramunga Arr**	**64.10**	**105**	P		P	15 00 46.5	+0.3
	1.3nm,1.0s,baz=269,slow=6.1,SNR=3.8							
KURBB	**Kurchatov Arra**	**65.75**	**8**	P		P	15 00 56.7	+0.6
	0.8nm,0.8s,baz=206,slow=6.4,SNR=5.7							
BVAR	**Borovoye Array**	**67.44**	**2**	P		P	15 01 07.4	+0.5
	0.5nm,0.6s,baz=165,slow=6.0,SNR=3.4							
BVAR				LR		LR	15 29 29.5	
	comp=Z,59nm,19.2s,baz=146,slow=35							
ZALV	**Zalesovo Beam**	**69.98**	**11**	P		P	15 01 22.8	0.0
	0.6nm,0.6s,baz=202,slow=7.2,SNR=3.0							
SONM	**Songino Array**	**71.41**	**27**	P		P	15 01 30.4	-1.3
	0.4nm,0.6s,baz=232,slow=7.1,SNR=2.6							
PDAR	**Pinedale Array**	**151.82**	**355**	PKPbc		PKPbc	15 10 06.2	-0.7
	0.5nm,0.6s,baz=25,slow=3.0,SNR=5.5							
TXAR	**Lajitas Array**	**163.04**	**331**	PKPab		PKPab	15 11 03.8	-0.5
	0.3nm,0.6s,baz=35,slow=4.9,SNR=3.3							

*IDC **15** 14:50:10.3±1.5, 10.39N×93.74E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/67, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=46.4km s-min=25.3km az=50.0*
*ISCJB **15** 14:50:12.1±1.3, 10.4N±0.2×93.8E±0.2, h25km, mb3.6/6, Error ellipse: s-maj=26.5km s-min=22.4km az=140.8*
ISC 15 14:50:14.1±1.4, 10.4N±0.2×93.7E±0.2, h25km, n7, σ1§22/7, mb3.7/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.49**	**32**	P		**Pn**	**14 52 29.6**	**+0.4**
	0.2nm,0.3s,baz=216,slow=12,SNR=3.8							
MKAR	**Makanchi Array**	**37.58**	**347**	P		**P**	**14 57 25.9**	**-0.6**
	0.3nm,0.7s,baz=151,slow=7.4,SNR=3.1							
KURBB	**Kurchatov Arra**	**42.04**	**346**	P		**P**	**14 58 02.6**	**-0.9**
	0.4nm,0.9s,baz=158,slow=7.8,SNR=4.0							
GEYT	**Alibeck**	**42.10**	**317**	P		**P**	**14 58 06.0**	**+1.7**
	2.7nm,0.6s,baz=139,slow=7.0,SNR=6.0							
ZALV	**Zalesovo Beam**	**44.04**	**352**	P		**P**	**14 58 18.7**	**-1.0**
	0.3nm,0.3s,baz=166,slow=7.4,SNR=2.5							
WRA	**Warramunga Arr**	**50.05**	**127**	P		**P**	**14 59 07.2**	**+0.1**
	0.8nm,0.8s,baz=303,slow=9.3,SNR=4.1							
BRTR	**Keskin Array B**	**60.52**	**310**	P		**P**	**15 00 21.7**	**-0.8**
	0.7nm,0.6s,baz=126,slow=7.0,SNR=3.8							

*CSEM **15** 14:53:31.8±0.2, 38.68N×43.28E, h10km, ML2.6, Error ellipse: s-maj=5.4km s-min=4.4km az=119.0*
*ISK **15** 14:53:31.1, 38.66N×43.20E, h9km, ML2.6/6*
*ISCJB **15** 14:53:32.6±0.4, 38.68N±0.02×43.27E±0.04, h6km±5km, Error ellipse: s-maj=5.7km s-min=4.0km az=13.7*
*DDA **15** 14:53:32.1, 38.67N×43.24E, h6km, Ml3.0*
ISC 15 14:53:32.5±0.9, 38.66N±0.02×43.24E±0.03, h12km±7km, n34, σ1§03/56, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**120**		PG	**Pg**	**14 53 35.8**	**-0.2**
VANB					SG	**Sg**	**14 53 40.1**	**+1.6**
VANB	**Van**	**0.14**	**120**	*ePg*		**Pg**	**14 53 35.8**	**-0.2**
TVAN	**Van**	**0.19**	**136**	*i* P		**Pg**	**14 53 35.7**	**-1.1**
TVAN				*i* S		**Sg**	**14 53 39.8**	**-0.1**
TVAN	**Van**	**0.19**	**136**	P		**Pg**	**14 53 35.7**	**-1.1**
TVAN				S		**Sg**	**14 53 39.8**	**-0.1**
ERCV	**ERCIS-VAN**	**0.36**	**12**	PG		**Pg**	**14 53 39.5**	**-0.4**
ERCV	**ERCIS-VAN**	**0.36**	**12**	*ePg*		**Pg**	**14 53 39.5**	**-0.4**
GEVA	**Gevas**	**0.38**	**202**	*i* P		**Pg**	**14 53 38.9**	**-1.2**
GEVA				*i* S		**Sg**	**14 53 47.4**	**+0.2**
GEVA	**Gevas**	**0.38**	**202**	P		**Pg**	**14 53 38.9**	**-1.2**
GEVA				S		**Sg**	**14 53 47.3**	**+0.2**
VMUR	**Van-Muradiye**	**0.42**	**38**	*i* P		**Pg**	**14 53 40.6**	**-0.3**
VMUR				*i* S		**Sb**	**14 53 48.4**	**+0.1**
VMUR	**Van-Muradiye**	**0.42**	**38**	P		**Pg**	**14 53 40.6**	**-0.3**
VMUR				S		**Sb**	**14 53 48.4**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.43**	**290**	*i* P		**Pg**	**14 53 40.3**	**-0.8**
ADCV				*i* S		**Sb**	**14 53 48.3**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.43**	**290**	P		**Pg**	**14 53 40.3**	**-0.8**
ADCV				S		**Sb**	**14 53 48.3**	**-0.3**
CLDR	**Caldiran**	**0.71**	**48**	PG		**Pg**	**14 53 44.9**	**-1.5**
CLDR				SG		**Sb**	**14 53 56.5**	**-0.4**
CLDR	**Caldiran**	**0.71**	**48**	*i* P		**Pg**	**14 53 44.5**	**-2.0**
CLDR				*i* S		**Sb**	**14 53 56.4**	**-0.4**
CLDR	**Caldiran**	**0.71**	**48**	P		**Pg**	**14 53 44.5**	**-2.0**
CLDR	**Caldiran**	**0.71**	**48**	*ePg*		**Pg**	**14 53 44.9**	**-1.5**
CLDR				S		**Sb**	**14 53 56.4**	**-0.4**
TUTA	**Tutak**	**0.81**	**336**	*i* P		**Pg**	**14 53 47.0**	**-1.2**
TUTA				*i* S		**Sb**	**14 53 59.8**	**+0.2**
TUTA	**Tutak**	**0.81**	**336**	P		**Pg**	**14 53 47.0**	**-1.2**
TUTA				S		**Sb**	**14 53 59.8**	**+0.2**
AGRB	**Hanur-Agry**	**0.93**	**348**	PG		**Pg**	**14 53 49.3**	**-1.2**
AGRB	**Hanur-Agry**	**0.93**	**348**	*ePg*		**Pg**	**14 53 49.3**	**-1.2**
GURO	**Guroymak-BITLI**	**0.95**	**264**	PG		**Pg**	**14 53 49.4**	**-1.5**
GURO	**Guroymak-BITLI**	**0.95**	**264**	*ePg*		**Pg**	**14 53 49.4**	**-1.5**
EKAR	**Karacoban**	**1.09**	**303**	*eP*		**Pn**	**14 53 53.5**	**-0.3**
EKAR				*i* S		**Sn**	**14 54 09.4**	**+0.5**
EKAR	**Karacoban**	**1.09**	**303**	P		**Pn**	**14 53 53.5**	**-0.3**
EKAR				S		**Sn**	**14 54 09.4**	**+0.5**
SRTM	**Siirt_Merkez**	**1.23**	**237**	*i* P		**Pg**	**14 53 56.0**	**-0.2**
SRTM				*i* S		**Sn**	**14 54 13.8**	**+1.5**
SRTM	**Siirt_Merkez**	**1.23**	**237**	P		**Pg**	**14 53 56.0**	**-0.2**
SRTM				S		**Sn**	**14 54 13.8**	**+1.5**
SIRT	**Sirnak**	**1.32**	**209**	PN		**Pn**	**14 53 56.1**	**-0.7**
SIRT	**Sirnak**	**1.32**	**209**	*ePn*		**Pn**	**14 53 56.1**	**-0.7**
EATA	**Eleskirt**	**1.33**	**334**	*i* P		**Pn**	**14 53 56.8**	**-0.4**
EATA				*i* S		**Sn**	**14 54 17.6**	**+2.6**
EATA	**Eleskirt**	**1.33**	**334**	P		**Pn**	**14 53 56.8**	**-0.4**
EATA				S		**Sn**	**14 54 17.6**	**+2.6**
CUKT	**Cukurca**	**1.44**	**168**	PN		**Pn**	**14 53 58.3**	**-0.2**
CUKT	**Cukurca**	**1.44**	**168**	*ePn*		**Pn**	**14 53 58.3**	**-0.2**
BTMN	**Batman**	**1.73**	**244**	*i* P		**Pb**	**14 54 04.4**	**+0.1**
BTMN				*i* S		**Sg**	**14 54 28.3**	**+0.1**
BTMN	**Batman**	**1.73**	**244**	P		**Pb**	**14 54 04.4**	**+0.1**
BTMN				S		**Sg**	**14 54 28.3**	**+0.1**

*BJI **15** 14:55:53.5, 10.11N×93.63E, h20km, mb4.5/31, mB4.8/21, Ms4.4/14, Ms7 4.1/12*
*IDC **15** 14:55:55.3±0.6, 10.55N×93.74E, h0km, mb4.3/25, mb1 4.4/26, mb1mx4.2/59, mbtmp4.3/26, ML4.0/1, MS3.9/20, Ms1 3.9/20, ms1mx3.6/64, Error ellipse: s-maj=20.4km s-min=13.5km az=49.0*
*ISCJB **15** 14:55:56.9±0.2, 10.56N±0.03×93.81E±0.03, h19km, mb4.7/80, MS3.9/24, Error ellipse: s-maj=5.4km s-min=3.5km az=35.7*
*MOS **15** 14:55:58.6±0.9, 10.55N×93.85E, h33km, mb5.0/26, Error ellipse: s-maj=9.2km s-min=5.4km az=111.1*
*NEIC **15** 14:56:00.6±0.2, 10.54N×93.77E, h35km, mb4.6/19, Error ellipse: s-maj=5.9km s-min=4.3km az=224.0*
*DJA **15** 14:56:06.7±0.5, 11.1N±2.9×4E±?, h85km±5km, M4.8/25, mb4.6/25, mB5.3/10, MLv4.8/3, Mw(mB)4.8/10*
ISC 15 14:55:58.6±0.4, 10.60N±0.05×93.78E±0.05, h19km, n223, σ1§49/210, mb4.7/81, MS3.9/24, 13C-15D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.47**	**316**	*eP**		Pn	14 56 24.2	+0.2
PBA				*eS*		Sg	14 56 46.5	+0.5
DGPR	**DIGLIPUR**	**2.70**	**342**	*eP*		**Pn**	**14 56 42.5**	**+1.5**
DGPR				*eS*		**Sb**	**14 57 16.9**	**-2.1**
SURT	**Suratani**	**5.20**	**108**	P		**Pn**	**14 57 13.2**	**-2.3**
	55nm,0.9s,545nm							
PKDT	**Phuket**	**5.24**	**120**	P		**Pn**	**14 57 13.3**	**-2.6**
	28nm,1.0s							
PHET	**Kaeng Krachan**	**6.17**	**68**	P		**Pn**	**14 57 29.3**	**+0.5**
	22nm,0.9s,199nm							
SRDT	**SRDT**	**6.41**	**54**	P		Pn	14 57 38.4	+6.3
	40nm,0.8s,4μm							
TRTT	**Trang**	**6.45**	**115**	P		**Pn**	**14 57 30.2**	**-2.4**
	11nm,1.2s							
MLSI	**Meulaboh, Aceh**	**6.80**	**157**	P		Pn	14 57 46.0	+8.5
KCSI	**Kotacane, Aceh**	**8.07**	**150**	P		Pn	14 58 01.5	+6.7
NAYO	**Nakonayok**	**8.24**	**63**	P		**Pn**	**14 58 00.2**	**+3.0**
	60nm,1.2s							
TSI	**Tuntungan**	**8.50**	**146**	P		Pn	14 58 06.9	+6.2
CHBT	**CHBT**	**8.64**	**75**	P		Pn	14 58 12.5	+10
CM01	**Chiang Mai Arr**	**9.25**	**32**	*ePn*		**Pn**	**14 58 13.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**9.28**	**32**	Pn		**Pn**	**14 58 13.0**	**+1.6**
	0.4nm,0.3s,baz=221,slow=14,SNR=28							
CMAR				LR		LR	15 02 09.4	
	comp=Z,944nm,18.5s,baz=220,slow=40							
PSI	**Prapat**	**9.28**	**146**	LR		LR	15 02 01.4	
	comp=Z,622nm,19.3s,baz=306,slow=39							
PSI	**Prapat**	**9.28**	**146**	*ePn*		Pn	14 58 18.2	+6.6
CHAI	**Chaiyaphum**	**9.57**	**56**	P		**Pn**	**14 58 17.0**	**+1.5**
	13nm,1.1s							
CHTO	**Chiang Mai**	**9.57**	**31**	P		**Pn**	**14 58 19.5**	**+4.0**
	40nm,1.7s							
CHTO	**Chiang Mai**	**9.57**	**31**	*eP*		**Pn**	**14 58 17.4**	**+1.9**
CHTO	**Chiang Mai**	**9.57**	**31**	*ePn*		**Pn**	**14 58 17.4**	**+1.9**
CMMT	**Chiang Mai**	**9.57**	**31**	P		**Pn**	**14 58 18.4**	**+2.9**
	9.4nm,1.1s							
KHON	**Khomkaen**	**10.48**	**56**	P		**Pn**	**14 58 30.6**	**+2.6**
	14nm,1.1s							
MNSI	**Mandailing Nat**	**11.31**	**149**	P		Pn	14 58 45.4	+6.0
SKNT	**Sakolnakorn**	**11.76**	**56**	P		**Pn**	**14 58 46.9**	**+1.4**
VIS	**Vishakhapatnam**	**12.36**	**306**	*eP*		**Pn**	**14 58 54.9**	**+1.3**
VIS				*eS*		**Sn**	**15 01 03.4**	**-7.6**
VIS				*ex*		x	15 01 10.4	
	comp=E,60nm,1.1s							
VIS				*ex*		x	15 01 12.4	
	comp=N,72nm,1.1s							
SISI	**Saibi**	**12.97**	**156**	P		**P**	**14 59 08.6**	**-3.9**
PALK	**Pallekele**	**13.33**	**257**	*i* P		**Pn**	**14 59 08.9**	**+1.9**
MDRS	**Chennai**	**13.47**	**282**	*eP*		**Pn**	**14 59 10.6**	**+1.7**
RGRI	**Rengat**	**13.81**	**141**	P		**P**	**14 59 18.5**	**-3.3**
TPRI	**Tanjung Pinang**	**14.37**	**131**	P		**P**	**14 59 25.6**	**-2.5**
PPSI	**Pulau Pagai**	**14.65**	**155**	P		**P**	**14 59 31.1**	**0.0**
SHL	**Shillong**	**15.00**	**353**	*eP*		**Pn**	**14 59 27.9**	**-1.9**
BOK	**Bokaro**	**15.13**	**331**	*eP*		**Pn**	**14 59 31.7**	**+0.3**
BOK					IAmb	IAmb	14 59 40.5	
	comp=Z,31nm,1.5s							
MASI	**Maura Aman, Be**	**16.04**	**148**	P		**P**	**14 59 47.5**	**+0.9**
HYB	**Hyderabad**	**16.25**	**296**	*i* P		**Pn**	**14 59 48.0**	**+2.0**
HYB	**Hyderabad**	**16.25**	**296**	*eP*		**Pn**	**14 59 45.1**	**-0.9**
KMI	**Kunming**	**16.77**	**29**	P		**P**	**14 59 58.5**	**+3.7**
KMI				pP		sP	15 00 06.1	+3.4
KMI				sP		pP	15 00 09.9	+10
KMI				pmax		pmax		
	comp=Z,15nm,0.9s							
KMI				pmax		pmax		
	comp=Z,290nm,7.0s							
KMI				LR		LR		
	comp=Z,860nm,15.2s							
KMI				LR		LR		
	comp=Z,430nm,12.9s							
KMI				LR		LR		
	comp=Z,710nm,15.7s							
NGP	**Nagpur**	**17.61**	**308**	*eP*		**Pn**	**15 00 01.4**	**-1.8**
PPBI	**Pangkal Pinang**	**17.66**	**135**	P		**P**	**15 00 06.8**	**+2.2**
MDSI	**Maura Dua**	**18.21**	**145**	P		**P**	**15 00 13.4**	**+2.7**
JIRN	**Jiri**	**18.41**	**338**	*eP*		**Pn**	**15 00 14.7**	**+1.4**
	comp=Z,90nm,1.2s							
LWLI	**Liwa**	**18.58**	**146**	P		**Pn**	**15 00 17.9**	**+2.7**
PKIN	**Phulchoki**	**18.64**	**336**	*eP*		**Pn**	**15 00 17.0**	**+1.0**
	comp=Z,33nm,1.0s							
KSM	**Kuching**	**18.75**	**118**	*eP*		**P**	**15 00 16.9**	**+0.2**
	comp=Z,26nm,1.2s							
GUN	**Gumba**	**18.76**	**338**	*eP*		**Pn**	**15 00 18.7**	**+1.3**
	comp=Z,95nm,1.1s							
DMN	**Daman**	**18.79**	**335**	*eP*		**Pn**	**15 00 18.8**	**+1.1**
	comp=Z,57nm,1.2s							
KKN	**Kakani**	**18.88**	**336**	*eP*		**Pn**	**15 00 19.6**	**+0.8**
	comp=Z,43nm,1.1s							
KLI	**Kotabumi**	**18.91**	**144**	P		**Pn**	**15 00 20.3**	**+1.3**
BLSI	**Bandar Lampung**	**19.54**	**144**	P		**Pn**	**15 00 27.7**	**+1.1**
KOLN	**Koldanda**	**19.58**	**332**	*eP*		**Pn**	**15 00 27.6**	**+0.4**
	comp=Z,42nm,0.8s							
SBUM	**Sibu**	**20.01**	**113**	*eP*		**P**	**15 00 30.7**	**+0.2**
	comp=Z,23nm,1.2s							
BHPL	**Bhopal**	**20.05**	**311**	*eP*		Pn	15 00 32.5	-0.2
BHPL					IAmb	IAmb	15 00 34.0	
	comp=Z,37nm,1.8s							
PYUN	**Piuthan**	**20.15**	**331**	*eP*		Pn	15 00 33.7	-0.2
	comp=Z,40nm,0.9s							
STKI	**Sintang**	**20.47**	**120**	P		**P**	**15 00 35.0**	**-0.4**
LEM	**Lembang**	**22.12**	**141**	LR		LR	15 10 48.8	
	comp=Z,195nm,19.7s,baz=204,slow=40							
ENH	**Enshi**	**24.43**	**34**	*eP*		**P**	**15 01 16.5**	**+0.2**
	comp=Z,25nm,1.2s							
DDI	**Dehra Dun**	**24.48**	**326**	*eP*		**P**	**15 01 16.8**	**+0.1**
BWJI	**Bawean**	**24.91**	**130**	P		**P**	**15 01 21.2**	**+0.6**
TBJI	**Tambak Boyo**	**24.96**	**133**	P		**P**	**15 01 21.4**	**+0.3**
SMLA	**Simla**	**25.59**	**325**	*eP*		**P**	**15 01 27.1**	**+0.4**
DHRM	**DHARAMSHALA**	**26.92**	**326**	*eP*		**P**	**15 01 38.5**	**-0.5**
DHRM					IAmb	IAmb	15 01 39.8	
	comp=Z,23nm,0.4s							
LZH	**Lanzhou**	**26.97**	**18**	*eP*		**P**	**15 01 39.3**	**0.0**
LZH				pP		sP	15 01 46.8	-0.7
LZH				sP		pP	15 01 50.1	+5.0
LZH				pmax		pmax		
	comp=Z,20nm,1.0s							
LZH				pmax		pmax		
	comp=Z,89nm,4.6s							
XAN	**Xi'an**	**27.14**	**28**	P		**P**	**15 01 40.3**	**-0.5**
XAN				pP		pP	15 01 47.8	+1.2
XAN				pmax		pmax		
	comp=Z,17nm,0.9s							
XAN				pmax		pmax		
	comp=Z,100nm,4

MK31 Makanchi Array 37.37 347 *e*P **P 15 03 09.8 -0.3**
MKAR Makanchi Array 37.37 347 P **P 15 03 10.3 +0.2**
comp=Z,5.7nm,0.8s,baz=164,slow=8.5,SNR=51
MKAR LR LR 15 22 57.6
comp=Z,106nm,18.3s,baz=158,slow=43
MKAR Makanchi Array 37.37 347 *e*P **P 15 03 09.8 -0.3**
MKAR pmax pmax
comp=Z,37nm,0.9s
MKAR Makanchi Array 37.37 347 *e*P **P 15 03 09.8 -0.3**
comp=Z,37nm,0.9s
MAKZ Makanchi 37.45 347 *e*P **P 15 03 11.3 +0.5**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 37.45 347 *e*P **P 15 03 11.3 +0.5**
comp=Z,4.6nm,0.8s
ZSN Zaisan 37.50 350 *i* P **P 15 03 12.8 +1.7**
comp=Z,46nm,1.0s
ZSN eS **S 15 08 59.9 +0.8**
IUG Iuzhnay 37.69 331 *e*P **P 15 03 14.1 +1.2**
comp=Z,193nm,1.1s
CHM Chimkent 38.02 330 *e*P **P 15 03 16.4 +0.7**
BTLS Baital 38.28 337 *i* P **P 15 03 18.4 +0.6**
comp=Z,48nm,1.0s
SONM Songino Array 38.61 14 P **P 15 03 21.2 +0.5**
comp=Z,3.1nm,1.0s,baz=199,slow=9.1,SNR=17
SONM LR LR 15 21 07.9
comp=Z,544nm,19.6s,baz=194,slow=39
SONA1 Songino Array 38.62 14 *e*P **P 15 03 21.1 +0.4**
ULN Ulaanbaatar 38.79 14⇓ *e*P **P 15 03 22.5 +0.2**
ULN pmax pmax
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 38.79 14 *e*P **P 15 03 22.4 +0.2**
comp=Z,3.4nm,0.9s
TJN Taejon 39.75 44⇓ *e*P **P 15 03 29.8 -0.4**
KSAR Wonju Array Be 40.66 43 P **P 15 03 37.7 -0.1**
KSAR Wonju Array Be 40.66 43 P **P 15 03 37.7 -0.1**
KSRS Korea Array 40.70 43 P **P 15 03 37.7 -0.3**
comp=Z,0.9nm,0.7s,baz=245,slow=8.4,SNR=5.2
KSRS LR LR 15 21 47.8
comp=Z,155nm,18.7s,baz=240,slow=38
JNU Nakatsue 40.76 51 LR LR 15 21 57.6
comp=Z,161nm,20.8s,baz=266,slow=38
SEM Semipalatinsk 41.23 347 *i* P **P 15 03 42.8 +0.3**
comp=Z,68nm,1.3s
TLY Talaya 41.75 9 *e*P **P 15 03 48.4 +1.9**
TLY pmax pmax
comp=Z,5.0nm,1.5s
TLY MLR MLR
comp=Z,81nm,17.0s
KURBB Kurchatov Arra 41.84 345 P **P 15 03 47.5 +0.3**
comp=Z,5.4nm,1.0s,baz=162,slow=7.8,SNR=34
KURK Kurchatov 41.90 346 *e*P **P 15 03 47.9 +0.2**
KURK pmax pmax
comp=Z,12nm,1.2s
KURK Kurchatov 41.90 346 *e*P **P 15 03 47.9 +0.2**
comp=Z,12nm,1.2s
GEYT Alibeck 41.97 316 P **P 15 03 51.0 +2.4**
comp=Z,35nm,0.8s,baz=146,slow=8.6,SNR=72
GEYT LR LR 15 21 40.4
comp=Z,115nm,21.1s,baz=200,slow=37
CN2 Changchun 42.95 34 *e*P **P 15 03 57.3 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ZAA0 Zalesovo Array 43.83 352 *e*P **P 15 04 03.5 +0.3**
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 43.83 352 P **P 15 04 03.5 +0.2**
comp=Z,10nm,0.7s,baz=176,slow=8.5,SNR=43
ZALV LR LR 15 26 01.2
comp=Z,162nm,18.3s,baz=252,slow=41
ZALV Zalesovo Beam 43.83 352 *e*P **P 15 04 03.0 -0.3**
ZALV Zalesovo Beam 43.83 352 *e*P **P 15 04 03.0 -0.3**
HIA Hailar 44.19 24⇓ *e*P **P 15 04 07.2 +0.9**
HIA pmax pmax
comp=Z,13nm,1.5s
NVS Novosibirsk 44.92 351⇑ *i*P **P 15 04 12.5 +0.5**
NVS pmax pmax
comp=Z,10.0nm,1.4s
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,2.0nm,1.3s
BVAR Borovoye Array 46.32 341 P **P 15 04 23.1 0.0**
comp=E,2.0nm,0.7s,baz=144,slow=9.7,SNR=14
BRVK Borovoye 46.38 341⇑ *e*P **P 15 04 23.4 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 46.38 341 *e*P **P 15 04 23.6 0.0**
comp=Z,4.7nm,0.8s
USRK Ussuriysk Ar. 46.95 37 P **P 15 04 27.4 -0.8**
comp=Z,1.6nm,0.8s,baz=239,slow=7.2,SNR=2.5
USRK LR LR 15 23 49.9
comp=Z,101nm,21.9s,baz=205,slow=36
MJAR Matsushiro Arr 47.64 50 LR LR 15 27 45.2
comp=Z,84nm,18.1s,baz=250,slow=40
RAYN Ar Rayn 47.69 292 *e*P **P 15 04 36.5 +2.1**
RAYN pmax pmax
comp=Z,17nm,1.3s
RAYN Ar Rayn 47.69 292 *e*P **P 15 04 36.5 +2.1**
comp=Z,16nm,1.3s
ABKAR Akbulak array 47.69 330 *e*P **P 15 04 34.6 +0.7**
AKTO Aktyubinsk 49.41 331 P **P 15 04 48.0 +0.8**
comp=Z,2.3nm,0.5s,baz=113,slow=11,SNR=5.2
BOD Bodaibo 49.60 14 *e*P **P 15 04 47.1 -1.4**
BOD pmax pmax
comp=Z,5.0nm,1.3s
WRA Warramunga Arr 50.15 127 P **P 15 04 52.9 -0.4**
comp=Z,10.0nm,0.8s,baz=305,slow=8.8,SNR=49
WRA Warramunga Arr 50.15 127 *e*P **P 15 04 52.8 -0.4**
WRA pmax pmax
comp=Z,11nm,0.7s
WRAB Tennant Creek 50.16 127⇑ *i*P **P 15 04 53.2 -0.1**
WRAB pmax pmax
comp=Z,16nm,0.9s
WB2 Warramunga Arr 50.16 127 *e*P **P 15 04 52.7 -0.6**
AS31 Alice Springs 51.95 131 *e*P **P 15 05 05.9 -0.8**
comp=Z,2.0nm,0.8s
ASAR Alice Springs 51.95 131 P **P 15 05 06.5 -0.3**
comp=Z,6.1nm,0.8s,baz=307,slow=6.8,SNR=52
ASAR LR LR 15 28 43.1
comp=Z,96nm,19.3s,baz=299,slow=38
AS01 Alice Springs 51.98 131 *e*P **P 15 05 06.0 -0.9**
GNI Garni 52.31 313 P **P 15 05 11.4 +2.0**
comp=Z,14nm,0.7s,baz=191,slow=8.1,SNR=8.3
GNI Garni 52.31 313 *d i*P **P 15 05 11.3 +1.9**
GNI pmax pmax
comp=Z,134nm,1.2s
GROC Groznyy 52.71 317 *e*P **P 15 05 13.8 +1.7**
GROC *e*S **S 15 12 39.2 +0.1**
GROC pmax pmax
comp=Z,59nm,1.4s
SVE Sverdlovsk 52.76 338 *e*P **P 15 05 12.4 +0.2**
SVE pmax pmax
comp=Z,15nm,1.3s
ERM Erimo 53.21 45⇓ *e*P **P 15 05 15.8 0.0**
ERM pmax pmax
comp=Z,58nm,1.2s
ARU Arti 53.26 336 *d i*P **P 15 05 16.0 +0.1**
ARU 15 07 19.3
ARU S **S 15 12 43.6 -2.6**
ARU SS **SS 15 16 21.0 -5.0**
ARU pmax pmax
comp=Z,11nm,1.7s
ZEI Tsey 53.84 316 *e*P **P 15 05 21.4 +0.7**
ZEI pmax pmax
comp=Z,12nm,0.9s
NCK Nalchik 54.31 317⇓ *e*P **P 15 05 25.8 +2.0**
NCK pmax pmax
comp=Z,8.0nm,0.4s
NEY Neytrino 54.81 316⇑ *i*P **P 15 05 30.3 +2.6**
NEY pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 54.86 317 P **P 15 05 28.6 +0.8**
comp=Z,9.4nm,1.0s,baz=108,slow=7.7,SNR=8.3
KIV Kislovodsk 55.09 317 *e*P **P 15 05 30.4 +0.8**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV Kislovodsk 55.09 317 *e*P **P 15 05 30.7 +1.1**
comp=Z,32nm,1.0s
NKL Nikolayevsk 56.60 32 *e*P **P 15 05 40.8 +0.7**
NKL pmax pmax
comp=N,10.0nm,1.0s
NKL pmax pmax
comp=Z,19nm,1.0s
YAK Yakutsk 57.55 19⇓ *i*P **P 15 05 46.5 -0.1**
YAK pmax pmax
comp=Z,9.0nm,0.7s

MMAI Mount Meron Ar 57.85 302 LR LR 15 33 20.0
comp=Z,36nm,19.1s,baz=225,slow=39
VRH Novokhopyorsk 58.51 324 *e*P **P 15 05 53.2 -0.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
ANN Anapa 58.92 316 *e*P **P 15 05 54.3 -2.3**
ANN *e**PP **sP 15 06 08.8 +3.8**
ANN *e*S **S 15 13 57.4 -4.4**
ANN pmax pmax
comp=Z,72nm,1.1s
VSR Storozhevoye 59.99 324 *e*P **P 15 06 03.0 -0.9**
VSR pmax pmax
comp=Z,10.0nm,1.0s
BR131 Keskin Array S 60.41 310 *e*P **P 15 06 05.9 -1.3**
BRTR Keskin Array B 60.41 310 P **P 15 06 06.3 -0.8**
comp=Z,5.1nm,0.8s,baz=122,slow=7.6,SNR=29
BR231 Keskin MP Arra 61.08 310 *e*P P 15 06 07.3 -4.4
STKA Stephens Creek 62.25 135 P **P 15 06 19.1 -0.4**
comp=Z,5.4nm,0.9s,baz=333,slow=8.3,SNR=6.1
STKA LR LR 15 35 19.0
comp=Z,99nm,20.2s,baz=306,slow=38
OBN Obninsk 62.91 327 *e*P **P 15 06 23.0 -0.5**
OBN *e* 15 08 39.6
OBN pmax pmax
comp=Z,35nm,1.7s
OBN MLR MLR
comp=Z,70nm,11.0s
KLMR Klimovskoe 63.87 334 *e*P **P 15 06 28.4 -1.3**
KLMR pmax pmax
comp=Z,25nm,1.5s
KLMR Klimovskoe 63.87 334 *e*P **P 15 06 28.5 -1.3**
KLMR AMP 15 06 31.0
comp=Z,25nm,1.5s
MA2 Magadan 64.54 28⇓ *i*P **P 15 06 34.6 +0.4**
CFR Carcaliu 65.42 315⇓ *i*P **P 15 06 38.9 -1.3**
CFR Carcaliu 65.42 315⇓ P **P 15 06 38.9 -1.3**
AKASG Malin Array Be 65.82 321 P **P 15 06 40.9 -1.8**
comp=Z,0.6nm,0.4s,baz=88,slow=4.8,SNR=9.5
KIEV Kiev 65.83 321⇓ *e*P **P 15 06 42.6 -0.1**
KIEV pmax pmax
comp=Z,16nm,2.7s
PETK Petropavlovsk- 66.02 36 LR LR 15 38 14.3
comp=Z,122nm,18.8s,baz=254,slow=38
VRI Vrincioaia 66.51 315⇑ *i*P **P 15 06 47.9 +0.6**
VRI Vrincioaia 66.51 315 ⇑P **P 15 06 47.9 +0.6**
PLOR Plostina 66.56 315⇑ *i*P **P 15 06 48.4 +0.8**
PLOR Plostina 66.56 315 ⇑P **P 15 06 48.4 +0.8**
SEY Seymchan 66.62 25⇓ *e*P **P 15 06 47.3 -0.3**
IDI Anoyia 66.75 304 LR LR 15 41 36.3
comp=Z,27nm,18.1s,baz=97,slow=41
MLR Muntele Rosu 67.00 315⇓ *i*P **P 15 06 51.2 +0.7**
MLR Muntele Rosu 67.00 315 *e*P **P 15 06 50.8 +0.3**
MLR pmax pmax
comp=Z,20nm,1.1s
MLR Muntele Rosu 67.00 315 *e*P **P 15 06 50.8 +0.3**
comp=Z,20nm,1.1s
BURAR Bucovina Array 67.81 317⇓ *i*P **P 15 06 56.2 +0.6**
BURAR Bucovina Array 67.81 317 ⇓P **P 15 06 56.2 +0.6**
BUR04 Bucovina Ar. S 67.82 317 *e*P **P 15 06 55.1 -0.5**
VTS Vitosha 68.61 312⇑ *i*P **P 15 07 00.0 -0.8**
VTS Vitosha 68.61 312 *e*P **P 15 07 00.0 -0.8**
VTS pmax pmax
comp=Z,8.0nm,1.0s
VTS Vitosha 68.61 312 *e*P **P 15 07 00.0 -0.8**
comp=Z,7.8nm,1.0s
DRGR 69.40 316⇑ *i*P **P 15 07 05.5 0.0**
DRGR 69.40 316 ⇑P **P 15 07 05.5 0.0**
FINES FINESS Array B 70.16 332 P **P 15 07 09.4 -0.3**
comp=Z,0.9nm,0.3s,baz=102,slow=7.1,SNR=10
CRVS Cervenica-Dubn 70.47 318 *e*P **P 15 07 13.1 +1.2**
CRVS Cervenica-Dubn 70.47 318 *e*P **P 15 07 13.1 +1.2**
STHS Stebnicka Huta 70.67 319 *e*P **P 15 07 13.9 +0.7**
STHS Stebnicka Huta 70.67 319 *e*P **P 15 07 13.8 +0.6**
ARCES ARCESS Array B 72.60 340 P **P 15 07 24.7 +0.3**
comp=Z,1.5nm,0.4s,baz=100,slow=7.0,SNR=20
MORC Moravsky Berou 73.10 319 *e*P **P 15 07 27.8 0.0**
MORC pmax pmax
comp=Z,44nm,1.3s
MORC Moravsky Berou 73.10 319 *e*P **P 15 07 27.8 0.0**
comp=Z,44nm,1.3s
BILL Bilibino 73.71 22 *i*P **P 15 07 28.9 -2.0**
BILL *i* 15 07 39.2
BILL *i* 15 10 13.3
BILL pmax pmax
BILL MLR MLR
comp=Z,183nm,16.0s
BRG Berggiesshubel 75.45 320 *e*P **P 15 07 42.0 +0.6**
comp=Z,11nm,1.2s
BRG Berggiesshubel 75.45 320 *e*P **P 15 07 42.0 +0.6**
BRG pmax pmax
comp=Z,11nm,1.2s
GEA0 GERESS Array S 75.58 318 *e*P **P 15 07 41.6 -0.6**
GEC2 GERESS Array S 75.58 318 *e*P **P 15 07 41.8 -0.5**
GEC2 pmax pmax
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 75.58 318 *e*P **P 15 07 41.8 -0.5**
comp=Z,4.3nm,1.0s
GERES GERESS Array B 75.58 318 P **P 15 07 42.2 -0.1**
comp=Z,1.5nm,0.7s,baz=87,slow=5.5,SNR=12
HFS Hagfors 75.94 329 P **P 15 07 43.4 -0.6**
comp=Z,1.8nm,0.6s,baz=106,slow=4.7,SNR=5.6
CLL Collm 76.05 320 *e*P **P 15 07 46.0 +1.2**
CLL Collm 76.05 320 *e*P **P 15 07 46.0 +1.2**
SPITS Spitsbergen Ar 77.12 348 P **P 15 07 50.5 +0.1**
comp=Z,5.8nm,0.8s,baz=52,slow=8.6,SNR=7.3
NOA NORSAR Array B 77.20 330 P **P 15 07 50.7 -0.5**
comp=Z,1.4nm,0.8s,baz=90,slow=5.6,SNR=3.6
DZM Mont Dzumac 78.26 115 LR LR 15 46 56.4
comp=Z,63nm,18.3s,baz=212,slow=39
VSL Villasalto 79.05 308 *e*P **P 15 08 01.3 -0.6**
comp=Z,7.8nm,1.0s
BFO Black Forest 79.16 317 *i*P **P 15 08 02.5 +0.2**
KEST Kesra 79.41 305 P **P 15 08 03.2 -0.8**
comp=Z,3.4nm,0.8s,baz=349,slow=5.2,SNR=7.3
EKA Eskdalemuir Ar 85.29 325 P **P 15 08 34.3 +0.1**
comp=Z,3.2nm,0.9s,baz=92,slow=5.3,SNR=3.8
TORD Torodi Ar. Bea 89.63 283 P **P 15 08 56.0 +0.1**
comp=Z,0.4nm,0.6s,baz=86,slow=4.4,SNR=4.6
ILAR Eielson Array 92.37 22 P **P 15 09 07.3 -0.4**
comp=Z,0.3nm,0.8s,baz=302,slow=4.4,SNR=4.7
ILAR LR LR 15 55 27.7
comp=Z,74nm,18.0s,baz=322,slow=39
VNDA Vanda 95.65 168 LR LR 15 51 58.3
comp=Z,94nm,18.1s,baz=232,slow=35
PLCA Paso Flores 146.94 202 PKPbc **PKPbc 15 15 40.4 +0.1**
comp=Z,2.5nm,1.0s,baz=86,slow=0.1,SNR=4.0
CPUP Villa Florida 148.55 236 PKPbc **PKPbc 15 15 45.0 0.0**
comp=Z,3.8nm,1.1s,baz=136,slow=1.7,SNR=4.3
CPUP Villa Florida 148.55 236 PKP2 **PKPbc 15 15 45.0 0.0**
SDV Santo Domingo 155.20 321 PKPab **PKPab 15 16 15.9 -0.7**
comp=Z,1.0nm,0.4s,baz=338,slow=5.4,SNR=3.8

*NEIC **15** 15:08:12.5±1.1, 12°.27N×87°.34W, h155km±5km, mb4.3/26, Error ellipse: s-maj=20.1km s-min=11.2km az=187.0*
*ISCJB **15** 15:08:13.1±0.3, 12°.55N±0°.05×87°.12W±0°.04, h151km±2km, mb4.3/29, Error ellipse: s-maj=9.4km s-min=3.5km az=37.1*
*IDC **15** 15:08:14.7±1.9, 12°.62N×87°.03W, h160km±27km, mb3.4/7, mb1 3.7/10, mb1mx3.4/48, mbtmp3.9/10, Error ellipse: s-maj=42.7km s-min=21.4km az=30.0*
*CASC **15** 15:08:15.4±3.7, 12°.55N×87°.16W, h127km±17km, MD3.8, ML3.8, mb4.3(NEIC)*
ISC 15 15:08:13.7±0.6, **12°.62N**±0°.06×**87°.11W**±0°.05, **h147**km±5km, **n79**, σ1°.64/95, **mb4.2**/28, **1C**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.10**	**36**	*e*P		**Pn**	**15 08 33.5**	**-0.1**
CNGN	**Cerro Negro**	**0.42**	**106**	*e*P		**Pn**	**15 08 34.0**	**-0.5**
CNGN				AML		AML	15 08 57.9	
	comp=N,2μm,0.4s							
MOMN	**Momotombo**	**0.60**	**110**	*e*P		**Pn**	**15 08 34.7**	**-0.6**
MOMN				*e*S		**Sn**	**15 08 51.1**	**-0.5**
COPN	**Copaltepe**	**0.67**	**130**	*e*P		**Pn**	**15 08 35.0**	**-0.7**
COPN				*e*S		**Sn**	**15 08 48.6**	**-3.9**
ESTN	**Estel**	**0.87**	**56**	*e*P		**Pn**	**15 08 37.6**	**+0.3**
ESTN				*e*S		**Sn**	**15 08 55.2**	**0.0**
XAVN	**Gruta Xavier**	**0.90**	**121**	*e*P		**Pn**	**15 08 37.2**	**-0.2**
TISN	**Laguna Tiscapa**	**0.95**	**120**	*e*P		**Pn**	**15 08 37.3**	**-0.5**
TISN				AML		AML	15 08 58.1	
	comp=Z,2μm,0.2s							
MGAN	**Managua**			**0.97**	**119**	*e*P	**Pn**	**15 08 37.3 -0.7**

LCND La Ca˜–ada 1.02 312⇑ *e*P **Pn 15 08 38.4 -0.1**
LCND *e*S **Sn 15 08 58.9 +1.6**
VSM San Miguel 1.39 306 *e*P **Pn 15 08 42.2 0.0**
TGUH Tegucigalpa,Un 1.44 354 *e*Pn **Pn 15 08 43.5 +1.1**
TGUH *e*Sn **Sn 15 09 06.6 +2.2**
PACA Pacayal 1.45 306 *e*P **Pn 15 08 43.3 +0.6**
PACA *e*S **Sn 15 09 06.9 +2.1**
ACON Acoyapa 2.00 109 *e*P **Pn 15 08 48.6 -0.1**
PAVA Las Pavas 2.08 302 *e*P **Pn 15 08 50.3 +0.5**
PAVA *e*S **Sn 15 09 19.2 +1.7**
CRZ1 La Cruz 2.11 137 *e*P Pn 15 08 56.1 +6.1
CRZ1 *e*S **Sn 15 09 15.9 -2.0**
LFRS El Faro 2.15 298 *e*P **Pn 15 08 51.1 +0.6**
LFRS *e*S **Sn 15 09 18.7 -0.1**
SNET Serv Nac Est T 2.32 298 IAML 15 09 26.2
comp=Z,794nm,0.2s
BOQS Boqueron 2.39 298 *e*P **Pn 15 08 55.4 +1.9**
BOQS *e*S **Sn 15 09 25.1 +1.0**
CUI Cuipilapa 2.73 135 *e*P **Pn 15 09 01.4 +3.8**
CUI *e*S **Sn 15 09 29.8 -1.7**
SNJE San Jose 2.73 297 *e*P **Pn 15 08 58.2 +0.4**
SNJE *e*S **Sn 15 09 33.0 +1.3**
SBLS San Blas 2.73 297 *e*P **Pn 15 08 58.8 +0.9**
SBLS *e*S **Sn 15 09 32.3 +0.5**
ESPN Las Esperanzas 2.78 98 *e*P **Pn 15 08 58.6 +0.4**
JTS JuntasAbangare 3.13 137 P **Pn 15 09 03.4 +0.7**
comp=Z,22nm,0.3s,baz=17,slow=16,SNR=34
JTS S **Sn 15 09 38.3 -2.4**
comp=Z,55nm,0.3s,baz=22,slow=23,SNR=18
JCR Jicaral 3.38 144 *e*P **Pn 15 09 06.6 +0.7**
JCR *e*S **Sn 15 09 46.8 +0.5**
CGA2 Cerro Gallo 2 3.66 135 *e*P **Pn 15 09 11.7 +2.0**
LCR2 La Lucha 2 4.18 133 *e*P **Pn 15 09 18.2 +1.7**
URSC Urasca 4.28 130 *e*P **Pn 15 09 21.4 +3.6**
BUS Buena Vista 4.48 132 *e*P **Pn 15 09 22.7 +1.9**
CMIG Matias Romero 8.73 302 P **Pn 15 10 18.0 +1.0**
comp=Z,0.9nm,0.3s,baz=140,slow=16,SNR=7.7
CMIG S **Sn 15 11 51.8 -2.2**
comp=Z,0.7nm,0.3s,baz=342,slow=20,SNR=5.2
SDV Santo Domingo 16.61 101 P **P 15 11 57.8 -0.5**
comp=Z,0.5nm,0.3s,baz=285,slow=9.0,SNR=6.2
SDV Santo Domingo 16.61 101 *e*P **P 15 11 58.9 +0.7**
comp=Z,4.9nm,0.7s
TIGA Tifton 19.01 9 *e*P **Pn 15 12 27.1 +0.5**
comp=Z,26nm,0.8s
LRAL Lakeview Retre 20.32 0 *e*P **P 15 12 41.2 +2.9**
comp=Z,34nm,1.9s
GOGA Godfrey 20.97 9 *e*P **P 15 12 48.6 +3.4**
comp=Z,11nm,0.6s
CBYP Canovanas 21.24 72 *e*P **P 15 12 44.0 -4.4**
comp=Z,38nm,1.0s
HODGE Hodges 21.97 11 *e*P **P 15 12 58.0 +2.2**
comp=Z,8.3nm,1.0s
JSC Jenkinsville 22.21 13 *e*P **P 15 12 59.6 +1.3**
comp=Z,18nm,1.4s
BG3 Lake Jocassee 22.60 9 *e*P **P 15 13 03.8 +1.8**
comp=Z,11nm,0.8s
MIAR Mount Ida 22.61 346 *e*P **P 15 13 03.0 +0.9**
comp=Z,2.9nm,0.6s
TXAR Lajitas Array 22.66 320 P **P 15 13 03.9 +1.1**
comp=Z,1.3nm,0.6s,baz=139,slow=9.6,SNR=19
TX31 Lajitas Ar. Si 22.66 320 *e*P **P 15 13 03.4 +0.6**
ABTX Abilene, Hawle 22.99 332 *e*P **P 15 13 06.0 +0.3**
comp=Z,6.0nm,0.6s
KMSC Kings Mountain 23.03 12 *e*P **P 15 13 07.0 +1.0**
comp=Z,10nm,0.8s
TKL Tuckaleechee C 23.14 7 P **P 15 13 08.4 +1.4**
comp=Z,4.4nm,0.6s,baz=220,slow=7.9,SNR=6.3
TKL Tuckaleechee C 23.14 7 *e*P **P 15 13 08.4 +1.4**
comp=Z,14nm,1.1s
SMRT St. Maarten 23.79 74 *e*P **P 15 13 13.7 +0.5**
comp=Z,110nm,1.4s
TZTN Tazewell 24.04 7 *e*P **P 15 13 16.7 +1.5**
comp=Z,18nm,1.6s
PBMO Poplar Bluff 24.24 354 *e*P **P 15 13 16.9 -0.2**
comp=Z,4.7nm,0.6s
NCAT North Carolina 24.28 15 *e*P **P 15 13 18.8 +1.4**
comp=Z,6.3nm,0.8s
HHAR Hobbs 24.35 347 *e*P **P 15 13 18.4 +0.4**
comp=Z,4.4nm,1.0s
WMOK Wichita Mounta 24.44 336 *e*P **P 15 13 19.7 +0.9**
comp=Z,7.8nm,1.0s
TUL1 Leonard 24.48 343 *e*P **P 15 13 19.1 -0.1**
comp=Z,8.9nm,0.6s
VWCC Virginia Weste 25.35 13 *e*P **P 15 13 27.7 +0.7**
MSTX Muleshoe 25.60 329 *e*P **P 15 13 30.3 +0.7**
comp=Z,4.7nm,0.8s
SPFD Spotsylvania F 26.82 17 *e*P **P 15 13 41.4 +1.2**
comp=Z,44nm,0.1s
SSPA Standing Stone 29.07 15 *e*P **P 15 14 01.8 +1.6**
comp=Z,41nm,1.9s
PV10 Paradox Valley 32.23 327 *e*P **P 15 14 28.9 +0.4**
EML El Monte Cty P 33.85 311 *e*P **P 15 14 41.7 -0.6**
HWB Hans Werner Br 34.00 312 *e*P **P 15 14 40.7 -3.0**
HWB *e*pP **pP 15 15 18.4 +3.2**
HEC Hector,Ludlow 34.49 315 *e*P **P 15 14 44.5 -3.4**
HEC *e*S **S 15 20 01.9 -3.7**
CIAC Catalina I. Ai 35.25 311 *e*pP pP 15 15 24.0 -2.1
PDAR Pinedale Array 35.78 331 P **P 15 15 00.0 +1.0**
comp=Z,4.0nm,0.6s,baz=132,slow=11,SNR=4.5
PDAR Pinedale Array 35.78 331 *e*P **P 15 14 59.5 +0.5**
ALPC Antelope 35.80 313 *e*P **P 15 14 55.9 -3.2**
ALPC *e*pP **pP 15 15 29.2 -1.6**
AHID Auburn Hatcher 36.52 330 *e*P **P 15 15 06.7 +1.4**
comp=Z,7.1nm,0.4s
MDND Maddock 36.64 346 *e*P **P 15 15 06.0 +0.1**
comp=Z,16nm,0.7s
REDW Red Top Meadow 36.85 331 *e*P **P 15 15 09.0 +0.9**
comp=Z,11nm,1.6s
YMP Mirror Lake PI 37.59 333 *e*pP pP 15 15 49.2 +2.9
YMV Mammoth Vault 38.01 333 *e*P **P 15 15 16.5 -1.3**
ULM Lac du Bonnet 38.21 351 P **P 15 15 17.5 -1.6**
comp=Z,2.6nm,0.5s,baz=150,slow=5.3,SNR=8.1
ULM Lac du Bonnet 38.21 351 *e*P **P 15 15 17.9 -1.2**
comp=Z,6.1nm,1.3s
EMB Emerald Bay 39.27 318 *e*PcP **PcP 15 17 36.3 +1.9**
BABR Babbit Peak 39.62 319 *e*pP **pP 15 16 05.8 +2.2**
BABR *e*PcP **PcP 15 17 35.7 +0.1**
FFC Flin Flon 43.61 348 *e*P **P 15 16 03.4 +0.2**
comp=Z,14nm,1.8s
SCHQ Schefferville 45.03 16 P **P 15 16 13.5 -1.0**
comp=Z,3.5nm,0.4s,baz=206,slow=10,SNR=5.9
YKA Yellowknife Ar 53.54 345 P **P 15 17 18.4 -0.5**
comp=Z,0.4nm,0.6s,baz=140,slow=7.7,SNR=14
ILAR Eielson Array 66.00 336 P **P 15 18 43.2 -1.0**
comp=Z,0.5nm,1.1s,baz=108,slow=4.8,SNR=3.7
WRA Warramunga Arr 139.63 254 PKP **PKPdf 15 27 25.7 +0.8**
comp=Z,1.1nm,0.6s,baz=90,slow=2.5,SNR=12
ASAR Alice Springs 139.64 248 PKhKP PKPpre 15 27 18.7
comp=Z,0.7nm,1.0s,baz=88,slow=2.1,SNR=3.7
ASAR PKP **PKPdf 15 27 24.7 -0.1**
comp=Z,0.7nm,0.7s,baz=106,slow=1.7,SNR=10

*IDC **15** 15:10:14.7±1.0, 10°.49N×93°.67E, h0km, mb3.8/9, mb1 3.8/10, mb1mx3.6/64, mbtmp3.7/10, ML3.2/1, Error ellipse: s-maj=42.3km s-min=18.8km az=51.0*
*ISCJB **15** 15:10:16.5±0.5, 10°.49N±0°.07×93°.77E±0°.08, h25km, mb4.3/17, Error ellipse: s-maj=12.5km s-min=8.4km az=141.6*
*NEIC **15** 15:10:17.6±4.4, 10°.44N×93°.71E, h20km±31km, mb4.4/6, Error ellipse: s-maj=13.7km s-min=6.1km az=54.0*
ISC 15 15:10:17.9±0.7, **10°.4N**±0°.1×**93°.8E**±0°.1, **h25**km, **n42**, σ0°.99/42, **mb4.2**/17, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**9.43**	**31**	*e*Pn		**Pn**	**15 12 32.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**9.43**	**31**	Pn		**Pn**	**15 12 32.6**	**+0.3**
	0.1nm,0.3s,baz=226,slow=14,SNR=3.8							
XMIS	**Christmas Isla**	**23.88**	**150**	*e*P		**P**	**15 15 30.4**	**+0.6**
	503nm,1.7s							
MYLDM	**Lahad Datu**	**25.03**	**100**	*e*P		**P**	**15 15 40.0**	**-0.2**
	19nm,1.1s							
DAV	**Davao City (W)**	**31.60**	**93**	*e*P		**P**	**15 16 35.2**	**-3.8**
	423nm,0.4s							
MK01	**Makanchi Array**	**37.52**	**347**	*e*P		**P**	**15 17 29.4**	**-0.5**
MK31	**Makanchi Array**	**37.55**	**347**	*e*P		**P**	**15 17 29.4**	**-0.7**
MK32	**Makanchi Array**	**37.55**	**347**	*e*P		**P**	**15 17 28.8**	**-1.3**
MKAR	**Makanchi Array**	**37.55**	**347**	P		**P**	**15 17 28.8**	**-1.3**
	0.7nm,1.0s,baz=169,slow=8.0,SNR=5.5							
MKAR	**Makanchi Array**	**37.55**	**347**	*e*P		**P**	**15 17 29.4**	**-0.7**
	7.2nm,1.3s							
MAKZ	**Makanchi**	**37.63**	**347**	*e*P		**P**	**15 17 31.1**	**+0.3**

	12nm,2.0s						
KK06	**Karatay Array**	**38.34**	**332**	*e*P	**P**	**15 17 36.6**	**-0.3**
KK07	**Karatay Array**	**38.35**	**332**	*e*P	**P**	**15 17 38.1**	**+1.2**
KS01	**Wonju Array Si**	**40.82**	**43**	*e*P	**P**	**15 17 58.8**	**+1.2**
KURBB	**Kurchatov Arra**	**42.01**	**346**	P	**P**	**15 18 07.3**	**+0.2**
	0.4nm,0.7s,baz=164,slow=7.5,SNR=4.8						
KURK	**Kurchatov**	**42.08**	**346**	*e*P	**P**	**15 18 07.3**	**-0.3**
GEYT	**Alibeck**	**42.10**	**317**	P	**P**	**15 18 08.7**	**+0.6**
	3.1nm,0.7s,baz=152,slow=7.7,SNR=7.7						
GYB5	**ALIBECK ARRAY**	**42.10**	**317**	*e*P	**P**	**15 18 09.7**	**+1.6**
	4.0nm,0.7s						
GYB4	**ALIBECK ARRAY**	**42.12**	**317**	*e*P	**P**	**15 18 08.4**	**+0.1**
	3.7nm,0.8s						
ZALV	**Zalesovo Beam**	**44.01**	**352**	P	**P**	**15 18 22.8**	**-0.4**
	1.0nm,0.6s,baz=165,slow=6.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**44.01**	**352**	*e*P	**P**	**15 18 23.1**	**-0.1**
ZAA1	**Zalesovo Array**	**44.01**	**352**	*e*P	**P**	**15 18 22.8**	**-0.5**
MRIV	**Mauritius Mete**	**46.97**	**229**	*e*P	**P**	**15 18 46.4**	**-0.7**
	65nm,1.2s						
AB07	**Akbulak array**	**47.83**	**331**	*e*P	**P**	**15 18 53.3**	**-0.2**
AB06	**Akbulak array**	**47.84**	**331**	*e*P	**P**	**15 18 53.7**	**+0.2**
AB08	**Akbulak array**	**47.85**	**330**	*e*P	**P**	**15 18 53.6**	**+0.1**
AB03	**Akbulak array**	**47.85**	**331**	*e*P	**P**	**15 18 53.8**	**+0.2**
AB01	**Akbulak array**	**47.85**	**331**	*e*P	**P**	**15 18 53.7**	**+0.1**
AB02	**Akbulak array**	**47.85**	**331**	*e*P	**P**	**15 18 54.5**	**+0.9**
AB31	**Akbulak array**	**47.85**	**331**	*e*P	**P**	**15 18 53.8**	**+0.2**
ABKAR	**Akbulak array**	**47.85**	**331**	*e*P	**P**	**15 18 54.1**	**+0.5**
	6.8nm,1.0s						
AB04	**Akbulak array**	**47.86**	**331**	*e*P	**P**	**15 18 54.0**	**+0.3**
AB05	**Akbulak array**	**47.86**	**331**	*e*P	**P**	**15 18 54.0**	**+0.3**
AB09	**Akbulak array**	**47.87**	**331**	*e*P	**P**	**15 18 53.4**	**-0.3**
WR1	**Warramunga Arr**	**50.04**	**127**	*e*P	**P**	**15 19 12.2**	**+1.3**
WRA	**Warramunga Arr**	**50.04**	**127**	P	**P**	**15 19 12.2**	**+1.3**
	0.7nm,0.6s,baz=304,slow=9.0,SNR=8.6						
ASAR	**Alice Springs**	**51.83**	**131**	P	**P**	**15 19 26.0**	**+1.7**
	0.8nm,0.8s,baz=302,slow=6.9,SNR=6.5						
BR101	**Keskin Array S**	**60.52**	**310**	*e*P	**P**	**15 20 25.2**	**-1.2**
BRTR	**Keskin Array B**	**60.52**	**310**	P	**P**	**15 20 25.2**	**-1.2**
	0.6nm,0.6s,baz=111,slow=7.9,SNR=4.3						
FIA0	**FINESS Array S**	**70.31**	**332**	*e*P	**P**	**15 21 28.5**	**-0.6**
FINES	**FINESS Array B**	**70.31**	**332**	P	**P**	**15 21 28.5**	**-0.6**
	2.6nm,1.0s,baz=108,slow=7.6,SNR=3.3						
GERES	**GERESS Array B**	**75.71**	**318**	P	**P**	**15 22 02.1**	**+0.6**
	0.2nm,0.3s,baz=97,slow=8.0,SNR=2.8						

*IDC **15** 15:14:01.6±2.0, 14°03'N×90°28'W, h0km, mb3.7/4, mb1 4.0/8, mb1mx3.7/46, mbtmp3.8/8, ML3.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/49, Error ellipse: s-maj=74.9km s-min=21.8km az=37.0*

*CASC **15** 15:14:05.5±1.1, 14°.70N×90°.35W, h97km±8km, ML3.5, mb4.0(NEIC)*

*NEIC **15** 15:14:07.1±1.3, 13°.63N×90°.58W, h56km±6km, mb4.0/1, Error ellipse: s-maj=35.6km s-min=10.5km az=204.0*

*ISCJB **15** 15:14:10.1±0.6, 14°.56N±0°.09×90°.18W±0°.07, h53km±10km, mb3.8/5, MS2.6/1, Error ellipse: s-maj=16.6km s-min=9.4km az=31.9*

ISC 15 15:14:11.3±0.7, 14°.5N±0°.1×90°.29W±0°.08, h66km±10km, n46, σ2s24/46, mb3.9/5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.34**	**207**	*e*P	**Pn**	**15 14 21.3**	**-1.3**
IXG				*e*S	**Sn**	**15 14 34.1**	**+3.3**
MRL	**Marmol**	**0.82**	**45**	*e*P	Pn	15 14 23.2	-4.5
RTR	**El Retiro**	**0.85**	**133**	*e*P	**Pn**	**15 14 27.2**	**-0.8**
SNJE	**San Jose**	**0.90**	**132**	*e*P	**Pn**	**15 14 27.4**	**-1.2**
SBLS	**San Blas**	**0.91**	**134**	*e*P	**Pn**	**15 14 26.8**	**-2.0**
SBLS				*e*S	**Sn**	**15 14 44.3**	**+2.7**
BOQS	**Boqueron**	**1.23**	**127**	*e*P	**Pn**	**15 14 30.9**	**-1.9**
COLS	**Colinas**	**1.26**	**130**	*e*P	**Pn**	**15 14 30.6**	**-2.5**
UEES	**San Salvador**	**1.26**	**126**	IAML		15 15 00.7	
	comp=Z,667nm,0.2s						
SNET	**Serv Nac Est T**	**1.30**	**127**	*e*Pn	**Pn**	**15 14 30.9**	**-2.6**
LBRS	**Las Brisas**	**1.42**	**121**	*e*P	**Pn**	**15 14 33.3**	**-1.8**
LFRS	**El Faro**	**1.47**	**125**	*e*P	**Pn**	**15 14 33.1**	**-2.8**
LFRS				*e*S	**Sn**	**15 14 55.8**	**+1.5**
PACA	**Pacayal**	**2.16**	**117**	*e*P	**Pn**	**15 14 43.5**	**-1.7**
VSM	**San Miguel**	**2.22**	**118**	*e*P	**Pn**	**15 14 43.8**	**-2.3**
LCND	**La Ca˜–ada**	**2.61**	**116**	*e*P	**Pn**	**15 14 48.5**	**-2.7**
LCND				*e*S	**Sn**	**15 15 21.6**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.96**	**98**	*e*Pn	**Pn**	**15 14 54.8**	**-1.1**
CMIG	**Matias Romero**	**5.13**	**301**	Pn	**Pn**	**15 15 22.7**	**-2.9**
	comp=Z,1.7nm,0.3s,baz=115,slow=11,SNR=13						
CMIG				Sn	**Sn**	**15 16 21.0**	**-2.4**
	comp=Z,2.6nm,0.3s,baz=84,slow=13,SNR=4.1						
JTS	**JuntasAbangare**	**6.67**	**128**	Pn	Pn	15 15 38.8	-8.0
	comp=Z,4.8nm,0.3s,baz=9.3,slow=20,SNR=7.8						
TXAR	**Lajitas Array**	**19.27**	**322**	P	**Pn**	**15 18 33.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=147,slow=11,SNR=8.9						
LTX	**Lajitas**	**19.27**	**322**	*e*P	**Pn**	**15 18 33.7**	**+1.3**
TX31	**Lajitas Ar. Si**	**19.27**	**322**	*e*P	**Pn**	**15 18 34.0**	**+1.5**
SDV	**Santo Domingo**	**20.03**	**104**	P	**P**	**15 18 35.3**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=313,slow=11,SNR=3.5						
LPIG	**La Paz**	**21.16**	**300**	LR	LR	15 26 43.0	
	comp=Z,30nm,22.0s,baz=176,slow=36						
MNTX	**Cornudas Mount**	**22.01**	**324**	*e*P	**P**	**15 19 03.0**	**+2.8**
	comp=Z,7.6nm,1.2s						
BNM	**Barren Site**	**24.54**	**326**	*e*P	**P**	**15 19 28.1**	**+3.0**
LPM	**Los Pinos Moun**	**24.66**	**326**	*e*P	**P**	**15 19 29.0**	**+2.8**
DPP	**Dos Picos Cty**	**30.44**	**312**	*e*PcP	**PcP**	**15 23 14.6**	**-1.4**
HWB	**Hans Werner Br**	**30.46**	**312**	*e*P	**P**	**15 20 15.2**	**-2.7**
GMRC	**Granite Mounta**	**30.51**	**316**	*e*pP	**pP**	**15 20 31.0**	**-3.5**
GMRC				*e*PcP	**PcP**	**15 23 13.3**	**-3.0**
HEC	**Hector,Ludlow**	**31.00**	**315**	*e*PcP	**PcP**	**15 23 14.5**	**-2.9**
DSCC	**Desert Studies**	**31.02**	**316**	*e*PcP	**PcP**	**15 23 17.3**	**-0.1**
FMP	**Fort Macarthur**	**31.77**	**312**	*e*pP	pP	15 20 43.6	-1.8
CHFC	**Chilao Flat St**	**31.90**	**313**	*e*P	**P**	**15 20 28.6**	**-2.1**
CCCA	**Chr Cany lake**	**32.08**	**316**	*e*P	**P**	**15 20 32.7**	**+0.5**
ALPC	**Antelope**	**32.28**	**314**	*e*P	**P**	**15 20 31.3**	**-0.6**
STCC	**Santa Clara**	**32.71**	**312**	*e*P	**P**	**15 20 40.0**	**+2.4**
WHFM	**Hanning Flat**	**32.85**	**315**	*e*PcP	**PcP**	**15 23 20.5**	**-2.0**
BAKC	**Calstate**	**33.18**	**314**	*e*PcP	**PcP**	**15 23 21.5**	**-1.8**
TIN	**Tinemaha, Big**	**33.52**	**317**	*e*pP	pP	15 21 02.1	+1.2
NV01	**Mina Array Sit**	**34.37**	**319**	*e*P	**P**	**15 20 54.3**	**+2.0**
NVAR	**Mina Array Bea**	**34.37**	**319**	P	**P**	**15 20 54.4**	**+2.1**
	comp=Z,0.9nm,0.6s,baz=135,slow=9.0,SNR=9.2						
ULM	**Lac du Bonnet**	**35.96**	**354**	P	**P**	**15 21 07.9**	**+2.3**
	comp=Z,2.1nm,0.7s,baz=186,slow=9.9,SNR=5.3						
BABR	**Babbit Peak**	**36.19**	**319**	*e*PcP	**PcP**	**15 23 31.8**	**-0.6**
WPW	**White Pass**	**41.40**	**327**	*e*P	**P**	**15 21 50.4**	**-0.8**
YKA	**Yellowknife Ar**	**50.96**	**346**	P	**P**	**15 23 07.9**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=137,slow=8.1,SNR=6.1						
ILAR	**Eielson Array**	**63.06**	**336**	P	**P**	**15 24 32.3**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=171,slow=4.2,SNR=6.8						
CMAR	**Chiang Mai Arr**	**146.03**	**344**	PKPbc	**PKPbc**	**15 33 44.0**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=336,slow=3.9,SNR=12						

*MAN **15** 15:22:00, 13°.81N×119°.65E, h22km, mb5.0, ML3.9, MS4.0*

*ISCJB **15** 15:22:01.9±0.8, 13°.82N±0°.04×119°.70E±0°.06, h36km±11km, mb3.9/9, MS2.7/2, Error ellipse: s-maj=9.7km s-min=5.8km az=9.0*

*IDC **15** 15:22:05.9±2.7, 13°.83N×119°.87E, h60km±28km, mb3.5/10, mb1 3.7/10, mb1mx3.4/60, mbtmp3.8/10, MS3.1/1, Ms1 3.1/1, ms1mx2.5/44, Error ellipse: s-maj=31.8km s-min=15.2km az=62.0*

ISC 15 15:22:01.3±0.9, 13°.82N±0°.04×119°.78E±0°.07, h20km±9km, n25, σ1s23/30, mb4.0/9, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.46**	**100**	*e*P	**Pn**	**15 22 11.7**	**-1.0**
LUBP				*e*S	**Sn**	**15 22 18.6**	**-1.7**
TGY	**Tagaytay City**	**1.16**	**76**	P	**Pb**	**15 22 23.7**	**+1.1**
	1μm,0.3s,baz=267,slow=2.8,SNR=69						
TGY				S	**Sn**	**15 22 39.5**	**+1.8**
	2μm,0.3s,baz=180,slow=20,SNR=37						
TGY	**Tagaytay City**	**1.16**	**76**	*i*P	**Pb**	**15 22 23.8**	**+1.1**
TGY				*i* S	**Sn**	**15 22 39.9**	**+2.2**
LQP	**Lukban**	**1.73**	**80**	*e*P	**Pb**	**15 22 35.2**	**+2.7**
BUSP	**Coron**	**1.85**	**167**	*e*P	**Pn**	**15 22 32.5**	**+0.7**
BUSP				*e*S	**Sn**	**15 22 54.9**	**+0.2**
SJMP	**San Jose**	**1.87**	**136**	*e*P	**Pn**	**15 22 33.3**	**+1.1**
SJMP				*e*S	**Sn**	**15 22 55.5**	**+0.3**
BOAC	**Boac**	**2.03**	**100**	*e*P	**Pb**	**15 22 37.8**	**+0.2**
PCPH	**Palayan**	**2.15**	**36**	*e*P	**Pn**	**15 22 35.4**	**-0.6**
PCPH				*e*S	**Sn**	**15 23 01.1**	**-1.1**
BOLP	**Bolinao**	**2.56**	**3**	*e*P	**Pn**	**15 22 41.4**	**-0.3**
GQP	**Guinayangan**	**2.59**	**88**	*e*P	**Pb**	**15 22 44.3**	**-2.8**
GQP				*e*S	**Sb**	**15 23 17.3**	**-1.1**
OTRP	**Odiongan**	**2.62**	**123**	*e*P	**Pn**	**15 22 43.0**	**+0.6**
ENPP	**El Nido**	**2.62**	**188**	*e*P	**Pn**	**15 22 43.1**	**+0.7**
ENPP				*e*S	**Sn**	**15 23 12.8**	**-0.9**
CAUP	**Cauayan**	**3.68**	**32**	*e*P	**Pn**	**15 22 58.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**20.54**	**286**	P	Pn	15 26 41.0	0.0
	1.0nm,0.8s,baz=94,slow=9.5,SNR=9.6						
KSRS	**Korea Array**	**24.64**	**16**	LR	LR	15 37 04.2	
	comp=Z,48nm,20.8s,baz=230,slow=36						
SONM	**Songino Array**	**35.70**	**344**	P	**P**	**15 28 58.0**	**-0.5**
	0.4nm,0.7s,baz=168,slow=10.0,SNR=2.7						
WRA	**Warramunga Arr**	**36.48**	**157**	P	**P**	**15 29 04.8**	**-0.4**
	1.2nm,0.6s,baz=335,slow=9.5,SNR=9.6						
KLR	**Kul'dur**	**36.66**	**13**	LR	LR	15 44 08.5	
	comp=Z,5.6nm,18.8s,slow=36						
ASAR	**Alice Springs**	**39.73**	**160**	P	**P**	**15 29 32.8**	**+0.1**
	0.7nm,0.6s,baz=334,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	**45.41**	**324**	P	**P**	**15 30 19.2**	**+0.5**
	1.0nm,0.7s,baz=133,slow=8.8,SNR=14						
ZALV	**Zalesovo Beam**	**48.55**	**333**	P	**P**	**15 30 42.4**	**-0.6**
	1.0nm,0.5s,baz=117,slow=8.6,SNR=5.4						
KURBB	**Kurchatov Arra**	**49.60**	**327**	P	**P**	**15 30 51.2**	**+0.1**
	2.5nm,0.8s,baz=120,slow=8.0,SNR=26						
BVAR	**Borovoye Array**	**55.18**	**326**	P	**P**	**15 31 32.7**	**+0.2**
	0.5nm,0.6s,baz=106,slow=9.2,SNR=5.3						
AKTO	**Aktyubinsk**	**61.56**	**320**	P	**P**	**15 32 17.7**	**+0.6**
	1.0nm,0.6s,baz=102,slow=9.3,SNR=4.9						
ARCES	**ARCESS Array B**	**78.66**	**339**	P	**P**	**15 34 01.0**	**-0.6**
	4.3nm,1.0s,baz=65,slow=9.1,SNR=3.1						

MAN 15 15:28:37, 9°.54N×121°.79E, h25km, mb4.1, ML2.9, MS2.6, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.34**	**36**	*e*P	Pn	15 29 00.3	+0.2
GUIM				*e*S	Sn	15 29 13.9	-3.2
SNPH	**Sibulan**	**1.44**	**98**	*i* P	Pn	15 29 01.7	+0.2
MSLP	**Maasin**	**3.08**	**79**	*e*P	Pn	15 29 25.7	+1.7
MSLP				*e*S	Sn	15 30 02.2	+2.0

IDC 15 15:30:53.1±3.1, 2°.50N×93°.34E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.2/70, mbtmp3.3/5, ML3.5/1, MS2.8/1, Ms1 3.0/1, ms1mx2.6/33, Error ellipse: s-maj=110.7km s-min=31.5km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.58**	**87**	Pn	Pn	15 32 22.1	+4.5
	2.3nm,0.3s,baz=174,slow=19,SNR=4.8						
PSI				Sn	Sn	15 33 24.3	+1.7
	0.6nm,0.3s,baz=70,slow=12,SNR=2.2						
CMAR	**Chiang Mai Arr**	**16.78**	**19**	Pn	Pn	15 34 50.2	+0.5
	0.1nm,0.3s,baz=208,slow=11,SNR=2.6						
CMAR				LR	LR	15 41 57.5	
	comp=Z,28nm,18.0s,baz=278,slow=40						
MKAR	**Makanchi Array**	**45.16**	**349**	P	P	15 39 11.5	0.0
	0.2nm,0.7s,baz=164,slow=8.2,SNR=3.1						
WRA	**Warramunga Arr**	**46.00**	**121**	P	P	15 39 18.4	-0.2
	0.5nm,0.8s,baz=299,slow=8.7,SNR=3.4						
KURBB	**Kurchatov Arra**	**49.56**	**348**	P	P	15 39 45.0	-0.8
	0.2nm,0.5s,baz=171,slow=7.6,SNR=3.2						
ZALV	**Zalesovo Beam**	**51.76**	**354**	P	P	15 40 02.7	+0.4
	0.3nm,0.4s,baz=172,slow=7.3,SNR=3.5						

*BJI **15** 15:45:14.8, 82°.20N×6°.40W, h10km, mb4.4/22, mB4.9/14, Ms4.6/7, Ms7 4.3/6*

*ISCJB **15** 15:45:16.5±0.1, 82°.15N±0°.03×6°.2W±0°.2, h10km, mb4.5/161, MS3.8/35, Error ellipse: s-maj=4.3km s-min=2.6km az=34.1*

*CSEM **15** 15:45:16.4±0.1, 82°.15N×6°.03W, h2km, mb4.7/99, Error ellipse: s-maj=4.8km s-min=2.6km az=38.0*

*IDC **15** 15:45:16.2±0.4, 82°.21N×5°.85W, h0km, mb3.9/28, mb1 4.1/30, mb1mx4.0/74, mbtmp3.9/30, ML4.6/2, MS3.8/34, Ms1 3.8/34, ms1mx3.6/71, Error ellipse: s-maj=14.5km s-min=9.2km az=35.0*

*MOS **15** 15:45:16.9±0.9, 82°.17N×6°.33W, h13km, mb4.8/40, Error ellipse: s-maj=41.4km s-min=6.4km az=92.9*

*NEIC **15** 15:45:18.4±0.1, 82°.17N×6°.20W, h10km, mb4.7/125, Error ellipse: s-maj=3.7km s-min=2.1km az=218.0*

*IEPN **15** 15:45:20.0, 82°.20N×6°.20W, h15km, station ZFI2 has station magnitude of 3.70*

ISC 15 15:45:18.4±0.9, 82°.05N±0°.05×6°.31W±0°.04, h14km±5km, n352, σ1s80/350, mb4.7/160, MS3.8/35, 7C-4D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**4.33**	**127**	Pn	**Pn**	**15 46 21.2**	**-2.5**
KBS	**Kingsbay**	**4.33**	**127**	*e*P	**Pn**	**15 46 21.7**	**-2.0**
KBS	**Kingsbay**	**4.33**	**127**	*e*Pn	**Pn**	**15 46 21.7**	**-2.0**
KBS	**Kingsbay**	**4.33**	**127**	*e*P	**Pn**	**15 46 21.4**	**-2.3**
	SNR=49						
KBS	**Kingsbay**	**4.33**	**127**	*e*Pn	**Pn**	**15 46 21.7**	**-2.0**
KBS				*e*S	**Sn**	**15 47 09.4**	**-4.6**
	SNR=49						
KBS	**Kingsbay**	**4.33**	**127**	*e*P	**Pn**	**15 46 21.4**	**-2.3**
KBS				*e*S	**Sn**	**15 47 09.4**	**-4.6**
KBS	**Kingsbay**	**4.33**	**127**	*i* P	**Pn**	**15 46 21.3**	**-2.5**
KBS				*i* S	**Sn**	**15 47 06.8**	**-7.2**
BRBA	**Barentsburg A**	**5.31**	**128**	Pn	**Pn**	**15 46 36.3**	**-0.9**
SPA0	**Spitsbergen Ar**	**5.46**	**123**	Pn	**Pn**	**15 46 36.9**	**-2.2**
	baz=347,slow=12						
SPA0	**Spitsbergen Ar**	**5.46**	**123**	*e*Pn	**Pn**	**15 46 36.9**	**-2.2**
SPA0	**Spitsbergen Ar**	**5.46**	**123**	Pn	**Pn**	**15 46 36.9**	**-2.2**
	baz=347,slow=12						
SPA0				*e*S	**Sn**	**15 47 35.7**	**-5.9**
SPA0	**Spitsbergen Ar**	**5.46**	**123**	*i* P	**Pn**	**15 46 36.8**	**-2.4**
SPA0				*i* S	**Sn**	**15 47 34.1**	**-7.5**
SPITS	**Spitsbergen Ar**	**5.46**	**123**	Pn	**Pn**	**15 46 37.0**	**-2.2**
	baz=336,slow=12,SNR=259						
SPITS				LR	LR	15 48 40.7	
	comp=Z,1μm,19.1s,baz=350,slow=37						
SPITS	**Spitsbergen Ar**	**5.46**	**123**	*i* P	**Pn**	**15 46 37.0**	**-2.2**
DAG	**Danmarks Havn**	**5.75**	**209**	*i* P	**Pn**	**15 46 42.8**	**-0.4**
DAG	**Danmarks Havn**	**5.75**	**209**	*i* P	**Pn**	**15 46 42.8**	**-0.4**
DAG	**Danmarks Havn**	**5.75**	**209**	*i* P	**Pn**	**15 46 42.8**	**-0.4**
HSP	**Hornsund**	**6.38**	**131**	Pn	**Pn**	**15 46 50.7**	**-1.0**
HSPB	**Hornsund (broa**	**6.38**	**131**	*e*P	**Pn**	**15 46 50.7**	**-1.1**
HSPB	**Hornsund (broa**	**6.38**	**131**	*e*P	**Pn**	**15 46 50.6**	**-1.1**
ZFI2	**Zemlya Franca-**	**7.88**	**71**	*i* P	Pn	15 47 06.4	-5.9
ZFI2				*i* S	Sn	15 48 24.5	-17
	22nm,0.7s						
HOPEN	**Hopen**	**7.90**	**117**	*e*P	**Pn**	**15 47 10.2**	**-2.4**
BJO1	**Bjornoya**	**9.02**	**133**	Pn	**Pn**	**15 47 26.2**	**-1.7**
BJO	**Bjornoya**	**9.04**	**133**	Pn	**Pn**	**15 47 26.2**	**-2.0**
SUMG	**Summit**	**11.54**	**233**	*i* P	**Pn**	**15 48 00.2**	**-2.7**
SUMG	**Summit**	**11.54**	**233**	*e*P	**Pn**	**15 48 00.2**	**-2.7**
SUMG	**Summit**	**11.54**	**233**	*e*Pn	**Pn**	**15 48 00.2**	**-2.7**
TULEG	**Thule**	**12.11**	**278**	*e*Pn	**Pn**	**15 48 05.7**	**-4.4**
SCO	**Scoresbysund**	**12.12**	**206**	*i* P	**Pn**	**15 48 12.5**	**+2.2**
SCO	**Scoresbysund**	**12.12**	**206**	*i* P	**Pn**	**15 48 12.5**	**+2.2**
SCO	**Scoresbysund**	**12.12**	**206**	*e*Pn	**Pn**	**15 48 10.4**	**+0.2**
KULLO	**Kullorsuaq**	**12.14**	**261**	*i* P	**Pn**	**15 48 06.5**	**-4.0**
KULLO	**Kullorsuaq**	**12.14**	**261**	*i* P	**Pn**	**15 48 06.5**	**-4.0**
HAMF	**Hammerfest**	**13.15**	**133**	*e*P	**Pn**	**15 48 22.1**	**-2.2**
KEV	**Kevo**	**14.34**	**129**	*e*P	**Pn**	**15 48 37.7**	**-3.0**
KEV	**Kevo**	**14.34**	**129**	*e*Pn	**Pn**	**15 48 37.7**	**-3.0**
ARA0	**ARCESS Array S**	**14.40**	**132**	P	**Pn**	**15 48 38.5**	**-2.9**
	baz=348,slow=12						
ARA0	**ARCESS Array S**	**14.40**	**132**	*e*Pn	**Pn**	**15 48 38.8**	**-2.7**
ARA0	**ARCESS Array S**	**14.40**	**132**	P	**Pn**	**15 48 38.5**	**-2.9**
	baz=348,slow=12						
ARCES	**ARCESS Array B**	**14.40**	**132**	Pn	**Pn**	**15 48 38.8**	**-2.7**
	1.8nm,0.3s,baz=349,slow=12,SNR=41						
ARCES				LR	LR	15 53 56.2	
	comp=Z,410nm,20.1s,baz=346,slow=36						
ARCES	**ARCESS Array B**	**14.40**	**132**	*e*P	**Pn**	**15 48 39.5**	**-1.9**
ARCES	**ARCESS Array B**	**14.40**	**132**	*e*Pn	**Pn**	**15 48 39.5**	**-1.9**
ARE0	**ARCESS Array S**	**14.40**	**132**	*e*Pn	**Pn**	**15 48 38.8**	**-2.6**
LVZ	**Lovozero**	**16.98**	**122**	*i*eP	**P**	**15 49 16.5**	**-0.5**
LVZ				pmax	pmax		
	comp=Z,62nm,2.1s						
LVZ	**Lovozero**	**16.98**	**122**	*e*Pn	**Pn**	**15 49 12.0**	**-3.1**
	comp=Z,44nm,1.3s						
RES	**Resolute Bay**	**17.14**	**296**	P	**Pn**	**15 49 11.8**	**-5.3**
	comp=Z,1.4nm,0.3s,baz=20,slow=12,SNR=33						
RES				S	Sn	15 52 10.0	-17
	comp=Z,0.3nm,0.3s,baz=171,slow=13,SNR=4.0						
RES				LR	LR	15 55 42.0	
	comp=Z,648nm,19.1s,baz=106,slow=36						
RES	**Resolute Bay**	**17.14**	**296**	*e*Pn	**Pn**	**15 49 11.6**	**-5.5**
	comp=Z,67nm,1.9s						
RES				*e*Sn	Sn	15 52 08.8	-18
SFJD	**Kangerlussuaq**	**18.25**	**241**	P	**Pn**	**15 49 25.6**	**-5.1**
	comp=Z,1.6nm,0.3s,baz=10,slow=11,SNR=10						
SFJD				S	Sn	15 52 38.2	-16
	comp=Z,3.0nm,0.3s,baz=96,slow=13,SNR=7.4						
SFJD				LR	LR	15 56 50.7	
	comp=Z,291nm,20.3s,baz=19,slow=38						
SFJD	**Kangerlussuaq**	**18.25**	**241**	*i* P	**Pn**	**15 49 26.6**	**-4.1**
SFJD	**Kangerlussuaq**	**18.25**	**241**	*i* P	**Pn**	**15 49 26.6**	**-4.1**
SFJD	**Kangerlussuaq**	**18.25**	**241**	*e*Pn	**Pn**	**15 49 26.1**	**-4.6**
	comp=Z,17nm,0.8s						
SFJD				*e*Sn	Sn	15 52 37.0	-17
TMCR	**Tamitsa**	**20.97**	**121**	*e*P	Pn	15 50 05.6	+2.4
TMCR				pmax	pmax		
	comp=Z,27nm,1.5s						
NC204	**NORSAR Array S**	**21.36**	**157**	*e*P	**P**	**15 50 06.2**	**+1.4**
NC303	**NORSAR Array S**	**21.44**	**156**	*e*P	**P**	**15 50 07.0**	**+1.3**
NC405	**NORSAR Array S**	**21.57**	**156**	*e*P	**P**	**15 50 08.0**	**+0.9**
NBO02	**NORSAR Array S**	**21.59**	**157**	*e*P	**P**	**15 50 09.7**	**+2.4**
NBO00	**NORSAR Array S**	**21.60**	**157**	*e*P	**P**	**15 50 08.7**	**+1.3**
NB201	**NORSAR Array S**	**21.61**	**156**	*e*P	**P**	**15 50 06.1**	**-1.4**
NB2	**NORSAR Subarra**	**21.62**	**157**	P	**P**	**15 50 07.7**	**+0.1**
	baz=348,slow=10						
NB2	**NORSAR Subarra**	**21.62**	**157**	P	**P**	**15 50 08.3**	**+0.8**
	comp=Z,19nm,1.4s,baz=354,slow=11						
NB2	**NORSAR Subarra**	**21.62**	**157**	P	**P**	**15 50 07.7**	**+0.1**
	baz=348,slow=10						
NB200	**NORSAR Array S**	**21.62**	**157**	*e*P	**P**	**15 50 08.4**	**+0.8**
NOA	**NORSAR Array B**	**21.62**	**157**	P	**P**	**15 50 08.4**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=350,slow=11,SNR=5.5						
NOA				LR	LR	15 56 43.9	
	comp=Z,135nm,19.5s,baz=5.0,slow=32						
NAO01	**NORSAR Array S**	**21.79**	**157**	*e*P	**P**	**15 50 08.6**	**-0.8**
NC605	**NORSAR Array S**	**21.89**	**156**	*e*P	**P**	**15 50 11.4**	**+0.9**
NC602	**NORSAR Array S**	**21.94**	**156**	*e*P	**P**	**15 50 12.7**	**+1.7**
NRA0	**NORESS Array S**	**21.94**	**156**	P	**P**	**15 50 11.6**	**+0.6**
	baz=333,slow=12						
NRA0	**NORESS Array S**	**21.94**	**156**	P	**P**	**15 50 11.6**	**+0.6**
	baz=333,slow=12						
FIA1	**FINESS Array S**	**22.34**	**137**	*e*P	**P**	**15 50 17.3**	**+2.0**
	comp=Z,16nm,1.1s						
FIA0	**FINESS Array S**	**22.34**	**137**	P	**P**	**15 50 17.1**	**+1.7**
	baz=349,slow=14						
FIA0	**FINESS Array S**	**22.34**	**137**	*e*P	**P**	**15

GRFO **Grafenberg** 32.94 159 *e*P P 15 51 53.6 +1.6
comp=Z,29nm,1.7s
MORC **Moravsky Berou** 33.23 151 *e*P P 15 51 56.4 +1.9
MORC pmax pmax
comp=Z,112nm,2.0s
MORC **Moravsky Berou** 33.23 151 *e*P P 15 51 56.4 +1.9
comp=Z,112nm,2.0s
AKASG **Malin Array Be** 33.25 138 P P 15 51 53.9 -0.7
comp=Z,0.5nm,0.5s,baz=349,slow=8.8,SNR=3.6
AKASG LR LR 16 05 26.5
comp=Z,153nm,20.8s,baz=300,slow=36
KIEV **Kiev** 33.26 138‖ *e*P P 15 51 57.4 +2.8
KTH **Kantishna Hill** 33.42 332 *e*P P 15 51 55.6 -0.6
comp=Z,9.9nm,1.1s
MENT **Mentasta** 33.52 326 *e*P P 15 51 58.1 +1.3
comp=Z,23nm,1.8s
PAX **Paxson** 33.62 327 *e*P P 15 51 57.1 -0.7
PAX pmax pmax
comp=Z,16nm,1.7s
PAX **Paxson** 33.62 327 *e*P P 15 51 57.1 -0.7
comp=Z,16nm,1.7s
CAST **Castle Rocks** 33.63 333 *e*P P 15 51 57.4 -0.5
comp=Z,9.9nm,1.1s
DHY **Denali Highway** 33.65 329 *e*P P 15 51 58.0 -0.2
comp=Z,14nm,1.0s
STHS **Stebnicka Huta** 33.85 147 *e*P P 15 52 02.4 +2.5
STHS **Stebnicka Huta** 33.85 147 *e*P P 15 52 02.4 +2.5
GEC2 **GERESS Array S** 33.92 156 *e*P P 15 52 02.7 +2.1
GEC2 pmax pmax
comp=Z,20nm,1.6s
GEC2 **GERESS Array S** 33.92 156 *e*P P 15 52 02.7 +2.1
comp=Z,20nm,1.6s
GERES **GERESS Array B** 33.92 156 P P 15 52 02.7 +2.1
comp=Z,1.0nm,0.6s,baz=13,slow=8.2,SNR=7.3
GERES LR LR 16 05 34.9
comp=Z,81nm,19.2s,baz=0.0,slow=36
GEA0 **GERESS Array S** 33.93 156 *e*P P 15 52 02.6 +2.0
PPLA **Purkeypile** 34.16 333 *e*P P 15 52 02.2 -0.4
comp=Z,30nm,1.5s
BFO **Black Forest** 34.17 163 *e*P P 15 52 04.0 +1.3
BFO pmax pmax
comp=Z,4.0nm,0.8s
BFO **Black Forest** 34.17 163 *e*P P 15 52 04.0 +1.3
comp=Z,3.6nm,0.8s
ECH **Echery** 34.23 164 *e*P P 15 52 05.2 +1.9
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH **Echery** 34.23 164 *e*P P 15 52 05.2 +1.9
comp=Z,7.3nm,0.9s
YAK **Yakutsk** 34.30 36‖ *e*P P 15 52 04.7 +1.1
YAK pmax pmax
comp=Z,3.0nm,0.6s
SEY **Seymchan** 34.79 17↑ *e*P P 15 52 07.1 -0.8
SCM **Sheep Creek Mo** 34.88 329 *e*P P 15 52 08.1 -0.7
SCM pmax pmax
comp=Z,52nm,1.7s
SCM **Sheep Creek Mo** 34.88 329 *e*P P 15 52 08.1 -0.7
comp=Z,52nm,1.7s
SML **Sawmill** 34.98 329 *e*P P 15 52 08.8 -0.8
SML pmax pmax
comp=Z,14nm,1.0s
SML **Sawmill** 34.98 329 *e*P P 15 52 08.8 -0.8
comp=Z,14nm,1.0s
HYT **Haines Junctio** 35.08 320 *e*P P 15 52 09.9 -0.7
comp=Z,5.6nm,0.9s
SUA **Susitna One** 35.49 331 *e*P P 15 52 13.6 -0.4
comp=Z,29nm,1.2s
BMRM **Bremner River** 35.53 326 *e*P P 15 52 15.0 +0.6
comp=Z,13nm,1.1s
BUR08 **Bucovina Ar. S** 35.92 143 *e*P P 15 52 20.0 +2.1
BUR04 **Bucovina Ar. S** 35.95 143 *e*P P 15 52 19.7 +1.6
BRVK **Borovoye** 36.00 93↑ *e*P P 15 52 20.6 +2.2
BRVK pmax pmax
comp=Z,5.0nm,1.9s
BRVK **Borovoye** 36.00 93 *e*P P 15 52 19.7 +1.3
comp=Z,8.6nm,1.8s
BVAR **Borovoye Array** 36.05 93 P P 15 52 17.6 -1.2
comp=Z,0.4nm,0.6s,baz=338,slow=11,SNR=3.7
BVAR PcP PcP 15 54 44.6 +0.1
comp=Z,0.8nm,0.7s,baz=270,slow=1.4,SNR=3.3
BVAR LR LR 16 10 00.5
comp=Z,356nm,18.6s,baz=346,slow=41
TUE **Stuetta** 36.07 162 *e*P P 15 52 21.3 +2.1
comp=Z,4.2nm,0.9s
SENIN **Lac Senin/Sane** 36.09 164 *e*P P 15 52 21.8 +2.3
comp=Z,6.3nm,1.1s
SVW2 **Sparrevohn** 36.16 335 *e*P P 15 52 19.9 +0.3
comp=Z,60nm,2.0s
AKTO **Aktyubinsk** 36.88 106 LR LR 16 09 38.9
comp=Z,204nm,18.1s,baz=352,slow=40
BOD **Bodaibo** 36.97 50 *e*P P 15 52 25.1 -1.5
BOD pmax pmax
comp=Z,4.0nm,1.4s
ZAA1 **Zalesovo Array** 37.14 78 *e*P P 15 52 27.0 -1.0
ZAA0 **Zalesovo Array** 37.14 78 *e*P P 15 52 29.8 +1.8
comp=Z,5.7nm,1.5s
ZALV **Zalesovo Beam** 37.14 78 P P 15 52 27.0 -1.1
comp=Z,0.7nm,0.5s,baz=356,slow=9.7,SNR=4.2
ZALV LR LR 16 10 25.3
comp=Z,97nm,19.1s,baz=52,slow=41
ZALV **Zalesovo Beam** 37.14 78 *e*P P 15 52 29.4 +1.3
ZALV **Zalesovo Beam** 37.14 78 *e*P P 15 52 29.4 +1.3
BNI **Bardonecchia** 37.38 165 *e*P P 15 52 33.1 +2.8
BNI **Bardonecchia** 37.38 165 *e*P P 15 52 33.1 +2.8
MA2 **Magadan** 38.08 19↑ *e*P P 15 52 36.2 +0.3
MLR **Muntele Rosu** 38.12 143 LR LR 16 07 50.4
comp=Z,64nm,20.0s,baz=40,slow=35
ABKAR **Akbulak array** 38.30 105 *e*P P 15 52 39.1 +1.3
comp=Z,18nm,1.1s
KURK **Kurchatov** 39.45 85↑ *e*P P 15 52 47.2 -0.3
KURK pmax pmax
comp=Z,5.0nm,2.4s
KURK **Kurchatov** 39.45 85 *e*P P 15 52 47.2 -0.3
comp=Z,3.9nm,1.2s
KURK *e*PcP PcP 15 54 54.7 -0.3
KURBB **Kurchatov Arra** 39.52 85 P P 15 52 47.7 -0.4
comp=Z,0.8nm,0.7s,baz=349,slow=7.6,SNR=9.8
KURBB PcP PcP 15 54 54.7 -0.5
comp=Z,0.8nm,0.8s,baz=340,slow=3.3,SNR=7.6
ANN **Anapa** 39.91 130 *e*P P 15 52 36.9 -15
ANN *e**PP pP 15 52 41.2 -14
ANN pmax pmax
comp=Z,88nm,1.3s
AQU **L'Aquila** 40.37 157 *e*P P 15 52 58.1 +2.8
AQU pmax pmax
comp=Z,15nm,0.5s
AQU **L'Aquila** 40.37 157 *e*P P 15 52 58.1 +2.8
comp=Z,15nm,0.5s
ULM **Lac du Bonnet** 40.54 279 P P 15 52 56.7 +0.1
comp=Z,6.3nm,0.7s,baz=13,slow=8.0,SNR=13
ULM LR LR 16 10 01.4
comp=Z,212nm,19.4s,baz=353,slow=37
ULM **Lac du Bonnet** 40.54 279 *e*P P 15 52 56.9 +0.3
ULM pmax pmax
comp=Z,28nm,1.6s
ULM **Lac du Bonnet** 40.54 279 *e*P P 15 52 56.9 +0.3
comp=Z,28nm,1.6s
KIV **Kislovodsk** 41.33 124 *e*P P 15 53 03.5 +0.2
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,72nm,16.0s
TRQ **Mont Tremblant** 41.54 257 *e*P P 15 53 05.3 +0.4
KBZ **Khabaz** 41.58 124 P P 15 53 07.4 +2.3
comp=Z,3.4nm,0.9s,baz=301,slow=3.4,SNR=3.8
EYMN **Ely** 42.19 274 *e*P P 15 53 10.8 +0.6
comp=Z,13nm,0.8s
AGMN **Agassiz Nation** 42.45 278 *e*P P 15 53 12.8 +0.6
comp=Z,14nm,1.0s
ES19 **SONSECA Array** 42.49 177 *e*P P 15 53 14.1 +1.4
ESDC **Sonseca Array** 42.52 177 P P 15 53 14.1 +1.1
comp=Z,1.0nm,0.5s,baz=356,slow=8.6,SNR=8.1
PAB **San Pablo** 42.65 178 *e*P P 15 53 15.8 +1.8
PAB pmax pmax
comp=Z,29nm,1.8s
PAB **San Pablo** 42.65 178 *e*P P 15 53 15.8 +1.8
comp=Z,29nm,1.8s
MAK **Makhachkala** 42.88 119 *e*P P 15 53 15.6 -0.2
MAK *e*S S 15 59 39.6 +0.1
MAK *e*SS SS 16 02 50.2 -0.3
MAK pmax pmax
comp=Z,109nm,1.7s
MAK MLR MLR
comp=Z,267nm,19.0s
VSL **Villasalto** 43.03 162 *e*P P 15 53 18.5 +1.4
PLVO **Plevna** 43.04 259 *e*P P 15 53 19.4 +2.4
comp=Z,57nm,1.8s
MDND **Maddock** 43.40 282 *e*P P 15 53 19.8 -0.2
comp=Z,40nm,1.2s
TIP **Timpagrande** 43.73 154 *e*P P 15 53 25.9 +3.1
comp=Z,41nm,1.9s
MAKZ **Makanchi** 43.73 83 *e*P P 15 53 22.7 0.0
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ **Makanchi** 43.73 83 *e*P P 15 53 22.7 0.0
comp=Z,3.3nm,0.8s
MK31 **Makanchi Array** 43.79 83 *e*P P 15 53 23.2 0.0
MK31 **Makanchi Array** 43.79 83 *e*P P 15 53 23.2 0.0
MK32 **Makanchi Array** 43.79 83 *e*P P 15 53 22.3 -0.8
MKAR **Makanchi Array** 43.79 83 P P 15 53 22.3 -0.8
comp=Z,0.6nm,0.7s,baz=357,slow=6.4,SNR=8.1
MKAR **Makanchi Array** 43.79 83 *i* P P 15 53 22.2 -1.0
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR **Makanchi Array** 43.79 83 *e*P P 15 53 23.0 -0.1
comp=Z,10nm,0.6s
MK01 **Makanchi Array** 43.82 83 *e*P P 15 53 22.7 -0.7
UNV **Unalaska Valle** 43.94 343 *e*P P 15 53 24.6 +0.5
comp=Z,65nm,1.4s
BR231 **Keskin MP Arra** 44.35 136 *e*P P 15 53 29.6 +1.9
BR101 **Keskin Array S** 44.55 135 *e*P P 15 53 31.2 +1.8
BRTR **Keskin Array B** 44.55 135 P P 15 53 31.2 +1.8
comp=Z,1.6nm,0.9s,baz=13,slow=8.0,SNR=4.4
PETK **Petropavlovsk-** 44.82 14 LR LR 16 12 37.3
comp=Z,35nm,18.8s,baz=48,slow=37
NEW **Newport** 45.27 298 P P 15 53 35.7 +0.7
comp=Z,2.7nm,0.8s,baz=14,slow=9.1,SNR=5.0
NEW **Newport** 45.27 298 *e*P P 15 53 35.3 +0.3
NEW pmax pmax
comp=Z,30nm,1.9s
NEW **Newport** 45.27 298 *e*P P 15 53 35.2 +0.3
comp=Z,30nm,1.9s
GNI **Garni** 45.33 123 LR LR 16 13 37.4
comp=Z,102nm,18.0s,baz=340,slow=38
LAO **LAGA Array** 45.43 288 *e*P P 15 53 37.1 +0.8
comp=Z,8.4nm,0.9s
JTMT **Jette** 45.43 296 *e*P P 15 53 36.5 +0.1
comp=Z,5.7nm,1.0s
B08A **Colville Reser** 45.45 301 *e*P P 15 53 36.4 +0.1
comp=Z,39nm,1.8s
KKAR **Karatay Array** 45.77 96 *e*P P 15 53 39.6 +0.6
KKAR **Karatay Array** 45.77 96 *e*P P 15 53 39.6 +0.6
SONA1 **Songino Array** 45.92 60 *e*P P 15 53 40.3 +0.1
SONA0 **Songino Array** 45.93 60 *e*P P 15 53 40.3 +0.1
SONM **Songino Array** 45.93 60 P P 15 53 40.3 +0.1
comp=Z,0.6nm,0.6s,baz=348,slow=6.1,SNR=4.3
SONM LR LR 16 13 24.8
comp=Z,108nm,19.5s,baz=7.0,slow=37
ULN **Ulaanbaatar** 45.98 59‖ *i*P P 15 53 42.1 +1.4
ULN pmax pmax
comp=Z,11nm,2.3s
ULN **Ulaanbaatar** 45.98 59 *e*P P 15 53 42.4 +1.7
comp=Z,8.7nm,1.0s
HIA **Hailar** 46.01 47 *e*P P 15 53 41.0 +0.2
HIA pmax pmax
comp=Z,4.0nm,0.8s
HIA **Hailar** 46.01 47 *e*P P 15 53 41.0 +0.2
comp=Z,4.4nm,0.8s
HRY **Holter Researc** 46.14 293 *e*P P 15 53 42.4 +0.4
MSO **Missoula** 46.29 295 *e*P P 15 53 43.9 +0.8
comp=Z,15nm,1.2s
KEST **Kesra** 46.78 162 P P 15 53 47.6 +0.6
comp=Z,1.1nm,0.6s,baz=270,slow=7.1,SNR=3.1
KEST **Kesra** 46.78 162 *e*P P 15 53 48.2 +1.2
comp=Z,11nm,1.4s
AAK **Ala-Archa** 46.79 92↑ *e*P P 15 53 48.1 +1.0
AAK pmax pmax
comp=Z,8.0nm,2.0s
AAK **Ala-Archa** 46.79 92 *e*P P 15 53 47.9 +0.8
comp=Z,3.9nm,0.7s
ALLY **Alegheny Colle** 46.79 261 *e*P P 15 53 48.4 +1.4
comp=Z,38nm,1.4s
JFWS **Jewell Farm** 46.95 271 *e*P P 15 53 49.7 +1.5
JFWS pmax pmax
comp=Z,17nm,0.7s
JFWS **Jewell Farm** 46.95 271 *e*P P 15 53 49.6 +1.5
comp=Z,17nm,0.7s
ECSD **EROS Data Cent** 47.03 278 *e*P P 15 53 49.8 +1.0
comp=Z,32nm,1.5s
BOZ **Bozeman (W)** 47.21 293 *e*P P 15 53 50.5 +0.1
BOZ pmax pmax
comp=Z,16nm,1.5s
BOZ **Bozeman (W)** 47.21 293 *e*P P 15 53 50.5 +0.1
comp=Z,16nm,1.5s
WPW **White Pass** 47.35 302 *e*P P 15 53 48.9 -2.5
RLMT **Red Lodge** 47.37 290 *e*P P 15 53 53.1 +1.4
comp=Z,15nm,1.7s
N54A **Moraine State** 47.44 261 *e*P P 15 53 54.0 +2.0
comp=Z,11nm,0.8s
WMQ **Urumqi** 47.45 79 P P 15 53 54.1 +1.9
WMQ pP sP 15 53 58.0 -0.1
WMQ sP pP 15 54 01.1 +4.7
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,130nm,4.9s
WMQ LR LR
comp=Z,140nm,18.7s
WMQ LR LR
comp=Z,230nm,20.9s
WMQ LR LR
comp=Z,170nm,19.7s
KDJ **Kajisay** 47.66 89 *e*P P 15 53 54.7 +0.8
comp=Z,3.0nm,0.7s
RSSD **Black Hills** 47.66 285 *e*P P 15 53 54.7 +0.8
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD **Black Hills** 47.66 285 *e*P P 15 53 54.7 +0.8
comp=Z,6.5nm,0.9s
PAGS **Pennsylvania G** 47.72 257 *e*P P 15 53 55.1 +1.0
comp=Z,50nm,2.0s
YMP **Mirror Lake Pl** 47.86 291 *e*P P 15 53 51.5 -4.1
YHH **Holmes Hill** 47.90 292 *e*P P 15 53 56.0 +0.1
comp=Z,2.2nm,0.7s
MCMT **McKenzie Canyo** 48.12 294 *e*P P 15 53 58.0 +0.5
TARG **Taragay, Kyrgy** 48.14 89 *e*P P 15 54 00.3 +2.3
comp=Z,5.3nm,1.1s
IDI **Anoyia** 48.17 145 LR LR 16 14 05.4
comp=Z,38nm,21.1s,baz=340,slow=36
H17A **Grant Village** 48.26 291 *e*P P 15 54 00.4 +1.8
comp=Z,16nm,1.8s
SCIA **State Center** 48.35 274 *e*P P 15 53 60.0 +0.9
comp=Z,13nm,0.8s
BMO **Blue Mountains** 48.66 298 *e*P P 15 54 01.0 -0.5
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO **Blue Mountains** 48.66 298 *e*P P 15 54 01.0 -0.5
comp=Z,5.8nm,1.0s
IMW **Indian Meadow** 48.79 292 *e*P P 15 54 04.1 +1.3
comp=Z,15nm,1.4s
MOOW **Moose Ponds** 48.91 291 *e*P P 15 54 04.0 +0.3
comp=Z,7.5nm,1.3s
SFIN **Lafayette** 49.00 268 *e*P P 15 54 04.6 +0.6
comp=Z,24nm,1.5s
LOHW **Long Hollow** 49.03 291 *e*P P 15 54 05.0 +0.5
comp=Z,10nm,1.5s
FXWY **Fox Creek** 49.06 292 *e*P P 15 54 05.5 +0.7
comp=Z,9.3nm,1.4s
HDIL **Hopedale** 49.13 270 *e*P P 15 54 05.7 +0.7
comp=Z,34nm,1.3s
GEYT **Alibeck** 49.18 110 LR LR 16 19 33.5
comp=Z,115nm,18.1s,baz=315,slow=42
PDAR **Pinedale Array** 49.72 290 P P 15 54 10.5 +0.6
comp=Z,0.5nm,0.5s,baz=354,slow=8.2,SNR=2.4
PDAR LR LR 16 15 27.9
comp=Z,373nm,18.6s,baz=5.0,slow=36
PDAR **Pinedale Array** 49.72 290 *e*P P 15 54 10.0 +0.2
MFID **Camas Ranch** 49.89 296 *e*P P 15 54 10.4 -0.5
comp=Z,7.0nm,1.4s
KSH **Kashi** 50.06 91 *e*P P 15 54 15.8 +3.5
KSH S S 16 01 25.8 +3.2
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,110nm,7.6s
KSH LR LR
comp=Z,140nm,7.8s
KSH LR LR
comp=Z,110nm,7.2s
KSH LR LR
comp=Z,180nm,6.8s
OLIL **Olney** 50.76 268 *e*P P 15 54 18.1 +0.7
comp=Z,20nm,1.1s
HWUT **Hardware Ranch** 51.13 292 *e*P P 15 54 20.2 -0.2
comp=Z,13nm,1.3s
MMAI **Mount Meron Ar** 51.37 134 P P 15 54 22.7 +0.6
comp=Z,2.1nm,0.6s,baz=352,slow=8.7,SNR=3.7
SPUT **South Promonto** 51.53 292 *e*P P 15 54 23.7 +0.3
comp=Z,3.8nm,1.0s
MDJ **Mudanjiang** 51.56 39 P P 15 54 20.3 -3.0
MDJ pP pP 15 54 23.5 -4.1
MDJ PcS PcS 15 59 32.5 -2.4
MDJ S S 16 01 42.3 -0.7
MDJ pmax pmax
comp=Z,4.0nm,1.2s
MDJ LR LR
comp=Z,130nm,5.4s
MDJ LR LR
comp=Z,130nm,7.2s
FVM **French Village** 51.82 270 *e*P P 15 54 25.7 +0.3
FVM pmax pmax
comp=Z,25nm,0.8s
FVM **French Village** 51.82 270 *e*P P 15 54 25.6 +0.3
comp=Z,25nm,0.8s
CCM **Cathedral Cave** 51.86 271 *e*P P 15 54 25.1 -0.6
CCM pmax pmax
comp=Z,11nm,1.1s
CCM **Cathedral Cave** 51.86 271 *e*P P 15 54 25.1 -0.6
comp=Z,11nm,1.1s
SIUC **Southern Illin** 51.91 269 *e*P P 15 54 26.9 +0.8
comp=Z,19nm,0.6s
BGU **Big Grassy Mou** 51.98 293 *e*P P 15 54 27.1 +0.3
comp=Z,3.2nm,1.0s
USRK **Ussuriysk Ar.** 52.18 37 P P 15 54 25.5 -2.5
comp=Z,0.6nm,0.5s,baz=24,slow=5.4,SNR=2.5
NCAT **North Carolina** 52.21 259 *e*P P 15 54 29.7 +1.3
comp=Z,15nm,1.2s
YBH **Yreka Blue Hor** 52.38 302 LR LR 16 16 09.0
comp=Z,97nm,21.6s,baz=358,slow=35
Q24A **Divide** 52.88 285 *e*P P 15 54 33.4 -0.3
comp=Z,6.7nm,0.9s
SMCO **Snowmass** 52.91 287 *e*P P 15 54 35.2 +1.2
comp=Z,20nm,1.4s
TKL **Tuckaleechee C** 53.18 263 LR LR 16 17 35.5
comp=Z,100nm,19.3s,baz=342,slow=36
WVT **Waverly** 53.28 267 *e*P P 15 54 36.9 +0.7
WVT pmax pmax
comp=Z,11nm,1.4s
WVT **Waverly** 53.28 267 *e*P P 15 54 36.9 +0.7
comp=Z,11nm,1.4s
GTA **Gaotai** 53.40 68 *e*P P 15 54 42.5 +5.2
GTA pP pP 15 54 48.3 +6.7
GTA sP sP 15 54 51.4 +8.2
GTA S S 16 02 16.3 +7.6
HHC **Hu-ho-hao-te** 53.43 57 *e*P P 15 54 38.8 +1.4
HHC S S 16 02 00.4 -8.6
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,86nm,6.3s
HHC LR LR
comp=Z,120nm,17.0s
HHC LR LR
comp=Z,120nm,16.2s
Q16A **Castle Valley** 53.72 291 *e*P P 15 54 40.8 +1.1
comp=Z,6.9nm,0.9s
HHAR **Hobbs** 53.98 273 *e*P P 15 54 41.9 +0.5
comp=Z,17nm,1.3s
KBL **Kabul** 53.99 99 *e*P P 15 54 42.1 +0.4
KBL pmax pmax
comp=Z,5.0nm,1.0s
KBL **Kabul** 53.99 99 *e*P P 15 54 42.1 +0.4
comp=Z,4.7nm,1.0s
SDCO **Great Sand Dun** 54.12 285 *e*P P 15 54 42.9 +0.2
comp=Z,3.0nm,0.9s
PV01 **Paradox Valley** 54.15 288 *e*P P 15 54 43.4 +0.5
JSC **Jenkinsville** 54.19 260 *e*P P 15 54 43.9 +1.0
JSC pmax pmax
comp=Z,9.0nm,0.4s
JSC **Jenkinsville** 54.19 260 *e*P P 15 54 43.9 +1.0
comp=Z,8.8nm,0.4s
MSU **Marysvale** 54.25 292 *e*P P 15 54 44.4 +0.8
MSU **Marysvale** 54.25 292 *e*P P 15 54 44.4 +0.8
PV05 **Paradox Valley** 54.28 289 *e*P P 15 54 43.8 0.0
S22A **4UR Ranch, Cre** 54.30 286 *e*P P 15 54 45.2 +1.1
comp=Z,5.5nm,1.0s
HODGE **Hodges** 54.37 261 *e*P P 15 54 46.0 +1.7
comp=Z,10nm,0.6s
PLAL **Pickwick Lake** 54.44 267 *e*P P 15 54 45.3 +0.6
comp=Z,7.4nm,1.1s
KVN **Kaiserville** 54.47 297 *e*P P 15 54 45.9 +0.8
KVN pmax pmax
comp=Z,5.0nm,1.0s
KVN **Kaiserville** 54.47 297 *e*P P 15 54 45.9 +0.8
comp=Z,5.0nm,1.0s
MHTCO **State Highway** 54.62 284 *e*P P 15 54 47.4 +1.1
comp=Z,25nm,1.8s
EIL **Elat** 54.64 135 LR LR 16 20 19.0
comp=Z,42nm,19.2s,baz=253,slow=38
MTPU **Mount Pierson** 54.72 292 *e*P P 15 54 47.2 0.0
comp=Z,9.3nm,1.7s
WHAR **Wooly Hollow** 54.72 272 *e*P P 15 54 47.1 +0.3
comp=Z,24nm,1.5s
R11A **Troy Canyon, C** 54.85 295 *e*P P 15 54 47.5 -0.3
comp=Z,5.4nm,1.3s
NV01 **Mina Array Sit** 55.11 297 *e*P P 15 54 50.1 +0.3
NVAR **Mina Array Bea** 55.11 297 P P 15 54 48.4 -1.4
comp=Z,0.8nm,0.7s,baz=19,slow=5.9,SNR=6.0
NVAR LR LR 16 19 19.4
comp=Z,220nm,19.2s,baz=294,slow=37
PKCU **Pink Cliffs** 55.32 292 *e*P P 15 54 53.1 +1.6
comp=Z,41nm,1.8s
MIAR **Mount Ida** 55.63 273 *e*P P 15 54 54.3 +0.9
MIAR pmax pmax
comp=Z,10.0nm,1.1s
MIAR **Mount Ida** 55.63 273 *e*P P 15 54 54.2 +0.9
comp=Z,10.0nm,1.1s
KNB **Kanab** 55.81 292 *e*P P 15 54 55.9 +1.1
KNB pmax pmax
comp=Z,9.0nm,1.1s
KNB **Kanab** 55.81 292 *e*P P 15 54 55.9 +1.1
comp=Z,8.8nm,1.1s
LCMT **Little Creek M** 55.87 292 *e*P P 15 54 56.4 +1.3
comp=Z,5.7nm,0.5s
U15A **North Rim** 56.32 291 *e*P P 15 54 58.7 +0.1
comp=Z,4.1nm,0.8s
WLAR **White Oak Lake** 56.41 272 *e*P P 15 55 00.2 +1.3
comp=Z,51nm,1.2s
ANMO **Albuquerque** 57.01 285 *e*P P 15 55 03.8 +0.4
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO **Albuquerque** 57.01 285 *e*P P 15 55 03.8 +0.4
comp=Z,3.7nm,1.1s
WUAZ **Wupatki** 57.10 290 *e*P P 15 55 04.8 +0.8
comp=Z,4.2nm,0.8s
DAC **Darwin (Calif)** 57.14 296 *e*P P 15 55 05.0 +0.6
DAC pmax pmax
comp=Z,6.0nm,1.0s
DAC **Darwin (Calif)** 57.14 296 *e*P P 15 55 05.0 +0.6
comp=Z,5.9nm,1.0s
LZH **Lanzhou** 57.19 65 *e*P P 15 55 07.0 +2.4
LZH pP pP 15 55 11.5 +2.5
LZH sP sP 15 55 14.5 +3.9
LZH pmax pmax
comp=Z,11nm,0.7s
W18A **Petrified Fore** 57.27 289 *e*P P 15 55 05.9 +0.7
comp=Z,7.0nm,0.8s
LAZ **Ladron** 57.63 286 *e*P P 15 55 08.4 +0.6
BNM **Barren Site** 57.81 285 *e*P P 15 55 08.8 -0.3
LDFC **Landfair** 58.01 294 *e*P P 15 55 11.3 +1.0
comp=Z,13nm,1.2s
X16A **Lo Mia Camp, P** 58.19 290 *e*P P 15 55 12.2 +0.5
comp=Z,3.1nm,0.9s
KSRS **Korea Array** 58.51 42 LR LR 16 19 16.0
comp=Z,34nm,20.2s,baz=325,slow=35
ALPC **Antelope** 58.80 297 *e*P P 15 55 19.6 +3.8
Y14A **Wickenburg** 58.86 292 *e*P P 15 55 17.1 +0.8
comp=Z,26nm,1.1s
DECC **Green Verdugo** 59.23 297 *e*P P 15 55 21.2 +2.4
Y12C **Blythe** 59.24 293 *e*P P 15 55 19.8 +1.0
comp=Z,6.3nm,0.9s
BREC **Barre Substati** 59.63 296 *e*P P 15 55 21.7 +0.3
TUC **Tucson** 60.18 289 *e*P P 15 55 26.0 +0.6
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC **Tucson** 60.18 289 *e*P P 15 55 26.0 +0.6
comp=Z,6.3nm,1.0s
MAJO **Matsushiro** 60.28 33 *e*P P 15 55 24.3 -1.6
MAJO **Matsushiro** 60.28 33 *e*P P 15 55 24.3 -1.6

MJAR	**Matsushiro Arr**	**60.28**	**33**	P		**P**	**15 55 24.3**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=345,slow=6.1,SNR=3.7							
JCT	**Junction City**	**60.50**	**278**	*eP*		**P**	**15 55 27.9**	**+0.4**
JCT				pmax	pmax			
	comp=Z,22nm,1.4s							
JCT	**Junction City**	**60.50**	**278**	*eP*		**P**	**15 55 27.9**	**+0.4**
	comp=Z,22nm,1.4s							
319A	**Douglas**	**60.90**	**287**	*eP*		**P**	**15 55 30.4**	**0.0**
	comp=Z,11nm,1.1s							
LTX	**Lajitas**	**62.15**	**282**	*eP*		**P**	**15 55 39.0**	**+0.2**
LTX	**Lajitas**	**62.15**	**282**	*eP*		**P**	**15 55 39.0**	**+0.2**
TX31	**Lajitas Ar. Si**	**62.15**	**282**	*eP*		**P**	**15 55 38.3**	**-0.5**
TXAR	**Lajitas Array**	**62.15**	**282**	P		**P**	**15 55 39.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=31,slow=3.7,SNR=13							
TXAR				LR		LR	16 23 23.1	
	comp=Z,168nm,19.6s,baz=0.0,slow=37							
TXAR	**Lajitas Array**	**62.15**	**282**	P		**P**	**15 55 39.0**	**+0.2**
NJ2	**Nanjing**	**62.94**	**51**	*eP*		**P**	**15 55 44.9**	**+1.0**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.7s							
WSAR	**Wadi Sarin**	**63.72**	**112**	LR		LR	16 29 56.3	
	comp=Z,46nm,18.1s,baz=18,slow=42							
KMI	**Kunming**	**67.86**	**68**	P		**P**	**15 56 18.3**	**+2.2**
KMI				pmax	pmax			
	comp=Z,4.0nm,0.5s							
TOA1	**Torodi Ar. Sit**	**69.01**	**172**	*eP*		**P**	**15 56 23.1**	**+0.1**
TOA0	**Torodi Ar. Sit**	**69.02**	**172**	*eP*		**P**	**15 56 23.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**69.02**	**172**	P		**P**	**15 56 23.2**	**0.0**
	comp=Z,1.0nm,0.6s,baz=357,slow=5.5,SNR=7.1							
CMAR	**Chiang Mai Arr**	**73.93**	**72**	P		**P**	**15 56 51.3**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=346,slow=7.3,SNR=7.6							
CMAR				LR		LR	16 32 05.9	
	comp=Z,31nm,18.2s,baz=340,slow=38							
SDV	**Santo Domingo**	**77.78**	**246**	LR		LR	16 33 35.9	
	comp=Z,85nm,18.4s,baz=55,slow=37							
PSI	**Prapat**	**89.34**	**75**	LR		LR	16 41 55.2	
	comp=Z,55nm,18.2s,baz=273,slow=38							

NEIC ***15*** *15:56:29.8±0.5, 9.59S×119.33E, h60km±6km, mb4.5/32, Error ellipse: s-maj=7.4km s-min=4.2km az=215.0*

IDC ***15*** *15:56:30.1±2.8, 9.51S×119.39E, h60km±28km, mb4.1/18, mb1 4.2/21, mb1mx3.9/59, mbtmp4.4/21, ML4.6/4, MS3.2/2, Ms1 3.1/2, ms1mx2.6/50, Error ellipse: s-maj=18.2km s-min=15.1km az=58.0*

ISCJB ***15*** *15:56:31.1±0.3, 9.69S±0.03×119.42E±0.02, h94km±2km, mb4.4/44, Error ellipse: s-maj=4.6km s-min=3.0km az=22.8*

DJA ***15*** *15:56:33.2±0.2, 10.2S±2.1×91.4E±0.1, h64km±4km, M4.7/25, mb4.7/12, mB5.2/4, MLv4.8/25, Mw(mB)4.6/4*

ISC 15 15:56:31.1±0.6, 9.70S±0.04×119.40E±0.04, h76km±6km, n139, σ2°07/164, mb4.5/44, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.06**	**355**	P	**Pn**	**15 56 42.7**	**+0.6**
WBSI				S	**Sn**	**15 56 50.5**	**+0.4**
WSI	**Waingapu**	**0.89**	**88**	P	**Pn**	**15 56 50.1**	**+1.6**
WSI				S	**Sn**	**15 57 02.6**	**+1.1**
BASI	**Baing, Sumba**	**1.27**	**114**	P	**Pn**	**15 56 55.7**	**+2.4**
BASI				S	**Sn**	**15 57 12.6**	**+2.6**
PLAI	**Plampang**	**1.82**	**298**	P	**Pn**	**15 57 02.2**	**+1.7**
PLAI				S	**Sn**	**15 57 24.5**	**+1.7**
EDFI	**Ende, Flores**	**2.45**	**68**	P	**Pn**	**15 57 09.9**	**+0.8**
EDFI				S	**Sn**	**15 57 39.3**	**+1.1**
BSSI	**Bau Bau, Buton**	**3.70**	**17**	P	**Pn**	**15 57 27.4**	**+1.5**
BSSI				S	**Sn**	**15 58 09.7**	**+1.4**
BATI	**Baumata**	**4.23**	**97**	P	**Pn**	**15 57 34.6**	**+1.4**
	100nm,0.3s,baz=287,slow=11,SNR=107						
BATI				S	**Sn**	**15 58 21.2**	**-0.2**
	71nm,0.3s,baz=253,slow=19,SNR=15						
BATI	**Baumata**	**4.23**	**97**	P	**Pn**	**15 57 35.7**	**+2.5**
BATI				S	**Sn**	**15 58 23.0**	**+1.6**
DNP	**Denpasar**	**4.26**	**283**	P	**Pn**	**15 57 36.9**	**+3.4**
DNP				S	**Sn**	**15 58 24.9**	**+3.0**
IGBI	**Denpasar**	**4.29**	**281**	P	**Pn**	**15 57 35.6**	**+1.7**
BKSI	**Bulukumba**	**4.41**	**9**	P	**Pn**	**15 57 36.6**	**+1.0**
BKSI				S	**Sn**	**15 58 27.5**	**+1.8**
SRBI	**Singaraja**	**4.43**	**291**	P	**Pn**	**15 57 36.6**	**+0.7**
SRBI				S	**Sn**	**15 58 28.9**	**+2.6**
SOEI	**Soe**	**4.80**	**91**	P	**Pn**	**15 57 43.3**	**+2.3**
SOEI	**Soe**	**4.80**	**91**	*e*Pn	**Pn**	**15 57 42.9**	**+1.8**
SOEI				*e*Sn	**Sn**	**15 58 31.9**	**-3.5**
BBSI	**Bau Bau**	**5.24**	**37**	P	**Pn**	**15 57 48.4**	**+1.5**
BBSI				S	**Sn**	**15 58 47.7**	**+1.7**
BNSI	**Bone**	**5.31**	**8**	P	**Pn**	**15 57 49.9**	**+2.0**
	68nm,0.6s,1μm						
BNSI				S	**Sn**	**15 58 50.0**	**+2.2**
	68nm,0.6s,1μm						
JAGI	**Jajag, Banyuwa**	**5.32**	**283**	*e*Pn	**Pn**	**15 57 47.5**	**-0.5**
JAGI				*e*Sn	**Sn**	**15 58 44.8**	**-3.3**
ABJI	**Asem Bagus**	**5.44**	**290**	P	**Pn**	**15 57 52.5**	**+2.8**
ABJI				S	**Sn**	**15 58 53.7**	**+2.7**
KMMI	**Kalianget**	**5.98**	**296**	P	**Pn**	**15 57 59.9**	**+2.8**
KMMI				S	**Sn**	**15 59 08.5**	**+4.3**
GMJI	**Gumukmas**	**6.05**	**283**	P	**Pn**	**15 57 59.8**	**+1.8**
GMJI				S	**Sn**	**15 59 08.8**	**+3.0**
BLJI	**Banyuglugur**	**6.05**	**288**	P	**Pn**	**15 57 59.5**	**+1.5**
TTSI	**Tana Toraja**	**6.62**	**4**	P	**Pn**	**15 58 07.4**	**+1.5**
TTSI				S	**Sn**	**15 59 22.1**	**+2.1**
KBKI	**Kotabaru**	**7.12**	**333**	P	**Pn**	**15 58 16.0**	**+3.4**
GRJI	**Gresik**	**7.38**	**291**	P	**Pn**	**15 58 18.2**	**+2.0**
PWJI	**Pagerwojo**	**7.69**	**282**	P	**Pn**	**15 58 23.3**	**+3.0**
UGM	**Wanagama**	**8.95**	**281**	*e*Pn	**Pn**	**15 58 35.8**	**-1.8**
UGM				*e*Sn	**Sn**	**16 00 13.1**	**-3.8**
FITZ	**Fitzroy Crossi**	**10.32**	**145**	P	**Pn**	**15 58 56.1**	**-0.1**
	5.2nm,0.3s,baz=322,slow=12,SNR=62						
FITZ				S	**Sn**	**16 00 45.7**	**-4.5**
	8.9nm,0.3s,baz=185,slow=18,SNR=11						
FITZ	**Fitzroy Crossi**	**10.32**	**145**	*e*Pn	**Pn**	**15 58 55.8**	**-0.5**
FITZ				*e*Sn	**Sn**	**16 00 42.6**	**-7.6**
MBWA	**Marble Bar**	**11.40**	**178**	*e*Pn	**Pn**	**15 59 10.8**	**-0.2**
MBWA				*e*Sn	Sn	16 01 04.8	-12
CISI	**Cisompet, Garu**	**11.65**	**280**	*e*Pn	**Pn**	**15 59 11.0**	**-3.5**
CISI				*e*Sn	Sn	16 01 10.7	-12
SAUI	**Saumlaki**	**11.89**	**83**	*e*Pn	**Pn**	**15 59 17.2**	**-0.4**
SAUI				*e*Sn	Sn	16 01 16.4	-12
MTN	**Manton Dam**	**11.93**	**106**	*e*Pn	**Pn**	**15 59 17.8**	**-0.4**
MTN				*e*Sn	Sn	16 01 18.6	-11
SBUM	**Sibu**	**14.03**	**329**	*e*Pn	**Pn**	**15 59 43.4**	**-3.0**
KSM	**Kuching**	**14.32**	**320**	*e*Pn	**Pn**	**15 59 48.1**	**-2.1**
FAKI	**Fak Fak**	**14.44**	**63**	*e*Pn	**Pn**	**15 59 49.7**	**-2.0**
MYLDM	**Lahad Datu**	**14.81**	**357**	*e*Pn	Pn	15 59 51.4	-5.1
KKM	**Kota Kinabalu**	**15.96**	**348**	*e*Pn	**P**	**16 00 13.5**	**+0.1**
	29nm,1.3s						
MNAI	**Manna**	**17.15**	**287**	*e*Pn	**Pn**	**16 00 23.9**	**-2.1**
	268nm,1.1s						
WR1	**Warramunga Arr**	**17.66**	**127**	*e*Pn	**P**	**16 00 31.8**	**-0.3**
	22nm,1.1s						
WR1				*e*Sn	Sn	16 03 38.2	-10
WRA	**Warramunga Arr**	**17.66**	**127**	P	**P**	**16 00 31.8**	**-0.3**
	1.5nm,0.3s,baz=300,slow=14,SNR=64						
WRA				S	Sn	16 03 38.2	-10
	1.2nm,0.3s,baz=302,slow=23,SNR=6.4						
WRAB	**Tennant Creek**	**17.66**	**127**	*e*Pn	**P**	**16 00 30.9**	**-1.3**
	76nm,1.8s						
WB2	**Warramunga Arr**	**17.67**	**127**	*e*Pn	**P**	**16 00 31.8**	**-0.4**
DAV	**Davao City (W)**	**17.76**	**21**	*e*Pn	**P**	**16 00 33.5**	**+0.2**
	188nm,0.4s						
MYKOM	**Kota Tinggi**	**19.24**	**306**	*e*P	**P**	**16 00 45.7**	**-3.7**
	28nm,1.2s						
AS31	**Alice Springs**	**19.62**	**137**	*e*P	**Pn**	**16 00 56.0**	**+0.3**
	7.6nm,1.2s						
AS31				*e*S	**S**	**16 04 27.1**	**-4.0**
ASAR	**Alice Springs**	**19.62**	**137**	P	**Pn**	**16 00 56.4**	**+0.7**
	0.4nm,0.3s,baz=319,slow=11,SNR=52						
ASAR				S	**S**	**16 04 26.5**	**-4.7**
	0.6nm,0.3s,baz=312,slow=23,SNR=7.4						
AS01	**Alice Springs**	**19.65**	**137**	*e*P	**Pn**	**16 00 56.0**	**0.0**
IPM	**Ipoh**	**23.10**	**307**	*e*P	**P**	**16 01 30.6**	**-0.1**
	8.1nm,0.6s						
NWAO	**Narrogin (SRO)**	**23.20**	**185**	P	**P**	**16 01 34.0**	**+2.5**
	4.9nm,0.6s,baz=357,slow=18,SNR=3.9						
NWAO				S	**S**	**16 05 44.3**	**+6.9**
	18nm,0.5s,baz=128,slow=14,SNR=10						
NWAO	**Narrogin (SRO)**	**23.20**	**185**	*e*P	**P**	**16 01 33.8**	**+2.2**
	56nm,1.6s						
NWAO				*e*S	**S**	**16 05 44.3**	**+6.9**
COEN	**Coen**	**23.65**	**103**	*e*P	**P**	**16 01 37.6**	**+1.8**
	81nm,2.0s						
TGY	**Tagaytay City**	**23.70**	**4**	P	**P**	**16 01 34.8**	**-1.4**
	167nm,0.5s,baz=188,slow=4.1,SNR=7.5						
PSI	**Prapat**	**23.88**	**300**	P	**P**	**16 01 37.2**	**-0.8**
	22nm,0.9s,baz=162,slow=9.5,SNR=13						
PSI				LR	LR	16 13 45.3	
	comp=Z,109nm,18.1s,baz=235,slow=44						
PSI	**Prapat**	**23.88**	**300**	*e*P	**P**	**16 01 36.6**	**-1.4**
	31nm,1.0s						
KULM	**Kulim**	**23.89**	**308**	*e*P	**P**	**16 01 36.1**	**-1.8**
	5.7nm,0.8s						
GSI	**Gunungsitoli**	**24.32**	**296**	*e*P	**P**	**16 01 40.0**	**-1.9**
	18nm,0.9s						
BBOO	**Buckleboo**	**27.67**	**149**	*e*P	**P**	**16 02 14.4**	**+2.5**
	23nm,1.2s						
SRAK	**Srakaew**	**29.18**	**324**	P	**P**	**16 02 23.2**	**-2.3**
	37nm,0.6s						
STKA	**Stephens Creek**	**30.17**	**140**	P	**P**	**16 02 36.5**	**+2.4**
	2.3nm,0.7s,baz=319,slow=12,SNR=6.4						
STKA				LR	LR	16 16 12.3	
	comp=Z,23nm,19.7s,baz=201,slow=39						
STKA	**Stephens Creek**	**30.17**	**140**	*e*P	**P**	**16 02 36.9**	**+2.8**
	0.9nm,0.8s						
SKNT	**Sakolnakorn**	**30.57**	**330**	P	**P**	**16 02 37.7**	**-0.1**
	7.4nm,2.6s						
CHAI	**Chaiyaphum**	**30.73**	**326**	P	**P**	**16 02 40.7**	**+1.5**
	5.3nm,0.8s						
PHIT	**Phitsanulok**	**32.65**	**325**	P	**P**	**16 02 57.3**	**+1.3**
	14nm,1.0s						
CM01	**Chiang Mai Arr**	**34.46**	**324**	*e*P	**P**	**16 03 12.2**	**+0.3**
CM31	**Chiang Mai Arr**	**34.50**	**324**	*e*P	**P**	**16 03 12.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**34.50**	**324**	P	**P**	**16 03 12.2**	**+0.1**
	2.4nm,0.6s,baz=153,slow=6.7,SNR=17						
CMMT	**Chiang Mai**	**34.78**	**325**	P	**P**	**16 03 14.6**	**0.0**
	7.4nm,0.9s,298nm						
CHTO	**Chiang Mai**	**34.78**	**325**	P	**P**	**16 03 15.6**	**+1.0**
	32nm,0.9s						
CHTO	**Chiang Mai**	**34.78**	**325**	*e*P	**P**	**16 03 14.8**	**+0.3**
	6.1nm,1.0s						
KMI	**Kunming**	**38.23**	**335**	P	**P**	**16 03 45.8**	**+1.7**
ENH	**Enshi**	**40.87**	**347**	*e*P	**P**	**16 04 05.3**	**-0.4**
	11nm,1.0s						
NJ2	**Nanjing**	**41.52**	**359**	*e*P	**P**	**16 04 10.3**	**-0.7**
PALK	**Pallekele**	**42.07**	**292**	P	**P**	**16 04 15.4**	**-0.4**
	4.6nm,0.9s,baz=116,slow=9.1,SNR=3.1						
PALK	**Pallekele**	**42.07**	**292**	*e*P	**P**	**16 04 15.2**	**-0.6**
	20nm,1.4s						
XAN	**Xi'an**	**44.62**	**348**	P	**P**	**16 04 35.9**	**-0.2**
H08S2	**Diego Garcia H**	**46.38**	**269**	T	T	16 54 23.5	
	baz=96,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**46.40**	**269**	T	T	16 54 20.0	
	baz=96,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**46.40**	**269**	T	T	16 54 24.9	
	baz=96,slow=75,SNR=20						
KSAR	**Wonju Array Be**	**47.56**	**9**	P	**P**	**16 04 58.9**	**-0.1**
KSRS	**Korea Array**	**47.56**	**9**	P	**P**	**16 04 58.9**	**-0.3**
	1.6nm,0.6s,baz=187,slow=9.2,SNR=9.6						
KS01	**Wonju Array Si**	**47.60**	**9**	*e*P	**P**	**16 04 57.8**	**-1.5**
LSA	**Lhasa**	**47.69**	**326**	*e*P	**P**	**16 05 00.8**	**0.0**
	3.9nm,0.6s						
LZH	**Lanzhou**	**47.84**	**343**	*e*P	**P**	**16 05 04.3**	**+2.8**
LZH				*e*P	*e*P	16 05 19.8	-0.5
LZH				*e*P	*e*P	16 05 26.0	-2.9
JIRN	**Jiri**	**49.13**	**320**	*e*P	**P**	**16 05 11.7**	**0.0**
	26nm,0.5s						
GUN	**Gumba**	**49.50**	**320**	*e*P	**P**	**16 05 14.3**	**-0.2**
	25nm,0.7s						
PKIN	**Phulchoki**	**49.58**	**319**	*e*P	**P**	**16 05 14.2**	**-0.8**
	6.0nm,0.4s						
BJI	**Beijing**	**49.58**	**357**	P	**P**	**16 05 16.6**	**+2.2**
DMN	**Daman**	**49.79**	**319**	*e*P	**P**	**16 05 16.1**	**-0.5**
	7.1nm,0.5s						
KKN	**Kakani**	**49.80**	**319**	*e*P	**P**	**16 05 16.2**	**-0.5**
HHC	**Hu-ho-hao-te**	**50.81**	**352**	*e*P	**P**	**16 05 27.0**	**+3.0**
KOLN	**Koldanda**	**50.88**	**318**	*e*P	**P**	**16 05 24.2**	**-0.6**
PYUN	**Piuthan**	**51.50**	**318**	*e*P	**P**	**16 05 28.9**	**-0.6**
	15nm,0.5s						
GTA	**Gaotai**	**52.14**	**341**	*e*P	**P**	**16 05 35.8**	**+1.9**
GTA				pP	pP	16 05 51.4	-1.6
GTA				sP	sP	16 05 57.4	-4.1
GTA				S	**S**	**16 12 55.8**	**+3.1**
MDJ	**Mudanjiang**	**54.84**	**9**	*e*P	**P**	**16 05 52.3**	**-1.2**
	7.0nm,0.7s						
USRK	**Uesuriysk Ar.**	**54.85**	**11**	P	**P**	**16 05 52.7**	**-0.7**
	5.0nm,0.6s,baz=198,slow=5.6,SNR=11						
ULN	**Ulaanbaatar**	**58.35**	**350**	*e*P	**P**	**16 06 18.9**	**+0.4**
	2.7nm,0.9s						
SONA0	**Songino Array**	**58.43**	**350**	*e*P	**P**	**16 06 18.5**	**-0.5**
SONM	**Songino Array**	**58.43**	**350**	P	**P**	**16 06 18.5**	**-0.5**
	2.9nm,0.8s,baz=165,slow=8.7,SNR=20						
SONA1	**Songino Array**	**58.44**	**350**	*e*P	**P**	**16 06 18.5**	**-0.6**
WMQ	**Urumqi**	**60.55**	**334**	P	**P**	**16 06 34.5**	**+0.9**
KSH	**Kashi**	**63.40**	**324**	P	**P**	**16 06 52.8**	**-0.1**
KSH				pP	pP	16 07 10.9	-1.6
KSH				sP	sP	16 07 18.4	-2.5
KSH				S	**S**	**16 15 15.3**	**-4.7**
KSH				sS	pS	16 15 43.3	+0.4
KSH				ScS	**SKSac**	**16 16 32.6**	**-6.8**
TARG	**Taragay, Kyrgy**	**63.84**	**326**	*e*P	**P**	**16 06 56.3**	**+0.2**
	3.2nm,0.8s						
KDJ	**Kajisay**	**64.45**	**326**	*e*P	**P**	**16 06 58.0**	**-1.8**
	3.0nm,0.9s						
KBL	**Kabul**	**64.86**	**315**	*e*P	**P**	**16 07 01.5**	**-1.2**
	13nm,0.7s						
MK31	**Makanchi Array**	**65.25**	**333**	*e*P	**P**	**16 07 04.7**	**0.0**
MK32	**Makanchi Array**	**65.25**	**333**	*e*P	**P**	**16 07 04.5**	**-0.2**
MKAR	**Makanchi Array**	**65.25**	**333**	P	**P**	**16 07 04.5**	**-0.2**
	8.6nm,0.3s,baz=152,slow=6.5,SNR=6.3						
MKAR	**Makanchi Array**	**65.25**	**333**	*e*P	**P**	**16 07 04.9**	**+0.2**
	23nm,0.8s						
MAKZ	**Makanchi**	**65.41**	**333**	*e*P	**P**	**16 07 05.4**	**-0.3**
	2.5nm,1.0s						
KZA	**Kyzart**	**65.49**	**325**	P	**P**	**16 07 07.6**	**+0.8**
	SNR=7.4						
UCH	**Uchtor**	**66.00**	**325**	P	**P**	**16 07 10.6**	**+0.4**
	SNR=5.2						
KBK	**Karagaybulak**	**66.03**	**326**	P	**P**	**16 07 10.8**	**+0.7**
	SNR=5.1						
AAK	**Ala-Archa**	**66.28**	**325**	P	**P**	**16 07 11.4**	**-0.2**
	5.6nm,0.8s,baz=127,slow=5.2,SNR=23						
AAK	**Ala-Archa**	**66.28**	**325**	P	**P**	**16 07 12.2**	**+0.7**
	SNR=6.3						
AML	**Almayashu**	**66.40**	**324**	P	**P**	**16 07 13.2**	**+0.5**
	SNR=20						
USP	**Ospenovka**	**66.68**	**326**	P	**P**	**16 07 14.1**	**+0.1**
	SNR=5.0						
EKS2	**Erkin-Say**	**66.70**	**325**	P	**P**	**16 07 14.9**	**+0.7**
	SNR=6.3						
WSAR	**Wadi Sarin**	**67.84**	**300**	P	**P**	**16 07 21.8**	**+0.1**
	7.3nm,0.7s,baz=144,slow=6.9,SNR=16						
KKAR	**Karatay Array**	**68.85**	**324**	*e*P	**P**	**16 07 27.2**	**-0.4**
KURBB	**Kurchatov Arra**	**69.77**	**334**	P	**P**	**16 07 32.4**	**-0.6**
	1.4nm,0.9s,baz=145,slow=5.3,SNR=12						
KURK	**Kurchatov**	**69.79**	**334**	*e*P	**P**	**16 07 32.2**	**-1.0**
	5.7nm,1.1s						
ZAA0	**Zalesovo Array**	**69.83**	**339**	*e*P	**P**	**16 07 31.9**	**-1.4**
	3.3nm,0.7s						
ZALV	**Zalesovo Beam**	**69.83**	**339**	P	**P**	**16 07 32.7**	**-0.7**
	3.3nm,0.6s,baz=145,slow=4.9,SNR=16						
ZALV	**Zalesovo Beam**	**69.83**	**339**	*e*P	**P**	**16 07 32.5**	**-0.9**
ZAA1	**Zalesovo Array**	**69.83**	**339**	*e*P	**P**	**16 07 32.7**	**-0.7**
UOSS	**Minazif**	**70.52**	**301**	*e*P	**P**	**16 07 38.3**	**+0.1**
	3.7nm,0.8s						
PETK	**Petropavlovsk-**	**70.56**	**23**	P	**P**	**16 07 38.0**	**+0.2**
	1.3nm,0.6s,baz=190,slow=2.0,SNR=6.5						
PEA1	**Petropavlovsk-**	**70.56**	**23**	*e*P	**P**	**16 07 38.0**	**+0.2**
GEYT	**Alibeck**	**74.21**	**314**	P	**P**	**16 08 00.6**	**+0.6**
	1.9nm,0.6s,baz=151,slow=3.4,SNR=7.2						
BVAR	**Borovoye Array**	**75.09**	**332**	P	**P**	**16 08 04.2**	**-0.5**
	1.9nm,0.7s,baz=134,slow=6.4,SNR=15						
BRVK	**Borovoye**	**75.17**	**332**	*e*P	**P**	**16 08 04.3**	**-0.7**
	9.3nm,1.7s						
ABKAR	**Akbulak array**	**78.36**	**325**	*e*P	**P**	**16 08 22.9**	**-0.3**
	33nm,0.6s						
RAYN	**Ar Rayn**	**79.36**	**296**	*e*P	**P**	**16 08 30.8**	**+1.5**
	6.3nm,1.1s						
AKTO	**Aktyubinsk**	**80.02**	**325**	P	**P**	**16 08 32.1**	**-0.1**
	4.7nm,0.8s,baz=124,slow=5.2,SNR=15						
ARU	**Arti**	**82.66**	**331**	P	**P**	**16 08 44.8**	**-1.2**
	0.8nm,0.3s,baz=5.6,slow=3.4,SNR=3.8						
ARU	**Arti**	**82.66**	**331**	*e*P	**P**	**16 08 44.4**	**-1.6**
	25nm,1.9s						
YKA	**Yellowknife Ar**	**114.67**	**24**	PKiKP	**PKiKP**	**16 15 02.5**	**+0.2**
	0.1nm,0.5s,baz=316,slow=1.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**118.97**	**280**	PKP	**PKPdf**	**16 15 13.7**	**+1.7**
	0.6nm,0.6s,baz=67,slow=2.2,SNR=4.5						
TOA1	**Torodi Ar. Sit**	**118.97**	**280**	*e*PKPdf	**PKPdf**	**16 15 13.7**	**+1.7**

MAN 15 16:15:11, 10.33N×125.18E, h2km, mb4.8, ML3.7, MS3.6,

2C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.37**	**239**	*e*P	Pb	16 15 20.0	-0.4
MSLP				*e*S	Sb	16 15 27.1	+0.4
PLP	**Palo**	**0.85**	**346**	*e*P	Pg	16 15 27.3	-0.1
PLP				*i* S	Sb	16 15 40.3	-0.2
OCLP	**Ormoc**	**0.91**	**322**	*e*P	Pg	16 15 29.1	+0.5
OCLP				*e*S	Sn	16 15 45.1	+0.4
LLP	**Lapu-Lapu**	**1.20**	**270**	*e*P	Pg	16 15 33.4	-0.6
LLP				*e*S	Sn	16 15 52.4	+0.7
BESP	**Borongan**	**1.29**	**11**	*e*P	Pg	16 15 35.4	-0.4
BESP				*e*S	Sn	16 15 54.8	+0.9
BUTP	**Butuan**	**1.42**	**162**	*e*P	Pg	16 15 42.1	+3.8
BUTP				*e*S	Sn	16 16 10.6	+13
CNP	**Catarman**	**2.23**	**347**	*e*P	Pn	16 15 50.2	+1.3
CNP				*e*S	Sb	16 16 19.8	-0.3
BIPH	**Bislig**	**2.43**	**151**	*e*P	Pb	16 15 54.8	-0.6
BIPH				*e*S	Sb	16 16 25.9	+0.1
BUKP	**Musuan**	**2.44**	**183**	*e*P	Pn	16 15 52.9	+1.0
BUKP				*e*S	Sn	16 16 23.6	+1.2
GUIM	**Jordan**	**2.57**	**277**	*e*P	Pn	16 15 55.4	+1.8
RCP	**Roxas**	**2.69**	**297**	*e*P	Pn	16 15 56.2	+0.9
JAP	**San Jose, Anti**	**3.21**	**278**	*e*P	Pn	16 15 59.3	-3.2
OTRP	**Odiongan**	**3.70**	**303**	*e*P	Pn	16 16 11.0	+1.7

IDC ***15*** *16:21:15.4±0.7, 12.26N×87.49W, h0km, mb4.1/12, mb1 4.3/16, mb1mx4.1/50, mbtmp4.2/16, ML3.4/4, MS3.5/10, Ms1 3.5/10, ms1mx3.2/50, Error ellipse: s-maj=29.6km s-min=13.3km az=49.0*

ISCJB ***15*** *16:21:19.8±0.4, 11.95N±0.03×87.76W±0.03, h62km±2km, mb4.6/112, Error ellipse: s-maj=6.7km s-min=2.7km az=39.9*

CASC ***15*** *16:21:19.0±2.2, 11.87N×87.88W, h36km±999km, MD4.5, ML3.8, mb4.6(NEIC)*

NEIC ***15*** *16:21:22.9±0.6, 12.05N×87.69W, h65km±5km, mb4.6/108, Error ellipse: s-maj=7.9km s-min=4.8km az=218.0*

NEIC Felt at Leon.

ISC 15 16:21:21.6±0.7, 12.03N±0.05×87.77W±0.04, h50km±5km, n473, σ1°44/480, mb4.6/112, MS3.5/10, 3C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.97**	**46**	*e*P	**Pn**	**16 21 39.0**	**0.0**
CNGN	**Cerro Negro**	**1.15**	**66**	*e*P	**Pn**	**16 21 40.6**	**-0.7**
CNGN				AML	AML	16 22 02.0	
	comp=N,2μm,0.5s						
COPN	**Copaltepe**	**1.16**	**82**	*e*P	**Pn**	**16 21 40.8**	**-0.8**
CNCH	**Conchagua**	**1.24**	**357**	*e*P	**Pn**	**16 21 42.4**	**-0.3**
CNCH				*e*S	**Sn**	**16 22 00.5**	**+2.0**
MOMN	**Momotombo**	**1.26**	**72**	*e*P	**Pn**	**16 21 42.0**	**-0.9**
LCND	**La Ca˜–ada**	**1.28**	**355**	*e*P	**Pn**	**16 21 42.8**	**-0.3**
LCND				*e*S	**Sn**	**16 22 00.3**	**+1.1**
XAVN	**Gruta Xavier**	**1.42**	**85**	*e*P	**Pn**	**16 21 43.8**	**-1.2**
TISN	**Laguna Tiscapa**	**1.47**	**85**	*e*P	**Pn**	**16 21 44.8**	**-1.0**
VSM	**San Miguel**	**1.48**	**341**	*e*P	**Pn**	**16 21 45.0**	**-1.0**
MGAN	**Managua**	**1.50**	**85**	*e*P	**Pn**	**16 21 45.1**	**-1.0**
MGAN				*e*S	**Sn**	**16 22 00.2**	**-4.3**
PACA	**Pacayal**	**1.53**	**339**	*e*P	**Pn**	**16 21 46.0**	**-0.7**
ESTN	**Estel**	**1.74**	**52**	*e*P	**Pn**	**16 21 48.6**	**-0.8**
CAHU	**

247A Quitman 19.95 358 P P 16 25 51.3 +1.8
baz=177
248A Dixon Mills 19.97 0 P Pn 16 25 52.0 +0.2
baz=180
245A Little AP, Sta 20.00 355 P P 16 25 51.9 +1.7
baz=174
243A Waterproof 20.05 351 P P 16 25 52.4 +1.7
baz=169
251A Midway 20.09 6 P P 16 25 52.9 +1.8
baz=186
244A Avery, Jackson 20.10 353 P P 16 25 53.1 +1.9
baz=172
253A Americus 20.22 9 P P 16 25 54.1 +1.6
baz=190
VBMS Vicksburg 20.25 353 P Pn 16 25 55.0 -0.1
baz=172
VBMS Vicksburg 20.25 353 eP Pn 16 25 55.2 0.0
comp=Z,134nm,0.2s
242A Grayson 20.34 349 P P 16 25 55.9 +2.1
baz=167
241A Mo Tay, Goldon 20.46 347 P P 16 25 56.8 +1.8
baz=165
149A Jones 20.49 2 P P 16 25 56.9 +1.5
baz=182,SNR=6.3
148A Greensboro 20.52 0 P P 16 25 57.6 +1.9
baz=180
151A Opelika 20.53 6 P P 16 25 57.7 +1.9
baz=187,SNR=14
150A Eclectic 20.55 4 P P 16 25 57.6 +1.5
baz=185,SNR=19
147A Livingston 20.55 359 P P 16 25 58.2 +2.1
baz=178
NATX Nacogdoches 20.64 343 P P 16 25 58.8 +1.7
baz=160
NATX Nacogdoches 20.64 343 eP P 16 25 57.8 +0.7
comp=Z,36nm,0.6s
LRAL Lakeview Retre 20.92 2 P Pn 16 26 03.4 +0.3
baz=182,SNR=11
LRAL Lakeview Retre 20.92 2 eP P 16 26 01.7 +1.6
comp=Z,21nm,0.8s
141A Papa Simpson, 21.02 348 P P 16 26 02.8 +1.7
baz=166
Z47A Carrollton 21.07 359 P P 16 26 04.0 +2.3
baz=179
Z46A Louisville 21.09 357 P P 16 26 03.2 +1.3
baz=177
Z49A Columbiana 21.10 3 P P 16 26 03.5 +1.6
baz=183,SNR=9.4
Z50A Ashland 21.20 4 P P 16 26 04.3 +1.3
baz=185,SNR=14
140A Cam and Jess, 21.20 346 P P 16 26 04.8 +1.7
baz=164
ATAH Atahualpa 21.20 153 P P 16 26 04.0 +0.3
comp=Z,5.6nm,0.9s,baz=14,slow=4.2,SNR=2.6
Z48A Northport 21.25 0 P P 16 26 05.1 +1.5
baz=180,SNR=6.0
JCT Junction City 21.48 331 P P 16 26 06.3 +0.1
baz=146,SNR=7.1
JCT Junction City 21.48 331 eP P 16 26 05.8 -0.4
comp=Z,19nm,0.8s
Z41A Richland Creek 21.63 349 P P 16 26 08.3 +0.7
baz=166
GOGA Godfrey 21.65 10 P P 16 26 08.6 +0.8
baz=191,SNR=18
GOGA Godfrey 21.65 10 eP P 16 26 09.0 +1.1
comp=Z,41nm,1.1s
Z40A Long Farm, Mag 21.75 347 P P 16 26 10.2 +1.2
baz=165
Y49A Blount Mountai 21.77 3 P P 16 26 10.0 +0.9
baz=183,SNR=7.0
Y47A UCPARC, Winfie 21.77 360 P P 16 26 10.1 +0.9
baz=180
WHTX Lake Whitney, 21.78 337 P P 16 26 09.6 +0.3
baz=154
WHTX Lake Whitney, 21.78 337 eP P 16 26 09.0 -0.2
comp=Z,14nm,0.8s
Y46A Houston 21.78 358 P P 16 26 09.9 +0.6
baz=177,SNR=10
Y48A Jasper 21.79 1 P P 16 26 09.9 +0.5
baz=181,SNR=5.7
Y50A Piedmont 21.84 5 P P 16 26 10.8 +0.9
baz=185,SNR=9.6
CCAR Cane Creek 22.09 351 eP P 16 26 13.2 +0.6
comp=Z,26nm,0.7s
WLAR White Oak Lake 22.11 348 eP P 16 26 13.8 +1.0
comp=Z,45nm,0.8s
Y41A Eaglette Beard 22.20 349 P P 16 26 14.4 +0.7
baz=167
X48A Hartselle 22.33 2 P P 16 26 15.4 +0.2
baz=182
X47A Russellville 22.39 360 P P 16 26 16.0 +0.1
baz=180
X50A Fort Payne 22.41 5 P P 16 26 16.2 +0.1
baz=185,SNR=7.5
HPIG 22.42 314 eP P 16 26 17.0 +0.6
comp=Z,5.9nm,0.9s
X49A Woodville 22.42 3 P P 16 26 16.3 +0.2
baz=184,SNR=8.9
OXF Oxford 22.43 356 P P 16 26 16.1 -0.1
baz=176
OXF Oxford 22.43 356 eP P 16 26 15.7 -0.5
comp=Z,72nm,1.4s
X46A Booneville 22.44 358 P P 16 26 16.4 0.0
baz=178
Y40A Okolona 22.45 348 P P 16 26 17.1 +0.6
baz=166,SNR=7.1
HODGE Hodges 22.67 12 eP P 16 26 20.1 +1.4
comp=Z,20nm,1.0s
LTX Lajitas 22.70 322 eP P 16 26 19.7 +0.3
LTX ePcP PcP 16 30 11.7 +1.3
TX31 Lajitas Ar. Si 22.70 322 eP P 16 26 19.5 +0.2
TXAR Lajitas Array 22.70 322 P P 16 26 19.7 +0.3
comp=Z,6.7nm,0.6s,baz=139,slow=9.7,SNR=84
TXAR PcP PcP 16 30 11.6 +1.3
comp=Z,0.3nm,0.5s,baz=149,slow=3.7,SNR=6.0
PCRV Puerto La Cruz 22.78 92 P P 16 26 18.6 -1.6
comp=Z,14nm,0.7s,baz=318,slow=5.0,SNR=3.8
X40A Basin Creek Fa 22.83 349 P P 16 26 20.4 0.0
baz=167
PLAL Pickwick Lake 22.85 359 eP P 16 26 19.6 -1.1
comp=Z,11nm,1.0s
STVI Saint Thomas 22.89 71 eP P 16 26 20.3 -0.9
comp=Z,46nm,1.0s
JSC Jenkinsville 22.93 14 eP P 16 26 21.6 0.0
comp=Z,24nm,1.0s
W48A Pulaski 23.02 2 P P 16 26 22.1 -0.3
baz=182,SNR=6.8
UALR University of 23.02 350 eP P 16 26 22.4 -0.1
comp=Z,29nm,0.9s
MIAR Mount Ida 23.03 348 P P 16 26 22.6 0.0
baz=165,SNR=42
MIAR Mount Ida 23.03 348 eP P 16 26 22.3 -0.3
comp=Z,50nm,0.8s
X39A Fountain Ranch 23.11 347 P P 16 26 23.5 +0.1
baz=164,SNR=9.7
W47A Westpoint 23.12 0 P P 16 26 22.8 -0.6
baz=180
ABTX Abilene, Hawle 23.22 334 P P 16 26 24.0 -0.5
baz=149,SNR=6.9
ABTX Abilene, Hawle 23.22 334 eP P 16 26 23.5 -0.9
comp=Z,30nm,0.9s
BG3 Lake Jocassee 23.28 10 eP P 16 26 25.7 +0.7
comp=Z,37nm,0.9s
W41B Gary Mavity, V 23.40 351 P P 16 26 25.6 -0.5
baz=169,SNR=8.4
WHAR Wooly Hollow 23.52 351 eP P 16 26 26.8 -0.5
comp=Z,10nm,0.8s
ABVI Anegada Island 23.55 71 eP P 16 26 27.6 -0.1
comp=Z,128nm,0.9s
W40A Ferguson Farm, 23.56 349 P P 16 26 27.5 -0.1
baz=167,SNR=8.9
W40A Ferguson Farm, 23.56 349 eP P 16 26 27.8 +0.2
comp=Z,36nm,0.9s
V48A Smith Brothers 23.62 2 P P 16 26 27.8 -0.5
baz=182
V46A Holladay 23.67 359 P P 16 26 27.2 -1.5
baz=179
V47A Nunnelly 23.70 1 P P 16 26 27.9 -1.0
baz=180,SNR=5.3
W39A Magazine 23.70 348 P P 16 26 29.2 +0.2
baz=165,SNR=14
KMSC Kings Mountain 23.74 13 P P 16 26 28.8 -0.6
baz=196
KMSC Kings Mountain 23.74 13 eP P 16 26 29.9 +0.5
comp=Z,18nm,1.0s
TKL Tuckaleechee C 23.80 8 P P 16 26 30.4 +0.5
comp=Z,31nm,1.0s,baz=182,slow=11,SNR=26
TKL LR LR 16 36 23.3
comp=Z,80nm,18.3s,baz=240,slow=39
TKL Tuckaleechee C 23.80 8 eP P 16 26 29.9 0.0
comp=Z,42nm,1.1s
V42A Cord 23.90 353 P P 16 26 30.0 -0.8
baz=171
V41A Mountainview 23.98 351 P P 16 26 30.9 -0.7
baz=169,SNR=6.1
WVT Waverly 24.00 360 P P 16 26 30.4 -1.3
baz=180
WVT Waverly 24.00 360 eP P 16 26 30.8 -0.8
comp=Z,6.1nm,0.9s
V40A Witts Springs 24.11 350 P P 16 26 32.2 -0.5
baz=168
U46A Springville 24.23 359 P P 16 26 32.7 -1.0
baz=179,SNR=5.4
V39A Pettigrew 24.29 348 P P 16 26 34.2 -0.3
baz=166,SNR=12
U47A Clarksville 24.31 1 P P 16 26 33.4 -1.2
baz=181,SNR=6.4
U48A Cassie Pea, Po 24.40 2 P P 16 26 34.7 -0.7
baz=183
U42A Revenden 24.42 353 P P 16 26 34.6 -0.9
baz=172,SNR=7.0
U41A Viola 24.50 352 P P 16 26 35.3 -1.0
baz=170
U40A Yellville 24.65 350 P P 16 26 37.4 -0.3
baz=168,SNR=16
TZTN Tazewell 24.70 8 P P 16 26 37.8 -0.4
baz=190
TZTN Tazewell 24.70 8 eP P 16 26 38.4 +0.2
comp=Z,16nm,0.9s
WMOK Wichita Mounta 24.73 338 P P 16 26 37.9 -0.5
baz=153
WMOK Wichita Mounta 24.73 338 eP P 16 26 37.8 -0.5
comp=Z,10nm,0.9s
PBMO Polar Bluff 24.76 355 eP P 16 26 37.4 -1.2
comp=Z,16nm,0.8s
HHAR Hobbs 24.78 348 eP P 16 26 38.1 -0.8
comp=Z,15nm,0.9s
CNNC Cliffs of the 24.79 20 eP P 16 26 40.1 +1.3
comp=Z,18nm,0.6s
U39A Green Forest 24.79 349 P P 16 26 38.3 -0.6
baz=166,SNR=6.6
TUL1 Leonard 24.86 344 P P 16 26 38.8 -0.7
baz=161
TUL1 Leonard 24.86 344 eP P 16 26 38.8 -0.7
comp=Z,18nm,0.8s
T47A Sharon Grove 24.86 1 P P 16 26 38.8 -0.8
baz=181
T46A Princeton 24.91 360 P P 16 26 39.1 -0.9
baz=180,SNR=6.6
NCAT North Carolina 25.01 15 eP P 16 26 41.0 +0.1
comp=Z,9.6nm,0.8s
T43A Greville 25.05 355 P P 16 26 40.3 -0.9
baz=174,SNR=5.9
T42A Van Buren 25.07 354 P P 16 26 40.5 -1.0
baz=172,SNR=10.0
T41A Mountain View 25.17 352 P P 16 26 41.7 -0.6
baz=171,SNR=12
T40A Mansfield 25.38 351 P P 16 26 44.4 +0.1
baz=169
T39A Clever 25.39 349 P P 16 26 43.8 -0.6
baz=67,SNR=5.2
MNTX Cornudas Mount 25.43 323 P P 16 26 45.3 +0.5
baz=136,SNR=11
MNTX Cornudas Mount 25.43 323 eP P 16 26 46.0 +1.2
comp=Z,7.2nm,0.9s
S43A Fulton Ridge, 25.52 356 P P 16 26 44.4 -1.1
baz=175
S46A Don Dixon Farm 25.55 0 P P 16 26 45.4 -0.4
baz=180
S48A Wileman Farm, 25.57 3 P P 16 26 44.8 -1.2
baz=184
T38A Diamond 25.58 348 P P 16 26 45.5 -0.6
baz=165
SIUC Southern Illin 25.61 357 eP P 16 26 45.5 -0.8
comp=Z,16nm,0.8s
MSTX Muleshoe 25.77 330 P P 16 26 47.4 -0.7
baz=144,SNR=12
MSTX Muleshoe 25.77 330 eP P 16 26 48.4 +0.4
comp=Z,38nm,0.8s
S42A Caledonia 25.78 354 P P 16 26 46.8 -1.0
baz=173
S40A Lebanon 25.81 351 P P 16 26 47.7 -0.4
baz=169,SNR=7.3
BLA Blacksburg 25.93 14 eP P 16 26 49.5 +0.2
comp=Z,7.8nm,0.8s
FVM French Village 25.96 355 eP P 16 26 48.2 -1.3
comp=Z,5.2nm,0.6s
AMTX Amarillo 26.03 333 P P 16 26 50.2 -0.1
baz=148
AMTX Amarillo 26.03 333 eP P 16 26 50.2 -0.1
comp=Z,41nm,1.3s
S39A Bolivar 26.03 350 P P 16 26 49.4 -0.8
baz=167,SNR=30
VWCC Virginia Weste 26.07 14 eP P 16 26 50.1 -0.4
R46A Gibon Southern 26.08 0 P P 16 26 49.7 -0.8
baz=180
S38A Stockton 26.08 349 P P 16 26 49.9 -0.7
baz=186
CCM Cathedral Cave 26.10 354 P P 16 26 49.5 -1.3
baz=172
CCM Cathedral Cave 26.10 354 eP P 16 26 49.8 -1.0
comp=Z,15nm,0.8s
WCI Wyandotte Cave 26.13 3 P P 16 26 50.2 -0.8
baz=183
WCI Wyandotte Cave 26.13 3 eP P 16 26 49.7 -1.3
comp=Z,20nm,0.8s
R44A Waltonville 26.14 358 P P 16 26 50.0 -1.1
baz=177
R45A Skylar, Fairfi 26.16 359 P P 16 26 49.9 -1.3
baz=179
R47A Wooly Knot Far 26.18 2 P P 16 26 50.3 -1.2
baz=183
R43A Red Bud 26.21 356 P P 16 26 50.9 -0.8
baz=175
R41A Rosebud 26.36 354 P P 16 26 52.0 -1.1
baz=172,SNR=8.2
R40A Maddies Statio 26.46 352 P P 16 26 52.9 -1.1
baz=170
R39A Chumby, Stover 26.60 351 P P 16 26 54.3 -0.9
baz=168,SNR=12
OLIL Olney 26.60 359 eP P 16 26 53.9 -1.3
comp=Z,17nm,0.9s
R38A Fenwick Farm, 26.62 349 P P 16 26 54.5 -0.9
baz=166,SNR=11
Q45A Warren Harvey, 26.76 359 P P 16 26 55.8 -0.9
baz=179,SNR=5.5
Q44A Meyer Farm, Va 26.79 358 P P 16 26 56.0 -1.0
baz=177
Q47A Bedord North L 26.82 2 P P 16 26 56.2 -1.1
baz=183
Q41A Truxton 26.99 354 P P 16 26 57.6 -1.2
baz=172
BLO Bloomington 27.06 2 eP P 16 26 58.4 -1.0
comp=Z,14nm,0.4s
Q40A Lax Farm, Aux 27.13 353 P P 16 26 58.8 -1.3
baz=171
IP07 Quail 27.21 17 eP P 16 27 00.8 0.0
comp=Z,9.0nm,0.4s
IP01 Cuckoo 27.29 17 eP P 16 27 00.3 -1.1
comp=Z,14nm,1.4s
Q39A Willow Grove F 27.30 351 P P 16 27 00.4 -1.2
baz=169,SNR=7.5
Q38A Cooks Store, C 27.32 350 P P 16 27 01.0 -0.7
baz=167,SNR=6.8
SPRD Spring Road, M 27.36 17 eP P 16 27 02.6 +0.5
comp=Z,16nm,1.3s
IP04 Greensprings 27.36 17 eP P 16 27 02.1 0.0
comp=Z,8.9nm,1.2s
P45A Graceland, Par 27.39 0 P P 16 27 01.5 -0.9
baz=180
PTRD Partlow Road 27.52 18 eP P 16 27 03.9 +0.4
comp=Z,579nm,0.2s
SRIG Santa Rosalia 27.53 307 eP P 16 27 04.8 +1.0
comp=Z,18nm,0.7s
319A Douglas 27.65 317 eP P 16 27 08.0 +3.1
comp=Z,13nm,1.4s
P40A Paris 27.65 353 P P 16 27 03.7 -1.0
baz=171
P41A Barry, Barry 27.69 355 P P 16 27 03.6 -1.5
baz=173
BNM Barren Site 27.93 325 eP P 16 27 09.4 +1.9
P38A Dawn 27.96 350 P P 16 27 06.5 -0.9
baz=168,SNR=9.9
O44A Mansfield 28.02 359 P P 16 27 06.7 -1.2
baz=178
LPM Los Pinos Moun 28.05 325 eP P 16 27 09.2 +0.6
P37A Lathrop 28.06 349 P P 16 27 07.4 -1.0
baz=166
KSU1 Kansas State U 28.08 345 P P 16 27 06.4 -2.2
baz=161
KSU1 Kansas State U 28.08 345 eP P 16 27 06.7 -1.8
comp=Z,14nm,0.8s
O45A Potomac 28.11 0 P P 16 27 07.5 -1.3
baz=180
O47A Sheridan 28.13 3 P P 16 27 07.7 -1.3
baz=183
O40A La Belle 28.22 353 P P 16 27 08.3 -1.4
baz=171
SFIN Lafayette 28.25 1 P P 16 27 08.7 -1.2
baz=181
SFIN Lafayette 28.25 1 eP P 16 27 09.0 -1.0
comp=Z,13nm,1.2s
P35A Duane Minner, 28.35 346 P P 16 27 10.3 -0.7
baz=163
MCWV Mont Chateau 28.40 13 eP P 16 27 11.6 +0.2
comp=Z,13nm,0.7s
LAZ Ladron 28.40 325 eP P 16 27 12.5 +0.8
ACSO Alum Creek Sta 28.41 8 P P 16 27 10.7 -0.7
baz=190
ACSO Alum Creek Sta 28.41 8 eP P 16 27 10.8 -0.7
comp=Z,15nm,0.8s
O39A Kirksville 28.43 352 P P 16 27 11.0 -0.6
baz=170
O38A Galt 28.43 351 P P 16 27 10.7 -0.9
baz=168
HDIL Hopedale 28.45 358 eP P 16 27 10.4 -1.4
comp=Z,15nm,0.9s
P34A Walnut Farm, R 28.56 345 P P 16 27 11.7 -1.1
baz=161
O37A Wolven Farm, M 28.59 350 P P 16 27 11.9 -1.2
baz=167
N41A Harden Midland 28.70 355 P P 16 27 13.1 -0.9
baz=174
N45A Kentland 28.71 0 P P 16 27 13.1 -1.0
baz=180
N46A Monticello 28.77 2 P P 16 27 13.3 -1.4
baz=182
N43A Stutzman Famil 28.83 358 P P 16 27 14.0 -1.1
baz=177
N40A Mertquake, Sal 28.94 354 P P 16 27 14.8 -1.4
baz=172
SDMD Soldier's Deli 28.94 18 eP P 16 27 14.2 -2.0
comp=Z,7.8nm,0.5s
N39A Derby Farms, D 29.04 353 P P 16 27 15.9 -1.1
baz=170
T25A Trinidad 29.13 332 eP P 16 27 20.2 +2.1
comp=Z,5.5nm,0.8s
O34A Beatrice 29.13 346 P P 16 27 17.1 -0.8
baz=162
N37A Lee Faris, Mou 29.17 350 P P 16 27 17.3 -1.0
baz=167
TUC Tucson 29.23 317 eP P 16 27 22.5 +3.5
comp=Z,6.6nm,1.3s
M46A Old House Fiel 29.29 2 P P 16 27 18.1 -1.2
baz=183
N36A Muff Farm, Cla 29.36 349 P P 16 27 19.1 -0.8
baz=165
M39A Webster 29.59 353 P P 16 27 20.8 -1.2
baz=171
N54A Moraine State 29.62 12 eP P 16 27 21.2 -1.0
comp=Z,44nm,1.4s
M38A Pleasantville 29.66 352 P P 16 27 21.3 -1.2
baz=169
M36A Felix, Anita 29.95 349 P P 16 27 24.3 -0.8
baz=166,SNR=5.6
L41A Preston 30.03 356 P P 16 27 24.3 -1.4
baz=174
L44A Lake County Fo 30.04 360 P P 16 27 24.1 -1.8
baz=180
SDCO Great Sand Dun 30.13 331 eP P 16 27 27.6 +0.6
comp=Z,3.9nm,1.0s
M35A Neola 30.14 348 P P 16 27 25.6 -1.1
baz=164
X18A Snowflake 30.14 322 eP P 16 27 29.5 +2.3
comp=Z,17nm,1.8s
SCIA State Center 30.14 352 eP P 16 27 25.7 -1.1
comp=Z,14nm,1.0s
L38A Oak Wood Farm, 30.34 352 P P 16 27 27.4 -1.1
baz=170
L37A Phoenix Point, 30.43 351 P P 16 27 28.4 -1.0
baz=168
L36A Harm Buss Farm 30.56 350 P P 16 27 29.5 -1.0
baz=166
N59A State Game Lan 30.65 18 P P 16 27 29.3 -2.1
baz=203
N59A State Game Lan 30.65 18 eP P 16 27 29.1 -2.3
comp=Z,12nm,0.6s
K42A Prairie Point, 30.67 358 P P 16 27 30.2 -1.2
baz=177
K40A Colesburg 30.70 355 P P 16 27 29.6 -2.1
baz=173
L35A Bielow Farm, R 30.73 349 P P 16 27 30.8 -1.3
baz=165,SNR=5.2
S22A 4UR Ranch, Cre 30.77 330 eP P 16 27 34.0 +1.3
comp=Z,6.2nm,1.2s
S22A ePcP PcP 16 30 31.6 +2.2
K39A Oelwein 30.77 354 P P 16 27 31.0 -1.4
baz=172
K38A Parkersburg 30.81 353 P P 16 27 31.3 -1.5
baz=170
Q24A Divide 30.95 333 eP P 16 27 36.1 +1.7
comp=Z,19nm,1.9s
X16A Lo Mia Camp, P 30.99 320 epP pP 16 27 45.4 -2.2
K36A Gilmore City 31.05 350 P P 16 27 34.0 -0.8
baz=167
K37A Belmond 31.05 352 P P 16 27 33.5 -1.3
baz=169,SNR=15
J42A Columbus 31.20 358 P P 16 27 34.6 -1.5
baz=177
K35A Storm Lake 31.26 349 P P 16 27 35.2 -1.4
baz=166
J41A Loganville 31.28 357 P P 16 27 35.5 -1.3
baz=176
J39A Decorah 31.38 354 P P 16 27 36.6 -1.1
baz=172
K34A Le Mars 31.39 348 P P 16 27 36.7 -1.1
baz=164
J38A Wedel Dairy, R 31.44 353 P P 16 27 37.0 -1.2
baz=171
J37A Redenius Farm, 31.57 352 P P 16 27 38.6 -0.8
baz=169,SNR=7.7
J36A Seneca 1, Swea 31.70 351 P P 16 27 39.4 -1.2
baz=168,SNR=10
I43A Langenfeld Bro 31.74 359 P P 16 27 39.5 -1.4
baz=175
I42A Draeger Farm, 31.76 358 P P 16 27 39.9 -1.2
baz=178
K32A Verdigre 31.78 346 P P 16 27 40.0 -1.3
baz=161
I40A Norwalk 31.84 356 P P 16 27 40.5 -1.3
baz=175
I39A Houston 31.88 355 P P 16 27 40.6 -1.5
baz=173
J35A Milford 31.88 350 P P 16 27 40.6 -1.5
baz=166
YLE Yale 31.94 21 eP P 16 27 41.3 -1.4
comp=Z,200nm,2.0s
SMCO Snowmass 31.96 331 eP P 16 27 44.2 +0.8
comp=Z,12nm,1.5s
I41A Arkdale 31.97 357 P P 16 27 41.1 -1.8
baz=176
SAML Samuel 32.12 129 eP P 16 27 42.4 -2.1
comp=Z,8.2nm,0.8s
I38A Scanlan Farm, 32.14 354 P P 16 27 43.0 -1.4
baz=172
PV05 Paradox Valley 32.18 327 eP P 16 27 43.9 -1.2
I37A Lemond, Waseca 32.24 352 P P 16 27 44.0 -1.3
baz=170
I35A Creekview Farm 32.32 350 P P 16 27 44.8 -1.1
baz=167,SNR=8.5
PV10 Paradox Valley 32.37 328 eP P 16 27 44.7 -2.1
ECSD EROS Data Cent 32.50 348 P P 16 27 46.1 -1.4
baz=164,SNR=9.2
ECSD EROS Data Cent 32.50 348 eP P 16 27 46.2 -1.4
comp=Z,10nm,0.8s
H41A Junction City 32.51 358 P P 16 27 46.0 -1.6
baz=176
H40A Chili 32.56 357 P P 16 27 46.2 -1.8
baz=175
Y12C Blythe 32.61 316 eP P 16 27 47.9 -0.7
comp=Z,4.3nm,0.6s
I34A Hadley 32.65 349 P P 16 27 47.4 -1.4
baz=165
H38A Maiden Rock 32.76 354 P P 16 27 48.3 -1.5

baz=172
GLMI Grayling 32.79 4 eP P 16 27 48.6 -1.5
comp=Z,37nm,1.1s
H36A Jessenland, He 32.86 352 P P 16 27 49.5 -1.2
baz=169,SNR=11
G42A Mountain 33.10 359 P P 16 27 51.2 -1.6
baz=179
H35A Sunnyside Ranc 33.12 351 P P 16 27 51.6 -1.3
baz=167,SNR=18
G40A Rib Lake 33.19 357 P P 16 27 52.1 -1.5
baz=176
BC3 Big Chuckawall 33.19 315 P P 16 27 49.9 -4.0
baz=124
G38A Ridgeland 33.21 355 P P 16 27 52.1 -1.6
baz=173
H34A Spellman Lake, 33.24 350 P P 16 27 52.7 -1.3
baz=166
G39A Holcombe 33.27 356 P P 16 27 52.7 -1.6
baz=174,SNR=6.2
O20A White River Ci 33.32 331 eP P 16 27 55.0 0.0
comp=Z,8.1nm,0.8s
SPMN Marine on St. 33.36 354 P P 16 27 53.1 -1.9
baz=171,SNR=5.4
SPMN Marine on St. 33.36 354 eP P 16 27 53.4 -1.7
comp=Z,17nm,0.8s
H32A Carlson Farm, 33.41 347 P P 16 27 53.9 -1.6
baz=163
H33A Prehn Over Nor 33.44 348 P P 16 27 54.2 -1.5
baz=164
G36A St. Michael 33.48 352 P P 16 27 54.6 -1.5
baz=169
F45A CMU Biological 33.60 3 P P 16 27 55.4 -1.6
baz=184
F41A Three Lakes 33.62 358 P P 16 27 55.6 -1.7
baz=176
F43A Flat Rock, Esc 33.69 1 P P 16 27 56.0 -1.9
baz=181
DANC Danby, Needles 33.70 316 eP P 16 27 55.7 -2.4
SUSD Miller 33.70 346 P P 16 27 56.2 -1.8
baz=160
LDFC Landfair 33.77 317 eP P 16 27 57.7 -1.2
G34A Benson 33.78 350 P P 16 27 57.1 -1.5
baz=166
F40A Park Falls 33.84 357 P P 16 27 57.6 -1.6
baz=176
F44A Big Bay de Noc 33.85 2 P P 16 27 57.3 -2.0
baz=182,SNR=8.3
MTPU Mount Pierson 33.85 324 eP P 16 28 00.7 +0.8
comp=Z,2.2nm,1.0s
G33A Ortonville 33.87 349 P P 16 27 58.0 -1.5
baz=165
F39A Loretta 33.88 356 P P 16 27 57.6 -1.9
baz=174,SNR=6.3
DNR Dunn Ranch,Anz 33.97 314 eP P 16 28 03.4 +2.7
COWI Conover 33.98 358 eP P 16 27 58.6 -1.8
comp=Z,9.7nm,0.8s
F38A Pierce - Schro 34.00 355 P P 16 27 58.9 -1.7
baz=173,SNR=11
F36A Milaca 34.07 353 P P 16 27 59.5 -1.7
baz=170,SNR=11
G32A Webster 34.14 348 P P 16 28 00.4 -1.4
baz=163,SNR=6.0
LPAZ La Paz 34.19 145 P P 16 28 02.5 -0.7
comp=Z,0.7nm,0.7s,baz=338,slow=5.4,SNR=3.4
LPAZ LR LR 16 41 54.6
comp=Z,60nm,18.8s,baz=322,slow=36
F35A Swanville 34.21 352 P P 16 28 01.0 -1.4
baz=168
E43A Lone Tree Farm 34.24 1 P P 16 28 00.7 -1.9
baz=181
F34A Alexandria 34.25 351 P P 16 28 00.8 -2.0
baz=167
G31A Conde 34.27 347 P P 16 28 00.8 -2.1
baz=162
E42A Champion 34.29 360 P P 16 28 01.2 -1.9
baz=180
E39A Mellen 34.32 357 P P 16 28 01.9 -1.5
baz=175,SNR=10
E40A Wakefield 34.35 357 P P 16 28 01.7 -1.9
baz=176
BBSC Beaumont Base 34.40 314 eP P 16 28 02.7 -1.6
HEC Hector,Ludlow 34.45 316 eP P 16 28 06.2 +1.4
F33A 5 Mile Ranch, 34.47 349 P P 16 28 03.0 -1.6
baz=165,SNR=18
BBRC Big Bear Solar 34.54 315 epP pP 16 28 21.1 +2.4
BBRC ePcP PcP 16 30 41.0 +1.2
BBRC eS S 16 33 30.7 -0.8
E38A The Farm, Brul 34.61 355 P P 16 28 04.1 -1.8
baz=173
E36A McGregor 34.69 353 P P 16 28 04.8 -1.8
baz=170,SNR=7.3
E35A Pequot Lakes 34.87 352 P P 16 28 06.4 -1.7
baz=168
FRNY Flat Rock 34.88 18 eP P 16 28 03.6 -4.6
comp=Z,10nm,0.8s
D41A Chassel 34.92 359 P P 16 28 06.4 -2.1
baz=178
E34A Wadena 34.94 351 P P 16 28 07.3 -1.4
baz=167
VTV Victorville 34.99 315 eP P 16 28 06.5 -2.9
E33A Westby DABS, E 35.06 350 P P 16 28 07.9 -1.9
baz=166
D37A Cotton 35.24 354 P P 16 28 09.6 -1.6
baz=172,SNR=8.7
D36A Goodland 35.33 354 P P 16 28 10.2 -1.9
baz=171
D35A Remer 35.34 353 P P 16 28 10.1 -2.1
baz=169
PASC Pasadena Art C 35.38 314 ePcP PcP 16 30 42.2 +0.2
D34A Park Rapids 35.50 351 P P 16 28 11.8 -1.7
baz=167
CCCA Chr Cany lake 35.54 316 eP P 16 28 18.8 +4.7
CCCA eSP sP 16 28 35.7 +2.7
D33A AnnSam, Waubun 35.65 351 P P 16 28 13.1 -1.7
baz=166,SNR=6.4
C38A Sawbill Land. 35.70 356 P P 16 28 13.2 -2.0
baz=174
C39A Grand Marais 35.73 357 P P 16 28 13.1 -2.4
baz=176
OAT Oat Mountain 35.78 313 epP pP 16 28 34.0 +4.8
C37A Embarrass 35.78 355 P P 16 28 14.4 -1.5
baz=172
C40A Isle Royale Na 35.79 358 P P 16 28 14.2 -1.8
baz=178,SNR=6.0
C36A Pine Crest Far 35.87 354 P P 16 28 15.2 -1.5
baz=171,SNR=6.5
C35A Jirik Farms, M 35.94 353 P P 16 28 15.5 -1.8
baz=170,SNR=13
EYMN Ely 35.94 356 P P 16 28 15.4 -1.9
baz=174,SNR=7.2
EYMN Ely 35.94 356 eP P 16 28 14.9 -2.4
comp=Z,6.1nm,0.7s
PD31 Pinedale Array 35.99 332 eP P 16 28 16.4 -1.7
PD31 ePcP PcP 16 30 44.5 +0.5
PDAR Pinedale Array 35.99 332 P P 16 28 18.1 0.0
comp=Z,0.8nm,0.7s,baz=120,slow=8.8,SNR=7.3
PDAR PcP PcP 16 30 44.9 +1.0
comp=Z,0.9nm,0.7s,baz=108,slow=2.9,SNR=6.0
PDAR Pinedale Array 35.99 332 eP P 16 28 17.4 -0.8
PDAR PcP PcP 16 30 44.9 +1.0
C34A RKJ Ranch, Bem 36.01 352 P P 16 28 16.0 -1.9
baz=168
HWUT Hardware Ranch 36.07 329 eP P 16 28 18.9 +0.2
comp=Z,5.0nm,0.8s
HWUT ePcP PcP 16 30 45.4 +1.3
SPUT South Promonto 36.30 328 eP P 16 28 21.2 +0.5
comp=Z,2.7nm,0.7s
B35A Bob, Littlefor 36.56 353 P P 16 28 21.1 -1.4
baz=170
C31A Landman Farms, 36.62 349 P P 16 28 21.5 -1.5
baz=163
AHID Auburn Hatcher 36.71 331 eP P 16 28 22.7 -1.5
AGMN Agassiz Nation 36.78 351 P P 16 28 22.9 -1.5
baz=167,SNR=13
AGMN Agassiz Nation 36.78 351 eP P 16 28 22.8 -1.7
comp=Z,35nm,1.3s
B34A Aery, Baudette 36.80 352 P P 16 28 22.9 -1.7
baz=169,SNR=16
HVU Hansel Valley 36.81 328 eP P 16 28 26.6 +1.6
comp=Z,3.7nm,0.7s
B32A Ashes, Strandq 36.98 350 P P 16 28 24.8 -1.4
baz=166,SNR=19
REDW Red Top Meadow 37.05 332 eP P 16 28 27.2 +0.1
comp=Z,72nm,1.6s
SNOW Snow King Moun 37.09 332 eP P 16 28 27.5 0.0
comp=Z,29nm,1.2s
LOHW Long Hollow 37.13 332 eP P 16 28 28.3 +0.5
comp=Z,8.6nm,1.1s
TPAW Teton Pass 37.20 332 eP P 16 28 28.7 +0.3
comp=Z,15nm,1.0s
B31A Greenbush Farm 37.21 349 P P 16 28 26.5 -1.6
baz=164
MOOW Moose Ponds 37.30 332 eP P 16 28 29.4 +0.2
comp=Z,6.5nm,0.8s
A33A Warroad 37.34 352 P P 16 28 27.8 -1.4
baz=168,SNR=28
FXWY Fox Creek 37.35 332 eP P 16 28 32.0 +2.4
comp=Z,2.9nm,0.9s
A32A Rocking H Ranc 37.48 351 P P 16 28 28.8 -1.6
baz=166,SNR=8.2
IMW Indian Meadow 37.51 332 eP P 16 28 32.0 +0.9
comp=Z,5.3nm,0.9s
YPP Pitchstone Pla 37.74 333 eP P 16 28 33.8 +0.8
comp=Z,6.3nm,1.1s
RLMT Red Lodge 37.75 335 P P 16 28 32.4 -0.5
baz=144
RLMT Red Lodge 37.75 335 eP P 16 28 33.1 +0.1
comp=Z,25nm,1.7s
NV01 Mina Array Sit 37.81 319 eP P 16 28 34.6 +1.0
NVAR Mina Array Bea 37.81 319 P P 16 28 35.0 +1.3
comp=Z,0.8nm,0.7s,baz=129,slow=7.1,SNR=8.5
NVAR ScP ScP 16 34 40.3 +7.2
comp=Z,0.3nm,0.7s,baz=143,slow=2.3,SNR=2.6
YHH Holmes Hill 38.16 333 eP P 16 28 37.3 +0.8
comp=Z,7.2nm,1.2s
YHB Horse Butte 38.29 333 epP pP 16 28 49.0 -1.6
WAKR Walker 38.58 319 eP P 16 28 40.0 -0.1
comp=Z,16nm,1.8s
ULM Lac du Bonnet 38.69 352 P P 16 28 38.6 -1.9
comp=Z,12nm,0.6s,baz=167,slow=9.0,SNR=28
ULM LR LR 16 45 30.2
comp=Z,76nm,19.8s,baz=184,slow=38
ULM Lac du Bonnet 38.69 352 eP P 16 28 37.9 -2.6
comp=Z,13nm,0.8s
DGMT Dagmar 38.83 343 P P 16 28 41.5 -0.3
baz=154
HLID Hailey 38.94 329 eP P 16 28 43.0 +0.1
comp=Z,2.4nm,0.9s
MCMT McKenzie Canyo 39.10 331 eP P 16 28 45.5 +1.1
BOZ Bozeman (W) 39.14 333 eP P 16 28 44.9 +0.3
comp=Z,16nm,1.1s
LRM Limekiln Ridge 39.68 333 eP P 16 28 49.7 +0.6
EGMT Eagleton 40.32 337 P P 16 28 53.6 -0.6
baz=146
EGMT Eagleton 40.32 337 eP P 16 28 54.0 -0.3
comp=Z,12nm,1.2s
MSO Missoula 41.11 333 eP P 16 29 01.1 +0.2
comp=Z,17nm,1.4s
N02D Trinity Center 42.05 320 P P 16 29 04.0 -4.6
baz=123
M02C Callahan 42.37 320 P P 16 29 07.2 -4.0
baz=123
YBH Yreka Blue Hor 42.47 321 LR LR 16 47 11.9
comp=Z,35nm,21.1s,baz=232,slow=37
FFC Flin Flon 44.04 348 eP P 16 29 24.3 0.0
comp=Z,28nm,1.6s
RPN Rapa Nui 44.19 208 LR LR 16 42 51.7
comp=Z,62nm,20.2s,baz=136,slow=29
SCHQ Schefferville 45.77 17 P P 16 29 36.7 -1.4
comp=Z,4.4nm,0.3s,baz=220,slow=5.3,SNR=38
SCHQ LR LR 16 50 28.9
comp=Z,186nm,18.1s,baz=56,slow=39
SCHQ Schefferville 45.77 17 eP P 16 29 36.0 -2.1
comp=Z,21nm,1.1s
CPUP Villa Florida 48.27 142 P P 16 30 12.9 +15
comp=Z,1.1nm,0.5s,baz=328,slow=11,SNR=2.8
YKA Yellowknife Ar 53.94 345 P P 16 30 38.6 -1.3
comp=Z,1.2nm,0.7s,baz=139,slow=7.7,SNR=31
YKA PcP PcP 16 31 44.4 -0.3
comp=Z,0.4nm,0.5s,baz=146,slow=3.7,SNR=5.2
YKA ScP ScP 16 35 44.1 +5.3
comp=Z,0.1nm,0.7s,baz=144,slow=3.9,SNR=3.8
YKA LR LR 16 55 12.9
comp=Z,7.1nm,19.5s,baz=180,slow=38
YKW3 Yellowknife Ar 53.99 345 eP P 16 30 38.7 -1.7
comp=Z,4.8nm,1.1s
SFJD Kangerlussuaq 60.21 16 LR LR 16 59 34.7
comp=Z,84nm,18.2s,baz=238,slow=38
RES Resolute Bay 62.77 358 eP P 16 31 39.7 -1.7
comp=Z,27nm,1.9s
INK Inuvik 63.51 343 eP P 16 31 45.5 -0.9
comp=Z,6.5nm,1.4s
IL1 Eielson Array 66.28 336 eP P 16 32 03.6 -0.8
ILAR Eielson Array 66.28 336 P P 16 32 03.8 -0.7
comp=Z,1.1nm,0.7s,baz=113,slow=5.1,SNR=14
ILB Eielson Array 66.28 336 eP P 16 32 03.9 -0.6
RND Reindeer 66.56 335 eP P 16 32 05.6 -0.7
comp=Z,22nm,1.6s
TRF Thorofare Moun 67.18 334 eP P 16 32 10.3 -0.1
comp=Z,16nm,1.4s
MLY Manley 67.90 336 eP P 16 32 14.2 -0.6
comp=Z,3.3nm,0.8s
COLD Coldfoot 68.47 338 eP P 16 32 18.9 +0.7
comp=Z,8.8nm,1.4s
ESDC Sonseca Array 77.70 52 P P 16 33 11.9 -1.5
comp=Z,0.2nm,0.3s,baz=276,slow=5.8,SNR=4.6
ES19 SONSECA Array 77.74 52 eP P 16 33 11.3 -2.4
KOWA Kowa 81.11 77 LR LR 17 06 42.7
comp=Z,42nm,21.8s,baz=31,slow=34
SPITS Spitsbergen Ar 81.18 12 P P 16 33 31.1 -0.5
comp=Z,6.6nm,0.9s,baz=307,slow=5.2,SNR=2.7
TORD Torodi Ar. Bea 86.81 77 LR LR 17 08 58.6
KURBB Kurchatov Arra 116.48 10 PKP PKPdf 16 40 00.4 +0.4
comp=Z,0.5nm,0.7s,baz=350,slow=2.0,SNR=4.9
SONA0 Songino Array 119.08 349 ePKPdf PKPdf 16 40 06.3 +0.9
SONM Songino Array 119.08 349 PKP PKPdf 16 40 06.3 +0.9
comp=Z,0.3nm,0.4s,baz=225,slow=1.9,SNR=4.2
KSRS Korea Array 120.46 327 PKP PKPdf 16 40 10.3 +2.2
comp=Z,1.4nm,0.7s,baz=24,slow=1.4,SNR=7.1
KSAR Wonju Array Be 120.49 327 PKP PKPdf 16 40 10.3 +2.1
MK32 Makanchi Array 120.77 8 ePKPdf PKPdf 16 40 07.6 -0.8
MKAR Makanchi Array 120.77 8 PKP PKPdf 16 40 07.6 -0.8
comp=Z,0.2nm,0.4s,baz=294,slow=3.2,SNR=8.1
GEYT Alibeck 120.92 31 PKP PKPdf 16 40 09.0 0.0
comp=Z,2.0nm,0.5s,baz=273,slow=5.6,SNR=6.2
AAK Ala-Archa 123.22 16 PKP PKPdf 16 40 14.1 +0.6
comp=Z,0.4nm,0.2s,baz=174,slow=19,SNR=3.9
KSH Kashi 126.53 16 ePKP PKPdf 16 40 19.5 -0.4
KSH PP PP 16 42 15.1 +0.3
WSAR Wadi Sarin 131.94 43 PKP PKPdf 16 40 30.1 -0.3
comp=Z,1.6nm,0.8s,baz=270,slow=2.0,SNR=4.3
ASAR Alice Springs 138.82 248 PKhKP PKPpre 16 40 41.0
comp=Z,0.4nm,0.8s,baz=105,slow=3.5,SNR=5.8
WR1 Warramunga Arr 138.85 253 ePKPpre PKPpre 16 40 41.0
WR1 ePKPdf PKiKP 16 40 45.7 +0.2
WRA Warramunga Arr 138.85 253 PKhKP PKPpre 16 40 41.0
comp=Z,0.6nm,0.8s,baz=91,slow=3.2,SNR=7.1
WRA PKP PKiKP 16 40 45.7 +0.1
comp=Z,0.5nm,0.5s,baz=90,slow=2.5,SNR=10.0
CM31 Chiang Mai Arr 148.99 348 ePKPbc PKPbc 16 41 05.5 +0.4
CMAR Chiang Mai Arr 148.99 348 PKP PKPdf 16 41 02.2 +1.1
comp=Z,5.1nm,0.8s,baz=341,slow=3.4,SNR=32
CMAR PKPbc PKPbc 16 41 05.8 +0.7
comp=Z,5.1nm,0.8s,baz=340,slow=3.5,SNR=34

*ISK **15** 16:24:41.5, 38.08N×38.47E, h8km, ML2.4/4*
*CSEM **15** 16:24:42.0±0.2, 38.17N×38.62E, h2km, ML2.4, Error ellipse: s-maj=6.3km s-min=4.5km az=57.0*
*DDA **15** 16:24:42.5, 38.14N×38.53E, h7km, Ml2.5*
ISC 15 16:24:41.9±0.9, 38.14N±0.03×38.49E±0.03, h14km±6km, n26, σ1.9 s00/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MALT	Malatya	0.18	344	PG	Pb	16 24 47.4	+0.2
MALT				SG	Sb	16 24 50.6	-0.1
MALT	Malatya	0.18	344	ePg	Pb	16 24 47.4	+0.2
MALT				eSg	Sb	16 24 50.6	-0.1
AKCD	Akcadag	0.48	290	i P	Pn	16 24 53.2	-1.3
AKCD				i S	Sb	16 24 59.8	+0.6
AKCD	Akcadag	0.48	290	P	Pn	16 24 53.2	-1.3
AKCD				S	Sb	16 24 59.8	+0.6
URFA	Urfa	0.74	159	PG	Pg	16 24 55.8	-0.6
URFA				SG	Sg	16 25 05.3	-0.9
URFA	Urfa	0.74	159	ePg	Pg	16 24 55.8	-0.6
URFA				eSg	Sg	16 25 05.3	-0.9
HEKM	Malatya_Hekimh	0.85	331	i P	Pn	16 24 59.3	-0.4
HEKM	Malatya_Hekimh	0.85	331	P	Pn	16 24 59.3	-0.4
DARE	Darende-Malaty	0.90	299	PG	Pg	16 24 59.2	-0.3
DARE				SG	Sn	16 25 12.7	-0.6
DARE	Darende-Malaty	0.90	299	ePg	Pg	16 24 59.2	-0.3
				eSg	Sn	16 25 12.7	-0.6
PTK	Pertek	1.03	43	PN	Pn	16 25 02.1	-0.1
PTK				SN	Sn	16 25 18.1	+1.5
PTK	Pertek	1.03	43	ePn	Pn	16 25 02.1	-0.1
PTK				eSn	Sn	16 25 18.1	+1.5
KEMA	Kemaliye	1.13	0	i P	Pg	16 25 03.7	-0.1
KEMA				i S	Sn	16 25 20.4	+1.5
KEMA	Kemaliye	1.13	0	P	Pg	16 25 03.7	-0.1
KEMA				S	Sn	16 25 20.4	+1.5
SURC	SANLIURFA_SURC	1.26	176	i P	Pg	16 25 07.7	+1.5
SURC				i S	Sg	16 25 24.0	+1.4
SURC	SANLIURFA_SURC	1.26	176	P	Pg	16 25 07.7	+1.5
SURC				S	Sg	16 25 24.0	+1.4
TNCL	Tunceli-Merkez	1.28	40	i P	Pn	16 25 03.4	-2.1
TNCL	Tunceli-Merkez	1.28	40	P	Pn	16 25 03.4	-2.1
DYBB	Diyarbakir	1.31	98	PN	Pg	16 25 07.2	0.0
ILIC	ilic-Erzincan	1.31	3	PN	Pg	16 25 07.4	+0.1
ILIC	ilic-Erzincan	1.31	3	ePn	Pg	16 25 07.4	+0.1
DIY	Diyarbakir	1.39	99	ePn	Pb	16 25 07.2	-0.6
CUKAN	kangal_SIVAS	1.43	326	i P	Pg	16 25 09.3	-0.1
CUKAN	kangal_SIVAS	1.43	326	P	Pg	16 25 09.3	-0.1
MAZI	Mazidag	1.69	113	PN	Pb	16 25 12.2	-0.7
MAZI	Mazidag	1.69	113	ePn	Pb	16 25 12.2	-0.7

*NEIC **15** 16:35:47.2±0.0, 15.89N×95.12W, h85km, MD4.0(MEX), After MEX.*
MEX 15 16:35:47.3±0.6, 15.96N×95.09W, h80km±11km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.99	259	i P	Pn	16 36 04.7	-1.6
HUIG				eS	Sn	16 36 19.0	-1.4
HUIG	Huatulco	0.99	259	i P	Pn	16 36 04.7	-1.6
HUIG				eS	Sn	16 36 19.3	-1.2
PCIG		1.82	98	eP	Pn	16 36 15.7	-1.2
PCIG				eS	Sn	16 36 37.5	-1.8
PCIG		1.82	98	eP	Pn	16 36 16.0	-0.9
PCIG				eS	Sn	16 36 38.0	-1.3
VHO	Vista Hermosa	1.92	305	eP	Pn	16 36 17.8	-0.6
VHO				i S	Sn	16 36 39.9	-2.0
VHO	Vista Hermosa	1.92	305	eP	Pn	16 36 17.8	-0.6
VHO				i S	Sn	16 36 40.2	-1.7
TGIG		2.06	67	eP	Pn	16 36 18.5	-1.6
TGIG				i S	Sn	16 36 43.6	-1.4
TGIG		2.06	67	eP	Pn	16 36 18.5	-1.6
CCIG	Comitan	2.86	83	eP	Pn	16 36 30.6	-0.3
CCIG	Comitan	2.86	83	eP	Pn	16 36 30.6	-0.3
PNIG	Pinotepa	2.94	279	i P	Pn	16 36 30.8	-1.1
PNIG				i S	Sn	16 37 04.2	-2.1
PNIG	Pinotepa	2.94	279	i P	Pn	16 36 30.8	-1.1
PNIG				i S	Sn	16 37 02.6	-3.7

*JMA **15** 16:53:41.8±0.2, 36.19N×137.12E, h276km±3km, M2.7*
*IDC **15** 16:53:42.1±3.1, 35.90N×136.77E, h253km±52km, mb3.0/2, mb1 3.3/2, mb1mx2.5/71, mbtmp3.6/2, Error ellipse: s-maj=119.3km s-min=98.4km az=42.0*
*ISCJB **15** 16:53:44.1±0.5, 36.2N±0.2×137.1E±0.1, h250km, mb3.2/2, Error ellipse: s-maj=25.1km s-min=7.4km az=149.8*
ISC 15 16:53:43.1±1.1, 36.1N±0.1×137.17E±0.09, h250km, n14, σ2.8 s13/17, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	Nsakai	0.80	69	P	Pn	16 54 18.8	+1.6
MAT	Matsushiro	0.94	63	P	Pn	16 54 19.8	+2.0
MJAR	Matsushiro Arr	0.94	63	P	Pn	16 54 20.0	+2.2
	1.3nm,0.3s,baz=250,slow=7.1,SNR=20						
MJAR				S	S	16 54 49.3	+4.2
	0.1nm,0.3s,baz=278,slow=12,SNR=4.0						
JWT	Wachi	1.67	240	P	Pn	16 54 23.9	+1.2
JKY	Yasaka	1.75	254	P	Pn	16 54 24.2	+0.8
JKY				eS	S	16 54 56.8	+1.7
JIE	Ise	1.77	193	P	Pn	16 54 25.8	+2.2
JAG	Ashikaga	1.87	80	P	Pn	16 54 25.9	+1.5
JSD	Sado	2.10	24	P	Pn	16 54 27.3	+0.9
JKSM	Kasumi	2.10	256	P	Pn	16 54 27.1	+0.6
JWY	Kouya	2.30	215	P	Pn	16 54 29.9	+1.4
JFK	Kawauchi	3.22	66	P	Pn	16 54 38.2	+0.2
JMM	Marumori	3.38	58	P	Pn	16 54 40.4	+0.7
JMM				eS	S	16 55 24.0	-0.6
WRA	Warramunga Arr	55.82	183	P	P	17 02 51.7	-3.0
	0.6nm,0.4s,baz=360,slow=7.6,SNR=20						
ASAR	Alice Springs	59.54	183	P	P	17 03 17.5	-3.0
	0.2nm,0.6s,baz=1.1,slow=6.2,SNR=7.5						

DJA 15 16:57:44.9±0.2, 3°S±1°×12°2E±°, h10km, M3.8/14, mb4.1/3, MLv3.6/14, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	Ampana	1.66	3	P	Pn	16 58 13.7	-0.4
APSI				S	Sb	16 58 36.8	+0.2
TTSI	Tana Toraja	1.79	255	P	Pn	16 58 15.8	-0.1
BNSI	Bone	2.31	219	P	Pn	16 58 23.3	+0.2
BNSI				S	Sn	16 58 53.2	+1.6
PCI	Palu	2.39	314	P	Pn	16 58 24.4	+0.3
PCI				S	Sn	16 58 54.5	+1.0
BBSI	Bau Bau	3.06	161	P	Pn	16 58 32.8	-0.6
BBSI				S	Sn	16 59 11.1	+1.0
MRSI	Marisa	3.06	7	P	Pn	16 58 33.1	-0.3
MRSI				S	Sn	16 59 11.3	+1.2
BKSI	Bulukumba	3.07	208	P	Pn	16 58 33.0	-0.6
BKSI				S	Sn	16 59 11.6	+1.2
MPSI	Mapaga	3.33	330	P	Pn	16 58 37.8	+0.6
MPSI				S	Sn	16 59 17.4	+0.5
BSSI	Bau Bau, Buton	3.69	197	P	Pn	16 58 41.5	-0.6
KMSI	Cibinong	3.96	38	P	Pn	16 58 46.2	+0.4
KMSI				S	Sn	16 59 33.3	+0.9
SGKI	Sangatta, Kali	4.44	297	P	Pn	16 58 52.3	-0.1
SGKI				S	Sn	16 59 44.7	+0.5
LBMI	Labuha	6.25	72	P	Pn	16 59 16.5	-0.8
LBMI				S	Sn	17 00 29.5	+0.6
AAI	Ambon	6.72	100	P	Pn	16 59 23.8	0.0

*IDC **15** 17:01:10.2±2.7, 40.94N×145.21E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.2/68, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=53.4km s-min=28.4km az=137.0*
*ISCJB **15** 17:01:11.9±0.9, 41.06N±0.04×145.10E±0.07, h33km, mb3.1/2, Error ellipse: s-maj=8.1km s-min=5.5km az=21.9*
*JMA **15** 17:01:11.3±0.2, 41.02N×145.15E, h65km±2km, M3.9*
ISC 15 17:01:14.7±1.3, 41.09N±0.06×145.07E±0.08, h35km, n15, σ1.9 s95/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	Erimo	1.71	303	P	Pn	17 01 41.0	-1.0
JEM				eS	Sn	17 02 01.8	-0.8
JAK	Akkeshi	1.93	352	P	Pn	17 01 43.6	-1.4
JAK				eS	Sn	17 02 06.7	-1.3
JCH	Churui	1.99	321	P	Pn	17 01 44.9	-0.9
JCH				eS	Sn	17 02 08.7	-0.8
JOB	Onbets	2.04	333	P	Pn	17 01 45.8	-0.7
JOB				eS	Sn	17 02 10.8	+0.1
JNBK	Urakawa-nobuka	2.11	305	eS	Sn	17 02 12.7	+0.3
NEM2	Nemuro 2	2.33	12	P	Pn	17 01 49.0	-1.5
NEM2				eS	Sn	17 02 16.0	-1.9
JAR	Ashorobuto	2.41	337	P	Pn	17 01 50.1	-1.5
JAR				eS	Sn	17 02 18.6	-1.3
JNK	Nakash	2.51	354	P	Pn	17 01 51.2	-1.8
JNK				eS	Sn	17 02 20.3	-2.1
JBT2	Biratori 2	2.64	311	P	Pn	17 01 53.8	-0.9
JBT2				eS	Sn	17 02 26.2	+0.8
JFR	Furan	2.78	319	P	Pn	17 01 55.7	-1.0
JFR				eS	Sn	17 02 26.9	-2.1
JANG	Nango	2.80	256	P	Pn	17 01 53.7	-3.2
JANG				eS	Sn	17 02 23.4	-6.0
ASAJ	Asahikawa	3.54	330	Pn	Pn	17 02 07.3	+0.3
	1.9nm,0.3s,baz=205,slow=16,SNR=16						
ASAJ				Sn	Sn	17 02 45.4	-2.3
	3.0nm,0.3s,baz=287,slow=20,SNR=2.7						
MJAR	Matsushiro Arr	7.02	232	Pn	Pn	17 02 53.3	-1.7
	0.4nm,0.3s,baz=50,slow=9.7,SNR=6.5						
MJAR				Sn	Sn	17 04 14.7	+1.1
	0.4nm,0.3s,baz=31,slow=26,SNR=2.0						
SONM	Songino Array	28.19	297	P	P	17 07 07.1	+3.2
	0.2nm,0.4s,baz=91,slow=7.5,SNR=1.9						

ILAR Eielson Array 44.55 35 P **P** 17 09 23.6 +0.9
0.3nm,0.8s,baz=255,slow=6.3,SNR=2.0

MAN 15 17:02:58,10.09N×123.18E,h28km,mb4.2,ML3.0,MS2.7, 1C,Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.74**	**176**	⇑*iP*	Pn	17 03 12.8	+0.1
SNPH				*i* S	Sn	17 03 23.6	+0.5
GUIM	**Jordan**	**0.79**	**313**	*e*P	Pb	17 03 13.0	-0.2
GUIM				*e*S	Sn	17 03 25.3	+1.1
MSLP	**Maasin**	**1.66**	**88**	*e*P	Pn	17 03 25.3	+0.1
MSLP				*e*S	Sb	17 03 47.6	-0.7
OCLP	**Ormoc**	**1.70**	**56**	*e*P	Pn	17 03 26.4	+0.6
OCLP				*e*S	Sn	17 03 46.6	-0.1

NNC ***15*** *17:03:31.9±2.6,36.68N×70.74E,h0km,mb5.0,mpv4.8, Error ellipse: s-maj=27.5km s-min=14.1km az=151.0*
ISCJB ***15*** *17:03:32.7±0.3,36.36N±0.02×71.52E±0.03,h95km±3km, mb4.5/85, Error ellipse: s-maj=3.6km s-min=3.0km az=172.0*
MOS ***15*** *17:03:33.7±1.1,36.41N×71.52E,h101km,mb4.7/33, Error ellipse: s-maj=5.9km s-min=3.9km az=106.8*
IDC ***15*** *17:03:33.7±0.6,36.20N×71.37E,h101km±5km,mb4.2/35, mb1 4.2/37,mb1mx4.1/68,mbtmp4.5/37,MS3.4/15, Ms1 3.4/15,ms1mx3.1/62, Error ellipse: s-maj=11.5km s-min=8.4km az=4.0*
NEIC ***15*** *17:03:35.0±0.3,36.43N×71.49E,mb4.6/29, Error ellipse: s-maj=5.2km s-min=4.1km az=164.0*
BJI ***15*** *17:03:36.7,36.55N×71.73E,h103km,mb4.4/16,mB4.7/13*
ISC 15 17:03:34.1±0.4,36.34N±0.03×71.43E±0.04,h100km±3km, h100km:pP-P,n353,σ195/386,mb4.5/85,24C-38D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.54**	**171**	⇓P	**Pn**	**17 04 14.4**	**+0.5**
CEP				S	**Sn**	**17 04 46.0**	**+1.6**
KBL	**Kabul**	**2.65**	**228**	*e*PN	**Pn**	**17 04 16.5**	**+1.1**
KBL	**Kabul**	**2.65**	**228**	*e*Pn	**Pn**	**17 04 16.5**	**+1.1**
CHCP	**Chirah Chowk**	**3.07**	**150**	P	**Pn**	**17 04 22.1**	**+1.3**
THW	**Thamme Wali**	**3.54**	**176**	P	**Pn**	**17 04 27.0**	**-0.2**
SFK	**Sufi-Kurgan**	**4.02**	**23**	⇓Pn	**Pn**	**17 04 35.7**	**+1.9**
	33nm,0.3s						
SFK				⇓Sn	**Sn**	**17 05 24.6**	**+4.7**
	167nm,0.3s						
SFK	**Sufi-Kurgan**	**4.02**	**23**	PN	**Pn**	**17 04 35.0**	**+1.2**
SARP	**Sargodha**	**4.52**	**166**	P	**Pn**	**17 04 39.5**	**-0.9**
KSH	**Kashi**	**4.79**	**47**	P	**Pn**	**17 04 40.9**	**-3.2**
KSH				S	Sn	17 05 27.8	-11
KSH				smax	smax		
	comp=N,3μm,0.3s						
KSH				smax	smax		
	comp=E,4μm,0.3s						
TAS	**Tashkent**	**5.26**	**342**	PN	**Pn**	**17 04 50.1**	**-0.2**
DHRM	**DHARAMSHALA**	**5.73**	**134**	*e*P	**Pn**	**17 04 56.2**	**-0.8**
DHRM				*e*S	**Sn**	**17 05 58.9**	**-2.6**
AML	**Almayashu**	**6.05**	**16**	P	**Pn**	**17 05 01.6**	**+0.2**
	SNR=558						
MNAS	**Manas**	**6.20**	**7**	⇓Pn	**Pn**	**17 05 03.5**	**+0.3**
	23nm,0.4s						
MNAS				⇓Sn	**Sn**	**17 06 10.2**	**-2.5**
	82nm,0.4s						
MNAS	**Manas**	**6.20**	**7**	PN	**Pn**	**17 05 03.1**	**-0.1**
UCH	**Uchtor**	**6.35**	**21**	P	**Pn**	**17 05 05.9**	**+0.4**
	SNR=111						
KZA	**Kyzart**	**6.46**	**26**	P	**Pn**	**17 05 07.4**	**+0.4**
	SNR=114						
EKS2	**Erkin-Say**	**6.57**	**15**	P	**Pn**	**17 05 08.8**	**+0.5**
	SNR=217						
AAK	**Ala-Archa**	**6.72**	**20**	P	**Pn**	**17 05 10.9**	**+0.5**
	32nm,0.3s,baz=163,slow=6.0,SNR=479						
AAK				S	**Sn**	**17 06 25.7**	**+0.2**
	9.9nm,0.3s,baz=110,slow=22,SNR=10						
AAK				LR	LR	17 07 18.1	
	comp=Z,48nm,22.0s,baz=202,slow=33						
AAK	**Ala-Archa**	**6.72**	**20**	⇓Pn	**Pn**	**17 05 11.3**	**+0.9**
	55nm,0.4s						
AAK				⇑Sn	**Sn**	**17 06 26.1**	**+0.6**
	69nm,0.5s						
AAK	**Ala-Archa**	**6.72**	**20**	*de*PN	**Pn**	**17 05 11.2**	**+0.9**
AAK				pmax	pmax		
	comp=Z,61nm,0.5s						
AAK	**Ala-Archa**	**6.72**	**20**	P	**Pn**	**17 05 11.0**	**+0.5**
	SNR=174						
AAK	**Ala-Archa**	**6.72**	**20**	P	**Pn**	**17 05 11.4**	**+0.9**
	SNR=29						
AAK	**Ala-Archa**	**6.72**	**20**	*i* P	**Pn**	**17 05 10.8**	**+0.5**
	SNR=206						
KK07	**Karatay Array**	**6.78**	**354**	*e*Pn	**Pn**	**17 05 10.1**	**-0.9**
KK06	**Karatay Array**	**6.79**	**354**	*e*Pn	**Pn**	**17 05 09.9**	**-1.1**
KK02	**Karatay Array**	**6.80**	**354**	*e*Pn	**Pn**	**17 05 10.0**	**-1.2**
KK31	**Karatay Array**	**6.80**	**354**	Pn	**Pn**	**17 05 10.3**	**-0.9**
	comp=Z,17nm,0.3s,baz=177,slow=13,SNR=389						
KK31				⇓Sn	**Sn**	**17 06 22.3**	**-4.8**
	comp=Z,60nm,0.3s,baz=174,slow=23						
KK31	**Karatay Array**	**6.80**	**354**	*e*PN	**Pn**	**17 05 10.0**	**-1.2**
KK31	**Karatay Array**	**6.80**	**354**	*e*Pn	**Pn**	**17 05 09.9**	**-1.2**
KKAR	**Karatay Array**	**6.80**	**354**	*e*PN	**Pn**	**17 05 10.2**	**-1.0**
KKAR	**Karatay Array**	**6.80**	**354**	*e*Pn	**Pn**	**17 05 10.2**	**-1.0**
KK03	**Karatay Array**	**6.80**	**354**	*e*Pn	**Pn**	**17 05 10.3**	**-0.9**
KK01	**Karatay Array**	**6.80**	**354**	*e*Pn	**Pn**	**17 05 10.1**	**-1.2**
KK08	**Karatay Array**	**6.80**	**354**	*e*Pn	**Pn**	**17 05 10.2**	**-1.1**
KK04	**Karatay Array**	**6.80**	**354**	*e*Pn	**Pn**	**17 05 10.1**	**-1.2**
KK05	**Karatay Array**	**6.81**	**354**	*e*Pn	**Pn**	**17 05 10.2**	**-1.2**
KBK	**Karagaybulak**	**6.87**	**22**	P	**Pn**	**17 05 13.5**	**+1.1**
	SNR=57						
FRU	**Bishkek**	**6.94**	**20**	*e*PN	**Pn**	**17 05 14.5**	**+1.3**
FRU				*e*S	**Sn**	**17 06 33.0**	**+2.4**
FRU				pmax	pmax		
	comp=Z,110nm,1.4s						
FRU				smax	smax		
	comp=N,440nm,1.8s						
ULHL	**Ulahol**	**6.98**	**31**	P	**Pn**	**17 05 15.3**	**+1.4**
	SNR=27						
SMLA	**Simla**	**7.06**	**136**	*e*P	**Pn**	**17 05 13.6**	**-1.2**
SMLA				*e*S	**Sn**	**17 06 29.1**	**-4.4**
SMLA				IAML		17 06 33.3	
	comp=N,677nm,0.2s						
SMLA				IAML		17 06 33.6	
	comp=E,636nm,0.2s						
CHMS	**Chumysh**	**7.13**	**20**	P	**Pn**	**17 05 16.1**	**+0.4**
	SNR=60						
KDJ	**Kajisay**	**7.31**	**36**	*e*Pn	**Pn**	**17 05 18.9**	**+0.7**
USP	**Ospenovka**	**7.32**	**18**	P	**Pn**	**17 05 18.1**	**-0.1**
	SNR=42						
TKM2	**Tokmak 2**	**7.32**	**25**	⇓P	**Pn**	**17 05 19.0**	**+0.6**
	comp=E,74nm,0.5s						
TKM2	**Tokmak 2**	**7.32**	**25**	P	**Pn**	**17 05 19.4**	**+0.9**
	SNR=158						
TARG	**Taragay, Kyrgy**	**7.32**	**41**	*e*Pn	**Pn**	**17 05 19.0**	**+0.3**
MDOK	**Medeo**	**8.07**	**31**	Pn	**Pn**	**17 05 29.8**	**+1.1**
	comp=E,25nm,0.7s						
MDOK				Sn	**Sn**	**17 07 04.4**	**+6.1**
	comp=E,38nm,0.8s						
KNDC	**Almaty**	**8.09**	**30**	⇓Pn	**Pn**	**17 05 30.3**	**+1.6**
	comp=E,55nm,0.5s						
KNDC				⇑Sn	**Sn**	**17 07 04.0**	**+5.5**
	comp=E,39nm,0.8s						
DDI	**Dehra Dun**	**8.16**	**135**	*e*P	**Pn**	**17 05 29.1**	**-0.9**
DDI				*e*S	**Sn**	**17 06 54.8**	**-5.8**
PDGK	**Podgornoye**	**9.34**	**39**	⇓P	**Pn**	**17 05 45.3**	**-0.5**
	comp=E,24nm,1.1s						
PDGK	**Podgornoye**	**9.34**	**39**	P	**Pn**	**17 05 45.3**	**-0.5**
GYB1	**ALIBECK ARRAY**	**10.74**	**282**	*e*Pn	Pn	17 05 58.8	-6.1
GYB2	**ALIBECK ARRAY**	**10.74**	**283**	*e*Pn	Pn	17 05 59.0	-5.9
GYA2	**ALIBECK ARRAY**	**10.74**	**283**	*e*Pn	Pn	17 05 58.3	-6.6
GEYT	**Alibeck**	**10.75**	**282**	P	Pn	17 05 58.8	-6.2
	comp=E,5.3nm,0.3s,baz=106,slow=11,SNR=59						
GEYT				S	Sn	17 07 51.9	-11
	comp=E,5.2nm,0.3s,baz=106,slow=15,SNR=6.1						
GEYT				LR	LR	17 11 31.3	
	comp=E,113nm,19.4s,baz=70,slow=44						
GYA0	**ALIBECK ARRAY**	**10.75**	**282**	*e*Pn	Pn	17 05 58.7	-6.3
GYA0B	**ALIBECK ARRAY**	**10.75**	**282**	*e*Pn	Pn	17 05 58.5	-6.4
GYA1	**ALIBECK ARRAY**	**10.75**	**282**	*e*Pn	Pn	17 05 58.7	-6.3
GYB3	**ALIBECK ARRAY**	**10.75**	**283**	*e*Pn	Pn	17 05 59.1	-5.9
GYB5	**ALIBECK ARRAY**	**10.75**	**282**	*e*Pn	Pn	17 05 58.7	-6.4
GYB4	**ALIBECK ARRAY**	**10.76**	**282**	*e*Pn	Pn	17 05 58.6	-6.6
OTUK	**Ortayu**	**11.92**	**3**	⇑P	**Pn**	**17 06 18.0**	**-2.6**
	comp=E,12nm,0.7s						
OTUK	**Ortayu**	**11.92**	**3**	P	**Pn**	**17 06 18.0**	**-2.6**
PYUN	**Piuthan**	**12.77**	**127**	*e*P	**Pn**	**17 06 27.7**	**-4.5**
MAKZ	**Makanchi**	**13.10**	**34**	*e*P	**Pn**	**17 06 34.5**	**-1.6**
MAKZ	**Makanchi**	**13.10**	**34**	*e*Pn	**Pn**	**17 06 34.5**	**-1.6**
DANN	**Dangsing**	**13.11**	**124**	*e*P	**Pn**	**17 06 33.2**	**-3.5**
MK01	**Makanchi Array**	**13.21**	**35**	*e*Pn	**Pn**	**17 06 36.4**	**-1.3**
MK31	**Makanchi Array**	**13.23**	**34**	⇓P	**Pn**	**17 06 37.1**	**-0.8**
	comp=E,3.7nm,0.6s						
MK31	**Makanchi Array**	**13.23**	**34**	*e*P	**Pn**	**17 06 36.3**	**-1.6**
MK31	**Makanchi Array**	**13.23**	**34**	*e*Pn	**Pn**	**17 06 36.3**	**-1.6**
MK32	**Makanchi Array**	**13.23**	**34**	*e*Pn	**Pn**	**17 06 36.2**	**-1.7**
MK32				*e*PcP	**PcP**	**17 12 02.5**	**+2.3**
MKAR	**Makanchi Array**	**13.23**	**34**	P	**Pn**	**17 06 36.2**	**-1.7**
	comp=E,0.6nm,0.3s,baz=220,slow=14,SNR=47						
MKAR				LR	LR	17 12 02.5	
	comp=E,84nm,20.5s,baz=255,slow=38						
MKAR	**Makanchi Array**	**13.23**	**34**	*i* P	**Pn**	**17 06 37.0**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**13.23**	**34**	*e*Pn	**Pn**	**17 06 36.3**	**-1.5**
KOLN	**Koldanda**	**13.39**	**126**	*e*P	Pn	17 06 35.1	-5.2
GKN	**Gorkha**	**13.92**	**123**	*e*P	**Pn**	**17 06 43.3**	**-3.9**
BHPL	**Bhopal**	**14.04**	**157**	IAmb	IAmb	17 06 43.9	
	comp=Z,14nm,0.5s						
BHPL				*e*P	**Pn**	**17 06 50.2**	**+1.5**
DMN	**Daman**	**14.49**	**123**	*e*P	**Pn**	**17 06 50.5**	**-4.2**
	comp=Z,134nm,0.5s						
KKN	**Kakani**	**14.50**	**122**	*e*P	**Pn**	**17 06 50.1**	**-4.6**
	comp=E,160nm,0.6s						
PKIN	**Phulchoki**	**14.71**	**122**	*e*P	**Pn**	**17 06 53.0**	**-4.5**
	comp=Z,115nm,0.5s						
GUN	**Gumba**	**14.84**	**120**	*e*P	**Pn**	**17 06 54.5**	**-4.6**
	comp=Z,102nm,0.4s						
KURBB	**Kurchatov Arra**	**15.17**	**18**	P	**Pn**	**17 06 58.8**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=207,slow=10,SNR=26						
JIRN	**Jiri**	**15.21**	**120**	*e*P	**Pn**	**17 06 59.9**	**-3.9**
	comp=Z,329nm,0.5s						
KURK	**Kurchatov**	**15.28**	**18**	*c i*P	**P**	**17 07 06.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,37nm,0.8s						
KURK	**Kurchatov**	**15.28**	**18**	*e*Pn	**Pn**	**17 06 58.8**	**-5.4**
KURK	**Kurchatov**	**15.28**	**18**	P	**Pn**	**17 07 03.7**	**-0.5**
	SNR=13						
AB07	**Akbulak array**	**15.38**	**331**	*e*Pn	**Pn**	**17 07 01.0**	**-4.4**
AB08	**Akbulak array**	**15.39**	**330**	*e*Pn	**Pn**	**17 07 01.4**	**-4.2**
AB06	**Akbulak array**	**15.39**	**331**	*e*Pn	**Pn**	**17 07 01.4**	**-4.1**
AB03	**Akbulak array**	**15.39**	**331**	*e*Pn	**Pn**	**17 07 01.6**	**-4.0**
AB01	**Akbulak array**	**15.40**	**331**	*e*Pn	**Pn**	**17 07 01.4**	**-4.3**
AB31	**Akbulak array**	**15.40**	**331**	⇓P	**Pn**	**17 07 01.7**	**-4.0**
	comp=Z,3.6nm,0.3s						
AB31	**Akbulak array**	**15.40**	**331**	*e*P	**Pn**	**17 07 01.7**	**-4.0**
AB31	**Akbulak array**	**15.40**	**331**	*e*Pn	**Pn**	**17 07 01.6**	**-4.0**
ABKAR	**Akbulak array**	**15.40**	**331**	*e*Pn	**Pn**	**17 07 01.5**	**-4.1**
	comp=Z,332nm,0.3s						
AB02	**Akbulak array**	**15.40**	**331**	*e*Pn	**Pn**	**17 07 01.4**	**-4.3**
AB04	**Akbulak array**	**15.40**	**331**	*e*Pn	**Pn**	**17 07 01.3**	**-4.4**
AB05	**Akbulak array**	**15.41**	**331**	*e*Pn	**Pn**	**17 07 01.6**	**-4.2**
AB09	**Akbulak array**	**15.41**	**331**	*e*Pn	**Pn**	**17 07 01.6**	**-4.3**
NGP	**Nagpur**	**16.53**	**154**	IAmb	IAmb	17 07 18.9	
	comp=Z,94nm,2.1s						
NGP				*e*P	**Pn**	**17 07 20.4**	**+0.4**
BANOM	**Banah**	**16.58**	**235**	P	**Pn**	**17 07 20.9**	**+0.3**
	SNR=6.8						
BANOM	**Banah**	**16.58**	**235**	*i* P	**Pn**	**17 07 20.7**	**+0.1**
	SNR=13						
SHME	**Shamm**	**16.60**	**236**	*i* P	**P**	**17 07 21.7**	**+0.1**
	SNR=7.1						
BVA0	**Borovoye Array**	**16.70**	**358**	P	**Pn**	**17 07 19.4**	**-2.5**
	comp=Z,11nm,0.8s,baz=164,slow=13,SNR=78						
BVAR	**Borovoye Array**	**16.70**	**358**	P	**Pn**	**17 07 20.2**	**-1.7**
	comp=Z,2.6nm,0.3s,baz=162,slow=13,SNR=40						
BVAR				S	**Sn**	**17 10 27.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=165,slow=19,SNR=4.0						
BVAR				LR	LR	17 13 54.5	
	comp=Z,57nm,20.5s,baz=220,slow=37						
BRVK	**Borovoye**	**16.74**	**358**	⇑*e*P	**Pn**	**17 07 21.2**	**-1.1**
BRVK				pmax	pmax		
	comp=E,60nm,0.8s						
BRVK	**Borovoye**	**16.74**	**358**	*e*Pn	**Pn**	**17 07 20.1**	**-2.2**
	comp=Z,24nm,0.8s						
BRVK	**Borovoye**	**16.74**	**358**	P	**Pn**	**17 07 21.3**	**-1.1**
	SNR=8.5						
MSFE	**Esma-Masafi**	**17.05**	**234**	*i* P	**P**	**17 07 27.3**	**+0.6**
	SNR=6.2						
AKTO	**Aktyubinsk**	**17.10**	**330**	P	**Pn**	**17 07 24.2**	**-2.5**
	comp=Z,1.8nm,0.3s,baz=148,slow=12,SNR=46						
AKTO				S	Sn	17 10 19.0	-18
	comp=Z,0.3nm,0.3s,baz=0.0,slow=20,SNR=2.8						
AKTO				LR	LR	17 14 24.2	
	comp=Z,84nm,18.4s,baz=126,slow=38						
AKTO	**Aktyubinsk**	**17.10**	**330**	⇑P	**Pn**	**17 07 24.8**	**-1.9**
	comp=Z,31nm,0.8s						
WSAR	**Wadi Sarin**	**17.11**	**224**	P	**Pn**	**17 07 25.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=36,slow=8.7,SNR=2.3						
UOSS	**Minazif**	**17.31**	**233**	*e*P	**Pn**	**17 07 29.7**	**+0.2**
	comp=Z,6.4nm,0.8s						
UOSS	**Minazif**	**17.31**	**233**	P	**Pn**	**17 07 30.6**	**+1.0**
UOSS	**Minazif**	**17.31**	**233**	P	**P**	**17 07 29.4**	**0.0**
ASHO	**Ashiyiah**	**17.59**	**233**	P	**Pn**	**17 07 33.8**	**+0.9**
	SNR=5.0						
ASHO	**Ashiyiah**	**17.59**	**233**	*i* P	**Pn**	**17 07 33.0**	**+0.1**
	SNR=9.7						
BOK	**Bokaro**	**17.66**	**131**	*e*P	**Pn**	**17 07 33.7**	**0.0**
LSA	**Lhasa**	**17.80**	**106**	P	**P**	**17 07 34.9**	**-0.4**
LSA				pmax	pmax		
	comp=Z,19nm,1.1s						
LSA	**Lhasa**	**17.80**	**106**	*e*P	**P**	**17 07 34.9**	**-0.4**
LSA				pmax	pmax		
	comp=Z,17nm,0.8s						
LSA	**Lhasa**	**17.80**	**106**	*e*P	**P**	**17 07 34.9**	**-0.4**
	comp=Z,17nm,0.8s						
POO	**Poona**	**17.87**	**172**	*e*P	**Pn**	**17 07 39.2**	**+2.9**
POO				IAmb	IAmb	17 07 39.8	
	comp=Z,82nm,2.1s						
ALNE	**Al Ain**	**18.23**	**232**	*i* P	**P**	**17 07 39.8**	**+0.3**
	SNR=7.2						
SRSP	**Sriramsagar**	**18.38**	**159**	*e*P	**P**	**17 07 41.4**	**+0.2**
KLRI	**Killari**	**18.76**	**165**	*e*P	**Pn**	**17 07 48.7**	**+1.7**
AKT	**Akhty**	**19.12**	**293**	*e*P	**Pn**	**17 07 50.4**	**-0.8**
AKT				*e*S	**S**	**17 11 22.3**	**+1.5**
AKT				pmax	pmax		
	comp=Z,18nm,0.5s						
MAK	**Makhachkala**	**19.54**	**297**	*e*P	**P**	**17 07 52.3**	**-1.3**
MAK				*e*S	**S**	**17 11 29.8**	**+1.0**
MAK				pmax	pmax		
	comp=Z,116nm,0.9s						
MAK				MLR	MLR		
	comp=Z,131nm,20.0s						
HYBB	**Hyderabad (bro**	**19.87**	**160**	*e*P	**Pn**	**17 07 59.1**	**-0.9**
HYBB				*e*S	**S**	**17 11 38.5**	**+2.6**
HYB	**Hyderabad**	**19.87**	**160**	*i* P	**Pn**	**17 07 59.0**	**-1.0**
HYB				*e*S	S	17 11 22.0	-14
HYB	**Hyderabad**	**19.87**	**160**	*e*P	**P**	**17 07 58.0**	**+0.5**
ZAA0	**Zalesovo Array**	**19.92**	**24**	*e*P	**P**	**17 07 57.5**	**-0.3**
	comp=Z,82nm,0.9s						
ZALV	**Zalesovo Beam**	**19.92**	**24**	P	**P**	**17 07 57.5**	**-0.2**
	comp=Z,44nm,0.5s,baz=220,slow=10,SNR=254						
ZALV				S	**S**	**17 11 30.7**	**-5.5**
	comp=Z,0.7nm,0.5s,baz=212,slow=18,SNR=2.2						
ZAA1	**Zalesovo Array**	**19.93**	**24**	*e*P	**P**	**17 07 57.5**	**-0.3**
ZAA1				*e*S	**S**	**17 11 30.7**	**-5.6**
NVS	**Novosibirsk**	**20.21**	**20**	⇓*i*P	**P**	**17 08 00.9**	**+0.1**
NVS				*e*		17 11 37.4	
NVS				pmax	pmax		
	comp=N,52nm,1.0s						
NVS				pmax	pmax		
	comp=E,16nm,1.0s						
NVS				pmax	pmax		
	comp=Z,64nm,1.0s						
SHL	**Shillong**	**20.52**	**116**	*e*P	**P**	**17 08 04.9**	**+0.2**
SHL				*e*S	**S**	**17 11 48.5**	**-0.3**
GROC	**Groznyy**	**20.81**	**297**	*e*P	**P**	**17 08 08.8**	**+1.4**
GROC				*e*S	**S**	**17 11 54.2**	**+0.2**
GROC				pmax	pmax		
	comp=Z,58nm,1.0s						
NJS	**Nagarjunasagar**	**20.91**	**158**	*e*P	**P**	**17 08 08.3**	**-0.3**
PVM	**Polavaram**	**21.05**	**152**	*e*P	**P**	**17 08 12.2**	**+2.1**
SRLM	**Srisailam**	**21.22**	**160**	*e*P	**P**	**17 08 15.6**	**+3.6**
GNI	**Garni**	**21.27**	**288**	P	**P**	**17 08 14.5**	**+2.0**
	comp=Z,30nm,0.8s,baz=40,slow=3.7,SNR=21						
GNI				LR	LR	17 20 18.8	
	comp=Z,50nm,19.4s,baz=50,slow=47						
GNI	**Garni**	**21.27**	**288**	*de*P	**P**	**17 08 15.9**	**+3.3**
GNI				pmax	pmax		
	comp=Z,122nm,0.9s						
GNI	**Garni**	**21.27**	**288**	*e*P	**P**	**17 08 14.2**	**+1.6**
	comp=Z,84nm,1.0s						
GNI				*e*		17 20 18.8	
GNI	**Garni**	**21.27**	**288**	P	**P**	**17 08 15.7**	**+3.1**
	SNR=7.6						
GNI	**Garni**	**21.27**	**288**	*i* P	**P**	**17 08 15.2**	**+2.7**
	SNR=20						
VIS	**Vishakhapatnam**	**21.32**	**147**	*e*P	**P**	**17 08 14.7**	**+1.7**
TBLG	**Delisi**	**21.38**	**293**	*e*P	**P**	**17 08 14.7**	**+1.2**
TBLG				pmax	pmax		
	comp=Z,85nm,1.6s						
TBLG	**Delisi**	**21.38**	**293**	*e*P	**P**	**17 08 14.7**	**+1.2**
	comp=Z,85nm,1.6s						
HVS	**Khovu-Aksy**	**21.74**	**40**	⇓*e*P	**P**	**17 08 18.5**	**+1.2**
HVS				pmax	pmax		
	comp=Z,16nm,0.7s						
SVE	**Sverdlovsk**	**21.75**	**344**	*e*P	**P**	**17 08 17.3**	**+0.1**
SVE				*e*S	**S**	**17 12 10.4**	**-1.4**
SVE				pmax	pmax		
	comp=Z,21nm,0.9s						
ADKI	**Addanki**	**21.78**	**157**	*e*P	**P**	**17 08 17.9**	**0.0**
ARU	**Arti**	**21.90**	**341**	P	**P**	**17 08 19.2**	**+0.4**
	comp=Z,7.6nm,0.5s,baz=112,slow=4.8,SNR=18						
ARU				S	**S**	**17 12 11.8**	**-2.8**
	comp=Z,1.3nm,0.5s,baz=287,slow=19,SNR=2.1						
ARU	**Arti**	**21.90**	**341**	*c i*P	**P**	**17 08 18.6**	**-0.3**
ARU				S	**S**	**17 12 15.0**	**+0.4**
ARU				SS	**SnSn**	**17 12 49.7**	**+0.3**
ARU				pmax	pmax		
	comp=Z,59nm,1.7s						
ARU	**Arti**	**21.90**	**341**	*e*P	**P**	**17 08 18.8**	**0.0**
	comp=Z,25nm,0.9s						
ARU				*e*S	**S**	**17 12 11.8**	**-2.8**
URV	**Uravakonda**	**21.93**	**165**	*e*P	**P**	**17 08 20.5**	**+1.0**
ZEI	**Tsey**	**22.12**	**295**	*e*P	**P**	**17 08 24.2**	**+2.6**
ZEI				pmax	pmax		
	comp=Z,11nm,0.7s						
AKH	**Akhalkalaki**	**22.28**	**292**	*e*P	**P**	**17 08 23.1**	**-0.2**
AKH				pmax	pmax		
	comp=Z,29nm,1.1s						
AKH	**Akhalkalaki**	**22.28**	**292**	*e*P	**P**	**17 08 23.1**	**-0.2**
	comp=Z,29nm,1.1s						
NCK	**Nalchik**	**22.45**	**297**	⇑*e*P	**P**	**17 08 25.1**	**+0.3**
NCK				pmax	pmax		
	comp=Z,22nm,0.8s						
GTA	**Gaotai**	**22.58**	**74**	P	**P**	**17 08 28.8**	**+2.5**
GTA				pmax	pmax		
	comp=Z,23nm,1.1s						
GTA				pmax	pmax		
	comp=Z,96nm,4.6s						
GTA				LR	LR		
	comp=E,81nm,16.6s						
GTA				LR	LR		
	comp=Z,180nm,15.7s						
GTA				LR	LR		
	comp=Z,83nm,13.3s						
KBZ	**Khabaz**	**22.98**	**298**	P	**P**	**17 08 30.4**	**+0.4**
	comp=Z,7.5nm,0.9s,baz=129,slow=7.1,SNR=10						
KBZ				S	S	17 12 43.9	+11
	comp=Z,1.6nm,0.5s,baz=151,slow=19,SNR=3.2						
NEY	**Neytrino**	**23.04**	**296**	⇓*iP*	**P**	**17 08 34.5**	**+3.6**
NEY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GOF	**Gofitskoye**	**23.12**	**301**	⇑*e*P	**P**	**17 08 32.8**	**+1.3**
KVAR	**Kislovodsk Arr**	**23.16**	**298**	P	**P**	**17 08 33.1**	**+1.1**
	comp=Z,6.2nm,0.6s,baz=122,slow=15,SNR=4.9						
KVAR				S	**S**	**17 12 45.5**	**+10**
	comp=Z,3.3nm,0.7s,baz=38,slow=19,SNR=2.7						
KVAR				LR	LR	17 19 49.1	
	comp=Z,89nm,19.2s,baz=253,slow=42						
KIV	**Kislovodsk**	**23.17**	**298**	*e*P	**P**	**17 08 33.5**	**+1.5**
KIV				*e*S	**S**	**17 12 38.3**	**+2.5**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV				MLR	MLR		
	comp=Z,56nm,14.0s						
KIV	**Kislovodsk**	**23.17**	**298**	*e*P	**P**	**17 08 33.7**	**+1.7**
	comp=Z,22nm,0.7s						
SKHT	**Srikalahasti**	**23.69**	**160**	*e*P	**P**	**17 08 39.1**	**+2.2**
SOKR	**Solikamsk**	**25.14**	**342**	*e*P	**P**	**17 08 48.8**	**-0.7**
SOKR				pmax	pmax		
	comp=Z,14nm,0.9s						
RAYN	**Ar Rayn**	**25.75**	**247**	*e*P	**P**	**17 08 58.2**	**+2.6**
	comp=Z,8.5nm,0.9s						
VRH	**Novokhopy

comp=Z,11nm,0.6s
KIEV Kiev 33.33 309 ||| *e*P **P** 17 10 02.2 0.0
KIEV pmax pmax
comp=Z,9.0nm,0.6s
KIEV Kiev 33.33 309 *e*P **P** 17 10 02.1 0.0
comp=Z,10nm,0.6s
KIEV Kiev 33.33 309 *i* P **P** 17 10 02.4 +0.2
SNR=7.9
AK11 Malin Array Si 33.35 309 *e*P **P** 17 10 02.5 0.0
SORM Soroca 33.58 304 ||| *i*P **P** 17 10 05.3 +0.8
SORM Soroca 33.58 304 ||P **P** 17 10 05.3 +0.8
CFR Carcaliu 33.62 299 ||| *i*P **P** 17 10 05.2 +0.4
CFR Carcaliu 33.62 299 ||P **P** 17 10 05.2 +0.4
TMCR Tamitsa 34.34 335 *e*P **P** 17 10 12.0 +1.2
VRI Vrincioaia 34.61 300 ⇑ *i*P **P** 17 10 14.9 +1.5
VRI Vrincioaia 34.61 300 ⇑P **P** 17 10 14.9 +1.5
PLOR Plostina 34.66 300 ⇑ *i*P **P** 17 10 16.6 +2.7
PLOR Plostina 34.66 300 ⇑P **P** 17 10 16.6 +2.7
TESR Tescani 34.67 301 ⇑ *i*P **P** 17 10 15.1 +1.2
MLR Muntele Rosu 35.16 299 P **P** 17 10 20.8 +2.4
comp=Z,4.8nm,0.8s,baz=80,slow=1.7,SNR=26
MLR Muntele Rosu 35.16 299 ⇑ *i*P **P** 17 10 20.9 +2.6
MLR Muntele Rosu 35.16 299 ⇑P **P** 17 10 20.9 +2.6
MLR Muntele Rosu 35.16 299 *e*P **P** 17 10 21.5 +3.1
comp=Z,23nm,0.9s
DOPR Dopca 35.54 300 ||| *i*P **P** 17 10 23.4 +1.9
BURAR Bucovina Array 35.66 303 ||| *i*P **P** 17 10 23.0 +0.5
BURAR Bucovina Array 35.66 303 |||P **P** 17 10 23.1 +0.5
BUR04 Bucovina Ar. S 35.67 303 *e*P **P** 17 10 23.6 +0.9
BUR08 Bucovina Ar. S 35.68 303 *e*P **P** 17 10 24.5 +1.8
VOIR 35.79 299 ||| *i*P **P** 17 10 25.0 +1.3
VOIR 35.79 299 |||P **P** 17 10 25.0 +1.3
ARR Arges 36.09 299 ⇑ *i*P **P** 17 10 28.7 +2.5
ARCR ARCALIA 36.25 302 ⇑ *i*P **P** 17 10 30.9 +3.5
VSU Vasula 36.53 322 ⇑ *e*P **P** 17 10 30.0 +0.4
VSU pmax pmax
comp=Z,39nm,0.9s
LVV L'vov 36.54 307 *e*P **P** 17 10 29.7 -0.1
LOT Lotru 36.69 299 ||| *i*P **P** 17 10 33.6 +2.2
DRGR 37.38 302 ||| *i*P **P** 17 10 39.2 +2.1
DRGR 37.38 302 |||P **P** 17 10 39.2 +2.1
KWP Kalwaria Pacla 37.39 306 *e*P **P** 17 10 39.1 +2.0
KWP Kalwaria Pacla 37.39 306 *e*P **P** 17 10 39.1 +2.0
KWP Kalwaria Pacla 37.39 306 *e*P **P** 17 10 38.2 +1.2
comp=Z,501nm,1.4s
UZH Uzhgorod 37.64 305 ⇑ *i*P **P** 17 10 40.0 +0.8
UZH *e* 17 12 08.3
UZH *i* S **S** 17 16 19.5 -1.9
UZH MLR MLR
comp=Z,300nm,18.0s
FIA1 FINESS Array S 37.81 326 *e*P **P** 17 10 41.4 +1.0
FIA0 FINESS Array S 37.81 326 *e*P **P** 17 10 41.6 +1.1
FIA0 FINESS Array S 37.81 326 *e*P **P** 17 10 41.6 +1.1
FIA0 *e* 17 27 11.6
FINES FINESS Array B 37.81 326 P **P** 17 10 41.6 +1.1
comp=Z,9.7nm,0.6s,baz=110,slow=9.4,SNR=38
FINES LR LR 17 27 11.6
comp=Z,183nm,18.3s,baz=283,slow=37
CRVS Cervenica-Dubn 38.19 305 *e*P **P** 17 10 45.0 +1.2
CRVS Cervenica-Dubn 38.19 305 *e*P **P** 17 10 45.0 +1.2
BZS Buzias 38.19 300 ⇑ *i*P **P** 17 10 44.6 +0.7
BZS Buzias 38.19 300 ⇑P **P** 17 10 44.6 +0.7
STHS Stebnicka Huta 38.34 306 *e*P **P** 17 10 46.7 +1.6
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 38.34 306 *e*P **P** 17 10 46.7 +1.6
KECS Kecovo 38.84 305 *e*P **P** 17 10 50.2 +0.9
KECS pmax pmax
comp=Z,3.0nm,1.2s
KECS Kecovo 38.84 305 *e*P **P** 17 10 50.2 +0.9
NIE Niedzica 38.95 306 *e*P **P** 17 10 52.9 +2.7
NIE Niedzica 38.95 306 *e*P **P** 17 10 52.9 +2.7
OJC Ojcow 39.28 307 *e*P **P** 17 10 54.5 +1.6
OJC Ojcow 39.28 307 *e*P **P** 17 10 54.4 +1.6
OJC pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 39.28 307 *e*P **P** 17 10 54.4 +1.5
comp=Z,10.0nm,0.8s
LANS Liptovska Anna 39.50 306 *e*P **P** 17 10 54.8 0.0
LANS Liptovska Anna 39.50 306 *e*P **P** 17 10 54.8 0.0
VYHS Vyhne 39.94 305 *e*P **P** 17 11 00.7 +2.3
VYHS pmax pmax
comp=Z,101nm,3.8s
VYHS Vyhne 39.94 305 *e*P **P** 17 11 00.7 +2.3
MORC Moravsky Berou 40.74 307 ||| *i*P **P** 17 11 07.1 +2.1
MORC Moravsky Berou 40.74 307 |||P **P** 17 11 07.1 +2.1
MORC Moravsky Berou 40.74 307 *e*P **P** 17 11 06.9 +1.9
comp=Z,44nm,1.1s
VRAC Vranov 41.38 306 P **P** 17 11 11.9 +1.7
comp=Z,9.2nm,0.8s,baz=104,slow=5.9,SNR=8.5
VRAC LR LR 17 30 46.5
comp=Z,66nm,20.4s,baz=5.5,slow=39
VRAC Vranov 41.38 306 ||| *i*P **P** 17 11 12.6 +2.4
VRAC Vranov 41.38 306 |||P **P** 17 11 12.6 +2.4
ARA0 ARCESS Array S 41.43 338 *e*P **P** 17 11 11.4 +1.0
ARA0 *e* 17 28 47.4
ARCES ARCESS Array B 41.43 338 P **P** 17 11 11.4 +1.0
comp=Z,16nm,1.0s,baz=117,slow=8.9,SNR=40
ARCES LR LR 17 28 47.4
comp=Z,156nm,18.9s,baz=252,slow=36
DPC Dobruska-Polom 41.51 308 *e*P **P** 17 11 13.6 +2.3
DPC Dobruska-Polom 41.51 308 *e*P **P** 17 11 13.6 +2.3
UPC Upice 41.70 308 *e*P **P** 17 11 14.9 +2.1
UPC *ex* x 17 11 18.1
UPC Upice 41.70 308 *e*P **P** 17 11 14.9 +2.1
PSI Prapat 41.92 136 LR LR 17 31 23.5
comp=Z,28nm,19.3s,baz=2.0,slow=40
CONA Conrad Observa 41.96 304 *i* P **P** 17 11 16.9 +1.8
comp=Z,10nm,0.9s
SOKA Soboth 42.65 302 *i* P **P** 17 11 22.5 +1.9
comp=Z,9.2nm,0.9s
PRU Pruhonice 42.67 307 *e*P **P** 17 11 22.7 +2.0
PRU Pruhonice 42.67 307 *e*P **P** 17 11 22.7 +2.0
BRG Berggiesshubel 43.00 308 *e*P **P** 17 11 25.0 +1.7
comp=Z,11nm,1.0s
BRG *e* 17 11 48.5
comp=Z,3.6nm,0.8s
BRG *e* 17 11 57.0
comp=Z,6.5nm,1.0s
BRG Berggiesshubel 43.00 308 *e*P **P** 17 11 25.0 +1.7
BRG *e* 17 11 48.5
BRG *e* 17 11 57.0
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,7.0nm,1.0s
MOA Molln 43.03 304 *i* P **P** 17 11 25.4 +1.7
comp=Z,9.0nm,0.9s
CUC Castrocucco 43.28 292 *e*P **P** 17 11 27.4 +1.6
comp=Z,5.3nm,0.8s
GEA0 GERESS Array S 43.31 305 *e*P **P** 17 11 27.4 +1.4
GERES GERESS Array B 43.31 305 P **P** 17 11 26.6 +0.6
comp=Z,1.8nm,0.9s,baz=89,slow=8.3,SNR=9.0
KHC Kasperske Hory 43.36 306 *e*P **P** 17 11 28.0 +1.7
KHC Kasperske Hory 43.36 306 *e*P **P** 17 11 28.0 +1.7
HFS Hagfors 43.41 322 P **P** 17 11 26.7 +0.2
comp=Z,15nm,0.6s,baz=98,slow=11,SNR=43
HFS LR LR 17 31 41.4
comp=Z,195nm,18.9s,baz=348,slow=39
CLL Collm 43.56 309 *e*P **P** 17 11 29.3 +1.4
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 43.56 309 *e*P **P** 17 11 29.0 +1.1
comp=Z,9.0nm,1.2s
CLL *e*PP **PP** 17 13 11.0 +0.1
CLL Collm 43.56 309 *e*P **P** 17 11 29.2 +1.4
comp=Z,9.5nm,1.2s
YAK Yakutsk 43.90 35 P **P** 17 11 30.3 -0.1
comp=Z,5.9nm,0.4s,baz=3.2,slow=1.6,SNR=5.1
YAK Yakutsk 43.90 35 *e*P **P** 17 11 29.6 -0.8
YAK *e*PP **pP** 17 11 54.8 +1.0
YAK *e* 17 13 11.1
YAK *e* 17 13 16.6
YAK *e*S **S** 17 17 54.1 +0.2
YAK *e* 17 21 18.1
YAK pmax pmax
comp=Z,11nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=Z,35nm,3.0s
YAK pmax pmax
comp=N,19nm,3.3s
YAK smax smax
comp=N,34nm,3.0s
YAK smax smax
comp=E,42nm,3.9s
YAK Yakutsk 43.90 35 *e*P **P** 17 11 30.3 -0.1
comp=E,11nm,0.6s
NKC Novy Kostel 43.99 308 *e*P **P** 17 11 33.7 +2.3
NKC Novy Kostel 43.99 308 *e*P **P** 17 11 33.7 +2.3
NC405 NORSAR Array S 44.48 323 *e*P **P** 17 11 34.4 -0.8
KS01 Wonju Array Si 44.58 71 *e*P **P** 17 11 36.9 +0.8
KSAR Wonju Array Be 44.58 71 P P **P** 17 11 37.1 +0.9
KSAR Wonju Array Be 44.58 71 P P **P** 17 11 37.0 +0.9
KSRS Korea Array 44.61 71 P **P** 17 11 37.0 +0.7
comp=E,7.1nm,1.0s,baz=279,slow=6.8,SNR=12
NC303 NORSAR Array S 44.66 323 *e*P **P** 17 11 37.1 +0.6
NB2 NORSAR Subarra 44.72 323 P **P** 17 11 36.9 -0.1
comp=Z,14nm,0.6s,baz=94,slow=7.9
NB2 NORSAR Subarra 44.72 323 P **P** 17 11 36.9 -0.1
baz=94,slow=7.9
NB200 NORSAR Array S 44.72 323 *e*P **P** 17 11 36.9 -0.1
NB200 *e* 17 32 38.2
NOA NORSAR Array B 44.72 323 P **P** 17 11 36.9 -0.1
comp=Z,12nm,0.6s,baz=96,slow=7.8,SNR=47
NOA LR LR 17 32 38.2
comp=Z,58nm,18.6s,baz=5.0,slow=39
WTTA Wattenberg 44.88 303 *i* P **P** 17 11 39.5 +0.9
comp=Z,8.6nm,1.0s
NBO00 NORSAR Array S 44.93 323 *e*P **P** 17 11 38.9 +0.2
NC204 NORSAR Array S 44.96 323 *e*P **P** 17 11 39.2 +0.3
KLR Kul'dur 44.96 54 P **P** 17 11 39.4 +0.3
comp=Z,0.2nm,0.5s,baz=275,slow=6.9,SNR=10
KLR Kul'dur 44.96 54 ⇑P **P** 17 11 39.6 +0.6
MOTA Moosalm 45.22 304 *i* P **P** 17 11 42.5 +1.1
comp=Z,7.8nm,1.0s
USRK Ussuriysk Ar. 45.95 61 LR LR 17 32 08.6
comp=Z,60nm,18.1s,baz=107,slow=37
DAVA Damuels 46.05 304 *i* P **P** 17 11 49.0 +1.2
comp=Z,15nm,0.8s,SNR=6.4
BFO Black Forest 46.91 305 *i* P **P** 17 11 56.8 +2.4
SPITS Spitsbergen Ar 47.73 347 P **P** 17 12 01.4 +1.1
comp=Z,3.5nm,0.6s,baz=92,slow=6.7,SNR=9.3
SENIN Lac Senin/Sane 47.97 303 *e*P **P** 17 12 04.2 +1.3
comp=Z,4.4nm,0.8s
WLF Walferdange 48.10 308 *e*P **P** 17 12 03.9 +0.4
WLF pmax pmax
comp=Z,14nm,1.0s
WLF Walferdange 48.10 308 *e*P **P** 17 12 03.9 +0.4
comp=Z,14nm,1.0s
JNU Nakatsue 48.30 75 P **P** 17 12 06.4 +1.1
comp=Z,13nm,1.0s,baz=323,slow=6.2,SNR=6.8
KEST Kesa 49.41 289 P **P** 17 12 14.1 +0.2
comp=Z,1.9nm,0.6s,baz=321,slow=9.3,SNR=3.7
NKL Nikolayevsk 49.97 47 *i* P **P** 17 12 18.2 +0.5
NKL pmax pmax
comp=Z,33nm,0.9s
EKA Eskdalemuir Ar 52.65 316 P **P** 17 12 38.1 +0.5
comp=Z,4.9nm,0.8s,baz=84,slow=8.6,SNR=9.7
MAJO Matsushiro 52.69 69 ||| *e*P **P** 17 12 41.3 +3.0
MAJO pmax pmax
comp=Z,19nm,0.9s
MAJO Matsushiro 52.69 69 *e*P **P** 17 12 39.0 +0.7
MJAR Matsushiro Arr 52.69 69 P **P** 17 12 39.0 +0.7
comp=Z,7.7nm,1.1s,baz=292,slow=10,SNR=4.8
MA2 Magadan 54.28 38 P **P** 17 12 49.2 -0.4
comp=Z,2.3nm,0.2s,baz=310,slow=7.5,SNR=5.5
MA2 Magadan 54.28 38 ||| *i*P **P** 17 12 50.0 +0.4
SEY Seymchan 54.36 34 P **P** 17 12 50.5 +0.4
comp=Z,2.5nm,0.9s,baz=270,slow=7.9,SNR=14
SEY Seymchan 54.36 34 ||| *i*P **P** 17 12 49.9 -0.2
ESDC Sonseca Array 57.84 298 P **P** 17 13 14.6 -0.8
comp=Z,0.6nm,0.6s,baz=57,slow=7.1,SNR=6.5
BILL Bilibino 58.60 26 *i* P **P** 17 13 19.8 -0.3
BILL *i* 17 15 35.4
BILL pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 61.33 341 *i* P **P** 17 13 40.2 +1.1
comp=Z,21nm,0.7s
SUMG Summit 61.33 341 *e*P **P** 17 13 40.4 +1.3
SUMG pmax pmax
comp=Z,22nm,0.7s
SUMG Summit 61.33 341 *e*P **P** 17 13 40.4 +1.3
comp=Z,22nm,0.7s
TOA1 Torodi Ar. Sit 66.06 269 *e*P **P** 17 14 08.1 -2.6
TOA1 *e*pP **pP** 17 14 33.8 -1.9
TOA0 Torodi Ar. Sit 66.06 269 *e*P **P** 17 14 08.0 -2.6
TOA0 Torodi Ar. Sit 66.06 269 P **P** 17 14 07.7 -2.9
TORD Torodi Ar. Bea 66.06 269 P **P** 17 14 08.1 -2.6
comp=Z,5.4nm,0.7s,baz=47,slow=5.5,SNR=20
TORD pP **pP** 17 14 33.8 -1.9
comp=Z,3.7nm,1.0s,baz=47,slow=5.5,SNR=3.5
SFJD Kangerlussuaq 68.03 339 P **P** 17 14 21.9 -0.3
comp=Z,9.5nm,0.8s,baz=45,slow=10,SNR=7.9
SFJD Kangerlussuaq 68.03 339 *i* P **P** 17 14 18.2 -4.1
comp=Z,9.1nm,0.8s
KOWA Kowa 69.92 273 P **P** 17 14 32.8 -2.0
comp=Z,4.3nm,0.6s,baz=85,slow=9.9,SNR=11
KOWA Kowa 69.92 273 *e*P **P** 17 14 33.2 -1.6
comp=Z,31nm,1.8s
TOLK Toolik Lake Re 70.99 15 *e*P **P** 17 14 41.1 +0.6
comp=Z,7.1nm,0.9s
COLD Coldfoot 72.03 16 *e*P **P** 17 14 47.3 +0.5
comp=Z,4.9nm,0.9s
INK Inuvik 74.01 9 P **P** 17 14 58.4 +0.1
comp=Z,2.3nm,0.6s,baz=348,slow=5.3,SNR=14
INK Inuvik 74.01 9 *e*P **P** 17 14 58.8 +0.5
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 74.01 9 *e*P **P** 17 14 58.8 +0.5
comp=Z,5.0nm,1.1s
COLA College 74.54 16 ⇑ *e*P **P** 17 15 01.6 +0.2
CAST Castle Rocks 74.73 19 *e*P **P** 17 15 02.5 -0.1
comp=Z,6.5nm,0.7s
IL1 Eielson Array 74.84 16 *e*P **P** 17 15 02.2 -1.0
ILAR Eielson Array 74.84 16 P **P** 17 15 02.2 -1.0
comp=Z,1.4nm,0.8s,baz=313,slow=5.0,SNR=19
ILB Eielson Array 74.84 16 *e*P **P** 17 15 02.2 -1.0
DBIC Dimbokro 75.03 267 P **P** 17 15 03.3 -1.9
comp=Z,7.7nm,1.2s,baz=63,slow=2.3,SNR=4.0
YKW3 Yellowknife Ar 81.33 3 *e*P **P** 17 15 38.9 -0.2
comp=Z,28nm,2.0s
YKA Yellowknife Ar 81.39 3 P **P** 17 15 39.3 -0.1
comp=Z,3.4nm,0.7s,baz=349,slow=5.4,SNR=69
WRA Warramunga Arr 81.61 122 P **P** 17 15 40.3 -0.9
comp=Z,2.0nm,0.7s,baz=324,slow=4.8,SNR=13
WRA pP **pP** 17 16 06.9 -0.2
comp=Z,1.7nm,0.7s,baz=324,slow=4.9,SNR=4.0
WR1 Warramunga Arr 81.61 122 *e*P **P** 17 15 40.3 -0.9
WR1 *e*pP **pP** 17 16 06.9 -0.2
ASAR Alice Springs 83.88 125 P **P** 17 15 52.3 -0.6
comp=Z,1.9nm,0.8s,baz=310,slow=4.6,SNR=19
ASAR pP **pP** 17 16 18.9 -0.1
comp=Z,2.3nm,0.9s,baz=314,slow=4.9,SNR=5.5
FFC Flin Flon 89.13 356 *e*P **P** 17 16 18.4 +0.3
FFC pmax pmax
comp=Z,8.0nm,1.2s
FFC Flin Flon 89.13 356 *e*P **P** 17 16 18.4 +0.3
comp=Z,7.9nm,1.2s
ULM Lac du Bonnet 93.06 352 P **P** 17 16 36.1 -0.3
comp=Z,1.5nm,0.7s,baz=36,slow=5.0,SNR=5.6
RLMT Red Lodge 98.92 0 *e*pP pP 17 17 23.4 -6.4
PLCA Paso Flores 150.09 250 PKPbc **PKPbc** 17 23 11.8 -1.3
comp=Z,4.1nm,0.9s,baz=160,slow=6.2,SNR=7.7

NIED ***15*** *17:09:00, 40.90N×145.20E, h5km, Mw4.0 Best double couple: M0 1.17000×10^15 NP1:ϕ=102.00000°, δ=45.00000°, λ=-95.00000°. NP2:ϕ=288.00000°, δ=45.00000°, λ=-85.00000°.*

IDC ***15*** *17:09:26.4±0.6, 40.88N×145.12E, h0km, mb4.1/24, mb1 4.2/29, mb1mx4.1/68, mbtmp4.0/29, ML3.3/5, MS2.9/6, Ms1 2.9/6, ms1mx2.6/64, Error ellipse: s-maj=15.6km s-min=13.1km az=108.0*

ISCJB ***15*** *17:09:27.3±1.2, 40.93N±0.02×145.03E±0.04, h15km±8km, mb4.2/33, MS3.2/2, Error ellipse: s-maj=5.2km s-min=3.9km az=13.4*

JMA ***15*** *17:09:28.2±0.2, 40.92N×145.21E, h66km±3km, M4.4*

NEIC ***15*** *17:09:29.8±1.5, 40.86N×145.07E, h20km±10km, mb4.6/11, Error ellipse: s-maj=5.9km s-min=4.5km az=108.0*

ISC 15 17:09:30.3±3.0, 40.95N±0.04×145.08E±0.06, h24km±21km, n98, σ1°52/114, mb4.3/33, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.80**	**307**	*e*Pn		**Pn**	**17 09 58.7**	**-1.1**
JEM	**Erimo**	**1.80**	**307**	P		**Pn**	**17 09 59.0**	**-0.8**
JEM				*e*S		**Sn**	**17 10 19.9**	**-1.9**
JAK	**Akkeshi**	**2.07**	**352**	P		**Pn**	**17 10 01.8**	**-1.7**
JAK				*e*S		**Sn**	**17 10 26.1**	**-2.4**
JCH	**Churui**	**2.11**	**323**	P		**Pn**	**17 10 03.0**	**-1.0**
JCH				*e*S		**Sn**	**17 10 27.7**	**-1.7**
JOB	**Onbets**	**2.17**	**335**	P		**Pn**	**17 10 04.2**	**-0.6**
JOB				*e*S		**Sn**	**17 10 29.9**	**-1.0**
JNBK	**Urakawa-nobuka**	**2.20**	**308**	P		**Pn**	**17 10 05.1**	**-0.2**
JNBK				*e*S		**Sn**	**17 10 31.1**	**-0.6**
NEM2	**Nemuro 2**	**2.47**	**11**	P		**Pn**	**17 10 07.1**	**-1.9**
NEM2				*e*S		**Sn**	**17 10 34.5**	**-3.8**
JAR	**Ashorobuto**	**2.54**	**338**	P		**Pn**	**17 10 08.6**	**-1.4**
JAR				*e*S		**Sn**	**17 10 37.4**	**-2.9**
JNK	**Nakash**	**2.65**	**354**	P		**Pn**	**17 10 09.2**	**-2.3**
JNK				*e*S		**Sn**	**17 10 38.9**	**-4.0**
JBT2	**Biratori 2**	**2.73**	**313**	P		**Pn**	**17 10 12.1**	**-0.5**
JBT2				*e*S		**Sn**	**17 10 45.0**	**+0.1**
JANG	**Nango**	**2.77**	**259**	P		**Pn**	**17 10 11.1**	**-2.1**
JANG				*e*S		**Sn**	**17 10 41.7**	**-4.2**
JFR	**Furan**	**2.89**	**321**	P		**Pn**	**17 10 13.9**	**-0.9**
JFR				*e*S		**Sn**	**17 10 45.6**	**-3.2**
JRA	**Rausu**	**2.99**	**1**	P		**Pn**	**17 10 14.6**	**-1.6**
JRA				*e*S		**Sn**	**17 10 47.7**	**-3.5**
JOT	**Ohata**	**3.08**	**279**	P		**Pn**	**17 10 16.1**	**-1.2**
JOT				*e*S		**Sn**	**17 10 50.4**	**-3.0**
JTKR	**Abashiri--Toko**	**3.15**	**344**	P		**Pn**	**17 10 17.7**	**-0.6**
JTKR				*e*S		**Sn**	**17 10 53.4**	**-1.7**
JKB	**Kayabe**	**3.19**	**289**	P		**Pn**	**17 10 17.7**	**-1.2**
JOM	**Ohasama**	**3.25**	**244**	P		**Pn**	**17 10 18.2**	**-1.6**
JOM				*e*S		**Sn**	**17 10 53.3**	**-4.4**
JEW	**Eniwo**	**3.31**	**306**	P		**Pn**	**17 10 21.0**	**-0.5**
JEW				*e*S		**Sn**	**17 10 58.4**	**-0.7**
JKK2	**Kamakawa 2**	**3.40**	**330**	P		**Pn**	**17 10 21.7**	**-0.1**
JKK2				*e*S		**Sn**	**17 11 01.4**	**+0.1**
ASAJ	**Asahikawa**	**3.66**	**331**	Pn		**Pn**	**17 10 26.5**	**+1.1**
	3.6nm,0.3s,baz=214,slow=18,SNR=76						
ASAJ				Sn		**Sn**	**17 11 07.3**	**-0.5**
	7.7nm,0.3s,baz=282,slow=33,SNR=10						
ASAJ	**Asahikawa**	**3.66**	**331**	*e*Pn		**Pn**	**17 10 26.1**	**+0.7**
ASAJ				*e*Sn		**Sn**	**17 11 07.3**	**-0.5**
YSS	**Yuzh-Sakhalins**	**6.24**	**345**	*e*Pn		**Pn**	**17 11 02.8**	**+2.1**
MAJO	**Matsushiro**	**6.94**	**233**	*e*Pn		**Pn**	**17 11 09.7**	**-0.8**
MAJO				*e*Sn		**Sn**	**17 12 29.2**	**+0.5**
MAT	**Matsushiro**	**6.94**	**233**	P		**Pn**	**17 11 09.2**	**-1.3**
MAT				*e*S		**Sn**	**17 12 30.0**	**+1.3**
MJAR	**Matsushiro Arr**	**6.94**	**233**	Pn		**Pn**	**17 11 09.5**	**-1.0**
	1.5nm,0.3s,baz=44,slow=11,SNR=14						
MJAR				Sn		**Sn**	**17 12 29.2**	**+0.5**
	0.4nm,0.3s,baz=42,slow=28,SNR=3.1						
MJAR				LR	LR	17 13 14.8	
	comp=Z,50nm,19.9s,baz=55,slow=33						
MJB9	**Matsu-Tunnel**	**6.94**	**233**	*e*Pn		**Pn**	**17 11 10.1**	**-0.4**
JHJ	**Hachijo jima 2**	**8.88**	**210**	Sn		Sn	17 13 05.5	-11
	18nm,0.3s,baz=72,slow=20,SNR=4.1						
USRK	**Uusuriysk Ar.**	**10.19**	**293**	Pn		**Pn**	**17 11 56.1**	**+1.1**
	0.4nm,0.3s,baz=104,slow=13,SNR=10						
KSRS	**Korea Array**	**13.76**	**261**	LR		LR	17 16 50.7	
	comp=Z,17nm,21.2s,baz=310,slow=32						
JNU	**Nakatsue**	**13.76**	**240**	Pn		**Pn**	**17 12 42.8**	**-1.1**
	0.2nm,0.3s,baz=80,slow=22,SNR=8.2						
PETK	**Petropavlovsk-**	**14.87**	**31**	Pn		**Pn**	**17 12 56.6**	**-2.2**
	0.1nm,0.3s,baz=165,slow=6.2,SNR=4.9						
PETK				LR		LR	17 19 24.6	
	comp=Z,28nm,19.4s,baz=218,slow=40						
PEA1	**Petropavlovsk-**	**14.88**	**31**	*e*Pn		**Pn**	**17 12 56.6**	**-2.3**
MA2	**Magadan**	**18.99**	**9**	LR		LR	17 21 07.4	
	comp=Z,44nm,18.6s,baz=174,slow=37						
SEY	**Seymchan**	**22.45**	**9**	P		**P**	**17 14 27.2**	**0.0**
	2.7nm,0.8s,baz=147,slow=7.8,SNR=6.3						
YAK	**Yakutsk**	**23.07**	**341**	S		**S**	**17 18 36.5**	**-6.5**
	3.1nm,0.3s,baz=212,slow=22,SNR=7.9						
GUMO	**Guam**	**27.25**	**180**	LR		LR	17 25 24.9	
	comp=Z,20nm,18.9s,baz=304,slow=35						
ULN	**Ulaanbaatar**	**27.82**	**297**	*e*P		**P**	**17 15 18.2**	**+0.5**
	7.4nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**28.17**	**132**	T		T	17 44 52.0	
	baz=325,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.18**	**132**	T		T	17 44 56.6	
	baz=325						
H11N3	**WAKE ISLAND Hy**	**28.19**	**132**	T		T	17 44 52.3	
	baz=325,slow=75						
SONA1	**Songino Array**	**28.26**	**297**	*e*P		**P**	**17 15 22.2**	**+0.6**
SONA0	**Songino Array**	**28.26**	**297**	*e*P		**P**	**17 15 21.8**	**+0.1**
SONM	**Songino Array**	**28.26**	**297**	P		**P**	**17 15 21.8**	**+0.1**
	1.9nm,0.7s,baz=86,slow=9.1,SNR=10						
H11S1	**WAKE ISLAND Hy**	**29.05**	**134**	T		T	17 45 59.6	
	baz=325,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.05**	**134**	T		T	17 45 58.5	
	baz=325,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**29.06**	**134**	T		T	17 45 58.7	
	baz=325,slow=76,SNR=10						
ZAA1	**Zalesovo Array**	**41.52**	**309**	*e*P		**P**	**17 17 14.9**	**-0.5**
ZAA1				*e*PcP		**PcP**	**17 19 13.2**	**+0.7**
ZAA0	**Zalesovo Array**	**41.52**	**309**	*e*P		**P**	**17 17 16.6**	**+1.2**
	3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**41.52**	**309**	P		**P**	**17 17 14.9**	**-0.5**
	1.5nm,0.5s,baz=89,slow=7.3,SNR=7.5						
ZALV				PcP		**PcP**	**17 19 13.2**	**+0.7**
	2.3nm,0.6s,baz=107,slow=2.5,SNR=9.1						
ZALV	**Zalesovo Beam**	**41.52**	**309**	*e*P		**P**	**17 17 16.0**	**+0.6**
ZALV				*e*PcP		**PcP**	**17 19 13.0**	**+0.5**
MK01	**Makanchi Array**	**44.58**	**299**	*e*P		**P**	**17 17 40.4**	**+0.2**
MK31	**Makanchi Array**	**44.58**	**299**	*e*P		**P**	**17 17 40.8**	**+0.5**
MK32	**Makanchi Array**	**44.58**	**299**	*e*P		**P**	**17 17 40.2**	**0.0**
MKAR	**Makanchi Array**	**44.58**	**299**	P		**P**	**17 17 40.2**	**0.0**
	1.4nm,0.7s,baz=85,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**44.58**	**299**	*e*P		**P**	**17 17 40.8**	**+0.5**
	19nm,0.6s						
ILAR	**Eielson Array**	**44.66**	**34**	P		**P**	**17 17 41.8**	**+1.2**
	1.2nm,0.7s,baz=256,slow=7.2,SNR=9.3						
ILB	**Eielson Array**	**44.66**	**34**	*e*P		**P**	**17 17 41.8**	**+1.2**
MAKZ	**Makanchi**	**44.78**	**300**	*e*P		**P**	**17 17 42.1**	**+0.2**
	2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.28**	**254**	P		**P**	**17 17 46.3**	**+0.2**
	0.8nm,1.1s,baz=50,slow=8.4,SNR=4.3						
KURK	**Kurchatov**	**45.87**	**306**	*e*P		**P**	**17 17 50.7**	**+0.3**
	6.1nm,0.8s						
KURBB	**Kurchatov Arra**	**45.95**	**306**	P		**P**	**17 17 51.1**	**+0.1**
	4.2nm,0.4s,baz=75,slow=8.8,SNR=16						
INK	**Inuvik**	**49.60**	**29**	P		**P**	**17 18 18.6**	**-0.5**
	1.2nm,0.7s,baz=338,slow=5.7,SNR=4.0						
BVAR	**Borovoye Array**	**50.13**	**311**	P		**P**	**17 18 24.2**	**+0.9**
	2.4nm,0.6s,baz=73,slow=8.4,SNR=17						
BVAR				PcP		**PcP**	**17 19 43.3**	**+0.8**
	0.5nm,0.6s,baz=99,slow=4.7,SNR=2.6						
KKAR	**Karatay Array**	**53.69**	**299**	*e*P		**P**	**17 18 50.5**	**+0.4**
BATI	**Baumata**	**54.60**	**206**	LR		LR	17 41 43.7	
	comp=Z,59nm,20.5s,baz=2.5,slow=36						
ARU	**Arti**	**55.36**	**318**	P		**P**	**17 19 02.2**	**+0.2**
	1.7nm,0.6s,baz=50,slow=2.3,SNR=4.6						
ARU	**Arti**	**55.36**	**318**	*e*P		**P**	**17 19 02.4**	**+0.5**
	26nm,1.9s						
ABKAR	**Akbulak array**	**57.64**	**309**	*e*P		**P**	**17 19 18.6**	**+0.4**
	23nm,0.6s						
RES	**Resolute Bay**	**58.09**	**16**	*e*P		**P**	**17 19 22.2**	**+1.2**
	3.3nm,0.8s						
AKTO	**Aktyubinsk**	**58.22**	**311**	P		**P**	**17 19 21.2**	**

comp=Z,0.4nm,0.5s,baz=267,slow=2.1,SNR=4.2
AKASG **Malin Array Be 72.92 323** P **P** 17 20 57.6 +0.4
comp=Z,2.7nm,0.5s,baz=42,slow=6.2,SNR=13
AKBB **Malin Array Si 72.92 323** *eP* **P** 17 20 57.6 +0.4
comp=Z,5.5nm,0.9s
UOSS **Minazif 73.31 289** *eP* **P** 17 21 00.4 +0.5
comp=Z,4.4nm,0.8s
BUR08 **Bucovina Ar. S 76.95 323** *eP* **P** 17 21 21.9 +1.1
BUR04 **Bucovina Ar. S 76.97 323** *eP* **P** 17 21 21.6 +0.8
BR101 **Keskin Array S 78.35 313** *eP* **P** 17 21 29.5 +0.8
BRTR **Keskin Array B 78.35 313** P **P** 17 21 29.5 +0.8
comp=Z,1.4nm,0.8s,baz=69,slow=6.8,SNR=4.8
DPC **Dobruska-Polom 78.61 329** *eP* **P** 17 21 31.6 +1.7
CLL **Collm 79.07 332** *eP* **P** 17 21 33.0 +0.7
KHC **Kasperske Hory 80.65 330** *eP* **P** 17 21 42.3 +1.4
KHC *epP* **PcP** 17 21 48.8 +1.1
GERES **GERESS Array B 80.83 330** P **P** 17 21 41.9 -0.1
comp=Z,0.6nm,0.5s,baz=39,slow=6.9,SNR=6.9
LTX **Lajitas 85.50 55** *eP* **P** 17 22 06.7 +0.2
TXAR **Lajitas Array 85.50 55** P **P** 17 22 06.7 +0.2
comp=Z,0.6nm,0.6s,baz=299,slow=3.7,SNR=10.0

IDC ***15*** *17:24:15.9±13.0, 41.08N×146.63E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/63, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=421.4km s-min=33.5km az=62.0*
JMA ***15*** *17:24:21.2±0.2, 40.83N×145.23E, h67km±5km, M3.3*
ISCJB ***15*** *17:24:22.5±1.0, 40.83N±0.04×144.99E±0.08, h33km, mb3.7/4, Error ellipse: s-maj=8.9km s-min=4.5km az=18.1*
ISC 15 17:24:23.2±1.7, 40.84N±0.06×145.2E±0.1, h35km, n21, σ1§07/22, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JEM	**Erimo**	**1.90**	**309**	P		**Pn**	**17 24 53.1**	**0.0**
JEM				*eS*		**Sn**	**17 25 14.9**	**-0.9**
JAK	**Akkeshi**	**2.18**	**351**	*eS*		**Sn**	**17 25 21.2**	**-1.4**
JCH	**Churui**	**2.22**	**324**	P		**Pn**	**17 24 57.3**	**-0.2**
JCH				*eS*		**Sn**	**17 25 22.6**	**-1.0**
JOB	**Onbets**	**2.28**	**335**	*eS*		**Sn**	**17 25 24.7**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.30**	**309**	P		**Pn**	**17 24 59.3**	**+0.7**
JNBK				*eS*		**Sn**	**17 25 26.9**	**+1.2**
JAR	**Ashorobuto**	**2.66**	**338**	P		**Pn**	**17 25 02.6**	**-0.9**
JAR				*eS*		**Sn**	**17 25 32.3**	**-2.2**
JANG	**Nango**	**2.81**	**262**	P		Pn	17 25 04.4	-1.1
JANG				*eS*		Sn	17 25 35.0	-3.1
JBT2	**Biratori 2**	**2.84**	**314**	P		**Pn**	**17 25 06.8**	**+0.8**
JFR	**Furan**	**3.00**	**321**	*eS*		**Sn**	**17 25 41.1**	**-1.9**
JTM	**Tenmabayashi**	**3.10**	**270**	P		**Pn**	**17 25 09.4**	**-0.1**
JTM				*eS*		Sn	17 25 43.1	-2.2
JOT	**Ohata**	**3.14**	**281**	P		**Pn**	**17 25 09.8**	**-0.4**
JOT				*eS*		Sn	17 25 44.8	-1.6
JOM	**Ohasama**	**3.25**	**246**	P		**Pn**	**17 25 11.3**	**-0.4**
JOM				*eS*		Sn	17 25 45.8	-3.4
JTKR	**Abashiri--Toko**	**3.26**	**344**	*eS*		**Sn**	**17 25 48.7**	**-0.6**
JKB	**Kayabe**	**3.27**	**290**	P		**Pn**	**17 25 12.2**	**+0.3**
JKB				*eS*		Sn	17 25 48.6	-0.9
JEW	**Eniwo**	**3.41**	**307**	P		**Pn**	**17 25 15.0**	**+1.2**
JMK	**Ichinoseki**	**3.56**	**239**	P		**Pn**	**17 25 15.2**	**-0.7**
JMK				*eS*		Sn	17 25 53.4	-3.4
ASAJ	**Asahikawa**	**3.78**	**331**	Pn		**Pn**	**17 25 20.3**	**+1.4**
	1.0nm,0.3s,baz=236,slow=11,SNR=2.5							
ASAJ				Sn		**Sn**	**17 26 02.0**	**0.0**
	0.7nm,0.3s,baz=171,slow=19,SNR=2.0							
SONM	**Songino Array**	**28.35**	**297**	P		P	17 30 19.0	+5.1
	0.4nm,0.5s,baz=89,slow=8.1,SNR=3.7							
MKAR	**Makanchi Array**	**44.67**	**300**	P		P	17 32 38.4	+6.0
	0.1nm,0.4s,baz=75,slow=11,SNR=1.5							
KURBB	**Kurchatov Arra**	**46.05**	**306**	P		P	17 32 53.6	+10
	1.7nm,0.2s,baz=76,slow=9.0,SNR=1.5							
WRA	**Warramunga Arr**	**61.30**	**192**	P		**P**	**17 34 36.0**	**+1.0**
	0.5nm,0.7s,baz=16,slow=7.1,SNR=2.2							

IDC 15 17:26:02.2±999.0, 56.75N×36.80E, h0km, Error ellipse: s-maj=971.3km s-min=5.8km az=98.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I43RU	**DUBNA INFRASON 0.23**	**98**	*i*				17 27 10.0	
	baz=278,slow=309,SNR=1.5							
I31KZ	**AKTYUBINSK INF 14.09**	**108**	*i*				18 48 30.0	
	baz=305,slow=379,SNR=2.7							
I46RU	**ZALESOVO INFRA27.00**	**75**	*i*				20 13 40.0	
	baz=296,slow=333,SNR=0.9							

NIED ***15*** *17:44:00, 40.90N×145.20E, h8km, Mw3.8 Best double couple: M0 6.20000×10^14 NP1:φs=44.00000°, δ40.00000°, λ-136.00000°. NP2:φs=277.00000°, δ63.00000°, λ-59.00000°.*
IDC ***15*** *17:44:47.6±0.7, 40.83N×145.18E, h0km, mb3.7/16, mb1 3.9/19, mb1mx3.7/68, mbtmp3.7/19, ML3.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.2/67, Error ellipse: s-maj=17.2km s-min=15.8km az=166.0*
JMA ***15*** *17:44:49.4±0.2, 40.93N×145.19E, h66km±2km, M4.1*
ISCJB ***15*** *17:44:50.9±0.5, 40.97N±0.03×145.03E±0.05, h33km, mb3.7/16, MS3.2/1, Error ellipse: s-maj=5.1km s-min=4.6km az=177.2*
ISC 15 17:44:52.7±0.7, 40.94N±0.05×145.10E±0.06, h35km, n41, σ2§04/48, mb3.5/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JEM	**Erimo**	**1.81**	**307**	P		**Pn**	**17 45 20.3**	**-1.0**
JEM				*eS*		**Sn**	**17 45 41.2**	**-1.8**
JAK	**Akkeshi**	**2.07**	**352**	P		**Pn**	**17 45 23.0**	**-2.0**
JAK				*eS*		**Sn**	**17 45 47.1**	**-2.5**
JCH	**Churui**	**2.11**	**323**	P		**Pn**	**17 45 24.3**	**-1.2**
JCH				*eS*		**Sn**	**17 45 48.9**	**-1.7**
JOB	**Onbets**	**2.17**	**335**	P		**Pn**	**17 45 25.1**	**-1.3**
JOB				*eS*		**Sn**	**17 45 51.0**	**-1.0**
JNBK	**Urakawa-nobuka**	**2.21**	**308**	*eS*		**Sn**	**17 45 52.5**	**-0.4**
NEM2	**Nemuro 2**	**2.47**	**11**	P		**Pn**	**17 45 28.2**	**-2.2**
NEM2				*eS*		**Sn**	**17 45 55.8**	**-3.5**
JAR	**Ashorobuto**	**2.55**	**338**	P		**Pn**	**17 45 29.8**	**-1.8**
JAR				*eS*		**Sn**	**17 45 58.9**	**-2.5**
JNK	**Nakash**	**2.66**	**354**	P		**Pn**	**17 45 30.7**	**-2.3**
JNK				*eS*		**Sn**	**17 46 00.1**	**-3.8**
JBT2	**Biratori 2**	**2.74**	**313**	*eS*		**Sn**	**17 46 06.3**	**+0.2**
JANG	**Nango**	**2.78**	**259**	P		**Pn**	**17 45 32.5**	**-2.3**
JANG				*eS*		**Sn**	**17 46 02.6**	**-4.5**
JFR	**Furan**	**2.90**	**321**	*eS*		**Sn**	**17 46 07.1**	**-2.8**
JOT	**Ohata**	**3.09**	**279**	P		**Pn**	**17 45 37.6**	**-1.3**
JOT				*eS*		**Sn**	**17 46 11.7**	**-2.9**
JTKR	**Abashiri--Toko**	**3.15**	**344**	P		**Pn**	**17 45 38.9**	**-0.9**
JTKR				*eS*		**Sn**	**17 46 14.4**	**-1.7**
JKB	**Kayabe**	**3.20**	**288**	P		**Pn**	**17 45 39.6**	**-0.8**
JKB				*eS*		**Sn**	**17 46 15.3**	**-2.0**
JOM	**Ohasama**	**3.26**	**244**	P		**Pn**	**17 45 39.4**	**-1.9**
JOM				*eS*		**Sn**	**17 46 14.8**	**-4.1**
JEW	**Eniwo**	**3.32**	**306**	*eS*		**Sn**	**17 46 19.7**	**-0.6**
ASAJ	**Asahikawa**	**3.67**	**331**	Pn		**Pn**	**17 45 47.2**	**+0.2**
	1.9nm,0.3s,baz=196,slow=19,SNR=25							
ASAJ				Sn		**Sn**	**17 46 31.9**	**+2.9**
	4.8nm,0.3s,baz=205,slow=26,SNR=12							
MJAR	**Matsushiro Arr**	**6.95**	**233**	Pn		**Pn**	**17 46 29.3**	**-2.7**
	0.4nm,0.3s,baz=39,slow=12,SNR=11							
MJAR				Sn		**Sn**	**17 47 54.1**	**+4.3**
	0.6nm,0.3s,baz=136,slow=17,SNR=4.4							
USRK	**Ussuriysk Ar.**	**10.20**	**293**	Pn		**Pn**	**17 47 16.4**	**-0.2**
	0.2nm,0.3s,baz=101,slow=15,SNR=2.3							
H11N2	**WAKE ISLAND Hy 28.16**	**132**		T		T	18 20 13.2	
	baz=324,slow=75,SNR=3.9							
H11N1	**WAKE ISLAND Hy 28.17**	**132**		T		T	18 20 12.7	
	baz=324,slow=75,SNR=4.4							
H11N3	**WAKE ISLAND Hy 28.18**	**132**		T		T	18 20 15.4	
	baz=324,slow=75,SNR=3.9							
SONM	**Songino Array**	**28.27**	**297**	P		**P**	**17 50 43.9**	**+1.2**
	0.7nm,0.7s,baz=89,slow=8.6,SNR=5.3							
H11S1	**WAKE ISLAND Hy 29.04**	**134**		T		T	18 21 20.1	
	baz=325,slow=76,SNR=5.5							
H11S3	**WAKE ISLAND Hy 29.04**	**134**		T		T	18 21 22.7	
	baz=325,slow=76,SNR=5.4							
H11S2	**WAKE ISLAND Hy 29.05**	**134**		T		T	18 21 19.9	
	baz=325,slow=76,SNR=4.8							
ZALV	**Zalesovo Beam**	**41.53**	**309**	P		**P**	**17 52 37.2**	**+0.8**
	0.4nm,0.4s,baz=114,slow=7.1,SNR=3.0							
ZALV				PcP		**PcP**	**17 54 34.0**	**+0.7**
	0.3nm,0.4s,baz=70,slow=4.7,SNR=4.3							
MKAR	**Makanchi Array**	**44.59**	**299**	P		**P**	**17 53 01.6**	**+0.3**
	0.4nm,0.6s,baz=83,slow=9.1,SNR=6.5							
MKAR				LR		LR	18 13 22.4	
	comp=Z,27nm,19.2s,baz=332,slow=38							
ILAR	**Eielson Array**	**44.66**	**34**	P		**P**	**17 53 01.1**	**-0.4**
	0.4nm,0.7s,baz=253,slow=6.5,SNR=7.0							
CMAR	**Chiang Mai Arr**	**45.29**	**254**	P		P	17 53 08.6	+1.5
	0.2nm,0.5s,baz=41,slow=8.4,SNR=3.1							
KURBB	**Kurchatov Arra**	**45.96**	**306**	P		**P**	**17 53 13.1**	**+1.0**
	1.6nm,0.5s,baz=77,slow=8.8,SNR=7.0							
BVAR	**Borovoye Array**	**50.14**	**311**	P		**P**	**17 53 45.7**	**+1.4**
	1.0nm,0.6s,baz=73,slow=9.1,SNR=6.4							
YKA	**Yellowknife Ar**	**58.98**	**32**	P		**P**	**17 54 48.3**	**0.0**
	0.2nm,0.6s,baz=299,slow=6.5,SNR=3.8							
WRA	**Warramunga Arr**	**61.39**	**192**	P		**P**	**17 55 04.7**	**-0.5**
	1.5nm,0.8s,baz=8.6,slow=6.7,SNR=6.5							
ASAR	**Alice Springs**	**65.11**	**191**	P		**P**	**17 55 28.6**	**-1.3**
	0.7nm,0.7s,baz=13,slow=6.4,SNR=8.3							
FINES	**FINESS Array B**	**66.68**	**333**	P		**P**	**17 55 40.2**	**+0.8**
	3.2nm,1.1s,baz=28,slow=9.9,SNR=3.9							
NVAR	**Mina Array Bea**	**70.39**	**56**	P		P	17 56 05.6	+2.3
	0.1nm,0.4s,baz=289,slow=5.6,SNR=2.5							
KBZ	**Khabaz**	**70.51**	**311**	P		**P**	**17 56 04.9**	**+1.2**
	2.9nm,1.0s,baz=59,slow=12,SNR=3.3							
PDAR	**Pinedale Array**	**72.90**	**48**	P		**P**	**17 56 18.6**	**+0.1**
	0.2nm,0.5s,baz=347,slow=3.7,SNR=3.0							
AKASG	**Malin Array Be**	**72.93**	**323**	P		**P**	**17 56 19.0**	**+0.9**
	0.5nm,0.5s,baz=46,slow=5.9,SNR=5.8							
TXAR	**Lajitas Array**	**85.49**	**55**	P		**P**	**17 57 27.7**	**+0.4**
	0.3nm,0.7s,baz=264,slow=3.5,SNR=3.7							

ISCJB ***15*** *18:05:01.5±0.7, 43.75N±0.06×105.17W±0.09, h0km, Error ellipse: s-maj=10.9km s-min=6.5km az=41.2*
IDC ***15*** *18:05:02.9±1.9, 43.79N×105.46W, h0km, mb1 3.4/4, mb1mx3.1/72, mbtmp3.1/4, ML2.5/3, Error ellipse: s-maj=52.8km s-min=9.1km az=148.0*
NEIC ***15*** *18:05:03.0±0.6, 43.75N×105.19W, h0km, ML3.0, Error ellipse: s-maj=10.5km s-min=6.0km az=134.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 15 18:05:02.2±1.1, 43.72N±0.06×105.10W±0.07, h0km, n22, σ1§13/20, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RSSD	**Black Hills**	**0.87**	**62**	*eP*		**Pn**	**18 05 20.9**	**-1.0**
K22A	**Casper**	**1.49**	**225**	*eP*		**Pn**	**18 05 29.2**	**-1.2**
LAO	**LASA Array**	**3.08**	**345**	*eP*		**Pn**	**18 05 51.6**	**-0.5**
RLMT	**Red Lodge**	**3.30**	**297**	*eP*		**Pn**	**18 05 54.7**	**-0.7**
BW06	**Boulder Array**	**3.40**	**255**	*eP*		**Pn**	**18 05 56.9**	**+0.3**
PDAR	**Pinedale Array**	**3.40**	**255**	Pn		**Pn**	**18 05 57.3**	**+0.6**
	2.0nm,0.3s,baz=74,slow=15,SNR=32							
PDAR				Lg		Lg	18 06 41.8	
	6.0nm,0.3s,baz=61,slow=31,SNR=5.6							
OGNE	**Ogallala**	**3.58**	**140**	*eP*		**Pg**	**18 06 11.1**	**+0.2**
GCMT	**Greycliff**	**3.86**	**304**	*eP*		**Pn**	**18 06 02.7**	**-0.2**
H17A	**Grant Village**	**4.01**	**282**	*eP*		**Pn**	**18 06 05.9**	**+0.8**
YFT	**Old Faithful**	**4.20**	**282**	P		**Pn**	**18 06 08.7**	**+1.0**
O20A	**White River Ci**	**4.28**	**214**	*eP*		**Pn**	**18 06 09.1**	**+0.3**
AHID	**Auburn Hatcher**	**4.49**	**260**	*ePn*		**Pn**	**18 06 09.1**	**-2.6**
DGMT	**Dagmar**	**4.80**	**7**	*eP*		**Pn**	**18 06 17.4**	**+1.7**
HWUT	**Hardware Ranch**	**5.21**	**248**	*eP*		**Pn**	**18 06 22.4**	**+0.8**
	4.7nm,0.4s							
EGMT	**Eagleton**	**5.40**	**325**	*ePn*		**Pn**	**18 06 23.2**	**-0.9**
	7.9nm,0.6s							
SRU	**San Rafael Swe**	**6.15**	**223**	*ePn*		**Pn**	**18 06 35.5**	**+1.1**
	4.0nm,0.5s							
TMUT	**Trail Mountain**	**6.37**	**228**	*ePn*		**Pn**	**18 06 38.8**	**+1.2**
	10.0nm,0.4s							
I10CA	**LAC DU BONNET**	**8.97**	**41**	*i*			19 03 10.0	
	baz=220,slow=308,SNR=1.3							
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn		**Pn**	**18 07 14.8**	**+0.5**
	0.6nm,0.3s,baz=237,slow=12,SNR=7.3							
ULM				Pg			18 07 41.7	
	0.3nm,0.3s,baz=249,slow=17,SNR=1.6							
ULM				Lg		Lg	18 09 44.0	
	0.2nm,0.3s,baz=142,slow=19,SNR=1.8							
NVAR	**Mina Array Bea**	**11.28**	**247**	Pn		**Pn**	**18 07 44.9**	**+0.1**
	baz=47,slow=11,SNR=2.5							
TXAR	**Lajitas Array**	**14.40**	**175**	Lg		Lg	18 12 45.9	
	0.0nm,0.3s,baz=13,slow=26,SNR=2.5							
YKA	**Yellowknife Ar**	**19.62**	**347**	P		**P**	**18 09 30.4**	**-1.5**
	0.0nm,0.3s,baz=160,slow=12,SNR=3.0							

JMA 15 18:31:01.4±0.1, 35.74N×140.92E, h12km±1km, M3.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOJ	**Chosi**	**0.06**	**233**	P		Pg	18 31 03.7	-0.1
CHOJ				S		Sg	18 31 05.4	-0.2
JCN	**Nagara**	**0.67**	**241**	P		Pb	18 31 14.7	-0.3
JYT	**Yasato**	**0.76**	**310**	P		Pg	18 31 15.5	-0.7
JYT				S		Sg	18 31 25.6	-0.6
BSO3	**Boso 3**	**0.99**	**200**	P		Pb	18 31 20.0	-0.4
MAT	**Matsushiro**	**2.34**	**291**	P		Pn	18 31 39.2	-0.5
MAT				*eS*		Sb	18 32 10.5	-1.8

ISCJB ***15*** *18:31:32.8±1.3, 17.5S±0.5×178.8W±0.3, h539km, mb3.6/9, Error ellipse: s-maj=78.3km s-min=14.6km az=150.6*
IDC ***15*** *18:31:39.4±4.5, 17.64S×178.81W, h612km±53km, mb3.1/9, mb1 3.4/9, mb1mx3.0/48, mbtmp4.0/9, Error ellipse: s-maj=74.4km s-min=21.2km az=152.0*
ISC 15 18:31:33.0±1.3, 17.6S±0.5×178.7W±0.3, h539km, n13, σ0§99/15, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**33.27**	**260**	P		**P**	**18 37 27.6**	**+1.3**
	1.5nm,0.4s,baz=94,slow=9.4,SNR=1.5							
STKA	**Stephens Creek**	**38.59**	**241**	P		**P**	**18 38 10.1**	**+0.1**
	1.0nm,0.7s,baz=91,slow=17,SNR=1.2							
WRA	**Warramunga Arr**	**44.47**	**259**	P		**P**	**18 38 56.6**	**-0.1**
	0.6nm,0.5s,baz=95,slow=7.1,SNR=10							
WRA				PcP		**PcP**	**18 40 27.3**	**-1.3**
	0.5nm,0.9s,baz=94,slow=3.6,SNR=1.6							
ASAR	**Alice Springs**	**44.66**	**254**	P		**P**	**18 38 58.5**	**+0.4**
	3.1nm,0.6s,baz=87,slow=9.0,SNR=50							
ASAR				PcP		**PcP**	**18 40 27.8**	**-1.4**
	0.4nm,0.4s,baz=103,slow=4.3,SNR=4.5							
NVAR	**Mina Array Bea**	**79.34**	**44**	P		**P**	**18 42 44.4**	**+1.0**
	1.2nm,0.7s,baz=223,slow=8.8,SNR=7.8							
ILAR	**Eielson Array**	**85.61**	**13**	P		**P**	**18 43 13.9**	**-0.2**
	0.6nm,0.4s,baz=220,slow=4.9,SNR=6.9							
TXAR	**Lajitas Array**	**86.01**	**58**	P		**P**	**18 43 17.8**	**+0.8**
	1.7nm,0.7s,baz=220,slow=5.7,SNR=23							
PDAR	**Pinedale Array**	**87.27**	**44**	P		**P**	**18 43 23.1**	**+0.3**
	1.2nm,0.7s,baz=222,slow=6.6,SNR=2.7							
YKA	**Yellowknife Ar**	**94.12**	**25**	P		**P**	**18 43 53.9**	**+0.3**
	0.2nm,0.5s,baz=241,slow=4.5,SNR=3.6							
BVAR	**Borovoye Array**	**116.43**	**321**	PKP		**PKPdf**	**18 49 13.8**	**-1.6**
	0.3nm,0.5s,baz=100,slow=1.3,SNR=2.7							
ARCES	**ARCESS Array B**	**125.94**	**350**	PKP		**PKPdf**	**18 49 32.1**	**-1.1**
	8.7nm,1.2s,baz=50,slow=8.7,SNR=4.0							
MMAI	**Mount Meron Ar**	**145.76**	**303**	PKPbc		**PKPdf**	**18 50 10.9**	**+0.1**
	4.1nm,0.8s,baz=97,slow=7.4,SNR=1.6							
GERES	**GERESS Array B**	**147.22**	**345**	PKPbc		**PKPbc**	**18 50 15.1**	**-0.9**
	0.9nm,0.5s,baz=18,slow=2.8,SNR=8.5							

GUC 15 18:39:06.6±0.5, 23.98S×67.76W, h224km±13km, ML3.9, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO02	**Mina Guanaco**	**2.04**	**234**	IAML			18 40 21.9	
	comp=N,266nm,0.1s							
PB06	**IPOC Station P**	**2.10**	**307**	⇑*iP*		Pn	18 39 49.4	+1.3
PB06				*iS*		S	18 40 22.0	+1.8
PB06				IAML			18 40 24.2	
	comp=N,295nm,0.1s							
ANCH	**Antofagasta**	**2.45**	**276**	*eP*		Pn	18 39 54.5	+3.0
ANCH				*iS*		S	18 40 30.2	+3.9
PB09	**IPOC Station P**	**2.57**	**328**	⇑*iP*		Pn	18 39 54.7	+1.7
PB09				*iS*		S	18 40 31.5	+2.4
PB09				IAML			18 40 36.3	
	comp=N,278nm,0.2s							
PB10	**IPOC Station P**	**2.60**	**280**	⇑*iP*		Pn	18 39 55.0	+1.8
PB10				*iS*		S	18 40 31.1	+1.7
PB10				IAML			18 40 35.4	
	comp=E,253nm,0.3s							
PB04	**IPOC Station P**	**2.74**	**306**	⇓*iP*		Pn	18 39 57.0	+2.2
PB04				*iS*		S	18 40 34.7	+2.2
PB04				IAML			18 40 36.9	
	comp=N,152nm,0.2s							
PB07	**IPOC Station P**	**2.98**	**318**	⇑*iP*		Pn	18 39 59.4	+1.9
PB07				*iS*		S	18 40 39.9	+2.6
PB07				IAML			18 40 41.2	
	comp=N,159nm,0.1s							
PB02	**IPOC Station P**	**3.30**	**323**	*iS*		S	18 40 46.0	+2.2
PB01	**IPOC Station P**	**3.33**	**331**	*eP*		Pn	18 40 02.6	+1.1
PB01				*iS*		S	18 40 46.0	+1.6
PB08	**IPOC Station P**	**4.04**	**341**	⇑*iP*		Pn	18 40 12.1	+2.0
PB08				*iS*		S	18 41 02.3	+2.3

JMA ***15*** *18:44:52.9±0.1, 36.34N×140.99E, h44km±1km, M3.4*
IDC ***15*** *18:44:54.0±3.2, 36.32N×140.99E, h41km±29km, mb3.4/9, mb1 3.5/11, mb1mx3.3/65, mbtmp3.6/11, ML3.1/2, MS2.5/2, Ms1 2.5/2, ms1mx2.3/32, Error ellipse: s-maj=26.7km s-min=18.8km az=81.0*
ISC 15 18:44:50.9±1.7, 36.36N±0.04×141.02E±0.05, h16km±11km, n29, σ0§78/32, mb3.6/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHO	**Hitachi**	**0.44**	**305**	P		**Pn**	**18 45 02.8**	**+0.2**
JHO				S		**Sn**	**18 45 09.9**	**-0.4**
CHOJ	**Chosi**	**0.67**	**191**	P		**Pn**	**18 45 05.6**	**0.0**
CHOJ				*eS*		**Sb**	**18 45 14.2**	**+1.1**
JYT	**Yasato**	**0.68**	**259**	P		**Pn**	**18 45 05.8**	**0.0**
JYT				S		**Sb**	**18 45 14.6**	**+1.1**
ONAJ	**Iwakimizuishiy**	**0.76**	**347**	P		**Pn**	**18 45 07.1**	**0.0**
ONAJ				S		**Sb**	**18 45 17.0**	**+1.0**
JFK	**Kawauchi**	**1.01**	**353**	P		**Pg**	**18 45 10.4**	**-0.1**
JFK				S		**Sb**	**18 45 22.6**	**-0.6**
JAG	**Ashikaga**	**1.27**	**274**	P		**Pn**	**18 45 14.2**	**+0.3**
JAG				S		**Sb**	**18 45 29.6**	**-0.8**
JFT	**Otama**	**1.28**	**335**	P		**Pg**	**18 45 15.6**	**0.0**
JFT				S		**Sn**	**18 45 31.6**	**+0.6**
JKT	**Katashina**	**1.48**	**286**	P		**Pb**	**18 45 18.1**	**0.0**
JKT				S		**Sn**	**18 45 36.1**	**0.0**
JFY	**Yanaizu**	**1.49**	**315**	P		**Pb**	**18 45 18.2**	**+0.1**
MJAR	**Matsushiro Arr**	**2.27**	**275**	P		**Pn**	**18 45 29.3**	**+1.5**
	5.9nm,0.3s,baz=291,slow=22,SNR=95							
MJAR				S		**Sb**	**18 45 58.9**	**-0.6**
	7.5nm,0.3s,baz=84,slow=28,SNR=6.2							
MJAR				LR		LR	18 46 30.4	
	comp=Z,56nm,18.7s,baz=5.0,slow=44							
MAT	**Matsushiro**	**2.28**	**275**	P		**Pn**	**18 45 29.3**	**+1.5**
MAT				S		**Sn**	**18 45 56.2**	**+0.6**
ASAJ	**Asahikawa**	**7.84**	**8**	P		**Pn**	**18 46 44.4**	**+0.1**
	0.3nm,0.3s,baz=232,slow=19,SNR=2.8							
ASAJ				S		**Sn**	**18 48 14.2**	**+1.6**
	0.4nm,0.3s,baz=38,slow=19,SNR=2.7							
USRK	**Ussuriysk Ar.**	**10.43**	**321**	P		Pn	18 47 27.1	+7.3
	0.1nm,0.3s,baz=107,slow=15,SNR=4.4							
KSRS	**Korea Array**	**10.55**	**280**	LR		LR	18 51 15.3	
	comp=Z,53nm,19.1s,baz=25,slow=36							
SONM	**Songino Array**	**27.91**	**305**	P		**P**	**18 50 38.9**	**-1.3**
	0.5nm,0.7s,baz=106,slow=11,SNR=3.5							
H11N2	**WAKE ISLAND Hy 28.08**	**119**		T		T	19 20 39.5	
	baz=312,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy 28.09**	**119**		T		T	19 20 40.7	
	baz=312,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy 28.10**	**119**		T		T	19 20 49.2	
	baz=312,slow=75,SNR=7.0							
H11S1	**WAKE ISLAND Hy 28.77**	**121**		T		T	19 21 32.3	
	baz=314,slow=76,SNR=38							
H11S3	**WAKE ISLAND Hy 28.77**	**121**		T		T	19 21 28.8	
	baz=314,slow=76,SNR=29							
H11S2	**WAKE ISLAND Hy 28.78**	**121**		T		T	19 21 29.8	
	baz=314,slow=76,SNR=21							
ZALV	**Zalesovo Beam**	**42.14**	**313**	P		**P**	**18 52 42.5**	**+0.2**
	0.7nm,0.5s,baz=74,slow=8.4,SNR=3.5							
MKAR	**Makanchi Array**	**44.21**	**303**	P		**P**	**18 52 58.9**	**-0.3**
	0.2nm,0.5s,baz=87,slow=12,S

baz=324
H11N1 WAKE ISLAND Hy 28.18 132 T T 19 41 16.7
baz=324
H11N3 WAKE ISLAND Hy 28.18 132 T T 19 41 16.9
baz=324
SONM Songino Array 28.26 297 P **P** **19 11 44.5 +2.8**
0.3nm,0.7s,baz=91,slow=8.2,SNR=3.0
H11S1 WAKE ISLAND Hy 29.04 134 T T 19 42 17.7
baz=325,slow=76,SNR=5.0
H11S3 WAKE ISLAND Hy 29.05 134 T T 19 42 22.9
baz=325,slow=76,SNR=4.7
H11S2 WAKE ISLAND Hy 29.06 134 T T 19 42 20.7
baz=325,slow=76,SNR=5.1
MKAR Makanchi Array 44.58 299 P **P** **19 14 00.5 +0.2**
0.3nm,0.7s,baz=87,slow=8.2,SNR=3.4
ILAR Eielson Array 44.67 34 P **P** **19 14 02.0 +1.2**
0.3nm,0.8s,baz=256,slow=7.3,SNR=3.3
KURK Kurchatov 45.87 306 P **P** **19 14 11.5 +1.1**
KURBB Kurchatov Arra 45.95 306 P **P** **19 14 11.5 +0.5**
0.5nm,0.5s,baz=78,slow=8.8,SNR=8.5
AAK Ala-Archa 51.22 297 LR LR 19 37 56.7
comp=Z,151nm,21.0s,baz=76,slow=38
WRAB Tennant Creek 61.37 192 *e*P **P** **19 16 02.3 -1.9**
2.4nm,0.7s
WRA Warramunga Arr 61.38 192 P **P** **19 16 03.6 -0.6**
1.0nm,0.8s,baz=8.4,slow=6.7,SNR=8.0
ASAR Alice Springs 65.10 191 P **P** **19 16 29.2 +0.4**
0.4nm,0.7s,baz=9.6,slow=6.0,SNR=3.3
FINES FINESS Array B 66.68 333 P **P** **19 16 40.1 +1.6**
2.2nm,0.8s,baz=46,slow=6.0,SNR=3.7
NVAR Mina Array Bea 70.41 56 P **P** **19 17 04.1 +1.6**
0.2nm,0.5s,baz=300,slow=7.2,SNR=2.3
TXAR Lajitas Array 85.51 55 P **P** **19 18 26.6 +0.2**
0.3nm,0.6s,baz=264,slow=3.4,SNR=2.7

MOS ***15*** *19:12:43.7±0.9,54.82N×109.46E,h10km,mb4.4/1,Error ellipse: s-maj=16.4km s-min=8.1km az=71.5*

BYKL 15 19:12:44.0±0.2,54.85N×109.32E,2C-6D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.94**	**8**	⇓*i*Pg	Pg	19 13 01.6	-0.3
NIZ				*e*Pb	Pb	19 13 03.3	+0.2
NIZ				*e*		19 13 05.6	
NIZ				*i* Sg	Sg	19 13 14.0	0.0
NIZ				*e*Sb	Sn	19 13 17.4	-1.1
NIZ				max			
	100nm,0.2s						
NIZ				Smax			
	801nm,0.4s						
NIZ	**Nizh Angarsk**	**0.94**	**8**	*e*PG	Pg	19 13 01.6	-0.3
NIZ				*e*		19 13 13.7	
NIZ				pmax	pmax		
	comp=Z,76nm,0.3s						
NIZ				smax	smax		
	comp=N,800nm,0.4s						
YLYR	**Ulyunkhan**	**1.06**	**88**	⇓*i*Pg	Pg	19 13 03.3	-1.1
YLYR				*e*Pb	Pb	19 13 05.4	+0.1
YLYR				*e*Sg	Sg	19 13 17.1	-1.1
YLYR				*e*Sb	Sn	19 13 20.8	-0.9
YLYR				max			
	comp=N,263nm,0.3s						
YLYR				Smax			
	comp=N,870nm,0.3s						
YLYR	**Ulyunkhan**	**1.06**	**88**	⇓*i*PG	Pg	19 13 03.3	-1.1
YLYR				*e*		19 13 16.7	
YLYR				pmax	pmax		
	comp=Z,266nm,0.3s						
YLYR				smax	smax		
	comp=N,880nm,0.3s						
SYVR	**Suvo**	**1.26**	**161**	*e*Pg	Pg	19 13 07.5	-0.6
SYVR				*e*		19 13 10.4	
SYVR				*e*Sg	Sg	19 13 24.6	+0.2
SYVR				*e*Sb	Sn	19 13 27.7	+1.2
SYVR				Pmax			
	comp=N,262nm,0.4s						
SYVR				max			
	comp=N,1μm,0.4s						
SYVR	**Suvo**	**1.26**	**161**	*e*PG	Pg	19 13 07.4	-0.7
SYVR				*e*		19 13 24.4	
SYVR				pmax	pmax		
	comp=Z,266nm,0.3s						
SYVR				smax	smax		
	comp=E,1μm,0.4s						
KMO	**Kumora**	**1.49**	**45**	⇓*i*Pg	Pn	19 13 10.9	-1.2
KMO				*e*Sg	Sg	19 13 31.4	-0.6
KMO				Pmax			
	comp=E,436nm,0.3s						
KMO				Smax			
	comp=E,469nm,0.5s						
KMO	**Kumora**	**1.49**	**45**	*e*PG	Pn	19 13 10.9	-1.2
KMO				*e*		19 13 30.8	
KMO				pmax	pmax		
	comp=Z,438nm,0.3s						
KMO				smax	smax		
	comp=E,470nm,0.6s						
OGRR	**Ongureny**	**1.58**	**221**	⇓*i*Pg	Pn	19 13 13.3	+0.1
OGRR				*e*		19 13 15.3	
OGRR				*e*Sg	Sg	19 13 34.6	0.0
OGRR				Pmax			
	comp=E,376nm,0.3s						
OGRR				max			
	comp=E,643nm,0.2s						
OGRR	**Ongureny**	**1.58**	**221**	*e*PN	Pn	19 13 13.4	+0.2
OGRR				*e*		19 13 34.2	
OGRR				pmax	pmax		
	comp=Z,376nm,0.4s						
OGRR				smax	smax		
	comp=E,683nm,0.2s						
YOA	**Uoyan**	**1.88**	**46**	*e*Pg	Pn	19 13 17.6	+0.2
YOA				*e*Sg	Sb	19 13 43.4	+0.2
YOA				Pmax			
	comp=E,415nm,0.5s						
YOA				Smax			
	comp=E,1μm,0.5s						
YOA	**Uoyan**	**1.88**	**46**	*e*PN	Pn	19 13 18.1	+0.7
YOA				*i*		19 13 44.2	
YOA				pmax	pmax		
	comp=Z,427nm,0.4s						
YOA				smax	smax		
	comp=N,1μm,0.5s						
UKT	**Uakit**	**2.55**	**74**	⇓*i*Pn	Pn	19 13 26.2	-0.5
UKT				⇑*i*Pg	Pb	19 13 29.0	-1.7
UKT				*e*Sg	Sb	19 14 02.7	+0.1
UKT				Pmax			
	comp=N,101nm,0.4s						
UKT				Smax			
	comp=N,344nm,0.6s						
UKT	**Uakit**	**2.55**	**74**	*e*PN	Pn	19 13 26.0	-0.7
UKT				*e*		19 13 28.8	
UKT				*e*		19 14 02.4	
UKT				pmax	pmax		
	comp=Z,103nm,0.4s						
UKT				smax	smax		
	comp=N,344nm,0.5s						
ZRHB	**Zarechye**	**2.64**	**210**	*e*Pn	Pn	19 13 27.5	-0.3
ZRHB				*e*Pg	Pb	19 13 31.8	-0.3
ZRHB				*e*		19 13 38.2	
ZRHB				*e*Sg	Sg	19 14 06.9	-1.7
ZRHB				*e*SgSg	SnSn	19 14 12.2	+1.0
ZRHB				max			
	comp=N,87nm,0.5s						
ZRHB				max			
	comp=N,612nm,0.6s						
SVKR	**Severomuysk**	**2.73**	**61**	*e*PN	Pb	19 13 32.3	-1.3
SVKR				*e*		19 14 07.9	
SVKR				pmax	pmax		
	comp=Z,142nm,0.5s						
SVKR				smax	smax		
	comp=N,783nm,0.9s						
TRG	**Tyrgan**	**2.74**	**221**	*e*Pn	Pn	19 13 29.2	0.0
TRG				*e*Pg	Pb	19 13 33.1	-0.7
TRG				*e*PgPg	PnPn	19 13 36.2	-0.1
TRG				*e*Sg	Sb	19 14 09.7	+1.8
TRG				*e*		19 14 12.6	
TRG				max			
	comp=N,65nm,0.2s						
TRG				max			
	comp=N,294nm,0.4s						
TRG	**Tyrgan**	**2.74**	**221**	*e*PN	Pn	19 13 29.5	+0.3
TRG				*e*		19 13 34.2	
TRG				*e*S	Sn	19 14 02.5	-0.5
TRG				*e*		19 14 09.8	
TRG				pmax	pmax		
	comp=Z,65nm,0.2s						
TRG				smax	smax		
	comp=E,293nm,0.3s						
TRTB	**Turuntaevo**	**2.81**	**202**	⇓*i*Pn	Pn	19 13 30.5	+0.3
TRTB				*e*		19 13 32.4	
TRTB				*e*Pg	Pb	19 13 34.7	-0.4
TRTB				*e*Sn	Sn	19 14 03.0	-1.8
TRTB				*e*Sg	Sb	19 14 11.5	+1.5
TRTB				Pmax			
	comp=E,29nm,0.2s						
TRTB				Smax			
	comp=E,289nm,0.4s						
UUDB	**Ulan-Yde**	**3.15**	**199**	*e*Pn	Pn	19 13 35.0	+0.2
UUDB				*e*Pg	Pb	19 13 40.4	-0.4
UUDB				*e*Sg	Sb	19 14 21.6	+1.9
UUDB				Pmax			
	comp=E,33nm,0.5s						
UUDB				Smax			
	comp=E,180nm,0.8s						
STDB	**Stepnoy Dvoret**	**3.21**	**214**	*e*Pn	Pn	19 13 35.8	+0.1
STDB				*e*Pg	Pb	19 13 41.8	-0.1
STDB				*e*		19 14 17.3	
STDB				*e*Sg	Sg	19 14 24.4	-2.7
KAB	**Kabansk**	**3.23**	**211**	*e*	Pb	19 13 39.3	-2.8
KAB				*e*Pg	Pg	19 13 42.3	-3.5
KAB				*e*Sg	Sg	19 14 25.4	-2.2
KAB				Pmax			
	comp=E,44nm,0.2s						
KAB				Smax			
	comp=E,440nm,0.9s						
BGT	**Bolshoye Golou**	**3.66**	**221**	*e*	Pn	19 13 42.1	+0.3
BGT				*e*Pg	Pb	19 13 49.4	0.0
BGT				*e*Sg	Sb	19 14 37.1	+2.8
BGT				*e*		19 14 40.7	
BGT				Pmax			
	comp=E,32nm,0.4s						
BGT				max			
	comp=E,158nm,0.6s						
CIT	**Chita**	**3.80**	**137**	*e*Pg	Pb	19 13 51.4	-0.5
CIT				*e*Sg	Sb	19 14 40.7	+2.2
CIT				Pmax			
	comp=E,61nm,0.5s						
CIT				Smax			
	comp=E,173nm,0.3s						
CIT	**Chita**	**3.80**	**137**	*e*PN	Pn	19 13 42.6	-1.2
CIT				*e*		19 13 52.2	
CIT				*e*S	Sn	19 14 26.7	-2.5
CIT				*e*		19 14 40.4	
CIT				pmax	pmax		
	comp=E,61nm,0.6s						
CIT				smax	smax		
	comp=E,149nm,0.3s						
BOD	**Bodaibo**	**3.96**	**39**	*e*Pn	Pn	19 13 45.2	-0.7
BOD				*e*		19 13 49.1	
BOD				*e*Pg	Pb	19 13 53.6	-0.9
BOD				*e*Sn	Sn	19 14 19.2	-14
BOD				*e*Sg	Sb	19 14 44.8	+1.9
BOD				Pmax			
	comp=E,22nm,0.7s						
BOD				Smax			
	comp=E,118nm,1.0s						
BOD	**Bodaibo**	**3.96**	**39**	*e*PN	Pn	19 13 44.6	-1.3
BOD				*e*		19 13 53.6	
BOD				*e*		19 14 45.8	
BOD				pmax	pmax		
	comp=Z,22nm,0.6s						
BOD				smax	smax		
	comp=E,119nm,1.0s						
NLYR	**Nelyaty**	**3.97**	**63**	*e*Pn	Pn	19 13 45.2	-0.9
NLYR				*e*Pg	Pb	19 13 54.6	-0.2
NLYR				*e*Sg	Sb	19 14 47.3	+3.9
NLYR				Pmax			
	comp=E,35nm,0.7s						
NLYR				Smax			
	comp=E,141nm,1.0s						
NLYR	**Nelyaty**	**3.97**	**63**	*e*PN	Pn	19 13 45.5	-0.6
NLYR				*e*		19 13 54.5	
NLYR				*e*		19 14 46.9	
NLYR				pmax	pmax		
	comp=Z,69nm,0.4s						
NLYR				smax	smax		
	comp=E,142nm,1.3s						
IRK	**Irkutsk**	**3.99**	**231**	*e*Pg	Pb	19 13 55.1	0.0
IRK				*e*		19 14 26.5	
IRK				*e*Sg	Sb	19 14 46.6	+2.8
IRK				Pmax			
	comp=E,87nm,0.3s						
IRK				Smax			
	comp=E,463nm,0.3s						
IRK	**Irkutsk**	**3.99**	**231**	*e*PN	Pb	19 13 56.2	+1.1
IRK				*e*		19 14 46.4	
IRK				pmax	pmax		
	comp=Z,87nm,0.3s						
IRK				smax	smax		
	comp=N,456nm,0.5s						
LSTR	**Listvyanka**	**4.02**	**224**	*e*Pn	Pn	19 13 45.4	-1.4
LSTR				*e*		19 13 49.4	
LSTR				*e*Pg	Pb	19 13 54.7	-0.9
LSTR				*e*		19 13 57.1	
LSTR				*e*Sg	Sb	19 14 47.3	+2.6
LSTR				max			
	comp=N,13nm,0.5s						
LSTR				Smax			
	comp=N,128nm,0.8s						
IVK	**Ivanovka**	**4.24**	**226**	*e*Pn	Pn	19 13 49.0	-0.8
IVK				*e*		19 13 52.4	
IVK				*e*Pg	Pb	19 13 59.4	0.0
IVK				*e*		19 14 45.7	
IVK				*e*Sg	Sb	19 14 55.0	+3.9
IVK				Pmax			
	comp=N,11nm,0.2s						
IVK				Smax			
	comp=N,133nm,0.6s						
TLY	**Talaya**	**4.66**	**229**	*e*Pn	Pn	19 13 55.3	-0.2
TLY				*e*Pg	Pb	19 14 07.6	+1.1
TLY				*e*Sn	Sn	19 14 48.8	-1.5
TLY				*e*Sg	Sb	19 15 07.4	+4.3
TLY				*e*		19 15 09.1	
TLY				Pmax			
	comp=N,41nm,0.5s						
TLY				max			
	comp=N,212nm,0.6s						
TLY	**Talaya**	**4.66**	**229**	*e*PN	Pb	19 14 08.3	+1.8
TLY				*e*		19 15 07.3	
TLY				pmax	pmax		
	comp=Z,39nm,0.6s						
ARS	**Arshan**	**5.06**	**237**	*e*Pn	Pn	19 14 00.8	-0.4
ARS				*e*		19 14 06.9	
ARS				*e*Pg	Pb	19 14 14.7	+1.2
ARS				*e*		19 14 17.7	
ARS				*e*Sn	Sn	19 14 55.8	-4.6
ARS				*e*Sg	Sb	19 15 20.1	+5.2
ARS				*e*		19 15 25.4	
ARS				max			
	comp=Z,47nm,0.5s						
ARS				Smax			
	comp=Z,287nm,0.5s						
ARS	**Arshan**	**5.06**	**237**	*e*PN	Pn	19 14 02.4	+1.2
ARS				*e*		19 14 17.4	
ARS				*e*		19 15 20.0	
ARS				pmax	pmax		
	comp=Z,47nm,0.5s						
ARS				smax	smax		
	comp=E,269nm,0.5s						
CRS	**Chara**	**5.44**	**64**	*e*	Pn	19 14 09.8	+3.5
CRS				*e*Pg	Pb	19 14 21.7	+1.8
CRS				*e*		19 15 22.0	
CRS				*e*Sg	Sg	19 15 33.6	-5.0
CRS				Pmax			
	comp=E,39nm,1.0s						
CRS				Smax			
	comp=E,80nm,1.6s						
CRS	**Chara**	**5.44**	**64**	*e*PN	Pb	19 14 20.9	+1.0
CRS				*e*		19 15 31.5	
CRS				pmax	pmax		
	comp=Z,39nm,1.1s						
CRS				smax	smax		
	comp=E,81nm,1.5s						
KPC	**Khapcheranga**	**5.49**	**159**	*e*Pn	Pn	19 14 05.7	-1.3
KPC				*e*		19 14 09.2	
KPC				*e*Pg	Pb	19 14 22.4	+1.8
KPC				*e*Sg	Sg	19 15 34.3	-5.8
KPC				Pmax			
	comp=E,12nm,0.7s						
KPC				Smax			
	comp=E,80nm,1.1s						
KPC	**Khapcheranga**	**5.49**	**159**	*e*PN	Pn	19 14 05.9	-1.1
KPC				*e*		19 14 22.8	
KPC				*e*S	Sn	19 15 05.1	-5.7
KPC				*e*		19 15 33.2	
KPC				pmax	pmax		
	comp=Z,14nm,0.3s						
KPC				smax	smax		
	comp=E,84nm,0.8s						
ZAK	**Zakamensk**	**5.79**	**222**	*e*	Pn	19 14 12.2	+1.0
ZAK				*e*Pg	Pb	19 14 28.1	+2.2
ZAK				*e*Sg	Sg	19 15 43.7	-6.2
ZAK				*e*		19 15 49.5	
ZAK				Pmax			
	comp=E,7.0nm,0.5s						
ZAK				max			
	comp=E,64nm,1.4s						
ZAK	**Zakamensk**	**5.79**	**222**	*e*PN	Pn	19 14 12.6	+1.4
ZAK				*e*		19 14 30.5	
ZAK				*e*		19 15 42.6	
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ZAK				smax	smax		
	comp=E,62nm,0.8s						
MOY	**Mondy**	**5.93**	**241**	*e*Pn	Pn	19 14 13.5	+0.4
MOY				*e*Pg	Pb	19 14 28.8	+0.6
MOY				*e*Sn	Sn	19 15 19.8	-1.9
MOY				*e*Sg	Sb	19 15 45.6	+5.9
MOY				*e*		19 15 53.7	
MOY				Pmax			
	comp=E,11nm,0.4s						
MOY				max			
	comp=E,94nm,1.0s						
ORL	**Orlik**	**6.11**	**252**	*e*Pn	Pn	19 14 16.4	+0.9
ORL				*e*		19 14 20.9	
ORL				*e*Pg	Pb	19 14 33.9	+2.7
ORL				*e*Sn	Sn	19 15 24.3	-1.8
ORL				*e*Sg	Sg	19 15 53.9	-6.0
ORL				*e*		19 16 00.2	
ORL				Pmax			
	comp=E,6.0nm,0.4s						
ORL				max			
	comp=E,98nm,0.7s						
TUP	**Tupik**	**6.19**	**90**	*e*Pn	Pn	19 14 15.1	-1.5
TUP				*e*Pg	Pb	19 14 34.0	+1.4
TUP				*e*		19 15 36.0	
TUP				*e*Sg	Sb	19 15 54.9	+7.7
TUP				Pmax			
	comp=E,10.0nm,0.7s						
TUP				Smax			
	comp=E,130nm,0.8s						
TUP	**Tupik**	**6.19**	**90**	*e*PN	Pn	19 14 15.1	-1.5
TUP				*e*		19 14 34.9	
TUP				*e*S	Sn	19 15 24.2	-3.8
TUP				*e*		19 15 56.4	
TUP				pmax	pmax		
	comp=Z,11nm,0.7s						
TUP				smax	smax		
	comp=N,131nm,1.0s						

MOS ***15*** *19:17:03.3±2.1,51.88N×95.97E,h10km,mb4.3/1,Error ellipse: s-maj=31.3km s-min=14.8km az=174.8*
IDC ***15*** *19:17:04.3±1.3,51.97N×95.92E,h0km,mb3.8/2, mb1 3.5/5,mb1mx3.1/71,mbtmp3.4/5,ML2.6/2,MS3.8/2, Ms1 3.8/2,ms1mx2.9/70,Error ellipse: s-maj=40.1km s-min=14.0km az=179.0*

ISC 15 19:17:04.9±1.0,51.9N±0.1×96.01E±0.08,h10km,n17, σ1s20/14,1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HVS	**Khovu-Aksy**	**1.63**	**243**	*d*PN	**Pn**	**19 17 32.1**	**-1.6**
ORL	**Orlik**	**2.42**	**73**	*e*PN	**Pb**	**19 17 47.3**	**-1.4**
ORL				*e*		19 18 19.8	
ORL				pmax	pmax		
	comp=Z,85nm,0.5s						
ORL				smax	smax		
	comp=N,244nm,0.7s						
MOY	**Mondy**	**3.10**	**92**	*e*PN	**Pb**	**19 17 58.8**	**-1.4**
MOY				*e*		19 18 41.7	
MOY				pmax	pmax		
	comp=Z,54nm,0.9s						
MOY				smax	smax		
	comp=N,321nm,1.0s						
ARS	**Arshan**	**3.97**	**87**	*e*PN	**Pb**	**19 18 15.6**	**+0.6**
ARS				*e*		19 19 08.7	
ARS				pmax	pmax		
	comp=Z,105nm,0.5s						
ARS				smax	smax		
	comp=E,458nm,0.7s						
TLY	**Talaya**	**4.75**	**90**	Pg	**Pb**	**19 18 28.5**	**+0.4**
	comp=E,0.1nm,0.3s,baz=281,slow=12,SNR=7.9						
TLY				Lg	Lg	19 19 30.6	
	comp=E,0.1nm,0.3s,baz=45,slow=14,SNR=12						
TLY	**Talaya**	**4.75**	**90**	*e*PN	**Pb**	**19 18 28.3**	**+0.2**
TLY				*e*		19 19 30.1	
TLY				pmax	pmax		
	comp=Z,12nm,0.6s						
ZAK	**Zakamensk**	**4.83**	**105**	*e*PN	**Pb**	**19 18 30.0**	**+0.5**
ZAK				*e*		19 19 33.3	
ZAK				pmax	pmax		
	comp=Z,21nm,0.6s						
ZAK				smax	smax		
	comp=N,160nm,1.2s						
IRK	**Irkutsk**	**5.11**	**83**	*e*PN	**Pb**	**19 18 35.7**	**+1.4**
IRK				*e*		19 19 40.2	
IRK				pmax	pmax		
	comp=Z,34nm,0.4s						
IRK				smax	smax		
	comp=N,244nm,0.7s						
ZALV	**Zalesovo Beam**	**7.07**	**291**	Pn	**Pn**	**19 18 49.9**	**+1.6**
	comp=N,0.3nm,0.3s,baz=114,slow=11,SNR=5.8						
ZALV				Pg	Pb	19 19 11.9	+4.2
	comp=N,0.3nm,0.3s,baz=100,slow=14,SNR=6.8						
ZALV				Lg	Lg	19 20 41.2	
	comp=N,1.5nm,0.3s,baz=106,slow=24,SNR=5.9						
SONM	**Songino Array**	**7.85**	**117**	Pg	Pb	19 19 25.1	+4.1
	comp=N,0.3nm,0.3s,baz=300,slow=20,SNR=2.2						
SONM				Lg	Lg	19 21 10.2	
	comp=N,2.3nm,0.3s,baz=302,slow=29,SNR=16						
MKAR	**Makanchi Array**	**10.30**	**246**	Pn	**Pn**	**19 19 33.8**	**+1.1**
	comp=N,0.1nm,0.3s,baz=58,slow=14,SNR=2.3						
MKAR				Pg		19 20 12.2	
	comp=N,0.1nm,0.3s,baz=67,slow=13,SNR=2.6						
MKAR				Lg	Lg	19 22 27.7	
	comp=N,0.3nm,0.3s,baz=60,slow=29,SNR=7.0						
KURK	**Kurchatov**	**10.95**	**271**	P	**Pn**	**19 19 41.7**	**+0.2**
KURBB	**Kurchatov Arra**	**11.03**	**270**	Pn	**Pn**	**19 19 41.7**	**-0.9**
	baz=73,slow=15,SNR=1.1						
KURBB				Pg		19 20 26.8	
	comp=N,0.1nm,0.3s,baz=74,slow=16,SNR=4.8						
KURBB				Lg	Lg	19 22 49.2	
	comp=N,0.0nm,0.3s,baz=78,slow=32,SNR=2.9						
ARU	**Arti**	**22.19**	**297**	LR	LR	19 30 43.9	
	comp=N,120nm,18.2s,baz=252,slow=37						
AKTO	**Aktyubinsk**	**23.69**	**282**	P	**P**	**19 22 15.2**	**-1.3**
	comp=N,1.6nm,0.8s,baz=90,slow=9.2,SNR=6.1						
FINES	**FINESS Array B**	**37.77**	**313**	P	**P**	**19 24 21.1**	**+0.6**
	comp=N,2.6nm,1.1s,baz=68,slow=7.7,SNR=2.0						
PDAR	**Pinedale Array**	**83.14**	**19**	LR	LR	20 11 04.3	
	comp=N,91nm,18.9s,baz=332,slow=39						

NIED ***15*** *19:20:00,35.90N×139.50E,h98km,Mw5.5 Best double couple: M0 2.02000×10^17 NP1:φs177.00000°,δ33.00000°, λ115.00000°. NP2:φs328.00000°,δ60.00000°,λ75.00000°.*
BJI ***15*** *19:20:14.9,35.78N×139.46E,h105km,mb4.9/82, mB5.2/60*
JMA ***15*** *19:20:16.5±0.1,35.88N×139.59E,h94km±2km,M5.3 Broadband fault plane solution: P waves. NP1: φs327.00000°,δ65.00000°,λ71.00000°. NP2: φs186.00000°,δ31.00000°,λ124.00000°. Principal axes: T Plg65.0000°, Azm205.0000°; N Plg17.0000°, Azm335.0000°; P Plg18.0000°, Azm71.0000°;*
JMA Felt III J1.
ISCJB ***15*** *19:20:16.6±0.1,35.79N±0.01×139.38E±0.02, h103km,1km,mb5.1/318 Error ellipse: s-maj=2.4km s-min=2.2km az=22.6*
MOS ***15*** *19:20:16.5±1.1,35.82N×139.30E,h102km,mb5.3/89,*

MS4.5/15,Error ellipse: s-maj=6.8km s-min=3.7km az=112.9

IDC ***15*** *19:20:17.6±0.5, 35°.82N×139°.44E, h100km±4km, mb4.6/52, mb1 4.6/55, mb1mx4.6/66, mbtmp4.9/55, MS4.3/50, Ms1 4.3/50, ms1mx4.2/65, Error ellipse: s-maj=8.2km s-min=4.8km az=72.0*

NEIC ***15*** *19:20:18.3±0.4, 35°.80N×139°.28E, h104km±3km, mb5.1/196, Error ellipse: s-maj=3.0km s-min=2.5km az=126.0*

NEIC Felt [III] at Hamura, Kawasaki, Tokyo, Yokohama, Yokosuka and Zushi. Felt in much of east-central Honshu. Recorded [3 JMA] in Gumma, Ibaraki, Kanagawa, Saitama, Shizuoka, Tochigi, Tokyo and Yamanashi.

GCMT ***15*** *19:20:18.3±0.1, 35°.86N×139°.52E, h102km, MW5.5/136, Moment Tensor Solution. s118,c217; s136,c272; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.57±.02; $M_{\theta\theta}$0.20±.03; $M_{\phi\phi}$-1.77±.03; $M_{r\theta}$-1.15±.02; $M_{\theta\phi}$0.66±.03; $M_{\phi r}$0.76±.02; Best double couple: M_o2.26900×10^{17} NP1:ϕ_s320.00000°,δ65.00000°, λ65.00000°. NP2:ϕ_s187.00000°,δ35.00000°,λ132.00000°. Principal axes: T 2.2540, Plg62.0000°, Azm191.0000°; N 0.0270, Plg22.0000°, Azm331.0000°; P -2.2840, Plg17.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 19:20:17.3±0.3, 35°.90N±0°.02×139°.46E±0°.03, h101km±2km, h101km:pP-P, n907, s1185/1104, mb5.1/326, 62C-44D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
JHU	**Hanno**	**0.15**	**251**	P	**Pn**	**19 20 30.4**	**-1.0**
JHU				S	**Sn**	**19 20 40.7**	**-1.3**
TOK	**Tokyo**	**0.33**	**131**	↑P	**Pn**	**19 20 31.2**	**-0.8**
TOK				S	**Sn**	**19 20 42.1**	**-0.9**
JRY	**Ryogami san**	**0.47**	**285**	↑P	**Pn**	**19 20 32.9**	**0.0**
JRY				S	**Sn**	**19 20 45.0**	**+0.3**
JAG	**Ashikaga**	**0.52**	**360**	↑P	**Pn**	**19 20 31.9**	**-1.4**
JAG				S	**Sn**	**19 20 43.3**	**-2.0**
JOD2	**Odawara 2**	**0.70**	**205**	P	**Pn**	**19 20 33.0**	**-1.8**
JOD2				S	**Sn**	**19 20 45.8**	**-2.2**
JYN	**Shimob**	**0.84**	**242**	P	**Pn**	**19 20 35.3**	**-0.9**
JYN				S	**Sn**	**19 20 49.8**	**-0.6**
JKT	**Katashina**	**0.88**	**349**	↑P	**Pn**	**19 20 35.8**	**-0.8**
JKT				S	**Sn**	**19 20 50.0**	**-1.1**
AJI	**Ajiro2**	**0.90**	**199**	P	**Pn**	**19 20 35.1**	**-1.6**
JGK	**Kuni**	**0.93**	**315**	↑P	**Pn**	**19 20 36.8**	**-0.3**
JSB	**Shiboa**	**1.13**	**19**	↑P	**Pn**	**19 20 38.4**	**-0.8**
JSB				S	**Sn**	**19 20 54.9**	**-0.9**
JHO	**Hitachi**	**1.15**	**51**	↑P	**Pn**	**19 20 37.4**	**-2.0**
BSO4	**Boso 4**	**1.16**	**141**	↑P	**Pn**	**19 20 38.1**	**-1.3**
BSO4				S	**Sn**	**19 20 55.5**	**-0.6**
JIM2	**Oshima 3**	**1.18**	**181**	P	**Pn**	**19 20 38.0**	**-1.8**
MJAR	**Matsushiro Arr**	**1.19**	**303**	P	**Pn**	**19 20 39.7**	**-0.3**
	373nm,0.3s,baz=134,slow=9.0,SNR=85						
MJAR				S	**Sn**	**19 20 57.5**	**+0.4**
	645nm,0.3s,baz=203,slow=18,SNR=26						
MJAR				LR	LR	19 21 14.0	
	comp=Z,15μm,18.4s,baz=115,slow=47						
MAJO	**Matsushiro**	**1.20**	**303**	*de*P	**Pn**	**19 20 39.7**	**-0.3**
MAJO	**Matsushiro**	**1.20**	**303**	*e*Pn	**Pn**	**19 20 40.2**	**+0.2**
MAJO				*e*Sn	**Sn**	**19 20 57.5**	**+0.4**
MAJO				*e*		19 21 14.0	
MAT	**Matsushiro**	**1.20**	**303**	P	**Pn**	**19 20 39.7**	**-0.3**
MAT				S	**Sn**	**19 20 57.2**	**+0.1**
MAT	**Matsushiro**	**1.20**	**303**	P	**Pn**	**19 20 39.7**	**-0.3**
MAT				*e*S	**Sn**	**19 20 57.9**	**+0.8**
MJB9	**Matsu-Tunnel**	**1.20**	**303**	*e*Pn	**Pn**	**19 20 39.9**	**-0.1**
JNG	**Nsakai**	**1.21**	**295**	P	**Pn**	**19 20 39.8**	**-0.4**
JNG				S	**Sn**	**19 20 58.3**	**+0.8**
JIZS	**Izushimoda**	**1.27**	**202**	⇓P	**Pn**	**19 20 39.6**	**-1.2**
JIZS				S	**Sn**	**19 20 58.2**	**-0.4**
SHZ3	**Shizuoka 3**	**1.31**	**231**	⇓P	**Pn**	**19 20 41.4**	**0.0**
SHZ3				S	**Sn**	**19 21 00.4**	**+0.8**
JHK	**Hiroka**	**1.39**	**345**	↑P	**Pn**	**19 20 42.0**	**-0.2**
JHK				S	**Sn**	**19 21 02.2**	**+1.1**
BSO3	**Boso 3**	**1.40**	**142**	P	**Pn**	**19 20 40.4**	**-1.6**
JNY	**Yasuok**	**1.41**	**248**	⇓P	**Pn**	**19 20 42.8**	**+0.3**
JFY	**Yanaizu**	**1.52**	**7**	↑P	**Pn**	**19 20 43.2**	**-0.6**
JJN	**Nakama**	**1.59**	**319**	P	**Pn**	**19 20 45.3**	**+0.6**
JJN				S	**Sn**	**19 21 07.4**	**+2.0**
JSG	**Sagara**	**1.61**	**221**	P	**Pn**	**19 20 45.3**	**+0.4**
JYZW	**Yoshizawa**	**1.67**	**238**	P	**Pn**	**19 20 45.6**	**-0.1**
JKO	**Kozu shima**	**1.73**	**189**	P	**Pn**	**19 20 46.0**	**-0.5**
JGF	**Kuroka**	**1.73**	**261**	⇓P	**Pn**	**19 20 46.9**	**+0.4**
JGF				S	**Sn**	**19 21 09.6**	**+0.8**
JIZZ	**Izumozaki**	**1.73**	**340**	P	**Pn**	**19 20 47.1**	**+0.6**
BSO1	**Boso 1**	**1.76**	**135**	P	**Pn**	**19 20 44.4**	**-1.9**
JFT	**Otama**	**1.76**	**23**	P	**Pn**	**19 20 46.3**	**-0.6**
JGN	**Niukaw**	**1.76**	**281**	⇓P	**Pn**	**19 20 47.4**	**+0.5**
JTT	**Ttatey**	**1.85**	**293**	⇓P	**Pn**	**19 20 48.7**	**+0.7**
JAO	**Obara**	**1.90**	**251**	⇓P	**Pn**	**19 20 49.0**	**+0.4**
JAO				S	**Sn**	**19 21 14.4**	**+1.9**
JNS	**Sasagawa**	**1.92**	**357**	↑P	**Pn**	**19 20 48.7**	**-0.1**
INU	**Inuyama**	**2.06**	**255**	*e*Pn	**Pn**	**19 20 50.8**	**+0.2**
JAA	**Atsumi**	**2.28**	**237**	⇓P	**Pn**	**19 20 53.7**	**+0.2**
JSZ	**Suzu**	**2.28**	**313**	P	**Pn**	**19 20 53.4**	**-0.1**
JSZ				S	**Sn**	**19 21 22.3**	**+1.0**
JSD	**Sado**	**2.34**	**336**	P	**Pn**	**19 20 53.8**	**-0.4**
JSD				S	**Sn**	**19 21 23.1**	**+0.5**
JJH	**Hakui**	**2.39**	**296**	P	**Pn**	**19 20 55.8**	**+0.9**
JAW	**Awa shima**	**2.56**	**356**	P	**Pn**	**19 20 57.2**	**+0.1**
JKG	**Kaga**	**2.56**	**279**	P	**Pn**	**19 20 58.1**	**+1.0**
JIE	**Ise**	**2.71**	**237**	P	**Pn**	**19 20 59.4**	**+0.2**
TSUJ	**Tsu 2**	**2.75**	**245**	P	**Pn**	**19 20 59.9**	**+0.2**
JHJ	**Hachijo jima 2**	**2.79**	**174**	P	**Pn**	**19 21 00.2**	**0.0**
	2μm,0.3s,baz=22,slow=2.1,SNR=139						
JHJ				S	**Sn**	**19 21 32.0**	**-1.2**
	2μm,0.3s,baz=273,slow=23,SNR=18						
JHJ2	**Mitsune**	**2.80**	**174**	P	**Pn**	**19 20 59.9**	**-0.5**
JHJ2	**Mitsune**	**2.80**	**174**	*e*Pn	**Pn**	**19 20 59.9**	**-0.5**
JHG	**Hegura jima**	**2.81**	**314**	P	**Pn**	**19 21 01.2**	**+0.7**
JHG				S	**Sn**	**19 21 35.4**	**+1.6**
JFM	**Mihama**	**2.85**	**264**	P	**Pn**	**19 21 01.9**	**+0.9**
JIO	**Ouri**	**2.96**	**30**	⇓P	**Pn**	**19 21 01.7**	**-0.8**
JKN2	**Miekihoku**	**3.09**	**238**	⇓P	**Pn**	**19 21 04.5**	**+0.2**
JHE	**Heguri**	**3.33**	**249**	⇓P	**Pn**	**19 21 07.7**	**+0.3**
JWY	**Kouya**	**3.59**	**243**	⇓P	**Pn**	**19 21 11.1**	**+0.1**
JRG	**Rokugo**	**3.61**	**15**	⇓P	**Pn**	**19 21 12.1**	**+0.9**
JKS	**Kasai**	**3.88**	**258**	⇓P	**Pn**	**19 21 15.0**	**+0.2**
JWZ	**Kozaga**	**3.88**	**234**	P	**Pn**	**19 21 14.9**	**0.0**
JET	**Tanbara**	**5.68**	**250**	P	**Pn**	**19 21 40.1**	**+0.9**
JKU	**Kubokawa**	**5.87**	**246**	P	**Pn**	**19 21 42.6**	**+0.8**
JTO	**Tosashimizu**	**6.28**	**243**	⇓P	**Pn**	**19 21 48.3**	**+0.9**
ERM	**Erimo**	**6.75**	**24**	⇑*e*P	**Pn**	**19 21 50.8**	**-2.9**
ERM	**Erimo**	**6.75**	**24**	*e*Pn	**Pn**	**19 21 50.6**	**-3.0**
JNU	**Nakatsue**	**7.60**	**251**	P	**Pn**	**19 22 06.5**	**+1.2**
	9.7nm,0.3s,baz=51,slow=4.8,SNR=91						
JNU				S	**Sn**	**19 23 32.8**	**+2.8**
	0.5nm,0.3s,baz=207,slow=16,SNR=1.0						
JNU	**Nakatsue**	**7.60**	**251**	*e*Pn	**Pn**	**19 22 06.2**	**+0.8**
JNU				S	**Sn**	**19 23 32.8**	**+2.8**
ASAJ	**Asahikawa**	**8.55**	**15**	P	**Pn**	**19 22 15.5**	**-2.7**
	14nm,0.3s,baz=230,slow=10,SNR=103						
ASAJ				S	**Sn**	**19 23 49.9**	**-2.9**
	7.1nm,0.3s,baz=180,slow=20,SNR=2.7						
ASAJ	**Asahikawa**	**8.55**	**15**	*e*Pn	**Pn**	**19 22 15.9**	**-2.2**
ASAJ				S	**Sn**	**19 23 49.9**	**-2.9**
CBIJ	**Chichi jima**	**9.08**	**164**	*e*Pn	Pn	19 22 19.6	-5.8
CBIJ				S	Sn	19 23 52.5	-13
CBIJ				*e*		19 26 02.9	
JCJ	**Chichijima**	**9.08**	**164**	P	Pn	19 22 19.5	-6.0
	53nm,0.3s,baz=324,slow=7.6,SNR=16						
JCJ				S	Sn	19 23 52.5	-13
	22nm,0.3s,baz=285,slow=19,SNR=2.8						
JCJ				LR	LR	19 26 02.9	
	comp=Z,528nm,19.9s,baz=294,slow=38						
VLA	**Vladivostok**	**9.28**	**323**	*c* i P	**Pn**	**19 22 31.0**	**+3.0**
VLA				pmax	pmax		
	comp=Z,94nm,1.6s						
TEY	**Ternei**	**9.38**	**347**	*e*P	**Pn**	**19 22 33.0**	**+3.6**
TEY				pmax	pmax		
	comp=Z,26nm,0.8s						
TEY				pmax	pmax		
	comp=E,1μm,4.0s						
TEY				pmax	pmax		
	comp=Z,4μm,4.0s						
TEY				pmax	pmax		
	comp=Z,172nm,1.0s						
TEY				MLR	MLR		
	comp=E,2μm,14.0s						
TEY				MLR	MLR		
	comp=Z,4μm,13.0s						
KSRS	**Korea Array**	**9.39**	**283**	P	**Pn**	**19 22 32.9**	**+3.3**
	comp=Z,2.7nm,0.3s,baz=99,slow=14,SNR=123						
KSRS				S	**Sn**	**19 24 16.9**	**+3.5**
	baz=99,slow=23,SNR=2.1						
KS01	**Wonju Array Si**	**9.42**	**283**	*e*Pn	**Pn**	**19 22 31.2**	**+1.2**
KS15	**Wonju Array Si**	**9.42**	**283**	*e*Pn	**Pn**	**19 22 32.3**	**+2.2**
KSAR	**Wonju Array Be**	**9.42**	**283**	P	**Pn**	**19 22 32.9**	**+2.9**
KSAR				S	**Sn**	**19 24 16.9**	**+2.7**
KSAR	**Wonju Array Be**	**9.42**	**283**	P	**Pn**	**19 22 32.9**	**+2.9**
KSAR				S	**Sn**	**19 24 16.9**	**+2.7**
YUK	**Yuzh-Kuril'sk**	**9.49**	**29**	*e*P	**Pn**	**19 22 28.2**	**-2.7**
YUK				pmax	pmax		
	comp=Z,366nm,0.5s						
SHO	**Shikotan**	**9.77**	**33**	*e*P	Pn	19 22 29.5	-5.1
SHO				pmax	pmax		
	comp=Z,63nm,0.3s						
TJN	**Taejon**	**9.79**	**276**	*d* iP	**Pn**	**19 22 37.7**	**+2.6**
USRK	**Ussuriysk Ar.**	**10.07**	**328**	P	**Pn**	**19 22 41.8**	**+3.1**
	comp=Z,0.9nm,0.3s,baz=146,slow=13,SNR=18						
USRK				S	**Sn**	**19 24 38.3**	**+8.6**
	baz=131,slow=17,SNR=1.7						
USRK				LR	LR	19 26 21.3	
	comp=Z,2μm,18.0s,baz=96,slow=36						
INCN	**Inchon**	**10.42**	**282**	*e*Pn	**Pn**	**19 22 47.0**	**+3.3**
INCN	**Inchon**	**10.42**	**282**	P	**Pn**	**19 22 47.1**	**+3.5**
	SNR=16						
INCN	**Inchon**	**10.42**	**282**	Pn	**Pn**	**19 22 47.1**	**+3.5**
	SNR=16						
KUR	**Kuril'sk**	**11.30**	**32**	*c* iP	**Pn**	**19 22 52.3**	**-3.1**
KUR				pmax	pmax		
	comp=Z,142nm,1.0s						
KUR				pmax	pmax		
	comp=N,49nm,0.3s						
KUR				pmax	pmax		
	comp=E,54nm,0.4s						
KUR				MLR	MLR		
	comp=N,1μm,12.0s						
KUR				MLR	MLR		
	comp=N,2μm,13.0s						
KUR				MLR	MLR		
	comp=E,1μm,8.0s						
YSS	**Yuzh-Sakhalins**	**11.32**	**12**	↑*i*P	**Pn**	**19 22 52.2**	**-3.4**
YSS				*e*S	**Sn**	**19 24 54.6**	**-5.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				smax	smax		
	comp=N,40nm,0.8s						
YSS				smax	smax		
	comp=E,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,4μm,17.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**11.32**	**12**	*e*Pn	**Pn**	**19 22 52.3**	**-3.4**
MDJ	**Mudanjiang**	**11.51**	**322**	P	**Pn**	**19 22 58.4**	**+0.2**
MDJ				sP	P	19 23 23.1	+15
MDJ				S	Sn	19 25 14.5	+10
MDJ				pmax	pmax		
	comp=E,15nm,1.6s						
MDJ				pmax	pmax		
	comp=E,370nm,3.8s						
MDJ				LR	LR		
	comp=E,3μm,13.1s						
MDJ				LR	LR		
	comp=E,2μm,11.5s						
MDJ				LR	LR		
	comp=E,3μm,13.3s						
MDJ	**Mudanjiang**	**11.51**	**322**	*e*Pn	**Pn**	**19 23 02.3**	**+4.1**
JOW	**Kunigami**	**13.14**	**230**	*e*Pn	**Pn**	**19 23 18.4**	**-1.6**
CN2	**Changchun**	**13.33**	**311**	*e*P	**Pn**	**19 23 25.0**	**+2.6**
CN2				*es*P	sP	19 23 53.0	
CN2				*e*S	**Sn**	**19 25 49.9**	**+1.0**
CN2				pmax	pmax		
	comp=E,20nm,1.0s						
CN2				pmax	pmax		
	comp=E,200nm,5.0s						
SNY	**Shenyang**	**13.71**	**300**	⇓P	**P**	**19 23 31.8**	**-0.6**
SNY				S	**Sn**	**19 26 05.1**	**+7.1**
KLR	**Kul'dur**	**14.47**	**339**	P	**Pn**	**19 23 37.2**	**+0.2**
	comp=E,0.1nm,0.3s,baz=136,slow=12,SNR=12						
KLR				S	**Sn**	**19 26 10.8**	**-5.5**
	comp=E,0.0nm,0.3s,baz=71,slow=18,SNR=1.4						
KLR				LR	LR	19 29 24.5	
	comp=E,205nm,18.4s,baz=150,slow=38						
KLR				ScP	**ScP**	**19 32 10.8**	**+1.5**
	comp=E,0.0nm,0.3s,baz=155,slow=3.1,SNR=4.7						
KLR	**Kul'dur**	**14.47**	**339**	⇓*e*P	**Pn**	**19 23 36.8**	**-0.2**
DL2	**Dalian**	**14.49**	**287**	P	**P**	**19 23 39.9**	**-1.2**
DL2				sP	sP	19 24 07.3	
DL2				S	**Sn**	**19 26 22.3**	**+5.4**
DL2				pmax	pmax		
	comp=E,230nm,1.2s						
DL2				pmax	pmax		
	comp=E,650nm,6.0s						
DL2				LR	LR		
	comp=E,990nm,12.0s						
DL2				LR	LR		
	comp=E,2μm,13.4s						
DL2				LR	LR		
	comp=E,3μm,11.6s						
TYV	**Tymovskoe**	**15.13**	**8**	*e*P	**Pn**	**19 23 44.6**	**-0.8**
TYV				*e*S	**Sn**	**19 26 24.2**	**-8.2**
TYV				pmax	pmax		
	comp=Z,500nm,2.1s						
TYV				pmax	pmax		
	comp=Z,82nm,0.9s						
TYV				smax	smax		
	comp=N,1μm,4.6s						
TYV				smax	smax		
	comp=N,19nm,1.8s						
NKL	**Nikolayevsk**	**17.27**	**2**	*e*P	**Pn**	**19 24 13.0**	**+1.2**
NKL				*e*S	**Sn**	**19 27 18.0**	**-5.7**
NKL				pmax	pmax		
	comp=N,400nm,9.0s						
NKL				pmax	pmax		
	comp=Z,450nm,9.0s						
NKL				pmax	pmax		
	comp=N,21nm,1.0s						
NKL				pmax	pmax		
	comp=E,5.0nm,1.0s						
NKL				pmax	pmax		
	comp=Z,25nm,1.0s						
NKL				smax	smax		
	comp=E,500nm,12.0s						
NKL				MLR	MLR		
	comp=N,1μm,16.0s						
NKL				MLR	MLR		
	comp=E,1μm,16.0s						
NKL				MLR	MLR		
	comp=Z,2μm,16.0s						
NJ2	**Nanjing**	**17.51**	**263**	*e*P	**P**	**19 24 13.6**	**-1.0**
NJ2				sP	**sP**	**19 24 41.0**	**-5.2**
NJ2				pmax	pmax		
	comp=Z,32nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,510nm,4.6s						
NJ2				LR	LR		
	comp=Z,1μm,9.8s						
NJ2				LR	LR		
	comp=Z,970nm,12.7s						
NJ2				LR	LR		
	comp=Z,3μm,11.9s						
OKH	**Okha**	**17.82**	**7**	⇓*i*P	**P**	**19 24 15.7**	**-2.1**
OKH				*i* S	Sn	19 27 25.1	-12
OKH				pmax	pmax		
	comp=N,300nm,9.0s						
OKH				smax	smax		
	comp=E,800nm,10.0s						
OKH				MLR	MLR		
	comp=Z,600nm,18.0s						
TIA	**Tai'an**	**18.06**	**278**	P	**P**	**19 24 20.9**	**+0.2**
TIA				pmax	pmax		
	comp=Z,41nm,1.5s						
TIA				LR	LR		
	comp=Z,1μm,11.5s						
TIA				LR	LR		
	comp=Z,2μm,12.9s						
TIA				LR	LR		
	comp=Z,2μm,14.2s						
BJI	**Beijing**	**18.80**	**290**	P	**P**	**19 24 26.8**	**-1.9**
BJI				sP	**sP**	**19 25 03.3**	**+2.9**
BJI				S	**S**	**19 27 55.5**	**-1.7**
BJI				pmax	pmax		
	comp=Z,18nm,1.6s						
BJI				pmax	pmax		
	comp=Z,400nm,3.1s						
BJT	**Baijiatuau**	**18.80**	**290**	*e*P	**P**	**19 24 28.1**	**-0.7**
BJT				pmax	pmax		
	comp=Z,542nm,1.9s						
BJT	**Baijiatuau**	**18.80**	**290**	*e*P	**P**	**19 24 28.1**	**-0.7**
	comp=Z,542nm,1.9s						
SKR	**Severo-Kuril's**	**19.05**	**34**	*e*P	**P**	**19 24 32.0**	**+0.7**
SKR				*e*S	**S**	**19 27 54.7**	**-7.2**
SKR				pmax	pmax		
	comp=Z,2μm,3.9s						
SKR				pmax	pmax		
	comp=Z,600nm,4.4s						
SKR				pmax	pmax		
	comp=Z,56nm,0.9s						
SKR				MLR	MLR		
	comp=Z,700nm,17.0s						
SKR				MLR	MLR		
	comp=Z,1μm,19.0s						
YHNB	**Yeheng**	**19.18**	**239**	*e*P	**P**	**19 24 31.7**	**-1.4**
	comp=Z,43nm,0.8s						
NACB	**Ninganchiao**	**19.35**	**238**	*e*P	**P**	**19 24 34.4**	**-0.4**
	comp=Z,58nm,1.1s						
HIA	**Hailar**	**19.65**	**319**	*e*P	**P**	**19 24 37.5**	**-0.4**
HIA				pmax	pmax		
	comp=Z,54nm,1.3s						
HIA	**Hailar**	**19.65**	**319**	*e*P	**P**	**19 24 37.5**	**-0.4**
	comp=Z,54nm,1.3s						
ZEA	**Zeya**	**19.77**	**338**	*e*P	**P**	**19 24 38.8**	**-0.4**
ZEA				*e*S	**Sn**	**19 28 22.0**	**-1.9**
ZEA				pmax	pmax		
	comp=Z,46nm,0.8s						
ZEA				smax	smax		
	comp=N,2μm,9.0s						
SARN	**Sarigan**	**19.93**	**162**	*e*P	**P**	**19 24 41.8**	**+0.5**
SSLB	**Suanglung**	**20.04**	**238**	*e*P	**P**	**19 24 40.4**	**-2.0**
	comp=N,33nm,0.8s						
SSLB				*e*S	**S**	**19 28 21.6**	**-0.7**
YULB	**Yu-li**	**20.07**	**237**	*e*P	**P**	**19 24 41.8**	**-0.9**
	comp=N,48nm,1.0s						
TPUB	**Ta-pu**	**20.59**	**238**	*e*P	**P**	**19 24 45.6**	**-2.6**
	comp=N,110nm,0.9s						
TWG	**Pinlang**	**20.61**	**236**	*e*P	**P**	**19 24 47.1**	**-1.3**
	comp=N,785nm,1.1s						
QZH	**Quanzhou**	**21.00**	**244**	⇓*i*P	**P**	**19 24 50.6**	**-2.1**
QZH				pP	**pP**	**19 25 15.0**	**+3.0**
QZH				sP	**sP**	**19 25 28.3**	**+3.7**
QZH				S	**S**	**19 28 30.9**	**-10**
QZH				pmax	pmax		
	comp=N,59nm,0.9s						
QZH				pmax	pmax		
	comp=N,1μm,8.5s						
QZH				LR	LR		
	comp=N,1μm,18.9s						
QZH				LR	LR		
	comp=N,630nm,9.2s						
QZH				LR	LR		
	comp=N,1μm,14.0s						
PEA0B	**Petropavlovsk-**	**21.46**	**31**	*e*P	**P**	**19 24 58.2**	**+0.9**
	comp=N,80nm,1.2s						
PETK	**Petropavlovsk-**	**21.46**	**31**	P	**P**	**19 24 57.8**	**+0.4**
	comp=N,26nm,0.9s,baz=211,slow=6.5,SNR=14						
PETK				S	**S**	**19 28 40.3**	**-9.3**
	comp=N,3.9nm,1.0s,baz=214,slow=17,SNR=3.3						
PETK				LR	LR	19 33 59.3	
	comp=N,541nm,18.1s,baz=216,slow=38						
PETK	**Petropavlovsk-**	**21.46**	**31**	*e*P	**P**	**19 24 57.2**	**-0.2**
PETK				S	**S**	**19 28 40.3**	**-9.3**
PEA1	**Petropavlovsk-**	**21.47**	**31**	*e*P	**P**	**19 24 57.8**	**+0.4**
PEA1				*e*		19 33 59.3	
WHN	**Wuhan**	**21.65**	**263**	⇓P	**P**	**19 24 59.5**	**0.0**
WHN				pP	**pP**	**19 25 22.5**	**+3.6**
WHN				sP	**sP**	**19 25 32.9**	**+1.4**
WHN				S	**S**	**19 28 52.4**	**-1.0**
WHN				LR	LR		
	comp=N,5μm,19.3s						
WHN				LR	LR		
	comp=N,5μm,12.4s						
WHN				LR	LR		
	comp=N,5μm,11.5s						
PET	**Petropavlovsk**	**21.81**	**32**	*c* iP	**P**	**19 25 01.4**	**+0.4**
PET				*e*S	**S**	**19 28 52.7**	**-3.3**
PET				pmax	pmax		
	comp=Z,500nm,11.1s						
PET				pmax	pmax		
	comp=Z,80nm,1.7s						
PET				pmax	pmax		
	comp=Z,600nm,6.6s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
PET				MLR	MLR		
	comp=Z,1μm,20.0s						
PET	**Petropavlovsk**	**21.81**	**32**	*e*P	**P**	**19 25 00.8**	**-0.2**
	comp=Z,139nm,1.3s						
HHC	**Hu-ho-hao-te**	**22.37**	**291**	*e*P	**P**	**19 25 03.8**	**-3.4**
HHC				pP	pP	19 25 26.3	-0.5
HHC				sP	sP	19 25 37.8	-1.6
HHC				S	**S**	**19 29 02.4**	**-3.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,4.4s						
HHC				LR	LR		
	comp=Z,760nm,12.1s						
HHC				LR	LR		
	comp=Z,740nm,10.0s						
HHC				LR	LR		
	comp=Z,720nm,11.0s						
GUMO	**Guam**	**22.74**	**166**	P	**P**	**19 25 09.6**	**-1.4**
	comp=Z,163nm,0.7s,baz=193,slow=21,SNR=4.7						
CLNS	**Chul'man**	**23.13**	**339**	*e*P	**P**	**19 25 14.6**	**+0.1**
CLNS				*e*		19 25 38.3	
CLNS				*e*		19 29 01.1	
CLNS				*e*S	**S**	**19 29 21.0**	**+3.1**
CLNS				*e*SS	**SnSn**	**19 29 55.0**	**-7.6**
CLNS				pmax	pmax		
	comp=Z,29nm,1.1s						
CLNS				pmax	pmax		
	comp=N,25nm,1.2s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,27nm,0.8s						
CLNS				pmax	pmax		
	comp=N,27nm,1.0s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
CLNS				smax	smax		
	comp=N,895nm,10.4s						
CLNS				smax	smax		
	comp=E,627nm,12.1s						
CLNS				MLR	MLR		
	comp=Z,1μm,15.0s						
CLNS				MLR	MLR		
	comp=N,696nm,12.0s						
CLNS				MLR	MLR		
	comp=E,364nm,10.0s						
MA2	**Magadan**	**24.81**	**14**	*de*P	**P**	**19 25 30.9**	**+1.3**
XAN	**Xi'an**	**25.05**	**275**	P	**P**	**19 25 30.9**	**-1.2**
XAN				pP	pP	19 25 53.8	-0.5
XAN				sP	sP	19 26 04.8	-1.3
XAN				PP	**PnPn**	**19 26 13.4**	**+1.6**
XAN				S	**S**	**19 29 42.6**	**-6.4**
XAN				sS	sS	19 30 20.5	-7.3
XAN				pmax	pmax		
	comp=E,21

comp=E,930nm,13.1s
ULN Ulaanbaatar 26.72 307 *d i* P P **19 25 47.1 -0.2**
ULN pmax pmax
comp=Z,43nm,1.7s
ULN Ulaanbaatar 26.72 307 *e* P P **19 25 46.0 -1.3**
comp=Z,24nm,1.1s
ULN Ulaanbaatar 26.72 307 P P **19 25 47.5 +0.3**
SNR=10
ULN Ulaanbaatar 26.72 307 P P **19 25 47.5 +0.3**
SNR=10
YAK Yakutsk 26.87 350 P P **19 25 48.3 +0.1**
comp=Z,11nm,0.5s,baz=15,slow=3.9,SNR=7.8
YAK S S **19 30 13.9 -3.2**
comp=Z,4.0nm,0.4s,baz=246,slow=19,SNR=2.8
YAK LR LR 19 36 55.7
comp=Z,1μm,18.8s,baz=118,slow=37
YAK Yakutsk 26.87 350 *e* P P **19 25 48.0 -0.1**
YAK *e* PP pP **19 26 08.3 -2.2**
YAK *e* 19 26 23.0
YAK *e* 19 29 07.4
YAK *e* S S **19 30 13.5 -3.5**
YAK *e* SS sS **19 30 52.0 -4.1**
YAK *e* 19 36 26.0
YAK pmax pmax
comp=Z,32nm,1.4s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,329nm,3.0s
YAK pmax pmax
comp=N,208nm,2.8s
YAK pmax pmax
comp=E,96nm,2.3s
YAK smax smax
comp=E,246nm,2.5s
YAK smax smax
comp=N,68nm,1.9s
YAK Yakutsk 26.87 350 *e* P P **19 25 47.8 -0.4**
comp=N,78nm,1.0s
YAK S S **19 30 13.8 -3.2**
SONA1 Songino Array 27.14 306 *e* P P **19 25 50.4 -0.6**
SONA0 Songino Array 27.15 306 *e* P P **19 25 50.6 -0.5**
SONA0 *e* PcP PcP **19 29 09.5 +0.5**
SONA0 *e* S S **19 30 27.8 +5.7**
SONA0 *e* ScP ScP **19 32 41.2 +1.1**
SONA0 *e* 19 37 02.5
SONM Songino Array 27.15 306 P P **19 25 50.6 -0.5**
comp=N,6.2nm,1.0s,baz=107,slow=7.7,SNR=11
SONM PcP PcP **19 29 09.5 +0.5**
comp=N,2.4nm,0.8s,baz=121,slow=2.6,SNR=4.6
SONM S S **19 30 27.8 +5.7**
comp=N,0.4nm,0.6s,baz=133,slow=14,SNR=2.6
SONM ScP ScP **19 32 41.2 +1.1**
comp=N,3.0nm,1.0s,baz=133,slow=3.5,SNR=6.7
SONM LR LR 19 37 02.5
comp=N,2μm,18.1s,baz=114,slow=37
BOD Bodaibo 27.69 330 *e* P P **19 25 55.6 0.0**
BOD pmax pmax
comp=Z,44nm,1.5s
SEY Seymchan 28.22 12 P P **19 26 00.9 +0.7**
comp=Z,4.1nm,0.8s,baz=207,slow=7.1,SNR=23
SEY S S **19 30 40.4 +2.0**
comp=Z,1.1nm,0.8s,baz=338,slow=19,SNR=2.9
SEY Seymchan 28.22 12⇑ *e* P P **19 26 01.9 +1.7**
LZH Lanzhou 28.72 281 *e* P P **19 26 05.9 +0.7**
LZH pP pP 19 26 24.0 -3.7
LZH sP sP 19 26 38.3 -1.1
LZH PP PnPn **19 26 57.0 -3.9**
LZH *e* S S **19 30 42.1 -5.0**
LZH pmax pmax
comp=Z,37nm,1.2s
LZH pmax pmax
comp=Z,160nm,5.1s
LZH LR LR
comp=Z,890nm,12.8s
LZH LR LR
comp=Z,1μm,13.0s
LZH LR LR
comp=Z,1μm,14.4s
H11N2 WAKE ISLAND Hy 28.99 116 T T 19 56 39.9
baz=308,slow=75,SNR=51
H11N1 WAKE ISLAND Hy 29.00 116 T T 19 56 11.4
baz=308,slow=75,SNR=80
H11N3 WAKE ISLAND Hy 29.01 116 T T 19 56 13.8
baz=308,slow=75,SNR=60
GYA Guiyang 29.48 261⇑ *i* P P **19 26 10.8 -1.1**
GYA pP pP 19 26 35.4 +0.9
GYA sP sP 19 26 47.8 +1.7
GYA PP PnPn **19 27 10.3 -0.6**
GYA PcP PcP **19 29 17.0 +1.9**
GYA S S **19 30 55.6 -3.5**
GYA sS sS 19 31 36.6 -1.7
GYA SS SnSn **19 32 34.4 -2.9**
GYA ScP ScP **19 32 48.0 +0.3**
GYA ScS ScS **19 36 41.4 -1.4**
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,610nm,16.8s
GYA LR LR
comp=Z,580nm,17.2s
GYA LR LR
comp=Z,560nm,17.0s
H11S1 WAKE ISLAND Hy 29.64 119 T T 19 57 35.0
baz=314,slow=75,SNR=132
H11S3 WAKE ISLAND Hy 29.64 119 T T 19 57 34.4
baz=314,slow=75,SNR=82
H11S2 WAKE ISLAND Hy 29.65 119 T T 19 57 24.4
baz=314,slow=75,SNR=51
ZAK Zakamensk 29.77 310 *e* P P **19 26 13.4 -0.8**
ZAK *e* 19 29 16.4
ZAK pmax pmax
comp=Z,8.0nm,1.3s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TLY Talaya 29.91 313 P P **19 26 15.6 +0.1**
comp=Z,4.0nm,0.6s,baz=104,slow=7.9,SNR=8.3
TLY LR LR 19 39 08.1
comp=Z,717nm,19.6s,baz=118,slow=38
TLY Talaya 29.91 313 *e* P P **19 26 16.9 +1.5**
TLY *e* S S **19 31 05.2 -0.1**
TLY pmax pmax
comp=Z,14nm,1.4s
TLY MLR MLR
comp=Z,685nm,15.0s
TLY Talaya 29.91 313 *e* P P **19 26 15.5 +0.1**
comp=Z,6.6nm,0.8s
TLY *e* 19 39 08.1
TLY Talaya 29.91 313 P P **19 26 17.5 +2.0**
SNR=6.8
TLY Talaya 29.91 313 P P **19 26 17.5 +2.0**
SNR=6.8
CD2 Chengdu 30.11 271 P P **19 26 16.3 -1.1**
CD2 pP pP 19 26 38.6 -1.3
CD2 sP sP 19 26 50.5 -1.1
CD2 S S **19 31 06.6 -2.2**
CD2 sS sS 19 31 46.3 -1.6
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,480nm,5.3s
CD2 LR LR
comp=Z,2μm,13.5s
CD2 LR LR
comp=Z,2μm,13.3s
CD2 LR LR
comp=Z,3μm,12.9s
QIZ Qiongzhong 31.02 245 P P **19 26 25.0 -0.5**
QIZ S S **19 31 22.6 -0.6**
QIZ sS sS **19 31 58.8 -3.6**
QIZ pmax pmax
comp=Z,19nm,1.7s
QIZ pmax pmax
comp=Z,380nm,4.6s
QIZ LR LR
comp=Z,780nm,21.1s
QIZ LR LR
comp=Z,800nm,11.3s
QIZ LR LR
comp=Z,970nm,45.1s
GTA Gaotai 31.41 288 *e* P P **19 26 28.4 -0.4**
GTA pP pP 19 26 49.8 -1.6
GTA sP sP 19 27 03.6 +0.5
GTA PcP PcP **19 29 21.6 +1.6**
GTA S S **19 31 24.6 -4.5**
GTA ScP ScP **19 32 55.3 +1.4**
GTA PcS PcS **19 33 05.3 +0.8**
GTA ScS ScS **19 36 50.8 -1.0**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,5.6s
GTA LR LR
comp=Z,680nm,14.3s
GTA LR LR
comp=Z,1μm,14.3s
GTA LR LR
comp=Z,780nm,12.8s
KMI Kunming 33.23 261 P P **19 26 44.4 -0.7**
KMI pP pP 19 27 05.3 -2.5
KMI sP sP 19 27 18.1 -1.3
KMI PP PnPn **19 27 57.3 -1.5**
KMI PcP PcP **19 29 26.8 +1.4**
KMI S S **19 31 51.5 -6.4**
KMI SS SnSn **19 33 57.9 -11**
KMI pmax pmax
comp=Z,27nm,1.0s
KMI pmax pmax
comp=Z,80nm,3.1s
KMI LR LR
comp=Z,710nm,16.4s
KMI LR LR
comp=Z,560nm,16.4s
KMI LR LR
comp=Z,1μm,27.0s
SGSI Sangihe 34.54 205 P P **19 26 55.1 -1.1**
BILL Bilibino 35.56 17 *c i* P P **19 27 05.4 +1.0**
BILL *i* 19 27 26.2
BILL *i* 19 28 23.9
BILL *i* 19 29 30.5
BILL *i* S S **19 32 27.7 -4.7**
BILL *i* SS SnSn **19 35 02.9 -0.4**
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,630nm,19.0s
HVS Khovu-Aksy 35.88 310⇓ *e* P P **19 27 10.5 +3.1**
HVS pmax pmax
comp=Z,18nm,0.8s
MYLDM Lahad Datu 36.15 217 *e* P P **19 27 09.3 -0.6**
comp=Z,84nm,1.1s
TIXI Tiksi 36.24 354 *e* P P **19 27 11.3 +1.2**
TIXI pmax pmax
comp=Z,14nm,0.8s
TIXI Tiksi 36.24 354 *e* P P **19 27 11.3 +1.2**
comp=Z,14nm,0.8s
KKM Kota Kinabalu 36.58 221 *e* P P **19 27 12.0 -1.8**
comp=Z,60nm,1.5s
UBPT Khong Chiam 36.62 245 P P **19 27 12.8 -1.2**
comp=Z,60nm,1.0s
SKNT Sakolnakorn 36.67 248 P P **19 27 13.0 -1.4**
comp=Z,32nm,1.1s
SWI Sorong 37.37 194 P P **19 27 19.1 -1.1**
KHON Khomkaen 37.93 249 P P **19 27 24.8 -0.2**
comp=Z,40nm,0.9s
KMSI Cibinong 37.98 206 P P **19 27 24.0 -1.4**
LBMI Labuha 38.02 200 P P **19 27 23.8 -2.0**
JAY Jayapura 38.23 178 P P **19 27 27.9 +0.3**
MANU Manus Island 38.47 167 *e* P P **19 27 28.8 -0.7**
comp=Z,64nm,1.2s
CMAI Chiengmai2 38.79 257 P P **19 27 32.7 +0.3**
comp=Z,341nm,0.9s,comp=Z,50μm
MRSI Marisa 38.83 209 P P **19 27 30.5 -2.0**
CHAI Chaiyaphum 38.83 249 P P **19 27 31.8 -0.8**
comp=Z,47nm,0.9s,comp=Z,314nm
LAMP Lampang 39.10 254 P P **19 27 34.9 0.0**
comp=Z,8.5nm,0.9s,comp=Z,76nm
PHIT Phitsanulok 39.26 252 P P **19 27 36.0 -0.2**
comp=Z,18nm,1.0s,comp=Z,151nm
CMMT Chiang Mai 39.48 255 P P **19 27 36.4 -1.6**
comp=Z,22nm,1.1s,comp=Z,511nm
CHTO Chiang Mai 39.48 255 P P **19 27 37.5 -0.5**
comp=Z,101nm,1.1s,comp=Z,2μm
CHTO Chiang Mai 39.48 255 *e* P P **19 27 37.2 -0.8**
CHTO pmax pmax
comp=Z,16nm,0.9s
CHTO Chiang Mai 39.48 255 *e* P P **19 27 37.2 -0.8**
comp=Z,16nm,0.9s
CHTO Chiang Mai 39.48 255 P P **19 27 37.6 -0.4**
SNR=9.0
CHTO Chiang Mai 39.48 255 P P **19 27 37.6 -0.4**
SNR=9.0
CM31 Chiang Mai Arr 39.68 255 *e* P P **19 27 38.6 -1.1**
CMAR Chiang Mai Arr 39.68 255 P P **19 27 39.2 -0.5**
comp=Z,5.5nm,0.8s,baz=50,slow=5.6,SNR=14
CMAR PcP PcP **19 29 46.1 +1.5**
comp=Z,10.0nm,0.9s,baz=20,slow=2.1,SNR=20
CMAR ScP ScP **19 33 25.5 +1.4**
comp=Z,0.7nm,0.7s,baz=22,slow=5.1,SNR=3.6
CMAR Chiang Mai Arr 39.68 255 *i* P P **19 27 39.4 -0.3**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CM01 Chiang Mai Arr 39.69 255 *e* P P **19 27 38.3 -1.4**
CM01 *e* S S **19 33 30.6 -5.3**
KMPI Kaimana, Papua 39.72 189 P P **19 27 38.8 -1.1**
MPSI Mapaga 39.78 212 P P **19 27 39.3 -1.2**
WMQ Urumqi 39.95 298 P P **19 27 41.6 -0.2**
WMQ pP pP 19 28 04.8 -0.2
WMQ sP sP 19 28 15.1 -1.4
WMQ PcP PcP **19 29 46.5 +1.3**
WMQ S S **19 33 38.1 -1.5**
WMQ sS sS 19 34 18.8 -0.9
WMQ pmax pmax
comp=Z,97nm,1.1s
WMQ pmax pmax
comp=Z,910nm,4.3s
WMQ LR LR
comp=Z,3μm,16.5s
WMQ LR LR
comp=Z,950nm,14.1s
WMQ LR LR
comp=Z,1μm,24.1s
SRAK Srakaew 39.97 247 P P **19 27 38.2 -3.8**
comp=Z,128nm,0.9s,comp=Z,1μm
APSI Ampana 40.21 208 P P **19 27 42.3 -1.7**
MSAI Masohi 40.27 196 P P **19 27 44.5 +0.1**
NAYO Nakonayok 40.32 248 P P **19 27 44.8 -0.1**
comp=Z,149nm,0.7s
CHBT CHBT 40.57 245 P P **19 27 48.1 +1.1**
comp=Z,703nm,1.1s
NLAI Namlea 40.62 199 P P **19 27 45.9 -1.4**
comp=Z,41nm,1.2s
LSA Lhasa 40.74 275 P P **19 27 50.1 +1.2**
LSA pmax pmax
comp=Z,57nm,1.1s
LSA Lhasa 40.74 275 *e* P P **19 27 50.2 +1.3**
LSA pmax pmax
comp=Z,44nm,0.9s
LSA Lhasa 40.74 275 *e* P P **19 27 50.2 +1.3**
comp=Z,44nm,0.9s
LSA Lhasa 40.74 275 P P **19 27 49.9 +1.0**
AAI Ambon 40.77 197 P P **19 27 48.8 +0.2**
PCI Palu 40.93 211 P P **19 27 47.8 -2.1**
comp=Z,128nm,1.4s
ZAA0 Zalesovo Array 41.53 313 *e* P P **19 27 54.8 +0.4**
comp=Z,42nm,1.0s
ZAA1 Zalesovo Array 41.53 313 *e* P P **19 27 54.9 +0.4**
ZAA1 *e* PcP PcP **19 29 49.7 -0.3**
ZAA1 *e* ScP ScP **19 33 31.6 +0.9**
ZAA1 *e* S S **19 34 03.9 +1.4**
ZAA1 *e* 19 45 41.9
ZALV Zalesovo Beam 41.53 313 P P **19 27 54.9 +0.5**
comp=Z,17nm,0.7s,baz=91,slow=6.4,SNR=82
ZALV PcP PcP **19 29 49.7 -0.3**
comp=Z,9.3nm,0.6s,baz=102,slow=2.9,SNR=6.0
ZALV ScP ScP **19 33 31.6 +0.9**
comp=Z,11nm,1.0s,baz=98,slow=4.5,SNR=14
ZALV S S **19 34 03.9 +1.4**
comp=Z,1.6nm,0.6s,baz=101,slow=22,SNR=4.0
ZALV LR LR 19 45 41.9
comp=Z,186nm,19.0s,baz=74,slow=37
ZALV Zalesovo Beam 41.53 313 P P **19 27 54.9 +0.5**
ZALV 19 29 49.7
ZALV S S **19 34 03.9 +1.4**
ZALV pmax pmax
comp=Z,18nm,0.7s
ZALV pmax pmax
comp=Z,9.0nm,0.6s
ZALV pmax pmax
comp=N,11nm,1.0s
ZALV smax smax
comp=N,2.0nm,0.6s
ZALV MLR MLR
comp=Z,186nm,19.0s
ZALV Zalesovo Beam 41.53 313 *e* P P **19 27 54.4 0.0**
ZALV PcP PcP **19 29 49.7 -0.3**
ZALV ScP ScP **19 33 31.6 +0.9**
ZALV S S **19 34 03.9 +1.4**
SGKI Sangatta, Kali 41.57 214 P P **19 27 54.0 -1.2**
SMKI Samarinda 41.68 215 P P **19 27 54.3 -1.7**
SBUM Sibu 41.75 223 *e* P P **19 27 55.7 -1.0**
comp=Z,48nm,1.1s
SHL Shillong 41.81 269⇑ *i* P P **19 27 58.5 +1.1**
comp=Z,6.0nm,1.0s
SHL *e* S ScP **19 33 36.5 +3.8**
SRDT SRDT 41.96 250 P P **19 27 57.2 -1.2**
comp=Z,48nm,1.2s
PHET Kaeng Krachan 42.48 248 P P **19 28 02.9 +0.3**
comp=Z,29nm,0.8s,comp=Z,236nm
NVS Novosibirsk 42.50 315⇓ *i* P P **19 28 03.4 +1.1**
NVS *e* S S **19 34 18.0 +1.3**
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,62nm,1.4s
NVS pmax pmax
comp=Z,80nm,1.4s
NVS smax smax
comp=N,32nm,2.5s
NVS smax smax
comp=E,42nm,2.5s
MTKI Muara Teweh, K 43.21 217 P P **19 28 07.4 -1.1**
MK01 Makanchi Array 43.39 303 *e* P P **19 28 09.9 +0.2**
MK31 Makanchi Array 43.39 303 *e* P P **19 28 10.4 +0.7**
MK31 Makanchi Array 43.39 303 *e* P P **19 28 10.4 +0.7**
MK32 Makanchi Array 43.39 303 *e* P P **19 28 10.2 +0.5**
MK32 *e* PP PcP **19 29 56.8 +0.4**
MK32 *e* ScP ScP **19 33 39.0 +0.4**
MK32 *e* S S **19 34 31.4 +1.2**
MK32 *e* 19 46 47.4
MKAR Makanchi Array 43.39 303 P P **19 28 10.2 +0.5**
comp=E,20nm,0.8s,baz=81,slow=7.6,SNR=77
MKAR PcP PcP **19 29 56.8 +0.4**
comp=E,8.6nm,0.9s,baz=83,slow=4.2,SNR=4.2
MKAR ScP ScP **19 33 39.0 +0.4**
comp=E,2.3nm,0.8s,baz=78,slow=4.7,SNR=5.1
MKAR S S **19 34 31.4 +1.2**
comp=E,1.9nm,1.1s,baz=81,slow=8.9,SNR=3.5
MKAR LR LR 19 46 47.4
comp=E,766nm,18.3s,baz=84,slow=37
MKAR Makanchi Array 43.39 303 *e* P P **19 28 10.4 +0.7**
MKAR 19 29 56.8
MKAR S S **19 34 31.4 +1.2**
MKAR pmax pmax
comp=Z,168nm,0.9s
MKAR Makanchi Array 43.39 303 *e* P P **19 28 10.4 +0.7**
comp=Z,168nm,0.9s
MKAR PcP PcP **19 29 56.8 +0.4**
MKAR ScP ScP **19 33 39.0 +0.4**
MKAR S S **19 34 31.4 +1.2**
MAKZ Makanchi 43.61 303 *e* P P **19 28 11.9 +0.5**
MAKZ pmax pmax
comp=Z,34nm,1.0s
MAKZ Makanchi 43.61 303 *e* P P **19 28 11.8 +0.5**
comp=Z,34nm,1.0s
KSM Kuching 43.63 225 *e* P P **19 28 11.6 -0.3**
comp=Z,61nm,0.8s
BNSI Bone 44.00 208 P P **19 28 13.4 -1.4**
BBSI Bau Bau 44.12 205 P P **19 28 14.6 -1.1**
STKI Sintang 44.14 222 P P **19 28 15.4 -0.5**
KBKI Kotabaru 44.67 214 P P **19 28 17.1 -3.0**
KAPI Kappang 44.70 209 P P **19 28 19.6 -0.7**
SNR=5.2
KAPI Kappang 44.70 209 P P **19 28 19.6 -0.7**
SNR=5.2
BKSI Bulukumba 44.84 208 P P **19 28 20.0 -1.5**
KURK Kurchatov 45.40 309 *c i* P P **19 28 25.6 0.0**
KURK pmax pmax
comp=Z,196nm,1.2s
KURK Kurchatov 45.40 309 *e* P P **19 28 25.6 0.0**
comp=Z,184nm,1.1s
KURK *e* P P **19 28 26.6 +1.1**
KURK *e* ScP ScP **19 33 46.8 +0.2**
KURK Kurchatov 45.40 309 P P **19 28 26.4 +0.9**
SNR=80
KURK Kurchatov 45.40 309 P P **19 28 26.4 +0.9**
SNR=80
BBKI Banjar Baru 45.43 216 P P **19 28 25.3 -0.9**
KURBB Kurchatov Arra 45.47 309 P P **19 28 26.6 +0.6**
comp=Z,44nm,0.8s,baz=84,slow=8.1,SNR=245
KURBB ScP ScP **19 33 46.8 -0.1**
comp=Z,0.9nm,0.6s,baz=84,slow=3.0,SNR=5.3
KURBB S S **19 35 02.2 +2.3**
comp=Z,2.2nm,1.1s,baz=86,slow=15,SNR=6.2
JIRN Jiri 45.55 275 *e* P P **19 28 28.2 +0.7**
comp=Z,458nm,1.0s
SKLT Songkhla 45.58 241 P P **19 28 26.7 -0.7**
comp=Z,64nm,1.2s,comp=Z,852nm
PMG Port Moresby 45.65 169 P P **19 28 27.5 -0.3**
comp=Z,56nm,0.9s,baz=351,slow=6.4,SNR=15
PMG LR LR 19 46 59.2
comp=Z,232nm,19.0s,baz=348,slow=35
PMG Port Moresby 45.65 169 *c i* P P **19 28 27.5 -0.3**
PMG pmax pmax
comp=Z,249nm,0.9s
PMG Port Moresby 45.65 169 *e* P P **19 28 27.7 -0.1**
comp=Z,64nm,0.9s
SURT Suratani 45.67 244 P P **19 28 27.1 -1.0**
comp=Z,22nm,1.1s,comp=Z,310nm
GUN Gumba 45.70 276 *e* P P **19 28 29.3 +0.7**
comp=Z,287nm,1.0s
PDGK Podgornoye 45.92 298 *i* P P **19 28 29.5 -0.4**
PDGK pmax pmax
comp=Z,161nm,1.2s
PKIN Phulchoki 46.22 276 *e* P P **19 28 32.9 +0.2**
KKN Kakani 46.23 276 *e* P P **19 28 33.3 +0.6**
comp=Z,152nm,1.0s
PBKI Pangkalan Bun 46.36 220 P P **19 28 34.3 +0.8**
DMN Daman 46.45 276 *e* P P **19 28 34.7 +0.3**
comp=Z,93nm,1.0s
GKN Gorkha 46.66 276 *e* P P **19 28 36.6 +0.6**
PKDT Phuket 46.72 243 P P **19 28 35.4 -0.9**
comp=Z,27nm,0.8s,comp=Z,396nm
KULM Kulim 46.88 239 *e* P P **19 28 37.0 -0.6**
comp=Z,36nm,1.2s
PRZ Przheval'sk 46.88 298 P P **19 28 39.2 +1.6**
IPM Ipoh 47.20 238 *e* P P **19 28 39.0 -1.1**
comp=Z,77nm,0.9s
DANN Dangsing 47.23 277 *e* P P **19 28 41.7 +1.2**
comp=Z,39nm,1.0s
EDFI Ende, Flores 47.46 204 P P **19 28 41.1 -1.0**
TARG Taragay, Kyrgy 47.49 297 *e* P P **19 28 43.7 +1.2**
comp=Z,77nm,1.2s
TPRI Tanjung Pinang 47.56 231 P P **19 28 42.5 -0.3**
KOLN Koldanda 47.59 277 *e* P P **19 28 44.1 +0.8**
KDJ Kajisay 47.85 297 P P **19 28 46.3 +1.3**
KDJ Kajisay 47.85 297 *e* P P **19 28 46.3 +1.3**
comp=Z,54nm,1.4s
PYUN Piuthan 47.95 277 *e* P P **19 28 46.9 +0.9**
comp=Z,1μm,1.2s
BATI Baumata 48.22 201 P P **19 28 47.8 -0.1**
comp=Z,53nm,0.5s,baz=326,slow=4.9,SNR=7.9
BATI LR LR 19 47 41.2
comp=Z,215nm,21.1s,baz=17,slow=34
ULHL Ulahol 48.49 298 P P **19 28 51.2 +1.2**
SNR=25
TKM2 Tokmak 2 48.79 299 *i* P P **19 28 53.6 +1.3**
TKM2 pmax pmax
comp=Z,119nm,1.4s
TKM2 Tokmak 2 48.79 299 P P **19 28 53.9 +1.6**
SNR=60
NRN Naryn 48.88 297 P P **19 28 54.4 +1.3**
KDAK Kodiak Island 48.99 41 P P **19 28 54.5 +1.3**
comp=Z,19nm,0.7s,baz=280,slow=3.1,SNR=17
KDAK Kodiak Island 48.99 41 *i* P P **19 28 54.8 +1.5**
KDAK Kodiak Island 48.99 41 *e* P P **19 28 54.5 +1.3**
comp=Z,369nm,1.9s
PPLA Purkeypile 48.99 34 *e* P P **19 28 56.2 +2.7**
comp=Z,91nm,1.6s
PPBI Pangkal Pinang 49.00 227 P P **19 28 53.2 -0.7**
CAST Castle Rocks 49.04 34 *e* P P **19 28 56.0 +2.4**
comp=Z,88nm,2.0s
HNR Honiara 49.05 153 P P **19 28 54.6 +0.4**

comp=Z,66nm,0.8s,baz=320,slow=17,SNR=5.0
HNR LR LR 19 48 03.6
comp=Z,147nm,21.9s,baz=341,slow=34
HNR Honiara 49.05 153 *e*P **P 19 28 54.6 +0.4**
HNR *e*P **P 19 28 55.2 +1.0**
HNR *e* 19 48 03.6
SPU Mount Spurr 49.09 37 *e*P **P 19 28 56.2 +2.2**
MTN Manton Dam 49.11 191 *e*P **P 19 28 54.1 -0.5**
comp=Z,212nm,1.1s
KZA Kyzart 49.25 298 P **P 19 28 57.9 +1.8**
SNR=38
KBK Karagaybulak 49.31 299 P **P 19 28 57.9 +1.7**
SNR=6.5
CHMS Chumysh 49.37 299 P **P 19 28 57.6 +1.2**
SNR=25
KSH Kashi 49.43 294 P **P 19 29 01.6 +4.5**
KSH pP pP 19 29 25.6 +4.5
KSH PcP **PcP 19 30 19.8 +1.9**
KSH PP **PP 19 30 56.1 +4.2**
KSH PcS **PcS 19 34 16.3 +1.6**
KSH S **S 19 36 00.4 +3.7**
KSH sS sS 19 36 40.4 +2.4
KSH pmax pmax
comp=Z,50nm,1.1s
KSH pmax pmax
comp=Z,130nm,7.8s
KSH LR LR
comp=Z,540nm,16.3s
KSH LR LR
comp=Z,380nm,11.3s
KSH LR LR
comp=Z,490nm,16.5s
USP Ospenovka 49.48 299 P **P 19 28 58.3 +1.0**
SNR=29
FRU1 Bishkek 49.50 299 P **P 19 28 59.1 +1.6**
FRU Bishkek 49.51 299⇑ *i*P **P 19 28 58.5 +1.0**
FRU *e* 19 30 24.0
FRU *e*S **S 19 35 59.0 +1.5**
FRU pmax pmax
comp=Z,200nm,2.0s
FRU smax smax
comp=E,140nm,2.5s
KTH Kantishna Hill 49.56 33 *e*P **P 19 29 00.5 +2.8**
comp=E,39nm,1.0s
MLY Manley 49.64 32 *e*P **P 19 29 00.8 +2.5**
comp=E,48nm,1.5s
AAK Ala-Archa 49.64 299 P **P 19 28 59.9 +1.1**
comp=E,18nm,0.8s,baz=97,slow=5.5,SNR=39
AAK Ala-Archa 49.64 299*c i*P **P 19 28 59.6 +0.9**
AAK pmax pmax
comp=Z,44nm,1.3s
AAK Ala-Archa 49.64 299 P **P 19 28 59.7 +1.0**
SNR=27
AAK Ala-Archa 49.64 299 *e*P **P 19 28 59.8 +1.1**
comp=Z,36nm,1.1s
AAK Ala-Archa 49.64 299 P **P 19 29 00.2 +1.4**
SNR=19
AAK Ala-Archa 49.64 299 P **P 19 29 00.2 +1.4**
SNR=19
AAK Ala-Archa 49.64 299 *i*P **P 19 28 59.7 +1.0**
SNR=31
SUA Susitna One 49.71 36 *e*P **P 19 29 01.4 +2.5**
comp=Z,23nm,0.8s
COEN Coen 49.71 175 *e*P **P 19 28 59.8 +0.6**
comp=Z,164nm,1.0s
UCH Uchtor 49.74 298 P **P 19 29 01.5 +1.7**
SNR=24
BLJI Banyuglugur 49.77 214 P **P 19 28 58.4 -1.3**
TBJI Tambak Boyo 49.79 217 P **P 19 28 57.9 -1.9**
OTUK Ortayu 49.82 306 P **P 19 29 00.8 +1.0**
OTUK pmax pmax
comp=Z,172nm,1.2s
TRF Thorofare Moun 49.85 34 *e*P **P 19 29 01.9 +2.0**
comp=Z,15nm,1.0s
PSI Prapat 49.86 238 P **P 19 28 59.8 -0.7**
comp=Z,24nm,0.8s,baz=17,slow=3.9,SNR=17
PSI Prapat 49.86 238 *e*P **P 19 28 59.9 -0.7**
PSI pmax pmax
comp=Z,29nm,0.8s
PSI Prapat 49.86 238 *e*P **P 19 28 59.9 -0.7**
comp=Z,29nm,0.8s
DNP Denpasar 49.88 212 P **P 19 29 00.7 +0.2**
RGRI Rengat 49.92 232 P **P 19 29 00.4 -0.5**
EKS2 Erkin-Say 50.15 299 P **P 19 29 03.0 +0.5**
SNR=29
KCSI Kotacane, Aceh 50.15 240 P **P 19 29 00.0 -2.6**
comp=Z,13nm,0.8s
BVA0 Borovoye Array 50.17 313 P **P 19 29 02.1 -0.3**
BVA0 pmax pmax
comp=Z,31nm,1.3s
BVAR Borovoye Array 50.17 313 P **P 19 29 03.0 +0.6**
comp=Z,20nm,0.9s,baz=86,slow=7.9,SNR=45
BVAR PcP **PcP 19 30 20.3 +0.1**
comp=Z,5.3nm,0.9s,baz=131,slow=5.1,SNR=2.5
BVAR S **S 19 36 03.7 -2.7**
comp=Z,0.6nm,0.6s,baz=40,slow=12,SNR=2.7
BVAR LR LR 19 51 38.4
comp=Z,330nm,18.7s,baz=83,slow=38
TOLK Toolik Lake Re 50.19 27 P **P 19 29 04.5 +2.2**
baz=268
TOLK Toolik Lake Re 50.19 27 *e*P **P 19 29 04.4 +2.0**
comp=Z,19nm,1.1s
RC01 Rabbit Creek A 50.21 37 *e*P **P 19 29 05.0 +2.5**
comp=Z,26nm,1.0s
BRVK Borovoye 50.23 313*c i*P **P 19 29 03.4 +0.6**
BRVK pmax pmax
comp=Z,34nm,1.2s
BRVK Borovoye 50.23 313 *e*P **P 19 29 03.4 +0.6**
comp=Z,42nm,1.3s
BRVK Borovoye 50.23 313 P **P 19 29 03.8 +1.0**
SNR=14
BRVK Borovoye 50.23 313 P **P 19 29 03.8 +1.0**
SNR=14
GMJI Gumukmas 50.30 214 P **P 19 29 00.5 -3.2**
AML Almayashu 50.35 298 P **P 19 29 05.8 +1.4**
SNR=150
MCK McKinley 50.45 33 *e*P **P 19 29 07.5 +3.2**
MCK pmax pmax
comp=Z,26nm,1.1s
MCK McKinley 50.45 33 *e*P **P 19 29 07.5 +3.2**
comp=Z,26nm,1.1s
RND Reindeer 50.50 34 *e*P **P 19 29 06.6 +1.9**
RND pmax pmax
comp=Z,36nm,1.0s
RND Reindeer 50.50 34 *e*P **P 19 29 06.6 +1.9**
comp=Z,36nm,1.0s
MLSI Meulaboh, Aceh 50.59 242 P **P 19 29 04.5 -1.5**
MDM Murphy Dome 50.71 32 *e*P **P 19 29 08.7 +2.5**
comp=Z,70nm,1.1s
SML Sawmill 50.83 36 *e*P **P 19 29 10.4 +3.2**
SML pmax pmax
comp=Z,26nm,0.8s
SML Sawmill 50.83 36 *e*P **P 19 29 10.4 +3.2**
comp=Z,26nm,0.8s
PWJI Pagerwojo 50.85 216 P **P 19 29 06.0 -1.9**
MNSI Mandailing Nat 50.87 236 P **P 19 29 06.8 -1.3**
COLA College 50.87 32⇑ *e*P **P 19 29 09.6 +2.2**
COLA pmax pmax
comp=Z,11nm,0.9s
CCB Clear Creek Bu 50.90 32 *e*P **P 19 29 11.0 +3.4**
comp=Z,14nm,1.1s
MNAS Manas 51.10 299 *i*P **P 19 29 10.7 +1.0**
MNAS pmax pmax
comp=Z,67nm,0.9s
SFK Sufi-Kurgan 51.10 296 *i*P **P 19 29 10.6 +0.8**
SFK pmax pmax
comp=Z,68nm,1.3s
DHY Denali Highway 51.19 34 *e*P **P 19 29 12.1 +2.1**
comp=Z,28nm,1.3s
HDA Harding Lake 51.28 32 *e*P **P 19 29 11.7 +1.2**
comp=Z,48nm,1.1s
IL1 Eielson Array 51.29 32 *e*P **P 19 29 11.1 +0.6**
ILAR Eielson Array 51.29 32 P **P 19 29 11.6 +1.1**
comp=Z,6.6nm,0.8s,baz=269,slow=5.2,SNR=32
ILAR PcP **PcP 19 30 22.3 -1.9**
comp=Z,2.5nm,0.7s,baz=274,slow=5.8,SNR=1.9
ILB Eielson Array 51.29 32 *e*P **P 19 29 11.8 +1.2**
ILB *e*PcP **PcP 19 30 22.3 -1.9**
SCM Sheep Creek Mo 51.31 36 *e*P **P 19 29 13.8 +3.0**
SCM pmax pmax
comp=Z,117nm,1.8s
SCM Sheep Creek Mo 51.31 36 *e*P **P 19 29 13.8 +3.0**
comp=Z,117nm,1.8s
FYU Fort Yukon 51.87 29 *e*P **P 19 29 17.8 +2.9**
comp=Z,50nm,1.2s
KLI Kotabumi 51.92 226 P **P 19 29 14.5 -1.3**
TNG Tangerang 51.97 223 P **P 19 29 14.9 -1.3**
LEM Lembang 51.98 222 P **P 19 29 15.8 -0.7**
comp=Z,247nm,0.9s,baz=52,slow=5.9,SNR=37
LEM LR LR 19 49 43.8
comp=Z,171nm,20.9s,baz=22,slow=34
LEM Lembang 51.98 222 P **P 19 29 15.0 -1.5**
KLU Klutina 52.01 36 *e*P **P 19 29 19.2 +3.1**
comp=Z,35nm,1.1s
MDSI Maura Dua 52.02 227 P **P 19 29 15.3 -1.3**
BLSI Bandar Lampung 52.10 225 P **P 19 29 16.0 -1.2**
DIV Divide 52.12 36 *e*P **P 19 29 18.5 +1.5**
comp=Z,89nm,1.5s
MASI Maura Aman, Be 52.13 230 P **P 19 29 16.2 -1.3**
HARP HAARP 52.26 35 *e*P **P 19 29 20.2 +2.3**
comp=Z,29nm,0.8s
KK31 Karatay Array 52.33 300 *i*P **P 19 29 19.5 +0.8**
KK31 pmax pmax
comp=Z,63nm,0.9s
KKAR Karatay Array 52.33 300 *e*P **P 19 29 19.7 +1.0**
KKAR Karatay Array 52.33 300 *e*P **P 19 29 19.7 +1.0**
LWLI Liwa 52.51 227 P **P 19 29 18.2 -2.2**
DOT Dot Lake 52.62 33 *e*P **P 19 29 23.2 +2.7**
comp=Z,339nm,2.0s
SKJI Sukabumi 52.70 223 P **P 19 29 17.7 -3.9**
BMRM Bremner River 52.71 36 *e*P **P 19 29 23.1 +1.9**
comp=Z,26nm,1.0s
MENT Mentasta 52.86 34 *e*P **P 19 29 24.9 +2.6**
comp=Z,44nm,1.3s
EGAK Eagle 53.73 31 *e*P **P 19 29 30.4 +1.8**
comp=Z,25nm,1.1s
SVE Sverdlovsk 54.96 319*d i*P **P 19 29 38.8 +1.3**
SVE *e*S **S 19 37 12.5 +1.1**
SVE pmax pmax
comp=Z,114nm,1.3s
WRAB Tennant Creek 55.74 186*c i*P **P 19 29 43.0 -0.5**
WRAB pmax pmax
comp=Z,136nm,1.0s
WRAB Tennant Creek 55.74 186 *e*P **P 19 29 43.0 -0.5**
comp=Z,283nm,1.5s
WR1 Warramunga Arr 55.75 186 *e*P **P 19 29 42.9 -0.7**
comp=Z,245nm,1.4s
WR1 *e*PcP **PcP 19 30 42.4 +0.7**
WR1 *e*ScP **ScP 19 34 32.6 +1.4**
WR1 *e*S **S 19 37 24.4 +1.8**
WR1 *e*PKKPdf PKKPdf 19 51 57.4 +31
WRA Warramunga Arr 55.75 186 P **P 19 29 42.9 -0.7**
comp=Z,57nm,0.6s,baz=0.4,slow=7.7,SNR=811
WRA PcP **PcP 19 30 42.4 +0.7**
comp=Z,19nm,0.7s,baz=1.4,slow=4.8,SNR=6.2
WRA ScP **ScP 19 34 32.6 +1.4**
comp=Z,5.9nm,1.2s,baz=7.6,slow=5.0,SNR=5.8
WRA S **S 19 37 24.4 +1.8**
comp=Z,1.6nm,0.9s,baz=0.8,slow=13,SNR=4.8
WRA LR LR 19 51 57.4
comp=Z,170nm,21.9s,baz=355,slow=34
CTA Charters Tower 56.05 172 P **P 19 29 45.0 -0.8**
comp=Z,13nm,0.9s,baz=358,slow=8.3,SNR=11
CTA Charters Tower 56.05 172 *e*P **P 19 29 45.0 -0.8**
CTAO Charters Tower 56.05 172 *e*P **P 19 29 45.4 -0.4**
CTAO pmax pmax
comp=Z,27nm,1.0s
CTAO Charters Tower 56.05 172 *e*P **P 19 29 45.4 -0.4**
comp=Z,27nm,1.0s
INK Inuvik 56.11 27 P **P 19 29 47.2 +1.6**
comp=Z,5.3nm,0.7s,baz=289,slow=5.7,SNR=18
INK PcP **PcP 19 30 42.3 -0.1**
comp=Z,2.6nm,0.6s,baz=324,slow=2.3,SNR=1.8
INK S **S 19 37 26.4 0.0**
comp=Z,0.3nm,0.5s,baz=38,slow=19,SNR=3.1
INK Inuvik 56.11 27 *e*P **P 19 29 47.0 +1.4**
comp=Z,26nm,1.0s
INK PcP **PcP 19 30 42.3 -0.1**
INK S **S 19 37 26.4 0.0**
HYT Haines Junctio 56.14 36 *e*P **P 19 29 48.6 +2.4**
comp=Z,45nm,1.1s
ARU Arti 56.16 319 P **P 19 29 46.9 +0.7**
comp=Z,20nm,0.6s,baz=83,slow=4.3,SNR=53
ARU PcP **PcP 19 30 43.1 +0.3**
comp=Z,7.8nm,0.6s,baz=77,slow=6.4,SNR=1.6
ARU Arti 56.16 319*c i*P **P 19 29 46.4 +0.2**
ARU *PP **pP 19 30 11.4 +0.7**
ARU 19 30 42.8
ARU 19 31 50.7
ARU S **S 19 37 30.4 +2.9**
ARU SS **SS 19 41 18.3 +3.5**
ARU pmax pmax
comp=Z,122nm,1.2s
ARU Arti 56.16 319 *e*P **P 19 29 46.8 +0.5**
comp=Z,145nm,1.3s
ARU PcP **PcP 19 30 43.1 +0.3**
SOKR Solikamsk 56.27 323 *e*P **P 19 29 45.8 -1.0**
SOKR pmax pmax
comp=Z,36nm,0.9s
KBL Kabul 56.35 291 *e*P **P 19 29 48.4 +0.3**
KBL pmax pmax
comp=Z,93nm,1.4s
KBL Kabul 56.35 291 *e*P **P 19 29 48.4 +0.3**
comp=Z,93nm,1.4s
HYB Hyderabad 56.59 268⇑ *i*P **P 19 29 50.0 +0.2**
comp=Z,171nm,1.2s
HYB *e*PcP **PcP 19 30 46.0 +0.8**
WHY Whitehorse 57.43 36 *e*P **P 19 29 58.1 +2.8**
comp=Z,68nm,1.8s
AB31 Akbulak array 57.46 310 *i*P **P 19 29 55.7 +0.2**
AB31 pmax pmax
comp=Z,79nm,1.0s
ABKAR Akbulak array 57.46 310 *e*P **P 19 29 56.1 +0.6**
comp=Z,449nm,1.0s
AKTO Aktyubinsk 58.26 312 P **P 19 30 00.9 -0.1**
comp=Z,33nm,1.1s,baz=78,slow=6.6,SNR=31
AKTO S **S 19 37 50.9 -4.3**
comp=Z,0.4nm,0.5s,baz=52,slow=18,SNR=2.5
AKTO LR LR 19 56 43.5
comp=Z,503nm,18.5s,baz=75,slow=38
AS01 Alice Springs 59.47 186 *e*P **P 19 30 08.4 -1.2**
AS31 Alice Springs 59.48 186 *e*P **P 19 30 09.3 -0.3**
comp=Z,9.7nm,0.6s
AS31 *e*PcP **PcP 19 30 55.6 -0.7**
AS31 *e*ScP **ScP 19 34 49.5 +1.8**
AS31 *e*S **S 19 38 11.0 -0.3**
AS31 *e*PKKSdf PKKSdf 19 55 46.1 +49
AS31 ⇑*e* 19 59 48.8
ASAR Alice Springs 59.48 186 P **P 19 30 09.3 -0.4**
comp=Z,27nm,0.8s,baz=14,slow=8.2,SNR=181
ASAR PcP **PcP 19 30 55.6 -0.7**
comp=Z,13nm,0.9s,baz=11,slow=4.6,SNR=5.9
ASAR ScP **ScP 19 34 49.5 +1.8**
comp=Z,1.5nm,1.0s,baz=352,slow=5.8,SNR=4.9
ASAR S **S 19 38 11.0 -0.3**
comp=Z,1.0nm,0.7s,baz=18,slow=22,SNR=7.0
ASAR LR LR 19 55 46.1
comp=Z,131nm,20.4s,baz=2.5,slow=36
ASAR PKP2bc 19 59 48.8
comp=Z,3.1nm,1.1s,baz=159,slow=1.9,SNR=12
MBWA Marble Bar 59.74 201 *e*P **P 19 30 11.1 -0.5**
comp=Z,31nm,0.6s
DLBC Dease Lake 60.48 37 *e*P **P 19 30 18.1 +1.8**
comp=Z,77nm,1.6s
PALK Pallekele 60.58 257 *e*P **P 19 30 18.4 +0.8**
PALK pmax pmax
comp=Z,54nm,0.8s
PALK Pallekele 60.58 257 *e*P **P 19 30 18.4 +0.8**
comp=Z,54nm,0.8s
PALK Pallekele 60.58 257 P **P 19 30 18.7 +1.1**
SNR=5.2
PALK Pallekele 60.58 257 P **P 19 30 18.7 +1.1**
SNR=5.2
PALK Pallekele 60.58 257 *i*P **P 19 30 17.9 +0.4**
SNR=13
SPITS Spitsbergen Ar 61.32 349 P **P 19 30 22.4 +0.8**
comp=Z,8.3nm,0.8s,baz=46,slow=6.2,SNR=19
SPITS LR LR 19 57 52.8
comp=Z,191nm,20.9s,baz=150,slow=37
EIDS Eidsvold 61.92 168 *e*P **P 19 30 26.7 +0.5**
comp=Z,63nm,0.9s
LVZ Lovozero 62.49 336*de*P **P 19 30 30.3 +0.7**
LVZ pmax pmax
comp=Z,111nm,3.0s
TMCR Tamitsa 62.98 331 *e*P **P 19 30 33.3 +0.5**
TMCR pmax pmax
comp=Z,60nm,1.3s
GEYT Alibeck 63.00 299 P **P 19 30 34.5 +1.1**
comp=Z,20nm,1.0s,baz=46,slow=4.3,SNR=46
GEYT S **S 19 38 54.5 -1.5**
comp=Z,0.8nm,0.6s,baz=62,slow=19,SNR=2.5
GEYT LR LR 20 00 05.5
comp=Z,444nm,19.0s,baz=40,slow=38
DZM Mont Dzumac 63.06 152 P **P 19 30 35.4 +1.5**
comp=Z,63nm,1.0s,baz=358,slow=7.9,SNR=20
DZM LR LR 19 59 14.9
comp=Z,157nm,19.3s,baz=2.0,slow=37
DZM Mont Dzumac 63.06 152 *e*P **P 19 30 35.5 +1.5**
comp=Z,235nm,1.2s
DZM *e*S **S 19 38 59.5 +2.6**
comp=Z,194nm,23.0s
DZM Mont Dzumac 63.06 152 *e*LR LR 19 49 08.1
comp=Z,522nm,25.4s
DZM Mont Dzumac 63.06 152 *e*P **P 19 30 35.6 +1.6**
comp=Z,139nm,1.2s
DZM *e* 19 59 14.9
APA Apatity 63.07 336⇑ *i*P **P 19 30 32.9 -0.5**
APA pmax pmax
comp=Z,12nm,1.1s
APA MLR MLR
comp=Z,2µm,13.0s
KLMR Klimovskoe 63.87 328 *e*P **P 19 30 37.3 -1.4**
KLMR *e* 19 32 58.5
KLMR pmax pmax
comp=Z,50nm,1.4s
KLMR Klimovskoe 63.87 328 *e*P **P 19 30 37.3 -1.4**
KLMR AMP 19 30 40.4
comp=Z,50nm,1.4s
KLMR *e*PP **PP 19 32 58.6 -1.3**
BBB Bella Bella 63.97 43 LR LR 19 56 09.7
comp=Z,98nm,21.2s,baz=280,slow=34
RES Resolute Bay 64.08 14 *e*P **P 19 30 40.9 +1.0**
RES pmax pmax
comp=Z,23nm,1.0s
RES Resolute Bay 64.08 14 *e*P **P 19 30 40.9 +1.0**
comp=Z,23nm,1.0s
ARA0 ARCESS Array S 64.50 339 *e*P **P 19 30 43.3 +0.6**
ARA0 *e* 20 02 25.4
ARCES ARCESS Array B 64.50 339 P **P 19 30 43.3 +0.6**
comp=Z,2.7nm,0.4s,baz=58,slow=7.3,SNR=25
ARCES LR LR 20 02 25.4
comp=Z,365nm,18.3s,baz=41,slow=39
MSVF Nonsavu 64.66 139 *e*P **P 19 30 44.8 +0.3**
MSVF pmax pmax
comp=Z,63nm,1.3s
MSVF Nonsavu 64.66 139 *e*P **P 19 30 44.8 +0.3**
comp=Z,63nm,1.3s
YKW3 Yellowknife Ar 65.53 29 *e*P **P 19 30 51.6 +2.1**
comp=Z,13nm,1.0s
YKA Yellowknife Ar 65.57 29 P **P 19 30 50.3 +0.5**
comp=Z,0.6nm,0.6s,baz=298,slow=6.4,SNR=12
YKA PKPPKP P'P'df 19 59 20.5 -10
comp=Z,0.3nm,0.9s,baz=121,slow=3.1,SNR=3.6
YKA LR LR 20 02 25.2
comp=Z,12nm,18.1s,baz=0.0,slow=38
YKA Yellowknife Ar 65.57 29 *i*P **P 19 30 50.7 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.6s
TULEG Thule 66.42 7 *e*P **P 19 30 55.5 +0.5**
comp=Z,12nm,0.9s
ARMA Armidale 66.95 169 *e*P **P 19 31 00.2 +1.2**
comp=Z,63nm,1.0s
MOS Moscow 67.21 323 *e*P **P 19 30 59.9 -0.4**
MOS *e* 19 31 28.9
MOS *e* 19 33 27.8
MOS *e*S **S 19 39 43.7 -3.1**
MOS pmax pmax
comp=Z,142nm,1.4s
VRH Novokhopyorsk 67.35 318 *e*P **P 19 31 01.0 -0.3**
VRH *e*S **S 19 39 48.0 -0.7**
VRH pmax pmax
comp=Z,40nm,1.0s
VRH smax smax
comp=N,80nm,1.6s
STKA Stephens Creek 67.45 178 P **P 19 31 01.5 -0.5**
comp=N,24nm,0.9s,baz=344,slow=7.3,SNR=23
STKA LR LR 20 01 33.0
comp=N,162nm,19.7s,baz=10,slow=37
STKA Stephens Creek 67.45 178 *e*P **P 19 31 02.1 +0.1**
STKA pmax pmax
comp=Z,10.0nm,1.1s
STKA Stephens Creek 67.45 178 *e*P **P 19 31 02.1 +0.1**
comp=Z,9.7nm,1.1s
AFI Afiamalu 67.65 128 LR LR 19 58 46.4
comp=Z,310nm,18.3s,baz=324,slow=34
MAK Makhachkala 67.91 308 *e*P **P 19 31 05.3 +0.4**
MAK *e**PP **PcP 19 31 30.5 -0.2**
MAK *e**SP **sP 19 31 42.0 +0.7**
MAK *e* 19 33 33.6
MAK *e*PPP PPP 19 35 17.1
MAK *e*S **S 19 39 53.7 -1.8**
MAK *e**SS **sS 19 40 41.1 +2.2**
MAK *e*SS **SS 19 44 24.8 +6.3**
MAK pmax pmax
comp=Z,176nm,2.0s
MAK MLR MLR
comp=Z,618nm,20.0s
OBN Obninsk 68.05 323*c i*P **P 19 31 05.6 0.0**
OBN *e**PP **pP 19 31 29.1 -1.8**
OBN *e**SP **sP 19 31 40.8 -1.2**
OBN *e* 19 33 36.9
OBN *e*PPP PPP 19 35 16.4
OBN *e*S **S 19 39 57.4 +0.6**
OBN *e*SS **SS 19 44 22.9 +2.8**
OBN pmax pmax
comp=Z,95nm,1.5s
OBN MLR MLR
comp=Z,666nm,17.0s
OBN Obninsk 68.05 323 *e*P **P 19 31 06.1 +0.5**
comp=Z,134nm,1.5s
LPSR Galich'ya Gora 68.15 320 *e*P **P 19 31 06.4 +0.1**
LPSR *e*S **S 19 39 56.7 -1.4**
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR smax smax
comp=E,60nm,1.4s
BBOO Buckleboo 68.43 183 *e*P **P 19 31 07.9 -0.2**
comp=E,71nm,1.2s
AKT Akhty 68.48 306⇓ *i*P **P 19 31 09.1 +0.4**
AKT *e* 19 31 34.3
AKT pmax pmax
comp=Z,30nm,0.7s
VORR Voronezh 68.48 319 *e*P **P 19 31 08.0 -0.4**
VORR pmax pmax
comp=Z,300nm,1.2s
VSR Storozhevoye 68.74 318 *e*P **P 19 31 09.4 -0.6**
VSR *e*S **S 19 40 03.4 -1.7**
VSR pmax pmax
comp=Z,70nm,1.2s
VSR smax smax
comp=N,50nm,1.4s
GROC Groznyy 68.88 309 *e*P **P 19 31 09.6 -1.4**
GROC *e* 19 31 33.8
GROC pmax pmax
comp=Z,33nm,1.2s
SEKA Sheki 68.96 306 P **P 19 31 10.1 -1.6**
FIA1 FINESS Array S 69.07 332 *e*P **P 19 31 11.9 0.0**
FIA1 *e*P **P 19 31 12.3 +0.5**
FIA0 FINESS Array S 69.07 332 *e*P **P 19 31 12.0 +0.1**
FIA0 FINESS Array S 69.07 332 *e*P **P 19 31 12.0 +0.1**
FINES FINESS Array B 69.07 332 P **P 19 31 12.0 +0.1**
comp=Z,14nm,0.9s,baz=58,slow=6.4,SNR=32
ZKTA Zakatala 69.12 307 P **P 19 31 11.5 -1.1**
LKRN Lenkeran, Azer 69.14 303 P **P 19 31 11.6 -1.1**
KULLO Kullorsuaq 69.24 5 *i*P **P 19 31 13.5 +0.8**
comp=Z,27nm,1.2s
KULLO Kullorsuaq 69.24 5 *e*P **P 19 31 13.5 +0.8**
KULLO pmax pmax
comp=Z,27nm,1.2s
MNGR Mingechevir, A 69.25 306 P **P 19 31 12.3 -1.1**
WSAR Wadi Sarin 69.63 284 P **P 19 31 16.7 +0.7**
comp=Z,19nm,1.0s,baz=88,slow=7.1,SNR=16
WSAR S **S 19 40 11.6 -4.9**
comp=Z,1.4nm,0.8s,baz=37,slow=15,SNR=2.1
WSAR LR LR 20 04 18.6
comp=Z,102nm,20.6s,baz=83,slow=38
GOF Gofitskoye 69.66 311⇑ *e*P **P 19 31 16.5 +0.7**
GOF pmax pmax
comp=Z,103nm,1.3s
GANJ Ganja 69.82 306 P **P 19 31 15.7 -1.2**
BIDO Bidbid 69.88 285 P **P 19 31 19.0 +1.5**
SNR=12
BIDO Bidbid 69.88 285 P **P 19 31 19.0 +1.5**
SNR=12
BANOM Banah 70.06 288 P **P 19 31 19.8 +1.1**
SNR=20
BANOM Banah 70.06 288 P **P 19 31 19.8 +1.1**

SNR=20
BANOM **Banah** 70.06 288 *i* P P 19 31 19.4 +0.8
SNR=25
NCK **Nalchik** 70.12 310⇓ *i*P P 19 31 19.6 +0.9
NCK pmax pmax
comp=Z,34nm,1.0s
SHME **Shamm** 70.12 288 *i* P P 19 31 19.9 +0.8
SNR=37
SMDO **Samad** 70.18 285 P P 19 31 28.0 +8.5
SNR=5.0
ZEI **Tsey** 70.29 309 *e*P P 19 31 18.0 -2.0
ZEI pmax pmax
comp=Z,17nm,1.0s
TBLG **Delisi** 70.30 308 *e*P P 19 31 20.6 +0.8
TBLG pmax pmax
comp=Z,41nm,1.3s
TBLG **Delisi** 70.30 308 *e*P P 19 31 20.6 +0.8
comp=Z,41nm,1.3s
MDH **Madha** 70.39 287 *i* P P 19 31 20.3 -0.3
SNR=9.2
KBZ **Khabaz** 70.43 310 P P 19 31 21.6 +1.1
comp=Z,41nm,1.0s,baz=58,slow=2.7,SNR=46
KBZ LR LR 20 05 04.2
comp=Z,247nm,18.7s,baz=68,slow=38
KIV **Kislovodsk** 70.45 310 *e*P P 19 31 21.6 +0.8
KIV *e**PP pP 19 31 47.0 +0.7
KIV *e*S S 19 40 28.1 +2.4
KIV *e*SS SS 19 45 01.1 +3.3
KIV pmax pmax
comp=Z,118nm,1.1s
KIV pmax pmax
comp=Z,102nm,3.7s
KIV MLR MLR
comp=Z,312nm,18.0s
KIV **Kislovodsk** 70.45 310 *e*P P 19 31 21.9 +1.2
comp=Z,101nm,1.0s
KIV **Kislovodsk** 70.45 310 P P 19 31 22.0 +1.2
SNR=17
KIV **Kislovodsk** 70.45 310 P P 19 31 22.0 +1.2
SNR=17
KIV **Kislovodsk** 70.45 310 *i* P P 19 31 21.2 +0.5
SNR=33
MSFE **Esma-Masafi** 70.46 288 *i* P P 19 31 21.9 +0.8
SNR=9.4
VSU **Vasula** 70.62 329*c i*P P 19 31 22.0 +0.6
VSU pmax pmax
comp=Z,136nm,1.3s
UOSS **Minazif** 70.64 287 *e*P P 19 31 22.8 +0.6
comp=Z,38nm,1.0s
UOSS **Minazif** 70.64 287 *i* P P 19 31 22.1 0.0
SNR=22
HATD **Hatta, Dubai** 70.76 287 *i* P P 19 31 23.8 +0.9
SNR=32
UMQ **Umm Al-Quwin** 70.76 288 *i* P P 19 31 24.6 +1.7
SNR=5.6
NEY **Neytrino** 70.79 310⇓ *e*P P 19 31 24.3 +1.3
NEY pmax pmax
comp=Z,10.0nm,1.2s
SOHO **SOHO** 70.81 286 *i* P P 19 31 23.4 +0.3
SNR=18
ASHO **Ashiyiah** 70.89 287 P P 19 31 24.7 +1.0
SNR=20
ASHO **Ashiyiah** 70.89 287 P P 19 31 24.7 +1.0
SNR=20
ASHO **Ashiyiah** 70.89 287 *i* P P 19 31 24.4 +0.7
SNR=31
BSY **Bisya** 71.01 285 P P 19 31 31.0 +6.5
SNR=8.6
NAZ **Nazwa, Dubai** 71.04 287 *i* P P 19 31 27.0 +2.5
SNR=5.4
UMPQ **Umpqua Communi** 71.07 50 *e*P P 19 31 25.0 +0.6
GNI **Garni** 71.11 306 P P 19 31 26.8 +1.8
comp=Z,5.7nm,0.4s,baz=73,slow=20,SNR=11
GNI LR LR 20 05 12.0
comp=Z,399nm,18.9s,baz=64,slow=38
GNI **Garni** 71.11 306⇓ *i*P P 19 31 27.2 +2.3
GNI pmax pmax
comp=Z,173nm,1.4s
GNI **Garni** 71.11 306 *e*P P 19 31 26.1 +1.2
comp=Z,72nm,1.4s
GNI *e*P P 19 31 26.8 +1.8
GNI *e* 20 05 12.0
GNI **Garni** 71.11 306 P P 19 31 27.5 +2.5
SNR=6.2
GNI **Garni** 71.11 306 P P 19 31 27.5 +2.5
SNR=6.2
GNI **Garni** 71.11 306 *i* P P 19 31 26.6 +1.7
SNR=5.7
AKH **Akhalkalaki** 71.26 308⇑ *i*P P 19 31 27.6 +1.7
AKH **Akhalkalaki** 71.26 308 *e*P P 19 31 27.4 +1.5
AKH pmax pmax
comp=Z,23nm,1.0s
AKH **Akhalkalaki** 71.26 308 *e*P P 19 31 27.4 +1.5
comp=Z,22nm,1.0s
CAN **Canberra** 71.41 172 *e*P P 19 31 27.6 +1.2
CAN pmax pmax
comp=Z,60nm,1.1s
CAN **Canberra** 71.41 172 *e*P P 19 31 27.6 +1.2
comp=Z,60nm,1.1s
ALNE **Al Ain** 71.46 287 *i* P P 19 31 27.8 +0.7
SNR=24
NWAO **Narrogin (SRO)** 71.56 200 P P 19 31 27.2 -0.1
comp=Z,70nm,0.9s,baz=267,slow=7.2,SNR=20
C09A **Chrisman Ranch** 71.65 44 *e*P P 19 31 29.1 +1.2
comp=Z,15nm,1.0s
D08A **Wollman Farm,** 71.69 45 *e*P P 19 31 31.4 +3.3
comp=Z,9.2nm,0.8s
AJN **Ajban** 71.79 287 *i* P P 19 31 29.4 +0.3
SNR=7.5
SUMG **Summit** 71.81 359 *i* P P 19 31 30.1 +1.3
comp=Z,13nm,0.7s
SUMG **Summit** 71.81 359 *e*P P 19 31 30.1 +1.3
SUMG pmax pmax
comp=Z,39nm,1.2s
SUMG **Summit** 71.81 359 *e*P P 19 31 30.1 +1.3
comp=Z,39nm,1.2s
YBH **Yreka Blue Hor** 72.28 51 P P 19 31 32.2 +0.4
comp=Z,1.9nm,0.6s,baz=328,slow=13,SNR=3.4
YBH LR LR 19 58 41.4
comp=Z,87nm,19.6s,baz=334,slow=32
M02C **Callahan** 72.37 51 P P 19 31 35.0 +2.6
baz=302
E09A **Wood Farm, Sta** 72.43 45 *e*P P 19 31 35.0 +2.5
comp=Z,17nm,1.0s
SOC **Sochi** 72.47 311 *e*P P 19 31 33.0 +0.2
SOC *e**PP pP 19 31 57.0 -1.4
SOC *e*S S 19 40 43.9 -4.8
SOC pmax pmax
comp=Z,73nm,1.1s
SOC MLR MLR
comp=Z,329nm,18.0s
IZAR **Zarasai** 72.50 327 *e*P P 19 31 33.0 +0.2
IZAR IAmb IAmb 19 31 35.5
comp=Z,34nm,1.5s
IDID **Didziasalis** 72.56 326 *e*P P 19 31 33.4 +0.3
IDID IAmb IAmb 19 31 35.8
comp=Z,24nm,1.2s
ISAL **Salakas** 72.67 327 *e*P P 19 31 34.0 +0.2
ISAL IAmb IAmb 19 31 36.5
comp=Z,32nm,1.2s
N02D **Trinity Center** 72.69 52 P P 19 31 35.8 +1.5
baz=303
IIGN **Ignalina** 72.77 327 *e*P P 19 31 34.7 +0.3
IIGN IAmb IAmb 19 31 37.0
comp=Z,14nm,1.1s
NACGM **Naroch** 72.79 326 *e* P 19 31 34.0 -0.5
SCO **Scoresbysund** 73.07 354 *i* P P 19 31 37.8 +2.0
SCO **Scoresbysund** 73.07 354 *e*P P 19 31 37.8 +2.0
ANN **Anapa** 73.17 313 *e*P P 19 31 35.5 -1.4
ANN *e**PP pP 19 32 01.7 -0.8
ANN *e* 19 34 19.3
ANN *e*S S 19 40 55.7 -0.9
ANN pmax pmax
comp=Z,156nm,1.5s
WALA **Waterton Lakes** 73.33 41 *e*P P 19 31 40.1 +2.1
comp=Z,10nm,0.9s
O03D **Paynes Creek** 73.64 52 P P 19 31 41.7 +1.8
baz=303
BMO **Blue Mountains** 73.85 46 *e*P P 19 31 44.3 +3.2
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO **Blue Mountains** 73.85 46 *e*P P 19 31 44.3 +3.2
comp=Z,10nm,0.9s
JTMT **Jette** 73.90 42 *e*P P 19 31 43.4 +2.1
comp=Z,12nm,0.9s
J08A **Circle Bar Ran** 74.00 48 *e*P P 19 31 42.7 +0.7
comp=Z,24nm,1.4s

AKASG **Malin Array Be** 74.22 322 P P 19 31 43.1 +0.2
comp=Z,21nm,0.9s,baz=46,slow=6.4,SNR=88
AKASG LR LR 20 07 07.8
comp=Z,750nm,18.3s,baz=10.0,slow=38
AKBB **Malin Array Si** 74.22 322 *e*P P 19 31 43.3 +0.4
AKBB pmax pmax
comp=Z,53nm,1.1s
AKBB **Malin Array Si** 74.22 322 *e*P P 19 31 43.3 +0.4
comp=Z,53nm,1.1s
AKBB *e* 20 07 07.8
KIEV **Kiev** 74.23 322*c i*P P 19 31 43.1 +0.2
KIEV pmax pmax
comp=Z,60nm,1.3s
KIEV **Kiev** 74.23 322 *e*P P 19 31 43.2 +0.2
comp=Z,47nm,1.1s
KIEV **Kiev** 74.23 322 *i* P P 19 31 43.4 +0.4
SNR=18
ORV **Oroville** 74.24 52 *e*P P 19 31 44.3 +1.0
ORV pmax pmax
comp=Z,7.0nm,1.0s
ORV **Oroville** 74.24 52 *e*P P 19 31 44.3 +1.0
comp=Z,7.2nm,1.0s
AK11 **Malin Array Si** 74.26 322 *e*P P 19 31 43.3 +0.2
NC405 **NORSAR Array S** 74.39 337 *e*P P 19 31 43.7 -0.1
HFS **Hagfors** 74.46 335 P P 19 31 43.7 -0.4
comp=Z,12nm,1.0s,baz=41,slow=9.6,SNR=12
HFS LR LR 20 06 49.9
comp=Z,548nm,19.6s,baz=40,slow=38
NC204 **NORSAR Array S** 74.58 337 *e*P P 19 31 45.3 +0.4
NB201 **NORSAR Array S** 74.58 337 *e*P P 19 31 44.5 -0.4
NB2 **NORSAR Subarra** 74.61 337 P P 19 31 45.1 0.0
comp=Z,59nm,1.4s,baz=41,slow=5.9
NB2 **NORSAR Subarra** 74.61 337 P P 19 31 45.1 0.0
baz=41,slow=5.9
NB200 **NORSAR Array S** 74.61 337 *e*P P 19 31 45.4 +0.3
NB200 *e* 20 07 37.9
NOA **NORSAR Array B** 74.61 337 P P 19 31 45.4 +0.3
comp=Z,18nm,1.0s,baz=40,slow=5.8,SNR=16
NOA LR LR 20 07 37.9
comp=Z,503nm,20.6s,baz=40,slow=38
MSO **Missoula** 74.62 43 *e*P P 19 31 45.4 -0.2
comp=Z,12nm,1.1s
NBO02 **NORSAR Array S** 74.72 337 *e*P P 19 31 46.2 +0.6
SHAO **Shalim** 74.78 281 P P 19 31 47.3 +0.6
AFDM **Forest Hills D** 74.92 53 *e*P P 19 31 50.0 +2.8
comp=Z,9.0nm,1.2s
SUW **Suwalki** 74.98 327 *e*P P 19 31 47.5 +0.3
SUW **Suwalki** 74.98 327 *e*P P 19 31 47.7 +0.4
SUW pmax pmax
comp=Z,51nm,1.0s
SUW **Suwalki** 74.98 327 *e*P P 19 31 47.7 +0.4
comp=Z,51nm,1.0s
SIM **Simferopol'** 75.02 315*ce*P P 19 31 48.0 +0.3
SIM pmax pmax
comp=Z,25nm,0.9s
SIM MLR MLR
comp=Z,260nm,16.0s
FFC **Flin Flon** 75.50 32 *e*P P 19 31 51.6 +1.3
FFC pmax pmax
comp=Z,16nm,1.0s
FFC **Flin Flon** 75.50 32 *e*P P 19 31 51.6 +1.3
comp=Z,16nm,1.0s
PAHR **Pah Rah Range** 75.51 51 *e*P P 19 31 53.5 +2.7
comp=Z,15nm,1.2s
MFID **Camas Ranch** 75.55 47 *e*P P 19 31 54.3 +3.4
comp=Z,18nm,1.4s
FCC **Fort Churchill** 75.71 26 *e*P P 19 31 53.5 +2.2
FCC pmax pmax
comp=Z,37nm,1.0s
FCC **Fort Churchill** 75.71 26 *e*P P 19 31 53.5 +2.2
comp=Z,37nm,1.0s
CMB **Columbia Colle** 75.81 53 *e*P P 19 31 53.7 +1.3
CMB pmax pmax
comp=Z,28nm,1.5s
CMB **Columbia Colle** 75.81 53 *e*P P 19 31 53.7 +1.3
comp=Z,28nm,1.5s
LRM **Limekiln Ridge** 76.05 43 *e*P P 19 31 56.2 +2.3
EGMT **Eagleton** 76.16 40 P P 19 31 55.6 +1.3
baz=309
EGMT **Eagleton** 76.16 40 *e*P P 19 31 55.8 +1.5
comp=Z,35nm,1.1s
WAKR **Walker** 76.16 52 *e*P P 19 31 56.5 +1.9
comp=Z,17nm,1.3s
SORM **Soroca** 76.25 320⇑ *i*P P 19 31 54.8 +0.2
HLID **Hailey** 76.29 46 P P 19 31 57.8 +2.6
baz=307
HLID **Hailey** 76.29 46 *e*P P 19 31 58.7 +3.5
comp=Z,9.3nm,1.1s
RYN **Ryan** 76.67 52 *e*P P 19 31 59.3 +1.9
comp=Z,9.7nm,1.0s
MDPB **Devils Postpil** 76.89 53 *e*P P 19 31 57.6 -1.2
NV01 **Mina Array Sit** 76.93 52 *e*P P 19 32 00.3 +1.4
NV01 *e* 20 00 18.8
NVAR **Mina Array Bea** 76.93 52 P P 19 32 00.8 +1.9
comp=Z,4.1nm,0.9s,baz=282,slow=4.9,SNR=20
NVAR LR LR 20 00 18.8
comp=Z,135nm,21.9s,baz=94,slow=31
NV11 **Mina Array Sit** 77.02 52 *e*P P 19 32 02.6 +3.3
comp=Z,1.9nm,1.6s
SFJD **Kangerlussuaq** 77.14 4 P P 19 32 00.7 +1.5
comp=Z,5.2nm,0.7s,baz=331,slow=8.6,SNR=4.2
SFJD LR LR 20 08 08.4
comp=Z,180nm,20.1s,baz=344,slow=37
SFJD **Kangerlussuaq** 77.14 4 *i* P P 19 32 00.2 +1.0
PAGB **Antelope Grade** 77.21 55 *e*P P 19 32 03.2 +2.9
comp=Z,20nm,1.1s
LVV **L'vov** 77.35 323 *e*P P 19 32 01.8 +1.0
LEOM **Leova** 77.35 319⇑ *i*P P 19 32 01.5 +0.7
BEL **Belsk** 77.52 326 *e*P P 19 32 03.3 +1.6
BEL **Belsk** 77.52 326 *e*P P 19 32 03.3 +1.6
YHH **Holmes Hill** 77.58 43 *e*P P 19 32 04.4 +1.8
comp=Z,14nm,1.5s
BSD **Bornholm Skovb** 77.68 331 *i* P P 19 32 02.8 +0.3
comp=Z,46nm,1.1s
BSD **Bornholm Skovb** 77.68 331 *i* P P 19 32 02.8 +0.3
BSD pmax pmax
comp=Z,46nm,1.1s
H17A **Grant Village** 77.98 44 P P 19 32 07.8 +3.0
baz=309
H17A **Grant Village** 77.98 44 *e*P P 19 32 07.6 +2.8
comp=Z,13nm,1.0s
PKM **Mcpherson Peak** 77.99 56 P P 19 32 07.2 +2.3
baz=306
GKP **Gorka Klasztor** 78.07 329 *e*P P 19 32 05.3 +0.6
GKP **Gorka Klasztor** 78.07 329 *e*P P 19 32 05.3 +0.6
IMW **Indian Meadow** 78.09 44 *e*P P 19 32 07.8 +2.4
comp=Z,8.2nm,0.9s
KWP **Kalwaria Pacla** 78.12 324 *e*P P 19 32 06.4 +1.4
KWP **Kalwaria Pacla** 78.12 324 *e*P P 19 32 06.4 +1.4
KWP **Kalwaria Pacla** 78.12 324 *e*P P 19 32 06.2 +1.1
comp=Z,1µm,1.2s
TESR **Tescani** 78.18 319⇑ *i*P P 19 32 05.6 +0.1
BUR08 **Bucovina Ar. S** 78.20 321 *e*P P 19 32 06.7 +1.0
FXWY **Fox Creek** 78.20 44 *e*P P 19 32 08.5 +2.6
comp=Z,13nm,1.4s
BURAR **Bucovina Array** 78.21 321⇑ *i*P P 19 32 06.7 +1.0
BUR04 **Bucovina Ar. S** 78.21 321 *e*P P 19 32 06.6 +0.9
FRB **Frobisher Bay** 78.22 12 LR LR 20 11 45.9
comp=Z,153nm,18.2s,baz=182,slow=39
CFR **Carcaliu** 78.23 318⇑ *i*P P 19 32 06.5 +0.8
RLMT **Red Lodge** 78.25 42 P P 19 32 08.2 +2.1
baz=310
RLMT **Red Lodge** 78.25 42 *e*P P 19 32 08.0 +1.8
comp=Z,14nm,1.3s
MOOW **Moose Ponds** 78.29 44 *e*P P 19 32 10.1 +3.7
comp=Z,12nm,1.4s
TPAW **Teton Pass** 78.33 44 *e*P P 19 32 08.3 +1.6
comp=Z,18nm,1.3s
HVU **Hansel Valley** 78.33 47 *e*P P 19 32 08.8 +2.2
HVU pmax pmax
comp=Z,8.0nm,1.0s
HVU **Hansel Valley** 78.33 47 *e*P P 19 32 08.8 +2.2
comp=Z,8.4nm,1.0s
BR101 **Keskin Array S** 78.41 311 *e*P P 19 32 07.9 +0.9
BR101 *e*PP PP 19 35 05.6 +0.5
BR101 *e* 20 10 16.2
BR131 **Keskin Array S** 78.41 311 *e*P P 19 32 08.2 +1.2
BRTR **Keskin Array B** 78.41 311 P P 19 32 07.9 +0.9
comp=Z,29nm,1.1s,baz=108,slow=4.0,SNR=63
BRTR PP PP 19 35 05.6 +0.5
comp=Z,3.0nm,1.1s,baz=102,slow=6.1,SNR=4.5
BRTR LR LR 20 10 16.2
comp=Z,141nm,18.2s,baz=48,slow=38
BRTR **Keskin Array B** 78.41 311 *i* P P 19 32 08.3 +1.2
BRTR pmax pmax
comp=Z,30nm,1.0s

TIRR **Tirgusor** 78.54 317⇑ *i*P P 19 32 08.3 +0.9
BORG **Borgarnes** 78.55 352 LR LR 20 07 47.9
comp=Z,106nm,19.3s,baz=5.1,slow=36
VRI **Vrincioaia** 78.55 319⇑ *i*P P 19 32 09.0 +1.4
DAC **Darwin (Calif)** 78.64 53 *e*P P 19 32 11.3 +2.8
DAC pmax pmax
comp=Z,13nm,1.4s
DAC **Darwin (Calif)** 78.64 53 *e*P P 19 32 11.3 +2.8
comp=Z,13nm,1.4s
HARR **Harsova** 78.66 317⇓ *i*P P 19 32 09.6 +1.5
R11A **Troy Canyon, C** 78.70 51 P P 19 32 10.7 +2.0
baz=307
R11A **Troy Canyon, C** 78.70 51 *e*P P 19 32 10.9 +2.2
comp=Z,22nm,1.4s
BGU **Big Grassy Mou** 78.71 47 *e*P P 19 32 10.5 +1.8
comp=Z,7.6nm,1.1s
SPUT **South Promonto** 78.82 47 *e*P P 19 32 12.7 +3.4
comp=Z,13nm,1.4s
ANTO **Ankara** 78.84 311 *e*P P 19 32 10.3 +1.0
ANTO pmax pmax
comp=Z,47nm,1.1s
ANTO **Ankara** 78.84 311 *e*P P 19 32 10.3 +1.0
comp=Z,46nm,1.1s
ANTO **Ankara** 78.84 311 P P 19 32 11.0 +1.7
SNR=6.4
ANTO **Ankara** 78.84 311 P P 19 32 11.0 +1.7
SNR=6.4
MPMC **Manual Prospec** 78.84 54 P P 19 32 10.9 +1.3
baz=306
BR231 **Keskin MP Arra** 78.86 311 *e*P P 19 32 08.4 -1.1
BR231 *e*P P 19 32 10.6 +1.1
STHS **Stebnicka Huta** 78.96 324 *e*P P 19 32 10.8 +1.1
STHS pmax pmax
comp=Z,19nm,1.2s
STHS **Stebnicka Huta** 78.96 324 *e*P P 19 32 10.8 +1.1
UZH **Uzhgorod** 78.99 323⇑ *i*P P 19 32 09.3 -0.6
UZH *e* 19 32 23.5
UZH *e*S S 19 41 57.3 -3.0
ARCR **ARCALIA** 79.00 321⇑ *i*P P 19 32 11.4 +1.5
LRMC **Laurel Mtn Rad** 79.06 54 P P 19 32 13.1 +2.4
baz=306
OJC **Ojcow** 79.09 325 *e*P P 19 32 11.4 +1.1
OJC **Ojcow** 79.09 325 *e*P P 19 32 11.4 +1.1
OJC **Ojcow** 79.09 325 *e*P P 19 32 11.4 +1.1
comp=Z,88nm,1.3s
HWUT **Hardware Ranch** 79.15 46 *e*P P 19 32 13.5 +2.4
comp=Z,21nm,1.4s
DOPR **Dopca** 79.20 320⇑ *i*P P 19 32 12.7 +1.6
EDW2 **Edwards Air Fo** 79.20 55 P P 19 32 13.3 +1.9
baz=306
EDW2 **Edwards Air Fo** 79.20 55 *e*P P 19 32 12.2 +0.9
TRPA **Tarpa** 79.21 323⇑ *e*P P 19 32 12.0 +1.0
CRVS **Cervenica-Dubn** 79.21 324 *e*P P 19 32 12.1 +1.0
CRVS **Cervenica-Dubn** 79.21 324 *e*P P 19 32 12.1 +1.0
MLR **Muntele Rosu** 79.22 319 P P 19 32 12.0 +0.6
comp=Z,3.1nm,1.1s,baz=22,slow=7.2,SNR=7.4
MLR LR LR 20 10 15.0
comp=Z,118nm,18.0s,baz=58,slow=38
MLR **Muntele Rosu** 79.22 319⇑ *i*P P 19 32 12.1 +0.8
MLR **Muntele Rosu** 79.22 319 *e*P P 19 32 12.5 +1.2
MLR pmax pmax
comp=Z,43nm,1.5s
MLR **Muntele Rosu** 79.22 319 *e*P P 19 32 12.5 +1.2
comp=Z,43nm,1.5s
MLR *e* 20 10 15.0
DUG **Dugway, Tooele** 79.29 48 P P 19 32 14.1 +2.3
baz=308
DUG **Dugway, Tooele** 79.29 48 *e*P P 19 32 13.9 +2.0
DUG pmax pmax
comp=Z,19nm,1.4s
DUG **Dugway, Tooele** 79.29 48 *e*P P 19 32 13.8 +2.0
comp=Z,20nm,1.4s
NIE **Niedzica** 79.41 325 *e*P P 19 32 13.6 +1.4
NIE **Niedzica** 79.41 325 *e*P P 19 32 13.6 +1.4
TCUT **Toone Canyon** 79.55 47 *e*P P 19 32 15.0 +1.6
comp=Z,74nm,1.9s
BW06 **Boulder Array** 79.58 44 P P 19 32 15.1 +1.6
baz=310
BW06 **Boulder Array** 79.58 44 *e*P P 19 32 15.4 +1.9
comp=Z,14nm,1.4s
PD31 **Pinedale Array** 79.58 44 *e*P P 19 32 15.2 +1.7
PD31 *e*PKKPbc PKKPbc 19 51 00.5 +0.7
PDAR **Pinedale Array** 79.58 44 P P 19 32 14.7 +1.2
comp=Z,1.9nm,0.8s,baz=286,slow=0.9,SNR=14
PDAR PKKPbc PKKPbc 19 51 00.5 +0.7
comp=Z,0.3nm,0.5s,baz=109,slow=4.9,SNR=3.7
PDAR **Pinedale Array** 79.58 44 *e*P P 19 32 14.3 +0.8
PDAR PKKPbc PKKPbc 19 51 00.5 +0.7
RAYN **Ar Rayn** 79.61 291 *e*P P 19 32 14.5 +0.8
comp=Z,138nm,1.6s
VOIR 79.73 319⇓ *i*P P 19 32 15.0 +1.0
GSC **Goldstone, Bar** 79.74 54 P P 19 32 17.3 +3.0
baz=307
GSC **Goldstone, Bar** 79.74 54 *e*P P 19 32 16.1 +1.8
GSC pmax pmax
comp=Z,13nm,1.2s
GSC **Goldstone, Bar** 79.74 54 *e*P P 19 32 16.1 +1.8
comp=Z,13nm,1.2s
BFSC **Mount Baldy Ra** 79.81 55 P P 19 32 17.2 +2.5
baz=307
KECS **Kecovo** 79.97 324 *e*P P 19 32 15.1 -0.1
KECS pmax pmax
comp=Z,6.0nm,1.3s
KECS **Kecovo** 79.97 324 *e*P P 19 32 15.1 -0.1
LANS **Liptovska Anna** 79.99 325 *e*P P 19 32 16.8 +1.5
LANS **Liptovska Anna** 79.99 325 *e*P P 19 32 16.8 +1.5
ARR **Arges** 79.99 319⇓ *i*P P 19 32 16.0 +0.5
DRGR 80.03 321⇑ *i*P P 19 32 16.9 +1.3
MPU **Maple Canyon** 80.11 48 *e*P P 19 32 17.7 +1.3
comp=Z,5.9nm,0.7s
OKC **Ostrava-Krasne** 80.11 326 *e*P P 19 32 16.8 +0.9
OKC *ep*P pP 19 32 40.7 -1.2
OKC **Ostrava-Krasne** 80.11 326 *e*P P 19 32 16.8 +0.9
OKC *e**PP pP 19 32 40.7 -1.2
KSP **Ksiaz** 80.22 327 *e*P P 19 32 17.7 +1.2
KSP **Ksiaz** 80.22 327 *e*P P 19 32 17.7 +1.2
HUMR **Humele** 80.36 319⇓ *i*P P 19 32 18.4 +1.0
MORC **Moravsky Berou** 80.43 326⇑ *i*P P 19 32 18.9 +1.2
MORC **Moravsky Berou** 80.43 326 *e*P P 19 32 18.6 +0.9
MORC pmax pmax
comp=Z,164nm,1.3s
MORC **Moravsky Berou** 80.43 326 *e*P P 19 32 18.6 +0.9
comp=Z,164nm,1.3s
DPC **Dobruska-Polom** 80.56 327 *e*P P 19 32 19.8 +1.4
DPC *ex* x 19 32 32.0
DPC *ep*P pP 19 32 45.6 +1.2
DPC AMS AMS 20 12 00.0
DPC **Dobruska-Polom** 80.56 327 *e*P P 19 32 19.8 +1.4
DPC *e**PP pP 19 32 45.6 +1.2
UPC **Upice** 80.58 327 *e*P P 19 32 19.6 +1.1
UPC **Upice** 80.58 327 *e*P P 19 32 19.6 +1.1
PSZ **Piszkesteto** 80.65 324⇓ *i*P P 19 32 20.2 +1.3
PSZ **Piszkesteto** 80.65 324 *e*P P 19 32 20.1 +1.2
PSZ pmax pmax
comp=Z,75nm,1.4s
PSZ **Piszkesteto** 80.65 324⇑ *e*P P 19 32 20.1 +1.2
PSZ **Piszkesteto** 80.65 324 *e*P P 19 32 20.1 +1.2
comp=Z,75nm,1.4s
MSU **Marysvale** 80.72 49 *e*P P 19 32 22.1 +2.4
MSU **Marysvale** 80.72 49 *e*P P 19 32 22.1 +2.4
VYHS **Vyhne** 80.75 325 *e*P P 19 32 20.5 +1.1
VYHS pmax pmax
comp=Z,21nm,1.4s
VYHS **Vyhne** 80.75 325 *e*P P 19 32 20.5 +1.1
RAR **Rarotonga** 80.80 124 LR LR 20 06 24.3
comp=Z,286nm,19.2s,baz=306,slow=34
GMRC **Granite Mounta** 80.80 54 P P 19 32 21.7 +1.6
baz=308
ASF **Jabal al Asfar** 80.81 303 P P 19 32 20.7 +0.6
comp=Z,21nm,1.0s,baz=68,slow=5.4,SNR=9.5
SIRR **Siria** 80.92 322⇓ *i*P P 19 32 21.8 +1.5
HIZ **Hauiti** 80.96 153 *e*P P 19 32 22.8 +2.4
comp=Z,173nm,1.3s
PFO **Pinyon Flats O** 80.98 55 P P 19 32 22.4 +1.4
baz=307
PFO **Pinyon Flats O** 80.98 55 *e*P P 19 32 22.4 +1.4
PFO pmax pmax
comp=Z,17nm,1.1s
PFO **Pinyon Flats O** 80.98 55 *e*P P 19 32 22.4 +1.4
comp=Z,17nm,1.1s
P17A **Butcher Ranch,** 80.98 48 *e*P P 19 32 22.9 +1.9
comp=Z,10nm,0.9s
XPFO **Piæon Flat** 80.98 55 *e*P P 19 32 22.3 +1.3
comp=Z,16nm,1.0s
LCMT **Little Creek M** 80.99 51 *e*P P 19 32 22.5 +1.5

comp=Z,12nm,1.2s
TPFO Pinon Flats 80.99 55 P **P 19 32 22.6 +1.5**
baz=307
BELC Belle Mtn. Jos 81.05 54 P **P 19 32 23.0 +1.6**
baz=307
Q16A Castle Valley 81.07 48 *e*P **P 19 32 23.3 +1.7**
comp=Z,16nm,1.3s
PVCC Panska Ves 81.20 328 *e*P **P 19 32 22.8 +1.1**
PVCC *e*pP **pP 19 32 49.6 +1.8**
PVCC Panska Ves 81.20 328 *e*P **P 19 32 22.8 +1.1**
PVCC *e**PP **pP 19 32 49.6 +1.8**
VRAC Vranov 81.20 326 ⇓*i*P **P 19 32 22.0 +0.3**
BRG Berggiesshubel 81.21 329 *e*P **P 19 32 22.4 +0.7**
comp=Z,26nm,1.2s
BRG Berggiesshubel 81.21 329 *e*P **P 19 32 22.4 +0.7**
BRG pmax pmax
comp=Z,26nm,1.2s
CLL Collm 81.28 329 ⇑*i*P **P 19 32 22.4 +0.3**
CLL *e**PP **pP 19 32 49.0 +0.8**
CLL *i* *SP **sP 19 33 00.6 +1.6**
CLL *e*S **S 19 42 21.0 -3.2**
CLL pmax pmax
comp=Z,46nm,1.2s
CLL MLR MLR
comp=Z,400nm,18.1s
CLL Collm 81.28 329 ⇑*i*P **P 19 32 22.4 +0.3**
comp=Z,46nm,1.2s
CLL *e*pP **pP 19 32 49.0 +0.8**
CLL *i* sP **sP 19 33 00.6 +1.6**
CLL *e*PP **PP 19 35 30.0 +1.8**
CLL *e*S **S 19 42 21.0 -3.2**
CLL *e*PS **PnS 19 43 21.0 -2.8**
CLL *e*SS SS 19 47 54.0 +13
CLL *e* 19 51 48.0
CLL LmV 20 15 00.0
comp=Z,400nm,18.1s
CLL Collm 81.28 329 *e*P **P 19 32 22.6 +0.5**
comp=Z,35nm,1.0s
ULM Lac du Bonnet 81.31 32 P **P 19 32 22.3 0.0**
comp=Z,4.2nm,0.8s,baz=303,slow=5.1,SNR=7.0
ULM Lac du Bonnet 81.31 32 *e*P **P 19 32 23.2 +0.9**
ULM pmax pmax
comp=Z,15nm,1.1s
ULM Lac du Bonnet 81.31 32 *e*P **P 19 32 23.2 +0.9**
comp=Z,15nm,1.1s
MMAI Mount Meron Ar 81.32 304 P **P 19 32 23.8 +1.0**
comp=Z,28nm,0.9s,baz=46,slow=6.2,SNR=9.2
MMAI LR LR 20 12 02.1
comp=Z,336nm,18.7s,baz=0.0,slow=38
SRU San Rafael Swe 81.34 48 *e*P **P 19 32 24.4 +1.5**
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 81.34 48 *e*P **P 19 32 24.4 +1.5**
comp=Z,8.2nm,0.8s
MDND Maddock 81.35 36 *e*P **P 19 32 23.6 +1.0**
comp=Z,27nm,1.1s
BUD Budapest 81.37 324⇑*e*P **P 19 32 23.6 +1.0**
BZS Buzias 81.39 321 ⇑*i*P **P 19 32 23.6 +0.8**
IRM Iron Mountain 81.52 54 P **P 19 32 25.5 +1.8**
baz=308
GOPC GO Pecny, Ondr 81.56 327 *e*P **P 19 32 24.6 +1.0**
GOPC *e*PCP **PcP 19 32 32.5 +3.2**
GOPC AMS AMS 20 12 10.0
comp=Z,700nm,19.9s
GOPC GO Pecny, Ondr 81.56 327 *e*P **P 19 32 24.6 +1.0**
GOPC MLR MLR
comp=Z,700nm,19.9s
MODS Modra-Piesok 81.56 325 *e*P **P 19 32 24.2 +0.5**
MODS Modra-Piesok 81.56 325 *e*P **P 19 32 24.2 +0.5**
PRU Pruhonice 81.61 328 *e*P **P 19 32 24.9 +1.0**
PRU *e*PCP **PcP 19 32 31.6 +2.1**
PRU *e*pP **pP 19 32 49.5 -0.5**
PRU *e*x x 19 32 58.6
PRU Pruhonice 81.61 328 *e*P **P 19 32 24.9 +1.0**
PRU *e**PP **pP 19 32 49.5 -0.5**
PRU *e* 19 32 58.6
BC3 Big Chuckawall 81.62 54 P **P 19 32 25.9 +1.5**
baz=308
RSSD Black Hills 81.72 41 *e*P **P 19 32 27.0 +2.1**
RSSD pmax pmax
comp=Z,21nm,1.6s
RSSD Black Hills 81.72 41 *e*P **P 19 32 27.0 +2.1**
comp=Z,21nm,1.6s
CSKK Cs˙ˇtkako 81.82 324⇑*e*P **P 19 32 25.8 +0.8**
U15A North Rim 81.95 51 *e*P **P 19 32 28.3 +2.0**
comp=Z,38nm,1.5s
O20A White River Ci 82.03 46 *e*P **P 19 32 27.6 +1.0**
comp=Z,11nm,1.0s
PDMCI Parker Dam,Lak 82.08 53 P **P 19 32 27.9 +1.2**
baz=308
PLD Plovdiv 82.12 317 *e*P **P 19 32 27.9 +1.2**
BKZ Black Stump Fm 82.15 152 *e*P **P 19 32 26.9 +0.2**
comp=Z,58nm,1.2s
NKC Novy Kostel 82.32 329 *e*P **P 19 32 28.4 +0.8**
NKC *e*pP **pP 19 32 54.1 +0.3**
NKC Novy Kostel 82.32 329 *e*P **P 19 32 28.4 +0.8**
NKC *e**PP **pP 19 32 54.1 +0.3**
SOP Sopron 82.39 325⇑*e*P **P 19 32 29.3 +1.3**
MORH M˙ˇr¡gy, Hung 82.45 323⇑*e*P **P 19 32 28.6 +0.3**
CONA Conrad Observa 82.53 326 *i* P **P 19 32 30.3 +1.4**
comp=Z,36nm,1.4s,SNR=22
PV09 Paradox Valley 82.57 47 *e*P **P 19 32 31.9 +2.4**
VTS Vitosha 82.62 318 ⇓*i*P **P 19 32 30.8 +1.3**
VTS Vitosha 82.62 318 *e*P **P 19 32 30.6 +1.1**
VTS pmax pmax
comp=Z,78nm,1.7s
VTS Vitosha 82.62 318 *e*P **P 19 32 30.6 +1.1**
comp=Z,78nm,1.7s
VTS Vitosha 82.62 318 *e*P **P 19 32 30.8 +1.3**
KHC Kasperske Hory 82.67 328 *e*P **P 19 32 30.1 +0.6**
KHC *e*PCP **PcP 19 32 36.1 +1.9**
KHC *e*pP **pP 19 32 55.6 0.0**
KHC *e*sP **sP 19 33 06.5 0.0**
KHC *e**PP **PP 19 35 36.1 -3.6**
KHC AMS AMS 20 12 50.0
comp=Z,600nm,19.1s
KHC Kasperske Hory 82.67 328 *e*P **P 19 32 30.1 +0.6**
KHC *e**PP **pP 19 32 55.6 0.0**
KHC *e* 19 33 06.5
KHC *e* 19 35 36.1
KHC MLR MLR
comp=Z,600nm,19.1s
KHC Kasperske Hory 82.67 328 *e*P **P 19 32 29.8 +0.3**
comp=Z,10nm,1.2s
GEC2 GERESS Array S 82.83 327 *e*P **P 19 32 31.2 +0.8**
GEC2 pmax pmax
comp=Z,17nm,1.3s
GEC2 GERESS Array S 82.83 327 *e*P **P 19 32 31.2 +0.8**
comp=Z,17nm,1.3s
GERES GERESS Array B 82.83 327 P **P 19 32 30.8 +0.4**
comp=Z,5.3nm,1.0s,baz=42,slow=4.3,SNR=28
GERES PP **PP 19 35 41.7 +0.6**
comp=Z,1.6nm,1.1s,baz=46,slow=5.7,SNR=3.1
GERES PKKPbc **PKKPbc 19 50 52.5 0.0**
comp=Z,0.1nm,0.3s,baz=260,slow=5.9,SNR=3.1
GERES LR LR 20 13 01.1
comp=Z,321nm,18.1s,baz=34,slow=38
GEA0 GERESS Array S 82.83 327 *e*P **P 19 32 30.3 -0.1**
N23A Red Feather La 82.85 44 *e*P **P 19 32 32.9 +2.1**
comp=Z,16nm,1.1s
PV05 Paradox Valley 82.86 48 *e*P **P 19 32 33.3 +2.4**
MMB Musomiste 83.01 317 *e*P **P 19 32 32.4 +1.0**
Y14A Wickenburg 83.05 53 *e*P **P 19 32 33.0 +1.3**
comp=Z,190nm,1.9s
WUAZ Wupatki 83.10 51 P **P 19 32 34.2 +2.1**
baz=310
WUAZ Wupatki 83.10 51 *e*P **P 19 32 34.6 +2.4**
comp=Z,19nm,1.2s
WUAZ *e*S **S 19 42 41.8 -2.0**
THZ Tophouse 83.14 155 *e*P **P 19 32 32.0 +0.2**
comp=Z,122nm,1.5s
BEHE Becsehely 83.17 324⇑*e*P **P 19 32 32.7 +0.6**
KKB Krupnik 83.18 318 *e*P **P 19 32 33.2 +1.0**
ARSA Arzberg 83.19 325 *i* P **P 19 32 33.3 +1.1**
comp=Z,25nm,1.4s,SNR=9.4
GRFO Grafenberg 83.25 329 *e*P **P 19 32 32.9 +0.5**
GRFO pmax pmax
comp=Z,85nm,1.4s
GRFO Grafenberg 83.25 329 *e*P **P 19 32 32.9 +0.5**
comp=Z,85nm,1.4s
DIVS Divibare 83.27 321 *e*P **P 19 32 33.8 +1.0**
comp=Z,56nm,1.4s
113A Mohawk Valley, 83.28 54 *e*P **P 19 32 34.7 +1.8**
comp=Z,13nm,1.3s
MOA Molln 83.32 326 *i* P **P 19 32 33.8 +1.0**
comp=Z,27nm,1.3s,SNR=14
BFZ Birch Farm 83.37 153 *e*P **P 19 32 33.0 +0.2**
comp=Z,74nm,1.0s
SMCO Snowmass 83.40 46 *e*P **P 19 32 36.0 +2.1**
comp=Z,7.7nm,1.0s
B35A Bob, Littlefor 83.66 32 P **P 19 32 35.4 +0.9**
baz=319
EKA Eskdalemuir Ar 83.66 340 P **P 19 32 35.0 +0.7**
comp=Z,1.2nm,0.5s,baz=41,slow=5.3,SNR=14
EKA LR LR 20 13 47.0
comp=Z,312nm,19.1s,baz=40,slow=38
X16A Lo Mia Camp, P 83.75 52 *e*P **P 19 32 38.1 +2.5**
comp=Z,14nm,1.1s
ISCO Idaho Springs 83.77 45 *e*P **P 19 32 38.7 +3.0**
ISCO pmax pmax
comp=Z,22nm,1.7s
ISCO Idaho Springs 83.77 45 *e*P **P 19 32 38.7 +3.0**
comp=Z,22nm,1.7s
GROS Grobnik 83.78 325 *i* P **P 19 32 35.6 +0.3**
MVCO Mesa Verde 83.78 48 *e*P **P 19 32 37.8 +2.1**
comp=Z,10nm,1.0s
VAY Valandovo 83.83 317 *i* P **P 19 32 36.5 +1.0**
SOKA Soboth 83.84 325 *i* P **P 19 32 36.4 +0.8**
comp=Z,65nm,1.4s,SNR=41
KHZ Kahutara 83.94 155 *e*P **P 19 32 35.0 -0.7**
comp=Z,48nm,1.1s
SKO Skopje 84.00 319 *i* P **P 19 32 37.9 +1.5**
C35A Jirik Farms, M 84.04 33 P **P 19 32 37.2 +0.7**
baz=319
OBKA Obir 84.19 325 *i* P **P 19 32 37.9 +0.5**
comp=Z,17nm,1.8s,SNR=7.0
BLY Banja Luka 84.22 323⇑*i*P **P 19 32 38.5 +1.1**
BLY Banja Luka 84.22 323 *e*P **P 19 32 38.5 +1.1**
comp=Z,56nm,1.5s
LEGS Legarje 84.24 325 *i* P **P 19 32 37.8 +0.3**
OXZ Oxford 84.25 157 *e*P **P 19 32 37.6 +0.3**
comp=Z,48nm,1.0s
KBA Koelnbriesper 84.31 326 *i* P **P 19 32 38.6 +0.5**
comp=Z,16nm,0.7s,SNR=7.9
F33A 5 Mile Ranch, 84.38 35 P **P 19 32 38.7 +0.4**
baz=318
214A Organ Pipe Nat 84.42 54 P **P 19 32 40.6 +1.9**
baz=309
OZLJ Ozalj 84.42 324 P **P 19 32 38.0 -0.4**
S22A 4UR Ranch, Cre 84.43 47 P **P 19 32 41.1 +2.0**
baz=312
S22A 4UR Ranch, Cre 84.43 47 *e*P **P 19 32 41.5 +2.4**
comp=Z,10nm,1.1s
HGN Heimansgroeve 84.50 332 *e*P **P 19 32 38.9 +0.2**
comp=Z,52nm,1.5s
MYKA Terra Mystica 84.51 326 *i* P **P 19 32 39.1 +0.1**
comp=Z,16nm,1.0s,SNR=9.0
KRUS Krusevo 84.52 318 *i* P **P 19 32 39.9 +0.7**
LJU Ljubljana 84.54 325 *i* P **P 19 32 39.3 +0.2**
X18A Snowflake 84.63 51 *e*P **P 19 32 41.8 +1.9**
comp=Z,11nm,1.1s
LBZ Lake Benmore 84.64 158 *e*P **P 19 32 39.6 +0.4**
comp=Z,66nm,1.1s
BIA Bitola 84.72 318 *e*P **P 19 32 40.9 +0.8**
C37A Embarrass 84.81 32 P **P 19 32 41.2 +0.9**
baz=320
PDG Podgorica 84.83 320⇓*i*P **P 19 32 37.3 -3.3**
TTG Podgorica 84.83 320 *e*P **P 19 32 41.1 +0.6**
TTG pmax pmax
comp=Z,85nm,1.2s
TTG Podgorica 84.83 320 *e*P **P 19 32 41.1 +0.6**
comp=Z,85nm,1.2s
WTTA Wattenberg 84.93 327 *i* PcP **P 19 32 41.8 +0.6**
comp=Z,10nm,1.2s
ABTA Abfaltersbach 84.93 327 *i* P **P 19 32 40.9 -0.3**
comp=Z,17nm,1.1s,SNR=7.7
EYMN Ely 84.93 32 P **P 19 32 41.5 +0.5**
baz=321
EYMN Ely 84.93 32 *e*P **P 19 32 41.2 +0.2**
comp=Z,14nm,1.3s
OHR Ohrid 84.94 318 *i* P **P 19 32 41.5 +0.2**
BCLA Clavier 85.01 333 ⇓*i*P **P 19 32 41.9 +0.5**
comp=Z,12nm,1.3s
H33A Prehn Over Nor 85.01 37 P **P 19 32 42.6 +1.1**
baz=318
UDBI Udbina 85.08 323 P **P 19 32 42.0 +0.2**
MOTA Moosalm 85.10 328 *i* P **P 19 32 42.5 +0.4**
comp=Z,13nm,1.2s
RETA Reutte 85.14 328 *i* PcP **P 19 32 42.8 +0.7**
comp=Z,22nm,1.2s,SNR=7.0
TRI Trieste 85.15 325 *e*P **P 19 32 41.1 -1.0**
TRI pmax pmax
comp=Z,28nm,1.1s
TRI Trieste 85.15 325 *e*P **P 19 32 41.1 -1.0**
comp=Z,28nm,1.1s
PMOR Pomariorio Ree 85.19 112 *e*T T 21 05 52.0
comp=Z,9.5nm,0.2s
C38A Sawbill Land. 85.21 32 P **P 19 32 43.0 +0.6**
baz=321
SDCO Great Sand Dun 85.21 46 P **P 19 32 44.8 +1.8**
baz=313
SDCO Great Sand Dun 85.21 46 *e*P **P 19 32 45.0 +2.0**
comp=Z,6.8nm,0.9s
WLF Walferdange 85.30 332 ⇑P **P 19 32 43.7 +0.9**
comp=Z,27nm,1.9s
WLF Walferdange 85.30 332 *e*P **P 19 32 43.9 +1.1**
WLF pmax pmax
comp=Z,78nm,1.7s
WLF Walferdange 85.30 332 *e*P **P 19 32 43.9 +1.1**
comp=Z,78nm,1.7s
BFO Black Forest 85.50 330 *i* P **P 19 32 44.5 +0.6**
BFO Black Forest 85.50 330 *e*P **P 19 32 44.2 +0.3**
comp=Z,44nm,1.3s
FETA Feichten 85.51 328 *i* P **P 19 32 44.5 +0.4**
comp=Z,12nm,1.2s,SNR=5.8
TUC Tucson 85.52 53 *e*P **P 19 32 46.2 +1.9**
TUC pmax pmax
comp=Z,16nm,1.4s
TUC Tucson 85.52 53 *e*P **P 19 32 46.2 +1.9**
comp=Z,16nm,1.4s
DOU Dourbes 85.54 333 ⇑P **P 19 32 43.8 -0.2**
comp=Z,10nm,1.7s
PPT Papete 85.56 115 P **P 19 32 44.7 +0.3**
comp=Z,24nm,0.9s,baz=239,slow=19,SNR=2.5
PPT LR LR 20 03 11.8
comp=Z,192nm,21.1s,baz=320,slow=30
PPT2 Papeete2 85.57 115 *e*S **S 19 43 02.2 -6.2**
comp=Z,122nm,23.8s
PPT2 Papeete2 85.57 115 *e*LR LR 19 59 19.8
comp=Z,1µm,31.0s,baz=309
C39A Grand Marais 85.61 31 P **P 19 32 45.1 +0.8**
baz=322
DAVA Damuels 85.67 328 *i* PcP **P 19 32 45.4 +0.5**
comp=Z,26nm,1.2s,SNR=8.1
ECSD EROS Data Cent 85.78 37 P **P 19 32 46.3 +1.0**
baz=318
ECSD EROS Data Cent 85.78 37 *e*P **P 19 32 46.3 +1.0**
comp=Z,33nm,1.9s
H35A Sunnyside Ranc 85.91 35 P **P 19 32 47.3 +1.3**
baz=319
E38A The Farm, Brul 85.95 32 P **P 19 32 47.2 +1.2**
baz=321
FUORN Ofenpass-Fuorn 86.02 328 *e*P **P 19 32 47.5 +0.7**
comp=Z,54nm,1.4s
ECH Echery 86.07 330 *e*P **P 19 32 46.9 +0.2**
ECH pmax pmax
comp=Z,21nm,1.2s
ECH Echery 86.07 330 *e*P **P 19 32 46.9 +0.2**
comp=Z,21nm,1.2s
MHTCO State Highway 86.11 46 *e*P **P 19 32 50.4 +3.1**
comp=Z,66nm,1.8s
T25A Trinidad 86.26 46 *e*P **P 19 32 49.4 +1.3**
comp=Z,12nm,1.0s
F38A Pierce - Schro 86.31 33 P **P 19 32 49.1 +1.3**
baz=321
ANMO Albuquerque 86.52 49 *e*P **P 19 32 51.1 +1.8**
ANMO pmax pmax
comp=Z,8.0nm,1.2s
ANMO Albuquerque 86.52 49 *e*P **P 19 32 51.1 +1.8**
comp=Z,7.6nm,1.2s
TUE Stuetta 86.54 328 *e*P **P 19 32 49.4 +0.2**
comp=Z,59nm,1.8s
E39A Mellen 86.56 32 P **P 19 32 49.8 +0.7**
baz=322
IDI Anoyia 86.58 312 P **P 19 32 49.3 -0.2**
comp=Z,18nm,1.1s,baz=19,slow=9.5,SNR=4.6
IDI LR LR 20 17 29.7
comp=Z,84nm,18.5s,baz=103,slow=40
E40A Wakefield 86.79 32 P **P 19 32 51.8 +1.6**
baz=322
SCHQ Schefferville 86.85 15 P **P 19 32 52.6 +2.3**
comp=Z,4.1nm,0.6s,baz=24,slow=5.2,SNR=5.0
SCHQ LR LR 20 16 01.4
comp=Z,183nm,18.5s,baz=328,slow=38
SCHQ Schefferville 86.85 15 *e*P **P 19 32 51.8 +1.5**
comp=Z,17nm,1.1s
SCHQ *e* 20 16 01.4
I37A Lemond, Waseca 87.10 35 P **P 19 32 53.2 +1.5**
baz=320
H38A Maiden Rock 87.11 34 P **P 19 32 52.7 +0.9**
baz=320
COWI Conover 87.38 31 *e*P **P 19 32 53.8 +0.7**
comp=Z,29nm,1.6s
TAOE Nuku Hiva Isla 87.44 103 *e*S **S 19 43 19.1 -7.7**
comp=Z,176nm,24.2s
TAOE Nuku Hiva Isla 87.44 103 *e*LR LR 20 00 01.8
comp=Z,1µm,31.8s
SENIN Lac Senin/Sane 87.49 329 *e*P **P 19 32 54.8 +1.0**
comp=Z,13nm,1.5s
J37A Redenius Farm, 87.57 36 P **P 19 32 55.1 +1.1**
baz=320
G40A Rib Lake 87.58 33 P **P 19 32 55.3 +1.3**
baz=322
AQU L'Aquila 87.84 323 *e*P **P 19 32 56.5 +1.1**
AQU pmax pmax
comp=Z,27nm,0.9s
AQU L'Aquila 87.84 323 *e*P **P 19 32 56.5 +1.1**
comp=Z,27nm,0.9s
K37A Belmond 87.94 36 P **P 19 32 57.0 +1.2**
baz=320
H40A Chili 88.00 33 P **P 19 32 57.0 +0.9**
baz=322
G42A Mountain 88.37 32 P **P 19 32 59.1 +1.4**
baz=323
ATD Arta Tunnel 88.61 283 LR LR 20 16 34.4
comp=Z,46nm,18.7s,baz=46,slow=38
G43A Wallace 88.67 31 P **P 19 33 00.3 +1.2**
baz=324
BNI Bardonecchia 88.80 329 *e*P **P 19 33 00.1 +0.1**
BNI pmax pmax
comp=Z,35nm,1.8s
BNI Bardonecchia 88.80 329 *e*P **P 19 33 00.1 +0.1**
comp=Z,34nm,1.8s
TBI Tubuai 89.32 120 *e*S **S 19 43 43.6 -0.3**
comp=Z,287nm,29.0s
TBI Tubuai 89.32 120 *e*LR LR 20 00 59.5
comp=Z,644nm,27.5s,baz=310
TBI Tubuai 89.32 120 *e*T T 21 11 01.2
comp=Z,9.9nm,0.3s
AMTX Amarillo 89.42 46 *e*P **P 19 33 04.5 +1.5**
comp=Z,13nm,1.1s
LPIG La Paz 91.12 59 LR LR 20 07 21.3
comp=Z,55nm,21.8s,baz=238,slow=31
VSL Villasalto 91.98 324 *e*P **P 19 33 15.0 +0.2**
comp=Z,11nm,1.3s
TX31 Lajitas Ar. Si 92.06 51 *e*P **P 19 33 16.4 +1.0**
LTX Lajitas 92.06 51 *e*P **P 19 33 16.4 +1.0**
LTX Lajitas 92.06 51 *e*P **P 19 33 16.4 +1.0**
TXAR Lajitas Array 92.06 51 P **P 19 33 16.4 +1.0**
comp=Z,0.7nm,0.5s,baz=292,slow=2.6,SNR=13
TXAR LR LR 20 12 07.8
comp=Z,98nm,19.9s,baz=0.0,slow=34
KEST Kesra 94.94 321 P **P 19 33 26.9 -1.5**
comp=Z,6.7nm,1.2s,baz=73,slow=2.5,SNR=5.5
KEST LR LR 20 21 00.4
comp=Z,436nm,18.4s,baz=275,slow=38
KEST Kesra 94.94 321 *e*P **P 19 33 29.1 +0.6**
comp=Z,24nm,1.6s
KEST *e* 20 21 00.5
EBZ Ebenezer Churc 95.95 38 *e*P **P 19 33 34.8 +1.8**
PBRG Braganca 96.70 335 *e*P **P 19 33 36.3 0.0**
MVO Moncorvo 97.37 335 *e*P Pdif 19 33 39.8 +0.4
ES19 SONSECA Array 97.54 332 *e*P **P 19 33 40.0 -0.1**
ESDC Sonseca Array 97.58 332 P **P 19 33 40.0 -0.4**
comp=Z,0.1nm,0.3s,baz=14,slow=3.5,SNR=4.7
ESDC PP **PP 19 37 37.0 -1.0**
comp=Z,0.4nm,0.7s,baz=15,slow=7.7,SNR=4.2
ESDC LR LR 20 22 00.2
comp=Z,163nm,19.8s,baz=50,slow=38
TZTN Tazewell 97.59 34 *e*P Pdif 19 33 41.6 +1.2
comp=Z,243nm,1.4s
TKL Tuckaleechee C 98.22 34 LR LR 20 23 21.2
comp=Z,95nm,18.2s,baz=338,slow=38
TKL Tuckaleechee C 98.22 34 *e*P Pdif 19 33 43.6 +0.4
TKL pmax pmax
comp=Z,48nm,1.3s
TKL Tuckaleechee C 98.22 34 *e*P Pdif 19 33 43.6 +0.3
comp=Z,48nm,1.3s
TKL *e* 20 23 21.2
IP05 Hopewell Churc 98.94 29 *e*P **P 19 33 44.8 -1.5**
comp=Z,17nm,0.8s
RKT Rikitea 99.80 111 *e*LR LR 20 05 50.5
comp=Z,678nm,26.8s
KMBO Kilima Mbogo 100.55 276 PP PP 19 38 02.0 -0.2
comp=Z,1.3nm,0.7s,baz=9.3,slow=6.7,SNR=3.0
VNDA Vanda 113.99 175 PP PP 19 39 39.8 +0.4
comp=Z,1.2nm,0.7s,baz=336,slow=14,SNR=7.3
TOA1 Torodi Ar. Sit 116.97 313 *e*PKPdf **PKPdf 19 38 50.4 -0.4**
TOA1 *e*PP **PP 19 39 59.3 -1.2**
TOA1 *e*PKKPbc **PKKPbc 19 49 17.4 +2.2**
TOA0 Torodi Ar. Sit 116.97 313 *e*PKPdf **PKPdf 19 38 50.5 -0.3**
TORD Torodi Ar. Bea 116.97 313 PKP **PKPdf 19 38 50.4 -0.4**
comp=Z,2.4nm,0.6s,baz=8.2,slow=1.9,SNR=16
TORD PP **PP 19 39 59.3 -1.2**
comp=Z,3.4nm,1.2s,baz=34,slow=7.6,SNR=5.7
TORD PKKPbc **PKKPbc 19 49 17.4 +2.2**
comp=Z,0.9nm,0.8s,baz=216,slow=2.6,SNR=8.1
KOWA Kowa 119.12 319 PKP **PKPdf 19 38 55.2 +0.3**
comp=Z,6.5nm,0.7s,baz=76,slow=2.3,SNR=18
KOWA PP **PP 19 40 14.1 -1.1**
comp=Z,3.4nm,0.8s,baz=39,slow=6.1,SNR=3.8
LBTB Lobatse 122.92 261 *e*PKIKP **PKPdf 19 39 02.5 +0.5**
LBTB Lobatse 122.92 261 *e*PKPdf **PKPdf 19 39 02.5 +0.5**
BOSA Boshof 124.80 258 PKP **PKPdf 19 39 05.2 -0.3**
comp=Z,8.3nm,1.0s,baz=98,slow=2.2,SNR=7.1
BOSA Boshof 124.80 258 *e*PKPdf **PKPdf 19 39 05.2 -0.3**
BOSA *e*PKPdf **PKiKP 19 39 06.2 +0.3**
QSPA South Pole Qui 125.65 180 PKP **PKPdf 19 39 05.7 -0.2**
comp=Z,18nm,1.0s,baz=300,slow=1.6,SNR=27
DBIC Dimbokro 125.99 314 PKP **PKPdf 19 39 08.2 +0.1**
comp=Z,6.2nm,0.7s,baz=31,slow=4.8,SNR=6.7
SDV Santo Domingo 127.20 38 PKP **PKPdf 19 39 11.0 +0.3**
comp=Z,13nm,1.0s,baz=334,slow=1.6,SNR=8.9
SNAA Sanae 139.20 197 PKP PKPpre 19 39 22.4
SNAA Sanae 139.20 197 PKhKP PKPpre 19 39 22.0
comp=Z,5.9nm,0.9s,baz=102,slow=4.9,SNR=8.3
SNAA PP **PP 19 42 20.7 -5.3**
comp=Z,8.9nm,1.2s,baz=162,slow=6.4,SNR=2.8
VNA2 Neumayer--Watz 140.79 197 PKP PKPpre 19 39 27.4
baz=86,slow=2.9
VNA3 Neumayer Olymp 141.06 195 PKP PKPpre 19 39 29.8
VNA1 Neumayer--Stat 141.19 197 PKP PKPpre 19 39 28.8
SAML Samuel 146.16 43 *e*PKPdf **PKPbc 19 39 46.0 -0.3**
LPAZ La Paz 148.63 59 PKPbc **PKPbc 19 39 54.4 +0.5**
comp=Z,8.4nm,0.8s,baz=346,slow=3.5,SNR=29
LPAZ PP **PP 19 43 25.2 +1.2**
comp=Z,0.6nm,0.4s,baz=326,slow=1.9,SNR=2.9
LPAZ La Paz 148.63 59 *e*PKIKP **PKPdf 19 39 51.2 +1.2**
LPAZ La Paz 148.63 59 *e*PKPdf **PKPdf 19 39 51.2 +1.2**
LPAZ *e*PKPbc **PKPbc 19 39 51.4 -2.4**
PB04 IPOC Station P 150.94 70 *e*PKPbc **PKPbc 19 39 59.7 +1.0**
LCO Las Campanas 153.71 83 *e*PKPbc **PKPbc 19 40 06.1 +1.2**
PLCA Paso Flores 156.03 111 PKP **PKPdf 19 39 59.1 -0.5**
comp=Z,2.3nm,1.0s,baz=207,slow=6.8,SNR=2.9
PLCA PKPab **pPKPdf 19 40 27.3 -0.1**
comp=Z,4.3nm,1.0s,baz=263,slow=4.5,SNR=5.8
PLCA PP **PP 19 44 04.7 -1.0**
comp=Z,2.9nm,1.1s,baz=9.1,slow=5.8,SNR=3.3
CPUP Villa Florida 162.77 61 PKP **PKPdf 19 40 08.1 +0.4**
comp=Z,2.9nm,1.1s,baz=202,slow=5.4,SNR=2.5

*IDC **15** 19:31:18.0±1.0, 40°.54N×145°.10E, h0km, mb3.5/10, mb1 3.6/11, mb1mx3.5/65, mbtmp3.5/11, ML3.1/1, Error ellipse: s-maj=24.3km s-min=21.9km az=165.0*
*JMA **15** 19:31:21.9±0.2, 40°.83N×145°.08E, h67km±3km, M3.4*
ISC 15 19:31:24.1±2.8, 40°.86N±0°.05×144°.90E±0°.05, h32km±21km, n37, σ1s26/37, mb3.4/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.75**	**312**	P	**Pn**	**19 31 52.4**	**+0.3**
JCH	**Churui**	**2.10**	**327**	P	**Pn**	**19 31 56.9**	**0.0**
JCH				*e*S	**Sn**	**19 32 21.2**	**-0.7**
JAK	**Akkeshi**	**2.14**	**356**	P	Pn	19 31 56.5	-1.0
JAK				*e*S	**Sn**	**19 32 22.2**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.15**	**312**	P	Pn	19 31 57.8	+0.2
JOB	**Onbets**	**2.19**	**339**	P	**Pn**	**19 31 58.2**	**0.0**

JOB				*e*S	**Sn**	19 32 24.8	**+0.6**
JAR	**Ashorobuto**	**2.58**	**341**	P	Pn	19 32 02.9	-0.6
JAR				*e*S	**Sn**	**19 32 33.1**	**-0.6**
NEM2	**Nemuro 2**	**2.58**	**14**	P	**Pn**	**19 32 02.7**	**-0.8**
NEM2				*e*S	**Sn**	**19 32 31.2**	**-2.6**
JANG	**Nango**	**2.62**	**260**	P	Pn	19 32 03.8	-0.4
JBT2	**Biratori 2**	**2.70**	**316**	P	**Pn**	**19 32 05.8**	**+0.7**
JNK	**Nakash**	**2.73**	**357**	P	Pn	19 32 04.2	-1.4
JNK				*e*S	**Sn**	**19 32 34.6**	**-2.8**
JFR	**Furan**	**2.87**	**324**	P	**Pn**	**19 32 07.7**	**+0.1**
JTM	**Tenmabayashi**	**2.91**	**270**	P	**Pn**	**19 32 08.8**	**+0.7**
JTM				*e*S	**Sn**	**19 32 41.5**	**-0.4**
JOT	**Ohata**	**2.96**	**281**	P	**Pn**	**19 32 09.4**	**+0.7**
JOT				*e*S	**Sn**	**19 32 42.4**	**-0.7**
JKB	**Kayabe**	**3.09**	**291**	*e*S	**Sn**	**19 32 46.6**	**+0.3**
JOM	**Ohasama**	**3.09**	**245**	P	**Pn**	**19 32 10.5**	**-0.1**
JOM				*e*S	**Sn**	**19 32 45.6**	**-0.9**
JTKR	**Abashiri--Toko**	**3.19**	**347**	P	**Pn**	**19 32 12.1**	**+0.1**
JTKR				*e*S	**Sn**	**19 32 48.0**	**-0.9**
JEW	**Eniwo**	**3.25**	**309**	P	**Pn**	**19 32 14.4**	**+1.6**
JEW				*e*S	**Sn**	**19 32 52.2**	**+1.9**
JMK	**Ichinoseki**	**3.41**	**237**	*e*S	**Sn**	**19 32 52.9**	**-1.4**
ASAJ	**Asahikawa**	**3.67**	**333**	Pn	**Pn**	**19 32 19.5**	**+0.9**
	0.9nm,0.3s,baz=168,slow=17,SNR=14						
ASAJ				Sn	**Sn**	**19 33 02.9**	**+2.2**
	1.1nm,0.3s,baz=113,slow=30,SNR=4.7						
MJAR	**Matsushiro Arr**	**6.78**	**233**	Pn	**Pn**	**19 33 02.1**	**+0.8**
	0.3nm,0.3s,baz=41,slow=11,SNR=4.4						
SEY	**Seymchan**	**22.55**	**9**	P	**P**	**19 36 20.9**	**-0.1**
	0.6nm,0.6s,baz=200,slow=8.8,SNR=4.4						
SONM	**Songino Array**	**28.18**	**297**	P	**P**	**19 37 14.2**	**+0.7**
	0.4nm,0.6s,baz=57,slow=5.3,SNR=3.0						
H11N2	**WAKE ISLAND Hy 28.21 132**			T	T	20 06 46.3	
	baz=324,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy 28.22 132**			T	T	20 06 45.2	
	baz=324,slow=76,SNR=3.1						
H11N3	**WAKE ISLAND Hy 28.23 132**			T	T	20 06 46.9	
	baz=324,slow=76,SNR=4.5						
H11S1	**WAKE ISLAND Hy 29.09 134**			T	T	20 07 49.4	
	baz=325,slow=74,SNR=7.0						
H11S3	**WAKE ISLAND Hy 29.09 134**			T	T	20 07 49.6	
	baz=325,slow=74,SNR=4.9						
H11S2	**WAKE ISLAND Hy 29.10 134**			T	T	20 07 50.7	
	baz=325,slow=74,SNR=6.2						
ZALV	**Zalesovo Beam**	**41.47**	**309**	P	**P**	**19 39 09.5**	**+1.8**
	0.4nm,0.5s,baz=105,slow=9.4,SNR=2.3						
MKAR	**Makanchi Array**	**44.50**	**299**	P	**P**	**19 39 34.5**	**+2.2**
	0.3nm,0.4s,baz=86,slow=9.9,SNR=7.8						
ILAR	**Eielson Array**	**44.81**	**34**	P	**P**	**19 39 34.7**	**+0.3**
	0.4nm,0.9s,baz=248,slow=8.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.89**	**306**	P	**P**	**19 39 45.3**	**+2.1**
	1.2nm,0.7s,baz=78,slow=8.9,SNR=7.1						
YKA	**Yellowknife Ar**	**59.13**	**32**	P	**P**	**19 41 20.4**	**-0.6**
	0.2nm,0.6s,baz=302,slow=6.2,SNR=4.7						
WRA	**Warramunga Arr**	**61.28**	**191**	P	P	19 41 32.4	-3.9
	0.6nm,1.0s,baz=12,slow=6.3,SNR=2.8						
ASAR	**Alice Springs**	**65.01**	**191**	P	**P**	**19 42 02.5**	**+1.6**
	0.3nm,0.7s,baz=19,slow=6.0,SNR=3.1						
AKASG	**Malin Array Be**	**72.90**	**323**	P	**P**	**19 42 49.4**	**-0.3**
	0.3nm,0.3s,baz=45,slow=6.2,SNR=3.9						
PDAR	**Pinedale Array**	**73.07**	**48**	P	**P**	**19 42 52.3**	**+1.1**
	0.2nm,0.5s,baz=348,slow=3.0,SNR=2.5						

IDC ***15*** *19:34:34.5±1.1,27.29N×130.32E, h0km, mb3.3/6, mb1 3.6/7, mb1mx3.3/63, mbtmp3.4/7, ML3.6/1, Error ellipse: s-maj=48.7km s-min=20.1km az=75.0*

JMA ***15*** *19:34:36.5±0.1,27.25N×130.38E, h68km±5km, M3.7*

ISC 15 19:34:34.6±2.5,27.27N±0.03×130.37E±0.04, h5km±15km, n24,σ1°77/41, mb3.4/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**1.10**	**341**	P	**Pn**	**19 34 57.1**	**+0.4**
JZK				*e*S	**Sb**	**19 35 12.0**	**+1.3**
JAM	**Amami Oshima**	**1.32**	**329**	P	**Pn**	**19 34 59.7**	**0.0**
JAM				*e*S	**Sg**	**19 35 16.1**	**-1.1**
JTK	**Tokunoshima**	**1.36**	**292**	P	**Pn**	**19 35 00.2**	**-0.1**
JTK				*e*S	**Sg**	**19 35 18.1**	**-0.3**
JAMN	**Amaminishikomi**	**1.44**	**313**	P	**Pn**	**19 35 01.1**	**-0.2**
JAMN				*e*S	**Sb**	**19 35 19.2**	**-1.3**
JOKE	**Okinoerabujima**	**1.61**	**274**	P	**Pn**	**19 35 03.5**	**-0.1**
JOKE				S	**Sn**	**19 35 23.8**	**-1.0**
JMZ	**Minamidaito 2**	**1.63**	**152**	P	**Pn**	**19 35 03.1**	**-0.9**
JMZ				S	**Sn**	**19 35 22.2**	**-3.2**
JOW	**Kunigami**	**1.92**	**257**	P	**Pn**	**19 35 07.9**	**-0.1**
JOW				*e*S	**Sn**	**19 35 30.4**	**-2.2**
JTAJ	**Takarajima**	**2.14**	**331**	P	**Pn**	**19 35 10.9**	**-0.1**
JTAJ				*e*S	**Sn**	**19 35 34.8**	**-3.1**
JIH	**Iheya**	**2.16**	**264**	P	**Pn**	**19 35 11.4**	**+0.2**
JIH				*e*S	**Sn**	**19 35 36.1**	**-2.2**
JNTH	**Nagotoyohara**	**2.23**	**251**	P	**Pn**	**19 35 11.9**	**-0.3**
JNTH				S	**Sn**	**19 35 37.4**	**-2.7**
JNN	**Nakanoshima**	**2.60**	**350**	P	**Pn**	**19 35 17.7**	**+0.4**
JNN				*e*S	**Sn**	**19 35 47.0**	**-2.3**
JJT2	**Tamagusuku 2**	**2.60**	**245**	P	**Pn**	**19 35 17.3**	**-0.1**
JJT2				*e*S	**Sn**	**19 35 47.3**	**-2.1**
JAGN	**Aguni-jima**	**2.88**	**257**	P	**Pn**	**19 35 21.5**	**+0.4**
JAGN				S	**Sn**	**19 35 54.1**	**-2.0**
JYAK	**Yakushimahirau**	**2.96**	**2**	P	**Pn**	**19 35 22.2**	**0.0**
JYAK				S	**Sn**	**19 35 55.1**	**-3.0**
JKC	**Kuchinoerabu**	**3.18**	**357**	P	**Pn**	**19 35 25.0**	**-0.3**
JKC				S	**Sn**	**19 36 01.3**	**-2.4**
JKE	**Kume jima 2**	**3.34**	**254**	P	**Pn**	**19 35 26.9**	**-0.6**
JKE				S	**Sn**	**19 36 05.9**	**-1.7**
JNU	**Nakatsue**	**5.85**	**4**	Pn	**Pn**	**19 36 03.4**	**+1.4**
	1.9nm,0.3s,baz=270,slow=2.9,SNR=18						
JNU				Sn	**Sn**	**19 37 04.8**	**-4.6**
	baz=45,slow=14,SNR=1.4						
MKAR	**Makanchi Array**	**42.29**	**311**	P	**P**	**19 42 28.3**	**-0.9**
	0.2nm,0.6s,baz=108,slow=5.0,SNR=1.8						
ZALV	**Zalesovo Beam**	**42.60**	**321**	P	**P**	**19 42 32.2**	**+0.6**
	0.4nm,0.5s,baz=116,slow=6.6,SNR=2.0						
KURBB	**Kurchatov Arra**	**45.44**	**315**	P	**P**	**19 42 55.4**	**+1.0**
	0.1nm,0.4s,baz=98,slow=9.3,SNR=1.8						
WRA	**Warramunga Arr**	**47.09**	**175**	P	**P**	**19 43 07.4**	**-0.2**
	0.6nm,0.5s,baz=353,slow=8.2,SNR=8.2						
ASAR	**Alice Springs**	**50.75**	**176**	P	**P**	**19 43 37.6**	**+1.9**
	0.5nm,0.9s,baz=6.1,slow=14,SNR=11						
FINES	**FINESS Array B**	**72.90**	**331**	P	**P**	**19 46 07.7**	**+3.3**
	1.6nm,0.9s,baz=64,slow=6.3,SNR=4.8						
YKA	**Yellowknife Ar**	**76.77**	**26**	P	**P**	**19 46 26.8**	**-0.1**
	0.1nm,0.6s,baz=300,slow=6.1,SNR=2.4						

MEX 15 19:54:37.6±0.8, 14.90N×93.21W, h47km±19km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.80**	**359**	*i* P	Pn	19 54 51.1	-1.5
PCIG				*i* S	Sn	19 55 01.6	-1.9
THIG		**0.91**	**89**	*e*P	Pn	19 54 52.7	-1.4
THIG				*i* S	Sn	19 55 04.7	-1.4
CCIG	**Comitan**	**1.72**	**37**	*e*P	Pn	19 55 04.6	-0.7
CCIG				*i* S	Sn	19 55 24.1	-2.1
TGIG		**1.87**	**3**	*e*P	Pn	19 55 05.2	-2.0
TGIG				*e*S	Sn	19 55 27.1	-2.7

BJI 15 20:03:23.3, 35.76N×79.78E, h8km, ML3.7/7, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**4.81**	**322**	Pn	Pn	20 04 39.6	+3.4
KSH				Sn	Sn	20 05 32.3	0.0
KSH				smax	smax		
	comp=N,100nm,0.6s						
KSH				smax	smax		
	comp=E,140nm,0.6s						

ISCJB ***15*** *20:06:21.8±0.3, 43.73N±0.04×105.16W±0.05, h0km, mb4.0/10, Error ellipse: s-maj=6.1km s-min=4.4km az=139.1*

IDC ***15*** *20:06:22.1±1.5, 43.52N×105.24W, h0km, mb3.9/10, mb1 3.9/15, mb1mx3.7/68, mbtmp3.8/15, ML3.2/4, Error ellipse: s-maj=40.8km s-min=7.8km az=152.0*

NEIC ***15*** *20:06:23.6±0.4, 43.75N×105.18W, h0km, ML3.6, Error ellipse: s-maj=6.6km s-min=4.8km az=140.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 15 20:06:23.3±0.8, 43.74N±0.07×105.17W±0.08, h0km, n52, σ1°40/51, mb3.9/10, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**64**	*e*Pn	**Pn**	**20 06 42.9**	**-0.5**
K22A	**Casper**	**1.47**	**223**	*e*Pn	**Pn**	**20 06 48.9**	**-2.3**
RLMT	**Red Lodge**	**3.25**	**297**	*e*Pn	**Pn**	**20 07 15.4**	**-0.3**
BW06	**Boulder Array**	**3.35**	**255**	*e*P	**Pn**	**20 07 16.5**	**-0.6**
PDAR	**Pinedale Array**	**3.35**	**255**	Pn	**Pn**	**20 07 16.9**	**-0.3**
	7.9nm,0.3s,baz=78,slow=16,SNR=86						
PDAR				Lg	Lg	20 08 03.3	
	36nm,0.3s,baz=72,slow=35,SNR=7.7						
OGNE	**Ogallala**	**3.63**	**139**	*e*P	**Pn**	**20 07 22.7**	**+1.9**
GCMT	**Greycliff**	**3.81**	**304**	*e*P	**Pn**	**20 07 20.2**	**-3.1**
ISCO	**Idaho Springs**	**3.95**	**185**	*e*P	**Pn**	**20 07 26.3**	**+0.9**
H17A	**Grant Village**	**3.95**	**281**	*e*P	**Pn**	**20 07 26.8**	**+1.3**
YNR	**Norris Junctio**	**4.08**	**286**	*e*P	**Pn**	**20 07 28.8**	**+1.7**
YFT	**Old Faithful**	**4.15**	**282**	*e*P	**Pn**	**20 07 28.7**	**+0.7**
O20A	**White River Ci**	**4.27**	**214**	*e*P	**Pn**	**20 07 30.1**	**+0.4**
AHID	**Auburn Hatcher**	**4.44**	**259**	*e*P	**Pn**	**20 07 31.9**	**-0.1**
QLMT	**Earthquake Lak**	**4.63**	**286**	*e*P	**Pn**	**20 07 34.9**	**+0.3**
HWUT	**Hardware Ranch**	**5.17**	**248**	*e*P	**Pn**	**20 07 41.3**	**-0.8**
	30nm,0.6s						
TCUT	**Toone Canyon**	**5.31**	**243**	*e*P	**Pn**	**20 07 41.8**	**-2.2**
	71nm,0.5s						
LRM	**Limekiln Ridge**	**5.59**	**294**	*e*P	**Pn**	**20 07 50.6**	**+2.7**
	44nm,0.3s						
JLU	**Jordanelle**	**5.62**	**238**	*e*P	**Pn**	**20 07 48.2**	**-0.1**
	12nm,0.6s						
MCMT	**McKenzie Canyo**	**5.62**	**284**	*e*P	**Pn**	**20 07 50.6**	**+2.3**
	3.7nm,0.5s						
MDND	**Maddock**	**5.66**	**41**	*e*P	**Pn**	**20 07 47.2**	**-1.4**
	66nm,0.4s						
CTU	**Camp Tracy**	**5.76**	**240**	*e*P	**Pn**	**20 07 49.5**	**-0.7**
	43nm,0.4s						
SPUT	**South Promonto**	**5.90**	**248**	*e*P	**Pn**	**20 07 52.0**	**-0.2**
	13nm,0.5s						
HVU	**Hansel Valley**	**5.93**	**253**	*e*P	**Pn**	**20 07 51.8**	**-0.7**
	9.1nm,0.4s						
SDCO	**Great Sand Dun**	**5.99**	**183**	*e*P	**Pn**	**20 07 52.5**	**-0.9**
	3.3nm,0.5s						
PV04	**Paradox Valley**	**6.04**	**209**	*e*P	**Pn**	**20 07 54.9**	**+0.9**
SRU	**San Rafael Swe**	**6.13**	**223**	*e*P	**Pn**	**20 07 54.9**	**-0.3**
	34nm,0.4s						
PV01	**Paradox Valley**	**6.16**	**206**	*e*P	**Pn**	**20 07 57.0**	**+1.2**
	738nm,0.5s						
ECSD	**EROS Data Cent**	**6.20**	**87**	*e*P	**Pn**	**20 07 57.9**	**+1.9**
	12nm,0.4s						
TMUT	**Trail Mountain**	**6.34**	**228**	*e*P	**Pn**	**20 07 58.9**	**+0.6**
	44nm,0.5s						
BGU	**Big Grassy Mou**	**6.47**	**247**	*e*P	**Pn**	**20 07 59.5**	**-0.4**
	2.7nm,0.4s						
DUG	**Dugway, Tooele**	**6.71**	**241**	*e*P	**Pn**	**20 08 02.1**	**-1.1**
	9.8nm,0.4s						
HLID	**Hailey**	**6.71**	**272**	*e*P	**Pn**	**20 08 04.3**	**+1.1**
	2.4nm,0.4s						
MVCO	**Mesa Verde**	**7.00**	**202**	*e*P	**Pn**	**20 08 09.9**	**+2.7**
	8.8nm,0.6s						
MSU	**Marysvale**	**7.43**	**228**	*e*P	**Pn**	**20 08 13.8**	**+0.6**
	1.1nm,0.5s						
I10CA	**LAC DU BONNET**	**8.99**	**41**	*i*		21 04 40.0	
	baz=221,slow=310,SNR=2.3						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**20 08 35.9**	**+0.2**
	1.6nm,0.3s,baz=225,slow=12,SNR=13						
ULM				Lg	Lg	20 11 10.3	
	0.9nm,0.3s,baz=315,slow=19,SNR=2.4						
NEW	**Newport**	**9.47**	**303**	Pn	**Pn**	**20 08 44.4**	**+3.5**
	0.1nm,0.3s,baz=90,slow=19,SNR=2.4						
NEW				Lg	Lg	20 11 18.7	
	0.2nm,0.3s,baz=12,slow=7.3,SNR=3.2						
WUAZ	**Wupatki**	**9.50**	**212**	*e*P	**Pn**	**20 08 42.3**	**+0.8**
	10.0nm,0.5s						
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**Pn**	**20 09 06.7**	**+1.3**
	baz=213,slow=23,SNR=5.8						
YBH	**Yreka Blue Hor**	**13.05**	**267**	Pn	**Pn**	**20 09 33.8**	**+3.7**
	0.2nm,0.3s,baz=42,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**Pn**	**20 10 54.0**	**+0.1**
	0.1nm,0.3s,baz=155,slow=8.2,SNR=8.1						
ILAR	**Eielson Array**	**31.32**	**327**	P	**P**	**20 12 44.1**	**-0.7**
	0.2nm,0.7s,baz=111,slow=7.1,SNR=2.7						
ARCES	**ARCESS Array B**	**61.40**	**18**	P	**P**	**20 16 39.9**	**-0.8**
	1.5nm,0.5s,baz=339,slow=6.5,SNR=11						
HFS	**Hagfors**	**65.08**	**29**	P	**P**	**20 17 05.1**	**0.0**
	3.7nm,1.8s,baz=243,slow=6.3,SNR=2.8						
FINES	**FINESS Array B**	**68.00**	**23**	P	**P**	**20 17 23.9**	**+0.1**
	2.1nm,0.9s,baz=308,slow=9.2,SNR=4.3						
AKASG	**Malin Array Be**	**77.92**	**28**	P	**P**	**20 18 22.5**	**-0.2**
	0.5nm,0.3s,baz=334,slow=6.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**82.31**	**354**	P	**P**	**20 18 46.3**	**-0.1**
	0.5nm,0.3s,baz=0.7,slow=6.6,SNR=4.5						
BVAR	**Borovoye Array**	**83.54**	**3**	P	**P**	**20 18 52.7**	**-0.2**
	0.3nm,0.5s,baz=328,slow=5.9,SNR=2.5						
SONM	**Songino Array**	**84.67**	**339**	P	**P**	**20 18 58.2**	**-0.6**
	0.3nm,0.5s,baz=5.2,slow=3.2,SNR=4.7						
KURK	**Kurchatov**	**85.87**	**358**	P	**P**	**20 19 04.6**	**0.0**
KURBB	**Kurchatov Arra**	**85.97**	**358**	P	**P**	**20 19 04.6**	**-0.5**
	0.2nm,0.4s,baz=2.0,slow=3.9,SNR=7.5						
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**20 19 22.4**	**-0.4**
	0.4nm,0.8s,baz=14,slow=4.7,SNR=4.6						

NNC 15 20:06:33.8±5.4, 36.89N×70.81E, h160km±113km, mb2.6, mpv3.6, 3C-4D, Error ellipse: s-maj=60.8km s-min=43.3km az=60.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.77**	**33**	↑P	Pn	20 07 30.9	-0.6
	3.3nm,0.4s						
SFK				↑S	Sn	20 08 17.9	+1.5
	1.3nm,0.2s						
MNAS	**Manas**	**5.74**	**13**	↓P	Pn	20 07 57.4	+0.2
	1.5nm,0.4s						
MNAS				↓S	Sn	20 09 02.5	-0.1
	0.7nm,0.3s						
KK31	**Karatay Array**	**6.21**	**358**	P	Pn	20 08 04.0	+0.7
	2.3nm,0.3s,baz=177,slow=12,SNR=39						
KK31				↑S	Sn	20 09 15.5	+1.9
	1.1nm,0.5s,baz=182,slow=23						
AAK	**Ala-Archa**	**6.40**	**25**	↓P	Pn	20 08 05.3	-0.7
	3.2nm,0.4s						
AAK				↓S	Sn	20 09 16.2	-2.2
	1.2nm,0.7s						
AB31	**Akbulak array**	**14.67**	**331**	P	P	20 09 56.0	+0.6
	0.1nm,0.3s,baz=155,slow=11,SNR=14						

NIED ***15*** *20:20:00, 40.90N×145.30E, h5km, Mw3.7 Best double couple: M0 4.01000×10^14 NP1:φ=236.00000°, δ=39.00000°, λ=-89.00000°. NP2:φ=55.00000°, δ=51.00000°, λ=-91.00000°.*

IDC ***15*** *20:20:18.2±0.8, 40.82N×145.22E, h0km, mb3.6/13, mb1 3.7/16, mb1mx3.5/76, mbtmp3.5/16, ML2.9/3, Error ellipse: s-maj=19.2km s-min=17.0km az=133.0*

JMA ***15*** *20:20:19.3±0.2, 40.90N×145.32E, h62km±3km, M3.5*

ISCJB ***15*** *20:20:21.0±0.5, 40.88N±0.04×145.07E±0.05, h33km, mb3.6/13, Error ellipse: s-maj=5.7km s-min=4.9km az=23.9*

ISC 15 20:20:23.1±0.9, 40.89N±0.05×145.13E±0.07, h35km, n39, σ1°62/41, mb3.6/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.86**	**308**	P	**Pn**	**20 20 51.1**	**-1.3**
JEM				*e*S	**Sn**	**20 21 13.6**	**-1.1**
JAK	**Akkeshi**	**2.13**	**351**	P	**Pn**	**20 20 53.5**	**-2.6**
JAK				*e*S	**Sn**	**20 21 19.5**	**-1.8**
JCH	**Churui**	**2.17**	**323**	P	**Pn**	**20 20 55.1**	**-1.6**
JCH				*e*S	**Sn**	**20 21 20.4**	**-2.0**
JOB	**Onbets**	**2.23**	**335**	P	**Pn**	**20 20 55.8**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.26**	**309**	P	**Pn**	**20 20 57.4**	**-0.5**
NEM2	**Nemuro 2**	**2.51**	**10**	P	**Pn**	**20 20 59.0**	**-2.4**
JAR	**Ashorobuto**	**2.61**	**338**	P	**Pn**	**20 21 00.2**	**-2.5**
JAR				*e*S	**Sn**	**20 21 29.8**	**-3.4**
JBT2	**Biratori 2**	**2.80**	**313**	P	**Pn**	**20 21 04.1**	**-1.2**
JANG	**Nango**	**2.80**	**260**	P	**Pn**	**20 21 03.6**	**-1.8**
JANG				*e*S	**Sn**	**20 21 35.5**	**-2.4**
JFR	**Furan**	**2.95**	**321**	P	**Pn**	**20 21 05.6**	**-1.9**
JRA	**Rausu**	**3.04**	**360**	P	**Pn**	**20 21 06.6**	**-2.1**
JOT	**Ohata**	**3.12**	**280**	P	**Pn**	**20 21 08.5**	**-1.3**
JOT				*e*S	**Sn**	**20 21 43.2**	**-2.6**
JTKR	**Abashiri--Toko**	**3.21**	**344**	P	**Pn**	**20 21 09.6**	**-1.3**
JKB	**Kayabe**	**3.24**	**289**	P	**Pn**	**20 21 10.4**	**-1.0**
JKB				*e*S	**Sn**	**20 21 46.8**	**-1.9**
JOM	**Ohasama**	**3.26**	**245**	P	**Pn**	**20 21 10.4**	**-1.4**
JEW	**Eniwo**	**3.37**	**307**	P	**Pn**	**20 21 13.2**	**0.0**
JEW				*e*S	**Sn**	**20 21 52.2**	**+0.3**
JKK2	**Kamakawa 2**	**3.46**	**330**	P	**Pn**	**20 21 14.0**	**-0.5**
ASAJ	**Asahikawa**	**3.73**	**331**	Pn	**Pn**	**20 21 17.7**	**-0.4**
	1.4nm,0.3s,baz=204,slow=17,SNR=16						
ASAJ				Sn	**Sn**	**20 22 02.7**	**+2.0**
	1.4nm,0.3s,baz=100,slow=13,SNR=3.7						
MJAR	**Matsushiro Arr**	**6.94**	**233**	Pn	**Pn**	**20 22 01.4**	**-0.8**
	0.3nm,0.3s,baz=38,slow=12,SNR=5.6						
MJAR				Sn	**Sn**	**20 23 18.2**	**-1.8**
	0.4nm,0.3s,baz=310,slow=27,SNR=4.4						
USRK	**Ussuriysk Ar.**	**10.24**	**293**	Pn	**Pn**	**20 22 48.6**	**+1.0**
	0.2nm,0.3s,baz=112,slow=11,SNR=2.3						
H11N2	**WAKE ISLAND Hy 28.11 132**			T	T	20 55 50.5	
	baz=324						
H11N1	**WAKE ISLAND Hy 28.12 132**			T	T	20 55 43.0	
	baz=324						
H11N3	**WAKE ISLAND Hy 28.12 132**			T	T	20 55 44.6	
	baz=324						
SONM	**Songino Array**	**28.32**	**297**	P	**P**	**20 26 15.3**	**+1.8**
	1.3nm,1.0s,baz=105,slow=7.9,SNR=7.4						
H11S1	**WAKE ISLAND Hy 28.98 134**			T	T	20 56 48.7	
	baz=328						
H11S3	**WAKE ISLAND Hy 28.99 134**			T	T	20 56 51.7	
	baz=328						
H11S2	**WAKE ISLAND Hy 29.00 134**			T	T	20 56 55.8	
	baz=328						
ZALV	**Zalesovo Beam**	**41.59**	**309**	P	**P**	**20 28 08.6**	**+1.3**
	0.2nm,0.3s,baz=99,slow=8.9,SNR=2.7						
MKAR	**Makanchi Array**	**44.63**	**300**	P	**P**	**20 28 33.4**	**+1.4**
	0.4nm,0.8s,baz=88,slow=9.1,SNR=3.6						
ILAR	**Eielson Array**	**44.68**	**34**	P	P	20 28 33.2	+1.1
	0.6nm,0.7s,baz=259,slow=6.5,SNR=7.8						
CMAR	**Chiang Mai Arr**	**45.30**	**254**	P	**P**	**20 28 37.7**	**+0.1**
	0.3nm,0.2s,baz=46,slow=7.9,SNR=4.3						
KURBB	**Kurchatov Arra**	**46.01**	**306**	P	**P**	**20 28 43.5**	**+0.7**
	1.0nm,0.7s,baz=76,slow=8.6,SNR=6.5						
BVAR	**Borovoye Array**	**50.19**	**311**	P	**P**	**20 29 15.8**	**+0.7**
	0.3nm,0.4s,baz=57,slow=10,SNR=4.0						
RES	**Resolute Bay**	**58.13**	**16**	P	**P**	**20 30 13.4**	**+0.9**
	1.0nm,0.8s,baz=237,slow=14,SNR=4.4						
YKA	**Yellowknife Ar**	**59.01**	**32**	P	**P**	**20 30 18.4**	**-0.5**
	0.2nm,0.7s,baz=305,slow=7.5,SNR=3.2						
WRA	**Warramunga Arr**	**61.35**	**192**	P	**P**	**20 30 35.0**	**-0.3**
	1.5nm,1.0s,baz=8.3,slow=6.8,SNR=5.6						
ASAR	**Alice Springs**	**65.07**	**191**	P	**P**	**20 31 00.2**	**+0.2**
	0.4nm,0.7s,baz=10,slow=6.5,SNR=3.5						
FINES	**FINESS Array B**	**66.73**	**333**	P	**P**	**20 31 10.6**	**+0.4**
	0.3nm,0.5s,baz=89,slow=9.7,SNR=4.0						
NVAR	**Mina Array Bea**	**70.39**	**56**	P	P	20 31 34.9	+1.1
	0.2nm,0.4s,baz=308,slow=5.2,SNR=2.6						

NIED ***15*** *20:32:00, 40.80N×145.10E, h5km, Mw3.7 Best double couple: M0 3.80000×10^14 NP1:φ=213.00000°, δ=31.00000°, λ=68.00000°. NP2:φ=8.00000°, δ=62.00000°, λ=103.00000°.*

IDC ***15*** *20:32:40.5±0.9, 40.82N×144.83E, h0km, mb3.7/14, mb1 3.7/16, mb1mx3.6/63, mbtmp3.7/16, ML3.2/2, Error ellipse: s-maj=23.3km s-min=16.7km az=100.0*

JMA ***15*** *20:32:41.5±0.2, 40.81N×145.09E, h67km±3km, M3.9*

ISCJB ***15*** *20:32:43.1±0.5, 40.82N±0.03×144.85E±0.04, h33km, mb3.8/15, Error ellipse: s-maj=5.1km s-min=3.6km az=25.4*

ISC 15 20:32:44.5±0.8, 40.81N±0.05×144.96E±0.06, h35km, n37, σ1°62/50, mb3.7/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.81**	**312**	P	**Pn**	**20 33 12.3**	**-0.9**
JEM				S	**Sn**	**20 33 33.1**	**-1.9**
JCH	**Churui**	**2.16**	**327**	P	**Pn**	**20 33 16.9**	**-1.1**
JCH				S	**Sn**	**20 33 41.5**	**-2.1**
JAK	**Akkeshi**	**2.19**	**355**	P	**Pn**	**20 33 16.5**	**-1.9**
JAK				*e

LANS				eSg	**Sb**	**20 36 42.1**	**+0.4**
LANS	**Liptovska Anna**	**0.94**	**135**	ePG	**Pg**	**20 36 27.6**	**+0.1**
LANS				eSG	**Sb**	**20 36 42.1**	**+0.4**
OJC	**Ojcow**	**0.96**	**65**	ePg	**Pg**	**20 36 27.4**	**-0.3**
OJC				eSg	**Sg**	**20 36 40.0**	**-0.1**
OJC	**Ojcow**	**0.96**	**65**	ePg	**Pg**	**20 36 27.4**	**-0.3**
OJC				eSg	**Sg**	**20 36 40.0**	**-0.1**
NIE	**Niedzica**	**1.27**	**108**	ePg	**Pg**	**20 36 33.6**	**-0.1**
NIE				eSg	**Sn**	**20 36 52.0**	**-0.1**
NIE	**Niedzica**	**1.27**	**108**	ePg	**Pg**	**20 36 33.6**	**-0.1**
NIE				eSg	**Sn**	**20 36 52.0**	**-0.1**
VRAC	**Vranov**	**1.31**	**248**	ePg	**Pn**	**20 36 35.0**	**-0.1**
VRAC				eSg	**Sb**	**20 36 51.9**	**-0.5**
6.7nm,0.3s							
VYHS	**Vyhne**	**1.35**	**169**	ePg	**Pg**	**20 36 35.0**	**-0.3**
VYHS				eSn	**Sb**	**20 36 53.2**	**-0.2**
VYHS	**Vyhne**	**1.35**	**169**	ePG	**Pg**	**20 36 35.0**	**-0.3**
VYHS				eSN	**Sb**	**20 36 53.1**	**-0.3**
VYHS				eLG	Lg	20 36 54.4	
DPC	**Dobruska-Polom**	**1.47**	**292**	ePG	**Pg**	**20 36 37.5**	**-0.1**
DPC				eSG	**Sn**	**20 36 57.5**	**+0.2**
comp=Z,7.6nm,0.3s							
DPC	**Dobruska-Polom**	**1.47**	**292**	Pg	**Pg**	**20 36 37.5**	**-0.1**
DPC				Sg	**Sn**	**20 36 57.5**	**+0.2**
7.6nm,0.3s							
KRUC	**Moravsky**	**1.54**	**241**	ePg	**Pn**	**20 36 38.2**	**0.0**
KRUC				eSg	**Sn**	**20 36 59.0**	**+0.1**
3.2nm,0.2s							
MODS	**Modra-Piesok**	**1.64**	**209**	ePn	**Pn**	**20 36 39.1**	**-0.4**
MODS				eSn	**Sn**	**20 37 00.5**	**-0.8**
MODS	**Modra-Piesok**	**1.64**	**209**	ePN	**Pn**	**20 36 39.1**	**-0.4**
MODS				eSN	**Sn**	**20 37 00.5**	**-0.8**
UPC	**Upice**	**1.71**	**295**	ePG	**Pb**	**20 36 41.6**	**-0.2**
UPC				eSG	**Sg**	**20 37 05.2**	**+0.7**
comp=Z,5.0nm,0.2s							
UPC	**Upice**	**1.71**	**295**	Pg	**Pb**	**20 36 41.6**	**-0.2**
UPC				Sg	**Sg**	**20 37 05.2**	**+0.7**
5.0nm,0.2s							
KSP	**Ksiaz**	**1.72**	**307**	ePg	**Pn**	**20 36 40.6**	**-0.1**
KSP				eSg	**Sg**	**20 37 04.7**	**-0.1**
KSP	**Ksiaz**	**1.72**	**307**	ePg	**Pn**	**20 36 40.6**	**-0.1**
KSP				eSg	**Sg**	**20 37 04.7**	**-0.1**
STHS	**Stebnicka Huta**	**1.86**	**101**	ePn	**Pb**	**20 36 44.5**	**+0.2**
STHS	**Stebnicka Huta**	**1.86**	**101**	ePN	**Pb**	**20 36 44.5**	**+0.2**
STHS				eSN	**Sg**	**20 37 12.0**	**+2.9**
STHS				eLG	Lg	20 37 14.3	
KECS	**Kecovo**	**1.89**	**134**	eSn	**Sn**	**20 37 07.2**	**-0.2**
KECS	**Kecovo**	**1.89**	**134**	eLG	Lg	20 37 07.1	
KECS	**Kecovo**	**1.89**	**134**	eSN	**Sn**	**20 37 07.2**	**-0.2**
GOPC	**GO Pecny, Ondr**	**2.37**	**274**	ePG	**Pg**	**20 36 54.6**	**-0.3**
GOPC				eSG	**Sg**	**20 37 25.0**	**-0.7**
comp=Z,3.2nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.37**	**274**	Pg	**Pg**	**20 36 54.6**	**-0.3**
GOPC				Sg	**Sg**	**20 37 25.0**	**-0.7**
3.2nm,0.3s							
PRU	**Pruhonice**	**2.54**	**275**	ePG	**Pg**	**20 36 57.1**	**-0.9**
PRU				eSG	**Sg**	**20 37 29.7**	**-1.1**
PRU	**Pruhonice**	**2.54**	**275**	Pg	**Pg**	**20 36 57.1**	**-0.9**
PRU				Sg	**Sg**	**20 37 29.7**	**-1.1**
CONA	**Conrad Observa**	**2.55**	**223**	Pn	**Pn**	**20 36 52.1**	**0.0**
0.5nm,0.2s							
CONA				Sn	**Sn**	**20 37 23.1**	**-0.8**
0.9nm,0.3s							
CONA	**Conrad Observa**	**2.55**	**223**	Pn	**Pn**	**20 36 52.1**	**0.0**
0.5nm,0.2s							
CONA				*i* Sn	**Sn**	**20 37 23.1**	**-0.8**
0.9nm,0.3s							
BRG	**Berggiesshubel**	**3.08**	**292**	SG	**Sg**	**20 37 48.9**	**+0.7**
2.3nm,0.3s							
KHC	**Kasperske Hory**	**3.25**	**260**	ePG	**Pb**	**20 37 09.4**	**+1.3**
KHC				eSG	**Sg**	**20 37 53.3**	**-0.6**
KHC	**Kasperske Hory**	**3.25**	**260**	Pg	**Pb**	**20 37 09.4**	**+1.3**
KHC				Sg	**Sg**	**20 37 53.3**	**-0.6**

IDC 15 20:39:20.3±1.4, 4°.02N×127°.02E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/59, mbtmp3.3/5, Error ellipse: s-maj=135.2km s-min=19.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	20 44 43.4	-1.5
0.5nm,0.7s,baz=343,slow=10,SNR=6.2							
ASAR	**Alice Springs**	**28.33**	**167**	P	P	20 45 17.5	+1.4
0.6nm,1.1s,baz=335,slow=9.3,SNR=3.2							
SONM	**Songino Array**	**47.11**	**341**	P	P	20 47 54.3	0.0
0.2nm,0.6s,baz=143,slow=8.4,SNR=2.1							
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	20 49 11.3	0.0
0.3nm,0.5s,baz=116,slow=8.2,SNR=9.8							
KURBB	**Kurchatov Arra**	**61.65**	**327**	P	P	20 49 39.8	-0.2
0.4nm,0.7s,baz=126,slow=6.8,SNR=3.4							

IDC 15 20:45:51.1±1.0, 10°.43N×93°.62E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/64, mbtmp3.8/12, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/58, Error ellipse: s-maj=39.7km s-min=17.9km az=56.0

ISCJB 15 20:45:54.7±0.6, 10°.50N±0°.09×93°.8E±0°.1, h35km, mb4.1/15, Error ellipse: s-maj=17.4km s-min=10.0km az=140.8

NEIC 15 20:45:56.4±0.3, 10°.47N×93°.69E, h35km, mb4.2/2, Error ellipse: s-maj=11.5km s-min=6.3km az=58.0

ISC 15 20:45:56.5±1.0, 10°.4N±0°.1×93°.8E±0°.1, h35km, n29, σ18°37/28, mb4.0/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.12**	**146**	LR	LR	20 52 11.5	
comp=Z,117nm,21.1s,baz=284,slow=41							
CMAR	**Chiang Mai Arr**	**9.45**	**31**	Pn	**Pn**	**20 48 09.8**	**-0.4**
0.1nm,0.3s,baz=223,slow=14,SNR=3.0							
VIS	**Vishakhapatnam**	**12.47**	**307**	*i* P	**Pn**	**20 48 51.9**	**+0.4**
SHL	**Shillong**	**15.19**	**353**	*eP*	**P**	**20 49 38.5**	**+5.1**
LSA	**Lhasa**	**19.36**	**353**	*eP*	**P**	**20 50 19.1**	**-0.5**
4.8nm,0.7s							
MK31	**Makanchi Array**	**37.56**	**347**	*eP*	**P**	**20 53 07.2**	**-0.3**
MK32	**Makanchi Array**	**37.56**	**347**	*eP*	**P**	**20 53 06.4**	**-1.1**
MKAR	**Makanchi Array**	**37.56**	**347**	P	**P**	**20 53 06.4**	**-1.1**
1.2nm,0.8s,baz=161,slow=8.0,SNR=13							
SONA0	**Songino Array**	**38.80**	**14**	*eP*	**P**	**20 53 17.6**	**-0.5**
SONM	**Songino Array**	**38.80**	**14**	P	**P**	**20 53 17.6**	**-0.5**
0.8nm,0.9s,baz=184,slow=5.9,SNR=5.1							
KURBB	**Kurchatov Arra**	**42.02**	**346**	P	**P**	**20 53 43.1**	**-1.4**
0.7nm,0.9s,baz=164,slow=7.5,SNR=7.8							
KURK	**Kurchatov**	**42.09**	**346**	P	**P**	**20 53 43.1**	**-1.9**
GEYT	**Alibeck**	**42.10**	**317**	P	**P**	**20 53 47.1**	**+1.7**
4.9nm,0.6s,baz=134,slow=8.5,SNR=12							
ZALV	**Zalesovo Beam**	**44.02**	**352**	P	**P**	**20 54 00.0**	**-0.6**
2.0nm,0.7s,baz=179,slow=8.0,SNR=11							
ZAA1	**Zalesovo Array**	**44.02**	**352**	*eP*	**P**	**20 54 00.0**	**-0.6**
BVAR	**Borovoye Array**	**46.50**	**341**	P	**P**	**20 54 19.4**	**-0.9**
0.6nm,0.7s,baz=152,slow=9.8,SNR=4.3							
ABKAR	**Akbulak array**	**47.86**	**331**	*eP*	**P**	**20 54 30.9**	**0.0**
26nm,1.1s							
WRA	**Warramunga Arr**	**50.04**	**127**	P	**P**	**20 54 48.6**	**+0.4**
1.5nm,0.8s,baz=302,slow=10,SNR=13							
WR1	**Warramunga Arr**	**50.05**	**127**	*eP*	**P**	**20 54 48.6**	**+0.5**
44nm,1.7s							
WRAB	**Tennant Creek**	**50.05**	**127**	*eP*	**P**	**20 54 49.2**	**+1.0**
5.6nm,0.9s							
ASAR	**Alice Springs**	**51.83**	**131**	P	**P**	**20 55 02.5**	**+0.9**
1.2nm,0.8s,baz=311,slow=8.5,SNR=8.7							
BR101	**Keskin Array S**	**60.52**	**310**	*eP*	**P**	**20 56 02.6**	**-1.0**
BRTR	**Keskin Array B**	**60.52**	**310**	P	**P**	**20 56 02.6**	**-1.0**
1.0nm,0.8s,baz=126,slow=6.8,SNR=4.8							
FIA0	**FINESS Array S**	**70.32**	**332**	*eP*	**P**	**20 57 05.3**	**-1.0**
FINES	**FINESS Array B**	**70.32**	**332**	P	**P**	**20 57 05.3**	**-1.0**
1.2nm,0.7s,baz=191,slow=1.9,SNR=4.9							
ARA0	**ARCESS Array S**	**72.78**	**340**	*eP*	**P**	**20 57 20.8**	**-0.3**
ARCES	**ARCESS Array B**	**72.78**	**340**	P	**P**	**20 57 20.8**	**-0.3**
3.6nm,1.0s,baz=88,slow=6.3,SNR=5.9							
GERES	**GERESS Array B**	**75.71**	**318**	P	**P**	**20 57 38.7**	**0.0**
0.4nm,0.7s,baz=62,slow=4.7,SNR=3.1							
WVT	**Waverly**	**133.70**	**2**	*e*PKPdf	**PKPdf**	**21 05 09.1**	**-1.1**

IDC 15 20:46:29.6±0.8, 10°.49N×93°.67E, h0km, mb4.1/14, mb1 4.2/15, mb1mx3.9/64, mbtmp4.0/15, ML3.6/1, MS3.3/3, Ms1 3.4/3, ms1mx2.8/54, Error ellipse: s-maj=31.5km s-min=15.4km az=55.0

ISCJB 15 20:46:30.9±0.5, 10°.53N±0°.08×93°.8E±0°.1, h19km, mb4.3/20, MS3.5/2, Error ellipse: s-maj=15.8km s-min=8.6km az=148.9

NEIC 15 20:46:35.0±0.2, 10°.53N×93°.75E, h35km, mb4.6/8, Error ellipse: s-maj=8.8km s-min=4.9km az=59.0

ISC 15 20:46:32.8±0.8, 10°.5N±0°.1×93°.8E±0°.1, h19km, n39, σ0°81/38, mb4.3/20, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.36**	**32**	Pn	**Pn**	**20 48 47.5**	**+0.7**
0.2nm,0.3s,baz=216,slow=15,SNR=5.0							
VIS	**Vishakhapatnam**	**12.45**	**306**	*i* S	**Pn**	**20 49 30.4**	**+1.3**
VIS				*i* S	**Pn**	**20 49 30.4**	**+1.3**
PALK	**Pallekele**	**13.33**	**257**	LR	LR	20 53 00.4	
comp=Z,72nm,21.9s,baz=116,slow=30							
LSA	**Lhasa**	**19.28**	**353**	*eP*	**P**	**20 50 57.0**	**0.0**
4.8nm,0.7s							
AAK	**Ala-Archa**	**36.20**	**336**	P	**P**	**20 53 34.9**	**+0.3**
1.6nm,1.0s,baz=178,slow=7.6,SNR=3.9							
MK01	**Makanchi Array**	**37.46**	**347**	*eP*	**P**	**20 53 44.6**	**-0.6**
MK31	**Makanchi Array**	**37.49**	**347**	*eP*	**P**	**20 53 44.5**	**-0.9**
MK32	**Makanchi Array**	**37.49**	**347**	*eP*	**P**	**20 53 44.1**	**-1.2**
MK32				*e*		21 13 22.6	
MKAR	**Makanchi Array**	**37.49**	**347**	P	**P**	**20 53 44.1**	**-1.2**
1.4nm,0.9s,baz=167,slow=7.9,SNR=4.7							
MKAR				LR	LR	21 13 22.6	
comp=Z,31nm,18.7s,baz=144,slow=43							
MKAR	**Makanchi Array**	**37.49**	**347**	*eP*	**P**	**20 53 44.5**	**-0.9**
8.7nm,0.9s							
SONA0	**Songino Array**	**38.72**	**14**	*eP*	**P**	**20 53 55.5**	**-0.3**
SONM	**Songino Array**	**38.72**	**14**	P	**P**	**20 53 55.5**	**-0.3**
1.5nm,0.9s,baz=197,slow=8.4,SNR=7.7							
KURBB	**Kurchatov Arra**	**41.95**	**345**	P	**P**	**20 54 21.8**	**-0.6**
0.9nm,0.8s,baz=157,slow=7.6,SNR=5.3							
KURK	**Kurchatov**	**42.02**	**346**	*eP*	**P**	**20 54 21.8**	**-1.1**
GEYT	**Alibeck**	**42.07**	**316**	P	**P**	**20 54 25.1**	**+1.5**
10.0nm,0.7s,baz=147,slow=8.3,SNR=11							
ZAA0	**Zalesovo Array**	**43.95**	**352**	*eP*	**P**	**20 54 38.5**	**0.0**
5.4nm,1.1s							
ZALV	**Zalesovo Beam**	**43.95**	**352**	P	**P**	**20 54 37.7**	**-0.8**
2.1nm,0.7s,baz=180,slow=7.8,SNR=4.9							
ZALV	**Zalesovo Beam**	**43.95**	**352**	*eP*	**P**	**20 54 38.0**	**-0.5**
ZAA1	**Zalesovo Array**	**43.95**	**352**	*eP*	**P**	**20 54 37.7**	**-0.8**
BVAR	**Borovoye Array**	**46.43**	**341**	P	**P**	**20 54 57.4**	**-0.8**
1.1nm,0.8s,baz=140,slow=9.1,SNR=4.1							
ABKAR	**Akbulak array**	**47.81**	**330**	*eP*	**P**	**20 55 08.7**	**-0.3**
26nm,1.1s							
WRA	**Warramunga Arr**	**50.06**	**127**	P	**P**	**20 55 27.6**	**+0.8**
6.9nm,0.8s,baz=303,slow=8.6,SNR=18							
WR1	**Warramunga Arr**	**50.06**	**127**	*eP*	**P**	**20 55 27.6**	**+0.8**
44nm,1.7s							
ASAR	**Alice Springs**	**51.85**	**131**	P	**P**	**20 55 40.8**	**+0.5**
4.1nm,0.8s,baz=311,slow=7.3,SNR=17							
AS31	**Alice Springs**	**51.85**	**131**	*eP*	**P**	**20 55 41.2**	**+0.9**
1.9nm,0.8s							
AS01	**Alice Springs**	**51.89**	**131**	*eP*	**P**	**20 55 40.5**	**0.0**
KIV	**Kislovodsk**	**55.19**	**317**	*eP*	**P**	**20 56 05.2**	**+0.6**
16nm,1.0s							
BR101	**Keskin Array S**	**60.50**	**310**	*eP*	**P**	**20 56 40.9**	**-1.1**
BR131	**Keskin Array S**	**60.50**	**310**	*eP*	**P**	**20 56 41.1**	**-0.9**
BRTR	**Keskin Array B**	**60.50**	**310**	P	**P**	**20 56 40.9**	**-1.1**
2.1nm,0.8s,baz=129,slow=7.5,SNR=7.5							
STKA	**Stephens Creek**	**62.15**	**135**	P	**P**	**20 56 53.1**	**0.0**
2.9nm,0.8s,baz=254,slow=4.0,SNR=3.7							
ARA0	**ARCESS Array S**	**72.72**	**340**	*eP*	**P**	**20 57 58.9**	**-0.4**
ARCES	**ARCESS Array B**	**72.72**	**340**	P	**P**	**20 57 58.9**	**-0.4**
3.4nm,0.9s,baz=82,slow=6.7,SNR=4.5							
GERES	**GERESS Array B**	**75.68**	**318**	P	**P**	**20 58 16.1**	**-1.0**
0.5nm,0.6s,baz=70,slow=5.8,SNR=5.1							
KEST	**Kesra**	**79.49**	**305**	P	**P**	**20 58 38.4**	**-0.3**
5.2nm,1.1s,baz=309,slow=1.7,SNR=4.7							
KEST	**Kesra**	**79.49**	**305**	*eP*	**P**	**20 58 38.6**	**0.0**
7.9nm,1.3s							
TORD	**Torodi Ar. Bea**	**89.68**	**283**	P	**P**	**20 59 30.1**	**-0.3**
1.2nm,1.1s,baz=92,slow=4.8,SNR=3.4							
TOA1	**Torodi Ar. Sit**	**89.68**	**283**	*eP*	**P**	**20 59 30.1**	**-0.4**
ILAR	**Eielson Array**	**92.47**	**22**	LR	LR	21 46 54.0	
comp=Z,48nm,20.4s,baz=196,slow=39							

THE 15 21:14:17.7, 37°.80N×23°.93E, h9km, ML2.5/10, Error ellipse: s-maj=1.0km s-min=0.6km az=337.0

CSEM 15 21:14:17.5±0.1, 37°.80N×23°.94E, h10km, ML2.5, Error ellipse: s-maj=2.0km s-min=1.7km az=31.0

ATH 15 21:14:17.0, 37°.81N×23°.93E, h23km, ML2.5/26, Error ellipse: s-maj=1.1km s-min=0.8km az=46.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLY	**Voula,Athens**	**0.11**	**293**	P	Pb	21 14 20.1	-1.5
VLY				AML	AML	21 14 22.9	
comp=E,8142μm,0.3s							
VLY				AML	AML	21 14 22.9	
comp=N,3671μm,0.2s							
VLY	**Voula,Athens**	**0.11**	**293**	P	Pb	21 14 20.8	-0.7
VLY				S	Sb	21 14 22.5	-2.1
VLY	**Voula,Athens**	**0.11**	**293**	P	Pb	21 14 20.7	-0.8
VLY				S	Sb	21 14 22.5	-2.1
ATHU	**Athens Univers**	**0.20**	**325**	P	Pb	21 14 21.8	-0.6
ATHU				AML	AML	21 14 25.2	
comp=E,3301μm,0.2s							
ATHU				AML	AML	21 14 25.4	
comp=N,2922μm,0.2s							
ATHU	**Athens Univers**	**0.20**	**325**	P	Pb	21 14 22.1	-0.3
ATH	**Athens Observa**	**0.23**	**315**	P	Pb	21 14 22.8	-0.1
ATH				S	Sb	21 14 25.5	-1.5
ATH				AML	AML	21 14 26.6	
comp=N,3361μm,0.2s							
ATH				AML	AML	21 14 26.9	
comp=E,5451μm,0.3s							
ATH	**Athens Observa**	**0.23**	**315**	P	Pb	21 14 22.9	0.0
ATH				S	Sb	21 14 26.4	-0.5
ATH	**Athens Observa**	**0.23**	**315**	P	Pb	21 14 22.8	-0.1
ATH				S	Sb	21 14 26.1	-0.8
PTL	**Penteli**	**0.25**	**349**	P	Pb	21 14 22.9	-0.3
PTL				S	Sb	21 14 25.7	-1.6
PTL				AML	AML	21 14 27.0	
comp=E,3646μm,0.2s							
PTL				AML	AML	21 14 27.3	
comp=N,3657μm,0.3s							
PTL	**Penteli**	**0.25**	**349**	P	Pb	21 14 23.0	-0.1
PTL				S	Sb	21 14 26.6	-0.7
PTL	**Penteli**	**0.25**	**349**	P	Pb	21 14 22.9	-0.2
PTL				S	Sb	21 14 26.5	-0.8
KARY	**Karystos**	**0.46**	**61**	P	Pb	21 14 27.0	+0.4
KARY				S	Sb	21 14 32.9	-0.1
KARY	**Karystos**	**0.46**	**61**	P	Pb	21 14 26.8	+0.3
KARY				S	Sb	21 14 33.2	+0.2
KARY	**Karystos**	**0.46**	**61**	P	Pb	21 14 26.8	+0.3
KARY				S	Sb	21 14 33.2	+0.2
VILL	**Villia**	**0.60**	**306**	P	Pn	21 14 29.6	-0.6
VILL				S	Sb	21 14 37.9	+0.8
VILL	**Villia**	**0.60**	**306**	P	Pn	21 14 29.6	-0.6
DID	**Didima**	**0.62**	**241**	P	Pb	21 14 29.4	+0.1
DID				S	Sb	21 14 38.3	+0.7
DID				AML	AML	21 14 41.5	
comp=N,558μm,0.2s							
DID				AML	AML	21 14 42.4	
comp=E,529μm,0.4s							
DID	**Didima**	**0.62**	**241**	P	Pb	21 14 29.4	+0.1
DID				S	Sb	21 14 38.4	+0.8
DID	**Didima**	**0.62**	**241**	P	Pb	21 14 29.3	0.0
DID				S	Sb	21 14 38.5	+0.8
VIL2	**Platees**	**0.66**	**308**	P	Pn	21 14 30.8	-0.1
VIL2				S	Sb	21 14 38.0	-0.6
VIL2				AML	AML	21 14 41.8	
comp=N,1508μm,0.2s							
VIL2				AML	AML	21 14 42.2	
comp=E,1511μm,0.4s							
KRND	**KRANIDI**	**0.75**	**236**	P	Pn	21 14 32.0	-0.1
KRND				S	Sn	21 14 43.1	+0.4
KRND				AML	AML	21 14 47.1	
comp=E,390μm,0.2s							
KRND				AML	AML	21 14 47.2	
comp=N,526μm,0.3s							
KRND	**KRANIDI**	**0.75**	**236**	P	Pn	21 14 31.8	-0.3
KRND				S	Sn	21 14 42.5	-0.3
KRND	**KRANIDI**	**0.75**	**236**	P	Pb	21 14 31.7	+0.4
KRND				S	Sn	21 14 42.5	-0.3
LOUT	**Loutraki**	**0.77**	**284**	P	Pn	21 14 34.3	+1.8
LOUT				S	Sb	21 14 42.2	+0.3
LOUT	**Loutraki**	**0.77**	**284**	P	Pn	21 14 33.2	+0.7
LOUT				S	Sn	21 14 42.7	-0.8
LOUT	**Loutraki**	**0.77**	**284**	P	Pn	21 14 33.3	+0.8
LOUT				S	Sn	21 14 44.4	+0.9
LTK	**Loutraki**	**0.79**	**286**	P	Pn	21 14 34.1	+1.4
LTK				AML	AML	21 14 45.0	
comp=E,1213μm,0.4s							
LTK				AML	AML	21 14 45.7	
comp=N,1242μm,0.4s							
LTK				S	Sn	21 14 46.1	+2.3
LTK	**Loutraki**	**0.79**	**286**	P	Pn	21 14 33.2	+0.5
LTK				S	Sn	21 14 44.6	+0.8
LTK	**Loutraki**	**0.79**	**286**	P	Pn	21 14 33.4	+0.7
LTK				S	Sn	21 14 44.6	+0.8
PROD	**Prodromos**	**0.93**	**299**	P	Pn	21 14 37.0	+2.4
PROD				S	Sn	21 14 49.5	+2.2
PROD				AML	AML	21 14 50.2	
comp=E,1674μm,0.2s							
PROD				AML	AML	21 14 50.3	
comp=N,2499μm,0.3s							
PROD	**Prodromos**	**0.93**	**299**	P	Pn	21 14 35.9	+1.3
PROD				S	Sn	21 14 48.7	+1.5
THAL	**Thalero**	**1.02**	**283**	P	Pb	21 14 38.0	+1.9
THAL				S	Sn	21 14 50.8	+1.2
THAL				AML	AML	21 14 56.4	
comp=N,729μm,0.5s							
THAL				AML	AML	21 14 58.2	
comp=E,872μm,0.3s							
THAL	**Thalero**	**1.02**	**283**	P	Pb	21 14 37.3	+1.2
THAL				S	Sn	21 14 50.9	+1.3
THAL	**Thalero**	**1.02**	**283**	P	Pb	21 14 37.4	+1.3
LKR	**Lokris**	**1.11**	**319**	P	Pb	21 14 38.4	+0.8
LKR				S	Sn	21 14 54.6	+2.7
LKR				AML	AML	21 14 56.3	
comp=N,745μm,0.2s							
LKR				AML	AML	21 14 57.1	
comp=E,742μm,0.2s							
LKR	**Lokris**	**1.11**	**319**	P	Pb	21 14 38.3	+0.7
LKR				S	Sn	21 14 54.2	+2.4
LKR	**Lokris**	**1.11**	**319**	P	Pb	21 14 38.3	+0.7
MHLA	**Plaka, Milos I**	**1.13**	**159**	P	Pb	21 14 38.3	+0.4
MHLA				S	Sn	21 14 53.8	+1.5
MHLA	**Plaka, Milos I**	**1.13**	**159**	P	Pb	21 14 38.4	+0.5
MHLA				S	Sn	21 14 54.1	+1.9
MHLO	**Agia Marina, M**	**1.18**	**161**	P	Pb	21 14 41.0	+2.4
MHLO				AML	AML	21 14 58.2	
comp=N,690μm,0.6s							
MHLO				AML	AML	21 15 02.5	
comp=E,562μm,0.6s							
MHLO	**Agia Marina, M**	**1.18**	**161**	P	Pb	21 14 40.2	+1.5
SMIA	**Simia**	**1.21**	**332**	P	Pb	21 14 41.0	+1.7
SMIA				S	Sb	21 14 58.1	+3.7
SMIA				AML	AML	21 14 58.7	
comp=Z,372μm,0.3s							
SMIA				AML	AML	21 15 02.6	
comp=N,756μm,0.6s							
SMIA	**Simia**	**1.21**	**332**	P	Pb	21 14 40.6	+1.4
SMIA				S	Sb	21 14 57.5	+3.0
SMIA	**Simia**	**1.21**	**332**	P	Pb	21 14 40.6	+1.4
DSF	**Desfina**	**1.26**	**299**	P	Pb	21 14 40.8	+0.7
DSF				S	Sb	21 14 57.2	+1.3
DSF				AML	AML	21 15 01.9	
comp=N,600μm,0.4s							
DSF				AML	AML	21 15 02.6	
comp=E,334μm,0.3s							
DSF	**Desfina**	**1.26**	**299**	P	Pb	21 14 40.8	+0.7
DSF				S	Sb	21 14 57.9	+2.0
DSF	**Desfina**	**1.26**	**299**	P	Pb	21 14 40.7	+0.6
DSF				S	Sb	21 14 57.9	+2.0
GUR	**Goura**	**1.26**	**276**	P	Pb	21 14 40.5	+0.3
GUR				S	Sb	21 14 57.5	+1.5
GUR				AML	AML	21 15 00.4	
comp=N,393μm,0.4s							
GUR				AML	AML	21 15 01.6	
comp=E,354μm,0.2s							
GUR	**Goura**	**1.26**	**276**	P	Pb	21 14 40.8	+0.7
GUR				S	Sb	21 14 57.9	+1.9
GUR	**Goura**	**1.26**	**276**	P	Pb	21 14 40.8	+0.7
GUR				S	Sb	21 14 58.0	+2.0
VLX	**Vlachokerasia**	**1.30**	**251**	P	Pn	21 14 39.5	-0.4
VLX				AML	AML	21 15 03.3	
comp=N,158μm,0.6s							
VLX				AML	AML	21 15 04.0	
comp=E,216μm,0.6s							
VLX	**Vlachokerasia**	**1.30**	**251**	P	Pb	21 14 41.2	+0.3
VLX	**Vlachokerasia**	**1.30**	**251**	P	Pb	21 14 41.2	+0.3
TRIP	**Tripoli**	**1.34**	**259**	P	Pb	21 14 41.6	0.0
TRIP				S	Sb	21 14 59.8	+1.5
TRIP	**Tripoli**	**1.34**	**259**	P	Pb	21 14 42.0	+0.5
TRIP				S	Sb	21 15 00.0	+2.0
VLI	**Veliai**	**1.34**	**216**	P	Pn	21 14 40.4	+0.1
VLI				S	Sb	21 15 01.5	+3.2
VLI				AML	AML	21 15 04.3	
comp=E,387μm,0.6s							
VLI				AML	AML	21 15 04.9	
comp=N,510μm,0.6s							
VLI	**Veliai**	**1.34**	**216**	P	Pb	21 14 41.4	-0.1
VLI				S	Sb	21

ANX	**Ano Chora**	**1.76**	**297**	P	Pb	21 14 48.5	-0.2
ANX				S	Sb	21 15 11.0	+0.5
ANX	**Ano Chora**	**1.76**	**297**	P	Pb	21 14 48.6	-0.1
CHOS	**Chios island**	**1.78**	**70**	P	Pn	21 14 47.5	+1.1
CHOS	**Chios island**	**1.78**	**70**	P	Pb	21 14 48.0	-0.9
AMT	**Artemida-Makis**	**1.78**	**262**	P	Pb	21 14 48.8	-0.2
AMT				AML	AML	21 15 19.5	
	comp=N,135μm,0.7s						
AMT				AML	AML	21 15 22.3	
	comp=E,113μm,0.9s						
AMT	**Artemida-Makis**	**1.78**	**262**	P	Pb	21 14 48.7	-0.3

CSEM ***15*** *21:15:56.9±0.3, 45°.62N×26°.48E, h138km±2km, MD3.7, Error ellipse: s-maj=4.9km s-min=3.6km az=160.0*

BUC 15 21:15:57.7±0.7, 45°.64N×26°.51E, h136km±6km, MD3.7/3, 51C-29D, Error ellipse: s-maj=4.8km s-min=3.9km az=125.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.24**	**25**	⇑*i*P	Pn	21 16 16.2	-0.3
PLOR	**Plostina**	**0.24**	**25**	⇑*i*P	Pn	21 16 16.2	-0.3
PLOR				*i* S	Sn	21 16 29.7	-1.1
PLOR	**Plostina**	**0.24**	**25**	⇑*i*P	Pn	21 16 16.2	-0.3
PLOR				*i* S	Sn	21 16 29.7	-1.1
VRI	**Vrincioaia**	**0.28**	**34**	⇑*i*P	Pn	21 16 16.5	0.0
VRI	**Vrincioaia**	**0.28**	**34**	⇑*i*P	Pn	21 16 16.5	0.0
VRI				*i* S	Sn	21 16 29.4	-1.5
VRI	**Vrincioaia**	**0.28**	**34**	⇑*i*P	Pn	21 16 16.5	0.0
VRI				*i* S	Sn	21 16 29.4	-1.5
ODBI	**Odobesti**	**0.41**	**72**	⇑*i*P	Pn	21 16 17.4	+0.4
ODBI	**Odobesti**	**0.41**	**72**	⇑*i*P	Pn	21 16 17.4	+0.4
ODBI				*i* S	Sn	21 16 31.6	0.0
ODBI	**Odobesti**	**0.41**	**72**	⇑*i*P	Pn	21 16 17.4	+0.4
ODBI				*i* S	Sn	21 16 31.6	0.0
GRER		**0.42**	**128**	⇑*i*P	Pn	21 16 17.8	+0.7
GRER		**0.42**	**128**	⇑*i*P	Pn	21 16 17.8	+0.7
GRER				*i* S	Sn	21 16 32.1	+0.4
GRER		**0.42**	**128**	⇑*i*P	Pn	21 16 17.8	+0.7
GRER				*i* S	Sn	21 16 32.1	+0.4
MLR	**Muntele Rosu**	**0.42**	**250**	⇑*i*P	Pn	21 16 17.3	0.0
MLR	**Muntele Rosu**	**0.42**	**250**	⇑*i*P	Pn	21 16 17.3	0.0
MLR				*i* S	Sn	21 16 31.3	-0.7
MLR	**Muntele Rosu**	**0.42**	**250**	⇑*i*P	Pn	21 16 17.3	0.0
MLR				*i* S	Sn	21 16 31.3	-0.7
PETR	**Petresti**	**0.52**	**80**	⇑*i*P	Pn	21 16 18.0	+0.5
PETR	**Petresti**	**0.52**	**80**	⇑*i*P	Pn	21 16 18.0	+0.5
PETR				*i* S	Sn	21 16 32.2	-0.4
PETR	**Petresti**	**0.52**	**80**	⇑*i*P	Pn	21 16 18.0	+0.5
PETR				*i* S	Sn	21 16 32.2	-0.4
ISR	**Istrita**	**0.52**	**177**	⇓*i*P	Pn	21 16 17.9	+0.2
ISR	**Istrita**	**0.52**	**177**	⇓*i*P	Pn	21 16 17.9	+0.2
ISR				*i* S	Sn	21 16 32.8	0.0
ISR	**Istrita**	**0.52**	**177**	⇓*i*P	Pn	21 16 17.9	+0.2
ISR				*i* S	Sn	21 16 32.8	0.0
PLAR	**PLOIESTI**	**0.80**	**205**	⇑*i*P	Pn	21 16 19.8	+0.3
PLAR	**PLOIESTI**	**0.80**	**205**	⇑*i*P	Pn	21 16 19.8	+0.3
PLAR				*i* S	Sn	21 16 35.9	0.0
PLAR	**PLOIESTI**	**0.80**	**205**	⇑*i*P	Pn	21 16 19.8	+0.3
PLAR				*i* S	Sn	21 16 35.9	0.0
PGOR	**Pogoanele**	**0.80**	**155**	⇑*i*P	Pn	21 16 19.6	+0.1
PGOR	**Pogoanele**	**0.80**	**155**	⇑*i*P	Pn	21 16 19.6	+0.1
PGOR				*i* S	Sn	21 16 35.9	-0.1
PGOR	**Pogoanele**	**0.80**	**155**	⇑*i*P	Pn	21 16 19.6	+0.1
PGOR				*i* S	Sn	21 16 35.9	-0.1
DOPR	**Dopca**	**0.85**	**293**	⇑*i*P	Pn	21 16 20.1	+0.2
DOPR	**Dopca**	**0.85**	**293**	⇑*i*P	Pn	21 16 20.1	+0.2
DOPR				*i* S	Sn	21 16 35.6	-1.2
DOPR	**Dopca**	**0.85**	**293**	⇑*i*P	Pn	21 16 20.1	+0.2
DOPR				*i* S	Sn	21 16 35.6	-1.2
TESR	**Tescani**	**0.88**	**6**	⇓*i*P	Pn	21 16 19.5	-0.6
TESR	**Tescani**	**0.88**	**6**	⇓*i*P	Pn	21 16 19.5	-0.6
TESR	**Tescani**	**0.88**	**6**	⇓*i*P	Pn	21 16 19.5	-0.6
SULR		**0.97**	**191**	⇑*i*P	Pn	21 16 21.1	+0.2
SULR		**0.97**	**191**	⇑*i*P	Pn	21 16 21.1	+0.2
SULR				*i* S	Sn	21 16 38.6	+0.1
SULR		**0.97**	**191**	⇑*i*P	Pn	21 16 21.1	+0.2
SULR				*i* S	Sn	21 16 38.6	+0.1
VOIR		**1.04**	**260**	⇑*i*P	Pn	21 16 21.5	-0.2
VOIR		**1.04**	**260**	⇑*i*P	Pn	21 16 21.5	-0.2
VOIR				*i* S	Sn	21 16 39.0	-0.8
VOIR		**1.04**	**260**	⇑*i*P	Pn	21 16 21.5	-0.2
VOIR				*i* S	Sn	21 16 39.0	-0.8
MTUR	**Matau**	**1.10**	**249**	⇓*i*P	Pn	21 16 22.4	+0.2
MTUR	**Matau**	**1.10**	**249**	⇓*i*P	Pn	21 16 22.4	+0.2
MTUR	**Matau**	**1.10**	**249**	⇓*i*P	Pn	21 16 22.4	+0.2
AMRR	**Amara**	**1.18**	**150**	⇓*i*P	Pn	21 16 22.8	-0.1
AMRR	**Amara**	**1.18**	**150**	⇓*i*P	Pn	21 16 22.8	-0.1
AMRR				*i* S	Sn	21 16 40.9	-1.1
AMRR	**Amara**	**1.18**	**150**	⇓*i*P	Pn	21 16 22.8	-0.1
AMRR				*i* S	Sn	21 16 40.9	-1.1
GIUM	**Giurgiulesti**	**1.21**	**97**	⇑*i*P	Pn	21 16 23.3	+0.2
GIUM	**Giurgiulesti**	**1.21**	**97**	⇑*i*P	Pn	21 16 23.3	+0.2
GIUM				*i* S	Sn	21 16 42.1	-0.3
GIUM	**Giurgiulesti**	**1.21**	**97**	⇑*i*P	Pn	21 16 23.3	+0.2
GIUM				*i* S	Sn	21 16 42.1	-0.3
CFR	**Carcaliu**	**1.24**	**111**	⇑*i*P	Pn	21 16 23.2	-0.2
CFR	**Carcaliu**	**1.24**	**111**	⇑*i*P	Pn	21 16 23.2	-0.2
CFR				*i* S	Sn	21 16 40.9	-2.1
CFR	**Carcaliu**	**1.24**	**111**	⇑*i*P	Pn	21 16 23.2	-0.2
CFR				*i* S	Sn	21 16 40.9	-2.1
CIOR	**Ciorogarla**	**1.27**	**201**	S	Sn	21 16 42.7	-0.9
CIOR	**Ciorogarla**	**1.27**	**201**	*i* S	Sn	21 16 42.7	-0.9
CIOR	**Ciorogarla**	**1.27**	**201**	*i* S	Sn	21 16 42.7	-0.9
BUC1	**Bucharest**	**1.33**	**195**	⇑*i*P	Pn	21 16 24.5	+0.1
BUC1	**Bucharest**	**1.33**	**195**	⇑*i*P	Pn	21 16 24.5	+0.1
BUC1				*i* S	Sn	21 16 43.7	-1.0
BUC1	**Bucharest**	**1.33**	**195**	⇑*i*P	Pn	21 16 24.5	+0.1
BUC1				*i* S	Sn	21 16 43.7	-1.0
ARR	**Arges**	**1.34**	**259**	⇓*i*P	Pn	21 16 25.3	+0.7
ARR	**Arges**	**1.34**	**259**	⇓*i*P	Pn	21 16 25.3	+0.7
ARR				*i* S	Sn	21 16 44.6	-0.5
ARR	**Arges**	**1.34**	**259**	⇓*i*P	Pn	21 16 25.3	+0.7
ARR				*i* S	Sn	21 16 44.6	-0.5
GOLR		**1.35**	**234**	S	Sn	21 16 45.0	-0.1
GOLR		**1.35**	**234**	*i* S	Sn	21 16 45.0	-0.1
GOLR		**1.35**	**234**	*i* S	Sn	21 16 45.0	-0.1
HARR	**Harsova**	**1.38**	**133**	⇑*i*P	Pn	21 16 24.8	-0.1
HARR	**Harsova**	**1.38**	**133**	⇑*i*P	Pn	21 16 24.8	-0.1
HARR	**Harsova**	**1.38**	**133**	⇑*i*P	Pn	21 16 24.8	-0.1
SGRR	**Singureni**	**1.46**	**195**	⇑*i*P	Pn	21 16 25.7	-0.1
SGRR	**Singureni**	**1.46**	**195**	⇑*i*P	Pn	21 16 25.7	-0.1
SGRR				*i* S	Sn	21 16 45.6	-1.6
SGRR	**Singureni**	**1.46**	**195**	⇑*i*P	Pn	21 16 25.7	-0.1
SGRR				*i* S	Sn	21 16 45.6	-1.6
LEOM	**Leova**	**1.47**	**55**	⇓*i*P	Pn	21 16 26.2	+0.3
LEOM	**Leova**	**1.47**	**55**	⇓*i*P	Pn	21 16 26.2	+0.3
LEOM				*i* S	Sn	21 16 46.5	-0.9
LEOM	**Leova**	**1.47**	**55**	⇓*i*P	Pn	21 16 26.2	+0.3
LEOM				*i* S	Sn	21 16 46.5	-0.9
HUMR	**Humele**	**1.55**	**225**	⇑*i*P	Pn	21 16 26.6	-0.2
HUMR	**Humele**	**1.55**	**225**	⇑*i*P	Pn	21 16 26.6	-0.2
HUMR				*i* S	Sn	21 16 47.7	-1.2
HUMR	**Humele**	**1.55**	**225**	⇑*i*P	Pn	21 16 26.6	-0.2
HUMR				*i* S	Sn	21 16 47.7	-1.2
TLCR		**1.69**	**105**	⇓*i*P	Pn	21 16 28.2	-0.1
TLCR		**1.69**	**105**	⇓*i*P	Pn	21 16 28.2	-0.1
TLCR				*i* S	Sn	21 16 50.6	-1.1
TLCR		**1.69**	**105**	⇓*i*P	Pn	21 16 28.2	-0.1
TLCR				*i* S	Sn	21 16 50.6	-1.1
CVDA	**Cernavoda**	**1.70**	**140**	S	Sn	21 16 50.2	-1.7
CVDA	**Cernavoda**	**1.70**	**140**	*i* S	Sn	21 16 50.2	-1.7
CVDA	**Cernavoda**	**1.70**	**140**	*i* S	Sn	21 16 50.2	-1.7
IAS	**Iasi**	**1.72**	**25**	S	Sn	21 16 51.6	-0.8
IAS	**Iasi**	**1.72**	**25**	*i* S	Sn	21 16 51.6	-0.8
IAS	**Iasi**	**1.72**	**25**	*i* S	Sn	21 16 51.6	-0.8
TIRR	**Tirgusor**	**1.79**	**130**	⇓*i*P	Pn	21 16 29.4	-0.1
TIRR	**Tirgusor**	**1.79**	**130**	⇓*i*P	Pn	21 16 29.4	-0.1
TIRR	**Tirgusor**	**1.79**	**130**	⇓*i*P	Pn	21 16 29.4	-0.1
ZIMR		**2.14**	**203**	⇓*i*P	Pn	21 16 33.6	-0.1
ZIMR		**2.14**	**203**	⇓*i*P	Pn	21 16 33.6	-0.1
ZIMR				*i* S	Sn	21 16 59.2	-2.1
EFOR	**EFORIE**	**2.17**	**135**	S	Sn	21 17 00.1	-1.8
EFOR	**EFORIE**	**2.17**	**135**	*i* S	Sn	21 17 00.1	-1.8
EFOR	**EFORIE**	**2.17**	**135**	*i* S	Sn	21 17 00.1	-1.8
SRE	**Strehaia**	**2.53**	**249**	S	Sn	21 17 08.4	-1.5
SRE	**Strehaia**	**2.53**	**249**	*i* S	Sn	21 17 08.4	-1.5
SRE	**Strehaia**	**2.53**	**249**	*i* S	Sn	21 17 08.4	-1.5
SORM	**Soroca**	**2.80**	**26**	⇓*i*P	Pn	21 16 41.8	-0.1
SORM	**Soroca**	**2.80**	**26**	⇓*i*P	Pn	21 16 41.8	-0.1
SORM				*i* S	Sn	21 17 13.7	-2.4
SORM	**Soroca**	**2.80**	**26**	⇓*i*P	Pn	21 16 41.8	-0.1
HERR	**Herculane**	**2.98**	**257**	S	Sn	21 17 17.9	-2.4
HERR	**Herculane**	**2.98**	**257**	*i* S	Sn	21 17 17.9	-2.4
BZS	**Buzias**	**3.43**	**271**	*e*Pn	Pn	21 16 47.7	-2.4
ZAGS	**Zajecar**	**3.55**	**241**	*e*Pn	Pn	21 16 49.6	-2.0
KUBS	**Kucevo**	**3.64**	**252**	*e*Pn	Pn	21 16 51.0	-1.8
ZAPS	**Zavoj**	**3.64**	**231**	*e*Pn	Pn	21 16 52.1	-0.8
GRUS	**Gruza**	**4.48**	**249**	*e*Pn	Pn	21 17 03.8	-0.1
IVAS	**Ivanjica**	**4.98**	**248**	*e*Pn	Pn	21 17 08.9	-1.8

IDC 15 21:17:17.4±3.3, 5°.79S×149°.88E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/40, mbtmp3.4/4, ML2.0/1, Error ellipse: s-maj=102.7km s-min=26.0km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.49**	**217**	Pn	Pn	21 18 28.0	+1.2
	5.4nm,0.3s,baz=352,slow=6.7,SNR=11						
PMG				Sn	Sn	21 19 15.3	-4.4
	5.4nm,0.3s,baz=359,slow=23,SNR=7.6						
WRA	**Warramunga Arr**	**20.64**	**226**	P	P	21 21 58.5	-0.3
	0.4nm,0.4s,baz=52,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**23.50**	**219**	P	P	21 22 28.8	-0.5
	0.2nm,0.5s,baz=54,slow=9.1,SNR=4.5						
FITZ	**Fitzroy Crossi**	**26.63**	**241**	P	P	21 22 57.8	-0.2
	baz=65,slow=8.4						
SONM	**Songino Array**	**65.65**	**329**	P	P	21 28 03.5	-0.2
	0.2nm,0.3s,baz=129,slow=7.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.80**	**285**	PKPbc	PKPbc	21 37 05.3	-0.2
	0.3nm,0.3s,baz=70,slow=2.4,SNR=12						

IDC ***15*** *21:37:37.0±0.6, 14°.23N×145°.34E, h86km±5km, mb4.3/32, mb1 4.4/32, mb1mx4.2/57, mbtmp4.6/32, MS3.2/8, Ms1 3.2/8, ms1mx2.9/57, Error ellipse: s-maj=14.2km s-min=9.1km az=86.0*

ISCJB ***15*** *21:37:37.8±0.5, 14°.21N±0°.04×145°.25E±0°.04, h104km±5km, mb4.7/130, Error ellipse: s-maj=7.2km s-min=6.0km az=3.3*

BJI ***15*** *21:37:37.2, 14°.15N×145°.42E, h100km, mb4.8/49, mB5.0/29*

MOS ***15*** *21:37:38.2±1.2, 14°.27N×145°.21E, h111km, mb4.9/29, Error ellipse: s-maj=11.4km s-min=6.5km az=101.8*

NEIC ***15*** *21:37:39.1±0.6, 14°.18N×145°.26E, h105km±5km, mb4.8/69, Error ellipse: s-maj=6.1km s-min=6.0km az=207.0*

NEIC Felt at Andersen AFB and Barrigada, Guam.

ISC 15 21:37:38.4±0.6, 14°.16N±0°.05×145°.31E±0°.07, h101km±5km, n232, σ1°.20/241, mb4.8/130, 5C-10D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.71**	**217**	P	**Pn**	**21 37 56.3**	**+0.2**
	2μm,0.3s,baz=242,slow=3.0,SNR=419						
GUMO				S	**Sn**	**21 38 07.6**	**-1.7**
	4μm,0.3s,baz=63,slow=16,SNR=30						
GUMO	**Guam**	**0.71**	**217**	*e*Pn	**Pn**	**21 37 56.3**	**+0.2**
GUMO				S	**Sn**	**21 38 07.6**	**-1.7**
GUMO				*e*Sn	Sn	21 38 08.4	-0.9
ANA2	**Anatahan**	**2.20**	**10**	*e*Pn	**Pn**	**21 38 15.2**	**+1.4**
SARN	**Sarigan**	**2.57**	**10**	*e*Pn	**Pn**	**21 38 19.8**	**+1.3**
PATS	**Pohnpei**	**14.70**	**118**	*e*Pn	**Pn**	**21 41 00.4**	**-1.0**
PATS				*e*Sn	Sn	21 43 31.1	-13
H11S3	**WAKE ISLAND Hy**	**20.95**	**75**	T	T	22 04 16.3	
	baz=261,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**20.97**	**75**	T	T	22 04 16.9	
	baz=261,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy**	**20.97**	**75**	T	T	22 04 17.6	
	baz=261,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**21.36**	**72**	T	T	22 05 03.0	
	baz=256,slow=75						
H11N2	**WAKE ISLAND Hy**	**21.37**	**72**	T	T	22 04 49.6	
	baz=256						
H11N3	**WAKE ISLAND Hy**	**21.38**	**72**	T	T	22 04 52.7	
	baz=256,slow=75						
JNU	**Nakatsue**	**23.00**	**328**	P	**P**	**21 42 35.4**	**+0.8**
	12nm,0.4s,baz=163,slow=1.6,SNR=39						
JNU				LR	LR	21 49 58.3	
	comp=Z,19nm,19.7s,baz=214,slow=32						
JNU	**Nakatsue**	**23.00**	**328**	*e*P	**P**	**21 42 35.6**	**+0.9**
	57nm,1.4s						
MJAR	**Matsushiro Arr**	**23.18**	**345**	P	**P**	**21 42 35.0**	**-1.3**
	1.3nm,0.3s,baz=167,slow=10,SNR=7.7						
MJAR				LR	LR	21 50 51.5	
	comp=Z,37nm,18.3s,baz=50,slow=34						
MAJO	**Matsushiro**	**23.18**	**345**	*de*P	**P**	**21 42 37.6**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAJO	**Matsushiro**	**23.18**	**345**	*e*P	**P**	**21 42 37.0**	**+0.7**
	comp=Z,8.1nm,0.8s						
MAT	**Matsushiro**	**23.18**	**345**	P	**P**	**21 42 36.2**	**-0.1**
MJB9	**Matsu-Tunnel**	**23.18**	**345**	*e*P	**P**	**21 42 37.1**	**+0.8**
	comp=Z,8.4nm,0.8s						
PMG	**Port Moresby**	**23.48**	**175**	P	**P**	**21 42 39.5**	**+0.3**
	comp=Z,15nm,0.7s,baz=358,slow=6.7,SNR=5.3						
PMG				LR	LR	21 51 59.3	
	comp=Z,48nm,18.6s,baz=230,slow=37						
PMG	**Port Moresby**	**23.48**	**175**	⇓*e*P	**P**	**21 42 40.3**	**+1.1**
PMG				pmax	pmax		
	comp=Z,91nm,1.0s						
SSLB	**Suanglung**	**24.91**	**296**	*e*P	**P**	**21 42 53.4**	**+1.2**
	comp=Z,88nm,1.9s						
HNR	**Honiara**	**27.57**	**147**	LR	LR	21 54 13.3	
	comp=Z,68nm,19.4s,baz=296,slow=36						
KSRS	**Korea Array**	**27.89**	**329**	P	**P**	**21 43 18.9**	**+0.2**
	comp=Z,8.1nm,0.6s,baz=146,slow=9.6,SNR=33						
KS15	**Wonju Array Si**	**27.90**	**329**	*e*P	**P**	**21 43 20.0**	**+1.1**
KSAR	**Wonju Array Be**	**27.90**	**329**	P	**P**	**21 43 19.0**	**+0.1**
KSAR	**Wonju Array Be**	**27.90**	**329**	P	**P**	**21 43 18.9**	**+0.1**
KS01	**Wonju Array Si**	**27.92**	**329**	*e*P	**P**	**21 43 19.6**	**+0.5**
NJ2	**Nanjing**	**30.03**	**311**	*e*P	**P**	**21 43 38.9**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,18nm,0.8s						
USRK	**Ussuriysk Ar.**	**32.03**	**342**	P	**P**	**21 43 55.1**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=189,slow=9.2,SNR=6.0						
MDJ	**Mudanjiang**	**33.18**	**339**	P	**P**	**21 44 02.8**	**-2.5**
MDJ				pP	pP	21 44 25.6	-2.5
MDJ				S	**S**	**21 49 21.3**	**+3.8**
MDJ				sS	sS	21 50 01.8	+4.8
MDJ				pmax	pmax		
	comp=Z,11nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,160nm,6.1s						
CN2	**Changchun**	**34.09**	**334**	*e*P	**P**	**21 44 14.0**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WRAB	**Tennant Creek**	**35.55**	**198**	*e*P	**P**	**21 44 27.3**	**+1.3**
WRAB				pmax	pmax		
	comp=Z,19nm,1.7s						
WRA	**Warramunga Ar**	**35.56**	**198**	P	**P**	**21 44 27.0**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=19,slow=9.3,SNR=36						
WRA				PcP	**PcP**	**21 46 54.3**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=14,slow=3.3,SNR=5.6						
WRA				ScP	**ScP**	**21 50 30.2**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=18,slow=4.0,SNR=5.0						
BJI	**Beijing**	**36.27**	**321**	⇓*e*P	**P**	**21 44 33.1**	**+1.1**
BJI				pP	**pP**	**21 44 55.8**	**+0.8**
BJI				pmax	pmax		
	comp=Z,27nm,0.7s						
KLR	**Kul'dur**	**36.71**	**345**	P	**P**	**21 44 35.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=154,slow=5.3,SNR=14						
KLR				PcP	**PcP**	**21 46 55.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=196,slow=4.8,SNR=5.1						
KLR				LR	LR	21 58 04.7	
	comp=Z,5.7nm,18.4s,baz=65,slow=34						
XAN	**Xi'an**	**38.39**	**307**	P	**P**	**21 44 51.0**	**+1.0**
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
XAN				pmax	pmax		
	comp=Z,75nm,5.7s						
ASAR	**Alice Springs**	**39.21**	**197**	P	**P**	**21 44 58.2**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=20,slow=9.8,SNR=15						
ASAR				ScP	**ScP**	**21 50 44.6**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=34,slow=3.5,SNR=4.0						
HHC	**Hu-ho-hao-te**	**39.63**	**319**	*e*P	**P**	**21 45 01.8**	**+1.4**
HHC				S	**S**	**21 50 55.5**	**-0.6**
HHC				sS	sS	21 51 38.3	+1.9
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,6.1s						
PETK	**Petropavlovsk-**	**40.08**	**12**	P	**P**	**21 45 03.2**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=152,slow=7.6,SNR=12						
KMI	**Kunming**	**41.40**	**292**	P	**P**	**21 45 17.0**	**+1.7**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DZM	**Mont Dzumac**	**41.54**	**150**	P	**P**	**21 45 18.1**	**+1.8**
	comp=Z,8.4nm,0.7s,baz=339,slow=22,SNR=7.6						
CD2	**Chengdu**	**41.57**	**301**	*e*P	**P**	**21 45 17.0**	**+0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
LZH	**Lanzhou**	**43.01**	**308**	*e*P	**P**	**21 45 30.3**	**+2.2**
LZH				pP	pP	21 45 53.9	+2.2
LZH				sP	sP	21 46 04.4	+1.2
LZH				PP	**PP**	**21 47 13.0**	**+3.1**
LZH				*e*S	**S**	**21 51 42.0**	**-4.4**
LZH				pmax	pmax		
	comp=Z,44nm,1.2s						
LZH				pmax	pmax		
	comp=Z,95nm,4.6s						
LZH				LR	LR		
	comp=Z,380nm,13.2s						
LZH				LR	LR		
	comp=Z,470nm,15.0s						
LZH				LR	LR		
	comp=Z,670nm,16.4s						
CM01	**Chiang Mai Arr**	**44.61**	**282**	*e*P	**P**	**21 45 41.5**	**+0.5**
CM01				*e*PcP	**PcP**	**21 47 23.5**	**+1.2**
CM31	**Chiang Mai Arr**	**44.62**	**282**	*e*P	**P**	**21 45 41.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.62**	**282**	P	**P**	**21 45 42.5**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=83,slow=6.1,SNR=16						
CMAR				PcP	**PcP**	**21 47 23.2**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=90,slow=1.8,SNR=20						
MA2	**Magadan**	**45.52**	**4**	P	**P**	**21 45 46.7**	**-0.9**
	comp=Z,8.9nm,0.7s,baz=169,slow=8.3,SNR=8.7						
MA2	**Magadan**	**45.52**	**4**	⇓*e*P	**P**	**21 45 46.4**	**-1.2**
STKA	**Stephens Creek**	**45.91**	**184**	P	**P**	**21 45 51.1**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=338,slow=9.3,SNR=5.7						
ULN	**Ulaanbaatar**	**46.17**	**325**	*d*P	**P**	**21 45 54.2**	**+1.1**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ULN	**Ulaanbaatar**	**46.17**	**325**	*e*P	**P**	**21 45 53.6**	**+0.5**
	comp=Z,25nm,1.7s						
SONM	**Songino Array**	**46.52**	**324**	P	**P**	**21 45 56.8**	**+1.0**
	comp=Z,3.3nm,0.5s,baz=134,slow=8.0,SNR=38						
SONM				PcP	**PcP**	**21 47 27.9**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=114,slow=2.2,SNR=4.2						
SONA1	**Songino Array**	**46.52**	**324**	*e*P	**P**	**21 45 56.6**	**+0.7**
GTA	**Gaotai**	**47.12**	**311**	P	**P**	**21 46 01.8**	**+1.1**
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
SEY	**Seymchan**	**48.97**	**4**	P	**P**	**21 46 13.3**	**-1.0**
	comp=Z,4.4nm,0.6s,baz=174,slow=7.2,SNR=16						
SEY	**Seymchan**	**48.97**	**4**	⇑*i*P	**P**	**21 46 13.7**	**-0.6**
BOD	**Bodaibo**	**49.55**	**339**	*e*P	**P**	**21 46 15.9**	**-2.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ZAK	**Zakamensk**	**49.61**	**326**	*e*P	**P**	**21 46 18.9**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TLY	**Talaya**	**50.11**	**327**	*e*P	**P**	**21 46 24.5**	**+1.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TLY	**Talaya**	**50.11**	**327**	*e*P	**P**	**21 46 23.9**	**+0.7**
	comp=Z,5.7nm,0.7s						
AFI	**Afiamalu**	**50.81**	**121**	LR	LR	22 07 45.5	
	comp=Z,17nm,18.1s,baz=39,slow=36						
SPIA	**Saint Paul Isl**	**54.48**	**28**	*e*P

comp=Z,17nm,0.5s
TKM2 Tokmak 2 65.67 311 P **P** 21 48 12.9 +0.5
SNR=6.9
KTH Kantishna Hill 65.84 26 *e*P **P** 21 48 13.0 +0.1
comp=Z,8.3nm,0.9s
KZA Kyzart 65.89 310 P **P** 21 48 15.6 +1.5
SNR=10
TRF Thorofare Moun 66.08 26 *e*P **P** 21 48 13.9 -0.7
comp=Z,9.3nm,1.1s
PMR Palmer 66.08 28 *e*P **P** 21 48 13.6 -0.7
PMR pmax pmax
comp=Z,10.0nm,0.9s
PMR Palmer 66.08 28 *e*P **P** 21 48 13.6 -0.7
comp=Z,10nm,0.9s
KBK Karagaybulak 66.14 311 P **P** 21 48 15.8 +0.4
SNR=9.7
MLY Manley 66.36 25 *e*P **P** 21 48 16.3 +0.1
comp=Z,4.6nm,0.6s
UCH Uchtor 66.44 310 P **P** 21 48 18.8 +1.2
SNR=10
AAK Ala-Archa 66.47 311 *d i*P **P** 21 48 17.8 +0.4
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 66.47 311 P **P** 21 48 17.8 +0.4
SNR=6.3
USP Ospenovka 66.49 311 P **P** 21 48 17.8 +0.3
SNR=5.2
SML Sawmill 66.50 28 *e*P **P** 21 48 17.7 +0.5
SML pmax pmax
comp=Z,26nm,0.9s
SML Sawmill 66.50 28 *e*P **P** 21 48 17.7 +0.5
comp=Z,26nm,0.9s
RND Reindeer 66.69 27 *e*P **P** 21 48 18.1 -0.2
RND pmax pmax
comp=Z,6.0nm,0.5s
RND Reindeer 66.69 27 *e*P **P** 21 48 18.1 -0.2
comp=Z,6.0nm,0.5s
SCM Sheep Creek Mo 66.97 28 *e*P **P** 21 48 20.4 +0.3
SCM pmax pmax
comp=Z,28nm,1.0s
SCM Sheep Creek Mo 66.97 28 *e*P **P** 21 48 20.4 +0.3
comp=Z,28nm,1.0s
AML Almayashu 67.05 310 P **P** 21 48 22.4 +1.0
SNR=12
DHY Denali Highway 67.25 27 *e*P **P** 21 48 22.3 +0.3
comp=Z,17nm,1.5s
COLD Coldfoot 67.26 22 *e*P **P** 21 48 22.2 +0.5
comp=Z,4.9nm,0.8s
MDM Murphy Dome 67.36 25 *e*P **P** 21 48 22.5 0.0
comp=Z,31nm,2.0s
COLA College 67.50 25|| *e*P **P** 21 48 22.8 -0.5
COLA pmax pmax
comp=Z,3.0nm,0.8s
DIV Divide 67.55 29 *e*P **P** 21 48 24.8 +1.0
comp=Z,12nm,0.8s
KLU Klutina 67.56 29 *e*P **P** 21 48 24.7 +0.8
comp=Z,15nm,1.0s
IL1 Eielson Array 67.87 25 *e*P **P** 21 48 23.6 -2.1
ILAR Eielson Array 67.87 25 P **P** 21 48 23.9 -1.8
comp=Z,4.5nm,0.4s,baz=252,slow=5.7,SNR=124
ILB Eielson Array 67.87 25 *e*P **P** 21 48 24.1 -1.5
PAX Paxson 68.07 27 *e*P **P** 21 48 27.0 -0.1
PAX pmax pmax
comp=Z,12nm,0.5s
PAX Paxson 68.07 27 *e*P **P** 21 48 27.0 -0.1
comp=Z,12nm,0.5s
BMRM Bremner River 68.08 30 *e*P **P** 21 48 28.0 +0.9
comp=Z,27nm,1.2s
HARP HAARP 68.10 28 *e*P **P** 21 48 27.9 +0.7
comp=Z,21nm,0.7s
RIDG Independ'e Rid 68.51 27 *e*P **P** 21 48 29.4 -0.3
comp=Z,22nm,1.4s
DOT Dot Lake 68.83 27 *e*P **P** 21 48 31.4 -0.3
comp=Z,20nm,0.6s
KKAR Karatay Array 69.41 311 *e*P **P** 21 48 36.1 +0.4
KKAR Karatay Array 69.41 311 *e*P **P** 21 48 36.1 +0.4
BVAR Borovoye Array 69.75 322 P **P** 21 48 37.4 -0.1
comp=Z,9.1nm,0.4s,baz=109,slow=7.5,SNR=94
BVAR LR LR 22 20 55.7
comp=Z,61nm,18.3s,baz=347,slow=37
BRVK Borovoye 69.82 322 *d i*P **P** 21 48 37.7 -0.2
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 69.82 322 *e*P **P** 21 48 37.9 0.0
comp=Z,10nm,0.6s
PCA Pinnacle 70.07 31 *e*P **P** 21 48 40.5 +1.0
comp=Z,38nm,0.4s
EGAK Eagle 70.28 26 *e*P **P** 21 48 40.4 -0.1
comp=Z,16nm,1.8s
KBL Kabul 70.90 302 *e*P **P** 21 48 45.4 +0.2
KBL pmax pmax
comp=Z,4.0nm,0.6s
KBL Kabul 70.90 302 *e*P **P** 21 48 45.4 +0.2
comp=Z,3.7nm,0.6s
DAWY Dawson 70.94 27 *e*P **P** 21 48 45.1 +0.5
comp=Z,2.9nm,0.7s
HYT Haines Junctio 71.50 30 *e*P **P** 21 48 48.9 +0.7
comp=Z,19nm,0.7s
WHY Whitehorse 72.78 30 *e*P **P** 21 48 56.9 +1.1
comp=Z,7.7nm,0.9s
INK Inuvik 73.68 23 *e*P **P** 21 49 00.2 -0.5
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 73.68 23 *e*P **P** 21 49 00.2 -0.5
comp=Z,6.6nm,0.9s
DLBC Dease Lake 75.27 33 *e*P **P** 21 49 11.6 +1.3
comp=Z,8.4nm,0.8s
SVE Sverdlovsk 75.38 326 *e*P **P** 21 49 11.0 +0.2
ABKAR Akbulak array 76.41 318 *e*P **P** 21 49 16.3 -0.6
comp=Z,34nm,0.8s
ARU Arti 76.55 325 *c i*P **P** 21 49 16.6 -0.9
ARU *PP **pP** 21 49 42.4 -1.0
ARU S **S** 21 58 55.0 -0.3
ARU SS **SS** 22 03 48.5 -3.4
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 76.55 325 *e*P **P** 21 49 17.1 -0.3
comp=Z,8.2nm,1.1s
AKTO Aktyubinsk 77.52 319 P **P** 21 49 21.9 -1.1
comp=Z,1.4nm,0.5s,baz=63,slow=2.3,SNR=5.0
AKTO LR LR 22 25 29.4
comp=Z,38nm,18.4s,baz=359,slow=37
AKTO Aktyubinsk 77.52 319 P **P** 21 49 22.0 -1.1
GEYT Alibeck 79.26 306 P **P** 21 49 32.4 -0.6
comp=Z,2.4nm,0.6s,baz=103,slow=3.2,SNR=6.6
YKA Yellowknife Ar 82.16 27 P **P** 21 49 47.2 -0.6
comp=Z,2.2nm,0.4s,baz=286,slow=5.3,SNR=47
YBH Yreka Blue Hor 82.17 49 P **P** 21 49 49.8 +1.3
comp=Z,4.3nm,0.7s,baz=270,slow=12,SNR=12
PINE Pine Mountain 83.01 47 *e*P **P** 21 49 54.0 +1.1
comp=Z,43nm,1.0s
B08A Colville Reser 83.06 42 *e*P **P** 21 49 53.7 +0.8
comp=Z,16nm,0.8s
SPITS Spitsbergen Ar 83.56 351 P **P** 21 49 53.9 -1.0
comp=Z,12nm,0.8s,baz=286,slow=7.3,SNR=14
C09A Chrisman Ranch 83.89 42 *e*P **P** 21 49 58.1 +1.0
comp=Z,7.4nm,0.8s
RES Resolute Bay 83.90 13 *e*P **P** 21 49 56.0 -0.6
RES pmax pmax
comp=Z,4.0nm,0.6s
RES Resolute Bay 83.90 13 *e*P **P** 21 49 56.0 -0.6
comp=Z,4.2nm,0.6s
NEW Newport 84.52 42 P **P** 21 50 00.8 +0.5
comp=Z,9.9nm,0.6s,baz=292,slow=11,SNR=17
PAHR Pah Rah Range 85.09 50 *e*P **P** 21 50 04.0 +0.5
comp=Z,3.6nm,0.9s
KLMR Klimovskoe 85.26 332 *e*P **P** 21 50 01.4 -2.2
KLMR pmax pmax
comp=Z,22nm,1.7s
KLMR Klimovskoe 85.26 332 *e*P **P** 21 50 01.4 -2.2
KLMR AMP 21 50 09.2
comp=Z,22nm,1.7s
BMO Blue Mountains 85.28 45 *e*P **P** 21 50 05.1 +0.8
BMO pmax pmax
comp=Z,12nm,0.9s
BMO Blue Mountains 85.28 45 *e*P **P** 21 50 05.1 +0.8
comp=Z,12nm,0.9s
EDM Edmonton 85.44 36 *e*P **P** 21 50 05.3 +0.5
EDM Edmonton 85.44 36 *e*P **P** 21 50 05.3 +0.5
NV01 Mina Array Sit 86.23 51 *e*P **P** 21 50 10.3 +1.1
NVAR Mina Array Bea 86.23 51 P **P** 21 50 10.5 +1.3
comp=Z,2.6nm,0.5s,baz=265,slow=5.8,SNR=24
NV11 Mina Array Sit 86.34 51 *e*P **P** 21 50 11.2 +1.4
comp=Z,0.3nm,0.9s
WALA Waterton Lakes 86.34 40 *e*P **P** 21 50 10.7 +1.3
JTMT Jette 86.50 42 *e*P **P** 21 50 11.1 +0.8
comp=Z,13nm,1.1s

ARCES ARCESS Array B 86.68 342 P **P** 21 50 09.8 -0.8
comp=Z,3.5nm,0.5s,baz=65,slow=7.9,SNR=21
MFID Camas Ranch 86.70 46 *e*P **P** 21 50 12.3 +1.0
comp=Z,24nm,1.1s
VRH Novokhopyorsk 87.39 322 *e*P **P** 21 50 11.9 -2.4
VRH pmax pmax
comp=Z,7.0nm,0.6s
HLID Hailey 87.64 46 *e*P **P** 21 50 17.1 +1.2
comp=Z,13nm,1.0s
LRM Limekiln Ridge 88.28 43 *e*P **P** 21 50 19.9 +0.9
MCMT McKenzie Canyo 88.33 44 *e*P **P** 21 50 20.3 +1.0
LPSR Galich'ya Gora 88.53 324 *e*P **P** 21 50 18.0 -1.7
LPSR pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 88.86 327|| *e*P **P** 21 50 19.9 -1.3
OBN pmax pmax
comp=Z,15nm,1.4s
OBN MLR MLR
comp=Z,151nm,16.0s
VSR Storozhevoye 88.89 323 *e*P **P** 21 50 18.7 -2.7
VSR pmax pmax
comp=Z,7.0nm,0.5s
KBZ Khabaz 89.07 315 P **P** 21 50 20.4 -2.0
comp=Z,2.4nm,1.0s,baz=85,slow=3.4,SNR=5.1
SHPR Sheep Range 89.16 53 *e*P **P** 21 50 23.6 +0.4
comp=Z,7.8nm,1.3s
QLMT Earthquake Lak 89.28 44 *e*P **P** 21 50 25.2 +1.5
HVU Hansel Valley 89.34 47 *e*P **P** 21 50 25.0 +1.1
HVU pmax pmax
comp=Z,12nm,1.2s
HVU Hansel Valley 89.34 47 *e*P **P** 21 50 25.0 +1.1
comp=Z,12nm,1.2s
YHB Horse Butte 89.47 44 *e*P **P** 21 50 26.2 +1.6
comp=Z,9.9nm,1.0s
YMR Madison River 89.65 44 *e*P **P** 21 50 27.2 +1.7
comp=Z,8.7nm,0.8s
DUG Dugway, Tooele 89.81 49 *e*P **P** 21 50 27.6 +1.4
DUG pmax pmax
comp=Z,7.0nm,0.6s
DUG Dugway, Tooele 89.81 49 *e*P **P** 21 50 27.6 +1.4
comp=Z,6.6nm,0.6s
YFT Old Faithful 89.81 44 *e*P **P** 21 50 26.9 +0.7
comp=Z,5.2nm,0.6s
YNR Norris Junctio 89.83 44 *e*P **P** 21 50 27.8 +1.5
comp=Z,10.0nm,1.1s
IMW Indian Meadow 89.93 45 *e*P **P** 21 50 28.0 +1.1
comp=Z,5.9nm,0.7s
FXWY Fox Creek 89.95 45 *e*P **P** 21 50 28.1 +1.2
comp=Z,3.6nm,0.8s
H17A Grant Village 90.00 44 *e*P **P** 21 50 29.7 +2.5
MOOW Moose Ponds 90.11 45 *e*P **P** 21 50 29.1 +1.5
comp=Z,5.8nm,1.1s
W13A Hualapai Mount 90.57 54 *e*P **P** 21 50 31.4 +1.5
RLMT Red Lodge 90.63 43 *e*P **P** 21 50 31.7 +1.7
comp=Z,4.3nm,0.7s
KNB Kanab 90.80 52 *e*P **P** 21 50 33.0 +2.1
KNB pmax pmax
comp=Z,7.0nm,1.0s
KNB Kanab 90.80 52 *e*P **P** 21 50 33.0 +2.1
comp=Z,7.2nm,1.0s
FINES FINESS Array B 90.83 335 P **P** 21 50 28.4 -1.8
comp=Z,7.1nm,0.5s,baz=63,slow=4.6,SNR=89
FINES FINESS Array B 90.83 335 *i* P **P** 21 50 28.3 -1.9
FINES pmax pmax
comp=Z,7.0nm,0.4s
PDAR Pinedale Array 91.26 45 P **P** 21 50 33.4 +0.4
comp=Z,1.4nm,0.6s,baz=250,slow=1.9,SNR=9.0
PDAR Pinedale Array 91.26 45 *e*P **P** 21 50 33.0 0.0
LAO LASA Array 92.02 41 *e*P **P** 21 50 36.9 +0.7
comp=Z,14nm,1.0s
WUAZ Wupatki 92.39 53 *e*P **P** 21 50 39.4 +1.1
comp=Z,4.3nm,0.8s
RSSD Black Hills 94.46 43 *e*P **P** 21 50 48.0 +0.3
RSSD Black Hills 94.46 43 *e*P **P** 21 50 48.0 +0.3
HFS Hagfors 96.43 338 P **P** 21 50 53.3 -2.7
comp=Z,2.2nm,0.6s,baz=110,slow=3.8,SNR=16
ULM Lac du Bonnet 96.53 34 P **P** 21 50 55.1 -1.6
comp=Z,0.9nm,0.4s,baz=243,slow=4.6,SNR=3.2
NB2 NORSAR Subarra 96.67 339 P **P** 21 50 54.8 -2.4
comp=Z,2.4nm,0.8s,baz=47,slow=5.1
NOA NORSAR Array B 96.67 339 P **P** 21 50 54.8 -2.4
comp=Z,1.6nm,0.8s,baz=54,slow=6.7,SNR=4.7
BRTR Keskin Array B 96.98 314 P **P** 21 50 57.8 -1.4
comp=Z,0.7nm,0.7s,baz=53,slow=5.6,SNR=3.3
SNAA Sanae 119.42 191 PKP **PKPdf** 21 56 15.3 -0.3
comp=Z,0.9nm,0.3s,baz=198,slow=13,SNR=8.2
TORD Torodi Ar. Bea 134.90 305 PKP **PKPdf** 21 56 47.3 +0.7
comp=Z,0.4nm,0.4s,baz=55,slow=1.3,SNR=9.4
SDV Santo Domingo 137.62 59 PKP **PKPdf** 21 56 52.5 +0.6
comp=Z,6.4nm,0.6s,baz=238,slow=13,SNR=3.9
PLCA Paso Flores 139.06 137 PKhKP PKPpre 21 56 49.7
comp=Z,0.7nm,0.6s,baz=279,slow=12,SNR=3.0
DBIC Dimbokro 143.88 303 PKP PKPab 21 57 00.3 +0.1
comp=Z,4.9nm,0.5s,baz=24,slow=2.4,SNR=14
KIC Kosan Boka 143.97 303 *e*PKP1 PKPab 21 57 00.5 -0.1
comp=Z,126nm,1.9s
TIC Toumodi 144.03 303 *e*PKP1 **PKPab** 21 57 00.7 -0.1
LIC Lamto 144.28 303 *e*PKP1 **PKPab** 21 57 01.6 -0.1
comp=Z,43nm,0.6s
LPAZ La Paz 147.68 98 PKPbc **PKPdf** 21 57 11.0 +0.9
comp=Z,3.6nm,0.7s,baz=233,slow=4.0,SNR=13
LPAZ La Paz 147.68 98 PKIKP **PKPdf** 21 57 11.0 +0.9

*ROM **15** 21:45:22.9±0.4, 44.51N×6.74E, h3km, Md2.3/9, Ml1.6/6, Error ellipse: s-maj=6.7km s-min=1.8km az=68.0*
*ISCJB **15** 21:45:23.1±0.3, 44.48N±0.01×6.66E±0.02, h5km±4km, Error ellipse: s-maj=3.0km s-min=2.2km az=158.2*
*CSEM **15** 21:45:23.8±0.1, 44.50N×6.70E, h10km, ML2.3/20, Error ellipse: s-maj=2.5km s-min=1.9km az=64.0*
*LDG **15** 21:45:23.9±0.1, 44.51N×6.69E, h2km, Md2.5/2, Ml2.3/14, Error ellipse: s-maj=2.0km s-min=1.6km az=64.0*
*GEN **15** 21:45:24.1, 44.49N×6.72E, h4km, ML1.7*
*STR **15** 21:45:24.5±0.2, 44.50N±0.01×6.70E±0.02, h5km, MLv2.4/10*

ISC 15 21:45:23.8±0.9, **44.49N**±0.01×**6.70E**±0.02, **h13**km±7km, **n84**, σ0=**83**/133, **France**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MBDF	**Montbardon**	**0.24**	**12**	*e*Pg		**Pg**	**21 45 29.1**	**0.0**
MBDF				*e*Sg		**Sg**	**21 45 32.3**	**-0.3**
	96nm,0.3s,SNR=1.0							
MBDF	**Montbardon**	**0.24**	**12**	*e*Pg		**Pg**	**21 45 29.1**	**0.0**
MBDF				*e*Sg		**Sg**	**21 45 32.3**	**-0.3**
	48nm,0.3s,SNR=1.0							
PZZ	**Stroppo**	**0.30**	**87**	P		**Pg**	**21 45 29.2**	**-0.8**
PZZ				S		**Sg**	**21 45 33.5**	**-0.7**
OG22	**Abries**	**0.37**	**28**	Pg		**Pg**	**21 45 31.7**	**+0.3**
OG22				Sg		**Sg**	**21 45 37.1**	**+0.5**
OG22	**Abries**	**0.37**	**28**	Pg		**Pg**	**21 45 31.8**	**+0.3**
RRL	**Rocca Remolon**	**0.43**	**8**	Pg		**Pg**	**21 45 31.8**	**-0.7**
RRL				S		**Sg**	**21 45 38.3**	**-0.1**
RRL	**Rocca Remolon**	**0.43**	**8**	Pg		**Pg**	**21 45 31.8**	**-0.7**
RRL				Sg		**Sg**	**21 45 38.3**	**-0.1**
STV	**Sant Anna di V**	**0.51**	**119**	P		**Pg**	**21 45 33.1**	**-0.8**
STV				S		**Sg**	**21 45 39.5**	**-1.2**
STV	**Sant Anna di V**	**0.51**	**119**	Pg		**Pg**	**21 45 33.1**	**-0.8**
	34nm,0.4s							
BNI	**Bardonecchia**	**0.56**	**358**	Pg		**Pg**	**21 45 35.2**	**+0.3**
BNI				Sg		**Sg**	**21 45 42.7**	**+0.3**
	13nm,0.3s							
BNI	**Bardonecchia**	**0.56**	**358**	Pg		**Pg**	**21 45 35.2**	**+0.3**
BNI				Sg		**Sg**	**21 45 42.7**	**+0.3**
	13nm,0.3s							
ENR	**Entracque**	**0.58**	**117**	P		**Pg**	**21 45 35.2**	**+0.1**
ENR				Sg		**Sg**	**21 45 43.6**	**+0.7**
	34nm,0.1s							
ENR	**Entracque**	**0.58**	**117**	Pg		**Pg**	**21 45 35.3**	**+0.1**
ENR				Sg		**Sg**	**21 45 43.6**	**+0.7**
	34nm,0.1s							
ORIF	**Oris-en-Rattie**	**0.72**	**306**	*e*Pg		**Pg**	**21 45 37.6**	**-0.3**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**21 45 46.9**	**-0.6**
	18nm,0.2s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**0.72**	**306**	*e*Pg		**Pg**	**21 45 37.6**	**-0.3**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**21 45 46.9**	**-0.6**
	9.1nm,0.2s,SNR=1.0							
RSP	**Reno Superiore**	**0.77**	**31**	P		**Pg**	**21 45 39.1**	**+0.3**
RSP				S		**Sg**	**21 45 49.4**	**+0.5**
RSP				Sg		**Sb**	**21 45 50.0**	**+0.4**
	26nm,0.3s							
RSP	**Reno Superiore**	**0.77**	**31**	Pg		**Pg**	**21 45 39.1**	**+0.3**
RSP				Sg		**Sb**	**21 45 50.0**	**+0.4**
	26nm,0.3s							
SBF	**Sospel**	**0.82**	**140**	*e*Pg		**Pg**	**21 45 39.7**	**0.0**
	SNR=1.0							
SBF	**Sospel**	**0.82**	**140**	*e*P		**Pn**	**21 45 41.3**	**+0.1**
SBF				*e*Sg		**Sg**	**21 45 50.7**	**+0.2**
	22nm,0.3s,SNR=1.0							
SBF	**Sospel**	**0.82**	**140**	*e*Pg		**Pg**	**21 45 39.7**	**0.0**
	SNR=1.0							
SBF	**Sospel**	**0.82**	**140**	*e*P		**Pn**	**21 45 41.3**	**+0.1**
SBF				*e*Sg		**Sg**	**21 45 50.7**	**+0.2**
	11nm,0.3s,SNR=1.0							
GDM	**Grand'Maison**	**0.82**	**330**	Pg		**Pg**	**21 45 39.5**	**-0.3**
GDM				Sg		**Sg**	**21 45 50.6**	**-0.1**
GDM	**Grand'Maison**	**0.82**	**330**	Pg		**Pg**	**21 45 39.6**	**-0.3**
GBOS	**Grotte di Boss**	**0.85**	**107**	P		**Pg**	**21 45 40.3**	**-0.1**
GBOS				Sg		**Sg**	**21 45 51.3**	**-0.2**
	30nm,0.5s							
GBOS	**Grotte di Boss**	**0.85**	**107**	Pg		**Pg**	**21 45 40.3**	**-0.1**
GBOS				Sg		**Sg**	**21 45 51.3**	**-0.2**
	30nm,0.5s							
REVF	**Revere**	**0.89**	**147**	Pg		**Pg**	**21 45 40.9**	**-0.1**
REVF				Sg		**Sb**	**21 45 54.1**	**+1.1**
REVF	**Revere**	**0.89**	**147**	Pg		**Pg**	**21 45 41.0**	**-0.1**
FRF	**La Foret Royal**	**0.93**	**182**	*e*Pg		**Pg**	**21 45 41.9**	**+0.1**
	SNR=1.0							
FRF	**La Foret Royal**	**0.93**	**182**	*e*P		**Pn**	**21 45 43.6**	**+1.0**
FRF				*e*Sg		**Sg**	**21 45 53.8**	**-0.2**
	9.3nm,0.2s,SNR=1.0							
FRF	**La Foret Royal**	**0.93**	**182**	*e*Pg		**Pg**	**21 45 41.9**	**+0.1**
	SNR=1.0							
FRF	**La Foret Royal**	**0.93**	**182**	*e*P		**Pn**	**21 45 43.6**	**+1.0**
FRF				*e*Sg		**Sg**	**21 45 53.8**	**-0.2**
	4.7nm,0.2s,SNR=1.0							
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*Pn		**Pn**	**21 45 43.1**	**0.0**
	SNR=1.0							
SMRF				*e*Sn		**Sb**	**21 45 55.4**	**+0.4**
	18nm,0.2s,SNR=1.0							
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*Pn		**Pn**	**21 45 43.1**	**0.0**
	SNR=1.0							
SMRF				*e*Sn		**Sb**	**21 45 55.4**	**+0.4**
	9.0nm,0.2s,SNR=1.0							
NEGI	**Seborga**	**0.97**	**131**	P		**Pg**	**21 45 41.7**	**-0.8**
NEGI	**Seborga**	**0.97**	**131**	Pg		**Pg**	**21 45 41.5**	**-1.0**
LPG	**La Plagne**	**1.01**	**2**	*e*Pg		**Pg**	**21 45 43.2**	**-0.1**
	SNR=1.0							
LPG	**La Plagne**	**1.01**	**2**	*e*P		**Pb**	**21 45 43.7**	**+0.4**
	SNR=1.0							
LPG				*e*Sg		**Sb**	**21 45 56.8**	**+0.2**
	15nm,0.3s,SNR=1.0							
LPG	**La Plagne**	**1.01**	**2**	*e*Pg		**Pg**	**21 45 43.2**	**-0.1**
	SNR=1.0							
LPG	**La Plagne**	**1.01**	**2**	*e*P		**Pb**	**21 45 43.7**	**+0.4**
	SNR=1.0							
LPG				*e*Sg		**Sb**	**21 45 56.8**	**+0.2**
	7.7nm,0.3s,SNR=1.0							
LSD	**Lago del Serru**	**1.02**	**17**	P		**Pg**	**21 45 43.2**	**-0.3**
LSD				Sg		**Sg**	**21 45 57.0**	**+0.2**
	13nm,0.3s							
LSD	**Lago del Serru**	**1.02**	**17**	Pg		**Pg**	**21 45 43.2**	**-0.3**
LSD				Sg		**Sg**	**21 45 57.0**	**+0.2**
	13nm,0.3s							
LPL	**La Plagne**	**1.02**	**1**	*e*Pg		**Pg**	**21 45 43.5**	**-0.2**
	SNR=1.0							
LPL	**La Plagne**	**1.02**	**1**	*e*P		**Pb**	**21 45 44.1**	**+0.5**
LPL				*e*Sg		**Sg**	**21 45 57.1**	**0.0**
	5.0nm,0.2s							
LPL	**La Plagne**	**1.02**	**1**	*e*Pg		**Pg**	**21 45 43.5**	**-0.2**
	SNR=1.0							
LPL	**La Plagne**	**1.02**	**1**	*e*P		**Pb**	**21 45 44.1**	**+0.5**
LPL				*e*Sg		**Sg**	**21 45 57.1**	**0.0**
	2.5nm,0.2s							
IMI	**Imperia**	**1.03**	**124**	Pg		**Pb**	**21 45 43.6**	**0.0**
IMI				Sg		**Sb**	**21 45 57.7**	**+0.6**
IMI	**Imperia**	**1.03**	**124**	Pg		**Pb**	**21 45 43.6**	**0.0**
IMI				Sg		**Sb**	**21 45 57.7**	**+0.6**
RORO	**Rocca Rossa**	**1.05**	**111**	P		**Pb**	**21 45 42.6**	**-1.3**
LMR	**La Mourre**	**1.17**	**187**	*e*Pg		**Pn**	**21 45 46.2**	**+0.4**
	SNR=1.0							
LMR	**La Mourre**	**1.17**	**187**	*e*P		**Pg**	**21 45 46.9**	**+0.7**
LMR				*e*Sg		**Sb**	**21 46 00.9**	**+0.1**
	14nm,0.2s							
LMR	**La Mourre**	**1.17**	**187**	*e*Pg		**Pn**	**21 45 46.2**	**+0.4**
	SNR=1.0							
LMR	**La Mourre**	**1.17**	**187**	*e*P		**Pg**	**21 45 46.9**	**+0.7**
LMR				*e*Sg		**Sb**	**21 46 00.9**	**+0.1**
	6.8nm,0.2s							
LEPF	**PUYLOUBIER**	**1.21**	**217**	Pg		**Pg**	**21 45 47.8**	**+0.7**
LEPF				Sg		**Sn**	**21 46 04.0**	**+1.4**
LEPF	**PUYLOUBIER**	**1.21**	**217**	Pg		**Pg**	**21 45 47.8**	**+0.7**
CIRO	**Champorcher**	**1.27**	**29**	P		**Pb**	**21 45 48.2**	**+0.4**
PCP	**Piancastagn**	**1.32**	**87**	P		**Pn**	**21 45 47.3**	**-0.7**
VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*P		**Pn**	**21 45 49.7**	**-0.7**
	SNR=1.0							
VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*Pg		**Pb**	**21 45 51.2**	**-0.2**
	SNR=1.0							
VIVF				*e*Sg		**Sb**	**21 46 10.5**	**+0.2**
	6.5nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*P		**Pn**	**21 45 49.7**	**-0.7**
	SNR=1.0							
VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*Pg		**Pb**	**21 45 51.2**	**-0.2**
	SNR=1.0							
VIVF				*e*Sg		**Sb**	**21 46 10.5**	**+0.2**
	3.2nm,0.3s,SNR=1.0							
SSB	**Saint Sauveur**	**1.73**	**298**	Pn		**Pn**	**21 45 54.5**	**+0.9**
SSB	**Saint Sauveur**	**1.73**	**298**	Pg		**Pg**	**21 45 57.1**	**+0.1**
LASF	**Ste Croix**	**2.08**	**260**	*e*P		**Pn**	**21 45 59.2**	**+0.7**
	SNR=1.0							
LASF	**Ste Croix**	**2.08**	**260**	*e*Pg		**Pb**	**21 46 02.2**	**+0.7**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**21 46 22.4**	**-1.9**
	1.3nm,0.2s,SNR=1.0							
LASF	**Ste Croix**	**2.08**	**260**	*e*P		**Pn**	**21 45 59.2**	**+0.7**
	SNR=1.0							
LASF	**Ste Croix**	**2.08**	**260**	*e*Pg		**Pb**	**21 46 02.2**	**+0.7**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**21 46 22.4**	**-1.9**
	0.6nm,0.2s,SNR=1.0							
CABF	**La Chapelle**	**2.16**	**349**	*e*P		**Pb**	**21 46 01.7**	**-1.2**
CABF				*e*Sg		**Sb**	**21 46 31.6**	**+1.9**
	1.7nm,0.3s							
CABF	**La Chapelle**	**2.16**	**349**	*e*P		**Pb**	**21 46 01.7**	**-1.2**
CABF				*e*Sg		**Sb**	**21 46 31.6**	**+1.9**
	0.9nm,0.3s							
PGF	**Pioggiola**	**2.56**	**138**	*e*Pn		**Pn**	**21 46 04.9**	**-0.2**
	SNR=1.0							
PGF	**Pioggiola**	**2.56**	**138**	*e*P		**Pn**	**21 46 06.7**	**+1.6**
PGF				*e*Sn		**Sn**	**21 46 34.9**	**-1.3**
	2.5nm,0.3s,SNR=1.0							
PGF	**Pioggiola**	**2.56**	**138**	*e*Pn		**Pn**	**21 46 04.9**	**-0.2**
	SNR=1.0							
PGF	**Pioggiola**	**2.56**	**138**	*e*P		**Pn**	**21 46 06.7**	**+1.6**
PGF				*e*Sn		**Sn**	**21 46 34.9**	**-1.3**
	1.2nm,0.3s,SNR=1.0							
SMF	**Signal de Mont**	**2.95**	**318**	*e*Sg		**Sg**	**21 46 57.0**	**-1.4**
	4.1nm,0.5s,SNR=1.0							
SMF	**Signal de Mont**	**2.95**	**318**	*e*Sg		**Sg**	**21 46 57.0**	**-1.4**
	2.0nm,0.5s,SNR=1.0							
AVF	**Avril sur Loir**	**3.29**	**316**	*e*P		**Pn**	**21 46 16.5**	**+1.5**
AVF				*e*Sg		**Sg**	**21 47 07.6**	**-1.8**
	0.8nm,0.3s							
AVF	**Avril sur Loir**	**3.29**	**316**	*e*P		**Pn**	**21 46 16.5**	**+1.5**
AVF				*e*Sg		**Sg**	**21 47 07.6**	**-1.8**
	0.4nm,0.3s							
CAF	**Calviac**	**3.33**	**279**	*e*P		**Pn**	**21 46 16.6**	**+0.9**
CAF	**Calviac**	**3.33**	**279**	*e*P		**Pn**	**21 46 16.6**	**+0.9**
SSF	**Saint Saulge**	**3.41**	**320**	*e*P		**Pn**	**21 46 18.5**	**+1.8**
SSF	**Saint Saulge**	**3.41**	**320**	*e*P		**Pn**	**21 46 18.5**	**+1.8**
**

*JMA **15** 21:50:55.5±0.2,40.°97N×145.°36E,h67km±3km,M3.6*
*ISCJB **15** 21:50:56.5±0.6,40.°94N±0.°04×145.°13E±0.°06,h33km,*
mb3.5/11,Error ellipse: s-maj=6.2km s-min=5.2km
az=178.6

ISC 15 21:50:57.7±0.9,40.°89N±0.°06×145.°21E±0.°07,h35km,n35,
σ1°89/41,mb3.4/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.91**	**307**	P	**Pn**	**21 51 26.9**	**-0.8**
JEM				*e*S	**Sn**	**21 51 48.8**	**-1.7**
JAK	**Akkeshi**	**2.14**	**350**	P	**Pn**	**21 51 28.9**	**-1.9**
JAK				*e*S	**Sn**	**21 51 53.4**	**-2.7**
JCH	**Churui**	**2.21**	**322**	P	**Pn**	**21 51 30.9**	**-0.9**
JCH				*e*S	**Sn**	**21 51 55.8**	**-2.1**
JOB	**Onbets**	**2.26**	**333**	P	**Pn**	**21 51 31.4**	**-1.1**
JOB				*e*S	**Sn**	**21 51 57.3**	**-1.8**
JNBK	**Urakawa-nobuka**	**2.31**	**308**	P	**Pn**	**21 51 33.4**	**+0.2**
JNBK				*e*S	**Sn**	**21 52 00.0**	**-0.3**
NEM2	**Nemuro 2**	**2.50**	**9**	P	**Pn**	**21 51 34.0**	**-1.8**
NEM2				*e*S	**Sn**	**21 52 01.4**	**-3.7**
JAR	**Ashorobuto**	**2.63**	**336**	P	**Pn**	**21 51 36.4**	**-1.2**
JAR				*e*S	**Sn**	**21 52 05.7**	**-2.6**
JNK	**Nakash**	**2.72**	**352**	*e*S	**Sn**	**21 52 05.8**	**-4.6**
JBT2	**Biratori 2**	**2.84**	**312**	P	**Pn**	**21 51 39.8**	**-0.7**
JANG	**Nango**	**2.86**	**261**	P	**Pn**	**21 51 39.1**	**-1.7**
JANG				*e*S	**Sn**	**21 52 10.4**	**-3.6**
JFR	**Furan**	**2.99**	**320**	P	**Pn**	**21 51 41.9**	**-0.7**
JOT	**Ohata**	**3.18**	**280**	P	**Pn**	**21 51 44.3**	**-0.9**
JOT				*e*S	**Sn**	**21 52 18.9**	**-3.0**
JTKR	**Abashiri--Toko**	**3.23**	**343**	P	**Pn**	**21 51 45.2**	**-0.5**
JTKR				*e*S	**Sn**	**21 52 20.5**	**-2.4**
JKB	**Kayabe**	**3.30**	**289**	P	**Pn**	**21 51 46.4**	**-0.4**
JOM	**Ohasama**	**3.32**	**246**	P	**Pn**	**21 51 45.9**	**-1.2**
JOM				*e*S	**Sn**	**21 52 21.2**	**-4.1**
JEW	**Eniwo**	**3.42**	**306**	P	**Pn**	**21 51 48.6**	**+0.2**
JEW				*e*S	**Sn**	**21 52 27.8**	**+0.1**
JKK2	**Kamakawa 2**	**3.49**	**329**	P	**Pn**	**21 51 50.2**	**+0.7**
ASAJ	**Asahikawa**	**3.76**	**330**	Pn	**Pn**	**21 51 53.4**	**+0.3**
	1.1nm,0.3s,baz=194,slow=14,SNR=9.8						
ASAJ				Sn	**Sn**	**21 52 35.0**	**-1.1**
	1.6nm,0.3s,baz=128,slow=21,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**28.06**	**132**	T	T	22 26 13.2	
	baz=324						
H11N1	**WAKE ISLAND Hy**	**28.07**	**132**	T	T	22 26 24.9	
	baz=324						
H11N3	**WAKE ISLAND Hy**	**28.08**	**132**	T	T	22 26 19.2	
	baz=324						
SONM	**Songino Array**	**28.38**	**297**	P	**P**	**21 56 48.1**	**-0.4**
	0.3nm,0.6s,baz=123,slow=7.2,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**28.94**	**134**	T	T	22 27 22.9	
	baz=325						
H11S3	**WAKE ISLAND Hy**	**28.94**	**134**	T	T	22 27 25.4	
	baz=325						
H11S2	**WAKE ISLAND Hy**	**28.95**	**134**	T	T	22 27 24.9	
	baz=325						
ZALV	**Zalesovo Beam**	**41.64**	**309**	P	**P**	**21 58 43.6**	**+1.4**
	0.2nm,0.4s,baz=79,slow=7.8,SNR=2.3						
ILAR	**Eielson Array**	**44.65**	**34**	P	**P**	**21 59 08.0**	**+1.5**
	0.5nm,0.8s,baz=246,slow=6.2,SNR=4.1						
MKAR	**Makanchi Array**	**44.69**	**300**	P	**P**	**21 59 08.4**	**+1.4**
	0.3nm,0.8s,baz=109,slow=7.7,SNR=3.1						
KURBB	**Kurchatov Arra**	**46.06**	**306**	P	**P**	**21 59 18.8**	**+1.0**
	0.6nm,0.6s,baz=77,slow=9.0,SNR=7.1						
INK	**Inuvik**	**49.60**	**29**	P	**P**	**21 59 46.1**	**+1.2**
	0.6nm,0.5s,baz=113,slow=3.2,SNR=2.7						
BVAR	**Borovoye Array**	**50.24**	**311**	P	**P**	**21 59 51.5**	**+1.5**
	0.2nm,0.5s,baz=75,slow=12,SNR=3.1						
YKA	**Yellowknife Ar**	**58.98**	**32**	P	P	22 00 55.2	+1.9
	0.1nm,0.5s,baz=308,slow=6.2,SNR=2.9						
WRA	**Warramunga Arr**	**61.36**	**192**	P	**P**	**22 01 10.1**	**+0.1**
	0.6nm,0.5s,baz=8.4,slow=6.8,SNR=6.1						
ASAR	**Alice Springs**	**65.08**	**191**	P	**P**	**22 01 35.6**	**+1.0**
	0.2nm,0.4s,baz=9.4,slow=5.9,SNR=3.5						
FINES	**FINESS Array B**	**66.76**	**333**	P	**P**	**22 01 45.4**	**+0.4**
	0.9nm,0.8s,baz=53,slow=8.3,SNR=2.8						

MEX 15 21:51:00.8±0.5,14.°90N×93.°21W,h53km±15km,MD3.5,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.80**	**359**	*i* P	Pn	21 51 14.4	-1.5
PCIG				*i* S	Sn	21 51 25.0	-2.0
THIG		**0.91**	**90**	*i* P	Pn	21 51 16.4	-1.0
THIG				*i* S	Sn	21 51 28.2	-1.5
CCIG	**Comitan**	**1.71**	**37**	*e*P	Pn	21 51 27.3	-1.2
CCIG				*e*S	Sn	21 51 47.7	-1.6
TGIG		**1.86**	**3**	*e*P	Pn	21 51 29.1	-1.3
TGIG				*i* S	Sn	21 51 50.2	-2.6

*IDC **15** 21:52:06.6±1.0,5.°00N×124.°73E,h0km,mb3.6/5,*
mb1 3.7/6,mb1mx3.4/63,mbtmp3.6/6,ML3.8/1,MS3.9/2,
Ms1 3.9/2,ms1mx2.7/57,Error ellipse: s-maj=41.3km
s-min=17.9km az=79.0
*MAN **15** 21:52:10,5.°17N×126.°61E,h118km,mb5.0,ML4.0,MS4.0*

ISC 15 21:52:14.0±1.8,5.°1N±0.°1×126.°3E±0.°2,h100km,n14,
σ2°06/15,mb3.3/5,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.68**	**305**	*i* P	**Pn**	**21 52 40.9**	**-1.8**
MATI	**Mati**	**1.81**	**357**	*e*P	**Pn**	**21 52 42.1**	**-2.1**
MATI				*e*S	**Sn**	**21 53 05.2**	**-2.0**
DAV	**Davao City (W)**	**2.08**	**339**	Pn	**Pn**	**21 52 44.1**	**-3.5**
	27nm,0.3s,baz=264,slow=9.2,SNR=1.7						
DAV				Sn	**Sn**	**21 53 15.3**	**+2.1**
	66nm,0.3s,baz=113,slow=18,SNR=3.9						
KCP	**Kidapawan**	**2.25**	**326**	*e*P	**Pn**	**21 52 48.1**	**-1.8**
KCP				*i* S	**Sn**	**21 53 18.6**	**+1.2**
BUKP	**Musuan**	**3.02**	**335**	*e*P	**Pn**	**21 52 58.2**	**-1.9**
BUKP				*e*S	**Sn**	**21 53 35.8**	**+0.2**
BUTP	**Butuan**	**3.89**	**349**	*e*P	**Pn**	**21 53 12.1**	**+0.4**
BUTP				*e*S	**Sn**	**21 53 59.4**	**+3.0**
LEM	**Lembang**	**22.14**	**238**	LR	LR	22 06 39.9	
	comp=Z,128nm,20.8s,baz=215,slow=42						
WRA	**Warramunga Arr**	**26.12**	**163**	P	P	21 57 46.4	+7.6
	0.7nm,1.0s,baz=334,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**29.55**	**166**	P	P	21 58 16.3	+6.9
	0.3nm,0.4s,baz=345,slow=7.2,SNR=4.9						
SONM	**Songino Array**	**45.86**	**341**	P	**P**	**22 00 26.4**	**0.0**
	0.3nm,0.5s,baz=153,slow=8.6,SNR=2.7						
MKAR	**Makanchi Array**	**56.20**	**325**	P	**P**	**22 01 43.7**	**+0.1**
	0.6nm,0.5s,baz=123,slow=7.7,SNR=17						
AAK	**Ala-Archa**	**59.07**	**317**	LR	LR	22 30 05.0	
	comp=Z,240nm,19.7s,baz=204,slow=39						
KURBB	**Kurchatov Arra**	**60.37**	**327**	P	**P**	**22 02 12.8**	**+0.3**
	0.6nm,0.5s,baz=127,slow=6.8,SNR=14						
TORD	**Torodi Ar. Bea**	**122.11**	**289**	PKP	**PKPdf**	**22 11 00.2**	**+2.2**
	0.2nm,0.3s,baz=77,slow=1.7,SNR=6.8						

*DDA **15** 21:57:13.9,39.°32N×26.°10E,h7km,Ml3.1*
*ATH **15** 21:57:14.9,39.°35N×26.°11E,h13km±2km,ML2.5/7,Error*
ellipse: s-maj=2.0km s-min=0.9km az=211.0
*ISK **15** 21:57:15.0,39.°33N×26.°10E,h7km,ML2.8/14*
*CSEM **15** 21:57:15.3±0.1,39.°33N×26.°11E,h5km,ML2.8,Error*
ellipse: s-maj=3.0km s-min=2.1km az=85.0
*ISCJB **15** 21:57:15.1±0.4,39.°33N±0.°02×26.°10E±0.°03,h4km±3km,*
Error ellipse: s-maj=3.7km s-min=2.6km az=176.5
*THE **15** 21:57:15.4,39.°33N×26.°08E,h1km±1km,ML2.5/5,Error*
ellipse: s-maj=1.8km s-min=0.6km az=144.0

ISC 15 21:57:15.4±0.8,39.°33N±0.°01×26.°11E±0.°02,h12km±4km,
n93,σ0°77/138,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.13**	**8**	PG	**Pg**	**21 57 18.4**	**-0.3**
GPNR				SG	**Sg**	**21 57 21.1**	**0.0**
GPNR	**Gulpinar-Canak**	**0.13**	**8**	*e*Pg	**Pg**	**21 57 18.4**	**-0.3**
GPNR				*e*Sg	**Sg**	**21 57 21.1**	**0.0**
PRK	**Paraskevi**	**0.15**	**123**	P	**Pg**	**21 57 18.9**	**-0.1**
PRK				S	**Sg**	**21 57 21.2**	**-0.3**
PRK				AML	AML	21 57 21.5	
	comp=E,10853μm,0.3s						
PRK				AML	AML	21 57 21.6	
	comp=N,9288μm,0.3s						
PRK	**Paraskevi**	**0.15**	**123**	P	**Pg**	**21 57 18.7**	**-0.3**
PRK				S	**Sg**	**21 57 21.3**	**-0.3**
PRK	**Paraskevi**	**0.15**	**123**	P	**Pg**	**21 57 18.7**	**-0.3**
PRK				S	**Sg**	**21 57 21.3**	**-0.3**
SIGR	**SIGRI**	**0.23**	**240**	PG	**Pg**	**21 57 19.5**	**-0.8**
SIGR				SG	**Sg**	**21 57 24.0**	**+0.3**
SIGR	**SIGRI**	**0.23**	**240**	P	**Pg**	**21 57 19.8**	**-0.6**
SIGR				S	**Sg**	**21 57 22.0**	**-1.6**
SIGR				AML	AML	21 57 23.3	
	comp=E,5188μm,0.2s						
SIGR				AML	AML	21 57 23.3	
	comp=N,8567μm,0.3s						
SIGR	**SIGRI**	**0.23**	**240**	*e*Pg	**Pg**	**21 57 19.5**	**-0.8**
SIGR	**SIGRI**	**0.23**	**240**	P	**Pg**	**21 57 19.9**	**-0.4**
SIGR				S	**Sg**	**21 57 23.1**	**-0.6**
SIGR				*e*Sg	Sg	21 57 24.0	+0.3
SIGR	**SIGRI**	**0.23**	**240**	P	**Pg**	**21 57 19.9**	**-0.4**
SIGR				S	**Sg**	**21 57 23.1**	**-0.6**
EZN	**Ezine**	**0.52**	**18**	PG	**Pg**	**21 57 25.6**	**-0.1**
EZN				SG	**Sb**	**21 57 33.4**	**-0.7**
EZN	**Ezine**	**0.52**	**18**	P	**Pg**	**21 57 25.6**	**-0.1**
EZN				S	**Sb**	**21 57 33.4**	**-0.7**
EZN	**Ezine**	**0.52**	**18**	P	**Pg**	**21 57 25.6**	**-0.1**
EZN				S	**Sb**	**21 57 33.4**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**0.53**	**39**	*i* P	**Pg**	**21 57 25.4**	**-0.5**
BAYC				*i* S	**Sg**	**21 57 32.2**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.53**	**39**	P	**Pg**	**21 57 25.4**	**-0.5**
BAYC				S	**Sg**	**21 57 32.2**	**-0.8**
DKL	**Dikili**	**0.67**	**112**	PG	**Pb**	**21 57 28.8**	**-0.2**
DKL	**Dikili**	**0.67**	**112**	*e*Pg	**Pb**	**21 57 28.8**	**-0.2**
FOCM	**Fo¯şa**	**0.78**	**142**	PG	**Pb**	**21 57 30.6**	**-0.3**
FOCM	**Fo¯şa**	**0.78**	**142**	*e*Pg	**Pb**	**21 57 30.6**	**-0.3**
KRBN	**Karaburun**	**0.81**	**155**	PG	**Pb**	**21 57 31.2**	**-0.2**
KRBN	**Karaburun**	**0.81**	**155**	*e*Pg	**Pb**	**21 57 31.2**	**-0.2**
GADA	**Gvkgeada**	**0.88**	**349**	PG	**Pg**	**21 57 32.2**	**-0.2**
GADA	**Gvkgeada**	**0.88**	**349**	*e*Pg	**Pg**	**21 57 32.2**	**-0.2**
GADA	**Gvkgeada**	**0.88**	**349**	P	**Pg**	**21 57 32.0**	**-0.4**
EFSA	**Agios Efstrati**	**0.89**	**284**	P	**Pb**	**21 57 33.1**	**+0.3**
EFSA	**Agios Efstrati**	**0.89**	**284**	P	**Pb**	**21 57 32.5**	**-0.3**
PSRA	**Psara**	**0.89**	**209**	P	**Pg**	**21 57 31.6**	**-1.0**
PSRA				S	**Sb**	**21 57 45.7**	**+1.1**
PSRA	**Psara**	**0.89**	**209**	P	**Pg**	**21 57 32.0**	**-0.7**
PSRA				S	**Sb**	**21 57 45.4**	**+0.7**
LIA	**Limnos Island**	**0.92**	**309**	P	**Pb**	**21 57 33.3**	**+0.1**
LIA				S	**Sb**	**21 57 46.0**	**+0.7**
LIA				AML	AML	21 57 47.9	
	comp=E,414μm,0.3s						
LIA				AML	AML	21 57 48.0	
	comp=N,604μm,0.6s						
LIA	**Limnos Island**	**0.92**	**309**	P	**Pg**	**21 57 32.7**	**-0.4**
LIA				S	**Sb**	**21 57 45.2**	**-0.1**
LIA	**Limnos Island**	**0.92**	**309**	P	**Pg**	**21 57 32.7**	**-0.4**
LIA				S	**Sb**	**21 57 45.2**	**-0.1**
CHOS	**Chios island**	**0.94**	**183**	PG	**Pb**	**21 57 33.6**	**-0.1**
CHOS	**Chios island**	**0.94**	**183**	P	**Pg**	**21 57 32.7**	**-0.9**
CHOS				S	**Sb**	**21 57 46.5**	**+0.4**
CHOS				AML	AML	21 57 48.3	
	comp=N,638μm,0.4s						
CHOS				AML	AML	21 57 48.5	
	comp=E,1336μm,0.3s						
CHOS	**Chios island**	**0.94**	**183**	P	**Pg**	**21 57 32.9**	**-0.7**
CHOS	**Chios island**	**0.94**	**183**	*e*Pg	**Pb**	**21 57 33.6**	**-0.1**
CHOS				S	**Sb**	**21 57 46.5**	**+0.4**
CHOS	**Chios island**	**0.94**	**183**	P	**Pg**	**21 57 32.9**	**-0.7**
CHOS				S	**Sb**	**21 57 46.5**	**+0.4**
URLA	**Izmir**	**1.04**	**158**	PG	**Pg**	**21 57 34.0**	**-1.4**
URLA	**Izmir**	**1.04**	**158**	*i* P	**Pg**	**21 57 33.7**	**-1.8**
URLA				*i* S	**Sg**	**21 57 48.4**	**-0.6**
URLA	**Izmir**	**1.04**	**158**	P	**Pg**	**21 57 33.7**	**-1.8**
URLA	**Izmir**	**1.04**	**158**	*e*Pg	**Pg**	**21 57 34.0**	**-1.4**
URLA				S	**Sg**	**21 57 48.4**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.10**	**15**	PN	**Pb**	**21 57 36.4**	**0.0**
GELI	**Tayfur-Gelibol**	**1.10**	**15**	*e*Pn	**Pb**	**21 57 36.4**	**0.0**
LPK	**Lapseki**	**1.16**	**25**	PN	**Pg**	**21 57 36.3**	**-1.4**
LPK	**Lapseki**	**1.16**	**25**	*e*Pn	**Pg**	**21 57 36.3**	**-1.4**
SMTH	**Samothraki Isl**	**1.23**	**339**	P	**Pn**	**21 57 39.1**	**+0.8**
SMTH				S	**Sg**	**21 57 53.0**	**-2.0**
SMTH				AML	AML	21 57 55.7	
	comp=E,170μm,0.5s						
SMTH				AML	AML	21 57 57.2	
	comp=N,143μm,0.2s						
SMTH	**Samothraki Isl**	**1.23**	**339**	P	**Pg**	**21 57 38.5**	**-0.5**
SMTH				S	**Sn**	**21 57 55.1**	**+0.3**
SMTH	**Samothraki Isl**	**1.23**	**339**	P	**Pg**	**21 57 38.5**	**-0.5**
SMTH				S	**Sn**	**21 57 55.1**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.25**	**87**	*i* P	**Pg**	**21 57 40.4**	**+1.0**
STEP				*i* S	**Sn**	**21 57 56.2**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.25**	**87**	P	**Pg**	**21 57 40.4**	**+1.0**
STEP				S	**Sn**	**21 57 56.2**	**+0.8**
ERIK	**Erikli-Kesan**	**1.38**	**13**	PN	**Pb**	**21 57 40.9**	**-0.2**
ERIK	**Erikli-Kesan**	**1.38**	**13**	*e*Pn	**Pb**	**21 57 40.9**	**-0.2**
AKHS	**Akhisar**	**1.40**	**108**	*i* P	**Pn**	**21 57 40.5**	**-0.3**
AKHS				*i* S	**Sn**	**21 57 59.7**	**+0.6**
AKHS	**Akhisar**	**1.40**	**108**	P	**Pn**	**21 57 40.5**	**-0.3**
AKHS				S	**Sn**	**21 57 59.7**	**+0.6**
KRBG	**Karabiga-Canak**	**1.40**	**40**	PN	**Pn**	**21 57 40.8**	**0.0**
KRBG	**Karabiga-Canak**	**1.40**	**40**	*e*Pn	**Pn**	**21 57 40.8**	**0.0**
BALB	**Balikesir**	**1.40**	**77**	PN	**Pg**	**21 57 41.9**	**-0.5**
BALB	**Balikesir**	**1.40**	**77**	*e*Pn	**Pg**	**21 57 41.9**	**-0.5**
ENEZ	**Enez**	**1.41**	**1**	PN	**Pb**	**21 57 41.6**	**0.0**
ENEZ	**Enez**	**1.41**	**1**	P	**Pn**	**21 57 41.1**	**+0.3**
ENEZ	**Enez**	**1.41**	**1**	*e*Pn	**Pb**	**21 57 41.6**	**0.0**
ENEZ	**Enez**	**1.41**	**1**	P	**Pn**	**21 57 41.1**	**+0.3**
KESN	**Edirne-Kesan**	**1.56**	**16**	*i* P	**Pn**	**21 57 43.5**	**+0.3**
KESN				*i* S	**Sn**	**21 58 04.3**	**+0.8**
KESN	**Edirne-Kesan**	**1.56**	**16**	P	**Pn**	**21 57 43.5**	**+0.3**
KESN				S	**Sn**	**21 58 04.3**	**+0.8**
ALN	**Alexandroupoli**	**1.57**	**358**	PN	**Pn**	**21 57 43.8**	**+0.8**
ALN	**Alexandroupoli**	**1.57**	**358**	P	**Pg**	**21 57 45.1**	**-0.4**
ALN				S	**Sn**	**21 58 03.6**	**+0.3**
ALN				AML	AML	21 58 06.9	
	comp=N,88μm,0.4s						
ALN				AML	AML	21 58 09.6	
	comp=E,65μm,0.3s						
ALN	**Alexandroupoli**	**1.57**	**358**	P	**Pn**	**21 57 43.1**	**+0.1**
ALN	**Alexandroupoli**	**1.57**	**358**	*e*Pn	**Pn**	**21 57 43.8**	**+0.8**
ALN				S	**Sb**	**21 58 04.3**	**+0.2**
ALN	**Alexandroupoli**	**1.57**	**358**	P	**Pn**	**21 57 43.1**	**+0.1**
ALN				S	**Sg**	**21 58 05.7**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.59**	**31**	PN	**Pn**	**21 57 43.9**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.59**	**31**	*e*Pn	**Pn**	**21 57 43.9**	**+0.5**
SART	**Tekirdag**	**1.59**	**31**	*i* P	**Pn**	**21 57 42.6**	**-0.8**
SART				*i* S	**Sn**	**21 58 04.8**	**+1.0**
SART	**Tekirdag**	**1.59**	**31**	P	**Pn**	**21 57 42.6**	**-0.8**
SART				S	**Sn**	**21 58 04.8**	**+1.0**
EDC	**Edincik**	**1.69**	**52**	PN	**Pb**	**21 57 46.1**	**-0.3**
EDC	**Edincik**	**1.69**	**52**	*e*Pn	**Pb**	**21 57 46.1**	**-0.3**
SMG	**Samos**	**1.71**	**160**	P	**Pg**	**21 57 47.7**	**-0.7**
SMG				S	**Sg**	**21 58 10.1**	**-0.5**
SMG				AML	AML	21 58 12.3	
	comp=E,253μm,0.7s						
SMG				AML	AML	21 58 13.4	
	comp=N,227μm,0.4s						
SMG	**Samos**	**1.71**	**160**	P	**Pb**	**21 57 47.3**	**+0.4**
SMG				S	**Sg**	**21 58 10.2**	**-0.4**
RDO	**Rodhopi**	**1.87**	**347**	P	**Pn**	**21 57 47.1**	**-0.1**
RDO				S	**Sb**	**21 58 12.1**	**-0.6**
RDO	**Rodhopi**	**1.87**	**347**	P	**Pn**	**21 57 47.8**	**+0.6**
RDO				S	**Sb**	**21 58 12.6**	**-0.1**
OUR	**Ouranopolis**	**1.92**	**302**	P	**Pb**	**21 57 50.5**	**+0.1**
OUR	**Ouranopolis**	**1.92**	**302**	P	**Pb**	**21 57 50.0**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.96**	**134**	PN	**Pn**	**21 57 49.9**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**1.96**	**134**	*e*Pn	**Pn**	**21 57 49.9**	**+1.3**
DEMI	**Demirci**	**2.04**	**97**	*i* P	**Pg**	**21 57 54.6**	**0.0**
DEMI				*i* S	**Sg**	**21 58 20.5**	**-0.7**
DEMI	**Demirci**	**2.04**	**97**	P	**Pg**	**21 57 54.6**	**0.0**
DEMI				S	**Sg**	**21 58 20.5**	**-0.7**
KAVA	**Kavala**	**2.07**	**324**	P	**Pn**	**21 57 50.5**	**+0.6**
KAVA	**Kavala**	**2.07**	**324**	P	**Pn**	**21 57 51.0**	**+1.1**
SBT3	**Marmara-Eregli**	**2.11**	**42**	PN	**Pn**	**21 57 51.9**	**+1.5**
SBT3	**Marmara-Eregli**	**2.11**	**42**	*e*Pn	**Pn**	**21 57 51.9**	**+1.5**
ARMT	**Armutlu**	**2.45**	**59**	PN	**Pn**	**21 57 56.9**	**+1.7**
ARMT	**Armutlu**	**2.45**	**59**	*e*Pn	**Pn**	**21 57 56.9**	**+1.7**
EDRB	**Edirne**	**2.56**	**11**	PN	**Pn**	**21 57 58.2**	**+1.5**
EDRB	**Edirne**	**2.56**	**11**	*e*Pn	**Pn**	**21 57 58.2**	**+1.5**
GDZ	**Gediz**	**2.63**	**94**	*i* P	**Pg**	**21 58 04.2**	**-1.6**
GDZ				*i* S	**Sg**	**21 58 37.5**	**-2.4**

*NIED **15** 21:57:00,26.°00N×128.°60E,h32km,Mw4.2 Best double*
couple: M0 2.13000×10^15 NP1:φs135.00000°,δ51.00000°,
λ0.00000°. NP2:φs225.00000°,δ90.00000°,λ-141.00000°.
*IDC **15** 21:57:22.5±0.8,25.°89N×128.°37E,h0km,mb4.0/14,*
mb1 4.1/17,mb1mx3.9/67,mbtmp4.0/17,ML3.7/3,MS3.1/5,
Ms1 3.1/5,ms1mx2.7/70,Error ellipse: s-maj=25.4km
s-min=15.8km az=85.0
*NEIC **15** 21:57:24.4±1.8,25.°90N×128.°41E,h12km±10km,mb4.2/6,*
Error ellipse: s-maj=11.6km s-min=9.4km az=109.0
*JMA **15** 21:57:26.1±0.3,25.°99N×128.°55E,h45km±4km,M4.3*

ISC 15 21:57:23.3±1.6,25.°92N±0.°05×128.°55E±0.°04,h10km±9km,
n36,σ1°40/46,mb3.9/19,MS3.1/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.76**	**287**	P	**Pn**	**21 57 40.4**	**+0.2**
JJT2				S	**Sn**	**21 57 51.0**	**-0.8**
JNTH	**Nagotoyohara**	**0.77**	**322**	P	**Pn**	**21 57 39.5**	**-0.8**
JNTH				S	**Sb**	**21 57 49.5**	**+0.2**
JOW	**Kunigami**	**0.95**	**345**	P	**Pg**	**21 57 42.3**	**+0.8**
JOW				S	**Sg**	**21 57 53.7**	**-0.2**
JOW	**Kunigami**	**0.95**	**345**	*e*Pg	**Pg**	**21 57 42.3**	**+0.8**
JOW				*e*Sg	**Sg**	**21 57 53.9**	**0.0**
JIH	**Iheya**	**1.23**	**335**	P	**Pn**	**21 57 46.7**	**0.0**
JIH				S	**Sb**	**21 58 01.4**	**-1.3**
JAGN	**Aguni-jima**	**1.35**	**300**	P	**Pg**	**21 57 48.9**	**-0.4**
JAGN				*e*S	**Sg**	**21 58 05.4**	**-1.5**
JOKE	**Okinoerabujima**	**1.44**	**1**	P	**Pn**	**21 57 49.3**	**-0.2**
JOKE				*e*S	**Sn**	**21 58 06.1**	**-2.4**
JKE	**Kume jima 2**	**1.64**	**285**	P	**Pb**	**21 57 52.2**	**-1.5**
JKE				S	**Sn**	**21 58 11.0**	**-2.5**
JTK	**Tokunoshima**	**1.90**	**11**	P	**Pn**	**21 57 55.6**	**-0.2**
JTK				*e*S	**Sn**	**21 58 13.2**	**-2.6**
JMZ	**Minamidaito 2**	**2.41**	**92**	P	**Pn**	**21 58 01.8**	**-1.0**
JMZ				S	**Sn**	**21 58 28.3**	**-4.0**
JNU	**Nakatsue**	**7.46**	**15**	Pn	**Pn**	**21 59 13.5**	**+1.2**
	4.0nm,0.3s,baz=344,slow=0.3,SNR=32						
JNU				Sn	**Sn**	**22 00 33.6**	**-3.4**
	1.1nm,0.3s,baz=293,slow=22,SNR=6.0						
JNU				LR	LR	22 02 37.0	
	comp=Z,58nm,20.5s,baz=124,slow=42						
KSAR	**Wonju Array Be**	**11.51**	**357**	Pn	**Pn**	**22 00 09.2**	**+1.6**
KSRS	**Korea Array**	**11.52**	**357**	Pn	**Pn**	**22 00 09.2**	**+1.4**
	0.2nm,0.3s,baz=175,slow=14,SNR=8.2						
KSRS				LR	LR	22 05 04.9	
	comp=Z,64nm,19.0s,baz=224,slow=40						
ENH	**Enshi**	**17.37**	**289**	Pn	**Pn**	**22 01 25.2**	**-0.8**
	1.2nm,0.3s						
BJT	**Baijiatuan**	**17.46**	**327**	Pn	**Pn**	**22 01 27.1**	**+0.2**
	2.0nm,0.4s						
USRK	**Ussuriysk Ar.**	**18.45**	**8**	P	**P**	**22 01 40.0**	**+0.9**
	0.3nm,0.3s,baz=165,slow=7.6,SNR=8.6						
KLR	**Kul'dur**	**23.41**	**5**	P	**P**	**22 02 33.8**	**+1.4**
	0.1nm,0.3s,baz=186,slow=12,SNR=3.9						
YSS	**Yuzh-Sakhalins**	**23.83**	**25**	*e*P	**P**	**22 02 37.8**	**+1.3**
	36nm,1.0s						
ULN	**Ulaanbaatar**	**27.68**	**328**	*e*P	**P**	**22 03 12.3**	**+0.6**
	2.2nm,0.4s						
SONM	**Songino Array**	**27.97**	**327**	P	**P**	**22 03 16.1**	**+1.8**
	3.5nm,0.4s,baz=143,slow=11,SNR=43						
SONM				LR	LR	22 16 02.7	
	comp=Z,46nm,20.0s,baz=76,slow=40						
CMAR	**Chiang Mai Arr**	**28.36**	**261**	P	**P**	**22 03 17.9**	**0.0**
	1.5nm,0.3s,baz=67,slow=9.7,SNR=4.3						
CMAR				LR	LR	22 14 10.6	
	comp=Z,28nm,19.6s,baz=14,slow=36						
YAK	**Yakutsk**	**36.11**	**1**

KIW	**Kapiti Island**	**1.63**	**185**	P		Pn	22 02 54.8	-0.3
TIWZ	**Tintock**	**1.65**	**159**	P		Pb	22 02 56.8	-1.1
BFZ	**Birch Farm**	**1.68**	**149**	P		Pb	22 02 57.3	-1.2
HOWZ	**Holdsworth Sta**	**1.69**	**170**	P		Pn	22 02 56.6	+0.7
DUWZ	**D'Urville Isla**	**1.81**	**210**	P		Pn	22 02 57.6	0.0
URZ	**Urewera**	**1.84**	**59**	P		Pn	22 02 58.1	+0.1
CAW	**Cannon Point**	**1.87**	**181**	P		Pn	22 02 58.9	+0.5
CPWZ	**Castlepoint**	**1.87**	**154**	P		Pb	22 03 01.2	-0.4
MTW	**Mount Morrison**	**1.94**	**171**	P		Pn	22 02 59.8	+0.4
RAGZ	**Rawiri**	**1.94**	**68**	P		Pn	22 03 00.0	+0.5
TMWZ	**Te Maipa**	**1.96**	**163**	P		Pn	22 03 00.2	+0.6
TCW	**Tory Channel**	**2.07**	**198**	P		Pn	22 03 01.4	+0.3
MWZ	**Matawai**	**2.09**	**65**	P		Pn	22 03 02.4	+0.9
MKAZ	**Moumakai**	**2.13**	**1**	P		Pn	22 03 01.7	-0.3
RIGZ	**Rimuhau**	**2.13**	**76**	P		Pn	22 03 03.7	+1.7
PAWZ	**Paruwai Farm**	**2.15**	**174**	P		Pn	22 03 02.5	+0.2
BHW	**Baring Head**	**2.17**	**185**	P		Pn	22 03 03.2	+0.6
MSWZ	**Moikau Station**	**2.18**	**177**	P		Pn	22 03 02.9	+0.3
TRWZ	**Traveller**	**2.20**	**169**	P		Pn	22 03 03.7	+0.7
AWAZ	**Awhitu Peninsu**	**2.20**	**350**	P		Pn	22 03 03.7	+0.8
TKGZ	**Te Karaka**	**2.28**	**70**	P		Pb	22 03 06.5	-2.1
PLWZ	**Palliser**	**2.33**	**177**	P		Pn	22 03 04.9	+0.1
WTAZ	**Waiatarua**	**2.34**	**349**	P		Pn	22 03 05.8	+0.9
TUWZ	**Tuamarina**	**2.36**	**202**	P		Pn	22 03 06.4	+1.2
RUGZ	**Raukumara Rang**	**2.38**	**58**	P		Pn	22 03 05.8	+0.3
NNZ	**Nelson**	**2.38**	**213**	P		Pn	22 03 06.7	+1.3
WIAZ	**Waiheke Island**	**2.44**	**0**	P		Pn	22 03 06.5	+0.2
TWGZ	**Tauwhareparae**	**2.48**	**66**	P		Pn	22 03 08.7	+1.8
QRZ	**Quartz Range**	**2.54**	**231**	P		Pn	22 03 07.0	-0.6
HAZ	**Te Kaha**	**2.56**	**56**	P		Pn	22 03 08.6	+0.6
ABAZ	**Army Bay**	**2.64**	**355**	P		Pn	22 03 09.4	+0.4
BSWZ	**Blackbirch Sta**	**2.65**	**205**	P		Pn	22 03 10.2	+1.1
PUZ	**Puketiti**	**2.72**	**66**	P		Pn	22 03 11.5	+1.3
WMGZ	**Waiomatatini S**	**2.95**	**62**	P		Pn	22 03 14.8	+1.5
MXZ	**Matakaoa Point**	**3.02**	**57**	P		Pn	22 03 15.8	+1.7
THZ	**Tophouse**	**3.03**	**213**	P		Pn	22 03 16.1	+1.7
KHZ	**Kahutara**	**3.39**	**200**	P		Pn	22 03 19.3	0.0
DSZ	**Denniston Nort**	**3.55**	**224**	P		Pn	22 03 21.7	+0.1
LTZ	**Lake Taylor**	**4.14**	**210**	P		Pn	22 03 29.9	+0.2
OUZ	**Omahuta**	**4.19**	**343**	P		Pn	22 03 30.8	+0.6
INZ	**Inchbonnie**	**4.45**	**217**	P		Pn	22 03 34.2	+0.4

*NEIC **15** 22:08:28.7±0.0, 55.98N×157.50W, h33km, ML3.6(AEIC), After AEIC.*
*IDC **15** 22:08:28.7±2.6, 56.26N×157.72W, h44km±23km, mb3.6/21, mb1 3.9/23, mb1mx3.6/77, mbtmp3.9/23, ML4.1/3, Error ellipse: s-maj=19.9km s-min=12.6km az=18.0*
*ISCJB **15** 22:08:29.3±0.5, 56.15N±0.05×157.65W±0.07, h70km±4km, mb3.8/22, Error ellipse: s-maj=10.5km s-min=3.8km az=144.3*

ISC 15 22:08:29.8±1.0, **56.10N**±0.07×**157.59W**±0.05, **h61**km±9km, **n62**, σ1s**54**/74, **mb3.9**/22, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.50**	**294**	P	**Pn**	**22 08 41.1**	**-0.7**
CHGN				S	**Sn**	**22 08 49.6**	**-0.9**
VNSG	**Veniaminof 6**	**0.84**	**272**	P	**Pn**	**22 08 45.4**	**-0.5**
ANNE	**Aniakchak Nort**	**0.85**	**342**	P	**Pn**	**22 08 46.4**	**+0.4**
ANNE				S	**Sn**	**22 08 58.8**	**+0.8**
VNHG	**Veniaminof 1**	**0.89**	**278**	P	**Pn**	**22 08 45.6**	**-0.9**
VNHG				S	**Sn**	**22 08 59.1**	**+0.3**
ANNW	**Aniakchak Nort**	**0.94**	**338**	P	**Pn**	**22 08 47.8**	**+0.7**
VNWF	**Veniaminof 8**	**1.11**	**273**	P	**Pn**	**22 08 49.6**	**+0.3**
PLK3	**Peulik 3**	**1.75**	**24**	P	**Pn**	**22 08 59.6**	**+1.8**
PLK3				S	**Sn**	**22 09 22.5**	**+3.4**
SDPT	**Sand Point**	**1.80**	**246**	P	**Pn**	**22 08 58.6**	**+0.1**
SDPT				S	**Sn**	**22 09 20.4**	**+0.1**
PS4A	**Pavlof South-4**	**2.53**	**254**	P	**Pn**	**22 09 08.6**	**+0.2**
KELA	**Mount Kelaz**	**2.55**	**22**	P	**Pn**	**22 09 09.8**	**+1.0**
DOL	**Dolgoi Island**	**2.61**	**250**	P	**Pn**	**22 09 09.4**	**0.0**
OHAK	**Old Harbor**	**2.63**	**63**	*e*Pn	**Pn**	**22 09 09.3**	**-0.4**
DT1	**Dutton Round H**	**2.84**	**251**	P	**Pn**	**22 09 12.7**	**0.0**
KARR	**Katmai Rainbow**	**2.87**	**32**	P	**Pn**	**22 09 14.1**	**+1.0**
KAPH	**Katmai Pasha**	**3.06**	**34**	P	**Pn**	**22 09 16.9**	**+1.2**
BALA	**Baldy Mountain**	**3.08**	**255**	P	**Pn**	**22 09 17.2**	**+1.2**
KDAK	**Kodiak Island**	**3.22**	**56**	P	**Pn**	**22 09 17.1**	**-0.7**
	8.9nm,0.3s,baz=223,slow=6.7,SNR=59						
KDAK				S	**Sn**	**22 09 52.9**	**-1.9**
	8.0nm,0.3s,baz=250,slow=12,SNR=7.1						
FONW	**Fourpeaked Sta**	**3.38**	**34**	P	**Pn**	**22 09 21.4**	**+1.3**
FALS	**False Pass**	**3.54**	**252**	P	**Pn**	**22 09 22.6**	**+0.3**
CDD	**Cape Douglas**	**3.54**	**35**	P	**Pn**	**22 09 23.5**	**+1.2**
ISLZ	**Isanotski Laza**	**3.75**	**251**	P	**Pn**	**22 09 25.6**	**+0.4**
SSLW	**Shishaldin Wes**	**3.95**	**253**	P	**Pn**	**22 09 28.2**	**+0.3**
ILW	**Iliamna West**	**4.62**	**298**	P	**Pn**	**22 09 34.6**	**+1.5**
RDWB	**Redoubt West**	**5.06**	**28**	P	**Pn**	**22 09 44.6**	**+1.5**
SVW2	**Sparrevohn**	**5.12**	**11**	P	**Pn**	**22 09 45.3**	**+1.5**
BRLK	**Bradley Lake**	**5.12**	**41**	P	**Pn**	**22 09 43.4**	**-0.5**
DFR	**Drift River**	**5.19**	**28**	P	**Pn**	**22 09 46.7**	**+1.9**
SKT	**Skwentna**	**6.67**	**25**	P	**Pn**	**22 10 06.3**	**+1.3**
SPIA	**Saint Paul Isl**	**7.07**	**284**	P	**Pn**	**22 10 11.9**	**+1.5**
KNK	**Knik Glacier**	**7.13**	**38**	P	**Pn**	**22 10 12.5**	**+1.1**
PPLA	**Purkeypile**	**7.35**	**20**	*e*Pn	**Pn**	**22 10 16.8**	**+2.4**
	8.0nm,0.6s						
CAST	**Castle Rocks**	**7.85**	**18**	P	**Pn**	**22 10 23.3**	**+2.2**
KTH	**Kantishna Hill**	**8.19**	**21**	*e*Pn	**Pn**	**22 10 26.8**	**+1.0**
	6.0nm,0.6s						
TRF	**Thorofare Moun**	**8.23**	**23**	*e*Pn	**Pn**	**22 10 26.8**	**+0.3**
	4.2nm,0.5s						
TRF				Sn	**Sn**	**22 11 57.1**	**-1.0**
MCK	**McKinley**	**8.79**	**26**	*e*Pn	**Pn**	**22 10 33.0**	**-1.1**
	3.7nm,0.4s						
HARP	**HAARP**	**8.96**	**40**	P	**Pn**	**22 10 37.7**	**+1.4**
PAX	**Paxson**	**9.22**	**37**	*e*Pn	**Pn**	**22 10 40.5**	**+0.5**
	7.5nm,0.6s						
PAX				*e*Sn	**Sn**	**22 12 23.9**	**+1.8**
ILAR	**Eielson Array**	**10.16**	**27**	P	**Pn**	**22 10 50.6**	**-2.0**
	1.1nm,0.3s,baz=221,slow=12,SNR=36						
ILAR				S	**Sn**	**22 12 36.9**	**-8.0**
	0.2nm,0.3s,baz=220,slow=18,SNR=3.3						
INK	**Inuvik**	**16.44**	**32**	P	**Pn**	**22 12 13.8**	**-2.3**
	1.2nm,0.3s,baz=208,slow=11,SNR=21						
INK				S	**Sn**	**22 15 18.4**	**+1.0**
	0.1nm,0.3s,baz=229,slow=19,SNR=1.9						
YKA	**Yellowknife Ar**	**22.50**	**56**	P	**P**	**22 13 23.6**	**-0.2**
	0.6nm,0.6s,baz=272,slow=10.0,SNR=19						
NEW	**Newport**	**25.70**	**91**	P	**P**	**22 13 56.2**	**+2.2**
	1.9nm,0.6s,baz=293,slow=2.7,SNR=3.5						
PETK	**Petropavlovsk-**	**25.73**	**282**	P	**P**	**22 13 54.0**	**-0.1**
	0.9nm,0.6s,baz=81,slow=12,SNR=5.1						
NVAR	**Mina Array Bea**	**31.43**	**107**	P	**P**	**22 14 47.0**	**+1.7**
	0.3nm,0.5s,baz=311,slow=6.9,SNR=3.4						
PDAR	**Pinedale Array**	**33.25**	**93**	P	**P**	**22 15 03.0**	**+1.9**
	1.3nm,0.5s,baz=312,slow=4.6,SNR=16						
ULM	**Lac du Bonnet**	**36.34**	**73**	P	**P**	**22 15 28.4**	**+0.9**
	0.9nm,0.5s,baz=315,slow=8.3,SNR=4.3						
TXAR	**Lajitas Array**	**46.23**	**102**	P	**P**	**22 16 49.2**	**+0.4**
	1.1nm,0.8s,baz=316,slow=5.8,SNR=12						
TXAR				PcP	**PcP**	**22 18 23.8**	**+0.3**
	0.1nm,0.4s,baz=306,slow=3.0,SNR=2.5						
JHJ	**Hachijo jima 2**	**48.19**	**269**	P	**P**	**22 17 04.1**	**+0.1**
	72nm,0.5s,baz=54,slow=19,SNR=2.9						
ARCES	**ARCESS Array B**	**54.65**	**359**	P	**P**	**22 17 49.9**	**-1.8**
	6.0nm,1.0s,baz=15,slow=7.5,SNR=3.4						
SONM	**Songino Array**	**55.08**	**305**	P	**P**	**22 17 54.3**	**-0.9**
	1.1nm,0.7s,baz=53,slow=6.1,SNR=11						
SONM				PcP	**PcP**	**22 18 55.6**	**-0.4**
	0.5nm,0.8s,baz=46,slow=4.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**59.02**	**322**	P	**P**	**22 18 21.1**	**-1.8**
	0.4nm,0.4s,baz=14,slow=6.5,SNR=2.9						
FINES	**FINESS Array B**	**62.76**	**358**	P	**P**	**22 18 47.6**	**-0.4**
	1.3nm,0.9s,baz=23,slow=7.5,SNR=4.7						
NOA	**NORSAR Array B**	**62.87**	**6**	P	**P**	**22 18 48.6**	**-0.3**
	0.5nm,0.6s,baz=14,slow=7.3,SNR=2.3						
HFS	**Hagfors**	**63.90**	**5**	P	**P**	**22 18 55.9**	**+0.3**
	1.5nm,0.7s,baz=350,slow=7.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**63.92**	**324**	P	**P**	**22 18 56.1**	**+0.2**
	0.5nm,0.3s,baz=27,slow=6.2,SNR=3.7						
MKAR	**Makanchi Array**	**65.88**	**319**	P	**P**	**22 19 08.3**	**-0.4**
	0.2nm,0.4s,baz=56,slow=7.3,SNR=5.3						
EKA	**Eskdalemuir Ar**	**66.99**	**16**	P	**P**	**22 19 16.6**	**+1.1**
	3.4nm,0.7s,baz=339,slow=4.8,SNR=16						
AKASG	**Malin Array Be**	**73.42**	**355**	P	**P**	**22 19 53.5**	**-1.4**
	0.4nm,0.4s,baz=357,slow=5.9,SNR=2.5						
GERES	**GERESS Array B**	**75.17**	**6**	P	**P**	**22 20 04.8**	**-0.6**
	0.3nm,0.4s,baz=358,slow=5.9,SNR=8.4						
ESDC	**Sonseca Array**	**82.00**	**20**	P	**P**	**22 20 43.5**	**+0.6**
	0.2nm,0.4s,baz=334,slow=6.1,SNR=4.5						
CMAR	**Chiang Mai Arr**	**82.14**	**291**	P	**P**	**22 20 44.0**	**+0.1**
	1.0nm,0.4s,baz=13,slow=5.1,SNR=7.6						
BRTR	**Keskin Array B**	**84.06**	**351**	P	**P**	**22 20 54.5**	**+0.8**
	1.2nm,0.8s,baz=26,slow=5.1,SNR=4.9						
QSPA	**South Pole Qui**	**145.88**	**180**	PKPbc	**PKPbc**	**22 27 59.9**	**-0.9**
	3.2nm,0.9s,baz=297,slow=2.3,SNR=6.2						

*ISK **15** 22:17:31.8, 38.46N×39.32E, h5km, ML2.5/3*
*ISCJB **15** 22:17:33.1±0.7, 38.45N±0.03×39.31E±0.04, h3km±6km, Error ellipse: s-maj=5.3km s-min=4.5km az=37.2*
*CSEM **15** 22:17:33.2±0.2, 38.47N×39.32E, h10km, ML2.5, Error ellipse: s-maj=5.3km s-min=4.8km az=35.0*
*DDA **15** 22:17:33.0, 38.48N×39.27E, h14km, Ml2.4*

ISC 15 22:17:32.6±1.3, **38.47N**±0.03×**39.33E**±0.03, **h4**km±12km, **n22**, σ0s**60**/40, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.43**	**7**	PG	**Pg**	**22 17 41.4**	**+0.6**
PTK				SG	**Sb**	**22 17 48.5**	**-1.2**
PTK	**Pertek**	**0.43**	**7**	*e*Pg	**Pg**	**22 17 41.4**	**+0.6**
PTK				*e*Sg	**Sb**	**22 17 48.5**	**-1.2**
TNCL	**Tunceli-Merkez**	**0.67**	**14**	*i* P	**Pg**	**22 17 45.4**	**0.0**
TNCL				*i* S	**Sb**	**22 17 56.4**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.67**	**14**	P	**Pg**	**22 17 45.4**	**0.0**
TNCL				S	**Sb**	**22 17 56.4**	**-0.2**
MALT	**Malatya**	**0.72**	**258**	PG	**Pg**	**22 17 46.6**	**+0.1**
MALT				SG	**Sb**	**22 17 57.6**	**-0.6**
MALT	**Malatya**	**0.72**	**258**	*e*Pg	**Pg**	**22 17 46.6**	**+0.1**
MALT				*e*Sg	**Sb**	**22 17 57.6**	**-0.6**
DIYA	**Diyarbakir**	**0.83**	**131**	*i* P	**Pb**	**22 17 50.0**	**+0.4**
DIYA				*i* S	**Sb**	**22 18 02.0**	**+0.9**
DIYA	**Diyarbakir**	**0.83**	**131**	P	**Pb**	**22 17 50.0**	**+0.4**
DIYA				S	**Sb**	**22 18 02.0**	**+0.9**
KEMA	**Kemaliye**	**1.03**	**321**	*i* P	**Pg**	**22 17 52.0**	**-0.3**
KEMA				*i* S	**Sb**	**22 18 06.4**	**-0.7**
KEMA	**Kemaliye**	**1.03**	**321**	P	**Pg**	**22 17 52.0**	**-0.3**
KEMA				S	**Sb**	**22 18 06.4**	**-0.7**
URFA	**Urfa**	**1.10**	**202**	PN	**Pb**	**22 17 54.4**	**+0.1**
URFA				SN	**Sn**	**22 18 09.9**	**-0.7**
URFA	**Urfa**	**1.10**	**202**	*e*Pn	**Pb**	**22 17 54.4**	**+0.1**
URFA				*e*Sn	**Sn**	**22 18 09.9**	**-0.7**
AKCD	**Akcadag**	**1.12**	**262**	*i* P	**Pg**	**22 17 53.6**	**-0.4**
AKCD				*i* S	**Sb**	**22 18 09.4**	**-0.2**
AKCD	**Akcadag**	**1.12**	**262**	P	**Pg**	**22 17 53.6**	**-0.4**
AKCD				S	**Sb**	**22 18 09.4**	**-0.2**
HEKM	**Malatya_Hekimh**	**1.15**	**291**	*i* P	**Pn**	**22 17 56.7**	**+1.0**
HEKM				*i* S	**Sn**	**22 18 12.6**	**+0.6**
HEKM	**Malatya_Hekimh**	**1.15**	**291**	P	**Pn**	**22 17 56.7**	**+1.0**
HEKM				S	**Sn**	**22 18 12.6**	**+0.6**
MAZI	**Mazidag**	**1.34**	**138**	PN	**Pn**	**22 17 58.1**	**-0.1**
MAZI	**Mazidag**	**1.34**	**138**	*e*Pn	**Pn**	**22 17 58.1**	**-0.1**
DARE	**Darende-Malaty**	**1.45**	**275**	PN	**Pg**	**22 18 00.7**	**+0.3**
DARE	**Darende-Malaty**	**1.45**	**275**	*e*Pn	**Pg**	**22 18 00.7**	**+0.3**
SRTM	**Siirt_Merkez**	**2.10**	**102**	*i* P	**Pn**	**22 18 08.6**	**-0.1**
SRTM				*i* S	**Sg**	**22 18 39.4**	**-0.6**
SRTM	**Siirt_Merkez**	**2.10**	**102**	P	**Pn**	**22 18 08.6**	**-0.1**
SRTM				S	**Sg**	**22 18 39.4**	**-0.6**

*ISCJB **15** 22:24:30.2±0.4, 31.18S±0.04×178.76W±0.1, h87km, mb4.3/14, Error ellipse: s-maj=14.9km s-min=2.8km az=19.2*
*IDC **15** 22:24:30.1±1.7, 31.24S×178.36W, h87km±13km, mb4.0/5, mb1 4.2/7, mb1mx3.7/46, mbtmp4.3/7, Error ellipse: s-maj=27.7km s-min=11.8km az=118.0*
*NEIC **15** 22:24:30.5±1.3, 31.08S×178.52W, h82km±12km, mb4.6/7, Error ellipse: s-maj=20.1km s-min=11.2km az=108.0*
*WEL **15** 22:24:31.5±0.5, 31°S±11'×17°9W±3'0, h33km, ML5.4/9, ML5.0/1*

ISC 15 22:24:31.4±0.6, **31.14S**±0.06×**178.6W**±0.1, **h87**km, **n78**, σ2s**23**/73, **mb4.5**/13, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.96**	**18**	P	**Pn**	**22 25 03.7**	**+0.7**
GLKZ	**Green Lake**	**1.96**	**18**	S	**Sn**	**22 25 26.6**	**-0.4**
RAO	**Raoul Island**	**1.97**	**18**	P	**Pn**	**22 25 03.6**	**+0.6**
	203nm,0.3s,baz=26,slow=19,SNR=7.5						
RAO				S	**Sn**	**22 25 27.4**	**+0.2**
	493nm,0.3s,baz=253,slow=19,SNR=11						
RAO	**Raoul Island**	**1.97**	**18**	*e*Pn	**Pn**	**22 25 01.6**	**-1.5**
RAO				*e*Sn	**Sn**	**22 25 23.3**	**-3.9**
RIZ	**Raoul Island**	**1.98**	**17**	S	**Sn**	**22 25 29.0**	**+1.6**
RIZ	**Raoul Island**	**1.98**	**17**	P	**Pn**	**22 25 04.1**	**+1.0**
MXZ	**Matakaoa Point**	**6.90**	**201**	P	**Pn**	**22 26 08.9**	**-0.8**
MXZ	**Matakaoa Point**	**6.90**	**201**	S	**Sn**	**22 27 26.7**	**0.0**
WMGZ	**Waiomatatini S**	**7.10**	**199**	S	**Sn**	**22 27 34.1**	**+2.4**
WMGZ	**Waiomatatini S**	**7.10**	**199**	P	**Pn**	**22 26 12.6**	**0.0**
HAZ	**Te Kaha**	**7.24**	**203**	S	**Sn**	**22 27 39.0**	**+3.9**
HAZ	**Te Kaha**	**7.24**	**203**	P	**Pn**	**22 26 15.1**	**+0.6**
PKGZ	**Pakihiroa**	**7.27**	**201**	P	**Pn**	**22 26 14.6**	**-0.2**
PKGZ	**Pakihiroa**	**7.27**	**201**	S	**Sn**	**22 27 36.8**	**+1.0**
PUZ	**Puketiti**	**7.38**	**200**	P	**Pn**	**22 26 16.7**	**+0.3**
PUZ	**Puketiti**	**7.38**	**200**	S	**Sn**	**22 27 38.6**	**0.0**
RUGZ	**Raukumara Rang**	**7.47**	**203**	S	**Sn**	**22 27 42.7**	**+1.9**
RUGZ	**Raukumara Rang**	**7.47**	**203**	P	**Pn**	**22 26 18.5**	**+0.8**
TWGZ	**Tauwhareparae**	**7.56**	**201**	S	**Sn**	**22 27 45.5**	**+2.5**
WIAZ	**Waiheke Island**	**7.67**	**221**	P	**Pn**	**22 26 22.6**	**+2.3**
TKGZ	**Te Karaka**	**7.85**	**201**	S	**Sn**	**22 27 49.3**	**-0.5**
MWZ	**Matawai**	**7.85**	**203**	S	**Sn**	**22 27 50.6**	**+0.5**
MWZ	**Matawai**	**7.85**	**203**	P	**Pn**	**22 26 22.6**	**-0.2**
URZ	**Urewera**	**7.93**	**205**	P	**Pn**	**22 26 21.7**	**-2.2**
	1.3nm,0.3s,baz=271,slow=5.2,SNR=8.2						
URZ				S	**Sn**	**22 27 49.8**	**-2.1**
	22nm,0.3s,baz=0.0,slow=20,SNR=28						
URZ	**Urewera**	**7.93**	**205**	P	**Pn**	**22 26 22.1**	**-1.7**
URZ	**Urewera**	**7.93**	**205**	S	**Sn**	**22 27 52.5**	**+0.6**
RAGZ	**Rawiri**	**8.04**	**203**	S	**Sn**	**22 27 55.8**	**+1.2**
RIGZ	**Rimuhau**	**8.12**	**201**	S	**Sn**	**22 27 56.7**	**+0.1**
RIGZ	**Rimuhau**	**8.12**	**201**	P	**Pn**	**22 26 28.7**	**+2.2**
MUGZ	**Murupara**	**8.25**	**206**	P	**Pn**	**22 26 27.1**	**-1.1**
MUGZ	**Murupara**	**8.25**	**206**	S	**Sn**	**22 27 58.6**	**-1.1**
RTZ	**Ruatahuna**	**8.29**	**205**	P	**Pn**	**22 26 27.0**	**-1.9**
RTZ	**Ruatahuna**	**8.29**	**205**	S	**Sn**	**22 28 00.9**	**0.0**
RAHZ	**Arahi**	**8.53**	**203**	P	**Pn**	**22 26 30.5**	**-1.5**
RAHZ	**Arahi**	**8.53**	**203**	S	**Sn**	**22 28 07.1**	**+0.6**
MTHZ	**Maungataniwha**	**8.55**	**205**	P	**Pn**	**22 26 31.2**	**-1.2**
MTHZ	**Maungataniwha**	**8.55**	**205**	S	**Sn**	**22 28 06.5**	**-0.7**
KWHZ	**Kaweka Forest**	**9.21**	**205**	P	**Pn**	**22 26 39.3**	**-2.1**
KWHZ	**Kaweka Forest**	**9.21**	**205**	S	**Sn**	**22 28 22.2**	**-1.1**
KRHZ	**Kereru**	**9.42**	**204**	P	**Pn**	**22 26 41.5**	**-2.7**
KRHZ	**Kereru**	**9.42**	**204**	S	**Sn**	**22 28 25.3**	**-3.1**
PRHZ	**Porangahau**	**9.89**	**202**	P	**Pn**	**22 26 46.9**	**-3.8**
BFZ	**Birch Farm**	**10.40**	**202**	P	**Pn**	**22 26 52.9**	**-4.6**
BFZ	**Birch Farm**	**10.40**	**202**	S	**Sn**	**22 28 47.1**	**-5.0**
MRZ	**Mangatainoka R**	**10.61**	**205**	P	**Pn**	**22 26 56.2**	**-4.1**
MRZ	**Mangatainoka R**	**10.61**	**205**	S	**Sn**	**22 28 52.2**	**-4.9**
OGWZ	**Otaki Gorge**	**10.89**	**206**	P	Pn	22 26 58.7	-5.5
OGWZ	**Otaki Gorge**	**10.89**	**206**	S	**Sn**	**22 28 57.9**	**-6.2**
TMWZ	**Te Maipa**	**10.89**	**203**	P	**Pn**	**22 26 59.8**	**-4.4**
KIW	**Kapiti Island**	**11.03**	**207**	P	Pn	22 27 01.1	-5.0
CAW	**Cannon Point**	**11.18**	**205**	P	**Pn**	**22 27 05.1**	**-3.1**
TCW	**Tory Channel**	**11.58**	**208**	P	**Pn**	**22 27 09.0**	**-4.4**
NNZ	**Nelson**	**11.96**	**211**	P	**Pn**	**22 27 18.5**	**0.0**
QRZ	**Quartz Range**	**12.04**	**214**	P	**Pn**	**22 27 18.2**	**-1.5**
THZ	**Tophouse**	**12.61**	**210**	P	**Pn**	**22 27 23.9**	**-3.5**
KHZ	**Kahutara**	**12.89**	**207**	P	Pn	22 27 25.9	-5.2
RPZ	**Rata Peaks**	**14.99**	**210**	P	**P**	**22 27 60.0**	**-1.8**
	2.0nm,0.3s,baz=35,slow=12,SNR=14						
RPZ				S	Sn	22 30 29.6	-14
	1.0nm,0.3s,baz=310,slow=24,SNR=10.0						
FUNA	**Funafuti**	**22.59**	**354**	*e*P	**P**	**22 29 24.0**	**-0.8**
	9.3nm,0.4s						
CTA	**Charters Tower**	**33.42**	**281**	P	**P**	**22 31 03.0**	**+1.1**
	2.8nm,0.8s,baz=101,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**33.81**	**258**	P	**P**	**22 31 07.1**	**+1.9**
	5.2nm,0.5s,baz=102,slow=11,SNR=12						
ASAR	**Alice Springs**	**42.56**	**268**	P	**P**	**22 32 18.6**	**-0.2**
	2.7nm,0.5s,baz=105,slow=7.5,SNR=40						
WRAB	**Tennant Creek**	**43.61**	**273**	*e*P	**P**	**22 32 26.6**	**-0.7**
	13nm,1.3s						
WRA	**Warramunga Arr**	**43.62**	**273**	P	**P**	**22 32 27.3**	**0.0**
	3.1nm,0.3s,baz=112,slow=7.8,SNR=24						
SBA	**Scott Base**	**47.26**	**184**	P	**P**	**22 32 56.1**	**+0.9**
	3.0nm,0.8s						
VNDA	**Vanda**	**47.31**	**186**	P	**P**	**22 32 57.7**	**+2.0**
	0.4nm,0.6s,baz=5.2,slow=7.1,SNR=5.4						
NWAO	**Narrogin (SRO)**	**53.66**	**250**	P	**P**	**22 33 44.4**	**+0.2**
	4.1nm,0.8s						
CASY	**Casey**	**54.25**	**208**	P	**P**	**22 33 47.6**	**-0.2**
	4.4nm,0.6s						
QSPA	**South Pole Qui**	**58.97**	**180**	P	**P**	**22 34 24.8**	**+3.2**
	1.9nm,0.5s,baz=29,slow=4.6,SNR=22						
SNAA	**Sanae**	**77.43**	**179**	P	P	22 36 21.0	+4.3
SNAA	**Sanae**	**77.43**	**179**	P	**P**	**22 36 17.8**	**+1.1**
	11nm,0.7s						
VNA3	**Neumayer Olymp**	**77.60**	**176**	P	P	22 36 22.2	+4.7
VNA2	**Neumayer--Watz**	**78.03**	**177**	P	P	22 36 24.7	+4.8
	baz=193,slow=5.3						
NVAR	**Mina Array Bea**	**89.13**	**43**	P	**P**	**22 37 16.5**	**-0.7**
	0.4nm,0.7s,baz=220,slow=6.9,SNR=3.2						
MCK	**McKinley**	**97.43**	**13**	P	Pdif	22 37 54.8	+0.1
	1.8nm,0.9s						
ARCES	**ARCESS Array B**	**139.20**	**347**	PKhKP	PKPpre	22 43 32.5	
	2.9nm,0.8s,baz=67,slow=3.0,SNR=2.5						
FINES	**FINESS Array B**	**145.66**	**339**	PKPbc	**PKPdf**	**22 43 56.8**	**-2.0**
	1.5nm,0.4s,baz=47,slow=3.6,SNR=16						
HFS	**Hagfors**	**149.86**	**348**	PKPbc	**PKPdf**	**22 44 07.7**	**+1.9**
	baz=69,slow=4.8						
TORD	**Torodi Ar. Bea**	**162.09**	**181**	PKPab	**PKPab**	**22 45 09.2**	**-0.6**
	0.5nm,0.9s,baz=169,slow=2.9,SNR=4.4						

*IDC **15** 22:28:56.6±0.5, 12.96N×125.76E, h0km, mb4.3/29, mb1 4.4/29, mb1mx4.2/70, mbtmp4.3/29, MS3.1/10, Ms1 3.1/10, ms1mx2.9/59, Error ellipse: s-maj=19.3km s-min=11.6km az=77.0*
*MAN **15** 22:28:59, 13.15N×125.89E, h32km, mb4.9, ML3.8, MS3.9*
*ISCJB **15** 22:29:00.1±1.9, 13.08N±0.03×125.85E±0.04, h30km±14km, mb4.3/33, MS3.0/9, Error ellipse: s-maj=7.5km s-min=5.2km az=22.7*
*NEIC **15** 22:29:04.2±2.0, 12.96N×125.81E, h56km±18km, mb4.5/6, Error ellipse: s-maj=8.1km s-min=6.1km az=70.0*

ISC 15 22:28:59.9±2.6, **13.07N**±0.05×**125.81E**±0.07, **h19**km±10km, **n67**, σ1s**15**/70, **mb4.5**/33, **MS3.1**/9, **2C**, **Philippine Islands region**

| Code | Station Name | Δ° |

	comp=Z,15nm,1.3s								
ILAR	**Eielson Array**	**77.13**	**26**	P		**P**	**22 40 52.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=240,slow=5.6,SNR=9.0								
ARCES	**ARCESS Array B**	**81.43**	**340**	P		**P**	**22 41 15.9**	**+0.5**
	comp=Z,6.6nm,0.9s,baz=74,slow=6.4,SNR=14								
INK	**Inuvik**	**81.86**	**22**	P		**P**	**22 41 17.2**	**-0.4**
	comp=Z,2.7nm,1.0s,baz=283,slow=8.1,SNR=6.3								
FINES	**FINESS Array B**	**83.23**	**332**	P		**P**	**22 41 24.8**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=68,slow=6.1,SNR=12								
BRTR	**Keskin Array B**	**83.42**	**309**	P		**P**	**22 41 26.0**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=72,slow=4.7,SNR=3.4								
AKASG	**Malin Array Be**	**84.13**	**321**	P		**P**	**22 41 29.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=64,slow=4.9,SNR=6.4								
RES	**Resolute Bay**	**88.83**	**10**	P		**P**	**22 41 52.4**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=305,slow=4.4,SNR=10								
HFS	**Hagfors**	**89.37**	**332**	P		**P**	**22 41 54.0**	**-1.2**
	comp=Z,3.0nm,0.9s,baz=79,slow=7.5,SNR=2.8								
YKA	**Yellowknife Ar**	**91.39**	**24**	P		**P**	**22 42 04.2**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=301,slow=5.8,SNR=4.6								
NVAR	**Mina Array Bea**	**101.24**	**46**	P		**Pdif**	**22 42 50.8**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=297,slow=4.0,SNR=2.9								
TXAR	**Lajitas Array**	**116.31**	**48**	PKP		**PKPdf**	**22 47 41.4**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=262,slow=1.8,SNR=2.3								
PLCA	**Paso Flores**	**148.93**	**155**	PKPbc		**PKPbc**	**22 48 47.5**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=237,slow=3.8,SNR=5.0								
SDV	**Santo Domingo**	**152.75**	**38**	PKPbc		**PKPbc**	**22 48 55.6**	**-1.3**
	comp=Z,5.1nm,0.9s,baz=356,slow=3.0,SNR=5.5								

*ISCJB **15** 22:29:44.9±1.3,36°.80N±0°.10×71°.1E±0°.1,h200km, mb2.9/1, Error ellipse: s-maj=17.2km s-min=10.8km az=38.6*
*IDC **15** 22:29:44.1±7.0,36°.47N×71°.45E,h211km±57km, mb2.8/1, mb1 2.7/6, mb1mx2.5/72, mbtmp3.4/6, Error ellipse: s-maj=90.3km s-min=39.2km az=148.0*
*NNC **15** 22:29:47.8±8.7,37°.06N×71°.40E,h239km±91km, mb2.0, mpv3.2, Error ellipse: s-maj=91.8km s-min=81.2km az=117.0*

ISC 15 22:29:45.6±1.8,36°.8N±0°.1×71°.2E±0°.1,h200km,n13, σ1§43/17,7C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.70**	**29**	⇓P	**Pn**	**22 30 45.0**	**+1.2**
	2.2nm,0.2s						
SFK				⇑S	**Sn**	**22 31 28.9**	**-0.7**
	11nm,0.3s						
MNAS	**Manas**	**5.79**	**10**	⇑P	**Pn**	**22 31 11.5**	**+1.3**
	0.8nm,0.4s						
MNAS				⇑S	**Sn**	**22 32 16.2**	**-0.9**
	3.4nm,0.5s						
KK31	**Karatay Array**	**6.34**	**355**	P	**Pn**	**22 31 18.8**	**+1.6**
	0.3nm,0.3s,baz=176,slow=12,SNR=10.0						
KK31				⇑S	**Sn**	**22 32 28.2**	**-1.5**
	0.8nm,0.3s,baz=181,slow=25,SNR=4.4						
AAK	**Ala-Archa**	**6.38**	**22**	P	**Pn**	**22 31 18.8**	**+0.9**
	0.7nm,0.3s,baz=174,slow=11,SNR=9.9						
AAK				S	**Sn**	**22 32 28.9**	**-1.9**
	0.3nm,0.3s,baz=185,slow=18,SNR=3.4						
AAK	**Ala-Archa**	**6.38**	**22**	⇓P	**Pn**	**22 31 18.7**	**+0.9**
	1.0nm,0.4s						
AAK				⇓S	**Sn**	**22 32 29.6**	**-1.3**
	6.8nm,0.8s						
TKM2	**Tokmak 2**	**7.00**	**27**	⇑P	Pn	22 31 16.5	-9.5
	2.0nm,0.6s						
TKM2				⇑S	Sn	22 32 37.4	-8.3
	0.2nm,0.1s						
MKAR	**Makanchi Array**	**12.97**	**36**	P	**Pn**	**22 32 43.9**	**+1.3**
	0.2nm,0.3s,baz=224,slow=14,SNR=6.2						
KURBB	**Kurchatov Arra**	**14.80**	**19**	P	**Pn**	**22 33 06.1**	**+0.9**
	0.0nm,0.3s,baz=203,slow=10,SNR=2.6						
AB31	**Akbulak array**	**14.92**	**330**	⇑P	**Pn**	**22 33 05.5**	**-1.2**
	0.1nm,0.3s,baz=358,slow=25,SNR=4.7						
AKTO	**Aktyubinsk**	**16.62**	**329**	P	**P**	**22 33 28.4**	**+2.2**
	0.2nm,0.3s,baz=131,slow=11,SNR=3.4						
AKTO	**Aktyubinsk**	**16.62**	**329**	⇓P	**P**	**22 33 27.4**	**+1.2**
	1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**19.59**	**25**	P	**P**	**22 33 57.9**	**-0.4**
	0.2nm,0.3s,baz=215,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.89**	**269**	P	**P**	**22 40 08.8**	**-1.5**
	0.2nm,0.7s,baz=47,slow=7.2,SNR=2.1						

*ISK **15** 23:24:43.0,37°.19N×36°.94E,h5km, ML2.6/8*
*ISCJB **15** 23:24:44.2±0.5,37°.16N±0°.03×36°.91E±0°.03,h5km±5km, Error ellipse: s-maj=5.5km s-min=3.4km az=16.0*
*CSEM **15** 23:24:44.4±0.1,37°.17N×36°.93E,h8km, ML2.6, Error ellipse: s-maj=3.7km s-min=2.6km az=11.0*
*DDA **15** 23:24:44.1,37°.17N×36°.97E,h7km, Ml2.7*

ISC 15 23:24:43.8±1.0,37°.15N±0°.03×36°.92E±0°.02,h7km±9km, n39,σ0§42/61,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.23**	**85**	PG	**Pg**	**23 24 48.3**	**-0.2**
GAZ				SG	**Sg**	**23 24 52.5**	**+0.9**
GAZ	**Gaziantep**	**0.23**	**85**	*e*Pg	**Pg**	23 24 48.3	-0.2
GAZ				*e*Sg	**Sg**	**23 24 52.5**	**+0.9**
KMRS	**Kahramanmaras**	**0.35**	**357**	PG	**Pg**	23 24 50.1	-0.7
KMRS	**Kahramanmaras**	**0.35**	**357**	*e*Pg	**Pg**	23 24 50.1	-0.7
KUZU	**Kuzuini**	**0.40**	**162**	*i* P	**Pb**	23 24 53.2	0.0
KUZU				*i* S	**Sb**	**23 24 59.2**	**-0.3**
KUZU	**Kuzuini**	**0.40**	**162**	P	**Pb**	23 24 53.2	0.0
KUZU				S	**Sb**	**23 24 59.2**	**-0.3**
ANDN	**Andirin**	**0.63**	**313**	*i* P	**Pg**	**23 24 55.6**	**-0.4**
ANDN				*i* S	**Sg**	23 25 04.0	-0.2
ANDN	**Andirin**	**0.63**	**313**	P	**Pg**	**23 24 55.6**	**-0.4**
ANDN				S	**Sg**	23 25 04.0	-0.2
KOZT	**Kozan**	**0.93**	**291**	PG	**Pg**	**23 25 01.8**	**0.0**
KOZT				SG	**Sb**	**23 25 15.7**	**+0.7**
KOZT	**Kozan**	**0.93**	**291**	*e*Pg	**Pg**	**23 25 01.8**	**0.0**
KOZT				*e*Sg	**Sb**	23 25 15.7	+0.7
CEYT	**Ceyhan**	**0.95**	**262**	PG	**Pn**	**23 25 03.4**	**-0.2**
CEYT	**Ceyhan**	**0.95**	**262**	*e*Pg	**Pn**	23 25 03.4	-0.2
SAIM	**ADANA**	**1.06**	**321**	*i* P	**Pb**	**23 25 05.0**	**+0.4**
SAIM				*i* S	**Sb**	23 25 19.2	+0.5
SAIM	**ADANA**	**1.06**	**321**	P	**Pb**	**23 25 04.9**	**+0.4**
SAIM				S	**Sb**	23 25 19.2	+0.5
ATAB	**Bozova**	**1.14**	**73**	*i* P	**Pg**	**23 25 05.3**	**-0.4**
ATAB				*i* S	**Sg**	23 25 20.3	-0.1
ATAB	**Bozova**	**1.14**	**73**	P	**Pg**	**23 25 05.3**	**-0.4**
ATAB				S	**Sg**	23 25 20.3	-0.1
ELBS	**KAHRAMANMARAS**	**1.18**	**8**	*i* P	**Pn**	**23 25 07.2**	**+0.3**
ELBS				*i* S	**Sn**	**23 25 23.8**	**+0.5**
ELBS	**KAHRAMANMARAS**	**1.18**	**8**	P	**Pn**	23 25 07.2	+0.3
ELBS				S	**Sn**	**23 25 23.8**	**+0.5**
KRTS	**Karatas**	**1.37**	**246**	PN	**Pg**	23 25 10.3	+0.2
KRTS	**Karatas**	**1.37**	**246**	*e*Pn	**Pg**	23 25 10.3	+0.2
SURC	**SANLIURFA_SURC**	**1.38**	**101**	*i* P	**Pn**	23 25 09.4	-0.1
SURC				*i* S	**Sb**	**23 25 27.7**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.38**	**101**	P	**Pn**	23 25 09.4	-0.1
SURC				S	**Sb**	**23 25 27.7**	**-0.1**
AKCD	**Akcadag**	**1.39**	**34**	*i* P	**Pg**	23 25 10.6	+0.1
AKCD				*i* S	**Sg**	**23 25 28.8**	**+0.3**
AKCD	**Akcadag**	**1.39**	**34**	P	**Pg**	23 25 10.6	+0.1
AKCD				S	**Sg**	**23 25 28.8**	**+0.3**
DARE	**Darende-Malaty**	**1.48**	**17**	PN	**Pb**	23 25 11.9	+0.1
DARE	**Darende-Malaty**	**1.48**	**17**	*e*Pn	**Pb**	**23 25 11.9**	**+0.1**
KARA	**Karaisali**	**1.50**	**275**	PN	**Pb**	**23 25 11.9**	**0.0**
KARA	**Karaisali**	**1.50**	**275**	*e*Pn	**Pb**	**23 25 11.9**	**0.0**
URFA	**Urfa**	**1.54**	**79**	PN	**Pn**	**23 25 12.1**	**+0.3**
URFA	**Urfa**	**1.54**	**79**	*e*Pn	**Pn**	23 25 12.1	+0.3
YAHY	**KAYSERI_Yahyal**	**1.56**	**308**	*i* P	**Pn**	**23 25 12.5**	**+0.4**
YAHY				*i* S	**Sn**	**23 25 32.2**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**1.56**	**308**	P	**Pn**	**23 25 12.5**	**+0.4**
YAHY				S	**Sn**	**23 25 32.2**	**-0.3**
MALT	**Malatya**	**1.66**	**45**	PN	**Pb**	**23 25 14.6**	**-0.2**
MALT	**Malatya**	**1.66**	**45**	*e*Pn	**Pb**	23 25 14.6	-0.2
BNN	**Bunyan**	**1.90**	**334**	PN	**Pb**	23 25 18.1	-0.8
BNN	**Bunyan**	**1.90**	**334**	*e*Pn	**Pb**	23 25 18.1	-0.8
KERG	**Konya-Eregli**	**2.25**	**278**	*i* P	**Pn**	**23 25 21.3**	**-0.3**
KERG				*i* S	**Sn**	23 25 49.3	-0.3
KERG	**Konya-Eregli**	**2.25**	**278**	P	**Pn**	**23 25 21.3**	**-0.3**
KERG				S	**Sn**	23 25 49.3	-0.3
SUSE	**Susehri**	**3.21**	**18**	*i* P	**Pg**	**23 25 44.3**	**-1.1**

IDC 15 23:30:14.2±3.4,0°.81S×131°.12E,h0km,mb3.4/3, mb1 3.8/4,mb1mx3.4/45,mbtmp3.6/4,ML3.9/1,Error ellipse: s-maj=249.2km s-min=22.1km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.27**	**171**	P	P	23 34 40.7	0.0
	0.4nm,0.3s,baz=350,slow=11,SNR=22						
WRA				S	Sn	23 38 09.4	-9.0
	0.1nm,0.3s,baz=347,slow=19,SNR=3.5						
ASAR	**Alice Springs**	**22.88**	**173**	P	P	23 35 19.1	-0.5
	1.9nm,0.6s,baz=355,slow=7.4,SNR=26						
ASAR				S	S	23 39 17.3	-13
	0.5nm,0.9s,baz=351,slow=18,SNR=3.6						
MKAR	**Makanchi Array**	**63.77**	**325**	P	P	23 40 48.8	+0.7
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.8						
KURBB	**Kurchatov Arra**	**67.91**	**327**	P	P	23 41 14.3	-0.4
	0.3nm,0.7s,baz=109,slow=6.9,SNR=2.2						

*BEO **15** 23:41:51.7±0.9,39°.96N×19°.47E,h5km±4km,M3.2/5*
*THE **15** 23:41:53.5,40°.26N×19°.33E,h7km±2km,ML2.9/8, Error ellipse: s-maj=4.2km s-min=1.4km az=247.0*
*ISCJB **15** 23:41:54.8±0.5,40°.24N±0°.02×19°.55E±0°.02,h5km±3km, Error ellipse: s-maj=3.0km s-min=2.6km az=145.1*
*ATH **15** 23:41:55.7,40°.24N×19°.58E,h27km±1km,ML2.9/7, Error ellipse: s-maj=1.8km s-min=0.9km az=212.0*
*TIR **15** 23:41:55.4,40°.20N×19°.63E,h38km,ML3.4*
*CSEM **15** 23:41:56.0±0.1,40°.25N×19°.58E,h10km,ML3.4, Error ellipse: s-maj=2.4km s-min=1.9km az=44.0*

ISC 15 23:41:56.0±1.0,40°.25N±0°.02×19°.56E±0°.02,h10km±9km, n176,σ1§08/233,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.49**	**137**	*i* PG	**Pg**	**23 42 04.9**	**-0.7**
SRN				*i* SG	**Sg**	**23 42 13.0**	**+0.8**
SRN	**Sarande**	**0.49**	**137**	*i* Pg	**Pg**	**23 42 04.9**	**-0.7**
SRN				*i* Sg	**Sg**	**23 42 13.0**	**+0.8**
KASA	**Kassiopi**	**0.57**	**150**	P	**Pg**	**23 42 07.5**	**+0.3**
KASA	**Kassiopi**	**0.57**	**150**	P	**Pg**	23 42 07.4	+0.3
SGD	**Sagiada**	**0.82**	**141**	P	**Pg**	**23 42 11.4**	**-0.2**
SGD	**Sagiada**	**0.82**	**141**	P	**Pg**	23 42 11.5	-0.2
SGD	**Sagiada**	**0.82**	**141**	P	**Pg**	**23 42 11.3**	**-0.4**
SCTE	**Santa Cesarea**	**0.86**	**259**	*i* PG	**Pb**	23 42 13.4	+0.5
SCTE				*i* SG	Sg	23 42 14.4	-9.2
SCTE	**Santa Cesarea**	**0.86**	**259**	P	**Pb**	**23 42 13.6**	**+0.7**
SCTE				S	**Sb**	**23 42 25.5**	**+1.0**
SCTE				AML	AML	23 42 28.5	
	comp=E,926μm,0.3s						
SCTE				AML	AML	23 42 29.3	
	comp=N,1004μm,0.2s						
SCTE	**Santa Cesarea**	**0.86**	**259**	P	**Pb**	**23 42 13.1**	**+0.2**
SCTE	**Santa Cesarea**	**0.86**	**259**	*i* Pg	**Pb**	23 42 13.4	+0.5
SCTE				S	**Sb**	**23 42 25.2**	**+0.8**
IGT	**Igoumenitsa**	**0.93**	**140**	*i* PG	**Pg**	23 42 13.4	-0.4
IGT				*i* SG	**Sn**	**23 42 28.9**	**+0.6**
IGT	**Igoumenitsa**	**0.93**	**140**	P	**Pg**	23 42 12.6	-1.1
IGT				S	**Sg**	**23 42 25.5**	**-0.4**
IGT				AML	AML	23 42 29.9	
	comp=N,761μm,0.4s						
IGT				AML	AML	23 42 33.8	
	comp=E,733μm,0.4s						
IGT	**Igoumenitsa**	**0.93**	**140**	P	**Pg**	**23 42 13.1**	**-0.7**
IGT	**Igoumenitsa**	**0.93**	**140**	*i* Pg	**Pg**	23 42 13.4	-0.4
IGT				S	**Sg**	**23 42 26.0**	**+0.2**
IGT	**Igoumenitsa**	**0.93**	**140**	P	**Pg**	23 42 13.0	-0.7
IGT				S	**Sn**	**23 42 29.2**	**+0.9**
KBN	**Korca**	**1.01**	**68**	*i* PG	**Pg**	23 42 14.4	-1.0
KBN				*i* SG	**Sb**	**23 42 29.3**	**+0.4**
KBN	**Korca**	**1.01**	**68**	*i* Pg	**Pg**	23 42 14.4	-1.0
KBN				*i* Sg	**Sb**	**23 42 29.3**	**+0.4**
TIR	**Tirane**	**1.12**	**12**	*i* PG	**Pb**	23 42 17.7	+0.2
TIR				*i* SG	**Sb**	**23 42 32.1**	**0.0**
TIR	**Tirane**	**1.12**	**12**	*e*Pg	**Pb**	23 42 17.5	0.0
TIR				*e*Sg	**Sn**	**23 42 36.0**	**+2.7**
TIR	**Tirane**	**1.12**	**12**	P	**Pn**	23 42 18.0	+0.2
TIR				S	**Sn**	**23 42 33.0**	**-0.3**
TIR				AML	AML	23 42 38.6	
	comp=E,1237μm,0.3s						
TIR				AML	AML	23 42 39.5	
	comp=N,984μm,0.3s						
TIR	**Tirane**	**1.12**	**12**	*e*Pg	**Pb**	**23 42 17.5**	**0.0**
TIR				*i* Sg	**Sb**	23 42 32.2	0.0
TIR				S	**Sn**	**23 42 33.0**	**-0.3**
NEST	**Nestorio**	**1.15**	**81**	P	**Pb**	23 42 16.5	-1.4
NEST	**Nestorio**	**1.15**	**81**	P	**Pb**	23 42 17.0	-1.0
NEST				S	**Sn**	**23 42 37.1**	**+3.1**
NEST	**Nestorio**	**1.15**	**81**	P	**Pb**	23 42 16.9	-1.0
NEST				S	**Sn**	**23 42 37.1**	**+3.1**
JAN	**Janina**	**1.15**	**120**	P	**Pg**	23 42 18.3	+0.2
JAN				S	**Sb**	23 42 32.2	-0.7
JAN				AML	AML	23 42 36.5	
	comp=N,1192μm,0.3s						
JAN				AML	AML	23 42 39.0	
	comp=E,1419μm,0.3s						
JAN	**Janina**	**1.15**	**120**	P	**Pb**	23 42 17.9	-0.1
JAN				S	**Sb**	**23 42 32.8**	**-0.1**
JAN	**Janina**	**1.15**	**120**	P	**Pb**	23 42 17.8	-0.2
JAN				S	**Sn**	**23 42 35.3**	**+1.4**
PENT	**Pentalofos**	**1.21**	**92**	P	**Pn**	23 42 17.7	-1.3
PENT				S	**Sn**	**23 42 35.2**	**-0.3**
PENT	**Pentalofos**	**1.21**	**92**	P	**Pn**	23 42 18.0	-1.0
PENT				S	**Sg**	**23 42 35.0**	**+0.1**
PENT	**Pentalofos**	**1.21**	**92**	P	**Pn**	23 42 17.7	-1.3
PENT				S	**Sn**	**23 42 37.1**	**+1.7**
OHR	**Ohrid**	**1.28**	**47**	*i* Pn	**Pn**	23 42 19.4	-0.5
OHR				*i* Sn	**Sg**	**23 42 39.0**	**+1.9**
KPRO	**Kipourio**	**1.41**	**101**	P	**Pn**	**23 42 21.3**	**-0.4**
KPRO				S	**Sn**	**23 42 40.4**	**-0.1**
KPRO				AML	AML	23 42 48.9	
	comp=N,729μm,0.6s						
KPRO				AML	AML	23 42 49.0	
	comp=E,1212μm,0.7s						
KPRO	**Kipourio**	**1.41**	**101**	P	**Pn**	**23 42 21.6**	**-0.1**
KPRO				S	**Sn**	23 42 40.3	-0.1
KPRO	**Kipourio**	**1.41**	**101**	P	**Pn**	**23 42 21.6**	**-0.1**
KPRO				S	**Sg**	23 42 42.9	+1.5
FNA	**Florina**	**1.48**	**68**	*i* PN	**Pn**	**23 42 22.9**	**+0.2**
FNA				*i* SN	**Sn**	23 42 41.1	-1.1
FNA	**Florina**	**1.48**	**68**	*e*Pg	**Pn**	**23 42 22.7**	**0.0**
FNA				*e*Sg	**Sg**	**23 42 44.9**	**+1.2**
FNA	**Florina**	**1.48**	**68**	P	**Pn**	23 42 22.3	-0.5
FNA				S	**Sb**	**23 42 42.7**	**+0.2**
FNA				AML	AML	23 42 46.5	
	comp=N,1223μm,0.4s						
FNA				AML	AML	23 42 49.0	
	comp=E,897μm,0.7s						
FNA	**Florina**	**1.48**	**68**	*i* Pn	**Pn**	**23 42 22.9**	**+0.2**
FNA				*i* Sn	**Sn**	23 42 41.1	-1.1
FNA				S	**Sb**	23 42 42.4	-0.2
FNA				*e*Sg	**Sg**	**23 42 44.9**	**+1.2**
FNA	**Florina**	**1.48**	**68**	P	**Pn**	23 42 22.2	-0.5
FNA				S	**Sg**	**23 42 45.4**	**+1.7**
BIA	**Bitola**	**1.55**	**59**	P	**Pn**	23 42 22.6	-1.0
BIA				S	**Sb**	**23 42 45.1**	**+0.7**
BIA	**Bitola**	**1.55**	**59**	P	**Pn**	23 42 22.6	-1.0
BIA				S	**Sb**	**23 42 45.1**	**+0.7**
BIA	**Bitola**	**1.55**	**59**	*i* Pn	**Pb**	23 42 24.6	-0.1
BIA				*i* Sn	**Sg**	23 42 46.6	+0.8
PHP	**Peshkopia**	**1.58**	**25**	*i* PN	**Pn**	**23 42 24.1**	**0.0**
PHP				*i* SN	**Sb**	23 42 45.2	-0.3
PHP	**Peshkopia**	**1.58**	**25**	*i* Pn	**Pn**	**23 42 24.1**	**0.0**
PHP				*i* Sn	**Sb**	23 42 45.2	-0.3
DSL	**Palaion Diasel**	**1.62**	**133**	P	**Pb**	23 42 25.8	-0.1
DSL	**Palaion Diasel**	**1.62**	**133**	P	**Pn**	23 42 24.5	-0.1
DSL				S	**Sg**	23 42 47.6	-0.5
DSL	**Palaion Diasel**	**1.62**	**133**	P	**Pn**	23 42 24.5	-0.1
DSL				S	**Sg**	23 42 47.6	-0.5
CGL1	**Ceglie Messapi**	**1.64**	**285**	*e*Pn	**Pg**	23 42 27.4	-0.1
LKD2	**Lefkada island**	**1.68**	**149**	P	**Pn**	23 42 26.0	+0.6
LKD2	**Lefkada island**	**1.68**	**149**	P	**Pn**	23 42 25.7	+0.3
KZN	**Kozani**	**1.69**	**87**	P	**Pn**	23 42 26.5	-0.6
KZN	**Kozani**	**1.69**	**87**	P	**Pn**	**23 42 25.8**	**+0.2**
KZN				S	**Sg**	23 42 49.7	-0.6
KZN	**Kozani**	**1.69**	**87**	P	**Pn**	**23 42 25.8**	**+0.2**
KZN				S	**Sg**	23 42 49.7	-0.6
KRUS	**Krusevo**	**1.70**	**48**	*i* Pn	**Pn**	**23 42 26.0**	**+0.2**
KRUS				*i* Sn	**Sn**	23 42 47.0	-0.7
TAR1	**Taranto**	**1.76**	**280**	*e*Pn	**Pb**	**23 42 28.7**	**+0.3**
FASA	**Fasano**	**1.78**	**289**	*e*Pn	**Pn**	23 42 26.0	-0.7
PUK	**Puka**	**1.81**	**8**	*i* PN	**Pn**	23 42 27.2	-0.1
PUK				*i* SN	**Sn**	23 42 50.3	-0.1
PUK	**Puka**	**1.81**	**8**	*i* Pn	**Pn**	23 42 27.2	-0.1
PUK				*i* Sn	**Sn**	**23 42 50.3**	**-0.1**

MASS	**Massafra**	**1.89**	**283**	*e*Pn		**Pb**	**23 42 31.2**	**+0.7**
NOCI	**Noci**	**1.98**	**287**	*i* PN		**Pn**	**23 42 28.9**	**-0.7**
NOCI	**Noci**	**1.98**	**287**	P		**Pn**	**23 42 28.4**	**-1.2**
NOCI				S		**Sn**	**23 42 54.2**	**-0.2**
NOCI				AML	AML		23 43 03.7	
	comp=E,966μm,0.2s							
NOCI				AML	AML		23 43 06.6	
	comp=N,1170μm,0.3s							
NOCI	**Noci**	**1.98**	**287**	P		**Pn**	**23 42 29.1**	**-0.4**
NOCI				S		**Sn**	**23 42 54.5**	**+0.1**
THL	**Klokotos Trika**	**2.00**	**109**	P		**Pn**	**23 42 31.0**	**+1.2**
THL	**Klokotos Trika**	**2.00**	**109**	P		**Pn**	**23 42 30.4**	**+0.6**
PDO	**Prodromos**	**2.07**	**142**	P		**Pn**	**23 42 30.4**	**-0.3**
PDO	**Prodromos**	**2.07**	**142**	P		**Pn**	**23 42 30.6**	**-0.1**
EVR	**Evrytania**	**2.18**	**127**	P		**Pb**	**23 42 34.3**	**-1.3**
EVR	**Evrytania**	**2.18**	**127**	P		**Pn**	**23 42 33.3**	**+0.9**
PDG	**Podgorica**	**2.20**	**354**	*e*Pn		**Pn**	**23 42 33.2**	**+0.7**
PDG				*e*Sn		**Sb**	**23 43 04.1**	**+1.1**
PDG	**Podgorica**	**2.20**	**354**	*e*Pn		**Pn**	**23 42 33.2**	**+0.7**
PDG				*e*Sn		**Sb**	**23 43 04.1**	**+1.1**
VLS	**Valsamata**	**2.21**	**159**	P		**Pn**	**23 42 30.9**	**-1.9**
VLS	**Valsamata**	**2.21**	**159**	P		**Pn**	**23 42 31.8**	**-0.9**
BAI	**Bari**	**2.21**	**294**	*i* Pn		**Pn**	**23 42 32.1**	**-0.6**
PVO	**Paravola**	**2.23**	**136**	P		**Pn**	**23 42 33.5**	**+0.6**
PVO	**Paravola**	**2.23**	**136**	P		**Pn**	**23 42 33.2**	**+0.3**
LIT	**Litokhoron**	**2.25**	**93**	P		**Pn**	**23 42 33.7**	**+0.5**
LIT	**Litokhoron**	**2.25**	**93**	P		**Pn**	**23 42 33.5**	**+0.3**
GRG	**Griva**	**2.27**	**71**	P		**Pn**	**23 42 33.4**	**-0.2**
GRG	**Griva**	**2.27**	**71**	P		**Pn**	**23 42 33.5**	**-0.1**
SG1	**Sgolgore (BA)**	**2.28**	**286**	*i* Pn		**Pn**	**23 42 33.0**	**-0.6**
KFL	**Anninata**	**2.33**	**156**	P		**Pn**	**23 42 33.2**	**-1.2**
KFL	**Anninata**	**2.33**	**156**	P		**Pn**	**23 42 33.9**	**-0.5**
TIP	**Timpagrande**	**2.41**	**245**	P		**Pn**	**23 42 34.1**	**-1.4**
TIP	**Timpagrande**	**2.41**	**245**	P		**Pn**	**23 42 35.0**	**-0.5**
AGG	**Agios Georgios**	**2.46**	**119**	P		**Pn**	**23 42 37.7**	**+1.6**
AGG	**Agios Georgios**	**2.46**	**119**	P		**Pn**	**23 42 37.0**	**+0.8**
ANX	**Ano Chora**	**2.46**	**131**	P		**Pn**	**23 42 37.8**	**+1.6**
ANX	**Ano Chora**	**2.46**	**131**	P		**Pn**	**23 42 37.0**	**+0.8**
EFP	**Efpalio**	**2.57**	**134**	P		**Pn**	**23 42 38.6**	**+1.0**
EFP	**Efpalio**	**2.57**	**134**	P		**Pn**	**23 42 38.2**	**+0.6**
RLS	**Riolos of Patr**	**2.64**	**145**	P		**Pn**	**23 42 38.5**	**-0.1**
RLS	**Riolos of Patr**	**2.64**	**145**	P		**Pn**	**23 42 38.6**	**+0.1**
SERG	**Sergoula**	**2.66**	**133**	P		**Pn**	**23 42 38.7**	**-0.2**
SERG	**Sergoula**	**2.66**	**133**	P		**Pn**	**23 42 38.9**	**0.0**
KNT	**Kendrikon**	**2.70**	**69**	P		**Pn**	**23 42 38.8**	**-0.6**
KNT	**Kendrikon**	**2.70**	**69**	P		**Pn**	**23 42 39.2**	**-0.2**
TRIZ	**Trizonia**	**2.70**	**133**	P		**Pn**	**23 42 40.6**	**+1.1**
TRIZ	**Trizonia**	**2.70**	**133**	P		**Pn**	**23 42 40.1**	**+0.7**
HORT	**Hortiatis**	**2.72**	**81**	P		**Pn**	**23 42 38.3**	**-1.5**
HORT	**Hortiatis**	**2.72**	**81**	P		**Pn**	**23 42 39.1**	**-0.7**
KALE	**Kalithea**	**2.72**	**132**	P		**Pn**	**23 42 42.0**	**+2.2**
KALE	**Kalithea**	**2.72**	**132**	P		**Pn**	**23 42 41.0**	**+1.2**
LAKA	**Lakka**	**2.74**	**136**	P		**Pn**	**23 42 41.1**	**+1.0**
LAKA	**Lakka**	**2.74**	**136**	P		**Pn**	**23 42 40.6**	**+0.6**
AXAR	**

68nm,0.3s,baz=73,slow=20,SNR=3.0
GLKZ **Green Lake** 8.46 177 P P 23 47 05.8 -2.1
GLKZ **Green Lake** 8.46 177 S S 23 48 45.8 -3.1
AFI **Afiamalu** 9.26 44 P P 23 47 12.8 -3.3
45nm,0.3s,baz=19,slow=1.3,SNR=91
AFI S S 23 48 55.6 -8.2
14nm,0.3s,baz=21,slow=23,SNR=6.0
DZM **Mont Dzumac** 14.23 262 P P 23 48 05.3 -1.0
7.3nm,0.3s,baz=82,slow=18,SNR=54
NFK **Norfolk Island** 14.92 234 P P 23 48 13.8 +1.2
baz=15,SNR=6.3
OUZ **Omahuta** 16.05 205 eP P 23 48 24.6 +1.4
91nm,0.8s
RAR **Rarotonga** 17.35 95 P P 23 48 35.0 -0.3
2.2nm,0.3s,baz=297,slow=2.3,SNR=3.4
RAR **Rarotonga** 17.35 95 P P 23 48 35.0 -0.3
OPRZ **Ohinepanea** 17.58 193 P P 23 48 37.7 +0.6
URZ **Urewera** 17.87 192 P P 23 48 36.9 -2.9
6.9nm,0.3s,baz=55,slow=3.4,SNR=49
URZ S S 23 51 31.8 -2.8
0.8nm,0.3s,baz=179,slow=23,SNR=4.7
URZ **Urewera** 17.87 192 eP P 23 48 37.6 -2.2
74nm,0.6s
URZ S S 23 51 31.8 -2.8
CNGZ **Carnagh Statio** 17.90 189 P P 23 48 40.4 +0.3
MUGZ **Murupara** 18.14 192 P P 23 48 41.1 -1.2
HRRZ **Handcock Road** 18.16 194 P P 23 48 42.6 +0.1
RIGZ **Rimuhau** 18.19 190 P P 23 48 42.2 -0.5
RIGZ **Rimuhau** 18.19 190 S S 23 51 44.1 +4.3
RTZ **Ruatahuna** 18.24 192 P P 23 48 42.0 -1.3
TLZ **Tolley Road** 18.28 196 P P 23 48 45.9 +2.3
RAHZ **Arahi** 18.51 191 P P 23 48 45.3 -0.4
KNZ **Kokohu** 18.51 190 P P 23 48 45.6 0.0
MRHZ **Matea Rd** 18.56 193 P P 23 48 44.6 -1.6
MHGZ **Mahia Peninsul** 18.60 189 P P 23 48 47.0 +0.5
HIZ **Hauiti** 18.63 197 eP P 23 48 47.1 +0.4
91nm,1.0s
HIZ **Hauiti** 18.63 197 P P 23 48 49.2 +2.4
RATZ **Rangitukua** 18.74 194 P P 23 48 47.5 -0.3
NMHZ **Naumai** 18.74 192 P P 23 48 47.6 -0.2
RITZ **Rihia Road** 18.82 194 P P 23 48 48.7 +0.2
BKZ **Black Stump Fm** 18.87 192 P P 23 48 46.5 -2.4
BKZ **Black Stump Fm** 18.87 192 S S 23 51 53.4 +2.6
TWVZ **Taurewa** 19.01 195 P P 23 48 50.0 -0.3
WTVZ **West Tongariro** 19.02 195 P P 23 48 49.9 -0.5
KNTN **Kanton** 19.02 21 eP P 23 48 46.9 -3.7
181nm,0.9s
NGZ **Ngauruhoe** 19.07 195 P P 23 48 51.0 +0.1
MCHZ **McNeill Hill** 19.09 192 P P 23 48 49.8 -1.2
COVZ **Chateau Observ** 19.11 195 P P 23 48 49.5 -1.7
KWHZ **Kaweka Forest** 19.13 192 P P 23 48 49.7 -1.7
TUVZ **Tukino** 19.15 194 P P 23 48 49.9 -1.7
FWVZ **Far West T-bar** 19.16 195 P P 23 48 51.0 -0.8
WHVZ **Whangaehu Hut** 19.18 194 P P 23 48 50.7 -1.3
VRZ **Vera Road** 19.23 196 P P 23 48 52.9 +0.6
PKVZ **Pokaka** 19.24 195 P P 23 48 51.0 -1.3
MOVZ **Moawhango** 19.26 194 P P 23 48 51.5 -1.1
BHHZ **Black Hill Sta** 19.27 193 P P 23 48 49.9 -2.7
KRHZ **Kereru** 19.35 192 P P 23 48 51.4 -2.0
KAHZ **Kahuranaki** 19.40 191 P P 23 48 52.8 -1.0
PXZ **Pawanui** 19.63 191 P P 23 48 54.2 -1.6
PNHZ **Pukenui** 19.65 193 P P 23 48 54.9 -1.1
TSZ **Takapari Road** 19.84 193 P P 23 48 56.3 -1.4
PRHZ **Porangahau** 19.90 191 P P 23 48 56.9 -1.3
DVHZ **Dannevirke** 20.02 192 P P 23 48 57.8 -1.6
ANWZ **Angora Road** 20.12 192 P P 23 48 59.0 -1.2
BFZ **Birch Farm** 20.38 192 P P 23 49 00.8 -1.7
MRZ **Mangatainoka R** 20.49 193 P P 23 49 00.9 -2.7
CPWZ **Castlepoint** 20.61 192 P P 23 49 03.4 -1.2
OGWZ **Otaki Gorge** 20.73 194 P P 23 49 03.8 -1.9
HOWZ **Holdsworth Sta** 20.73 193 P P 23 49 03.5 -2.3
KIW **Kapiti Island** 20.84 195 P P 23 49 05.1 -1.6
TMWZ **Te Maipa** 20.86 192 P P 23 49 05.3 -1.6
DUWZ **D'Urville Isla** 21.03 197 P P 23 49 06.8 -1.6
CAW **Cannon Point** 21.03 194 P P 23 49 06.4 -2.0
TRWZ **Traveller** 21.18 193 P P 23 49 08.7 -1.1
PAWZ **Paruwai Farm** 21.22 193 P P 23 49 08.6 -1.6
MSWZ **Moikau Station** 21.29 193 P P 23 49 09.4 -1.4
SNZO **South Karori** 21.31 195 eP P 23 49 09.2 -1.6
68nm,0.6s
TCW **Tory Channel** 21.32 195 P P 23 49 09.6 -1.4
PLWZ **Palliser** 21.43 193 P P 23 49 10.3 -1.8
QRZ **Quartz Range** 21.45 199 P P 23 49 11.9 -0.3
NNZ **Nelson** 21.56 197 P P 23 49 11.8 -1.3
THZ **Tophouse** 22.20 198 eP P 23 49 17.8 -1.1
41nm,0.6s
KHZ **Kahutara** 22.64 196 eP P 23 49 21.3 -1.5
52nm,1.0s
LHI **Lord Howe Isla** 22.89 238 P P 23 49 26.3 +1.1
baz=23,SNR=5.6
LHI **Lord Howe Isla** 22.89 238 eP P 23 49 25.5 +0.3
156nm,0.8s
TARA **Tarawa** 23.59 338 eP P 23 49 31.4 -0.3
33nm,0.9s
OXZ **Oxford** 23.89 198 eP P 23 49 32.0 -1.9
49nm,0.7s
RPZ **Rata Peaks** 24.53 199 P P 23 49 38.8 -0.7
19nm,0.5s,baz=332,slow=2.2,SNR=25
RPZ **Rata Peaks** 24.53 199 eP P 23 49 39.9 +0.3
26nm,0.6s
MLZ **Mavora Lakes** 26.95 201 eP P 23 50 00.6 -0.2
52nm,1.3s
DCZ **Deep Cove** 27.37 203 eP P 23 50 04.5 0.0
41nm,0.9s
WHZ **Wether Hill Ro** 27.47 201 eP P 23 50 04.9 -0.4
72nm,0.7s
EIDS **Eidsvold** 28.47 255 P P 23 50 14.2 -0.1
baz=29,SNR=17
EIDS **Eidsvold** 28.47 255 eP P 23 50 14.2 -0.1
89nm,1.4s
ARMA **Armidale** 28.66 244 P P 23 50 17.0 +1.0
baz=29,SNR=70
ARMA **Armidale** 28.66 244 eP P 23 50 16.9 +0.8
56nm,0.6s
MGCD **Mangrove Creek** 29.79 239 P P 23 50 26.8 +1.1
baz=30,SNR=11
RMQ **Roma** 30.62 253 P P 23 50 33.8 +0.9
baz=31,SNR=18
CNB **Canberra Magne** 31.81 236 P P 23 50 43.7 +0.8
baz=32,SNR=48
CAN **Canberra** 32.09 236 P P 23 50 45.8 +0.5
baz=32
CAN **Canberra** 32.09 236 eP P 23 50 44.8 -0.6
CAN pmax pmax
comp=Z,70nm,1.1s
CAN **Canberra** 32.09 236 eP P 23 50 44.8 -0.6
comp=Z,70nm,1.1s
YNG **Young** 32.27 238 P P 23 50 47.4 +0.6
baz=32
MILA **Mila** 32.55 233 P P 23 50 49.7 +0.4
baz=33,SNR=6.8
CTA **Charters Tower** 33.15 265 P P 23 50 54.3 -0.1
comp=Z,46nm,0.4s,baz=90,slow=11,SNR=145
CTA **Charters Tower** 33.15 265 P P 23 50 54.7 +0.3
baz=33
CTAO **Charters Tower** 33.15 265 eP P 23 50 54.4 0.0
CTAO pmax pmax
comp=Z,104nm,1.2s
CTAO **Charters Tower** 33.15 265 eP P 23 50 54.4 0.0
comp=Z,104nm,1.2s
CMSA **Cobar Meteorol** 33.88 244 P P 23 51 00.6 +0.2
baz=34,SNR=141
QLP **Quilpie** 34.67 253 P P 23 51 07.1 0.0
baz=35,SNR=59
PMG **Port Moresby** 35.09 284 P P 23 51 10.6 -0.1
comp=Z,77nm,0.7s,baz=93,slow=5.5,SNR=22
PMG **Port Moresby** 35.09 284 *c iP* P 23 51 10.6 -0.1
PMG pmax pmax
comp=Z,327nm,0.8s
PMG **Port Moresby** 35.09 284 eP P 23 51 10.9 +0.2
comp=Z,74nm,0.8s
MTSU **Mount Surprise** 35.26 268 P P 23 51 12.3 +0.2
baz=35,SNR=28
TOO **Toolangi** 35.48 234 P P 23 51 14.1 +0.4
baz=36,SNR=63
PATS **Pohnpei** 35.76 318 P P 23 51 16.9 +0.7
baz=36
COEN **Coen** 37.28 274 P P 23 51 29.1 +0.4
baz=38,SNR=29
COEN **Coen** 37.28 274 eP P 23 51 28.7 0.0
comp=Z,58nm,0.9s
STKA **Stephens Creek** 37.38 244 P P 23 51 29.6 +0.3
comp=Z,40nm,0.5s,baz=94,slow=10,SNR=136
STKA **Stephens Creek** 37.38 244 P P 23 51 29.9 +0.6
baz=38,SNR=102
STKA **Stephens Creek** 37.38 244 eP P 23 51 29.9 +0.6
STKA pmax pmax
comp=Z,20nm,1.1s
STKA **Stephens Creek** 37.38 244 eP P 23 51 29.9 +0.6
comp=Z,20nm,1.1s
ARPS **Mount Arapiles** 38.07 236 P P 23 51 35.0 +0.2
baz=38,SNR=9.3
QIS **Mount Isa** 39.27 263 P P 23 51 44.4 -0.4
baz=39,SNR=4.8
HTT **Hallett** 39.82 242 P P 23 51 49.2 +0.2
baz=40,SNR=29
BBOO **Buckleboo** 42.14 244 P P 23 52 07.2 -0.1
baz=42,SNR=165
BBOO **Buckleboo** 42.14 244 eP P 23 52 07.3 -0.1
comp=Z,109nm,0.6s
AS01 **Alice Springs** 44.10 257 eP P 23 52 21.8 -1.0
AS01 eS S 23 58 11.3 -2.8
AS31 **Alice Springs** 44.14 257 eP P 23 52 22.9 -0.2
comp=Z,35nm,0.6s
AS31 eS S 23 58 13.4 -1.3
ASAR **Alice Springs** 44.15 257 P P 23 52 23.0 -0.1
comp=Z,100nm,0.5s,baz=97,slow=7.6,SNR=1031
ASAR ScP ScP 23 56 54.1 +2.0
comp=Z,2.9nm,0.7s,baz=92,slow=4.5,SNR=6.6
ASAR S S 23 58 13.3 -1.4
comp=Z,15nm,0.9s,baz=94,slow=16,SNR=31
WB2 **Warramunga Arr** 44.23 262 eP P 23 52 23.0 -0.8
WRAB **Tennant Creek** 44.24 262 *c iP* P 23 52 22.8 -1.0
WRAB pmax pmax
comp=Z,98nm,1.2s
WRAB **Tennant Creek** 44.24 262 eP P 23 52 23.1 -0.6
comp=Z,116nm,1.2s
WRA **Warramunga Arr** 44.25 262 P P 23 52 23.1 -0.7
comp=Z,48nm,0.4s,baz=98,slow=8.5,SNR=474
WRA ScP ScP 23 56 53.7 +1.2
comp=Z,2.2nm,0.9s,baz=104,slow=2.6,SNR=3.8
WRA S S 23 58 13.2 -3.0
comp=Z,7.6nm,1.0s,baz=97,slow=13,SNR=8.9
HMH **Humu'ula Sheep** 45.94 31 eP P 23 52 36.3 -0.8
comp=Z,424nm,1.5s
HPAH **Hawaii Prepara** 46.21 30 eP P 23 52 37.0 -1.8
comp=Z,152nm,0.7s
MTN **Manton Dam** 48.84 271 P P 23 52 58.0 -0.6
baz=49,SNR=9.1
MTN **Manton Dam** 48.84 271 eP P 23 52 58.0 -0.6
comp=Z,44nm,0.6s
WRKA **Warakurna** 49.08 254 P P 23 53 00.2 -0.1
baz=49,SNR=114
KNRA **Kununurra** 50.32 267 P P 23 53 09.2 -0.2
baz=50,SNR=21
FITZ **Fitzroy Crossi** 52.67 263 P P 23 53 26.2 0.0
comp=Z,19nm,0.5s
FITZ **Fitzroy Crossi** 52.67 263 P P 23 53 26.3 +0.1
baz=53
KMBL **Kambalda** 54.16 246 P P 23 53 36.1 -0.5
baz=54,SNR=15
SOEI **Soe** 56.19 272 eP P 23 53 51.5 +0.4
comp=Z,116nm,0.8s
MBWA **Marble Bar** 57.48 258 eP P 23 53 59.1 -0.6
comp=Z,48nm,0.8s
MEEK **Meekatharra** 57.53 251 P P 23 53 59.2 -0.7
baz=58,SNR=4.7
VNDA **Vanda** 57.61 185 P P 23 54 01.4 +1.8
comp=Z,7.0nm,0.6s,baz=1.4,slow=8.1,SNR=56
VNDA **Vanda** 57.61 185 eP P 23 54 01.0 +1.4
VNDA pmax pmax
comp=Z,9.0nm,0.7s
VNDA **Vanda** 57.61 185 eP P 23 54 01.0 +1.4
comp=Z,9.1nm,0.7s
KLBR **Kellerberrin** 57.65 245 P P 23 54 00.4 -0.2
baz=58,SNR=16
NWAO **Narrogin (SRO)** 57.96 243 P P 23 54 02.6 -0.1
comp=Z,24nm,0.6s,baz=0.4,slow=6.3,SNR=22
NWAO **Narrogin (SRO)** 57.96 243 P P 23 54 02.7 -0.1
baz=58,SNR=13
NWAO P P 23 54 02.7 -0.1
baz=58,SNR=13
NWAO **Narrogin (SRO)** 57.96 243 eP P 23 54 02.1 -0.6
NWAO pmax pmax
comp=Z,33nm,0.8s
NWAO **Narrogin (SRO)** 57.96 243 eP P 23 54 02.1 -0.6
comp=Z,33nm,0.8s
RKGY **Rocky Gully** 58.03 242 P P 23 54 03.7 +0.5
baz=58,SNR=20
BLDU **Balidu** 58.65 246 P P 23 54 07.0 -0.4
baz=59,SNR=14
MUN **Mundaring** 58.92 244 P P 23 54 09.4 +0.2
baz=59,SNR=11
MORW **Morawa** 59.43 248 P P 23 54 12.3 -0.3
baz=60,SNR=7.8
QSPA **South Pole Qui** 69.30 180 P P 23 55 15.3 +0.9
comp=Z,20nm,0.5s,baz=35,slow=0.4,SNR=139
MJAR **Matsushiro Arr** 70.24 324 P P 23 55 19.4 -0.8
comp=Z,9.6nm,0.7s,baz=161,slow=6.0,SNR=22
MAJO **Matsushiro** 70.24 324 *deP* P 23 55 20.2 0.0
MAJO pmax pmax
comp=Z,20nm,0.9s
MAJO **Matsushiro** 70.24 324 eP P 23 55 18.5 -1.8
comp=Z,17nm,0.8s
MAT **Matsushiro** 70.24 324 P P 23 55 19.8 -0.4
MJB9 **Matsu-Tunnel** 70.24 324 eP P 23 55 18.5 -1.8
comp=Z,18nm,0.8s
JNU **Nakatsue** 72.25 317 P P 23 55 32.0 -0.1
comp=Z,28nm,0.9s,baz=105,slow=4.7,SNR=12
JNU **Nakatsue** 72.25 317 eP P 23 55 32.5 +0.4
comp=Z,39nm,1.0s
LEM **Lembang** 72.71 269 P P 23 55 35.0 -0.4
comp=Z,40nm,0.7s,baz=55,slow=5.7,SNR=6.4
LEM **Lembang** 72.71 269 P P 23 55 35.0 -0.4
KSM **Kuching** 73.13 278 eP P 23 55 38.6 +1.0
comp=Z,13nm,0.6s
ASAJ **Asahikawa** 73.81 332 P P 23 55 42.2 +1.5
comp=Z,26nm,0.8s,baz=214,slow=7.8,SNR=18
ASAJ **Asahikawa** 73.81 332 eP P 23 55 42.3 +1.7
comp=Z,29nm,0.9s
TPUB **Ta-pu** 73.85 303 eP P 23 55 40.1 -1.3
comp=Z,36nm,0.8s
SKR **Severo-Kuril's** 74.62 343 eP P 23 55 44.7 -0.4
UNV **Unalaska Valle** 75.01 7 eP P 23 55 46.6 -0.5
comp=Z,48nm,0.8s
YSS **Yuzh-Sakhalins** 75.99 334 eP P 23 55 53.9 +1.1
YSS pmax pmax
comp=Z,40nm,0.7s
YSS **Yuzh-Sakhalins** 75.99 334 eP P 23 55 53.8 +1.1
comp=Z,19nm,0.6s
PET **Petropavlovsk** 76.15 346 eP P 23 55 53.4 -0.1
PET pmax pmax
comp=Z,29nm,1.7s
PEA0B **Petropavlovsk-** 76.45 345 eP P 23 55 55.6 +0.5
comp=Z,111nm,1.4s
PETK **Petropavlovsk-** 76.45 345 P P 23 55 55.1 0.0
comp=Z,24nm,0.7s,baz=122,slow=7.5,SNR=27
KSRS **Korea Array** 76.88 319 P P 23 55 58.9 +1.0
comp=Z,6.3nm,0.7s,baz=134,slow=5.8,SNR=16
KSAR **Wonju Array Be** 76.89 319 P P 23 55 58.9 +0.9
KSAR **Wonju Array Be** 76.89 319 P P 23 55 58.9 +0.9
KS01 **Wonju Array Si** 76.91 319 eP P 23 55 57.8 -0.2
SNCC **San Nicolas Is** 77.66 47 P P 23 56 03.3 +1.1
baz=235
SPIA **Saint Paul Isl** 77.94 4 eP P 23 56 03.5 +0.4
comp=Z,68nm,1.0s
SCZ2 **Santa Cruz Isl** 78.02 47 P P 23 56 05.0 +0.9
baz=235
SBC **Santa Barbara** 78.22 46 P P 23 56 06.6 +1.5
baz=235
PKM **Mcpherson Peak** 78.41 46 P P 23 56 07.2 +0.7
baz=234
SAO **San Andreas Ge** 78.44 43 eP P 23 56 08.2 +1.9
SAO pmax pmax
comp=Z,28nm,0.9s
SAO **San Andreas Ge** 78.44 43 eP P 23 56 08.2 +1.9
comp=Z,28nm,0.9s
CIS **Catalina Islan** 78.52 48 P P 23 56 07.6 +0.8
baz=236
PMPB **Monarch Peak** 78.53 44 eP P 23 56 08.9 +2.0
comp=Z,15nm,0.9s
SMMC **Simmler** 78.54 45 P P 23 56 08.6 +1.6
baz=234
PAGB **Antelope Grade** 78.61 45 eP P 23 56 09.2 +1.9
comp=Z,37nm,1.4s
RDG13 **Poverty Ridge** 78.65 43 eP P 23 56 09.2 +1.7
comp=Z,24nm,0.8s
HOPS **Hopland Field** 78.78 41 eP P 23 56 10.0 +1.9
comp=Z,39nm,0.9s
KCPM **Cahto Peak** 78.91 40 eP P 23 56 10.8 +2.0
comp=Z,48nm,1.0s
OSI **Osito Audit: C** 78.99 46 P P 23 56 10.6 +1.2
baz=235
USRK **Ussuriysk Ar.** 79.01 326 P P 23 56 10.6 +1.4
comp=Z,18nm,0.8s,baz=150,slow=4.1,SNR=19
DECC **Green Verdugo** 79.05 47 P P 23 56 10.4 +0.7
baz=236
109C **Camp Elliot, M** 79.14 49 P P 23 56 11.2 +1.1
baz=237
KMRM **Mail Ridge** 79.17 39 eP P 23 56 12.3 +2.1
comp=Z,103nm,0.9s
ARVC **Arvin** 79.21 46 P P 23 56 11.6 +1.2
baz=235
MWC **Mount Wilson** 79.22 47 eP P 23 56 12.1 +1.3
MWC pmax pmax
comp=Z,18nm,0.9s
MWC **Mount Wilson** 79.22 47 eP P 23 56 12.1 +1.3
comp=Z,18nm,0.9s
VES **Vestal, Richgr** 79.45 45 P P 23 56 12.5 +0.9
baz=235
MURC **Murrieta** 79.47 48 P P 23 56 13.1 +1.3
baz=236,SNR=5.1
BFSC **Mount Baldy Ra** 79.50 47 P P 23 56 13.0 +0.8
baz=236,SNR=5.2
MONP2 **Monument Peak** 79.63 49 P P 23 56 14.5 +1.6
baz=237,SNR=9.1
EDW2 **Edwards Air Fo** 79.64 47 P P 23 56 14.1 +1.3
baz=236,SNR=15
IKP **In-Ko-Pah, Jac** 79.72 49 P P 23 56 14.7 +1.4
baz=237,SNR=7.7
ISA **Isabella, Lake** 79.75 46 P P 23 56 14.6 +1.3
baz=235,SNR=9.1
ISA **Isabella, Lake** 79.75 46 eP P 23 56 14.7 +1.3
ISA pmax pmax
comp=Z,43nm,1.4s
ISA **Isabella, Lake** 79.75 46 eP P 23 56 14.7 +1.3
comp=Z,43nm,1.4s
NJ2 **Nanjing** 79.80 310 eP P 23 56 15.5 +1.9
NJ2 pmax pmax
comp=Z,20nm,0.8s
CMB **Columbia Colle** 79.88 43 eP P 23 56 14.9 +1.0
CMB pmax pmax
comp=Z,24nm,1.1s
CMB **Columbia Colle** 79.88 43 eP P 23 56 14.9 +1.0
comp=Z,24nm,1.1s
PFO **Pinyon Flats O** 79.99 48 P P 23 56 15.9 +1.2
baz=237
PFO **Pinyon Flats O** 79.99 48 eP P 23 56 16.3 +1.6
comp=Z,9.9nm,0.9s
XPFO **Piæon Flat** 79.99 48 eP P 23 56 16.3 +1.6
comp=Z,11nm,0.9s
AFDM **Forest Hills D** 80.05 42 eP P 23 56 16.2 +1.4
comp=Z,21nm,1.0s
WDC **Whiskeytown Da** 80.09 40 eP P 23 56 16.4 +1.5
comp=Z,40nm,1.1s
ORV **Oroville** 80.09 41 eP P 23 56 16.1 +1.2
ORV pmax pmax
comp=Z,21nm,0.9s
ORV **Oroville** 80.09 41 eP P 23 56 16.1 +1.2
comp=Z,21nm,0.9s
SWSC **Sam W. Stewart** 80.10 49 P P 23 56 16.6 +1.5
baz=237
N02D **Trinity Center** 80.23 39 P P 23 56 17.7 +2.0
baz=232,SNR=9.0
O03D **Paynes Creek** 80.36 40 P P 23 56 17.4 +1.0
baz=232,SNR=11
M02C **Callahan** 80.40 39 P P 23 56 18.6 +2.0
baz=231,SNR=12
L02D **Cave Junction,** 80.45 38 P P 23 56 18.3 +1.6
baz=231
CWC **Cottonwood Cre** 80.45 45 P P 23 56 18.2 +1.0
baz=235
MDPB **Devils Postpil** 80.48 44 eP P 23 56 19.0 +1.6
comp=Z,26nm,0.9s
BELC **Belle Mtn. Jos** 80.53 48 P P 23 56 18.9 +1.4
baz=237,SNR=12
MDJ **Mudanjiang** 80.56 325 P P 23 56 16.8 -0.4
MDJ pP pP 23 58 19.1 -1.1
MDJ S S 00 05 39.6 +2.8
MDJ sS sS 00 09 20.5 +4.4
MDJ pmax pmax
comp=Z,32nm,1.1s
MDJ pmax pmax
comp=Z,140nm,3.2s
MDJ **Mudanjiang** 80.56 325 eP P 23 56 18.0 +0.8
comp=Z,26nm,1.0s
MPMC **Manual Prospec** 80.64 46 P P 23 56 19.2 +1.1
baz=236,SNR=18
MLAC **Mammoth, Mammo** 80.64 44 P P 23 56 19.6 +1.5
baz=235
GSC **Goldstone, Bar** 80.68 47 P P 23 56 19.4 +1.2
baz=236,SNR=7.9
GSC **Goldstone, Bar** 80.68 47 eP P 23 56 19.4 +1.2
GSC pmax pmax
comp=Z,26nm,1.3s
GSC **Goldstone, Bar** 80.68 47 eP P 23 56 19.4 +1.2
comp=Z,26nm,1.3s
DAC **Darwin (Calif)** 80.69 46 eP P 23 56 19.4 +1.0
DAC pmax pmax
comp=Z,9.0nm,0.9s
DAC **Darwin (Calif)** 80.69 46 eP P 23 56 19.4 +1.0
comp=Z,9.2nm,0.9s
YBH **Yreka Blue Hor** 80.70 39 P P 23 56 19.5 +1.3
comp=Z,32nm,0.8s,baz=185,slow=1.1,SNR=49
YBH **Yreka Blue Hor** 80.70 39 eP P 23 56 20.1 +1.9
comp=Z,41nm,0.8s
TIN **Tinemaha, Big** 80.70 45 P P 23 56 19.7 +1.4
baz=235
BC3 **Big Chuckawall** 80.72 49 P P 23 56 20.0 +1.5
baz=238,SNR=7.0
HEC **Hector,Ludlow** 80.74 47 P P 23 56 19.6 +1.1
baz=237,SNR=15
WAKR **Walker** 80.76 43 eP P 23 56 20.7 +2.0
comp=Z,39nm,1.1s
GLA **Glamis** 80.84 50 P P 23 56 20.8 +1.7
baz=238,SNR=5.8
GLA **Glamis** 80.84 50 eP P 23 56 20.5 +1.4
comp=Z,56nm,1.3s
VCNR **Virginia City** 81.08 42 eP P 23 56 22.0 +1.7
comp=Z,28nm,1.1s
HUMO **Hull Mountain** 81.10 38 eP P 23 56 22.4 +2.2
comp=Z,57nm,1.1s
KDAK **Kodiak Island** 81.15 14 P P 23 56 19.9 0.0
comp=Z,10nm,0.8s,baz=185,slow=7.3,SNR=5.9
YERR **Yerington** 81.16 43 eP P 23 56 22.4 +1.6
comp=Z,74nm,1.5s
GMRC **Granite Mounta** 81.18 48 P P 23 56 22.0 +1.1
baz=237,SNR=9.8
IRM **Iron Mountain** 81.21 48 P P 23 56 22.4 +1.5
baz=238,SNR=17
GRAC **Grapevine Rang** 81.24 45 P P 23 56 22.4 +1.4
baz=236
M04C **Macdoel** 81.24 39 P P 23 56 22.6 +1.6
baz=232,SNR=7.2
FURC **Furnace Creek,** 81.28 46 P P 23 56 22.2 +1.1
baz=236,SNR=6.3
TUQ **Turquoise Moun** 81.35 47 P P 23 56 22.7 +0.9
baz=237
SHOC **Shoshone, Teco** 81.37 47 P P 23 56 22.5 +0.9
baz=237
RYN **Ryan** 81.41 43 eP P 23 56 23.2 +1.2
comp=Z,60nm,1.8s
Y12C **Blythe** 81.43 49 P P 23 56 23.5 +1.5
baz=238,SNR=7.1
Y12C **Blythe** 81.43 49 eP P 23 56 23.9 +2.0
comp=Z,19nm,0.8s
NV01 **Mina Array Sit** 81.44 43 eP P 23 56 22.6 +0.4
NV01 *epP* *pP* 23 58 28.1 +2.5
NVAR **Mina Array Bea** 81.44 43 P P 23 56 23.4 +1.2
comp=Z,20nm,0.8s,baz=224,slow=9.0,SNR=78
113A **Mohawk Valley,** 81.45 50 eP P 23 56 23.7 +1.6
PAHR **Pah Rah Range** 81.49 42 eP P 23 56 23.5 +1.1
comp=Z,34nm,1.2s
NV11 **Mina Array Sit** 81.54 44 eP P 23 56 23.8 +1.1
comp=Z,3.0nm,1.1s
GRNR **Gornyy** 81.60 333 eP P 23 56 22.5 +0.1
GRNR pmax pmax
comp=Z,63nm,1.0s
HSIG 81.67 55 eP P 23 56 24.9 +1.6
NKL **Nikolayevsk** 81.71 336 *i* P P 23 56 23.0 +0.1
NKL pmax pmax
comp=N,19nm,0.9s
NKL pmax pmax
comp=E,8.0nm,0.9s
NKL pmax pmax
comp=Z,42nm,0.9s
214A **Organ Pipe Nat** 81.73 51 P P 23 56 25.4 +1.7
baz=239
214A **Organ Pipe Nat** 81.73 51 eP P 23 56 24.9 +1.3
comp=Z,154nm,1.4s

K04D	Chiloquin, OR	81.81	38	P		P		23 56 24.9	+1.0
	baz=232								
NEE2	Needles Airpor	81.90	48	P		P		23 56 25.6	+1.3
	baz=238								
J04D	Umpqua Nationa	81.98	38	P		P		23 56 26.5	+1.6
	baz=232,SNR=12								
PDMCI	Parker Dam,Lak	81.99	49	P		P		23 56 26.3	+1.5
	baz=238,SNR=16								
I04A	Tendick Farm,	82.16	37	P		P		23 56 26.4	+0.9
	baz=232,SNR=5.3								
MOD	Modoc Plateau	82.23	40	eP		P		23 56 27.4	+1.3
	comp=Z,31nm,0.9s								
CN2	Changchun	82.32	323	eP		P		23 56 26.5	+0.3
CN2				pmax		pmax			
	comp=Z,20nm,1.0s								
K05A	Summer Lake	82.37	39	eP		P		23 56 28.6	+1.8
	comp=Z,68nm,0.9s								
SHPR	Sheep Range	82.45	46	eP		P		23 56 28.8	+1.5
	comp=Z,16nm,1.0s								
J05D	Fort Rock, OR	82.52	38	P		P		23 56 29.2	+1.7
	baz=232,SNR=17								
G03D	McMinnville, O	82.57	36	P		P		23 56 28.8	+1.3
	baz=231								
KLR	Kul'dur	82.60	330	d	iP	P		23 56 28.4	+0.9
H04A	Detroit Lake	82.83	37	eP		P		23 56 29.9	+1.0
	comp=Z,30nm,0.8s								
PINE	Pine Mountain	82.99	38	eP		P		23 56 31.5	+1.6
	comp=Z,71nm,0.9s								
I05D	Terrebonne, OR	83.10	37	P		P		23 56 31.6	+1.3
	baz=232,SNR=6.1								
R11A	Troy Canyon, C	83.17	45	P		P		23 56 31.5	+0.6
	baz=237,SNR=13								
R11A	Troy Canyon, C	83.17	45	eP		P		23 56 31.5	+0.6
	comp=Z,11nm,1.1s								
F04D	Rainier, OR	83.26	35	P		P		23 56 32.4	+1.5
	baz=231								
BMN	Battle Mountai	83.27	42	eP		P		23 56 32.5	+1.2
BMN				pmax		pmax			
	comp=Z,27nm,1.0s								
BMN	Battle Mountai	83.27	42	eP		P		23 56 32.5	+1.2
	comp=Z,27nm,1.0s								
BRLK	Bradley Lake	83.33	14	eP		P		23 56 31.3	+0.3
	comp=Z,50nm,0.9s								
TUC	Tucson	83.40	52	P		P		23 56 33.7	+1.6
	baz=240								
TUC	Tucson	83.40	52	eP		P		23 56 34.0	+2.0
	comp=Z,27nm,1.0s								
WVOR	Wild Horse Val	83.54	40	eP		P		23 56 33.8	+1.2
WVOR				pmax		pmax			
	comp=Z,26nm,1.1s								
WVOR	Wild Horse Val	83.54	40	eP		P		23 56 33.8	+1.2
	comp=Z,26nm,1.1s								
G05D	Wamic, OR	83.67	37	P		P		23 56 34.1	+1.2
	baz=232								
SEW	Seward	83.95	14	eP		P		23 56 34.5	+0.5
	comp=Z,28nm,1.0s								
MA2	Magadan	83.96	345	‖	iP	P		23 56 33.4	-0.6
I07A	Izee	84.00	38	eP		P		23 56 36.5	+1.8
	comp=Z,19nm,0.9s								
G06A	Carlson Farm,	84.04	37	eP		P		23 56 36.3	+1.4
	comp=Z,24nm,1.0s								
J08A	Circle Bar Ran	84.18	39	eP		P		23 56 36.8	+1.2
	comp=Z,31nm,1.1s								
KNB	Kanab	84.32	47	eP		P		23 56 38.1	+1.5
KNB				pmax		pmax			
	comp=Z,67nm,1.9s								
KNB	Kanab	84.32	47	eP		P		23 56 38.1	+1.5
	comp=Z,67nm,1.9s								
U15A	North Rim	84.38	48	eP		P		23 56 38.6	+1.6
GAMB	Gambell	84.43	3	eP		P		23 56 36.8	+0.7
	comp=Z,22nm,1.1s								
SZCU	Shurtz Canyon	84.44	46	eP		P		23 56 38.6	+1.4
	comp=Z,8.3nm,0.9s								
D05A	Enumclaw	84.50	35	eP		P		23 56 39.1	+2.1
	comp=Z,66nm,1.3s								
WUAZ	Wupatki	84.56	49	P		P		23 56 38.9	+1.1
	baz=240								
WUAZ	Wupatki	84.56	49	eP		P		23 56 39.2	+1.4
	comp=Z,18nm,1.1s								
RC01	Rabbit Creek A	84.77	14	eP		P		23 56 38.2	+0.2
	comp=Z,36nm,1.0s								
HPIG		84.84	59	eP		P		23 56 39.9	+0.5
	comp=Z,13nm,1.1s								
PKCU	Pink Cliffs	84.89	47	eP		P		23 56 42.0	+2.4
	comp=Z,11nm,0.9s								
SUA	Susitna One	84.89	13	eP		P		23 56 38.3	-0.4
	comp=Z,33nm,0.8s								
G08A	Pilot Rock	85.03	38	eP		P		23 56 41.0	+1.3
	comp=Z,26nm,0.9s								
X18A	Snowflake	85.09	50	eP		P		23 56 41.9	+1.4
B05A	Bryant	85.12	34	P		P		23 56 40.7	+0.8
	baz=231								
GLI	Glacier Island	85.19	15	eP		P		23 56 39.8	-0.2
	comp=Z,51nm,0.8s								
LTY	Liberty	85.25	35	eP		P		23 56 41.4	+0.6
	comp=Z,17nm,1.0s								
MTPU	Mount Pierson	85.28	46	eP		P		23 56 43.3	+1.9
	comp=Z,14nm,1.0s								
PMR	Palmer	85.35	14	eP		P		23 56 40.6	-0.1
PMR				pmax		pmax			
	comp=Z,55nm,1.4s								
PMR	Palmer	85.35	14	eP		P		23 56 40.6	-0.1
	comp=Z,55nm,1.4s								
RAGM	Ragged Mountai	85.36	16	eP		P		23 56 41.5	+0.6
	comp=Z,22nm,1.3s								
MSU	Marysvale	85.52	46	eP		P		23 56 44.4	+1.9
W18A	Petrified Fore	85.53	50	P		P		23 56 43.5	+1.0
	baz=241								
ZAIG	Zacatecas	85.61	64	eP		P		23 56 45.2	+2.0
E08A	Dider Farm, El	85.68	37	eP		P		23 56 43.8	+1.1
	comp=Z,24nm,0.9s								
SML	Sawmill	85.72	14	eP		P		23 56 42.7	+0.1
SML	Sawmill	85.72	14	eP		P		23 56 42.7	+0.1
SML				ePcP		PcP		23 56 48.6	+4.2
BMO	Blue Mountains	85.73	39	eP		P		23 56 43.9	+0.8
BMO				pmax		pmax			
	comp=Z,14nm,0.8s								
BMO	Blue Mountains	85.73	39	eP		P		23 56 43.9	+0.8
	comp=Z,14nm,0.8s								
DIV	Divide	85.73	15	eP		P		23 56 43.0	+0.3
	comp=Z,42nm,1.0s								
121A	Cookes Peak, D	85.73	53	P		P		23 56 45.3	+1.8
	baz=242,SNR=11								
121A	Cookes Peak, D	85.73	53	eP		P		23 56 44.9	+1.4
	comp=Z,18nm,1.0s								
MFID	Camas Ranch	85.80	40	eP		P		23 56 44.9	+1.4
	comp=Z,19nm,1.1s								
BJI	Beijing	85.86	316	‖	eP	P		23 56 44.6	+0.9
BJI				pmax		pmax			
	comp=Z,15nm,1.3s								
BMRM	Bremner River	85.88	16	eP		P		23 56 43.6	+0.2
	comp=Z,28nm,0.9s								
ENH	Enshi	85.92	304	eP		P		23 56 44.9	+0.6
	comp=Z,32nm,1.3s								
DUG	Dugway, Tooele	85.97	44	P		P		23 56 44.9	+0.5
	baz=239								
DUG	Dugway, Tooele	85.97	44	eP		P		23 56 45.3	+0.9
DUG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
DUG	Dugway, Tooele	85.97	44	eP		P		23 56 45.2	+0.9
	comp=Z,4.6nm,0.9s								
SCM	Sheep Creek Mo	85.97	14	eP		P		23 56 44.0	+0.2
SCM				pmax		pmax			
	comp=Z,48nm,0.8s								
SCM	Sheep Creek Mo	85.97	14	eP		P		23 56 44.0	+0.2
	comp=Z,48nm,0.8s								
KLU	Klutina	86.01	15	eP		P		23 56 44.3	+0.3
	comp=Z,14nm,0.9s								
D08A	Wollman Farm,	86.09	36	eP		P		23 56 45.8	+1.2
	comp=Z,28nm,0.8s								
CAST	Castle Rocks	86.41	12	eP		P		23 56 43.9	-1.8
	comp=Z,29nm,0.8s								
Q16A	Castle Valley	86.41	46	eP		P		23 56 49.1	+2.5
	comp=Z,27nm,1.4s								
F10A	Beach Ranch, E	86.41	38	eP		P		23 56 46.9	+0.6
	comp=Z,70nm,0.9s								
TMUT	Trail Mountain	86.57	46	eP		P		23 56 49.3	+1.8
	comp=Z,18nm,1.0s								
B08A	Colville Reser	86.64	35	eP		P		23 56 47.8	+0.6
	comp=Z,29nm,0.8s								
MPU	Maple Canyon	86.65	45	eP		P		23 56 49.6	+1.9
	comp=Z,9.9nm,1.3s								
LLLB	Lillooet	86.69	32	eP		P		23 56 48.4	+1.0
HLID	Hailey	86.74	41	P		P		23 56 49.3	+1.3
	baz=237								
HLID	Hailey	86.74	41	eP		P		23 56 49.4	+1.3
	comp=Z,22nm,1.0s								
KTH	Kantishna Hill	86.75	12	eP		P		23 56 46.3	-1.1
	comp=Z,32nm,1.0s								
TRF	Thorofare Moun	86.78	12	eP		P		23 56 47.1	-0.6
	comp=Z,46nm,0.8s								
HVU	Hansel Valley	86.82	43	eP		P		23 56 49.7	+1.3
	comp=Z,37nm,1.9s								
C09A	Chrisman Ranch	86.88	36	eP		P		23 56 49.3	+1.0
	comp=Z,27nm,0.9s								
SRU	San Rafael Swe	86.94	46	eP		P		23 56 50.4	+1.3
	comp=Z,18nm,0.9s								
P17A	Butcher Ranch,	86.97	46	eP		P		23 56 51.0	+1.7
	comp=Z,16nm,1.2s								
HARP	HAARP	86.98	15	eP		P		23 56 49.1	+0.6
RND	Reindeer	87.03	13	eP		P		23 56 48.6	-0.2
RND	Reindeer	87.03	13	eP		P		23 56 48.6	-0.2
DHY	Denali Highway	87.06	14	eP		P		23 56 48.8	-0.2
	comp=Z,14nm,1.0s								
LAZ	Ladron	87.07	52	eP		P		23 56 51.2	+1.3
MNTX	Cornudas Mount	87.17	55	P		P		23 56 51.5	+1.4
	baz=244,SNR=36								
MNTX	Cornudas Mount	87.17	55	eP		P		23 56 51.5	+1.4
	comp=Z,27nm,1.1s								
MNTX				epP		pP		23 58 58.6	+2.9
BPAW	Bear Paw Mtn.	87.23	12	eP		P		23 56 48.7	-0.9
MCK	McKinley	87.30	13	eP		P		23 56 49.9	-0.1
MCK				pmax		pmax			
	comp=Z,30nm,0.9s								
MCK	McKinley	87.30	13	eP		P		23 56 49.9	-0.1
	comp=Z,30nm,0.9s								
BNM	Barren Site	87.33	52	eP		P		23 56 52.2	+1.1
TCUT	Toone Canyon	87.36	44	eP		P		23 56 52.5	+1.4
	comp=Z,88nm,1.7s								
P18A	Preston Nutter	87.38	46	eP		P		23 56 52.6	+1.3
	comp=Z,28nm,1.5s								
PAX	Paxson	87.39	14	eP		P		23 56 50.1	-0.4
PAX				pmax		pmax			
	comp=Z,9.0nm,0.9s								
PAX	Paxson	87.39	14	eP		P		23 56 50.1	-0.4
	comp=Z,8.9nm,0.9s								
LPM	Los Pinos Moun	87.41	52	eP		P		23 56 52.8	+1.4
PV05	Paradox Valley	87.41	48	eP		P		23 56 52.9	+1.5
MVCO	Mesa Verde	87.41	49	P		P		23 56 51.8	+0.4
	baz=242								
TX31	Lajitas Ar. Si	87.47	57	eP		P		23 56 53.0	+1.4
TX31				epP		pP		23 58 57.6	+0.2
TXAR	Lajitas Array	87.47	57	P		P		23 56 53.2	+1.6
	comp=Z,13nm,0.9s,baz=219,slow=5.8,SNR=74								
HWUT	Hardware Ranch	87.51	44	eP		P		23 56 52.2	+0.5
	comp=Z,28nm,1.8s								
PV09	Paradox Valley	87.59	47	eP		P		23 56 53.2	+1.0
PV10	Paradox Valley	87.59	47	eP		P		23 56 53.2	+1.0
HYT	Haines Junctio	87.73	19	eP		P		23 56 52.3	+0.1
SNAA	Sanae	87.75	179	P		P		23 56 51.8	-0.4
SNAA	Sanae	87.75	179	P		P		23 56 51.3	-0.9
	comp=Z,3.0nm,1.0s,baz=203,slow=8.1,SNR=9.6								
SNAA	Sanae	87.75	179	eP		P		23 56 53.8	+1.6
NEW	Newport	87.78	36	P		P		23 56 53.2	+0.6
	baz=235,SNR=5.9								
NEW	Newport	87.78	36	eP		P		23 56 53.1	+0.5
NEW				pmax		pmax			
	comp=Z,11nm,0.9s								
NEW	Newport	87.78	36	eP		P		23 56 53.1	+0.5
	comp=Z,11nm,0.9s								
PV01	Paradox Valley	87.80	48	eP		P		23 56 54.1	+0.9
ANMO	Albuquerque	87.82	51	P		P		23 56 54.0	+0.7
	baz=243								
ANMO	Albuquerque	87.82	51	‖	eP	P		23 56 54.1	+0.7
ANMO				pmax		pmax			
	comp=Z,18nm,1.2s								
ANMO	Albuquerque	87.82	51	eP		P		23 56 54.2	+0.8
	comp=Z,17nm,1.1s								
VNA3	Neumayer Olymp	87.89	176	P		P		23 56 52.7	-0.1
XAN	Xi'an	88.04	307	P		P		23 56 54.9	+0.7
XAN				pmax		pmax			
	comp=Z,13nm,0.7s								
XAN				pmax		pmax			
	comp=Z,84nm,3.7s								
MLY	Manley	88.12	11	eP		P		23 56 52.9	-0.9
	comp=Z,22nm,1.0s								
RIDG	Independ'e Rid	88.20	14	eP		P		23 56 54.3	+0.1
	comp=Z,18nm,0.9s								
DOT	Dot Lake	88.30	15	eP		P		23 56 54.8	+0.1
	comp=Z,52nm,1.0s								
HDA	Harding Lake	88.32	13	eP		P		23 56 54.4	-0.2
	comp=Z,26nm,0.7s								
VNA2	Neumayer--Watz	88.33	177	P		P		23 56 54.9	+0.1
	baz=194,slow=4.0								
CCB	Clear Creek Bu	88.35	13	eP		P		23 56 54.1	-0.7
	comp=Z,34nm,0.8s								
CCB				epP		pP		23 59 02.8	+1.9
MCMT	McKenzie Canyo	88.36	40	eP		P		23 56 56.9	+1.2
AHID	Auburn Hatcher	88.39	43	eP		P		23 56 57.0	+1.3
WHY	Whitehorse	88.41	20	eP		P		23 56 56.5	+1.2
DLBC	Dease Lake	88.42	23	eP		P		23 56 56.8	+1.4
NVL	N'lazarevskaya	88.43	183	eP		P		23 56 54.0	-1.3
NVL				pmax		pmax			
	comp=Z,19nm,1.1s								
MDM	Murphy Dome	88.54	12	eP		P		23 56 55.0	-0.7
COLA	College	88.54	13	eP		P		23 56 55.2	-0.4
COLA				pmax		pmax			
	comp=Z,48nm,0.8s								
COLA	College	88.54	13	eP		P		23 56 55.2	-0.4
	comp=Z,48nm,0.8s								
VNA1	Neumayer--Stat	88.56	177	P		P		23 56 56.1	+0.2
ILAR	Eielson Array	88.65	13	P		P		23 56 55.5	-0.7
	comp=Z,9.8nm,0.7s,baz=223,slow=5.5,SNR=82								
ILB	Eielson Array	88.65	13	eP		P		23 56 55.5	-0.7
IL1	Eielson Array	88.65	13	eP		P		23 56 54.6	-1.6
IL1				epP		pP		23 59 01.4	-0.9
MSO	Missoula	88.78	38	P		P		23 56 57.6	+0.2
	baz=238								
DLMT	Dillon	88.80	40	eP		P		23 56 59.1	+1.5
	comp=Z,16nm,1.0s								
S22A	4UR Ranch, Cre	88.84	49	P		P		23 56 59.3	+1.2
	baz=243,SNR=15								
S22A	4UR Ranch, Cre	88.84	49	eP		P		23 56 59.2	+1.1
REDW	Red Top Meadow	88.85	42	eP		P		23 56 58.8	+0.9
	comp=Z,34nm,1.0s								
TPAW	Teton Pass	88.85	42	eP		P		23 56 58.5	+0.5
	comp=Z,23nm,1.1s								
FXWY	Fox Creek	88.88	42	eP		P		23 56 59.2	+1.1
	comp=Z,14nm,1.1s								
SNOW	Snow King Moun	88.96	42	eP		P		23 57 00.2	+1.7
	comp=Z,36nm,1.0s								
O20A	White River Ci	88.98	46	P		P		23 56 59.3	+0.7
	baz=242,SNR=8								
O20A	White River Ci	88.98	46	eP		P		23 56 59.7	+1.1
IMW	Indian Meadow	89.06	42	eP		P		23 57 00.2	+1.2
	comp=Z,26nm,0.9s								
LNIG	Linares	89.06	63	eP		P		23 56 59.2	+0.1
	comp=Z,22nm,1.0s								
JTMT	Jette	89.08	37	eP		P		23 56 59.2	+0.4
	comp=Z,4.7nm,0.8s								
MOOW	Moose Ponds	89.11	42	eP		P		23 57 00.1	+0.9
	comp=Z,34nm,1.8s								
LRM	Limekiln Ridge	89.12	40	eP		P		23 57 00.4	+1.2
LOHW	Long Hollow	89.13	42	eP		P		23 57 00.3	+1.1
	comp=Z,11nm,0.8s								
KMI	Kunming	89.19	297	P		P		23 57 01.8	+1.9
KMI				pmax		pmax			
	comp=Z,9.0nm,0.8s								
QLMT	Earthquake Lak	89.23	41	eP		P		23 57 01.7	+2.0
BILL	Bilibino	89.27	354	d	iP	P		23 56 59.3	+0.3
BILL				i	*PP	pP		23 59 08.4	+3.0
BILL				pmax		pmax			
	comp=Z,9.0nm,1.0s								
HHC	Hu-ho-hao-te	89.31	314	eP		P		23 57 01.1	+1.1
HHC				S		S		00 06 52.8	-8.4
HHC				pmax		pmax			
	comp=Z,8.0nm,1.3s								
HHC				pmax		pmax			
	comp=Z,150nm,7.2s								
PLCA	Paso Flores	89.32	134	P		P		23 57 00.8	+0.7
	comp=Z,1.7nm,1.1s,baz=193,slow=3.4,SNR=3.3								
YHB	Horse Butte	89.33	41	eP		P		23 57 02.2	+2.0
	comp=Z,22nm,1.1s								
YPP	Pitchstone Pla	89.33	42	eP		P		23 57 02.2	+1.9
	comp=Z,9.3nm,1.3s								
BW06	Boulder Array	89.38	43	P		P		23 57 00.7	+0.3
	baz=241,SNR=24								
BW06	Boulder Array	89.38	43	eP		P		23 57 00.8	+0.4
	comp=Z,16nm,0.8s								
PD31	Pinedale Array	89.38	43	eP		P		23 57 00.8	+0.3
PDAR	Pinedale Array	89.38	43	P		P		23 57 00.9	+0.5
	comp=Z,21nm,0.9s,baz=214,slow=3.1,SNR=82								
PDAR	Pinedale Array	89.38	43	eP		P		23 57 00.4	0.0
YFT	Old Faithful	89.41	41	eP		P		23 57 03.4	+2.9
	comp=Z,16nm,0.9s								
YMR	Madison River	89.44	41	eP		P		23 57 02.9	+2.3
	comp=Z,20nm,0.8s								
BOZ	Bozeman (W)	89.50	40	P		P		23 57 01.9	+1.1
	baz=239,SNR=5.7								
H17A	Grant Village	89.54	42	P		P		23 57 03.2	+2.1
	baz=240,SNR=11								
H17A	Grant Village	89.54	42	eP		P		23 57 03.3	+2.2
YHH	Holmes Hill	89.57	41	eP		P		23 57 03.1	+1.8
	comp=Z,12nm,1.1s								
YNR	Norris Junctio	89.64	41	eP		P		23 57 05.4	+3.8
	comp=Z,15nm,1.3s								
SDCO	Great Sand Dun	89.77	49	P		P		23 57 03.1	+0.6
	baz=243,SNR=16								
SDCO	Great Sand Dun	89.77	49	eP		P		23 57 03.3	+0.9
	comp=Z,7.3nm,0.9s								
DAWY	Dawson	89.81	16	eP		P		23 57 02.1	+0.5
CM01	Chiang Mai Arr	89.88	290	eP		P		23 57 04.7	+1.7
CMAR	Chiang Mai Arr	89.90	290	P		P		23 57 05.2	+2.1
	comp=Z,4.1nm,0.9s,baz=123,slow=2.9,SNR=20								
EGAK	Eagle	89.95	15	eP		P		23 57 02.5	+0.3
	comp=Z,25nm,0.9s								
WALA	Waterton Lakes	89.99	36	eP		P		23 57 03.9	+1.0
CHTO	Chiang Mai	90.03	290	eP		P		23 57 04.3	+0.6
CHTO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CHTO	Chiang Mai	90.03	290	eP		P		23 57 04.3	+0.6
	comp=Z,5.2nm,0.8s								
MSTX	Muleshoe	90.13	54	P		P		23 57 04.6	+0.6
	baz=245								
MSTX	Muleshoe	90.13	54	eP		P		23 57 04.9	+0.9
COLD	Coldfoot	90.20	11	eP		P		23 57 03.8	+0.5
	comp=Z,17nm,1.0s								
T25A	Trinidad	90.28	50	P		P		23 57 05.2	+0.4
	baz=244,SNR=7.8								
T25A	Trinidad	90.28	50	eP		P		23 57 05.4	+0.7
RWWY	Rawlins	90.40	45	eP		P		23 57 04.8	-0.4
	comp=Z,30nm,1.1s								
833A	Chaparral WMA,	90.47	60	P		P		23 57 06.4	+0.9
	baz=247								
Q24A	Divide	90.56	48	P		P		23 57 06.8	+0.7
	baz=244								
ISCO	Idaho Springs	90.61	47	P		P		23 57 06.7	+0.4
	baz=243								
ISCO	Idaho Springs	90.61	47	eP		P		23 57 07.4	+1.1
	comp=Z,4.7nm,1.2s								
CD2	Chengdu	90.66	303	eP		P		23 57 06.0	-0.4
RLMT	Red Lodge	90.71	41	P		P		23 57 07.4	+0.9
	baz=241								
N23A	Red Feather La	90.88	46	P		P		23 57 08.3	+0.8
	baz=243,SNR=9.9								
N23A	Red Feather La	90.88	46	eP		P		23 57 08.7	+1.3
JCT	Junction City	91.00	58	P		P		23 57 08.1	+0.1
	baz=246								
JCT	Junction City	91.00	58	eP		P		23 57 07.4	-0.6
JCT				pmax		pmax			
	comp=Z,8.0nm,0.7s								
JCT	Junction City	91.00	58	eP		P		23 57 07.4	-0.6
	comp=Z,8.5nm,0.7s								
K22A	Casper	91.29	45	P		P		23 57 09.7	+0.5
	baz=243,SNR=7.1								
K22A	Casper	91.29	45	eP		P		23 57 10.1	+0.9
AMTX	Amarillo	91.33	53	P		P		23 57 09.3	-0.1
	baz=246								
AMTX	Amarillo	91.33	53	eP		P		23 57 09.6	+0.1
	comp=Z,8.3nm,1.0s								
TOLK	Toolik Lake Re	91.58	10	P		P		23 57 11.2	+1.5
	baz=207								
TOLK	Toolik Lake Re	91.58	10	eP		P		23 57 10.2	+0.4
EGMT	Eagleton	91.83	39	P		P		23 57 12.0	+0.6
	baz=241								
ABTX	Abilene, Hawle	91.97	56	P		P		23 57 12.8	+0.5
	baz=247								
ABTX	Abilene, Hawle	91.97	56	eP		P		23 57 13.1	+0.7
KSCO	Kaye Shedlock'	92.36	49	P		P		23 57 14.6	+0.5
	baz=245								
KSCO	Kaye Shedlock'	92.36	49	eP		P		23 57 15.3	+1.2
EDM	Edmonton	92.51	33	eP		P		23 57 14.3	0.0
EDM	Edmonton	92.51	33	eP		P		23 57 14.3	0.0
LZH	Lanzhou	92.68	308	eP		P		23 57 21.0	+5.3
LZH				pP		pP		23 59 20.4	-2.1
LZH				sP		sP		00 00 19.3	-1.1
LZH				pmax		pmax			
	comp=Z,15nm,0.6s								
LAO	LASA Array	93.32	41	P		P		23 57 19.4	+1.1
	baz=243								
LAO	LASA Array	93.32	41	eP		P		23 57 19.6	+1.3
	comp=Z,6.0nm,0.9s								
RSSD	Black Hills	93.57	44	P		P		23 57 19.7	+0.1
	baz=244								
RSSD	Black Hills	93.57	44	eP		P		23 57 19.4	-0.3
RSSD				pmax		pmax			
	comp=Z,5.0nm,0.8s								
RSSD	Black Hills	93.57	44	eP		P		23 57 19.4	-0.3
	comp=Z,4.5nm,0.8s								
CBKS	Cedar Bluff	94.34	50	P		P		23 57 24.6	+1.6
	baz=247								
INK	Inuvik	94.62	15	P		P		23 57 22.8	-0.7
	comp=Z,4.5nm,0.9s,baz=226,slow=4.8,SNR=17								
INK	Inuvik	94.62	15	eP		P		23 57 23.1	-0.4
INK	Inuvik	94.62	15	eP		P		23 57 23.1	-0.4
DGMT	Dagmar	95.34	40	P		P		23 57 28.2	+0.9
	baz=245								
ULN	Ulaanbaatar	95.36	319	‖

comp=Z,3.1nm,1.0s,baz=270,slow=0.6,SNR=5.3
FINES PKP **PKPdf** **00 03 19.2 -0.5**
comp=Z,5.1nm,0.8s,baz=75,slow=2.6,SNR=7.5
FINES SKPbc **SKPbc** **00 05 59.2 +1.8**
comp=Z,13nm,0.9s,baz=59,slow=4.9,SNR=16
PUL Pulkovo 136.02 340 ⇑*i*PKIKP **PKPdf** **00 03 21.2 +1.3**
OBN Obninsk 136.84 331 ⇑*e*PKIKP **PKPdf** **00 03 19.7 -1.8**
OBN *e* 00 05 31.9
OBN pmax pmax
comp=Z,26nm,1.4s
VSU Vasula 138.19 340 ⇓*e*PKIKP **PKPdf** **00 03 22.9 -1.0**
NB2 NORSAR Subarra 139.21 353 PKP **PKPpre** 00 03 17.1
comp=Z,4.2nm,1.1s,baz=16,slow=3.2
NOA NORSAR Array B 139.21 353 PKhKP **PKPpre** 00 03 17.1
comp=Z,1.7nm,0.8s,baz=90,slow=1.0,SNR=6.5
NOA PKP **PKPdf** **00 03 26.0 +0.2**
comp=Z,1.3nm,1.0s,baz=7.0,slow=3.7,SNR=3.8
NOA SKPbc **SKiKP** **00 06 08.9 -0.7**
comp=Z,3.6nm,1.0s,baz=6.3,slow=4.0,SNR=5.6
HFS Hagfors 139.75 351 PKhKP **PKPpre** 00 03 19.0
comp=Z,2.6nm,0.3s,baz=66,slow=3.5,SNR=27
KAC Achnashellach 142.96 6 *e*P **PKPdf** **00 03 30.3 -2.3**
SUW Suwalki 142.97 339 *e*PKP **PKPdf** **00 03 30.4 -2.2**
MCD Coleburn Disti 143.06 4 *e*P PKPab 00 03 30.0 -0.5
KPL Plockton 143.08 7 *e*P PKPab 00 03 30.4 -0.1
AKASG Malin Array Be 143.09 331 *i* PKP PKPab 00 03 30.6 -0.3
AKASG SKPbc **SKPbc** **00 06 16.4 -0.4**
comp=Z,1.3nm,0.7s,baz=42,slow=3.3,SNR=8.6
AKASG Malin Array Be 143.09 331 *i* PKIKP **PKPdf** **00 03 38.2 +5.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KIEV Kiev 143.10 331 *d i*PKHKP PKPpre 00 03 30.0
MDO Dochfour 143.11 5 *e*P PKPab 00 03 30.0 -0.7
KSB Sheil Bridge 143.24 6 *e*P PKPab 00 03 30.9 -0.2
DRUM Mains of Drumt 143.78 4 *e*P PKPbc 00 03 32.4 -0.7
SIM Simferopol' 143.99 320 *de*PKIKP PKPab 00 03 34.4 -0.1
SIM pmax pmax
comp=Z,48nm,0.7s
EDU Dundee 144.10 4 *e*P PKPbc 00 03 33.6 -0.6
BSD Bornholm Skovb 144.28 347 *i* P PKPbc 00 03 34.2 -0.5
comp=Z,71nm,0.9s
EAB Aberfoyle 144.35 6 *e*P PKPbc 00 03 34.5 -0.5
LLD Lille Linde 144.58 350 *i* P **PKPdf** **00 03 35.5 +0.1**
LLD Lille Linde 144.58 350 *i* PKIKP **PKPdf** **00 03 35.5 +0.1**
ESY Stoneypath 144.76 4 *e*P **PKPdf** **00 03 35.7 0.0**
SORM Soroca 145.26 328 ⇑*i*P **PKPbc** **00 03 37.7 -0.2**
SORM Soroca 145.26 328 ⇑PKIKP **PKPbc** **00 03 37.7 -0.2**
EKA Eskdalemuir Ar 145.30 5 PKPbc **PKPdf** **00 03 37.0 +0.4**
comp=Z,16nm,0.8s,baz=344,slow=2.8,SNR=25
ESK Eskdalemuir 145.31 5 *e*P **PKPdf** **00 03 36.1 -0.5**
GKP Gorka Klasztor 145.41 343 *e*PKP **PKPbc** **00 03 38.3 +0.1**
GKP Gorka Klasztor 145.41 343 *e*PKIKP **PKPbc** **00 03 38.3 +0.1**
BHH Howats Hill 145.53 5 *e*P **PKPbc** **00 03 37.8 -0.7**
BEL Belsk 145.59 339 *e*PKP **PKPbc** **00 03 39.1 +0.3**
BEL Belsk 145.59 339 *e*PKIKP **PKPbc** **00 03 39.1 +0.3**
KIS Kishinev 145.78 326 *e*PKP **PKPdf** **00 03 37.0 -0.7**
EDMD Edmundbyers 145.88 4 *e*P **PKPbc** **00 03 38.8 -0.7**
LVV L'vov 146.01 334 *e*PKIKP **PKPbc** **00 03 40.1 +0.1**
KESW Keswick, Cumbr 146.04 5 *e*P **PKPdf** **00 03 38.6 +0.7**
IOMK Kirk Michael 146.23 7 *e*P **PKPbc** **00 03 40.0 -0.5**
WIM Isle of Man 146.33 7 *e*P **PKPbc** **00 03 40.6 -0.1**
LEOM Leova 146.42 326 ⇑*i*P **PKPbc** **00 03 41.1 -0.1**
LEOM Leova 146.42 326 ⇑PKIKP **PKPbc** **00 03 41.1 -0.1**
ASF Jabal al Asfar 146.61 297 PKPbc **PKPbc** **00 03 42.5 +0.1**
comp=Z,5.8nm,0.8s,baz=6.6,slow=4.4,SNR=5.9
KWP Kalwaria Pacla 146.69 335 *e*PKP **PKPbc** **00 03 42.2 +0.3**
KWP Kalwaria Pacla 146.69 335 *e*PKIKP **PKPbc** **00 03 42.2 +0.3**
HPK Haverah Park 146.77 4 *e*P **PKPbc** **00 03 41.6 -0.4**
BRTR Keskin Array B 146.78 312 PKPbc **PKPbc** **00 03 42.4 -0.3**
comp=Z,6.6nm,0.7s,baz=132,slow=4.4,SNR=27
TLCR 146.94 324 ⇓*i*P **PKPbc** **00 03 43.0 +0.3**
TLCR 146.94 324 ⇓PKIKP **PKPbc** **00 03 43.0 +0.3**
WME Myndd Eilian 147.11 7 *e*P **PKPbc** **00 03 42.5 -0.3**
BURAR Bucovina Array 147.14 330 ⇑*i*P **PKPbc** **00 03 44.1 +0.8**
BURAR Bucovina Array 147.14 330 ⇑PKIKP **PKPbc** **00 03 44.1 +0.8**
WLF1 Llynfaes 147.21 7 *e*P **PKPbc** **00 03 42.4 -0.7**
TESR Tescani 147.22 327 ⇓*i*P **PKPbc** **00 03 43.1 -0.3**
WPM1 Penmaenmawr 147.29 6 *e*P **PKPbc** **00 03 42.9 -0.4**
OJC Ojcow 147.29 338 *e*PKP **PKPbc** **00 03 43.5 0.0**
OJC Ojcow 147.29 338 *e*PKIKP **PKPbc** **00 03 43.5 0.0**
CFR Carcaliu 147.32 324 ⇑*i*P **PKPbc** **00 03 44.0 +0.3**
CFR Carcaliu 147.32 324 ⇑PKIKP **PKPbc** **00 03 44.0 +0.3**
STHS Stebnicka Huta 147.43 336 *e*PKIKP **PKPbc** **00 03 44.7 +0.8**
STHS *e* 00 03 49.5
ODBI Odobesti 147.51 326 ⇑*i*P **PKPbc** **00 03 45.4 +1.2**
TIRR Tirgusor 147.61 323 ⇓*i*P **PKPbc** **00 03 44.6 +0.1**
TIRR Tirgusor 147.61 323 ⇓PKIKP **PKPbc** **00 03 44.6 +0.1**
VRI Vrincioaia 147.62 326 ⇑*i*P **PKPbc** **00 03 44.5 0.0**
VRI Vrincioaia 147.62 326 ⇑PKIKP **PKPbc** **00 03 44.5 0.0**
UZH Uzhgorod 147.65 334 ⇓*i*PKIKP **PKPbc** **00 03 44.9 +0.5**
UZH *e* 00 03 49.5
UZH *i* 00 05 51.3
PLOR Plostina 147.67 326 ⇑*i*P **PKPbc** **00 03 44.7 +0.1**
PLOR Plostina 147.67 326 ⇑PKIKP **PKPbc** **00 03 44.7 +0.1**
MMAI Mount Meron Ar 147.67 299 PKPbc **PKPbc** **00 03 45.5 +0.4**
comp=Z,12nm,0.6s,baz=82,slow=6.0,SNR=15
FOEL Foel Wylfa 147.72 6 *e*P **PKPbc** **00 03 43.4 -1.1**
HARR Harsova 147.74 324 ⇓*i*P **PKPbc** **00 03 45.5 +0.7**
HARR Harsova 147.74 324 ⇓PKIKP **PKPbc** **00 03 45.5 +0.7**
CRVS Cervenica-Dubn 147.76 335 *e*PKIKP **PKPbc** **00 03 45.1 +0.3**
CRVS *e* 00 03 50.0
NIE Niedzica 147.78 337 *e*PKP **PKPbc** **00 03 45.6 +0.8**
NIE Niedzica 147.78 337 *e*PKIKP **PKPbc** **00 03 45.6 +0.8**
KSP Ksiaz 147.85 342 *e*PKP **PKPbc** **00 03 45.5 +0.6**
KSP Ksiaz 147.85 342 *e*PKIKP **PKPbc** **00 03 45.5 +0.6**
BMR Baia Mare 147.88 332 ⇑*i*P **PKPbc** **00 03 45.9 +0.9**
BMR Baia Mare 147.88 332 ⇑PKIKP **PKPbc** **00 03 45.9 +0.9**
OKC Ostrava-Krasne 148.17 340 ⇑*e*PKP **PKPbc** **00 03 46.2 +0.5**
OKC *e*PKPAB **PKPab** **00 03 51.5 +0.6**
ISR Istrita 148.21 326 ⇓*i*P **PKPbc** **00 03 46.0 -0.1**
DOPR Dopca 148.23 328 ⇓*i*P **PKPbc** **00 03 47.4 +1.4**
CLL Collm 148.25 346 ⇓*i*PKPbc **PKPbc** **00 03 46.0 +0.2**
comp=Z,43nm,0.9s
CLL ⇑*i*PKPab **PKPab** **00 03 50.8 -0.3**
comp=Z,29nm,0.8s
CLL *e*pPKPab **pPKPab** **00 06 02.0 +1.5**
MLR Muntele Rosu 148.27 327 PKPbc **PKPbc** **00 03 45.5 -0.8**
comp=Z,2.1nm,0.6s,baz=307,slow=5.1,SNR=13
MLR Muntele Rosu 148.27 327 ⇑*i*P **PKPbc** **00 03 45.9 -0.4**
DPC Dobruska-Polom 148.28 342 *e*PKPDF **PKPdf** **00 03 42.3 +0.5**
DPC ⇑*i*PKP **PKiKP** **00 03 46.7 -0.5**
DPC *e*PKPAB **PKPab** **00 03 52.4 +1.0**
DPC *ex* x 00 06 03.0
DPC Dobruska-Polom 148.28 342 *e*PKIKP **PKPdf** **00 03 42.3 +0.5**
DPC *i* 00 03 46.7
DPC *e* 00 03 52.4
LPW Lampeter 148.40 7 *e*P **PKPbc** **00 03 45.6 -0.5**
MORC Moravsky Berou 148.42 340 ⇑*i*P **PKPbc** **00 03 45.9 -0.5**
BRG Berggiesshubel 148.44 345 *i* PKP **PKPbc** **00 03 46.7 +0.4**
comp=Z,22nm,0.9s
BRG *i* 00 03 52.1
comp=Z,17nm,0.8s
CJR Cluj-Napoca 148.55 330 ⇓*i*P **PKPbc** **00 03 47.3 +0.5**
WTSB Winterswijk 148.61 354 *e*PKPbc **PKPbc** **00 03 46.5 -0.1**
comp=Z,55nm,0.8s
WTSB *e*PKPab **PKPab** **00 03 52.3 -0.2**
comp=Z,47nm,1.1s
MCH1 Michaelchurch 148.62 6 *e*P **PKPbc** **00 03 46.1 -0.7**
SSW Stow on the Wo 148.74 4 *e*P **PKPbc** **00 03 47.1 +0.1**
VOIR 148.77 327 ⇑*i*P **PKPbc** **00 03 47.7 +0.3**
MONM Monmouth 148.79 5 *e*P **PKPbc** **00 03 46.8 -0.4**
DRGR 148.89 331 ⇓*i*P **PKPbc** **00 03 47.9 +0.2**
ARR Arges 149.03 328 ⇓*i*P **PKPbc** **00 03 49.1 +1.0**
PRU Pruhonice 149.10 344 ⇑*i*PKP **PKPbc** **00 03 48.2 +0.2**
PRU *e*PKPAB **PKPab** **00 03 55.1 +0.4**
GOPC GO Pecny, Ondr 149.10 343 ⇑*i*PKP **PKPbc** **00 03 48.5 +0.5**
VRAC Vranov 149.13 341 ⇓*i*P **PKPbc** **00 03 48.6 +0.5**
PSZ Piszkesteto 149.17 336 ⇑*i*P **PKPbc** **00 03 49.2 +0.9**
PSZ Piszkesteto 149.17 336 ⇓*ex* **PKPab** **00 03 55.3 +0.1**
NKC Novy Kostel 149.38 346 ⇑*e*PKP **PKPbc** **00 03 49.0 +0.3**
NKC *e*PKPAB **PKPab** **00 03 56.1 +0.2**
LOT Lotru 149.39 329 ⇓*i*P **PKPbc** **00 03 48.6 -0.4**
HUMR Humele 149.43 326 ⇓*i*P **PKPbc** **00 03 48.5 -0.5**
WOL Wolverton 149.43 4 *e*P **PKPbc** **00 03 48.0 -0.7**
TREC Trest 149.47 342 ⇑*e*PKP **PKPbc** **00 03 49.0 +0.1**
SIRR Siria 149.76 332 ⇑*i*P **PKPbc** **00 03 49.9 +0.2**
BUD Budapest 149.86 336 ⇓*ex* **PKPbc** **00 03 49.8 -0.1**
HGN Heimansgroeve 149.88 355 *e*PKPbc **PKPbc** **00 03 49.8 0.0**
comp=Z,23nm,1.0s
HGN *e*PKPab **PKPab** **00 03 57.8 -0.1**
comp=Z,24nm,0.9s

MEM Membach 150.02 354 ⇓PKPbc **PKPbc** **00 03 50.2 +0.1**
KHC Kasperske Hory 150.14 344 *e*PKPDF **PKPdf** **00 03 45.3 +0.5**
KHC ⇑*i*PKP **PKiKP** **00 03 50.9 -0.2**
KHC *e*PKPAB **PKPab** **00 03 59.8 +0.7**
KHC *ex* x 00 06 08.1
KHC Kasperske Hory 150.14 344 *e*PKIKP **PKPdf** **00 03 45.3 +0.5**
KHC *i* 00 03 50.9
KHC *e* 00 03 59.8
CSKK Cs˘‡kako 150.25 337 ⇓*ex* **PKPbc** **00 03 50.5 -0.3**
BCLA Clavier 150.27 355 ⇑PKPbc **PKPab** **00 03 59.2 -0.4**
BZS Buzias 150.28 331 ⇓*i*P **PKPbc** **00 03 50.7 -0.2**
BZS Buzias 150.28 331 ⇓PKIKP **PKPbc** **00 03 50.7 -0.2**
GERES GERESS Array B 150.37 344 PKP **PKPdf** **00 03 45.5 +0.3**
comp=Z,0.2nm,0.5s,baz=132,slow=2.0,SNR=4.6
GERES PKPbc **PKPbc** **00 03 51.2 0.0**
comp=Z,8.9nm,0.8s,baz=32,slow=2.5,SNR=51
GERES PKPab **PKPab** **00 04 00.3 +0.1**
comp=Z,4.1nm,0.8s,baz=23,slow=4.4,SNR=10
HERR Herculane 150.46 329 ⇓*i*P **PKPbc** **00 03 51.0 -0.3**
SOP Sopron 150.57 339 ⇓*ex* **PKPbc** **00 03 51.8 +0.3**
CONA Conrad Observa 150.58 340 *e*PKiKP **PKiKP** **00 03 52.0 -0.1**
comp=Z,15nm,0.8s,baz=8.3
CONA *i* PKPab **PKPab** **00 04 01.2 +0.1**
DOU Dourbes 150.64 356 ⇓PKPbc **PKPbc** **00 03 51.7 +0.1**
BANR Banloc 150.68 331 ⇓*i*P **PKPbc** **00 03 52.5 +0.7**
WLF Walferdange 150.95 354 ⇑PKPbc **PKPbc** **00 03 52.8 +0.5**
WLF ⇓PKPab **PKPab** **00 04 02.8 +0.3**
MORH M˘‡r˘igy, Hung 151.06 335 ⇓*ex* **PKPbc** **00 03 52.4 -0.3**
MOA Molln 151.13 342 *i* PKPbc **PKPbc** **00 03 52.5 -0.3**
comp=Z,4.0nm,0.7s
MOA *i* PKPab **PKPab** **00 04 03.0 -0.3**
comp=Z,18nm,1.9s
ARSA Arzberg 151.28 340 *e*PKPbc **PKPbc** **00 03 52.8 -0.4**
comp=Z,3.6nm,0.8s
BEHE Becsehely 151.54 338 ⇓*ex* **PKPbc** **00 03 53.7 -0.1**
VTS Vitosha 151.70 325 ⇓*i*P **PKPbc** **00 03 54.5 +0.1**
VTS Vitosha 151.70 325 ⇓PKIKP **PKPbc** **00 03 54.5 +0.1**
SOKA Soboth 151.95 340 *e*PKPbc **PKPbc** **00 03 54.3 -0.5**
comp=Z,8.1nm,1.0s,SNR=7.1
SOKA *i* PKPab **PKPab** **00 04 06.9 0.0**
comp=Z,14nm,1.5s
PERS Pernice 151.96 340 *i* PKPbc **PKPbc** **00 03 54.1 -0.7**
PERS *i* PKPab **PKPab** **00 04 06.8 0.0**
KBA Koelnbreinsper 152.09 343 *e*PKPbc **PKPbc** **00 03 54.6 -0.5**
comp=Z,9.5nm,0.9s,SNR=6.6
KBA *i* PKPab **PKPab** **00 04 07.9 +0.4**
comp=Z,6.4nm,0.7s
OBKA Obir 152.25 341 *e*PKPbc **PKPbc** **00 03 54.3 -1.2**
comp=Z,1.6nm,0.6s
OBKA *e*PKPab **PKPab** **00 04 07.8 -0.4**
comp=Z,3.9nm,0.8s
WATA Walderalm 152.30 345 *e*PKPbc **PKPbc** **00 03 55.3 -0.3**
comp=Z,5.3nm,0.5s,SNR=5.3
WATA *i* PKPab **PKPab** **00 04 08.6 +0.2**
comp=Z,18nm,1.0s
RETA Reutte 152.34 347 *e*PKPbc **PKPbc** **00 03 55.4 -0.2**
comp=Z,3.6nm,0.6s
RETA *e*PKPab **PKPab** **00 04 08.7 +0.2**
comp=Z,16nm,1.1s
WTTA Wattenberg 152.35 345 *e*PKPbc **PKPbc** **00 03 55.4 -0.4**
comp=Z,5.0nm,0.5s
WTTA *e*PKPab **PKPab** **00 04 08.8 +0.1**
comp=Z,14nm,0.9s
MOTA Moosalm 152.40 346 *e*PKPbc **PKPbc** **00 03 55.7 -0.2**
comp=Z,9.4nm,0.9s,SNR=7.4
MOTA *e*PKPab **PKPab** **00 04 09.1 +0.2**
comp=Z,12nm,0.8s
MYKA Terra Mystica 152.41 342 *i* PKPbc **PKPbc** **00 03 54.6 -1.2**
MYKA *e*PKPab **PKPab** **00 04 08.6 -0.3**
comp=Z,4.1nm,0.6s
ABTA Abfaltersbach 152.62 344 *e*PKPbc **PKPbc** **00 03 55.5 -0.7**
comp=Z,15nm,0.7s,SNR=8.6
ABTA *e*PKPab **PKPab** **00 04 09.5 -0.2**
comp=Z,14nm,0.8s
DAVA Damuels 152.72 348 *e*PKPbc **PKPbc** **00 03 56.6 0.0**
comp=Z,8.0nm,1.2s
DAVA *e*PKPab **PKPab** **00 04 09.8 -0.5**
comp=Z,7.1nm,0.7s
FETA Feichten 152.79 346 *e*PKPbc **PKPbc** **00 03 56.6 -0.1**
comp=Z,4.0nm,0.6s
FETA *e*PKPab **PKPab** **00 04 10.6 0.0**
comp=Z,11nm,1.3s
BLY Banja Luka 152.85 335 ⇓*i*P **PKPbc** **00 03 57.0 +0.3**
BOJS Bojanci 152.91 339 *i* PKPbc **PKPbc** **00 03 57.0 +0.2**
BOJS *e* 00 04 11.0
BOJS *i* pPKPbc **pPKPbc** **00 06 14.6 +3.3**
JAVS Javornik 152.95 341 *i* PKPbc **PKPbc** **00 03 56.5 -0.5**
JAVS *i* 00 04 10.4
JAVS *i* pPKPbc **pPKPbc** **00 06 14.2 +2.7**
PBRG Braganca 157.86 17 *e*PKPab **PKPab** **00 04 32.7 +0.3**
POLO Lamas de Olo 157.95 19 *e*PKPab **PKPab** **00 04 33.3 +0.4**
PVRL Vila Real 158.06 19 *e*PKPab **PKPab** **00 04 33.7 +0.4**
MVO Moncorvo 158.37 18 *e*PKPdf **PKPdf** **00 03 56.9 +0.5**
MVO Moncorvo 158.37 18 *e*PKPab **PKPab** **00 04 35.3 +0.6**
PVIS Viseu 158.52 20 *e*PKPab **PKPab** **00 04 35.4 +0.1**
PCAS Casmilo, Conde 158.91 22 *e*PKPab **PKPab** **00 04 37.2 +0.2**
MTE Manteigas 158.92 20 *e*PKPab **PKPab** **00 04 37.1 0.0**
PTOM Tomar 159.32 22 *e*PKPab **PKPab** **00 04 38.9 +0.1**
PCBR Castelo Branco 159.44 20 *e*PKPab **PKPab** **00 04 39.4 +0.1**
PMAFR Mafra 159.57 25 *e*PKPab **PKPab** **00 04 40.6 +0.7**
PMRV Marv??o 159.84 21 *e*PKPab **PKPab** **00 04 41.4 +0.3**
PMTG Montargil 159.88 23 *e*PKPab **PKPab** **00 04 41.0 -0.2**
PESTR Estremoz 160.28 22 *e*PKPab **PKPab** **00 04 42.8 -0.2**
EVO Evora 160.43 23 *e*PKPab **PKPab** **00 04 43.8 +0.2**
ESDC Sonseca Array 160.55 13 PKPab **PKPab** **00 04 43.6 -0.6**
comp=Z,7.0nm,1.0s,baz=341,slow=4.3,SNR=24
PNCL Nicolau / Gran 160.60 25 *e*PKPab **PKPab** **00 04 44.6 +0.2**
PBAR Barrancos 161.09 22 *e*PKPab **PKPab** **00 04 47.1 +0.5**
PCVE Castro Verde 161.21 25 *e*PKPab **PKPab** **00 04 47.5 +0.4**
MORF Marmelete 161.24 26 *e*PKPab **PKPab** **00 04 47.5 +0.2**
PVAQ Vaqueiros 161.53 24 *e*PKPab **PKPab** **00 04 48.9 +0.4**
KEST Kesra 163.64 337 PKPab **PKPab** **00 04 58.2 +0.2**
comp=Z,3.2nm,0.7s,baz=79,slow=5.1,SNR=5.2
DBIC Dimbokro 164.63 155 PKP **PKPdf** **00 04 03.1 -0.3**
comp=Z,1.8nm,0.6s,baz=221,slow=4.4,SNR=3.6
TORD Torodi Ar. Bea 172.42 180 PKP **PKPdf** **00 04 07.4 -1.0**
comp=Z,1.4nm,0.9s,baz=352,slow=1.2,SNR=7.3
TORD PKPab **PKPab** **00 05 36.6 -0.4**
comp=Z,2.0nm,0.7s,baz=186,slow=3.4,SNR=11

*ISCJB **15** 23:45:08.7±0.6, 36˚16N±0˚03×27˚69E±0˚03, h3km±5km, Error ellipse: s-maj=5.4km s-min=3.1km az=141.6*
*ATH **15** 23:45:08.6, 36˚21N×27˚69E, h21km±2km, ML2.7/4, Error ellipse: s-maj=3.9km s-min=1.0km az=143.0*
*DDA **15** 23:45:08.9, 36˚14N×27˚78E, h7km, Ml3.1*
*ISK **15** 23:45:08.5, 36˚16N×27˚74E, h5km, ML2.8/8*
*CSEM **15** 23:45:09.2±0.2, 36˚16N×27˚71E, h5km, ML2.7, Error ellipse: s-maj=6.1km s-min=3.7km az=144.0*

ISC 15 23:45:08.6±1.1, 36˚18N±0˚02×27˚75E±0˚02, h8km±10km, n55, σ1§48/83, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.31**	**83**	P	**Pb**	**23 45 16.4**	**0.0**
ARG				S	**Sg**	**23 45 20.6**	**+1.8**
ARG				AML	AML	23 45 21.4	
	comp=N,4276μm,0.3s						
ARG				AML	AML	23 45 21.9	
	comp=E,12674μm,0.3s						
ARG	**Arkhangelos**	**0.31**	**83**	P	**Pb**	**23 45 16.3**	**-0.1**
ARG				S	**Sb**	**23 45 21.1**	**-0.5**
KARP	**Karpathos**	**0.79**	**217**	PG	**Pg**	**23 45 23.9**	**+0.1**
KARP				SG	**Sb**	**23 45 34.8**	**-0.7**
KARP	**Karpathos**	**0.79**	**217**	P	**Pg**	**23 45 24.1**	**+0.3**
KARP				S	**Sb**	**23 45 36.1**	**+0.6**
KARP				AML	AML	23 45 38.0	
	comp=E,2173μm,0.1s						
KARP				AML	AML	23 45 38.3	
	comp=N,1342μm,0.2s						
KARP	**Karpathos**	**0.79**	**217**	P	**Pg**	**23 45 24.1**	**+0.3**
KARP				*e*Sg	**Sb**	**23 45 34.8**	**-0.7**
KARP				S	**Sg**	**23 45 35.6**	**+1.5**
BDRM	**Kayabasi**	**0.92**	**345**	*i* P	**Pb**	**23 45 27.4**	**+0.6**
BDRM				*i* S	**Sb**	**23 45 40.0**	**+0.9**
BDRM	**Kayabasi**	**0.92**	**345**	P	**Pb**	**23 45 27.4**	**+0.6**
BDRM				S	**Sb**	**23 45 40.0**	**+0.9**
BODT	**Bodrum**	**0.95**	**338**	PG	**Pg**	**23 45 27.0**	**+0.2**
BODT				SG	**Sb**	**23 45 41.1**	**+1.0**
BODT	**Bodrum**	**0.95**	**338**	*e*Pg	**Pg**	**23 45 27.0**	**+0.2**
BODT				*e*Sg	**Sb**	**23 45 41.1**	**+1.0**
DALY	**Dalyan (Mu˘la**	**0.97**	**49**	PG	**Pg**	**23 45 27.8**	**+0.6**
DALY				SG	**Sb**	**23 45 41.9**	**+1.3**
DALY	**Dalyan (Mu˘la**	**0.97**	**49**	P	**Pg**	**23 45 28.0**	**+0.8**
DALY				*i* S	**Sb**	**23 45 42.1**	**+1.4**
DALY	**Dalyan (Mu˘la**	**0.97**	**49**	P	**Pg**	**23 45 28.0**	**+0.8**
DALY				*e*Sg	**Sb**	**23 45 41.9**	**+1.3**
TURN	**Turunc**	**0.98**	**45**	PG	**Pg**	**23 45 23.3**	**-4.0**
TURN				SG	**Sg**	**23 45 33.9**	**-6.1**
TURN	**Turunc**	**0.98**	**45**	*i* P	**Pg**	**23 45 23.4**	**-4.0**
TURN				*i* S	**Sg**	**23 45 33.7**	**-6.3**
YER	**Yerkesik**	**1.05**	**24**	PG	**Pb**	**23 45 29.9**	**+0.9**
YER				SG	**Sb**	**23 45 44.7**	**+1.8**
YER	**Yerkesik**	**1.05**	**24**	*e*Pg	**Pb**	**23 45 29.9**	**+0.9**
YER				*e*Sg	**Sb**	**23 45 44.7**	**+1.8**
MLSB	**Milas**	**1.11**	**1**	PN	**Pb**	**23 45 31.1**	**+0.9**
MLSB	**Milas**	**1.11**	**1**	*e*Pn	**Pb**	**23 45 31.1**	**+0.9**
FETY	**Fethiye**	**1.17**	**67**	PN	**Pg**	**23 45 30.6**	**-0.5**
FETY	**Fethiye**	**1.17**	**67**	P	**Pg**	**23 45 29.4**	**-1.6**
FETY	**Fethiye**	**1.17**	**67**	*e*Pn	**Pg**	**23 45 30.6**	**-0.5**
FETY				S	**Sb**	**23 45 47.6**	**+1.1**
KSL	**Kastellorizon**	**1.49**	**91**	P	**Pg**	**23 45 37.8**	**+0.7**
KSL	**Kastellorizon**	**1.49**	**91**	P	**Pg**	**23 45 37.3**	**+0.2**
AKAS	**Kas**	**1.50**	**87**	PN	**Pn**	**23 45 36.2**	**+0.2**
AKAS	**Kas**	**1.50**	**87**	*i* P	**Pn**	**23 45 36.7**	**+0.7**
AKAS	**Kas**	**1.50**	**87**	*e*Pn	**Pn**	**23 45 36.2**	**+0.2**
AKAS	**Kas**	**1.50**	**87**	P	**Pn**	**23 45 36.7**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.59**	**36**	*i* P	**Pg**	**23 45 39.4**	**+0.3**
TAVA				*i* S	**Sg**	**23 46 00.2**	**+0.6**
TAVA	**DENIZLI_Tavas**	**1.59**	**36**	P	**Pg**	**23 45 39.4**	**+0.3**
TAVA				S	**Sg**	**23 46 00.2**	**+0.6**
ZKR	**Zakros**	**1.64**	**230**	P	**Pn**	**23 45 38.1**	**+0.4**
ZKR				S	**Sb**	**23 45 59.8**	**-0.1**
ZKR				AML	AML	23 46 04.7	
	comp=N,219μm,0.4s						
ZKR				AML	AML	23 46 07.3	
	comp=E,240μm,0.3s						
ZKR	**Zakros**	**1.64**	**230**	P	**Pn**	**23 45 38.2**	**+0.4**
ZKR				S	**Sb**	**23 45 59.8**	**-0.1**
SMG	**Samos**	**1.69**	**335**	P	**Pn**	**23 45 39.0**	**+0.5**
SMG	**Samos**	**1.69**	**335**	P	**Pn**	**23 45 38.6**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**4**	PN	**Pb**	**23 45 41.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**4**	*e*Pn	**Pb**	**23 45 41.3**	**-0.1**
GOLH	**Golhisar**	**1.80**	**54**	*i* P	**Pb**	**23 45 42.4**	**+0.5**
GOLH				*i* S	**Sg**	**23 46 08.2**	**+1.7**
GOLH	**Golhisar**	**1.80**	**54**	P	**Pb**	**23 45 42.4**	**+0.5**
GOLH				S	**Sg**	**23 46 08.2**	**+1.7**
ELL	**Elmali**	**1.83**	**71**	PN	**Pn**	**23 45 41.9**	**+1.4**
ELL	**Elmali**	**1.83**	**71**	*e*Pn	**Pn**	**23 45 41.9**	**+1.4**
NPS	**Neapolis**	**1.96**	**243**	P	**Pn**	**23 45 41.9**	**-0.4**
NPS				S	**Sn**	**23 46 04.5**	**-2.6**
NPS				AML	AML	23 46 11.2	
	comp=E,169μm,0.5s						
NPS				AML	AML	23 46 12.6	
	comp=N,154μm,0.5s						
NPS	**Neapolis**	**1.96**	**243**	P	**Pn**	**23 45 42.2**	**0.0**
NPS				S	**Sn**	**23 46 06.0**	**-1.1**
LAST	**Lasithi**	**2.11**	**242**	P	**Pn**	**23 45 44.3**	**0.0**
LAST	**Lasithi**	**2.11**	**242**	P	**Pn**	**23 45 44.5**	**+0.2**
KORT	**Korkueli**	**2.25**	**68**	PN	**Pn**	**23 45 47.9**	**+1.6**
KORT	**Korkueli**	**2.25**	**68**	*i* P	**Pb**	**23 45 49.8**	**+0.2**
KORT	**Korkueli**	**2.25**	**68**	*e*Pn	**Pn**	**23 45 47.9**	**+1.6**
KORT	**Korkueli**	**2.25**	**68**	P	**Pb**	**23 45 49.8**	**+0.2**
BRDR	**BURDUR-Merkez**	**2.39**	**50**	*i* P	**Pb**	**23 45 51.9**	**-0.1**
BRDR				*i* S	**Sb**	**23 46 21.5**	**-0.3**
BRDR	**BURDUR-Merkez**	**2.39**	**50**	P	**Pb**	**23 45 51.9**	**-0.1**
BRDR				S	**Sb**	**23 46 21.5**	**-0.3**
SIVA	**Sivas**	**2.66**	**245**	P	**Pn**	**23 45 53.3**	**+1.5**
SIVA	**Sivas**	**2.66**	**245**	P	**Pn**	**23 45 52.8**	**+1.0**
VAM	**Vamos**	**2.98**	**256**	P	**Pn**	**23 45 55.2**	**-1.1**
VAM	**Vamos**	**2.98**	**256**	P	**Pn**	**23 45 56.0**	**-0.3**
IMMV	**Iera Moni Meta**	**3.14**	**258**	P	**Pn**	**23 45 58.3**	**-0.1**
IMMV	**Iera Moni Meta**	**3.14**	**258**	P	**Pn**	**23 45 58.7**	**+0.3**

*SJA **15** 23:46:26.3±0.9, 23˚53S×66˚83W, h228km±9km, ML3.9, MW3.0*
*ISCJB **15** 23:46:28.5±0.4, 23˚48S±0˚04×66˚86W±0˚04, h196km, mb3.6/7, Error ellipse: s-maj=5.8km s-min=3.9km az=38.6*
*GUC **15** 23:46:30.8±0.3, 23˚37S×67˚44W, h242km±8km, ML4.4*
*IDC **15** 23:46:31.1±2.0, 23˚37S×66˚29W, h209km±19km, mb3.5/7, mb1 3.5/11, mb1mx3.3/41, mbtmp3.9/11, Error ellipse: s-maj=19.9km s-min=16.6km az=87.0*

ISC 15 23:46:28.5±0.7, 23˚51S±0˚05×66˚82W±0˚05, h196km, n33, σ1§94/48, mb3.8/7, 8C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.33**	**77**	*e*P	**Pn**	**23 47 02.2**	**+1.4**
HJA				IAML		23 47 03.0	
	comp=Z,863nm,0.5s						
SLA	**San Lorenzo**	**1.70**	**135**	*e*P	**Pn**	**23 47 05.2**	**+1.3**
SLA				IAML		23 47 06.1

ISCJB ***15*** *23:47:48.6±0.2,38°.13N±0°.01×22°.67E±0°.01,h8km±2km, Error ellipse: s-maj=2.0km s-min=1.7km az=39.3*
CSEM ***15*** *23:47:48.7±0.1,38°.14N×22°.68E,h5km,ML3.4, Error ellipse: s-maj=1.5km s-min=1.3km az=41.0*
ATH ***15*** *23:47:48.2,38°.14N×22°.67E,h20km,ML3.3/33, Error ellipse: s-maj=0.7km s-min=0.4km az=253.0*
TIR ***15*** *23:47:48.5,38°.29N×22°.88E,h27km,ML3.6*
THE ***15*** *23:47:49.0,38°.13N×22°.65E,h2km±1km,ML3.4/13, Error ellipse: s-maj=1.3km s-min=0.3km az=16.0*
ISC 15 23:47:48.2±0.8,38°.14N±0°.01×22°.67E±0°.01,h13km±5km, n247,σ1§00/348,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THAL	**Thalero**	**0.11**	**183**	P	**Pg**	**23 47 50.5**	**-0.7**
THAL				S	**Sg**	**23 47 52.5**	**-0.9**
THAL				AML	AML	23 47 53.8	
	comp=N,88216μm,0.2s						
THAL				AML	AML	23 47 55.2	
THAL	**Thalero**	**0.11**	**183**	P	**Pg**	**23 47 51.3**	**0.0**
THAL				S	**Sg**	**23 47 53.7**	**+0.3**
THAL	**Thalero**	**0.11**	**183**	P	**Pg**	**23 47 51.3**	**0.0**
PROD	**Prodromos**	**0.21**	**57**	P	**Pg**	**23 47 53.5**	**+0.5**
PROD				S	**Sb**	**23 47 58.1**	**+0.2**
PROD				AML	AML	23 47 58.7	
	comp=N,55772μm,0.2s						
PROD				AML	AML	23 47 58.8	
PROD	**Prodromos**	**0.21**	**57**	P	**Pg**	**23 47 53.5**	**+0.5**
PROD				S	**Sb**	**23 47 57.8**	**-0.1**
LTK	**Loutraki**	**0.26**	**117**	P	**Pg**	**23 47 54.1**	**+0.3**
LTK				S	**Sg**	**23 47 58.1**	**+0.7**
LTK				AML	AML	23 47 59.5	
	comp=E,10084μm,0.3s						
LTK				AML	AML	23 48 03.6	
	comp=N,9348μm,0.5s						
LTK	**Loutraki**	**0.26**	**117**	P	**Pg**	**23 47 54.1**	**+0.3**
LTK				S	**Sg**	**23 47 58.3**	**+0.8**
LTK	**Loutraki**	**0.26**	**117**	P	**Pg**	**23 47 54.1**	**+0.3**
LTK				S	**Sg**	**23 47 58.3**	**+0.8**
LOUT	**Loutraki**	**0.28**	**123**	P	**Pg**	**23 47 54.5**	**+0.4**
LOUT	**Loutraki**	**0.28**	**123**	P	**Pg**	**23 47 54.5**	**+0.4**
LOUT	**Loutraki**	**0.28**	**123**	P	**Pg**	**23 47 54.5**	**+0.4**
DSF	**Desfina**	**0.29**	**337**	P	**Pg**	**23 47 54.1**	**-0.2**
DSF				S	**Sg**	**23 47 59.1**	**+0.7**
DSF				AML	AML	23 48 00.1	
	comp=E,19216μm,0.2s						
DSF				AML	AML	23 48 01.9	
	comp=N,24348μm,0.2s						
DSF	**Desfina**	**0.29**	**337**	P	**Pg**	**23 47 54.6**	**+0.3**
DSF				S	**Sg**	**23 47 59.3**	**+0.9**
DSF	**Desfina**	**0.29**	**337**	P	**Pg**	**23 47 54.6**	**+0.3**
DSF				S	**Sg**	**23 47 59.3**	**+0.9**
GUR	**Goura**	**0.33**	**232**	P	**Pg**	**23 47 54.8**	**-0.2**
GUR				S	**Sg**	**23 47 58.3**	**-1.3**
GUR				AML	AML	23 48 00.4	
	comp=E,33045μm,0.3s						
GUR				AML	AML	23 48 00.5	
	comp=N,27667μm,0.3s						
GUR	**Goura**	**0.33**	**232**	P	**Pg**	**23 47 55.0**	**0.0**
GUR				S	**Sg**	**23 47 59.4**	**-0.2**
GUR	**Goura**	**0.33**	**232**	P	**Pg**	**23 47 55.0**	**0.0**
GUR				S	**Sg**	**23 47 59.4**	**-0.2**
DLFA	**Delphi**	**0.36**	**338**	P	**Pg**	**23 47 55.5**	**-0.1**
DLFA				S	**Sb**	**23 48 02.0**	**-0.2**
DLFA				AML	AML	23 48 02.4	
	comp=N,12323μm,0.6s						
DLFA				AML	AML	23 48 02.5	
	comp=E,12604μm,0.5s						
DLFA	**Delphi**	**0.36**	**338**	P	**Pg**	**23 47 55.7**	**+0.1**
DLFA				S	**Sb**	**23 48 01.8**	**-0.4**
KLV	**Kalavryta, Ach**	**0.42**	**257**	P	**Pg**	**23 47 56.4**	**-0.3**
KLV				S	**Sg**	**23 48 01.4**	**-0.9**
KLV				AML	AML	23 48 03.5	
	comp=N,1772μm,0.1s						
KLV				AML	AML	23 48 06.5	
	comp=E,2402μm,0.3s						
KLV	**Kalavryta, Ach**	**0.42**	**257**	P	**Pg**	**23 47 56.6**	**-0.1**
KLV				S	**Sg**	**23 48 02.0**	**-0.3**
KLV	**Kalavryta, Ach**	**0.42**	**257**	P	**Pg**	**23 47 56.5**	**-0.1**
KLV				S	**Sg**	**23 48 02.0**	**-0.3**
VIL2	**Platees**	**0.48**	**82**	P	**Pb**	**23 47 59.3**	**+0.9**
VIL2				S	**Sb**	**23 48 06.5**	**+1.1**
VIL2				AML	AML	23 48 14.9	
	comp=E,5063μm,0.5s						
VIL2				AML	AML	23 48 16.3	
	comp=N,8478μm,0.7s						
KALE	**Kalithea**	**0.49**	**301**	P	**Pg**	**23 47 58.1**	**+0.2**
KALE				S	**Sg**	**23 48 04.9**	**+0.6**
KALE				AML	AML	23 48 08.8	
	comp=N,6447μm,0.3s						
KALE				AML	AML	23 48 10.0	
	comp=E,5336μm,0.4s						
KALE	**Kalithea**	**0.49**	**301**	P	**Pg**	**23 47 58.0**	**+0.2**
KALE				S	**Sg**	**23 48 04.9**	**+0.6**
KALE	**Kalithea**	**0.49**	**301**	P	**Pg**	**23 47 57.9**	**+0.1**
KALE				S	**Sg**	**23 48 04.9**	**+0.6**
VILL	**Villia**	**0.51**	**87**	P	**Pg**	**23 47 58.6**	**+0.4**
VILL				S	**Sb**	**23 48 06.1**	**-0.2**
VILL	**Villia**	**0.51**	**87**	P	**Pg**	**23 47 58.6**	**+0.4**
TRIZ	**Trizonia**	**0.52**	**295**	P	**Pg**	**23 47 58.6**	**+0.2**
TRIZ				S	**Sg**	**23 48 06.0**	**+0.6**
TRIZ	**Trizonia**	**0.52**	**295**	P	**Pg**	**23 47 58.6**	**+0.2**
TRIZ				S	**Sg**	**23 48 06.1**	**+0.7**
LAKA	**Lakka**	**0.55**	**280**	P	**Pg**	**23 47 59.4**	**+0.3**
LAKA	**Lakka**	**0.55**	**280**	P	**Pg**	**23 47 59.3**	**+0.3**
SERG	**Sergoula**	**0.55**	**299**	P	**Pg**	**23 47 59.3**	**+0.1**
SERG				S	**Sg**	**23 48 07.0**	**+0.6**
SERG				AML	AML	23 48 12.4	
	comp=N,6890μm,0.3s						
SERG				AML	AML	23 48 17.0	
	comp=E,6849μm,0.4s						
SERG	**Sergoula**	**0.55**	**299**	P	**Pg**	**23 47 59.2**	**+0.1**
SERG				S	**Sg**	**23 48 07.1**	**+0.6**
SERG	**Sergoula**	**0.55**	**299**	P	**Pg**	**23 47 59.0**	**-0.1**
LKR	**Lokris**	**0.57**	**27**	P	**Pg**	**23 47 58.9**	**-0.4**
LKR				S	**Sb**	**23 48 08.9**	**+0.9**
LKR				AML	AML	23 48 11.0	
	comp=N,11505μm,0.3s						
LKR				AML	AML	23 48 11.4	
	comp=E,14166μm,0.2s						
LKR	**Lokris**	**0.57**	**27**	P	**Pg**	**23 47 59.2**	**-0.2**
LKR				S	**Sb**	**23 48 08.4**	**+0.3**
LKR	**Lokris**	**0.57**	**27**	P	**Pg**	**23 47 59.2**	**-0.2**
LKR				S	**Sb**	**23 48 08.6**	**+0.5**
AXAR	**Agios Charalam**	**0.62**	**359**	P	**Pn**	**23 48 02.4**	**-0.4**
AXAR	**Agios Charalam**	**0.62**	**359**	P	**Pb**	**23 48 01.4**	**+0.4**
EFP	**Efpalio**	**0.67**	**295**	P	**Pg**	**23 48 01.0**	**-0.2**
EFP				S	**Sb**	**23 48 11.7**	**+0.9**
EFP				AML	AML	23 48 16.1	
	comp=E,2798μm,0.3s						
EFP				AML	AML	23 48 16.9	
	comp=N,3424μm,0.4s						
EFP	**Efpalio**	**0.67**	**295**	P	**Pg**	**23 48 01.2**	**0.0**
EFP				S	**Sb**	**23 48 11.2**	**+0.4**
EFP	**Efpalio**	**0.67**	**295**	P	**Pg**	**23 48 01.2**	**0.0**
TRIP	**Tripoli**	**0.69**	**207**	P	**Pg**	**23 48 01.7**	**0.0**
TRIP				S	**Sb**	**23 48 11.9**	**+0.3**
TRIP	**Tripoli**	**0.69**	**207**	P	**Pg**	**23 48 01.6**	**0.0**
TRIP				S	**Sb**	**23 48 11.6**	**0.0**
UPR	**University Cam**	**0.71**	**282**	P	**Pb**	**23 48 02.4**	**-0.1**
UPR	**University Cam**	**0.71**	**282**	P	**Pg**	**23 48 02.2**	**+0.2**
UPR	**University Cam**	**0.71**	**282**	P	**Pb**	**23 48 03.0**	**+0.6**
ANX	**Ano Chora**	**0.74**	**308**	P	**Pg**	**23 48 02.5**	**-0.1**
ANX				S	**Sn**	**23 48 14.5**	**-1.2**
ANX	**Ano Chora**	**0.74**	**308**	P	**Pg**	**23 48 02.5**	**-0.1**
ANX				S	**Sb**	**23 48 13.8**	**+0.7**
ANX	**Ano Chora**	**0.74**	**308**	P	**Pg**	**23 48 02.3**	**-0.3**
ANX				S	**Sb**	**23 48 13.8**	**+0.7**
DID	**Didima**	**0.78**	**145**	P	**Pb**	**23 48 03.5**	**-0.1**
DID				S	**Sb**	**23 48 14.2**	**+0.1**
DID				AML	AML	23 48 18.4	
	comp=N,4845μm,0.4s						
DID				AML	AML	23 48 19.2	
	comp=E,4598μm,0.3s						
DID	**Didima**	**0.78**	**145**	P	**Pg**	**23 48 03.3**	**0.0**
DID				S	**Sb**	**23 48 14.1**	**+0.1**
DID	**Didima**	**0.78**	**145**	P	**Pg**	**23 48 03.1**	**-0.2**
DRO	**Drossia**	**0.78**	**256**	P	**Pg**	**23 48 03.3**	**-0.1**
DRO				S	**Sb**	**23 48 15.0**	**+0.8**
DRO				AML	AML	23 48 20.3	
	comp=N,4326μm,0.3s						
DRO				AML	AML	23 48 21.4	
	comp=E,7055μm,0.5s						
DRO	**Drossia**	**0.78**	**256**	P	**Pg**	**23 48 03.2**	**-0.1**
DRO				S	**Sb**	**23 48 14.6**	**+0.4**
DRO	**Drossia**	**0.78**	**256**	P	**Pg**	**23 48 03.2**	**-0.1**
VLX	**Vlachokerasia**	**0.81**	**197**	P	**Pg**	**23 48 03.5**	**-0.2**
VLX				S	**Sb**	**23 48 14.8**	**-0.1**
VLX				AML	AML	23 48 18.7	
	comp=N,5676μm,0.5s						
VLX				AML	AML	23 48 20.2	
	comp=E,8169μm,0.5s						
VLX	**Vlachokerasia**	**0.81**	**197**	P	**Pg**	**23 48 03.6**	**-0.2**
VLX				S	**Sg**	**23 48 14.3**	**-0.1**
VLX	**Vlachokerasia**	**0.81**	**197**	P	**Pg**	**23 48 03.6**	**-0.2**
VLX				S	**Sg**	**23 48 14.3**	**-0.1**
ATH	**Athens Observa**	**0.84**	**101**	P	**Pg**	**23 48 05.0**	**+0.5**
ATH				S	**Sn**	**23 48 16.8**	**-1.2**
ATH				AML	AML	23 48 20.3	
	comp=E,4018μm,0.3s						
ATH				AML	AML	23 48 21.0	
	comp=N,3866μm,0.5s						
ATH	**Athens Observa**	**0.84**	**101**	P	**Pg**	**23 48 04.7**	**+0.2**
ATH				S	**Sb**	**23 48 16.5**	**+0.6**
ATH	**Athens Observa**	**0.84**	**101**	P	**Pg**	**23 48 05.0**	**+0.5**
ATH				S	**Sn**	**23 48 17.6**	**-0.4**
KRND	**KRANIDI**	**0.85**	**153**	P	**Pb**	**23 48 04.7**	**-0.1**
KRND				S	**Sb**	**23 48 16.6**	**+0.6**
KRND				AML	AML	23 48 20.6	
	comp=E,9548μm,0.6s						
KRND				AML	AML	23 48 20.6	
	comp=N,12451μm,0.4s						
KRND	**KRANIDI**	**0.85**	**153**	P	**Pb**	**23 48 04.5**	**-0.3**
KRND				S	**Sb**	**23 48 16.5**	**+0.4**
KRND	**KRANIDI**	**0.85**	**153**	P	**Pb**	**23 48 04.5**	**-0.3**
KRND				S	**Sn**	**23 48 17.4**	**-0.7**
SMIA	**Simia**	**0.85**	**30**	P	**Pn**	**23 48 06.0**	**+0.1**
SMIA	**Simia**	**0.85**	**30**	P	**Pn**	**23 48 06.0**	**+0.1**
ATHU	**Athens Univers**	**0.90**	**101**	P	**Pg**	**23 48 06.0**	**+0.4**
ATHU				S	**Sn**	**23 48 19.1**	**-0.2**
ATHU				AML	AML	23 48 20.7	
	comp=N,1638μm,0.3s						
ATHU				AML	AML	23 48 24.3	
	comp=E,650μm,0.4s						
ATHU	**Athens Univers**	**0.90**	**101**	P	**Pg**	**23 48 05.7**	**+0.2**
ATHU				S	**Sn**	**23 48 18.6**	**-0.8**
AGG	**Agios Georgios**	**0.92**	**343**	P	**Pb**	**23 48 05.7**	**-0.3**
AGG				S	**Sb**	**23 48 18.1**	**-0.1**
AGG				AML	AML	23 48 21.4	
	comp=E,8594μm,0.4s						
AGG				AML	AML	23 48 22.6	
	comp=N,7920μm,0.6s						
AGG	**Agios Georgios**	**0.92**	**343**	P	**Pb**	**23 48 05.9**	**-0.1**
AGG				S	**Sg**	**23 48 18.4**	**+0.4**
AGG	**Agios Georgios**	**0.92**	**343**	P	**Pb**	**23 48 05.9**	**-0.1**
AGG				S	**Sn**	**23 48 19.1**	**-0.8**
VLY	**Voula,Athens**	**0.93**	**108**	P	**Pn**	**23 48 08.2**	**+1.1**
VLY				S	**Sg**	**23 48 18.9**	**+0.4**
VLY				AML	AML	23 48 21.9	
	comp=N,4957μm,0.3s						
VLY				AML	AML	23 48 22.2	
	comp=E,3412μm,0.2s						
VLY	**Voula,Athens**	**0.93**	**108**	P	**Pn**	**23 48 07.1**	**+0.1**
VLY				S	**Sg**	**23 48 19.0**	**+0.6**
VLY	**Voula,Athens**	**0.93**	**108**	P	**Pn**	**23 48 07.2**	**+0.2**
VLY				S	**Sn**	**23 48 19.6**	**-0.7**
PTL	**Penteli**	**0.95**	**95**	P	**Pn**	**23 48 07.3**	**+0.1**
PTL				S	**Sg**	**23 48 19.2**	**+0.3**
PTL				AML	AML	23 48 26.5	
	comp=N,4512μm,0.7s						
PTL				AML	AML	23 48 27.0	
	comp=E,3622μm,0.5s						
PTL	**Penteli**	**0.95**	**95**	P	**Pn**	**23 48 07.0**	**-0.2**
PTL				S	**Sg**	**23 48 19.4**	**+0.5**
PTL	**Penteli**	**0.95**	**95**	P	**Pn**	**23 48 07.0**	**-0.2**
PTL				S	**Sn**	**23 48 20.9**	**+0.3**
RLS	**Riolos of Patr**	**0.95**	**265**	P	**Pb**	**23 48 05.3**	**-1.3**
RLS				S	**Sn**	**23 48 20.5**	**-0.2**
RLS				AML	AML	23 48 24.5	
	comp=N,1624μm,0.3s						
RLS				AML	AML	23 48 26.9	
	comp=E,1300μm,0.5s						
RLS	**Riolos of Patr**	**0.95**	**265**	P	**Pb**	**23 48 06.1**	**-0.5**
RLS				S	**Sn**	**23 48 20.1**	**-0.6**
RLS	**Riolos of Patr**	**0.95**	**265**	P	**Pb**	**23 48 06.1**	**-0.5**
AMT	**Artemida-Makis**	**0.97**	**232**	P	**Pb**	**23 48 06.6**	**-0.4**
AMT				S	**Sn**	**23 48 21.0**	**-0.3**
AMT				AML	AML	23 48 31.1	
	comp=N,4336μm,0.5s						
AMT				AML	AML	23 48 32.0	
	comp=E,2320μm,0.5s						
AMT	**Artemida-Makis**	**0.97**	**232**	P	**Pb**	**23 48 06.8**	**-0.2**
AMT				S	**Sn**	**23 48 20.6**	**-0.7**
AMT	**Artemida-Makis**	**0.97**	**232**	P	**Pb**	**23 48 06.8**	**-0.2**
YDRA	**Hydra**	**1.01**	**141**	P	**Pn**	**23 48 08.2**	**+0.2**
YDRA	**Hydra**	**1.01**	**141**	P	**Pg**	**23 48 07.8**	**+0.1**
PVO	**Paravola**	**1.02**	**298**	P	**Pn**	**23 48 08.4**	**+0.3**
PVO				S	**Sn**	**23 48 21.8**	**-0.5**
PVO				AML	AML	23 48 27.9	
	comp=E,1417μm,0.3s						
PVO				AML	AML	23 48 32.9	
	comp=N,1484μm,0.7s						
PVO	**Paravola**	**1.02**	**298**	P	**Pg**	**23 48 08.0**	**+0.2**
PVO				S	**Sn**	**23 48 21.8**	**-0.5**
PVO	**Paravola**	**1.02**	**298**	P	**Pn**	**23 48 08.2**	**0.0**
EVR	**Evrytania**	**1.03**	**319**	P	**Pb**	**23 48 07.9**	**0.0**
EVR				S	**Sb**	**23 48 21.2**	**-0.1**
EVR				AML	AML	23 48 28.8	
	comp=E,1886μm,0.6s						
EVR				AML	AML	23 48 29.2	
	comp=N,2480μm,0.8s						
EVR	**Evrytania**	**1.03**	**319**	P	**Pb**	**23 48 07.9**	**0.0**
EVR				S	**Sg**	**23 48 21.7**	**+0.2**
EVR	**Evrytania**	**1.03**	**319**	P	**Pb**	**23 48 07.9**	**0.0**
EVR				S	**Sn**	**23 48 22.9**	**+0.2**
ITM	**Ithomi**	**1.13**	**212**	P	**Pb**	**23 48 08.8**	**-0.8**
ITM				S	**Sn**	**23 48 25.4**	**+0.3**
ITM				AML	AML	23 48 30.6	
	comp=E,1318μm,0.4s						
ITM				AML	AML	23 48 32.4	
	comp=N,1614μm,0.5s						
ITM	**Ithomi**	**1.13**	**212**	P	**Pb**	**23 48 09.2**	**-0.4**
ITM				S	**Sn**	**23 48 25.2**	**+0.1**
ITM	**Ithomi**	**1.13**	**212**	P	**Pb**	**23 48 09.2**	**-0.4**
VTN	**Vitineika**	**1.19**	**260**	P	**Pg**	**23 48 13.3**	**+2.1**
VTN	**Vitineika**	**1.19**	**260**	P	**Pg**	**23 48 12.0**	**+0.8**
SKIA	**Skiathos**	**1.20**	**31**	P	**Pb**	**23 48 11.1**	**+0.4**
SKIA				S	**Sb**	**23 48 26.3**	**+0.2**
SKIA				AML	AML	23 48 32.9	
	comp=N,3078μm,0.5s						
SKIA				AML	AML	23 48 33.0	
	comp=E,2389μm,0.6s						
SKIA	**Skiathos**	**1.20**	**31**	P	**Pg**	**23 48 11.3**	**0.0**
SKIA				S	**Sg**	**23 48 27.0**	**+0.1**
SKIA	**Skiathos**	**1.20**	**31**	P	**Pg**	**23 48 11.3**	**0.0**
NEO	**Neokhori**	**1.24**	**20**	P	**Pg**	**23 48 12.2**	**+0.1**
NEO				S	**Sg**	**23 48 28.6**	**+0.4**
NEO				AML	AML	23 48 34.5	
	comp=E,2554μm,0.3s						
NEO				AML	AML	23 48 35.7	
	comp=N,3041μm,0.3s						
NEO	**Neokhori**	**1.24**	**20**	P	**Pg**	**23 48 12.0**	**-0.1**
NEO				S	**Sg**	**23 48 28.8**	**+0.6**
NEO	**Neokhori**	**1.24**	**20**	P	**Pg**	**23 48 12.0**	**-0.1**
NEO				S	**Sg**	**23 48 30.4**	**+2.2**
PDO	**Prodromos**	**1.25**	**292**	P	**Pg**	**23 48 13.0**	**+0.7**
PDO				S	**Sn**	**23 48 28.2**	**0.0**
PDO				AML	AML	23 48 34.2	
	comp=N,2710μm,0.3s						
PDO				AML	AML	23 48 41.6	
	comp=E,2778μm,0.5s						
PDO	**Prodromos**	**1.25**	**292**	P	**Pg**	**23 48 12.5**	**+0.1**
PDO				S	**Sg**	**23 48 28.7**	**0.0**
PDO	**Prodromos**	**1.25**	**292**	P	**Pg**	**23 48 12.5**	**+0.1**
FYTO	**Fytoko, Volos**	**1.28**	**9**	P	**Pg**	**23 48 12.9**	**0.0**
FYTO				S	**Sg**	**23 48 30.5**	**+0.9**
FYTO	**Fytoko, Volos**	**1.28**	**9**	P	**Pg**	**23 48 12.7**	**-0.2**
FYTO				S	**Sg**	**23 48 30.4**	**+0.9**
XOR	**Xorichti**	**1.29**	**18**	P	**Pg**	**23 48 13.0**	**0.0**
XOR				S	**Sg**	**23 48 30.5**	**+0.7**
XOR				AML	AML	23 48 36.4	
	comp=E,1693μm,0.5s						
XOR				AML	AML	23 48 36.4	
	comp=N,2092μm,0.4s						
XOR	**Xorichti**	**1.29**	**18**	P	**Pg**	**23 48 12.9**	**-0.1**
XOR				S	**Sg**	**23 48 30.5**	**+0.7**
XOR	**Xorichti**	**1.29**	**18**	P	**Pb**	**23 48 12.8**	**+0.5**
ALNA	**Alonissos**	**1.37**	**43**	P	**Pn**	**23 48 13.2**	**+0.2**
ALNA				S	**Sg**	**23 48 33.4**	**+0.9**
ALNA				AML	AML	23 48 36.1	
	comp=E,2611μm,0.7s						
ALNA				AML	AML	23 48 36.4	
	comp=N,2186μm,0.6s						
ALNA	**Alonissos**	**1.37**	**43**	P	**Pb**	**23 48 13.7**	**0.0**
ALNA				S	**Sg**	**23 48 33.3**	**+0.9**
DYR	**Agios Nikonas**	**1.40**	**191**	P	**Pb**	**23 48 13.8**	**-0.5**
DYR	**Agios Nikonas**	**1.40**	**191**	P	**Pb**	**23 48 14.2**	**-0.1**
VLI	**Veliai**	**1.44**	**171**	P	**Pn**	**23 48 14.1**	**+0.1**
VLI				S	**Sg**	**23 48 34.1**	**-0.4**
VLI				AML	AML	23 48 36.3	
	comp=N,1877μm,0.6s						
VLI				AML	AML	23 48 39.9	
	comp=E,1260μm,0.5s						
VLI	**Veliai**	**1.44**	**171**	P	**Pb**	**23 48 14.6**	**-0.3**
VLI				S	**Sg**	**23 48 34.5**	**0.0**
VLI	**Veliai**	**1.44**	**171**	P	**Pb**	**23 48 14.5**	**-0.3**
VLI				S	**Sg**	**23 48 35.1**	**+0.6**
PYL	**PYLOS**	**1.45**	**211**	P	**Pb**	**23 48 14.8**	**-0.2**
PYL	**PYLOS**	**1.45**	**211**	P	**Pb**	**23 48 15.1**	**+0.1**
PYL	**PYLOS**	**1.45**	**211**	P	**Pb**	**23 48 15.2**	**+0.2**
MNVA	**Monemvasia**	**1.48**	**169**	P	**Pb**	**23 48 15.9**	**+0.2**
MNVA				S	**Sb**	**23 48 34.2**	**-0.1**
MNVA	**Monemvasia**	**1.48**	**169**	P	**Pb**	**23 48 15.8**	**+0.2**
MNVA				S	**Sg**	**23 48 35.1**	**-0.8**
KFL	**Anninata**	**1.48**	**269**	P	**Pg**	**23 48 17.5**	**+0.8**
KFL	**Anninata**	**1.48**	**269**	P	**Pg**	**23 48 16.7**	**0.0**
THL	**Klokotos Trika**	**1.51**	**340**	P	**Pb**	**23 48 16.0**	**-0.1**
THL				S	**Sg**	**23 48 37.0**	**+0.2**
THL				AML	AML	23 48 45.4	
	comp=E,833μm,0.7s						
THL				AML	AML	23 48 45.8	
	comp=N,568μm,0.6s						
THL	**Klokotos Trika**	**1.51**	**340**	P	**Pb**	**23 48 16.2**	**+0.2**
THL				S	**Sg**	**23 48 37.0**	**+0.2**
THL	**Klokotos Trika**	**1.51**	**340**	P	**Pb**	**23 48 16.3**	**+0.2**
MGNA	**Meganis„**	**1.56**	**290**	P	**Pg**	**23 48 17.9**	**-0.3**
MGNA	**Meganis„**	**1.56**	**290**	P	**Pb**	**23 48 17.5**	**+0.5**
DSL	**Palaion Diasel**	**1.58**	**309**	P	**Pg**	**23 48 18.5**	**0.0**
DSL	**Palaion Diasel**	**1.58**	**309**	P	**Pb**	**23 48 17.7**	**+0.4**
DSL	**Palaion Diasel**	**1.58**	**309**	P	**Pb**	**23 48 17.7**	**+0.4**
VLS	**Valsamata**	**1.64**	**272**	P	**Pb**	**23 48 18.3**	**0.0**
VLS	**Valsamata**	**1.64**	**272**	P	**Pb**	**23 48 18.2**	**-0.1**
VLS	**Valsamata**	**1.64**	**272**	P	**Pb**	**23 48 18.4**	**0.0**
SKY	**Skiros Island**	**1.65**	**63**	P	**Pb**	**23 48 18.0**	**-0.5**
SKY	**Skiros Island**	**1.65**	**63**	P	**Pb**	**23 48 18.1**	**-0.3**
LKD2	**Lefkada island**	**1.71**	**293**	*i* PN	**Pg**	**23 48 21.8**	**+0.8**
LKD2				*i* SN	**Sg**	**23 48 46.5**	**+3.3**
LKD2	**Lefkada island**	**1.71**	**293**	P	**Pg**	**23 48 20.5**	**-0.5**
LKD2	**Lefkada island**	**1.71**	**293**	P	**Pb**	**23 48 19.8**	**+0.3**
LKD2	**Lefkada island**	**1.71**	**293**	*i* Pn	**Pg**	**23 48 21.8**	**+0.8**
KYTH	**Kithira**	**1.90**	**171**	P	**Pb**	**23 48 22.0**	**-0.7**
KYTH	**Kithira**	**1.90**	**171**	P	**Pb**	**23 48 22.4**	**-0.3**
PAIG	**Paliouri**	**1.95**	**23**	P	**Pn**	**23 48 20.3**	**-0.7**
PAIG	**Paliouri**	**1.95**	**23**	P	**Pn**	**23 48 21.5**	**+0.5**
LIT	**Litokhoron**	**1.96**	**356**	P	**Pn**	**23 48 22.3**	**+1.1**
LIT	**Litokhoron**	**1.96**	**356**	P	**Pb**	**23 48 22.5**	**-1.3**
LIT	**Litokhoron**	**1.96**	**356**	P	**Pb**	**23 48 22.5**	**-1.3**
MHLA	**Plaka, Milos I**	**1.97**	**135**	P	**Pb**	**23 48 24.3**	**+0.3**
MHLA	**Plaka, Milos I**	**1.97**	**135**	P	**Pb**	**23 48 23.5**	**-0.5**
MHLO	**Agia Marina, M**	**2.00**	**136**	P	**Pn**	**23 48 22.7**	**+1.0**
MHLO	**Agia Marina, M**	**2.00**	**136**	P	**Pn**	**23 48 22.9**	**+1.2**
TNSA	**Tinos**	**2.06**	**106**	P	**Pn**	**23 48 23.8**	**+1.3**
TNSA	**Tinos**	**2.06**	**106**	P	**Pb**	**23 48 24.0**	**-1.5**
JAN	**Janina**	**2.07**	**317**	P	**Pn**	**23 48 23.4**	**+0.6**
JAN	**Janina**	**2.07**	**317**	P	**Pn**	**23 48 23.8**	**+1.1**
JAN	**Janina**	**2.07**	**317**	P	**Pb**	**23 48 25.1**	**-0.6**
KPRO	**Kipourio**	**2.08**	**331**	P	**Pn**	**23 48 24.1**	**+1.3**
KPRO	**Kipourio**	**2.08**	**331**	P	**Pn**	**23 48 24.2**	**+1.3**
KZN	**Kozani**	**2.27**	**342**	P	**Pn**	**23 48 26.7**	**+1.2**
KZN	**Kozani**	**2.27**	**342**	P	**Pn**	**23 48 26.8**	**+1.3**
KZN	**Kozani**	**2.27**	**342**	P	**Pb**	**23 48 27.5**	**-1.6**
IGT	**Igoumenitsa**	**2.29**	**308**	*i* SN	**Pb**	**23 48 29.4**	**0.0**
IGT				*i* PN	**Sg**	**23 48 59.5**	**-2.4**
IGT	**Igoumenitsa**	**2.29**	**308**	P	**Pb**	**23 48 29.2**	**-0.2**
IGT	**Igoumenitsa**	**2.29**	**308**	P	**Pb**	**23 48 28.3**	**-1.1**
PLG	**Polygyros**	**2.31**	**15**	P	**Pn**	**23 48 25.9**	**0.0**
PLG	**Polygyros**	**2.31**	**15**	P	**Pn**	**23 48 26.8**	**+0.8**
PLG	**Polygyros**	**2.31**	**15**	P	**Pn**	**23 48 26.8**	**+0.8**
ANKY	**Antikythira Is**	**2.33**	**167**	P	**Pb**	**23 48 28.3**	**-1.7**
ANKY	**Antikythira Is**	**2.33**	**167**	P	**Pb**	**23 48 28.0**	**-2.0**
PENT	**Pentalofos**	**2.37**	**330**	P	**Pb**	**23 48 29.4**	**-1.4**
PENT	**Pentalofos**	**2.37**	**330**	P	**Pb**	**23 48 29.0**	**-1.8**
**S

STON	**Ston**	**6.05**	**323**	*e*Pn	**Pn**	**23 49 17.0**	**-0.4**
STON				Sn	**Sn**	**23 50 21.6**	**-4.9**
STON	**Ston**	**6.05**	**323**	*e*Pn	**Pn**	**23 49 16.9**	**-0.4**
BBLS	**Lazići**	**6.23**	**338**	*e*Pn	**Pn**	**23 49 23.1**	**+3.2**
DIVS	**Divibare**	**6.28**	**342**	*e*Pn	**Pn**	**23 49 23.0**	**+2.4**
UDBI	**Udbina**	**8.22**	**323**	*i* Pn	**Pn**	**23 49 48.4**	**+1.2**
UDBI				Sn	**Sn**	**23 51 18.9**	**-1.1**
UDBI	**Udbina**	**8.22**	**323**	*i* Pn	**Pn**	**23 49 48.4**	**+1.2**

MEX 15 23:54:14.2±0.5, 14°.84N×93°.25W, h15km±8km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.86**	**2**	*i* P	Pb	23 54 28.0	-2.9
PCIG				*i* S	Sb	23 54 38.5	-3.8
THIG		**0.95**	**86**	*i* P	Pb	23 54 29.8	-2.6
THIG				*e*S	Sb	23 54 41.1	-3.7
CCIG	**Comitan**	**1.79**	**37**	*i* P	Pn	23 54 41.9	-2.9
CCIG				*i* S	Sn	23 55 02.9	-4.5
TGIG		**1.94**	**4**	*e*P	Pn	23 54 42.5	-4.1
TGIG				*e*S	Sn	23 55 05.9	-4.9
HUIG	**Huatulco**	**2.91**	**289**	*i* P	Pn	23 54 57.4	-2.6
HUIG				*e*S	Sn	23 55 31.4	-3.3

*CSEM **16** 00:02:08.9, 47°.39N×11°.78E, h3km, ML1.5/14, After ZAMG*

VIE 16 00:02:08.9±0.2, 47°.39N×11°.78E, h3km±5km, mb0.7/3, ML1.5/14, Error ellipse: s-maj=2.1km s-min=1.3km az=3.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm** 7.3nm,0.1s	**0.15**	**248**	Pg	Pg	00 02 11.9	+0.1
WATA	35nm,0.1s			Sg	Sg	00 02 14.1	+0.3
WATA	**Walderalm** 7.3nm,0.1s	**0.15**	**248**	*e*Pg	Pg	00 02 11.9	+0.1
WATA	35nm,0.1s			*e*Sg	Sg	00 02 14.1	+0.3
WTTA	**Wattenberg** 5.1nm,0.1s	**0.16**	**217**	Pg	Pg	00 02 12.3	+0.2
WTTA	48nm,0.4s			Sg	Sg	00 02 14.5	+0.3
WTTA	**Wattenberg** 5.1nm,0.1s	**0.16**	**217**	*e*Pg	Pg	00 02 12.3	+0.3
WTTA	48nm,0.4s			*e*Sg	Sg	00 02 14.5	+0.3
SQTA	**Sankt Quirin**	**0.42**	**246**	Pg	Pg	00 02 17.8	+0.8
SQTA				Sg	Sg	00 02 23.7	+1.1
SQTA	**Sankt Quirin**	**0.42**	**246**	*e*Pg	Pg	00 02 17.8	+0.8
SQTA				*e*Sg	Sg	00 02 23.7	+1.2
MOTA	**Moosalm** 0.8nm,0.1s	**0.46**	**264**	Pg	Pg	00 02 17.5	-0.3
MOTA	3.8nm,0.1s			Sg	Sg	00 02 24.4	+0.6
MOTA	**Moosalm** 0.8nm,0.1s	**0.46**	**264**	*e*Pg	Pg	00 02 17.5	-0.3
MOTA	3.8nm,0.1s			*e*Sg	Sg	00 02 24.4	+0.7
RETA	**Reutte** 3.5nm,0.2s	**0.70**	**278**	Sg	Sg	00 02 32.4	+1.1
RETA	**Reutte** 3.5nm,0.2s	**0.70**	**278**	Sg	Sg	00 02 32.4	+1.1
FETA	**Feichten** 0.1nm,0.1s	**0.81**	**243**	Pg	Pg	00 02 24.6	+0.3
FETA	0.6nm,0.2s			Sg	Sg	00 02 35.1	+0.3
FETA	**Feichten** 0.1nm,0.1s	**0.81**	**243**	Pg	Pg	00 02 24.6	+0.2
FETA	0.6nm,0.2s			*e*Sg	Sg	00 02 35.1	+0.4
ABTA	**Abfaltersbach** 1.0nm,0.2s	**0.82**	**142**	Sg	Sg	00 02 35.8	+0.7
ABTA	**Abfaltersbach** 1.0nm,0.2s	**0.82**	**142**	*e*Sg	Sg	00 02 35.8	+0.7
KBA	**Koelnbreinsper** 0.4nm,0.3s	**1.11**	**106**	Pg	Pb	00 02 30.7	-0.2
KBA	0.2nm,0.1s			Sg	Sb	00 02 45.9	0.0
KBA	**Koelnbreinsper** 0.4nm,0.3s	**1.11**	**106**	Pg	Pb	00 02 30.7	-0.2
KBA	0.2nm,0.1s			Sg	Sb	00 02 45.9	0.0
DAVA	**Damuels** 0.8nm,0.2s	**1.29**	**266**	Pg	Pn	00 02 35.5	+1.4
DAVA	4.5nm,0.2s			Sg	Sn	00 02 53.6	+1.6
DAVA	**Damuels** 0.8nm,0.2s	**1.29**	**266**	*e*Pg	Pn	00 02 35.5	+1.4
DAVA	4.5nm,0.2s			Sg	Sn	00 02 53.6	+1.5
MOA	**Molln** 0.3nm,0.1s	**1.74**	**74**	Pg	Pg	00 02 43.2	+0.9
MOA	0.6nm,0.1s			Sg	Sg	00 03 06.6	+1.7
MOA	**Molln** 0.3nm,0.1s	**1.74**	**74**	Pg	Pg	00 02 43.2	+0.9
MOA	0.6nm,0.1s			Sg	Sg	00 03 06.6	+1.7
SOKA	**Soboth** 0.7nm,0.1s	**2.34**	**107**	Sn	Sn	00 03 18.2	+0.6

*NIED **16** 00:14:00, 35°.90N×140°.90E, h8km, Mw3.5 Best double couple: M0 1.89000×10^14 NP1:φs168.00000°, δ43.00000°, λ-135.00000°. NP2:φs41.00000°, δ61.00000°, λ-57.00000°*

*IDC **16** 00:14:45.2±0.9, 35°.74N×140°.93E, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.4/59, mbtmp3.4/8, ML3.4/1, Error ellipse: s-maj=25.6km s-min=21.0km az=70.0*

*ISCJB **16** 00:14:46.3±0.9, 35°.82N±0°.05×140°.96E±0°.08, h21km±5km, mb3.4/7, Error ellipse: s-maj=11.9km s-min=7.2km az=161.7*

*JMA **16** 00:14:46.8±0.1, 35°.83N×140°.93E, h14km±1km, M3.8*

JMA Felt I J1.

ISC 16 00:14:47.0±1.1, 35°.83N±0°.05×140°.88E±0°.08, h12km±6km, n16, σ0°.88/20, mb3.5/7, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.13**	**186**	⇓P	**Pg**	**00 14 50.3**	**0.0**
CHOJ				S	**Sg**	**00 14 52.8**	**+0.1**
JYT	**Yasato**	**0.68**	**306**	P	**Pg**	**00 15 00.1**	**-0.1**
JYT				S	**Sg**	**00 15 10.0**	**+0.8**
JCN	**Nagara**	**0.69**	**233**	P	**Pn**	**00 15 01.5**	**-1.0**
JHO	**Hitachi**	**0.81**	**342**	⇓P	**Pg**	**00 15 02.1**	**-0.7**
JHO				S	**Sg**	**00 15 13.2**	**-0.3**
TOK	**Tokyo**	**0.92**	**261**	P	**Pn**	**00 15 05.7**	**0.0**
BSO4	**Boso 4**	**0.95**	**208**	P	**Pn**	**00 15 05.7**	**-0.3**
MJAR	**Matsushiro Arr** 11nm,0.3s,baz=111,slow=8.1,SNR=45	**2.27**	**289**	Pn	**Pn**	**00 15 24.2**	**-0.1**
MAT	**Matsushiro**	**2.27**	**289**	P	**Pn**	**00 15 23.5**	**-0.9**
MAT				S	**Sn**	**00 15 51.8**	**-0.5**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=88,slow=7.4,SNR=3.1	**42.41**	**313**	P	**P**	**00 22 43.8**	**+2.6**
MKAR	**Makanchi Array** 0.6nm,0.9s,baz=80,slow=6.7,SNR=3.7	**44.40**	**303**	P	**P**	**00 22 57.5**	**+0.2**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=85,slow=8.1,SNR=5.1	**46.41**	**309**	P	**P**	**00 23 12.8**	**-0.4**
ILAR	**Eielson Array** 0.1nm,0.5s,baz=273,slow=5.6,SNR=4.8	**50.74**	**32**	P	**P**	**00 23 46.6**	**+0.3**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=4.9,slow=7.4,SNR=4.7	**55.82**	**187**	P	**P**	**00 24 22.9**	**-1.3**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=8.4,slow=7.9,SNR=2.7	**59.54**	**187**	P	**P**	**00 24 50.4**	**+0.1**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=302,slow=6.9,SNR=5.9	**65.06**	**30**	P	**P**	**00 25 27.0**	**+0.1**
LPAZ	**La Paz** 1.0nm,0.7s,baz=270,slow=1.0,SNR=3.0	**147.67**	**61**	PKPbc	**PKPbc**	**00 34 33.0**	**+0.4**

MEX 16 00:17:07.7±0.5, 14°.85N×93°.23W, h15km±33km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.85**	**0**	*i* P	Pb	00 17 21.2	-3.0
PCIG				*e*S	Sb	00 17 31.8	-3.6
THIG		**0.93**	**86**	*i* P	Pb	00 17 21.9	-3.6
THIG				*i* S	Sb	00 17 33.4	-4.3
CCIG	**Comitan**	**1.77**	**36**	*e*P	Pn	00 17 34.8	-3.1
CCIG				*i* S	Sn	00 17 55.4	-4.9
TGIG		**1.92**	**3**	*e*P	Pn	00 17 37.2	-2.8
TGIG				*e*S	Sn	00 17 58.5	-5.4

JMA 16 00:23:38.8±0.2, 40°.90N×145°.14E, h65km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.86**	**307**	P	Pn	00 24 09.1	+0.7
JEM				*e*S	Sn	00 24 30.1	-0.8
JAK	**Akkeshi**	**2.12**	**351**	P	Pn	00 24 12.7	+0.8
JAK				*e*S	Sn	00 24 38.1	+0.9
JCH	**Churui**	**2.17**	**323**	P	Pn	00 24 13.4	+0.8
JCH				*e*S	Sn	00 24 37.8	-0.6
JNBK	**Urakawa-nobuka**	**2.26**	**308**	P	Pn	00 24 15.3	+1.5
JNBK				*e*S	Sn	00 24 41.2	+0.6
NEM2	**Nemuro 2**	**2.50**	**10**	P	Pn	00 24 18.2	+1.1
NEM2				*e*S	Sn	00 24 46.6	+0.1
JAR	**Ashorobuto**	**2.60**	**337**	P	Pn	00 24 19.1	+0.6
JAR				*e*S	Sn	00 24 48.6	-0.4
JNK	**Nakash**	**2.70**	**353**	P	Pn	00 24 20.3	+0.5
JNK				*e*S	Sn	00 24 50.3	-1.1
JBT2	**Biratori 2**	**2.80**	**313**	P	Pn	00 24 22.3	+1.2
JBT2				*e*S	Sn	00 24 54.8	+1.1
JANG	**Nango**	**2.81**	**260**	P	Pn	00 24 21.8	+0.5
JANG				*e*S	Sn	00 24 50.9	-3.1
JFR	**Furan**	**2.95**	**321**	P	Pn	00 24 24.4	+1.1
JOT	**Ohata**	**3.13**	**280**	P	Pn	00 24 26.4	+0.8
JOT				*e*S	Sn	00 24 59.4	-2.4
JTKR	**Abashiri--Toko**	**3.20**	**344**	P	Pn	00 24 28.4	+1.8
JTKR				*e*S	Sn	00 25 04.5	+0.9
JKB	**Kayabe**	**3.24**	**289**	P	Pn	00 24 28.3	+1.1
JKB				*e*S	Sn	00 25 03.7	-0.9
JOM	**Ohasama**	**3.27**	**245**	P	Pn	00 24 29.1	+1.4
JOM				*e*S	Sn	00 25 04.1	-1.3
JEW	**Eniwo**	**3.37**	**306**	P	Pn	00 24 31.1	+2.2
JEW				*e*S	Sn	00 25 08.4	+0.7
JMK	**Ichinoseki**	**3.59**	**238**	P	Pn	00 24 33.2	+1.3
JMK				*e*S	Sn	00 25 11.1	-2.0

MOS 16 00:25:04.7±1.5, 51°.72N×96°.23E, h10km, mb4.4/1, Error ellipse: s-maj=79.5km s-min=25.1km az=167.5, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**2.35**	**68**	*e*PN	Pb	00 25 46.1	-1.2
ORL				*e*		00 26 17.4	
ORL				pmax	pmax		
	comp=Z,60nm,0.4s						
ORL				smax	smax		
	comp=N,206nm,0.6s						
MOY	**Mondy**	**2.96**	**89**	*e*PN	Pb	00 25 56.4	-1.3
MOY				*e*		00 26 36.8	
MOY				pmax	pmax		
	comp=Z,55nm,0.4s						
MOY				smax	smax		
	comp=N,226nm,0.5s						
ARS	**Arshan**	**3.85**	**85**	*e*PN	Pn	00 26 06.4	+2.4
ARS				*e*		00 26 14.6	
ARS				*e*		00 27 05.8	
ARS				pmax	pmax		
	comp=Z,58nm,0.7s						
ARS				smax	smax		
	comp=E,387nm,0.9s						
TLY	**Talaya**	**4.61**	**88**	*e*PN	Pb	00 26 27.1	+1.4
TLY				*e*		00 27 27.6	
TLY				pmax	pmax		
	comp=Z,11nm,0.6s						
ZAK	**Zakamensk**	**4.64**	**104**	*e*PN	Pb	00 26 27.8	+1.5
ZAK				*e*		00 27 30.1	
ZAK				pmax	pmax		
	comp=Z,31nm,0.9s						
ZAK				smax	smax		
	comp=N,66nm,0.7s						
TRG	**Tyrgan**	**6.30**	**77**	*e*PN	Pn	00 26 39.8	+2.1
TRG				*e*		00 26 58.1	
TRG				*e*		00 28 18.6	
TRG				pmax	pmax		
	comp=Z,8.0nm,0.4s						
TRG				smax	smax		
	comp=N,100nm,1.4s						
OGRR	**Ongureny**	**7.17**	**70**	*e*PN	Pn	00 26 51.9	+2.3
OGRR				*e*		00 27 14.7	
OGRR				pmax	pmax		
	comp=Z,5.0nm,0.5s						

*SOME **16** 00:27:04.6, 39°.97N×74°.05E, h0km*

*KRNET **16** 00:27:04.3±0.1, 39°.56N×73°.64E, mb3.3*

*NNC **16** 00:27:05.1±0.8, 39°.62N×73°.74E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=9.3km s-min=3.8km az=51.0*

ISC 16 00:27:07.4±1.9, 39°.7N±0°.1×73°.71E±0°.04, h10km, n37, σ1s82/61, 23C-26D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 46nm,0.2s	**0.39**	**336**	⇓P	**Pg**	**00 27 13.4**	**-1.9**
SFK	285nm,0.2s			⇑S	**Sg**	**00 27 20.0**	**-0.5**
SFK	**Sufi-Kurgan** baz=47	**0.39**	**336**	⇓*i*P	**Pg**	**00 27 13.4**	**-1.9**
SFK	baz=47			⇓*i*S	**Sg**	**00 27 19.9**	**-0.6**
ARSB	**Arslanbob** baz=44	**1.76**	**342**	⇓*e*P	**Pn**	**00 27 38.0**	**-0.1**
ARSB	baz=44			⇓*i*S	**Sb**	**00 28 02.9**	**+0.9**
TOKL	**Toktogul** baz=46	**2.37**	**345**	⇓*i*P	**Pn**	**00 27 46.7**	**+0.2**
TOKL	baz=46			⇓*i*S	**Sb**	**00 28 18.4**	**-1.2**
AML	**Almayashu** SNR=88	**2.47**	**360**	P	**Pb**	**00 27 49.9**	**-2.4**
AML	**Almayashu** baz=1.0	**2.47**	**360**	⇑*i*P	**Pb**	**00 27 49.7**	**-2.5**
AML	baz=1.0			⇑*i*S	**Sb**	**00 28 21.8**	**-1.1**
NRN	**Naryn** baz=43	**2.49**	**44**	⇑*i*P	**Pn**	**00 27 48.7**	**+0.3**
NRN	baz=43			⇑*i*S	**Sb**	**00 28 21.2**	**-2.1**
ARK	**Arkit** baz=31	**2.52**	**329**	⇓*i*P	**Pn**	**00 27 48.4**	**-0.1**
ARK	baz=31			⇓*i*S	**Sn**	**00 28 21.0**	**+1.7**
UCH	**Uchtor** SNR=52	**2.64**	**13**	P	**Pn**	**00 27 51.4**	**+0.9**
UCH	**Uchtor** baz=14	**2.64**	**13**	⇓*i*P	**Pn**	**00 27 52.0**	**+1.5**
UCH	baz=14			⇓*i*S	**Sb**	**00 28 26.2**	**-1.6**
KZA	**Kyzart** SNR=18	**2.69**	**25**	P	**Pb**	**00 27 52.9**	**-3.0**
KZA	**Kyzart** baz=25	**2.69**	**25**	⇑*i*P	**Pn**	**00 27 52.6**	**+1.5**
KZA	baz=25			⇑*i*S	**Sn**	**00 28 26.7**	**+2.7**
MNAS	**Manas** 5.6nm,0.4s	**2.97**	**343**	⇑Pn	**Pn**	**00 27 55.3**	**+0.5**
MNAS	38nm,0.5s			⇓Lg	Lg	00 28 40.7	
MNAS	**Manas** baz=44	**2.97**	**343**	⇓*i*P	**Pn**	**00 27 55.0**	**+0.2**
MNAS	baz=44			⇓*i*S	**Sn**	**00 28 32.7**	**+2.1**
EKS2	**Erkin-Say** SNR=6.6	**3.00**	**1**	P	**Pn**	**00 27 57.4**	**+2.1**
EKS2	**Erkin-Say** baz=2.0	**3.00**	**1**	⇑*i*P	**Pn**	**00 27 56.1**	**+0.9**
EKS2	baz=2.0			⇑*i*S	**Sn**	**00 28 34.5**	**+3.1**
AAK	**Ala-Archa** 12nm,0.6s	**3.04**	**11**	⇑Pn	**Pn**	**00 27 56.7**	**+1.0**
AAK	30nm,0.6s			⇑Lg	Lg	00 28 42.0	
AAK	**Ala-Archa** SNR=22	**3.04**	**11**	P	**Pn**	**00 27 57.8**	**+2.1**
AAK	**Ala-Archa** baz=12	**3.04**	**11**	⇓*i*P	**Pn**	**00 27 56.9**	**+1.2**
AAK	baz=12			⇓*i*S	**Sn**	**00 28 34.8**	**+2.6**
MRKS	**Merke** 15nm,0.5s	**3.11**	**353**	*e*P	**Pn**	**00 27 58.8**	**+2.1**
MRKS	35nm,0.6s			*e*S	**Sn**	**00 28 37.7**	**+3.8**
KBK	**Karagaybulak** SNR=18	**3.14**	**17**	P	**Pn**	**00 27 59.4**	**+2.2**
KBK	**Karagaybulak** baz=17	**3.14**	**17**	⇓*i*P	**Pn**	**00 27 58.9**	**+1.7**
KBK	baz=17			⇓*i*S	**Sn**	**00 28 37.8**	**+3.0**
ULHL	**Ulahol** SNR=7.9	**3.22**	**36**	P	**Pn**	**00 27 58.8**	**+0.5**
ULHL	**Ulahol** baz=36	**3.22**	**36**	⇑*i*P	**Pn**	**00 28 00.2**	**+1.9**
ULHL	baz=36			⇑*i*S	**Sn**	**00 28 40.0**	**+3.2**
BOOM	**Boomskoye usch** baz=30	**3.30**	**30**	⇑*i*P	**Pn**	**00 27 59.6**	**+0.3**
BOOM	baz=30			⇑*i*S	**Sn**	**00 28 40.8**	**+2.2**
TKM2	**Tokmak 2** 2.0nm,0.5s	**3.56**	**23**	⇑Pn	**Pn**	**00 28 03.1**	**+0.1**
TKM2	3.5nm,0.6s			⇓Pg	**Pb**	**00 28 10.2**	**-0.5**
TKM2	13nm,0.5s			⇑Lg	Lg	00 28 56.5	
KDJ	**Kajisay** baz=45	**3.61**	**46**	⇓*i*P	**Pn**	**00 28 03.8**	**+0.2**
KDJ	baz=45			⇓*e*S	**Sn**	**00 28 47.8**	**+1.4**
USP	**Ospenovka** SNR=9.4	**3.66**	**9**	P	**Pb**	**00 28 11.0**	**-1.2**
KST	**Kastek** 1.1nm,0.2s	**3.79**	**26**	*e*P	**Pn**	**00 28 07.4**	**+1.4**
KST	14nm,0.8s			*e*S	**Sn**	**00 28 52.9**	**+2.3**
DGS	**Degeres** 6.4nm,0.7s	**3.91**	**23**	*e*P	**Pn**	**00 28 09.7**	**+2.1**
DGS	20nm,0.6s			*e*S	**Sn**	**00 28 56.2**	**+2.7**
IZV	**Izvestkoviy** 8.1nm,0.7s	**4.02**	**32**	*e*P	**Pn**	**00 28 10.7**	**+1.4**
TNSS	**Tian-Shan** 7.0nm,0.5s	**4.17**	**35**	*e*P	**Pn**	**00 28 13.8**	**+2.3**
TNSS	25nm,1.1s			*e*S	**Sn**	**00 29 03.4**	**+3.0**
KK31	**Karatay Array** 0.7nm,0.3s,baz=142,slow=14,SNR=26	**4.20**	**326**	⇓Pn	**Pn**	**00 28 12.9**	**+1.3**
KK31	2.5nm,0.4s,baz=147,slow=15,SNR=20			Pg	**Pb**	**00 28 23.2**	**+1.7**
KK31	3.2nm,0.3s,baz=139,slow=24,SNR=2.9			⇑Sn	**Sn**	**00 29 02.9**	**+2.2**
KK31	12nm,0.5s,baz=144,slow=30,SNR=6.0			⇑Lg	Lg	00 29 19.9	
MDOK	**Medeo** 2.7nm,0.6s	**4.31**	**35**	⇑Pn	**Pn**	**00 28 13.1**	**-0.1**
MDOK	5.1nm,0.5s			⇓Pg	**Pb**	**00 28 22.5**	**-0.9**
MDOK	30nm,1.0s			⇑Lg	Lg	00 29 21.5	
KNDC	**Almaty** 1.9nm,0.7s	**4.32**	**33**	⇑Lg	Lg	00 29 21.9	
PDGK	**Podgornoye** 3.1nm,0.6s	**5.69**	**48**	⇓Pn	**Pn**	**00 28 32.2**	**+0.1**
PDGK	13nm,0.9s			⇓Pg	**Pb**	**00 28 47.9**	**+1.1**
PDGK				⇓Lg	Lg	00 30 05.3	
AB31	**Akbulak array** 0.4nm,0.4s,baz=134,slow=14,SNR=6.9	**13.72**	**319**	P	**Pn**	**00 30 21.4**	**-0.5**

*IDC **16** 00:38:02.2±0.3, 49°.28N×156°.11E, h0km, mb5.2/49, mb1 5.3/54, mb1mx5.2/74, mbtmp5.2/54, ML4.2/4, MS4.8/56, Ms1 4.8/56, ms1mx4.7/72, Error ellipse: s-maj=10.1km s-min=8.8km az=130.0*

*BJI **16** 00:38:02.1, 49°.34N×156°.38E, h26km, mb5.3/79, mB5.3/57, Ms5.3/84, Ms7 5.3/76*

*GCMT **16** 00:38:03.9±0.1, 49°.21N×156°.48E, h23km, MW5.3/120, Moment Tensor Solution. s93,c160; s120,c212; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr1.04±.02; Mθθ-0.26±.01; Mφφ-0.77±.02; Mrθ0.34±.03; Mθφ-0.45±.01; Mrφ0.44±.02; Best double couple: M0 1.18100×10^17 NP1:φs34.00000°, δ59.00000°, λ94.00000°. NP2:φs207.00000°, δ31.00000°, λ84.00000°. Principal axes: T 1.1820, Plg76.0000°, Azm314.0000°; N -0.0010, Plg3.0000°, Azm212.0000°; P -1.1790, Plg14.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **16** 00:38:03.9±0.1, 49°.27N×156°.07E, h10km, mb5.4/296, MW5.2 Error ellipse: s-maj=3.4km s-min=1.8km az=163.0, Moment Tensor Solution. s60 Moment tensor: Scale 10^16Nm; Mrr6.37; Mθθ-0.79; Mφφ-5.58; Mrθ2.92; Mθφ-3.82; Mrφ5.02; Best double couple: M0 9.20000×10^16 NP1: φs208.00000°, δ25.00000°, λ88.00000°. NP2:φs30.00000°, δ65.00000°, λ91.00000°. Principal axes: T 8.4600, Plg70.0000°, Azm302.0000°; N 1.3200, Plg1.0000°, Azm209.0000°; P -9.7800, Plg20.0000°, Azm119.0000°;*

*KRSC **16** 00:38:03.1±1.5, 49°.00N×156°.72E, h77km±24km, ML5.7*

*ISCJB **16** 00:38:04.5±0.6, 49°.20N±0°.02×156°.21E±0°.02, h27km±4km, mb5.4/503, MS5.0/100, Error ellipse: s-maj=3.1km s-min=1.7km az=161.7*

*MOS **16** 00:38:06.2±1.0, 49°.25N×156°.11E, h42km, mb5.6/137, MS5.2/31, Error ellipse: s-maj=5.4km s-min=2.7km az=80.9*

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

*SKHL **16** 00:38:06.3±0.2, 49°.03N×156°.49E, h50km±3km, mb6.2/6, mbh5.9/1, Ms5.4/9, msh6.3/3*

SKHL Felt (III) at Severo-Kurilsk.

ISC 16 00:38:06.3±0.4, 49°.20N±0°.03×156°.15E±0°.03, h27km±2km, h27km:pP-P, n1862, σ1s14/1948, mb5.4/543, MS5.1/101, 144C-26D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.48**	**359**	*i* P	**Pb**	**00 38 32.5**	**-0.7**
SKR	22μm,2.0s			AMB	AMB	00 38 33.0	
SKR	14μm,0.8s			AMB	AMB	00 38 33.9	
SKR				*e*S	**Sb**	**00 38 52.0**	**+0.4**
SKR	59μm,0.9s			A	A	00 39 07.5	
SKR	47μm,0.9s			A	A	00 39 07.5	
SKR	76μm,15.0s			AMS	AMS	00 39 13.1	
SKR	**Severo-Kuril's**	**1.48**	**359**	⇑*i*PN	**Pb**	**00 38 32.5**	**-0.7**
SKR	comp=Z,22μm,1.5s			pmax	pmax		
SKR	comp=Z,15μm,0.8s			pmax	pmax		
SKR	**Severo-Kuril's**	**1.48**	**359**	*e*P	**Pb**	**00 38 32.4**	**-0.7**
SKR				*e*S	**Sb**	**00 38 53.7**	**+2.1**
PAU	**Pauzhetka**	**2.31**	**10**	*e*P	**Pn**	**00 38 44.0**	**+1.5**
PAU	comp=Z,5μm,0.9s			AMB	AMB	00 38 50.4	
PAU				*e*S	**Sn**	**00 39 12.4**	**+2.4**
PAU	comp=Z,40μm,0.9s			A	A	00 39 23.5	
PAU	comp=Z,82μm,2.0s			A	A	00 39 32.3	
PAU	**Pauzhetka**	**2.31**	**10**	PN	**Pn**	**00 38 43.6**	**+1.1**
PAU				S	**Sn**	**00 39 12.2**	**+2.2**
PAU	**Pauzhetka**	**2.31**	**10**	*i* P	**Pn**	**00 38 43.6**	**+1.1**
PAU				*i* S	**Sn**	**00 39 12.2**	**+2.2**
KDTR	**Khodutka, Kamc**	**2.89**	**24**	*i* P	**Pn**	**00 38 49.9**	**-0.6**
KDTR				*e*S	**Sn**	**00 39 23.5**	**-0.8**
MIPR	**Malaya Ipel'ka**	**3.10**	**7**	PN	**Pn**	**00 38 55.0**	**+1.5**
MIPR	**Malaya Ipel'ka**	**3.10**	**7**	*e*P	**Pn**	**00 38 55.0**	**+1.5**
ASAK	**Asacha**	**3.38**	**19**	PN	**Pn**	**00 38 57.9**	**+0.6**
ASAK	**Asacha**	**3.38**	**19**	*e*P	**Pn**	**00 38 57.9**	**+0.6**
MTVR	**Mutnovka**	**3.53**	**21**	PN	**Pn**	**00 38 59.8**	**+0.3**
MTVR				S	**Sn**	**00 39 40.5**	**+0.1**
MTVR	**Mutnovka**	**3.53**	**21**	*e*P	**Pn**	**00 38 59.8**	**+0.3**
MTVR				*e*S	**Sn**	**00 39 40.5**	**+0.1**
RUS	**Russkaya**	**3.57**	**24**	PN	**Pn**	**00 38 59.3**	**-0.5**
RUS				S	**Sn**	**00 39 40.5**	**-0.5**
RUS	**Russkaya**	**3.57**	**24**	*e*P	**Pn**	**00 38 59.3**	**-0.5**

RUS eS **Sn** **00 39 40.5 -0.5**
APC Apacha 3.78 9 PN **Pn** **00 39 04.1 +1.3**
APC Apacha 3.78 9 eP **Pn** **00 39 04.1 +1.3**
KRMR Karymshinskiy 3.84 18 PN **Pn** **00 39 04.8 +1.2**
KRMR S **Sn** **00 39 48.9 +1.1**
KRMR Karymshinskiy 3.84 18 eP **Pn** **00 39 04.8 +1.2**
KRMR eS **Sn** **00 39 48.9 +1.1**
PEA0B Petropavlovsk- 4.03 13 ePn **Pn** **00 39 08.2 +2.0**
PEA0B eSn **Sn** **00 39 51.9 -0.7**
PETK Petropavlovsk- 4.03 13 Pn **Pn** **00 39 08.1 +1.8**
comp=Z,25nm,0.3s,baz=176,slow=13,SNR=417
PETK LR LR 00 40 53.5
comp=Z,13μm,20.7s,baz=193,slow=43
PETK Petropavlovsk- 4.03 13 ePn **Pn** **00 39 07.8 +1.6**
PETK Petropavlovsk- 4.03 13 ePn **Pn** **00 39 07.8 +1.6**
PETK eSn **Sn** **00 39 50.5 -2.0**
PET Petropavlovsk 4.14 21 eP **Pn** **00 39 08.2 +0.6**
PET AMB AMB 00 39 12.4
comp=Z,860nm,0.7s
PET eS **Sn** **00 39 55.3 +0.1**
PET A A 00 40 03.0
comp=Z,10μm,2.0s
PET A A 00 40 04.1
comp=Z,5μm,1.0s
PET Petropavlovsk 4.14 21⇑ *i* PN **Pn** **00 39 08.2 +0.6**
PET *i* S **Sn** **00 39 54.3 -0.9**
PET pmax pmax
comp=Z,2μm,6.4s
PET pmax pmax
comp=Z,1μm,0.6s
PET smax smax
comp=N,6μm,0.8s
PET smax smax
comp=E,4μm,0.9s
PET MLR MLR
comp=Z,13μm,15.0s
PET Petropavlovsk 4.14 21 ePn **Pn** **00 39 08.3 +0.6**
PET eSn **Sn** **00 39 54.8 -0.3**
INSR Institute 4.17 21 PN **Pn** **00 39 08.3 +0.2**
INSR Institute 4.17 21 eP **Pn** **00 39 08.3 +0.2**
DALK Dalny 4.17 22 PN **Pn** **00 39 08.4 +0.3**
DALK S **Sn** **00 39 55.6 -0.3**
DALK Dalny 4.17 22 eP **Pn** **00 39 08.4 +0.3**
DALK eS **Sn** **00 39 55.6 -0.3**
UGLR Uglovaya 4.35 22 PN **Pn** **00 39 11.7 +1.0**
UGLR Uglovaya 4.35 22 eP **Pn** **00 39 11.7 +1.0**
AVH Avacha 4.38 21 PN **Pn** **00 39 12.6 +1.5**
AVH Avacha 4.38 21 eP **Pn** **00 39 12.6 +1.5**
KOK Koryaka 4.38 20 PN **Pn** **00 39 12.7 +1.6**
KOK Koryaka 4.38 20 eP **Pn** **00 39 12.7 +1.6**
SMAR Somma 4.40 21 PN **Pn** **00 39 12.0 +0.6**
SMAR Somma 4.40 21 eP **Pn** **00 39 12.0 +0.6**
SDLR Sedlovina 4.43 22 PN **Pn** **00 39 12.1 +0.3**
SDLR Sedlovina 4.43 22 *i* P **Pn** **00 39 12.1 +0.3**
KRX Arik 4.45 20 PN **Pn** **00 39 13.4 +1.3**
KRX Arik 4.45 20 eP **Pn** **00 39 13.4 +1.3**
NLC Nalytchevo 4.46 26 PN **Pn** **00 39 11.3 -0.7**
NLC Nalytchevo 4.46 26 eP **Pn** **00 39 11.3 -0.7**
NLC eS **Sn** **00 40 01.6 -1.3**
SPN Mys Shipunski 4.60 31 PN **Pn** **00 39 13.4 -0.6**
SPN Mys Shipunski 4.60 31 *i* P **Pn** **00 39 13.4 -0.6**
SPN eS **Sn** **00 40 05.4 -1.1**
GNL Ganaly 4.64 13 PN **Pn** **00 39 16.6 +2.0**
GNL Ganaly 4.64 13 eP **Pn** **00 39 16.6 +2.0**
KII Karymskiy 5.26 22 PN **Pn** **00 39 24.0 +0.9**
KII Karymskiy 5.26 22 eP **Pn** **00 39 24.0 +0.9**
KZV Kizimen 6.45 22 PN **Pn** **00 39 39.6 +0.1**
KZV Kizimen 6.45 22 eP **Pn** **00 39 39.6 +0.1**
TUMR Tumrok 6.57 20 PN **Pn** **00 39 41.8 +0.7**
TUMR Tumrok 6.57 20 eP **Pn** **00 39 41.8 +0.7**
KUR Kuril'sk 6.89 238 *i* P **Pn** **00 39 47.6 +2.1**
KUR AMB AMB 00 39 57.5
comp=Z,193nm,0.6s
KUR AMB AMB 00 39 57.5
comp=Z,294nm,0.6s
KUR AMB AMB 00 39 57.5
comp=Z,649nm,0.6s
KUR AMB AMB 00 39 59.8
comp=Z,4μm,4.0s
KUR *i* S **Sn** **00 41 02.5 -0.5**
KUR A A 00 41 18.5
comp=Z,6μm,2.0s
KUR A A 00 41 18.5
comp=Z,9μm,2.0s
KUR A A 00 41 40.6
comp=Z,520nm,1.0s
KUR A A 00 41 40.6
comp=Z,330nm,1.0s
KUR AMS AMS 00 42 20.0
comp=Z,18μm,15.0s
KUR AMS AMS 00 42 20.0
comp=Z,10μm,15.0s
KUR AMS AMS 00 42 20.0
comp=Z,10μm,15.0s
KUR Kuril'sk 6.89 238 *c i* PN **Pn** **00 39 47.6 +2.1**
KUR pmax pmax
comp=E,294nm,0.9s
KUR pmax pmax
comp=Z,649nm,0.9s
KUR pmax pmax
comp=N,193nm,0.4s
KUR pmax pmax
comp=Z,4μm,1.3s
KUR MLR MLR
comp=N,14μm,13.0s
KUR MLR MLR
comp=Z,9μm,13.0s
ESO Esso 6.91 12 PN **Pn** **00 39 47.6 +1.8**
ESO Esso 6.91 12 eP **Pn** **00 39 47.6 +1.8**
KMNR Kamenistaya 7.02 19 PN **Pn** **00 39 48.2 +0.8**
KMNR Kamenistaya 7.02 19 eP **Pn** **00 39 48.2 +0.8**
KOZ Kozyrevsk 7.23 17 PN **Pn** **00 39 51.1 +1.0**
KOZ Kozyrevsk 7.23 17 eP **Pn** **00 39 51.1 +1.0**
BZMR Bezymyannaya 7.25 20 PN **Pn** **00 39 51.4 +1.0**
BZMR Bezymyannaya 7.25 20 eP **Pn** **00 39 51.4 +1.0**
BZWR Bezymyannyi-We 7.27 20 PN **Pn** **00 39 51.9 +1.1**
BZWR Bezymyannyi-We 7.27 20 eP **Pn** **00 39 51.9 +1.1**
KRSR Krestovskiy 7.52 19 PN **Pn** **00 39 54.0 -0.2**
KRSR Krestovskiy 7.52 19 eP **Pn** **00 39 54.0 -0.2**
KLY Klyuchi 7.63 19 PN **Pn** **00 39 56.4 +0.9**
KLY Klyuchi 7.63 19 eP **Pn** **00 39 56.4 +0.9**
SRKR Sorokina 8.06 20 PN **Pn** **00 40 02.1 +0.6**
SRKR Sorokina 8.06 20 eP **Pn** **00 40 02.1 +0.6**
SMKR Semkarok 8.06 21 PN **Pn** **00 40 01.4 -0.1**
SMKR Semkarok 8.06 21 eP **Pn** **00 40 01.4 -0.1**
KBTR Krutoberegovo 8.10 27 PN **Pn** **00 40 00.9 -1.1**
KBTR Krutoberegovo 8.10 27 eP **Pn** **00 40 00.9 -1.1**
SHO Shikotan 8.35 234 eP **Pn** **00 40 04.3 -1.1**
SHO AMB AMB 00 40 04.9
comp=Z,43nm,0.3s
SHO AMB AMB 00 40 12.9
comp=Z,3μm,3.0s
SHO eS **Sn** **00 41 33.9 -4.8**
SHO AMS AMS 00 44 10.5
comp=Z,14μm,16.0s
SHO AMS AMS 00 44 10.5
comp=Z,13μm,16.0s
SHO Shikotan 8.35 234 ePN **Pn** **00 40 03.2 -2.2**
SHO pmax pmax
comp=Z,43nm,0.3s
SHO pmax pmax
comp=E,27nm,0.2s
SHO pmax pmax
comp=N,44nm,0.3s
BKI Bering 8.51 41 PN **Pn** **00 40 04.1 -3.5**
BKI Bering 8.51 41 eP **Pn** **00 40 04.1 -3.5**
YUK Yuzh-Kuril'sk 8.76 238 eP **Pn** **00 40 12.0 +0.9**
YUK AMB AMB 00 40 16.0
comp=N,720nm,0.8s
YUK AMB AMB 00 40 20.3
comp=N,2μm,2.0s
YUK eS **Sn** **00 41 47.1 -1.8**
YUK AMS AMS 00 43 33.0
comp=N,4μm,13.0s
YUK AMS AMS 00 43 33.0
comp=N,13μm,13.0s
YUK AMS AMS 00 43 33.0
comp=N,11μm,13.0s
YUK Yuzh-Kuril'sk 8.76 238 ePN **Pn** **00 40 12.0 +0.9**
YUK pmax pmax
comp=Z,715nm,0.8s
YUK pmax pmax
comp=N,144nm,0.7s
YUK pmax pmax
comp=E,493nm,0.7s
YUK MLR MLR
comp=E,8μm,15.0s
YUK MLR MLR
comp=Z,9μm,15.0s
YUK MLR MLR
comp=N,4μm,16.0s
LAGR Lagunnoye 8.79 238 eP **Pn** **00 40 12.4 +0.9**
LAGR eS **Sn** **00 41 49.2 -0.4**
LAGR Lagunnoye 8.79 238 ePN **Pn** **00 40 12.4 +0.9**
GRPR Tuman 8.84 238 eP **Pn** **00 40 12.4 +0.2**
GRPR eS **Sn** **00 41 49.2 -1.6**
GRPR Tuman 8.84 238 ePN **Pn** **00 40 12.4 +0.2**
TYV Tymovskoe 8.85 286 eP Pn 00 40 17.3 +5.1
TYV AMB AMB 00 40 19.6
comp=N,2μm,2.0s
TYV AMB AMB 00 40 19.7
comp=N,236nm,1.0s
TYV eS **Sn** **00 41 54.5 +3.6**
TYV AMS AMS 00 44 34.9
comp=N,13μm,14.0s
TYV AMS AMS 00 44 34.9
comp=N,14μm,14.0s
TYV AMS AMS 00 44 34.9
comp=N,23μm,14.0s
TYV Tymovskoe 8.85 286 ePN Pn 00 40 17.6 +5.4
TYV eS **Sn** **00 41 57.0 +6.1**
TYV pmax pmax
comp=Z,2μm,2.4s
TYV pmax pmax
comp=Z,236nm,1.5s
TYV smax smax
comp=N,27nm,0.9s
TYV MLR MLR
comp=Z,23μm,15.0s
TYV MLR MLR
comp=N,13μm,14.0s
UGL Uglegorsk 9.24 275 eP Pn 00 40 23.6 +6.0
UGL AMB AMB 00 40 26.0
comp=N,620nm,1.0s
UGL eS **Sn** **00 41 58.7 -1.8**
UGL AMS AMS 00 44 22.0
comp=N,11μm,15.0s
UGL AMS AMS 00 44 22.0
comp=N,21μm,15.0s
UGL AMS AMS 00 44 22.0
comp=N,20μm,15.0s
YSS Yuzh-Sakhalins 9.24 261 eP Pn 00 40 22.5 +4.8
YSS AMB AMB 00 40 23.9
comp=N,2μm,4.0s
YSS AMB AMB 00 40 24.0
comp=N,120nm,1.0s
YSS AMS AMS 00 44 02.0
comp=N,1μm,16.0s
YSS AMS AMS 00 44 02.0
comp=N,7μm,16.0s
YSS AMS AMS 00 44 02.0
comp=N,7μm,16.0s
YSS Yuzh-Sakhalins 9.24 261⇑ *i* PN Pn 00 40 22.5 +4.8
YSS pmax pmax
comp=Z,2μm,4.0s
YSS pmax pmax
comp=Z,120nm,1.0s
YSS MLR MLR
comp=Z,7μm,16.0s
YSS MLR MLR
comp=N,1μm,17.0s
YSS MLR MLR
comp=E,7μm,17.0s
YSS Yuzh-Sakhalins 9.24 261 ePn **Pn** **00 40 19.1 +1.4**
comp=E,304nm,1.1s
PALN Palana 10.16 11 PN **Pn** **00 40 30.4 +0.3**
PALN Palana 10.16 11 eP **Pn** **00 40 30.4 +0.3**
NKL Nikolayevsk 10.48 298 eP **Pn** **00 40 38.2 +3.6**
NKL AMB AMB 00 40 41.2
comp=E,240nm,1.0s
NKL AMB AMB 00 40 41.2
comp=E,280nm,1.0s
NKL AMB AMB 00 40 41.2
comp=E,600nm,1.0s
NKL AMB AMB 00 40 43.0
comp=E,500nm,4.0s
NKL AMB AMB 00 40 43.0
comp=E,2μm,4.0s
NKL AMB AMB 00 40 43.0
comp=E,2μm,4.0s
NKL AMS AMS 00 45 47.0
comp=E,3μm,14.0s
NKL AMS AMS 00 45 47.0
comp=E,7μm,14.0s
NKL AMS AMS 00 45 47.0
comp=E,12μm,14.0s
NKL Nikolayevsk 10.48 298 ePN **Pn** **00 40 38.2 +3.6**
NKL pmax pmax
comp=N,240nm,1.2s
NKL pmax pmax
comp=E,280nm,1.2s
NKL pmax pmax
comp=Z,600nm,1.2s
NKL pmax pmax
comp=N,500nm,4.0s
NKL pmax pmax
comp=E,2μm,4.0s
NKL pmax pmax
comp=Z,2μm,4.0s
NKL MLR MLR
comp=N,3μm,14.0s
NKL MLR MLR
comp=E,7μm,14.0s
NKL MLR MLR
comp=Z,12μm,14.0s
ASAJ Asahikawa 10.61 246 Pn **Pn** **00 40 39.4 +3.0**
comp=Z,16nm,0.3s,baz=74,slow=13,SNR=67
ASAJ Asahikawa 10.61 246 ePn **Pn** **00 40 39.3 +2.9**
OSSR Ossora 10.84 19 PN **Pn** **00 40 38.3 -1.2**
OSSR Ossora 10.84 19 eP **Pn** **00 40 38.3 -1.2**
MA2 Magadan 10.86 345 Pn **Pn** **00 40 42.0 +2.3**
comp=Z,6.9nm,0.3s,baz=156,slow=9.4,SNR=145
MA2 LR LR 00 45 34.3
comp=Z,8μm,18.3s,baz=168,slow=42
ERM Erimo 11.58 237 eP **Pn** **00 40 50.2 +0.5**
ERM Erimo 11.58 237 *c i* PN **Pn** **00 40 50.2 +0.5**
ERM Erimo 11.58 237 ePn **Pn** **00 40 50.7 +1.0**
SMY Shemya 11.85 66 ePN **Pn** **00 40 50.3 -3.1**
SMY Shemya 11.85 66 ePn **Pn** **00 40 50.3 -3.1**
TILK Tilichiki 12.64 23 PN **Pn** **00 41 02.7 -1.3**
TILK Tilichiki 12.64 23 eP **Pn** **00 41 02.7 -1.3**
GRNR Gornyy 12.79 285 eP **Pn** **00 41 09.5 +3.3**
GRNR AMB AMB 00 41 12.8
comp=Z,160nm,1.0s
GRNR Gornyy 12.79 285 ePN **Pn** **00 41 10.8 +4.6**
GRNR *i* 00 43 39.7
GRNR pmax pmax
comp=Z,160nm,1.0s
SEY Seymchan 13.92 353 Pn **Pn** **00 41 23.3 +1.8**
comp=Z,1.0nm,0.3s,baz=152,slow=10,SNR=46
TEY Ternei 13.94 260 eP **Pn** **00 41 22.0 +0.1**
TEY AMB AMB 00 41 24.3
comp=Z,30nm,1.0s
TEY AMS AMS 00 46 50.0
comp=Z,5μm,16.0s
TEY Ternei 13.94 260 eP **Pn** **00 41 24.0 +2.1**
TEY pmax pmax
comp=Z,30nm,1.0s
TEY MLR MLR
comp=E,5μm,16.0s
TEY MLR MLR
comp=Z,5μm,16.0s
KMSK Kamenskaya 14.42 19 P **Pn** **00 41 27.0 -1.3**
KMSK Kamenskaya 14.42 19 eP **Pn** **00 41 27.0 -1.3**
EKMR Ekimchan 15.05 294 eP **Pn** **00 41 38.0 +1.1**
EKMR AMB AMB 00 41 55.5
comp=Z,82nm,0.9s
EKMR AMB AMB 00 41 55.5
comp=Z,83nm,0.9s
EKMR AMB AMB 00 41 55.5
comp=Z,160nm,0.9s
KLR Kul'dur 15.93 279 Pn **P** **00 41 51.7 -0.1**
comp=Z,0.0nm,0.3s,baz=78,slow=12,SNR=75
KLR LR LR 00 48 29.2
comp=Z,988nm,19.0s,baz=84,slow=39
USRK Ussuriysk Ar. 17.28 262 P **P** **00 42 06.0 -0.7**
comp=Z,1.7nm,0.3s,baz=65,slow=14,SNR=45
USRK LR LR 00 49 52.1
comp=Z,2μm,18.1s,baz=60,slow=41
BMKR Bomnak 17.65 299 eP **P** **00 42 11.0 +0.3**
BMKR AMB AMB 00 42 15.0
comp=Z,34nm,0.8s
BMKR AMB AMB 00 42 15.0
comp=Z,80nm,0.8s
BMKR AMB AMB 00 42 15.0
comp=Z,128nm,0.8s
VLA Vladivostok 17.84 259⇑ eP **P** **00 42 13.5 +0.6**
MAJO Matsushiro 18.19 233 eP **P** **00 42 17.7 +0.9**
MAJO Matsushiro 18.19 233 *c i* P **P** **00 42 17.7 +0.9**
MAJO pmax pmax
comp=Z,125nm,1.1s
MAJO Matsushiro 18.19 233 ePn **Pn** **00 42 16.2 -0.6**
comp=Z,104nm,0.9s
MAT Matsushiro 18.19 233 P **Pn** **00 42 15.3 -1.4**
MAT S **S** **00 45 42.8 -0.9**
MJAR Matsushiro Arr 18.19 233 P **Pn** **00 42 16.1 -0.7**
comp=Z,0.7nm,0.3s,baz=28,slow=10,SNR=37
MJAR LR LR 00 50 12.6
comp=Z,3μm,19.6s,baz=45,slow=40
MJB9 Matsu-Tunnel 18.19 233 ePn **Pn** **00 42 16.3 -0.5**
comp=Z,102nm,0.9s
ZEA Zeya 18.50 295 eP **Pn** **00 42 21.0 +0.6**
ZEA AMB AMB 00 42 26.3
comp=Z,65nm,1.0s
ZEA AMB AMB 00 42 26.3
comp=Z,100nm,1.0s
ZEA AMS AMS 00 51 25.0
comp=Z,5μm,13.0s
ZEA AMS AMS 00 51 25.0
comp=Z,7μm,13.0s
ZEA Zeya 18.50 295 eP **P** **00 42 20.1 0.0**
ZEA pmax pmax
comp=N,65nm,1.4s
ZEA pmax pmax
comp=Z,100nm,1.2s
ZEA pmax pmax
comp=Z,1μm,10.0s
ZEA MLR MLR
comp=E,5μm,13.0s
ZEA MLR MLR
comp=Z,7μm,13.0s
MDJ Mudanjiang 18.67 266 P **P** **00 42 20.4 -1.7**
MDJ pP pP 00 42 25.8 -3.5
MDJ sP sP 00 42 29.3 -3.4
MDJ S **Sn** **00 45 50.3 -0.1**
MDJ pmax pmax
comp=Z,60nm,1.2s
MDJ pmax pmax
comp=Z,760nm,3.9s
MDJ LR LR
comp=Z,4μm,15.2s
MDJ LR LR
comp=Z,4μm,15.2s
MDJ LR LR
comp=Z,6μm,12.7s
MDJ Mudanjiang 18.67 266 eP **P** **00 42 21.8 -0.3**
comp=Z,81nm,0.9s
KROS Kirovskiy 18.70 297 eP **Pn** **00 42 23.0 +0.1**
KROS AMB AMB 00 42 30.3
comp=Z,6.0nm,0.5s
KROS AMB AMB 00 42 30.3
comp=Z,13nm,0.5s
YAK Yakutsk 19.52 321 P **P** **00 42 31.0 -0.3**
comp=Z,0.0nm,0.3s,baz=60,slow=8.6,SNR=67
YAK LR LR 00 50 31.6
comp=Z,4μm,18.5s,baz=90,slow=38
YAK Yakutsk 19.52 321 *c i* P **P** **00 42 30.7 -0.6**
YAK eS **Sn** **00 46 13.4 +2.7**
YAK pmax pmax
comp=Z,549nm,1.1s
YAK pmax pmax
comp=N,137nm,1.2s
YAK pmax pmax
comp=E,275nm,1.2s
YAK pmax pmax
comp=Z,341nm,1.4s
YAK pmax pmax
comp=N,47nm,0.8s
YAK pmax pmax
comp=E,157nm,1.4s
YAK smax smax
comp=N,174nm,2.0s
YAK smax smax
comp=E,77nm,1.7s
YAK MLR MLR
comp=Z,5μm,16.0s
YAK MLR MLR
comp=N,2μm,14.0s
YAK MLR MLR
comp=E,3μm,15.0s
YAK Yakutsk 19.52 321 eP **P** **00 42 30.9 -0.3**
comp=E,694nm,1.2s
BILL Bilibino 19.56 11 *d i* P **P** **00 42 30.4 -1.3**
BILL pmax pmax
comp=Z,105nm,1.0s
BILL MLR MLR
comp=Z,6μm,17.0s
INU Inuyama 19.72 233 eP **P** **00 42 33.8 +0.1**
comp=Z,155nm,1.0s
CLNS Chul'man 20.15 304 eP **P** **00 42 38.0 -0.2**
CLNS *e* 00 42 55.3
CLNS eS Sn 00 46 25.7 -0.4
CLNS *e* 00 46 50.0
CLNS pmax pmax
comp=Z,136nm,0.9s
CLNS pmax pmax
comp=E,102nm,1.0s
CLNS pmax pmax
comp=N,88nm,0.9s
CLNS pmax pmax
comp=Z,119nm,0.9s
CLNS pmax pmax
comp=N,114nm,1.0s
CLNS pmax pmax
comp=E,151nm,1.2s
CLNS smax smax
comp=N,455nm,11.0s
CLNS smax smax
comp=E,170nm,10.6s
CLNS MLR MLR
comp=Z,8μm,13.0s
CLNS MLR MLR
comp=E,5μm,11.0s
CLNS MLR MLR
comp=N,2μm,12.0s
JHJ Hachijo jima 2 20.18 223 P Pn 00 42 40.6 +0.1
comp=N,157nm,0.3s,baz=116,slow=1.7,SNR=5.1
JHJ LR LR 00 53 37.6
comp=N,567nm,18.0s,baz=56,slow=46
SPIA Saint Paul Isl 21.47 55 eP **P** **00 42 53.9 +1.5**
comp=N,930nm,1.8s
CN2 Changchun 21.72 267 ⇓ P **P** **00 42 52.1 -3.1**
CN2 *e*sP sP 00 43 05.5 -0.4
CN2 *e*S **S** **00 46 45.1 -9.0**
CN2 LR LR
comp=N,5μm,18.0s
CN2 LR LR
comp=N,3μm,18.0s
CN2 LR LR
comp=N,3μm,16.0s
GAMB Gambell 22.64 38 eP **P** **00 43 04.7 -0.1**
comp=N,84nm,1.1s
KSRS Korea Array 23.51 251 P **P** **00 43 13.9 0.0**
comp=N,78nm,1.0s,baz=49,slow=9.4,SNR=105
KSRS PcP **PcP** **00 46 59.8 +1.0**
comp=N,5.0nm,0.9s,baz=52,slow=1.0,SNR=5.2
KSRS LR LR 00 51 57.4
comp=N,3μm,18.9s,baz=61,slow=36
KS01 Wonju Array Si 23.51 251 eP **P** **00 43 12.6 -1.3**
KS15 Wonju Array Si 23.54 251 eP **P** **00 43 14.3 +0.1**
KSAR Wonju Array Be 23.54 251 P **P** **00 43 13.9 -0.3**
KSAR 00 46 59.8
KSAR Wonju Array Be 23.54 251 P **P** **00 43 13.9 -0.3**
KSAR PcP **PcP** **00 46 59.8 +0.9**
HIA Hailar 23.63 284 eP **P** **00 43 13.9 -1.2**
HIA pmax pmax
comp=Z,43nm,0.9s
HIA Hailar 23.63 284 eP **P** **00 43 13.9 -1.2**
comp=Z,43nm,0.9s
SNY Shenyang 23.85 264⇑ P **P** **00 43 16.8 -0.3**
SNY pmax pmax
comp=Z,57nm,1.1s
SNY pmax pmax
comp=Z,480nm,10.6s
SNY LR LR
comp=Z,2μm,17.3s
SNY LR LR

	comp=Z,3μm,15.6s									
SNY					LR	LR				
	comp=Z,4μm,16.8s									
INCN	**Inchon**	**24.29**	**252**	*e*P	**P**	**00 43 22.2**	**+0.9**			
INCN	**Inchon**	**24.29**	**252**	P	**P**	**00 43 22.2**	**+0.9**			
INCN	**Inchon**	**24.29**	**252**	*e*P	**P**	**00 43 22.2**	**+0.9**			
	comp=Z,125nm,1.1s									
INCN	**Inchon**	**24.29**	**252**	P	**P**	**00 43 22.9**	**+1.6**			
	SNR=8.8									
INCN	**Inchon**	**24.29**	**252**	P	**P**	**00 43 22.9**	**+1.6**			
	SNR=8.8									
TJN	**Taejon**	**24.54**	**249**	*c i*P	**P**	**00 43 24.2**	**+0.7**			
JNU	**Nakatsue**	**24.73**	**239**	P	**P**	**00 43 25.8**	**+0.4**			
	comp=Z,142nm,1.0s,baz=37,slow=8.5,SNR=36									
JNU					LR	LR	00 54 19.9			
	comp=Z,1μm,18.6s,baz=46,slow=40									
JNU	**Nakatsue**	**24.73**	**239**	*e*P	**P**	**00 43 25.9**	**+0.5**			
JNU	**Nakatsue**	**24.73**	**239**	*e*P	**P**	**00 43 25.9**	**+0.5**			
	comp=Z,223nm,1.1s									
TIXI	**Tiksi**	**25.76**	**340**	P	**P**	**00 43 32.2**	**-2.1**			
	comp=Z,107nm,0.8s,baz=131,slow=9.3,SNR=132									
TIXI					PcP	**PcP**	**00 47 03.7**	**+0.5**		
	comp=Z,8.1nm,0.8s,baz=82,slow=4.9,SNR=4.2									
TIXI					LR	LR	00 55 00.3			
	comp=Z,2μm,18.2s,baz=132,slow=40									
TIXI	**Tiksi**	**25.76**	**340**	*e*P	**P**	**00 43 32.2**	**-2.1**			
TIXI						00 47 03.7				
TIXI					pmax	pmax				
	comp=Z,98nm,0.8s									
TIXI	**Tiksi**	**25.76**	**340**	*e*P	**P**	**00 43 32.1**	**-2.1**			
	comp=Z,98nm,0.8s									
TIXI					PcP	**PcP**	**00 47 03.7**	**+0.5**		
BOD	**Bodaibo**	**26.12**	**305**	*e*P	**P**	**00 43 36.8**	**-0.8**			
BOD					pmax	pmax				
	comp=Z,57nm,1.6s									
DL2	**Dalian**	**26.65**	**260**	P	**P**	**00 43 41.1**	**-1.5**			
DL2					sP	**sP**	**00 43 56.3**	**+2.6**		
DL2					S	**S**	**00 48 12.6**	**-3.3**		
DL2					pmax	pmax				
	comp=Z,53nm,1.1s									
DL2					pmax	pmax				
	comp=Z,390nm,7.1s									
DL2					LR	LR				
	comp=Z,2μm,14.3s									
DL2					LR	LR				
	comp=Z,2μm,16.5s									
DL2					LR	LR				
	comp=Z,2μm,17.4s									
SVW2	**Sparrevohn**	**29.32**	**48**	*e*P	**P**	**00 44 06.5**	**+0.2**			
	comp=Z,62nm,1.5s									
BJI	**Beijing**	**29.59**	**267**	⇑*e*P	**P**	**00 44 08.0**	**-0.8**			
BJI					sP	**sP**	**00 44 23.3**	**+3.3**		
BJI					S	**S**	**00 49 04.0**	**+1.8**		
BJI					pmax	pmax				
	comp=Z,43nm,1.3s									
BJI					pmax	pmax				
	comp=Z,420nm,7.6s									
BJI					LR	LR				
	comp=Z,3μm,13.7s									
BJT	**Baijiatuau**	**29.61**	**267**	*e*P	**P**	**00 44 08.4**	**-0.6**			
BJT					pmax	pmax				
	comp=Z,54nm,1.4s									
BJT	**Baijiatuau**	**29.61**	**267**	*e*P	**P**	**00 44 08.3**	**-0.6**			
	comp=Z,54nm,1.4s									
H11N2	**WAKE ISLAND Hy**	**30.64**	**160**	T	T	01 17 17.5				
	baz=347,slow=76,SNR=70									
H11N1	**WAKE ISLAND Hy**	**30.66**	**160**	T	T	01 17 27.1				
	baz=347,slow=76,SNR=75									
H11N3	**WAKE ISLAND Hy**	**30.66**	**160**	T	T	01 17 27.5				
	baz=347,slow=76,SNR=81									
OHAK	**Old Harbor**	**30.68**	**55**	*e*P	**P**	**00 44 19.1**	**+0.8**			
	comp=Z,62nm,0.9s									
RSO	**Redoubt South**	**30.71**	**49**	*e*P	**P**	**00 44 19.0**	**+0.2**			
PPLA	**Purkeypile**	**30.98**	**44**	*e*P	**P**	**00 44 22.1**	**+1.0**			
	comp=Z,216nm,1.8s									
KDAK	**Kodiak Island**	**30.99**	**54**	P	**P**	**00 44 19.3**	**-1.7**			
	comp=Z,33nm,0.8s,baz=280,slow=5.3,SNR=10									
KDAK					LR	LR	00 59 17.0			
	comp=Z,1μm,18.6s,baz=266,slow=41									
KDAK	**Kodiak Island**	**30.99**	**54**	*e*P	**P**	**00 44 20.1**	**-0.9**			
	comp=Z,66nm,0.8s									
JOW	**Kunigami**	**31.02**	**234**	*e*P	**P**	**00 44 22.5**	**+0.9**			
	comp=Z,104nm,1.1s									
CAST	**Castle Rocks**	**31.05**	**43**	*e*P	**P**	**00 44 21.8**	**+0.2**			
	comp=Z,21nm,1.0s									
TIA	**Tai'an**	**31.12**	**260**	P	**P**	**00 44 22.0**	**-0.4**			
TIA					pmax	pmax				
	comp=Z,10.0nm,0.7s									
TIA					pmax	pmax				
	comp=Z,200nm,3.8s									
TIA					LR	LR				
	comp=Z,2μm,15.0s									
TIA					LR	LR				
	comp=Z,2μm,15.1s									
TIA					LR	LR				
	comp=Z,2μm,15.9s									
BPAW	**Bear Paw Mtn.**	**31.57**	**42**	*e*P	**P**	**00 44 26.5**	**+0.4**			
	comp=Z,40nm,1.0s									
KTH	**Kantishna Hill**	**31.57**	**43**	*e*P	**P**	**00 44 26.3**	**+0.1**			
	comp=Z,82nm,1.2s									
SUA	**Susitna One**	**31.66**	**47**	*e*P	**P**	**00 44 26.3**	**-0.7**			
	comp=Z,36nm,1.0s									
MLY	**Manley**	**31.73**	**40**	*e*P	**P**	**00 44 27.7**	**+0.1**			
	comp=Z,140nm,2.0s									
H11S1	**WAKE ISLAND Hy**	**31.78**	**161**	T	T	01 18 48.9				
	baz=347,slow=76,SNR=224									
H11S3	**WAKE ISLAND Hy**	**31.79**	**161**	T	T	01 18 55.8				
	baz=347,slow=76,SNR=488									
H11S2	**WAKE ISLAND Hy**	**31.80**	**161**	T	T	01 18 56.4				
	baz=347,slow=76,SNR=171									
TRF	**Thorofare Moun**	**31.86**	**43**	*e*P	**P**	**00 44 28.9**	**+0.1**			
	comp=Z,47nm,1.2s									
ULN	**Ulaanbaatar**	**32.09**	**287**	*c i*P	**P**	**00 44 29.5**	**-1.5**			
ULN					pmax	pmax				
	comp=Z,8.0nm,1.0s									
ULN	**Ulaanbaatar**	**32.09**	**287**	*e*P	**P**	**00 44 29.9**	**-1.0**			
	comp=Z,10nm,1.1s									
COLD	**Coldfoot**	**32.15**	**36**	*e*P	**P**	**00 44 31.2**	**0.0**			
	comp=Z,55nm,1.0s									
RC01	**Rabbit Creek A**	**32.16**	**48**	*e*P	**P**	**00 44 30.7**	**-0.6**			
	comp=Z,23nm,0.8s									
RC01				*e*PcP	**PcP**	**00 47 19.6**	**+0.1**			
HHC	**Hu-ho-hao-te**	**32.20**	**272**	*e*P	**P**	**00 44 31.3**	**-0.7**			
HHC					pP	pP	00 44 36.5	-3.4		
HHC					sP	sP	00 44 39.6	-3.6		
HHC					PP	**PnPn**	**00 45 36.3**	**-1.9**		
HHC					S	**S**	**00 49 45.0**	**+1.7**		
HHC					SS	**SnSn**	**00 51 38.9**	**+4.0**		
HHC					pmax	pmax				
	comp=Z,63nm,1.0s									
HHC					pmax	pmax				
	comp=Z,270nm,5.3s									
HHC					LR	LR				
	comp=Z,2μm,12.4s									
HHC					LR	LR				
	comp=Z,3μm,14.0s									
HHC					LR	LR				
	comp=Z,4μm,13.6s									
IRK	**Irkutsk**	**32.41**	**296**	*e*P	**P**	**00 44 33.0**	**-0.6**			
IRK	**Irkutsk**	**32.41**	**296**	*e*P	**P**	**00 44 33.0**	**-0.6**			
IRK					pmax	pmax				
	comp=Z,77nm,1.0s									
PMR	**Palmer**	**32.43**	**47**	*e*P	**P**	**00 44 33.4**	**-0.2**			
PMR	**Palmer**	**32.43**	**47**	*e*P	**P**	**00 44 33.4**	**-0.2**			
PMR					pmax	pmax				
	comp=Z,21nm,1.0s									
PMR	**Palmer**	**32.43**	**47**	*e*P	**P**	**00 44 33.4**	**-0.2**			
	comp=Z,21nm,1.0s									
MCK	**McKinley**	**32.46**	**43**	*e*P	**P**	**00 44 33.6**	**-0.4**			
MCK	**McKinley**	**32.46**	**43**	*e*P	**P**	**00 44 33.6**	**-0.4**			
MCK					pmax	pmax				
	comp=Z,40nm,1.0s									
MCK	**McKinley**	**32.46**	**43**	*e*P	**P**	**00 44 33.6**	**-0.4**			
	comp=Z,40nm,1.0s									
SONA1	**Songino Array**	**32.50**	**287**	*e*P	**P**	**00 44 33.4**	**-1.2**			
RND	**Reindeer**	**32.50**	**43**	*e*P	**P**	**00 44 33.5**	**-0.8**			
RND					pmax	pmax				
	comp=Z,43nm,1.0s									
RND	**Reindeer**	**32.50**	**43**	*e*P	**P**	**00 44 33.5**	**-0.8**			
	comp=Z,43nm,1.0s									
SONM	**Songino Array**	**32.51**	**287**	P	**P**	**00 44 33.4**	**-1.2**			
	comp=Z,3.9nm,0.8s,baz=64,slow=7.2,SNR=16									
SONM					PcP	**PcP**	**00 47 20.3**	**-0.6**		
	comp=Z,3.5nm,0.9s,baz=31,slow=3.7,SNR=3.8									
SONM					LR	LR	00 59 06.6			
	comp=Z,4μm,18.7s,baz=74,slow=39									
TOLK	**Toolik Lake Re**	**32.58**	**34**	P	**P**	**00 44 35.2**	**+0.2**			
	baz=262									
TOLK	**Toolik Lake Re**	**32.58**	**34**	*e*P	**P**	**00 44 35.2**	**+0.2**			
	comp=Z,42nm,0.8s									
NJ2	**Nanjing**	**32.67**	**252**	*e*P	**P**	**00 44 36.9**	**+0.8**			
NJ2				pP	**pP**	**00 44 42.5**	**-1.5**			
NJ2				sP	**sP**	**00 44 45.6**	**-1.6**			
NJ2				pmax	pmax					
	comp=Z,39nm,0.9s									
NJ2				LR	LR					
	comp=Z,3μm,14.6s									
NJ2				LR	LR					
	comp=Z,2μm,15.2s									
NJ2				LR	LR					
	comp=Z,5μm,15.2s									
MDM	**Murphy Dome**	**32.79**	**40**	*e*P	**P**	**00 44 36.7**	**-0.1**			
	comp=Z,32nm,1.0s									
SML	**Sawmill**	**32.79**	**46**	*e*P	**P**	**00 44 36.3**	**-0.6**			
SML	**Sawmill**	**32.79**	**46**	*e*P	**P**	**00 44 36.3**	**-0.6**			
SML					pmax	pmax				
	comp=Z,112nm,0.9s									
SML	**Sawmill**	**32.79**	**46**	*e*P	**P**	**00 44 36.3**	**-0.6**			
	comp=Z,112nm,0.9s									
TLY	**Talaya**	**32.94**	**295**	*e*P	**P**	**00 44 38.0**	**-0.2**			
TLY	**Talaya**	**32.94**	**295**	*c i*P	**P**	**00 44 38.0**	**-0.2**			
TLY				*e*		00 45 52.5				
TLY				*e*PPP	PPP	00 46 05.9				
TLY						00 55 05.7				
TLY				pmax	pmax					
	comp=Z,76nm,0.9s									
TLY				MLR	MLR					
	comp=Z,3μm,15.0s									
TLY	**Talaya**	**32.94**	**295**	*e*P	**P**	**00 44 37.6**	**-0.6**			
	comp=Z,68nm,0.9s									
TLY	**Talaya**	**32.94**	**295**	P	**P**	**00 44 38.2**	**0.0**			
	SNR=43									
TLY	**Talaya**	**32.94**	**295**	P	**P**	**00 44 38.2**	**0.0**			
	SNR=43									
COLA	**College**	**32.95**	**41**	*e*P	**P**	**00 44 38.0**	**-0.1**			
COLA	**College**	**32.95**	**41**	*e*P	**P**	**00 44 38.4**	**+0.3**			
COLA				pmax	pmax					
	comp=Z,80nm,0.9s									
COLA	**College**	**32.95**	**41**	*e*P	**P**	**00 44 38.4**	**+0.3**			
	comp=Z,80nm,0.9s									
CCB	**Clear Creek Bu**	**32.97**	**41**	*e*P	**P**	**00 44 38.0**	**-0.2**			
	comp=Z,135nm,1.6s									
DHY	**Denali Highway**	**33.18**	**44**	*e*P	**P**	**00 44 39.4**	**-0.9**			
	comp=Z,68nm,1.4s									
SCM	**Sheep Creek Mo**	**33.27**	**46**	*e*P	**P**	**00 44 40.9**	**-0.2**			
SCM					pmax	pmax				
	comp=Z,53nm,0.9s									
SCM	**Sheep Creek Mo**	**33.27**	**46**	*e*P	**P**	**00 44 40.9**	**-0.2**			
	comp=Z,53nm,0.9s									
TIY	**Taiyuan**	**33.30**	**267**	*e*P	**P**	**00 44 42.3**	**+0.7**			
TIY				pP	**sP**	**00 44 51.3**	**-1.5**			
TIY				S	**S**	**00 49 56.3**	**-4.1**			
TIY				pmax	pmax					
	comp=Z,110nm,1.1s									
TIY				pmax	pmax					
	comp=Z,250nm,5.0s									
TIY				LR	LR					
	comp=Z,680nm,13.0s									
TIY				LR	LR					
	comp=Z,2μm,16.8s									
TIY				LR	LR					
	comp=Z,2μm,18.1s									
BTO	**Baotou**	**33.33**	**273**	*e*P	**P**	**00 44 40.5**	**-1.4**			
HDA	**Harding Lake**	**33.34**	**41**	*e*P	**P**	**00 44 40.8**	**-0.8**			
	comp=Z,42nm,1.1s									
IL1	**Eielson Array**	**33.36**	**41**	*e*P	**P**	**00 44 39.3**	**-2.5**			
ILAR	**Eielson Array**	**33.36**	**41**	P	**P**	**00 44 41.0**	**-0.8**			
	comp=Z,9.6nm,0.8s,baz=254,slow=8.0,SNR=75									
ILAR	**Eielson Array**	**33.36**	**41**	*e*P	**P**	**00 44 41.0**	**-0.8**			
ILAR	**Eielson Array**	**33.36**	**41**	P	**P**	**00 44 41.0**	**-0.8**			
ILB	**Eielson Array**	**33.36**	**41**	*e*P	**P**	**00 44 41.1**	**-0.7**			
GLI	**Glacier Island**	**33.46**	**48**	*e*P	**P**	**00 44 42.3**	**-0.4**			
	comp=Z,34nm,0.8s									
ZAK	**Zakamensk**	**33.56**	**293**	*e*P	**P**	**00 44 42.8**	**-0.9**			
ZAK				*e*		00 47 23.3				
ZAK				pmax	pmax					
	comp=Z,39nm,1.0s									
KLU	**Klutina**	**33.97**	**47**	*e*P	**P**	**00 44 47.1**	**-0.1**			
	comp=Z,55nm,1.1s									
PAX	**Paxson**	**34.05**	**44**	*e*P	**P**	**00 44 47.9**	**0.0**			
PAX				pmax	pmax					
	comp=Z,20nm,1.0s									
PAX	**Paxson**	**34.05**	**44**	*e*P	**P**	**00 44 47.9**	**0.0**			
	comp=Z,20nm,1.0s									
FYU	**Fort Yukon**	**34.06**	**38**	*e*P	**P**	**00 44 48.6**	**+0.8**			
	comp=Z,371nm,1.4s									
DIV	**Divide**	**34.08**	**47**	*e*P	**P**	**00 44 48.0**	**-0.1**			
	comp=Z,40nm,0.7s									
HARP	**HAARP**	**34.24**	**45**	*e*P	**P**	**00 44 49.9**	**+0.5**			
	comp=Z,168nm,1.6s									
RIDG	**Independ'e Rid**	**34.28**	**43**	*e*P	**P**	**00 44 49.0**	**-0.8**			
	comp=Z,84nm,1.2s									
MOY	**Mondy**	**34.52**	**296**	*e*P	**P**	**00 44 51.6**	**-0.5**			
MOY				pmax	pmax					
	comp=Z,32nm,1.3s									
DOT	**Dot Lake**	**34.64**	**43**	*e*P	**P**	**00 44 51.7**	**-1.2**			
	comp=Z,55nm,0.8s									
BMRM	**Bremner River**	**34.66**	**47**	*e*P	**P**	**00 44 52.9**	**-0.2**			
	comp=Z,65nm,1.1s									
RAGM	**Ragged Mountai**	**34.71**	**49**	*e*P	**P**	**00 44 53.9**	**+0.4**			
	comp=Z,38nm,0.9s									
MENT	**Mentasta**	**34.85**	**44**	*e*P	**P**	**00 44 55.2**	**+0.5**			
	comp=Z,21nm,1.0s									
EGAK	**Eagle**	**35.81**	**41**	*e*P	**P**	**00 45 02.1**	**-0.8**			
	comp=Z,206nm,1.6s									
WHN	**Wuhan**	**36.53**	**255**	⇑*e i*P	**P**	**00 45 09.5**	**+0.1**			
WHN				pP	**pP**	**00 45 16.3**	**-1.1**			
WHN				sP	**sP**	**00 45 22.8**	**+2.2**			
WHN				S	**S**	**00 50 49.0**	**-1.0**			
WHN				pmax	pmax					
	comp=Z,240nm,0.7s									
WHN				LR	LR					
	comp=Z,7μm,21.1s									
WHN				LR	LR					
	comp=Z,11μm,20.8s									
WHN				LR	LR					
	comp=Z,3μm,13.2s									
DAWY	**Dawson**	**36.65**	**42**	*e*P	**P**	**00 45 10.5**	**+0.3**			
	comp=Z,29nm,0.9s									
GUMO	**Guam**	**36.71**	**199**	LR	LR	00 57 01.9				
	comp=Z,352nm,20.4s,baz=348,slow=31									
NRIK	**Noril'sk**	**37.75**	**327**	LR	LR	01 03 00.5				
	comp=Z,1μm,19.8s,baz=242,slow=40									
XAN	**Xi'an**	**37.77**	**264**	P	**P**	**00 45 19.3**	**-0.7**			
XAN				pP	pP	00 45 26.1	-1.9			
XAN				sP	sP	00 45 29.4	-1.8			
XAN				S	**S**	**00 51 17.0**	**+8.0**			
XAN				pmax	pmax					
	comp=Z,16nm,1.3s									
XAN				pmax	pmax					
	comp=Z,280nm,4.2s									
XAN				LR	LR					
	comp=Z,2μm,14.4s									
XAN				LR	LR					
	comp=Z,1μm,14.4s									
XAN				LR	LR					
	comp=Z,3μm,16.2s									
QZH	**Quanzhou**	**37.94**	**244**	⇑*e i*P	**P**	**00 45 22.3**	**+0.9**			
QZH				S	**S**	**00 51 11.9**	**+0.3**			
QZH				LR	LR					
	comp=Z,1μm,14.2s									
QZH				LR	LR					
	comp=Z,860nm,12.3s									
QZH				LR	LR					
	comp=Z,1μm,13.5s									
TPUB	**Ta-pu**	**38.03**	**240**	*e*P	**P**	**00 45 22.2**	**0.0**			
	comp=Z,35nm,0.8s									
HYT	**Haines Junctio**	**38.10**	**47**	*e*P	**P**	**00 45 22.4**	**-0.1**			
	comp=Z,81nm,1.0s									
INK	**Inuvik**	**38.48**	**34**	P	**P**	**00 45 26.2**	**+0.7**			
	comp=Z,50nm,0.8s,baz=283,slow=7.7,SNR=160									
INK	**Inuvik**	**38.48**	**34**	*e*P	**P**	**00 45 26.2**	**+0.7**			
	comp=Z,75nm,0.9s									
WHY	**Whitehorse**	**39.39**	**46**	*e*P	**P**	**00 45 34.4**	**+1.1**			
	comp=Z,42nm,1.0s									
ENH	**Enshi**	**39.82**	**259**	*e*P	**P**	**00 45 36.8**	**-0.4**			
	comp=Z,40nm,0.8s									
LZH	**Lanzhou**	**39.87**	**271**	*e*P	**P**	**00 45 37.8**	**+0.1**			
LZH				pP	pP	00 45 46.3	+0.6			
LZH				sP	sP	00 45 49.3	+0.3			
LZH				PcP	**PcP**	**00 47 44.4**	**+1.3**			
LZH				*e*S	**S**	**00 51 40.1**	**-0.7**			
LZH				sS	sS	00 51 53.4	-0.6			
LZH				pmax	pmax					
	comp=Z,200nm,1.3s									
LZH				pmax	pmax					
	comp=Z,400nm,4.3s									
LZH				LR	LR					
	comp=Z,3μm,12.2s									
LZH				LR	LR					
	comp=Z,2μm,12.4s									
LZH				LR	LR					
	comp=Z,5μm,14.4s									
GTA	**Gaotai**	**40.62**	**278**	⇑P	**P**	**00 45 43.8**	**-0.1**			
GTA				pP	pP	00 45 51.5	-0.4			
GTA				sP	sP	00 45 54.3	-0.9			
GTA				PP	**PnPn**	**00 47 20.8**	**-0.8**			
GTA				PcP	**PcP**	**00 47 46.9**	**+1.5**			
GTA				ScP	**ScP**	**00 51 34.8**	**+2.0**			
GTA				PcS	**PcS**	**00 51 36.4**	**+0.2**			
GTA				S	**S**	**00 51 50.8**	**-1.1**			
GTA				sS	pS	00 52 02.6	+1.5			
GTA				SS	**SS**	**00 54 44.3**	**-7.9**			
GTA				ScS	**ScS**	**00 55 48.1**	**+0.6**			
GTA				pmax	pmax					
	comp=Z,45nm,1.2s									
GTA				pmax	pmax					
	comp=Z,200nm,5.2s									
GTA				LR	LR					
	comp=Z,2μm,15.2s									
GTA				LR	LR					
	comp=Z,5μm,16.2s									
GTA				LR	LR					
	comp=Z,6μm,15.7s									
DLBC	**Dease Lake**	**42.43**	**48**	*e*P	**P**	**00 45 60.0**	**+1.6**			
	comp=Z,40nm,1.0s									
GZH	**Guangzhou**	**42.48**	**248**	P	**P**	**00 45 54.5**	**-4.6**			
GZH				S	**S**	**00 52 13.5**	**-5.9**			
GZH				LR	LR					
	comp=Z,1μm,15.4s									
GZH				LR	LR					
	comp=Z,2μm,16.8s									
ZAA0	**Zalesovo Array**	**42.87**	**305**	*e*P	**P**	**00 46 00.3**	**-1.5**			
	comp=Z,14nm,0.8s									
ZALV	**Zalesovo Beam**	**42.87**	**305**	P	**P**	**00 46 00.2**	**-1.6**			
	comp=Z,13nm,0.8s,baz=62,slow=7.0,SNR=76									
ZALV				PcP	**PcP**	**00 47 52.9**	**+0.6**			
	comp=Z,17nm,0.9s,baz=96,slow=3.0,SNR=9.8									
ZALV				ScP	**ScP**	**00 51 43.4**	**+2.1**			
	comp=Z,2.4nm,0.9s,baz=39,slow=5.7,SNR=4.2									
ZALV				LR	LR	01 05 11.9				
	comp=Z,1μm,18.1s,baz=66,slow=38									
CD2	**Chengdu**	**43.12**	**265**	P	**P**	**00 46 04.0**	**-0.3**			
CD2				pP	sP	00 46 16.3	+0.7			
CD2				PcS	**PcS**	**00 51 46.3**	**0.0**			
CD2				S	**S**	**00 52 26.8**	**-2.1**			
CD2				SS	**SS**	**00 55 41.3**	**-0.4**			
CD2				pmax	pmax					
	comp=Z,100nm,0.6s									
CD2				pmax	pmax					
	comp=Z,350nm,4.0s									
CD2				LR	LR					
	comp=Z,2μm,20.8s									
CD2				LR	LR					
	comp=Z,2μm,14.0s									
CD2				LR	LR					
	comp=Z,2μm,16.3s									
NVS	**Novosibirsk**	**43.35**	**306**	*e*P	**P**	**00 46 05.3**	**-0.4**			
NVS	**Novosibirsk**	**43.35**	**306**	⇓*i*P	**P**	**00 46 05.3**	**-0.4**			
NVS				*i*		00 47 53.7				
NVS				*i* S	**S**	**00 52 30.3**	**-1.2**			
NVS				*i*		00 56 05.2				
NVS				pmax	pmax					
	comp=Z,104nm,1.7s									
NVS				pmax	pmax					
	comp=N,45nm,1.9s									
NVS				pmax	pmax					
	comp=E,77nm,1.6s									
NVS				smax	smax					
	comp=N,18nm,1.8s									
NVS				smax	smax					
	comp=E,26nm,2.0s									
GYA	**Guiyang**	**44.23**	**258**	⇑*i*P	**P**	**00 46 13.5**	**+0.2**			
GYA				pP	sP	00 46 22.8	-1.9			
GYA				PP	**PcP**	**00 47 59.3**	**+1.7**			
GYA				ScP	**ScP**	**00 51 48.0**	**+0.5**			
GYA				S	**S**	**00 52 45.4**	**+0.1**			
GYA				sS	sS	00 52 59.6	+1.0			
GYA				SS	**SS**	**00 55 55.0**	**-8.7**			
GYA				ScS	**ScS**	**00 56 08.9**	**-1.1**			
GYA				pmax	pmax					
	comp=E,130nm,1.1s									
GYA				pmax	pmax					
	comp=E,200nm,5.0s									
GYA				LR	LR					
	comp=E,630nm,17.9s									
GYA				LR	LR					
	comp=E,580nm,18.4s									
GYA				LR	LR					
	comp=E,590nm,18.8s									
ZSN	**Zaisan**	**45.80**	**296**	⇑*i*P	**P**	**00 46 24.6**	**-0.8**			
	comp=E,56nm,1.1s									
ZSN				*i* LR	LR	01 06 04.5				
	comp=E,940nm,15.5s									
WMQ	**Urumqi**	**45.96**	**291**	P	**P**	**00 46 26.8**	**0.0**			
WMQ				pP	pP	00 46 35.3	+0.4			
WMQ				sP	sP	00 46 42.1	+3.9			
WMQ				PcP	**PcP**	**00 48 04.4**	**+1.2**			
WMQ				S	**S**	**00 53 16.0**	**+6.2**			
WMQ				ScS	**ScS**	**00 56 19.1**	**-1.4**			
WMQ				pmax	pmax					
	comp=E,86nm,1.1s									
WMQ				pmax	pmax					
	comp=E,780nm,7.5s									
WMQ				LR	LR					
	comp=E,6μm,15.1s									
WMQ				LR	LR					
	comp=E,6μm,13.5s									
WMQ				LR	LR					
	comp=E,3μm,16.9s									
BBB	**Bella

comp=Z,520nm,3.9s
KMI LR LR
comp=Z,1µm,16.4s
KMI LR LR
comp=Z,1µm,15.9s
KMI LR LR
comp=Z,860nm,19.0s
YKW3 Yellowknife Ar 47.70 39 *eP* **P 00 46 40.2 +0.2**
comp=Z,31nm,0.9s
KURK Kurchatov 47.72 303 *eP* **P 00 46 39.4 -1.0**
KURK Kurchatov 47.72 303 *ceP* **P 00 46 39.4 -1.0**
KURK pmax pmax
comp=Z,108nm,0.9s
KURK MLR MLR
comp=Z,2µm,16.0s
KURK Kurchatov 47.72 303 *eP* **P 00 46 39.3 -1.0**
comp=Z,106nm,0.9s
KURK ScP **ScP 00 51 59.0 -2.5**
KURK Kurchatov 47.72 303 P **P 00 46 39.7 -0.7**
SNR=37
KURK Kurchatov 47.72 303 P **P 00 46 39.7 -0.7**
SNR=37
YKA Yellowknife Ar 47.74 39 P **P 00 46 40.4 +0.1**
comp=Z,31nm,0.9s,baz=297,slow=7.5,SNR=216
KURBB Kurchatov Arra 47.82 303 P **P 00 46 40.5 -0.6**
comp=Z,72nm,0.9s,baz=64,slow=7.9,SNR=261
KURBB ScP **ScP 00 51 59.0 -2.9**
comp=Z,1.6nm,0.9s,baz=60,slow=5.6,SNR=2.7
MAKZ Makanchi 47.82 297 *i* P **P 00 46 39.2 -2.0**
MAKZ pmax pmax
comp=Z,39nm,1.2s
MAKZ Makanchi 47.82 297 *eP* **P 00 46 40.6 -0.7**
comp=Z,34nm,1.0s
RES Resolute Bay 47.85 20 P **P 00 46 41.6 +0.6**
comp=Z,42nm,0.9s,baz=307,slow=7.8,SNR=117
RES Resolute Bay 47.85 20 *eP* **P 00 46 41.6 +0.6**
RES pmax pmax
comp=Z,55nm,1.0s
RES Resolute Bay 47.85 20 *eP* **P 00 46 41.6 +0.6**
comp=Z,55nm,1.0s
LLLB Lillooet 50.20 55 *eP* **P 00 46 59.9 +0.5**
comp=Z,26nm,1.0s
SPA0 Spitsbergen Ar 50.56 350 *eP* **P 00 47 01.6 -0.1**
SPITS Spitsbergen Ar 50.56 350 P **P 00 47 00.3 -1.5**
comp=Z,17nm,0.9s,baz=32,slow=7.9,SNR=12
SPITS LR LR 01 09 49.8
comp=Z,1µm,19.5s,baz=40,slow=38
A04D Lummi Island 50.77 58 P **P 00 47 03.8 +0.2**
baz=303
BVA0 Borovoye Array 50.89 309 P **P 00 47 02.1 -2.5**
BVA0 pmax pmax
comp=Z,59nm,0.9s
BVAR Borovoye Array 50.89 309 P **P 00 47 03.7 -0.9**
comp=Z,34nm,0.8s,baz=60,slow=8.5,SNR=185
BVAR PcP **PcP 00 48 21.3 +0.6**
comp=Z,17nm,0.9s,baz=77,slow=3.3,SNR=3.9
BVAR LR LR 01 10 32.5
comp=Z,2µm,18.2s,baz=65,slow=38
TDK Taldyqorghan 50.89 297 *i* P **P 00 47 04.5 -0.2**
comp=Z,1µm,1.0s
TDK *i* LR LR 01 08 20.8
comp=Z,3µm,15.9s
BRVK Borovoye 50.92 309 *c iP* **P 00 47 03.8 -1.0**
BRVK pmax pmax
comp=Z,98nm,1.0s
BRVK Borovoye 50.92 309 *eP* **P 00 47 04.1 -0.7**
comp=Z,89nm,1.0s
BRVK Borovoye 50.92 309 P **P 00 47 04.3 -0.5**
SNR=33
BRVK Borovoye 50.92 309 P **P 00 47 04.3 -0.5**
SNR=33
PDGK Podgornoye 51.20 294 *i* P **P 00 47 06.4 -0.8**
PDGK pmax pmax
comp=Z,39nm,1.1s
TULEG Thule 51.31 12 *eP* **P 00 47 06.9 -0.5**
comp=Z,64nm,1.1s
BRZS Berezniki 51.35 305⇑ *iP* **P 00 47 07.2 -0.9**
comp=Z,158nm,1.1s
B05A Bryant 51.36 58 P **P 00 47 08.4 +0.3**
baz=304
B06A Marblemount 51.56 57 *eP* **P 00 47 09.7 +0.1**
comp=Z,20nm,0.8s
UZB Uzynbulak 51.59 294⇑ *iP* **P 00 47 09.3 -0.8**
comp=Z,301nm,1.2s
UZB *eS* **S 00 54 28.4 -0.8**
UZB *i* LR LR 01 09 35.9
comp=Z,581nm,12.2s
MANU Manus Island 51.60 191 *eP* **P 00 47 10.0 -0.3**
comp=Z,36nm,0.9s
KPKS Kokpek 51.61 295 *i* P **P 00 47 09.6 -0.6**
comp=Z,131nm,1.0s
SATY Saty 52.01 295⇑ *iP* **P 00 47 12.8 -0.5**
comp=Z,559nm,1.2s
SATY *i* LR LR 01 09 18.2
comp=Z,733nm,11.8s
D05A Enumclaw 52.02 59 *eP* **P 00 47 14.3 +1.2**
comp=Z,100nm,1.4s
LSA Lhasa 52.17 273 P **P 00 47 16.0 +1.0**
LSA pP **pP 00 47 22.5 -0.7**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA pmax pmax
comp=Z,200nm,10.4s
LSA LR LR
comp=Z,550nm,19.0s
LSA LR LR
comp=Z,1µm,20.6s
LSA LR LR
comp=Z,2µm,14.2s
LSA Lhasa 52.17 273 *eP* **P 00 47 16.3 +1.3**
LSA pmax pmax
comp=Z,31nm,0.9s
LSA Lhasa 52.17 273 *eP* **P 00 47 16.3 +1.3**
comp=Z,31nm,0.9s
LSA Lhasa 52.17 273 P **P 00 47 15.9 +0.9**
C06D Leavenworth 52.22 58 P **P 00 47 14.6 0.0**
baz=305
PRZ Przheval'sk 52.35 294 P **P 00 47 16.7 +0.9**
G03D McMinnville, O 52.43 62 P **P 00 47 16.6 +0.4**
baz=306
OTUK Ortayu 52.51 303 P **P 00 47 16.1 -0.6**
OTUK pmax pmax
comp=Z,61nm,1.3s
LTY Liberty 52.72 58 *eP* **P 00 47 18.7 +0.3**
comp=Z,21nm,1.1s
KUU Kurty 52.74 297⇑ *eP* **P 00 47 17.2 -1.4**
comp=Z,144nm,1.2s
KUU *i* LR LR 01 10 05.3
comp=Z,1µm,14.4s
MDOK Medeo 52.75 295 *i* P **P 00 47 18.1 -0.7**
comp=Z,212nm,1.2s
MDOK *i* LR LR 01 10 09.8
comp=Z,3µm,16.6s
AAA Alma-Ata 52.80 296 *eP* **P 00 47 19.0 -0.1**
AAA Alma-Ata 52.80 296 *eP* **P 00 47 19.0 -0.1**
AAA pmax pmax
comp=Z,100nm,4.7s
AAA MLR MLR
comp=Z,4µm,16.0s
AAA Alma-Ata 52.80 296 *eP* **P 00 47 19.5 +0.5**
comp=Z,151nm,1.3s
AAA *i* LR LR 01 10 25.2
comp=Z,1µm,16.2s
B08A Colville Reser 52.83 56 *eP* **P 00 47 18.7 -0.4**
comp=Z,29nm,1.0s
SKNT Sakolnakorn 52.84 252 P **P 00 47 19.0 -0.5**
comp=Z,51nm,1.0s
EDM Edmonton 53.15 49 *eP* **P 00 47 20.5 -1.0**
EDM pmax pmax
comp=Z,58nm,0.8s
EDM Edmonton 53.15 49 *eP* **P 00 47 20.5 -1.0**
comp=Z,58nm,0.8s
UBPT Khong Chiam 53.22 249 P **P 00 47 22.2 -0.1**
comp=Z,60nm,1.3s,comp=Z,1µm
KDJ Kajisay 53.28 294 P **P 00 47 22.4 -0.4**
SVE Sverdlovsk 53.42 317 *eP* **P 00 47 22.8 -0.5**
SVE Sverdlovsk 53.42 317 *d iP* **P 00 47 22.8 -0.5**
SVE *eS* **S 00 54 55.7 +2.1**
SVE pmax pmax
comp=Z,197nm,0.9s
SVE MLR MLR
comp=Z,2µm,17.0s
SOKR Solikamsk 53.44 321 *d iP* **P 00 47 20.7 -2.6**
SOKR pmax pmax
comp=Z,25nm,0.6s
SOKR MLR MLR
comp=Z,882nm,17.0s

G05D Wamic, OR 53.53 61 P **P 00 47 23.5 -0.8**
baz=306
BMNS Besmoynak 53.60 296⇑ *iP* **P 00 47 24.4 -0.7**
comp=Z,269nm,1.0s
BMNS *i* LR LR 01 11 05.0
comp=Z,2µm,14.4s
C09A Chrisman Ranch 53.73 56 *eP* **P 00 47 26.2 +0.5**
comp=Z,139nm,2.0s
I04A Tendick Farm, 53.75 63 P **P 00 47 26.8 +0.8**
baz=307
TKM2 Tokmak 2 53.75 296 *i* P **P 00 47 25.4 -0.8**
TKM2 pmax pmax
comp=Z,24nm,1.1s
TKM2 Tokmak 2 53.75 296 P **P 00 47 26.3 +0.1**
SNR=19
CMAI Chiengmai2 53.77 258 P **P 00 47 27.5 +0.9**
comp=Z,691nm,1.4s
ULHL Ulhasnol 53.77 295 P **P 00 47 26.1 -0.3**
SNR=52
D08A Wollman Farm, 53.81 58 *eP* **P 00 47 26.2 -0.1**
comp=Z,16nm,1.0s
HAWA Hanford 53.86 59 *eP* **P 00 47 26.6 -0.1**
comp=Z,18nm,0.9s
F07A Phinny Hill Vi 53.93 59 *eP* **P 00 47 27.8 +0.6**
comp=Z,28nm,0.8s
L02D Cave Junction, 54.03 65 P **P 00 47 28.9 +0.9**
baz=307
KHON Khomkaen 54.04 252 P **P 00 47 29.4 +1.1**
comp=Z,61nm,0.9s
I05D Terrebonne, OR 54.05 62 P **P 00 47 28.6 +0.4**
baz=307
E08A Dider Farm, El 54.07 58 *eP* **P 00 47 28.3 +0.1**
comp=Z,78nm,1.8s
NEW Newport 54.08 55 P **P 00 47 28.3 -0.1**
baz=306
NEW Newport 54.08 55 *eP* **P 00 47 28.3 -0.1**
NEW pmax pmax
comp=Z,17nm,1.0s
NEW Newport 54.08 55 *eP* **P 00 47 28.2 -0.1**
comp=Z,17nm,1.0s
HUMO Hull Mountain 54.14 64 *eP* **P 00 47 29.7 +0.9**
comp=Z,23nm,1.0s
USP Ospenovka 54.19 297 P **P 00 47 28.9 -0.4**
SNR=54
MYLDM Lahad Datu 54.20 229 *eP* **P 00 47 31.0 +1.6**
comp=Z,59nm,1.2s
CHMS Chunysh 54.20 297 P **P 00 47 29.4 +0.1**
SNR=19
DAG Danmarks Havn 54.26 359 *i* P **P 00 47 27.7 -1.5**
comp=Z,32nm,1.4s
DAG Danmarks Havn 54.26 359 *i* P **P 00 47 27.7 -1.5**
DAG pmax pmax
comp=Z,32nm,1.4s
J04D Umpqua Nationa 54.26 63 P **P 00 47 30.7 +0.8**
baz=307
KBK Karagaybulak 54.29 296 P **P 00 47 29.8 -0.4**
SNR=18
FRU Bishkek 54.38 296 *eP* **P 00 47 30.0 -0.6**
FRU pmax pmax
comp=Z,70nm,1.6s
FRU MLR MLR
comp=E,4µm,16.0s
FRU MLR MLR
comp=Z,5µm,16.0s
FRU1 Bishkek 54.39 296 P **P 00 47 31.0 +0.3**
NRN Naryn 54.41 294 P **P 00 47 30.8 -0.4**
LAMP Lampang 54.43 257 P **P 00 47 32.4 +1.3**
comp=Z,39nm,1.0s,comp=Z,310nm
SHL Shillong 54.46 269 *eP* **P 00 47 35.0 +3.4**
comp=Z,17nm,1.0s
KZA Kyzart 54.47 295 P **P 00 47 32.3 +0.7**
SNR=19
KULLO Kullorsuaq 54.50 10⇑ *iP* **P 00 47 30.4 -0.5**
comp=Z,88nm,0.9s
KULLO Kullorsuaq 54.50 10⇑ *iP* **P 00 47 30.4 -0.5**
KULLO pmax pmax
comp=Z,88nm,0.9s
E09A Wood Farm, Sta 54.56 58 *eP* **P 00 47 31.9 +0.1**
comp=Z,30nm,0.9s
AAK Ala-Archa 54.57 296 *c iP* **P 00 47 31.8 -0.4**
AAK pmax pmax
comp=Z,33nm,1.1s
AAK Ala-Archa 54.57 296 P **P 00 47 31.7 -0.4**
SNR=26
AAK Ala-Archa 54.57 296 *eP* **P 00 47 31.6 -0.6**
comp=Z,28nm,1.0s
AAK Ala-Archa 54.57 296 P **P 00 47 32.0 -0.2**
SNR=12
AAK Ala-Archa 54.57 296 P **P 00 47 32.0 -0.2**
SNR=12
AAK Ala-Archa 54.57 296 *i* P **P 00 47 31.7 -0.4**
SNR=35
ARU Arti 54.58 317 *c iP* **P 00 47 30.5 -1.3**
ARU 00 48 34.1
ARU S **S 00 55 09.1 -0.2**
ARU pmax pmax
comp=Z,369nm,1.2s
ARU MLR MLR
comp=Z,1µm,14.0s
ARU Arti 54.58 317 *eP* **P 00 47 30.4 -1.3**
comp=Z,243nm,0.9s
PINE Pine Mountain 54.61 62 *eP* **P 00 47 33.9 +1.5**
comp=Z,130nm,1.7s
CMMT Chiang Mai 54.65 257 P **P 00 47 32.5 -0.3**
comp=Z,122nm,1.0s,comp=Z,1µm
CHTO Chiang Mai 54.66 257 P **P 00 47 33.6 +0.8**
comp=Z,414nm,1.3s,comp=Z,6µm
CHTO Chiang Mai 54.66 257 *eP* **P 00 47 33.7 +0.9**
CHTO pmax pmax
comp=Z,115nm,1.0s
CHTO Chiang Mai 54.66 257 *eP* **P 00 47 33.7 +0.9**
comp=Z,115nm,1.0s
CHTO Chiang Mai 54.66 257 P **P 00 47 34.3 +1.5**
SNR=59
CHTO Chiang Mai 54.66 257 P **P 00 47 34.3 +1.5**
SNR=59
KHMM Horse Mountain 54.73 66 *eP* **P 00 47 35.3 +2.0**
comp=Z,79nm,1.1s
J05D Fort Rock, OR 54.74 62 P **P 00 47 33.9 +0.6**
baz=307
UCH Uchtor 54.81 296 P **P 00 47 34.4 +0.1**
SNR=6.9
YBH Yreka Blue Hor 54.82 65 P **P 00 47 34.8 +1.0**
comp=Z,12nm,0.8s,baz=312,slow=8.2,SNR=18
YBH LR LR 01 07 20.3
comp=Z,697nm,21.5s,baz=312,slow=32
YBH Yreka Blue Hor 54.82 65 *eP* **P 00 47 35.0 +1.2**
YBH pmax pmax
comp=Z,51nm,1.2s
YBH Yreka Blue Hor 54.82 65 *eP* **P 00 47 35.0 +1.2**
comp=Z,51nm,1.2s
G08A Pilot Rock 54.84 59 *eP* **P 00 47 34.1 +0.1**
comp=Z,7.2nm,0.8s
K04D Chiloquin, OR 54.84 63 P **P 00 47 35.0 +1.0**
baz=306
CHAI Chaiyaphum 54.90 252 P **P 00 47 35.1 +0.6**
comp=Z,33nm,0.9s,comp=Z,259nm
CM31 Chiang Mai Arr 54.92 257 *eP* **P 00 47 36.6 +1.9**
CMAR Chiang Mai Arr 54.92 257 P **P 00 47 36.1 +1.4**
comp=Z,41nm,1.0s,baz=32,slow=7.3,SNR=112
CMAR LR LR 01 11 57.1
comp=Z,978nm,20.3s,baz=48,slow=37
PHIT Phitsanulok 54.92 255 P **P 00 47 36.0 +1.3**
comp=Z,69nm,1.0s,comp=Z,586nm
CM01 Chiang Mai Arr 54.94 257 *eP* **P 00 47 35.1 +0.3**
M02C Callahan 54.94 65 P **P 00 47 35.9 +1.2**
baz=308
EKS2 Erkin-Say 54.98 297 P **P 00 47 34.8 -0.3**
SNR=34
I07A Izee 55.26 61 *eP* **P 00 47 37.8 +0.8**
comp=Z,28nm,1.4s
K05A Summer Lake 55.28 63 *eP* **P 00 47 38.6 +1.3**
comp=Z,82nm,1.1s
N02D Trinity Center 55.28 66 P **P 00 47 38.3 +1.1**
baz=308
M04C Macdoel 55.30 64 P **P 00 47 38.2 +0.8**
baz=308
LVZ Lovozero 55.32 337⇓ *eP* **P 00 47 35.6 -1.4**
LVZ pmax pmax
comp=Z,46nm,1.3s
LVZ Lovozero 55.32 337 *eP* **P 00 47 35.9 -1.1**
comp=Z,29nm,0.9s
WALA Waterton Lakes 55.32 53 *eP* **P 00 47 37.3 -0.1**
comp=Z,18nm,0.8s
AML Almayashu 55.35 296 P **P 00 47 38.1 +0.1**
SNR=20
F10A Beach Ranch, E 55.40 58 *eP* **P 00 47 38.0 0.0**
comp=Z,14nm,0.9s

KSH Kashi 55.60 293 P **P 00 47 42.6 +3.0**
KSH pP pP 00 47 49.0 +1.2
KSH sP sP 00 47 51.8 +0.8
KSH PP **PP 00 49 47.8 +4.3**
KSH S **S 00 55 24.4 +0.7**
KSH SS **SS 00 59 10.6 +2.2**
KSH pmax pmax
comp=Z,32nm,1.1s
KSH pmax pmax
comp=Z,290nm,6.8s
KSH LR LR
comp=Z,2µm,14.2s
KSH LR LR
comp=Z,860nm,11.4s
KSH LR LR
comp=Z,1µm,13.9s
WDC Whiskeytown Da 55.63 66 *eP* **P 00 47 39.9 +0.4**
WDC pmax pmax
comp=Z,41nm,1.0s
WDC Whiskeytown Da 55.63 66 *eP* **P 00 47 39.9 +0.4**
comp=Z,41nm,1.0s
MNAS Manas 55.83 297 *i* P **P 00 47 40.4 -0.8**
MNAS pmax pmax
comp=Z,15nm,1.0s
APA Apatity 55.88 337⇓ *iP* **P 00 47 37.8 -3.2**
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,2µm,19.0s
JTMT Jette 55.92 55 *eP* **P 00 47 42.1 +0.4**
comp=Z,12nm,0.8s
BMO Blue Mountains 56.04 59 *eP* **P 00 47 43.0 +0.4**
BMO pmax pmax
comp=Z,16nm,1.0s
BMO Blue Mountains 56.04 59 *eP* **P 00 47 43.0 +0.4**
comp=Z,16nm,1.0s
MOD Modoc Plateau 56.13 63 *eP* **P 00 47 44.2 +0.8**
comp=Z,42nm,0.9s
ARCES ARCESS Array B 56.20 341 P **P 00 47 42.8 -0.5**
comp=Z,7.7nm,0.6s,baz=34,slow=7.6,SNR=11
ARCES LR LR 01 16 52.4
comp=Z,2µm,18.4s,baz=34,slow=42
O03D Paynes Creek 56.24 66 P **P 00 47 44.4 +0.3**
baz=309
J08A Circle Bar Ran 56.29 61 *eP* **P 00 47 44.9 +0.5**
comp=Z,26nm,0.9s
SRAK Srakaew 56.30 251 P **P 00 47 43.0 -1.6**
comp=Z,173nm,1.0s,comp=Z,1µm
NAYO Nakonayok 56.52 252 P **P 00 47 47.5 +1.3**
comp=Z,158nm,0.9s
GDXM Geysers 56.58 68 *eP* **P 00 47 47.3 +0.8**
comp=Z,26nm,1.1s
KK31 Karatay Array 56.60 299 *i* P **P 00 47 45.6 -0.9**
KK31 pmax pmax
comp=Z,17nm,1.1s
KKAR Karatay Array 56.60 299 *eP* **P 00 47 46.0 -0.5**
KKAR Karatay Array 56.60 299 *eP* **P 00 47 46.0 -0.5**
MSO Missoula 56.67 55 P **P 00 47 47.1 0.0**
baz=308
MSO Missoula 56.67 55 *eP* **P 00 47 47.0 0.0**
comp=Z,28nm,1.0s
WVOR Wild Horse Val 56.77 62 *eP* **P 00 47 48.6 +0.7**
WVOR pmax pmax
comp=Z,43nm,1.1s
WVOR Wild Horse Val 56.77 62 *eP* **P 00 47 48.6 +0.7**
comp=Z,43nm,1.1s
JIRN Jiri 56.77 275 *eP* **P 00 47 48.9 +0.5**
comp=Z,208nm,1.1s
GUN Gumba 56.81 275 *eP* **P 00 47 48.5 -0.1**
ORV Oroville 56.89 66 *eP* **P 00 47 48.4 -0.2**
ORV pmax pmax
comp=Z,24nm,1.0s
ORV Oroville 56.89 66 *eP* **P 00 47 48.4 -0.2**
comp=Z,24nm,1.0s
TMCR Tamitsa 57.11 333 *eP* **P 00 47 47.9 -1.8**
TMCR pmax pmax
comp=Z,100nm,0.9s
KKN Kakani 57.28 276 *eP* **P 00 47 52.1 +0.3**
comp=Z,154nm,1.1s
PKI Pulchoki 57.34 276 *eP* **P 00 47 52.6 +0.2**
comp=Z,128nm,1.1s
PKIN Phulchoki 57.35 276 *eP* **P 00 47 52.4 +0.1**
comp=Z,104nm,1.2s
BEKR Beckworth 57.37 65 *eP* **P 00 47 52.8 +0.6**
comp=Z,21nm,1.0s
DMN Daman 57.52 276 *eP* **P 00 47 54.1 +0.6**
comp=Z,256nm,1.1s
FFC Flin Flon 57.55 42 *eP* **P 00 47 53.1 +0.1**
FFC Flin Flon 57.55 42 *eP* **P 00 47 53.1 +0.1**
FFC pmax pmax
comp=Z,30nm,0.9s
FFC Flin Flon 57.55 42 *eP* **P 00 47 53.1 +0.1**
comp=Z,30nm,0.9s
GKN Gorkha 57.56 276 *eP* **P 00 47 54.3 +0.7**
AFDM Forest Hills D 57.59 66 *eP* **P 00 47 54.5 +0.9**
comp=Z,28nm,1.5s
CHM Chimkent 57.61 299 *eP* **P 00 47 54.0 +0.3**
comp=Z,299nm,1.4s
CHM *i* LR LR 01 13 13.9
comp=Z,845nm,15.8s
MFID Camas Ranch 57.76 59 *eP* **P 00 47 55.4 +0.6**
comp=Z,24nm,1.0s
SRDT SRDT 57.87 254 P **P 00 47 55.9 +0.2**
comp=Z,42nm,0.9s,comp=Z,1µm
HRY Holter Researc 57.87 54 *eP* **P 00 47 56.4 +0.8**
DANN Dangsing 57.89 277 *eP* **P 00 47 57.1 +0.9**
comp=Z,11nm,1.1s
PAHR Pah Rah Range 58.06 65 *eP* **P 00 47 57.3 +0.3**
comp=Z,31nm,1.1s
FCC Fort Churchill 58.09 35 *eP* **P 00 47 56.6 -0.1**
FCC pmax pmax
comp=Z,42nm,0.9s
FCC Fort Churchill 58.09 35 *eP* **P 00 47 56.6 -0.1**
comp=Z,42nm,0.9s
RDG13 Poverty Ridge 58.09 68 *eP* **P 00 47 58.0 +0.8**
comp=Z,72nm,1.5s
SUMG Summit 58.09 5⇑ *iP* **P 00 47 57.3 +0.2**
SUMG Summit 58.09 5⇑ *iP* **P 00 47 57.3 +0.2**
SUMG Summit 58.09 5 *eP* **P 00 47 56.5 -0.5**
comp=Z,129nm,1.0s
LRM Limekiln Ridge 58.10 55 *eP* **P 00 47 57.7 +0.4**
EGMT Eagleton 58.13 52 P **P 00 47 57.2 -0.1**
baz=310
EGMT Eagleton 58.13 52 *eP* **P 00 47 57.2 -0.1**
comp=Z,38nm,1.2s
VCNR Virginia City 58.16 65 *eP* **P 00 47 58.8 +1.0**
comp=Z,21nm,0.8s
DLMT Dillon 58.32 56 *eP* **P 00 47 59.3 +0.6**
comp=Z,18nm,0.9s
KOLN Koldanda 58.39 277 *eP* **P 00 48 00.0 +0.5**
comp=Z,158nm,1.0s
AB31 Akbulak array 58.41 310 *i* P **P 00 47 58.5 -0.6**
AB31 pmax pmax
comp=Z,37nm,0.7s
ABKAR Akbulak array 58.41 310 *eP* **P 00 47 58.4 -0.8**
comp=Z,358nm,0.6s
HLID Hailey 58.47 59 P **P 00 48 00.2 +0.4**
baz=310
HLID Hailey 58.47 59 *eP* **P 00 48 00.3 +0.4**
comp=Z,32nm,1.1s
HNR Honiara 58.48 176 LR LR 01 09 17.2
comp=Z,641nm,21.8s,baz=340,slow=32
MCMT McKenzie Canyo 58.52 57 *eP* **P 00 48 00.4 +0.1**
CMB Columbia Colle 58.53 67 *eP* **P 00 48 00.5 +0.3**
CMB pmax pmax
comp=Z,18nm,1.0s
CMB Columbia Colle 58.53 67 *eP* **P 00 48 00.5 +0.3**
comp=Z,18nm,1.0s
PYUN Piuthan 58.56 278 *eP* **P 00 48 01.1 +0.3**
comp=Z,313nm,1.0s
AKTO Aktyubinsk 58.60 312 P **P 00 47 59.9 -0.6**
comp=Z,23nm,0.6s,baz=48,slow=9.7,SNR=60
AKTO LR LR 01 14 45.8
comp=Z,697nm,20.4s,baz=48,slow=38
AKTO Aktyubinsk 58.60 312 *i* P **P 00 47 59.6 -0.9**
AKTO pmax pmax
comp=Z,59nm,0.9s
PHET Kaeng Krachan 58.64 252 P **P 00 48 02.8 +1.7**
comp=Z,23nm,0.9s,comp=Z,220nm
BOZ Bozeman (W) 58.69 55 *eP* **P 00 47 58.3 -3.1**
BOZ pmax pmax
comp=Z,34nm,1.0s
BOZ Bozeman (W) 58.69 55 *eP* **P 00 47 58.3 -3.1**
comp=Z,34nm,1.0s
SAO San Andreas Ge 58.70 69 *eP* **P 00 48 02.0 +0.6**
SAO pmax pmax
comp=Z,17nm,1.0s

SAO **San Andreas Ge** 58.70 69 *e*P P 00 48 02.0 +0.6
comp=Z,17nm,1.0s
WAKR **Walker** 58.80 66 *e*P P 00 48 03.0 +0.8
comp=Z,26nm,1.0s
BMN **Battle Mountai** 58.87 63 *e*P P 00 48 03.4 +0.7
BMN pmax pmax
comp=Z,36nm,1.1s
BMN **Battle Mountai** 58.87 63 *e*P P 00 48 03.4 +0.7
comp=Z,36nm,1.1s
PMG **Port Moresby** 58.89 190 LR LR 01 08 51.4
comp=Z,350nm,21.9s,baz=0.5,slow=31
KVN **Kaiserville** 59.24 65 *e*P P 00 48 05.8 +0.5
KVN pmax pmax
comp=Z,29nm,1.0s
KVN **Kaiserville** 59.24 65 *e*P P 00 48 05.8 +0.5
comp=Z,29nm,1.0s
RYN **Ryan** 59.26 65 *e*P P 00 48 05.9 +0.5
comp=Z,21nm,0.9s
QLMT **Earthquake Lak** 59.29 56 *e*P P 00 48 06.5 +0.9
PMPB **Monarch Peak** 59.46 69 *e*P P 00 48 08.0 +1.3
comp=Z,21nm,0.9s
YHB **Horse Butte** 59.47 56 *e*P P 00 48 07.8 +1.0
comp=Z,49nm,1.1s
NV01 **Mina Array Sit** 59.52 65 *e*P P 00 48 07.3 0.0
NVAR **Mina Array Bea** 59.52 65 P P 00 48 07.7 +0.4
comp=Z,12nm,0.7s,baz=290,slow=7.3,SNR=84
NVAR LR LR 01 10 12.4
comp=Z,405nm,21.9s,baz=85,slow=32
MDPB **Devils Postpil** 59.58 66 *e*P P 00 48 09.0 +1.2
comp=Z,21nm,1.0s
NV11 **Mina Array Sit** 59.61 65 *e*P P 00 48 08.3 +0.5
comp=Z,1.3nm,1.0s
GCMT **Greycliff** 59.62 54 *e*P P 00 48 08.6 +0.9
YHH **Holmes Hill** 59.63 56 *e*P P 00 48 08.9 +0.9
comp=Z,23nm,0.9s
YMR **Madison River** 59.65 56 *e*P P 00 48 09.2 +1.1
comp=Z,28nm,1.0s
SBUM **Sibu** 59.73 233 *e*P P 00 48 10.1 +1.4
comp=Z,59nm,1.7s
YNR **Norris Junctio** 59.77 55 *e*P P 00 48 10.5 +1.5
comp=Z,50nm,1.4s
YFT **Old Faithful** 59.86 56 *e*P P 00 48 11.8 +2.2
comp=Z,28nm,0.9s
YPP **Pitchstone Pla** 60.00 56 *e*P P 00 48 12.3 +1.8
comp=Z,38nm,1.4s
H17A **Grant Village** 60.04 56 P P 00 48 12.8 +2.0
baz=311
H17A **Grant Village** 60.04 56 *e*P P 00 48 12.8 +2.0
comp=Z,38nm,1.0s
PAGB **Antelope Grade** 60.11 69 *e*P P 00 48 12.2 +1.1
comp=Z,31nm,1.1s
IMW **Indian Meadow** 60.17 56 *e*P P 00 48 12.8 +1.0
comp=Z,22nm,0.9s
ILULI **Ilulissat** 60.20 11⇑ *i*P P 00 48 10.5 -0.7
comp=Z,78nm,0.9s
ILULI **Ilulissat** 60.20 11⇑ *i*P P 00 48 10.5 -0.7
ILULI pmax pmax
comp=Z,79nm,0.9s
ILULI **Ilulissat** 60.20 11 *e*P P 00 48 10.6 -0.7
comp=Z,82nm,0.9s
RLMT **Red Lodge** 60.27 54 P P 00 48 13.1 +0.8
baz=311
RLMT **Red Lodge** 60.27 54 *e*P P 00 48 13.2 +0.8
comp=Z,40nm,0.9s
FXWY **Fox Creek** 60.29 57 *e*P P 00 48 13.3 +0.8
comp=Z,86nm,1.9s
MOOW **Moose Ponds** 60.37 56 *e*P P 00 48 13.8 +0.7
comp=Z,13nm,0.8s
TPAW **Teton Pass** 60.43 57 *e*P P 00 48 13.9 +0.4
comp=Z,43nm,1.0s
TIN **Tinemaha, Big** 60.47 66 P P 00 48 14.5 +0.9
baz=312
LOHW **Long Hollow** 60.54 56 *e*P P 00 48 15.4 +1.2
comp=Z,27nm,1.1s
HVU **Hansel Valley** 60.54 59 *e*P P 00 48 14.9 +0.7
HVU pmax pmax
comp=Z,16nm,1.0s
HVU **Hansel Valley** 60.54 59 *e*P P 00 48 14.8 +0.7
comp=Z,16nm,1.0s
SMMC **Simmler** 60.54 69 P P 00 48 15.1 +1.0
baz=312
SNOW **Snow King Moun** 60.55 57 *e*P P 00 48 15.9 +1.5
comp=Z,60nm,1.3s
REDW **Red Top Meadow** 60.57 57 *e*P P 00 48 15.3 +0.9
comp=Z,122nm,1.6s
SCO **Scoresbysund** 60.62 359 *i*P P 00 48 14.3 +0.3
SCO **Scoresbysund** 60.62 359 *e*P P 00 48 13.8 -0.2
SCO pmax pmax
comp=Z,33nm,1.2s
SCO **Scoresbysund** 60.62 359 *e*P P 00 48 13.8 -0.2
comp=Z,33nm,1.2s
DGMT **Dagmar** 60.65 49 P P 00 48 14.7 0.0
baz=312
DGMT **Dagmar** 60.65 49 *e*P P 00 48 14.6 0.0
comp=Z,51nm,0.9s
VES **Vestal, Richgr** 60.75 68 P P 00 48 15.1 -0.3
baz=312
LAO **LASA Array** 60.82 51 P P 00 48 16.4 +0.6
baz=312
LAO **LASA Array** 60.82 51 *e*P P 00 48 16.6 +0.7
comp=Z,51nm,0.9s
AHID **Auburn Hatcher** 60.83 57 *e*P P 00 48 16.9 +0.8
comp=Z,25nm,1.1s
PKM **Mcpherson Peak** 60.94 69 P P 00 48 17.6 +0.6
baz=312
BGU **Big Grassy Mou** 60.96 60 *e*P P 00 48 17.5 +0.5
comp=Z,55nm,1.9s
CWC **Cottonwood Cre** 60.96 67 P P 00 48 17.6 +0.5
baz=312
GRAC **Grapevine Rang** 61.02 66 P P 00 48 18.0 +0.6
baz=312
SPUT **South Promonto** 61.03 59 *e*P P 00 48 18.3 +0.8
comp=Z,59nm,1.5s
R11A **Troy Canyon, C** 61.18 64 P P 00 48 18.4 -0.2
baz=312
R11A **Troy Canyon, C** 61.18 64 *e*P P 00 48 18.5 -0.2
comp=Z,28nm,1.2s
ISA **Isabella, Lake** 61.24 68 P P 00 48 18.1 -0.8
baz=312
ISA **Isabella, Lake** 61.24 68 *e*P P 00 48 17.8 -1.1
ISA pmax pmax
comp=Z,12nm,1.1s
ISA **Isabella, Lake** 61.24 68 *e*P P 00 48 17.8 -1.1
comp=Z,12nm,1.1s
HWUT **Hardware Ranch** 61.33 59 *e*P P 00 48 20.4 +0.8
comp=Z,25nm,1.1s
DAC **Darwin (Calif)** 61.36 67 *e*P P 00 48 19.7 -0.1
DAC pmax pmax
comp=Z,21nm,1.5s
DAC **Darwin (Calif)** 61.36 67 *e*P P 00 48 19.7 -0.1
comp=Z,21nm,1.5s
DUG **Dugway, Tooele** 61.57 61 P P 00 48 21.5 +0.3
baz=312
DUG **Dugway, Tooele** 61.57 61 *e*P P 00 48 21.6 +0.5
DUG pmax pmax
comp=Z,33nm,1.1s
DUG **Dugway, Tooele** 61.57 61 *e*P P 00 48 21.6 +0.5
comp=Z,33nm,1.1s
KSM **Kuching** 61.57 235 *e*P P 00 48 22.5 +1.3
comp=Z,39nm,1.1s
MPMC **Manual Prospec** 61.57 67 P P 00 48 21.4 +0.1
baz=312
BW06 **Boulder Array** 61.67 57 P P 00 48 21.8 -0.1
baz=312
BW06 **Boulder Array** 61.67 57 *e*P P 00 48 22.0 +0.1
comp=Z,29nm,0.9s
PD31 **Pinedale Array** 61.67 57 *e*P P 00 48 22.3 +0.4
PDAR **Pinedale Array** 61.67 57 P P 00 48 22.0 +0.1
comp=Z,24nm,0.9s,baz=296,slow=2.2,SNR=116
PDAR **Pinedale Array** 61.67 57 *e*P P 00 48 21.6 -0.3
FURC **Furnace Creek,** 61.67 66 P P 00 48 21.9 +0.2
baz=312
TCUT **Toone Canyon** 61.75 59 *e*P P 00 48 23.4 +1.0
comp=Z,40nm,1.1s
OSI **Osito Audit: C** 61.78 69 P P 00 48 23.0 +0.4
baz=312
OSI **Osito Audit: C** 61.78 69 *e*P P 00 48 23.6 +1.1
comp=Z,44nm,0.8s
CTU **Camp Tracy** 61.84 60 *e*P P 00 48 23.6 +0.6
comp=Z,14nm,0.8s
LRMC **Laurel Mtn Rad** 61.84 67 P P 00 48 22.8 -0.2
baz=312
EDW2 **Edwards Air Fo** 62.05 68 P P 00 48 24.8 +0.4
baz=312
JLU **Jordanelle** 62.07 59 *e*P P 00 48 25.4 +0.8
comp=Z,42nm,1.5s
NLU **North Lily Min** 62.15 60 *e*P P 00 48 25.7 +0.6
comp=Z,20nm,0.9s

SURT **Suratani** 62.20 250 P P 00 48 25.7 +0.2
comp=Z,11nm,1.1s,comp=Z,262nm
DECC **Green Verdugo** 62.27 69 P P 00 48 25.9 +0.2
baz=313
MPU **Maple Canyon** 62.36 60 *e*P P 00 48 27.1 +0.6
comp=Z,20nm,0.9s
SFJD **Kangerlussuaq** 62.36 12 P P 00 48 25.4 -0.3
comp=Z,56nm,0.9s,baz=346,slow=6.8,SNR=26
SFJD LR LR 01 19 28.1
comp=Z,1μm,18.3s,baz=344,slow=40
SFJD **Kangerlussuaq** 62.36 12 *i*P P 00 48 25.2 -0.6
comp=Z,63nm,0.9s
SFJD **Kangerlussuaq** 62.36 12 *i*P P 00 48 25.2 -0.6
SFJD pmax pmax
comp=Z,63nm,0.9s
SFJD **Kangerlussuaq** 62.36 12 *e*P P 00 48 25.6 -0.2
comp=Z,74nm,1.0s
SHOC **Shoshone, Teco** 62.41 66 P P 00 48 26.8 +0.2
baz=312
PASC **Pasadena Art C** 62.41 69 *e*P P 00 48 27.3 +0.6
comp=Z,17nm,0.8s
MWC **Mount Wilson** 62.45 69 *e*P P 00 48 27.4 +0.2
MWC pmax pmax
comp=Z,38nm,1.1s
MWC **Mount Wilson** 62.45 69 *e*P P 00 48 27.4 +0.2
comp=Z,38nm,1.1s
SKLT **Songkhla** 62.48 247 P P 00 48 27.9 +0.6
comp=Z,64nm,1.1s,comp=Z,952nm
GSC **Goldstone, Bar** 62.49 67 P P 00 48 27.5 +0.1
baz=313
GSC **Goldstone, Bar** 62.49 67 *e*P P 00 48 27.0 -0.3
GSC pmax pmax
comp=Z,23nm,1.0s
GSC **Goldstone, Bar** 62.49 67 *e*P P 00 48 27.0 -0.3
comp=Z,23nm,1.0s
TRTT **Trang** 62.53 249 P P 00 48 27.7 +0.1
comp=Z,14nm,1.4s
SHPR **Shep Range** 62.67 65 *e*P P 00 48 29.0 +0.4
comp=Z,37nm,1.3s
FIA1 **FINESS Array S** 62.67 336 *e*P P 00 48 27.4 -0.6
FINES **FINESS Array B** 62.67 336 P P 00 48 27.2 -0.8
comp=Z,29nm,0.9s,baz=44,slow=8.5,SNR=42
FINES LR LR 01 18 59.9
comp=Z,2μm,18.1s,baz=22,slow=39
BFSC **Mount Baldy Ra** 62.69 68 P P 00 48 28.7 0.0
baz=313
CIS **Catalina Islan** 62.79 70 P P 00 48 29.3 0.0
baz=313
PUL **Pulkovo** 62.83 333 *e*P P 00 48 30.5 +1.5
PUL **Pulkovo** 62.83 333‖ *e*P P 00 48 30.5 +1.5
PUL pmax pmax
comp=Z,31nm,0.6s
TUQ **Turquoise Moun** 62.93 66 P P 00 48 30.6 +0.3
baz=313
KBL **Kabul** 63.04 292 *e*P P 00 48 29.7 -1.4
KBL pmax pmax
comp=Z,50nm,1.0s
KBL **Kabul** 63.04 292 *e*P P 00 48 29.7 -1.4
comp=Z,50nm,1.0s
MSU **Marysvale** 63.06 62 *e*P P 00 48 32.1 +0.9
MSU **Marysvale** 63.06 62 *e*P P 00 48 32.1 +0.9
TMUT **Trail Mountain** 63.09 60 *e*P P 00 48 29.1 -2.4
comp=Z,58nm,0.4s
HEC **Hector,Ludlow** 63.09 67 P P 00 48 31.7 +0.3
baz=313
SZCU **Shurtz Canyon** 63.15 63 *e*P P 00 48 32.6 +0.7
comp=Z,22nm,1.1s
P17A **Bucher Ranch,** 63.23 60 *e*P P 00 48 33.0 +0.7
MDND **Maddock** 63.31 47 P P 00 48 32.8 +0.3
baz=315
MDND **Maddock** 63.31 47 *e*P P 00 48 33.3 +0.8
comp=Z,52nm,0.9s
PKDT **Phuket** 63.31 250 P P 00 48 33.2 +0.3
comp=Z,21nm,1.1s,comp=Z,2μm
ULM **Lac du Bonnet** 63.34 43 P P 00 48 32.2 -0.4
comp=Z,13nm,0.8s,baz=308,slow=6.6,SNR=36
ULM LR LR 01 17 44.7
comp=Z,678nm,19.9s,baz=322,slow=38
ULM **Lac du Bonnet** 63.34 43 *e*P P 00 48 32.2 -0.4
ULM pmax pmax
comp=Z,17nm,0.9s
ULM **Lac du Bonnet** 63.34 43 *e*P P 00 48 32.1 -0.4
comp=Z,17nm,0.9s
Q16A **Castle Valley** 63.36 61 *e*P P 00 48 33.9 +0.7
comp=Z,22nm,1.0s
MTPU **Mount Pierson** 63.38 62 *e*P P 00 48 34.5 +1.0
comp=Z,15nm,0.9s
K22A **Caper** 63.40 55 P P 00 48 33.1 -0.2
baz=314
K22A **Casper** 63.40 55 *e*P P 00 48 33.6 +0.2
comp=Z,38nm,1.3s
MURC **Murrieta** 63.40 69 P P 00 48 33.2 -0.1
baz=313
P18A **Preston Nutter** 63.41 60 *e*P P 00 48 34.3 +0.6
comp=Z,27nm,1.1s
LCMT **Little Creek M** 63.46 63 *e*P P 00 48 34.3 +0.5
comp=Z,34nm,0.9s
GMRC **Granite Mounta** 63.53 67 P P 00 48 34.6 +0.3
baz=313
MOS **Moscow** 63.55 326 *e*P P 00 48 31.1 -2.8
MOS *e* 00 49 09.1
MOS pmax pmax
comp=Z,43nm,1.7s
MOS MLR MLR
comp=N,1μm,17.0s
MOS MLR MLR
comp=E,1μm,17.0s
MOS MLR MLR
comp=Z,1μm,17.0s
SRU **San Rafael Swe** 63.60 60 *e*P P 00 48 35.3 +0.5
SRU pmax pmax
comp=Z,51nm,0.9s
SRU **San Rafael Swe** 63.60 60 *e*P P 00 48 35.3 +0.5
comp=Z,51nm,0.9s
LDFC **Landfair** 63.66 66 *e*P P 00 48 35.1 0.0
comp=Z,75nm,1.1s
A31A **Linda, St. Vin** 63.68 45 P P 00 48 34.6 -0.3
baz=316
RWWY **Rawlins** 63.68 56 *e*P P 00 48 34.5 -0.8
comp=Z,19nm,0.8s
RSSD **Black Hills** 63.70 52 P P 00 48 35.2 -0.1
baz=314
RSSD **Black Hills** 63.70 52 *e*P P 00 48 35.3 -0.1
RSSD pmax pmax
comp=Z,32nm,0.7s
RSSD **Black Hills** 63.70 52 *e*P P 00 48 35.3 0.0
comp=Z,32nm,0.7s
KNB **Kanab** 63.70 63 *e*P P 00 48 36.3 +0.9
KNB pmax pmax
comp=Z,53nm,1.2s
KNB **Kanab** 63.70 63 *e*P P 00 48 36.3 +0.9
comp=Z,52nm,1.2s
PKCU **Pink Cliffs** 63.71 63 *e*P P 00 48 36.7 +1.0
comp=Z,34nm,1.2s
B31A **Greenbush Farm** 63.83 45 P P 00 48 36.0 +0.2
baz=316
PFO **Pinyon Flats O** 63.84 68 P P 00 48 35.9 -0.4
baz=313
PFO **Pinyon Flats O** 63.84 68 *e*P P 00 48 38.2 +1.8
PFO pmax pmax
comp=Z,19nm,1.3s
PFO **Pinyon Flats O** 63.84 68 *e*P P 00 48 38.2 +1.8
comp=Z,19nm,1.3s
XPFO **Pīæon Flat** 63.85 68 *e*P P 00 48 38.2 +1.8
comp=Z,19nm,1.3s
BELC **Belle Mtn. Jos** 63.86 68 P P 00 48 36.2 -0.3
baz=313
COEN **Coen** 63.92 194 *e*P P 00 48 36.9 +0.2
comp=Z,42nm,1.1s
KULM **Kulim** 63.95 246 *e*P P 00 48 37.5 +0.4
comp=Z,77nm,1.1s
A32A **Rocking H Ranc** 64.01 44 P P 00 48 36.6 -0.5
baz=316
O20A **White River Ci** 64.18 58 P P 00 48 38.4 -0.2
baz=314
O20A **White River Ci** 64.18 58 *e*P P 00 48 38.8 +0.2
comp=Z,32nm,1.0s
C31A **Landman Farms,** 64.24 46 P P 00 48 38.2 -0.4
baz=316
IRM **Iron Mountain** 64.27 67 P P 00 48 38.9 -0.1
baz=314
MONP2 **Monument Peak** 64.36 69 P P 00 48 39.8 0.0
baz=314
B32A **Ashes, Strandq** 64.37 45 P P 00 48 39.0 -0.4
baz=316
IPM **Ipoh** 64.37 245 *e*P P 00 48 40.1 +0.2
comp=Z,39nm,1.1s

W13A **Hualapai Mount** 64.38 65 *e*P P 00 48 40.1 +0.1
comp=Z,13nm,1.0s
U15A **North Rim** 64.41 63 *e*P P 00 48 40.9 +0.6
comp=Z,26nm,1.1s
OBN **Obninsk** 64.42 326 *c i*P P 00 48 38.0 -1.6
OBN *e* 00 49 15.5
OBN *e* 00 50 58.9
OBN *e*S S 00 57 21.2 +5.1
OBN pmax pmax
comp=Z,76nm,1.0s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN **Obninsk** 64.42 326 *e*P P 00 48 38.2 -1.4
comp=Z,60nm,0.9s
BC3 **Big Chuckawall** 64.43 68 P P 00 48 40.0 -0.1
baz=314
A33A **Warroad** 64.50 44 P P 00 48 39.9 -0.4
baz=317
IKP **In-Ko-Pah, Jac** 64.72 69 P P 00 48 42.0 -0.1
baz=314
PDMCI **Parker Dam,Lak** 64.77 66 P P 00 48 42.4 +0.2
baz=314
D31A **Mcclaflin, Tow** 64.78 47 P P 00 48 41.7 -0.4
baz=316
C32A **Crookston** 64.78 45 P P 00 48 41.6 -0.5
baz=316
PV09 **Paradox Valley** 64.81 60 *e*P P 00 48 43.2 +0.3
MYKOM **Kota Tinggi** 64.89 241 *e*P P 00 48 45.0 +1.8
comp=Z,26nm,1.0s
B33A **Robert and Kas** 64.89 44 P P 00 48 42.3 -0.6
baz=317
PHWY **Pilot Hill** 64.90 55 *e*P P 00 48 43.0 -0.4
comp=Z,19nm,1.4s
N23A **Red Feather La** 64.92 56 P P 00 48 43.8 +0.3
baz=314
N23A **Red Feather La** 64.92 56 *e*P P 00 48 44.0 +0.5
comp=Z,22nm,0.8s
Y12C **Blythe** 64.92 67 P P 00 48 43.5 +0.2
baz=314
Y12C **Blythe** 64.92 67 *e*P P 00 48 43.4 +0.2
comp=Z,17nm,0.9s
PV10 **Paradox Valley** 64.95 60 *e*P P 00 48 44.3 +0.6
VSU **Vasula** 64.96 333‖ *e*P P 00 48 42.8 -0.3
VSU pmax pmax
comp=Z,143nm,1.2s
PV04 **Paradox Valley** 65.01 60 *e*P P 00 48 44.2 +0.2
D32A **Dogwood Acres,** 65.05 46 P P 00 48 43.2 -0.6
baz=316
E31A **Nome** 65.05 47 P P 00 48 43.5 -0.4
baz=316
PV05 **Paradox Valley** 65.12 60 *e*P P 00 48 45.0 +0.2
B34A **Aery, Baudette** 65.17 44 P P 00 48 43.8 -0.8
baz=317
C33A **Trail** 65.18 45 P P 00 48 44.2 -0.5
baz=317
GLA **Glamis** 65.22 68 P P 00 48 45.6 +0.4
baz=314
GLA **Glamis** 65.22 68 *e*P P 00 48 45.7 +0.4
GLA pmax pmax
comp=Z,23nm,1.0s
GLA **Glamis** 65.22 68 *e*P P 00 48 45.7 +0.5
comp=Z,23nm,1.0s
F31A **Hecla** 65.38 48 P P 00 48 45.3 -0.7
baz=316
PV01 **Paradox Valley** 65.38 60 *e*P P 00 48 46.7 +0.2
VRH **Novokhopyorsk** 65.41 321 *e*P P 00 48 44.3 -1.8
VRH pmax pmax
comp=Z,140nm,0.8s
VRH MLR MLR
comp=Z,1μm,17.0s
E32A **Braaten, Kindr** 65.42 47 P P 00 48 45.7 -0.6
baz=316
LPSR **Galich'ya Gora** 65.47 323 *e*P P 00 48 45.0 -1.5
LPSR pmax pmax
comp=Z,160nm,0.9s
SMCO **Snowmass** 65.55 58 *e*P P 00 48 47.8 0.0
comp=Z,26nm,0.9s
WUAZ **Wupatki** 65.58 64 P P 00 48 47.7 -0.1
baz=314
WUAZ **Wupatki** 65.58 64 *e*P P 00 48 48.4 +0.7
comp=Z,44nm,1.4s
D33A **AnnSam, Waubun** 65.60 45 P P 00 48 46.8 -0.6
baz=317
C34A **RKJ Ranch, Bem** 65.66 45 P P 00 48 47.1 -0.8
baz=317
B35A **Bob, Littlefor** 65.67 43 P P 00 48 47.1 -0.8
baz=318
Y14A **Wickenburg** 65.71 66 *e*P P 00 48 47.5 -1.0
comp=Z,57nm,0.9s
G31A **Conde** 65.86 48 P P 00 48 48.3 -0.8
baz=316
ISCO **Idaho Springs** 65.87 57 P P 00 48 50.0 +0.3
baz=315
ISCO **Idaho Springs** 65.87 57 *e*P P 00 48 50.2 +0.5
ISCO pmax pmax
comp=Z,24nm,0.8s
ISCO **Idaho Springs** 65.87 57 *e*P P 00 48 50.2 +0.5
comp=Z,24nm,0.8s
D34A **Park Rapids** 65.94 45 P P 00 48 49.1 -0.6
baz=317
E33A **Westby DABS, E** 65.99 46 P P 00 48 49.6 -0.4
baz=317
C35A **Jirik Farms, M** 66.05 44 P P 00 48 49.6 -0.8
baz=318
SUSD **Miller** 66.05 49 P P 00 48 49.7 -0.8
baz=316
113A **Mohawk Valley,** 66.06 67 *e*P P 00 48 51.0 +0.4
comp=Z,13nm,1.1s
MVCO **Mesa Verde** 66.07 60 P P 00 48 50.8 -0.1
baz=315
MVCO **Mesa Verde** 66.07 60 *e*P P 00 48 50.8 -0.1
comp=Z,28nm,0.9s
G32A **Webster** 66.18 48 P P 00 48 50.5 -0.7
baz=317
LHMI **Lhok Sumawe** 66.25 249 *e*P P 00 48 52.9 +0.9
comp=Z,87nm,1.0s
H31A **Wolsey** 66.26 49 P P 00 48 50.9 -0.9
baz=316
X16A **Lo Mia Camp, P** 66.30 64 *e*P P 00 48 52.9 +0.4
comp=Z,17nm,0.9s
F33A **5 Mile Ranch,** 66.33 47 P P 00 48 51.5 -0.7
baz=317
NC303 **NORSAR Array S** 66.34 342 *e*P P 00 48 51.7 -0.3
E34A **Wadena** 66.37 46 P P 00 48 51.8 -0.6
baz=318
NC405 **NORSAR Array S** 66.37 342 *e*P P 00 48 50.9 -1.3
BORG **Borgarnes** 66.38 359 P P 00 48 53.9 +1.8
comp=Z,88nm,1.0s,baz=25,slow=4.3,SNR=8.9
BORG **Borgarnes** 66.38 359 *e*P P 00 48 54.2 +2.1
comp=Z,206nm,1.2s
NC204 **NORSAR Array S** 66.41 343 *e*P P 00 48 51.5 -1.0
VSR **Storozhevoye** 66.44 322 *e*P P 00 48 51.2 -1.6
VSR pmax pmax
comp=Z,80nm,0.8s
VSR MLR MLR
comp=Z,3μm,21.0s
D35A **Remer** 66.47 45 P P 00 48 52.3 -0.8
baz=318
NB201 **NORSAR Array S** 66.52 342 *e*P P 00 48 51.9 -1.3
C36A **Pine Crest Far** 66.52 43 P P 00 48 52.6 -0.8
baz=318
NB2 **NORSAR Subarra** 66.54 342 P P 00 48 52.0 -1.3
comp=Z,38nm,0.9s,baz=25,slow=6.5
NB2 **NORSAR Subarra** 66.54 342 P P 00 48 52.0 -1.3
baz=25,slow=6.5
NOA **NORSAR Array B** 66.54 342 P P 00 48 52.9 -0.5
comp=Z,31nm,0.9s,baz=24,slow=6.4,SNR=41
NOA LR LR 01 22 34.2
comp=Z,1μm,19.2s,baz=25,slow=40
I31A **Royce, Wessing** 66.56 49 P P 00 48 52.7 -0.9
baz=317
NBO02 **NORSAR Array S** 66.60 342 *e*P P 00 48 53.0 -0.7
NBO00 **NORSAR Array S** 66.64 342 *e*P P 00 48 54.5 +0.6
S22A **4UR Ranch, Cre** 66.64 59 P P 00 48 54.9 +0.3
baz=315
S22A **4UR Ranch, Cre** 66.64 59 *e*P P 00 48 55.1 +0.4
comp=Z,42nm,1.1s
E35A **Pequot Lakes** 66.70 45 P P 00 48 53.7 -0.8
baz=318
Q24A **Divide** 66.71 57 P P 00 48 54.8 -0.3
baz=315
Q24A **Divide** 66.71 57 *e*P P 00 48 55.5 +0.3
comp=Z,16nm,1.1s
G33A **Ortonville** 66.74 47 P P 00 48 54.1 -0.6
baz=317
NC602 **NORSAR Array S** 66.75 342 *e*P P 00 48 55.0 +0.4
H32A **Carlson Farm,** 66.76 48 P P 00 48 53.9 -1.1

baz=317
NAO01 **NORSAR Array S** 66.79 342 eP P 00 48 54.8 -0.1
D36A **Goodland** 66.81 44 P P 00 48 54.2 -1.0
baz=318
W18A **Petrified Fore** 66.82 63 P P 00 48 56.7 +1.0
baz=315
C37A **Embarrass** 66.84 43 P P 00 48 54.7 -0.7
baz=319
HFS **Hagfors** 66.85 341 P P 00 48 54.9 -0.3
comp=Z,31nm,0.9s,baz=46,slow=8.3,SNR=30
HFS LR LR 01 20 40.8
comp=Z,871nm,20.1s,baz=18,slow=38
F34A **Alexandria** 66.86 46 P P 00 48 55.0 -0.5
baz=318
PSI **Prapat** 66.96 246 P P 00 48 57.4 +0.7
comp=Z,17nm,0.9s,baz=351,slow=4.6,SNR=12
PSI LR LR 01 20 16.5
comp=Z,310nm,18.8s,baz=22,slow=38
PSI **Prapat** 66.96 246 eP P 00 48 57.5 +0.7
comp=Z,24nm,0.9s
H33A **Prehn Over Nor** 66.97 48 P P 00 48 55.4 -0.9
baz=317
EYMN **Ely** 66.98 42 P P 00 48 55.6 -0.7
baz=319
EYMN **Ely** 66.98 42 eP P 00 48 55.6 -0.7
comp=Z,25nm,0.8s
OGNE **Ogallala** 66.98 54 P P 00 48 56.4 -0.1
baz=316
OGNE **Ogallala** 66.98 54 eP P 00 48 57.0 +0.5
comp=Z,96nm,1.0s
J31A **Geddes** 66.99 50 P P 00 48 55.7 -0.7
baz=317
GEYT **Alibeck** 67.07 302 P P 00 48 57.4 +0.3
comp=Z,14nm,0.6s,baz=20,slow=3.2,SNR=49
GEYT LR LR 01 20 24.5
comp=Z,1μm,19.5s,baz=45,slow=38
G34A **Benson** 67.09 47 P P 00 48 56.6 -0.4
baz=318
I32A **Karley and Nic** 67.09 49 P P 00 48 56.0 -1.0
baz=317
X18A **Snowflake** 67.10 63 eP P 00 48 58.2 +0.7
comp=Z,46nm,1.4s
F35A **Swanville** 67.14 46 P P 00 48 56.7 -0.6
baz=318
D37A **Cotton** 67.16 44 P P 00 48 56.5 -0.9
baz=319
214A **Organ Pipe Nat** 67.20 67 P P 00 48 58.4 +0.4
baz=315
214A **Organ Pipe Nat** 67.20 67 eP P 00 48 58.1 +0.1
comp=Z,108nm,1.3s
C38A **Sawbill Land.** 67.25 43 P P 00 48 57.1 -0.9
baz=319
E36A **McGregor** 67.26 45 P P 00 48 57.4 -0.7
baz=318
IZAR **Zarasai** 67.38 332 eP P 00 48 57.8 -0.8
IZAR IAmb IAmb 00 48 59.2
comp=Z,7.7nm,0.7s
J32A **Parkston** 67.38 49 P P 00 48 57.7 -1.2
baz=317
SDCO **Great Sand Dun** 67.38 58 P P 00 48 59.5 +0.1
baz=316
SDCO **Great Sand Dun** 67.38 58 eP P 00 48 59.5 +0.1
comp=Z,37nm,1.4s
I33A **Coleman** 67.40 48 P P 00 48 58.2 -0.8
baz=317
H34A **Spellman Lake,** 67.44 47 P P 00 48 58.6 -0.7
baz=318
K31A **O'Neill** 67.47 50 P P 00 48 58.9 -0.6
baz=317
ISAL **Salakas** 67.56 332 eP P 00 48 59.1 -0.7
ISAL IAmb IAmb 00 49 00.6
comp=Z,9.1nm,0.8s
IDID **Didziasalis** 67.59 331 eP P 00 48 59.2 -0.8
IDID IAmb IAmb 00 49 00.7
comp=Z,9.7nm,0.8s
F36A **Milaca** 67.62 45 P P 00 48 59.5 -0.9
baz=318
G35A **Watkins** 67.65 46 P P 00 49 00.1 -0.4
baz=318
C39A **Grand Marais** 67.68 42 P P 00 48 59.6 -1.1
baz=320
IIGN **Ignalina** 67.72 332 eP P 00 48 59.9 -0.9
IIGN IAmb IAmb 00 49 01.6
comp=Z,16nm,0.7s
ECSD **EROS Data Cent** 67.72 48 P P 00 49 00.4 -0.6
baz=318
ECSD **EROS Data Cent** 67.72 48 eP P 00 49 00.5 -0.6
comp=Z,27nm,0.8s
K32A **Verdigre** 67.84 50 P P 00 49 01.1 -0.7
baz=317
J33A **Davis** 67.86 49 P P 00 49 01.0 -0.9
baz=318
I34A **Hadley** 67.87 48 P P 00 49 01.3 -0.7
baz=318
H35A **Sunnyside Ranc** 67.87 47 P P 00 49 01.6 -0.4
baz=318
MICGM **Minsk** 67.90 330 eP P 00 49 01.0 -1.0
MNK **Minsk** 67.90 330 eP P 00 49 01.0 -1.0
NACGM **Naroch** 67.92 331 e P 00 49 00.0 -2.0
NACGM eLQ LQ 01 13 40.0
NACGM eLR LR 01 18 34.0
E38A **The Farm, Brul** 67.97 43 P P 00 49 01.6 -1.0
baz=319
G36A **St. Michael** 67.98 46 P P 00 49 02.1 -0.6
baz=315
C40A **Isle Royale Na** 68.03 41 P P 00 49 01.7 -1.2
baz=320
KSCO **Kaye Shedlock'** 68.05 55 P P 00 49 02.9 -0.5
baz=316
F37A **Hinrichs Farm,** 68.14 45 P P 00 49 02.8 -0.9
baz=319
KONO **Kongsberg** 68.14 342↓ eP P 00 49 01.7 -1.7
KONO pmax pmax
comp=Z,28nm,1.1s
TUC **Tucson** 68.17 66 P P 00 49 03.9 -0.3
baz=315
TUC **Tucson** 68.17 66 eP P 00 49 04.4 +0.2
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC **Tucson** 68.17 66 eP P 00 49 04.4 +0.2
comp=Z,10nm,0.9s
MHTCO **State Highway** 68.27 58 eP P 00 49 05.5 +0.7
comp=Z,63nm,1.1s
L32A **Elgin** 68.30 51 P P 00 49 03.8 -0.9
baz=317
F38A **Pierce - Schro** 68.31 44 P P 00 49 04.3 -0.4
baz=319
K33A **Hardington** 68.36 49 P P 00 49 04.4 -0.7
baz=318
J34A **George** 68.38 48 P P 00 49 04.3 -0.9
baz=318
H36A **Jessenland, He** 68.39 46 P P 00 49 05.0 -0.2
baz=319
T25A **Trinidad** 68.42 58 P P 00 49 05.7 -0.1
baz=316
T25A **Trinidad** 68.42 58 eP P 00 49 06.1 +0.3
comp=Z,49nm,1.2s
I35A **Creekview Farm** 68.43 47 P P 00 49 04.7 -0.8
baz=318
SPMN **Marine on St.** 68.44 45 P P 00 49 04.7 -0.8
baz=319
SPMN **Marine on St.** 68.44 45 eP P 00 49 04.9 -0.6
comp=Z,33nm,0.9s
L33A **Hoskins** 68.55 50 P P 00 49 05.3 -1.0
baz=318
E39A **Mellen** 68.59 43 P P 00 49 05.6 -0.8
baz=320
NRS **Narsarsuaq** 68.63 11 i P P 00 49 05.6 -0.8
comp=Z,56nm,1.0s
NRS **Narsarsuaq** 68.63 11 eP P 00 49 04.2 -2.2
NRS pmax pmax
comp=Z,86nm,1.2s
NRS **Narsarsuaq** 68.63 11 eP P 00 49 04.2 -2.2
comp=Z,86nm,1.2s
BGNE **Belgrade** 68.66 51 P P 00 49 06.1 -0.9
baz=318
BGNE **Belgrade** 68.66 51 eP P 00 49 06.6 -0.4
comp=Z,59nm,0.9s
J35A **Milford** 68.68 48 P P 00 49 06.3 -0.8
baz=318
K34A **Le Mars** 68.75 49 P P 00 49 06.4 -1.1
baz=318
I36A **Fitzsimmons Fa** 68.77 47 P P 00 49 07.0 -0.6
baz=319
F39A **Loretta** 68.78 44 P P 00 49 07.1 -0.6
baz=320
E40A **Wakefield** 68.83 43 P P 00 49 07.7 -0.2
baz=320
LAZ **Ladron** 68.83 62 eP P 00 49 08.8 +0.4
ANMO **Albuquerque** 68.83 61 P P 00 49 08.5 0.0
baz=316
ANMO **Albuquerque** 68.83 61 ceP P 00 49 08.4 0.0
ANMO pmax pmax
comp=Z,13nm,0.9s
ANMO **Albuquerque** 68.83 61 eP P 00 49 08.0 -0.4
comp=Z,14nm,0.9s
H37A **Dierke Farm, C** 68.87 46 P P 00 49 08.0 -0.2
baz=319
G38A **Ridgeland** 68.92 45 P P 00 49 07.3 -1.1
baz=320
AFI **Afiamalu** 68.94 146 LR LR 01 16 57.7
comp=Z,257nm,19.6s,baz=336,slow=34
D41A **Chassel** 68.94 41 P P 00 49 08.0 -0.6
baz=321
HYB **Hyderabad** 68.96 272↑ iP P 00 49 09.5 +0.4
comp=Z,157nm,1.2s
HYB epP pP 00 49 14.0 -3.6
HYB eP cP PcP 00 49 38.0 +4.7
GSI **Gunungsitoli** 68.96 246 eP P 00 49 09.8 +0.6
comp=Z,35nm,0.8s
MAK **Makhachkala** 68.98 312 eP P 00 49 06.6 -2.3
MAK eS S 00 58 09.9 -1.8
MAK pmax pmax
comp=Z,108nm,1.3s
MAK MLR MLR
comp=Z,1μm,15.0s
M33A **Taylor Creek F** 69.03 50 P P 00 49 08.3 -1.0
baz=319
I37A **Lemond, Waseca** 69.07 46 P P 00 49 09.1 -0.3
baz=319
H38A **Maiden Rock** 69.09 45 P P 00 49 08.9 -0.7
baz=319
J36A **Seneca 1, Swea** 69.13 47 P P 00 49 09.0 -0.8
baz=319
F40A **Park Falls** 69.13 43 P P 00 49 08.9 -0.9
baz=320
G39A **Holcombe** 69.14 44 P P 00 49 08.9 -1.0
baz=320
L34A **Svendsen Farm,** 69.15 50 P P 00 49 08.9 -1.1
baz=318
K35A **Storm Lake** 69.15 48 P P 00 49 08.9 -1.1
baz=318
LPM **Los Pinos Moun** 69.19 61 eP P 00 49 11.2 +0.6
Y22D **IRIS PASSCAL I** 69.19 62 P P 00 49 09.6 -1.0
baz=316
Y22E **IRIS PASSCAL I** 69.19 62 P P 00 49 09.5 -1.1
baz=316
E41A **Kenton** 69.23 42 P P 00 49 09.6 -0.8
baz=321
BNM **Barren Site** 69.31 62 eP P 00 49 12.0 +0.6
M34A **Aspy Farms, Fr** 69.39 50 P P 00 49 10.6 -0.9
baz=318
COWI **Conover** 69.43 42 eP P 00 49 10.8 -0.9
comp=Z,13nm,0.9s
L35A **Bielow Farm, R** 69.45 49 P P 00 49 10.7 -1.1
baz=318
GOF **Gofitskoye** 69.51 316↑ iP P 00 49 12.2 0.0
GOF eS S 00 58 12.9 -5.0
GOF pmax pmax
comp=Z,198nm,1.0s
J37A **Redenius Farm,** 69.52 47 P P 00 49 11.7 -0.6
baz=319
CTA **Charters Tower** 69.54 190 P P 00 49 13.8 +1.4
comp=Z,7.0nm,0.9s,baz=352,slow=7.3,SNR=4.1
I38A **Scanlan Farm,** 69.55 46 P P 00 49 11.7 -0.8
baz=320
H39A **Augusta** 69.55 45 P P 00 49 11.4 -1.0
baz=320
K36A **Gilmore City** 69.59 48 P P 00 49 11.9 -0.9
baz=319
G40A **Rib Lake** 69.60 44 P P 00 49 11.7 -1.0
baz=320
GROC **Groznyy** 69.63 313 eP P 00 49 12.2 -0.7
GROC e 00 49 33.4
GROC pmax pmax
comp=Z,54nm,1.2s
E42A **Champion** 69.71 42 P P 00 49 12.8 -0.7
baz=321
F41A **Three Lakes** 69.73 43 P P 00 49 12.9 -0.7
baz=321
319A **Douglas** 69.73 65 eP P 00 49 14.4 +0.5
comp=Z,59nm,0.9s
CBKS **Cedar Bluff** 69.74 54 P P 00 49 13.0 -0.7
baz=318
CBKS **Cedar Bluff** 69.74 54 eP P 00 49 13.1 -0.7
CBKS pmax pmax
comp=Z,30nm,0.9s
CBKS **Cedar Bluff** 69.74 54 eP P 00 49 13.1 -0.7
comp=Z,30nm,0.9s
SUW **Suwalki** 69.79 333 eP P 00 49 13.0 -0.7
SUW **Suwalki** 69.79 333 eP P 00 49 12.1 -1.6
SUW pmax pmax
comp=Z,65nm,1.0s
SUW **Suwalki** 69.79 333 eP P 00 49 12.1 -1.6
comp=Z,65nm,1.0s
121A **Cookes Peak, D** 69.79 64 P P 00 49 14.4 +0.1
baz=316
121A **Cookes Peak, D** 69.79 64 eP P 00 49 14.7 +0.4
comp=Z,44nm,1.4s
M35A **Neola** 69.86 50 P P 00 49 13.8 -0.6
baz=319
K37A **Belmond** 69.89 47 P P 00 49 13.5 -1.0
baz=319
L36A **Harm Buss Farm** 69.89 48 P P 00 49 13.4 -1.2
baz=319
N34A **Lincoln** 69.92 50 P P 00 49 13.3 -1.5
baz=318
O33A **Hebron** 69.94 52 P P 00 49 13.3 -1.6
baz=318
AKT **Akhty** 69.98 311↑ iP P 00 49 15.3 0.0
AKT e 00 49 39.2
AKT e 00 51 49.0
AKT pmax pmax
comp=Z,103nm,1.0s
H40A **Chili** 70.01 44 P P 00 49 14.4 -0.8
baz=320
J38A **Wedel Dairy, R** 70.03 46 P P 00 49 14.6 -0.8
baz=320
I39A **Houston** 70.07 45 P P 00 49 14.7 -1.0
baz=320
G41A **Antigo** 70.10 43 P P 00 49 15.0 -0.8
baz=321
F42A **Maple Grove Fa** 70.14 42 P P 00 49 15.4 -0.6
baz=321
KLNR **Kaliningrad** 70.14 335↓ eP P 00 49 15.4 -0.4
KLNR pmax pmax
comp=Z,52nm,0.9s
E43A **Lone Tree Farm** 70.15 41 P P 00 49 15.3 -0.8
baz=322
SCHQ **Schefferville** 70.24 25 P P 00 49 16.4 -0.1
comp=Z,33nm,0.8s,baz=351,slow=6.5,SNR=42
SCHQ LR LR 01 25 14.0
comp=Z,794nm,18.4s,baz=334,slow=40
SCHQ **Schefferville** 70.24 25 eP P 00 49 16.4 -0.1
comp=Z,84nm,1.3s
M36A **Felix, Anita** 70.31 49 P P 00 49 16.3 -0.9
baz=319
O34A **Beatrice** 70.31 51 P P 00 49 15.6 -1.6
baz=318
L37A **Phoenix Point,** 70.32 48 P P 00 49 16.4 -0.8
baz=319
N35A **Tabor** 70.34 50 P P 00 49 16.6 -0.8
baz=319
H41A **Junction City** 70.35 44 P P 00 49 16.1 -1.2
baz=321
J39A **Decorah** 70.38 46 P P 00 49 16.2 -1.3
baz=320
K38A **Parkersburg** 70.40 47 P P 00 49 16.4 -1.3
baz=320
G42A **Mountain** 70.41 43 P P 00 49 16.9 -0.8
baz=321
E44A **Grand Marais A** 70.42 40 P P 00 49 17.0 -0.7
baz=322
NCK **Nalchik** 70.45 315↑ eP P 00 49 18.2 +0.2
NCK pmax pmax
comp=Z,100nm,1.0s
I40A **Norwalk** 70.46 45 P P 00 49 17.3 -0.8
baz=320
F43A **Flat Rock, Esc** 70.50 42 P P 00 49 17.5 -0.8
baz=322
KIV **Kislovodsk** 70.52 315 eP P 00 49 18.6 +0.1
KIV **Kislovodsk** 70.52 315 eP P 00 49 18.6 +0.1
KIV eS S 00 58 30.1 +0.1
KIV pmax pmax
comp=Z,40nm,2.8s
KIV pmax pmax
comp=Z,80nm,1.0s
KIV MLR MLR
comp=Z,594nm,18.0s
KIV **Kislovodsk** 70.52 315 eP P 00 49 18.5 +0.1
comp=Z,56nm,0.8s
KIV **Kislovodsk** 70.52 315 P P 00 49 19.1 +0.6
SNR=11
KIV **Kislovodsk** 70.52 315 P P 00 49 19.1 +0.6
SNR=11
KIV **Kislovodsk** 70.52 315 i P P 00 49 18.8 +0.3
SNR=19
KBZ **Khabaz** 70.60 315 P P 00 49 19.2 +0.4
comp=Z,44nm,0.8s,baz=70,slow=3.7,SNR=96
KBZ LR LR 01 24 51.2
comp=Z,1μm,18.6s,baz=26,slow=40
AKASG **Malin Array Be** 70.61 327 P P 00 49 17.4 -1.3
comp=Z,8.1nm,0.5s,baz=34,slow=6.5,SNR=54
AKASG LR LR 01 22 35.5
comp=Z,1μm,20.6s,baz=20,slow=38
AKBB **Malin Array Si** 70.61 327 eP P 00 49 17.6 -1.2
AKBB pmax pmax
comp=Z,20nm,0.8s
AKBB **Malin Array Si** 70.61 327 eP P 00 49 17.6 -1.2
comp=Z,20nm,0.8s
KIEV **Kiev** 70.62 327 c iP P 00 49 17.6 -1.3
KIEV pmax pmax
comp=Z,61nm,1.7s
KIEV **Kiev** 70.62 327 eP P 00 49 17.4 -1.5
comp=Z,22nm,0.9s
KIEV **Kiev** 70.62 327 i P P 00 49 17.6 -1.3
SNR=9.7
AK11 **Malin Array Si** 70.65 327 eP P 00 49 17.5 -1.5
I41A **Arkdale** 70.68 44 P P 00 49 18.5 -0.9
baz=321
L38A **Oak Wood Farm,** 70.69 47 P P 00 49 18.7 -0.8
baz=320
N36A **Muff Farm, Cla** 70.71 50 P P 00 49 18.7 -1.0
baz=319
F44A **Big Bay de Noc** 70.72 41 P P 00 49 18.8 -0.7
baz=322
M37A **Trindle Farm,** 70.72 49 P P 00 49 19.1 -0.5
baz=319
P34A **Walnut Farm, R** 70.72 52 P P 00 49 18.1 -1.6
baz=319
G43A **Wallace** 70.73 42 P P 00 49 19.1 -0.5
baz=322
SCIA **State Center** 70.75 48 P P 00 49 19.4 -0.3
baz=320
SCIA **State Center** 70.75 48 eP P 00 49 19.5 -0.3
comp=Z,76nm,0.8s
K39A **Oelwein** 70.78 46 P P 00 49 18.5 -1.4
baz=320
J40A **Soldiers Grove** 70.79 45 P P 00 49 18.7 -1.3
baz=320
ZEI **Tsey** 70.85 314 eP P 00 49 17.2 -3.5
ZEI pmax pmax
comp=Z,40nm,0.9s
H42A **Shiocton** 70.94 43 P P 00 49 20.0 -0.9
baz=321
E45A **Wooded Hills,** 70.94 40 P P 00 49 19.8 -1.1
baz=323
NEY **Neytrino** 71.05 315↓ eP P 00 49 23.1 +1.3
NEY pmax pmax
comp=Z,5.0nm,0.8s
EPT **El Paso** 71.09 63 eP P 00 49 22.8 +0.6
comp=Z,28nm,1.1s
BSD **Bornholm Skovb** 71.10 338 i P P 00 49 21.5 -0.1
comp=Z,78nm,1.4s
BSD **Bornholm Skovb** 71.10 338 i P P 00 49 21.5 -0.1
BSD pmax pmax
comp=Z,78nm,1.4s
M38A **Pleasantville** 71.13 48 P P 00 49 21.3 -0.8
baz=320
N37A **Lee Faris, Mou** 71.13 49 P P 00 49 21.4 -0.8
baz=319
K40A **Colesburg** 71.14 46 P P 00 49 21.0 -1.1
baz=320
P35A **Duane Minner,** 71.15 51 P P 00 49 20.6 -1.7
baz=319
J41A **Loganville** 71.15 45 P P 00 49 21.3 -0.9
baz=321
DGRG **David-gareji** 71.16 312 P P 00 49 23.9 +1.5
DGRG **David-gareji** 71.16 312 eP P 00 49 23.9 +1.5
KSU1 **Kansas State U** 71.17 52 P P 00 49 20.7 -1.7
baz=319
KSU1 **Kansas State U** 71.17 52 eP P 00 49 21.1 -1.3
comp=Z,16nm,0.8s
L39A **Vinton** 71.17 47 P P 00 49 21.4 -0.9
baz=320
COP **Copenhagen** 71.18 339 i P P 00 49 22.6 +0.5
comp=Z,80nm,1.2s
COP **Copenhagen** 71.18 339 i P P 00 49 22.6 +0.5
COP pmax pmax
comp=Z,80nm,1.2s
MUD **Monsted U'grnd** 71.19 341 i P P 00 49 22.0 -0.2
comp=Z,47nm,1.2s
MUD **Monsted U'grnd** 71.19 341 i P P 00 49 22.0 -0.2
MUD pmax pmax
comp=Z,47nm,1.2s
SEAG **Tbilisi Sea** 71.20 313 P P 00 49 24.3 +1.7
I42A **Draeger Farm,** 71.25 44 P P 00 49 21.4 -1.3
baz=321
TBLG **Delisi** 71.26 313 P P 00 49 23.6 +0.7
TBLG **Delisi** 71.26 313 i P P 00 49 23.6 +0.7
TBLG **Delisi** 71.26 313 eP P 00 49 23.9 +1.0
comp=Z,144nm,1.2s
BTNK **Botanikuri** 71.26 313 P P 00 49 23.3 +0.3
H43A **Windswept, Lux** 71.31 43 P P 00 49 22.2 -0.9
baz=322
F45A **CMU Biological** 71.33 41 P P 00 49 22.3 -1.0
baz=323
JFWS **Jewell Farm** 71.39 45 P P 00 49 22.2 -1.5
baz=321
WRAB **Tennant Creek** 71.51 202↑ eP P 00 49 23.6 -0.9
WRAB pmax pmax
comp=Z,37nm,1.0s
WRAB **Tennant Creek** 71.51 202 eP P 00 49 23.8 -0.7
comp=Z,28nm,0.9s
WRA **Warramunga Arr** 71.52 202 P P 00 49 23.8 -0.8
comp=Z,22nm,0.9s,baz=18,slow=6.5,SNR=43
WRA LR LR 01 18 02.2
comp=Z,282nm,21.8s,baz=295,slow=34
WRA **Warramunga Arr** 71.52 202 i P P 00 49 23.7 -0.8
WRA pmax pmax
comp=Z,23nm,0.9s
DZM **Mont Dzumac** 71.54 170 P P 00 49 25.7 +0.9
comp=Z,5.7nm,0.9s,baz=352,slow=4.9,SNR=2.6
DZM LR LR 01 13 41.2
comp=Z,453nm,21.3s,baz=32,slow=30
DZM **Mont Dzumac** 71.54 170 eP P 00 49 31.0 +6.3
comp=Z,90nm,1.4s
DZM eS S 00 58 42.6 +0.7
comp=Z,188nm,24.4s
DZM **Mont Dzumac** 71.54 170 eLR LR 01 11 16.0
comp=Z,μm,26.8s
DZM **Mont Dzumac** 71.54 170 eP P 00 49 25.6 +0.9
comp=Z,38nm,1.1s
LLD **Lille Linde** 71.55 339 i P P 00 49 24.2 -0.2
comp=Z,116nm,1.0s
LLD **Lille Linde** 71.55 339 i P P 00 49 24.2 -0.2
LLD pmax pmax
comp=Z,120nm,1.0s
AMTX **Amarillo** 71.58 58 P P 00 49 24.6 -0.5
baz=318
AMTX **Amarillo** 71.58 58 eP P 00 49 24.8 -0.3
comp=Z,28nm,1.0s
M39A **Webster** 71.58 47 P P 00 49 24.0 -0.9
baz=320
F46A **Macinaw City C** 71.58 40 P P 00 49 24.0 -0.8
baz=323
N38A **Joes South For** 71.58 49 P P 00 49 23.9 -1.0
baz=320
L40A **Anamosa** 71.59 46 P P 00 49 23.7 -1.2
baz=321
J42A **Columbus** 71.59 44 P P 00 49 23.8 -1.1
baz=321
I43A **Langenfeld Bro** 71.60 43 P P 00 49 24.0 -0.9
baz=322
K41A **Shullsburg** 71.60 46 P P 00 49 23.8 -1.1
baz=321
O37A **Wolven Farm, M** 71.61 49 P P 00 49 24.1 -0.9
baz=320
BOM **Bombay** 71.64 278 i P P 00 49 30.8 +5.3
BOM AMP 00 49 31.8
comp=Z,503nm,1.4s
BOM i x x 00 50 05.7

BOM baz=350,slow=6.5 eS SKSac 00 59 37.4 +10
BOM AMS AMS 01 24 09.7
MSTX Muleshoe 71.64 59 P P 00 49 24.9 -0.6
baz=318
MSTX Muleshoe 71.64 59 eP P 00 49 25.2 -0.2
comp=Z,39nm,1.0s
MNTX Cornudas Mount 71.80 63 P P 00 49 26.1 -0.2
baz=317
MNTX Cornudas Mount 71.80 63 eP P 00 49 26.3 0.0
comp=Z,30nm,1.3s
J43A Natural Harves 71.87 44 P P 00 49 25.3 -1.2
baz=322
N39A Derby Farms, D 71.88 48 P P 00 49 26.0 -0.7
baz=320
K42A Prairie Point, 71.91 45 P P 00 49 25.5 -1.3
baz=321
L41A Preston 71.92 46 P P 00 49 25.6 -1.2
baz=321
P37A Lathrop 71.95 50 P P 00 49 25.9 -1.2
baz=320
M40A Post Highland 71.95 47 P P 00 49 26.2 -0.9
baz=321
O38A Galt 71.98 49 P P 00 49 26.2 -1.0
baz=320
RGN Rugen 72.00 338 eP P 00 49 28.0 +0.9
comp=Z,164nm,1.0s
AKH Akhalkalaki 72.10 313 ⇓iP P 00 49 28.8 +0.6
AKH Akhalkalaki 72.10 313 eP P 00 49 29.3 +1.1
AKH pmax pmax
comp=Z,64nm,1.1s
AKH Akhalkalaki 72.10 313 eP P 00 49 29.3 +1.1
comp=Z,64nm,1.1s
GKP Gorka Klasztor 72.15 335 eP P 00 49 27.9 -0.1
GKP Gorka Klasztor 72.15 335 eP P 00 49 27.9 -0.1
SOC Sochi 72.16 317 eP P 00 49 27.0 -1.3
SOC e 00 49 42.7
SOC eS S 00 58 46.4 -2.3
SOC eSS SS 01 03 21.8 -3.5
SOC pmax pmax
comp=Z,74nm,0.9s
SOC MLR MLR
comp=Z,936nm,16.0s
ANN Anapa 72.20 319 eP P 00 49 27.3 -1.2
ANN pmax pmax
comp=Z,109nm,1.6s
ANN MLR MLR
comp=Z,1µm,21.0s
MCD Coleburn Disti 72.23 349⇑eP P 00 49 28.3 -0.2
RRH Rhenigidale 72.31 350⇑eP P 00 49 28.6 -0.2
N40A Mertquake, Sal 72.32 47 P P 00 49 28.4 -0.9
baz=321
P38A Dawn 72.33 49 P P 00 49 28.4 -0.9
baz=320
O39A Kirksville 72.34 48 P P 00 49 28.6 -0.8
baz=320
L42A Oliver, Polo 72.36 46 P P 00 49 28.1 -1.4
baz=321
BEL Belsk 72.40 333 eP P 00 49 30.0 +0.4
BEL Belsk 72.40 333 eP P 00 49 30.0 +0.4
GLMI Grayling 72.40 41 P P 00 49 28.9 -0.9
baz=323
GLMI Grayling 72.40 41 eP P 00 49 29.7 0.0
comp=Z,67nm,1.0s
K43A Burlington 72.44 44 P P 00 49 28.7 -1.3
baz=322
Q37A Longview Farm, 72.44 51 P P 00 49 28.4 -1.7
baz=320
M41A Milan 72.44 46 P P 00 49 29.0 -1.0
baz=321
MME1 Meikle Cairn 72.45 348⇑eP P 00 49 29.1 -0.7
GNI Garni 72.47 312 P P 00 49 31.2 +0.9
comp=Z,57nm,1.0s,baz=178,slow=3.4,SNR=35
GNI LR LR 01 25 38.6
comp=Z,811nm,18.2s,baz=42,slow=40
GNI Garni 72.47 312 ci P P 00 49 31.6 +1.2
GNI pmax pmax
comp=Z,448nm,1.3s
GNI Garni 72.47 312 eP P 00 49 31.7 +1.3
comp=Z,151nm,1.3s
GNI Garni 72.47 312 P P 00 49 32.2 +1.8
SNR=21
GNI Garni 72.47 312 P P 00 49 32.2 +1.8
SNR=21
GNI Garni 72.47 312 i P P 00 49 31.7 +1.3
SNR=13
MDO Dochfour 72.51 349⇑iP P 00 49 29.9 -0.3
KAC Achnashellach 72.56 350⇑iP P 00 49 30.3 -0.2
L43A Garden Prairie 72.66 45 P P 00 49 29.9 -1.4
baz=322
M42A Sheffield 72.75 46 P P 00 49 30.6 -1.3
baz=321
KPL Plockton 72.76 350 eP P 00 49 30.9 -0.7
KPL IAmb IAmb 00 49 32.4
comp=Z,114nm,1.1s
O40A La Belle 72.77 48 P P 00 49 30.9 -1.1
baz=321
Q38A Cooks Store, C 72.79 50 P P 00 49 30.9 -1.2
baz=320
N41A Harden Midland 72.81 47 P P 00 49 31.3 -0.8
baz=321
P39B Salisbury 72.82 49 P P 00 49 31.3 -1.0
baz=320
KSB Sheil Bridge 72.86 350⇑eP P 00 49 32.2 +0.1
KARS Kars 72.91 313 eP P 00 49 33.2 +0.2
SORM Soroca 73.07 326⇓iP P 00 49 32.5 -1.1
N42A Yates City 73.11 47 P P 00 49 32.8 -1.1
baz=321
LVV L'vov 73.13 330 eP P 00 49 33.6 -0.4
LVV e 00 49 46.0
P40A Paris 73.14 49 P P 00 49 33.4 -0.7
baz=321
M43A Waltham Townsh 73.14 45 P P 00 49 33.1 -1.1
baz=322
EDU Dundee 73.20 348⇑eP P 00 49 33.8 -0.4
R38A Fenwick Farm, 73.24 51 P P 00 49 32.9 -1.9
baz=320
O41A Passleys Farm, 73.25 48 P P 00 49 34.2 -0.6
baz=321
WMOK Wichita Mounta 73.28 56 P P 00 49 34.6 -0.5
baz=319
WMOK Wichita Mounta 73.28 56 eP P 00 49 34.6 -0.5
WMOK pmax pmax
comp=Z,23nm,1.0s
WMOK Wichita Mounta 73.28 56 eP P 00 49 34.6 -0.5
comp=Z,22nm,1.0s
SENK Senkaya-Erzuru 73.31 313 eP P 00 49 36.2 +0.8
N43A Stutzman Famil 73.43 46 P P 00 49 35.0 -0.9
baz=322
SIM Simferopol' 73.48 321 ceP P 00 49 35.8 -0.3
SIM pmax pmax
comp=Z,45nm,1.0s
SIM MLR MLR
comp=Z,1µm,16.0s
P41A Barry, Barry 73.51 48 P P 00 49 35.6 -0.8
baz=321
Q40A Laux Farm, Aux 73.54 49 P P 00 49 35.7 -0.9
baz=321
O42A Bath 73.58 47 P P 00 49 35.6 -1.2
baz=322
R39A Chumby, Stover 73.58 50 P P 00 49 35.4 -1.4
baz=320
M44A Midewin, Midew 73.60 45 P P 00 49 35.6 -1.2
baz=322
CLDR Caldiran 73.65 311 eP P 00 49 37.9 +0.4
S38A Stockton 73.66 51 P P 00 49 35.6 -1.7
baz=320
HDIL Hopedale 73.67 46 P P 00 49 36.4 -0.9
baz=322
HDIL Hopedale 73.67 46 eP P 00 49 36.6 -0.7
comp=Z,55nm,0.8s
EAB Aberfoyle 73.73 349⇑eP P 00 49 37.3 0.0
KWP Kalwaria Pacla 73.73 331 eP P 00 49 37.5 0.0
KWP Kalwaria Pacla 73.73 331 eP P 00 49 37.5 0.0
KWP Kalwaria Pacla 73.73 331 eP P 00 49 37.7 +0.2
comp=Z,3µm,1.1s
AGRB Hanur-Agry 73.76 312 eP P 00 49 39.7 +1.6
KIS Kishinev 73.86 325⇑iP P 00 49 36.0 -2.3
comp=Z,200nm,1.5s
KIS Kishinev 73.86 325 ePcP PcP 00 49 52.0 -1.7
KIS eS S 00 59 10.0 +2.1
KIS LRM MLR 01 25 50.0
comp=Z,1µm,16.0s
KIS Kishinev 73.86 325⇑iP P 00 49 36.0 -2.3
KIS e 00 49 52.0
KIS eS S 00 59 10.0 +2.1
KIS e 00 59 38.0
KIS pmax pmax
comp=Z,200nm,1.5s
KIS MLR MLR
comp=Z,2µm,16.0s
KIS MLR MLR
comp=N,1µm,15.0s
KIS MLR MLR
comp=E,500nm,19.0s
KIS MLR MLR
comp=Z,1µm,16.0s
O43A Sugar Creek Fa 73.87 46 P P 00 49 37.6 -0.9
baz=322
S39A Bolivar 73.91 51 P P 00 49 37.1 -1.7
baz=320
T38A Diamond 73.92 52 P P 00 49 37.7 -1.2
baz=320
P42A Winchester 73.92 48 P P 00 49 38.0 -0.8
baz=321
M45A Boilermakers S 73.97 44 P P 00 49 37.7 -1.3
baz=323
Q41A Truxton 73.98 48 P P 00 49 38.5 -0.7
baz=321
R40A Maddies Statio 73.98 50 P P 00 49 38.0 -1.2
baz=321
TUL1 Leonard 74.00 53 P P 00 49 38.6 -0.7
baz=320
TUL1 Leonard 74.00 53 eP P 00 49 39.0 -0.2
comp=Z,22nm,0.7s
N44A Piper City 74.03 45 P P 00 49 38.4 -1.0
baz=322
PGBU Glenifferbraes 74.11 349⇑eP P 00 49 39.9 +0.3
PGBU IAmb IAmb 00 49 40.7
comp=Z,282nm,1.1s
OJC Ojcow 74.12 333 eP P 00 49 39.9 +0.1
OJC Ojcow 74.12 333 eP P 00 49 39.6 -0.2
OJC Ojcow 74.12 333 eP P 00 49 39.6 -0.2
OJC pmax pmax
comp=Z,141nm,1.1s
OJC Ojcow 74.12 333 eP P 00 49 39.5 -0.2
comp=Z,141nm,1.1s
IAS Iasi 74.15 326⇓iP P 00 49 40.5 +0.5
N45A Kentland 74.28 45 P P 00 49 39.7 -1.1
baz=323
P43A Skaggs, Pawnee 74.28 47 P P 00 49 40.0 -0.9
baz=322
Q42A Golden Eagle 74.36 48 P P 00 49 40.7 -0.6
baz=322
M46A Old House Fiel 74.36 44 P P 00 49 40.5 -0.8
baz=323
LPIG La Paz 74.37 71 LR LR 01 17 57.9
comp=Z,123nm,20.6s,baz=304,slow=32
EIDS Eidsvold 74.37 185 eP P 00 49 41.9 +0.6
comp=Z,43nm,1.4s
O44A Mansfield 74.38 46 P P 00 49 40.3 -1.1
baz=322
STHS Stebnicka Huta 74.38 331 eP P 00 49 42.0 +0.7
STHS pmax pmax
comp=Z,74nm,1.0s
STHS Stebnicka Huta 74.38 331 eP P 00 49 42.0 +0.7
ABTX Abilene, Hawle 74.39 58 P P 00 49 41.1 -0.5
baz=319
ABTX Abilene, Hawle 74.39 58 eP P 00 49 41.6 0.0
comp=Z,81nm,1.5s
T39A Clever 74.40 51 P P 00 49 40.2 -1.4
baz=321
S40A Lebanon 74.40 50 P P 00 49 40.4 -1.3
baz=321
EKA Eskdalemuir Ar 74.41 348 P P 00 49 41.3 0.0
comp=Z,36nm,0.8s,baz=22,slow=5.1,SNR=61
EKA LR LR 01 24 19.3
comp=Z,283nm,18.2s,baz=15,slow=37
R41A Rosebud 74.42 49 P P 00 49 40.7 -1.0
baz=321
ESK Eskdalemuir 74.43 348⇑eP P 00 49 40.6 -0.9
ESK IAmb IAmb 00 49 41.4
comp=Z,81nm,1.0s
BAYT Ayd¯–ntepe-Bay 74.48 315 eP P 00 49 43.2 +0.9
LEOM Leova 74.51 326⇑iP P 00 49 42.0 -0.1
TX31 Lajitas Ar. Si 74.54 63 eP P 00 49 42.5 -0.1
TXAR Lajitas Array 74.54 63 P P 00 49 42.5 -0.1
comp=Z,27nm,0.8s,baz=299,slow=4.0,SNR=129
TXAR LR LR 01 19 27.8
comp=Z,270nm,21.4s,baz=0.0,slow=33
KSP Ksiaz 74.58 335 eP P 00 49 42.4 0.0
KSP Ksiaz 74.58 335 eP P 00 49 42.4 0.0
N46A Monticello 74.60 44 P P 00 49 41.5 -1.2
baz=323
BUR08 Bucovina Ar. S 74.61 328 eP P 00 49 42.5 -0.3
BUR04 Bucovina Ar. S 74.63 328 eP P 00 49 42.0 -0.9
BURAR Bucovina Array 74.63 328⇑iP P 00 49 42.7 -0.2
BHH Howats Hill 74.65 348⇑iP P 00 49 42.8 +0.1
O45A Potomac 74.65 45 P P 00 49 42.3 -0.7
baz=323
CCM Cathedral Cave 74.67 49 P P 00 49 42.1 -1.1
baz=321
CCM Cathedral Cave 74.67 49 eP P 00 49 42.3 -0.9
CCM pmax pmax
comp=Z,27nm,1.0s
CCM Cathedral Cave 74.67 49 eP P 00 49 42.3 -0.9
comp=Z,27nm,1.0s
NIE Niedzica 74.68 332 eP P 00 49 43.4 +0.3
NIE Niedzica 74.68 332 eP P 00 49 43.4 +0.3
HHAR Hobbs 74.68 52 eP P 00 49 42.2 -1.1
comp=Z,19nm,0.9s
EDMD Edmundbyers 74.72 347⇑eP P 00 49 43.0 -0.2
EDMD IAmb IAmb 00 49 45.6
comp=Z,52nm,1.0s
R42A Luebbering 74.72 49 P P 00 49 42.5 -1.0
baz=322
UZH Uzhgorod 74.73 330⇑iP P 00 49 43.1 -0.2
UZH e 00 49 50.3
UZH e 00 49 56.9
UZH eS S 00 59 13.3 -4.3
T40A Mansfield 74.74 50 P P 00 49 42.1 -1.5
baz=321
Q43A New Douglas 74.74 48 P P 00 49 42.4 -1.2
baz=322
CRVS Cervenica-Dubn 74.76 331 eP P 00 49 43.5 0.0
CRVS Cervenica-Dubn 74.76 331 eP P 00 49 43.5 0.0
S41A Jillco Farms, 74.79 50 P P 00 49 42.5 -1.3
baz=321
U39A Green Forest 74.84 52 P P 00 49 43.0 -1.2
baz=321
SFIN Lafayette 74.84 45 P P 00 49 43.2 -0.8
baz=323
SFIN Lafayette 74.84 45 eP P 00 49 43.3 -0.8
comp=Z,13nm,0.7s
P44A Sand Creek, Wi 74.84 47 P P 00 49 43.5 -0.6
baz=322
AAM Ann Arbor 74.85 42 P P 00 49 43.6 -0.5
baz=324
AAM Ann Arbor 74.85 42 eP P 00 49 44.3 +0.2
AAM pmax pmax
comp=Z,36nm,0.8s
AAM Ann Arbor 74.85 42 eP P 00 49 44.3 +0.2
comp=Z,36nm,0.8s
OKC Ostrava-Krasne 74.95 333 eP P 00 49 44.9 +0.3
OKC ePCP PcP 00 49 58.7 +0.4
OKC AMS AMS 01 26 30.0
comp=Z,2µm,17.8s
OKC Ostrava-Krasne 74.95 333 eP P 00 49 44.9 +0.3
OKC e 00 49 58.7
OKC MLR MLR
comp=Z,2µm,17.8s
UPC Upice 74.96 335 eP P 00 49 45.3 +0.6
UPC AMS AMS 01 26 40.0
comp=Z,2µm,17.6s
UPC Upice 74.96 335 eP P 00 49 45.3 +0.6
UPC MLR MLR
comp=Z,2µm,17.6s
DPC Dobruska-Polom 75.02 335 eP P 00 49 45.2 +0.2
DPC ePCP PcP 00 49 59.1 +0.4
DPC AMS AMS 01 26 40.0
comp=Z,2µm,18.4s
DPC Dobruska-Polom 75.02 335 eP P 00 49 45.2 +0.2
DPC e 00 49 59.1
DPC MLR MLR
comp=Z,2µm,18.4s
PALK Pallekele 75.02 264 eP P 00 49 46.3 +0.7
PALK pmax pmax
comp=Z,75nm,1.1s
PALK Pallekele 75.02 264 eP P 00 49 46.3 +0.7
comp=Z,75nm,1.1s
PALK Pallekele 75.02 264 P P 00 49 46.6 +1.0
SNR=8.5
PALK Pallekele 75.02 264 P P 00 49 46.6 +1.0
SNR=8.5
PALK Pallekele 75.02 264 i P P 00 49 46.2 +0.7
SNR=11
CLGH Cloghs, Cushen 75.03 350⇑eP P 00 49 44.8 -0.2
CLGH IAmb IAmb 00 49 45.9
comp=Z,176nm,1.0s
GURO Guroymak-BITLI 75.03 312 eP P 00 49 46.7 +1.3
CLL Collm 75.04 337 eP P 00 49 44.3 -0.7
CLL Collm 75.04 337⇑iP P 00 49 44.8 -0.2
CLL e 00 49 58.0
CLL pmax pmax
comp=Z,183nm,1.1s
CLL MLR MLR
comp=Z,2µm,18.9s
CLL Collm 75.04 337⇑iP P 00 49 44.8 -0.2
comp=Z,183nm,1.1s
CLL ePcP PcP 00 49 58.0 -0.7
CLL e(SS) 01 04 54.0
CLL e 01 08 18.0
CLL Lm MLR 01 26 00.0
comp=Z,2µm,18.9s
CLL Collm 75.04 337 eP P 00 49 44.4 -0.7
comp=Z,166nm,1.1s
TESR Tescani 75.06 327⇑iP P 00 49 44.8 -0.5
GAL1 Galloway 75.07 349⇑eP P 00 49 44.9 -0.2
GAL1 IAmb IAmb 00 49 45.9
comp=Z,83nm,1.2s
TRPA Tarpa 75.09 330⇑eP P 00 49 45.5 +0.1
Q44A Meyer Farm, Va 75.10 47 P P 00 49 44.9 -0.7
baz=322
S42A Caledonia 75.12 49 P P 00 49 44.9 -0.9
baz=322
KESW Keswick, Cumbr 75.12 348⇑eP P 00 49 45.6 +0.2
KESW IAmb IAmb 00 49 46.7
comp=Z,210nm,1.0s
HPIG 75.12 66 eP P 00 49 45.9 -0.3
comp=Z,19nm,0.9s
FVM French Village 75.13 49 eP P 00 49 45.2 -0.7
FVM pmax pmax
comp=Z,26nm,0.8s
FVM French Village 75.13 49 eP P 00 49 45.2 -0.7
comp=Z,26nm,0.8s
R43A Red Bud 75.15 48 P P 00 49 44.8 -1.1
baz=322
BMR Baia Mare 75.17 329⇑iP P 00 49 46.0 +0.1
LANS Liptovska Anna 75.17 332 eP P 00 49 47.1 +1.2
LANS Liptovska Anna 75.17 332 eP P 00 49 47.1 +1.2
V39A Pettigrew 75.17 52 P P 00 49 44.9 -1.3
baz=321
U40A Yellville 75.18 51 P P 00 49 44.9 -1.2
baz=321
MORC Moravsky Berou 75.19 334⇑iP P 00 49 46.8 +0.8
MORC Moravsky Berou 75.19 334 eP P 00 49 45.8 -0.2
MORC Moravsky Berou 75.19 334 eP P 00 49 45.8 -0.2
comp=Z,645nm,1.0s
AS01 Alice Springs 75.19 201 eP P 00 49 44.6 -1.5
BRG Berggiesshubel 75.19 336 eP P 00 49 45.5 -0.4
comp=Z,89nm,1.2s
BRG i 00 50 01.6
comp=Z,47nm,1.2s
BRG i 00 50 12.1
comp=Z,25nm,1.2s
BRG PP PP 00 52 28.6 -5.0
comp=Z,13nm,1.4s
BRG Berggiesshubel 75.19 336 eP P 00 49 45.5 -0.4
BRG Berggiesshubel 75.19 336 eP P 00 49 45.5 -0.4
BRG i 00 50 01.6
BRG pmax pmax
comp=Z,89nm,1.2s
BRG MLR MLR
comp=Z,2µm,18.3s
BRG MLR MLR
comp=N,2µm,16.1s
BRG MLR MLR
comp=E,1µm,16.1s
T41A Mountain View 75.20 50 P P 00 49 45.1 -1.2
baz=321
AS31 Alice Springs 75.20 201 eP P 00 49 46.7 +0.4
comp=E,3.5nm,0.8s
ASAR Alice Springs 75.20 201 P P 00 49 46.4 +0.1
comp=E,6.1nm,0.8s,baz=11,slow=5.6,SNR=38
ASAR LR LR 01 20 18.4
comp=E,338nm,21.8s,baz=23,slow=34
P45A Graceland, Par 75.21 46 P P 00 49 45.3 -0.9
baz=323
TRQ Mont Tremblant 75.24 34 eP P 00 49 45.3 -1.1
CUKT Cukurca 75.27 310 eP P 00 49 46.6 -0.2
PLVO Plevna 75.29 36 eP P 00 49 45.9 -0.7
comp=E,24nm,1.0s
PVCC Panska Ves 75.34 336 eP P 00 49 47.4 +0.6
PVCC Panska Ves 75.34 336 eP P 00 49 47.4 +0.6
GIUM Giurgiulesti 75.36 325⇑iP P 00 49 47.9 +0.9
O47A Sheridan 75.38 44 P P 00 49 45.8 -1.4
baz=323
TLCR 75.38 324⇓iP P 00 49 47.5 +0.4
ARCR ARCALIA 75.38 328⇓iP P 00 49 47.9 +0.8
P46A Rosedale 75.39 46 P P 00 49 46.6 -0.7
baz=323
KECS Kecovo 75.44 331 eP P 00 49 47.5 +0.1
KECS pmax pmax
comp=Z,41nm,1.0s
KECS Kecovo 75.44 331 eP P 00 49 47.5 +0.1
HPK Haverah Park 75.52 347⇑eP P 00 49 48.0 +0.3
HPK IAmb IAmb 00 49 49.0
comp=Z,298nm,1.1s
Q45A Warren Harvey, 75.52 47 P P 00 49 47.5 -0.5
baz=323
PETR Petresti 75.52 326⇓iP P 00 49 48.8 +0.9
T42A Van Buren 75.55 50 P P 00 49 46.9 -1.3
baz=322
ODBI Odobesti 75.55 326⇑iP P 00 49 48.7 +0.6
R44A Waltonville 75.58 48 P P 00 49 47.6 -0.8
baz=322
VRI Vrincioaia 75.59 326⇑iP P 00 49 48.5 +0.2
W39A Magazine 75.59 53 P P 00 49 47.8 -0.8
baz=321
V40A Witts Springs 75.62 52 P P 00 49 47.6 -1.2
baz=321
PLOR Plostina 75.63 326⇑iP P 00 49 48.8 +0.2
S43A Fulton Ridge, 75.63 49 P P 00 49 48.0 -0.7
baz=322
CFR Carcaliu 75.65 325⇑iP P 00 49 48.3 -0.3
SIRT Sirnak 75.65 311 eP P 00 49 49.8 +0.8
U41A Viola 75.67 51 P P 00 49 47.8 -1.2
baz=321
OLIL Olney 75.67 47 eP P 00 49 48.7 -0.2
comp=Z,34nm,1.1s
WIM Isle of Man 75.76 348⇑eP P 00 49 49.3 +0.1
RSDY Resadiye-TOKAT 75.77 316 eP P 00 49 49.1 -0.4
KVT Kavak 75.79 318 eP P 00 50 49.9 +1.3
Q46A CEJHS Indians, 75.80 46 P P 00 49 48.9 -0.7
baz=323
PRU Pruhonice 75.84 336 eP P 00 50 03.3 +0.6
PRU ePCP PcP 00 50 03.7 +1.5
PRU AMS AMS 01 26 50.0
comp=Z,2µm,19.1s
PRU Pruhonice 75.84 336 eP P 00 49 50.3 +0.6
PRU e 00 50 03.7
PRU MLR MLR
comp=Z,2µm,19.1s
GOPC GO Pecny, Ondr 75.84 335 eP P 00 49 50.2 +0.5
GOPC ePCP PcP 00 50 03.4 +1.2
GOPC AMS AMS 01 26 50.0
comp=Z,2µm,17.0s
GOPC GO Pecny, Ondr 75.84 335 eP P 00 49 50.2 +0.5
GOPC e 00 50 03.4
GOPC MLR MLR
comp=Z,2µm,17.0s
VRAC Vranov 75.88 334⇑iP P 00 49 50.9 +1.0
WTSB Winterswijk 75.88 341 eP P 00 49 50.0 +0.2
comp=Z,199nm,1.0s
JCT Junction City 75.91 60 P P 00 49 49.8 -0.6
baz=319
JCT Junction City 75.91 60 eP P 00 49 50.3 -0.2
JCT pmax pmax
comp=Z,59nm,1.3s
JCT Junction City 75.91 60 eP P 00 49 50.3 -0.2
comp=Z,59nm,1.3s
T43A Greenville 75.91 49 P P 00 49 49.5 -0.8
baz=322
GRER 75.91 326⇓iP P 00 49 51.2 +1.0
P47A Martinsville 75.93 45 P P 00 49 49.5 -0.9
baz=323

R45A **Skylar, Fairfi** 75.93 47 P P 00 49 49.6 -0.8
baz=323
S44A **Carbondale** 75.94 48 P P 00 49 49.8 -0.6
baz=322
SIUC **Southern Illin** 75.94 48 *e*P P 00 49 50.0 -0.5
comp=Z,42nm,1.1s
VYHS **Vyhne** 75.94 332 *e*P P 00 49 50.5 +0.2
VYHS pmax pmax
comp=Z,73nm,1.2s
VYHS **Vyhne** 75.94 332 *e*P P 00 49 50.5 +0.2
X39A **Fountain Ranch** 75.95 53 P P 00 49 50.0 -0.6
baz=321
ILIC **ilic-Erzincan** 75.96 315 *e*P P 00 49 52.0 +1.3
CJR **Cluj-Napoca** 75.97 328⇑ *i*P P 00 49 51.4 +0.9
W40A **Ferguson Farm,** 75.97 52 P P 00 49 49.9 -0.7
baz=321
W40A **Ferguson Farm,** 75.97 52 *e*P P 00 49 50.0 -0.7
comp=Z,51nm,1.0s
V41A **Mountainview** 75.98 51 P P 00 49 49.5 -1.3
baz=321
U42A **Revenden** 76.00 50 P P 00 49 50.1 -0.7
baz=322
PTK **Pertek** 76.02 314 *e*P P 00 49 52.7 +1.5
LBWR **Ladybower, Pea** 76.07 347⇑ *e*P P 00 49 50.9 0.0
LBWR IAmb IAmb 00 49 52.1
comp=Z,264nm,1.2s
PBMO **Poplar Bluff** 76.08 49 *e*P P 00 49 50.6 -0.6
comp=Z,28nm,0.9s
WHTX **Lake Whitney,** 76.08 57 P P 00 49 50.8 -0.6
baz=320
WHTX **Lake Whitney,** 76.08 57 *e*P P 00 49 50.9 -0.4
comp=Z,32nm,1.0s
PSZ **Piszkesteto** 76.13 331 *e*P P 00 49 51.7 +0.3
PSZ pmax pmax
comp=Z,122nm,1.1s
PSZ **Piszkesteto** 76.13 331⇑ *e*P P 00 49 51.8 +0.3
PSZ **Piszkesteto** 76.13 331 *e*P P 00 49 51.7 +0.3
comp=Z,122nm,1.1s
HARR **Harsova** 76.14 325⇓ *i*P P 00 49 51.8 +0.4
TIRR **Tirgusor** 76.15 324⇑ *i*P P 00 49 51.6 +0.1
TIRR **Tirgusor** 76.15 324 *e*P P 00 49 51.4 -0.1
TIRR pmax pmax
comp=Z,127nm,1.0s
TIRR **Tirgusor** 76.15 324 *e*P P 00 49 51.4 -0.1
comp=Z,127nm,1.0s
NKC **Novy Kostel** 76.17 337 *e*P P 00 49 52.0 +0.4
NKC AMS AMS 01 28 10.0
comp=Z,2µm,17.8s
NKC **Novy Kostel** 76.17 337 *e*P P 00 49 52.0 +0.4
NKC MLR MLR
comp=Z,2µm,17.8s
TOKT **Tokat** 76.19 317 *e*P P 00 49 52.9 +1.0
MDB **Medias** 76.19 328⇓ *i*P P 00 49 52.9 +1.1
MLR **Muntele Rosu** 76.19 326 P P 00 49 51.7 -0.2
comp=Z,22nm,0.8s,baz=197,slow=7.8,SNR=98
MLR LR LR 01 25 39.0
comp=Z,274nm,20.0s,baz=36,slow=38
MLR **Muntele Rosu** 76.19 326⇑ *i*P P 00 49 52.1 +0.2
MLR **Muntele Rosu** 76.19 326 *e*P P 00 49 51.9 -0.1
comp=Z,125nm,0.9s
DRGR 76.20 329⇑ *i*P P 00 49 51.8 -0.1
TREC **Trest** 76.20 335 *e*P P 00 49 52.3 +0.5
TREC AMS AMS 01 27 20.0
comp=Z,2µm,17.7s
TREC **Trest** 76.20 335 *e*P P 00 49 52.3 +0.5
TREC MLR MLR
comp=Z,2µm,17.7s
T44A **Benton** 76.25 49 P P 00 49 51.5 -0.8
baz=322
S45A **Carrier Mills** 76.28 48 P P 00 49 51.7 -0.6
baz=323
ISR **Istrita** 76.29 326⇓ *i*P P 00 49 53.3 +0.9
WHAR **Wooly Hollow** 76.30 52 *e*P P 00 49 51.6 -0.9
comp=Z,36nm,1.1s
Q47A **Bedord North L** 76.30 45 P P 00 49 51.7 -0.8
baz=323
PGOR **Pogoanele** 76.31 325⇑ *i*P P 00 49 53.2 +0.8
SVSK **Karacayir** 76.31 316 *e*P P 00 49 53.9 +1.4
SMOL **Smolenice** 76.35 333 *e*P P 00 49 53.5 +0.9
SMOL **Smolenice** 76.35 333 *e*P P 00 49 53.5 +0.9
V42A **Cord** 76.35 51 P P 00 49 51.6 -1.2
baz=322
R46A **Gibon Southern** 76.37 47 P P 00 49 52.4 -0.5
baz=323
W41B **Gary Mavity, V** 76.41 52 P P 00 49 52.2 -0.9
baz=321
U43A **Rector** 76.41 50 P P 00 49 52.4 -0.7
baz=322
WME **Myndd Eilian** 76.45 348⇑ *e*P P 00 49 52.7 -0.4
USIN **University of** 76.49 47 *e*P P 00 49 53.7 +0.2
comp=Z,53nm,0.8s
MODS **Modra-Piesok** 76.52 333 *e*P P 00 49 53.4 -0.2
MODS **Modra-Piesok** 76.52 333 *e*P P 00 49 53.4 -0.2
WPM1 **Penmaenmawr** 76.53 348⇑ *e*P P 00 49 53.3 -0.2
ERPA **Erie** 76.56 39 P P 00 49 53.1 -0.8
baz=326
ERPA **Erie** 76.56 39 *e*P P 00 49 53.6 -0.3
comp=Z,76nm,1.3s
VOIR 76.56 327⇑ *i*P P 00 49 54.5 +0.5
WLF1 **Llynfaes** 76.56 348⇑ *e*P P 00 49 53.4 -0.3
WLF1 IAmb IAmb 00 49 54.4
comp=Z,134nm,1.2s
LONY **Lake Ozonia** 76.59 35 P P 00 49 52.8 -1.3
baz=329
LONY **Lake Ozonia** 76.59 35 *e*P P 00 49 53.2 -0.9
comp=Z,17nm,0.9s
X40A **Basin Creek Fa** 76.64 52 P P 00 49 53.7 -0.8
baz=321
MAZI **Mazidag** 76.66 313 *e*P P 00 49 55.7 +1.0
U44A **Portageville** 76.66 49 P P 00 49 53.8 -0.7
baz=322
S46A **Don Dixon Farm** 76.69 47 P P 00 49 53.9 -0.8
baz=323
W42A **Bald Knob** 76.70 51 P P 00 49 53.6 -1.2
baz=322
ZST **Bratislava** 76.73 333 *e*P P 00 49 54.7 -0.1
ZST pmax pmax
comp=Z,111nm,1.0s
ZST **Bratislava** 76.73 333 *e*P P 00 49 54.7 -0.1
MTUR **Matau** 76.74 327⇑ *i*P P 00 49 55.8 +0.8
R47A **Wooly Knot Far** 76.77 46 P P 00 49 54.4 -0.8
baz=323
T45A **Paducah** 76.77 48 P P 00 49 54.3 -0.8
baz=323
ARR **Arges** 76.77 327⇑ *i*P P 00 49 56.0 +0.9
Y40A **Okolona** 76.77 53 P P 00 49 54.4 -0.8
baz=321
SULR 76.77 326⇑ *i*P P 00 49 55.5 +0.5
FRNY **Flat Rock** 76.78 34 *e*P P 00 49 54.1 -1.0
comp=Z,15nm,1.1s
BUD **Budapest** 76.78 332⇑ *e*P P 00 49 55.7 +0.6
FOEL **Foel Wylfa** 76.79 347⇑ *e*P P 00 49 54.2 -0.8
FOEL IAmb IAmb 00 49 55.2
comp=Z,147nm,1.0s
V43A **Jonesboro** 76.80 50 P P 00 49 55.0 -0.3
baz=322
X41A **Kaden, Bauxite** 76.80 52 P P 00 49 54.3 -1.1
baz=321
ACSO **Alum Creek Sta** 76.82 42 P P 00 49 54.8 -0.6
baz=325
ILGA **Ilgaz** 76.83 319 *e*P P 00 49 57.4 +1.6
comp=Z,253nm,0.8s
DSB **Dublin** 76.86 349 *e*P P 00 49 55.5 +0.1
comp=Z,122nm,0.9s
BANOM **Banah** 76.87 294 P P 00 49 56.7 +0.7
SNR=53
BANOM **Banah** 76.87 294 P P 00 49 56.7 +0.7
SNR=53
BANOM **Banah** 76.87 294 *i*P P 00 49 56.3 +0.3
SNR=105
SHME **Shamm** 76.87 295 *i*P P 00 49 55.9 0.0
SNR=36
KHC **Kasperske Hory** 76.88 336 *e*P P 00 49 56.0 +0.4
KHC *e*PCP sP 00 50 09.5 +2.2
KHC AMS AMS 01 27 30.0
comp=Z,3µm,18.6s
KHC **Kasperske Hory** 76.88 336 *e*P P 00 49 56.0 +0.4
KHC *e* 00 50 09.5
KHC MLR MLR
comp=Z,3µm,18.6s
KHC **Kasperske Hory** 76.88 336 *e*P P 00 49 56.0 +0.4
comp=Z,57nm,0.9s
ALLY **Alegheny Colle** 76.88 40 *e*P P 00 49 55.8 +0.1
comp=Z,45nm,1.0s
PSN **Preselentsi** 76.89 324 *e*P P 00 49 56.5 +0.7
MMNY **Mt. Morris Dam** 76.90 38 *e*P P 00 49 55.4 -0.5
comp=Z,39nm,0.9s
HBAR **Harrisburg** 76.92 50 *e*P P 00 49 56.2 +0.2
DEV **Deva** 76.93 329⇓ *i*P P 00 49 56.6 +0.7
WCI **Wyandotte Cave** 76.93 46 P P 00 49 55.4 -0.6
baz=324
WCI **Wyandotte Cave** 76.93 46 *e*P P 00 49 55.7 -0.3
WCI pmax pmax
comp=Z,51nm,0.8s
WCI **Wyandotte Cave** 76.93 46 *e*P P 00 49 55.7 -0.3
comp=Z,51nm,0.8s
MALT **Malatya** 76.94 314 *e*P P 00 49 57.7 +1.4
U44B **Burton Farm, H** 76.96 49 P P 00 49 55.8 -0.4
baz=322
GRFO **Grafenberg** 76.98 337 *e*P P 00 49 56.6 +0.4
GRFO pmax pmax
comp=Z,244nm,1.0s
GRFO **Grafenberg** 76.98 337 *e*P P 00 49 56.5 +0.4
comp=Z,244nm,1.0s
R48A **Northridge Ran** 76.99 45 P P 00 49 55.8 -0.6
baz=324
LOT **Lotru** 77.00 328⇑ *i*P P 00 49 56.2 -0.3
SIRR **Siria** 77.01 329⇑ *i*P P 00 49 57.0 +0.6
V44A **Blytheville** 77.09 50 P P 00 49 56.9 -0.1
baz=322
PQI **Presque Isle** 77.10 29 *e*P P 00 49 56.6 -0.3
comp=Z,38nm,1.1s
HLM1 **Long Mynd** 77.10 347⇑ *e*P P 00 49 56.9 +0.1
HLM1 IAmb IAmb 00 49 57.4
comp=Z,54nm,1.0s
GEC2 **GERESS Array S** 77.11 336 *e*P P 00 49 57.2 +0.2
GEC2 pmax pmax
comp=Z,68nm,1.0s
GEC2 **GERESS Array S** 77.11 336 *e*P P 00 49 57.2 +0.2
comp=Z,68nm,1.0s
GERES **GERESS Array B** 77.11 336 P P 00 49 57.2 +0.2
comp=Z,29nm,0.8s,baz=32,slow=5.2,SNR=230
GERES LR LR 01 28 20.3
comp=Z,3µm,18.4s,baz=16,slow=39
GOLR 77.11 327⇑ *i*P P 00 49 57.9 +1.0
WLAR **White Oak Lake** 77.11 53 *e*P P 00 49 57.3 +0.1
comp=Z,36nm,0.7s
T46A **Princeton** 77.11 48 P P 00 49 56.9 -0.2
baz=323
GEA0 **GERESS Array S** 77.11 336 *e*P P 00 49 55.9 -1.1
CSKK **Cs˘tkako** 77.13 332⇑ *e*P P 00 49 57.8 +0.8
CORM **Corum** 77.15 318 *e*P P 00 49 57.9 +0.4
DARE **Darende-Malaty** 77.17 315 *e*P P 00 49 59.2 +1.6
HGN **Heimansgroeve** 77.20 341 *e*P P 00 49 57.6 +0.3
comp=Z,358nm,1.1s
M54A **Oil Creek Stat** 77.20 40 P P 00 49 56.9 -0.6
baz=326
M54A **Oil Creek Stat** 77.20 40 *e*P P 00 49 57.0 -0.6
comp=Z,48nm,1.3s
X42A **Stuttgart** 77.21 52 P P 00 49 57.1 -0.6
baz=322
BEBN **Eben Emael** 77.22 341 ⇑P P 00 49 57.5 +0.1
comp=Z,89nm,1.1s
Y41A **Eaglette Beard** 77.22 53 P P 00 49 57.2 -0.6
baz=321
U45A **Rockin P Farm,** 77.24 49 P P 00 49 57.5 -0.3
baz=323
CANT **Cankiri** 77.24 319 *e*P P 00 49 59.3 +1.4
SGRR **Singureni** 77.27 326⇑ *i*P P 00 49 57.4 -0.4
NCB **Newcomb** 77.28 35 *e*P P 00 49 57.5 -0.4
comp=Z,19nm,0.9s
Z40A **Long Farm, Mag** 77.29 54 P P 00 49 57.9 -0.3
baz=321
MEM **Membach** 77.33 341 ⇑P P 00 49 58.1 +0.1
comp=Z,204nm,1.1s
CONA **Conrad Observa** 77.33 334 *i* pP P 00 49 59.1 +0.8
comp=Z,123nm,0.9s,SNR=86
MDH **Madha** 77.34 294 *i* P P 00 49 58.0 -0.5
SNR=30
SOP **Sopron** 77.35 333⇑ *e*P P 00 49 59.3 +1.0
HUMR **Humele** 77.37 327⇑ *i*P P 00 49 57.6 -0.8
MSFE **Esma-Masafi** 77.38 294 *i* P P 00 49 59.1 +0.3
SNR=30
URFA **Urfa** 77.45 314 *e*P P 00 49 59.8 +0.7
WSAR **Wadi Sarin** 77.45 291 P P 00 50 00.1 +0.9
comp=Z,50nm,0.9s,baz=66,slow=6.8
WSAR LR LR 01 28 52.0
comp=Z,1µm,19.2s,baz=70,slow=39
SSW **Stow on the Wo** 77.48 346⇑ *e*P P 00 49 59.4 +0.4
UCC **Uccle** 77.49 342 ⇑P P 00 49 59.0 0.0
comp=Z,94nm,1.3s
UCC **Uccle** 77.49 342 *e*P P 00 49 59.2 +0.2
UCC pmax pmax
comp=Z,81nm,0.9s
UCC **Uccle** 77.49 342 *e*P P 00 49 59.2 +0.2
comp=Z,81nm,0.9s
S48A **Wiedeman Farm,** 77.50 46 P P 00 49 58.8 -0.5
baz=324
VT1 **Waterbury** 77.51 34 *e*P P 00 49 59.2 -0.1
comp=Z,36nm,1.0s
U46A **Springville** 77.52 48 P P 00 49 58.9 -0.5
baz=323
N54A **Moraine State** 77.52 40 P P 00 49 58.8 -0.5
baz=326
N54A **Moraine State** 77.52 40 *e*P P 00 49 58.9 -0.5
comp=Z,52nm,1.3s
T47A **Sharon Grove** 77.54 47 P P 00 49 59.0 -0.5
baz=323
UMQ **Umm Al-Quwin** 77.55 295 *i* P P 00 51 01.0 +1.3
SNR=13
SKP1 **Kophill** 77.55 346⇑ *e*P P 00 49 59.0 -0.3
BIDO **Bidbid** 77.55 291 P P 00 51 01.0 +1.2
SNR=18
BIDO **Bidbid** 77.55 291 P P 00 51 01.0 +1.2
SNR=18
BZS **Buzias** 77.59 329⇑ *i*P P 00 49 59.4 -0.3
PRD **Provadia** 77.61 324 *e*P P 00 49 59.9 +0.2
Z41A **Richland Creek** 77.61 53 P P 00 49 59.4 -0.5
baz=321
X43A **Marvell** 77.62 51 P P 00 49 59.6 -0.4
baz=322
V45A **Humboldt** 77.62 49 P P 00 49 59.5 -0.5
baz=323
MCH1 **Michaelchurch** 77.63 347⇑ *e*P P 00 49 59.8 +0.1
MCH1 IAmb IAmb 00 50 00.7
comp=Z,308nm,2.0s
CCAR **Cane Creek** 77.63 52 *e*P P 00 50 00.5 +0.5
comp=Z,46nm,1.0s
UOSS **Minazif** 77.66 294 *e*P P 00 50 00.1 -0.3
comp=Z,270nm,1.1s
UOSS **Minazif** 77.66 294 *i* P P 00 50 00.3 -0.1
SNR=125
BCLA **Clavier** 77.66 341 ⇑P P 00 49 60.0 0.0
comp=Z,121nm,1.2s
LPW **Lampeter** 77.67 348 *e*P P 00 49 59.9 0.0
LPW IAmb IAmb 00 50 00.9
comp=Z,76nm,1.1s
140A **Cam and Jess,** 77.68 54 P P 00 49 59.2 -1.1
baz=321
Y42A **Garnett, Star** 77.69 52 P P 00 50 00.0 -0.3
baz=322
BNN **Bunyan** 77.69 316 *e*P P 00 50 00.4 -0.1
STRD **Stroud** 77.72 346⇑ *e*P P 00 50 00.4 +0.2
STRD IAmb IAmb 00 50 01.4
comp=Z,295nm,1.0s
MONM **Monmouth** 77.75 347⇑ *e*P P 00 50 00.6 +0.2
MONM IAmb IAmb 00 50 01.6
comp=Z,154nm,1.0s
833A **Chaparral WMA,** 77.77 61 P P 00 50 00.7 -0.2
baz=320
NATX **Nacogdoches** 77.78 55 P P 00 50 00.8 -0.1
baz=321
NATX **Nacogdoches** 77.78 55 *e*P P 00 50 01.5 +0.6
comp=Z,73nm,1.1s
T48A **Bowling Green** 77.78 47 P P 00 50 00.1 -0.7
baz=324
SNF **Seneffe** 77.78 342 ⇑P P 00 50 00.7 +0.1
comp=Z,81nm,0.9s
HATD **Hatta, Dubai** 77.79 294 *i* P P 00 50 01.4 +0.2
SNR=191
MOA **Molln** 77.86 335 *i* pP P 00 50 01.4 +0.2
comp=Z,69nm,0.9s,SNR=40
WVT **Waverly** 77.87 48 P P 00 50 01.1 -0.3
baz=323
WVT **Waverly** 77.87 48 *e*P P 00 50 00.9 -0.4
WVT pmax pmax
comp=Z,15nm,0.9s
WVT **Waverly** 77.87 48 *e*P P 00 50 00.9 -0.4
comp=Z,15nm,0.9s
U47A **Clarksville** 77.88 48 P P 00 50 01.1 -0.4
baz=323
SRE **Strehaia** 77.89 328⇑ *i*P P 00 50 01.5 +0.2
LBNH **Lisbon** 77.89 33 P P 00 50 01.0 -0.4
baz=330
H06S1 **SOCORRO T** 77.90 75 T T 02 16 58.5
SNR=9.5
PKME **Peaks-Kenny Pk** 77.91 31 P P 00 50 01.4 0.0
baz=332
PKME **Peaks-Kenny Pk** 77.91 31 *e*P P 00 50 01.8 +0.3
comp=Z,31nm,1.0s
SWN1 **Swindon** 77.91 346⇑ *e*P P 00 50 01.8 +0.5
SWN1 IAmb IAmb 00 50 02.8
comp=Z,564nm,1.0s
ASHO **Ashiyiah** 77.94 294 P P 00 50 02.7 +0.7
SNR=63
ASHO **Ashiyiah** 77.94 294 P P 00 50 02.7 +0.7
SNR=63
ASHO **Ashiyiah** 77.94 294 *i* P P 00 50 02.2 +0.2
SNR=105
SMDO **Samad** 77.94 291 P P 00 50 05.0 +2.9
SNR=12
SMDO **Samad** 77.94 291 P P 00 50 05.0 +2.9
SNR=12
HGH **Gray Hill** 77.95 347⇑ *i*P P 00 50 01.3 -0.2
NAZ **Nazwa, Dubai** 77.95 294 *i* P P 00 50 02.2 +0.3
SNR=26
BR131 **Keskin Array S** 77.96 318 *e*P P 00 50 02.3 +0.3
BRTR **Keskin Array B** 77.96 318 P P 00 50 02.2 +0.3
comp=Z,100nm,0.9s,baz=62,slow=2.9,SNR=209
BANR **Banloc** 77.96 329⇑ *i*P P 00 50 01.8 +0.1
CRAR **CRAIOVA** 77.97 327⇑ *i*P P 00 50 02.6 +0.9
HERR **Herculane** 77.97 328⇓ *i*P P 00 50 01.2 -0.5
W45A **Hickory Valley** 77.97 50 P P 00 50 01.3 -0.6
baz=323
V46A **Holladay** 77.99 48 P P 00 50 01.2 -0.8
baz=323
ACCN **Adirondack Com** 77.99 35 *e*P P 00 50 01.5 -0.4
comp=Z,21nm,0.9s
HOQ **Hoqain** 78.01 292 P P 00 50 05.0 +2.6
SNR=12
HOQ **Hoqain** 78.01 292 P P 00 50 05.0 +2.6
SNR=12
X44A **Crenshaw** 78.01 51 P P 00 50 01.6 -0.6
baz=322
WOL **Wolverton** 78.02 346⇑ *e*P P 00 50 01.9 +0.1
WOL IAmb IAmb 00 50 02.9
comp=Z,192nm,0.9s
MORH **M¨¸r¡gy, Hung** 78.03 331⇑ *e*P P 00 50 01.6 -0.5
Z42A **Norrel Spur, H** 78.04 53 P P 00 50 02.0 -0.3
baz=322
240A **Hunter Patters** 78.05 55 P P 00 50 02.0 -0.4
baz=321
ARSA **Arzberg** 78.05 334 *i* pP P 00 50 03.0 +0.8
comp=Z,101nm,1.0s,SNR=46
141A **Papa Simpson,** 78.06 54 P P 00 50 02.3 -0.2
baz=322
BATH **Bath** 78.06 346⇑ *e*P P 00 50 02.2 +0.1
BATH IAmb IAmb 00 50 03.1
comp=Z,144nm,1.0s
SOHO **SOHO** 78.06 293 *i* P P 00 50 02.2 -0.4
SNR=108
Y43A **Makayla and Ka** 78.07 52 P P 00 50 02.1 -0.4
baz=322
SZH **Strazhica** 78.10 325 *e*P P 00 50 01.7 -0.8
BINY **Binghamton** 78.11 37 P P 00 50 01.6 -1.0
baz=328
DOU **Dourbes** 78.11 342 ⇑P P 00 50 02.5 +0.1
comp=Z,69nm,1.2s
U48A **Cassie Pea, Po** 78.19 47 P P 00 50 02.5 -0.6
baz=324
WLF **Walferdange** 78.19 341 ⇑P P 00 50 02.7 -0.2
WLF **Walferdange** 78.19 341 *e*P P 00 50 03.0 +0.1
WLF pmax pmax
comp=Z,106nm,1.2s
WLF **Walferdange** 78.19 341 *e*P P 00 50 03.0 +0.1
comp=Z,106nm,1.2s
LOD **Lodumlu** 78.20 319 *e*P P 00 50 03.2 -0.1
ANTO **Ankara** 78.21 319 *e*P P 00 50 04.0 +0.7
ANTO pmax pmax
comp=Z,292nm,1.4s
ANTO **Ankara** 78.21 319 *e*P P 00 50 04.0 +0.7
comp=Z,292nm,1.4s
ANTO **Ankara** 78.21 319 P P 00 50 04.3 +1.0
SNR=20
ANTO **Ankara** 78.21 319 P P 00 50 04.3 +1.0
SNR=20
BR231 **Keskin MP Arra** 78.24 319 *e*P P 00 50 02.7 -0.8
V47A **Nunnelly** 78.26 48 P P 00 50 02.7 -0.8
baz=323
KMRS **Kahramanmaras** 78.30 315 *e*P P 00 50 05.0 +1.2
STU **Stuttgart** 78.33 338 *e*P P 00 50 03.0 -0.7
STU pmax pmax
comp=Z,133nm,1.0s
STU **Stuttgart** 78.33 338 *e*P P 00 50 03.0 -0.7
comp=Z,133nm,1.0s
OXF **Oxford** 78.37 50 P P 00 50 03.4 -0.7
baz=323
OXF **Oxford** 78.37 50 *e*P P 00 50 03.9 -0.2
OXF pmax pmax
comp=Z,65nm,0.9s
OXF **Oxford** 78.37 50 *e*P P 00 50 03.9 -0.2
comp=Z,65nm,0.9s
BEHE **Becsehely** 78.38 333⇑ *e*P P 00 50 04.5 +0.5
MDUB **Mudurnu** 78.38 320 *e*P P 00 50 03.9 -0.4
W46A **Michie** 78.39 49 P P 00 50 03.3 -1.0
baz=323
Y44A **Strider, Charl** 78.40 51 P P 00 50 03.8 -0.5
baz=322
WVL **Waterville** 78.40 32 *e*P P 00 50 04.4 +0.3
comp=Z,38nm,1.0s
JMDO **Jabal Madar** 78.42 291 P P 00 50 07.1 +2.5
SNR=7.0
JMDO **Jabal Madar** 78.42 291 P P 00 50 07.1 +2.5
SNR=7.0
GAZ **Gaziantep** 78.43 314 *e*P P 00 50 05.9 +1.4
AFSR **Af˘ar-Bala (A** 78.44 319 *e*P P 00 50 04.4 -0.2
X45A **UM Field Stati** 78.45 50 P P 00 50 03.5 -1.1
baz=323
SILT **Sile** 78.45 322 *e*P P 00 50 05.1 +0.6
Z43A **Armstrong Fami** 78.46 52 P P 00 50 03.9 -0.7
baz=322
241A **Mo Tay, Goldon** 78.51 54 P P 00 50 04.7 -0.2
baz=322
SAUV **Serdivan-Sakar** 78.52 321 *e*P P 00 50 05.3 +0.4
KOGS **Kog** 78.56 333 *e*P P 00 50 04.9 -0.1
SPNC **Sapanca-Adapaz** 78.57 321 *e*P P 00 50 06.0 +0.8
ALNE **Al Ain** 78.59 293 *i* P P 00 50 06.0 +0.4
SNR=98
KLYT **Kilyos** 78.61 322 *e*P P 00 50 05.5 +0.2
MCWV **Mont Chateau** 78.66 41 P P 00 50 05.4 -0.3
baz=326
MCWV **Mont Chateau** 78.66 41 *e*P P 00 50 06.0 +0.3
comp=Z,18nm,0.9s
PLAL **Pickwick Lake** 78.66 49 *e*P P 00 50 05.0 -0.8
comp=Z,15nm,0.8s
SSPA **Standing Stone** 78.67 39 P P 00 50 05.1 -0.6
baz=327
SSPA **Standing Stone** 78.67 39 *e*P P 00 50 05.5 -0.2
comp=Z,25nm,1.2s
ARQ **Araqi** 78.67 292 P P 00 50 08.0 +2.0
SNR=10
ARQ **Araqi** 78.67 292 P P 00 50 08.0 +2.0
SNR=10
V48A **Smith Brothers** 78.67 48 P P 00 50 05.1 -0.7
baz=324
AJN **Ajban** 78.67 294 *i* P P 00 50 06.0 +0.1
SNR=30
W47A **Westpoint** 78.69 48 P P 00 50 05.1 -0.8
baz=323
O56A **Blue Knob Stat** 78.69 40 P P 00 50 05.3 -0.6
baz=327
O56A **Blue Knob Stat** 78.69 40 *e*P P 00 50 05.4 -0.6
comp=Z,43nm,1.5s
BSY **Bisya** 78.70 292 P P 00 50 08.0 +1.8
SNR=16
BSY **Bisya** 78.70 292 P P 00 50 08.0 +1.8
SNR=16
GULT **Gulveren** 78.70 321 *e*P P 00 50 06.6 +0.6
SOKA **Soboth** 78.71 334 *i* pP P 00 50 06.5 +0.6
comp=Z,172nm,0.9s,SNR=172
PERS **Pernice** 78.72 334 *i* P P 00 50 06.3 +0.4
PERS *i* 00 50 19.7
HRT **Hereke** 78.72 322 *e*P P 00 50 06.6 +0.5
CTYL **Yalikoy Yolu** 78.72 323 *e*P P 00 50 06.2 +0.2
X46A **Booneville** 78.75 50 P P 00 50 05.3 -0.9
baz=323
143A **Socs Landing,** 78.77 53 P P 00 50 06.1 -0.3
baz=322
BGKT **Bogazkoy** 78.78 322 *e*P P 00 50 06.5 +0.2
Y45A **Yeager Farm, C** 78.81 51 P P 00 50 06.3 -0.3

baz=323
HTL Hartland 78.82 348⇑ *e*P P 00 50 06.3 0.0
HTL IAmb IAmb 00 50 07.6
comp=Z,63nm,0.9s
KBA Koelnbreinsper 78.82 335 *ep*P P 00 50 07.6 +0.9
comp=Z,630nm,1.6s,SNR=272
KOZT Kozan 78.82 316 *e*P P 00 50 07.7 +1.1
CTKS Kestanelik-??a 78.84 323 *e*P P 00 50 06.9 +0.3
242A Grayson 78.88 54 P P 00 50 07.0 0.0
baz=322
BFO Black Forest 78.95 339 *i* P P 00 50 07.1 0.0
BFO Black Forest 78.95 339 *e*P P 00 50 07.2 0.0
comp=Z,109nm,1.0s
SLVT Silivri 78.97 323 *e*P P 00 50 07.4 +0.1
OBKA Obir 79.00 334 *ep*P P 00 50 08.0 +0.5
comp=Z,84nm,0.9s,SNR=56
EDRB Edirne 79.01 324 *e*P P 00 50 07.9 +0.3
EMMW East Machias 79.01 30 *e*P P 00 50 07.8 +0.3
comp=Z,39nm,0.9s
ADVT Abdulvahap 79.02 321 *e*P P 00 50 08.1 +0.5
WATA Walderalm 79.06 336 *i* pP P 00 50 08.7 +0.8
comp=Z,163nm,1.0s,SNR=135
W48A Pulaski 79.10 48 P P 00 50 07.5 -0.7
baz=324
SVRH Sivrihisar-ESK 79.10 320 *e*P P 00 50 08.5 +0.3
WTTA Wattenberg 79.11 336 *ep*P P 00 50 09.2 +1.0
comp=Z,199nm,1.0s,SNR=107
Z45A Winona 79.13 51 P P 00 50 08.2 -0.1
baz=323
RETA Reutte 79.13 337 *i* pP P 00 50 08.7 +0.5
comp=Z,92nm,0.9s,SNR=67
X47A Russelville 79.14 49 P P 00 50 07.3 -1.1
baz=323
MYKA Terra Mystica 79.15 335 *i* pP P 00 50 08.5 +0.2
comp=Z,78nm,0.9s,SNR=49
Y46A Houston 79.15 50 P P 00 50 07.9 -0.6
baz=323
CAVI Cavuskoy 79.17 321 *e*P P 00 50 09.1 +0.6
MOTA Moosalm 79.17 337 *i* pP P 00 50 09.3 +0.7
comp=Z,188nm,0.9s,SNR=270
CRLT Corlu 79.24 323 *e*P P 00 50 09.5 +0.7
CEYT Ceyhan 79.24 315 *e*P P 00 50 11.1 +2.2
GEMT Gemlik 79.24 322 *e*P P 00 50 09.9 +1.0
ARMT Armutlu 79.27 322 *e*P P 00 50 08.9 -0.1
SULT Sultanhani-AKS 79.27 318 *e*P P 00 50 09.9 +0.7
DYA Yadsworthy 79.28 347⇑ *e*P P 00 50 08.0 -0.9
DYA IAmb IAmb 00 50 09.0
comp=Z,208nm,1.0s
N59A State Game Lan 79.29 37 P P 00 50 08.4 -0.7
baz=328
N59A State Game Lan 79.29 37 *e*P P 00 50 08.4 -0.7
comp=Z,19nm,0.9s
ECH Echery 79.33 339 *e*P P 00 50 09.4 +0.2
ECH pmax pmax
comp=Z,156nm,1.1s
ECH Echery 79.33 339 *e*P P 00 50 09.4 +0.2
comp=Z,156nm,1.1s
144A Alexander Plac 79.34 52 P P 00 50 09.3 -0.2
baz=322
ABTA Abfaltersbach 79.35 335 *ep*P P 00 50 09.6 +0.2
comp=Z,102nm,1.0s,SNR=96
SBT3 Marmara-Eregli 79.35 323 *e*P P 00 50 10.3 +1.1
441A DeRidder 79.35 55 P P 00 50 09.8 +0.2
baz=322
ARMA Armidale 79.36 184 *e*P P 00 50 10.5 +1.1
comp=Z,31nm,0.8s
243A Waterproof 79.38 53 P P 00 50 09.9 +0.2
baz=322
MDNY Mudanya-Bursa 79.42 322 *e*P P 00 50 10.2 +0.4
DIVS Divibare 79.48 329 *e*P P 00 50 09.9 -0.3
comp=Z,173nm,0.9s
PAGS Pennsylvania G 79.49 38 *e*P P 00 50 09.7 -0.5
comp=Z,28nm,1.1s
SWET Sewanee 79.52 47 *e*P P 00 50 09.5 -1.0
comp=Z,7.0nm,0.7s
HRV Adam Dziewonsk 79.53 34 P P 00 50 09.2 -1.2
baz=331
DAVA Damuels 79.54 337 *i* pP P 00 50 11.1 +0.5
comp=Z,155nm,0.9s,SNR=73
OZLJ Ozalj 79.54 333 P P 00 50 10.3 0.0
FETA Feichten 79.57 337 *ep*P P 00 50 11.2 +0.5
comp=Z,121nm,1.0s,SNR=76
TZTN Tazewell 79.57 45 P P 00 50 10.3 -0.5
baz=325
TZTN Tazewell 79.57 45 *e*P P 00 50 10.7 0.0
comp=Z,23nm,1.0s
X48A Hartselle 79.59 49 P P 00 50 09.8 -1.1
baz=324
145A Houston Renfro 79.61 52 P P 00 50 10.9 -0.1
baz=323
VBMS Vicksburg 79.61 52 P P 00 50 10.9 -0.1
baz=322
VBMS Vicksburg 79.61 52 *e*P P 00 50 11.6 +0.6
comp=Z,54nm,1.1s
Y47A UCPARC, Winfie 79.64 49 P P 00 50 10.2 -0.9
baz=323
Z46A Louisville 79.65 51 P P 00 50 11.0 -0.1
baz=323
244A Avery, Jackson 79.67 53 P P 00 50 11.5 +0.3
baz=322
VTS Vitosha 79.69 327⇑ *i* P P 00 50 11.6 +0.2
VTS Vitosha 79.69 327 *e*P P 00 50 11.4 0.0
VTS pmax pmax
comp=Z,199nm,0.9s
VTS Vitosha 79.69 327 *e*P P 00 50 11.4 0.0
comp=Z,199nm,0.9s
VTS Vitosha 79.69 327 *e*P P 00 50 11.8 +0.4
VTS Vitosha 79.69 327 P P 00 50 11.4 0.0
JAVS Javornik 79.70 334 *i* P P 00 50 10.7 -0.7
JAVS *i* 00 50 23.9
BOJS Bojanci 79.71 333 *i* P P 00 50 11.3 0.0
BOJS *i* 00 50 24.6
CCA1 Carnmenellis 79.71 348⇑ *e*P P 00 50 11.3 +0.1
CCA1 IAmb IAmb 00 50 12.4
comp=Z,130nm,1.0s
WES Weston 79.72 34 *e*P P 00 50 11.5 +0.1
WES pmax pmax
comp=Z,80nm,1.5s
WES Weston 79.72 34 *e*P P 00 50 11.5 +0.1
comp=Z,80nm,1.5s
KCTX Karacabey (Bur 79.72 322 *e*P P 00 50 12.0 +0.5
BLY Banja Luka 79.80 332⇑ *i*P P 00 50 11.5 -0.3
BLY Banja Luka 79.80 332 *e*P P 00 50 11.5 -0.3
comp=Z,31nm,0.8s
RKY Sarkoy-Tekirda 79.83 323 *e*P P 00 50 12.6 +0.5
EDC Edincik 79.85 322 *e*P P 00 50 12.7 +0.5
X49A Woodville 79.90 48 P P 00 50 11.8 -0.8
baz=324
PAL Palisades 79.94 36 P P 00 50 11.8 -0.8
baz=330
TRI Trieste 79.95 334 *e*P P 00 50 12.0 -0.6
TRI pmax pmax
comp=Z,111nm,1.0s
TRI Trieste 79.95 334 *e*P P 00 50 12.0 -0.6
comp=Z,111nm,1.0s
TVSB Tavsanli 79.96 321 *e*P P 00 50 12.3 -0.6
Y48A Jasper 79.97 49 P P 00 50 11.7 -1.2
baz=324
CPCT Cooper Cave 80.01 46 *e*P P 00 50 12.4 -0.7
146A Union 80.03 51 P P 00 50 13.5 +0.2
baz=323
KRBG Karabiga-Canak 80.04 323 *e*P P 00 50 13.7 +0.5
FUORN Ofenpass-Fuorn 80.06 337 *e*P P 00 50 14.4 +0.9
comp=Z,168nm,1.0s
RDO Rodhopi 80.08 324 P P 00 50 13.7 +0.3
RDO Rodhopi 80.08 324 P P 00 50 13.7 +0.3
245A Little AP, Sta 80.08 52 P P 00 50 13.7 +0.2
baz=323
Z47A Carrollton 80.09 50 P P 00 50 12.8 -0.7
baz=323
ALN Alexandroupoli 80.10 324 P P 00 50 13.4 -0.1
ALN Alexandroupoli 80.10 324 P P 00 50 13.4 -0.1
ALN Alexandroupoli 80.10 324 P P 00 50 13.4 -0.1
344A Westbrook Farm 80.11 53 P P 00 50 14.0 +0.3
baz=322
ERIK Erikli-Kesan 80.11 324 *e*P P 00 50 14.0 +0.5
TAOE Nuku Hiva Isla 80.11 116 *e*S S 01 00 17.5 +0.6
comp=Z,177nm,24.6s
TAOE Nuku Hiva Isla 80.11 116 *e*LR LR 01 15 11.7
comp=Z,2µm,22.5s,baz=327
SDMD Soldier's Deli 80.13 39 *e*P P 00 50 13.5 -0.2
comp=Z,13nm,1.2s
TKL Tuckaleechee C 80.19 46 P P 00 50 13.6 -0.5
TKL LR LR 01 29 24.0
comp=Z,9.4nm,1.0s,baz=202,slow=2.9,SNR=7.8
comp=Z,664nm,18.5s,baz=331,slow=38
TKL Tuckaleechee C 80.19 46 *e*P P 00 50 13.6 -0.5
TKL pmax pmax
comp=Z,21nm,1.0s
TKL Tuckaleechee C 80.19 46 *e*P P 00 50 13.6 -0.5
comp=Z,21nm,1.0s
ENEZ Enez 80.19 324 *e*P P 00 50 14.4 +0.4
ENEZ Enez 80.19 324 P P 00 50 14.0 0.0
Z48A Northport 80.20 50 P P 00 50 12.9 -1.3
baz=324
JRS Jersey 80.21 346⇑ *e*P P 00 50 14.2 +0.3
LPK Lapseki 80.27 323 *e*P P 00 50 13.9 -0.5
X50A Fort Payne 80.27 48 P P 00 50 13.7 -0.9
baz=324
RAR Rarotonga 80.32 139 LR LR 01 20 45.2
comp=Z,215nm,19.6s,baz=305,slow=32
GELI Tayfur-Gelibol 80.36 323 *e*P P 00 50 15.2 +0.3
PLE Pljevlja 80.36 330⇑ *i*P P 00 50 14.6 -0.4
KKB Krupnik 80.37 326 *e*P P 00 50 15.9 +1.0
MMB Musomiste 80.37 326 *e*P P 00 50 15.2 +0.2
Y49A Blount Mountai 80.38 49 P P 00 50 14.3 -0.9
baz=324
147A Livingston 80.41 50 P P 00 50 14.9 -0.3
baz=323
KIZK Mersin 80.41 316 *e*P P 00 50 15.2 0.0
TUE Stuetta 80.43 337 *e*P P 00 50 16.3 +0.8
comp=Z,210nm,1.0s
UDBI Udbina 80.44 332 P P 00 50 14.7 -0.6
BLA Blacksburg 80.44 43 P P 00 50 14.7 -0.8
baz=326
BLA Blacksburg 80.44 43 *e*P P 00 50 15.3 -0.2
BLA pmax pmax
comp=Z,32nm,1.0s
BLA Blacksburg 80.44 43 *e*P P 00 50 15.3 -0.2
comp=Z,32nm,1.0s
BALB Balikesir 80.45 322 *e*P P 00 50 15.7 +0.3
NVR Nevrokopi 80.53 326 P P 00 50 15.9 0.0
NVR Nevrokopi 80.53 326 P P 00 50 15.9 0.0
345A Thompson Farm, 80.59 53 P P 00 50 16.5 +0.2
baz=323
KAVA Kavala 80.59 325 P P 00 50 16.1 0.0
KAVA Kavala 80.59 325 P P 00 50 16.1 0.0
IVA Berane 80.60 329⇑ *i*P P 00 50 16.4 +0.1
UPM Unac-Piva 80.64 330⇑ *i*P P 00 50 15.9 -0.7
444A Pine Grove 80.68 53 P P 00 50 17.3 +0.5
baz=322
Y50A Piedmont 80.69 48 P P 00 50 16.0 -0.8
baz=324
IP04 Greensprings 80.72 40 *e*P P 00 50 17.2 +0.3
comp=Z,25nm,0.9s
247A Quitman 80.73 51 P P 00 50 17.3 +0.3
baz=323
KOME Kolasin 80.75 329⇑ *i*P P 00 50 16.6 -0.5
LRAL Lakeview Retre 80.75 49 P P 00 50 15.9 -1.2
baz=324
LRAL Lakeview Retre 80.75 49 *e*P P 00 50 16.1 -1.0
comp=Z,9.9nm,0.7s
148A Greensboro 80.78 50 P P 00 50 16.4 -0.9
baz=324
IP03 Louisa 80.81 40 *e*P P 00 50 17.6 +0.2
comp=Z,27nm,1.0s
346A Big Creek Wild 80.82 52 P P 00 50 17.1 -0.4
baz=323
PVY Plav 80.82 329⇑ *i*P P 00 50 16.7 -0.8
SRS Serrai 80.83 326 P P 00 50 17.1 -0.4
SRS Serrai 80.83 326 P P 00 50 17.1 -0.4
SRS Serrai 80.83 326 P P 00 50 17.1 -0.4
Z49A Columbiana 80.86 49 P P 00 50 16.7 -1.0
baz=324
SKO Skopje 80.86 328 *i* P P 00 50 17.9 +0.3
SPRD Spring Road, M 80.87 40 *e*P P 00 50 17.7 +0.1
comp=Z,33nm,1.3s
445A Amite 80.88 53 P P 00 50 18.2 +0.3
baz=323
ISP Isparta 80.89 319 *c i*P P 00 50 17.4 -0.5
ISP pmax pmax
comp=Z,146nm,2.6s
ISP Isparta 80.89 319 *e*P P 00 50 17.6 -0.3
comp=Z,54nm,1.0s
IP07 Quail 80.89 41 *e*P P 00 50 18.0 +0.2
comp=Z,28nm,1.0s
IP06 Yanceyville 80.90 40 *e*P P 00 50 17.5 -0.3
comp=Z,65nm,0.2s
IP01 Cuckoo 80.91 40 *e*P P 00 50 18.0 +0.1
comp=Z,17nm,1.1s
CBN Corbin Frederi 80.93 40 P P 00 50 17.4 -0.6
baz=326
544A White Castle 80.94 54 P P 00 50 17.8 -0.4
baz=322
AKKU Akkuyu-Mersin 80.94 316 *e*P P 00 50 17.9 -0.2
NKY Niksic 80.95 330⇑ *i*P P 00 50 17.6 -0.6
SUTC Sutluce-Ispart 80.97 319 *e*P P 00 50 17.3 -1.1
NKME Niksic 81.01 330⇑ *i*P P 00 50 17.6 -0.8
VAY Valandovo 81.03 326 P P 00 50 18.5 0.0
VAY Valandovo 81.03 326 P P 00 50 18.5 0.0
VAY Valandovo 81.03 326 P P 00 50 18.5 0.0
VAY Valandovo 81.03 326 *i* P P 00 50 18.9 +0.4
SENIN Lac Senin/Sane 81.04 339 *e*P P 00 50 18.9 +0.2
comp=Z,64nm,1.1s
KNT Kendrikon 81.05 326 P P 00 50 18.6 0.0
KNT Kendrikon 81.05 326 P P 00 50 18.6 0.0
KNT Kendrikon 81.05 326 P P 00 50 18.6 0.0
IP05 Hopewell Churc 81.08 40 *e*P P 00 50 18.7 -0.1
comp=Z,15nm,0.9s
KULA Kula-Manisa 81.09 321 *e*P P 00 50 19.1 +0.2
Z50A Ashland 81.11 49 P P 00 50 18.2 -0.8
baz=324
BG3 Lake Jocassee 81.13 45 *e*P P 00 50 19.3 +0.2
comp=Z,22nm,0.8s
248A Dixon Mills 81.14 50 P P 00 50 18.9 -0.3
baz=324
TEKE Tekeli-Mersin 81.15 317 *e*P P 00 50 18.8 -0.4
EREN Erenkoy 81.18 316 *e*P P 00 50 19.7 +0.3
TTG Podgorica 81.21 329 *e*P P 00 50 18.9 -0.4
TTG Podgorica 81.21 329 *e*P P 00 50 19.0 -0.4
TTG pmax pmax
comp=Z,250nm,1.0s
TTG Podgorica 81.21 329 *e*P P 00 50 19.0 -0.3
comp=Z,250nm,1.0s
149A Jones 81.21 50 P P 00 50 18.9 -0.7
baz=324
CEME Cevo 81.22 329⇑ *i*P P 00 50 18.8 -0.7
347A Saraland 81.28 51 P P 00 50 19.7 -0.2
baz=323
LIA Limnos Island 81.29 324 P P 00 50 19.5 -0.4
LIA Limnos Island 81.29 324 P P 00 50 19.5 -0.4
STON Ston 81.33 330 P P 00 50 17.8 -2.2
GRG Griva 81.41 326 P P 00 50 20.4 -0.2
GRG Griva 81.41 326 P P 00 50 20.4 -0.2
GRG Griva 81.41 326 P P 00 50 20.4 -0.2
PRK Paraskevi 81.43 323 P P 00 50 20.3 -0.3
PRK Paraskevi 81.43 323 P P 00 50 20.3 -0.3
PRK Paraskevi 81.43 323 P P 00 50 20.3 -0.3
BUM Brajici-Budva 81.44 329⇑ *i*P P 00 50 20.4 -0.4
HCY Kerceg Novi 81.45 330⇑ *i*P P 00 50 19.5 -1.2
DRME Dracevica, Mon 81.45 329⇑ *i*P P 00 50 20.4 -0.3
KRUS Krusevo 81.46 327 *i* P P 00 50 20.8 -0.1
PLG Polygyros 81.54 325 P P 00 50 20.6 -0.6
PLG Polygyros 81.54 325 P P 00 50 20.6 -0.6
PLG Polygyros 81.54 325 P P 00 50 20.6 -0.6
249A Camden 81.54 50 P P 00 50 21.3 0.0
baz=324
150A Eclectic 81.58 49 P P 00 50 20.9 -0.7
baz=324
348A Jackson 81.60 51 P P 00 50 21.7 +0.1
baz=324
ULC Ulcinj 81.63 329⇑ *i*P P 00 50 21.5 -0.2
KORT Korkueli 81.65 319 *e*P P 00 50 21.3 -0.7
LFK Lefkosie 81.68 316 *e*P P 00 50 22.2 +0.1
BIA Bitola 81.74 327 *i* P P 00 50 22.2 -0.2
KMSC Kings Mountain 81.75 44 P P 00 50 21.7 -0.7
baz=326
KMSC Kings Mountain 81.75 44 *e*P P 00 50 21.6 -0.7
comp=Z,13nm,0.9s
STKA Stephens Creek 81.75 192 P P 00 50 22.4 +0.3
comp=Z,7.6nm,0.9s,baz=337,slow=5.6,SNR=9.4
STKA LR LR 01 26 27.1
comp=Z,290nm,20.0s,baz=17,slow=36
STKA Stephens Creek 81.75 192 *e*P P 00 50 22.4 +0.3
STKA pmax pmax
comp=Z,11nm,1.7s
STKA Stephens Creek 81.75 192 *e*P P 00 50 22.4 +0.3
comp=Z,11nm,1.7s
OHR Ohrid 81.85 328 *i* P P 00 50 22.5 -0.4
AYDB Zeytinkoy-Aydi 81.89 321 *e*P P 00 50 23.2 0.0
MAMC Mammari 81.91 316 P P 00 50 23.2 -0.1
FNA Florina 81.93 327 P P 00 50 22.7 -0.6
FNA Florina 81.93 327 P P 00 50 22.7 -0.6
FNA Florina 81.93 327 P P 00 50 22.7 -0.6
TIR Tirane 81.96 328 *e*P P 00 50 23.4 0.0
TIR pmax pmax
comp=Z,196nm,0.9s
TIR Tirane 81.96 328 *e*P P 00 50 23.4 0.0
comp=Z,196nm,0.9s
250A Grady 81.97 50 P P 00 50 23.3 -0.3
baz=324
448A Bay Minette 82.01 51 P P 00 50 24.1 +0.3
baz=324
349A Repton 82.01 51 P P 00 50 23.8 0.0
baz=324
PPT Papeete 82.02 129 LR LR 01 25 33.8
comp=Z,294nm,18.2s,baz=338,slow=35
CSS Mathiatis 82.03 316 *e*P P 00 50 24.1 +0.2
comp=Z,26nm,0.9s
CSS Mathiatis 82.03 316 P P 00 50 23.9 0.0
PPT2 Papeete2 82.03 129 *e*S S 01 00 36.0 -0.6
comp=Z,710nm,31.0s
PPT2 Papeete2 82.03 129 *e*LR LR 01 15 51.6
comp=Z,300nm,22.2s
URLA Izmir 82.06 322 *e*P P 00 50 22.7 -1.3
HODGE Hodges 82.07 45 *e*P P 00 50 23.8 -0.3
comp=Z,17nm,1.1s
LEF Lefka 82.10 316 *e*P P 00 50 23.8 -0.4
GOGA Godfrey 82.17 47 P P 00 50 24.2 -0.4
baz=325
GOGA Godfrey 82.17 47 *e*P P 00 50 24.5 -0.1
GOGA pmax pmax
comp=Z,9.0nm,1.0s
GOGA Godfrey 82.17 47 *e*P P 00 50 24.5 -0.1
comp=Z,9.1nm,1.0s
ALFC Alefka 82.20 316 P P 00 50 24.5 -0.3
KZN Kozani 82.21 327 P P 00 50 23.9 -0.9
KZN Kozani 82.21 327 P P 00 50 23.9 -0.9
KZN Kozani 82.21 327 P P 00 50 23.9 -0.9
BRAL Brewton 82.23 51 P P 00 50 25.0 0.0
baz=324
BRAL Brewton 82.23 51 *e*P P 00 50 25.9 +1.0
comp=Z,42nm,0.9s
251A Midway 82.30 49 P P 00 50 24.8 -0.5
baz=325
VLC Villacollemand 82.31 336 *e*P P 00 50 25.6 +0.4
comp=Z,214nm,1.2s
NEST Nestorio 82.37 327 P P 00 50 25.2 -0.5
350A Dozier 82.39 50 P P 00 50 25.9 +0.1
baz=324
SZAC Souni 82.41 316 P P 00 50 37.7 +12
YER Yerkesik 82.42 320 *e*P P 00 50 26.7 +0.8
YER Yerkesik 82.42 320 P P 00 50 26.3 +0.4
YER Yerkesik 82.42 320 P P 00 50 26.3 +0.4
YER Yerkesik 82.42 320 P P 00 50 26.3 +0.4
BNI Bardonecchia 82.42 339 *e*P P 00 50 26.9 +1.0
BNI pmax pmax
comp=Z,74nm,1.2s
BNI Bardonecchia 82.42 339 *e*P P 00 50 26.9 +1.0
comp=Z,74nm,1.2s
449A Pace 82.47 51 P P 00 50 26.6 +0.4
baz=324
JSC Jenkinsville 82.49 45 *e*P P 00 50 25.8 -0.5
JSC pmax pmax
comp=Z,12nm,1.0s
JSC Jenkinsville 82.49 45 *e*P P 00 50 25.8 -0.5
comp=Z,12nm,1.0s
FETY Fethiye 82.50 320 *e*P P 00 50 26.3 -0.1
FETY Fethiye 82.50 320 P P 00 50 25.2 -1.2
FETY Fethiye 82.50 320 P P 00 50 25.2 -1.2
PENT Pentalofos 82.54 327 P P 00 50 25.9 -0.7
PPCY Paphos 82.55 316 P P 00 50 34.8 +8.3
FYTO Fytoko, Volos 82.57 325 P P 00 50 26.3 -0.3
FYTO Fytoko, Volos 82.57 325 P P 00 50 26.3 -0.3
ASF Jabal al Asfar 82.64 312 P P 00 50 27.9 +0.7
comp=Z,58nm,1.1s,baz=274,slow=3.5,SNR=21
KPRO Kipourio 82.67 327 P P 00 50 26.3 -0.9
MMAI Mount Meron Ar 82.67 313 P P 00 50 27.8 +0.4
comp=Z,25nm,0.5s,baz=38,slow=7.3,SNR=48
MMAI LR LR 01 33 18.0
comp=Z,472nm,18.2s,baz=350,slow=40
SSB Saint Sauveur 82.70 340 *e*P P 00 50 27.9 +0.6
SSB pmax pmax
comp=Z,94nm,1.1s
SSB Saint Sauveur 82.70 340 *e*P P 00 50 27.9 +0.6
comp=Z,94nm,1.1s
450A Crestview 82.76 50 P P 00 50 27.4 -0.3
baz=324
351A Pinckard 82.87 49 P P 00 50 28.0 -0.3
baz=325
253A Americus 82.96 48 P P 00 50 28.2 -0.6
baz=325
352A Blakely 83.04 49 P P 00 50 29.0 -0.2
baz=325
EREA Eretria 83.06 324 P P 00 50 28.4 -0.8
JAN Janina 83.11 327 P P 00 50 29.6 +0.1
JAN Janina 83.11 327 P P 00 50 29.6 +0.1
JAN Janina 83.11 327 P P 00 50 29.6 +0.1
AQU L'Aquila 83.13 333 *e*P P 00 50 30.1 +0.6
AQU pmax pmax
comp=Z,137nm,1.0s
AQU L'Aquila 83.13 333 *e*P P 00 50 30.1 +0.6
comp=Z,137nm,1.0s
AGG Agios Georgios 83.13 326 *e*P P 00 50 28.9 -0.7
AGG pmax pmax
comp=Z,99nm,1.0s
AGG Agios Georgios 83.13 326 *e*P P 00 50 28.9 -0.7
comp=Z,99nm,1.0s
CNNC Cliffs of the 83.21 42 P P 00 50 29.8 -0.2
baz=328
LKR Lokris 83.21 325 P P 00 50 28.4 -1.5
LKR Lokris 83.21 325 P P 00 50 28.4 -1.5
SHAO Shalim 83.22 290 P P 00 50 30.7 +0.4
ARG Arkhangelos 83.27 320 P P 00 50 29.9 -0.4
ARG Arkhangelos 83.27 320 P P 00 50 29.9 -0.4
ARG Arkhangelos 83.27 320 P P 00 50 29.9 -0.4
451A Vernon 83.33 50 P P 00 50 30.7 0.0
baz=325
SGD Sagiada 83.37 327 P P 00 50 30.2 -0.6
PTL Penteli 83.40 324 P P 00 50 29.6 -1.4
PTL Penteli 83.40 324 P P 00 50 29.6 -1.4
IGT Igoumenitsa 83.41 327 P P 00 50 30.3 -0.7
IGT Igoumenitsa 83.41 327 P P 00 50 30.3 -0.7
IGT Igoumenitsa 83.41 327 P P 00 50 30.3 -0.7
452A Marianna 83.42 49 P P 00 50 31.2 +0.1
baz=325
353A Camilla 83.50 48 P P 00 50 31.4 -0.1
baz=325
VILL Villia 83.52 324 P P 00 50 30.0 -1.6
DSF Desfina 83.60 325 P P 00 50 30.0 -2.0
DSF Desfina 83.60 325 P P 00 50 30.0 -2.0
APE Apeiranthos 83.60 322‖ *e*P P 00 50 30.5 -1.6
APE pmax pmax
comp=Z,48nm,1.0s
VLY Voula,Athens 83.60 324 P P 00 50 30.3 -1.7
VLY Voula,Athens 83.60 324 P P 00 50 30.3 -1.7
MATE Matera 83.65 330⇑ *i*P P 00 50 32.3 +0.2
TIGA Tifton 83.73 48 P P 00 50 32.6 -0.1
baz=326
TIGA Tifton 83.73 48 *e*P P 00 50 33.0 +0.2
comp=Z,52nm,1.0s
KALE Kalithea 83.76 325 P P 00 50 31.2 -1.7
KALE Kalithea 83.76 325 P P 00 50 31.2 -1.7
LTK Loutraki 83.77 325 P P 00 50 30.6 -2.3
LTK Loutraki 83.77 325 P P 00 50 30.6 -2.3
SERG Sergoula 83.77 325 P P 00 50 31.4 -1.5
LOUT Loutraki 83.80 325 P P 00 50 30.9 -2.1
EFP Efpalio 83.81 326 P P 00 50 31.7 -1.4
THAL Thalero 83.87 325 P P 00 50 31.4 -2.0
PDO Prodromos 83.93 326 P P 00 50 32.9 -0.8
552A Lynn Haven 83.95 50 P P 00 50 34.2 +0.4
baz=325
NHSC New Hope 83.97 45 P P 00 50 33.9 0.0
baz=327
KLV Kalavryta, Ach 84.06 325 P P 00 50 33.1 -1.3
KLV Kalavryta, Ach 84.06 325 P P 00 50 33.1 -1.3
GUR Goura 84.08 325 P P 00 50 33.0 -1.6
GUR Goura 84.08 325 P P 00 50 33.0 -1.6
DID Didima 84.12 324 P P 00 50 31.9 -2.8
DID Didima 84.12 324 P P 00 50 31.9 -2.8
KARP Karpathos 84.24 320 *e*P P 00 50 34.7 -0.6
comp=Z,42nm,0.8s
454A Quitman 84.30 48 P P 00 50 35.7 0.0
baz=326
RLS Riolos of Patr 84.30 326 P P 00 50 35.3 -0.2

RLS	Riolos of Patr	84.30	326	P		P	00 50 35.3	-0.2
DRO	Drossia	84.31	325	P		P	00 50 35.2	-0.4
553A	Crawfordville	84.34	49	P		P	00 50 36.0	+0.1
	baz=325							
KFL	Anninata	84.51	326	P		P	00 50 35.8	-0.8
VLS	Valsamata	84.52	326	P		P	00 50 35.9	-0.8
VLS	Valsamata	84.52	326	P		P	00 50 35.9	-0.8
VLS	Valsamata	84.52	326	P		P	00 50 35.9	-0.8
CUC	Castrocucco	84.53	330	eP		P	00 50 35.7	-1.1
	comp=Z,58nm,1.3s							
VTN	Vitineika	84.53	326	P		P	00 50 38.0	+1.3
455A	Stateville	84.58	48	P		P	00 50 37.1	+0.1
	baz=326							
554A	Perry	84.79	49	P		P	00 50 38.2	+0.1
	baz=326							
VLI	Veliai	84.92	324	P		P	00 50 36.4	-2.3
VLI	Veliai	84.92	324	P		P	00 50 36.4	-2.3
TIP	Timpagrande	84.96	329	eP		P	00 50 39.1	+0.2
	comp=Z,156nm,1.3s							
TIP	Timpagrande	84.96	329	P		P	00 50 39.0	+0.1
RAYN	Ar Rayn	84.99	300	eP		P	00 50 39.4	+0.1
	comp=Z,130nm,1.4s							
456A	Hilliard	85.08	47	P		P	00 50 40.0	+0.4
	baz=326							
555A	McAlpin	85.11	48	P		P	00 50 40.1	+0.3
	baz=326							
PYL	PYLOS	85.22	325	P		P	00 50 38.6	-1.6
PYL	PYLOS	85.22	325	P		P	00 50 38.6	-1.6
LAST	Lasithi	85.27	321	P		P	00 50 40.2	-0.4
LAST	Lasithi	85.27	321	P		P	00 50 40.2	-0.4
457A	Yulee	85.39	47	P		P	00 50 41.3	+0.2
	baz=326							
IDI	Anoyia	85.40	322	P		P	00 50 39.4	-1.8
	comp=Z,21nm,0.6s,baz=19,slow=9.6,SNR=17							
IDI	Anoyia	85.40	322	eP		P	00 50 39.2	-2.0
	comp=Z,78nm,1.0s							
655A	Horseshoe Beac	85.47	49	P		P	00 50 41.4	-0.1
	baz=326							
556A	Lake Butler	85.49	48	P		P	00 50 41.9	+0.3
	baz=326							
ANKY	Antikythira Is	85.53	323	P		P	00 50 40.2	-1.5
ANKY	Antikythira Is	85.53	323	P		P	00 50 40.2	-1.5
VAM	Vamos	85.57	322	P		P	00 50 41.0	-1.0
VAM	Vamos	85.57	322	P		P	00 50 41.0	-1.0
VAM	Vamos	85.57	322	P		P	00 50 41.0	-1.0
IMMV	Iera Moni Meta	85.61	323	P		P	00 50 41.4	-0.8
SIVA	Sivas	85.67	322	P		P	00 50 41.5	-0.9
SIVA	Sivas	85.67	322	P		P	00 50 41.5	-0.9
557A	Orange Park	85.80	47	P		P	00 50 43.6	+0.5
	baz=326							
656A	Willston	85.94	48	P		P	00 50 44.5	+0.6
	baz=326							
658A	Bunnell	86.52	47	P		P	00 50 47.1	+0.3
	baz=327							
VSL	Villasalto	86.93	335	eP		P	00 50 48.7	+0.1
	comp=Z,73nm,1.0s							
TBI	Tubuai	86.93	132	eS		S	01 01 24.0	-1.1
	comp=Z,288nm,29.8s							
TBI	Tubuai	86.93	132	eLR		LR	01 18 11.8	
	comp=Z,983nm,22.8s,baz=326							
VAE	Valguarnera	87.27	330	P		P	00 50 51.5	+1.2
	comp=Z,8.7nm,0.9s,baz=16,slow=4.9,SNR=3.5							
VAE				LR		LR	01 34 26.8	
	comp=Z,591nm,19.6s,baz=13,slow=39							
DWPF	Disney Wildern	87.53	48	P		P	00 50 52.0	+0.3
	baz=327							
CLTB	Caltabellotta	87.56	331	eP		P	00 50 52.5	+0.7
	comp=Z,72nm,1.2s							
958A	Wauchula	87.80	49	P		P	00 50 53.2	+0.2
	baz=326							
859A	Kempfer Cattle	87.83	48	P		P	00 50 53.4	+0.3
	baz=327							
PBRG	Braganca	88.13	347	eP		P	00 50 54.3	-0.1
	comp=Z,27nm,1.6s							
PGAV	Gavieira, Arco	88.19	348	eLR		LR	01 21 17.2	
	comp=Z,564nm,18.0s							
058A	Arcadia	88.22	49	P		P	00 50 55.5	+0.5
	baz=326							
959A	Okeechobee	88.28	48	P		P	00 50 55.7	+0.4
	baz=327							
POLO	Lamas de Olo	88.70	348	eP		P	00 50 57.1	-0.1
	comp=Z,27nm,1.5s							
WDD	Wied Dalam	88.73	330	eP		P	00 50 59.3	+2.0
	comp=Z,146nm,1.0s							
PVRL	Vila Real	88.79	348	eP		P	00 50 57.5	0.0
	comp=Z,42nm,1.0s							
MVO	Moncorvo	88.80	347	eP		P	00 50 57.2	-0.4
	comp=Z,35nm,1.6s							
MVO	Moncorvo	88.80	347	eLR		LR	01 19 57.6	
	comp=Z,554nm,18.0s							
NWAO	Narrogin (SRO)	88.80	212	eP		P	00 50 57.7	+0.4
NWAO				pmax		pmax		
	comp=Z,35nm,1.0s							
NWAO	Narrogin (SRO)	88.80	212	eP		P	00 50 57.7	+0.4
	comp=Z,35nm,1.0s							
URZ	Urewera	89.04	164	P		P	00 51 01.4	+3.2
	comp=Z,6.3nm,0.9s,baz=134,slow=8.5,SNR=3.3							
PVIS	Viseu	89.36	348	eP		P	00 51 00.0	-0.2
	comp=Z,34nm,1.3s							
MTE	Manteigas	89.63	348	eP		P	00 51 01.1	-0.4
	comp=Z,26nm,1.1s							
MTE	Manteigas	89.63	348	eLR		LR	01 20 02.6	
	comp=Z,674nm,18.0s							
MTE	Manteigas	89.63	348	eP		P	00 51 01.2	-0.2
	comp=Z,19nm,1.0s							
ES19	SONSECA Array	89.74	345	eP		P	00 51 01.1	-0.9
ESDC	Sonseca Array	89.78	345	P		P	00 51 01.7	-0.5
	comp=Z,13nm,1.0s,baz=8.6,slow=4.4,SNR=56							
ESDC				LR		LR	01 38 17.6	
	comp=Z,515nm,18.1s,baz=10.0,slow=40							
ESLA	Sonseca Array	89.78	345	eP		P	00 51 01.4	-0.8
	comp=Z,32nm,1.3s							
PAB	San Pablo	89.97	345	eP		P	00 51 02.6	-0.5
PAB				pmax		pmax		
	comp=Z,20nm,1.1s							
PAB	San Pablo	89.97	345	eP		P	00 51 02.6	-0.5
	comp=Z,20nm,1.1s							
PCAS	Casmilo, Conde	90.10	348	eP		P	00 51 03.3	-0.3
PCBR	Castelo Branco	90.17	347	eP		P	00 51 03.4	-0.5
	comp=Z,20nm,1.6s							
KEST	Kesra	90.44	334	P		P	00 51 05.8	+0.4
	comp=Z,30nm,1.0s,baz=300,slow=1.2,SNR=26							
KEST				LR		LR	01 35 46.9	
	comp=Z,1µm,21.1s,baz=334,slow=38							
KEST	Kesra	90.44	334	eP		P	00 51 05.3	-0.1
	comp=Z,43nm,1.0s							
PTOM	Tomar	90.51	348	eP		P	00 51 05.7	+0.2
PMRV	Marv??o	90.56	347	eLR		LR	01 23 36.4	
	comp=Z,1µm,18.0s							
ALMR	Almeirim	90.99	348	eP		P	00 51 07.5	-0.3
ALMR	Almeirim	90.99	348	eP		P	00 51 07.5	-0.3
PMTG	Montargil	91.03	348	eP		P	00 51 08.4	+0.5
PESTR	Estremoz	91.14	347	eP		P	00 51 08.3	-0.2
	comp=Z,26nm,1.5s							
PESTR	Estremoz	91.14	347	eP		P	00 51 07.5	-1.0
	comp=Z,8.4nm,1.1s							
EVO	Evora	91.53	348	eP		P	00 51 09.9	-0.4
PBAR	Barrancos	91.73	347	eP		P	00 51 11.4	+0.2
	comp=Z,74nm,1.5s							
MESJ	Messejana	92.23	348	eP		P	00 51 13.5	-0.1
MESJ	Messejana	92.23	348	eP		P	00 51 13.5	-0.1
PCVE	Castro Verde	92.41	347	eP		P	00 51 13.5	-0.9
PVAQ	Vaqueiros	92.59	347	eP		P	00 51 15.7	+0.5
RKT	Rikitea	94.42	121	eSKSac		SKSac	01 01 59.0	+2.2
	comp=Z,252nm,30.2s							
RKT				eSP		SP	01 03 50.6	+1.2
	comp=Z,276nm,28.2s							
RKT				eSS		SS	01 09 04.7	+7.8
	comp=Z,216nm,27.5s							
RKT	Rikitea	94.42	121	eLR		LR	01 21 35.4	
	comp=Z,618nm,34.2s,baz=321							
ATD	Arta Tunnel	95.99	295	LR		LR	01 40 32.8	
	comp=Z,690nm,18.5s,baz=39,slow=39							
TAM	Tamanrasset	103.70	332	eP		Pdif	00 52 05.6	-0.1
TAM				pmax		pmax		
	comp=Z,5.0nm,1.0s							
TAM	Tamanrasset	103.70	332	ePdif		Pdif	00 52 05.6	-0.1
	comp=Z,5.3nm,1.0s							
TORD	Torodi Ar. Bea	113.95	333	Pdiff		Pdif	00 52 51.4	+0.2
	comp=Z,0.4nm,0.9s,baz=14,slow=5.2,SNR=2.6							
TORD				PKiKP		PKiKP	00 56 41.8	-1.2
	comp=Z,0.8nm,0.8s,baz=345,slow=3.2,SNR=3.7							
TORD				PP		PP	00 57 30.2	-5.6
	comp=Z,5.3nm,0.9s,baz=15,slow=7.2,SNR=10							
TORD				PKKPbc		PKKPbc	01 07 23.9	+1.3
	comp=Z,1.0nm,0.9s,baz=218,slow=3.0,SNR=3.6							
KOWA	Kowa	114.20	339	PKP		PKPdf	00 56 43.2	-0.2
	comp=Z,1.4nm,0.8s,baz=9.5,slow=2.0,SNR=4.2							
DBIC	Dimbokro	121.94	338	PKP		PKPdf	00 56 58.0	-0.3
	comp=Z,6.5nm,0.8s,baz=344,slow=2.7,SNR=5.2							
VNDA	Vanda	126.50	178	PKP		PKPdf	00 57 04.5	-0.5
	comp=Z,2.4nm,0.9s,baz=294,slow=3.5,SNR=8.5							
SAML	Samuel	128.16	53	ePKPdf		PKPdf	00 57 09.5	-0.6
LPAZ	La Paz	131.41	63	PKP		PKPdf	00 57 16.9	-0.1
	comp=Z,4.6nm,0.8s,baz=16,slow=5.4,SNR=16							
TSUM	Tsumeb	135.36	297	ePKPdf		PKPdf	00 57 24.0	+0.2
TSUM				epPKPdf		sPKPdf	00 57 36.8	+1.1
BOSA	Boshof	137.49	280	PKP		PKPdf	00 57 28.7	+1.3
	comp=Z,4.3nm,1.0s,baz=360,slow=3.6,SNR=4.7							
QSPA	South Pole Qui	138.94	180	PKhKP		PKPpre	00 57 18.5	
	comp=Z,4.5nm,1.0s,baz=180,slow=1.0,SNR=5.0							
QSPA				PKP		PKiKP	00 57 30.1	-0.9
	comp=Z,14nm,0.9s,baz=278,slow=1.2,SNR=18							
SYO	Syowa Base	144.07	213	ljX				
CPUP	Villa Florida	145.49	61	PKPbc		PKPdf	00 57 41.1	-0.5
	comp=Z,30nm,0.9s,baz=312,slow=3.5,SNR=47							
PLCA	Paso Flores	146.36	93	PKPbc		PKPbc	00 57 44.0	-0.1
	comp=Z,12nm,0.9s,baz=301,slow=4.3,SNR=24							
NVL	N'lazarevskaya	152.71	205	ePKIKP		PKPbc	00 57 58.1	-0.8
NVL				pmax		pmax		
	comp=Z,25nm,1.1s							
SNAA	Sanae	155.47	196	P		PKPdf	00 57 54.4	-1.4
VNA2	Neumayer--Watz	156.88	194	P		PKPdf	00 57 55.8	-1.8
	baz=345,slow=3.0							
VNA3	Neumayer Olymp	156.92	192	P		PKPdf	00 57 57.8	+0.2

IDC 16 00:44:56.7±25.0, 18°45.5S×173°63.W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/48, mbtmp4.2/4, Error ellipse: s-maj=470.9km s-min=147.9km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.84	261	P		P		00 52 16.2	+0.7
STKA	Stephens Creek	42.39	243	P		P		00 52 53.3	+0.2
	2.2nm,0.8s,baz=82,slow=15,SNR=3.5								
WRA	Warramunga Arr	49.00	259	P		P		00 53 44.9	-0.7
	0.8nm,0.4s,baz=98,slow=7.8,SNR=12								
ASAR	Alice Springs	49.02	254	P		P		00 53 45.1	-0.6
	2.6nm,0.5s,baz=90,slow=8.1,SNR=24								

RSPR 16 00:54:07.6, 18°59N×68°87W, h125km±2km, MD3.6/8, 2C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.52	292	⇓eP		Pn		00 54 25.9	-0.5
DR12				eS		Sn		00 54 39.9	-0.6
IDE	Isla Desecheo	1.34	98	⇑eP		Pn		00 54 33.3	-0.3
IDE	Isla Desecheo	1.34	98	eS		Sn		00 54 53.6	+0.2
AGPR	Aguadilla, PR	1.68	94	⇓eP		Pn		00 54 37.7	+0.3
AGPR	Aguadilla, PR	1.68	94	eS		Sn		00 55 00.8	+0.7
CRPR	Cabo Rojo, PR	1.77	109	⇓eP		Pn		00 54 37.7	-0.9
CRPR	Cabo Rojo, PR	1.77	109	eS		Sn		00 55 01.8	-0.4
AOPR	Arecibo Observ	2.03	97	⇓eP		Pn		00 54 42.2	+0.5
AOPR	Arecibo Observ	2.03	97	eS		Sn		00 55 08.1	+0.3
EMPR	Esperanza - Ma	2.23	93	⇑eP		Pn		00 54 44.1	-0.1
EMPR	Esperanza - Ma	2.23	93	eS		Sn		00 55 12.1	0.0
HUMP	Col San Antoni	2.91	98	⇓eP		Pn		00 54 52.2	-0.6
MTP	Monte Pirata	3.19	98	⇓eP		Pn		00 54 56.7	+0.1
MTP	Monte Pirata	3.19	98	eS		Sn		00 55 34.6	+0.2

MEX 16 01:21:06.3±0.4, 14°09N×92°41W, h30km±22km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		1.79	334	i P		Pn		01 21 33.4	-1.7
PCIG				i S		Sn		01 21 54.1	-2.8
CCIG	Comitan	2.19	7	i P		Pn		01 21 38.6	-2.4
CCIG				i S		Sn		01 22 04.6	-2.6

*ISCJB **16** 01:27:49.5±1.1, 35°79N±0°05×140°98E±0°09, h21km±7km, mb3.6/3, Error ellipse: s-maj=13.5km s-min=7.1km az=157.8*
*JMA **16** 01:27:50.2±0.1, 35°79N×140°93E, h20km±1km, M3.6*
JMA Felt II J1.
*IDC **16** 01:28:02.7±5.7, 36°34N×140°12E, h58km±36km, mb3.3/3, mb1 3.5/3, mb1mx3.0/63, mbtmp3.6/3, Error ellipse: s-maj=128.7km s-min=37.9km az=169.0*

ISC 16 01:27:49.7±1.5, 35°80N±0°05×140°96E±0°09, h15km±8km, n11, σ0°66/14, mb3.5/3, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.12	220	⇓P		Pg		01 27 54.0	+0.6
JCN	Nagara	0.72	238	P		Pg		01 28 03.6	-0.3
JCN				eS		Sg		01 28 13.1	-0.3
JYT	Yasato	0.75	305	P		Pg		01 28 04.1	-0.3
JYT				S		Sg		01 28 13.8	-0.5
JHO	Hitachi	0.87	339	⇑P		Pg		01 28 06.3	-0.3
BSO3	Boso 3	1.06	200	P		Pb		01 28 09.5	-0.1
BSO1	Boso 1	1.14	179	P		Pb		01 28 10.0	-0.8
BSO1				S		Sb		01 28 24.6	-0.7
MJAR	Matsushiro Arr	2.34	289	P		Pn		01 28 27.4	-0.2
	6.2nm,0.3s,baz=97,slow=7.7,SNR=26								
MAT	Matsushiro	2.34	289	P		Pn		01 28 27.8	+0.1
MAT				S		Sn		01 28 56.8	+0.6
MKAR	Makanchi Array	44.47	303	P		P		01 36 01.3	+1.1
	0.2nm,0.6s,baz=88,slow=7.0,SNR=2.7								
KURBB	Kurchatov Arra	46.48	309	P		P		01 36 16.6	+0.7
	0.7nm,0.2s,baz=79,slow=7.8,SNR=2.7								
ILAR	Eielson Array	50.73	32	P		P		01 36 55.5	+6.9
	0.5nm,0.8s,baz=260,slow=6.8,SNR=5.2								

JMA 16 01:38:56.2±0.1, 35°71N×140°90E, h11km, M3.6, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.03	258	⇓P		Pg		01 38 58.2	0.0
CHOJ				S		Sg		01 38 59.6	-0.1
JCN	Nagara	0.64	243	⇑P		Pg		01 39 08.8	+0.2
JCN				eS		Sg		01 39 17.4	+0.4
JYT	Yasato	0.77	312	P		Pg		01 39 10.8	-0.3
JYT				S		Sg		01 39 21.1	-0.1
BSO4	Boso 4	0.85	213	P		Pg		01 39 12.3	-0.3
JHO	Hitachi	0.94	344	P		Pg		01 39 13.4	-0.9
JHO				S		Sg		01 39 26.3	-0.2
BSO3	Boso 3	0.96	200	P		Pb		01 39 14.5	-0.2
MAT	Matsushiro	2.33	292	P		Pn		01 39 34.3	-0.2
MAT				S		Sn		01 40 03.6	+0.4

*DDA **16** 01:45:15.0, 38°33N×39°16E, h6km, Ml2.3*
*CSEM **16** 01:45:15.9±0.3, 38°37N×39°25E, h5km, ML2.6, Error ellipse: s-maj=7.8km s-min=6.5km az=86.0*
*ISK **16** 01:45:15.4, 38°37N×39°28E, h5km, ML2.6/3*
*ISCJB **16** 01:45:16.2±0.6, 38°36N±0°03×39°23E±0°05, h11km, Error ellipse: s-maj=5.5km s-min=4.9km az=19.3*

ISC 16 01:45:14.5±1.1, 38°42N±0°04×39°18E±0°04, h11km, n14, σ0°61/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTK	Pertek	0.50	20	PG		Pn		01 45 26.7	-1.1
PTK	Pertek	0.50	20	ePg		Pn		01 45 26.7	-1.1
MALT	Malatya	0.60	260	PG		Pn		01 45 28.5	-0.6
MALT				SG		Sn		01 45 38.4	-0.5
MALT	Malatya	0.60	260	ePg		Pn		01 45 28.5	-0.6
MALT				eSg		Sn		01 45 38.4	-0.5
TNCL	Tunceli-Merkez	0.75	22	i P		Pn		01 45 31.4	+0.3
TNCL				i S		Sn		01 45 43.2	+0.7
TNCL	Tunceli-Merkez	0.75	22	P		Pn		01 45 31.4	+0.3
TNCL				S		Sn		01 45 43.2	+0.7
DIYA	Diyarbakir	0.89	124	i P		Pg		01 45 31.5	-0.2
DIYA				i S		Sb		01 45 44.1	+0.1
DIYA	Diyarbakir	0.89	124	P		Pg		01 45 31.5	-0.2
DIYA				S		Sb		01 45 44.1	+0.1
KEMA	Kemaliye	1.00	328	i P		Pn		01 45 35.4	+0.8
KEMA	Kemaliye	1.00	328	P		Pn		01 45 35.4	+0.8
URFA	Urfa	1.02	196	PG		Pn		01 45 35.5	+0.7
URFA				SG		Sn		01 45 49.4	+0.2
URFA	Urfa	1.02	196	ePg		Pn		01 45 35.5	+0.7
URFA				eSg		Sn		01 45 49.4	+0.2
MAZI	Mazidag	1.39	133	PN		Pn		01 45 39.7	-0.2
MAZI	Mazidag	1.39	133	ePn		Pn		01 45 39.7	-0.2

WEL 16 01:52:19.1±1.2, 47°S±8°×16°6E±°, h5km, ML3.7/10, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.94	45	P		Pg		01 52 37.0	0.0
PYZ	Puysegur Point	0.94	45	S		Sb		01 52 50.5	0.0
APZ	The Paps	1.56	91	P		Pn		01 52 46.9	-0.7
APZ	The Paps	1.56	91	S		Sn		01 53 07.7	-0.4
DCZ	Deep Cove	1.69	37	P		Pn		01 52 46.4	-2.8
WHZ	Wether Hill Ro	1.80	60	P		Pn		01 52 50.3	-0.6
WHZ	Wether Hill Ro	1.80	60	S		Sn		01 53 13.8	-0.3
MLZ	Mavora Lakes	2.22	50	P		Pn		01 52 56.6	+0.1
MLZ	Mavora Lakes	2.22	50	S		Sn		01 53 25.6	+1.3
SYZ	Scrubby Hill	2.37	84	P		Pn		01 52 59.8	+1.2
SYZ	Scrubby Hill	2.37	84	S		Sn		01 53 29.2	+1.1
TUZ	Tuapeka	2.84	74	P		Pn		01 53 05.6	+0.5
TUZ	Tuapeka	2.84	74	S		Sn		01 53 41.1	+1.3
EAZ	Earnscleugh	2.96	59	P		Pn		01 53 07.0	+0.2
EAZ	Earnscleugh	2.96	59	S		Sn		01 53 43.6	+0.8
WKZ	Wanaka	3.05	50	P		Pn		01 53 09.1	+1.0
JCZ	Jackson Bay	3.50	39	P		Pn		01 53 14.5	+0.3
ODZ	Otahua Downs	3.87	64	P		Pn		01 53 17.7	-1.5
LBZ	Lake Benmore	3.97	54	P		Pn		01 53 18.9	-1.7
FOZ	Fox Glacier	4.38	43	P		Pn		01 53 26.1	-0.2

*ISCJB **16** 01:53:50.5±0.8, 17°40S±0°06×69°6W±0°1, h161km±5km, mb3.9/4, Error ellipse: s-maj=20.7km s-min=5.3km az=26.3*
*SCB **16** 01:53:51.8±0.5, 17°22S×68°79W, h175km, Ml3.6/1, Error ellipse: s-maj=17.7km s-min=7.3km az=78.0*
*GUC **16** 01:53:52.3±0.6, 17°61S×69°82W, h174km±7km, ML3.5*
*IDC **16** 01:53:53.9±1.8, 17°38S×69°19W, h165km±11km, mb3.7/4, mb1 3.8/5, mb1mx3.3/39, mbtmp4.2/5, Error ellipse: s-maj=39.4km s-min=23.5km az=131.0*

ISC 16 01:53:51.8±1.1, 17°43S±0°07×69°4W±0°1, h153km±8km, n18, σ1°36/27, mb3.9/4, 5C-6D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BBOD	La Paz, Gloria	1.10	44	⇓iPn		Pn		01 54 19.2	+0.9
BBOD				eSn		Sn		01 54 39.2	+0.7
	166nm,0.5s								
BBOJ	La Paz, Jacaqu	1.24	69	⇑iPn		Pn		01 54 20.3	+0.7
PB12	IPOC Station P	1.47	217	⇓eP		Pn		01 54 20.8	-0.5
PB12				eS		Sn		01 54 42.2	-1.9
LPAZ	La Paz	1.67	47	P		Pn		01 54 24.9	+0.9
	47nm,0.3s,baz=226,slow=6.1,SNR=1116								
LPAZ				S		Sn		01 54 49.2	+0.7
	8.5nm,0.3s,baz=8.9,slow=22,SNR=7.9								
LPAZ	La Paz	1.67	47	⇑iPn		Pn		01 54 24.7	+0.7
MNMC	Minye Minye	1.70	186	⇓eP		Pn		01 54 24.8	+0.8
MNMC				eS		Sn		01 54 50.0	+1.2
MNMC				IAML				01 54 54.4	
	comp=E,489nm,0.5s								
BBOB	La Paz, Bander	1.77	44	⇑iPn		Pn		01 54 25.7	+0.7
BBOB				eSn		Sn		01 54 50.6	+0.2
	comp=E,243nm,0.5s								
PSGC	Pisagua	2.26	198	⇓eP		Pn		01 54 29.7	-0.5
PSGC				eS		Sn		01 54 57.6	-2.3
PSGC				IAML				01 54 58.5	
	comp=N,242nm,0.4s								
PB11	IPOC Station P	2.33	186	⇓eP		Pn		01 54 31.3	+0.2
PB11				eS		Sn		01 55 01.4	-0.1
PB08	IPOC Station P	2.70	175	eP		Pn		01 54 37.6	+1.7
PB08				eS		Sn		01 55 11.2	+1.2
PB08				IAML				01 55 13.2	
	comp=E,100nm,0.2s								
PB01	IPOC Station P	3.59	181	⇓eP		Pn		01 54 46.9	0.0
PB01				eS		Sn		01 55 27.8	-2.0
MOCB	Mochara	5.20	138	⇑iPn		Pn		01 55 11.7	+3.4
SIV	San Ignacio	8.11	81	P		Pn		01 55 47.1	+0.4
	comp=E,9.8nm,0.3s,baz=270,slow=13,SNR=177								
SIV				S		Sn		01 57 13.8	-3.3
	comp=E,0.4nm,0.3s,baz=193,slow=19,SNR=4.7								
SIV	San Ignacio	8.11	81	⇑iPn		Pn		01 55 44.4	-2.3
PLCA	Paso Flores	23.24	182	P		P		01 58 47.0	+1.5
	comp=E,2.3nm,0.8s,baz=13,slow=9.8,SNR=6.8								
DBIC	Dimbokro	68.08	75	P		P		02 04 35.0	-0.5
	comp=E,3.5nm,0.8s,baz=243,slow=4.5,SNR=4.4								
KOWA	Kowa	71.88	68	P		P		02 04 58.2	-0.4
	comp=E,0.8nm,0.5s,baz=232,slow=6.8,SNR=5.3								
TORD	Torodi Ar. Bea	76.47	71	P		P		02 05 24.9	-0.4
	comp=E,2.6nm,0.7s,baz=255,slow=5.4,SNR=22								

IDC 16 01:58:38.4±15.0, 16°00N×47°53W, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/57, mbtmp3.6/5, MS3.4/2, Ms1 3.5/2, ms1mx2.8/51, Error ellipse: s-maj=598.7km s-min=34.6km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJG	San Juan	17.93	279	LR		LR		02 09

0.4nm,0.3s,baz=343,slow=13,SNR=14
WRA Sn Sn 02 07 44.8 -11
0.5nm,0.3s,baz=335,slow=22,SNR=9.4
ASAR Alice Springs 17.36 165 P Pn 02 06 04.0 -0.1
0.1nm,0.3s,baz=340,slow=11,SNR=4.5
ASAR S Sn 02 09 04.0 -14
0.1nm,0.3s,baz=324,slow=29,SNR=3.3
MKAR Makanchi Array 67.60 327 P P 02 12 58.8 0.0
0.1nm,0.5s,baz=141,slow=7.4,SNR=3.2

IDC ***16*** *02:03:03.5±1.4, 42.72S×74.31W, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/36, mbtmp4.1/10, ML3.7/1, MS3.8/5, Ms1 3.8/5, ms1mx3.4/34, Error ellipse: s-maj=42.4km s-min=21.7km az=90.0*
ISCJB ***16*** *02:03:07.3±0.7, 42.65S±0.05×74.23W±0.09, h33km, mb4.0/11, MS3.9/4, Error ellipse: s-maj=9.6km s-min=6.8km az=10.3*
GUC ***16*** *02:03:08.6±0.8, 42.59S×74.07W, h32km±10km, ML4.0*
NEIC ***16*** *02:03:13.3±2.2, 42.60S×73.92W, h65km±16km, mb4.2/1, ML4.0(GUC), Error ellipse: s-maj=21.8km s-min=11.2km az=76.0*
NEIC Felt [II] at Castro, Puerto Varas and Quellon.

ISC 16 02:03:09.4±0.8, 42.70S±0.05×74.2W±0.1, h35km, n33, σ1s19/30, mb4.2/11, MS3.9/4, 4C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.55**	**139**	⇓*iP*		**Pn**	**02 03 21.0**	**+0.2**
GO07				*i* S		**Sn**	**02 03 30.2**	**+1.5**
GO07				IAML			02 03 30.9	
	comp=E,27μm,0.6s							
PMCH	**Puerto Montt**	**1.53**	**38**	⇑*eP*		**Pn**	**02 03 33.5**	**-0.7**
PMCH				*eS*		**Sn**	**02 03 52.3**	**-0.6**
PUEL	**Puelo Alto**	**1.73**	**54**	*eP*		**Pn**	**02 03 37.2**	**+0.3**
PUEL				*eS*		**Sn**	**02 03 58.3**	**+0.5**
VLCH	**Valdivia**	**2.98**	**14**	⇑*eP*		Pn	02 03 57.8	+3.7
VLCH				*eS*		**Sn**	**02 04 32.0**	**+3.5**
PLCA	**Paso Flores**	**3.34**	**55**	Pn		**Pn**	**02 04 00.5**	**+1.3**
	comp=E,1.7nm,0.3s,baz=255,slow=11,SNR=70							
PLCA				LR		LR	02 05 22.3	
	comp=E,1μm,20.2s,baz=312,slow=40							
PLCA	**Paso Flores**	**3.34**	**55**	⇑*eP*		**Pn**	**02 04 00.3**	**+1.1**
GO06	**Curarrehue**	**3.72**	**34**	⇑*eP*		**Pn**	**02 04 05.2**	**+0.8**
GO06				*eS*		**Sn**	**02 04 48.0**	**+0.9**
GO06				IAML			02 05 04.7	
	comp=E,110nm,0.7s							
TRQA	**Tornquist**	**10.38**	**68**	*ePn*		**Pn**	**02 05 37.0**	**+1.2**
CPUP	**Villa Florida**	**21.36**	**46**	P		**P**	**02 07 53.6**	**0.0**
	comp=E,6.0nm,0.5s,baz=225,slow=8.3,SNR=25							
LPAZ	**La Paz**	**26.83**	**13**	P		**P**	**02 08 46.7**	**-0.5**
	comp=E,1.5nm,0.7s,baz=227,slow=18,SNR=5.2							
SIV	**San Ignacio**	**28.89**	**27**	P		**P**	**02 09 04.6**	**-0.3**
	comp=E,1.0nm,0.7s,baz=196,slow=13,SNR=4.6							
RPN	**Rapa Nui**	**32.49**	**287**	LR		LR	02 19 00.9	
	comp=E,199nm,18.5s,baz=168,slow=30							
SAML	**Samuel**	**34.98**	**19**	*eP*		**P**	**02 09 56.9**	**-1.4**
	comp=E,2.1nm,0.7s							
PTGA	**Pitinga**	**43.68**	**21**	P		**P**	**02 11 09.7**	**-1.3**
	comp=E,1.5nm,0.6s,baz=212,slow=8.9,SNR=6.9							
SNAA	**Sanae**	**44.30**	**155**	P		**P**	**02 11 15.0**	**-0.3**
	comp=E,2.2nm,0.8s,baz=275,slow=6.7,SNR=10							
SNAA	**Sanae**	**44.30**	**155**	*eP*		**P**	**02 11 15.4**	**+0.1**
JTS	**JuntasAbangare**	**53.65**	**347**	*eP*		**P**	**02 12 28.7**	**+1.2**
	comp=E,9.4nm,1.0s							
LPIG	**La Paz**	**74.36**	**326**	LR		LR	02 39 25.9	
	comp=E,60nm,19.1s,baz=18,slow=29							
TXAR	**Lajitas Array**	**76.65**	**334**	LR		LR	02 42 15.4	
	comp=E,62nm,18.8s,baz=0.0,slow=31							
BOSA	**Boshof**	**77.53**	**117**	P		**P**	**02 15 01.9**	**+0.1**
	comp=E,1.4nm,0.5s,baz=214,slow=3.5,SNR=7.7							
KOWA	**Kowa**	**85.73**	**66**	P		**P**	**02 15 44.5**	**-0.5**
	comp=E,1.4nm,0.7s,baz=237,slow=7.7,SNR=5.9							
AFI	**Afiamalu**	**86.19**	**255**	LR		LR	02 47 27.8	
	comp=E,42nm,19.3s,baz=160,slow=31							
TORD	**Torodi Ar. Bea**	**88.70**	**71**	P		**P**	**02 15 58.9**	**-0.5**
	comp=E,0.9nm,0.8s,baz=237,slow=5.3,SNR=5.4							
PDAR	**Pinedale Array**	**90.84**	**335**	P		**P**	**02 16 09.3**	**+0.4**
	comp=E,0.4nm,0.7s,baz=137,slow=6.0,SNR=4.8							
PMG	**Port Moresby**	**115.89**	**226**	*ePKPdf*		**PKPdf**	**02 21 49.8**	**+1.1**
H11S2	**WAKE ISLAND Hyd**	**123.61**	**264**	T		T	04 37 38.8	
	baz=129,slow=74,SNR=24							
H11S1	**WAKE ISLAND Hyd**	**123.63**	**265**	T		T	04 37 38.3	
	baz=129,slow=74,SNR=38							
H11S3	**WAKE ISLAND Hyd**	**123.63**	**264**	T		T	04 37 38.3	
	baz=129,slow=74,SNR=38							
AKTO	**Aktyubinsk**	**146.72**	**60**	PKPbc		**PKPab**	**02 22 46.9**	**-1.2**
	comp=E,0.8nm,0.7s,baz=207,slow=0.9,SNR=3.6							
ABKAR	**Akbulak array**	**147.84**	**62**	*ePKPbc*		**PKPab**	**02 22 49.9**	**-2.7**
KURBB	**Kurchatov Arra**	**159.74**	**58**	PKPab		**PKPab**	**02 23 42.5**	**-0.2**
	comp=E,0.7nm,0.6s,baz=280,slow=5.0,SNR=9.1							
KURK	**Kurchatov**	**159.77**	**57**	PKPab		**PKPab**	**02 23 42.5**	**-0.4**
MKAR	**Makanchi Array**	**162.80**	**68**	PKPab		**PKPab**	**02 23 56.0**	**-0.4**
	comp=E,0.8nm,0.6s,baz=265,slow=4.4,SNR=8.9							

JMA 16 02:07:45.8±0.2, 38.33N×144.55E, h35km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.38**	**289**	P		Pn	02 08 23.9	+1.7
MIYJ	**Miyakonagasawa**	**2.47**	**301**	P		Pn	02 08 24.9	+1.4
MIYJ				S		Sn	02 08 54.1	+1.7
JIO	**Ouri**	**2.52**	**274**	P		Pn	02 08 25.9	+1.7
JIO				S		Sn	02 08 55.3	+1.7
JMK	**Ichinoseki**	**2.68**	**284**	P		Pn	02 08 28.8	+2.4
JMK				S		Sn	02 09 00.0	+2.3
JOM	**Ohasama**	**2.79**	**295**	P		Pn	02 08 29.9	+2.0
JOM				S		Sn	02 09 02.9	+2.6
JYK	**Kaneyama**	**3.33**	**281**	P		Pn	02 08 38.2	+2.8
JFT	**Otama**	**3.43**	**258**	P		Pn	02 08 39.5	+2.8
JFT				S		Sn	02 09 18.4	+2.2
JOT	**Ohata**	**4.07**	**320**	P		Pn	02 08 48.2	+2.7
JOT				S		Sn	02 09 31.6	-0.3
JCH	**Churui**	**4.37**	**348**	P		Pn	02 08 49.9	+0.2
JCH				S		Sn	02 09 36.6	-2.8

IDC ***16*** *02:09:45.0±5.5, 7.41S×128.42E, h158km±53km, mb3.6/6, mb1 3.8/10, mb1mx3.4/52, mbtmp4.2/10, Error ellipse: s-maj=52.7km s-min=18.0km az=47.0*

ISC 16 02:09:43.8±1.0, 7.62S±0.08×128.6E±0.1, h151km, n11, σ2s68/15, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.53**	**242**	P		**Pn**	**02 11 05.8**	**+1.5**
	54nm,0.3s,baz=69,slow=17,SNR=22							
BATI				S		**Sn**	**02 12 07.3**	**+0.1**
	49nm,0.3s,baz=127,slow=20,SNR=8.5							
FITZ	**Fitzroy Crossi**	**10.82**	**195**	P		**Pn**	**02 12 15.7**	**+1.1**
	baz=98,slow=7.1							
FITZ				S		**Sn**	**02 14 09.4**	**-5.0**
	1.1nm,0.3s,baz=353,slow=17,SNR=2.0							
WRA	**Warramunga Arr**	**13.45**	**156**	P		**P**	**02 12 51.7**	**-1.2**
	0.9nm,0.3s,baz=330,slow=14,SNR=24							
WRA				S		**Sn**	**02 15 14.6**	**-3.3**
	2.4nm,0.3s,baz=334,slow=22,SNR=12							
ASAR	**Alice Springs**	**16.75**	**163**	P		**Pn**	**02 13 34.7**	**+5.0**
	0.2nm,0.3s,baz=336,slow=10,SNR=4.2							
ASAR				S		**S**	**02 16 35.9**	**-0.1**
	0.7nm,0.3s,baz=349,slow=25,SNR=5.4							
STKA	**Stephens Creek**	**27.00**	**155**	P		**P**	**02 15 15.2**	**+3.5**
	2.0nm,0.8s,baz=340,slow=8.8,SNR=4.3							
MKAR	**Makanchi Array**	**68.00**	**328**	P		**P**	**02 20 25.6**	**-1.1**
	0.7nm,0.6s,baz=124,slow=7.3,SNR=11							
ZALV	**Zalesovo Beam**	**71.53**	**334**	P		**P**	**02 20 46.5**	**-1.6**
	1.4nm,0.5s,baz=139,slow=6.0,SNR=4.9							
KURBB	**Kurchatov Arra**	**72.32**	**329**	P		**P**	**02 20 51.9**	**-1.0**
	2.0nm,0.7s,baz=132,slow=5.1,SNR=29							
BVAR	**Borovoye Array**	**77.86**	**328**	P		**P**	**02 21 23.2**	**-1.4**
	0.5nm,0.4s,baz=124,slow=7.8,SNR=6.1							
AKTO	**Aktyubinsk**	**83.72**	**323**	P		**P**	**02 21 54.7**	**-1.1**
	0.4nm,0.3s,baz=117,slow=4.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**127.58**	**281**	PKP		**PKPdf**	**02 28 31.3**	**-0.7**
	0.4nm,0.7s,baz=92,slow=1.4,SNR=5.0							

IDC 16 02:30:30.6±7.1, 31.50S×178.46W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/42, mbtmp3.9/2, Error ellipse: s-maj=256.0km s-min=46.5km az=30.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.67**	**268**	P		P	02 38 28.8	-0.6
	0.6nm,0.7s,baz=116,slow=7.0,SNR=4.2							
WRA	**Warramunga Arr**	**43.76**	**274**	P		P	02 38 38.2	+0.1
	1.0nm,0.3s,baz=115,slow=8.1,SNR=15							
TORD	**Torodi Ar. Bea**	**161.73**	**180**	PKPab		PKPab	02 51 18.9	-0.4
	0.4nm,0.8s,baz=197,slow=2.6,SNR=3.6							

ISCJB ***16*** *02:31:12.3±0.2, 46.719N±0.010×11.12E±0.01, h2km±1km, Error ellipse: s-maj=1.6km s-min=1.3km az=177.3*
ROM ***16*** *02:31:13.3±0.2, 46.70N×11.08E, h11km±2km, Ml3.3/29, Error ellipse: s-maj=1.8km s-min=1.3km az=169.0*
ZUR ***16*** *02:31:13.3, 46.69N×11.07E, h10km±3km, ML3.4/12*
VIE ***16*** *02:31:13.0±0.2, 46.70N×11.11E, h13km±3km, mb3.0/11, ML3.6/15, Error ellipse: s-maj=1.4km s-min=1.1km az=10.0*
CSEM ***16*** *02:31:14.0±0.1, 46.69N×11.16E, h10km, ML3.6/45*
LDG ***16*** *02:31:15.5±0.1, 46.65N×11.22E, h2km, Ml3.2/18, Error ellipse: s-maj=3.4km s-min=2.5km az=54.0*
PRU ***16*** *02:31:15.5, 46.78N×11.15E, h6km*
BGR ***16*** *02:31:16.3±0.4, 46.77N×11.12E, h10km, ML3.4/14, Error ellipse: s-maj=7.8km s-min=4.4km az=156.0*
BGR Felt IV EMS.
GEN ***16*** *02:31:16.4, 46.68N×10.96E, h1km, ML3.0*
STR ***16*** *02:31:18.5±0.5, 46.78N±0.02×10.98E±0.05, h10km, MLv3.2/14*

ISC 16 02:31:13.9±0.8, 46.70N±0.01×11.09E±0.01, h11km±5km, n338, σ1s38/516, 14C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ABSI	**Aberstueckl**	**0.16**	**78**	⇑*iPg*		**Pg**	**02 31 17.3**	**-0.4**
	40μm,0.3s							
ABSI				*i* Sg		**Sg**	**02 31 19.8**	**-0.6**
	40μm,0.3s							
ABSI	**Aberstueckl**	**0.16**	**78**	Pg		**Pg**	**02 31 17.3**	**-0.4**
ABSI				Sg		**Sg**	**02 31 19.8**	**-0.6**
	10μm,0.2s							
ABSI	**Aberstueckl**	**0.16**	**78**	Pg		**Pg**	**02 31 17.3**	**-0.4**
ABSI				Sg		**Sg**	**02 31 19.8**	**-0.6**
	10μm,0.2s							
ABSI	**Aberstueckl**	**0.16**	**78**	⇑*ePg*		**Pg**	**02 31 17.4**	**-0.4**
ABSI				*eSg*		**Sg**	**02 31 19.8**	**-0.6**
APPI	**Appiano**	**0.24**	**156**	Pg		**Pg**	**02 31 18.6**	**-0.3**
APPI				Sg		**Sg**	**02 31 21.9**	**-0.3**
	4μm,0.2s							
APPI	**Appiano**	**0.24**	**156**	Pg		**Pg**	**02 31 18.6**	**-0.3**
APPI				Sg		**Sg**	**02 31 21.9**	**-0.3**
	4μm,0.2s							
BOSI	**Bolzano**	**0.26**	**142**	⇓*iPg*		**Pg**	**02 31 19.0**	**-0.2**
	21μm,0.2s							
BOSI				*i* Sg		**Sg**	**02 31 22.8**	**+0.1**
	21μm,0.2s							
BOSI	**Bolzano**	**0.26**	**142**	Pg		**Pg**	**02 31 19.0**	**-0.2**
BOSI				Sg		**Sg**	**02 31 22.8**	**+0.1**
	5μm,0.2s							
BOSI	**Bolzano**	**0.26**	**142**	Pg		**Pg**	**02 31 19.0**	**-0.2**
BOSI				Sg		**Sg**	**02 31 22.8**	**+0.1**
	5μm,0.2s							
OZOL	**Ozolo**	**0.29**	**185**	*ePg*		**Pg**	**02 31 18.7**	**-1.2**
OZOL				*eSg*		**Sg**	**02 31 23.0**	**-0.9**
OZOL	**Ozolo**	**0.29**	**185**	⇑*ePg*		**Pg**	**02 31 18.7**	**-1.2**
OZOL				*eSg*		**Sg**	**02 31 23.0**	**-0.9**
KOSI	**Kohlern**	**0.31**	**139**	⇓*iPg*		**Pg**	**02 31 19.9**	**-0.3**
	6μm,0.3s							
KOSI				*i* Sg		**Sg**	**02 31 24.1**	**-0.2**
	8μm,0.3s							
KOSI	**Kohlern**	**0.31**	**139**	Pg		**Pg**	**02 31 19.9**	**-0.3**
KOSI				Sg		**Sg**	**02 31 24.1**	**-0.2**
	2μm,0.2s							
KOSI	**Kohlern**	**0.31**	**139**	Pg		**Pg**	**02 31 19.9**	**-0.3**
KOSI				Sg		**Sg**	**02 31 24.1**	**-0.2**
	2μm,0.2s							
ROSI	**Rosskopf**	**0.32**	**43**	⇑*iPg*		**Pg**	**02 31 20.0**	**-0.5**
	14μm,2.0s							
ROSI	**Rosskopf**	**0.32**	**43**	Pg		**Pg**	**02 31 20.0**	**-0.5**
ROSI				Sg		**Sg**	**02 31 24.8**	**-0.1**
	4μm,0.2s							
ROSI	**Rosskopf**	**0.32**	**43**	Pg		**Pg**	**02 31 20.0**	**-0.5**
ROSI				Sg		**Sg**	**02 31 24.8**	**-0.1**
	4μm,0.2s							
MOSI	**Grossmontoni**	**0.38**	**258**	⇑*iPg*		**Pg**	**02 31 21.0**	**-0.5**
	9μm,2.0s							
MOSI	**Grossmontoni**	**0.38**	**258**	Pg		**Pg**	**02 31 21.0**	**-0.5**
MOSI				Sg		**Sg**	**02 31 26.6**	**0.0**
	2μm,0.3s							
MOSI	**Grossmontoni**	**0.38**	**258**	Pg		**Pg**	**02 31 21.0**	**-0.5**
MOSI				Sg		**Sg**	**02 31 26.6**	**0.0**
	2μm,0.3s							
CARE	**Lago del Cares**	**0.38**	**225**	*ePg*		**Pg**	**02 31 20.1**	**-1.5**
CARE				*eSg*		**Sg**	**02 31 25.6**	**-1.2**
CARE	**Lago del Cares**	**0.38**	**225**	⇑*ePg*		**Pg**	**02 31 20.1**	**-1.5**
CARE				*eSg*		**Sg**	**02 31 25.6**	**-1.2**
FETA	**Feichten**	**0.41**	**323**	Pg		**Pg**	**02 31 21.8**	**-0.3**
	107nm,0.1s,SNR=1000							
FETA				Sg		**Sg**	**02 31 27.2**	**-0.3**
	430nm,0.1s							
FETA	**Feichten**	**0.41**	**323**	⇑*iPg*		**Pg**	**02 31 21.8**	**-0.3**
	107nm,0.1s,SNR=1121							
FETA				*i* Sg		**Sg**	**02 31 27.2**	**-0.3**
	430nm,0.1s							
SQTA	**Sankt Quirin**	**0.53**	**9**	Pg		**Pg**	**02 31 24.1**	**-0.2**
SQTA	**Sankt Quirin**	**0.53**	**9**	*ePg*		**Pg**	**02 31 24.1**	**-0.2**
BRMO	**Bormio**	**0.54**	**246**	Pg		**Pg**	**02 31 23.8**	**-0.7**
BRMO				Sg		**Sg**	**02 31 30.5**	**-1.1**
BRMO	**Bormio**	**0.54**	**246**	Pg		**Pg**	**02 31 23.8**	**-0.7**
BRMO				Sg		**Sg**	**02 31 30.5**	**-1.1**
FUORN	**Ofenpass-Fuorn**	**0.57**	**263**	⇑*ePg*		**Pg**	**02 31 24.1**	**-1.0**
	1μm,2.0s							
FUORN	**Ofenpass-Fuorn**	**0.57**	**263**	Pg		**Pg**	**02 31 24.5**	**-0.6**
FUORN				Sg		**Sg**	**02 31 32.2**	**-0.6**
	383nm,0.2s							
FUORN	**Ofenpass-Fuorn**	**0.57**	**263**	Pg		**Pg**	**02 31 24.5**	**-0.6**
FUORN				Sg		**Sg**	**02 31 32.2**	**-0.6**
	383nm,0.2s							
MOTA	**Moosalm**	**0.65**	**1**	Pg		**Pg**	**02 31 26.2**	**-0.4**
	220nm,0.1s,SNR=737							
MOTA				Sg		**Sg**	**02 31 35.1**	**0.0**
	320nm,0.2s							
MOTA	**Moosalm**	**0.65**	**1**	*i* Pg		**Pg**	**02 31 26.2**	**-0.4**
	220nm,0.1s,SNR=737							
MOTA				*i* Sg		**Sg**	**02 31 35.1**	**0.0**
	320nm,0.2s							
PANI	**Panarotta**	**0.67**	**165**	*ePg*		**Pg**	**02 31 25.4**	**-1.5**
PANI	**Panarotta**	**0.67**	**165**	*ePg*		**Pg**	**02 31 25.4**	**-1.5**
WTTA	**Wattenberg**	**0.68**	**33**	Pg		**Pg**	**02 31 26.3**	**-0.8**
	3.3nm,0.1s,SNR=40							
WTTA				Sg		**Sg**	**02 31 35.4**	**-0.7**
	159nm,0.2s							
WTTA	**Wattenberg**	**0.68**	**33**	Pg		**Pg**	**02 31 26.9**	**-0.2**
WTTA	**Wattenberg**	**0.68**	**33**	Pg		**Pg**	**02 31 26.3**	**-0.8**
	3.3nm,0.1s,SNR=40							
WTTA				*eSg*		**Sg**	**02 31 35.4**	**-0.7**
	159nm,0.2s							
WATA	**Walderalm**	**0.72**	**27**	Pg		**Pg**	**02 31 27.2**	**-0.7**
	6.0nm,0.1s,SNR=152							
WATA				Sg		**Sg**	**02 31 36.8**	**-0.6**
	207nm,0.2s							
WATA	**Walderalm**	**0.72**	**27**	*ePg*		**Pg**	**02 31 27.2**	**-0.7**
	6.0nm,0.1s,SNR=152							
WATA				*eSg*		**Sg**	**02 31 36.8**	**-0.6**
	207nm,0.2s							
RISI	**Rein**	**0.72**	**69**	⇑*iPg*		**Pg**	**02 31 27.1**	**-0.9**
	4μm,2.0s							
RISI	**Rein**	**0.72**	**69**	Pg		**Pg**	**02 31 27.1**	**-0.9**
	1μm,0.4s							
RISI	**Rein**	**0.72**	**69**	Pg		**Pg**	**02 31 27.1**	**-0.9**
	1μm,0.4s							
MABI	**Malga Bissina**	**0.75**	**212**	⇑*iPg*		**Pg**	**02 31 27.5**	**-0.9**
	2μm,0.4s							
MABI	**Malga Bissina**	**0.75**	**212**	Pg		**Pg**	**02 31 27.6**	**-0.9**
MABI				Sg		**Sg**	**02 31 37.5**	**-0.9**
	593nm,0.1s							
MABI	**Malga Bissina**	**0.75**	**212**	Pg		**Pg**	**02 31 27.6**	**-0.9**
MABI				Sg		**Sg**	**02 31 37.5**	**-0.9**
	593nm,0.1s							
CTI	**Castel Tesino**	**0.76**	**149**	Pg		**Pg**	**02 31 27.8**	**-0.7**
CTI				Sg		**Sg**	**02 31 38.3**	**-0.1**
	815nm,0.3s							
CTI	**Castel Tesino**	**0.76**	**149**	Pg		**Pg**	**02 31 27.8**	**-0.7**
CTI				Sg		**Sg**	**02 31 38.3**	**-0.1**
	815nm,0.3s							
AFL	**Alpe Faloria**	**0.77**	**102**	*i* Pg		**Pg**	**02 31 28.1**	**-0.7**
AFL	**Alpe Faloria**	**0.77**	**102**	⇑*i*Pg		**Pg**	**02 31 28.1**	**-0.7**
AGOR	**Agordo**	**0.78**	**122**	Pg		**Pg**	**02 31 28.2**	**-0.8**
	2μm,0.2s							
AGOR	**Agordo**	**0.78**	**122**	⇓*i*Pg		**Pg**	**02 31 28.2**	**-0.8**
RNI	**Roncone**	**0.79**	**204**	⇓*ePg*		**Pg**	**02 31 27.2**	**-1.9**
BERNI	**Berninapass**	**0.79**	**249**	⇑*i*Pg		**Pg**	**02 31 28.1**	**-1.1**
	194nm,0.2s							
BERNI	**Berninapass**	**0.79**	**249**	Pg		**Pg**	**02 31 28.1**	**-1.1**
BERNI				Sg		**Sg**	**02 31 39.1**	**-0.4**
BERNI	**Berninapass**	**0.79**	**249**	Pg		**Pg**	**02 31 28.1**	**-1.1**
BERNI				Sg		**Sg**	**02 31 39.1**	**-0.4**
RETA	**Reutte**	**0.82**	**344**	Pg		**Pg**	**02 31 28.7**	**-1.1**
	1.1nm,0.1s,SNR=112							
RETA				Sg		**Sb**	**02 31 41.5**	**+0.1**
	60nm,0.1s							
RETA	**Reutte**	**0.82**	**344**	*ePg*		**Pg**	**02 31 28.7**	**-1.1**
	1.1nm,0.1s,SNR=112							
RETA				*eSg*		**Sb**	**02 31 41.5**	**+0.1**
	60nm,0.1s							
DAVOX	**Davos/Dischmat**	**0.84**	**276**	⇑*ePg*		**Pg**	**02 31 28.2**	**-1.9**
	2μm,2.0s							
DAVOX	**Davos/Dischmat**	**0.84**	**276**	Pg		**Pg**	**02 31 29.4**	**-0.7**
DAVOX				Sg		**Sg**	**02 31 40.4**	**-0.6**
	484nm,0.3s							
DAVOX	**Davos/Dischmat**	**0.84**	**276**	Pg		**Pg**	**02 31 29.4**	**-0.7**
DAVOX				Sg		**Sg**	**02 31 40.4**	**-0.6**
	484nm,0.3s							
OBER	**Oberstdorf**	**0.90**	**323**	*ePg*		**Pg**	**02 31 30.6**	**-0.6**
OBER	**Oberstdorf**	**0.90**	**323**	Pg		**Pg**	**02 31 30.6**	**-0.6**
CGRP	**Cima Grappa**	**0.95**	**149**	⇓*iPg*		**Pg**	**02 31 29.1**	**-3.2**
	2μm,2.0s							
CGRP	**Cima Grappa**	**0.95**	**149**	Pg		**Pg**	**02 31 31.1**	**-1.2**
CGRP				Sg		**Sg**	**02 31 44.8**	**+0.1**
	423nm,0.2s							
CGRP	**Cima Grappa**	**0.95**	**149**	Pg		**Pg**	**02 31 31.1**	**-1.2**
CGRP				Sg		**Sg**	**02 31 44.8**	**+0.1**
	423nm,0.2s							
CGRP	**Cima Grappa**	**0.95**	**149**	⇓*ePg*		**Pg**	**02 31 31.1**	**-1.2**
MAGA	**Magasa**	**0.97**	**199**	Pg		**Pg**	**02 31 31.5**	**-1.2**
MAGA				Sg		**Sg**	**02 31 45.9**	**+0.5**
	2μm,0.3s							
MAGA	**Magasa**	**0.97**	**199**	Pg		**Pg**	**02 31 31.5**	**-1.2**
MAGA				Sg		**Sg**	**02 31 45.9**	**+0.5**
	2μm,0.3s							
ABTA	**Abfaltersbach**	**0.98**	**86**	Pg		**Pg**	**02 31 31.7**	**-1.1**
	SNR=389							
ABTA				Sg		**Sg**	**02 31 43.9**	**-1.7**
	227nm,0.2s							
ABTA	**Abfaltersbach**	**0.98**	**86**	*ePg*		**Pg**	**02 31 31.7**	**-1.1**
	SNR=389							
ABTA				*i* Sg		**Sg**	**02 31 43.9**	**-1.7**
	227nm,0.2s							
VARN	**Col Varnada, M**	**0.99**	**135**	*ePg*		**Pg**	**02 31 31.6**	**-1.4**
VARN	**Col Varnada, M**	**0.99**	**135**	*ePg*		**Pg**	**02 31 31.6**	**-1.4**
CIMO	**Cimolais**	**1.01**	**112**	*ePg*		**Pg**	**02 31 32.4**	**-0.9**
CIMO	**Cimolais**	**1.01**	**112**	*ePg*		**Pg**	**02 31 32.4**	**-0.9**
DAVA	**Damuels**	**1.02**	**306**	Pg		**Pg**	**02 31 32.7**	**-0.8**
	23nm,0.3s,SNR=69							
DAVA				Sg		**Sb**	**02 31 47.1**	**+0.1**
	202nm,0.3s							
DAVA	**Damuels**	**1.02**	**306**	*ePg*		**Pg**	**02 31 32.7**	**-0.8**
	23nm,0.3s,SNR=69							
DAVA				Sg		**Sb**	**02 31 47.1**	**+0.1**
	202nm,0.3s							
BALD	**Monte Baldo**	**1.03**	**191**	*ePg*		**Pg**	**02 31 33.2**	**-0.5**
BALD	**Monte Baldo**	**1.03**	**191**	*ePg*		**Pg**	**02 31 33.2**	**-0.5**
ROVR	**Rover¯¤ Verone**	**1.05**	**181**	Pg		**Pg**	**02 31 33.2**	**-0.9**
ROVR				Sg		**Sg**	**02 31 47.6**	**-0.1**
	979nm,0.2s							
ROVR	**Rover¯¤ Verone**	**1.05**	**181**	Pg		**Pg**	**02 31 33.2**	**-0.9**
ROVR				Sg		**Sg**	**02 31 47.6**	**-0.1**
	979nm,0.2s							
MARN	**Marana (Italy)**	**1.06**	**175**	*ePg*		**Pg**	**02 31 33.4**	**-0.9**
MARN	**Marana (Italy)**	**1.06**	**175**	*ePg*		**Pg**	**02 31 33.4**	**-0.9**
CSMI	**Casera Mimoias**	**1.09**	**99**	*ePg*		**Pg**	**02 31 33.9**	**-1.0**
CSMI	**Casera Mimoias**	**1.09**	**99**	*ePg*		**Pg**	**02 31 33.9**	**-1.0**
MTLO	**Montello**	**1.12**	**141**	*ePg*		**Pg**	**02 31 35.2**	**-0.3**
MTLO	**Montello**

TLI	**Talmassons**	**1.59**	**118**	Pg	**Pb**	**02 31 43.2**	**-0.1**
TLI	**Talmassons**	**1.59**	**118**	Pg	**Pb**	**02 31 43.1**	**-0.1**
MUGIO	**Muggio**	**1.62**	**242**	Pg	**Pn**	**02 31 42.6**	**+0.2**
	135nm,0.6s						
MUGIO	**Muggio**	**1.62**	**242**	Pg	**Pn**	**02 31 42.6**	**+0.2**
	135nm,0.6s						
SBPO	**S.Benedetto Po**	**1.65**	**184**	Pg	**Pb**	**02 31 45.0**	**+0.8**
SBPO	**S.Benedetto Po**	**1.65**	**184**	Pg	**Pb**	**02 31 45.0**	**+0.8**
WILA	**Wila**	**1.66**	**297**	*e*Pn	**Pg**	**02 31 45.7**	**0.0**
WILA				*e*Sg	**Sg**	**02 32 08.8**	**+1.7**
WILA	**Wila**	**1.66**	**297**	Pn	**Pg**	**02 31 45.7**	**0.0**
WILA				Sg	**Sg**	**02 32 08.8**	**+1.7**
ACOM	**Acomizza, Ital**	**1.68**	**94**	Pg	**Pn**	**02 31 43.9**	**+0.6**
	537nm,0.4s						
ACOM	**Acomizza, Ital**	**1.68**	**94**	Pg	**Pn**	**02 31 43.9**	**+0.6**
	537nm,0.4s						
ACOM	**Acomizza, Ital**	**1.68**	**94**	*e*Pg	**Pn**	**02 31 43.9**	**+0.6**
PRED	**Cave del Predi**	**1.73**	**98**	*e*Pg	**Pn**	**02 31 44.8**	**+0.9**
PRED	**Cave del Predi**	**1.73**	**98**	*e*Pg	**Pn**	**02 31 44.9**	**+0.9**
ROBS	**Robic**	**1.73**	**104**	*e*Pn	**Pn**	**02 31 44.7**	**+0.8**
ROBS				*e*Sn	**Sb**	**02 32 08.1**	**+0.7**
ROBS	**Robic**	**1.73**	**104**	Pn	**Pn**	**02 31 44.7**	**+0.8**
ROBS				*e*Sn	**Sb**	**02 32 08.1**	**+0.7**
	103nm,0.2s						
MYKA	**Terra Mystica**	**1.76**	**91**	Pn	**Pn**	**02 31 45.2**	**+0.8**
	28nm,0.2s,SNR=64						
MYKA				Sg	**Sg**	**02 32 11.2**	**+0.8**
	91nm,0.3s						
MYKA	**Terra Mystica**	**1.76**	**91**	*e*Pn	**Pn**	**02 31 45.2**	**+0.8**
	28nm,0.2s,SNR=64						
MYKA				*e*Sg	**Sg**	**02 32 11.2**	**+0.8**
	91nm,0.3s						
DRE	**Drenchia**	**1.84**	**106**	*e*Pn	**Pn**	**02 31 46.4**	**+0.9**
DRE	**Drenchia**	**1.84**	**106**	*e*Pn	**Pn**	**02 31 46.4**	**+0.9**
SABO	**M.te Sabotino**	**1.88**	**111**	*e*Pn	**Pn**	**02 31 46.8**	**+0.9**
SABO	**M.te Sabotino**	**1.88**	**111**	Pg	**Pn**	**02 31 47.1**	**+1.1**
	426nm,0.4s						
SABO	**M.te Sabotino**	**1.88**	**111**	Pg	**Pn**	**02 31 47.1**	**+1.1**
	426nm,0.4s						
SABO	**M.te Sabotino**	**1.88**	**111**	*e*Pn	**Pn**	**02 31 46.9**	**+0.9**
CADS	**Cadrg**	**1.89**	**103**	*i* Pn	**Pn**	**02 31 46.8**	**+0.7**
CADS				*e*Sn	**Sb**	**02 32 13.0**	**+1.0**
CADS	**Cadrg**	**1.89**	**103**	*i* Pn	**Pn**	**02 31 46.8**	**+0.7**
CADS				*e*Sn	**Sb**	**02 32 13.0**	**+1.0**
	170nm,0.3s						
GORS	**Gorjuse**	**2.04**	**100**	*i* Pn	**Pn**	**02 31 49.2**	**+0.9**
GORS	**Gorjuse**	**2.04**	**100**	*i* Pn	**Pn**	**02 31 49.2**	**+0.9**
	62nm,0.3s						
VOJS	**Vojsko**	**2.04**	**108**	*i* Pn	**Pn**	**02 31 48.9**	**+0.6**
VOJS	**Vojsko**	**2.04**	**108**	*i* Pn	**Pn**	**02 31 48.9**	**+0.6**
	105nm,0.3s						
SLE	**Schleitheim**	**2.07**	**302**	*e*Pn	**Pb**	**02 31 50.3**	**-1.1**
SLE				*e*Pg	**Pg**	**02 31 53.4**	**-0.1**
SLE				*e*Sg	**Sg**	**02 32 20.4**	**+0.1**
SLE	**Schleitheim**	**2.07**	**302**	Pn	**Pb**	**02 31 50.3**	**-1.1**
TRI	**Trieste**	**2.10**	**117**	*e*Pn	**Pn**	**02 31 49.4**	**+0.4**
TRI	**Trieste**	**2.10**	**117**	*e*Pn	**Pn**	**02 31 49.4**	**+0.4**
SPAK	**Spaichingen-Ko**	**2.10**	**313**	Pn	**Pb**	**02 31 51.1**	**-1.0**
SPAK				Sn	**Sb**	**02 32 17.0**	**-1.2**
SPAK	**Spaichingen-Ko**	**2.10**	**313**	Pn	**Pb**	**02 31 51.2**	**-1.0**
GRAM	**Graiana**	**2.32**	**198**	P	**Pn**	**02 31 53.1**	**+1.1**
SATI	**Passo dei Sala**	**2.38**	**251**	P	**Pb**	**02 31 56.1**	**-0.8**
OBKA	**Obir**	**2.39**	**93**	Pn	**Pn**	**02 31 54.6**	**+1.6**
	2.3nm,0.2s,SNR=43						
OBKA	**Obir**	**2.39**	**93**	*e*Pn	**Pn**	**02 31 54.6**	**+1.6**
	2.3nm,0.2s,SNR=43						
OBKA				*i* Pg	**Pb**	**02 31 57.3**	**+0.3**
	8.3nm,0.1s						
OBKA				*i* Sg	**Sb**	**02 32 28.6**	**+2.1**
	56nm,0.3s						
BALST	**Balsthal**	**2.41**	**287**	*e*Pn	**Pb**	**02 31 55.7**	**-1.6**
BALST				*e*Pg	**Pg**	**02 31 59.8**	**-0.3**
BALST	**Balsthal**	**2.41**	**287**	Pn	**Pb**	**02 31 55.7**	**-1.6**
FELD	**Feldberg im Sc**	**2.41**	**300**	Pn	**Pn**	**02 31 54.5**	**+1.2**
FELD				Sn	**Sb**	**02 32 25.6**	**-1.5**
FELD	**Feldberg im Sc**	**2.41**	**300**	Pn	**Pn**	**02 31 54.5**	**+1.2**
GORR	**Gorreto**	**2.44**	**212**	P	**Pn**	**02 31 55.2**	**+1.5**
MOA	**Molln**	**2.45**	**61**	Pn	**Pn**	**02 31 54.7**	**+0.9**
	2.4nm,0.1s,SNR=23						
MOA	**Molln**	**2.45**	**61**	*e*Pn	**Pn**	**02 31 54.7**	**+0.9**
	2.4nm,0.1s,SNR=23						
MOA				*e*Pg	**Pb**	**02 31 59.1**	**+1.1**
	54nm,0.5s,SNR=29						
MOA				*i* Sg	**Sg**	**02 32 31.5**	**-1.1**
	40nm,0.2s						
BFO	**Black Forest**	**2.48**	**312**	*e*Pn	**Pn**	**02 31 56.0**	**+1.7**
BFO				*e*Sn	**Sn**	**02 32 26.6**	**+2.0**
BFO				*e*Sg	**Sg**	**02 32 34.0**	**+0.3**
BFO	**Black Forest**	**2.48**	**312**	Pn	**Pn**	**02 31 56.0**	**+1.7**
BFO				Sn	**Sn**	**02 32 26.6**	**+2.0**
BFO				Sg	**Sg**	**02 32 34.0**	**+0.3**
TRAV	**Traversella**	**2.61**	**244**	P	**Pb**	**02 31 59.6**	**-1.1**
POPM	**Popiglio**	**2.66**	**185**	P	**Pn**	**02 31 58.2**	**+1.5**
CIRO	**Champorcher**	**2.68**	**247**	P	**Pb**	**02 32 01.5**	**-0.5**
CIRO				S	**Sn**	**02 32 30.9**	**+1.1**
SOKA	**Soboth**	**2.71**	**89**	Pn	**Pn**	**02 31 58.7**	**+1.2**
	2.2nm,0.2s,SNR=16						
SOKA				Sg	**Sg**	**02 32 39.9**	**-1.2**
	14nm,0.3s						
SOKA	**Soboth**	**2.71**	**89**	*e*Pn	**Pn**	**02 31 58.7**	**+1.2**
	2.2nm,0.2s,SNR=16						
SOKA				Sg	**Sg**	**02 32 39.9**	**-1.2**
	14nm,0.3s						
WET	**Wettzell**	**2.73**	**25**	*e*Pn	**Pn**	**02 31 58.0**	**+0.4**
WET				*e*Sg	**Sg**	**02 32 38.7**	**-2.9**
WET	**Wettzell**	**2.73**	**25**	Pn	**Pn**	**02 31 58.0**	**+0.4**
WET				Sg	**Sg**	**02 32 38.7**	**-2.9**
GEC2	**GERESS Array S**	**2.78**	**38**	*e*Pn	**Pn**	**02 31 59.1**	**+0.7**
GEC2	**GERESS Array S**	**2.78**	**38**	Pn	**Pn**	**02 31 59.1**	**+0.7**
PCP	**Piancastagn**	**2.80**	**221**	P	**Pn**	**02 31 59.7**	**+1.1**
MOF	**Molkenrain**	**2.93**	**295**	Pn	**Pn**	**02 32 02.4**	**+2.0**
MOF				Sn	**Sn**	**02 32 38.2**	**+2.5**
MOF	**Molkenrain**	**2.93**	**295**	Pn	**Pn**	**02 32 02.5**	**+2.0**
KHC	**Kasperske Hory**	**2.96**	**34**	*e*PN	**Pn**	**02 32 00.7**	**-0.1**
KHC				*e*PG	**Pg**	**02 32 08.8**	**-1.7**
KHC				*e*SN	**Sn**	**02 32 37.5**	**+1.3**
KHC				*e*SG	**Sg**	**02 32 46.1**	**-2.7**
	comp=Z,52nm,0.3s						
KHC	**Kasperske Hory**	**2.96**	**34**	Pn	**Pn**	**02 32 00.7**	**-0.1**
LOMF	**Lomont**	**2.99**	**284**	Pn	**Pn**	**02 32 03.6**	**+2.4**
LOMF	**Lomont**	**2.99**	**284**	Pn	**Pn**	**02 32 03.6**	**+2.4**
GRA1	**Grafenberg Arr**	**3.00**	**2**	Pn	**Pn**	**02 32 00.8**	**-0.5**
GRA1	**Grafenberg Arr**	**3.00**	**2**	Pg	**Pg**	**02 32 10.5**	**-0.9**
GRA1				Sn	**Sn**	**02 32 36.9**	**-0.4**
GRA1				Sg	**Sg**	**02 32 48.6**	**-1.6**
GRF	**Grafenberg Arr**	**3.00**	**2**	*e*Pn	**Pn**	**02 32 00.8**	**-0.5**
GRF				*e*Pg	**Pg**	**02 32 10.5**	**-0.9**
GRF				*e*Sn	**Sn**	**02 32 36.9**	**-0.4**
GRF				*e*Sg	**Sg**	**02 32 48.6**	**-1.6**
ECH	**Echery**	**3.07**	**301**	*e*Pn	**Pn**	**02 32 04.0**	**+1.6**
ECH	**Echery**	**3.07**	**301**	Pn	**Pn**	**02 32 03.8**	**+1.5**
ECH				Sn	**Sn**	**02 32 40.8**	**+1.8**
ECH	**Echery**	**3.07**	**301**	Pn	**Pn**	**02 32 03.9**	**+1.6**
ARSA	**Arzberg**	**3.09**	**78**	Pn	**Pn**	**02 32 04.6**	**+2.0**
	3.2nm,0.3s,SNR=4.5						
ARSA	**Arzberg**	**3.09**	**78**	*e*Pn	**Pn**	**02 32 04.6**	**+2.0**
	3.2nm,0.3s,SNR=4.5						
ARSA				*i* Pg	**Pb**	**02 32 09.1**	**+0.4**
	9.4nm,0.3s						
ARSA				Sg	**Sg**	**02 32 52.5**	**-0.5**
	6.2nm,0.4s						
HINF	**Hinteralfeld**	**3.10**	**293**	*e*Pn	**Pn**	**02 32 04.4**	**+1.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**02 32 40.5**	**+0.8**
	58nm,0.6s,SNR=1.0						
HINF	**Hinteralfeld**	**3.10**	**293**	*e*Pn	**Pn**	**02 32 04.4**	**+1.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**02 32 40.5**	**+0.8**
	29nm,0.6s,SNR=1.0						
CDF	**Champ du Feu**	**3.10**	**305**	*e*Pn	**Pn**	**02 32 04.3**	**+1.5**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**02 32 41.8**	**+1.9**
	30nm,0.4s						
CDF	**Champ du Feu**	**3.10**	**305**	*e*Pn	**Pn**	**02 32 04.3**	**+1.5**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**02 32 41.8**	**+1.9**
	15nm,0.4s						
ROTZ	**Rotzenmuhle**	**3.16**	**13**	*e*Pn	**Pn**	**02 32 03.1**	**-0.5**
ROTZ				*e*Pg	**Pg**	**02 32 13.6**	**-0.9**
ROTZ				*e*Sn	**Sn**	**02 32 40.3**	**-1.0**
ROTZ				*e*Sg	**Sg**	**02 32 52.7**	**-2.7**
ROTZ	**Rotzenmuhle**	**3.16**	**13**	Pn	**Pn**	**02 32 03.1**	**-0.5**
LANF	**Langenberg**	**3.18**	**317**	Pn	**Pn**	**02 32 05.7**	**+1.9**
LANF	**Langenberg**	**3.18**	**317**	Pn	**Pn**	**02 32 05.8**	**+1.9**
OZLJ	**Ozalj**	**3.23**	**108**	*e*Pn	**Pn**	**02 32 05.6**	**+1.1**
OZLJ				Sn	**Sn**	**02 32 43.7**	**+0.9**
OZLJ	**Ozalj**	**3.23**	**108**	*e*Pn	**Pn**	**02 32 05.5**	**+1.1**
OZLJ				Sn	**Sn**	**02 32 43.7**	**+0.9**
LPG	**La Plagne**	**3.25**	**250**	*e*P	**Pb**	**02 32 10.1**	**-1.6**
	SNR=1.0						
LPG	**La Plagne**	**3.25**	**250**	*e*P	**Pb**	**02 32 10.1**	**-1.6**
	SNR=1.0						
LPL	**La Plagne**	**3.25**	**250**	*e*P	**Pb**	**02 32 09.9**	**-1.8**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**02 32 44.7**	**+0.9**
	10nm,0.4s						
LPL	**La Plagne**	**3.25**	**250**	*e*P	**Pb**	**02 32 09.9**	**-1.8**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**02 32 44.7**	**+0.9**
	5.2nm,0.4s						
RORO	**Rocca Rossa**	**3.35**	**221**	P	**Pn**	**02 32 07.2**	**+1.1**
MANZ	**Manzenberg**	**3.36**	**11**	*e*Pn	**Pn**	**02 32 05.8**	**-0.6**
MANZ				*e*Sg	**Sg**	**02 32 59.5**	**-2.3**
MANZ	**Manzenberg**	**3.36**	**11**	Pn	**Pn**	**02 32 05.8**	**-0.6**
MANZ				Sg	**Sg**	**02 32 59.5**	**-2.3**
CABF	**La Chapelle**	**3.45**	**270**	*e*Pn	**Pn**	**02 32 09.8**	**+2.3**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**02 32 48.7**	**+0.3**
CABF				*e*Sg	**Sg**	**02 33 05.6**	**+1.1**
	15nm,0.6s,SNR=1.0						
CONA	**Conrad Observa**	**3.47**	**67**	Pn	**Pn**	**02 32 09.2**	**+1.3**
	0.9nm,0.1s,SNR=13						
CONA				Sg	**Sg**	**02 33 05.5**	**+0.1**
	20nm,0.4s						
CONA	**Conrad Observa**	**3.47**	**67**	*e*Pn	**Pn**	**02 32 09.2**	**+1.3**
	0.9nm,0.1s,SNR=13						
CONA				Sg	**Sg**	**02 33 05.5**	**+0.1**
	20nm,0.4s						
HAU	**Haudompre**	**3.48**	**294**	*e*Pn	**Pn**	**02 32 09.8**	**+1.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**02 33 05.1**	**-0.5**
	39nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**3.48**	**294**	*e*Pn	**Pn**	**02 32 09.8**	**+1.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**02 33 05.1**	**-0.5**
	19nm,0.4s,SNR=1.0						
PZZ	**Stroppo**	**3.54**	**233**	P	**Pn**	**02 32 09.5**	**+0.5**
IMI	**Imperia**	**3.58**	**220**	P	**Pn**	**02 32 10.8**	**+1.4**
MBDF	**Montbardon**	**3.61**	**239**	*e*Pn	**Pn**	**02 32 11.5**	**+1.7**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**02 32 52.6**	**+0.1**
	20nm,0.6s,SNR=1.0						
MBDF	**Montbardon**	**3.61**	**239**	*e*Pn	**Pn**	**02 32 11.5**	**+1.7**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**02 32 52.6**	**+0.1**
	10nm,0.6s,SNR=1.0						
NKC	**Novy Kostel**	**3.65**	**14**	*e*PN	**Pn**	**02 32 09.8**	**-0.5**
NKC				*e*SN	**Sn**	**02 32 52.7**	**-0.7**
NKC				*ex*	x	02 33 07.7	
	53nm,0.5s						
NKC	**Novy Kostel**	**3.65**	**14**	Pn	**Pn**	**02 32 09.8**	**-0.5**
NKC				Sn	**Sn**	**02 32 52.7**	**-0.7**
NKC				Sg	**Sg**	**02 33 07.7**	**-3.5**
	53nm,0.5s						
THEF	**They Montfort**	**3.79**	**296**	Pn	**Pn**	**02 32 14.2**	**+2.1**
THEF	**They Montfort**	**3.79**	**296**	Pn	**Pn**	**02 32 14.2**	**+2.1**
SBF	**Sospel**	**3.83**	**224**	*e*Pn	**Pn**	**02 32 14.7**	**+1.9**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**02 32 57.8**	**0.0**
	27nm,0.5s						
SBF	**Sospel**	**3.83**	**224**	*e*Pn	**Pn**	**02 32 14.7**	**+1.9**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**02 32 57.8**	**0.0**
	14nm,0.5s						
LUCF	**Luceram**	**3.85**	**225**	Pn	**Pn**	**02 32 15.7**	**+2.6**
LUCF	**Luceram**	**3.85**	**225**	Pn	**Pn**	**02 32 15.8**	**+2.6**
LUCF	**Luceram**	**3.85**	**225**	Sn	**Sb**	**02 33 05.1**	**-3.4**
UDBI	**Udbina**	**3.93**	**122**	*e*Pn	**Pn**	**02 32 14.0**	**-0.2**
UDBI				Sn	**Sn**	**02 33 00.7**	**+0.4**
UDBI	**Udbina**	**3.93**	**122**	*e*Pn	**Pn**	**02 32 14.0**	**-0.2**
UDBI				Sn	**Sn**	**02 33 00.7**	**+0.4**
TREC	**Trest**	**3.94**	**47**	*e*PN	**Pn**	**02 32 15.0**	**+0.8**
TREC				*e*PG	**Pb**	**02 32 25.4**	**+2.2**
TREC				*e*SN	**Sn**	**02 33 00.5**	**+0.2**
TREC	**Trest**	**3.94**	**47**	Pn	**Pn**	**02 32 15.0**	**+0.8**
TNS	**Taunus Mts**	**3.94**	**334**	*e*Pn	**Pn**	**02 32 15.5**	**+1.1**
TNS	**Taunus Mts**	**3.94**	**334**	Pn	**Pn**	**02 32 15.5**	**+1.1**
REVF	**Revere**	**3.96**	**223**	Pn	**Pn**	**02 32 16.7**	**+2.2**
REVF	**Revere**	**3.96**	**223**	Pn	**Pn**	**02 32 16.7**	**+2.2**
MOX	**Moxa**	**3.97**	**5**	*e*Pn	**Pn**	**02 32 14.1**	**-0.5**
MOX				*e*Sn	**Sn**	**02 32 59.7**	**-1.4**
MOX				*e*Sg	**Sg**	**02 33 19.9**	**-1.3**
MOX	**Moxa**	**3.97**	**5**	Pn	**Pn**	**02 32 14.1**	**-0.5**
MOX				Sn	**Sn**	**02 32 59.7**	**-1.4**
MOX				Sg	**Sg**	**02 33 19.9**	**-1.3**
PRU	**Pruhonice**	**4.02**	**34**	*e*PN	**Pn**	**02 32 16.2**	**+0.9**
PRU				*e*PG	**Pb**	**02 32 27.0**	**+2.3**
PRU				*e*SN	**Sn**	**02 33 02.2**	**-0.2**
PRU				*e*SG	**Sg**	**02 33 19.9**	**-3.0**
	comp=Z,23nm,0.3s						
PRU	**Pruhonice**	**4.02**	**34**	Pn	**Pn**	**02 32 16.2**	**+0.9**
ORIF	**Oris-en-Rattie**	**4.05**	**246**	*e*Pn	**Pn**	**02 32 17.1**	**+1.2**
ORIF	**Oris-en-Rattie**	**4.05**	**246**	*e*P	**Pb**	**02 32 21.0**	**-4.3**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.05**	**246**	*e*Pn	**Pn**	**02 32 17.1**	**+1.2**
ORIF	**Oris-en-Rattie**	**4.05**	**246**	*e*P	**Pb**	**02 32 21.0**	**-4.3**
	SNR=1.0						
GOPC	**GO Pecny, Ondr**	**4.06**	**36**	*e*PN	**Pn**	**02 32 16.6**	**+0.7**
GOPC				*e*PG	**Pb**	**02 32 28.2**	**+2.9**
GOPC				*e*SN	**Sn**	**02 33 03.6**	**+0.3**
GOPC				*e*SG	**Sg**	**02 33 21.0**	**-3.1**
	comp=Z,38nm,0.6s						
GOPC	**GO Pecny, Ondr**	**4.06**	**36**	Pn	**Pn**	**02 32 16.6**	**+0.7**
PAGF	**Fort de Pagny**	**4.08**	**299**	*e*Pn	**Pn**	**02 32 18.6**	**+2.5**
	baz=111						
PAGF				*e*Sn	**Sn**	**02 33 05.1**	**+1.3**
PAGF				*e*Sg	**Sg**	**02 33 26.1**	**+1.4**
	13nm,0.7s						
PAGF	**Fort de Pagny**	**4.08**	**299**	*e*Pn	**Pn**	**02 32 18.6**	**+2.5**
PAGF				*e*Sn	**Sn**	**02 33 05.1**	**+1.3**
PAGF				*e*Sg	**Sg**	**02 33 26.1**	**+1.4**
	6.3nm,0.7s						
SFTF	**Sexfontaines**	**4.37**	**292**	*e*Pn	**Pn**	**02 32 22.0**	**+1.8**
	baz=115						
SFTF				*e*Sn	**Sn**	**02 33 11.9**	**+0.8**
SFTF				*e*Sg	**Sg**	**02 33 35.6**	**+1.3**
	11nm,0.3s						
SFTF	**Sexfontaines**	**4.37**	**292**	*e*Pn	**Pn**	**02 32 22.0**	**+1.8**
SFTF				*e*Sn	**Sn**	**02 33 11.9**	**+0.8**
SFTF				*e*Sg	**Sg**	**02 33 35.6**	**+1.3**
	5.7nm,0.3s						
PGF	**Pioggiola**	**4.41**	**201**	*e*Pn	**Pn**	**02 32 21.5**	**+0.7**
	SNR=1.0						
PGF	**Pioggiola**	**4.41**	**201**	*e*Pn	**Pn**	**02 32 21.5**	**+0.7**
	SNR=1.0						
FRF	**La Foret Royal**	**4.44**	**227**	*e*Pn	**Pn**	**02 32 22.7**	**+1.6**
	SNR=1.0						
FRF	**La Foret Royal**	**4.44**	**227**	*e*Pn	**Pn**	**02 32 22.7**	**+1.6**
	SNR=1.0						
WLF	**Walferdange**	**4.44**	**314**	*e*Pn	**Pn**	**02 32 23.7**	**+2.6**
WLF				*e*Sg	**Sg**	**02 33 35.2**	**-1.2**
WLF	**Walferdange**	**4.44**	**314**	Pn	**Pn**	**02 32 23.7**	**+2.6**
WLF				Sg	**Sg**	**02 33 35.2**	**-1.2**
MEZF	**Maizieres J'vi**	**4.47**	**296**	*e*Pn	**Pn**	**02 32 23.8**	**+2.3**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**4.47**	**296**	*e*Pn	**Pn**	**02 32 23.8**	**+2.3**
	SNR=1.0						
MODS	**Modra-Piesok**	**4.51**	**66**	*e*Pn	**Pn**	**02 32 22.1**	**-0.1**
MODS				*e*Sg	**Sg**	**02 33 34.8**	**-4.0**
MODS	**Modra-Piesok**	**4.51**	**66**	*e*PN	**Pn**	**02 32 22.1**	**-0.1**
MODS				*e*SG	**Sg**	**02 33 34.8**	**-4.0**
VRAC	**Vranov**	**4.53**	**53**	*e*Pn	**Pn**	**02 32 22.4**	**+0.1**
VRAC				*e*Sn	**Sn**	**02 33 14.9**	**0.0**
VRAC				*e*Sg	**Sg**	**02 33 36.0**	**-3.1**
BRG	**Berggiesshubel**	**4.59**	**23**	PB	**Pn**	**02 32 24.9**	**+1.8**
	1.5nm,0.4s						
BRG				PG	**Pg**	**02 32 41.9**	**+0.2**
BRG				SN	**Sn**	02 33 07.3	-9.0
BRG				SG	**Sg**	**02 33 36.1**	**-5.0**
	24nm,0.8s						
SMOL	**Smolenice**	**4.66**	**65**	*e*Pn	**Pn**	**02 32 25.6**	**+1.5**
SMOL				*e*Sg	**Sg**	**02 33 41.0**	**-2.4**
SMOL	**Smolenice**	**4.66**	**65**	*e*PN	**Pn**	**02 32 25.6**	**+1.5**
SMOL				*e*SG	**Sg**	**02 33 41.0**	**-2.4**
LMR	**La Mourre**	**4.67**	**226**	*e*Pn	**Pn**	**02 32 25.5**	**+1.2**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**02 33 17.3**	**-1.2**
	3.4nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**4.67**	**226**	*e*Pn	**Pn**	**02 32 25.5**	**+1.2**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**02 33 17.3**	**-1.2**
	1.7nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**4.74**	**237**	*e*Pn	**Pn**	**02 32 26.7**	**+1.4**
SMRF	**Simiane la Rot**	**4.74**	**237**	*e*P	**Pn**	02 32 30.5	+5.2
	SNR=1.0						
SMRF	**Simiane la Rot**	**4.74**	**237**	*e*Pn	**Pn**	**02 32 26.7**	**+1.4**
SMRF	**Simiane la Rot**	**4.74**	**237**	*e*P	**Pn**	02 32 30.5	+5.2
	SNR=1.0						
CLL	**Collm**	**4.79**	**15**	*e*Pn	**Pn**	**02 32 26.0**	**+0.2**
CLL				*i* Pg	**Pg**	**02 32 49.0**	**+3.5**
CLL				*e*Sn	**Sn**	**02 33 20.0**	**-1.2**
CLL				*i* Sg	**Sg**	**02 33 44.2**	**-3.2**
	comp=Z,28nm,0.7s						
VIVF	**Saint-Julien-l**	**4.85**	**250**	*e*Pn	**Pn**	**02 32 29.5**	**+2.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**02 33 23.2**	**+0.3**
	comp=Z,2.8nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.85**	**250**	*e*Pn	**Pn**	**02 32 29.5**	**+2.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**02 33 23.2**	**+0.3**
	comp=Z,1.4nm,0.3s,SNR=1.0						
LOR	**Lormes**	**4.98**	**279**	*e*Pn	**Pn**	**02 32 30.0**	**+1.4**
	baz=96,SNR=1.0						
LOR				*e*Sn	**Sn**	**02 33 26.1**	**0.0**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**02 33 54.5**	**+0.7**
	comp=Z,8.7nm,0.5s,SNR=1.0						
LOR	**Lormes**	**4.98**	**279**	*e*Pn	**Pn**	**02 32 30.0**	**+1.4**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**02 33 26.1**	**0.0**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**02 33 54.5**	**+0.7**
	comp=Z,4.3nm,0.5s,SNR=1.0						
SMF	**Signal de Mont**	**4.99**	**272**	*e*Pn	**Pn**	**02 32 31.0**	**+2.3**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**02 33 26.2**	**-0.1**
	comp=Z,11nm,0.5s,SNR=1.0						
SMF	**Signal de Mont**	**4.99**	**272**	*e*Pn	**Pn**	**02 32 31.0**	**+2.3**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**02 33 26.2**	**-0.1**
	comp=Z,5.4nm,0.5s,SNR=1.0						
UPC	**Upice**	**5.02**	**39**	*e*SB	**Sg**	**02 33 50.5**	**-4.5**
	comp=Z,24nm,0.5s						
UPC	**Upice**	**5.02**	**39**	Sg	**Sg**	**02 33 50.5**	**-4.5**
	comp=Z,24nm,0.5s						
DPC	**Dobruska-Polom**	**5.04**	**42**	*e*PN	**Pn**	**02 32 29.5**	**0.0**
DPC				*e*SG	**Sg**	**02 33 52.8**	**-3.0**
	comp=Z,15nm,0.4s						
DPC	**Dobruska-Polom**	**5.04**	**42**	Pn	**Pn**	**02 32 29.5**	**0.0**
DPC				Sg	**Sg**	**02 33 52.8**	**-3.0**
	comp=Z,15nm,0.4s						
SSF	**Saint Saulge**	**5.21**	**277**	*e*Pn	**Pn**	**02 32 33.6**	**+1.9**
	SNR=1.0						
SSF	**Saint Saulge**	**5.21**	**277**	*e*Pn	**Pn**	**02 32 33.6**	**+1.9**
	SNR=1.0						
MORC	**Moravsky Berou**	**5.30**	**52**	*e*Pn	**Pn**	**02 32 32.9**	**-0.1**
MORC				*e*Sn	**Sn**	**02 33 33.4**	**-0.6**
MORC				*e*Sg	**Sg**	**02 34 02.1**	**-1.8**
**

MAT	**Matsushiro**	**3.71**	**251**	P	Pn	02 54 59.1 +2.9
MAT				S	Sn	02 55 45.9 +7.2

NNC 16 02:58:03.1±11.0, 36.41N×73.39E, h0km, mb3.7, mpv3.4, 6C-1D, Error ellipse: s-maj=152.7km s-min=80.8km az=101.0, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.60**	**1**	⇓Pn	Pn	02 59 01.6	+1.2
	6.1nm,0.5s						
SFK				⇑Sn	Sn	02 59 45.4	+1.6
	24nm,0.7s						
MNAS	**Manas**	**6.11**	**354**	⇑Pn	Pn	02 59 34.8	0.0
	1.1nm,0.5s						
MNAS				⇑Sn	Sn	03 00 45.5	0.0
	5.0nm,1.1s						
TKM2	**Tokmak 2**	**6.72**	**14**	⇑Pn	Pn	02 59 43.5	+0.2
	2.7nm,0.7s						
TKM2				⇑Sn	Sn	03 01 03.3	+2.6
	1.3nm,0.5s						
KK31	**Karatay Array**	**7.04**	**343**	Pn	Pn	02 59 44.4	-3.1
	0.5nm,0.2s,baz=149,slow=11,SNR=15						
KK31				⇑Sn	Sn	03 01 04.9	-3.4
	1.2nm,0.6s,baz=127,slow=22,SNR=3.1						
AB31	**Akbulak array**	**16.16**	**327**	P	Pn	03 01 49.5	-1.9
	0.5nm,0.8s,baz=132,slow=11,SNR=5.0						

KRSC 16 03:27:54.4±1.0, 50.93N×157.82E, h44km±14km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.83**	**311**	*e*P	Pn	03 28 11.3	+1.6
PAU				*e*S	Sn	03 28 22.1	+1.3
KDTR	**Khodutka, Kamc**	**0.90**	**10**	*e*P	Pn	03 28 12.4	+1.9
KDTR				*e*S	Sn	03 28 24.1	+1.8
SKR	**Severo-Kuril's**	**1.11**	**258**	*e*P	Pn	03 28 14.4	+1.0
SKR				*e*S	Sn	03 28 27.8	+0.3
ASAK	**Asacha**	**1.46**	**2**	*e*P	Pn	03 28 20.4	+2.1
MIPR	**Malaya Ipel'ka**	**1.50**	**334**	*e*P	Pn	03 28 21.0	+2.1
RUS	**Russkaya**	**1.57**	**16**	*e*P	Pn	03 28 21.5	+1.8
RUS				*e*S	Sn	03 28 39.7	+0.9
MTVR	**Mutnovka**	**1.57**	**8**	*e*P	Pn	03 28 22.2	+2.2
MTVR				*e*S	Sn	03 28 41.4	+2.2
KRMR	**Karymshinskiy**	**1.91**	**6**	*e*P	Pn	03 28 27.4	+2.9
KRMR				*e*S	Sn	03 28 50.6	+3.3
APC	**Apacha**	**2.04**	**349**	*e*P	Pn	03 28 28.7	+2.5
APC				*e*S	Sn	03 28 53.9	+3.5
PET	**Petropavlovsk**	**2.16**	**13**	*e*P	Pn	03 28 30.3	+2.4
PET				*e*S	Sn	03 28 55.9	+2.5
DALK	**Dalny**	**2.18**	**15**	*e*P	Pn	03 28 30.9	+2.7
DALK				*e*S	Sn	03 28 56.2	+2.3
UGLR	**Uglovaya**	**2.37**	**15**	*e*P	Pn	03 28 34.1	+3.3
AVH	**Avacha**	**2.41**	**13**	*e*P	Pn	03 28 34.0	+2.7
SMAR	**Somma**	**2.41**	**14**	*e*P	Pn	03 28 34.5	+2.9
KRX	**Arik**	**2.49**	**12**	*e*P	Pn	03 28 35.8	+3.3
SPN	**Mys Shipunski**	**2.56**	**31**	*e*P	Pn	03 28 35.8	+2.4
SPN				*e*S	Sn	03 29 05.2	+1.9
GNL	**Ganaly**	**2.77**	**1**	*e*P	Pn	03 28 39.4	+3.0
KII	**Karymskiy**	**3.27**	**17**	*e*S	Sn	03 29 24.3	+3.5
KBTR	**Krutoberegovo**	**6.07**	**27**	*e*P	Pn	03 29 26.6	+5.1

IDC 16 03:28:57.2±2.5, 8.54S×78.47W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/43, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=90.5km s-min=29.2km az=47.0, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**12.69**	**128**	Pn	Pn	03 31 58.3	-1.4
	0.3nm,0.3s,baz=310,slow=7.9,SNR=6.1						
CPUP	**Villa Florida**	**26.75**	**134**	P	P	03 34 39.2	+0.4
	1.2nm,0.7s,baz=297,slow=6.8,SNR=3.1						
TXAR	**Lajitas Array**	**44.80**	**328**	P	P	03 37 12.9	-0.3
	0.3nm,0.3s,baz=163,slow=9.4,SNR=3.6						
KOWA	**Kowa**	**77.28**	**73**	P	P	03 40 54.2	-0.1
	0.8nm,0.6s,baz=236,slow=7.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**82.45**	**76**	P	P	03 41 22.6	+0.3
	0.7nm,0.6s,baz=270,slow=4.2,SNR=9.0						

IDC ***16*** *03:32:09.3±0.6, 17.54S×167.78E, h0km, mb4.4/18, mb1 4.5/19, mb1mx4.4/44, mbtmp4.4/19, ML4.1/1, MS4.0/29, Ms1 4.0/29, ms1mx3.8/48, Error ellipse: s-maj=20.8km s-min=14.8km az=92.0*

BJI ***16*** *03:32:10.0, 17.23S×167.64E, h6km, mb4.8/29, mB5.2/20, Ms4.7/9, Ms7 4.4/9*

NEIC ***16*** *03:32:10.9±0.2, 17.52S×167.52E, h10km, mb4.9/19, Error ellipse: s-maj=8.2km s-min=6.7km az=109.0*

GCMT ***16*** *03:32:10.9±0.2, 17.33S×167.40E, h17km±1km, MW5.0/80, Moment Tensor Solution. s36,c44; s80,c112; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.31±.18; Mθθ=0.80±.11; Mϕϕ=2.52±.12; Mrθ=1.36±.32; Mrϕ=0.89±.07; Mθϕ=2.14±.30; Best double couple: Mo=4.00400×10^16 NP1: ϕs=19.00000°, δ=26.00000°, λ=-99.00000°. Principal axes: T 3.7820, Plg20.0000°, Azm295.0000°; N 0.4510, Plg4.0000°, Azm27.0000°; P -4.2260, Plg70.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***16*** *03:32:11.4±0.3, 17.63S±0.04×167.45E±0.06, h19km, mb4.7/53, MS4.0/30 Error ellipse: s-maj=7.9km s-min=6.3km az=3.2*

ISC 16 03:32:12.7±0.4, 17.63S±0.05×167.44E±0.08, h19km, n152, σ1s69/132, mb4.8/52, MS4.0/30, 5C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.52**	**192**	Pn	**Pn**	**03 33 20.0**	**-0.2**
	8.7nm,0.3s,baz=308,slow=6.3,SNR=79						
DZM				Sn	**Sn**	**03 34 11.1**	**-1.2**
	19nm,0.3s,baz=314,slow=21,SNR=6.3						
DZM				LR	LR	03 34 59.8	
	comp=Z,3μm,18.9s,baz=28,slow=36						
DZM	**Mont Dzumac**	**4.52**	**192**	*e*Pn	**Pn**	**03 33 20.5**	**+0.3**
	46nm,0.2s						
DZM				*e*Sn	**Sn**	**03 34 11.7**	**-0.6**
	123nm,0.3s						
DZM	**Mont Dzumac**	**4.52**	**192**	*e*Pn	**Pn**	**03 33 20.0**	**-0.2**
DZM				*e*Sn	**Sn**	**03 34 08.2**	**-4.0**
MSVF	**Nonsavu**	**10.12**	**92**	*e*Pn	**Pn**	**03 34 39.5**	**+2.4**
HNR	**Honiara**	**10.93**	**317**	LR	LR	03 38 13.4	
	comp=Z,1μm,21.5s,baz=151,slow=33						
ARMA	**Armidale**	**19.22**	**226**	*e*P	**P**	**03 36 36.3**	**+0.4**
	76nm,1.8s						
CTA	**Charters Tower**	**20.19**	**260**	P	Pn	03 36 49.4	+0.9
	9.9nm,0.8s,baz=84,slow=14,SNR=8.4						
CTA				LR	LR	03 43 02.7	
	comp=Z,438nm,18.7s,baz=72,slow=32						
CTAO	**Charters Tower**	**20.19**	**260**	*e*P	**P**	**03 36 47.2**	**+0.7**
	69nm,0.8s						
PMG	**Port Moresby**	**21.33**	**290**	P	**P**	**03 37 01.7**	**+2.9**
	11nm,0.7s,baz=88,slow=11,SNR=6.5						
PMG				LR	LR	03 43 56.5	
	comp=Z,740nm,20.8s,baz=136,slow=33						
PMG	**Port Moresby**	**21.33**	**290**	*e*P	**P**	**03 36 57.8**	**-0.9**
	58nm,1.2s						
HIZ	**Hauiti**	**21.79**	**164**	*e*P	**P**	**03 37 04.4**	**+0.8**
	74nm,1.1s						
URZ	**Urewera**	**22.23**	**160**	P	**P**	**03 37 08.1**	**-0.2**
	17nm,0.8s,baz=29,slow=2.9,SNR=12						
URZ				LR	LR	03 44 34.4	
	comp=Z,855nm,18.7s,baz=350,slow=34						
URZ	**Urewera**	**22.23**	**160**	*e*P	**P**	**03 37 09.2**	**+1.0**
	91nm,1.2s						
BKZ	**Black Stump Fm**	**22.86**	**162**	*e*P	**P**	**03 37 16.7**	**+1.6**
	45nm,1.2s						
CAN	**Canberra**	**24.07**	**219**	*e*P	**P**	**03 37 25.8**	**-1.2**
	16nm,1.0s						
THZ	**Tophouse**	**24.50**	**170**	*e*P	**P**	**03 37 31.7**	**+0.8**
	92nm,1.5s						
RPZ	**Rata Peaks**	**26.18**	**174**	LR	LR	03 47 51.8	
	comp=Z,692nm,19.1s,baz=345,slow=36						
STKA	**Stephens Creek**	**27.33**	**234**	P	**P**	**03 37 59.0**	**+2.4**
	4.4nm,0.5s,baz=71,slow=12,SNR=17						
STKA				LR	LR	03 47 49.5	
	comp=Z,334nm,18.9s,baz=55,slow=34						
STKA	**Stephens Creek**	**27.33**	**234**	*e*P	**P**	**03 37 57.3**	**+0.8**
	7.8nm,1.3s						
RAR	**Rarotonga**	**31.10**	**102**	LR	LR	03 49 23.4	
	comp=Z,75nm,20.4s,baz=274,slow=34						
WB2	**Warramunga Arr**	**31.38**	**260**	*e*P	**P**	**03 38 33.0**	**+0.3**
WRA	**Warramunga Arr**	**31.39**	**260**	P	**P**	**03 38 32.5**	**-0.3**
	5.6nm,1.1s,baz=84,slow=8.0,SNR=6.3						
WRA				LR	LR	03 49 53.1	
	comp=Z,485nm,21.3s,baz=80,slow=34						
AS01	**Alice Springs**	**31.86**	**253**	*e*P	**P**	**03 38 36.2**	**-0.6**
AS01				*e*PcP	**PcP**	**03 41 27.3**	**-0.2**
AS31	**Alice Springs**	**31.90**	**253**	*e*P	**P**	**03 38 37.9**	**+0.7**
	4.5nm,1.0s						
ASAR	**Alice Springs**	**31.90**	**253**	P	**P**	**03 38 37.7**	**+0.5**
	9.5nm,0.9s,baz=79,slow=8.3,SNR=37						
ASAR				LR	LR	03 50 26.1	
	comp=Z,647nm,21.9s,baz=86,slow=34						
BBOO	**Buckleboo**	**32.01**	**236**	*e*P	**P**	**03 38 38.9**	**+0.9**
	40nm,1.3s						
GUMO	**Guam**	**38.19**	**323**	LR	LR	03 53 32.9	
	comp=Z,349nm,21.8s,baz=112,slow=34						
TBI	**Tubuai**	**40.66**	**105**	*e*LR	LR	03 51 24.0	
	530nm,29.2s,baz=272						
PPT2	**Papeete2**	**40.91**	**97**	*e*LQ	LQ	03 49 49.0	
	379nm,26.2s						
PPT2				*e*LR	LR	03 51 31.0	
	695nm,28.0s,baz=263						
PPT	**Papeete**	**40.91**	**97**	LR	LR	03 53 01.3	
	comp=Z,294nm,18.1s,baz=262,slow=31						
TAOE	**Nuku Hiva Isla**	**51.62**	**87**	*e*S	S	03 48 50.9	+12
	185nm,23.5s						
TAOE				*e*LR	LR	03 56 25.1	
	469nm,27.9s						
RKT	**Rikitea**	**53.98**	**106**	*e*S	S	03 49 24.3	+13
	206nm,28.2s						
RKT				*e*LR	LR	03 57 29.6	
	484nm,32.2s						
TGY	**Tagaytay City**	**55.67**	**302**	LR	LR	04 06 28.9	
	comp=Z,37nm,18.0s,baz=155,slow=37						
JHJ	**Hachijo jima 2**	**56.96**	**332**	LR	LR	04 04 24.0	
	comp=Z,52nm,21.1s,baz=78,slow=34						
VNDA	**Vanda**	**59.98**	**181**	P	**P**	**03 42 18.2**	**+0.7**
	2.3nm,0.9s,baz=17,slow=6.7,SNR=7.5						
VNDA				LR	LR	04 03 58.1	
	comp=Z,86nm,21.3s,baz=346,slow=32						
VNDA	**Vanda**	**59.98**	**181**	*e*P	**P**	**03 42 18.6**	**+1.1**
	7.8nm,1.2s						
MJAR	**Matsushiro Arr**	**60.54**	**333**	P	**P**	**03 42 18.7**	**-3.1**
	6.1nm,1.1s,baz=161,slow=7.2,SNR=7.6						
MJAR				LR	LR	04 07 30.2	
	comp=Z,40nm,20.2s,baz=190,slow=35						
MAT	**Matsushiro**	**60.55**	**333**	P	**P**	**03 42 20.1**	**-1.8**
MAT				S	**S**	**03 50 38.6**	**+1.7**
JNU	**Nakatsue**	**61.37**	**325**	LR	LR	04 05 44.1	
	comp=Z,51nm,21.6s,baz=120,slow=33						
ASAJ	**Asahikawa**	**65.51**	**341**	P	**P**	**03 42 55.2**	**+0.5**
	2.1nm,0.3s,baz=204,slow=6.9,SNR=4.3						
ASAJ	**Asahikawa**	**65.51**	**341**	*e*P	**P**	**03 42 54.0**	**-0.7**
	13nm,1.3s						
KSRS	**Korea Array**	**66.22**	**326**	LR	LR	04 09 24.3	
	comp=Z,92nm,21.0s,baz=144,slow=34						
NJ2	**Nanjing**	**67.87**	**317**	*e*P	**P**	**03 43 07.9**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,26nm,0.9s						
UBPT	**Khong Chiam**	**69.29**	**294**	P	P	03 43 10.8	-8.4
	19nm,1.3s						
USRK	**Ussuriysk Ar.**	**69.54**	**334**	P	**P**	**03 43 21.0**	**+0.9**
	0.9nm,0.4s,baz=104,slow=6.1,SNR=5.5						
SKLT	**Songkhla**	**70.42**	**284**	P	P	03 43 37.7	+11
	16nm,1.2s						
PSI	**Prapat**	**70.47**	**280**	LR	LR	04 16 20.2	
	comp=Z,147nm,18.1s,baz=106,slow=38						
PSI	**Prapat**	**70.47**	**280**	*e*P	**P**	**03 43 24.4**	**-2.3**
	18nm,1.2s						
PEA0B	**Petropavlovsk-**	**70.94**	**354**	*e*P	**P**	**03 43 28.6**	**0.0**
	38nm,1.3s						
PETK	**Petropavlovsk-**	**70.94**	**354**	P	**P**	**03 43 27.9**	**-0.6**
	6.6nm,0.9s,baz=144,slow=5.5,SNR=8.6						
PETK				LR	LR	04 11 47.4	
	comp=Z,63nm,18.9s,baz=161,slow=34						
PETK	**Petropavlovsk-**	**70.94**	**354**	*e*P	**P**	**03 43 28.1**	**-0.5**
SKNT	**Sakolnakorn**	**71.31**	**295**	P	**P**	**03 43 32.3**	**+0.7**
	8.5nm,0.9s						
TRTT	**Trang**	**71.52**	**285**	P	**P**	**03 43 35.8**	**+2.9**
	5.0nm,1.5s						
QSPA	**South Pole Qui**	**72.41**	**180**	P	**P**	**03 43 38.1**	**+0.5**
	12nm,0.9s,baz=24,slow=3.3,SNR=20						
QSPA				LR	LR	04 14 15.2	
	comp=Z,82nm,18.2s,baz=306,slow=35						
NAYO	**Nakonayok**	**72.52**	**292**	P	P	03 43 44.0	+5.1
	14nm,1.2s,4μm						
SURT	**Suratani**	**72.75**	**286**	P	P	03 43 52.7	+12
	7.9nm,1.1s						
ENH	**Enshi**	**73.33**	**310**	*e*P	**P**	**03 43 43.5**	**+0.1**
	23nm,0.5s						
GYA	**Guiyang**	**73.50**	**305**	*e*P	**P**	**03 43 46.0**	**+1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PHIT	**Phitsanulok**	**74.49**	**294**	P	**P**	**03 43 54.0**	**+3.6**
	13nm,0.9s						
SRDT	**SRDT**	**74.49**	**291**	P	P	03 43 55.5	+5.0
	13nm,1.3s						
LAMP	**Lampang**	**75.71**	**295**	P	**P**	**03 44 01.2**	**+3.7**
	5.1nm,0.9s						
XAN	**Xi'an**	**75.77**	**313**	P	P	03 44 07.5	+10
KMI	**Kunming**	**75.97**	**302**	P	**P**	**03 44 00.6**	**+1.5**
KMI				pP	pP	03 44 03.9	-1.5
KMI				sP	sP	03 44 05.1	-2.6
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
CM01	**Chiang Mai Arr**	**76.25**	**295**	*e*P	**P**	**03 44 02.4**	**+1.9**
CMAR	**Chiang Mai Arr**	**76.28**	**295**	P	**P**	**03 44 03.2**	**+2.4**
	2.1nm,0.3s,baz=128,slow=4.3,SNR=17						
CMAR				LR	LR	04 20 22.6	
	comp=Z,39nm,18.2s,baz=132,slow=38						
CMMT	**Chiang Mai**	**76.42**	**295**	P	**P**	**03 44 02.5**	**+0.9**
	12nm,1.4s						
CHTO	**Chiang Mai**	**76.43**	**295**	P	**P**	**03 44 03.6**	**+2.0**
	54nm,1.4s						
CHTO	**Chiang Mai**	**76.43**	**295**	*e*P	**P**	**03 44 02.8**	**+1.2**
	27nm,1.5s						
CMAI	**Chiengmai2**	**76.80**	**296**	P	P	03 44 08.7	+4.9
	115nm,1.4s,9μm						
HHC	**Hu-ho-hao-te**	**77.89**	**320**	*e*P	**P**	**03 44 10.4**	**+0.9**
HHC				PP	**PP**	**03 47 09.1**	**+3.4**
HHC				S	**S**	**03 53 59.8**	**-2.0**
HHC				sS	sS	03 54 14.6	+2.4
HHC				SS	**SS**	**03 59 04.4**	**+1.2**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
HHC				LR	LR		
	comp=N,96nm,13.6s						
HHC				LR	LR		
	comp=E,85nm,12.3s						
HHC				LR	LR		
	comp=Z,98nm,13.6s						
CD2	**Chengdu**	**77.90**	**308**	*e*P	**P**	**03 44 10.0**	**+0.3**
MAW	**Mawson**	**79.27**	**202**	LR	LR	04 14 03.7	
	comp=Z,94nm,21.5s,baz=165,slow=32						
LZH	**Lanzhou**	**80.39**	**313**	*e*P	**P**	**03 44 24.3**	**+1.0**
LZH				pP	pP	03 44 28.0	-1.6
LZH				sP	PcP	03 44 30.4	+0.1
LZH				PP	**PP**	**03 47 24.3**	**-2.3**
LZH				*e*S	**S**	**03 54 30.6**	**+1.9**
LZH				sS	sS	03 54 38.8	-0.3
LZH				pmax	pmax		
	comp=Z,28nm,1.2s						
LZH				pmax	pmax		
	comp=Z,140nm,4.0s						
ULN	**Ulaanbaatar**	**84.56**	**324**	*e*P	**P**	**03 44 44.9**	**+0.1**
	18nm,1.3s						
GTA	**Gaotai**	**84.78**	**314**	⇑P	**P**	**03 44 47.0**	**+0.9**
GTA				pP	pP	03 44 52.0	-0.4
GTA				sP	sP	03 44 54.3	-0.4
GTA				SKS	**S**	**03 55 07.3**	**-6.1**
GTA				S	**SKKSac**	**03 55 13.4**	**-2.2**
GTA				SS	**SS**	**04 00 49.5**	**+3.4**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,100nm,5.5s						
GTA				LR	LR		
	comp=N,180nm,17.1s						
GTA				LR	LR		
	comp=Z,94nm,18.1s						
SONM	**Songino Array**	**84.92**	**324**	P	**P**	**03 44 46.5**	**-0.1**
	2.6nm,1.1s,baz=156,slow=4.4,SNR=11						
SONM				LR	LR	04 23 47.3	
	comp=Z,50nm,18.7s,baz=156,slow=36						
SONA1	**Songino Array**	**84.92**	**324**	*e*P	**P**	**03 44 46.4**	**-0.2**
YBH	**Yreka Blue Hor**	**87.35**	**45**	LR	LR	04 15 16.8	
	comp=Z,76nm,20.9s,baz=288,slow=30						
CMB	**Columbia Colle**	**87.38**	**49**	*e*P	**P**	**03 44 57.9**	**-0.9**
	6.5nm,1.2s						
MCK	**McKinley**	**87.85**	**18**	*e*P	**P**	**03 45 00.9**	**+0.5**
	6.6nm,1.2s						
PAHR	**Pah Rah Range**	**88.78**	**48**	*e*P	**P**	**03 45 05.2**	**-0.4**
	7.7nm,1.2s						
NV01	**Mina Array Sit**	**89.03**	**49**	*e*P	**P**	**03 45 05.8**	**-1.1**
NVAR	**Mina Array Bea**	**89.03**	**49**	P	**P**	**03 45 05.7**	**-1.2**
	1.5nm,0.9s,baz=225,slow=9.1,SNR=9.7						
NV11	**Mina Array Sit**	**89.14**	**49**	*e*P	**P**	**03 45 06.3**	**-1.1**
	0.8nm,1.4s						
ILAR	**Eielson Array**	**89.22**	**18**	P	**P**	**03 45 03.9**	**-3.0**
	0.2nm,0.6s,baz=231,slow=6.9,SNR=3.2						
ILAR				LR	LR	04 22 18.8	
	comp=Z,108nm,18.2s,baz=234,slow=34						
LPIG	**La Paz**	**90.28**	**65**	LR	LR	04 19 52.9	
	comp=Z,71nm,18.1s,baz=251,slow=32						
SNAA	**Sanae**	**90.68**	**183**	P	**P**	**03 45 14.2**	**+0.4**
SNAA	**Sanae**	**90.68**	**183**	P	**P**	**03 45 14.0**	**+0.2**
	9.4nm,1.3s,baz=203,slow=7.1,SNR=4.8						
SNAA	**Sanae**	**90.68**	**183**	*e*P	**P**	**03 45 13.7**	**-0.2**
	18nm,1.4s						
G08A	**Pilot Rock**	**91.33**	**43**	*e*P	**P**	**03 45 16.8**	**-0.5**
	18nm,1.6s						
VNA3	**Neumayer Olymp**	**91.33**	**181**	P	**P**	**03 45 17.7**	**+0.8**
VNA2	**Neumayer--Watz**	**91.60**	**182**	P	**P**	**03 45 19.6**	**+1.5**
	baz=132,slow=3.6						
TIXI	**Tiksi**	**92.83**	**349**	P	**P**	**03 45 22.8**	**-0.7**
	1.2nm,0.4s,baz=122,slow=7.3,SNR=4.7						
TIXI	**Tiksi**	**92.83**	**349**	*e*P	**P**	**03 45 22.7**	**-0.7**
	3.6nm,0.1s						
Q16A	**Castle Valley**	**94.42**	**51**	*e*P	**P**	**03 45 30.3**	**-1.6**
	4.1nm,0.8s						
WMQ	**Urumqi**	**94.86**	**314**	P	**P**	**03 45 34.3**	**+0.7**
WMQ				pP	pP	03 45 39.0	-1.0
WMQ				sP	sP	03 45 43.8	+1.6
WMQ				pmax	pmax		
	comp=Z,17nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,530nm,5.5s						
WMQ				LR	LR		
	comp=N,150nm,17.5s						
WMQ				LR	LR		
	comp=E,190nm,19.7s						
WMQ				LR	LR		
	comp=Z,250nm,24.1s						
MKAR	**Makanchi Array**	**99.40**	**316**	P	**Pdif**	**03 45 54.8**	**+0.9**
	0.3nm,0.8s,baz=94,slow=5.9,SNR=2.6						
MKAR				LR	LR	04 30 32.5	
	comp=Z,27nm,21.9s,baz=68,slow=35						
ZALV	**Zalesovo Beam**	**99.81**	**323**	LR	LR	04 29 34.3	
	comp=Z,50nm,21.9s,baz=70,slow=34						
YKA	**Yellowknife Ar**	**100.03**	**27**	P	**Pdif**	**03 45 53.1**	**-3.2**
	0.1nm,0.3s,baz=255,slow=4.7,SNR=3.9						
YKA				PKiKP	**PKiKP**	**03 50 23.6**	**-0.5**
	0.1nm,0.7s,baz=253,slow=1.6,SNR=2.6						
KSH	**Kashi**	**102.10**	**308**	*e*P	**Pdif**	**03 46 07.4**	**+1.1**
KSH				pmax	pmax		
	comp=Z,120nm,5.2s						
ARCES	**ARCESS Array B**	**123.08**	**345**	PKP	**PKPdf**	**03 51 05.9**	**-1.5**
	3.8nm,0.8s,baz=38,slow=1.7,SNR=8.0						
RAYN	**Ar Rayn**	**125.62**	**287**	*e*PKPdf	**PKPdf**	**03 51 13.9**	**+0.2**
GNI	**Garni**	**126.03**	**307**	*e*PKPdf	**PKPdf**	**03 51 13.8**	**-0.3**
KMBO	**Kilima Mbogo**	**127.54**	**254**	*e*PKPdf	**PKPdf**	**03 51 18.6**	**+0.7**
LSZ	**Lusaka**	**128.20**	**233**	*e*PKPdf	**PKPdf**	**03 51 18.6**	**-0.3**
FINES	**FINESS Array B**	**128.46**	**337**	PKP	**PKPdf**	**03 51 17.9**	**+0.1**
	2.8nm,1.0s,baz=350,slow=5.6,SNR=3.0						
AKASG	**Malin Array Be**	**133.19**	**324**	PKP	**PKPdf**	**03 51 26.4**	**-0.7**
	0.5nm,0.5s,baz=46,slow=4.1,SNR=4.1						
HFS	**Hagfors**	**133.52**	**342**	PKP	**PKPdf**	**03 51 27.0**	**-0.5**
	2.5nm,0.8s,baz=174,slow=1.4,SNR=2.9						
PSZ	**Piszkesteto**	**139.82**	**326**	*e*PKPdf	**PKPdf**	**03 51 38.2**	**-1.5**
MORC	**Moravsky Berou**	**139.82**	**330**	*e*PKPdf	**PKPdf**	**03 51 39.6**	**+0.1**
DPC	**Dobruska-Polom**	**140.00**	**331**	*e*PKP	**PKPdf**	**03 51 43.7**	**+3.8**
DPC				*e*K	K	03 51 50.2	
VYHS	**Vyhne**	**140.01**	**327**	*e*PKP	**PKPdf**	**03 51 38.8**	**-1.1**
BRG	**Berggiesshubel**	**140.68**	**333**	*e*PKP	**PKPdf**	**03 51 48.2**	**+7.2**
	3.0nm,0.7s						
CONA	**Conrad Observa**	**141.89**	**329**	*e*PKPdf	**PKPdf**	**03 51 40.2**	**-3.2**
	4.8nm,1.6s						
KHC	**Kasperske Hory**	**142.12**	**332**	*e*PKP	**PKPdf**	**03 51 40.0**	**-3.7**
KHC				*ep*PKP	**PKiKP**	**03 51 46.6**	**-0.1**
GERES	**GERESS Array B**	**142.27**	**331**	PKhKP	PKPpre	03 51 40.0	
	0.4nm,0.6s,baz=357,slow=2.7,SNR=5.2						
GERES				PKP	**PKiKP**	**03 51 45.4**	**-1.7**
	1.5nm,0.9s,baz=74,slow=1.9,SNR=6.8						
MOA	**Molln**	**142.72**	**330**	*e*PKPdf	**PKPdf**	**03 51 41.8**	**-3.0**
	2.6nm,0.9s						
SOKA	**Soboth**	**143.15**	**328**	*e*PKPdf	PKPbc	03 51 43.2	+0.6
	2.9nm,1.4s						
OBKA	**Obir**	**143.51**	**328**	*e*PKPdf	PKPbc	03 51 43.8	+0.2
	5.2nm,1.3s						
KBA	**Koelnbreinsper**	**143.71**	**330**	*e*PKPdf	PKPab	03 51 43.6	+0.1
	11nm,1.1s						
BOJS	**Bojanci**	**143.82**	**326**	*i* PKPdf	**PKPdf**	**03 51 45.9**	**-0.9**
VISS	**Visnje**	**143.84**	**327**	*i* PKPdf	**PKPdf**	**03 51 48.2**	**+1.4**
MYKA	**Terra Mystica**	**143.88**	**329**	*e

RLS				S	Sb	03 34 45.7	0.0		
EFP	**Efpalio**	**0.27**	**51**	P	Pb	03 34 41.4	-0.2		
EFP				S	Sb	03 34 45.9	-0.3		
EFP				AML	AML	03 34 47.1			
	comp=E,172µm,0.2s								
EFP				AML	AML	03 34 48.2			
	comp=N,213µm,0.2s								
EFP	**Efpalio**	**0.27**	**51**	P	Pb	03 34 41.4	-0.2		
EFP				AML	AML	03 34 47.0			
	comp=E,172µm,0.2s								
EFP				S	Sb	03 34 47.1	+0.9		
EFP				AML	AML	03 34 48.2			
	comp=N,213µm,0.2s								
EFP	**Efpalio**	**0.27**	**51**	P	Pb	03 34 41.6	0.0		
EFP				S	Sb	03 34 46.3	+0.1		
DRO	**Drossia**	**0.31**	**170**	P	Pb	03 34 42.5	+0.3		
DRO				S	Sn	03 34 48.4	-1.0		
DRO				AML	AML	03 34 48.7			
	comp=N,669µm,0.1s								
DRO				AML	AML	03 34 48.7			
	comp=E,711µm,0.3s								
DRO	**Drossia**	**0.31**	**170**	P	Pb	03 34 42.4	+0.1		
DRO				S	Sn	03 34 48.6	-0.8		
DRO				AML	AML	03 34 48.7			
	comp=N,669µm,0.1s								
DRO				AML	AML	03 34 48.7			
	comp=E,711µm,0.3s								
DRO	**Drossia**	**0.31**	**170**	P	Pb	03 34 42.4	+0.1		
DRO				S	Sb	03 34 48.1	+0.8		
TRIZ	**Trizonia**	**0.35**	**72**	P	Pb	03 34 43.1	+0.2		
TRIZ				S	Sb	03 34 47.8	-0.5		
TRIZ	**Trizonia**	**0.35**	**72**	P	Pb	03 34 43.1	+0.2		
TRIZ				S	Sb	03 34 48.3	0.0		
SERG	**Sergoula**	**0.36**	**64**	P	Pb	03 34 43.2	+0.2		
SERG				S	Sb	03 34 48.5	0.0		
SERG				AML	AML	03 34 50.1			
	comp=N,326µm,0.2s								
SERG				AML	AML	03 34 50.7			
	comp=E,298µm,0.2s								
SERG	**Sergoula**	**0.36**	**64**	P	Pb	03 34 43.2	+0.2		
SERG				S	Sb	03 34 48.5	0.0		
SERG				AML	AML	03 34 50.1			
	comp=N,326µm,0.2s								
SERG				AML	AML	03 34 50.7			
	comp=E,298µm,0.2s								
SERG	**Sergoula**	**0.36**	**64**	P	Pb	03 34 43.1	+0.1		
SERG				S	Sb	03 34 48.8	+0.3		
PVO	**Paravola**	**0.37**	**345**	P	Pb	03 34 43.2	+0.1		
PVO				S	Sb	03 34 49.6	+0.9		
PVO				AML	AML	03 34 50.8			
	comp=N,238µm,0.2s								
PVO				AML	AML	03 34 51.0			
	comp=E,263µm,0.3s								
PVO	**Paravola**	**0.37**	**345**	P	Pb	03 34 43.5	+0.4		
PVO				S	Sb	03 34 49.1	+0.4		
PVO				AML	AML	03 34 50.7			
	comp=N,238µm,0.2s								
PVO				AML	AML	03 34 50.9			
	comp=E,263µm,0.3s								
PVO	**Paravola**	**0.37**	**345**	P	Pb	03 34 43.2	+0.1		
PVO				S	Sb	03 34 49.5	+0.8		
ANX	**Ano Chora**	**0.40**	**33**	P	Pb	03 34 43.6	-0.1		
ANX				S	Sn	03 34 50.9	-0.8		
ANX				AML	AML	03 34 52.7			
	comp=E,83µm,0.4s								
ANX				AML	AML	03 34 55.9			
	comp=N,94µm,0.4s								
ANX	**Ano Chora**	**0.40**	**33**	P	Pb	03 34 43.8	+0.1		
ANX	**Ano Chora**	**0.40**	**33**	P	Pb	03 34 43.6	-0.1		
ANX				S	Sb	03 34 50.5	+0.9		
KALE	**Kalithea**	**0.41**	**71**	P	Pb	03 34 44.0	+0.1		
KALE				S	Sb	03 34 49.6	-0.3		
KALE				AML	AML	03 34 52.4			
	comp=E,133µm,0.2s								
KALE				AML	AML	03 34 53.2			
	comp=N,173µm,0.2s								
KALE	**Kalithea**	**0.41**	**71**	P	Pb	03 34 43.9	+0.1		
KALE				S	Sb	03 34 50.9	+1.0		
KALE				AML	AML	03 34 52.4			
	comp=E,133µm,0.2s								
KALE				AML	AML	03 34 53.1			
	comp=N,173µm,0.2s								
KALE	**Kalithea**	**0.41**	**71**	P	Pb	03 34 43.9	+0.1		
KALE				S	Sb	03 34 50.1	+0.2		
KLV	**Kalavryta, Ach**	**0.45**	**118**	P	Pb	03 34 44.8	+0.3		
KLV	**Kalavryta, Ach**	**0.45**	**118**	P	Pn	03 34 45.2	-0.6		
KLV	**Kalavryta, Ach**	**0.45**	**118**	P	Pb	03 34 44.7	+0.2		
PDO	**Prodromos**	**0.50**	**313**	P	Pb	03 34 45.0	-0.2		
PDO				S	Sn	03 34 53.6	-0.4		
PDO				AML	AML	03 34 55.5			
	comp=N,247µm,0.2s								
PDO				AML	AML	03 34 56.1			
	comp=E,175µm,0.3s								
PDO	**Prodromos**	**0.50**	**313**	P	Pb	03 34 45.1	-0.1		
PDO				S	Sn	03 34 53.2	-0.8		
PDO				AML	AML	03 34 55.5			
	comp=N,247µm,0.2s								
PDO				AML	AML	03 34 56.1			
	comp=E,175µm,0.3s								
PDO	**Prodromos**	**0.50**	**313**	P	Pb	03 34 45.1	-0.1		
PDO				S	Sn	03 34 53.3	-0.7		
GUR	**Goura**	**0.64**	**120**	P	Pb	03 34 47.6	0.0		
GUR				S	Sn	03 34 58.5	+0.9		
GUR				AML	AML	03 35 00.1			
	comp=N,108µm,0.3s								
GUR				AML	AML	03 35 00.3			
	comp=E,95µm,0.2s								
GUR	**Goura**	**0.64**	**120**	P	Pb	03 34 47.5	-0.1		
GUR	**Goura**	**0.64**	**120**	P	Pb	03 34 47.7	+0.1		
GUR				S	Sn	03 34 57.8	+0.2		
EVR	**Evrytania**	**0.67**	**11**	P	Pn	03 34 48.6	-0.1		
EVR				S	Sn	03 34 59.5	+1.0		
EVR	**Evrytania**	**0.67**	**11**	P	Pn	03 34 48.6	-0.1		
EVR	**Evrytania**	**0.67**	**11**	P	Pn	03 34 48.5	-0.3		
EVR				S	Sn	03 34 58.8	+0.4		
AMT	**Artemida-Makis**	**0.73**	**176**	P	Pn	03 34 50.0	+0.5		
VLS	**Valsamata**	**0.83**	**265**	P	Pb	03 34 49.9	-0.9		
VLS				S	Sn	03 35 04.5	+2.1		
VLS				AML	AML	03 35 04.6			
	comp=N,566µm,0.2s								
VLS				AML	AML	03 35 04.7			
	comp=E,383µm,0.1s								
VLS	**Valsamata**	**0.83**	**265**	P	Pb	03 34 50.6	-0.2		
VLS				S	Sn	03 35 03.8	+1.4		
AGG	**Agios Georgios**	**0.93**	**35**	P	Pb	03 34 52.6	+0.1		
LKD2	**Lefkada island**	**0.94**	**305**	P	Pn	03 34 51.9	-0.5		
LKD2	**Lefkada island**	**0.94**	**305**	P	Pb	03 34 52.5	-0.1		
DSL	**Palaion Diasel**	**0.97**	**334**	P	Pb	03 34 53.1	-0.1		
DSL	**Palaion Diasel**	**0.97**	**334**	P	Pb	03 34 53.4	+0.2		

*IDC **16** 03:35:30.9±2.8, 15°.92S×173°.88W, h85km±25km, mb3.8/12, mb1 4.1/13, mb1mx3.9/44, mbtmp4.2/13, Error ellipse: s-maj=28.7km s-min=13.8km az=132.0*
*NEIC **16** 03:35:30.2±1.2, 15°.77S×174°.13W, h79km±11km, mb4.4/3, Error ellipse: s-maj=13.6km s-min=7.8km az=146.0*
*ISCJB **16** 03:35:32.4±0.5, 15°.8S±0°.1×174°.1W±0°.09, h115km, mb4.1/17, Error ellipse: s-maj=15.8km s-min=11.0km az=151.0*

ISC 16 03:35:33.9±0.5, 15°.9S±0°.1×174°.1W±0°.1, h115km, n34, σ0s94/28, mb4.0/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.99**	**49**	P	Pn	03 36 14.5	-5.5
	145nm,0.3s,baz=201,slow=2.8,SNR=104						
AFI				S	Sn	03 36 44.1	-11
	304nm,0.3s,baz=114,slow=20,SNR=18						
MSVF	**Nonsavu**	**7.73**	**255**	*e*Pn	Pn	03 37 14.2	-10
RAR	**Rarotonga**	**14.58**	**113**	P	**Pn**	**03 38 54.3**	**-0.4**
	2.0nm,0.3s,baz=36,slow=3.6,SNR=3.6						
DZM	**Mont Dzumac**	**19.39**	**249**	*e*P	**P**	**03 39 49.0**	**-2.1**
	31nm,1.4s						
PPT2	**Papeete2**	**23.55**	**98**	*e*LR	LR	03 45 56.7	
	207nm,24.0s						
URZ	**Urewera**	**23.59**	**197**	P	**P**	**03 40 34.5**	**+0.3**
	5.4nm,0.3s,baz=289,slow=3.5,SNR=13						
TBI	**Tubuai**	**24.35**	**112**	*e*LR	LR	03 46 02.9	
	180nm,25.0s						
PMG	**Port Moresby**	**38.30**	**275**	*e*P	**P**	**03 42 41.8**	**-1.8**
	9.8nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**39.04**	**330**	T	T	04 23 49.7	
	baz=146,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**39.05**	**330**	T	T	04 23 34.1	
	baz=146,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**39.06**	**330**	T	T	04 24 05.3	
	baz=146,slow=75,SNR=9.0						
STKA	**Stephens Creek**	**43.20**	**240**	P	**P**	**03 43 24.9**	**+1.2**
	1.8nm,0.6s,baz=67,slow=8.0,SNR=6.2						
WRA	**Warramunga Arr**	**49.07**	**257**	P	**P**	**03 44 11.5**	**+1.6**
	0.4nm,0.3s,baz=95,slow=7.5,SNR=5.5						
ASAR	**Alice Springs**	**49.31**	**252**	P	**P**	**03 44 12.9**	**+1.2**
	2.8nm,0.5s,baz=88,slow=8.2,SNR=28						
LUWI	**Luwuk**	**63.91**	**277**	*e*P	**P**	**03 45 54.1**	**-1.0**
PETK	**Petropavlovsk-**	**72.89**	**343**	P	**P**	**03 46 51.4**	**+1.2**
	1.1nm,0.6s,baz=134,slow=8.3,SNR=2.7						
CMB	**Columbia Colle**	**73.58**	**42**	*e*P	**P**	**03 46 54.0**	**-0.6**
	9.8nm,0.9s						
QSPA	**South Pole Qui**	**74.16**	**180**	P	**P**	**03 46 58.0**	**+0.2**
	2.5nm,1.1s,baz=317,slow=6.6,SNR=4.0						
YBH	**Yreka Blue Hor**	**74.40**	**37**	P	**P**	**03 46 59.6**	**+0.2**
	2.9nm,0.8s,baz=127,slow=5.1,SNR=5.4						
NVAR	**Mina Array Bea**	**75.14**	**42**	P	**P**	**03 47 03.7**	**-0.2**
	0.8nm,0.6s,baz=224,slow=8.7,SNR=4.6						
MNTX	**Cornudas Mount**	**81.06**	**54**	*e*P	**P**	**03 47 35.5**	**-1.0**
	3.9nm,1.3s						
TXAR	**Lajitas Array**	**81.45**	**56**	P	**P**	**03 47 38.5**	**-0.2**
	1.1nm,0.9s,baz=225,slow=6.7,SNR=6.7						
MCK	**McKinley**	**81.73**	**11**	*e*P	**P**	**03 47 39.1**	**-0.2**
	7.2nm,0.8s						
COLA	**College**	**82.97**	**11**	*e*P	**P**	**03 47 45.6**	**0.0**
	4.4nm,0.9s						
ILAR	**Eielson Array**	**83.05**	**11**	P	**P**	**03 47 45.9**	**-0.3**
	1.2nm,0.8s,baz=227,slow=6.4,SNR=14						
PDAR	**Pinedale Array**	**83.08**	**42**	P	**P**	**03 47 46.3**	**-0.8**
	2.4nm,0.7s,baz=210,slow=3.2,SNR=26						
YKA	**Yellowknife Ar**	**90.81**	**24**	P	**P**	**03 48 23.8**	**0.0**
	0.2nm,0.6s,baz=235,slow=4.3,SNR=5.3						
ARCES	**ARCESS Array B**	**124.99**	**352**	PKP	**PKPdf**	**03 54 19.9**	**0.0**
	4.5nm,1.0s,baz=73,slow=4.1,SNR=3.6						
GNI	**Garni**	**138.52**	**313**	*e*PKPdf	**PKPdf**	**03 54 47.1**	**+0.5**
MORC	**Moravsky Berou**	**144.90**	**347**	*e*PKPdf	**PKPdf**	**03 54 57.3**	**-0.2**
BRTR	**Keskin Array B**	**146.10**	**320**	PKPbc	**PKPab**	**03 55 02.1**	**+0.3**
	1.2nm,0.8s,baz=121,slow=1.8,SNR=4.9						
GERES	**GERESS Array B**	**146.52**	**351**	PKPbc	**PKPab**	**03 55 02.6**	**-0.5**
	0.3nm,0.5s,baz=27,slow=2.6,SNR=3.6						
SSB	**Saint Sauveur**	**150.68**	**2**	*e*PKPbc	**PKPbc**	**03 55 13.5**	**+0.8**
BNI	**Bardonecchia**	**150.92**	**359**	*e*PKPbc	**PKPbc**	**03 55 14.5**	**+1.1**
BNI				*e*PKPab	**PKPab**	**03 55 22.4**	**+1.4**

MEX 16 04:30:25.0±0.5, 18°.07N×100°.79W, h57km±8km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.47**	**64**	*e*P	Pn	04 30 34.7	-1.7
ARIG				*i* S	Sn	04 30 42.9	-1.8
ZIIG	**Zihuatanejo**	**0.79**	**234**	*i* P	Pn	04 30 38.6	-1.6
ZIIG				*e*S	Sn	04 30 50.1	-1.2
MEIG	**Mezcala**	**1.13**	**97**	*e*P	Pn	04 30 43.8	-0.9
MEIG				*e*S	Sn	04 30 57.5	-1.8
CAIG	**El Cayaco**	**1.14**	**154**	*e*P	Pn	04 30 42.8	-1.9
CAIG				*e*S	Sn	04 30 57.4	-2.1
PLIG	**Platanillo**	**1.27**	**75**	*e*P	Pn	04 30 45.9	-0.7
YAIG	**Yautepec**	**1.82**	**64**	*e*P	Pn	04 30 53.0	-1.1
YAIG				*e*S	Sn	04 31 14.4	-1.7
TLIG	**Tlapa**	**2.18**	**103**	*i* P	Pn	04 30 56.9	-2.2
TLIG				*i* S	Sn	04 31 23.3	-1.7

IDC 16 04:45:02.3±20.0, 6°.47S×129°.76E, h180km±225km, mb2.8/1, mb1 3.0/3, mb1mx2.8/45, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=143.7km s-min=94.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.24**	**199**	S	Sn	04 49 59.8	-7.3
	0.2nm,0.3s,baz=84,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**14.12**	**162**	P	Pn	04 48 14.7	+0.1
	0.2nm,0.3s,baz=345,slow=12,SNR=9.9						
WRA				S	Sn	04 50 41.0	-11
	0.2nm,0.3s,baz=343,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**17.56**	**167**	P	P	04 48 54.8	-0.1
	0.1nm,0.3s,baz=344,slow=9.6,SNR=4.5						
MKAR	**Makanchi Array**	**67.65**	**327**	P	P	04 55 40.0	0.0
	0.1nm,0.5s,baz=138,slow=7.1,SNR=2.8						

IDC 16 04:48:18.8±4.8, 36°.01N×73°.54E, h0km, mb3.3/2, mb1 3.4/5, mb1mx3.2/60, mbtmp3.3/5, ML2.9/3, Error ellipse: s-maj=157.5km s-min=27.4km az=132.0, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**12.61**	**29**	Pn	Pn	04 51 20.9	+1.4
	0.0nm,0.3s,baz=221,slow=13,SNR=4.5						
KURBB	**Kurchatov Arra**	**15.05**	**12**	Pn	Pn	04 51 51.0	-1.6
	0.0nm,0.3s,baz=202,slow=12,SNR=2.8						
ZALV	**Zalesovo Beam**	**19.59**	**20**	P	P	04 52 47.8	-0.5
	0.4nm,0.3s,baz=201,slow=11,SNR=5.5						
TORD	**Torodi Ar. Bea**	**67.76**	**270**	P	P	04 59 18.7	0.0
	0.2nm,0.3s,baz=49,slow=6.4,SNR=7.3						
YKA	**Yellowknife Ar**	**81.62**	**4**	P	P	05 00 38.5	+0.2
	0.1nm,0.5s,baz=348,slow=5.5,SNR=3.9						

*IDC **16** 04:56:58.0±0.7, 10°.51N×93°.71E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.0/63, mbtmp4.0/18, ML4.3/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/62, Error ellipse: s-maj=25.3km s-min=14.7km az=51.0*
*ISCJB **16** 04:57:00.0±0.6, 10°.57N±0°.08×93°.74E±0°.07, h25km, mb4.1/21, Error ellipse: s-maj=12.3km s-min=10.1km az=21.3*
*NEIC **16** 04:57:03.7±1.1, 10°.57N×93°.73E, h39km±10km, mb4.2/3, Error ellipse: s-maj=8.8km s-min=8.4km az=210.0*

ISC 16 04:57:02.3±0.7, 10°.6N±0°.1×93°.73E±0°.08, h25km, n27, σ0s91/28, mb4.1/21, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.30**	**146**	Pn	Pn	04 59 21.4	+6.4
	0.2nm,0.3s,baz=328,slow=19,SNR=7.4						
PSI				LR	LR	05 02 51.4	
	comp=Z,103nm,19.9s,baz=215,slow=38						
CMAR	**Chiang Mai Arr**	**9.31**	**32**	Pn	**Pn**	**04 59 15.6**	**+0.6**
	0.9nm,0.3s,baz=229,slow=14,SNR=5.9						
CMAR				LR	LR	05 02 41.9	
	comp=Z,91nm,21.5s,baz=210,slow=37						
VIS	**Vishakhapatnam**	**12.32**	**306**	*i* P	**Pn**	**04 59 57.8**	**+1.6**
VIS				*i* S	**Sn**	**05 02 10.9**	**-1.9**
VIS				*i* S	**Sn**	**05 02 11.0**	**-1.9**
PALK	**Pallekele**	**13.28**	**257**	*e*Pn	**Pn**	**05 00 10.0**	**+0.6**
AAK	**Ala-Archa**	**36.07**	**336**	P	**P**	**05 04 02.2**	**0.0**
	1.5nm,0.8s,baz=180,slow=7.1,SNR=4.1						
AAK	**Ala-Archa**	**36.07**	**336**	*e*P	**P**	**05 04 02.8**	**+0.7**
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**37.37**	**347**	P	**P**	**05 04 12.5**	**-0.4**
	2.3nm,0.8s,baz=162,slow=8.3,SNR=22						
SONM	**Songino Array**	**38.63**	**14**	P	**P**	**05 04 24.0**	**+0.3**
	1.3nm,0.9s,baz=198,slow=8.4,SNR=7.1						
KSAR	**Wonju Array Be**	**40.70**	**43**	P	**P**	**05 04 40.9**	**0.0**
KSRS	**Korea Array**	**40.74**	**43**	P	**P**	**05 04 40.9**	**-0.3**
	0.6nm,0.3s,baz=237,slow=9.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**41.83**	**346**	P	**P**	**05 04 49.8**	**-0.2**
	1.7nm,0.9s,baz=161,slow=8.0,SNR=11						
KURK	**Kurchatov**	**41.89**	**346**	*e*P	**P**	**05 04 50.0**	**-0.5**
	12nm,0.7s						
GEYT	**Alibeck**	**41.94**	**316**	P	**P**	**05 04 52.6**	**+1.5**
	11nm,0.8s,baz=140,slow=9.4,SNR=13						
ZALV	**Zalesovo Beam**	**43.83**	**352**	P	**P**	**05 05 06.5**	**+0.4**
	16nm,0.3s,baz=152,slow=9.4,SNR=4.4						
BVAR	**Borovoye Array**	**46.30**	**341**	P	**P**	**05 05 25.5**	**-0.4**
	1.1nm,0.7s,baz=118,slow=8.3,SNR=6.6						
BRVK	**Borovoye**	**46.37**	**341**	*e*P	**P**	**05 05 25.7**	**-0.7**
	5.0nm,0.7s						
ABKAR	**Akbulak array**	**47.67**	**330**	*e*P	**P**	**05 05 35.6**	**-1.0**
	2.1nm,0.8s						
AKTO	**Aktyubinsk**	**49.39**	**331**	P	**P**	**05 05 49.6**	**-0.2**
	1.2nm,0.6s,baz=101,slow=5.2,SNR=5.0						
WRA	**Warramunga Arr**	**50.19**	**127**	P	**P**	**05 05 55.2**	**-1.1**
	3.9nm,0.9s,baz=305,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**51.98**	**131**	P	**P**	**05 06 08.7**	**-1.2**
	2.0nm,0.8s,baz=311,slow=7.6,SNR=15						
KBZ	**Khabaz**	**54.83**	**317**	P	**P**	**05 06 31.1**	**+0.7**
	1.7nm,0.8s,baz=90,slow=4.0,SNR=3.6						
CTA	**Charters Tower**	**60.01**	**121**	P	**P**	**05 07 07.8**	**+0.5**
	4.5nm,0.9s,baz=265,slow=11,SNR=2.2						
BRTR	**Keskin Array B**	**60.37**	**310**	P	**P**	**05 07 08.5**	**-1.2**
	1.7nm,0.7s,baz=99,slow=7.4,SNR=8.9						
MLR	**Muntele Rosu**	**66.96**	**315**	P	**P**	**05 07 52.8**	**-0.3**
	0.7nm,0.6s,baz=128,slow=18,SNR=2.7						
FINES	**FINESS Array B**	**70.14**	**332**	P	**P**	**05 08 11.9**	**-0.5**
	2.0nm,1.0s,baz=32,slow=8.2,SNR=2.3						
GERES	**GERESS Array B**	**75.55**	**318**	P	**P**	**05 08 44.5**	**-0.5**
	0.3nm,0.4s,baz=89,slow=5.9,SNR=7.2						
BOSA	**Boshof**	**76.69**	**237**	P	**P**	**05 08 52.1**	**+0.3**
	0.8nm,0.5s,baz=90,slow=5.1,SNR=3.0						

JMA 16 05:05:11.5±0.2, 37°.27N×141°.62E, h42km±3km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.60**	**279**	P	Pn	05 05 23.6	-0.1
JFK				S	Sn	05 05 32.4	0.0
ONAJ	**Iwakimizuishiy**	**0.68**	**256**	P	Pn	05 05 24.7	0.0
ONAJ				S	Sn	05 05 33.8	-0.4
JFT	**Otama**	**1.05**	**284**	P	Pn	05 05 30.8	+1.0
JHO	**Hitachi**	**1.07**	**232**	P	Pn	05 05 29.6	-0.4
MAT	**Matsushiro**	**2.83**	**256**	P	Pn	05 05 56.6	+2.4
MAT				*e*S	Sn	05 06 27.6	+0.5

*JMA **16** 05:39:42.8±0.2, 24°.76N×122°.67E, h118km±2km, M3.5*
*ISCJB **16** 05:39:43.8±0.4, 24°.75N±0°.02×122°.70E±0°.02, h105km±4km, Error ellipse: s-maj=4.0km s-min=2.4km az=170.7*
*TAP **16** 05:39:43.5, 24°.78N×122°.71E, h107km±1km, ML4.2, D*

ISC 16 05:39:44.2±1.4, 24°.76N±0°.04×122°.70E±0°.02, h105km±8km, n85, σ0s68/159, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.38**	**143**	P	**Pn**	**05 40 00.1**	**+0.3**
JYNG				S	**Sn**	**05 40 13.3**	**+1.9**
YOJ	**Yonaguni jima**	**0.41**	**136**	*i* P	**Pn**	**05 39 59.9**	**0.0**
	baz=139						
TWB1	**Santiao Chiao**	**0.69**	**291**	⇓ *i* P	**Pn**	**05 40 01.8**	**-0.2**
	baz=288						
TWB1				*i* S	**Sn**	**05 40 15.4**	**+0.1**
	baz=288						
EGS		**0.70**	**277**	*e*P	**Pn**	**05 40 01.3**	**-0.8**
	baz=274						
EGS				*e*S	**Sn**	**05 40 14.9**	**-0.6**
	baz=274						
TWC	**Suao**	**0.79**	**259**	*e*P	**Pn**	**05 40 02.3**	**-0.5**
	baz=257						
TWC				S	**Sn**	**05 40 16.5**	**-0.3**
	baz=257						
TIPB	**Shuangxi**	**0.82**	**285**	⇓ *i* P	**Pn**	**05 40 02.1**	**-1.1**
	baz=283						
TIPB				*i* S	**Sn**	**05 40 16.3**	**-1.2**
	baz=283						
ENAH	**Nanao**	**0.86**	**249**	*e*P	**Pn**	**05 40 03.7**	**+0.1**
	baz=247						
ENAH				*e*S	**Sn**	**05 40 18.3**	**+0.1**
	baz=247						
ILA	**Ilan**	**0.86**	**271**	*e*P	**Pn**	**05 40 03.3**	**-0.2**
	baz=268						
ILA				*e*S	**Sn**	**05 40 18.0**	**-0.1**
	baz=268						
NWF	**Wu-fen Shan**	**0.89**	**291**	*i* P	**Pn**	**05 40 03.6**	**-0.3**
	baz=288						
NWF				*i* S	**Sn**	**05 40 19.0**	**+0.2**
	baz=288						
WFSB	**Wu-fen Shan**	**0.89**	**291**	*e*P	**Pn**	**05 40 03.9**	**+0.1**
	baz=288						
WFSB				S	**Sn**	**05 40 18.8**	**+0.2**
	baz=288						
NANB	**Nanao**	**0.92**	**249**	P	**Pn**	**05 40 04.3**	**+0.1**
	baz=248						
NANB				S	**Sn**	**05 40 19.7**	**+0.5**
	baz=248						
ENA	**Nanau**	**0.93**	**250**	*e*P	**Pn**	**05 40 04.3**	**+0.1**
	baz=247						
ENA				*e*S	**Sn**	**05 40 19.9**	**+0.6**
	baz=247						
TWE	**Neicheng**	**0.94**	**268**	*e*P	**Pn**	**05 40 04.5**	**+0.2**
	baz=266						
TWE				*e*S	**Sn**	**05 40 19.5**	**+0.1**
	baz=266						
SLBB	**Yuanshan**	**0.96**	**270**	*e*P	**Pn**	**05 40 04.6**	**-0.1**
	baz=268						
SLBB				*e*S	**Sn**	**05 40 20.0**	**-0.1**
	baz=268						
IRIF	**Iriomote-Funau**	**1.03**	**114**	S	**Sn**	**05 40 20.7**	**-0.5**
ENTT	**Nioudou**	**1.03**	**264**	*e*P	**Pn**	**05 40 05.9**	**+0.5**
	baz=262						
ENTT				*e*S	**Sn**	**05 40 21.6**	**+0.2**
	baz=262						
TWA	**Mucha**	**1.03**	**283**	*e*P	**Pn**	**05 40 04.8**	**-0.6**
	baz=280						
TWA				*e*S	**Sn**	**05 40 21.3**	**-0.1**
	baz=280						
YM07	**YM07**	**1.06**	**293**	*e*P	**Pn**	**05 40 05.2**	**-0.5**
	baz=291						
YM07				*e*S	**Sn**	**05 40 21.5**	**-0.4**
	baz=291						
NWLT	**Wulai**	**1.09**	**271**	*e*P	**Pn**	**05 40 05.8**	**-0.1**
	baz=269						
NWLT				*e*S	**Sn**	**05 40 22.7**	**+0.4**
	baz=269						
YM10	**YM10**	**1.10**	**291**	*e*S	**Sn**	**05 40 23.3**	**+0.5**
	baz=289						
TWY	**Chenhua**	**1.12**	**298**	*e*S	**Sn**	**05 40 23.0**	**0.0**
	baz=295

JIJ S **Sn** 05 40 27.5 -0.6
NCU **National Centr** 1.39 279 *e*S **Sn** 05 40 29.1 +0.6
baz=277
WHF **Hehuan Shan** 1.44 245 *e*P **Pn** 05 40 10.2 -0.2
baz=244
WHF S **Sn** 05 40 29.8 -0.4
baz=244
TWT **Tachien** 1.47 250 *e*P **Pn** 05 40 11.2 +0.6
baz=249
TWT S **Sn** 05 40 31.2 +0.6
baz=249
JISG **Ishigakijimahi** 1.48 96 P **Pn** 05 40 10.3 -0.1
JISG S **Sn** 05 40 30.1 -0.2
ESL **Shilin** 1.49 231 *e*P **Pn** 05 40 10.6 0.0
baz=230
ESL *e*S **Sn** 05 40 29.6 -0.9
baz=230
TDCB **Techi** 1.49 251 *e*P **Pn** 05 40 11.2 +0.5
baz=249
TDCB *e*S **Sn** 05 40 30.6 -0.2
baz=249
LIOB **Emei** 1.53 266 *e*P **Pn** 05 40 10.7 -0.4
baz=264
LIOB S **Sn** 05 40 31.2 -0.4
baz=264
NSTT **Nanjuang** 1.55 266 *e*P **Pn** 05 40 11.2 -0.1
baz=264
NSTT S **Sn** 05 40 31.2 -0.7
baz=264
CHGB **Renai** 1.55 244 *e*P **Pn** 05 40 11.8 +0.2
baz=242
CHGB *e*S **Sn** 05 40 32.0 -0.4
baz=242
HSN **Hsinchu** 1.57 272 *e*S **Sn** 05 40 31.8 -0.5
baz=271
EGFH **Guangfu** 1.59 227 *e*P **Pn** 05 40 11.5 -0.3
baz=226
EGFH *e*S **Sn** 05 40 31.6 -1.1
baz=226
OWD **Renai** 1.60 240 *e*P **Pn** 05 40 12.3 +0.2
baz=239
OWD S **Sn** 05 40 33.0 -0.2
baz=239
HGSD **Ruisui** 1.71 223 *e*P **Pn** 05 40 13.2 -0.1
baz=222
HGSD *e*S **Sn** 05 40 36.1 +0.6
baz=222
NMLH **Miaoli** 1.75 263 *e*P **Pn** 05 40 13.4 -0.3
baz=262
NMLH *e*S **Sn** 05 40 35.6 -0.7
baz=262
DPDB **Guoxing** 1.77 246 *e*P **Pn** 05 40 15.5 +1.4
baz=245
DPDB *e*S **Sn** 05 40 37.5 +0.7
baz=245
NSY **Sanyi** 1.79 260 *e*P **Pn** 05 40 14.7 +0.4
baz=258
NSY *e*S **Sn** 05 40 37.8 +0.4
baz=258
TWQ1 **Liyutan** 1.80 257 *e*P **Pn** 05 40 14.4 0.0
baz=256
TWQ1 S **Sn** 05 40 37.9 +0.4
baz=256
JTJ **Tarama** 1.83 93 S **Sn** 05 40 37.6 -0.4
SMLT **Sun Moon Lake** 1.86 242 *i* P **Pn** 05 40 16.5 +1.2
baz=241
SMLT S **Sn** 05 40 39.4 +0.5
baz=241
SSLB **Suanglung** 1.86 239 *e*P **Pn** 05 40 16.0 +0.8
baz=238
SSLB *e*S **Sn** 05 40 39.4 +0.6
baz=238
YULB **Yu-li** 1.87 224 *e*P **Pn** 05 40 14.8 -0.4
baz=223
YULB *e*S **Sn** 05 40 37.3 -1.7
baz=223
TYC **Yuchr** 1.88 244 P **Pn** 05 40 16.3 +0.9
baz=242
TYC S **Sn** 05 40 40.5 +1.3
baz=242
TWF1 **Yuli** 1.90 223 *e*P **Pn** 05 40 15.1 -0.6
baz=222
TWF1 *e*S **Sn** 05 40 38.1 -1.5
baz=222
TCU **Taichung** 1.94 252 *e*P **Pn** 05 40 15.7 -0.5
baz=251
TCU *e*S **Sn** 05 40 40.4 -0.2
baz=251
FULB **Fuli** 2.01 220 *e*P **Pn** 05 40 17.1 -0.1
baz=219
FULB *e*S **Sn** 05 40 41.8 -0.5
baz=219
WJS **Zhushan** 2.02 243 *e*P **Pn** 05 40 18.2 +0.9
baz=242
WJS *e*S **Sn** 05 40 42.8 +0.2
baz=242
YUS **Yu-Shan** 2.03 232 *e*P **Pn** 05 40 18.0 +0.2
baz=231
YUS S **Sn** 05 40 43.3 -0.2
baz=231
CHKT **Chengkung** 2.05 217 *e*P **Pn** 05 40 16.1 -1.5
baz=216
CHKT *e*S **Sn** 05 40 41.5 -1.7
baz=216
ALS **Alishan** 2.13 235 *e*P **Pn** 05 40 19.7 +0.8
baz=233
ALS *e*S **Sn** 05 40 45.7 +0.3
baz=233
CHN5 **Tsauling** 2.17 238 *e*P **Pn** 05 40 20.0 +0.7
baz=237
CHN5 *e*S **Sn** 05 40 47.9 +1.8
baz=237
ELDTW **Lidau** 2.19 225 *e*P **Pn** 05 40 19.5 0.0
baz=224
ELDTW *e*S **Sn** 05 40 45.7 -0.9
baz=224
JIRB **Irabujima** 2.25 88 P **Pn** 05 40 19.9 -0.3
JIRB *e*S **Sn** 05 40 47.7 -0.1
RLNB **Erlin** 2.30 248 *e*P **Pn** 05 40 22.1 +1.3
baz=247
RLNB *e*S **Sn** 05 40 48.9 0.0
baz=247
JIKM **Ikemajima** 2.32 85 P **Pn** 05 40 21.0 -0.1
JIKM S **Sn** 05 40 49.4 0.0
TWH **Lutao** 2.32 209 *e*P **Pn** 05 40 20.7 -0.5
baz=208
TWH *e*S **Sn** 05 40 48.6 -0.9
baz=208
WTCT **Ta-ch'eng** 2.38 249 *e*S **Sn** 05 40 50.6 -0.1
baz=247
CHN4 **Tsaushan** 2.38 234 P **Pn** 05 40 22.7 +0.8
baz=233
CHN4 *e*S **Sn** 05 40 51.8 +1.0
baz=233
STYT **Tauyuan** 2.38 229 *e*P **Pn** 05 40 23.2 +1.2
baz=227
STYT S **Sn** 05 40 52.5 +1.6
baz=227
WTP **Ta-pu** 2.43 232 *e*P **Pn** 05 40 22.3 -0.2
baz=231
WTP *e*S **Sn** 05 40 53.8 +1.8
baz=231
TWGBT **Beinan** 2.43 218 *e*P **Pn** 05 40 23.5 +0.9
baz=217
TWGBT *e*S **Sn** 05 40 51.3 -0.8
baz=217
TWG **Pinlang** 2.44 218 *e*P **Pn** 05 40 22.1 -0.5
baz=217
TWG *e*S **Sn** 05 40 51.4 -0.6
baz=217
JOGS **Gusukube** 2.46 89 S **Sn** 05 40 53.0 +0.3
TWK **Hsinying** 2.51 234 *e*P **Pn** 05 40 23.9 +0.3
baz=233
TWK *e*S **Sn** 05 40 54.8 +1.0
baz=233
WSF **Szhu** 2.52 244 *e*S **Sn** 05 40 54.0 0.0
baz=243
CHN1 **Nanshi** 2.53 232 *e*P **Pn** 05 40 24.7 +0.9
baz=231
CHN1 *e*S **Sn** 05 40 54.4 +0.2
baz=231
SLGT **Liugui** 2.57 227 *e*P **Pn** 05 40 25.2 +0.8
baz=226
SLGT *e*S **Sn** 05 40 54.5 -0.7
baz=226
MASBT **Mashibuluo** 2.85 222 *e*P **Pn** 05 40 28.8 +0.7
baz=221
MASBT *e*S **Sn** 05 41 02.2 +0.3
baz=221
LAY **Lan-yu** 2.90 201 *e*P **Pn** 05 40 28.0 -0.8
baz=201
LAY *e*S **Sn** 05 41 01.7 -1.5
baz=201

NIED **16** *05:48:00, 24.˚10N×142.˚30E, h80km, Mw4.5 Best double couple: M0 5.46000×10^15 NP1:φ 105.00000°, δ32.00000°, λ163.00000°. NP2:φ 209.00000°, δ81.00000°, λ60.00000°.*
BJI **16** *05:48:14.5, 23.˚90N×141.˚90E, h84km, mb4.6/40, mB4.9/24, Ms4.1/3, Ms7 4.1/2*
ISCJB **16** *05:48:14.1±0.9, 23.˚93N±0.˚04×142.˚00E±0.˚04, h84km±7km, mb4.7/96, Error ellipse: s-maj=6.9km s-min=6.3km az=41.4*
IDC **16** *05:48:15.5±1.6, 23.˚97N×141.˚94E, h82km±13km, mb4.1/34, mb1 4.2/38, mb1mx4.1/69, mbtmp4.4/38, MS3.1/8, Ms1 3.1/8, ms1mx2.9/54, Error ellipse: s-maj=13.4km s-min=9.5km az=82.0*
NEIC **16** *05:48:15.4±0.8, 23.˚90N×141.˚89E, h82km±7km, mb4.9/60, Error ellipse: s-maj=5.7km s-min=4.4km az=93.0*
JMA **16** *05:48:17.3±0.2, 24.˚11N×142.˚32E, h125km±4km, M4.7*
ISC 16 05:48:15.5±1.2, 23.˚95N±0.˚05×141.˚96E±0.˚07, h81km±10km, n166, σ1°24/173, mb4.7/96, 1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.68**	**4**	P		**Pn**	**05 48 57.8**	**+1.3**
JHHJ				S		**Sn**	**05 49 29.4**	**+1.4**
CBIJ	**Chichi jima**	**3.14**	**4**	P		**Pn**	**05 49 04.2**	**+1.4**
CBIJ				S		**Sn**	**05 49 39.3**	**+0.1**
CBIJ	**Chichi jima**	**3.14**	**4**	*e*Pn		**Pn**	**05 49 04.3**	**+1.6**
CBIJ				*e*Sn		**Sn**	**05 49 39.9**	**+0.7**
JCJ	**Chichijima**	**3.14**	**4**	P		**Pn**	**05 49 04.2**	**+1.4**
	57nm,0.3s,baz=52,slow=5.4,SNR=77							
JCJ				S		**Sn**	**05 49 39.0**	**-0.3**
	671nm,0.3s,baz=309,slow=23,SNR=44							
BSO3	**Boso 3**	**10.89**	**354**	P		**Pn**	**05 50 46.3**	**-1.8**
HMMJ	**Hamamatsu 2**	**11.48**	**342**	P		**Pn**	**05 50 57.2**	**+0.8**
JOD2	**Odawara 2**	**11.55**	**348**	P		**Pn**	**05 50 56.6**	**-0.7**
JNY	**Yasuok**	**11.91**	**344**	P		**Pn**	**05 51 02.1**	**-0.2**
INU	**Inuyama**	**12.14**	**340**	*e*Pn		**Pn**	**05 51 06.8**	**+1.5**
MJAR	**Matsushiro Arr**	**12.96**	**346**	P		**Pn**	**05 51 14.3**	**-2.2**
	4.0nm,0.3s,baz=128,slow=12,SNR=25							
MJAR				LR		LR	05 56 38.1	
	comp=Z,35nm,19.5s,baz=165,slow=39							
MAJO	**Matsushiro**	**12.96**	**346**	*e*Pn		**Pn**	**05 51 14.3**	**-2.2**
MAT	**Matsushiro**	**12.96**	**346**	P		**Pn**	**05 51 14.1**	**-2.4**
MAT				*e*S		**Sn**	**05 53 33.2**	**-5.6**
MJB9	**Matsu-Tunnel**	**12.97**	**346**	*e*Pn		**Pn**	**05 51 14.6**	**-1.9**
JNU	**Nakatsue**	**13.35**	**316**	P		**Pn**	**05 51 21.4**	**-0.2**
	0.3nm,0.3s,baz=135,slow=20,SNR=2.0							
JNU				LR		LR	05 56 13.1	
	comp=Z,38nm,18.1s,baz=118,slow=36							
ERM	**Erimo**	**18.05**	**3**	*e*P		**Pn**	**05 52 23.3**	**+2.6**
	25nm,0.9s							
KSRS	**Korea Array**	**18.05**	**321**	P		**Pn**	**05 52 21.2**	**+0.4**
	0.9nm,0.3s,baz=138,slow=11,SNR=22							
KSRS				LR		LR	05 58 21.5	
	comp=Z,51nm,20.9s,baz=144,slow=34							
KS15	**Wonju Array Si**	**18.06**	**321**	*e*P		**Pn**	**05 52 21.4**	**+0.4**
KSAR	**Wonju Array Be**	**18.06**	**321**	P		**Pn**	**05 52 21.2**	**+0.3**
KS01	**Wonju Array Si**	**18.08**	**321**	*e*P		**Pn**	**05 52 22.0**	**+0.8**
ASAJ	**Asahikawa**	**20.12**	**1**	P		Pn	05 52 44.3	-1.0
	6.4nm,0.7s,baz=202,slow=11,SNR=6.1							
ASAJ	**Asahikawa**	**20.12**	**1**	*e*P		Pn	05 52 44.4	-0.9
	9.6nm,0.7s							
USRK	**Ussuriysk Ar.**	**21.79**	**340**	P		**P**	**05 52 59.3**	**-1.3**
	20nm,0.7s,baz=140,slow=9.6,SNR=21							
NJ2	**Nanjing**	**21.91**	**297**	*e*P		**P**	**05 53 03.3**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,14nm,0.6s							
YSS	**Yuzh-Sakhalins**	**22.96**	**1**	*e*P		**P**	**05 53 13.1**	**+0.1**
	48nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**23.52**	**95**	T		T	06 18 14.0	
	baz=283,slow=75,SNR=20							
H11N2	**WAKE ISLAND Hy**	**23.52**	**95**	T		T	06 17 56.9	
	baz=283,slow=75,SNR=28							
H11N3	**WAKE ISLAND Hy**	**23.53**	**95**	T		T	06 18 15.2	
	baz=283,slow=75,SNR=18							
H11S3	**WAKE ISLAND Hy**	**23.67**	**99**	T		T	06 19 02.6	
	baz=289,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**23.68**	**98**	T		T	06 19 10.6	
	baz=289,slow=75,SNR=15							
H11S2	**WAKE ISLAND Hy**	**23.69**	**99**	T		T	06 18 58.3	
	baz=289,slow=75,SNR=20							
KLR	**Kul'dur**	**26.48**	**345**	P		**P**	**05 53 44.9**	**-0.1**
	1.6nm,0.5s,baz=158,slow=7.5,SNR=61							
BJI	**Beijing**	**26.98**	**313**	*e*P		**P**	**05 53 51.4**	**+1.8**
BJI				pmax		pmax		
	comp=Z,12nm,0.7s							
BJI				pmax		pmax		
	comp=Z,86nm,4.0s							
XAN	**Xi'an**	**30.48**	**297**	P		**P**	**05 54 22.1**	**+1.3**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.4s							
XAN				pmax		pmax		
	comp=Z,84nm,4.1s							
PETK	**Petropavlovsk-**	**31.47**	**18**	P		**P**	**05 54 29.9**	**+0.7**
	3.6nm,1.0s,baz=197,slow=4.5,SNR=4.2							
CD2	**Chengdu**	**34.48**	**290**	*e*P		**P**	**05 54 54.8**	**-1.0**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
LZH	**Lanzhou**	**34.94**	**299**	*e*P		P	05 54 54.8	-5.0
LZH				pP		pP	05 55 15.3	-3.6
LZH				sP		sP	05 55 23.6	-4.8
LZH				PP		**PP**	**05 56 20.3**	**-0.1**
LZH				PcP		**PcP**	**05 57 25.3**	**-5.5**
KMI	**Kunming**	**35.61**	**280**	P		**P**	**05 55 06.8**	**+1.0**
KMI				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MA2	**Magadan**	**36.14**	**8**	P		**P**	**05 55 09.9**	**+0.3**
	5.5nm,0.6s,baz=184,slow=13,SNR=5.8							
ULN	**Ulaanbaatar**	**36.52**	**320**	*e*P		**P**	**05 55 12.6**	**-0.6**
	4.7nm,0.9s							
SONA1	**Songino Array**	**36.90**	**319**	*e*P		**P**	**05 55 16.2**	**-0.1**
SONM	**Songino Array**	**36.90**	**319**	P		**P**	**05 55 16.2**	**-0.2**
	2.0nm,0.8s,baz=128,slow=7.8,SNR=8.5							
SONM				PP		**PP**	**05 56 41.9**	**+0.1**
	0.8nm,0.9s,baz=129,slow=12,SNR=3.6							
SONM				PcP		**PcP**	**05 57 37.7**	**+1.4**
	0.4nm,0.4s,baz=102,slow=1.7,SNR=3.7							
HNR	**Honiara**	**37.55**	**150**	LR		LR	06 08 16.4	
	comp=Z,58nm,19.2s,baz=314,slow=32							
COEN	**Coen**	**37.69**	**178**	*e*P		**P**	**05 55 23.7**	**+0.5**
	79nm,1.8s							
GTA	**Gaotai**	**38.67**	**304**	*e*P		**P**	**05 55 32.0**	**+0.6**
GTA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
YAK	**Yakutsk**	**38.97**	**351**	P		**P**	**05 55 33.3**	**-0.1**
	25nm,0.4s,baz=200,slow=1.8,SNR=8.4							
YAK				LR		LR	06 11 11.0	
	comp=Z,26nm,18.1s,baz=258,slow=35							
YAK	**Yakutsk**	**38.97**	**351**	*e*P		**P**	**05 55 32.8**	**-0.7**
	83nm,1.1s							
SEY	**Seymchan**	**39.60**	**7**	P		**P**	**05 55 39.0**	**+0.4**
	3.5nm,0.6s,baz=182,slow=9.3,SNR=12							
CTAO	**Charters Tower**	**43.97**	**174**	*e*P		**P**	**05 56 15.5**	**+0.8**
	19nm,1.1s							
WRAB	**Tennant Creek**	**44.24**	**190**	*e*P		**P**	**05 56 13.5**	**-3.5**
	32nm,0.7s							
WB2	**Warramunga Arr**	**44.25**	**190**	*e*P		**P**	**05 56 16.0**	**-1.0**
WRA	**Warramunga Arr**	**44.25**	**190**	P		**P**	**05 56 17.2**	**+0.2**
	22nm,0.7s,baz=12,slow=8.6,SNR=123							
AS01	**Alice Springs**	**47.96**	**190**	*e*P		**P**	**05 56 45.7**	**-0.5**
AS31	**Alice Springs**	**47.97**	**190**	*e*P		**P**	**05 56 45.4**	**-0.9**
	2.5nm,0.6s							
ASAR	**Alice Springs**	**47.97**	**190**	P		**P**	**05 56 46.1**	**-0.1**
	3.1nm,0.7s,baz=14,slow=11,SNR=36							
WMQ	**Urumqi**	**48.29**	**308**	P		**P**	**05 56 49.6**	**+1.0**
WMQ				pP		pP	05 57 08.8	+0.2
WMQ				pmax		pmax		
	comp=Z,26nm,0.9s							
TIXI	**Tiksi**	**48.31**	**354**	LR		LR	06 18 10.6	
	comp=Z,34nm,18.2s,baz=6.5,slow=37							
TIXI	**Tiksi**	**48.31**	**354**	*e*P		**P**	**05 56 47.6**	**-0.6**
	6.8nm,0.8s							
EIDS	**Eidsvold**	**49.82**	**169**	*e*P		**P**	**05 56 59.6**	**-0.6**
	27nm,1.6s							
JIRN	**Jiri**	**49.99**	**287**	*e*P		**P**	**05 57 04.9**	**+2.7**
GUN	**Gumba**	**50.22**	**287**	*e*P		**P**	**05 57 06.5**	**+2.6**
PKI	**Pulchoki**	**50.69**	**287**	*e*P		**P**	**05 57 09.2**	**+1.8**
PKIN	**Phulchoki**	**50.70**	**287**	*e*P		**P**	**05 57 09.2**	**+1.8**
	6.2nm,0.4s							
KKN	**Kakani**	**50.77**	**287**	*e*P		**P**	**05 57 10.0**	**+2.2**
DMN	**Daman**	**50.95**	**287**	*e*P		**P**	**05 57 11.3**	**+2.0**
	10nm,0.6s							
DZM	**Mont Dzumac**	**51.57**	**151**	P		**P**	**05 57 12.8**	**-0.8**
	2.0nm,0.6s,baz=311,slow=20,SNR=3.1							
DZM	**Mont Dzumac**	**51.57**	**151**	*e*P		**P**	**05 57 13.2**	**-0.4**
	47nm,1.8s							
ZALV	**Zalesovo Beam**	**51.76**	**321**	P		**P**	**05 57 13.7**	**-0.9**
	1.3nm,0.4s,baz=116,slow=8.7,SNR=5.7							
ZALV				PcP		**PcP**	**05 58 26.4**	**-0.3**
	0.5nm,0.3s,baz=102,slow=3.4,SNR=2.3							
DANN	**Dangsing**	**52.00**	**288**	*e*P		**P**	**05 57 20.1**	**+2.9**
	5.2nm,0.8s							
KOLN	**Koldanda**	**52.24**	**287**	*e*P		**P**	**05 57 21.1**	**+2.3**
	29nm,0.8s							
MK01	**Makanchi Array**	**52.35**	**311**	*e*P		**P**	**05 57 19.6**	**+0.5**
MK31	**Makanchi Array**	**52.36**	**312**	*e*P		**P**	**05 57 19.1**	**-0.1**
MKAR	**Makanchi Array**	**52.36**	**312**	P		**P**	**05 57 19.4**	**+0.2**
	3.1nm,0.7s,baz=89,slow=9.0,SNR=30							
MKAR				PcP		**PcP**	**05 58 30.0**	**+0.8**
	0.9nm,0.7s,baz=86,slow=5.9,SNR=5.5							
MKAR				ScP		**ScP**	**06 02 17.5**	**-1.6**
	0.6nm,0.9s,baz=79,slow=2.6,SNR=3.8							
MKAR	**Makanchi Array**	**52.36**	**312**	*e*P		**P**	**05 57 19.0**	**-0.2**
	18nm,0.6s							
MKAR				PcP		**PcP**	**05 58 30.0**	**+0.8**
MKAR				ScP		**ScP**	**06 02 17.5**	**-1.6**
PYUN	**Piuthan**	**52.71**	**288**	*e*P		**P**	**05 57 24.7**	**+2.4**
	36nm,0.7s							
KURK	**Kurchatov**	**55.07**	**316**	*e*P		**P**	**05 57 38.7**	**-0.1**
	6.5nm,0.9s							
KURK				PcP		**PcP**	**05 58 40.4**	**+1.0**
KURBB	**Kurchatov Arra**	**55.12**	**316**	P		**P**	**05 57 39.0**	**-0.3**
	7.6nm,0.7s,baz=93,slow=7.8,SNR=57							
KURBB				PcP		**PcP**	**05 58 40.4**	**+0.8**
	0.9nm,0.6s,baz=91,slow=6.2,SNR=2.6							
NRIK	**Noril'sk**	**55.50**	**340**	P		**P**	**05 57 41.1**	**-0.5**
	7.4nm,0.4s							
STKA	**Stephens Creek**	**55.51**	**180**	P		**P**	**05 57 42.3**	**+0.1**
	5.2nm,0.7s,baz=346,slow=7.6,SNR=13							
STKA				PP		**PP**	**05 59 48.4**	**+1.2**
	2.3nm,0.7s,baz=353,slow=10,SNR=3.3							
STKA	**Stephens Creek**	**55.51**	**180**	*e*P		**P**	**05 57 41.9**	**-0.3**
	1.0nm,0.8s							
STKA				PP		**PP**	**05 59 48.4**	**+1.2**
BBOO	**Buckleboo**	**56.72**	**186**	*e*P		**P**	**05 57 50.8**	**0.0**
	87nm,1.9s							
KDAK	**Kodiak Island**	**57.02**	**36**	P		**P**	**05 57 52.3**	**-0.3**
	11nm,1.1s,baz=240,slow=14,SNR=4.0							
KSH	**Kashi**	**57.05**	**303**	*e*P		**P**	**05 57 55.3**	**+1.9**
MWH	**Moku'aweowe**	**57.78**	**81**	*e*P		**P**	**05 57 59.1**	**-0.1**
	338nm,1.4s							
PPLA	**Purkeypile**	**57.98**	**30**	*e*P		**P**	**05 58 00.3**	**+0.7**
	24nm,1.7s							
UWB	**Uwekahuna B**	**58.09**	**81**	*e*P		**P**	**05 58 01.2**	**+0.2**
	1µm,1.7s							
CAST	**Castle Rocks**	**58.12**	**29**	*e*P		**P**	**05 58 01.4**	**+1.1**
	22nm,1.8s							
SUA	**Susitna One**	**58.43**	**31**	*e*P		**P**	**05 58 02.9**	**+0.2**
	32nm,1.7s							
KTH	**Kantishna Hill**	**58.66**	**29**	*e*P		**P**	**05 58 04.9**	**+0.8**
	21nm,1.7s							
AFI	**Afiamalu**	**58.82**	**125**	P		**P**	**05 58 06.2**	**+0.4**
	6.0nm,0.3s,baz=25,slow=14,SNR=2.0							
AFI				LR		LR	06 19 22.4	
	comp=Z,12nm,20.5s,baz=330,slow=32							
RC01	**Rabbit Creek A**	**58.86**	**32**	*e*P		**P**	**05 58 05.8**	**+0.3**
	38nm,1.8s							
RC01				*e*S		**S**	**06 06 08.7**	**+3.9**
SEW	**Seward**	**58.90**	**33**	*e*P		**P**	**05 58 05.5**	**-0.2**
	116nm,1.7s							
TRF	**Thorofare Moun**	**58.92**	**29**	*e*P		**P**	**05 58 06.0**	**-0.1**
	19nm,1.7s							
MLY	**Manley**	**58.98**	**27**	*e*P		**P**	**05 58 07.3**	**+1.0**
	4.4nm,0.9s							
PMR	**Palmer**	**59.21**	**31**	*e*P		**P**	**05 58 07.7**	**-0.1**
	25nm,1.6s							
RND	**Reindeer**	**59.55**	**29**	*e*P		**P**	**05 58 10.2**	**-0.1**
	27nm,2.0s							
COLD	**Coldfoot**	**59.59**	**25**	*e*P		**P**	**05 58 11.5**	**+1.0**
	5.3nm,1.2s							
SML	**Sawmill**	**59.61**	**31**	*e*P		**P**	**05 58 10.4**	**-0.3**
	59nm,1.9s							
MDM	**Murphy Dome**	**60.02**	**27**	*e*P		**P**	**05 58 14.4**	**+1.0**
	17nm,1.7s							
SCM	**Sheep Creek Mo**	**60.09**	**31**	*e*P		**P**	**05 58 14.2**	**+0.1**
	30nm,1.4s							
TOLK	**Toolik Lake Re**	**60.09**	**23**	*e*P		**P**	**05 58 15.9**	**+2.0**
	12nm,1.6s							
GLI	**Glacier Island**	**60.12**	**32**	*e*P		**P**	**05 58 14.4**	**+0.2**
	47nm,1.4s							
BVAR	**Borovoye Array**	**60.24**	**319**	P		**P**	**05 58 15.0**	**-0.1**
	6.5nm,0.6s,baz=90,slow=8.6,SNR=32							
BRVK	**Borovoye**	**60.30**	**319**	*e*P		**P**	**05 58 15.5**	**0.0**
	5.4nm,0.8s							
IL1	**Eielson Array**	**60.57**	**28**	*e*P		**P**	**05 58 16.3**	**-0.9**
ILAR	**Eielson Array**	**60.57**	**28**	P		**P**	**05 58 15.8**	**-1.3**
	2.9nm,0.8s,baz=255,slow=5.7,SNR=31							
ILB	**Eielson Array**	**60.57**	**28**	*e*P		**P**	**05 58 16.5**	**-0.7**
KLU	**Klutina**	**60.73**	**32**	*e*P		**P**	**05 58 18.6**	**+0.2**
	31nm,1.7s							
KKAR	**Karatay Array**	**60.79**	**307**	*e*P		**P**	**05 58 19.0**	**-0.1**
PALK	**Pallekele**	**60.84**	**265**	P		**P**	**05 58 18.8**	**-1.0**
	1.4nm,0.4s,baz=112,slow=6.0,SNR=1.8							
PAX	**Paxson**	**61.04**	**30**	*e*P		**P**	**05 58 20.7**	**+0.2**
	17nm,1.7s							
HARP	**HAARP**	**61.15**	**31**	*e*P		**P**	**05 58 22.0**	**+0.8**
	46nm,1.7s							
BMRM	**Bremner River**	**61.34**	**32**	*e*P		**P**	**05 58 22.8**	**+0.2**
	28nm,1.5s							
RIDG	**Independ'e Rid**	**61.37**	**29**	*e*P		**P**	**05 58 22.7**	**0.0**
	4.9nm,0.8s							
DOT	**Dot Lake**	**61.71**	**29**	*e*P		**P**	**05 58 24.9**	**-0.1**
	8.8nm,0.8s							
MENT	**Mentasta**	**61.84**	**30**	*e*P		**P**	**05 58 26.4**	**+0.6**
	18nm,1.9s							
EGAK	**Eagle**	**63.02**	**28**	*e*P		**P**	**05 58 33.6**	**0.0**
	23nm,2.0s							
DAWY	**Dawson**	**63.79**	**29**	*e*P		**P**	**05 58 39.2**	**+0.4**
	18nm,1.8s							
HYT	**Haines Junctio**	**64.81**	**32**	*e*P		**P**	**05 58 45.7**	**+0.1**
	20nm,1.7s							
INK	**Inuvik**	**65.97**	**24**	P		**P**	**05 58 51.6**	**-1.1**
	2.0nm,0.6s,baz=264,slow=6.3,SNR=11							
INK	**Inuvik**	**65.97**	**24**	*e*P		**P**	**05 58 52.7**	**0.0**
	9.1nm,1.4s							
ABKAR	**Akbulak array**	**67.16**	**315**	*e*P		**P**	**05 59 00.2**	**-0.4**
	34nm,0.6s							
AKTO	**Aktyubinsk**	**68.16**	**317**	P		**P**	**05 59 07.4**	**+0.4**
	0.8nm,0.5s,baz=82,slow=12,SNR=3.7							
SNZO	**South Karori**	**71.69**	**155**	*e*P		**P**	**05 59 26.8**	**-1.6**
	109nm,1.5s							
SPITS	**Spitsbergen Ar**	**73.43**	**350**	P		**P**	**05 59 38.8**	**+0.4**
	13nm,1.0s,baz=76,slow=7.7,SNR=5.2							
YKA	**Yellowknife Ar**	**75.00**	**28**	P		**P**	**05 59 47.5**	**-0.3**
	1.1nm,0.6s,baz=293,slow=5.9,SNR=20							
RES	**Resolute Bay**	**75.16**	**13**	*e*P		**P**	**05 59 48.8**	**+0.3**
	3.4nm,0.8s							
ARCES	**ARCESS Array B**	**76.44**	**341**	P		**P**	**05 59 56.2**	**+0.3**
	8.0nm,0.8s,baz=71,slow=7.8,SNR=13							
ARCES	**ARCESS Array B**	**76.44**	**341**	*e*P		**P**	**05 59 56.5**	**+0.5**
ARE0	**ARCESS Array S**	**76.44**	**341**	*e*P		**P**	**05 59 56.4**	**+0.5**
	231nm,2.0s							
TULEG	**Thule**	**77.98**	**7**	*e*P		**P**	**06 00 04.7**	**+0.3**
	11nm,0.7s							
YBH	**Yreka Blue Hor**	**78.23**	**50**	P		**P**	**06 00 07.1**	**+0.6**
	1.6nm,0.6s,baz=229,slow=20,SNR=4.5							
YBH	**Yreka Blue Hor**	**78.23**	**50**	*e*P		**P**	**06 00 07.1**	**+0.6**
	33nm,1.8s							
KBZ	**Khabaz**	**80.00**	**313**	P		**P**	**06 00 16.7**

AKBB	Malin Array Si	85.03	324	*e*P		P	06 00 41.4	-0.7
	5.4nm,0.8s							
KIEV	Kiev	85.04	324	*e*P		P	06 00 41.8	-0.3
	4.9nm,0.8s							
AK11	Malin Array Si	85.07	324	*e*P		P	06 00 41.5	-0.7
TPAW	Teton Pass	85.35	44	*e*P		P	06 00 44.5	+0.3
	11nm,1.9s							
MOOW	Moose Ponds	85.36	44	*e*P		P	06 00 44.9	+0.8
	4.2nm,1.6s							
RLMT	Red Lodge	85.61	42	*e*P		P	06 00 46.6	+1.2
	9.6nm,1.3s							
DUG	Dugway, Tooele	85.68	48	*e*P		P	06 00 46.4	+0.6
	6.3nm,1.5s							
HFS	Hagfors	86.22	337	P		P	06 00 46.6	-1.2
	1.4nm,0.6s,baz=106,slow=3.2,SNR=4.5							
NB2	NORSAR Subarra	86.45	338	P		P	06 00 47.6	-1.3
	comp=Z,1.4nm,0.7s,baz=51,slow=4.6							
NOA	NORSAR Array B	86.45	338	P		P	06 00 48.2	-0.7
	comp=Z,1.8nm,0.7s,baz=51,slow=4.2,SNR=4.8							
PDAR	Pinedale Array	86.59	44	P		P	06 00 50.2	-0.1
	comp=Z,0.2nm,0.6s,baz=270,slow=1.8,SNR=2.9							
BR131	Keskin Array S	87.98	313	*e*P		P	06 00 56.6	-0.4
BRTR	Keskin Array B	87.98	313	P		P	06 00 56.3	-0.6
	comp=Z,3.4nm,0.7s,baz=97,slow=3.0,SNR=14							
BR231	Keskin MP Arra	88.50	313	*e*P		P	06 00 57.1	-2.2
BUR08	Bucovina Ar. S	88.92	323	*e*P		P	06 01 01.2	+0.1
BUR04	Bucovina Ar. S	88.93	323	*e*P		P	06 01 00.8	-0.3
MLR	Muntele Rosu	89.73	321	LR		LR	06 43 50.5	
	comp=Z,24nm,18.1s,baz=51,slow=37							
VYHS	Vyhne	91.78	326	*e*P		P	06 01 14.1	-0.2
DPC	Dobruska-Polom	91.81	329	*e*P		P	06 01 14.5	+0.1
CLL	Collm	92.68	331	*e*P		P	06 01 17.0	-1.4
GERES	GERESS Array B	94.08	329	P		P	06 01 24.5	-0.5
	comp=Z,0.6nm,0.7s,baz=70,slow=5.8,SNR=4.6							
TORD	Torodi Ar. Bea	126.45	309	PKP		PKPdf	06 07 10.2	+0.3
	comp=Z,0.5nm,0.7s,baz=20,slow=1.7,SNR=4.4							
PLCA	Paso Flores	148.07	129	*e*PKPbc		PKPbc	06 07 51.9	-0.1
LPAZ	La Paz	150.78	81	PKPbc		PKPbc	06 08 00.8	+0.8
	comp=Z,0.6nm,0.5s,baz=207,slow=2.3,SNR=3.3							
SAML	Samuel	151.72	62	*e*PKPab		PKPab	06 08 08.9	-1.7

IDC **16** *05:58:11.8±0.7, 10°.46N×93°.60E, h0km, mb4.2/22, mb1 4.2/23, mb1mx4.0/68, mbtmp4.1/23, ML4.1/1, MS3.5/3, Ms1 3.6/3, ms1mx2.8/65, Error ellipse: s-maj=30.9km s-min=14.6km az=52.0*

ISCJB **16** *05:58:13.7±0.4, 10°.48N±0°.07×93°.70E±0°.08, h25km, mb4.3/31, MS3.8/2, Error ellipse: s-maj=12.7km s-min=7.3km az=144.2*

NEIC **16** *05:58:17.0±0.3, 10°.48N×93°.66E, h35km, mb4.6/12, Error ellipse: s-maj=8.5km s-min=5.0km az=53.0*

ISC 16 05:58:15.6±0.7, 10°.5N±0°.1×93°.7E±0°.1, h25km, n61, σ0s98/57, mb4.3/31, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	9.22	145	Pn	Pn	06 00 35.9	+8.7
	baz=338,slow=19,SNR=5.8						
PSI	Prapat	9.22	145	*e*Pn	Pn	06 00 35.7	+8.5
CMAR	Chiang Mai Arr	9.43	32	Pn	**Pn**	**06 00 29.7**	**-0.2**
	0.5nm,0.3s,baz=218,slow=14,SNR=5.2						
CMAR				LR	LR	06 03 57.0	
	comp=Z,120nm,21.0s,baz=215,slow=36						
CHTO	Chiang Mai	9.73	31	*e*Pn	**Pn**	**06 00 36.5**	**+2.4**
LSA	Lhasa	19.28	353	*e*P	**Pn**	**06 02 39.3**	**-0.9**
	9.3nm,0.6s						
AAK	Ala-Archa	36.17	336	P	P	06 05 16.4	+0.2
	1.6nm,0.7s,baz=207,slow=5.4,SNR=5.9						
AAK	Ala-Archa	36.17	336	*e*P	P	06 05 17.5	+1.2
	3.0nm,0.9s						
MK01	Makanchi Array	37.45	347	*e*P	P	06 05 26.6	-0.4
MK31	Makanchi Array	37.48	347	*e*P	P	06 05 26.8	-0.3
MK32	Makanchi Array	37.48	347	*e*P	P	06 05 27.0	-0.1
MKAR	Makanchi Array	37.48	347	P	P	06 05 27.0	-0.1
	3.1nm,0.8s,baz=162,slow=8.5,SNR=30						
MKAR	Makanchi Array	37.48	347	*e*P	P	06 05 26.8	-0.3
	19nm,0.8s						
KKAR	Karatay Array	38.27	332	*e*P	P	06 05 34.7	+0.8
SONA0	Songino Array	38.75	14	*e*P	P	06 05 38.3	+0.3
SONM	Songino Array	38.75	14	P	P	06 05 38.3	+0.3
	1.9nm,0.8s,baz=194,slow=8.0,SNR=10						
SONA1	Songino Array	38.77	14	*e*P	P	06 05 38.2	0.0
KURBB	Kurchatov Arra	41.94	346	P	P	06 06 04.2	+0.1
	1.7nm,0.7s,baz=162,slow=7.5,SNR=14						
KURK	Kurchatov	42.00	346	*e*P	P	06 06 04.2	-0.5
GEYT	Alibeck	42.00	317	P	P	06 06 07.4	+2.4
	16nm,0.7s,baz=141,slow=7.6,SNR=20						
ZAA0	Zalesovo Array	43.94	352	*e*P	P	06 06 20.2	-0.2
	5.5nm,0.7s						
ZALV	Zalesovo Beam	43.94	352	P	P	06 06 20.5	+0.2
	6.7nm,0.8s,baz=176,slow=9.6,SNR=11						
ZAA1	Zalesovo Array	43.95	352	*e*P	P	06 06 20.5	+0.1
BVAR	Borovoye Array	46.41	341	P	P	06 06 39.9	-0.1
	1.1nm,0.5s,baz=145,slow=8.8,SNR=7.5						
ABKAR	Akbulak array	47.76	331	*e*P	P	06 06 51.1	+0.6
	32nm,1.0s						
AKTO	Aktyubinsk	49.48	331	P	P	06 07 03.9	+0.1
	1.8nm,0.6s,baz=144,slow=10,SNR=6.3						
WR1	Warramunga Arr	50.15	127	*e*P	P	06 07 09.8	+0.5
	7.4nm,1.0s						
WRA	Warramunga Arr	50.15	127	P	P	06 07 09.8	+0.5
	2.8nm,0.6s,baz=305,slow=8.7,SNR=20						
WB2	Warramunga Ar	50.16	127	*e*P	P	06 07 09.0	-0.4
WC3	Warramunga Arr	50.18	127	*e*P	P	06 07 10.0	+0.5
	26nm,1.4s						
SARN	Sarigan	50.90	77	*e*P	P	06 07 12.8	-2.3
AS31	Alice Springs	51.93	131	*e*P	P	06 07 23.1	+0.3
	1.0nm,0.8s						
ASAR	Alice Springs	51.93	131	P	P	06 07 23.1	+0.3
	1.9nm,0.7s,baz=312,slow=7.5,SNR=19						
AS01	Alice Springs	51.97	131	*e*P	P	06 07 24.0	+1.0
KBZ	Khabaz	54.90	317	P	P	06 07 45.1	+0.9
	2.0nm,0.8s,baz=151,slow=4.8,SNR=4.4						
BR101	Keskin Array S	60.42	310	*e*P	P	06 08 22.9	-0.5
BR131	Keskin Array S	60.42	310	*e*P	P	06 08 23.1	-0.2
BRTR	Keskin Array B	60.42	310	P	P	06 08 22.9	-0.5
	2.7nm,0.7s,baz=126,slow=7.7,SNR=18						
BR231	Keskin MP Arra	61.10	310	*e*P	P	06 08 23.9	-4.0
STKA	Stephens Creek	62.22	134	P	P	06 08 36.6	+1.2
	2.0nm,0.8s,baz=332,slow=13,SNR=2.7						
STKA	Stephens Creek	62.22	134	*e*P	P	06 08 36.6	+1.2
	1.0nm,1.1s						
AKASG	Malin Array Be	65.86	321	P	P	06 08 58.5	-0.5
	0.4nm,0.5s,baz=86,slow=6.7,SNR=6.7						
PETK	Petropavlovsk-	66.18	36	LR	LR	06 41 18.1	
	comp=Z,27nm,18.1s,baz=317,slow=39						
AGG	Agios Georgios	69.02	308	*e*P	P	06 09 18.0	-1.4
	45nm,1.5s						
FIA1	FINESS Array S	70.22	332	*e*P	P	06 09 26.1	-0.1
	5.8nm,0.9s						
FIA0	FINESS Array S	70.22	332	*e*P	P	06 09 25.6	-0.6
FINES	FINESS Array B	70.22	332	P	P	06 09 25.5	-0.6
	2.1nm,0.6s,baz=83,slow=6.5,SNR=7.8						
TTG	Podgorica	71.53	311	*e*P	P	06 09 34.6	0.0
	18nm,1.3s						
ARA0	ARCESS Array S	72.69	340	*e*P	P	06 09 41.0	0.0
ARCES	ARCESS Array B	72.69	340	P	P	06 09 41.0	0.0
	2.3nm,0.6s,baz=93,slow=5.4,SNR=9.5						
GEA0	GERESS Array S	75.61	318	*e*P	P	06 09 57.9	-0.7
GERES	GERESS Array B	75.61	318	P	P	06 09 59.0	+0.4
	1.5nm,0.7s,baz=90,slow=6.7,SNR=12						
HFS	Hagfors	76.01	329	P	P	06 09 59.9	-0.6
	0.6nm,0.4s,baz=106,slow=11,SNR=3.1						
SPITS	Spitsbergen Ar	77.22	348	P	P	06 10 06.0	-1.1
	6.3nm,0.9s,baz=124,slow=4.4,SNR=3.7						
NB200	NORSAR Array S	77.27	330	*e*P	P	06 10 07.1	-0.6
NOA	NORSAR Array B	77.27	330	P	P	06 10 07.1	-0.6
	0.8nm,0.7s,baz=177,slow=6.2,SNR=2.6						
KEST	Kesra	79.41	305	P	P	06 10 20.7	+0.6
	1.3nm,0.5s,baz=45,slow=5.7,SNR=2.9						
EKA	Eskdalemuir Ar	85.35	325	P	P	06 10 49.2	-1.4
	1.3nm,0.8s,baz=222,slow=33,SNR=2.8						
ESDC	Sonseca Array	89.22	310	P	P	06 11 09.8	+0.1
	0.1nm,0.3s,baz=70,slow=4.3,SNR=2.8						
ILAR	Eielson Array	92.52	22	LR	LR	06 59 35.9	
	comp=Z,53nm,18.7s,baz=174,slow=40						
KEBM	Edson Butte	116.56	30	*e*PKPdf	PKPdf	06 16 57.5	-0.3
PINE	Pine Mountain	117.49	28	*e*PKPdf	PKPdf	06 17 00.3	+0.5

TRN 16 06:01:20.1, 13°.97N×60°.47W, h4km, MD3.9, Windward Islands

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

SLW	Petit Monier	0.46	276	*e*P		Pn	06 01 34.1	+0.6
MCLT	Moule a Chique	0.53	241	*e*P		Pn	06 01 34.9	+0.5
MCLT				*e*S		Sn	06 01 43.8	0.0
MVM	Montagne Vaucl	0.71	325	*e*P		Pn	06 01 37.3	+0.3
LPMF	Morne Lapointe	0.77	321	*e*P		Pn	06 01 38.3	+0.5
TRMF	Trois Ilets	0.80	315	*e*P		Pn	06 01 38.8	+0.7
SVCV	St. Vincent, C	0.95	223	*e*P		Pn	06 01 42.9	+2.6
SVCV				*e*S		Sn	06 01 58.2	+3.8
FDF	Fort de France	1.00	319	*e*P		Pn	06 01 42.0	+0.9
FDF				*e*S		Sn	06 01 57.7	+2.0
SVB	Belmont	1.03	228	*e*P		Pn	06 01 43.9	+2.6
SVB				*e*S		Sn	06 01 58.8	+2.5
PCM	Pelee Case Pet	1.10	320	*e*P		Pn	06 01 43.6	+1.2
GRHS	Sauteurs	2.08	213	*e*P		Pn	06 01 57.0	+1.2
GRHS				*e*S		Sg	06 02 26.0	-0.9
GRGR	Grenville	2.16	212	*e*P		Pb	06 01 58.6	-1.3
GRGR				*e*S		Sg	06 02 28.9	-0.7

CSEM **16** *06:02:49.9±0.2, 39°.29N×38°.99E, h5km, ML2.9, Error ellipse: s-maj=4.3km s-min=3.7km az=169.0*

DDA **16** *06:02:49.9, 39°.31N×38°.99E, h7km, Ml2.9*

ISK **16** *06:02:49.9, 39°.31N×38°.99E, h8km, ML2.8/5*

ISCJB **16** *06:02:50.2±0.6, 39°.30N±0°.03×39°.00E±0°.03, h6km±5km, Error ellipse: s-maj=4.6km s-min=4.2km az=157.7*

ISC 16 06:02:50.0±1.0, 39°.30N±0°.02×38°.99E±0°.02, h11km±9km, n35, σ0s66/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	Refahiye_ERZ	0.20	299	*i* P	Pg	06 03 02.1	+7.7
ILIC	ilic-Erzincan	0.36	295	PG	**Pg**	**06 02 57.6**	**+0.4**
ILIC				SG	**Sb**	**06 03 03.1**	**-1.2**
ILIC	ilic-Erzincan	0.36	295	*e*Pg	**Pg**	**06 02 57.6**	**+0.4**
ILIC				*e*Sg	**Sb**	**06 03 03.1**	**-1.2**
KEMA	Kemaliye	0.39	266	*i* P	**Pg**	**06 02 57.2**	**-0.5**
KEMA	Kemaliye	0.39	266	P	**Pg**	**06 02 57.2**	**-0.5**
TNCL	Tunceli-Merkez	0.47	113	*i* P	**Pg**	**06 02 59.1**	**0.0**
TNCL	Tunceli-Merkez	0.47	113	P	**Pg**	**06 02 59.1**	**0.0**
PTK	Pertek	0.51	142	PG	**Pb**	**06 03 00.9**	**-0.3**
PTK				SG	**Sb**	**06 03 08.3**	**-0.4**
PTK	Pertek	0.51	142	*e*Pg	**Pb**	**06 03 00.9**	**-0.3**
PTK				*e*Sg	**Sb**	**06 03 08.3**	**-0.4**
KELT	Kelkit	0.87	13	*i* P	**Pg**	**06 03 06.4**	**-0.5**
KELT				*i* S	**Sg**	**06 03 17.7**	**-0.6**
KELT	Kelkit	0.87	13	P	**Pg**	**06 03 06.4**	**-0.5**
KELT				S	**Sg**	**06 03 17.7**	**-0.6**
HEKM	Malatya_Hekimh	0.91	243	*i* P	**Pb**	**06 03 07.9**	**+0.1**
HEKM				*i* S	**Sb**	**06 03 20.9**	**+0.9**
HEKM	Malatya_Hekimh	0.91	243	P	**Pb**	**06 03 07.9**	**+0.1**
HEKM				S	**Sb**	**06 03 20.9**	**+0.9**
MALT	Malatya	1.08	204	PN	**Pb**	**06 03 10.9**	**+0.2**
MALT				SN	**Sn**	**06 03 26.2**	**0.0**
MALT	Malatya	1.08	204	*e*Pn	**Pb**	**06 03 10.9**	**+0.2**
MALT				*e*Sn	**Sn**	**06 03 26.2**	**0.0**
SUSE	Susehri	1.09	327	*i* P	**Pg**	**06 03 10.4**	**-0.6**
SUSE				*i* S	**Sb**	**06 03 26.0**	**+0.6**
SUSE	Susehri	1.09	327	P	**Pg**	**06 03 10.4**	**-0.6**
SUSE				S	**Sb**	**06 03 26.0**	**+0.6**
CUZAR	Zara_SIVAS	1.11	302	*i* P	**Pg**	**06 03 11.2**	**-0.2**
CUZAR				*i* S	**Sn**	**06 03 27.7**	**+0.6**
CUZAR	Zara_SIVAS	1.11	302	P	**Pg**	**06 03 11.2**	**-0.2**
CUZAR				S	**Sn**	**06 03 27.7**	**+0.6**
CUKAN	kangal_SIVAS	1.18	271	*i* P	**Pg**	**06 03 12.0**	**-0.7**
CUKAN				*i* S	**Sb**	**06 03 28.6**	**+0.7**
CUKAN	kangal_SIVAS	1.18	271	P	**Pg**	**06 03 12.0**	**-0.7**
CUKAN				S	**Sb**	**06 03 28.6**	**+0.7**
AKCD	Akcadag	1.30	220	*i* P	**Pn**	**06 03 12.6**	**-1.7**
AKCD	Akcadag	1.30	220	P	**Pn**	**06 03 12.6**	**-1.7**
KOPT	Kop Dagi	1.37	58	*i* P	**Pg**	**06 03 17.0**	**+0.7**
KOPT	Kop Dagi	1.37	58	P	**Pg**	**06 03 17.0**	**+0.7**
BAYB	BAYBURT	1.37	45	*i* P	**Pb**	**06 03 15.8**	**0.0**
BAYB	BAYBURT	1.37	45	P	**Pb**	**06 03 15.8**	**0.0**
DARE	Darende-Malaty	1.38	239	PN	**Pn**	**06 03 15.7**	**+0.3**
DARE				SN	**Sg**	**06 03 35.7**	**+1.2**
DARE	Darende-Malaty	1.38	239	*e*Pn	**Pn**	**06 03 15.7**	**+0.3**
DARE				*e*Sn	**Sg**	**06 03 35.7**	**+1.2**
BAYT	Ayd¯–ntepe-Bay	1.41	39	PN	**Pn**	**06 03 15.9**	**+0.1**
BAYT				SN	**Sg**	**06 03 35.7**	**+0.4**
BAYT	Ayd¯–ntepe-Bay	1.41	39	*e*Pn	**Pn**	**06 03 15.9**	**+0.1**
BAYT				*e*Sn	**Sg**	**06 03 35.7**	**+0.4**
SVSK	Karacayir	1.66	293	PN	**Pb**	**06 03 20.4**	**-0.2**
SVSK	Karacayir	1.66	293	*e*Pn	**Pb**	**06 03 20.4**	**-0.2**
CUALT	Altinyayla-SIV	1.73	270	*i* P	**Pb**	**06 03 22.2**	**+0.3**
CUALT	Altinyayla-SIV	1.73	270	P	**Pb**	**06 03 22.2**	**+0.3**

NIED **16** *06:09:00, 40°.90N×145°.20E, h11km, Mw3.7 Best double couple: M₀3.37000×10¹⁴ NP1:φs352.00000°, δ84.00000°, λ176.00000°. NP2:φs82.00000°, δ86.00000°, λ6.00000°.*

JMA 16 06:09:16.1±0.2, 40°.92N×145°.18E, h67km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	Erimo	1.87	306	P	Pn	06 09 46.7	+0.8
JEM				*e*S	Sn	06 10 07.6	-1.0
JAK	Akkeshi	2.11	350	P	Pn	06 09 49.7	+0.6
JAK				*e*S	Sn	06 10 13.9	-0.3
JCH	Churui	2.17	322	P	Pn	06 09 50.8	+0.8
JCH				*e*S	Sn	06 10 15.4	-0.4
JOB	Onbets	2.22	334	*e*S	Sn	06 10 17.8	+0.8
JNBK	Urakawa-nobuka	2.27	308	*e*S	Sn	06 10 19.2	+0.9
NEM2	Nemuro 2	2.48	10	*e*S	Sn	06 10 22.9	-0.4
JAR	Ashorobuto	2.60	337	P	Pn	06 09 56.2	+0.5
JAR				*e*S	Sn	06 10 25.3	-0.9
JNK	Nakash	2.69	353	P	Pn	06 09 57.5	+0.5
JNK				*e*S	Sn	06 10 26.9	-1.4
JBT2	Biratori 2	2.81	312	P	Pn	06 09 59.8	+1.2
JBT2				*e*S	Sn	06 10 32.6	+1.3
JANG	Nango	2.84	260	P	Pn	06 09 59.0	-0.1
JANG				*e*S	Sn	06 10 29.2	-3.0
JFR	Furan	2.96	320	P	Pn	06 10 01.9	+1.3
JFR				*e*S	Sn	06 10 34.1	-0.9
JRA	Rausu	3.02	359	*e*S	Sn	06 10 35.7	-0.7
JOT	Ohata	3.15	280	P	Pn	06 10 04.0	+0.7
JOT				*e*S	Sn	06 10 38.8	-1.0
JTKR	Abashiri--Toko	3.19	343	*e*S	Sn	06 10 41.3	+0.7
JKB	Kayabe	3.27	289	*e*S	Sn	06 10 42.4	-0.1
JOM	Ohasama	3.31	245	P	Pn	06 10 06.3	+0.8
JOM				*e*S	Sn	06 10 41.8	-1.8
JEW	Eniwo	3.38	306	*e*S	Sn	06 10 46.9	+1.6

GUC **16** *06:20:04.8±0.4, 36°.94S×74°.23W, h17km±2km, ML4.5*

ISCJB **16** *06:20:11.4±1.6, 36°.91S±0°.04×73°.65W±0°.09, h30km±11km, mb4.6/65, MS3.9/11, Error ellipse: s-maj=11.6km s-min=6.0km az=174.1*

NEIC **16** *06:20:12.5±1.8, 36°.90S×73°.60W, h27km±12km, mb4.7/56, ML4.5(GUC), Error ellipse: s-maj=9.3km s-min=4.8km az=78.0*

IDC **16** *06:20:12.7±5.5, 36°.93S×73°.70W, h28km±37km, mb4.2/14, mb1 4.3/16, mb1mx4.2/33, mbtmp4.4/16, ML3.5/2, MS3.9/12, Ms1 3.9/12, ms1mx3.6/30, Error ellipse: s-maj=27.8km s-min=15.3km az=79.0*

ISC 16 06:20:08.2±3.0, 36°.94S±0°.04×73°.98W±0°.07, h4km±18km, n139, σ1s48/134, mb4.7/65, MS3.9/11, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	San Pedro de C	0.71	82	*e*P	**Pb**	**06 20 22.3**	**-0.7**
CCSP				*e*S	**Sn**	**06 20 35.3**	**-0.9**
CCSP				IAML		06 20 37.8	
	comp=N,28μm,0.4s						
COCH	Cobquecura	1.26	50	*e*P	**Pb**	**06 20 33.2**	**+0.8**
COCH				*e*S	**Sn**	**06 20 55.6**	**+5.8**
COCH	Cobquecura	1.26	50	*e*P	**Pn**	**06 20 30.4**	**-2.0**
COCH				*e*S	**Sn**	**06 20 50.1**	**+0.3**
CCHI	Chillan	1.57	78	*e*P	**Pb**	**06 20 39.7**	**+2.1**
CCHI	Chillan	1.57	78	*e*P	**Pn**	**06 20 36.1**	**-0.6**
CCHI				*e*S	**Sb**	**06 21 00.1**	**+2.3**
CCHI				IAML		06 21 06.7	
	comp=E,7μm,0.7s						
TMU	Temuco	2.10	149	*e*P	**Pn**	**06 20 43.3**	**-0.7**
TMU				*e*S	**Sb**	**06 21 12.1**	**-1.0**
TMU				IAML		06 21 21.6	
	comp=N,5μm,0.8s						
CANA	Caviahue	2.51	113	*e*P	**Pn**	**06 20 50.5**	**+0.6**

GO05	HualaæØ	2.55	41	*e*Pn		**Pn**	**06 20 48.1**	**-2.1**
GO05	HualaæØ	2.55	41	*e*P		**Pn**	**06 20 49.5**	**-0.8**
GO05	HualaæØ	2.55	41	*e*P		**Pn**	**06 20 49.7**	**-0.6**
GO05				*e*S		**Sb**	**06 21 24.3**	**-1.8**
GO05				IAML			06 21 42.5	
	comp=E,2μm,1.5s							
GO06	Curarrehue	3.30	144	*e*P		**Pn**	**06 21 00.4**	**-0.2**
GO06				*e*S		**Sn**	**06 21 42.6**	**+2.3**
GO06				IAML			06 22 02.2	
	comp=E,794nm,0.9s							
PLCA	Paso Flores	4.64	146	Pn		**Pn**	**06 21 18.9**	**-0.2**
	comp=E,0.5nm,0.3s,baz=343,slow=13,SNR=38							
PLCA				Lg		Lg	06 22 37.9	
	comp=E,5.1nm,0.3s,baz=238,slow=20,SNR=5.8							
PLCA	Paso Flores	4.64	146	*e*Pn		**Pn**	**06 21 19.2**	**+0.2**
PLCA				Lg		Lg	06 22 37.9	
PLCA	Paso Flores	4.64	146	*e*P		Pn	06 21 25.3	+6.3
PLCA				*e*S		Sb	06 22 38.6	+12
PLCA				IAML			06 22 53.0	
	comp=Z,103nm,0.8s							
ROC1	El Roble	4.64	32	*e*Pn		**Pn**	**06 21 17.6**	**-1.7**
ROC1	El Roble	4.64	32	*e*P		**Pn**	**06 21 18.3**	**-1.0**
AAGR	Agrelo	5.72	49	*e*P		**Pn**	**06 21 34.8**	**+0.9**
ARCO	CERRO ARCO	5.83	47	*e*P		**Pn**	**06 21 35.6**	**+0.1**
ARCO				IAML			06 22 04.9	
	comp=E,56nm,0.6s							
ARCO				*e*S		Sb	06 23 24.6	+24
AUSP	Uspallata	6.04	40	*e*P		**Pn**	**06 21 38.9**	**+0.4**
ASAL	Salagasta	6.06	46	*e*P		**Pn**	**06 21 38.8**	**+0.1**
RTLS	Leoncito	6.43	38	*e*P		**Pn**	**06 21 43.7**	**-0.2**
RTLS				IAML			06 23 36.6	
	comp=Z,34nm,0.6s							
RTCV	Cerro Valdivia	6.77	43	*e*P		**Pn**	**06 21 47.3**	**-1.0**
RTLL	Cerro Villicun	7.22	41	*e*P		**Pn**	**06 21 53.3**	**-1.2**
ACAN	Cantantal	7.28	52	*e*P		**Pn**	**06 21 55.3**	**-0.1**
AMOG	MOGNA	7.52	39	*e*P		**Pn**	**06 21 57.6**	**-1.1**
LCO	Las Campanas	8.37	20	*e*Pn		**Pn**	**06 22 07.9**	**-2.6**
APLL	PUNTA DE LOS L	9.01	46	*e*P		**Pn**	**06 22 16.7**	**-2.4**
APLL				IAML			06 22 32.9	
	comp=Z,4.4nm,0.6s							
TRQA	Tornquist	9.60	100	*e*Pn		**Pn**	**06 22 24.9**	**-2.2**
CHRN	Cochrane	10.35	175	*e*Pn		**Pn**	**06 22 38.3**	**+1.0**
PB01	IPOC Station P	16.32	15	*e*Pn		**Pn**	**06 23 56.9**	**-1.3**
	comp=Z,22nm,1.0s							
PB11	IPOC Station P	17.53	14	*e*Pn		P	**06 24 16.5**	**+1.7**
	comp=Z,33nm,1.0s							
CPUP	Villa Florida	17.66	58	P		**Pn**	**06 24 15.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=3.5							
CPUP				LR		LR	06 32 02.8	
	comp=Z,757nm,18.4s,baz=236,slow=41							
MNMC	Minye Minye	18.16	13	*e*Pn		**Pn**	**06 24 21.6**	**+0.1**
	comp=Z,16nm,0.8s							
EFI	East Falkland	18.56	148	*e*P		**Pn**	**06 24 26.2**	**+0.3**
	comp=Z,126nm,1.4s							
LPAZ	La Paz	21.22	16	P		P	**06 24 56.6**	**+1.0**
	comp=Z,11nm,1.1s,baz=162,slow=7.5,SNR=11							
LPAZ	La Paz	21.22	16	*e*P		P	**06 24 56.3**	**+0.7**
	comp=Z,14nm,1.0s							
SIV	San Ignacio	23.80	32	P		P	**06 25 20.8**	**-1.3**
	comp=Z,9.9nm,1.0s,baz=228,slow=11,SNR=29							
SAML	Samuel	29.54	22	*e*P		P	**06 26 13.4**	**-0.5**
	comp=Z,18nm,1.7s							
HOPE	Hope Point	30.96	136	*e*P		P	06 26 20.4	-5.7
	comp=Z,85nm,1.6s							
RPN	Rapa Nui	31.37	278	LR		LR	06 35 04.7	
	comp=Z,227nm,18.6s,baz=124,slow=28							
PTGA	Pitinga	38.29	23	*e*P		P	**06 27 29.3**	**-0.6**
	comp=Z,17nm,1.4s							
PRAC	Prado	40.45	359	*e*P		P	**06 27 49.9**	**+2.0**
	comp=Z,52nm,1.6s							
RUSC	La Rusia	42.62	1	*e*P		P	**06 28 06.5**	**+0.4**
	comp=Z,24nm,1.7s							
HEL

SMCO Snowmass 81.62 335 *e*P P **P** 06 32 28.8 +1.3
comp=Z,9.8nm,1.4s
KNB Kanab 81.91 330 *e*P P **P** 06 32 29.9 +1.0
comp=Z,11nm,1.4s
SHPR Sheep Range 82.45 328 *e*P P **P** 06 32 33.3 +1.6
comp=Z,4.6nm,1.2s
LBTB Lobatse 82.49 116 *e*P P **P** 06 32 32.0 -0.3
comp=Z,14nm,1.4s
N23A Red Feather La 82.82 336 *e*P P **P** 06 32 35.2 +1.5
comp=Z,5.5nm,1.1s
SRU San Rafael Swe 82.83 332 *e*P P **P** 06 32 35.8 +2.1
comp=Z,18nm,2.0s
ECSD EROS Data Cent 82.89 344 *e*P P **P** 06 32 34.1 +0.5
comp=Z,6.3nm,1.0s
Q16A Castle Valley 82.91 332 *e*P P **P** 06 32 36.6 +2.5
comp=Z,4.9nm,1.0s
MSU Marysvale 82.94 331 *e*P P **P** 06 32 36.5 +2.2
P18A Preston Nutter 83.18 333 *e*P P **P** 06 32 37.3 +1.7
comp=Z,24nm,1.6s
ISA Isabella, Lake 83.22 325 *e*P P **P** 06 32 37.1 +1.5
comp=Z,4.7nm,1.0s
P17A Butcher Ranch, 83.23 332 *e*P P **P** 06 32 37.1 +1.5
comp=Z,4.8nm,1.1s
KOWA Kowa 83.28 66 P P **P** 06 32 36.2 -0.1
comp=Z,4.3nm,0.7s,baz=235,slow=5.5,SNR=15
KOWA LR LR 07 09 12.6
comp=Z,83nm,18.3s,baz=209,slow=35
KOWA Kowa 83.28 66 *e*P P **P** 06 32 36.4 +0.1
comp=Z,6.1nm,0.8s
DAC Darwin (Calif) 83.33 326 *e*P P **P** 06 32 36.8 +0.5
comp=Z,9.9nm,1.5s
MPU Maple Canyon 84.04 332 *e*P P **P** 06 32 41.5 +1.6
comp=Z,7.6nm,1.3s
R11A Troy Canyon, C 84.19 328 *e*P P **P** 06 32 42.2 +1.6
comp=Z,2.4nm,1.0s
DUG Dugway, Tooele 84.64 331 *e*P P **P** 06 32 43.8 +0.9
comp=Z,5.2nm,1.2s
TCUT Toone Canyon 84.91 333 *e*P P **P** 06 32 46.0 +1.7
comp=Z,8.3nm,0.7s
RSSD Black Hills 85.17 339 *e*P P **P** 06 32 46.7 +1.2
comp=Z,3.2nm,0.8s
HWUT Hardware Ranch 85.40 333 *e*P P **P** 06 32 48.0 +1.4
comp=Z,6.2nm,1.1s
NV01 Mina Array Sit 85.42 327 *e*P P **P** 06 32 48.9 +2.0
NVAR Mina Array Bea 85.42 327 P P **P** 06 32 48.2 +1.3
comp=Z,0.5nm,0.5s,baz=167,slow=5.5,SNR=6.3
SPUT South Promonto 85.47 332 *e*P P **P** 06 32 48.6 +1.6
comp=Z,11nm,1.6s
PDAR Pinedale Array 85.70 335 P P **P** 06 32 49.5 +1.3
comp=Z,0.9nm,0.8s,baz=159,slow=4.5,SNR=6.5
PDAR LR LR 07 05 56.4
comp=Z,55nm,20.6s,baz=267,slow=32
PDAR Pinedale Array 85.70 335 *e*P P **P** 06 32 48.7 +0.5
HVU Hansel Valley 86.00 332 *e*P P **P** 06 32 51.6 +2.0
comp=Z,16nm,2.0s
TOA0 Torodi Ar. Sit 86.68 71 *e*P P **P** 06 32 52.4 -1.1
TORD Torodi Ar. Bea 86.68 71 P P **P** 06 32 52.4 -1.0
comp=Z,3.0nm,1.2s,baz=230,slow=4.2,SNR=6.8
TORD LR LR 07 08 34.0
comp=Z,36nm,21.7s,baz=90,slow=34
TPAW Teton Pass 86.82 334 *e*P P **P** 06 32 54.4 +0.6
comp=Z,9.3nm,1.4s
AFI Afiamalu 87.86 254 LR LR 07 03 05.3
comp=Z,41nm,18.0s,baz=230,slow=29
ULM Lac du Bonnet 88.94 346 P P **P** 06 33 04.8 +1.4
comp=Z,2.7nm,1.1s,baz=156,slow=4.3,SNR=3.6
NEW Newport 93.13 333 LR LR 07 11 32.7
comp=Z,38nm,21.9s,baz=222,slow=33
RC01 Rabbit Creek A 115.29 329 *e*PKPdf **PKPdf** 06 38 51.2 +1.2
PMR Palmer 115.30 329 *e*PKPdf **PKPdf** 06 38 48.1 -1.8
TRF Thorofare Moun 116.70 331 *e*PKPdf **PKPdf** 06 38 53.2 +0.3
TIXI Tiksi 143.27 348 *e*PKPdf **PKPdf** 06 39 43.3 +0.9
AKTO Aktyubinsk 143.41 53 PKP **PKPdf** 06 39 42.5 -0.9
comp=Z,1.2nm,0.8s,baz=315,slow=4.3,SNR=2.9
ABKAR Akbulak array 144.71 55 *e*PKPdf PKPbc 06 39 44.4 -0.2
PSI Prapat 145.40 167 *e*PKPbc **PKPbc** 06 39 46.8 -1.1
HYB Hyderabad 148.95 121 *i* PKP **PKPbc** 06 39 57.0 -0.8
BVAR Borovoye Array 150.49 46 PKPbc **PKPbc** 06 40 00.8 +0.4
comp=Z,0.8nm,0.7s,baz=276,slow=2.6,SNR=4.4
KSH Kashi 156.31 75 *e*PKP **PKPdf** 06 40 03.4 -0.7
KSH sPKP 06 40 16.8
KSH PP **PP** 06 44 07.8 -2.7
MKAR Makanchi Array 159.84 53 PKPab **PKPab** 06 40 46.5 -0.7
comp=Z,0.4nm,0.8s,baz=299,slow=3.7,SNR=3.8
SONM Songino Array 169.11 359 PKPab **PKPab** 06 41 27.8 0.0
comp=Z,0.7nm,0.9s,baz=336,slow=3.2,SNR=2.2
GTA Gaotai 174.53 61 *e*PKP **PKPdf** 06 40 18.0 -1.1
LZH Lanzhou 178.05 115 *e*PKP **PKPdf** 06 40 14.8 -5.3
LZH pPKP pPKPdf 06 40 22.3 +0.8
LZH sPKP 06 40 26.0

NIED **16** *06:26:00, 39˚.50N× 144˚.30E, h8km, Mw4.1 Best double couple: M0 1.46000×10^15 NP1:φs 18.00000°, δ29.00000°, λ-104.00000°. NP2:φs 214.00000°, δ62.00000°, λ-82.00000°.*

IDC **16** *06:26:09.4± 0.6, 39˚.25N× 144˚.53E, h0km, mb3.9/25, mb1 4.1/30, mb1mx4.1/69, mbtmp4.0/30, ML3.6/5, MS3.2/12, Ms1 3.2/12, ms1mx2.9/59, Error ellipse: s-maj=16.3km s-min=13.2km az=141.0*

ISCJB **16** *06:26:11.6± 1.1, 39˚.48N± 0˚.03× 144˚.33E± 0˚.03, h20km± 8km, mb4.4/70, MS3.5/10, Error ellipse: s-maj=5.6km s-min=3.4km az=149.8*

BJI **16** *06:26:11.1, 39˚.55N× 144˚.88E, h39km, mb4.5/22, mB5.0/14, Ms4.4/6, Ms7 4.2/4*

NEIC **16** *06:26:12.9± 1.5, 39˚.35N× 144˚.46E, h20km± 10km, mb4.8/32, Error ellipse: s-maj=6.6km s-min=3.9km az=147.0*

MOS **16** *06:26:13.0± 1.0, 39˚.43N× 144˚.43E, h34km, mb4.3/14, Error ellipse: s-maj=10.5km s-min=5.7km az=88.0*

JMA **16** *06:26:14.0± 0.2, 39˚.50N× 144˚.29E, h60km, M4.3*

ISC 16 06:26:11.9±2.4, 39˚.40N± 0˚.05× 144˚.49E± 0˚.05, h15km± 15km, n152, σ1§94/170, mb4.5/70, MS3.5/10, 4C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.07**	**276**	P		**Pn**	**06 26 45.0**	**-1.2**
MIYJ				*e*S		**Sn**	**06 27 08.0**	**-3.8**
JTH	**Tanohata**	**2.10**	**286**	P		**Pn**	**06 26 45.0**	**-1.5**
JTH				S		**Sn**	**06 27 08.6**	**-3.8**
OFUJ	**Ofunato**	**2.21**	**263**	P		**Pn**	**06 26 47.0**	**-1.2**
OFUJ				S		**Sn**	**06 27 11.1**	**-4.2**
JOM	**Ohasama**	**2.48**	**273**	P		**Pn**	**06 26 51.0**	**-0.8**
JOM				S		**Sn**	**06 27 18.3**	**-3.5**
JANG	**Nango**	**2.48**	**294**	P		**Pn**	**06 26 50.1**	**-1.8**
JMK	**Ichinoseki**	**2.58**	**261**	P		**Pn**	**06 26 52.2**	**-1.0**
JMK				S		**Sn**	**06 27 20.5**	**-3.8**
ERM	**Erimo**	**2.80**	**339**	*e*P		**Pn**	**06 26 55.6**	**-0.6**
ERM				*e*			06 27 28.4	
ERM	**Erimo**	**2.80**	**339**	*e*Pn		**Pn**	**06 26 55.5**	**-0.6**
ERM				*e*Sn		**Sn**	**06 27 28.4**	**-1.2**
JYK	**Kaneyama**	**3.25**	**263**	P		**Pn**	**06 27 01.4**	**-1.0**
JOT	**Ohata**	**3.29**	**308**	P		**Pn**	**06 27 01.9**	**-1.0**
JOT				*e*S		**Sn**	**06 27 37.4**	**-4.4**
JCH	**Churui**	**3.32**	**345**	P		**Pn**	**06 27 02.1**	**-1.2**
JCH				*e*S		**Sn**	**06 27 38.2**	**-4.3**
JAK	**Akkeshi**	**3.59**	**2**	P		**Pn**	**06 27 05.6**	**-1.5**
JAK				*e*S		**Sn**	**06 27 45.0**	**-4.2**
JKB	**Kayabe**	**3.62**	**314**	P		**Pn**	**06 27 06.8**	**-0.6**
JKB				*e*S		**Sn**	**06 27 46.3**	**-3.5**
JFT	**Otama**	**3.76**	**241**	P		**Pn**	**06 27 08.6**	**-0.9**
JFT				*e*S		**Sn**	**06 27 49.3**	**-4.3**
NEM2	**Nemuro 2**	**4.07**	**13**	*e*S		**Sn**	**06 27 55.4**	**-5.6**
JTKR	**Abashiri--Toko**	**4.58**	**355**	P		**Pn**	**06 27 19.6**	**-1.1**
JTKR				*e*S		**Sn**	**06 28 09.5**	**-4.2**
JOSM	**Okushiri--Mats**	**4.66**	**307**	P		**Pn**	**06 27 21.0**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**4.74**	**12**	*e*P		**Pn**	**06 27 21.7**	**-1.1**
YUK				*e*S		**Sn**	**06 28 13.2**	**-4.3**
YUK				pmax	pmax			
	comp=Z,145nm,0.3s							
SHO	**Shikotan**	**4.79**	**21**	*e*P		**Pn**	**06 27 21.3**	**-2.3**
SHO				*e*S		**Sn**	**06 28 12.4**	**-6.5**
SHO				pmax	pmax			
	comp=Z,27nm,0.5s							
ASAJ	**Asahikawa**	**4.92**	**344**	Pn		**Pn**	**06 27 25.7**	**+0.4**
ASAJ	comp=Z,4.9nm,0.3s,baz=215,slow=8.7,SNR=9.3			Sn		**Sn**	**06 28 19.8**	**-2.1**
	comp=Z,2.8nm,0.3s,baz=230,slow=8.4,SNR=6.1							
BSO1	**Boso 1**	**5.51**	**212**	P		**Pn**	**06 27 30.3**	**-2.7**
BSO1				*e*S		**Sn**	**06 28 30.5**	**-5.3**
JRY	**Ryogami san**	**5.57**	**234**	P		**Pn**	**06 27 32.7**	**-1.7**
JRY				*e*S		**Sn**	**06 28 32.3**	**-5.9**
MJAR	**Matsushiro Arr 5.72 242**			Pn		**Pn**	**06 27 36.5**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=63,slow=11,SNR=12							
MJAR				Sn		**Sn**	**06 28 40.8**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=18,slow=41,SNR=2.8							
MJAR				LR		LR	06 29 19.8	
	comp=Z,26nm,21.7s,baz=60,slow=34							
MAJO	**Matsushiro 5.73 242**			*e*P		**Pn**	**06 27 36.9**	**+0.4**
MAJO	**Matsushiro 5.73 242**			*e*Pn		**Pn**	**06 27 36.9**	**+0.4**
MAT	**Matsushiro 5.73 242**			P		**Pn**	**06 27 36.7**	**+0.2**
MAT				S		**Sn**	**06 28 41.0**	**-0.9**
MJB9	**Matsu-Tunnel 5.73 242**			*e*Pn		**Pn**	**06 27 36.9**	**+0.5**
KUR	**Kuril'sk 6.34 22**			P		**Pn**	**06 27 45.2**	**+0.4**
KUR				*e*S		**Sn**	**06 28 51.0**	**-5.9**
KUR				smax	smax			
	comp=N,53nm,0.4s							
KUR				smax	smax			
	comp=E,74nm,0.4s							
JHJ	**Hachijo jima 2 7.33 213**			Pn		**Pn**	**06 27 55.8**	**-2.7**
	comp=E,13nm,0.3s,baz=118,slow=21,SNR=3.8							
JHJ				Sn		Sn	06 29 12.1	-9.4
	comp=E,22nm,0.3s,baz=94,slow=21,SNR=4.9							
YSS	**Yuzh-Sakhalins 7.65 351**			*e*P		**Pn**	**06 28 03.0**	**+0.2**
YSS				*e*			06 29 25.0	
USRK	**Ussuriysk Ar. 10.49 301**			Pn		**Pn**	**06 28 43.6**	**+1.9**
	comp=E,0.6nm,0.3s,baz=104,slow=13,SNR=7.6							
USRK				LR		LR	06 32 23.2	
	comp=E,75nm,20.8s,baz=106,slow=35							
JNU	**Nakatsue 12.64 244**			LR		LR	06 34 02.0	
	comp=E,70nm,18.8s,baz=297,slow=38							
KSRS	**Korea Array 13.14 267**			LR		LR	06 33 30.1	
	comp=E,49nm,19.7s,baz=64,slow=33							
KLR	**Kul'dur 13.39 321**			Pn		**Pn**	**06 29 20.5**	**-0.8**
	comp=E,0.0nm,0.3s,baz=136,slow=11,SNR=3.8							
KLR				LR		LR	06 34 23.9	
	comp=E,6.1nm,19.7s,baz=168,slow=36							
KLR	**Kul'dur 13.39 321**			*e*P		**Pn**	**06 29 18.9**	**-2.4**
PETK	**Petropavlovsk- 16.43 29**			Pn		**P**	**06 30 03.5**	**-1.1**
	comp=E,0.1nm,0.3s,baz=193,slow=10.0,SNR=3.9							
PET	**Petropavlovsk 16.74 31**			*e*P		**P**	**06 30 07.6**	**-0.3**
PET				pmax	pmax			
	comp=Z,15nm,1.4s							
HIA	**Hailar 20.18 307**			*i* P		**P**	**06 30 45.9**	**0.0**
MA2	**Magadan 20.58 9**			P		Pn	06 30 51.6	-0.7
	comp=Z,2.5nm,0.4s,baz=177,slow=12,SNR=6.2							
BJI	**Beijing 21.76 281**			*e*P		**P**	**06 31 02.3**	**-0.6**
BJI				pmax	pmax			
	comp=Z,8.0nm,1.1s							
BJI				pmax	pmax			
	comp=Z,140nm,3.4s							
NJ2	**Nanjing 22.02 258**			*e*P		**P**	**06 31 06.4**	**+0.6**
NJ2				pmax	pmax			
	comp=Z,27nm,1.1s							
SEY	**Seymchan 24.04 9**			P		**P**	**06 31 27.7**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=178,slow=6.2,SNR=9.0							
SEY	**Seymchan 24.04 9**			*c*eP		**P**	**06 31 26.2**	**+0.1**
HHC	**Hu-ho-hao-te 25.14 284**			*e*P		**P**	**06 31 36.3**	**-0.2**
HHC				S		**S**	**06 35 54.6**	**-6.3**
HHC				pmax	pmax			
	comp=Z,13nm,0.9s							
HHC				pmax	pmax			
	comp=Z,50nm,4.9s							
HHC				LR	LR			
	comp=Z,79nm,10.3s							
HHC				LR	LR			
	comp=Z,140nm,11.3s							
WHN	**Wuhan 26.14 260**			P		**P**	**06 31 51.4**	**+5.9**
ULN	**Ulaanbaatar 28.16 300**			*i* P		**P**	**06 32 03.0**	**-0.7**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array 28.60 300**			P		**P**	**06 32 08.9**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=96,slow=9.8,SNR=3.9							
SONM				LR		LR	06 43 12.0	
	comp=Z,67nm,18.1s,baz=80,slow=36							
ZAK	**Zakamensk 30.81 305**			*e*P		**P**	**06 32 27.3**	**+0.1**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.5s							
BILL	**Bilibino 31.08 16**			*i* P		**P**	**06 32 28.2**	**-1.0**
BILL				*i*			06 32 44.9	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
LZH	**Lanzhou 32.12 277**			*e*P		**P**	**06 32 41.5**	**+2.6**
LZH				pP		sP	06 32 53.0	+7.8
LZH				sP		pP	06 32 57.1	+14
LZH				pmax	pmax			
	comp=Z,13nm,1.5s							
TIXI	**Tiksi 33.28 351**			*i* P		**P**	**06 32 48.2**	**-0.2**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.1s							
GYA	**Guiyang 34.03 259**			*e*P		**P**	**06 32 52.3**	**-3.3**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CD2	**Chengdu 34.13 268**			*e*P		**P**	**06 32 56.0**	**-0.3**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.0s							
KMI	**Kunming 37.73 261**			P		**P**	**06 33 27.6**	**+0.2**
KMI				pmax	pmax			
	comp=Z,15nm,0.5s							
WMQ	**Urumqi 41.98 295**			P		**P**	**06 34 03.3**	**+0.9**
SVW2	**Sparrevohn 42.16 39**			*e*P		**P**	**06 34 04.9**	**+1.2**
	comp=Z,29nm,1.9s							
ZALV	**Zalesovo Beam 42.16 311**			P		**P**	**06 34 04.3**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=75,slow=11,SNR=2.9							
ZALV				PcP		**PcP**	**06 35 58.0**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=76,slow=3.6,SNR=5.5							
ZALV				LR		LR	06 54 42.5	
	comp=Z,22nm,18.7s,baz=73,slow=40							
ZALV	**Zalesovo Beam 42.16 311**			*e*P		**P**	**06 34 04.7**	**+1.0**
ZALV				*e*PcP		**PcP**	**06 35 58.2**	**+0.4**
PPLA	**Purkeypile 43.84 36**			*e*P		**P**	**06 34 18.4**	**+1.1**
	comp=Z,17nm,1.4s							
CMAR	**Chiang Mai Arr 44.44 255**			LR		LR	06 52 04.8	
	comp=Z,4.5nm,20.3s,baz=235,slow=35							
SUA	**Susitna One 44.51 38**			*e*P		**P**	**06 34 23.7**	**+1.1**
	comp=Z,41nm,2.0s							
TRF	**Thorofare Moun 44.71 35**			*e*P		**P**	**06 34 25.6**	**+1.3**
	comp=Z,12nm,1.6s							
MK01	**Makanchi Array 44.95 301**			*e*P		**P**	**06 34 26.4**	**+0.1**
MK31	**Makanchi Array 44.96 301**			*e*P		**P**	**06 34 26.5**	**+0.2**
MK31	**Makanchi Array 44.96 301**			*e*P		**P**	**06 34 26.5**	**+0.2**
MKAR	**Makanchi Array 44.96 301**			P		**P**	**06 34 26.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=84,slow=9.1,SNR=8.3							
MKAR				LR		LR	06 53 13.0	
	comp=Z,34nm,19.0s,baz=359,slow=36							
MKAR	**Makanchi Array 44.96 301**			*e*P		**P**	**06 34 26.3**	**0.0**
	comp=Z,14nm,0.7s							
RC01	**Rabbit Creek A 45.00 39**			*e*P		**P**	**06 34 26.9**	**+0.4**
	comp=Z,25nm,1.6s							
MAKZ	**Makanchi 45.16 301**			*e*P		**P**	**06 34 28.4**	**+0.4**
MAKZ				pmax	pmax			
	comp=Z,8.0nm,0.5s							
MAKZ	**Makanchi 45.16 301**			*e*P		**P**	**06 34 28.4**	**+0.4**
	comp=Z,8.4nm,0.5s							
RND	**Reindeer 45.35 36**			*e*P		**P**	**06 34 29.8**	**+0.5**
RND				pmax	pmax			
	comp=Z,5.0nm,1.0s							
RND	**Reindeer 45.35 36**			*e*P		**P**	**06 34 29.8**	**+0.5**
	comp=Z,4.7nm,1.0s							
MDM	**Murphy Dome 45.62 33**			*e*P		**P**	**06 34 32.1**	**+0.8**
	comp=Z,4.3nm,1.0s							
SML	**Sawmill 45.65 38**			*e*P		**P**	**06 34 31.9**	**+0.3**
SML				pmax	pmax			
	comp=Z,16nm,1.3s							
SML	**Sawmill 45.65 38**			*e*P		**P**	**06 34 31.9**	**+0.3**
	comp=Z,16nm,1.3s							
DHY	**Denali Highway 46.03 36**			*e*P		**P**	**06 34 35.5**	**+0.7**
	comp=Z,20nm,1.8s							
SCM	**Sheep Creek Mo 46.12 38**			*e*P		**P**	**06 34 36.4**	**+1.0**
SCM				pmax	pmax			
	comp=Z,69nm,2.0s							
SCM	**Sheep Creek Mo 46.12 38**			*e*P		**P**	**06 34 36.4**	**+1.0**
	comp=Z,69nm,2.0s							
HDA	**Harding Lake 46.17 34**			*e*P		**P**	**06 34 35.9**	**+0.2**
	comp=Z,16nm,1.0s							
IL1	**Eielson Array 46.19 34**			*e*P		**P**	**06 34 36.4**	**+0.6**
ILAR	**Eielson Array 46.19 34**			P		**P**	**06 34 36.2**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=261,slow=6.6,SNR=22							
ILB	**Eielson Array 46.19 34**			*e*P		**P**	**06 34 36.3**	**+0.4**
KURK	**Kurchatov 46.42 307**			*e*P		**P**	**06 34 38.0**	**+0.2**
KURK							06 36 13.1	
KURK				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KURK	**Kurchatov 46.42 307**			*e*P		**P**	**06 34 38.0**	**+0.2**
	comp=Z,8.1nm,0.6s							
KURK				PcP		**PcP**	**06 36 13.1**	**+0.8**
KURBB	**Kurchatov Arra 46.49 307**			P		**P**	**06 34 38.7**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=81,slow=8.1,SNR=12							
KURBB				PcP		**PcP**	**06 36 13.1**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=83,slow=3.8,SNR=3.0							
KLU	**Klutina 46.82 38**			*e*P		**P**	**06 34 42.1**	**+1.3**
	comp=Z,2.6nm,1.0s							
DIV	**Divide 46.92 39**			*e*P		**P**	**06 34 41.6**	**0.0**
	comp=Z,13nm,1.3s							
RIDG	**Independ'e Rid 47.13 35**			*e*P		**P**	**06 34 43.2**	**0.0**
	comp=Z,31nm,2.0s							
DOT	**Dot Lake 47.48 35**			*e*P		**P**	**06 34 46.2**	**+0.2**
	comp=Z,22nm,2.0s							
MENT	**Mentasta 47.70 36**			*e*P		**P**	**06 34 49.0**	**+1.3**
	comp=Z,5.8nm,1.2s							
EGAK	**Eagle 48.64 33**			*e*P		**P**	**06 34 55.1**	**+0.3**
	comp=Z,13nm,1.8s							
DAWY	**Dawson 49.49 34**			*e*P		**P**	**06 35 02.6**	**+1.1**
	comp=Z,2.6nm,1.3s							
BVAR	**Borovoye Array 50.80 311**			P		**P**	**06 35 12.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=72,slow=15,SNR=3.3							
BRVK	**Borovoye 50.85 312**			*i* P		**P**	**06 35 11.4**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,14nm,3.7s							
HYT	**Haines Junctio 50.95 38**			*e*P		**P**	**06 35 13.9**	**+1.3**
	comp=Z,4.9nm,0.9s							
INK	**Inuvik 51.17 28**			P		**P**	**06 35 14.4**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=306,slow=7.1,SNR=6.7							
INK	**Inuvik 51.17 28**			*e*P		**P**	**06 35 15.1**	**+1.2**
INK	**Inuvik 51.17 28**			*e*P		**P**	**06 35 15.1**	**+1.2**
AAK	**Ala-Archa 51.52 298**			LR		LR	06 57 53.9	
	comp=Z,32nm,18.1s,baz=78,slow=37							
KSH	**Kashi 51.67 293**			P		**P**	**06 35 23.1**	**+4.7**
KSH				pP		sP	06 35 33.1	+8.3
KSH				S		**S**	**06 42 43.1**	**+3.8**
KSH				sS		sS	06 42 59.1	+12
KSH				pmax	pmax			
	comp=Z,6.0nm,1.3s							
KSH				pmax	pmax			
	comp=Z,190nm,5.7s							
KSH				LR	LR			
	comp=Z,110nm,7.1s							
KSH				LR	LR			
	comp=Z,110nm,6.4s							
KSH				LR	LR			
	comp=Z,210nm,6.3s							
ARU	**Arti 56.20 318**			LR		LR	07 02 11.6	
	comp=Z,48nm,18.3s,baz=310,slow=38							
ARU	**Arti 56.20 318**			*d* P		P	06 36 09.4	+18
ARU				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ABKAR	**Akbulak array 58.27 310**			*e*P		**P**	**06 36 06.0**	**+0.3**
	comp=Z,14nm,0.6s							
AKTO	**Aktyubinsk 58.90 312**			P		**P**	**06 36 10.3**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=48,slow=9.4,SNR=4.3							
RES	**Resolute Bay 59.69 15**			P		**P**	**06 36 16.0**	**+0.7**
	comp=Z,4.7nm,0.9s,baz=316,slow=6.7,SNR=17							
RES	**Resolute Bay 59.69 15**			*e*P		**P**	**06 36 15.9**	**+0.7**
RES				pmax	pmax			
	comp=Z,6.0nm,0.9s							
RES	**Resolute Bay 59.69 15**			*e*P		**P**	**06 36 15.9**	**+0.7**
	comp=Z,5.8nm,0.9s							
WRA	**Warramunga Arr 59.79 191**			P		**P**	**06 36 14.8**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=8.7,slow=6.9,SNR=9.5							
WRA	**Warramunga Arr 59.79 191**			*c*eP		**P**	**06 36 15.1**	**-1.4**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar 60.53 32**			P		**P**	**06 36 21.6**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=302,slow=6.4,SNR=20							
TULEG	**Thule 62.42 8**			*e*P		**P**	**06 36 33.7**	**0.0**
	comp=Z,27nm,2.0s							
ASAR	**Alice Springs 63.52 191**			P		**P**	**06 36 40.6**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=15,slow=5.2,SNR=5.1							
H04A	**Detroit Lake 65.73 51**			*e*P		**P**	**06 36 56.1**	**0.0**
	comp=Z,94nm,2.0s							
HUMO	**Hull Mountain 66.36 54**			*e*P		**P**	**06 36 59.8**	**-0.3**
	comp=Z,48nm,1.8s							
OBN	**Obninsk 67.64 324**			*e*P		**P**	**06 37 07.1**	**-0.8**
OBN				*e*			06 39 35.3	
OBN				*e*S		**S**	**06 46 06.4**	**+2.2**
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
OBN				MLR		MLR		
	comp=Z,174nm,18.0s							
FIA1	**FINESS Array S 67.83 333**			*e*P		**P**	**06 37 09.6**	**+0.5**
FINES	**FINESS Array B 67.83 333**			P		**P**	**06 37 09.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=33,slow=7.3,SNR=6.9							
LRM	**Limekiln Ridge 70.76 46**			*e*P		**P**	**06 37 27.6**	**-0.2**
FCC	**Fort Churchill 70.79 28**			*e*P		**P**	**06 37 27.1**	**-0.3**
FCC				pmax	pmax			
	comp=Z,15nm,1.6s							
FCC	**Fort Churchill 70.79 28**			*e*P		**P**	**06 37 27.1**	**-0.3**
	comp=Z,15nm,1.6s							
KIV	**Kislovodsk 71.17 312**			*e*P		**P**	**06 37 29.9**	**-0.2**
KIV				pmax	pmax			
	comp=Z,13nm,1.1s							
KBZ	**Khabaz 71.18 311**			P		**P**	**06 37 31.5**	**+1.5**
	comp=Z,2.4nm,1.0s,baz=97,slow=18,SNR=2.9							
NV01	**Mina Array Sit 71.64 55**			*e*P		**P**	**06 37 33.3**	**+0.1**
NVAR	**Mina Array Bea 71.64 55**			P		**P**	**06 37 34.4**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=285,slow=6.3,SNR=8.5							
HFS	**Hagfors 72.90 337**			P		**P**	**06 37 41.1**	**+1.0**
	comp=Z,5.1nm,1.1s,baz=38,slow=7.3,SNR=4.1							
NOA	**NORSAR Array B 72.91

TGIG		**2.31**	**353**	*eP*	Pn	06 27 30.0	-2.1
TGIG				*eS*	Sn	06 27 56.9	-3.1

MEX 16 06:43:56.9±0.7, 14°.11N×92°.66W, h26km±70km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.68**	**341**	*eP*	Pn	06 44 22.6	-2.1
PCIG				*eS*	Sn	06 44 41.8	-3.6
CCIG	**Comitan**	**2.22**	**13**	*eP*	Pn	06 44 30.7	-1.5
CCIG				*i* S	Sn	06 44 56.4	-2.6
TGIG		**2.69**	**350**	*eP*	Pn	06 44 36.0	-2.7
TGIG				*eS*	Sn	06 45 07.8	-2.8

NNC 16 06:54:33.8±0.9, 41°.67N×83°.60E, h8km±2km, mb3.6, mpv3.2, 7C-4D, Error ellipse: s-maj=7.8km s-min=5.6km az=167.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 1.0nm,0.3s	**3.46**	**300**	⇑Pn	Pn	06 55 27.8	-0.3
PDGK	9.1nm,0.8s			⇑Pg	Pb	06 55 37.0	+1.6
PDGK	7.6nm,0.4s			⇓Sn	Sn	06 56 10.5	+1.2
PDGK	46nm,0.9s			⇑Lg	Lg	06 56 23.1	
MDOK	**Medeo** 5.1nm,0.9s	**5.07**	**289**	Pg	Pb	06 56 06.7	+3.8
MDOK	14nm,0.8s			⇑Lg	Lg	06 57 14.9	
MK31	**Makanchi Array** 1.0nm,0.6s,baz=167,slow=15,SNR=8.9	**5.21**	**350**	Pg	Pg	06 56 09.2	-4.2
MK31	7.0nm,0.6s,baz=165,slow=28,SNR=7.3			⇓Lg	Lg	06 57 18.5	
TKM2	**Tokmak 2** 1.6nm,0.6s	**6.07**	**285**	⇓Pg	Pb	06 56 24.7	+5.0
TKM2	13nm,0.8s			⇑Lg	Lg	06 57 46.7	
AAK	**Ala-Archa** 1.8nm,0.8s	**6.83**	**281**	⇓Pg	Pb	06 56 38.5	+5.7
AAK	15nm,1.1s			⇑Lg	Lg	06 58 10.7	
MNAS	**Manas** 6.8nm,1.3s	**8.29**	**279**	⇑Lg	Lg	06 58 58.0	

IDC 16 07:01:37.2±4.0, 13°.17S×72°.53W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/41, mbtmp3.6/3, ML3.7/1, MS2.6/1, Ms1 2.7/1, ms1mx2.4/26, Error ellipse: s-maj=161.5km s-min=36.4km az=42.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 1.6nm,0.3s,baz=306,slow=7.3,SNR=24	**5.26**	**127**	Pn	Pn	07 02 57.7	0.0
LPAZ	baz=238,slow=23,SNR=1.6			Sn	Sn	07 04 06.9	+7.5
LPAZ	comp=Z,70nm,21.8s,baz=236,slow=44			LR	LR	07 05 31.0	
TORD	**Torodi Ar. Bea** 1.5nm,1.0s,baz=265,slow=3.7,SNR=4.8	**78.06**	**73**	P	P	07 13 38.6	0.0
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=139,slow=5.6,SNR=3.6	**82.24**	**342**	P	P	07 14 00.0	0.0

*ISCJB **16** 07:07:18.8±0.2, 10°.45N±0°.03×93°.81E±0°.03, h19km, mb4.6/61, MS3.9/16, Error ellipse: s-maj=5.1km s-min=3.8km az=19.8*
*IDC **16** 07:07:18.1±0.5, 10°.54N×93°.70E, h0km, mb4.3/25, mb1 4.4/27, mb1mx4.3/60, mbtmp4.3/27, ML4.0/2, MS3.7/12, Ms1 3.7/12, ms1mx3.3/63, Error ellipse: s-maj=18.0km s-min=13.1km az=57.0*
*BJI **16** 07:07:19.4, 10°.06N×93°.70E, h45km, mb4.6/42, mB4.9/28, Ms4.4/26, Ms7 4.1/24*
*NEIC **16** 07:07:23.3±0.2, 10°.54N×93°.81E, h35km, mb4.8/29, Error ellipse: s-maj=6.6km s-min=5.3km az=56.0*
*DJA **16** 07:07:27.2±1.3, 11°.4°×9°.4E±1°.6, h46km±10km, M4.3/7, mb4.5/7, mB4.8/4, MLv4.3/2, Mw(mB)4.1/4*
ISC 16 07:07:20.9±0.4, 10°.49N±0°.05×93°.77E±0°.05, h19km, n159, σ1§91/158, mb4.7/63, MS4.0/17, 8C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.54**	**319**	*eP*	Pn	07 07 47.0	-0.3
PBA				*eS*	Sg	07 08 09.8	-0.8
DGPR	**DIGLIPUR**	**2.79**	**343**	*eP*	**Pn**	**07 08 04.4**	**-0.2**
DGPR				*eS*	**Sn**	**07 08 36.2**	**-1.6**
SURT	**Suratani**	**5.18**	**107**	P	**Pn**	**07 08 35.8**	**-1.7**
PKDT	**Phuket**	**5.19**	**119**	P	**Pn**	**07 08 37.0**	**-0.7**
PHET	**Kaeng Krachan** 15nm,0.7s,173nm	**6.22**	**67**	P	**Pn**	**07 08 50.8**	**-1.0**
TRTT	**Trang** 5.7nm,0.8s	**6.41**	**114**	P	**Pn**	**07 08 53.3**	**-1.1**
SRDT	**SRDT** 20nm,1.0s	**6.48**	**53**	P	**Pn**	**07 08 56.2**	**+0.8**
MLSI	**Meulaboh, Aceh**	**6.71**	**157**	P	**Pn**	**07 09 01.9**	**+3.4**
KCSI	**Kotacane, Aceh**	**7.98**	**150**	P	Pn	07 09 22.1	+6.1
NAYO	**Nakonayok** 6.8nm,0.9s,927nm	**8.30**	**62**	P	**Pn**	**07 09 20.6**	**+0.3**
SRAK	**Srakaew**	**8.81**	**66**	P	Pn	07 09 37.8	+10
PSI	**Prapat** 0.4nm,0.3s,baz=325,slow=12,SNR=18	**9.19**	**146**	Pn	Pn	07 09 38.0	+5.3
PSI	comp=Z,364nm,18.9s,baz=306,slow=39			LR	LR	07 13 22.3	
PSI	**Prapat**	**9.19**	**146**	*e*Pn	Pn	07 09 39.2	+6.5
PHIT	**Phitsanulok** 11nm,0.7s	**9.27**	**43**	P	**Pn**	**07 09 34.7**	**+1.0**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=220,slow=15,SNR=7.6	**9.37**	**32**	Pn	**Pn**	**07 09 35.1**	**+0.1**
CMAR	comp=Z,656nm,18.5s,baz=218,slow=40			LR	LR	07 13 31.4	
CHAI	**Chaiyaphum** 7.0nm,0.8s	**9.64**	**55**	P	**Pn**	**07 09 39.5**	**+0.8**
VIS	**Vishakhapatnam**	**12.41**	**307**	*eP*	**Pn**	**07 10 16.5**	**-0.2**
VIS				*eS*	**Sn**	**07 12 27.8**	**-6.8**
VIS	comp=N,68nm,1.5s			*ex*	x	07 12 35.6	
VIS	comp=E,77nm,1.2s			*ex*	x	07 12 36.5	
PALK	**Pallekele** comp=E,0.6nm,0.3s,baz=116,slow=9.3,SNR=5.9	**13.30**	**257**	Pn	**Pn**	**07 10 29.3**	**+0.4**
MDRS	**Chennai**	**13.49**	**282**	*eP*	**Pn**	**07 10 32.4**	**+1.0**
SHL	**Shillong**	**15.10**	**353**	*eP*	**Pn**	**07 10 53.6**	**+0.1**
HYB	**Hyderabad**	**16.29**	**297**	*i* P	**P**	**07 11 11.0**	**-0.7**
HYB				*eS*	**Sn**	**07 14 13.0**	**+3.8**
HYB	**Hyderabad**	**16.29**	**297**	*eP*	**Pn**	**07 11 10.2**	**+1.4**
TRD	**Trivandrum**	**16.70**	**265**	*eP*	**Pn**	**07 11 14.5**	**+0.5**
KMI	**Kunming**	**16.86**	**29**	P	**P**	**07 11 19.3**	**+1.1**
KMI	comp=E,9.0nm,0.5s			pmax	pmax		
KMI	comp=E,540nm,16.2s			LR	LR		
KMI	comp=E,310nm,11.2s			LR	LR		
KMI	comp=E,410nm,12.6s			LR	LR		
QIZ	**Qiongzhong**	**17.70**	**59**	P	**P**	**07 11 27.1**	**-0.2**
QIZ				S	**Sn**	**07 14 42.3**	**-1.0**
QIZ	comp=E,9.0nm,1.3s			pmax	pmax		
QIZ	comp=E,130nm,3.5s			pmax	pmax		
QIZ	comp=E,370nm,16.2s			LR	LR		
QIZ	comp=E,450nm,12.6s			LR	LR		
QIZ	comp=E,330nm,12.3s			LR	LR		
JIRN	**Jiri**	**18.51**	**338**	*eP*	**Pn**	**07 11 38.4**	**+1.6**
PKI	**Pulchoki**	**18.73**	**336**	*eP*	**Pn**	**07 11 40.3**	**+0.9**
PKIN	**Phulchoki** comp=E,41nm,1.0s	**18.73**	**336**	*eP*	**Pn**	**07 11 40.4**	**+1.0**
GUN	**Gumba**	**18.85**	**338**	*eP*	**Pn**	**07 11 41.7**	**+0.8**
DMN	**Daman**	**18.88**	**336**	*eP*	**Pn**	**07 11 42.6**	**+1.4**
KKN	**Kakani**	**18.97**	**336**	*eP*	**Pn**	**07 11 43.7**	**+1.5**
LSA	**Lhasa** comp=E,20nm,1.2s	**19.27**	**353**	*eP*	**Pn**	**07 11 45.3**	**-0.8**
KOLN	**Koldanda**	**19.67**	**332**	*eP*	**Pn**	**07 11 50.6**	**0.0**
	comp=E,55nm,0.9s						
GYA	**Guiyang**	**20.02**	**36**	P	**Pn**	**07 11 54.8**	**+0.2**
GYA				pP	sP	07 12 06.4	+5.7
GYA				PP	**PnPn**	**07 12 15.0**	**+5.9**
GYA				S	**S**	**07 15 32.8**	**-4.5**
GYA				sS	pS	07 15 48.8	-3.0
GYA				ScP	**ScP**	**07 19 42.3**	**-2.0**
GYA	comp=E,20nm,0.8s			pmax	pmax		
GYA	comp=E,120nm,4.8s			pmax	pmax		
GYA	comp=E,2μm,16.0s			LR	LR		
GYA	comp=E,1μm,16.2s			LR	LR		
GYA	comp=E,1μm,16.8s			LR	LR		
BHPL	**Bhopal**	**20.11**	**311**	*eP*	**P**	**07 11 52.5**	**-1.3**
PYUN	**Piuthan** comp=E,34nm,0.8s	**20.23**	**331**	*eP*	Pn	07 11 56.9	-0.4
POO	**Poona**	**20.86**	**295**	*eP*	**P**	**07 12 02.6**	**+0.6**
CD2	**Chengdu**	**22.34**	**23**	⇑P	**P**	**07 12 18.6**	**+0.8**
CD2				pP	sP	07 12 27.8	+2.1
CD2				sP	pP	07 12 32.5	+9.3
CD2				PcP	**PcP**	**07 16 13.0**	**0.0**
CD2				S	**S**	**07 16 22.5**	**-0.1**
CD2				sS	Sn	07 16 38.1	+3.1
CD2	comp=E,40nm,0.5s			pmax	pmax		
CD2	comp=E,150nm,4.9s			pmax	pmax		
CD2	comp=E,590nm,11.4s			LR	LR		
CD2	comp=E,770nm,11.0s			LR	LR		
CD2	comp=E,530nm,11.0s			LR	LR		
ENH	**Enshi** comp=E,20nm,1.2s	**24.53**	**34**	*eP*	**P**	**07 12 39.0**	**-0.5**
TBJI	**Tambak Boyo**	**24.89**	**133**	P	**P**	**07 12 40.1**	**-2.7**
PCJI	**Pacitan**	**25.39**	**136**	P	**P**	**07 12 42.7**	**-4.6**
SMLA	**Simla**	**25.67**	**326**	*eP*	**P**	**07 12 49.1**	**-0.6**
SMLA	comp=Z,26nm,1.2s			IAmb	IAmb	07 12 51.7	
DHRM	**DHARAMSHALA**	**27.00**	**326**	*eP*	**P**	**07 12 59.7**	**-2.3**
DHRM	comp=Z,20nm,1.1s			IAmb	IAmb	07 13 02.7	
LZH	**Lanzhou**	**27.07**	**18**	*eP*	**P**	**07 13 04.9**	**+2.4**
LZH				pP	sP	07 13 15.3	+4.6
LZH				sP	pP	07 13 19.8	+11
LZH				*e*S	**S**	**07 17 38.6**	**-1.2**
LZH				sS	sS	07 17 58.3	+8.9
LZH				SS	**SnSn**	**07 18 58.1**	**+11**
LZH	comp=Z,18nm,1.0s			pmax	pmax		
LZH	comp=Z,200nm,6.0s			pmax	pmax		
LZH	comp=Z,1μm,14.0s			LR	LR		
LZH	comp=Z,1μm,16.6s			LR	LR		
LZH	comp=Z,2μm,17.6s			LR	LR		
XAN	**Xi'an**	**27.24**	**28**	P	**P**	**07 13 03.3**	**-0.7**
XAN				pP	sP	07 13 11.6	-0.5
XAN	comp=Z,16nm,1.2s			pmax	pmax		
XAN	comp=Z,200nm,4.3s			pmax	pmax		
XAN	comp=Z,410nm,15.4s			LR	LR		
XAN	comp=Z,280nm,13.4s			LR	LR		
XAN	comp=Z,510nm,14.4s			LR	LR		
H08S3	**Diego Garcia H** baz=49,slow=76,SNR=6.3	**27.80**	**230**	T	T	07 42 16.4	
H08S2	**Diego Garcia H** baz=49,slow=76,SNR=12	**27.81**	**230**	T	T	07 42 18.5	
H08S1	**Diego Carcia H** baz=49,slow=76,SNR=13	**27.82**	**230**	T	T	07 42 13.0	
TTSI	**Tana Toraja**	**29.21**	**116**	P	**P**	**07 13 20.3**	**-1.4**
GTA	**Gaotai**	**29.30**	**10**	*eP*	**P**	**07 13 23.0**	**+0.6**
GTA	comp=Z,6.0nm,1.0s			pmax	pmax		
NJ2	**Nanjing**	**31.58**	**43**	*eP*	**P**	**07 13 41.4**	**-1.0**
NJ2	comp=Z,12nm,0.5s			pmax	pmax		
KSH	**Kashi**	**32.96**	**334**	P	**P**	**07 13 54.0**	**-0.7**
KSH				pP	sP	07 14 03.3	+0.4
KSH				S	**S**	**07 19 05.3**	**-6.8**
KSH	comp=Z,13nm,1.2s			pmax	pmax		
KSH	comp=Z,180nm,7.7s			pmax	pmax		
KSH	comp=Z,130nm,9.1s			LR	LR		
KSH	comp=Z,200nm,6.5s			LR	LR		
KSH	comp=Z,160nm,8.0s			LR	LR		
WMQ	**Urumqi**	**33.62**	**352**	P	**P**	**07 14 02.1**	**+1.8**
WMQ				pP	sP	07 14 11.4	+2.9
WMQ				sP	pP	07 14 16.3	+10
WMQ	comp=Z,32nm,1.1s			pmax	pmax		
WMQ	comp=Z,190nm,5.7s			LR	LR		
WMQ	comp=Z,190nm,27.5s			LR	LR		
WMQ	comp=Z,380nm,32.1s			LR	LR		
WMQ	comp=Z,150nm,17.5s			LR	LR		
HHC	**Hu-ho-hao-te**	**34.08**	**24**	*eP*	**P**	**07 14 05.9**	**+1.6**
HHC				S	**S**	**07 19 26.0**	**-3.3**
HHC				sS	sS	07 19 47.0	+8.0
HHC				SS	**SnSn**	**07 21 45.4**	**+8.2**
HHC	comp=Z,10.0nm,1.0s			pmax	pmax		
HHC	comp=Z,130nm,4.0s			pmax	pmax		
HHC	comp=Z,190nm,9.6s			LR	LR		
HHC	comp=Z,140nm,10.0s			LR	LR		
HHC	comp=Z,220nm,10.7s			LR	LR		
KZA	**Kyzart** SNR=7.9	**35.41**	**336**	P	**P**	**07 14 17.1**	**+0.9**
BJI	**Beijing**	**35.51**	**30⇑**	*eP*	**P**	**07 14 13.6**	**-3.0**
BJI				pP	**sP**	**07 14 29.5**	**+4.7**
BJI	comp=Z,9.0nm,0.7s			pmax	pmax		
BJI	comp=Z,50nm,3.2s			pmax	pmax		
BJI	comp=Z,430nm,17.2s			LR	LR		
BJI	comp=Z,320nm,10.4s			LR	LR		
AML	**Almayashu** SNR=13	**36.10**	**334**	P	**P**	**07 14 23.2**	**+1.1**
AAK	**Ala-Archa** SNR=9.6	**36.18**	**336**	P	**P**	**07 14 23.9**	**+1.4**
AAK	**Ala-Archa** comp=Z,15nm,1.3s	**36.18**	**336**	*eP*	**P**	**07 14 23.0**	**+0.5**
EKS2	**Erkin-Say** SNR=5.8	**36.50**	**335**	P	**P**	**07 14 26.6**	**+1.4**
USP	**Ospenovka** SNR=6.7	**36.71**	**336**	P	**P**	**07 14 27.7**	**+0.8**
MK01	**Makanchi Array**	**37.45**	**347**	*eP*	**P**	**07 14 33.0**	**0.0**
MK31	**Makanchi Array**	**37.47**	**347**	*eP*	**P**	**07 14 33.2**	**0.0**
MKAR	**Makanchi Array** comp=Z,3.9nm,0.9s,baz=163,slow=8.7,SNR=30	**37.47**	**347**	P	**P**	**07 14 32.9**	**-0.3**
MKAR	**Makanchi Array** comp=Z,30nm,1.0s	**37.47**	**347**	*eP*	**P**	**07 14 33.2**	**0.0**
MAKZ	**Makanchi** comp=Z,9.8nm,0.6s	**37.55**	**347**	*eP*	**P**	**07 14 34.4**	**+0.4**
KKAR	**Karatay Array**	**38.28**	**332**	*eP*	**P**	**07 14 40.3**	**+0.1**
SONM	**Songino Array** comp=Z,3.4nm,0.9s,baz=195,slow=9.0,SNR=18	**38.71**	**14**	P	**P**	**07 14 44.2**	**+0.4**
SONM	comp=Z,326nm,19.6s,baz=190,slow=39			LR	LR	07 32 29.9	
SONA1	**Songino Array**	**38.73**	**14**	*eP*	**P**	**07 14 44.4**	**+0.5**
ULN	**Ulaanbaatar** comp=Z,3.8nm,1.0s	**38.90**	**14**	*eP*	**P**	**07 14 45.3**	**-0.1**
KSAR	**Wonju Array Be**	**40.74**	**43**	P	**P**	**07 15 00.4**	**-0.4**
KSRS	**Korea Array** comp=Z,1.7nm,0.9s,baz=240,slow=10,SNR=3.1	**40.78**	**43**	P	**P**	**07 15 00.4**	**-0.6**
KSRS	comp=Z,103nm,18.2s,baz=243,slow=38			LR	LR	07 33 11.0	
JNU	**Nakatsue** comp=Z,98nm,18.6s,baz=292,slow=39	**40.84**	**51**	LR	LR	07 33 53.6	
TLY	**Talaya** comp=Z,81nm,19.9s,baz=164,slow=38	**41.86**	**9**	LR	LR	07 33 48.8	
TLY	**Talaya** comp=Z,6.5nm,1.6s	**41.86**	**9**	*eP*	**P**	**07 15 09.4**	**-0.3**
KURBB	**Kurchatov Arra** comp=Z,2.9nm,0.8s,baz=160,slow=7.7,SNR=18	**41.94**	**345**	P	**P**	**07 15 10.1**	**-0.2**
KURK	**Kurchatov** comp=Z,11nm,1.2s	**42.00**	**346**	*eP*	**P**	**07 15 10.9**	**+0.1**
GEYT	**Alibeck** comp=Z,18nm,0.7s,baz=140,slow=7.8,SNR=31	**42.04**	**317**	P	**P**	**07 15 13.4**	**+1.9**
CN2	**Changchun** comp=E,10.0nm,1.0s	**43.05**	**34**	*eP*	**P**	**07 15 19.8**	**+0.3**
CN2				pmax	pmax		
ZAA0	**Zalesovo Array** comp=Z,61nm,1.6s	**43.93**	**352**	*eP*	**P**	**07 15 26.3**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,6.5nm,0.7s,baz=175,slow=8.8,SNR=21	**43.93**	**352**	P	**P**	**07 15 26.6**	**+0.2**
ZALV	comp=Z,75nm,18.9s,baz=244,slow=41			LR	LR	07 37 22.5	
ZALV	**Zalesovo Beam**	**43.93**	**352**	*eP*	**P**	**07 15 26.3**	**-0.2**
BVAR	**Borovoye Array** comp=Z,2.1nm,0.7s,baz=142,slow=7.3,SNR=12	**46.41**	**341**	P	**P**	**07 15 45.6**	**-0.6**
BRVK	**Borovoye** comp=Z,5.5nm,1.0s	**46.48**	**341**	*eP*	**P**	**07 15 46.3**	**-0.4**
USRK	**Ussuriysk Ar.** comp=Z,2.7nm,0.8s,baz=240,slow=8.1,SNR=3.3	**47.04**	**37**	P	**P**	**07 15 52.0**	**+0.7**
MJAR	**Matsushiro Arr** comp=Z,70nm,21.8s,baz=320,slow=36	**47.72**	**50**	LR	LR	07 35 45.2	
RAYN	**Ar Rayn** comp=Z,31nm,1.9s	**47.72**	**292**	*eP*	**P**	**07 15 58.2**	**+1.3**
ABKAR	**Akbulak array** comp=Z,47nm,0.9s	**47.78**	**330**	*eP*	**P**	**07 15 57.2**	**+0.2**
JHJ	**Hachijo jima 2** comp=Z,49nm,19.3s,baz=290,slow=38	**47.81**	**55**	LR	LR	07 37 18.5	
AKTO	**Aktyubinsk** comp=Z,3.3nm,0.7s,baz=119,slow=7.5,SNR=11	**49.50**	**331**	P	**P**	**07 16 09.4**	**-0.7**
KLR	**Kul'dur** comp=Z,12nm,18.9s,slow=40	**49.85**	**32**	LR	LR	07 40 24.7	
WRA	**Warramunga Arr** comp=Z,5.9nm,0.9s,baz=306,slow=8.8,SNR=21	**50.10**	**127**	P	**P**	**07 16 15.6**	**+0.5**
WRAB	**Tennant Creek** comp=Z,20nm,0.8s	**50.10**	**127**	*eP*	**P**	**07 16 15.0**	**-0.2**
WB2	**Warramunga Arr**	**50.10**	**127**	*eP*	**P**	**07 16 15.3**	**+0.1**
AS31	**Alice Springs** comp=Z,1.6nm,0.9s	**51.89**	**131**	*eP*	**P**	**07 16 29.6**	**+1.0**
ASAR	**Alice Springs** comp=Z,4.2nm,0.8s,baz=312,slow=7.5,SNR=30	**51.89**	**131**	P	**P**	**07 16 28.9**	**+0.3**
AS01	**Alice Springs**	**51.92**	**131**	*eP*	**P**	**07 16 28.8**	**0.0**
GNI	**Garni** comp=Z,94nm,1.8s	**52.38**	**313**	*eP*	**P**	**07 16 33.9**	**+1.7**
TBLG	**Delisi** comp=Z,28nm,1.1s	**52.94**	**315**	*eP*	**P**	**07 16 37.2**	**+1.0**
AKH	**Akhalkalaki** comp=Z,9.0nm,0.8s	**53.70**	**314**	*eP*	**P**	**07 16 43.1**	**+1.1**
ASAJ	**Asahikawa** comp=Z,4.1nm,0.7s,baz=253,slow=14,SNR=3.2	**53.71**	**42**	P	**P**	**07 16 41.5**	**-0.2**
KIV	**Kislovodsk** comp=Z,26nm,0.9s	**55.16**	**317**	*eP*	**P**	**07 16 53.3**	**+0.9**
YAK	**Yakutsk** comp=Z,247nm,20.4s,baz=260,slow=38	**57.65**	**19**	LR	LR	07 44 04.2	
RABL	**Rabaul** comp=Z,134nm,0.6s	**59.94**	**101**	*eP*	**P**	**07 17 25.2**	**-1.3**
BR131	**Keskin Array S**	**60.47**	**310**	*eP*	**P**	**07 17 28.9**	**-1.0**
BRTR	**Keskin Array B** comp=Z,4.2nm,0.8s,baz=124,slow=7.7,SNR=21	**60.47**	**310**	P	**P**	**07 17 28.9**	**-1.0**
ANTO	**Ankara** comp=Z,13nm,1.0s	**61.14**	**310**	*eP*	**P**	**07 17 33.3**	**-1.0**
STKA	**Stephens Creek** comp=Z,5.9nm,0.9s,baz=345,slow=8.5,SNR=7.4	**62.18**	**135**	P	**P**	**07 17 41.7**	**+0.3**
KLMR	**Klimovskoe**	**63.96**	**334**	*eP*	P	07 17 47.8	-4.9
KLMR	comp=Z,10.0nm,1.1s			AMP		07 17 52.8	
TIXI	**Tiksi** comp=Z,8.4nm,1.2s	**64.76**	**12**	*eP*	**P**	**07 17 56.7**	**-1.0**
AKASG	**Malin Array Be** comp=Z,0.8nm,0.7s,baz=85,slow=5.4,SNR=10.0	**65.89**	**321**	P	**P**	**07 18 04.3**	**-1.2**
SORM	**Soroca**	**65.90**	**318**	⇓*i*P	**P**	**07 18 04.9**	**-0.6**
VRI	**Vrincioaia**	**66.58**	**315**	⇓*i*P	**P**	**07 18 10.8**	**+0.8**
PLOR	**Ploscina**	**66.63**	**315**	⇑*i*P	**P**	**07 18 11.2**	**+0.8**
TESR	**Tescani**	**66.74**	**316**	⇓*i*P	**P**	**07 18 10.8**	**-0.2**
MLR	**Muntele Rosu** comp=Z,2.8nm,1.0s,baz=144,slow=3.7,SNR=7.8	**67.06**	**315**	P	**P**	**07 18 13.3**	**0.0**
MLR	**Muntele Rosu** comp=Z,22nm,1.1s	**67.06**	**315**	⇓*i*P	**P**	**07 18 13.8**	**+0.5**
BURAR	**Bucovina Array**	**67.88**	**317**	⇑*i*P	**P**	**07 18 18.1**	**-0.2**
BUR04	**Bucovina Ar. S**	**67.89**	**317**	*e*P	**P**	**07 18 18.4**	**0.0**
ARR	**Arges**	**67.96**	**315**	⇑*i*P	**P**	**07 18 17.3**	**-1.6**
VTS	**Vitosha**	**68.67**	**312**	⇑*i*P	**P**	**07 18 23.3**	**-0.2**
DRGR		**69.47**	**316**	⇑*i*P	**P**	**07 18 27.9**	**-0.3**
HERR	**Herculane**	**69.47**	**314**	⇓*i*P	**P**	**07 18 27.8**	**-0.3**
SIRR	**Siria**	**70.13**	**315**	⇑*i*P	**P**	**07 18 32.6**	**+0.4**
FIA1	**VRNESS Array S**	**70.24**	**332**	*e*P	**P**	**07 18 31.9**	**-0.7**
FINES	**FINESS Array B** comp=Z,2.0nm,0.7s,baz=98,slow=5.8,SNR=6.8	**70.24**	**332**	P	**P**	**07 18 31.3**	**-1.3**
DIVS	**Divibare** comp=Z,9.3nm,1.3s	**71.13**	**313**	*e*P	**P**	**07 18 37.8**	**-0.7**
PDG	**Podgorica**	**71.58**	**311**	⇓*i*P	**P**	**07 18 40.2**	**-0.9**
ARCES	**ARCESS Array B** comp=Z,3.2nm,0.8s,baz=83,slow=6.2,SNR=12	**72.70**	**340**	P	**P**	**07 18 47.0**	**-0.3**
ARCES	**ARCESS Array B**	**72.70**	**340**	*eP*	**P**	**07 18 47.4**	**+0.1**
MORC	**Moravsky Berou** comp=Z,19nm,0.9s	**73.17**	**319**	*e*P	**P**	**07 18 50.6**	**+0.1**
LBTB	**Lobatse** comp=Z,7.7nm,1.0s	**75.19**	**241**	*e*P	**P**	**07 19 03.5**	**+0.7**
GEA0	**GERESS Array S**	**75.65**	**318**	*eP*	**P**	**07 19 04.8**	**-0.3**
GEC2	**GERESS Array S** comp=Z,5.4nm,0.9s	**75.65**	**318**	*eP*	**P**	**07 19 05.4**	**+0.4**
GERES	**GERESS Array B** comp=Z,2.0nm,0.7s,baz=76,slow=5.6,SNR=17	**75.65**	**318**	P	**P**	**07 19 04.9**	**-0.2**
HFS	**Hagfors** comp=Z,4.1nm,1.0s,baz=99,slow=7.4,SNR=3.9	**76.03**	**329**	P	**P**	**07 19 06.3**	**-0.5**
CLL	**Colln**	**76.12**	**320**	*eP*	**P**	**07 19 08.0**	**+0.5**
BOSA	**Boshof** comp=Z,4.8nm,0.9s,baz=77,slow=5.1,SNR=7.1	**76.67**	**237**	P	**P**	**07 19 12.2**	**+1.0**
BOSA	comp=Z,80nm,20.3s,baz=40,slow=32			LR	LR	07 48 15.1	
SPITS	**Spitsbergen Ar** comp=Z,14nm,1.0s,baz=66,slow=8.3,SNR=4.7	**77.22**	**348**	P	**P**	**07 19 13.6**	**+0.3**
NB2	**NORSAR Subarra** comp=Z,7.5nm,1.1s,baz=92,slow=5.9	**77.29**	**330**	P	**P**	**07 19 12.8**	**-1.2**
NOA	**NORSAR Array B** comp=Z,2.4nm,0.9s,baz=92,slow=6.0,SNR=4.5	**77.29**	**330**	P	**P**	**07 19 13.5**	**-0.5**
KEST	**Kesra** comp=Z,4.4nm,0.9s,baz=27,slow=4.1,SNR=5.5	**79.46**	**305**	P	**P**	**07 19 26.7**	**+0.1**
KEST	**Kesra** comp=Z,7.2nm,1.0s	**79.46**	**305**	*eP*	**P**	**07 19 26.9**	**+0.3**
SENIN	**Lac Senin/Sane** comp=Z,28nm,2.0s	**80.07**	**315**	*eP*	**P**	**07 19 31.8**	**+2.0**
BNI	**Bardonecchia** comp=Z,8.2nm,1.1s	**80.62**	**314**	*eP*	**P**	**07 19 32.2**	**-0.5**
SUR	**Sutherland** comp=Z,118nm,1.9s	**81.52**	**235**	*eP*	**P**	**07 19 40.0**	**+2.2**
EKA	**Eskdalemuir Ar** comp=Z,2.6nm,0.8s,baz=71,slow=8.3,SNR=3.8	**85.37**	**325**	P	**P**	**07 19 57.3**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.9s,baz=75,slow=3.5,SNR=4.6	**89.65**	**283**	P	**P**	**07 20 17.8**	**-0.5**
WALA	**Waterton Lakes**	**115.89**	**20**	*e*PKPdf	**PKPdf**	**07 26 01.7**	**-1.0**
BOZ	**Bozeman (W)**	**119.67**	**20**	*e*PKPdf	**PKPdf**	**07 26 07.4**	**-2.8**
YHB	**Horse Butte**	**120.56**	**20**	*e*PKPdf	**PKPdf**	**07 26 10.7**	**-1.2**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.6s,baz=327,slow=4.3,SNR=3.5	**136.98**	**23**	PKP	**PKPdf**	**07 26 44.8**	**+1.4**
TRQA	**Tornquist**	**144.98**	**214**	*e*PKPbc	**PKPbc**	**07 26 56.1**	**-0.6**
PLCA	**Paso Flores** comp=Z,2.4nm,0.9s,baz=149,slow=7.6,SNR=5.7	**146.84**	**202**	PKPbc	**PKPbc**	**07 27 02.3**	**-0.1**
CPUP	**Villa Florida** comp=Z,3.3nm,1.1s,baz=92,slow=1.5,SNR=3.6	**148.49**	**236**	PKPbc	**PKPbc**	**07 27 06.8**	**-0.4**
PCRV	**Puerto La Cruz** comp=Z,12nm,1.0s,baz=225,slow=4.3,SNR=2.5	**150.29**	**313**	PKPbc	**PKPbc**	**07 27 11.6**	**-0.4**
RPN

Error ellipse: s-maj=33.6km s-min=15.9km az=142.9

ISC 16 07:18:09.3±1.2, 10°.4N×0°.2×93°.7E±0°.2, h25km, n11, σ1s08/11, mb3.6/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.56**	**347**	P		**P**		**07 25 21.7**	**0.0**
	0.8nm,0.8s,baz=159,slow=7.8,SNR=7.2								
SONM	**Songino Array**	**38.85**	**14**	P		**P**		**07 25 33.2**	**+0.5**
	0.2nm,0.4s,baz=190,slow=7.3,SNR=2.5								
KURBB	**Kurchatov Arra**	**42.02**	**346**	P		**P**		**07 25 57.0**	**-1.6**
	0.5nm,0.8s,baz=161,slow=7.1,SNR=4.4								
GEYT	**Alibeck**	**42.05**	**317**	P		**P**		**07 26 01.1**	**+2.0**
	4.7nm,0.8s,baz=141,slow=7.3,SNR=7.9								
ZALV	**Zalesovo Beam**	**44.03**	**352**	P		**P**		**07 26 14.3**	**-0.5**
	1.5nm,0.6s,baz=173,slow=8.7,SNR=7.7								
BVAR	**Borovoye Array**	**46.49**	**341**	P		**P**		**07 26 34.3**	**-0.1**
	0.3nm,0.5s,baz=160,slow=8.8,SNR=2.8								
KLR	**Kul'dur**	**50.01**	**32**	P		**P**		**07 27 01.4**	**-0.2**
	0.0nm,0.3s,baz=243,slow=6.8								
WRA	**Warramunga Arr**	**50.11**	**127**	P		**P**		**07 27 02.9**	**0.0**
	0.7nm,0.8s,baz=309,slow=8.6,SNR=3.0								
ASAR	**Alice Springs**	**51.89**	**131**	P		**P**		**07 27 16.3**	**+0.1**
	0.5nm,0.8s,baz=301,slow=6.5,SNR=4.4								
BRTR	**Keskin Array B**	**60.46**	**310**	P		**P**		**07 28 15.9**	**-1.5**
	1.1nm,0.8s,baz=102,slow=6.2,SNR=4.7								
GERES	**GERESS Array B**	**75.66**	**318**	P		**P**		**07 29 52.8**	**+0.1**
	0.2nm,0.3s,baz=106,slow=6.2,SNR=4.2								

IDC 16 07:19:09.5±3.2, 10°.33N×93°.16E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.3/60, mbtmp3.6/5, Error ellipse: s-maj=130.5km s-min=22.3km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.49**	**348**	P		P		07 26 24.7	-0.3
	0.2nm,0.6s,baz=158,slow=10,SNR=3.8								
SONM	**Songino Array**	**39.01**	**14**	P		P		07 26 37.6	-0.3
	0.6nm,0.7s,baz=174,slow=5.8,SNR=3.0								
ZALV	**Zalesovo Beam**	**44.01**	**353**	P		P		07 27 18.7	+0.1
	0.5nm,0.4s,baz=134,slow=6.2,SNR=2.7								
WRA	**Warramunga Arr**	**50.48**	**127**	P		P		07 28 09.9	+0.3
	1.2nm,0.9s,baz=302,slow=9.2,SNR=3.0								
ASAR	**Alice Springs**	**52.24**	**131**	P		P		07 28 22.2	-0.5
	0.8nm,0.8s,baz=317,slow=8.6,SNR=4.9								

IDC 16 07:20:07.3±1.3, 10°.38N×93°.76E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.5/62, mbtmp3.8/7, Error ellipse: s-maj=70.4km s-min=19.8km az=52.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.57**	**347**	P		P		07 27 23.9	+0.4
	0.8nm,0.9s,baz=160,slow=9.0,SNR=4.2								
KURBB	**Kurchatov Arra**	**42.04**	**346**	P		P		07 27 59.9	-0.6
	0.3nm,0.4s,baz=151,slow=7.9,SNR=4.2								
GEYT	**Alibeck**	**42.11**	**317**	P		P		07 28 03.1	+1.7
	1.4nm,0.3s,baz=132,slow=6.2,SNR=4.6								
ZALV	**Zalesovo Beam**	**44.04**	**352**	P		P		07 28 16.2	-0.5
	0.5nm,0.3s,baz=153,slow=9.7,SNR=3.6								
WRA	**Warramunga Arr**	**50.04**	**127**	P		P		07 29 03.6	-0.5
	1.5nm,0.7s,baz=310,slow=8.3,SNR=7.1								
ASAR	**Alice Springs**	**51.82**	**131**	P		P		07 29 17.9	+0.5
	1.0nm,0.8s,baz=311,slow=8.1,SNR=6.6								
BRTR	**Keskin Array B**	**60.53**	**310**	P		P		07 30 18.1	-1.6
	1.5nm,1.0s,baz=103,slow=6.5,SNR=3.6								

*ISCJB **16** 07:33:07.6±0.5, 48°.73N±0°.05×155°.5E±0°.1, h36km, mb3.7/14, Error ellipse: s-maj=12.0km s-min=3.1km az=38.4*

*KRSC **16** 07:33:07.9±1.8, 48°.71N×156°.16E, h43km±37km, ML4.6*

*MOS **16** 07:33:07.3±0.7, 48°.61N×155°.64E, h39km, mb4.0/8, Error ellipse: s-maj=19.4km s-min=4.1km az=73.5*

*SKHL **16** 07:33:09.4±0.7, 48°.72N×155°.56E, h49km±3km, mb4.2/3*

*IDC **16** 07:33:13.9±2.6, 49°.04N×154°.85E, h84km±24km, mb3.4/13, mb1 3.6/17, mb1mx3.4/67, mbtmp3.8/17, MS3.0/1, Ms1 3.0/1, ms1mx2.6/37, Error ellipse: s-maj=24.2km s-min=12.3km az=145.0*

ISC 16 07:33:08.5±0.7, 48°.67N±0°.08×155°.64E±0°.08, h36km, n89, σ1s80/101, mb3.7/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.04**	**9**	*e*P		**Pn**		**07 33 40.2**	**0.0**
SKR				AMB		AMB		07 33 42.5	
	184nm,0.5s								
SKR				*e*S		**Sn**		**07 34 03.8**	**-0.6**
SKR				A		A		07 34 06.2	
	540nm,0.4s								
SKR				A		A		07 34 06.2	
	660nm,0.4s								
SKR	**Severo-Kuril's**	**2.04**	**9**	*e*PN		**Pn**		**07 33 40.0**	**-0.2**
SKR				*e*S		**Sn**		**07 34 04.1**	**-0.3**
SKR				pmax		pmax			
	comp=Z,184nm,0.5s								
SKR				smax		smax			
	comp=E,659nm,0.3s								
SKR				smax		smax			
	comp=N,550nm,0.5s								
SKR	**Severo-Kuril's**	**2.04**	**9**	*e*P		**Pn**		**07 33 40.2**	**0.0**
SKR				*e*S		**Sn**		**07 34 03.8**	**-0.6**
PAU	**Pauzhetka**	**2.90**	**15**	*e*P		**Pn**		**07 33 53.8**	**+1.7**
PAU				AMB		AMB		07 33 55.6	
	comp=N,43nm,0.6s								
PAU				*e*S		**Sn**		**07 34 26.6**	**+1.0**
PAU				A		A		07 34 30.7	
	comp=N,500nm,0.6s								
PAU	**Pauzhetka**	**2.90**	**15**	PN		**Pn**		**07 33 53.6**	**+1.5**
PAU				S		**Sn**		**07 34 26.3**	**+0.7**
PAU	**Pauzhetka**	**2.90**	**15**	*e*P		**Pn**		**07 33 53.6**	**+1.5**
PAU				*e*S		**Sn**		**07 34 26.3**	**+0.7**
KDTR	**Khodutka, Kamc**	**3.51**	**26**	*e*P		**Pn**		**07 34 01.2**	**+0.8**
KDTR				*e*S		**Sn**		**07 34 41.0**	**+0.4**
MIPR	**Malaya Ipel'ka**	**3.68**	**11**	PN		**Pn**		**07 34 03.2**	**+0.4**
MIPR	**Malaya Ipel'ka**	**3.68**	**11**	*e*P		**Pn**		**07 34 03.2**	**+0.4**
ASAK	**Asacha**	**3.99**	**20**	PN		**Pn**		**07 34 09.7**	**+2.6**
ASAK	**Asacha**	**3.99**	**20**	*e*P		**Pn**		**07 34 09.7**	**+2.6**
MTVR	**Mutnovka**	**4.15**	**22**	PN		**Pn**		**07 34 11.3**	**+2.0**
MTVR				S		**Sn**		**07 34 57.8**	**+1.2**
MTVR	**Mutnovka**	**4.15**	**22**	*e*P		**Pn**		**07 34 11.3**	**+2.0**
MTVR				*e*S		**Sn**		**07 34 57.8**	**+1.2**
RUS	**Russkaya**	**4.19**	**25**	*e*P		**Pn**		**07 34 10.9**	**+1.1**
RUS	**Russkaya**	**4.19**	**25**	PN		**Pn**		**07 34 10.9**	**+1.1**
RUS	**Russkaya**	**4.19**	**25**	*e*P		**Pn**		**07 34 10.9**	**+1.1**
RUS				*e*S		**Sn**		**07 34 57.7**	**+0.3**
APC	**Apacha**	**4.37**	**12**	PN		**Pn**		**07 34 15.3**	**+3.1**
APC	**Apacha**	**4.37**	**12**	*e*P		**Pn**		**07 34 15.3**	**+3.1**
KRMR	**Karymshinskiy**	**4.45**	**20**	PN		**Pn**		**07 34 15.5**	**+2.1**
KRMR	**Karymshinskiy**	**4.45**	**20**	*e*P		**Pn**		**07 34 15.5**	**+2.1**
KRMR				*e*S		**Sn**		**07 35 04.5**	**+0.6**
PETK	**Petropavlovsk-**	**4.63**	**16**	P		**Pn**		**07 34 18.6**	**+2.7**
	comp=N,7.7nm,0.3s,baz=178,slow=11,SNR=139								
PETK				S		Sn		07 35 22.5	+14
	baz=174,slow=17,SNR=2.2								
PETK				LR		LR		07 36 22.4	
	comp=N,192nm,19.8s,baz=140,slow=42								
PET	**Petropavlovsk**	**4.76**	**22**	*e*P		**Pn**		**07 34 19.6**	**+2.0**
PET				AMB		AMB		07 34 19.8	
	comp=N,30nm,0.6s								
PET				*e*S		**Sn**		**07 35 12.2**	**+0.8**
PET				A		A		07 35 30.6	
	comp=N,187nm,0.7s								
PET				A		A		07 35 30.6	
	comp=N,200nm,0.7s								
PET	**Petropavlovsk**	**4.76**	**22**	*e*PN		**Pn**		**07 34 19.6**	**+2.0**
PET				pmax		pmax			
	comp=Z,32nm,0.6s								
PET				MLR		MLR			
	comp=Z,100nm,19.0s								
PET	**Petropavlovsk**	**4.76**	**22**	*e*P		**Pn**		**07 34 19.4**	**+1.8**
PET				*e*S		**Sn**		**07 35 12.3**	**+0.8**
DALK	**Dalny**	**4.79**	**23**	PN		**Pn**		**07 34 19.9**	**+1.9**
DALK	**Dalny**	**4.79**	**23**	*e*P		**Pn**		**07 34 19.9**	**+1.9**
DALK				*e*S		**Sn**		**07 35 14.0**	**+1.8**
UGLR	**Uglovaya**	**4.97**	**23**	PN		**Pn**		**07 34 23.0**	**+2.4**
UGLR	**Uglovaya**	**4.97**	**23**	*e*P		**Pn**		**07 34 23.0**	**+2.4**
UGLR				*e*S		**Sn**		**07 35 18.4**	**+1.6**
AVH	**Avacha**	**5.00**	**22**	PN		**Pn**		**07 34 23.8**	**+2.8**
AVH	**Avacha**	**5.00**	**22**	*e*P		**Pn**		**07 34 23.8**	**+2.8**
AVH				*e*S		**Sn**		**07 35 18.2**	**+0.7**
KOK	**Koryaka**	**5.00**	**21**	PN		**Pn**		**07 34 22.0**	**+1.0**
KOK	**Koryaka**	**5.00**	**21**	*e*P		**Pn**		**07 34 22.0**	**+1.0**
SMAR	**Somma**	**5.01**	**22**	PN		**Pn**		**07 34 23.4**	**+2.1**
SMAR	**Somma**	**5.01**	**22**	*e*P		**Pn**		**07 34 23.4**	**+2.1**
SDLR	**Sedlovina**	**5.05**	**23**	PN		**Pn**		**07 34 23.5**	**+1.8**
SDLR	**Sedlovina**	**5.05**	**23**	*e*P		**Pn**		**07 34 23.5**	**+1.8**
KRX	**Arik**	**5.06**	**21**	PN		**Pn**		**07 34 24.0**	**+2.1**
KRX	**Arik**	**5.06**	**21**	*e*P		**Pn**		**07 34 24.0**	**+2.1**
NLC	**Nalytchevo**	**5.08**	**26**	PN		**Pn**		**07 34 22.3**	**+0.3**
NLC	**Nalytchevo**	**5.08**	**26**	*e*P		**Pn**		**07 34 22.3**	**+0.3**
NLC				*e*S		**Sn**		**07 35 18.1**	**-1.2**
SPN	**Mys Shipunski**	**5.23**	**30**	*e*P		**Pn**		**07 34 25.5**	**+1.4**
SPN	**Mys Shipunski**	**5.23**	**30**	PN		**Pn**		**07 34 25.5**	**+1.4**
SPN	**Mys Shipunski**	**5.23**	**30**	*e*P		**Pn**		**07 34 25.5**	**+1.4**
SPN				*e*S		**Sn**		**07 35 23.0**	**0.0**
GNL	**Ganaly**	**5.23**	**15**	PN		**Pn**		**07 34 26.4**	**+2.1**
GNL	**Ganaly**	**5.23**	**15**	*e*P		**Pn**		**07 34 26.4**	**+2.1**
GNL				*e*S		**Sn**		**07 35 24.0**	**+0.6**
KII	**Karymskiy**	**5.88**	**22**	PN		**Pn**		**07 34 34.8**	**+1.8**
KII	**Karymskiy**	**5.88**	**22**	*e*P		**Pn**		**07 34 34.8**	**+1.8**
KUR	**Kuril'sk**	**6.34**	**240**	*e*P		**Pn**		**07 34 42.3**	**+3.0**
KUR				AMB		AMB		07 34 42.4	
	comp=Z,48nm,0.4s								
KUR				*e*S		**Sn**		**07 35 52.0**	**+1.7**
KUR	**Kuril'sk**	**6.34**	**240**	*e*PN		**Pn**		**07 34 40.2**	**+0.9**
KUR				*e*S		**Sn**		**07 35 52.5**	**+2.2**
KUR				pmax		pmax			
	comp=Z,48nm,0.4s								
TUMR	**Tumrok**	**7.18**	**21**	PN		**Pn**		**07 34 52.6**	**+1.6**
TUMR	**Tumrok**	**7.18**	**21**	*e*P		**Pn**		**07 34 52.6**	**+1.6**
ESO	**Esso**	**7.50**	**13**	PN		**Pn**		**07 34 57.3**	**+2.0**
ESO	**Esso**	**7.50**	**13**	P		**Pn**		**07 34 57.3**	**+2.0**
KMNR	**Kamenistaya**	**7.63**	**20**	PN		**Pn**		**07 34 58.3**	**+1.1**
KMNR	**Kamenistaya**	**7.63**	**20**	*e*P		**Pn**		**07 34 58.3**	**+1.1**
BZMR	**Bezymyannaya**	**7.86**	**20**	PN		**Pn**		**07 35 01.6**	**+1.3**
BZMR	**Bezymyannaya**	**7.86**	**20**	*e*P		**Pn**		**07 35 01.6**	**+1.3**
KBTR	**Krutoberegovo**	**8.72**	**27**	PN		**Pn**		**07 35 12.1**	**+0.1**
KBTR	**Krutoberegovo**	**8.72**	**27**	*e*P		**Pn**		**07 35 12.1**	**+0.1**
YSS	**Yuzh-Sakhalins**	**8.84**	**264**	*e*P		**Pn**		**07 35 15.2**	**+1.5**
YSS	**Yuzh-Sakhalins**	**8.84**	**264**	*e*PN		**Pn**		**07 35 15.2**	**+1.5**
BKI	**Bering**	**9.13**	**40**	PN		**Pn**		**07 35 18.5**	**+0.9**
BKI	**Bering**	**9.13**	**40**	*e*P		**Pn**		**07 35 18.5**	**+0.9**
BKI				*e*S		**Sn**		**07 36 52.7**	**-6.2**
JKA	**Kamikawa-asahi**	**10.09**	**248**	*e*P		**Pn**		**07 35 30.9**	**+0.1**
ASAJ	**Asahikawa**	**10.10**	**248**	P		**Pn**		**07 35 30.9**	**+0.1**
	comp=Z,19nm,0.3s,baz=70,slow=12,SNR=26								
KLR	**Kul'dur**	**15.70**	**281**	P		**Pn**		**07 36 43.9**	**-2.9**
	comp=Z,0.0nm,0.3s,baz=86,slow=15,SNR=3.3								
USRK	**Ussuriysk Ar.**	**16.88**	**264**	P		**Pn**		**07 36 59.9**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=78,slow=13,SNR=6.4								
MJAR	**Matsushiro Arr**	**17.60**	**233**	P		**Pn**		**07 37 12.1**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=18,slow=11,SNR=3.5								
BILL	**Bilibino**	**20.15**	**12**	*i* P		**P**		**07 37 36.7**	**-2.5**
BILL				*i*				07 37 48.3	
BILL				*i*				07 37 57.3	
BILL				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KSRS	**Korea Array**	**23.02**	**251**	P		**P**		**07 38 09.0**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=50,slow=12,SNR=4.6								
TIXI	**Tiksi**	**26.15**	**341**	P		**P**		**07 38 33.9**	**-5.0**
	comp=Z,2.3nm,0.6s,baz=118,slow=5.4,SNR=4.8								
H11N2	**WAKE ISLAND Hy**	**30.27**	**159**	T		T		08 11 14.1	
	baz=343,slow=76,SNR=55								
H11N1	**WAKE ISLAND Hy**	**30.28**	**159**	T		T		08 11 13.2	
	baz=343,slow=76,SNR=118								
H11N3	**WAKE ISLAND Hy**	**30.28**	**159**	T		T		08 11 14.1	
	baz=343,slow=76,SNR=58								
H11S1	**WAKE ISLAND Hy**	**31.40**	**160**	T		T		08 12 39.8	
	baz=345,slow=76,SNR=1016								
H11S3	**WAKE ISLAND Hy**	**31.41**	**160**	T		T		08 12 41.8	
	baz=345,slow=76,SNR=1487								
H11S2	**WAKE ISLAND Hy**	**31.41**	**160**	T		T		08 12 41.7	
	baz=345,slow=76,SNR=884								
ILAR	**Eielson Array**	**33.98**	**40**	P		**P**		**07 39 48.9**	**+0.7**
	comp=Z,1.2nm,1.1s,baz=266,slow=11,SNR=6.6								
INK	**Inuvik**	**39.11**	**34**	P		**P**		**07 40 32.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=304,slow=8.2,SNR=3.9								
MKAR	**Makanchi Array**	**47.58**	**297**	P		P		07 41 35.5	-4.9
	comp=Z,0.2nm,0.5s,baz=69,slow=9.4,SNR=3.3								
KURK	**Kurchatov**	**47.73**	**303**	P		P		07 41 37.0	-4.5
KURK				pmax		pmax			
	comp=Z,1.0nm,0.7s								
KURBB	**Kurchatov Arra**	**47.83**	**303**	P		P		07 41 37.0	-5.2
	comp=Z,0.6nm,0.7s,baz=66,slow=8.4,SNR=4.3								
YKA	**Yellowknife Ar**	**48.36**	**38**	P		**P**		**07 41 46.9**	**+0.8**
	comp=Z,1.1nm,1.0s,baz=300,slow=7.5,SNR=12								
BVAR	**Borovoye Array**	**50.96**	**309**	P		P		07 42 01.3	-4.8
	comp=Z,0.2nm,0.3s,baz=54,slow=7.3,SNR=3.7								
CMAR	**Chiang Mai Arr**	**54.47**	**257**	P		**P**		**07 42 30.3**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=31,slow=8.9,SNR=6.0								
PDAR	**Pinedale Array**	**62.24**	**56**	P		**P**		**07 43 28.4**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=316,slow=4.1,SNR=3.6								
SCHQ	**Schefferville**	**70.86**	**24**	P		**P**		**07 44 21.8**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=333,slow=9.0,SNR=3.6								
ASAR	**Alice Springs**	**74.59**	**201**	P		**P**		**07 44 43.5**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=18,slow=4.9,SNR=3.2								
TXAR	**Lajitas Array**	**75.08**	**63**	P		**P**		**07 44 48.4**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=304,slow=4.9,SNR=7.6								

*MDD **16** 07:42:10.7±1.6, 36°.31N×7°.78W, h42km±72km, mb3.5/1, Error ellipse: s-maj=13.9km s-min=10.3km az=21.0, PRXIMO*

*CSEM **16** 07:42:10.6±0.3, 36°.40N×7°.73W, h30km, mb3.5, Error ellipse: s-maj=6.6km s-min=4.2km az=18.0*

*INMG **16** 07:42:10.8±0.6, 36°.29N×7°.80W, h31km, ML1.5, Error ellipse: s-maj=3.7km s-min=1.6km az=73.0*

*IGIL **16** 07:42:10.8, 36°.28N×7°.80W, h31km, ML1.2*

ISC 16 07:42:09.5±2.6, 36°.34N±0°.09×7°.75W±0°.04, h31km±17km, n35, σ0s76/58, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.91**	**351**	*e*S		**Sn**		**07 42 38.6**	**+0.2**
PBDV	**Barranco-do-Ve**	**0.91**	**351**	S		**Sn**		**07 42 38.6**	**+0.2**
PBDV	**Barranco-do-Ve**	**0.91**	**351**	S		**Sn**		**07 42 38.6**	**+0.2**
PVAQ	**Vaqueiros**	**1.06**	**2**	*e*P		**Pn**		**07 42 28.9**	**+0.6**
PVAQ				*e*S		**Sb**		**07 42 42.6**	**-0.3**
PVAQ				A		A		07 42 43.3	
	7.2nm,0.2s								
PVAQ	**Vaqueiros**	**1.06**	**2**	P		**Pn**		**07 42 28.9**	**+0.6**
PVAQ				S		**Sb**		**07 42 42.6**	**-0.3**
	7.2nm,0.2s								
PVAQ	**Vaqueiros**	**1.06**	**2**	P		**Pn**		**07 42 28.9**	**+0.6**
PVAQ				*e*S		**Sb**		**07 42 42.6**	**-0.3**
	7.2nm,0.2s								
PFVI	**Vila Bisbo**	**1.17**	**313**	*e*P		**Pn**		**07 42 29.7**	**-0.1**
PFVI	**Vila Bisbo**	**1.17**	**313**	P		**Pn**		**07 42 29.7**	**-0.1**
	0.8nm,0.1s,SNR=7.9								
PFVI				S		**Sn**		**07 42 44.3**	**-0.4**
	1.0nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**1.17**	**313**	P		**Pn**		**07 42 29.7**	**-0.1**
	0.8nm,0.1s,SNR=7.9								
PFVI				S		**Sn**		**07 42 44.3**	**-0.4**
	1.0nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**1.21**	**10**	P		**Pn**		**07 42 31.1**	**+0.8**
	SNR=7.9								
EGRO				S		**Sn**		**07 42 45.9**	**+0.3**
	4.2nm,0.1s,SNR=13								
EGRO	**El Granado**	**1.21**	**10**	P		**Pn**		**07 42 31.1**	**+0.8**
	SNR=7.9								
EGRO				S		**Sn**		**07 42 45.9**	**+0.3**
	4.2nm,0.1s,SNR=13								
PCVE	**Castro Verde**	**1.31**	**350**	*e*P		**Pn**		**07 42 32.4**	**+0.7**
PCVE				*e*S		**Sn**		**07 42 48.5**	**+0.4**
PCVE				A		A		07 42 49.3	
	3.0nm,0.6s								
PCVE	**Castro Verde**	**1.31**	**350**	P		**Pn**		**07 42 32.4**	**+0.7**
PCVE				S		**Sn**		**07 42 48.5**	**+0.4**
	3.0nm,0.6s								
PCVE	**Castro Verde**	**1.31**	**350**	P		**Pn**		**07 42 32.4**	**+0.7**
PCVE				*e*S		**Sn**		**07 42 48.5**	**+0.4**
	3.0nm,0.6s								
MESJ	**Messejana**	**1.54**	**346**	*e*P		**Pn**		**07 42 35.6**	**+0.7**
MESJ				*e*S		**Sn**		**07 42 53.5**	**-0.3**
MESJ				AML		AML		07 42 54.4	
	comp=N,2.2nm,0.3s								
MESJ	**Messejana**	**1.54**	**346**	*e*P		**Pn**		**07 42 35.6**	**+0.7**
MESJ				*e*S		**Sn**		**07 42 53.5**	**-0.3**
MESJ	**Messejana**	**1.54**	**346**	P		**Pn**		**07 42 35.6**	**+0.7**
MESJ				S		**Sn**		**07 42 53.5**	**-0.3**
MESJ	**Messejana**	**1.54**	**346**	P		**Pn**		**07 42 35.6**	**+0.7**
MESJ				S		**Sn**		**07 42 53.5**	**-0.3**
ESPR	**Espera**	**1.61**	**70**	P		**Pn**		**07 42 36.9**	**+1.0**
	comp=N,1.4nm,0.2s,SNR=4.0								
ESPR				S		**Sn**		**07 42 55.5**	**-0.1**
	comp=N,1.9nm,0.1s,SNR=7.9								
ESPR	**Espera**	**1.61**	**70**	P		**Pn**		**07 42 36.9**	**+1.0**
	comp=N,1.4nm,0.2s,SNR=4.0								
ESPR				S		**Sn**		**07 42 55.5**	**-0.1**
	comp=N,1.9nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**1.67**	**31**	P		**Pn**		**07 42 36.9**	**+0.3**
	comp=N,0.5nm,0.3s,SNR=7.9								
EMIN				S		**Sn**		**07 42 56.1**	**-0.8**
	comp=N,0.6nm,0.1s,SNR=7.2								
EMIN	**Mina Concepcio**	**1.67**	**31**	P		**Pn**		**07 42 36.9**	**+0.3**
	comp=N,0.5nm,0.3s,SNR=7.9								
EMIN				S		**Sn**		**07 42 56.1**	**-0.8**
	comp=N,0.6nm,0.1s,SNR=7.2								
PBAR	**Barrancos**	**1.92**	**17**	*e*Pn		**Pn**		**07 42 40.9**	**+0.9**
PBAR				*e*Sn		**Sn**		**07 43 03.0**	**-0.1**
PBAR				A		A		07 43 06.0	
	comp=N,2.3nm,0.2s								
PBAR	**Barrancos**	**1.92**	**17**	P		**Pn**		**07 42 40.9**	**+0.9**
PBAR				S		**Sn**		**07 43 03.0**	**-0.1**
	comp=N,2.3nm,0.2s								
PBAR	**Barrancos**	**1.92**	**17**	P		**Pn**		**07 42 40.9**	**+0.9**
PBAR				S		**Sn**		**07 43 03.0**	**-0.1**
	comp=N,2.3nm,0.2s								
EBAD	**Badajoz**	**2.48**	**13**	S		**Sn**		**07 43 16.4**	**-0.6**
	comp=N,0.4nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**2.48**	**13**	S		**Sn**		**07 43 16.4**	**-0.6**
	comp=N,0.4nm,0.1s,SNR=7.9								
PESTR	**Estremoz**	**2.52**	**3**	*e*Sn		**Sn**		**07 43 17.2**	**-0.9**
PESTR	**Estremoz**	**2.52**	**3**	*e*Sn		**Sn**		**07 43 17.2**	**-0.9**
ECAB	**El Cabril**	**2.54**	**46**	S		**Sn**		**07 43 16.3**	**-2.3**
	comp=N,0.3nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**2.54**	**46**	S		**Sn**		**07 43 16.3**	**-2.3**
	comp=N,0.3nm,0.2s,SNR=7.9								
PMTG	**Montargil**	**2.75**	**352**	*e*Sn		**Sn**		**07 43 22.7**	**-0.9**
PMTG				A		A		07 43 24.5	
	comp=N,0.8nm,0.1s								
PMTG	**Montargil**	**2.75**	**352**	*e*Sn		**Sn**		**07 43 22.7**	**-0.9**
	comp=N,0.8nm,0.1s								
EADA	**Adamuz**	**3.12**	**53**	P		**Pn**		**07 42 57.4**	**+0.8**
	comp=N,0.2nm,0.1s,SNR=7.9								
EADA				S		**Sn**		**07 43 32.1**	**-0.7**
	comp=N,0.4nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**3.12**	**53**	P		**Pn**		**07 42 57.4**	**+0.8**
	comp=N,0.2nm,0.1s,SNR=7.9								
EADA				S		**Sn**		**07 43 32.1**	**-0.7**
	comp=N,0.4nm,0.1s,SNR=7.9								

*BJI **16** 07:58:01.3, 9°.77N×125°.78E, h36km, mb5.2/76, mB5.6/58, Ms5.6/92, Ms7 5.3/82*

*GCMT **16** 07:58:02.5±0.1, 9°.97N×125°.56E, h21km, MW5.8/142, Moment Tensor Solution. s111,c228; s142,c416; Duration: 28s Moment tensor: Scale 10^17 Nm; Mrr-5.72±.08; Mθθ 6.00±.06; Mφφ -0.28±.07; Mrθ 0.38±.11; Mθφ 3.88±.04; Mφr 0.56±.14; Best double couple: M0 6.82700×10^17 NP1:φ239.00000°, δ48.00000°, λ-97.00000°. NP2:φ70.00000°, δ43.00000°, λ-82.00000°. Princip

SGSI Sangihe 6.28 181 P Pn 07 59 36.8 +1.4
8µm,0.9s,64µm36nm
LUBP Lubang 6.45 306 eP Pn 07 59 41.0 +3.4
BALP Baler 6.94 326 eP Pn 07 59 48.0 +3.6
PCPH Palayan 7.08 322 ⇓eP Pn 07 59 48.8 +2.5
BATP Bataraza 7.83 262 eP Pn 07 59 58.1 +1.5
CAUP Cauayan 7.83 332 eP Pn 07 59 57.9 +1.3
SCZP Santa Cruz 8.00 316 eP Pn 08 00 02.8 +3.7
BOLP Bolinao 8.44 319 eP Pn 08 00 07.7 +2.7
MYLDM Lahad Datu 8.55 236 ⇓P Pn 08 00 10.3 +3.7
MYLDM Lahad Datu 8.55 236 ePn Pn 08 00 09.5 +2.9
SGCP Mt. Cagua 8.89 337 eP Pn 08 00 10.7 -0.6
APYP Conner 8.90 332 eP Pn 08 00 13.4 +2.1
I39PW PALAU INFRASON 9.14 105 *i* 08 56 30.0
baz=286,slow=321,SNR=2.3
TNTI Ternate 9.34 169 ePn Pn 08 00 16.9 -0.5
3µm,1.0s
SDKM Sandakan 9.42 243 ⇑P Pn 08 00 24.2 +5.5
KMSI Cibinong 9.52 190 P Pn 08 00 22.8 +3.0
1µm,0.9s,25µm
KKM Kota Kinabalu 10.13 248 ⇑P Pn 08 00 32.5 +4.2
KKM Kota Kinabalu 10.13 248 ePn Pn 08 00 31.1 +2.8
MRSI Marisa 10.16 201 P Pn 08 00 30.8 +2.1
445nm,1.2s,5µm
LBMI Labuha 10.74 170 P Pn 08 00 35.6 -1.0
1µm,1.9s,19µm
MPSI Mapaga 11.18 211 P Pn 08 00 48.6 +6.0
103nm,1.1s,3µm
LUWI Luwuk 11.34 195 ePn Pn 08 00 45.9 +1.1
5µm,1.3s
APSI Ampana 11.55 200 P Pn 08 00 50.9 +3.2
2µm,1.3s,27µm21µm
SWI Sorong 12.16 152 P Pn 08 00 56.3 +0.2
687nm,1.1s,8µm
SGKI Sangatta, Kali 13.18 218 P Pn 08 01 11.4 +1.4
430nm,1.3s,7µm
TWG Pinlang 13.47 342 ePn Pn 08 01 16.9 +3.0
MSAI Masohi 13.67 166 P Pn 08 01 17.2 +0.6
175nm,1.4s,3µm
YULB Yu-li 13.94 343 ePn Pn 08 01 21.4 +1.0
TPUB Ta-pu 14.06 341 ePn Pn 08 01 25.4 +3.4
TTSI Tana Toraja 14.21 204 P Pn 08 01 25.6 +1.6
940nm,1.1s,13µm
TTSI S S 08 04 16.4 -4.1
940nm,1.1s,13µm
RKPI Ransiki, Papua 14.26 143 P Pn 08 01 25.4 +0.7
2µm,1.2s,27µm
SSLB Suanglung 14.41 343 ePn P 08 01 30.2 -3.0
FAKI Fak Fak 14.43 153 ePn Pn 08 01 26.3 -0.8
611nm,1.0s
YOJ Yonaguni jima 14.59 350 eP P 08 01 32.6 -2.6
YOJ Yonaguni jima 14.59 350 ePn P 08 01 32.6 -2.6
NACB Ninganchiao 14.61 345 ePn Pn 08 01 32.0 +2.6
YHNB Yeheng 15.13 345 ePn Pn 08 01 38.4 +1.8
596nm,1.1s
SBUM Sibu 15.30 241 ⇑P P 08 01 42.2 -0.9
SBUM Sibu 15.30 241 ePn Pn 08 01 40.6 +1.8
2µm,1.1s
BNSI Bone 15.34 201 P P 08 01 42.5 -1.1
2µm,1.6s,33µm
BNSI S S 08 04 38.2 -5.5
2µm,1.6s,33µm
TATO Taipei 15.40 346 ePn P 08 01 42.8 -1.4
1µm,1.4s
TATO Taipei 15.40 346 pP P 08 01 51.3 +7.1
SNR=11
KMPI Kaimana, Papua 15.78 149 P Pn 08 01 46.4 +1.5
764nm,1.5s,21µm
KAPI Kappang 16.04 202 eP P 08 01 50.4 -1.0
2µm,1.3s
KAPI Kappang 16.04 202 P P 08 01 52.2 +0.8
SNR=63
KAPI Kappang 16.04 202 P P 08 01 52.2 +0.8
SNR=63
KBKI Kotabaru 16.24 216 P P 08 01 54.4 +0.8
1µm,1.3s,13µm
QZH Quanzhou 16.30 337 ⇑*i*P Pn 08 01 51.3 -0.1
QZH S Sn 08 04 54.6 +3.3
QZH LR LR
comp=N,8µm,17.1s
QZH LR LR
comp=E,7µm,15.6s
QZH LR LR
comp=Z,8µm,17.1s
HKC Hong Kong Obse 16.44 319 ⇑P Pn 08 01 54.0 +0.7
MCO Taipa Grande 16.71 318 P P 08 01 58.0 -0.8
BSSI Bau Bau, Buton 16.85 198 P Pn 08 01 59.1 +0.6
587nm,1.5s,16µm
JOW Kunigami 16.92 8 ePn P 08 02 01.9 +0.8
1µm,1.5s
STKI Sintang 17.21 236 P P 08 02 06.6 +2.2
657nm,1.2s,17µm
KSM Kuching 17.44 242 ⇑P P 08 02 07.8 +0.9
KSM Kuching 17.44 242 ePn P 08 02 07.0 +0.1
248nm,1.1s
GZH Guangzhou 17.53 319 ⇑*i*P P 08 02 10.3 +2.5
GZH pP pP 08 02 18.6 +2.0
GZH S S 08 05 25.8 -2.6
GZH SS SnSn 08 05 40.3 +5.1
GZH PcP PcP 08 06 48.4 +2.1
GZH pmax pmax
comp=Z,12µm,7.0s
GZH LR LR
comp=N,18µm,21.2s
GZH LR LR
comp=E,24µm,17.1s
QIZ Qiongzhong 17.71 302 P Pn 08 02 09.4 +0.1
QIZ pP pP 08 02 18.8 +0.2
QIZ sP sP 08 02 23.3 +0.4
QIZ S Sn 08 05 28.8 +3.0
QIZ pmax pmax
comp=Z,1µm,4.5s
QIZ LR LR
comp=N,12µm,17.7s
QIZ LR LR
comp=E,9µm,15.2s
QIZ LR LR
comp=Z,10µm,13.7s
QIZ Qiongzhong 17.71 302 ePn P 08 02 12.1 +2.2
172nm,1.1s
PBKI Pangkalan Bun 18.79 228 P Pn 08 02 24.6 +2.1
1µm,1.2s,12µm
EDFI Ende, Flores 19.05 192 P Pn 08 02 25.3 -0.3
229nm,0.9s,8µm
GUMO Guam 19.15 77 P Pn 08 02 26.6 -0.2
5.9nm,0.3s,baz=76,slow=11,SNR=2.8
GUMO LR LR 08 08 20.6
comp=Z,2µm,21.3s,baz=254,slow=32
JAY Jayapura 19.49 129 P Pn 08 02 30.5 -0.4
4µm,1.2s,69µm136µm
JAY pP pP 08 02 38.9 +0.6
4µm,1.2s,69µm136µm
JAY S Sn 08 06 10.8 +1.9
4µm,1.2s,69µm136µm
SOEI Soe 19.68 184 eP P 08 02 32.2 +0.5
2µm,1.3s
BATI Baumata 20.18 186 P P 08 02 37.2 +0.2
191nm,0.8s,baz=94,slow=4.9,SNR=5.5
BATI LR LR 08 10 59.7
comp=Z,6µm,19.8s,baz=352,slow=38
BATI Baumata 20.18 186 P Pn 08 02 40.0 +1.0
485nm,1.1s,4µm
BWJI Bawean 20.38 220 P Pn 08 02 42.8 +1.4
729nm,1.2s,7µm
KMMI Kalianget 20.55 215 P Pn 08 02 44.8 +1.4
896nm,1.3s,11µm
SRBI Singaraja 20.76 210 P Pn 08 02 46.7 +0.9
473nm,1.4s,5µm
ABJI Asem Bagus 21.02 213 P P 08 02 49.6 +3.5
258nm,1.2s,5µm
GRJI Gresik 21.32 218 P P 08 02 52.1 +2.8
575nm,1.1s,5µm
GRJI pP pP 08 02 59.0 +0.9
575nm,1.1s,5µm
SSE Sheshan 21.39 349 P P 08 02 51.3 +1.4
SSE pP sP 08 03 03.3 +0.4
SSE S S 08 06 47.1 +1.5
SSE pmax pmax
comp=Z,2µm,1.7s
SSE LR LR
comp=N,1µm,13.7s
SSE LR LR
comp=E,1µm,13.2s
IGBI Denpasar 21.42 210 P P 08 02 53.8 +3.4
1µm,1.2s
TBJI Tambak Boyo 21.64 220 P P 08 02 56.0 +3.3
328nm,1.1s,9µm
GMJI Gumukmas 21.85 214 P P 08 02 57.1 +2.2
650nm,1.1s
SKNT Sakolnakorn 22.16 291 P P 08 02 57.4 -0.9
148nm,1.2s
PWJI Pagerwojo 22.60 218 P P 08 03 07.6 +4.6
281nm,1.5s
SMRI Semarang 22.72 222 eP P 08 03 02.2 -2.2
456nm,0.9s
KTGM Kuala Trenggan 22.78 260 ⇑P P 08 03 06.2 +1.2
NJ2 Nanjing 22.82 345 eP P 08 03 05.8 +0.6
NJ2 pP pP 08 03 13.9 -0.1
NJ2 sP sP 08 03 17.3 -0.9
NJ2 S S 08 07 10.4 -1.9
NJ2 sS sS 08 07 26.6 -1.0
NJ2 pmax pmax
comp=Z,45nm,1.1s
NJ2 pmax pmax
comp=Z,2µm,6.8s
NJ2 LR LR
comp=N,5µm,15.2s
NJ2 LR LR
comp=E,5µm,13.0s
NJ2 LR LR
comp=Z,6µm,14.6s
WHN Wuhan 22.98 334 ⇓P P 08 03 08.0 +1.1
WHN pP pP 08 03 14.8 -1.0
WHN S S 08 07 12.5 -2.6
WHN LR LR
comp=N,17µm,14.7s
WHN LR LR
comp=E,4µm,11.8s
WHN LR LR
comp=Z,20µm,16.3s
CBIJ Chichi jima 23.08 40 eP P 08 03 07.9 0.0
570nm,0.9s
KHON Khomkaen 23.08 288 P P 08 03 09.4 +1.4
252nm,1.1s,2µm
PCJI Pantan 23.12 219 P P 08 03 13.3 +4.9
430nm,1.6s,7µm
MYKOM Kota Tinggi 23.14 251 ⇓P P 08 03 10.6 +1.9
MYKOM Kota Tinggi 23.14 251 eP P 08 03 08.4 -0.4
193nm,1.0s
MTN Manton Dam 23.35 166 eP P 08 03 11.2 +0.5
654nm,1.3s
DSRI Dabo 23.41 245 P P 08 03 12.1 +0.8
807nm,1.2s,11µm
MMPI Merauke 23.50 141 P P 08 03 14.4 +2.2
3µm,1.0s,37µm
JNU Nakatsue 23.50 11 P P 08 03 12.6 +0.5
23nm,0.9s,baz=4.0,slow=2.0,SNR=12
JNU LR LR 08 12 35.9
comp=Z,3µm,20.3s,baz=180,slow=37
JNU Nakatsue 23.50 11 eP P 08 03 12.5 +0.4
180nm,1.0s
NAYO Nakonayok 24.15 283 P P 08 03 18.8 +0.5
330nm,1.4s,4µm
GYA Guiyang 24.28 315 ⇑*i*P P 08 03 20.3 +0.7
GYA pP pP 08 03 30.0 +0.8
GYA PP PnPn 08 03 56.4 +6.1
GYA PcP PcP 08 07 01.8 +2.6
GYA S S 08 07 36.1 -0.5
GYA sS sS 08 07 51.0 -1.2
GYA SS SnSn 08 08 29.6 +8.7
GYA ScP ScP 08 10 35.5 -0.1
GYA pmax pmax
comp=Z,110nm,1.0s
GYA pmax pmax
comp=Z,2µm,7.4s
GYA LR LR
comp=N,6µm,13.6s
GYA LR LR
comp=E,6µm,15.8s
GYA LR LR
comp=Z,9µm,16.1s
LEM Lembang 24.54 228 P P 08 03 23.6 +1.5
95nm,0.8s,baz=34,slow=5.1,SNR=8.4
LEM Lembang 24.54 228 P P 08 03 20.3 -1.7
3µm,1.0s,75µm
MANU Manus Island 24.73 118 eP P 08 03 23.9 +0.3
954nm,1.6s
SKLT Songkhla 24.90 265 P P 08 03 24.7 -0.4
203nm,1.1s,2µm
IPM Ipoh 25.02 259 ⇑P P 08 03 26.7 +0.4
IPM Ipoh 25.02 259 eP P 08 03 26.0 -0.3
296nm,0.8s
ENH Enshi 25.16 326 eP P 08 03 27.4 -0.1
386nm,1.4s
ENH LR LR
comp=Z,8µm,22.0s
SBJI Serang 25.19 231 P P 08 03 27.2 -0.6
comp=Z,1µm,1.2s,comp=Z,18µm
KULM Kulim 25.20 261 ⇓P P 08 03 28.7 +0.8
KULM Kulim 25.20 261 eP P 08 03 27.9 0.0
comp=Z,375nm,1.2s
KULM LR LR
comp=Z,7µm,20.0s
BLSI Bandar Lampung 25.42 234 P P 08 03 30.1 +0.2
comp=Z,820nm,1.1s,comp=Z,8µm
SKJI Subabumi 25.44 229 P P 08 03 32.8 +2.8
comp=Z,714nm,1.5s,comp=Z,10µm
PHIT Phitsanulok 25.51 289 P P 08 03 31.8 +1.1
comp=Z,185nm,1.0s,comp=Z,1µm
PHET Kaeng Krachan 25.65 279 P P 08 03 34.7 +2.7
comp=Z,43nm,0.9s,comp=Z,372nm
TRTT Trang 25.72 267 P P 08 03 32.1 -0.6
comp=Z,38nm,1.2s,comp=Z,711nm
MDSI Maura Dua 25.78 237 P P 08 03 31.8 -1.3
comp=Z,194nm,1.1s,comp=Z,3µm
CGJI Cibinong 25.84 231 P P 08 03 32.2 -1.4
comp=Z,453nm,1.2s,comp=Z,5µm
KASI Kota Agung 26.11 235 P P 08 03 35.6 -0.5
comp=Z,349nm,1.1s,comp=Z,4µm
SRDT SRDT 26.27 282 P P 08 03 37.9 +0.3
comp=Z,307nm,1.4s
BKNI Bangkinang 26.29 250 eP P 08 03 38.5 +0.7
comp=Z,85nm,0.8s
TJN Taejon 26.30 3 *i*P P 08 03 39.4 +1.8
JHJ Hachijo jima 2 26.43 27 LR LR 08 12 54.4
comp=Z,3µm,20.5s,baz=248,slow=34
KMI Kunming 26.44 308 P P 08 03 40.3 +1.0
KMI pP pP 08 03 49.6 +0.8
KMI sP sP 08 03 53.3 +0.4
KMI PP PnPn 08 04 21.0 +1.1
KMI S S 08 08 10.5 -0.7
KMI sS sS 08 08 26.6 -0.4
KMI SS SnSn 08 09 19.5 +5.8
KMI pmax pmax
comp=Z,19nm,0.5s
KMI pmax pmax
comp=Z,1µm,3.2s
KMI LR LR
comp=Z,6µm,19.5s
KMI LR LR
comp=Z,4µm,15.5s
KMI LR LR
comp=Z,5µm,17.3s
SURT Suratani 26.50 270 P P 08 03 39.5 -0.2
comp=Z,44nm,1.4s,comp=Z,612nm
LAMP Lampang 26.56 291 P P 08 03 41.5 +1.3
comp=Z,111nm,1.0s,comp=Z,798nm
MASI Maura Aman, Be 26.72 242 P P 08 03 42.0 +0.3
comp=Z,446nm,1.2s,comp=Z,8µm
CM01 Chiang Mai Arr 27.15 291 eP P 08 03 46.8 +1.2
CM31 Chiang Mai Arr 27.18 291 eP P 08 03 46.8 +1.1
CMAR Chiang Mai Arr 27.18 291 P P 08 03 46.9 +1.1
comp=Z,95nm,1.0s,baz=106,slow=6.8,SNR=216
CMAR S S 08 08 26.5 +4.0
comp=Z,1.8nm,0.3s,baz=102,slow=20,SNR=4.6
CMAR ScP ScP 08 10 43.6 -0.3
comp=Z,1.3nm,0.4s,baz=79,slow=2.1,SNR=4.1
CMAR LR LR 08 14 44.3
comp=Z,6µm,20.0s,baz=120,slow=37
TIA Tai'an 27.21 345 P P 08 03 45.3 -0.5
TIA pP pP 08 03 56.8 +1.4
TIA S S 08 08 24.5 +1.9
TIA sS sS 08 08 43.9 +5.5
TIA pmax pmax
comp=Z,25nm,0.8s
TIA LR LR
comp=Z,3µm,19.0s
TIA LR LR
comp=Z,5µm,13.9s
TIA LR LR
comp=Z,4µm,17.3s
CMMT Chiang Mai 27.26 292 P P 08 03 46.2 -0.3
comp=Z,188nm,1.3s,comp=Z,2µm
CHTO Chiang Mai 27.27 292 P P 08 03 47.3 +0.7
comp=Z,837nm,1.4s,comp=Z,9µm
CHTO Chiang Mai 27.27 292 eP P 08 03 47.3 +0.7
CHTO pmax pmax
comp=Z,270nm,1.2s
CHTO Chiang Mai 27.27 292 eP P 08 03 47.3 +0.7
comp=Z,268nm,1.2s
CHTO LR LR
comp=Z,4µm,21.0s
CHTO Chiang Mai 27.27 292 P P 08 03 47.5 +0.9
SNR=124
CHTO Chiang Mai 27.27 292 P P 08 03 47.5 +0.9
SNR=124
INU Inuyama 27.27 21 eP P 08 03 46.9 +0.5
comp=Z,78nm,0.8s
INCN Inchon 27.37 2 eP P 08 03 46.2 -1.0
comp=Z,92nm,1.3s
INCN LR LR
comp=Z,6µm,19.0s
KS15 Wonju Array Si 27.39 4 eP P 08 03 48.7 +1.3
KSAR Wonju Array Be 27.39 4 P P 08 03 48.3 +0.9
KSAR 08 07 07.0
KSAR S S 08 08 27.2 +1.8
KSAR Wonju Array Be 27.39 4 P P 08 03 48.2 +0.9
KSAR PcP PcP 08 07 07.0 +1.1
KSAR S S 08 08 27.2 +1.8
KSAR ScP ScP 08 10 43.9 -0.3
KSRS Korea Array 27.40 4 P P 08 03 48.2 +0.7
comp=Z,17nm,0.9s,baz=186,slow=9.9,SNR=22
KSRS PcP PcP 08 07 07.0 +1.0
comp=Z,3.9nm,0.8s,baz=186,slow=3.0,SNR=5.0
KSRS S S 08 08 27.2 +1.6
comp=Z,0.9nm,0.5s,baz=185,slow=27,SNR=2.5
KSRS ScP ScP 08 10 43.9 -0.3
comp=Z,3.6nm,0.9s,baz=186,slow=3.4,SNR=5.4
KSRS LR LR 08 13 35.8
comp=Z,3µm,21.6s,baz=210,slow=34
KS01 Wonju Array Si 27.42 4 eP P 08 03 48.0 +0.3
KS01 ePcP PcP 08 07 05.8 -0.2
PSI Prapat 27.48 257 P P 08 03 49.0 +0.4
comp=Z,101nm,1.0s,baz=67,slow=5.6,SNR=73
PSI PcP PcP 08 07 06.7 -0.1
comp=Z,21nm,1.1s,baz=140,slow=4.1,SNR=4.1
PSI LR LR 08 17 08.5
comp=Z,6µm,18.6s,baz=84,slow=42
PSI Prapat 27.48 257 eP P 08 03 48.7 0.0
comp=Z,309nm,1.1s
PSI PcP PcP 08 07 06.7 -0.1
CMAI Chiengmai2 27.48 294 P P 08 03 49.8 +1.1
comp=Z,3µm,1.4s,comp=Z,38µm
FITZ Fitzroy Crossi 27.93 180 P P 08 03 52.5 +0.1
comp=Z,40nm,0.9s,baz=8.1,slow=9.5,SNR=18
FITZ PcP PcP 08 07 07.6 +0.1
KCSI Kotacane, Aceh 28.40 259 P P 08 03 56.0 -0.8
comp=Z,185nm,0.9s,comp=Z,1µm
XAN Xi'an 28.41 330 P P 08 03 55.4 -1.3
XAN pP pP 08 04 05.0 -1.2
XAN sP sP 08 04 09.8 -0.5
XAN PcS PcS 08 10 53.3 +2.3
XAN pmax pmax
comp=Z,68nm,1.0s
XAN pmax pmax
comp=Z,210nm,3.9s
XAN LR LR
comp=Z,8µm,17.1s
XAN LR LR
comp=Z,4µm,17.1s
XAN LR LR
comp=Z,6µm,14.7s
PPSI Pulau Pagai 28.51 245 P P 08 03 59.8 +2.1
comp=Z,409nm,1.4s,comp=Z,5µm
SISI Saibi 28.73 248 P P 08 03 58.1 -1.6
comp=Z,312nm,1.1s,comp=Z,4µm
MAJO Matsushiro 28.77 21 *d*P P 08 03 58.5 -1.3
MAJO pmax pmax
comp=Z,44nm,1.5s
MAJO Matsushiro 28.77 21 eP P 08 03 59.3 -0.5
comp=Z,54nm,0.9s
MAJO LR LR
comp=Z,7µm,19.0s
MAT Matsushiro 28.77 21 P P 08 03 58.3 -1.5
MAT S S 08 08 51.0 +3.8
MJAR Matsushiro Arr 28.77 21 P P 08 03 58.9 -0.9
comp=Z,8.4nm,0.7s,baz=197,slow=9.4,SNR=15
MJAR PcP PcP 08 07 10.0 +0.6
comp=Z,4.3nm,0.8s,baz=182,slow=3.3,SNR=4.4
MJAR ScP ScP 08 10 48.5 0.0
comp=Z,1.2nm,0.7s,baz=184,slow=2.0,SNR=4.5
MJAR LR LR 08 14 57.6
comp=Z,5µm,19.0s,baz=210,slow=35
MJB9 Matsu-Tunnel 28.77 21 eP P 08 03 59.3 -0.5
comp=Z,57nm,1.0s
PMG Port Moresby 28.82 131 P P 08 04 01.5 +1.1
comp=Z,26nm,0.8s,baz=343,slow=10.0,SNR=7.6
PMG PcP PcP 08 07 10.6 +0.8
comp=Z,18nm,0.8s,baz=277,slow=2.7,SNR=2.9
PMG Port Moresby 28.82 131 eP P 08 04 02.9 +2.4
PMG 08 07 10.6
PMG pmax pmax
comp=Z,159nm,1.0s
PMG MLR MLR
comp=Z,6µm,20.0s
PMG Port Moresby 28.82 131 eP P 08 04 02.9 +2.4
comp=Z,159nm,1.0s
PMG PcP PcP 08 07 10.6 +0.8
PMG LR LR
comp=Z,6µm,20.0s
LHMI Lhok Sumawe 28.82 263 eP P 08 04 01.4 +0.9
comp=Z,360nm,0.9s
DL2 Dalian 29.00 354 ⇑*i*P P 08 04 02.1 +0.4
DL2 PP PnPn 08 04 58.3 +3.9
DL2 S S 08 08 49.8 -0.9
DL2 pmax pmax
comp=Z,210nm,0.9s
DL2 pmax pmax
comp=Z,670nm,4.2s
DL2 LR LR
comp=Z,1µm,14.9s
DL2 LR LR
comp=Z,5µm,17.3s
DL2 LR LR
comp=Z,3µm,18.6s
CD2 Chengdu 29.09 319 ⇑P P 08 04 02.8 0.0
CD2 pP sP 08 04 14.5 -1.9
CD2 sP pP 08 04 20.1 +7.8
CD2 S S 08 08 52.5 0.0
CD2 sS sS 08 09 13.0 +4.7
CD2 pmax pmax
comp=Z,150nm,0.8s
CD2 pmax pmax
comp=Z,3µm,6.5s
CD2 LR LR
comp=Z,24µm,23.3s
CD2 LR LR
comp=Z,22µm,24.3s
CD2 LR LR
comp=Z,12µm,17.1s
GSI Gunungsitoli 29.21 255 eP P 08 04 03.1 -0.9
comp=Z,298nm,0.9s
COEN Coen 29.49 144 eP P 08 04 05.8 -0.5
comp=Z,205nm,0.9s
RABL Rabaul 29.95 117 eP P 08 04 08.5 -2.1
comp=Z,560nm,1.5s
TIY Taiyuan 30.04 339 eP P 08 04 12.0 +0.9
TIY S S 08 09 07.0 -0.3
TIY pmax pmax
comp=Z,36nm,0.5s
TIY pmax pmax
comp=Z,410nm,4.5s
TIY LR LR
comp=Z,4µm,16.2s
TIY LR LR
comp=Z,2µm,12.6s
TIY LR LR
comp=Z,3µm,14.9s
WRAB Tennant Creek 30.96 164 eP P 08 04 18.1 -1.3
WRAB pmax pmax
comp=Z,219nm,1.4s
WRAB MLR MLR
comp=Z,4µm,19.0s
WRAB Tennant Creek 30.96 164 eP P 08 04 18.1 -1.3
comp=Z,219nm,1.4s
WRAB LR LR
comp=Z,4µm,19.0s
WRA Warramunga Arr 30.97 164 P P 08 04 18.4 -1.0
comp=Z,6.3nm,0.5s,baz=345,slow=8.7,SNR=29

WRA PcP **PcP** **08 07 15.8 +0.5**
comp=Z,8.8nm,0.4s,baz=338,slow=2.7,SNR=7.3
WRA ScP **ScP** **08 10 54.9 -0.9**
comp=Z,6.0nm,1.1s,baz=351,slow=23,SNR=3.7
WC3 Warramunga Arr 31.00 164 *eP* **P** **08 04 19.6 0.0**
comp=Z,117nm,0.9s
BJT Baijiatuau 31.05 346 *eP* **P** **08 04 20.4 +0.5**
BJT pmax pmax
comp=Z,190nm,1.1s
BJT MLR MLR
comp=Z,3μm,19.0s
BJT Baijiatuau 31.05 346 *eP* **P** **08 04 20.4 +0.5**
comp=Z,190nm,1.1s
BJT LR LR
comp=Z,3μm,19.0s
BJI Beijing 31.07 346⇓ *eP* **P** **08 04 20.3 +0.3**
BJI pP **pP** **08 04 28.8 -0.8**
BJI S **S** **08 09 23.0 -0.2**
BJI pmax pmax
comp=Z,89nm,1.0s
BJI pmax pmax
comp=Z,1.0nm,2.6s
BJI LR LR
comp=Z,3μm,16.9s
BJI LR LR
comp=Z,8μm,19.2s
BJI LR LR
comp=Z,5μm,39.8s
MBWA Marble Bar 31.51 191 PFAKE 08 04 40.0 +16
MBWA LR LR
comp=Z,7μm,20.0s
SNY Shenyang 31.75 357⇓ P **P** **08 04 27.8 +1.8**
SNY S **S** **08 09 26.0 -7.7**
SNY pmax pmax
comp=Z,960nm,12.0s
SNY LR LR
comp=Z,3μm,21.8s
SNY LR LR
comp=Z,5μm,15.3s
SNY LR LR
comp=Z,6μm,18.2s
DGPR DIGLIPUR 32.18 279 *eP* **P** **08 04 30.6 +0.4**
DGPR IAmb IAmb 08 04 40.9
comp=Z,45nm,0.7s
LZH Lanzhou 32.64 326 *eP* **P** **08 04 34.8 +0.6**
LZH pP pP 08 04 42.8 -1.0
LZH sP sP 08 04 45.3 -2.5
LZH PcP **PcP** **08 07 16.3 -3.5**
LZH *e*S **S** **08 09 45.0 -3.2**
LZH sS sS 08 10 03.6 -0.5
LZH pmax pmax
comp=Z,55nm,1.0s
LZH pmax pmax
comp=Z,440nm,5.2s
LZH LR LR
comp=Z,7μm,13.4s
LZH LR LR
comp=Z,3μm,12.5s
LZH LR LR
comp=Z,11μm,15.0s
HHC Hu-ho-hao-te 33.15 340 *eP* **P** **08 04 39.0 +0.6**
HHC pP pP 08 04 47.0 -1.1
HHC sP sP 08 04 53.6 +1.5
HHC PP **PnPn** **08 05 47.0 -1.9**
HHC S **S** **08 09 53.8 -2.0**
HHC sS sS 08 10 12.3 +0.6
HHC SS **SnSn** **08 11 58.3 +1.7**
HHC pmax pmax
comp=Z,46nm,0.9s
HHC pmax pmax
comp=Z,750nm,3.7s
HHC LR LR
comp=Z,3μm,12.7s
HHC LR LR
comp=Z,4μm,12.9s
HHC LR LR
comp=Z,4μm,16.5s
VLA Vladivostok 33.43 8 *eP* **P** **08 04 41.4 +0.7**
VLA pmax pmax
comp=Z,87nm,1.5s
BTO Baotou 33.47 338 *eP* **P** **08 04 41.3 0.0**
CN2 Changchun 33.67 360 *eP* **P** **08 04 43.0 +0.2**
CN2 *e*pP sP 08 04 55.0 -1.4
CN2 *e*sP pP 08 05 00.4 +8.0
CN2 *e*S **S** **08 10 03.1 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,3μm,15.0s
CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,2μm,18.0s
AS31 Alice Springs 34.43 167 *eP* **P** **08 04 49.5 -0.2**
comp=Z,21nm,0.4s
ASAR Alice Springs 34.43 167 P **P** **08 04 49.4 -0.3**
comp=Z,8.4nm,0.3s,baz=354,slow=7.0,SNR=102
ASAR PP **PnPn** **08 06 05.8 +0.5**
comp=Z,25nm,0.9s,baz=343,slow=10,SNR=4.7
ASAR PcP **PcP** **08 07 25.2 +0.4**
comp=Z,9.2nm,0.4s,baz=344,slow=2.7,SNR=9.0
ASAR S **S** **08 10 12.9 -3.0**
comp=Z,3.6nm,0.9s,baz=355,slow=19,SNR=2.5
ASAR ScP **ScP** **08 11 06.7 -1.0**
comp=Z,5.7nm,1.0s,baz=350,slow=4.6,SNR=4.1
ASAR LR LR 08 19 08.7
comp=Z,3μm,18.7s,baz=2.5,slow=37
AS01 Alice Springs 34.44 166 *eP* **P** **08 04 50.1 +0.4**
USRK Ussuriysk Ar. 34.51 8 P **P** **08 04 50.8 +0.7**
comp=Z,41nm,0.8s,baz=190,slow=8.3,SNR=43
USRK PcP **PcP** **08 07 24.5 -0.1**
comp=Z,12nm,0.9s,baz=139,slow=3.7,SNR=4.1
USRK LR LR 08 17 16.5
comp=Z,2μm,21.9s,baz=177,slow=33
MDJ Mudanjiang 34.65 5 P **P** **08 04 51.3 0.0**
MDJ pP pP 08 04 59.3 -1.6
MDJ sP sP 08 05 04.4 -0.6
MDJ PcP **PcP** **08 07 21.0 -4.1**
MDJ S **S** **08 10 16.9 -1.9**
MDJ pmax pmax
comp=Z,52nm,1.3s
MDJ LR LR
comp=Z,2μm,11.4s
MDJ LR LR
comp=Z,5μm,14.9s
MDJ LR LR
comp=Z,5μm,13.1s
MDJ Mudanjiang 34.65 5 *eP* **P** **08 04 52.6 +1.3**
comp=Z,158nm,1.1s
MDJ LR LR
comp=Z,3μm,22.0s
ERM Erimo 35.40 23*c* *iP* **P** **08 04 59.0 +1.2**
ERM pmax pmax
comp=Z,58nm,1.1s
ERM Erimo 35.40 23 *e*pP **pP** **08 05 06.0 -1.4**
ERM LR LR
comp=Z,3μm,20.0s
SHL Shillong 35.53 300⇓ *iP* **P** **08 04 58.5 -0.9**
SHL IAmb IAmb 08 04 59.8
comp=Z,384nm,1.9s
SHL *ex* x 08 10 29.5
CTA Charters Tower 36.14 146 P **P** **08 05 05.0 +0.5**
comp=Z,26nm,0.9s,baz=331,slow=10,SNR=15
CTA PcP **PcP** **08 07 32.3 +2.4**
comp=Z,14nm,0.8s,baz=243,slow=1.7,SNR=2.3
CTA ScP **ScP** **08 11 14.2 +0.2**
comp=Z,5.5nm,0.7s,baz=6.9,slow=8.1,SNR=2.5
CTA LR LR 08 23 01.9
comp=Z,3μm,18.1s,baz=330,slow=41
CTAO Charters Tower 36.14 146 *eP* **P** **08 05 04.8 +0.3**
CTAO pmax pmax
comp=Z,370nm,1.3s
CTAO Charters Tower 36.14 146 *eP* **P** **08 05 04.8 +0.3**
comp=Z,367nm,1.4s
CTAO LR LR
comp=Z,7μm,21.0s
TEY Ternei 36.16 13 *eP* **P** **08 05 04.4 +0.2**
TEY pmax pmax
comp=Z,2μm,2.0s
ASAJ Asahikawa 37.02 20 P **P** **08 05 11.9 +0.2**
comp=Z,22nm,0.6s,baz=229,slow=12,SNR=32
ASAJ Asahikawa 37.02 20 *eP* **P** **08 05 13.0 +1.4**
comp=Z,63nm,0.8s
GTA Gaotai 37.25 326⇓ P **P** **08 05 13.8 0.0**

GTA pP pP 08 05 23.3 -0.2
GTA sP sP 08 05 27.3 -0.2
GTA PP **PnPn** **08 06 42.3 +2.5**
GTA S **S** **08 10 59.3 +0.3**
GTA sS sS 08 11 15.1 +0.1
GTA ScP **ScP** **08 11 18.8 +0.9**
GTA SS **SnSn** **08 13 32.6 -3.4**
GTA pmax pmax
comp=Z,28nm,1.3s
GTA pmax pmax
comp=Z,250nm,6.2s
GTA LR LR
comp=Z,4μm,20.0s
GTA LR LR
comp=Z,5μm,18.1s
GTA LR LR
comp=Z,6μm,17.6s
LSA Lhasa 37.68 306 P **P** **08 05 18.5 +0.5**
LSA pP **pP** **08 05 27.3 -0.4**
LSA PP **PnPn** **08 06 52.3 +6.8**
LSA S **S** **08 11 04.3 -2.1**
LSA SS **SnSn** **08 13 49.0 +1.9**
LSA pmax pmax
comp=Z,20nm,1.3s
LSA pmax pmax
comp=Z,550nm,7.1s
LSA LR LR
comp=Z,820nm,17.1s
LSA LR LR
comp=Z,2μm,17.1s
LSA LR LR
comp=Z,3μm,21.7s
LSA Lhasa 37.68 306 *eP* **P** **08 05 20.2 +2.2**
LSA pmax pmax
comp=Z,164nm,1.2s
LSA MLR MLR
comp=Z,4μm,22.0s
LSA Lhasa 37.68 306 *eP* **P** **08 05 20.2 +2.2**
comp=Z,164nm,1.2s
LSA LR LR
comp=Z,4μm,22.0s
LSA Lhasa 37.68 306 P **P** **08 05 18.8 +0.8**
LSA Lhasa 37.68 306 P **P** **08 05 18.8 +0.8**
YUK Yuzh-Kuril'sk 38.16 24*d* *iP* **P** **08 05 23.0 +1.7**
YUK *i* 08 06 58.3
YUK *i* PPP PPP 08 07 19.2
YUK *i* S **S** **08 11 11.9 -0.5**
YUK pmax pmax
comp=Z,411nm,1.3s
YUK pmax pmax
comp=E,123nm,0.7s
YUK pmax pmax
comp=N,235nm,1.1s
YUK pmax pmax
comp=Z,551nm,1.3s
YUK MLR MLR
comp=Z,1μm,15.0s
HNR Honiara 39.23 118 P **P** **08 05 31.1 +0.5**
comp=Z,133nm,0.9s,baz=291,slow=3.3,SNR=3.7
HNR LR LR 08 19 34.6
comp=Z,3μm,21.1s,baz=296,slow=33
HNR Honiara 39.23 118 P **P** **08 05 29.0 -1.6**
HNR Honiara 39.23 118 *eP* **P** **08 05 30.7 +0.1**
HNR pmax pmax
comp=Z,380nm,1.4s
HNR Honiara 39.23 118 *eP* **P** **08 05 30.6 +0.1**
comp=Z,380nm,1.4s
KLR Kul'dur 39.43 6 P **P** **08 05 32.2 +0.3**
comp=Z,2.1nm,0.6s,baz=199,slow=5.4,SNR=101
KLR PcP **PcP** **08 07 40.5 +1.0**
comp=Z,0.7nm,0.7s,baz=73,slow=5.5,SNR=3.5
KLR LR LR 08 22 35.3
comp=Z,257nm,20.2s,baz=190,slow=37
KLR Kul'dur 39.43 6*d* *iP* **P** **08 05 31.9 +0.1**
HIA Hailar 39.44 354*d* *iP* **P** **08 05 31.4 -0.6**
HIA pmax pmax
comp=Z,91nm,2.7s
HIA Hailar 39.44 354 *eP* **P** **08 05 32.5 +0.5**
comp=Z,53nm,0.9s
HIA LR LR
comp=Z,3μm,20.0s
YSS Yuzh-Sakhalins 39.59 18κ *iP* **P** **08 05 34.1 +0.9**
YSS *i* 08 05 41.7
YSS *e**SP **sP** **08 05 51.3 +4.4**
YSS *e*S **S** **08 11 31.9 -1.9**
YSS *e*SS **SS** **08 14 20.0 -10**
YSS pmax pmax
comp=Z,60nm,1.4s
YSS pmax pmax
comp=Z,700nm,3.0s
YSS MLR MLR
comp=Z,2μm,17.0s
YSS MLR MLR
comp=N,2μm,18.0s
YSS MLR MLR
comp=E,800nm,15.0s
YSS Yuzh-Sakhalins 39.59 18 *eP* **P** **08 05 33.7 +0.5**
comp=E,144nm,1.2s
YSS LR LR
comp=Z,1μm,19.0s
KUR Kuril'sk 39.96 25*d* *iP* **P** **08 05 37.6 +1.3**
KUR *i* *PP **sP** **08 05 48.2 -1.8**
KUR *i* S **S** **08 11 32.2 -7.3**
KUR pmax pmax
comp=Z,353nm,1.2s
KUR pmax pmax
comp=Z,1μm,2.5s
KUR MLR MLR
comp=Z,1μm,12.0s
KUR MLR MLR
comp=N,2μm,20.0s
BOK Bokaro 40.28 295 *eP* **P** **08 05 38.7 -0.6**
BOK IAmb IAmb 08 05 41.2
comp=Z,81nm,0.4s
ULN Ulaanbaatar 40.86 341 *eP* **P** **08 05 44.0 0.0**
ULN pmax pmax
comp=Z,95nm,0.8s
ULN Ulaanbaatar 40.86 341 *eP* **P** **08 05 44.0 0.0**
comp=Z,95nm,0.8s
ULN LR LR
comp=Z,3μm,19.0s
ULN Ulaanbaatar 40.86 341 P **P** **08 05 44.3 +0.4**
SNR=54
ULN Ulaanbaatar 40.86 341 P **P** **08 05 44.3 +0.4**
SNR=54
H11N1 WAKE ISLAND Hy 40.92 71 T T 08 49 07.2
baz=265,slow=74,SNR=3700
H11N2 WAKE ISLAND Hy 40.93 71 T T 08 49 07.7
baz=265,slow=74,SNR=3047
H11N3 WAKE ISLAND Hy 40.94 71 T T 08 49 07.1
baz=265,slow=74,SNR=2969
JIRN Jiri 41.03 301 *eP* **P** **08 05 46.2 +0.3**
SONM Songino Array 41.05 340 P **P** **08 05 45.7 +0.2**
comp=Z,15nm,0.8s,baz=162,slow=9.5,SNR=68
SONM ScP **ScP** **08 11 34.3 +1.9**
comp=Z,3.6nm,1.1s,baz=146,slow=2.8,SNR=3.0
SONM LR LR 08 24 14.4
comp=Z,3μm,18.2s,baz=150,slow=38
SONA1 Songino Array 41.06 340 *eP* **P** **08 05 45.0 -0.6**
GUN Gumba 41.37 301 *eP* **P** **08 05 48.9 +0.2**
comp=Z,975nm,1.2s
GRNR Gornyy 41.60 10 *eP* **P** **08 05 50.7 +0.9**
GRNR pmax pmax
comp=Z,84nm,1.0s
PKI Pulchoki 41.67 300 *eP* **P** **08 05 50.7 -0.4**
PKIN Phulchoki 41.68 300 *eP* **P** **08 05 51.5 +0.4**
VIS Vishakhapatnam 41.71 285 *eP* **P** **08 05 51.6 +0.5**
VIS IAmb IAmb 08 05 53.0
comp=Z,357nm,1.8s
VIS *i* x x 08 07 59.4
KKN Kakani 41.84 301 *eP* **P** **08 05 52.4 0.0**
comp=Z,187nm,0.9s
DMN Daman 41.93 300 *eP* **P** **08 05 53.2 0.0**
comp=Z,274nm,1.0s
EIDS Eidsvold 43.02 145 *eP* **P** **08 06 01.0 -0.7**
comp=Z,104nm,1.0s
CIT Chita 43.04 349 *eP* **P** **08 06 02.1 +0.6**
CIT *e* 08 06 18.1
CIT *e* 08 12 26.9
CIT pmax pmax
comp=Z,344nm,1.4s
TYV Tymovskoe 43.08 16 *eP* **P** **08 06 01.3 -0.5**
TYV *e*S **S** **08 12 26.8 +1.4**
TYV pmax pmax
comp=Z,900nm,2.8s
TYV pmax pmax
comp=Z,62nm,1.7s
TYV smax smax
comp=E,4μm,7.6s
KOLN Koldanda 43.26 300 *eP* **P** **08 06 03.8 -0.1**
comp=E,257nm,0.9s
DANN Dangsing 43.28 301 *eP* **P** **08 06 04.6 +0.4**
PVM Polavaram 43.30 284 *eP* **P** **08 06 04.7 +0.6**
PVM IAmb IAmb 08 06 06.4
comp=Z,686nm,2.6s
PVM *e*S **S** **08 12 31.1 +1.4**
PVM IVMs_BB IVMs_BB 08 24 30.5
comp=Z,745nm,20.3s
NWAO Narrogin (SRO) 43.44 190 P **P** **08 06 05.0 +0.1**
comp=Z,91nm,0.8s,baz=255,slow=6.9,SNR=13
NWAO PP **PcP** **08 07 49.9 -3.0**
comp=Z,36nm,0.7s,baz=16,slow=19,SNR=4.4
NWAO Narrogin (SRO) 43.44 190 *eP* **P** **08 06 04.5 -0.4**
comp=Z,150nm,0.8s
NWAO PP **PcP** **08 07 49.9 -3.0**
NWAO LR LR
comp=Z,4μm,22.0s
NWAO Narrogin (SRO) 43.44 190 pP pP 08 06 11.9 -2.8
SNR=8.1
ZEA Zeya 43.63 1 *eP* **P** **08 06 05.1 -1.1**
ZEA *i* 08 07 52.5
ZEA *i* 08 16 02.0
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=Z,93nm,1.0s
ZEA MLR MLR
comp=N,1μm,14.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
BBOO Buckleboo 43.73 167 *eP* **P** **08 06 06.9 -0.3**
comp=Z,1μm,1.7s
PYUN Piuthan 43.87 300 *eP* **P** **08 06 09.0 +0.2**
comp=Z,619nm,1.0s
ZAK Zakamensk 44.29 340 *eP* **P** **08 06 10.8 -0.9**
ZAK *e* 08 08 00.4
ZAK pmax pmax
comp=Z,30nm,1.0s
ZAK pmax pmax
comp=Z,23nm,1.1s
STKA Stephens Creek 44.36 160 P **P** **08 06 12.1 -0.2**
comp=Z,36nm,0.4s,baz=338,slow=8.6,SNR=36
STKA PP **PP** **08 07 58.9 +2.6**
comp=Z,22nm,0.6s,baz=331,slow=13,SNR=2.1
STKA LR LR 08 27 34.2
comp=Z,2μm,20.3s,baz=338,slow=40
STKA Stephens Creek 44.36 160 *eP* **P** **08 06 12.3 -0.1**
STKA pmax pmax
comp=Z,96nm,1.2s
STKA Stephens Creek 44.36 160 *eP* **P** **08 06 12.2 -0.1**
comp=Z,96nm,1.3s
STKA PP **PP** **08 07 59.0 +2.6**
PALK Pallekele 44.49 270 P **P** **08 06 14.2 +0.5**
comp=Z,7.7nm,0.8s,baz=116,slow=6.2,SNR=10
PALK LR LR 08 26 48.6
comp=Z,2μm,18.1s,baz=116,slow=39
PALK Pallekele 44.49 270 *i* P **P** **08 06 14.8 +1.1**
PALK Pallekele 44.49 270 *eP* **P** **08 06 13.7 0.0**
comp=Z,111nm,1.6s
PALK Pallekele 44.49 270 P **P** **08 06 14.6 +0.8**
SNR=6.6
PALK Pallekele 44.49 270 P **P** **08 06 14.6 +0.8**
SNR=6.6
PALK Pallekele 44.49 270 *i* P **P** **08 06 14.4 +0.7**
SNR=5.9
PALK Pallekele 44.49 270 *i* P **P** **08 06 14.4 +0.7**
SNR=5.9
MDRS Chennai 44.54 278 *eP* **P** **08 06 14.6 +0.5**
MDRS IAmb IAmb 08 06 16.0
comp=Z,55nm,0.4s
NKL Nikolayevsk 44.70 13 *i* P **P** **08 06 15.0 +0.2**
NKL *i* S **S** **08 12 50.0 +0.9**
NKL pmax pmax
comp=N,290nm,1.8s
NKL pmax pmax
comp=E,160nm,1.8s
NKL pmax pmax
comp=Z,570nm,1.8s
NKL pmax pmax
comp=N,500nm,9.0s
NKL pmax pmax
comp=Z,900nm,9.0s
NKL smax smax
comp=N,2μm,11.0s
NKL smax smax
comp=E,2μm,11.0s
NKL MLR MLR
comp=N,2μm,15.0s
NKL MLR MLR
comp=E,1μm,15.0s
NKL MLR MLR
comp=Z,3μm,15.0s
ADKI Addanki 44.82 282 *eP* **P** **08 06 17.2 +0.9**
ADKI IAmb IAmb 08 06 27.5
comp=Z,122nm,1.3s
ADKI *e*S **S** **08 12 53.9 +2.0**
ADKI IVMs_BB IVMs_BB 08 22 10.2
comp=Z,667nm,32.1s
SKHT Srikalahasti 45.05 279 *eP* **P** **08 06 19.0 +0.9**
SKHT IAmb IAmb 08 06 19.8
comp=Z,83nm,1.2s
SKHT *e*S **S** **08 12 57.6 +2.4**
SKHT IVMs_BB IVMs_BB 08 24 22.3
comp=Z,1μm,22.2s
TLY Talaya 45.27 341 P **P** **08 06 19.7 +0.3**
comp=Z,27nm,0.7s,baz=216,slow=5.3,SNR=3.6
TLY Talaya 45.27 341*d* *iP* **P** **08 06 19.2 -0.2**
TLY *e*S **S** **08 12 50.8 -6.7**
TLY pmax pmax
comp=Z,82nm,0.8s
TLY MLR MLR
comp=Z,3μm,18.0s
TLY Talaya 45.27 341 *eP* **P** **08 06 19.6 +0.2**
comp=Z,203nm,1.3s
TLY LR LR
comp=Z,3μm,21.0s
TLY Talaya 45.27 341 P **P** **08 06 19.6 +0.2**
SNR=68
TLY Talaya 45.27 341 P **P** **08 06 19.6 +0.2**
SNR=68
NJS Nagarjunasagar 45.48 283 *eP* **P** **08 06 22.0 +0.4**
NJS IAmb IAmb 08 06 32.2
comp=Z,105nm,1.1s
NJS *e*S **S** **08 13 02.7 +1.3**
NJS IVMsBB 08 21 51.0
comp=Z,659nm,28.9s
IRK Irkutsk 45.56 342 *eP* **P** **08 06 20.6 -1.0**
IRK *e*S **S** **08 13 09.4 +7.8**
IRK pmax pmax
comp=Z,153nm,2.2s
RPR Rampur 45.62 287 *eP* **P** **08 06 23.5 +0.8**
RPR IAmb IAmb 08 06 25.9
comp=Z,99nm,0.9s
RPR *e*S **S** **08 13 05.3 +1.9**
RPR IVMsBB 08 30 12.8
comp=Z,746nm,15.4s
SRLM Srisailam 45.86 283 *eP* **P** **08 06 24.7 +0.1**
SRLM IAmb IAmb 08 06 35.1
comp=Z,96nm,1.2s
SRLM *e*S **S** **08 13 08.8 +1.7**
SRLM IVMs_BB IVMs_BB 08 21 57.3
comp=Z,618nm,31.3s
NGP Nagpur 46.07 290 *e*S **S** **08 13 09.0 -0.9**
MOY Mondy 46.16 339 *eP* **P** **08 06 26.2 -0.3**
MOY pmax pmax
comp=Z,119nm,2.1s
HYB Hyderabad 46.24 284⇓ *iP* **P** **08 06 28.0 +0.4**
comp=Z,188nm,1.4s
HYB *e*sP **pP** **08 06 36.0 -1.5**
HYB *e*S **S** **08 13 14.0 +1.6**
HYB Hyderabad 46.24 284 *eP* **P** **08 06 26.8 -0.8**
HYB IAmb IAmb 08 06 27.1
comp=Z,111nm,1.4s
HYBB Hyderabad (bro 46.24 284 *eP* **P** **08 06 27.9 +0.3**
HYBB IAmb IAmb 08 06 38.1
comp=Z,115nm,1.1s
HYBB *e*S **S** **08 13 13.5 +1.1**
HYBB IVMs_BB IVMs_BB 08 26 29.9
comp=Z,717nm,19.0s
SRSP Sriramsagar 46.53 287 *eP* **P** **08 06 30.2 +0.4**
SRSP IAmb IAmb 08 06 41.0
comp=Z,181nm,1.2s

SRSP eS S 08 13 17.8 +1.3
SRSP IVMs_BB IVMs_BB 08 26 04.2
comp=Z,564nm,19.4s
CLNS Chul'man 46.72 359 eP P **08 06 30.4 -0.3**
CLNS e 08 08 02.4
CLNS e 08 08 20.5
CLNS ePPP PPP 08 09 08.0
CLNS eS S **08 13 14.7 -3.5**
CLNS pmax pmax
comp=N,58nm,1.0s
CLNS pmax pmax
comp=E,42nm,0.9s
CLNS pmax pmax
comp=Z,106nm,1.2s
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS pmax pmax
comp=Z,20nm,0.9s
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS smax smax
comp=E,395nm,12.2s
CLNS smax smax
comp=N,312nm,12.2s
WMQ Urumqi 47.05 323 P P **08 06 33.8 +0.2**
WMQ pP pP 08 06 43.8 +0.3
WMQ sP sP 08 06 50.3 +2.9
WMQ S S **08 13 22.3 -1.1**
WMQ sS pS 08 13 36.9 +2.0
WMQ SS SS **08 16 42.3 -8.3**
WMQ pmax pmax
comp=N,120nm,1.5s
WMQ pmax pmax
comp=N,1μm,6.1s
WMQ LR LR
comp=N,15μm,22.3s
WMQ LR LR
comp=N,12μm,15.5s
WMQ LR LR
comp=N,6μm,20.1s
ARMA Armidale 47.33 149 eP P **08 06 36.5 +0.6**
comp=N,208nm,1.3s
URV Uravakonda 47.42 281 eP P **08 06 37.0 +0.2**
URV IAmb IAmb 08 06 45.1
comp=Z,76nm,1.4s
URV eS S **08 13 29.9 +0.5**
URV IVMs_BB IVMs_BB 08 26 17.7
comp=Z,951nm,19.1s
SKR Severo-Kuril's 47.68 26 eP P **08 06 35.4 -2.8**
SKR eS S 08 13 21.7 -10
SKR 08 18 14.6
SKR pmax pmax
comp=Z,1μm,2.9s
SKR pmax pmax
comp=Z,400nm,2.9s
SKR MLR MLR
comp=Z,2μm,15.0s
SKR MLR MLR
comp=Z,2μm,15.0s
TARA Tarawa 47.77 97 PFAKE 08 06 50.0 +10
TARA LR LR
comp=Z,158nm,21.0s
BHPL Bhopal 47.82 292 eP P **08 06 39.0 -0.9**
BHPL IAmb IAmb 08 06 40.0
comp=Z,86nm,1.0s
TRD Trivandrum 48.04 272 eP P **08 06 42.1 +0.4**
KLRI Killari 48.13 285 eP P **08 06 42.5 +0.2**
KLRI IAmb IAmb 08 06 52.5
comp=Z,130nm,0.9s
KLRI eS S **08 13 39.7 +0.3**
KLRI IVMs_BB IVMs_BB 08 27 32.1
comp=Z,947nm,22.1s
BOD Bodaibo 48.53 352⇑ iP P **08 06 44.6 -0.1**
BOD pmax pmax
comp=Z,109nm,1.3s
DDI Dehra Dun 48.61 302 eP P **08 06 45.0 -0.9**
DDI IAmb IAmb 08 06 47.6
comp=Z,74nm,0.6s
HVS Khovu-Aksy 48.65 334d iP P **08 06 45.7 -0.1**
HVS pmax pmax
comp=Z,58nm,1.0s
SMLA Simla 49.55 302 eP P **08 06 52.5 -0.5**
SMLA IAmb IAmb 08 06 54.3
comp=Z,156nm,1.7s
PEA0B Petropavlovsk- 50.13 25 eP P **08 06 57.9 +0.8**
comp=Z,187nm,1.1s
PETK Petropavlovsk- 50.13 25 P P **08 06 58.3 +1.3**
comp=Z,33nm,0.7s,baz=208,slow=3.1,SNR=52
PETK PcP **PcP 08 08 16.8 +0.6**
comp=Z,6.5nm,0.5s,baz=173,slow=0.5,SNR=3.4
PETK LR LR 08 27 12.5
comp=Z,2μm,19.7s,baz=216,slow=35
CAN Canberra 50.20 155 eP P **08 06 58.5 +0.6**
CAN pmax pmax
comp=Z,610nm,1.4s
CAN Canberra 50.20 155 eP P **08 06 58.5 +0.6**
comp=Z,610nm,1.4s
CAN LR LR
comp=Z,3μm,21.0s
PET Petropavlovsk 50.47 25k iP P **08 07 00.8 +1.3**
PET eS S **08 14 12.4 +1.4**
PET pmax pmax
comp=Z,1μm,2.0s
PET pmax pmax
comp=Z,176nm,1.6s
PET pmax pmax
comp=Z,700nm,12.3s
PET MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 50.47 25 eP P **08 07 00.1 +0.6**
comp=Z,236nm,1.2s
PET LR LR
comp=Z,2μm,20.0s
DHRM DHARAMSHALA 50.54 304 eP P **08 06 58.5 -2.3**
GOA Goa 50.74 282 eP P **08 07 01.5 -0.7**
GOA IAmb IAmb 08 07 04.8
comp=Z,49nm,0.9s
POO Poona 50.76 286 eP P **08 07 01.7 -0.7**
DZM Mont Dzumac 51.16 129 P P **08 07 06.0 +0.6**
comp=Z,32nm,0.7s,baz=292,slow=4.9,SNR=20
DZM LR LR 08 26 55.3
comp=Z,1μm,21.9s,baz=313,slow=34
DZM Mont Dzumac 51.16 129 eP P **08 07 06.9 +1.5**
comp=Z,270nm,0.9s
DZM eS S **08 14 24.9 +3.2**
comp=Z,5μm,27.9s
DZM eLQ LQ 08 19 37.4
comp=Z,10μm,33.4s
DZM eLR LR 08 21 46.2
comp=Z,5μm,25.7s
DZM Mont Dzumac 51.16 129 eP P **08 07 05.6 +0.2**
comp=Z,106nm,0.8s
BOM Bombay 51.75 286 ex P **08 07 13.7 +3.9**
BOM AMb AMB 08 07 16.9
comp=Z,611nm,2.6s
BOM ex S **08 14 26.0 -3.8**
MK01 Makanchi Array 51.84 323 eP P **08 07 09.6 -0.4**
MK31 Makanchi Array 51.86 323 eP P **08 07 10.0 -0.2**
MK31 Makanchi Array 51.86 323 eP P **08 07 09.8 -0.5**
MKAR Makanchi Array 51.86 323 P P **08 07 10.1 -0.1**
comp=Z,19nm,0.7s,baz=122,slow=8.3,SNR=68
MKAR LR LR 08 30 29.3
comp=Z,3μm,19.8s,baz=104,slow=38
MKAR Makanchi Array 51.86 323 eP P **08 07 09.7 -0.5**
comp=Z,353nm,0.8s
YAK Yakutsk 52.01 2 P P **08 07 11.2 +0.2**
comp=Z,52nm,0.7s,baz=332,slow=1.7,SNR=16
YAK Yakutsk 52.01 2d iP P **08 07 10.5 -0.5**
YAK e 08 07 16.9
YAK eS S **08 14 27.3 -4.8**
YAK e 08 16 51.9
YAK pmax pmax
comp=Z,93nm,1.0s
YAK pmax pmax
comp=N,37nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,97nm,1.4s
YAK pmax pmax
comp=N,90nm,1.5s
YAK pmax pmax
comp=E,26nm,1.2s
YAK smax smax
comp=E,298nm,2.3s
YAK smax smax
comp=N,539nm,2.7s
YAK Yakutsk 52.01 2 eP P **08 07 10.7 -0.3**
comp=N,205nm,0.8s
YAK LR LR
comp=Z,2μm,19.0s
MAKZ Makanchi 52.05 323 eP P **08 07 11.2 -0.4**
MAKZ pmax pmax
comp=Z,82nm,1.0s
MAKZ Makanchi 52.05 323 eP P **08 07 11.2 -0.4**
comp=Z,82nm,1.0s
UZB Uzynbulak 52.21 318⇓ iP P **08 07 12.3 -0.7**
comp=Z,150nm,1.0s
UZB LR LR 08 30 03.1
comp=Z,1μm,14.0s
PRZ Przheval'sk 52.35 317 P P **08 07 14.6 +0.5**
SATY Saty 52.58 317⇑ iP P **08 07 16.1 +0.4**
comp=Z,373nm,1.0s
SATY LR LR 08 30 31.2
comp=Z,2μm,14.4s
KSH Kashi 52.95 312 P P **08 07 20.3 +1.8**
KSH pP pP 08 07 28.5 0.0
KSH PcP **PcP 08 08 27.5 +0.3**
KSH PP **PP 08 09 23.4 +5.1**
KSH S S **08 14 44.4 -1.5**
KSH ScS **ScS 08 17 01.1 -5.0**
KSH pmax pmax
comp=Z,33nm,1.2s
KSH pmax pmax
comp=Z,360nm,5.3s
KSH LR LR
comp=Z,3μm,19.8s
KSH LR LR
comp=Z,2μm,16.5s
KSH LR LR
comp=Z,2μm,15.4s
MA2 Magadan 52.95 16 P P **08 07 18.7 +0.7**
comp=Z,17nm,0.7s,baz=214,slow=8.1,SNR=42
MA2 Magadan 52.95 16deP P **08 07 18.5 +0.5**
KDJ Kajisay 53.04 316 P P **08 07 19.1 -0.1**
MDOK Medeo 53.53 317⇑ iP P **08 07 22.5 -0.3**
comp=Z,70nm,1.4s
MDOK LR LR 08 31 22.9
comp=Z,2μm,16.3s
NRN Naryn 53.60 315 P P **08 07 22.4 -1.1**
AAA Alma-Ata 53.64 317 eP P **08 07 22.9 -0.6**
AAA eS S **08 14 58.4 +3.3**
AAA pmax pmax
comp=Z,600nm,7.0s
AAA smax smax
comp=E,2μm,9.4s
AAA MLR MLR
comp=Z,2μm,16.0s
AAA Alma-Ata 53.64 317 eP P **08 07 23.5 0.0**
AAA LR LR 08 31 32.4
comp=Z,905nm,16.1s
ULHL Ulahol 53.73 316 P P **08 07 24.0 -0.3**
SNR=10.0
KUU Kurty 54.29 318⇓ iP P **08 07 27.2 -1.0**
comp=Z,281nm,1.0s
KUU i S S **08 15 02.7 -1.1**
KUU LR LR 08 31 22.9
comp=Z,596nm,14.0s
KZA Kyzart 54.35 315 P P **08 07 29.5 +0.3**
SNR=12
BMNS Besmoynak 54.44 316⇑ iP P **08 07 29.1 -0.3**
comp=Z,130nm,1.5s
BMNS i S S **08 15 05.6 -0.5**
BMNS LR LR 08 32 12.4
comp=Z,1μm,15.2s
ZAA0 Zalesovo Array 54.56 332 eP P **08 07 28.4 -1.5**
comp=Z,28nm,0.8s
ZALV Zalesovo Beam 54.56 332 P P **08 07 28.7 -1.2**
comp=Z,12nm,0.7s,baz=121,slow=6.6,SNR=45
ZALV LR LR 08 32 40.7
comp=Z,2μm,19.9s,baz=119,slow=38
ZALV Zalesovo Beam 54.56 332 eP P **08 07 28.1 -1.7**
KBK Karagaybulak 54.77 316 P P **08 07 31.9 0.0**
SNR=9.5
SEM Semipalatinsk 54.88 326⇓ iP P **08 07 31.2 -1.3**
comp=Z,76nm,0.6s
SEM eS S **08 15 10.6 -1.3**
UCH Uchtor 54.92 315 P P **08 07 34.1 +0.8**
SNR=28
BHJ Bhuj 54.93 291 eP P **08 07 33.2 +0.1**
BHJ IAmb IAmb 08 07 35.6
comp=Z,169nm,0.3s
FRU Bishkek 55.06 316 eP P **08 07 33.5 -0.3**
FRU e 08 07 48.0
FRU i 08 08 39.0
FRU pmax pmax
comp=Z,220nm,3.2s
FRU MLR MLR
comp=E,4μm,19.0s
AAK Ala-Archa 55.08 316 LR LR 08 33 34.9
comp=E,4μm,18.6s,baz=87,slow=39
AAK Ala-Archa 55.08 316 eP P **08 07 33.9 -0.1**
AAK pmax pmax
comp=Z,63nm,1.5s
AAK Ala-Archa 55.08 316 eP P **08 07 33.9 -0.1**
comp=Z,63nm,1.5s
AAK Ala-Archa 55.08 316 P P **08 07 34.8 +0.7**
SNR=14
AAK Ala-Archa 55.08 316 P P **08 07 34.8 +0.7**
SNR=14
USP Ospenovka 55.30 316 P P **08 07 35.1 -0.4**
SNR=6.3
AML Almayashu 55.46 315 P P **08 07 37.0 -0.1**
SNR=24
EKS2 Erkin-Say 55.58 315 P P **08 07 38.0 +0.4**
SNR=11
NVS Novosibirsk 55.84 332⇓ iP P **08 07 38.3 -0.8**
NVS e 08 08 42.0
NVS eS S **08 15 20.9 -3.1**
NVS pmax pmax
comp=N,29nm,1.0s
NVS pmax pmax
comp=E,37nm,1.0s
NVS pmax pmax
comp=Z,65nm,1.0s
NVS smax smax
comp=N,24nm,2.0s
NVS smax smax
comp=E,36nm,2.0s
KURK Kurchatov 55.93 326deP P **08 07 38.9 -0.9**
KURK pmax pmax
comp=Z,44nm,0.9s
KURK Kurchatov 55.93 326 eP P **08 07 38.5 -1.3**
comp=Z,156nm,1.0s
KURK LR LR
comp=Z,3μm,21.0s
KURK Kurchatov 55.93 326 P P **08 07 39.0 -0.9**
SNR=67
KURK Kurchatov 55.93 326 P P **08 07 39.0 -0.9**
SNR=67
KURBB Kurchatov Arra 55.94 326 P P **08 07 38.9 -1.0**
comp=Z,14nm,0.6s,baz=127,slow=6.8,SNR=67
SEY Seymchan 56.22 14deP P **08 07 43.3 +1.6**
TAU Tasmania Unive 56.27 161 eP P **08 07 43.5 +1.2**
TAU pmax pmax
comp=Z,383nm,1.7s
TAU MLR MLR
comp=Z,3μm,20.0s
TAU Tasmania Unive 56.27 161 eP P **08 07 43.5 +1.2**
comp=Z,383nm,1.7s
TAU LR LR
comp=Z,3μm,20.0s
FUNA Funafuti 56.41 107 eP P **08 07 42.6 -1.2**
comp=Z,288nm,1.0s
FUNA LR LR
comp=Z,3μm,21.0s
KBL Kabul 56.97 305 eP P **08 07 47.8 0.0**
KBL pmax pmax
comp=Z,60nm,1.0s
KBL Kabul 56.97 305 eP P **08 07 47.0 -0.8**
comp=Z,60nm,0.9s
SMY Shemya 57.70 33 eP P **08 07 52.7 +0.4**
SMY pmax pmax
comp=Z,580nm,1.4s
SMY Shemya 57.70 33 eP P **08 07 51.9 -0.5**
comp=Z,579nm,1.4s
KK31 Karatay Array 57.99 315 i P P **08 07 53.8 -0.8**
KK31 pmax pmax
comp=Z,32nm,0.8s
KKAR Karatay Array 57.99 315 eP P **08 07 54.2 -0.4**
KKAR Karatay Array 57.99 315 eP P **08 07 54.2 -0.4**
CHM Chimkent 58.40 314 i P P **08 07 56.8 -0.7**
CHM LR LR 08 33 23.7
comp=Z,2μm,19.4s
BRLS Borolday 58.44 315⇓ iP P **08 07 57.7 -0.1**
comp=Z,20nm,1.1s
MSVF Nonsavu 58.64 118 eP P **08 07 58.9 -0.7**
MSVF pmax pmax
comp=Z,120nm,1.0s
MSVF Nonsavu 58.64 118 eP P **08 07 58.9 -0.7**
comp=Z,123nm,1.0s
MSVF LR LR
comp=Z,4μm,20.0s
BRZS Berezniki 59.01 323 i P P **08 08 00.8 -0.8**
BVA0 Borovoye Array 61.53 326 P P **08 08 16.5 -2.2**
BVA0 pmax pmax
comp=Z,66nm,1.3s
BVAR Borovoye Array 61.53 326 P P **08 08 17.7 -1.1**
comp=Z,4.6nm,0.5s,baz=117,slow=8.5,SNR=35
BVAR LR LR 08 35 39.9
comp=Z,3μm,19.4s,baz=114,slow=37
BRVK Borovoye 61.60 326 eP P **08 08 18.1 -1.1**
BRVK pmax pmax
comp=Z,77nm,1.0s
BRVK Borovoye 61.60 326 eP P **08 08 17.6 -1.6**
comp=Z,77nm,1.0s
BRVK LR LR
comp=Z,2μm,20.0s
BRVK Borovoye 61.60 326 P P **08 08 18.4 -0.8**
SNR=28
BRVK Borovoye 61.60 326 P P **08 08 18.4 -0.8**
SNR=28
TIXI Tiksi 61.62 1 P P **08 08 18.1 -0.9**
comp=Z,26nm,0.8s,baz=158,slow=6.2,SNR=64
TIXI Tiksi 61.62 1ceP P **08 08 18.1 -0.9**
TIXI pmax pmax
comp=Z,142nm,2.5s
TIXI Tiksi 61.62 1 eP P **08 08 17.9 -1.0**
comp=Z,131nm,1.2s
TIXI LR LR
comp=Z,2μm,21.0s
BILL Bilibino 63.82 16d iP P **08 08 34.1 +0.4**
BILL i 08 08 40.4
BILL i 08 09 10.0
BILL i 08 10 51.0
BILL i S S **08 17 08.5 +2.1**
BILL pmax pmax
comp=Z,80nm,1.4s
BILL MLR MLR
comp=Z,1μm,18.0s
OUZ Omahuta 63.84 137 P P **08 08 36.3 +2.0**
NRIK Noril'sk 64.11 346 P P **08 08 35.5 -0.1**
comp=Z,13nm,0.4s
WSAR Wadi Sarin 65.06 291 P P **08 08 42.0 -0.7**
comp=Z,17nm,0.9s,baz=117,slow=7.7,SNR=19
WSAR LR LR 08 39 48.6
comp=Z,569nm,19.8s,baz=100,slow=38
BIDO Bidbid 65.52 291 P P **08 08 46.0 +0.3**
SNR=35
BIDO Bidbid 65.52 291 P P **08 08 46.0 +0.3**
SNR=35
GEYT Alibeck 66.20 307 P P **08 08 49.0 -0.9**
comp=Z,12nm,0.8s,baz=116,slow=3.4,SNR=26
GEYT LR LR 08 41 22.7
comp=Z,2μm,19.4s,baz=85,slow=39
AFI Afiamalu 66.47 110 LR LR 08 32 07.6
comp=Z,3μm,21.9s,baz=290,slow=31
HIZ Hauiti 66.57 140 eP P **08 08 51.3 -0.7**
comp=Z,154nm,1.1s
DCZ Deep Cove 66.65 149 eP P **08 08 52.5 +0.1**
comp=Z,120nm,0.9s
AB31 Akbulak array 66.67 319 i P P **08 08 50.7 -1.8**
AB31 pmax pmax
comp=Z,39nm,1.0s
ABKAR Akbulak array 66.67 319 eP P **08 08 51.3 -1.2**
comp=Z,194nm,0.9s
FOZ Fox Glacier 66.72 147 eP P **08 08 52.8 0.0**
comp=Z,60nm,1.0s
VRZ Vera Road 66.86 140 P P **08 08 55.3 +1.4**
TLZ Tolley Road 66.90 139 P P **08 08 44.2 -10**
RAO Raoul Island 66.93 128 PFAKE 08 09 10.0 +15
RAO LR LR
comp=Z,4μm,20.0s
SOHO SOHO 66.97 292 i P P **08 08 54.0 -1.0**
SNR=27
SOHO SOHO 66.97 292 i P P **08 08 54.0 -1.0**
SNR=27
ARQ Araqi 67.00 291 P P **08 08 56.0 +0.8**
SNR=9.6
ARQ Araqi 67.00 291 P P **08 08 56.0 +0.8**
SNR=9.6
MLZ Mavora Lakes 67.07 149 eP P **08 08 55.1 0.0**
comp=Z,150nm,1.8s
WKZ Wanaka 67.16 148 eP P **08 08 55.7 0.0**
comp=Z,131nm,1.1s
BANOM Banah 67.17 294 P P **08 08 57.7 +1.4**
SNR=9.7
BANOM Banah 67.17 294 P P **08 08 57.7 +1.4**
SNR=9.7
BANOM Banah 67.17 294 i P P **08 08 56.1 -0.2**
SNR=15
BANOM Banah 67.17 294 i P P **08 08 56.1 -0.2**
SNR=15
UOSS Minazif 67.26 293 eP P **08 08 55.5 -1.3**
comp=Z,36nm,0.9s
UOSS Minazif 67.26 293 i P P **08 08 56.4 -0.4**
SNR=8.1
UOSS Minazif 67.26 293 i P P **08 08 56.4 -0.4**
SNR=8.1
MSFE Esma-Masafi 67.30 293 i P P **08 08 56.7 -0.4**
SNR=10
MSFE Esma-Masafi 67.30 293 i P P **08 08 56.7 -0.4**
SNR=10
SHME Shamm 67.31 294 i P P **08 08 56.9 -0.3**
SNR=13
SHME Shamm 67.31 294 i P P **08 08 56.9 -0.3**
SNR=13
THZ Tophouse 67.33 143 eP P **08 08 56.4 -0.5**
comp=Z,68nm,0.8s
HATD Hatta, Dubai 67.33 293 i P P **08 08 56.8 -0.5**
SNR=25
HATD Hatta, Dubai 67.33 293 i P P **08 08 56.8 -0.5**
SNR=25
WHZ Wether Hill Ro 67.35 149 eP P **08 08 55.8 -1.1**
comp=Z,62nm,1.1s
ASHO Ashiyiah 67.40 293 P P **08 08 57.7 0.0**
SNR=22
ASHO Ashiyiah 67.40 293 P P **08 08 57.7 0.0**
SNR=22
ASHO Ashiyiah 67.40 293 i P P **08 08 57.1 -0.6**
SNR=28
ASHO Ashiyiah 67.40 293 i P P **08 08 57.1 -0.6**
SNR=28
FWVZ Far West T-bar 67.44 140 P P **08 08 59.6 +1.7**
LBZ Lake Benmore 67.48 147 eP P **08 08 56.4 -1.3**
comp=Z,117nm,1.0s
RPZ Rata Peaks 67.51 146 P P **08 08 58.1 +0.2**
comp=Z,29nm,0.7s,baz=293,slow=2.0,SNR=18
RPZ Rata Peaks 67.51 146 eP P **08 08 58.0 0.0**
comp=Z,123nm,0.8s
LTZ Lake Taylor 67.60 145 eP P **08 08 58.6 +0.1**
comp=Z,76nm,1.0s
MOVZ Moawhango 67.66 140 P P **08 09 00.1 +1.1**
ALNE Al Ain 67.69 292 i P P **08 08 59.2 -0.3**
SNR=38
ALNE Al Ain 67.69 292 i P P **08 08 59.2 -0.3**
SNR=38
SPIA Saint Paul Isl 67.73 32 eP P **08 09 00.2 +1.1**
comp=Z,684nm,1.6s
UMQ Umm Al-Quwin 67.75 293 i P P **08 09 00.3 +0.5**
SNR=7.2
UMQ Umm Al-Quwin 67.75 293 i P P **08 09 00.3 +0.5**
SNR=7.2
NAZ Nazwa, Dubai 67.75 293 i P P **08 08 60.0 +0.1**
SNR=12
NAZ Nazwa, Dubai 67.75 293 i P P **08 08 60.0 +0.1**
SNR=12
OXZ Oxford 67.81 145 eP P **08 08 59.5 -0.3**
comp=Z,183nm,1.7s
URZ Urewera 67.88 138 P P **08 09 00.3 0.0**
comp=Z,8.1nm,0.6s,baz=239,slow=6.8,SNR=7.0
URZ Urewera 67.88 138 eP P **08 08 59.9 -0.4**
comp=Z,73nm,1.0s
URZ Urewera 67.88 138 P P **08 09 00.3 0.0**
BHHZ Black Hill Sta 67.90 140 P P **08 09 02.1 +1.6**
BKZ Black Stump Fm 67.99 139 eP P **08 09 01.4 +0.3**
comp=Z,157nm,0.9s
BKZ eS S **08 18 01.2 +3.1**
BKZ Black Stump Fm 67.99 139 P P **08 09 01.2 +0.1**

RTZ **Ruatahuna** 67.99 139 P P 08 09 01.1 0.0
MTHZ **Maungataniwha** 68.04 139 P P 08 09 01.6 +0.2
SHAO **Shalim** 68.07 285 P P 08 09 03.7 +1.7
SNR=9.6
SHAO **Shalim** 68.07 285 P P 08 09 03.7 +1.7
SNR=9.6
SHAO **Shalim** 68.07 285 *i* P P 08 09 02.5 +0.5
SNR=16
SHAO **Shalim** 68.07 285 *i* P P 08 09 02.5 +0.5
SNR=16
KWHZ **Kaweka Forest** 68.09 140 P P 08 09 03.0 +1.2
RUGZ **Raukumara Rang** 68.09 138 P P 08 09 02.8 +1.0
SVE **Sverdlovsk** 68.10 328⇓ *e*P P 08 09 00.8 -0.6
SVE *e*S S 08 17 55.3 -3.5
SVE pmax pmax
comp=Z,87nm,1.1s
SVE MLR MLR
comp=Z,2µm,16.0s
KHZ **Kahutara** 68.10 144 *e*P P 08 09 01.9 +0.3
comp=Z,40nm,0.8s
SNZO **South Karori** 68.12 142 *e*P P 08 08 59.8 -2.0
comp=Z,194nm,1.4s
SNZO LR LR
comp=Z,2µm,22.0s
AKTO **Aktyubinsk** 68.13 320 P P 08 09 01.1 -0.7
comp=Z,3.8nm,0.6s,baz=118,slow=7.1,SNR=11
KRHZ **Kereru** 68.18 140 P P 08 09 03.4 +1.1
MWZ **Matawai** 68.20 138 P P 08 09 02.8 +0.4
MCHZ **McNeill Hill** 68.28 140 P P 08 09 04.3 +1.5
SNGZ **Shannon Statio** 68.32 139 P P 08 09 05.0 +1.8
AJN **Ajban** 68.38 292 *i* P P 08 09 03.2 -0.6
SNR=7.0
AJN **Ajban** 68.38 292 *i* P P 08 09 03.2 -0.6
SNR=7.0
BFZ **Birch Farm** 68.70 141 *e*P P 08 09 05.7 +0.2
comp=Z,80nm,0.9s
PXZ **Pawanui** 68.71 140 P P 08 09 06.6 +1.1
UNV **Unalaska Valle** 68.96 36 *e*P P 08 09 07.4 +0.6
comp=Z,190nm,1.1s
ARU **Arti** 69.10 327 P P 08 09 07.2 -0.5
comp=Z,14nm,0.5s,baz=96,slow=3.6,SNR=23
ARU LR LR 08 42 09.8
comp=Z,2µm,18.7s,baz=102,slow=38
ARU **Arti** 69.10 327⇓ *i*P P 08 09 05.9 -1.8
ARU PCP PcP 08 09 28.5 -3.1
ARU PP PP 08 11 35.1 -5.4
ARU S S 08 18 12.1 +1.3
ARU pmax pmax
comp=Z,59nm,2.5s
ARU MLR MLR
comp=Z,2µm,18.2s
ARU **Arti** 69.10 327 *e*P P 08 09 05.9 -1.8
comp=Z,45nm,1.0s
GAMB **Gambell** 69.17 25 *e*P P 08 09 08.9 +1.0
comp=Z,242nm,1.6s
RBK **Rabkut** 69.46 285 P P 08 09 12.0 +1.3
SNR=9.4
RBK **Rabkut** 69.46 285 P P 08 09 12.0 +1.3
SNR=9.4
WHFO **Wadi Hawf** 69.84 285 P P 08 09 15.0 +1.9
SNR=10
WHFO **Wadi Hawf** 69.84 285 P P 08 09 15.0 +1.9
SNR=10
SOKR **Solikamsk** 70.77 330 *e*P P 08 09 20.0 +2.2
SOKR S S 08 18 19.2 -11
SOKR pmax pmax
comp=Z,30nm,1.3s
SOKR MLR MLR
comp=Z,2µm,19.0s
FALS **False Pass** 70.92 35 *e*P P 08 09 19.4 +0.5
comp=Z,278nm,1.3s
KEKH **Kekaha** 72.16 70 *e*P P 08 09 25.2 -1.9
comp=Z,963nm,1.7s
SDPT **Sand Point** 72.67 35 *e*P P 08 09 29.8 +0.4
comp=Z,277nm,1.0s
MRIV **Mauritius Mete** 73.46 245 *e*P P 08 09 33.3 -1.5
LKRN **Lenkeran, Azer** 73.58 307 P P 08 09 34.1 -1.0
KIP **Kipapa** 73.78 71 *i* P P 08 09 36.3 -0.3
KIP pmax pmax
comp=Z,166nm,0.5s
CHGN **Chignik** 73.94 34 *e*P P 08 09 34.8 -2.1
comp=Z,234nm,1.4s
AKT **Akhty** 74.40 310 *e*P P 08 09 39.5 -0.5
AKT *e* 08 09 55.4
AKT pmax pmax
comp=Z,60nm,1.1s
MAK **Makhachkala** 74.58 312 *e*P P 08 09 38.0 -2.9
MAK *e*PPP PPP 08 14 10.2
MAK *e*S SKiKP 08 19 07.4 +2.8
MAK *e*SS SS 08 24 01.4 -0.1
MAK pmax pmax
comp=Z,72nm,0.8s
SEKA **Sheki** 74.80 310 P P 08 09 40.8 -1.5
ZKTA **Zakatala** 75.23 310 P P 08 09 43.7 -1.0
GANJ **Ganja** 75.47 309 P P 08 09 45.0 -1.1
GROC **Groznyy** 75.83 312 *e*P P 08 09 47.0 -1.1
GROC *e* 08 09 59.0
GROC pmax pmax
comp=Z,153nm,1.4s
SVW2 **Sparrevohn** 75.87 29 *e*P P 08 09 48.0 -0.1
comp=Z,84nm,1.1s
KHLU **Kahalu'u** 75.92 72 *e*P P 08 09 51.8 +2.6
comp=Z,215nm,1.1s
MWH **Moku'aweowe** 76.21 72 *e*P P 08 09 49.1 -2.2
comp=Z,214nm,1.0s
MLOA **Mauna Loa Obse** 76.23 72 *e*P P 08 09 54.2 +2.8
comp=Z,264nm,1.1s
POHA **Pohakuloa** 76.24 72 *e*P P 08 09 47.8 -3.3
comp=Z,258nm,1.0s
AIN **Ainahou** 76.35 72 *e*P P 08 09 48.3 -3.5
comp=Z,428nm,1.1s
MLH **Mauna Loa** 76.41 72 *e*P P 08 09 54.8 +2.7
MLH pmax pmax
comp=Z,430nm,1.0s
MLH **Mauna Loa** 76.41 72 *e*P P 08 09 49.7 -2.5
comp=Z,428nm,1.1s
HLP **Hilina Pali** 76.50 72 *e*P P 08 09 50.0 -2.4
comp=Z,359nm,1.1s
KKO **Keanakako'i** 76.53 72 *e*P P 08 09 52.1 -0.6
comp=Z,508nm,1.1s
PUH **Pauahi** 76.58 72 *e*P P 08 09 54.9 +2.0
comp=Z,375nm,1.0s
TBLG **Delisi** 76.64 311 *e*P P 08 09 53.0 +0.2
TBLG pmax pmax
comp=Z,84nm,1.2s
TBLG **Delisi** 76.64 311 *e*P P 08 09 52.4 -0.4
comp=Z,84nm,1.3s
STCH **Steam Cracks** 76.67 72 *e*P P 08 09 52.4 -0.9
comp=Z,304nm,1.1s
NPOC **North of Pu'u** 76.68 72 *e*P P 08 09 53.4 0.0
comp=Z,369nm,1.1s
GNI **Garni** 76.68 309 P P 08 09 53.5 +0.2
comp=Z,24nm,1.1s,baz=94,slow=2.1,SNR=11
GNI LR LR 08 48 17.1
comp=Z,1µm,21.3s,baz=94,slow=39
GNI **Garni** 76.68 309 *de*P P 08 09 53.2 0.0
GNI pmax pmax
comp=Z,131nm,1.2s
GNI **Garni** 76.68 309 *e*P P 08 09 53.3 0.0
comp=Z,166nm,1.7s
GNI **Garni** 76.68 309 P P 08 09 53.8 +0.5
SNR=13
GNI **Garni** 76.68 309 P P 08 09 53.8 +0.5
SNR=13
GNI **Garni** 76.68 309 *i* P P 08 09 53.5 +0.2
SNR=6.8
GNI **Garni** 76.68 309 *i* P P 08 09 53.5 +0.2
SNR=6.8
OHAK **Old Harbor** 76.82 33 *e*P P 08 09 52.2 -1.1
comp=Z,98nm,1.0s
CASY **Casey** 76.89 186 PFAKE 08 10 10.0 +17
CASY LR LR
comp=Z,283nm,20.0s
RAYN **Ar Rayn** 77.09 292 *e*P P 08 09 55.2 -0.5
comp=Z,172nm,1.4s
RAYN LR LR
comp=Z,2µm,19.0s
KDAK **Kodiak Island** 77.22 33 P P 08 09 56.3 +0.7
comp=Z,26nm,0.6s,baz=231,slow=16,SNR=29
KDAK **Kodiak Island** 77.22 33 *ce*P P 08 09 56.2 +0.6
KDAK **Kodiak Island** 77.22 33 *e*P P 08 09 56.3 +0.7
comp=Z,140nm,1.2s
KDAK LR LR
comp=Z,502nm,20.0s
ZEI **Tsey** 77.23 312 *e*P P 08 09 50.6 -5.7
ZEI pmax pmax
comp=Z,52nm,1.1s
AKH **Akhalkalaki** 77.58 310⇓ *i*P P 08 09 58.9 +0.7
AKH **Akhalkalaki** 77.58 310 *e*P P 08 09 59.0 +0.7
AKH pmax pmax
comp=Z,73nm,1.1s
AKH **Akhalkalaki** 77.58 310 *e*P P 08 09 58.1 -0.1
comp=Z,73nm,1.1s
PPLA **Purkeypile** 77.59 28 *e*P P 08 09 58.4 +0.5
comp=Z,117nm,1.4s
CAST **Castle Rocks** 77.66 27 *e*P P 08 09 58.2 +0.2
comp=Z,110nm,0.9s
GOF **Gofitskoye** 77.77 314⇑ *e*P P 08 09 58.1 -0.9
GOF pmax pmax
comp=Z,41nm,1.1s
KBZ **Khabaz** 77.93 313 LR LR 08 47 38.8
comp=Z,2µm,20.9s,baz=90,slow=38
KVAR **Kislovodsk Arr** 78.06 313 P P 08 10 00.7 -0.1
comp=Z,18nm,0.8s,baz=205,slow=2.1,SNR=11
KVAR LR LR 08 48 16.1
comp=Z,1µm,20.2s,slow=39
KIV **Kislovodsk** 78.07 313 *e*P P 08 09 59.7 -1.1
KIV *e*S S 08 19 51.3 -1.5
KIV pmax pmax
comp=Z,69nm,1.1s
KIV pmax pmax
comp=Z,156nm,3.9s
KIV MLR MLR
comp=Z,2µm,19.0s
KIV **Kislovodsk** 78.07 313 *e*P P 08 09 59.8 -1.0
comp=Z,76nm,1.1s
KIV LR LR
comp=Z,1µm,19.0s
KIV **Kislovodsk** 78.07 313 P P 08 10 00.9 +0.1
SNR=13
KIV **Kislovodsk** 78.07 313 P P 08 10 00.9 +0.1
SNR=13
KIV **Kislovodsk** 78.07 313 *i* P P 08 09 59.9 -1.0
SNR=8.8
KIV **Kislovodsk** 78.07 313 *i* P P 08 09 59.9 -1.0
SNR=8.8
NEY **Neytrino** 78.08 312 *d* P P 08 10 00.5 -0.5
NEY pmax pmax
comp=Z,2.0nm,1.0s
BRLK **Bradley Lake** 78.14 31 *e*P P 08 10 00.5 -0.3
comp=Z,82nm,1.0s
BPAW **Bear Paw Mtn.** 78.17 26 *e*P P 08 10 01.4 +0.5
comp=Z,169nm,1.0s
KTH **Kantishna Hill** 78.18 27 *e*P P 08 10 01.6 +0.5
comp=Z,48nm,1.0s
SUA **Susitna One** 78.23 29 *e*P P 08 10 01.1 -0.2
comp=Z,92nm,0.9s
MLY **Manley** 78.30 26 *e*P P 08 10 02.4 +0.8
comp=Z,82nm,1.0s
TRF **Thorofare Moun** 78.47 27 *e*P P 08 10 02.0 -0.7
comp=Z,91nm,1.0s
VRH **Novokhopyorsk** 78.47 320 *e*P P 08 10 00.7 -2.0
VRH pmax pmax
comp=Z,30nm,0.8s
COLD **Coldfoot** 78.58 23 *e*P P 08 10 04.1 +1.1
comp=Z,76nm,1.0s
RC01 **Rabbit Creek A** 78.71 30 *e*P P 08 10 04.0 +0.1
comp=Z,102nm,1.3s
TOLK **Toolik Lake Re** 78.84 22 P P 08 10 05.7 +1.2
baz=269
TOLK **Toolik Lake Re** 78.84 22 *e*P P 08 10 05.0 +0.4
comp=Z,72nm,0.9s
SEW **Seward** 78.86 31 *e*P P 08 10 03.1 -1.6
comp=Z,146nm,1.2s
PMR **Palmer** 79.00 29 *e*P P 08 10 05.2 -0.2
PMR pmax pmax
comp=Z,100nm,1.0s
PMR **Palmer** 79.00 29 *e*P P 08 10 05.2 -0.2
comp=Z,103nm,1.0s
MCK **McKinley** 79.07 27 *e*P P 08 10 05.7 -0.1
MCK pmax pmax
comp=Z,280nm,1.2s
MCK **McKinley** 79.07 27 *e*P P 08 10 05.7 -0.1
comp=Z,279nm,1.2s
RND **Reindeer** 79.11 27 *e*P P 08 10 05.7 -0.4
RND pmax pmax
comp=Z,130nm,1.1s
RND **Reindeer** 79.11 27 *e*P P 08 10 05.2 -0.9
comp=Z,129nm,1.1s
MDM **Murphy Dome** 79.36 26 *e*P P 08 10 06.5 -0.9
comp=Z,88nm,1.1s
SML **Sawmill** 79.38 29 *e*P P 08 10 07.7 +0.1
SML pmax pmax
comp=Z,200nm,1.1s
SML **Sawmill** 79.38 29 *e*P P 08 10 07.3 -0.3
comp=Z,205nm,1.2s
RAR **Rarotonga** 79.50 114 LR LR 08 39 25.4
comp=Z,1µm,21.2s,baz=278,slow=31
COLA **College** 79.53 26 *e*P P 08 10 07.9 -0.3
COLA pmax pmax
comp=Z,51nm,0.9s
COLA MLR MLR
comp=Z,852nm,20.0s
COLA **College** 79.53 26 *e*P P 08 10 07.9 -0.3
comp=Z,51nm,0.9s
COLA LR LR
comp=Z,852nm,20.0s
CCB **Clear Creek Bu** 79.55 26 *e*P P 08 10 08.1 -0.3
comp=Z,60nm,1.1s
DHY **Denali Highway** 79.79 28 *e*P P 08 10 09.4 -0.5
comp=Z,37nm,1.0s
SCM **Sheep Creek Mo** 79.85 29 *e*P P 08 10 10.7 +0.5
SCM pmax pmax
comp=Z,140nm,1.0s
SCM **Sheep Creek Mo** 79.85 29 *e*P P 08 10 10.7 +0.5
comp=Z,138nm,1.0s
HDA **Harding Lake** 79.93 26 *e*P P 08 10 09.8 -0.7
comp=Z,54nm,0.9s
ILAR **Eielson Array** 79.94 26 P P 08 10 09.6 -0.9
comp=Z,4.4nm,0.6s,baz=248,slow=4.0,SNR=55
ILAR PKPPKP P'P'df 08 36 59.6 -1.9
comp=Z,1.1nm,1.0s,baz=127,slow=2.4,SNR=5.2
ILAR LR LR 08 43 38.6
comp=Z,450nm,21.7s,baz=279,slow=34
ILB **Eielson Array** 79.94 26 *e*P P 08 10 09.7 -0.9
GLI **Glacier Island** 80.00 30 *e*P P 08 10 11.3 +0.4
comp=Z,56nm,0.8s
TMCR **Tamitsa** 80.02 334 *e*P P 08 10 10.0 -0.9
TMCR pmax pmax
comp=Z,93nm,1.5s
VSR **Storozhevoye** 80.08 320 *e*P P 08 10 09.3 -2.2
VSR pmax pmax
comp=Z,40nm,1.7s
LPSR **Galich'ya Gora** 80.14 322 *e*P P 08 10 09.6 -2.2
LPSR pmax pmax
comp=Z,30nm,0.7s
SOC **Sochi** 80.24 313 *e*P P 08 10 09.9 -2.7
SOC *e*PP PcP 08 10 18.2 -1.5
SOC *e*S S 08 20 14.6 -1.1
SOC *e*SS SS 08 25 21.2 -5.7
SOC pmax pmax
comp=Z,33nm,0.7s
KLU **Klutina** 80.54 29 *e*P P 08 10 14.6 +0.7
comp=Z,167nm,1.6s
FYU **Fort Yukon** 80.55 24 *e*P P 08 10 14.8 +1.1
comp=Z,406nm,1.8s
DIV **Divide** 80.63 29 *e*P P 08 10 15.3 +0.9
comp=Z,241nm,1.5s
PAX **Paxson** 80.66 28 *e*P P 08 10 15.0 +0.5
PAX pmax pmax
comp=Z,240nm,1.6s
PAX **Paxson** 80.66 28 *e*P P 08 10 15.0 +0.5
comp=Z,238nm,1.7s
EYAK **Cordova Ski Ar** 80.68 30 *e*P P 08 10 14.8 +0.2
comp=Z,229nm,1.8s
MOS **Moscow** 80.69 325 *e*P P 08 10 11.3 -3.4
MOS *e* 08 10 22.8
MOS *e* 08 13 13.8
MOS *e*S S 08 20 14.0 -5.9
MOS pmax pmax
comp=Z,56nm,1.4s
MOS MLR MLR
comp=Z,2µm,18.0s
HARP **HAARP** 80.84 28 *e*P P 08 10 15.6 +0.2
comp=Z,240nm,1.4s
RIDG **Independ'e Rid** 80.89 27 *e*P P 08 10 15.9 +0.2
comp=Z,129nm,1.0s
ATD **Arta Tunnel** 81.06 280 P P 08 10 17.9 +0.3
comp=Z,13nm,0.6s,baz=37,slow=1.5,SNR=17
ATD LR LR 08 45 33.5
comp=Z,439nm,18.6s,baz=64,slow=35
ATD **Arta Tunnel** 81.06 280 *e*P P 08 10 16.5 -1.0
comp=Z,64nm,1.2s
LVZ **Lovozero** 81.18 337 *e*P P 08 10 16.4 -0.7
LVZ pmax pmax
comp=Z,95nm,2.7s
LVZ **Lovozero** 81.18 337 PFAKE 08 10 30.0 +13
LVZ LR LR
comp=Z,2µm,20.0s
BMRM **Bremner River** 81.21 30 *e*P P 08 10 18.6 +1.1
comp=Z,177nm,1.3s
RAGM **Ragged Mountai** 81.22 30 *e*P P 08 10 17.0 -0.6
comp=Z,223nm,1.6s
DOT **Dot Lake** 81.24 27 *e*P P 08 10 17.6 +0.1
comp=Z,162nm,1.1s
OBN **Obninsk** 81.34 324 P P 08 10 18.1 0.0
comp=Z,17nm,0.4s,baz=51,slow=9.9,SNR=7.2
OBN **Obninsk** 81.34 324⇑ *e*P P 08 10 16.9 -1.3
OBN *e* 08 13 25.7
OBN pmax pmax
comp=Z,45nm,1.0s
OBN MLR MLR
comp=Z,1µm,18.0s
OBN **Obninsk** 81.34 324 *e*P P 08 10 16.8 -1.3
comp=Z,112nm,1.5s
OBN LR LR
comp=Z,2µm,19.0s
MENT **Mentasta** 81.46 28 *e*P P 08 10 19.6 +0.9
comp=Z,169nm,1.5s
APA **Apatity** 81.68 337⇓ *i*P P 08 10 20.6 +0.9
APA *i* S S 08 20 28.0 -1.8
APA *i* SSS SSS 08 29 04.0
APA MLR MLR
comp=Z,2µm,20.0s
ANN **Anapa** 81.77 314 *e*P P 08 10 18.4 -2.2
ANN *e**PP PcP 08 10 26.7 +0.4
ANN *e* 08 20 37.8
ANN pmax pmax
comp=Z,102nm,1.9s
EGAK **Eagle** 82.39 26 *e*P P 08 10 23.5 0.0
comp=Z,49nm,1.0s
EGAK LR LR
comp=Z,952nm,19.0s
OPO **Ambohidratompo** 82.39 250 P P 08 10 25.4 +0.8
comp=Z,5.7nm,1.0s,baz=50,slow=14,SNR=3.3
OPO LR LR 08 46 21.4
comp=Z,778nm,19.0s,baz=94,slow=35
ABPO **Ambohimpanom** 82.46 249 *e*P P 08 10 24.1 -0.9
ABPO pmax pmax
comp=Z,31nm,1.1s
ABPO **Ambohimpanom** 82.46 249 *e*P P 08 10 22.8 -2.2
comp=Z,31nm,1.1s
ABPO LR LR
comp=Z,501nm,20.0s
DAWY **Dawson** 83.25 26 *e*P P 08 10 28.8 +0.8
comp=Z,224nm,1.5s
KEV **Kevo** 83.66 340 PFAKE 08 10 40.0 +10
KEV LR LR
comp=Z,908nm,20.0s
ASF **Jabal al Asfar** 83.69 301 P P 08 10 31.6 +0.6
comp=Z,8.2nm,0.9s,baz=351,slow=5.5,SNR=6.1
ASF LR LR 08 52 04.7
comp=Z,786nm,21.8s,baz=40,slow=39
SIM **Simferopol'** 84.09 314 *de*P P 08 10 31.5 -1.2
SIM pmax pmax
comp=Z,46nm,0.9s
SIM MLR MLR
comp=Z,700nm,17.0s
PUL **Pulkovo** 84.11 330 *e*P P 08 10 32.5 +0.1
PUL pmax pmax
comp=Z,34nm,0.6s
SPA0 **Spitsbergen Ar** 84.15 349 *e*P P 08 10 32.0 -0.4
SPITS **Spitsbergen Ar** 84.15 349 P P 08 10 31.8 -0.6
comp=Z,40nm,0.9s,baz=30,slow=6.8,SNR=12
SPITS LR LR 08 53 32.6
comp=Z,1µm,18.8s,baz=0.0,slow=40
ARCES **ARCESS Array B** 84.22 340 P P 08 10 32.1 -0.8
comp=Z,7.9nm,0.5s,baz=83,slow=6.5,SNR=44
ARCES LR LR 08 52 44.4
comp=Z,912nm,18.3s,baz=114,slow=39
ARCES **ARCESS Array B** 84.22 340 *e*P P 08 10 32.4 -0.5
ARCES **ARCESS Array B** 84.22 340 *e*P P 08 10 31.0 -1.9
HYT **Haines Junctio** 84.67 29 *e*P P 08 10 35.7 +0.2
comp=Z,109nm,1.0s
KBS **Kingsbay** 84.67 350 PFAKE 08 10 50.0 +15
KBS LR LR
comp=Z,2µm,21.0s
INK **Inuvik** 84.75 22 P P 08 10 35.8 +0.2
comp=Z,45nm,1.1s,baz=282,slow=5.7,SNR=61
INK **Inuvik** 84.75 22 *e*P P 08 10 35.7 +0.2
INK pmax pmax
comp=Z,130nm,1.1s
INK **Inuvik** 84.75 22 *e*P P 08 10 35.7 +0.2
comp=Z,129nm,1.1s
MMAI **Mount Meron Ar** 84.82 302 P P 08 10 37.3 +0.5
comp=Z,12nm,0.9s,baz=108,slow=8.0,SNR=6.6
MMAI LR LR 08 51 06.7
comp=Z,966nm,21.9s,baz=70,slow=38
ILGA **Ilgaz** 84.95 311 *e*P P 08 10 37.3 -0.1
comp=Z,92nm,1.4s
BR131 **Keskin Array S** 85.22 309 *e*P P 08 10 36.7 -2.0
BRTR **Keskin Array B** 85.22 309 P P 08 10 37.1 -1.6
comp=Z,5.3nm,0.8s,baz=106,slow=4.6,SNR=20
BRTR LR LR 08 55 27.4
comp=Z,478nm,18.3s,baz=74,slow=40
FURI **Furi** 85.52 278 *e*P P 08 10 42.9 +2.0
comp=Z,86nm,1.1s
EIL **Elat** 85.71 299 P P 08 10 44.8 +3.6
comp=Z,16nm,1.1s,baz=91,slow=4.5,SNR=10
FIA1 **FINESS Array S** 85.82 332 *e*P P 08 10 40.0 -1.1
comp=Z,148nm,1.5s
FINES **FINESS Array B** 85.83 332 P P 08 10 39.8 -1.2
comp=Z,11nm,0.5s,baz=80,slow=4.6,SNR=96
ANTO **Ankara** 85.84 310 *e*P P 08 10 41.1 -0.6
ANTO pmax pmax
comp=Z,35nm,0.9s
ANTO **Ankara** 85.84 310 *e*P P 08 10 40.0 -1.7
comp=Z,35nm,0.8s
ANTO LR LR
comp=Z,548nm,19.0s
ANTO **Ankara** 85.84 310 P P 08 10 41.4 -0.3
SNR=5.9
ANTO **Ankara** 85.84 310 P P 08 10 41.4 -0.3
SNR=5.9
BR231 **Keskin MP Arra** 85.85 310 *e*P P 08 10 40.9 -1.0
WHY **Whitehorse** 85.96 29 *e*P P 08 10 43.0 +1.1
comp=Z,198nm,1.3s
SKAG **Skagway** 86.01 30 *e*P P 08 10 42.0 -0.1
comp=Z,63nm,1.0s
VSU **Vasula** 86.17 329 *ce*P P 08 10 41.9 -0.9
VSU pmax pmax
comp=Z,157nm,1.7s
CSS **Mathiatis** 86.22 305 *e*P P 08 10 43.5 -0.1
comp=Z,19nm,0.7s
CSS LR LR
comp=Z,241nm,22.0s
AKASG **Malin Array Be** 86.37 321 P P 08 10 42.2 -1.8
comp=Z,14nm,0.9s,baz=64,slow=4.8,SNR=60
AKASG LR LR 08 51 20.6
comp=Z,968nm,18.2s,baz=90,slow=37
AKASG **Malin Array Be** 86.37 321 *ce*P P 08 10 42.2 -1.8
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKBB **Malin Array Si** 86.37 321 *e*P P 08 10 42.1 -1.9
AKBB pmax pmax
comp=Z,47nm,1.0s
AKBB **Malin Array Si** 86.37 321 *e*P P 08 10 42.1 -1.9
comp=Z,47nm,1.0s
KIEV **Kiev** 86.38 321 *d* P P 08 10 41.7 -2.3
KIEV pmax pmax
comp=Z,124nm,2.6s
KIEV **Kiev** 86.38 321 *e*P P 08 10 42.0 -2.0
comp=Z,46nm,1.0s
KIEV LR LR
comp=Z,2µm,19.0s
KIEV **Kiev** 86.38 321 *i* P P 08 10 42.2 -1.8
SNR=6.2
KIEV **Kiev** 86.38 321 *i* P P 08 10 42.2 -1.8
SNR=6.2
MICGM **Minsk** 86.40 325⇑ *e*P P 08 10 42.0 -2.1
MICGM PM 08 10 45.0
comp=Z,0.2nm,1.0s
MNK **Minsk** 86.40 325⇑ *e*P P 08 10 42.0 -2.1
MNK pmax pmax
comp=Z,170nm,1.0s
AK11 **Malin Array Si** 86.41 321 *e*P P 08 10 42.3 -1.9
BESE **Bessie Mountai** 86.45 31 *e*P P 08 10 45.3 +1.0
comp=Z,150nm,1.6s
SIT **Sitka** 86.55 33 *e*P P 08 10 46.8 +2.1
SIT pmax pmax

comp=Z,160nm,1.5s
SIT Sitka 86.55 33 *e*P **P** **08 10 44.0 -0.7**
comp=Z,163nm,1.5s
NACGM Naroch 86.94 325 *e* **P** **08 10 48.0 +1.3**
NACGM *e*LQ LQ 08 42 28.0
NACGM *e*LR LR 08 48 48.0
KIS Kishinev 87.38 317 *e*P **P** **08 10 46.0 -3.0**
KIS Kishinev 87.38 317 *e*P **P** **08 10 46.0 -3.0**
KIS *e* 08 14 16.0
KIS MLR MLR
comp=Z,2µm,19.0s
KIS MLR MLR
comp=E,2µm,21.0s
KIS MLR MLR
comp=Z,2µm,22.0s
SORM Soroca 87.45 318⇓ *i*P **P** **08 10 47.7 -1.6**
TLCR 87.75 315⇓ *i*P **P** **08 10 50.6 -0.2**
ISP Isparta 87.94 308 *e*P **P** **08 10 50.8 -1.3**
ISP pmax pmax
comp=Z,17nm,0.8s
ISP Isparta 87.94 308 PFAKE 08 11 00.0 +7.9
ISP LR LR
comp=Z,853nm,22.0s
PPT Papeete 88.07 108 P **P** **08 10 54.3 +1.5**
comp=Z,20nm,0.8s,baz=100,slow=2.2,SNR=3.9
PPT LR LR 08 43 13.5
comp=Z,509nm,21.2s,baz=274,slow=31
PPT2 Papeete2 88.08 108 *e*P **P** **08 10 55.5 +2.6**
comp=Z,73nm,1.2s
PPT2 Papeete2 88.08 108 *e*S **S** **08 21 35.7 +0.5**
comp=Z,716nm,27.8s
PPT2 *e*SS **SS** **08 27 25.6 +1.4**
comp=Z,432nm,26.5s
PPT2 *e*LQ LQ 08 34 50.7
comp=Z,3µm,29.5s
PPT2 *e*LR LR 08 38 41.6
comp=Z,1µm,23.8s
PAE Paea 88.09 108 *e*P **P** **08 10 55.4 +2.5**
comp=Z,9.8nm,1.1s
PPTF Pamatai, Papee 88.09 108 *e*P **P** **08 10 55.9 +2.9**
comp=Z,92nm,1.0s
TIRR Tirgusor 88.18 315⇑ *i*P **P** **08 10 51.3 -1.5**
TIRR Tirgusor 88.18 315 *e*P **P** **08 10 50.0 -2.8**
TIRR pmax pmax
comp=Z,52nm,1.4s
TIRR Tirgusor 88.18 315 *e*P **P** **08 10 50.0 -2.8**
comp=Z,52nm,1.4s
CFR Carcaliu 88.22 315⇓ *i*P **P** **08 10 52.1 -0.9**
TIAR Tiarei 88.29 108 *e*P **P** **08 10 56.7 +2.8**
comp=Z,17nm,1.0s
WRAK Wrangell Islan 88.30 33 PFAKE 08 11 00.0 +6.8
WRAK LR LR
comp=Z,783nm,19.0s
TVO Taravao 88.42 108 *e*P **P** **08 10 57.4 +2.9**
comp=Z,24nm,0.8s
HARR Harsova 88.47 315⇑ *i*P **P** **08 10 54.1 -0.1**
KMBO Kilima Mbogo 88.61 269 PFAKE 08 11 10.0 +14
KMBO LR LR
comp=Z,952nm,19.0s
DLBC Dease Lake 88.93 31 *e*P **P** **08 10 55.1 -1.1**
comp=Z,130nm,2.0s
TESR Tescani 88.94 317⇑ *i*P **P** **08 10 55.0 -1.4**
VRI Vrincioaia 89.03 316⇓ *i*P **P** **08 10 56.0 -0.9**
PLOR Plostina 89.09 316⇓ *i*P **P** **08 10 56.5 -0.7**
PMOR Pomariorio Reie 89.18 105 *e*P **P** **08 11 01.0 +2.9**
comp=Z,179nm,1.2s
SUW Suwalki 89.20 325 *e*P **P** **08 10 56.5 -0.9**
SUW pmax pmax
comp=Z,71nm,0.9s
SUW Suwalki 89.20 325 *e*P **P** **08 10 55.4 -2.0**
comp=Z,71nm,0.9s
MAW Mawson 89.24 200 P **P** **08 10 58.4 +1.2**
comp=Z,14nm,0.9s,baz=88,slow=13,SNR=1.9
MAW LR LR 08 46 26.6
comp=Z,492nm,21.4s,baz=59,slow=32
TBI Tubuai 89.29 114 *e*P **P** **08 11 01.4 +3.0**
comp=Z,165nm,1.0s
TBI Tubuai 89.29 114 *e*S **S** **08 21 46.5 +0.3**
comp=Z,2µm,30.0s
TBI *e*SS **SS** **08 27 44.6 +3.1**
comp=Z,696nm,33.2s
TBI *e*LQ LQ 08 35 30.9
comp=Z,3µm,36.8s
TBI *e*LR LR 08 39 20.0
comp=Z,3µm,23.5s
VAH Vaihoa 89.48 105 *e*P **P** **08 11 02.2 +2.7**
comp=Z,117nm,1.1s
BURAR Bucovina Array 89.62 318⇑ *i*P **P** **08 10 59.1 -0.6**
BUR04 Bucovina Ar. S 89.62 318 *e*P **P** **08 10 58.9 -0.9**
BUR08 Bucovina Ar. S 89.63 318 *e*P **P** **08 10 57.9 -1.9**
MLR Muntele Rosu 89.65 316 P **P** **08 10 59.3 -0.7**
comp=Z,0.8nm,0.6s,baz=115,slow=19,SNR=5.7
MLR LR LR 08 56 04.4
comp=Z,249nm,18.4s,baz=70,slow=39
MLR Muntele Rosu 89.65 316⇑ *i*P **P** **08 10 59.5 -0.5**
MLR Muntele Rosu 89.65 316 *e*P **P** **08 10 58.5 -1.4**
comp=Z,46nm,1.5s
VNDA Vanda 89.75 173 P **P** **08 10 59.5 +0.1**
comp=Z,5.2nm,0.8s,baz=318,slow=5.9,SNR=19
VNDA PP **PP** **08 14 36.0 +4.0**
comp=Z,7.9nm,1.0s,baz=313,slow=8.5,SNR=2.6
VNDA LR LR 08 50 24.9
comp=Z,648nm,20.7s,baz=345,slow=35
VNDA Vanda 89.75 173 *e*P **P** **08 10 59.1 -0.3**
comp=Z,50nm,0.9s
VNDA PP **PP** **08 14 36.0 +4.0**
LVV L'vov 89.82 321 *e*P **P** **08 10 59.7 -0.8**
LVV *e*S **S** **08 21 47.4 -2.9**
DOPR Dopca 89.92 317⇑ *i*P **P** **08 10 59.9 -1.1**
VOIR 90.28 316⇑ *i*P **P** **08 11 02.5 -0.3**
ARR Arges 90.58 316⇑ *i*P **P** **08 11 01.2 -3.0**
KLNR Kaliningrad 90.69 326 *e*P **P** **08 11 04.3 -0.1**
KLNR pmax pmax
comp=Z,37nm,1.1s
KWP Kalwaria Pacla 90.70 321 *e*P **P** **08 11 03.6 -1.0**
KWP Kalwaria Pacla 90.70 321 *e*P **P** **08 11 03.7 -0.9**
KWP pmax pmax
comp=Z,620nm,1.0s
KWP Kalwaria Pacla 90.70 321 *e*P **P** **08 11 03.2 -1.4**
comp=Z,618nm,1.0s
UZH Uzhgorod 91.24 320⇑ *i*P **P** **08 11 05.7 -1.4**
DRGR 91.49 318⇑ *i*P **P** **08 11 07.6 -0.8**
STHS Stebnicka Huta 91.67 321 *e*P **P** **08 11 08.6 -0.5**
STHS *e* 08 11 18.6
STHS pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 91.67 321 *e*P **P** **08 11 08.6 -0.5**
STHS *e* 08 11 18.6
CRVS Cervenica-Dubn 91.69 320 *e*P **P** **08 11 09.1 -0.1**
CRVS *e* 08 11 18.0
CRVS Cervenica-Dubn 91.69 320 *e*P **P** **08 11 09.1 -0.1**
CRVS *e* 08 11 18.0
RES Resolute Bay 91.86 10 P **P** **08 11 09.4 0.0**
comp=Z,10nm,0.8s,baz=311,slow=4.6,SNR=29
RES Resolute Bay 91.86 10 *e*P **P** **08 11 09.1 -0.3**
comp=Z,24nm,0.8s
HFS Hagfors 91.99 332 P **P** **08 11 08.6 -1.7**
comp=Z,7.1nm,0.8s,baz=92,slow=4.5,SNR=9.8
SANT Santorini 92.21 307 *e*P **P** **08 11 11.0 -0.9**
comp=Z,97nm,1.0s
SANT LR LR
comp=Z,663nm,20.0s
NIE Niedzica 92.26 321 *e*P **P** **08 11 11.3 -0.5**
NIE Niedzica 92.26 321 *e*P **P** **08 11 11.3 -0.5**
VTS Vitosha 92.30 314⇑ *i*P **P** **08 11 11.8 -0.6**
VTS Vitosha 92.30 314 *e*P **P** **08 11 11.3 -1.1**
VTS pmax pmax
comp=Z,19nm,1.3s
VTS Vitosha 92.30 314 *e*P **P** **08 11 10.8 -1.6**
comp=Z,19nm,1.3s
OJC Ojcow 92.31 322 *e*P **P** **08 11 11.4 -0.6**
OJC Ojcow 92.31 322 *e*P **P** **08 11 11.5 -0.6**
OJC Ojcow 92.31 322 *e*P **P** **08 11 10.7 -1.3**
comp=Z,21nm,1.0s
SIRR Siria 92.33 318⇓ *i*P **P** **08 11 11.4 -0.9**
KECS Kecovo 92.43 320 *e*P **P** **08 11 11.7 -0.9**
KECS *e* 08 11 19.3
KECS pmax pmax
comp=Z,13nm,1.3s
KECS Kecovo 92.43 320 *e*P **P** **08 11 11.7 -0.9**
KECS *e* 08 11 19.3
NC405 NORSAR Array S 92.47 334 *e*P **P** **08 11 10.2 -2.4**
NC303 NORSAR Array S 92.57 334 *e*P **P** **08 11 11.9 -1.1**
NB2 NORSAR Subarra 92.72 334 P **P** **08 11 11.3 -2.4**
comp=Z,34nm,1.2s,baz=66,slow=4.6
NB2 NORSAR Subarra 92.72 334 P **P** **08 11 11.3 -2.4**
baz=66,slow=4.6
NOA NORSAR Array B 92.72 334 P **P** **08 11 12.3 -1.4**
comp=Z,3.3nm,0.8s,baz=66,slow=4.6,SNR=10
NC204 NORSAR Array S 92.81 334 *e*P **P** **08 11 13.0 -1.1**
LANS Liptovska Anna 92.86 321 *e*P **P** **08 11 14.7 0.0**
LANS Liptovska Anna 92.86 321 *e*P **P** **08 11 14.7 0.0**
IDI Anoyia 92.92 306 LR LR 08 59 37.7
comp=Z,449nm,20.4s,baz=102,slow=40
PSZ Piszkesteto 92.98 320⇓ *i*P **P** **08 11 14.4 -0.9**
PSZ Piszkesteto 92.98 320 *e*P **P** **08 11 14.0 -1.3**
PSZ pmax pmax
comp=Z,25nm,1.3s
PSZ Piszkesteto 92.98 320 *e*P **P** **08 11 14.0 -1.3**
comp=Z,25nm,1.3s
PSZ LR LR
comp=Z,1µm,20.0s
TULEG Thule 93.19 3 *e*P **P** **08 11 15.0 -0.5**
comp=Z,151nm,1.8s
BSD Bornholm Skovb 93.38 327 *i*P **P** **08 11 16.2 -0.6**
BSD Bornholm Skovb 93.38 327 *e*P **P** **08 11 16.2 -0.6**
OKC Ostrava-Krasne 93.45 322 AMS AMS 08 57 30.0
comp=Z,2µm,19.3s
VYHS Vyhne 93.47 320 *e*P **P** **08 11 16.8 -0.6**
VYHS *e* 08 11 23.8
VYHS pmax pmax
comp=Z,20nm,1.7s
VYHS Vyhne 93.47 320 *e*P **P** **08 11 16.8 -0.6**
VYHS *e* 08 11 23.8
MORC Moravsky Berou 93.83 322⇓ *i*P **P** **08 11 18.4 -0.7**
MORC Moravsky Berou 93.83 322 *e*P **P** **08 11 18.6 -0.5**
MORC pmax pmax
comp=Z,55nm,1.1s
MORC Moravsky Berou 93.83 322 *e*P **P** **08 11 18.2 -0.9**
comp=Z,55nm,1.1s
DIVS Divibare 94.11 316 *e*P **P** **08 11 19.4 -1.2**
comp=Z,12nm,1.0s
KSP Ksiaz 94.21 323 *e*P **P** **08 11 20.4 -0.4**
KSP Ksiaz 94.21 323 *e*P **P** **08 11 20.4 -0.4**
YKW3 Yellowknife Ar 94.21 24 *e*P **P** **08 11 19.9 -0.5**
comp=Z,39nm,1.1s
YKA Yellowknife Ar 94.25 24 P **P** **08 11 20.6 -0.1**
comp=Z,10nm,1.0s,baz=299,slow=4.7,SNR=117
YKA PP **PP** **08 15 10.6 +3.4**
comp=Z,2.6nm,1.0s,baz=298,slow=7.2,SNR=4.0
YKA PKiKP **PKiKP** **08 16 04.6 +0.4**
comp=Z,0.9nm,0.7s,baz=308,slow=1.8,SNR=9.1
YKA PKKP **PKKPdf** **08 28 18.8 -3.1**
comp=Z,0.9nm,0.5s,baz=123,slow=3.0,SNR=18
YKA PKPPKP **P'P'df** **08 36 32.7 -2.1**
comp=Z,0.2nm,0.6s,baz=136,slow=2.3,SNR=5.3
YKA LR LR 08 58 34.2
comp=Z,22nm,18.8s,baz=0.0,slow=38
DPC Dobruska-Polom 94.37 323 *e*P **P** **08 11 20.9 -0.7**
DPC *e*pP **pP** **08 11 28.4 -3.8**
DPC *ex* x 08 24 00.8
DPC AMS AMS 08 55 30.0
comp=Z,1µm,18.9s
DPC Dobruska-Polom 94.37 323 *e*P **P** **08 11 20.9 -0.7**
DPC *e* 08 11 28.4
DPC MLR MLR
comp=Z,1µm,18.9s
UPC Upice 94.50 323 AMS AMS 08 57 50.0
comp=Z,2µm,18.8s
VRAC Vranov 94.58 322 P **P** **08 11 21.8 -0.7**
comp=Z,3.5nm,0.6s,baz=68,slow=5.3,SNR=9.4
VRAC LR LR 08 54 44.3
comp=Z,645nm,21.7s,baz=111,slow=36
VRAC Vranov 94.58 322⇑ *i*P **P** **08 11 22.1 -0.4**
MBAR Mbarara 94.93 270 PFAKE 08 11 40.0 +15
MBAR LR LR
comp=Z,642nm,20.0s
TIR Tirane 95.05 313 PFAKE 08 11 40.0 +15
TIR LR LR
comp=Z,1µm,21.0s
PDG Podgorica 95.14 315⇓ *i*P **P** **08 11 23.9 -1.3**
TREC Trest 95.26 322 *e*P **P** **08 11 25.2 -0.4**
TREC *ex* x 08 29 20.6
TREC AMS AMS 08 58 30.0
comp=Z,2µm,17.0s
TREC Trest 95.26 322 *e*P **P** **08 11 25.2 -0.4**
TREC MLR MLR
comp=Z,2µm,17.0s
GOPC GO Pecny, Ondr 95.45 323 *e*SS SS 08 29 11.7 +3.6
GOPC AMS AMS 08 58 30.0
comp=Z,2µm,19.5s
CONA Conrad Observa 95.53 321 *e*PcP **P** **08 11 26.2 -0.8**
comp=Z,22nm,2.1s
CONA *i* PcP **P** **08 11 26.6 -0.4**
comp=Z,16nm,1.3s
KULLO Kullorsuaq 95.56 1 *i*P **P** **08 11 26.0 -0.4**
KULLO Kullorsuaq 95.56 1 *i*P **P** **08 11 26.0 -0.4**
PRU Pruhonice 95.56 323 *e*P **P** **08 11 26.1 -0.9**
PRU *e*pP **pP** **08 11 34.2 -3.4**
PRU *e*SS SS 08 29 20.2 +11
PRU AMS AMS 08 56 00.0
comp=Z,1µm,19.4s
PRU Pruhonice 95.56 323 *e*P **P** **08 11 26.1 -0.9**
PRU *e* 08 11 34.2
PRU *e*SS SS 08 29 20.2 +11
PRU MLR MLR
comp=Z,1µm,19.4s
BRG Berggiesshubel 95.57 324 *e*P **P** **08 11 26.6 -0.4**
comp=Z,93nm,2.1s
BRG *e* 08 11 32.9
comp=Z,21nm,1.3s
BRG Berggiesshubel 95.57 324 *e*P **P** **08 11 26.6 -0.4**
BRG pmax pmax
comp=Z,93nm,2.1s
BRG pmax pmax
comp=Z,21nm,1.3s
BRG MLR MLR
comp=Z,2µm,19.6s
BRG MLR MLR
comp=N,710nm,16.7s
BRG MLR MLR
comp=E,1µm,16.7s
TAOE Nuku Hiva Isla 95.62 98 *e*SS SS 08 29 13.4 +0.4
comp=E,2µm,29.9s
TAOE Nuku Hiva Isla 95.62 98 *e*LR LR 08 42 24.7
comp=E,2µm,24.4s
BLY Banja Luka 95.80 317 *e*P **P** **08 11 27.1 -1.1**
comp=E,47nm,2.0s
CLL Collm 95.94 324 *e*P **P** **08 11 27.2 -1.5**
CLL pmax pmax
comp=Z,43nm,1.8s
CLL Collm 95.94 324 *e*P **P** **08 11 27.0 -1.7**
comp=Z,74nm,2.4s
CLL *es*P **pP** **08 11 35.0 -4.3**
CLL *e*PP **PP** **08 15 24.0 +3.2**
CLL *e*SP SP 08 24 00.0 -2.8
CLL *e*PPS PPS 08 24 43.0
CLL *e*SS **SS** **08 29 18.0 +3.1**
CLL *e*SSS SSS 08 33 06.0
CLL *e* 08 36 48.0
CLL LmH 08 56 00.0
comp=N,2µm,18.3s
CLL LmH 08 56 00.0
comp=E,800nm,20.5s
CLL LmV 09 02 00.0
comp=Z,1µm,19.3s
CLL Collm 95.94 324 *e*P **P** **08 11 27.2 -1.5**
comp=Z,43nm,1.8s
ARSA Arzberg 95.99 320 *e*P **P** **08 11 27.7 -1.3**
comp=Z,16nm,2.1s
LLLB Lillooet 96.13 36 *e*P **P** **08 11 29.6 0.0**
comp=Z,50nm,1.4s
NLWA Neilton Lookou 96.17 40 PFAKE 08 11 40.0 +10
NLWA LR LR
comp=Z,1µm,19.0s
KHC Kasperske Hory 96.48 322 *e*P **P** **08 11 30.3 -0.9**
KHC *e*pP **pP** **08 11 37.6 -4.2**
KHC *e*SS SS 08 29 24.0 +1.3
KHC AMS AMS 08 59 40.0
comp=Z,1µm,12.7s
KHC Kasperske Hory 96.48 322 *e*P **P** **08 11 30.6 -0.6**
KHC Kasperske Hory 96.48 322 *e*P **P** **08 11 30.6 -0.6**
comp=Z,3.5nm,0.9s
GEC2 GERESS Array S 96.52 322 *e*P **P** **08 11 30.8 -0.7**
GEC2 GERESS Array S 96.52 322 *e*P **P** **08 11 29.8 -1.7**
comp=Z,15nm,1.1s
GERES GERESS Array B 96.52 322 P **P** **08 11 30.6 -0.8**
comp=Z,2.6nm,0.8s,baz=57,slow=4.9,SNR=18
GERES PKKPbc **PKKPbc** **08 28 16.7 -0.4**
comp=Z,0.2nm,0.3s,baz=248,slow=4.1,SNR=4.4
GERES PKKP **PKKPdf** **08 28 23.5 +5.7**
comp=Z,1.1nm,1.0s,baz=199,slow=2.4,SNR=5.7
GERES LR LR 09 00 05.3
comp=Z,1µm,19.0s,baz=84,slow=39
SOKA Soboth 96.52 320 *e*PcP **P** **08 11 30.4 -1.1**
comp=Z,9.7nm,1.7s
GEA0 GERESS Array S 96.52 322 *e*P **P** **08 11 30.1 -1.4**
MOA Molln 96.56 321 *e*PcP **P** **08 11 30.6 -1.0**
comp=Z,28nm,1.7s
NKC Novy Kostel 96.70 324 *e*SS SS 08 29 35.9 +10
NKC AMS AMS 08 59 50.0
comp=Z,2µm,15.6s
BOJS Bojanci 96.81 318 *i*P **P** **08 11 33.1 +0.4**
BOJS *i* 08 11 39.0
OBKA Obir 96.89 320 *e*P **P** **08 11 31.1 -2.1**
comp=Z,6.8nm,1.3s
SUMG Summit 96.93 355 *i*P **P** **08 11 32.8 -0.4**
SUMG Summit 96.93 355 *e*P **P** **08 11 32.9 -0.4**
SUMG Summit 96.93 355 *e*P **P** **08 11 32.9 -0.4**
comp=Z,30nm,1.4s
B06A Marblemount 97.22 38 *e*P **P** **08 11 34.2 -0.3**
comp=Z,31nm,1.3s
MYKA Terra Mystica 97.42 320 *e*PcP **P** **08 11 34.4 -1.2**
comp=Z,4.1nm,0.9s
KBA Koelnbreinsper 97.43 320 *e*PcP **P** **08 11 34.2 -1.6**
comp=Z,7.7nm,1.3s
JAVS Javornik 97.43 319 *e*P **P** **08 11 33.8 -1.9**
JAVS *i* 08 11 42.1
TRI Trieste 97.70 319 *e*P **P** **08 11 34.4 -2.3**
TRI pmax pmax
comp=Z,22nm,1.5s
TRI Trieste 97.70 319 *e*P **P** **08 11 34.4 -2.3**
comp=Z,22nm,1.5s
TIP Timpagrande 98.00 312 PFAKE 08 11 50.0 +12
TIP LR LR
comp=Z,817nm,20.0s
ABTA Abfaltersbach 98.09 320 *e*P **P** **08 11 37.0 -1.6**
comp=Z,5.6nm,1.0s
CUC Castrocucco 98.40 313 PFAKE 08 11 50.0 +10
CUC LR LR
comp=Z,926nm,20.0s
WTTA Wattenberg 98.42 321 *e*PcP **P** **08 11 39.2 -1.0**
comp=Z,7.7nm,0.9s
WATA Walderalm 98.43 321 *e*P **P** **08 11 38.3 -1.9**
comp=Z,2.4nm,0.4s
I04A Tendick Farm, 98.48 43 P Pdif 08 11 40.7 +0.3
baz=293
B08A Colville Reser 98.58 38 *e*P Pdif 08 11 41.1 +0.4
comp=Z,22nm,1.1s
MOTA Moosalm 98.72 321 *e*Pdiff **P** **08 11 40.0 -1.5**
comp=Z,9.5nm,1.1s
RETA Reutte 98.87 321 *e*Pdiff **P** **08 11 41.1 -0.9**
comp=Z,3.4nm,0.7s
CEL Celeste 98.94 311 PFAKE 08 11 50.0 +7.4
CEL LR LR
comp=Z,597nm,20.0s
I05D Terrebonne, OR 98.98 42 P Pdif 08 11 43.1 +0.5
baz=294
YBH Yreka Blue Hor 99.06 45 P **Pdif** **08 11 44.0 +0.9**
comp=Z,2.7nm,1.0s,baz=291,slow=13,SNR=4.1
YBH LR LR 08 47 22.8
comp=Z,414nm,21.8s,baz=300,slow=30
FETA Feichten 99.09 321 *e*Pdiff **Pdif** **08 11 41.9 -1.3**
comp=Z,11nm,1.5s
AQU L'Aquila 99.23 316 PFAKE 08 11 50.0 +6.2
AQU LR LR
comp=Z,1µm,21.0s
D08A Wollman Farm, 99.40 39 *e*P **Pdif** **08 11 44.0 -0.4**
comp=Z,12nm,0.8s
PINE Pine Mountain 99.46 42 *e*P **Pdif** **08 11 44.4 -0.6**
comp=Z,26nm,1.3s
C09A Chrisman Ranch 99.47 38 *e*P **Pdif** **08 11 43.4 -1.2**
comp=Z,22nm,1.3s
J05D Fort Rock, OR 99.47 43 P **Pdif** **08 11 45.1 +0.1**
baz=293
FUORN Ofenpass-Fuorn 99.55 321 *e*P **Pdif** **08 11 44.4 -0.9**
comp=Z,21nm,0.9s
E08A Dider Farm, El 99.56 39 *e*P **Pdif** **08 11 45.2 +0.2**
comp=Z,30nm,1.4s
EDM Edmonton 99.62 32 *e*P **Pdif** **08 11 45.6 +0.4**
EDM pmax pmax
comp=Z,30nm,1.3s
EDM Edmonton 99.62 32 *e*Pdif **Pdif** **08 11 45.6 +0.4**
comp=Z,30nm,1.3s
LSZ Lusaka 99.70 256 P **Pdif** **08 11 47.4 +1.0**
comp=Z,1.3nm,0.3s,baz=33,slow=3.8,SNR=3.8
LSZ Lusaka 99.70 256 P **Pdif** **08 11 47.4 +1.0**
LSZ MLR MLR
comp=Z,1µm,21.0s
LSZ Lusaka 99.70 256 P **Pdif** **08 11 47.4 +1.0**
LSZ LR LR
comp=Z,1µm,21.0s
QSPA South Pole Qui 99.88 180 P **Pdif** **08 11 46.8 +0.7**
comp=Z,2.4nm,0.8s,baz=178,slow=0.5,SNR=4.9
QSPA PKKPbc **PKKPbc** **08 28 10.6 +1.4**
comp=Z,3.6nm,0.8s,baz=208,slow=0.9,SNR=6.6
QSPA LR LR 08 56 49.6
comp=Z,1µm,21.6s,baz=344,slow=35
NEW Newport 99.95 37 P **Pdif** **08 11 48.1 +1.3**
NEW Newport 99.95 37 P **Pdif** **08 11 47.2 +0.4**
baz=297
NEW Newport 99.95 37 *e*Pdif **Pdif** **08 11 46.9 +0.1**
comp=Z,19nm,1.3s
NEW LR LR
comp=Z,723nm,20.0s
BFO Black Forest 99.96 323 *i*P **Pdif** **08 11 46.3 -0.6**
BFO Black Forest 99.96 323 PFAKE 08 12 00.0 +13
BFO LR LR
comp=Z,1µm,22.0s
TUE Stuetta 100.18 321 PFAKE 08 12 00.0 +12
TUE LR LR
comp=Z,2µm,22.0s
O03D Paynes Creek 100.24 46 P **Pdif** **08 11 48.6 +0.3**
baz=292
VLC Villacollemand 100.52 319 PFAKE 08 12 00.0 +11
VLC LR LR
comp=Z,1µm,21.0s
WLF Walferdange 100.59 325 PFAKE 08 12 00.0 +10
WLF LR LR
comp=Z,2µm,20.0s
ECH Echery 100.71 323 PFAKE 08 12 00.0 +10
ECH LR LR
comp=Z,1µm,20.0s
ORV Oroville 100.74 46 *e*P **Pdif** **08 11 49.6 -0.9**
ORV Oroville 100.74 46 *e*Pdif **Pdif** **08 11 49.6 -0.9**
WDD Wied Dalam 100.82 309 PFAKE 08 12 00.0 +9.1
WDD LR LR
comp=Z,676nm,20.0s
CLTB Caltabellotta 101.17 312 PFAKE 08 12 00.0 +7.5
CLTB LR LR
comp=Z,532nm,19.0s
DOU Dourbes 101.25 326⇑ P **Pdif** **08 11 51.4 -1.1**
J08A Circle Bar Ran 101.27 42 *e*Pdif **Pdif** **08 11 52.4 -0.6**
AFDM Forest Hills D 101.35 47 *e*Pdif **Pdif** **08 11 52.5 -0.8**
BMO Blue Mountains 101.38 40 *e*P **Pdif** **08 11 54.2 +0.8**
BMO MLR MLR
comp=Z,922nm,21.0s
BMO Blue Mountains 101.38 40 *e*Pdif **Pdif** **08 11 54.1 +0.8**
BMO LR LR
comp=Z,922nm,21.0s
WVOR Wild Horse Val 101.56 43 PFAKE 08 12 10.0 +16
WVOR LR LR
comp=Z,1µm,22.0s
JTMT Jette 101.87 37 *e*Pdif **Pdif** **08 11 55.6 0.0**
CMB Columbia Colle 102.13 48 *e*P **Pdif** **08 11 57.3 +0.5**
CMB Columbia Colle 102.13 48 *e*Pdif **Pdif** **08 11 56.0 -0.8**
RKT Rikitea 102.43 112 *e*SS SS 08 30 48.2 +0.2
comp=Z,1µm,34.8s
RKT Rikitea 102.43 112 *e*LQ LQ 08 41 15.2
comp=Z,3µm,35.5s
RKT *e*LR LR 08 45 30.2
comp=Z,1µm,24.0s
BNI Bardonecchia 102.49 321 PFAKE 08 12 10.0 +12
BNI LR LR
comp=Z,1µm,20.0s
MSO Missoula 102.53 37 P **Pdif** **08 11 58.7 +0.2**
baz=300
MFID Camas Ranch 102.98 41 *e*Pdif **Pdif** **08 12 01.0 +0.5**
SFJD Kangerlussuaq 103.15 358 PFAKE 08 12 10.0 +9.4
SFJD LR LR
comp=Z,1µm,20.0s
VSL Villasalto 103.17 315 PFAKE 08 12 10.0 +8.7
VSL LR LR
comp=Z,591nm,21.0s
LBTB Lobatse 103.21 247 PP PP 08 16 13.5 -3.9
comp=Z,20nm,1.1s,baz=87,slow=9.7,SNR=5.1

LBTB PKiKP **PKiKP** **08 16 20.6 -0.9**
comp=Z,26nm,1.1s,baz=90,slow=1.0,SNR=5.6
NVAR Mina Array Bea 103.47 47 Pdiff **Pdif** **08 12 03.5 +0.6**
comp=Z,1.1nm,0.8s,baz=270,slow=5.5,SNR=7.5
NVAR PP **PP** **08 16 19.8 +1.1**
comp=Z,3.8nm,1.0s,baz=279,slow=8.1,SNR=5.9
NVAR PKKPbc **PKKPbc** **08 27 58.4 +1.1**
comp=Z,0.6nm,0.7s,baz=188,slow=3.5,SNR=3.3
SSB Saint Sauveur 103.70 322 PFAKE 08 12 10.0 +6.4
SSB LR LR
comp=Z,1μm,20.0s
BOSA Boshof 103.79 243 PP PP 08 16 18.3 -3.4
comp=Z,11nm,1.1s,baz=81,slow=6.6,SNR=5.5
BOSA PKiKP **PKiKP** **08 16 23.0 +0.6**
comp=Z,18nm,1.2s,baz=74,slow=4.9,SNR=5.1
BOSA PKKP **PKKPdf** **08 28 01.9 -3.2**
comp=Z,2.5nm,0.9s,baz=152,slow=12,SNR=3.7
HLID Hailey 103.82 40 P **Pdif** **08 12 04.9 +0.5**
baz=299
HLID Hailey 103.82 40 *e*Pdif **Pdif** **08 12 05.0 +0.7**
HLID LR LR
comp=Z,653nm,20.0s
VES Vestal, Richgr 103.95 49 P **Pdif** **08 12 05.0 +0.2**
baz=294
FFC Flin Flon 104.15 26 *e*P **Pdif** **08 12 05.8 +0.5**
FFC Flin Flon 104.15 26 *e*Pdif **Pdif** **08 12 05.8 +0.5**
FFC LR LR
comp=Z,668nm,21.0s
EGMT Eagleton 104.33 35 PFAKE 08 12 20.0 +14
EGMT LR LR
comp=Z,582nm,20.0s
BOZ Bozeman (W) 104.53 38 PFAKE 08 12 20.0 +13
BOZ LR LR
comp=Z,264nm,19.0s
KEST Kesra 104.75 311 PKiKP **PKiKP** **08 16 23.9 -0.1**
comp=Z,3.6nm,0.8s,baz=278,slow=15,SNR=3.0
KEST PKKP **PKKPdf** **08 27 59.5 -3.2**
comp=Z,3.4nm,0.8s,baz=243,slow=2.3,SNR=3.8
MPMC Manual Prospec 105.04 48 P **Pdif** **08 12 09.8 -0.1**
baz=295
R11A Troy Canyon, C 105.43 46 P **PKiKP** **08 16 25.7 +0.4**
baz=296
HVU Hansel Valley 105.74 41 *e*PKPdf **PKiKP** **08 16 25.5 -0.2**
LKWY Lake 105.81 38 PFAKE 08 16 40.0
LKWY LR LR
comp=Z,458nm,22.0s
GSC Goldstone, Bar 105.86 49 P **PKiKP** **08 16 25.9 -0.2**
baz=295
MOOW Moose Ponds 106.03 39 *e*Pdif **Pdif** **08 12 13.2 -1.0**
RLMT Red Lodge 106.20 37 PFAKE 08 16 40.0
RLMT LR LR
comp=Z,489nm,20.0s
AHID Auburn Hatcher 106.32 40 PFAKE 08 16 40.0
AHID LR LR
comp=Z,983nm,22.0s
DUG Dugway, Tooele 106.48 43 P **PKiKP** **08 16 27.4 +0.3**
baz=299
DUG Dugway, Tooele 106.48 43 PFAKE 08 16 40.0
DUG LR LR
comp=Z,622nm,21.0s
HWUT Hardware Ranch 106.61 41 *e*Pdif **Pdif** **08 12 17.3 +0.5**
HWUT LR LR
comp=Z,712nm,19.0s
PFO Pinyon Flats O 106.83 50 P **PKiKP** **08 16 28.9 +0.9**
baz=295
PFO Pinyon Flats O 106.83 50 PFAKE 08 16 40.0
PFO LR LR
comp=Z,640nm,21.0s
GMRC Granite Mounta 106.93 49 P **PKiKP** **08 16 28.8 +0.6**
baz=296
LAO LASA Array 107.07 34 PFAKE 08 16 40.0
LAO LR LR
comp=Z,551nm,22.0s
DGMT Dagmar 107.09 32 PFAKE 08 16 40.0
DGMT LR LR
comp=Z,562nm,20.0s
BW06 Boulder Array 107.29 39 PFAKE 08 16 40.0
BW06 LR LR
comp=Z,968nm,20.0s
PDAR Pinedale Array 107.29 39 Pdiff **Pdif** **08 12 20.3 +0.4**
comp=Z,0.4nm,0.9s,baz=292,slow=4.8,SNR=2.6
PDAR PKiKP **PKiKP** **08 16 29.2 +0.6**
comp=Z,1.2nm,0.8s,baz=315,slow=0.4,SNR=3.6
PDAR PKKPbc **PKKPbc** **08 27 49.0 +3.2**
comp=Z,0.6nm,0.7s,baz=120,slow=3.6,SNR=4.0
SWSC Sam W. Stewart 107.61 51 P **PKiKP** **08 16 29.2 0.0**
baz=295
SUR Sutherland 107.78 239 PFAKE 08 16 40.0
SUR LR LR
comp=Z,2μm,19.0s
Y12C Blythe 108.23 50 P **PKiKP** **08 16 30.1 -0.3**
baz=296
SRU San Rafael Swe 108.55 43 *e*PKPdf **PKiKP** **08 16 31.0 -0.1**
K22A Casper 109.22 38 P **PKiKP** **08 16 31.9 -0.3**
baz=305
K22A Casper 109.22 38 *e*PKPdf **PKiKP** **08 16 31.3 -0.9**
O20A White River Ci 109.53 41 P **PKiKP** **08 16 33.0 +0.1**
baz=302
O20A White River Ci 109.53 41 *e*PKPdf **PKiKP** **08 16 33.2 +0.3**
WUAZ Wupatki 109.73 47 P **PKiKP** **08 16 33.7 +0.3**
baz=299
WUAZ Wupatki 109.73 47 *e*PKPdf **PKiKP** **08 16 34.1 +0.8**
WUAZ LR LR
comp=Z,728nm,21.0s
RSSD Black Hills 109.83 36 P **PKiKP** **08 16 33.0 -0.4**
baz=307
RSSD Black Hills 109.83 36 *e*PKPdf **PKiKP** **08 16 32.5 -0.9**
ULM Lac du Bonnet 109.94 27 PKiKP **PKiKP** **08 16 32.7 -0.4**
comp=Z,2.6nm,0.8s,baz=230,slow=2.6,SNR=4.2
TSUM Tsumeb 110.18 253 PKiKP **PKiKP** **08 16 35.1 +0.6**
comp=Z,1.7nm,0.8s,baz=270,slow=17,SNR=1.9
TSUM Tsumeb 110.18 253 PKiKP **PKiKP** **08 16 35.1 +0.6**
TSUM LR LR
comp=Z,850nm,21.0s
PV01 Paradox Valley 110.37 43 *e*PKPdf **PKiKP** **08 16 35.1 +0.5**
C31A Landman Farms, 110.81 30 P **PKiKP** **08 16 34.1 -0.7**
baz=314
MVCO Mesa Verde 110.90 44 P **PKiKP** **08 16 35.0 -0.6**
baz=301
MVCO Mesa Verde 110.90 44 *e*PKPdf **PKiKP** **08 16 34.9 -0.7**
MVCO LR LR
comp=Z,678nm,20.0s
SNAA Sanae 110.96 195 P **PKiKP** **08 16 33.9 -0.6**
SNAA Sanae 110.96 195 PKiKP **PKiKP** **08 16 35.4 +1.0**
comp=Z,6.0nm,1.1s,baz=267,slow=3.9,SNR=6.5
SNAA PKKPbc **PKKPbc** **08 27 32.2 -2.5**
comp=Z,2.3nm,0.7s,baz=342,slow=8.6,SNR=6.3
B32A Ashes, Strandq 110.96 29 P **PKiKP** **08 16 34.1 -0.9**
baz=315
W18A Petrified Fore 111.09 46 *e*PKPdf **PKiKP** **08 16 36.9 +0.9**
A33A Warroad 111.11 28 P **PKiKP** **08 16 34.6 -0.7**
baz=316
AGMN Agassiz Nation 111.35 28 PFAKE 08 16 50.0
AGMN LR LR
comp=Z,688nm,20.0s
ISCO Idaho Springs 111.40 40 P **PKiKP** **08 16 36.2 -0.3**
baz=304
ISCO Idaho Springs 111.40 40 *e*PKIKP **PKiKP** **08 16 36.3 -0.3**
ISCO *e* 08 17 16.1
ISCO MLR MLR
comp=Z,1μm,22.0s
ISCO Idaho Springs 111.40 40 *e*PKPdf **PKiKP** **08 16 36.3 -0.3**
ISCO *e*PP **PP** **08 17 16.1 -0.6**
ISCO LR LR
comp=Z,1μm,22.0s
TUC Tucson 111.68 49 PFAKE 08 16 50.0
TUC LR LR
comp=Z,816nm,21.0s
B34A Aery, Baudette 111.77 28 P **PKiKP** **08 16 36.0 -0.6**
baz=317
C34A RKJ Ranch, Bem 112.26 28 P **PKiKP** **08 16 37.2 -0.4**
baz=316
B35A Bob, Littlefor 112.28 27 P **PKiKP** **08 16 36.9 -0.7**
baz=318
PAB San Pablo 112.33 320 PFAKE 08 16 50.0
PAB LR LR
comp=Z,795nm,20.0s
SUSD Miller 112.45 33 P **PKiKP** **08 16 37.7 -0.3**
baz=312
D34A Park Rapids 112.53 29 P **PKiKP** **08 16 37.4 -0.7**
baz=316
E33A Westby DABS, E 112.55 30 P **PKiKP** **08 16 37.6 -0.6**
baz=315
VNA2 Neumayer--Watz 112.59 195 P **PKiKP** **08 16 37.5 0.0**
slow=2.2
SDCO Great Sand Dun 112.62 42 P **PKiKP** **08 16 38.2 -0.7**
baz=304
SDCO Great Sand Dun 112.62 42 *e*PKPdf **PKiKP** **08 16 38.9 0.0**
SDCO LR LR
comp=Z,665nm,22.0s
C35A Jirik Farms, M 112.66 28 P **PKiKP** **08 16 37.4 -0.9**
baz=317
F33A 5 Mile Ranch, 112.88 30 P **PKiKP** **08 16 38.2 -0.6**
baz=314
TAM Tamanrasset 112.93 300 PFAKE 08 16 50.0
TAM LR LR
comp=Z,551nm,21.0s
OGNE Ogallala 112.94 37 PFAKE 08 16 50.0
OGNE LR LR
comp=Z,579nm,22.0s
VNA3 Neumayer Olymp 112.95 194 P **PKiKP** **08 16 37.1 -1.1**
I31A Royce, Wessing 112.95 33 P **PKiKP** **08 16 38.8 -0.2**
baz=312
VNA1 Neumayer--Stat 112.98 195 P **PKiKP** **08 16 36.7 -1.5**
MVO Moncorvo 113.00 323 *e*PKP **PKiKP** **08 16 46.5 +7.2**
D35A Remer 113.07 28 P **PKiKP** **08 16 38.5 -0.7**
baz=317
C36A Pine Crest Far 113.13 27 P **PKiKP** **08 16 38.3 -1.0**
baz=318
H32A Carlson Farm, 113.22 32 P **PKiKP** **08 16 38.9 -0.6**
baz=313
PGAV Gavieira, Arco 113.23 324 *e*PKP PKiKP 08 16 49.3 +10
G33A Ortonville 113.25 31 P **PKiKP** **08 16 38.7 -0.9**
baz=314
E35A Pequot Lakes 113.29 29 P **PKiKP** **08 16 39.0 -0.6**
baz=316
LAZ Ladron 113.30 46 *e*PKPdf **PKiKP** **08 16 41.0 +0.7**
POLO Lamas de Olo 113.33 323 *e*PKP **PKiKP** **08 16 47.6 +7.7**
J31A Geddes 113.33 34 P **PKiKP** **08 16 39.4 -0.4**
baz=312
D36A Goodland 113.41 28 P **PKiKP** **08 16 39.0 -0.8**
baz=318
C37A Embarrass 113.44 27 P **PKiKP** **08 16 39.0 -0.8**
baz=319
ANMO Albuquerque 113.49 45 PKiKP **PKiKP** **08 16 41.2 +0.6**
comp=Z,3.4nm,0.8s,baz=25,slow=4.0,SNR=14
ANMO Albuquerque 113.49 45 P **PKiKP** **08 16 40.5 0.0**
baz=302
ANMO Albuquerque 113.49 45 *e*PKPdf **PKiKP** **08 16 41.1 +0.6**
ANMO LR LR
comp=Z,666nm,22.0s
EYMN Ely 113.58 26 P **PKiKP** **08 16 39.7 -0.4**
baz=320
EYMN Ely 113.58 26 *e*PKPdf **PKiKP** **08 16 38.8 -1.3**
EYMN LR LR
comp=Z,749nm,20.0s
Y22D IRIS PASSCAL I 113.62 46 P **PKiKP** **08 16 40.1 -0.7**
baz=302
G34A Benson 113.62 31 P **PKiKP** **08 16 39.7 -0.6**
baz=315
T25A Trinidad 113.68 42 P **PKiKP** **08 16 40.6 -0.3**
baz=305
LPM Los Pinos Moun 113.70 46 *e*PKPdf **PKiKP** **08 16 41.7 +0.7**
F35A Swanville 113.71 30 P **PKiKP** **08 16 39.8 -0.6**
baz=316
J32A Parkston 113.76 33 P **PKiKP** **08 16 40.1 -0.5**
baz=312
K31A O'Neill 113.76 34 P **PKiKP** **08 16 40.2 -0.4**
baz=311
D37A Cotton 113.77 27 P **PKiKP** **08 16 40.1 -0.4**
baz=318
MTE Manteigas 113.78 323 PFAKE 08 16 50.0
MTE LR LR
comp=Z,1μm,19.0s
121A Cookes Peak, D 113.79 48 P **PKiKP** **08 16 41.8 +0.6**
baz=300
121A Cookes Peak, D 113.79 48 *e*PKPdf **PKiKP** **08 16 42.1 +0.9**
C38A Sawbill Land. 113.86 26 P **PKiKP** **08 16 40.1 -0.6**
baz=320
E36A McGregor 113.86 28 P **PKiKP** **08 16 39.8 -0.9**
baz=318
H34A Spellman Lake, 113.96 31 P **PKiKP** **08 16 40.5 -0.4**
baz=315
PCBR Castelo Branco 114.09 322 *e*PKP PKPdf 08 16 48.3 +7.0
K32A Verdigre 114.17 34 P PKPdf 08 16 40.9 -0.5
baz=312
ECSD EROS Data Cent 114.17 32 P PKPdf 08 16 40.7 -0.6
baz=314
ECSD EROS Data Cent 114.17 32 *e*PKPdf PKPdf 08 16 40.3 -1.1
ECSD LR LR
comp=Z,786nm,20.0s
G35A Watkins 114.21 30 P PKPdf 08 16 40.6 -0.7
baz=316
F36A Milaca 114.21 29 P PKPdf 08 16 40.5 -0.9
baz=317
C39A Grand Marais 114.27 26 P PKPdf 08 16 39.7 -1.7
baz=321
PMRV Marv??o 114.29 322 *e*PKP PKPdf 08 16 48.7 +7.0
I34A Hadley 114.36 32 P PKPdf 08 16 40.6 -1.1
baz=314
H35A Sunnyside Ranc 114.42 31 P PKPdf 08 16 40.9 -0.9
baz=316
SCHQ Schefferville 114.56 8 PKP PKPdf 08 16 41.8 0.0
comp=Z,1.4nm,0.4s,baz=260,slow=2.2,SNR=6.9
SCHQ PKKPbc **PKKPbc** **08 27 22.8 +0.5**
comp=Z,5.7nm,0.9s,baz=148,slow=3.0,SNR=5.4
G36A St. Michael 114.56 30 P PKPdf 08 16 41.4 -0.6
baz=317
E38A The Farm, Brul 114.57 27 P PKPdf 08 16 41.5 -0.6
baz=319
L32A Elgin 114.59 34 P PKPdf 08 16 41.5 -0.7
baz=312
C40A Isle Royale Na 114.61 25 P PKPdf 08 16 41.5 -0.5
baz=322
F37A Hinrichs Farm, 114.74 29 P PKPdf 08 16 41.6 -0.7
baz=318
J34A George 114.83 32 P PKPdf 08 16 41.7 -1.0
baz=314
L33A Hoskins 114.89 34 P PKPdf 08 16 42.1 -0.7
baz=312
BGNE Belgrade 114.90 35 P PKPdf 08 16 42.0 -0.9
baz=311
BGNE Belgrade 114.90 35 *e*PKPdf PKPdf 08 16 42.1 -0.8
F38A Pierce - Schro 114.91 28 P PKPdf 08 16 42.2 -0.5
baz=319
I35A Creekview Farm 114.94 31 P PKPdf 08 16 42.2 -0.6
baz=315
H36A Jessenland, He 114.95 30 P PKPdf 08 16 42.8 0.0
baz=316
SPMN Marine on St. 115.03 29 P **PKPdf** **08 16 42.0 -0.9**
baz=318
SPMN Marine on St. 115.03 29 *e*PKPdf **PKPdf** **08 16 42.2 -0.7**
J35A Milford 115.17 32 P **PKPdf** **08 16 42.5 -0.8**
baz=315
K34A Le Mars 115.17 33 P **PKPdf** **08 16 42.4 -1.0**
baz=314
E39A Mellen 115.20 27 P **PKPdf** **08 16 42.6 -0.6**
baz=320
EVO Evora 115.22 321 *e*PKP PKPdf 08 16 51.3 +7.8
I36A Fitzsimmons Fa 115.31 31 P **PKPdf** **08 16 43.0 -0.5**
baz=316
F39A Loretta 115.39 27 P **PKPdf** **08 16 43.0 -0.6**
baz=320
E40A Wakefield 115.43 26 P **PKPdf** **08 16 43.0 -0.8**
baz=321
H37A Dierke Farm, C 115.44 30 P **PKPdf** **08 16 42.8 -0.9**
baz=317
L34A Svendsen Farm, 115.51 34 P **PKPdf** **08 16 42.5 -1.5**
baz=313
G38A Ridgeland 115.52 28 P **PKPdf** **08 16 42.8 -1.1**
baz=318
D41A Chassel 115.53 25 P **PKPdf** **08 16 42.9 -0.9**
baz=322
K35A Storm Lake 115.60 32 P **PKPdf** **08 16 42.9 -1.2**
baz=314
I37A Lemond, Waseca 115.62 30 P **PKPdf** **08 16 43.2 -0.9**
baz=317
J36A Seneca 1, Swea 115.64 31 P **PKPdf** **08 16 43.2 -1.0**
baz=316
CBKS Cedar Bluff 115.64 38 P **PKPdf** **08 16 43.3 -1.1**
baz=309
CBKS Cedar Bluff 115.64 38 *e*PKIKP **PKPdf** **08 16 43.3 -1.1**
CBKS MLR MLR
comp=Z,673nm,20.0s
CBKS Cedar Bluff 115.64 38 *e*PKPdf **PKPdf** **08 16 43.3 -1.1**
CBKS LR LR
comp=Z,673nm,20.0s
H38A Maiden Rock 115.68 29 P **PKPdf** **08 16 43.0 -1.3**
baz=318
LPIG La Paz 115.71 57 PKP **PKPdf** **08 16 45.7 +0.9**
comp=Z,4.9nm,0.3s,baz=14,slow=1.4,SNR=2.4
M34A Aspy Farms, Fr 115.71 34 P **PKPdf** **08 16 43.1 -1.3**
baz=313
F40A Park Falls 115.74 27 P **PKPdf** **08 16 43.1 -1.3**
baz=320
N33A J Bar K, Exete 115.74 35 P **PKPdf** **08 16 43.2 -1.3**
baz=312
G39A Holcombe 115.75 28 P **PKPdf** **08 16 43.2 -1.2**
baz=319
PNCL Nicolau / Gran 115.80 321 *e*PKP **PKPdf** **08 16 52.1 +7.5**
E41A Kenton 115.83 26 P **PKPdf** **08 16 43.7 -0.8**
baz=322
L35A Bielow Farm, R 115.86 33 P **PKPdf** **08 16 43.5 -1.1**
baz=314
MNTX Cornudas Mount 115.97 47 P **PKPdf** **08 16 44.9 -0.3**
baz=302
MNTX Cornudas Mount 115.97 47 *e*PKPdf **PKPdf** **08 16 44.0 -1.2**
MNTX LR LR
comp=Z,553nm,21.0s
COWI Conover 116.03 26 *e*PKPdf **PKPdf** **08 16 43.9 -1.0**
COWI LR LR
comp=Z,890nm,20.0s
J37A Redenius Farm, 116.05 31 P **PKPdf** **08 16 44.0 -1.0**
baz=316
K36A Gilmore City 116.07 32 P **PKPdf** **08 16 43.9 -1.2**
baz=315
O33A Hebron 116.10 36 P **PKPdf** **08 16 43.9 -1.3**
baz=311
I38A Scanlan Farm, 116.13 30 P **PKPdf** **08 16 44.0 -1.1**
baz=318
H39A Augusta 116.15 29 P **PKPdf** **08 16 43.9 -1.2**
baz=319
G40A Rib Lake 116.20 27 P **PKPdf** **08 16 44.3 -0.9**
baz=320
N34A Lincoln 116.21 35 P **PKPdf** **08 16 44.3 -1.0**
baz=313
M35A Neola 116.23 34 P **PKPdf** **08 16 44.2 -1.2**
baz=314
E42A Champion 116.30 25 P **PKPdf** **08 16 44.6 -0.8**
baz=323
F41A Three Lakes 116.33 26 P **PKPdf** **08 16 44.7 -0.8**
baz=321
L36A Harm Buss Farm 116.34 32 P **PKPdf** **08 16 44.4 -1.2**
baz=315
MORF Marmelete 116.37 320 *e*PKP **PKPdf** **08 16 52.9 +7.1**
K37A Belmond 116.40 31 P **PKPdf** **08 16 44.5 -1.2**
baz=316
O34A Beatrice 116.54 35 P **PKPdf** **08 16 44.7 -1.3**
baz=312
MSTX Muleshoe 116.57 44 P **PKPdf** **08 16 45.9 -0.5**
baz=305
MSTX Muleshoe 116.57 44 *e*PKPdf **PKPdf** **08 16 46.3 -0.1**
J38A Wedel Dairy, R 116.59 30 P **PKPdf** **08 16 44.7 -1.4**
baz=317
H40A Chili 116.61 28 P **PKPdf** **08 16 44.9 -1.1**
baz=320
I39A Houston 116.66 29 P **PKPdf** **08 16 44.7 -1.4**
baz=318
N35A Tabor 116.67 34 P **PKPdf** **08 16 45.5 -0.7**
baz=314
G41A Antigo 116.71 27 P **PKPdf** **08 16 45.2 -1.0**
baz=321
M36A Felix, Anita 116.72 33 P **PKPdf** **08 16 45.5 -0.9**
baz=314
E43A Lone Tree Farm 116.72 25 P **PKPdf** **08 16 45.5 -0.6**
baz=324
AMTX Amarillo 116.78 43 P **PKPdf** **08 16 46.6 -0.2**
baz=306
L37A Phoenix Point, 116.80 32 P **PKPdf** **08 16 45.2 -1.3**
baz=316
P34A Walnut Farm, R 116.89 36 P **PKPdf** **08 16 45.6 -1.1**
baz=312
K38A Parkersburg 116.93 31 P **PKPdf** **08 16 45.7 -1.0**
baz=317
O35A Humboldt 116.93 35 P **PKPdf** **08 16 45.3 -1.4**
baz=313
J39A Decorah 116.95 30 P **PKPdf** **08 16 45.2 -1.5**
baz=318
H41A Junction City 116.95 28 P **PKPdf** **08 16 45.5 -1.2**
baz=320
G42A Mountain 117.02 26 P **PKPdf** **08 16 45.8 -0.9**
baz=322
I40A Norwalk 117.06 29 P **PKPdf** **08 16 45.5 -1.4**
baz=319
N36A Muff Farm, Cla 117.08 34 P **PKPdf** **08 16 46.1 -0.9**
baz=314
F43A Flat Rock, Esc 117.09 25 P **PKPdf** **08 16 46.2 -0.6**
baz=323
M37A Trindle Farm, 117.15 33 P **PKPdf** **08 16 46.4 -0.7**
baz=315
RTC Rabat Centre 117.18 316 PFAKE 08 17 00.0 +13
RTC LR LR
comp=Z,3μm,20.0s
L38A Oak Wood Farm, 117.20 31 P **PKPdf** **08 16 46.2 -1.0**
baz=316
SCIA State Center 117.23 32 P **PKPdf** **08 16 46.7 -0.6**
baz=316
SCIA State Center 117.23 32 *e*PKPdf **PKPdf** **08 16 46.0 -1.2**
SCIA LR LR
comp=Z,582nm,20.0s
Q34A Chapman 117.24 36 P **PKPdf** **08 16 46.8 -0.6**
baz=312
F44A Big Bay de Noc 117.28 25 P **PKPdf** **08 16 46.8 -0.5**
baz=324
I41A Arkdale 117.28 28 P **PKPdf** **08 16 46.4 -0.9**
baz=320
KSU1 Kansas State U 117.31 36 P **PKPdf** **08 16 46.6 -0.9**
baz=312
KSU1 Kansas State U 117.31 36 *e*PKPdf **PKPdf** **08 16 47.4 -0.1**
KSU1 LR LR
comp=Z,501nm,20.0s
G43A Wallace 117.33 26 P **PKPdf** **08 16 46.6 -0.8**
baz=323
K39A Oelwein 117.33 30 P **PKPdf** **08 16 46.5 -0.9**
baz=318
P35A Duane Minner, 117.37 35 P **PKPdf** **08 16 46.3 -1.3**
baz=313
J40A Soldiers Grove 117.38 29 P **PKPdf** **08 16 46.0 -1.6**
baz=319
E45A Wooded Hills, 117.47 24 P **PKPdf** **08 16 46.7 -0.9**
baz=325
N37A Lee Faris, Mou 117.53 33 P **PKPdf** **08 16 46.7 -1.2**
baz=315
H42A Shiocton 117.54 27 P **PKPdf** **08 16 46.6 -1.1**
baz=322
M38A Pleasantville 117.60 32 P **PKPdf** **08 16 46.8 -1.2**
baz=316
L39A Vinton 117.70 31 P **PKPdf** **08 16 46.8 -1.3**
baz=317
K40A Colesburg 117.70 30 P **PKPdf** **08 16 46.8 -1.4**
baz=318
J41A Loganville 117.75 29 P **PKPdf** **08 16 46.9 -1.3**
baz=320
I42A Draeger Farm, 117.85 28 P **PKPdf** **08 16 47.0 -1.4**
baz=321
F45A CMU Biological 117.89 24 P **PKPdf** **08 16 47.5 -0.9**
baz=325
H43A Windswept, Lux 117.91 26 P **PKPdf** **08 16 47.3 -1.2**
baz=322
O37A Wolven Farm, M 117.97 34 P **PKPdf** **08 16 47.4 -1.4**
baz=315
JFWS Jewell Farm 117.97 29 P **PKPdf** **08 16 47.3 -1.4**
baz=319
JFWS Jewell Farm 117.97 29 *e*PKIKP **PKPdf** **08 16 47.7 -1.0**
JFWS MLR MLR
comp=Z,643nm,20.0s
JFWS Jewell Farm 117.97 29 *e*PKPdf **PKPdf** **08 16 47.7 -1.0**
JFWS LR LR
comp=Z,643nm,20.0s
N38A Joes South For 118.02 33 P **PKPdf** **08 16 47.6 -1.3**
baz=316
M39A Webster 118.08 31 P **PKPdf** **08 16 47.8 -1.2**
baz=317
F46A Macinaw City C 118.12 24 P **PKPdf** **08 16 48.2 -0.6**
baz=326
L40A Anamosa 118.14 30 P **PKPdf** **08 16 47.5 -1.5**
baz=318
HPIG 118.16 52 *e*PKPdf **PKPdf** **08 16 49.3 -0.4**
K41A Shullsburg 118.18 29 P **PKPdf** **08 16 47.5 -1.6**
baz=319
J42A Columbus 118.20 28 P **PKPdf** **08 16 47.6 -1.5**
baz=320
I43A Langenfeld Bro 118.21 27 P **PKPdf** **08 16 47.7 -1.4**
baz=322
P37A Lathrop 118.27 34 P **PKPdf** **08 16 48.1 -1.3**
baz=314
N39A Derby Farms, D 118.35 32 P **PKPdf** **08 16 48.4 -1.0**
baz=316
O38A Galt 118.37 33 P **PKPdf** **08 16 48.3 -1.2**
baz=315
TX31 Lajitas Ar. Si 118.46 49 *e*PKPdf **PKPdf** **08 16 49.9 -0.3**

TXAR **Lajitas Array** 118.46 49 PKP **PKPdf** 08 16 50.1 0.0
comp=Z,6.0nm,0.8s,baz=266,slow=0.7,SNR=50
TXAR PP **PP** 08 18 05.5 -1.0
comp=Z,2.5nm,0.8s,baz=290,slow=3.6,SNR=3.9
TXAR PKKPbc **PKKPbc** 08 27 08.1 +0.3
comp=Z,1.9nm,1.1s,baz=66,slow=3.0,SNR=6.5
J43A Natural Harves 118.47 28 P **PKPdf** 08 16 48.6 -1.1
baz=321
M40A Post Highland 118.47 31 P **PKPdf** 08 16 48.8 -0.9
baz=318
L41A Preston 118.49 30 P **PKPdf** 08 16 48.5 -1.2
baz=319
K42A Prairie Point, 118.51 29 P **PKPdf** 08 16 48.3 -1.4
baz=320
P38A Dawn 118.69 34 P **PKPdf** 08 16 49.2 -1.0
baz=315
O39A Kirksville 118.78 33 P **PKPdf** 08 16 49.3 -1.0
baz=316
WMOK Wichita Mounta 118.78 41 P **PKPdf** 08 16 49.8 -0.7
baz=308
WMOK Wichita Mounta 118.78 41 *e*PKIKP **PKPdf** 08 16 49.6 -0.9
WMOK MLR MLR
comp=Z,646nm,22.0s
WMOK Wichita Mounta 118.78 41 *e*PKPdf **PKPdf** 08 16 49.6 -0.9
WMOK LR LR
comp=Z,646nm,22.0s
N40A Mertquake, Sal 118.82 32 P **PKPdf** 08 16 49.3 -1.1
baz=317
L42A Oliver, Polo 118.94 29 P **PKPdf** 08 16 49.3 -1.2
baz=320
GLMI Grayling 118.96 24 P **PKPdf** 08 16 50.0 -0.6
baz=326
GLMI Grayling 118.96 24 *e*PKPdf **PKPdf** 08 16 49.8 -0.7
GLMI LR LR
comp=Z,774nm,20.0s
M41A Milan 118.99 31 P **PKPdf** 08 16 49.5 -1.1
baz=318
K43A Burlington 119.04 28 P **PKPdf** 08 16 49.5 -1.2
baz=321
Q38A Cooks Store, C 119.11 34 P **PKPdf** 08 16 49.8 -1.1
baz=315
P39B Salisbury 119.21 33 P **PKPdf** 08 16 50.2 -1.0
baz=316
O40A La Belle 119.23 32 P **PKPdf** 08 16 50.1 -1.1
baz=317
L43A Garden Prairie 119.25 29 P **PKPdf** 08 16 50.1 -1.0
baz=320
M42A Sheffield 119.32 30 P **PKPdf** 08 16 50.2 -1.1
baz=319
Q39A Willow Grove F 119.40 34 P **PKPdf** 08 16 50.7 -0.8
baz=315
ABTX Abilene, Hawle 119.48 44 P **PKPdf** 08 16 51.6 -0.4
baz=307
ABTX Abilene, Hawle 119.48 44 *e*PKPdf **PKPdf** 08 16 52.0 +0.1
R38A Fenwick Farm, 119.49 35 P **PKPdf** 08 16 50.3 -1.4
baz=314
P40A Paris 119.56 33 P **PKPdf** 08 16 50.9 -0.9
baz=316
L44A Lake County Fo 119.64 28 P **PKPdf** 08 16 50.9 -1.0
baz=321
N42A Yates City 119.65 31 P **PKPdf** 08 16 50.7 -1.3
baz=319
M43A Waltham Townsh 119.72 29 P **PKPdf** 08 16 50.8 -1.2
baz=320
O41A Passleys Farm, 119.75 32 P **PKPdf** 08 16 50.9 -1.3
baz=318
TOA0 Torodi Ar. Sit 119.79 291 *e*PKPdf **PKPdf** 08 16 51.5 -1.4
TORD Torodi Ar. Bea 119.79 291 PKP **PKPdf** 08 16 51.4 -1.5
comp=Z,3.2nm,0.4s,baz=71,slow=2.0,SNR=85
TORD PP **PP** 08 18 12.2 -4.1
comp=Z,6.8nm,1.1s,baz=64,slow=6.2,SNR=5.1
TORD PKKPbc **PKKPbc** 08 27 01.9 -0.6
comp=Z,2.9nm,0.9s,baz=266,slow=3.5,SNR=5.9
S38A Stockton 119.87 36 P **PKPdf** 08 16 51.2 -1.3
baz=314
R39A Chumby, Stover 119.89 35 P **PKPdf** 08 16 51.5 -1.0
baz=315
TUL1 Leonard 119.91 38 P **PKPdf** 08 16 51.9 -0.7
baz=311
TUL1 Leonard 119.91 38 *e*PKPdf **PKPdf** 08 16 51.7 -0.9
Q40A Laux Farm, Aux 119.93 33 P **PKPdf** 08 16 51.8 -0.8
baz=316
P41A Barry, Barry 119.98 32 P **PKPdf** 08 16 51.8 -0.8
baz=317
T38A Diamond 120.05 36 P **PKPdf** 08 16 52.1 -0.8
baz=313
O42A Bath 120.10 31 P **PKPdf** 08 16 51.8 -1.0
baz=318
S39A Bolivar 120.16 35 P **PKPdf** 08 16 52.2 -0.8
baz=314
M44A Midewin, Midew 120.20 29 P **PKPdf** 08 16 52.0 -1.0
baz=321
HDIL Hopedale 120.23 30 P **PKPdf** 08 16 52.0 -1.1
baz=319
HDIL Hopedale 120.23 30 *e*PKPdf **PKPdf** 08 16 52.3 -0.8
HDIL LR LR
comp=Z,693nm,20.0s
R40A Maddies Statio 120.33 34 P **PKPdf** 08 16 52.4 -0.9
baz=316
Q41A Truxton 120.42 33 P **PKPdf** 08 16 52.7 -0.7
baz=317
P42A Winchester 120.42 32 P **PKPdf** 08 16 52.5 -0.9
baz=318
O43A Sugar Creek Fa 120.42 31 P **PKPdf** 08 16 52.5 -0.9
baz=319
M45A Boilermakers S 120.57 28 P **PKPdf** 08 16 52.9 -0.8
baz=322
T39A Clever 120.59 36 P **PKPdf** 08 16 53.0 -0.9
baz=314
N44A Piper City 120.61 29 P **PKPdf** 08 16 52.9 -1.0
baz=321
JCT Junction City 120.63 46 P **PKPdf** 08 16 53.8 -0.4
baz=306
JCT Junction City 120.63 46 *e*PKIKP **PKPdf** 08 16 54.1 -0.1
JCT MLR MLR
comp=Z,602nm,20.0s
JCT Junction City 120.63 46 *e*PKPdf **PKPdf** 08 16 54.1 -0.1
JCT LR LR
comp=Z,602nm,20.0s
S40A Lebanon 120.69 35 P **PKPdf** 08 16 53.0 -1.1
baz=315
HHAR Hobbs 120.78 37 *e*PKPdf **PKPdf** 08 16 53.4 -0.9
P43A Skaggs, Pawnee 120.80 31 P **PKPdf** 08 16 53.4 -0.8
baz=319
R41A Rosebud 120.81 33 P **PKPdf** 08 16 53.4 -0.9
baz=316
Q42A Golden Eagle 120.82 32 P **PKPdf** 08 16 53.4 -0.8
baz=318
N45A Kentland 120.87 29 P **PKPdf** 08 16 53.6 -0.7
baz=321
O44A Mansfield 120.94 30 P **PKPdf** 08 16 53.6 -0.9
baz=320
M46A Old House Fiel 120.97 28 P **PKPdf** 08 16 53.7 -0.8
baz=323
U39A Green Forest 120.98 36 P **PKPdf** 08 16 53.6 -1.1
baz=314
T40A Mansfield 121.00 35 P **PKPdf** 08 16 53.7 -1.0
baz=315
CCM Cathedral Cave 121.06 34 P **PKPdf** 08 16 53.9 -0.8
baz=316
CCM Cathedral Cave 121.06 34 *e*PKIKP **PKPdf** 08 16 54.1 -0.7
CCM Cathedral Cave 121.06 34 *e*PKPdf **PKPdf** 08 16 54.1 -0.7
S41A Jillco Farms, 121.12 34 P **PKPdf** 08 16 54.1 -0.8
baz=316
R42A Luebbering 121.14 33 P **PKPdf** 08 16 54.0 -0.9
baz=317
TRQ Mont Tremblant 121.17 16 *e*PKPdf **PKPdf** 08 16 53.8 -1.1
N46A Monticello 121.20 28 P **PKPdf** 08 16 54.0 -1.0
baz=322
O45A Potomac 121.23 29 P **PKPdf** 08 16 54.2 -0.8
baz=321
Q43A New Douglas 121.23 32 P **PKPdf** 08 16 53.5 -1.5
baz=318,SNR=6.3
V39A Pettigrew 121.25 37 P **PKPdf** 08 16 53.9 -1.3
baz=313
WHTX Lake Whitney, 121.34 43 P **PKPdf** 08 16 55.1 -0.4
baz=308,SNR=7.9
WHTX Lake Whitney, 121.34 43 *e*PKPdf **PKPdf** 08 16 55.3 -0.2
U40A Yellville 121.36 36 P **PKPdf** 08 16 54.4 -1.0
baz=314
P44A Sand Creek, Wi 121.39 31 P **PKPdf** 08 16 54.6 -0.7
baz=320
AAM Ann Arbor 121.43 25 *e*PKIKP **PKPdf** 08 16 54.8 -0.5
AAM MLR MLR
comp=Z,723nm,21.0s
AAM Ann Arbor 121.43 25 *e*PKPdf **PKPdf** 08 16 54.8 -0.5
AAM LR LR
comp=Z,723nm,21.0s

SFIN Lafayette 121.43 29 P **PKPdf** 08 16 54.6 -0.8
baz=322,SNR=7.7
SFIN Lafayette 121.43 29 *e*PKPdf **PKPdf** 08 16 54.7 -0.8
PLVO Plevna 121.49 19 *e*PKPdf **PKPdf** 08 16 54.5 -0.8
T41A Mountain View 121.50 35 P **PKPdf** 08 16 54.6 -1.1
baz=316,SNR=13
S42A Caledonia 121.51 34 P **PKPdf** 08 16 54.8 -0.9
baz=317,SNR=16
FVM French Village 121.55 33 *e*PKIKP **PKPdf** 08 16 54.3 -1.4
FVM French Village 121.55 33 *e*PKPdf **PKPdf** 08 16 54.3 -1.4
R43A Red Bud 121.60 33 P **PKPdf** 08 16 54.5 -1.3
baz=318,SNR=7.4
W39A Magazine 121.61 38 P **PKPdf** 08 16 54.9 -1.0
baz=313,SNR=12
Q44A Meyer Farm, Va 121.61 31 P **PKPdf** 08 16 54.7 -1.0
baz=319
V40A Witts Springs 121.76 36 P **PKPdf** 08 16 55.2 -1.0
baz=314,SNR=33
P45A Graceland, Par 121.78 30 P **PKPdf** 08 16 55.3 -0.8
baz=320,SNR=6.6
DELO Deloro Mine 121.78 19 P **PKPdf** 08 16 55.1 -0.9
baz=333,SNR=5.5
X39A Fountain Ranch 121.87 38 P **PKPdf** 08 16 55.8 -0.7
baz=312,SNR=33
T42A Van Buren 121.88 34 P **PKPdf** 08 16 55.6 -0.8
baz=316,SNR=22
U41A Viola 121.90 35 P **PKPdf** 08 16 55.6 -0.8
baz=315,SNR=21
P46A Rosedale 121.97 30 P **PKPdf** 08 16 55.5 -1.0
baz=321
O47A Sheridan 121.98 28 P **PKPdf** 08 16 55.3 -1.2
baz=322,SNR=7.8
435B Jarrell 121.99 44 P **PKPdf** 08 16 56.0 -0.7
baz=308
W40A Ferguson Farm, 122.03 37 P **PKPdf** 08 16 55.5 -1.2
baz=314,SNR=7.0
W40A Ferguson Farm, 122.03 37 *e*PKPdf **PKPdf** 08 16 55.4 -1.2
S43A Fulton Ridge, 122.05 33 P **PKPdf** 08 16 55.4 -1.3
baz=317,SNR=8.0
WLVO Wesleyville 122.05 20 P **PKPdf** 08 16 55.5 -1.0
baz=332,SNR=5.9
Q45A Warren Harvey, 122.06 31 P **PKPdf** 08 16 56.1 -0.5
baz=320,SNR=15
R44A Waltonville 122.07 32 P **PKPdf** 08 16 55.7 -1.0
baz=319
833A Chaparral WMA, 122.15 47 P **PKPdf** 08 16 56.8 -0.3
baz=305,SNR=16
V41A Mountainview 122.16 36 P **PKPdf** 08 16 55.6 -1.4
baz=315,SNR=13
OLIL Olney 122.21 31 *e*PKPdf **PKPdf** 08 16 55.4 -1.6
PQI Presque Isle 122.27 11 *e*PKPdf **PKPdf** 08 16 55.9 -1.0
U42A Revenden 122.29 35 P **PKPdf** 08 16 56.3 -0.8
baz=316,SNR=17
T43A Greenville 122.29 34 P **PKPdf** 08 16 55.9 -1.2
baz=317,SNR=9.4
S44A Carbondale 122.39 33 P **PKPdf** 08 16 56.6 -0.7
baz=318,SNR=7.4
SIUC Southern Illin 122.40 32 *e*PKPdf **PKPdf** 08 16 56.9 -0.4
WHAR Wooly Hollow 122.43 37 *e*PKPdf **PKPdf** 08 16 56.8 -0.7
PBMO Poplar Bluff 122.43 34 *e*PKPdf **PKPdf** 08 16 56.8 -0.6
R45A Skylar, Fairfi 122.45 31 P **PKPdf** 08 16 56.7 -0.7
baz=320,SNR=10.0
P47A Martinsville 122.53 29 P **PKPdf** 08 16 56.7 -0.9
baz=322,SNR=8.0
W41B Gary Mavity, V 122.53 37 P **PKPdf** 08 16 56.5 -1.1
baz=314,SNR=7.5
V42A Cord 122.59 36 P **PKPdf** 08 16 56.7 -1.0
baz=315,SNR=21
LONY Lake Ozonia 122.63 17 P **PKPdf** 08 16 56.8 -0.8
baz=336
LONY Lake Ozonia 122.63 17 *e*PKPdf **PKPdf** 08 16 57.1 -0.5
LONY LR LR
comp=Z,657nm,22.0s
ZAIG Zacatecas 122.64 55 *e*PKPdf **PKPdf** 08 16 58.9 +0.3
BLO Bloomington 122.65 29 *e*PKIKP **PKPdf** 08 16 57.6 -0.2
BLO Bloomington 122.65 29 *e*PKPdf **PKPdf** 08 16 57.6 -0.2
X40A Basin Creek Fa 122.66 38 P **PKPdf** 08 16 57.2 -0.7
baz=313
T44A Benton 122.66 33 P **PKPdf** 08 16 57.0 -0.9
baz=318
FRNY Flat Rock 122.71 16 *e*PKPdf **PKPdf** 08 16 57.0 -0.7
Y40A Okolona 122.71 38 P **PKPdf** 08 16 57.3 -0.7
baz=313
UALR University of 122.75 37 *e*PKPdf **PKPdf** 08 16 58.0 -0.1
S45A Carrier Mills 122.76 32 P **PKPdf** 08 16 57.3 -0.7
baz=319
X41A Kaden, Bauxite 122.85 37 P **PKPdf** 08 16 57.4 -0.9
baz=314
Q47A Bedord North L 122.88 30 P **PKPdf** 08 16 57.2 -1.0
baz=322
W42A Bald Knob 122.89 36 P **PKPdf** 08 16 57.4 -0.9
baz=315
R46A Gibon Southern 122.90 31 P **PKPdf** 08 16 57.4 -0.9
baz=320
USIN University of 123.01 31 *e*PKPdf **PKPdf** 08 16 57.8 -0.7
WLAR White Oak Lake 123.03 39 *e*PKPdf **PKPdf** 08 16 59.1 +0.5
ERPA Erie 123.05 23 P **PKPdf** 08 16 57.5 -1.0
baz=330
ERPA Erie 123.05 23 *e*PKPdf **PKPdf** 08 16 58.2 -0.3
V43A Jonesboro 123.08 35 P **PKPdf** 08 16 58.0 -0.7
baz=316
Z40A Long Farm, Mag 123.14 39 P **PKPdf** 08 16 58.2 -0.7
baz=312
HBAR Harrisburg 123.19 35 *e*PKPdf **PKPdf** 08 16 58.9 0.0
S46A Don Dixon Farm 123.20 31 P **PKPdf** 08 16 58.1 -0.7
baz=320
Y41A Eaglette Beard 123.21 38 P **PKPdf** 08 16 58.3 -0.7
baz=313,SNR=7.4
MMNY Mt. Morris Dam 123.27 21 *e*PKPdf **PKPdf** 08 16 58.3 -0.5
NCB Newcomb 123.33 17 *e*PKPdf **PKPdf** 08 16 58.8 -0.1
NATX Nacogdoches 123.33 41 P **PKPdf** 08 16 59.2 -0.2
baz=310
NATX Nacogdoches 123.33 41 *e*PKPdf **PKPdf** 08 16 59.1 -0.2
NATX LR LR
comp=Z,810nm,21.0s
R47A Wooly Knot Far 123.33 30 P **PKPdf** 08 16 58.3 -0.8
baz=321,SNR=16
X42A Stuttgart 123.33 37 P **PKPdf** 08 16 58.7 -0.5
baz=315
PKME Peaks-Kenny Pk 123.36 13 P **PKPdf** 08 16 58.3 -0.7
baz=342
PKME Peaks-Kenny Pk 123.36 13 PFAKE 08 17 10.0 +11
PKME LR LR
comp=Z,823nm,21.0s
VT1 Waterbury 123.40 16 *e*PKPdf **PKPdf** 08 16 58.5 -0.6
ACSO Alum Creek Sta 123.42 26 P **PKPdf** 08 16 58.5 -0.7
baz=326,SNR=10.0
ACSO Alum Creek Sta 123.42 26 *e*PKPdf **PKPdf** 08 16 58.5 -0.7
ACSO LR LR
comp=Z,961nm,20.0s
140A Cam and Jess, 123.45 40 P **PKPdf** 08 16 58.9 -0.5
baz=312
WCI Wyandotte Cave 123.50 30 P **PKPdf** 08 16 58.8 -0.6
baz=322
WCI Wyandotte Cave 123.50 30 *e*PKIKP **PKPdf** 08 16 59.0 -0.4
WCI Wyandotte Cave 123.50 30 *e*PKPdf **PKPdf** 08 16 59.0 -0.4
Z41A Richland Creek 123.51 39 P **PKPdf** 08 16 59.0 -0.6
baz=313
R48A Northridge Ran 123.57 30 P **PKPdf** 08 16 58.9 -0.7
baz=322,SNR=8.3
T46A Princeton 123.60 32 P **PKPdf** 08 16 59.0 -0.6
baz=319,SNR=30
U45A Rockin P Farm, 123.66 33 P **PKPdf** 08 16 59.1 -0.6
baz=318
KVTX Kingsville 123.68 47 PFAKE 08 17 10.0 +10
KVTX LR LR
comp=Z,519nm,19.0s
M54A Oil Creek Stat 123.70 23 P **PKPdf** 08 16 59.1 -0.7
baz=330
M54A Oil Creek Stat 123.70 23 *e*PKPdf **PKPdf** 08 16 59.1 -0.7
LBNH Lisbon 123.70 15 P **PKPdf** 08 16 59.1 -0.5
baz=339
LBNH Lisbon 123.70 15 *e*PKIKP **PKPdf** 08 16 59.2 -0.5
LBNH Lisbon 123.70 15 *e*PKPdf **PKPdf** 08 16 59.2 -0.4
240A Hunter Patters 123.73 40 P **PKPdf** 08 16 59.9 -0.1
baz=311
Y42A Garnett, Star 123.73 37 P **PKPdf** 08 16 59.7 -0.3
baz=314
X43A Marvell 123.79 36 P **PKPdf** 08 16 59.6 -0.5
baz=315
141A Papa Simpson, 123.89 39 P **PKPdf** 08 17 00.1 -0.2
baz=312,SNR=8.0
WVL Waterville 123.94 13 *e*PKPdf **PKPdf** 08 16 59.8 -0.2
W44A Shelby Farms P 123.96 35 P **PKPdf** 08 16 59.6 -0.8
baz=317
U46A Springville 123.96 33 P **PKPdf** 08 16 59.7 -0.7
baz=319,SNR=11

LNIG Linares 123.99 51 *e*PKPdf **PKPdf** 08 16 59.3 -1.4
V45A Humboldt 124.00 34 P **PKPdf** 08 16 59.5 -1.0
baz=318
ACCN Adirondack Com 124.02 17 *e*PKPdf **PKPdf** 08 17 00.1 -0.2
Z42A Norrel Spur, H 124.03 38 P **PKPdf** 08 16 59.9 -0.7
baz=314,SNR=6.9
N54A Moraine State 124.04 23 P **PKPdf** 08 16 59.2 -1.2
baz=329
N54A Moraine State 124.04 23 *e*PKPdf **PKPdf** 08 16 59.2 -1.2
T47A Sharon Grove 124.05 32 P **PKPdf** 08 16 59.9 -0.7
baz=320,SNR=8.8
S48A Wiedeman Farm, 124.06 30 P **PKPdf** 08 16 59.8 -0.7
baz=322,SNR=35
HNH Hanover 124.11 16 *e*PKPdf **PKPdf** 08 17 00.7 +0.3
Y43A Makayla and Ka 124.19 37 P **PKPdf** 08 17 00.5 -0.4
baz=315
X44A Crenshaw 124.23 36 P **PKPdf** 08 17 00.5 -0.4
baz=316,SNR=8.1
241A Mo Tay, Goldon 124.27 40 P **PKPdf** 08 17 00.9 -0.1
baz=312,SNR=16
W45A Hickory Valley 124.30 35 P **PKPdf** 08 17 00.2 -0.9
baz=317,SNR=8.7
T48A Bowling Green 124.32 31 P **PKPdf** 08 17 00.3 -0.8
baz=321,SNR=13
WVT Waverly 124.32 33 P **PKPdf** 08 17 00.2 -0.8
baz=319
WVT Waverly 124.32 33 *e*PKIKP **PKPdf** 08 17 00.4 -0.7
WVT Waverly 124.32 33 *e*PKPdf **PKPdf** 08 17 00.4 -0.7
U47A Clarksville 124.37 32 P **PKPdf** 08 17 00.6 -0.5
baz=320,SNR=20
BINY Binghamton 124.39 19 P **PKPdf** 08 17 00.5 -0.6
baz=334
BINY Binghamton 124.39 19 *e*PKPdf **PKPdf** 08 17 00.1 -1.0
BINY LR LR
comp=Z,844nm,21.0s
V46A Holladay 124.41 33 P **PKPdf** 08 17 00.1 -1.2
baz=319,SNR=12
KOWA Kowa 124.46 295 PKP **PKPdf** 08 17 00.9 -0.9
comp=Z,3.6nm,0.4s,baz=63,slow=2.7,SNR=16
KOWA Kowa 124.46 295 *e*PKPdf **PKPdf** 08 17 00.8 -1.0
FFD Franklin Falls 124.49 15 *e*PKPdf **PKPdf** 08 17 00.2 -0.9
Z43A Armstrong Fami 124.50 38 P **PKPdf** 08 17 00.9 -0.6
baz=314
142A Monroe 124.52 39 P **PKPdf** 08 17 01.9 +0.3
baz=313
341A Kurthwood 124.57 41 P **PKPdf** 08 17 01.9 +0.2
baz=312,SNR=44
Y44A Strider, Charl 124.58 36 P **PKPdf** 08 17 01.2 -0.4
baz=316
TRY Troy 124.62 17 *e*PKPdf **PKPdf** 08 17 01.2 -0.2
OXF Oxford 124.64 35 P **PKPdf** 08 17 00.8 -0.9
baz=317,SNR=8.9
OXF Oxford 124.64 35 *e*PKIKP **PKPdf** 08 17 01.3 -0.4
OXF Oxford 124.64 35 *e*PKPdf **PKPdf** 08 17 01.3 -0.4
U48A Cassie Pea, Po 124.70 31 P **PKPdf** 08 17 00.9 -0.9
baz=320,SNR=22
V47A Nunnelly 124.71 33 P **PKPdf** 08 17 00.8 -1.0
baz=319,SNR=9.3
X45A UM Field Stati 124.72 35 P **PKPdf** 08 17 01.1 -0.8
baz=317,SNR=8.7
242A Grayson 124.73 39 P **PKPdf** 08 17 01.7 -0.3
baz=313
143A Socs Landing, 124.75 38 P **PKPdf** 08 17 01.6 -0.4
baz=314,SNR=6.1
Z44A Pea Ridge, Bel 124.93 37 P **PKPdf** 08 17 01.8 -0.5
baz=315
441A DeRidder 124.94 41 P **PKPdf** 08 17 02.4 0.0
baz=311
Y45A Yeager Farm, C 125.03 36 P **PKPdf** 08 17 02.0 -0.5
baz=316,SNR=13
PLAL Pickwick Lake 125.04 34 *e*PKPdf **PKPdf** 08 17 01.6 -0.9
X46A Booneville 125.08 35 P **PKPdf** 08 17 01.4 -1.1
baz=318
342A Flagon Creek P 125.08 40 P **PKPdf** 08 17 01.6 -1.0
baz=312
W47A Westpoint 125.11 33 P **PKPdf** 08 17 01.4 -1.2
baz=319,SNR=28
SSPA Standing Stone 125.12 22 P **PKPdf** 08 17 01.7 -0.8
baz=331
SSPA Standing Stone 125.12 22 *e*PKPdf **PKPdf** 08 17 02.2 -0.3
V48A Smith Brothers 125.15 32 P **PKPdf** 08 17 01.6 -1.1
baz=320
O56A Blue Knob Stat 125.19 23 P **PKPdf** 08 17 02.0 -0.7
baz=330
O56A Blue Knob Stat 125.19 23 *e*PKPdf **PKPdf** 08 17 02.3 -0.4
MCWV Mont Chateau 125.21 24 P **PKPdf** 08 17 02.1 -0.6
baz=329
MCWV Mont Chateau 125.21 24 *e*PKPdf **PKPdf** 08 17 01.9 -0.8
MOIG Morelia 125.25 57 *e*PKPdf **PKPdf** 08 17 03.5 -0.1
Z45A Winona 125.30 36 P **PKPdf** 08 17 02.6 -0.4
baz=316,SNR=7.2
JRQG Juriquilla Cam 125.37 56 *e*PKPdf **PKPdf** 08 17 04.2 +0.5
QUA2 Belchertown 125.41 16 *e*PKPdf **PKPdf** 08 17 02.5 -0.5
Y46A Houston 125.42 35 P **PKPdf** 08 17 02.2 -1.0
baz=317,SNR=26
HRV Adam Dziewonsk 125.42 16 P **PKPdf** 08 17 02.6 -0.4
baz=339
HRV Adam Dziewonsk 125.42 16 *e*PKIKP **PKPdf** 08 17 03.0 0.0
HRV Adam Dziewonsk 125.42 16 *e*PKPdf **PKPdf** 08 17 03.0 0.0
X47A Russelville 125.51 34 P **PKPdf** 08 17 02.0 -1.4
baz=318,SNR=7.6
W48A Pulaski 125.55 33 P **PKPdf** 08 17 02.4 -1.1
baz=320,SNR=10.0
WES Weston 125.59 15 *e*PKIKP **PKPdf** 08 17 02.2 -1.1
WES Weston 125.59 15 *e*PKPdf **PKPdf** 08 17 02.2 -1.1
RPN Rapa Nui 125.60 116 PKP **PKPdf** 08 17 05.5 +1.8
comp=Z,76nm,0.9s,baz=62,slow=21,SNR=2.2
N59A State Game Lan 125.61 20 P **PKPdf** 08 17 03.0 -0.4
baz=334
N59A State Game Lan 125.61 20 *e*PKPdf **PKPdf** 08 17 02.4 -1.0
VBMS Vicksburg 125.62 38 P **PKPdf** 08 17 03.0 -0.6
baz=320
VBMS Vicksburg 125.62 38 *e*PKPdf **PKPdf** 08 17 03.0 -0.6
244A Avery, Jackson 125.64 38 P **PKPdf** 08 17 03.0 -0.7
baz=314,SNR=6.5
BCX Boston College 125.68 15 *e*PKPdf **PKPdf** 08 17 03.1 -0.3
145A Houston Renfro 125.71 37 P **PKPdf** 08 17 03.1 -0.7
baz=315
542A Morse 125.77 41 P **PKPdf** 08 17 03.4 -0.6
baz=312
ODNJ Oqdensburg 125.84 19 *e*PKPdf **PKPdf** 08 17 03.7 -0.1
Z46A Louisville 125.87 36 P **PKPdf** 08 17 03.5 -0.6
baz=316,SNR=7.5
PAGS Pennsylvania G 125.90 21 *e*PKPdf **PKPdf** 08 17 02.5 -1.4
Y47A UCPARC, Winfie 125.97 35 P **PKPdf** 08 17 03.4 -0.9
baz=318,SNR=16
BRYW Bryant College 125.97 16 *e*PKPdf **PKPdf** 08 17 04.0 -0.1
X48A Hartselle 126.00 33 P **PKPdf** 08 17 02.9 -1.4
baz=319,SNR=8.5
SWET Sewanee 126.01 32 *e*PKPdf **PKPdf** 08 17 03.1 -1.3
344A Westbrook Farm 126.02 39 P **PKPdf** 08 17 04.4 -0.1
baz=314,SNR=7.0
245A Little AP, Sta 126.13 38 P **PKPdf** 08 17 03.7 -0.9
baz=315
PAL Palisades 126.13 18 P **PKPdf** 08 17 03.8 -0.6
baz=336
PAL Palisades 126.13 18 *e*PKIKP **PKPdf** 08 17 04.3 -0.1
PAL Palisades 126.13 18 *e*PKPdf **PKPdf** 08 17 04.2 -0.1
TZTN Tazewell 126.17 29 P **PKPdf** 08 17 03.7 -0.9
baz=324
TZTN Tazewell 126.17 29 *e*PKPdf **PKPdf** 08 17 04.6 -0.1
146A Union 126.20 37 P **PKPdf** 08 17 03.7 -1.1
baz=316,SNR=7.3
BRNJ Basking Ridge 126.22 19 *e*PKPdf **PKPdf** 08 17 04.6 0.0
MVL Millersville 126.23 21 *e*PKPdf **PKPdf** 08 17 04.3 -0.3
CPNY Central Park 126.31 18 *e*PKPdf **PKPdf** 08 17 04.4 -0.3
Y48A Jasper 126.34 34 P **PKPdf** 08 17 03.8 -1.2
baz=319,SNR=8.8
X49A Woodville 126.34 33 P **PKPdf** 08 17 03.9 -1.1
baz=320,SNR=12
Z47A Carrollton 126.36 35 P **PKPdf** 08 17 04.0 -1.0
baz=317,SNR=6.2
Z48A Northport 126.52 35 P **PKPdf** 08 17 04.1 -1.2
baz=318,SNR=12
CPCT Cooper Cave 126.56 31 *e*PKPdf **PKPdf** 08 17 05.1 -0.3
SDMD Soldier's Deli 126.58 22 *e*PKPdf **PKPdf** 08 17 04.4 -0.9
PSUB Penn St. - Bra 126.61 20 *e*PKPdf **PKPdf** 08 17 05.0 -0.3
147A Livingston 126.63 36 P **PKPdf** 08 17 04.7 -0.8
baz=317,SNR=8.4
X50A Fort Payne 126.74 32 P **PKPdf** 08 17 04.8 -1.0
baz=320,SNR=7.8
TKL Tuckaleechee C 126.76 30 PKP **PKPdf** 08 17 06.3 +0.5
comp=Z,20nm,0.8s,baz=145,slow=1.9,SNR=23
TKL Tuckaleechee C 126.76 30 *e*PKPdf **PKPdf** 08 17 05.2 -0.5
Y49A Blount Mountai 126.79 33 P **PKPdf** 08 17 04.8 -1.1
baz=319,SNR=8.5

346A	**Big Creek Wild**	**126.84**	**38**	P		**PKPdf**	08 17 05.1	-0.9
	baz=315							
247A	**Quitman**	**126.88**	**37**	P		**PKPdf**	08 17 04.9	-1.2
	baz=316,SNR=6.8							
BLA	**Blacksburg**	**127.04**	**26**	P		**PKPdf**	08 17 05.5	-0.8
	baz=327							
BLA	**Blacksburg**	**127.04**	**26**	*e*PKIKP		**PKPdf**	08 17 06.0	-0.3
BLA				MLR	MLR			
	comp=Z,803nm,19.0s							
BLA	**Blacksburg**	**127.04**	**26**	*e*PKPdf		**PKPdf**	08 17 06.0	-0.3
BLA				LR	LR			
	comp=Z,803nm,19.0s							
148A	**Greensboro**	**127.05**	**35**	P		**PKPdf**	08 17 05.7	-0.7
	baz=318,SNR=8.1							
LRAL	**Lakeview Retre**	**127.09**	**35**	P		**PKPdf**	08 17 05.7	-0.8
	baz=318,SNR=9.3							
LRAL	**Lakeview Retre**	**127.09**	**35**	*e*PKPdf		**PKPdf**	08 17 05.3	-1.1
Y50A	**Piedmont**	**127.13**	**33**	P		**PKPdf**	08 17 05.5	-1.1
	baz=320							
Z49A	**Columbiana**	**127.23**	**34**	P		**PKPdf**	08 17 05.8	-0.9
	baz=319,SNR=9.8							
IP03	**Louisa**	**127.35**	**23**	*e*PKPdf		**PKPdf**	08 17 05.6	-1.2
248A	**Dixon Mills**	**127.36**	**36**	P		**PKPdf**	08 17 06.7	-0.3
	baz=317,SNR=12							
347A	**Saraland**	**127.39**	**37**	P		**PKPdf**	08 17 06.5	-0.6
	baz=316,SNR=9.0							
SPRD	**Spring Road, M**	**127.40**	**23**	*e*PKPdf		**PKPdf**	08 17 06.2	-0.7
PTRD	**Partlow Road**	**127.41**	**23**	*e*PKPdf		**PKPdf**	08 17 06.3	-0.6
IP07	**Quail**	**127.43**	**24**	*e*PKPdf		**PKPdf**	08 17 07.0	0.0
CBN	**Corbin Frederi**	**127.44**	**23**	*e*PKPdf		**PKPdf**	08 17 07.0	0.0
CBN				LR	LR			
	comp=Z,877nm,20.0s							
IP06	**Yanceyville**	**127.44**	**24**	*e*PKPdf		**PKPdf**	08 17 07.0	+0.1
SPFD	**Spotsylvania F**	**127.44**	**23**	*e*PKPdf		**PKPdf**	08 17 06.1	-0.8
IP01	**Cuckoo**	**127.44**	**23**	*e*PKPdf		**PKPdf**	08 17 07.0	0.0
Z50A	**Ashland**	**127.52**	**34**	P		**PKPdf**	08 17 06.3	-1.0
	baz=320,SNR=7.8							
149A	**Jones**	**127.53**	**35**	P		**PKPdf**	08 17 06.7	-0.6
	baz=318,SNR=9.6							
447A	**Lucedale**	**127.75**	**38**	P		**PKPdf**	08 17 07.6	-0.1
	baz=316							
348A	**Jackson**	**127.76**	**37**	P		**PKPdf**	08 17 07.5	-0.2
	baz=317,SNR=6.6							
249A	**Camden**	**127.80**	**36**	P		**PKPdf**	08 17 07.5	-0.3
	baz=318,SNR=9.2							
URVA	**University of**	**127.92**	**23**	*e*PKPdf		**PKPdf**	08 17 06.3	-1.6
150A	**Eclectic**	**127.95**	**34**	P		**PKPdf**	08 17 07.5	-0.6
	baz=319,SNR=8.2							
KIC	**Kosan Boka**	**127.97**	**286**	*e*PKP1		**PKPdf**	08 17 07.9	-0.7
	comp=Z,99nm,1.0s							
DBIC	**Dimbokro**	**127.98**	**287**	PKP		**PKPdf**	08 17 08.3	-0.4
	comp=Z,9.7nm,0.9s,baz=256,slow=1.5,SNR=5.9							
DBIC	**Dimbokro**	**127.98**	**287**	PKIKP		**PKPdf**	08 17 08.3	-0.4
DBIC				pmax	pmax			
	comp=Z,5.0nm,0.5s							
DBIC	**Dimbokro**	**127.98**	**287**	*e*PKPdf		**PKPdf**	08 17 07.9	-0.7
TIC	**Toumodi**	**128.15**	**287**	*e*PKP1		**PKPdf**	08 17 07.1	-1.9
349A	**Repton**	**128.22**	**36**	P		**PKPdf**	08 17 08.7	0.0
	baz=317,SNR=8.1							
NCAT	**North Carolina**	**128.28**	**26**	*e*PKPdf		**PKPdf**	08 17 07.2	-1.5
LIC	**Lamto**	**128.28**	**286**	*e*PKP1		**PKPdf**	08 17 07.4	-1.8
	comp=Z,145nm,1.1s							
250A	**Grady**	**128.29**	**35**	P		**PKPdf**	08 17 08.0	-0.7
	baz=319,SNR=8.5							
KMSC	**Kings Mountain**	**128.35**	**28**	P		**PKPdf**	08 17 08.2	-0.6
	baz=325							
KMSC	**Kings Mountain**	**128.35**	**28**	*e*PKPdf		**PKPdf**	08 17 07.8	-1.0
PAULI	**Pauline**	**128.38**	**29**	*e*PKPdf		**PKPdf**	08 17 08.4	-0.5
151A	**Opelika**	**128.39**	**34**	P		**PKPdf**	08 17 08.3	-0.7
	baz=320							
BRAL	**Brewton**	**128.44**	**36**	P		**PKPdf**	08 17 08.6	-0.4
	baz=317,SNR=9.5							
BRAL	**Brewton**	**128.44**	**36**	*e*PKPdf		**PKPdf**	08 17 09.6	+0.5
BRAL				LR	LR			
	comp=Z,680nm,21.0s							
449A	**Pace**	**128.64**	**37**	P		**PKPdf**	08 17 09.4	-0.1
	baz=317							
350A	**Dozier**	**128.66**	**35**	P		**PKPdf**	08 17 09.5	0.0
	baz=318							
251A	**Midway**	**128.68**	**34**	P		**PKPdf**	08 17 09.2	-0.3
	baz=320							
GOGA	**Godfrey**	**128.70**	**31**	P		**PKPdf**	08 17 09.2	-0.3
	baz=322							
GOGA	**Godfrey**	**128.70**	**31**	*e*PKIKP		**PKPdf**	08 17 09.0	-0.5
GOGA				MLR	MLR			
	comp=Z,749nm,19.0s							
GOGA	**Godfrey**	**128.70**	**31**	*e*PKPdf		**PKPdf**	08 17 09.0	-0.5
GOGA				LR	LR			
	comp=Z,749nm,19.0s							
450A	**Crestview**	**128.97**	**36**	P		**PKPdf**	08 17 10.0	-0.1
	baz=318							
JSC	**Jenkinsville**	**129.09**	**29**	*e*PKIKP		**PKPdf**	08 17 09.7	-0.6
JSC	**Jenkinsville**	**129.09**	**29**	*e*PKPdf		**PKPdf**	08 17 09.7	-0.6
351A	**Pinckard**	**129.19**	**35**	P		**PKPdf**	08 17 09.9	-0.5
	baz=319							
253A	**Americus**	**129.40**	**33**	P		**PKPdf**	08 17 10.4	-0.5
	baz=321							
352A	**Blakely**	**129.41**	**34**	P		**PKPdf**	08 17 10.7	-0.2
	baz=320							
451A	**Vernon**	**129.60**	**36**	P		**PKPdf**	08 17 10.9	-0.4
	baz=318							
452A	**Marianna**	**129.74**	**35**	P		**PKPdf**	08 17 11.3	-0.3
	baz=319							
CNNC	**Cliffs of the**	**129.79**	**25**	P		**PKPdf**	08 17 11.2	-0.4
	baz=329							
CNNC	**Cliffs of the**	**129.79**	**25**	*e*PKPdf		**PKPdf**	08 17 11.5	0.0
CNNC				LR	LR			
	comp=Z,637nm,20.0s							
353A	**Camilla**	**129.90**	**34**	P		**PKPdf**	08 17 11.9	0.0
	baz=320							
TIGA	**Tifton**	**130.17**	**33**	P		**PKPdf**	08 17 12.4	0.0
	baz=321							
TIGA	**Tifton**	**130.17**	**33**	*e*PKPdf		**PKPdf**	08 17 12.3	0.0
552A	**Lynn Haven**	**130.22**	**36**	P		**PKPdf**	08 17 12.3	-0.2
	baz=319							
453A	**Whigham**	**130.22**	**34**	P		**PKPdf**	08 17 12.5	0.0
	baz=320							
NHSC	**New Hope**	**130.57**	**29**	P		**PKPdf**	08 17 12.8	-0.3
	baz=326							
NHSC	**New Hope**	**130.57**	**29**	*e*PKPdf		**PKPdf**	08 17 12.3	-0.7
NHSC				LR	LR			
	comp=Z,891nm,22.0s							
454A	**Quitman**	**130.71**	**34**	P		**PKPdf**	08 17 13.0	-0.4
	baz=321							
455A	**Stateville**	**131.02**	**33**	P		**PKPdf**	08 17 13.4	-0.6
	baz=321							
555A	**McAlpin**	**131.53**	**34**	P		**PKPdf**	08 17 14.1	-0.8
	baz=321							
CMIG	**Matias Romero**	**131.73**	**56**	PKP		**PKPdf**	08 17 16.8	+1.1
	comp=Z,14nm,0.8s,baz=307,slow=1.8,SNR=18							
655A	**Horseshoe Beac**	**131.84**	**34**	P		**PKPdf**	08 17 14.6	-1.0
	baz=320							
556A	**Lake Butler**	**131.93**	**33**	P		**PKPdf**	08 17 14.6	-1.1
	baz=322							
SHEL	**Horse Pasture**	**132.34**	**258**	PFAKE			08 17 30.0	+13
SHEL				LR	LR			
	comp=Z,540nm,19.0s							
656A	**Willston**	**132.35**	**34**	P		**PKPdf**	08 17 15.4	-1.1
	baz=321							
657A	**Interlachen**	**132.54**	**33**	P		**PKPdf**	08 17 16.0	-0.9
	baz=322							
757A	**Oxford**	**132.94**	**34**	P		**PKPdf**	08 17 16.4	-1.2
	baz=321							
857A	**Zephyrhills**	**133.37**	**35**	P		**PKPdf**	08 17 17.3	-1.2
	baz=321							
758A	**Lake Helen**	**133.39**	**33**	P		**PKPdf**	08 17 17.2	-1.3
	baz=322							
HOPE	**Hope Point**	**133.59**	**194**	*e*PKPdf		**PKPdf**	08 17 17.1	-0.9
HOPE				LR	LR			
	comp=Z,399nm,20.0s							
957A	**Wimauma**	**133.82**	**35**	P		**PKPdf**	08 17 18.2	-1.2
	baz=320							
859A	**Kempfer Cattle**	**134.26**	**33**	P		**PKPdf**	08 17 19.2	-1.0
	baz=322							
TEIG	**Tepich**	**135.09**	**48**	PFAKE			08 17 30.0	+8.1
TEIG				LR	LR			
	comp=Z,5.0nm,19.0s							
BBSR	**BB Station**	**136.72**	**13**	PFAKE			08 17 40.0	+15
BBSR				LR	LR			
	comp=Z,489nm,19.0s							
FSCY	**Frank Sound, G**	**140.66**	**42**	*e*PKPdf		**PKPdf**	08 17 30.3	-1.8
SACV	**Santiago Islan**	**140.70**	**309**	PFAKE			08 17 40.0	+7.6
SACV				LR	LR			
	comp=Z,543nm,21.0s							
PAYG	**Puerto Ayora**	**143.09**	**78**	*e*PKPdf		**PKPdf**	08 17 35.6	-1.1
PAYG				LR	LR			
	comp=Z,399nm,20.0s							
PAYG	**Puerto Ayora**	**143.09**	**78**	*e*P		PKPab	08 17 31.9	-0.3
JTS	**JuntasAbangare**	**143.49**	**57**	PKP		**PKPdf**	08 17 37.5	+0.1
	comp=Z,29nm,1.0s,baz=54,slow=5.3,SNR=6.6							
JTS	**JuntasAbangare**	**143.49**	**57**	*e*PKPdf		PKPbc	08 17 35.4	+0.8
JTS				LR	LR			
	comp=Z,526nm,22.0s							
MTDJ	**Mount Denham**	**143.80**	**39**	PFAKE			08 17 50.0	+12
MTDJ				LR	LR			
	comp=Z,671nm,21.0s							
MTDJ	**Mount Denham**	**143.80**	**39**	*e*P		PKPab	08 17 31.5	-3.4
GTBY	**Guantanamo Bay**	**143.91**	**34**	PFAKE			08 17 50.0	+12
GTBY				LR	LR			
	comp=Z,409nm,22.0s							
GRTK	**Grand Turk**	**144.61**	**28**	*e*PKPdf		**PKPab**	08 17 37.3	-0.3
GRTK				LR	LR			
	comp=Z,546nm,20.0s							
PLCA	**Paso Flores**	**146.21**	**158**	PKPbc		**PKPab**	08 17 42.9	-0.3
	comp=Z,41nm,0.8s,baz=239,slow=3.5,SNR=151							
PLCA	**Paso Flores**	**146.21**	**158**	*e*PKP2		**PKPdf**	08 17 41.6	+0.2
PLCA	**Paso Flores**	**146.21**	**158**	*e*PKPdf		**PKPdf**	08 17 41.6	+0.2
LGNH	**LOogne**	**146.43**	**32**	*e*PKPdf		**PKPdf**	08 17 44.0	+0.4
SDDR	**Presa de Saban**	**146.71**	**30**	*e*PKPbc		**PKPbc**	08 17 44.0	-0.5
SDDR				LR	LR			
	comp=Z,677nm,21.0s							
SDD	**Santo Domingo**	**147.82**	**29**	*e*PKPbc		**PKPbc**	08 17 46.1	-1.4
BCIP	**Isla Barro Col**	**148.28**	**54**	*e*PKPdf		**PKPdf**	08 17 45.9	+0.3
BCIP				LR	LR			
	comp=Z,626nm,21.0s							
BCIP	**Isla Barro Col**	**148.28**	**54**	*e*P		**PKPbc**	08 17 47.3	-1.6
CANA	**Caviahue**	**148.44**	**154**	*e*P		**PKPbc**	08 17 48.7	-0.2
AGP	**Aguadilla**	**149.07**	**24**	*e*PKPbc		**PKPbc**	08 17 50.6	-0.2
MPR	**Mayaguez**	**149.25**	**24**	*e*PKPdf		**PKPdf**	08 17 45.5	-1.4
MAPC	**Malpelo**	**149.50**	**64**	*e*P		**PKPbc**	08 17 52.4	+0.4
CBYP	**Canovanas**	**149.69**	**22**	*e*PKPdf		**PKPdf**	08 17 49.6	+1.8
SJG	**San Juan**	**149.73**	**23**	*e*PKP2		**PKPbc**	08 17 52.0	-0.4
SJG				MLR	MLR			
	comp=Z,426nm,20.0s							
SJG	**San Juan**	**149.73**	**23**	*e*PKPbc		**PKPbc**	08 17 52.0	-0.4
SJG				LR	LR			
	comp=Z,426nm,20.0s							
ABVI	**Anegada Island**	**149.80**	**19**	*e*PKPdf		**PKPdf**	08 17 49.0	+1.2
HUMP	**Col San Antoni**	**149.81**	**22**	*e*PKPdf		**PKPdf**	08 17 47.8	-0.1
HUMP				*e*PKPbc		**PKPbc**	08 17 52.5	-0.2
STVI	**Saint Thomas**	**149.94**	**20**	*e*PKPdf		**PKPdf**	08 17 45.4	-2.6
STVI				*e*PKPbc		**PKPbc**	08 17 52.2	-0.7
MTP	**Monte Pirata**	**149.97**	**22**	*e*PKP2		**PKPdf**	08 17 45.4	-2.8
MTP				*e*PKPbc		**PKPbc**	08 17 52.7	-0.3
GO05	**HualaæØ**	**150.39**	**150**	*e*PKPbc		**PKPbc**	08 17 51.6	-2.1
CAPC	**Capurgana**	**150.56**	**52**	*e*P		**PKPbc**	08 17 51.6	+2.4
SMRT	**St. Maarten**	**150.82**	**17**	*e*PKPbc		**PKPbc**	08 17 54.3	-0.8
TRQA	**Tornquist**	**151.25**	**167**	*e*PKPdf		**PKPdf**	08 17 47.7	-1.9
TRQA				LR	LR			
	comp=Z,820nm,22.0s							
ANWB	**Willy Bob**	**151.54**	**15**	*e*PKPdf		**PKPdf**	08 17 51.3	+0.8
ANWB				*e*PKPbc		**PKPbc**	08 17 56.1	-0.6
ANWB				*e*PKPab		**pPKPdf**	08 18 02.4	+1.0
ANWB				LR	LR			
	comp=Z,584nm,21.0s							
MOTC	**Monteria, Cord**	**151.75**	**49**	*e*P		**PKPdf**	08 17 50.3	-0.7
ROC1	**El Roble**	**152.47**	**149**	*e*PKPbc		**PKPbc**	08 17 57.9	-0.9
ROC1	**El Roble**	**152.47**	**149**	*e*P		**PKPbc**	08 17 57.7	-1.1
CODC	**Agust˙›n Codaz**	**152.56**	**44**	*e*P		**PKPdf**	08 17 52.0	-0.2
GDHS	**Morne Mazeau,**	**152.88**	**16**	*e*PKPbc		**PKPbc**	08 17 58.6	-1.2
GRGC	**Isla de Gorgon**	**152.99**	**63**	*e*P		**PKPbc**	08 17 58.9	-1.2
TUMC	**Tumaco**	**153.04**	**65**	*e*PKPdf		**PKPdf**	08 17 52.9	0.0
ZARC	**Zaragoza, Cauc**	**153.19**	**50**	*e*P		**PKPdf**	08 17 52.7	-0.5
MALC	**Bahia Malaga**	**153.21**	**60**	*e*P		**PKPbc**	08 18 01.1	+0.4
AAGR	**Agrelo**	**153.45**	**152**	*e*P		**PKPdf**	08 17 47.7	-5.5
HELC	**Santa Helena**	**153.47**	**54**	*e*PKPdf		**PKPdf**	08 17 51.6	-2.4
HELC	**Santa Helena**	**153.47**	**54**	*e*P		**PKPdf**	08 17 53.7	-0.3
ARCO	**CERRO ARCO**	**153.60**	**152**	*e*P		**PKPdf**	08 17 52.7	-0.7
OCAC	**Ocana**	**153.83**	**47**	*e*P		**PKPdf**	08 17 58.0	+3.8
ASAL	**Salagasta**	**153.85**	**151**	*e*P		**PKPbc**	08 17 59.5	-2.1
AUSP	**Uspallata**	**153.89**	**150**	*e*P		**PKPbc**	08 18 01.7	-0.3
OTAV	**Otavalo**	**153.96**	**68**	*e*PKPdf		**PKPdf**	08 17 54.7	-0.2
OTAV				LR	LR			
	comp=Z,510nm,21.0s							
OTAV	**Otavalo**	**153.96**	**68**	*e*P		**PKPdf**	08 17 53.7	-1.1
YOTC	**Yotoco, Valle**	**154.06**	**59**	*e*P		**PKPdf**	08 17 53.0	-1.5
HORQ	**Saladito**	**154.09**	**60**	*e*P		**PKPdf**	08 17 54.0	-0.8
PTBC	**PUERTO BERRIO**	**154.10**	**51**	*e*P		**PKPdf**	08 17 53.4	-1.0
CMBC	**Cumbal**	**154.24**	**66**	*e*P		**PKPdf**	08 17 56.5	+1.3
RTLS	**Leoncito**	**154.28**	**150**	*e*P		**PKPbc**	08 18 00.8	-2.1
BRRC	**Barranca, Sant**	**154.30**	**49**	*e*P		**PKPdf**	08 17 54.2	-0.5
NORC	**Norcasia**	**154.37**	**54**	*e*P		**PKPdf**	08 17 53.4	-1.5
RREF	**El Recreo**	**154.38**	**56**	*e*P		**PKPdf**	08 17 54.9	-0.8
PCM	**Pelee Case Pet**	**154.42**	**15**	*e*P		**PKPbc**	08 18 02.8	-0.4
CXM	**Morne La Croix**	**154.43**	**15**	*e*P		**PKPbc**	08 18 02.0	-1.3
FDF	**Fort de France**	**154.51**	**15**	*e*PKIKP		**PKPdf**	08 17 55.4	+0.4
FDF				MLR	MLR			
	comp=Z,487nm,21.0s							
FDF	**Fort de France**	**154.51**	**15**	*e*PKPdf		**PKPdf**	08 17 55.4	+0.4
FDF				LR	LR			
	comp=Z,487nm,21.0s							
FDF	**Fort de France**	**154.51**	**15**	*e*P		**PKPbc**	08 18 02.0	-1.4
POPC	**Popayan, Colom**	**154.52**	**62**	*e*P		**PKPdf**	08 17 54.2	-1.2
GCUF	**Volcan Galeras**	**154.54**	**65**	*e*P		**PKPdf**	08 17 55.2	-0.5
RTCV	**Cerro Valdivia**	**154.59**	**151**	*e*P		**PKPdf**	08 17 54.6	-0.1
ZAM	**Aeronautique**	**154.70**	**15**	*e*P		**PKPbc**	08 18 01.8	-1.9
LPMF	**Morne Lapointe**	**154.71**	**15**	*e*P		**PKPdf**	08 17 58.9	+3.7
TRMF	**Trois Ilets**	**154.73**	**15**	*e*P		**PKPbc**	08 18 02.9	-0.9
MVM	**Montagne Vaucl**	**154.75**	**15**	*e*P		**PKPbc**	08 18 02.0	-1.9
PCON	**Cinco Dias**	**154.86**	**62**	*e*P		**PKPdf**	08 17 56.5	+0.2
ACAN	**Cantantal**	**154.87**	**154**	*e*P		**PKPdf**	08 17 54.9	-0.2
PAMC	**Pamplona, Colo**	**154.89**	**47**	*e*P		**PKPdf**	08 17 51.4	-4.7
MARP	**Paez Belalcaza**	**154.99**	**60**	*e*P		**PKPdf**	08 17 56.3	+0.2
BARC	**Barichara**	**155.03**	**49**	*e*P		**PKPdf**	08 17 55.8	-0.3
SDV	**Santo Domingo**	**155.21**	**41**	PKP		**PKPdf**	08 17 56.1	-0.1
	comp=Z,30nm,1.0s,baz=294,slow=1.0,SNR=28							
SDV	**Santo Domingo**	**155.21**	**41**	*e*PKPdf		**PKPdf**	08 17 56.1	-0.1
SDV				LR	LR			
	comp=Z,437nm,20.0s							
SDV	**Santo Domingo**	**155.21**	**41**	*e*P		**PKPdf**	08 17 54.4	-1.8
ROSC	**El Rosal**	**155.24**	**54**	PKP		**PKPdf**	08 17 57.5	+1.0
	comp=Z,17nm,0.9s,baz=34,slow=1.9,SNR=19							
ROSC	**El Rosal**	**155.24**	**54**	*e*PKPdf		**PKPdf**	08 17 54.6	-1.9
MRA	**San Martin**	**155.35**	**156**	*e*P		**PKPdf**	08 17 54.9	-0.9
AMOG	**MOGNA**	**155.37**	**150**	*e*P		**PKPdf**	08 17 55.5	-0.3
PRAC	**Prado**	**155.43**	**57**	*e*PKPdf		**PKPdf**	08 17 55.5	-0.9
PRAC	**Prado**	**155.43**	**57**	*e*P		**PKPdf**	08 17 55.8	-0.5
RUSC	**La Rusia**	**155.56**	**51**	*e*PKPdf		**PKPdf**	08 17 56.7	-0.4
RUSC	**La Rusia**	**155.56**	**51**	*e*P		**PKPdf**	08 17 55.4	-1.7
LCO	**Las Campanas**	**155.67**	**143**	*e*PKPdf		**PKPdf**	08 17 56.1	-0.5
LCO				LR	LR			
	comp=Z,919nm,19.0s							
CHIC	**Chingaza**	**155.84**	**54**	*e*P		**PKPdf**	08 17 56.7	-0.6
FLOC	**Florencia**	**155.88**	**63**	*e*P		**PKPdf**	08 17 54.0	-3.0
ATAH	**Atahualpa**	**156.07**	**85**	PKP		**PKPdf**	08 17 59.0	+1.4
	comp=Z,14nm,0.8s,baz=317,slow=2.2,SNR=19							
AGUA	**GUANDACOL**	**156.54**	**148**	*e*P		**PKPdf**	08 17 58.3	+0.8
APLL	**PUNTA DE LOS L**	**156.76**	**153**	*e*P		**PKPdf**	08 17 56.7	-0.9
GRGR	**Grenville**	**156.84**	**18**	PFAKE			08 18 10.0	+12
GRGR				LR	LR			
	comp=Z,497nm,20.0s							
VCA	**Vinchina**	**157.29**	**147**	*e*P		**PKPdf**	08 17 57.4	-1.2
PCRV	**Puerto La Cruz**	**157.49**	**27**	PKP		**PKPdf**	08 18 00.2	+1.2
	comp=Z,27nm,1.1s,baz=9.5,slow=21,SNR=2.9							
NNA	**Nana**	**157.84**	**97**	PKP		**PKPdf**	08 18 00.2	+0.8
	comp=Z,24nm,0.9s,baz=329,slow=3.9,SNR=8.6							
NNA				PKPab		**PKPab**	08 18 33.0	+0.7
	comp=Z,11nm,0.7s,baz=321,slow=5.0,SNR=2.8							
NNA	**Nana**	**157.84**	**97**	*e*PKIKP		**PKPdf**	08 17 59.5	+0.1
NNA							08 18 33.0	
NNA				MLR	MLR			
	comp=Z,312nm,20.0s							
NNA	**Nana**	**157.84**	**97**	*e*PKPdf		**PKPdf**	08 17 59.5	+0.1
NNA				PKPab		**PKPab**	08 18 33.0	+0.7
NNA				LR	LR			
	comp=Z,312nm,20.0s							
PB10	**IPOC Station P**	**159.52**	**133**	*e*PKPdf		**PKPdf**	08 18 00.2	-0.9
AHML	**Horco Molle**	**160.35**	**150**	*e*P		**PKPdf**	08 18 02.0	0.0
FSA	**Cafayete**	**160.57**	**147**	*e*P		**PKPdf**	08 18 02.0	-0.5
PB01	**IPOC Station P**	**161.78**	**129**	*e*PKPdf		**PKPdf**	08 18 04.1	+0.4
PB11	**IPOC Station P**	**162.34**	**125**	*e*PKPdf		**PKPdf**	08 18 04.2	-0.3
AZAP	**Zapla**	**162.57**	**146**	*e*P		**PKPdf**	08 18 02.9	-1.8
MNMC	**Minye Minye**	**162.70**	**123**	*e*PKPdf		**PKPdf**	08 18 05.1	+0.1
HJA	**Humahuaca**	**163.15**	**143**	*e*P		**PKPdf**	08 18 07.2	+1.8
ALOL	**LOMAS DE OLMED**	**163.48**	**147**	*e*P		**PKPdf**	08 18 02.3	-3.0
CPUP	**Villa Florida**	**163.52**	**171**	PKP		**PKPdf**	08 18 05.4	+0.2
	comp=Z,5.5nm,1.0s,baz=24,slow=3.4,SNR=8.2							
CPUP				PKPab		**PKPab**	08 18 56.5	+0.1
	comp=Z,3.2nm,0.8s,baz=192,slow=6.4,SNR=4.1							
SPB	**Sao Paulo**	**164.96**	**205**	PFAKE			08 18 20.0	+13
SPB				LR	LR			
	comp=Z,1µm,19.0s							
LPAZ	**La Paz**	**165.21**	**116**	PKP		**PKPdf**	08 18 08.0	+0.3
	comp=Z,27nm,1.2s,baz=3.8,slow=2.1,SNR=45							
LPAZ				PKPab		**PKPab**	08 19 05.2	+0.1
	comp=Z,10nm,1.1s,baz=230,slow=16,SNR=1.6							
PTGA	**Pitinga**	**169.23**	**32**	PKP		**PKPdf**	08 18 09.6	-0.4
	comp=Z,11nm,1.1s,baz=320,slow=2.8,SNR=5.1							
PTGA				PKPab		**PKPab**	08 19 21.7	-0.2
	comp=Z,23nm,0.8s,baz=339,slow=6.4,SNR=14							
PTGA	**Pitinga**	**169.23**	**32**	*e*PKPdf		**PKPdf**	08 18 09.0	-1.0
PTGA				*e*PKPab		**PKPab**	08 19 20.2	-1.7
SIV	**San Ignacio**	**171.16**	**133**	PKP		**PKPdf**	08 18 11.4	+0.3
	comp=Z,7.5nm,1.0s							
SIV				PKPab		**PKPab**	08 19 32.2	+1.6
	comp=Z,2.6nm,0.8s,baz=214,slow=3.6,SNR=1.9							
SAML	**Samuel**	**171.23**	**84**	*e*PKPdf		**PKPdf**	08 18 10.0	-1.1
SAML				LR	LR			
	comp=Z,922nm,21.0s							

ISCJB ***16*** *08:06:34.4±0.6, 7˚.18S±0˚.10×67˚.66E±0˚.10, h10km, mb4.2/14, Error ellipse: s-maj=14.4km s-min=13.9km az=163.3*

IDC ***16*** *08:06:34.1±0.9, 7˚.33S×67˚.56E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.8/75, mbtmp4.0/11, Error ellipse: s-maj=27.5km s-min=22.3km az=37.0*

NEIC ***16*** *08:06:36.3±0.3, 7˚.23S×67˚.65E, h10km, mb4.5/3, Error ellipse: s-maj=10.4km s-min=9.3km az=150.0*

ISC 16 08:06:36.0±0.8, 7˚.3S±0˚.2×67˚.6E±0˚.1, h10km, n43, σ0˚.78/34, mb4.2/14, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**3.48**	**75**	T	T	08 10 42.2	
	baz=245,slow=75						
H08N2	**Diego Garcia H**	**3.49**	**75**	T	T	08 10 49.8	
	baz=245,slow=75						
H08N1	**Diego Garcia H**	**3.50**	**75**	T	T	08 10 40.6	
	baz=245,slow=75						
H08S1	**Diego Garcia H**	**4.83**	**95**	Pn	Pn	08 07 40.0	-8.6
	baz=244,slow=15,SNR=16						
H08S1				T	T	08 12 46.0	
	baz=114,slow=78		

PRK				AML	AML	08 12 55.0
	comp=N,4388μm,0.4s					
PRK	**Paraskevi**	**0.15**	**124**	P	**Pg**	**08 12 52.1 -0.1**
PRK				S	**Sg**	**08 12 54.6 0.0**
PRK	**Paraskevi**	**0.15**	**124**	P	**Pg**	**08 12 52.1 -0.1**
PRK				S	**Sg**	**08 12 54.6 0.0**
SIGR	**SIGRI**	**0.23**	**240**	PG	**Pg**	**08 12 53.7 +0.1**
SIGR	**SIGRI**	**0.23**	**240**	P	**Pg**	**08 12 53.2 -0.4**
SIGR				S	**Sg**	**08 12 56.5 -0.4**
SIGR				AML	AML	08 12 56.7
	comp=E,2059μm,0.2s					
SIGR				AML	AML	08 12 56.7
	comp=N,3207μm,0.3s					
SIGR	**SIGRI**	**0.23**	**240**	P	**Pg**	**08 12 53.2 -0.4**
SIGR	**SIGRI**	**0.23**	**240**	*e*Pg	**Pg**	**08 12 53.7 +0.1**
SIGR				S	**Sg**	**08 12 56.5 -0.4**
SIGR	**SIGRI**	**0.23**	**240**	P	**Pg**	**08 12 53.2 -0.4**
SIGR				S	**Sg**	**08 12 56.6 -0.3**
EZN	**Ezine**	**0.52**	**18**	PG	**Pg**	**08 12 58.3 -0.7**
EZN				SG	**Sg**	**08 13 06.4 +0.5**
EZN	**Ezine**	**0.52**	**18**	*e*Pg	**Pg**	**08 12 58.3 -0.7**
EZN	**Ezine**	**0.52**	**18**	P	**Pg**	**08 12 59.2 +0.2**
EZN				*e*Sg	**Sg**	**08 13 06.4 +0.5**
EZN	**Ezine**	**0.52**	**18**	P	**Pg**	**08 12 59.2 +0.2**
EZN				S	**Sb**	**08 13 06.9 -0.6**
BAYC	**CANAKKALE_Bayr**	**0.53**	**39**	*i* P	**Pg**	**08 12 58.8 -0.3**
BAYC				*i* S	**Sg**	**08 13 06.8 +0.6**
BAYC	**CANAKKALE_Bayr**	**0.53**	**39**	P	**Pg**	**08 12 58.8 -0.3**
BAYC				S	**Sg**	**08 13 06.8 +0.6**
CAND	**Candarli**	**0.65**	**125**	PG	**Pg**	**08 13 01.7 +0.3**
CAND				SG	**Sg**	**08 13 10.9 +0.9**
DKL	**Dikili**	**0.67**	**112**	PG	**Pg**	**08 13 01.7 0.0**
DKL				SG	**Sb**	**08 13 11.9 +0.4**
DKL	**Dikili**	**0.67**	**112**	*e*Pg	**Pg**	**08 13 01.7 0.0**
DKL				*e*Sg	**Sb**	**08 13 11.9 +0.4**
FOCM	**Fo¨ça**	**0.78**	**142**	PG	**Pg**	**08 13 03.7 -0.1**
FOCM	**Fo¨ça**	**0.78**	**142**	*e*Pg	**Pg**	**08 13 03.7 -0.1**
GADA	**Gvkgeada**	**0.88**	**349**	PG	**Pg**	**08 13 05.0 -0.7**
GADA	**Gvkgeada**	**0.88**	**349**	*e*Pg	**Pg**	**08 13 05.0 -0.7**
GADA	**Gvkgeada**	**0.88**	**349**	P	**Pg**	**08 13 05.3 -0.4**
GADA	**Gvkgeada**	**0.88**	**349**	P	**Pg**	**08 13 05.3 -0.4**
LIA	**Limnos Island**	**0.92**	**309**	P	**Pg**	**08 13 06.2 -0.3**
LIA				S	**Sb**	**08 13 18.4 -0.4**
LIA				AML	AML	08 13 20.9
	comp=E,322μm,0.6s					
LIA				AML	AML	08 13 21.3
	comp=N,186μm,0.3s					
LIA	**Limnos Island**	**0.92**	**309**	P	**Pg**	**08 13 06.0 -0.5**
LIA				S	**Sb**	**08 13 18.4 -0.4**
LIA	**Limnos Island**	**0.92**	**309**	P	**Pg**	**08 13 06.3 -0.2**
LIA				S	**Sb**	**08 13 19.2 +0.4**
CHOS	**Chios island**	**0.94**	**183**	PG	**Pg**	**08 13 06.9 0.0**
CHOS	**Chios island**	**0.94**	**183**	P	**Pg**	**08 13 06.3 -0.6**
CHOS	**Chios island**	**0.94**	**183**	P	**Pg**	**08 13 06.4 -0.5**
CHOS	**Chios island**	**0.94**	**183**	*e*Pg	**Pg**	**08 13 06.9 0.0**
CHOS				S	**Sb**	**08 13 20.4 +0.8**
CHOS	**Chios island**	**0.94**	**183**	P	**Pg**	**08 13 06.4 -0.5**
CHOS				S	**Sb**	**08 13 20.4 +0.8**
CESE	**¯e¯me**	**1.01**	**172**	PG	**Pb**	**08 13 08.7 +0.6**
CESE	**¯e¯me**	**1.01**	**172**	*e*Pg	**Pb**	**08 13 08.7 +0.6**
URLA	**Izmir**	**1.04**	**159**	PG	**Pg**	**08 13 08.0 -0.7**
URLA	**Izmir**	**1.04**	**159**	*i* P	**Pg**	**08 13 07.2 -1.5**
URLA				*i* S	**Sg**	**08 13 21.5 -0.7**
URLA	**Izmir**	**1.04**	**159**	P	**Pg**	**08 13 07.2 -1.5**
URLA	**Izmir**	**1.04**	**159**	*e*Pg	**Pg**	**08 13 08.0 -0.7**
URLA				S	**Sg**	**08 13 21.5 -0.7**
GELI	**Tayfur-Gelibol**	**1.10**	**14**	PN	**Pg**	**08 13 09.6 -0.4**
GELI	**Tayfur-Gelibol**	**1.10**	**14**	*e*Pn	**Pg**	**08 13 09.6 -0.4**
LPK	**Lapseki**	**1.16**	**25**	PN	**Pg**	**08 13 10.1 -0.9**
LPK	**Lapseki**	**1.16**	**25**	*e*Pn	**Pg**	**08 13 10.1 -0.9**
SMTH	**Samothraki Isl**	**1.23**	**339**	P	**Pb**	**08 13 11.9 -0.1**
SMTH				S	**Sb**	**08 13 28.1 +0.3**
SMTH	**Samothraki Isl**	**1.23**	**339**	P	**Pb**	**08 13 11.8 -0.2**
SMTH				S	**Sb**	**08 13 28.3 +0.5**
SMTH	**Samothraki Isl**	**1.23**	**339**	P	**Pb**	**08 13 11.8 -0.2**
SMTH				S	**Sn**	**08 13 28.6 +0.2**
STEP	**BALIKESIR_Sava**	**1.24**	**87**	*i* P	**Pn**	**08 13 12.3 +0.2**
STEP				*i* S	**Sn**	**08 13 29.6 +0.8**
STEP	**BALIKESIR_Sava**	**1.24**	**87**	P	**Pn**	**08 13 12.3 +0.2**
STEP				S	**Sn**	**08 13 29.6 +0.8**
ERIK	**Erikli-Kesan**	**1.38**	**13**	PN	**Pn**	**08 13 14.4 +0.6**
ERIK	**Erikli-Kesan**	**1.38**	**13**	*e*Pn	**Pn**	**08 13 14.4 +0.6**
AKHS	**Akhisar**	**1.40**	**108**	*i* P	**Pn**	**08 13 14.1 0.0**
AKHS				*i* S	**Sb**	**08 13 30.1 -2.6**
AKHS	**Akhisar**	**1.40**	**108**	P	**Pn**	**08 13 14.1 0.0**
AKHS				S	**Sb**	**08 13 30.0 -2.6**
KRBG	**Karabiga-Canak**	**1.40**	**40**	PN	**Pn**	**08 13 14.4 +0.2**
KRBG	**Karabiga-Canak**	**1.40**	**40**	*e*Pn	**Pn**	**08 13 14.4 +0.2**
ENEZ	**Enez**	**1.41**	**1**	PN	**Pn**	**08 13 14.8 +0.5**
ENEZ	**Enez**	**1.41**	**1**	*e*Pn	**Pn**	**08 13 14.8 +0.5**
KESN	**Edirne-Kesan**	**1.56**	**16**	*i* P	**Pn**	**08 13 17.5 +0.8**
KESN				*i* S	**Sg**	**08 13 38.6 -0.4**
KESN	**Edirne-Kesan**	**1.56**	**16**	P	**Pn**	**08 13 17.5 +0.8**
KESN				S	**Sb**	**08 13 38.6 -0.4**
ALN	**Alexandroupoli**	**1.57**	**358**	PN	**Pb**	**08 13 17.4 -0.4**
ALN	**Alexandroupoli**	**1.57**	**358**	P	**Pb**	**08 13 17.7 0.0**
ALN	**Alexandroupoli**	**1.57**	**358**	*e*Pn	**Pb**	**08 13 17.4 -0.4**
ALN	**Alexandroupoli**	**1.57**	**358**	P	**Pb**	**08 13 17.9 +0.1**
RKY	**Sarkoy-Tekirda**	**1.58**	**31**	PN	**Pb**	**08 13 17.8 -0.3**
RKY	**Sarkoy-Tekirda**	**1.58**	**31**	*e*Pn	**Pb**	**08 13 17.8 -0.3**
SART	**Tekirdag**	**1.59**	**31**	*i* P	**Pn**	**08 13 15.9 -0.9**
SART				*i* S	**Sb**	**08 13 39.0 +0.8**
SART	**Tekirdag**	**1.59**	**31**	P	**Pn**	**08 13 15.9 -0.9**
SART				S	**Sb**	**08 13 39.0 +0.8**

IDC 16 08:23:51.3±1.9, 2°33S×126°41E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/59, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=165.2km s-min=27.7km az=71.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.14**	**157**	P	P	08 28 16.2	-0.1
	0.2nm,0.3s,baz=335,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**22.41**	**162**	P	P	08 28 52.0	+0.1
	0.5nm,0.3s,baz=345,slow=12,SNR=10.0						
SONM	**Songino Array**	**52.94**	**343**	P	P	08 33 09.4	-0.1
	0.2nm,0.4s,baz=166,slow=8.9,SNR=2.7						

JMA 16 08:34:56.8±0.2, 40°93N×145°10E, h68km±2km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.82**	**307**	P	Pn	08 35 26.5	+0.6
JEM				*e*S	Sn	08 35 47.2	-0.8
JAK	**Akkeshi**	**2.09**	**352**	P	Pn	08 35 30.3	+0.8
JAK				*e*S	Sn	08 35 54.6	+0.1
JCH	**Churui**	**2.13**	**323**	P	Pn	08 35 30.8	+0.7
JCH				*e*S	Sn	08 35 55.1	-0.4
JOB	**Onbets**	**2.19**	**335**	P	Pn	08 35 32.2	+1.3
JOB				*e*S	Sn	08 35 57.7	+0.8
JNBK	**Urakawa-nobuka**	**2.22**	**308**	P	Pn	08 35 32.9	+1.6
JNBK				*e*S	Sn	08 35 58.8	+1.1
NEM2	**Nemuro 2**	**2.48**	**11**	P	Pn	08 35 35.8	+1.0
JAR	**Ashorobuto**	**2.56**	**338**	P	Pn	08 35 36.6	+0.6
JAR				*e*S	Sn	08 36 06.0	-0.1
JNK	**Nakash**	**2.67**	**354**	P	Pn	08 35 37.9	+0.5
JNK				*e*S	Sn	08 36 07.2	-1.4
JBT2	**Biratori 2**	**2.75**	**313**	P	Pn	08 35 39.8	+1.2
JBT2				*e*S	Sn	08 36 12.1	+1.4
JANG	**Nango**	**2.78**	**260**	P	Pn	08 35 39.2	+0.2
JANG				*e*S	Sn	08 36 08.6	-2.9
JFR	**Furan**	**2.91**	**321**	P	Pn	08 35 41.8	+1.1
JFR				*e*S	Sn	08 36 13.5	-1.1
JOT	**Ohata**	**3.09**	**280**	P	Pn	08 35 43.8	+0.6
JOT				*e*S	Sn	08 36 16.6	-2.4
JTKR	**Abashiri--Toko**	**3.16**	**344**	P	Pn	08 35 45.7	+1.5
JTKR				*e*S	Sn	08 36 21.6	+0.9
JKB	**Kayabe**	**3.21**	**289**	*e*S	Sn	08 36 20.6	-1.1
JOM	**Ohasama**	**3.26**	**245**	P	Pn	08 35 44.9	-0.6
JOM				*e*S	Sn	08 36 21.1	-2.0
JEW	**Eniwo**	**3.33**	**306**	*e*S	Sn	08 36 24.8	+0.1
JKK2	**Kamakawa 2**	**3.42**	**330**	*e*S	Sn	08 36 30.2	+3.2

NNC 16 08:35:14.2±3.7, 53°58N×88°00E, h0km±26km, mb3.6, mpv3.3, 4C-3D, Error ellipse: s-maj=31.6km s-min=15.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.93**	**282**	⇑Pn	Pn	08 35 47.9	-0.3
	8.9nm,0.5s						
ZAA0				⇓Sn	Sb	08 36 14.3	-0.4
	59nm,0.8s						
KURK	**Kurchatov**	**6.45**	**247**	⇑Pn	Pn	08 36 51.5	+1.2
	1.6nm,0.5s						
KURK				⇑Lg	Lg	08 38 38.5	
	14nm,0.8s						
MK31	**Makanchi Array**	**7.71**	**211**	⇑Pn	Pn	08 37 08.4	+0.7
	0.8nm,0.6s,baz=26,slow=13						
MK31				⇓Sn	Sn	08 38 36.4	+0.6
	3.5nm,0.9s,baz=28,slow=34						
MK31				⇓Lg	Lg	08 39 18.4	
	4.6nm,0.8s,baz=25,slow=32						

NIED ***16*** *08:53:00, 35°80N×140°90E, h35km, Mw3.8 Best double couple: M0 6.48000×10^14 NP1:φs199.00000°, δ35.00000°, λ-67.00000°. NP2:φs351.00000°, δ58.00000°, λ-106.00000°.*

JMA 16 08:53:34.3±0.1, 35°74N×140°90E, h14km±1km, M3.6, 4C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.05**	**222**	⇓P	Pg	08 53 36.8	-0.1
CHOJ				S	Sg	08 53 38.7	0.0
JCN	**Nagara**	**0.65**	**241**	⇑P	Pb	08 53 47.8	+0.3
JCN				*e*S	Sg	08 53 56.0	+0.3
JYT	**Yasato**	**0.75**	**311**	⇑P	Pg	08 53 48.2	-0.7
JYT				S	Sg	08 53 58.2	-0.6
BSO4	**Boso 4**	**0.88**	**212**	⇑P	Pg	08 53 51.6	+0.3
JHO	**Hitachi**	**0.91**	**343**	⇑P	Pb	08 53 50.5	-1.4
JHO				S	Sg	08 54 02.8	-1.0
BSO3	**Boso 3**	**0.99**	**199**	⇓P	Pb	08 53 52.3	-0.7
MAT	**Matsushiro**	**2.32**	**291**	⇓P	Pn	08 54 11.9	-0.2
MAT				S	Sb	08 54 43.1	-1.4

NNC 16 08:54:28.7±5.2, 53°94N×90°97E, h0km, mb3.8, mpv3.6, 4C-2D, Error ellipse: s-maj=39.2km s-min=26.7km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.63**	**273**	⇑Pg	Pb	08 55 34.4	+0.7
	12nm,0.7s						
ZAA0				⇓Lg	Lg	08 56 24.9	
	70nm,0.8s						
KURK	**Kurchatov**	**8.22**	**252**	⇑Sn	Sn	08 58 03.0	+0.4
	13nm,1.0s						
KURK				⇑Lg	Lg	08 58 50.9	
	52nm,1.0s						
MK31	**Makanchi Array**	**9.05**	**221**	Pn	Pn	08 56 41.5	+1.0
	0.9nm,0.6s,baz=41,slow=71,SNR=15						
MK31				Sn	Sn	08 58 24.4	+1.4
	3.4nm,1.0s,baz=44,slow=21,SNR=5.2						
MK31				⇓Lg	Lg	08 59 16.5	
	16nm,0.9s,baz=37,slow=25,SNR=4.9						
MAKZ	**Makanchi**	**9.16**	**222**	⇑Lg	Lg	08 59 18.7	
	9.4nm,0.6s						

ISCJB ***16*** *08:55:00.2±0.4, 34°22N±0°03×135°74E±0°03, h68km±4km, mb3.6/4, Error ellipse: s-maj=5.6km s-min=4.6km az=158.1*

JMA ***16*** *08:55:01.3, 34°23N×135°75E, h61km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs320.00000°, δ59.00000°, λ-40.00000°. NP2:φs73.00000°, δ56.00000°, λ-142.00000°. Principal axes: T Plg2.0000°, Azm17.0000°; N Plg41.0000°, Azm109.0000°; P Plg49.0000°, Azm285.0000°;*

JMA Felt I J1.

IDC ***16*** *08:55:02.4±2.0, 34°25N×135°78E, h77km±22km, mb3.3/4, mb1 3.4/8, mb1mx3.1/77, mbtmp3.5/8 Error ellipse: s-maj=24.9km s-min=15.4km az=148.0*

ISC 16 08:55:01.3±0.8, 34°22N±0°04×135°74E±0°03, h60km±6km, n29, σ0s61/37, mb3.6/4, 6C-7D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**0.12**	**271**	⇓P	Pn	08 55 10.8	+0.3
JWY				S	Sn	08 55 17.3	+0.1
JHE	**Heguri**	**0.44**	**354**	⇑P	Pn	08 55 12.6	-0.1
JHE				S	Sn	08 55 20.6	-0.3
JKN2	**Miekihoku**	**0.44**	**87**	⇓P	Pn	08 55 12.7	+0.1
JKN2				S	Sn	08 55 20.9	0.0
JWM	**Minabe**	**0.49**	**221**	⇑P	Pn	08 55 13.0	-0.1
JWM				S	Sn	08 55 21.2	-0.5
JWZ	**Kozaga**	**0.69**	**182**	⇑P	Pn	08 55 15.5	+0.1
JWZ				S	Sn	08 55 25.6	-0.1
JAJ2	**Tsuna**	**0.74**	**286**	⇓P	Pn	08 55 16.2	+0.2
JAJ2				S	Sn	08 55 27.1	+0.3
TSUJ	**Tsu 2**	**0.74**	**49**	⇑P	Pn	08 55 16.0	-0.1
TSUJ				S	Sn	08 55 26.5	-0.4
JIE	**Ise**	**0.82**	**77**	⇓P	Pn	08 55 17.1	+0.1
JIE				S	Sn	08 55 28.5	0.0
TTO1	**TONANKAI O.B.S**	**1.05**	**124**	⇓P	Pn	08 55 20.0	+0.3
TTO1				X		08 55 35.1	
JKS	**Kasai**	**1.06**	**316**	P	Pn	08 55 20.2	+0.1
JKS				S	Sn	08 55 34.0	-0.2
JWT	**Wachi**	**1.10**	**345**	⇑P	Pn	08 55 20.5	-0.1
JWT				S	Sn	08 55 34.6	-0.4
JAI	**Aioi**	**1.15**	**249**	⇑P	Pn	08 55 21.5	+0.2
JAI				S	Sn	08 55 36.2	0.0
TTO2	**TONANKAI O.B.S**	**1.17**	**114**	⇓P	Pn	08 55 21.6	+0.3
TTO2				X		08 55 38.3	
JAD	**Aida**	**1.48**	**300**	⇓P	Pn	08 55 25.5	-0.3
JAD				S	Sn	08 55 43.5	-0.7
MAT	**Matsushiro**	**3.07**	**40**	P	Pn	08 55 47.5	+0.1
MAT				S	Sn	08 56 22.9	0.0
MJAR	**Matsushiro Arr**	**3.07**	**40**	P	Pn	08 55 48.0	+0.6
	3.0nm,0.3s,baz=233,slow=16,SNR=8.3						
MJAR				S	Sn	08 56 24.1	+1.2
	1.9nm,0.3s,baz=223,slow=26,SNR=3.2						
JNU	**Nakatsue**	**4.20**	**256**	P	Pn	08 56 03.9	+1.1
	1.2nm,0.3s,baz=123,slow=6.6,SNR=14						
KSRS	**Korea Array**	**7.12**	**299**	P	Pn	08 56 44.5	+1.8
	0.7nm,0.3s,baz=120,slow=14,SNR=8.3						
USRK	**Ussuriysk Ar.**	**10.38**	**345**	P	Pn	08 57 28.7	+1.4
	0.2nm,0.3s,baz=112,slow=10,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**31.14**	**110**	T	T	09 33 57.0	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**31.15**	**110**	T	T	09 33 57.5	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**31.16**	**110**	T	T	09 33 58.4	
	baz=305						
H11S3	**WAKE ISLAND Hy**	**31.68**	**112**	T	T	09 34 32.1	
	baz=305						
H11S1	**WAKE ISLAND Hy**	**31.69**	**112**	T	T	09 34 31.6	
	baz=305						
H11S2	**WAKE ISLAND Hy**	**31.70**	**112**	T	T	09 34 28.1	
	baz=305						
MKAR	**Makanchi Array**	**41.78**	**304**	P	**P**	**09 02 44.7**	**+0.1**
	0.2nm,0.5s,baz=91,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**53.87**	**182**	P	**P**	**09 04 18.2**	**-0.1**
	0.3nm,0.5s,baz=356,slow=7.5,SNR=2.8						
ASAR	**Alice Springs**	**57.59**	**182**	P	**P**	**09 04 44.5**	**-0.4**
	0.6nm,0.9s,baz=360,slow=11,SNR=3.3						
FINES	**FINESS Array B**	**69.09**	**331**	P	**P**	**09 05 59.0**	**-1.4**
	2.8nm,0.9s,baz=51,slow=7.3,SNR=3.6						

IDC ***16*** *08:56:58.7±2.2, 44°05N×152°46E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.6/76, mbtmp3.6/9, ML3.8/2, Error ellipse: s-maj=53.9km s-min=22.0km az=167.0*

ISCJB ***16*** *08:57:01.0±0.7, 43°77N±0°10×152°00E±0°05, h35km, mb3.6/7, Error ellipse: s-maj=14.5km s-min=5.0km az=169.3*

JMA ***16*** *08:57:00.6±0.6, 44°82N×152°05E, h30km, M4.4*

SKHL ***16*** *08:57:00.0±0.7, 43°87N×152°25E, h38km±2km, mb4.3/2*

MOS ***16*** *08:57:02.6±1.4, 44°20N×152°00E, h50km, mb4.1/4, Error ellipse: s-maj=15.8km s-min=12.2km az=168.7*

ISC 16 08:57:01.3±1.0, 43°8N±0°1×152°18E±0°07, h35km, n41, σ1s72/61, mb3.8/7, 3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.40**	**296**	*i* P	**Pn**	**08 57 51.4**	**-0.4**
KUR				AMB	AMB	08 57 55.8	
	33nm,0.3s						
KUR				*i* S	**Sn**	**08 58 29.6**	**-1.2**
KUR				A	A	08 58 35.7	
	175nm,0.3s						
KUR				A	A	08 58 35.7	
	51nm,0.3s						
KUR	**Kuril'sk**	**3.40**	**296**	*d* iPN	**Pn**	**08 57 52.5**	**+0.7**
KUR				*i* S	**Sn**	**08 58 30.4**	**-0.4**
KUR				pmax	pmax		
	comp=Z,47nm,0.3s						
KUR				smax	smax		
	comp=E,51nm,0.2s						
KUR				smax	smax		
	comp=N,174nm,0.3s						
SHO	**Shikotan**	**3.87**	**273**	*i* P	**Pn**	**08 57 57.3**	**-1.0**
SHO				AMB	AMB	08 58 07.9	
	comp=N,33nm,0.3s						
SHO				*i* S	**Sn**	**08 58 40.2**	**-2.3**
SHO				A	A	08 58 44.5	
	comp=N,46nm,0.2s						
SHO				A	A	08 58 44.5	
	comp=N,84nm,0.2s						
SHO	**Shikotan**	**3.87**	**273**	*d* iPN	**Pn**	**08 57 57.3**	**-1.0**
SHO				*i* S	**Sn**	**08 58 40.2**	**-2.3**
SHO				pmax	pmax		
	comp=Z,33nm,0.3s						
SHO				smax	smax		
	comp=N,46nm,0.2s						
SHO				smax	smax		
	comp=E,84nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.57**	**275**	*i* P	**Pn**	**08 58 08.6**	**+0.7**
YUK				*i* S	**Sn**	**08 58 59.2**	**-0.5**
YUK				A	A	08 59 03.1	
	comp=E,98nm,0.4s						
YUK				A	A	08 59 03.1	
	comp=E,118nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.57**	**275**	*d* iPN	**Pn**	**08 58 09.4**	**+1.5**
YUK				*i* S	**Sn**	**08 58 59.2**	**-0.5**
YUK				smax	smax		
	comp=N,98nm,0.4s						
YUK				smax	smax		
	comp=E,118nm,0.4s						
LAGR	**Lagunnoye**	**4.62**	**275**	*e*P	**Pn**	**08 58 08.5**	**-0.1**
LAGR				*e*S	**Sn**	**08 59 00.4**	**-0.7**
LAGR	**Lagunnoye**	**4.62**	**275**	PN	**Pn**	**08 58 08.5**	**-0.1**
LAGR				*e*S	**Sn**	**08 59 00.4**	**-0.7**
GRPR	**Tuman**	**4.63**	**275**	*e*P	**Pn**	**08 58 08.7**	**-0.1**
GRPR				*e*S	**Sn**	**08 59 00.3**	**-1.0**
GRPR	**Tuman**	**4.63**	**275**	*e*PN	**Pn**	**08 58 08.7**	**-0.1**
GRPR				*e*S	**Sn**	**08 59 00.3**	**-1.0**
NEM2	**Nemuro 2**	**4.70**	**267**	P	**Pn**	**08 58 09.8**	**+0.2**
NEM2				*e*S	**Sn**	**08 59 01.3**	**-1.5**
GLVR	**Golovnino**	**4.82**	**272**	*e*P	**Pn**	**08 58 11.6**	**+0.2**
GLVR				*e*S	**Sn**	**08 59 05.9**	**-0.1**
GLVR	**Golovnino**	**4.82**	**272**	*e*PN	**Pn**	**08 58 11.6**	**+0.2**
GLVR				*e*S	**Sn**	**08 59 05.9**	**-0.1**
JRA	**Rausu**	**5.10**	**274**	P	**Pn**	**08 58 15.9**	**+0.7**
JRA				*e*S	**Sn**	**08 59 12.2**	**-0.7**
JNK	**Nakash**	**5.41**	**270**	P	**Pn**	**08 58 19.8**	**+0.3**
JAK	**Akkeshi**	**5.51**	**264**	P	**Pn**	**08 58 21.3**	**+0.5**
JAK				*e*S	**Sn**	**08 59 21.1**	**-1.8**
JTKR	**Abashiri--Toko**	**5.98**	**274**	P	**Pn**	**08 58 28.5**	**+1.3**
JAR	**Ashorobuto**	**6.13**	**268**	P	**Pn**	**08 58 30.4**	**+1.0**
JAR				*e*S	**Sn**	**08 59 38.0**	**-0.2**
JOB	**Onbets**	**6.15**	**264**	P	**Pn**	**08 58 30.0**	**+0.4**
JMP	**Maruseppu**	**6.37**	**275**	P	**Pn**	**08 58 34.4**	**+1.7**
JCH	**Churui**	**6.55**	**263**	P	**Pn**	**08 58 36.7**	**+1.6**
JCH				*e*S	**Sn**	**08 59 47.5**	**-1.0**
HRK	**Horoka**	**6.58**	**270**	*e*P	**Pn**	**08 58 37.4**	**+1.9**
MYR	**Moyori**	**6.69**	**260**	*e*P	**Pn**	**08 58 38.4**	**+1.4**
MYR				*e*S	**Sn**	**08 59 50.6**	**-1.4**
JKA	**Kamikawa-asahi**	**6.92**	**276**	*e*P	**Pn**	**08 58 43.7**	**+3.5**
ASAJ	**Asahikawa**	**6.92**	**276**	Pn	**Pn**	**08 58 43.7**	**+3.5**
	comp=E,2.5nm,0.3s,baz=73,slow=11,SNR=13						
JNBK	**Urakawa-nobuka**	**7.07**	**261**	*e*S	**Sn**	**08 59 59.1**	**-2.3**
JNB	**Noboribetsu**	**8.26**	**265**	*e*S	**Sn**	**09 00 28.8**	**-1.7**
JKB	**Kayabe**	**8.41**	**261**	P	**Pn**	**08 59 01.5**	**+0.9**
JKB				*e*S	**Sn**	**09 00 30.6**	**-3.7**
JTM	**Tenmabayashi**	**8.77**	**254**	P	**Pn**	**08 59 06.8**	**+1.3**
JTM				*e*S	**Sn**	**09 00 38.3**	**-4.8**
PETK	**Petropavlovsk-**	**10.00**	**20**	Pn	**Pn**	**08 59 19.2**	**-3.2**
	comp=E,0.2nm,0.3s,baz=186,slow=10,SNR=2.9						
SEY	**Seymchan**	**19.16**	**0**	P	**P**	**09 01 19.9**	**-1.4**
	comp=E,0.1nm,0.3s,baz=183,slow=8.5,SNR=8.0						
SEY	**Seymchan**	**19.16**	**0**	*e*P	**P**	**09 01 20.0**	**-1.4**
SEY	**Seymchan**	**19.16**	**0**	P	**P**	**09 01 20.0**	**-1.4**
ILAR	**Eielson Array**	**39.29**	**36**	P	**P**	**09 04 26.4**	**+0.1**
	comp=E,0.4nm,1.0s,baz=266,slow=9.4,SNR=5.5						
INK	**Inuvik**	**44.51**	**31**	P	**P**	**09 05 08.6**	**-0.3**
	comp=E,0.7nm,0.5s,baz=283,slow=2.4,SNR=3.5						
MKAR	**Makanchi Array**	**47.76**	**299**	P	**P**	**09 05 37.8**	**+3.0**
	comp=E,0.9nm,0.6s,baz=79,slow=8.2,SNR=9.5						
KURK	**Kurchatov**	**48.49**	**305**	*e*P	**P**	**09 05 43.7**	**+3.4**
KURK	**Kurchatov**	**48.49**	**305**	P	**P**	**09 05 43.7**	**+3.4**
KURK				pmax	pmax		
	comp=Z

SUF				MSG			09 07 06.7	
	comp=Z,3.5nm,0.1s							
TOF	**Tornio**	**2.88**	**299**	P		**Pn**	**09 06 24.7**	**+1.7**
TOF	**Tornio**	**2.88**	**299**	*e*P		**Pn**	**09 06 24.8**	**+1.7**
APA0	**Apatity Array**	**2.97**	**18**	P		**Pn**	**09 06 24.6**	**+0.3**
APA0				S		**Sn**	**09 07 01.3**	**+0.7**
APA	**Apatity**	**3.00**	**22**	P		**Pn**	**09 06 24.9**	**+0.2**
APA				S		**Sn**	**09 07 01.7**	**+0.4**
FINES	**FINESS Array B**	**3.94**	**213**	Pn		**Pn**	**09 06 37.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=33,slow=14,SNR=7.5							
FINES				Pg		**Pb**	**09 06 46.3**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=30,slow=15,SNR=9.5							
FINES				Lg	Lg		09 07 37.0	
	comp=Z,2.2nm,0.3s,baz=34,slow=27,SNR=13							
ARCES	**ARCESS Array B**	**5.13**	**340**	Pn		**Pn**	**09 06 53.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=159,slow=14,SNR=21							
ARCES				Sn		**Sn**	**09 07 52.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=159,slow=25,SNR=5.1							
HFS	**Hagfors**	**9.08**	**247**	Pn		**Pn**	**09 07 47.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=57,slow=16,SNR=4.1							
NOA	**NORSAR Array B**	**9.57**	**256**	Pn		**Pn**	**09 07 55.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=64,slow=13,SNR=3.3							

*IDC **16** 09:07:28.1±1.8,26.82N×143.65E,h0km,mb3.5/3, mb1 3.8/5,mb1mx3.4/66,mbtmp3.6/5,ML3.4/2,Error ellipse: s-maj=36.3km s-min=24.4km az=59.0*
*ISCJB **16** 09:07:30.0±1.4,27.0N±0.1×143.8E±0.1,h33km,mb3.6/3, Error ellipse: s-maj=18.0km s-min=14.7km az=164.9*

ISC 16 09:07:32.4±1.6,27.0N±0.1×143.7E±0.1,h35km,n7, σ1§28/8,mb3.7/3,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.38**	**276**	Pn	**Pn**	**09 07 55.0**	**-0.1**
JCJ	13nm,0.3s,baz=349,slow=23,SNR=22			Sn	**Sn**	**09 08 11.9**	**-0.1**
	89nm,0.3s,baz=287,slow=19,SNR=23						
MJAR	**Matsushiro Arr**	**10.63**	**335**	Pn	**Pn**	**09 10 00.8**	**-1.4**
	1.7nm,0.3s,baz=165,slow=12,SNR=18						
MAT	**Matsushiro**	**10.64**	**335**	P	**Pn**	**09 10 00.9**	**-1.4**
USRK	**Ussuriysk Ar.**	**19.63**	**334**	P	**Pn**	**09 12 00.6**	**+1.2**
	0.2nm,0.3s,baz=143,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**47.51**	**192**	P	**P**	**09 16 03.6**	**-0.6**
	0.4nm,0.5s,baz=10,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**51.61**	**310**	P	**P**	**09 16 36.5**	**+1.1**
	0.3nm,0.6s,baz=91,slow=9.1,SNR=3.3						
KURBB	**Kurchatov Arra**	**54.11**	**314**	P	**P**	**09 16 54.8**	**+1.2**
	0.5nm,0.4s,baz=90,slow=8.2,SNR=8.2						

*ISCJB **16** 09:12:12.4±0.9,29.89S±0.06×177.4W±0.2,h250km, mb3.6/4,Error ellipse: s-maj=27.0km s-min=5.7km az=12.1*
*WEL **16** 09:12:13.9±1.2,30.5S±17×177.7W±4.3,h233km±19km*
*IDC **16** 09:12:16.5±0.5,29.31S×178.76W,h223km±6km,mb3.5/4, mb1 3.7/4,mb1mx3.3/38,mbtmp4.0/4,Error ellipse: s-maj=41.2km s-min=20.2km az=163.0*

ISC 16 09:12:14.6±0.9,29.97S±0.09×177.6W±0.2,h250km,n59, σ1§90/58,mb3.5/4,Keramadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**0.77**	**335**	P	**Pn**	**09 12 48.4**	**-0.1**
RAO	**Raoul Island**	**0.78**	**336**	P	**Pn**	**09 12 48.4**	**-0.2**
	628nm,0.3s,baz=291,slow=2.3,SNR=18						
RAO				S	**S**	**09 13 11.5**	**-3.8**
	404nm,0.3s,baz=45,slow=20,SNR=6.7						
RIZ	**Raoul Island**	**0.79**	**335**	P	**Pn**	**09 12 48.6**	**-0.1**
WMGZ	**Waiomatatini S**	**8.52**	**202**	P	**Pn**	**09 14 14.8**	**+0.4**
WMGZ	**Waiomatatini S**	**8.52**	**202**	S	**S**	**09 15 52.6**	**+1.6**
HAZ	**Te Kaha**	**8.68**	**205**	P	**Pn**	**09 14 17.1**	**+0.7**
HAZ	**Te Kaha**	**8.68**	**205**	S	**S**	**09 15 55.7**	**+0.9**
PKGZ	**Pakihiroa**	**8.69**	**204**	P	**Pn**	**09 14 16.1**	**-0.5**
PKGZ	**Pakihiroa**	**8.69**	**204**	S	**S**	**09 15 54.8**	**-0.4**
PUZ	**Puketiti**	**8.80**	**202**	P	**Pn**	**09 14 19.3**	**+1.3**
PUZ	**Puketiti**	**8.80**	**202**	S	**S**	**09 15 58.1**	**+0.5**
RUGZ	**Raukumara Rang**	**8.90**	**205**	P	**Pn**	**09 14 19.9**	**+0.5**
TWGZ	**Tauwhareparae**	**8.99**	**203**	P	**Pn**	**09 14 20.1**	**-0.3**
TWGZ	**Tauwhareparae**	**8.99**	**203**	S	**S**	**09 16 03.3**	**+1.3**
CNGZ	**Carnagh Station**	**9.19**	**201**	P	**Pn**	**09 14 23.1**	**+0.2**
TKGZ	**Te Karaka**	**9.27**	**203**	P	**Pn**	**09 14 23.9**	**0.0**
TKGZ	**Te Karaka**	**9.27**	**203**	S	**S**	**09 16 09.5**	**+1.1**
MWZ	**Matawai**	**9.29**	**205**	P	**Pn**	**09 14 22.9**	**-1.2**
MWZ	**Matawai**	**9.29**	**205**	S	**S**	**09 16 08.2**	**-0.8**
URZ	**Urewera**	**9.38**	**207**	P	**Pn**	**09 14 23.6**	**-1.6**
	0.8nm,0.3s,baz=286,slow=6.7,SNR=12						
URZ				S	**S**	**09 16 08.0**	**-3.0**
	3.7nm,0.3s,baz=342,slow=22,SNR=15						
URZ	**Urewera**	**9.38**	**207**	P	**Pn**	**09 14 24.9**	**-0.3**
URZ	**Urewera**	**9.38**	**207**	S	**S**	**09 16 09.9**	**-1.1**
RIGZ	**Rimuhau**	**9.54**	**203**	P	**Pn**	**09 14 26.2**	**-1.1**
RTZ	**Ruatahuna**	**9.74**	**206**	P	**Pn**	**09 14 28.7**	**-1.2**
MTHZ	**Maungataniwha**	**10.00**	**206**	P	**Pn**	**09 14 32.0**	**-1.1**
NMHZ	**Naumai**	**10.22**	**206**	P	**Pn**	**09 14 35.8**	**-0.2**
BKZ	**Black Stump Fm**	**10.40**	**207**	P	**Pn**	**09 14 36.7**	**-1.5**
MCHZ	**McNeill Hill**	**10.57**	**205**	P	**P**	**09 14 43.1**	**-2.1**
HIZ	**Hauiti**	**10.58**	**214**	P	**P**	**09 14 45.2**	**-0.2**
KWHZ	**Kaweka Forest**	**10.65**	**206**	P	**P**	**09 14 43.9**	**-2.3**
KAHZ	**Kahuranaki**	**10.81**	**203**	P	**Pn**	**09 14 43.0**	**-0.4**
BHHZ	**Black Hill Sta**	**10.85**	**207**	P	**Pn**	**09 14 44.1**	**+0.2**
FWVZ	**Far West T-bar**	**10.86**	**210**	P	**Pn**	**09 14 45.9**	**+1.7**
KRHZ	**Kereru**	**10.87**	**206**	P	**Pn**	**09 14 44.7**	**+0.7**
PXZ	**Pawanui**	**11.03**	**203**	P	**Pn**	**09 14 45.5**	**-0.5**
PNHZ	**Pukenui**	**11.16**	**206**	P	**Pn**	**09 14 48.6**	**+0.8**
PRHZ	**Porangahau**	**11.32**	**205**	P	**Pn**	**09 14 48.8**	**-0.9**
DVHZ	**Dannevirke**	**11.51**	**205**	P	**Pn**	**09 14 53.3**	**+1.2**
BFZ	**Birch Farm**	**11.82**	**204**	P	**Pn**	**09 14 55.7**	**-0.2**
TIWZ	**Tintock**	**12.04**	**205**	P	**Pn**	**09 14 59.4**	**+0.9**
HOWZ	**Holdsworth Sta**	**12.28**	**205**	P	**Pn**	**09 15 00.4**	**-1.2**
DZM	**Mont Dzumac**	**16.38**	**295**	P	**P**	**09 15 50.6**	**+0.8**
	1.1nm,0.3s,baz=147,slow=8.4,SNR=13						
RPZ	**Rata Peaks**	**16.45**	**210**	P	**P**	**09 15 51.2**	**+0.9**
	0.2nm,0.3s,baz=198,slow=6.4,SNR=4.6						
RPZ				S	**S**	**09 18 40.7**	**-8.7**
	1.1nm,0.3s,baz=106,slow=23,SNR=8.2						
AFI	**Afiamalu**	**16.85**	**20**	P	**P**	**09 15 50.4**	**-4.5**
	1.1nm,0.3s,baz=342,slow=20,SNR=2.5						
ASAR	**Alice Springs**	**43.52**	**266**	P	P	09 19 50.2	-3.8
	0.7nm,0.5s,baz=100,slow=6.3,SNR=15						
WRA	**Warramunga Arr**	**44.47**	**271**	P	P	09 19 57.2	-4.3
	0.8nm,0.4s,baz=109,slow=6.2,SNR=19						
PETK	**Petropavlovsk-**	**85.49**	**345**	P	**P**	**09 24 24.9**	**+1.0**
	2.9nm,0.6s,baz=107,slow=7.9,SNR=15						
NVAR	**Mina Array Bea**	**87.66**	**42**	P	P	09 24 41.5	+6.4
	0.6nm,0.6s,baz=212,slow=7.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**121.07**	**314**	PKP	**PKPdf**	**09 30 38.7**	**+1.6**
	0.5nm,0.6s,baz=112,slow=1.9,SNR=5.1						
BVAR	**Borovoye Array**	**126.37**	**316**	PKP	**PKPdf**	**09 30 49.3**	**+2.1**
	0.9nm,0.6s,baz=134,slow=4.2,SNR=4.8						
FINES	**FINESS Array B**	**144.87**	**340**	PKP	**PKPab**	**09 31 22.0**	**+1.0**
	3.2nm,0.4s,baz=60,slow=3.2,SNR=36						
KBZ	**Khabaz**	**145.19**	**305**	PKP	**PKPab**	**09 31 24.3**	**+1.5**
	1.7nm,0.8s,baz=295,slow=11,SNR=4.4						
NB2	**NORSAR Subarra**	**148.38**	**352**	PKP	**PKPab**	**09 31 33.5**	**-1.4**
	comp=Z,3.1nm,0.9s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**148.38**	**352**	PKPbc	**PKPab**	**09 31 33.3**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=16,slow=4.6,SNR=3.5						
HFS	**Hagfors**	**148.90**	**349**	PKPbc	**PKPbc**	**09 31 34.2**	**+2.1**
	comp=Z,3.1nm,0.6s,baz=120,slow=2.3,SNR=4.5						
AKASG	**Malin Array Be**	**151.19**	**324**	PKPbc	**PKPbc**	**09 31 39.7**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=45,slow=3.0,SNR=5.9						
MMAI	**Mount Meron Ar**	**151.80**	**285**	PKPbc	**PKPbc**	**09 31 43.0**	**+3.0**
	comp=Z,2.4nm,0.4s,baz=81,slow=7.4,SNR=4.7						
BRTR	**Keskin Array B**	**152.73**	**299**	PKPbc	**PKPbc**	**09 31 43.8**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=142,slow=4.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**163.25**	**177**	PKPab	PKPab	09 32 47.2	+7.7
	comp=Z,0.8nm,0.7s,baz=173,slow=3.2,SNR=5.5						

*STR **16** 09:21:06.6±0.4,46°N±4°×±°,h5km, M2.8/5,MLv2.8/5*
*CSEM **16** 09:21:07.3,46.67N×0.09W,h3km, ML2.6/16,After LDG*
*LDG **16** 09:21:07.3±0.0,46.67N×0.09W,h3km, Md2.6/1,Ml2.6/16, Error ellipse: s-maj=1.1km s-min=0.5km az=33.0*

ISC 16 09:21:06.0±0.8,46.67N±0.02×0.09W±0.02,h14km±5km, n58,σ0§57/89,France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFF	**Saint Martin d**	**0.07**	**211**	*e*Pg	**Pg**	**09 21 09.2**	**+0.4**
MFF				*e*Sg	**Sg**	**09 21 10.0**	**-0.8**
	153nm,0.2s						
MFF	**Saint Martin d**	**0.07**	**211**	*e*Pg	**Pg**	**09 21 09.2**	**+0.4**
MFF				*e*Sg	**Sg**	**09 21 10.0**	**-0.8**
	76nm,0.2s						
CHIF	**Chize**	**0.57**	**203**	Sg	**Sg**	**09 21 24.2**	**-0.7**
CHIF	**Chize**	**0.57**	**203**	Pg	**Pb**	**09 21 18.2**	**+0.4**
TCF	**Toulx Ste Croi**	**1.63**	**102**	*e*Pg	**Pg**	**09 21 37.7**	**+0.3**
TCF				*e*Sg	**Sg**	**09 21 59.0**	**+0.4**
	19nm,0.3s						
TCF	**Toulx Ste Croi**	**1.63**	**102**	*e*Pg	**Pg**	**09 21 37.7**	**+0.3**
TCF				*e*Sg	**Sg**	**09 21 59.0**	**+0.4**
	9.6nm,0.3s						
RJF	**Les Rejaudoux**	**1.76**	**140**	*e*Pn	**Pb**	**09 21 37.6**	**-0.5**
RJF	**Les Rejaudoux**	**1.76**	**140**	*e*Pg	**Pg**	**09 21 40.1**	**+0.3**
RJF				*e*Sg	**Sg**	**09 22 03.0**	**+0.3**
	11nm,0.2s						
RJF	**Les Rejaudoux**	**1.76**	**140**	*e*Pn	**Pb**	**09 21 37.6**	**-0.5**
RJF	**Les Rejaudoux**	**1.76**	**140**	*e*Pg	**Pg**	**09 21 40.1**	**+0.3**
RJF				*e*Sg	**Sg**	**09 22 03.0**	**+0.3**
	5.7nm,0.2s						
GRR	**Gorron**	**1.80**	**344**	*e*Pg	**Pg**	**09 21 40.6**	**0.0**
GRR				*e*Sg	**Sg**	**09 22 04.2**	**+0.3**
	6.4nm,0.2s						
GRR	**Gorron**	**1.80**	**344**	*e*Pg	**Pg**	**09 21 40.6**	**0.0**
GRR				*e*Sg	**Sg**	**09 22 04.2**	**+0.3**
	3.2nm,0.2s						
LFF	**La Frestale**	**1.82**	**161**	*e*Sn	**Pg**	**09 21 39.7**	**-1.2**
LFF	**La Frestale**	**1.82**	**161**	*e*Pg	**Pg**	**09 21 41.4**	**+0.5**
LFF				*e*Sg	**Sg**	**09 22 04.8**	**+0.3**
	15nm,0.3s						
LFF	**La Frestale**	**1.82**	**161**	*e*Sn	**Pg**	**09 21 39.7**	**-1.2**
LFF	**La Frestale**	**1.82**	**161**	*e*Pg	**Pg**	**09 21 41.4**	**+0.5**
LFF				*e*Sg	**Sg**	**09 22 04.8**	**+0.3**
	7.6nm,0.3s						
LDF	**La Druitiere**	**1.93**	**359**	*e*Pn	**Pn**	**09 21 39.3**	**+0.9**
LDF	**La Druitiere**	**1.93**	**359**	*e*Pg	**Pg**	**09 21 43.4**	**+0.4**
LDF				*e*Sg	**Sg**	**09 22 08.4**	**+0.3**
	9.5nm,0.2s						
LDF	**La Druitiere**	**1.93**	**359**	*e*Pn	**Pn**	**09 21 39.3**	**+0.9**
LDF	**La Druitiere**	**1.93**	**359**	*e*Pg	**Pg**	**09 21 43.4**	**+0.4**
LDF				*e*Sg	**Sg**	**09 22 08.4**	**+0.3**
	4.8nm,0.2s						
HYF	**Humbligny**	**1.96**	**71**	*e*Pg	**Pg**	**09 21 43.5**	**-0.2**
HYF				*e*Sg	**Sg**	**09 22 08.6**	**-0.6**
HYF	**Humbligny**	**1.96**	**71**	*e*Pg	**Pg**	**09 21 43.5**	**-0.2**
HYF				*e*Sg	**Sg**	**09 22 08.6**	**-0.6**
BGF	**Bois d'Agland**	**2.03**	**92**	*e*P	**Pb**	**09 21 42.5**	**-0.1**
BGF	**Bois d'Agland**	**2.03**	**92**	*e*Pg	**Pg**	**09 21 45.0**	**+0.1**
BGF				*e*Sg	**Sg**	**09 22 11.2**	**0.0**
	26nm,0.3s						
BGF	**Bois d'Agland**	**2.03**	**92**	*e*P	**Pb**	**09 21 42.5**	**-0.1**
BGF	**Bois d'Agland**	**2.03**	**92**	*e*Pg	**Pg**	**09 21 45.0**	**+0.1**
BGF				*e*Sg	**Sg**	**09 22 11.2**	**0.0**
	13nm,0.3s						
FLN	**La Foliniere**	**2.12**	**353**	*e*Pn	**Pn**	**09 21 41.9**	**+0.9**
FLN	**La Foliniere**	**2.12**	**353**	*e*Pg	**Pg**	**09 21 46.6**	**0.0**
FLN				*e*Sg	**Sg**	**09 22 14.0**	**0.0**
	7.8nm,0.2s						
FLN	**La Foliniere**	**2.12**	**353**	*e*Pn	**Pn**	**09 21 41.9**	**+0.9**
FLN	**La Foliniere**	**2.12**	**353**	*e*Pg	**Pg**	**09 21 46.6**	**0.0**
FLN				*e*Sg	**Sg**	**09 22 14.0**	**0.0**
	3.9nm,0.2s						
CAF	**Calviac**	**2.30**	**138**	*e*Pn	**Pn**	**09 21 44.4**	**+0.8**
CAF	**Calviac**	**2.30**	**138**	*e*Pg	**Pg**	**09 21 50.2**	**+0.1**
CAF				*e*Sg	**Sg**	**09 22 20.1**	**+0.1**
	4.3nm,0.2s						
CAF	**Calviac**	**2.30**	**138**	*e*Pn	**Pn**	**09 21 44.4**	**+0.8**
CAF	**Calviac**	**2.30**	**138**	*e*Pg	**Pg**	**09 21 50.2**	**+0.1**
CAF				*e*Sg	**Sg**	**09 22 20.1**	**+0.1**
	2.2nm,0.2s						
SGMF	**Saint Gilles**	**2.31**	**314**	*e*Pg	**Pg**	**09 21 50.2**	**0.0**
SGMF				*e*Sn	**Sn**	**09 22 10.6**	**-1.2**
SGMF				*e*Sg	**Sg**	**09 22 20.5**	**+0.3**
	3.1nm,0.3s						
SGMF	**Saint Gilles**	**2.31**	**314**	*e*Pg	**Pg**	**09 21 50.2**	**0.0**
SGMF				*e*Sn	**Sn**	**09 22 10.6**	**-1.2**
SGMF				*e*Sg	**Sg**	**09 22 20.5**	**+0.3**
	1.5nm,0.3s						
AVF	**Avril sur Loir**	**2.37**	**86**	*e*Pn	**Pn**	**09 21 45.1**	**+0.6**
AVF	**Avril sur Loir**	**2.37**	**86**	*e*Pg	**Pg**	**09 21 51.1**	**-0.4**
AVF				*e*Sg	**Sg**	**09 22 21.4**	**-0.8**
	2.7nm,0.2s						
AVF	**Avril sur Loir**	**2.37**	**86**	*e*Pn	**Pn**	**09 21 45.1**	**+0.6**
AVF	**Avril sur Loir**	**2.37**	**86**	*e*Pg	**Pg**	**09 21 51.1**	**-0.4**
AVF				*e*Sg	**Sg**	**09 22 21.4**	**-0.8**
	1.4nm,0.2s						
QUIF	**Quistinic**	**2.44**	**302**	*e*Pn	**Pn**	**09 21 46.5**	**+1.1**
QUIF	**Quistinic**	**2.44**	**302**	*e*Pg	**Pg**	**09 21 52.5**	**-0.2**
QUIF				*e*Sg	**Sg**	**09 22 23.9**	**-0.4**
	7.2nm,0.3s						
QUIF	**Quistinic**	**2.44**	**302**	*e*Pn	**Pn**	**09 21 46.5**	**+1.1**
QUIF	**Quistinic**	**2.44**	**302**	*e*Pg	**Pg**	**09 21 52.5**	**-0.2**
QUIF				*e*Sg	**Sg**	**09 22 23.9**	**-0.4**
	3.6nm,0.3s						
SSF	**Saint Saulge**	**2.50**	**80**	*e*Pn	**Pn**	**09 21 47.0**	**+0.8**
SSF	**Saint Saulge**	**2.50**	**80**	*e*Pg	**Pg**	**09 21 53.3**	**-0.6**
SSF				*e*Sg	**Sg**	**09 22 26.0**	**-0.3**
	2.9nm,0.3s						
SSF	**Saint Saulge**	**2.50**	**80**	*e*Pn	**Pn**	**09 21 47.0**	**+0.8**
SSF	**Saint Saulge**	**2.50**	**80**	*e*Pg	**Pg**	**09 21 53.3**	**-0.6**
SSF				*e*Sg	**Sg**	**09 22 26.0**	**-0.3**
	1.5nm,0.3s						
SMF	**Signal de Mont**	**2.71**	**89**	*e*Sg	**Sg**	**09 22 32.5**	**-0.5**
	4.2nm,0.2s						
SMF	**Signal de Mont**	**2.71**	**89**	*e*Sg	**Sg**	**09 22 32.5**	**-0.5**
	2.1nm,0.2s						
ROSF	**Rostrenen**	**2.73**	**309**	*e*Pg	**Pg**	**09 21 57.7**	**-0.6**
ROSF				*e*Sg	**Sg**	**09 22 33.1**	**-0.6**
	3.8nm,0.3s						
ROSF	**Rostrenen**	**2.73**	**309**	*e*Pg	**Pg**	**09 21 57.7**	**-0.6**
ROSF				*e*Sg	**Sg**	**09 22 33.1**	**-0.6**
	1.9nm,0.3s						
LOR	**Lormes**	**2.77**	**76**	*e*Pg	**Pg**	**09 21 58.9**	**-0.2**
LOR				*e*Sg	**Sg**	**09 22 34.4**	**-0.6**
	4.0nm,0.3s						
LOR	**Lormes**	**2.77**	**76**	*e*Pg	**Pg**	**09 21 58.9**	**-0.2**
LOR				*e*Sg	**Sg**	**09 22 34.4**	**-0.6**
	2.0nm,0.3s						
LOR	**Lormes**	**2.77**	**76**	Pg	**Pg**	**09 22 00.1**	**+1.0**
PYLO	**Lourdes**	**3.57**	**179**	Pn	Pn	09 21 47.8	-13
MTLF	**Montolieu**	**3.71**	**153**	Pn	Pn	09 21 50.8	-12
MLS	**Moulis**	**3.80**	**167**	Pn	Pn	09 21 50.7	-13

*SKO **16** 09:30:52.8,41.33N×20.25E,h3km,M1.5,ML2.0*
*BEO **16** 09:30:53.0±1.5,41.08N×20.17E,h9km±5km,M2.4/3*

ISC 16 09:30:53.0±1.3,41.23N±0.07×20.27E±0.05,h8km±16km, n8,σ1§08/15,2C,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.33**	**291**	*e*Pg	**Pb**	**09 30 59.9**	**-1.1**
TIR				*e*Sg	**Sb**	**09 31 05.6**	**-0.8**
OHR	**Ohrid**	**0.42**	**106**	⇑*i*Pg	**Pg**	**09 31 01.3**	**+0.1**
OHR				*i* Sg	**Sg**	**09 31 08.0**	**+1.3**
OHR				*e*Lg	Lg	09 31 08.7	
	comp=E,92nm,0.4s						
OHR				*e*Lg	Lg	09 31 08.8	
	comp=N,77nm,0.5s						
OHR	**Ohrid**	**0.42**	**106**	*i* Pg	**Pg**	**09 31 01.2**	**+0.1**
OHR				*e*Sg	**Sg**	**09 31 08.0**	**+1.3**
OHR				*e*Lg	Lg	09 31 09.2	
	comp=N,77nm,0.5s						
OHR				*e*Lg	Lg	09 31 10.0	
	comp=E,92nm,0.4s						
KRUS	**Krusevo**	**0.75**	**79**	⇑*i*Pg	**Pg**	**09 31 06.2**	**-1.3**
KRUS				*i* Sg	**Sg**	**09 31 16.9**	**-0.3**
KRUS				*e*Lg	Lg	09 31 19.1	
	comp=N,12nm,0.2s						
KRUS				*e*Lg	Lg	09 31 19.2	
	comp=E,23nm,0.6s						
KRUS	**Krusevo**	**0.75**	**79**	*e*Pg	**Pg**	**09 31 06.1**	**-1.4**
KRUS				*i* Sg	**Sg**	**09 31 16.8**	**-0.4**
PDG	**Podgorica**	**1.42**	**328**	*e*Pn	**Pg**	**09 31 19.9**	**-0.3**
PDG				*e*Sn	**Sg**	**09 31 39.9**	**+1.3**
SJES	**Sjenica**	**2.04**	**354**	*e*Pn	**Pb**	**09 31 30.0**	**-0.4**
SJES				*e*Sn	**Sb**	**09 31 56.6**	**+0.7**
IVAS	**Ivanjica**	**2.35**	**358**	*e*Pn	**Pn**	**09 31 32.9**	**+1.1**

*ISCJB **16** 09:37:59.3±0.8,67.69N±0.04×34.1E±0.1,h0km,Error ellipse: s-maj=6.4km s-min=5.2km az=14.3*
*HEL **16** 09:38:01.8±0.4,67.69N×33.96E,h0km,ML2.8,Explosion*
*CSEM **16** 09:38:02.7±0.6,67.65N×33.62E,h2km,ML2.8,Error ellipse: s-maj=12.9km s-min=7.4km az=95.0,Mining explosion.*
*IDC **16** 09:38:02.5±1.5,67.72N×34.07E,h0km,mb3.6/1, mb1 3.6/6,mb1mx3.2/72,mbtmp3.6/6,ML3.3/5,Error ellipse: s-maj=20.0km s-min=10.5km az=83.0*
*KOLA **16** 09:38:03.3,67.66N×33.88E,h0km*
*NAO **16** 09:38:04.6±1.6,67.67N×33.48E,ML3.2*

ISC 16 09:38:00.0±1.2,67.72N±0.04×33.98E±0.06,h0km,n40, σ1§85/69,1D,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.27**	**235**	P	**Pg**	**09 38 05.1**	**0.0**
APA				S	**Sg**	**09 38 08.6**	**+0.1**
APA	**Apatity**	**0.27**	**235**	P	**Pb**	**09 38 07.0**	**-0.6**
APA				S	**Sg**	**09 38 09.7**	**+1.2**
APA0	**Apatity Array**	**0.39**	**254**	P	**Pg**	**09 38 07.7**	**+0.2**
APA0				S	**Sg**	**09 38 13.0**	**+0.4**
APA0	**Apatity Array**	**0.39**	**254**	P	**Pb**	**09 38 09.5**	**-0.3**
APA0				S	**Sg**	**09 38 14.0**	**+1.4**
VRF	**Varrio**	**1.66**	**273**	P	**Pn**	**09 38 30.8**	**+0.4**
VRF				S	**Sn**	**09 38 52.5**	**+0.1**
VRF	**Varrio**	**1.66**	**273**	*e*P	**Pn**	**09 38 30.8**	**+0.4**
VRF				*e*S	**Sn**	**09 38 52.6**	**+0.1**
KU6	**Riekki**	**2.34**	**225**	P	**Pn**	**09 38 41.3**	**+1.6**
KU6				Sg	**Sb**	**09 39 12.7**	**+0.2**
KU6	**Riekki**	**2.34**	**225**	*e*P	**Pn**	**09 38 41.3**	**+1.6**
KU6				*e*S	**Sn**	**09 39 11.1**	**+1.9**
KU6				*e*SG	**Sb**	**09 39 12.7**	**+0.2**
MSF	**Maaselka**	**2.67**	**229**	*e*PB	**Pb**	**09 38 47.2**	**-1.3**
MSF				*e*SB	**Sb**	**09 39 21.2**	**-0.6**
SGF	**Sodankyl**	**2.87**	**268**	P	**Pn**	**09 38 49.0**	**+2.1**
SGF				Sg	**Sb**	**09 39 28.9**	**+1.3**
SGF	**Sodankyl**	**2.87**	**268**	*e*P	**Pn**	**09 38 49.0**	**+2.1**
SGF				*e*SG	**Sb**	**09 39 28.9**	**+1.3**
KEV	**Kevo**	**3.26**	**312**	P	**Pn**	**09 38 54.5**	**+2.3**
KEV	**Kevo**	**3.26**	**312**	*e*P	**Pn**	**09 38 54.6**	**+2.3**
ARA0	**ARCESS Array S**	**3.60**	**304**	Pn	**Pn**	**09 38 58.1**	**+1.2**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**09 39 41.8**	**+1.7**
	baz=119,slow=28						
ARA0				Lg	Lg	09 39 53.8	
	baz=115,slow=37						
ARA0	**ARCESS Array S**	**3.60**	**304**	Pn	**Pn**	**09 38 58.1**	**+1.2**
	SNR=278						
ARA0				Sn	**Sn**	**09 39 41.8**	**+1.7**
	SNR=6.7						
ARA0				Lg	Lg	09 39 53.8	
	SNR=2.3						
ARA0	**ARCESS Array S**	**3.60**	**304**	Pn	**Pn**	**09 38 58.1**	**+1.1**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**09 39 41.8**	**+1.7**
	baz=119,slow=28						
ARA0				Lg	Lg	09 39 53.8	
	baz=115,slow=37						
ARCES	**ARCESS Array B**	**3.60**	**304**	Pn	**Pn**	**09 38 58.4**	**+1.5**
	5.3nm,0.3s,baz=121,slow=15,SNR=78						
ARCES				Sn	**Sn**	**09 39 42.5**	**+2.5**
	9.4nm,0.3s,baz=118,slow=26,SNR=23						
ARE0	**ARCESS Array S**	**3.60**	**304**	P	**Pn**	**09 38 58.3**	**+1.4**
ARE0				S	**Sn**	**09 39 41.4**	**+1.4**
ARE0	**

0.5nm,0.2s,baz=158,slow=16,SNR=40
MK31 ⇑Pg **Pg** **10 04 25.8 -1.5**
1.2nm,0.3s,baz=163,slow=16,SNR=13
MK31 ⇓Lg Lg 10 05 01.4
4.0nm,0.3s,baz=160,slow=27,SNR=10
MAKZ Makanchi 2.57 346 ⇑Pn **Pn** **10 04 18.4 -1.5**
4.4nm,0.6s
MAKZ ⇑Pg **Pg** **10 04 27.6 -0.8**
6.0nm,0.7s
MAKZ ⇑Lg Lg 10 05 02.0
3.5nm,0.3s
PDGK Podgornoye 2.63 249 ⇑Pn **Pb** **10 04 25.2 -0.5**
0.4nm,0.3s
PDGK ⇓Pg **Pg** **10 04 30.8 +1.3**
1.4nm,0.3s
PDGK ⇓Lg Lg 10 05 01.5
7.9nm,0.3s
KAPS Kapalarasan 2.67 293 *e*P **Pg** **10 04 30.6 +0.2**
1.4nm,0.2s
KAPS *e*S **Sg** **10 05 07.9 +2.9**
14nm,0.5s
UZB Uzynbulak 3.01 249 *e*P **Pb** **10 04 32.3 -0.1**
0.8nm,0.3s
UZB *e*S **Sb** **10 05 10.4 +1.5**
4.3nm,0.3s
KPKS Kokpek 3.13 256 *e*P **Pb** **10 04 35.5 +1.1**
0.4nm,0.5s
KPKS *e*S **Sg** **10 05 16.6 -3.1**
23nm,0.5s
ZSN Zaisan 3.44 23 *e*P **Pg** **10 04 44.2 -0.8**
0.7nm,0.4s
ZSN *e*S **Sg** **10 05 31.5 +2.0**
2.8nm,0.5s
ARXS Arharly 3.61 270 *e*P **Pb** **10 04 43.8 +1.3**
0.8nm,0.2s
ARXS *e*S **Sg** **10 05 31.5 -3.7**
13nm,0.4s

DDA ***16*** *10:12:04.9,38°.65N×37°.41E,h7km,Md2.3*
ISCJB ***16*** *10:12:05.7±0.5,38°.62N±0°.03×37°.43E±0°.04,h10km,Error ellipse: s-maj=4.7km s-min=4.1km az=154.3*
CSEM ***16*** *10:12:05.3±0.2,38°.66N×37°.43E,h2km,ML2.5,Error ellipse: s-maj=4.9km s-min=4.1km az=77.0*
ISK ***16*** *10:12:05.5,38°.61N×37°.45E,h9km,ML2.5/5*
ISC 16 10:12:05.5±0.9,**38°.63N**±0°.02×**37°.50E**±0°.03,**h10**km,**n24,** σ1º**17**/37,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.06**	**194**	PG	**Pg**	**10 12 07.6**	**-0.1**
DARE				SG	**Sg**	**10 12 09.1**	**-0.3**
DARE	**Darende-Malaty**	**0.06**	**194**	*e*Pg	**Pg**	**10 12 07.6**	**-0.1**
DARE				*e*Sg	**Sg**	**10 12 09.1**	**-0.3**
CUGUR	**Gurin_S¨VAS**	**0.20**	**297**	*i* P	**Pg**	**10 12 08.1**	**-1.8**
CUGUR	**Gurin_S¨VAS**	**0.20**	**297**	P	**Pg**	**10 12 08.1**	**-1.8**
ELBS	**KAHRAMANMARAS**	**0.42**	**224**	*i* P	**Pg**	**10 12 13.6**	**-0.2**
ELBS				*i* S	**Sg**	**10 12 18.4**	**-1.0**
ELBS	**KAHRAMANMARAS**	**0.42**	**224**	P	**Pg**	**10 12 13.6**	**-0.2**
ELBS				S	**Sg**	**10 12 18.4**	**-1.0**
HEKM	**Malatya_Hekimh**	**0.43**	**55**	*i* S	**Sg**	**10 12 15.8**	**-4.1**
HEKM				*i* S	**Sb**	**10 12 23.1**	**+1.0**
HEKM	**Malatya_Hekimh**	**0.43**	**55**	S	**Sb**	**10 12 23.1**	**+1.0**
AKCD	**Akcadag**	**0.47**	**135**	*i* P	**Pb**	**10 12 16.0**	**0.0**
AKCD				*i* S	**Sb**	**10 12 24.1**	**+1.1**
AKCD	**Akcadag**	**0.47**	**135**	P	**Pb**	**10 12 16.0**	**0.0**
AKCD				S	**Sb**	**10 12 24.1**	**+1.1**
CUKAN	**kangal_SIVAS**	**0.69**	**358**	*i* P	**Pg**	**10 12 17.4**	**-1.4**
CUKAN				*i* S	**Sg**	**10 12 28.6**	**+0.8**
CUKAN	**kangal_SIVAS**	**0.69**	**358**	P	**Pg**	**10 12 17.4**	**-1.4**
CUKAN				S	**Sg**	**10 12 28.6**	**+0.8**
MALT	**Malatya**	**0.79**	**113**	PG	**Pb**	**10 12 21.7**	**+0.2**
MALT				SG	**Sb**	**10 12 33.5**	**+1.2**
MALT	**Malatya**	**0.79**	**113**	*e*Pg	**Pb**	**10 12 21.7**	**+0.2**
MALT				*e*Sg	**Sb**	**10 12 33.5**	**+1.2**
KEMA	**Kemaliye**	**1.00**	**50**	*i* P	**Pg**	**10 12 24.1**	**-0.7**
KEMA	**Kemaliye**	**1.00**	**50**	P	**Pg**	**10 12 24.1**	**-0.7**
BNN	**Bunyan**	**1.31**	**280**	PN	**Pg**	**10 12 30.2**	**-0.5**
BNN	**Bunyan**	**1.31**	**280**	*e*Pn	**Pg**	**10 12 30.2**	**-0.5**
SVSK	**Karacayir**	**1.34**	**343**	PN	**Pb**	**10 12 31.2**	**+0.4**
SVSK				SN	**Sg**	**10 12 50.5**	**+1.8**
SVSK	**Karacayir**	**1.34**	**343**	*e*Pn	**Pb**	**10 12 31.2**	**+0.4**
SVSK				*e*Sn	**Sg**	**10 12 50.5**	**+1.8**
GAZ	**Gaziantep**	**1.47**	**189**	PN	**Pb**	**10 12 32.6**	**-0.4**
GAZ	**Gaziantep**	**1.47**	**189**	*e*Pn	**Pb**	**10 12 32.6**	**-0.4**
PTK	**Pertek**	**1.50**	**79**	PN	**Pb**	**10 12 33.9**	**+0.3**
PTK	**Pertek**	**1.50**	**79**	*e*Pn	**Pb**	**10 12 33.9**	**+0.3**

GUC ***16*** *10:24:06.2±0.6,33°.78S×72°.80W,h30km±12km,ML3.7*
ISCJB ***16*** *10:24:07.2±0.9,33°.88S±0°.05×72°.71W±0°.08,h10km, mb4.0/2,MS3.7/2,Error ellipse: s-maj=10.6km s-min=6.7km az=27.8*
IDC ***16*** *10:24:10.4±4.9,34°.06S×71°.55W,h0km,mb4.0/2, mb1 3.8/4,mb1mx3.6/28,mbtmp3.7/4,ML3.0/2,MS3.4/3, Ms1 3.3/3,ms1mx3.0/31,Error ellipse: s-maj=193.0km s-min=23.5km az=92.0*
ISC 16 10:24:08.7±1.1,**33°.87S**±0°.05×**72°.47W**±0°.08,**h10**km,**n27,** σ2º**00**/32,**2D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.22**	**159**	*e*P	**Pn**	**10 24 30.6**	**-1.2**
GO05				*e*S	**Sn**	**10 24 53.6**	**+5.2**
GO05	**HualaæØ**	**1.22**	**159**	*e*P	**Pn**	**10 24 30.6**	**-1.2**
GO05				*e*S	**Sb**	**10 24 46.2**	**-1.5**
GO05				IAML		10 24 50.6	
	comp=E,2μm,1.3s						
ROC1	**El Roble**	**1.51**	**54**	*e*P	**Pg**	**10 24 36.2**	**-1.4**
ROC1				*e*S	Sg	10 25 05.8	+8.7
ROCH	**El Roble**	**1.51**	**54**	*e*P	**Pg**	**10 24 36.0**	**-1.7**
ROCH				*e*S	**Sg**	**10 24 58.1**	**+0.8**
ROCH				IAML		10 25 09.7	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.66**	**65**	*e*P	**Pg**	**10 24 38.6**	**-1.8**
PEL				*e*S	**Sg**	**10 25 03.2**	**+1.3**
CLCH	**Cerro Calan**	**1.68**	**74**	*e*P	**Pb**	**10 24 38.8**	**-0.9**
CLCH				*e*S	**Sg**	**10 25 04.2**	**+1.6**
CLCH				IAML		10 25 16.2	
	comp=N,1μm,0.4s						
LMEL	**Las Melosas**	**1.89**	**90**	*e*P	**Pb**	**10 24 42.0**	**-1.3**
FCH	**Farellones**	**1.90**	**74**	*e*P	**Pb**	**10 24 42.2**	**-1.3**
FCH				*e*S	**Sg**	**10 25 09.7**	**+0.1**
CCHI	**Chillan**	**2.75**	**173**	*e*P	**Pn**	**10 24 54.1**	**+1.3**
AUSP	**Uspallata**	**3.06**	**58**	*e*P	**Pb**	**10 25 00.8**	**-2.7**
ARCO	**CERRO ARCO**	**3.13**	**72**	*e*P	**Pb**	**10 25 04.5**	**0.0**
ARCO				IAML		10 25 15.9	
	comp=Z,92nm,0.6s						
AAGR	**Agrelo**	**3.14**	**77**	⇓*e*P	**Pb**	**10 25 04.8**	**+0.2**
ASAL	**Salagasta**	**3.30**	**68**	*e*P	**Pb**	**10 25 07.5**	**+0.2**
RTLS	**Leoncito**	**3.37**	**53**	*e*P	**Pb**	**10 25 05.3**	**-3.5**
RTLS				IAML		10 25 20.0	
	comp=Z,60nm,0.4s						
RFA	**San Rafael**	**3.43**	**106**	*e*P	**Pb**	**10 25 06.6**	**-3.0**
RFA				*e*S	**Sg**	**10 26 00.2**	**+1.3**
RTCV	**Cerro Valdivia**	**3.86**	**60**	*e*P	**Pb**	**10 25 14.7**	**-2.2**
CANA	**Caviahue**	**4.17**	**165**	*e*P	**Pb**	**10 25 20.7**	**-1.6**
AMOG	**MOGNA**	**4.45**	**50**	*e*P	**Pn**	**10 25 18.6**	**+2.3**
ACAN	**Cantantal**	**4.71**	**72**	⇓*e*P	**Pb**	**10 25 27.9**	**-3.4**
AGUA	**GUANDACOL**	**5.53**	**39**	*e*P	**Pn**	**10 25 33.2**	**+2.0**
VCA	**Vinchina**	**6.28**	**37**	*e*P	**Pn**	**10 25 42.7**	**+1.2**
VCA				IAML		10 27 39.8	
	comp=Z,16nm,0.6s						
PLCA	**Paso Flores**	**7.02**	**168**	Pn	**Pn**	**10 25 49.9**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=360,slow=10,SNR=4.2						
PLCA				Lg	Lg	10 27 40.9	
	comp=Z,0.1nm,0.3s,baz=78,slow=6.1,SNR=3.5						
PLCA				LR	LR	10 28 40.5	
	comp=Z,120nm,20.0s,baz=9.5,slow=40						
LPAZ	**La Paz**	**17.94**	**14**	P	**P**	**10 28 20.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=191,slow=6.5,SNR=4.4						
SNAA	**Sanae**	**51.84**	**158**	P	**P**	**10 33 17.1**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=337,slow=7.7,SNR=4.7						
KOWA	**Kowa**	**80.91**	**66**	LR	LR	11 09 45.9	
	comp=Z,47nm,21.1s,baz=36,slow=34						
TORD	**Torodi Ar. Bea**	**84.50**	**70**	P	**P**	**10 36 42.2**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=246,slow=6.1,SNR=4.3						
ULM	**Lac du Bonnet**	**86.28**	**345**	LR	LR	11 14 05.0	
	comp=Z,22nm,20.9s,baz=35,slow=35						

IDC 16 10:27:17.6±323.0,**56°.50N×44°.25E,h0km,Error ellipse:**
s-maj=127.5km s-min=76.4km az=101.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.89**	**276**	*i*		10 51 15.0	
	baz=91,slow=342,SNR=3.0						
I31KZ	**AKTYUBINSK INF**	**10.23**	**121**	*i*		11 31 10.0	
	baz=315,slow=328,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**23.04**	**79**	*i*		12 48 50.0	
	baz=294,slow=328,SNR=1.0						

ISCJB ***16*** *10:30:18.0±1.0,34°.2N±0°.2×137°.9E±0°.2,h350km,mb2.6/2, Error ellipse: s-maj=26.8km s-min=14.6km az=42.8*
IDC ***16*** *10:30:18.3±3.0,33°.98N×137°.33E,h316km±85km,mb2.6/2, mb1 2.8/3,mb1mx2.5/63,mbtmp3.2/3,Error ellipse: s-maj=189.4km s-min=25.2km az=60.0*
JMA ***16*** *10:30:20.6±0.2,34°.27N×137°.72E,h323km,M2.4*
ISC 16 10:30:19.0±1.2,**34°.3N**±0°.2×**137°.8E**±0°.2,**h350**km,**n11,** σ0º**84**/12,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNY	**Yasuok**	**1.08**	**1**	P	**Pn**	**10 31 04.2**	**-0.9**
JRY	**Ryogami san**	**1.95**	**26**	P	**Pn**	**10 31 10.6**	**+0.7**
JHU	**Hanno**	**1.97**	**37**	P	**Pn**	**10 31 10.4**	**+0.4**
MJAR	**Matsushiro Arr**	**2.29**	**8**	P	**Pn**	**10 31 11.9**	**-0.4**
	0.7nm,0.3s,baz=193,slow=10,SNR=11						
MAT	**Matsushiro**	**2.29**	**8**	P	**Pn**	**10 31 12.0**	**-0.3**
JAG	**Ashikaga**	**2.52**	**31**	P	**Pn**	**10 31 13.8**	**-0.4**
JYT	**Yasato**	**2.75**	**44**	P	**Pn**	**10 31 15.9**	**-0.1**
JHO	**Hitachi**	**3.23**	**43**	P	**Pn**	**10 31 20.7**	**+0.3**
JHO				*e*S	**S**	**10 32 08.3**	**-1.5**
JFT	**Otama**	**3.82**	**31**	P	**Pn**	**10 31 27.4**	**+1.3**
MKAR	**Makanchi Array**	**43.18**	**304**	P	**P**	**10 37 47.1**	**+0.7**
	0.1nm,0.4s,baz=85,slow=6.1,SNR=2.3						
WRA	**Warramunga Arr**	**54.02**	**184**	P	**P**	**10 39 08.4**	**0.0**
	0.7nm,0.9s,baz=360,slow=7.5,SNR=7.2						

ISCJB ***16*** *10:30:28.8±1.0,38°.09N±0°.06×38°.11E±0°.05,h12km±6km, Error ellipse: s-maj=9.7km s-min=6.5km az=22.5*
CSEM ***16*** *10:30:28.6±0.5,38°.10N×38°.11E,h10km,MD2.5, Error ellipse: s-maj=11.2km s-min=7.6km az=43.0*
ISK ***16*** *10:30:28.3,38°.11N×38°.08E,h20km,ML2.4/4*
DDA ***16*** *10:30:30.2,38°.19N×38°.15E,h7km,Md2.5*
ISC 16 10:30:28.9±1.1,**38°.12N**±0°.05×**38°.16E**±0°.04,**h12**km±9km, **n15,** σ0º**68**/26,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.26**	**312**	*i* P	**Pg**	**10 30 34.6**	**+0.3**
AKCD				*i* S	**Sg**	**10 30 37.6**	**-0.4**
AKCD	**Akcadag**	**0.26**	**312**	P	**Pg**	**10 30 34.6**	**+0.3**
AKCD				S	**Sg**	**10 30 37.6**	**-0.4**
MALT	**Malatya**	**0.28**	**48**	PG	**Pb**	**10 30 36.9**	**+0.9**
MALT				SG	**Sb**	**10 30 41.1**	**+0.4**
MALT	**Malatya**	**0.28**	**48**	*e*Pg	**Pb**	**10 30 36.9**	**+0.9**
MALT				*e*Sg	**Sb**	**10 30 41.1**	**+0.4**
DARE	**Darende-Malaty**	**0.70**	**310**	PG	**Pb**	**10 30 42.5**	**-0.6**
DARE				SG	**Sg**	**10 30 50.9**	**-0.7**
DARE	**Darende-Malaty**	**0.70**	**310**	*e*Pg	**Pb**	**10 30 42.5**	**-0.6**
DARE				*e*Sg	**Sg**	**10 30 50.9**	**-0.7**
HEKM	**Malatya_Hekimh**	**0.77**	**348**	*i* P	**Pb**	**10 30 44.9**	**+0.4**
HEKM				*i* S	**Sg**	**10 30 54.3**	**+0.3**
HEKM	**Malatya_Hekimh**	**0.77**	**348**	P	**Pb**	**10 30 44.8**	**+0.4**
HEKM				S	**Sg**	**10 30 54.3**	**+0.3**
ELBS	**KAHRAMANMARAS**	**0.83**	**284**	*i* P	**Pn**	**10 30 48.3**	**+1.7**
ELBS				*i* S	**Sn**	**10 30 58.2**	**-0.8**
URFA	**Urfa**	**0.86**	**142**	PG	**Pg**	**10 30 45.5**	**0.0**
URFA	**Urfa**	**0.86**	**142**	*e*Pg	**Pg**	**10 30 45.5**	**0.0**
KEMA	**Kemaliye**	**1.17**	**13**	*i* P	**Pb**	**10 30 50.6**	**-0.6**
KEMA				*i* S	**Sb**	**10 31 06.6**	**+0.2**
KEMA	**Kemaliye**	**1.17**	**13**	P	**Pb**	**10 30 50.6**	**-0.6**
KEMA				S	**Sb**	**10 31 06.6**	**+0.2**
PTK	**Pertek**	**1.23**	**51**	PN	**Pn**	**10 30 51.3**	**-0.9**
PTK	**Pertek**	**1.23**	**51**	*e*Pn	**Pn**	**10 30 51.3**	**-0.9**

CSEM ***16*** *10:33:22.1±0.8,43°.42N×23°.50E,h1km,ML1.3,Error ellipse: s-maj=17.9km s-min=8.5km az=37.0,Mining explosion.*
BEO 16 10:33:25.1±0.9,**43°.37N×23°.38E,h8**km±9km,**M1.3/5, Mining explosion.,Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAPS	**Zavoj**	**0.55**	**260**	*e*Pg	Pg	10 33 34.1	-1.7
VTS	**Vitosha**	**0.79**	**189**	*e*Pg	Pg	10 33 39.2	-1.1
VTS				*e*Sg	Sb	10 33 52.3	+0.3
VTS	**Vitosha**	**0.79**	**189**	*e*Pg	Pg	10 33 39.2	-1.1
VTS				*e*Sg	Sb	10 33 52.3	+0.3
ZAGS	**Zajecar**	**0.94**	**298**	*e*Pg	Pg	10 33 41.4	-1.8
ZAGS				*e*Sg	Sb	10 33 56.0	-0.3
ZAGS	**Zajecar**	**0.94**	**298**	*e*Pg	Pg	10 33 41.4	-1.8
ZAGS				*e*Sg	Sb	10 33 56.0	-0.3
BOVS	**Bovan**	**1.25**	**283**	*e*Pg	Pn	10 33 47.9	-0.9
BOVS				*e*Sg	Sn	10 34 06.2	+0.4
BOVS	**Bovan**	**1.25**	**283**	*e*Pg	Pn	10 33 47.9	-0.9
BOVS				*e*Sg	Sn	10 34 06.2	+0.4
BARS	**Barje**	**1.27**	**245**	*e*Pg	Pn	10 33 46.9	-2.3
BARS				*e*Sg	Sb	10 34 05.1	-0.7
BARS	**Barje**	**1.27**	**245**	*e*Pg	Pn	10 33 46.9	-2.3
BARS				*e*Sg	Sb	10 34 05.1	-0.7

CSEM ***16*** *10:34:04.6±0.3,39°.10N×27°.57E,h1km,MD2.6,Error ellipse: s-maj=7.8km s-min=6.6km az=13.0,Suspected Mining explosion.*
DDA ***16*** *10:34:05.1,39°.08N×27°.49E,h7km,Md2.6*
ISK 16 10:34:04.1,39°.11N×27°.57E,h4km,**ML2.5/7,Suspected Mining explosion.,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.29**	**23**	*i* P	Pb	10 34 11.6	-0.3
STEP				*i* S	Sb	10 34 17.4	+0.2
STEP	**BALIKESIR_Sava**	**0.29**	**23**	P	Pb	10 34 11.6	-0.3
STEP				S	Sb	10 34 17.4	+0.3
AKHS	**Akhisar**	**0.30**	**141**	*i* P	Pb	10 34 10.9	-1.1
AKHS				*i* S	Sb	10 34 16.9	-0.3
AKHS	**Akhisar**	**0.30**	**141**	P	Pb	10 34 10.9	-1.1
AKHS				S	Sb	10 34 16.9	-0.3
DEMI	**Demirci**	**0.89**	**94**	*i* P	Pn	10 34 24.4	+0.9
DEMI				*i* S	Sn	10 34 37.6	+0.7
DEMI	**Demirci**	**0.89**	**94**	P	Pn	10 34 24.4	+0.9
BAYC	**CANAKKALE_Bayr**	**1.02**	**309**	*i* P	Pg	10 34 23.7	+0.1
BAYC				*i* S	Sb	10 34 38.6	+0.7
BAYC	**CANAKKALE_Bayr**	**1.02**	**309**	P	Pg	10 34 23.7	+0.1
BAYC				S	Sb	10 34 38.6	+0.6
KULA	**Kula-Manisa**	**1.04**	**125**	PG	Pg	10 34 24.0	0.0
KULA				SG	Sn	10 34 39.7	-0.7
KULA	**Kula-Manisa**	**1.04**	**125**	*e*Pg	Pg	10 34 24.0	0.0
KULA				*e*Sg	Sn	10 34 39.7	-0.7
URLA	**Izmir**	**1.07**	**226**	PG	Pn	10 34 25.9	0.0
URLA				SG	Sb	10 34 39.7	+0.2
URLA	**Izmir**	**1.07**	**226**	*i* P	Pg	10 34 24.3	-0.3
URLA	**Izmir**	**1.07**	**226**	P	Pg	10 34 24.3	-0.3
URLA	**Izmir**	**1.07**	**226**	*e*Pg	Pn	10 34 25.9	0.0
URLA				*e*Sg	Sb	10 34 39.7	+0.2
SIMA	**Simav-Kutahya**	**1.10**	**91**	PN	Pg	10 34 25.2	+0.1
SIMA				SN	Sn	10 34 42.2	+0.2
SIMA	**Simav-Kutahya**	**1.10**	**91**	*e*Pn	Pg	10 34 25.2	+0.1
SIMA				*e*Sn	Sn	10 34 42.2	+0.2
AYDB	**Zeytinkoy-Aydi**	**1.19**	**168**	PN	Pb	10 34 27.1	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.19**	**168**	*e*Pn	Pb	10 34 27.1	-0.1
EZN	**Ezine**	**1.20**	**307**	PN	Pn	10 34 27.9	+0.2
EZN	**Ezine**	**1.20**	**307**	*e*Pn	Pn	10 34 27.9	+0.2
SIGR	**SIGRI**	**1.34**	**275**	PN	Pg	10 34 30.7	+0.9
SIGR	**SIGRI**	**1.34**	**275**	*e*Pn	Pg	10 34 30.7	+0.9
CHOS	**Chios island**	**1.39**	**239**	PN	Pg	10 34 31.5	+0.8
CHOS	**Chios island**	**1.39**	**239**	*e*Pn	Pg	10 34 31.5	+0.8
LPK	**Lapseki**	**1.41**	**334**	PN	Pn	10 34 30.7	+0.2
LPK	**Lapseki**	**1.41**	**334**	*e*Pn	Pn	10 34 30.7	+0.2
GDZ	**Gediz**	**1.48**	**90**	*i* P	Pn	10 34 31.7	0.0
GDZ				*i* S	Sg	10 34 54.7	+2.8
GDZ	**Gediz**	**1.48**	**90**	P	Pn	10 34 31.7	0.0
TVSB	**Tavsanli**	**1.50**	**76**	PN	Pn	10 34 31.6	-0.3
TVSB	**Tavsanli**	**1.50**	**76**	*e*Pn	Pn	10 34 31.6	-0.3
GELI	**Tayfur-Gelibol**	**1.54**	**327**	PN	Pg	10 34 33.6	-0.1
GELI	**Tayfur-Gelibol**	**1.54**	**327**	*e*Pn	Pg	10 34 33.6	-0.1

SKO ***16*** *10:38:04.9,42°.31N×19°.09E,h155km,M2.2,ML2.6*
ISCJB ***16*** *10:38:12.7±0.3,42°.18N±0°.02×19°.41E±0°.02,h9km±2km, Error ellipse: s-maj=3.4km s-min=2.3km az=43.0*
BEO ***16*** *10:38:13.6±0.3,42°.20N×19°.40E,h6km±2km,M2.5/1*
CSEM ***16*** *10:38:13.0±0.2,42°.18N×19°.39E,h10km,ML2.4,Error ellipse: s-maj=3.8km s-min=3.4km az=171.0*
PDG ***16*** *10:38:13.0±0.2,42°.18N×19°.43E,h13km,MD2.6/2, ML2.5/9,Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
TIR ***16*** *10:38:41.9,42°.08N×19°.28E,h10km,ML2.7*
ISC 16 10:38:13.6±0.8,**42°.19N**±0°.02×**19°.39E**±0°.02,**h16**km±5km, **n62,** σ1º**05**/119,**9C-16D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRME	**Dracevica, Mon**	**0.15**	**268**	⇓*i*Pg	**Pg**	**10 38 17.3**	**-0.5**
DRME				*e*Sg	**Sg**	**10 38 21.0**	**+0.6**
DRME	**Dracevica, Mon**	**0.15**	**268**	⇓*i*Pg	**Pg**	**10 38 17.2**	**-0.5**
DRME				*e*Sg	**Sg**	**10 38 20.8**	**+0.4**
ULC	**Ulcinj**	**0.25**	**206**	⇓*i*Pg	**Pg**	**10 38 18.3**	**-0.9**
ULC				*e*Sg	**Sg**	**10 38 23.1**	**+0.1**
ULC	**Ulcinj**	**0.25**	**206**	⇓*i*Pg	**Pg**	**10 38 18.3**	**-0.9**
ULC				*e*Sg	**Sg**	**10 38 23.1**	**+0.1**
PDG	**Podgorica**	**0.26**	**337**	*e*Pg	**Pg**	**10 38 18.7**	**-0.6**
PDG				*e*Sg	**Sb**	**10 38 23.5**	**-0.6**
PDG	**Podgorica**	**0.26**	**337**	*e*Pg	**Pg**	**10 38 18.7**	**-0.6**
PDG				*e*Sg	**Sb**	**10 38 23.5**	**-0.6**
TTG	**Podgorica**	**0.26**	**337**	⇑*i*Pg	**Pg**	**10 38 18.7**	**-0.6**
TTG				*e*Sg	**Sb**	**10 38 23.8**	**-0.3**
BUM	**Brajici-Budva**	**0.39**	**287**	⇑*i*Pg	**Pg**	**10 38 21.0**	**-0.5**
BUM				*e*Sg	**Sb**	**10 38 28.1**	**+0.2**
BUM	**Brajici-Budva**	**0.39**	**287**	⇑*i*Pg	**Pg**	**10 38 21.0**	**-0.5**
BUM				*e*Sg	**Sb**	**10 38 28.1**	**+0.2**
PUK	**Puka**	**0.40**	**112**	*i* PG	**Pg**	**10 38 20.7**	**-1.1**
PUK				*i* SG	**Sb**	**10 38 27.6**	**-0.7**
CEME	**Cevo**	**0.50**	**315**	⇓*i*Pg	**Pg**	**10 38 22.4**	**-1.2**
CEME				*e*Sg	**Sb**	**10 38 31.6**	**+0.5**
CEME	**Cevo**	**0.50**	**315**	⇓*i*Pg	**Pg**	**10 38 22.4**	**-1.2**
CEME				*e*Sg	**Sb**	**10 38 31.6**	**+0.5**
PVY	**Plav**	**0.58**	**46**	⇓*i*Pg	**Pg**	**10 38 24.0**	**-1.2**
PVY				*e*Sg	**Sg**	**10 38 32.9**	**-0.1**
PVY	**Plav**	**0.58**	**46**	⇓*i*Pg	**Pg**	**10 38 24.0**	**-1.2**
PVY				*e*Sg	**Sg**	**10 38 32.9**	**-0.1**
NKME	**Niksic**	**0.66**	**331**	⇓*i*Pg	**Pg**	**10 38 25.7**	**-0.9**
NKME				*e*Sg	**Sb**	**10 38 36.1**	**+0.3**
NKME	**Niksic**	**0.66**	**331**	⇓*i*Pg	**Pg**	**10 38 25.7**	**-0.9**
NKME				*e*Sg	**Sb**	**10 38 36.1**	**+0.3**
KOME	**Kolasin**	**0.67**	**8**	⇓*i*Pg	**Pg**	**10 38 25.5**	**-1.2**
KOME				*e*Sg	**Sb**	**10 38 36.1**	**+0.2**
KOME	**Kolasin**	**0.67**	**8**	⇓*i*Pg	**Pg**	**10 38 25.5**	**-1.2**
KOME				*e*Sg	**Sb**	**10 38 36.1**	**+0.2**
NKY	**Niksic**	**0.69**	**335**	⇓*i*Pg	**Pg**	**10 38 26.1**	**-1.0**
NKY				*e*Sg	**Sb**	**10 38 37.6**	**+1.0**
NKY	**Niksic**	**0.69**	**335**	⇓*i*Pg	**Pg**	**10 38 26.1**	**-1.0**
NKY				*e*Sg	**Sb**	**10 38 37.6**	**+1.0**
HCY	**Herceg Novi**	**0.71**	**291**	⇑*i*Pg	**Pg**	**10 38 26.3**	**-1.3**
HCY				*e*Sg	**Sb**	**10 38 38.4**	**+1.2**
HCY	**Herceg Novi**	**0.71**	**291**	⇑*i*Pg	**Pg**	**10 38 26.3**	**-1.3**
HCY				*e*Sg	**Sb**	**10 38 38.4**	**+1.2**
BEY	**Berane**	**0.77**	**28**	⇑*i*Pg	**Pg**	**10 38 27.4**	**-1.3**
BEY				*e*Sg	**Sb**	**10 38 39.4**	**+0.3**
IVA	**Berane**	**0.77**	**28**	⇑*i*Pg	**Pg**	**10 38 27.4**	**-1.3**
IVA				*e*Sg	**Sb**	**10 38 39.4**	**+0.3**
TIR	**Tirane**	**0.91**	**157**	*e*Pg	**Pg**	**10 38 29.1**	**-2.2**
TIR				*e*Sg	**Sb**	**10 38 43.9**	**+1.0**
TIR	**Tirane**	**0.91**	**157**	*e*Pg	**Pg**	**10 38 29.1**	**-2.2**
TIR				*e*Sg	**Sb**	**10 38 43.9**	**+1.0**
PHP	**Peshkopia**	**0.93**	**123**	*i* PG	**Pg**	**10 38 29.7**	**-1.9**
PHP				*i* SG	**Sb**	**10 38 44.2**	**+0.7**
TREB	**Trebinje**	**0.93**	**305**	*e*Pg	**Pg**	**10 38 29.8**	**-1.9**
TREB				*e*Sg	**Sb**	**10 38 44.0**	**+0.4**
UPM	**Unac-Piva**	**1.07**	**341**	⇓*i*Pg	**Pg**	**10 38 33.4**	**-1.0**
UPM				*e*Sg	**Sn**	**10 38 50.5**	**+1.7**
UPM	**Unac-Piva**	**1.07**	**341**	⇓*i*Pg	**Pg**	**10 38 33.4**	**-1.0**
UPM				*e*Sg	**Sb**	**10 38 47.1**

ERIK				SN	Sn			10 43 23.4	+0.8
ERIK	**Erikli-Kesan**	**1.20**	**195**	*e*Pn	Pb			10 43 05.6	+0.1
ERIK				*e*Sn	Sn			10 43 23.4	+0.8
SBT3	**Marmara-Eregli**	**1.23**	**140**	PN	Pg			10 43 05.7	+0.1
SBT3	**Marmara-Eregli**	**1.23**	**140**	*e*Pn	Pg			10 43 05.7	+0.1
ENEZ	**Enez**	**1.24**	**208**	PN	Pn			10 43 06.5	+0.1
ENEZ	**Enez**	**1.24**	**208**	*e*Pn	Pn			10 43 06.5	+0.1
CTKS	**Kestanelik-??a**	**1.32**	**116**	PN	Pb			10 43 08.9	+1.3
CTKS	**Kestanelik-??a**	**1.32**	**116**	*e*Pn	Pb			10 43 08.9	+1.3
LPK	**Lapseki**	**1.46**	**185**	PN	Pg			10 43 10.4	+0.3
LPK	**Lapseki**	**1.46**	**185**	*e*Pn	Pg			10 43 10.4	+0.3
GELI	**Tayfur-Gelibol**	**1.47**	**194**	PN	Pb			10 43 10.1	0.0
GELI	**Tayfur-Gelibol**	**1.47**	**194**	*e*Pn	Pb			10 43 10.1	0.0

IDC 16 10:56:11.5±2.1, 1°.18N×126°.64E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/57, mbtmp3.2/3, Error ellipse: s-maj=178.0km s-min=24.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.31**	**161**	P	P	11 01 09.7	-1.1
	0.4nm,0.4s,baz=339,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.68**	**164**	P	P	11 01 44.3	+0.8
	0.4nm,0.8s,baz=350,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**59.60**	**326**	P	P	11 06 17.2	-0.1
	0.1nm,0.4s,baz=144,slow=6.8,SNR=2.5						

IDC 16 11:07:03.8±488.0, 56°.45N×43°.58E, h0km, Error ellipse: s-maj=183.6km s-min=71.0km az=97.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.53**	**277**	*i*		11 29 10.0	
	baz=92,slow=343,SNR=3.3						
I31KZ	**AKTYUBINSK INF**	**10.52**	**119**	*i*		12 13 20.0	
	baz=312,slow=326,SNR=2.2						
I46RU	**ZALESOVO INFRA**	**23.41**	**79**	*i*		13 38 10.0	
	baz=294,slow=319,SNR=0.7						

*NIED **16** 11:17:00, 33°.80N×141°.70E, h17km, Mw3.6 Best double couple: M₀2.64000×10¹⁴ NP1:φ₁134.00000°, δ51.00000°, λ9.00000°. NP2:φ₂38.00000°, δ83.00000°, λ140.00000°.*
*JMA **16** 11:17:23.5±0.4, 33°.81N×141°.73E, h4km±3km, M3.7*
*IDC **16** 11:17:26.9±2.3, 34°.08N×141°.64E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/72, mbtmp3.8/6, ML3.4/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/68, Error ellipse: s-maj=37.9km s-min=22.3km az=99.0*
ISC 16 11:17:25.7±2.1, 33°.93N±0°.05×141°.68E±0°.09, h1km±13km, n17, σ1°.13/27, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.92**	**321**	P	**Pb**	**11 17 43.6**	**-0.6**
BSO1				S	**Sn**	**11 17 57.7**	**-1.3**
BSO3	**Boso 3**	**1.30**	**312**	P	**Pb**	**11 17 50.2**	**-0.5**
BSO3				S	**Sn**	**11 18 09.0**	**+0.4**
BSO4	**Boso 4**	**1.53**	**314**	P	**Pb**	**11 17 54.3**	**-0.5**
BSO4				*e*S	**Sg**	**11 18 15.1**	**+0.3**
JHJ	**Hachijo jima 2**	**1.78**	**243**	Pn	**Pg**	**11 17 59.8**	**+0.1**
	102nm,0.3s,baz=343,slow=22,SNR=21						
JHJ				Sn	**Sg**	**11 18 22.2**	**-0.5**
	99nm,0.3s,baz=226,slow=23,SNR=11						
CHOJ	**Chosi**	**1.89**	**339**	P	**Pn**	**11 17 58.7**	**-0.4**
JIM2	**Oshima 3**	**2.02**	**294**	P	**Pn**	**11 17 59.6**	**-1.3**
JIZS	**Izushimoda**	**2.44**	**289**	P	**Pn**	**11 18 06.4**	**-0.3**
JIZS				S	**Sn**	**11 18 37.9**	**+0.6**
JOD2	**Odawara 2**	**2.51**	**303**	P	**Pn**	**11 18 07.0**	**-0.7**
JOD2				S	**Sn**	**11 18 40.3**	**+1.3**
JYN	**Shimob**	**3.02**	**302**	P	**Pn**	**11 18 14.6**	**-0.1**
JYN				S	**Sn**	**11 18 52.0**	**+0.5**
JAG	**Ashikaga**	**3.08**	**324**	P	**Pn**	**11 18 15.7**	**+0.2**
MJAR	**Matsushiro Arr**	**3.85**	**314**	Pn	**Pn**	**11 18 26.4**	**+0.3**
	3.1nm,0.3s,baz=150,slow=15,SNR=31						
MJAR				Sn	**Sn**	**11 19 10.8**	**-1.2**
	2.1nm,0.3s,baz=130,slow=20,SNR=5.6						
MJAR				LR	LR	11 20 04.8	
	comp=Z,60nm,19.4s,baz=115,slow=43						
MAT	**Matsushiro**	**3.85**	**314**	P	**Pn**	**11 18 27.3**	**+1.2**
MAT				*e*S	**Sn**	**11 19 10.7**	**-1.4**
JCJ	**Chichijima**	**6.83**	**176**	Pn	**Pn**	**11 19 10.7**	**+3.7**
	baz=351,slow=19						
JCJ				Sn	**Sn**	**11 20 24.1**	**-1.3**
	2.5nm,0.3s,baz=306,slow=19,SNR=2.5						
ASAJ	**Asahikawa**	**10.20**	**4**	Pn	**Pn**	**11 19 52.3**	**-0.9**
	0.4nm,0.3s,baz=256,slow=12,SNR=3.1						
SONM	**Songino Array**	**29.79**	**308**	P	**P**	**11 23 34.9**	**+0.8**
	0.3nm,0.3s,baz=113,slow=6.7,SNR=3.0						
MKAR	**Makanchi Array**	**46.00**	**305**	P	**P**	**11 25 50.8**	**+0.2**
	0.4nm,0.6s,baz=91,slow=8.4,SNR=7.0						
KURBB	**Kurchatov Arra**	**48.12**	**310**	P	**P**	**11 26 06.8**	**-0.3**
	1.0nm,0.7s,baz=84,slow=8.0,SNR=4.7						

*DDA **16** 11:24:11.4, 39°.42N×25°.88E, h7km, Ml2.8*
*ISCJB **16** 11:24:12.0±0.5, 39°.43N±0°.02×25°.87E±0°.03, h3km±4km, Error ellipse: s-maj=4.4km s-min=2.8km az=164.7*
*CSEM **16** 11:24:12.2±0.2, 39°.43N×25°.86E, h2km, ML2.8, Error ellipse: s-maj=4.2km s-min=2.4km az=75.0*
*ATH **16** 11:24:12.2, 39°.44N×25°.85E, h10km±4km, ML2.2/5, Error ellipse: s-maj=4.4km s-min=0.9km az=207.0*
*ISK **16** 11:24:12.2, 39°.41N×25°.89E, h7km, ML2.8/8*
*THE **16** 11:24:13.1, 39°.46N×25°.91E, h2km±2km, ML2.1/6, Error ellipse: s-maj=2.5km s-min=0.5km az=189.0*
ISC 16 11:24:12.4±0.8, 39°.43N±0°.01×25°.86E±0°.02, h11km±5km, n69, σ0°.64/107, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.21**	**81**	PG	**Pg**	**11 24 16.7**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.21**	**81**	*e*Pg	**Pg**	**11 24 16.7**	**-0.2**
SIGR	**SIGRI**	**0.21**	**182**	PG	**Pg**	**11 24 16.5**	**-0.4**
SIGR				SG	**Sg**	**11 24 20.4**	**+0.5**
SIGR	**SIGRI**	**0.21**	**182**	P	**Pg**	**11 24 15.1**	**-1.8**
SIGR				S	**Sb**	**11 24 22.1**	**+2.2**
SIGR				AML	AML	11 24 22.1	
	comp=N,2040μm,0.4s						
SIGR				AML	AML	11 24 22.2	
	comp=E,1650μm,0.2s						
SIGR	**SIGRI**	**0.21**	**182**	P	**Pg**	**11 24 16.0**	**-0.9**
SIGR	**SIGRI**	**0.21**	**182**	*e*Pg	**Pg**	**11 24 16.5**	**-0.4**
SIGR				*e*Sg	**Sg**	**11 24 20.4**	**+0.5**
SIGR				S	**Sg**	**11 24 21.2**	**+1.3**
SIGR	**SIGRI**	**0.21**	**182**	P	**Pb**	**11 24 18.1**	**-0.2**
SIGR				S	**Sb**	**11 24 21.6**	**+1.7**
PRK	**Paraskevi**	**0.36**	**119**	P	**Pb**	**11 24 20.7**	**-0.2**
PRK				S	**Sg**	**11 24 24.6**	**+0.2**
PRK				AML	AML	11 24 25.5	
	comp=N,2659μm,0.2s						
PRK				AML	AML	11 24 25.6	
	comp=E,3380μm,0.2s						
PRK	**Paraskevi**	**0.36**	**119**	P	**Pg**	**11 24 20.1**	**+0.5**
PRK				S	**Sg**	**11 24 24.8**	**+0.3**
PRK	**Paraskevi**	**0.36**	**119**	P	**Pg**	**11 24 20.1**	**+0.5**
PRK				S	**Sg**	**11 24 24.7**	**+0.2**
EZN	**Ezine**	**0.54**	**42**	PG	**Pg**	**11 24 22.9**	**0.0**
EZN	**Ezine**	**0.54**	**42**	P	**Pg**	**11 24 22.7**	**-0.2**
EZN	**Ezine**	**0.54**	**42**	P	**Pg**	**11 24 22.7**	**-0.2**
EZN				S	**Sg**	**11 24 29.5**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.62**	**59**	*i* P	**Pg**	**11 24 23.8**	**-0.5**
BAYC				*i* S	**Sg**	**11 24 31.6**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.62**	**59**	P	**Pg**	**11 24 23.8**	**-0.5**
EFSA	**Agios Efstrati**	**0.69**	**280**	P	**Pg**	**11 24 25.9**	**+0.2**
EFSA	**Agios Efstrati**	**0.69**	**280**	P	**Pg**	**11 24 25.4**	**-0.3**
LIA	**Limnos Island**	**0.71**	**312**	P	**Pg**	**11 24 25.1**	**-0.9**
LIA				S	**Sg**	**11 24 35.8**	**+0.4**
LIA				AML	AML	11 24 38.4	
	comp=N,296μm,0.3s						
LIA				AML	AML	11 24 40.5	
	comp=E,298μm,0.3s						
LIA	**Limnos Island**	**0.71**	**312**	P	**Pg**	**11 24 25.2**	**-0.9**
LIA				S	**Sg**	**11 24 35.3**	**0.0**
LIA	**Limnos Island**	**0.71**	**312**	P	**Pg**	**11 24 26.3**	**+0.2**
LIA				S	**Sb**	**11 24 37.4**	**+1.0**
GADA	**Gvkgeada**	**0.77**	**2**	PG	**Pb**	**11 24 28.1**	**+0.4**
GADA	**Gvkgeada**	**0.77**	**2**	P	**Pg**	**11 24 26.8**	**-0.4**
GADA	**Gvkgeada**	**0.77**	**2**	*e*Pg	**Pb**	**11 24 28.1**	**+0.4**
GADA	**Gvkgeada**	**0.77**	**2**	P	**Pg**	**11 24 26.8**	**-0.4**
				S	**Sg**	**11 24 37.5**	**+0.3**
DKL	**Dikili**	**0.88**	**113**	PG	**Pg**	**11 24 28.9**	**-0.5**
DKL				SG	**Sb**	**11 24 41.9**	**+0.4**
DKL	**Dikili**	**0.88**	**113**	*e*Pg	**Pg**	**11 24 28.9**	**-0.5**
DKL				*e*Sg	**Sb**	**11 24 41.9**	**+0.4**
FOCM	**Fo¨şa**	**0.98**	**136**	PG	**Pb**	**11 24 30.9**	**-0.5**
FOCM				SG	**Sb**	**11 24 44.9**	**+0.6**
FOCM	**Fo¨şa**	**0.98**	**136**	*e*Pg	**Pb**	**11 24 30.9**	**-0.5**
FOCM				*e*Sg	**Sb**	**11 24 44.9**	**+0.6**
KRBN	**Karaburun**	**0.99**	**147**	PG	**Pb**	**11 24 30.9**	**-0.6**
KRBN				SG	**Sb**	**11 24 45.2**	**+0.6**
KRBN	**Karaburun**	**0.99**	**147**	*e*Pg	**Pb**	**11 24 30.9**	**-0.6**
KRBN				*e*Sg	**Sb**	**11 24 45.2**	**+0.6**
CHOS	**Chios island**	**1.05**	**172**	PG	**Pg**	**11 24 32.8**	**+0.3**
CHOS				SG	**Sg**	**11 24 46.7**	**+0.5**
CHOS	**Chios island**	**1.05**	**172**	P	**Pb**	**11 24 31.4**	**-1.2**
CHOS				S	**Sg**	**11 24 46.5**	**+0.4**
CHOS				AML	AML	11 24 51.8	
	comp=E,453μm,0.2s						
CHOS				AML	AML	11 24 53.8	
	comp=N,370μm,0.4s						
CHOS	**Chios island**	**1.05**	**172**	P	**Pb**	**11 24 31.8**	**-0.8**
CHOS	**Chios island**	**1.05**	**172**	*e*Pg	**Pg**	**11 24 32.8**	**+0.3**
CHOS				S	**Sg**	**11 24 46.7**	**+0.5**
CHOS	**Chios island**	**1.05**	**172**	P	**Pn**	**11 24 33.6**	**+0.5**
CHOS				S	**Sn**	**11 24 48.3**	**+0.6**
SMTH	**Samothraki Isl**	**1.08**	**346**	P	**Pb**	**11 24 32.3**	**-0.8**
SMTH				S	**Sb**	**11 24 46.5**	**-0.6**
SMTH				AML	AML	11 24 51.0	
	comp=N,149μm,0.2s						
SMTH				AML	AML	11 24 51.7	
	comp=E,122μm,0.1s						
SMTH	**Samothraki Isl**	**1.08**	**346**	P	**Pb**	**11 24 32.2**	**-0.8**
SMTH				S	**Sb**	**11 24 46.6**	**-0.5**
SMTH	**Samothraki Isl**	**1.08**	**346**	P	**Pn**	**11 24 33.4**	**0.0**
SMTH				S	**Sg**	**11 24 47.6**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.08**	**26**	PN	**Pg**	**11 24 33.3**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.08**	**26**	*e*Pn	**Pg**	**11 24 33.3**	**+0.1**
LPK	**Lapseki**	**1.17**	**36**	PN	**Pb**	**11 24 34.5**	**-0.2**
LPK	**Lapseki**	**1.17**	**36**	*e*Pn	**Pb**	**11 24 34.5**	**-0.2**
URLA	**Izmir**	**1.21**	**151**	PN	**Pn**	**11 24 34.4**	**-0.8**
URLA	**Izmir**	**1.21**	**151**	*i* P	**Pn**	**11 24 33.9**	**-1.3**
URLA				*i* S	**Sb**	**11 24 50.8**	**-0.1**
URLA	**Izmir**	**1.21**	**151**	P	**Pn**	**11 24 33.9**	**-1.3**
URLA	**Izmir**	**1.21**	**151**	*e*Pn	**Pn**	**11 24 34.4**	**-0.8**
URLA				S	**Sb**	**11 24 50.8**	**-0.1**
ENEZ	**Enez**	**1.33**	**10**	PN	**Pg**	**11 24 38.5**	**+0.6**
ENEZ	**Enez**	**1.33**	**10**	*e*Pn	**Pg**	**11 24 38.5**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.44**	**91**	*i* P	**Pb**	**11 24 39.5**	**+0.3**
STEP				*i* S	**Sg**	**11 24 58.9**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.44**	**91**	P	**Pb**	**11 24 39.5**	**+0.3**
STEP				S	**Sg**	**11 24 58.9**	**+0.2**
KRBG	**Karabiga-Canak**	**1.47**	**48**	PN	**Pb**	**11 24 39.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.47**	**48**	*e*Pn	**Pb**	**11 24 39.4**	**-0.3**
ALN	**Alexandroupoli**	**1.48**	**5**	PN	**Pb**	**11 24 40.1**	**+0.2**
ALN	**Alexandroupoli**	**1.48**	**5**	P	**Pb**	**11 24 39.9**	**0.0**
ALN				S	**Sb**	**11 24 59.2**	**+0.5**
ALN	**Alexandroupoli**	**1.48**	**5**	P	**Pb**	**11 24 39.8**	**-0.1**
ALN	**Alexandroupoli**	**1.48**	**5**	*e*Pn	**Pb**	**11 24 40.1**	**+0.2**
ALN				S	**Sb**	**11 24 58.8**	**+0.2**
ALN	**Alexandroupoli**	**1.48**	**5**	P	**Pb**	**11 24 39.8**	**-0.1**
ALN				S	**Sb**	**11 24 58.8**	**+0.2**
KESN	**Edirne-Kesan**	**1.53**	**24**	*i* P	**Pb**	**11 24 40.8**	**-0.3**
KESN				*i* S	**Sb**	**11 25 01.0**	**+0.4**
KESN	**Edirne-Kesan**	**1.53**	**24**	P	**Pb**	**11 24 40.8**	**-0.3**
KESN				S	**Sb**	**11 25 01.0**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.61**	**38**	PN	**Pn**	**11 24 40.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.61**	**38**	*e*Pn	**Pn**	**11 24 40.9**	**0.0**
SART	**Tekirdag**	**1.62**	**38**	*i* P	**Pn**	**11 24 41.1**	**+0.2**
SART				*i* S	**Sb**	**11 25 02.2**	**-0.6**
SART	**Tekirdag**	**1.62**	**38**	P	**Pn**	**11 24 41.1**	**+0.2**
SART				S	**Sb**	**11 25 02.2**	**-0.6**
RDO	**Rodhopi**	**1.74**	**352**	P	**Pn**	**11 24 43.1**	**+0.6**
RDO	**Rodhopi**	**1.74**	**352**	P	**Pb**	**11 24 43.7**	**-0.6**
SMG	**Samos**	**1.88**	**156**	P	**Pg**	**11 24 48.5**	**+0.1**
SMG	**Samos**	**1.88**	**156**	P	**Pb**	**11 24 47.6**	**+0.9**
SBT3	**Marmara-Eregli**	**2.18**	**47**	PN	**Pb**	**11 24 50.3**	**-1.4**
SBT3	**Marmara-Eregli**	**2.18**	**47**	*e*Pn	**Pb**	**11 24 50.3**	**-1.4**

*ISCJB **16** 11:24:34.5±0.4, 26°.22S±0°.03×131°.92E±0°.04, h10km, mb3.4/1, Error ellipse: s-maj=5.9km s-min=4.1km az=35.9*
*NEIC **16** 11:24:36.0±0.0, 26°.17S×131°.82E, h15km, ML4.3(AUST), After AUST.*
*AUST **16** 11:24:36.4±0.0, 26°.17S×131°.82E, h15km, Error ellipse: s-maj=0.1km s-min=0.1km az=334.0*
*IDC **16** 11:24:37.0±1.5, 26°.22S×131°.97E, h0km, mb3.4/1, mb1 4.0/5, mb1mx3.7/43, mbtmp3.9/5, ML4.0/3, Error ellipse: s-maj=33.0km s-min=27.9km az=117.0*
ISC 16 11:24:35.9±0.6, 26°.19S±0°.05×131°.88E±0°.05, h10km, n30, σ2°.62/47, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**3.11**	**37**	Pn	**Pn**	**11 25 26.4**	**+1.3**
	5.9nm,0.3s,baz=217,slow=12,SNR=376						
ASAR				Pg	**Pg**	**11 25 35.2**	**-0.3**
	15nm,0.3s,baz=208,slow=15,SNR=85						
ASAR				Sn	**Sn**	**11 26 02.8**	**+0.3**
	13nm,0.3s,baz=219,slow=22,SNR=9.0						
ASAR				Lg	Lg	11 26 08.8	
	41nm,0.3s,baz=216,slow=26,SNR=15						
AS01	**Alice Springs**	**3.14**	**37**	P	**Pn**	**11 25 26.9**	**+1.5**
	baz=3.2						
AS01				S	**Sn**	**11 26 03.7**	**+0.7**
	baz=3.2						
AS01	**Alice Springs**	**3.14**	**37**	P	**Pn**	**11 25 27.1**	**+1.6**
AS01				S	**Sn**	**11 26 04.2**	**+1.1**
AS06	**Alice Springs**	**3.16**	**37**	P	**Pn**	**11 25 27.2**	**+1.4**
	baz=3.2						
AS06				S	**Sn**	**11 26 04.1**	**+0.4**
	baz=3.2						
WRA	**Warramunga Arr**	**6.62**	**21**	Pn	**Pn**	**11 26 14.4**	**+1.2**
	3.0nm,0.3s,baz=196,slow=14,SNR=181						
WRA				Sn	**Sn**	**11 27 26.1**	**-2.7**
	8.9nm,0.3s,baz=200,slow=22,SNR=15						
WRAB	**Tennant Creek**	**6.63**	**21**	*e*Pn	**Pn**	**11 26 13.4**	**0.0**
WRAB				*e*Sn	**Sn**	**11 27 27.8**	**-1.3**
WR0	**Warramunga Arr**	**6.67**	**22**	P	**Pn**	**11 26 14.7**	**+0.7**
	baz=6.7						
WR0				S	**Sn**	**11 27 27.2**	**-2.8**
	baz=6.7						
WB0	**Warramunga Arr**	**6.80**	**20**	P	**Pn**	**11 26 17.2**	**+1.5**
	baz=6.8						
BBOO	**Buckleboo**	**7.54**	**152**	P	**Pn**	**11 26 27.7**	**+1.8**
	baz=7.6						
BBOO				S	**Sn**	**11 27 51.1**	**-0.4**
	baz=7.6						
BBOO	**Buckleboo**	**7.54**	**152**	P	**Pn**	**11 26 28.2**	**+2.3**
BBOO				S	**Sn**	**11 27 51.3**	**-0.2**
NAPP	**Napperby**	**8.85**	**143**	P	**Pn**	**11 26 47.2**	**+3.3**
QIS	**Mount Isa**	**9.04**	**53**	P	**Pn**	**11 26 47.0**	**+0.4**
	baz=9.1,SNR=8.4						
QIS	**Mount Isa**	**9.04**	**53**	P	**Pn**	**11 26 47.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**9.90**	**323**	Pn	**Pn**	**11 27 01.1**	**+2.7**
	baz=270,slow=20						
KMBL	**Kambalda**	**10.17**	**237**	P	**Pn**	**11 27 02.6**	**+0.6**
	baz=10,SNR=5.1						
STKA	**Stephens Creek**	**10.22**	**126**	Pn	**Pn**	**11 27 03.1**	**+0.4**
	1.7nm,0.3s,baz=303,slow=12,SNR=25						
STKA				Sn	**Sn**	**11 28 49.2**	**-8.1**
	0.8nm,0.3s,baz=63,slow=4.5,SNR=3.5						
STKA	**Stephens Creek**	**10.22**	**126**	P	**Pn**	**11 27 04.1**	**+1.4**
	baz=10,SNR=27						
KNRA	**Kununurra**	**10.85**	**344**	P	**Pn**	**11 27 13.3**	**+1.9**
	baz=11,SNR=3.3						
KNRA				S	**Sn**	**11 29 08.8**	**-4.2**
	baz=11						
QLP	**Quilpie**	**11.09**	**95**	P	**Pn**	**11 27 14.4**	**-0.2**
	baz=11,SNR=11						
QLP				S	**Sn**	**11 29 13.8**	**-5.0**
	baz=11						
MEEK	**Meekatharra**	**11.90**	**265**	P	**Pn**	**11 27 26.0**	**+0.3**
	baz=12,SNR=5.0						
MBWA	**Marble Bar**	**12.20**	**292**	*e*Pn	**Pn**	**11 27 31.7**	**+1.8**
MBWA				*e*Sn	**Sn**	**11 29 44.5**	**-1.4**
CMSA	**Cobar Meteorol**	**13.22**	**117**	P	**Pn**	**11 27 43.9**	**+0.1**
	baz=19						
BLDU	**Ballidu**	**14.06**	**248**	P	**Pn**	**11 27 55.4**	**+0.2**
	baz=14						
BLDU				S	**Sn**	**11 30 22.7**	**-8.7**
	baz=14						

NWAO	**Narrogin (SRO)**	**14.40**	**239**	*e*Pn	**Pn**			**11 28 01.6**	**+1.7**
NWAO				*e*Sn	**Sn**			**11 30 36.2**	**-3.5**
RKGY	**Rocky Gully**	**15.34**	**233**	P	**Pn**			**11 28 14.0**	**+1.4**
	baz=15,SNR=6.7								
COEN	**Coen**	**16.13**	**43**	*e*Pn	**Pn**			**11 28 21.4**	**-1.4**
COEN				*e*Sn	**Sn**			**11 31 21.0**	**-0.9**
GIRL	**Giralia**	**16.45**	**279**	P	**P**			**11 28 28.8**	**-0.9**
	baz=16								
MKAR	**Makanchi Array**	**85.33**	**328**	P	**P**			**11 37 16.1**	**+3.1**
	0.2nm,0.6s,baz=150,slow=6.1,SNR=2.5								
YKA	**Yellowknife Ar**	**123.72**	**31**	PKP	**PKPdf**			**11 43 35.3**	**+2.1**
	0.1nm,0.6s,baz=263,slow=1.8,SNR=3.6								
TORD	**Torodi Ar. Bea**	**131.60**	**264**	PKP	**PKPdf**			**11 43 53.6**	**+3.9**
	0.2nm,0.4s,baz=116,slow=1.2,SNR=6.2								

*ISCJB **16** 11:35:40.7±0.4, 13°.61N±0°.04×120°.62E±0°.06, h121km±4km, mb3.9/9, Error ellipse: s-maj=9.5km s-min=6.8km az=166.6*
*IDC **16** 11:35:41.1±0.8, 13°.68N×120°.92E, h116km±6km, mb3.5/9, mb1 3.6/9, mb1mx3.3/61, mbtmp3.9/9, Error ellipse: s-maj=43.2km s-min=14.9km az=63.0*
*MAN **16** 11:35:42, 13°.63N×120°.57E, h96km, mb4.7, ML3.6, MS3.5*
ISC 16 11:35:41.6±0.8, 13°.62N±0°.05×120°.63E±0°.06, h112km±6km, n21, σ0°.91/29, mb3.9/9, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.34**	**110**	*e*P	**Pn**	**11 35 57.7**	**-0.1**
PGP				*i* S	**Sn**	**11 36 09.6**	**-0.4**
LUBP	**Lubang**	**0.39**	**288**	*e*P	**Pn**	**11 35 57.9**	**-0.1**
LUBP				*e*S	**Sn**	**11 36 10.2**	**-0.2**
TGY	**Tagaytay City**	**0.57**	**32**	P	**Pn**	**11 35 59.6**	**+0.4**
	568nm,0.3s,baz=239,slow=1.9,SNR=26						
TGY				S	**Sn**	**11 36 12.7**	**+0.1**
	660nm,0.3s,baz=343,slow=19,SNR=29						
TGY	**Tagaytay City**	**0.57**	**32**	*e*P	**Pn**	**11 35 59.6**	**+0.4**
TGY				*i* S	**Sn**	**11 36 12.9**	**+0.4**
LQP	**Lukban**	**1.01**	**61**	*e*P	**Pn**	**11 36 03.5**	**+0.2**
BOAC	**Boac**	**1.19**	**97**	*e*P	**Pn**	**11 36 05.9**	**+0.9**
BOAC				*e*S	**Sn**	**11 36 24.1**	**+1.3**
SJMP	**San Jose**	**1.24**	**157**	*e*P	**Pn**	**11 36 06.5**	**+1.0**
SJMP				*e*S	**Sn**	**11 36 24.9**	**+1.1**
OTRP	**Odiongan**	**1.84**	**132**	*e*P	**Pn**	**11 36 13.6**	**+0.8**
OTRP				*e*S	**Sn**	**11 36 36.5**	**0.0**
SCZP	**Santa Cruz**	**2.26**	**342**	*e*P	**Pn**	**11 36 18.6**	**+0.7**
ENPP	**El Nido**	**2.67**	**206**	*e*P	**Pn**	**11 36 24.4**	**+1.1**
ENPP				*e*S	**Sn**	**11 36 55.7**	**+0.3**
BOLP	**Bolinao**	**2.83**	**346**	*e*P	**Pn**	**11 36 26.9**	**+1.4**
CAUP	**Cauayan**	**3.50**	**19**	*e*P	**Pn**	**11 36 35.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.38**	**286**	P	**P**	**11 40 22.0**	**+1.7**
	2.6nm,0.8s,baz=94,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**35.98**	**158**	P	**P**	**11 42 30.1**	**-1.7**
	0.6nm,0.8s,baz=331,slow=10,SNR=5.8						
SONM	**Songino Array**	**36.12**	**344**	P	**P**	**11 42 31.7**	**-1.1**
	0.4nm,0.6s,baz=128,slow=4.2,SNR=2.6						
ASAR	**Alice Springs**	**39.26**	**161**	P	**P**	**11 42 58.2**	**-1.2**
	0.2nm,0.4s,baz=337,slow=7.1,SNR=5.6						
MKAR	**Makanchi Array**	**46.06**	**324**	P	**P**	**11 43 54.6**	**+0.5**
	3.1nm,0.8s,baz=135,slow=9.2,SNR=19						
ZALV	**Zalesovo Beam**	**49.10**	**333**	P	**P**	**11 44 16.8**	**-0.7**
	1.5nm,0.3s,baz=131,slow=7.0,SNR=6.9						
KURBB	**Kurchatov Arra**	**50.22**	**326**	P	**P**	**11 44 26.3**	**+0.3**
	4.0nm,0.8s,baz=128,slow=8.2,SNR=2.3						
BVAR	**Borovoye Array**	**55.80**	**326**	P	**P**	**11 45 06.7**	**-0.2**
	0.6nm,0.4s,baz=148,slow=12,SNR=6.6						
AKTO	**Aktyubinsk**	**62.23**	**320**	P	**P**	**11 45 51.4**	**-0.1**
	1.2nm,0.6s,baz=95,slow=13,SNR=4.6						

WEL 16 11:35:51.3, 37°.5S±13°×17°.8E±°, h33km, ML3.3/2, ML3.6/54, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.85**	**180**	P	Pn	11 36 06.9	0.0
MXZ	**Matakaoa Point**	**0.85**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TSZ	**Takapari Road**	**3.81**	**208**	P	Pn	11 36 47.1	-0.6
WAZ	**Wanganui**	**4.01**	**220**	P	Pn	11 36 52.6	+2.3
OUZ	**Omahuta**	**4.10**	**290**	P	Pn	11 36 53.1	+1.5
LREZ	**Lake Rotokare**	**4.12**	**227**	P	Pn	11 36 55.7	+3.7
PREZ	**Palmer Road**	**4.20**	**230**	P	Pn	11 36 56.8	+3.9
OHWZ	**Ohakea**	**4.20**	**213**	P	Pn	11 36 53.8	+0.8
PKE	**Pukeiti**	**4.22**	**233**	P	Pn	11 36 57.4	+4.2
PRWZ	**Pori Road**	**4.25**	**205**	P	Pn	11 36 53.6	-0.1
OGWZ	**Otaki Gorge**	**4.77**	**210**	P	Pn	11 36 59.8	-1.1
DUWZ	**D'Urville Isla**	**5.33**	**219**	P	Pn	11 37 07.4	-1.1
QRZ	**Quartz Range**	**6.10**	**226**	P	Pn	11 37 18.3	-0.8
LTZ	**Lake Taylor**	**7.64**	**216**	P	Pn	11 37 39.1	-1.1

*ISCJB **16** 11:36:39.4±0.4, 55°.22S±0°.09×129°.0W±0°.2, h10km, mb4.6/15, MS4.3/37, Error ellipse: s-maj=14.9km s-min=11.7km az=39.7*

*IDC **16** 11:36:39.4±0.7, 55°.09S×129°.12W, h0km, mb4.4/9, mb1 4.6/9, mb1mx4.3/32, mbtmp4.4/9, MS4.2/33, Ms1 4.2/33, ms1mx4.1/45, Error ellipse: s-maj=26.4km s-min=19.0km az=141.0*

*NEIC **16** 11:36:41.0±0.4, 55°.13S×128°.99W, h10km, mb4.9/9, Error ellipse: s-maj=17.3km s-min=12.2km az=140.0*

*GCMT **16** 11:36:41.0±0.2, 55°.32S×128°.92W, h24km±1km, MW5.2/103, Moment Tensor Solution. s47,c60; s103,c154; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.67±.21; $M_{\theta\theta}$5.50±.21; $M_{\phi\phi}$-3.83±.15; $M_{r\theta}$-0.32±.24; $M_{\theta\phi}$5.13±.14; $M_{\phi r}$0.78±.23; Best double couple: $M_0$7.01100×10^{16} NP1:ϕ_s202.00000°,δ83.00000°, λ-173.00000°. NP2:ϕ_s111.00000°,δ83.00000°, λ-7.00000°. Principal axes: T 7.7690, Plg0.0000°, Azm336.0000°; N -1.5160, Plg80.0000°, Azm245.0000°; P -6.2530, Plg10.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 11:36:41.5±0.5**, 55°.34S**±0°.10×**128°.6W**±0°.1**, h10km, n94, σ1.s82**/55**, mb4.7**/15**, MS4.3**/37**, 1D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**32.38**	**202**	P	**P**	**11 43 12.2**	**+1.6**
	4.2nm,1.0s,baz=94,slow=8.0,SNR=11						
VNDA				LR	LR	11 53 01.6	
	comp=Z,257nm,18.7s,baz=83,slow=30						
VNDA	**Vanda**	**32.38**	**202**	eP	**P**	**11 43 13.4**	**+2.8**
RKT	**Rikitea**	**32.53**	**349**	eLQ	LQ	11 50 27.0	
	241nm,30.2s						
RKT				eLR	LR	11 51 35.9	
	2μm,28.5s,baz=174						
RKT	**Rikitea**	**32.53**	**349**	eT	T	12 16 50.2	
	29nm,0.3s						
QSPA	**South Pole Qui**	**34.84**	**180**	P	**P**	**11 43 34.8**	**+2.4**
	17nm,1.0s,baz=93,slow=4.3,SNR=26						
QSPA				LR	LR	11 56 34.5	
	comp=Z,1μm,18.3s,baz=84,slow=34						
TBI	**Tubuai**	**35.50**	**326**	eLR	LR	11 52 46.4	
	1μm,29.2s,baz=162						
TBI	**Tubuai**	**35.50**	**326**	eT	T	12 20 40.9	
	115nm,0.3s						
RPZ	**Rata Peaks**	**39.63**	**261**	LR	LR	11 56 25.5	
	comp=Z,756nm,20.6s,baz=147,slow=30						
URZ	**Urewera**	**39.77**	**272**	LR	LR	11 56 43.3	
	comp=Z,462nm,18.9s,baz=180,slow=30						
PLCA	**Paso Flores**	**40.25**	**94**	LR	LR	11 57 22.8	
	comp=Z,279nm,18.0s,baz=248,slow=31						
TVO	**Taravao**	**40.67**	**329**	eT	T	12 27 07.7	
	2.0nm,0.3s						
PAE	**Paea**	**40.88**	**329**	eT	T	12 27 23.6	
	1.3nm,0.2s						
PPT2	**Papeete2**	**40.95**	**329**	eS	**S**	**11 50 39.0**	**+2.9**
	216nm,26.8s						
PPT2				eLQ	LQ	11 53 47.7	
	343nm,24.0s						
PPT2				eLR	LR	11 55 32.8	
	2μm,26.2s,baz=169						
PPT2	**Papeete2**	**40.95**	**329**	eT	T	12 27 21.7	
	2.6nm,0.2s						
PPT	**Papeete**	**40.97**	**329**	LR	LR	11 56 36.6	
	comp=Z,492nm,19.1s,baz=170,slow=30						
RAR	**Rarotonga**	**41.30**	**313**	LR	LR	11 57 17.2	
	comp=Z,211nm,20.5s,baz=152,slow=30						
VAH	**Vaihoa**	**42.64**	**332**	eT	T	12 29 33.2	
	132nm,0.3s						
PMOR	**Pomariorio Ree**	**42.93**	**332**	eT	T	12 29 56.6	
	13nm,0.2s						
VNA3	**Neumayer Olymp**	**46.59**	**157**	P	**P**	**11 45 10.0**	**+1.0**
TAOE	**Nuku Hiva Isla**	**47.26**	**344**	eS	**S**	**11 52 11.9**	**+3.8**
	220nm,24.5s						
TAOE				eLR	LR	11 58 38.8	
	1μm,25.6s,baz=184						
VNA2	**Neumayer--Watz**	**47.33**	**158**	P	**P**	**11 45 15.5**	**+0.8**
	baz=218,slow=8.8						
VNA1	**Neumayer--Stat**	**47.34**	**157**	P	**P**	**11 45 16.4**	**+1.6**
SNAA	**Sanae**	**47.70**	**160**	P	**P**	**11 45 18.5**	**+0.7**
SNAA	**Sanae**	**47.70**	**160**	P	**P**	**11 45 18.6**	**+0.9**
	9.5nm,0.8s,baz=248,slow=7.7,SNR=35						
SNAA				LR	LR	12 04 26.9	
	comp=Z,741nm,20.1s,baz=186,slow=35						
SNAA	**Sanae**	**47.70**	**160**	eP	**P**	**11 45 18.4**	**+0.7**
	14nm,1.0s						
PB11	**IPOC Station P**	**56.40**	**76**	eP	**P**	**11 46 23.4**	**+0.2**
	19nm,1.1s						
MNMC	**Minye Minye**	**56.94**	**75**	eP	**P**	**11 46 28.0**	**+0.8**
	17nm,1.0s						
MAW	**Mawson**	**57.07**	**185**	LR	LR	12 08 50.5	
	comp=Z,236nm,20.6s,baz=199,slow=34						
DZM	**Mont Dzumac**	**57.93**	**277**	LR	LR	12 05 14.9	
	comp=Z,103nm,22.0s,baz=124,slow=30						
DZM	**Mont Dzumac**	**57.93**	**277**	eLR	LR	12 03 24.0	
	421nm,29.3s						
CPUP	**Villa Florida**	**58.22**	**91**	P	**P**	**11 46 35.9**	**+0.1**
	3.7nm,1.1s,baz=230,slow=9.6,SNR=3.9						
CPUP				LR	LR	12 08 29.4	
	comp=Z,393nm,18.3s,baz=226,slow=33						
CPUP	**Villa Florida**	**58.22**	**91**	eP	**P**	**11 46 35.9**	**+0.1**
	19nm,1.8s						
NNA	**Nana**	**58.98**	**64**	LR	LR	12 04 04.3	
	comp=Z,37nm,21.9s,baz=218,slow=28						
LPAZ	**La Paz**	**60.05**	**75**	P	**P**	**11 46 50.4**	**+1.0**
	5.3nm,0.9s,baz=209,slow=6.2,SNR=17						
LPAZ				LR	LR	12 07 40.7	
	comp=Z,44nm,20.1s,baz=216,slow=31						
LPAZ	**La Paz**	**60.05**	**75**	eP	**P**	**11 46 50.2**	**+0.9**
ATAH	**Atahualpa**	**62.35**	**59**	LR	LR	12 07 32.5	
	comp=Z,377nm,21.8s,baz=214,slow=30						
SIV	**San Ignacio**	**64.23**	**81**	LR	LR	12 10 25.3	
	comp=Z,72nm,20.6s,baz=154,slow=31						
STKA	**Stephens Creek**	**64.34**	**251**	LR	LR	12 09 45.8	
	comp=Z,216nm,20.7s,baz=182,slow=31						
SAML	**Samuel**	**68.80**	**75**	eP	**P**	**11 47 45.2**	**-0.6**
	6.1nm,0.8s						
ROSC	**El Rosal**	**74.72**	**57**	P	**P**	**11 48 23.1**	**+1.2**
	3.4nm,0.3s,baz=258,slow=7.3,SNR=3.8						
ROSC				LR	LR	12 15 29.0	
	comp=Z,124nm,18.8s,baz=248,slow=31						
ROSC	**El Rosal**	**74.72**	**57**	eP	**P**	**11 48 23.1**	**+1.2**
	7.2nm,0.4s						
AS01	**Alice Springs**	**74.95**	**250**	eP	**P**	**11 48 20.7**	**-2.1**
AS31	**Alice Springs**	**74.97**	**250**	eP	**P**	**11 48 20.9**	**-2.1**
	1.9nm,1.1s						
ASAR	**Alice Springs**	**74.97**	**250**	P	**P**	**11 48 20.9**	**-2.1**
	1.9nm,0.8s,baz=142,slow=4.3,SNR=12						
ASAR				LR	LR	12 17 01.6	
	comp=Z,234nm,19.5s,baz=146,slow=32						
H01W1	**Cape Leeuwin H**	**75.38**	**229**	T	T	13 11 55.2	
	baz=147,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**75.39**	**229**	T	T	13 11 56.7	
	baz=147,slow=76,SNR=18						
H01W3	**Cape Leeuwin H**	**75.40**	**229**	T	T	13 11 57.4	
	baz=147,slow=76,SNR=15						
NWAO	**Narrogin (SRO)**	**75.68**	**232**	LR	LR	12 13 38.7	
	comp=Z,249nm,20.1s,baz=24,slow=29						
CMIG	**Matias Romero**	**77.60**	**33**	LR	LR	12 15 56.1	
	comp=Z,79nm,21.4s,baz=198,slow=30						
WR1	**Warramunga Arr**	**77.75**	**253**	eP	**P**	**11 48 36.3**	**-2.4**
	68nm,1.9s						
WRA	**Warramunga Arr**	**77.75**	**253**	P	**P**	**11 48 36.3**	**-2.4**
	1.9nm,0.7s,baz=144,slow=5.1,SNR=9.6						
WRA				LR	LR	12 19 10.2	
	comp=Z,212nm,20.2s,baz=280,slow=33						
PMG	**Port Moresby**	**79.06**	**269**	LR	LR	12 19 22.2	
	comp=Z,102nm,19.0s,baz=160,slow=32						
SDV	**Santo Domingo**	**80.01**	**58**	LR	LR	12 21 03.8	
	comp=Z,80nm,19.4s,baz=52,slow=33						
LPIG	**La Paz**	**80.66**	**17**	LR	LR	12 16 37.8	
	comp=Z,135nm,18.6s,baz=202,slow=30						
PCRV	**Puerto La Cruz**	**84.10**	**63**	LR	LR	12 22 44.8	
	comp=Z,269nm,18.8s,baz=206,slow=33						
LTX	**Lajitas**	**87.00**	**22**	eP	**P**	**11 49 26.3**	**-0.4**
TX31	**Lajitas Ar. Si**	**87.00**	**22**	eP	**P**	**11 49 25.8**	**-0.9**
TXAR	**Lajitas Array**	**87.00**	**22**	P	**P**	**11 49 26.3**	**-0.4**
	1.3nm,1.0s,baz=189,slow=8.4,SNR=7.8						
TXAR				LR	LR	12 19 31.8	
	comp=Z,47nm,20.9s,baz=0.0,slow=30						
JAY	**Jayapura**	**88.35**	**268**	LR	LR	12 28 32.0	
	comp=Z,64nm,18.1s,baz=139,slow=35						
SUR	**Sutherland**	**88.78**	**154**	LR	LR	12 22 32.2	
	comp=Z,11nm,21.7s,baz=224,slow=31						
SJG	**San Juan**	**90.13**	**57**	LR	LR	12 24 58.0	
	comp=Z,69nm,20.0s,baz=258,slow=32						
H11S2	**WAKE ISLAND Hy**	**91.55**	**301**	T	T	13 30 56.9	
	baz=159						
H11S3	**WAKE ISLAND Hy**	**91.56**	**301**	T	T	13 30 59.1	
	baz=159						
H11S1	**WAKE ISLAND Hy**	**91.56**	**301**	T	T	13 30 58.2	
	baz=159						
ANMO	**Albuquerque**	**91.91**	**18**	eP	**P**	**11 49 48.9**	**-0.9**
	3.3nm,1.1s						
H11N3	**WAKE ISLAND Hy**	**92.49**	**302**	T	T	13 32 08.4	
	baz=146,slow=76,SNR=89						
H11N1	**WAKE ISLAND Hy**	**92.50**	**302**	T	T	13 32 06.8	
	baz=146,slow=76,SNR=98						
H11N2	**WAKE ISLAND Hy**	**92.51**	**302**	T	T	13 32 09.7	
	baz=146,slow=76,SNR=99						
CPIM	**Pinole Ridge**	**93.12**	**5**	eP	**P**	**11 49 56.0**	**+1.0**
BOSA	**Boshof**	**93.43**	**157**	LR	LR	12 29 20.2	
	comp=Z,224nm,18.8s,baz=206,slow=34						
NVAR	**Mina Array Bea**	**93.82**	**8**	LR	LR	12 24 09.1	
	comp=Z,202nm,18.0s,baz=256,slow=30						
YBH	**Yreka Blue Hor**	**96.83**	**4**	LR	LR	12 23 42.3	
	comp=Z,258nm,21.2s,baz=186,slow=29						
LBTB	**Lobatse**	**96.98**	**157**	LR	LR	12 28 09.1	
	comp=Z,133nm,21.9s,baz=186,slow=32						
PDAR	**Pinedale Array**	**99.07**	**14**	LR	LR	12 27 16.2	
	comp=Z,181nm,18.4s,baz=217,slow=31						
ILAR	**Eielson Array**	**120.60**	**351**	PKP	**PKPdf**	**11 55 30.5**	**-1.4**
	0.8nm,0.8s,baz=206,slow=2.1,SNR=7.8						
IL1	**Eielson Array**	**120.60**	**351**	ePKPdf	**PKPdf**	**11 55 29.9**	**-2.0**
TORD	**Torodi Ar. Bea**	**123.05**	**118**	PKP	**PKPdf**	**11 55 37.4**	**-0.8**
	0.4nm,0.8s,baz=225,slow=1.6,SNR=2.7						
TOA1	**Torodi Ar. Sit**	**123.05**	**118**	ePKPdf	**PKPdf**	**11 55 37.4**	**-0.8**
NJ2	**Nanjing**	**128.28**	**273**	ePKP	**PKPdf**	**11 55 47.0**	**-0.6**
GYA	**Guiyang**	**130.96**	**257**	ePdif	**Pdif**	**11 52 42.0**	**-2.4**
GYA				PKP	**PKPdf**	**11 55 53.0**	**-0.1**
GYA				PP	**PP**	**11 58 12.4**	**+2.5**
GYA				AMB	AMB		
	comp=Z,110nm,7.9s						
CD2	**Chengdu**	**136.01**	**258**	PKP	**PKPdf**	**11 56 01.0**	**-1.3**
HHC	**Hu-ho-hao-te**	**138.62**	**275**	ePKP	**PKPdf**	**11 56 02.9**	**-4.0**
LZH	**Lanzhou**	**139.76**	**264**	ePKP	**PKPdf**	**11 56 06.0**	**-3.3**
LZH				sPKP		11 56 16.4	
LZH				SKKS		12 05 55.4	
LZH				LR	LR		
	comp=N,120nm,19.2s						
LZH				LR	LR		
	comp=Z,140nm,20.3s						
GTA	**Gaotai**	**144.37**	**264**	⇓PKP	**PKPab**	**11 56 15.1**	**-0.3**
GTA				pPKP	sPKPdf	11 56 25.9	+4.0
GTA				PP	**PP**	**11 59 35.1**	**+1.7**
GTA				SKS	**SKSdf**	**12 03 22.4**	**-4.1**
GTA				SS	**SS**	**12 18 21.8**	**+2.1**
GTA				AMB	AMB		
	comp=Z,82nm,5.7s						
GTA				LR	LR		
	comp=N,90nm,16.6s						
GTA				LR	LR		
	comp=Z,86nm,16.6s						
TIXI	**Tiksi**	**144.86**	**328**	PKP	**PKPab**	**11 56 14.7**	**-1.5**
	14nm,0.9s,baz=44,slow=1.6,SNR=23						
KEST	**Kesra**	**145.32**	**107**	PKPbc	**PKPdf**	**11 56 19.5**	**+0.5**
	5.7nm,0.9s,baz=229,slow=2.0,SNR=5.7						
KEST	**Kesra**	**145.32**	**107**	ePKPdf	**PKPdf**	**11 56 19.2**	**+0.2**
ULN	**Ulaanbaatar**	**145.47**	**281**	ePKPbc	**PKPdf**	**11 56 18.3**	**-0.7**
SONA0	**Songino Array**	**145.82**	**281**	ePKPdf	**PKPdf**	**11 56 18.4**	**-1.1**
SONM	**Songino Array**	**145.82**	**281**	PKPbc	**PKPdf**	**11 56 18.4**	**-1.1**
	2.3nm,0.6s,baz=147,slow=3.7,SNR=11						
SONA1	**Songino Array**	**145.83**	**281**	ePKPdf	**PKPdf**	**11 56 18.2**	**-1.3**
RAYN	**Ar Rayn**	**147.92**	**170**	ePKPbc	**PKPbc**	**11 56 26.6**	**-0.1**
WMQ	**Urumqi**	**154.10**	**259**	PKPbc	**PKPdf**	**11 56 31.5**	**-1.1**
WMQ				LR	LR		
	comp=E,160nm,20.1s						
WMQ				LR	LR		
	comp=Z,160nm,23.7s						
KSH	**Kashi**	**157.23**	**236**	ePKP	**PKPdf**	**11 56 33.4**	**-3.6**

*ISCJB **16** 11:39:46.2±0.8, 63°.21N±0°.04×27°.9E±0°.1, h0km, Error ellipse: s-maj=7.3km s-min=4.7km az=25.7*

*IDC **16** 11:39:46.0±1.8, 62°.91N×28°.64E, h0km, mb1 3.3/3, mb1mx3.0/59, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=22.2km s-min=7.2km az=113.0*

*CSEM **16** 11:39:48.5±0.7, 63°.08N×27°.86E, h2km, ML2.0, Error ellipse: s-maj=16.5km s-min=13.9km az=85.0, Mining explosion.*

*HEL **16** 11:39:48.6±0.2, 63°.08N×27°.99E, h0km, ML2.0, Explosion*

ISC 16 11:39:48.3±1.2**, 63°.11N**±0°.04×**27°.91E**±0°.05**, h0km, n21, σ1.s28**/30**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.90**	**245**	S	**Sg**	**11 40 16.9**	**-0.1**
SUF	**Sumiainen**	**0.90**	**245**	eS	**Sg**	**11 40 16.9**	**-0.1**
FIA0	**FINESS Array S**	**1.88**	**208**	P	**Pn**	**11 40 21.7**	**+0.1**
FIA0	**FINESS Array S**	**1.88**	**208**	eP	**Pn**	**11 40 21.8**	**+0.1**
FINES	**FINESS Array B**	**1.88**	**208**	Pn	**Pn**	**11 40 21.5**	**-0.1**
	2.5nm,0.3s,baz=31,slow=16,SNR=61						
FINES				Lg	Lg	11 40 45.6	
	3.0nm,0.3s,baz=29,slow=29,SNR=13						
OUF	**Merijarvi**	**1.90**	**313**	Sg	**Sb**	**11 40 48.6**	**+0.8**
	13nm,0.1s						
OUF	**Merijarvi**	**1.90**	**313**	eSG	**Sb**	**11 40 48.6**	**+0.8**
OUF				MSG		11 40 53.9	
	comp=Z,13nm,0.1s						
VAF	**Ylistaro**	**2.39**	**271**	P	**Pn**	**11 40 28.5**	**0.0**
VAF				S	**Sn**	**11 40 59.2**	**+0.8**
VAF				Sg	**Sb**	**11 41 02.7**	**+0.8**
	comp=Z,11nm,0.1s						
VAF	**Ylistaro**	**2.39**	**271**	eP	**Pn**	**11 40 28.6**	**0.0**
VAF				eS	**Sn**	**11 40 59.2**	**+0.8**
VAF				eSG	**Sb**	**11 41 02.8**	**+0.8**
VAF				MSG		11 41 04.2	
	comp=Z,11nm,0.1s						
VJF	**Virojoki**	**2.59**	**184**	P	**Pn**	**11 40 32.1**	**+0.9**
VJF				Sg	**Sb**	**11 41 07.3**	**-0.4**
VJF	**Virojoki**	**2.59**	**184**	eP	**Pn**	**11 40 32.2**	**+0.9**
VJF				eSG	**Sb**	**11 41 07.4**	**-0.4**
PVF	**Pernaja**	**2.75**	**202**	Pb	**Pn**	**11 40 35.3**	**+1.8**
PVF	**Pernaja**	**2.75**	**202**	ePB	**Pn**	**11 40 35.4**	**+1.8**
MSF	**Maaselka**	**2.85**	**9**	P	**Pn**	**11 40 35.6**	**+0.6**
MSF	**Maaselka**	**2.85**	**9**	eP	**Pn**	**11 40 35.6**	**+0.6**
KU6	**Riekki**	**3.05**	**15**	Sg	**Sb**	**11 41 22.9**	**+1.9**
	comp=Z,2.3nm,0.1s						
KU6	**Riekki**	**3.05**	**15**	eSG	**Sb**	**11 41 22.9**	**+1.9**
KU6				MSG		11 41 24.8	
	comp=Z,2.4nm,0.1s						
RAF	**Rauma**	**3.57**	**237**	eS	**Sn**	**11 41 29.6**	**+1.9**
	comp=Z,4.5nm,0.5s,SNR=68						
ARCES	**ARCESS Array B**	**6.53**	**353**	Pn	**Pn**	**11 41 25.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=9.0						
ARCES				Sn	**Sn**	**11 42 37.7**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=170,slow=24,SNR=3.9						
HFS	**Hagfors**	**7.40**	**253**	Pn	**Pn**	**11 41 38.8**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=64,slow=13,SNR=7.1						
HFS				Sn	**Sn**	**11 42 58.6**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=67,slow=19,SNR=3.8						
NOA	**NORSAR Array B**	**8.11**	**263**	Pn	**Pn**	**11 41 46.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=133,slow=7.5,SNR=3.3						
NOA				Sn	**Sn**	**11 43 18.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=50,slow=23,SNR=2.7						

*ISCJB **16** 11:56:53.9±0.4, 17°.50S±0°.06×48°.54E±0°.05, h10km, mb3.9/8, MS3.4/3, Error ellipse: s-maj=8.2km s-min=6.1km az=165.9*

*IDC **16** 11:56:54.2±0.9, 17°.48S×48°.38E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/75, mbtmp3.8/7, ML4.9/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/61, Error ellipse: s-maj=31.8km s-min=12.9km az=136.0*

*NEIC **16** 11:56:55.5±0.5, 17°.48S×48°.42E, h10km, mb4.2/1, Error ellipse: s-maj=11.1km s-min=8.8km az=162.0*

ISC 16 11:56:55.3±0.6**, 17°.54S**±0°.09×**48°.45E**±0°.05**, h10km, n26, σ1.s69**/30**, mb3.9**/8**, MS3.3**/3**, Madagascar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**1.57**	**229**	Pn	**Pn**	**11 57 23.8**	**+0.3**
	478nm,0.3s,baz=51,slow=14,SNR=2898						
OPO				Lg	Lg	11 57 43.5	
	2μm,0.3s,baz=304,slow=20,SNR=56						
I33MG	**ANTANANARIVO I**	**1.82**	**216**	Pn	**Pn**	**11 57 28.0**	**+1.1**
	baz=39,slow=19,SNR=0.8						
I33MG				Lg	Lg	11 57 51.2	
	baz=36,slow=26						
I33MG				i		12 07 00.0	
	baz=30,slow=319,SNR=0.6						
ABPO	**Ambohimpanom**	**1.87**	**218**	ePn	**Pn**	**11 57 27.9**	**+0.4**
ABPO				eSn	**Sn**	**11 57 51.5**	**+0.1**
RER	**Riviere de l'E**	**7.77**	**119**	ePn	**Pn**	**11 58 49.8**	**+1.2**
RER				eSn	**Sn**	**12 00 16.2**	**-0.5**
MRIV	**Mauritius Mete**	**8.99**	**109**	ePn	**Pn**	**11 59 05.5**	**+0.2**
MRIV				eSn	**Sn**	**12 00 40.5**	**-6.2**
LSZ	**Lusaka**	**19.57**	**274**	Pn	**Pn**	**12 01 25.0**	**0.0**
	0.7nm,0.3s,baz=62,slow=19,SNR=6.6						
LSZ				LR	LR	12 09 13.8	
	comp=Z,124nm,19.5s,baz=140,slow=38						
LSZ	**Lusaka**	**19.57**	**274**	eP	**P**	**12 01 22.2**	**-1.4**
LSZ				ePn	**Pn**	**12 01 24.3**	**-0.6**
LSZ				eS	**Sn**	**12 05 01.3**	**-3.5**
LBTB	**Lobatse**	**22.53**	**247**	LR	LR	12 09 22.1	
	comp=Z,53nm,21.7s,baz=82,slow=33						
MBAR	**Mbarara**	**24.23**	**312**	LR	LR	12 11 49.5	
	comp=Z,94nm,18.6s,baz=44,slow=37						
CRZF	**Crozet Islands**	**28.94**	**175**	eP	**P**	**12 02 55.4**	**+0.7**
	36nm,0.9s						
TSUM	**Tsumeb**	**29.32**	**262**	P	**P**	**12 02 59.0**	**+0.5**
	1.9nm,0.6s,baz=70,slow=7.0,SNR=4.1						
ABKAR	**Akbulak array**	**67.28**	**8**	eP	**P**	**12 07 50.7**	**+0.7**
	0.8nm,0.4s						
MK32	**Makanchi Array**	**70.93**	**24**	eP	**P**	**12 08 13.7**	**+1.0**
MKAR	**Makanchi Array**	**70.93**	**24**	P	**P**	**12 08 13.7**	**+1.0**
	0.2nm,0.6s,baz=215,slow=6.5,SNR=2.7						
BVAR	**Borovoye Array**	**72.80**	**14**	P	**P**	**12 08 24.2**	**+0.4**
	0.5nm,0.6s,baz=175,slow=7.2,SNR=2.6						
KURBB	**Kurchatov Arra**	**72.85**	**20**	P	**P**	**12 08 24.0**	**-0.1**
	0.3nm,0.5s,baz=221,slow=6.8,SNR=3.9						
KURK	**Kurchatov**	**72.96**	**20**	eP	**P**	**12 08 24.0**	**-0.8**
HOPE	**Hope Point**	**73.02**	**218**	eP	**P**	**12 08 27.0**	**+1.7**
ZALV	**Zalesovo Beam**	**77.73**	**21**	P	**P**	**12 08 51.3**	**-0.9**
	0.9nm,0.5s,baz=207,slow=6.0,SNR=3.2						
ZAA1	**Zalesovo Array**	**77.74**	**21**	eP	**P**	**12 08 51.3**	**-0.9**
ASAR	**Alice Springs**	**79.11**	**111**	P	**P**	**12 09 02.1**	**+1.4**
	0.4nm,0.5s,baz=258,slow=5.0,SNR=7.5						
BORG	**Borgarnes**	**97.42**	**336**	LR	LR	12 59 03.6	
	comp=Z,38nm,18.2s,baz=135,slow=38						
PDAR	**Pinedale Array**	**148.66**	**328**	PKPbc	**PKPbc**	**12 16 44.5**	**+1.3**
	0.2nm,0.6s,baz=56,slow=1.6,SNR=2.3						
LTX	**Lajitas**	**151.93**	**300**	ePKPbc	**PKPbc**	**12 16 52.3**	**+0.9**
LTX				ePKPab	**PKPab**	**12 16 58.8**	**-1.7**
TXAR	**Lajitas Array**	**151.93**	**300**	PKPbc	**PKPbc**	**12 16 52.3**	**+0.9**
	0.4nm,0.7s,baz=96,slow=2.7,SNR=3.4						
TXAR				PKPab	**PKPab**	**12 16 58.8**	**-1.7**
	0.4nm,0.7s,baz=116,slow=4.1,SNR=6.5						
WVOR	**Wild Horse Val**	**152.85**	**339**	ePKPdf	**PKPdf**	**12 16 45.2**	**-0.7**

*ISK **16** 12:02:39.2, 38°.51N×42°.43E, h5km, ML2.5/3*

*ISCJB **16** 12:02:41.5±0.8, 38°.42N±0°.04×42°.32E±0°.06, h3km±8km, Error ellipse: s-maj=8.2km s-min=5.7km az=152.0*

*CSEM **16** 12:02:41.8±0.2, 38°.42N×42°.31E, h2km, ML2.5, Error ellipse: s-maj=4.5km s-min=3.5km az=68.0*

*DDA **16** 12:02:41.9, 38°.39N×42°.31E, h7km, Ml2.6*

ISC 16 12:02:41.8±1.2**, 38°.43N**±0°.03×**42°.31E**±0°.04**, h5km**±13km**, n17, σ0.s44**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GURO	**Guroymak-BITLI**	**0.25**	**300**	PG	**Pg**	**12 02 46.7**	**-0.1**
GURO				SG	**Sg**	**12 02 50.2**	**0.0**
GURO	**Guroymak-BITLI**	**0.25**	**300**	ePg	**Pg**	**12 02 46.7**	**-0.1**
GURO				eSg	**Sg**	**12 02 50.2**	**0.0**
SRTM	**Siirt_Merkez**	**0.53**	**215**	i P	**Pg**	**12 02 51.6**	**-0.5**
SRTM				i S	**Sg**	**12 02 60.0**	**+1.0**
SRTM	**Siirt_Merkez**	**0.53**	**215**	P	**Pg**	**12 02 51.6**	**-0.5**
SRTM				S	**Sg**	**12 03 00.0**	**+1.0**
GEVA	**Gevas**	**0.60**	**101**	i P	**Pg**	**12 02 53.0**	**-0.3**
GEVA	**Gevas**	**0.60**	**101**	P	**Pg**	**12 02 53.0**	**-0.3**
EKAR	**Karacoban**	**0.85**	**347**	i P	**Pb**	**12 02 59.4**	**+0.1**
EKAR	**Karacoban**	**0.85**	**347**	P	**Pb**	**12 02 59.4**	**+0.1**
SIRT	**Sirnak**	**0.93**	**174**	PG	**Pg**	**12 02 59.3**	**-0.3**
SIRT				SG	**Sb**	**12 03 12.8**	**-0.3**
SIRT	**Sirnak**	**0.93**	**174**	ePg	**Pg**	**12 02 59.3**	**-0.3**
SIRT				eSg	**Sb**	**12 03 12.8**	**-0.3**
SIRN	**S˜–rnak**	**0.93**	**175**	i P	**Pg**	**12 02 59.7**	**0.0**
SIRN				i S	**Sb**	**12 03 12.8**	**-0.4**
SIRN	**S˜–rnak**	**0.93**	**175**	P	**Pg**	**12 02 59.7**	**0.0**
SIRN				S	**Sb**	**12 03 12.8**	**-0.4**
BTMN	**Batman**	**0.98**	**237**	i P	**Pg**	**12 03 00.1**	**-0.5**
BTMN				i S	**Sg**	**12 03 13.2**	**-0.2**
BTMN	**Batman**	**0.98**	**237**	P	**Pg**	**12 03 00.1**	**-0.5**
BTMN				S	**Sg**	**12 03 13.2**	**-0.2**
AGRB	**Hanur-Agry**	**1.26**	**25**	PN	Pg	12 03 01.3	-4.8
MAZI	**Mazidag**	**1.76**	**237**	PN	**Pn**	**12 03 13.5**	**+0.4**
MAZI	**Mazidag**	**1.76**	**237**	ePn	**Pn**	**12 03 13.5**	**+0.4**

IDC 16 12:03:52.2±2.0**, 1°.73N**×**124°.86E, h0km, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.4**/73**, mbtmp3.7**/4**, MS3.9**/5**, Ms1 3.9**/5**, ms1mx3.0**/49**, Error ellipse: s-maj=252.8km s-min=23.8km az=63.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.46**	**157**	P	P	12 09 04.2	+0.7
	1.4nm,0.3s,baz=335,slow=9.9,SNR=31						
ASAR	**Alice Springs**	**26.73**	**161**	P	P	12 09 33.2	-0.4
	1.1nm,0.9s,baz=336,slow=7.2,SNR=7.9						
STKA	**Stephens Creek**	**37.00**	**156**	P	P	12 11 02.7	-0.9
	0.5nm,0.5s,baz=352,slow=14,SNR=3.3						
PETK	**Petropavlovsk-**	**57.98**	**23**	LR	LR	12 39 35.1	
	comp=Z,32nm,20.1s,baz=135,slow=37						
MKAR	**Makanchi Array**	**58.16**	**327**	P	P	12 13 48.5	+0.5
	0.3nm,0.4s,baz=118,slow=8.1,SNR=5.5						
ATD	**Arta Tunnel**	**81.83**	**281**	LR	LR	12 52 36.0	
	comp=Z,168nm,19.6s,baz=111,slow=36						
MMAI	**Mount Meron Ar**	**88.61**	**303**	LR	LR	13 02 58.1	
	comp=Z,114nm,20.4s,baz=0.0,slow=40						
SPITS	**Spitsbergen Ar**	**92.07**	**349**	LR	LR	13 04 35.8	
	comp=Z,59nm,18.5s,baz=30,slow=40						
IDI	**Anoyia**	**97.14**	**306**	LR	LR	13 07 45.8	
	comp=Z,35nm,21.0s,baz=301,slow=40						

MEX 16 12:06:00.0±0.6**, 14°.16N**×**92°.29W, h15km, MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		**1.78**	**330**	eP	Pn	12 06 27.4	-2.8
PCIG				i S	Sn	12 06 47.3	-5.2
CCIG	**Comitan**	**2.11**	**4**	i P	Pn	12 06 32.1	-2.9
CCIG				eS	Sn	12 06 56.5	-4.6
TGIG		**2.72**	**343**	i P	Pn	12 06 41.0	-2.3
TGIG				i S	Sn	12 07 11.9	-4.1

*IDC **16** 12:08:42.5±1.2, 19°.54S×173°.92W, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.0/58, mbtmp4.1/12, MS3.7/11, Ms1 3.7/11, ms1mx3.4/43, Error ellipse: s-maj=41.4km s-min=19.8km az=133.0*

*NEIC **16** 12:08:45.5±4.7, 19°.41S×174°.09W, h14km±29km, mb4.8/8, Error ellipse: s-maj=15.2km s-min=8.3km az=121.0*

*ISCJB **16** 12:08:46.4±0.6, 19°.46S±0°.07×174°.1W±0°.1, h32km, mb4.3/19, MS3.7/7, Error ellipse: s-maj=17.8km s-min=8.5km az=23.6*

ISC 16 12:08:47.7±0.7**, 19°.5S**±0°.1×**174°.0W**±0°.2**, h32km, n48, σ1.s35**/45**, mb4.4**/19**, MS3.8**/7**, Tonga Islands**

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

AFI	**Afiamalu**	**5.93**	**21**	Pn	Pn	12 10 07.9	-5.4
	2.0nm,0.3s,baz=48,slow=15,SNR=3.4						
AFI				Sn	Sn	12 11 08.7	-12
	4.1nm,0.3s,baz=37,slow=20,SNR=2.9						
AFI				LR	LR	12 12 35.1	
	comp=Z,151nm,18.8s,baz=190,slow=39						
AFI	**Afiamalu**	**5.93**	**21**	*e*Pn	**Pn**	**12 10 12.6**	**-0.8**
AFI				*e*Sn	**Sn**	**12 11 17.4**	**-2.9**
RAO	**Raoul Island**	**10.37**	**199**	LR	LR	12 14 35.6	
	comp=Z,1μm,21.0s,baz=127,slow=34						
RAR	**Rarotonga**	**13.46**	**100**	LR	LR	12 17 26.4	
	comp=Z,137nm,18.2s,baz=269,slow=39						
DZM	**Mont Dzumac**	**18.47**	**259**	LR	LR	12 19 21.7	
	comp=Z,255nm,18.6s,baz=106,slow=34						
URZ	**Urewera**	**20.25**	**201**	P	**P**	**12 13 19.4**	**-0.9**
	6.1nm,0.7s,baz=317,slow=7.6,SNR=4.5						
URZ				S	**S**	**12 17 00.9**	**-4.9**
	3.7nm,0.6s,baz=73,slow=20,SNR=5.8						
HIZ	**Hauiti**	**21.30**	**205**	*e*P	**P**	**12 13 32.5**	**+0.8**
	31nm,1.4s						
PPT	**Papeete**	**23.23**	**89**	LR	LR	12 21 05.3	
	comp=Z,85nm,19.0s,baz=266,slow=32						
TARA	**Tarawa**	**24.36**	**327**	*e*P	**P**	**12 14 02.6**	**-0.3**
	120nm,1.1s						
LTZ	**Lake Taylor**	**25.97**	**204**	*e*P	**P**	**12 14 19.2**	**+1.8**
	27nm,1.4s						
HNR	**Honiara**	**27.09**	**288**	LR	LR	12 23 32.0	
	comp=Z,126nm,18.6s,baz=148,slow=33						
RPZ	**Rata Peaks**	**27.23**	**204**	P	**P**	**12 14 31.6**	**+2.9**
	7.3nm,0.6s,baz=339,slow=1.7,SNR=7.8						
CTA	**Charters Tower**	**37.34**	**262**	P	**P**	**12 15 57.1**	**-0.4**
	3.0nm,0.5s,baz=104,slow=13,SNR=6.4						
PMG	**Port Moresby**	**38.84**	**279**	LR	LR	12 30 10.2	
	comp=Z,176nm,18.2s,baz=280,slow=33						
STKA	**Stephens Creek**	**41.62**	**244**	P	**P**	**12 16 32.1**	**-0.9**
	1.4nm,0.7s,baz=119,slow=14,SNR=2.9						
STKA				LR	LR	12 32 33.6	
	comp=Z,104nm,18.1s,baz=31,slow=34						
STKA	**Stephens Creek**	**41.62**	**244**	*e*P	**P**	**12 16 31.8**	**-1.2**
AS01	**Alice Springs**	**48.37**	**255**	*e*P	**P**	**12 17 26.2**	**-0.7**
AS31	**Alice Springs**	**48.41**	**255**	*e*P	**P**	**12 17 25.7**	**-1.5**
	1.4nm,0.8s						
ASAR	**Alice Springs**	**48.41**	**255**	P	**P**	**12 17 27.0**	**-0.2**
	4.1nm,0.8s,baz=96,slow=7.9,SNR=16						
ASAR				PcP	**PcP**	**12 18 54.0**	**+0.6**
	1.0nm,0.6s,baz=110,slow=4.2,SNR=4.8						
WB2	**Warramunga Arr**	**48.46**	**260**	*e*P	**P**	**12 17 27.5**	**-0.1**
WR1	**Warramunga Arr**	**48.47**	**260**	*e*P	**P**	**12 17 26.8**	**-0.9**
	14nm,1.3s						
WRA	**Warramunga Arr**	**48.47**	**260**	P	**P**	**12 17 26.8**	**-0.9**
	3.0nm,0.9s,baz=97,slow=7.5,SNR=19						
MJAR	**Matsushiro Arr**	**71.70**	**321**	P	**P**	**12 20 06.3**	**-0.3**
	2.0nm,0.7s,baz=166,slow=6.6,SNR=6.9						
MAJO	**Matsushiro**	**71.70**	**321**	*e*P	**P**	**12 20 06.3**	**-0.3**
EML	**El Monte Cty P**	**75.44**	**47**	*e*P	**P**	**12 20 31.0**	**+2.3**
LPIG	**La Paz**	**75.67**	**58**	LR	LR	12 47 42.0	
	comp=Z,48nm,19.0s,baz=266,slow=31						
PETK	**Petropavlovsk-**	**76.32**	**343**	P	**P**	**12 20 33.9**	**+0.7**
	1.5nm,0.8s,baz=93,slow=8.9,SNR=4.3						
PEA1	**Petropavlovsk-**	**76.33**	**343**	*e*P	**P**	**12 20 33.9**	**+0.6**
YBH	**Yreka Blue Hor**	**77.18**	**37**	LR	LR	12 49 56.4	
	comp=Z,89nm,18.4s,baz=324,slow=32						
NVAR	**Mina Array Bea**	**77.73**	**42**	P	**P**	**12 20 40.9**	**-0.9**
	0.6nm,0.7s,baz=232,slow=9.0,SNR=4.0						
KSRS	**Korea Array**	**78.68**	**316**	P	**P**	**12 20 48.3**	**+1.6**
	1.6nm,0.8s,baz=127,slow=6.0,SNR=5.1						
KSAR	**Wonju Array Be**	**78.69**	**316**	P	**P**	**12 20 48.3**	**+1.5**
MCK	**McKinley**	**85.21**	**11**	*e*P	**P**	**12 21 19.6**	**-0.9**
	6.0nm,1.0s						
DOT	**Dot Lake**	**86.08**	**13**	*e*P	**P**	**12 21 25.5**	**+0.7**
	16nm,1.4s						
SEY	**Seymchan**	**86.29**	**345**	P	**P**	**12 21 26.4**	**+0.6**
	3.0nm,0.8s,baz=136,slow=6.1,SNR=16						
ILAR	**Eielson Array**	**86.53**	**11**	P	**P**	**12 21 26.0**	**-1.0**
	0.5nm,0.7s,baz=226,slow=6.1,SNR=12						
ILB	**Eielson Array**	**86.53**	**11**	*e*P	**P**	**12 21 26.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.34**	**288**	P	**P**	**12 22 02.3**	**+2.2**
	0.3nm,0.3s,baz=125,slow=2.8,SNR=4.6						
LPAZ	**La Paz**	**98.94**	**111**	LR	LR	13 00 25.7	
	comp=Z,29nm,18.2s,baz=184,slow=31						
MK32	**Makanchi Array**	**113.23**	**313**	*e*PKiKP	**PKiKP**	**12 27 21.6**	**-0.4**
MKAR	**Makanchi Array**	**113.23**	**313**	PKiKP	**PKiKP**	**12 27 21.6**	**-0.4**
	0.3nm,0.7s,baz=135,slow=1.2,SNR=3.9						
CLL	**Collm**	**147.76**	**352**	*e*PKPbc	**PKPbc**	**12 28 29.0**	**0.0**
CLL				*e*pPKPab	**pPKPdf**	**12 28 37.0**	**+0.2**
CLL				*e*		12 28 45.0	
BUR04	**Bucovina Ar. S**	**147.87**	**335**	*e*PKPbc	**PKPab**	**12 28 31.4**	**-0.8**
BR101	**Keskin Array S**	**148.82**	**316**	*e*PKPbc	**PKPbc**	**12 28 33.3**	**+0.9**
BRTR	**Keskin Array B**	**148.82**	**316**	PKPbc	**PKPbc**	**12 28 33.3**	**+0.9**
	1.6nm,0.8s,baz=119,slow=3.2,SNR=7.0						
BR231	**Keskin MP Arra**	**149.32**	**317**	*e*PKPbc	**PKPbc**	**12 28 33.6**	**0.0**
BR231				*e*PKPab	**PKPab**	**12 28 38.7**	**+0.4**
GERES	**GERESS Array B**	**150.05**	**350**	PKPbc	**PKPbc**	**12 28 35.8**	**+0.7**
	0.5nm,0.4s,baz=122,slow=1.7,SNR=5.7						
GEA0	**GERESS Array S**	**150.06**	**350**	*e*PKPdf	**PKPdf**	**12 28 30.5**	**+0.3**
GEA0				*e*PKPbc	**PKiKP**	**12 28 35.5**	**-0.4**
GEA0				*e*PKPab	**PKPab**	**12 28 41.0**	**+0.1**

GUC 16 12:21:40.0±0.6,19°35S×70°53W,h35km±3km, ML2.6, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.46**	**123**	*e*P	Pn	12 21 49.9	-0.3
PSGC				*e*S	Sn	12 21 56.8	-0.4
PB12	**IPOC Station P**	**0.76**	**15**	*i*P	Pn	12 21 54.3	0.0
PB12				*i*S	Sn	12 22 04.5	-0.1
MNMC	**Minye Minye**	**0.91**	**76**	*e*P	Pn	12 21 57.0	+0.4
MNMC				*i*S	Sn	12 22 09.2	+0.6
MNMC				IAML		12 22 13.5	
	comp=N,535nm,0.1s						
PB08	**IPOC Station P**	**1.52**	**121**	*e*P	Pn	12 22 06.4	+1.4
PB08				*i*S	Sn	12 22 27.5	+3.7
PB01	**IPOC Station P**	**1.95**	**150**	*e*P	Pn	12 22 11.5	+0.8
	comp=N,9.4nm,0.3s						
PB01	**IPOC Station P**	**1.95**	**150**	*i*P	Pn	12 22 11.8	+1.1
PB01				*i*S	Sn	12 22 37.4	+3.4
PB01				IAML		12 22 44.4	
	comp=E,57nm,0.2s						
PB01				IAML		12 22 45.4	
	comp=E,54nm,0.4s						

IDC 16 12:37:09.8±2.9,6°00S×134°46E,h0km,mb3.3/1, mb1 3.4/3,mb1mx3.3/42,mbtmp3.3/3,ML3.2/2,Error ellipse: s-maj=130.0km s-min=32.4km az=79.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.86**	**180**	Pn	Pn	12 40 26.6	-1.1
	0.1nm,0.3s,baz=0.6,slow=13,SNR=8.4						
WRA				Sn	Sn	12 42 47.8	-15
	0.1nm,0.3s,baz=354,slow=24,SNR=5.0						
ASAR	**Alice Springs**	**17.57**	**182**	P	P	12 41 17.1	-0.3
	0.1nm,0.3s,baz=360,slow=8.0,SNR=6.5						
MKAR	**Makanchi Array**	**69.90**	**325**	P	P	12 48 22.8	0.0
	0.3nm,0.8s,baz=108,slow=4.7,SNR=2.7						

JMA 16 12:57:08.9±0.1,40°94N×145°10E,h63km±2km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.81**	**307**	P	Pn	12 57 38.5	+0.7
JEM				S	Sn	12 57 58.3	-1.5
JAK	**Akkeshi**	**2.08**	**352**	P	Pn	12 57 42.0	+0.6
JAK				S	Sn	12 58 07.7	+1.5
JCH	**Churui**	**2.12**	**323**	P	Pn	12 57 42.8	+0.8
JCH				S	Sn	12 58 06.2	-1.0
JOB	**Onbets**	**2.18**	**335**	P	Pn	12 57 43.8	+1.0
JOB				S	Sn	12 58 09.7	+1.1
JNBK	**Urakawa-nobuka**	**2.21**	**308**	P	Pn	12 57 44.7	+1.5
JNBK				S	Sn	12 58 10.0	+0.5
NEM2	**Nemuro 2**	**2.47**	**11**	P	Pn	12 57 47.7	+1.0
NEM2				S	Sn	12 58 16.4	+0.6
JAR	**Ashorobuto**	**2.56**	**338**	P	Pn	12 57 48.4	+0.5
JAR				S	Sn	12 58 18.5	+0.6
JNK	**Nakash**	**2.66**	**354**	P	Pn	12 57 49.6	+0.3
JBT2	**Biratori 2**	**2.75**	**313**	P	Pn	12 57 51.8	+1.3
JBT2				S	Sn	12 58 23.6	+1.0
JANG	**Nango**	**2.79**	**259**	P	Pn	12 57 51.1	0.0
JANG				S	Sn	12 58 21.1	-2.4
JFR	**Furan**	**2.90**	**321**	P	Pn	12 57 53.9	+1.2
JFR				S	Sn	12 58 25.2	-1.2
JRA	**Raoul**	**3.00**	**0**	P	Pn	12 57 54.7	+0.8
JRA				S	Sn	12 58 28.8	+0.2
JTM	**Tenmabayashi**	**3.06**	**268**	P	Pn	12 57 55.6	+0.8
JTM				S	Sn	12 58 27.7	-2.6
JOT	**Ohata**	**3.09**	**280**	P	Pn	12 57 55.9	+0.7
JOT				S	Sn	12 58 28.8	-2.2
JTKR	**Abashiri--Toko**	**3.15**	**344**	P	Pn	12 57 57.6	+1.5
JTKR				S	Sn	12 58 33.5	+1.0
JKB	**Kayabe**	**3.20**	**289**	P	Pn	12 57 57.7	+1.0
JKB				S	Sn	12 58 33.8	+0.1
JOM	**Ohasama**	**3.26**	**245**	P	Pn	12 57 58.4	+0.8
JOM				S	Sn	12 58 33.1	-2.1
JEW	**Eniwo**	**3.32**	**306**	P	Pn	12 58 00.4	+2.0
JEW				S	Sn	12 58 37.5	+0.9

IDC 16 12:58:05.6±561.0,47°82N×49°08E,h0km,Error ellipse: s-maj=207.7km s-min=134.3km az=51.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.42**	**63**	*i*		13 35 10.0	
	baz=249,slow=306,SNR=3.3						
I43RU	**DUBNA INFRASONI**	**21.49**	**325**	*i*		14 07 40.0	
	baz=135,slow=338,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**23.18**	**61**	*i*		15 22 40.0	
	baz=268,slow=327,SNR=1.3						

IDC ***16*** *12:59:49.8±1.0,22°22S×170°08E,h0km,mb4.0/11, mb1 4.2/12,mb1mx4.0/42,mbtmp4.0/12,ML4.1/1,MS3.7/13, Ms1 3.7/13,ms1mx3.4/41,Error ellipse: s-maj=26.9km s-min=21.0km az=148.0*

ISCJB ***16*** *12:59:52.4±0.6,22°35S±0°1×170°00E±0°07,h25km, mb4.2/15,MS3.9/9,Error ellipse: s-maj=15.9km s-min=8.0km az=162.5*

NEIC ***16*** *12:59:58.0±1.7,22°22S×169°86E,h52km±14km,mb4.4/5, Error ellipse: s-maj=23.0km s-min=11.1km az=161.0*

ISC 16 12:59:54.3±0.7,22°22S±0°1×169°98E±0°08,h25km,n42, σ1s09/35,mb4.1/15,MS3.8/9,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.28**	**272**	Pn	**Pn**	**13 00 44.3**	**+0.1**
	18nm,0.3s,baz=129,slow=15,SNR=460						
DZM				Sn	**Sn**	**13 01 24.2**	**+1.8**
	18nm,0.3s,baz=23,slow=14,SNR=9.4						
DZM				LR	LR	13 02 01.5	
	comp=Z,552nm,20.8s,baz=168,slow=39						
DZM	**Mont Dzumac**	**3.28**	**272**	*e*Pn	**Pn**	**13 00 44.2**	**0.0**
DZM				*e*Sn	**Sn**	**13 01 21.1**	**-1.4**
MSVF	**Nonsavu**	**8.80**	**61**	*e*Pn	Pn	13 02 06.0	+5.8
HNR	**Honiara**	**15.95**	**321**	LR	LR	13 09 24.5	
	comp=Z,148nm,18.1s,baz=166,slow=36						
HNR	**Honiara**	**15.95**	**321**	*e*Pn	**Pn**	**13 03 39.3**	**-1.3**
	46nm,1.0s						
FUNA	**Funafuti**	**16.25**	**35**	*e*Pn	**Pn**	**13 03 41.7**	**+0.7**
	24nm,1.0s						
URZ	**Urewera**	**17.13**	**161**	LR	LR	13 09 24.8	
	comp=Z,100nm,19.1s,baz=354,slow=34						
AFI	**Afiamalu**	**19.20**	**68**	LR	LR	13 09 41.9	
	comp=Z,88nm,21.8s,baz=248,slow=31						
CTA	**Charters Tower**	**22.22**	**277**	P	**P**	**13 04 49.6**	**+0.4**
	3.8nm,0.8s,baz=117,slow=16,SNR=2.8						
STKA	**Stephens Creek**	**26.98**	**243**	P	**P**	**13 05 34.1**	**-0.1**
	1.7nm,0.7s,baz=72,slow=12,SNR=3.6						
STKA				LR	LR	13 15 47.1	
	comp=Z,186nm,18.2s,baz=43,slow=35						
AS01	**Alice Springs**	**33.15**	**260**	*e*P	**P**	**13 06 29.9**	**+0.9**
AS31	**Alice Springs**	**33.20**	**260**	*e*P	**P**	**13 06 30.1**	**+0.7**
	1.2nm,0.9s						
ASAR	**Alice Springs**	**33.20**	**260**	P	**P**	**13 06 29.4**	**0.0**
	1.7nm,0.7s,baz=83,slow=9.1,SNR=32						
ASAR				LR	LR	13 19 11.2	
	comp=Z,188nm,20.4s,baz=102,slow=35						
WRAB	**Tennant Creek**	**33.27**	**267**	*e*P	**P**	**13 06 28.9**	**-1.1**
	12nm,1.1s						
WR1	**Warramunga Arr**	**33.28**	**267**	*e*P	**P**	**13 06 30.0**	**-0.1**
	6.3nm,1.0s						
WRA	**Warramunga Arr**	**33.28**	**267**	P	**P**	**13 06 30.0**	**-0.2**
	2.7nm,0.9s,baz=101,slow=8.4,SNR=16						
WRA				LR	LR	13 19 44.9	
	comp=Z,186nm,20.8s,baz=110,slow=36						
NWAO	**Narrogin (SRO)**	**47.53**	**245**	LR	LR	13 28 03.2	
	comp=Z,166nm,19.0s,slow=36						
VNDA	**Vanda**	**55.49**	**182**	LR	LR	13 29 40.4	
	comp=Z,86nm,19.3s,baz=308,slow=32						
MJAR	**Matsushiro Arr**	**65.69**	**332**	P	**P**	**13 10 36.0**	**-0.8**
	1.2nm,0.6s,baz=169,slow=7.4,SNR=4.9						
MAJO	**Matsushiro**	**65.70**	**332**	*e*P	**P**	**13 10 36.0**	**-0.8**
QSPA	**South Pole Qui**	**67.85**	**180**	P	**P**	**13 10 49.4**	**-0.9**
	4.4nm,1.1s,baz=45,slow=2.9,SNR=2						
KSRS	**Korea Array**	**71.34**	**326**	P	**P**	**13 11 10.4**	**-1.6**
	1.0nm,0.7s,baz=142,slow=6.2,SNR=3.3						
KS15	**Wonju Array Si**	**71.35**	**326**	*e*P	**P**	**13 11 09.2**	**-2.9**
PETK	**Petropavlovsk-**	**75.76**	**352**	P	**P**	**13 11 38.5**	**+0.8**
	1.7nm,0.7s,baz=131,slow=4.5,SNR=4.0						
PEA1	**Petropavlovsk-**	**75.77**	**352**	*e*P	**P**	**13 11 38.5**	**+0.8**
CM01	**Chiang Mai Arr**	**80.32**	**294**	*e*P	**P**	**13 12 05.7**	**+1.9**
CMAR	**Chiang Mai Arr**	**80.35**	**294**	P	**P**	**13 12 04.8**	**+0.9**
	0.5nm,0.4s,baz=138,slow=3.9,SNR=6.4						
BORC	**Borrego Spring**	**89.21**	**53**	*e*P	**P**	**13 12 48.0**	**-0.2**
SONA0	**Songino Array**	**90.00**	**323**	*e*P	**P**	**13 12 52.4**	**+0.7**
SONM	**Songino Array**	**90.00**	**323**	P	**P**	**13 12 52.4**	**+0.7**
	0.9nm,0.7s,baz=120,slow=5.2,SNR=3.3						
LPIG	**La Paz**	**90.08**	**64**	LR	LR	13 44 48.4	
	comp=Z,41nm,18.8s,baz=332,slow=30						
NVAR	**Mina Array Bea**	**90.25**	**48**	LR	LR	13 48 19.8	
	comp=Z,50nm,18.5s,baz=18,slow=32						
Y14A	**Wickenburg**	**92.06**	**54**	*e*P	**P**	**13 13 01.2**	**-0.3**
	15nm,0.4s						
MARYW	**Marymoor Park**	**92.37**	**39**	*e*P	**P**	**13 13 04.3**	**+1.8**
ILAR	**Eielson Array**	**92.86**	**17**	P	**P**	**13 13 02.6**	**-1.8**
	0.2nm,0.7s,baz=219,slow=4.5,SNR=4.4						
TXAR	**Lajitas Array**	**97.58**	**62**	LR	LR	13 50 49.6	
	comp=Z,44nm,18.0s,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**98.12**	**47**	LR	LR	13 53 41.5	
	comp=Z,24nm,18.6s,baz=312,slow=33						
CLL	**Collm**	**145.89**	**334**	*e*PKPbc	**PKPab**	**13 19 32.0**	**+0.2**
CLL				*i* PKiKP	**PKiKP**	**13 19 35.5**	**+0.7**
EKA	**Eskdalemuir Ar**	**146.53**	**353**	PKPbc	**PKPbc**	**13 19 32.6**	**-0.5**
	0.7nm,0.5s,baz=20,slow=4.9,SNR=2.9						
GERES	**GERESS Array B**	**147.42**	**330**	PKPbc	**PKPbc**	**13 19 35.1**	**-0.9**
	0.7nm,0.6s,baz=43,slow=2.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**165.65**	**233**	PKP	**PKPdf**	**13 19 57.9**	**+0.2**
	0.4nm,1.0s,baz=180,slow=1.4,SNR=1.9						
TOA1	**Torodi Ar. Sit**	**165.66**	**233**	*e*PKPdf	**PKPdf**	**13 19 57.9**	**+0.2**

IDC ***16*** *13:16:00.9±5.9,9°04S×124°36E,h53km±71km,mb3.2/1, mb1 4.0/4,mb1mx3.3/49,mbtmp3.9/4,ML4.1/3,Error ellipse: s-maj=52.6km s-min=29.4km az=1.0*

DJA ***16*** *13:16:06.2±1.0,9°S±5°×12°4E±°,h66km±17km,M3.3/4, MLv3.3/4*

ISC 16 13:16:04.1±1.1,9°18S±0°09×123°83E±0°09,h74km,n8, σ2e41/12,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.71**	**143**	P	**Pn**	**13 16 21.5**	**+1.9**
SOEI				S	**Sn**	**13 16 33.9**	**+2.9**
BATI	**Baumata**	**1.03**	**189**	P	**Pn**	**13 16 24.1**	**+0.9**
	52nm,0.3s,baz=10,slow=4.3,SNR=44						
BATI				S	**Sn**	**13 16 40.2**	**+2.7**
	92nm,0.3s,baz=305,slow=19,SNR=23						
BATI	**Baumata**	**1.03**	**189**	P	**Pn**	**13 16 23.7**	**+0.4**
BATI				S	**Sn**	**13 16 39.5**	**+2.0**
EDFI	**Ende, Flores**	**2.16**	**281**	P	**Pn**	**13 16 40.6**	**+2.5**
EDFI				S	**Sn**	**13 17 05.8**	**+1.7**
FITZ	**Fitzroy Crossi**	**9.04**	**169**	P	**Pn**	**13 18 08.3**	**-3.5**
	1.7nm,0.3s,baz=85,slow=2.7,SNR=40						
FITZ				S	Sn	13 19 40.2	-12
	1.8nm,0.3s,baz=169,slow=16,SNR=6.4						
WRA	**Warramunga Arr**	**14.75**	**138**	P	Pn	13 19 23.1	-5.8
	0.8nm,0.3s,baz=318,slow=13,SNR=38						
WRA				S	Sn	13 21 54.6	-17
	0.4nm,0.3s,baz=325,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**17.33**	**147**	P	**Pn**	**13 19 58.7**	**-2.6**
	0.8nm,0.3s,baz=320,slow=12,SNR=71						
MKAR	**Makanchi Array**	**66.89**	**330**	P	**P**	**13 26 48.3**	**-0.2**
	0.2nm,0.5s,baz=126,slow=8.2,SNR=4.6						
MKAR				pP	**pP**	**13 27 08.0**	**+0.1**
	0.5nm,0.8s,baz=116,slow=5.5,SNR=3.6						

THE ***16*** *13:18:33.9,40°82N×27°96E,h0km±4km,ML3.2/2,Error ellipse: s-maj=8.5km s-min=0.6km az=76.0*

ISCJB ***16*** *13:18:34.3±0.3,40°85N±0°02×27°94E±0°02,h9km±3km, Error ellipse: s-maj=3.0km s-min=2.4km az=165.6*

CSEM ***16*** *13:18:34.7±0.1,40°84N×27°93E,h10km,ML3.5,Error ellipse: s-maj=2.3km s-min=1.8km az=164.0*

DDA ***16*** *13:18:34.9,40°81N×27°98E,h7km,Ml3.6*

ISK ***16*** *13:18:34.1,40°84N×27°95E,h9km,ML3.5/32*

ISC 16 13:18:34.7±0.9,40°85N±0°02×27°95E±0°02,h10km±8km, n134,σ0s81/167,2C-14D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLT	**Corlu**	**0.33**	**331**	PG	**Pg**	**13 18 41.9**	**+0.7**
CRLT	**Corlu**	**0.33**	**331**	*e*Pg	**Pg**	**13 18 41.9**	**+0.7**
TKR	**Tekirdag**	**0.34**	**295**	PG	**Pg**	**13 18 41.6**	**0.0**
TKR				SG	**Sg**	**13 18 46.6**	**+0.5**
TKR	**Tekirdag**	**0.34**	**295**	*e*Pg	**Pg**	**13 18 41.6**	**0.0**
TKR				*e*Sg	**Sg**	**13 18 46.6**	**+0.5**
SLVT	**Silivri**	**0.43**	**27**	PG	**Pg**	**13 18 43.3**	**+0.1**
SLVT				SG	**Sg**	**13 18 49.8**	**+0.9**
SLVT	**Silivri**	**0.43**	**27**	*e*Pg	**Pg**	**13 18 43.3**	**+0.1**
SLVT				S	**Sg**	**13 18 45.8**	**-3.1**
SLVT				*e*Sg	**Sg**	**13 18 49.8**	**+0.9**
ELBA	**Catalca**	**0.47**	**50**	*i* P	**Pg**	**13 18 44.2**	**+0.2**
EDC	**Edincik**	**0.50**	**187**	PG	**Pg**	**13 18 44.3**	**-0.2**
EDC				SG	**Sg**	**13 18 51.3**	**+0.2**
EDC	**Edincik**	**0.50**	**187**	*e*Pg	**Pg**	**13 18 44.3**	**-0.2**
EDC				*e*Sg	**Sg**	**13 18 51.3**	**+0.2**
CTKS	**Kestanelik-??a**	**0.57**	**47**	PG	**Pg**	**13 18 45.7**	**-0.2**
CTKS				SG	**Sb**	**13 18 54.7**	**-0.4**
CTKS	**Kestanelik-??a**	**0.57**	**47**	*e*Pg	**Pg**	**13 18 45.7**	**-0.2**
CTKS				*e*Sg	**Sb**	**13 18 54.7**	**-0.4**
SART	**Tekirdag**	**0.60**	**255**	*i* P	**Pg**	**13 18 45.0**	**-1.4**
SART	**Tekirdag**	**0.60**	**255**	P	**Pg**	**13 18 45.0**	**-1.4**
RKY	**Sarkoy-Tekirda**	**0.61**	**255**	PG	**Pg**	**13 18 46.2**	**-0.3**
RKY				SG	**Sg**	**13 18 55.3**	**+0.9**
RKY	**Sarkoy-Tekirda**	**0.61**	**255**	*e*Pg	**Pg**	**13 18 46.2**	**-0.3**
RKY				*e*Sg	**Sg**	**13 18 55.3**	**+0.9**
KCTX	**Karacabey (Bur**	**0.66**	**152**	PG	**Pg**	**13 18 47.3**	**-0.1**
KCTX	**Karacabey (Bur**	**0.66**	**152**	*e*Pg	**Pg**	**13 18 47.3**	**-0.1**
KRBG	**Karabiga-Canak**	**0.67**	**228**	PG	**Pg**	**13 18 47.5**	**-0.2**
KRBG	**Karabiga-Canak**	**0.67**	**228**	*e*Pg	**Pg**	**13 18 47.5**	**-0.2**
CTYL	**Yalikoy Yolu**	**0.68**	**22**	PG	**Pg**	**13 18 47.9**	**0.0**
CTYL				SG	**Sb**	**13 18 57.8**	**-0.3**
CTYL	**Yalikoy Yolu**	**0.68**	**22**	*e*Pg	**Pg**	**13 18 47.9**	**0.0**
CTYL				*e*Sg	**Sb**	**13 18 57.8**	**-0.3**
KIVI	**Yal¨¨koy-Catal**	**0.69**	**22**	PG	**Pg**	**13 18 48.1**	**0.0**
KIVI				SG	**Sb**	**13 18 58.1**	**-0.4**
KIVI	**Yal¨¨koy-Catal**	**0.69**	**22**	*e*Pg	**Pg**	**13 18 48.1**	**0.0**
KIVI				*e*Sg	**Sb**	**13 18 58.1**	**-0.4**
BGKT	**Bogazkoy**	**0.71**	**61**	PG	**Pg**	**13 18 48.3**	**-0.1**
BGKT				SG	**Sb**	**13 18 58.7**	**-0.3**
BGKT	**Bogazkoy**	**0.71**	**61**	*e*Pg	**Pg**	**13 18 48.3**	**-0.1**
BGKT				*e*Sg	**Sb**	**13 18 58.7**	**-0.3**
ARMT	**Armutlu**	**0.75**	**112**	PG	**Pb**	**13 18 49.4**	**-0.5**
ARMT				SG	**Sb**	**13 18 59.9**	**-0.2**
ARMT	**Armutlu**	**0.75**	**112**	*e*Pg	**Pb**	**13 18 49.4**	**-0.5**
ARMT				*e*Sg	**Sb**	**13 18 59.9**	**-0.2**
PHSR	**Pinarhisar**	**0.85**	**338**	PG	**Pg**	**13 18 51.2**	**+0.2**
PHSR	**Pinarhisar**	**0.85**	**338**	*e*Pg	**Pg**	**13 18 51.2**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.86**	**123**	PG	**Pg**	**13 18 51.1**	**-0.1**
MDNY				SG	**Sb**	**13 19 03.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.86**	**123**	*e*Pg	**Pg**	**13 18 51.1**	**-0.1**

URLA	Izmir	2.69	203	PN	Pn	13 19 19.3	+1.2
URLA	Izmir	2.69	203	*e*Pn	Pn	13 19 19.3	+1.2
CHOS	Chios island	2.86	211	PN	Pn	13 19 21.3	+0.9
CHOS	Chios island	2.86	211	*e*Pn	Pn	13 19 21.3	+0.9
TIRR	Tirgusor	3.63	5	*i*P	Pn	13 19 32.0	+1.1
TIRR	Tirgusor	3.63	5	*i*P	Pn	13 19 32.0	+1.1
SGRR	Singureni	3.68	337	*i*P	Pn	13 19 29.3	-2.3
SGRR	Singureni	3.68	337	*i*P	Pn	13 19 29.3	-2.3
SGRR				S	Sn	13 20 17.2	+2.2
TLB	Topalu	3.74	1	*i*P	Pn	13 19 33.1	+0.7
TLB	Topalu	3.74	1	*i*P	Pn	13 19 33.1	+0.7
VTS	Vitosha	3.95	298	*i*P	Pn	13 19 32.7	-2.9
VTS	Vitosha	3.95	298	*i*P	Pn	13 19 32.7	-2.9
VTS				S	Sn	13 20 20.7	-1.4
CFR	Carcaliu	4.33	2	*i*P	Pn	13 19 40.8	+0.2
CFR	Carcaliu	4.33	2	*i*P	Pn	13 19 40.8	+0.2
MLR	Muntele Rosu	4.87	343	*i*P	Pn	13 19 48.7	+0.6
MLR	Muntele Rosu	4.87	343	*i*P	Pn	13 19 48.7	+0.6
BARS	Barje	4.99	295	*e*Pn	Pn	13 19 50.2	+0.6
VOIR		5.05	336	*i*P	Pn	13 19 50.2	-0.4
VOIR		5.05	336	*i*P	Pn	13 19 50.2	-0.4
VRI	Vrincioaia	5.10	350	*i*P	Pn	13 19 52.1	+0.9
VRI	Vrincioaia	5.10	350	*i*P	Pn	13 19 52.1	+0.9
ZAGS	Zajecar	5.17	307	*e*Pn	Pn	13 19 51.3	-0.8
KUBS	Kucevo	5.84	310	*e*Pn	Pn	13 19 59.5	-1.9

ISCJB ***16*** *13:35:56.2±0.4, 60.°94S±0.°06×20.°8W±0.°2, h10km, mb4.7/20, MS4.2/18, Error ellipse: s-maj=12.3km s-min=6.8km az=147.2*

IDC ***16*** *13:35:56.8±0.5, 60.°83S×20.°76W, h0km, mb4.6/11, mb1 4.6/11, mb1mx4.3/31, mbtmp4.5/11, ML5.8/1, MS4.2/19, Ms1 4.1/19, ms1mx4.1/23, Error ellipse: s-maj=24.1km s-min=14.6km az=61.0*

NEIC ***16*** *13:35:58.3±0.3, 60.°91S×20.°81W, h10km, mb4.8/13, Error ellipse: s-maj=12.2km s-min=7.7km az=224.0*

GCMT ***16*** *13:35:58.3±0.3, 61.°20S×20.°85W, h22km±1km, MW5.0/82, Moment Tensor Solution. s29,c36; s82,c112; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.58±.21; Mθθ=0.39±.16; Mφφ=1.97±.16; Mrθ=-1.48±.27; Mrφ=2.94±.11; Mθφ=1.20±.25; Best double couple: M0=3.94200×10^16 NP1:φs=176.00000°, δ65.00000°, λ=-149.00000°. NP2: φs=72.00000°, δ62.00000°, λ=-29.00000°. Principal axes: T 3.9640, Plg2.0000°, Azm304.0000°; N -0.0430, Plg51.0000°, Azm211.0000°; P -3.9190, Plg39.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 13:35:58.1±0.4, 60.°88S±0.°09×20.°7W±0.°1, h10km, n73, σ1§13/53, mb4.8/20, MS4.3/18, 2C, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	10.72	301	*e*Pn	Pn	13 38 33.3	+1.9
VNA1	Neumayer--Stat	11.03	158	P	Pn	13 38 36.3	+0.7
VNA1	Neumayer--Stat	11.03	158	S	Sn	13 40 28.3	-10
VNA3	Neumayer Olymp	11.30	162	P	Pn	13 38 39.3	-0.1
VNA3	Neumayer Olymp	11.30	162	S	Sn	13 40 31.9	-14
VNA2	Neumayer--Watz	11.42	157	P	Pn	13 38 40.8	-0.2
	baz=327,slow=17						
VNA2	Neumayer--Watz	11.42	157	S	Sn	13 40 33.0	-15
SNAA	Sanae	12.92	154	P	Pn	13 39 01.1	-0.4
SNAA	Sanae	12.92	154	S	Sn	13 41 12.2	-13
SNAA	Sanae	12.92	154	Pn	Pn	13 39 00.5	-1.0
	48nm,0.3s,baz=323,slow=13,SNR=445						
SNAA				Sn	Sn	13 41 13.0	-12
	16nm,0.3s,baz=300,slow=13,SNR=12						
SNAA				LR	LR	13 43 08.0	
	comp=Z,1μm,20.9s,baz=6.5,slow=33						
EFI	East Falkland	22.39	277	*e*P	P	13 40 54.5	-1.7
	77nm,1.1s						
SYO	Syowa Base	25.72	134	*e*P	P	13 41 26.2	-1.8
SYO	Syowa Base	25.72	134	*i*P	P	13 41 27.4	-0.6
QSPA	South Pole Qui	29.35	180	P	P	13 42 01.4	+0.6
	16nm,1.0s,baz=197,slow=3.5,SNR=26						
QSPA				LR	LR	13 53 05.1	
	comp=Z,454nm,21.0s,baz=194,slow=35						
MAW	Mawson	34.25	137	P	P	13 42 43.7	+0.2
	23nm,0.9s,baz=244,slow=10,SNR=12						
MAW				LR	LR	13 55 09.2	
	comp=Z,374nm,20.2s,baz=246,slow=34						
MAW	Mawson	34.25	137	*e*P	P	13 42 44.4	+0.9
	4.3nm,0.8s						
TRQA	Tornquist	34.34	293	*e*P	P	13 42 43.9	-0.8
	14nm,1.0s						
PLCA	Paso Flores	36.22	281	P	P	13 42 59.7	-1.2
	4.6nm,1.1s,baz=205,slow=6.2,SNR=4.7						
PLCA				LR	LR	13 56 57.9	
	comp=Z,230nm,19.8s,baz=158,slow=35						
PLCA	Paso Flores	36.22	281	*e*P	P	13 43 00.7	-0.3
	20nm,1.3s						
VNDA	Vanda	41.84	181	P	P	13 43 49.2	+1.8
	5.0nm,0.9s,baz=189,slow=6.4,SNR=14						
VNDA				LR	LR	14 01 29.3	
	comp=Z,388nm,18.3s,baz=181,slow=37						
VNDA	Vanda	41.84	181	*e*P	P	13 43 49.1	+1.8
	8.4nm,1.0s						
CPUP	Villa Florida	42.51	308	P	P	13 43 54.1	+0.7
	2.8nm,0.8s,baz=171,slow=8.6,SNR=8.4						
CPUP				LR	LR	14 01 30.5	
	comp=Z,94nm,19.3s,baz=150,slow=36						
CPUP	Villa Florida	42.51	308	*e*P	P	13 43 52.2	-1.2
	12nm,1.3s						
BOSA	Boshof	44.41	65	LR	LR	13 58 55.3	
	comp=Z,294nm,18.6s,baz=207,slow=31						
LBTB	Lobatse	47.68	63	*e*P	P	13 44 34.4	-0.2
	8.5nm,1.0s						
H10S2	ASCENSION HYDR	52.02	8	T	T	14 41 42.0	
	baz=183,slow=75,SNR=12						
H10S3	ASCENSION HYDR	52.02	8	T	T	14 41 42.2	
	baz=183,slow=75,SNR=14						
H10S1	ASCENSION HYDR	52.03	8	T	T	14 41 43.2	
	baz=183,slow=75,SNR=21						
H10N1	ASCENSION HYDR	53.13	8	T	T	14 43 10.9	
	baz=191						
H10N3	ASCENSION HYDR	53.13	8	T	T	14 42 56.2	
	baz=191,SNR=6.9						
H10N2	ASCENSION HYDR	53.15	8	T	T	14 43 00.5	
	baz=191						
SIV	San Ignacio	53.32	309	P	P	13 45 17.4	+0.1
	2.4nm,0.7s,baz=180,slow=7.4,SNR=11						
MNMC	Minye Minye	53.97	298	*e*P	P	13 45 21.7	-0.5
	10nm,0.7s						
LPAZ	La Paz	55.88	301	P	P	13 45 37.2	+0.7
	2.1nm,0.7s,baz=133,slow=11,SNR=6.1						
LPAZ				LR	LR	14 11 09.7	
	comp=Z,88nm,19.4s,baz=160,slow=38						
LPAZ	La Paz	55.88	301	*e*P	P	13 45 37.4	+1.0
	6.9nm,0.9s						
SAML	Samuel	60.58	310	*e*P	P	13 46 09.3	+0.7
	9.9nm,1.0s						
LIC	Lamto	68.03	17	*e*P	P	13 46 57.4	0.0
	57nm,1.3s						
KIC	Kosan Boka	68.20	17	*e*P	P	13 46 58.5	0.0
	50nm,1.0s						
TIC	Toumodi	68.44	17	*e*P	P	13 47 00.2	+0.2
DBIC	Dimbokro	68.49	17	P	P	13 46 59.9	-0.3
	12nm,0.7s,baz=180,slow=7.6,SNR=14						
DBIC				LR	LR	14 10 41.8	
	comp=Z,19nm,19.2s,baz=168,slow=30						
DBIC	Dimbokro	68.49	17	*e*P	P	13 47 00.5	+0.2
	11nm,0.7s						
BBTS	Babate	75.36	4	LR	LR	14 15 22.3	
	comp=Z,174nm,18.2s,baz=198,slow=31						
TOA0	Torodi Ar. Sit	75.92	23	*e*P	P	13 47 45.2	+0.6
TORD	Torodi Ar. Bea	75.92	23	P	P	13 47 45.2	+0.5
	14nm,0.7s,baz=192,slow=6.1,SNR=78						
TORD				LR	LR	14 14 59.9	
	comp=Z,163nm,19.4s,baz=200,slow=31						
KOWA	Kowa	76.31	17	LR	LR	14 14 44.3	
	comp=Z,169nm,19.6s,baz=210,slow=30						
KOWA	Kowa	76.31	17	*e*P	P	13 47 48.1	+1.3
	22nm,1.4s						
ROSC	El Rosal	77.52	305	LR	LR	14 22 36.9	
	comp=Z,114nm,20.4s,baz=270,slow=36						
SDV	Santo Domingo	79.78	310	LR	LR	14 24 17.1	
	comp=Z,127nm,19.5s,baz=158,slow=36						
TAM	Tamanrasset	86.05	24	*e*P	P	13 48 39.6	+0.9
	7.7nm,1.2s						
STKA	Stephens Creek	86.45	165	LR	LR	14 25 53.0	
	comp=Z,485nm,18.9s,baz=201,slow=35						
ATD	Arta Tunnel	87.70	61	LR	LR	14 25 30.6	
	comp=Z,170nm,19.5s,baz=136,slow=34						

PPT2	Papeete2	91.76	228	*e*LR	LR	14 18 20.0	
	102nm,23.2s						
ASAR	Alice Springs	93.27	157	P	P	13 49 12.8	0.0
	1.2nm,0.7s,baz=185,slow=4.3,SNR=15						
ASAR				PP	PP	13 52 54.2	-1.4
	2.0nm,1.2s,baz=170,slow=7.6,SNR=4.3						
TAOE	Nuku Hiva Isla	95.97	240	*e*LR	LR	14 20 25.7	
	102nm,28.4s						
WRA	Warramunga Arr	96.98	156	P	P	13 49 29.1	-0.8
	0.7nm,0.7s,baz=198,slow=4.7,SNR=3.1						
WRA				LR	LR	14 31 36.7	
	comp=Z,161nm,18.9s,baz=280,slow=34						
DZM	Mont Dzumac	97.14	187	LR	LR	14 33 19.5	
	comp=Z,104nm,18.0s,baz=204,slow=35						
KEST	Kesra	99.37	24	LR	LR	14 29 06.1	
	comp=Z,99nm,19.9s,baz=232,slow=32						
KSH	Kashi	126.65	73	*e*PKP	PKPdf	13 54 59.4	-1.4
FINES	FINESS Array B	127.16	26	PKP	PKPdf	13 54 59.4	-1.5
	2.0nm,0.7s,baz=184,slow=5.7,SNR=6.1						
AKTO	Aktyubinsk	127.55	52	PKP	PKPdf	13 55 01.2	-0.8
	1.2nm,0.8s,baz=160,slow=6.6,SNR=4.3						
CD2	Chengdu	133.14	104	PKP	PKPdf	13 55 14.0	+0.6
BVAR	Borovoye Array	134.50	58	PKP	PKPdf	13 55 15.7	+0.6
	0.9nm,0.7s,baz=195,slow=4.0,SNR=4.9						
MKAR	Makanchi Array	135.19	72	PKP	PKPdf	13 55 18.4	+1.8
	1.0nm,0.9s,baz=249,slow=2.1,SNR=6.0						
KURBB	Kurchatov Array	136.26	65	PKP	PKPdf	13 55 20.2	+1.7
	0.3nm,0.3s,baz=249,slow=2.6,SNR=4.0						
KURK	Kurchatov	136.37	65	PKP	PKPdf	13 55 20.2	+1.5
LZH	Lanzhou	137.41	100	*e*PKP	PKPdf	13 55 18.3	-3.0
LZH				sPKP		13 55 29.3	
YKA	Yellowknife Ar	141.99	311	PKhKP	PKPpre	13 55 23.1	
	0.3nm,0.8s,baz=114,slow=3.4,SNR=5.0						
YKA				PKP	PKPdf	13 55 27.3	-1.2
	0.3nm,0.6s,baz=118,slow=3.4,SNR=5.4						
SONM	Songino Array	147.50	89	PKPbc	PKPbc	13 55 41.8	+0.4
	2.0nm,0.6s,baz=215,slow=3.6,SNR=8.4						
KSAR	Wonju Array Be	149.35	126	PKPbc	PKPbc	13 55 47.1	+0.8
KSRS	Korea Array	149.38	126	PKPbc	PKPbc	13 55 47.1	+0.8
	0.6nm,0.7s,baz=194,slow=2.4,SNR=3.3						
INK	Inuvik	151.66	314	PKPbc	PKPbc	13 55 50.5	-0.2
	5.2nm,0.9s,baz=94,slow=2.4,SNR=9.2						
MJAR	Matsushiro Arr	152.21	142	PKPab	PKPab	13 56 03.5	+0.6
	1.1nm,0.6s,baz=205,slow=5.5,SNR=6.2						
ILAR	Eielson Array	155.75	303	PKPbc	PKPdf	13 55 59.8	+9.3
	0.9nm,1.0s,baz=86,slow=2.1,SNR=4.9						
ILAR				PKPab	PKPab	13 56 14.8	-2.5
	0.7nm,0.9s,baz=156,slow=1.5,SNR=4.7						

IDC 16 13:36:34.0±4.0, 29.°54N×141.°85E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/65, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=159.3km s-min=18.2km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.45	173	Pn	Pn	13 37 16.4	+1.1
	2.0nm,0.3s,baz=306,slow=17,SNR=2.6						
JCJ				Sn	Sn	13 37 46.8	+0.8
	14nm,0.3s,baz=36,slow=19,SNR=5.1						
MJAR	Matsushiro Arr	7.62	337	Pn	Pn	13 38 24.9	-1.4
	0.6nm,0.3s,baz=162,slow=12,SNR=9.2						
MKAR	Makanchi Array	48.72	308	P	P	13 45 20.5	+0.2
	0.4nm,0.8s,baz=94,slow=5.8,SNR=3.5						
WRA	Warramunga Arr	49.73	189	P	P	13 45 27.6	-0.5
	0.6nm,0.6s,baz=7.4,slow=7.7,SNR=4.7						
KURBB	Kurchatov Arra	51.14	311	P	P	13 45 38.8	+0.2
	0.5nm,0.6s,baz=91,slow=8.3,SNR=5.0						
ASAR	Alice Springs	53.45	189	P	P	13 45 55.5	-0.5
	0.3nm,0.7s,baz=8.9,slow=7.2,SNR=4.2						

ISK ***16*** *13:39:53.8, 38.°70N×43.°08E, h13km, ML2.5/3*

ISCJB ***16*** *13:39:55.2±0.5, 38.°73N±0.°04×43.°10E±0.°04, h11km±8km, Error ellipse: s-maj=6.9km s-min=4.9km az=26.0*

CSEM ***16*** *13:39:55.0±0.2, 38.°73N×43.°12E, h10km, ML2.5, Error ellipse: s-maj=5.9km s-min=4.9km az=36.0*

DDA ***16*** *13:39:55.4, 38.°75N×43.°16E, h7km, Ml2.6*

ISC 16 13:39:55.0±1.0, 38.°74N±0.°03×43.°10E±0.°03, h11km±12km, n20, σ0§60/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.27	122	PG	Pg	13 40 00.8	+0.2
VANB				SG	Sb	13 40 05.9	-0.6
VANB	Van	0.27	122	*e*Pg	Pg	13 40 00.8	+0.2
VANB				*e*Sg	Sb	13 40 05.9	-0.6
ADCV	BITLIS_Adilcev	0.30	284	*i*P	Pb	13 40 02.4	-0.2
ADCV				*i*S	Sb	13 40 08.3	+0.7
ADCV	BITLIS_Adilcev	0.30	284	P	Pb	13 40 02.4	-0.2
ADCV				S	Sb	13 40 08.3	+0.7
TVAN	Van	0.32	131	*i*P	Pg	13 40 01.2	-0.3
TVAN				*i*S	Sg	13 40 06.4	+0.6
TVAN	Van	0.32	131	P	Pg	13 40 01.2	-0.3
TVAN				S	Sg	13 40 06.4	+0.6
GEVA	Gevas	0.42	185	*i*P	Pg	13 40 02.6	-0.8
GEVA	Gevas	0.42	185	P	Pg	13 40 02.7	-0.8
TUTA	Tutak	0.70	341	*i*P	Pb	13 40 09.8	+0.4
TUTA	Tutak	0.70	341	P	Pb	13 40 09.8	+0.4
CLDR	Caldiran	0.76	57	*i*P	Pg	13 40 09.1	-0.6
CLDR	Caldiran	0.76	57	P	Pg	13 40 09.1	-0.6
AGRB	Hanur-Agry	0.84	354	PG	Pg	13 40 10.9	-0.4
AGRB				SG	Sb	13 40 23.6	+0.4
AGRB	Hanur-Agry	0.84	354	*e*Pg	Pg	13 40 10.9	-0.4
AGRB				*e*Sg	Sb	13 40 23.6	+0.4
GURO	Guroymak-BITLI	0.86	258	PG	Pg	13 40 10.8	-0.8
GURO				SG	Sg	13 40 22.2	-0.6
GURO	Guroymak-BITLI	0.86	258	*e*Pg	Pg	13 40 10.8	-0.8
GURO				*e*Sg	Sg	13 40 22.2	-0.6
EKAR	Karacoban	0.96	303	*i*P	Pb	13 40 14.0	+0.2
EKAR	Karacoban	0.96	303	P	Pb	13 40 14.0	+0.2
SRTM	Siirt_Merkez	1.19	232	*i*P	Pg	13 40 18.8	+0.9
SRTM	Siirt_Merkez	1.19	232	P	Pg	13 40 18.8	+0.9

ISCJB ***16*** *13:41:29.8±0.2, 53.°14N±0.°03×159.°04E±0.°06, h114km±1km, mb4.1/37, Error ellipse: s-maj=6.6km s-min=2.9km az=35.3*

KRSC ***16*** *13:41:29.5±0.7, 53.°08N×159.°26E, h102km±7km, ML4.7, FELT [II-III] at Petropavlovsk; [II] at Institute, river Karimshina (stationary KF GS); [felt] at Viluchinsk, Elizovo, state-farm Termalniy, MGeoES-I, GMS Kronoki no.*

MOS ***16*** *13:41:29.7±1.0, 53.°16N×158.°94E, h114km, mb4.5/11, Error ellipse: s-maj=9.3km s-min=4.3km az=79.9*

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

NEIC ***16*** *13:41:31.2±0.4, 53.°34N×158.°79E, h108km±4km, mb4.5/10, Error ellipse: s-maj=7.4km s-min=4.8km az=149.0*

IDC ***16*** *13:41:31.3±0.6, 53.°35N×158.°83E, h107km±4km, mb3.8/28, mb1 3.9/31, mb1mx3.8/76, mbtmp4.1/31, MS3.9/3, Ms1 3.9/3, ms1mx2.8/62, Error ellipse: s-maj=13.4km s-min=9.3km az=152.0*

ISC 16 13:41:29.7±0.5, 53.°12N±0.°03×159.°15E±0.°03, h101km±4km, n177, σ1§94/216, mb4.2/37, 7C-4D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	Nalytchevo	0.13	67	PN	Pn	13 41 45.4	+1.7
NLC				S	Sn	13 41 55.4	+1.2
NLC	Nalytchevo	0.13	67	*i*P	Pn	13 41 45.4	+1.7
NLC				*i*S	Sn	13 41 55.4	+1.2
UGLR	Uglovaya	0.21	294	PN	Pn	13 41 45.8	+1.6
UGLR	Uglovaya	0.21	294	*i*P	Pn	13 41 45.8	+1.6
SDLR	Sedlovina	0.22	315	PN	Pn	13 41 45.3	+1.1
SDLR	Sedlovina	0.22	315	*e*P	Pn	13 41 45.3	+1.1
SMAR	Somma	0.25	304	PN	Pn	13 41 45.7	+1.3
SMAR	Somma	0.25	304	*i*P	Pn	13 41 45.7	+1.3
DALK	Dalny	0.26	250	PN	Pn	13 41 45.3	+1.2
DALK				S	Sn	13 41 56.2	+1.3
DALK	Dalny	0.26	250	*i*P	Pn	13 41 45.3	+1.2
DALK				*i*S	Sn	13 41 56.2	+1.3
AVH	Avacha	0.29	300	PN	Pn	13 41 45.9	+1.5
AVH	Avacha	0.29	300	*e*P	Pn	13 41 45.9	+1.5
KRER	Koryakskii	0.30	307	PN	Pn	13 41 46.1	+1.5
KRER	Koryakskii	0.30	307	*e*P	Pn	13 41 46.1	+1.5
PET	Petropavlovsk	0.32	252	PN	Pn	13 41 45.7	+1.3
PET				S	Sn	13 41 56.8	+1.4
PET	Petropavlovsk	0.32	252	*e*Pn	Pn	13 41 45.6	+1.3
PET	Petropavlovsk	0.32	252	*i*P	Pn	13 41 45.7	+1.3
INSR	Institute	0.33	261	PN	Pn	13 41 45.4	+0.9
INSR				S	Sn	13 41 56.7	+1.1
INSR	Institute	0.33	261	*i*P	Pn	13 41 45.4	+0.9
INSR				*i*S	Sn	13 41 56.7	+1.1
KOK	Koryaka	0.35	299	PN	Pn	13 41 46.1	+1.4
KOK	Koryaka	0.35	299	*e*P	Pn	13 41 46.1	+1.4
KRX	Arik	0.38	309	PN	Pn	13 41 46.0	+1.0
KRX				S	Sn	13 41 57.7	+1.3
KRX	Arik	0.38	309	*i*P	Pn	13 41 46.0	+1.0
KRX				*e*S	Sn	13 41 57.7	+1.3
SPN	Mys Shipunski	0.53	92	PN	Pn	13 41 46.9	+1.2
SPN				S	Sn	13 41 59.0	+1.3
SPN	Mys Shipunski	0.53	92	*i*P	Pn	13 41 46.9	+1.2
SPN				*e*S	Sn	13 41 59.0	+1.3
KRMR	Karymshinskiy	0.68	245	PN	Pn	13 41 48.1	+1.1
KRMR				S	Sn	13 42 01.5	+1.6
KRMR	Karymshinskiy	0.68	245	*i*P	Pn	13 41 48.1	+1.1
KRMR				*i*S	Sn	13 42 01.5	+1.6
RUS	Russkaya	0.79	210	PN	Pn	13 41 49.0	+1.0
RUS				S	Sn	13 42 03.0	+1.3
RUS	Russkaya	0.79	210	*i*P	Pn	13 41 49.0	+1.0
RUS				*i*P	Pn	13 41 49.3	+1.3
RUS				*e*S	Sn	13 42 03.0	+1.3
I44RU	PETROPAVLOVSK-	0.87	270	P	Pn	13 41 50.0	+1.2
	baz=79,slow=14,SNR=0.7						
MTVR	Mutnovka	0.87	223	PN	Pn	13 41 50.8	+1.9
MTVR				S	Sn	13 42 05.8	+2.4
MTVR	Mutnovka	0.87	223	*i*P	Pn	13 41 50.8	+1.9
MTVR				*e*S	Sn	13 42 05.8	+2.4
PEA0B	Petropavlovsk-	0.88	270	*e*Pn	Pn	13 41 50.2	+1.3
PETK	Petropavlovsk-	0.88	270	P	Pn	13 41 49.9	+1.0
	1μm,0.3s,baz=86,slow=14						
PETK				S	Sn	13 42 04.4	+1.1
	136nm,0.3s,baz=186,slow=28,SNR=8.4						
PETK				LR	LR	13 42 08.4	
	comp=Z,173nm,20.1s,baz=348,slow=52						
GNL	Ganaly	0.92	309	PN	Pn	13 41 50.4	+0.9
GNL	Ganaly	0.92	309	*i*P	Pn	13 41 50.4	+0.9
KII	Karymskiy	0.93	11	PN	Pn	13 41 50.8	+1.3
KII				S	Sn	13 42 05.8	+1.4
KII	Karymskiy	0.93	11	*i*P	Pn	13 41 50.8	+1.3
KII				*e*S	Sn	13 42 05.8	+1.4
ASAK	Asacha	1.06	226	PN	Pn	13 41 53.0	+2.1
ASAK				S	Sn	13 42 09.8	+2.9
ASAK	Asacha	1.06	226	*e*P	Pn	13 41 53.0	+2.1
ASAK				*e*S	Sn	13 42 09.8	+2.9
APC	Apacha	1.22	262	PN	Pn	13 41 54.4	+1.8
APC				S	Sn	13 42 12.4	+2.5
APC	Apacha	1.22	262	*i*P	Pn	13 41 54.4	+1.8
APC				*i*S	Sn	13 42 12.4	+2.5
KDTR	Khodutka, Kamc	1.47	207	*i*P	Pn	13 41 57.0	+1.4
KDTR				*i*S	Sn	13 42 16.4	+1.2
MIPR	Malaya Ipel'ka	1.68	241	PN	Pn	13 42 00.3	+2.0
MIPR	Malaya Ipel'ka	1.68	241	*i*P	Pn	13 42 00.3	+2.0
KZV	Kizimen	2.11	18	PN	Pn	13 42 05.6	+1.8
KZV				S	Sn	13 42 31.3	+1.5
KZV	Kizimen	2.11	18	*e*P	Pn	13 42 05.6	+1.8
KZV				*e*S	Sn	13 42 31.3	+1.5
PAU	Pauzhetka	2.19	222	PN	Pn	13 42 07.3	+2.6
PAU				S	Sn	13 42 33.9	+2.3
PAU	Pauzhetka	2.19	222	*i*P	Pn	13 42 07.3	+2.6
PAU				*e*S	Sn	13 42 33.9	+2.3
TUMR	Tumrok	2.24	15	PN	Pn	13 42 07.8	+2.3
TUMR	Tumrok	2.24	15	*i*P	Pn	13 42 07.8	+2.3
KMNR	Kamenistaya	2.72	13	PN	Pn	13 42 14.3	+2.6
KMNR	Kamenistaya	2.72	13	*i*P	Pn	13 42 14.3	+2.6
ESO	Esso	2.82	355	PN	Pn	13 42 14.4	+1.4
ESO	Esso	2.82	355	*e*P	Pn	13 42 14.4	+1.4
KPT	Kopyto	2.92	12	*e*S	Sn	13 42 51.7	+2.9
BZMR	Bezymyannaya	2.93	15	PN	Pn	13 42 17.1	+2.6
BZMR				S	Sn	13 42 52.7	+3.6
BZMR	Bezymyannaya	2.93	15	*e*P	Pn	13 42 17.1	+2.6
BZMR				*e*S	Sn	13 42 52.7	+3.6
BZWR	Bezymyannyi-We	2.96	15	PN	Pn	13 42 17.6	+2.6
BZWR	Bezymyannyi-We	2.96	15	*e*P	Pn	13 42 17.6	+2.6
KOZ	Kozyrevsk	2.97	8	PN	Pn	13 42 17.1	+2.0
KOZ	Kozyrevsk	2.97	8	*e*P	Pn	13 42 17.1	+2.0
SKR	Severo-Kuril's	3.08	219	*i*PN	Pn	13 42 18.9	+2.4
SKR				*e*S	Sn	13 42 54.5	+2.0
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
SKR				pmax	pmax		
	comp=Z,121nm,0.4s						
SKR				smax	smax		
	comp=N,484nm,0.7s						
SKR				smax	smax		
	comp=E,503nm,0.4s						
SKR	Severo-Kuril's	3.08	219	*i*P	Pn	13 42 18.7	+2.2
SKR				*e*S	Sn	13 42 55.0	+2.5
KRSR	Krestovskiy	3.21	14	PN	Pn	13 42 19.9	+1.6
KRSR	Krestovskiy	3.21	14	*e*P	Pn	13 42 19.9	+1.6
KLY	Klyuchi	3.31	15	PN	Pn	13 42 22.4	+2.8

TIXI	**Tiksi**	**22.82**	**336**	P	**P**	**13 46 22.3**	**-1.4**
	comp=Z,3.0nm,0.6s,baz=205,slow=0.5,SNR=10						
TIXI	**Tiksi**	**22.82**	**336**	*e*P	**P**	**13 46 23.1**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CN2	**Changchun**	**24.02**	**261**	*e*P	**P**	**13 46 36.3**	**+1.4**
HIA	**Hailar**	**24.77**	**277**	*i*P	**P**	**13 46 41.6**	**-0.2**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSRS	**Korea Array**	**26.70**	**247**	P	**P**	**13 47 01.3**	**+2.0**
	comp=Z,1.2nm,0.7s,baz=34,slow=9.1,SNR=4.5						
KSAR	**Wonju Array Be**	**26.73**	**247**	P	**P**	**13 47 01.3**	**+1.7**
KSAR	**Wonju Array Be**	**26.73**	**247**	P	**P**	**13 47 01.3**	**+1.7**
KDAK	**Kodiak Island**	**27.29**	**61**	*d*P	**P**	**13 47 05.9**	**+1.6**
JNU	**Nakatsue**	**28.43**	**237**	P	**P**	**13 47 16.3**	**+1.5**
	comp=Z,4.2nm,0.8s,baz=298,slow=5.7,SNR=8.4						
ILAR	**Eielson Array**	**29.20**	**45**	P	**P**	**13 47 21.9**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=263,slow=6.9,SNR=22						
ILB	**Eielson Array**	**29.20**	**45**	*e*P	**P**	**13 47 21.9**	**+0.6**
BJI	**Beijing**	**31.80**	**263**	*e*P	P	13 47 35.8	-8.6
SONM	**Songino Array**	**33.34**	**283**	P	**P**	**13 47 57.4**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=68,slow=8.7,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**33.86**	**167**	T	T	14 24 12.1	
	baz=352,slow=76,SNR=255						
H11N3	**WAKE ISLAND Hy**	**33.88**	**167**	T	T	14 24 03.5	
	baz=352,slow=76,SNR=192						
H11N1	**WAKE ISLAND Hy**	**33.88**	**167**	T	T	14 24 07.6	
	baz=352,slow=76,SNR=262						
HHC	**Hu-ho-hao-te**	**34.08**	**268**	*e*P	**P**	**13 48 02.1**	**-2.3**
INK	**Inuvik**	**34.20**	**38**	P	**P**	**13 48 05.8**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=313,slow=9.8,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**35.04**	**167**	T	T	14 25 41.7	
	baz=352,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**35.05**	**167**	T	T	14 25 28.2	
	baz=352,slow=76,SNR=87						
H11S2	**WAKE ISLAND Hy**	**35.06**	**167**	T	T	14 25 28.7	
	baz=352,slow=76,SNR=24						
NJ2	**Nanjing**	**35.73**	**250**	*e*P	**P**	**13 48 18.3**	**-0.2**
LZH	**Lanzhou**	**41.77**	**269**	*e*P	**P**	**13 49 08.6**	**-0.5**
LZH				pP	pP	13 49 33.1	+0.7
LZH				sP	sP	13 50 04.8	+21
LZH				PcP	**PcP**	**13 51 06.3**	**+2.8**
GTA	**Gaotai**	**42.04**	**276**	P	**P**	**13 49 11.4**	**+0.2**
GTA				pP	pP	13 49 21.3	-13
GTA				sP	sP	13 49 24.9	-21
GTA				S	**S**	**13 55 22.8**	**+0.1**
ZALV	**Zalesovo Beam**	**42.28**	**302**	P	**P**	**13 49 10.7**	**-2.2**
	comp=Z,0.6nm,0.4s,baz=62,slow=10,SNR=3.7						
NVS	**Novosibirsk**	**42.63**	**304**	*e*P	**P**	**13 49 13.8**	**-1.8**
NVS				*e*		13 49 40.3	
NVS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YKA	**Yellowknife Ar**	**43.52**	**42**	P	**P**	**13 49 23.6**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=299,slow=7.2,SNR=27						
WMQ	**Urumqi**	**46.42**	**289**	P	**P**	**13 49 45.5**	**-0.5**
SPITS	**Spitsbergen Ar**	**47.01**	**350**	P	**P**	**13 49 48.6**	**-1.5**
	comp=Z,10nm,0.9s,baz=33,slow=8.0,SNR=5.6						
KURK	**Kurchatov**	**47.23**	**301**	*ce*P	**P**	**13 49 50.9**	**-1.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KURK	**Kurchatov**	**47.23**	**301**	*e*P	**P**	**13 49 49.4**	**-2.8**
	comp=Z,9.8nm,0.4s						
KURBB	**Kurchatov Arra**	**47.34**	**301**	P	**P**	**13 49 51.4**	**-1.5**
	comp=Z,5.5nm,0.6s,baz=58,slow=7.4,SNR=29						
MK31	**Makanchi Array**	**47.63**	**295**	*e*P	**P**	**13 49 53.5**	**-1.8**
MK31	**Makanchi Array**	**47.63**	**295**	*e*P	**P**	**13 49 53.5**	**-1.8**
MKAR	**Makanchi Array**	**47.63**	**295**	P	**P**	**13 49 53.5**	**-1.8**
	comp=Z,1.3nm,0.4s,baz=58,slow=6.6,SNR=23						
MK01	**Makanchi Array**	**47.64**	**295**	*e*P	**P**	**13 49 53.6**	**-1.8**
TGY	**Tagaytay City**	**49.26**	**232**	LR	LR	14 11 05.7	
	comp=Z,78nm,21.7s,baz=114,slow=36						
BVAR	**Borovoye Array**	**49.92**	**308**	P	**P**	**13 50 10.3**	**-2.4**
	comp=Z,2.2nm,0.5s,baz=63,slow=7.8,SNR=19						
BRVK	**Borovoye**	**49.95**	**308**	*ce*P	**P**	**13 50 11.3**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**49.95**	**308**	*e*P	**P**	**13 50 10.1**	**-2.9**
	comp=Z,3.6nm,0.6s						
KMI	**Kunming**	**50.27**	**259**	P	**P**	**13 50 15.9**	**0.0**
ARU	**Arti**	**52.99**	**317**	P	**P**	**13 50 33.8**	**-1.7**
	comp=Z,3.2nm,0.5s,baz=58,slow=5.9,SNR=7.3						
ARU	**Arti**	**52.99**	**317**	*d*P	**P**	**13 50 33.5**	**-2.0**
ARU				S	**S**	**13 57 54.9**	**-2.1**
ARU				SS	**SS**	**14 01 29.6**	**-7.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
FCC	**Fort Churchill**	**53.81**	**38**	*e*P	**P**	**13 50 41.9**	**+0.5**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FCC	**Fort Churchill**	**53.81**	**38**	*e*P	**P**	**13 50 41.9**	**+0.5**
	comp=Z,2.5nm,0.6s						
AAK	**Ala-Archa**	**54.55**	**296**	P	**P**	**13 50 46.6**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=112,slow=3.8,SNR=13						
AAK	**Ala-Archa**	**54.55**	**296**	*e*P	**P**	**13 50 45.8**	**-1.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**54.55**	**296**	*e*P	**P**	**13 50 45.8**	**-1.5**
	comp=Z,3.4nm,0.6s						
KSH	**Kashi**	**55.87**	**292**	*e*P	**P**	**13 50 58.9**	**+2.1**
KSH				S	**S**	**13 58 34.4**	**-2.0**
NVAR	**Mina Array Bea**	**56.27**	**69**	P	**P**	**13 51 01.3**	**+1.6**
	comp=Z,1.5nm,0.7s,baz=293,slow=7.4,SNR=7.8						
ABKAR	**Akbulak array**	**57.34**	**310**	*e*P	**P**	**13 51 05.4**	**-1.4**
	comp=Z,26nm,1.4s						
AKTO	**Aktyubinsk**	**57.38**	**312**	P	**P**	**13 51 05.9**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=49,slow=2.9,SNR=3.7						
CMAR	**Chiang Mai Arr**	**57.63**	**257**	P	**P**	**13 51 09.8**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=24,slow=7.4,SNR=5.3						
PD31	**Pinedale Array**	**58.00**	**60**	*e*P	**P**	**13 51 12.8**	**+0.8**
PDAR	**Pinedale Array**	**58.00**	**60**	P	**P**	**13 51 13.7**	**+1.7**
	comp=Z,2.1nm,0.7s,baz=323,slow=2.8,SNR=18						
PDAR	**Pinedale Array**	**58.00**	**60**	*e*P	**P**	**13 51 13.5**	**+1.6**
ULM	**Lac du Bonnet**	**59.21**	**46**	P	**P**	**13 51 20.6**	**+0.8**
	comp=Z,2.1nm,0.4s,baz=316,slow=6.6,SNR=7.2						
FINES	**FINESS Array B**	**59.87**	**336**	P	**P**	**13 51 22.9**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=33,slow=6.7,SNR=7.4						
SRU	**San Rafael Swe**	**60.09**	**64**	*e*P	**P**	**13 51 28.1**	**+1.8**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SRU	**San Rafael Swe**	**60.09**	**64**	*e*P	**P**	**13 51 28.1**	**+1.8**
	comp=Z,3.3nm,0.8s						
OBN	**Obninsk**	**62.18**	**327**	P	**P**	**13 51 37.8**	**-2.1**
OBN				*e**PP	**pP**	**13 52 02.2**	**-2.5**
OBN				*i* S	**S**	**14 00 04.5**	**+7.4**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HFS	**Hagfors**	**63.74**	**342**	P	**P**	**13 51 48.9**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=35,slow=3.6,SNR=6.8						
AKASG	**Malin Array Be**	**68.29**	**328**	P	**P**	**13 52 17.8**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=27,slow=6.5,SNR=4.2						
EKA	**Eskdalemuir Ar**	**70.93**	**349**	P	**P**	**13 52 35.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=19,slow=6.1,SNR=3.6						
TX31	**Lajitas Ar. Si**	**71.15**	**66**	*e*P	**P**	**13 52 38.8**	**+1.3**
TXAR	**Lajitas Array**	**71.15**	**66**	P	**P**	**13 52 38.9**	**+1.5**
	comp=Z,1.7nm,0.5s,baz=300,slow=4.8,SNR=22						
CLL	**Collm**	**72.12**	**338**	*e*P	**P**	**13 52 43.0**	**+0.2**
CLL	**Collm**	**72.12**	**338**	*e*P	**P**	**13 52 43.0**	**+0.2**
WRA	**Warramunga Arr**	**75.87**	**204**	P	**P**	**13 53 05.2**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=19,slow=5.0,SNR=15						
ASAR	**Alice Springs**	**79.55**	**203**	P	**P**	**13 53 26.8**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=15,slow=5.0,SNR=24						
MMAI	**Mount Meron Ar**	**81.29**	**315**	LR	LR	14 34 26.0	
	comp=Z,176nm,19.8s,baz=175,slow=39						
IDI	**Anoyia**	**83.41**	**324**	LR	LR	14 37 18.0	
	comp=Z,38nm,18.4s,baz=102,slow=40						
ESDC	**Sonseca Array**	**86.43**	**347**	P	**P**	**13 54 00.3**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=359,slow=5.4,SNR=4.7						
PLCA	**Paso Flores**	**144.58**	**90**	PKP	**PKPdf**	**14 00 53.3**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=310,slow=5.6,SNR=7.5						

MEX 16 13:55:39.8±0.7, 17.39N×94.75W, h139km±17km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TGIG		**1.67**	**111**	*e*P		Pn	13 56 09.3	-1.2
TGIG				*e*S		Sn	13 56 32.2	-1.8
VHO	**Vista Hermosa**	**1.92**	**261**	*e*P		Pn	13 56 11.9	-1.7
VHO				*e*S		Sn	13 56 37.9	-1.4
HUIG	**Huatulco**	**2.07**	**219**	*i* P		Pn	13 56 11.9	-3.3
HUIG				*e*S		Sn	13 56 40.6	-1.7
PCIG		**2.23**	**138**	*e*P		Pn	13 56 16.0	-1.0
PCIG				*e*S		Sn	13 56 43.1	-2.5
PNIG	**Pinotepa**	**3.38**	**253**	*e*P		Pn	13 56 26.9	-4.8
PNIG				*i* S		Sn	13 57 07.1	-4.8

NIED ***16*** *13:59:00, 40.90N×145.40E, h5km, Mw3.9 Best double couple: M0 7.36000×10^14 NP1:φ=226.00000°, δ=40.00000°, λ=-99.00000°. NP2:φ=57.00000°, δ=51.00000°, λ=-83.00000°.*
IDC ***16*** *13:59:17.2±0.8, 40.78N×145.26E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.8/67, mbtmp3.9/18, ML3.2/3, MS3.5/4, Ms1 3.5/4, ms1mx2.8/62, Error ellipse: s-maj=20.5km s-min=16.8km az=96.0*
JMA ***16*** *13:59:18.7±0.2, 40.86N×145.41E, h64km±3km, M4.0*
NEIC ***16*** *13:59:18.4±0.6, 40.77N×145.33E, h10km, mb4.3/4, Error ellipse: s-maj=13.2km s-min=9.2km az=125.0*
ISCJB ***16*** *13:59:20.1±0.5, 40.87N±0.03×145.17E±0.05, h33km, mb4.1/19, MS3.7/3, Error ellipse: s-maj=5.2km s-min=3.7km az=9.9*

ISC 16 13:59:22.1±0.7, 40.85N±0.05×145.28E±0.07, h35km, n57, σ2s 04/72, mb4.1/19, MS4.0/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERM	**Erimo**	**1.98**	**307**	*e*Pn		**Pn**	**13 59 52.2**	**-0.7**
JEM	**Erimo**	**1.98**	**307**	P		**Pn**	**13 59 51.7**	**-1.3**
JEM				*e*S		**Sn**	**14 00 14.4**	**-2.1**
JAK	**Akkeshi**	**2.19**	**349**	P		**Pn**	**13 59 53.8**	**-2.2**
JAK				S		**Sn**	**14 00 18.9**	**-2.9**
JCH	**Churui**	**2.27**	**322**	P		**Pn**	**13 59 55.4**	**-1.7**
JCH				S		**Sn**	**14 00 21.1**	**-2.8**
JOB	**Onbets**	**2.32**	**333**	P		**Pn**	**13 59 56.1**	**-1.6**
JOB				*e*S		**Sn**	**14 00 23.4**	**-1.6**
JNBK	**Urakawa-nobuka**	**2.37**	**308**	P		**Pn**	**13 59 58.1**	**-0.4**
JNBK				S		**Sn**	**14 00 26.1**	**-0.2**
NEM2	**Nemuro 2**	**2.54**	**8**	P		**Pn**	**13 59 58.3**	**-2.5**
NEM2				*e*S		**Sn**	**14 00 27.0**	**-3.5**
JAR	**Ashorobuto**	**2.69**	**336**	P		**Pn**	**14 00 00.6**	**-2.3**
JAR				S		**Sn**	**14 00 31.2**	**-3.0**
JNK	**Nakash**	**2.77**	**352**	P		**Pn**	**14 00 01.0**	**-2.9**
JNK				S		**Sn**	**14 00 31.3**	**-4.8**
JANG	**Nango**	**2.90**	**262**	P		**Pn**	**14 00 03.3**	**-2.4**
JBT2	**Biratori 2**	**2.91**	**313**	P		**Pn**	**14 00 04.4**	**-1.4**
JBT2				*e*S		**Sn**	**14 00 37.3**	**-2.2**
JFR	**Furan**	**3.06**	**320**	P		**Pn**	**14 00 06.5**	**-1.4**
JFR				*e*S		**Sn**	**14 00 39.9**	**-3.4**
JRA	**Rausu**	**3.09**	**358**	P		**Pn**	**14 00 05.8**	**-2.5**
JRA				*e*S		**Sn**	**14 00 40.4**	**-3.6**
JOT	**Ohata**	**3.24**	**281**	P		**Pn**	**14 00 08.8**	**-1.5**
JOT				*e*S		**Sn**	**14 00 44.1**	**-3.5**
JTKR	**Abashiri--Toko**	**3.28**	**343**	P		**Pn**	**14 00 09.9**	**-1.0**
JTKR				S		**Sn**	**14 00 46.5**	**-2.2**
JOM	**Ohasama**	**3.34**	**247**	P		**Pn**	**14 00 10.0**	**-1.8**
JOM				*e*S		**Sn**	**14 00 46.6**	**-3.7**
JKB	**Kayabe**	**3.36**	**289**	*e*S		**Sn**	**14 00 47.7**	**-2.9**
JEW	**Eniwo**	**3.48**	**306**	P		**Pn**	**14 00 13.8**	**+0.1**
JEW				S		**Sn**	**14 00 53.2**	**-0.5**
JKK2	**Kamakawa 2**	**3.56**	**329**	P		**Pn**	**14 00 14.1**	**-0.7**
JMK	**Ichinoseki**	**3.65**	**240**	P		**Pn**	**14 00 13.9**	**-2.1**
JMK				S		**Sn**	**14 00 53.2**	**-4.5**
ASAJ	**Asahikawa**	**3.82**	**330**	Pn		**Pn**	**14 00 18.9**	**+0.6**
	1.8nm,0.3s,baz=173,slow=13,SNR=34							
ASAJ				Sn		**Sn**	**14 01 01.5**	**-0.5**
	4.2nm,0.3s,baz=35,slow=33,SNR=6.0							
MAJO	**Matsushiro**	**7.00**	**234**	*e*Pn		**Pn**	**14 01 00.9**	**-1.2**
MAT	**Matsushiro**	**7.00**	**234**	P		**Pn**	**14 01 00.9**	**-1.2**
MAT				*e*S		**Sn**	**14 02 21.5**	**+1.1**
MJAR	**Matsushiro Arr**	**7.00**	**234**	Pn		**Pn**	**14 00 59.6**	**-2.5**
	0.8nm,0.3s,baz=34,slow=14,SNR=11							
MJB9	**Matsu-Tunnel**	**7.00**	**234**	*e*Pn		**Pn**	**14 01 01.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**10.36**	**293**	Pn		**Pn**	**14 01 47.2**	**-0.9**
	0.4nm,0.3s,baz=123,slow=12,SNR=5.6							
KLR	**Kul'dur**	**12.70**	**316**	LR		LR	14 07 35.1	
	comp=Z,4.6nm,19.6s,baz=253,slow=39							
PETK	**Petropavlovsk-**	**14.88**	**30**	LR		LR	14 08 47.2	
	comp=Z,42nm,18.2s,baz=285,slow=38							
ULN	**Ulaanbaatar**	**27.99**	**297**	*e*P		**P**	**14 05 13.4**	**+3.8**
	6.2nm,1.1s							
SONA1	**Songino Array**	**28.43**	**297**	*e*P		**P**	**14 05 16.3**	**+2.8**
SONA0	**Songino Array**	**28.44**	**297**	*e*P		**P**	**14 05 14.5**	**+1.0**
SONM	**Songino Array**	**28.44**	**297**	P		**P**	**14 05 14.5**	**+1.0**
	1.4nm,0.7s,baz=87,slow=8.0,SNR=6.9							
TLY	**Talaya**	**30.36**	**305**	LR		LR	14 17 16.0	
	comp=Z,26nm,18.0s,baz=100,slow=36							
ZAA1	**Zalesovo Array**	**41.70**	**309**	*e*P		**P**	**14 07 07.3**	**+0.2**
ZALV	**Zalesovo Beam**	**41.70**	**309**	P		**P**	**14 07 07.3**	**+0.2**
	0.9nm,0.5s,baz=116,slow=7.3,SNR=4.8							
ZALV				PcP		**PcP**	**14 09 03.6**	**+0.5**
	0.7nm,0.3s,baz=90,slow=3.0,SNR=3.9							
ILAR	**Eielson Array**	**44.66**	**34**	P		**P**	**14 07 32.1**	**+1.2**
	1.0nm,0.8s,baz=260,slow=7.3,SNR=11							
ILB	**Eielson Array**	**44.66**	**34**	*e*P		**P**	**14 07 28.5**	**-2.4**
MK32	**Makanchi Array**	**44.75**	**300**	*e*P		**P**	**14 07 32.0**	**+0.1**
MKAR	**Makanchi Array**	**44.75**	**300**	P		**P**	**14 07 32.0**	**+0.1**
	0.7nm,0.8s,baz=83,slow=9.9,SNR=4.8							
MAKZ	**Makanchi**	**44.96**	**300**	*e*P		**P**	**14 07 31.4**	**-2.1**
	2.2nm,0.6s							
KURK	**Kurchatov**	**46.05**	**306**	*e*P		**P**	**14 07 43.2**	**+1.1**
	2.8nm,0.8s							
KURBB	**Kurchatov Arra**	**46.13**	**306**	P		**P**	**14 07 43.2**	**+0.5**
	2.2nm,0.7s,baz=77,slow=8.7,SNR=14							
INK	**Inuvik**	**49.61**	**29**	P		**P**	**14 08 11.3**	**+1.9**
	1.0nm,0.5s,baz=264,slow=6.6,SNR=5.0							
INK	**Inuvik**	**49.61**	**29**	*e*P		**P**	**14 08 11.3**	**+1.9**
	7.3nm,1.5s							
BVAR	**Borovoye Array**	**50.30**	**311**	P		**P**	**14 08 16.0**	**+1.1**
	1.1nm,0.7s,baz=85,slow=6.6,SNR=6.1							
YKA	**Yellowknife Ar**	**58.99**	**32**	P		**P**	**14 09 17.3**	**-0.4**
	0.2nm,0.6s,baz=298,slow=6.2,SNR=5.3							
WRA	**Warramunga Arr**	**61.32**	**192**	P		**P**	**14 09 34.0**	**-0.1**
	2.3nm,0.7s,baz=8.6,slow=6.8,SNR=13							
ASAR	**Alice Springs**	**65.05**	**192**	P		**P**	**14 09 59.1**	**+0.3**
	0.5nm,0.7s,baz=3.2,slow=6.3,SNR=10.0							
FIA0	**FINESS Array S**	**66.83**	**333**	*e*P		**P**	**14 10 10.6**	**+0.9**
FINES	**FINESS Array B**	**66.83**	**333**	P		**P**	**14 10 10.6**	**+0.9**
	2.9nm,1.0s,baz=48,slow=2.8,SNR=5.8							
JMIC	**Jan Mayen**	**66.89**	**351**	P		**P**	**14 10 10.4**	**+0.4**
	204nm,0.4s,baz=156,slow=12,SNR=4.3							
KBZ	**Khabaz**	**70.68**	**311**	P		**P**	**14 10 35.0**	**+1.0**
	1.6nm,0.8s,baz=37,slow=6.3,SNR=3.2							
SFJD	**Kangerlussuaq**	**71.80**	**7**	LR		LR	14 44 37.3	
	comp=Z,100nm,18.0s,baz=159,slow=38							
HFS	**Hagfors**	**71.82**	**337**	P		**P**	**14 10 41.1**	**+0.4**
	1.8nm,0.7s,baz=338,slow=9.8,SNR=3.7							
HFS				LR		LR	14 45 37.3	
	comp=Z,83nm,18.1s,baz=216,slow=39							
AKASG	**Malin Array Be**	**73.09**	**323**	P		**P**	**14 10 47.4**	**-1.0**
	0.5nm,0.5s,baz=49,slow=6.6,SNR=4.6							
BR101	**Keskin Array S**	**78.52**	**313**	*e*P		**P**	**14 11 21.6**	**+1.7**
BRTR	**Keskin Array B**	**78.52**	**313**	P		**P**	**14 11 21.6**	**+1.8**
	0.7nm,0.7s,baz=33,slow=8.6,SNR=2.7							

IDC 16 14:01:00.8±537.0, 47.85N×49.07E, h0km, Error ellipse: s-maj=202.6km s-min=131.2km az=51.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.42**	**63**	*i*			14 37 00.0	
	baz=250,slow=301,SNR=2.1							
I43RU	**DUBNA INFRASONI**	**11.46**	**325**	*i*			15 10 20.0	
	baz=134,slow=339,SNR=3.2							
I46RU	**ZALESOVO INFRA**	**23.18**	**61**	*i*			16 24 10.0	
	baz=267,slow=335,SNR=1.4							
I34MN	**SONGINO INFRAS**	**37.73**	**68**	*i*			17 55 00.0	
	baz=288,slow=338,SNR=0.7							

IDC 16 14:13:20.7±2.1, 0.84N×26.77W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/56, mbtmp3.8/4, MS3.4/6, Ms1 3.5/6, ms1mx3.0/51, Error ellipse: s-maj=70.4km s-min=46.1km az=125.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H10N3	**ASCENSION HYDR**	**14.97**	**125**	T		T	14 31 37.3	
	baz=305,slow=74,SNR=14							
H10N2	**ASCENSION HYDR**	**14.97**	**125**	T		T	14 31 34.8	
	baz=305,slow=74,SNR=11							
H10N1	**ASCENSION HYDR**	**14.99**	**125**	T		T	14 31 29.3	
	baz=305,slow=74,SNR=20							
H10S3	**ASCENSION HYDR**	**15.50**	**129**	T		T	14 32 22.2	
	baz=309,slow=74,SNR=7.9							
H10S1	**ASCENSION HYDR**	**15.50**	**129**	T		T	14 32 07.0	
	baz=309,slow=74,SNR=9.1							
H10S2	**ASCENSION HYDR**	**15.51**	**129**	T		T	14 32 08.0	
	baz=309,slow=74,SNR=7.2							
DBIC	**Dimbokro**	**22.62**	**75**	LR		LR	14 25 05.5	
	comp=Z,76nm,20.0s,baz=218,slow=31							
KOWA	**Kowa**	**26.27**	**58**	P		P	14 18 59.0	+1.0
	1.7nm,0.7s,baz=228,slow=9.6,SNR=4.1							
KOWA				LR		LR	14 27 53.7	
	comp=Z,84nm,18.6s,baz=210,slow=33							
TORD	**Torodi Ar. Bea**	**30.74**	**65**	P		P	14 19 37.0	-0.8
	0.5nm,0.7s,baz=249,slow=8.7,SNR=3.6							
TORD				LR		LR	14 30 08.8	
	comp=Z,59nm,18.7s,baz=180,slow=33							
CPUP	**Villa Florida**	**39.98**	**225**	LR		LR	14 35 43.6	
	comp=Z,56nm,20.5s,baz=62,slow=34							
LPAZ	**La Paz**	**44.21**	**246**	LR		LR	14 39 40.5	
	comp=Z,61nm,19.2s,baz=26,slow=36							
PLCA	**Paso Flores**	**57.37**	**219**	LR		LR	14 48 47.8	
	comp=Z,48nm,18.0s,baz=161,slow=37							
AKASG	**Malin Array Be**	**68.48**	**35**	P		P	14 24 24.1	-0.6
	0.2nm,0.3s,baz=242,slow=6.8,SNR=3.3							
FINES	**FINESS Array B**	**72.37**	**24**	P		P	14 24 48.7	+0.4
	1.7nm,0.8s,baz=237,slow=15,SNR=2.9							
ASAR	**Alice Springs**	**150.57**	**142**	PKPbc		PKPbc	14 33 15.3	-0.2
	0.7nm,0.7s,baz=204,slow=2.1,SNR=8.3							

ISCJB ***16*** *14:13:37.5±0.4, 24.49N±0.02×122.11E±0.02, h66km±4km, Error ellipse: s-maj=4.1km s-min=2.7km az=154.5*
JMA ***16*** *14:13:37.1±0.2, 24.43N×122.07E, h71km±2km, M2.1*
TAP ***16*** *14:13:37.6, 24.49N×122.04E, h69km, ML2.9, B*

ISC 16 14:13:37.6±1.3, 24.50N±0.03×122.09E±0.02, h68km±6km, n55, σ0s 95/110, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWC	**Suao**	**0.24**	**296**	P		**Pn**	**14 13 48.5**	**+0.4**
	baz=312							
TWC				S		**Sn**	**14 13 56.2**	**+0.3**
	baz=312							
ENAH	**Nanao**	**0.26**	**258**	P		**Pn**	**14 13 48.4**	**+0.2**
	baz=253							
ENAH				*e*S		**Sn**	**14 13 56.5**	**+0.4**
	baz=253							
NANB	**Nanao**	**0.32**	**257**	*e*P		**Pn**	**14 13 48.8**	**+0.1**
	baz=251							
NANB				*e*S		**Sn**	**14 13 56.8**	**+0.1**
	baz=251							
ENA	**Nanau**	**0.33**	**257**	P		**Pn**	**14 13 48.8**	**+0.1**
	baz=250							
ENA				*e*S		**Sn**	**14 13 56.9**	**0.0**
	baz=250							
TWE	**Neicheng**	**0.44**	**299**	P		**Pn**	**14 13 50.3**	**+0.6**
	baz=309							
TWE				S		**Sn**	**14 13 59.3**	**+0.7**
	baz=309							
ENTT	**Nioudou**	**0.50**	**286**	P		**Pn**	**14 13 50.6**	**+0.4**
	baz=283							
ENTT				S		**Sn**	**14 14 00.0**	**+0.6**
	baz=283							
TWB1	**Santiao Chiao**	**0.51**	**349**	*e*P		**Pn**	**14 13 50.2**	**-0.1**
	baz=356							
TWB1				*e*S		**Sn**	**14 13 59.1**	**-0.5**
	baz=356							
TIPB	**Shuangxi**	**0.53**	**333**	*e*P		**Pn**	**14 13 49.6**	**-0.9**
	baz=348							
TIPB				*e*S		**Sn**	**14 13 58.6**	**-1.3**
	baz=348							
NACB	**Ninganchiao**	**0.56**	**234**	*e*P		**Pn**	**14 13

TYC	**Yuchr**	**1.28**	**242**	*eP*		**Pn**	**14 14 00.3**	**+0.8**
	baz=241							
TYC				*eS*		**Sn**	**14 14 16.9**	**+0.9**
	baz=241							
TWF1	**Yuli**	**1.36**	**213**	*eP*		**Pn**	**14 13 59.3**	**-1.3**
	baz=218							
TWF1				*eS*		**Sn**	**14 14 15.7**	**-2.2**
	baz=218							
YUS	**Yu-Shan**	**1.45**	**226**	*eP*		**Pn**	**14 14 02.5**	**+0.2**
	baz=215							
YUS				*eS*		**Sn**	**14 14 20.1**	**-0.7**
	baz=215							
FULB	**Fuli**	**1.49**	**210**	*eP*		**Pn**	**14 14 01.7**	**-0.7**
	baz=215							
FULB				*eS*		**Sn**	**14 14 20.2**	**-0.8**
	baz=215							
IRIF	**Iriomote-Funau**	**1.50**	**96**	P		**Pn**	**14 14 02.5**	**0.0**
IRIF				S		**Sn**	**14 14 21.1**	**-0.2**
ALS	**Alishan**	**1.54**	**230**	*eP*		**Pn**	**14 14 04.3**	**+1.0**
	baz=220							
ALS				*eS*		**Sn**	**14 14 23.6**	**+1.0**
	baz=220							
CHN5	**Tsauling**	**1.58**	**235**	*eP*		**Pn**	**14 14 04.5**	**+0.9**
	baz=245							
CHN5				*eS*		**Sn**	**14 14 25.0**	**+1.8**
	baz=245							
ELDTW	**Lidau**	**1.64**	**217**	*eP*		**Pn**	**14 14 03.5**	**-0.9**
	baz=214							
ELDTW				*eS*		**Sn**	**14 14 23.4**	**-1.3**
	baz=214							
JKRS	**Kuro-shima**	**1.77**	**98**	P		**Pn**	**14 14 06.7**	**+0.7**
JKRS				*eS*		**Sn**	**14 14 28.0**	**+0.4**
CHN4	**Tsaushan**	**1.79**	**230**	*eP*		**Pn**	**14 14 07.7**	**+1.4**
	baz=229							
CHN4				*eS*		**Sn**	**14 14 30.6**	**+2.4**
	baz=229							
STYT	**Tauyuan**	**1.81**	**223**	*eP*		**Pn**	**14 14 07.6**	**+0.9**
	baz=220							
STYT				*eS*		**Sn**	**14 14 29.2**	**+0.5**
	baz=220							
WTP	**Ta-pu**	**1.84**	**228**	*eP*		**Pn**	**14 14 08.7**	**+1.5**
	baz=225							
WTP				*eS*		**Sn**	**14 14 30.7**	**+1.1**
	baz=225							
JIJ	**Ishigaki jima**	**1.87**	**94**	P		**Pn**	**14 14 07.5**	**0.0**
JIJ				S		**Sn**	**14 14 29.6**	**-0.6**
CHN1	**Nanshi**	**1.94**	**228**	*eP*		**Pn**	**14 14 09.7**	**+1.3**
	baz=226							
CHN1				*eS*		**Sn**	**14 14 33.4**	**+1.5**
	baz=226							
SGST	**Jiashian**	**1.98**	**225**	*eP*		**Pn**	**14 14 10.2**	**+1.3**
	baz=222							
SGST				*eS*		**Sn**	**14 14 34.0**	**+1.3**
	baz=222							
SLGT	**Liugui**	**2.00**	**222**	*eP*		**Pn**	**14 14 10.6**	**+1.4**
	baz=219							
SLGT				*eS*		**Sn**	**14 14 35.5**	**+2.1**
	baz=219							
JISG	**Ishigakijimahi**	**2.02**	**87**	P		**Pn**	**14 14 09.7**	**+0.2**
JISG				*eS*		**Sn**	**14 14 33.7**	**-0.1**
VWUC	**VWUC**	**2.45**	**282**	*eP*		**Pn**	**14 14 14.8**	**-0.5**
	baz=283							
VWUC				*eS*		**Sn**	**14 14 41.4**	**-2.8**
	baz=283							
PHUB	**P'eng-hu**	**2.51**	**247**	*eP*		**Pn**	**14 14 15.4**	**-0.6**
	baz=259							
PHUB				*eS*		**Sn**	**14 14 42.9**	**-2.6**
	baz=259							
MATB	**Ma-tsu**	**2.54**	**311**	*eP*		**Pn**	**14 14 16.1**	**-0.5**
	baz=313							
MATB				*eS*		**Sn**	**14 14 44.8**	**-1.7**
	baz=313							

IDC **16** *14:25:21.6±6.8, 40.°99N×145.°91E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/62, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=222.4km s-min=24.7km az=64.0*
ISCJB **16** *14:25:23.9±0.8, 40.°86N±0.°04×145.°11E±0.°07, h10km, mb3.5/4, Error ellipse: s-maj=7.2km s-min=5.3km az=8.6*
JMA **16** *14:25:24.9±0.2, 40.°80N×145.°26E, h66km±3km, M3.3*

ISC 16 14:25:24.4±1.2, 40.°93N±0.°05×144.°95E±0.°06, h10km, n23, σ2s29/37, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.73**	**309**	P	**Pg**	**14 25 57.1**	**-0.5**
JEM				*eS*	**Sg**	**14 26 20.8**	**+0.7**
JCH	**Churui**	**2.06**	**325**	P	**Pb**	**14 26 01.4**	**-0.5**
JCH				S	**Sb**	**14 26 27.0**	**-0.6**
JAK	**Akkeshi**	**2.08**	**355**	P	**Pb**	**14 26 00.2**	**-1.9**
JAK				*eS*	**Sb**	**14 26 26.2**	**-1.8**
JNBK	**Urakawa-nobuka**	**2.13**	**310**	P	**Pb**	**14 26 03.3**	**+0.2**
JNBK				*eS*	**Sb**	**14 26 31.0**	**+1.4**
JOB	**Onbets**	**2.14**	**337**	P	**Pb**	**14 26 02.5**	**-0.8**
JOB				S	**Sb**	**14 26 30.4**	**+0.5**
NEM2	**Nemuro 2**	**2.51**	**13**	P	**Pn**	**14 26 05.7**	**+0.5**
NEM2				S	**Sn**	**14 26 35.4**	**-0.4**
JAR	**Ashorobuto**	**2.53**	**340**	P	**Pb**	**14 26 07.0**	**-2.8**
JAR				*eS*	**Sn**	**14 26 37.3**	**+1.0**
JNK	**Nakash**	**2.66**	**356**	P	**Pn**	**14 26 08.0**	**+0.7**
JANG	**Nango**	**2.67**	**259**	P	**Pn**	**14 26 08.2**	**+0.7**
JBT2	**Biratori 2**	**2.67**	**315**	*eS*	**Sb**	**14 26 44.3**	**-0.9**
JFR	**Furan**	**2.84**	**323**	P	**Pb**	**14 26 12.5**	**-2.7**
JFR				*eS*	**Sn**	**14 26 46.3**	**+2.2**
JOT	**Ohata**	**2.98**	**280**	P	**Pb**	**14 26 14.0**	**-3.6**
JOT				*eS*	**Sn**	**14 26 48.7**	**+1.2**
JKB	**Kayabe**	**3.10**	**289**	P	**Pb**	**14 26 15.8**	**-3.8**
JKB				*eS*	**Sn**	**14 26 52.4**	**+2.0**
JTKR	**Abashiri--Toko**	**3.14**	**346**	P	**Pb**	**14 26 16.3**	**-3.9**
JTKR				*eS*	**Sn**	**14 26 53.1**	**+1.8**
JOM	**Ohasama**	**3.16**	**244**	P	**Pn**	**14 26 15.2**	**+1.1**
JEW	**Eniwo**	**3.24**	**307**	P	**Pb**	**14 26 18.9**	**-3.0**
JEW				S	**Sb**	**14 26 58.8**	**-2.6**
JKK2	**Kamakawa 2**	**3.37**	**332**	P	**Pb**	**14 26 20.4**	**-3.7**
JKK2				*eS*	**Sb**	**14 27 01.7**	**-3.4**
JMK	**Ichinoseki**	**3.48**	**237**	P	**Pn**	**14 26 19.2**	**+0.6**
JMK				*eS*	**Sn**	**14 26 57.5**	**-2.3**
ASAJ	**Asahikawa**	**3.63**	**332**	Pn	**Pb**	**14 26 24.4**	**-4.2**
	1.2nm,0.3s,baz=232,slow=17,SNR=24						
ASAJ				Sn	**Sb**	**14 27 10.1**	**-2.6**
	1.2nm,0.3s,baz=108,slow=20,SNR=4.6						
SONM	**Songino Array**	**28.18**	**297**	P	P	14 31 21.8	+4.7
	0.5nm,0.5s,baz=98,slow=9.2,SNR=3.4						
MKAR	**Makanchi Array**	**44.50**	**299**	P	**P**	**14 33 39.4**	**+3.5**
	0.4nm,0.9s,baz=89,slow=7.6,SNR=2.4						
KURBB	**Kurchatov Arra**	**45.88**	**306**	P	**P**	**14 33 49.4**	**+2.6**
	0.2nm,0.4s,baz=74,slow=8.7,SNR=3.7						
WRA	**Warramunga Arr**	**61.36**	**191**	P	**P**	**14 35 40.6**	**+0.2**
	0.9nm,0.8s,baz=13,slow=7.1,SNR=3.3						

MEX 16 14:39:22.4±0.8, 16.°27N×101.°23W, h16km±61km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**1.20**	**50**	*i* P	Pn	14 39 40.5	-4.1
CAIG				*i* S	Sb	14 39 55.3	-4.8
ZIIG	**Zihuatanejo**	**1.35**	**350**	*eP*	Pn	14 39 43.1	-3.5
ZIIG				*i* S	Sn	14 39 58.3	-5.9
ACX	**Acapulco**	**1.44**	**65**	*eP*	Pn	14 39 46.0	-1.8
ACX				*i* S	Sn	14 40 01.9	-4.7
ARIG	**Puente Sto Nin**	**2.17**	**23**	*eP*	Pn	14 39 55.2	-2.8
ARIG				*eS*	Sn	14 40 19.9	-4.6
PLIG	**Platanillo**	**2.68**	**38**	*eP*	Pn	14 40 01.9	-3.0
PLIG				*eS*	Sn	14 40 33.0	-4.1

IDC **16** *14:47:12.8±0.6, 11.°59N×141.°63E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.1/57, mbtmp4.2/22, ML4.2/1, MS3.6/8, Ms1 3.6/8, ms1mx3.2/51, Error ellipse: s-maj=20.6km s-min=13.0km az=78.0*
ISCJB **16** *14:47:14.7±0.4, 11.°57N±0.°06×141.°58E±0.°08, h27km, mb4.2/25, MS3.6/7, Error ellipse: s-maj=11.2km s-min=8.2km az=176.4*
NEIC **16** *14:47:18.0±1.5, 11.°59N×141.°63E, h39km±14km, mb4.6/4, Error ellipse: s-maj=10.0km s-min=7.2km az=89.0*

ISC 16 14:47:16.6±0.6, 11.°61N±0.°09×141.°6E±0.°1, h27km, n45, σ0s95/45, mb4.3/25, MS3.6/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.75**	**58**	Pn	**Pn**	**14 48 12.9**	**+0.3**
	20nm,0.3s,baz=208,slow=17,SNR=3.2						
GUMO				LR	LR	14 49 59.0	
	comp=Z,411nm,19.7s,baz=108,slow=45						
PMG	**Port Moresby**	**21.59**	**165**	P	**P**	**14 52 04.0**	**-0.4**
	13nm,0.9s,baz=72,slow=16,SNR=3.6						
PMG				LR	LR	15 01 01.4	
	comp=Z,134nm,18.1s,baz=278,slow=38						
LUWI	**Luwuk**	**22.54**	**237**	*eP*	**P**	**14 52 15.1**	**+0.3**
	30nm,0.8s						
JNU	**Nakatsue**	**23.57**	**337**	P	**P**	**14 52 25.9**	**+0.9**
	14nm,0.8s,baz=154,slow=5.3,SNR=6.9						
JNU				LR	LR	15 00 50.7	
	comp=Z,90nm,19.2s,baz=119,slow=35						
MJAR	**Matsushiro Arr**	**25.02**	**354**	P	**P**	**14 52 38.5**	**+0.2**
	1.3nm,0.7s,baz=179,slow=11,SNR=4.9						
MAJO	**Matsushiro**	**25.02**	**354**	*eP*	**P**	**14 52 38.5**	**+0.2**
KSRS	**Korea Array**	**28.52**	**337**	P	**P**	**14 53 10.4**	**+0.6**
	1.2nm,0.7s,baz=157,slow=9.4,SNR=5.3						
KSRS				LR	LR	15 04 58.3	
	comp=Z,96nm,18.5s,baz=142,slow=37						
KSAR	**Wonju Array Be**	**28.52**	**337**	P	**P**	**14 53 10.4**	**+0.5**
WR1	**Warramunga Arr**	**32.16**	**193**	*eP*	**P**	**14 53 41.1**	**-1.1**
	1.9nm,1.1s						
WRA	**Warramunga Arr**	**32.16**	**193**	P	**P**	**14 53 41.1**	**-1.1**
	2.1nm,0.9s,baz=14,slow=9.7,SNR=7.4						
ASAJ	**Asahikawa**	**32.41**	**1**	P	**P**	**14 53 45.6**	**+1.5**
	2.1nm,0.4s,baz=229,slow=12,SNR=5.6						
USRK	**Ussuriysk Ar.**	**33.52**	**347**	P	**P**	**14 53 54.6**	**+0.8**
	9.1nm,0.7s,baz=171,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**35.86**	**192**	P	**P**	**14 54 14.8**	**+0.5**
	0.7nm,0.5s,baz=21,slow=12,SNR=13						
BJT	**Baijiatuan**	**36.14**	**326**	*eP*	**P**	**14 54 14.9**	**-1.6**
	14nm,0.9s						
DZM	**Mont Dzumac**	**41.40**	**144**	P	**P**	**14 55 02.0**	**+1.0**
	5.2nm,0.9s,baz=330,slow=20,SNR=5.8						
DZM				LR	LR	15 10 25.6	
	comp=Z,108nm,19.2s,baz=286,slow=34						
CMAR	**Chiang Mai Arr**	**41.69**	**285**	P	**P**	**14 55 05.2**	**+1.9**
	0.6nm,0.5s,baz=82,slow=6.6,SNR=5.9						
CMAR				LR	LR	15 13 21.3	
	comp=Z,67nm,18.2s,baz=158,slow=38						
PETK	**Petropavlovsk-**	**43.36**	**14**	P	**P**	**14 55 16.9**	**+0.4**
	1.6nm,0.8s,baz=175,slow=7.5,SNR=3.4						
PEA1	**Petropavlovsk-**	**43.37**	**14**	*eP*	**P**	**14 55 16.9**	**+0.4**
SONA0	**Songino Array**	**46.60**	**328**	*eP*	**P**	**14 55 43.7**	**+1.2**
SONM	**Songino Array**	**46.60**	**328**	P	**P**	**14 55 43.7**	**+1.2**
	2.1nm,0.4s,baz=133,slow=8.1,SNR=7.6						
SONA1	**Songino Array**	**46.60**	**328**	*eP*	**P**	**14 55 42.2**	**-0.3**
YAK	**Yakutsk**	**51.08**	**353**	*eP*	**P**	**14 56 15.8**	**-0.6**
MK01	**Makanchi Array**	**60.73**	**317**	*eP*	**P**	**14 57 25.9**	**0.0**
MK32	**Makanchi Array**	**60.74**	**317**	*eP*	**P**	**14 57 26.5**	**+0.5**
MKAR	**Makanchi Array**	**60.74**	**317**	P	**P**	**14 57 26.5**	**+0.5**
	1.6nm,0.7s,baz=97,slow=9.1,SNR=19						
ZALV	**Zalesovo Beam**	**61.41**	**326**	P	**P**	**14 57 30.6**	**+0.2**
	1.2nm,0.6s,baz=106,slow=6.9,SNR=5.4						
ZALV				LR	LR	15 25 59.0	
	comp=Z,65nm,19.6s,baz=238,slow=38						
ZALV	**Zalesovo Beam**	**61.41**	**326**	*eP*	**P**	**14 57 28.9**	**-1.5**
ZAA1	**Zalesovo Array**	**61.42**	**326**	*eP*	**P**	**14 57 30.6**	**+0.2**
KURK	**Kurchatov**	**64.07**	**321**	*eP*	**P**	**14 57 48.3**	**+0.2**
KURBB	**Kurchatov Arra**	**64.11**	**321**	P	**P**	**14 57 48.8**	**+0.4**
	5.1nm,0.7s,baz=108,slow=6.5,SNR=50						
BVAR	**Borovoye Array**	**69.52**	**322**	P	**P**	**14 58 23.3**	**+0.4**
	2.0nm,0.5s,baz=106,slow=7.9,SNR=23						
BRVK	**Borovoye**	**69.59**	**322**	*eP*	**P**	**14 58 23.8**	**+0.6**
	5.6nm,1.1s						
IL1	**Eielson Array**	**71.71**	**25**	*eP*	**P**	**14 58 34.5**	**-1.4**
ILAR	**Eielson Array**	**71.71**	**25**	P	**P**	**14 58 35.1**	**-0.9**
	1.1nm,0.5s,baz=243,slow=6.0,SNR=40						
ILB	**Eielson Array**	**71.71**	**25**	*eP*	**P**	**14 58 34.5**	**-1.4**
ABKAR	**Akbulak array**	**75.87**	**318**	*eP*	**P**	**14 58 58.7**	**-1.9**
RVC	**Mount Rainier-**	**85.96**	**43**	*eP*	**P**	**14 59 54.1**	**-0.6**
YKA	**Yellowknife Ar**	**86.07**	**27**	P	**P**	**14 59 54.9**	**+0.2**
	0.6nm,0.4s,baz=294,slow=5.0,SNR=15						
LON	**Longmire**	**86.11**	**43**	*eP*	**P**	**14 59 56.8**	**+1.5**
NV01	**Mina Array Sit**	**90.64**	**51**	*eP*	**P**	**15 00 16.0**	**-1.3**
NVAR	**Mina Array Bea**	**90.64**	**51**	P	**P**	**15 00 18.4**	**+1.1**
	1.3nm,0.7s,baz=267,slow=5.8,SNR=8.4						
FIA0	**FINESS Array S**	**91.58**	**334**	*eP*	**P**	**15 00 20.2**	**-0.6**
FINES	**FINESS Array B**	**91.58**	**334**	P	**P**	**15 00 20.2**	**-0.6**
	1.3nm,0.6s,baz=70,slow=5.3,SNR=10						
AKASG	**Malin Array Be**	**94.76**	**324**	P	**P**	**15 00 34.7**	**-1.0**
	0.5nm,0.4s,baz=21,slow=7.8,SNR=6.8						
AKASG				LR	LR	15 46 00.1	
	comp=Z,47nm,19.6s,baz=310,slow=37						
LPAZ	**La Paz**	**150.78**	**103**	PKPbc	**PKPbc**	**15 07 08.7**	**+0.4**
	1.6nm,0.6s,baz=109,slow=2.3,SNR=5.2						

IDC **16** *14:49:18.5±0.8, 11.°71N×141.°96E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.8/57, mbtmp3.8/12, Error ellipse: s-maj=27.8km s-min=19.1km az=94.0*
ISCJB **16** *14:49:23.5±0.8, 11.°7N±0.°1×141.°9E±0.°2, h49km, mb3.8/12, Error ellipse: s-maj=25.7km s-min=16.5km az=2.2*

ISC 16 14:49:25.5±0.9, 11.°7N±0.°1×141.°9E±0.°2, h49km, n12, σ1s35/12, mb3.8/12, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.30**	**193**	P	**P**	**14 55 49.7**	**-0.3**
	1.0nm,1.0s,baz=18,slow=9.7,SNR=3.3						
USRK	**Ussuriysk Ar.**	**33.48**	**347**	P	**P**	**14 55 57.7**	**-2.3**
	3.1nm,0.6s,baz=156,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**36.00**	**192**	P	**P**	**14 56 20.8**	**-1.2**
	0.3nm,0.6s,baz=22,slow=12,SNR=3.3						
CMAR	**Chiang Mai Arr**	**41.89**	**285**	P	**P**	**14 57 12.1**	**+0.7**
	0.4nm,0.6s,baz=89,slow=6.8,SNR=3.5						
SONM	**Songino Array**	**46.65**	**327**	P	**P**	**14 57 49.9**	**+0.7**
	0.4nm,0.5s,baz=157,slow=7.8,SNR=2.5						
MKAR	**Makanchi Array**	**60.83**	**317**	P	**P**	**14 59 33.4**	**+0.6**
	1.2nm,0.9s,baz=97,slow=7.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**64.18**	**321**	P	**P**	**14 59 55.2**	**+0.1**
	1.8nm,0.7s,baz=111,slow=6.2,SNR=9.2						
BVAR	**Borovoye Array**	**69.59**	**322**	P	**P**	**15 00 30.1**	**+0.6**
	0.7nm,0.5s,baz=112,slow=9.5,SNR=4.8						
ILAR	**Eielson Array**	**71.53**	**25**	P	**P**	**15 00 40.4**	**-0.6**
	0.5nm,0.6s,baz=248,slow=5.9,SNR=5.1						
INK	**Inuvik**	**77.23**	**22**	P	**P**	**15 01 12.2**	**-1.8**
	0.8nm,0.3s,baz=202,slow=11,SNR=7.7						
YKA	**Yellowknife Ar**	**85.88**	**27**	P	**P**	**15 02 01.4**	**+1.6**
	0.4nm,0.7s,baz=292,slow=4.9,SNR=4.4						
NVAR	**Mina Array Bea**	**90.39**	**51**	P	**P**	**15 02 23.5**	**+1.3**
	0.3nm,0.6s,baz=263,slow=6.3,SNR=3.3						

DJA 16 14:50:39.6±0.9, 9.°S±11.°×11.°2E±.°, h60km±23km, M3.6/7, MLv3.6/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.27**	**49**	P	Pn	14 51 01.2	0.0
GMJI				S	Sn	14 51 17.9	+0.5
PWJI	**Pagerwojo**	**1.28**	**328**	P	Pn	14 51 00.3	-1.0
PWJI				S	Sn	14 51 16.1	-1.5
PCJI	**Pacitan**	**1.58**	**305**	P	Pn	14 51 04.9	-0.5
PCJI				S	Sn	14 51 23.2	-1.7
BLJI	**Banyuglugur**	**1.76**	**39**	P	Pn	14 51 08.2	+0.4
BLJI				S	Sn	14 51 29.7	+0.6
JAGI	**Jajag, Banyuwa**	**1.77**	**69**	P	Pn	14 51 08.4	+0.4
JAGI				S	Sn	14 51 29.7	+0.1
ABJI	**Asem Bagus**	**2.18**	**53**	P	Pn	14 51 14.8	+1.3

ISCJB **16** *14:56:39.0±0.6, 5.°6N±0.°1×127.°9E±0.°1, h33km, mb4.1/13, Error ellipse: s-maj=20.2km s-min=9.5km az=138.0*
IDC **16** *14:56:45.6±8.2, 5.°50N×127.°78E, h75km±77km, mb3.8/13, mb1 4.0/13, mb1mx3.6/61, mbtmp4.1/13, MS3.3/1, Ms1 3.3/1, ms1mx2.5/51, Error ellipse: s-maj=30.6km s-min=13.8km az=66.0*

ISC 16 14:56:41.3±0.7, 5.°6N±0.°1×127.°9E±0.°1, h35km, n15, σ1s02/15, mb4.1/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.75**	**303**	S	**Sn**	**14 57 55.8**	**+0.8**
	44nm,0.3s,baz=90,slow=20,SNR=4.4						
GUMO	**Guam**	**18.54**	**63**	LR	LR	15 07 47.5	
	comp=Z,81nm,18.0s,baz=84,slow=36						
WRA	**Warramunga Arr**	**26.12**	**166**	P	**P**	**15 02 11.1**	**-1.1**
	3.1nm,0.7s,baz=338,slow=11,SNR=35						
ASAR	**Alice Springs**	**29.63**	**169**	P	**P**	**15 02 43.9**	**+0.3**
	1.9nm,0.5s,baz=356,slow=8.3,SNR=89						
ASAR				PcP	**PcP**	**15 05 48.1**	**+0.3**
	0.8nm,0.3s,baz=352,slow=2.3,SNR=17						
CMAR	**Chiang Mai Arr**	**31.02**	**297**	P	**P**	**15 02 56.5**	**+0.5**
	0.3nm,0.5s,baz=116,slow=8.1,SNR=3.5						
STKA	**Stephens Creek**	**39.45**	**162**	P	**P**	**15 04 09.0**	**+0.8**
	8.7nm,0.4s,baz=342,slow=8.3,SNR=53						
SONM	**Songino Array**	**45.97**	**340**	P	**P**	**15 05 01.3**	**+0.2**
	0.3nm,0.4s,baz=204,slow=3.2,SNR=2.4						
PETK	**Petropavlovsk-**	**53.32**	**22**	P	**P**	**15 05 58.8**	**+2.0**
	1.7nm,0.6s,baz=190,slow=3.7,SNR=9.2						
MKAR	**Makanchi Array**	**56.75**	**324**	P	**P**	**15 06 21.6**	**-0.2**
	1.9nm,0.7s,baz=113,slow=8.1,SNR=21						
KURBB	**Kurchatov Arra**	**60.85**	**326**	P	**P**	**15 06 50.0**	**-0.2**
	0.8nm,0.6s,baz=126,slow=6.1,SNR=8.5						
TIXI	**Tiksi**	**66.02**	**0**	P	**P**	**15 07 23.4**	**-0.6**
	0.9nm,0.4s,baz=201,slow=2.0,SNR=3.6						
BVAR	**Borovoye Array**	**66.44**	**326**	P	**P**	**15 07 27.0**	**-0.1**
	1.0nm,0.7s,baz=117,slow=5.3,SNR=6.3						
GEYT	**Alibeck**	**70.67**	**308**	P	**P**	**15 07 53.3**	**-0.5**
	0.9nm,0.4s,baz=186,slow=4.1,SNR=2.9						
ILAR	**Eielson Array**	**82.97**	**25**	P	**P**	**15 09 02.4**	**-0.2**
	0.6nm,0.6s,baz=244,slow=5.1,SNR=13						
ARCES	**ARCESS Array B**	**89.15**	**340**	P	**P**	**15 09 30.7**	**-2.2**
	5.9nm,1.1s,baz=64,slow=2.8,SNR=4.2						

IDC **16** *14:58:53.8±1.2, 0.°36N×98.°09E, h0km, mb3.9/11, mb1 3.9/13, mb1mx3.7/67, mbtmp3.8/13, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/53, Error ellipse: s-maj=38.8km s-min=18.8km az=58.0*
ISCJB **16** *14:58:57.2±0.6, 0.°48N±0.°06×98.°14E±0.°09, h29km, mb3.9/11, Error ellipse: s-maj=14.4km s-min=6.2km az=147.7*
DJA **16** *14:58:58.8±0.4, 0.°N±3.°×9.°8E±.°, h10km, M4.2/11, mB5.5/1, mb4.4/3, MLv4.2/11, Mw(mB)4.9/1*

ISC 16 14:58:59.1±0.8, 0.°51N±0.°06×98.°21E±0.°10, h29km, n29, σ1s22/26, mb4.0/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.40**	**78**	P	**Pn**	**14 59 22.5**	**-0.1**
SISI	**Saibi**	**2.02**	**154**	P	**Pn**	**14 59 32.6**	**+1.3**
PSI	**Prapat**	**2.39**	**17**	Pn	**Pn**	**14 59 36.0**	**-0.3**
	7.4nm,0.3s,baz=181,slow=14,SNR=25						
PSI				Sn	**Sb**	**15 00 10.0**	**-0.5**
	16nm,0.3s,baz=145,slow=16,SNR=6.0						
PDSI	**Padang**	**2.66**	**122**	P	**Pn**	**14 59 39.7**	**-0.3**
BKNI	**Bangkinang**	**2.84**	**94**	P	**Pn**	**14 59 44.1**	**+1.7**
TPTI		**2.92**	**339**	P	**Pn**	**14 59 46.6**	**+3.0**
KCSI	**Kotacane, Aceh**	**3.02**	**352**	P	**Pn**	**14 59 46.4**	**+1.4**
PPSI	**Pulau Pagai**	**3.71**	**151**	P	**Pn**	**14 59 53.9**	**-0.6**
MLSI	**Meulaboh, Aceh**	**4.15**	**334**	P	**Pn**	**15 00 03.4**	**+2.9**
MASI	**Maura Aman, Be**	**5.42**	**132**	P	**Pn**	**15 00 19.5**	**+1.5**
	94nm,0.7s						
TPRI	**Tanjung Pinang**	**6.33**	**86**	P	**Pn**	**15 00 30.9**	**+0.4**
MNAI	**Manna**	**6.77**	**136**	P	**Pn**	**15 00 37.8**	**+1.2**
MDSI	**Maura Dua**	**7.76**	**130**	P	**Pn**	**15 00 51.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**17.85**	**2**	P	**Pn**	**15 03 05.2**	**-0.2**
	0.1nm,0.3s,baz=184,slow=11,SNR=3.6						
PALK	**Pallekele**	**18.70**	**291**	LR	LR	15 11 01.9	
	comp=Z,44nm,18.3s,baz=116,slow=39						
H08S2	**Diego Garcia H**	**26.89**	**252**	T	T	15 32 18.5	
	baz=73,slow=76,SNR=201						
H08S3	**Diego Garcia H**	**26.90**	**252**	T	T	15 32 06.2	
	baz=73,slow=76,SNR=244						
H08S1	**Diego Carcia H**	**26.91**	**252**	T	T	15 32 10.6	
	baz=73,slow=76,SNR=245						
WRA	**Warramunga Arr**	**40.81**	**122**	P	**P**	**15 06 37.9**	**-0.5**
	0.3nm,0.5s,baz=305,slow=8.9,SNR=4.3						
ASAR	**Alice Springs**	**42.18**	**127**	P	**P**	**15 06 48.4**	**-1.2**
	0.3nm,0.4s,baz=297,slow=7.6,SNR=7.6						
KSRS	**Korea Array**	**45.85**	**33**	P	**P**	**15 07 18.1**	**-0.7**
	1.7nm,0.8s,baz=219,slow=8.9,SNR=6.4						
SONM	**Songino Array**	**47.67**	**7**	P	**P**	**15 07 33.4**	**+0.4**
	0.6nm,0.6s,baz=184,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**48.16**	**345**	P	**P**	**15 07 37.1**	**+0.5**
	0.7nm,0.7s,baz=162,slow=9.9,SNR=3.0						
KURBB	**Kurchatov Arra**	**52.66**	**344**	P	**P**	**15 08 10.4**	**-0.2**
	0.5nm,0.6s,baz=172,slow=7.1,SNR=4.6						
USRK	**Ussuriysk Ar.**	**52.85**	**30**

comp=E,1222μm,0.4s
LIA AML AML 15 32 23.8
comp=N,632μm,0.3s
LIA Limnos Island 0.92 309 P Pg 15 32 08.8 -0.1
LIA S Sb 15 32 21.5 +0.3
LIA Limnos Island 0.92 309 P Pg 15 32 08.7 -0.1
LIA S Sb 15 32 21.9 +0.7
CHOS Chios island 0.93 183 PG Pg 15 32 09.1 0.0
CHOS Chios island 0.93 183 P Pb 15 32 09.2 -0.1
CHOS S Sb 15 32 22.4 +0.7
CHOS AML AML 15 32 26.6
comp=N,580μm,0.4s
CHOS AML AML 15 32 26.8
comp=E,753μm,0.2s
CHOS Chios island 0.93 183 *e*Pg Pg 15 32 09.1 0.0
CHOS S Sb 15 32 21.6 -0.1
CHOS Chios island 0.93 183 P Pg 15 32 08.9 -0.2
CHOS S Sb 15 32 22.7 +1.0
URLA Izmir 1.03 158 PG Pg 15 32 10.0 -1.0
URLA Izmir 1.03 158 *e*Pg Pg 15 32 10.0 -1.0
GELI Tayfur-Gelibol 1.11 15 PN Pb 15 32 12.4 +0.1
GELI SN Sn 15 32 28.3 +0.4
GELI Tayfur-Gelibol 1.11 15 *e*Pn Pb 15 32 12.4 +0.1
GELI eSn Sn 15 32 28.3 +0.4
LPK Lapseki 1.17 25 PN Pb 15 32 12.5 -0.7
LPK Lapseki 1.17 25 *e*Pn Pb 15 32 12.5 -0.7
SMTH Samothraki Isl 1.23 339 P Pn 15 32 14.2 -0.1
SMTH S Sn 15 32 31.7 +0.8
SMTH AML AML 15 32 31.8
comp=E,148μm,0.4s
SMTH AML AML 15 32 32.3
comp=N,194μm,0.4s
SMTH Samothraki Isl 1.23 339 P Pn 15 32 14.0 -0.3
SMTH S Sn 15 32 31.2 +0.3
SMTH Samothraki Isl 1.23 339 P Pn 15 32 13.6 -0.7
SMTH S Sn 15 32 31.2 +0.3
SKY Skiros Island 1.29 250 P Pn 15 32 13.4 -1.7
SKY Skiros Island 1.29 250 P Pn 15 32 14.1 -0.9
ERIK Erikli-Kesan 1.38 13 PN Pb 15 32 16.5 +0.2
ERIK Erikli-Kesan 1.38 13 *e*Pn Pb 15 32 16.5 +0.2
BALB Balikesir 1.41 76 PN Pb 15 32 17.3 0.0
BALB Balikesir 1.41 76 *e*Pn Pb 15 32 17.3 0.0
KRBG Karabiga-Canak 1.41 40 PN Pn 15 32 16.5 -0.1
KRBG Karabiga-Canak 1.41 40 *e*Pn Pn 15 32 16.5 -0.1
ENEZ Enez 1.42 1 PN Pb 15 32 17.6 +0.1
ENEZ Enez 1.42 1 *e*Pn Pb 15 32 17.6 +0.1
GONE Gonen-Balikesi 1.42 59 PN Pb 15 32 17.9 +0.4
GONE Gonen-Balikesi 1.42 59 *e*Pn Pb 15 32 17.9 +0.4
ALN Alexandroupoli 1.58 358 PN Pb 15 32 20.2 0.0
ALN Alexandroupoli 1.58 358 P Pn 15 32 18.6 -0.4
ALN Alexandroupoli 1.58 358 P Pn 15 32 18.9 0.0
ALN Alexandroupoli 1.58 358 *e*Pn Pb 15 32 20.2 0.0
ALN S Sn 15 32 39.5 +0.2
ALN Alexandroupoli 1.58 358 P Pn 15 32 18.3 -0.6
ALN S Sn 15 32 39.5 +0.2
RKY Sarkoy-Tekirda 1.59 31 PN Pb 15 32 21.1 +0.5
RKY Sarkoy-Tekirda 1.59 31 *e*Pn Pb 15 32 21.1 +0.5
KARY Karystos 1.83 226 P Pn 15 32 23.1 +0.6
KARY Karystos 1.83 226 P Pn 15 32 22.9 +0.4
RDO Rodhopi 1.88 347 P Pn 15 32 21.7 -1.4
RDO Rodhopi 1.88 347 P Pn 15 32 22.6 -0.5
PAIG Paliouri 1.97 289 P Pn 15 32 24.0 -0.4
PAIG Paliouri 1.97 289 P Pn 15 32 24.4 0.0
KAVA Kavala 2.07 324 P Pn 15 32 25.0 -0.8
KAVA Kavala 2.07 324 P Pn 15 32 25.6 -0.2
SBT3 Marmara-Eregli 2.12 42 PN Pb 15 32 28.0 -1.4
SBT3 Marmara-Eregli 2.12 42 *e*Pn Pb 15 32 28.0 -1.4

*IDC **16** 15:39:14.4±1.2,34.4′49N×81.8′84E,h0km,mb3.8/7, mb1 3.9/11,mb1mx3.5/70,mbtmp3.7/11,ML2.9/4,Error ellipse: s-maj=30.4km s-min=21.9km az=58.0*
*ISCJB **16** 15:39:15.3±1.0,34.6′6N±0.1′×81.9′E±0.2′,h15km,mb3.9/6, Error ellipse: s-maj=25.0km s-min=14.3km az=151.6*
ISC 16 15:39:17.0±1.2,34.5′N±0.1′×82.0′E±0.2′,h15km,n11, σ1§25/11,mb4.0/6,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.99**	**326**	P	**Pn**	**15 41 41.8**	**+1.6**
	0.0nm,0.3s,baz=159,slow=8.6,SNR=1.6						
MKAR	**Makanchi Array**	**12.26**	**1**	Pn	**Pn**	**15 42 12.2**	**+1.2**
	0.2nm,0.3s,baz=181,slow=13,SNR=24						
KURBB	**Kurchatov Arra**	**16.29**	**352**	Pn	**Pn**	**15 43 03.3**	**-1.7**
	0.0nm,0.3s,baz=172,slow=12,SNR=2.9						
ZALV	**Zalesovo Beam**	**19.52**	**5**	P	**P**	**15 43 41.8**	**-1.8**
	0.2nm,0.3s,baz=116,slow=16,SNR=10						
BVAR	**Borovoye Array**	**20.25**	**339**	P	**P**	**15 43 51.8**	**+0.2**
	2.4nm,0.7s,baz=141,slow=9.6,SNR=19						
CMAR	**Chiang Mai Arr**	**22.00**	**132**	P	**P**	**15 44 11.3**	**+0.6**
	4.8nm,0.8s,baz=308,slow=11,SNR=19						
HFS	**Hagfors**	**50.11**	**323**	P	**P**	**15 48 10.4**	**-0.8**
	4.4nm,1.1s,baz=81,slow=13,SNR=2.1						
SEY	**Seymchan**	**51.07**	**34**	P	**P**	**15 48 19.1**	**+0.7**
	0.4nm,0.6s,baz=90,slow=20,SNR=3.4						
ILAR	**Eielson Array**	**73.92**	**20**	P	**P**	**15 50 51.4**	**+0.3**
	0.6nm,0.7s,baz=303,slow=4.9,SNR=8.0						
TORD	**Torodi Ar. Bea**	**74.74**	**276**	P	**P**	**15 50 55.9**	**-0.7**
	0.9nm,0.6s,baz=52,slow=5.4,SNR=7.9						
YKA	**Yellowknife Ar**	**82.40**	**8**	P	**P**	**15 51 37.8**	**-0.2**
	1.0nm,0.6s,baz=339,slow=5.2,SNR=18						

*NIED **16** 15:43:00,40.90N×145.20E,h8km,Mw3.4 Best double couple: M0 1.49000×10^14 NP1:φs347.00000°,δ45.00000°, λ-103.00000°. NP2:φs184.00000°,δ46.00000°, λ-77.00000°.*
JMA 16 15:43:00.4±0.2,40.87N×145.23E,h65km±3km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.93**	**307**	P	Pn	15 43 31.7	+0.7
JEM				*e*S	Sn	15 43 53.5	-0.8
JAK	**Akkeshi**	**2.16**	**350**	P	Pn	15 43 34.8	+0.7
JAK				S	Sn	15 43 59.8	0.0
JCH	**Churui**	**2.23**	**322**	P	Pn	15 43 36.0	+0.9
JCH				S	Sn	15 44 00.9	-0.7
JOB	**Onbets**	**2.28**	**333**	P	Pn	15 43 37.2	+1.5
JOB				*e*S	Sn	15 44 03.2	+0.4
JNBK	**Urakawa-nobuka**	**2.33**	**308**	P	Pn	15 43 37.9	+1.5
JNBK				S	Sn	15 44 04.8	+0.8
NEM2	**Nemuro 2**	**2.52**	**9**	P	Pn	15 43 40.2	+1.2
NEM2				S	Sn	15 44 08.7	+0.1
JAR	**Ashorobuto**	**2.66**	**336**	P	Pn	15 43 41.4	+0.6
JAR				S	Sn	15 44 10.8	-1.1
JNK	**Nakash**	**2.74**	**352**	P	Pn	15 43 42.4	+0.4
JBT2	**Biratori 2**	**2.87**	**313**	P	Pn	15 43 45.1	+1.4
JBT2				*e*S	Sn	15 44 18.8	+1.8
JANG	**Nango**	**2.87**	**261**	P	Pn	15 43 43.6	-0.2
JFR	**Furan**	**3.02**	**320**	P	Pn	15 43 47.0	+1.2
JRA	**Rausu**	**3.07**	**359**	P	Pn	15 43 47.8	+1.4
JTM	**Tenmabayashi**	**3.16**	**270**	P	Pn	15 43 48.4	+0.7
JTM				*e*S	Sn	15 44 22.2	-2.0
JOT	**Ohata**	**3.20**	**281**	P	Pn	15 43 49.1	+0.9
JTKR	**Abashiri--Toko**	**3.25**	**343**	P	Pn	15 43 50.7	+1.8
JKB	**Kayabe**	**3.32**	**289**	P	Pn	15 43 50.9	+1.1
JOM	**Ohasama**	**3.32**	**246**	P	Pn	15 43 50.6	+0.7

*CSEM **16** 15:44:26.5,38.87N×29.26W,h5km,ML3.4,After PDA*
PDA 16 15:44:26.5±0.4,38.87N×29.26W,h5km,MD3.4,ML3.4,2C, Error ellipse: s-maj=2.5km s-min=2.0km az=65.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCAN	**Candelaria**	**0.73**	**124**	*e*P	Pg	15 44 38.6	-2.0
PCAN				*e*S	Sg	15 44 47.7	-2.4
PCAN				A	A	15 44 50.6	
	1μm,0.2s						
PCAN	**Candelaria**	**0.73**	**124**	*e*P	Pg	15 44 38.6	-2.0
PCAN				*e*S	Sg	15 44 47.7	-2.4
PICO	**Pico**	**0.75**	**119**	*e*P	Pg	15 44 39.1	-1.8
PICO				*e*S	Sg	15 44 48.3	-2.4
PICO				A	A	15 44 50.2	
	2μm,0.2s						
PICO	**Pico**	**0.75**	**119**	*e*P	Pg	15 44 39.1	-1.8
PICO				*e*S	Sg	15 44 48.3	-2.4
ROSA	**Rosais**	**0.81**	**101**	*e*P	Pg	15 44 39.7	-2.4
ROSA				*e*S	Sg	15 44 49.4	-3.2
ROSA				A	A	15 44 51.0	
	605nm,0.3s						
ROSA	**Rosais**	**0.81**	**101**	*e*P	Pg	15 44 39.7	-2.4
ROSA				*e*S	Sg	15 44 49.4	-3.2
PMAN	**Manadas**	**0.95**	**104**	i*P	Pg	15 44 41.6	-3.1
PMAN				*e*S	Sg	15 44 52.8	-4.2
PMAN				A	A	15 44 56.1	
	226nm,0.2s						
PMAN	**Manadas**	**0.95**	**104**	i*P	Pg	15 44 41.6	-3.1
PMAN				*e*S	Sg	15 44 52.8	-4.2
PGRA	**Graciosa**	**1.01**	**81**	*e*P	Pg	15 44 42.5	-3.4
PGRA				*e*S	Sg	15 44 54.4	-4.6
PGRA				A	A	15 44 56.7	
	224nm,0.4s						
PGRA	**Graciosa**	**1.01**	**81**	*e*P	Pg	15 44 42.5	-3.4
PGRA				*e*S	Sg	15 44 54.4	-4.6
ADH	**Angra Heroismo**	**1.60**	**97**	*e*P	Pn	15 44 50.7	-4.7
ADH				*e*S	Sn	15 45 09.0	-7.4
ADH				A	A	15 45 10.5	
	111nm,0.2s						
ADH	**Angra Heroismo**	**1.60**	**97**	*e*P	Pn	15 44 50.7	-4.7
ADH				*e*S	Sn	15 45 09.0	-7.4
PSET	**Sete Cidades**	**2.98**	**110**	*e*S	Sn	15 45 42.3	-8.2
PSET				A	A	15 45 44.7	
	30nm,0.5s						
PSET	**Sete Cidades**	**2.98**	**110**	*e*S	Sn	15 45 42.3	-8.2
CMLA	**Cha da Macela**	**3.14**	**109**	*e*P	Pn	15 45 11.8	-4.9
CMLA				*e*S	Sn	15 45 46.2	-8.3
CMLA				A	A	15 45 50.7	
	45nm,0.5s						
CMLA	**Cha da Macela**	**3.14**	**109**	*e*P	Pn	15 45 11.8	-4.9
CMLA				*e*S	Sn	15 45 46.2	-8.3
PSMA	**Santa Maria**	**3.77**	**119**	*e*P	Pn	15 45 20.8	-4.4
PSMA				*e*S	Sn	15 46 01.4	-8.5
PSMA				A	A	15 46 03.2	
	17nm,0.2s						
PSMN	**Pico do Norte,**	**3.81**	**118**	*e*P	Pn	15 45 21.3	-4.5
PSMN				*e*S	Sn	15 46 02.3	-8.6
PSMN				A	A	15 46 04.6	
	18nm,0.4s						
PSMN	**Pico do Norte,**	**3.81**	**118**	*e*P	Pn	15 45 21.3	-4.5
PSMN				*e*S	Sn	15 46 02.3	-8.6

*IDC **16** 15:44:29.6±1.5,10.75S×123.58E,h0km,mb3.7/2, mb1 3.6/4,mb1mx3.4/50,mbtmp3.5/4,ML3.1/2,MS3.5/1, Ms1 3.5/1,ms1mx2.5/50,Error ellipse: s-maj=40.6km s-min=11.7km az=99.0*
*ISCJB **16** 15:44:31.6±0.9,10.62S±0.06×123.86E±0.10,h29km, mb3.7/2,MS3.6/1,Error ellipse: s-maj=14.2km s-min=7.9km az=163.5*
*DJA **16** 15:44:33.2±1.5,11°S±8°×12°4E±°,h10km,M3.0/3, MLv3.0/3*
ISC 16 15:44:33.1±1.2,10.54S±0.09×123.83E±0.09,h29km,n8, σ1§06/9,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.37**	**333**	P	**Pb**	**15 44 40.8**	**-0.7**
	91nm,0.3s,baz=119,slow=5.3,SNR=23						
BATI				Lg	Lg	15 44 46.9	
	125nm,0.3s,baz=135,slow=19,SNR=21						
BATI	**Baumata**	**0.37**	**333**	P	**Pb**	**15 44 40.9**	**-0.6**
BATI				S	**Sn**	**15 44 47.8**	**-0.9**
SOEI	**Soe**	**0.89**	**29**	P	**Pb**	**15 44 49.8**	**-0.2**
SOEI				S	**Sb**	**15 45 01.6**	**0.0**
WRA	**Warramunga Arr**	**13.79**	**134**	Pn	**Pn**	**15 47 45.8**	**-0.9**
	0.1nm,0.3s,baz=307,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**16.21**	**145**	Pn	**Pn**	**15 48 18.7**	**-0.2**
	0.1nm,0.3s,baz=316,slow=12,SNR=8.3						
URZ	**Urewera**	**54.91**	**130**	LR		16 17 43.2	
	comp=Z,44nm,18.5s,baz=207,slow=36						
MKAR	**Makanchi Array**	**68.06**	**331**	P	**P**	**15 55 31.5**	**+1.5**
	0.9nm,0.6s,baz=135,slow=7.4,SNR=13						
KURBB	**Kurchatov Arra**	**72.51**	**332**	P	**P**	**15 55 58.4**	**+1.4**
	0.3nm,0.6s,baz=128,slow=6.0,SNR=3.8						

*CSEM **16** 15:45:42.4,38.85N×29.25W,h5km,ML2.5,After PDA*
PDA 16 15:45:42.4±0.7,38.85N×29.25W,h5km,MD3.5,ML2.5,2C, Error ellipse: s-maj=6.2km s-min=4.8km az=102.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCAN	**Candelaria**	**0.71**	**122**	*e*P	Pg	15 45 54.1	-2.0
PCAN				*e*S	Sg	15 46 02.8	-2.6
PCAN				A	A	15 46 04.4	
	120nm,0.2s						
PCAN	**Candelaria**	**0.71**	**122**	*e*P	Pg	15 45 54.1	-2.0
PCAN				*e*S	Sg	15 46 02.8	-2.6
PICO	**Pico**	**0.73**	**118**	i*P	Pg	15 45 54.9	-1.6
PICO				*e*S	Sg	15 46 03.9	-2.2
PICO				A	A	15 46 05.6	
	244nm,0.2s						
PICO	**Pico**	**0.73**	**118**	i*P	Pg	15 45 54.9	-1.6
PICO				*e*S	Sg	15 46 03.9	-2.2
ROSA	**Rosais**	**0.80**	**99**	*e*P	Pg	15 45 55.3	-2.5
ROSA				*e*S	Sg	15 46 05.2	-3.0
ROSA				A	A	15 46 06.4	
	62nm,0.2s						
ROSA	**Rosais**	**0.80**	**99**	*e*P	Pg	15 45 55.3	-2.5
ROSA				*e*S	Sg	15 46 05.2	-3.0
PMAN	**Manadas**	**0.94**	**103**	*e*P	Pg	15 45 57.3	-3.0
PMAN				*e*S	Sg	15 46 08.5	-4.0
PMAN				A	A	15 46 10.4	
	38nm,0.1s						
PMAN	**Manadas**	**0.94**	**103**	*e*P	Pg	15 45 57.3	-3.0
PMAN				*e*S	Sg	15 46 08.5	-4.0
PGRA	**Graciosa**	**1.01**	**79**	*e*S	Sg	15 46 10.1	-4.7
PGRA				A	A	15 46 12.3	
	43nm,0.3s						
PGRA	**Graciosa**	**1.01**	**79**	*e*S	Sg	15 46 10.1	-4.7

*DDA **16** 16:02:38.1,39.36N×26.07E,h7km,Ml2.7*
*ISCJB **16** 16:02:39.5±0.4,39.31N±0.02×26.13E±0.03,h7km±3km, Error ellipse: s-maj=4.5km s-min=3.5km az=162.1*
*CSEM **16** 16:02:39.5±0.1,39.31N×26.14E,h8km,ML2.4,Error ellipse: s-maj=3.7km s-min=2.6km az=79.0*
*ISK **16** 16:02:39.1,39.30N×26.15E,h6km,ML2.8/11*
*THE **16** 16:02:40.1,39.31N×26.10E,h8km,ML2.4/4,Error ellipse: s-maj=0.9km s-min=0.3km az=182.0*
ISC 16 16:02:39.8±0.8,39.31N±0.02×26.13E±0.02,h14km±5km, n60,σ0§71/82,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.13**	**120**	P	**Pg**	**16 02 43.3**	**0.0**
PRK				S	**Sg**	**16 02 45.8**	**+0.2**
PRK	**Paraskevi**	**0.13**	**120**	P	**Pg**	**16 02 43.3**	**0.0**
PRK				S	**Sg**	**16 02 45.8**	**+0.2**
GPNR	**Gulpinar-Canak**	**0.14**	**2**	PG	**Pg**	**16 02 42.8**	**-0.7**
GPNR				SG	**Sg**	**16 02 46.0**	**0.0**
GPNR	**Gulpinar-Canak**	**0.14**	**2**	*e*Pg	**Pg**	**16 02 42.8**	**-0.7**
GPNR				*e*Sg	**Sg**	**16 02 46.0**	**0.0**
SIGR	**SIGRI**	**0.23**	**245**	PG	**Pg**	**16 02 44.3**	**-0.6**
SIGR				SG	**Sg**	**16 02 48.6**	**+0.3**
SIGR	**SIGRI**	**0.23**	**245**	P	**Pg**	**16 02 44.4**	**-0.5**
SIGR				S	**Sg**	**16 02 47.9**	**-0.4**
SIGR				*e*Sg	**Sg**	**16 02 48.6**	**+0.3**
SIGR	**SIGRI**	**0.23**	**245**	P	**Pg**	**16 02 44.4**	**-0.5**
SIGR				S	**Sg**	**16 02 47.9**	**-0.4**
EZN	**Ezine**	**0.54**	**17**	PG	**Pg**	**16 02 50.3**	**0.0**
EZN	**Ezine**	**0.54**	**17**	*e*Pg	**Pg**	**16 02 50.3**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.54**	**37**	*i*P	**Pg**	**16 02 48.3**	**-2.1**
BAYC	**CANAKKALE_Bayr**	**0.54**	**37**	P	**Pg**	**16 02 48.3**	**-2.1**
DKL	**Dikili**	**0.65**	**111**	PG	**Pg**	**16 02 51.9**	**-0.6**
DKL	**Dikili**	**0.65**	**111**	*e*Pg	**Pg**	**16 02 51.9**	**-0.6**
FOCM	**Fo^ša**	**0.76**	**142**	PG	**Pg**	**16 02 53.2**	**-1.4**
FOCM				SG	**Sb**	**16 03 05.0**	**-0.1**
FOCM	**Fo^ša**	**0.76**	**142**	*e*Pg	**Pg**	**16 02 53.2**	**-1.4**
FOCM				*e*Sg	**Sb**	**16 03 05.0**	**-0.1**
GADA	**Gvkgeada**	**0.90**	**349**	PG	**Pg**	**16 02 56.9**	**-0.2**
GADA	**Gvkgeada**	**0.90**	**349**	*e*Pg	**Pg**	**16 02 56.9**	**-0.2**
CHOS	**Chios island**	**0.93**	**184**	PG	**Pg**	**16 02 56.9**	**-0.8**
CHOS	**Chios island**	**0.93**	**184**	*e*Pg	**Pg**	**16 02 56.9**	**-0.8**
CHOS	**Chios island**	**0.93**	**184**	P	**Pg**	**16 02 57.2**	**-0.5**
CHOS				S	**Sb**	**16 03 10.9**	**+1.0**
CHOS	**Chios island**	**0.93**	**184**	P	**Pg**	**16 02 57.2**	**-0.5**
CHOS				S	**Sb**	**16 03 10.9**	**+1.0**
LIA	**Limnos Island**	**0.94**	**309**	P	**Pb**	**16 02 57.5**	**-0.3**
LIA				S	**Sb**	**16 03 10.7**	**+0.6**
LIA	**Limnos Island**	**0.94**	**309**	P	**Pb**	**16 02 57.5**	**-0.3**
LIA				S	**Sb**	**16 03 10.7**	**+0.6**
URLA	**Izmir**	**1.02**	**159**	PG	**Pb**	**16 02 58.4**	**-0.9**
URLA	**Izmir**	**1.02**	**159**	*i*P	**Pb**	**16 02 58.2**	**-1.1**
URLA	**Izmir**	**1.02**	**159**	*e*Pg	**Pb**	**16 02 58.4**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.12**	**14**	PN	**Pb**	**16 03 00.9**	**0.0**
GELI	**Tayfur-Gelibol**	**1.12**	**14**	*e*Pn	**Pb**	**16 03 00.9**	**0.0**
LPK	**Lapseki**	**1.17**	**25**	PN	**Pb**	**16 03 01.1**	**-0.7**
LPK	**Lapseki**	**1.17**	**25**	*e*Pn	**Pb**	**16 03 01.1**	**-0.7**
BALY	**Balya**	**1.23**	**69**	*i*P	**Pn**	**16 03 01.8**	**-0.9**
BALY				*i*S	**Sg**	**16 03 20.1**	**+0.5**
BALY	**Balya**	**1.23**	**69**	P	**Pn**	**16 03 01.8**	**-0.9**
BALY				S	**Sg**	**16 03 20.1**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.24**	**87**	*i*P	**Pn**	**16 03 02.5**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.24**	**87**	P	**Pn**	**16 03 02.5**	**-0.2**
SMTH	**Samothraki Isl**	**1.25**	**339**	P	**Pn**	**16 03 02.6**	**-0.3**
SMTH				S	**Sg**	**16 03 20.2**	**+0.2**
SMTH	**Samothraki Isl**	**1.25**	**339**	P	**Pn**	**16 03 02.6**	**-0.3**
SMTH				S	**Sg**	**16 03 20.2**	**+0.2**
ERIK	**Erikli-Kesan**	**1.39**	**12**	PN	**Pb**	**16 03 05.4**	**-0.2**
ERIK	**Erikli-Kesan**	**1.39**	**12**	*e*Pn	**Pb**	**16 03 05.4**	**-0.2**
BALB	**Balikesir**	**1.40**	**76**	PN	**Pb**	**16 03 06.1**	**+0.4**
BALB	**Balikesir**	**1.40**	**76**	*e*Pn	**Pb**	**16 03 06.1**	**+0.4**
KRBG	**Karabiga-Canak**	**1.41**	**39**	PN	**Pn**	**16 03 05.4**	**+0.4**
KRBG	**Karabiga-Canak**	**1.41**	**39**	*e*Pn	**Pn**	**16 03 05.4**	**+0.4**
GONE	**Gonen-Balikesi**	**1.41**	**58**	PN	**Pb**	**16 03 05.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.41**	**58**	*e*Pn	**Pb**	**16 03 05.6**	**-0.3**
KESN	**Edirne-Kesan**	**1.57**	**16**	*i*P	**Pn**	**16 03 07.8**	**+0.2**
KESN	**Edirne-Kesan**	**1.57**	**16**	P	**Pn**	**16 03 07.8**	**+0.2**
ALN	**Alexandroupoli**	**1.58**	**358**	PN	**Pb**	**16 03 08.8**	**-0.1**
ALN	**Alexandroupoli**	**1.58**	**358**	P	**Pn**	**16 03 07.4**	**-0.1**
ALN	**Alexandroupoli**	**1.58**	**358**	*e*Pn	**Pb**	**16 03 08.8**	**-0.1**
ALN				S	**Sb**	**16 03 28.8**	**0.0**
ALN	**Alexandroupoli**	**1.58**	**358**	P	**Pn**	**16 03 07.4**	**-0.1**
ALN				S	**Sb**	**16 03 28.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.59**	**30**	PN	**Pb**	**16 03 08.6**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.59**	**30**	*e*Pn	**Pb**	**16 03 08.6**	**-0.5**
SART	**Tekirdag**	**1.59**	**30**	*i*P	**Pn**	**16 03 08.3**	**+0.6**
SART				*i*S	**Sn**	**16 03 28.5**	**+0.3**
SART	**Tekirdag**	**1.59**	**30**	P	**Pn**	**16 03 08.3**	**+0.6**
SART				S	**Sn**	**16 03 28.5**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.94**	**134**	PN	**Pn**	**16 03 13.9**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**1.94**	**134**	*e*Pn	**Pn**	**16 03 13.9**	**+1.4**
KCTX	**Karacabey (Bur**	**1.96**	**60**	PN	**Pn**	**16 03 13.7**	**+0.9**
KCTX	**Karacabey (Bur**	**1.96**	**60**	*e*Pn	**Pn**	**16 03 13.7**	**+0.9**
ARMT	**Armutlu**	**2.45**	**58**	PN	**Pn**	**16 03 21.0**	**+1.6**
ARMT	**Armutlu**	**2.45**	**58**	*e*Pn	**Pn**	**16 03 21.0**	**+1.6**

*CSEM **16** 16:13:04.6,38.91N×29.28W,h10km,ML2.1,After PDA*
PDA 16 16:13:04.6±0.6,38.91N×29.28W,h10km,MD3.5,ML2.1, Error ellipse: s-maj=7.1km s-min=5.1km az=41.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCAN	**Candelaria**	**0.76**	**125**	*e*P	Pg	16 13 16.6	-2.7
PCAN				*e*S	Sg	16 13 25.5	-3.7
PCAN				A	A	16 13 28.2	
	49nm,0.2s						
PCAN	**Candelaria**	**0.76**	**125**	*e*P	Pg	16 13 16.6	-2.7
PCAN				*e*S	Sg	16 13 25.5	-3.7
PICO	**Pico**	**0.78**	**121**	*e*P	Pg	16 13 17.2	-2.4
PICO				*e*S	Sg	16 13 26.5	-3.3
PICO				A	A	16 13 28.0	
	85nm,0.2s						
PICO	**Pico**	**0.78**	**121**	*e*P	Pg	16 13 17.2	-2.4
PICO				*e*S	Sg	16 13 26.5	-3.3
ROSA	**Rosais**	**0.83**	**103**	*e*P	Pg	16 13 17.6	-3.0
ROSA				*e*S	Sg	16 13 27.2	-4.2
ROSA				A	A	16 13 31.7	
	15nm,0.2s						
ROSA	**Rosais**	**0.83**	**103**	*e*P	Pg	16 13 17.6	-3.0
ROSA				*e*S	Sg	16 13 27.2	-4.2
PMAN	**Manadas**	**0.97**	**106**	*e*P	Pg	16 13 19.4	-3.8
PMAN				*e*S	Sg	16 13 30.7	-5.1
PMAN				A	A	16 13 32.1	
	14nm,0.2s						
PMAN	**Manadas**	**0.97**	**106**	*e*P	Pg	16 13 19.4	-3.8
PMAN				*e*S	Sg	16 13 30.7	-5.1

*ISCJB **16** 16:34:04.8±0.4,3.20N±0.03×77.96W±0.03,h36km±4km, mb4.5/40,MS3.4/5,Error ellipse: s-maj=4.8km s-min=4.4km az=165.3*
*RSNC **16** 16:34:04.5±1.1,3.09N×77.84W,h0km±7km,ML4.2,Mw4.4*
*CASC **16** 16:34:06.6±3.5,2.88N×79.23W,h135km±999km, mb4.6(NEIC)*
*NEIC **16** 16:34:07.9±0.8,3.14N×77.94W,h49km±9km,mb4.6/26, ML4.2(RSNC),Error ellipse: s-maj=9.8km s-min=6.4km az=88.0*
*IDC **16** 16:34:07.7±2.1,3.23N×77.76W,h41km±19km,mb4.0/17, mb1 4.2/22,mb1mx4.1/47,mbtmp4.3/22,ML3.7/4,MS3.4/6, Ms1 3.4/6,ms1mx3.0/44,Error ellipse: s-maj=19.3km s-min=11.4km az=64.0*
ISC 16 16:34:05.4±1.0,3.15N±0.04×77.96W±0.05,h26km±7km, n258,σ1§09/261,mb4.5/40,MS3.5/5,2C,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGC	**Isla de Gorgon**	**0.26**	**235**	*e*P	**Pb**	**16 34 11.2**	**-0.7**
GRGC				*e*S	**Sb**	**16 34 16.3**	**0.0**
MALC	**Bahia Malaga**	**1.06**	**36**	*e*P	**Pn**	**16 34 23.5**	**-1.1**
HOLO	**Saladito**	**1.37**	**76**	*e*P	**Pn**	**16 34 26.3**	**-2.7**
POPC	**Popayan, Colom**	**1.41**	**115**	i*P	**Pn**	**16 34 27.5**	**-2.3**
POPC				*e*S	**Sn**	**16 34 44.9**	**-2.8**
POPC				*i*		16 34 45.2	
	comp=Z,5μm,0.4s						
**TU

MNMC	Minye Minye comp=Z,36nm,0.8s	23.62	160	*e*P		P		16 39 16.0	+1.1
PB11	IPOC Station P comp=Z,22nm,0.8s	24.18	161	*e*P		P		16 39 21.0	+0.9
SIV	San Ignacio comp=Z,5.5nm,0.7s,baz=327,slow=10,SNR=18	25.31	139	P		P		16 39 29.2	-1.0
PB01	IPOC Station P comp=Z,11nm,0.9s	25.43	161	*e*P		P		16 39 32.5	+1.1
251A	Midway baz=165	29.63	347	P		P		16 40 09.5	+0.7
445A	Amite baz=155	29.82	338	P		P		16 40 11.6	+1.1
151A	Opelika baz=165	30.03	347	P		P		16 40 13.2	+0.8
248A	Dixon Mills baz=160	30.23	343	P		P		16 40 14.6	+0.6
150A	Eclectic baz=164	30.27	346	P		P		16 40 15.1	+0.7
GOGA	Godfrey baz=169	30.55	351	P		P		16 40 17.9	+1.1
GOGA	Godfrey comp=Z,7.4nm,0.8s	30.55	351	*e*P		P		16 40 18.0	+1.2
Z50A	Ashland baz=164	30.86	347	P		P		16 40 20.7	+0.9
LRAL	Lakeview Retre baz=162	30.91	345	P		P		16 40 20.5	+0.4
Z49A	Columbiana baz=163	30.95	346	P		P		16 40 21.2	+0.8
Z48A	Northport baz=161	31.38	344	P		P		16 40 24.7	+0.4
Y50A	Piedmont baz=165	31.43	348	P		P		16 40 25.2	+0.5
Y47A	UCPARC, Winfie baz=161	31.96	344	P		P		16 40 29.9	+0.6
BG3	Lake Jocassee comp=Z,14nm,0.8s	32.02	352	*e*P		P		16 40 31.4	+1.6
Y46A	Houston baz=159	32.23	343	P		P		16 40 32.1	+0.4
X48A	Hartselle baz=163	32.27	346	P		P		16 40 31.9	-0.2
Y45A	Yeager Farm, C baz=158	32.42	342	P		P		16 40 33.9	+0.5
TZTN	Tazewell baz=170	33.63	352	P		P		16 40 44.8	+0.8
V46A	Holladay baz=162,SNR=7.3	33.82	345	P		P		16 40 45.5	-0.1
BLA	Blacksburg baz=176	33.97	356	P		P		16 40 48.4	+1.4
BLA	Blacksburg comp=Z,10nm,0.8s	33.97	356	*e*P		P		16 40 48.1	+1.1
WHTX	Lake Whitney, baz=144	34.05	330	P		P		16 40 48.2	+0.5
X40A	Basin Creek Fa baz=153	34.12	338	P		P		16 40 48.5	+0.3
X39A	Fountain Ranch baz=151	34.64	336	P		P		16 40 52.2	-0.5
T47A	Sharon Grove baz=164	34.71	347	P		P		16 40 52.9	-0.4
V42A	Cord baz=156	34.79	341	P		P		16 40 53.2	-0.8
V41A	Mountainview baz=155	35.03	340	P		P		16 40 55.7	-0.4
W39A	Magazine baz=152	35.11	337	P		P		16 40 56.8	+0.1
S48A	Wiedeman Farm, baz=166	35.14	349	P		P		16 40 56.5	-0.4
U42A	Revenden baz=157	35.24	341	P		P		16 40 57.2	-0.7
V40A	Witts Springs baz=154,SNR=6.5	35.29	339	P		P		16 40 57.6	-0.7
CPUP	Villa Florida comp=Z,1.8nm,0.8s,baz=352,slow=4.0,SNR=4.6	35.45	147	P		P		16 40 59.5	-0.3
CPUP	Villa Florida comp=Z,5.4nm,1.1s	35.45	147	*e*P		P		16 40 59.5	-0.3
U41A	Viola baz=156	35.46	340	P		P		16 40 58.8	-1.0
S46A	Don Dixon Farm baz=163	35.52	347	P		P		16 40 59.7	-0.5
T43A	Greenville baz=159	35.62	343	P		P		16 41 00.6	-0.5
LTX	Lajitas	35.69	320	*e*P		P		16 41 03.8	+1.8
TXAR	Lajitas Array comp=Z,1.8nm,0.7s,baz=140,slow=8.4,SNR=21	35.69	320	P	PcP	PcP		16 41 03.8	+1.8
TXAR	comp=Z,1.7nm,0.8s,baz=140,slow=6.5,SNR=11				LR	LR		16 43 30.8	+0.6
TX31	comp=Z,37nm,18.9s,baz=0.0,slow=38 Lajitas Ar. Si	35.69	320	*e*P		P		16 56 45.3 16 41 03.4	+1.4
WCI	Wyandotte Cave baz=166	35.74	349	P		P		16 41 01.9	-0.2
U40A	Yellville baz=154,SNR=11	35.79	339	P		P		16 41 02.3	-0.4
T42A	Van Buren baz=157,SNR=8.3	35.82	342	P		P		16 41 02.0	-0.8
U39A	Green Forest baz=153	36.04	338	P		P		16 41 04.3	-0.5
T41A	Mountain View baz=156	36.04	341	P		P		16 41 04.0	-0.8
R45A	Skylar, Fairfi baz=162	36.23	346	P		P		16 41 05.9	-0.4
MCWV	Mont Cateau baz=177	36.38	358	P		P		16 41 08.5	+0.8
T40A	Mansfield baz=155,SNR=12	36.39	340	P		P		16 41 07.3	-0.5
Q47A	Bedord North L baz=166	36.45	349	P		P		16 41 08.0	-0.2
ROC1	El Roble comp=Z,26nm,0.6s	36.52	170	*e*P		P		16 41 09.7	+0.5
TUL1	Leonard baz=149	36.53	335	P		P		16 41 09.9	+0.9
T39A	Clever baz=154	36.58	339	P		P		16 41 08.7	-0.6
Q45A	Warren Harvey, baz=163	36.77	347	P		P		16 41 10.1	-0.8
S40A	Lebanon baz=155,SNR=14	36.79	341	P		P		16 41 10.6	-0.6
CCM	Cathedral Cave baz=158	36.81	342	P		P		16 41 10.3	-1.0
R42A	Luebbering baz=158	36.88	343	P		P		16 41 11.1	-0.8
WMOK	Wichita Mounta baz=144	36.91	331	P		P		16 41 11.9	-0.4
T38A	Diamond baz=152	36.92	338	P		P		16 41 11.5	-0.7
P47A	Martinsville baz=166	36.95	349	P		P		16 41 12.1	-0.3
O56A	Blue Knob Stat baz=179	36.95	359	P		P		16 41 13.9	+1.4
O56A	Blue Knob Stat comp=Z,11nm,0.8s	36.95	359	*e*P		P		16 41 11.4	-1.1
R41A	Rosebud baz=157	37.07	342	P		P		16 41 12.5	-1.0
S39A	Bolivar baz=154	37.15	340	P		P		16 41 13.3	-0.9
P45A	Graceland, Par baz=164	37.29	347	P		P		16 41 14.9	-0.4
S38A	Stockton baz=153	37.31	339	P		P		16 41 14.4	-1.1
SSPA	Standing Stone baz=180	37.32	0	P		P		16 41 16.6	+1.0
R40A	Maddies Statio baz=156	37.34	341	P		P		16 41 15.3	-0.5
R39A	Chumby, Stover baz=155,SNR=7.6	37.62	340	P		P		16 41 16.9	-1.2
Q41A	Truxton baz=158	37.64	343	P		P		16 41 17.4	-0.9
N59A	State Game Lan baz=184	37.65	3	P		P		16 41 18.8	+0.4
O47A	Sheridan baz=166	37.66	350	P		P		16 41 17.7	-0.8
N54A	Moraine State baz=177	37.69	357	P		P		16 41 19.1	+0.3
R38A	Fenwick Farm, baz=154	37.80	339	P		P		16 41 19.3	-0.4
PAL	Palisades baz=186	37.86	5	P		P		16 41 19.6	-0.6
Q40A	Laux Farm, Aux baz=157	37.93	342	P		P		16 41 19.9	-0.9
M54A	Oil Creek Stat baz=177	38.22	358	P		P		16 41 24.1	+0.9
P41A	Barry, Barry baz=159	38.26	344	P		P		16 41 22.9	-0.7
MNTX	Cornudas Mount baz=132,SNR=9.7	38.37	321	P		P		16 41 25.7	+1.0
MNTX	Cornudas Mount comp=Z,6.1nm,1.1s	38.37	321	*e*P		P		16 41 24.7	+0.1
Q38A	Cooks Store, C baz=154	38.40	340	P		P		16 41 23.9	-0.8
P40A	Paris baz=157	38.41	342	P		P		16 41 24.1	-0.7
MSTX	Muleshoe baz=138	38.41	326	P		P		16 41 24.1	-1.0
AMTX	Amarillo baz=140	38.50	328	P		P		16 41 25.4	-0.4
N44A	Piper City baz=164	38.59	348	P		P		16 41 25.3	-0.9
P39B	Salisbury baz=156	38.59	342	P		P		16 41 25.8	-0.6
Q37A	Longview Farm, baz=153	38.61	339	P		P		16 41 25.3	-1.3
ERPA	Erie baz=177	38.84	358	P		P		16 41 29.3	+0.8
N42A	Yates City baz=161	39.06	345	P		P		16 41 28.8	-1.5
O38A	Galt baz=155	39.40	341	P		P		16 41 31.9	-1.2
Q34A	Chapman baz=149	39.59	337	P		P		16 41 34.2	-0.5
P34A	Walnut Farm, R baz=150	40.08	337	P		P		16 41 38.4	-0.5
L41A	Preston baz=160	40.35	346	P		P		16 41 39.8	-1.2
WLVO	Wesleyville baz=179,SNR=5.6	40.60	360	P		P		16 41 44.1	+1.1
CBKS	Cedar Bluff baz=145	40.67	334	P		P		16 41 43.8	0.0
JFWS	Jewell Farm baz=161	41.08	346	P		P		16 41 45.7	-1.4
JFWS	Jewell Farm comp=Z,9.3nm,0.9s	41.08	346	*e*P		P		16 41 44.7	-2.4
K40A	Colesburg baz=160	41.10	345	P		P		16 41 45.7	-1.5
ANMO	Albuquerque baz=134	41.24	324	P		P		16 41 50.2	+1.5
ANMO	Albuquerque comp=Z,4.8nm,0.8s	41.24	324	*e*P		P		16 41 46.4	-2.3
LBNH	Lisbon baz=189	41.27	7	P		P		16 41 47.3	-1.2
LONY	Lake Ozonia baz=185	41.41	4	P		P		16 41 51.0	+1.3
I43A	Langenfeld Bro baz=165	41.56	349	P		P		16 41 49.1	-1.8
J40A	Soldiers Grove baz=161	41.66	346	P		P		16 41 50.3	-1.4
I42A	Draeger Farm, baz=164	41.72	348	P		P		16 41 51.1	-1.1
PLVO	Plevna baz=181,SNR=5.9	41.73	1	P		P		16 41 53.1	+0.9
J39A	Decorah baz=159	41.84	345	P		P		16 41 52.2	-1.0
H43A	Windswept, Lux baz=163	42.05	350	P		P		16 41 53.8	-1.1
BUKO	Buck Lake baz=178,SNR=5.2	42.14	358	P		P		16 41 56.0	+0.4
I39A	Houston baz=160	42.28	345	P		P		16 41 55.5	-1.4
I38A	Scanlan Farm, baz=159	42.66	345	P		P		16 41 58.6	-1.4
SDCO	Great Sand Dun baz=137	42.69	327	P		P		16 42 01.7	+1.2
H40A	Chili baz=162	42.73	347	P		P		16 41 59.2	-1.3
G43A	Wallace baz=166	42.80	350	P		P		16 41 59.9	-1.1
F45A	CMU Biological baz=169	42.88	352	P		P		16 42 01.2	-0.4
G42A	Mountain baz=165,SNR=7.1	42.92	349	P		P		16 42 01.1	-0.9
H39A	Augusta baz=160	43.00	346	P		P		16 42 01.3	-1.4
H38A	Maiden Rock baz=159	43.24	345	P		P		16 42 03.3	-1.3
F43A	Flat Rock, Esc baz=166	43.27	351	P		P		16 42 03.4	-1.4
F44A	Big Bay de Noc baz=168	43.29	351	P		P		16 42 04.0	-1.0
G40A	Rib Lake baz=162	43.30	347	P		P		16 42 04.1	-1.0
S22A	4UR Ranch, Cre baz=136	43.41	326	P		P		16 42 07.4	+0.9
214A	Organ Pipe Nat baz=124	43.51	315	P		P		16 42 07.5	+0.5
F41A	Three Lakes baz=164	43.53	349	P		P		16 42 06.1	-0.8
G39A	Holcombe baz=161	43.54	346	P		P		16 42 05.9	-1.1
G38A	Ridgeland baz=160,SNR=7.3	43.60	346	P		P		16 42 06.2	-1.3
H36A	Jesseland, He baz=157	43.60	343	P		P		16 42 05.9	-1.6
ECSD	EROS Data Cent baz=152	43.67	340	P		P		16 42 06.6	-1.5
ECSD	EROS Data Cent comp=Z,3.3nm,0.7s	43.67	340	*e*P		P		16 42 06.9	-1.2
E43A	Lone Tree Farm baz=167,SNR=5.9	43.77	351	P		P		16 42 08.0	-0.8
E44A	Grand Marais A baz=168	43.85	352	P		P		16 42 09.1	-0.4
SPMN	Marine on St. baz=158	43.89	345	P		P		16 42 08.9	-0.9
F40A	Park Falls baz=162,SNR=8.0	43.91	348	P		P		16 42 09.1	-0.9
H35A	Sunnyside Ranc baz=155,SNR=6.5	43.97	343	P		P		16 42 08.7	-1.8
E42A	Champion baz=166	43.98	350	P		P		16 42 10.0	-0.5
F39A	Loretta baz=161	44.08	347	P		P		16 42 10.1	-1.3
PLCA	Paso Flores comp=Z,3.3nm,0.6s,baz=15,slow=10,SNR=12	44.19	172	P		P		16 42 13.4	+1.0
E41A	Kenton baz=164	44.20	349	P		P		16 42 11.4	-0.9
F38A	Pierce - Schro baz=160	44.34	346	P		P		16 42 12.3	-1.1
E40A	Wakefield baz=163,SNR=12	44.36	348	P		P		16 42 13.1	-0.5
E39A	Mellen baz=162,SNR=10.0	44.44	348	P		P		16 42 13.4	-0.8
H33A	Prehn Over Nor baz=153	44.55	341	P		P		16 42 13.7	-1.5
H32A	Carlson Farm, baz=152	44.63	340	P		P		16 42 14.4	-1.4
F36A	Milaca baz=158	44.67	345	P		P		16 42 14.8	-1.2
D41A	Chassel baz=165,SNR=6.4	44.70	350	P		P		16 42 15.9	-0.3
E38A	The Farm, Brul baz=161	44.88	347	P		P		16 42 16.6	-1.0
F34A	Alexandria baz=155	45.09	343	P		P		16 42 18.5	-1.0
E36A	McGregor baz=158	45.21	345	P		P		16 42 19.1	-1.2
F33A	5 Mile Ranch, baz=154	45.44	342	P		P		16 42 20.4	-1.8
E35A	Pequot Lakes baz=157	45.55	344	P		P		16 42 22.1	-0.9
D37A	Cotton baz=160	45.60	346	P		P		16 42 22.7	-0.7
C40A	Isle Royale Na baz=164,SNR=6.8	45.63	349	P		P		16 42 23.2	-0.4
C39A	Grand Marais baz=163	45.72	349	P		P		16 42 23.2	-1.2
D36A	Goodland baz=159	45.80	346	P		P		16 42 23.7	-1.3
C38A	Sawbill Land. baz=161	45.86	347	P		P		16 42 24.5	-1.1
C37A	Embarrass baz=160	46.08	347	P		P		16 42 26.1	-1.1
EYMN	Ely baz=161,SNR=5.8	46.13	347	P		P		16 42 26.4	-1.2
EYMN	Ely comp=Z,5.3nm,0.6s	46.13	347	*e*P		P		16 42 26.6	-1.0
C36A	Pine Crest Far baz=159	46.26	346	P		P		16 42 27.9	-0.7
IRM	Iron Mountain baz=124	46.36	316	P		P		16 42 30.7	+1.0
SRU	San Rafael Swe comp=Z,3.5nm,0.8s	46.45	325	*e*P		P		16 42 31.2	+0.6
RSSD	Black Hills baz=143	46.86	334	P		P		16 42 34.4	+0.7
RSSD	Black Hills comp=Z,8.5nm,0.8s	46.86	334	*e*P		P		16 42 34.2	+0.5
BELC	Belle Mtn. Jos baz=123	46.87	315	P		P		16 42 34.8	+1.0
B35A	Bob, Littlefor baz=158	47.04	346	P		P		16 42 33.6	-1.1
B34A	Aery, Baudette baz=157	47.39	345	P		P		16 42 36.5	-0.9
AGMN	Agassiz Nation baz=155	47.54	344	P		P		16 42 37.5	-1.1
FLU	Fool Peak	47.59	324	*e*P		P		16 42 40.8	+1.4
C31A	Landman Farms, baz=153	47.63	342	P		P		16 42 38.7	-0.7
B32A	Ashes, Strandq baz=155	47.82	343	P		P		16 42 39.6	-1.1
A33A	Warroad baz=156	48.00	345	P		P		16 42 41.0	-1.1
A32A	Rocking H Ranc baz=155	48.28	344	P		P		16 42 42.9	-1.5
PDAR	Pinedale Array comp=Z,0.8nm,0.8s,baz=114,slow=10,SNR=6.6	48.46	329	P		P		16 42 46.3	+0.2
PDAR	comp=Z,45nm,19.2s,baz=94,slow=39				LR	LR		17 05 57.7	
MPMC	Manual Prospec baz=123	49.01	317	P		P		16 42 50.3	-0.1
ULM	Lac du Bonnet comp=Z,9.6nm,0.6s,baz=157,slow=8.1,SNR=30	49.33	345	P		P		16 42 51.0	-1.4
ULM	comp=Z,2.4nm,0.5s,baz=128,slow=5.4,SNR=4.4				PcP	PcP		16 44 13.8	-1.0
ULM	Lac du Bonnet comp=Z,9.8nm,0.6s	49.33	345	*e*P		P		16 42 49.6	-2.8
SBC	Santa Barbara baz=126	49.73	314	P		P		16 42 56.2	+0.4
MOOW	Moose Ponds comp=Z,3.3nm,0.9s	49.77	329	*e*P		P		16 42 55.7	-0.4
IMW	Indian Meadow comp=Z,4.1nm,0.6s	49.97	329	*e*P		P		16 42 58.4	+0.7
NV01	Mina Array Sit	50.84	319	*e*P		P		16 43 04.9	+0.6
NVAR	Mina Array Bea comp=Z,2.9nm,0.7s,baz=128,slow=7.0,SNR=18	50.84	319	P		P		16 43 05.2	+0.9
NVAR	comp=Z,0.9nm,0.6s,baz=108,slow=4.8,SNR=4.0				PcP	PcP		16 44 22.1	+1.2
HLID	Hailey baz=131	51.59	327	P		P		16 43 10.4	+0.6
LRM	Limekiln Ridge	52.09	330	*e*P		P		16 43 14.5	+0.9
SCHQ	Schefferville comp=Z,8.4nm,0.7s,baz=198,slow=4.6,SNR=6.5	52.31	8	P		P		16 43 14.9	+0.1
SCHQ	comp=Z,36nm,21.7s,baz=2.5,slow=35				LR	LR		17 04 55.5	
EGMT	Eagleton baz=138	52.40	333	P		P		16 43 15.4	-0.2
FCC	Fort Churchill comp=Z,4.3nm,0.8s	56.88	350	*e*P		P		16 43 46.2	-1.6
EDM	Edmonton comp=Z,8.2nm,0.8s	57.79	336	*e*P		P		16 43 53.4	-1.1
YKA	Yellowknife Ar comp=Z,4.1nm,0.8s,baz=135,slow=6.3,SNR=65	65.15	342	P		P		16 44 43.2	-0.7
YKW3	Yellowknife Ar comp=Z,6.9nm,0.9s	65.20	342	*e*P		P		16 44 43.5	-0.7
DBIC	Dimbokro comp=Z,2.8nm,0.6s,baz=268,slow=5.8,SNR=4.5	72.86	84	P		P		16 45 31.7	-1.2
BORG	Borgarnes comp=Z,33nm,20.1s,baz=196,slow=34	73.45	22	LR		LR		17 15 43.8	
SUMG	Summit comp=Z,13nm,0.8s	73.49	12	*i* P		P		16 45 36.1	+0.2
SUMG	Summit comp=Z,13nm,0.7s	73.49	12	*e*P		P		16 45 35.0	-0.9
SCO	Scoresbysund	76.17	17	*i* P		P		16 45 51.1	+0.2
DOT	Dot Lake comp=Z,14nm,0.8s	76.74	335	*e*P		P		16 45 55.1	+0.7
ILAR	Eielson Array comp=Z,1.1nm,0.8s,baz=113,slow=4.5,SNR=10	78.28	336	P		P		16 46 01.8	-1.1
TOA1	Torodi Ar. Sit	79.22	77	*e*P		P		16 46 07.0	-2.0
TORD	Torodi Ar. Bea comp=Z,0.6nm,0.5s,baz=289,slow=6.2,SNR=7.8	79.22	77	P		P		16 46 07.0	-2.0
DAG	Danmarks Havn comp=Z,3.4nm,0.8s	80.18	12	*i* P		P		16 46 12.6	-0.5
NB2	NORSAR Subarra comp=Z,4.6nm,0.9s,baz=272,slow=5.1	86.86	29	P		P		16 46 48.6	+0.9
NB200	NORSAR Array S	86.86	29	*e*P		P		16 46 46.7	-1.1
NOA	NORSAR Array B comp=Z,3.5nm,0.9s,baz=270,slow=4.9,SNR=4.1	86.86	29	P		P		16 46 46.7	-1.1
HFS	Hagfors comp=Z,2.7nm,0.8s,baz=284,slow=7.3,SNR=4.5	88.12	30	P		P		16 46 52.6	-1.1
QSPA	South Pole Qui comp=Z,2.2nm,0.8s,baz=57,slow=17,SNR=8.1	93.18	180	P		P		16 47 18.3	+1.0
AKASG	Malin Array Be comp=Z,17nm,18.0s,baz=340,slow=37	98.36	38	LR		LR		17 34 44.8	
H11N3	WAKE ISLAND Hy1 baz=78,slow=75,SNR=8.0	12.41	293	T		T		18 54 41.1	
H11N2	WAKE ISLAND Hy1 baz=78,slow=75,SNR=7.7	12.42	293	T		T		18 54 41.3	
H11N1	WAKE ISLAND Hy1 baz=78,slow=75,SNR=5.2	12.43	293	T		T		18 54 42.5	
BVAR	Borovoye Array	118.03	21	PKP		PKPdf		16 52 50.1	+0.1
ZALV	comp=Z,0.5nm,0.6s,baz=325,slow=2.3,SNR=3.4 Zalesovo Beam	121.31	12	PKP		PKPdf		16 52 56.3	0.0
GEYT	comp=Z,1.2nm,0.4s,baz=290,slow=4.4,SNR=7.4 Ailbeck	122.36	41	PKP		PKPdf		16 52 58.3	-0.6
KURBB	comp=Z,0.9nm,0.4s,baz=299,slow=6.1,SNR=4.1 Kurchatov Arra	122.76	18	PKP		PKPdf		16 52 59.6	+0.4
MKAR	comp=Z,1.4nm,0.6s,baz=316,slow=1.9,SNR=16 Makanchi Array	127.30	17	PKP		PKPdf		16 53 08.1	0.0
SONM	comp=Z,1.4nm,0.7s,baz=350,slow=2.2,SNR=10 Songino Array	129.09	356	PKP		PKPdf		16 53 11.2	-0.3
KSH	comp=Z,2.5nm,0.9s,baz=304,slow=0.9,SNR=7.8 Kashi	131.24	27	*e*PKP		PKPdf		16 53 15.8	-0.1
KSRS	Korea Array comp=Z,0.7nm,0.5s,baz=45,slow=1.3,SNR=3.9	132.99	332	PKP		PKPdf		16 53 19.6	+0.5
STKA	Stephens Creek comp=Z,1.9nm,0.6s,baz=59,slow=3.1,SNR=4.6	133.13	228	PKP		PKPdf		16 53 20.8	+1.3
CTA	Charters Tower comp=Z,5.4nm,1.1s,baz=122,slow=4.8,SNR=5.0	133.74	245	PKP		PKPdf		16 53 22.4	+1.4
HHC	Hu-ho-hao-te	135.36	350	*e*P		PKPdf		16 53 23.6	0.0
GTA	Gaotai	137.60	3	*e*P		PKPdf		16 53 29.3	+1.5
GTA				pP		pPKPdf		16 53 35.0	-1.5
GTA				sP		sPKPdf		16 53 37.4	-2.1
LZH	Lanzhou	140.93	358	*e*PKP		PKPdf		16 53 35.4	+1.4
LZH				sPKP				16 53 49.4	
NJ2	Nanjing comp=Z,9.0nm,0.5s	141.52	337	*e*P		PKPdf		16 53 33.8	-1.2
NJ2				pmax		pmax			
ASAR	Alice Springs comp=Z,4.3nm,1.0s,baz=127,slow=3.6,SNR=23	143.07	234	PKhKP		PKPpre		16 53 34.2	
WR1	Warramunga Arr	144.35	240	*e*PKPdf		PKPbc		16 53 38.9	+0.2
WRA	Warramunga Arr comp=Z,5.8nm,0.6s,baz=110,slow=3.1,SNR=60	144.35	240	PKP		PKPbc		16 53 38.9	+0.2
CMAR	Chiang Mai Arr comp=Z,0.6nm,0.4s,baz=316,slow=2.2,SNR=5.6	158.31	8	PKP		PKPdf		16 54 02.3	+0.9
CMAR	comp=Z,1.6nm,0.8s,baz=331,slow=5.3,SNR=8.0			PKPab		PKPab		16 54 35.1	-0.3

IDC ***16*** *16:41:50.8±1.3, 10°35S×124°16E, h0km, mb4.3/2, mb1 4.1/5, mb1mx3.6/48, mbtmp4.0/5, ML3.6/3, Error ellipse: s-maj=32.0km s-min=10.6km az=18.0*

ISCJB ***16*** *16:41:52.7±0.7, 10°62S±0°06×124°0E±0°1, h27km, mb4.3/2, Error ellipse: s-maj=17.8km s-min=6.3km az=156.3*

DJA ***16*** *16:41:57.0±1.6, 10°S±16°×12°4E±°, h10km, M3.5/4, MLv3.5/4*

ISC 16 16:41:53.1±0.8, 10°48S±0°06×124°06E±0°07, h27km, n9, σ2s53/13, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BATI	**Baumata** 936nm,0.3s,baz=123,slow=6.4,SNR=355	**0.47**	**305**	Pg	**Pb**		**16 42 01.5**	**-1.4**
BATI	897nm,0.3s,baz=93,slow=19,SNR=43			Lg	Lg		16 42 07.3	
BATI	**Baumata**	**0.47**	**305**	P	**Pb**		**16 42 01.7**	**-1.2**
BATI				S	**Sb**		**16 42 05.4**	**-4.2**
SOEI	**Soe**	**0.75**	**16**	P	**Pn**		**16 42 10.7**	**+2.7**
EDFI	**Ende, Flores**	**2.90**	**306**	P	**Pn**		**16 42 40.1**	**+2.6**
FITZ	**Fitzroy Crossi** 1.1nm,0.3s,baz=0.7,slow=15,SNR=10	**7.74**	**169**	Pn	**Pn**		**16 43 46.1**	**+2.1**
FITZ	0.9nm,0.3s,baz=305,slow=20,SNR=6.0			Sn	**Sn**		**16 45 10.8**	**0.0**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=307,slow=13,SNR=8.4	**13.67**	**135**	Pn	**Pn**		**16 45 05.7**	**+0.4**
WRA	0.2nm,0.3s,baz=242,slow=25,SNR=3.6			Sn	**Sn**		**16 47 32.2**	**-4.2**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=318,slow=12,SNR=24	**16.13**	**146**	Pn	**P**		**16 45 40.1**	**-1.1**
ASAR	0.1nm,0.3s,baz=314,slow=22,SNR=4.8			Sn	**Sn**		**16 48 35.2**	**-1.2**
MKAR	**Makanchi Array** 2.7nm,0.6s,baz=135,slow=7.5,SNR=45	**68.11**	**330**	P	**P**		**16 52 52.5**	**+2.0**
ZALV	**Zalesovo Beam** 1.5nm,0.6s,baz=130,slow=4.9,SNR=6.4	**72.27**	**337**	P	**P**		**16 53 16.7**	**+0.9**

*ISCJB **16** 16:48:40.7±0.3,24°.35N±0°.02×122°.40E±0°.02, h44km±10km, Error ellipse: s-maj=3.7km s-min=2.3km az=167.7*
*JMA **16** 16:48:40.3±0.1,24°.33N×122°.38E, h58km±2km, M2.0*
*TAP **16** 16:48:41.0,24°.39N×122°.34E, h56km, ML3.0, C*
ISC 16 16:48:41.1±1.2,24°.35N±0°.03×122°.40E±0°.02, h44km±14km, n63, σ1§08/126, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.51**	**78**	P		**Pn**	**16 48 52.5**	**+0.4**
JYNG				S		**Sn**	**16 49 00.9**	**+1.0**
ENAH	**Nanao** baz=277	**0.55**	**281**	P		**Pn**	**16 48 52.6**	**+0.1**
ENAH	baz=277			*e*S		**Sn**	**16 49 01.3**	**+0.6**
TWC	**Suao** baz=302	**0.56**	**298**	P		**Pn**	**16 48 52.6**	**-0.2**
TWC	baz=302			S		**Sn**	**16 49 00.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.57**	**79**	P		**Pn**	**16 48 53.1**	**+0.2**
YOJ				*e*S		**Sn**	**16 49 02.1**	**+0.8**
NANB	**Nanao** baz=274	**0.60**	**278**	*e*P		**Pn**	**16 48 53.1**	**-0.1**
NANB	baz=274			*e*S		**Sn**	**16 49 02.0**	**+0.1**
ENA	**Nanau** baz=274	**0.60**	**278**	P		**Pn**	**16 48 53.2**	**-0.1**
ENA	baz=274			*e*S		**Sn**	**16 49 02.2**	**+0.1**
NACB	**Ninganchiao** baz=244	**0.75**	**257**	*e*P		**Pn**	**16 48 55.0**	**-0.4**
NACB	baz=244			*e*S		**Sn**	**16 49 05.6**	**0.0**
TWB1	**Santiao Chiao** baz=321	**0.76**	**331**	*e*P		**Pn**	**16 48 54.7**	**-0.7**
TWB1	baz=321			*e*S		**Sn**	**16 49 04.7**	**-1.0**
TWE	**Neicheng** baz=305	**0.76**	**299**	*e*P		**Pn**	**16 48 55.3**	**-0.2**
TWE	baz=305			*e*S		**Sn**	**16 49 06.1**	**+0.3**
TWD	**Chiawan** baz=236	**0.78**	**250**	*e*P		**Pn**	**16 48 55.3**	**-0.4**
TWD	baz=236			*e*S		**Sn**	**16 49 05.4**	**-0.8**
SLBB	**Yuanshan** baz=308	**0.80**	**300**	⇓*e*P		**Pn**	**16 48 56.2**	**+0.1**
SLBB	baz=308			*e*S		**Sn**	**16 49 07.2**	**+0.3**
TIPB	**Shuangxi** baz=321	**0.81**	**320**	*e*P		**Pn**	**16 48 54.5**	**-1.7**
TIPB	baz=321			*e*S		**Sn**	**16 49 05.0**	**-2.1**
ENTT	**Nioudou** baz=295	**0.81**	**291**	P		**Pn**	**16 48 56.5**	**+0.4**
ENTT	baz=295			S		**Sn**	**16 49 07.5**	**+0.4**
ENLB	**Shoufeng** baz=227	**0.85**	**239**	*e*P		**Pn**	**16 48 56.6**	**0.0**
ENLB	baz=227			*e*S		**Sn**	**16 49 08.3**	**+0.3**
NWLT	**Wulai** baz=303	**0.92**	**298**	*e*P		**Pn**	**16 48 57.8**	**+0.1**
NWLT	baz=303			*e*S		**Sn**	**16 49 09.8**	**+0.1**
NNSH	**Datong** baz=273	**0.93**	**275**	*e*P		**Pn**	**16 48 57.8**	**-0.1**
NNSH	baz=273			*e*S		**Sn**	**16 49 09.7**	**-0.4**
NNS	**Nan Shan** baz=273	**0.94**	**276**	*e*P		**Pn**	**16 48 58.0**	**0.0**
NNS	baz=273			*e*S		**Sn**	**16 49 10.2**	**-0.1**
TWA	**Mucha** baz=320	**0.97**	**310**	⇓P		**Pn**	**16 48 58.1**	**-0.2**
TWA	baz=320			*e*S		**Sn**	**16 49 10.0**	**-1.0**
YHNB	**Yeheng** baz=278	**0.98**	**289**	*e*P		**Pn**	**16 48 58.9**	**+0.4**
YHNB	baz=278			*e*S		**Sn**	**16 49 11.2**	**-0.2**
ESL	**Shilin** baz=235	**1.03**	**239**	*e*P		**Pn**	**16 48 58.4**	**-0.7**
ESL	baz=235			*e*S		**Sn**	**16 49 11.6**	**-0.7**
WHF	**Hehuan Shan** baz=256	**1.05**	**259**	*e*P		**Pn**	**16 48 59.5**	**-0.3**
WHF	baz=256			*e*S		**Sn**	**16 49 12.9**	**-0.7**
YM10	**YM10** baz=317	**1.11**	**317**	*e*P		**Pn**	**16 48 59.5**	**-0.7**
YM10	baz=317			*e*S		**Sn**	**16 49 12.8**	**-1.6**
EGFH	**Guangfu** baz=223	**1.12**	**233**	P		**Pn**	**16 48 59.6**	**-0.6**
EGFH	baz=223			*e*S		**Sn**	**16 49 14.2**	**-0.2**
YM04	**YM04** baz=316	**1.12**	**316**	*e*P		**Pn**	**16 48 59.7**	**-0.7**
YM04	baz=316			*e*S		**Sn**	**16 49 12.6**	**-2.0**
TDCB	**Techi** baz=263	**1.14**	**265**	*e*P		**Pn**	**16 49 01.1**	**+0.4**
TDCB	baz=263			*e*S		**Sn**	**16 49 14.5**	**-0.6**
CHGB	**Renai** baz=243	**1.15**	**256**	*e*P		**Pn**	**16 49 01.0**	**0.0**
CHGB	baz=243			*e*S		**Sn**	**16 49 15.9**	**+0.2**
TWS1	**Kuangyinshan** baz=320	**1.16**	**310**	P		**Pn**	**16 49 00.7**	**-0.3**
TWS1	baz=320			*e*S		**Sn**	**16 49 14.6**	**-1.1**
TWY	**Chenhua** baz=323	**1.17**	**322**	P		**Pn**	**16 49 00.8**	**-0.3**
TWY	baz=323			*e*S		**Sn**	**16 49 15.9**	**0.0**
OWD	**Renai** baz=239	**1.18**	**251**	*e*P		**Pn**	**16 49 01.0**	**-0.3**
OWD	baz=239			*e*S		**Sn**	**16 49 15.3**	**-1.1**
IRIF	**Iriomote-Funau**	**1.22**	**90**	P		**Pn**	**16 49 01.4**	**-0.2**
IRIF				S		**Sn**	**16 49 17.1**	**+0.2**
EHY	**Hungye** baz=226	**1.29**	**230**	*e*P		**Pn**	**16 49 02.0**	**-0.7**
EHY	baz=226			*e*S		**Sn**	**16 49 17.6**	**-1.2**
LIOB	**Emei** baz=282	**1.29**	**283**	*e*P		**Pn**	**16 49 03.5**	**+0.7**
LIOB	baz=282			*e*S		**Sn**	**16 49 19.5**	**+0.7**
NSTT	**Nanjuang** baz=281	**1.30**	**283**	*e*P		**Pn**	**16 49 03.6**	**+0.7**
NSTT	baz=281			*e*S		**Sn**	**16 49 19.5**	**+0.5**
DPDB	**Guoxing** baz=249	**1.38**	**257**	*e*P		**Pn**	**16 49 04.5**	**+0.6**
DPDB	baz=249			*e*S		**Sn**	**16 49 21.9**	**+0.8**
YULB	**Yu-li** baz=235	**1.39**	**227**	*e*P		**Pn**	**16 49 03.3**	**-0.7**
YULB	baz=235			*e*S		**Sn**	**16 49 19.9**	**-1.3**
TWF1	**Yuli** baz=233	**1.41**	**226**	*e*P		**Pn**	**16 49 03.7**	**-0.6**
TWF1	baz=233			*e*S		**Sn**	**16 49 20.1**	**-1.7**
SSLB	**Suanglung** baz=245	**1.43**	**247**	*e*P		**Pn**	**16 49 04.7**	**+0.1**
SSLB	baz=245			*e*S		**Sn**	**16 49 21.6**	**-0.7**
SMLT	**Sun Moon Lake** baz=243	**1.45**	**252**	*e*P		**Pn**	**16 49 05.3**	**+0.5**
SMLT	baz=243			*e*S		**Sn**	**16 49 22.7**	**0.0**
JKRS	**Kuro-shima**	**1.48**	**94**	P		**Pn**	**16 49 05.7**	**+0.5**
JKRS				S		**Sn**	**16 49 24.3**	**+1.0**
TYC	**Yuchr** baz=243	**1.48**	**253**	*e*P		**Pn**	**16 49 05.8**	**+0.6**
TYC	baz=243			*e*S		**Sn**	**16 49 23.3**	**0.0**
FULB	**Fuli** baz=210	**1.53**	**222**	*e*P		**Pn**	**16 49 05.3**	**-0.6**
FULB	baz=210			*e*S		**Sn**	**16 49 24.0**	**-0.7**
CHKT	**Chengkung** baz=207	**1.56**	**217**	*e*P		**Pn**	**16 49 05.3**	**-1.1**
CHKT	baz=207			*e*S		**Sn**	**16 49 22.5**	**-2.9**
YUS	**Yu-Shan** baz=235	**1.57**	**237**	*e*P		**Pn**	**16 49 07.3**	**+0.3**
YUS	baz=235			*e*S		**Sn**	**16 49 25.4**	**-1.1**
JIJ	**Ishigaki jima**	**1.59**	**89**	P		**Pn**	**16 49 06.7**	**-0.1**
JIJ				S		**Sn**	**16 49 25.5**	**-0.7**
WJS	**Zhushan** baz=241	**1.61**	**251**	*e*P		**Pn**	**16 49 08.8**	**+1.7**
WJS	baz=241			*e*S		**Sn**	**16 49 29.2**	**+2.6**
WNT	**Mingjian** baz=251	**1.63**	**254**	*e*P		**Pn**	**16 49 09.1**	**+1.8**
WNT	baz=251			*e*S		**Sn**	**16 49 28.8**	**+1.6**
ALS	**Alishan** baz=231	**1.68**	**241**	*e*P		**Pn**	**16 49 09.1**	**+0.9**
ALS	baz=231			*e*S		**Sn**	**16 49 29.2**	**+0.5**
ELDTW	**Lidau** baz=225	**1.71**	**228**	*e*P		**Pn**	**16 49 07.9**	**-0.7**
ELDTW	baz=225			*e*S		**Sn**	**16 49 27.4**	**-1.9**
CHN5	**Tsauling** baz=234	**1.74**	**245**	*e*P		**Pn**	**16 49 10.2**	**+1.2**
CHN5	baz=234			*e*S		**Sn**	**16 49 31.0**	**+1.0**
JISG	**Ishigakijimahi**	**1.76**	**82**	P		**Pn**	**16 49 08.8**	**-0.3**
JISG				*e*S		**Sn**	**16 49 29.7**	**-0.6**
TWH	**Lutao** baz=205	**1.84**	**208**	*e*P		**Pn**	**16 49 09.5**	**-0.7**
TWH	baz=205			*e*S		**Sn**	**16 49 30.1**	**-2.0**
STYT	**Tauyuan** baz=225	**1.91**	**232**	*e*P		**Pn**	**16 49 12.2**	**+1.0**
STYT	baz=225			*e*S		**Sn**	**16 49 34.7**	**+0.6**
TPUB	**Ta-pu** baz=229	**1.93**	**238**	*e*P		**Pn**	**16 49 12.9**	**+1.5**
TPUB	baz=229			*e*S		**Sn**	**16 49 36.3**	**+1.9**
CHN4	**Tsaushan** baz=229	**1.93**	**239**	*e*P		**Pn**	**16 49 13.0**	**+1.6**
CHN4	baz=229			*e*S		**Sn**	**16 49 36.6**	**+2.2**
TWG	**Pinlang** baz=224	**1.95**	**219**	*e*P		**Pn**	**16 49 10.8**	**-0.9**
TWG	baz=224			*e*S		**Sn**	**16 49 32.9**	**-2.1**
WTP	**Ta-pu** baz=234	**1.97**	**236**	*e*P		**Pn**	**16 49 13.5**	**+1.5**
WTP	baz=234			*e*S		**Sn**	**16 49 37.2**	**+1.7**
CHN1	**Nanshi** baz=234	**2.07**	**236**	*e*P		**Pn**	**16 49 14.8**	**+1.4**
CHN1	baz=234			*e*S		**Sn**	**16 49 38.6**	**+0.7**
SGST	**Jiashian** baz=231	**2.09**	**233**	*e*P		**Pn**	**16 49 15.3**	**+1.7**
SGST	baz=231			*e*S		**Sn**	**16 49 40.7**	**+2.3**
SLGT	**Liugui** baz=236	**2.10**	**230**	*e*P		**Pn**	**16 49 15.3**	**+1.6**
SLGT	baz=236			*e*S		**Sn**	**16 49 41.1**	**+2.5**
JTJ	**Tarama**	**2.12**	**82**	P		**Pn**	**16 49 14.5**	**+0.5**
JTJ				S		**Sn**	**16 49 39.2**	**+0.1**
ECL	**Taimali** baz=215	**2.19**	**218**	*e*P		**Pn**	**16 49 14.1**	**-0.9**
ECL	baz=215			*e*S		**Sn**	**16 49 38.3**	**-2.6**
SSD	**Sandimen** baz=224	**2.27**	**226**	*e*P		**Pn**	**16 49 18.0**	**+1.8**
SSD	baz=224			*e*S		**Sn**	**16 49 44.6**	**+1.7**
EAST	**Anshuo** baz=207	**2.42**	**216**	*e*P		**Pn**	**16 49 17.7**	**-0.5**
EAST	baz=207			*e*S		**Sn**	**16 49 44.6**	**-2.0**

*IDC **16** 17:05:19.9±6.1,36°.08N×71°.15E,h215km±37km, mb3.1/4, mb1 3.0/8, mb1mx2.8/67, mbtmp3.6/8, MS2.9/1, Ms1 2.9/1, ms1mx2.3/28, Error ellipse: s-maj=72.4km s-min=26.3km az=163.0*
*ISCJB **16** 17:05:21.9±0.7,36°.48N±0°.05×70°.86E±0°.09, h188km, mb3.5/3, Error ellipse: s-maj=10.6km s-min=6.1km az=157.9*
*NNC **16** 17:05:29.6±4.2,37°.17N×70°.55E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=32.5km s-min=28.5km az=173.0*
ISC 16 17:05:22.3±0.9,36°.55N±0°.08×70°.92E±0°.09, h188km, n25, σ1§84/27, mb3.5/3, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 5.0nm,0.3s	**4.01**	**30**	⇑P		**Pn**	**17 06 26.9**	**+2.9**
SFK	23nm,0.4s			⇓S		**Sn**	**17 07 13.5**	**+1.1**
AML	**Almayashu** SNR=18	**5.97**	**20**	P		**Pn**	**17 06 51.0**	**+1.6**
MNAS	**Manas** 1.2nm,0.4s	**6.05**	**11**	⇓P		**Pn**	**17 06 53.4**	**+3.3**
MNAS	4.7nm,0.4s			⇑S		**Sn**	**17 07 57.6**	**-1.9**
UCH	**Uchtor** SNR=16	**6.32**	**25**	P		**Pn**	**17 06 56.0**	**+2.1**
KZA	**Kyzart** SNR=9.6	**6.46**	**30**	P		**Pn**	**17 06 57.0**	**+1.3**
EKS2	**Erkin-Say** SNR=5.7	**6.49**	**19**	P		**Pn**	**17 06 58.1**	**+2.3**
KK31	**Karatay Array** 0.5nm,0.3s,baz=182,slow=22,SNR=7.4	**6.55**	**357**	⇓P		**Pn**	**17 07 00.1**	**+3.5**
KK31	1.9nm,0.5s,baz=150,slow=12,SNR=3.7			⇓S		**Sn**	**17 08 08.5**	**-2.6**
AAK	**Ala-Archa** SNR=6.7	**6.68**	**23**	P		**Pn**	**17 07 00.2**	**+1.9**
TKM2	**Tokmak 2** SNR=8.1	**7.31**	**28**	P		**Pn**	**17 07 08.6**	**+1.9**
GEYT	**Alibeck** 0.2nm,0.3s,baz=96,slow=13,SNR=3.1	**10.30**	**282**	P		**Pn**	**17 07 46.6**	**+1.0**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=225,slow=14,SNR=4.0	**13.29**	**36**	P		**Pn**	**17 08 22.8**	**-0.9**
KOLN	**Koldanda** 2.2nm,0.3s	**13.85**	**126**	*e*P		**Pn**	**17 08 31.7**	**+0.7**
DMN	**Daman** 3.6nm,0.4s	**14.96**	**123**	*e*P		**P**	**17 08 45.7**	**-0.1**
KKN	**Kakani**	**14.96**	**122**	*e*P		**Pn**	**17 08 44.8**	**0.0**
PKIN	**Phulchoki** 3.7nm,0.4s	**15.18**	**122**	*e*P		**Pn**	**17 08 47.7**	**+0.2**
PKI	**Pulchoki** 3.7nm,0.4s	**15.19**	**122**	*e*P		**Pn**	**17 08 47.6**	**-0.1**
GUN	**Gumba** 4.4nm,0.4s	**15.30**	**120**	*e*P		**Pn**	**17 08 48.7**	**-0.4**
JIRN	**Jiri** 16nm,0.5s	**15.67**	**120**	*e*P		**P**	**17 08 54.0**	**+0.2**
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=164,slow=12,SNR=5.5	**16.48**	**359**	P		**Pn**	**17 09 04.1**	**+1.4**
AKTO	**Aktyubinsk** 0.1nm,0.3s,baz=113,slow=7.7,SNR=2.9	**16.70**	**330**	P		**Pn**	**17 09 06.4**	**+1.0**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=214,slow=9.8,SNR=4.1	**19.90**	**25**	P		**P**	**17 09 38.5**	**-0.6**
MMAI	**Mount Meron Ar** comp=Z,19nm,18.1s,baz=40,slow=39	**29.28**	**274**	LR		LR	17 24 19.3	
FINES	**FINESS Array B** 1.1nm,0.8s,baz=104,slow=8.0,SNR=4.6	**37.41**	**326**	P		**P**	**17 12 14.8**	**-1.9**
ARCES	**ARCESS Array B** 2.9nm,0.9s,baz=122,slow=9.9,SNR=3.2	**41.07**	**338**	P		**P**	**17 12 46.1**	**-0.9**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=353,slow=4.7,SNR=4.8	**81.20**	**3**	P		**P**	**17 17 14.1**	**-2.5**

*IDC **16** 17:10:56.6±1.1, 10°.47N×93°.72E, h0km, mb3.8/9, mb1 3.8/10, mb1mx3.6/65, mbtmp3.7/10, MS2.8/1, Ms1 3.0/1, ms1mx2.4/64, Error ellipse: s-maj=39.1km s-min=17.7km az=55.0*
*ISCJB **16** 17:10:58.1±0.5, 10°.60N±0°.08×93°.93E±0°.09, h19km, mb4.1/23, Error ellipse: s-maj=15.5km s-min=8.4km az=137.9*
*NEIC **16** 17:11:06.0±2.6, 10°.69N×94°.00E, h70km±24km, mb4.3/15, Error ellipse: s-maj=19.2km s-min=7.7km az=47.0*
ISC 16 17:10:59.7±1.1, 10°.6N±0°.1×93°.8E±0°.2, h19km, n52, σ1§22/52, mb4.1/23, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** baz=210,slow=18,SNR=3.4	**9.32**	**32**	P	n	**Pn**	**17 13 14.2**	**+1.0**
CMAR	comp=Z,49nm,19.1s,baz=207,slow=37			LR		LR	17 16 41.7	
LSA	**Lhasa** 2.3nm,0.7s	**19.21**	**353**	*e*P		**P**	**17 15 20.1**	**-3.0**
MK01	**Makanchi Array**	**37.39**	**347**	*e*P		**P**	**17 18 10.9**	**-0.5**
MK31	**Makanchi Array**	**37.42**	**347**	*e*P		**P**	**17 18 11.2**	**-0.4**
MK32	**Makanchi Array**	**37.42**	**347**	*e*P		**P**	**17 18 11.8**	**+0.2**
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=158,slow=7.8,SNR=9.6	**37.42**	**347**	P		**P**	**17 18 11.8**	**+0.2**
MAKZ	**Makanchi** 7.4nm,1.0s	**37.42**	**347**	*e*P		**P**	**17 18 11.2**	**-0.4**
	Makanchi 5.9nm,1.7s	**37.50**	**347**	*e*P		**P**	**17 18 12.1**	**-0.2**
KK07	**Karatay Array**	**38.23**	**332**	*e*P		**P**	**17 18 18.3**	**-0.2**
KK02	**Karatay Array**	**38.23**	**332**	*e*P		**P**	**17 18 17.8**	**-0.7**
KK31	**Karatay Array**	**38.23**	**332**	*e*P		**P**	**17 18 18.1**	**-0.5**
KKAR	**Karatay Array**	**38.23**	**332**	*e*P		**P**	**17 18 17.8**	**-0.7**
KK03	**Karatay Array**	**38.24**	**332**	*e*P		**P**	**17 18 17.3**	**-1.3**
KK05	**Karatay Array**	**38.24**	**332**	*e*P		**P**	**17 18 16.7**	**-1.9**
SONA0	**Songino Array**	**38.66**	**14**	*e*P		**P**	**17 18 23.1**	**+0.9**
SONM	**Songino Array** 0.3nm,0.4s,baz=204,slow=3.2,SNR=3.2	**38.66**	**14**	P		**P**	**17 18 23.1**	**+0.9**
SONA1	**Songino Array**	**38.67**	**14**	*e*P		**P**	**17 18 21.6**	**-0.7**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=159,slow=7.4,SNR=2.9	**41.88**	**345**	P		**P**	**17 18 48.6**	**-0.1**
KURK	**Kurchatov**	**41.95**	**346**	*e*P		**P**	**17 18 48.6**	**-0.6**
GYB1	**ALIBECK ARRAY** 4.4nm,0.8s	**41.99**	**316**	*e*P		**P**	**17 18 51.3**	**+1.5**
GYA1	**ALIBECK ARRAY** 4.9nm,0.8s	**42.00**	**316**	*e*P		**P**	**17 18 51.6**	**+1.8**
GYB2	**ALIBECK ARRAY** 4.6nm,0.8s	**42.00**	**316**	*e*P		**P**	**17 18 51.9**	**+2.0**
GEYT	**Alibeck** 4.0nm,0.7s,baz=131,slow=10,SNR=13	**42.00**	**316**	P		**P**	**17 18 51.5**	**+1.6**
GYA0	**ALIBECK ARRAY** 3.9nm,0.9s	**42.00**	**316**	*e*P		**P**	**17 18 52.6**	**+2.7**
GYA0B	**ALIBECK ARRAY** 4.1nm,0.9s	**42.00**	**316**	*e*P		**P**	**17 18 52.5**	**+2.6**
GYA2	**ALIBECK ARRAY** 5.2nm,0.8s	**42.00**	**316**	*e*P		**P**	**17 18 52.2**	**+2.3**
GYB5	**ALIBECK ARRAY** 4.7nm,0.7s	**42.00**	**316**	*e*P		**P**	**17 18 52.2**	**+2.3**
GYB3	**ALIBECK ARRAY** 3.3nm,0.6s	**42.01**	**316**	*e*P		**P**	**17 18 52.5**	**+2.6**
GYB4	**ALIBECK ARRAY** 4.1nm,0.8s	**42.01**	**316**	*e*P		**P**	**17 18 52.2**	**+2.2**
ZAA0	**Zalesovo Array** 2.3nm,0.9s	**43.88**	**352**	*e*P		**P**	**17 19 04.5**	**-0.3**
ZALV	**Zalesovo Beam** 1.4nm,0.6s,baz=170,slow=9.2,SNR=8.5	**43.88**	**352**	P		**P**	**17 19 05.0**	**+0.2**
ZALV	**Zalesovo Beam**	**43.88**	**352**	*e*P		**P**	**17 19 04.1**	**-0.7**
ZAA1	**Zalesovo Array**	**43.88**	**352**	*e*P		**P**	**17 19 05.0**	**+0.2**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=140,slow=11,SNR=2.4	**46.36**	**341**	P		**P**	**17 19 23.5**	**-1.1**
AB07	**Akbulak array**	**47.72**	**330**	*e*P		**P**	**17 19 35.1**	**-0.1**
AB06	**Akbulak array**	**47.72**	**330**	*e*P		**P**	**17 19 35.5**	**+0.2**
AB08	**Akbulak array**	**47.73**	**330**	*e*P		**P**	**17 19 35.6**	**+0.3**
AB03	**Akbulak array**	**47.73**	**330**	*e*P		**P**	**17 19 35.8**	**+0.5**
AB01	**Akbulak array**	**47.73**	**330**	*e*P		**P**	**17 19 35.8**	**+0.5**
AB31	**Akbulak array**	**47.73**	**330**	*e*P		**P**	**17 19 35.7**	**+0.3**
ABKAR	**Akbulak array** 8.3nm,0.9s	**47.73**	**330**	*e*P		**P**	**17 19 35.4**	**0.0**
AB02	**Akbulak array**	**47.73**	**330**	*e*P		**P**	**17 19 35.8**	**+0.5**
AB04	**Akbulak array**	**47.74**	**330**	*e*P		**P**	**17 19 35.8**	**+0.5**
AB05	**Akbulak array**	**47.74**	**330**	*e*P		**P**	**17 19 35.9**	**+0.5**
AB09	**Akbulak array**	**47.75**	**330**	*e*P		**P**	**17 19 35.5**	**0.0**
WR1	**Warramunga Arr** 84nm,1.8s	**50.13**	**127**	*e*P		**P**	**17 19 53.9**	**-0.3**
WRA	**Warramunga Arr** 1.3nm,0.8s,baz=304,slow=9.0,SNR=7.6	**50.13**	**127**	P		**P**	**17 19 53.9**	**-0.3**
AS31	**Alice Springs** 3.3nm,1.5s	**51.92**	**131**	*e*P		**P**	**17 20 07.2**	**-0.5**
ASAR	**Alice Springs** 1.5nm,0.8s,baz=307,slow=6.8,SNR=17	**51.92**	**131**	P		**P**	**17 20 07.5**	**-0.2**
AS01	**Alice Springs**	**51.96**	**131**	*e*P		**P**	**17 20 07.8**	**-0.1**
BR101	**Keskin Array S**	**60.43**	**310**	*e*P		**P**	**17 21 07.6**	**-0.8**
BRTR	**Keskin Array B** 1.2nm,1.0s,baz=128,slow=11,SNR=3.5	**60.43**	**310**	P		**P**	**17 21 07.6**	**-0.8**

*MOS **16** 17:18:28.0±1.1, 22°.46S×171°.21E, h33km, mb5.1/28, MS4.2/4, Error ellipse: s-maj=9.3km s-min=9.1km az=94.9*
*ISCJB **16** 17:18:28.6±0.1, 22°.49S±0°.03×171°.10E±0°.03, h42km, mb5.0/109, MS4.1/34, Error ellipse: s-maj=4.2km s-min=3.8km az=36.7*
*IDC **16** 17:18:29.6±2.7, 22°.51S×171°.18E, h42km±23km, mb4.5/23, mb1 4.6/27, mb1mx4.5/41, mbtmp4.7/27, ML4.7/3, MS4.0/34, Ms1 4.0/34, ms1mx4.0/39, Error ellipse: s-maj=15.4km s-min=12.3km az=68.0*
*BJI **16** 17:18:30.9, 22°.56S×171°.72E, h85km, mb4.7/26, mB5.1/18, Ms4.9/4, Ms7 4.6/4*
*GCMT **16** 17:18:33.0±0.3, 22°.56S×170°.99E, h35km±3km, MW5.1/62, Moment Tensor Solution. s23,c29; s62,c81; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.41±.32; Mθθ 1.80±.21; Mϕϕ 0.60±.23; Mrθ 4.84±.48; Mϕθ -1.04±.14; Mrϕ 0.24±.21; Best double couple: Mo 5.38700×10^16 NP1: ϕs 272.00000°, δ 78.00000°, λ -101.00000°. NP2: ϕs 136.00000°, δ 16.00000°, λ -47.00000°. Principal axes: T 5.0960, Plg32.0000°, Azm11.0000°; N 0.5770, Plg11.0000°, Azm274.0000°; P -5.6780, Plg56.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 17:18:33.0±0.7, 22°.51S×171°.12E, h72km±6km, mb5.0/76 Error ellipse: s-maj=4.6km s-min=4.2km az=220.0*
ISC 16 17:18:29.8±0.3, 22°.45S±0°.06×171°.18E±0°.05, h42km, n412, σ1§10/397, mb4.9/108, MS4.1/34, 23C-27D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 36nm,0.3s,baz=136,slow=12,SNR=462	**4.40**	**274**	P		**Pn**	**17 19 34.0**	**-0.1**
DZM	46nm,0.3s,baz=305,slow=23,SNR=8.0			S		**Sn**	**17 20 23.7**	**-0.5**
DZM	comp=Z,1μm,20.9s,baz=94,slow=38			LR		LR	17 21 15.3	
DZM	**Mont Dzumac** 257nm,0.3s	**4.40**	**274**	*e*Sn		**Sn**	**17 20 21.2**	**-3.0**
DZM	**Mont Dzumac**	**4.40**	**274**	*e*Pn		**Pn**	**17 19 34.1**	**-0.1**
DZM				*e*Sn		**Sn**	**17 20 19.9**	**-4.3**
DZM				*e*			17 21 15.3	
NFK	**Norfolk Island** baz=7.2,SNR=15	**7.18**	**203**	P		**Pn**	**17 20 11.5**	**-0.8**
MSVF	**Nonsavu**	**7.98**	**55**	*e*P		Pn	17 20 28.3	+4.9
MSVF	**Nonsavu**	**7.98**	**55**	*e*Pn		Pn	17 20 28.3	+5.0
RAO	**Raoul Island** comp=Z,945nm,20.1s,baz=132,slow=33	**11.93**	**127**	LR		LR	17 24 58.7	
OUZ	**Omahuta**	**12.90**	**171**	*e*Pn		**Pn**	**17 21 32.3**	**+1.9**
MXZ	**Matakaoa Point** 72nm,1.2s	**16.27**	**159**	*e*Pn		**P**	**17 22 17.4**	**-0.3**
HIZ	**Hauiti** 181nm,1.2s	**16.32**	**170**	*e*Pn		**P**	**17 22 17.3**	**-1.0**
URZ	**Urewera** 0.1nm,0.3s,baz=4.3,slow=18,SNR=3.4	**16.56**	**163**	P		**Pn**	**17 22 18.0**	**-0.9**
URZ	comp=Z,2μm,21.0s,baz=328,slow=32			LR		LR	17 27 18.3	
HNR	**Honiara** 4.3nm,0.3s,baz=221,slow=2.7,SNR=7.9	**16.84**	**318**	P		**P**	**17 22 24.3**	**0.0**
BKZ	**Black Stump Fm** 51nm,1.0s	**17.27**	**166**	*e*Pn		**P**	**17 22 30.5**	**+1.6**
AFI	**Afiamalu** 2.3nm,0.3s,baz=224,slow=8.8,SNR=6.4	**18.28**	**65**	P		**P**	**17 22 39.3**	**-0.9**
AFI	comp=Z,257nm,18.6s,baz=242,slow=34			LR		LR	17 28 42.4	
AFI	**Afiamalu**	**18.28**	**65**	*e*P		**P**	**17 22 39.2**	**-0.9**
AFI				*e*Pn		**Pn**	**17 22 39.6**	**-0.8**
EIDS	**Eidsvold** baz=19,SNR=4.5	**18.60**	**257**	P		**Pn**	**17 22 46.6**	**+2.4**
EIDS	**Eidsvold** 22nm,1.0s	**18.60**	**257**	*e*P		**Pn**	**17 22 46.0**	**+1.8**
BFZ	**Birch Farm** 72nm,0.8s	**18.68**	**168**	*e*P		**Pn**	**17 22 44.9**	**-0.1**
SNZO	**South Karori** 170nm,1.3s	**19.04**	**172**	*e*P		**Pn**	**17 22 49.4**	**+0.1**
ARMA	**Armidale** baz=19,SNR=6.2	**19.20**	**241**	P		**Pn**	**17 22 51.3**	**-0.2**
ARMA	**Armidale** 29nm,0.9s	**19.20**	**241**	*e*P		**Pn**	**17 22 53.3**	**+1.8**

THZ	**Tophouse**	**19.31**	**176**	*e*P		**Pn**	**17 22 52.5**	**-0.2**
	55nm,0.9s								
KHZ	**Kahutara**	**20.01**	**175**	*e*P		**P**	**17 22 58.7**	**-0.1**
	147nm,1.2s								
LTZ	**Lake Taylor**	**20.30**	**178**	*e*P		**P**	**17 23 02.2**	**+0.2**
	89nm,0.9s								
RMQ	**Roma**	**20.79**	**254**	P		Pn	17 23 10.4	+0.2
	baz=21,SNR=29								
OXZ	**Oxford**	**20.83**	**178**	*e*P		**P**	**17 23 07.3**	**-0.4**
	117nm,0.8s								
FOZ	**Fox Glacier**	**21.05**	**183**	*e*P		**P**	**17 23 10.9**	**+0.8**
	81nm,0.9s								
CRLZ	**Canterbury Las**	**21.10**	**177**	*e*P		**P**	**17 23 10.8**	**+0.2**
	118nm,1.1s								
RPZ	**Rata Peaks**	**21.21**	**180**	P		**P**	**17 23 10.9**	**-0.9**
	67nm,0.7s,baz=312,slow=1.3,SNR=30								
RPZ				LR		LR	17 30 48.2		
	comp=Z,860nm,18.5s,baz=26,slow=35								
MQZ	**McQueen's Vall**	**21.23**	**177**	*e*P		**P**	**17 23 11.5**	**-0.5**
	192nm,1.9s								
LBZ	**Lake Benmore**	**21.89**	**182**	*e*P		**P**	**17 23 19.0**	**-0.2**
	64nm,1.3s								
WKZ	**Wanaka**	**22.39**	**184**	*e*P		**P**	**17 23 28.0**	**+3.5**
	248nm,1.7s								
ODZ	**Otahua Downs**	**22.54**	**181**	*e*P		**P**	**17 23 26.1**	**+0.1**
	131nm,1.8s								
CNB	**Canberra Magne**	**22.94**	**231**	P		**P**	**17 23 32.2**	**+1.7**
	baz=23								
MLZ	**Mavora Lakes**	**23.00**	**186**	*e*P		**P**	**17 23 33.3**	**+2.4**
	74nm,1.4s								
DCZ	**Deep Cove**	**23.19**	**187**	*e*P		**P**	**17 23 32.6**	**-0.1**
	53nm,1.3s								
YNG	**Young**	**23.20**	**234**	P		**P**	**17 23 34.9**	**+1.8**
	baz=23,SNR=5.0								
CAN	**Canberra**	**23.21**	**232**	*e*P		**P**	**17 23 34.9**	**+1.8**
CAN				pmax		pmax			
	comp=Z,53nm,1.3s								
CAN	**Canberra**	**23.21**	**232**	*e*P		**P**	**17 23 34.9**	**+1.8**
	comp=Z,53nm,1.3s								
CTA	**Charters Tower**	**23.34**	**271**	P		**P**	**17 23 35.6**	**+1.1**
	comp=Z,3.0nm,0.5s,baz=117,slow=13,SNR=6.7								
CTAO	**Charters Tower**	**23.34**	**271**	*e*P		**P**	**17 23 35.1**	**+0.6**
CTAO				pmax		pmax			
	comp=Z,58nm,1.5s								
CTAO	**Charters Tower**	**23.34**	**271**	*e*P		**P**	**17 23 35.1**	**+0.6**
	comp=Z,58nm,1.5s								
MILA	**Mila**	**23.95**	**228**	P		**P**	**17 23 41.5**	**+1.3**
	baz=24,SNR=5.6								
CMSA	**Cobar Meteorol**	**24.40**	**243**	P		**P**	**17 23 45.2**	**+1.0**
	baz=24,SNR=38								
QLP	**Quilpie**	**24.84**	**255**	P		**P**	**17 23 49.0**	**+0.7**
	baz=25,SNR=15								
MTSU	**Mount Surprise**	**25.54**	**275**	P		**P**	**17 23 56.1**	**+1.4**
	baz=26,SNR=36								
PMG	**Port Moresby**	**26.43**	**296**	P		**P**	**17 24 03.5**	**+0.6**
	comp=Z,15nm,0.8s,baz=346,slow=5.3,SNR=4.5								
PMG				LR		LR	17 32 52.0		
	comp=Z,370nm,20.1s,baz=107,slow=33								
PMG	**Port Moresby**	**26.43**	**296**	*ce*P		**P**	**17 24 04.0**	**+1.2**
PMG				pmax		pmax			
	comp=Z,60nm,0.9s								
PMG	**Port Moresby**	**26.43**	**296**	*e*P		**P**	**17 24 03.3**	**+0.5**
	comp=Z,22nm,1.0s								
PMG				*e*			17 32 52.0		
STKA	**Stephens Creek**	**27.87**	**244**	P		**P**	**17 24 15.5**	**-0.1**
	comp=Z,7.4nm,0.8s,baz=65,slow=9.2,SNR=13								
STKA				LR		LR	17 34 30.4		
	comp=Z,284nm,20.1s,baz=76,slow=34								
STKA	**Stephens Creek**	**27.87**	**244**	P		**P**	**17 24 16.4**	**+0.8**
	baz=28,SNR=7.6								
STKA	**Stephens Creek**	**27.87**	**244**	*e*P		**P**	**17 24 16.8**	**+1.2**
STKA	**Stephens Creek**	**27.87**	**244**	*e*P		**P**	**17 24 16.0**	**+0.4**
	comp=Z,18nm,2.0s								
COEN	**Coen**	**27.87**	**283**	*e*P		**P**	**17 24 16.7**	**+0.9**
	comp=Z,40nm,1.1s								
ARPS	**Mount Arapiles**	**29.09**	**234**	P		**P**	**17 24 27.3**	**+0.9**
	baz=29								
HTT	**Hallett**	**30.41**	**242**	P		**P**	**17 24 38.8**	**+0.6**
	baz=30,SNR=5.5								
BBOO	**Buckleboo**	**32.65**	**244**	P		**P**	**17 24 58.0**	**+0.1**
	baz=33,SNR=10								
BBOO	**Buckleboo**	**32.65**	**244**	*e*P		**P**	**17 24 57.8**	**-0.1**
	comp=Z,22nm,0.9s								
AS01	**Alice Springs**	**34.21**	**261**	*e*P		**P**	**17 25 11.7**	**+0.1**
AS31	**Alice Springs**	**34.25**	**261**	*e*P		**P**	**17 25 11.6**	**-0.4**
	comp=Z,3.8nm,0.9s								
ASAR	**Alice Springs**	**34.25**	**261**	P		**P**	**17 25 11.5**	**-0.5**
	comp=Z,9.8nm,0.9s,baz=69,slow=8.7,SNR=55								
ASAR				LR		LR	17 39 21.2		
	comp=Z,213nm,18.5s,baz=106,slow=36								
ASPA	**Alice Springs**	**34.26**	**261**	P		**P**	**17 25 12.1**	**0.0**
	baz=34								
WB2	**Warramunga Arr**	**34.37**	**267**	*e*P		**P**	**17 25 11.9**	**-1.2**
WR1	**Warramunga Arr**	**34.38**	**267**	*e*P		**P**	**17 25 12.2**	**-0.9**
	comp=Z,69nm,1.8s								
WR1				*e*			17 39 39.8		
WRA	**Warramunga Arr**	**34.38**	**267**	P		**P**	**17 25 12.2**	**-0.9**
	comp=Z,5.7nm,1.0s,baz=96,slow=8.6,SNR=62								
WRA				LR		LR	17 39 39.8		
	comp=Z,437nm,18.7s,baz=115,slow=37								
TBI	**Tubuai**	**36.20**	**99**	*e*LR		LR	17 35 21.6		
	comp=Z,237nm,28.5s								
PPT2	**Papeete2**	**37.12**	**90**	*e*LR		LR	17 35 45.9		
	comp=Z,235nm,31.2s								
PPT	**Papeete**	**37.12**	**90**	LR		LR	17 36 25.6		
	comp=Z,181nm,21.5s,baz=260,slow=29								
WRKA	**Warakurna**	**39.22**	**257**	P		**P**	**17 25 54.2**	**-0.1**
	baz=39,SNR=17								
MTN	**Manton Dam**	**39.23**	**277**	*e*P		**P**	**17 25 53.6**	**-0.8**
	comp=Z,132nm,1.7s								
H11N1	**WAKE ISLAND Hy**	**42.12**	**354**	T		T	18 11 24.6		
	baz=172,slow=76,SNR=18								
H11N3	**WAKE ISLAND Hy**	**42.12**	**354**	T		T	18 11 26.0		
	baz=172,slow=76,SNR=7.9								
H11N2	**WAKE ISLAND Hy**	**42.13**	**354**	T		T	18 11 24.8		
	baz=172,slow=76,SNR=10								
FAKI	**Fak Fak**	**42.44**	**292**	*e*P		**P**	**17 26 20.2**	**-0.7**
	comp=Z,69nm,1.2s								
FITZ	**Fitzroy Crossi**	**42.81**	**267**	P		**P**	**17 26 24.6**	**+0.8**
	baz=43								
GUMO	**Guam**	**44.13**	**322**	LR		LR	17 45 34.5		
	comp=Z,224nm,19.0s,baz=120,slow=37								
SWI	**Sorong**	**44.34**	**293**	P		**P**	**17 26 37.8**	**+1.6**
KMBL	**Kambalda**	**44.54**	**248**	P		**P**	**17 26 37.5**	**-0.2**
	baz=45								
BATI	**Baumata**	**47.00**	**277**	LR		LR	17 46 27.3		
	comp=Z,553nm,19.8s,baz=96,slow=36								
MBWA	**Marble Bar**	**47.59**	**261**	*e*P		**P**	**17 27 01.6**	**-0.2**
	comp=Z,326nm,1.8s								
MEEK	**Meekatharra**	**47.73**	**254**	P		**P**	**17 27 02.5**	**-0.3**
	baz=48,SNR=5.1								
KLBR	**Kellerberrin**	**48.05**	**247**	P		**P**	**17 27 04.7**	**-0.6**
	baz=48,SNR=18								
NWAO	**Narrogin (SRO)**	**48.44**	**245**	P		**P**	**17 27 08.0**	**-0.2**
	baz=48,SNR=7.4								
NWAO				P		**P**	**17 27 08.0**	**-0.2**
	baz=48,SNR=7.4								
NWAO	**Narrogin (SRO)**	**48.44**	**245**	*e*P		**P**	**17 27 07.8**	**-0.4**
NWAO				pmax		pmax			
	comp=Z,69nm,1.1s								
NWAO	**Narrogin (SRO)**	**48.44**	**245**	*e*P		**P**	**17 27 07.8**	**-0.4**
	comp=Z,69nm,1.1s								
BLDU	**Ballidu**	**49.01**	**248**	P		**P**	**17 27 12.1**	**-0.5**
	baz=49,SNR=13								
MUN	**Mundaring**	**49.35**	**247**	P		**P**	**17 27 15.1**	**-0.1**
	baz=49,SNR=5.5								
MORW	**Morawa**	**49.72**	**250**	P		**P**	**17 27 17.9**	**-0.2**
	baz=50,SNR=4.3								
KIP	**Kipapa**	**52.96**	**37**	*ce*P		**P**	**17 27 43.3**	**+1.1**
KIP				pmax		pmax			
	comp=Z,1μm,2.5s								
OPA	**Opana**	**53.17**	**37**	*e*P		**P**	**17 27 44.6**	**+0.8**
OPA				pmax		pmax			
	comp=Z,236nm,1.3s								
OPA	**Opana**	**53.17**	**37**	*e*P		**P**	**17 27 44.6**	**+0.8**
	comp=Z,236nm,1.3s								
DAV	**Davao City (W)**	**53.41**	**298**	LR		LR	17 50 58.9		
	comp=Z,65nm,19.0s,baz=314,slow=36								
VNDA	**Vanda**	**55.31**	**182**	P		**P**	**17 27 58.5**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=356,slow=8.2,SNR=11								
VNDA				LR		LR	17 47 28.9		
	comp=Z,280nm,21.4s,baz=12,slow=32								
VNDA	**Vanda**	**55.31**	**182**	*e*P		**P**	**17 27 58.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**56.38**	**275**	*e*P		**P**	**17 28 08.0**	**+0.7**
	comp=Z,143nm,1.4s								
CBIJ	**Chichi jima**	**56.68**	**329**	*e*P		**P**	**17 28 08.8**	**-0.2**
	comp=Z,608nm,1.7s								
JCJ	**Chichijima**	**56.68**	**329**	P		**P**	**17 28 09.0**	**-0.1**
	comp=Z,66nm,0.7s,baz=287,slow=20,SNR=5.0								
CASY	**Casey**	**57.94**	**205**	*e*P		**P**	**17 28 16.8**	**-0.7**
	comp=Z,84nm,1.3s								
UGM	**Wanagama**	**59.93**	**274**	*e*P		**P**	**17 28 29.9**	**-2.3**
	comp=Z,601nm,1.6s								
KKM	**Kota Kinabalu**	**60.76**	**291**	*e*P		**P**	**17 28 38.2**	**+0.3**
	comp=Z,32nm,1.1s								
TGY	**Tagaytay City**	**61.17**	**302**	LR		LR	17 52 22.6		
	comp=Z,94nm,20.5s,baz=116,slow=33								
CISI	**Cisompet, Garu**	**62.56**	**273**	*e*P		**P**	**17 28 50.8**	**+0.8**
	comp=Z,85nm,1.2s								
JHJ	**Hachijo jima 2**	**62.85**	**331**	LR		LR	17 54 18.5		
	comp=Z,76nm,20.1s,baz=318,slow=34								
KSM	**Kuching**	**63.86**	**283**	*e*P		**P**	**17 28 59.0**	**+0.5**
	comp=Z,24nm,0.8s								
MJAR	**Matsushiro Arr**	**66.42**	**331**	P		**P**	**17 29 14.5**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=324,slow=4.3,SNR=7.2								
MJAR				LR		LR	17 55 50.4		
	comp=Z,50nm,21.8s,baz=140,slow=34								
MAJO	**Matsushiro**	**66.42**	**331**	*e*P		**P**	**17 29 14.9**	**+0.2**
MAJO				pmax		pmax			
	comp=Z,17nm,1.4s								
MAJO	**Matsushiro**	**66.42**	**331**	*e*P		**P**	**17 29 14.9**	**+0.2**
	comp=Z,17nm,1.4s								
MAJO				*e*			17 55 50.4		
MAT	**Matsushiro**	**66.42**	**331**	P		**P**	**17 29 15.0**	**+0.3**
MJB9	**Matsu-Tunnel**	**66.43**	**331**	*e*P		**P**	**17 29 14.9**	**+0.1**
	comp=Z,18nm,1.4s								
YULB	**Yu-li**	**66.56**	**310**	*e*P		**P**	**17 29 15.9**	**+0.1**
	comp=Z,95nm,1.7s								
MDSI	**Maura Dua**	**67.05**	**275**	P		**P**	**17 29 18.1**	**-1.1**
SSLB	**Suanglung**	**67.05**	**310**	*e*P		**P**	**17 29 19.1**	**+0.1**
	comp=Z,34nm,1.6s								
YHNB	**Yeheng**	**67.31**	**311**	*e*P		**P**	**17 29 19.4**	**-1.3**
	comp=Z,69nm,1.6s								
JNU	**Nakatsue**	**67.32**	**324**	LR		LR	17 54 42.2		
	comp=Z,120nm,22.0s,baz=120,slow=32								
JNU	**Nakatsue**	**67.32**	**324**	*e*P		**P**	**17 29 20.5**	**0.0**
	comp=Z,192nm,2.0s								
QSPA	**South Pole Qui**	**67.62**	**180**	P		**P**	**17 29 21.9**	**-0.2**
	comp=Z,51nm,1.0s,baz=27,slow=1.5,SNR=90								
QSPA				LR		LR	17 57 22.4		
	comp=Z,116nm,18.1s,baz=28,slow=34								
RPN	**Rapa Nui**	**71.18**	**112**	LR		LR	17 55 39.1		
	comp=Z,35nm,20.6s,baz=233,slow=31								
ASAJ	**Asahikawa**	**71.23**	**339**	*e*P		**P**	**17 29 46.2**	**+1.9**
	comp=Z,14nm,1.3s								
KSRS	**Korea Array**	**72.16**	**325**	P		**P**	**17 29 50.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=149,slow=6.1,SNR=4.0								
KSRS				LR		LR	17 59 31.3		
	comp=Z,64nm,20.2s,baz=122,slow=34								
KSAR	**Wonju Array Be**	**72.18**	**325**	P		**P**	**17 29 50.4**	**+0.2**
KSAR	**Wonju Array Be**	**72.18**	**325**	P		**P**	**17 29 50.4**	**+0.2**
MNSI	**Mandailing Nat**	**73.33**	**278**	P		**P**	**17 30 00.1**	**+2.4**
IPM	**Ipoh**	**73.52**	**282**	*e*P		**P**	**17 29 58.5**	**-0.2**
	comp=Z,28nm,1.3s								
YSS	**Yuzh-Sakhalins**	**73.70**	**340**	*e*P		**P**	**17 30 00.1**	**+1.1**
YSS				*e*			17 39 58.0		
YSS	**Yuzh-Sakhalins**	**73.70**	**340**	*e*P		**P**	**17 29 59.5**	**+0.6**
	comp=Z,42nm,1.2s								
NJ2	**Nanjing**	**73.76**	**316**	*e*P		**P**	**17 29 59.6**	**-0.1**
NJ2				pmax		pmax			
	comp=Z,15nm,0.5s								
KULM	**Kulim**	**74.19**	**283**	*e*P		**P**	**17 30 02.4**	**-0.3**
	comp=Z,21nm,1.3s								
PSI	**Prapat**	**74.74**	**280**	LR		LR	18 05 29.2		
	comp=Z,70nm,18.1s,baz=108,slow=38								
PSI	**Prapat**	**74.74**	**280**	*e*P		**P**	**17 30 03.5**	**-2.5**
PSI				pmax		pmax			
	comp=Z,8.0nm,1.0s								
PSI	**Prapat**	**74.74**	**280**	*e*P		**P**	**17 30 03.5**	**-2.5**
	comp=Z,8.4nm,1.0s								
USRK	**Ussuriysk Ar.**	**75.41**	**332**	P		**P**	**17 30 10.2**	**+1.2**
	comp=Z,4.8nm,0.9s,baz=189,slow=3.8,SNR=3.6								
USRK				LR		LR	17 59 45.2		
	comp=Z,86nm,21.4s,baz=94,slow=33								
PEA0B	**Petropavlovsk-**	**76.15**	**352**	*e*P		**P**	**17 30 13.5**	**+0.5**
	comp=Z,38nm,1.6s								
PETK	**Petropavlovsk-**	**76.15**	**352**	P		**P**	**17 30 13.3**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=130,slow=6.0,SNR=6.3								
PETK				LR		LR	17 58 31.5		
	comp=Z,268nm,21.1s,baz=156,slow=32								
MAW	**Mawson**	**76.15**	**202**	P		**P**	**17 30 13.0**	**0.0**
	comp=Z,18nm,1.0s,baz=123,slow=7.6,SNR=6.2								
MAW				LR		LR	18 01 29.1		
	comp=Z,168nm,18.2s,baz=78,slow=34								
MAW	**Mawson**	**76.15**	**202**	*e*P		**P**	**17 30 13.0**	**0.0**
MAW				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MAW	**Mawson**	**76.15**	**202**	*e*P		**P**	**17 30 13.0**	**0.0**
	comp=Z,5.7nm,1.0s								
PEA1	**Petropavlovsk-**	**76.15**	**352**	*e*P		**P**	**17 30 13.3**	**+0.3**
PEA1				*e*			17 58 31.5		
SKNT	**Sakolnakorn**	**76.53**	**295**	P		**P**	**17 30 15.8**	**-0.2**
	comp=Z,7.0nm,1.2s								
GRNR	**Gornyy**	**79.09**	**338**	*e*P		**P**	**17 30 30.7**	**+1.2**
GRNR				pmax		pmax			
	comp=Z,160nm,1.5s								
ENH	**Enshi**	**79.10**	**309**	*e*P		**P**	**17 30 29.1**	**-1.0**
	comp=Z,13nm,1.3s								
GYA	**Guiyang**	**79.13**	**305**	*e*P		**P**	**17 30 30.0**	**-0.4**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
SRDT	**SRDT**	**79.47**	**290**	P		**P**	**17 30 34.1**	**+1.7**
	comp=Z,14nm,1.1s								
KLR	**Kul'dur**	**79.53**	**335**	LR		LR	17 59 38.3		
	comp=Z,7.1nm,21.2s,baz=238,slow=31								
KLR	**Kul'dur**	**79.53**	**335**	*i* P		**P**	**17 30 34.5**	**+2.6**
PHIT	**Phitsanulok**	**79.64**	**293**	P		**P**	**17 30 36.4**	**+3.2**
	comp=Z,5.2nm,0.8s								
NKL	**Nikolayevsk**	**79.80**	**342**	*e*P		**P**	**17 30 34.0**	**+0.7**
NKL				pmax		pmax			
	comp=Z,23nm,1.0s								
NANT	**Nan**	**80.14**	**295**	P		**P**	**17 30 39.1**	**+3.2**
	comp=Z,2.3nm,0.7s								
BJI	**Beijing**	**80.56**	**320**	*e*P		**P**	**17 30 38.5**	**+0.8**
BJI				pmax		pmax			
	comp=Z,11nm,0.9s								
CM01	**Chiang Mai Arr**	**81.43**	**294**	*e*P		**P**	**17 30 43.4**	**+0.5**
CM31	**Chiang Mai Arr**	**81.46**	**294**	*e*P		**P**	**17 30 43.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**81.46**	**294**	P		**P**	**17 30 43.7**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=132,slow=4.1,SNR=22								
CMAR	**Chiang Mai Arr**	**81.46**	**294**	*ce*P		**P**	**17 30 44.5**	**+1.5**
CMAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KMI	**Kunming**	**81.49**	**302**	P		**P**	**17 30 44.1**	**+0.8**
KMI				pP		sP	17 31 05.9	+5.2
KMI				pmax		pmax			
	comp=Z,6.0nm,0.6s								
XAN	**Xi'an**	**81.60**	**312**	P		**P**	**17 30 43.4**	**-0.1**
XAN				pmax		pmax			
	comp=Z,9.0nm,1.3s								
CMMT	**Chiang Mai**	**81.62**	**294**	P		**P**	**17 30 44.5**	**+0.6**
	comp=Z,7.7nm,1.6s								
CHTO	**Chiang Mai**	**81.62**	**294**	P		**P**	**17 30 45.5**	**+1.6**
	comp=Z,34nm,1.1s								
CHTO	**Chiang Mai**	**81.62**	**294**	*e*P		**P**	**17 30 44.5**	**+0.7**
CHTO				pmax		pmax			
	comp=Z,8.0nm,1.0s								
CHTO	**Chiang Mai**	**81.62**	**294**	*e*P		**P**	**17 30 44.5**	**+0.7**
	comp=Z,8.2nm,1.0s								
MA2	**Magadan**	**83.43**	**350**	*ce*P		**P**	**17 30 51.6**	**-0.7**
CD2	**Chengdu**	**83.61**	**307**	*e*P		**P**	**17 30 54.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**83.82**	**319**	*e*P		**P**	**17 30 57.3**	**+2.4**
HHC				S		**S**	**17 41 14.1**	**-1.1**
HHC				pmax		pmax			
	comp=Z,13nm,0.9s								
HHC				pmax		pmax			
	comp=Z,100nm,4.4s								
HHC				LR		LR			
	comp=Z,81nm,13.6s								
HHC				LR		LR			
	comp=Z,150nm,16.0s								
HHC				LR		LR			
	comp=Z,150nm,15.7s								
ZEA	**Zeya**	**84.81**	**336**	*e*P		**P**	**17 31 00.5**	**+1.0**
ZEA				pmax		pmax			
	comp=Z,17nm,1.0s								
SNAA	**Sanae**	**86.04**	**182**	P		**P**	**17 31 04.2**	**-1.4**
SNAA	**Sanae**	**86.04**	**182**	P		**P**	**17 31 03.8**	**-1.8**
	comp=Z,19nm,1.1s,baz=189,slow=4.4,SNR=18								
SNAA				LR		LR	18 07 05.6		
	comp=Z,223nm,19.9s,baz=174,slow=34								
SNAA	**Sanae**	**86.04**	**182**	*e*P		**P**	**17 31 04.3**	**-1.4**
	comp=Z,27nm,1.1s								
SNCC	**San Nicolas Is**	**86.17**	**52**	*e*P		**P**	**17 31 07.9**	**+1.2**
	comp=Z,148nm,1.5s								
LZH	**Lanzhou**	**86.21**	**311**	*e*P		**P**	**17 31 08.4**	**+1.3**
LZH				pP		sP	17 31 32.8	+8.2
LZH				sP		pP	17 31 39.3	+19
LZH				pmax		pmax			
	comp=Z,22nm,1.1s								
SEY	**Seymchan**	**86.39**	**352**	*ce*P		**P**	**17 31 05.6**	**-1.5**
VNA3	**Neumayer Olymp**	**86.56**	**180**	P		**P**	**17 31 06.5**	**-1.7**
VNA2	**Neumayer--Watz**	**86.87**	**180**	P		**P**	**17 31 08.4**	**-1.3**
	baz=161,slow=5.8								
GAMB	**Gambell**	**86.98**	**8**	*e*P		**P**	**17 31 10.8**	**+0.8**
	comp=Z,11nm,1.3s								
VNA1	**Neumayer--Stat**	**87.15**	**180**	P		**P**	**17 31 09.8**	**-1.1**
BTPC	**Burnt Peak**	**87.56**	**51**	*e*P		**P**	**17 31 12.5**	**-1.2**
CMB	**Columbia Colle**	**87.97**	**47**	*e*P		**P**	**17 31 15.8**	**+0.4**
CMB				pmax		pmax			
	comp=Z,6.0nm,1.1s								
CMB	**Columbia Colle**	**87.97**	**47**	*e*P		**P**	**17 31 15.8**	**+0.4**
	comp=Z,6.0nm,1.1s								
ORV	**Oroville**	**88.00**	**46**	*e*P		**P**	**17 31 15.7**	**+0.2**
ORV				pmax		pmax			
	comp=Z,7.0nm,1.3s								
ORV	**Oroville**	**88.00**	**46**	*e*P		**P**	**17 31 15.7**	**+0.2**
	comp=Z,6.9nm,1.3s								
AFDM	**Forest Hills D**	**88.04**	**46**	*e*P		**P**	**17 31 16.7**	**+1.0**
	comp=Z,8.1nm,1.1s								
EDW2	**Edwards Air Fo**	**88.08**	**51**	P		**P**	**17 31 16.9**	**+0.8**
	baz=241								
M02C	**Callahan**	**88.09**	**43**	P		**P**	**17 31 17.2**	**+1.3**
	baz=238								
ISA	**Isabella, Lake**	**88.11**	**50**	P		**P**	**17 31 17.1**	**+0.9**
	baz=240								
ISA	**Isabella, Lake**	**88.11**	**50**	*e*P		**P**	**17 31 16.5**	**+0.3**
ISA				pmax		pmax			
	comp=Z,11nm,0.9s								
ISA	**Isabella, Lake**	**88.11**	**50**	*e*P		**P**	**17 31 16.5**	**+0.3**
	comp=Z,11nm,0.9s								
MONP2	**Monument Peak**	**88.28**	**53**	P		**P**	**17 31 17.7**	**+0.5**
	baz=242								
YBH	**Yreka Blue Hor**	**88.36**	**43**	P		**P**	**17 31 17.6**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=178,slow=10,SNR=4.3								
YBH				LR		LR	18 08 33.3		
	comp=Z,50nm,18.6s,baz=244,slow=34								
CWC	**Cottonwood Cre**	**88.77**	**50**	P		**P**	**17 31 20.4**	**+1.0**
	baz=241								
WAKR	**Walker**	**88.85**	**47**	*e*P		**P**	**17 31 20.1**	**+0.3**
	comp=Z,6.6nm,1.0s								
MPMC	**Manual Prospec**	**89.00**	**50**	P		**P**	**17 31 21.4**	**+0.8**
	baz=241								
DAC	**Darwin (Calif)**	**89.03**	**50**	*e*P		**P**	**17 31 20.9**	**+0.2**
DAC				pmax		pmax			
	comp=Z,3.0nm,1.0s								
DAC	**Darwin (Calif)**	**89.03**	**50**	*e*P		**P**	**17 31 20.9**	**+0.2**
	comp=Z,3.4nm,1.0s								
BELC	**Belle Mtn. Jos**	**89.11**	**53**	P		**P**	**17 31 21.9**	**+0.9**
	baz=242								
LPIG	**La Paz**	**89.19**	**64**	LR		LR	18 02 16.4		
	comp=Z,61nm,20.2s,baz=220,slow=29								
HEC	**Hector,Ludlow**	**89.25**	**52**	P		**P**	**17 31 21.6**	**0.0**
	baz=242								
PAHR	**Pah Rah Range**	**89.48**	**46**	*e*P		**P**	**17 31 23.8**	**+1.1**
	comp=Z,6.9nm,1.0s								
RYN	**Ryan**	**89.53**	**48**	*e*P		**P**	**17 31 23.7**	**+0.8**
	comp=Z,6.6nm,1.0s								
GLA	**Glamis**	**89.54**	**54**	P		**P**	**17 31 24.1**	**+1.2**
	baz=243								
GLA	**Glamis**	**89.54**	**54**	*e*P		**P**	**17 31 24.0**	**+1.1**
GLA				pmax		pmax			
	comp=Z,14nm,0.9s								
GLA	**Glamis**	**89.54**	**54**	*e*P		**P**	**17 31 24.0**	**+1.1**
	comp=Z,14nm,0.9s								
NV01	**Mina Array Sit**	**89.58**	**48**	*e*P		**P**	**17 31 23.6**	**+0.3**
NVAR	**Mina Array Bea**	**89.58**	**48**	P		**P**	**17 31 23.4**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=226,slow=8.0,SNR=21								
NVAR				LR		LR	18 04 12.0		
	comp=Z,190nm,20.0s,baz=97,slow=31								
FURC	**Furnace Creek,**	**89.64**	**50**	P		**P**	**17 31 24.5**	**+1.2**
	baz=242								
NV11	**Mina Array Sit**	**89.69**	**48**	*e*P		**P**	**17 31 24.2**	**+0.5**
	comp=Z,0.6nm,1.0s								
GMRC	**Granite Mounta**	**89.72**	**52**	P		**P**	**17 31 24.9**	**+1.0**
	baz=242								
IRM	**Iron Mountain**	**89.81**	**53**	P		**P**	**17 31 25.3**	**+1.1**
	baz=242								
Y12C	**Blythe**	**90.08**	**53**	*e*

comp=Z,18nm,6.0s
PLCA Paso Flores 94.94 138 P **P 17 31 47.5 -0.5**
comp=Z,3.0nm,1.0s,baz=232,slow=4.0,SNR=7.5
PLCA LR LR 18 04 40.6
comp=Z,68nm,21.7s,baz=246,slow=29
PLCA Paso Flores 94.94 138 *e*P **P 17 31 47.9 -0.1**
PLCA pmax pmax
comp=Z,18nm,1.7s
PLCA Paso Flores 94.94 138 *e*P **P 17 31 47.9 -0.1**
comp=Z,18nm,1.7s
RCJ Ross Creek 95.32 48 *e*P **P 17 31 50.9 +1.2**
ANMO Albuquerque 96.64 55 *i* P **P 17 31 55.3 -0.5**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
LTX Lajitas 96.71 61 *e*P **P 17 31 56.7 +0.5**
LTX Lajitas 96.71 61 *e*P **P 17 31 56.7 +0.5**
LTX *e* 18 07 53.0
TXAR Lajitas Array 96.71 61 P **P 17 31 56.7 +0.5**
comp=Z,0.4nm,0.5s,baz=238,slow=7.2,SNR=5.6
TXAR LR LR 18 07 53.0
comp=Z,57nm,19.2s,baz=0.0,slow=31
PD31 Pinedale Array 97.47 47 *e*P Pdif 17 32 00.9 +1.4
PDAR Pinedale Array 97.47 47 P Pdif 17 32 00.8 +1.3
comp=Z,0.7nm,0.8s,baz=217,slow=3.2,SNR=5.1
PDAR LR LR 18 08 01.6
comp=Z,112nm,21.5s,baz=252,slow=30
TIXI Tiksi 98.25 348 *i* P Pdif 17 32 04.0 +2.0
TIXI pmax pmax
comp=Z,1.0nm,1.1s
WMQ Urumqi 100.72 313 P **Pdif 17 32 14.3 +0.6**
WMQ LR LR
comp=Z,130nm,17.3s
WMQ LR LR
comp=Z,190nm,20.7s
WMQ LR LR
comp=Z,210nm,20.7s
YKA Yellowknife Ar 102.68 27 P **Pdif 17 32 22.5 +0.7**
comp=Z,0.5nm,0.9s,baz=247,slow=4.7,SNR=4.5
MK32 Makanchi Array 105.28 315 *e*PKPbc PKKPbc 17 48 13.0 -2.0
MKAR Makanchi Array 105.28 315 PKKPbc PKKPbc 17 48 13.0 -2.0
comp=Z,0.5nm,0.8s,baz=298,slow=2.6,SNR=5.3
KSH Kashi 107.79 306 *e*Pdif **Pdif 17 32 45.8 +0.4**
BVAR Borovoye Array 114.03 319 PKIKP PKPdf 17 37 03.0 -1.0
comp=Z,1.0nm,0.4s,baz=117,slow=2.6,SNR=8.7
BVAR Borovoye Array 114.03 319 PKIKP PKPdf 17 37 03.0 -1.0
BRVK Borovoye 114.09 320*c* *i* PKIKP PKPdf 17 37 02.6 -1.5
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BOSA Boshof 119.52 214 PKP **PKPdf 17 37 16.1 +0.5**
comp=Z,1.0nm,0.5s,baz=90,slow=2.9,SNR=6.3
ABKAR Akbulak array 120.42 315 *e*PKPdf **PKPdf 17 37 15.5 -0.9**
ARU Arti 120.89 323 *i* PKIKP **PKPdf 17 37 15.2 -1.9**
ARU 17 38 46.1
ARU 17 44 24.4
ARU SS SS 17 55 18.3 +3.4
ARU Arti 120.89 323 *e*PKPdf **PKPdf 17 37 15.1 -2.0**
GEYT Alibeck 121.26 302 PKP **PKPdf 17 37 18.3 -0.2**
comp=Z,2.6nm,0.8s,baz=267,slow=2.5,SNR=5.4
AKTO Aktyubinsk 121.64 316 PKP **PKPdf 17 37 18.1 -0.7**
comp=Z,3.6nm,0.7s,baz=116,slow=5.8,SNR=10
PTGA Pitinga 125.14 108 PKP **PKPdf 17 37 24.6 -2.0**
comp=Z,2.3nm,0.8s,baz=335,slow=10,SNR=4.0
ARA0 ARCESS Array S 128.62 345 *e*PKPdf **PKPdf 17 37 30.4 -1.2**
ARCES ARCESS Array B 128.62 345 PKP **PKPdf 17 37 30.4 -1.2**
comp=Z,6.2nm,1.0s,baz=67,slow=1.6,SNR=8.6
VRH Novokhopyorsk 131.68 319 *e*PKIKP **PKPdf 17 37 36.7 -1.2**
VRH pmax pmax
comp=Z,5.0nm,0.5s
KIV Kislovodsk 132.72 310 *i* PKIKP **PKPdf 17 37 41.3 +1.1**
KIV pmax pmax
comp=Z,7.0nm,1.1s
LPSR Galich'ya Gora 132.86 322 *e*PKIKP **PKPdf 17 37 42.0 +1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 133.16 326⇓ *e*PKIKP **PKPdf 17 37 41.3 +0.8**
OBN *e* 17 40 15.0
OBN *e* 17 44 42.6
OBN pmax pmax
comp=Z,57nm,3.0s
OBN MLR MLR
comp=Z,135nm,16.0s
VSR Storozhevoye 133.20 320 *e*PKIKP **PKPdf 17 37 41.5 +0.7**
VSR pmax pmax
comp=Z,10.0nm,1.2s
FIA0 FINESS Array S 134.23 337 *e*PKPpre PKPpre 17 37 35.1
FIA0 *e*PKPdf **PKPdf 17 37 42.0 -0.4**
FINES FINESS Array B 134.23 337 PKhKP PKPpre 17 37 35.1
comp=Z,1.3nm,0.8s,baz=101,slow=1.9,SNR=5.3
FINES PKP **PKPdf 17 37 42.0 -0.4**
comp=Z,4.2nm,1.0s,baz=90,slow=1.8,SNR=6.5
AKASG Malin Array Be 139.14 323 PKP **PKPdf 17 37 50.8 -1.0**
comp=Z,1.2nm,0.7s,baz=56,slow=2.9,SNR=6.7
AKBB Malin Array Si 139.14 323 *e*PKIKP **PKPdf 17 37 49.9 -1.9**
AKBB Malin Array Si 139.14 323 *e*PKPdf **PKPdf 17 37 49.9 -1.9**
HFS Hagfors 139.15 343 PKP **PKPdf 17 37 51.4 -0.2**
comp=Z,1.7nm,0.8s,baz=28,slow=3.4,SNR=3.9
KIEV Kiev 139.15 323 *i* PKIKP **PKPdf 17 37 52.0 +0.2**
AK11 Malin Array Si 139.18 323 *e*PKPdf **PKPdf 17 37 50.5 -1.4**
BR101 Keskin Array S 140.18 306 *e*PKPdf **PKPdf 17 37 54.0 -0.3**
BRTR Keskin Array B 140.18 306 PKP **PKPdf 17 37 54.0 -0.3**
comp=Z,1.2nm,0.9s,baz=196,slow=1.0,SNR=3.3
VRI Vrincioaia 142.90 318⇓ *i* P **PKPdf 17 38 05.1 +6.3**
VRI Vrincioaia 142.90 318 ⇓PKIKP **PKPdf 17 38 05.1 +6.3**
BUR08 Bucovina Ar. S 142.96 321 *e*PKPdf **PKPdf 17 37 59.8 +0.8**
BURAR Bucovina Array 142.96 321⇑ *i* P **PKPdf 17 37 56.8 -2.2**
BURAR Bucovina Array 142.96 321⇑ PKIKP **PKPdf 17 37 56.8 -2.2**
BUR04 Bucovina Ar. S 142.96 321 *e*PKPdf **PKPdf 17 37 57.1 -1.9**
MLR Muntele Rosu 143.56 318 PKP PKPbc 17 37 58.6 +1.1
comp=Z,1.2nm,0.7s,baz=71,slow=5.1,SNR=5.8
MLR Muntele Rosu 143.56 318⇑ *i* P PKPbc 17 37 58.6 +1.1
MLR Muntele Rosu 143.56 318 *e*PKPpre PKPbc 17 37 57.3 -0.2
DOPR Dopca 143.68 319⇓ *i* P PKPab 17 37 56.8 -0.1
ARCR ARCALIA 143.74 321⇑ *i* P **PKPdf 17 37 59.8 -0.4**
BMR Baia Mare 143.92 322⇓ *i* P **PKPdf 17 38 00.6 +0.1**
BMR Baia Mare 143.92 322 ⇓PKIKP **PKPdf 17 38 00.6 +0.1**
UZH Uzhgorod 144.05 324⇓ *i* PKIKP **PKPdf 17 38 00.0 -0.7**
UZH *e* 17 38 08.5
STHS Stebnicka Huta 144.13 326 *e*PKIKP **PKPdf 17 38 00.0 -0.9**
STHS Stebnicka Huta 144.13 326 *e*PKP **PKPdf 17 38 00.0 -0.9**
VOIR 144.14 318⇑ *i* P **PKPab 17 37 58.9 +0.1**
VOIR 144.14 318⇑ PKIKP **PKPab 17 37 58.9 +0.1**
CRVS Cervenica-Dubn 144.33 325 *e*PKIKP **PKPdf 17 38 01.1 -0.1**
CRVS Cervenica-Dubn 144.33 325 *e*PKP **PKPdf 17 38 01.1 -0.1**
CJR Cluj-Napoca 144.38 321⇑ *i* P **PKPdf 17 38 00.7 -0.7**
CJR Cluj-Napoca 144.38 321⇑ PKIKP **PKPdf 17 38 00.7 -0.7**
ARR Arges 144.43 318⇑ *i* P PKPbc 17 38 00.5 +0.4
HUMR Humele 144.60 317⇑ *i* P **PKPab 17 38 00.3 -0.1**
NIE Niedzica 144.62 327 *e*PKP **PKPdf 17 38 01.3 -0.4**
NIE Niedzica 144.62 327 *e*PKIKP **PKPdf 17 38 01.3 -0.4**
DRGR 144.85 321⇓ *i* P PKPbc 17 38 01.4 0.0
DRGR 144.85 321 ⇓PKIKP PKPbc 17 38 01.4 0.0
LOT Lotru 144.92 319⇓ *i* P **PKPdf 17 38 02.4 -0.1**
KECS Kecovo 145.10 325 *e*PKIKP **PKPab 17 38 02.2 +0.1**
KECS Kecovo 145.10 325 *e*PKP **PKPab 17 38 02.2 +0.1**
LANS Liptovska Anna 145.21 327 *e*PKIKP **PKPdf 17 38 03.2 +0.4**
LANS Liptovska Anna 145.21 327 *e*PKP **PKPdf 17 38 03.2 +0.4**
OKC Ostrava-Krasne 145.41 329 *e*PKP **PKPdf 17 38 03.0 0.0**
OKC Ostrava-Krasne 145.41 329 *e*PKIKP **PKPdf 17 38 03.0 0.0**
KSP Ksiaz 145.56 332 *e*PKP **PKPdf 17 38 03.2 0.0**
KSP Ksiaz 145.56 332 *e*PKP2 **PKPdf 17 38 03.2 0.0**
MORC Moravsky Berou 145.74 329⇓ *i* P **PKPdf 17 38 03.6 0.0**
MORC Moravsky Berou 145.74 329 ⇓PKP2 **PKPdf 17 38 03.6 0.0**
MORC Moravsky Berou 145.74 329 *e*PKPdf **PKPdf 17 38 03.4 -0.2**
SIRR Siria 145.74 321⇓ *i* P **PKPbc 17 38 04.3 +0.1**
PSZ Piszkesteto 145.76 325⇓ *i* P **PKPdf 17 38 03.9 +0.1**
PSZ Piszkesteto 145.76 325 ⇓PKP2 **PKPdf 17 38 03.9 +0.2**
PSZ Piszkesteto 145.76 325 *e*PKPdf **PKPbc 17 38 04.4 +0.1**
PSZ Piszkesteto 145.76 325 *e*PKPdf **PKPdf 17 38 04.0 +0.2**
DPC Dobruska-Polom 145.90 331 *e*PKP **PKPbc 17 38 04.5 -0.1**
DPC Dobruska-Polom 145.90 331 *e*PKP2 **PKPbc 17 38 04.5 -0.1**
UPC Upice 145.92 331 *e*PKP **PKPbc 17 38 04.5 -0.1**
UPC Upice 145.92 331 *e*PKP2 **PKPbc 17 38 04.5 -0.1**
VYHS Vyhne 145.95 327 *e*PKP2 **PKPbc 17 38 04.9 +0.1**
VYHS Vyhne 145.95 327 *e*PKP **PKPbc 17 38 04.9 +0.1**
BZS Buzias 146.12 320⇓ *i* P **PKPdf 17 38 04.8 +0.4**
BZS Buzias 146.12 320 ⇓PKP2 **PKPbc 17 38 04.9 -0.4**
VRAC Vranov 146.51 329⇓ *i* P **PKPbc 17 38 06.2 -0.2**
VRAC Vranov 146.51 329 ⇓PKP2 **PKPbc 17 38 06.2 -0.2**
BRG Berggiesshubel 146.54 334 *i* PKP **PKPbc 17 38 05.9 -0.5**
comp=Z,27nm,1.1s
BRG *e* 17 38 23.0
comp=Z,12nm,1.1s
BRG *i* 17 38 35.2
comp=Z,10nm,0.9s
BRG Berggiesshubel 146.54 334 *i* PKP2 **PKPbc 17 38 05.9 -0.5**
BRG pmax pmax
comp=Z,27nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 146.58 335 *e*PKP2 **PKPbc 17 38 06.0 -0.5**
CLL Collm 146.58 335 *e*PKPbc **PKPbc 17 38 06.0 -0.5**
CLL *e* 17 38 22.0
CLL Collm 146.58 335 *e*PKPdf **PKPdf 17 38 05.5 +0.6**
VTS Vitosha 146.63 315⇓ *i* P **PKPbc 17 38 06.9 -0.3**
VTS Vitosha 146.63 315 ⇓PKP2 **PKPbc 17 38 06.9 -0.3**
VTS Vitosha 146.63 315 *e*PKPdf **PKPdf 17 38 06.2 +0.7**
MODS Modra-Piesok 146.81 328 *e*PKP2 **PKPbc 17 38 07.1 -0.2**
MODS Modra-Piesok 146.81 328 *e*PKP **PKPbc 17 38 07.1 -0.2**
EKA Eskdalemuir Ar 146.89 354 PKPbc **PKPdf 17 38 05.2 -0.1**
comp=Z,3.3nm,0.6s,baz=352,slow=2.1,SNR=11
GOPC GO Pecny, Ondr 146.90 332 *e*PKP **PKPbc 17 38 07.6 +0.1**
GOPC GO Pecny, Ondr 146.90 332 *e*PKP2 **PKPbc 17 38 07.6 +0.1**
PRU Pruhonice 146.95 332 *e*PKP **PKPbc 17 38 07.1 -0.5**
PRU *e*pPKP **sPKPdf 17 38 23.2 -0.2**
PRU Pruhonice 146.95 332 *e*PKP2 **PKPbc 17 38 07.1 -0.5**
MORH M˝ŧr˝igy, Hung 147.48 323 *e*PKPdf **PKPbc 17 38 08.7 -0.5**
NKC Novy Kostel 147.64 334 *e*PKP **PKPbc 17 38 09.2 -0.3**
NKC *ex* x 17 38 20.6
NKC Novy Kostel 147.64 334 *e*PKP2 **PKPbc 17 38 09.2 -0.3**
CONA Conrad Observa 147.81 328 *e*PKiKP **PKPbc 17 38 10.3 +0.1**
comp=Z,23nm,1.2s,SNR=8.0
DIVS Divibare 147.92 319 *e*PKPdf **PKPdf 17 38 07.5 -0.1**
DIVS *e*PKPbc **PKPbc 17 38 10.3 -0.3**
KHC Kasperske Hory 148.00 332 *e*PKP **PKPbc 17 38 10.1 -0.5**
KHC *e*pPKP **pPKPab 17 38 26.4 +0.2**
KHC Kasperske Hory 148.00 332 *e*PKP2 **PKPbc 17 38 10.1 -0.5**
KHC Kasperske Hory 148.00 332 *e*PKPbc **PKPbc 17 38 10.5 -0.1**
GEC2 GERESS Array S 148.16 331 *e*PKP2 **PKPbc 17 38 10.3 -0.8**
GEC2 GERESS Array S 148.16 331 *e*PKPbc **PKPbc 17 38 10.3 -0.8**
GERES GERESS Array B 148.16 331 PKPbc **PKPdf 17 38 09.3 +1.5**
comp=Z,16nm,0.9s,baz=47,slow=2.5,SNR=51
GEA0 GERESS Array S 148.17 331 *e*PKPdf **PKPdf 17 38 06.5 -1.3**
GEA0 *e*PKPbc **PKPbc 17 38 10.5 -0.6**
ARSA Arzberg 148.44 328 *e*PKPbc **PKPbc 17 38 11.2 -0.6**
comp=Z,11nm,1.2s
MOA Molln 148.63 330 PKPbc **PKPbc 17 38 11.7 -0.5**
comp=Z,5.5nm,0.6s
PERS Pernice 149.07 327 *i* PKPdf **PKPdf 17 38 09.7 +0.4**
PERS *i* PKPbc **PKPbc 17 38 14.0 +0.6**
SOKA Soboth 149.08 327 *e*PKPbc **PKPbc 17 38 12.7 -0.8**
comp=Z,26nm,1.2s,SNR=11
BLY Banja Luka 149.19 322⇓ *i* P **PKPbc 17 38 13.7 0.0**
BLY Banja Luka 149.19 322 *e*PKPbc **PKPbc 17 38 13.3 -0.4**
PDG Podgorica 149.26 317⇓ *i* P **PKPbc 17 38 13.2 -0.8**
TTG Podgorica 149.26 317 *e*PKPbc **PKPbc 17 38 12.7 -1.2**
TIR Tirane 149.42 315⇑ *i* P **PKPbc 17 38 15.5 +1.1**
TIR Tirane 149.42 315⇑ PKP2 **PKPbc 17 38 15.5 +1.1**
OBKA Obir 149.44 327 *e*PKPbc **PKPbc 17 38 13.3 -1.1**
comp=Z,8.7nm,0.8s,SNR=5.6
MEM Membach 149.59 341⇑ PKPbc **PKPbc 17 38 13.8 -0.7**
KBA Koelnbreinsper 149.62 329 *e*PKPbc **PKPbc 17 38 13.7 -1.3**
comp=Z,29nm,1.1s,SNR=13
BOJS Bojanci 149.76 325 *i* PKPdf **PKPdf 17 38 09.7 -0.7**
BOJS *i* PKPbc **PKPbc 17 38 15.1 0.0**
VISS Visnje 149.78 326 *i* PKPdf **PKPdf 17 38 09.6 -0.8**
VISS *e*PKPbc **PKPbc 17 38 14.8 -0.4**
MYKA Terra Mystica 149.80 328 *e*PKPbc **PKPbc 17 38 14.1 -1.1**
comp=Z,12nm,0.6s,SNR=7.8
STON Ston 149.99 319 P **PKPbc 17 38 13.6 -2.1**
STU Stuttgart 150.08 336 *e*PKIKP **PKPbc 17 38 15.7 -0.1**
STU Stuttgart 150.08 336 *e*PKPbc **PKPbc 17 38 15.7 -0.1**
UDBI Udbina 150.12 323 P **PKPbc 17 38 15.0 -1.1**
WATA Walderalm 150.24 331 *e*PKPbc **PKPbc 17 38 15.5 -0.9**
comp=Z,10nm,0.5s,SNR=9.2
ABTA Abfaltersbach 150.25 330 *e*PKPbc **PKPbc 17 38 15.2 -1.2**
comp=Z,22nm,0.7s,SNR=14
WTTA Wattenberg 150.27 331 *e*PKPbc **PKPbc 17 38 15.9 -0.6**
comp=Z,30nm,1.1s,SNR=8.3
WLF Walferdange 150.38 340⇑ PKPbc **PKPbc 17 38 17.0 +0.5**
WLF Walferdange 150.38 340 *e*PKIKP **PKPbc 17 38 16.3 -0.2**
WLF Walferdange 150.38 340 *e*PKPbc **PKPbc 17 38 16.3 -0.2**
TRI Trieste 150.39 327 *e*PKIKP **PKPdf 17 38 10.4 -0.9**
TRI *e* 17 38 14.8
TRI Trieste 150.39 327 *e*PKPdf **PKPdf 17 38 10.3 -0.9**
TRI *e*PKPbc **PKPbc 17 38 14.8 -1.8**
MOTA Moosalm 150.44 332 *e*PKPbc **PKPbc 17 38 16.1 -0.8**
comp=Z,15nm,0.7s,SNR=16
DOU Dourbes 150.46 342⇓ PKPbc **PKPbc 17 38 16.6 0.0**
RETA Reutte 150.47 333 *e*PKPbc **PKPbc 17 38 16.1 -0.7**
comp=Z,9.7nm,0.9s
BFO Black Forest 150.77 336*c* *i* PKIKP **PKPbc 17 38 17.2 -0.3**
BFO Black Forest 150.77 336 *e*PKPbc **PKPbc 17 38 16.4 -1.0**
FETA Feichten 150.85 332 *e*PKiKP **PKPbc 17 38 17.5 -0.4**
comp=Z,28nm,0.9s,SNR=19
DAVA Damuels 151.00 333 *e*PKPbc **PKPbc 17 38 17.6 -0.6**
comp=Z,20nm,1.4s,SNR=5.3
ECH Echery 151.29 337 *e*PKIKP **PKPbc 17 38 17.2 -1.5**
ECH Echery 151.29 337 *e*PKPbc **PKPbc 17 38 17.1 -1.5**
FUORN Ofenpass-Fuorn 151.36 332 *e*PKPbc **PKPbc 17 38 18.3 -0.9**
MATE Matera 151.83 316⇑ *i* P **PKPbc 17 38 19.6 -0.5**
TUE Stuetta 151.87 333 *e*PKPbc **PKPbc 17 38 19.1 -1.2**
TIP Timpagrande 152.56 313 *i* P **PKPbc 17 38 22.0 +0.1**
TIP Timpagrande 152.56 313 *e*PKPbc **PKPbc 17 38 20.9 -1.0**
CUC Castrocucco 152.75 316 *e*PKPbc **PKPbc 17 38 21.5 -0.9**
SENIN Lac Senin/Sane 152.79 335 *e*PKPbc **PKPbc 17 38 20.3 -2.1**
BNI Bardonecchia 154.12 334 *e*PKIKP **PKPbc 17 38 23.7 -1.5**
BNI Bardonecchia 154.12 334 *e*PKPbc **PKPbc 17 38 23.7 -1.5**
TOA0 Torodi Ar. Sit 166.37 229 *e*PKPdf **PKPdf 17 38 30.3 -1.1**
TOA0 *e*PKPdf **PKPdf 17 38 30.4 -0.9**
TOA0 *e*PKPab **PKPab 17 39 31.7 -1.1**
TOA0 *e*PKPab **PKPab 17 39 32.0 -0.9**
TORD Torodi Ar. Bea 166.37 229 PKP **PKPdf 17 38 30.5 -0.8**
comp=Z,3.8nm,0.9s,baz=341,slow=0.7,SNR=14
TORD PKPab **PKPab 17 39 32.3 -0.5**
comp=Z,4.1nm,1.0s,baz=134,slow=5.2,SNR=8.0
TOA1 Torodi Ar. Sit 166.38 229 *e*PKPdf **PKPdf 17 38 30.5 -0.9**
TOA1 *e*PKPab **PKPab 17 39 32.3 -0.6**

ISCJB ***16*** *17:41:12.5±0.8, 17°.9S±0°.3×177°.4W±0°.2, h33km, mb4.6/8, Error ellipse: s-maj=48.8km s-min=9.9km az=155.1*
IDC ***16*** *17:41:14.4±49.0, 18°.17S×177°.97W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/43, mbtmp3.8/3, Error ellipse: s-maj=895.4km s-min=160.8km az=80.0*
NEIC ***16*** *17:41:14.2±0.8, 17°.98S×177°.41W, h35km, mb4.8/5, Error ellipse: s-maj=46.3km s-min=10.8km az=155.0*
ISC 16 17:41:14.0±1.0, 18°.3S±0°.3×177°.3W±0°.1, h35km, n18, σ1$70/18, mb4.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.50**	**276**	*e*Pn	**Pn**	**17 42 16.8**	**-2.9**
AFI	**Afiamalu**	**6.82**	**51**	*e*Pn	**Pn**	**17 42 51.2**	**-0.5**
OXZ	**Oxford**	**26.57**	**198**	*e*PcP	**PcP**	**17 50 13.0**	**+0.5**
RABL	**Rabaul** 67nm,0.4s	**33.01**	**291**	*e*P	**P**	**17 47 49.5**	**+3.4**
STKA	**Stephens Creek** 0.6nm,0.4s,baz=92,slow=6.8,SNR=3.2	**39.42**	**242**	P	**P**	**17 48 42.0**	**+1.2**
STKA	**Stephens Creek** 5.8nm,1.9s	**39.42**	**242**	*e*P	**P**	**17 48 41.5**	**+0.8**
BBOO	**Buckleboo** 48nm,1.6s	**44.20**	**242**	*e*P	**P**	**17 49 18.9**	**-0.9**
WR1	**Warramunga Arr** 42nm,1.7s	**45.65**	**260**	*e*P	**P**	**17 49 31.9**	**+0.4**
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=97,slow=7.7,SNR=18	**45.65**	**260**	P	**P**	**17 49 31.9**	**+0.4**
AS01	**Alice Springs**	**45.71**	**255**	*e*P	**P**	**17 49 32.4**	**+0.4**
AS31	**Alice Springs** 7.5nm,1.8s	**45.75**	**255**	*e*P	**P**	**17 49 32.6**	**+0.3**
ASAR	**Alice Springs** 0.7nm,0.4s,baz=85,slow=8.2,SNR=42	**45.75**	**255**	P	**P**	**17 49 32.5**	**+0.1**
TNTI	**Ternate**	**57.61**	**283**	*e*PcP	**PcP**	**17 51 52.9**	**-1.1**
SBC	**Santa Barbara**	**75.75**	**46**	*e*P	**P**	**17 52 57.4**	**+1.1**
CPIM	**Pinole Ridge**	**76.16**	**42**	*e*P	**P**	**17 53 00.5**	**+1.9**
SWSC	**Sam W. Stewart**	**77.69**	**49**	*e*P	**P**	**17 53 04.9**	**-2.4**
JLU	**Jordanelle** 5.8nm,0.7s	**84.57**	**44**	*e*P	**P**	**17 53 44.6**	**+0.5**
N16A	**Rees Ranch, Co**	**84.72**	**44**	*e*P	**P**	**17 53 42.0**	**-2.7**

IDC 16 17:51:29.0±2.2, 1°.12N×126°.93E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/54, mbtmp3.4/3, Error ellipse: s-maj=169.6km s-min=26.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.84**	**162**	P	Pg	17 52 05.6	+1.3
WRA	**Warramunga Arr** 1.3nm,0.5s,baz=340,slow=11,SNR=23	**22.16**	**161**	P	P	17 56 26.4	-0.3
ASAR	**Alice Springs** 0.3nm,0.3s,baz=345,slow=11,SNR=12	**25.55**	**165**	P	P	17 56 60.0	+0.2
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=124,slow=6.7,SNR=4.1	**59.81**	**326**	P	P	18 01 36.1	-0.1

ISCJB ***16*** *18:02:37.7±0.3, 67°.09N±0°.03×21°.01E±0°.08, h0km, Error ellipse: s-maj=4.5km s-min=3.6km az=175.3*
UPP ***16*** *18:02:38.1, 67°.08N×20°.91E, h0km, ML1.9, Mining explosion.*
CSEM ***16*** *18:02:38.4±0.3, 67°.12N×20°.92E, h2km, ML1.9, Error ellipse: s-maj=8.0km s-min=5.3km az=81.0, Mining explosion.*
HEL ***16*** *18:02:38.9±0.1, 67°.09N×20°.99E, h0km, ML2.0, ML1.9(UPP), Explosion*
IDC ***16*** *18:02:40.2±1.0, 67°.09N×21°.30E, h0km, mb1 3.1/4, mb1mx2.9/62, mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=18.9km s-min=9.8km az=114.0*
ISC 16 18:02:38.3±0.8, 67°.08N±0°.02×20°.98E±0°.02, h0km, n65, σ1$38/74, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.17**	**285**	P	**Pg**	**18 02 40.9**	**-0.6**
DUNU	**Dundret**	**0.17**	**285**	P	**Pg**	**18 02 40.9**	**-0.6**
DUNU				S	**Sg**	**18 02 45.2**	**+1.6**
DUNU	**Dundret**	**0.17**	**285**	*i* P	**Pg**	**18 02 40.9**	**-0.6**
DUNU				*i* S	**Sg**	**18 02 45.2**	**+1.6**
MASU	**Masugnsbyn**	**0.55**	**46**	P	**Pg**	**18 02 48.9**	**+0.2**
MASU	**Masugnsbyn**	**0.55**	**46**	P	**Pg**	**18 02 48.9**	**+0.2**
MASU	**Masugnsbyn**	**0.55**	**46**	*i* P	**Pg**	**18 02 48.9**	**+0.2**
ERTU	**Ertsjaerv**	**0.71**	**137**	P	**Pg**	**18 02 51.9**	**+0.1**
ERTU	**Ertsjaerv**	**0.71**	**137**	P	**Pg**	**18 02 51.9**	**+0.1**
ERTU	**Ertsjaerv**	**0.71**	**137**	*e*P	**Pg**	**18 02 51.6**	**-0.2**
PAJU	**Pajala**	**0.84**	**93**	P	**Pg**	**18 02 53.8**	**-0.5**
PAJU	**Pajala**	**0.84**	**93**	P	**Pg**	**18 02 53.8**	**-0.5**
PAJU	**Pajala**	**0.84**	**93**	*i* P	**Pg**	**18 02 53.8**	**-0.5**
KUA	**Kurravaara**	**0.92**	**345**	P	**Pg**	**18 02 55.3**	**-0.5**
KUA	**Kurravaara**	**0.92**	**345**	P	**Pg**	**18 02 55.3**	**-0.5**
KUA	**Kurravaara**	**0.92**	**345**	*e*P	**Pg**	**18 02 55.3**	**-0.5**
RATU	**Laukkuluspa**	**0.92**	**325**	P	**Pg**	**18 02 54.7**	**-1.2**
RATU	**Laukkuluspa**	**0.92**	**325**	P	**Pg**	**18 02 54.7**	**-1.2**
RATU	**Laukkuluspa**	**0.92**	**325**	*e*P	**Pg**	**18 02 54.7**	**-1.2**
LANU	**Lannavaara**	**1.05**	**21**	P	**Pg**	**18 02 57.7**	**-0.6**
LANU	**Lannavaara**	**1.05**	**21**	Pb	**Pg**	**18 02 58.0**	**-0.3**
LANU				Sn	**Sn**	**18 03 15.3**	**-0.2**
LANU	**Lannavaara**	**1.05**	**21**	P	**Pg**	**18 02 57.7**	**-0.6**
LANU	**Lannavaara**	**1.05**	**21**	*e*PB	**Pg**	**18 02 58.0**	**-0.3**
LANU				*e*SN	**Sn**	**18 03 15.4**	**-0.2**
NIKU	**Nikkaluokta**	**1.09**	**317**	P	**Pg**	**18 02 58.8**	**-0.3**
NIKU	**Nikkaluokta**	**1.09**	**317**	P	**Pg**	**18 02 58.9**	**-0.3**
NIKU	**Nikkaluokta**	**1.09**	**317**	*e*P	**Pg**	**18 02 58.9**	**-0.3**
KALU	**Kalix**	**1.55**	**141**	P	**Pn**	**18 03 07.5**	**+0.5**
KALU	**Kalix**	**1.55**	**141**	P	**Pn**	**18 03 07.6**	**+0.5**
KALU	**Kalix**	**1.55**	**141**	*e*PN	**Pn**	**18 03 07.5**	**+0.4**
SJUU	**Sjulsmark**	**1.60**	**171**	P	**Pn**	**18 03 08.0**	**+0.3**
SJUU	**Sjulsmark**	**1.60**	**171**	P	**Pn**	**18 03 08.0**	**+0.3**
SJUU	**Sjulsmark**	**1.60**	**171**	*e*P	**Pn**	**18 03 08.0**	**+0.3**
TOF	**Tornio**	**1.67**	**125**	Pn	**Pn**	**18 03 09.3**	**+0.6**
TOF	**Tornio** baz=312	**1.67**	**125**	*e*PN	**Pn**	**18 03 09.3**	**+0.6**
TOF				MSG		18 03 29.5	
	comp=Z,15nm,0.2s						
HEF	**Hetta**	**1.68**	**36**	Pn	**Pb**	**18 03 09.5**	**-0.5**
HEF	**Hetta** baz=219	**1.68**	**36**	*e*PN	**Pb**	**18 03 09.5**	**-0.5**
HEF				MSG		18 03 29.2	
	comp=Z,13nm,0.2s						
LILU	**Lilltraesk**	**1.86**	**195**	P	**Pn**	**18 03 11.8**	**+0.5**
LILU	**Lilltraesk**	**1.86**	**195**	P	**Pn**	**18 03 11.8**	**+0.5**
LILU	**Lilltraesk**	**1.86**	**195**	*e*P	**Pn**	**18 03 11.8**	**+0.5**
KIF	**Kilpisjarvi**	**1.94**	**358**	Pg	**Pb**	**18 03 14.0**	**-0.3**
KIF	**Kilpisjarvi**	**1.94**	**358**	*e*PG	**Pb**	**18 03 14.1**	**-0.3**
KIF				MSG		18 03 37.3	
	comp=Z,13nm,0.2s						
SGF	**Sodankyl**	**2.19**	**78**	Pb	**Pb**	**18 03 17.4**	**-1.2**
SGF	**Sodankyl** baz=262	**2.19**	**78**	*e*PB	**Pb**	**18 03 17.5**	**-1.2**
BURU	**Burvik**	**2.51**	**176**	Pb	**Pb**	**18 03 22.8**	**-1.3**
BURU	**Burvik**	**2.51**	**176**	*e*PB	**Pb**	**18 03 22.8**	**-1.3**
OUL	**Oulu**	**2.83**	**133**	Pb	**Pn**	**18 03 26.9**	**+2.3**
OUL	**Oulu** baz=319	**2.83**	**133**	*e*PB	**Pn**	**18 03 26.9**	**+2.3**
ARCES	**ARCESS Array B** comp=Z,0.4nm,0.3s,baz=211,slow=14,SNR=40	**2.99**	**32**	Pn	**Pn**	**18 03 28.1**	**+1.3**
ARCES				Sn	**Sb**	**18 04 08.4**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=214,slow=23,SNR=9.2						
ARE0	**ARCESS Array S**	**2.99**	**32**	P	**Pn**	**18 03 28.0**	**+1.2**
ARE0				Sb	**Sb**	**18 04 06.8**	**-2.4**
ARE0	**ARCESS Array S**	**2.99**	**32**	*e*P	**Pn**	**18 03 28.0**	**+1.2**
ARE0				*e*SB	**Sb**	**18 04 06.8**	**-2.4**
OUF	**Merijarvi**	**3.13**	**149**	Pb	**Pb

PCED			eS	Sg	18 08 52.7	-0.1	
PCED			A	A	18 08 53.4		
	174nm,0.1s						
PCED	**Cedros**	**0.48 125**	⇓*i*P	Pg	18 08 46.1	-0.5	
PCED			eS	Sg	18 08 52.7	-0.1	
PCED			A	A	18 08 53.4		
	174nm,0.1s						
PCED	**Cedros**	**0.48 125**	⇓*i*P	Pg	18 08 46.1	-0.5	
PCED			eS	Sg	18 08 52.7	-0.1	
CALA	**Caldeira**	**0.51 129**	*e*P	Pg	18 08 46.7	-0.4	
CALA			eS	Sg	18 08 53.5	-0.2	
CALA	**Caldeira**	**0.51 129**	*e*P	Pg	18 08 46.7	-0.4	
CALA			eS	Sg	18 08 53.5	-0.2	
CALA	**Caldeira**	**0.51 129**	*e*P	Pg	18 08 46.7	-0.4	
CALA			eS	Sg	18 08 53.5	-0.2	
HOR	**Horta**	**0.58 130**	⇑*i*P	Pg	18 08 47.7	-0.9	
HOR			eS	Sg	18 08 55.6	-0.6	
HOR			A	A	18 08 57.0		
	420nm,0.2s						
HOR	**Horta**	**0.58 130**	⇑*i*P	Pg	18 08 47.7	-0.9	
HOR			eS	Sg	18 08 55.5	-0.7	
HOR			A	A	18 08 56.8		
	388nm,0.2s						
HOR	**Horta**	**0.58 130**	⇑*i*P	Pg	18 08 47.7	-0.9	
HOR			eS	Sg	18 08 55.5	-0.7	
PCAN	**Candelaria**	**0.71 128**	⇑*i*P	Pg	18 08 49.6	-1.4	
PCAN			eS	Sg	18 08 59.1	-1.2	
PCAN			A	A	18 09 02.1		
	422nm,0.3s						
PCAN	**Candelaria**	**0.71 128**	⇑*i*P	Pg	18 08 49.6	-1.4	
PCAN			eS	Sg	18 08 59.1	-1.2	
PICO	**Pico**	**0.73 123**	*e*P	Pg	18 08 50.0	-1.4	
PICO			eS	Sg	18 08 59.5	-1.3	
PICO			A	A	18 09 01.3		
	724nm,0.2s						
PICO	**Pico**	**0.73 123**	*e*P	Pg	18 08 50.0	-1.4	
PICO			eS	Sg	18 08 59.5	-1.3	
PICO			A	A	18 09 01.3		
	724nm,0.2s						
PICO	**Pico**	**0.73 123**	*e*P	Pg	18 08 50.0	-1.4	
PICO			eS	Sg	18 08 59.5	-1.3	
ROSA	**Rosais**	**0.77 103**	*e*P	Pg	18 08 50.5	-1.7	
ROSA			eS	Sg	18 09 00.4	-1.9	
ROSA			A	A	18 09 01.6		
	185nm,0.3s						
ROSA	**Rosais**	**0.77 103**	*e*P	Pg	18 08 50.5	-1.7	
ROSA			eS	Sg	18 09 00.4	-1.9	
ROSA			A	A	18 09 02.1		
	118nm,0.1s						
ROSA	**Rosais**	**0.77 103**	*e*P	Pg	18 08 50.5	-1.7	
ROSA			eS	Sg	18 09 00.4	-1.9	
PMAN	**Manadas**	**0.91 107**	⇑*i*P	Pg	18 08 52.5	-2.4	
PMAN			eS	Sg	18 09 03.7	-3.0	
PMAN			A	A	18 09 04.9		
	109nm,0.2s						
PMAN	**Manadas**	**0.91 107**	⇑*i*P	Pg	18 08 52.5	-2.4	
PMAN			eS	Sg	18 09 03.8	-2.9	
PMAN			A	A	18 09 04.9		
	109nm,0.2s						
PMAN	**Manadas**	**0.91 107**	⇑*i*P	Pg	18 08 52.5	-2.4	
PMAN			eS	Sg	18 09 03.8	-2.9	
PGRA	**Graciosa**	**0.96 82**	*e*S	Sg	18 09 05.0	-3.3	
PGRA			A	A	18 09 17.0		
	95nm,0.4s						
PGRA	**Graciosa**	**0.96 82**	*e*S	Sg	18 09 05.0	-3.3	
PGRA			A	A	18 09 08.8		
	158nm,0.3s						
PGRA	**Graciosa**	**0.96 82**	*e*S	Sg	18 09 05.0	-3.3	
ADH	**Angra Heroismo**	**1.56 98**	*e*S	Sn	18 09 19.6	-7.7	
ADH			A	A	18 09 22.0		
	85nm,0.2s						
ADH	**Angra Heroismo**	**1.56 98**	*e*S	Sn	18 09 19.6	-7.7	
ADH			A	A	18 09 22.0		
	85nm,0.2s						
ADH	**Angra Heroismo**	**1.56 98**	*e*S	Sn	18 09 19.6	-7.7	

IDC ***16*** *18:23:14.9±0.6,37.81N×176.33E,h182km±6km, mb3.6/5, mb1 3.7/5,mb1mx3.4/40,mbtmp4.1/5,Error ellipse: s-maj=34.4km s-min=17.9km az=41.0*

ISCJB ***16*** *18:23:15.3±0.3,38.24S±0.03×176.19E±0.04,h202km±3km, mb3.7/6,Error ellipse: s-maj=5.8km s-min=4.1km az=3.8*

WEL ***16*** *18:23:15.7,38.S±2.°×17.6E±.°, h202km±3km*

ISC 16 18:23:14.9±0.8,38.23S±0.06×176.26E±0.06,h204km±5km, n172,σ1§34/170,mb3.8/6,North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UTU	**Utuhina**	**0.07**	**318**	P		**Pn**	**18 23 42.1**	**+0.6**
HLRZ	**Highlands Stat**	**0.08**	**106**	P		**Pn**	**18 23 42.1**	**+0.6**
HSRZ	**Hossack Road**	**0.08**	**186**	P		**Pn**	**18 23 42.1**	**+0.6**
NGRZ	**Ngongotaha**	**0.14**	**337**	P		**Pn**	**18 23 42.0**	**+0.4**
OMRZ	**Omania**	**0.15**	**37**	P		**Pn**	**18 23 41.8**	**+0.2**
HRRZ	**Handcock Road**	**0.16**	**172**	P		**Pn**	**18 23 42.1**	**+0.5**
GRRZ	**Galatos Road**	**0.17**	**224**	P		**Pn**	**18 23 42.3**	**+0.7**
MKRZ	**Makatiti**	**0.19**	**61**	P		**Pn**	**18 23 42.5**	**+0.8**
TARZ	**Mount Tarawera**	**0.20**	**92**	P		**Pn**	**18 23 42.0**	**+0.3**
KARZ	**Kaharoa**	**0.21**	**358**	P		**Pn**	**18 23 41.9**	**+0.1**
RRRZ	**Republican Roa**	**0.23**	**118**	P		**Pn**	**18 23 41.9**	**+0.2**
LIRZ	**Lichensteins R**	**0.25**	**24**	P		**Pn**	**18 23 42.0**	**+0.2**
PRRZ	**Plateau Road**	**0.29**	**158**	P		**Pn**	**18 23 42.2**	**+0.4**
PRRZ	**Plateau Road**	**0.29**	**158**	S		**S**	**18 24 02.0**	**-0.9**
WPRZ	**Whakapapaterin**	**0.30**	**194**	P		**Pn**	**18 23 42.4**	**+0.6**
ALRZ	**Allen Road**	**0.34**	**168**	P		**Pn**	**18 23 42.4**	**+0.5**
EDRZ	**Edgecumbe**	**0.40**	**72**	P		**Pn**	**18 23 42.1**	**0.0**
MARZ	**Manawahe**	**0.41**	**54**	P		**Pn**	**18 23 42.3**	**+0.1**
KUTZ	**Kaahu Road**	**0.43**	**233**	P		**Pn**	**18 23 42.9**	**+0.8**
OPRZ	**Ohinepanea**	**0.45**	**32**	P		**Pn**	**18 23 42.1**	**-0.2**
OPRZ	**Ohinepanea**	**0.45**	**32**	S		**S**	**18 24 01.5**	**-2.0**
KMRZ	**Kaimai**	**0.46**	**327**	P		**Pn**	**18 23 42.7**	**+0.3**
KMRZ	**Kaimai**	**0.46**	**327**	S		**S**	**18 24 02.3**	**-1.3**
MUGZ	**Murupara**	**0.47**	**121**	P		**Pn**	**18 23 42.4**	**+0.1**
WHTZ	**Whakaora**	**0.49**	**208**	P		**Pn**	**18 23 43.4**	**+1.0**
TGRZ	**Tauranga**	**0.50**	**0**	P		**Pn**	**18 23 42.4**	**0.0**
TGRZ	**Tauranga**	**0.50**	**0**	S		**S**	**18 24 02.1**	**-1.8**
TLZ	**Tolley Road**	**0.57**	**260**	P		**Pn**	**18 23 43.6**	**+0.9**
TLZ	**Tolley Road**	**0.57**	**260**	S		**S**	**18 24 04.2**	**-0.1**
MRHZ	**Matea Rd**	**0.62**	**168**	P		**Pn**	**18 23 42.5**	**-0.4**
MRHZ	**Matea Rd**	**0.62**	**168**	S		**S**	**18 24 03.0**	**-1.9**
WATZ	**Wairara**	**0.63**	**221**	P		**Pn**	**18 23 43.8**	**+0.9**
HATZ	**Hinemaiaia**	**0.67**	**191**	P		**Pn**	**18 23 43.9**	**+0.7**
URZ	**Urewera**	**0.67**	**93**	P		**Pn**	**18 23 42.9**	**-0.2**
	186nm,0.3s,baz=251,slow=6.2,SNR=797							
URZ				S		**S**	**18 24 02.0**	**-3.0**
	152nm,0.3s,baz=269,slow=4.8,SNR=13							
URZ	**Urewera**	**0.67**	**93**	P		**Pn**	**18 23 42.9**	**-0.2**
URZ	**Urewera**	**0.67**	**93**	S		**S**	**18 24 01.9**	**-3.0**
WHRZ	**Whale Island**	**0.68**	**57**	P		**Pn**	**18 23 43.5**	**+0.3**
RTZ	**Ruatahuna**	**0.69**	**124**	P		**Pn**	**18 23 43.8**	**+0.5**
RATZ	**Rangitukua**	**0.74**	**211**	P		**Pn**	**18 23 44.4**	**+0.9**
MTHZ	**Maungataniwha**	**0.77**	**144**	P		**Pn**	**18 23 44.5**	**+0.9**
TOZ	**Tahuroa Road**	**0.78**	**310**	P		**Pn**	**18 23 44.2**	**+0.5**
RITZ	**Rihia Road**	**0.81**	**203**	P		**Pn**	**18 23 45.2**	**+1.3**
KATZ	**Kakaramea**	**0.86**	**210**	P		**Pn**	**18 23 45.2**	**+0.9**
RAHZ	**Arahi**	**0.94**	**137**	P		**Pn**	**18 23 46.1**	**+1.5**
RAGZ	**Rawiri**	**0.95**	**107**	P		**Pn**	**18 23 45.5**	**+0.8**
BKZ	**Black Stump Fm**	**0.95**	**169**	P		**Pn**	**18 23 45.8**	**+1.1**
BKZ	**Black Stump Fm**	**0.95**	**169**	S		**S**	**18 24 06.7**	**-1.3**
NMHZ	**Naumai**	**0.97**	**154**	P		**Pn**	**18 23 46.8**	**+1.9**
KRVZ	**Karewarewa**	**0.99**	**209**	P		**Pn**	**18 23 46.0**	**+1.0**
MWZ	**Matawai**	**1.01**	**96**	P		**Pn**	**18 23 45.4**	**+0.3**
SNGZ	**Shannon Statio**	**1.01**	**123**	P		**Pn**	**18 23 46.4**	**+1.3**
WTVZ	**West Tongariro**	**1.03**	**210**	P		**Pn**	**18 23 46.3**	**+1.0**
TWVZ	**Taurewa**	**1.06**	**217**	P		**Pn**	**18 23 46.6**	**+1.1**
NGZ	**Ngauruhoe**	**1.07**	**208**	P		**Pn**	**18 23 46.6**	**+1.0**
COVZ	**Chateau Observ**	**1.12**	**210**	P		**Pn**	**18 23 46.8**	**+0.9**
HIZ	**Hauiti**	**1.14**	**255**	P		**Pn**	**18 23 47.1**	**+1.2**
TUVZ	**Tukino**	**1.14**	**204**	P		**Pn**	**18 23 47.4**	**+1.3**
WHHZ	**Waihua**	**1.14**	**138**	P		**Pn**	**18 23 47.6**	**+1.6**
RUGZ	**Raukumara Rang**	**1.15**	**77**	P		**Pn**	**18 23 45.5**	**-0.8**
FWVZ	**Far West T-bar**	**1.16**	**208**	P		**Pn**	**18 23 47.3**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.17**	**206**	P		**Pn**	**18 23 47.5**	**+1.0**
DRZ	**Dome Shelter**	**1.18**	**207**	P		**Pn**	**18 23 47.8**	**+1.2**
ARHZ	**Aropaoanui**	**1.18**	**151**	P		**Pn**	**18 23 48.1**	**+1.9**
KWHZ	**Kaweka Forest**	**1.20**	**174**	P		**Pn**	**18 23 48.0**	**+1.5**
MOVZ	**Moawhango**	**1.24**	**198**	P		**Pn**	**18 23 47.7**	**+0.9**
MCHZ	**McNeill Hill**	**1.26**	**164**	P		**Pn**	**18 23 48.9**	**+2.1**
BHHZ	**Black Hill Sta**	**1.27**	**187**	P		**Pn**	**18 23 48.2**	**+1.2**
TKGZ	**Te Karaka**	**1.27**	**100**	P		**Pn**	**18 23 47.9**	**+1.0**
PKVZ	**Pokaka**	**1.27**	**214**	P		**Pn**	**18 23 48.2**	**+1.2**
RIGZ	**Rimuhau**	**1.27**	**112**	P		**Pn**	**18 23 48.4**	**+1.3**
HAZ	**Te Kaha**	**1.30**	**69**	P		**Pn**	**18 23 46.6**	**-0.5**
MTVZ	**Mangateitei**	**1.31**	**208**	P		**Pn**	**18 23 48.5**	**+1.2**
TWGZ	**Tauwhareparae**	**1.36**	**88**	P		**Pn**	**18 23 48.7**	**+0.9**
KNZ	**Kokohu**	**1.36**	**126**	P		**Pn**	**18 23 49.1**	**+1.4**
KRHZ	**Kereru**	**1.41**	**176**	P		**Pn**	**18 23 49.6**	**+1.5**
MKAZ	**Moumakai**	**1.42**	**322**	P		**Pn**	**18 23 48.8**	**+0.6**
PRGZ	**Paritu Road**	**1.45**	**119**	P		**Pn**	**18 23 49.7**	**+1.2**
VRZ	**Vera Road**	**1.47**	**232**	P		**Pn**	**18 23 50.1**	**+1.5**
PKGZ	**Pakihiroa**	**1.48**	**77**	P		**Pn**	**18 23 49.0**	**+0.3**
KUZ	**Kuaotunu**	**1.54**	**344**	P		**Pn**	**18 23 49.3**	**+0.1**
CNGZ	**Carnagh Statio**	**1.56**	**100**	P		**Pn**	**18 23 51.0**	**+1.6**
CKHZ	**Cape Kidnapper**	**1.56**	**156**	P		**Pn**	**18 23 51.3**	**+1.9**
KBAZ	**Karaka Road Bo**	**1.57**	**316**	P		**Pn**	**18 23 50.4**	**+0.9**
PUZ	**Puketiti**	**1.59**	**85**	P		**Pn**	**18 23 49.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.59**	**126**	P		**Pn**	**18 23 51.4**	**+1.8**
KAHZ	**Kahuranaki**	**1.64**	**163**	P		**Pn**	**18 23 52.0**	**+1.9**
ETAZ	**East Tamaki Re**	**1.65**	**320**	P		**Pn**	**18 23 50.8**	**+0.5**
PNHZ	**Pukenui**	**1.68**	**181**	P		**Pn**	**18 23 51.9**	**+1.3**
WIAZ	**Waiheke Island**	**1.69**	**328**	P		**Pn**	**18 23 51.2**	**+0.5**
AWAZ	**Awhitu Peninsu**	**1.73**	**312**	P		**Pn**	**18 23 51.6**	**+0.6**
MHEZ	**Mangahewa**	**1.73**	**240**	P		**Pn**	**18 23 53.1**	**+2.1**
MXZ	**Matakaoa Point**	**1.75**	**68**	P		**Pn**	**18 23 51.7**	**+0.5**
WMGZ	**Waiomatatini S**	**1.75**	**77**	P		**Pn**	**18 23 51.7**	**+0.5**
EPAZ	**Eden Park BICE**	**1.81**	**318**	P		**Pn**	**18 23 52.5**	**+0.7**
WAZ	**Wanganui**	**1.82**	**213**	P		**Pn**	**18 23 53.2**	**+1.4**
HBAZ	**Herne Bay Bore**	**1.83**	**318**	P		**Pn**	**18 23 52.5**	**+0.5**
WPHZ	**Waipukurau**	**1.84**	**176**	P		**Pn**	**18 23 53.5**	**+1.5**
TSZ	**Takapari Road**	**1.84**	**187**	P		**Pn**	**18 23 53.4**	**+1.4**
PXZ	**Pawanui**	**1.86**	**165**	P		**Pn**	**18 23 53.7**	**+1.6**
WTAZ	**Waiatarua**	**1.86**	**314**	P		**Pn**	**18 23 53.1**	**+0.8**
DREZ	**Durham Road**	**1.87**	**239**	P		**Pn**	**18 23 54.1**	**+1.8**
LREZ	**Lake Rotokare**	**1.90**	**229**	P		**Pn**	**18 23 54.4**	**+1.9**
RVAZ	**Riverhead Bore**	**1.98**	**317**	P		**Pn**	**18 23 53.9**	**+0.5**
PREZ	**Palmer Road**	**1.98**	**235**	P		**Pn**	**18 23 55.4**	**+1.9**
ABAZ	**Army Bay**	**1.98**	**325**	P		**Pn**	**18 23 54.4**	**+0.9**
PKE	**Pukeiti**	**2.02**	**241**	P		**Pn**	**18 23 55.7**	**+1.9**
PRHZ	**Porangahau**	**2.06**	**172**	P		**Pn**	**18 23 55.6**	**+1.4**
DVHZ	**Dannevirke**	**2.07**	**182**	P		**Pn**	**18 23 55.4**	**+1.1**
GRZ	**Great Barrier**	**2.08**	**342**	P		**Pn**	**18 23 54.7**	**+0.3**
OHWZ	**Ohakea**	**2.10**	**200**	P		**Pn**	**18 23 56.5**	**+1.8**
POWZ	**Post Office Ro**	**2.19**	**190**	P		**Pn**	**18 23 56.7**	**+1.1**
NMEZ	**Namu Road**	**2.20**	**237**	P		**Pn**	**18 23 57.3**	**+1.7**
ANWZ	**Angora Road**	**2.23**	**176**	P		**Pn**	**18 23 57.5**	**+1.5**
PRWZ	**Pori Road**	**2.33**	**185**	P		**Pn**	**18 23 58.4**	**+1.3**
BFZ	**Birch Farm**	**2.45**	**180**	P		**Pn**	**18 23 59.3**	**+1.0**
MRZ	**Mangatainoka R**	**2.48**	**192**	P		**Pn**	**18 23 59.6**	**+0.9**
TIWZ	**Tintock**	**2.56**	**186**	P		**Pn**	**18 24 00.6**	**+1.0**
CPWZ	**Castlepoint**	**2.68**	**181**	P		**Pn**	**18 24 02.4**	**+1.6**
OGWZ	**Otaki Gorge**	**2.72**	**198**	P		**Pn**	**18 24 02.2**	**+0.9**
HOWZ	**Holdsworth Sta**	**2.72**	**192**	P		**Pn**	**18 24 02.0**	**+0.5**
WCZ	**Waipu Caves**	**2.75**	**326**	P		**Pn**	**18 24 02.6**	**+0.8**
KIW	**Kapiti Island**	**2.83**	**201**	P		**Pn**	**18 24 03.2**	**+0.5**
TMWZ	**Te Maipa**	**2.89**	**185**	P		**Pn**	**18 24 04.0**	**+0.6**
MTW	**Mount Morrison**	**2.98**	**191**	P		**Pn**	**18 24 04.7**	**+0.3**
CAW	**Cannon Point**	**3.02**	**197**	P		**Pn**	**18 24 05.3**	**+0.5**
DUWZ	**D'Urville Isla**	**3.14**	**214**	P		**Pn**	**18 24 06.4**	**+0.1**
TRWZ	**Traveller**	**3.19**	**188**	P		**Pn**	**18 24 07.4**	**+0.4**
PAWZ	**Paruwai Farm**	**3.21**	**191**	P		**Pn**	**18 24 07.3**	**+0.1**
MSWZ	**Moikau Station**	**3.27**	**193**	P		**Pn**	**18 24 07.9**	**+0.1**
TCW	**Tory Channel**	**3.34**	**207**	P		**Pn**	**18 24 08.9**	**+0.2**
BHW	**Baring Head**	**3.35**	**198**	P		**Pn**	**18 24 09.0**	**+0.3**
PLWZ	**Palliser**	**3.42**	**193**	P		**Pn**	**18 24 10.0**	**+0.3**
TUWZ	**Tuamarina**	**3.66**	**208**	P		**Pn**	**18 24 12.5**	**+0.1**
OUZ	**Omahuta**	**3.69**	**324**	P		**Pn**	**18 24 14.1**	**+1.1**
NNZ	**Nelson**	**3.72**	**216**	P		**Pn**	**18 24 12.9**	**-0.3**
CMWZ	**Cape Campbell**	**3.85**	**203**	P		**Pn**	**18 24 15.7**	**+0.9**
QRZ	**Quartz Range**	**3.88**	**227**	P		**Pn**	**18 24 14.3**	**-0.8**
BSWZ	**Blackbirch Sta**	**3.93**	**207**	P		**Pn**	**18 24 16.0**	**+0.1**
THZ	**Tophouse**	**4.37**	**215**	P		**Pn**	**18 24 20.9**	**-0.5**
KHZ	**Kahutara**	**4.67**	**206**	P		**Pn**	**18 24 25.2**	**+0.1**
DSZ	**Denniston Nort**	**4.90**	**223**	P		**Pn**	**18 24 27.0**	**-1.0**
LTZ	**Lake Taylor**	**5.47**	**212**	P		**Pn**	**18 24 33.6**	**-1.6**
INZ	**Inchbonnie**	**5.80**	**218**	P		**Pn**	**18 24 38.1**	**-1.3**
EYCZ	**Eyrewell**	**5.97**	**208**	P		**Pn**	**18 24 40.8**	**-0.8**
CRLZ	**Canterbury Las**	**6.01**	**206**	P		**Pn**	**18 24 41.8**	**-0.3**
OXZ	**Oxford**	**6.01**	**211**	P		**Pn**	**18 24 40.8**	**-1.4**
MQZ	**McQueen's Vall**	**6.11**	**205**	P		**Pn**	**18 24 42.1**	**-1.4**
WVZ	**Waitaha Valley**	**6.40**	**219**	P		**Pn**	**18 24 46.3**	**-1.0**
RPZ	**Rata Peaks**	**6.75**	**214**	P		**Pn**	**18 24 51.1**	**-0.6**
	3.8nm,0.3s,baz=216,slow=3.0,SNR=37							
RPZ				S		S	18 26 03.4	-5.1
	23nm,0.3s,baz=20,slow=19,SNR=23							
RPZ	**Rata Peaks**	**6.75**	**214**	P		**Pn**	**18 24 51.5**	**-0.2**
FOZ	**Fox Glacier**	**7.20**	**221**	P		**Pn**	**18 24 56.8**	**-0.7**
LBZ	**Lake Benmore**	**7.66**	**215**	P		**Pn**	**18 25 02.6**	**-1.0**
ODZ	**Otahua Downs**	**8.00**	**210**	P		**Pn**	**18 25 07.6**	**-0.3**
JCZ	**Jackson Bay**	**8.11**	**222**	P		**Pn**	**18 25 07.7**	**-1.8**
WKZ	**Wanaka**	**8.54**	**217**	P		**Pn**	**18 25 13.9**	**-1.1**
HHSZ	**Highcliff Hill**	**8.73**	**207**	P		**Pn**	**18 25 17.5**	**+0.1**
TUZ	**Tuapeka**	**9.15**	**210**	P		**Pn**	**18 25 23.6**	**+0.7**
MLZ	**Mavora Lakes**	**9.36**	**218**	P		**Pn**	**18 25 26.4**	**+0.7**
SYZ	**Scrubby Hill**	**9.82**	**210**	P		**Pn**	**18 25 32.5**	**+0.9**
DZM	**Mont Dzumac**	**18.18**	**330**	P		**Pn**	**18 27 16.4**	**+1.4**
	0.4nm,0.3s,baz=135,slow=14,SNR=4.6							
STKA	**Stephens Creek**	**28.96**	**272**	P		**P**	**18 28 55.7**	**+0.4**
	1.6nm,0.7s,baz=119,slow=13,SNR=2.2							
ASAR	**Alice Springs**	**38.77**	**279**	P		**P**	**18 30 22.8**	**+2.9**
	1.8nm,0.7s,baz=122,slow=8.0,SNR=19							
WRA	**Warramunga Arr**	**40.51**	**285**	P		**P**	**18 30 36.0**	**+1.8**
	1.4nm,0.9s,baz=123,slow=7.0,SNR=8.1							
QSPA	**South Pole Qui**	**51.90**	**180**	P		P	18 32 08.6	+6.3
	4.0nm,0.6s,baz=51,slow=4.7,SNR=26							
SNAA	**Sanae**	**70.40**	**180**	P		P	18 34 10.6	+4.3
	1.2nm,0.7s,baz=190,slow=11,SNR=4.9							
KSRS	**Korea Array**	**87.51**	**323**	P		P	18 35 43.4	+4.2
	1.5nm,0.6s,baz=144,slow=5.4,SNR=8.7							
KURBB	**Kurchatov Arra**	**122.85**	**311**	PKP		**PKPdf**	**18 41 46.9**	**+1.0**
	0.3nm,0.8s,baz=105,slow=3.1,SNR=3.1							
ARCES	**ARCESS Array B**	**144.94**	**343**	PKP		**PKPab**	**18 42 28.0**	**+1.5**
	4.3nm,0.9s,baz=98,slow=3.8,SNR=4.1							
MMAI	**Mount Meron Ar**	**147.92**	**273**	PKPbc		**PKPab**	**18 42 38.9**	**-0.4**
	6.4nm,0.9s,baz=102,slow=6.3,SNR=4.1							
FINES	**FINESS Array B**	**150.31**	**331**	PKPbc		**PKPab**	**18 42 42.4**	**-5.7**
	2.3nm,1.0s,baz=46,slow=5.5,SNR=5.7							
BRTR	**Keskin Array B**	**151.03**	**285**	PKPbc		**PKPab**	**18 42 45.2**	**-6.8**
	0.7nm,0.8s,baz=72,slow=4.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**154.56**	**192**	PKPab		**PKPab**	**18 43 10.4**	**+3.4**
	0.7nm,0.7s,baz=164,slow=4.4,SNR=4.0							

NIED ***16*** *18:27:00,40.80N×145.40E,h5km,Mw3.6 Best double couple: M₀2.77000×10¹⁴ NP1:φs156.00000°,δ20.00000°, λ-118.00000°. NP2:φs6.00000°,δ73.00000°,λ-80.00000°.*

IDC ***16*** *18:27:22.7±2.7,40.73N×145.32E,h0km,mb3.5/5, mb1 3.6/7,mb1mx3.4/69,mbtmp3.5/7,ML3.3/2,MS3.0/5, Ms1 3.1/5,ms1mx2.7/60,Error ellipse: s-maj=69.1km s-min=26.4km az=75.0*

JMA ***16*** *18:27:24.3±0.2,40.79N×145.39E,h67km±3km,M3.5*

ISCJB ***16*** *18:27:25.2±0.7,40.82N±0.03×145.24E±0.07,h33km, mb3.6/5,MS3.4/3,Error ellipse: s-maj=7.6km s-min=4.9km az=9.7*

ISC 16 18:27:26.7±1.1,40.76N±0.05×145.28E±0.08,h35km,n29, σ1§91/38,mb3.7/5,MS3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.03**	**309**	P		**Pn**	**18 27 57.7**	**-0.8**
JAK	**Akkeshi**	**2.28**	**349**	P		**Pn**	**18 28 00.4**	**-1.4**
JCH	**Churui**	**2.34**	**323**	P		**Pn**	**18 28 01.7**	**-1.1**
JCH				eS		**Sn**	**18 28 27.7**	**-2.6**
JOB	**Onbets**	**2.40**	**334**	P		**Pn**	**18 28 02.8**	**-0.7**
JOB				eS		**Sn**	**18 28 30.1**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.43**	**309**	P		**Pn**	**18 28 04.0**	**0.0**
JNBK				eS		**Sn**	**18 28 32.1**	**-0.4**
NEM2	**Nemuro 2**	**2.62**	**7**	P		**Pn**	**18 28 05.2**	**-1.4**
NEM2				eS		**Sn**	**18 28 35.0**	**-2.2**
JAR	**Ashorobuto**	**2.77**	**336**	P		**Pn**	**18 28 07.1**	**-1.6**
JAR				eS		**Sn**	**18 28 38.3**	**-2.6**
JNK	**Nakash**	**2.85**	**352**	P		**Pn**	**18 28 07.4**	**-2.4**
JNK				eS		**Sn**	**18 28 38.5**	**-4.4**
JANG	**Nango**	**2.90**	**264**	P		**Pn**	**18 28 08.5**	**-1.9**
JBT2	**Biratori 2**	**2.97**	**314**	eS		**Sn**	**18 28 45.1**	**-0.7**
JFR	**Furan**	**3.13**	**321**	P		**Pn**	**18 28 12.7**	**-0.8**
JFR				eS		**Sn**	**18 28 46.7**	**-3.0**
JRA	**Rausu**	**3.18**	**358**	P		**Pn**	**18 28 12.6**	**-1.6**
JRA				eS		**Sn**	**18 28 48.6**	**-2.2**
JOT	**Ohata**	**3.26**	**282**	P		**Pn**	**18 28 14.4**	**-1.0**
JOT				eS		**Sn**	**18 28 49.3**	**-3.6**
JOM	**Ohasama**	**3.32**	**248**	P		**Pn**	**18 28 15.2**	**-1.0**
JTKR	**Abashiri--Toko**	**3.37**	**343**	P		**Pn**	**18 28 16.3**	**-0.5**
JTKR				eS		**Sn**	**18 28 54.2**	**-1.3**
JKB	**Kayabe**	**3.39**	**291**	P		**Pn**	**18 28 16.7**	**-0.5**
JEW	**Eniwo**	**3.54**	**307**	P		**Pn**	**18 28 19.6**	**+0.4**
JEW				eS		**Sn**	**18 28 58.8**	**-1.0**
JMK	**Ichinoseki**	**3.61**	**241**	P		**Pn**	**18 28 19.0**	**-1.2**
JMK				eS		**Sn**	**18 28 56.8**	**-4.8**
ASAJ	**Asahikawa**	**3.90**	**330**	Pn		**Pn**	**18 28 23.6**	**-0.5**
	1.7nm,0.3s,baz=239,slow=11,SNR=18							
ASAJ				Sn		**Sn**	**18 29 07.6**	**-1.1**
	1.1nm,0.3s,baz=284,slow=19,SNR=3.3							
MJAR	**Matsushiro Arr**	**6.96**	**235**	Pn		**Pn**	**18 29 05.4**	**-0.8**
	0.3nm,0.3s,baz=50,slow=12,SNR=5.2							
MJAR				LR		LR	18 31 30.8	
	comp=Z,37nm,19.1s,baz=225,slow=36							
JHJ	**Hachijo jima 2**	**8.80**	**212**	LR		LR	18 33 21.9	
	comp=Z,24nm,19.7s,baz=322,slow=41							
SONM	**Songino Array**	**28.48**	**298**	P		**P**	**18 33 19.8**	**+1.2**
	1.4nm,0.9s,baz=80,slow=8.1,SNR=7.4							
MKAR	**Makanchi Array**	**44.80**	**300**	P		**P**	**18 35 38.7**	**+1.7**
	0.2nm,0.7s,baz=72,slow=9.9,SNR=3.3							
CMAR	**Chiang Mai Arr**	**45.38**	**255**	LR		LR	18 55 19.7	
	comp=Z,43nm,21.4s,baz=35,slow=37							
KURBB	**Kurchatov Arra**	**46.18**	**306**	P		**P**	**18 35 49.0**	**+1.2**
	0.7nm,0.7s,baz=77,slow=8.9,SNR=4.9							
BVAR	**Borovoye Array**	**50.37**	**311**	P		**P**	**18 36 21.6**

JHO	**Hitachi**	**5.67**	**100**	⇓P		**P**		**18 39 23.5**	**-2.6**
JRG	**Rokugo**	**5.70**	**72**	⇓P		**P**		**18 39 25.3**	**-1.0**
JMK	**Ichinoseki**	**6.07**	**77**	⇓P		**P**		**18 39 28.5**	**-1.6**
JOM	**Ohasama**	**6.22**	**72**	P		**P**		**18 39 30.2**	**-1.4**
JKZ	**Kuzumaki**	**6.38**	**68**	P		**P**		**18 39 31.9**	**-1.5**
USRK	**Ussuriysk Ar.**	**6.48**	**349**	P		**P**		**18 39 35.6**	**+1.3**
	90nm,0.3s,baz=176,slow=10,SNR=1519								
JANG	**Nango**	**6.64**	**65**	P		**P**		**18 39 34.3**	**-1.9**
JOT	**Ohata**	**6.74**	**56**	P		**P**		**18 39 35.9**	**-1.3**
JTH	**Tanohata**	**6.76**	**69**	P		**P**		**18 39 35.2**	**-2.3**
JHJ	**Hachijo jima 2**	**6.88**	**131**	P		**P**		**18 39 38.1**	**-0.8**
	42nm,0.3s,baz=42,slow=22,SNR=7.8								
JHJ				S		**S**		**18 41 00.8**	**-2.3**
	57nm,0.3s,baz=49,slow=19,SNR=5.4								
JHJ2	**Mitsune**	**6.90**	**131**	*e*P		**P**		**18 39 39.4**	**+0.2**
JHJ2				*e*S		**S**		**18 41 02.9**	**-0.8**
MDJ	**Mudanjiang**	**7.43**	**337**	P		**P**		**18 39 44.4**	**-0.2**
MDJ				sP				18 40 58.1	
MDJ				S		**S**		**18 41 13.1**	**-0.7**
MDJ				ScP		**ScP**		**18 48 24.3**	**-1.7**
MDJ				pmax	pmax				
	comp=Z,63nm,1.3s								
MDJ	**Mudanjiang**	**7.43**	**337**	*e*P		**P**		**18 39 45.3**	**+0.7**
MDJ				*e*S		**S**		**18 41 17.9**	**+4.0**
TEY	**Ternei**	**7.54**	**16**	*e*P		**P**		**18 39 46.0**	**+0.3**
TEY				*e*S		**S**		**18 41 16.0**	**+0.1**
TEY				pmax	pmax				
	comp=N,79nm,0.8s								
TEY				pmax	pmax				
	comp=Z,79nm,0.8s								
TEY				smax	smax				
	comp=E,2μm,3.0s								
TEY				smax	smax				
	comp=N,2μm,2.6s								
ERM	**Erimo**	**8.43**	**57**	*ce*P		**P**		**18 39 53.1**	**-2.3**
ERM				pmax	pmax				
	comp=Z,835nm,0.7s								
ERM	**Erimo**	**8.43**	**57**	*e*P		**P**		**18 39 52.9**	**-2.5**
ERM				*e*S		**S**		**18 41 27.5**	**-6.4**
CN2	**Changchun**	**8.60**	**316**	⇑P		**P**		**18 39 57.9**	**+0.6**
CN2				pmax	pmax				
	comp=Z,20nm,1.0s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
SNY	**Shenyang**	**8.70**	**300**	⇑P		**P**		**18 40 00.1**	**+1.7**
SNY				S		**S**		**18 41 35.8**	**-3.6**
SNY				ScS		**ScS**		**18 52 00.3**	**-1.1**
SNY				pmax	pmax				
	comp=Z,240nm,1.0s								
SNY				pmax	pmax				
	comp=Z,390nm,3.6s								
ASAJ	**Asahikawa**	**9.24**	**44**	P		**P**		**18 40 02.6**	**-1.6**
	comp=Z,140nm,0.3s,baz=234,slow=10,SNR=430								
ASAJ				S		**S**		**18 41 43.9**	**-6.4**
	comp=Z,38nm,0.3s,baz=328,slow=33,SNR=14								
ASAJ	**Asahikawa**	**9.24**	**44**	*e*P		**P**		**18 40 02.1**	**-2.1**
ASAJ				*e*S		**S**		**18 41 43.1**	**-7.2**
DL2	**Dalian**	**9.49**	**280**	⇓*i*P		**P**		**18 40 06.1**	**-1.0**
DL2				sP				18 41 27.6	
DL2				S		**S**		**18 41 55.0**	**-0.4**
DL2				pmax	pmax				
	comp=Z,340nm,0.9s								
DL2				pmax	pmax				
	comp=Z,470nm,3.6s								
GLVR	**Golovnino**	**10.77**	**53**	*e*P		**P**		**18 40 21.8**	**+0.8**
GLVR				*e*S		**S**		**18 42 17.6**	**-3.4**
GRPR	**Tuman**	**11.05**	**52**	*e*P		**P**		**18 40 24.4**	**+0.3**
GRPR				*e*S		**S**		**18 42 22.3**	**-4.4**
LAGR	**Lagunnoye**	**11.09**	**52**	*e*P		**P**		**18 40 26.7**	**+2.2**
LAGR				*e*S		**S**		**18 42 26.5**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**11.13**	**52**	*ci*P		**P**		**18 40 25.5**	**+0.6**
YUK				*e*S		**S**		**18 42 23.8**	**-4.4**
YUK				pmax	pmax				
	comp=Z,743nm,0.5s								
YUK				pmax	pmax				
	comp=N,175nm,0.4s								
YUK				pmax	pmax				
	comp=E,227nm,0.5s								
YSS	**Yuzh-Sakhalins**	**11.33**	**34**	⇓*e*P		**P**		**18 40 26.3**	**-0.8**
YSS				*e*S		**S**		**18 42 27.3**	**-4.9**
YSS				pmax	pmax				
	comp=Z,70nm,0.9s								
YSS				smax	smax				
	comp=N,1μm,3.0s								
YSS				smax	smax				
	comp=E,1μm,3.0s								
YSS	**Yuzh-Sakhalins**	**11.33**	**34**	*e*P		**P**		**18 40 25.9**	**-1.2**
KLR	**Kul'dur**	**11.48**	**354**	P		**P**		**18 40 29.0**	**+0.4**
	comp=E,0.5nm,0.3s,baz=183,slow=6.6,SNR=124								
KLR				S		**S**		**18 42 34.6**	**-0.4**
	baz=260,slow=19,SNR=5.5								
KLR	**Kul'dur**	**11.48**	**354**	*ci*P		**P**		**18 40 28.1**	**-0.5**
SHO	**Shikotan**	**11.67**	**55**	*e*P		**P**		**18 40 32.1**	**+1.3**
SHO				*e*S		**S**		**18 42 32.9**	**-6.1**
SHO				pmax	pmax				
	comp=Z,277nm,0.5s								
SHO				pmax	pmax				
	comp=E,182nm,0.4s								
SHO				pmax	pmax				
	comp=N,77nm,0.5s								
CBIJ	**Chichi jima**	**12.90**	**144**	*e*P		P		18 40 38.5	-6.1
CBIJ				*e*S		S		18 42 51.8	-12
JCJ	**Chichijima**	**12.90**	**144**	P		P		18 40 38.5	-6.0
	comp=N,37nm,0.3s,baz=66,slow=18,SNR=19								
JCJ				S		S		18 42 51.4	-13
	comp=N,35nm,0.3s,baz=118,slow=21,SNR=6.7								
KUR	**Kuril'sk**	**12.97**	**51**	*di*P		**P**		**18 40 45.4**	**+0.5**
KUR				*i* S		**S**		**18 43 04.4**	**-0.4**
KUR				pmax	pmax				
	comp=Z,374nm,0.6s								
KUR				pmax	pmax				
	comp=E,75nm,0.5s								
KUR				pmax	pmax				
	comp=N,98nm,0.4s								
KUR				pmax	pmax				
	comp=Z,619nm,0.7s								
KUR				smax	smax				
	comp=N,3μm,3.0s								
KUR				smax	smax				
	comp=E,2μm,1.8s								
GRNR	**Gornyy**	**13.09**	**8**	*e*P		**P**		**18 40 44.0**	**-2.2**
GRNR				pmax	pmax				
	comp=Z,26nm,1.0s								
TIA	**Tai'an**	**13.29**	**268**	P		**P**		**18 40 48.8**	**+0.2**
TIA				S		**S**		**18 43 10.5**	**-1.0**
TIA				pmax	pmax				
	comp=Z,200nm,0.8s								
NJ2	**Nanjing**	**13.42**	**249**	*e*P		**P**		**18 40 50.4**	**+0.4**
BJI	**Beijing**	**13.77**	**285**	⇓*e*P		**P**		**18 40 53.8**	**+0.1**
BJI				S		**S**		**18 43 20.3**	**-0.5**
BJI				pmax	pmax				
	comp=Z,310nm,1.3s								
BJT	**Baijiatuau**	**13.77**	**285**	*e*P		**P**		**18 40 53.2**	**-0.5**
BJT	**Baijiatuau**	**13.77**	**285**	*e*P		**P**		**18 40 53.2**	**-0.5**
TYV	**Tymovskoe**	**14.53**	**23**	*e*P		**P**		**18 41 03.3**	**+1.6**
TYV				*e*S		**S**		**18 43 33.0**	**-2.4**
TYV				pmax	pmax				
	comp=Z,32nm,0.5s								
TYV				smax	smax				
	comp=N,13nm,1.3s								
HIA	**Hailar**	**15.20**	**323**	*di*P		**P**		**18 41 08.7**	**-0.3**
HIA	**Hailar**	**15.20**	**323**	*e*P		**P**		**18 41 08.2**	**-0.8**
	comp=N,117nm,0.7s								
HIA				*e*S		**S**		**18 43 46.2**	**-2.6**
NKL	**Nikolayevsk**	**16.09**	**15**	*i* P		**P**		**18 41 19.2**	**+1.0**
NKL				*e*				18 44 00.5	
NKL				pmax	pmax				
	comp=N,40nm,0.8s								
NKL				pmax	pmax				
	comp=E,16nm,0.8s								
NKL				pmax	pmax				
	comp=Z,150nm,0.8s								
YOJ	**Yonaguni jima**	**16.11**	**217**	*e*P		**P**		**18 41 15.2**	**-3.8**
YOJ				pmax	pmax				
	comp=Z,272nm,1.3s								
YOJ	**Yonaguni jima**	**16.11**	**217**	*e*P		**P**		**18 41 15.2**	**-3.8**
	comp=Z,272nm,1.3s								
TATO	**Taipei**	**16.46**	**222**	*e*P		**P**		**18 41 22.0**	**-0.6**
	comp=Z,203nm,0.8s								
TATO	**Taipei**	**16.46**	**222**	P		**P**		**18 41 22.6**	**0.0**
	SNR=5.1								
TATO	**Taipei**	**16.46**	**222**	P		**P**		**18 41 22.6**	**0.0**
	SNR=5.1								
ZEA	**Zeya**	**16.51**	**347**	*e*P		**P**		**18 41 21.0**	**-1.7**
ZEA				*e*S		**S**		**18 44 08.0**	**-6.0**
ZEA				pmax	pmax				
	comp=N,58nm,1.2s								
ZEA				pmax	pmax				
	comp=Z,78nm,1.2s								
ZEA				smax	smax				
	comp=N,500nm,4.0s								
TIY	**Taiyuan**	**16.76**	**276**	*e*P		**P**		**18 41 24.9**	**-0.9**
TIY				S		**S**		**18 44 16.0**	**-3.5**
TIY				pmax	pmax				
	comp=N,230nm,1.1s								
YHNB	**Yeheng**	**16.77**	**222**	*e*P		**P**		**18 41 24.6**	**-1.3**
	comp=N,96nm,0.8s								
YHNB				*e*S		**S**		**18 44 21.0**	**+1.1**
NACB	**Ninganchiao**	**17.06**	**220**	*e*P		**P**		**18 41 24.6**	**-4.4**
	comp=N,50nm,1.1s								
HHC	**Hu-ho-hao-te**	**17.33**	**287**	*e*P		**P**		**18 41 30.3**	**-1.5**
HHC				S		**S**		**18 44 22.1**	**-8.1**
HHC				pmax	pmax				
	comp=N,140nm,1.0s								
HHC				pmax	pmax				
	comp=N,580nm,3.7s								
WHN	**Wuhan**	**17.51**	**251**	⇑*i*P		**P**		**18 41 31.8**	**-1.9**
WHN				S		**S**		**18 44 34.0**	**+0.4**
WHN				pmax	pmax				
	comp=N,110nm,1.0s								
SSLB	**Suanglung**	**17.71**	**221**	*e*P		**P**		**18 41 31.9**	**-4.0**
	comp=N,21nm,1.0s								
YULB	**Yu-li**	**17.86**	**220**	*e*P		**P**		**18 41 32.8**	**-4.7**
	comp=N,123nm,1.9s								
TPUB	**Ta-pu**	**18.27**	**221**	*e*P		**P**		**18 41 37.6**	**-4.0**
	comp=N,60nm,1.1s								
TWG	**Pinlang**	**18.45**	**219**	*e*P		**P**		**18 41 40.9**	**-2.4**
	comp=N,210nm,0.9s								
BTO	**Baotou**	**18.49**	**286**	*e*P		**P**		**18 41 41.4**	**-2.3**
CLNS	**Chul'man**	**19.89**	**346**	*e*P		**P**		**18 41 54.2**	**-2.2**
CLNS				pmax	pmax				
	comp=Z,18nm,0.8s								
CLNS				pmax	pmax				
	comp=E,4.0nm,0.7s								
CLNS				pmax	pmax				
	comp=N,18nm,0.9s								
CIT	**Chita**	**19.99**	**322**	*e*P		**P**		**18 41 56.6**	**-0.8**
CIT				*e*				18 45 12.6	
CIT				pmax	pmax				
	comp=Z,207nm,1.3s								
XAN	**Xi'an**	**20.34**	**267**	P		**P**		**18 41 59.5**	**-1.4**
XAN				S		**S**		**18 45 26.3**	**+5.6**
XAN				pmax	pmax				
	comp=Z,150nm,0.7s								
XAN				pmax	pmax				
	comp=Z,830nm,2.7s								
SKR	**Severo-Kuril's**	**20.50**	**44**	*e*P		**P**		**18 42 02.2**	**+0.2**
SKR				pmax	pmax				
	comp=Z,97nm,0.7s								
SKR				pmax	pmax				
	comp=Z,200nm,3.1s								
SKR				MLR	MLR				
	comp=Z,300nm,17.0s								
SKR				MLR	MLR				
	comp=Z,200nm,13.0s								
ENH	**Enshi**	**21.34**	**256**	*e*P		**P**		**18 42 08.5**	**-1.5**
	comp=Z,481nm,0.8s								
ULN	**Ulaanbaatar**	**21.82**	**306**	*ce*P		**P**		**18 42 14.2**	**0.0**
ULN				pmax	pmax				
	comp=Z,138nm,0.8s								
ULN	**Ulaanbaatar**	**21.82**	**306**	*e*P		**P**		**18 42 14.2**	**0.0**
	comp=Z,114nm,0.8s								
ULN	**Ulaanbaatar**	**21.82**	**306**	P		**P**		**18 42 14.6**	**+0.4**
	SNR=64								
ULN	**Ulaanbaatar**	**21.82**	**306**	P		**P**		**18 42 14.6**	**+0.4**
	SNR=64								
SONA1	**Songino Array**	**22.23**	**305**	*e*P		**P**		**18 42 17.5**	**-0.4**
SONA0	**Songino Array**	**22.23**	**305**	*e*P		**P**		**18 42 17.9**	**0.0**
SONA0				*e*ScP		**ScP**		**18 48 52.9**	**+0.1**
SONM	**Songino Array**	**22.23**	**305**	P		**P**		**18 42 17.9**	**0.0**
	comp=Z,47nm,0.6s,baz=111,slow=9.5,SNR=262								
SONM				ScP		**ScP**		**18 48 52.9**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=119,slow=2.6,SNR=7.9								
PEA0B	**Petropavlovsk-**	**22.61**	**40**	*e*P		**P**		**18 42 19.7**	**-1.4**
	comp=Z,17nm,0.9s								
PETK	**Petropavlovsk-**	**22.61**	**40**	P		**P**		**18 42 20.8**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=220,slow=4.5,SNR=14								
PETK				ScP		**ScP**		**18 48 53.5**	**0.0**
	comp=Z,6.5nm,0.9s,baz=123,slow=2.0,SNR=5.2								
PETK	**Petropavlovsk-**	**22.61**	**40**	*e*P		**P**		**18 42 20.2**	**-0.9**
PETK				ScP		**ScP**		**18 48 53.5**	**0.0**
PEA1	**Petropavlovsk-**	**22.61**	**40**	*e*P		**P**		**18 42 20.8**	**-0.4**
PEA1				*e*ScP		**ScP**		**18 48 53.5**	**0.0**
PET	**Petropavlovsk**	**23.05**	**41**	*e*P		**P**		**18 42 25.8**	**+0.7**
PET				*e**SP		**sP**		**18 44 25.7**	**-2.9**
PET				*e*S		**S**		**18 46 02.1**	**-1.1**
PET				*e*				18 52 41.3	
PET				pmax	pmax				
	comp=Z,37nm,0.7s								
PET				MLR	MLR				
	comp=Z,100nm,16.0s								
PET	**Petropavlovsk**	**23.05**	**41**	*e*P		**P**		**18 42 25.0**	**0.0**
	comp=Z,24nm,0.8s								
BOD	**Bodaibo**	**23.78**	**334**	*e*P		**P**		**18 42 29.5**	**-2.1**
BOD				pmax	pmax				
	comp=Z,23nm,1.1s								
LZH	**Lanzhou**	**23.82**	**275**	*i* P		**P**		**18 42 31.9**	**-0.6**
LZH				sP		sP		18 44 32.3	-4.8
LZH				*e*S		**S**		**18 46 09.4**	**-6.8**
LZH				ScP		**ScP**		**18 48 58.3**	**+0.9**
LZH				pmax	pmax				
	comp=Z,300nm,1.0s								
LZH				pmax	pmax				
	comp=Z,1μm,5.0s								
YAK	**Yakutsk**	**24.35**	**355**	P		**P**		**18 42 36.2**	**-0.4**
	comp=Z,17nm,0.5s,baz=8.5,slow=0.4,SNR=18								
YAK				ScP		**ScP**		**18 48 58.0**	**-0.1**
	comp=Z,20nm,0.7s,baz=281,slow=0.3,SNR=9.1								
YAK	**Yakutsk**	**24.35**	**355**	*e*P		**P**		**18 42 35.3**	**-1.3**
YAK				*e*				18 45 56.4	
YAK				*e*S		**S**		**18 46 20.9**	**-2.5**
YAK				*e*				18 52 41.2	
YAK				pmax	pmax				
	comp=N,13nm,1.1s								
YAK				pmax	pmax				
	comp=Z,37nm,1.0s								
YAK				smax	smax				
	comp=E,49nm,1.0s								
YAK				smax	smax				
	comp=N,26nm,0.9s								
YAK	**Yakutsk**	**24.35**	**355**	*e*P		**P**		**18 42 35.9**	**-0.7**
	comp=N,30nm,0.7s								
YAK				*e*ScP		**ScP**		**18 48 57.7**	**-0.3**
MA2	**Magadan**	**24.38**	**21**	P		**P**		**18 42 37.1**	**+0.2**
	comp=N,7.5nm,0.8s,baz=220,slow=9.1,SNR=31								
MA2				ScP		**ScP**		**18 48 58.7**	**+0.5**
	comp=N,4.0nm,0.7s,baz=177,slow=3.6,SNR=6.6								
MA2	**Magadan**	**24.38**	**21**	*de*P		**P**		**18 42 37.6**	**+0.7**
ZAK	**Zakamensk**	**24.95**	**310**	*e*P		**P**		**18 42 42.0**	**-0.3**
ZAK				pmax	pmax				
	comp=Z,22nm,1.3s								
IRK	**Irkutsk**	**25.04**	**315**	*e*P		**P**		**18 42 41.3**	**-1.6**
IRK				pmax	pmax				
	comp=Z,40nm,1.8s								
TLY	**Talaya**	**25.18**	**313**	*di*P		**P**		**18 42 44.3**	**+0.1**
TLY				pmax	pmax				
	comp=Z,45nm,1.0s								
TLY	**Talaya**	**25.18**	**313**	*e*P		**P**		**18 42 44.1**	**-0.1**
	comp=Z,33nm,0.8s								
TLY	**Talaya**	**25.18**	**313**	P		**P**		**18 42 44.6**	**+0.4**
	SNR=14								
TLY	**Talaya**	**25.18**	**313**	P		**P**		**18 42 44.6**	**+0.4**
	SNR=14								
GYA	**Guiyang**	**25.40**	**251**	⇓*i*P		**P**		**18 42 45.3**	**-1.3**
GYA				sP		sP		18 44 51.3	-2.4
GYA				PcP		**PcP**		**18 46 07.0**	**+2.1**
GYA				S		**S**		**18 46 37.6**	**-3.6**
GYA				ScP		**ScP**		**18 49 04.3**	**+2.3**
GYA				PcS		**PcS**		**18 49 46.6**	**+0.5**
GYA				ScS		**ScS**		**18 52 52.8**	**+0.9**
GYA				pmax	pmax				
	comp=Z,200nm,0.9s								
GYA				pmax	pmax				
	comp=Z,240nm,4.8s								
CD2	**Chengdu**	**25.53**	**263**	⇓P		**P**		**18 42 46.1**	**-1.5**
CD2				sP		sP		18 44 54.3	-0.6
CD2				PcP		**PcP**		**18 46 03.5**	**-1.5**
CD2				S		**S**		**18 46 41.5**	**-1.5**
CD2				pmax	pmax				
	comp=Z,170nm,0.6s								
CD2				pmax	pmax				
	comp=Z,220nm,4.6s								
GUMO	**Guam**	**26.13**	**155**	*e*P		**P**		**18 42 51.5**	**-1.5**
GUMO				pmax	pmax				
	comp=Z,316nm,0.9s								
GUMO	**Guam**	**26.13**	**155**	*e*P		**P**		**18 42 51.5**	**-1.5**
	comp=Z,316nm,0.9s								
GTA	**Gaotai**	**26.38**	**284**	⇓P		**P**		**18 42 54.6**	**-0.5**
GTA				pP		PP		18 44 05.3	-0.7
GTA				sP		**sP**		18 44 55.8	-7.2
GTA				PcP		**PcP**		**18 46 09.4**	**+2.4**
GTA				S		**S**		**18 46 55.8**	**-0.5**
GTA				ScP		**ScP**		**18 49 04.6**	**0.0**
GTA				PcS		**PcS**		**18 49 48.5**	**-0.2**
GTA				ScS		**ScS**		**18 52 54.0**	**-1.8**
GTA				pmax	pmax				
	comp=Z,120nm,1.1s								
GTA				pmax	pmax				
	comp=Z,260nm,6.7s								
MOY	**Mondy**	**26.73**	**312**	*e*P		**P**		**18 42 57.5**	**-0.5**
MOY				pmax	pmax				
	comp=Z,20nm,1.6s								
SEY	**Seymchan**	**27.61**	**18**	P		**P**		**18 43 06.3**	**+0.9**
	comp=Z,7.1nm,0.7s,baz=224,slow=9.2,SNR=38								
SEY				ScP		**ScP**		**18 49 08.7**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=182,slow=4.1,SNR=6.5								
SEY	**Seymchan**	**27.61**	**18**	*ce*P		**P**		**18 43 05.4**	**-0.1**
QIZ	**Qiongzhong**	**27.95**	**235**	P		**P**		**18 43 09.3**	**+0.3**
QIZ				S		**S**		**18 47 24.8**	**+3.9**
QIZ				pmax	pmax				
	comp=Z,21nm,1.3s								
QIZ				pmax	pmax				
	comp=Z,130nm,5.5s								
QIZ	**Qiongzhong**	**27.95**	**235**	*e*P		**P**		**18 43 09.7**	**+0.8**
	comp=Z,30nm,1.1s								
KMI	**Kunming**	**29.09**	**253**	P		**P**		**18 43 18.3**	**-0.9**
KMI				pP		PP		18 44 36.1	-0.1
KMI				PP		**pP**		**18 44 40.4**	**+3.8**
KMI				pmax	pmax				
	comp=Z,57nm,1.5s								
KMI				pmax	pmax				
	comp=Z,270nm,3.1s								
HVS	**Khovu-Aksy**	**31.03**	**308**	*ci*P		**P**		**18 43 35.7**	**+0.1**
HVS				pmax	pmax				
	comp=Z,7.0nm,0.4s								
SMY	**Shemya**	**31.66**	**49**	*e*P		**P**		**18 43 41.3**	**+0.5**
SMY				pmax	pmax				
	comp=Z,183nm,1.3s								
SMY	**Shemya**	**31.66**	**49**	*e*P		**P**		**18 43 41.3**	**+0.5**
	comp=Z,183nm,1.3s								
SKNT	**Sakolnakorn**	**33.30**	**240**	P		**P**		**18 43 54.2**	**-1.2**
	comp=Z,76nm,0.9s								
UBPT	**Khong Chiam**	**33.52**	**236**	P		**P**		**18 43 56.4**	**-0.8**
	comp=Z,40nm,1.2s								
TIXI	**Tiksi**	**33.98**	**357**	P		**P**		**18 44 00.0**	**-0.4**
	comp=Z,29nm,0.6s,baz=147,slow=7.1,SNR=106								
TIXI				S		**S**		**18 48 52.7**	**0.0**
	comp=Z,2.2nm,0.6s,baz=72,slow=23,SNR=17								
TIXI	**Tiksi**	**33.98**	**357**	*ce*P		**P**		**18 44 00.0**	**-0.4**
TIXI				pmax	pmax				
	comp=Z,20nm,0.6s								
TIXI	**Tiksi**	**33.98**	**357**	*e*P		**P**		**18 43 59.7**	**-0.7**
	comp=Z,24nm,0.6s								
TIXI				*e*S		**S**		**18 48 52.7**	**0.0**
WAKE	**Wake Island**	**34.15**	**113**	*e*P		**P**		**18 44 02.7**	**+0.2**
	comp=Z,265nm,1.3s								
KHON	**Khomkaen**	**34.54**	**240**	P		**P**		**18 44 05.7**	**-0.2**
	comp=Z,79nm,0.8s,comp=Z,930nm								
SGSI	**Sangihe**	**34.78**	**194**	P		**P**		**18 44 09.3**	**+1.4**
CMAI	**Chiengmai2**	**34.88**	**249**	P		**P**		**18 44 09.5**	**+0.6**
	comp=Z,2μm,0.8s								
WMQ	**Urumqi**	**34.91**	**295**	P		**P**		**18 44 09.0**	**+0.2**
WMQ				pP		pP		18 45 27.4	-0.9
WMQ				PP		**PP**		**18 45 45.8**	**+5.7**
WMQ				S		**S**		**18 49 05.9**	**-1.9**
WMQ				SS		**SS**		**18 52 00.6**	**-2.7**
WMQ				pmax	pmax				
	comp=Z,120nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,910nm,3.6s								
BILL	**Bilibino**	**35.24**	**21**	*ci*P		**P**		**18 44 11.9**	**+0.8**
BILL				*i* *PP		**pP**		**18 45 31.8**	**+1.1**
BILL				*i*				18 45 43.3	
BILL				*i*				18 46 31.2	
BILL				pmax	pmax				
	comp=Z,28nm,1.0s								
LAMP	**Lampang**	**35.34**	**247**	P		**P**		**18 44 12.9**	**+0.3**
	comp=Z,64nm,0.8s,comp=Z,447nm								
KKM	**Kota Kinabalu**	**35.39**	**211**	*e*P		**P**		**18 44 13.2**	**+0.1**
	comp=Z,31nm,1.2s								
CHAI	**Chaiyaphum**	**35.42**	**241**	P		**P**		**18 44 12.7**	**-0.6**
	comp=Z,34nm,0.9s								
PHIT	**Phitsanulok**	**35.65**	**244**	P		**P**		**18 44 15.1**	**0.0**
	comp=Z,34nm,0.9s,comp=Z,318nm								
CMMT	**Chiang Mai**	**35.65**	**248**	P		**P**		**18 44 14.0**	**-1.2**
	comp=Z,168nm,0.9s,comp=Z,2μm								
CHTO	**Chiang Mai**	**35.66**	**248**	P		**P**		**18 44 15.0**	**-0.3**
	comp=Z,753nm,0.9s,comp=Z,7μm								
CHTO	**Chiang Mai**	**35.66**	**248**	*e*P		**P**		**18 44 14.9**	**-0.3**
CHTO				pmax	pmax				
	comp=Z,131nm,0.8s								
CHTO	**Chiang Mai**	**35.66**	**248**	*e*P		**P**		**18 44 14.9**	**-0.3**
	comp=Z,131nm,0.8s								
CHTO	**Chiang Mai**	**35.66**	**248**	P		**P**		**18 44 15.8**	**+0.5**
	SNR=55								
CHTO	**Chiang Mai**	**35.66**	**248**	P		**P**		**18 44 15.8**	**+0.5**
	SNR=55								
CM31	**Chiang Mai Arr**	**35.88**	**247**	*e*P		**P**		**18 44 16.9**	**-0.3**
CM31				*e*ScP		**ScP**		**18 49 37.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**35.88**	**247**	P		**P**		**18 44 17.4**	**+0.3**
	comp=Z,46nm,0.8s,baz=46,slow=7.2,SNR=228								
CMAR				S		**S**		**18 49 24.6**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=36,slow=16,SNR=4.2

comp=E,31nm,0.6s,baz=90,slow=10,SNR=396
MKAR ScP **ScP** 18 49 45.2 -0.6
comp=E,15nm,0.6s,baz=78,slow=5.6,SNR=27
MKAR Makanchi Array 38.41 300 *e*P **P** 18 44 37.4 -0.3
MKAR pmax pmax
comp=Z,243nm,0.6s
MKAR Makanchi Array 38.41 300 *e*P **P** 18 44 37.4 -0.3
comp=Z,243nm,0.6s
MKAR ScP **ScP** 18 49 45.2 -0.6
SRDT SRDT 38.48 242 P **P** 18 44 37.7 -0.9
comp=Z,50nm,1.2s
SWI Sorong 38.56 184 P **P** 18 44 39.0 -0.3
MAKZ Makanchi 38.62 300 *e*P **P** 18 44 39.1 -0.3
MAKZ pmax pmax
comp=Z,43nm,0.8s
MAKZ Makanchi 38.62 300 *e*P **P** 18 44 39.1 -0.3
comp=Z,43nm,0.8s
LBMI Labuha 38.69 190 P **P** 18 44 39.8 -0.5
comp=Z,54nm,0.8s
PHET Kaeng Krachan 39.13 240 P **P** 18 44 44.5 +0.5
comp=Z,47nm,0.8s,comp=Z,361nm
LUWI Luwuk 39.96 197 *e*P **P** 18 44 49.0 -1.6
comp=Z,33nm,0.9s
SANI Sanana 40.31 192 P **P** 18 44 51.3 -2.1
comp=Z,94nm,1.0s,comp=Z,664nm
SBUM Sibu 40.32 214 *e*P **P** 18 44 53.6 0.0
comp=Z,7.3nm,0.8s
KURK Kurchatov 40.53 307 *ce*P **P** 18 44 53.9 -0.9
KURK pmax pmax
comp=Z,100nm,0.7s
KURK Kurchatov 40.53 307 *e*P **P** 18 44 54.2 -0.6
comp=Z,96nm,0.6s
KURK *e*PP **PcP** 18 46 47.1 +0.1
KURK *e*ScP **ScP** 18 49 53.4 -0.6
KURK *e*S **S** 18 50 32.1 +1.3
KURK Kurchatov 40.53 307 P **P** 18 44 54.4 -0.3
SNR=47
KURK Kurchatov 40.53 307 P **P** 18 44 54.4 -0.3
SNR=47
FAKI Fak Fak 40.56 182 P **P** 18 44 55.8 +0.3
FAKI Fak Fak 40.56 182 *e*P **P** 18 44 55.2 -0.3
comp=Z,256nm,0.7s
KURBB Kurchatov Arra 40.59 307 P **P** 18 44 54.5 -0.8
comp=Z,44nm,0.8s,baz=86,slow=7.7,SNR=309
KURBB PcP **PcP** 18 46 47.1 -0.1
comp=Z,6.6nm,0.8s,baz=84,slow=3.7,SNR=5.4
KURBB ScP **ScP** 18 49 53.4 -0.8
comp=Z,3.0nm,0.6s,baz=93,slow=4.4,SNR=6.9
KURBB S **S** 18 50 32.1 +0.4
comp=Z,0.6nm,0.4s,baz=86,slow=13,SNR=5.7
GENI Genyem 40.67 170 P **P** 18 44 57.1 +0.7
JAY Jayapura 40.67 169 P **P** 18 44 57.0 +0.6
JIRN Jiri 40.79 270 *e*P **P** 18 44 57.8 +0.1
comp=Z,178nm,0.4s
JIRN Jiri 40.79 270 *e*P **ScP** 18 49 55.0 -1.0
comp=Z,48nm,0.8s
GUN Gumba 40.93 270 *e*P **P** 18 44 58.6 -0.2
comp=Z,339nm,0.5s
GUN Gumba 40.93 270 *e*P **ScP** 18 49 55.9 -0.6
comp=Z,52nm,0.8s
SMKI Samarinda 40.99 206 P **P** 18 45 09.5 +11
SPIA Saint Paul Isl 41.19 43 *e*P **P** 18 45 01.2 +1.2
comp=Z,58nm,1.3s
MSAI Masohi 41.20 187 P **P** 18 45 01.7 +1.1
GAMB Gambell 41.36 33 *e*P **P** 18 45 01.8 +0.6
comp=Z,14nm,0.9s
PKI Pulchoki 41.45 270 *e*P **P** 18 45 02.4 -0.5
PKI Pulchoki 41.45 270 *e*P **ScP** 18 49 57.1 -1.5
comp=Z,16nm,0.9s
KKN Kakani 41.45 271 *e*P **P** 18 45 02.7 -0.1
comp=Z,244nm,0.8s
KKN Kakani 41.45 271 *e*P **ScP** 18 49 57.3 -1.1
comp=Z,15nm,0.7s
PKIN Phulchoki 41.46 270 *e*P **P** 18 45 02.9 0.0
comp=Z,107nm,0.8s
PKIN Phulchoki 41.46 270 *e*P **ScP** 18 49 57.2 -1.3
comp=Z,9.2nm,0.6s
AAI Ambon 41.61 188 P **P** 18 45 04.4 +0.5
MANU Manus Island 41.66 159 *e*P **P** 18 45 04.5 +0.2
comp=Z,118nm,0.8s
DMN Daman 41.67 271 *e*P **P** 18 45 04.3 -0.3
DMN Daman 41.67 271 *e*P **ScP** 18 49 58.3 -1.1
MIDW Midway 41.78 88 *e*P **P** 18 45 06.2 +1.1
comp=Z,121nm,0.9s
GKN Gorkha 41.87 271 *e*P **P** 18 45 05.7 -0.4
comp=Z,2.5nm,0.3s
KSM Kuching 42.06 216 *e*P **P** 18 45 07.0 -0.4
comp=Z,18nm,1.0s
DANN Dangsing 42.41 272 *e*P **P** 18 45 10.7 +0.2
DANN Dangsing 42.41 272 *e*P **ScP** 18 50 01.6 -0.8
TARG Taragay, Kyrgy 42.44 293 *e*P **P** 18 45 11.5 +0.8
comp=Z,61nm,0.8s
SURT Suratani 42.56 237 P **P** 18 45 10.8 -0.6
comp=Z,35nm,1.1s,comp=Z,343nm
SKLT Songkhla 42.73 233 P **P** 18 45 12.4 -0.3
comp=Z,54nm,1.1s
KOLN Koldanda 42.79 272 *e*P **P** 18 45 13.4 0.0
KOLN Koldanda 42.79 272 *e*P **ScP** 18 50 02.1 -1.7
comp=Z,25nm,0.8s
KDJ Kajisay 42.80 294 *e*P **P** 18 45 13.5 +0.2
comp=Z,34nm,0.7s
TRTT Trang 42.81 234 P **P** 18 45 12.7 -0.7
comp=Z,20nm,0.8s
PYUN Piuthan 43.13 272 *e*P **P** 18 45 16.2 +0.1
comp=Z,543nm,0.9s
PYUN Piuthan 43.13 272 *e*P **ScP** 18 50 03.5 -1.7
comp=Z,48nm,0.9s
UNV Unalaska Valle 43.32 48 *e*P **P** 18 45 15.7 -1.2
comp=Z,122nm,1.4s
AKUT Akutan 43.73 48 *e*P **P** 18 45 19.2 -0.9
comp=Z,317nm,1.4s
TKM2 Tokmak 2 43.75 296 P **P** 18 45 21.6 +0.9
SNR=15
TKM2 Tokmak 2 43.75 296 P **ScP** 18 50 06.9 -0.6
SNR=5.1
BNSI Bone 43.86 200 P **P** 18 45 22.9 +1.3
KULM Kulim 44.16 231 *e*P **P** 18 45 24.7 +0.7
comp=Z,94nm,0.8s
KZA Kyzart 44.21 295 P **P** 18 45 26.0 +1.4
SNR=50
KBK Karagaybulak 44.28 295 P **P** 18 45 25.5 +0.7
SNR=92
KBK Karagaybulak 44.28 295 P **ScP** 18 50 09.6 -0.1
SNR=7.3
CHMS Chumysh 44.33 296 P **P** 18 45 25.4 +0.4
SNR=50
CHMS Chumysh 44.33 296 P **ScP** 18 50 09.3 -0.4
SNR=12
KSH Kashi 44.38 291 P **P** 18 45 29.4 +3.8
KSH pP pP 18 46 50.8 +1.3
KSH PcP **PcP** 18 47 02.1 +1.7
KSH PP **PP** 18 47 23.0 +5.6
KSH S **S** 18 51 32.8 +5.8
KSH ScS **ScS** 18 54 38.6 +3.9
KSH SS **SS** 18 55 02.8 +7.5
KSH pmax pmax
comp=Z,34nm,0.9s
KSH pmax pmax
comp=Z,200nm,3.0s
USP Ospenovka 44.45 296 P **P** 18 45 26.2 +0.2
SNR=13
USP Ospenovka 44.45 296 P **ScP** 18 50 09.9 -0.2
SNR=11
FRU Bishkek 44.47 296 *i* P **P** 18 45 26.5 +0.3
FRU *e* 18 46 48.0
FRU *i* 18 47 19.0
FRU *i* S **S** 18 51 30.5 +2.4
FRU pmax pmax
comp=Z,156nm,1.9s
IPM Ipoh 44.57 230 *e*P **P** 18 45 26.6 -0.6
comp=Z,49nm,0.9s
AAK Ala-Archa 44.61 296 P **P** 18 45 27.7 +0.3
comp=Z,32nm,0.6s,baz=106,slow=5.3,SNR=194
AAK ScP **ScP** 18 50 10.6 -0.4
comp=Z,11nm,0.8s,baz=143,slow=4.4,SNR=12
AAK Ala-Archa 44.61 296 *d i* P **P** 18 45 27.5 +0.1
AAK pmax pmax
comp=Z,46nm,0.8s
AAK Ala-Archa 44.61 296 P **P** 18 45 28.1 +0.7
SNR=6.2
AAK Ala-Archa 44.61 296 P **ScP** 18 50 10.7 -0.2
SNR=9.8
AAK Ala-Archa 44.61 296 *e*P **P** 18 45 27.5 +0.1
comp=Z,50nm,0.9s
AAK *e*ScP **ScP** 18 50 10.6 -0.4
AAK Ala-Archa 44.61 296 P **P** 18 45 27.9 +0.5
SNR=19
AAK Ala-Archa 44.61 296 P **P** 18 45 27.9 +0.5
SNR=19
AAK Ala-Archa 44.61 296 *i* P **P** 18 45 27.7 +0.3
SNR=5.4
UCH Uchtor 44.70 295 P **P** 18 45 29.3 +0.8
SNR=38
UCH Uchtor 44.70 295 P **ScP** 18 50 11.9 +0.2
SNR=17
FALS False Pass 45.05 47 *e*P **P** 18 45 30.3 -0.1
comp=Z,173nm,1.4s
MYKOM Kota Tinggi 45.10 224 *e*P **P** 18 45 31.7 +0.4
comp=Z,20nm,0.7s
EKS2 Erkin-Say 45.11 296 P **P** 18 45 31.4 +0.2
SNR=32
EKS2 Erkin-Say 45.11 296 P **ScP** 18 50 12.9 -0.1
SNR=13
RABL Rabaul 45.22 153 *e*P **P** 18 45 33.2 +1.0
comp=Z,238nm,0.8s
AML Almayashu 45.31 295 P **P** 18 45 34.0 +0.9
SNR=27
AML Almayashu 45.31 295 P **ScP** 18 50 14.7 +0.6
SNR=13
BVAR Borovoye Array 45.41 311 P **P** 18 45 32.6 -0.6
comp=Z,39nm,0.7s,baz=100,slow=7.5,SNR=177
BVAR PcP **PcP** 18 47 03.4 -0.2
comp=Z,5.8nm,0.5s,baz=107,slow=3.4,SNR=6.4
BVAR ScP **ScP** 18 50 12.9 -0.9
comp=Z,2.7nm,0.7s,baz=72,slow=4.7,SNR=4.7
BVAR S **S** 18 51 39.2 -1.7
comp=Z,2.3nm,0.8s,baz=92,slow=14,SNR=5.2
TPRI Tanjung Pinang 45.45 223 P **P** 18 45 34.6 +0.6
BRVK Borovoye 45.46 311 *ce*P **P** 18 45 33.1 -0.5
BRVK pmax pmax
comp=Z,40nm,0.9s
BRVK Borovoye 45.46 311 *e*P **P** 18 45 33.2 -0.4
comp=Z,42nm,0.8s
BRVK Borovoye 45.46 311 P **P** 18 45 33.6 -0.1
SNR=15
BRVK Borovoye 45.46 311 P **P** 18 45 33.6 -0.1
SNR=15
SAUI Saumlaki 45.63 183 *e*P **P** 18 45 35.5 +0.2
comp=Z,199nm,1.0s
LHMI Lhok Sumawe 46.55 235 *e*P **P** 18 45 41.6 -0.8
comp=Z,67nm,1.2s
SDPT Sand Point 46.68 46 *e*P **P** 18 45 42.4 -0.5
comp=Z,94nm,1.1s
PSI Prapat 47.17 231 *e*P **P** 18 45 47.4 +0.1
PSI pmax pmax
comp=Z,62nm,0.7s
PSI Prapat 47.17 231 *e*P **P** 18 45 47.4 +0.1
comp=Z,62nm,0.7s
KKAR Karatay Array 47.31 297 *e*P **P** 18 45 47.9 0.0
KKAR Karatay Array 47.31 297 *e*P **P** 18 45 47.9 0.0
KCSI Kotacane, Aceh 47.33 233 P **P** 18 45 46.7 -1.7
MLSI Meulaboh, Aceh 47.63 235 P **P** 18 45 49.9 -0.8
CHGN Chignik 47.72 44 *e*P **P** 18 45 50.3 -0.5
comp=Z,33nm,0.9s
SOEI Soe 48.14 192 *e*P **P** 18 45 52.5 -2.0
comp=Z,69nm,1.0s
MNSI Mandailing Nat 48.36 229 P **P** 18 45 55.5 -0.6
PMG Port Moresby 48.66 162 P **P** 18 45 58.1 -0.2
comp=Z,42nm,0.8s,baz=57,slow=4.6,SNR=17
PMG Port Moresby 48.66 162 *ce*P **P** 18 45 57.9 -0.4
PMG pmax pmax
comp=Z,139nm,0.7s
PMG Port Moresby 48.66 162 *e*P **P** 18 45 58.2 -0.1
comp=Z,37nm,0.8s
SVW2 Sparrevohn 48.67 38 *e*P **P** 18 45 59.2 +1.4
comp=Z,47nm,1.3s
BATI Baumata 48.69 193 P **P** 18 45 57.4 -1.1
comp=Z,121nm,0.8s,baz=273,slow=4.3,SNR=5.0
GSI Gunungsitoli 49.17 231 P **P** 18 46 01.7 -0.5
GSI Gunungsitoli 49.17 231 *e*P **P** 18 46 01.7 -0.5
comp=Z,131nm,0.8s
CAST Castle Rocks 50.06 34 *e*P **P** 18 46 09.9 +1.7
comp=Z,41nm,0.7s
CAST *e*PcP **PcP** 18 47 22.4 +2.0
PPLA Purkeypile 50.08 35 *e*P **P** 18 46 10.7 +2.2
comp=Z,47nm,0.9s
MASI Maura Aman, Be 50.08 223 P **P** 18 46 09.2 +0.2
MDSI Maura Dua 50.21 220 P **P** 18 46 09.8 -0.1
UGM Wanagama 50.36 210 *e*P **P** 18 46 10.0 -1.0
comp=Z,951nm,1.8s
OHAK Old Harbor 50.37 43 *e*P **P** 18 46 11.1 +0.6
comp=Z,49nm,1.0s
SVE Sverdlovsk 50.39 317 *c i* P **P** 18 46 10.8 +0.1
SVE *e*S **S** 18 52 49.3 -0.6
SVE pmax pmax
comp=Z,126nm,0.9s
MTN Manton Dam 50.46 183 *e*P **P** 18 46 11.0 -0.6
comp=Z,104nm,0.9s
BPAW Bear Paw Mtn. 50.47 33 *e*P **P** 18 46 12.7 +1.5
comp=Z,49nm,1.4s
MLY Manley 50.48 32 *e*P **P** 18 46 12.7 +1.5
comp=Z,33nm,0.9s
COLD Coldfoot 50.49 29 *e*P **P** 18 46 12.7 +1.4
comp=Z,14nm,0.8s
KTH Katishna Hill 50.57 34 *e*P **P** 18 46 13.8 +1.8
comp=Z,65nm,0.8s
TOLK Toolik Lake Re 50.61 27 P **P** 18 46 13.3 +1.1
baz=274,SNR=15
TOLK Toolik Lake Re 50.61 27 *e*P **P** 18 46 13.5 +1.3
comp=Z,15nm,0.8s
KDAK Kodiak Island 50.64 42 P **P** 18 46 13.0 +0.6
comp=Z,56nm,0.8s,baz=270,slow=5.9,SNR=29
KDAK ScP **ScP** 18 50 36.4 +0.5
comp=Z,8.4nm,0.7s,baz=344,slow=7.4,SNR=5.4
KDAK Kodiak Island 50.64 42 *e*P **P** 18 46 12.6 +0.1
KDAK ScP **ScP** 18 50 36.4 +0.5
TRF Thorofare Moun 50.86 34 *e*P **P** 18 46 15.6 +1.3
comp=Z,23nm,0.7s
SUA Susitna One 50.94 37 *e*P **P** 18 46 15.4 +0.6
comp=Z,71nm,0.8s
SUA *e*PcP **PcP** 18 47 24.3 +0.6
BRLK Bradley Lake 51.16 39 *e*P **P** 18 46 17.0 +0.7
comp=Z,64nm,0.8s
KBL Kabul 51.30 287 *e*P **P** 18 46 17.7 -0.3
KBL pmax pmax
comp=Z,70nm,0.8s
KBL Kabul 51.30 287 *e*P **P** 18 46 17.7 -0.3
comp=Z,70nm,0.8s
MCK McKinley 51.42 34 *e*P **P** 18 46 19.5 +1.3
MCK McKinley 51.42 34 *e*P **P** 18 46 19.4 +1.3
RC01 Rabbit Creek A 51.48 37 *e*P **P** 18 46 19.3 +0.7
comp=Z,80nm,1.3s
RND Reindeer 51.51 34 *e*P **P** 18 46 19.6 +0.8
RND pmax pmax
comp=Z,48nm,0.8s
RND Reindeer 51.51 34 *e*P **P** 18 46 19.6 +0.8
comp=Z,48nm,0.8s
MDM Murphy Dome 51.54 32 *e*P **P** 18 46 20.6 +1.6
comp=Z,96nm,1.2s
MDM *e*pP **pP** 18 47 46.5 +0.5
ARU Arti 51.60 317 P **P** 18 46 19.1 -0.4
comp=Z,117nm,0.7s,baz=85,slow=4.2,SNR=249
ARU S **S** 18 53 04.5 -1.7
comp=Z,4.4nm,0.7s,baz=247,slow=22,SNR=14
ARU Arti 51.60 317 *i* P **P** 18 46 19.1 -0.4
ARU PCP **PcP** 18 47 25.2 -0.9
ARU AP **pP** 18 47 44.9 -1.7
ARU S **S** 18 53 05.4 -0.8
ARU pmax pmax
comp=Z,146μm,0.7s
ARU Arti 51.60 317 *e*P **P** 18 46 19.3 -0.2
comp=Z,145nm,0.7s
ARU *e*pP **pP** 18 47 50.4 +3.8
ARU *e*S **S** 18 53 05.1 -1.1
PMR Palmer 51.68 36 *e*P **P** 18 46 20.7 +0.7
PMR pmax pmax
comp=Z,40nm,1.0s
PMR Palmer 51.68 36 *e*P **P** 18 46 20.7 +0.7
comp=Z,40nm,1.0s
COLA College 51.72 32 *e*P **P** 18 46 21.3 +1.1
COLA *e**PP **pP** 18 47 46.4 -0.9
COLA pmax pmax
comp=Z,75nm,1.4s
COLA College 51.72 32 *e*P **P** 18 46 21.2 +1.1
comp=Z,75nm,1.4s
COLA *e*pP **pP** 18 47 46.4 -0.9
CCB Clear Creek Bu 51.77 32 *e*P **P** 18 46 21.4 +0.8
comp=Z,10nm,0.6s
SML Sawmill 52.02 36 *e*P **P** 18 46 23.4 +0.9
SML *e* 18 47 27.7
SML pmax pmax
comp=Z,59nm,0.8s
SML Sawmill 52.02 36 *e*P **P** 18 46 23.4 +0.9
comp=Z,60nm,0.8s
SML *e*PcP **PcP** 18 47 27.7 0.0
HYB Hyderabad 52.09 263 *i*/P **P** 18 46 23.5 -0.2
comp=Z,135nm,1.0s
IL1 Eielson Array 52.14 32 *e*P **P** 18 46 23.2 -0.1
IL1 *e*PcP **PcP** 18 47 26.9 -1.1
IL1 *e*pP **pP** 18 47 50.0 -0.6
ILAR Eielson Array 52.14 32 P **P** 18 46 23.8 +0.4
comp=Z,14nm,0.7s,baz=271,slow=6.5,SNR=167
ILAR pP **pP** 18 47 50.4 -0.2
comp=Z,9.3nm,0.9s,baz=287,slow=7.8,SNR=8.9
ILAR ScP **ScP** 18 50 42.0 -0.4
comp=Z,2.1nm,0.8s,baz=286,slow=4.4,SNR=5.9
ILB Eielson Array 52.14 32 *e*P **P** 18 46 23.7 +0.4
ILB *e*pP **pP** 18 47 50.3 -0.4
ILB *e*ScP **ScP** 18 50 42.0 -0.4
HDA Harding Lake 52.17 33 *e*P **P** 18 46 23.8 +0.2
comp=Z,59nm,0.8s
HDA *e*pP **pP** 18 47 50.4 -0.5
DHY Denali Highway 52.22 34 *e*P **P** 18 46 24.5 +0.4
comp=Z,31nm,0.8s
DHY *e*PcP **PcP** 18 47 29.6 +1.0
DHY *e*pP **pP** 18 47 51.4 -0.1
COEN Coen 52.29 168 *e*P **P** 18 46 25.0 +0.1
comp=Z,114nm,0.8s
SCM Sheep Creek Mo 52.48 36 *e*P **P** 18 46 27.1 +1.2
SCM pmax pmax
comp=Z,63nm,0.6s
SCM Sheep Creek Mo 52.48 36 *e*P **P** 18 46 27.1 +1.2
comp=Z,63nm,0.6s
FYU Fort Yukon 52.51 30 *e*P **P** 18 46 27.6 +1.6
comp=Z,35nm,0.8s
FYU *e*pP **pP** 18 47 54.0 +0.6
ABKAR Akbulak array 52.62 308 *e*P **P** 18 46 26.3 -0.7
comp=Z,936nm,0.6s
ABKAR *e*PcP **PcP** 18 47 28.9 -1.3
ABKAR *e*pP **pP** 18 47 57.8 +3.3
ABKAR *e*S **S** 18 53 16.0 -4.2
GLI Glacier Island 52.79 37 *e*P **P** 18 46 28.6 +0.5
comp=Z,56nm,1.1s
HNR Honiara 53.07 147 P **P** 18 46 30.3 -0.3
comp=Z,100nm,0.7s,baz=188,slow=1.0,SNR=8.6
HNR Honiara 53.07 147 P **P** 18 46 31.0 +0.4
PAX Paxson 53.09 34 *e*P **P** 18 46 31.2 +0.9
PAX *e* 18 47 31.4
PAX Paxson 53.09 34 *e*P **P** 18 46 31.2 +0.9
PAX *e*PcP **PcP** 18 47 31.4 -0.4
KLU Klutina 53.21 36 *e*P **P** 18 46 32.0 +0.9
comp=Z,72nm,1.3s
RIDG Independ'e Rid 53.21 33 *e*P **P** 18 46 31.4 +0.2
comp=Z,23nm,1.1s
RIDG *e*PcP **PcP** 18 47 32.0 -0.3
HARP HAARP 53.36 35 *e*P **P** 18 46 33.6 +1.5
comp=Z,42nm,0.6s
HARP *e*PcP **PcP** 18 47 34.4 +1.6
DIV Divide 53.36 37 *e*P **P** 18 46 33.5 +1.3
comp=Z,44nm,0.8s
AKTO Aktyubinsk 53.46 310 P **P** 18 46 32.3 -0.7
comp=Z,44nm,0.7s,baz=74,slow=5.6,SNR=86
AKTO S **S** 18 53 30.4 -0.9
comp=Z,5.3nm,1.0s,baz=303,slow=22,SNR=9.9
EYAK Cordova Ski Ar 53.51 37 *e*P **P** 18 46 34.4 +1.3
comp=Z,46nm,1.2s
DOT Dot Lake 53.57 33 *e*P **P** 18 46 33.9 +0.2
comp=Z,49nm,0.8s
DOT *e*PcP **PcP** 18 47 33.8 +0.3
MENT Mentasta 53.88 34 *e*P **P** 18 46 37.4 +1.5
comp=Z,44nm,0.9s
BMRM Bremner River 53.95 37 *e*P **P** 18 46 37.7 +1.3
comp=Z,54nm,0.8s
BMRM *e*PcP **PcP** 18 47 35.6 +0.5
RAGM Ragged Mountai 54.06 37 *e*P **P** 18 46 38.9 +1.7
comp=Z,80nm,1.2s
EGAK Eagle 54.54 32 *e*P **P** 18 46 41.1 +0.6
comp=Z,17nm,0.8s
POO Poona 55.18 267 ⇑ *i* PS P 18 46 36.0 -10
comp=Z,210nm,1.0s
DAWY Dawson 55.47 32 *e*P **P** 18 46 47.9 +0.8
comp=Z,13nm,0.6s
INK Inuvik 56.47 26 P **P** 18 46 54.7 +0.8
comp=Z,9.5nm,0.5s,baz=281,slow=6.9,SNR=37
INK Inuvik 56.47 26 *e*P **P** 18 46 54.5 +0.6
comp=Z,26nm,1.2s
INK *e*PcP **PcP** 18 47 45.0 +0.3
PALK Pallekele 56.61 251 *i* P **P** 18 46 56.4 +0.6
PALK Pallekele 56.61 251 *e*P **P** 18 46 55.5 -0.3
comp=Z,102nm,1.5s
PALK Pallekele 56.61 251 *i* P **P** 18 46 55.8 0.0
SNR=7.7
HYT Haines Junctio 57.31 36 *e*P **P** 18 47 00.8 +0.8
comp=Z,40nm,0.8s
HYT *e*pP **pP** 18 48 30.8 +1.4
WRAB Tennant Creek 57.46 179 *ce*P **P** 18 47 00.5 -0.9
WRAB pmax pmax
comp=Z,33nm,0.8s
WRAB Tennant Creek 57.46 179 *e*P **P** 18 47 00.3 -1.1
comp=Z,51nm,0.9s
WRAB *e*PcP **PcP** 18 47 49.3 +0.1
WR1 Warramunga Arr 57.47 179 *e*P **P** 18 47 00.5 -0.9
comp=Z,56nm,0.8s
WR1 *e*PcP **PcP** 18 47 50.0 +0.7
WR1 *e*ScP **ScP** 18 51 06.8 +0.5
WR1 *e*S **S** 18 54 19.3 -5.0
WRA Warramunga Arr 57.47 179 P **P** 18 47 00.5 -0.9
comp=Z,50nm,0.7s,baz=355,slow=7.5,SNR=184
WRA PcP **PcP** 18 47 50.0 +0.7
comp=Z,8.9nm,0.7s,baz=356,slow=4.9,SNR=5.0
WRA ScP **ScP** 18 51 06.8 +0.5
comp=Z,3.1nm,0.6s,baz=358,slow=5.0,SNR=6.2
WRA S **S** 18 54 19.3 -5.0
comp=Z,3.1nm,1.0s,baz=358,slow=12,SNR=3.4
GEYT Alibeck 57.96 295 P **P** 18 47 04.8 0.0
comp=Z,48nm,0.8s,baz=46,slow=4.3,SNR=139
SPA0 Spitsbergen Ar 58.48 348 *e*P **P** 18 47 08.3 +0.7
SPITS Spitsbergen Ar 58.48 348 P **P** 18 47 08.2 +0.6
comp=Z,13nm,0.5s,baz=54,slow=8.5,SNR=30
WHY Whitehorse 58.57 35 *e*P **P** 18 47 10.3 +1.6
comp=Z,42nm,1.3s
SKAG Skagway 58.82 37 *e*P **P** 18 47 11.9 +1.8
comp=Z,27nm,0.9s
CTA Charters Tower 58.82 166 P **P** 18 47 10.6 -0.1
comp=Z,41nm,0.6s,baz=346,slow=7.1,SNR=67
CTAO Charters Tower 58.82 166 *e*P **P** 18 47 10.3 -0.4
CTAO pmax pmax
comp=Z,50nm,0.8s
CTAO Charters Tower 58.82 166 *e*P **P** 18 47 10.2 -0.4
comp=Z,50nm,0.8s
TMCR Tamitsa 58.99 329 *e*P **P** 18 47 10.8 -0.4
TMCR pmax pmax
comp=Z,64nm,1.0s
KIP Kipapa 60.40 85 *ce*P **P** 18 47 21.4 0.0
KIP pmax pmax
comp=Z,437nm,0.9s
KEV Kevo 60.41 337 *e*P **P** 18 47 20.7 0.0
KEV pmax pmax
comp=Z,70nm,0.8s
KEV Kevo 60.41 337 *e*P **P** 18 47 20.7 0.0
comp=Z,70nm,0.8s
ARA0 ARCESS Array S 60.98 338 *e*P **P** 18 47 24.7 +0.2
ARCES ARCESS Array B 60.98 338 P **P** 18 47 24.7 +0.2
comp=Z,41nm,0.6s,baz=64,slow=9.4,SNR=212
ARCES ARCESS Array B 60.98 338 *e*P **P** 18 47 24.3 -0.2
ARE0 ARCESS Array S 60.98 338 *e*P **P** 18 47 24.9 +0.4
comp=Z,42nm,0.6s
ARE0 ARCESS Array S 60.98 338 *e*P **P** 18 47 24.7 +0.2
AS01 Alice Springs 61.17 180 *e*P **P** 18 47 25.9 -0.4
AS01 *e*PcP **PcP** 18 48 05.3 +1.2
AS31 Alice Springs 61.17 180 *e*P **P** 18 47 25.6 -0.8
comp=Z,15nm,0.4s
AS31 *e*PcP **PcP** 18 48 04.2 +0.1
ASAR Alice Springs 61.17 180 P **P** 18 47 25.8 -0.6
comp=Z,22nm,0.6s,baz=13,slow=13,SNR=278
ASAR PcP **PcP** 18 48 04.9 +0.8
comp=Z,8.0nm,0.9s,baz=4.6,slow=4.5,SNR=6.4
ASAR ScP **ScP** 18 51 23.8 +1.1
comp=Z,0.9nm,0.8s,baz=3.8,slow=5.3,SNR=4.1
ASAR S **S** 18 55 07.5 -3.5
comp=Z,1.3nm,0.8s,baz=14,slow=17,SNR=3.1
DLBC Dease Lake 61.74 36 *e*P **P** 18 47 31.6 +1.8
comp=Z,13nm,0.8s
KTK1 Kautokeino 61.94 338 *e*P **P** 18 47 31.1 +0.3
HEF Hetta 62.14 337 *e*P **P** 18 47 32.3 +0.2
KIF Kilpisjarvi 62.68 338 *e*P **P** 18 47 35.6 +0.1
VRH Novokhopyorsk 62.73 315 *e*P **P** 18 47 35.1 -1.1
VRH *e*S **S** 18 55 26.9 -2.8
VRH pmax pmax

comp=Z,140nm,0.7s
VRH smax smax
comp=E,40nm,1.1s
MOS Moscow 62.82 321 *e*P **P 18 47 34.0 -2.7**
MOS *i* *PP **pP 18 49 06.8 -1.4**
MOS *e*S **S 18 55 25.7 -4.9**
MOS pmax pmax
comp=Z,129nm,0.8s
MOS pmax pmax
comp=Z,100nm,0.9s
TRO Tromso 62.85 339 *e*P **P 18 47 36.9 +0.2**
MAK Makhachkala 63.00 305 *e*P **P 18 47 37.6 -0.5**
MAK *e*PP **pP 18 49 06.2 -3.5**
MAK *e*SP **sP 18 49 53.6 -3.2**
MAK *e* 18 50 03.3
MAK *e*S **S 18 55 35.4 +2.2**
MAK pmax pmax
comp=Z,130nm,1.2s
RES Resolute Bay 63.29 13 P **P 18 47 39.9 +0.4**
comp=Z,11nm,0.7s,baz=313,slow=7.5,SNR=41
RES Resolute Bay 63.29 13 *e*P **P 18 47 39.3 -0.2**
RES *e*PP **pP 18 49 14.1 +2.9**
RES pmax pmax
comp=Z,13nm,0.8s
RES Resolute Bay 63.29 13 *e*P **P 18 47 39.3 -0.2**
comp=Z,13nm,0.8s
RES *e*pP **pP 18 49 14.1 +2.9**
LPSR Galich'ya Gora 63.61 317 *e*P **P 18 47 41.0 -0.9**
LPSR *e*S **S 18 55 38.1 -2.3**
LPSR pmax pmax
comp=Z,130nm,0.7s
LPSR smax smax
comp=E,50nm,1.4s
OBN Obninsk 63.64 320 *d* *i*P **P 18 47 41.5 -0.5**
OBN *e*PP **pP 18 49 17.4 +3.6**
OBN *e* 18 50 15.0
OBN *e*S **S 18 55 32.5 -8.2**
OBN pmax pmax
comp=Z,77nm,0.8s
OBN Obninsk 63.64 320 *e*P **P 18 47 41.2 -0.9**
comp=Z,70nm,0.7s
GROC Groznyy 63.99 306 *e*P **P 18 47 43.6 -0.9**
GROC *e*PP **pP 18 49 13.6 -2.9**
GROC *e*S **S 18 55 44.0 -1.4**
GROC pmax pmax
comp=Z,40nm,0.8s
VSR Storozhevoye 64.15 316 *e*P **P 18 47 44.5 -0.9**
VSR *e*S **S 18 55 44.4 -2.6**
VSR pmax pmax
comp=Z,150nm,1.1s
VSR smax smax
comp=N,30nm,1.1s
PUL Pulkovo 64.25 327 *ce*P **P 18 47 45.1 -0.7**
PUL pmax pmax
comp=Z,79nm,0.9s
DAG Danmarks Havn 64.35 353 ⇓ *i*P **P 18 47 46.3 +0.1**
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 64.35 353 ⇓ *i*P **P 18 47 46.3 +0.1**
DAG pmax pmax
comp=Z,10.0nm,0.8s
WSAR Wadi Sarin 64.65 281 P **P 18 47 49.2 +0.1**
comp=Z,44nm,0.8s,baz=88,slow=7.8,SNR=56
WBK Wadi Bani Khal 64.72 280 P **P 18 47 51.0 +1.5**
SNR=8.7
WBK Wadi Bani Khal 64.72 280 P **P 18 47 51.0 +1.5**
SNR=8.7
GOF Gofitskoye 64.84 308 ⇓ *i*P **P 18 47 49.7 -0.2**
GOF pmax pmax
comp=Z,113nm,0.8s
BIDO Bidbid 64.89 281 P **P 18 47 52.0 +1.4**
SNR=16
BIDO Bidbid 64.89 281 P **P 18 47 52.0 +1.4**
SNR=16
STEI Steigen 64.96 338 *e*P **P 18 47 50.5 +0.2**
EIDS Eidsvold 64.97 163 *e*P **P 18 47 50.7 -0.1**
comp=Z,18nm,0.8s
TULEG Thule 65.02 6 *e*P **P 18 47 50.8 +0.3**
comp=Z,7.7nm,0.9s
BANOM Banah 65.04 284 P **P 18 47 52.7 +1.1**
SNR=7.2
BANOM Banah 65.04 284 P **P 18 47 52.7 +1.1**
SNR=7.2
BANOM Banah 65.04 284 *i* P **P 18 47 52.1 +0.5**
SNR=26
SHME Shamn 65.10 284 *i* P **P 18 47 52.0 +0.1**
SNR=45
FIA1 FINESS Array S 65.11 330 *e*P **P 18 47 50.8 -0.5**
comp=Z,91nm,0.8s
FIA0 FINESS Array S 65.11 330 *e*P **P 18 47 51.1 -0.2**
FIA0 *e*PP **pP 18 49 23.0 -0.6**
FIA0 FINESS Array S 65.11 330 *e*P **P 18 47 51.1 -0.2**
FIA0 *e*pP **pP 18 49 22.9 -0.6**
FINES FINESS Array B 65.11 330 P **P 18 47 51.1 -0.2**
comp=Z,68nm,0.7s,baz=91,slow=6.0,SNR=183
FINES pP **pP 18 49 22.9 -0.6**
comp=Z,5.7nm,0.8s,baz=76,slow=5.9,SNR=3.0
GUDG Gudauri 65.20 305 P **P 18 47 52.4 -0.1**
SMDO Samad 65.20 281 P P 18 47 58.0 +5.3
SNR=11
NCK Nalchik 65.26 307 *i* P **P 18 47 52.3 -0.3**
NCK pmax pmax
comp=Z,32nm,1.0s
TBLG Delisi 65.39 305 P **P 18 47 53.3 -0.2**
TBLG Delisi 65.39 305 *e*P **P 18 47 53.5 0.0**
TBLG pmax pmax
comp=Z,45nm,1.0s
TBLG Delisi 65.39 305 *e*P **P 18 47 53.5 0.0**
comp=Z,45nm,1.0s
ZEI Tsey 65.41 306 *e*P **P 18 47 50.3 -3.5**
ZEI pmax pmax
comp=Z,27nm,0.8s
MSFE Esma-Masafi 65.44 284 *i* P **P 18 47 54.3 +0.2**
SNR=13
HOQ Hoqain 65.49 282 P **P 18 47 58.0 +3.5**
SNR=6.5
KBZ Khabaz 65.58 307 P **P 18 47 54.8 +0.2**
comp=Z,42nm,0.8s,baz=79,slow=6.1,SNR=52
KIV Kislovodsk 65.60 308 *e*P **P 18 47 54.8 -0.1**
KIV pmax pmax
comp=Z,141nm,1.0s
KIV MLR MLR
comp=Z,53nm,17.0s
KIV Kislovodsk 65.60 308 *e*P **P 18 47 54.5 -0.4**
comp=Z,107nm,0.8s
KIV Kislovodsk 65.60 308 P **P 18 47 55.4 +0.5**
SNR=17
KIV Kislovodsk 65.60 308 P **P 18 47 55.4 +0.5**
SNR=17
KIV Kislovodsk 65.60 308 *i* P **P 18 47 54.9 0.0**
SNR=32
UOSS Minazif 65.63 283 *e*P **P 18 47 55.2 -0.1**
comp=Z,37nm,0.8s
UOSS Minazif 65.63 283 *i* P **P 18 47 54.9 -0.4**
SNR=10
HATD Hatta, Dubai 65.75 283 P **P 18 47 57.0 +1.0**
SNR=8.7
HATD Hatta, Dubai 65.75 283 P **P 18 47 57.0 +1.0**
SNR=8.7
HATD Hatta, Dubai 65.75 283 *i* P **P 18 47 56.1 +0.1**
SNR=23
ONI Oni 65.79 306 P **P 18 47 56.3 +0.1**
ONI Oni 65.79 306 *e*P **P 18 47 56.2 +0.1**
SOHO SOHO 65.80 282 *i* P **P 18 47 56.1 -0.2**
SNR=17
ASHO Ashiyiah 65.88 283 P **P 18 47 57.7 +0.8**
SNR=11
ASHO Ashiyiah 65.88 283 P **P 18 47 57.7 +0.8**
SNR=11
ASHO Ashiyiah 65.88 283 *i* P **P 18 47 57.1 +0.3**
SNR=26
NEY Neytrino 65.93 307 *i* P **P 18 47 56.6 -0.5**
NEY pmax pmax
comp=Z,8.0nm,0.8s
NAZ Nazwa, Dubai 66.02 284 P **P 18 47 59.0 +1.2**
SNR=7.2
NAZ Nazwa, Dubai 66.02 284 P **P 18 47 59.0 +1.2**
SNR=7.2
BSY Bisya 66.03 281 P **P 18 48 02.0 +4.1**
SNR=16
YKW3 Yellowknife Ar 66.09 28 *e*P **P 18 47 57.9 +0.4**
comp=Z,25nm,1.2s
YKA Yellowknife Ar 66.13 28 P **P 18 47 58.4 +0.7**
comp=Z,9.4nm,0.7s,baz=305,slow=6.5,SNR=163
YKA pP **pP 18 49 30.7 +0.3**
comp=Z,1.3nm,0.8s,baz=308,slow=6.0,SNR=2.8
YKB5 Yellowknife Ar 66.13 28 *e*P **P 18 47 58.0 +0.2**

GNI Garni 66.17 303 *ce*P **P 18 47 59.4 +0.8**
GNI pmax pmax
comp=Z,125nm,1.1s
GNI Garni 66.17 303 *e*P **P 18 47 59.1 +0.5**
comp=Z,76nm,1.1s
GNI Garni 66.17 303 *i* P **P 18 47 59.5 +0.9**
SNR=9.0
ARQ Araqi 66.24 282 P P 18 48 08.0 +8.9
SNR=7.3
MOR8 Moi Rana 66.35 337 *e*P **P 18 47 57.9 -1.1**
AKH Akhalkalaki 66.36 305 P **P 18 48 00.5 +0.6**
AKH Akhalkalaki 66.36 305 ‖ *i*P **P 18 47 59.8 0.0**
AKH Akhalkalaki 66.36 305 *e*P **P 18 48 00.4 +0.6**
AKH Akhalkalaki 66.36 305 *e*P **P 18 48 00.1 +0.4**
comp=Z,37nm,0.8s
BGD Bogdanovka 66.36 305 P P 18 47 52.6 -7.2
ALNE Al Ain 66.45 283 *i* P **P 18 48 00.6 +0.1**
SNR=17
VSU Vasula 66.51 327 *ce*P **P 18 48 00.1 0.0**
VSU pmax pmax
comp=Z,351nm,0.9s
STOK Stokkvaagen 66.67 338 *e*P **P 18 48 01.0 0.0**
SOC Sochi 67.65 308 *e*P **P 18 48 05.7 -1.8**
SOC *e*PP **pP 18 49 41.2 +0.5**
SOC *e* 18 50 41.6
SOC *e*S **S 18 56 29.6 +0.6**
SOC *e*SS **SS 19 01 07.2 +7.7**
SOC pmax pmax
comp=Z,84nm,0.8s
NSS Namsos 68.22 337 *e*P **P 18 48 10.4 -0.2**
MICGM Minsk 68.24 323 *e* **P 18 48 11.0 +0.1**
MNK Minsk 68.24 323 *e*P **P 18 48 11.0 +0.1**
IZAR Zarasai 68.28 324 *e*P **P 18 48 11.5 +0.4**
IZAR IAmb IAmb 18 48 12.3
comp=Z,20nm,0.7s
IDID Didziasalis 68.31 324 *e*P **P 18 48 11.7 +0.4**
IDID IAmb IAmb 18 48 12.5
comp=Z,28nm,0.9s
ANN Anapa 68.40 310 *e*P **P 18 48 11.4 -0.7**
ANN pmax pmax
comp=Z,86nm,0.8s
ISAL Salakas 68.44 324 *e*P **P 18 48 12.7 +0.5**
ISAL IAmb IAmb 18 48 13.4
comp=Z,37nm,0.9s
NACGM Naroch 68.53 324 *e* **P 18 48 12.0 -0.7**
IIGN Ignalina 68.53 324 *e*P **P 18 48 13.1 +0.5**
IIGN IAmb IAmb 18 48 13.8
comp=Z,23nm,0.7s
MSVF Nonsavu 69.26 134 *e*P **P 18 48 19.5 +1.8**
MSVF pmax pmax
comp=Z,338nm,1.2s
MSVF Nonsavu 69.26 134 *e*P **P 18 48 19.5 +1.8**
comp=Z,338nm,1.2s
STKA Stephens Creek 69.75 173 P **P 18 48 20.6 +0.4**
comp=Z,22nm,0.6s,baz=348,slow=6.6,SNR=72
STKA Stephens Creek 69.75 173 *e*P **P 18 48 20.6 +0.4**
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 69.75 173 *e*P **P 18 48 20.6 +0.4**
comp=Z,5.4nm,0.8s
AKASG Malin Array Be 69.75 319 P **P 18 48 19.0 -1.1**
comp=Z,40nm,0.8s,baz=51,slow=6.4,SNR=157
AKASG pP **pP 18 49 52.5 -1.5**
comp=Z,19nm,0.9s,baz=46,slow=5.9,SNR=2.8
AKASG Malin Array Be 69.75 319 *i* P **P 18 48 19.5 -0.6**
AKASG pmax pmax
comp=Z,40nm,0.7s
AKBB Malin Array Si 69.75 319 *e*P **P 18 48 19.3 -0.8**
AKBB *e*PP **pP 18 49 56.9 +2.9**
AKBB pmax pmax
comp=Z,54nm,0.8s
AKBB Malin Array Si 69.75 319 *e*P **P 18 48 19.3 -0.8**
comp=Z,54nm,0.8s
AKBB *e*pP **pP 18 49 56.9 +2.9**
SUMG Summit 69.75 357 *i* P **P 18 48 21.1 +0.8**
comp=Z,14nm,0.8s
SUMG Summit 69.75 357 *i* P **P 18 48 21.1 +0.8**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 69.75 357 *e*P **P 18 48 20.8 +0.6**
comp=Z,8.8nm,0.6s
KIEV Kiev 69.76 319 *d* *i*P **P 18 48 19.1 -1.1**
KIEV pmax pmax
comp=Z,51nm,0.9s
KIEV Kiev 69.76 319 *e*P **P 18 48 19.2 -1.0**
comp=Z,53nm,0.8s
KIEV *e*pP **pP 18 49 56.7 +2.7**
KIEV Kiev 69.76 319 *i* P **P 18 48 19.5 -0.7**
SNR=28
AK11 Malin Array Si 69.79 319 *e*P **P 18 48 19.4 -0.9**
AK11 *e*pP **pP 18 49 57.3 +3.0**
LLLB Lillooet 69.85 41 *e*P **P 18 48 21.5 +0.7**
comp=Z,26nm,1.1s
SHAO Shalim 69.85 278 *i* P **P 18 48 20.8 -0.5**
SNR=6.1
ARMA Armidale 69.95 163 *e*P **P 18 48 22.4 +0.8**
comp=Z,59nm,0.9s
SIM Simferopol' 70.30 312 *e*P **P 18 48 23.1 -0.5**
SIM pmax pmax
comp=Z,55nm,0.9s
BBOO Buckleboo 70.32 178 *e*P **P 18 48 23.2 -0.4**
comp=Z,39nm,0.8s
A04D Lummi Island 70.50 43 P **P 18 48 26.0 +1.3**
baz=305
SCO Scoresbysund 70.55 352 *i* P **P 18 48 25.7 +1.1**
comp=Z,5.5nm,0.6s
SCO Scoresbysund 70.55 352 *i* P **P 18 48 25.7 +1.1**
SCO pmax pmax
comp=Z,6.0nm,0.6s
SCO Scoresbysund 70.55 352 *e*P **P 18 48 24.9 +0.4**
comp=Z,6.8nm,0.7s
NLWA Neilton Lookou 70.63 45 *e*P **P 18 48 27.5 +2.0**
comp=Z,43nm,0.7s
HFS Hagfors 70.67 333 P **P 18 48 25.1 -0.4**
comp=Z,36nm,0.5s,baz=72,slow=6.2,SNR=237
NC405 NORSAR Array S 70.69 334 *e*P **P 18 48 24.4 -1.2**
NC303 NORSAR Array S 70.73 334 *e*P **P 18 48 25.5 -0.4**
SUW Suwalki 70.75 324 *e*P **P 18 48 26.0 0.0**
SUW Suwalki 70.75 324 *e*P **P 18 48 26.0 0.0**
SUW Suwalki 70.75 324 *e*P **P 18 48 25.5 -0.5**
comp=Z,116nm,1.0s
NB201 NORSAR Array S 70.88 334 *e*P **P 18 48 25.4 -1.4**
NC204 NORSAR Array S 70.90 335 *e*P **P 18 48 26.6 -0.3**
DOMB Dombas 70.92 336 *e*P **P 18 48 26.9 0.0**
NB2 NORSAR Subarra 70.92 334 P **P 18 48 26.7 -0.2**
comp=Z,29nm,0.6s,baz=44,slow=6.2
NB2 NORSAR Subarra 70.92 334 P **P 18 48 26.7 -0.2**
baz=44,slow=6.2
NB200 NORSAR Array S 70.92 334 *e*P **P 18 48 26.8 -0.2**
NB200 *e*pP **pP 18 49 59.4 -1.8**
NOA NORSAR Array B 70.92 334 P **P 18 48 26.8 -0.2**
comp=Z,29nm,0.6s,baz=43,slow=6.0,SNR=115
NOA pP **pP 18 49 59.4 -1.8**
comp=Z,2.3nm,0.9s,baz=42,slow=5.8,SNR=2.5
MOL Molde 71.01 337 *e*P **P 18 48 26.9 -0.5**
NC602 NORSAR Array S 71.02 334 *e*P **P 18 48 27.0 -0.6**
NC602 NORSAR Array S 71.02 334 *e*P **P 18 48 27.2 -0.4**
NBO02 NORSAR Array S 71.03 334 *e*P **P 18 48 27.2 -0.4**
NC605 NORSAR Array S 71.03 334 *e*P **P 18 48 26.5 -1.1**
NBO00 NORSAR Array S 71.07 334 *e*P **P 18 48 27.8 0.0**
B05A Bryant 71.10 43 P **P 18 48 29.6 +1.4**
baz=306
B06A Marblemount 71.28 43 *e*P **P 18 48 30.4 +1.1**
comp=Z,41nm,0.8s
WHFO Wadi Hawf 71.37 278 P **P 18 48 31.0 +0.6**
SNR=6.3
WHFO Wadi Hawf 71.37 278 P **P 18 48 31.0 +0.6**
SNR=6.3
AKN Aaknes 71.48 337 *e*P **P 18 48 30.9 +0.6**
SORM Soroca 71.72 317 ⇑ *i*P **P 18 48 31.1 -0.7**
KLNR Kaliningrad 71.72 326 *i* P **P 18 48 31.7 0.0**
KLNR pmax pmax
comp=Z,139nm,1.4s
D05A Enumclaw 71.79 44 *e*P **P 18 48 34.1 +1.8**
comp=Z,72nm,1.1s
F04D Rainier, OR 71.87 45 P **P 18 48 34.3 +1.5**
baz=306
C06D Leavenworth 71.95 43 P **P 18 48 34.4 +1.1**
baz=307
G03D McMinnville, O 72.24 46 P **P 18 48 36.6 +1.6**
baz=306
EDM Edmonton 72.43 35 *e*P **P 18 48 36.8 +0.8**
EDM pmax pmax
comp=Z,97nm,1.5s
EDM Edmonton 72.43 35 *e*P **P 18 48 36.8 +0.8**
comp=Z,97nm,1.5s
LTY Liberty 72.47 43 *e*P **P 18 48 36.6 +0.2**
comp=Z,24nm,1.0s
HYA Hoyanger 72.49 336 *e*P **P 18 48 36.7 +0.6**
B08A Colville Reser 72.52 42 *e*P **P 18 48 37.2 +0.6**
comp=Z,43nm,1.1s
AFI Afiamalu 72.57 124 P **P 18 48 38.4 +1.1**
comp=Z,23nm,0.7s,baz=248,slow=22,SNR=4.2
AFI Afiamalu 72.57 124 *e*P **P 18 48 36.6 -0.8**
comp=Z,252nm,1.8s
LVV L'vov 72.95 320 *e*P **P 18 48 39.5 +0.5**
H04A Detroit Lake 73.17 46 *e*P **P 18 48 41.5 +1.0**
comp=Z,49nm,0.9s
TLCR 73.22 314 ⇑ *i*P **P 18 48 40.1 -0.6**
BEL Belsk 73.25 323 *e*P **P 18 48 41.3 +0.6**
BEL Belsk 73.25 323 *e*P **P 18 48 41.3 +0.6**
ODD1 Odda 73.29 335 *e*P **P 18 48 41.8 +0.9**
G05D Wamic, OR 73.33 45 P **P 18 48 42.9 +1.6**
baz=307
PRAR RASCA 73.33 317 ⇑ *i*P **P 18 48 41.0 -0.3**
ASK Askoy 73.33 336 *e*P **P 18 48 41.7 +0.8**
C09A Chrisman Ranch 73.43 42 *e*P **P 18 48 43.0 +1.1**
comp=Z,46nm,0.8s
GIRR Girov 73.43 317 ⇑ *i*P **P 18 48 42.1 +0.3**
D08A Wollman Farm, 73.54 43 *e*P **P 18 48 43.3 +0.9**
comp=Z,38nm,0.9s
I04A Tendick Farm, 73.57 47 P **P 18 48 44.2 +1.4**
baz=307
BR101 Keskin Array S 73.57 308 *e*P **P 18 48 42.8 -0.2**
BR131 Keskin Array S 73.57 308 *e*P **P 18 48 42.6 -0.3**
BRTR Keskin Array B 73.57 308 P **P 18 48 42.8 -0.2**
comp=Z,17nm,0.9s,baz=107,slow=3.6,SNR=46
CFR Carcaliu 73.61 315 ‖ *i*P **P 18 48 42.5 -0.4**
TESR Tescani 73.62 316 ⇑ *i*P **P 18 48 42.3 -0.7**
BSD Bornholm Skovb 73.66 328 ‖ *i*P **P 18 48 42.7 -0.3**
comp=Z,41nm,0.8s
BSD Bornholm Skovb 73.66 328 ‖ *i*P **P 18 48 42.7 -0.3**
BSD pmax pmax
comp=Z,41nm,0.8s
BUR08 Bucovina Ar. S 73.70 318 *e*P **P 18 48 43.5 0.0**
BUR08 *e*pP **pP 18 50 18.0 -0.6**
F07A Phinny Hill Vi 73.70 44 *e*P **P 18 48 44.8 +1.4**
comp=Z,43nm,0.9s
BURAR Bucovina Array 73.71 318 ⇑ *i*P **P 18 48 43.6 0.0**
BUR04 Bucovina Ar. S 73.71 318 *e*P **P 18 48 43.3 -0.2**
BUR04 *e*pP **pP 18 50 17.6 -1.0**
G06A Carlson Farm, 73.71 45 *e*P **P 18 48 44.7 +1.1**
comp=Z,48nm,1.1s
BLS5 Blasjo 73.72 335 *e*P **P 18 48 43.8 +0.5**
KWP Kalwaria Pacla 73.73 321 *e*P **P 18 48 44.3 +0.8**
KWP Kalwaria Pacla 73.73 321 *e*P **P 18 48 44.3 +0.8**
NEW Newport 73.74 41 P **P 18 48 44.8 +1.1**
comp=Z,12nm,0.8s,baz=317,slow=6.6,SNR=15
NEW Newport 73.74 41 P **P 18 48 44.8 +1.1**
baz=309
NEW Newport 73.74 41 *e*P **P 18 48 44.5 +0.8**
comp=Z,15nm,0.8s
PETR Petresti 73.78 316 ‖ *i*P **P 18 48 44.2 +0.3**
E08A Dider Farm, El 73.81 43 *e*P **P 18 48 45.3 +1.3**
comp=Z,45nm,0.9s
L02D Cave Junction, 73.84 49 P **P 18 48 46.1 +1.7**
baz=307
I05D Terrebonne, OR 73.86 46 P **P 18 48 45.7 +1.3**
baz=307,SNR=13
TIRR Tirgusor 73.89 314 ‖ *i*P **P 18 48 44.2 -0.3**
TIRR Tirgusor 73.89 314 *e*P **P 18 48 44.2 -0.3**
TIRR pmax pmax
comp=Z,22nm,1.0s
TIRR Tirgusor 73.89 314 *e*P **P 18 48 44.2 -0.3**
comp=Z,22nm,1.0s
GKP Gorka Klasztor 73.92 326 *e*P **P 18 48 44.9 +0.4**
GKP Gorka Klasztor 73.92 326 *e*P **P 18 48 44.9 +0.4**
VRI Vrincioaia 73.97 316 ⇑ *i*P **P 18 48 44.9 -0.1**
ANTO Ankara 74.01 308 *e*P **P 18 48 45.6 +0.2**
ANTO pmax pmax
comp=Z,142nm,1.6s
ANTO Ankara 74.01 308 *e*P **P 18 48 45.6 +0.2**
comp=Z,142nm,1.6s
HARR Harsova 74.02 314 ‖ *i*P **P 18 48 45.2 -0.1**
TLB Topalu 74.02 314 ⇑ *i*P **P 18 48 45.0 -0.3**
PLOR Plostina 74.03 316 ‖ *i*P **P 18 48 45.8 +0.5**
BR231 Keskin MP Arra 74.04 308 *e*P **P 18 48 43.2 -2.4**
J04D Umpqua Nationa 74.08 47 P **P 18 48 47.5 +1.6**
baz=307,SNR=13
CAN Canberra 74.17 167 *e*P **P 18 48 47.0 +0.9**
CAN pmax pmax
comp=Z,130nm,1.5s
CAN Canberra 74.17 167 *e*P **P 18 48 47.0 +0.9**
comp=Z,130nm,1.5s
COP Copenhagen 74.27 330 ‖ *i*P **P 18 48 47.2 +0.8**
comp=Z,36nm,0.8s
COP Copenhagen 74.27 330 ‖ *i*P **P 18 48 47.2 +0.8**
COP pmax pmax
comp=Z,36nm,0.8s
SNART Snartemo 74.28 334 *e*P **P 18 48 46.7 +0.2**
E09A Wood Farm, Sta 74.30 43 *e*P **P 18 48 47.9 +1.1**
comp=Z,40nm,0.8s
PINE Pine Mountain 74.42 46 *e*P **P 18 48 49.6 +1.7**
comp=Z,116nm,0.8s
PGOR Pogoanele 74.42 315 ‖ *i*P **P 18 48 48.1 +0.6**
ARCR ARCALIA 74.50 318 ‖ *i*P **P 18 48 48.0 +0.1**
ISR Istrita 74.54 315 ⇑ *i*P **P 18 48 48.8 +0.5**
J05D Fort Rock, OR 74.56 47 P **P 18 48 50.4 +1.9**
baz=308,SNR=37
RAYN Ar Rayn 74.56 288 *e*P **P 18 48 48.4 -0.4**
comp=Z,165nm,1.9s
BMR Baia Mare 74.58 319 ⇑ *i*P **P 18 48 48.9 +0.5**
UZH Uzhgorod 74.58 320 *e*P **P 18 48 47.3 -1.1**
UZH *i* 18 48 56.7
UZH *e* 18 50 21.0
STHS Stebnicka Huta 74.60 321 *e*P **P 18 48 49.3 +0.8**
STHS pmax pmax
comp=Z,33nm,1.5s
STHS Stebnicka Huta 74.60 321 *e*P **P 18 48 49.3 +0.8**
LLD Lille Linde 74.61 330 *i* P **P 18 48 48.5 +0.2**
comp=Z,46nm,0.8s
LLD Lille Linde 74.61 330 *i* P **P 18 48 48.5 +0.2**
LLD pmax pmax
comp=Z,46nm,0.8s
G08A Pilot Rock 74.61 44 *e*P **P 18 48 49.6 +0.8**
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 74.63 49 *e*P **P 18 48 50.5 +1.6**
YBH pmax pmax
comp=Z,23nm,1.0s
YBH Yreka Blue Hor 74.63 49 *e*P **P 18 48 50.5 +1.6**
comp=Z,23nm,1.0s
MLR Muntele Rosu 74.64 316 ‖ *i*P **P 18 48 48.6 -0.4**
MLR Muntele Rosu 74.64 316 *e*P **P 18 48 48.5 -0.4**
MLR pmax pmax
comp=Z,13nm,0.7s
MLR Muntele Rosu 74.64 316 *e*P **P 18 48 48.5 -0.4**
comp=Z,13nm,0.7s
DOPR Dopca 74.64 317 ‖ *i*P **P 18 48 49.8 +1.0**
K04D Chiloquin, OR 74.66 48 P **P 18 48 50.6 +1.5**
baz=308,SNR=6.5
M02C Callahan 74.75 49 P **P 18 48 51.5 +1.9**
baz=307,SNR=5.9
OJC Ojcow 74.78 322 *e*P **P 18 48 50.0 +0.6**
OJC Ojcow 74.78 322 *e*P **P 18 48 49.8 +0.3**
OJC *e*PP **pP 18 50 27.9 +3.0**
OJC pmax pmax
comp=Z,92nm,1.0s
OJC Ojcow 74.78 322 *e*P **P 18 48 49.8 +0.3**
comp=Z,92nm,1.0s
OJC *e*pP **pP 18 50 27.9 +3.0**
TRPA Tarpa 74.78 320 ‖ *esPKiKP* **P 18 48 50.0 +0.5**
CRVS Cervenica-Dubn 74.83 321 *e*P **P 18 48 50.1 +0.3**
CRVS Cervenica-Dubn 74.83 321 *e*P **P 18 48 50.1 +0.3**
SECR 74.85 316 ⇑ *i*P **P 18 48 50.7 +0.7**
WALA Waterton Lakes 74.87 39 *e*P **P 18 48 51.1 +1.0**
comp=Z,17nm,0.8s
SULR 74.97 315 ⇑ *i*P **P 18 48 50.8 +0.2**
MUD Monsted U'grnd 74.97 332 *i* P **P 18 48 50.6 +0.2**
comp=Z,19nm,0.7s
MUD Monsted U'grnd 74.97 332 *i* P **P 18 48 50.6 +0.2**
MUD pmax pmax
comp=Z,19nm,0.7s
MUD Monsted U'grnd 74.97 332 *e*P **P 18 48 50.7 +0.2**
I07A Izee 75.06 46 *e*P **P 18 48 52.4 +1.0**
comp=Z,13nm,0.7s
NIE Niedzica 75.06 322 *e*P **P 18 48 52.1 +1.0**
NIE Niedzica 75.06 322 *e*P **P 18 48 52.1 +1.0**
N02D Trinity Center 75.09 50 P **P 18 48 53.3 +1.8**
baz=307,SNR=9.0
K05A Summer Lake 75.10 47 *e*P **P 18 48 53.3 +1.6**

M04C **Macdoel** 75.12 49 P P 18 48 53.4 +1.7
baz=308
F10A **Beach Ranch, E** 75.13 43 eP P 18 48 52.6 +1.0
comp=Z,23nm,1.0s
CJR **Cluj-Napoca** 75.13 318⇓ iP P 18 48 51.9 +0.3
VOIR 75.16 316⇓ iP P 18 48 51.7 -0.1
SGRR **Singureni** 75.41 315⇑ iP P 18 48 52.5 -0.6
WDC **Whiskeytown Da** 75.43 50 eP P 18 48 54.0 +0.7
WDC pmax pmax
comp=Z,26nm,0.9s
WDC **Whiskeytown Da** 75.43 50 eP P 18 48 54.0 +0.7
comp=Z,26nm,0.9s
ARR **Arges** 75.43 316⇑ iP P 18 48 54.2 +0.9
SFJD **Kangerlussuaq** 75.45 2 P P 18 48 53.6 +0.7
comp=Z,7.9nm,0.6s,baz=57,slow=1.5,SNR=7.4
SFJD **Kangerlussuaq** 75.45 2 iP P 18 48 53.8 +0.9
comp=Z,9.6nm,0.7s
SFJD **Kangerlussuaq** 75.45 2 iP P 18 48 53.8 +0.9
SFJD pmax pmax
comp=Z,10.0nm,0.7s
JTMT **Jette** 75.54 40 eP P 18 48 55.2 +1.2
comp=Z,34nm,0.8s
DRGR 75.55 318⇓ iP P 18 48 54.3 +0.3
KECS **Kecovo** 75.59 321 eP P 18 48 54.1 +0.1
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS **Kecovo** 75.59 321 eP P 18 48 54.1 +0.1
LANS **Liptovska Anna** 75.65 322 eP P 18 48 55.5 +1.1
LANS **Liptovska Anna** 75.65 322 eP P 18 48 55.5 +1.1
BMO **Blue Mountains** 75.80 44 eP P 18 48 56.5 +1.1
BMO pmax pmax
comp=Z,31nm,0.7s
BMO **Blue Mountains** 75.80 44 eP P 18 48 56.5 +1.1
comp=Z,31nm,0.7s
OKC **Ostrava-Krasne** 75.83 323⇓ eP P 18 48 55.7 +0.4
OKC **Ostrava-Krasne** 75.83 323 eP P 18 48 55.7 +0.4
LOT **Lotru** 75.85 317⇓ iP P 18 48 55.8 +0.1
FCC **Fort Churchill** 75.90 23 eP P 18 48 56.0 +0.5
FCC **Fort Churchill** 75.90 23 eP P 18 48 56.0 +0.5
MOD **Modoc Plateau** 75.95 48 eP P 18 48 57.4 +0.9
comp=Z,27nm,0.8s
KSP **Ksiaz** 76.01 325 eP P 18 48 57.1 +0.8
KSP **Ksiaz** 76.01 325 eP P 18 48 57.1 +0.8
O03D **Paynes Creek** 76.05 50 P P 18 48 57.7 +0.8
baz=308,SNR=7.6
J08A **Circle Bar Ran** 76.09 46 eP P 18 48 58.4 +1.3
comp=Z,53nm,0.8s
MORC **Moravsky Berou** 76.16 323⇓ iP P 18 48 57.6 +0.4
MORC **Moravsky Berou** 76.16 323 eP P 18 48 57.3 0.0
MORC e*PP pP 18 50 32.7 -0.4
MORC pmax pmax
comp=Z,169nm,0.9s
MORC **Moravsky Berou** 76.16 323 eP P 18 48 57.3 0.0
comp=Z,169nm,0.9s
MORC epP pP 18 50 32.7 -0.4
FFC **Flin Flon** 76.23 30 eP P 18 48 57.8 +0.3
FFC e*PP pP 18 50 33.9 +0.5
FFC pmax pmax
comp=Z,29nm,0.8s
FFC **Flin Flon** 76.23 30 eP P 18 48 57.8 +0.3
comp=Z,29nm,0.8s
FFC epP pP 18 50 33.9 +0.5
PSZ **Piszkesteto** 76.26 321⇓ iP P 18 48 58.5 +0.5
PSZ **Piszkesteto** 76.26 321 eP P 18 48 58.4 +0.5
PSZ e*PP pP 18 50 33.2 -0.6
PSZ pmax pmax
comp=Z,57nm,1.2s
PSZ **Piszkesteto** 76.26 321⇓ ex P 18 48 58.4 +0.5
PSZ **Piszkesteto** 76.26 321 eP P 18 48 58.4 +0.5
comp=Z,57nm,1.2s
PSZ epP pP 18 50 33.2 -0.6
MSO **Missoula** 76.31 41 P P 18 48 59.2 +0.9
baz=311
MSO **Missoula** 76.31 41 eP P 18 48 58.7 +0.4
DPC **Dobruska-Polom** 76.33 324 eP P 18 48 59.2 +1.0
DPC epP pP 18 50 34.4 +0.3
DPC ex x 18 50 38.4
DPC **Dobruska-Polom** 76.33 324 eP P 18 48 59.2 +1.0
DPC e*PP pP 18 50 34.4 +0.3
MMAI **Mount Meron Ar** 76.35 301 P P 18 48 58.7 0.0
comp=Z,25nm,0.9s,baz=49,slow=6.5,SNR=11
UPC **Upice** 76.37 324⇓ eP P 18 48 59.1 +0.7
UPC ex x 18 49 05.0
UPC **Upice** 76.37 324 eP P 18 48 59.1 +0.7
UPC e 18 49 05.0
VYHS **Vyhne** 76.40 322 eP P 18 48 59.1 +0.5
VYHS pmax pmax
comp=Z,18nm,1.2s
VYHS **Vyhne** 76.40 322 eP P 18 48 59.1 +0.5
CSS **Mathiatis** 76.58 304 eP P 18 48 59.6 -0.3
comp=Z,38nm,1.7s
WVOR **Wild Horse Val** 76.58 46 eP P 18 49 01.1 +1.2
WVOR pmax pmax
comp=Z,28nm,0.9s
WVOR **Wild Horse Val** 76.58 46 eP P 18 49 01.1 +1.2
comp=Z,28nm,0.9s
ORV **Oroville** 76.69 50 eP P 18 49 00.6 +0.3
ORV pmax pmax
comp=Z,29nm,1.0s
ORV **Oroville** 76.69 50 eP P 18 49 00.6 +0.3
comp=Z,29nm,1.0s
BZS **Buzias** 76.89 318⇑ iP P 18 49 01.0 -0.3
VRAC **Vranov** 76.93 323 P P 18 49 02.3 +0.8
comp=Z,37nm,0.8s,baz=52,slow=5.0,SNR=50
VRAC **Vranov** 76.93 323⇑ iP P 18 49 01.9 +0.4
SNT **Sears Point** 76.94 52 eP P 18 49 03.2 +1.4
BUD **Budapest** 76.99 321 ex P 18 49 02.5 +0.7
PVCC **Panska Ves** 77.01 325⇓ eP P 18 49 02.8 +0.9
PVCC **Panska Ves** 77.01 325 eP P 18 49 02.8 +0.9
BRG **Berggiesshubel** 77.05 326⇓ iP P 18 49 02.5 +0.4
comp=Z,20nm,0.9s
BRG e 18 50 37.8
comp=Z,18nm,1.5s
BRG **Berggiesshubel** 77.05 326⇓ iP P 18 49 02.5 +0.4
BRG e 18 50 37.8
BRG pmax pmax
comp=Z,20nm,0.9s
BRG pmax pmax
comp=Z,18nm,1.5s
SMOL **Smolenice** 77.07 322 eP P 18 49 03.2 +0.9
SMOL **Smolenice** 77.07 322 eP P 18 49 03.2 +0.9
SRO **Srobarova** 77.12 321 eP P 18 49 03.1 +0.6
SRO **Srobarova** 77.12 321 eP P 18 49 03.1 +0.6
CLL **Collm** 77.16 326⇓ iP P 18 49 02.9 +0.2
CLL e*PP pP 18 50 36.0 -2.8
CLL pmax pmax
comp=Z,56nm,0.9s
CLL **Collm** 77.16 326⇓ iP P 18 49 02.9 +0.2
comp=Z,56nm,0.9s
CLL epP pP 18 50 38.0 -0.8
CLL iPmax 18 50 42.0
comp=Z,23nm,1.2s
CLL ePP PP 18 52 03.0 -0.1
CLL **Collm** 77.16 326 eP P 18 49 02.3 -0.4
comp=Z,55nm,0.9s
CLL epP pP 18 50 38.2 -0.6
BEKR **Beckworth** 77.18 49 eP P 18 49 04.3 +1.0
comp=Z,38nm,0.9s
MPEP **Malo Peshtene** 77.21 315 iP P 18 49 03.7 +0.6
FRB **Frobisher Bay** 77.24 10 P P 18 49 03.4 +0.6
comp=Z,7.0nm,0.7s,baz=173,slow=5.6,SNR=13
MODS **Modra-Piesok** 77.24 322 eP P 18 49 03.3 +0.1
MODS **Modra-Piesok** 77.24 322 eP P 18 49 03.3 +0.1
GOPC **GO Pecny, Ondr** 77.35 325 eP P 18 49 04.5 +0.7
GOPC **GO Pecny, Ondr** 77.35 325 eP P 18 49 04.5 +0.7
AFDM **Forest Hills D** 77.38 50 eP P 18 49 04.7 +0.5
comp=Z,16nm,1.0s
PRU **Pruhonice** 77.41 325⇓ eP P 18 49 04.6 +0.5
PRU **Pruhonice** 77.41 325 eP P 18 49 04.6 +0.5
CSKK **Cs˙kako** 77.45 321 ex P 18 49 04.9 +0.5
HRY **Holter Researc** 77.47 40 eP P 18 49 05.8 +1.1
MFID **Camas Ranch** 77.54 44 eP P 18 49 06.2 +1.1
comp=Z,63nm,1.2s
EGMT **Eagleton** 77.61 38 P P 18 49 06.4 +1.0
baz=314
EGMT **Eagleton** 77.61 38 eP P 18 49 06.2 +0.9
comp=Z,63nm,1.3s
RZN **Rozhen** 77.73 314 iP P 18 49 06.5 +0.2
LRM **Limekiln Ridge** 77.76 41 eP P 18 49 07.5 +1.2
PAHR **Pah Rah Range** 77.87 49 eP P 18 49 07.6 +0.6
comp=Z,42nm,1.1s
DLMT **Dillon** 77.99 41 eP P 18 49 08.6 +1.0
comp=Z,73nm,0.8s

VTS **Vitosha** 78.01 315⇓ iP P 18 49 07.9 +0.2
VTS **Vitosha** 78.01 315 eP P 18 49 07.8 +0.1
VTS e*PP pP 18 50 48.0 +3.9
VTS pmax pmax
comp=Z,21nm,0.8s
VTS **Vitosha** 78.01 315 eP P 18 49 07.8 +0.1
comp=Z,21nm,0.8s
VTS epP pP 18 50 48.0 +3.9
VTS **Vitosha** 78.01 315 iP P 18 49 07.8 +0.1
MORH **M˙ţr˙gy, Hung** 78.04 320⇓ ex P 18 49 07.4 -0.1
SOP **Sopron** 78.07 322⇓ ex P 18 49 08.8 +1.1
NKC **Novy Kostel** 78.18 326⇓ eP P 18 49 09.1 +0.8
NKC **Novy Kostel** 78.18 326 eP P 18 49 09.1 +0.8
MCMT **McKenzie Canyo** 78.22 42 eP P 18 49 09.6 +0.7
HLID **Hailey** 78.22 44 P P 18 49 10.4 +1.6
baz=312
HLID **Hailey** 78.22 44 eP P 18 49 10.1 +1.2
comp=Z,23nm,1.1s
CONA **Conrad Observa** 78.23 323 iP P 18 49 09.8 +1.1
comp=Z,37nm,0.9s,SNR=24
CMB **Columbia Colle** 78.31 51 eP P 18 49 09.9 +0.6
CMB e*PP pP 18 50 49.6 +3.8
CMB pmax pmax
comp=Z,24nm,0.8s
CMB **Columbia Colle** 78.31 51 eP P 18 49 09.9 +0.6
comp=Z,24nm,0.8s
CMB epP pP 18 50 49.6 +3.8
BOZ **Bozeman (W)** 78.33 41 P P 18 49 10.4 +1.0
baz=313
BOZ **Bozeman (W)** 78.33 41 eP P 18 49 10.8 +1.4
BOZ pmax pmax
comp=Z,33nm,0.7s
BOZ **Bozeman (W)** 78.33 41 eP P 18 49 10.8 +1.4
comp=Z,33nm,0.7s
MMB **Musomiste** 78.36 314 iP P 18 49 09.7 +0.2
YERR **Yerington** 78.41 49 eP P 18 49 11.4 +1.4
comp=Z,32nm,1.0s
KHC **Kasperske Hory** 78.46 325⇓ iP P 18 49 10.4 +0.5
KHC epP pP 18 50 46.0 -0.4
KHC ex x 18 50 49.8
KHC **Kasperske Hory** 78.46 325⇓ iP P 18 49 10.4 +0.5
KHC e*PP pP 18 50 46.0 -0.4
KHC **Kasperske Hory** 78.46 325 eP P 18 49 09.9 0.0
comp=Z,13nm,0.9s
KHC epP pP 18 50 48.6 +2.2
KKB **Krupnik** 78.55 314 iP P 18 49 10.7 +0.3
WAKR **Walker** 78.60 50 eP P 18 49 12.0 +0.9
comp=Z,16nm,0.8s
GEC2 **GERESS Array S** 78.61 324 eP P 18 49 09.9 -0.8
GEC2 pmax pmax
comp=Z,22nm,0.9s
GEC2 **GERESS Array S** 78.61 324 eP P 18 49 09.9 -0.8
comp=Z,22nm,0.9s
GERES **GERESS Array B** 78.61 324 P P 18 49 10.8 +0.1
comp=Z,14nm,0.8s,baz=39,slow=5.2,SNR=105
GEA0 **GERESS Array S** 78.61 324 eP P 18 49 10.4 -0.3
GEA0 epP pP 18 50 47.2 -0.1
BMN **Battle Mountai** 78.68 47 eP P 18 49 12.4 +1.0
BMN pmax pmax
comp=Z,48nm,1.3s
BMN **Battle Mountai** 78.68 47 eP P 18 49 12.4 +1.0
comp=Z,48nm,1.3s
DIVS **Divibare** 78.77 318 eP P 18 49 11.1 -0.6
comp=Z,18nm,0.9s
DIVS epP pP 18 50 51.0 +2.7
BEHE **Becsehely** 78.80 321 ex P 18 49 12.2 +0.5
ARSA **Arzberg** 78.87 322 iP P 18 49 12.7 +0.6
comp=Z,17nm,0.7s,SNR=14
QLMT **Earthquake Lak** 78.96 41 eP P 18 49 14.3 +1.4
MOA **Molln** 79.05 323 iP P 18 49 13.6 +0.6
comp=Z,14nm,0.7s,SNR=9.8
RYN **Ryan** 79.07 49 eP P 18 49 14.5 +1.0
comp=Z,23nm,1.0s
RYN epP pP 18 50 51.8 +1.6
GRFO **Grafenberg** 79.12 326 eP P 18 49 13.8 +0.5
GRFO e*PP pP 18 50 49.9 -0.1
GRFO pmax pmax
comp=Z,51nm,1.0s
GRFO **Grafenberg** 79.12 326 eP P 18 49 13.8 +0.5
comp=Z,51nm,1.0s
GRFO epP pP 18 50 49.9 -0.1
YHB **Horse Butte** 79.13 41 eP P 18 49 15.4 +1.6
comp=Z,46nm,0.8s
GCMT **Greycliff** 79.20 40 eP P 18 49 15.3 +1.3
PMPB **Monarch Peak** 79.20 52 eP P 18 49 16.0 +1.9
comp=Z,21nm,1.1s
YHH **Holmes Hill** 79.29 41 eP P 18 49 15.8 +1.1
comp=Z,28nm,1.3s
YMR **Madison River** 79.31 41 eP P 18 49 16.6 +1.8
comp=Z,25nm,0.9s
NV01 **Mina Array Sit** 79.33 49 eP P 18 49 15.8 +0.8
NV01 epP pP 18 50 53.3 +1.6
NVAR **Mina Array Bea** 79.33 49 P P 18 49 16.3 +1.3
comp=Z,12nm,0.6s,baz=292,slow=5.4,SNR=81
NVAR pP pP 18 50 53.4 +1.7
comp=Z,2.7nm,0.7s,baz=296,slow=4.9,SNR=3.6
NV11 **Mina Array St** 79.42 49 eP P 18 49 16.3 +1.0
comp=Z,1.6nm,1.1s
YNR **Norris Junctio** 79.43 41 eP P 18 49 17.3 +2.0
comp=Z,25nm,1.3s
PERS **Pernice** 79.50 322 eP P 18 49 15.8 +0.3
SOKA **Soboth** 79.52 322 iP P 18 49 16.1 +0.5
comp=Z,52nm,0.6s,SNR=60
YFT **Old Faithful** 79.53 41 eP P 18 49 18.7 +2.8
comp=Z,22nm,0.7s
YPP **Pitchstone Pla** 79.67 41 eP P 18 49 18.9 +2.1
comp=Z,14nm,0.9s
YPP epP pP 18 50 52.1 -1.5
H17A **Grant Village** 79.70 41 P P 18 49 19.9 +3.0
baz=314
H17A **Grant Village** 79.70 41 eP P 18 49 19.4 +2.6
comp=Z,47nm,0.8s
H17A epP pP 18 50 55.8 +2.0
BLY **Banja Luka** 79.79 320⇓ iP P 18 49 17.2 +0.2
BLY **Banja Luka** 79.79 320 eP P 18 49 17.2 +0.2
comp=Z,12nm,0.9s
PAGB **Antelope Grade** 79.85 53 eP P 18 49 18.6 +1.1
comp=Z,40nm,1.0s
IMW **Indian Meadow** 79.85 42 eP P 18 49 19.1 +1.3
comp=Z,30nm,0.9s
RLMT **Red Lodge** 79.87 40 P P 18 49 19.0 +1.3
baz=314
RLMT **Red Lodge** 79.87 40 eP P 18 49 18.6 +0.9
comp=Z,97nm,1.6s
OBKA **Obir** 79.87 322 iP P 18 49 17.6 +0.1
comp=Z,14nm,0.7s,SNR=13
DGMT **Dagmar** 79.91 35 P P 18 49 18.5 +0.9
baz=317
DGMT **Dagmar** 79.91 35 eP P 18 49 18.2 +0.7
comp=Z,84nm,0.8s
FXWY **Fox Creek** 79.98 42 eP P 18 49 19.8 +1.4
comp=Z,14nm,1.0s
KBA **Koelnbreinsper** 80.04 323 iP P 18 49 18.6 +0.1
comp=Z,24nm,0.7s,SNR=15
MOOW **Moose Ponds** 80.06 42 eP P 18 49 20.1 +1.4
comp=Z,28nm,1.2s
EKA **Eskdalemuir Ar** 80.13 337 P P 18 49 18.5 0.0
comp=Z,2.4nm,0.5s,baz=34,slow=4.8,SNR=17
TPAW **Teton Pass** 80.13 42 eP P 18 49 20.1 +1.0
comp=Z,20nm,0.8s
MYKA **Terra Mystica** 80.22 323 iP P 18 49 19.1 -0.3
comp=Z,16nm,0.7s,SNR=12
LOHW **Long Hollow** 80.22 42 eP P 18 49 21.0 +1.4
comp=Z,68nm,2.0s
VISS **Visnje** 80.23 322 iP P 18 49 19.1 -0.1
BOJS **Bojanci** 80.24 321 eP P 18 49 19.4 +0.1
SNOW **Snow King Moun** 80.25 42 eP P 18 49 21.3 +1.5
comp=Z,22nm,0.8s
LAO **LASA Array** 80.26 37 P P 18 49 20.5 +1.0
baz=316
LAO **LASA Array** 80.26 37 eP P 18 49 20.5 +1.0
comp=Z,27nm,1.0s
LAO epP pP 18 50 57.1 +0.6
TIN **Tinemaha, Big** 80.26 50 P P 18 49 21.0 +1.3
baz=310
REDW **Red Top Meadow** 80.27 42 eP P 18 49 20.8 +1.0
comp=Z,23nm,1.0s
REDW epP pP 18 50 58.4 +1.5
SMMC **Simmler** 80.28 53 P P 18 49 21.2 +1.4
baz=310
PDG **Podgorica** 80.29 317⇓ iP P 18 49 19.9 +0.3
TTG **Podgorica** 80.29 317 eP P 18 49 19.2 -0.4
TTG e*PP pP 18 50 57.8 +1.1
TTG pmax pmax
comp=Z,29nm,0.7s
TTG **Podgorica** 80.29 317 eP P 18 49 19.2 -0.4

comp=Z,29nm,0.7s
TTG epP pP 18 50 57.8 +1.1
HVU **Hansel Valley** 80.31 44 eP P 18 49 21.3 +1.3
HVU e*PP pP 18 50 59.9 +2.9
HVU pmax pmax
comp=Z,15nm,0.7s
HVU **Hansel Valley** 80.31 44 eP P 18 49 21.3 +1.3
comp=Z,15nm,0.7s
HVU epP pP 18 50 59.9 +2.9
VES **Vestal, Richgr** 80.51 52 P P 18 49 21.3 +0.4
baz=310,SNR=6.3
AHID **Auburn Hatcher** 80.55 42 eP P 18 49 22.0 +0.7
comp=Z,20nm,0.9s
JAVS **Javornik** 80.55 322 eP P 18 49 20.5 -0.6
MEM **Membach** 80.63 329⇓ iP P 18 49 21.0 -0.3
comp=Z,13nm,1.1s
PKM **Mcpherson Peak** 80.66 53 P P 18 49 23.3 +1.3
baz=310,SNR=14
UDBI **Udbina** 80.67 320 P P 18 49 21.4 -0.3
ABTA **Abfaltersbach** 80.67 323 iP P 18 49 20.8 -0.9
comp=Z,26nm,1.3s,SNR=11
TIR **Tirane** 80.69 316⇓ iP P 18 49 22.8 +1.0
WTTA **Wattenberg** 80.71 324 iP P 18 49 22.2 +0.2
comp=Z,9.0nm,0.7s,SNR=5.2
BGU **Big Grassy Mou** 80.75 45 eP P 18 49 23.8 +1.5
comp=Z,55nm,1.9s
CWC **Cottonwood Cre** 80.75 51 P P 18 49 23.3 +0.9
baz=310
GRAC **Grapevine Rang** 80.82 50 P P 18 49 24.0 +1.4
baz=311
TRI **Trieste** 80.82 322 eP P 18 49 20.8 -1.6
TRI e*PP pP 18 50 57.4 -2.2
TRI pmax pmax
comp=Z,21nm,0.8s
TRI **Trieste** 80.82 322 eP P 18 49 20.8 -1.6
comp=Z,20nm,0.8s
TRI epP pP 18 50 57.4 -2.2
AGG **Agios Georgios** 80.86 313 eP P 18 49 21.3 -1.4
AGG e*PP pP 18 50 59.0 -0.9
AGG **Agios Georgios** 80.86 313 eP P 18 49 21.3 -1.4
AGG epP pP 18 50 59.0 -0.9
MOTA **Moosalm** 80.89 324 iP P 18 49 22.9 -0.1
comp=Z,6.8nm,0.6s,SNR=9.4
RETA **Reutte** 80.94 325 iP P 18 49 23.6 +0.5
comp=Z,29nm,0.8s,SNR=14
R11A **Troy Canyon, C** 81.00 48 P P 18 49 24.9 +1.2
baz=312,SNR=30
R11A **Troy Canyon, C** 81.00 48 eP P 18 49 24.6 +1.0
comp=Z,24nm,1.2s
ISA **Isabella, Lake** 81.00 52 P P 18 49 23.8 +0.2
baz=310,SNR=8.8
ISA **Isabella, Lake** 81.00 52 eP P 18 49 23.7 +0.1
ISA e*PP pP 18 51 00.5 -0.4
ISA pmax pmax
comp=Z,10.0nm,0.8s
ISA **Isabella, Lake** 81.00 52 eP P 18 49 23.7 +0.1
comp=Z,10nm,0.8s
ISA epP pP 18 51 00.5 -0.4
SBC **Santa Barbara** 81.01 53 P P 18 49 24.7 +1.1
baz=310
BCLA **Clavier** 81.06 329⇑ P P 18 49 22.8 -0.8
HWUT **Hardware Ranch** 81.09 44 eP P 18 49 25.1 +1.0
comp=Z,43nm,1.1s
HWUT epP pP 18 51 01.9 +0.5
ARVC **Arvin** 81.13 52 P P 18 49 24.9 +0.7
baz=310
DAC **Darwin (Calif)** 81.15 51 eP P 18 49 25.0 +0.5
DAC e*PP pP 18 51 01.1 -0.7
DAC pmax pmax
comp=Z,18nm,0.8s
DAC **Darwin (Calif)** 81.15 51 eP P 18 49 25.0 +0.5
comp=Z,18nm,0.8s
DAC epP pP 18 51 01.1 -0.7
WLF **Walferdange** 81.30 329⇑ P P 18 49 25.1 +0.3
FETA **Feichten** 81.31 324 iP P 18 49 25.3 +0.2
comp=Z,15nm,0.9s,SNR=9.4
MPMC **Manual Prospec** 81.36 51 P P 18 49 26.8 +1.1
baz=311,SNR=26
DUG **Dugway, Tooele** 81.36 45 P P 18 49 27.0 +1.5
baz=313,SNR=17
DUG **Dugway, Tooele** 81.36 45 eP P 18 49 26.5 +1.0
DUG e*PP pP 18 51 03.1 +0.3
DUG pmax pmax
comp=Z,22nm,1.0s
DUG **Dugway, Tooele** 81.36 45 eP P 18 49 26.5 +1.0
comp=Z,22nm,1.0s
DUG epP pP 18 51 03.1 +0.3
BW06 **Boulder Array** 81.36 42 P P 18 49 26.3 +0.7
baz=314
BW06 **Boulder Array** 81.36 42 eP P 18 49 25.9 +0.3
comp=Z,26nm,0.9s
BW06 epP pP 18 51 04.5 +1.6
PD31 **Pinedale Array** 81.36 42 eP P 18 49 25.9 +0.3
PD31 epP pP 18 51 04.6 +1.7
PDAR **Pinedale Array** 81.36 42 P P 18 49 26.2 +0.6
comp=Z,15nm,0.7s,baz=318,slow=2.0,SNR=76
PDAR **Pinedale Array** 81.36 42 eP P 18 49 25.9 +0.3
BFO **Black Forest** 81.40 327 iP P 18 49 25.7 +0.3
BFO **Black Forest** 81.40 327 eP P 18 49 25.0 -0.4
comp=Z,26nm,0.7s
BFO epP pP 18 51 01.8 -0.9
FURC **Furnace Creek,** 81.47 50 P P 18 49 27.3 +1.4
baz=311,SNR=25
DAVA **Damuels** 81.50 325 iP P 18 49 26.3 +0.3
comp=Z,40nm,0.7s,SNR=16
TCUT **Toone Canyon** 81.51 44 eP P 18 49 27.4 +1.1
comp=Z,51nm,0.7s
DOU **Dourbes** 81.60 330⇑ P P 18 49 25.3 -1.0
CTU **Camp Tracy** 81.61 44 eP P 18 49 27.6 +0.7
comp=Z,16nm,1.2s
BLG **Laguna Peak, P** 81.64 53 P P 18 49 27.6 +0.8
baz=310
ALPC **Antelope** 81.74 52 eP P 18 49 28.9 +1.5
EDW2 **Edwards Air Fo** 81.81 52 P P 18 49 28.9 +1.1
baz=311,SNR=25
FUORN **Ofenpass-Fuorn** 81.82 324 eP P 18 49 28.1 +0.2
comp=Z,44nm,0.8s
FUORN epP pP 18 51 04.4 -1.0
JLU **Jordanelle** 81.84 44 eP P 18 49 29.1 +1.0
comp=Z,10nm,0.7s
SNCC **San Nicolas Is** 81.89 54 P P 18 49 29.1 +1.0
baz=310
HTU **Hoyt Peak** 81.92 44 eP P 18 49 29.9 +1.4
NLU **North Lily Min** 81.94 45 eP P 18 49 29.9 +1.3
comp=Z,18nm,0.9s
ECH **Echery** 82.00 327 eP P 18 49 28.0 -0.4
ECH e*PP pP 18 51 06.2 +0.3
ECH pmax pmax
comp=Z,18nm,1.0s
ECH **Echery** 82.00 327 eP P 18 49 28.0 -0.4
comp=Z,18nm,1.0s
ECH epP pP 18 51 06.2 +0.3
DECC **Green Verdugo** 82.00 53 P P 18 49 29.6 +0.8
baz=311
ULM **Lac du Bonnet** 82.06 30 P P 18 49 28.9 +0.2
comp=Z,33nm,0.8s,baz=323,slow=7.0,SNR=60
ULM **Lac du Bonnet** 82.06 30 eP P 18 49 28.9 +0.2
ULM pmax pmax
comp=Z,38nm,0.9s
ULM **Lac du Bonnet** 82.06 30 eP P 18 49 28.9 +0.2
comp=Z,38nm,0.9s
MWC **Mount Wilson** 82.20 53 eP P 18 49 30.1 +0.2
MWC pmax pmax
comp=Z,26nm,0.9s
MWC **Mount Wilson** 82.20 53 eP P 18 49 30.1 +0.2
comp=Z,26nm,0.9s
SHOC **Shoshone, Teco** 82.20 50 P P 18 49 30.9 +1.2
baz=312,SNR=7.9
GSC **Goldstone, Bar** 82.27 51 P P 18 49 31.1 +0.9
baz=311,SNR=34
GSC **Goldstone, Bar** 82.27 51 eP P 18 49 30.8 +0.6
GSC pmax pmax
comp=Z,45nm,0.9s
GSC **Goldstone, Bar** 82.27 51 eP P 18 49 30.8 +0.6
comp=Z,45nm,0.9s
TUE **Stuetta** 82.35 325 eP P 18 49 30.4 -0.1
comp=Z,27nm,0.9s
TUE epP pP 18 51 07.0 -1.1
FMP **Fort Macarthur** 82.38 53 P P 18 49 31.6 +1.0
baz=311
FMP **Fort Macarthur** 82.38 53 eP P 18 49 29.8 -0.8
MDND **Maddock** 82.41 33 P P 18 49 31.5 +0.9
baz=320
MDND **Maddock** 82.41 33 eP P 18 49 30.8 +0.3
comp=Z,41nm,0.8s
MDND epP pP 18 51 07.4 -0.8

RRX	Edison Barstow	82.43	51	P		P	18 49 32.3	+1.4
	baz=311							
BFSC	Mount Baldy Ra	82.44	52	P		P	18 49 31.6	+0.5
	baz=311,SNR=14							
SHPR	Sheep Range	82.48	49	*eP*		P	18 49 32.7	+1.4
	comp=Z,33nm,0.9s							
CIS	Catalina Islan	82.50	53	P		P	18 49 31.9	+0.6
	baz=311							
SCI2	San Clemente I	82.69	54	P		P	18 49 33.0	+0.8
	baz=311							
TUQ	Turquoise Moun	82.72	50	P		P	18 49 33.6	+1.1
	baz=312							
B31A	Greenbush Farm	82.78	32	P		P	18 49 32.6	+0.2
	baz=322							
CCUT	Cedar City	82.84	48	*eP*		P	18 49 34.2	+1.0
	comp=Z,12nm,0.7s							
MSU	Marysvale	82.87	46	*eP*		P	18 49 35.0	+1.7
MSU	Marysvale	82.87	46	*eP*		P	18 49 35.0	+1.7
A32A	Rocking H Ranc	82.87	31	P		P	18 49 33.1	+0.2
	baz=322							
HEC	Hector,Ludlow	82.87	51	P		P	18 49 34.2	+0.9
	baz=312,SNR=24							
TMUT	Trail Mountain	82.88	45	*eP*		P	18 49 34.7	+1.2
	comp=Z,12nm,0.6s							
BBRC	Big Bear Solar	82.88	52	P		P	18 49 34.0	+0.5
	baz=311							
MATE	Matera	82.91	317	*ij iP*		P	18 49 32.9	-0.2
P17A	Butcher Ranch,	83.02	45	*eP*		P	18 49 35.1	+1.1
	comp=Z,33nm,0.9s							
K22A	Casper	83.02	40	P		P	18 49 34.2	+0.3
	baz=316							
MURC	Murrieta	83.15	53	P		P	18 49 35.1	+0.5
	baz=311,SNR=5.6							
Q16A	Castle Valley	83.16	45	*eP*		P	18 49 35.8	+1.1
	comp=Z,11nm,0.6s							
P18A	Preston Nutter	83.18	44	*eP*		P	18 49 36.2	+1.2
	comp=Z,42nm,0.7s							
P18A				*epP*		*pP*	18 51 12.7	-0.2
RSSD	Black Hills	83.18	38	P		P	18 49 35.3	+0.5
	baz=318							
RSSD	Black Hills	83.18	38	*eP*		P	18 49 35.0	+0.2
RSSD				pmax		pmax		
	comp=Z,22nm,0.6s							
RSSD	Black Hills	83.18	38	*eP*		P	18 49 35.0	+0.2
	comp=Z,22nm,0.6s							
MTPU	Mount Pierson	83.19	46	*eP*		P	18 49 37.0	+1.9
	comp=Z,31nm,0.9s							
C31A	Landman Farms,	83.24	32	P		P	18 49 35.1	+0.3
	baz=322							
B32A	Ashes, Strandq	83.27	31	P		P	18 49 35.0	+0.2
	baz=322							
LCMT	Little Creek M	83.27	48	*eP*		P	18 49 36.7	+1.4
	comp=Z,14nm,0.8s							
A33A	Warroad	83.30	30	P		P	18 49 35.3	+0.3
	baz=323							
GMRC	Granite Mounta	83.32	51	P		P	18 49 36.8	+1.2
	baz=312,SNR=39							
SENIN	Lac Senin/Sane	83.35	326	*eP*		P	18 49 35.5	-0.1
	comp=Z,77nm,2.0s							
SRU	San Rafael Swe	83.39	45	*eP*		P	18 49 37.1	+1.2
SRU				*e**PP		*pP*	18 51 14.5	+0.7
SRU				pmax		pmax		
	comp=Z,27nm,1.1s							
SRU	San Rafael Swe	83.39	45	*eP*		P	18 49 37.1	+1.2
	comp=Z,27nm,1.1s							
SRU				*epP*		*pP*	18 51 14.5	+0.7
AQU	L'Aquila	83.43	320	*eP*		P	18 49 36.5	+0.7
AQU				*e**PP		*pP*	18 51 14.4	+0.7
AQU				pmax		pmax		
	comp=Z,58nm,0.9s							
AQU	L'Aquila	83.43	320	*eP*		P	18 49 36.5	+0.7
	comp=Z,58nm,0.9s							
AQU				*epP*		*pP*	18 51 14.4	+0.7
KNB	Kanab	83.52	48	*eP*		P	18 49 37.9	+1.3
KNB				pmax		pmax		
	comp=Z,41nm,1.0s							
KNB	Kanab	83.52	48	*eP*		P	18 49 37.9	+1.3
	comp=Z,41nm,1.0s							
PKCU	Pink Cliffs	83.52	47	*eP*		P	18 49 38.1	+1.3
	comp=Z,25nm,0.8s							
MMU	Miners Mountai	83.59	46	*eP*		P	18 49 38.8	+1.8
VLC	Villacollemand	83.59	323	*eP*		P	18 49 36.5	-0.1
	comp=Z,43nm,1.5s							
PFO	Pinyon Flats O	83.60	52	P		P	18 49 37.8	+0.8
	baz=312,SNR=15							
PFO	Pinyon Flats O	83.60	52	*eP*		P	18 49 37.5	+0.5
PFO				*e**PP		*pP*	18 51 14.4	-0.6
PFO				pmax		pmax		
	comp=Z,40nm,0.8s							
PFO	Pinyon Flats O	83.60	52	*eP*		P	18 49 37.5	+0.5
	comp=Z,40nm,0.8s							
PFO				*epP*		*pP*	18 51 14.4	-0.6
XPFO	Piæon Flat	83.60	52	*eP*		P	18 49 37.5	+0.5
	comp=Z,46nm,0.9s							
XPFO				*epP*		*pP*	18 51 14.4	-0.6
AGMN	Agassiz Nation	83.62	31	P		P	18 49 36.5	-0.1
	baz=323,SNR=6.2							
AGMN	Agassiz Nation	83.62	31	*eP*		P	18 49 36.5	-0.1
	comp=Z,14nm,0.8s							
BELC	Belle Mtn. Jos	83.63	52	P		P	18 49 37.8	+0.6
	baz=312,SNR=23							
ATD	Arta Tunnel	83.64	280	*eP*		P	18 49 38.4	+1.0
	comp=Z,68nm,1.0s							
109C	Camp Elliot, M	83.67	53	P		P	18 49 37.7	+0.5
	baz=311							
B33A	Robert and Kas	83.75	31	P		P	18 49 37.5	+0.2
	baz=323							
D31A	Mcclaflin, Tow	83.83	32	P		P	18 49 38.0	+0.3
	baz=322							
CUC	Castrocucco	83.85	317	*eP*		P	18 49 37.0	-1.0
	comp=Z,8.2nm,1.1s							
TIP	Timpagrande	83.91	316	*ij iP*		P	18 49 38.2	-0.1
TIP	Timpagrande	83.91	316	*eP*		P	18 49 38.1	-0.2
	comp=Z,14nm,1.0s							
O20A	White River Ci	83.92	43	P		P	18 49 39.2	+0.7
	baz=316,SNR=6.5							
O20A	White River Ci	83.92	43	*eP*		P	18 49 39.0	+0.4
	comp=Z,56nm,0.8s							
B34A	Aery, Baudette	83.95	30	P		P	18 49 38.5	+0.2
	baz=324,SNR=8.7							
NEE2	Needles Airpor	83.97	50	P		P	18 49 39.3	+0.7
	baz=312							
IRM	Iron Mountain	84.05	51	P		P	18 49 40.4	+1.3
	baz=312,SNR=27							
BAR	Barrett	84.08	53	*eP*		P	18 49 39.6	+0.4
	comp=Z,20nm,0.8s							
C33A	Trail	84.08	31	P		P	18 49 39.1	+0.2
	baz=323							
MONP2	Monument Peak	84.10	53	P		P	18 49 40.2	+0.6
	baz=312,SNR=11							
E31A	Nome	84.14	33	P		P	18 49 39.8	+0.5
	baz=322							
W13A	Hualapai Mount	84.19	50	*eP*		P	18 49 40.8	+0.9
	comp=Z,15nm,0.9s							
BC3	Big Chuckawall	84.20	52	P		P	18 49 40.8	+0.9
	baz=312,SNR=13							
U15A	North Rim	84.23	48	*eP*		P	18 49 41.6	+1.3
	comp=Z,67nm,0.9s							
B35A	Bob, Littlefor	84.42	30	P		P	18 49 41.2	+0.6
	baz=324,SNR=38							
SWSC	Sam W. Stewart	84.45	52	P		P	18 49 41.7	+0.7
	baz=312							
IKP	In-Ko-Pah, Jac	84.46	53	P		P	18 49 42.0	+0.8
	baz=312,SNR=6.7							
E32A	Braaten, Kindr	84.47	32	P		P	18 49 41.0	+0.2
	baz=322							
C34A	RKJ Ranch, Bem	84.52	31	P		P	18 49 41.4	+0.2
	baz=324							
F31A	Hecla	84.53	34	P		P	18 49 41.6	+0.4
	baz=321							
PHWY	Pilot Hill	84.54	40	*eP*		P	18 49 41.4	-0.4
	comp=Z,22nm,1.1s							
D33A	AnnSam, Waubun	84.55	31	P		P	18 49 41.2	0.0
	baz=323							
PDMCI	Parker Dam,Lak	84.57	50	P		P	18 49 42.4	+0.8
	baz=313,SNR=18							
N23A	Red Feather La	84.59	41	P		P	18 49 43.0	+1.0
	baz=317,SNR=10							
N23A	Red Feather La	84.59	41	*eP*		P	18 49 42.7	+0.7
	comp=Z,50nm,1.4s							
PV09	Paradox Valley	84.59	44	*eP*		P	18 49 43.2	+1.2
BNI	Bardonecchia	84.64	325	*eP*		P	18 49 41.7	-0.2
BNI				*e**PP		*pP*	18 51 20.6	+0.4
BNI				pmax		pmax		
	comp=Z,15nm,1.2s							
BNI	Bardonecchia	84.64	325	*eP*		P	18 49 41.7	-0.2
	comp=Z,15nm,1.2s							
BNI				*epP*		*pP*	18 51 20.6	+0.4
Y12C	Blythe	84.71	51	P		P	18 49 43.3	+1.0
	baz=313,SNR=8.0							
Y12C	Blythe	84.71	51	*eP*		P	18 49 43.0	+0.7
	comp=Z,34nm,0.8s							
C35A	Jirik Farms, M	84.85	30	P		P	18 49 43.0	+0.2
	baz=324,SNR=9.1							
D34A	Park Rapids	84.86	31	P		P	18 49 43.0	+0.2
	baz=323,SNR=7.8							
PV05	Paradox Valley	84.91	45	*eP*		P	18 49 44.5	+1.0
HIZ	Hauiti	84.92	149	*eP*		P	18 49 45.2	+2.2
	comp=Z,78nm,0.9s							
E33A	Westby DABS, E	84.99	32	P		P	18 49 43.9	+0.5
	baz=323,SNR=5.9							
GLA	Glamis	84.99	52	P		P	18 49 44.6	+0.9
	baz=312,SNR=5.7							
F32A	Veblen	85.01	33	P		P	18 49 43.8	+0.3
	baz=322							
G31A	Conde	85.05	34	P		P	18 49 44.4	+0.6
	baz=322							
PV01	Paradox Valley	85.16	44	*eP*		P	18 49 45.8	+1.0
C36A	Pine Crest Far	85.25	29	P		P	18 49 45.3	+0.6
	baz=325,SNR=18							
SMCO	Snowmass	85.29	43	*eP*		P	18 49 46.4	+0.8
	comp=Z,20nm,0.8s							
SUSD	Miller	85.32	35	P		P	18 49 45.5	+0.4
	baz=321							
D35A	Remer	85.32	30	P		P	18 49 45.1	+0.1
	baz=324							
E34A	Wadena	85.33	31	P		P	18 49 45.4	+0.3
	baz=323							
G32A	Webster	85.33	33	P		P	18 49 45.7	+0.5
	baz=322							
F33A	5 Mile Ranch,	85.39	32	P		P	18 49 45.9	+0.5
	baz=323,SNR=6.0							
WUAZ	Wupatki	85.40	48	P		P	18 49 47.3	+1.4
	baz=314,SNR=18							
WUAZ	Wupatki	85.40	48	*eP*		P	18 49 46.8	+0.9
	comp=Z,31nm,1.0s							
H31A	Wolsey	85.51	35	P		P	18 49 46.4	+0.4
	baz=321							
Y14A	Wickenburg	85.51	50	*eP*		P	18 49 46.9	+0.6
	comp=Z,94nm,1.1s							
C37A	Embarrass	85.53	29	P		P	18 49 46.6	+0.5
	baz=325,SNR=16							
ISCO	Idaho Springs	85.56	42	P		P	18 49 47.8	+1.1
	baz=317,SNR=12							
ISCO	Idaho Springs	85.56	42	*eP*		P	18 49 47.3	+0.5
ISCO				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ISCO	Idaho Springs	85.56	42	*eP*		P	18 49 47.3	+0.5
	comp=Z,9.7nm,0.8s							
E35A	Pequot Lakes	85.60	31	P		P	18 49 46.8	+0.3
	baz=324,SNR=5.1							
EYMN	Ely	85.61	29	P		P	18 49 47.1	+0.7
	baz=326,SNR=13							
EYMN	Ely	85.61	29	*eP*		P	18 49 46.6	+0.1
	comp=Z,24nm,0.7s							
URZ	Urewera	85.66	147	P		P	18 49 45.9	-0.7
	comp=Z,18nm,0.7s,baz=286,slow=5.2,SNR=13							
I31A	Royce, Wessing	85.83	35	P		P	18 49 48.3	+0.7
	baz=321							
113A	Mohawk Valley,	85.84	51	*eP*		P	18 49 48.5	+0.7
	comp=Z,12nm,0.8s							
G33A	Ortonville	85.84	33	P		P	18 49 48.2	+0.6
	baz=323,SNR=5.1							
MVCO	Mesa Verde	85.86	45	P		P	18 49 49.4	+1.2
	baz=316,SNR=13							
MVCO	Mesa Verde	85.86	45	*eP*		P	18 49 49.1	+1.0
	comp=Z,26nm,1.0s							
F34A	Alexandria	85.86	32	P		P	18 49 48.1	+0.4
	baz=323							
C38A	Sawbill Land.	85.89	29	P		P	18 49 48.3	+0.5
	baz=326,SNR=18							
D37A	Cotton	85.90	30	P		P	18 49 48.2	+0.3
	baz=325							
H32A	Carlson Farm,	85.95	34	P		P	18 49 48.3	+0.1
	baz=322							
SCHQ	Schefferville	86.05	12	P		P	18 49 48.7	+0.3
	comp=Z,7.9nm,0.8s,baz=1.3,slow=8.2,SNR=6.1							
SCHQ	Schefferville	86.05	12	*eP*		P	18 49 49.0	+0.6
	comp=Z,7.8nm,0.8s							
F35A	Swanville	86.10	31	P		P	18 49 49.2	+0.3
	baz=324							
E36A	McGregor	86.10	30	P		P	18 49 49.3	+0.5
	baz=325							
H33A	Prehn Over Nor	86.12	33	P		P	18 49 49.8	+0.8
	baz=322,SNR=14							
X16A	Lo Mia Camp, P	86.12	49	*eP*		P	18 49 50.7	+1.3
	comp=Z,16nm,0.9s							
G34A	Benson	86.15	32	P		P	18 49 49.8	+0.7
	baz=323,SNR=5.6							
BKZ	Black Stump Fm	86.16	148	*eP*		P	18 49 49.2	+0.1
	comp=Z,44nm,0.7s							
C39A	Grand Marais	86.23	28	P		P	18 49 49.5	+0.1
	baz=327							
J31A	Geddes	86.31	35	P		P	18 49 50.4	+0.4
	baz=321							
I32A	Karley and Nic	86.31	34	P		P	18 49 50.4	+0.5
	baz=322							
S22A	4UR Ranch, Cre	86.40	44	P		P	18 49 52.2	+1.4
	baz=316,SNR=20							
S22A	4UR Ranch, Cre	86.40	44	*eP*		P	18 49 52.3	+1.4
	comp=Z,15nm,1.1s							
E37A	Wrenshall	86.40	30	P		P	18 49 50.7	+0.5
	baz=325							
Q24A	Divide	86.42	42	P		P	18 49 51.5	+0.7
	baz=317							
Q24A	Divide	86.42	42	*eP*		P	18 49 51.4	+0.5
	comp=Z,32nm,1.7s							
C40A	Isle Royale Na	86.51	27	P		P	18 49 51.3	+0.6
	baz=326							
F36A	Milaca	86.53	31	P		P	18 49 51.2	+0.4
	baz=325							
OGNE	Ogallala	86.54	39	P		P	18 49 51.5	+0.4
	baz=319							
OGNE	Ogallala	86.54	39	*eP*		P	18 49 51.0	-0.1
	comp=Z,30nm,0.8s							
H34A	Spellman Lake,	86.55	33	P		P	18 49 51.4	+0.4
	baz=323							
I33A	Coleman	86.59	34	P		P	18 49 51.6	+0.4
	baz=322							
W18A	Petrified Fore	86.63	47	P		P	18 49 53.2	+1.4
	baz=315							
W18A	Petrified Fore	86.63	47	*eP*		P	18 49 53.1	+1.3
	comp=Z,7.2nm,0.9s							
G35A	Watkins	86.65	32	P		P	18 49 52.1	+0.6
	baz=324							
E38A	The Farm, Brul	86.70	29	P		P	18 49 52.2	+0.5
	baz=326							
K31A	O'Neill	86.83	36	P		P	18 49 53.4	+1.0
	baz=321							
X18A	Snowflake	86.92	48	*eP*		P	18 49 53.9	+0.7
	comp=Z,17nm,0.8s							
ECSD	EROS Data Cent	86.92	34	P		P	18 49 53.5	+0.7
	baz=323,SNR=13							
ECSD	EROS Data Cent	86.92	34	*eP*		P	18 49 53.0	+0.2
	comp=Z,18nm,1.0s							
ECSD				*epP*		*pP*	18 51 31.2	-0.5
H35A	Sunnyside Ranc	86.92	32	P		P	18 49 53.9	+1.1
	baz=324,SNR=15							
G36A	St. Michael	86.94	31	P		P	18 49 53.6	+0.7
	baz=324							
THZ	Tophouse	86.94	152	*eP*		P	18 49 53.0	+0.3
	comp=Z,38nm,0.8s							
214A	Organ Pipe Nat	86.98	51	P		P	18 49 54.3	+1.0
	baz=314,SNR=11							
F37A	Hinrichs Farm,	87.00	30	P		P	18 49 53.9	+0.8
	baz=325							
J33A	Davis	87.10	34	P		P	18 49 54.3	+0.7
	baz=322							
F38A	Pierce - Schro	87.11	30	P		P	18 49 54.8	+1.2
	baz=326,SNR=22							
SDCO	Great Sand Dun	87.12	43	P		P	18 49 55.5	+1.3
	baz=317,SNR=21							
SDCO	Great Sand Dun	87.12	43	*eP*		P	18 49 54.9	+0.7
	comp=Z,97nm,0.8s							
K32A	Verdigre	87.16	35	P		P	18 49 54.4	+0.5
	baz=322							
E39A	Mellen	87.27	29	P		P	18 49 55.3	+1.0
	baz=327,SNR=29							
SPMN	Marine on St.	87.34	31	P		P	18 49 55.5	+0.8
	baz=325,SNR=7.2							
SPMN	Marine on St.	87.34	31	*eP*		P	18 49 55.0	+0.3
	comp=Z,29nm,0.9s							
FOZ	Fox Glacier	87.39	155	*eP*		P	18 49 55.3	+0.7
	comp=Z,42nm,1.0s							
H36A	Jessenland, He	87.40	32	P		P	18 49 56.3	+1.3
	baz=324,SNR=8.0							
D41A	Chassel	87.44	27	P		P	18 49 56.1	+0.9
	baz=328,SNR=5.1							
E40A	Wakefield	87.47	28	P		P	18 49 56.7	+1.4
	baz=327,SNR=57							
F39A	Loretta	87.52	29	P		P	18 49 56.5	+1.0
	baz=326,SNR=16							
I35A	Creekview Farm	87.54	33	P		P	18 49 56.1	+0.5
	baz=324							
J34A	George	87.57	34	P		P	18 49 56.5	+0.6
	baz=323							
KSCO	Kaye Shedlock'	87.69	40	P		P	18 49 57.3	+0.6
	baz=319							
KSCO	Kaye Shedlock'	87.69	40	*eP*		P	18 49 57.3	+0.6
	comp=Z,29nm,1.2s							
G38A	Ridgeland	87.77	30	P		P	18 49 57.2	+0.5
	baz=326,SNR=8.6							
E41A	Kenton	87.80	28	P		P	18 49 57.6	+0.8
	baz=328,SNR=10							
H37A	Dierke Farm, C	87.82	31	P		P	18 49 58.2	+1.2
	baz=325,SNR=8.1							
I36A	Fitzsimmons Fa	87.82	32	P		P	18 49 58.0	+1.0
	baz=324							
F40A	Park Falls	87.82	29	P		P	18 49 58.0	+1.0
	baz=327,SNR=30							
J35A	Milford	87.83	33	P		P	18 49 57.9	+0.8
	baz=324							
L33A	Hoskins	87.87	35	P		P	18 49 57.9	+0.6
	baz=322							
G39A	Holcombe	87.94	30	P		P	18 49 58.4	+0.8
	baz=326,SNR=6.4							
RPZ	Rata Peaks	87.97	154	P		P	18 49 58.3	+0.9
	comp=Z,13nm,0.8s,baz=197,slow=5.6,SNR=6.1							
TUC	Tucson	87.98	50	P		P	18 49 59.2	+1.1
	baz=315							
TUC	Tucson	87.98	50	*eP*		P	18 49 59.0	+0.9
TUC				pmax		pmax		
	comp=Z,7.0nm,0.8s							
TUC	Tucson	87.98	50	*eP*		P	18 49 59.0	+0.9
	comp=Z,7.4nm,0.8s							
OXZ	Oxford	87.98	153	*eP*		P	18 49 57.7	+0.3
	comp=Z,62nm,0.9s							
K34A	Le Mars	87.99	34	P		P	18 49 58.4	+0.5
	baz=323							
H38A	Maiden Rock	88.00	31	P		P	18 49 58.9	+1.1
	baz=326,SNR=8.6							
COWI	Conover	88.04	28	*eP*		P	18 49 58.5	+0.5
BGNE	Belgrade	88.06	36	P		P	18 49 59.0	+0.8
	baz=322							
I37A	Lemond, Waseca	88.08	32	P		P	18 49 59.7	+1.4
	baz=325,SNR=11							
T25A	Trinidad	88.15	43	P		P	18 49 60.0	+1.0
	baz=318,SNR=13							
T25A	Trinidad	88.15	43	*eP*		P	18 49 59.6	+0.6
	comp=Z,19nm,0.9s							
E42A	Champion	88.21	27	P		P	18 49 59.8	+1.0
	baz=328,SNR=24							
LBZ	Lake Benmore	88.26	155	*eP*		P	18 49 59.9	+1.1
	comp=Z,132nm,1.3s							
G40A	Rib Lake	88.33	29	P		P	18 50 00.6	+1.2
	baz=327,SNR=36							
K35A	Storm Lake	88.34	34	P		P	18 50 00.0	+0.5
	baz=324							
F41A	Three Lakes	88.36	28	P		P	18 50 00.7	+1.2
	baz=328,SNR=19							
M33A	Taylor Creek F	88.37	36	P		P	18 50 00.1	+0.5
	baz=322							
H39A	Augusta	88.40	30	P		P	18 50 00.8	+1.1
	baz=326,SNR=14							
L34A	Svendsen Farm,	88.43	35	P		P	18 50 00.6	+0.7
	baz=323							
FURI	Furi	88.49	280	*eP*		P	18 50 02.8	+1.7
	comp=Z,33nm,0.9s							
I38A	Scanlan Farm,	88.50	31	P		P	18 50 00.9	+0.7
	baz=325							
E43A	Lone Tree Farm	88.59	27	P		P	18 50 01.4	+0.9
	baz=329,SNR=15							
J37A	Redenius Farm,	88.59	32	P		P	18 50 01.6	+1.0
	baz=325,SNR=5.8							
ANMO	Albuquerque	88.63	45	P		P	18 50 02.8	+1.6
	comp=Z,12nm,1.2s,baz=130,slow=5.2,SNR=19							
ANMO	Albuquerque	88.63	45	P		P	18 50 02.8	+1.6
	baz=317							
ANMO	Albuquerque	88.63	45	*ceP*		P	18 50 02.8	+1.6
ANMO				pmax		pmax		
	comp=Z,21nm,1.5s							
ANMO	Albuquerque	88.63	45	*eP*		P	18 50 02.6	+1.4
	comp=Z,22nm,1.4s							
LAZ	Ladron	88.64	46	*eP*		P	18 50 02.7	+1.4
F42A	Maple Grove Fa	88.70	28	P		P	18 50 02.3	+1.2
	baz=328							
M34A	Aspy Farms, Fr	88.71	35	P		P	18 50 01.9	+0.7
	baz=323							
K36A	Gilmore City	88.75	33	P		P	18 50 02.3	+0.9
	baz=324							
E44A	Grand Marais A	88.76	26	P		P	18 50 02.5	+1.2
	baz=330,SNR=5.2							
G41A	Antigo	88.77	29	P		P	18 50 02.2	+0.7
	baz=328							
H40A	Chili	88.80	30	P		P	18 50 02.9	+1.3
	baz=327,SNR=20							
I39A	Houston	88.99	31	P		P	18 50 03.2	+0.8
	baz=326,SNR=12							
F43A	Flat Rock, Esc	88.99	27	P		P	18 50 03.5	+1.1
	baz=329,SNR=6.9							
K37A	Belmond	89.00	33	P		P	18 50 03.1	+0.6
	baz=325							
ODZ	Otahua Downs	89.00	155	*eP*		P	18 50 03.7	+1.6
	comp=Z,68nm,1.3s							
G42A	Mountain	89.03	28	P		P	18 50 03.8	+1.2
	baz=328,SNR=18							
J38A	Wedel Dairy, R	89.03	32	P		P	18 50 03.3	+0.7
	baz=325							
L36A	Harm Buss Farm	89.09	34	P		P	18 50 03.8	+0.9
	baz=324							
H41A	Junction City	89.09	29	P		P	18 50 04.1	+1.2
	baz=327,SNR=5.7							
BNM	Barren Site	89.11	46	*eP*		P	18 50 04.9	+1.3
M35A	Neola	89.14	35	P		P	18 50 04.4	+1.2
	baz=323							
F44A	Big Bay de Noc	89.14	27	P		P	18 50 04.2	+1.1
	baz=330,SNR=17							
E45A	Wooded Hills,	89.24	26	P		P	18 50 04.4	+0.9
	baz=330							
N34A	Lincoln	89.27	36	P		P	18 50 04.4	+0.6
	baz=323							
G43A	Wallace	89.30	28	P		P	18 50 05.1	+1.3
	baz=329,SNR=13							
CBKS	Cedar Bluff	89.30	39	P		P	18 50 04.4	+0.3
	baz=321							
I40A	Norwalk	89.32	30	P		P	18 50 05.0	+0.9
	baz=327							
J39A	Decorah	89.34	31	P		P	18 50 04.5	+0.4
	baz=326,SNR=5.6							
O33A	Hebron	89.37	37	P		P	18 50 04.6	+0.3
	baz=322							
L37A	Phoenix Point,	89.47	33	P		P	18 50 05.6	+0.9

H43A	**Windswept, Lux**	**89.94**	**28**	P		**P**	**18 50 08.1**	**+1.3**
	baz=329,SNR=9.0							
I42A	**Draeger Farm,**	**89.99**	**29**	P		**P**	**18 50 08.4**	**+1.3**
	baz=328,SNR=7.6							
N36A	**Muff Farm, Cla**	**89.99**	**35**	P		**P**	**18 50 08.6**	**+1.5**
	baz=324							
O35A	**Humboldt**	**90.00**	**36**	P		**P**	**18 50 07.7**	**+0.5**
	baz=323							
J41A	**Loganville**	**90.00**	**30**	P		**P**	**18 50 08.1**	**+1.0**
	baz=327,SNR=7.1							
K40A	**Colesburg**	**90.10**	**31**	P		**P**	**18 50 08.3**	**+0.7**
	baz=326,SNR=7.5							
L39A	**Vinton**	**90.22**	**32**	P		**P**	**18 50 09.0**	**+0.8**
	baz=326,SNR=8.1							
PMOR	**Pomariorio Ree**	**90.24**	**109**	*e*P		**P**	**18 50 09.1**	**+0.5**
	comp=Z,88nm,1.2s							
JFWS	**Jewell Farm**	**90.28**	**31**	P		**P**	**18 50 09.2**	**+0.7**
	baz=327							
JFWS	**Jewell Farm**	**90.28**	**31**	*e*P		**P**	**18 50 08.8**	**+0.3**
JFWS					pmax	pmax		
	comp=Z,13nm,0.8s							
JFWS	**Jewell Farm**	**90.28**	**31**	*e*P		**P**	**18 50 08.8**	**+0.3**
	comp=Z,13nm,0.8s							
M38A	**Pleasantville**	**90.28**	**33**	P		**P**	**18 50 09.7**	**+1.2**
	baz=325,SNR=12							
I43A	**Langenfeld Bro**	**90.29**	**29**	P		**P**	**18 50 09.5**	**+1.0**
	baz=328							
N37A	**Lee Faris, Mou**	**90.37**	**34**	P		**P**	**18 50 10.1**	**+1.1**
	baz=324							
J42A	**Columbus**	**90.39**	**30**	P		**P**	**18 50 09.8**	**+0.9**
	baz=328							
K41A	**Shullsburg**	**90.52**	**31**	P		**P**	**18 50 10.1**	**+0.5**
	baz=327							
Q34A	**Chapman**	**90.58**	**37**	P		**P**	**18 50 10.8**	**+0.8**
	baz=322							
L40A	**Anamosa**	**90.59**	**32**	P		**P**	**18 50 10.6**	**+0.7**
	baz=326,SNR=6.8							
KSU1	**Kansas State U**	**90.60**	**37**	P		**P**	**18 50 10.5**	**+0.5**
	baz=323							
J43A	**Natural Harves**	**90.61**	**29**	P		**P**	**18 50 10.8**	**+0.8**
	baz=328,SNR=6.4							
M39A	**Webster**	**90.67**	**33**	P		**P**	**18 50 11.3**	**+1.0**
	baz=326,SNR=5.9							
K42A	**Prairie Point,**	**90.76**	**30**	P		**P**	**18 50 11.3**	**+0.6**
	baz=328							
TIAR	**Tiarei**	**90.78**	**112**	*e*P		**P**	**18 50 11.6**	**+0.5**
	comp=Z,14nm,0.9s							
N38A	**Joes South For**	**90.78**	**34**	P		**P**	**18 50 11.7**	**+0.9**
	baz=325							
O37A	**Wolven Farm, M**	**90.88**	**35**	P		**P**	**18 50 12.3**	**+1.0**
	baz=324							
L41A	**Preston**	**90.88**	**31**	P		**P**	**18 50 11.8**	**+0.6**
	baz=327,SNR=5.3							
TVO	**Taravao**	**90.99**	**112**	*e*P		**P**	**18 50 12.6**	**+0.5**
	comp=Z,13nm,0.8s							
M40A	**Post Highland**	**91.02**	**32**	P		**P**	**18 50 12.8**	**+0.9**
	baz=326							
O38A	**Galt**	**91.22**	**34**	P		**P**	**18 50 14.0**	**+1.1**
	baz=325							
K43A	**Burlington**	**91.22**	**30**	P		**P**	**18 50 13.6**	**+0.7**
	baz=328							
P37A	**Lathrop**	**91.26**	**35**	P		**P**	**18 50 13.9**	**+0.9**
	baz=324							
L42A	**Oliver, Polo**	**91.28**	**31**	P		**P**	**18 50 13.6**	**+0.5**
	baz=327							
AMTX	**Amarillo**	**91.31**	**43**	P		**P**	**18 50 14.6**	**+1.1**
	baz=320							
AMTX	**Amarillo**	**91.31**	**43**	*e*P		**P**	**18 50 14.9**	**+1.4**
	comp=Z,24nm,0.9s							
MSTX	**Muleshoe**	**91.40**	**44**	P		**P**	**18 50 14.4**	**+0.5**
	baz=319							
MSTX	**Muleshoe**	**91.40**	**44**	*e*P		**P**	**18 50 14.7**	**+0.7**
	comp=Z,15nm,1.1s							
N40A	**Mertquake, Sal**	**91.42**	**33**	P		**P**	**18 50 14.7**	**+1.0**
	baz=326							
M41A	**Milan**	**91.45**	**32**	P		**P**	**18 50 14.5**	**+0.6**
	baz=327							
L43A	**Garden Prairie**	**91.50**	**30**	P		**P**	**18 50 14.6**	**+0.5**
	baz=328							
O39A	**Kirksville**	**91.52**	**34**	P		**P**	**18 50 15.0**	**+0.7**
	baz=325							
P38A	**Dawn**	**91.60**	**35**	P		**P**	**18 50 15.7**	**+1.1**
	baz=325,SNR=9.4							
MNTX	**Cornudas Mount**	**91.61**	**47**	P		**P**	**18 50 16.0**	**+1.2**
	baz=317,SNR=12							
MNTX	**Cornudas Mount**	**91.61**	**47**	*e*P		**P**	**18 50 15.6**	**+0.8**
	comp=Z,12nm,1.1s							
M42A	**Sheffield**	**91.70**	**31**	P		**P**	**18 50 15.5**	**+0.5**
	baz=327							
L44A	**Lake County Fo**	**91.83**	**30**	P		**P**	**18 50 16.4**	**+0.8**
	baz=328							
N41A	**Harden Midland**	**91.87**	**32**	P		**P**	**18 50 16.5**	**+0.7**
	baz=326							
O40A	**La Belle**	**91.92**	**33**	P		**P**	**18 50 17.0**	**+0.9**
	baz=326,SNR=10							
M43A	**Waltham Townsh**	**92.04**	**31**	P		**P**	**18 50 17.6**	**+0.9**
	baz=328,SNR=5.2							
P39B	**Salisbury**	**92.06**	**34**	P		**P**	**18 50 17.4**	**+0.7**
	baz=325							
Q38A	**Cooks Store, C**	**92.10**	**35**	P		**P**	**18 50 17.5**	**+0.6**
	baz=325							
N42A	**Yates City**	**92.11**	**32**	P		**P**	**18 50 17.6**	**+0.7**
	baz=327							
P40A	**Paris**	**92.33**	**34**	P		**P**	**18 50 19.0**	**+1.0**
	baz=326,SNR=8.5							
O41A	**Passleys Farm,**	**92.35**	**33**	P		**P**	**18 50 18.7**	**+0.7**
	baz=326							
N43A	**Stutzman Famil**	**92.38**	**31**	P		**P**	**18 50 18.7**	**+0.5**
	baz=328							
M44A	**Midewin, Midew**	**92.45**	**30**	P		**P**	**18 50 18.7**	**+0.2**
	baz=328							
TRQ	**Mont Tremblant**	**92.58**	**19**	*e*P		**P**	**18 50 19.1**	**+0.1**
R38A	**Fenwick Farm,**	**92.59**	**36**	P		**P**	**18 50 19.2**	**0.0**
	baz=324							
P41A	**Barry, Barry**	**92.64**	**33**	P		**P**	**18 50 20.2**	**+0.8**
	baz=326							
HDIL	**Hopedale**	**92.65**	**31**	P		**P**	**18 50 20.1**	**+0.7**
	baz=328							
Q40A	**Laux Farm, Aux**	**92.76**	**34**	P		**P**	**18 50 20.7**	**+0.7**
	baz=326							
PBRG	**Braganca**	**92.89**	**331**	*e*P		**P**	**18 50 20.0**	**-0.6**
	comp=Z,3.0nm,0.7s							
R39A	**Chumby, Stover**	**92.89**	**35**	P		**P**	**18 50 21.2**	**+0.7**
	baz=325,SNR=8.2							
N44A	**Piper City**	**92.92**	**30**	P		**P**	**18 50 21.4**	**+0.7**
	baz=328							
WMOK	**Wichita Mounta**	**92.94**	**41**	P		**P**	**18 50 21.7**	**+0.7**
	baz=321							
WMOK	**Wichita Mounta**	**92.94**	**41**	*e*P		**P**	**18 50 21.2**	**+0.3**
WMOK					pmax	pmax		
	comp=Z,11nm,0.9s							
WMOK	**Wichita Mounta**	**92.94**	**41**	*e*P		**P**	**18 50 21.2**	**+0.3**
	comp=Z,11nm,0.9s							
S38A	**Stockton**	**93.04**	**36**	P		**P**	**18 50 21.3**	**0.0**
	baz=324							
Q41A	**Truxton**	**93.17**	**33**	P		**P**	**18 50 22.7**	**+0.9**
	baz=326,SNR=5.9							
R40A	**Maddies Statio**	**93.25**	**34**	P		**P**	**18 50 22.8**	**+0.6**
	baz=326,SNR=8.1							
S39A	**Bolivar**	**93.26**	**35**	P		**P**	**18 50 22.5**	**+0.2**
	baz=325,SNR=7.3							
P43A	**Skaggs, Pawnee**	**93.32**	**32**	P		**P**	**18 50 23.3**	**+0.8**
	baz=327							
T38A	**Diamond**	**93.34**	**37**	P		**P**	**18 50 23.3**	**+0.6**
	baz=324,SNR=5.1							
Q42A	**Golden Eagle**	**93.50**	**33**	P		**P**	**18 50 24.0**	**+0.6**
	baz=327							
TUL1	**Leonard**	**93.53**	**38**	P		**P**	**18 50 24.4**	**+0.9**
	baz=323							
O45A	**Potomac**	**93.55**	**30**	P		**P**	**18 50 24.1**	**+0.6**
	baz=329							
MVO	**Moncorvo**	**93.55**	**331**	*e*P		**P**	**18 50 23.5**	**-0.1**
	comp=Z,2.1nm,0.7s							
ES19	**SONSECA Array**	**93.56**	**329**	*e*P		**P**	**18 50 22.7**	**-1.0**
ES19					epP	**pP**	**18 52 04.0**	**+0.6**
ESDC	**Sonseca Array**	**93.60**	**329**	P		**P**	**18 50 23.2**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=23,slow=4.8,SNR=7.3							
R41A	**Rosebud**	**93.64**	**34**	P		**P**	**18 50 24.8**	**+0.7**
	baz=326							
POLO	**Lamas de Olo**	**93.65**	**332**	*e*P		**P**	**18 50 23.8**	**-0.3**
	comp=Z,1.8nm,0.7s							
SFIN	**Lafayette**	**93.69**	**30**	P		**P**	**18 50 24.4**	**+0.2**
	baz=329							
PVRL	**Vila Real**	**93.71**	**332**	*e*P		**P**	**18 50 24.2**	**-0.1**
S40A	**Lebanon**	**93.72**	**35**	P		**P**	**18 50 24.7**	**+0.4**
	baz=325,SNR=5.6							
T39A	**Clever**	**93.78**	**36**	P		**P**	**18 50 25.1**	**+0.4**
	baz=325							
Q43A	**New Douglas**	**93.83**	**32**	P		**P**	**18 50 24.9**	**+0.1**
	baz=327							
P44A	**Sand Creek, Wi**	**93.84**	**31**	P		**P**	**18 50 25.2**	**+0.3**
	baz=328							
CCM	**Cathedral Cave**	**93.90**	**34**	P		**P**	**18 50 25.7**	**+0.4**
	baz=326							
CCM	**Cathedral Cave**	**93.90**	**34**	*e*P		**P**	**18 50 25.6**	**+0.4**
CCM					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CCM	**Cathedral Cave**	**93.90**	**34**	*e*P		**P**	**18 50 25.6**	**+0.4**
	comp=Z,9.5nm,0.9s							
R42A	**Luebbering**	**93.91**	**34**	P		**P**	**18 50 25.8**	**+0.5**
	baz=326							
S41A	**Jillco Farms,**	**94.06**	**35**	P		**P**	**18 50 26.1**	**+0.1**
	baz=326							
T40A	**Mansfield**	**94.07**	**35**	P		**P**	**18 50 26.4**	**+0.3**
	baz=325							
HHAR	**Hobbs**	**94.12**	**37**	*e*P		**P**	**18 50 26.4**	**+0.2**
	comp=Z,5.2nm,0.8s							
Q44A	**Meyer Farm, Va**	**94.16**	**32**	P		**P**	**18 50 26.8**	**+0.4**
	baz=328							
U39A	**Green Forest**	**94.25**	**36**	P		**P**	**18 50 27.3**	**+0.4**
	baz=325,SNR=7.6							
R43A	**Red Bud**	**94.29**	**33**	P		**P**	**18 50 27.3**	**+0.3**
	baz=327							
S42A	**Caledonia**	**94.34**	**34**	P		**P**	**18 50 27.9**	**+0.7**
	baz=326,SNR=7.2							
TX31	**Lajitas Ar. Si**	**94.35**	**47**	*e*P		**P**	**18 50 28.1**	**+0.5**
TX31					epP	**pP**	**18 52 08.5**	**+1.1**
LTX	**Lajitas**	**94.35**	**47**	*e*P		**P**	**18 50 28.6**	**+1.1**
LTX					*e**PP	**pP**	**18 52 07.5**	**+0.1**
LTX	**Lajitas**	**94.35**	**47**	*e*P		**P**	**18 50 28.6**	**+1.1**
LTX					epP	**pP**	**18 52 07.5**	**+0.1**
TXAR	**Lajitas Array**	**94.35**	**47**	P		**P**	**18 50 28.6**	**+1.1**
	comp=Z,8.5nm,0.6s,baz=290,slow=3.1,SNR=91							
TXAR					pP	**pP**	**18 52 07.5**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=309,slow=2.9,SNR=3.3							
MTE	**Manteigas**	**94.40**	**331**	*e*P		**P**	**18 50 27.9**	**+0.4**
T41A	**Mountain View**	**94.50**	**35**	P		**P**	**18 50 28.4**	**+0.4**
	baz=326,SNR=5.3							
Q45A	**Warren Harvey,**	**94.52**	**31**	P		**P**	**18 50 28.5**	**+0.5**
	baz=328							
U40A	**Yellville**	**94.57**	**36**	P		**P**	**18 50 28.8**	**+0.5**
	baz=325,SNR=12							
V39A	**Pettigrew**	**94.62**	**37**	P		**P**	**18 50 28.9**	**+0.3**
	baz=324							
R44A	**Waltonville**	**94.68**	**32**	P		**P**	**18 50 29.4**	**+0.6**
	baz=328							
PKME	**Peaks-Kenny Pk**	**94.74**	**16**	P		**P**	**18 50 29.2**	**+0.3**
	baz=342							
T42A	**Van Buren**	**94.82**	**34**	P		**P**	**18 50 30.0**	**+0.7**
	baz=326,SNR=11							
HPIG		**94.92**	**50**	*e*P		**P**	**18 50 31.4**	**+1.1**
	comp=Z,65nm,1.8s							
HPIG					epP	**pP**	**18 52 11.8**	**+1.6**
R45A	**Skylar, Fairfi**	**94.98**	**32**	P		**P**	**18 50 30.8**	**+0.7**
	baz=328							
U41A	**Viola**	**95.01**	**35**	P		**P**	**18 50 30.7**	**+0.4**
	baz=326							
S44A	**Carbondale**	**95.07**	**33**	P		**P**	**18 50 31.4**	**+0.8**
	baz=327							
W39A	**Magazine**	**95.07**	**37**	P		**P**	**18 50 30.8**	**+0.2**
	baz=324							
T43A	**Greenville**	**95.13**	**34**	P		**P**	**18 50 30.8**	**-0.1**
	baz=327							
U42A	**Revenden**	**95.31**	**35**	P		**P**	**18 50 32.0**	**+0.4**
	baz=326							
V41A	**Mountainview**	**95.36**	**36**	P		**P**	**18 50 32.3**	**+0.3**
	baz=325,SNR=5.2							
W40A	**Ferguson Farm,**	**95.42**	**37**	P		**P**	**18 50 32.7**	**+0.6**
	baz=325							
X39A	**Fountain Ranch**	**95.47**	**38**	P		**P**	**18 50 33.3**	**+0.9**
	baz=324							
JCT	**Junction City**	**95.68**	**44**	P		**P**	**18 50 34.0**	**+0.6**
	baz=320							
JCT	**Junction City**	**95.68**	**44**	*e*P		**P**	**18 50 34.1**	**+0.6**
JCT					pmax	pmax		
	comp=Z,12nm,0.6s							
JCT	**Junction City**	**95.68**	**44**	*e*P		**P**	**18 50 34.1**	**+0.6**
	comp=Z,12nm,0.6s							
V42A	**Cord**	**95.69**	**35**	P		**P**	**18 50 33.9**	**+0.5**
	baz=326							
R47A	**Wooly Knot Far**	**95.70**	**31**	P		**P**	**18 50 34.0**	**+0.7**
	baz=329							
WHAR	**Wooly Hollow**	**95.70**	**36**	*e*P		**P**	**18 50 33.6**	**+0.2**
	comp=Z,11nm,0.9s							
W41B	**Gary Mavity, V**	**95.82**	**36**	P		**P**	**18 50 34.7**	**+0.7**
	baz=325							
PBAR	**Barrancos**	**96.13**	**330**	*e*P		**P**	**18 50 34.9**	**-0.4**
	comp=Z,2.4nm,0.9s							
T46A	**Princeton**	**96.20**	**32**	P		**P**	**18 50 36.4**	**+0.8**
	baz=328							
S48A	**Wiedeman Farm,**	**96.43**	**31**	P		**P**	**18 50 37.3**	**+0.6**
	baz=330							
WVT	**Waverly**	**97.00**	**33**	P		Pdif	18 50 39.7	+0.4
	baz=328							
V46A	**Holladay**	**97.16**	**33**	P		**P**	**18 50 39.3**	**-0.7**
	baz=328							
V47A	**Nunnelly**	**97.39**	**33**	Pdiff		**P**	**18 50 40.8**	**-0.2**
	baz=328							
PAL	**Palisades**	**97.59**	**21**	Pdiff		**P**	**18 50 41.3**	**-0.5**
	baz=338							
OXF	**Oxford**	**97.67**	**35**	Pdiff		Pdif	18 50 42.5	+0.3
	baz=327							
V48A	**Smith Brothers**	**97.76**	**32**	Pdiff		**P**	**18 50 42.1**	**-0.6**
	baz=329							
W47A	**Westpoint**	**97.85**	**33**	Pdiff		Pdif	18 50 43.4	+0.3
	baz=328							
W48A	**Pulaski**	**98.22**	**33**	Pdiff		**P**	**18 50 44.7**	**-0.1**
	baz=329							
TZTN	**Tazewell**	**98.39**	**29**	Pdiff		**P**	**18 50 45.0**	**-0.5**
	baz=331							
X49A	**Woodville**	**99.02**	**32**	Pdiff		**Pdif**	**18 50 48.1**	**-0.2**
	baz=329							
Z50A	**Ashland**	**100.27**	**33**	Pdiff		**Pdif**	**18 50 54.2**	**+0.3**
	baz=329							
150A	**Eclectic**	**100.78**	**33**	Pdiff		**Pdif**	**18 50 56.7**	**+0.6**
	baz=329							
GOGA	**Godfrey**	**101.16**	**31**	Pdiff		**Pdif**	**18 50 57.8**	**0.0**
	baz=331							
TOA1	**Torodi Ar. Sit**	**112.17**	**309**	*e*SKPdf		**SKPdf**	**18 58 32.6**	**-1.5**
TOA1				*e*PKKPbc		PKKPbc	19 06 31.2	-0.5
TORD	**Torodi Ar. Bea**	**112.17**	**309**	SKP		**SKPdf**	**18 58 32.6**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=21,slow=1.0,SNR=4.1							
TORD				PKKPbc		PKKPbc	19 06 31.2	-0.5
	comp=Z,1.2nm,0.6s,baz=254,slow=2.7,SNR=7.0							
KOWA	**Kowa**	**114.51**	**314**	PKKPbc		PKKPbc	19 06 26.0	+1.9
	comp=Z,1.1nm,0.4s,baz=207,slow=4.5,SNR=4.4							
VNDA	**Vanda**	**116.38**	**173**	PKP		**PKPdf**	**18 55 47.0**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=331,slow=4.9,SNR=8.6							
VNDA	**Vanda**	**116.38**	**173**	*e*PKPdf		**PKPdf**	**18 55 46.7**	**-0.4**
SDV	**Santo Domingo**	**128.29**	**31**	PKP		**PKPdf**	**18 56 12.2**	**+0.1**
	comp=Z,23nm,0.8s,baz=332,slow=2.2,SNR=30							
SDV				SKP			18 59 05.6	
	comp=Z,5.8nm,0.6s,baz=243,slow=2.6,SNR=4.5							
OTAV	**Otavalo**	**131.94**	**46**	*e*PKPdf		**PKPdf**	**18 56 20.1**	**+0.7**
SNAA	**Sanae**	**139.55**	**200**	PKhKP		PKPpre	18 56 22.4	
	comp=Z,1.4nm,0.6s,baz=184,slow=9.2,SNR=10							
SNAA	**Sanae**	**139.55**	**200**	*e*PKPpre		PKPpre	18 56 22.1	
PTGA	**Pitinga**	**141.01**	**22**	PKhKP		PKPpre	18 56 29.9	
	comp=Z,3.3nm,0.6s,baz=315,slow=2.8,SNR=5.6							
PTGA				SKP			18 59 30.1	
	comp=Z,5.6nm,0.7s,baz=333,slow=6.8,SNR=6.9							
NNA	**Nana**	**142.54**	**55**	PKhKP		PKPpre	18 56 34.4	
	comp=Z,9.6nm,0.4s,baz=318,slow=6.8,SNR=5.8							
NNA				SKPbc		**SKiKP**	**18 59 34.9**	**-0.5**
	comp=Z,13nm,0.7s,baz=235,slow=3.2,SNR=5.3							
NNA	**Nana**	**142.54**	**55**	*e*PKHKP		PKPpre	18 56 34.0	
NNA	**Nana**	**142.54**	**55**	*e*PKPpre		PKPpre	18 56 34.0	
SAML	**Samuel**	**147.49**	**32**	*e*PKPdf		**PKPdf**	**18 56 45.3**	**-1.4**
SAML				*e*PKPbc		**PKPbc**	**18 56 50.1**	**+0.3**
LPAZ	**La Paz**	**151.22**	**48**	PKPbc		**PKPbc**	**18 57 00.1**	**+0.5**
	comp=Z,21nm,0.9s,baz=337,slow=2.4,SNR=51							
LPAZ	**La Paz**	**151.22**	**48**	*e*PKIKP		**PKPdf**	**18 56 53.6**	**+0.4**
LPAZ	**La Paz**	**151.22**	**48**	*e*PKPdf		**PKPdf**	**18 56 53.6**	**+0.4**
LPAZ				*e*PKPbc		**PKiKP**	**18 56 59.8**	**-0.2**
MNMC	**Minye Minye**	**152.49**	**54**	*e*PKPdf		**PKPdf**	**18 56 55.5**	**+0.9**
MNMC				*e*PKPbc		**PKiKP**	**18 57 02.7**	**+0.5**
MNMC				*e*PKPab		**PKPab**	**18 57 14.7**	**+0.3**
PB11	**IPOC Station P**	**152.91**	**55**	*e*PKPdf		**PKPdf**	**18 56 55.5**	**+0.4**
PB11				*e*PKPbc		**PKiKP**	**18 57 03.0**	**+0.2**
PB11				*e*PKPab		**PKPab**	**18 57 15.7**	**-0.3**
PB01	**IPOC Station P**	**153.93**	**57**	*e*PKPdf		**PKPdf**	**18 56 57.6**	**+1.1**
PB01				*e*PKPab		**PKPab**	**18 57 19.9**	**-0.3**
SIV	**San Ignacio**	**154.67**	**35**	PKP		**PKPdf**	**18 56 57.9**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=176,slow=1.9,SNR=6.4							
SIV				PKPbc		**PKPbc**	**18 57 06.6**	**+0.2**
	comp=Z,4.6nm,0.8s,baz=327,slow=1.3,SNR=7.4							
SIV				PKPab		**PKPab**	**18 57 24.1**	**+0.8**
	comp=Z,5.4nm,0.5s,baz=342,slow=4.2,SNR=9.8							
LCO	**Las Campanas**	**157.92**	**74**	*e*PKPdf		**PKPdf**	**18 57 00.5**	**-1.2**
LCO				*e*PKPab		**PKPab**	**18 57 38.1**	**+0.6**
PLCA	**Paso Flores**	**161.07**	**106**	PKPab		**PKPab**	**18 57 51.6**	**+0.8**
	comp=Z,14nm,0.9s,baz=275,slow=5.7,SNR=26							
PLCA	**Paso Flores**	**161.07**	**106**	*e*PKIKP		**PKPdf**	**18 57 04.2**	**-0.4**
PLCA				*e*			18 57 51.6	
PLCA	**Paso Flores**	**161.07**	**106**	*e*PKPdf		**PKPdf**	**18 57 04.2**	**-0.4**
PLCA				*e*PKPab		**PKPab**	**18 57 51.6**	**+0.8**
CPUP	**Villa Florida**	**165.26**	**42**	PKPab		**PKPab**	**18 58 09.5**	**+0.2**
	comp=Z,7.4nm,0.9s,baz=336,slow=5.6,SNR=13							

BJI 16 18:43:03.7, 44.17N × 122.29E, h7km, ML3.8/12, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CN2	**Changchun**	**2.31**	**98**	*e*Pg	Pn	18 43 43.3	+1.2
CN2				*e*Sg	Sb	18 44 13.5	-0.9
CN2				smax	smax		
	comp=N,100nm,0.6s						
CN2				smax	smax		
	comp=E,100nm,0.6s						
SNY	**Shenyang**	**2.52**	**158**	Pg	Pb	18 43 49.8	+0.5
SNY				Sg	Sb	18 44 19.3	-1.2
SNY				smax	smax		
	comp=N,280nm,0.3s						
SNY				smax	smax		
	comp=E,310nm,0.3s						
MDJ	**Mudanjiang**	**5.25**	**83**	Pg	Pb	18 44 37.3	+1.5
MDJ				smax	smax		
	comp=N,120nm,0.7s						
MDJ				smax	smax		
	comp=E,84nm,0.8s						

IDC ***16*** *18:46:30.8±1.6, 19.17S × 169.69E, h0km, mb4.4/14, mb1 4.5/15, mb1mx4.2/46, mbtmp4.4/15, ML4.0/1, MS3.8/14, Ms1 3.8/14, ms1mx3.5/34, Error ellipse: s-maj=46.5km s-min=19.0km az=140.0*

ISCJB ***16*** *18:46:33.0±0.3, 19.49S±0.07 × 169.80E±0.06, h33km, mb4.7/32, MS3.9/11, Error ellipse: s-maj=9.4km s-min=8.7km az=160.4*

BJI ***16*** *18:46:34.1, 19.41S × 170.53E, h60km, mb4.6/24, mB5.0/9*

NEIC ***16*** *18:46:38.2±0.7, 19.56S × 169.77E, h67km±6km, mb4.9/14, Error ellipse: s-maj=10.7km s-min=8.2km az=158.0*

ISC 16 18:46:34.4±0.6, 19.54S±0.1 × 170.0E±0.1, h35km, n101, σ1§38/90, mb4.7/32, MS3.9/11, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.17**	**232**	Pn	**Pn**	**18 47 36.7**	**+1.1**
	9.2nm,0.3s,baz=30,slow=20,SNR=90						
DZM				LR	LR	18 48 29.5	
	comp=Z,411nm,18.8s,baz=67,slow=28						
DZM	**Mont Dzumac**	**4.17**	**232**	*e*Pn	**Pn**	**18 47 37.0**	**+1.4**
	40nm,0.3s						
DZM				*e*LR	LR	18 48 29.3	
	3µm,25.1s						
DZM	**Mont Dzumac**	**4.17**	**232**	*e*Pn	**Pn**	**18 47 36.1**	**+0.6**
MSVF	**Nonsavu**	**7.85**	**78**	*e*Pn	Pn	18 48 32.1	+5.9
AFI	**Afiamalu**	**18.33**	**75**	LR	LR	18 56 16.5	
	comp=Z,386nm,21.4s,baz=270,slow=32						
MXZ	**Matakaoa Point**	**19.37**	**160**	*e*P	**Pn**	**18 50 58.1**	**-0.3**
	93nm,1.3s						
URZ	**Urewera**	**19.66**	**163**	LR	LR	18 57 14.8	
	comp=Z,277nm,21.2s,baz=346,slow=32						
URZ	**Urewera**	**19.66**	**163**	*e*P	**Pn**	**18 51 03.1**	**+1.3**
	125nm,1.6s						
URZ				*e*		18 57 14.8	
PMG	**Port Moresby**	**24.26**	**291**	P	**P**	**18 51 46.2**	**-2.2**
	15nm,1.0s,baz=124,slow=7.3,SNR=6.3						
PMG				LR	LR	18 58 52.5	
	comp=Z,212nm,21.5s,baz=36,slow=31						
PMG	**Port Moresby**	**24.26**	**291**	*e*P	**P**	**18 51 46.9**	**-1.5**
	60nm,1.3s						
PMG				*e*ScP	ScP	18 58 52.5	-12
STKA	**Stephens Creek**	**28.29**	**239**	LR	LR	19 02 17.2	
	comp=Z,271nm,21.6s,baz=31,slow=34						
WR1	**Warramunga Arr**	**33.52**	**263**	*e*P	**P**	**18 53 09.1**	**-1.8**
	52nm,1.6s						
WRA	**Warramunga Arr**	**33.52**	**263**	P	**P**	**18 53 09.1**	**-1.8**
	1.4nm,0.8s,baz=102,slow=7.5,SNR=3.9						
AS01	**Alice Springs**	**33.70**	**256**	*e*P	**P**	**18 53 11.6**	**-0.9**
AS31	**Alice Springs**	**33.74**	**256**	*e*P	**P**	**18 53 12.4**	**-0.5**
	5.1nm,0.5s						
ASAR	**Alice Springs**	**33.74**	**256**	P	**P**	**18 53 12.5**	**-0.4**
	11nm,0.7s,baz=83,slow=8.7,SNR=73						
ASAR				LR	LR	19 06 24.0	
	comp=Z,202nm,18.5s,baz=87,slow=36						
MTN	**Manton Dam**	**37.84**	**274**	*e*P	**P**	**18 53 47.8**	**-0.2**
	141nm,1.9s						
PPT2	**Papeete2**	**38.32**	**94**	*e*LR	LR	19 04 26.3	
	146nm,29.0s						
FITZ	**Fitzroy Crossi**	**41.92**	**264**	P	**P**	**18 54 21.5**	**-0.4**
	4.9nm,0.8s,baz=105,slow=10,SNR=4.

	11nm,1.5s							
PLM	Palomar	87.31	53	*e*P		P	18 59 17.0	-1.0
YAK	Yakutsk	87.37	342	P		P	18 59 16.6	-0.7
	9.5nm,0.8s,baz=338,slow=0.5,SNR=11							
YAK	Yakutsk	87.37	342	*e*P		P	18 59 17.1	-0.2
	20nm,0.9s							
ULN	Ulaanbaatar	87.53	323	*e*P		P	18 59 17.9	-0.8
	13nm,1.2s							
MDPB	Devils Postpil	87.56	49	*e*pP		pP	18 59 39.6	+9.2
GTA	Gaotai	87.84	313	⇑P		P	18 59 20.8	+0.4
GTA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
SONA0	Songino Array	87.88	323	*e*P		P	18 59 19.8	-0.6
SONM	Songino Array	87.88	323	P		P	18 59 19.8	-0.6
	3.2nm,0.9s,baz=147,slow=6.0,SNR=15							
SONA1	Songino Array	87.88	323	*e*P		P	18 59 19.9	-0.4
SWSC	Sam W. Stewart	87.94	54	*e*P		P	18 59 24.3	+3.5
GSC	Goldstone, Bar	88.19	52	*e*P		P	18 59 25.5	+3.4
NV01	Mina Array Sit	88.47	48	*e*P		P	18 59 24.7	+1.2
NVAR	Mina Array Bea	88.47	48	P		P	18 59 27.2	+3.7
	0.6nm,0.8s,baz=260,slow=8.4,SNR=3.8							
NVAR					LR	LR	19 30 31.4	
	comp=Z,80nm,21.4s,baz=98,slow=30							
SNAA	Sanae	88.89	182	P		P	18 59 23.4	-1.4
SNAA	Sanae	88.89	182	*e*P		P	18 59 23.7	-1.1
	25nm,1.3s							
SNAA	Sanae	88.89	182	SKPbc		P	18 59 23.5	-1.3
	9.3nm,0.9s,baz=95,slow=1.8,SNR=9.8							
SNAA	Sanae	88.89	182	SKPbc		P	18 59 23.5	-1.3
LPIG	La Paz	88.91	64	LR		LR	19 30 29.4	
	comp=Z,64nm,21.0s,baz=218,slow=90							
VNA3	Neumayer Olymp	89.46	180	P		P	18 59 27.2	-0.2
VNA2	Neumayer--Watz	89.76	181	P		P	18 59 28.6	-0.1
	baz=88,slow=2.2							
VNA1	Neumayer--Stat	90.05	181	P		P	18 59 29.5	-0.5
LSA	Lhasa	90.29	301	*e*P		P	18 59 31.3	-1.2
	2.1nm,0.8s							
ILAR	Eielson Array	90.31	17	P		P	18 59 30.1	-1.1
	0.4nm,0.8s,baz=231,slow=5.7,SNR=3.4							
ILAR					LR	LR	19 36 09.0	
	comp=Z,66nm,18.6s,baz=190,slow=33							
JLU	Jordanelle	94.19	48	*e*P		P	18 59 47.5	-2.5
	5.8nm,0.7s							
TXAR	Lajitas Array	96.29	61	LR		LR	19 35 09.0	
	comp=Z,45nm,20.1s,baz=0.0,slow=30							
PDAR	Pinedale Array	96.30	47	LR		LR	19 38 14.2	
	comp=Z,30nm,18.7s,baz=3.5,slow=32							
WMQ	Urumqi	97.92	314	P		P	19 00 06.5	-0.2
KSH	Kashi	105.17	307	*e*Pdif		Pdif	19 00 44.5	+5.3
CONA	Conrad Observa	144.76	329	*e*PKPdf		PKPdf	19 06 07.2	-0.4
	7.6nm,1.4s							
KHC	Kasperske Hory	144.92	333	*e*PKP		PKPab	19 06 06.5	-0.5
KHC	Kasperske Hory	144.92	333	*e*PKPbc		PKPab	19 06 06.5	-0.5
DIVS	Divibare	144.98	321	*e*PKPbc		PKPbc	19 06 07.6	+0.2
GERES	GERESS Array B	145.08	332	PKP		PKPdf	19 06 08.0	-0.2
	1.4nm,0.8s,baz=62,slow=3.2,SNR=10							
GEA0	GERESS Array S	145.09	332	*e*PKPbc		PKPbc	19 06 07.0	-0.6
ARSA	Arzberg	145.40	329	*e*PKPdf		PKPab	19 06 09.3	+0.5
	7.6nm,1.2s							
MOA	Molln	145.57	331	*e*PKPab		PKPab	19 06 09.8	+0.4
	8.1nm,1.0s							
PERS	Pernice	146.03	328	*i* PKPdf		PKPab	19 06 11.2	0.0
SOKA	Soboth	146.04	329	*e*PKPab		PKPbc	19 06 10.8	+0.1
	7.3nm,1.2s							
TTG	Podgorica	146.37	319	*e*PKPdf		PKPbc	19 06 11.1	-0.6
OBKA	Obir	146.39	329	*e*PKPab		PKPbc	19 06 11.2	-0.5
	2.1nm,0.7s							
KBA	Koelnbreinsper	146.56	331	*i* PKPab		PKPbc	19 06 12.3	-0.1
	2.9nm,0.6s							
BOJS	Bojanci	146.74	327	*i* PKPdf		PKPab	19 06 13.7	-0.1
VISS	Visnje	146.74	328	*e*PKPdf		PKPab	19 06 13.5	-0.4
JAVS	Javornik	147.07	328	*e*PKPdf		PKPab	19 06 15.3	+0.1
ABTA	Abfaltersbach	147.19	331	*e*PKPab		PKPbc	19 06 13.7	-0.3
	7.2nm,1.2s							
WLF	Walferdange	147.28	340	⇑PKPbc		PKPbc	19 06 14.9	+0.9
MOTA	Moosalm	147.35	333	*e*PKPab		PKPbc	19 06 14.6	0.0
	3.3nm,0.7s							
DOU	Dourbes	147.36	342	⇑PKPbc		PKPbc	19 06 14.2	0.0
BFO	Black Forest	147.67	337	*e*PKPbc		PKPbc	19 06 14.5	-0.7
FETA	Feichten	147.77	333	*e*PKPab		PKPbc	19 06 16.2	+0.5
	5.0nm,1.0s							
DAVA	Damuels	147.91	334	*e*PKiKP		PKPbc	19 06 16.6	+0.5
	10nm,1.2s							
FUORN	Ofenpass-Fuorn	148.28	333	*e*PKPbc		PKPbc	19 06 17.2	+0.1
TUE	Stuetta	148.78	334	*e*PKPbc		PKPbc	19 06 17.7	-0.8
BNI	Bardonecchia	151.03	335	*e*PKPbc		PKPbc	19 06 24.3	+0.5

NIED **16** *18:49:00,37.00N×142.40E,h14km,Mw3.5 Best double couple: M₀2.17000×10¹⁴ NP1:φ₀229.00000°,δ53.00000°, λ-38.00000°. NP2:φ₀344.00000°,δ61.00000°, λ-136.00000°.*

JMA 16 18:49:03.3±0.2,36.96N×142.40E,h1km±2km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	1.28	289	P	Pg	18 49 27.8	-0.1
JFK				*e*S	Sb	18 49 45.7	+0.4
ONAJ	Iwakimizuishiy	1.29	277	P	Pg	18 49 27.8	-0.2
ONAJ				*e*S	Sn	18 49 46.1	-0.3
JHO	Hitachi	1.51	257	P	Pn	18 49 31.3	-0.2
JMM	Marumori	1.57	306	P	Pn	18 49 32.1	-0.2
JMM				S	Sn	18 49 53.0	-0.2
JFT	Otama	1.74	289	P	Pn	18 49 35.2	+0.6
JFT				S	Sb	18 49 58.6	+0.2
JOU	Okura	1.97	316	P	Pn	18 49 38.8	+1.0
JOU				S	Sn	18 50 03.3	+0.2
JMK	Ichinoseki	2.20	335	P	Pb	18 49 42.4	-1.4
JAG	Ashikaga	2.43	258	P	Pn	18 49 44.6	+0.5
JYK	Kaneyama	2.54	321	P	Pn	18 49 46.8	+1.2
BSO1	Boso 1	2.58	207	P	Pn	18 49 47.5	+1.9
BSO1				*e*S	Sn	18 50 17.5	+0.2
JOM	Ohasama	2.66	341	*e*S	Sn	18 50 20.2	+0.1
MAT	Matsushiro	3.39	264	P	Pn	18 50 00.4	+3.0
MAT				*e*S	Sn	18 50 36.7	-1.6

IDC 16 18:52:58.4±4.3,2.44S×140.90E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.2/50,mbtmp3.4/3,ML3.4/1,MS3.6/1, Ms1 3.6/1,ms1mx2.8/20,Error ellipse: s-maj=157.6km s-min=29.2km az=89.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.54	200	P	P	18 57 15.7	-1.0
	0.1nm,0.3s,baz=22,slow=12,SNR=5.3						
WRA				LR	LR	19 04 59.1	
	comp=Z,200nm,20.3s,baz=240,slow=39						
ASAR	Alice Springs	22.16	197	P	P	18 57 56.1	+0.1
	0.6nm,0.6s,baz=26,slow=10,SNR=9.4						
H11S3	WAKE ISLAND Hy	32.82	50	T	T	19 34 42.5	
	baz=231,slow=74,SNR=36						
H11S2	WAKE ISLAND Hy	32.83	50	T	T	19 34 46.1	
	baz=231,slow=74,SNR=16						
H11S1	WAKE ISLAND Hy	32.84	50	T	T	19 34 47.3	
	baz=231,slow=74,SNR=14						
H11N1	WAKE ISLAND Hy	33.71	48	T	T	19 35 45.9	
	baz=229,slow=76,SNR=14						
H11N2	WAKE ISLAND Hy	33.73	48	T	T	19 35 46.3	
	baz=229,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	33.73	48	T	T	19 35 52.7	
	baz=229,slow=76,SNR=11						
MKAR	Makanchi Array	70.92	322	P	P	19 04 17.9	+0.2
	0.2nm,0.6s,baz=114,slow=7.0,SNR=3.7						

IDC **16** *18:54:18.8±0.9,8.38S×119.95E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.6/59,mbtmp3.8/7,ML3.7/1,MS3.5/4, Ms1 3.5/4,ms1mx2.9/51,Error ellipse: s-maj=93.7km s-min=19.7km az=59.0*

ISCJB **16** *18:54:22.8±0.5,7.90S±0.05×120.58E±0.07,h33km, mb3.7/5,MS3.6/4,Error ellipse: s-maj=10.3km s-min=6.1km az=156.6*

DJA **16** *18:54:24.1±0.4,8.7S±4.1×12.1E±, h45km±25km,M3.8/2, MLv3.8/2*

ISC 16 18:54:22.2±0.8,8.05S±0.07×120.48E±0.06,h33km,n18, σ2.9s08/15,mb3.8/5,MS3.5/4,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDFI	Ende, Flores	1.38	120	P	Pb	18 54 47.0	-0.6
EDFI				S	Sb	18 55 03.8	-1.1
BSSI	Bau Bau, Buton	1.90	0	P	Pn	18 54 50.7	-1.7
BSSI				S	Sn	18 55 10.7	-4.4
WBSI	Waikabubak, Su	1.91	214	P	Pb	18 54 54.7	-1.8
PLAI	Plampang	2.79	254	P	Pb	18 55 10.0	-1.4
BBSI	Bau Bau	3.29	39	P	Pn	18 55 11.0	-0.4
BNSI	Bone	3.65	354	P	Pn	18 55 17.0	+0.6
TTSI	Tana Toraja	5.02	352	P	Pn	18 55 37.3	+2.0
WRA	Warramunga Arr	17.88	133	P	P	18 58 29.7	+0.7
	0.2nm,0.3s,baz=308,slow=12,SNR=9.6						
ASAR	Alice Springs	20.16	142	P	Pn	18 58 57.8	+1.7
	1.5nm,0.4s,baz=332,slow=14,SNR=17						
JNU	Nakatsue	42.12	13	LR	LR	19 22 27.5	
	comp=Z,22nm,18.1s,baz=119,slow=40						
MKAR	Makanchi Array	64.30	332	P	P	19 04 56.4	+1.9
	0.7nm,0.6s,baz=145,slow=7.5,SNR=11						
ZALV	Zalesovo Beam	68.70	338	P	P	19 05 24.5	+2.1
	0.8nm,0.5s,baz=135,slow=5.8,SNR=4.8						
KURBB	Kurchatov Arra	68.79	333	P	P	19 05 24.7	+1.6
	0.2nm,0.5s,baz=137,slow=5.9,SNR=4.9						
OPO	Ambohidratompo	71.70	253	LR	LR	19 31 24.7	
	comp=Z,140nm,21.9s,baz=178,slow=31						
VNDA	Vanda	72.69	171	P	P	19 05 46.1	-0.3
	0.4nm,0.4s,baz=302,slow=5.4,SNR=5.1						
BVAR	Borovoye Array	74.17	331	P	P	19 05 58.1	+2.6
	0.6nm,0.7s,baz=152,slow=6.5,SNR=3.5						
TIXI	Tiksi	79.73	3	LR	LR	19 45 28.5	
	comp=Z,24nm,18.4s,baz=8.5,slow=38						
OBN	Obninsk	93.07	325	LR	LR	19 53 05.7	
	comp=Z,17nm,20.1s,baz=270,slow=38						

IDC **16** *18:58:28.6±0.6,56.60S×24.62W,h0km,mb4.3/11, mb1 4.4/12,mb1mx4.1/37,mbtmp4.3/12,ML4.3/1,MS3.6/12, Ms1 3.6/12,ms1mx3.4/28,Error ellipse: s-maj=21.0km s-min=17.4km az=52.0*

NEIC **16** *18:58:29.9±0.3,56.53S×24.75W,h10km,mb4.9/13,Error ellipse: s-maj=9.7km s-min=6.9km az=209.0*

ISCJB **16** *18:58:31.8±0.4,56.64S±0.06×24.8W±0.1,h40km, mb4.6/18,MS3.7/11,Error ellipse: s-maj=12.4km s-min=7.6km az=146.8*

ISC 16 18:58:33.8±0.5,56.7S±0.1×25.10W±0.08,h40km,n51, σ1.968/46,mb4.6/17,MS3.7/11,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	6.90	285	*e*Pn	Pn	19 00 12.6	+0.3
HOPE				*e*Sn	Sn	19 01 24.4	-5.0
VNA1	Neumayer--Stat	15.80	159	P	Pn	19 02 11.5	-1.5
VNA3	Neumayer Olymp	16.03	162	P	Pn	19 02 14.0	-2.0
VNA2	Neumayer--Watz	16.19	159	P	Pn	19 02 15.8	-2.2
	baz=325,slow=14						
SNAA	Sanae	17.71	157	P	Pn	19 02 36.0	-1.1
SNAA	Sanae	17.71	157	P	Pn	19 02 35.6	-1.4
	0.9nm,0.3s,baz=321,slow=15,SNR=25						
SNAA				LR	LR	19 07 56.6	
	comp=Z,135nm,19.7s,baz=282,slow=32						
SNAA	Sanae	17.71	157	*e*Pn	Pn	19 02 35.9	-1.1
	28nm,1.2s						
EFI	East Falkland	19.80	271	*e*P	P	19 02 57.8	-2.7
	140nm,1.5s						
TRQA	Tornquist	30.63	292	*e*P	P	19 04 44.0	-0.1
	27nm,1.7s						
PLCA	Paso Flores	33.25	279	LR	LR	19 18 45.6	
	comp=Z,79nm,19.6s,baz=160,slow=36						
QSPA	South Pole Qui	33.58	180	P	P	19 05 09.8	0.0
	4.4nm,0.6s,baz=210,slow=0.4,SNR=14						
QSPA				LR	LR	19 18 52.8	
	comp=Z,136nm,19.1s,baz=195,slow=36						
CPUP	Villa Florida	38.10	309	P	P	19 05 49.4	+0.8
	5.0nm,1.0s,baz=145,slow=8.8,SNR=7.4						
CPUP				LR	LR	19 21 03.5	
	comp=Z,71nm,18.6s,baz=170,slow=35						
CPUP	Villa Florida	38.10	309	*e*P	P	19 05 48.4	-0.2
	9.6nm,1.0s						
MAW	Mawson	38.96	142	LR	LR	19 20 35.7	
	comp=Z,88nm,18.3s,baz=238,slow=34						
BOSA	Boshof	45.01	73	P	P	19 06 43.3	-2.1
	2.8nm,0.8s,baz=178,slow=7.3,SNR=5.4						
BOSA				LR	LR	19 21 44.4	
	comp=Z,227nm,18.3s,baz=208,slow=31						
BOSA	Boshof	45.01	73	*e*P	P	19 06 43.1	-2.2
	14nm,1.2s						
SBA	Scott Base	45.54	183	*e*P	P	19 06 50.7	+1.9
	44nm,1.4s						
VNDA	Vanda	46.01	182	P	P	19 06 54.1	+1.7
	1.6nm,0.6s,baz=178,slow=5.9,SNR=9.8						
VNDA	Vanda	46.01	182	*e*P	P	19 06 54.3	+1.8
	24nm,1.8s						
LBTB	Lobatse	48.09	71	P	P	19 07 07.3	-2.1
	3.1nm,0.8s,baz=220,slow=7.1,SNR=6.2						
LBTB	Lobatse	48.09	71	*e*P	P	19 07 07.4	-2.1
	6.6nm,0.8s						
PB01	IPOC Station P	48.23	299	*e*P	P	19 07 11.8	+1.3
	26nm,1.0s						
SIV	San Ignacio	48.85	311	P	P	19 07 16.8	+1.5
	1.0nm,0.5s,baz=174,slow=12,SNR=4.6						
TSUM	Tsumeb	48.99	58	P	P	19 07 15.7	-0.8
	2.9nm,0.9s,baz=193,slow=7.5,SNR=3.7						
MNMC	Minye Minye	49.91	300	*e*P	P	19 07 25.1	+1.4
	25nm,0.6s						
LPAZ	La Paz	51.69	303	P	P	19 07 39.1	+1.7
	5.1nm,0.5s,baz=95,slow=4.8,SNR=18						
LPAZ				LR	LR	19 30 23.1	
	comp=Z,32nm,21.0s,baz=170,slow=37						
LPAZ	La Paz	51.69	303	*e*P	P	19 07 38.7	+1.3
LPAZ				*es*P	P	19 07 39.1	+1.7
SAML	Samuel	56.07	313	*e*P	P	19 08 08.4	-0.3
	4.7nm,0.8s						
DBIC	Dimbokro	65.27	22	LR	LR	19 31 11.9	
	comp=Z,58nm,19.7s,baz=120,slow=30						
OTAV	Otavalo	70.97	302	*e*P	P	19 09 50.5	+2.9
	6.9nm,1.0s						
TOA0	Torodi Ar. Sit	73.05	27	*e*P	P	19 09 58.0	-1.4
TORD	Torodi Ar. Bea	73.05	27	P	P	19 09 58.5	-0.9
	1.3nm,0.6s,baz=197,slow=6.0,SNR=8.0						
TOA1	Torodi Ar. Sit	73.05	27	*e*P	P	19 09 58.5	-0.9
ROSC	El Rosal	73.17	308	LR	LR	19 41 32.2	
	comp=Z,26nm,21.9s,baz=207,slow=35						
ROSC	El Rosal	73.17	308	*e*P	P	19 10 01.5	+0.8
	8.1nm,0.5s						
SDV	Santo Domingo	75.27	313	P	P	19 10 15.3	+2.6
	1.6nm,0.3s,baz=252,slow=3.2,SNR=2.5						
SDV				LR	LR	19 42 05.4	
	comp=Z,40nm,21.8s,baz=63,slow=35						
SDV	Santo Domingo	75.27	313	*e*P	P	19 10 13.2	+0.5
SDV				*e*PcP	P	19 10 15.3	+2.6
STKA	Stephens Creek	91.08	169	LR	LR	19 50 45.7	
	comp=Z,71nm,18.8s,baz=201,slow=34						
RAR	Rarotonga	93.57	222	LR	LR	19 46 44.3	
	comp=Z,29nm,19.4s,baz=78,slow=31						
ASAR	Alice Springs	98.04	161	P	Pdif	19 12 06.2	+0.3
	0.3nm,0.8s,baz=176,slow=3.7,SNR=3.6						
PFO	Pinyon Flats O	118.06	289	*e*PKPdf	PKPdf	19 17 16.3	+0.5
HLLC	North Hollywoo	119.49	288	*e*PKPdf	PKPdf	19 17 19.4	+1.0
CMAR	Chiang Mai Arr	123.76	109	PKP	PKPdf	19 17 28.2	+1.2
	0.3nm,0.4s,baz=242,slow=1.9,SNR=4.3						
FIA0	FINESS Array S	124.40	27	*e*PKPdf	PKPdf	19 17 27.1	+0.3
FINES	FINESS Array B	124.40	27	PKP	PKPdf	19 17 27.1	+0.3
	0.4nm,0.3s,baz=344,slow=35,SNR=2.7						
JCW	Jim Creek	131.57	297	*e*PKPpre	PKPpre	19 17 34.8	
YKA	Yellowknife Ar	137.41	317	PKP	PKPdf	19 17 52.3	+0.8
	0.9nm,0.7s,baz=123,slow=2.1,SNR=13						
INK	Inuvik	147.02	320	PKPbc	PKPab	19 18 12.6	+0.5
	3.7nm,0.9s,baz=317,slow=4.9,SNR=8.0						
SONA0	Songino Array	149.61	86	*e*PKPbc	PKPbc	19 18 18.0	0.0
SONM	Songino Array	149.61	86	PKPbc	PKPbc	19 18 18.0	0.0
	0.6nm,0.5s,baz=208,slow=2.1,SNR=6.2						
ILAR	Eielson Array	151.40	310	PKPbc	PKPbc	19 18 22.6	+1.0
	3.3nm,0.9s,baz=134,slow=1.1,SNR=18						

IDC 16 19:11:56.3±1.8,19.41S×177.79W,h558km±37km, mb3.2/5,mb1 3.4/7,mb1mx3.0/48,mbtmp4.4/7,Error ellipse: s-maj=35.8km s-min=20.5km az=38.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.94	47	P	P	19 13 53.5	-0.3
	6.6nm,0.3s,baz=269,slow=13,SNR=5.6						
URZ	Urewera	19.30	192	P	P	19 15 44.8	-0.6
	3.7nm,0.3s,baz=36,slow=8.7,SNR=21						
CTA	Charters Tower	33.81	263	P	P	19 17 53.2	+0.4
	7.2nm,1.2s,baz=106,slow=7.4,SNR=2.5						
STKA	Stephens Creek	38.45	243	P	P	19 18 32.6	+1.7
	2.8nm,0.8s,baz=96,slow=9.2,SNR=3.9						
WRA	Warramunga Arr	44.96	261	P	P	19 19 21.4	-1.0
	0.8nm,0.3s,baz=98,slow=8.1,SNR=35						
ASAR	Alice Springs	44.97	256	P	P	19 19 22.2	-0.3
	2.2nm,0.6s,baz=92,slow=7.8,SNR=36						
ASAR				S	S	19 25 20.4	-0.3
	0.7nm,0.8s,baz=95,slow=13,SNR=4.6						
QSPA	South Pole Qui	70.66	180	P	P	19 22 16.2	+0.4
	1.5nm,0.7s,baz=60,slow=8.1,SNR=8.1						

ISCJB **16** *19:12:30.7±0.5,39.12N±0.03×29.17E±0.03,h5km±5km, Error ellipse: s-maj=5.6km s-min=4.3km az=167.1*

CSEM **16** *19:12:30.7±0.1,39.13N×29.17E,h5km,ML2.4,Error ellipse: s-maj=2.3km s-min=2.0km az=132.0*

DDA **16** *19:12:30.3,39.16N×29.14E,h7km,Ml2.6*

ISK **16** *19:12:30.2,39.13N×29.19E,h5km,ML2.4/7*

ISC 16 19:12:30.9±0.9,39.13N±0.03×29.17E±0.02,h8km±8km, n32,σ0.953/46,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.15	252	P	Pg	19 12 34.3	+0.2
SIMA				*e*S	Sg	19 12 36.5	+0.2
SIMA	Simav-Kutahya	0.15	252	*i* Pg	Pg	19 12 34.3	+0.2
SIMA				*i* Sg	Sg	19 12 36.5	+0.2
GDZ	Gediz	0.25	99	*i* P	Pg	19 12 36.0	+0.1
GDZ				*i* S	Sg	19 12 39.9	+0.6
GDZ	Gediz	0.25	99	P	Pg	19 12 36.0	+0.1
GDZ				S	Sg	19 12 39.9	+0.6
DEMI	Demirci	0.36	256	*i* P	Pg	19 12 37.9	-0.1
DEMI				*i* S	Sg	19 12 42.5	-0.2
DEMI	Demirci	0.36	256	P	Pg	19 12 37.9	-0.1
DEMI				S	Sg	19 12 42.5	-0.2
TVSB	Tavsanli	0.40	36	PG	Pg	19 12 38.2	-0.4
TVSB				SG	Sg	19 12 43.6	-0.3
TVSB	Tavsanli	0.40	36	*e*Pg	Pg	19 12 38.2	-0.4
TVSB				*e*Sg	Sg	19 12 43.6	-0.3
KULA	Kula-Manisa	0.73	213	PG	Pg	19 12 44.9	0.0
KULA	Kula-Manisa	0.73	213	*e*Pg	Pg	19 12 44.9	0.0
KHAL	Karahalli	0.80	161	*i* P	Pb	19 12 46.8	-0.3
KHAL				*i* S	Sg	19 12 56.1	-0.5
KHAL	Karahalli	0.80	161	P	Pb	19 12 46.8	-0.3
KHAL				S	Sg	19 12 56.1	-0.5
STEP	BALIKESIR_Sava	1.15	283	*i* P	Pn	19 12 53.1	-0.3
STEP	BALIKESIR_Sava	1.15	283	P	Pn	19 12 53.1	-0.3
KZIL	AFYON_Kizioren	1.16	138	*i* P	Pb	19 12 52.7	-0.5
KZIL	AFYON_Kizioren	1.16	138	P	Pb	19 12 52.7	-0.5
CAVI	Cavuskoy	1.19	26	PN	Pg	19 12 53.1	-0.7
CAVI	Cavuskoy	1.19	26	*e*Pn	Pg	19 12 53.1	-0.7
BORA	Eskisehir	1.25	53	*i* P	Pn	19 12 54.8	0.0
BORA	Eskisehir	1.25	53	P	Pn	19 12 54.8	0.0
MDNY	Mudanya-Bursa	1.26	350	PN	Pn	19 12 55.0	+0.2
MDNY				SN	Sn	19 13 13.1	+1.2
MDNY	Mudanya-Bursa	1.26	350	*e*Pn	Pn	19 12 55.0	+0.2
MDNY				*e*Sn	Sn	19 13 13.1	+1.2
KCTX	Karacabey (Bur	1.30	331	PN	Pg	19 12 55.7	0.0
KCTX				SN	Sn	19 13 14.1	+1.2
KCTX	Karacabey (Bur	1.30	331	*e*Pn	Pg	19 12 55.7	0.0
KCTX				*e*Sn	Sn	19 13 14.1	+1.2
BALY	Balya	1.34	298	*i* P	Pn	19 12 55.2	-0.8
BALY	Balya	1.34	298	P	Pn	19 12 55.2	-0.8
ARMT	Armutlu	1.45	351	PN	Pb	19 12 57.9	-0.3
ARMT	Armutlu	1.45	351	*e*Pn	Pb	19 12 57.9	-0.3
AYDB	Zeytinkoy-Aydi	1.55	221	PN	Pb	19 12 59.3	-0.6
AYDB	Zeytinkoy-Aydi	1.55	221	*e*Pn	Pb	19 12 59.3	-0.6
GULT	Gulveren	1.67	38	PN	Pn	19 13 00.6	+0.1
GULT	Gulveren	1.67	38	*e*Pn	Pn	19 13 00.6	+0.1

IDC 16 19:16:29.7±19.0,23.46S×179.95W,h510km±130km, mb3.2/5,mb1 3.3/6,mb1mx3.0/41,mbtmp4.1/6,Error ellipse: s-maj=260.9km s-min=20.8km az=42.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.96	189	P	P	19 19 38.4	-0.7
	2.0nm,0.3s,baz=295,slow=5.8,SNR=11						
CTA	Charters Tower	31.52	270	P	P	19 22 10.4	+0.7
	3.0nm,0.3s,baz=94,slow=11,SNR=11						
ASAR	Alice Springs	42.15	260	P	P	19 23 37.0	-0.3
	0.7nm,0.5s,baz=96,slow=7.2,SNR=17						
WRA	Warramunga Arr	42.48	266	P	P	19 23 39.2	-0.6
	0.9nm,0.4s,baz=101,slow=8.6,SNR=70						
VNDA	Vanda	54.82	185	P	P	19 25 10.9	+0.3
	0.8nm,0.8s,baz=356,slow=5.9,SNR=3.6						
QSPA	South Pole Qui	66.62	180	P	P	19 26 28.7	-0.2
	2.2nm,0.6s,baz=40,slow=7.9,SNR=12						

**IDC 16 19:16:41.3±35.0,22.43S×179.00W,h430km±213km,

EATA				*i* S	**Sn**	**19 20 31.5**	**+0.5**			
EATA	**Eleskirt**	**1.28**	**317**	P	**Pn**	**19 20 11.8**	**-1.4**			
HAKT	**HAKKARI**	**1.38**	**178**	⇓*i*P	**Pg**	**19 20 13.6**	**-0.8**			
HAKT				*i* S	**Sg**	**19 20 35.0**	**+2.8**			
HAKT	**HAKKARI**	**1.38**	**178**	P	**Pg**	**19 20 13.6**	**-0.8**			
HAKT				S	**Sg**	**19 20 35.0**	**+2.8**			
NAX	**Nakhchivan**	**1.47**	**80**	⇓P	**Pg**	**19 20 17.1**	**+0.9**			
NAX				⇑S	**Sg**	**19 20 40.2**	**+5.0**			
SBZ	**Shahbuz**	**1.56**	**72**	⇓P	**Pg**	**19 20 18.1**	**+0.1**			
SBZ				⇓S	**Sg**	**19 20 41.5**	**+3.3**			
SRTM	**Siirt_Merkez**	**1.64**	**236**	⇓*i*P	**Pg**	**19 20 18.8**	**-0.7**			
SRTM				*i* S	**Sg**	**19 20 42.9**	**+2.1**			
SRTM	**Siirt_Merkez**	**1.64**	**236**	P	**Pg**	**19 20 18.8**	**-0.7**			
CUKT	**Cukurca**	**1.68**	**181**	PN	**Pg**	**19 20 19.3**	**-1.0**			
CUKT				SN	**Sg**	**19 20 42.8**	**+0.6**			
CUKT	**Cukurca**	**1.68**	**181**	*i* P	**Pg**	**19 20 19.7**	**-0.6**			
CUKT				*i* S	**Sg**	**19 20 44.7**	**+2.6**			
CUKT	**Cukurca**	**1.68**	**181**	*e*Pn	**Pg**	**19 20 19.3**	**-1.0**			
CUKT	**Cukurca**	**1.68**	**181**	P	**Pg**	**19 20 19.7**	**-0.6**			
CUKT				*e*Sn	**Sg**	**19 20 42.8**	**+0.6**			
SIRT	**Sirnak**	**1.71**	**214**	PN	**Pb**	**19 20 19.7**	**-0.5**			
SIRT	**Sirnak**	**1.71**	**214**	*e*Pn	**Pb**	**19 20 19.7**	**-0.5**			
KARS	**Kars**	**1.75**	**346**	PN	**Pn**	**19 20 18.8**	**-0.6**			
KARS	**Kars**	**1.75**	**346**	*e*Pn	**Pn**	**19 20 18.8**	**-0.6**			
EAK	**Akyaka**	**1.75**	**359**	⇓*i*P	**Pg**	**19 20 21.7**	**+0.1**			
EAK				*i* S	**Sg**	**19 20 50.6**	**+6.3**			
EAK	**Akyaka**	**1.75**	**359**	P	**Pg**	**19 20 21.7**	**+0.1**			
ORD	**Ordubad**	**1.84**	**89**	⇓P	**Pg**	**19 20 22.3**	**-1.0**			
ORD				⇓S	**Sg**	**19 20 48.7**	**+1.6**			
SENK	**Senkaya-Erzuru**	**1.90**	**329**	PN	**Pn**	**19 20 21.8**	**+0.2**			
SENK	**Senkaya-Erzuru**	**1.90**	**329**	*e*Pn	**Pn**	**19 20 21.8**	**+0.2**			
ERZM	**Erzurum**	**2.01**	**300**	*i* P	**Pn**	**19 20 22.7**	**-0.4**			
ERZM				*i* S	**Sg**	**19 20 54.4**	**+1.8**			
ERZM	**Erzurum**	**2.01**	**300**	P	**Pn**	**19 20 22.7**	**-0.4**			
BTMN	**Batman**	**2.13**	**241**	*i* P	**Pb**	**19 20 26.5**	**-0.9**			
BTMN				*i* S	**Sg**	**19 20 56.1**	**-0.4**			
BTMN	**Batman**	**2.13**	**241**	P	**Pb**	**19 20 26.5**	**-0.9**			
GDB	**GEDABAY**	**2.42**	**42**	⇑P	**Pb**	**19 20 31.7**	**-0.6**			
GDB				⇓S	**Sb**	**19 21 03.3**	**+0.7**			
AKH	**Akhalkalaki**	**2.48**	**357**	P	**Pg**	**19 20 35.9**	**+0.4**			
QZX	**Qazax, Azerbai**	**2.50**	**32**	⇓P	**Pb**	**19 20 33.6**	**-0.1**			
QZX				⇑S	**Sg**	**19 21 07.6**	**-0.9**			
GANJ	**Ganja**	**2.68**	**50**	⇑P	**Pb**	**19 20 34.9**	**-1.8**			
GANJ				⇓S	**Sg**	**19 21 12.7**	**-1.6**			
DIY	**Diyarbakir**	**2.87**	**250**	*e*Pn	**Pn**	**19 20 36.4**	**+1.6**			
MAZI	**Mazidag**	**2.91**	**241**	PN	**Pn**	**19 20 36.6**	**+1.2**			
MAZI	**Mazidag**	**2.91**	**241**	*e*Pn	**Pn**	**19 20 36.6**	**+1.2**			
DYBB	**Diyarbakir**	**2.92**	**251**	PN	**Pn**	**19 20 36.4**	**+1.0**			
TBLG	**Delisi**	**2.92**	**16**	PN	**Pn**	**19 20 35.9**	**+0.5**			
TBLG	**Delisi**	**2.92**	**16**	P	**Pg**	**19 20 44.2**	**+0.2**			
TBLG	**Delisi**	**2.92**	**16**	*e*Pn	**Pg**	**19 20 35.9**	**+0.5**			
BRDA	**Brd**	**3.04**	**63**	⇓P	**Pb**	**19 20 39.7**	**-3.1**			
BRDA				⇑S	**Sb**	**19 21 20.3**	**0.0**			
BAYT	**Ayd¯–ntepe-Bay**	**3.07**	**299**	PN	**Pn**	**19 20 38.4**	**+0.8**			
BAYT	**Ayd¯–ntepe-Bay**	**3.07**	**299**	*e*Pn	**Pn**	**19 20 38.4**	**+0.8**			
MNGR	**Mingechevir, A**	**3.23**	**54**	⇑P	**Pb**	**19 20 42.5**	**-3.5**			
MNGR				⇑S	**Sb**	**19 21 25.8**	**+0.1**			
PTK	**Pertek**	**3.31**	**271**	PN	**Pn**	**19 20 42.8**	**+1.8**			
PTK	**Pertek**	**3.31**	**271**	*e*Pn	**Pn**	**19 20 42.8**	**+1.8**			
ZRD	**Zardab**	**3.40**	**65**	⇑P	**Pn**	**19 20 44.2**	**+2.2**			
ZRD				⇓S	**Sb**	**19 21 29.1**	**-1.6**			
SEKA	**Sheki**	**3.55**	**49**	⇑P	**Pb**	**19 20 47.9**	**-3.7**			
GUDG	**Gudauri**	**3.58**	**10**	P	**Pg**	**19 21 00.2**	**+3.5**			
ONI	**Oni**	**3.66**	**358**	P	**Pg**	**19 20 58.0**	**-0.1**			
LRK	**Lerik**	**3.69**	**93**	⇑P	**Pn**	**19 20 46.6**	**+0.5**			
LRK				⇑S	**Sb**	**19 21 32.8**	**-6.3**			
GLBA	**Clilabad**	**3.71**	**84**	⇑P	**Pn**	**19 20 47.9**	**+1.6**			
GLBA				⇑S	**Sb**	**19 21 34.8**	**-4.9**			
KDMR	**Kurdemir**	**3.79**	**66**	⇓P	**Pn**	**19 20 50.0**	**+2.6**			
KDMR				⇓S	**Sb**	**19 21 38.4**	**-3.6**			
QBL	**Gabala**	**3.80**	**57**	⇓P	Pb	19 20 50.6	-5.2			
QBL				⇓S	**Sb**	**19 21 39.8**	**-2.5**			
SAAT	**Saatly**	**3.82**	**74**	⇑P	**Pn**	**19 20 49.3**	**+1.5**			
SAAT				⇑S	**Sb**	**19 21 37.6**	**-5.2**			
IML	**Ismayilli**	**3.96**	**61**	⇓P	**Pn**	**19 20 52.4**	**+2.7**			
IML				⇓S	**Sb**	**19 21 43.2**	**-3.6**			
LKRN	**Lenkeran, Azer**	**4.02**	**92**	⇓P	**Pn**	**19 20 51.2**	**+0.7**			
LKRN				⇓S	**Sn**	**19 21 41.2**	**+3.1**			
ASTR	**Astara**	**4.05**	**94**	⇑P	**Pn**	**19 20 51.4**	**+0.5**			
ASTR				⇑S	**Sn**	**19 21 41.9**	**+3.1**			
URFA	**Urfa**	**4.08**	**250**	PN	**Pn**	**19 20 53.3**	**+1.9**			
URFA	**Urfa**	**4.08**	**250**	*e*Pn	**Pn**	**19 20 53.3**	**+1.9**			
XNQ	**Khinaliq**	**4.12**	**56**	⇑P	**Pn**	**19 20 54.7**	**+2.7**			
XNQ				⇑S	**Sb**	**19 21 47.5**	**-4.0**			
MALT	**Malatya**	**4.13**	**263**	PN	**Pn**	**19 20 53.8**	**+1.7**			
MALT	**Malatya**	**4.13**	**263**	*e*Pn	**Pn**	**19 20 53.8**	**+1.7**			
PQL	**Pirkuli**	**4.24**	**63**	⇓P	**Pn**	**19 20 56.0**	**+2.3**			
PQL				⇓S	**Sb**	**19 21 50.1**	**-4.9**			
ALIB	**Äli-Bayra**	**4.28**	**74**	⇑P	**Pn**	**19 20 55.9**	**+1.8**			
ALIB				⇑S	**Sb**	**19 21 49.8**	**-6.2**			
QSAR	**Qusar**	**4.38**	**52**	⇑P	**Pn**	**19 20 58.4**	**+2.9**			
QSAR				⇑S	**Sb**	**19 21 54.4**	**-4.5**			
GBS	**Qobustan**	**4.39**	**67**	⇑P	**Pn**	**19 20 57.8**	**+2.1**			
GBS				⇑S	**Sb**	**19 21 53.3**	**-6.0**			
QUBA	**Quba, Azerbaij**	**4.44**	**55**	⇓P	**Pn**	**19 20 59.2**	**+2.9**			
QUBA				⇑S	**Sb**	**19 21 55.5**	**-5.1**			
ATGJ	**Altiaghaj**	**4.51**	**63**	⇑P	**Pn**	**19 21 00.1**	**+2.8**			
ATGJ				⇓S	**Sb**	**19 21 56.3**	**-6.4**			
SIZA	**Siyzn**	**4.57**	**60**	⇓P	**Pn**	**19 21 00.9**	**+2.7**			
SIZA				⇑S	**Sb**	**19 21 58.3**	**-6.2**			
BHD	**Baghdad**	**5.68**	**174**	*e*Pn	**Pn**	**19 21 14.0**	**+0.6**			
	SNR=3.0									
BHD				*e*Sn	**Sn**	**19 22 21.0**	**+1.9**			
	SNR=3.0									
RTB	**Rutbah**	**6.48**	**206**	*e*Pn	**Pn**	**19 21 25.0**	**+0.6**			
	SNR=3.0									
RTB				*e*Sn	**Sn**	**19 22 41.0**	**+2.2**			
	SNR=3.0									

*MOS **16** 19:55:55.8±1.6, 42°.96N×46°.88E, h19km, mb4.3/1, Error ellipse: s-maj=5.6km s-min=4.9km az=133.6*
*IDC **16** 19:55:55.0±0.8, 43°.24N×46°.54E, h0km, mb3.1/3, mb1 3.4/9, mb1mx3.2/61, mbtmp3.3/9, ML3.1/5, Error ellipse: s-maj=13.4km s-min=8.7km az=142.0*
*CSEM **16** 19:55:56.3±0.2, 42°.98N×46°.82E, h2km, mb4.3, Error ellipse: s-maj=4.1km s-min=2.7km az=28.0*
*NNC **16** 19:56:02.4±3.0, 43°.51N×47°.16E, h0km, mb3.7, Error ellipse: s-maj=104.1km s-min=27.0km az=136.0*

ISC 16 19:55:56.3±0.8, 42°.95N±0°.02×46°.78E±0°.02, h10km±6km, n129, σ1$45/198, mb3.0/3, 24C-16D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.09**	**29**	*i* PG	**Pg**	**19 55 58.2**	**-0.5**
DBC	**Dubki**	**0.09**	**29**	*i* Pg	**Pg**	**19 55 58.2**	**-0.5**
KRNR	**Karanay**	**0.15**	**141**	*i* PG	**Pg**	**19 55 58.8**	**-0.9**
KRNR	**Karanay**	**0.15**	**141**	*i* Pg	**Pg**	**19 55 58.8**	**-0.9**
DLMR	**Dylym**	**0.16**	**320**	*e*PG	**Pg**	**19 55 59.5**	**-0.4**
DLMR	**Dylym**	**0.16**	**320**	*e*Pg	**Pg**	**19 55 59.5**	**-0.4**
UNCR	**Uncukul**	**0.23**	**176**	*e*PG	**Pg**	**19 56 00.0**	**-1.1**
UNCR	**Uncukul**	**0.23**	**176**	*e*Pg	**Pg**	**19 56 00.0**	**-1.1**
BUJR	**Buynaksk**	**0.27**	**116**	⇑*i*PG	**Pg**	**19 56 02.2**	**+0.4**
BUJR				*i* S	**Sb**	**19 56 08.0**	**-0.1**
BUJR				pmax	pmax		
	comp=Z,678nm,0.2s						
BUJR	**Buynaksk**	**0.27**	**116**	*i* Pg	**Pg**	**19 56 02.2**	**+0.4**
	comp=Z,678nm,0.2s						
ARKR	**Arakani**	**0.38**	**155**	*e*PG	**Pg**	**19 56 02.8**	**-1.0**
ARKR				*e*S	**Sg**	**19 56 08.5**	**-0.3**
ARKR				pmax	pmax		
	comp=Z,447nm,0.2s						
ARKR	**Arakani**	**0.38**	**155**	*e*Pg	**Pg**	**19 56 02.8**	**-1.0**
	comp=Z,447nm,0.2s						
ARKR				*e*Sg	**Sg**	**19 56 08.5**	**-0.3**
XNZR	**Khunzakh**	**0.41**	**187**	⇑*i*PG	**Pg**	**19 56 03.3**	**-1.0**
XNZR	**Khunzakh**	**0.41**	**187**	*i* Pg	**Pg**	**19 56 03.3**	**-1.0**
DVE	**Vedeno**	**0.48**	**272**	⇓*i*PG	**Pg**	**19 56 04.5**	**-1.1**
DVE				*e*S	**Sg**	**19 56 11.6**	**-0.3**
DVE	**Vedeno**	**0.48**	**272**	*i* Pg	**Pg**	**19 56 04.5**	**-1.1**
DVE				*e*Sg	**Sg**	**19 56 11.6**	**-0.3**
BTLR	**Botlikh**	**0.49**	**235**	⇑*i*PG	**Pg**	**19 56 04.5**	**-1.4**
BTLR				*e*		19 56 12.6	
BTLR				pmax	pmax		
	comp=Z,246nm,0.5s						
BTLR				smax	smax		
	comp=N,775nm,0.4s						
BTLR	**Botlikh**	**0.49**	**235**	*e*Sg	**Sg**	**19 56 12.6**	**+0.2**
	comp=N,775nm,0.4s						
MAK	**Makhachkala**	**0.54**	**88**	*e*PG	**Pg**	**19 56 06.6**	**-0.1**
MAK				*e*		19 56 15.3	
MAK				pmax	pmax		
	comp=Z,84nm,0.4s						
MAK				smax	smax		
	comp=N,5μm,0.5s						
MAK				smax	smax		
	comp=N,4μm,0.5s						
MAK	**Makhachkala**	**0.54**	**88**	*e*Pg	**Pg**	**19 56 06.6**	**-0.1**
	comp=N,84nm,0.4s						
GNBR	**Gunib**	**0.57**	**166**	⇑*i*PG	**Pg**	**19 56 06.8**	**-0.6**
GNBR				*i* S	**Sg**	**19 56 15.1**	**+0.1**
GNBR				pmax	pmax		
	comp=Z,1μm,1.0s						
GNBR	**Gunib**	**0.57**	**166**	*i* Pg	**Pg**	**19 56 06.8**	**-0.6**
	comp=Z,1μm,1.0s						
GNBR				*i* Sg	**Sg**	**19 56 15.1**	**+0.1**
GROC	**Groznyy**	**0.76**	**290**	⇑*i*PG	**Pg**	**19 56 10.6**	**-0.4**
GROC				*e*		19 56 22.7	
GROC				pmax	pmax		
	comp=Z,119nm,0.6s						
GROC				smax	smax		
	comp=N,542nm,1.0s						
GROC				smax	smax		
	comp=E,309nm,0.4s						
GROC	**Groznyy**	**0.76**	**290**	*i* Pg	**Pg**	**19 56 10.6**	**-0.4**
	comp=E,119nm,0.6s						
GROC				*e*Sg	**Sb**	**19 56 22.7**	**+0.6**
	comp=E,542nm,1.0s						
SGKR	**Sergokala**	**0.81**	**126**	*i* PG	**Pg**	**19 56 12.0**	**+0.1**
SGKR				*i* S	**Sn**	**19 56 27.0**	**+1.0**
SGKR	**Sergokala**	**0.81**	**126**	*i* Pg	**Pg**	**19 56 12.0**	**+0.1**
KMKR	**Kumukh**	**0.85**	**163**	*e*PG	**Pg**	**19 56 12.0**	**-0.7**
KMKR				*e*S	**Sg**	**19 56 24.0**	**+0.3**
KMKR				pmax	pmax		
	comp=Z,76nm,0.2s						
KMKR	**Kumukh**	**0.85**	**163**	*e*Pg	**Pg**	**19 56 12.0**	**-0.7**
	comp=Z,76nm,0.2s						
KMKR				*e*Sg	**Sg**	**19 56 24.0**	**+0.3**
URKR	**Urkarakh**	**1.00**	**141**	*i* PG	**Pg**	**19 56 15.0**	**-0.6**
URKR				*e*S	**Sn**	**19 56 31.0**	**+0.1**
URKR				pmax	pmax		
	comp=Z,272nm,0.2s						
URKR	**Urkarakh**	**1.00**	**141**	*i* Pg	**Pg**	**19 56 15.0**	**-0.6**
	comp=Z,272nm,0.2s						
KMGR	**Komgaron**	**1.41**	**275**	*e*PG	**Pb**	**19 56 22.8**	**+0.1**
KMGR				*e*S	**Sg**	**19 56 43.9**	**+2.4**
KMGR	**Komgaron**	**1.41**	**275**	*e*Pg	**Pb**	**19 56 22.8**	**+0.1**
KMGR				*e*Sg	**Sg**	**19 56 43.9**	**+2.4**
DRN	**Derbent**	**1.47**	**128**	⇑*e*PG	**Pg**	**19 56 24.5**	**0.0**
DRN				*i*		19 56 45.6	
DRN				pmax	pmax		
	comp=Z,70nm,0.5s						
DRN				smax	smax		
	comp=N,286nm,0.8s						
DRN	**Derbent**	**1.47**	**128**	*e*Pg	**Pg**	**19 56 24.5**	**0.0**
	comp=N,70nm,0.5s						
VLKR	**Vladikavkaz**	**1.54**	**274**	*e*PG	**Pb**	**19 56 24.8**	**-0.2**
VLKR				*e*S	**Sg**	**19 56 47.8**	**+1.9**
VLKR	**Vladikavkaz**	**1.54**	**274**	*e*Pg	**Pb**	**19 56 24.8**	**-0.2**
VLKR				*e*Sg	**Sg**	**19 56 47.8**	**+1.9**
AKT	**Akhty**	**1.63**	**154**	⇑*i*PG	**Pn**	**19 56 25.2**	**0.0**
AKT				*e*		19 56 46.8	
AKT				pmax	pmax		
	comp=Z,133nm,0.5s						
AKT				smax	smax		
	comp=E,294nm,0.4s						
AKT				smax	smax		
	comp=N,228nm,0.4s						
AKT				smax	smax		
	comp=E,340nm,0.4s						
KSMR	**Kasumkent**	**1.68**	**143**	⇑*i*PN	**Pb**	**19 56 27.3**	**0.0**
KSMR				S	**Sg**	**19 56 52.0**	**+1.8**
KSMR				pmax	pmax		
	comp=Z,101nm,0.2s						
KSMR	**Kasumkent**	**1.68**	**143**	*i* Pn	**Pb**	**19 56 27.3**	**0.0**
	comp=Z,101nm,0.2s						
KSMR				Sg	**Sg**	**19 56 52.0**	**+1.8**
TRKR	**Terskaya**	**1.68**	**298**	*e*PN	**Pb**	**19 56 27.7**	**+0.4**
TRKR				*e*S	**Sg**	**19 56 51.8**	**+1.5**
TRKR	**Terskaya**	**1.68**	**298**	*e*Pn	**Pb**	**19 56 27.7**	**+0.4**
TRKR				*e*Sg	**Sg**	**19 56 51.8**	**+1.5**
BTKR	**Batakoyurt**	**1.69**	**285**	⇑*i*PN	**Pg**	**19 56 28.3**	**-0.4**
BTKR				*e*S	**Sg**	**19 56 52.2**	**+1.6**
BTKR	**Batakoyurt**	**1.69**	**285**	*i* Pn	**Pg**	**19 56 28.3**	**-0.4**
BTKR				*e*Sg	**Sg**	**19 56 52.2**	**+1.6**
GUDG	**Gudauri**	**1.76**	**255**	P	**Pn**	**19 56 27.3**	**+0.2**
GUDG				S	**Sg**	**19 56 52.9**	**0.0**
GUDG	**Gudauri**	**1.76**	**255**	P	**Pn**	**19 56 27.3**	**+0.2**
GUDG				S	**Sg**	**19 56 52.9**	**0.0**
SEKA	**Sheki**	**1.76**	**170**	⇑P	**Pn**	**19 56 28.1**	**+1.1**
SEKA				⇓S	**Sb**	**19 56 52.2**	**+1.2**
QSAR	**Qusar**	**1.81**	**142**	⇑P	**Pb**	**19 56 29.9**	**+0.4**
QSAR				⇑S	**Sg**	**19 56 59.5**	**+1.5**
DGRG	**David-gareji**	**1.82**	**215**	P	**Pb**	**19 56 29.5**	**-0.3**
DGRG				S	**Sb**	**19 56 52.9**	**+0.2**
DGRG	**David-gareji**	**1.82**	**215**	*e*PN	**Pb**	**19 56 29.4**	**-0.3**
DGRG	**David-gareji**	**1.82**	**215**	P	**Pb**	**19 56 29.5**	**-0.3**
DGRG				S	**Sg**	**19 56 55.1**	**+0.3**
LACR	**Lac**	**1.82**	**267**	*e*PN	**Pn**	**19 56 28.5**	**+0.6**
LACR	**Lac**	**1.82**	**267**	*e*Pn	**Pn**	**19 56 28.5**	**+0.6**
ARNR	**Ardon**	**1.84**	**278**	*e*Pn	**Pb**	**19 56 30.0**	**-0.1**
SEAG	**Tbilisi Sea**	**1.88**	**232**	P	**Pb**	**19 56 31.3**	**+0.6**
SEAG				S	**Sg**	**19 56 56.0**	**-0.7**
SEAG	**Tbilisi Sea**	**1.88**	**232**	P	**Pb**	**19 56 31.3**	**+0.6**
SEAG				S	**Sg**	**19 56 56.0**	**-0.7**
BTNK	**Botanikuri**	**1.93**	**230**	P	**Pn**	**19 56 30.5**	**+1.2**
BTNK				S	**Sg**	**19 56 57.9**	**-0.5**
BTNK	**Botanikuri**	**1.93**	**230**	P	**Pn**	**19 56 30.5**	**+1.2**
BTNK				S	**Sg**	**19 56 57.9**	**-0.5**
TBLG	**Delisi**	**1.94**	**232**	P	**Pb**	**19 56 31.8**	**0.0**
TBLG				S	**Sg**	**19 56 58.1**	**-0.4**
TBLG	**Delisi**	**1.94**	**232**	*e*PN	**Pb**	**19 56 31.7**	**0.0**
TBLG				*e*S	**Sg**	**19 56 58.1**	**-0.4**
TBLG	**Delisi**	**1.94**	**232**	*e*Pn	**Pb**	**19 56 31.7**	**0.0**
TBLG				S	**Sg**	**19 56 58.1**	**-0.4**
PRTR	**Priterechnaya**	**1.99**	**295**	*e*PN	**Pb**	**19 56 32.7**	**+0.1**
PRTR				*e*S	**Sg**	**19 57 01.0**	**+0.8**
PRTR	**Priterechnaya**	**1.99**	**295**	*e*Pn	**Pb**	**19 56 32.7**	**+0.1**
PRTR				*e*Sg	**Sg**	**19 57 01.0**	**+0.8**
KORR	**Kora**	**1.99**	**275**	*e*PN	**Pb**	**19 56 31.9**	**-0.8**
KORR	**Kora**	**1.99**	**275**	*e*Pn	**Pb**	**19 56 31.9**	**-0.8**
STDR	**Stavd-Durt**	**2.03**	**283**	⇓*i*PN	**Pb**	**19 56 33.1**	**-0.2**
STDR				*e*S	**Sg**	**19 57 02.2**	**+0.7**
STDR	**Stavd-Durt**	**2.03**	**283**	*i* Pn	**Pb**	**19 56 33.1**	**-0.2**
STDR				*e*Sb	**Sg**	**19 57 02.2**	**+0.7**
QUBA	**Quba, Azerbaij**	**2.04**	**141**	⇑P	**Pb**	**19 56 33.3**	**-0.2**
QUBA				⇓S	**Sg**	**19 57 01.6**	**-0.2**
XNQ	**Khinaliq**	**2.04**	**150**	⇓P	**Pb**	**19 56 33.5**	**-0.2**
ZEI	**Tsey**	**2.12**	**267**	*e*PN	**Pn**	**19 56 33.6**	**+1.6**
ZEI				*e*S	**Sb**	**19 57 01.4**	**0.0**
ZEI	**Tsey**	**2.12**	**267**	*e*Pn	**Pn**	**19 56 33.6**	**+1.6**
ZEI				*e*Sn	**Sb**	**19 57 01.4**	**0.0**
QBL	**Gabala**	**2.15**	**158**	⇑P	**Pb**	**19 56 35.0**	**-0.4**
QZX	**Qazax, Azerbai**	**2.16**	**209**	⇓P	**Pn**	**19 56 33.7**	**+1.3**
QZX				⇓S	**Sb**	**19 57 01.4**	**-0.9**
LSNR	**Lesken**	**2.19**	**280**	*e*PN	**Pn**	**19 56 33.7**	**+0.9**
LSNR				*e*S	**Sb**	**19 57 03.6**	**+0.5**
LSNR	**Lesken**	**2.19**	**280**	*e*Pn	**Pn**	**19 56 33.7**	**+0.9**
LSNR				*e*Sn	**Sb**	**19 57 03.6**	**+0.5**
GANJ	**Ganja**	**2.32**	**189**	⇓P	**Pn**	**19 56 35.3**	**+0.6**
GANJ				⇑S	**Sn**	**19 57 04.6**	**+1.3**
DIGR	**Digorskoe uzhe**	**2.35**	**270**	*e*PN	**Pn**	**19 56 35.6**	**+0.4**
DIGR				*e*S	**Sb**	**19 57 08.1**	**+0.2**
DIGR	**Digorskoe uzhe**	**2.35**	**270**	*e*Pn	**Pn**	**19 56 35.6**	**+0.4**
DIGR				*e*Sn	**Sb**	**19 57 08.1**	**+0.2**
GDB	**GEDABAY**	**2.35**	**199**	⇓P	**Pn**	**19 56 36.2**	**+1.0**
GDB				⇓S	**Sn**	**19 57 06.0**	**+1.8**
NCK	**Nalchik**	**2.39**	**284**	*e*PN	**Pn**	**19 56 37.1**	**+1.5**
NCK				*e*S	**Sb**	**19 57 08.5**	**-0.5**
NCK	**Nalchik**	**2.39**	**284**	*e*Pn	**Pn**	**19 56 37.1**	**+1.5**
NCK				*e*Sn	**Sb**	**19 57 08.5**	**-0.5**
SIZA	**Siyzn**	**2.45**	**139**	⇓P	**Pb**	**19 56 39.7**	**-0.8**
ONI	**Oni**	**2.47**	**263**	P	**Pb**	**19 56 40.2**	**-0.8**
ONI				S	**Sb**	**19 57 13.3**	**+1.8**
ONI	**Oni**	**2.47**	**263**	*e*PN	**Pb**	**19 56 40.1**	**-0.8**
ONI				*e*S	**Sb**	**19 57 13.2**	**+1.8**
ONI	**Oni**	**2.47**	**263**	P	**Pn**	**19 56 38.0**	**+1.3**
ONI	**Oni**	**2.47**	**263**	*e*Pn	**Pb**	**19 56 40.1**	**-0.8**
ONI				S	**Sb**	**19 57 11.0**	**-0.4**
PQL	**Pirkuli**	**2.55**	**147**	⇓P	**Pb**	**19 56 40.6**	**-1.6**
ATGJ	**Altiaghaj**	**2.63**	**141**	⇓P	**Pb**	**19 56 42.0**	**-1.7**
BRDA	**Brd**	**2.70**	**173**	⇑P	**Pn**	**19 56 41.2**	**+1.4**
AKH	**Akhalkalaki**	**2.88**	**239**	P	**Pb**	**19 56 46.6**	**-1.3**
AKH				S	**Sb**	**19 57 25.7**	**+2.3**
AKH	**Akhalkalaki**	**2.88**	**239**	*e*PN	**Pb**	**19 56 46.6**	**-1.3**
AKH				*e*S	**Sb**	**19 57 25.6**	**+2.3**
AKH	**Akhalkalaki**	**2.88**	**239**	P	**Pb**	**19 56 46.6**	**-1.3**
AKH				S	**Sb**	**19 57 22.0**	**-1.3**
BGD	**Bogdanovka**	**2.90**	**236**	P	**Pb**	**19 56 46.3**	**-2.0**
BGD				S	**Sb**	**19 57 26.0**	**+2.1**
BGD	**Bogdanovka**	**2.90**	**236**	P	**Pn**	**19 56 44.0**	**+1.2**
BGD				S	**Sn**	**19 57 20.0**	**+2.2**
GBS	**Qobustan**	**2.90**	**145**	⇑P	**Pn**	**19 56 45.7**	**+3.0**
KBZ	**Khabaz**	**2.94**	**287**	Pn	**Pn**	**19 56 41.6**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=135,slow=4.7,SNR=42						
KBZ				Lg	Lg	19 57 25.8	
	comp=Z,9.5nm,0.3s,baz=5.3,slow=19,SNR=8.9						
NEY	**Neytrino**	**2.98**	**277**	*e*PN	**Pn**	**19 56 44.9**	**+1.0**
NEY				*e*S	**Sb**	**19 57 24.6**	**-1.7**
NEY	**Neytrino**	**2.98**	**277**	*e*Pn	**Pn**	**19 56 44.9**	**+1.0**
NEY				*e*Sn	**Sb**	**19 57 24.6**	**-1.7**
KVAR	**Kislovodsk Arr**	**3.14**	**290**	Pn	**Pn**	**19 56 44.8**	**-1.1**
	baz=99,slow=13,SNR=20						
KVAR				Lg	Lg	19 57 33.7	
	baz=195,slow=20,SNR=9.0						
KIV	**Kislovodsk**	**3.14**	**290**	⇑*e*PN	**Pn**	**19 56 45.2**	**-0.8**
KIV				pmax	pmax		
	comp=Z,64nm,0.6s						
KIV	**Kislovodsk**	**3.14**	**290**	*e*Pn	**Pn**	**19 56 45.2**	**-0.8**
	comp=Z,64nm,0.6s						
GNI	**Garni**	**3.18**	**209**	Pn	**Pb**	**19 56 51.7**	**-1.3**
	comp=Z,2.8nm,0.3s,baz=324,slow=7.4,SNR=13						
GNI				Sn	**Sb**	**19 57 34.9**	**+3.0**
	comp=Z,2.6nm,0.3s,baz=275,slow=22,SNR=4.4						
GNI	**Garni**	**3.18**	**209**	*i* PN	**Pn**	**19 56 43.6**	**-3.0**
EAK	**Akyaka**	**3.27**	**227**	*i* P	**Pn**	**19 56 49.3**	**+1.5**
EAK	**Akyaka**	**3.27**	**227**	P	**Pn**	**19 56 49.3**	**+1.5**
EPOS	**Posof**	**3.33**	**246**	*i* P	**Pn**	**19 56 49.9**	**+1.2**
EPOS	**Posof**	**3.33**	**246**	P	**Pn**	**19 56 49.9**	**+1.2**
GOF	**Gofitskoye**	**3.42**	**309**	⇑*e*PN	**Pb**	**19 56 58.7**	**+1.7**

comp=Z,0.4nm,0.5s,baz=133,slow=8.7,SNR=3.9
HVU Hansel Valley 32.81 331 *e*P **P** 20 06 13.0 **+1.6**
comp=Z,3.7nm,1.0s
PTRM Twissleman Ran 32.98 316 *e*pP pP 20 06 25.1 +3.7
REDW Red Top Meadow 33.24 335 *e*P **P** **20 06 16.6 +1.3**
comp=Z,9.3nm,1.0s
SNOW Snow King Moun 33.28 335 *e*P **P** **20 06 17.2 +1.6**
comp=Z,8.9nm,0.7s
NV01 Mina Array Sit 33.40 321 *e*P **P** **20 06 19.0 +2.3**
NVAR Mina Array Bea 33.40 321 P **P** **20 06 19.6 +2.8**
comp=Z,1.2nm,0.6s,baz=131,slow=8.2,SNR=8.2
HLID Hailey 34.95 332 *e*P **P** **20 06 31.2 +1.1**
comp=Z,2.4nm,1.0s
MCMT McKenzie Canyo 35.27 334 *e*P **P** **20 06 34.9 +2.0**
ULM Lac du Bonnet 36.21 356 LR LR 20 22 53.0
comp=Z,46nm,18.3s,baz=276,slow=39
J08A Circle Bar Ran 36.80 328 *e*P **P** **20 06 47.3 +1.5**
comp=Z,5.5nm,0.6s
F10A Beach Ranch, E 38.09 332 *e*P **P** **20 06 58.8 +2.1**
comp=Z,9.0nm,0.8s
YBH Yreka Blue Hor 38.10 322 LR LR 20 25 19.4
comp=Z,30nm,21.4s,baz=98,slow=40
ALVY Alvey 39.68 325 *e*P P 20 07 15.3 +5.4
SIV San Ignacio 42.99 133 P **P** **20 07 36.1 -1.4**
comp=Z,1.2nm,0.6s,baz=303,slow=8.6,SNR=6.9
YKA Yellowknife Ar 50.89 347 P **P** **20 08 38.1 -0.4**
comp=Z,2.9nm,0.6s,baz=150,slow=7.5,SNR=50
YKA PcP **PcP** **20 09 54.5 -0.2**
comp=Z,0.5nm,0.8s,baz=153,slow=4.2,SNR=6.8
YKW3 Yellowknife Ar 50.95 347 *e*P **P** **20 08 38.7 -0.3**
comp=Z,3.7nm,0.7s
NRS Narsarsuaq 57.84 25 *e*P **P** **20 09 29.9 +0.8**
comp=Z,16nm,0.8s
IL1 Eielson Array 62.65 337 *e*P **P** **20 10 02.3 +0.3**
ILAR Eielson Array 62.65 337 P **P** **20 10 02.2 +0.3**
comp=Z,1.5nm,0.9s,baz=124,slow=5.5,SNR=12
ILB Eielson Array 62.65 337 *e*P **P** **20 10 02.0 +0.1**
TRF Thorofare Moun 63.43 335 *e*P **P** **20 10 07.9 +0.5**
comp=Z,7.3nm,1.0s
MLY Manley 64.24 336 *e*P **P** **20 10 12.9 +0.3**
comp=Z,3.0nm,0.8s
COLD Coldfoot 64.95 339 *e*P **P** **20 10 18.0 +0.9**
comp=Z,15nm,1.7s
EKA Eskdalemuir Ar 78.13 36 P **P** **20 11 33.9 -2.9**
comp=Z,1.7nm,0.7s,baz=272,slow=6.0,SNR=4.6
TIXI Tiksi 90.13 348 *e*P **P** **20 12 36.4 -1.0**
comp=Z,2.5nm,0.8s
CM31 Chiang Mai Arr 145.82 341 *e*PKPdf **PKPdf** **20 19 16.4 -0.8**
CMAR Chiang Mai Arr 145.82 341 PKPbc **PKPbc** **20 19 17.7 0.0**
comp=Z,3.5nm,0.8s,baz=333,slow=3.4,SNR=27

*ISCJB **16** 20:01:25.4±0.5, 38°.44N±0°.06×45°.14E±0°.05, h15km, Error ellipse: s-maj=8.7km s-min=4.2km az=21.9*
*TEH **16** 20:01:25.5, 38°.39N×45°.11E, h17km, ML2.6*
*CSEM **16** 20:01:26.1±2.2, 38°.40N×45°.00E, h5km, ML2.6, Error ellipse: s-maj=50.2km s-min=14.5km az=80.0*
*ISK **16** 20:01:26.8, 38°.32N×44°.79E, h5km, ML2.6/4*

ISC 16 20:01:24.7±0.9, **38°.38N**±0°.04×**45°.12E**±0°.03, **h15**km, **n21, σ1°90/26, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.40**	**103**	*e*Pg	**Pb**	**20 01 33.6**	**0.0**
ISHB				*e*Sg	**Sb**	**20 01 39.5**	**-0.2**
ISHB				*e*AMB	AMB	20 01 40.8	
	comp=Z,27μm,0.1s						
IMRD	**Marand**	**0.57**	**53**	*e*Pg	**Pb**	**20 01 36.1**	**-0.4**
IMRD				*e*AMB	AMB	20 01 44.7	
	comp=Z,21μm,0.0s						
ITBZ	**Tabriz**	**0.82**	**100**	*e*Pg	**Pb**	**20 01 40.8**	**+0.1**
ITBZ				*e*AMB	AMB	20 01 52.6	
	comp=Z,2μm,0.1s						
YOVA	**Hakkari_Y"…kse**	**1.03**	**220**	*i* P	**Pn**	**20 01 45.6**	**+0.8**
YOVA	**Hakkari_Y"…kse**	**1.03**	**220**	P	**Pn**	**20 01 45.6**	**+0.8**
CLDR	**Caldiran**	**1.22**	**309**	Pg	**Pb**	**20 01 47.9**	**+0.3**
CLDR				SG	**Sn**	**20 02 04.2**	**+0.5**
CLDR	**Caldiran**	**1.22**	**309**	*i* P	**Pn**	**20 01 47.6**	**+0.2**
CLDR	**Caldiran**	**1.22**	**309**	P	**Pn**	**20 01 47.6**	**+0.2**
CLDR	**Caldiran**	**1.22**	**309**	*e*Pg	**Pb**	**20 01 47.9**	**+0.3**
CLDR				*e*Sg	**Sn**	**20 02 04.2**	**+0.5**
TVAN	**Van**	**1.36**	**277**	*i* P	**Pg**	**20 01 51.9**	**+0.9**
TVAN	**Van**	**1.36**	**277**	P	**Pg**	**20 01 51.8**	**+0.9**
VANB	**Van**	**1.38**	**280**	PN	**Pn**	**20 01 48.2**	**-1.3**
VANB				SN	**Sn**	**20 02 05.4**	**-2.2**
VANB	**Van**	**1.38**	**280**	*e*Pn	**Pn**	**20 01 48.2**	**-1.3**
VANB				*e*Sn	**Sn**	**20 02 05.4**	**-2.2**
HAKT	**HAKKARI**	**1.39**	**234**	*i* P	**Pg**	**20 01 52.1**	**+0.7**
HAKT	**HAKKARI**	**1.39**	**234**	P	**Pg**	**20 01 52.1**	**+0.7**
IBST	**Bostanabad**	**1.55**	**115**	*e*Pn	**Pb**	**20 01 52.9**	**-0.4**
IBST				*e*AMB	AMB	20 02 15.9	
	comp=Z,547nm,0.1s						
CUKT	**Cukurca**	**1.65**	**227**	PN	**Pb**	**20 01 54.8**	**0.0**
CUKT	**Cukurca**	**1.65**	**227**	*e*Pn	**Pb**	**20 01 54.8**	**0.0**
IGDI	**IGDIR**	**1.70**	**332**	*i* P	**Pb**	**20 01 56.3**	**+0.6**
AGRB	**Hanur-Agry**	**2.05**	**306**	PN	**Pb**	**20 02 01.5**	**-0.3**
AGRB	**Hanur-Agry**	**2.05**	**306**	*e*Pn	**Pb**	**20 02 01.5**	**-0.3**

*IDC **16** 20:04:47.4±3.6, 41°.02N×145°.16E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.3/66, mbtmp3.6/6, ML3.3/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/61, Error ellipse: s-maj=77.9km s-min=55.0km az=74.0*
*JMA **16** 20:04:49.1±0.1, 40°.91N×145°.09E, h66km±2km, M3.6*
*ISCJB **16** 20:04:50.2±0.8, 40°.94N±0°.04×144°.91E±0°.06, h33km, mb3.5/5, MS3.6/1, Error ellipse: s-maj=7.1km s-min=4.1km az=35.0*

ISC 16 20:04:51.2±1.3, **40°.90N**±0°.06×**145°.04E**±0°.08, **h35**km, **n26, σ1°67/41, mb3.4/5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.80**	**309**	P	**Pn**	**20 05 18.8**	**-0.9**
JEM				*e*S	**Sn**	**20 05 40.3**	**-0.9**
JAK	**Akkeshi**	**2.11**	**353**	P	**Pn**	**20 05 22.7**	**-1.2**
JAK				*e*S	**Sn**	**20 05 47.6**	**-1.3**
JCH	**Churui**	**2.12**	**324**	P	**Pn**	**20 05 23.3**	**-0.8**
JCH				*e*S	**Sn**	**20 05 47.5**	**-1.7**
JOB	**Onbets**	**2.19**	**336**	P	**Pn**	**20 05 24.5**	**-0.6**
JOB				*e*S	**Sn**	**20 05 50.2**	**-0.8**
JNBK	**Urakawa-nobuka**	**2.20**	**310**	P	**Pn**	**20 05 25.1**	**-0.1**
JNBK				*e*S	**Sn**	**20 05 51.0**	**-0.1**
NEM2	**Nemuro 2**	**2.52**	**12**	P	**Pn**	**20 05 28.2**	**-1.4**
NEM2				*e*S	**Sn**	**20 05 56.1**	**-2.9**
JAR	**Ashorobuto**	**2.58**	**339**	P	**Pn**	**20 05 29.0**	**-1.3**
JAR				*e*S	**Sn**	**20 05 58.6**	**-1.8**
JNK	**Nakash**	**2.69**	**355**	P	**Pn**	**20 05 30.3**	**-1.7**
JNK				*e*S	**Sn**	**20 06 00.0**	**-3.4**
JANG	**Nango**	**2.73**	**260**	P	**Pn**	**20 05 31.2**	**-1.3**
JANG				*e*S	**Sn**	**20 06 00.6**	**-3.6**
JBT2	**Biratori 2**	**2.74**	**314**	P	**Pn**	**20 05 32.3**	**-0.3**
JBT2				*e*S	**Sn**	**20 06 03.0**	**-1.5**
JFR	**Furan**	**2.90**	**322**	P	**Pn**	**20 05 34.5**	**-0.4**
JFR				*e*S	**Sn**	**20 06 05.9**	**-2.6**
JTM	**Tenmabayashi**	**3.01**	**269**	P	**Pn**	**20 05 35.8**	**-0.5**
JTM				*e*S	**Sn**	**20 06 08.9**	**-2.3**
JRA	**Rausu**	**3.04**	**1**	P	**Pn**	**20 05 35.8**	**-0.9**
JOT	**Ohata**	**3.05**	**280**	P	**Pn**	**20 05 36.2**	**-0.6**
JOT				S	**Sn**	**20 06 09.1**	**-3.0**
JKB	**Kayabe**	**3.17**	**289**	P	**Pn**	**20 05 37.8**	**-0.7**
JKB				*e*S	**Sn**	**20 06 12.8**	**-2.2**
JTKR	**Abashiri--Toko**	**3.18**	**345**	P	**Pn**	**20 05 38.4**	**-0.2**
JTKR				*e*S	**Sn**	**20 06 13.7**	**-1.6**
JOM	**Ohasama**	**3.20**	**245**	P	**Pn**	**20 05 38.5**	**-0.4**
JOM				*e*S	**Sn**	**20 06 13.6**	**-2.3**
JAH	**Hinai**	**3.43**	**259**	S	**Sn**	**20 06 19.7**	**-1.7**
ASAJ	**Asahikawa**	**3.69**	**332**	Pn	**Pn**	**20 05 46.0**	**+0.4**
	1.7nm,0.3s,baz=176,slow=13,SNR=26						
ASAJ				Sn	**Sn**	**20 06 27.6**	**-0.2**
	2.1nm,0.3s,baz=127,slow=20,SNR=6.3						
MJAR	**Matsushiro Arr**	**6.88**	**233**	LR	LR	20 09 45.2	
	comp=Z,17nm,19.5s,baz=80,slow=42						
SONM	**Songino Array**	**28.25**	**297**	P	**P**	**20 10 42.2**	**+1.2**
	0.6nm,0.7s,baz=90,slow=9.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**41.53**	**309**	P	**P**	**20 12 36.3**	**+1.5**
	0.2nm,0.3s,baz=95,slow=8.7,SNR=2.6						
MKAR	**Makanchi Array**	**44.57**	**300**	P	**P**	**20 13 00.9**	**+1.4**
	0.2nm,0.6s,baz=88,slow=8.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**45.95**	**306**	P	**P**	**20 13 12.2**	**+1.8**
	0.7nm,0.6s,baz=76,slow=8.8,SNR=4.4						
FINES	**FINESS Array B**	**66.69**	**333**	P	**P**	**20 15 39.0**	**+1.0**
	1.2nm,0.8s,baz=57,slow=5.1,SNR=2.9						
KBZ	**Khabaz**	**70.51**	**31**	LR	LR	20 50 36.8	
	comp=Z,29nm,18.2s,baz=206,slow=39						

IDC 16 20:13:27.2±926.0, **52°.40N×32°.71E, h0km, Error ellipse: s-maj=372.6km s-min=109.3km az=35.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**5.07**	**29**	*i*		20 41 20.0	
	baz=212,slow=315,SNR=4.2						
I31KZ	**AKTYUBINSK INF**	**15.91**	**87**	*i*		21 52 10.0	
	baz=287,slow=323,SNR=1.6						
I46RU	**ZALESOVO INFRA**	**30.70**	**66**	*i*		23 25 30.0	
	baz=287,slow=336,SNR=1.3						

*IDC **16** 20:43:55.2±5.2, 54°.69N×157°.63W, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.2/78, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=130.8km s-min=31.7km az=144.0*
*ISCJB **16** 20:43:57.3±0.5, 54°.91N±0°.05×157°.26W±0°.05, h33km, mb3.4/2, Error ellipse: s-maj=6.7km s-min=4.2km az=0.5*
*NEIC **16** 20:43:57.7±0.0, 54°.88N×157°.37W, h30km, ML3.2(AEIC), After AEIC.*

ISC 16 20:44:00.3±0.7, **54°.98N**±0°.08×**157°.33W**±0°.06, **h35**km, **n62, σ1°72/63, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.46**	**336**	*e*Pn	**Pn**	**20 44 23.4**	**-0.7**
CHGN				*e*Sn	**Sn**	**20 44 42.1**	**+0.2**
VNSG	**Veniaminof 6**	**1.52**	**320**	P	**Pn**	**20 44 24.2**	**-0.8**
VNSG				S	**Sn**	**20 44 45.0**	**+1.5**
VNWF	**Veniaminof 8**	**1.73**	**314**	P	**Pn**	**20 44 26.9**	**-1.0**
VNWF				S	**Sn**	**20 44 51.1**	**+2.4**
SDPT	**Sand Point**	**1.84**	**283**	*e*Pn	**Pn**	**20 44 27.2**	**-2.1**
SDPT				S	**Sn**	**20 44 50.6**	**-0.7**
SDPT				*e*Sn	Sn	20 44 56.9	+5.5
PS4A	**Pavlof South-4**	**2.62**	**280**	P	**Pn**	**20 44 38.7**	**-1.4**
OHAK	**Old Harbor**	**3.19**	**44**	*e*Pn	**Pn**	**20 44 47.8**	**0.0**
FALS	**False Pass**	**3.51**	**270**	*e*Pn	**Pn**	**20 44 49.2**	**-3.1**
ISLZ	**Isanotski Laza**	**3.70**	**269**	P	**Pn**	**20 44 53.7**	**-1.2**
KDAK	**Kodiak Island**	**3.85**	**41**	Pn	**Pn**	**20 44 56.5**	**-0.5**
	1.5nm,0.3s,baz=178,slow=7.1,SNR=9.5						
KDAK	**Kodiak Island**	**3.85**	**41**	*e*Pn	**Pn**	**20 44 56.7**	**-0.3**
UNV	**Unalaska Valle**	**5.47**	**262**	*e*Pn	**Pn**	**20 45 17.8**	**-1.5**
BRLK	**Bradley Lake**	**5.93**	**33**	*e*Pn	**Pn**	**20 45 25.3**	**-0.2**
SVW2	**Sparrevohn**	**6.21**	**8**	*e*Pn	**Pn**	**20 45 29.6**	**+0.3**
RC01	**Rabbit Creek A**	**7.33**	**30**	*e*Pn	**Pn**	**20 45 44.8**	**+0.1**
SUA	**Susitna One**	**7.37**	**25**	*e*Pn	**Pn**	**20 45 45.5**	**+0.2**
SUA				*e*Sn	**Sn**	**20 47 05.5**	**-2.2**
SML	**Sawmill**	**8.31**	**31**	*e*Pn	**Pn**	**20 45 59.5**	**+1.3**
EYAK	**Cordova Ski Ar**	**8.33**	**43**	*e*Pn	**Pn**	**20 45 58.1**	**-0.2**
PPLA	**Purkeypile**	**8.37**	**16**	*e*Pn	**Pn**	**20 46 00.7**	**+1.6**
SCM	**Sheep Creek Mo**	**8.64**	**33**	*e*Pn	**Pn**	**20 46 02.9**	**+0.2**
RAGM	**Ragged Mountai**	**8.67**	**46**	*e*Pn	**Pn**	**20 46 04.0**	**+0.9**
KLU	**Klutina**	**8.87**	**38**	*e*Pn	**Pn**	**20 46 06.8**	**+1.0**
BMRM	**Bremner River**	**9.03**	**43**	*e*Pn	**Pn**	**20 46 07.8**	**-0.3**
KTH	**Kantishna Hill**	**9.20**	**18**	*e*Pn	**Pn**	**20 46 10.5**	**+0.2**
TRF	**Thorofare Moun**	**9.22**	**20**	*e*Pn	**Pn**	**20 46 10.5**	**-0.3**
RND	**Reindeer**	**9.49**	**24**	*e*Pn	**Pn**	**20 46 14.9**	**+0.6**
DHY	**Denali Highway**	**9.59**	**28**	*e*Pn	**Pn**	**20 46 16.7**	**+0.9**
HARP	**HAARP**	**9.76**	**35**	*e*Pn	**Pn**	**20 46 18.3**	**+0.3**
PCA	**Pinnacle**	**10.50**	**54**	*e*Pn	**Pn**	**20 46 29.7**	**+1.6**
HDA	**Harding Lake**	**10.80**	**25**	*e*Pn	**Pn**	**20 46 32.2**	**+0.1**
CCB	**Clear Creek Bu**	**10.80**	**22**	*e*Pn	**Pn**	**20 46 30.1**	**-2.1**
RIDG	**Independ'e Rid**	**10.83**	**31**	*e*Pn	**Pn**	**20 46 33.1**	**+0.4**
DOT	**Dot Lake**	**11.00**	**32**	*e*Pn	**Pn**	**20 46 35.7**	**+0.8**
ILAR	**Eielson Array**	**11.12**	**24**	Pn	**Pn**	**20 46 35.2**	**-1.3**
	0.1nm,0.3s,baz=216,slow=13,SNR=4.7						
ILB	**Eielson Array**	**11.12**	**24**	*e*Pn	**Pn**	**20 46 33.0**	**-3.5**
SCRK	**Sand Creek**	**11.26**	**31**	*e*Pn	**Pn**	**20 46 37.9**	**-0.7**
BEVT	**Boeing Everett**	**22.78**	**93**	*e*P	**P**	**20 48 58.9**	**-0.4**
KDKW	**Coast Env Seat**	**22.91**	**94**	*e*Sn	Sn	20 53 31.4	+6.6
HTW	**Haystack Looko**	**23.12**	**93**	*e*P	**P**	**20 48 59.2**	**-3.8**
GPW	**Glacier Peak**	**23.33**	**92**	*e*PcP	**PcP**	**20 52 51.4**	**+0.1**
SEPW	**September Lobe**	**23.76**	**97**	*e*pP	pP	20 49 18.0	-1.2
MONO	**Monmouth DOGAM**	**23.95**	**101**	*e*pP	pP	20 49 20.8	0.0
GULW	**Guler Mountain**	**24.25**	**97**	*e*P	**P**	**20 49 11.8**	**-2.0**
HSO	**Harness Mounta**	**24.86**	**103**	*e*P	**P**	**20 49 24.4**	**+5.0**
OT3	**Othello 3**	**25.19**	**93**	*e*PcP	**PcP**	**20 52 55.3**	**+0.2**
BBOR	**Butler Butte**	**25.50**	**104**	*e*PcP	**PcP**	**20 52 56.3**	**+0.3**
WAKR	**Walker**	**30.28**	**107**	*e*pP	pP	20 50 21.2	+3.1
PAGB	**Antelope Grade**	**31.87**	**112**	*e*PcP	**PcP**	**20 53 08.6**	**-3.3**
CRGC	**Crocker Grade**	**32.52**	**112**	*e*P	**P**	**20 50 30.6**	**+2.9**
CRGC				*e*PcP	**PcP**	**20 53 13.1**	**-0.7**
BAKC	**Calstate**	**32.78**	**111**	*e*P	**P**	**20 50 32.8**	**+3.3**
BAKC				*e*S	**S**	**20 55 46.5**	**+2.3**
WHFM	**Hanning Flat**	**32.92**	**110**	*e*P	**P**	**20 50 29.2**	**-2.0**
WHFM				*e*PcP	**PcP**	**20 53 16.4**	**+1.6**
ALPC	**Antelope**	**33.70**	**111**	*e*pP	pP	20 50 51.9	+3.9
CIAC	**Catalina I. Ai**	**34.62**	**112**	*e*pP	**pP**	**20 50 55.4**	**-0.6**
CIAC				*e*PcP	**PcP**	**20 53 19.6**	**0.0**
CIAC				*e*S	**S**	**20 56 11.2**	**-1.7**
BBRC	**Big Bear Solar**	**34.77**	**110**	*e*pP	**pP**	**20 50 59.5**	**+1.9**
BBRC				*e*S	**S**	**20 56 13.1**	**-2.5**
PV09	**Paradox Valley**	**36.09**	**97**	*e*P	**P**	**20 51 02.2**	**+3.3**
PV01	**Paradox Valley**	**36.67**	**97**	*e*pP	pP	20 51 14.4	+0.6
H11S1	**WAKE ISLAND Hy**	**45.53**	**231**	T	T	21 40 58.5	
	baz=28,slow=74						
H11S2	**WAKE ISLAND Hy**	**45.54**	**231**	T	T	21 41 01.4	
	baz=28,slow=74						
H11S3	**WAKE ISLAND Hy**	**45.55**	**231**	T	T	21 41 00.7	
	baz=28						
VWCC	**Virginia Weste**	**53.62**	**75**	P	**P**	**20 53 19.2**	**+1.4**
MKAR	**Makanchi Array**	**66.83**	**320**	P	**P**	**20 54 48.6**	**+0.5**
	0.1nm,0.5s,baz=40,slow=6.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**82.68**	**292**	P	**P**	**20 56 20.9**	**+0.7**
	0.4nm,0.6s,baz=9.5,slow=5.7,SNR=4.4						
WB2	**Warramunga Arr**	**94.40**	**241**	*e*pP	pP	20 57 27.9	+0.5

*ISCJB **16** 20:52:16.8±0.9, 17°.4N±0°.1×38°.8E±0°.2, h10km, mb3.6/7, MS3.3/2, Error ellipse: s-maj=21.8km s-min=16.0km az=152.1*
*IDC **16** 20:52:17.3±1.4, 17°.45N×38°.78E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.4/55, mbtmp3.6/8, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/45, Error ellipse: s-maj=32.1km s-min=25.0km az=167.0*

ISC 16 20:52:18.8±1.0, **17°.5N**±0°.1×**38°.8E**±0°.2, **h10**km, **n9, σ0°39/8, mb3.7/7, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.08**	**146**	Pn	**Pn**	**20 54 02.8**	**+0.1**
	0.6nm,0.3s,baz=346,slow=18,SNR=4.4						
TORD	**Torodi Ar. Bea**	**35.99**	**268**	P	**P**	**20 59 20.1**	**-0.2**
	0.2nm,0.5s,baz=77,slow=8.4,SNR=2.8						
TORD				LR	LR	21 12 15.6	
	comp=Z,42nm,22.0s,baz=335,slow=33						
GERES	**GERESS Array B**	**37.35**	**333**	P	**P**	**20 59 32.1**	**+0.5**
	0.3nm,0.5s,baz=134,slow=7.1,SNR=4.4						
KOWA	**Kowa**	**41.19**	**272**	LR	LR	21 18 35.0	
	comp=Z,51nm,19.3s,baz=176,slow=38						
FINES	**FINESS Array B**	**44.86**	**351**	P	**P**	**21 00 33.0**	**-0.1**
	1.0nm,0.8s,baz=174,slow=7.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**45.79**	**35**	P	**P**	**21 00 41.1**	**+0.4**
	0.3nm,0.4s,baz=239,slow=7.9,SNR=2.6						
MKAR	**Makanchi Array**	**46.19**	**41**	P	**P**	**21 00 43.7**	**-0.3**
	0.5nm,0.6s,baz=234,slow=7.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**50.80**	**33**	P	**P**	**21 01 18.8**	**-0.4**
	0.6nm,0.4s,baz=243,slow=6.3,SNR=5.2						
SONM	**Songino Array**	**62.28**	**45**	P	**P**	**21 02 41.2**	**-0.1**
	0.6nm,0.7s,baz=259,slow=8.4,SNR=6.1						

GUC 16 21:19:55.3±0.5, **39°.73S×72°.76W, h68**km±4km, **ML4.1, 4C, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**0.38**	**258**	*i* P	Pn	21 20 07.0	+0.1
VLCH				*i* S	Sn	21 20 15.9	+0.5
TMU	**Temuco**	**1.00**	**7**	*i* P	Pn	21 20 14.3	+0.6
TMU				*i* S	Sn	21 20 28.3	+0.9
TMU				IAML		21 20 29.3	
	comp=N,6μm,0.5s						
GO06	**Curarrehue**	**1.00**	**82**	*i* P	Pn	21 20 14.4	+0.5
GO06				*i* S	Sn	21 20 28.9	+1.3
PLCA	**Paso Flores**	**1.96**	**121**	*i* P	Pn	21 20 26.9	+0.4
CCSP	**San Pedro de C**	**2.89**	**354**	*e*S	Sn	21 21 07.0	-5.6
CCSP				IAML		21 21 09.9	
	comp=N,919nm,0.3s						
CCHI	**Chillan**	**3.17**	**10**	IAML		21 21 20.0	
	comp=E,511nm,0.2s						

KRSC 16 21:23:26.8±1.3, **54°.99N×165°.50E, h33**km±11km, **ML3.6, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.34**	**52**	*i* P	Pn	21 23 35.8	+0.3
BKI				*i* S	Sb	21 23 40.5	-0.3
KBTR	**Krutoberegovo**	**1.95**	**310**	*e*P	Pn	21 23 59.4	+1.9
KBTR				*e*S	Sn	21 24 22.8	+2.0
SMKR	**Semkarok**	**2.78**	**307**	*e*P	Pb	21 24 12.9	-2.9
SRKR	**Sorokina**	**2.96**	**306**	*e*P	Pb	21 24 15.4	-3.4
TUMR	**Tumrok**	**3.09**	**278**	*e*P	Pb	21 24 18.7	-2.3
KMNR	**Kamenistaya**	**3.10**	**286**	*e*P	Pb	21 24 18.5	-2.7
SPN	**Mys Shipunski**	**3.75**	**242**	*e*P	Pn	21 24 26.4	+4.2
SPN				*e*S	Sn	21 25 08.0	+2.9
NLC	**Nalytchevo**	**4.06**	**246**	*e*P	Pn	21 24 30.6	+4.1
NLC				*e*S	Sn	21 25 16.8	+4.1
SDLR	**Sedlovina**	**4.25**	**249**	*e*P	Pn	21 24 34.5	+5.2
SDLR				*e*S	Sn	21 25 22.7	+4.9
UGLR	**Uglovaya**	**4.32**	**248**	*e*P	Pn	21 24 35.1	+5.0
AVH	**Avacha**	**4.34**	**249**	*e*P	Pn	21 24 35.7	+5.3
AVH				*e*S	Sn	21 25 24.1	+4.3
KRX	**Arik**	**4.35**	**251**	*e*P	Pn	21 24 36.0	+5.4
DALK	**Dalny**	**4.44**	**246**	*e*P	Pn	21 24 36.9	+5.2
OSSR	**Ossora**	**4.47**	**344**	*e*P	Pn	21 24 35.6	+3.5
GNL	**Ganaly**	**4.61**	**257**	*e*P	Pn	21 24 40.0	+5.8
KRMR	**Karymshinskiy**	**4.87**	**247**	*e*P	Pn	21 24 43.2	+5.6
KRMR				*e*S	Sn	21 25 38.0	+5.3
RUS	**Russkaya**	**4.88**	**241**	*e*P	Pn	21 24 42.4	+4.7
MTVR	**Mutnovka**	**5.02**	**243**	*e*P	Pn	21 24 44.9	+5.1
ASAK	**Asacha**	**5.22**	**243**	*e*P	Pn	21 24 48.5	+6.0
KDTR	**Khodutka, Kamc**	**5.47**	**237**	*e*P	Pn	21 24 50.2	+4.4
KDTR				*e*S	Sn	21 25 49.1	+1.7

*IDC **16** 21:37:03.6±2.5, 34°.89N×4°.04W, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.0/64, mbtmp3.1/3, ML3.8/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/26, Error ellipse: s-maj=68.6km s-min=24.6km az=89.0*
*CNRM **16** 21:37:03.2, 34°.62N×3°.79W, h5km, MD3.4*
*SFS **16** 21:37:03.0, 34°.71N×4°.03W, h0km, ML2.4*
*CSEM **16** 21:37:03.1±0.2, 34°.78N×4°.05W, h5km, ML2.4, Error ellipse: s-maj=5.0km s-min=3.9km az=149.0*
*MDD **16** 21:37:03.1±1.2, 34°.73N×4°.04W, h0km, mbLg2.5/21, Error ellipse: s-maj=11.7km s-min=4.7km az=177.0, PRXIMO*
*INMG **16** 21:37:04.4±0.8, 34°.77N×4°.12W, h0km, ML2.5, Error ellipse: s-maj=3.3km s-min=3.0km az=96.0*
*IGIL **16** 21:37:04.6, 34°.74N×4°.13W, h3km, ML1.8*

ISC 16 21:37:03.7±1.2, **34°.77N**±0°.03×**4°.02W**±0°.03, **h11**km±9km, **n99, σ1°39/180, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.46**	**8**	*i* P	**Pb**	**21 37 14.0**	**+0.1**
MPAL				*i* S	**Sb**	**21 37 22.0**	**+1.3**
PVLZ	**Peæn de**	**0.46**	**330**	*i* P	**Pg**	**21 37 13.3**	**+0.5**
PVLZ				*i* S	**Sb**	**21 37 20.7**	**-0.1**
EMEL	**Melilla**	**1.02**	**59**	P	**Pg**	**21 37 22.6**	**-0.7**
	55nm,0.1s,SNR=7.9						
EMEL				S	**Sg**	**21 37 37.3**	**+0.7**
	333nm,0.3s,SNR=7.9						
EMLI	**Melilla**	**1.03**	**59**	P	**Pg**	**21 37 22.6**	**-0.9**
	55nm,0.1s,SNR=7.9						
EMLI				S	**Sg**	**21 37 37.3**	**+0.5**
	333nm,0.3s,SNR=7.9						
MELI	**Melilla**	**1.03**	**59**	P	**Pg**	**21 37 22.9**	**-0.7**
MELI				S	**Sg**	**21 37 36.7**	**-0.3**
MELI	**Melilla**	**1.03**	**59**	*e*P	**Pg**	**21 37 22.9**	**-0.7**
MELI				*e*S	**Sg**	**21 37 36.7**	**-0.3**
EALB	**Alboran**	**1.42

EQES	**Quesada**	**3.12**	**14**	P	**Pn**	**21 37 54.1**	**+1.1**
	3.5nm,0.3s,SNR=18						
EQES				S	**Sn**	**21 38 28.7**	**-1.7**
	9.5nm,0.4s						
AVE	**Averroes**	**3.18**	**243**	*e*P	**Pn**	**21 37 55.2**	**+1.6**
TZC	**Tazercounte**	**3.33**	**219**	*e*P	**Pn**	**21 37 56.0**	**0.0**
TZC				*e*S	**Sn**	**21 38 35.0**	**-0.6**
EADA	**Adamuz**	**3.42**	**353**	P	**Pn**	**21 37 57.2**	**+0.2**
	2.4nm,0.3s,SNR=20						
EADA				S	**Sn**	**21 38 36.6**	**-1.0**
	3.2nm,0.2s,SNR=4.7						
EADA	**Adamuz**	**3.42**	**353**	P	**Pn**	**21 37 57.2**	**+0.2**
	2.4nm,0.3s,SNR=20						
EADA				S	**Sn**	**21 38 36.6**	**-1.0**
	3.2nm,0.2s,SNR=4.7						
ECAB	**El Cabril**	**3.48**	**342**	P	**Pn**	**21 37 58.4**	**+0.5**
	0.6nm,0.2s,SNR=14						
ECAB				S	**Sn**	**21 38 37.6**	**-1.6**
	14nm,0.6s						
ECAB	**El Cabril**	**3.48**	**342**	P	**Pn**	**21 37 58.4**	**+0.5**
	0.6nm,0.2s,SNR=14						
ECAB				S	**Sn**	**21 38 37.6**	**-1.6**
	14nm,0.6s						
SESP	**Santiago Espad**	**3.55**	**19**	P	**Pn**	**21 38 00.2**	**+1.3**
	3.8nm,0.4s,SNR=7.9						
SESP				S	**Sn**	**21 38 41.2**	**+0.2**
	7.4nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**3.55**	**19**	P	**Pn**	**21 38 00.2**	**+1.3**
	3.8nm,0.4s,SNR=7.9						
SESP				S	**Sn**	**21 38 41.2**	**+0.2**
	7.4nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.68**	**325**	P	**Pn**	**21 37 59.8**	**-0.7**
	1.2nm,0.2s,SNR=13						
EMIN				S	**Sn**	**21 38 42.9**	**-1.0**
	0.3nm,0.1s						
EMIN	**Mina Concepcio**	**3.68**	**325**	P	**Pn**	**21 37 59.8**	**-0.7**
	1.2nm,0.2s,SNR=13						
EMIN				S	**Sn**	**21 38 42.9**	**-1.0**
	0.3nm,0.1s						
EMUR	**La Murta**	**3.80**	**35**	P	**Pn**	**21 38 03.4**	**+1.1**
	2.8nm,0.5s,SNR=7.9						
EMUR				S	**Sn**	**21 38 45.0**	**-1.9**
	6.9nm,0.5s,SNR=4.6						
EMUR	**La Murta**	**3.80**	**35**	P	**Pn**	**21 38 03.4**	**+1.1**
	2.8nm,0.5s,SNR=7.9						
EMUR				S	**Sn**	**21 38 45.0**	**-1.9**
	6.9nm,0.5s,SNR=4.6						
EGRO	**El Granado**	**3.93**	**316**	P	**Pn**	**21 38 03.3**	**-0.7**
	3.2nm,0.3s,SNR=4.7						
EGRO				S	**Sn**	**21 38 48.7**	**-1.4**
	6.6nm,0.3s,SNR=4.0						
EGRO	**El Granado**	**3.93**	**316**	P	**Pn**	**21 38 03.3**	**-0.7**
	3.2nm,0.3s,SNR=4.7						
EGRO				S	**Sn**	**21 38 48.7**	**-1.4**
	6.6nm,0.3s,SNR=4.0						
PVAQ	**Vaqueiros**	**3.98**	**312**	*e*Pn	**Pn**	**21 38 04.0**	**-0.7**
PVAQ				*e*Sn	**Sn**	**21 38 49.8**	**-1.6**
PVAQ				A	A	21 38 52.1	
	7.0nm,0.5s						
PVAQ	**Vaqueiros**	**3.98**	**312**	P	**Pn**	**21 38 04.0**	**-0.7**
PVAQ				S	**Sn**	**21 38 49.8**	**-1.6**
	7.0nm,0.5s						
PVAQ	**Vaqueiros**	**3.98**	**312**	P	**Pn**	**21 38 04.0**	**-0.7**
PVAQ				S	**Sn**	**21 38 49.8**	**-1.6**
	7.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.02**	**309**	*e*Pn	**Pn**	**21 38 05.0**	**-0.2**
PBDV				*e*Sn	**Sn**	**21 38 50.2**	**-2.1**
PBDV				A	A	21 39 01.8	
	5.8nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.02**	**309**	P	**Pn**	**21 38 05.0**	**-0.2**
PBDV				S	**Sn**	**21 38 50.2**	**-2.1**
	5.8nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.02**	**309**	P	**Pn**	**21 38 05.0**	**-0.2**
PBDV				S	**Sn**	**21 38 50.2**	**-2.1**
	5.8nm,0.7s						
PBAR	**Barrancos**	**4.18**	**325**	*e*Pn	**Pn**	**21 38 07.9**	**+0.5**
PBAR				*e*Sn	**Sn**	**21 38 55.3**	**-0.9**
PBAR				A	A	21 39 01.4	
	8.5nm,0.4s						
PBAR	**Barrancos**	**4.18**	**325**	P	**Pn**	**21 38 07.9**	**+0.5**
PBAR				S	**Sn**	**21 38 55.3**	**-0.9**
	8.5nm,0.4s						
PBAR	**Barrancos**	**4.18**	**325**	P	**Pn**	**21 38 07.9**	**+0.5**
PBAR				S	**Sn**	**21 38 55.3**	**-0.9**
	8.5nm,0.4s						
ETOB	**Tobarra**	**4.35**	**26**	P	**Pn**	**21 38 10.8**	**+1.0**
	1.5nm,0.3s,SNR=11						
ETOB				S	**Sn**	**21 38 59.3**	**-1.2**
	4.8nm,0.5s						
ETOB	**Tobarra**	**4.35**	**26**	P	**Pn**	**21 38 10.8**	**+1.0**
	1.5nm,0.3s,SNR=11						
ETOB				S	**Sn**	**21 38 59.3**	**-1.2**
	4.8nm,0.5s						
PBEJ	**Beja**	**4.49**	**317**	*e*Pn	**Pn**	**21 38 13.6**	**+1.9**
PBEJ				*e*Sn	**Sn**	**21 39 03.5**	**-0.5**
PBEJ				A	A	21 39 07.7	
	3.2nm,0.7s						
PBEJ	**Beja**	**4.49**	**317**	P	**Pn**	**21 38 13.6**	**+1.9**
PBEJ				S	**Sn**	**21 39 03.5**	**-0.5**
	1.6nm,0.7s						
PBEJ	**Beja**	**4.49**	**317**	P	**Pn**	**21 38 13.6**	**+1.9**
PBEJ				S	**Sn**	**21 39 03.5**	**-0.5**
	1.6nm,0.7s						
PFVI	**Vila Bisbo**	**4.55**	**303**	*e*Sn	**Sn**	**21 39 03.2**	**-2.3**
PFVI				A	A	21 39 14.6	
	8.6nm,0.5s						
PFVI	**Vila Bisbo**	**4.55**	**303**	*e*Sn	**Sn**	**21 39 03.2**	**-2.3**
	8.6nm,0.5s						
MESJ	**Messejana**	**4.57**	**313**	*e*P	**Pn**	**21 38 12.0**	**-0.8**
MESJ				*e*S	**Sn**	**21 39 01.4**	**-4.5**
MESJ				AML	AML	21 39 02.1	
	comp=N,1.8nm,0.5s						
MESJ	**Messejana**	**4.57**	**313**	*e*Pn	**Pn**	**21 38 12.7**	**-0.1**
MESJ				*e*Sn	**Sn**	**21 39 02.4**	**-3.5**
MESJ				A	A	21 39 15.5	
	comp=N,4.2nm,0.4s						
MESJ	**Messejana**	**4.57**	**313**	P	**Pn**	**21 38 12.7**	**-0.1**
MESJ				S	**Sn**	**21 39 02.4**	**-3.5**
	comp=N,4.2nm,0.4s						
MESJ	**Messejana**	**4.57**	**313**	P	**Pn**	**21 38 12.7**	**-0.1**
MESJ				S	**Sn**	**21 39 02.4**	**-3.5**
	comp=N,4.2nm,0.4s						
EBAD	**Badajoz**	**4.64**	**330**	P	**Pn**	**21 38 14.5**	**+0.7**
	comp=N,2.3nm,0.4s,SNR=12						
EBAD				S	**Sn**	**21 39 06.1**	**-1.7**
	comp=N,3.5nm,0.2s						
EBAD	**Badajoz**	**4.64**	**330**	P	**Pn**	**21 38 14.5**	**+0.7**
	comp=N,2.3nm,0.4s,SNR=12						
EBAD				S	**Sn**	**21 39 06.1**	**-1.7**
	comp=N,3.5nm,0.2s						
PTEO	**Sao Teotonio**	**4.71**	**307**	*e*Pn	**Pn**	**21 38 14.9**	**+0.3**
PTEO				*e*Sn	**Sn**	**21 39 08.8**	**-0.4**
PTEO	**Sao Teotonio**	**4.71**	**307**	P	**Pn**	**21 38 14.9**	**+0.3**
PTEO				S	**Sn**	**21 39 08.8**	**-0.4**
PTEO	**Sao Teotonio**	**4.71**	**307**	P	**Pn**	**21 38 14.9**	**+0.3**
PTEO				S	**Sn**	**21 39 08.8**	**-0.4**
PAB	**San Pablo**	**4.77**	**357**	P	**Pn**	**21 38 16.2**	**+0.5**
	comp=N,2.0nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**21 39 09.9**	**-1.1**
	comp=N,1.3nm,0.4s,SNR=7.9						
PAB	**San Pablo**	**4.77**	**357**	P	**Pn**	**21 38 16.2**	**+0.5**
	comp=N,2.0nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**21 39 09.9**	**-1.1**
	comp=N,1.3nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**4.89**	**1**	Pn	**Pn**	**21 38 17.7**	**+0.4**
	comp=N,1.5nm,0.3s,baz=178,slow=13,SNR=19						
ESDC				Sn	**Sn**	**21 39 12.2**	**-1.8**
	comp=N,0.6nm,0.3s,baz=182,slow=23,SNR=6.4						
ESDC	**Sonseca Array**	**4.89**	**1**	P	**Pn**	**21 38 17.7**	**+0.4**
	comp=N,0.9nm,0.3s,baz=177,slow=12,SNR=16						
ESDC				S	**Sn**	**21 39 12.5**	**-1.5**
	comp=N,0.9nm,0.3s,baz=188,slow=23,SNR=7.0						
ESDC	**Sonseca Array**	**4.89**	**1**	P	**Pn**	**21 38 17.7**	**+0.4**
	comp=N,0.9nm,0.3s,SNR=16						
ESDC				S	**Sn**	**21 39 12.5**	**-1.5**
	comp=N,0.9nm,0.3s,SNR=7.0						
PNCL	**Nicolau / Gran**	**4.93**	**314**	*e*Pn	**Pn**	**21 38 17.7**	**0.0**
PNCL				*e*Sn	**Sn**	**21 39 13.8**	**-1.0**
PNCL	**Nicolau / Gran**	**4.93**	**314**	*e*Pn	**Pn**	**21 38 17.7**	**0.0**
PNCL				*e*Sn	**Sn**	**21 39 13.8**	**-1.0**
EVO	**Evora**	**4.94**	**321**	*e*Pn	**Pn**	**21 38 18.6**	**+0.7**
EVO				*e*Sn	**Sn**	**21 39 13.3**	**-1.7**
EVO				A	A	21 39 30.0	
	comp=N,4.5nm,0.5s						
EVO	**Evora**	**4.94**	**321**	P	**Pn**	**21 38 18.6**	**+0.7**
EVO				S	**Sn**	**21 39 13.3**	**-1.7**

	comp=N,4.5nm,0.5s						
EVO	**Evora**	**4.94**	**321**	P	**Pn**	**21 38 18.6**	**+0.7**
EVO				S	**Sn**	**21 39 13.3**	**-1.7**
	comp=N,4.5nm,0.5s						
PESTR	**Estremoz**	**4.99**	**326**	*e*Pn	**Pn**	**21 38 19.0**	**+0.4**
PESTR	**Estremoz**	**4.99**	**326**	*e*Pn	**Pn**	**21 38 19.0**	**+0.4**
PMRV	**Marv??o**	**5.37**	**331**	*e*Pn	**Pn**	**21 38 24.4**	**+0.6**
PMRV				*e*Sn	**Sn**	**21 39 24.3**	**-1.4**
PMRV	**Marv??o**	**5.37**	**331**	P	**Pn**	**21 38 24.4**	**+0.6**
PMRV				S	**Sn**	**21 39 24.3**	**-1.4**
PMRV	**Marv??o**	**5.37**	**331**	P	**Pn**	**21 38 24.4**	**+0.6**
PMRV				S	**Sn**	**21 39 24.3**	**-1.4**
PMTG	**Montargil**	**5.45**	**323**	*e*Pn	**Pn**	**21 38 25.2**	**+0.3**
PMTG				*e*Sn	**Sn**	**21 39 26.1**	**-1.6**
PMTG	**Montargil**	**5.45**	**323**	*e*Pn	**Pn**	**21 38 25.2**	**+0.3**
PMTG				*e*Sn	**Sn**	**21 39 26.1**	**-1.6**
EPLA	**Plasencia**	**5.53**	**343**	P	**Pn**	**21 38 25.0**	**-1.0**
	comp=N,0.3nm,0.2s,SNR=6.7						
EPLA				S	**Sn**	**21 39 26.6**	**-3.0**
	comp=N,1.6nm,0.3s						
EPLA	**Plasencia**	**5.53**	**343**	P	**Pn**	**21 38 25.0**	**-1.0**
	comp=N,0.3nm,0.2s,SNR=6.7						
EPLA				S	**Sn**	**21 39 26.6**	**-3.0**
	comp=N,1.6nm,0.3s						
PMAFR	**Mafra**	**5.94**	**316**	*e*Pn	**Pn**	**21 38 34.7**	**+3.1**
PTOM	**Tomar**	**5.97**	**325**	*e*Pn	**Pn**	**21 38 32.5**	**+0.4**
PTOM	**Tomar**	**5.97**	**325**	P	**Pn**	**21 38 32.5**	**+0.4**
PTOM	**Tomar**	**5.97**	**325**	P	**Pn**	**21 38 32.5**	**+0.4**
GERES	**GERESS Array B**	**19.23**	**38**	P	**P**	**21 41 28.2**	**+0.3**
	comp=N,0.2nm,0.3s,baz=231,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**22.14**	**165**	P	**P**	**21 42 02.2**	**+2.6**
	comp=N,1.1nm,1.0s,baz=344,slow=9.8,SNR=3.2						
BBTS	**Babate**	**22.98**	**212**	LR	LR	21 50 10.9	
	comp=N,73nm,21.6s,baz=176,slow=34						

ISCJB **16** *21:40:18.4±0.7, 7°.4S±0°.1×106°.64E±0°.07, h113km±6km, mb3.6/6, Error ellipse: s-maj=22.7km s-min=6.2km az=24.3*
DJA **16** *21:40:20.5±0.6, 7°S±10°×107°E±°, h87km±5km, M4.1/6, MLv4.1/6*
IDC **16** *21:40:21.2±2.9, 6°.94S×106°.87E, h132km±14km, mb3.3/6, mb1 3.5/6, mb1mx3.2/55, mbtmp3.7/6, Error ellipse: s-maj=79.1km s-min=15.3km az=54.0*

ISC 16 21:40:18.8±0.9, 7°.3S±0°.1×106°.67E±0°.06, h115km±6km, n23, σ1s26/29, mb3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.30**	**338**	P	**Pn**	**21 40 35.6**	**+0.4**
SKJI				S	**Sn**	**21 40 46.8**	**-0.7**
CNJI	**Cibinong**	**0.46**	**93**	P	**Pn**	**21 40 36.0**	**+0.1**
CNJI				S	**Sn**	**21 40 47.2**	**-1.5**
LEM	**Lembang**	**1.04**	**64**	P	**Pn**	**21 40 42.8**	**+1.8**
	77nm,0.3s,baz=144,slow=7.2,SNR=50						
LEM				S	**Sn**	**21 40 59.3**	**+1.5**
	84nm,0.3s,baz=287,slow=19,SNR=11						
LEM	**Lembang**	**1.04**	**64**	P	**Pn**	**21 40 42.6**	**+1.6**
CISI	**Cisompet, Garu**	**1.17**	**103**	P	**Pn**	**21 40 42.6**	**+0.4**
CISI				S	**Sn**	**21 40 59.6**	**-0.3**
CGJI	**Cibinong**	**1.18**	**305**	P	**Pn**	**21 40 43.5**	**+1.2**
CGJI				S	**Sn**	**21 41 00.8**	**+0.7**
SBJI	**Serang**	**1.28**	**335**	P	**Pn**	**21 40 44.3**	**+0.9**
JCJI	**Jatiwangi**	**1.77**	**64**	P	**Pn**	**21 40 49.4**	**+0.2**
CMJI	**Cimerak**	**1.83**	**106**	P	**Pn**	**21 40 50.4**	**+0.5**
BLSI	**Bandar Lampung**	**2.38**	**323**	P	**Pn**	**21 40 58.0**	**+1.1**
KASI	**Kota Agung**	**2.78**	**309**	P	**Pn**	**21 41 03.3**	**+1.2**
LWLI	**Liwa**	**3.44**	**311**	P	**Pn**	**21 41 12.3**	**+1.4**
MDSI	**Maura Dua**	**3.73**	**318**	P	**Pn**	**21 41 16.4**	**+1.7**
UGM	**Wanagama**	**3.87**	**99**	P	**Pn**	**21 41 17.7**	**+1.2**
PCJI	**Pacitan**	**4.55**	**102**	P	**Pn**	**21 41 27.1**	**+1.4**
PWJI	**Pagerwojo**	**5.14**	**98**	P	**Pn**	**21 41 35.0**	**+1.4**
WRA	**Warramunga Arr**	**29.62**	**118**	P	**P**	**21 46 13.4**	**-0.2**
	0.5nm,0.4s,baz=303,slow=9.0,SNR=7.0						
ASAR	**Alice Springs**	**30.79**	**125**	P	**P**	**21 46 25.1**	**+1.2**
	0.4nm,0.7s,baz=294,slow=7.6,SNR=3.4						
STKA	**Stephens Creek**	**40.69**	**132**	P	**P**	**21 47 49.8**	**+1.5**
	1.0nm,0.3s,baz=322,slow=10.0,SNR=6.9						
SONM	**Songino Array**	**54.88**	**360**	P	**P**	**21 49 35.9**	**-1.7**
	0.4nm,0.8s,baz=161,slow=9.2,SNR=3.2						
SONM				PcP	**PcP**	**21 50 38.0**	**-0.3**
	1.1nm,0.5s,baz=172,slow=3.4,SNR=9.2						
MKAR	**Makanchi Array**	**58.05**	**340**	P	**P**	**21 49 58.0**	**-1.9**
	0.4nm,0.4s,baz=144,slow=8.5,SNR=16						
KURBB	**Kurchatov Arra**	**62.61**	**340**	P	**P**	**21 50 29.3**	**-1.5**
	0.5nm,0.6s,baz=152,slow=6.3,SNR=4.3						
TXAR	**Lajitas Array**	**144.00**	**49**	PKP	**PKPdf**	**21 59 41.5**	**-0.2**
	0.2nm,0.4s,baz=341,slow=2.2,SNR=5.6						

IDC 16 21:55:09.0±22.0, 17°.58N×145°.85E, h508km±287km, mb2.8/5, mb1 3.1/5, mb1mx2.6/65, mbtmp3.7/5, Error ellipse: s-maj=108.8km s-min=45.0km az=178.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**44.51**	**279**	P	P	22 02 35.1	-0.1
	1.2nm,0.6s,baz=74,slow=6.3,SNR=8.0						
MKAR	**Makanchi Array**	**59.34**	**314**	P	P	22 04 22.0	+0.3
	0.2nm,0.4s,baz=89,slow=8.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**62.24**	**318**	P	P	22 04 40.4	-0.4
	0.5nm,0.4s,baz=100,slow=7.1,SNR=5.0						
ILAR	**Eielson Array**	**64.58**	**26**	P	P	22 04 55.5	-0.1
	0.2nm,0.3s,baz=244,slow=6.1,SNR=5.4						
YKA	**Yellowknife Ar**	**78.91**	**28**	P	P	22 06 19.3	+0.2
	0.3nm,0.4s,baz=288,slow=5.1,SNR=6.0						

IDC **16** *22:07:24.5±1.0, 30°.80S×178°.03W, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.0/38, mbtmp4.1/5, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/37, Error ellipse: s-maj=31.1km s-min=22.0km az=107.0*
ISCJB **16** *22:07:29.6±0.7, 30°.70S±0°.08×178°.1W±0°.1, h46km, mb4.3/9, MS2.8/1, Error ellipse: s-maj=19.2km s-min=10.3km az=19.1*
NEIC **16** *22:07:29.6±0.6, 30°.82S×178°.04W, h35km, mb4.5/5, Error ellipse: s-maj=19.8km s-min=12.3km az=111.0*

ISC 16 22:07:30.5±0.6, 30°.75S±0°.07×178°.1W±0°.1, h46km, n21, σ1s91/23, mb4.4/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.51**	**6**	Pn	**Pn**	**22 07 54.5**	**-0.6**
	172nm,0.3s,baz=31,slow=21,SNR=8.0						
RAO				Sn	**Sn**	**22 08 09.2**	**-4.3**
	773nm,0.3s,baz=98,slow=21,SNR=11						
RAO	**Raoul Island**	**1.51**	**6**	*e*Pn	**Pn**	**22 07 54.5**	**-0.6**
RAO				*e*Sn	**Sn**	**22 08 11.5**	**-2.0**
URZ	**Urewera**	**8.46**	**206**	Pn	**Pn**	**22 09 27.5**	**-3.0**
	0.7nm,0.3s,baz=292,slow=3.5,SNR=8.8						
URZ				Sn	**Sn**	**22 11 01.2**	**-3.4**
	4.3nm,0.3s,baz=5.2,slow=23,SNR=9.0						
PPT	**Papeete**	**29.06**	**70**	LR	LR	22 23 01.9	
	comp=Z,21nm,19.3s,baz=336,slow=32						
CTAO	**Charters Tower**	**33.76**	**280**	P	**P**	**22 14 08.9**	**+0.9**
	6.4nm,0.8s						
STKA	**Stephens Creek**	**34.31**	**257**	P	**P**	**22 14 14.4**	**+1.7**
	4.0nm,0.8s,baz=106,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**43.00**	**267**	P	**P**	**22 15 26.1**	**+0.5**
	2.1nm,0.8s,baz=108,slow=8.1,SNR=17						
WRA	**Warramunga Arr**	**44.02**	**273**	P	**P**	**22 15 33.9**	**0.0**
	1.9nm,0.3s,baz=111,slow=8.1,SNR=23						
CASY	**Casey**	**54.78**	**208**	P	**P**	**22 16 55.8**	**+0.5**
	3.5nm,0.8s						
QSPA	**South Pole Qui**	**59.36**	**180**	P	**P**	**22 17 29.7**	**+1.9**
	1.3nm,0.7s,baz=76,slow=1.9,SNR=4.3						
AKUT	**Akutan**	**85.21**	**7**	P	**P**	**22 20 03.0**	**+1.5**
	0.8nm,0.3s						
ISA	**Isabella, Lake**	**86.61**	**45**	P	**P**	**22 20 09.5**	**+0.4**
	0.4nm,0.3s						
HOPE	**Hope Point**	**89.06**	**159**	P	**P**	**22 20 20.6**	**+0.1**
	3.7nm,0.7s						
WALA	**Waterton Lakes**	**97.86**	**37**	*e*P	**P**	**22 21 00.3**	**-0.8**
MKAR	**Makanchi Array**	**117.93**	**310**	PKP	**PKPdf**	**22 26 14.3**	**+2.4**
	0.2nm,0.6s,baz=98,slow=1.8,SNR=4.0						
KURK	**Kurchatov**	**121.22**	**314**	PKP	**PKPdf**	**22 26 20.0**	**+2.0**
KURBB	**Kurchatov Arra**	**121.26**	**314**	PKP	**PKPdf**	**22 26 20.0**	**+1.9**
	1.3nm,0.2s,baz=111,slow=1.6,SNR=5.8						
FINES	**FINESS Array B**	**145.44**	**340**	PKPbc	**PKPdf**	**22 27 01.8**	**-0.9**
	3.8nm,0.6s,baz=48,slow=3.0,SNR=24						
AKASG	**Malin Array Be**	**151.52**	**322**	PKPbc	**PKPbc**	**22 27 18.8**	**-0.3**
	3.1nm,0.7s,baz=55,slow=3.0,SNR=9.0						
BRTR	**Keskin Array B**	**152.68**	**298**	PKPbc	**PKPbc**	**22 27 23.7**	**+1.3**
	1.6nm,1.0s,baz=108,slow=4.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**162.48**	**179**	PKPab	**PKPab**	**22 28 14.0**	**-1.5**
	0.6nm,0.6s,baz=182,slow=4.6,SNR=4.1						

DDA **16** *22:09:21.8, 39°.18N×29°.09E, h7km, Ml2.5*
ISCJB **16** *22:09:23.0±0.5, 39°.06N±0°.05×29°.09E±0°.04, h8km±4km, Error ellipse: s-maj=8.1km s-min=4.7km az=168.6*
CSEM **16** *22:09:22.8±0.2, 39°.10N×29°.07E, h2km, ML2.7, Error ellipse: s-maj=6.4km s-min=4.4km az=151.0*
ISK **16** *22:09:22.9, 39°.07N×29°.13E, h8km, ML2.7/12*

ISC 16 22:09:22.9±0.9, 39°.08N±0°.03×29°.08E±0°.02, h11km±6km, n40, σ0s86/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.08**	**276**	PG	**Pg**	**22 09 25.4**	**0.0**
SIMA				SG	**Sg**	**22 09 27.4**	**+0.1**
SIMA	**Simav-Kutahya**	**0.08**	**276**	*e*Pg	**Pg**	**22 09 25.4**	**0.0**
SIMA				*e*Sg	**Sg**	**22 09 27.4**	**+0.1**
DEMI	**Demirci**	**0.29**	**264**	*i* P	**Pg**	**22 09 28.9**	**+0.1**
DEMI				*i* S	**Sg**	**22 09 33.0**	**+0.3**
DEMI	**Demirci**	**0.29**	**264**	P	**Pg**	**22 09 28.9**	**+0.1**
DEMI				S	**Sg**	**22 09 33.0**	**+0.3**
GDZ	**Gediz**	**0.31**	**87**	*i* P	**Pg**	**22 09 28.5**	**-0.8**
GDZ				*i* S	**Sg**	**22 09 33.3**	**-0.2**
GDZ	**Gediz**	**0.31**	**87**	P	**Pg**	**22 09 28.5**	**-0.8**
GDZ				S	**Sg**	**22 09 33.3**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**38**	PG	**Pg**	**22 09 32.3**	**0.0**
TVSB	**Tavsanli**	**0.48**	**38**	*e*Pg	**Pg**	**22 09 32.3**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**211**	PG	**Pb**	**22 09 36.5**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**211**	*e*Pg	**Pb**	**22 09 36.5**	**+0.1**
AKHS	**Akhisar**	**1.01**	**259**	*i* P	**Pg**	**22 09 41.6**	**-0.7**
AKHS	**Akhisar**	**1.01**	**259**	P	**Pg**	**22 09 41.6**	**-0.7**
BALB	**Balikesir**	**1.09**	**302**	PN	**Pn**	**22 09 45.7**	**+1.5**
BALB	**Balikesir**	**1.09**	**302**	*i* Pn	**Pn**	**22 09 45.7**	**+1.5**
STEP	**BALIKESIR_Sava**	**1.10**	**286**	*i* P	**Pg**	**22 09 42.1**	**-2.0**
STEP	**BALIKESIR_Sava**	**1.10**	**286**	P	**Pg**	**22 09 42.1**	**-2.0**
SHUT	**Suhut-Afyon**	**1.26**	**114**	PN	**Pn**	**22 09 46.8**	**+0.1**
SHUT	**Suhut-Afyon**	**1.26**	**114**	*i* Pn	**Pn**	**22 09 46.8**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**27**	PN	**Pg**	**22 09 47.1**	**-0.3**
CAVI				SN	**Sn**	**22 10 05.3**	**+1.5**
CAVI	**Cavuskoy**	**1.27**	**27**	*e*Pn	**Pg**	**22 09 47.1**	**-0.3**
CAVI				*e*Sn	**Sn**	**22 10 05.3**	**+1.5**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	PN	**Pb**	**22 09 47.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	*e*Pn	**Pb**	**22 09 47.3**	**-0.1**
BALY	**Balya**	**1.31**	**301**	*i* P	**Pn**	**22 09 45.0**	**-2.3**
BALY	**Balya**	**1.31**	**301**	P	**Pn**	**22 09 45.0**	**-2.3**
KCTX	**Karacabey (Bur**	**1.31**	**335**	PN	**Pg**	**22 09 48.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.31**	**335**	*e*Pn	**Pg**	**22 09 48.5**	**+0.3**
ADVT	**Abdulvahap**	**1.45**	**20**	PN	**Pb**	**22 09 49.9**	**0.0**
ADVT				SN	**Sg**	**22 10 09.8**	**+0.3**
ADVT	**Abdulvahap**	**1.45**	**20**	*e*Pn	**Pb**	**22 09 49.9**	**0.0**
ADVT				*e*Sn	**Sg**	**22 10 09.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.45**	**312**	PN	**Pb**	**22 09 49.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.45**	**312**	*e*Pn	**Pb**	**22 09 49.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**220**	PN	**Pb**	**22 09 50.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**220**	*e*Pn	**Pb**	**22 09 50.5**	**+0.2**
ARMT	**Armutlu**	**1.50**	**354**	PN	**Pb**	**22 09 50.8**	**0.0**
ARMT	**Armutlu**	**1.50**	**354**	*e*Pn	**Pb**	**22 09 50.8**	**0.0**
EDC	**Edincik**	**1.58**	**324**	PN	**Pb**	**22 09 51.8**	**-0.4**
EDC	**Edincik**	**1.58**	**324**	*e*Pn	**Pb**	**22 09 51.8**	**-0.4**
GULT	**Gulveren**	**1.75**	**39**	PN	**Pb**	**22 09 54.3**	**-0.8**
GULT	**Gulveren**	**1.75**	**39**	*e*Pn	**Pb**	**22 09 54.3**	**-0.8**
HRT	**Hereke**	**1.80**	**14**	PN	**

GEVA	**Gevas**	**0.49**	**254**	P	**Pg**	**22 25 28.6**	**-1.7**
VMUR	**Van-Muradiye**	**0.55**	**353**	*i* P	**Pg**	**22 25 31.7**	**+0.4**
VMUR	**Van-Muradiye**	**0.55**	**353**	P	**Pg**	**22 25 31.7**	**+0.4**
CLDR	**Caldiran**	**0.72**	**16**	PG	**Pg**	**22 25 34.3**	**-0.4**
CLDR				SG	**Sb**	**22 25 45.7**	**+0.5**
CLDR	**Caldiran**	**0.72**	**16**	*i* P	**Pg**	**22 25 33.3**	**-1.4**
CLDR	**Caldiran**	**0.72**	**16**	P	**Pg**	**22 25 33.3**	**-1.4**
CLDR	**Caldiran**	**0.72**	**16**	*e*Pg	**Pg**	**22 25 34.3**	**-0.4**
CLDR				*e*Sg	**Sb**	**22 25 45.7**	**+0.5**
HAKT	**HAKKARI**	**0.89**	**177**	*i* P	**Pg**	**22 25 37.6**	**-0.1**
HAKT	**HAKKARI**	**0.89**	**177**	P	**Pg**	**22 25 37.7**	**-0.1**
CUKT	**Cukurca**	**1.20**	**182**	PN	**Pn**	**22 25 42.9**	**-0.3**
CUKT	**Cukurca**	**1.20**	**182**	*e*Pn	**Pn**	**22 25 42.9**	**-0.3**
AGRB	**Hanur-Agry**	**1.24**	**336**	PN	**Pb**	**22 25 44.3**	**+0.3**
AGRB	**Hanur-Agry**	**1.24**	**336**	*e*Pn	**Pb**	**22 25 44.3**	**+0.3**
GURO	**Guroymak-BITLI**	**1.28**	**275**	PN	**Pg**	**22 25 45.3**	**+0.1**
GURO				SN	**Sg**	**22 26 03.6**	**+1.8**
GURO	**Guroymak-BITLI**	**1.28**	**275**	*e*Pn	**Pg**	**22 25 45.3**	**+0.1**
GURO				*e*Sn	**Sg**	**22 26 03.6**	**+1.8**

ISCJB ***16*** *22:25:33.1±0.5, 44.66N±0.07×138.37E±0.08, h287km, mb3.0/5, Error ellipse: s-maj=10.9km s-min=6.2km az=28.1*

JMA ***16*** *22:25:33.2±0.4, 44.57N×138.32E, h302km±4km, M2.9*

IDC ***16*** *22:25:34.2±1.2, 44.69N×138.39E, h288km±21km, mb2.9/5, mb1 3.1/9, mb1mx2.8/68, mbtmp3.7/9, Error ellipse: s-maj=31.9km s-min=16.3km az=161.0*

ISC 16 22:25:33.4±0.8, 44.54N±0.08×138.39E±0.06, h287km, n20, σ1§65/23, mb3.1/5, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**2.25**	**147**	P		**Pn**	**22 26 22.9**	**+1.8**
JSE	**Soyaes**	**3.02**	**81**	P		**Pn**	**22 26 30.0**	**+1.7**
ASAJ	**Asahikawa**	**3.05**	**97**	P		**Pn**	**22 26 30.6**	**+1.9**
	4.1nm,0.3s,baz=275,slow=11,SNR=15							
JKK2	**Kamakawa 2**	**3.20**	**100**	P		**Pn**	**22 26 32.1**	**+1.8**
JBT2	**Biratori 2**	**3.38**	**120**	P		**Pn**	**22 26 33.8**	**+1.6**
JBT2				*e*S		**S**	**22 27 21.2**	**+2.1**
JNBK	**Urakawa-nobuka**	**3.90**	**124**	*e*S		**S**	**22 27 29.3**	**0.0**
JTKR	**Abashiri--Toko**	**4.00**	**96**	P		**Pn**	**22 26 40.3**	**+1.4**
JAR	**Ashorobuto**	**4.08**	**106**	P		**Pn**	**22 26 41.2**	**+1.4**
JCH	**Churui**	**4.09**	**116**	P		**Pn**	**22 26 40.1**	**+0.1**
JCH				*e*S		**S**	**22 27 30.3**	**-2.9**
USRK	**Ussuriysk Ar.**	**4.60**	**268**	P		**Pn**	**22 26 46.6**	**+0.9**
	1.1nm,0.3s,baz=78,slow=13,SNR=13							
JANG	**Nango**	**4.76**	**150**	P		**Pn**	**22 26 48.4**	**+0.7**
JANG				*e*S		**S**	**22 27 44.5**	**-2.7**
JAK	**Akkeshi**	**4.82**	**106**	*e*S		**S**	**22 27 46.7**	**-1.6**
MAT	**Matsushiro**	**7.99**	**181**	P		**Pn**	**22 27 28.6**	**+1.8**
MJAR	**Matsushiro Arr**	**7.99**	**181**	P		**Pn**	**22 27 28.6**	**+1.8**
	0.9nm,0.3s,baz=4.8,slow=13,SNR=6.6							
SEY	**Seymchan**	**20.11**	**19**	P		**P**	**22 29 44.3**	**-1.6**
	0.3nm,0.3s,baz=234,slow=15,SNR=4.7							
SONM	**Songino Array**	**22.31**	**290**	P		**P**	**22 30 06.4**	**-0.8**
	0.4nm,0.8s,baz=90,slow=8.6,SNR=3.4							
MKAR	**Makanchi Array**	**38.56**	**294**	P		**P**	**22 32 29.9**	**+1.1**
	0.1nm,0.5s,baz=67,slow=7.6,SNR=6.0							
KURBB	**Kurchatov Arra**	**39.86**	**301**	P		**P**	**22 32 39.6**	**+0.2**
	0.4nm,0.4s,baz=72,slow=8.8,SNR=5.2							
INK	**Inuvik**	**48.87**	**30**	P		**P**	**22 33 49.8**	**-0.2**
	0.5nm,0.5s,baz=304,slow=8.7,SNR=2.3							
FINES	**FINESS Array B**	**61.15**	**330**	P		**P**	**22 35 16.9**	**-0.4**
	0.9nm,0.5s,baz=52,slow=9.0,SNR=10							

MEX 16 22:27:14.3±0.3, 14.20N×93.20W, h15km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCIG		**1.50**	**359**	*e*P		Pn	22 27 37.2	-3.5
PCIG				*e*S		Sn	22 27 54.9	-5.1
CCIG	**Comitan**	**2.31**	**26**	*e*P		Pn	22 27 49.6	-2.5
CCIG				*e*S		Sn	22 28 15.2	-5.2
TGIG		**2.57**	**2**	*i* P		Pn	22 27 52.7	-2.8
TGIG				*i* S		Sn	22 28 22.8	-3.7

IDC ***16*** *22:35:56.7±8.1, 22.41S×170.37E, h68km±54km, mb3.9/3, mb1 4.3/4, mb1mx3.6/38, mbtmp4.2/4, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/38, Error ellipse: s-maj=152.1km s-min=34.3km az=156.0*

ISCJB ***16*** *22:35:57.3±1.7, 20.1S±0.4×169.3E±0.4, h35km, mb4.2/3, Error ellipse: s-maj=72.6km s-min=13.6km az=140.2*

ISC 16 22:35:58.3±1.8, 20.2S±0.5×169.5E±0.4, h35km, n6, σ1§06/7, mb4.0/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.40**	**235**	P		**Pn**	**22 36 50.2**	**+1.2**
	8.0nm,0.3s,baz=113,slow=5.9,SNR=187							
DZM				S		**Sn**	**22 37 26.6**	**-1.6**
	88nm,0.3s,baz=132,slow=16,SNR=23							
DZM				LR		LR	22 37 51.2	
	comp=Z,128nm,18.7s,baz=133,slow=31							
WRA	**Warramunga Arr**	**32.96**	**264**	P		**P**	**22 42 30.3**	**+0.4**
	1.1nm,0.7s,baz=104,slow=8.4,SNR=9.1							
ASAR	**Alice Springs**	**33.12**	**257**	P		**P**	**22 42 31.5**	**+0.2**
	5.0nm,0.5s,baz=94,slow=9.1,SNR=76							
NVAR	**Mina Array Bea**	**89.25**	**48**	P		**P**	**22 48 50.8**	**-0.3**
	0.3nm,0.3s,baz=219,slow=7.0,SNR=2.4							
EKA	**Eskdalemuir Ar**	**144.43**	**353**	PKPbc		**PKPab**	**22 55 28.4**	**-0.4**
	0.5nm,0.5s,baz=2.6,slow=3.0,SNR=3.5							
GERES	**GERESS Array B**	**145.38**	**331**	PKPbc		**PKPab**	**22 55 32.5**	**-0.2**
	0.7nm,0.7s,baz=29,slow=3.0,SNR=7.4							

IDC 16 22:43:19.1±2.0, 7.00S×129.10E, h0km, mb3.0/1, mb1 3.6/3, mb1mx3.3/45, mbtmp3.4/3, ML3.7/3, Error ellipse: s-maj=55.7km s-min=30.6km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.25**	**239**	Pn		Pn	22 44 53.2	+0.5
	2.3nm,0.3s,baz=252,slow=20,SNR=2.5							
BATI				Sn		Sn	22 45 55.8	-9.1
	3.9nm,0.3s,baz=343,slow=14,SNR=3.9							
WRA	**Warramunga Arr**	**13.84**	**159**	Pn		Pn	22 46 36.5	-0.1
	0.4nm,0.3s,baz=332,slow=13,SNR=17							
WRA				Sn		Sn	22 48 56.4	-15
	0.7nm,0.3s,baz=332,slow=22,SNR=8.2							
ASAR	**Alice Springs**	**17.21**	**165**	P		Pn	22 47 20.8	-0.2
	0.3nm,0.3s,baz=337,slow=11,SNR=16							
ASAR				S		Sn	22 50 14.6	-19
	0.1nm,0.3s,baz=340,slow=9.9,SNR=4.2							
MKAR	**Makanchi Array**	**67.74**	**327**	P		P	22 54 18.5	0.0
	0.1nm,0.3s,baz=137,slow=6.3,SNR=2.4							

ISCJB ***16*** *23:01:23.0±0.9, 38.15N±0.06×57.41E±0.04, h1km±11km, Error ellipse: s-maj=10.7km s-min=4.7km az=174.8*

IDC ***16*** *23:01:22.5±1.2, 37.94N×57.28E, h0km, mb2.7/1, mb1 3.4/5, mb1mx3.1/55, mbtmp3.3/5, ML3.0/4, Error ellipse: s-maj=9.9km s-min=6.0km az=79.0*

NNC ***16*** *23:01:23.2±2.2, 38.01N×57.31E, h0km, mb3.6, mpv4.4, Error ellipse: s-maj=31.5km s-min=9.7km az=18.0*

CSEM ***16*** *23:01:24.6±0.2, 38.06N×57.39E, h5km, mb3.6, Error ellipse: s-maj=5.7km s-min=4.5km az=136.0*

TEH ***16*** *23:01:26.6, 38.04N×57.51E, h5km, ML3.2*

ISC 16 23:01:24.8±1.3, 38.04N±0.05×57.45E±0.03, h10km±11km, n27, σ1§30/37, 3C-4D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.34**	**185**	*e*Pg		**Pg**	**23 01 31.1**	**-0.5**
GEYT	**Alibeck**	**0.54**	**101**	Pg		**Pg**	**23 01 35.6**	**+0.3**
	159nm,0.3s,baz=272,slow=20,SNR=1232							
GEYT				Lg		Lg	23 01 43.6	
	247nm,0.3s,baz=270,slow=33,SNR=75							
GYA0B	**ALIBECK ARRAY**	**0.54**	**101**	P		**Pg**	**23 01 35.7**	**+0.3**
	384nm,0.5s							
GYA0B				S		**Sb**	**23 01 44.3**	**0.0**
	2μm,0.6s							
ASHT	**Ashkhabad**	**0.75**	**97**	⇓P		**Pb**	**23 01 40.6**	**+0.7**
	270nm,0.3s							
ASHT				⇑S		**Sn**	**23 01 53.3**	**+0.4**
	1μm,0.5s							
ASHT	**Ashkhabad**	**0.75**	**97**	P		**Pb**	**23 01 40.6**	**+0.7**
	270nm,0.3s							
ISFR	**Sfrayin**	**1.08**	**156**	*e*Pg		**Pg**	**23 01 45.5**	**-0.1**
ISFR				*e*AMB		AMB	23 02 03.7	
	comp=Z,8μm,0.1s							
MRVT	**Maraveh tapeh**	**1.14**	**251**	*e*Pg		**Pg**	**23 01 45.9**	**-0.8**
MRVT				*e*Sg		**Sb**	**23 02 01.8**	**+0.3**
IEMG	**Emamgholi**	**1.14**	**123**	*e*Pg		**Pg**	**23 01 46.3**	**-0.5**
IEMG				*e*Sg		**Sg**	**23 02 01.3**	**-0.3**
IEMG				*e*AMB		AMB	23 02 08.2	
	comp=Z,9μm,0.2s							
IQHU	**Qucahn**	**1.30**	**138**	*e*Pg		**Pn**	**23 01 49.1**	**0.0**
IQHU				*e*AMB		AMB	23 02 15.6	
	comp=Z,7μm,0.1s							
IAKL	**Akhelmad**	**1.77**	**144**	*e*AMB		AMB	23 02 28.8	
	comp=Z,3μm,0.2s							
IMND	**Minoodasht**	**1.80**	**245**	*e*Pn		**Pg**	**23 01 59.4**	**+0.1**
IMND				*e*AMB		AMB	23 02 01.4	
	comp=Z,2μm,0.3s							
IMND				*e*Sg		**Sg**	**23 02 24.5**	**+2.0**
SHRO	**Shahrood**	**2.34**	**210**	*e*Pn		**Pn**	**23 02 05.0**	**+1.5**
SHRO				*e*Sg		**Sb**	**23 02 37.3**	**+1.0**
IMOG	**Moghan**	**2.45**	**141**	*e*Sg		**Sg**	**23 02 42.4**	**-1.2**
IMOG				*e*Pn		**Pb**	**23 02 08.5**	**-0.7**
IMOG				*e*AMB		AMB	23 02 52.8	
	comp=Z,1μm,0.4s							
JRKH	**Jarkhoshk**	**3.15**	**132**	*e*Pn		**Pb**	**23 02 20.0**	**-1.0**
JRKH				*e*AMB		AMB	23 03 29.4	
	comp=Z,99nm,0.3s							
KK31	**Karatay Array**	**11.15**	**59**	⇓P		**Pn**	**23 04 05.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=251,slow=13,SNR=4.8							
KK31	**Karatay Array**	**11.15**	**59**	P		**Pn**	**23 04 05.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=251,SNR=4.8							
AB31	**Akbulak array**	**11.36**	**8**	⇑Pn		**Pn**	**23 04 07.3**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=182,slow=12,SNR=5.2							
AB31				⇓Sn		**Sn**	**23 06 15.1**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=191,slow=24,SNR=7.7							
AB31	**Akbulak array**	**11.36**	**8**	Pn		**Pn**	**23 04 07.3**	**+0.3**
	comp=Z,0.2nm,0.4s,SNR=5.2							
AB31				Sn		**Sn**	**23 06 15.1**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=191,SNR=7.7							
KBZ	**Khabaz**	**12.38**	**302**	Pn		**Pn**	**23 04 18.9**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=113,slow=7.7,SNR=2.5							
AKTO	**Aktyubinsk**	**12.40**	**2**	Pn		**Pn**	**23 04 20.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=172,slow=9.7,SNR=2.5							
AKTO				Sn		**Sn**	**23 06 34.0**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=66,slow=19,SNR=5.1							
AKTO	**Aktyubinsk**	**12.40**	**2**	⇑Pn		**Pn**	**23 04 21.1**	**-0.2**
	comp=Z,2.7nm,0.9s							
AKTO				⇓Sn		**Sn**	**23 06 39.1**	**-0.4**
	comp=Z,2.0nm,0.5s							
AKTO	**Aktyubinsk**	**12.40**	**2**	Pn		**Pn**	**23 04 21.1**	**-0.2**
	comp=Z,2.7nm,0.9s							
AKTO				Sn		**Sn**	**23 06 39.1**	**-0.4**
	comp=Z,2.0nm,0.5s							
BVA0	**Borovoye Array**	**17.47**	**27**	P		**P**	**23 05 29.5**	**-0.1**
	comp=Z,2.0nm,1.1s,baz=204,slow=9.1,SNR=6.7							
BVA0	**Borovoye Array**	**17.47**	**27**	P		**P**	**23 05 29.5**	**-0.1**
	comp=Z,2.0nm,1.1s,SNR=6.7							
BVAR	**Borovoye Array**	**17.47**	**27**	P		**P**	**23 05 30.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=213,slow=10,SNR=3.5							
KURBB	**Kurchatov Arra**	**19.56**	**43**	P		**Pn**	**23 05 54.5**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=247,slow=11,SNR=3.9							
MKAR	**Makanchi Array**	**20.26**	**56**	P		Pn	23 06 01.8	-0.4
	comp=Z,0.3nm,0.6s,baz=247,slow=9.4,SNR=4.5							

NIED ***16*** *23:18:00, 35.80N×140.90E, h8km, Mw4.4 Best double couple: M0 3.91000×10^15 NP1:φ=4.00000°, δ=44.00000°, λ=-76.00000°. NP2:φ=165.00000°, δ=48.00000°, λ=-103.00000°.*

ISCJB ***16*** *23:18:16.5±0.5, 35.72N±0.03×140.95E±0.04, h18km±3km, mb4.3/57, MS3.5/15, Error ellipse: s-maj=5.4km s-min=4.7km az=3.3*

JMA ***16*** *23:18:16.6±0.2, 35.70N×140.95E, h11km±1km, M4.4*

JMA Felt II J1.

BJI ***16*** *23:18:17.9, 35.62N×140.78E, h25km, mb4.4/37, mB4.9/20, Ms4.5/14, Ms7 4.3/8*

MOS ***16*** *23:18:18.1±0.9, 35.63N×140.89E, h32km, mb4.5/17, Error ellipse: s-maj=10.6km s-min=6.7km az=112.1*

IDC ***16*** *23:18:20.7±2.2, 35.62N×140.91E, h40km±20km, mb3.8/26, mb1 4.0/30, mb1mx3.9/65, mbtmp4.1/30, ML3.2/4, MS3.2/13, Ms1 3.2/13, ms1mx3.0/58, Error ellipse: s-maj=14.7km s-min=13.8km az=79.0*

NEIC ***16*** *23:18:20.8±0.3, 35.75N×140.88E, h35km, mb4.7/14, Error ellipse: s-maj=5.6km s-min=4.8km az=133.0*

NEIC Felt at Tsukuba. Recorded [2 JMA] in Chiba and Ibaraki.

ISC 16 23:18:17.3±0.8, 35.72N±0.03×140.95E±0.04, h13km±4km, n143, σ1§86/146, mb4.4/65, MS3.6/18, 15C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**258**	⇓P		**Pg**	**23 18 19.1**	**-0.8**
CHOJ				S		**Sg**	**23 18 20.9**	**-0.9**
JCN	**Nagara**	**0.68**	**244**	⇑P		**Pg**	**23 18 30.6**	**+0.2**
JYT	**Yasato**	**0.79**	**310**	⇑P		**Pg**	**23 18 31.9**	**-0.8**
JYT				S		**Sb**	**23 18 42.8**	**-0.8**
BSO4	**Boso 4**	**0.88**	**215**	P		**Pg**	**23 18 34.0**	**-0.2**
JHO	**Hitachi**	**0.94**	**341**	⇓P		**Pg**	**23 18 34.2**	**-1.3**
JHO				*e*S		**Sb**	**23 18 47.3**	**-0.6**
BSO3	**Boso 3**	**0.98**	**201**	⇓P		**Pg**	**23 18 35.0**	**-1.1**
BSO1	**Boso 1**	**1.06**	**179**	P		**Pb**	**23 18 35.0**	**-2.2**
MJAR	**Matsushiro Arr**	**2.36**	**291**	Pn		**Pn**	**23 18 55.3**	**-0.5**
	14nm,0.3s,baz=108,slow=7.9,SNR=92							
MJAR				Sn		**Sn**	**23 19 22.1**	**-2.5**
	19nm,0.3s,baz=147,slow=14,SNR=8.7							
MJAR				LR		LR	23 19 32.7	
	comp=Z,192nm,21.4s,baz=115,slow=31							
MAJO	**Matsushiro**	**2.37**	**291**	*c i*P		**Pn**	**23 18 55.3**	**-0.5**
MAJO	**Matsushiro**	**2.37**	**291**	*e*Pn		**Pn**	**23 18 55.7**	**-0.1**
MAT	**Matsushiro**	**2.37**	**291**	P		**Pn**	**23 18 55.3**	**-0.5**
MAT				S		**Sn**	**23 19 24.6**	**-0.1**
MJB9	**Matsu-Tunnel**	**2.37**	**291**	*e*Pn		**Pn**	**23 18 55.5**	**-0.3**
JHJ2	**Mitsune**	**2.76**	**200**	*e*Pn		**Pn**	**23 19 03.9**	**+2.7**
JHJ	**Hachijo jima 2**	**2.76**	**201**	Pn		**Pn**	**23 19 02.6**	**+1.4**
	29nm,0.3s,baz=82,slow=23,SNR=5.1							
JHJ				Sn		**Sn**	**23 19 29.6**	**-4.8**
	26nm,0.3s,baz=72,slow=19,SNR=3.1							
INU	**Inuyama**	**3.23**	**265**	*e*Pn		**Pn**	**23 19 08.4**	**+0.8**
ERM	**Erimo**	**6.52**	**15**	*e*P		**Pn**	**23 19 53.4**	**+0.5**
ERM				*e*			23 21 08.7	
ERM	**Erimo**	**6.52**	**15**	*e*Pn		**Pn**	**23 19 53.4**	**+0.5**
ERM				*e*Sn		**Sn**	**23 21 08.7**	**+1.6**
ASAJ	**Asahikawa**	**8.48**	**8**	Pn		**Pn**	**23 20 17.9**	**-1.9**
	3.2nm,0.3s,baz=243,slow=11,SNR=8.7							
ASAJ				Sn		**Sn**	**23 21 54.0**	**-1.4**
	0.5nm,0.3s,baz=107,slow=19,SNR=3.2							
ASAJ	**Asahikawa**	**8.48**	**8**	*e*Pn		**Pn**	**23 20 19.7**	**-0.1**
ASAJ				Sn		**Sn**	**23 21 54.0**	**-1.4**
CBIJ	**Chichi jima**	**8.66**	**173**	*e*Pn		**Pn**	**23 20 25.1**	**+2.8**
JCJ	**Chichijima**	**8.66**	**173**	Pn		**Pn**	**23 20 20.8**	**-1.5**
	5.0nm,0.3s,baz=284,slow=19,SNR=2.9							
JNU	**Nakatsue**	**8.71**	**256**	LR		LR	23 24 21.4	
	comp=Z,487nm,18.4s,baz=117,slow=42							
KSRS	**Korea Array**	**10.62**	**283**	Pn		**Pn**	**23 20 50.4**	**+1.4**
	0.2nm,0.3s,baz=97,slow=30,SNR=3.5							
KSRS				LR		LR	23 25 03.9	
	comp=Z,104nm,20.3s,baz=90,slow=38							
KSAR	**Wonju Array Be**	**10.64**	**283**	P		**Pn**	**23 20 50.4**	**+1.0**
KSAR	**Wonju Array Be**	**10.64**	**283**	Pn		**Pn**	**23 20 50.4**	**+1.0**
YSS	**Yuzh-Sakhalins**	**11.31**	**6**	*e*P		**Pn**	**23 20 56.8**	**-1.6**
YSS				pmax	pmax			
	comp=Z,30nm,0.7s							
YSS				MLR	MLR			
	comp=Z,400nm,12.0s							
YSS	**Yuzh-Sakhalins**	**11.31**	**6**	*e*Pn		**Pn**	**23 20 58.1**	**-0.3**
	comp=Z,32nm,0.8s							
KLR	**Kul'dur**	**15.10**	**336**	Pn		**Pn**	**23 21 52.0**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=98,slow=12,SNR=3.6							
KLR				LR		LR	23 27 20.0	
	comp=Z,10nm,19.2s,baz=276,slow=36							
KLR	**Kul'dur**	**15.10**	**336**	P		**Pn**	**23 21 52.0**	**+1.9**
NKL	**Nikolayevsk**	**17.43**	**359**	*e*P		**P**	**23 22 21.2**	**0.0**
NJ2	**Nanjing**	**18.70**	**265**	*e*P		**Pn**	**23 22 36.5**	**+0.8**
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
BJI	**Beijing**	**20.00**	**290**	⇑*e*P		**P**	**23 22 49.8**	**+0.3**
ZEA	**Zeya**	**20.41**	**336**	*i* P		Pn	23 22 58.4	+2.4
PEA0B	**Petropavlovsk-**	**21.02**	**29**	*e*P		**P**	**23 23 02.2**	**+1.8**
	comp=Z,12nm,0.9s							
PETK	**Petropavlovsk-**	**21.02**	**29**	P		**P**	**23 23 01.6**	**+1.1**
	comp=Z,9.4nm,0.9s,baz=216,slow=9.1,SNR=14							
PETK				LR		LR	23 30 33.3	
	comp=Z,41nm,21.3s,baz=214,slow=35							
PETK	**Petropavlovsk-**	**21.02**	**29**	*e*P		**P**	**23 23 01.2**	**+0.8**
PET	**Petropavlovsk**	**21.34**	**30**	*e*P		**P**	**23 23 05.0**	**+1.2**
PET				*e*S		**S**	**23 26 53.4**	**-7.0**
PET				pmax	pmax			
	comp=Z,13nm,1.4s							
PET				pmax	pmax			
	comp=Z,100nm,9.8s							
PET				MLR	MLR			
	comp=Z,100nm,22.0s							
HHC	**Hu-ho-hao-te**	**23.57**	**291**	*e*P		**P**	**23 23 25.5**	**-2.1**
HHC				S		**S**	**23 27 32.0**	**-9.5**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,100nm,5.2s							
HHC				LR	LR			
	comp=Z,97nm,10.3s							
HHC				LR	LR			
	comp=Z,110nm,9.1s							
MA2	**Magadan**	**24.72**	**12**	P		**P**	**23 23 39.1**	**+1.1**
	comp=Z,7.1nm,0.6s,baz=205,slow=8.4,SNR=14							
MA2				LR		LR	23 34 51.4	
	comp=Z,33nm,18.0s,baz=122,slow=40							
MA2	**Magadan**	**24.72**	**12**	*ce*P		**P**	**23 23 38.5**	**+0.5**
XAN	**Xi'an**	**26.27**	**276**	P		**P**	**23 23 54.0**	**+1.7**
XAN				pP		sP	23 24 00.1	+2.2
XAN				pmax	pmax			
	comp=Z,4.0nm,0.6s							
XAN				pmax	pmax			
	comp=Z,130nm,6.3s							
ENH	**Enshi**	**26.87**	**267**	*e*P		**P**	**23 23 56.2**	**-1.6**
	comp=Z,10.0nm,0.8s							
ULN	**Ulaanbaatar**	**27.80**	**306**	*ce*P		**P**	**23 24 07.0**	**+0.8**
ULN				pmax	pmax			
	comp=Z,7.0nm,1.7s							
ULN	**Ulaanbaatar**	**27.80**	**306**	*e*P		**P**	**23 24 05.9**	**-0.2**
	comp=Z,12nm,1.7s							
H11N2	**WAKE ISLAND Hy**	**27.83**	**118**	T		T	23 53 05.0	
	baz=311,slow=75,SNR=309							
H11N1	**WAKE ISLAND Hy**	**27.84**	**118**	T		T	23 53 02.4	
	baz=311,slow=75,SNR=266							
H11N3	**WAKE ISLAND Hy**	**27.85**	**118**	T		T	23 53 05.8	
	baz=311,slow=75,SNR=331							
SEY	**Seymchan**	**28.15**	**11**	P		**P**	**23 24 10.0**	**+1.1**
	comp=Z,5.5nm,1.0s,baz=179,slow=5.3,SNR=9.9							
SONA1	**Songino Array**	**28.23**	**306**	*e*P		**P**	**23 24 10.3**	**+0.4**
SONM	**Songino Array**	**28.23**	**306**	P		**P**	**23 24 11.1**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=111,slow=9.8,SNR=6.3							
SONM				LR		LR	23 35 28.6	
	comp=Z,61nm,18.0s,baz=127,slow=36							
BOD	**Bodaibo**	**28.45**	**329**	*e*P		**P**	**23 24 09.8**	**-1.8**
BOD				pmax	pmax			
	comp=Z,7.0nm,2.0s							
H11S1	**WAKE ISLAND Hy**	**28.49**	**120**	T		T	23 53 51.4	
	baz=312,slow=75,SNR=671							
H11S3	**WAKE ISLAND Hy**	**28.49**	**120**	T		T	23 53 51.4	
	baz=312,slow=75,SNR=497							
H11S2	**WAKE ISLAND Hy**	**28.51**	**120**	T		T	23 53 52.2	
	baz=312,slow=75,SNR=425							
LZH	**Lanzhou**	**29.94**	**282**	*e*P		**P**	**23 24 26.5**	**+1.2**
LZH				pP		sP	23 24 33.3	+2.4
LZH				sP		pP	23 24 36.5	+7.2
LZH				PcP		**PcP**	**23 27 28.4**	**+0.7**
LZH				*e*S		**S**	**23 29 16.0**	**-6.6**
LZH				sS		sS	23 29 35.3	+6.1
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
LZH				pmax	pmax			
	comp=Z,120nm,5.0s							
LZH				LR	LR			
	comp=Z,1μm,14.1s							
LZH				LR	LR			
	comp=Z,1μm,14.8s							
CD2	**Chengdu**	**31.32**	**272**	*e*P		**P**	**23 24 37.0**	**-0.4**
CD2				S		**S**	**23 29 41.9**	**-2.2**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,4.6s							
CD2				LR	LR			
	comp=Z,300nm,17.9s							
CD2				LR	LR			
	comp=Z,200nm,16.9s							
DAV	**Davao City (W)**	**31.80**	**210**	LR		LR	23 36 26.5	
	comp=Z,15nm,21.0s,baz=40,slow=

	comp=Z,350nm,6.5s									
IL1	**Eielson Array**	**50.81**	**32**	*e*P		**P**		**23 27 17.3**	**+0.3**
ILAR	**Eielson Array**	**50.81**	**32**	P		**P**		**23 27 17.6**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=268,slow=6.2,SNR=8.7									
BVAR	**Borovoye Array**	**51.19**	**313**	P		**P**		**23 27 20.3**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=67,slow=8.1,SNR=5.9									
BRVK	**Borovoye**	**51.24**	**313**	*ce*P		**P**		**23 27 19.2**	**-1.2**
BRVK				pmax	pmax					
	comp=Z,15nm,1.7s									
WRA	**Warramunga Arr**	**55.71**	**188**	P		**P**		**23 27 52.0**	**-1.4**
	comp=Z,3.1nm,0.8s,baz=5.6,slow=7.8,SNR=19									
INK	**Inuvik**	**55.73**	**27**	P		**P**		**23 27 54.1**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=302,slow=8.0,SNR=4.3									
INK	**Inuvik**	**55.73**	**27**	*e*P		**P**		**23 27 54.0**	**+0.9**
	comp=Z,18nm,2.0s									
SVE	**Sverdlovsk**	**55.89**	**319**⇓	*e*P		**P**		**23 27 55.1**	**+0.7**
SVE				pmax	pmax					
	comp=Z,8.0nm,0.9s									
ARU	**Arti**	**57.10**	**319**	*e*P		**P**		**23 28 02.9**	**-0.1**
ARU				pmax	pmax					
	comp=Z,23nm,1.4s									
ARU	**Arti**	**57.10**	**319**	*e*P		**P**		**23 28 02.9**	**-0.1**
	comp=Z,23nm,1.4s									
ABKAR	**Akbulak array**	**58.50**	**311**	*e*P		**P**		**23 28 13.0**	**0.0**
	comp=Z,22nm,0.8s									
AKTO	**Aktyubinsk**	**59.28**	**312**	P		**P**		**23 28 17.9**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=83,slow=11,SNR=3.8									
ASAR	**Alice Springs**	**59.44**	**188**	P		**P**		**23 28 18.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=18,slow=12,SNR=5.1									
RES	**Resolute Bay**	**63.97**	**14**	*e*P		**P**		**23 28 50.4**	**+0.8**
RES				pmax	pmax					
	comp=Z,4.0nm,0.9s									
RES	**Resolute Bay**	**63.97**	**14**	*e*P		**P**		**23 28 50.4**	**+0.8**
	comp=Z,4.1nm,0.9s									
GEYT	**Alibeck**	**64.14**	**299**	P		**P**		**23 28 50.6**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=5.5,slow=4.5,SNR=3.5									
YKA	**Yellowknife Ar**	**65.14**	**30**	P		**P**		**23 28 57.5**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=301,slow=6.6,SNR=11									
YKA	**Yellowknife Ar**	**65.14**	**30**	*ce*P		**P**		**23 28 59.9**	**+2.5**
YKA				pmax	pmax					
	comp=Z,1.0nm,0.7s									
FINES	**FINESS Array B**	**69.80**	**332**	P		**P**		**23 29 26.8**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=42,slow=2.3,SNR=4.5									
FINES	**FINESS Array B**	**69.80**	**332**	*ce*P		**P**		**23 29 29.1**	**+2.1**
FINES				pmax	pmax					
	comp=Z,1.0nm,0.7s									
HAWA	**Hanford**	**70.95**	**46**	*e*P		**P**		**23 29 35.9**	**+1.6**
	comp=Z,17nm,1.0s									
KBZ	**Khabaz**	**71.47**	**311**	P		**P**		**23 29 37.8**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=80,slow=6.1,SNR=2.8									
KIV	**Kislovodsk**	**71.48**	**311**	*e*P		**P**		**23 29 40.2**	**+2.5**
KIV				pmax	pmax					
	comp=Z,10.0nm,1.0s									
KIV				MLR	MLR					
	comp=Z,50nm,18.0s									
GNI	**Garni**	**72.19**	**307**	LR		LR		00 06 49.4		
	comp=Z,23nm,18.1s,baz=33,slow=40									
FFC	**Flin Flon**	**75.02**	**32**⇑	*e*P		**P**		**23 29 59.9**	**+1.7**
AKASG	**Malin Array Be**	**75.11**	**322**	P		**P**		**23 29 58.0**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=49,slow=6.2,SNR=7.0									
AKASG				LR		LR		00 05 15.0		
	comp=Z,66nm,18.3s,baz=215,slow=37									
AKASG	**Malin Array Be**	**75.11**	**322**	*ce*P		**P**		**23 29 59.0**	**+0.2**
AKASG				pmax	pmax					
	comp=Z,1.0nm,0.6s									
HFS	**Hagfors**	**75.13**	**336**	P		**P**		**23 29 57.7**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=48,slow=6.4,SNR=4.6									
NB2	**NORSAR Subarra**	**75.25**	**337**	P		**P**		**23 29 59.4**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=39,slow=5.9									
NOA	**NORSAR Array B**	**75.25**	**337**	P		**P**		**23 29 59.3**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=39,slow=5.8,SNR=5.6									
NVAR	**Mina Array Bea**	**76.08**	**53**	P		**P**		**23 30 04.4**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=279,slow=6.0,SNR=3.0									
PDAR	**Pinedale Array**	**78.86**	**45**	P		**P**		**23 30 20.0**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=306,slow=0.7,SNR=5.3									
BRTR	**Keskin Array B**	**79.44**	**311**	P		**P**		**23 30 23.9**	**+0.4**
	comp=Z,2.1nm,1.1s,baz=72,slow=4.0,SNR=4.4									
BRTR	**Keskin Array B**	**79.44**	**311**	P		**P**		**23 30 24.0**	**+0.4**
STHS	**Stebnicka Huta**	**79.81**	**325**	*e*P		P		23 30 30.6	+5.4
STHS	**Stebnicka Huta**	**79.81**	**325**	*e*		P		23 30 30.6	+5.4
BR231	**Keskin MP Arra**	**79.89**	**312**	*e*P		**P**		**23 30 24.9**	**-1.0**
RAYN	**Ar Rayn**	**80.80**	**292**	P		**P**		**23 30 31.0**	**-0.1**
RAYN	**Ar Rayn**	**80.80**	**292**	*e*P		**P**		**23 30 30.9**	**-0.1**
	comp=Z,4.6nm,0.9s									
VYHS	**Vyhne**	**81.59**	**325**	*e*P		**P**		**23 30 38.6**	**+3.9**
VYHS	**Vyhne**	**81.59**	**325**	*e*P		**P**		**23 30 38.6**	**+3.9**
BRG	**Berggiesshubel**	**81.99**	**329**	*e*P		**P**		**23 30 39.2**	**+2.5**
	comp=Z,3.7nm,1.1s									
BRG	**Berggiesshubel**	**81.99**	**329**	*e*P		**P**		**23 30 39.2**	**+2.5**
BRG				pmax	pmax					
	comp=Z,4.0nm,1.1s									
CLL	**Collm**	**82.05**	**330**	*e*P		**P**		**23 30 37.0**	**0.0**
CLL	**Collm**	**82.05**	**330**	*e*P		**P**		**23 30 37.0**	**0.0**
CONA	**Conrad Observa**	**83.36**	**326**	*e*PcP		**P**		**23 30 45.6**	**+1.5**
	comp=Z,7.0nm,1.7s									
GERES	**GERESS Array B**	**83.63**	**328**	P		**P**		**23 30 45.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=46,slow=7.0,SNR=4.3									
ARSA	**Arzberg**	**84.02**	**326**	*e*PcP		**P**		**23 30 51.9**	**+4.4**
	comp=Z,2.4nm,1.0s									
MOA	**Molln**	**84.14**	**327**	*e*PcP		**P**		**23 30 48.5**	**+0.5**
	comp=Z,2.3nm,1.0s									
EKA	**Eskdalemuir Ar**	**84.24**	**340**	P		**P**		**23 30 47.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=37,slow=4.9,SNR=2.9									
EKA	**Eskdalemuir Ar**	**84.24**	**340**	P		**P**		**23 30 48.0**	**-0.3**
SOKA	**Soboth**	**84.67**	**326**	*e*PcP		**P**		**23 30 51.1**	**+0.3**
	comp=Z,4.3nm,1.0s									
MYKA	**Terra Mystica**	**85.34**	**327**	*e*P		**P**		**23 30 53.6**	**-0.6**
	comp=Z,3.0nm,0.8s									
ANMO	**Albuquerque**	**85.72**	**50**	*ce*P		**P**		**23 30 56.6**	**+0.2**
ANMO				pmax	pmax					
	comp=Z,5.0nm,2.5s									
ABTA	**Abfaltersbach**	**85.75**	**327**	*e*PcP		**P**		**23 30 57.5**	**+1.4**
	comp=Z,2.9nm,0.8s									
RETA	**Reutte**	**85.93**	**329**	*e*PcP		**P**		**23 30 57.4**	**+0.4**
	comp=Z,3.7nm,1.1s									
BFO	**Black Forest**	**86.26**	**331**	*ce*P		**P**		**23 30 59.6**	**+1.0**
FETA	**Feichten**	**86.31**	**328**	*e*PcP		**P**		**23 31 01.4**	**+2.4**
	comp=Z,2.1nm,0.9s									
DAVA	**Damuels**	**86.46**	**329**	*e*PcP		**P**		**23 30 59.5**	**-0.3**
	comp=Z,4.6nm,0.9s									
TX31	**Lajitas Ar. Si**	**91.22**	**52**	*e*P		**P**		**23 31 22.5**	**-0.1**
TXAR	**Lajitas Array**	**91.22**	**52**	P		**P**		**23 31 21.6**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=301,slow=10,SNR=5.0									
TXAR				LR		LR		00 08 23.5		
	comp=Z,196nm,20.2s,baz=0.0,slow=33									
TKL	**Tuckaleechee C**	**97.68**	**35**	LR		LR		00 20 22.1		
	comp=Z,67nm,19.4s,baz=156,slow=38									
LPAZ	**La Paz**	**147.67**	**61**	PKPbc		**PKPbc**		**23 38 03.2**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=21,slow=3.9,SNR=3.4									

*NEIC **16** 23:31:54.0±0.0, 33.˚61S×72.˚04W, h46km, mb4.7/21, ML4.5(GUC), After GUC.*
NEIC Felt [III] at Navidad, San Antonio, Santo Domingo, Valparaiso and Vina del Mar; [II] at Pelarco, Pichilemu, Quillota and Santiago. Also felt at San Bernardo.
*GUC **16** 23:31:54.5±0.6, 33.˚61S×72.˚04W, h46km±24km, ML4.5*
*ISCJB **16** 23:31:54.6±0.9, 33.˚53S±0.˚03×72.˚14W±0.˚04, h28km±6km, mb4.5/32, MS4.4/16, Error ellipse: s-maj=5.9km s-min=4.6km az=34.0*
*GCMT **16** 23:31:54.0±0.3, 33.˚45S×72.˚27W, h33km±1km, MW5.1/62, Moment Tensor Solution. s42,c45; s62,c78; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.57±.22; Mθθ0.55±.15; Mϕϕ-4.12±.15; Mrθ0.26±.17; Mϕθ0.12±.10; Mϕr-3.11±.20; Best double couple: M◎4.95400×10^16^ NP1:ϕs176.00000°, δ65.00000°, λ88.00000°. NP2: ϕs1.00000°, δ26.00000°, λ95.00000°. Principal axes: T 4.6800, Plg70.0000°, Azm82.0000°; N 0.5490, Plg2.0000°, Azm177.0000°; P -5.2280, Plg20.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SJA **16** 23:31:56.2±1.1, 33.˚48S×72.˚06W, h40km, ML4.4, MW4.6*
*IDC **16** 23:31:58.2±2.9, 33.˚50S×71.˚84W, h43km±25km, mb4.0/12, mb1 4.1/16, mb1mx4.0/34, mbtmp4.2/16, ML4.3/4, MS4.4/18, Ms1 4.4/18, ms1mx4.2/33, Error ellipse: s-maj=23.8km s-min=15.2km az=92.0*

ISC 16 23:31:53.9±1.3, 33.˚50S±0.˚04×72.˚01W±0.˚05, h15km±7km, n122, σ1§57/110, mb4.7/32, MS4.4/16, 1C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.89**	**180**	*e*P	**Pg**	**23 32 10.2**	**-0.9**
CHPI				*e*S	**Sg**	**23 32 21.8**	**-1.0**
ROC1	**El Roble**	**0.98**	**58**	*e*Pg	**Pn**	**23 32 13.5**	**+0.1**
ROC1	**El Roble**	**0.98**	**58**	*e*P	**Pn**	**23 32 14.7**	**+1.2**
ROC1				⇓*e*S	**Sn**	**23 32 29.1**	**+1.9**
ROCH	**El Roble**	**0.99**	**58**	⇓*i*P	**Pn**	**23 32 13.6**	**+0.1**
ROCH				*i* S	**Sn**	**23 32 31.4**	**+4.1**
ROCH				IAML		23 32 33.1	
	comp=N,14μm,0.4s						
PEL	**Peldehue**	**1.16**	**72**	⇓*i*P	**Pn**	**23 32 16.6**	**+0.9**
PEL				*i* S	**Sn**	**23 32 33.6**	**+2.2**
CLCH	**Cerro Calan**	**1.23**	**86**	⇓*i*P	**Pn**	**23 32 17.7**	**+1.0**
CLCH				*i* S	**Sn**	**23 32 34.5**	**+1.3**
CLCH				IAML		23 32 36.5	
	comp=E,16μm,0.8s						
FCH	**Farellones**	**1.45**	**84**	*e*P	**Pg**	**23 32 21.2**	**-0.6**
FCH				*i* S	**Sn**	**23 32 41.6**	**+2.8**
FCH				IAML		23 32 47.0	
	comp=N,14μm,0.3s						
GO05	**HualaæØ**	**1.51**	**178**	*e*Pn	**Pn**	**23 32 20.3**	**-0.2**
GO05	**HualaæØ**	**1.51**	**178**	⇓*e*P	**Pb**	**23 32 21.1**	**-0.5**
GO05				*e*S	**Sg**	**23 32 42.1**	**-0.4**
GO05	**HualaæØ**	**1.51**	**178**	*e*P	**Pn**	**23 32 20.1**	**-0.4**
GO05				*i* S	**Sn**	**23 32 38.0**	**-1.8**
GO05				IAML		23 32 46.9	
	comp=E,14μm,0.4s						
LMEL	**Las Melosas**	**1.54**	**103**	⇓*i*P	**Pb**	**23 32 21.8**	**-0.5**
LMEL				*i* S	**Sb**	**23 32 42.3**	**+0.6**
LMEL				IAML		23 32 48.3	
	comp=N,12μm,0.3s						
AUSP	**Uspallata**	**2.55**	**61**	*e*P	**Pb**	**23 32 38.5**	**-1.0**
ARCO	**CERRO ARCO**	**2.66**	**77**	⇓*e*P	**Pg**	**23 32 43.0**	**-2.0**
ARCO				IAML		23 32 49.0	
	comp=Z,2μm,0.4s						
COCH	**Cobquecura**	**2.70**	**194**	*e*P	**Pn**	**23 32 36.2**	**-0.6**
ASAL	**Salagasta**	**2.82**	**72**	*e*P	**Pb**	**23 32 45.3**	**+1.4**
RTLS	**Leoncito**	**2.85**	**54**	*e*P	**Pb**	**23 32 42.6**	**-2.1**
RTLS				IAML		23 32 51.0	
	comp=Z,907nm,0.3s						
AVIZ	**Vizcacheras**	**2.92**	**90**	*e*P	**Pb**	**23 32 43.6**	**-2.2**
CCHI	**Chillan**	**3.09**	**181**	⇓*e*P	**Pn**	**23 32 44.6**	**+2.3**
RFA	**San Rafael**	**3.20**	**114**	IAML		23 33 52.6	
	comp=Z,342nm,0.6s						
RTCV	**Cerro Valdivia**	**3.35**	**62**	*e*P	**Pn**	**23 32 49.5**	**+3.7**
SJA	**San Juan**	**3.52**	**57**	IAML		23 33 58.6	
	comp=Z,618nm,0.6s						
RTLL	**Cerro Villicun**	**3.69**	**55**	*e*P	**Pb**	**23 32 56.8**	**-2.0**
RTLL				IAML		23 33 56.1	
	comp=Z,598nm,0.5s						
CANA	**Caviahue**	**4.44**	**170**	*e*P	**Pn**	**23 33 05.2**	**+4.3**
CANA				IAML		23 34 25.4	
	comp=Z,355nm,0.7s						
LCO	**Las Campanas**	**4.61**	**14**	*e*Pn	**Pn**	**23 33 03.5**	**+0.1**
MRA	**San Martin**	**5.40**	**80**	IAML		23 34 49.5	
	comp=Z,228nm,0.5s						
APLL	**PUNTA DE LOS L**	**5.59**	**58**	IAML		23 34 39.6	
	comp=Z,99nm,0.7s						
VCA	**Vinchina**	**5.76**	**35**	IAML		23 35 03.9	
	comp=Z,352nm,0.5s						
PLCA	**Paso Flores**	**7.31**	**171**	P	**Pn**	**23 33 41.6**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=0.2,slow=13,SNR=30						
PLCA				Lg	Lg	23 35 34.2	
	comp=Z,1.1nm,0.3s,baz=274,slow=19,SNR=2.2						
PLCA				LR	LR	23 36 49.7	
	comp=Z,3μm,19.0s,baz=17,slow=40						
PLCA	**Paso Flores**	**7.31**	**171**	IAML		23 35 53.5	
	comp=Z,34nm,1.0s						
CYA	**Choya**	**7.34**	**48**	IAML		23 35 19.9	
	comp=Z,81nm,0.6s						
AHML	**Horco Molle**	**8.84**	**43**	IAML		23 36 16.5	
	comp=Z,30nm,0.6s						
FSA	**Cafayete**	**9.04**	**37**	IAML		23 34 16.1	
	comp=Z,19nm,0.4s						
TRQA	**Tornquist**	**9.33**	**122**	*e*Pn	**Pn**	**23 34 09.4**	**+1.5**
PB11	**IPOC Station P**	**13.85**	**9**	*e*Pn	**Pn**	**23 35 10.2**	**+0.4**
MNMC	**Minye Minye**	**14.47**	**9**	*e*Pn	**Pn**	**23 35 19.2**	**+0.7**
CPUP	**Villa Florida**	**14.59**	**65**	P	**Pn**	**23 35 20.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=4.5						
CPUP				S	**Sn**	**23 37 54.9**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=127,slow=20,SNR=1.9						
CPUP				Lg	Lg	23 39 12.9	
	comp=Z,0.3nm,0.3s,baz=336,slow=16,SNR=3.3						
CPUP				LR	LR	23 41 22.8	
	comp=Z,3μm,19.5s,baz=242,slow=39						
CPUP	**Villa Florida**	**14.59**	**65**	*e*Pn	**Pn**	**23 35 19.8**	**-0.1**
CPUP				S	**Sn**	**23 37 54.9**	**-6.5**
LPAZ	**La Paz**	**17.49**	**12**	P	**Pn**	**23 35 58.7**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=167,slow=7.4,SNR=17						
LPAZ	**La Paz**	**17.49**	**12**	*e*Pn	**Pn**	**23 35 58.7**	**+0.7**
	comp=Z,15nm,0.9s						
SIV	**San Ignacio**	**20.04**	**32**	P	**P**	**23 36 25.8**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=226,slow=12,SNR=18						
SIV				S	Sn	23 40 17.7	+4.2
	comp=Z,0.1nm,0.3s,baz=297,slow=18,SNR=2.1						
EFI	**East Falkland**	**20.80**	**155**	*e*P	**P**	**23 36 35.0**	**+0.6**
	comp=Z,192nm,1.6s						
SPB	**Sao Paulo**	**23.69**	**72**	*e*P	**P**	**23 37 05.3**	**+0.1**
	comp=Z,39nm,0.9s						
SAML	**Samuel**	**25.75**	**20**	*e*P	**P**	**23 37 24.5**	**+0.4**
	comp=Z,13nm,0.8s						
RPN	**Rapa Nui**	**32.72**	**271**	LR	LR	23 48 01.7	
	comp=Z,1μm,19.2s,baz=100,slow=29						
PTGA	**Pitinga**	**34.51**	**22**	LR	LR	23 55 20.5	
	comp=Z,714nm,18.6s,baz=197,slow=41						
PTGA	**Pitinga**	**34.51**	**22**	*e*P	**P**	**23 38 41.3**	**-0.3**
	comp=Z,14nm,0.9s						
ROSC	**El Rosal**	**38.20**	**356**	LR	LR	23 55 03.3	
	comp=Z,187nm,21.6s,baz=220,slow=36						
RUSC	**La Rusia**	**39.19**	**358**	*e*P	**P**	**23 39 23.3**	**+1.3**
	comp=Z,12nm,1.3s						
HELC	**Santa Helena**	**39.62**	**355**	*e*P	**P**	**23 39 26.7**	**+1.2**
	comp=Z,10nm,0.7s						
SDV	**Santo Domingo**	**42.17**	**2**	P	**P**	**23 39 47.7**	**+1.4**
	comp=Z,1.9nm,0.4s,baz=180,slow=20,SNR=4.5						
SNAA	**Sanae**	**52.04**	**158**	LR	LR	00 02 11.4	
	comp=Z,250nm,19.4s,baz=292,slow=35						
SNAA	**Sanae**	**52.04**	**158**	*e*P	**P**	**23 41 03.2**	**+0.7**
	comp=Z,50nm,1.6s						
RKT	**Rikitea**	**55.66**	**263**	*e*S	**S**	**23 49 14.9**	**-0.6**
	comp=Z,190nm,29.8s						
RKT				*e*LR	LR	23 57 44.4	
	comp=Z,332nm,27.5s,baz=130						
RKT	**Rikitea**	**55.66**	**263**	*e*T	T	00 41 32.1	
	comp=Z,1.3nm,0.2s						
QSPA	**South Pole Qui**	**56.73**	**180**	P	**P**	**23 41 37.6**	**+0.7**
	comp=Z,7.9nm,1.1s,baz=150,slow=5.2,SNR=6.9						
QSPA				LR	LR	00 04 56.4	
	comp=Z,143nm,18.9s,baz=172,slow=35						
VNDA	**Vanda**	**64.59**	**191**	P	**P**	**23 42 32.4**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=107,slow=11,SNR=2.4						
VNDA				LR	LR	00 08 39.0	
	comp=Z,90nm,18.4s,baz=137,slow=34						
SYO	**Syowa Base**	**66.32**	**159**	⇑*e*P	P	23 42 31.8	-10
TAOE	**Nuku Hiva Isla**	**66.95**	**275**	*e*S	**S**	**23 51 37.3**	**-2.2**
	comp=Z,185nm,26.6s						
TAOE	**Nuku Hiva Isla**	**66.95**	**275**	*e*LR	LR	00 02 59.6	
	comp=Z,359nm,22.3s						
TBI	**Tubuai**	**67.46**	**256**	*e*S	**S**	**23 51 44.0**	**-1.2**
	comp=Z,461nm,30.0s						
TBI	**Tubuai**	**67.46**	**256**	*e*LR	LR	00 03 08.5	
	comp=Z,756nm,26.5s,baz=115						
TBI	**Tubuai**	**67.46**	**256**	*e*T	T	00 56 16.7	
	comp=Z,6.3nm,0.2s						
LPIG	**La Paz**	**67.91**	**322**	LR	LR	00 07 13.6	
	comp=Z,78nm,19.0s,baz=42,slow=31						
BG3	**Lake Jocassee**	**68.90**	**350**	*e*P	**P**	**23 42 58.5**	**+0.5**
	comp=Z,7.6nm,1.2s						
TXAR	**Lajitas Array**	**69.31**	**331**	P	**P**	**23 43 01.4**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=153,slow=7.9,SNR=7.0						
TX31	**Lajitas Ar. Si**	**69.31**	**331**	*e*P	**P**	**23 43 01.6**	**+0.8**
PLAL	**Pickwick Lake**	**69.77**	**346**	*e*P	**P**	**23 43 03.2**	**-0.1**
	comp=Z,3.9nm,0.7s						
PPT2	**Papeete2**	**70.33**	**262**	*e*S	**S**	**23 52 18.9**	**-0.7**
	comp=Z,194nm,24.5s						
PPT2	**Papeete2**	**70.33**	**262**	*e*LR	LR	00 04 29.7	
	comp=Z,409nm,28.0s,baz=100						
PPT	**Papeete**	**70.34**	**262**	LR	LR	00 06 28.0	
	comp=Z,213nm,21.2s,baz=166,slow=29						
WVT	**Waverly**	**70.83**	**346**	*e*P	**P**	**23 43 09.8**	**0.0**
	comp=Z,15nm,0.9s						
BBTS	**Babate**	**71.33**	**57**	LR	LR	00 14 38.3	
	comp=Z,467nm,18.3s,baz=224,slow=36						
SPRD	**Spring Road, M**	**71.37**	**355**	*e*P	**P**	**23 43 13.9**	**+0.9**
	comp=Z,16nm,1.4s						
MNTX	**Cornudas Mount**	**72.09**	**330**	*e*P	**P**	**23 43 19.4**	**+1.8**
	comp=Z,4.8nm,1.4s						
HHAR	**Hobbs**	**72.39**	**342**	*e*P	**P**	**23 43 19.6**	**+0.4**
	comp=Z,24nm,1.8s						
MSTX	**Muleshoe**	**73.07**	**334**	*e*P	**P**	**23 43 21.8**	**-1.8**
	comp=Z,3.2nm,0.5s						
FVM	**French Village**	**73.16**	**345**	*e*P	**P**	**23 43 24.1**	**+0.4**
	comp=Z,8.7nm,1.0s						
CCM	**Cathedral Cave**	**73.41**	**344**	*e*P	**P**	**23 43 25.3**	**0.0**
	comp=Z,9.6nm,0.5s						
MAW	**Mawson**	**73.65**	**164**	LR	LR	00 18 29.9	
	comp=Z,588nm,18.1s,baz=237,slow=38						
LIC	**Lamto**	**74.59**	**72**	*e*PKP1	**P**	**23 43 34.4**	**+1.6**
	comp=Z,63nm,1.3s						
TIC	**Toumodi**	**74.85**	**71**	*e*PKP1	**P**	**23 43 35.5**	**+1.2**
KIC	**Kosan Boka**	**74.90**	**72**	*e*PKP1	**P**	**23 43 34.2**	**-0.4**
	comp=Z,46nm,1.3s						
DBIC	**Dimbokro**	**75.00**	**71**	P	**P**	**23 43 34.8**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=225,slow=7.1,SNR=6.0						
DBIC				LR	LR	00 15 33.7	
	comp=Z,262nm,18.7s,baz=212,slow=35						
T25A	**Trinidad**	**76.50**	**334**	*e*P	**P**	**23 43 44.4**	**+1.0**
	comp=Z,11nm,1.1s						
RAR	**Rarotonga**	**76.82**	**253**	LR	LR	00 09 34.1	
	comp=Z,187nm,18.1s,baz=70,slow=29						
SMCO	**Snowmass**	**79.25**	**333**	*e*P	**P**	**23 43 59.1**	**+0.2**
ECSD	**EROS Data Cent**	**80.08**	**342**	*e*P	**P**	**23 44 03.3**	**+0.4**
	comp=Z,4.6nm,0.9s						
BOSA	**Boshof**	**80.28**	**118**	P	**P**	**23 44 04.4**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=181,slow=3.6,SNR=3.9						
BOSA				LR	LR	00 14 44.6	
	comp=Z,152nm,21.7s,baz=223,slow=32						
KOWA	**Kowa**	**80.41**	**66**	P	**P**	**23 44 05.2**	**0.0**
	comp=Z,3.5nm,0.6s,baz=216,slow=2.3,SNR=12						
KOWA	**Kowa**	**80.41**	**66**	*e*P	**P**	**23 44 05.5**	**+0.3**
	comp=Z,36nm,1.8s						
P18A	**Preston Nutter**	**80.92**	**331**	*e*P	**P**	**23 44 09.3**	**+1.5**
	comp=Z,3.3nm,0.8s						
LBTB	**Lobatse**	**82.49**	**115**	P	**P**	**23 44 14.9**	**-1.5**
	comp=Z,3.8nm,1.0s,baz=265,slow=7.2,SNR=4.9						
PDAR	**Pinedale Array**	**83.33**	**333**	P	**P**	**23 44 20.7**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=123,slow=5.5,SNR=4.5						
NVAR	**Mina Array Bea**	**83.49**	**325**	P	**P**	**23 44 22.4**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=151,slow=6.2,SNR=4.1						
HVU	**Hansel Valley**	**83.76**	**331**	*e*P	**P**	**23 44 23.6**	**+1.2**
LTZ	**Lake Taylor**	**83.98**	**222**	*e*P	**P**	**23 44 24.2**	**+0.5**
TOA0	**Torodi Ar. Sit**	**84.02**	**70**	*e*P	**P**	**23 44 24.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**84.02**	**70**	P	**P**	**23 44 23.7**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=262,slow=4.5,SNR=21						
TORD				LR	LR	00 19 00.5	
	comp=Z,215nm,21.6s,baz=235,slow=34						
RLMT	**Red Lodge**	**85.25**	**335**	*e*P	**P**	**23 44 30.6**	**+0.6**
YHH	**Holmes Hill**	**85.54**	**333**	*e*P	**P**	**23 44 32.4**	**+0.8**
ULM	**Lac du Bonnet**	**86.03**	**345**	P	**P**	**23 44 32.7**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=331,slow=1.6,SNR=4.7						
J08A	**Circle Bar Ran**	**87.48**	**328**	*e*P	**P**	**23 44 41.9**	**+1.0**
AFI	**Afiamalu**	**90.37**	**253**	LR	LR	00 16 49.4	
	comp=Z,249nm,18.2s,baz=102,slow=30						
ESDC	**Sonseca Array**	**96.21**	**46**	LR	LR	00 27 46

λ-83.00000°.
*JMA **16** 23:38:58.5±0.2, 35.71N×140.96E, h12km±1km, M3.7*
JMA Felt II J1.
*IDC **16** 23:39:03.5±3.1, 35.62N×140.61E, h56km±26km, mb3.2/6, mb1 3.3/8, mb1mx3.1/62, mbtmp3.4/8, ML3.2/2, Error ellipse: s-maj=32.6km s-min=8.4km az=66.0*

ISC 16 23:38:58.1±0.9, 35.70N±0.04×140.74E±0.08, h13km±7km, n23, σ0 79/22, mb3.4/6, 5C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**87**	⇑P		**Pg**		**23 39 01.1**	**+0.1**
CHOJ				S		**Sg**		**23 39 03.0**	**0.0**
JCN	**Nagara**	**0.52**	**238**	⇑P		**Pn**		**23 39 12.7**	**+1.4**
KTR	**Katsuura**	**0.65**	**213**	P		**Pn**		**23 39 13.5**	**+0.4**
JYT	**Yasato**	**0.69**	**320**	⇑P		**Pn**		**23 39 13.7**	**0.0**
JYT				S		**Sn**		**23 39 24.5**	**+0.2**
BSO4	**Boso 4**	**0.78**	**205**	P		**Pn**		**23 39 15.8**	**+1.0**
BSO3	**Boso 3**	**0.91**	**192**	⇑P		**Pn**		**23 39 16.9**	**+0.4**
JHO	**Hitachi**	**0.92**	**351**	⇑P		**Pb**		**23 39 16.0**	**0.0**
BSO1	**Boso 1**	**1.06**	**169**	P		**Pb**		**23 39 17.0**	**-1.0**
MJAR	**Matsushiro Arr**	**2.22**	**293**	P		**Pb**		**23 39 37.2**	**-0.9**
	4.3nm,0.3s,baz=98,slow=8.1,SNR=23								
MJAR				S		**Sn**		**23 40 02.3**	**+0.3**
	5.0nm,0.3s,baz=128,slow=16,SNR=9.4								
MAT	**Matsushiro**	**2.22**	**293**	P		**Pb**		**23 39 37.4**	**-0.8**
MAT				S		**Sn**		**23 40 02.4**	**+0.3**
JHJ	**Hachijo jima 2**	**2.69**	**197**	P		**Pn**		**23 39 42.9**	**+1.7**
	16nm,0.3s,baz=61,slow=13,SNR=3.6								
JHJ				S		**Sn**		**23 40 13.5**	**-0.2**
	13nm,0.3s,baz=75,slow=20,SNR=2.4								
H11N2	**WAKE ISLAND Hy**	**27.97**	**118**	T		T		00 13 48.8	
	baz=310,slow=75,SNR=36								
H11N1	**WAKE ISLAND Hy**	**27.98**	**118**	T		T		00 13 47.7	
	baz=310,slow=75,SNR=35								
H11N3	**WAKE ISLAND Hy**	**27.99**	**118**	T		T		00 13 50.2	
	baz=310,slow=75,SNR=31								
SONM	**Songino Array**	**28.11**	**306**	P		**P**		**23 44 50.3**	**+0.5**
	0.2nm,0.6s,baz=116,slow=9.9,SNR=2.3								
H11S1	**WAKE ISLAND Hy**	**28.63**	**120**	T		T		00 14 38.6	
	baz=312,slow=75,SNR=149								
H11S3	**WAKE ISLAND Hy**	**28.63**	**120**	T		T		00 14 38.5	
	baz=312,slow=75,SNR=193								
H11S2	**WAKE ISLAND Hy**	**28.64**	**120**	T		T		00 14 39.8	
	baz=312,slow=75,SNR=104								
ZALV	**Zalesovo Beam**	**42.43**	**313**	P		**P**		**23 46 51.5**	**-0.9**
	0.2nm,0.3s,baz=106,slow=9.2,SNR=2.6								
MKAR	**Makanchi Array**	**44.38**	**303**	P		**P**		**23 47 07.7**	**-0.6**
	0.3nm,0.8s,baz=90,slow=5.8,SNR=3.7								
KURBB	**Kurchatov Arra**	**46.41**	**309**	P		**P**		**23 47 23.8**	**-0.5**
	0.4nm,0.6s,baz=78,slow=7.6,SNR=4.8								
ILAR	**Eielson Array**	**50.91**	**32**	P		**P**		**23 47 59.3**	**+0.5**
	0.4nm,0.8s,baz=265,slow=6.2,SNR=4.0								
WRA	**Warramunga Arr**	**55.67**	**187**	P		**P**		**23 48 33.5**	**-0.6**
	0.9nm,0.7s,baz=3.9,slow=7.5,SNR=5.8								

JMA 16 23:40:05.8, 35.19N×137.23E, h42km, M2.7, 2D Broadband fault plane solution: P waves. NP1: φs3.00000°, δ57.00000°, λ-110.00000°. **NP2:** φs217.00000°, δ38.00000°, λ-62.00000°. **Principal axes:** T Plg10.0000°, Azm107.0000°; N Plg17.0000°, Azm14.0000°; P Plg70.0000°, Azm227.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.08**	**17**	⇓P		Pn	23 40 12.6	-0.1
JAO				S		Sn	23 40 17.7	+0.2
SHZ3	**Shizuoka 3**	**0.81**	**98**	P		Pn	23 40 20.5	-0.4
SHZ3				S		Sn	23 40 31.6	-0.2
TSUJ	**Tsu 2**	**0.82**	**234**	P		Pn	23 40 21.3	+0.4
TSUJ				S		Sn	23 40 32.6	+0.7
JIE	**Ise**	**0.91**	**209**	⇓P		Pn	23 40 22.3	+0.2
JIE				S		Sn	23 40 34.3	+0.3
MAT	**Matsushiro**	**1.57**	**30**	P		Pn	23 40 33.7	+2.5
MAT				S		Sn	23 40 52.4	+2.2

*GUC **17** 00:05:12.7±0.5, 33.53S×72.05W, h25km±10km, ML3.3*
*SJA **17** 00:05:12.9±1.3, 33.21S×72.25W, h6km±11km, ML3.3, MW3.2*

ISC 17 00:05:11.8±2.1, 33.44S±0.06×72.15W±0.08, h1km±13km, n23, σ2 34/29, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.96**	**173**	*e*P		Pg		00 05 29.3	-0.9
CHPI				*e*S		Sg		00 05 41.4	-1.3
ROCH	**El Roble**	**1.06**	**64**	*e*P		**Pg**		**00 05 32.6**	**+0.5**
ROCH				*e*S		**Sg**		**00 05 47.4**	**+1.5**
ROCH				IAML				00 05 48.8	
	comp=N,1μm,0.4s								
PEL	**Peldehue**	**1.26**	**77**	*e*P		**Pn**		**00 05 35.2**	**-1.3**
PEL				*e*S		**Sg**		**00 05 52.0**	**-0.3**
CLCH	**Cerro Calan**	**1.35**	**89**	*e*P		**Pn**		**00 05 36.4**	**-1.4**
CLCH				*e*S		**Sb**		**00 05 54.0**	**-1.8**
CLCH				IAML				00 05 57.8	
	comp=N,1μm,0.7s								
FCH	**Farellones**	**1.56**	**87**	*e*P		**Pn**		**00 05 40.3**	**-0.6**
FCH				*e*S		**Sn**		**00 06 00.5**	**-1.5**
FCH				IAML				00 06 02.3	
	comp=N,1μm,0.3s								
GO05	**HualaæØ**	**1.58**	**173**	*e*P		Pn		00 05 39.3	-1.6
GO05				*e*S		**Sn**		**00 05 59.8**	**-2.2**
GO05				IAML				00 06 03.4	
	comp=E,428nm,0.4s								
LMEL	**Las Melosas**	**1.68**	**105**	*e*P		**Pn**		**00 05 40.9**	**-1.5**
LMEL				*e*S		**Sn**		**00 06 02.5**	**-2.1**
LMEL				IAML				00 06 06.5	
	comp=E,804nm,0.5s								
NICH	**Los Niches**	**1.74**	**154**	*e*S		**Sn**		**00 06 05.3**	**-0.6**
AUSP	**Uspallata**	**2.62**	**63**	*e*P		**Pb**		**00 05 59.8**	**0.0**
AUSP				*e*S		**Sb**		**00 06 33.3**	**+0.8**
ARCO	**CERRO ARCO**	**2.77**	**79**	*e*P		**Pb**		**00 06 01.8**	**-0.2**
ARCO				IAML				00 06 05.8	
	comp=Z,171nm,0.3s								
AAGR	**Agrelo**	**2.81**	**84**	*e*P		**Pb**		**00 06 02.6**	**-0.1**
RTLS	**Leoncito**	**2.91**	**57**	*e*P		**Pb**		**00 06 02.4**	**-2.2**
RTLS				*e*S		**Sg**		**00 06 45.5**	**+0.2**
RTLS				IAML				00 06 48.1	
ASAL	**Salagasta**	**2.91**	**74**	*e*P		**Pn**		**00 06 02.3**	**+3.0**
ASAL				*e*S		**Sb**		**00 06 39.8**	**-0.9**
AVIZ	**Vizcacheras**	**3.04**	**92**	*e*P		**Pn**		**00 06 04.8**	**+3.7**
CCHI	**Chillan**	**3.16**	**179**	⇓*e*S		**Sb**		**00 06 51.2**	**+3.4**
RFA	**San Rafael**	**3.33**	**115**	*e*P		Pn		00 06 10.9	+5.8
RFA				IAML				00 06 16.3	
	comp=Z,29nm,0.5s								
RTCV	**Cerro Valdivia**	**3.43**	**64**	*e*P		**Pn**		**00 06 09.2**	**+2.9**
RTLL	**Cerro Villicun**	**3.75**	**57**	*e*P		**Pn**		**00 06 09.4**	**-1.4**
RTLL				IAML				00 07 11.3	
	comp=Z,64nm,0.5s								
AMOG	**MOGNA**	**3.98**	**52**	*e*P		**Pn**		**00 06 13.0**	**-1.0**
AGUA	**GUANDACOL**	**5.03**	**39**	*e*P		**Pn**		**00 06 30.8**	**+2.4**
APLL	**PUNTA DE LOS L**	**5.66**	**59**	*e*P		**Pn**		**00 06 36.9**	**-0.1**
APLL				*e*S		**Sn**		**00 07 48.9**	**+6.2**
APLL				IAML				00 07 56.5	
	comp=Z,9.2nm,0.6s								
VCA	**Vinchina**	**5.78**	**37**	*e*S		**Pb**		**00 06 49.4**	**-4.1**
VCA				IAML				00 08 09.3	
	comp=Z,21nm,0.5s								
CYA	**Choya**	**7.38**	**49**	IAML				00 07 13.3	
	comp=Z,4.4nm,0.5s								

JMA 17 00:13:00.0±0.2, 40.80N×145.28E, h67km±4km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.01**	**308**	P			Pn	00 13 32.4	+0.8
JEM				*e*S			Sn	00 13 54.4	-1.3
JAK	**Akkeshi**	**2.24**	**349**	P			Pn	00 13 35.5	+0.8
JAK				*e*S			Sn	00 14 01.3	0.0
JCH	**Churui**	**2.31**	**322**	P			Pn	00 13 36.8	+1.0
JCH				*e*S			Sn	00 14 02.0	-1.1
JOB	**Onbets**	**2.36**	**333**	P			Pn	00 13 38.2	+1.7
JOB				*e*S			Sn	00 14 05.4	+1.0
JNBK	**Urakawa-nobuka**	**2.41**	**309**	P			Pn	00 13 38.7	+1.7
JNBK				S			Sn	00 14 06.3	+0.9
NEM2	**Nemuro 2**	**2.59**	**8**	P			Pn	00 13 40.9	+1.4
NEM2				*e*S			Sn	00 14 10.1	+0.3
JAR	**Ashorobuto**	**2.74**	**336**	P			Pn	00 13 42.2	+0.7
JAR				S			Sn	00 14 13.3	-0.2
JNK	**Nakash**	**2.81**	**352**	P			Pn	00 13 43.2	+0.6
JNK				S			Sn	00 14 13.9	-1.5
JANG	**Nango**	**2.90**	**263**	P			Pn	00 13 43.0	-0.8
JANG				*e*S			Sn	00 14 14.4	-3.1
JBT2	**Biratori 2**	**2.94**	**313**	*e*S			Sn	00 14 19.9	+1.4
JFR	**Furan**	**3.10**	**321**	*e*S			Sn	00 14 21.1	-1.2
JRA	**Rausu**	**3.14**	**358**	P			Pn	00 13 47.9	+0.9
JRA				*e*S			Sn	00 14 23.0	-0.2
JOT	**Ohata**	**3.25**	**282**	P			Pn	00 13 48.7	+0.2
JOT				*e*S			Sn	00 14 23.0	-3.0
JTKR	**Abashiri--Toko**	**3.33**	**343**	P			Pn	00 13 51.8	+2.2
JTKR				*e*S			Sn	00 14 29.4	+1.5
JOM	**Ohasama**	**3.33**	**248**	P			Pn	00 13 49.7	0.0
JOM				*e*S			Sn	00 14 25.1	-2.9
JKB	**Kayabe**	**3.38**	**290**	P			Pn	00 13 51.0	+0.7
JEW	**Eniwo**	**3.51**	**307**	P			Pn	00 13 54.3	+2.2
JEW				S			Sn	00 14 32.8	+0.3

*ISCJB **17** 00:56:29.2±0.3, 49.43N±0.02×14.04E±0.02, h0km, Error ellipse: s-maj=2.4km s-min=2.0km az=25.6*
*VIE **17** 00:56:29.8±0.5, 49.39N×14.10E, h10km, ML2.4/4, Error ellipse: s-maj=4.7km s-min=3.0km az=28.0*
*CSEM **17** 00:56:30.5±0.2, 49.40N×14.06E, h1km, ML2.6/8, Error ellipse: s-maj=2.9km s-min=2.5km az=33.0*
*PRU **17** 00:56:31.2, 49.39N×14.05E, h4km, Near Mirotice*
*BGR **17** 00:56:31.3±0.5, 49.42N×14.02E, h1km, ML1.9/10, Error ellipse: s-maj=4.4km s-min=2.2km az=73.0*
*IPEC **17** 00:56:31.8±0.1, 49.40N×14.01E, h21km, ML1.7/7, Error ellipse: s-maj=0.5km s-min=0.4km az=16.0*

ISC 17 00:56:30.6±0.7, 49.44N±0.02×14.06E±0.02, h0km, n53, σ0 63/89, 5C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHC	**Kasperske Hory**	**0.44**	**226**	⇑*e*P	G		**Pg**	**00 56 40.0**	**+1.1**
KHC				*e*SG			**Sg**	**00 56 44.9**	**+0.3**
	comp=Z,17nm,0.3s								
KHC	**Kasperske Hory**	**0.44**	**226**	Pg			**Pg**	**00 56 40.0**	**+1.1**
KHC				Sg			**Sg**	**00 56 44.9**	**+0.3**
	17nm,0.3s								
GEC2	**GERESS Array S**	**0.64**	**202**	*e*Pg			**Pg**	**00 56 43.6**	**+0.8**
GEC2				*e*Sg			**Sg**	**00 56 51.2**	**+0.2**
GEC2	**GERESS Array S**	**0.64**	**202**	Pg			**Pg**	**00 56 43.6**	**+0.8**
GEC2				Sg			**Sg**	**00 56 51.2**	**+0.2**
PRU	**Pruhonice**	**0.64**	**30**	⇑*e*PG			**Pb**	**00 56 44.9**	**+0.3**
PRU				*e*SG			**Sb**	**00 56 52.9**	**-1.1**
	comp=Z,11nm,0.2s								
PRU	**Pruhonice**	**0.64**	**30**	Pg			**Pb**	**00 56 44.9**	**+0.3**
PRU				Sg			**Sb**	**00 56 52.9**	**-1.1**
	11nm,0.2s								
GOPC	**GO Pecny, Ondr**	**0.67**	**45**	⇑*e*PG			**Pb**	**00 56 45.6**	**+0.4**
GOPC				*e*SG			**Sb**	**00 56 54.5**	**-0.6**
	comp=Z,11nm,0.1s								
GOPC	**GO Pecny, Ondr**	**0.67**	**45**	Pg			**Pb**	**00 56 45.6**	**+0.4**
GOPC				Sg			**Sb**	**00 56 54.5**	**-0.6**
	11nm,0.1s								
WET	**Wettzell**	**0.82**	**250**	*e*Pg			**Pg**	**00 56 46.7**	**+0.3**
WET				*e*Sg			**Sg**	**00 56 56.5**	**-0.5**
WET	**Wettzell**	**0.82**	**250**	Pg			**Pg**	**00 56 46.7**	**+0.3**
WET				Sg			**Sg**	**00 56 56.5**	**-0.5**
ROTZ	**Rotzenmuhle**	**1.25**	**286**	*e*Pg			**Pg**	**00 56 54.8**	**+0.3**
ROTZ				*e*Sg			**Sg**	**00 57 10.3**	**-0.3**
ROTZ	**Rotzenmuhle**	**1.25**	**286**	Pg			**Pg**	**00 56 54.8**	**+0.3**
ROTZ				Sg			**Sg**	**00 57 10.3**	**-0.3**
NKC	**Novy Kostel**	**1.31**	**308**	*e*Sg			**Sg**	**00 57 12.5**	**-0.2**
NKC	**Novy Kostel**	**1.31**	**308**	⇑*e*SG			**Sg**	**00 57 12.7**	**0.0**
	comp=Z,6.3nm,0.2s								
NKC	**Novy Kostel**	**1.31**	**308**	Sg			**Sg**	**00 57 12.7**	**0.0**
	6.3nm,0.2s								
MANZ	**Manzenberg**	**1.38**	**294**	*e*Pg			**Pg**	**00 56 57.1**	**+0.1**
MANZ				*e*Sg			**Sg**	**00 57 14.4**	**-0.4**
MANZ	**Manzenberg**	**1.38**	**294**	Pg			**Pg**	**00 56 57.1**	**+0.1**
MANZ				Sg			**Sg**	**00 57 14.4**	**-0.4**
ROHR	**Rohrbach**	**1.38**	**306**	*e*Pg			**Pb**	**00 56 57.6**	**+0.3**
ROHR				*e*Sg			**Sg**	**00 57 14.9**	**0.0**
ROHR	**Rohrbach**	**1.38**	**306**	Pg			**Pb**	**00 56 57.6**	**+0.3**
ROHR				Sg			**Sg**	**00 57 14.9**	**0.0**
WERN	**Wernitzgruen**	**1.38**	**309**	*e*Sg			**Sg**	**00 57 15.2**	**+0.3**
WERN	**Wernitzgruen**	**1.38**	**309**	Sg			**Sg**	**00 57 15.2**	**+0.3**
BRG	**Berggiesshubel**	**1.44**	**357**	PG			Pb	00 57 04.0	+5.7
BRG				SG			**Sn**	**00 57 18.1**	**+0.5**
	7.4nm,0.3s								
MULD	**Muldenberg**	**1.45**	**313**	*e*Sg			**Sb**	**00 57 17.5**	**+0.2**
MULD	**Muldenberg**	**1.45**	**313**	Sg			**Sb**	**00 57 17.5**	**+0.2**
WERD	**Werda**	**1.52**	**313**	*e*Sg			**Sg**	**00 57 19.2**	**-0.1**
WERD	**Werda**	**1.52**	**313**	Sg			**Sg**	**00 57 19.2**	**-0.1**
KRUC	**Moravsky**	**1.58**	**103**	*e*Pn			**Pn**	**00 56 58.9**	**-0.9**
KRUC				*e*Sn			**Sn**	**00 57 19.5**	**-1.4**
KRUC				*e*Sg			**Sg**	**00 57 21.8**	**+0.5**
	7.3nm,0.2s								
MOA	**Molln**	**1.59**	**175**	*e*Pg			**Pn**	**00 56 59.9**	**-0.2**
MOA				*e*Sg			**Sn**	**00 57 20.4**	**-1.0**
MOA	**Molln**	**1.59**	**175**	Pg			**Pn**	**00 56 59.9**	**-0.2**
MOA				Sg			**Sn**	**00 57 20.4**	**-1.0**
MOA	**Molln**	**1.59**	**175**	*e*Pg			**Pn**	**00 56 59.3**	**-0.8**
	0.7nm,0.1s								
MOA				*e*Sg			**Sn**	**00 57 20.1**	**-1.2**
	2.9nm,0.1s								
PLN	**Plauen**	**1.61**	**311**	*e*Sg			**Sb**	**00 57 22.3**	**+0.2**
PLN	**Plauen**	**1.61**	**311**	Sg			**Sb**	**00 57 22.3**	**+0.2**
SCHF	**Schoenfels**	**1.64**	**320**	*e*Pg			**Pg**	**00 57 02.7**	**+0.8**
SCHF				*e*Sg			**Sb**	**00 57 22.9**	**+0.1**
SCHF	**Schoenfels**	**1.64**	**320**	Pg			**Pg**	**00 57 02.7**	**+0.8**
SCHF				Sg			**Sb**	**00 57 22.9**	**+0.1**
UPC	**Upice**	**1.66**	**49**	⇑*e*SG			**Sg**	**00 57 24.4**	**+0.6**
UPC	**Upice**	**1.66**	**49**	Sg			**Sg**	**00 57 24.4**	**+0.6**
VRAC	**Vranov**	**1.66**	**93**	*e*Pn			**Pn**	**00 57 00.2**	**-0.8**
VRAC				*e*Sn			**Sn**	**00 57 21.7**	**-1.4**
VRAC				*e*Sg			**Sg**	**00 57 25.1**	**+1.1**
	7.8nm,0.2s								
DPC	**Dobruska-Polom**	**1.73**	**57**	*e*SG			**Sb**	**00 57 26.0**	**+0.5**
	comp=Z,5.1nm,0.3s								
DPC	**Dobruska-Polom**	**1.73**	**57**	Sg			**Sb**	**00 57 26.0**	**+0.5**
	5.1nm,0.3s								
MODW	**Modelwitz**	**1.82**	**327**	*e*Pg			**Pg**	**00 57 05.5**	**0.0**
MODW				*e*Sg			**Sg**	**00 57 29.4**	**+0.4**
MODW	**Modelwitz**	**1.82**	**327**	Pg			**Pg**	**00 57 05.5**	**0.0**
MODW				Sg			**Sg**	**00 57 29.4**	**+0.4**
GRA1	**Grafenberg Arr**	**1.86**	**279**	Pg			**Pb**	**00 57 05.6**	**+0.2**
GRA1				Sg			**Sb**	**00 57 29.0**	**-0.3**
GRF	**Grafenberg Arr**	**1.86**	**279**	*e*Pg			**Pb**	**00 57 05.6**	**+0.2**
GRF				*e*Sg			**Sb**	**00 57 29.0**	**-0.3**
RJOB	**Jochberg**	**1.90**	**207**	*e*Pg			**Pg**	**00 57 06.9**	**0.0**
RJOB				*e*Sg			**Sg**	**00 57 31.5**	**+0.1**
RJOB	**Jochberg**	**1.90**	**207**	Pg			**Pg**	**00 57 06.9**	**0.0**
RJOB				Sg			**Sg**	**00 57 31.5**	**+0.1**
CONA	**Conrad Observa**	**1.93**	**141**	Pg			**Pn**	**00 57 05.0**	**+0.3**
	0.1nm,0.1s								
CONA				Sg			**Sn**	**00 57 30.2**	**+0.6**
	1.2nm,0.1s								
CONA	**Conrad Observa**	**1.93**	**141**	*e*Pg			**Pn**	**00 57 05.0**	**+0.3**
	0.1nm,0.1s								
CONA				*e*Sg			**Sn**	**00 57 30.2**	**+0.6**
	1.2nm,0.1s								
MOX	**Moxa**	**1.98**	**308**	*e*Pg			**Pg**	**00 57 09.1**	**+0.5**
MOX				*e*Sg			**Sb**	**00 57 33.7**	**+0.9**
MOX	**Moxa**	**1.98**	**308**	Pg			**Pg**	**00 57 09.1**	**+0.5**
MOX				Sg			**Sb**	**00 57 33.7**	**+0.9**
CLL	**Collm**	**1.99**	**341**	*e*Sg			**Sg**	**00 57 35.1**	**+0.6**
CLL	**Collm**	**1.99**	**341**	*e*Pg			**Pg**	**00 57 09.0**	**+0.3**
CLL				*e*Sg			**Sb**	**00 57 34.0**	**+1.0**
CLL	**Collm**	**1.99**	**341**	Sg			**Sg**	**00 57 35.1**	**+0.6**
MORC	**Moravsky Berou**	**2.29**	**80**	*e*Sn			**Sn**	**00 57 36.4**	**-2.3**

*ISCJB **17** 01:06:55.5±2.0, 4.0N±0.3×63.4E±0.2, h10km, mb3.7/10, MS3.4/4, Error ellipse: s-maj=45.8km s-min=21.2km az=168.1*
*IDC **17** 01:06:55.4±2.1, 3.89N×63.36E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.5/67, mbtmp3.7/10, MS3.3/4, Ms1 3.4/4, ms1mx2.8/61, Error ellipse: s-maj=52.6km s-min=24.7km az=162.0*

ISC 17 01:06:57.2±2.1, 3.9N±0.4×63.4E±0.2, h10km, n17, σ0 92/11, mb3.8/10, MS3.3/4, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**12.72**	**143**	T			T	01 22 37.6	
	baz=323,slow=76,SNR=74								
H08N3	**Diego Garcia H**	**12.73**	**143**	T			T	01 22 38.5	
	baz=323,slow=76,SNR=76								
H08N1	**Diego Garcia H**	**12.74**	**143**	T			T	01 22 39.3	
	baz=323,slow=76,SNR=85								
CMAR	**Chiang Mai Arr**	**37.66**	**65**	P			**P**	**01 14 13.4**	**+0.5**
	0.6nm,0.3s,baz=257,slow=8.0,SNR=4.4								
CMAR				LR			LR	01 29 28.3	
	comp=Z,27nm,18.2s,baz=55,slow=36								
GNI	**Garni**	**39.79**	**338**	LR			LR	01 32 26.3	
	comp=Z,24nm,20.0s,baz=103,slow=38								
AAK	**Ala-Archa**	**39.80**	**13**	P			**P**	**01 14 31.7**	**+0.9**
	1.3nm,0.8s,baz=209,slow=13,SNR=4.5								
BRTR	**Keskin Array B**	**44.64**	**327**	P			**P**	**01 15 11.3**	**+1.0**
	0.8nm,0.8s,baz=142,slow=10,SNR=3.9								
MKAR	**Makanchi Array**	**45.74**	**18**	P			**P**	**01 15 18.3**	**-0.5**
	0.3nm,0.7s,baz=198,slow=7.6,SNR=3.9								
AKTO	**Aktyubinsk**	**46.56**	**355**	P			**P**	**01 15 24.7**	**-0.4**
	0.7nm,0.6s,baz=144,slow=8.7,SNR=2.6								
KURBB	**Kurchatov Arra**	**48.25**	**13**	P			**P**	**01 15 38.6**	**+0.3**
	0.4nm,0.3s,baz=209,slow=7.9,SNR=4.8								
BOSA	**Boshof**	**48.87**	**226**	LR			LR	01 34 46.3	
	comp=Z,38nm,18.4s,baz=146,slow=34								
ZALV	**Zalesovo Beam**	**52.86**	**16**	P			**P**	**01 16 12.0**	**-1.1**
	1.6nm,0.9s,baz=210,slow=8.6,SNR=7.2								
SONM	**Songino Array**	**57.20**	**33**	P			**P**	**01 16 44.8**	**+0.1**
	1.0nm,1.1s,baz=236,slow=6.8,SNR=4.0								
TORD	**Torodi Ar. Bea**	**61.54**	**283**	P			**P**	**01 17 16.0**	**+0.8**
	0.8nm,1.1s,baz=67,slow=4.8,SNR=2.9								
ESDC	**Sonseca Array**	**70.12**	**311**	P			**P**	**01 18 08.9**	**-1.3**
	0.9nm,0.7s,baz=83,slow=4.6,SNR=7.4								
GUMO	**Guam**	**80.84**	**77**	LR			LR	01 51 25.7	
	comp=Z,51nm,21.2s,baz=94,slow=33								
TXAR	**Lajitas Array**	**144.66**	**340**	PKP			**PKPab**	**01 26 32.8**	**-0.9**
	0.5nm,0.9s,baz=90,slow=2.5,SNR=4.3								

IDC 17 01:07:40.5±13.0, 16.39S×174.01W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/45, mbtmp3.6/3, Error ellipse: s-maj=418.4km s-min=61.3km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.05**	**258**	P			P	01 16 28.8	-1.0
	0.4nm,0.8s,baz=95,slow=8.3,SNR=3.4								
ASAR	**Alice Springs**	**49.25**	**253**	P			P	01 16 32.1	+0.7
	0.6nm,0.4s,baz=87,slow=8.1,SNR=11								
SONM	**Songino Array**	**95.18**	**318**	P			P	01 21 05.9	-0.2
	0.1nm,0.4s,baz=100,slow=6.3,SNR=3.0								

*NIED **17** 01:11:00, 40.80N×145.00E, h5km, Mw4.3 Best double couple: M0 2.88000×10^15 NP1:φs183.00000°, δ25.00000°, λ-85.00000°. NP2:φs358.00000°, δ65.00000°, λ-92.00000°.*
*IDC **17** 01:11:32.2±0.6, 40.83N×144.72E, h0km, mb4.0/22, mb1 4.1/26, mb1mx4.0/68, mbtmp4.0/26, ML3.0/4, MS3.5/11, Ms1 3.6/11, ms1mx3.1/62, Error ellipse: s-maj=15.2km s-min=14.3km az=127.0*
*JMA **17** 01:11:33.4±0.1, 40.84N×145.00E, h69km±3km, M4.1*
*NEIC **17** 01:11:35.4±2.4, 40.82N×144.68E, h17km±15km, mb4.5/26, Error ellipse: s-maj=6.8km s-min=5.0km az=135.0*

ISC 17 01:11:34.8±2.7, 40.88N±0.04×144.79E±0.04, h14km±16km, n113, σ1 9/48/123, mb4.4/52, MS3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.67**	**313**	*e*Pn			**Pn**	**01 12 03.2**	**-0.4**
ERM				*e*Sn			**Sn**	**01 12 23.1**	**-1.7**
JEM	**Erimo**	**1.67**	**313**	P			**Pn**	**01 12 03.1**	**-0.5**
JEM				S			**Sb**	**01 12 24.5**	**-1.7**
JCH	**Churui**	**2.04**	**329**	P			**Pn**	**01 12 07.8**	**-0.8**
JCH				*e*S			**Sn**	**01 12 31.7**	**-2.1**
JNBK	**Urakawa-nobuka**	**2.07**	**313**	P			**

178nm,1.4s
CHGN Chignik 39.40 47 *e*P P 01 19 05.3 +1.6
64nm,0.8s
ZAA0 Zalesovo Array 41.40 309 *e*P P 01 19 21.1 +0.8
4.2nm,1.1s
ZALV Zalesovo Beam 41.40 309 P P 01 19 19.6 -0.8
2.0nm,1.0s,baz=90,slow=7.4,SNR=5.4
ZALV Zalesovo Beam 41.40 309 *e*P P 01 19 20.4 +0.1
WMQ Urumqi 41.58 294 P P 01 19 24.5 +2.4
WMQ pP sP 01 19 35.5 +7.2
KDAK Kodiak Island 42.50 45 P P 01 19 28.3 -0.9
5.5nm,0.7s,baz=276,slow=10,SNR=3.1
TOLK Toolik Lake Re 43.84 29 *e*P P 01 19 42.1 +2.0
4.4nm,0.8s
MCK McKinley 43.97 36 *e*P P 01 19 44.1 +2.9
3.9nm,0.9s
MDM Murphy Dome 44.26 34 *e*P P 01 19 46.7 +3.2
10nm,1.3s
MK01 Makanchi Array 44.42 299 *e*P P 01 19 44.1 -0.8
MK31 Makanchi Array 44.42 299 *e*P P 01 19 45.5 +0.5
MKAR Makanchi Array 44.42 299 P P 01 19 44.5 -0.5
0.9nm,0.6s,baz=87,slow=9.9,SNR=19
MKAR LR LR 01 39 32.2
comp=Z,83nm,18.2s,baz=56,slow=38
MKAR Makanchi Array 44.42 299 *e*P P 01 19 45.5 +0.5
MAKZ Makanchi 44.62 300 *e*P P 01 19 46.9 +0.3
4.2nm,1.1s
HDA Harding Lake 44.83 35 *e*P P 01 19 48.2 +0.3
7.1nm,1.0s
IL1 Eielson Array 44.84 34 *e*P P 01 19 48.7 +0.7
ILAR Eielson Array 44.84 34 P P 01 19 49.1 +1.1
1.4nm,0.8s,baz=263,slow=5.1,SNR=14
ILB Eielson Array 44.84 34 *e*P P 01 19 50.5 +2.4
CMAR Chiang Mai Arr 45.05 254 P P 01 19 49.1 -1.2
0.4nm,0.3s,baz=42,slow=8.4,SNR=3.8
CMAR LR LR 01 40 19.1
comp=Z,26nm,18.2s,baz=225,slow=38
KURK Kurchatov 45.73 306 *e*P P 01 19 54.7 -0.6
14nm,1.4s
KURBB Kurchatov Arra 45.81 306 P P 01 19 55.9 0.0
3.8nm,0.6s,baz=77,slow=8.6,SNR=6.3
DOT Dot Lake 46.15 36 *e*P P 01 19 59.2 +0.8
4.1nm,0.7s
HYT Haines Junctio 49.65 39 *e*P P 01 20 27.7 +2.0
9.2nm,1.0s
INK Inuvik 49.76 29 P P 01 20 27.2 +1.0
1.2nm,0.5s,baz=312,slow=7.3,SNR=5.8
INK Inuvik 49.76 29 *e*P P 01 20 28.3 +2.1
14nm,1.8s
BVAR Borovoye Array 50.00 311 P P 01 20 28.6 +0.2
1.6nm,0.6s,baz=81,slow=8.9,SNR=8.1
BVAR LR LR 01 43 26.4
comp=Z,82nm,19.1s,baz=86,slow=38
BRVK Borovoye 50.05 311 *e*P P 01 20 29.1 +0.3
12nm,1.5s
PMG Port Moresby 50.08 177 *e*P P 01 20 28.5 -0.8
14nm,1.1s
KSH Kashi 51.31 292 *e*P P 01 20 42.4 +3.8
KSH pP sP 01 20 53.1 +8.3
KSH S S 01 27 58.3 +1.0
KSH sS sS 01 28 14.3 +10
KKAR Karatay Array 53.53 299 *e*P P 01 20 54.6 -0.3
2.1nm,0.8s
ARU Arti 55.26 318 *e*P P 01 21 07.8 +0.6
26nm,1.7s
ABKAR Akbulak array 57.51 309 *e*P P 01 21 23.7 +0.3
61nm,1.5s
AKTO Aktyubinsk 58.10 311 LR LR 01 48 15.4
comp=Z,56nm,18.7s,baz=79,slow=38
RES Resolute Bay 58.21 16 *e*P P 01 21 29.4 +1.5
4.1nm,1.0s
KBL Kabul 58.53 290 *e*P P 01 21 30.6 -0.4
5.2nm,1.2s
YKA Yellowknife Ar 59.16 32 P P 01 21 35.0 +0.4
0.6nm,0.7s,baz=300,slow=6.5,SNR=12
WRAB Tennant Creek 61.28 191 *e*P P 01 21 48.6 -0.9
8.9nm,0.9s
WRA Warramunga Arr 61.29 191 P P 01 21 48.5 -1.2
5.3nm,0.9s,baz=9.9,slow=7.4,SNR=12
GEYT Alibeck 64.29 299 LR LR 01 52 38.0
comp=Z,74nm,19.3s,baz=335,slow=38
ASAR Alice Springs 65.01 191 P P 01 22 14.0 -0.4
0.5nm,0.5s,baz=9.6,slow=4.1,SNR=4.9
ASAR Alice Springs 65.01 191 P P 01 22 14.0 -0.4
PALK Pallekele 65.75 258 LR LR 01 51 21.2
comp=Z,30nm,20.9s,baz=284,slow=36
FINES FINESS Array B 66.63 333 P P 01 22 24.0 -0.4
1.7nm,0.7s,baz=42,slow=7.8,SNR=13
AFI Afiamalu 67.73 134 P P 01 22 31.7 -0.3
41nm,0.9s,baz=174,slow=6.3,SNR=3.7
EGMT Eagleton 69.66 44 *e*P P 01 22 44.6 +0.8
2.3nm,0.8s
KIV Kislovodsk 70.36 311 *e*P P 01 22 48.5 +0.4
18nm,1.3s
KBZ Khabaz 70.38 311 P P 01 22 48.1 0.0
4.5nm,1.0s,baz=65,slow=3.4,SNR=4.4
NOA NORSAR Array B 71.63 338 P P 01 22 53.9 -1.6
1.1nm,0.8s,baz=38,slow=6.2,SNR=2.6
HFS Hagfors 71.64 337 P P 01 22 54.6 -0.9
1.2nm,0.7s,baz=34,slow=5.4,SNR=3.6
AKASG Malin Array Be 72.84 323 P P 01 23 01.8 -1.0
0.7nm,0.4s,baz=38,slow=6.5,SNR=7.4
PDAR Pinedale Array 73.11 48 P P 01 23 05.8 +0.8
0.3nm,0.5s,baz=290,slow=4.3,SNR=4.8
BUR08 Bucovina Ar. S 76.87 323 *e*P P 01 23 27.3 +0.9
BRTR Keskin Array B 78.23 313 P P 01 23 33.3 -0.8
1.7nm,1.0s,baz=74,slow=3.7,SNR=4.5
MORC Moravsky Berou 78.53 328 *e*P P 01 23 36.3 +0.8
4.4nm,0.5s
PSZ Piszkesteto 79.01 326 *e*P P 01 23 39.2 +1.0
8.3nm,1.3s
CLL Collm 79.03 332 *e*P P 01 23 38.0 -0.1
KHC Kasperske Hory 80.59 330 *e*P P 01 23 47.1 +0.4
2.9nm,1.4s
GERES GERESS Array B 80.78 330 P P 01 23 47.0 -0.8
0.2nm,0.3s,baz=7.6,slow=4.0,SNR=4.1
VTS Vitosha 81.58 321 *e*P P 01 23 53.5 +1.3
3.5nm,1.0s
TTG Podgorica 83.57 323 *e*P P 01 24 02.9 +0.5
11nm,1.2s
FUORN Ofenpass-Fuorn 83.92 330 *e*P P 01 24 05.5 +1.1
7.0nm,1.2s
TXAR Lajitas Array 85.72 55 P P 01 24 14.4 +0.8
0.8nm,0.9s,baz=284,slow=3.3,SNR=6.6
SDV Santo Domingo 120.70 42 *e*PKPdf **PKPdf** 01 30 27.1 +0.1
LPAZ La Paz 142.46 59 PKP **PKPdf** 01 31 09.3 +1.1
0.9nm,0.6s,baz=293,slow=0.0,SNR=4.1
SNAA Sanae 145.20 197 PKPbc **PKPbc** 01 31 08.8 -1.6
7.0nm,0.9s,baz=103,slow=1.9,SNR=12
SNAA Sanae 145.20 197 *e*PKPbc **PKPbc** 01 31 09.3 -1.1

MAN 17 01:14:34, 9.80N×126.51E, h38km, mb4.0, ML2.8, MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.20**	**227**	*e*P	Pn	01 14 55.5	+1.3
BUTP				*e*S	Sn	01 15 10.8	+1.5
TBP	**Tagbilaran**	**2.61**	**268**	*e*P	Pn	01 15 15.6	+2.0

*IDC **17** 01:30:33.6±0.5, 19.41N×64.65W, h0km, mb4.1/22, mb1 4.3/25, mb1mx4.1/56, mbtmp4.1/25, ML3.1/3, MS3.5/7, Ms1 3.5/7, ms1mx3.0/51, Error ellipse: s-maj=12.1km s-min=10.3km az=59.0*
*TRN **17** 01:30:36.1, 19.48N×64.65W, h22km, MD4.3*
*RSPR **17** 01:30:36.5, 19.56N×64.50W, h79km±10km, MD3.8/13*
*NEIC **17** 01:30:38.9±1.4, 19.41N×64.67W, h33km±11km, mb4.4/50, MD3.8(RSPR), MD4.3(TRN), Error ellipse: s-maj=5.1km s-min=3.3km az=215.0*
ISC 17 01:30:35.2±1.3, **19.43N**±0.04×**64.66W**±0.02, **h7**km±8km, **n263**, σ1.6**s64**/307, **mb4.3**/63, **MS3.6**/6, **15C-24D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.76**	**156**	*e*P	**Pn**	**01 30 53.4**	**+1.0**
ABV	**Anegada**	**0.76**	**156**	*e*P	**Pn**	**01 30 53.4**	**+1.0**
ABV				*e*S	**Sn**	**01 31 06.2**	**+2.0**
ABVI	**Anegada Island**	**0.76**	**156**	*e*P	**Pn**	**01 30 53.4**	**+1.0**
TBVI	**Tortola**	**1.01**	**178**	*e*P	**Pn**	**01 30 56.6**	**+0.8**
TBVI	**Tortola**	**1.01**	**178**	*e*P	**Pn**	**01 30 56.6**	**+0.8**
TBVI	**Tortola**	**1.01**	**178**	*e*P	**Pn**	**01 30 56.6**	**+0.8**
STVI	**Saint Thomas**	**1.11**	**194**	*e*P	**Pn**	**01 30 57.9**	**+0.7**
STVI	**Saint Thomas**	**1.11**	**194**	*e*P	**Pn**	**01 30 57.9**	**+0.7**
STVI				*e*S	**Sn**	**01 31 12.9**	**+0.2**
STVI	**Saint Thomas**	**1.11**	**194**	*e*P	**Pn**	**01 30 57.9**	**+0.7**
STVI				*e*S	**Sn**	**01 31 12.9**	**+0.2**
CUPR	**Culebra, Puert**	**1.26**	**208**	*e*P	**Pg**	**01 30 59.8**	**+0.4**
CUPR	**Culebra, Puert**	**1.26**	**208**	*e*P	**Pg**	**01 30 59.8**	**+0.4**
CUPR				*e*S	**Sn**	**01 31 19.0**	**+2.5**
MTP	**Monte Pirata**	**1.57**	**213**	*e*P	**Pb**	**01 31 05.2**	**+0.6**
MTP	**Monte Pirata**	**1.57**	**213**	*e*P	**Pb**	**01 31 05.2**	**+0.6**
MTP				*e*S	**Sg**	**01 31 27.4**	**+1.7**
MTP	**Monte Pirata**	**1.57**	**213**	*e*P	**Pb**	**01 31 05.2**	**+0.6**
MTP				*e*S	**Sg**	**01 31 27.4**	**+1.7**
CBYP	**Canovanas**	**1.61**	**225**	*e*P	**Pb**	**01 31 05.0**	**-0.4**
CBYP	**Canovanas**	**1.61**	**225**	*e*P	**Pb**	**01 31 05.0**	**-0.4**
CBYP	**Canovanas**	**1.61**	**225**	*e*P	**Pb**	**01 31 05.0**	**-0.4**
HUMP	**Col San Antoni**	**1.71**	**221**	*e*P	**Pb**	**01 31 06.8**	**-0.1**
HUMP				*e*S	**Sg**	**01 31 30.0**	**0.0**
HUMP	**Col San Antoni**	**1.71**	**221**	*e*P	**Pb**	**01 31 06.5**	**-0.4**
HUMP	**Col San Antoni**	**1.71**	**221**	*e*P	**Pb**	**01 31 06.5**	**-0.4**
HUMP				*e*S	**Sg**	**01 31 30.3**	**+0.3**
HUMP	**Col San Antoni**	**1.71**	**221**	*e*P	**Pb**	**01 31 06.5**	**-0.4**
HUMP				*e*S	**Sg**	**01 31 30.3**	**+0.3**
SJG	**San Juan**	**1.93**	**227**	Pn	**Pn**	**01 31 08.0**	**-0.4**
25nm,0.3s,baz=57,slow=10,SNR=48							
SJG				Sn	**Sb**	**01 31 34.3**	**-0.6**
34nm,0.3s,baz=6.7,slow=4.1,SNR=7.0							
SJG	**San Juan**	**1.93**	**227**	*e*Pn	**Pn**	**01 31 08.6**	**+0.2**
SJG				*e*Sn	**Sn**	**01 31 31.5**	**-1.4**
SJG	**San Juan**	**1.93**	**227**	*e*P	**Pn**	**01 31 07.4**	**-1.0**
EMPR	**Esperanza - Ma**	**2.01**	**242**	*e*P	**Pn**	**01 31 10.5**	**+1.0**
EMPR	**Esperanza - Ma**	**2.01**	**242**	*e*P	**Pn**	**01 31 10.5**	**+1.0**
EMPR				*e*S	**Sb**	**01 31 36.4**	**-0.8**
SMRT	**St. Maarten**	**2.04**	**132**	*e*Pn	**Pb**	**01 31 11.5**	**-1.1**
SMRT				*e*S	**Sb**	**01 31 37.3**	**-0.8**
SMRT	**St. Maarten**	**2.04**	**132**	*e*P	**Pb**	**01 31 11.5**	**-1.1**
SMRT				*e*S	**Sb**	**01 31 37.3**	**-0.8**
SABA	**Saba**	**2.25**	**143**	*e*Pn	**Pn**	**01 31 14.4**	**+1.5**
SABA				*e*S	**Sg**	**01 31 47.3**	**-0.2**
SABA	**Saba**	**2.25**	**143**	*e*P	**Pn**	**01 31 14.6**	**+1.7**
SABA				*e*S	**Sn**	**01 31 41.2**	**+0.2**
AOPR	**Arecibo Observ**	**2.25**	**242**	*e*P	**Pn**	**01 31 13.6**	**+0.6**
AOPR	**Arecibo Observ**	**2.25**	**242**	*e*P	**Pn**	**01 31 14.7**	**+1.7**
AOPR	**Arecibo Observ**	**2.25**	**242**	*e*P	**Pn**	**01 31 14.7**	**+1.7**
AOPR				*e*S	**Sb**	**01 31 44.3**	**-0.1**
AOPR	**Arecibo Observ**	**2.25**	**242**	*e*P	**Pn**	**01 31 13.6**	**+0.6**
AOPR				*e*S	**Sb**	**01 31 44.3**	**-0.1**
OBIP	**Obispado Ponce**	**2.30**	**233**	*e*P	**Pn**	**01 31 14.0**	**+0.4**
OBIP	**Obispado Ponce**	**2.30**	**233**	*e*P	**Pn**	**01 31 14.0**	**+0.4**
OBIP				*e*S	**Sn**	**01 31 43.9**	**+1.7**
OBIP	**Obispado Ponce**	**2.30**	**233**	*e*P	**Pn**	**01 31 14.0**	**+0.4**
OBIP				*e*S	**Sn**	**01 31 43.9**	**+1.7**
SEUS	**St. Eustatius**	**2.50**	**140**	*e*P	**Pn**	**01 31 18.6**	**+2.2**
SEUS				*e*S	**Sg**	**01 31 55.2**	**-0.4**
SEUS	**St. Eustatius**	**2.50**	**140**	*e*P	**Pn**	**01 31 18.6**	**+2.2**
SEUS				*e*S	**Sg**	**01 31 55.2**	**-0.4**
AGPR	**Aguadilla, PR**	**2.51**	**248**	*e*P	**Pn**	**01 31 16.9**	**+0.4**
AGPR	**Aguadilla, PR**	**2.51**	**248**	*e*P	**Pn**	**01 31 16.9**	**+0.4**
AGPR	**Aguadilla, PR**	**2.51**	**248**	*e*P	**Pn**	**01 31 16.9**	**+0.4**
AGP	**Aguadilla**	**2.56**	**247**	*e*Pn	**Pn**	**01 31 16.3**	**-0.8**
LSP	**Las Mesas**	**2.61**	**242**	*e*P	**Pn**	**01 31 19.6**	**+1.7**
LSP	**Las Mesas**	**2.61**	**242**	*e*P	**Pn**	**01 31 19.6**	**+1.7**
LSP	**Las Mesas**	**2.61**	**242**	*e*P	**Pn**	**01 31 19.6**	**+1.7**
MPR	**Mayaguez**	**2.64**	**243**	*e*Pn	**Pn**	**01 31 17.0**	**-1.2**
CRPR	**Cabo Rojo, PR**	**2.72**	**239**	*e*P	**Pn**	**01 31 20.3**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.72**	**239**	*e*P	**Pn**	**01 31 20.3**	**+1.0**
CRPR				*e*S	**Sn**	**01 31 54.3**	**+1.8**
CRPR	**Cabo Rojo, PR**	**2.72**	**239**	*e*P	**Pn**	**01 31 20.3**	**+1.0**
CRPR				*e*S	**Sn**	**01 31 54.3**	**+1.8**
NEV	**Hard Times**	**3.03**	**139**	*e*P	**Pn**	**01 31 26.3**	**+2.8**
NEV				*e*S	**Sb**	**01 32 03.7**	**-2.9**
NEV	**Hard Times**	**3.03**	**139**	*e*P	**Pn**	**01 31 26.3**	**+2.8**
NEV				*e*S	**Sn**	**01 31 58.6**	**-1.5**
ANWB	**Willy Bob**	**3.24**	**122**	*e*Pn	**Pn**	**01 31 26.3**	**-0.2**
ANWB				*e*Sn	**Sn**	**01 32 02.9**	**-2.6**
ANWB				*e*S	**Sb**	**01 32 11.6**	**-1.2**
ANWB	**Willy Bob**	**3.24**	**122**	*e*P	**Pn**	**01 31 28.6**	**+2.1**
ANWB				*e*S	**Sn**	**01 32 07.8**	**+2.3**
ANWB	**Willy Bob**	**3.24**	**122**	*e*	**Sg**	**01 32 24.2**	**+4.8**
IMPR	**Mona Island, P**	**3.38**	**247**	*e*P	**Pn**	**01 31 30.5**	**+2.1**
BPA	**Boggy Peak**	**3.57**	**131**	*e*P	**Pn**	**01 31 31.3**	**+0.3**
BPA				*e*S	**Sn**	**01 32 12.7**	**-0.9**
BPA	**Boggy Peak**	**3.57**	**131**	*e*P	**Pn**	**01 31 31.3**	**+0.3**
BPA				*e*S	**Sn**	**01 32 12.7**	**-0.9**
MLYT	**Lee's Yard**	**3.58**	**139**	*e*P	**Pn**	**01 31 33.3**	**+2.1**
MLYT				*e*S	**Sn**	**01 32 13.7**	**-0.1**
GDHS	**Morne Mazeau,**	**4.18**	**138**	*e*Pn	**Pn**	**01 31 40.6**	**+1.0**
GDHS				*e*S	**Sn**	**01 32 30.3**	**+1.6**
TBG	**Guadaloupe-3**	**4.58**	**141**	*e*P	**Pn**	**01 31 46.8**	**+1.9**
MGG	**Marie-Galante**	**4.73**	**137**	*e*P	**Pn**	**01 31 48.6**	**+1.5**
MGG				*e*S	**Sn**	**01 32 46.5**	**+4.3**
MGG	**Marie-Galante**	**4.73**	**137**	*e*P	**Pn**	**01 31 48.6**	**+1.5**
MDPO	**Dominica; Chan**	**4.91**	**141**	*e*P	**Pn**	**01 31 51.4**	**+2.0**
MDPO	**Dominica; Chan**	**4.91**	**141**	*e*S	**Sn**	**01 32 45.5**	**-1.1**
MDMP	**Dominica, Moor**	**4.92**	**140**	*e*P	**Pn**	**01 31 51.5**	**+1.9**
BBL	**Barber's Block**	**4.94**	**141**	*e*P	**Pn**	**01 31 51.5**	**+1.6**
BBL	**Barber's Block**	**4.94**	**141**	*e*P	**Pn**	**01 31 51.5**	**+1.6**
SDDR	**Presa de Saban**	**6.28**	**267**	*e*Pn	**Pn**	**01 32 09.3**	**+1.0**
SDDR				*e*Sn	**Sn**	**01 33 19.3**	**-1.1**
GRTK	**Grand Turk**	**6.41**	**290**	*e*Pn	**Pn**	**01 32 08.2**	**-1.9**
GRTK				*e*Sn	**Sn**	**01 33 15.5**	**-8.1**
PCRV	**Puerto La Cruz**	**9.20**	**180**	Pn	**Pn**	**01 32 48.9**	**+0.4**
0.6nm,0.3s,baz=335,slow=14,SNR=2.8							
PCRV				Sn	**Sn**	**01 34 35.2**	**+2.8**
0.4nm,0.3s,baz=334,slow=16,SNR=2.3							
SDV	**Santo Domingo**	**11.97**	**210**	Pn	**Pn**	**01 33 26.4**	**-0.2**
0.2nm,0.3s,baz=12,slow=9.3,SNR=1.8							
SDV				Sn	**Sn**	**01 35 41.3**	**+0.7**
0.2nm,0.3s,baz=135,slow=5.7,SNR=3.5							
SDV				LR	LR	01 38 52.3	
comp=Z,125nm,18.6s,baz=44,slow=42							
SDV	**Santo Domingo**	**11.97**	**210**	*e*Pn	**Pn**	**01 33 25.8**	**-0.9**
SDV				Sn	**Sn**	**01 35 41.3**	**+0.7**
SDV	**Santo Domingo**	**11.97**	**210**	*e*P	**Pn**	**01 33 29.7**	**+3.1**
BBSR	**BB Station**	**12.89**	**360**	*e*Pn	Pn	01 33 32.9	-5.9
18nm,0.6s							
BBSR				*e*Sn	Sn	01 35 48.9	-14
OCAC	**Ocana**	**13.94**	**218**	*e*P	**Pn**	**01 33 54.6**	**+1.2**
PAMC	**Pamplona, Colo**	**14.33**	**214**	*e*P	**P**	**01 34 03.9**	**-2.5**
MOTC	**Monteria, Cord**	**15.02**	**227**	*e*P	**Pn**	**01 34 10.3**	**+2.2**
ZARC	**Zaragoza, Cauc**	**15.45**	**221**	*e*P	**Pn**	**01 34 13.5**	**-0.3**
RUSC	**La Rusia**	**15.76**	**212**	*e*Pn	**Pn**	**01 34 17.7**	**-0.5**
21nm,1.0s							
RUSC	**La Rusia**	**15.76**	**212**	*e*P	**Pn**	**01 34 19.0**	**+0.8**
YOPC	**Yopal, Colombi**	**15.90**	**209**	*e*P	**P**	**01 34 26.9**	**+3.4**
PTBC	**PUERTO BERRIO,**	**15.96**	**218**	*e*P	**Pn**	**01 34 21.5**	**+1.0**
HELC	**Santa Helena**	**16.88**	**220**	*e*Pn	**Pn**	**01 34 33.2**	**+0.7**
160nm,1.7s							
HELC				*e*S	**S**	**01 37 52.0**	**+0.6**
HELC	**Santa Helena**	**16.88**	**220**	*e*P	**P**	**01 34 36.4**	**+1.8**
859A	**Kempfer Cattle**	**17.15**	**303**	P	**Pn**	**01 34 35.2**	**-0.3**
baz=117							
CHIC	**Chingaza**	**17.17**	**212**	*e*P	**Pn**	**01 34 36.2**	**+0.1**
ROSC	**El Rosal**	**17.29**	**214**	P	**Pn**	**01 34 36.8**	**-0.9**
2.3nm,0.3s,baz=43,slow=19,SNR=3.4							
ROSC				LR	LR	01 41 42.0	
comp=Z,120nm,21.4s,baz=357,slow=39							
ROSC	**El Rosal**	**17.29**	**214**	*e*Pn	**Pn**	**01 34 38.4**	**+0.7**
34nm,1.1s							
ROSC	**El Rosal**	**17.29**	**214**	*e*P	**Pn**	**01 34 35.0**	**-2.7**
GUYC	**Guyana, Colomb**	**17.57**	**218**	*e*P	**Pn**	**01 34 41.3**	**0.0**
858A	**St. Cloud**	**17.59**	**303**	P	**P**	**01 34 41.7**	**-0.3**
baz=116							
758A	**Lake Helen**	**17.80**	**305**	P	**Pn**	**01 34 43.4**	**-0.2**
baz=119							
RREF	**El Recreo**	**17.81**	**217**	*e*P	**P**	**01 34 50.1**	**+5.0**
BCIP	**Isla Barro Col**	**17.88**	**237**	*e*Pn	**Pn**	**01 34 44.8**	**+0.1**
658A	**Bunnell**	**18.07**	**307**	P	**P**	**01 34 48.8**	**+1.5**
baz=120							
PLMC	**San Jos˜ del**	**18.35**	**220**	*e*P	**Pn**	**01 34 49.5**	**-0.9**
757A	**Oxford**	**18.47**	**304**	P	**Pn**	**01 34 52.7**	**+0.9**
baz=117							
PRAC	**Prado**	**18.54**	**214**	*e*P	**P**	**01 34 51.1**	**-1.5**
42nm,1.6s							
657A	**Interlachen**	**18.61**	**306**	P	**Pn**	**01 34 55.4**	**+1.8**
baz=119							
557A	**Orange Park**	**18.72**	**308**	P	**Pn**	**01 34 56.8**	**+2.0**
baz=121							
656A	**Willston**	**19.03**	**305**	P	**Pn**	**01 35 01.0**	**+2.5**
baz=118							
357A	**Townsend**	**19.30**	**312**	P	**Pn**	**01 35 02.4**	**+0.7**
baz=124							
NHSC	**New Hope**	**19.44**	**318**	P	**Pn**	**01 35 08.6**	**+5.1**
baz=131							
NHSC	**New Hope**	**19.44**	**318**	*e*P	**P**	**01 35 01.9**	**-0.4**
34nm,0.7s							
655A	**Horseshoe Beac**	**19.65**	**304**	P	**Pn**	**01 35 09.8**	**+3.8**
baz=117							
555A	**McAlpin**	**19.71**	**306**	P	**Pn**	**01 35 10.5**	**+3.8**
baz=119							
MARP	**Paez Belalcaza**	**19.84**	**215**	*e*P	**P**	**01 35 07.4**	**+0.2**
455A	**Stateville**	**20.05**	**308**	P	**P**	**01 35 08.8**	**-0.3**
baz=120							
454A	**Quitman**	**20.50**	**307**	P	Pn	01 35 15.1	-0.9
baz=119							
PTGA	**Pitinga**	**20.56**	**167**	P	**P**	**01 35 13.2**	**-1.5**
3.3nm,0.7s,baz=335,slow=12,SNR=7.9							
SOTA	**Rioblanco**	**20.79**	**216**	*e*P	**P**	**01 35 17.9**	**+0.2**
TIGA	**Tifton**	**20.82**	**309**	*e*P	**P**	**01 35 17.6**	**+0.1**
55nm,0.8s							
JSC	**Jenkinsville**	**20.89**	**318**	*e*P	**P**	**01 35 18.4**	**+0.3**
15nm,1.0s							
353A	**Camilla**	**21.24**	**308**	P	**P**	**01 35 24.8**	**+2.9**
baz=120							
KMSC	**Kings Mountain**	**21.50**	**320**	*e*P	**P**	**01 35 23.8**	**-0.9**
6.9nm,0.9s							
KMSC				*e*S	**S**	**01 39 22.8**	**-0.7**
JTS	**JuntasAbangare**	**21.59**	**248**	P	**P**	**01 35 24.7**	**-1.2**
7.1nm,0.8s,baz=85,slow=10,SNR=3.3							
JTS	**JuntasAbangare**	**21.59**	**248**	*e*P	**P**	**01 35 26.2**	**+0.3**
25nm,1.1s							
IP05	**Hopewell Churc**	**21.59**	**331**	*e*P	**P**	**01 35 26.5**	**+0.8**
15nm,0.6s							
IP05				*e*S	**S**	**01 39 23.5**	**-1.7**
CBN	**Corbin Frederi**	**21.73**	**332**	*e*P	**P**	**01 35 27.1**	**0.0**
41nm,0.5s							
452A	**Marianna**	**21.74**	**306**	P	**P**	**01 35 29.2**	**+1.9**
baz=117							
IP01	**Cuckoo**	**21.77**	**331**	*e*P	**P**	**01 35 28.7**	**+1.2**
22nm,0.5s							
IP01				*e*S	**S**	**01 39 28.7**	**+0.1**
IP07	**Quail**	**21.79**	**330**	*e*P	**P**	**01 35 29.0**	**+1.2**
16nm,0.6s							
IP07				*e*S	**S**	**01 39 27.3**	**-1.8**
GOGA	**Godfrey**	**21.80**	**313**	P	**P**	**01 35 27.6**	**-0.3**
baz=125							
GOGA	**Godfrey**	**21.80**	**313**	*e*P	**P**	**01 35 27.2**	**-0.7**
9.4nm,1.0s							
GOGA				*e*S	**S**	**01 39 19.5**	**-10**
SPRD	**Spring Road, M**	**21.81**	**331**	*e*P	**P**	**01 35 29.1**	**+1.1**
11nm,0.7s							
252A	**Lumpkin**	**21.95**	**309**	P	**P**	**01 35 29.1**	**-0.4**
baz=120							
GCUF	**Volcan Galeras**	**21.95**	**216**	*e*P	**P**	**01 35 29.8**	**-0.4**
351A	**Pinckard**	**22.25**	**306**	P	**P**	**01 35 34.0**	**+1.2**
baz=117							
BG3	**Lake Jocassee**	**22.40**	**318**	*e*P	**P**	**01 35 35.4**	**+1.1**
31nm,0.8s							
BG3				*e*S	**S**	**01 39 43.4**	**+2.6**
BLA	**Blacksburg**	**22.44**	**325**	*e*P	**P**	**01 35 34.6**	**-0.2**
33nm,0.6s							
251A	**Midway**	**22.49**	**308**	P	**P**	**01 35 35.3**	**-0.1**
baz=119							
SDMD	**Soldier's Deli**	**22.52**	**335**	*e*P	**P**	**01 35 37.0**	**+1.4**
SDMD				*e*S	**S**	**01 39 44.0**	**+1.1**
151A	**Opelika**	**22.64**	**309**	P	**P**	**01 35 37.7**	**+0.7**
baz=120							
BRNJ	**Basking Ridge**	**22.82**	**340**	*e*P	**P**	**01 35 39.3**	**+0.5**
BRNJ				*e*S	**S**	**01 39 53.8**	**+5.5**
PAL	**Palisades**	**22.91**	**342**	*e*P	P	01 35 54.6	+15
PAL				*e*S	**S**	**01 39 55.4**	**+5.5**
TKL	**Tuckaleechee C**	**23.35**	**318**	P	**P**	**01 35 43.4**	**-0.9**
2.1nm,0.7s,baz=134,slow=11,SNR=4.6							
TKL				S	**S**	**01 40 00.1**	**+2.6**
3.4nm,0.7s,baz=225,slow=20,SNR=4.2							
OTAV	**Otavalo**	**23.38**	**217**	*e*P	**P**	**01 35 46.3**	**+1.1**
26nm,1.1s							
CPCT	**Cooper Cave**	**23.70**	**316**	*e*P	**P**	**01 35 46.7**	**-1.1**
HRV	**Adam Dziewonsk**	**23.73**	**347**	*e*P	**P**	**01 35 47.3**	**-0.7**
4.4nm,0.7s							
HRV				*e*S	**S**	**01 40 13.7**	**+10**
X50A	**Fort Payne**	**23.89**	**313**	P	**P**	**01 35 50.0**	**+0.3**
baz=124							
SSPA	**Standing Stone**	**23.98**	**335**	*e*P	P	01 36 08.4	+18
SSPA				*e*S	S	01 40 18.7	+11
LRAL	**Lakeview Retre**	**24.12**	**309**	P	**P**	**01 35 51.6**	**-0.2**
baz=119							
LRAL	**Lakeview Retre**	**24.12**	**309**	*e*P	**P**	**01 35 53.5**	**+1.7**
13nm,1.3s							
X49A	**Woodville**	**24.39**	**312**	P	**P**	**01 35 54.1**	**-0.1**
baz=123							
Z47A	**Carrollton**	**24.99**	**308**	P	**P**	**01 35 59.8**	**+0.1**
baz=118							
W48A	**Pulaski**	**25.14**	**313**	P	**P**	**01 36 01.1**	**+0.1**
baz=123							
V48A	**Smith Brothers**	**25.40**	**314**	P	**P**	**01 36 03.5**	**+0.1**
baz=124							
X47A	**Russelville**	**25.47**	**311**	P	**P**	**01 36 04.0**	**0.0

4.0nm,0.8s,baz=111,slow=9.3,SNR=31
TXAR PcP **PcP** **01 40 06.8 +0.7**
0.7nm,0.9s,baz=103,slow=5.6,SNR=4.0
TX31 Lajitas Ar. Si 36.72 293 *eP* **P** **01 37 43.7 +0.3**
C35A Jirik Farms, M 36.90 327 P **P** **01 37 44.5 -0.1**
baz=130
B34A Aery, Baudette 37.75 327 P **P** **01 37 51.4 -0.3**
baz=130
RCBR Riachuelo 37.84 129 P **P** **01 37 51.6 -1.3**
15nm,0.7s,baz=298,slow=7.2,SNR=2.4
AGMN Agassiz Nation 38.26 326 P **P** **01 37 55.6 -0.4**
baz=128
A33A Warroad 38.41 327 P **P** **01 37 57.1 -0.2**
baz=129
MNTX Cornudas Mount 38.50 297 *eP* **P** **01 37 58.4 0.0**
2.9nm,0.9s
T25A Trinidad 38.86 305 P **P** **01 38 00.6 -1.0**
baz=106
T25A Trinidad 38.86 305 *eP* **P** **01 38 02.0 +0.4**
2.6nm,0.8s
ULM Lac du Bonnet 39.49 328 P **P** **01 38 05.3 -1.0**
1.5nm,0.6s,baz=112,slow=8.9,SNR=7.0
SDCO Great Sand Dun 39.86 306 *eP* **P** **01 38 09.9 -0.1**
baz=106
SDCO Great Sand Dun 39.86 306 *eP* **P** **01 38 10.4 +0.4**
3.3nm,0.7s
BNM Barren Site 39.94 300 *eP* **P** **01 38 11.4 +0.8**
ANMO Albuquerque 39.95 302 P **P** **01 38 10.8 +0.1**
baz=102
ANMO Albuquerque 39.95 302 *eP* **P** **01 38 11.4 +0.8**
5.4nm,0.9s
LAZ Ladron 40.40 301 *eP* **P** **01 38 13.8 -0.6**
ISCO Idaho Springs 40.54 309 P **P** **01 38 15.3 -0.3**
baz=108
S22A 4UR Ranch, Cre 40.88 306 P **P** **01 38 17.9 -0.5**
baz=105
W18A Petrified Fore 42.63 301 P **P** **01 38 32.4 -0.2**
baz=100
TUC Tucson 43.13 297 P **P** **01 38 37.1 +0.5**
baz=96
TUC Tucson 43.13 297 *eP* **P** **01 38 36.5 -0.1**
3.3nm,0.9s
X16A Lo Mia Camp, P 43.92 300 *eP* **P** **01 38 44.4 +1.3**
2.1nm,0.8s
P18A Preston Nutter 43.93 307 *eP* **P** **01 38 43.8 +0.6**
2.9nm,0.8s
WUAZ Wupatki 44.02 301 P **P** **01 38 43.4 -0.4**
baz=99
WUAZ Wupatki 44.02 301 *eP* **P** **01 38 45.8 +2.0**
7.8nm,1.0s
PD31 Pinedale Array 44.27 312 *eP* **P** **01 38 46.0 +0.1**
PDAR Pinedale Array 44.27 312 P **P** **01 38 45.5 -0.3**
2.2nm,0.7s,baz=109,slow=8.5,SNR=22
PDAR PcP **PcP** **01 40 29.2 -1.1**
0.9nm,0.7s,baz=107,slow=6.2,SNR=5.1
Y14A Wickenburg 45.15 299 *eP* **P** **01 38 54.4 +1.6**
20nm,0.8s
HWUT Hardware Ranch 45.39 310 *eP* **P** **01 38 54.8 +0.1**
3.7nm,0.8s
MOOW Moose Ponds 45.39 313 *eP* **P** **01 38 55.1 +0.3**
2.2nm,0.8s
TPAW Teton Pass 45.46 312 *eP* **P** **01 38 55.1 -0.3**
12nm,1.7s
DUG Dugway, Tooele 45.98 307 P **P** **01 38 59.3 -0.1**
baz=102
DUG Dugway, Tooele 45.98 307 *eP* **P** **01 38 58.9 -0.5**
1.6nm,0.8s
YHB Horse Butte 46.00 314 *eP* **P** **01 39 01.9 +2.3**
4.9nm,0.8s
CPUP Villa Florida 46.04 171 P **P** **01 38 57.8 -1.9**
1.9nm,0.7s,baz=355,slow=9.3,SNR=6.5
QLMT Earthquake Lak 46.19 314 *eP* **P** **01 39 02.0 +1.0**
0.5nm,0.7s
BGU Big Grassy Mou 46.30 308 *eP* **P** **01 39 02.6 +0.7**
2.6nm,0.8s
HVU Hansel Valley 46.31 310 *eP* **P** **01 39 02.3 +0.3**
2.9nm,0.9s
BOZ Bozeman (W) 46.56 315 P **P** **01 39 03.5 -0.3**
baz=108
BOZ Bozeman (W) 46.56 315 *eP* **P** **01 39 03.5 -0.3**
1.1nm,0.8s
IRM Iron Mountain 46.94 299 P **P** **01 39 07.1 +0.2**
baz=95
GMRC Granite Mounta 47.42 300 P **P** **01 39 11.0 +0.3**
baz=95
HLID Hailey 47.91 312 P **P** **01 39 14.7 +0.3**
baz=104
HLID Hailey 47.91 312 *eP* **P** **01 39 14.7 +0.3**
1.7nm,0.8s
GSC Goldstone, Bar 48.40 300 P **P** **01 39 18.4 +0.2**
baz=95
GSC Goldstone, Bar 48.40 300 *eP* **P** **01 39 20.3 +2.0**
3.3nm,0.9s
SFJD Kangerlussuaq 48.40 7 LR LR 01 58 55.4
comp=Z,36nm,18.1s,baz=345,slow=35
MPMC Manual Prospec 49.02 301 P **P** **01 39 22.6 -0.5**
baz=95
DAC Darwin (Calif) 49.12 301 *eP* **P** **01 39 25.5 +1.6**
4.4nm,0.8s
EDW2 Edwards Air Fo 49.34 300 P **P** **01 39 26.2 +0.8**
baz=94
NV11 Mina Array Sit 49.78 304 *eP* **P** **01 39 30.4 +1.5**
0.4nm,0.9s
NV01 Mina Array Sit 49.90 304 *eP* **P** **01 39 30.5 +0.6**
NVAR Mina Array Bea 49.90 304 P **P** **01 39 30.1 +0.2**
1.6nm,0.8s,baz=95,slow=6.4,SNR=5.4
NEW Newport 50.93 317 P **P** **01 39 36.6 -0.7**
baz=106
NEW Newport 50.93 317 *eP* **P** **01 39 36.2 -1.1**
4.1nm,0.7s
YBH Yreka Blue Hor 53.62 308 P **P** **01 39 55.8 -1.7**
3.1nm,0.8s,baz=97,slow=8.1,SNR=5.2
YKA Yellowknife Ar 54.91 334 P **P** **01 40 05.1 -1.2**
1.7nm,0.8s,baz=110,slow=7.4,SNR=29
ESDC Sonseca Array 55.48 55 P **P** **01 40 11.3 +0.3**
0.3nm,0.6s,baz=265,slow=6.9,SNR=4.9
TRQA Tornquist 57.24 177 *eP* **P** **01 40 23.1 -0.1**
5.3nm,0.8s
KOWA Kowa 57.97 85 P **P** **01 40 28.9 0.0**
3.4nm,0.7s,baz=290,slow=8.6,SNR=12
EKA Eskdalemuir Ar 58.09 36 P **P** **01 40 28.1 -1.0**
0.3nm,0.4s,baz=270,slow=4.3,SNR=3.7
DBIC Dimbokro 59.36 94 P **P** **01 40 38.0 -0.7**
3.4nm,0.7s,baz=298,slow=5.6,SNR=5.4
PLCA Paso Flores 60.10 185 LR LR 02 11 45.4
comp=Z,54nm,18.6s,baz=210,slow=41
TOA0 Torodi Ar. Sit 63.68 85 *eP* **P** **01 41 08.0 +0.2**
TORD Torodi Ar. Bea 63.68 85 P **P** **01 41 07.9 +0.1**
1.8nm,0.8s,baz=288,slow=7.6,SNR=13
NOA NORSAR Array B 66.36 31 LR LR 02 08 58.0
comp=Z,34nm,18.4s,baz=335,slow=35
EGAK Eagle 66.84 333 *eP* **P** **01 41 26.9 -0.6**
HFS Hagfors 67.57 32 LR LR 02 09 25.9
comp=Z,62nm,18.5s,baz=298,slow=34
IL1 Eielson Array 69.30 333 *eP* **P** **01 41 41.5 -1.4**
ILAR Eielson Array 69.30 333 P **P** **01 41 42.0 -0.9**
1.7nm,0.6s,baz=101,slow=4.3,SNR=37
ILB Eielson Array 69.30 333 *eP* **P** **01 41 42.0 -0.9**
MDM Murphy Dome 69.86 333 *eP* **P** **01 41 46.2 -0.3**
ARCES ARCESS Array B 72.03 22 P **P** **01 41 59.0 -0.5**
7.2nm,1.0s,baz=303,slow=3.8,SNR=8.0
ARCES ARCESS Array B 72.03 22 P **P** **01 41 59.0 -0.5**
FINES FINESS Array B 73.49 30 P **P** **01 42 07.6 -0.8**
1.5nm,0.7s,baz=258,slow=5.6,SNR=5.6
BRTR Keskin Array B 83.95 50 P **P** **01 43 06.5 -0.1**
0.6nm,0.7s,baz=225,slow=5.1,SNR=3.9
NRIK Noril'sk 89.27 10 LR LR 02 22 26.4
comp=Z,466nm,21.2s,baz=245,slow=35
WRA Warramunga Arr 162.10 265 PKP **PKPdf** **01 50 36.2 -2.1**
1.5nm,0.8s,baz=68,slow=1.0,SNR=4.6
ASAR Alice Springs 162.22 253 PKPab **PKPab** **01 51 25.1 -0.3**
1.0nm,0.7s,baz=94,slow=5.0,SNR=5.3

*IDC **17** 01:35:57.0±0.9, 33.38S×72.38W, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/33, mbtmp3.8/7, ML3.8/2, MS3.8/10, Ms1 3.8/10, ms1mx3.4/36, Error ellipse: s-maj=43.9km s-min=23.1km az=85.0*
*NEIC **17** 01:35:59.5±3.5, 33.48S×72.37W, h21km±24km, mb4.0/3, ML3.9(GUC), Error ellipse: s-maj=23.1km s-min=8.9km az=86.0*
*SJA **17** 01:36:00.9±0.4, 33.71S×72.41W, h28km±21km, ML4.2, MW4.3*
*GUC **17** 01:36:01.1±0.4, 33.60S×72.05W, h50km±3km, ML3.9*
ISC 17 01:35:57.1±0.9, **33.46S**±0.03×**72.19W**±0.05, **h5**km±5km,
n48, σ1**964**/60, **mb4.1**/7, **MS3.8**/8, **6D**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.94**	**171**	*eP*		**Pg**	**01 36 15.9**	**+0.7**
CHPI				*eS*		**Sg**	**01 36 27.6**	**+0.2**
CHPI				IAML			01 36 30.6	
comp=N,5μm,0.7s								
PEL	**Peldehue**	**1.29**	**77**	*eP*		**Pb**	**01 36 22.8**	**+0.9**
CLCH	**Cerro Calan**	**1.38**	**88**	*eP*		**Pb**	**01 36 23.5**	**+0.1**
CLCH				*eS*		**Sg**	**01 36 40.5**	**-0.9**
CLCH				IAML			01 36 43.1	
comp=E,5μm,0.9s								
GO05	**HualaæØ**	**1.56**	**172**	*eP*		**Pn**	**01 36 25.9**	**+0.3**
GO05				⇓*eS*		**Sn**	**01 36 43.0**	**-3.2**
GO05	**HualaæØ**	**1.56**	**172**	*eP*		**Pn**	**01 36 25.3**	**-0.3**
GO05				*eS*		**Sn**	**01 36 43.6**	**-2.7**
GO05				IAML			01 36 59.6	
comp=E,2μm,0.7s								
FCH	**Farellones**	**1.59**	**86**	*eP*		**Pg**	**01 36 27.6**	**0.0**
FCH				*eS*		**Sn**	**01 36 47.1**	**-0.2**
FCH				IAML			01 36 53.7	
comp=E,3μm,0.4s								
LMEL	**Las Melosas**	**1.70**	**104**	*eP*		**Pn**	**01 36 27.7**	**+0.2**
LMEL				*eS*		**Sn**	**01 36 48.2**	**-1.6**
LMEL				IAML			01 36 56.9	
comp=N,3μm,0.3s								
AUSP	**Uspallata**	**2.66**	**63**	*eP*		**Pb**	**01 36 45.2**	**-0.1**
AUSP				*eS*		**Sg**	**01 37 20.8**	**-1.6**
COCH	**Cobquecura**	**2.71**	**190**	*eP*		**Pn**	**01 36 41.5**	**+0.1**
COCH				*eS*		**Sg**	**01 37 26.1**	**+1.8**
COCH	**Cobquecura**	**2.71**	**190**	*eP*		**Pn**	**01 36 41.4**	**+0.1**
ARCO	**CERRO ARCO**	**2.80**	**78**	⇓*eP*		**Pg**	**01 36 50.5**	**-0.1**
ARCO				⇓*eS*		**Sg**	**01 37 26.1**	**-0.8**
AAGR	**Agrelo**	**2.84**	**83**	*eP*		**Pg**	**01 36 50.2**	**-1.2**
ASAL	**Salagasta**	**2.94**	**74**	*eP*		**Pg**	**01 36 52.8**	**-0.7**
ASAL				*eS*		**Sg**	**01 37 31.7**	**0.0**
RTLS	**Leoncito**	**2.94**	**57**	*eP*		**Pg**	**01 36 52.9**	**-0.6**
RTLS				*eS*		**Sg**	**01 37 31.9**	**+0.3**
CCHI	**Chillan**	**3.14**	**178**	*eP*		**Pn**	**01 36 50.6**	**+3.4**
RFA	**San Rafael**	**3.35**	**114**	*eP*		**Pb**	**01 36 55.5**	**-1.5**
RFA				*eS*		**Sg**	**01 37 44.2**	**-0.6**
RTCV	**Cerro Valdivia**	**3.46**	**64**	⇓*eP*		**Pb**	**01 36 56.2**	**-2.6**
RTCV				*eS*		**Sg**	**01 37 51.6**	**+3.4**
SJA	**San Juan**	**3.62**	**59**	IAML			01 37 57.3	
comp=Z,255nm,0.8s								
RTLL	**Cerro Villicun**	**3.79**	**57**	⇓*eP*		**Pb**	**01 37 01.5**	**-2.9**
RTLL				⇓*eS*		**Sg**	**01 37 56.4**	**-2.3**
RTLL				IAML			01 38 01.4	
comp=Z,442nm,1.0s								
AMOG	**MOGNA**	**4.01**	**52**	*eP*		**Pb**	**01 37 05.3**	**-2.9**
ACAN	**Cantantal**	**4.37**	**76**	*eP*		**Pn**	**01 37 07.0**	**+2.9**
LCO	**Las Campanas**	**4.61**	**16**	*ePn*		**Pn**	**01 37 09.5**	**+1.8**
LCO				*eSn*		**Sn**	**01 38 01.3**	**-0.4**
PLCA	**Paso Flores**	**7.38**	**170**	Pn		**Pn**	**01 37 46.9**	**+1.4**
comp=Z,0.4nm,0.3s,baz=348,slow=11,SNR=9.5								
PLCA				Lg		Lg	01 39 43.5	
comp=Z,0.1nm,0.3s,baz=289,slow=20,SNR=2.8								
PLCA				LR		LR	01 40 55.2	
comp=Z,322nm,18.4s,baz=5.0,slow=40								
CYA	**Choya**	**7.42**	**49**	*eP*		**Pn**	**01 37 50.4**	**+4.4**
TRQA	**Tornquist**	**9.48**	**122**	*ePn*		**Pn**	**01 38 16.7**	**+2.4**
comp=Z,30nm,1.3s								
CPUP	**Villa Florida**	**14.70**	**65**	LR		LR	01 45 30.0	
comp=Z,505nm,19.9s,baz=240,slow=39								
LPAZ	**La Paz**	**17.48**	**13**	P		**P**	**01 40 03.6**	**+0.1**
comp=Z,0.2nm,0.3s,baz=176,slow=4.2,SNR=7.0								
SIV	**San Ignacio**	**20.08**	**33**	P		**P**	**01 40 30.9**	**-0.6**
comp=Z,3.3nm,0.9s,baz=225,slow=13,SNR=4.2								
SIV				LR		LR	01 49 55.7	
comp=Z,348nm,19.4s,baz=202,slow=42								
SAML	**Samuel**	**25.76**	**21**	*eP*		**P**	**01 41 30.1**	**+1.2**
comp=Z,3.3nm,0.8s								
PMSA	**Palmer Station**	**31.74**	**173**	*eP*		**P**	**01 42 20.1**	**-1.5**
RPN	**Rapa Nui**	**32.57**	**271**	LR		LR	01 52 17.1	
comp=Z,177nm,18.7s,baz=108,slow=30								
SNAA	**Sanae**	**52.13**	**158**	P		**P**	**01 45 10.9**	**+2.9**
comp=Z,1.5nm,0.9s,baz=233,slow=10,SNR=3.7								
SNAA				LR		LR	02 06 48.9	
comp=Z,40nm,18.1s,baz=157,slow=35								
SNAA	**Sanae**	**52.13**	**158**	*eP*		**P**	**01 45 07.9**	**-0.1**
TXAR	**Lajitas Array**	**69.20**	**331**	P		**P**	**01 47 05.1**	**+0.2**
comp=Z,0.2nm,0.5s,baz=166,slow=8.2,SNR=3.4								
MNTX	**Cornudas Mount**	**71.98**	**331**	*eP*		**P**	**01 47 20.9**	**-0.8**
comp=Z,1.1nm,0.7s								
DBIC	**Dimbokro**	**75.12**	**72**	LR		LR	02 19 39.8	
comp=Z,49nm,18.7s,baz=183,slow=35								
BOSA	**Boshof**	**80.43**	**118**	LR		LR	02 22 41.0	
comp=Z,36nm,18.1s,baz=191,slow=35								
KOWA	**Kowa**	**80.52**	**66**	LR		LR	02 22 27.4	
comp=Z,132nm,19.8s,baz=212,slow=35								
RSSD	**Black Hills**	**82.49**	**337**	*eP*		**P**	**01 48 19.1**	**-1.5**
comp=Z,0.9nm,0.4s								
NVAR	**Mina Array Bea**	**83.37**	**325**	P		**P**	**01 48 24.3**	**-1.1**
comp=Z,0.2nm,0.3s,baz=112,slow=6.0,SNR=2.8								
TORD	**Torodi Ar. Bea**	**84.14**	**70**	P		**P**	**01 48 29.6**	**0.0**
comp=Z,1.2nm,0.8s,baz=248,slow=3.4,SNR=6.6								
TORD				LR		LR	02 23 05.7	
comp=Z,41nm,21.1s,baz=150,slow=34								
AFI	**Afiamalu**	**90.24**	**253**	LR		LR	02 22 11.8	
comp=Z,50nm,18.2s,baz=67,slow=31								
BVAR	**Borovoye Array**	**146.96**	**42**	PKPbc		**PKPab**	**01 55 41.9**	**+0.2**
comp=Z,1.0nm,0.8s,baz=272,slow=4.2,SNR=5.4								
PSI	**Prapat**	**148.39**	**163**	PKPbc		**PKPdf**	**01 55 43.9**	**+1.8**
comp=Z,3.2nm,0.4s,baz=180,slow=7.1,SNR=6.1								
KURBB	**Kurchatov Arra**	**152.56**	**43**	PKPbc		**PKPbc**	**01 55 55.6**	**+1.5**
comp=Z,0.2nm,0.4s,baz=304,slow=3.3,SNR=2.6								
KURBB				PKPab		**sPKPab**	**01 56 07.1**	**+0.3**
comp=Z,0.9nm,0.8s,baz=298,slow=2.9,SNR=6.2								
KURK	**Kurchatov**	**152.56**	**42**	PKPbc		**PKPbc**	**01 55 55.6**	**+1.5**
KURK				PKPab		**sPKPab**	**01 56 07.1**	**+0.2**
ZALV	**Zalesovo Beam**	**153.83**	**32**	PKPbc		**PKPbc**	**01 55 57.4**	**+0.6**
comp=Z,0.7nm,0.7s,baz=279,slow=2.8,SNR=3.6								
ZALV				PKPab		**PKPab**	**01 56 10.1**	**+0.3**
comp=Z,0.7nm,0.5s,baz=297,slow=6.3,SNR=3.8								
MKAR	**Makanchi Array**	**156.50**	**48**	PKP		**PKPdf**	**01 55 53.1**	**+0.3**
comp=Z,0.2nm,0.5s,baz=299,slow=1.5,SNR=3.6								
MKAR				PKPab		**PKPab**	**01 56 22.2**	**+0.7**
comp=Z,0.5nm,0.9s,baz=286,slow=2.8,SNR=3.7								

*ISCJB **17** 01:38:05.4±0.2, 7.05S×0.03×123.45E±0.04, h632km, mb4.2/40, Error ellipse: s-maj=5.2km s-min=3.1km az=151.5*
*IDC **17** 01:38:05.5±0.6, 7.06S×123.44E, h620km±7km, mb3.6/26, mb1 3.7/28, mb1mx3.6/48, mbtmp4.6/28, Error ellipse: s-maj=11.7km s-min=6.3km az=68.0*
*NEIC **17** 01:38:06.4±0.3, 7.02S×123.45E, h628km±5km, mb4.3/20, Error ellipse: s-maj=9.3km s-min=5.4km az=57.0*
*DJA **17** 01:38:06.8±0.2, 7°S-2°×12°3E±°, h624km±4km, M4.9/18, mb4.8/18, mB5.0/5, MLv5.2/3, Mw(mB)4.4/5*
ISC 17 01:38:06.5±0.3, **7.04S**±0.05×**123.46E**±0.06, **h632**km, **n153**,
σ1**832**/170, **mb4.1**/40, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**1.78**	**330**	P		**P**	**01 39 24.8**	**+1.7**
BBSI				S		**S**	**01 40 27.5**	**+2.3**
EDFI	**Ende, Flores**	**2.44**	**226**	P		**P**	**01 39 24.1**	**-1.7**
SOEI	**Soe**	**2.81**	**164**	P		**P**	**01 39 27.3**	**-0.3**
SOEI	**Soe**	**2.81**	**164**	*eP*		**P**	**01 39 27.2**	**-0.3**
SOEI				*eS*		**S**	**01 40 29.1**	**-4.5**
BSSI	**Bau Bau, Buton**	**3.08**	**287**	P		**P**	**01 39 29.3**	**+0.4**
BATI	**Baumata**	**3.15**	**176**	P		**P**	**01 39 28.9**	**-0.3**
642nm,0.3s,baz=79,slow=1.9,SNR=269								
BATI				S		**S**	**01 40 32.3**	**-4.3**
189nm,0.3s,baz=225,slow=19,SNR=12								
BATI	**Baumata**	**3.15**	**176**	P		**P**	**01 39 29.5**	**+0.2**
KAPI	**Kappang**	**4.20**	**298**	*eP*		**P**	**01 39 36.4**	**+0.6**
KAPI				*eS*		**S**	**01 40 43.1**	**-5.4**
BNSI	**Bone**	**4.24**	**308**	P		**P**	**01 39 37.3**	**+1.2**
BASI	**Baing, Sumba**	**4.25**	**222**	P		**P**	**01 39 35.2**	**-0.9**
WBSI	**Waikabubak, Su**	**4.78**	**237**	P		**P**	**01 39 37.9**	**-2.0**
TTSI	**Tana Toraja**	**5.38**	**317**	P		**P**	**01 39 45.0**	**+0.6**
SANI	**Sanana**	**5.56**	**27**	P		**P**	**01 39 45.7**	**-0.2**
AAI	**Ambon**	**5.77**	**55**	P		**P**	**01 39 47.5**	**-0.1**
PLAI	**Plampang**	**5.90**	**252**	P		**P**	**01 39 46.6**	**-2.0**
LUWI	**Luwuk**	**6.00**	**353**	P		**P**	**01 39 49.9**	**+0.4**
LUWI	**Luwuk**	**6.00**	**353**	*eP*		**P**	**01 39 49.2**	**-0.2**
APSI	**Ampana**	**6.35**	**343**	P		**P**	**01 39 52.9**	**+0.5**
LBMI	**Labuha**	**7.53**	**33**	P		**P**	**01 40 03.1**	**+0.3**
KMSI	**Cibinong**	**7.58**	**4**	P		**P**	**01 40 04.1**	**+0.8**
MRSI	**Marisa**	**7.62**	**348**	P		**P**	**01 40 03.2**	**-0.4**

MPSI	**Mapaga**	**8.14**	**334**	P		**P**	**01 40 08.4**	**0.0**
131nm,1.1s,3μm0.7nm								
KBKI	**Kotabaru**	**8.16**	**297**	P		**P**	**01 40 09.2**	**+0.7**
83nm,1.0s,0.3nm								
SRBI	**Singaraja**	**8.24**	**262**	P		**P**	**01 40 09.0**	**-0.3**
158nm,1.1s,0.5nm								
TNTI	**Ternate**	**8.69**	**27**	*eP*		**P**	**01 40 12.1**	**-1.4**
JAGI	**Jajag, Banyuwa**	**9.33**	**261**	*eP*		**P**	**01 40 16.4**	**-3.2**
MTN	**Manton Dam**	**9.51**	**128**	P		**P**	**01 40 21.4**	**+0.2**
baz=9.7,SNR=4.2								
FAKI	**Fak Fak**	**9.66**	**65**	P		**P**	**01 40 24.4**	**+1.5**
206nm,0.8s,2μm								
FAKI	**Fak Fak**	**9.66**	**65**	*eP*		**P**	**01 40 21.7**	**-1.1**
FAKI				*eS*		**S**	**01 42 08.2**	**-6.5**
BLJI	**Banyuglugur**	**9.81**	**265**	P		**P**	**01 40 24.0**	**-0.2**
91nm,0.7s,4μm								
SWI	**Sorong**	**9.91**	**52**	P		**P**	**01 40 25.5**	**+0.3**
322nm,1.0s,3μm								
KNRA	**Kununurra**	**10.03**	**149**	P		**P**	**01 40 26.0**	**-0.3**
baz=10,SNR=50								
MTKI	**Muara Teweh, K**	**10.47**	**305**	P		**P**	**01 40 26.1**	**-4.6**
FITZ	**Fitzroy Crossi**	**11.20**	**169**	P		**P**	**01 40 37.3**	**-0.3**
baz=315,slow=7.1								
FITZ				S		**S**	**01 42 40.1**	**-1.2**
baz=198,slow=19								
FITZ	**Fitzroy Crossi**	**11.20**	**169**	P		**P**	**01 40 37.3**	**-0.3**
baz=11								
MYLDM	**Lahad Datu**	**13.11**	**338**	*eP*		**P**	**01 40 56.8**	**+0.9**
MBWA	**Marble Bar**	**14.49**	**194**	*eP*		**P**	**01 41 08.9**	**+0.1**
514nm,0.6s								
SBUM	**Sibu**	**14.65**	**310**	*eP*		**P**	**01 41 12.0**	**+1.6**
KKM	**Kota Kinabalu**	**14.87**	**331**	*eP*		**P**	**01 41 12.8**	**+0.3**
KSM	**Kuching**	**15.61**	**302**	*eP*		**P**	**01 41 20.8**	**+1.7**
38nm,1.2s								
WRAB	**Tennant Creek**	**16.61**	**142**	*eP*		**P**	**01 41 28.3**	**+0.1**
32nm,0.8s								
WRAB				*eS*		**S**	**01 44 10.3**	**-1.8**
WRA	**Warramunga Arr**	**16.61**	**142**	P		**P**	**01 41 27.2**	**-1.0**
7.5nm,0.3s,baz=250,slow=8.9,SNR=131								
WRA				S		**S**	**01 44 10.1**	**-2.1**
1.9nm,0.3s,baz=319,slow=16,SNR=11								
GENI	**Genyem**	**17.22**	**76**	P		**P**	**01 41 35.5**	**+1.7**
64nm,0.9s								
WRKA	**Warakurna**	**18.48**	**166**	P		**P**	**01 41 45.9**	**+0.7**
baz=19,SNR=91								
AS31	**Alice Springs**	**19.34**	**150**	*eP*		**P**	**01 41 53.7**	**+0.8**
8.4nm,0.8s								
ASAR	**Alice Springs**	**19.34**	**150**	P		**P**	**01 41 53.5**	**+0.6**
4.9nm,0.3s,baz=327,slow=8.1,SNR=134								
ASAR				S		**S**	**01 44 54.4**	**-1.5**
2.0nm,0.3s,baz=321,slow=16,SNR=18								
ASAR				ScP		**ScP**	**01 48 20.4**	**-0.9**
0.5nm,0.3s,baz=332,slow=3.1,SNR=6.7								
AS01	**Alice Springs**	**19.36**	**150**	*eP*		**P**	**01 41 52.1**	**-1.0**
MEEK	**Meekatharra**	**20.03**	**193**	P		**P**	**01 41 59.1**	**0.0**
baz=20,SNR=27								
COEN	**Coen**	**20.56**	**111**	P		**P**	**01 42 04.2**	**+0.2**
baz=21,SNR=4.4								
QIS	**Mount Isa**	**20.62**	**132**	P		**P**	**01 42 05.1**	**+0.6**
baz=21,SNR=11								
MORW	**Morawa**	**23.00**	**197**	P		**P**	**01 42 25.6**	**+0.1**
baz=23,SNR=11								
MTSU	**Mount Surprise**	**23.12**	**120**	P		**P**	**01 42 27.9**	**+1.1**
baz=23,SNR=17								
PMG	**Port Moresby**	**23.57**	**97**	P		**P**	**01 42 30.6**	**-0.2**
18nm,0.6s,baz=156,slow=0.6,SNR=11								
PMG	**Port Moresby**	**23.57**	**97**	*eP*		**P**	**01 42 31.0**	**+0.2**
26nm,0.8s								
BLDU	**Ballidu**	**24.29**	**194**	P		**P**	**01 42 36.9**	**0.0**
baz=24								
KLBR	**Kellerberrin**	**25.00**	**192**	P		**P**	**01 42 43.2**	**0.0**
baz=25,SNR=16								
CTA	**Charters Tower**	**25.63**	**123**	P		**P**	**01 42 49.1**	**+0.2**
5.5nm,0.5s,baz=311,slow=9.3,SNR=6.4								
CTAO	**Charters Tower**	**25.63**	**123**	*eP*		**P**	**01 42 49.1**	**+0.2**
70nm,1.0s								
MUN	**Mundaring**	**25.72**	**194**	P		**P**	**01 42 49.6**	**+0.2**
baz=26,SNR=5.5								
NWAO	**Narrogin (SRO)**	**26.40**	**192**	P		**P**	**01 42 55.4**	**0.0**
19nm,0.4s,baz=275,slow=7.4,SNR=45								
NWAO	**Narrogin (SRO)**	**26.40**	**192**	P		**P**	**01 42 55.7**	**+0.3**
baz=26,SNR=20								
NWAO				P		**P**	**01 42 55.7**	**+0.3**
baz=26,SNR=20								
NWAO	**Narrogin (SRO)**	**26.40**	**192**	*eP*		**P**	**01 42 55.6**	**+0.2**
161nm,1.8s								
QLP	**Quilpie**	**27.72**	**137**	P		**P**	**01 43 08.7**	**+1.7**
baz=28,SNR=26								
RKGY	**Rocky Gully**	**28.08**	**191**	P		**P**	**01 43 11.5**	**+1.5**
baz=28,SNR=51								
BBOO	**Buckleboo**	**28.19**	**157**	P		**P**	**01 43 11.4**	**+0.5**
baz=28,SNR=76								
BBOO	**Buckleboo**	**28.19**	**157**	*eP*		**P**	**01 43 11.5**	**+0.5**
40nm,0.8s								
BBOO				*eS*		**S**	**01 47 16.9**	**+2.6**
HTT	**Hallett**	**29.92**	**153**	P		**P**	**01 43 27.2**	**+1.3**
baz=30,SNR=72								
STKA	**Stephens Creek**	**29.95**	**148**	P		**P**	**01 43 26.7**	**+0.6**
41nm,0.5s,baz=318,slow=9.3,SNR=122								
STKA				S		**S**	**01 47 41.3**	**-0.1**
7.3nm,0.8s,baz=56,slow=22,SNR=6.6								
STKA	**Stephens Creek**	**29.95**	**148**	P		**P**	**01 43 27.3**	**+1.2**
baz=30,SNR=91								
STKA	**Stephens Creek**	**29.95**	**148**	*eP*		**P**	**01 43 27.3**	**+1.2**
9.2nm,0.6s								
STKA				*eS*		**S**	**01 47 42.1**	**+0.8**
RMQ	**Roma**	**30.88**	**132**	P		**P**	**01 43 36.1**	**+1.9**
baz=31,SNR=9.8								
CMSA	**Cobar Meteorol**	**32.02**	**142**	P		**P**	**01 43 45.2**	**+1.5**
baz=32,SNR=70				

MK31	**Makanchi Array**	**64.86**	**330**	*e*P	**P**	**01 47 45.3**	**+0.1**
MKAR	**Makanchi Array**	**64.86**	**330**	P	**P**	**01 47 45.4**	**+0.2**
	3.8nm,0.5s,baz=132,slow=7.7,SNR=46						
MKAR				pP	**pP**	01 49 50.8	+2.1
	0.4nm,0.9s,baz=137,slow=9.5,SNR=1.7						
MKAR				PP	PP	01 50 07.7	-12
	0.9nm,0.8s,baz=141,slow=7.2,SNR=3.8						
MKAR	**Makanchi Array**	**64.86**	**330**	*e*P	**P**	**01 47 45.3**	**+0.1**
	29nm,0.7s						
MAKZ	**Makanchi**	**65.02**	**330**	*e*P	**P**	**01 47 46.3**	**0.0**
	2.3nm,0.7s						
KBL	**Kabul**	**65.92**	**313**	*e*P	**P**	**01 47 52.4**	**+0.1**
	5.2nm,0.8s						
AAK	**Ala-Archa**	**66.50**	**323**	*e*P	**P**	**01 47 56.3**	**+0.6**
	4.2nm,0.5s						
PETK	**Petropavlovsk-**	**66.58**	**22**	P	**P**	**01 47 56.4**	**+0.8**
	3.5nm,0.6s,baz=186,slow=4.5,SNR=7.7						
ZAA0	**Zalesovo Array**	**68.90**	**337**	*e*P	**P**	**01 48 09.0**	**-0.7**
ZALV	**Zalesovo Beam**	**68.90**	**337**	P	**P**	**01 48 08.9**	**-0.8**
	3.4nm,0.5s,baz=143,slow=4.7,SNR=18						
KURBB	**Kurchatov Arra**	**69.28**	**331**	P	**P**	**01 48 11.8**	**-0.3**
	1.6nm,0.4s,baz=141,slow=5.3,SNR=19						
KURBB				pP	**pP**	01 50 20.5	+2.4
	0.2nm,0.3s,baz=133,slow=6.1,SNR=3.1						
KURK	**Kurchatov**	**69.30**	**331**	*e*P	**P**	**01 48 12.0**	**-0.1**
	4.7nm,0.5s						
VNDA	**Vanda**	**73.26**	**172**	P	**P**	**01 48 34.2**	**-0.5**
	1.9nm,0.7s,baz=299,slow=7.7,SNR=5.3						
BVAR	**Borovoye Array**	**74.74**	**330**	P	**P**	**01 48 42.9**	**-0.6**
	2.0nm,0.6s,baz=115,slow=6.8,SNR=16						
OPO	**Ambohidratompo**	**74.81**	**253**	P	**P**	**01 48 45.5**	**+0.7**
	4.3nm,0.9s,baz=109,slow=1.7,SNR=5.0						
BRVK	**Borovoye**	**74.81**	**330**	*e*P	**P**	**01 48 42.8**	**-1.0**
	5.2nm,1.0s						
GEYT	**Alibeck**	**75.35**	**312**	P	**P**	**01 48 47.8**	**+0.6**
	2.6nm,0.5s,baz=122,slow=3.9,SNR=10						
ABKAR	**Akbulak array**	**78.58**	**323**	*e*P	**P**	**01 49 04.1**	**-0.3**
	2.4nm,0.5s						
TIXI	**Tiksi**	**78.61**	**2**	*e*P	**P**	**01 49 03.3**	**-0.7**
	7.0nm,0.8s						
AKTO	**Aktyubinsk**	**80.20**	**324**	P	**P**	**01 49 12.6**	**-0.2**
	3.2nm,0.5s,baz=106,slow=5.3,SNR=12						
RAYN	**Ar Rayn**	**81.85**	**295**	*e*P	**P**	**01 49 22.0**	**0.0**
	3.0nm,0.5s						
ATD	**Arta Tunnel**	**82.27**	**283**	P	**P**	**01 49 24.4**	**+0.1**
	2.9nm,0.3s,baz=274,slow=14,SNR=3.8						
ARU	**Arti**	**82.38**	**329**	*e*P	**P**	**01 49 23.1**	**-0.7**
	2.9nm,0.4s						
QSPA	**South Pole Qui**	**82.94**	**180**	P	**P**	**01 49 26.8**	**+0.1**
	2.1nm,0.8s,baz=328,slow=5.3,SNR=4.7						
LSZ	**Lusaka**	**93.22**	**254**	*e*P	**P**	**01 50 15.6**	**-0.4**
BOSA	**Boshof**	**93.81**	**241**	P	**P**	**01 50 18.2**	**-0.2**
	2.7nm,0.9s,baz=38,slow=5.0,SNR=3.2						
SNAA	**Sanae**	**94.04**	**195**	P	**P**	**01 50 18.7**	**+0.3**
	1.3nm,0.9s,baz=60,slow=9.3,SNR=3.4						
BRTR	**Keskin Array B**	**94.31**	**309**	P	**P**	**01 50 19.0**	**-1.5**
	0.6nm,0.9s,baz=72,slow=4.7,SNR=2.9						
ILAR	**Eielson Array**	**96.17**	**26**	P	**P**	**01 50 26.2**	**-1.9**
	0.3nm,0.6s,baz=247,slow=4.6,SNR=5.2						
FINES	**FINESS Array B**	**99.67**	**331**	PKiKP	**PKiKP**	**01 55 08.1**	**-0.1**
	1.7nm,0.9s,baz=96,slow=1.9,SNR=6.0						
YKA	**Yellowknife Ar**	**110.59**	**25**	PKiKP	**PKiKP**	**01 55 27.8**	**-0.5**
	0.3nm,0.4s,baz=295,slow=1.9,SNR=15						
EKA	**Eskdalemuir Ar**	**115.99**	**329**	PKP	**PKPdf**	**01 55 38.5**	**-0.4**
	2.1nm,1.0s,baz=45,slow=3.1,SNR=4.6						
NVAR	**Mina Array Bea**	**116.37**	**51**	PKP	**PKPdf**	**01 55 40.8**	**+0.3**
	0.3nm,0.4s,baz=236,slow=1.0,SNR=3.4						
FCC	**Fort Churchill**	**120.93**	**22**	*e*PKPdf	**PKPdf**	**01 55 47.4**	**-0.9**
PDAR	**Pinedale Array**	**121.47**	**44**	PKP	**PKPdf**	**01 55 50.6**	**+0.4**
	0.4nm,0.4s,baz=97,slow=1.1,SNR=13						
TORD	**Torodi Ar. Bea**	**122.45**	**281**	PKP	**PKPdf**	**01 55 52.3**	**-0.2**
	2.0nm,0.7s,baz=22,slow=2.3,SNR=23						
ESDC	**Sonseca Array**	**122.88**	**313**	PKP	**PKPdf**	**01 55 51.2**	**-1.6**
	0.3nm,0.6s,baz=24,slow=2.0,SNR=3.7						
ULM	**Lac du Bonnet**	**125.89**	**30**	PKP	**PKPdf**	**01 55 56.7**	**-1.4**
	1.0nm,0.4s,baz=293,slow=3.4,SNR=4.0						
KOWA	**Kowa**	**127.97**	**283**	PKP	**PKPdf**	**01 56 02.5**	**-0.5**
	1.3nm,0.4s,baz=50,slow=3.9,SNR=7.5						
KOWA				SKPbc	SKPbc	01 58 24.7	
	1.2nm,0.4s,baz=243,slow=2.2,SNR=3.4						
MNTX	**Cornudas Mount**	**128.35**	**55**	*e*PKPdf	**PKPdf**	**01 56 04.2**	**+0.8**
DBIC	**Dimbokro**	**128.71**	**273**	PKP	**PKPdf**	**01 56 04.7**	**+0.2**
	1.1nm,0.4s,baz=116,slow=4.1,SNR=4.9						
DBIC				SKPbc	SKPbc	01 58 27.3	
	1.7nm,0.4s,baz=111,slow=2.1,SNR=2.0						
TXAR	**Lajitas Array**	**130.47**	**57**	PKP	**PKPdf**	**01 56 08.1**	**+0.5**
	0.5nm,0.6s,baz=204,slow=2.0,SNR=3.3						
TXAR				SKPbc	**SKPab**	**01 58 34.9**	**+0.7**
	2.2nm,0.8s,baz=290,slow=3.7,SNR=11						
PLCA	**Paso Flores**	**130.74**	**166**	PKP	**PKPdf**	**01 56 08.8**	**+1.0**
	1.3nm,0.8s,baz=315,slow=2.9,SNR=2.8						
PLCA				SKPbc	**SKPbc**	**01 58 34.4**	**+0.2**
	4.5nm,1.1s,baz=218,slow=6.7,SNR=5.1						
SCHQ	**Schefferville**	**131.63**	**8**	PKP	**PKPdf**	**01 56 09.9**	**+1.0**
	1.1nm,0.3s,baz=23,slow=2.1,SNR=13						
SCHQ				SKPbc	**SKPbc**	**01 58 36.7**	**-0.1**
	1.1nm,0.7s,baz=219,slow=3.0,SNR=3.5						
JCT	**Junction City**	**133.27**	**54**	*e*PKPdf	**PKPdf**	**01 56 14.1**	**+1.3**
TRQA	**Tornquist**	**134.85**	**174**	*e*PKPdf	**PKPdf**	**01 56 15.6**	**+0.1**
TKL	**Tuckaleechee C**	**142.13**	**37**	PKhKP	PKPpre	01 56 24.8	
	3.0nm,0.8s,baz=225,slow=2.9,SNR=5.5						
GOGA	**Godfrey**	**143.80**	**40**	*e*PKPdf	PKPab	01 56 31.2	-0.1
TIGA	**Tifton**	**144.96**	**43**	*e*PKPdf	PKPbc	01 56 34.5	-0.3
CPUP	**Villa Florida**	**146.82**	**179**	PKPbc	**PKPbc**	**01 56 40.5**	**+0.4**
	2.0nm,0.8s,baz=127,slow=3.2,SNR=4.5						

BJI ***17*** *01:49:24.5, 7.˚24S±124.˚10E, h632km, mb4.6/34, mB4.5/24*
ISCJB ***17*** *01:49:27.8±0.2, 7.˚05S±0.˚02×123.˚44E±0.˚03, h641km±3km, mb4.6/80, Error ellipse: s-maj=4.2km s-min=3.2km az=148.4*
DJA ***17*** *01:49:28.4±0.1, 7.˚S±2.˚×12.˚3E±.˚, h621km±3km, M5.3/54, mb5.4/54, mB5.7/30, MLv6.0/19, Mw(mB)5.2/30*
NEIC ***17*** *01:49:28.5±0.3, 7.˚02S×123.˚42E, h630km±3km, mb4.9/49, Error ellipse: s-maj=5.5km s-min=4.1km az=56.0*
IDC ***17*** *01:49:28.5±0.4, 7.˚03S×123.˚43E, h630km±4km, mb4.2/28, mb1 4.3/32, mb1mx4.0/50, mbtmp5.2/32, Error ellipse: s-maj=9.0km s-min=5.7km az=67.0*
ISC 17 01:49:28.4±0.4, 7.˚05S±0.˚04×123.˚49E±0.˚05, h630km±4km, h631km:pP-P, n323, σ1°44/346, mb4.8/80, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSI	**Bau Bau**	**1.80**	**329**	P	**P**	**01 50 46.8**	**+2.0**
EDFI	**Ende, Flores**	**2.46**	**226**	P	**P**	**01 50 45.9**	**-1.6**
SOEI	**Soe**	**2.80**	**164**	P	**P**	**01 50 49.1**	**-0.1**
SOEI	**Soe**	**2.80**	**164**	*e*P	**P**	**01 50 49.2**	**0.0**
SOEI				*e*S	**S**	**01 51 51.3**	**-3.7**
BSSI	**Bau Bau, Buton**	**3.11**	**287**	P	**P**	**01 50 51.1**	**+0.4**
BATI	**Baumata**	**3.14**	**177**	P	**P**	**01 50 51.6**	**+0.7**
	baz=47,slow=1.8						
BATI				S	**S**	**01 51 56.8**	**-1.3**
	743nm,0.3s,baz=166,slow=19,SNR=27						
BATI	**Baumata**	**3.14**	**177**	P	**P**	**01 50 51.3**	**+0.4**
KAPI	**Kappang**	**4.23**	**298**	*e*P	**P**	**01 50 58.8**	**+1.1**
KAPI				*e*S	**S**	**01 52 06.1**	**-4.3**
BASI	**Baing, Sumba**	**4.27**	**222**	P	**P**	**01 50 57.2**	**-0.7**
BNSI	**Bone**	**4.27**	**308**	P	**P**	**01 50 59.1**	**+1.1**
WBSI	**Waikabubak, Su**	**4.80**	**237**	P	**P**	**01 50 59.8**	**-2.0**
TTSI	**Tana Toraja**	**5.40**	**317**	P	**P**	**01 51 07.8**	**+1.4**
SANI	**Sanana**	**5.55**	**27**	P	**P**	**01 51 07.5**	**-0.1**
	3μm,0.8s,33μm9.3nm						
AAI	**Ambon**	**5.75**	**55**	P	**P**	**01 51 08.7**	**-0.5**
	977nm,0.6s,10μm5.7nm						
PLAI	**Plampang**	**5.93**	**252**	P	**P**	**01 51 08.4**	**-2.2**
	6μm,0.7s,56μm19nm						
LUWI	**Luwuk**	**6.01**	**353**	P	**P**	**01 51 11.8**	**+0.5**
	2μm,1.0s,20μm5.6nm						
LUWI	**Luwuk**	**6.01**	**353**	*e*P	**P**	**01 51 12.0**	**+0.6**
APSI	**Ampana**	**6.37**	**343**	P	**P**	**01 51 14.7**	**+0.3**
	1μm,1.1s,14μm4.1nm						
MSAI	**Masohi**	**6.55**	**56**	P	**P**	**01 51 14.9**	**-1.0**
LBMI	**Labuha**	**7.52**	**32**	P	**P**	**01 51 24.8**	**+0.3**
	4μm,0.5s,43μm16nm						
KMSI	**Cibinong**	**7.59**	**4**	P	**P**	**01 51 25.9**	**+0.8**
	4μm,0.6s,41μm15nm						
MRSI	**Marisa**	**7.63**	**348**	P	**P**	**01 51 25.1**	**-0.5**
	3μm,0.7s,24μm9.5nm						
MPSI	**Mapaga**	**8.16**	**334**	P	**P**	**01 51 30.3**	**-0.1**
	365nm,0.9s,7μm1.6nm						
KBKI	**Kotabaru**	**8.19**	**297**	P	**P**	**01 51 30.8**	**+0.1**
	316nm,0.8s,3μm0.9nm						
SRBI	**Singaraja**	**8.27**	**262**	P	**P**	**01 51 30.4**	**-1.0**
	1μm,0.9s,11μm3.6nm						
DNP	**Denpasar**	**8.36**	**258**	P	**P**	**01 51 32.3**	**+0.1**
	2μm,0.4s,40μm9.7nm						
IGBI	**Denpasar**	**8.45**	**257**	P	**P**	**01 51 31.0**	**-2.1**
	4μm,0.6s,58μm19nm						
TNTI	**Ternate**	**8.68**	**27**	*e*P	**P**	**01 51 34.9**	**-0.4**
TNTI				*e*S	**S**	**01 53 18.9**	**-0.2**
ABJI	**Asem Bagus**	**9.21**	**265**	P	**P**	**01 51 39.5**	**-0.8**
	196nm,1.0s						
BBKI	**Banjar Baru**	**9.32**	**292**	P	**P**	**01 51 42.5**	**+1.1**
JAGI	**Jajag, Banyuwa**	**9.36**	**261**	P	**P**	**01 51 38.6**	**-3.2**
JAGI	**Jajag, Banyuwa**	**9.36**	**261**	*e*P	**P**	**01 51 38.8**	**-3.0**
KMMI	**Kalianget**	**9.45**	**269**	P	**P**	**01 51 43.3**	**+0.7**
	806nm,1.0s,7μm						
MTN	**Manton Dam**	**9.48**	**128**	P	**P**	**01 51 43.2**	**+0.3**
	baz=9.6,SNR=81						
MTN	**Manton Dam**	**9.48**	**128**	*e*P	**P**	**01 51 43.3**	**+0.5**
FAKI	**Fak Fak**	**9.64**	**65**	P	**P**	**01 51 44.4**	**-0.1**
	445nm,0.5s,7μm						
FAKI	**Fak Fak**	**9.64**	**65**	*e*P	**P**	**01 51 43.3**	**-1.2**
FAKI				*e*S	**S**	**01 53 29.0**	**-7.0**
BLJI	**Banyuglugur**	**9.84**	**265**	P	**P**	**01 51 44.5**	**-1.8**
	901nm,0.6s,7μm						
SWI	**Sorong**	**9.89**	**52**	P	**P**	**01 51 47.2**	**+0.4**
	993nm,0.9s,8μm						
KNRA	**Kununurra**	**10.01**	**149**	P	**P**	**01 51 48.6**	**+0.6**
	baz=10,SNR=73						
GMJI	**Gumukmas**	**10.03**	**262**	P	**P**	**01 51 46.0**	**-2.2**
	194nm,0.8s						
MTKI	**Muara Teweh, K**	**10.50**	**305**	P	**P**	**01 51 53.2**	**+0.4**
KMPI	**Kaimana, Papua**	**10.71**	**72**	P	**P**	**01 51 57.8**	**+2.9**
SGSI	**Sangihe**	**10.85**	**11**	P	**P**	**01 51 55.8**	**-0.5**
	3μm,0.6s,28μm						
GRJI	**Gresik**	**10.93**	**270**	P	**P**	**01 51 55.7**	**-1.3**
	719nm,0.8s,7μm						
FITZ	**Fitzroy Crossi**	**11.18**	**169**	P	**P**	**01 51 59.5**	**+0.1**
FITZ				S	**S**	**01 54 02.4**	**-0.7**
	baz=163,slow=19						
PWJI	**Pagerwojo**	**11.63**	**264**	P	**P**	**01 52 00.7**	**-3.0**
PCJI	**Pacitan**	**12.26**	**264**	P	**P**	**01 52 07.2**	**-2.5**
PBKI	**Pangkalan Bun**	**12.54**	**290**	P	**P**	**01 52 13.2**	**+0.8**
	758nm,0.9s,7μm						
UGM	**Wanagama**	**12.89**	**265**	*e*P	**P**	**01 52 13.4**	**-2.4**
SMRI	**Semarang**	**12.95**	**269**	*e*P	**P**	**01 52 14.6**	**-1.8**
MYLDM	**Lahad Datu**	**13.13**	**338**	*e*P	**P**	**01 52 19.6**	**+1.6**
STKI	**Sintang**	**13.91**	**300**	P	**P**	**01 52 26.5**	**+0.9**
	89nm,1.0s						
DAV	**Davao City (W)**	**14.18**	**8**	P	**P**	**01 52 28.7**	**+0.7**
	128nm,0.3s,baz=175,slow=4.8,SNR=6.2						
MBWA	**Marble Bar**	**14.49**	**194**	*e*P	**P**	**01 52 31.0**	**+0.2**
SBUM	**Sibu**	**14.68**	**310**	*e*P	**P**	**01 52 34.2**	**+1.5**
KKM	**Kota Kinabalu**	**14.89**	**331**	*e*P	**P**	**01 52 35.3**	**+0.6**
CMJI	**Cimerak**	**14.93**	**266**	P	**P**	**01 52 32.9**	**-2.0**
JCJI	**Jatiwangi**	**15.12**	**271**	P	**P**	**01 52 36.7**	**0.0**
	489nm,0.8s						
CISI	**Cisompet, Garu**	**15.56**	**267**	P	**P**	**01 52 39.9**	**-0.8**
	618nm,0.7s,7μm						
CISI	**Cisompet, Garu**	**15.56**	**267**	*e*P	**P**	**01 52 38.8**	**-1.9**
	428nm,0.6s						
CISI				*e*S	S	01 55 05.7	-12
KSM	**Kuching**	**15.64**	**302**	*e*P	**P**	**01 52 41.3**	**-0.1**
	46nm,0.6s						
LEM	**Lembang**	**15.76**	**270**	P	**P**	**01 52 42.9**	**+0.3**
	21nm,0.3s,baz=317,slow=23,SNR=26						
LEM				S	**S**	**01 55 19.6**	**-1.1**
	4.2nm,0.3s,baz=331,slow=16,SNR=4.3						
LEM	**Lembang**	**15.76**	**270**	P	**P**	**01 52 42.9**	**+0.3**
WRA	**Warramunga Arr**	**16.59**	**142**	P	**P**	**01 52 50.7**	**+0.8**
	12nm,0.3s,baz=339,slow=18,SNR=257						
WRA				S	**S**	**01 55 30.9**	**-2.9**
	7.8nm,0.3s,baz=322,slow=16,SNR=11						
WRA				ScP	**ScP**	**01 59 36.9**	**-0.8**
	baz=327,slow=2.5,SNR=6.0						
WRAB	**Tennant Creek**	**16.59**	**142**	*e*P	**P**	**01 52 50.6**	**+0.6**
	178nm,1.9s						
WRAB				*e*S	**S**	**01 55 31.0**	**-2.8**
WB2	**Warramunga Arr**	**16.59**	**142**	*e*P	**P**	**01 52 50.4**	**+0.4**
WB2				*e*S	**S**	**01 55 39.5**	**+5.6**
MMPI	**Merauke**	**16.80**	**96**	P	**P**	**01 52 54.1**	**+2.1**
	1μm,0.4s						
GENI	**Genyem**	**17.19**	**76**	P	**P**	**01 52 56.6**	**+1.0**
	385nm,0.9s,4μm						
CGJI	**Cibinong**	**17.68**	**270**	P	**P**	**01 53 00.7**	**+0.7**
	175nm,0.5s,4μm						
JAY	**Jayapura**	**17.73**	**76**	P	**P**	**01 53 02.1**	**+1.6**
	78nm,0.6s,9μm						
GIRL	**Giralia**	**17.89**	**209**	P	**P**	**01 53 02.8**	**+1.1**
	baz=18,SNR=92						
PPBI	**Pangkal Pinang**	**17.96**	**285**	P	**P**	**01 53 07.9**	**+5.3**
WRKA	**Warakurna**	**18.47**	**166**	P	**P**	**01 53 08.1**	**+1.0**
	baz=19,SNR=346						
AS31	**Alice Springs**	**19.32**	**150**	*e*P	**P**	**01 53 15.8**	**+1.1**
	28nm,0.8s						
ASAR	**Alice Springs**	**19.32**	**150**	P	**P**	**01 53 15.8**	**+1.0**
	17nm,0.3s,baz=334,slow=9.6,SNR=351						
ASAR				pP		01 54 47.1	
	0.4nm,0.3s,baz=328,slow=11,SNR=2.5						
ASAR				S	**S**	**01 56 16.4**	**-1.2**
	7.9nm,0.3s,baz=316,slow=14,SNR=21						
ASAR				ScP	**ScP**	**01 59 42.5**	**-1.1**
	0.5nm,0.3s,baz=344,slow=2.8,SNR=11						
AS01	**Alice Springs**	**19.34**	**150**	*e*P	**P**	**01 53 15.7**	**+0.7**
MEEK	**Meekatharra**	**20.03**	**193**	P	**P**	**01 53 21.3**	**+0.2**
	baz=20,SNR=142						
COEN	**Coen**	**20.53**	**111**	P	**P**	**01 53 26.3**	**+0.6**
	baz=21,SNR=75						
COEN	**Coen**	**20.53**	**111**	*e*P	**P**	**01 53 26.3**	**+0.6**
	130nm,1.0s						
QIS	**Mount Isa**	**20.59**	**132**	P	**P**	**01 53 27.1**	**+0.9**
	baz=21,SNR=22						
MORW	**Morawa**	**23.00**	**197**	P	**P**	**01 53 47.8**	**+0.2**
	baz=23,SNR=88						
MTSU	**Mount Surprise**	**23.09**	**120**	P	**P**	**01 53 49.8**	**+1.3**
	baz=23,SNR=66						
PMG	**Port Moresby**	**23.54**	**97**	P	**P**	**01 53 53.2**	**+0.7**
	77nm,0.5s,baz=239,slow=20,SNR=44						
PMG				ScP	**ScP**	**01 59 53.7**	**-0.7**
	11nm,0.7s,baz=332,slow=7.7,SNR=4.9						
PMG	**Port Moresby**	**23.54**	**97**	*e*P	**P**	**01 53 53.1**	**+0.6**
	103nm,0.7s						
PMG				ScP	**ScP**	**01 59 53.7**	**-0.7**
KMBL	**Kambalda**	**24.24**	**183**	P	**P**	**01 53 58.9**	**+0.4**
	baz=24,SNR=210						
BLDU	**Ballidu**	**24.29**	**194**	P	**P**	**01 53 59.0**	**+0.1**
	baz=24,SNR=4.9						
MANU	**Manus Island**	**24.31**	**79**	*e*P	**P**	**01 54 00.8**	**+1.5**
	257nm,1.5s						
KLBR	**Kellerberrin**	**25.00**	**192**	P	**P**	**01 54 05.3**	**+0.1**
	baz=25,SNR=46						
MNSI	**Mandailing Nat**	**25.10**	**287**	P	**P**	**01 54 05.6**	**-0.7**
	38nm,0.7s						
IPM	**Ipoh**	**25.18**	**296**	*e*P	**P**	**01 54 06.3**	**-0.7**
	8.7nm,0.7s						
CTA	**Charters Tower**	**25.60**	**123**	P	**P**	**01 54 11.3**	**+0.7**
	21nm,0.6s,baz=304,slow=11,SNR=29						
CTA				ScP	**ScP**	**01 59 59.8**	**-0.4**
	3.1nm,0.5s,baz=262,slow=11,SNR=5.1						
CTA	**Charters Tower**	**25.60**	**123**	P	**P**	**01 54 12.1**	**+1.5**
	baz=26						
CTAO	**Charters Tower**	**25.60**	**123**	*e*P	**P**	**01 54 11.2**	**+0.6**
	31nm,0.7s						
MUN	**Mundaring**	**25.72**	**194**	P	**P**	**01 54 11.6**	**+0.2**
	baz=26,SNR=29						
KULM	**Kulim**	**25.88**	**298**	*e*P	**P**	**01 54 12.2**	**-1.0**
	13nm,0.6s						
PSI	**Prapat**	**26.40**	**291**	P	**P**	**01 54 17.1**	**-0.8**
	7.1nm,0.8s,baz=108,slow=6.4,SNR=8.0						
PSI				ScP	**ScP**	**02 00 01.3**	**-1.5**
	4.4nm,0.7s,baz=203,slow=11,SNR=4.4						
NWAO	**Narrogin (SRO)**	**26.40**	**192**	P	**P**	**01 54 17.4**	**0.0**
	129nm,0.4s,baz=242,slow=9.7,SNR=3.1						
NWAO	**Narrogin (SRO)**	**26.40**	**192**	P	**P**	**01 54 17.9**	**+0.5**
	baz=26,SNR=167						
NWAO				P	**P**	**01 54 17.9**	**+0.5**
	baz=26,SNR=167						
NWAO	**Narrogin (SRO)**	**26.40**	**192**	*e*P	**P**	**01 54 17.9**	**+0.5**
	144nm,0.6s						
QLP	**Quilpie**	**27.70**	**137**	P	**P**	**01 54 30.9**	**+2.1**
	baz=28,SNR=15						
RKGY	**Rocky Gully**	**28.08**	**191**	P	**P**	**01 54 33.7**	**+1.7**
	baz=28,SNR=252						
BBOO	**Buckleboo**	**28.17**	**157**	P	**P**	**01 54 33.7**	**+0.8**
	baz=28,SNR=382						
BBOO	**Buckleboo**	**28.17**	**157**	*e*P	**P**	**01 54 33.5**	**+0.7**
	130nm,0.5s						
BBOO				*e*S	**S**	**01 58 35.6**	**-0.5**
TPTI		**28.19**	**290**	P	**P**	**01 54 33.1**	**-0.1**
SURT	**Suratani**	**29.30**	**302**	P	**P**	**01 54 43.3**	**+0.5**
	5.5nm,1.1s						
GUMO	**Guam**	**29.51**	**46**	P	**P**	**01 54 43.5**	**-1.1**
	276nm,0.8s,baz=94,slow=3.9,SNR=4.3						
HTT	**Hallett**	**29.90**	**153**	P	**P**	**01 54 49.3**	**+1.6**
	baz=30,SNR=612						
STKA	**Stephens Creek**	**29.93**	**148**	P	**P**	**01 54 48.9**	**+1.0**
	62nm,0.3s,baz=319,slow=10.0,SNR=393						
STKA				S	**S**	**01 59 03.4**	**+0.2**
	24nm,0.8s,baz=222,slow=23,SNR=8.5						
STKA	**Stephens Creek**	**29.93**	**148**	P	**P**	**01 54 49.5**	**+1.6**
	baz=30,SNR=308						
STKA	**Stephens Creek**	**29.93**	**148**	*e*P	**P**	**01 54 49.5**	**+1.6**
	25nm,0.6s						
STKA				S	**S**	**01 59 03.4**	**+0.2**
RMQ	**Roma**	**30.85**	**132**	P	**P**	**01 54 58.0**	**+2.1**
	baz=31,SNR=35						
CMSA	**Cobar Meteorol**	**32.00**	**142**	P	**P**	**01 55 07.5**	**+2.0**
	baz=32,SNR=70						
EIDS	**Eidsvold**	**32.03**	**128**	P	**P**	**01 55 06.4**	**+0.4**
	baz=32,SNR=6.7						
EIDS	**Eidsvold**	**32.03**	**128**	*e*P	**P**	**01 55 05.6**	**-0.4**
	11nm,0.8s						
PHIT	**Phitsanulok**	**33.17**	**317**	P	**P**	**01 55 18.2**	**+2.6**
	7.8nm,0.8s						
ARPS	**Mount Arapiles**	**33.99**	**153**	P	**P**	**01 55 23.7**	**+1.6**
	baz=34,SNR=211						
CMAR	**Chiang Mai Arr**	**35.05**	**317**	P	**P**	**01 55 31.3**	**+0.1**
	1.5nm,0.4s,baz=146,slow=6.7,SNR=5.9						
CMAR				ScP	**ScP**	**02 00 32.0**	**+0.3**
	7.9nm,0.8s,baz=166,slow=3.2,SNR=24						
ARMA	**Armidale**	**35.17**	**135**	P	**P**	**01 55 35.1**	**+2.9**
	baz=35,SNR=20						
YNG	**Young**	**35.55**	**143**	P	**P**	**01 55 37.3**	**+2.2**
	baz=36,SNR=22						
HNR	**Honiara**	**36.15**	**96**	P	**P**	**01 55 40.6**	**+0.3**
	508nm,0.8s,baz=239,slow=5.0,SNR=6.7						
HNR	**Honiara**	**36.15**	**96**	*e*P	**P**	**01 55 40.0**	**-0.3**
HNR	**Honiara**	**36.15**	**96**	*e*P	**P**	**01 55 41.2**	**+0.9**
	425nm,0.8s						
TOO	**Toolangi**	**36.37**	**150**	P	**P**	**01 55 44.2**	**+2.3**
	baz=37,SNR=42						
MGCD	**Mangrove Creek**	**36.51**	**139**	P	**P**	**01 55 46.0**	**+2.9**
	baz=37,SNR=6.1						
CAN	**Canberra**	**36.61**	**144**	P	**P**	**01 55 46.2**	**+2.3**
	baz=37						
CAN	**Canberra**	**36.61**	**144**	*e*P	**P**	**01 55 45.6**	**+1.8**
	73nm,1.0s						
CNB	**Canberra Magne**	**36.82**	**143**	P	**P**	**01 55 47.6**	**+2.0**
	baz=37,SNR=18						
KMI	**Kunming**	**37.82**	**328**	P	**P**	**01 55 56.3**	**+2.3**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
KMI				pmax	pmax		
	comp=Z,120nm,4.2s						
MILA	**Mila**	**37.92**	**146**	P	**P**	**01 55 56.5**	**+2.0**
	baz=38,SNR=7.2						
WHN	**Wuhan**	**38.39**	**347**	*e*P	**P**	**01 55 57.4**	**-0.8**
CBIJ	**Chichi jima**	**38.47**	**27**	*e*P	**P**	**01 55 57.5**	**-1.5**
	205nm,0.7s						
JCJ	**Chichijima**	**38.47**	**27**	P	**P**	**01 55 58.2**	**-0.7**
	177nm,0.5s,baz=264,slow=9.2,SNR=12						
NJ2	**Nanjing**	**39.13**	**354**	*e*P	**P**	**01 56 05.0**	**+0.9**
NJ2				pmax	pmax

26nm,0.7s,baz=190,slow=4.7,SNR=54
PETK Petropavlovsk- 66.57 22 *e*P **P 01 59 18.5 +0.8**
PET Petropavlovsk 66.86 22 *e*P **P 01 59 20.2 +0.7**
35nm,1.1s
ZAA0 Zalesovo Array 68.92 337 *e*P **P 01 59 31.2 -0.7**
9.9nm,0.8s
ZALV Zalesovo Beam 68.92 337 P **P 01 59 31.1 -0.8**
9.2nm,0.7s,baz=137,slow=4.2,SNR=35
ZALV pP **pP 02 01 38.8 +1.5**
0.6nm,0.5s,baz=162,slow=5.5,SNR=1.8
YAK Yakutsk 69.04 3 *e*P **P 01 59 32.8 +0.3**
85nm,0.7s
KURBB Kurchatov Arra 69.30 331 P **P 01 59 34.0 -0.3**
2.7nm,0.7s,baz=144,slow=5.2,SNR=19
KURBB pP **pP 02 01 40.5 +0.6**
0.7nm,0.3s,baz=138,slow=5.6,SNR=5.5
KURK Kurchatov 69.32 331 P **P 01 59 34.0 -0.4**
KURK pP **pP 02 01 40.5 +0.5**
WSAR Wadi Sarin 70.12 298 P **P 01 59 39.5 -0.2**
3.5nm,0.8s,baz=127,slow=11,SNR=2.8
MAW Mawson 72.59 200 P **P 01 59 53.2 +0.1**
21nm,0.5s,baz=68,slow=5.2,SNR=16
MAW Mawson 72.59 200 P **P 01 59 54.1 +0.9**
baz=73,SNR=12
VNDA Vanda 73.25 172 P **P 01 59 57.2 +0.5**
16nm,0.6s,baz=317,slow=6.6,SNR=120
VNDA Vanda 73.25 172 *e*P **P 01 59 57.3 +0.5**
18nm,0.8s
BVAR Borovoye Array 74.76 330 P **P 02 00 05.6 -0.1**
2.3nm,0.7s,baz=126,slow=6.6,SNR=17
ABPO Ambohimpanom 74.78 252 *e*P **P 02 00 07.1 +0.4**
53nm,1.8s
BRVK Borovoye 74.83 330 *e*P **P 02 00 06.2 +0.1**
8.2nm,1.1s
OPO Ambohidratompo 74.84 253 P **P 02 00 07.1 0.0**
22nm,0.7s,baz=81,slow=5.0,SNR=39
ABKAR Akbulak array 78.80 323 *e*P **P 02 00 25.9 -0.8**
TIXI Tiksi 78.61 2 *e*P **P 02 00 25.4 -0.8**
14nm,1.0s
AKTO Aktyubinsk 80.22 324 P **P 02 00 33.7 -1.4**
2.6nm,0.8s,baz=92,slow=7.4,SNR=7.9
SYO Syowa Base 81.27 201 ǁ *i*X **P 02 00 38.0 -2.1**
SYO Syowa Base 81.27 201 ǁ *i*PcP **PcP 02 00 42.7 -1.5**
RAYN Ar Rayn 81.88 295 *e*P **P 02 00 44.6 +0.4**
10.0nm,0.8s
ARU Arti 82.40 329 *e*P **P 02 00 45.2 -0.8**
QSPA South Pole Qui 82.93 180 P **P 02 00 48.6 -0.1**
12nm,0.5s,baz=249,slow=0.9,SNR=61
GAMB Gambell 85.50 24 *e*P **P 02 01 01.1 +0.1**
KMBO Kilima Mbogo 86.13 269 *e*P **P 02 01 06.3 +0.8**
7.7nm,1.0s
LSZ Lusaka 93.25 254 *e*P **P 02 01 38.0 -0.2**
6.9nm,0.7s
LSZ *e*pP **pP 02 03 56.3 +2.8**
BOSA Boshof 93.84 241 P **P 02 01 40.2 -0.4**
9.2nm,0.8s,baz=113,slow=2.7,SNR=15
BOSA Boshof 93.84 241 *e*P **P 02 01 40.8 +0.1**
8.9nm,0.8s
SNAA Sanae 94.04 195 P **P 02 01 40.8 +0.3**
SNAA Sanae 94.04 195 P **P 02 01 40.9 +0.3**
5.8nm,0.6s,baz=154,slow=6.3,SNR=33
SUA Susitna One 94.11 29 *e*P **P 02 01 40.5 -0.7**
10nm,0.9s
BPAW Bear Paw Mtn. 94.33 26 *e*P **P 02 01 41.6 -0.3**
14nm,1.5s
MLY Manley 94.55 25 *e*P **P 02 01 42.6 -0.4**
8.2nm,0.8s
COLD Coldfoot 95.01 23 *e*P **P 02 01 45.5 +0.6**
6.3nm,0.9s
MCK McKinley 95.19 27 *e*P **P 02 01 44.0 -1.8**
13nm,1.1s
RND Reindeer 95.20 27 *e*P **P 02 01 44.9 -1.0**
12nm,0.8s
MDM Murphy Dome 95.60 25 *e*P **P 02 01 46.8 -0.8**
17nm,1.8s
WRH Wood River Hil 95.62 26 *e*P **P 02 01 46.7 -1.0**
9.0nm,0.9s
VNA2 Neumayer--Watz 95.65 194 P **P 02 01 48.4 +0.6**
baz=113,slow=3.7
CCB Clear Creek Bu 95.76 26 *e*P **P 02 01 47.2 -1.1**
9.0nm,0.8s
IL1 Eielson Array 96.16 26 *e*P **P 02 01 47.8 -2.4**
ILAR Eielson Array 96.16 26 P **P 02 01 48.1 -2.0**
2.4nm,0.9s,baz=237,slow=5.3,SNR=20
ILAR PKKPbc **PKKPdf 02 18 33.6 -2.6**
0.6nm,0.7s,baz=70,slow=1.6,SNR=5.9
YKA Yellowknife Ar 110.58 25 PKiKP **PKiKP 02 06 50.0 -0.5**
1.1nm,0.7s,baz=308,slow=2.0,SNR=20
YKA SKiKP **SKiKP 02 09 26.1 -1.2**
0.3nm,0.5s,baz=298,slow=2.0,SNR=5.5
YKA PKKPbc **PKKPbc 02 17 50.8 -3.2**
0.5nm,0.5s,baz=113,slow=3.4,SNR=10
YKA PKKPab **PKKPab 02 18 01.9 -3.4**
0.4nm,0.7s,baz=112,slow=5.4,SNR=5.1
WLF Walferdange 112.80 321 *e*PKP **PKiKP 02 06 56.0 +0.7**
EDM Edmonton 116.08 34 *e*PKPdf **PKPdf 02 06 59.7 +0.3**
F10A Beach Ranch, E 115.21 42 *e*PKPdf **PKPdf 02 07 00.9 +0.9**
NVAR Mina Array Bea 116.35 51 PKP **PKPdf 02 07 03.3 +0.7**
0.8nm,0.5s,baz=255,slow=2.7,SNR=5.8
NVAR PP **PP 02 08 19.1 -1.7**
0.7nm,0.7s,baz=264,slow=9.0,SNR=3.5
NVAR SKP 02 09 38.3
0.4nm,0.5s,baz=250,slow=2.6,SNR=3.6
NV01 Mina Array Sit 116.35 51 *e*PKPdf **PKPdf 02 07 03.6 +1.0**
HLID Hailey 117.84 44 *e*PKPdf **PKPdf 02 07 06.3 +1.0**
SHPR Sheep Range 119.22 52 *e*PKPdf **PKPdf 02 07 09.8 +1.7**
EGMT Eagleton 119.28 38 *e*PKPdf **PKPdf 02 07 09.7 +0.2**
HVU Hansel Valley 119.55 46 *e*PKPdf **PKPdf 02 07 09.1 +0.5**
YMR Madison River 119.81 42 *e*PKPdf **PKPdf 02 07 11.1 +2.0**
YHH Holmes Hill 119.84 42 *e*PKPdf **PKPdf 02 07 10.7 +1.4**
DUG Dugway, Tooele 120.01 47 *e*PKPdf **PKPdf 02 07 10.4 +0.9**
FXWY Fox Creek 120.14 43 *e*PKPdf **PKPdf 02 07 10.8 +1.1**
FFC Flin Flon 120.20 29 *e*PKPdf **PKPdf 02 07 08.6 -0.6**
REDW Red Top Meadow 120.36 43 *e*PKPdf **PKPdf 02 07 11.4 +1.2**
SNOW Snow King Moun 120.39 43 *e*PKPdf **PKPdf 02 07 11.6 +1.4**
LCMT Little Creek M 120.59 51 *e*PKPdf **PKPdf 02 07 12.3 +1.6**
FCC Fort Churchill 120.93 22 *e*PKPdf **PKPdf 02 07 09.7 -0.7**
PD31 Pinedale Array 121.46 44 *e*PKPdf **PKPdf 02 07 12.7 +0.3**
PDAR Pinedale Array 121.46 44 PKP **PKPdf 02 07 12.5 +0.2**
0.7nm,0.5s,baz=80,slow=1.7,SNR=13
PDAR PP **PP 02 08 52.8 -2.2**
0.4nm,0.6s,baz=307,slow=0.7,SNR=3.5
PDAR PKKPbc **PKKPbc 02 17 14.8 -1.8**
1.9nm,0.6s,baz=138,slow=7.1,SNR=18
PDAR Pinedale Array 121.46 44 *e*PKPdf **PKPdf 02 07 10.7 -1.6**
PDAR PP **PP 02 08 52.8 -2.2**
PDAR PKKPbc **PKKPbc 02 17 14.8 -1.8**
TMUT Trail Mountain 121.46 48 *e*PKPdf **PKPdf 02 07 13.8 +1.3**
SRU San Rafael Swe 122.03 48 *e*PKPdf **PKPdf 02 07 14.7 +1.2**
P18A Preston Nutter 122.06 47 *e*PKPdf **PKPdf 02 07 15.0 +1.3**
TOA0 Torodi Ar. Sit 122.48 281 *e*PKPdf **PKPdf 02 07 14.2 -0.5**
TOA0 *e*PKPdf **PKiKP 02 07 14.7 -0.3**
TORD Torodi Ar. Bea 122.48 281 PKP **PKPdf 02 07 14.2 -0.5**
4.1nm,0.7s,baz=56,slow=2.0,SNR=44
TORD SKP 02 09 50.5
2.0nm,1.0s,baz=60,slow=2.0,SNR=5.6
TORD PKKPbc **PKKPbc 02 17 12.0 +0.2**
0.3nm,0.5s,baz=287,slow=4.8,SNR=11
PV09 Paradox Valley 123.25 48 *e*PKPdf **PKPdf 02 07 17.7 +1.8**
O20A White River Ci 123.33 46 *e*PKPdf **PKPdf 02 07 17.1 +1.2**
PV10 Paradox Valley 123.36 48 *e*PKPdf **PKPdf 02 07 17.4 +1.3**
PV01 Paradox Valley 123.79 48 *e*PKPdf **PKPdf 02 07 18.2 +1.2**
MVCO Mesa Verde 124.15 49 *e*PKPdf **PKPdf 02 07 18.2 +0.6**
RSSD Black Hills 124.56 40 *e*PKPdf **PKPdf 02 07 18.2 0.0**
S22A 4UR Ranch, Cre 125.22 48 *e*PKPdf **PKPdf 02 07 21.4 +1.6**
ULM Lac du Bonnet 125.88 30 PKP **PKPdf 02 07 18.7 -1.5**
2.8nm,0.6s,baz=332,slow=1.3,SNR=9.1
SDCO Great Sand Dun 126.20 48 *e*PKPdf **PKPdf 02 07 22.6 +0.9**
ANMO Albuquerque 126.45 51 *e*PKPdf **PKPdf 02 07 23.7 +1.6**
MHTCO State Highway 127.03 48 *e*PKPdf **PKPdf 02 07 25.4 +2.3**
T25A Trinidad 127.23 48 *e*PKPdf **PKPdf 02 07 24.8 +1.3**
KOWA Kowa 128.00 283 PKP **PKPdf 02 07 24.7 -0.6**
2.0nm,0.6s,baz=76,slow=3.6,SNR=6.6
KOWA SKPbc SKPbc 02 09 46.7
5.3nm,0.6s,baz=79,slow=4.3,SNR=12
MNTX Cornudas Mount 128.33 55 *e*PKPdf **PKPdf 02 07 26.6 +1.1**
DBIC Dimbokro 128.74 273 PKP **PKPdf 02 07 26.4 -0.4**
2.5nm,0.6s,baz=114,slow=2.3,SNR=6.3
DBIC SKPbc SKPbc 02 09 49.5
4.0nm,0.7s,baz=103,slow=3.4,SNR=2.9
ECSD EROS Data Cent 129.37 37 *e*PKPdf **PKPdf 02 07 26.4 -0.7**
ECSD *e*SKPbc SKPbc 02 09 51.5 +0.2
TX31 Lajitas Ar. Si 130.44 57 *e*PKPdf **PKPdf 02 07 30.6 +0.9**
TX31 *e*PKPdf **PKiKP 02 07 31.2 +0.5**
TXAR Lajitas Array 130.45 57 PKP **PKPdf 02 07 31.1 +1.4**
0.9nm,0.5s,baz=210,slow=2.0,SNR=13
TXAR SKPbc **SKPab 02 09 56.6 +0.2**
15nm,0.8s,baz=252,slow=2.9,SNR=86
TXAR SKKPbc **SKKPbc 02 19 31.2 -3.1**
0.2nm,0.6s,baz=116,slow=5.8,SNR=3.5
PLCA Paso Flores 130.73 166 PKP **PKPdf 02 07 31.3 +1.4**
2.0nm,0.7s,baz=21,slow=5.4,SNR=8.4
PLCA SKPbc **SKPbc 02 09 56.6 +0.1**
12nm,0.8s,baz=247,slow=3.3,SNR=30
SCHQ Schefferville 131.63 8 PKP **PKPdf 02 07 31.4 +0.3**
2.3nm,0.6s,baz=1.8,slow=1.6,SNR=9.7
SCHQ SKPbc **SKPbc 02 09 57.9 -1.2**
2.1nm,0.6s,baz=356,slow=2.4,SNR=11
KSU1 Kansas State U 131.86 42 *e*PKPdf **PKPdf 02 07 33.3 +1.4**
WMOK Wichita Mounta 132.38 49 *e*PKPdf **PKPdf 02 07 33.7 +0.6**
JCT Junction City 133.25 54 *e*PKPdf **PKPdf 02 07 35.8 +1.0**
CCM Cathedral Cave 135.95 40 *e*PKPdf **PKPdf 02 07 39.6 0.0**
PBMO Poplar Bluff 137.22 41 *e*PKPpre PKPpre 02 07 31.6
PBMO *e*PKPdf **PKiKP 02 07 43.7 -0.3**
BLO Bloomington 138.14 36 *e*PKPpre PKPpre 02 07 34.9
WCI Wyandotte Cave 138.90 37 *e*PKPpre PKPpre 02 07 36.6
WCI *e*SKPbc **SKPbc 02 10 20.4 -1.6**
OXF Oxford 139.19 43 *e*PKPpre PKPpre 02 07 39.1
WVT Waverly 139.29 40 *e*PKPpre PKPpre 02 07 37.8
PLAL Pickwick Lake 139.82 42 *e*PKPpre PKPpre 02 07 39.4
M54A Oil Creek Stat 139.99 27 *e*PKPpre PKPpre 02 07 40.2
BINY Binghamton 140.98 23 *e*PKPpre PKPpre 02 07 43.5
SWET Sewanee 141.06 40 *e*PKPpre PKPpre 02 07 43.2
CMIG Matias Romero 141.24 72 PKhKP PKPpre 02 07 45.7
2.8nm,0.7s,baz=351,slow=7.9,SNR=4.3
CMIG SKPbc **SKPbc 02 10 28.7 +0.1**
1.5nm,0.5s,baz=349,slow=5.2,SNR=2.9
O56A Blue Knob Stat 141.48 27 *e*PKPpre PKPpre 02 07 45.0
SSPA Standing Stone 141.49 26 *e*PKPpre PKPpre 02 07 44.9
LCO Las Campanas 141.63 160 *e*PKPpre PKPpre 02 07 45.9
TZTN Tazewell 141.65 36 *e*PKPpre PKPpre 02 07 45.9
LRAL Lakeview Retre 141.68 43 *e*PKPpre PKPpre 02 07 46.0
LRAL *e*SKPbc **SKPbc 02 10 28.3 -1.0**
CPCT Cooper Cave 141.80 38 *e*PKPpre PKPpre 02 07 45.7
TKL Tuckaleechee C 142.11 37 PKhKP PKPpre 02 07 46.6
6.2nm,0.7s,baz=289,slow=4.0,SNR=12
TKL SKPbc **SKPbc 02 10 29.4 -0.9**
4.1nm,0.8s,baz=140,slow=9.3,SNR=4.6
WES Weston 142.45 18 *e*PKPdf **PKPdf 02 07 49.0 -2.3**
ODNJ Ogdensburg 142.47 23 *e*PKPdf **PKPdf 02 07 49.4 -1.9**
MVL Millersville 142.68 25 *e*PKPpre PKPpre 02 07 49.5
PAL Palisades 142.79 22 *e*PKPdf **PKPdf 02 07 50.7 -1.2**
BRNJ Basking Ridge 142.82 23 *e*PKPdf **PKPdf 02 07 49.4 -2.5**
BLA Blacksburg 142.92 32 *e*PKPdf **PKPdf 02 07 49.8 -2.5**
SDMD Soldier's Deli 142.95 27 *e*PKPdf **PKPdf 02 07 50.2 -2.0**
BG3 Lake Jocassee 143.07 37 *e*PKPdf PKPbc 02 07 51.6 +0.5
PSUB Penn St. - Bra 143.11 25 *e*PKPdf PKPab 02 07 50.6 0.0
VWCC Virginia Weste 143.13 32 *e*PKPdf PKPab 02 07 50.6 -0.1
IP04 Greensprings 143.43 29 *e*PKPbc PKPab 02 07 51.2 -0.7
IP03 Louisa 143.52 29 *e*PKPbc PKPab 02 07 52.0 -0.2
CVRD Centerville Ro 143.58 29 *e*PKPbc PKPab 02 07 52.3 -0.2
SPRD Spring Road, M 143.59 29 *e*PKPbc PKPab 02 07 52.4 0.0
IP07 Quail 143.60 29 *e*PKPbc PKPab 02 07 52.2 -0.3
IP06 Yanceyville 143.61 29 *e*PKPbc PKPbc 02 07 52.5 -0.1
IP01 Cuckoo 143.62 29 *e*PKPbc PKPbc 02 07 52.2 -0.4
CBN Corbin Frederi 143.68 28 *e*PKPdf PKPbc 02 07 52.8 0.0
GOGA Godfrey 143.78 40 *e*PKPdf PKPbc 02 07 53.1 -0.1
IP05 Hopewell Churc 143.80 29 *e*PKPbc PKPbc 02 07 52.9 -0.2
KMSC Kings Mountain 143.91 36 *e*PKPdf PKPbc 02 07 53.7 +0.1
HODGE Hodges 143.99 38 *e*PKPbc PKPbc 02 07 54.2 0.0
NCA1 North Carolina 144.11 33 *e*PKPbc PKPbc 02 07 54.2 +0.1
URVA University of 144.11 29 *e*PKPbc PKPbc 02 07 53.9 -0.2
JSC Jenkinsville 144.56 37 *e*PKPdf PKPbc 02 07 55.7 +0.2
TIGA Tifton 144.95 43 *e*PKPdf PKPbc 02 07 57.2 +0.4
NHSC New Hope 146.02 37 *e*PKPbc **PKPbc 02 08 00.1 +0.3**
CPUP Villa Florida 146.81 179 PKPbc **PKPbc 02 08 02.6 +0.4**
8.4nm,0.5s,baz=186,slow=2.2,SNR=37
CPUP SKPbc **SKPbc 02 10 40.8 -0.7**
2.2nm,0.7s,baz=150,slow=3.1,SNR=3.7
PB01 IPOC Station P 149.31 156 *e*PKPbc **PKPbc 02 08 08.8 +0.1**
MNMC Minye Minye 150.97 154 *e*PKPbc **PKPbc 02 08 13.9 +1.1**
JTS JuntasAbangare 151.71 81 *e*PKPdf **PKPdf 02 08 06.9 -0.4**
JTS *e*PKPbc **PKiKP 02 08 14.6 +0.1**
JTS *e*PKPab **PKPab 02 08 26.3 0.0**
LPAZ La Paz 154.12 154 PKPbc **PKPbc 02 08 20.9 +0.7**
1.5nm,0.8s,baz=191,slow=7.1,SNR=3.6
LPAZ PKPab **PKPab 02 08 38.2 +1.3**
7.1nm,0.6s,baz=206,slow=2.4,SNR=26
SIV San Ignacio 156.67 169 PKPab **PKPab 02 08 48.0 +0.8**
14nm,0.5s,baz=212,slow=5.3,SNR=77
BCIP Isla Barro Col 156.81 83 *e*PKPab **PKPab 02 08 48.8 +0.5**
SAML Samuel 162.77 157 *e*PKPab **PKPab 02 09 13.8 -0.1**
SDV Santo Domingo 165.89 82 PKPab **PKPab 02 09 28.8 +0.4**
7.7nm,0.7s,baz=267,slow=3.6,SNR=12

NIED ***17*** *02:04:00, 39.20N× 142.50E, h29km, Mw3.6 Best double couple: M₀2.68000×10¹⁴ NP1:φ₀209.00000°, δ45.00000°, λ-85.00000°. NP2:φ₀22.00000°, δ45.00000°, λ-95.00000°.*
ISCJB ***17*** *02:04:15.8± 1.3, 39.20N± 0.04× 142.59E± 0.08, h24km± 6km, mb3.6/5, Error ellipse: s-maj=11.0km s-min=5.5km az=15.1*
JMA ***17*** *02:04:17.4± 0.1, 39.21N× 142.50E, h32km± 1km, M3.5*
IDC ***17*** *02:04:21.7± 3.2, 39.05N× 142.57E, h75km± 24km, mb3.3/5, mb1 3.4/8, mb1mx3.1/64, mbtmp3.6/8, Error ellipse: s-maj=44.8km s-min=21.3km az=81.0*
ISC 17 02:04:16.8± 1.3, 39.20N± 0.04× 142.48E± 0.10, h22km± 5km, n25, σ1§52/29, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.64**	**307**	P	**Pb**	**02 04 29.7**	**+0.4**
MIYJ				S	**Sb**	**02 04 38.3**	**+0.4**
OFUJ	**Ofunato**	**0.64**	**260**	P	**Pn**	**02 04 30.1**	**-0.6**
OFUJ				S	**Sn**	**02 04 39.1**	**-1.1**
JTH	**Tanohata**	**0.88**	**327**	P	**Pb**	**02 04 33.3**	**-0.1**
JTH				S	**Sb**	**02 04 45.7**	**+1.0**
JOM	**Ohasama**	**0.96**	**287**	P	**Pn**	**02 04 35.0**	**-0.1**
JOM				S	**Sn**	**02 04 48.2**	**+0.1**
JMK	**Ichinoseki**	**1.01**	**256**	P	**Pn**	**02 04 35.7**	**0.0**
JMK				S	**Sn**	**02 04 49.3**	**0.0**
JIO	**Ouri**	**1.16**	**230**	P	**Pn**	**02 04 37.3**	**-0.8**
JIO				S	**Sb**	**02 04 51.4**	**-1.2**
JKZ	**Kuzumaki**	**1.19**	**312**	P	**Pn**	**02 04 38.5**	**+0.3**
JKZ				S	**Sn**	**02 04 53.9**	**+0.2**
JANG	**Nango**	**1.39**	**328**	P	**Pn**	**02 04 40.9**	**0.0**
JANG				S	**Sn**	**02 04 58.9**	**+0.3**
JRG	**Rokugo**	**1.45**	**278**	P	**Pb**	**02 04 42.7**	**-0.4**
JRG				S	**Sb**	**02 05 01.3**	**+0.3**
JOU	**Okura**	**1.65**	**240**	P	**Pb**	**02 04 45.5**	**-1.0**
JOU				S	**Sb**	**02 05 06.2**	**-0.6**
MJAR	**Matsushiro Arr**	**4.30**	**233**	P	**Pn**	**02 05 23.7**	**+2.8**
	1.1nm,0.3s,baz=38,slow=12,SNR=22						
MAT	**Matsushiro**	**4.30**	**233**	P	**Pn**	**02 05 24.1**	**+3.2**
MAT				*e*S	**Sn**	**02 06 15.6**	**+5.2**
ASAJ	**Asahikawa**	**4.91**	**1**	P	Pn	02 05 35.0	+5.6
	0.8nm,0.3s,baz=165,slow=20,SNR=3.7						
ASAJ				S	**Sn**	**02 06 26.9**	**+1.4**
	0.8nm,0.3s,baz=343,slow=20,SNR=2.0						
USRK	**Ussuriysk Ar.**	**9.30**	**306**	P	Pn	02 06 35.5	+5.9
	0.2nm,0.3s,baz=116,slow=13,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**28.63**	**126**	T	T	02 40 41.2	
	baz=318,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	02 40 45.6	
	baz=318,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	02 40 41.4	
	baz=318,slow=75,SNR=54						
H11S1	**WAKE ISLAND Hy**	**29.42**	**128**	T	T	02 41 51.8	
	baz=319,slow=76,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**29.42**	**128**	T	T	02 41 37.5	
	baz=319,slow=76,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**29.43**	**128**	T	T	02 41 39.0	
	baz=319,slow=76,SNR=4.3						
ZALV	**Zalesovo Beam**	**41.11**	**311**	P	**P**	**02 11 59.3**	**+0.4**
	0.6nm,0.5s,baz=90,slow=8.6,SNR=2.9						
MKAR	**Makanchi Array**	**43.72**	**300**	P	**P**	**02 12 20.2**	**0.0**
	0.3nm,0.7s,baz=90,slow=7.2,SNR=3.7						
KURBB	**Kurchatov Arra**	**45.37**	**306**	P	**P**	**02 12 32.9**	**-0.4**
	0.6nm,0.5s,baz=80,slow=8.3,SNR=5.7						
BVAR	**Borovoye Array**	**49.76**	**311**	P	**P**	**02 13 07.5**	**+0.1**
	0.3nm,0.3s,baz=62,slow=6.7,SNR=2.7						
WRA	**Warramunga Arr**	**59.32**	**189**	P	**P**	**02 14 14.9**	**-2.2**
	1.2nm,0.7s,baz=6.4,slow=6.9,SNR=7.9						

NIED ***17*** *02:08:00, 40.90N× 145.10E, h5km, Mw4.0 Best double couple: M₀1.10000×10¹⁵ NP1:φ₀180.00000°, δ41.00000°, λ-96.00000°. NP2:φ₀8.00000°, δ49.00000°, λ-84.00000°.*
IDC ***17*** *02:08:54.1± 0.7, 40.93N× 144.95E, h0km, mb3.8/19, mb1 4.0/23, mb1mx3.8/70, mbtmp3.8/23, ML3.0/4, MS3.3/7, Ms1 3.3/7, ms1mx2.9/63, Error ellipse: s-maj=19.0km s-min=14.5km az=107.0*
NEIC ***17*** *02:08:55.0± 2.7, 40.90N× 144.93E, h7km± 16km, mb4.2/2, Error ellipse: s-maj=9.2km s-min=5.8km az=114.0*
JMA ***17*** *02:08:55.1± 0.2, 40.91N× 145.13E, h60km± 3km, M4.0*
ISCJB ***17*** *02:08:57.0± 0.4, 40.97N± 0.03× 144.93E± 0.04, h33km, mb4.0/23, MS3.5/5, Error ellipse: s-maj=4.8km s-min=4.0km az=175.9*
ISC 17 02:08:59.2± 0.6, 40.98N± 0.05× 144.98E± 0.06, h35km, n59, σ1§42/63, mb3.9/23, MS3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.71**	**308**	*e*Pn	**Pn**	**02 09 25.2**	**-1.3**
ERM				*e*Sn	**Sn**	**02 09 45.3**	**-1.8**
JEM	**Erimo**	**1.71**	**308**	P	**Pn**	**02 09 25.2**	**-1.3**
JEM				S	**Sn**	**02 09 45.1**	**-2.1**
JAK	**Akkeshi**	**2.02**	**354**	P	**Pn**	**02 09 29.1**	**-1.7**
JCH	**Churui**	**2.03**	**324**	P	**Pn**	**02 09 29.5**	**-1.4**
JCH				S	**Sn**	**02 09 53.3**	**-1.7**
JOB	**Onbets**	**2.10**	**336**	P	**Pn**	**02 09 30.6**	**-1.2**
JOB				S	**Sn**	**02 09 55.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**2.11**	**309**	P	**Pn**	**02 09 31.3**	**-0.7**
JNBK				S	**Sn**	**02 09 57.3**	**+0.3**
NEM2	**Nemuro 2**	**2.45**	**13**	P	**Pn**	**02 09 34.4**	**-2.2**
NEM2				S	**Sn**	**02 10 03.4**	**-1.9**
JAR	**Ashorobuto**	**2.48**	**339**	P	**Pn**	**02 09 34.9**	**-2.2**
JAR				S	**Sn**	**02 10 04.2**	**-1.9**
JNK	**Nakash**	**2.61**	**356**	P	**Pn**	**02 09 36.1**	**-2.7**
JNK				S	**Sn**	**02 10 05.8**	**-3.5**
JBT2	**Biratori 2**	**2.65**	**313**	P	**Pn**	**02 09 40.2**	**+0.8**
JBT2				S	**Sn**	**02 10 11.2**	**+0.9**
JANG	**Nango**	**2.70**	**258**	P	**Pn**	**02 09 37.5**	**-2.6**
JFR	**Furan**	**2.81**	**322**	P	**Pn**	**02 09 40.4**	**-1.2**
JFR				S	**Sn**	**02 10 12.2**	**-2.1**
JRA	**Rausu**	**2.96**	**2**	P	**Pn**	**02 09 41.9**	**-1.7**
JOT	**Ohata**	**2.99**	**279**	P	**Pn**	**02 09 42.5**	**-1.6**
JOT				S	**Sn**	**02 10 15.7**	**-3.0**
JTKR	**Abashiri--Toko**	**3.09**	**346**	P	**Pn**	**02 09 44.3**	**-1.1**
JTKR				S	**Sn**	**02 10 20.2**	**-0.9**
JKB	**Kayabe**	**3.10**	**288**	P	**Pn**	**02 09 44.4**	**-1.2**
JOM	**Ohasama**	**3.20**	**243**	P	**Pn**	**02 09 45.1**	**-1.8**
JEW	**Eniwo**	**3.22**	**306**	P	**Pn**	**02 09 48.0**	**+0.8**
JEW				S	**Sn**	**02 10 23.9**	**-0.5**
ASAJ	**Asahikawa**	**3.59**	**331**	Pn	**Pn**	**02 09 51.5**	**-0.8**
	2.6nm,0.3s,baz=190,slow=11,SNR=10						
ASAJ				Sn	**Sn**	**02 10 33.3**	**-0.3**
	3.5nm,0.3s,baz=287,slow=32,SNR=10						
MAJO	**Matsushiro**	**6.90**	**232**	*e*Pn	**Pn**	**02 10 35.5**	**-2.4**
	10nm,0.6s						
MJAR	**Matsushiro Arr**	**6.90**	**232**	Pn	**Pn**	**02 10 35.7**	**-2.1**
	0.6nm,0.3s,baz=40,slow=12,SNR=8.4						
MJAR				Sn	**Sn**	**02 11 55.6**	**+0.5**
	0.0nm,0.3s,baz=50,slow=25,SNR=2.7						
USRK	**Ussuriysk Ar.**	**10.10**	**293**	Pn	**Pn**	**02 11 22.5**	**+0.8**
	0.2nm,0.3s,baz=93,slow=15,SNR=4.2						
USRK				LR	LR	02 15 23.0	
	comp=Z,108nm,21.1s,baz=113,slow=38						
KLR	**Kul'dur**	**12.45**	**316**	LR	LR	02 17 07.1	
	comp=Z,5.2nm,19.8s,baz=254,slow=40						
KSRS	**Korea Array**	**13.68**	**261**	LR	LR	02 17 12.9	
	comp=Z,64nm,18.2s,baz=79,slow=36						
PETK	**Petropavlovsk-**	**14.88**	**31**	Pn	**Pn**	**02 12 27.4**	**+0.6**
	0.1nm,0.3s,baz=216,slow=15,SNR=3.0						
SEY	**Seymchan**	**22.42**	**9**	P	**P**	**02 13 53.8**	**-0.8**
	1.0nm,0.4s,baz=175,slow=12,SNR=7.5						
SONM	**Songino Array**	**28.17**	**297**	P	**P**	**02 14 48.4**	**+0.1**
	1.3nm,0.8s,baz=96,slow=8.8,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	02 44 19.8	
	baz=324,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.26**	**132**	T	T	02 44 18.8	
	baz=324,slow=74,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**28.27**	**132**	T	T	02 44 19.7	
	baz=324,slow=74,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	02 45 23.1	
	baz=325,slow=74,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	02 45 21.9	
	baz=325,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hy**	**29.14**	**134**	T	T	02 45 24.3	
	baz=325,slow=74,SNR=18						
TLY	**Talaya**	**30.10**	**305**	LR	LR	02 28 01.3	
	comp=Z,46nm,19.8s,baz=52,slow=38						
MKAR	**Makanchi Array**	**44.49**	**299**	P	**P**	**02 17 07.3**	**+0.4**
	0.7nm,0.7s,baz=83,slow=9.5,SNR=7.4						
MKAR				LR	LR	02 37 23.1	
	comp=Z,44nm,18.7s,baz=46,slow=38						
ILAR	**Eielson Array**	**44.68**	**34**	P	**P**	**02 17 08.5**	**+0.3**
	0.8nm,0.8s,baz=264,slow=6.5,SNR=8.8						
KURK	**Kurchatov**	**45.79**	**306**	P	**P**	**02 17 17.6**	**+0.5**
KURBB	**Kurchatov Arra**	**45.87**	**306**	P	**P**	**02 17 17.6**	**-0.1**
	1.6nm,0.6s,baz=77,slow=8.5,SNR=10						
INK	**Inuvik**	**49.60**	**29**	P	**P**	**02 17 48.0**	**+1.5**
	0.7nm,0.6s,baz=321,slow=0.8,SNR=3.7						
BVAR	**Borovoye Array**	**50.05**	**311**	P	**P**	**02 17 50.1**	**0.0**
	0.5nm,0.5s,baz=64,slow=9.8,SNR=4.0						
AAK	**Ala-Archa**	**51.

BTHS		**3.96**	**197**	P	**Pn**	**02 33 18.4**	**+1.9**
NIAN	**Nian**	**4.20**	**93**	*e*Pn	**Pn**	**02 33 21.1**	**+1.3**
NIAN				*e*AMB	AMB	02 34 16.4	
	comp=Z,549nm,0.1s						
IBAF	**Bafgh**	**4.78**	**38**	*e*Pn	**Pn**	**02 33 29.2**	**+1.2**
IBAF				*e*AMB	AMB	02 33 29.7	
	comp=Z,770nm,0.1s						
ICHK	**Chekchek**	**4.81**	**24**	*e*Pn	**Pn**	**02 33 29.4**	**+1.0**
ICHK				*e*AMB	AMB	02 34 32.8	
	comp=Z,273nm,0.3s						
IZEF	**Zefreh**	**5.03**	**2**	*e*Pn	**Pn**	**02 33 31.8**	**+0.3**
IZEF				*e*AMB	AMB	02 33 35.0	
	comp=Z,97nm,0.1s						
IKLH	**Kolahrood**	**5.47**	**355**	*e*Pn	**Pn**	**02 33 37.5**	**0.0**
IKLH				*e*AMB	AMB	02 33 44.5	
	comp=Z,119nm,0.1s						
ASYS		**6.90**	**269**	P	**Pn**	**02 33 55.9**	**-1.1**
LYLS		**7.28**	**218**	P	**Pn**	**02 34 02.7**	**+0.5**
WSAR	**Wadi Sarin**	**7.46**	**127**	Pn	**Pn**	**02 34 05.1**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=312,slow=13,SNR=11						
WSAR				Sn	**Sn**	**02 35 27.2**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=131,slow=19,SNR=3.9						
GEYT	**Alibeck**	**11.24**	**25**	Pn	**Pn**	**02 34 56.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=242,slow=11,SNR=3.5						
GNI	**Garni**	**13.70**	**335**	LR	LR	02 41 28.8	
	comp=Z,12nm,19.7s,baz=1.5,slow=41						
BRTR	**Keskin Array B**	**19.35**	**312**	P	**P**	**02 36 40.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=6.7						
AKTO	**Aktyubinsk**	**23.00**	**10**	P	**P**	**02 37 20.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=2.9						
BVAR	**Borovoye Array**	**28.57**	**23**	P	**P**	**02 38 11.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=216,slow=7.1,SNR=4.1						
BVAR				PcP	**PcP**	**02 41 21.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=201,slow=1.2,SNR=2.7						
AKASG	**Malin Array Be**	**28.67**	**329**	P	**P**	**02 38 12.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=142,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**30.28**	**43**	P	**P**	**02 38 26.1**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=249,slow=9.5,SNR=7.5						
KURBB	**Kurchatov Arra**	**30.39**	**34**	P	**P**	**02 38 25.6**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=234,slow=8.7,SNR=6.4						
ZALV	**Zalesovo Beam**	**35.38**	**33**	P	**P**	**02 39 10.5**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=238,slow=8.4,SNR=6.6						
GERES	**GERESS Array B**	**36.17**	**316**	P	**P**	**02 39 17.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=116,slow=6.1,SNR=4.7						
FINES	**FINESS Array B**	**37.83**	**340**	P	**P**	**02 39 29.6**	**-1.9**
	comp=Z,2.3nm,0.9s,baz=150,slow=13,SNR=5.3						
HFS	**Hagfors**	**41.45**	**332**	P	**P**	**02 40 00.3**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=116,slow=8.6,SNR=9.1						
NOA	**NORSAR Array B**	**42.37**	**332**	P	**P**	**02 40 12.4**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=125,slow=8.6,SNR=3.7						
ARCES	**ARCESS Array B**	**44.48**	**347**	P	**P**	**02 40 24.4**	**-1.8**
	comp=Z,2.8nm,1.0s,baz=137,slow=7.8,SNR=2.7						
EKA	**Eskdalemuir Ar**	**47.96**	**321**	P	**P**	**02 40 52.3**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=99,slow=7.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**49.11**	**263**	P	**P**	**02 41 02.0**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=59,slow=8.5,SNR=8.5						
KOWA	**Kowa**	**53.59**	**268**	P	**P**	**02 41 36.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=56,slow=12,SNR=4.4						
DBIC	**Dimbokro**	**57.79**	**260**	P	**P**	**02 42 05.3**	**-1.6**
	comp=Z,2.5nm,0.9s,baz=9.5,slow=6.1,SNR=3.1						
LBTB	**Lobatse**	**58.44**	**208**	P	**P**	**02 42 11.6**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=21,slow=5.5,SNR=4.7						
TGY	**Tagaytay City**	**64.98**	**87**	P	**P**	**02 42 57.4**	**+1.7**
	comp=Z,654nm,0.3s,baz=242,slow=7.9,SNR=4.6						
RES	**Resolute Bay**	**75.48**	**351**	LR	LR	03 22 40.7	
	comp=Z,16nm,18.6s,baz=180,slow=40						
YKA	**Yellowknife Ar**	**89.34**	**354**	P	**P**	**02 45 11.2**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=7.5,slow=5.1,SNR=9.7						

IDC ***17*** *02:35:22.7±0.7, 56.55N×24.64W, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/28, mbtmp4.2/7, ML4.1/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/25, Error ellipse: s-maj=26.8km s-min=20.1km az=70.0*

NEIC ***17*** *02:35:23.9±0.4, 56.55N×24.77W, h10km, mb4.3/2, Error ellipse: s-maj=16.9km s-min=10.4km az=57.0*

ISCJB ***17*** *02:35:25.1±0.6, 56.61S±0.09×24.7W±0.2, h33km, mb4.2/8, MS3.6/7, Error ellipse: s-maj=21.4km s-min=9.6km az=152.0*

ISC 17 02:35:27.1±0.6, 56.6S±0.1×24.8W±0.2, h33km, n26, σ0.9 95/23, mb4.2/8, MS3.5/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.78**	**160**	P	**Pn**	**02 39 05.7**	**-0.8**
VNA3	**Neumayer Olymp**	**16.02**	**162**	P	**Pn**	**02 39 08.4**	**-1.2**
VNA2	**Neumayer--Watz**	**16.17**	**159**	P	**Pn**	**02 39 09.8**	**-1.8**
	baz=326,slow=16						
SNAA	**Sanae**	**17.69**	**157**	P	**P**	**02 39 30.9**	**-0.3**
SNAA	**Sanae**	**17.69**	**157**	P	**Pn**	**02 39 30.4**	**-0.2**
	0.6nm,0.3s,baz=321,slow=19,SNR=32						
SNAA				LR	LR	02 44 29.8	
	comp=Z,148nm,20.7s,baz=344,slow=31						
TRQA	**Tornquist**	**30.78**	**291**	*e*P	**P**	**02 41 38.5**	**-0.9**
	2.4nm,0.6s						
PLCA	**Paso Flores**	**33.42**	**279**	LR	LR	02 56 42.8	
	comp=Z,86nm,19.0s,baz=181,slow=38						
QSPA	**South Pole Qui**	**33.63**	**180**	P	**P**	**02 42 04.7**	**+0.4**
	2.8nm,0.5s,baz=269,slow=1.0,SNR=12						
QSPA				LR	LR	02 55 46.0	
	comp=Z,84nm,18.1s,baz=226,slow=36						
CPUP	**Villa Florida**	**38.21**	**309**	P	**P**	**02 42 42.7**	**-0.8**
	2.5nm,0.9s,baz=156,slow=7.3,SNR=5.4						
CPUP				LR	LR	02 57 57.0	
	comp=Z,46nm,19.9s,baz=159,slow=35						
BOSA	**Boshof**	**44.83**	**73**	LR	LR	02 58 46.8	
	comp=Z,112nm,18.3s,baz=200,slow=31						
VNDA	**Vanda**	**46.06**	**182**	P	**P**	**02 43 48.0**	**+1.0**
	1.1nm,0.8s,baz=177,slow=6.6,SNR=5.9						
VNDA				LR	LR	03 01 48.2	
	comp=Z,48nm,19.6s,baz=204,slow=34						
LBTB	**Lobatse**	**47.91**	**70**	P	**P**	**02 44 01.9**	**-0.2**
	2.1nm,0.9s,baz=264,slow=10,SNR=3.1						
LPAZ	**La Paz**	**51.81**	**303**	P	**P**	**02 44 33.9**	**+1.4**
	4.3nm,0.6s,baz=107,slow=5.9,SNR=16						
SAML	**Samuel**	**56.17**	**312**	*e*P	**P**	**02 45 03.4**	**-0.1**
	2.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.92**	**27**	P	**P**	**02 46 52.5**	**-0.3**
	1.0nm,0.6s,baz=201,slow=6.0,SNR=12						
SDV	**Santo Domingo**	**75.37**	**313**	LR	LR	03 23 14.3	
	comp=Z,37nm,19.2s,baz=54,slow=38						
STKA	**Stephens Creek**	**91.10**	**168**	LR	LR	03 29 19.9	
	comp=Z,69nm,18.1s,baz=136,slow=36						
PDAR	**Pinedale Array**	**121.79**	**300**	PKP	**PKPdf**	**02 54 17.9**	**+0.9**
	0.2nm,0.5s,baz=106,slow=2.9,SNR=2.4						
FRB	**Frobisher Bay**	**124.67**	**338**	PKP	**PKPdf**	**02 54 21.5**	**0.0**
	1.7nm,0.9s,baz=297,slow=5.2,SNR=3.6						
BRVK	**Borovoye**	**133.93**	**57**	*e*PKPdf	**PKPdf**	**02 54 40.7**	**+1.2**
YKA	**Yellowknife Ar**	**137.50**	**317**	PKP	**PKPdf**	**02 54 44.2**	**-1.6**
	0.4nm,0.6s,baz=124,slow=2.3,SNR=8.1						
INK	**Inuvik**	**147.10**	**320**	PKPbc	**PKPab**	**02 55 06.3**	**-0.3**
	1.2nm,0.7s,baz=132,slow=4.1,SNR=5.0						
INK	**Inuvik**	**147.10**	**320**	*e*PKPbc	**PKPbc**	**02 55 05.0**	**+0.1**
SONM	**Songino Array**	**149.43**	**86**	PKPbc	**PKPbc**	**02 55 13.0**	**+1.2**
	0.4nm,0.6s,baz=188,slow=4.4,SNR=3.4						
ILAR	**Eielson Array**	**151.50**	**310**	PKPbc	**PKPbc**	**02 55 17.3**	**+1.3**
	1.1nm,0.8s,baz=152,slow=1.2,SNR=12						
MCK	**McKinley**	**152.18**	**308**	*e*PKPdf	**PKPdf**	**02 55 10.8**	**-0.1**
MCK				*e*PKPbc	**PKPbc**	**02 55 17.8**	**+0.2**

NIED ***17*** *02:55:00, 35.90N×139.60E, h89km, Mw4.2 Best double couple: M0=1.94000×10^15 NP1:φ=200.00000°, δ=44.00000°, λ=123.00000°. NP2:φ=337.00000°, δ=55.00000°, λ=62.00000°.*

ISCJB ***17*** *02:55:09.6±0.3, 35.89N±0.03×139.58E±0.06, h100km±2km, mb4.1/24, Error ellipse: s-maj=8.3km s-min=5.0km az=168.6*

IDC ***17*** *02:55:10.9±0.8, 35.87N×139.45E, h93km±6km, mb3.7/18, mb1 3.9/21, mb1mx3.7/72, mbtmp4.1/21, MS3.8/1, Ms1 3.8/1, ms1mx2.5/58, Error ellipse: s-maj=16.1km s-min=6.8km az=68.0*

NEIC ***17*** *02:55:10.1±0.7, 35.86N×139.66E, h90km±5km, mb4.2/6, Error ellipse: s-maj=8.6km s-min=7.1km az=117.0*

NEIC Recorded [2 JMA] in Gumma and Saitama.

JMA ***17*** *02:55:11.7±0.1, 35.90N×139.58E, h90km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs=334.00000°, δ=60.00000°, λ=68.00000°. NP2: φs=193.00000°, δ=36.00000°, λ=123.00000°. Principal axes: T Plg67.0000°, Azm202.0000°; N Plg19.0000°, Azm345.0000°; P Plg13.0000°, Azm80.0000°;*

JMA Felt II J1.

ISC 17 02:55:10.7±0.7, 35.85N±0.05×139.59E±0.07, h95km±5km, n59, σ1.9 61/68, mb4.0/24, 5C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOK	**Tokyo**	**0.21**	**139**	↑P	**Pn**	**02 55 25.9**	**+1.7**
JHU	**Hanno**	**0.25**	**271**	↑P	**Pn**	**02 55 25.2**	**+0.8**
JHU				S	**Sn**	**02 55 34.9**	**+0.2**
JRY	**Ryogami san**	**0.58**	**287**	↑P	**Pn**	**02 55 27.2**	**+0.6**
JRY				S	**Sn**	**02 55 39.0**	**+0.5**
JAG	**Ashikaga**	**0.59**	**349**	↑P	**Pn**	**02 55 26.6**	**0.0**
JAG				S	**Sn**	**02 55 37.3**	**-1.2**
JOD2	**Odawara 2**	**0.71**	**215**	↓P	**Pn**	**02 55 27.9**	**+0.1**
JOD2				S	**Sn**	**02 55 40.2**	**-0.3**
JYN	**Shimob**	**0.92**	**248**	↓P	**Pn**	**02 55 30.2**	**+0.3**
JYN				S	**Sn**	**02 55 44.3**	**0.0**
JKT	**Katashina**	**0.96**	**343**	↑P	**Pn**	**02 55 30.3**	**0.0**
JKT				S	**Sn**	**02 55 44.1**	**-1.0**
JIM2	**Oshima 3**	**1.14**	**187**	P	**Pn**	**02 55 33.1**	**+0.8**
JIM2				S	**Sn**	**02 55 48.4**	**-0.1**
MJAR	**Matsushiro Arr**	**1.31**	**302**	P	**Pn**	**02 55 33.7**	**-0.7**
	66nm,0.3s,baz=129,slow=9.8,SNR=478						
MJAR				S	**Sn**	**02 55 49.3**	**-3.0**
	186nm,0.3s,baz=120,slow=17,SNR=24						
MJAR				LR	LR	02 56 08.0	
	comp=Z,260nm,19.3s,baz=140,slow=49						
MAJO	**Matsushiro**	**1.31**	**302**	*e*Pn	**Pn**	**02 55 33.9**	**-0.5**
MAJO				*e*Sn	**Sn**	**02 55 48.7**	**-3.6**
MAT	**Matsushiro**	**1.31**	**302**	P	**Pn**	**02 55 34.2**	**-0.2**
MAT				S	**Sn**	**02 55 51.2**	**-1.1**
MAT	**Matsushiro**	**1.31**	**302**	P	**Pn**	**02 55 34.2**	**-0.2**
JHJ	**Hachijo jima 2**	**2.73**	**177**	P	**Pn**	**02 55 54.6**	**+1.9**
	175nm,0.3s,baz=38,slow=1.6,SNR=32						
JHJ				S	**Sn**	**02 56 26.5**	**+1.6**
	50nm,0.3s,baz=321,slow=22,SNR=8.1						
JHJ2	**Mitsune**	**2.74**	**176**	*e*Pn	**Pn**	**02 55 54.2**	**+1.4**
ERM	**Erimo**	**6.76**	**23**	*e*Pn	**Pn**	**02 56 45.2**	**-1.9**
JNU	**Nakatsue**	**7.69**	**252**	P	**Pn**	**02 57 00.8**	**+0.9**
	2.7nm,0.3s,baz=39,slow=5.9,SNR=19						
JNU	**Nakatsue**	**7.69**	**252**	*e*Pn	**Pn**	**02 57 01.3**	**+1.3**
ASAJ	**Asahikawa**	**8.57**	**15**	P	**Pn**	**02 57 10.4**	**-1.4**
	1.7nm,0.3s,baz=206,slow=9.3,SNR=8.4						
CBIJ	**Chichi jima**	**9.00**	**165**	P	**Pn**	**02 57 16.2**	**-1.6**
CBIJ				S	**Sn**	**02 58 51.6**	**-5.8**
JCJ	**Chichijima**	**9.00**	**165**	P	**Pn**	**02 57 16.2**	**-1.6**
	4.8nm,0.3s,baz=14,slow=12,SNR=3.1						
JCJ				S	**Sn**	**02 58 51.6**	**-5.8**
	1.9nm,0.3s,baz=230,slow=19,SNR=2.7						
KSRS	**Korea Array**	**9.51**	**283**	P	**Pn**	**02 57 27.7**	**+3.0**
	1.0nm,0.3s,baz=97,slow=14,SNR=22						
KSAR	**Wonju Array Be**	**9.54**	**283**	P	**Pn**	**02 57 27.7**	**+2.6**
USRK	**Ussuriysk Ar.**	**10.17**	**327**	P	**Pn**	**02 57 37.3**	**+3.7**
	0.2nm,0.3s,baz=140,slow=11,SNR=4.1						
KLR	**Kul'dur**	**14.55**	**339**	P	**Pn**	**02 58 31.4**	**-0.4**
	0.0nm,0.3s,baz=170,slow=7.0,SNR=3.7						
YHNB	**Yeheng**	**19.25**	**240**	*e*P	**P**	**02 59 28.2**	**+0.5**
	12nm,0.8s						
SONM	**Songino Array**	**27.26**	**306**	P	**P**	**03 00 46.0**	**0.0**
	0.4nm,0.7s,baz=108,slow=9.5,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**28.87**	**116**	T	T	03 31 16.4	
	baz=309,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.88**	**117**	T	T	03 31 31.2	
	baz=309,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.89**	**116**	T	T	03 31 18.6	
	baz=309,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.52**	**119**	T	T	03 32 09.0	
	baz=312,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.52**	**119**	T	T	03 31 53.4	
	baz=312,SNR=171						
H11S2	**WAKE ISLAND Hy**	**29.53**	**119**	T	T	03 32 13.1	
	baz=312,slow=74						
CMAR	**Chiang Mai Arr**	**39.77**	**255**	P	**P**	**03 02 33.1**	**-1.3**
	1.3nm,0.3s,baz=55,slow=7.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**41.64**	**313**	P	**P**	**03 02 48.6**	**-0.7**
	1.1nm,0.5s,baz=91,slow=6.7,SNR=5.4						
ZALV				PcP	**PcP**	**03 04 44.5**	**0.0**
	1.4nm,0.5s,baz=131,slow=1.6,SNR=4.6						
MKAR	**Makanchi Array**	**43.51**	**303**	P	**P**	**03 03 04.5**	**-0.1**
	1.2nm,0.6s,baz=84,slow=9.2,SNR=19						
MKAR				PcP	**PcP**	**03 04 51.4**	**+0.5**
	0.4nm,0.7s,baz=80,slow=3.5,SNR=3.3						
KURK	**Kurchatov**	**45.52**	**309**	*e*P	**P**	**03 03 20.4**	**-0.1**
	44nm,0.6s						
KURBB	**Kurchatov Arra**	**45.58**	**309**	P	**P**	**03 03 20.9**	**-0.1**
	3.7nm,0.4s,baz=82,slow=7.5,SNR=56						
AAK	**Ala-Archa**	**49.76**	**299**	*e*P	**P**	**03 03 53.9**	**+0.3**
	1.0nm,0.4s						
BVAR	**Borovoye Array**	**50.29**	**313**	P	**P**	**03 03 57.2**	**0.0**
	0.4nm,0.3s,baz=57,slow=10,SNR=4.4						
ILAR	**Eielson Array**	**51.28**	**32**	P	**P**	**03 04 05.8**	**+1.2**
	0.4nm,0.6s,baz=285,slow=4.8,SNR=6.4						
WRA	**Warramunga Arr**	**55.71**	**186**	P	**P**	**03 04 37.0**	**-0.3**
	4.4nm,0.4s,baz=1.7,slow=7.7,SNR=88						
INK	**Inuvik**	**56.11**	**27**	P	**P**	**03 04 41.0**	**+1.4**
	0.6nm,0.5s,baz=285,slow=8.6,SNR=5.2						
ABKAR	**Akbulak array**	**57.58**	**310**	*e*P	**P**	**03 04 50.2**	**-0.2**
	2.9nm,0.6s						
AKTO	**Aktyubinsk**	**58.37**	**312**	P	**P**	**03 04 56.3**	**+0.4**
	1.0nm,0.6s,baz=67,slow=8.3,SNR=4.1						
ASAR	**Alice Springs**	**59.44**	**186**	P	**P**	**03 05 04.0**	**+0.5**
	1.7nm,0.5s,baz=18,slow=11,SNR=20						
ASAR				LR	LR	03 30 57.9	
	comp=Z,71nm,18.1s,baz=285,slow=36						
SPITS	**Spitsbergen Ar**	**61.40**	**349**	P	**P**	**03 05 16.3**	**+0.1**
	12nm,1.0s,baz=151,slow=3.3,SNR=2.8						
GEYT	**Alibeck**	**63.12**	**299**	P	**P**	**03 05 28.5**	**+0.2**
	1.4nm,0.7s,baz=264,slow=4.3,SNR=3.4						
ARCES	**ARCESS Array B**	**64.59**	**339**	P	**P**	**03 05 36.2**	**-1.1**
	8.1nm,1.1s,baz=52,slow=7.9,SNR=5.3						
YKA	**Yellowknife Ar**	**65.56**	**29**	P	**P**	**03 05 43.6**	**-0.2**
	0.2nm,0.7s,baz=305,slow=6.0,SNR=4.6						
FINES	**FINESS Array B**	**69.17**	**332**	P	**P**	**03 06 06.3**	**-0.2**
	0.8nm,0.4s,baz=58,slow=5.6,SNR=20						
SUMG	**Summit**	**71.86**	**359**	*e*P	**P**	**03 06 22.3**	**-1.0**
	5.9nm,0.8s						
R11A	**Troy Canyon, C**	**78.65**	**51**	*e*P	**P**	**03 07 01.9**	**-0.7**
	1.4nm,1.1s						
RAYN	**Ar Rayn**	**79.73**	**291**	*e*P	**P**	**03 07 08.4**	**-0.1**
	1.5nm,0.6s						
GERES	**GERESS Array B**	**82.93**	**327**	P	**P**	**03 07 24.8**	**-0.2**
	0.2nm,0.5s,baz=30,slow=4.7,SNR=3.2						
TXAR	**Lajitas Array**	**92.01**	**51**	P	**P**	**03 08 10.5**	**+1.3**
	0.3nm,0.6s,baz=315,slow=1.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**117.09**	**313**	PKP	**PKPdf**	**03 13 44.5**	**-0.7**
	0.3nm,0.5s,baz=11,slow=2.2,SNR=9.8						
KOWA	**Kowa**	**119.23**	**319**	PKP	**PKPdf**	**03 13 49.1**	**-0.2**
	1.0nm,0.4s,baz=243,slow=4.5,SNR=8.1						
SAML	**Samuel**	**146.12**	**43**	*e*PKPbc	**PKPbc**	**03 14 40.2**	**-0.1**
LPAZ	**La Paz**	**148.56**	**59**	PKPbc	**PKPbc**	**03 14 49.0**	**+1.2**
	1.4nm,0.6s,baz=264,slow=4.4,SNR=6.5						

ISCJB ***17*** *02:55:31.7±0.3, 7.41N±0.07×35.49W±0.04, h10km, mb4.4/97, MS3.7/27, Error ellipse: s-maj=10.1km s-min=4.9km az=167.8*

IDC ***17*** *02:55:31.9±0.6, 7.50N×35.50W, h0km, mb4.2/24, mb1 4.3/26, mb1mx4.1/65, mbtmp4.2/26, ML4.4/2, MS3.7/28, Ms1 3.7/28, ms1mx3.5/50, Error ellipse: s-maj=18.3km s-min=12.0km az=160.0*

GCMT ***17*** *02:55:33.4±0.3, 7.45N×35.49W, h20km, MW4.8/73, Moment Tensor Solution. s13,c15; s73,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.28±.12; Mθθ=0.14±.12; Mφφ=0.41±.10; Mrθ=-0.04±.22; Mrφ=-2.24±.07; Mθφ=0.48±.18; Best double couple: M0=2.31000×10^16 NP1:φ=3.00000°, δ=88.00000°, λ=-12.00000°. NP2: φs=94.00000°, δ=78.00000°, λ=-177.00000°. Principal axes: T 2.4350, Plg7.0000°, Azm49.0000°; N -0.2510, Plg77.0000°, Azm172.0000°; P -2.1850, Plg11.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *02:55:33.4±0.3, 7.35N×35.51W, h10km, mb4.5/56 Error ellipse: s-maj=8.4km s-min=4.9km az=171.0*

ISC 17 02:55:33.4±0.4, 7.41N±0.08×35.53W±0.07, h10km, n152, σ1.9 24/133, mb4.5/97, MS3.8/27, 8C-8D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**13.16**	**182**	Pn	**Pn**	**02 58 41.0**	**+0.4**
	2.7nm,0.3s,baz=351,slow=12,SNR=18						
RCBR				Sn	Sn	03 00 55.5	-12
	2.6nm,0.3s,baz=86,slow=21,SNR=11						
RCBR	**Riachuelo**	**13.16**	**182**	*e*Pn	**Pn**	**02 58 37.7**	**-2.8**
RCBR				*e*Sn	Sn	03 00 56.2	-11
SACV	**Santiago Islan**	**13.89**	**56**	*e*Pn	Pn	02 58 44.7	-5.9
BBTS	**Babate**	**19.98**	**67**	P	**P**	**03 00 06.1**	**0.0**
	0.9nm,0.3s,baz=68,slow=0.8,SNR=7.2						
BBTS				LR	LR	03 05 48.4	
	comp=Z,265nm,20.6s,baz=232,slow=31						
PTGA	**Pitinga**	**25.68**	**253**	P	**P**	**03 01 04.9**	**+1.0**
	7.1nm,0.9s,baz=67,slow=11,SNR=9.9						
PTGA				LR	LR	03 10 22.0	
	comp=Z,258nm,21.8s,baz=78,slow=35						
DBIC	**Dimbokro**	**30.45**	**89**	P	**P**	**03 01 45.2**	**-1.4**
	7.7nm,1.0s,baz=229,slow=9.3,SNR=3.5						
PMOZ	**Porto Moniz, M**	**30.48**	**31**	*e*T	T	03 33 17.4	
FUL	**Funchal**	**30.50**	**32**	*e*T	T	03 33 16.5	
PMAR	**Madeira**	**30.55**	**32**	*e*T	T	03 33 16.0	
MTP	**Monte Pirata**	**31.10**	**293**	*e*P	**P**	**03 01 51.3**	**-0.9**
	40nm,1.3s						
HUMP	**Col San Antoni**	**31.38**	**293**	*e*P	**P**	**03 01 53.5**	**-1.2**
	35nm,1.5s						
KOWA	**Kowa**	**31.70**	**74**	P	**P**	**03 01 57.4**	**-0.3**
	15nm,0.9s,baz=267,slow=7.6,SNR=28						
KOWA	**Kowa**	**31.70**	**74**	*e*P	**P**	**03 01 57.3**	**-0.3**
	26nm,1.1s						
SAML	**Samuel**	**31.99**	**240**	*e*P	**P**	**03 01 59.4**	**-0.8**
	7.7nm,1.0s						
SIV	**San Ignacio**	**34.36**	**227**	P	**P**	**03 02 21.8**	**+1.0**
	3.0nm,0.8s,baz=85,slow=9.2,SNR=9.9						
TOA0	**Torodi Ar. Sit**	**37.04**	**78**	*e*P	**P**	**03 02 43.4**	**-0.5**
	13nm,0.8s						
TORD	**Torodi Ar. Bea**	**37.04**	**78**	P	**P**	**03 02 43.0**	**-0.9**
	11nm,0.7s,baz=271,slow=8.7,SNR=41						
TORD				LR	LR	03 15 25.5	
	comp=Z,158nm,22.0s,baz=240,slow=32						
MORF	**Marmelete**	**38.49**	**35**	*e*P	**P**	**03 02 56.0**	**+0.1**
PBDV	**Barranco-do-Ve**	**38.87**	**36**	*e*P	**P**	**03 02 57.8**	**-1.2**
PNCL	**Nicolau / Gran**	**39.12**	**35**	*e*P	**P**	**03 03 02.8**	**+1.7**
CPUP	**Villa Florida**	**39.66**	**211**	LR	LR	03 19 36.0	
	comp=Z,202nm,18.5s,baz=36,slow=36						
EVO	**Evora**	**39.70**	**35**	*e*P	**P**	**03 03 07.4**	**+1.4**
	14nm,1.9s						
LPAZ	**La Paz**	**39.95**	**234**	P	**P**	**03 03 09.4**	**+0.5**
	5.9nm,0.9s,baz=54,slow=5.3,SNR=16						
LPAZ				LR	LR	03 19 05.5	
	comp=Z,120nm,18.6s,baz=60,slow=35						
LPAZ	**La Paz**	**39.95**	**234**	*e*P	**P**	**03 03 09.7**	**+0.7**
	6.3nm,0.8s						
PMTG	**Montargil**	**39.96**	**34**	*e*P	**P**	**03 03 09.2**	**+1.1**
PESTR	**Estremoz**	**40.17**	**35**	*e*P	**P**	**03 03 11.4**	**+1.5**
	18nm,1.8s						
PCAS	**Casmilo, Conde**	**40.52**	**32**	*e*P	**P**	**03 03 14.5**	**+1.8**
	37nm,1.6s						
PMRV	**Marv??o**	**40.67**	**34**	*e*P	**P**	**03 03 15.5**	**+1.4**
	27nm,1.3s						
PVIS	**Viseu**	**41.31**	**32**	*e*P	**P**	**03 03 23.6**	**+4.2**
TAM	**Tamanrasset**	**42.31**	**64**	*e*P	**P**	**03 03 29.1**	**+1.2**
	9.4nm,1.6s						
ESDC	**Sonseca Array**	**42.80**	**36**	P	**P**	**03 03 32.4**	**+0.8**
	1.6nm,0.9s,baz=238,slow=8.5,SNR=6.1						
ESDC				LR	LR	03 17 39.9	
	comp=Z,78nm,21.8s,baz=275,slow=31						
ES19	**SONSECA Array**	**42.86**	**36**	*e*P	**P**	**03 03 32.6**	**+0.6**
OTAV	**Otavalo**	**43.38**	**262**	*e*P	**P**	**03 03 36.8**	**-0.3**
	3.1nm,1.0s						
KEST	**Kesra**	**49.73**	**49**	P	**P**	**03 04 24.7**	**-1

HFS				LR	LR	03 30 31.7			
	comp=Z,64nm,19.3s,baz=269,slow=33								
VOIR		**64.28**	**43**	*i*P	**P**	**03 06 10.4**	**+1.3**		
DOPR	**Dopca**	**64.66**	**42**	*i*P	**P**	**03 06 12.8**	**+1.3**		
PLAR	**PLOIESTI**	**64.80**	**44**	*i*P	**P**	**03 06 09.5**	**-2.9**		
MLR	**Muntele Rosu**	**64.90**	**43**	P	**P**	**03 06 12.9**	**-0.4**		
	comp=Z,2.5nm,0.8s,baz=140,slow=17,SNR=7.6								
MLR				LR	LR	03 34 26.4			
	comp=Z,15nm,19.0s,baz=262,slow=36								
MLR	**Muntele Rosu**	**64.90**	**43**	*i*P	**P**	**03 06 14.6**	**+1.3**		
MLR	**Muntele Rosu**	**64.90**	**43**	*e*P	**P**	**03 06 14.3**	**+1.1**		
	comp=Z,19nm,1.1s								
BURAR	**Bucovina Array**	**65.02**	**41**	*i*P	**P**	**03 06 15.0**	**+1.0**		
SUMG	**Summit**	**65.13**	**359**	*e*P	**P**	**03 06 14.1**	**-0.5**		
	comp=Z,8.3nm,1.2s								
CBKS	**Cedar Bluff**	**65.35**	**309**	*e*P	**P**	**03 06 17.4**	**+1.1**		
PLOR	**Plostina**	**65.47**	**43**	*i*P	**P**	**03 06 17.0**	**+0.1**		
VRI	**Vrincioaia**	**65.53**	**43**	*i*P	**P**	**03 06 17.9**	**+0.7**		
ULM	**Lac du Bonnet**	**65.59**	**322**	P	**P**	**03 06 16.4**	**-1.1**		
	comp=Z,1.7nm,0.9s,baz=114,slow=5.5,SNR=3.0								
ULM				LR	LR	03 30 24.3			
	comp=Z,49nm,21.1s,baz=58,slow=32								
TESR	**Tescani**	**65.65**	**42**	*i*P	**P**	**03 06 14.3**	**-3.6**		
CFR	**Carcaliu**	**66.31**	**44**	*i*P	**P**	**03 06 21.7**	**-0.5**		
SUR	**Sutherland**	**66.62**	**130**	LR	LR	03 29 36.9			
	comp=Z,6.2nm,21.4s,baz=308,slow=31								
LSZ	**Lusaka**	**67.03**	**110**	LR	LR	03 31 19.7			
	comp=Z,57nm,18.8s,baz=288,slow=32								
LSZ	**Lusaka**	**67.03**	**110**	*e*P	**P**	**03 06 28.5**	**+1.1**		
	comp=Z,4.8nm,1.2s								
SORM	**Soroca**	**67.19**	**41**	*i*P	**P**	**03 06 27.4**	**-0.4**		
TXAR	**Lajitas Array**	**67.36**	**299**	P	**P**	**03 06 29.1**	**-0.3**		
	comp=Z,0.5nm,0.6s,baz=104,slow=6.5,SNR=8.2								
LBTB	**Lobatse**	**67.63**	**121**	LR	LR	03 32 45.9			
	comp=Z,85nm,18.4s,baz=278,slow=33								
FCC	**Fort Churchill**	**67.73**	**331**	*e*P	**P**	**03 06 30.8**	**-0.1**		
	comp=Z,10nm,1.5s								
AKASG	**Malin Array Be**	**68.41**	**38**	P	**P**	**03 06 35.1**	**-0.3**		
	comp=Z,2.9nm,0.8s,baz=260,slow=5.7,SNR=10								
BOSA	**Boshof**	**68.62**	**125**	P	**P**	**03 06 38.6**	**+1.3**		
	comp=Z,2.1nm,0.8s,baz=309,slow=13,SNR=2.3								
BR231	**Keskin MP Arra**	**68.65**	**50**	*e*P	**P**	**03 06 40.2**	**+2.9**		
MNTX	**Cornudas Mount**	**69.01**	**301**	*e*P	**P**	**03 06 39.1**	**-0.5**		
	comp=Z,2.0nm,0.9s								
BRTR	**Keskin Array B**	**69.29**	**50**	P	**P**	**03 06 41.4**	**0.0**		
	comp=Z,1.6nm,0.8s,baz=298,slow=2.7,SNR=8.0								
BRTR				LR	LR	03 37 30.3			
	comp=Z,32nm,21.1s,baz=251,slow=36								
SDCO	**Great Sand Dun**	**69.67**	**307**	*e*P	**P**	**03 06 45.0**	**+1.0**		
	comp=Z,1.7nm,0.8s								
ANMO	**Albuquerque**	**70.17**	**304**	*e*P	**P**	**03 06 47.4**	**+0.5**		
	comp=Z,1.6nm,0.9s								
FINES	**FINESS Array B**	**70.18**	**27**	P	**P**	**03 06 46.2**	**0.0**		
	comp=Z,2.9nm,0.8s,baz=224,slow=5.3,SNR=5.2								
FINES				LR	LR	03 35 02.2			
	comp=Z,99nm,18.1s,baz=240,slow=34								
FFC	**Flin Flon**	**70.47**	**326**	*e*P	**P**	**03 06 46.7**	**-1.4**		
LAZ	**Ladron**	**70.68**	**304**	*e*P	**P**	**03 06 51.5**	**+1.4**		
O20A	**White River Ci**	**72.05**	**310**	*e*P	**P**	**03 06 59.3**	**+1.0**		
	comp=Z,7.0nm,0.9s								
LPIG	**La Paz**	**73.14**	**293**	LR	LR	03 37 54.6			
	comp=Z,13nm,22.0s,baz=342,slow=35								
PDAR	**Pinedale Array**	**73.28**	**312**	P	**P**	**03 07 04.9**	**-0.6**		
	comp=Z,0.6nm,0.6s,baz=90,slow=6.8,SNR=7.7								
PDAR				LR	LR	03 35 13.3			
	comp=Z,52nm,21.3s,baz=116,slow=32								
PDAR	**Pinedale Array**	**73.28**	**312**	*e*P	**P**	**03 07 05.3**	**-0.2**		
RLMT	**Red Lodge**	**73.31**	**315**	*e*P	**P**	**03 07 06.7**	**+1.1**		
	comp=Z,4.6nm,1.1s								
P18A	**Preston Nutter**	**73.54**	**309**	*e*P	**P**	**03 07 08.6**	**+1.4**		
	comp=Z,5.2nm,0.9s								
TUC	**Tucson**	**73.63**	**301**	*e*P	**P**	**03 07 08.7**	**+1.1**		
	comp=Z,2.9nm,0.9s								
MOOW	**Moose Ponds**	**74.23**	**313**	*e*P	**P**	**03 07 11.8**	**+0.7**		
	comp=Z,2.9nm,1.0s								
REDW	**Red Top Meadow**	**74.28**	**313**	*e*P	**P**	**03 07 12.1**	**+0.7**		
	comp=Z,5.1nm,1.0s								
TPAW	**Teton Pass**	**74.36**	**313**	*e*P	**P**	**03 07 10.0**	**-1.9**		
	comp=Z,14nm,1.6s								
IMW	**Indian Meadow**	**74.39**	**313**	*e*P	**P**	**03 07 13.1**	**+1.0**		
	comp=Z,4.9nm,1.0s								
FXWY	**Fox Creek**	**74.43**	**313**	*e*P	**P**	**03 07 12.9**	**+0.6**		
	comp=Z,5.0nm,1.2s								
YMR	**Madison River**	**74.47**	**314**	*e*P	**P**	**03 07 14.1**	**+1.6**		
	comp=Z,9.3nm,1.1s								
YHB	**Horse Butte**	**74.64**	**314**	*e*P	**P**	**03 07 15.4**	**+1.9**		
	comp=Z,4.7nm,0.8s								
HWUT	**Hardware Ranch**	**74.68**	**311**	*e*P	**P**	**03 07 14.5**	**+0.8**		
	comp=Z,6.7nm,0.9s								
BOZ	**Bozeman (W)**	**75.02**	**315**	*e*P	**P**	**03 07 16.1**	**+0.6**		
	comp=Z,2.0nm,1.0s								
RES	**Resolute Bay**	**75.06**	**346**	P	**P**	**03 07 15.8**	**+0.8**		
	comp=Z,1.0nm,0.8s,baz=128,slow=5.9								
RES	**Resolute Bay**	**75.06**	**346**	*e*P	**P**	**03 07 15.6**	**+0.6**		
	comp=Z,3.6nm,1.3s								
SPITS	**Spitsbergen Ar**	**75.43**	**10**	LR	LR	03 36 02.1			
	comp=Z,29nm,18.2s,baz=180,slow=32								
DUG	**Dugway, Tooele**	**75.55**	**310**	*e*P	**P**	**03 07 19.5**	**+0.9**		
	comp=Z,1.4nm,0.6s								
BGU	**Big Grassy Mou**	**75.74**	**310**	*e*P	**P**	**03 07 20.5**	**+0.7**		
	comp=Z,4.2nm,0.9s								
CCUT	**Cedar City**	**75.88**	**307**	*e*P	**P**	**03 07 21.4**	**+0.7**		
	comp=Z,3.9nm,1.0s								
KBZ	**Khabaz**	**76.55**	**47**	P	**P**	**03 07 22.4**	**-1.7**		
	comp=Z,3.1nm,0.9s,baz=203,slow=7.7,SNR=3.2								
KBZ				LR	LR	03 44 56.0			
	comp=Z,16nm,18.1s,baz=290,slow=39								
EDM	**Edmonton**	**76.81**	**323**	*e*P	**P**	**03 07 25.7**	**+0.2**		
	comp=Z,9.1nm,1.2s								
HLID	**Hailey**	**76.88**	**313**	*e*P	**P**	**03 07 26.7**	**+0.5**		
	comp=Z,2.1nm,1.0s								
GNI	**Garni**	**77.83**	**51**	LR	LR	03 42 58.6			
	comp=Z,51nm,21.4s,baz=274,slow=37								
YKA	**Yellowknife Ar**	**78.42**	**332**	P	**P**	**03 07 33.0**	**-1.1**		
	comp=Z,1.0nm,0.8s,baz=98,slow=5.7,SNR=19								
NVAR	**Mina Array Bea**	**79.79**	**308**	P	**P**	**03 07 43.0**	**+0.5**		
	comp=Z,0.9nm,0.7s,baz=86,slow=4.6,SNR=5.0								
NVAR				LR	LR	03 42 08.7			
	comp=Z,47nm,18.9s,baz=270,slow=35								
ISA	**Isabella, Lake**	**80.00**	**305**	*e*P	**P**	**03 07 45.3**	**+1.8**		
	comp=Z,3.7nm,0.9s								
YBH	**Yreka Blue Hor**	**83.02**	**311**	LR	LR	03 41 10.3			
	comp=Z,37nm,21.5s,baz=122,slow=33								
AKTO	**Aktyubinsk**	**86.60**	**40**	LR	LR	03 48 31.4			
	comp=Z,22nm,18.2s,baz=303,slow=37								
SYO	**Syowa Base**	**91.59**	**160**	gP	**P**	**03 08 41.6**	**+1.4**		
ILAR	**Eielson Array**	**92.23**	**336**	LR	LR	03 48 51.5			
	comp=Z,51nm,18.6s,baz=78,slow=35								
BVAR	**Borovoye Array**	**93.56**	**36**	LR	LR	03 50 25.5			
	comp=Z,36nm,19.0s,baz=279,slow=35								
KSH	**Kashi**	**101.53**	**47**	*e*P	**Pdif**	**03 09 24.1**	**-2.1**		
LZH	**Lanzhou**	**122.31**	**39**	*e*PKP	**PKPdf**	**03 14 25.3**	**-4.3**		
LZH				sPKP		03 14 34.0			

MOS 17 03:22:37.7±2.9, 51.73N×96.29E, h10km, mb4.0/2, 1D, Error ellipse: s-maj=10.1km s-min=8.3km az=2.5, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDJR	**Todzha**	**0.68**	**350**	PG	Pg	03 22 47.9	-3.0
KZLR	**Kyzyl**	**1.14**	**269**	*e*PG	Pb	03 22 52.7	-6.8
KNGR	**Kungurtug, Tuv**	**1.37**	**145**	*i* PG	Pn	03 23 01.0	-1.9
KNGR				*i* S	Sb	03 23 18.8	-2.2
ERNS	**Erzin**	**1.64**	**206**	PN	Pn	03 23 01.9	-4.7
HVS	**Khovu-Aksy**	**1.73**	**251**	*d* iPN	Pn	03 23 02.9	-4.9
ORL	**Orlik**	**2.32**	**68**	*e*PN	Pb	03 23 17.9	-1.7
ORL				*e*		03 23 49.3	
ORL				pmax	pmax		
	comp=Z,80nm,0.3s						
ORL				smax	smax		
	comp=N,215nm,0.6s						
MOY	**Mondy**	**2.93**	**89**	*e*PN	Pb	03 23 29.2	-0.8
MOY				*e*		03 24 09.2	
MOY				pmax	pmax		
	comp=Z,36nm,0.5s						
MOY				smax	smax		
	comp=N,257nm,1.1s						
CERR	**Cheremushki**	**3.20**	**293**	PN	Pn	03 23 30.2	+2.2
ARS	**Arshan**	**3.81**	**85**	*e*PN	Pb	03 23 46.7	+1.7
ARS				*e*		03 24 38.1	
ARS				pmax	pmax		
	comp=Z,34nm,0.4s						
ARS				smax	smax		
	comp=E,536nm,0.9s						
TEL	**Teeli**	**3.88**	**262**	PN	Pn	03 23 34.9	-2.6
VEH	**Verkhnyaya Baz**	**3.96**	**295**	PN	Pn	03 23 38.1	-0.4
TLY	**Talaya**	**4.57**	**88**	*e*PN	Pb	03 24 00.0	+2.0
TLY				*e*		03 24 59.8	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ZAK	**Zakamensk**	**4.61**	**104**	*e*PN	Pb	03 23 58.9	+0.2
ZAK				*e*		03 24 59.8	
ZAK				pmax	pmax		
	comp=Z,18nm,0.7s						
ZAK				smax	smax		
	comp=N,86nm,1.1s						
LUZB	**Luzhba, Kemero**	**4.89**	**296**	*e*PN	Pn	03 23 52.6	+1.3
IRK	**Irkutsk**	**4.96**	**81**	*e*PN	Pb	03 24 06.4	+1.8
IRK				*e*		03 25 10.0	
IRK				pmax	pmax		
	comp=Z,91nm,0.2s						
IRK				smax	smax		
	comp=N,304nm,0.7s						
CUR	**Chagan-Uzun**	**5.28**	**255**	PN	Pn	03 24 00.4	+3.7
CHBI	**Chibit, Altay**	**5.72**	**259**	PN	Pn	03 24 05.4	+2.6
DGZ	**Jazzator, Alta**	**5.98**	**254**	*i* PN	Pn	03 24 01.6	-4.8
TRG	**Tyrgan**	**6.26**	**77**	*e*PN	Pb	03 24 31.6	+4.8
TRG				pmax	pmax		
	comp=Z,5.0nm,0.5s						
OGRR	**Ongureny**	**7.13**	**70**	*e*P*	Pb	03 24 46.8	+5.2
OGRR				*e*		03 26 16.8	
OGRR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
OGRR				smax	smax		
	comp=N,657nm,0.8s						
ULN	**Ulaanbaatar**	**7.96**	**115**	*i* P	Pn	03 24 34.1	+0.5
KURK	**Kurchatov**	**11.13**	**272**	*i* P	Pn	03 25 11.2	-5.5
HIA	**Hailar**	**15.11**	**90**	*i* P	Pn	03 26 12.6	+1.5
ARU	**Arti**	**22.42**	**297**	*e*P	P	03 27 37.7	+1.4
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	**Tiksi**	**24.67**	**24**	*i* P	P	03 27 59.8	+1.6
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						

ISCJB 17 03:31:58.5±1.5, 41.16N±0.09×39.87E±0.08, h4km±12km, Error ellipse: s-maj=16.2km s-min=7.2km az=149.4
DDA 17 03:32:03.0, 40.70N×40.24E, h7km, Ml2.8
ISC 17 03:32:00.6±2.9, 41.0N±0.2×40.0E±0.1, h5km±13km, n7, σ0.70/11, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYT	**Ayd¨–ntepe-Bay**	**0.61**	**172**	PG	**Pn**	**03 32 15.1**	**-0.9**
GUMT	**Gumushane**	**0.68**	**218**	PG	**Pg**	**03 32 13.6**	**0.0**
GUMT				SG	**Sg**	**03 32 23.3**	**+0.8**
ESPY	**Espiye-Giresun**	**0.99**	**266**	*e*PG	Pg	03 32 16.6	-3.0
KELT	**Kelkit**	**1.03**	**215**	*i* P	**Pg**	**03 32 20.3**	**-0.1**
KELT				*i* S	**Sb**	**03 32 35.0**	**0.0**
DBAD	**Bademkaya**	**1.26**	**88**	*i* P	**Pg**	**03 32 24.7**	**0.0**
DBAD				*i* S	**Sn**	**03 32 42.6**	**+0.3**
DDEM	**Demirkent**	**1.31**	**94**	*i* P	**Pg**	**03 32 25.4**	**-0.3**
DDEM				*i* S	**Sn**	**03 32 44.6**	**+1.2**
DAGI	**Agillar**	**1.43**	**86**	*i* P	**Pn**	**03 32 26.8**	**-0.5**
DAGI				*i* S	**Sn**	**03 32 46.8**	**+0.4**

MAN 17 03:37:52, 10.38N×122.92E, h78km, mb4.1, ML2.9, MS2.5, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.41**	**307**	*e*P	Pn	03 38 07.1	+2.3
GUIM				*e*S	Sn	03 38 18.8	+4.6
SNPH	**Sibulan**	**1.08**	**163**	*i*P	Pn	03 38 13.9	+2.0
SNPH				*i* S	Sn	03 38 28.9	+2.1
TBP	**Tagbilaran**	**1.15**	**126**	*e*P	Pn	03 38 12.5	-0.3
TBP				*e*S	Sn	03 38 28.4	+0.1
MSLP	**Maasin**	**1.92**	**97**	*e*P	Pn	03 38 25.0	+2.2
MSLP				*e*S	Sn	03 38 48.0	+1.7
BUKP	**Musuan**	**3.26**	**139**	*e*P	Pn	03 38 46.7	+5.7

IDC 17 03:38:32.5±2.3, 12.13N×145.73E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/58, mbtmp3.6/5, Error ellipse: s-maj=65.9km s-min=31.8km az=35.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.68**	**330**	Pn	Pn	03 39 02.8	-0.3
	28nm,0.3s,baz=45,slow=20,SNR=5.4						
GUMO				Sn	Sg	03 39 26.6	+0.2
	44nm,0.3s,baz=160,slow=23,SNR=9.3						
SONM	**Songino Array**	**48.40**	**325**	P	P	03 47 16.9	+0.4
	0.1nm,0.4s,baz=116,slow=6.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**63.29**	**325**	P	P	03 49 03.7	+0.6
	0.4nm,0.4s,baz=106,slow=5.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**66.27**	**320**	P	P	03 49 21.7	-0.9
	0.9nm,0.2s,baz=92,slow=5.7,SNR=2.6						
ILAR	**Eielson Array**	**69.53**	**25**	P	P	03 49 42.0	-0.9
	0.3nm,0.6s,baz=246,slow=5.4,SNR=5.1						
YKA	**Yellowknife Ar**	**83.76**	**27**	P	P	03 51 04.4	+1.0
	0.2nm,0.4s,baz=286,slow=5.1,SNR=5.7						

HLW 17 03:49:17.6, 36.43N×33.98E, h10km±25km, Md3.7, Ml3.6
IDC 17 03:49:42.9±1.3, 34.61N×33.21E, h0km, mb3.5/6, mb1 3.7/11, mb1mx3.5/61, mbtmp3.6/11, ML3.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.2/38, Error ellipse: s-maj=26.5km s-min=16.8km az=52.0
ISK 17 03:49:42.8, 34.25N×33.09E, h33km, ML4.0/36
GII 17 03:49:44.4±0.0, 34.30N×33.30E, h1km, MD2.6/4
ISCJB 17 03:49:45.4±0.2, 34.44N±0.02×33.08E±0.03, h51km±4km, mb3.4/5, MS3.0/1, Error ellipse: s-maj=3.9km s-min=2.2km az=149.8
CSEM 17 03:49:46.9±0.1, 34.47N×33.11E, h40km, ML3.7, Error ellipse: s-maj=3.0km s-min=1.9km az=63.0
NIC 17 03:49:47.4±0.1, 34.48N×33.22E, h25km, ML3.7
DDA 17 03:49:50.1, 34.85N×33.29E, h15km, Ml4.1
ISC 17 03:49:46.7±1.1, 34.46N±0.03×33.15E±0.04, h38km±2km, n221, σ1.900/247, mb3.5/5, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni**	**0.37**	**324**	P	**Pn**	**03 49 55.7**	**+0.1**
	baz=134						
SZAC				S	**Sn**	**03 50 02.0**	**-0.2**
SZAC	**Souni**	**0.37**	**324**	P	**Pn**	**03 49 55.7**	**+0.1**
SZAC				S	**Sn**	**03 50 02.0**	**-0.2**
CSS	**Mathiatis**	**0.53**	**17**	PG	**Pn**	**03 49 56.7**	**-1.1**
CSS	**Mathiatis**	**0.53**	**17**	P	**Pn**	**03 49 57.1**	**-0.7**
	baz=190						
CSS				S	**Sn**	**03 50 04.4**	**-1.2**
CSS	**Mathiatis**	**0.53**	**17**	*e*Pg	**Pn**	**03 49 56.7**	**-1.1**
CSS	**Mathiatis**	**0.53**	**17**	P	**Pn**	**03 49 57.1**	**-0.7**
CSS				S	**Sn**	**03 50 04.4**	**-1.2**
CSS	**Mathiatis**	**0.53**	**17**	Pg	**Pn**	**03 49 56.4**	**-1.4**
AKIN	**Ak¨–nc¨–lar- K**	**0.62**	**25**	PG	**Pn**	**03 49 58.2**	**-0.9**
AKIN	**Ak¨–nc¨–lar- K**	**0.62**	**25**	*e*Pg	**Pn**	**03 49 58.2**	**-0.9**
LEF	**Lefka**	**0.69**	**342**	PG	**Pn**	**03 49 59.2**	**-0.9**
LEF				SG	**Sn**	**03 50 10.9**	**+1.3**
LEF	**Lefka**	**0.69**	**342**	*e*Pg	**Pn**	**03 49 59.2**	**-0.9**
LEF	**Lefka**	**0.69**	**342**	P	**Pn**	**03 49 59.6**	**-0.5**
LEF				*e*Sg	**Sn**	**03 50 10.9**	**+1.3**
MAMC	**Mammari**	**0.71**	**5**	P	**Pn**	**03 49 59.9**	**-0.4**
	baz=179						
MAMC	**Mammari**	**0.71**	**5**	P	**Pn**	**03 49 59.9**	**-0.4**
PPCY	**Paphos**	**0.79**	**303**	P	**Pn**	**03 50 01.8**	**+0.5**
	baz=119						
PPCY	**Paphos**	**0.79**	**303**	P	**Pn**	**03 50 01.8**	**+0.5**
ALFC	**Alefka**	**0.83**	**327**	P	**Pn**	**03 50 01.8**	**-0.1**
	baz=142						
ALFC				S	**Sn**	**03 50 13.5**	**+0.5**
ALFC	**Alefka**	**0.83**	**327**	P	**Pn**	**03 50 01.8**	**-0.1**
ALFC				S	**Sn**	**03 50 13.5**	**+0.5**
AKDN	**Akdeniz- K¨–br**	**0.85**	**350**	PG	**Pn**	**03 50 02.3**	**+0.1**
AKDN	**Akdeniz- K¨–br**	**0.85**	**350**	*e*Pg	**Pn**	**03 50 02.3**	**+0.1**
LFK	**Lefkose**	**0.88**	**21**	PN	**Pn**	**03 50 02.7**	**0.0**
LFK	**Lefkose**	**0.88**	**21**	*e*Pn	**Pn**	**03 50 02.7**	**0.0**
EREN	**Erenkoy**	**1.36**	**38**	PN	**Pn**	**03 50 09.1**	**-0.1**
EREN	**Erenkoy**	**1.36**	**38**	*e*Pn	**Pn**	**03 50 09.1**	**-0.1**
BOZY	**Bozyazi-Mersin**	**1.65**	**355**	PN	**Pn**	**03 50 13.1**	**-0.1**
BOZY	**Bozyazi-Mersin**	**1.65**	**355**	*e*Pn	**Pn**	**03 50 13.1**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.68**	**359**	PN	**Pn**	**03 50 13.6**	**0.0**
TEKE	**Tekeli-Mersin**	**1.68**	**359**	*e*Pn	**Pn**	**03 50 13.6**	**0.0**
AKK2	**Akkuyu-Mersin**	**1.71**	**11**	PN	**Pn**	**03 50 14.1**	**+0.2**
AKK2	**Akkuyu-Mersin**	**1.71**	**11**	*e*Pn	**Pn**	**03 50 14.1**	**+0.2**
AKK1	**Akkuyu-Mersin**	**1.71**	**11**	PN	**Pn**	**03 50 14.0**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.71**	**11**	*e*Pn	**Pn**	**03 50 14.0**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.73**	**11**	PN	**Pn**	**03 50 14.6**	**+0.4**
AKKU	**Akkuyu-Mersin**	**1.73**	**11**	*e*Pn	**Pn**	**03 50 14.6**	**+0.4**
GULN	**MERSIN_Gulnar**	**1.75**	**11**	*i* P	**Pn**	**03 50 14.8**	**+0.2**
GULN				*i* S	**Sn**	**03 50 35.2**	**-0.4**
GULN	**MERSIN_Gulnar**	**1.75**	**11**	P	**Pn**	**03 50 14.8**	**+0.2**
GULN				S	**Sn**	**03 50 35.2**	**-0.4**
OREN	**Orenkoy-Mersin**	**1.77**	**8**	PN	**Pn**	**03 50 14.5**	**-0.2**
OREN	**Orenkoy-Mersin**	**1.77**	**8**	*e*Pn	**Pn**	**03 50 14.5**	**-0.2**
YESI	**Yesilovacik-Me**	**1.78**	**13**	PN	**Pn**	**03 50 14.9**	**0.0**
YESI	**Yesilovacik-Me**	**1.78**	**13**	*e*Pn	**Pn**	**03 50 14.9**	**0.0**
TEPE	**Tepekoy-Mersin**	**1.79**	**11**	PN	**Pn**	**03 50 15.8**	**+0.7**
TEPE	**Tepekoy-Mersin**	**1.79**	**11**	*e*Pn	**Pn**	**03 50 15.8**	**+0.7**
TEVE	**Tevekalti-Mers**	**1.99**	**7**	PN	**Pn**	**03 50 18.9**	**+1.0**
TEVE	**Tevekalti-Mers**	**1.99**	**7**	*e*Pn	**Pn**	**03 50 18.9**	**+1.0**
DQRL	**Deir Qamar**	**2.15**	**110**	*e*P	**Pn**	**03 50 21.4**	**+1.3**
BHL	**Bhannes**	**2.15**	**104**	*e*P	**Pn**	**03 50 18.7**	**-1.4**
HNTI	**Hanita**	**2.18**	**128**	Pn	**Pn**	**03 50 20.1**	**-0.3**
HNTI				Sn	**Sn**	**03 50 45.7**	**-0.4**
HNTI	**Hanita**	**2.18**	**128**	Pn	**Pn**	**03 50 20.1**	**-0.3**
HNTI				Sn	**Sn**	**03 50 45.7**	**-0.4**
KIZK	**Mersin**	**2.18**	**22**	PN	**Pn**	**03 50 21.3**	**+0.9**
KIZK	**Mersin**	**2.18**	**22**	*i* P	**Pn**	**03 50 21.4**	**+1.0**
KIZK				*i* S	**Sn**	**03 50 45.5**	**-0.6**
KIZK	**Mersin**	**2.18**	**22**	P	**Pn**	**03 50 21.4**	**+1.0**
KIZK				S	**Sn**	**03 50 45.5**	**-0.6**
QRWL	**Qaraoun**	**2.29**	**113**	*e*P	**Pn**	**03 50 22.5**	**+0.4**
HWQ	**Hawqa**	**2.32**	**94**	*e*P	**Pn**	**03 50 22.2**	**-0.3**
MMA0B	**Mount Meron ar**	**2.37**	**127**	Pn	**Pn**	**03 50 23.2**	**+0.1**
MMA0B	**Mount Meron ar**	**2.37**	**127**	Pn	**Pn**	**03 50 23.2**	**+0.1**
MMAI	**Mount Meron Ar**	**2.37**	**127**	Pn	**Pn**	**03 50 23.4**	**+0.3**
	34nm,0.3s,baz=309,slow=13,SNR=173						
MMAI				Sn	**Sn**	**03 50 50.0**	**-1.0**
	90nm,0.3s,baz=312,slow=31,SNR=18						
OFRI	**'Ofer**	**2.39**	**140**	Pn	**Pn**	**03 50 23.7**	**+0.3**
OFRI	**'Ofer**	**2.39**	**140**	Pn	**Pn**	**03 50 23.7**	**+0.3**
OFRI				Sn	**Sn**	**03 50 50.4**	**-1.1**
BLGI	**Bet Lehem HaGe**	**2.42**	**135**	Pn	**Pn**	**03 50 24.2**	**+0.4**
BLGI	**Bet Lehem HaGe**	**2.42**	**135**	Pn	**Pn**	**03 50 24.2**	**+0.4**
RCY	**Rachaya**	**2.43**	**112**	*e*P	**Pn**	**03 50 24.2**	**+0.2**
KSDI	**Kefar Szold**	**2.44**	**120**	Pn	**Pn**	**03 50 24.1**	**0.0**
KSDI	**Kefar Szold**	**2.44**	**120**	Pn	**Pn**	**03 50 24.1**	**0.0**
KSHT	**Keshet**	**2.67**	**123**	Pn	**Pn**	**03 50 28.0**	**+0.8**
KSHT	**Keshet**	**2.67**	**123**	Pn	**Pn**	**03 50 28.0**	**+0.8**
SLTI	**Sal'it**	**2.72**	**144**	Pn	**Pn**	**03 50 28.1**	**+0.2**
SLTI	**Sal'it**	**2.72**	**144**	Pn	**Pn**	**03 50 28.1**	**+0.2**
KEPZ	**Antalya-Kepez**	**2.74**	**333**	*i* P	**Pn**	**03 50 28.2**	**0.0**
KEPZ	**Antalya-Kepez**	**2.74**	**333**	P	**Pn**	**03 50 28.2**	**0.0**
MMLI	**Mount Malkishu**	**2.77**	**136**	Pn	**Pn**	**03 50 28.8**	**+0.2**
MMLI	**Mount Malkishu**	**2.77**	**136**	Pn	**Pn**	**03 50 28.8**	**+0.2**
KRTS	**Karatas**	**2.79**	**40**	PN	**Pn**	**03 50 28.9**	**+0.2**
KRTS	**Karatas**	**2.79**	**40**	*e*Pn	**Pn**	**03 50 28.9**	**+0.2**
DED	**Mersin**	**2.84**	**28**	*i* P	**Pn**	**03 50 30.0**	**+0.5**

EIL	**Elat**	**5.01 162**	Pn		**Pn**	**03 51 02.5**	**+3.1**
	1.9nm,0.3s,baz=294,slow=2.7,SNR=43							
EIL			Sn		**Sn**	**03 51 59.8**	**+3.7**
	7.9nm,0.3s,baz=84,slow=22,SNR=10							
EIL	**Elat**	**5.01 162**	Pn		**Pn**	**03 51 00.3**	**+0.9**
EIL			Sn		**Sn**	**03 51 56.3**	**+0.2**
EIL	**Elat**	**5.01 162**	Pn		**Pn**	**03 51 00.3**	**+0.9**
EIL			Sn		**Sn**	**03 51 56.3**	**+0.2**
GLL	**Jalalah**	**5.02 194**	P		**Pn**	**03 51 01.2**	**+1.7**
	baz=197							
KARP	**Karpathos**	**5.03 284**	PN		**Pn**	**03 50 59.3**	**-0.3**
KARP	**Karpathos**	**5.03 284**	*e*Pn		**Pn**	**03 50 59.3**	**-0.3**
SVRH	**Sivrihisar-ESK**	**5.15 346**	PN		**Pn**	**03 51 01.9**	**+0.6**
SVRH	**Sivrihisar-ESK**	**5.15 346**	*e*Pn		**Pn**	**03 51 01.9**	**+0.6**
MLSB	**Milas**	**5.20 305**	PN		**Pn**	**03 51 01.9**	**0.0**
MLSB	**Milas**	**5.20 305**	*e*Pn		**Pn**	**03 51 01.9**	**0.0**
BRTR	**Keskin Array B**	**5.27 4**	Pn		**Pn**	**03 51 03.7**	**+0.6**
	0.5nm,0.3s,baz=179,slow=16,SNR=14							
BDRM	**Kayabasi**	**5.32 301**	*i* P		**Pn**	**03 51 03.7**	**+0.2**
BDRM	**Kayabasi**	**5.32 301**	P		**Pn**	**03 51 03.7**	**+0.2**
AYDN	**Tasoluk**	**5.33 308**	*i* P		**Pn**	**03 51 03.5**	**-0.3**
AYDN	**Tasoluk**	**5.33 308**	P		**Pn**	**03 51 03.5**	**-0.3**
DARE	**Darende-Malaty**	**5.39 39**	PN		**Pn**	**03 51 05.9**	**+1.3**
DARE	**Darende-Malaty**	**5.39 39**	*e*Pn		**Pn**	**03 51 05.9**	**+1.3**
BODT	**Bodrum**	**5.41 300**	PN		**Pn**	**03 51 03.8**	**-1.0**
BODT	**Bodrum**	**5.41 300**	*e*Pn		**Pn**	**03 51 03.8**	**-1.0**
KULA	**Kula-Manisa**	**5.42 320**	PN		**Pn**	**03 51 04.4**	**-0.7**
KULA	**Kula-Manisa**	**5.42 320**	*e*Pn		**Pn**	**03 51 04.4**	**-0.7**
YOZ	**Yozgat**	**5.46 18**	PN		**Pn**	**03 51 07.1**	**+1.5**
YOZ	**Yozgat**	**5.46 18**	*e*Pn		**Pn**	**03 51 07.1**	**+1.5**
GDZ	**Gediz**	**5.48 329**	*i* P		**Pn**	**03 51 04.5**	**-1.4**
GDZ	**Gediz**	**5.48 329**	P		**Pn**	**03 51 04.5**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**5.49 311**	PN		**Pn**	**03 51 05.6**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**5.49 311**	*e*Pn		**Pn**	**03 51 05.6**	**-0.5**
SIMA	**Simav-Kutahya**	**5.70 325**	PN		**Pn**	**03 51 09.1**	**+0.2**
SIMA	**Simav-Kutahya**	**5.70 325**	*e*Pn		**Pn**	**03 51 09.1**	**+0.2**
ZKR	**Zakros**	**5.74 279**	PN		**Pn**	**03 51 08.4**	**-0.9**
ZKR	**Zakros**	**5.74 279**	*e*Pn		**Pn**	**03 51 08.4**	**-0.9**
GCAM	**G?zelcaml?**	**5.78 306**	PN		**Pn**	**03 51 09.5**	**-0.3**
GCAM	**G?zelcaml?**	**5.78 306**	*i* P		**Pn**	**03 51 08.2**	**-1.6**
GCAM	**G?zelcaml?**	**5.78 306**	P		**Pn**	**03 51 08.2**	**-1.6**
GCAM	**G?zelcaml?**	**5.78 306**	*e*Pn		**Pn**	**03 51 09.5**	**-0.3**
DEMI	**Demirci**	**5.79 323**	*i* P		**Pn**	**03 51 09.4**	**-0.8**
DEMI	**Demirci**	**5.79 323**	P		**Pn**	**03 51 09.4**	**-0.8**
HKAT	**Jabal Katrina**	**5.96 173**	P		**Pn**	**03 51 12.2**	**-0.4**
	baz=179							
HKAT	**Jabal Katrina**	**5.96 173**	P		**Pn**	**03 51 12.2**	**-0.4**
NBNS	**Bani Suef**	**6.03 196**	P		**Pn**	**03 51 15.6**	**+2.2**
	baz=197							
NBNS			AMP			03 52 00.0		
	baz=197							
NBNS	**Bani Suef**	**6.03 196**	P		**Pn**	**03 51 15.6**	**+2.2**
DGB	**˙zmir**	**6.20 307**	*i* P		**Pn**	**03 51 13.6**	**-2.1**
APE	**Apeiranthos**	**6.72 295**	PN		**Pn**	**03 51 22.7**	**-0.1**
APE	**Apeiranthos**	**6.72 295**	*e*Pn		**Pn**	**03 51 22.7**	**-0.1**
IDI	**Anoyia**	**6.84 279**	Pn		**Pn**	**03 51 23.7**	**-0.7**
	2.7nm,0.3s,baz=26,slow=2.3,SNR=29							
IDI			Sn		**Sn**	**03 52 37.1**	**-3.9**
	2.7nm,0.3s,baz=218,slow=12,SNR=9.6							
CHOS	**Chios island**	**6.93 306**	PN		**Pn**	**03 51 25.3**	**-0.5**
CHOS	**Chios island**	**6.93 306**	*e*Pn		**Pn**	**03 51 25.3**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**7.46 317**	*i* P		Pn	03 51 26.5	-6.4
IMMV	**Iera Moni Meta**	**7.59 280**	PN		**Pn**	**03 51 34.2**	**-0.6**
IMMV	**Iera Moni Meta**	**7.59 280**	*e*Pn		**Pn**	**03 51 34.2**	**-0.6**
SWA2		**8.35 234**	P		**Pn**	**03 51 44.2**	**-1.0**
	baz=228							
SWA2			AMP			03 53 00.0		
	baz=228							
SWA2		**8.35 234**	P		**Pn**	**03 51 44.2**	**-1.0**
AKASG	**Malin Array Be**	**16.48 351**	Pn		**Pn**	**03 53 35.5**	**+0.6**
	0.4nm,0.3s,baz=173,slow=11,SNR=6.6							
GERES	**GERESS Array B**	**20.36 321**	P		Pn	03 54 21.6	-0.5
	0.8nm,0.5s,baz=130,slow=8.1,SNR=12							
KHC	**Kasperske Hory**	**20.59 321**	*e*P		**P**	**03 54 21.8**	**-0.6**
AKTO	**Aktyubinsk**	**24.16 41**	P		**P**	**03 54 58.9**	**-0.2**
	1.0nm,0.6s,baz=221,slow=9.5,SNR=4.4							
WSAR	**Wadi Sarin**	**24.90 110**	LR		LR	04 08 08.7		
	comp=Z,51nm,20.7s,baz=242,slow=44							
FINES	**FINESS Array B**	**27.38 353**	P		**P**	**03 55 27.1**	**-1.0**
	0.8nm,0.4s,baz=152,slow=11,SNR=9.3							
KURBB	**Kurchatov Arra**	**36.50 50**	P		**P**	**03 56 48.9**	**+0.8**
	0.2nm,0.3s,baz=269,slow=9.3,SNR=2.8							
MKAR	**Makanchi Array**	**38.68 56**	P		**P**	**03 57 07.2**	**+0.5**
	0.4nm,0.6s,baz=272,slow=6.6,SNR=5.9							
SONM	**Songino Array**	**54.78 52**	P		**P**	**03 59 13.0**	**+0.3**
	0.2nm,0.6s,baz=281,slow=8.2,SNR=2.4							

IDC 17 03:54:51.2±1.7,**10°82N**×**94°24E**,**h0**km,**mb3.7**/6,
mb1 3.8/6,**mb1mx3.4**/64,**mbtmp3.7**/6,**MS3.1/2**,**Ms1 3.2**/2,
ms1mx2.5/62,**Error ellipse: s-maj=94.9km**
s-min=20.8km az=55.0,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.85**	**30**	LR	LR	04 00 54.5	
	comp=Z,61nm,19.3s,baz=210,slow=4						
MKAR	**Makanchi Array**	**37.26**	**346**	P	P	04 02 02.6	-2.1
	0.5nm,0.8s,baz=163,slow=8.9,SNR=4.9						
SONM	**Songino Array**	**38.29**	**13**	LR	LR	04 19 54.5	
	comp=Z,46nm,19.1s,baz=92,slow=39						
KURBB	**Kurchatov Arra**	**41.74**	**345**	P	P	04 02 42.6	+0.7
	0.4nm,0.4s,baz=165,slow=7.7,SNR=4.8						
GEYT	**Alibeck**	**42.13**	**316**	P	P	04 02 45.9	+0.4
	1.9nm,0.5s,baz=134,slow=8.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.67**	**352**	P	P	04 02 58.2	+0.6
	0.6nm,0.5s,baz=179,slow=9.8,SNR=3.5						
WRA	**Warramunga Arr**	**49.92**	**128**	P	P	04 03 47.4	+0.3
	1.1nm,0.9s,baz=304,slow=9.0,SNR=4.2						
ASAR	**Alice Springs**	**51.76**	**132**	P	P	04 04 00.5	-0.4
	0.9nm,0.8s,baz=305,slow=6.9,SNR=6.8						

ISCJB ***17*** *03:57:55.9*±*0.6,38°.86N*×*0°.04*×*31°.09E*±*0°.06,h14*km±*6km, Error ellipse: s-maj=7.7km s-min=5.7km az=28.4*
CSEM ***17*** *03:57:55.6*±*0.2,38°.86N*×*31°.10E,h11*km±*2km,ML2.7, Error ellipse: s-maj=4.5km s-min=4.0km az=91.0*
DDA ***17*** *03:57:55.4,38°.87N*×*31°.13E,h7*km,*Ml2.7*
ISK ***17*** *03:57:55.5,38°.85N*×*31°.09E,h15*km,*MD2.5/2*
ISC 17 03:57:55.4±0.9,**38°.86N**±0°.03×**31°.09E**±0°.03,**h12**km±9km,
n18,σ0**840**/26,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLV	**Bolvadin**	**0.18**	**218**	*i* P	**Pb**	**03 58 00.5**	**-0.2**
BOLV				*i* S	**Sg**	**03 58 02.9**	**+0.5**
BOLV	**Bolvadin**	**0.18**	**218**	P	**Pb**	**03 58 00.5**	**-0.2**
BOLV				S	**Sg**	**03 58 02.9**	**+0.5**
SHUT	**Suhut-Afyon**	**0.52**	**234**	PG	**Pb**	**03 58 06.5**	**0.0**
SHUT				SG	**Sb**	**03 58 13.9**	**-0.2**
SHUT	**Suhut-Afyon**	**0.52**	**234**	*e*Pg	**Pb**	**03 58 06.5**	**0.0**
SHUT				*e*Sg	**Sb**	**03 58 13.9**	**-0.2**
SVRH	**Sivrihisar-ESK**	**0.68**	**30**	PG	**Pb**	**03 58 09.1**	**-0.2**
SVRH				SG	**Sb**	**03 58 19.3**	**+0.6**
SVRH	**Sivrihisar-ESK**	**0.68**	**30**	*e*Pg	**Pb**	**03 58 09.1**	**-0.2**
SVRH				*e*Sg	**Sb**	**03 58 19.3**	**+0.6**
ESKT	**Eskisehir**	**0.69**	**344**	*i* P	**Pg**	**03 58 08.1**	**-0.7**
SEYT	**Eskypehyr**	**0.69**	**344**	P	**Pg**	**03 58 08.1**	**-0.7**
KDHN	**Kadinhani**	**0.87**	**112**	*i* P	**Pb**	**03 58 12.4**	**-0.1**
KDHN				*i* S	**Sg**	**03 58 23.4**	**-0.3**
KDHN	**Kadinhani**	**0.87**	**112**	P	**Pb**	**03 58 12.4**	**-0.1**
KDHN				S	**Sg**	**03 58 23.4**	**-0.3**
DOGA	**KONYA_Doganhis**	**0.88**	**149**	*i* P	**Pg**	**03 58 12.3**	**-0.1**
DOGA	**KONYA_Doganhis**	**0.88**	**149**	P	**Pg**	**03 58 12.3**	**-0.1**
BORA	**Eskisehir**	**1.13**	**334**	*i* P	**Pn**	**03 58 17.7**	**+0.5**
BORA	**Eskisehir**	**1.13**	**334**	P	**Pn**	**03 58 17.7**	**+0.5**
SUTC	**Sutluce-Ispart**	**1.38**	**183**	PN	**Pn**	**03 58 20.7**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.38**	**183**	*e*Pn	**Pn**	**03 58 20.7**	**+0.1**
TVSB	**Tavsanli**	**1.40**	**296**	PN	**Pn**	**03 58 21.1**	**+0.3**
TVSB	**Tavsanli**	**1.40**	**296**	*e*Pn	**Pn**	**03 58 21.1**	**+0.3**

IDC ***17*** *04:02:28.5*±*4.0,27°.07N*×*125°.66E,h104*km±*39km,mb3.3/8, mb1 3.4/10,mb1mx3.1/63,mbtmp3.6/10,MS3.1/1, Ms1 3.1/1,ms1mx2.6/24,Error ellipse: s-maj=40.0km s-min=19.4km az=65.0*
JMA ***17*** *04:02:28.3*±*0.3,26°.61N*×*126°.61E,h21*km±*4km,M2.4*
ISC 17 04:02:22.5±1.1,**26°69N**±0°.09×**126°2E**±0°.1,**h35**km,**n17**,
σ3**906**/14,**mb3.5**/8,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.61**	**127**	P	**Pn**	**04 02 35.2**	**+0.5**
JKE				*e*S	**Sn**	**04 02 40.1**	**-3.2**
JAGN	**Aguni-jima**	**0.90**	**96**	P	**Pn**	**04 02 39.4**	**+0.7**
JAGN				S	**Sn**	**04 02 47.0**	**-3.5**
JJT2	**Tamagusuku 2**	**1.46**	**112**	P	**Pn**	**04 02 49.8**	**+3.5**
JIH	**Iheya**	**1.58**	**77**	P	**Pn**	**04 02 50.6**	**+2.6**
JNTH	**Nagotoyohara**	**1.60**	**96**	P	**Pn**	**04 02 50.3**	**+2.0**
JOW	**Kunigami**	**1.82**	**85**	P	**Pn**	**04 02 53.3**	**+1.9**
JNU	**Nakatsue**	**7.57**	**31**	P	Pn	04 04 16.0	+5.7
	0.4nm,0.3s,baz=196,slow=10,SNR=4.6						
KSRS	**Korea Array**	**10.83**	**7**	P	**Pn**	**04 04 55.9**	**+1.0**
	0.2nm,0.3s,baz=185,slow=17,SNR=2.5						
KSRS				LR	LR	04 09 17.0	
	comp=Z,93nm,20.2s,baz=307,slow=39						
USRK	**Ussuriysk Ar.**	**18.08**	**13**	P	**P**	**04 06 33.7**	**+2.8**
	0.2nm,0.3s,baz=201,slow=10,SNR=5.0						
SONM	**Songino Array**	**26.22**	**329**	P	**P**	**04 07 49.3**	**-4.8**
	0.7nm,0.9s,baz=155,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**39.90**	**312**	P	P	04 09 46.7	-6.3
	0.3nm,0.5s,baz=100,slow=9.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.81**	**323**	P	P	04 09 54.0	-6.4
	0.4nm,0.3s,baz=111,slow=8.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**43.29**	**317**	P	P	04 10 13.6	-7.1
	0.3nm,0.4s,baz=109,slow=8.8,SNR=3.0						
WRA	**Warramunga Arr**	**47.02**	**170**	P	**P**	**04 10 51.6**	**+1.1**
	0.9nm,0.8s,baz=357,slow=8.4,SNR=2.7						
ASAR	**Alice Springs**	**50.61**	**171**	P	**P**	**04 11 21.6**	**+3.5**
	0.2nm,0.3s,baz=355,slow=14,SNR=3.5						
FINES	**FINESS Array B**	**71.58**	**330**	P	P	04 13 35.8	-4.0
	2.1nm,1.0s,baz=0,slow=4.3,SNR=2.7						
YKA	**Yellowknife Ar**	**78.85**	**24**	P	**P**	**04 14 18.8**	**-2.9**
	0.1nm,0.6s,baz=301,slow=5.8,SNR=5.4						

MAN ***17*** *04:08:14,6°.97N*×*123°.76E,h7*km,*mb5.1,ML4.0,MS4.1*
ISCJB ***17*** *04:08:16.2*±*0.5,6°.88N*±*0°.04*×*123°.72E*±*0°.04,h50*km±*5km, mb4.3/23,MS3.1/2,Error ellipse: s-maj=7.4km s-min=6.1km az=11.9*
IDC ***17*** *04:08:18.0*±*4.1,6°.77N*×*123°.64E,h54*km±*39km,mb3.8/17, mb1 3.9/17,mb1mx3.7/54,mbtmp4.0/17,MS3.1/2, Ms1 3.1/2,ms1mx2.6/54,Error ellipse: s-maj=27.9km s-min=12.5km az=81.0*
NEIC ***17*** *04:08:18.7*±*0.9,6°.82N*×*123°.81E,h61*km±*9km,mb4.5/2, Error ellipse: s-maj=9.9km s-min=7.8km az=80.0*
ISC 17 04:08:17.5±1.1,**7°00N**±0°.05×**123°71E**±0°.04,**h41**km±11km,
n51,σ1**896**/55,**mb4.2**/23,**3C-3D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.58**	**68**	⇓*i* P	Pn	04 08 25.4	-3.9
CTBH				*i* S	**Sn**	**04 08 33.5**	**-4.3**
PAGZ	**Pagadian**	**0.90**	**339**	*e*P	**Pn**	**04 08 32.4**	**-1.3**
PAGZ				*e*S	**Sn**	**04 08 47.7**	**+2.1**
KCP	**Kidapawan**	**1.37**	**90**	⇓*i* P	**Pn**	**04 08 37.6**	**-2.6**
KCP				*i* S	**Sn**	**04 08 57.3**	**+0.1**
GSPH	**General Santos**	**1.53**	**126**	*i* P	**Pn**	**04 08 43.6**	**+1.1**
GSPH				*i* S	**Sn**	**04 09 06.8**	**+5.6**
BUKP	**Musuan**	**1.60**	**57**	*e*P	**Pn**	**04 08 42.9**	**-0.5**
BUKP				*e*S	**Sn**	**04 09 04.3**	**+1.4**
DCPH	**Dipolog City**	**1.61**	**347**	⇑*e*P	**Pn**	**04 08 43.8**	**+0.4**
ZCP	**Zamboanga City**	**1.62**	**268**	⇑*i* P	**Pn**	**04 08 42.2**	**-1.4**
ZCP				*i* S	**Sn**	**04 09 04.5**	**+1.2**
DAV	**Davao City (W)**	**1.86**	**88**	P	**Pn**	**04 08 47.7**	**+0.8**
	132nm,0.3s,baz=305,slow=3.4,SNR=26						
DAV				S	**Sn**	**04 09 12.9**	**+3.8**
	156nm,0.3s,baz=327,slow=21,SNR=8.3						
DAV	**Davao City (W)**	**1.86**	**88**	*e*Pn	**Pn**	**04 08 47.0**	**+0.1**
DAV				*e*S	**Sn**	**04 09 12.9**	**+3.8**
SNPH	**Sibulan**	**2.37**	**349**	⇑*i* P	**Pn**	**04 08 54.9**	**+0.9**
SNPH				*i* S	Sn	04 09 31.5	+10
BUTP	**Butuan**	**2.72**	**44**	*e*P	Pn	04 09 04.0	+5.2
BIPH	**Bislig**	**2.88**	**66**	⇓*e*P	Pn	04 09 06.0	+5.1
BIPH				*e*S	Sn	04 09 42.1	+7.7
MYLDM	**Lahad Datu**	**5.49**	**251**	*e*Pn	**Pn**	**04 09 37.4**	**+0.7**
LUWI	**Luwuk**	**8.04**	**187**	*e*Pn	**Pn**	**04 10 11.8**	**0.0**
	31nm,0.4s						
FITZ	**Fitzroy Crossi**	**25.01**	**176**	P	**P**	**04 13 33.8**	**-4.0**
	670nm,1.1s,baz=89,slow=1.4						
WRA	**Warramunga Arr**	**28.75**	**159**	P	**P**	**04 14 09.0**	**-2.3**
	0.9nm,0.7s,baz=340,slow=9.4,SNR=5.2						
CD2	**Chrongdu**	**30.25**	**324**	*e*P	**P**	**04 14 26.8**	**+2.2**
KSAR	**Wonju Array Be**	**30.54**	**7**	P	**P**	**04 14 27.9**	**+0.9**
KSRS	**Korea Array**	**30.56**	**7**	P	**P**	**04 14 27.9**	**+0.8**
	2.1nm,0.7s,baz=186,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**32.06**	**162**	P	**P**	**04 14 38.0**	**-2.6**
	0.4nm,0.6s,baz=342,slow=6.9,SNR=3.0						
MJAR	**Matsushiro Arr**	**32.25**	**22**	P	**P**	**04 14 41.9**	**-0.2**
	2.2nm,0.8s,baz=193,slow=9.5,SNR=5.5						
HHC	**Hu-ho-hao-te**	**35.41**	**344**	*e*P	**P**	**04 15 12.3**	**+2.7**
USRK	**Ussuriysk Ar.**	**37.76**	**10**	P	**P**	**04 15 31.1**	**+1.6**
	7.2nm,0.8s,baz=195,slow=7.5,SNR=14						
GTA	**Gaotai**	**38.77**	**330**	*e*P	**P**	**04 15 35.3**	**-3.0**
GTA				pP	pP	04 15 40.9	-8.8
GTA				sP	sP	04 15 43.8	-11
STKA	**Stephens Creek**	**42.26**	**157**	P	**P**	**04 16 06.0**	**-1.0**
	1.5nm,0.5s,baz=335,slow=8.7,SNR=6.7						
STKA				LR	LR	04 36 25.7	
	comp=Z,35nm,18.4s,baz=218,slow=40						
SONM	**Songino Array**	**43.28**	**343**	P	**P**	**04 16 16.0**	**+0.7**
	1.1nm,0.7s,baz=160,slow=10,SNR=7.6						
SONA1	**Songino Array**	**43.29**	**343**	*e*P	**P**	**04 16 16.5**	**+1.2**
WMQ	**Urumqi**	**48.34**	**325**	*e*P	**P**	**04 16 57.5**	**+2.3**
MK01	**Makanchi Array**	**53.15**	**325**	*e*P	**P**	**04 17 32.6**	**+1.3**
MK31	**Makanchi Array**	**53.17**	**325**	*e*P	**P**	**04 17 33.2**	**+1.8**
MKAR	**Makanchi Array**	**53.17**	**325**	P	**P**	**04 17 33.0**	**+1.6**
	1.6nm,0.7s,baz=126,slow=8.0,SNR=20						
MKAR	**Makanchi Array**	**53.17**	**325**	*e*P	**P**	**04 17 33.2**	**+1.8**
	11nm,0.8s						
MAKZ	**Makanchi**	**53.36**	**325**	*e*P	**P**	**04 17 32.7**	**-0.1**
	2.1nm,0.8s						
KSH	**Kashi**	**53.62**	**315**	*e*P	**P**	**04 17 38.3**	**+3.3**
PETK	**Petropavlovsk-**	**53.65**	**25**	P	**P**	**04 17 35.5**	**+0.8**
	2.7nm,0.7s,baz=184,slow=4.5,SNR=5.1						
PETK	**Petropavlovsk-**	**53.65**	**25**	*e*P	**P**	**04 17 34.8**	**0.0**
ZALV	**Zalesovo Beam**	**56.33**	**334**	P	**P**	**04 17 54.4**	**+0.2**
	0.5nm,0.3s,baz=111,slow=7.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**56.33**	**334**	*e*P	**P**	**04 17 54.0**	**-0.2**
KURBB	**Kurchatov Arra**	**57.38**	**328**	P	**P**	**04 18 00.6**	**-1.1**
	2.4nm,0.8s,baz=129,slow=6.2,SNR=18						
KURK	**Kurchatov**	**57.38**	**328**	*e*P	**P**	**04 18 01.2**	**-0.5**
	65nm,1.3s						
BVAR	**Borovoye Array**	**62.96**	**327**	P	**P**	**04 18 40.8**	**+1.0**
	2.3nm,0.8s,baz=128,slow=9.5,SNR=9.0						
BRVK	**Borovoye**	**63.03**	**327**	*e*P	**P**	**04 18 41.9**	**+1.6**
	10nm,1.1s						
ABKAR	**Akbulak array**	**67.73**	**321**	*e*P	**P**	**04 19 11.9**	**+1.1**
	10nm,0.6s						
AKTO	**Aktyubinsk**	**69.24**	**321**	P	**P**	**04 19 21.4**	**+1.1**
	2.1nm,0.7s,baz=103,slow=16,SNR=8.2						
ARU	**Arti**	**70.58**	**328**	*e*P	**P**	**04 19 28.0**	**-0.3**
	3.3nm,0.3s						
BRTR	**Keskin Array B**	**85.63**	**309**	P	**P**	**04 20 51.6**	**-0.6**
	2.3nm,0.9s,baz=92,slow=3.7,SNR=5.2						
AKASG	**Malin Array Be**	**87.47**	**321**	P	**P**	**04 21 00.1**	**-0.8**
	0.8nm,0.6s,baz=66,slow=4.9,SNR=4.0						
FINES	**FINESS Array B**	**87.55**	**332**	P	**P**	**04 20 59.9**	**-1.0**
	1.2nm,0.6s,baz=168,slow=9.8,SNR=4.0						
MLR	**Muntele Rosu**	**90.47**	**316**	LR	LR	05 05 18.0	
	comp=Z,5.4nm,19.2s,baz=30,slow=38						
YKA	**Yellowknife Ar**	**97.75**	**23**	P	**P**	**04 21 47.0**	**-1.1**
	0.1nm,0.6s,baz=312,slow=4.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**119.03**	**289**	PKP	**PKPdf**	**04 27 01.3**	**-1.6**
	0.5nm,1.1s,baz=90,slow=3.6,SNR=2.6						

IDC ***17*** *04:21:03.9*±*0.9,0°.29N*×*127°.28E,h0*km,*mb3.8/9, mb1 3.9/9,mb1mx3.7/50,mbtmp3.8/9,Error ellipse: s-maj=46.0km s-min=18.5km az=76.0*
ISCJB ***17*** *04:21:17.3*±*0.4,0°.24N*±*0°.04*×*127°.39E*±*0°.05,h131*km, mb3.8/10,Error ellipse: s-maj=7.8km s-min=5.3km az=155.0*
NEIC ***17*** *04:21:19.2*±*0.7,0°.16N*×*127°.33E,h140*km±*8km,mb4.2/1, Error ellipse: s-maj=15.6km s-min=10.0km az=66.0*
DJA ***17*** *04:21:20.3*±*0.4,0°N*±*3°*×*12°7E*±°*,h127*km±*8km,M4.5/7, mB5.4/1,mb4.5/3,MLv4.4/7,Mw(mB)4.9/1*
ISC 17 04:21:18.7±0.7,**0°17N**±0°.05×**127°31E**±0°.06,**h131**km,**n26**,
σ1**936**/30,**mb3.9**/10,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.60**	**5**	*e*Pn	**Pn**	**04 21 39.8**	**+1.2**
LBMI	**Labuha**	**0.82**	**167**	P	**Pn**	**04 21 42.0**	**+1.8**
SANI	**Sanana**	**2.57**	**211**	P	**Pn**	**04 22 00.2**	**+0.3**
SANI				S	**Sn**	**04 22 29.6**	**-2.0**
KMSI	**Cibinong**	**3.36**	**277**	P	**Pn**	**04 22 12.3**	**+2.3**
KMSI				S	**Sn**	**04 22 51.3**	**+1.7**
NLAI	**Namlea**	**3.39**	**184**	P	**Pn**	**04 22 12.1**	**+1.6**
NLAI				S	**Sn**	**04 22 49.9**	**-0.7**
MSAI	**Masohi**	**3.85**	**155**	P	**Pn**	**04 22 19.1**	**+2.6**
MSAI				S	**Sn**	**04 23 01.8**	**+0.5**
SGSI	**Sangihe**	**3.92**	**333**	P	**Pn**	**04 22 17.8**	**+0.3**
AAI	**Ambon**	**3.93**	**167**	P	**Pn**	**04 22 19.1**	**+1.5**
LUWI	**Luwuk**	**4.70**	**255**	P	**Pn**	**04 22 28.3**	**+0.5**
LUWI	**Luwuk**	**4.70**	**255**	*e*Pn	**Pn**	**04 22 28.8**	**+1.0**
MRSI	**Marisa**	**5.38**	**273**	P	**Pn**	**04 22 37.5**	**+0.6**
	16nm,0.4s						
APSI	**Ampana**	**5.76**	**259**	P	**Pn**	**04 22 43.4**	**+1.3**
	182nm,0.6s,5μm						
FAKI	**Fak Fak**	**5.81**	**122**	P	**Pn**	**04 22 43.9**	**+1.2**
FAKI	**Fak Fak**	**5.81**	**122**	*e*Pn	**Pn**	**04 22 44.4**	**+1.6**
WRAB	**Tennant Creek**	**21.14**	**161**	*e*P	**P**	**04 25 51.9**	**-1.5**
	13nm,1.2s						
WRA	**Warramunga Arr**	**21.14**	**161**	P	**P**	**04 25 52.5**	**-0.9**
	1.0nm,0.4s,baz=341,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.54**	**165**	P	**P**	**04 26 26.1**	**-0.2**
	0.8nm,0.5s,baz=354,slow=16,SNR=8.7						
KSAR	**Wonju Array Be**	**37.09**	**1**	P	**P**	**04 28 14.8**	**-1.5**
KSRS	**Korea Array**	**37.10**	**1**	P	**P**	**04 28 14.8**	**-1.6**
	1.3nm,0.4s,baz=175,slow=9.0,SNR=4.1						
MJAR	**Matsushiro Arr**	**37.58**	**14**	P	**P**	**04 28 18.7**	**-1.8**
	1.0nm,0.3s,baz=184,slow=9.6,SNR=2.8						
SONM	**Songino Array**	**50.84**	**342**	P	**P**	**04 30 05.3**	**-0.7**
	0.5nm,0.6s,baz=156,slow=7.7,SNR=4.7						
PETK	**Petropavlovsk-**	**58.51**	**21**	P	**P**	**04 31 01.9**	**+0.8**
	1.1nm,0.5s,baz=171,slow=4.6,SNR=4.4						
MKAR	**Makanchi Array**	**60.80**	**326**	P	**P**	**04 31 17.4**	**+0.4**
	0.5nm,0.4s,baz=115,slow=8.0,SNR=14						
KURBB	**Kurchatov Arra**	**65.04**	**328**	P	**P**	**04 31 44.9**	**+0.1**
	0.8nm,0.2s,baz=137,slow=6.0,SNR=5.1						
KURK	**Kurchatov**	**65.04**	**328**	P	**P**	**04 31 44.9**	**0.0**
BVAR	**Borovoye Array**	**70.61**	**328**	P	**P**	**04 32 20.7**	**+1.0**
	0.4nm,0.4s,

UGL				A	A	04 42 18.3	
	comp=E,84nm,0.6s						
UGL				A	A	04 42 27.5	
	comp=E,1μm,5.0s						
UGL				A	A	04 42 27.5	
	comp=E,980nm,5.0s						
KUR	**Kuril'sk**	**3.02 159**	*e*P	**P**		**04 41 20.2**	**-0.5**
KUR				AMB	AMB	04 41 21.5	
	comp=E,150nm,0.5s						
KUR				AMB	AMB	04 41 24.0	
	comp=E,500nm,2.0s						
KUR			*e*S	**S**		**04 42 15.8**	**-1.6**
KUR				A	A	04 42 20.0	
	comp=E,89nm,0.8s						
KUR				A	A	04 42 20.0	
	comp=E,77nm,0.8s						
KUR				A	A	04 42 25.0	
	comp=E,860nm,3.0s						
KUR				A	A	04 42 25.0	
	comp=E,390nm,3.0s						
KUR	**Kuril'sk**	**3.02 159**	*i*PN	**P**		**04 41 21.0**	**+0.3**
TYV	**Tymovskoe**	**3.69 321**	*e*P	**P**		**04 41 26.4**	**+0.8**
TYV				AMB	AMB	04 41 26.6	
	comp=E,24nm,0.8s						
TYV			*e*S	**S**		**04 42 26.3**	**-0.3**
TYV				A	A	04 42 27.1	
	comp=E,79nm,0.7s						
TYV	**Tymovskoe**	**3.69 321**	*e*PN	**P**		**04 41 26.4**	**+0.8**
TYV			*e*S	**S**		**04 42 26.3**	**-0.3**
TYV				pmax	pmax		
	comp=Z,24nm,0.8s						
TYV				smax	smax		
	comp=N,8.0nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.04 185**	*e*P	**P**		**04 41 28.2**	**-0.4**
YUK				AMB	AMB	04 41 29.3	
	comp=N,340nm,2.0s						
YUK				AMB	AMB	04 41 33.9	
	comp=N,430nm,0.3s						
YUK			*e*S	**S**		**04 42 30.2**	**-1.5**
YUK				A	A	04 42 31.5	
	comp=N,1μm,2.0s						
YUK				A	A	04 42 31.5	
	comp=N,880nm,2.0s						
YUK				A	A	04 42 38.6	
	comp=N,410nm,0.6s						
YUK				A	A	04 42 38.6	
	comp=N,420nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.04 185**	*e*PN	**P**		**04 41 31.7**	**+3.1**
SHO	**Shikotan**	**4.20 175**	*i* P	**P**		**04 41 27.0**	**-3.0**
SHO				AMB	AMB	04 41 28.3	
	comp=N,41nm,0.2s						
SHO				AMB	AMB	04 41 28.9	
	comp=N,300nm,2.0s						
SHO			*i* S	**S**		**04 42 28.8**	**-5.5**
SHO				A	A	04 42 29.8	
	comp=N,220nm,0.5s						
SHO				A	A	04 42 29.8	
	comp=N,290nm,0.5s						
SHO	**Shikotan**	**4.20 175**	*c i* PN	**P**		**04 41 27.0**	**-3.0**
SHO				pmax	pmax		
	comp=Z,41nm,0.2s						
ASAJ	**Asahikawa**	**4.72 215**	P	**P**		**04 41 35.0**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=141,slow=29,SNR=5.5						
JKA	**Kamikawa-asahi**	**4.72 215**	*e*P	**P**		**04 41 35.0**	**+0.5**
NKL	**Nikolayevsk**	**6.24 327**	*e*P	**P**		**04 41 49.4**	**+0.7**
NKL				AMB	AMB	04 41 50.1	
	comp=Z,11nm,0.8s						
NKL				AMB	AMB	04 41 50.1	
	comp=Z,8.0nm,0.8s						
NKL				AMB	AMB	04 41 50.1	
	comp=Z,57nm,0.8s						
NKL	**Nikolayevsk**	**6.24 327**	*i* PN	**P**		**04 41 49.4**	**+0.7**
NKL				pmax	pmax		
	comp=N,11nm,0.8s						
NKL				pmax	pmax		
	comp=E,8.0nm,0.8s						
NKL				pmax	pmax		
	comp=E,57nm,0.8s						
ERM	**Erimo**	**6.45 202**	*e*PN	**P**		**04 41 50.6**	**-0.4**
GRNR	**Gornyy**	**7.01 296**	*e*P	**P**		**04 41 56.0**	**-0.6**
PETK	**Petropavlovsk-**	**8.82 51**	P	**P**		**04 42 16.5**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=225,slow=5.2,SNR=16						
KLR	**Kul'dur**	**9.73 282**	P	**P**		**04 42 25.7**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=82,slow=9.9,SNR=10						
KLR	**Kul'dur**	**9.73 282**	*e*P	**P**		**04 42 26.0**	**+0.9**
KLR	**Kul'dur**	**9.73 282**	*d i* PN	**P**		**04 42 26.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**10.68 254**	P	**P**		**04 42 35.0**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=62,slow=10.0,SNR=15						
MA2	**Magadan**	**11.83 11**	*e*P	**P**		**04 42 48.2**	**+0.8**
MA2	**Magadan**	**11.83 11**	*i*PN	**P**		**04 42 48.2**	**+0.8**
MJA0	**Matsu Arr-Jizo**	**12.96 210**	*e*PN	**P**		**04 43 01.9**	**+2.0**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**12.97 210**	*e*PN	**P**		**04 43 00.7**	**+0.7**
MJAR	**Matsushiro Arr**	**12.97 210**	P	**P**		**04 43 01.0**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=16,slow=11,SNR=7.2						
MJAR	**Matsushiro Arr**	**12.97 210**	PN	**P**		**04 43 01.0**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**15.29 11**	P	**P**		**04 43 25.0**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=185,slow=8.7,SNR=20						
SEY	**Seymchan**	**15.29 11**	*e*P	**P**		**04 43 24.4**	**+0.4**
SEY	**Seymchan**	**15.29 11**	*e*P	**P**		**04 43 24.4**	**+0.4**
YAK	**Yakutsk**	**16.86 332**	*e*P	**P**		**04 43 38.2**	**-2.4**
YAK	**Yakutsk**	**16.86 332**	*i*P	**P**		**04 43 38.3**	**-2.4**
HIA	**Hailar**	**17.58 284**	*i*P	**P**		**04 43 48.0**	**0.0**
TIK	**Tiksi**	**25.02 347**	*e*P	**P**		**04 44 54.0**	**-1.0**
TIXI	**Tiksi**	**25.03 347**	*e*P	**P**		**04 44 54.0**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULN	**Ulaanbaatar**	**26.11 284**	*e*P	**P**		**04 45 04.1**	**-1.1**
ULN	**Ulaanbaatar**	**26.11 284**	*i*P	**P**		**04 45 04.1**	**-1.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**26.55 285**	P	**P**		**04 45 09.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=90,slow=7.2,SNR=3.0						
TLY	**Talaya**	**27.46 294**	*e*P	**P**		**04 45 16.5**	**-0.3**
TLY	**Talaya**	**27.46 294**	*i*P	**P**		**04 45 16.6**	**-0.3**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	**College**	**38.01 39**	*i*P	**P**		**04 46 46.9**	**+0.7**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**38.07 303**	P	**P**		**04 46 45.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=104,slow=6.1,SNR=2.8						
ZALV				PcP	**PcP**	**04 48 50.0**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=80,slow=4.3,SNR=4.8						
ILAR	**Eielson Array**	**38.43 39**	P	**P**		**04 46 49.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=244,slow=5.4,SNR=9.4						
MKAR	**Makanchi Array**	**42.22 293**	P	**P**		**04 47 20.2**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=69,slow=7.4,SNR=22						
KURK	**Kurchatov**	**42.76 300**	*e*P	**P**		**04 47 23.9**	**-0.7**
KURK	**Kurchatov**	**42.76 300**	*i*P	**P**		**04 47 23.9**	**-0.7**
KURK			*i* *PP	**pP**		**04 48 57.3**	**+3.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURBB	**Kurchatov Array**	**42.85 300**	P	**P**		**04 47 24.8**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=72,slow=8.6,SNR=8.6						
KURBB				PcP	**PcP**	**04 49 06.0**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=58,slow=4.2,SNR=5.5						
BVAR	**Borovoye Array**	**46.42 306**	P	**P**		**04 47 52.6**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=75,slow=6.3,SNR=6.9						
BVAR				PcP	**PcP**	**04 49 17.7**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=102,slow=2.1,SNR=6.4						
BRVK	**Borovoye**	**46.46 306**	*e*P	**P**		**04 47 52.4**	**-0.7**
BRVK	**Borovoye**	**46.46 306**	*i*P	**P**		**04 47 52.4**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AAK	**Ala-Archa**	**49.10 292**	*e*P	**P**		**04 48 13.5**	**+0.2**
AAK	**Ala-Archa**	**49.10 292**	*i*P	**P**		**04 48 13.5**	**+0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**50.87 314**	*e*P	**P**		**04 48 25.2**	**-0.7**
ARU	**Arti**	**50.87 314**	*c i*P	**P**		**04 48 25.4**	**-0.5**
ARU						04 50 26.9	
ARU				S	**S**	**04 55 04.8**	**-0.3**
ARU				SS	**SS**	**04 58 44.1**	**-3.0**
ARU				pmax	pmax		
	comp=Z,15nm,1.7s						
RES	**Resolute Bay**	**51.02 17**	P	**P**		**04 48 26.7**	**0.0**
	comp=Z,3.4nm,0.5s,baz=311,slow=6.6,SNR=29						
YKA	**Yellowknife Ar**	**52.57 35**	P	**P**		**04 48 38.1**	**0.0**
	comp=Z,0.1nm,0.5s,baz=304,slow=6.6,SNR=3.2						
ARCES	**ARCESS Array B**	**55.02 338**	P	**P**		**04 48 54.7**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=49,slow=7.6,SNR=7.5						
ARCES	**ARCESS Array B**	**55.02 338**	*e*P	**P**		**04 48 54.1**	**-1.3**
	baz=311,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**27.95 118**	T	T		05 47 08.2	
	baz=311,slow=75,SNR=48						
SONM	**Songino Array**	**28.14 306**	P	**P**		**05 18 08.4**	**+0.3**
	0.2nm,0.4s,baz=108,slow=9.6,SNR=2.4						
H11S3	**WAKE ISLAND Hy**	**28.59 120**	T	T		05 47 50.7	
	baz=312,slow=75,SNR=121						
H11S1	**WAKE ISLAND Hy**	**28.59 120**	T	T		05 47 51.7	
	baz=312,slow=75,SNR=202						
H11S2	**WAKE ISLAND Hy**	**28.61 120**	T	T		05 47 51.9	
	baz=312,slow=75,SNR=142						
ZALV	**Zalesovo Beam**	**42.45 313**	P	**P**		**05 20 11.1**	**+0.5**
	0.8nm,0.6s,baz=76,slow=8.1,SNR=3.6						
MKAR	**Makanchi Array**	**44.41 303**	P	**P**		**05 20 27.0**	**+0.3**
	1.1nm,0.7s,baz=90,slow=9.1,SNR=14						
KURBB	**Kurchatov Arra**	**46.43 309**	P	**P**		**05 20 42.3**	**-0.2**
	0.6nm,0.4s,baz=84,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	**50.84 32**	P	**P**		**05 21 16.4**	**+0.1**
	0.8nm,0.7s,baz=265,slow=5.7,SNR=7.6						
BVAR	**Borovoye Array**	**51.10 313**	P	**P**		**05 21 18.9**	**+0.6**
	0.3nm,0.5s,baz=93,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**55.72 187**	P	**P**		**05 21 51.6**	**-0.9**
	0.8nm,0.7s,baz=4.2,slow=7.7,SNR=5.8						
ASAR	**Alice Springs**	**59.45 187**	P	**P**		**05 22 16.5**	**-2.3**
	0.3nm,0.6s,baz=20,slow=11,SNR=4.0						
YKA	**Yellowknife Ar**	**65.17 30**	P	**P**		**05 22 56.1**	**-0.6**
	0.4nm,0.8s,baz=297,slow=6.5,SNR=5.0						
PDAR	**Pinedale Array**	**78.91 45**	P	**P**		**05 24 20.2**	**+0.5**
	0.2nm,0.6s,baz=270,slow=3.6,SNR=2.5						
LPAZ	**La Paz**	**147.75 61**	PKPbc	**PKPdf**		**05 32 00.5**	**+1.3**
	1.0nm,0.9s,baz=213,slow=4.3,SNR=3.7						

IDC ***17*** *05:28:54.5±2.0, 10.35S×123.75E, h0km, mb3.9/4, mb1 3.7/5, mb1mx3.5/46, mbtmp3.7/5, MS2.7/1, Ms1 2.9/1, ms1mx2.3/48, Error ellipse: s-maj=298.4km s-min=19.8km az=56.0*

ISCJB ***17*** *05:28:55.2±0.7, 10.65S±0.05×123.77E±0.09, h27km, mb3.8/4, MS2.7/1, Error ellipse: s-maj=13.5km s-min=6.3km az=163.8*

DJA ***17*** *05:28:57.2±1.5, 11.2S±8.2×12.4E±.7, h10km, M3.0/3, MLv3.0/3*

ISC 17 05:28:56.5±1.0, **10.62S**±0.07×**123.85E**±0.10, **h27**km, **n10, σ1s93/13, mb3.9/4, Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.45**	**336**	Pn	**Pb**			**05 29 04.2**	**-1.7**
	110nm,0.3s,baz=139,slow=11,SNR=170								
BATI	**Baumata**	**0.45**	**336**	P	**Pb**			**05 29 05.0**	**-1.0**
BATI				S	**Sb**			**05 29 09.9**	**-2.5**
SOEI	**Soe**	**0.95**	**26**	P	**Pb**			**05 29 14.1**	**-0.3**
SOEI				S	**Sn**			**05 29 27.5**	**+0.6**
WRA	**Warramunga Arr**	**13.72**	**134**	Pn	**Pn**			**05 32 10.3**	**+0.9**
	0.1nm,0.3s,baz=308,slow=15,SNR=3.2								
WRA				Sn	**Sn**			**05 34 37.0**	**-3.9**
	0.2nm,0.3s,baz=314,slow=23,SNR=5.1								
ASAR	**Alice Springs**	**16.13**	**145**	Pn	**P**			**05 32 44.5**	**-0.1**
	baz=317,slow=12,SNR=5.0								
ASAR				Sn	**Sn**			**05 35 38.6**	**-1.2**
	0.2nm,0.3s,baz=318,slow=23,SNR=4.6								
CMAR	**Chiang Mai Ar**	**37.93**	**319**	LR	LR			05 54 39.8	
	comp=Z,12nm,20.1s,baz=190,slow=41								
MKAR	**Makanchi Array**	**68.14**	**331**	P	**P**			**05 39 55.5**	**+1.3**
	1.1nm,0.6s,baz=132,slow=7.4,SNR=15								
ZALV	**Zalesovo Beam**	**72.32**	**337**	P	**P**			**05 40 20.3**	**+0.8**
	0.8nm,0.3s,baz=145,slow=3.5,SNR=4.2								
KURBB	**Kurchatov Arra**	**72.59**	**332**	P	**P**			**05 40 22.1**	**+0.8**
	0.3nm,0.6s,baz=141,slow=4.9,SNR=5.5								
BVAR	**Borovoye Array**	**78.02**	**330**	P	**P**			**05 40 54.9**	**+2.5**
	0.3nm,0.5s,baz=115,slow=5.3,SNR=2.7								

IDC ***17*** *05:29:13.0±0.8, 19.43N×64.54W, h0km, mb3.6/9, mb1 3.9/11, mb1mx3.6/57, mbtmp3.7/11, ML3.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/41, Error ellipse: s-maj=21.7km s-min=16.4km az=86.0*

NEIC ***17*** *05:29:16.5±0.0, 19.55N×64.55W, h73km, MD3.8(RSPR), After RSPR.*

RSPR ***17*** *05:29:16.5, 19.55N×64.55W, h73km, 6km, MD3.8/16*

ISC 17 05:29:14.0±1.6, **19.58N**±0.04×**64.57W**±0.04, **h8**km±10km, **n63, σ1s36/95, mb3.7/8, 25C-20D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.88**	**165**	*e*P			**Pn**	**05 29 32.6**	**0.0**
ABV	**Anegada**	**0.88**	**165**	*i*P			**Pn**	**05 29 32.6**	**0.0**
ABV				*e*S			**Sn**	**05 29 45.3**	**-0.3**
ABVI	**Anegada Island**	**0.88**	**165**	*i*P			**Pn**	**05 29 32.6**	**0.0**
ABVI				*e*S			**Sn**	**05 29 45.3**	**-0.3**
TBVI	**Tortola**	**1.16**	**182**	*e*P			**Pg**	**05 29 35.9**	**-0.4**
TBVI				*e*S			**Sb**	**05 29 51.3**	**-0.2**
TBVI	**Tortola**	**1.16**	**182**	*i*P			**Pg**	**05 29 35.9**	**-0.4**
TBVI	**Tortola**	**1.16**	**182**	*i*P			**Pg**	**05 29 35.9**	**-0.4**
TBVI				*e*S			**Sb**	**05 29 51.3**	**-0.2**
STVI	**Saint Thomas**	**1.28**	**196**	*i*P			**Pn**	**05 29 37.4**	**-0.7**
STVI	**Saint Thomas**	**1.28**	**196**	*i*P			**Pn**	**05 29 37.4**	**-0.7**
STVI				*e*S			**Sg**	**05 29 54.2**	**-0.9**
STVI	**Saint Thomas**	**1.28**	**196**	*i*P			**Pn**	**05 29 37.4**	**-0.7**
STVI				*e*S			**Sg**	**05 29 54.2**	**-0.9**
CUPR	**Culebra, Puert**	**1.44**	**208**	*i*P			**Pn**	**05 29 39.4**	**-0.8**
CUPR	**Culebra, Puert**	**1.44**	**208**	*i*P			**Pn**	**05 29 39.4**	**-0.8**
CUPR				*e*S			**Sb**	**05 29 58.5**	**-0.9**
MTP	**Monte Pirata**	**1.74**	**212**	*i*P			**Pn**	**05 29 44.4**	**-0.1**
MTP	**Monte Pirata**	**1.74**	**212**	*i*P			**Pn**	**05 29 44.4**	**-0.1**
MTP				*e*S			**Sn**	**05 30 05.1**	**-1.8**
MTP	**Monte Pirata**	**1.74**	**212**	*i*P			**Pn**	**05 29 44.4**	**-0.1**
MTP				*e*S			**Sn**	**05 30 05.1**	**-1.8**
CBYP	**Canovanas**	**1.78**	**223**	*i*P			**Pn**	**05 29 44.9**	**-0.2**
CBYP	**Canovanas**	**1.78**	**223**	*i*P			**Pn**	**05 29 44.9**	**-0.2**
CBYP				*e*S			**Sn**	**05 30 06.7**	**-1.3**
CBYP	**Canovanas**	**1.78**	**223**	*i*P			**Pn**	**05 29 44.9**	**-0.2**
CBYP				*e*S			**Sn**	**05 30 06.7**	**-1.3**
HUMP	**Col San Antoni**	**1.87**	**220**	*i*P			**Pn**	**05 29 46.1**	**-0.3**
HUMP				*e*S			**Sn**	**05 30 08.7**	**-1.5**
HUMP	**Col San Antoni**	**1.87**	**220**	*i*P			**Pn**	**05 29 46.0**	**-0.3**
HUMP	**Col San Antoni**	**1.87**	**220**	*i*P			**Pn**	**05 29 46.0**	**-0.3**
HUMP				*e*S			**Sn**	**05 30 08.6**	**-1.5**
HUMP	**Col San Antoni**	**1.87**	**220**	*i*P			**Pn**	**05 29 46.0**	**-0.3**
HUMP	**Col San Antoni**	**1.87**	**220**	*i*P			**Pn**	**05 29 46.1**	**-0.3**
HUMP				*e*S			**Sn**	**05 30 08.6**	**-1.5**
HUMP				*e*S			**Sn**	**05 30 08.7**	**-1.5**
SJG	**San Juan**	**2.09**	**226**	*i*P			**Pn**	**05 29 48.6**	**-0.7**
SJG	**San Juan**	**2.09**	**226**	Pn			**Pn**	**05 29 48.8**	**-0.5**
	15nm,0.3s,baz=60,slow=5.1,SNR=20								
SJG				Sn			**Sn**	**05 30 13.5**	**-1.9**
	23nm,0.3s,baz=288,slow=23,SNR=7.8								
SJG	**San Juan**	**2.09**	**226**	*i*P			**Pn**	**05 29 48.6**	**-0.7**
SJG				*e*S			**Sn**	**05 30 14.3**	**-1.2**
SJG	**San Juan**	**2.09**	**226**	*i*P			**Pn**	**05 29 48.6**	**-0.7**
SJG				*e*S			**Sn**	**05 30 14.3**	**-1.2**
AOPR	**Arecibo Observ**	**2.40**	**240**	*i*P			**Pn**	**05 29 53.1**	**-0.5**
AOPR	**Arecibo Observ**	**2.40**	**240**	*i*P			**Pn**	**05 29 53.1**	**-0.5**
AOPR	**Arecibo Observ**	**2.40**	**240**	*i*P			**Pn**	**05 29 53.1**	**-0.5**
CELP	**Cerrillos**	**2.42**	**232**	*i*P			**Pn**	**05 29 53.7**	**-0.1**
CELP				*e*S			**Sn**	**05 30 22.3**	**-1.4**
CELP	**Cerrillos**	**2.42**	**232**	*i*P			**Pn**	**05 29 53.7**	**-0.1**
CELP	**Cerrillos**	**2.42**	**232**	*i*P			**Pn**	**05 29 53.7**	**-0.1**
CELP				*e*S			**Sn**	**05 30 22.3**	**-1.4**
OBIP	**Obispado Ponce**	**2.46**	**232**	*i*P			**Pn**	**05 29 53.8**	**-0.6**
OBIP	**Obispado Ponce**	**2.46**	**232**	*i*P			**Pn**	**05 29 53.8**	**-0.6**
OBIP				*e*S			**Sn**	**05 30 22.6**	**-2.0**
OBIP	**Obispado Ponce**	**2.46**	**232**	*i*P			**Pn**	**05 29 53.8**	**-0.6**
OBIP				*e*S			**Sn**	**05 30 22.6**	**-2.0**
AGPR	**Aguadilla, PR**	**2.64**	**246**	*i*P			**Pn**	**05 29 56.5**	**-0.4**
AGPR	**Aguadilla, PR**	**2.64**	**246**	*i*P			**Pn**	**05 29 56.5**	**-0.4**
AGPR	**Aguadilla, PR**	**2.64**	**246**	*i*P			**Pn**	**05 29 56.5**	**-0.4**
LSP	**Las Mesas**	**2.76**	**240**	*i*P			**Pn**	**05 29 58.2**	**-0.3**
LSP	**Las Mesas**	**2.76**	**240**	*i*P			**Pn**	**05 29 58.2**	**-0.3**
LSP				*e*S			**Sn**	**05 30 30.4**	**-1.6**
LSP	**Las Mesas**	**2.76**	**240**	*i*P			**Pn**	**05 29 58.2**	**-0.3**
LSP				*e*S			**Sn**	**05 30 30.4**	**-1.6**
CRPR	**Cabo Rojo, PR**	**2.87**	**237**	*i*P			**Pn**	**05 29 59.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.87**	**237**	*i*P			**Pn**	**05 29 59.8**	**-0.2**
CRPR				*e*S			**Sn**	**05 30 32.6**	**-2.1**
CRPR	**Cabo Rojo, PR**	**2.87**	**237**	*i*P			**Pn**	**05 29 59.8**	**-0.2**
CRPR				*e*S			**Sn**	**05 30 32.6**	**-2.1**
LZG	**Guadaloupe-1**	**4.34**	**142**	*e*P			**Pn**	**05 30 21.1**	**+0.8**
DR12	**Loma Pena Alta**	**4.61**	**261**	*i*P			**Pn**	**05 30 24.2**	**+0.1**
DR12				*e*S			**Sn**	**05 31 17.1**	**-0.8**
DR12	**Loma Pena Alta**	**4.61**	**261**	*i*P			**Pn**	**05 30 24.2**	**+0.1**
H05N1	**Guadeloupe/Mar**	**4.66**	**134**	Pn			**Pn**	**05 30 24.6**	**-0.1**

NIED ***17*** *05:07:00, 37.30N×141.90E, h32km, Mw3.4 Best double couple: M0 1.58000×10^14 NP1:φs268.00000°, δ27.00000°, λ-111.00000°. NP2:φs112.00000°, δ65.00000°, λ-80.00000°.*

JMA 17 05:07:57.6±0.2, **37.29N**×**141.87E**, **h30**km±4km, **M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.80**	**276**	P			Pn	05 08 12.6	-0.2
JFK				S			Sb	05 08 22.1	-1.4
ONAJ	**Iwakimizuishiy**	**0.88**	**258**	P			Pn	05 08 13.8	-0.1
ONAJ				S			Sn	05 08 24.8	-0.9
JMM	**Marumori**	**1.03**	**304**	P			Pn	05 08 16.2	+0.2
JMM				S			Sn	05 08 29.2	-0.2
JIO	**Ouri**	**1.23**	**341**	P			Pn	05 08 18.9	+0.1
JIO				S			Sn	05 08 33.1	-1.3
JFT	**Otama**	**1.24**	**281**	P			Pb	05 08 20.0	-0.4
JFT				S			Sb	05 08 35.4	-0.7
JHO	**Hitachi**	**1.24**	**237**	P			Pn	05 08 18.7	-0.2
JHO				S			Sn	05 08 33.7	-1.0
JOU	**Okura**	**1.44**	**319**	P			Pb	05 08 22.9	-0.9
JOU				S			Sn	05 08 40.5	+1.0
JYS	**Shirataka**	**1.71**	**304**	P			Pb	05 08 27.3	-1.0
MAT	**Matsushiro**	**3.03**	**257**	P			Pn	05 08 46.7	+3.2
MAT				*e*S			Sn	05 09 21.1	+2.3

NIED ***17*** *05:12:00, 35.80N×141.00E, h5km, Mw3.9 Best double couple: M0 7.06000×10^14 NP1:φs243.00000°, δ37.00000°, λ-37.00000°. NP2:φs3.00000°, δ69.00000°, λ-121.00000°.*

IDC ***17*** *05:12:13.6±0.8, 35.62N×140.89E, h0km, mb3.7/11, mb1 3.8/13, mb1mx3.7/62, mbtmp3.7/13, ML3.2/2, MS2.6/4, Ms1 2.6/4, ms1mx2.5/56, Error ellipse: s-maj=18.8km s-min=15.9km az=90.0*

ISCJB ***17*** *05:12:15.3±0.6, 35.71N±0.04×140.89E±0.07, h20km±4km, mb3.6/11, Error ellipse: s-maj=9.7km s-min=6.6km az=155.3*

JMA ***17*** *05:12:15.5±0.1, 35.78N×140.95E, h13km±1km, M4.0*

JMA Felt II J1.

ISC 17 05:12:16.3±0.8, **35.74N**±0.05×**140.82E**±0.07, **h13**km±5km, **n29, σ1s32/26, mb3.7/11, 1C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**142**	P			**Pg**	**05 12 18.6**	**-0.2**
CHOJ				S			**Sg**	**05 12 20.7**	**+0.1**
JYT	**Yasato**	**0.71**	**314**	P			**Pg**	**05 12 29.9**	**-0.2**
JYT				S			**Sg**	**05 12 39.8**	**+0.4**
JHO	**Hitachi**	**0.89**	**347**	P			**Pg**	**05 12 32.4**	**-1.2**
BSO3	**Boso 3**	**0.97**	**195**	P			**Pb**	**05 12 35.1**	**+0.3**
MJAR	**Matsushiro Arr**	**2.26**	**291**	Pn			**Pn**	**05 12 53.8**	**+0.3**
	8.1nm,0.3s,baz=110,slow=8.1,SNR=46								
MJAR				Sn			**Sn**	**05 13 21.8**	**+0.6**
	8.8nm,0.3s,baz=116,slow=27,SNR=7.5								
MJAR				LR			LR	05 13 30.5	
	comp=Z,69nm,20.8s,baz=115,slow=33								
MAT	**Matsushiro**	**2.27**	**291**	P			**Pn**	**05 12 53.3**	**-0.1**
MAT				*e*S			**Sn**	**05 13 20.6**	**-0.6**
JHJ	**Hachijo jima 2**	**2.75**	**199**	Pn			**Pn**	**05 12 57.6**	**-2.5**
	6.8nm,0.3s,baz=68,slow=19,SNR=2.8								
JHJ				Sn			**Sn**	**05 13 33.4**	**+0.2**
	19nm,0.3s,baz=257,slow=19,SNR=2.7								
ASAJ	**Asahikawa**	**8.48**	**9**	Pn			**Pn**	**05 14 16.2**	**-2.5**
	0.4nm,0.3s,baz=255,slow=19,SNR=2.6								
JNU	**Nakatsue**	**8.62**	**255**	LR			LR	05 17 24.0	
	comp=Z,34nm,18.7s,baz=117,slow=36								
KSRS	**Korea Array**	**10.51**	**283**	LR			LR	05 18 34.9	
	comp=Z,49nm,20.9s,baz=75,slow=36								
USRK	**Ussuri

H05N1				Sn	Sn	05 31 15.4	-3.7
SDDR	Presa de Saban	6.37	266	ePn	Pn	05 30 49.0	+0.8
	23nm,0.5s						
SDDR				eSn	Sn	05 32 00.5	-0.7
SDV	Santo Domingo	12.14	210	Pn	Pn	05 32 11.3	+3.8
	0.4nm,0.3s,baz=68,slow=9.8,SNR=5.9						
SDV				Sn	Sn	05 34 24.1	+0.8
	0.2nm,0.3s,baz=5.2,slow=18,SNR=3.1						
SDV				LR	LR	05 36 13.3	
	comp=Z,65nm,21.9s,baz=9.0,slow=35						
SDV	Santo Domingo	12.14	210	ePn	Pn	05 32 10.4	+2.8
	7.8nm,0.8s						
SDV				Sn	Sn	05 34 24.1	+0.8
BBSR	BB Station	12.74	360	ePn	Pn	05 32 13.7	-1.7
BBSR				eSn	Sn	05 34 30.5	-6.9
ROSC	El Rosal	17.46	214	P	Pn	05 33 18.8	+0.4
	0.7nm,0.3s,baz=65,slow=18,SNR=4.3						
PTGA	Pitinga	20.69	167	P	P	05 33 53.3	-1.3
	1.1nm,0.3s,baz=301,slow=19,SNR=4.4						
SCHQ	Schefferville	35.23	358	P	P	05 36 11.1	+2.4
	1.3nm,1.0s,baz=242,slow=18,SNR=3.5						
SIV	San Ignacio	35.52	174	P	P	05 36 09.8	-1.7
	0.6nm,0.5s,baz=327,slow=9.0,SNR=6.4						
TXAR	Lajitas Array	36.74	293	P	P	05 36 24.0	+1.9
	0.7nm,0.7s,baz=114,slow=12,SNR=14						
ULM	Lac du Bonnet	39.41	328	P	P	05 36 45.0	+0.8
	0.8nm,0.7s,baz=152,slow=7.2,SNR=3.4						
PDAR	Pinedale Array	44.23	312	P	P	05 37 24.9	+0.8
	0.5nm,0.7s,baz=94,slow=8.8,SNR=5.7						
YKA	Yellowknife Ar	54.81	334	P	P	05 38 45.0	+0.8
	0.3nm,0.6s,baz=108,slow=7.4,SNR=9.2						
YKA	Yellowknife Ar	54.81	334	P	P	05 38 45.0	+0.8
TORD	Torodi Ar. Bea	63.58	85	P	P	05 39 46.2	+0.5
	0.4nm,0.6s,baz=286,slow=7.4,SNR=3.3						
ILAR	Eielson Array	69.20	333	P	P	05 40 21.9	+0.9
	0.5nm,0.5s,baz=102,slow=4.2,SNR=14						

ISCJB **17** *05:34:25.5±0.5, 37.16N±0.04×29.06E±0.04, h25km±6km, Error ellipse: s-maj=7.5km s-min=5.8km az=171.4*
CSEM **17** *05:34:25.1±0.3, 37.17N×29.07E, h19km±1km, ML2.7, Error ellipse: s-maj=7.7km s-min=5.7km az=3.0*
DDA **17** *05:34:25.5, 37.15N×29.03E, h7km, Ml2.7*
ISK **17** *05:34:25.6, 37.12N×29.01E, h22km, ML2.6/7*
ISC 17 05:34:26.1±1.2, 37.20N±0.03×29.08E±0.03, h22km±4km, n27, σ1.9s77/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAVA	DENIZLI_Tavas	0.30	334	*i*	P		Pb	05 34 32.7	-0.2
TAVA				*i*	S		Sb	05 34 37.5	-0.1
TAVA	DENIZLI_Tavas	0.30	334		P		Pb	05 34 32.7	-0.2
TAVA					S		Sb	05 34 37.5	-0.1
GOLH	Golhisar	0.39	84	*i*	P		Pb	05 34 33.4	-0.9
GOLH				*i*	S		Sb	05 34 41.1	+1.2
GOLH	Golhisar	0.39	84		P		Pb	05 34 33.4	-0.9
GOLH					S		Sb	05 34 41.1	+1.2
TURN	Turunc	0.50	229		PG		Pn	05 34 39.8	+1.9
TURN					SG		Sn	05 34 50.2	+4.4
TURN	Turunc	0.50	229	*i*	P		Pn	05 34 39.8	+1.9
TURN				*i*	S		Sn	05 34 50.4	+4.5
DALY	Dalyan (Mu˘la	0.51	222		PG		Pb	05 34 34.9	-1.4
DALY					SG		Sb	05 34 41.2	-2.1
DALY	Dalyan (Mu˘la	0.51	222	*i*	P		Pb	05 34 34.7	-1.6
DALY				*i*	S		Sb	05 34 41.1	-2.1
DALY	Dalyan (Mu˘la	0.51	222		P		Pb	05 34 34.7	-1.6
DALY					S		Sb	05 34 41.1	-2.1
YER	Yerkesik	0.64	264		PG		Pn	05 34 37.6	-2.3
YER					SG		Sb	05 34 46.4	-0.7
YER	Yerkesik	0.64	264	e	Pg		Pn	05 34 37.6	-2.3
YER				e	Sg		Sb	05 34 46.4	-0.7
ELL	Elmali	0.81	124		PG		Pb	05 34 41.9	+0.4
ELL	Elmali	0.81	124	e	Pg		Pb	05 34 41.9	+0.4
KORT	Korkueli	1.04	101	*i*	P		Pn	05 34 43.0	-2.5
KORT	Korkueli	1.04	101		P		Pn	05 34 43.0	-2.5
AKAS	Kas	1.05	156		PG		Pn	05 34 44.9	-0.8
AKAS	Kas	1.05	156	*i*	P		Pn	05 34 45.2	-0.5
AKAS	Kas	1.05	156	e	Pg		Pn	05 34 44.9	-0.8
AKAS	Kas	1.05	156		P		Pn	05 34 45.2	-0.5
AYDB	Zeytinkoy-Aydi	1.20	309		PN		Pn	05 34 47.9	+0.2
AYDB	Zeytinkoy-Aydi	1.20	309	e	Pn		Pn	05 34 47.9	+0.2
KHAL	Karahalli	1.22	16	*i*	P		Pn	05 34 46.1	-1.8
KHAL	Karahalli	1.22	16		P		Pn	05 34 46.1	-1.8
KULA	Kula-Manisa	1.35	346		PN		Pb	05 34 50.7	-0.1
KULA	Kula-Manisa	1.35	346	e	Pn		Pb	05 34 50.7	-0.1
BODT	Bodrum	1.42	265		PN		Pn	05 34 49.7	-0.9
BODT	Bodrum	1.42	265	e	Pn		Pn	05 34 49.7	-0.9

DDA **17** *05:38:20.1, 38.87N×43.57E, h7km, Ml2.8*
ISK **17** *05:38:20.8, 38.94N×43.61E, h4km, ML3.0/4*
ISCJB **17** *05:38:21.9±0.6, 38.95N±0.03×43.59E±0.05, h5km±6km, Error ellipse: s-maj=6.5km s-min=4.8km az=23.6*
CSEM **17** *05:38:21.8±0.4, 38.96N×43.55E, h2km, ML3.0, Error ellipse: s-maj=8.9km s-min=6.3km az=109.0*
ISC 17 05:38:21.3±1.1, 38.94N±0.02×43.56E±0.03, h6km±11km, n35, σ0.8s81/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERCV	ERCIS-VAN	0.19	296		PG		Pg	05 38 25.6	+0.5
ERCV	ERCIS-VAN	0.19	296	e	Pg		Pg	05 38 25.6	+0.5
CLDR	Caldiran	0.35	54		PG		Pg	05 38 27.4	-0.7
CLDR					SG		Sg	05 38 32.8	0.0
CLDR	Caldiran	0.35	54	*i*	P		Pg	05 38 27.5	-0.7
CLDR				*i*	S		Sg	05 38 33.7	+0.9
CLDR	Caldiran	0.35	54		P		Pg	05 38 27.5	-0.7
CLDR				e	Sg		Sg	05 38 32.8	0.0
CLDR					S		Sg	05 38 33.7	+0.9
VANB	Van	0.36	201		PG		Pb	05 38 30.7	+0.5
VANB					SG		Sb	05 38 37.1	+0.9
VANB	Van	0.36	201	e	Pg		Pb	05 38 30.7	+0.5
VANB				e	Sg		Sb	05 38 37.1	+0.9
TVAN	Van	0.42	196	*i*	P		Pb	05 38 30.9	-0.4
TVAN	Van	0.42	196		P		Pb	05 38 30.9	-0.4
DYDN	Diyadin	0.61	10	*i*	P		Pb	05 38 33.8	-0.8
DYDN				*i*	S		Sb	05 38 44.4	+0.9
DYDN	Diyadin	0.61	10		P		Pb	05 38 33.8	-0.8
DYDN					S		Sb	05 38 44.4	+0.9
ADCV	BITLIS_Adilcev	0.66	259	*i*	P		Pg	05 38 32.4	-1.6
ADCV	BITLIS_Adilcev	0.66	259		P		Pg	05 38 32.4	-1.6
GEVA	Gevas	0.73	212	*i*	P		Pg	05 38 34.7	-0.7
GEVA	Gevas	0.73	212		P		Pg	05 38 34.7	-0.7
TUTA	Tutak	0.74	309	*i*	P		Pg	05 38 34.1	-1.4
TUTA				*i*	S		Sb	05 38 47.5	+0.4
TUTA	Tutak	0.74	309		P		Pg	05 38 34.1	-1.4
TUTA					S		Sb	05 38 47.5	+0.4
AGRB	Hanur-Agry	0.77	326		PG		Pb	05 38 36.6	-0.6
AGRB					SG		Sb	05 38 48.6	+0.5
AGRB	Hanur-Agry	0.77	326	e	Pg		Pb	05 38 36.6	-0.6
AGRB				e	Sg		Sb	05 38 48.6	+0.5
IGDI	IGDIR	1.01	23	*i*	P		Pg	05 38 39.0	-1.7
TASB	TASBURUN-IGDIR	1.17	27		PN		Pb	05 38 44.3	+0.1
TASB	TASBURUN-IGDIR	1.17	27	e	Pn		Pb	05 38 44.3	+0.1
EATA	Eleskirt	1.24	319	*i*	P		Pg	05 38 44.7	-0.4
EATA	Eleskirt	1.24	319		P		Pg	05 38 44.7	-0.4
DIGO	Kars	1.48	355	*i*	P		Pg	05 38 50.8	+1.1
DIGO	Kars	1.48	355		P		Pg	05 38 50.8	+1.1
HOMI	Horasan	1.69	311	*i*	P		Pn	05 38 51.6	+0.1
KARS	Kars	1.73	348		PN		Pb	05 38 52.8	-0.7
KARS	Kars	1.73	348	e	Pn		Pb	05 38 52.8	-0.7
SENK	Senkaya-Erzuru	1.87	331		PN		Pb	05 38 55.5	-0.4
SENK	Senkaya-Erzuru	1.87	331	e	Pn		Pb	05 38 55.5	-0.4
ERZM	Erzurum	1.95	300	*i*	P		Pb	05 38 57.5	+0.1
ERZM	Erzurum	1.95	300		P		Pb	05 38 57.5	+0.1
BTMN	Batman	2.08	241	*i*	P		Pb	05 38 58.8	-0.6
BTMN	Batman	2.08	241		P		Pb	05 38 58.8	-0.6

DDA **17** *05:58:31.9, 39.11N×29.06E, h7km, Ml2.6*
ISCJB **17** *05:58:32.5±0.4, 39.13N±0.03×29.06E±0.03, h9km±4km, Error ellipse: s-maj=5.5km s-min=4.2km az=168.6*
CSEM **17** *05:58:32.4±0.1, 39.14N×29.05E, h5km, ML2.5, Error ellipse: s-maj=2.9km s-min=2.7km az=150.0*
ISK **17** *05:58:32.1, 39.12N×29.11E, h7km, ML2.5/12*
ISC 17 05:58:32.3±0.9, 39.12N±0.03×29.05E±0.02, h14km±5km, n38, σ0.9s40/50, Turkey

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

SIMA	Simav-Kutahya	0.06	239	PG		Pg	05 58 35.2	0.0
SIMA				SG		Sg	05 58 36.9	-0.2
SIMA	Simav-Kutahya	0.06	239	*i* Pg		Pg	05 58 35.2	0.0
SIMA				*i* Sg		Sg	05 58 36.9	-0.2
DEMI	Demirci	0.27	254	*i* P		Pg	05 58 38.4	+0.3
DEMI				*i* S		Sg	05 58 41.9	-0.1
DEMI	Demirci	0.27	254	P		Pg	05 58 38.4	+0.3
DEMI				S		Sg	05 58 41.9	-0.1
GDZ	Gediz	0.34	95	*i* P		Pg	05 58 39.0	-0.2
GDZ				*i* S		Sg	05 58 43.8	-0.2
GDZ	Gediz	0.34	95	P		Pg	05 58 39.0	-0.2
GDZ				S		Sg	05 58 43.8	-0.2
TVSB	Tavsanli	0.46	44	PG		Pg	05 58 40.9	-0.6
TVSB				SG		Sg	05 58 47.2	-0.6
TVSB	Tavsanli	0.46	44	e Pg		Pg	05 58 40.9	-0.6
TVSB				e Sg		Sg	05 58 47.2	-0.6
KULA	Kula-Manisa	0.67	207	PG		Pg	05 58 45.7	+0.2
KULA	Kula-Manisa	0.67	207	e Pg		Pg	05 58 45.7	+0.2
KHAL	Karahalli	0.82	155	*i* P		Pn	05 58 49.6	0.0
KHAL				*i* S		Sg	05 58 58.9	-0.1
KHAL	Karahalli	0.82	155	P		Pn	05 58 49.6	0.0
KHAL				S		Sg	05 58 58.9	-0.1
AKHS	Akhisar	0.99	257	*i* P		Pg	05 58 51.0	-0.5
AKHS	Akhisar	0.99	257	P		Pg	05 58 51.0	-0.5
STEP	BALIKESIR_Sava	1.07	285	*i* P		Pg	05 58 52.8	-0.1
STEP	BALIKESIR_Sava	1.07	285	P		Pg	05 58 52.8	-0.1
MDNY	Mudanya-Bursa	1.26	354	PN		Pg	05 58 56.8	+0.2
MDNY	Mudanya-Bursa	1.26	354	e Pn		Pg	05 58 56.8	+0.2
KCTX	Karacabey (Bur	1.27	335	PN		Pg	05 58 57.0	+0.3
KCTX	Karacabey (Bur	1.27	335	e Pn		Pg	05 58 57.0	+0.3
BALY	Balya	1.27	300	*i* P		Pn	05 58 55.5	-0.3
BALY				*i* S		Sb	05 59 12.2	-0.2
BALY	Balya	1.27	300	P		Pn	05 58 55.5	-0.3
BALY				S		Sb	05 59 12.2	-0.2
SHUT	Suhut-Afyon	1.30	115	PN		Pn	05 58 56.7	+0.5
SHUT	Suhut-Afyon	1.30	115	e Pn		Pn	05 58 56.7	+0.5
GEMT	Gemlik	1.32	5	PN		Pg	05 58 57.4	-0.4
GEMT	Gemlik	1.32	5	e Pn		Pg	05 58 57.4	-0.4
GONE	Gonen-Balikesi	1.41	312	PN		Pg	05 58 59.0	-0.4
GONE	Gonen-Balikesi	1.41	312	e Pn		Pg	05 58 59.0	-0.4
ADVT	Abdulvahap	1.42	22	PN		Pn	05 58 58.5	+0.8
ADVT	Abdulvahap	1.42	22	e Pn		Pn	05 58 58.5	+0.8
ARMT	Armutlu	1.46	354	PN		Pb	05 58 59.4	+0.2
ARMT	Armutlu	1.46	354	e Pn		Pb	05 58 59.4	+0.2
AYDB	Zeytinkoy-Aydi	1.48	218	PN		Pg	05 59 00.4	-0.4
AYDB	Zeytinkoy-Aydi	1.48	218	e Pn		Pg	05 59 00.4	-0.4
GULT	Gulveren	1.73	40	PN		Pn	05 59 03.0	+0.9
GULT	Gulveren	1.73	40	e Pn		Pn	05 59 03.0	+0.9
BAYC	CANAKKALE_Bayr	2.04	289	*i* P		Pn	05 59 06.5	+0.2
BAYC	CANAKKALE_Bayr	2.04	289	P		Pn	05 59 06.5	+0.2

NNC 17 06:07:32.8±6.7, 36.99N×69.66E, h0km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=51.0km s-min=45.5km az=167.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.27	44	⇓	P	n	Pn	06 08 39.4	+0.2
	3.6nm,0.3s								
SFK				⇑	S	n	Sn	06 09 30.6	+0.7
	22nm,0.4s								
MNAS	Manas	5.91	21	⇓	P	n	Pn	06 09 02.3	+0.6
	0.7nm,0.3s								
MNAS				⇓	S	n	Sn	06 10 12.7	+2.5
	3.2nm,0.6s								
KK31	Karatay Array	6.14	6	⇑	P	n	Pn	06 09 06.0	+1.2
	0.2nm,0.3s,baz=193,slow=16,SNR=11								
KK31				⇓	S	n	Sn	06 10 17.6	+1.9
	1.5nm,0.6s,baz=195,slow=22								
AAK	Ala-Archa	6.75	32	⇑	P	n	Pn	06 09 12.3	-1.0
	1.8nm,0.4s								
AAK				⇑	S	n	Sn	06 10 30.1	-1.0
	4.1nm,0.9s								

ISCJB **17** *06:13:18.8±0.5, 67.08N±0.02×20.6E±0.1, h0km, Error ellipse: s-maj=6.6km s-min=3.5km az=179.6*
NAO **17** *06:13:20.6±0.8, 67.19N×20.44E, ML2.4*
IDC **17** *06:13:21.3±1.0, 67.13N×20.86E, h0km, mb1 3.1/5, mb1mx2.9/68, mbtmp3.0/5, ML2.5/4, Error ellipse: s-maj=16.6km s-min=8.0km az=110.0*
CSEM **17** *06:13:21.2±0.3, 67.12N×20.84E, h2km, ML2.0, Error ellipse: s-maj=7.1km s-min=4.8km az=90.0, Mining explosion.*
HEL **17** *06:13:23.2±0.7, 67.23N×21.00E, h0km, ML2.0, Explosion*
BER **17** *06:13:23.2±4.8, 67.15N×20.42E, h0km, ML2.4(NAO), Suspected explosion*
ISC 17 06:13:19.6±0.8, 67.15N±0.02×20.41E±0.05, h0km, n43, σ2.5s01/69, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.92	129		Pg		Pg	06 13 36.9	-0.3
ERTU	Ertsjaerv	0.92	129		PG		Pg	06 13 37.0	-0.3
LANU	Lannavaara	1.09	33		Pg		Pg	06 13 39.8	-0.6
LANU	Lannavaara	1.09	33		PG		Pg	06 13 39.8	-0.6
LANU					SG		Sg	06 13 47.1	-7.4
HEF	Hetta	1.77	43	e	P		Pn	06 13 51.5	+0.1
	SNR=50								
HEF					Sn		Sn	06 14 13.4	-1.2
HEF	Hetta	1.77	43	e	P		Pn	06 13 51.5	+0.1
HEF	Hetta	1.77	43		PG		Pn	06 13 51.5	+0.1
	baz=222								
HEF					MSG			06 14 09.9	
	comp=Z,12nm,0.2s								
HEF					SN		Sn	06 14 13.4	-1.2
KIF	Kilpisjarvi	1.87	4		Pn		Pb	06 13 55.2	+0.6
KIF					Sn		Sg	06 14 20.2	+0.5
KIF	Kilpisjarvi	1.87	4		Pn		Pb	06 13 55.2	+0.6
	SNR=50								
KIF					Sn		Sg	06 14 20.2	+0.5
	SNR=50								
KIF	Kilpisjarvi	1.87	4		Pn		Pb	06 13 55.2	+0.6
KIF					Sn		Sg	06 14 20.2	+0.5
KIF	Kilpisjarvi	1.87	4		PG		Pb	06 13 55.3	+0.6
	baz=178								
KIF					MSG			06 14 17.6	
	comp=Z,10.0nm,0.2s								
KIF					SG		Sg	06 14 20.1	+0.4
TOF	Tornio	1.89	123		Pg		Pn	06 13 54.0	+0.9
TOF					Sg		Sn	06 14 18.7	+1.1
TOF	Tornio	1.89	123		PG		Pn	06 13 54.0	+0.9
	baz=317								
TOF					MSG			06 14 15.8	
	comp=Z,14nm,0.2s								
TOF					SG		Sn	06 14 18.7	+1.1
KTK1	Kautokeino	2.15	28	e	P		Pn	06 13 58.7	+2.0
	SNR=50								
KTK1	Kautokeino	2.15	28	e	P		Pn	06 13 58.7	+2.0
SGF	Sodankyl	2.39	80		Pg		Pn	06 14 02.0	+2.1
SGF					Sg		Sn	06 14 31.2	+1.3
SGF	Sodankyl	2.39	80		PG		Pn	06 14 02.0	+2.1
SGF					SG		Sn	06 14 31.2	+1.3
OUL	Oulu	3.04	130		PB		Pn	06 14 12.3	+3.4
	baz=323								
ARA0	ARCESS Array S	3.05	36		Pn		Pn	06 14 09.9	+0.9
	baz=212,slow=14								
ARA0					Sn		Sn	06 14 46.6	+0.3
	baz=215,slow=22								
ARA0	ARCESS Array S	3.05	36		Pn		Pn	06 14 09.9	+0.9
	baz=212,slow=14,SNR=50								
ARA0					Sn		Sn	06 14 46.6	+0.3
	baz=215,slow=21,SNR=50								
ARA0	ARCESS Array S	3.05	36		Pn		Pn	06 14 09.9	+0.9
	baz=212,slow=14								
ARA0					Sn		Sn	06 14 46.6	+0.3
	baz=215,slow=22								
ARCES	ARCESS Array B	3.05	36		Pn		Pn	06 14 09.3	+0.3
	comp=Z,0.7nm,0.3s,baz=218,slow=11,SNR=14								
ARCES					Sn		Sn	06 14 47.0	+0.7
	comp=Z,1.9nm,0.3s,baz=213,slow=21,SNR=8.8								
ARE0	ARCESS Array S	3.05	36		Pn		Pn	06 14 10.4	+1.3
ARE0	ARCESS Array S	3.05	36		PN		Pn	06 14 10.4	+1.3
	baz=214								
ARE0					SN		Sn	06 14 43.2	-3.1
VRF	Varrio	3.59	76		SG		Sb	06 15 08.0	-0.1
MSF	Maaselka	3.67	106		SN		Sn	06 14 54.5	-6.9
KU6	Riekki	3.95	102		Pn		Pn	06 14 22.2	+0.9
KU6					Sg		Sb	06 15 22.3	+4.1
KU6	Riekki	3.95	102		PN		Pn	06 14 22.2	+0.9
KU6					SG		Sb	06 15 22.4	+4.1

VAF	Ylistaro	4.23	166	Sg		Sg	06 15 34.1	-1.3
VAF	Ylistaro	4.23	166	SG		Sg	06 15 34.1	-1.3
FIA0	FINESS Array S	6.23	154	Pn		Pn	06 14 54.9	+2.2
	baz=348,slow=14							
FIA0				Sn		Sn	06 16 03.2	-1.2
	baz=353,slow=28							
FIA0	FINESS Array B	6.23	154	Pn		Pn	06 14 54.9	+2.2
	baz=348,slow=14							
FIA0				Sn		Sn	06 16 03.2	-1.2
	baz=353,slow=28							
FINES	FINESS Array B	6.23	154	Pn		Pn	06 14 54.6	+1.9
	comp=Z,0.3nm,0.3s,baz=347,slow=11,SNR=9.1							
FINES				Sn		Sn	06 16 03.0	-1.5
	comp=Z,0.4nm,0.3s,baz=344,slow=20,SNR=4.4							
FINES				Lg		Lg	06 16 32.8	
	comp=Z,0.8nm,0.3s,baz=346,slow=33,SNR=5.1							
NOA	NORSAR Array B	7.33	218	Pn		Pn	06 15 09.2	+1.4
	comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=2.6							
NRA0	NORESS Array S	7.52	215	Pn		Pn	06 15 12.2	+1.8
	baz=50,slow=16							
NRA0				Sn		Sn	06 16 33.5	-2.7
	baz=22,slow=18							
NRA0	NORESS Array S	7.52	215	Pn		Pn	06 15 12.2	+1.8
	baz=50,slow=16							
NRA0				Sn		Sn	06 16 33.5	-2.7
	baz=22,slow=18							
HFS	Hagfors	7.64	206	Pn		Pn	06 15 12.7	+0.6
	baz=40,slow=16							
HFS				Sn		Sn	06 16 37.3	-2.0
	baz=11,slow=22							
HFS	Hagfors	7.64	206	Pn		Pn	06 15 12.7	+0.6
	comp=Z,0.2nm,0.3s,baz=24,slow=14,SNR=5.1							
HFS				Sn		Sn	06 16 37.7	-1.5
	comp=Z,0.3nm,0.3s,baz=25,slow=24,SNR=4.5							
HFS				Lg		Lg	06 17 21.0	
	comp=Z,0.6nm,0.3s,baz=27,slow=24,SNR=3.2							
HFS	Hagfors	7.64	206	Pn		Pn	06 15 12.6	+0.6
	baz=40,slow=15,SNR=50							
HFS	Hagfors	7.64	206	Pn		Pn	06 15 12.7	+0.6
	baz=40,slow=16							
HFS				Sn		Sn	06 16 37.3	-2.0
	baz=11,slow=22							
SPA0	Spitsbergen Ar	11.15	356	Pn		Pn	06 15 57.4	-2.6
	baz=180,slow=7.4							
SPA0	Spitsbergen Ar	11.15	356	Pn		Pn	06 15 57.4	-2.6
	baz=180,slow=7.4							
AKASG	Malin Array Be	17.08	161	P		Pn	06 17 20.5	+1.1
	comp=Z,0.3nm,0.3s,baz=344,slow=11,SNR=2.9							

IDC 17 06:13:47.3±1.0, 67.19N×20.94E, h0km, mb1 3.3/5, mb1mx3.0/66, mbtmp3.2/5, ML2.5/4, Error ellipse: s-maj=18.9km s-min=8.3km az=116.0, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	2.90	34		Pn		Pn	06 14 36.2	+1.6
	0.5nm,0.3s,baz=217,slow=18,SNR=4.1								
ARCES					Lg		Lg	06 15 16.9	
	4.1nm,0.3s,baz=218,slow=32,SNR=8.5								
FINES	FINESS Array B	6.19	156		Pn		Pn	06 15 20.4	+0.6
	0.2nm,0.3s,baz=341,slow=16,SNR=4.7								
FINES					Lg		Lg	06 17 00.8	
	1.0nm,0.3s,baz=338,slow=28,SNR=3.6								
NOA	NORSAR Array B	7.49	219		Pn		Pn	06 15 36.2	-1.5
	0.2nm,0.3s,baz=28,slow=11,SNR=2.7								
HFS	Hagfors	7.78	208		Pn		Pn	06 15 39.3	-2.3
	0.2nm,0.3s,baz=21,slow=13,SNR=5.5								
HFS					Lg		Lg	06 17 52.0	
	0.5nm,0.3s,baz=39,slow=32,SNR=3.0								
AKASG	Malin Array Be	17.05	162	P		Pn	06 17 47.5	+0.6
	0.3nm,0.3s,baz=346,slow=11,SNR=3.1								

BJI **17** *06:21:01.8, 23.20S×179.80E, h551km, mb4.8/31, mB5.0/16*
ISCJB **17** *06:21:02.0±0.1, 23.14S±0.02×179.80E±0.05, h550km, mb4.6/121, Error ellipse: s-maj=5.5km s-min=2.7km az=8.8*
IDC **17** *06:21:02.2±1.1, 23.11S×179.88E, h541km±11km, mb3.8/27, mb1 4.0/28, mb1mx3.9/49, mbtmp4.7/28, Error ellipse: s-maj=12.7km s-min=9.7km az=89.0*
WEL **17** *06:21:02.0, 23.18S×179.84E, h550km*
NEIC **17** *06:21:02.8±0.5, 23.18S×179.84E, h551km±6km, mb4.9/84, Error ellipse: s-maj=6.7km s-min=4.7km az=115.0*
MOS **17** *06:21:04.2±3.2, 22.92S×179.66E, h540km, mb4.7/22, Error ellipse: s-maj=11.2km s-min=9.2km az=88.2*
ISC 17 06:21:02.7±0.3, 23.14S±0.05×179.84E±0.06, h550km, n401, σ1.9s32/407, mb4.7/119, 32C-30D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.63	342	e P			P	06 22 38.2	-0.1
MSV

BHHZ **Black Hill Sta** 16.61 190 S **S** 06 27 12.3 -2.8
KAHZ **Kahuranaki** 16.79 188 P **P** 06 24 26.7 -2.8
PREZ **Palmer Road** 16.86 195 P **P** 06 24 32.2 +2.1
LREZ **Lake Rotokare** 16.91 195 P **P** 06 24 31.8 +1.3
PNHZ **Pukenui** 17.00 190 P **P** 06 24 28.5 -2.9
WAZ **Wanganui** 17.07 193 P **P** 06 24 31.1 -0.9
TSZ **Takapari Road** 17.18 190 P **P** 06 24 31.7 -1.3
ANWZ **Angora Road** 17.50 189 P **P** 06 24 34.4 -1.4
BFZ **Birch Farm** 17.75 189 *e*P **P** 06 24 35.9 -2.3
57nm,0.5s
SNZO **South Karori** 18.62 192 *e*P **P** 06 24 44.6 -1.5
63nm,0.6s
THZ **Tophouse** 19.45 196 *e*P **P** 06 24 52.6 -1.2
49nm,0.9s
KHZ **Kahutara** 19.93 194 *e*P **P** 06 24 56.4 -1.5
49nm,0.9s
LTZ **Lake Taylor** 20.57 196 *e*P **P** 06 25 02.4 -1.4
87nm,0.8s
OXZ **Oxford** 21.14 196 *e*P **P** 06 25 07.4 -1.5
107nm,0.7s
CRLZ **Canterbury Las** 21.23 195 *e*P **P** 06 25 08.5 -1.2
116nm,1.4s
MQZ **McQueen's Vall** 21.35 194 *e*P **P** 06 25 09.3 -1.5
151nm,1.8s
RPZ **Rata Peaks** 21.76 197 P **P** 06 25 13.6 -0.9
44nm,0.7s,baz=348,slow=1.7,SNR=17
RPZ **Rata Peaks** 21.76 197 *e*P **P** 06 25 13.6 -0.9
34nm,0.6s
FOZ **Fox Glacier** 21.96 200 *e*P **P** 06 25 15.1 -1.2
44nm,0.6s
LBZ **Lake Benmore** 22.63 198 *e*P **P** 06 25 20.1 -2.2
33nm,1.3s
ODZ **Otahua Downs** 23.11 197 *e*P **P** 06 25 25.0 -1.5
84nm,2.0s
WKZ **Wanaka** 23.38 200 *e*P **P** 06 25 27.1 -1.8
182nm,1.8s
MLZ **Mavora Lakes** 24.14 200 *e*P **P** 06 25 35.5 -0.2
126nm,1.5s
DCZ **Deep Cove** 24.55 202 *e*P **P** 06 25 39.1 -0.2
44nm,0.9s
WHZ **Wether Hill Ro** 24.67 200 *e*P **P** 06 25 39.8 -0.5
61nm,0.7s
ARMA **Armidale** 26.16 248 *e*P **P** 06 25 55.5 +1.6
18nm,1.0s
EIDS **Eidsvold** 26.29 259 *e*P **P** 06 25 56.0 +1.1
40nm,1.9s
CAN **Canberra** 29.40 239 *e*P **P** 06 26 23.4 +1.4
CAN pmax pmax
comp=Z,15nm,0.6s
CAN **Canberra** 29.40 239 *e*P **P** 06 26 23.4 +1.4
comp=Z,15nm,0.6s
CTAO **Charters Tower** 31.33 269 *e*P **P** 06 26 39.6 +0.8
CTAO pmax pmax
comp=Z,17nm,0.6s
CTAO **Charters Tower** 31.33 269 *e*P **P** 06 26 39.6 +0.8
comp=Z,17nm,0.6s
PMOR **Pomariorio Ree** 31.50 81 *e*P **P** 06 26 39.9 -0.3
comp=Z,16nm,0.9s
VAH **Vaihoa** 31.66 81 *e*P **P** 06 26 41.4 -0.2
comp=Z,24nm,0.9s
TAU **Tasmania Unive** 33.35 226 *e*P **P** 06 26 56.5 +1.0
TAU pmax pmax
comp=Z,174nm,1.8s
TAU **Tasmania Unive** 33.35 226 *e*P **P** 06 26 56.5 +1.0
comp=Z,174nm,1.8s
PMG **Port Moresby** 34.11 288 P **P** 06 27 02.5 +0.2
comp=Z,57nm,0.8s,baz=120,slow=20,SNR=24
PMG **Port Moresby** 34.11 288 *d*P **P** 06 27 02.1 -0.3
PMG pmax pmax
comp=Z,220nm,0.9s
STKA **Stephens Creek** 34.87 247 P **P** 06 27 09.3 +0.8
comp=Z,5.4nm,0.4s,baz=95,slow=11,SNR=19
STKA S **S** 06 32 00.0 -1.0
comp=Z,1.0nm,0.5s,baz=82,slow=12,SNR=3.2
STKA **Stephens Creek** 34.87 247 *e*P **P** 06 27 09.3 +0.8
STKA S **S** 06 32 00.0 -1.0
STKA pmax pmax
comp=Z,3.0nm,1.3s
STKA **Stephens Creek** 34.87 247 *e*P **P** 06 27 09.3 +0.8
comp=Z,3.4nm,1.3s
STKA S **S** 06 32 00.0 -1.0
BBOO **Buckleboo** 39.61 246 *e*P **P** 06 27 46.9 -0.4
comp=Z,33nm,1.5s
AS01 **Alice Springs** 41.98 260 *e*P **P** 06 28 05.9 -0.3
AS31 **Alice Springs** 42.02 260 *e*P **P** 06 28 06.3 -0.3
comp=Z,2.3nm,1.1s
ASAR **Alice Springs** 42.02 260 P **P** 06 28 06.4 -0.2
comp=Z,5.4nm,0.8s,baz=101,slow=7.2,SNR=44
ASAR ScP **ScP** 06 32 49.4 +2.3
comp=Z,0.9nm,0.8s,baz=114,slow=4.6,SNR=3.9
ASAR S **S** 06 33 43.6 -2.7
comp=Z,0.9nm,0.7s,baz=96,slow=16,SNR=6.0
WB2 **Warramunga Arr** 42.30 265 *e*P **P** 06 28 09.9 +1.0
WRAB **Tennant Creek** 42.31 265⇑ *i*P **P** 06 28 08.6 -0.3
WRA **Warramunga Arr** 42.31 265 P **P** 06 28 08.2 -0.7
comp=Z,6.4nm,0.6s,baz=94,slow=8.3,SNR=58
WRA ScP **ScP** 06 32 51.0 +2.7
comp=Z,0.9nm,0.8s,baz=95,slow=3.8,SNR=3.5
WRA S **S** 06 33 45.8 -4.8
comp=Z,0.5nm,0.8s,baz=112,slow=15,SNR=3.7
MTN **Manton Dam** 47.25 274 *e*P **P** 06 28 46.2 -0.7
comp=Z,155nm,1.9s
HMH **Humu'ula Sheep** 48.84 32 *e*P **P** 06 29 00.7 +0.2
comp=Z,646nm,2.0s
HPAH **Hawaii Prepara** 49.10 31 *e*P **P** 06 29 00.7 +0.2
comp=Z,309nm,1.6s
FAKI **Fak Fak** 50.23 286 *e*P **P** 06 29 08.5 -0.4
comp=Z,64nm,1.6s
VNDA **Vanda** 55.12 185 P **P** 06 29 44.3 +1.5
comp=Z,4.9nm,0.7s,baz=4.6,slow=7.6,SNR=26
MBWA **Marble Bar** 55.36 260 *e*P **P** 06 29 44.8 -0.6
comp=Z,375nm,2.0s
NWAO **Narrogin (SRO)** 55.42 245 *e*P **P** 06 29 45.5 -0.2
NWAO pmax pmax
comp=Z,56nm,1.5s
NWAO **Narrogin (SRO)** 55.42 245 *e*P **P** 06 29 45.5 -0.2
comp=Z,56nm,1.5s
CASY **Casey** 60.73 206 *e*P **P** 06 30 21.0 +0.1
comp=Z,142nm,1.8s
QSPA **South Pole Qui** 66.94 180 P **P** 06 31 01.9 +1.2
comp=Z,34nm,0.8s,baz=44,slow=0.9,SNR=108
JOW **Kunigami** 70.38 312 *e*P **P** 06 31 22.1 +0.3
comp=Z,66nm,1.2s
MJAR **Matsushiro Arr** 71.19 326 P **P** 06 31 26.3 -0.1
comp=Z,8.3nm,0.8s,baz=166,slow=6.0,SNR=21
MAJO **Matsushiro** 71.19 326⇑ *i*P **P** 06 31 26.2 -0.2
MAJO pmax pmax
comp=Z,13nm,0.8s
MAJO **Matsushiro** 71.19 326 *e*P **P** 06 31 26.5 0.0
comp=Z,18nm,0.9s
MAT **Matsushiro** 71.19 326 P **P** 06 31 25.8 -0.6
MJB9 **Matsu-Tunnel** 71.20 326 *e*P **P** 06 31 26.5 +0.1
comp=Z,18nm,0.9s
JNU **Nakatsue** 72.86 319 P **P** 06 31 36.4 +0.2
comp=Z,7.8nm,0.7s,baz=171,slow=8.7,SNR=3.5
SSLB **Suanglung** 73.80 305 *e*P **P** 06 31 41.2 -0.5
comp=Z,15nm,0.7s
ASAJ **Asahikawa** 75.12 333 P **P** 06 31 50.5 +1.8
comp=Z,12nm,0.6s,baz=214,slow=5.9,SNR=13
ASAJ **Asahikawa** 75.12 333 *e*P **P** 06 31 50.7 +2.1
comp=Z,17nm,0.8s
YSS **Yuzh-Sakhalins** 77.39 335⇑ *i*P **P** 06 32 02.5 +1.5
YSS pmax pmax
comp=Z,30nm,1.0s
KSRS **Korea Array** 77.57 320 P **P** 06 32 03.4 +1.1
comp=Z,5.8nm,0.8s,baz=132,slow=5.6,SNR=19
UNV **Unalaska Valle** 77.57 8 *e*P **P** 06 32 01.0 -0.9
comp=Z,208nm,1.7s
KSAR **Wonju Array Be** 77.59 320 P **P** 06 32 03.4 +1.0
KSAR **Wonju Array Be** 77.59 320 P **P** 06 32 03.4 +1.0
KS01 **Wonju Array Si** 77.60 320 *e*P **P** 06 32 03.0 +0.6
PET **Petropavlovsk** 78.05 347 *e*P **P** 06 32 03.9 -0.6
PET pmax pmax
comp=Z,14nm,0.6s
PET **Petropavlovsk** 78.05 347 *e*P **P** 06 32 04.3 -0.2
comp=Z,8.8nm,0.6s
PEA0B **Petropavlovsk-** 78.33 347 *e*P **P** 06 32 06.5 +0.4
comp=Z,18nm,0.8s
PETK **Petropavlovsk-** 78.33 347 P **P** 06 32 06.0 0.0
comp=Z,15nm,0.7s,baz=123,slow=6.8,SNR=37
SDPT **Sand Point** 79.96 11 *e*P **P** 06 32 14.3 -0.3
comp=Z,115nm,1.1s
USRK **Ussuriysk Ar.** 80.05 327 P **P** 06 32 16.4 +1.2
comp=Z,12nm,0.9s,baz=141,slow=3.5,SNR=14
NJ2 **Nanjing** 80.05 311 *e*P **P** 06 32 16.8 +1.2
NJ2 pmax pmax
comp=Z,16nm,0.9s

TYV **Tymovskoe** 80.65 337 *e*P **P** 06 32 19.2 +1.0
TYV pmax pmax
comp=Z,17nm,1.0s
IPM **Ipoh** 81.50 279 *e*P **P** 06 32 23.6 +0.1
comp=Z,16nm,0.7s
MDJ **Mudanjiang** 81.55 326 P **P** 06 32 22.4 -0.7
MDJ pmax pmax
comp=Z,21nm,0.9s
MDJ pmax pmax
comp=Z,180nm,3.7s
WHN **Wuhan** 82.42 308 P **P** 06 32 28.6 +0.8
SLBS **Sierra La Lagu** 82.56 60 *e*P **P** 06 32 30.5 +1.8
comp=Z,71nm,1.9s
ISA **Isabella, Lake** 82.61 46 *e*P **P** 06 32 30.0 +1.3
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA **Isabella, Lake** 82.61 46 *e*P **P** 06 32 30.0 +1.3
comp=Z,5.5nm,0.9s
CMB **Columbia Colle** 82.75 43 *e*P **P** 06 32 30.4 +1.0
CMB pmax pmax
comp=Z,5.0nm,0.8s
CMB **Columbia Colle** 82.75 43 *e*P **P** 06 32 30.4 +1.0
comp=Z,5.3nm,0.8s
GRNR **Gornyy** 82.95 334 *e*P **P** 06 32 31.0 +1.0
GRNR pmax pmax
comp=Z,46nm,1.0s
OHAK **Old Harbor** 83.18 14 *e*P **P** 06 32 31.4 +0.5
comp=Z,92nm,1.4s
CN2 **Changchun** 83.19 324 *e*P **P** 06 32 32.0 +0.6
CN2 pmax pmax
comp=Z,20nm,1.1s
NKL **Nikolayevsk** 83.23 337 *i*P **P** 06 32 31.2 0.0
NKL pmax pmax
comp=Z,23nm,0.9s
YBH **Yreka Blue Hor** 83.59 39 P **P** 06 32 35.2 +1.6
comp=Z,4.2nm,1.0s,baz=22,slow=2.1,SNR=3.4
TIA **Tai'an** 83.60 314 P **P** 06 32 34.5 +0.9
TIA pmax pmax
comp=Z,29nm,0.8s
SYO **Syowa Base** 83.71 193⇓ *e*P **P** 06 32 31.3 -2.3
SYO **Syowa Base** 83.71 193⇓ *e*PcP **PcP** 06 32 35.9 -0.5
KLR **Kul'dur** 83.80 331 P **P** 06 32 35.3 +1.0
comp=Z,0.2nm,0.6s,baz=134,slow=4.1,SNR=12
KLR **Kul'dur** 83.80 331⇓ *e*P **P** 06 32 34.7 +0.5
NVAR **Mina Array Bea** 84.31 44 P **P** 06 32 37.4 +0.1
comp=Z,0.8nm,0.5s,baz=202,slow=7.4,SNR=3.9
KVN **Kaiserville** 84.80 44 *e*P **P** 06 32 40.1 +0.4
KVN pmax pmax
comp=Z,22nm,2.0s
KVN **Kaiserville** 84.80 44 *e*P **P** 06 32 40.1 +0.4
comp=Z,22nm,2.0s
SNAA **Sanae** 85.42 179 P **P** 06 32 41.2 -0.9
SNAA **Sanae** 85.42 179 P **P** 06 32 41.4 -0.7
comp=Z,2.4nm,0.5s,baz=205,slow=9.0,SNR=32
SNAA **Sanae** 85.42 179 *e*P **P** 06 32 41.3 -0.7
SNAA pmax pmax
comp=Z,21nm,1.9s
SNAA **Sanae** 85.42 179 *e*P **P** 06 32 41.3 -0.7
comp=Z,21nm,1.9s
VNA3 **Neumayer Olymp** 85.64 177 P **P** 06 32 42.4 -0.6
MA2 **Magadan** 85.81 346 P **P** 06 32 43.0 -0.7
comp=Z,9.7nm,0.6s,baz=146,slow=5.2,SNR=23
BRLK **Bradley Lake** 86.03 14 *e*P **P** 06 32 44.5 -0.3
comp=Z,155nm,2.0s
VNA2 **Neumayer--Watz** 86.05 178 P **P** 06 32 44.2 -0.8
baz=182,slow=4.0
GYA **Guiyang** 86.23 301 *e*P **P** 06 32 47.0 +0.2
GYA pP pP 06 34 47.6 +1.3
GYA sP sP 06 35 41.0 -0.9
GYA PP **PP** **06 36 20.8 +2.7**
GYA SKS **SKSac** **06 42 20.3 -0.7**
GYA S **S** **06 42 37.3 +0.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
SVW2 **Sparrevohn** 86.27 12 *e*P **P** 06 32 45.7 -0.2
comp=Z,28nm,1.8s
BJI **Beijing** 86.38 316⇓ *e*P **P** 06 32 47.8 +0.9
BJI pmax pmax
comp=Z,12nm,0.9s
J08A **Circle Bar Ran** 87.07 40 *e*P **P** 06 32 52.3 +2.0
comp=Z,20nm,1.4s
U15A **North Rim** 87.21 48 *e*P **P** 06 32 52.6 +1.3
comp=Z,5.5nm,0.8s
RC01 **Rabbit Creek A** 87.47 14 *e*P **P** 06 32 51.1 -0.5
comp=Z,23nm,1.2s
SUA **Susitna One** 87.58 14 *e*P **P** 06 32 51.8 -0.4
comp=Z,16nm,0.7s
GLI **Glacier Island** 87.91 15 *e*P **P** 06 32 53.4 -0.2
comp=Z,82nm,1.5s
EYAK **Cordova Ski Ar** 87.96 16 *e*P **P** 06 32 53.8 0.0
comp=Z,112nm,2.0s
PMR **Palmer** 88.05 14 *e*P **P** 06 32 54.3 +0.1
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR **Palmer** 88.05 14 *e*P **P** 06 32 54.3 +0.1
comp=Z,8.4nm,0.9s
LTY **Liberty** 88.15 36 *e*P **P** 06 32 55.9 +0.7
comp=Z,31nm,1.9s
XAN **Xi'an** 88.16 308 P **P** 06 32 56.5 +1.0
XAN pmax pmax
comp=Z,13nm,0.7s
XAN pmax pmax
comp=Z,89nm,5.5s
SML **Sawmill** 88.42 15 *e*P **P** 06 32 56.7 +0.7
comp=Z,65nm,2.0s
SEY **Seymchan** 88.50 348 P **P** 06 32 56.5 +0.1
comp=Z,9.4nm,0.9s,baz=142,slow=5.8,SNR=32
SEY **Seymchan** 88.50 348⇓ *e*P **P** 06 32 56.4 +0.1
SEY *i* *PP **pP** 06 35 00.5 +3.8
PPLA **Purkeypile** 88.57 12 *e*P **P** 06 32 55.9 -0.9
comp=Z,34nm,1.7s
BMRM **Bremner River** 88.62 16 *e*P **P** 06 32 57.3 +0.3
comp=Z,22nm,1.0s
SCM **Sheep Creek Mo** 88.68 15 *e*P **P** 06 32 57.5 +0.2
SCM pmax pmax
comp=Z,21nm,0.8s
SCM **Sheep Creek Mo** 88.68 15 *e*P **P** 06 32 57.5 +0.2
comp=Z,21nm,0.8s
MFID **Camas Ranch** 88.69 41 *e*P **P** 06 32 58.7 +0.8
comp=Z,4.3nm,0.9s
KMI **Kunming** 88.78 298 P **P** 06 32 59.4 +0.6
KMI pmax pmax
comp=Z,12nm,0.5s
KMI pmax pmax
comp=Z,100nm,6.6s
PLCA **Paso Flores** 88.90 134 P **P** 06 32 59.6 +0.6
comp=Z,1.4nm,0.8s,baz=290,slow=4.9,SNR=4.7
PLCA **Paso Flores** 88.90 134 *e*P **P** 06 33 00.2 +1.1
PLCA pmax pmax
comp=Z,21nm,1.6s
PLCA **Paso Flores** 88.90 134 *e*P **P** 06 33 00.1 +1.1
comp=Z,20nm,1.6s
CAST **Castle Rocks** 89.06 12 *e*P **P** 06 32 57.9 -1.1
comp=Z,9.1nm,0.8s
CM01 **Chiang Mai Arr** 89.10 290 *e*P **P** 06 33 01.8 +1.6
CMAR **Chiang Mai Arr** 89.12 290 P **P** 06 33 01.1 +0.8
comp=Z,3.4nm,0.6s,baz=122,slow=3.2,SNR=18
CMAR **Chiang Mai Arr** 89.12 290 *i* P **P** 06 33 02.2 +1.9
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CHTO **Chiang Mai** 89.27 291 *e*P **P** 06 33 02.6 +1.6
comp=Z,11nm,1.0s
F10A **Beach Ranch, E** 89.31 38 *e*P **P** 06 33 01.2 +0.6
comp=Z,26nm,2.0s
KTH **Kantishna Hill** 89.41 13 *e*P **P** 06 32 59.5 -1.1
comp=Z,9.5nm,1.0s
TRF **Thorofare Moun** 89.45 13 *e*P **P** 06 32 60.0 -1.0
comp=Z,13nm,0.9s
B08A **Colville Reser** 89.54 36 *e*P **P** 06 33 01.5 0.0
comp=Z,17nm,1.8s
HVU **Hansel Valley** 89.69 44 *e*P **P** 06 33 03.7 +1.1
comp=Z,4.2nm,0.7s
HIA **Hailar** 89.69 325⇓ *e*P **P** 06 33 01.2 -1.1
HIA pmax pmax
comp=Z,2.0nm,0.8s
RND **Reindeer** 89.71 14 *e*P **P** 06 33 01.7 -0.3
RND pmax pmax
comp=Z,15nm,1.1s
RND **Reindeer** 89.71 14 *e*P **P** 06 33 01.7 -0.3
comp=Z,15nm,1.1s
HHC **Hu-ho-hao-te** 89.78 315 *e*P **P** 06 33 04.4 +1.4
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,68nm,7.6s
SRU **San Rafael Swe** 89.79 47 *e*P **P** 06 33 04.2 +1.0

SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU **San Rafael Swe** 89.79 47 *e*P **P** 06 33 04.2 +1.0
comp=Z,6.9nm,0.8s
MNTX **Cornudas Mount** 89.90 55 *e*P **P** 06 33 05.0 +1.3
comp=Z,1.8nm,0.7s
EFI **East Falkland** 89.93 148⇑ *e*P **P** 06 33 04.4 +1.0
EFI pmax pmax
comp=Z,29nm,1.0s
TX31 **Lajitas Ar. Si** 90.16 58 *e*P **P** 06 33 06.0 +1.0
TXAR **Lajitas Array** 90.16 58 P **P** 06 33 05.3 +0.3
comp=Z,1.1nm,0.9s,baz=214,slow=5.9,SNR=12
HWUT **Hardware Ranch** 90.38 44 *e*P **P** 06 33 06.4 +0.6
comp=Z,8.0nm,1.6s
MENT **Mentasta** 90.50 16 *e*P **P** 06 33 06.1 +0.4
comp=Z,22nm,1.9s
CD2 **Chengdu** 90.54 303 *e*P **P** 06 33 06.8 +0.2
ANMO **Albuquerque** 90.61 52 P **P** 06 33 07.2 +0.1
comp=Z,0.9nm,0.9s,baz=64,slow=7.4,SNR=5.4
ANMO **Albuquerque** 90.61 52⇑ *e*P **P** 06 33 07.9 +0.8
ANMO *i* *PP **pP** 06 35 12.7 +4.9
ANMO pmax pmax
comp=Z,2.0nm,1.0s
WRH **Wood River Hil** 90.81 13 *e*P **P** 06 33 06.0 -1.0
comp=Z,6.0nm,1.0s
RIDG **Independ'e Rid** 90.91 15 *e*P **P** 06 33 08.2 +0.6
comp=Z,33nm,2.0s
HDA **Harding Lake** 91.00 14 *e*P **P** 06 33 07.7 -0.2
comp=Z,16nm,1.4s
DOT **Dot Lake** 91.02 15 *e*P **P** 06 33 07.8 -0.2
comp=Z,53nm,2.0s
CCB **Clear Creek Bu** 91.03 13 *e*P **P** 06 33 07.1 -0.9
comp=Z,18nm,1.9s
MDM **Murphy Dome** 91.21 13 *e*P **P** 06 33 08.3 -0.6
comp=Z,22nm,2.0s
COLA **College** 91.22 13⇓ *e*P **P** 06 33 08.7 -0.1
COLA pmax pmax
comp=Z,2.0nm,1.0s
ILAR **Eielson Array** 91.33 14 P **P** 06 33 08.4 -1.0
comp=Z,0.9nm,0.8s,baz=208,slow=6.6,SNR=14
BILL **Bilibino** 91.46 355 *i* P **P** 06 33 08.8 -1.1
BILL pmax pmax
comp=Z,5.0nm,0.9s
LRM **Limekiln Ridge** 92.02 40 *e*P **P** 06 33 10.8 -2.5
PDAR **Pinedale Array** 92.25 44 P **P** 06 33 14.6 +0.1
comp=Z,0.9nm,0.7s,baz=208,slow=2.9,SNR=10.0
PDAR **Pinedale Array** 92.25 44 *e*P **P** 06 33 14.1 -0.3
DAWY **Dawson** 92.55 17 *e*P **P** 06 33 15.3 +0.2
comp=Z,3.3nm,0.8s
EGAK **Eagle** 92.67 16 *e*P **P** 06 33 15.5 0.0
LZH **Lanzhou** 92.79 308 *e*P **P** 06 33 15.4 -1.6
LZH pP pP 06 35 18.1 +0.1
LZH sP sP 06 36 15.8 +2.7
LZH pmax pmax
comp=Z,22nm,1.0s
ULN **Ulaanbaatar** 96.05 320⇓ *e*P **P** 06 33 31.1 -0.5
ULN pmax pmax
comp=Z,2.0nm,1.0s
SONM **Songino Array** 96.43 319 P **P** 06 33 33.5 +0.3
comp=Z,1.0nm,1.1s,baz=94,slow=10,SNR=3.2
SONM PP **PP** 06 37 31.9 -5.0
comp=Z,0.8nm,0.9s,baz=126,slow=7.1,SNR=4.0
GTA **Gaotai** 97.10 310 *e*P **P** 06 33 36.0 -0.4
GTA pmax pmax
comp=Z,2.0nm,1.0s
INK **Inuvik** 97.34 16 P Pdif 06 33 35.9 -0.7
comp=Z,0.6nm,0.6s,baz=175,slow=5.5,SNR=2.7
YKA **Yellowknife Ar** 99.74 25 P **Pdif** **06 33 47.0 -0.4**
comp=Z,0.2nm,0.6s,baz=240,slow=4.6,SNR=5.9
YKA PP **PP** **06 37 56.9 -4.3**
comp=Z,0.2nm,0.8s,baz=240,slow=7.2,SNR=4.6
MKAR **Makanchi Array** 111.53 313 PKiKP **PKiKP** **06 38 33.3 -1.4**
comp=Z,0.5nm,0.5s,baz=197,slow=1.0,SNR=11
MKAR PP **PP** **06 39 29.9 +2.7**
comp=Z,1.0nm,1.0s,baz=106,slow=6.8,SNR=4.7
MKAR SKP 06 41 18.4
comp=Z,0.5nm,0.7s,baz=104,slow=0.7,SNR=5.1
KURK **Kurchatov** 114.55 317 PKiKP PKPdf 06 38 39.3 -1.0
KURK **Kurchatov** 114.55 317 PKP PKPdf 06 38 39.3 -1.0
KURBB **Kurchatov Arra** 114.59 317 PKP PKPdf 06 38 39.3 -1.1
comp=Z,1.2nm,0.6s,baz=108,slow=1.8,SNR=14
KSH **Kashi** 114.73 304 *e*PKP PKPdf 06 38 41.8 +0.6
BVAR **Borovoye Array** 119.77 319 PKP **PKPdf** **06 38 49.6 -0.8**
comp=Z,1.8nm,0.4s,baz=90,slow=1.4,SNR=13
BRVK **Borovoye** 119.84 319⇑ *i*PKiKP **PKPdf** **06 38 49.5 -0.9**
SPITS **Spitsbergen Ar** 124.36 356 PKP **PKPdf** **06 38 57.8 -0.7**
comp=Z,15nm,1.0s,baz=111,slow=7.9,SNR=3.5
ARU **Arti** 126.19 324 *i*PKiKP **PKPdf** **06 39 02.5 0.0**
ARU 06 41 07.9
ARU 06 45 19.4
ARU SP SP 06 50 15.5 +1.4
AKTO **Aktyubinsk** 127.65 317 PKP **PKPdf** **06 39 05.3 -0.2**
comp=Z,2.1nm,0.7s,baz=56,slow=3.6,SNR=6.1
ARCES **ARCESS Array B** 131.12 348 PKhKP PKPpre 06 38 59.2
comp=Z,5.7nm,1.0s,baz=300,slow=2.7,SNR=4.0
ARCES PKP **PKPdf** **06 39 10.8 -0.7**
comp=Z,3.1nm,0.8s,baz=5.7,slow=2.4,SNR=8.8
ARCES SKPbc **SKPab** **06 41 46.2 +0.2**
comp=Z,7.0nm,0.8s,baz=52,slow=7.9,SNR=4.1
KLMR **Klimovskoe** 133.44 335 *e*PKiKP **PKPdf** **06 39 15.3 -0.8**
KLMR *e* 06 41 50.4
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR **Klimovskoe** 133.44 335 *e*PKPdf **PKPdf** **06 39 15.4 -0.7**
KLMR AMP 06 39 17.4
comp=Z,18nm,1.4s
KLMR *e*PP **PP** **06 41 50.4 -1.7**
KMBO **Kilima Mbogo** 136.33 242 SKPbc **SKPbc** **06 42 04.8 +0.6**
comp=Z,1.5nm,0.9s,baz=53,slow=20,SNR=5.1
FINES **FINESS Array B** 137.68 342 PKhKP PKPpre 06 39 15.5
comp=Z,0.8nm,0.4s,baz=49,slow=3.2,SNR=13
FINES PKP **PKPdf** **06 39 23.8 -0.2**
comp=Z,1.6nm,0.6s,baz=49,slow=2.5,SNR=7.1
FINES SKPbc **SKPbc** **06 42 06.2 0.0**
comp=Z,3.3nm,0.7s,baz=59,slow=4.5,SNR=6.2
NC303 **NORSAR Array S** 141.11 351 *e*PKPpre PKPpre 06 39 24.6
NC405 **NORSAR Array S** 141.17 351 *e*PKPpre PKPpre 06 39 23.6
NB201 **NORSAR Array S** 141.29 351 *e*PKPpre PKPpre 06 39 24.5
NB2 **NORSAR Subarra** 141.31 351 PKP PKPpre 06 39 25.3
comp=Z,2.8nm,0.6s,baz=16,slow=3.1
NB2 **NORSAR Subarra** 141.31 351 PKP PKPpre 06 39 25.3
comp=Z,2.8nm,0.6s,baz=16,slow=3.1
NOA **NORSAR Array B** 141.31 351 PKhKP PKPpre 06 39 25.4
comp=Z,6.6nm,0.6s,baz=21,slow=2.8,SNR=12
NBO02 **NORSAR Array S** 141.35 351 *e*PKPpre PKPpre 06 39 25.7
NC605 **NORSAR Array S** 141.53 351 *e*PKPpre PKPpre 06 39 26.1
NC602 **NORSAR Array S** 141.56 351 *e*PKPpre PKPpre 06 39 25.4
NC602 **NORSAR Array S** 141.56 351 *e*P PKPpre 06 39 25.6
HFS **Hagfors** 141.78 349 PKhKP PKPpre 06 39 26.5
comp=Z,6.8nm,0.4s,baz=46,slow=3.5,SNR=59
KONO **Kongsberg** 142.87 352⇓ *e*PKHKP PKPpre 06 39 31.1
KONO **Kongsberg** 142.87 352 *e*PKPpre PKPpre 06 39 30.5
KONO **Kongsberg** 142.87 352 *e*P **PKPdf** **06 39 30.5 -2.9**
BLS5 **Blasjo** 143.44 354 *e*P PKPab 06 39 32.8 -0.1
AKASG **Malin Array Be** 144.25 328 PKP PKPbc 06 39 34.9 -0.9
comp=Z,7.7nm,0.4s,baz=44,slow=4.3,SNR=83
AKASG SKPbc **SKPbc** **06 42 23.5 +0.2**
comp=Z,3.0nm,0.7s,baz=44,slow=3.2,SNR=7.5
AKBB **Malin Array Si** 144.25 328 *e*PKPbc PKPbc 06 39 35.0 -0.8
KIEV **Kiev** 144.27 328 *de*PKHKP PKPbc 06 39 34.8 -1.0
KIEV **Kiev** 144.27 328 *e*PKPbc PKPbc 06 39 35.0 -0.9
AK11 **Malin Array Si** 144.30 328 *e*PKPbc PKPbc 06 39 35.0 -0.9
SNART **Snartemo** 144.44 353 *e*P **PKPdf** **06 39 36.0 -0.1**
SUW **Suwalki** 144.51 336 *e*PKP PKPbc 06 39 36.8 +0.3
SUW **Suwalki** 144.51 336 *e*PKIKP **PKPab** **06 39 37.4 +0.3**
SUW **Suwalki** 144.51 336 *e*PKPdf **PKPab** **06 39 37.4 +0.3**
KLNR **Kaliningrad** 145.07 339⇓ *e*PKIKP **PKPdf** **06 39 37.7 +0.4**
KPL **Plockton** 145.60 5 *e*P **PKPbc** **06 39 39.3 -0.3**
ASF **Jabal al Asfar** 146.10 294 PKPbc **PKPbc** **06 39 41.8 -0.2**
comp=Z,5.1nm,0.9s,baz=90,slow=2.0,SNR=4.7
SORM **Soroca** 146.30 325⇓ *i*P **PKPbc** **06 39 41.3 -0.6**
SORM **Soroca** 146.30 325 ⇓PKIKP **PKPbc** **06 39 41.3 -0.6**
BR131 **Keskin Array S** 147.00 308 *e*PKPdf **PKPbc** **06 39 43.9 -0.4**
BRTR **Keskin Array B** 147.00 308 PKPbc **PKPbc** **06 39 43.6 -0.7**
comp=Z,3.4nm,0.6s,baz=132,slow=4.8,SNR=14
BEL **Belsk** 147.12 336 *e*PKP **PKPbc** **06 39 44.2 +0.3**
BEL **Belsk** 147.12 336 *e*PKIKP **PKPbc** **06 39 44.3 +0.3**
GKP **Gorka Klasztor** 147.14 341 *e*PKP **PKPbc** **06 39 44.3 +0.3**
GKP **Gorka Klasztor** 147.14 341 *e*PKIKP **PKPbc** **06 39 44.3 +0.3**
MMAI **Mount Meron Ar** 147.25 295 PKPbc **PKPbc** **06 39 45.7 +0.7**
comp=Z,8.0nm,0.4s,baz=83,slow=4.8,SNR=14
ANTO **Ankara** 147.56 309 *e*PKPbc **PKPbc** **06 39 45.9 +0.3**
BR231 **Keskin MP Arra** 147.58 309 *e*PKPdf **PKPbc** **06 39 44.7 -1.1**
BR231 *e*PKPbc **PKiKP** **06 39 48.5 +1.2**
TLCR 147.75 320⇑ *i*P **PKPbc** **06 39 45.7 -0.1**

TLCR		**147.75**	**320**	⇑PKIKP	**PKPbc**	**06 39 45.7**	**-0.1**
EKA	**Eskdalemuir Ar**	**147.77**	**3**	PKPbc	**PKPbc**	**06 39 44.8**	**-0.7**
	comp=Z,5.1nm,0.7s,baz=355,slow=2.0,SNR=14						
KWP	**Kalwaria Pacla**	**148.03**	**331**	*e*PKP	**PKPbc**	**06 39 46.6**	**+0.2**
KWP	**Kalwaria Pacla**	**148.03**	**331**	*e*PKHKP	**PKPbc**	**06 39 46.4**	**-0.1**
KWP	**Kalwaria Pacla**	**148.03**	**331**	*e*PKPbc	**PKPbc**	**06 39 46.4**	**-0.1**
CFR	**Carcaliu**	**148.16**	**321**	⇓*i*P	**PKPbc**	**06 39 46.4**	**-0.4**
CFR	**Carcaliu**	**148.16**	**321**	⇓PKHKP	**PKPbc**	**06 39 46.4**	**-0.4**
BUR08	**Bucovina Ar. S**	**148.25**	**327**	*e*PKPbc	**PKPbc**	**06 39 48.3**	**+1.1**
BUR04	**Bucovina Ar. S**	**148.26**	**327**	*e*PKPbc	**PKPbc**	**06 39 47.7**	**+0.5**
BURAR	**Bucovina Array**	**148.26**	**327**	⇓*i*P	**PKPbc**	**06 39 47.6**	**+0.4**
BURAR	**Bucovina Array**	**148.26**	**327**	⇓PKHKP	**PKPbc**	**06 39 47.6**	**+0.4**
TIRR	**Tirgusor**	**148.39**	**319**	⇑*i*P	**PKPbc**	**06 39 46.5**	**-1.0**
TIRR	**Tirgusor**	**148.39**	**319**	⇑PKHKP	**PKPbc**	**06 39 46.5**	**-1.0**
TLB	**Topalu**	**148.54**	**320**	⇓*i*P	**PKPbc**	**06 39 48.1**	**+0.3**
TLB	**Topalu**	**148.54**	**320**	⇓PKHKP	**PKPbc**	**06 39 48.1**	**+0.3**
VRI	**Vrincioaia**	**148.56**	**323**	⇑*i*P	**PKPbc**	**06 39 47.8**	**-0.1**
VRI	**Vrincioaia**	**148.56**	**323**	⇑PKHKP	**PKPbc**	**06 39 47.8**	**-0.1**
CSS	**Mathiatis**	**148.59**	**300**	*e*PKPbc	**PKPbc**	**06 39 47.7**	**-0.6**
OJC	**Ojcow**	**148.79**	**335**	*e*PKP	**PKPbc**	**06 39 48.3**	**0.0**
OJC	**Ojcow**	**148.79**	**335**	*e*PKHKP	**PKPbc**	**06 39 47.9**	**-0.4**
OJC	**Ojcow**	**148.79**	**335**	*e*PKPbc	**PKPbc**	**06 39 47.9**	**-0.4**
STHS	**Stebnicka Huta**	**148.83**	**333**	*e*PKHKP	**PKPbc**	**06 39 49.2**	**+0.8**
STHS	**Stebnicka Huta**	**148.83**	**333**	*e*PKP	**PKPbc**	**06 39 49.2**	**+0.8**
UZH	**Uzhgorod**	**148.95**	**331**	*e*PKHKP	**PKPbc**	**06 39 49.0**	**+0.3**
UZH				*e*		06 39 49.8	
UZH				*e*		06 39 53.6	
CRVS	**Cervenica-Dubn**	**149.12**	**332**	*e*PKHKP	**PKPbc**	**06 39 49.8**	**+0.6**
CRVS	**Cervenica-Dubn**	**149.12**	**332**	*e*PKP	**PKPbc**	**06 39 49.8**	**+0.6**
NIE	**Niedzica**	**149.22**	**334**	*e*PKP	**PKPbc**	**06 39 50.0**	**+0.6**
NIE	**Niedzica**	**149.22**	**334**	*e*PKHKP	**PKPbc**	**06 39 50.0**	**+0.6**
MLR	**Muntele Rosu**	**149.22**	**323**	PKPbc	**PKPbc**	**06 39 48.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=11,slow=19,SNR=8.9						
MLR	**Muntele Rosu**	**149.22**	**323**	⇓*i*P	**PKPbc**	**06 39 48.8**	**-0.9**
KSP	**Ksiaz**	**149.53**	**339**	*e*PKP	**PKPbc**	**06 39 50.6**	**+0.5**
KSP	**Ksiaz**	**149.53**	**339**	*e*PKHKP	**PKPbc**	**06 39 50.6**	**+0.5**
DSB	**Dublin**	**149.57**	**7**	*e*PKPbc	**PKPbc**	**06 39 49.5**	**-0.5**
OKC	**Ostrava-Krasne**	**149.73**	**336**	⇑*e*PKP	**PKPbc**	**06 39 50.8**	**+0.3**
OKC	**Ostrava-Krasne**	**149.73**	**336**	*e*PKHKP	**PKPbc**	**06 39 50.8**	**+0.3**
VOIR		**149.75**	**323**	⇑*i*P	**PKPbc**	**06 39 50.6**	**-0.3**
VOIR		**149.75**	**323**	⇑PKHKP	**PKPbc**	**06 39 50.6**	**-0.3**
LANS	**Liptovska Anna**	**149.77**	**334**	*e*PKHKP	**PKPbc**	**06 39 51.9**	**+1.2**
LANS	**Liptovska Anna**	**149.77**	**334**	*e*PKP	**PKPbc**	**06 39 51.9**	**+1.2**
KECS	**Kecovo**	**149.86**	**332**	*e*PKP2	**PKPab**	**06 39 59.4**	**+0.6**
KECS	**Kecovo**	**149.86**	**332**	*e*PKP	**PKPab**	**06 39 59.4**	**+0.6**
UPC	**Upice**	**149.91**	**339**	⇑*e*PKP	**PKPbc**	**06 39 51.2**	**+0.2**
UPC	**Upice**	**149.91**	**339**	*e*PKHKP	**PKPbc**	**06 39 51.2**	**+0.2**
DPC	**Dobruska-Polom**	**149.94**	**339**	⇑*e*PKP	**PKPbc**	**06 39 51.5**	**+0.4**
DPC				*e*PKPAB	**PKPab**	**06 39 59.7**	**+0.5**
DPC	**Dobruska-Polom**	**149.94**	**339**	*e*PKHKP	**PKPbc**	**06 39 51.5**	**+0.4**
DPC				*e*		06 39 59.7	
MORC	**Moravsky Berou**	**150.00**	**337**	⇓*i*P	**PKPbc**	**06 39 51.6**	**+0.3**
MORC	**Moravsky Berou**	**150.00**	**337**	⇓PKHKP	**PKPbc**	**06 39 51.6**	**+0.3**
MORC	**Moravsky Berou**	**150.00**	**337**	*e*PKPbc	**PKPbc**	**06 39 51.6**	**+0.3**
DRGR		**150.07**	**328**	⇑*i*P	**PKPbc**	**06 39 50.9**	**-0.7**
DRGR		**150.07**	**328**	⇑PKHKP	**PKPbc**	**06 39 50.9**	**-0.7**
CLL	**Collm**	**150.09**	**343**	⇓*i*PKHKP	**PKPbc**	**06 39 51.2**	**-0.1**
CLL				*e*		06 39 59.0	
CLL				pmax	pmax		
	comp=Z,25nm,0.8s						
CLL				pmax	pmax		
	comp=Z,12nm,0.9s						
CLL	**Collm**	**150.09**	**343**	⇓*i*PKPbc	**PKPbc**	**06 39 51.2**	**-0.1**
	comp=Z,25nm,0.8s						
CLL				*e*PKPab	**PKPab**	**06 39 59.0**	**-0.7**
	comp=Z,12nm,0.9s						
CLL				*e*pPKPab	**pPKPab**	**06 42 03.0**	**+0.4**
CLL	**Collm**	**150.09**	**343**	*e*PKPbc	**PKPbc**	**06 39 51.5**	**+0.2**
BRG	**Berggiesshubel**	**150.22**	**342**	*i* PKP	**PKPbc**	**06 39 51.8**	**+0.1**
	comp=Z,21nm,0.9s						
BRG				*e*		06 40 00.3	
	comp=Z,13nm,1.2s						
BRG	**Berggiesshubel**	**150.22**	**342**	*i* PKHKP	**PKPbc**	**06 39 51.8**	**+0.1**
BRG				*e*		06 40 00.3	
BRG				pmax	pmax		
	comp=Z,21nm,0.9s						
BRG				pmax	pmax		
	comp=Z,13nm,1.2s						
PVCC	**Panska Ves**	**150.34**	**341**	⇑*e*PKP	**PKPbc**	**06 39 52.5**	**+0.5**
PVCC	**Panska Ves**	**150.34**	**341**	*e*PKIKP	**PKPbc**	**06 39 52.5**	**+0.5**
VYHS	**Vyhne**	**150.54**	**334**	*e*PKIKP	**PKPbc**	**06 39 52.3**	**-0.2**
VYHS				*e*		06 40 02.2	
VYHS	**Vyhne**	**150.54**	**334**	*e*PKP	**PKPbc**	**06 39 52.3**	**-0.2**
VYHS				*e*		06 40 02.2	
PSZ	**Piszkesteto**	**150.55**	**332**	⇓*i*P	**PKPbc**	**06 39 52.6**	**0.0**
PSZ	**Piszkesteto**	**150.55**	**332**	⇓PKIKP	**PKPbc**	**06 39 52.6**	**0.0**
PSZ	**Piszkesteto**	**150.55**	**332**	*e*PKPbc	**PKPbc**	**06 39 52.3**	**-0.3**
VRAC	**Vranov**	**150.73**	**337**	⇑*i*P	**PKPbc**	**06 39 52.7**	**-0.2**
VRAC	**Vranov**	**150.73**	**337**	⇑PKIKP	**PKPbc**	**06 39 52.7**	**-0.2**
GOPC	**GO Pecny, Ondr**	**150.82**	**340**	⇑*e*PKP	**PKPbc**	**06 39 53.2**	**+0.1**
GOPC	**GO Pecny, Ondr**	**150.82**	**340**	*e*PKIKP	**PKPbc**	**06 39 53.2**	**+0.1**
PRU	**Pruhonice**	**150.83**	**340**	⇑*e*PKP	**PKPbc**	**06 39 53.1**	**0.0**
PRU	**Pruhonice**	**150.83**	**340**	*e*PKIKP	**PKPbc**	**06 39 53.1**	**0.0**
SIRR	**Siria**	**150.96**	**328**	⇓*i*P	**PKPbc**	**06 39 53.4**	**-0.1**
NKC	**Novy Kostel**	**151.21**	**343**	⇑*e*PKP	**PKPbc**	**06 39 54.2**	**+0.2**
NKC	**Novy Kostel**	**151.21**	**343**	*e*PKIKP	**PKPbc**	**06 39 54.2**	**+0.2**
BZS	**Buzias**	**151.44**	**327**	⇓*i*P	**PKPbc**	**06 39 54.0**	**-0.6**
BZS	**Buzias**	**151.44**	**327**	⇓PKIKP	**PKPbc**	**06 39 54.0**	**-0.6**
HERR	**Herculane**	**151.53**	**325**	⇓*i*P	**PKPbc**	**06 39 54.0**	**-0.8**
KHC	**Kasperske Hory**	**151.88**	**341**	⇑*e*PKP	**PKPbc**	**06 39 55.4**	**-0.2**
KHC				*ex*	x	06 40 00.9	
KHC	**Kasperske Hory**	**151.88**	**341**	*e*PKIKP	**PKPbc**	**06 39 55.4**	**-0.2**
KHC	**Kasperske Hory**	**151.88**	**341**	*e*PKPbc	**PKPbc**	**06 39 55.7**	**+0.1**
GERES	**GERESS Array B**	**152.09**	**340**	PKPbc	**PKPbc**	**06 39 55.8**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=25,slow=1.8,SNR=18						
GERES				PKPab	**PKPab**	**06 40 07.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=26,slow=4.3,SNR=4.6						
GEA0	**GERESS Array S**	**152.10**	**340**	*e*PKPbc	**PKPbc**	**06 39 55.9**	**-0.2**
CONA	**Conrad Observa**	**152.15**	**337**	*i* PKiKP	**PKPbc**	**06 39 56.2**	**-0.1**
	comp=Z,3.5nm,0.6s,SNR=4.9						
CONA				*i* PKPab	**PKPab**	**06 40 09.4**	**+0.8**
	comp=Z,8.9nm,0.9s						
MEM	**Membach**	**152.16**	**352**	⇑PKPbc	**PKPbc**	**06 39 55.8**	**-0.2**
VTS	**Vitosha**	**152.56**	**321**	⇑*i*P	**PKPab**	**06 40 11.4**	**+0.8**
VTS	**Vitosha**	**152.56**	**321**	⇑PKP2	**PKPab**	**06 40 11.4**	**+0.8**
VTS	**Vitosha**	**152.56**	**321**	*e*PKPab	**PKPab**	**06 40 10.9**	**+0.3**
MOA	**Molln**	**152.78**	**338**	*e*PKiKP	**PKPbc**	**06 39 57.6**	**0.0**
	comp=Z,2.0nm,1.0s						
MOA				*e*PKPab	**PKPab**	**06 40 10.3**	**-0.9**
	comp=Z,5.8nm,1.2s						
DOU	**Dourbes**	**152.84**	**353**	⇑PKPab	**PKPab**	**06 40 10.7**	**-0.5**
ARSA	**Arzberg**	**152.85**	**336**	*i* PKiKP	**PKiKP**	**06 39 58.2**	**+0.4**
	comp=Z,1.5nm,0.7s						
ARSA				*i* PKPab	**PKPab**	**06 40 11.4**	**-0.1**
	comp=Z,3.6nm,0.9s						
SOKA	**Soboth**	**153.51**	**336**	*e*PKPbc	**PKPbc**	**06 39 58.7**	**-0.6**
	comp=Z,2.1nm,0.8s						
SOKA				*e*PKPab	**PKPab**	**06 40 14.5**	**0.0**
	comp=Z,5.0nm,1.0s						
BFO	**Black Forest**	**153.97**	**347**	*e*PKP2	**PKPab**	**06 40 15.9**	**-0.4**
BFO	**Black Forest**	**153.97**	**347**	*e*PKPab	**PKPab**	**06 40 15.9**	**-0.4**
WATA	**Walderalm**	**154.09**	**342**	*e*PKPab	**PKPab**	**06 40 17.1**	**+0.1**
	comp=Z,5.3nm,0.7s						
WTTA	**Wattenberg**	**154.13**	**341**	*e*PKPab	**PKPab**	**06 40 17.7**	**+0.5**
	comp=Z,4.4nm,0.5s						
RETA	**Reutte**	**154.18**	**343**	*e*PKPab	**PKPab**	**06 40 17.5**	**+0.3**
	comp=Z,4.6nm,0.6s						
MOTA	**Moosalm**	**154.21**	**342**	*e*PKPbc	**PKPbc**	**06 39 59.7**	**-1.1**
	comp=Z,0.9nm,0.4s						
MOTA				*e*PKPab	**PKPab**	**06 40 16.7**	**-0.8**
	comp=Z,7.7nm,1.0s						
ECH	**Echery**	**154.31**	**349**	*e*PKP2	**PKPab**	**06 40 17.2**	**-0.5**
ECH	**Echery**	**154.31**	**349**	*e*PKPab	**PKPab**	**06 40 17.2**	**-0.5**
ABTA	**Abfaltersbach**	**154.32**	**340**	*e*PKPbc	**PKPbc**	**06 40 00.1**	**-0.8**
	comp=Z,3.5nm,0.7s						
ABTA				*e*PKPab	**PKPab**	**06 40 17.3**	**-0.6**
	comp=Z,2.4nm,0.6s						
DAVA	**Damuels**	**154.59**	**344**	*e*PKPab	**PKPab**	**06 40 19.2**	**+0.1**
	comp=Z,8.2nm,0.8s,SNR=4.7						
FETA	**Feichten**	**154.61**	**342**	*e*PKPab	**PKPab**	**06 40 16.1**	**-3.1**
	comp=Z,4.6nm,1.4s						
PDG	**Podgorica**	**154.88**	**325**	⇑*i*P	**PKPab**	**06 40 20.3**	**0.0**
IDI	**Anoyia**	**155.08**	**305**	*e*PKPab	**PKPab**	**06 40 21.1**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**155.11**	**343**	*e*PKPab	**PKPab**	**06 40 22.2**	**+0.7**
SENIN	**Lac Senin/Sane**	**155.06**	**347**	*e*PKPab	**PKPab**	**06 40 25.7**	**+0.1**
SSB	**Saint Sauveur**	**157.58**	**351**	*e*PKP2	**PKPab**	**06 40 32.1**	**+0.2**
SSB	**Saint Sauveur**	**157.58**	**351**	*e*PKPab	**PKPab**	**06 40 32.1**	**+0.2**
ES19	**SONSECA Array**	**163.19**	**10**	*e*PKPab	**PKPab**	**06 40 56.5**	**-0.2**
ESDC	**Sonseca Array**	**163.20**	**10**	PKPab	**PKPab**	**06 40 56.3**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=339,slow=4.5,SNR=11						
TOA0	**Torodi Ar. Sit**	**169.91**	**190**	*e*PKPab	**PKPbc**	**06 41 27.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**169.91**	**190**	PKPab	**PKPab**	**06 41 26.3**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=175,slow=3.8,SNR=12						

IDC 17 06:27:18.7±2.2, 51.26N×95.97E, h0km, mb1 2.8/4, mb1mx2.7/77, mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=42.7km s-min=19.2km az=14.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**7.30**	**296**	Pn	Pn	06 29 07.9	+1.4
	0.1nm,0.3s,baz=125,slow=11,SNR=2.2						
ZALV				Pg	Pb	06 29 30.3	+4.1
	0.3nm,0.3s,baz=112,slow=14,SNR=3.8						
ZALV				Lg	Lg	06 31 01.1	
	0.5nm,0.3s,baz=110,slow=26,SNR=8.9						
SONM	**Songino Array**	**7.60**	**113**	Pg	Pb	06 29 36.8	+5.4
	0.2nm,0.3s,baz=302,slow=17,SNR=6.0						
SONM				Lg	Lg	06 31 20.6	
	0.8nm,0.3s,baz=298,slow=30,SNR=9.1						
MKAR	**Makanchi Array**	**10.03**	**249**	Pn	Pn	06 29 44.7	+0.7
	0.0nm,0.3s,baz=52,slow=18,SNR=2.4						
MKAR				Pg		06 30 27.0	
	0.0nm,0.3s,baz=57,slow=16,SNR=2.2						
MKAR				Lg	Lg	06 32 38.8	
	0.1nm,0.3s,baz=58,slow=26,SNR=2.8						
KURBB	**Kurchatov Arra**	**11.03**	**273**	Pn	Pn	06 29 55.1	-2.4
	0.0nm,0.3s,baz=73,slow=16,SNR=2.4						
KURBB				Lg	Lg	06 33 10.2	
	0.0nm,0.3s,baz=81,slow=30,SNR=3.4						
BVAR	**Borovoye Array**	**15.78**	**286**	Pn	Pn	06 31 00.7	-1.3
	0.1nm,0.3s,baz=74,slow=12,SNR=3.0						

MAN 17 06:28:08, 7.05N×123.74E, h1km, mb3.9, ML2.6, MS2.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.54**	**71**	⇓*i*P	Pg	06 28 18.8	+0.5
CTBH				*i* S	Sb	06 28 27.1	-1.4
PAGZ	**Pagadian**	**0.87**	**336**	*e*P	Pb	06 28 25.9	0.0
PAGZ				*e*S	Sn	06 28 40.6	-0.1
BUKP	**Musuan**	**1.55**	**58**	*e*P	Pn	06 28 36.8	-0.1
BUKP				*e*S	Sg	06 28 58.6	+0.6

IDC 17 06:53:09.1±6.7, 3.44S×134.06E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/48, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=376.5km s-min=31.3km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.41**	**179**	Pn	Pn	06 56 58.8	-2.1
	0.1nm,0.3s,baz=358,slow=13,SNR=4.1						
WRA				Sn	Sn	06 59 53.9	-10
	0.1nm,0.3s,baz=358,slow=23,SNR=3.6						
ASAR	**Alice Springs**	**20.11**	**180**	P	P	06 57 45.5	+0.8
	1.3nm,0.9s,baz=3.7,slow=11,SNR=13						
MKAR	**Makanchi Array**	**67.59**	**324**	P	P	07 04 07.6	0.0
	0.1nm,0.4s,baz=112,slow=8.0,SNR=4.1						

IDC 17 07:06:07.9±9.1, 2.77S×138.47E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/41, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=388.6km s-min=31.3km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.54**	**193**	P	Pn	07 10 13.6	-0.5
	0.2nm,0.3s,baz=14,slow=13,SNR=9.8						
ASAR	**Alice Springs**	**21.24**	**192**	P	P	07 10 56.1	+0.3
	0.4nm,0.6s,baz=15,slow=9.6,SNR=5.8						
MKAR	**Makanchi Array**	**69.68**	**323**	P	P	07 17 19.6	0.0
	0.2nm,0.4s,baz=102,slow=6.4,SNR=4.5						

*IDC **17** 07:35:22.8±0.8, 7.96S×146.40E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/46, mbtmp3.9/9, ML3.7/2, Error ellipse: s-maj=32.5km s-min=16.7km az=72.0*
*ISCJB **17** 07:35:27.3±0.4, 7.92S±0.05×146.34E±0.08, h33km, mb4.3/11, Error ellipse: s-maj=11.0km s-min=6.9km az=177.0*
*NEIC **17** 07:35:29.2±0.5, 7.95S×146.41E, h35km, mb4.8/4, Error ellipse: s-maj=16.9km s-min=9.0km az=111.0*

ISC 17 07:35:28.7±0.6, 7.94S±0.08×146.4E±0.1, h35km, n33, σ1s21/35, mb4.2/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.63**	**154**	Pn	**Pn**	**07 35 53.1**	**-1.8**
	26nm,0.3s,baz=24,slow=3.0,SNR=34						
PMG				Sn	**Sn**	**07 36 16.2**	**+1.6**
	78nm,0.3s,baz=287,slow=20,SNR=13						
PMG				LR	LR	07 36 22.3	
	comp=Z,217nm,20.7s,baz=358,slow=37						
PMG	**Port Moresby**	**1.63**	**154**	*e*Pn	**Pn**	**07 35 54.7**	**-0.2**
PMG				*e*Sn	**Sn**	**07 36 16.2**	**+1.6**
COEN	**Coen**	**6.78**	**208**	*e*Pn	**Pn**	**07 37 06.0**	**+0.2**
WR1	**Warramunga Arr**	**16.72**	**223**	*e*Pn	**Pn**	**07 39 19.9**	**-0.5**
	5.5nm,1.0s						
WRA	**Warramunga Arr**	**16.72**	**223**	Pn	**Pn**	**07 39 19.9**	**-0.5**
	0.2nm,0.3s,baz=46,slow=11,SNR=9.4						
AS01	**Alice Springs**	**19.69**	**216**	*e*P	**Pn**	**07 39 56.9**	**+0.2**
AS31	**Alice Springs**	**19.71**	**216**	*e*P	**Pn**	**07 39 57.3**	**+0.3**
	3.4nm,1.3s						
ASAR	**Alice Springs**	**19.71**	**216**	Pn	**Pn**	**07 39 57.1**	**+0.1**
	0.4nm,0.3s,baz=30,slow=12,SNR=46						
KAPI	**Kappang**	**26.66**	**275**	*e*P	**P**	**07 41 06.2**	**+1.6**
	201nm,0.6s						
CMAR	**Chiang Mai Arr**	**53.69**	**300**	P	**P**	**07 44 45.7**	**-1.8**
	0.9nm,0.3s,baz=119,slow=5.4,SNR=3.1						
PETK	**Petropavlovsk-**	**61.56**	**8**	P	**P**	**07 45 41.7**	**-0.6**
	2.1nm,1.0s,baz=188,slow=5.4,SNR=3.8						
PETK	**Petropavlovsk-**	**61.56**	**8**	*e*P	**P**	**07 45 44.6**	**+2.3**
PEA1	**Petropavlovsk-**	**61.57**	**8**	*e*P	**P**	**07 45 41.7**	**-0.6**
SONA0	**Songino Array**	**65.82**	**332**	*e*P	**P**	**07 46 12.0**	**+1.4**
SONM	**Songino Array**	**65.82**	**332**	P	**P**	**07 46 12.0**	**+1.4**
	0.3nm,0.6s,baz=142,slow=5.4,SNR=2.9						
MK01	**Makanchi Array**	**78.61**	**321**	*e*P	**P**	**07 47 27.6**	**+0.6**
MK32	**Makanchi Array**	**78.63**	**321**	*e*P	**P**	**07 47 25.1**	**-2.0**
MKAR	**Makanchi Array**	**78.63**	**321**	P	**P**	**07 47 25.1**	**-2.0**
	0.5nm,0.8s,baz=116,slow=6.6,SNR=5.1						
QSPA	**South Pole Qui**	**82.04**	**180**	P	**P**	**07 47 43.5**	**-1.7**
	1.8nm,0.6s,baz=356,slow=19,SNR=9.2						
KURK	**Kurchatov**	**82.42**	**324**	*e*P	**P**	**07 47 48.0**	**+0.8**
KURBB	**Kurchatov Arra**	**82.44**	**323**	P	**P**	**07 47 48.0**	**+0.7**
	0.1nm,0.2s,baz=124,slow=4.7,SNR=4.0						
PPLA	**Purkeypile**	**84.53**	**24**	*e*P	**P**	**07 47 58.0**	**-0.1**
	14nm,1.4s						
RC01	**Rabbit Creek A**	**84.70**	**26**	*e*P	**P**	**07 48 00.2**	**+1.3**
	12nm,1.4s						
CAST	**Castle Rocks**	**84.83**	**23**	*e*P	**P**	**07 48 00.4**	**+1.0**
IL1	**Eielson Array**	**87.48**	**23**	*e*P	**P**	**07 48 12.3**	**-0.1**
ILAR	**Eielson Array**	**87.48**	**23**	P	**P**	**07 48 12.2**	**-0.2**
	1.0nm,0.7s,baz=253,slow=4.7,SNR=14						
ILB	**Eielson Array**	**87.48**	**23**	*e*P	**P**	**07 48 12.2**	**-0.2**
DOT	**Dot Lake**	**88.17**	**25**	*e*P	**P**	**07 48 17.8**	**+2.0**
	5.4nm,1.2s						
TOA0	**Torodi Ar. Sit**	**144.97**	**282**	*e*PKPbc	**PKPdf**	**07 55 04.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**144.97**	**282**	PKP	**PKPdf**	**07 55 03.6**	**+0.2**
	1.8nm,0.7s,baz=68,slow=3.4,SNR=12						
TOA1	**Torodi Ar. Sit**	**144.97**	**282**	*e*PKPbc	**PKPdf**	**07 55 03.6**	**+0.2**
HUMP	**Col San Antoni**	**147.02**	**69**	*e*PKPdf	**PKPab**	**07 55 09.5**	**-0.7**
DBIC	**Dimbokro**	**151.49**	**269**	PKPbc	**PKPbc**	**07 55 19.1**	**-1.1**
	4.6nm,0.9s,baz=153,slow=9.0,SNR=2.8						

*ISCJB **17** 07:37:51.9±0.5, 50.25N±0.04×18.79E±0.03, h0km, Error ellipse: s-maj=5.1km s-min=2.9km az=3.5*
*CSEM **17** 07:37:52.5±0.3, 50.24N×18.80E, h2km, Error ellipse: s-maj=7.6km s-min=3.9km az=12.0*
*WAR **17** 07:37:53.3, 50.24N×18.88E, h1km, Mw2.5*
*PRU **17** 07:37:53.4, 50.24N×18.77E, h0km*

ISC 17 07:37:52.9±0.8, 50.23N±0.03×18.83E±0.02, h0km, n26, σ0s64/48, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.12**	**59**	*e*Pg	**Pg**	**07 37 55.1**	**-0.1**
CHZP				*e*Sg	**Sg**	**07 37 56.9**	**+0.2**
CHZP	**Chorzow**	**0.12**	**59**	*e*Pg	**Pg**	**07 37 55.1**	**-0.1**
CHZP				*e*Sg	**Sg**	**07 37 56.9**	**+0.2**
OKC	**Ostrava-Krasne**	**0.59**	**229**	*e*PG	**Pg**	**07 38 04.5**	**+0.3**
OKC				*e*SG	**Sg**	**07 38 12.2**	**+0.4**
	comp=Z,9.9nm,0.4s						
OKC	**Ostrava-Krasne**	**0.59**	**229**	Pg	**Pg**	**07 38 04.5**	**+0.3**
OKC				Sg	**Sg**	**07 38 12.2**	**+0.4**
	9.9nm,0.4s						
OJC	**Ojcow**	**0.62**	**91**	*e*Pg	**Pg**	**07 38 04.4**	**-0.3**
OJC				*e*Sg	**Sg**	**07 38 12.8**	**0.0**
OJC	**Ojcow**	**0.62**	**91**	*e*Pg	**Pg**	**07 38 04.4**	**-0.3**
OJC				*e*Sg	**Sg**	**07 38 12.8**	**0.0**
OJC	**Ojcow**	**0.62**	**91**	*e*Pg	**Pg**	**07 38 04.4**	**-0.3**
OJC				*e*Sg	**Sg**	**07 38 12.8**	**0.0**
MORC	**Moravsky Berou**	**0.95**	**242**	*e*Pg	**Pg**	**07 38 11.2**	**+0.2**
MORC				*e*Sg	**Sg**	**07 38 24.0**	**+0.7**
LANS	**Liptovska Anna**	**1.16**	**159**	*e*Pg	**Pg**	**07 38 15.2**	**+0.2**
LANS				*e*Sg	**Sb**	**07 38 31.1**	**-0.2**
LANS	**Liptovska Anna**	**1.16**	**159**	*e*PG	**Pg**	**07 38 15.2**	**+0.2**
LANS				*e*SG	**Sb**	**07 38 31.1**	**-0.2**
NIE	**Niedzica**	**1.25**	**130**	*e*Pg	**Pg**	**07 38 16.6**	**-0.2**
NIE				*e*Sg	**Sn**	**07 38 35.4**	**+0.3**
NIE	**Niedzica**	**1.25**	**130**	*e*Pg	**Pg**	**07 38 16.6**	**-0.2**
NIE				*e*Sg	**Sn**	**07 38 35.4**	**+0.3**
NIE	**Niedzica**	**1.25**	**130**	*e*Pg	**Pg**	**07 38 16.6**	**-0.2**
NIE				*e*Sg	**Sn**	**07 38 35.4**	**+0.3**
DPC	**Dobruska-Polom**	**1.61**	**275**	*e*PG	**Pn**	**07 38 22.6**	**0.0**
DPC				*e*SG	**Sn**	**07 38 44.0**	**-0.2**
	comp=Z,8.5nm,0.5s						
DPC	**Dobruska-Polom**	**1.61**	**275**	Pg	**Pn**	**07 38 22.6**	**0.0**
DPC				Sg	**Sn**	**07 38 44.0**	**-0.2**
	8.5nm,0.5s						
KSP	**Ksiaz**	**1.73**	**292**	*e*Pg	**Pb**	**07 38 25.4**	**-0.1**
KSP				*e*Sg	**Sg**	**07 38 48.6**	**+0.1**
KSP	**Ksiaz**	**1.73**	**292**	*e*Pg	**Pb**	**07 38 25.4**	**-0.1**
KSP				*e*Sg	**Sg**	**07 38 48.6**	**+0.1**
KSP	**Ksiaz**	**1.73**	**292**	*e*Pg	**Pb**	**07 38 25.4**	**-0.1**
KSP				*

ISCJB ***17*** *08:41:47.0±0.3,6.91N±0.06×94.65E±0.07,h26km, mb4.2/26,MS3.3/9,Error ellipse: s-maj=11.7km s-min=4.9km az=138.7*

DJA ***17*** *08:41:49.9±1.5,7.7N±8.9×9.5E±1.3,h156km±17km,M4.3/7, mB4.7/2, mb4.3/4,MLv4.2/7,Mw(mB)3.9/2*

NEIC ***17*** *08:41:50.1±1.1,6.87N×94.59E,h37km±9km,mb4.5/6, Error ellipse: s-maj=13.5km s-min=5.1km az=64.0*

ISC 17 08:41:48.9±0.5,**6.93N**±0.08×**94.62E**±0.08,**h26**km,**n70, σ0s95/67,mb4.2/26,MS3.3/9,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**2.86**	**126**	P	**Pn**	**08 42 33.4**	**+0.5**
LHMI				S	**Sn**	**08 43 08.7**	**+2.2**
LHMI	**Lhok Sumawe**	**2.86**	**126**	*e*Pn	**Pn**	**08 42 33.5**	**+0.5**
MLSI	**Meulaboh, Aceh**	**3.18**	**146**	P	**Pn**	**08 42 38.9**	**+1.6**
TPTI		**4.45**	**145**	P	**Pn**	**08 42 54.7**	**0.0**
KCSI	**Kotacane, Aceh**	**4.61**	**137**	P	**Pn**	**08 42 56.4**	**-0.6**
PSI	**Prapat**	**5.93**	**134**	Pn	**Pn**	**08 43 14.9**	**-0.3**
	1.5nm,0.3s,baz=332,slow=18,SNR=5.4						
PSI				LR	LR	08 45 49.1	
	comp=Z,208nm,18.7s,baz=285,slow=41						
PSI	**Prapat**	**5.93**	**134**	*e*Pn	**Pn**	**08 43 17.9**	**+2.6**
KULM	**Kulim**	**6.21**	**105**	*e*Pn	**Pn**	**08 43 18.3**	**-0.7**
IPM	**Ipoh**	**6.82**	**111**	*e*Pn	**Pn**	**08 43 26.0**	**-1.4**
IPM				*e*Sn	**Sn**	**08 44 41.8**	**-2.4**
MYKOM	**Kota Tinggi**	**10.52**	**119**	*e*Pn	**Pn**	**08 44 18.1**	**0.0**
CM31	**Chiang Mai Arr**	**12.21**	**20**	*e*Pn	**Pn**	**08 44 43.2**	**+1.9**
CMAR	**Chiang Mai Arr**	**12.21**	**20**	Pn	**Pn**	**08 44 43.2**	**+1.9**
	0.3nm,0.3s,baz=214,slow=13,SNR=5.2						
CMAR				LR	LR	08 49 15.1	
	comp=Z,71nm,19.1s,baz=198,slow=37						
PALK	**Pallekele**	**13.82**	**272**	LR	LR	08 50 06.2	
	comp=Z,160nm,20.0s,baz=116,slow=36						
H08S3	**Diego Garcia H**	**26.39**	**237**	T	T	09 13 53.8	
	baz=56,slow=76,SNR=40						
H08S2	**Diego Garcia H**	**26.40**	**237**	T	T	09 13 51.9	
	baz=56,slow=76,SNR=60						
H08S1	**Diego Garcia H**	**26.41**	**237**	T	T	09 13 53.1	
	baz=56,slow=76,SNR=33						
MK01	**Makanchi Array**	**41.08**	**347**	*e*P	**P**	**08 49 30.8**	**+0.3**
MK31	**Makanchi Array**	**41.11**	**347**	*e*P	**P**	**08 49 30.8**	**+0.1**
MK32	**Makanchi Array**	**41.11**	**347**	*e*P	**P**	**08 49 31.0**	**+0.3**
MKAR	**Makanchi Array**	**41.11**	**347**	P	**P**	**08 49 31.0**	**+0.3**
	1.0nm,0.7s,baz=171,slow=8.9,SNR=11						
MKAR				LR	LR	09 08 26.2	
	comp=Z,34nm,20.5s,baz=190,slow=39						
MKAR	**Makanchi Array**	**41.11**	**347**	*e*P	**P**	**08 49 30.7**	**0.0**
	12nm,0.6s						
MAKZ	**Makanchi**	**41.19**	**347**	*e*P	**P**	**08 49 31.7**	**+0.3**
	1.6nm,0.8s						
SONA0	**Songino Array**	**41.98**	**12**	*e*P	**P**	**08 49 39.0**	**+1.1**
SONM	**Songino Array**	**41.98**	**12**	P	**P**	**08 49 39.0**	**+1.1**
	0.8nm,0.8s,baz=202,slow=8.1,SNR=4.7						
GEYT	**Alibeck**	**45.22**	**318**	P	**P**	**08 50 04.2**	**+0.1**
	1.6nm,0.5s,baz=112,slow=6.4,SNR=3.3						
GEYT				LR	LR	09 09 49.0	
	comp=Z,37nm,20.1s,baz=150,slow=37						
TLY	**Talaya**	**45.23**	**8**	LR	LR	09 10 15.1	
	comp=Z,26nm,21.9s,baz=178,slow=38						
KURBB	**Kurchatov Arra**	**45.57**	**346**	P	**P**	**08 50 07.5**	**+0.9**
	1.3nm,0.6s,baz=169,slow=6.8,SNR=14						
KURK	**Kurchatov**	**45.64**	**346**	*e*P	**P**	**08 50 07.7**	**+0.6**
	4.4nm,1.0s						
WR1	**Warramunga Arr**	**47.33**	**125**	*e*P	**P**	**08 50 20.2**	**-0.6**
	23nm,1.3s						
WR1				*e*PcP	**PcP**	**08 51 51.2**	**-0.4**
WRA	**Warramunga Arr**	**47.33**	**125**	P	**P**	**08 50 20.2**	**-0.6**
	1.0nm,0.6s,baz=304,slow=8.6,SNR=4.5						
WRA				PcP	**PcP**	**08 51 51.2**	**-0.4**
	0.2nm,0.5s,baz=317,slow=2.3,SNR=3.3						
WB2	**Warramunga Arr**	**47.34**	**125**	*e*P	**P**	**08 50 21.3**	**+0.3**
ZALV	**Zalesovo Beam**	**47.55**	**352**	P	**P**	**08 50 22.6**	**+0.5**
	0.7nm,0.3s,baz=151,slow=4.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**47.55**	**352**	*e*P	**P**	**08 50 23.2**	**+1.1**
ZAA1	**Zalesovo Array**	**47.55**	**352**	*e*P	**P**	**08 50 22.6**	**+0.5**
AS31	**Alice Springs**	**48.95**	**130**	*e*P	**P**	**08 50 32.4**	**-1.0**
	7.7nm,1.9s						
ASAR	**Alice Springs**	**48.95**	**130**	P	**P**	**08 50 33.0**	**-0.4**
	0.3nm,0.7s,baz=301,slow=7.9,SNR=4.0						
ASAR				PcP	**PcP**	**08 51 57.9**	**+0.5**
	0.3nm,0.9s,baz=304,slow=3.4,SNR=3.4						
BVAR	**Borovoye Array**	**50.03**	**341**	P	**P**	**08 50 39.8**	**-1.4**
	0.7nm,0.4s,baz=148,slow=8.4,SNR=4.3						
ABKAR	**Akbulak array**	**51.28**	**331**	*e*P	**P**	**08 50 51.1**	**+0.4**
	52nm,0.5s						
AKTO	**Aktyubinsk**	**53.00**	**331**	P	**P**	**08 51 03.5**	**+0.1**
	1.1nm,0.4s,baz=114,slow=14,SNR=5.8						
GNI	**Garni**	**55.44**	**315**	LR	LR	09 17 08.7	
	comp=Z,16nm,20.9s,baz=140,slow=38						
KMBO	**Kilima Mbogo**	**57.80**	**264**	LR	LR	09 11 45.5	
	comp=Z,26nm,21.4s,baz=92,slow=31						
STKA	**Stephens Creek**	**59.11**	**134**	LR	LR	09 22 09.6	
	comp=Z,32nm,18.4s,baz=41,slow=41						
BR101	**Keskin Array S**	**63.41**	**311**	*e*P	**P**	**08 52 15.0**	**-1.7**
BRTR	**Keskin Array B**	**63.41**	**311**	P	**P**	**08 52 15.0**	**-1.7**
	0.9nm,0.8s,baz=122,slow=5.8,SNR=3.9						
BRTR				LR	LR	09 22 45.0	
	comp=Z,14nm,18.4s,baz=90,slow=39						
TIXI	**Tiksi**	**68.06**	**11**	LR	LR	09 25 33.6	
	comp=Z,34nm,18.1s,baz=178,slow=39						
TIXI	**Tiksi**	**68.06**	**11**	*e*P	**P**	**08 52 45.8**	**-0.1**
	3.3nm,0.6s						
FIA0	**FINESS Array S**	**73.76**	**332**	*e*P	**P**	**08 53 19.8**	**-0.9**
FIA1	**FINESS Array S**	**73.76**	**332**	*e*P	**P**	**08 53 20.5**	**-0.1**
FINES	**FINESS Array B**	**73.76**	**332**	P	**P**	**08 53 19.8**	**-0.9**
	2.1nm,0.7s,baz=90,slow=5.7,SNR=8.2						
BOSA	**Boshof**	**75.50**	**238**	P	**P**	**08 53 31.9**	**+0.4**
	3.4nm,1.1s,baz=63,slow=4.5,SNR=2.8						
ARA0	**ARCESS Array S**	**76.31**	**340**	*e*P	**P**	**08 53 34.7**	**-0.5**
ARCES	**ARCESS Array B**	**76.31**	**340**	P	**P**	**08 53 34.7**	**-0.5**
	3.6nm,0.9s,baz=97,slow=7.4,SNR=2.5						
GEA0	**GERESS Array S**	**78.84**	**318**	*e*P	**P**	**08 53 50.0**	**0.0**
GERES	**GERESS Array B**	**78.85**	**318**	P	**P**	**08 53 50.0**	**+0.1**
	0.4nm,0.5s,baz=86,slow=4.4,SNR=3.9						
HFS	**Hagfors**	**79.51**	**330**	P	**P**	**08 53 52.9**	**-0.2**
	1.7nm,0.6s,baz=92,slow=4.3,SNR=7.8						
NB200	**NORSAR Array S**	**80.28**	**331**	*e*P	**P**	**08 53 59.8**	**-0.4**
NOA	**NORSAR Array B**	**80.78**	**331**	P	**P**	**08 53 59.8**	**-0.4**
	0.9nm,0.7s,baz=94,slow=6.2,SNR=3.1						
SPITS	**Spitsbergen Ar**	**80.85**	**348**	P	**P**	**08 54 00.8**	**+0.6**
	8.7nm,0.9s,baz=54,slow=11,SNR=2.6						
EKA	**Eskdalemuir Ar**	**88.77**	**326**	P	**P**	**08 54 39.9**	**-0.4**
	1.2nm,0.8s,baz=91,slow=5.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**91.28**	**283**	P	**P**	**08 54 52.6**	**-0.3**
	0.2nm,0.4s,baz=96,slow=5.1,SNR=3.4						
TOA1	**Torodi Ar. Sit**	**91.28**	**283**	*e*P	**P**	**08 54 52.6**	**-0.3**
ESDC	**Sonseca Array**	**92.19**	**310**	P	**P**	**08 54 56.9**	**+0.2**
	0.3nm,0.4s,baz=81,slow=3.4,SNR=3.5						
ESDC				LR	LR	09 40 00.0	
	comp=Z,12nm,18.2s,baz=120,slow=38						
PD31	**Pinedale Array**	**125.86**	**22**	*e*PKPdf	**PKPdf**	**09 00 48.5**	**-0.7**
PDAR	**Pinedale Array**	**125.86**	**22**	PKP	**PKPdf**	**09 00 49.4**	**+0.2**
	0.2nm,0.5s,baz=323,slow=2.4,SNR=3.7						
LTX	**Lajitas Array**	**139.88**	**25**	*e*PKPdf	**PKPdf**	**09 01 16.1**	**+0.5**
TXAR	**Lajitas Array**	**139.88**	**25**	PKP	**PKPdf**	**09 01 16.2**	**+0.5**
	0.2nm,0.7s,baz=36,slow=1.7,SNR=2.6						
PLCA	**Paso Flores**	**143.83**	**199**	PKP	**PKPdf**	**09 01 21.5**	**-0.9**
	1.2nm,1.0s,baz=119,slow=4.8,SNR=3.6						
PLCA	**Paso Flores**	**143.83**	**199**	*e*PKPdf	**PKPdf**	**09 01 23.4**	**+1.0**
GRTK	**Grand Turk**	**148.47**	**334**	*e*PKPdf	**PKPdf**	**09 01 31.4**	**+0.7**
SDD	**Santo Domingo**	**150.52**	**329**	*e*PKPbc	**PKPbc**	**09 01 37.4**	**-2.0**
SDD				*e*PKPab	**sPKPdf**	**09 01 44.6**	**-1.1**

MEX 17 08:42:08.5±0.4,**19.15N**×**104.08W,h26**km±**177**km,**MD3.9, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZ5V		**0.55**	**54**	*e*P	Pb	08 42 18.2	-1.7
EZ5V				*e*S	Sb	08 42 25.4	-2.3
CJM	**Chamela**	**0.97**	**291**	*e*P	Pn	08 42 23.7	-2.7
CJM				*e*S	Sb	08 42 35.6	-3.6
ZIIG	**Zihuatanejo**	**2.92**	**121**	*e*P	Pn	08 42 50.9	-2.3
ZIIG				*i* S	Sn	08 43 24.5	-3.0
ARIG	**Puente Sto Nin**	**3.64**	**103**	*e*P	Pn	08 43 06.8	+3.6
ARIG				*i* S	Sn	08 43 48.8	+3.5

MEX 17 08:45:20.8±0.5,**19.78N**×**104.08W,h3**km±**8**km,**MD4.0, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZ5V		**0.54**	**123**	*e*P	Pg	08 45 31.2	0.0
EZ5V				*i* S	Sg	08 45 38.5	+0.2
CJM	**Chamela**	**0.95**	**253**	*i* P	Pg	08 45 36.8	-2.1
CJM				*i* S	Sg	08 45 49.7	-1.5
SFJM	**Santa Fe**	**1.21**	**54**	*i* P	Pn	08 45 49.6	+4.9
SFJM				*i* S	Sn	08 46 07.0	+5.3
ZIIG	**Zihuatanejo**	**3.29**	**131**	*e*P	Pn	08 46 10.2	-3.0
ZIIG				*e*S	Sn	08 46 49.5	-3.3
ARIG	**Puente Sto Nin**	**3.83**	**112**	*e*P	Pn	08 46 17.2	-3.5
ARIG				*i* S	Sn	08 47 03.2	-3.1

ISCJB ***17*** *08:56:47.1±2.0,35.60N±0.04×141.8E±0.1,h22km, mb3.5/2, Error ellipse: s-maj=15.9km s-min=6.1km az=2.7*

JMA ***17*** *08:56:50.6±0.4,35.61N×141.62E,h59km±5km,M2.8*

IDC ***17*** *08:56:54.1±2.7,35.35N×141.04E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.2/59,mbtmp3.5/3,ML2.7/2,Error ellipse: s-maj=54.8km s-min=31.7km az=67.0*

ISC 17 08:56:42.7±1.7,**35.65N**±0.05×**142.02E**±0.10,**h22**km,**n17, σ1s66/11,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.94**	**274**	*e*S	**Sn**	**08 57 13.8**	**+0.3**
BSO1	**Boso 1**	**1.31**	**221**	*e*S	**Sb**	**08 57 24.6**	**+2.2**
BSO3	**Boso 3**	**1.50**	**236**	*e*S	**Sb**	**08 57 28.2**	**+0.2**
JHO	**Hitachi**	**1.52**	**310**	*e*S	**Sb**	**08 57 30.3**	**+1.4**
BSO4	**Boso 4**	**1.52**	**245**	S	**Sn**	**08 57 27.1**	**-0.5**
JFK	**Kawauchi**	**1.95**	**332**	*e*S	**Sb**	**08 57 42.2**	**+0.8**
JHJ	**Hachijo jima 2**	**3.13**	**217**	Pn	**Pb**	**08 57 35.4**	**-2.2**
	12nm,0.3s,baz=75,slow=20,SNR=4.7						
JHJ				Sn	**Sn**	**08 58 08.3**	**+1.0**
	28nm,0.3s,baz=90,slow=20,SNR=9.9						
MJAR	**Matsushiro Arr**	**3.21**	**287**	Pn	**Pb**	**08 57 37.1**	**-1.9**
	0.6nm,0.3s,baz=117,slow=6.6,SNR=7.1						
JCJ	**Chichijima**	**8.53**	**179**	Pn	**Pn**	**08 58 46.5**	**+1.7**
	3.2nm,0.3s,baz=294,slow=20,SNR=2.8						
JCJ				Sn	**Sn**	**09 00 19.0**	**-1.4**
	2.2nm,0.3s,baz=270,slow=20,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**27.03**	**119**	T	T	09 30 57.2	
	baz=311,slow=75,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**27.04**	**119**	T	T	09 30 57.9	
	baz=311,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**27.05**	**119**	T	T	09 30 58.6	
	baz=311,slow=75,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**27.71**	**122**	T	T	09 31 47.8	
	baz=308,slow=74,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**27.71**	**122**	T	T	09 31 48.1	
	baz=308,slow=74,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**27.73**	**122**	T	T	09 31 48.2	
	baz=308						
WRA	**Warramunga Arr**	**55.76**	**189**	P	P	09 06 29.3	+11
	0.3nm,0.4s,baz=2.5,slow=7.7,SNR=5.7						
ASAR	**Alice Springs**	**59.49**	**189**	P	P	09 06 56.4	+12
	0.4nm,0.9s,baz=360,slow=6.3,SNR=2.9						

DDA ***17*** *09:02:48.8,37.21N×28.14E,h7km,Ml2.6,Suspected Mining explosion.*

ISCJB ***17*** *09:02:49.1±0.5,37.23N±0.04×28.18E±0.04,h0km, Error ellipse: s-maj=6.5km s-min=3.5km az=27.7*

CSEM ***17*** *09:02:49.3±0.2,37.21N×28.16E,h1km,ML2.4, Error ellipse: s-maj=5.1km s-min=2.6km az=30.0,Suspected Mining explosion.*

ISK ***17*** *09:02:49.0,37.22N×28.17E,h7km,ML2.4/7*

ISC 17 09:02:48.9±0.9,**37.20N**±0.03×**28.15E**±0.03,**h0**km,**n27, σ0s75/35,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**123**	PG	**Pg**	**09 02 52.0**	**+0.7**
YER				SG	**Sg**	**09 02 54.4**	**+1.4**
YER	**Yerkesik**	**0.13**	**123**	*e*Pg	**Pg**	**09 02 52.0**	**+0.7**
YER				*e*Sg	**Sg**	**09 02 54.4**	**+1.4**
MLSB	**Milas**	**0.31**	**287**	PG	**Pg**	**09 02 55.8**	**+0.9**
MLSB				SG	**Sb**	**09 03 01.4**	**-1.7**
MLSB	**Milas**	**0.31**	**287**	*e*Pg	**Pg**	**09 02 55.8**	**+0.9**
MLSB				*e*Sg	**Sb**	**09 03 01.4**	**-1.7**
TURN	**Turunc**	**0.49**	**132**	PG	**Pg**	**09 02 58.2**	**-0.1**
TURN				SG	**Sg**	**09 03 05.0**	**+0.3**
TURN	**Turunc**	**0.49**	**132**	*i* P	**Pg**	**09 02 57.4**	**-0.9**
TURN	**Turunc**	**0.49**	**132**	P	**Pg**	**09 02 57.4**	**-0.9**
TURN	**Turunc**	**0.49**	**132**	*e*Pg	**Pg**	**09 02 58.2**	**-0.1**
TURN				*e*Sg	**Sg**	**09 03 05.0**	**+0.3**
AYDN	**Tasoluk**	**0.51**	**335**	*i* P	**Pg**	**09 02 59.4**	**+0.8**
AYDN	**Tasoluk**	**0.51**	**335**	P	**Pg**	**09 02 59.4**	**+0.8**
DALY	**Dalyan (Mu˙la**	**0.56**	**134**	PG	**Pg**	**09 03 00.2**	**+0.6**
DALY	**Dalyan (Mu˙la**	**0.56**	**134**	*i* P	**Pg**	**09 03 00.3**	**+0.6**
DALY	**Dalyan (Mu˙la**	**0.56**	**134**	*e*Pg	**Pg**	**09 03 00.2**	**+0.6**
BDRM	**Kayabasi**	**0.58**	**257**	*i* P	**Pg**	**09 03 00.2**	**+0.1**
BDRM	**Kayabasi**	**0.58**	**257**	P	**Pg**	**09 03 00.2**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.66**	**66**	*i* P	**Pg**	**09 03 01.8**	**+0.2**
TAVA				*i* S	**Sg**	**09 03 10.0**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.66**	**66**	P	**Pg**	**09 03 01.8**	**+0.2**
TAVA				S	**Sg**	**09 03 10.0**	**-0.2**
BODT	**Bodrum**	**0.69**	**258**	PG	**Pg**	**09 03 02.2**	**+0.1**
BODT	**Bodrum**	**0.69**	**258**	*e*Pg	**Pg**	**09 03 02.2**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.77**	**345**	PG	**Pg**	**09 03 03.8**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.77**	**345**	*e*Pg	**Pg**	**09 03 03.8**	**+0.1**
GCAM	**G?zelcaml?**	**0.88**	**305**	PG	**Pg**	**09 03 06.6**	**+0.7**
GCAM	**G?zelcaml?**	**0.88**	**305**	*e*Pg	**Pg**	**09 03 06.6**	**+0.7**
FETY	**Fethiye**	**0.94**	**127**	PG	**Pb**	**09 03 08.2**	**+0.1**
FETY	**Fethiye**	**0.94**	**127**	*e*Pg	**Pb**	**09 03 08.2**	**+0.1**
URLA	**Izmir**	**1.69**	**314**	PN	**Pn**	**09 03 19.8**	**0.0**
URLA	**Izmir**	**1.69**	**314**	*e*Pn	**Pn**	**09 03 19.8**	**0.0**

KRSC ***17*** *09:09:50.8±2.5,49.04N×157.26E,h23km±30km,ML4.7*

IDC ***17*** *09:09:51.2±1.0,49.41N×156.06E,h0km,mb4.0/26, mb1 4.1/29,mb1mx4.0/77,mbtmp4.0/29,ML5.1/1,MS3.1/9, Ms1 3.2/9,ms1mx2.8/64,Error ellipse: s-maj=21.5km s-min=14.9km az=155.0*

ISCJB ***17*** *09:09:53.4±0.5,49.14N±0.04×156.33E±0.08,h34km, mb4.2/45,MS3.4/6,Error ellipse: s-maj=9.6km s-min=2.7km az=39.2*

SKHL ***17*** *09:09:54.1±0.2,49.00N×156.70E,h61km±2km,mb4.7/7*

MOS ***17*** *09:09:54.6±1.2,49.20N×156.34E,h52km,mb4.2/19,Error ellipse: s-maj=9.6km s-min=4.0km az=80.7*

BJI ***17*** *09:09:55.1,49.54N×156.12E,h41km,mb4.6/11,mB4.7/6, Ms4.1/3,Ms7 3.9/2*

NEIC ***17*** *09:09:58.2±0.8,49.36N×155.96E,h51km±6km,mb4.6/6, Error ellipse: s-maj=12.4km s-min=5.6km az=136.0*

ISC 17 09:09:54.9±0.6,**49.16N**±0.06×**156.42E**±0.07,**h34**km,**n163, σ1s64/180,mb4.2/45,MS3.3/6,12C-4D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.54**	**353**	*i* P	**Pn**	**09 10 20.4**	**+0.5**
SKR				AMB	AMB	09 10 20.8	
	331nm,0.6s						
SKR				*e*S	**Sb**	**09 10 40.0**	**-2.0**
SKR				A	A	09 10 44.2	
	3μm,0.7s						
SKR				A	A	09 10 44.2	
	2μm,0.7s						
SKR	**Severo-Kuril's**	**1.54**	**353**	*i*Pn	**Pn**	**09 10 20.4**	**+0.5**
SKR				*e*S	**Sb**	**09 10 40.7**	**-1.2**
SKR				pmax	pmax		
	comp=Z,331nm,0.4s						
SKR				smax	smax		
	comp=E,3μm,0.4s						
SKR				smax	smax		
	comp=N,3μm,0.7s						
SKR	**Severo-Kuril's**	**1.54**	**353**	*e*P	**Pn**	**09 10 20.3**	**+0.4**
SKR				*e*S	**Sb**	**09 10 40.8**	**-1.2**
KDTR	**Khodutka, Kamc**	**2.86**	**21**	*e*P	**Pn**	**09 10 37.7**	**-0.3**
KDTR				*e*S	**Sn**	**09 11 10.7**	**-0.5**
MIPR	**Malaya Ipel'ka**	**3.13**	**4**	PN	**Pn**	**09 10 43.0**	**+1.2**
MIPR	**Malaya Ipel'ka**	**3.13**	**4**	P	**Pn**	**09 10 43.0**	**+1.2**
ASAK	**Asacha**	**3.36**	**16**	PN	**Pn**	**09 10 45.7**	**+0.6**
ASAK	**Asacha**	**3.36**	**16**	*e*P	**Pn**	**09 10 45.7**	**+0.6**
MTVR	**Mutnovka**	**3.51**	**18**	PN	**Pn**	**09 10 47.7**	**+0.5**
MTVR				S	**Sn**	**09 11 28.9**	**+1.3**
MTVR	**Mutnovka**	**3.51**	**18**	*e*P	**Pn**	**09 10 47.7**	**+0.5**
MTVR				*e*S	**Sn**	**09 11 28.9**	**+1.3**
RUS	**Russkaya**	**3.54**	**21**	*e*P	**Pn**	**09 10 46.9**	**-0.5**
RUS	**Russkaya**	**3.54**	**21**	PN	**Pn**	**09 10 46.9**	**-0.5**
RUS				S	**Sn**	**09 11 26.7**	**-1.3**
RUS	**Russkaya**	**3.54**	**21**	*e*P	**Pn**	**09 10 46.9**	**-0.5**
RUS				*e*S	**Sn**	**09 11 26.7**	**-1.3**
APC	**Apacha**	**3.80**	**7**	PN	**Pn**	**09 10 52.8**	**+1.8**
APC	**Apacha**	**3.80**	**7**	*e*P	**Pn**	**09 10 52.8**	**+1.8**
KRMR	**Karymshinskiy**	**3.83**	**16**	PN	**Pn**	**09 10 53.1**	**+1.7**
KRMR				S	**Sn**	**09 11 38.7**	**+3.4**
KRMR	**Karymshinskiy**	**3.83**	**16**	*e*P	**Pn**	**09 10 53.1**	**+1.7**
KRMR				*e*S	**Sn**	**09 11 38.7**	**+3.4**
PEA0B	**Petropavlovsk-**	**4.04**	**11**	*e*Pn	**Pn**	**09 10 55.1**	**+0.9**
PETK	**Petropavlovsk-**	**4.04**	**11**	*e*Pn	**Pn**	**09 10 55.8**	**+1.5**
	comp=N,3.8nm,0.3s,baz=176,slow=12,SNR=73						
PETK				Sn	**Sb**	**09 11 50.8**	**-2.7**
	comp=N,2.0nm,0.3s,baz=224,slow=20,SNR=2.8						
PETK				LR	LR	09 12 40.3	
	comp=N,197nm,19.2s,baz=186,slow=44						
PETK	**Petropavlovsk-**	**4.04**	**11**	*e*PN	**Pn**	**09 10 55.6**	**+1.3**
PET	**Petropavlovsk**	**4.12**	**19**	*e*P	**Pn**	**09 10 56.0**	**+0.6**
PET				AMB	AMB	09 10 58.7	
	comp=N,600nm,0.4s						
PET				AMB	AMB	09 10 58.7	
	comp=N,30nm,0.4s						
PET				*e*S	**Sn**	**09 11 42.6**	**+0.3**
PET				A	A	09 11 51.9	
	comp=N,270nm,0.6s						
PET				A	A	09 11 51.9	
	comp=N,240nm,0.6s						
PET	**Petropavlovsk**	**4.12**	**19**	PN	**Pn**	**09 10 56.0**	**+0.6**
PET				S	**Sn**	**09 11 43.5**	**+1.2**
PET	**Petropavlovsk**	**4.12**	**19**	*e*Pn	**Pn**	**09 10 56.1**	**+0.8**
PET				*e*Sn	**Sn**	**09 11 42.3**	**0.0**
PET	**Petropavlovsk**	**4.12**	**19**	*e*P	**Pn**	**09 10 56.0**	**+0.6**
PET				*e*S	**Sn**	**09 11 43.5**	**+1.2**
DALK	**Dalny**	**4.15**	**20**	PN	**Pn**	**09 10 56.2**	**+0.4**
DALK				S	**Sn**	**09 11 43.9**	**+0.9**
DALK	**Dalny**	**4.15**	**20**	*e*P	**Pn**	**09 10 56.2**	**+0.4**
DALK				*e*S	**Sn**	**09 11 43.9**	**+0.9**
UGLR	**Uglovaya**	**4.33**	**20**	PN	**Pn**	**09 10 59.4**	**+1.0**
UGLR	**Uglovaya**	**4.33**	**20**	*e*P	**Pn**	**09 10 59.4**	**+1.0**
AVH	**Avacha**	**4.36**	**19**	PN	**Pn**	**09 11 00.4**	**+1.6**
AVH				S	**Sn**	**09 11 51.6**	**+3.1**
AVH	**Avacha**	**4.36**	**19**	*e*P	**Pn**	**09 11 00.4**	**+1.6**
AVH				*e*S	**Sn**	**09 11 51.6**	**+3.1**
KOK	**Koryaka**	**4.37**	**18**	*e*P	**Pn**	**09 11 00.8**	**+1.9**
KOK	**Koryaka**	**4.37**	**18**	PN	**Pn**	**09 11 00.8**	**+1.9**
KOK				S	**Sn**	**09 11 52.4**	**+3.8**
KOK	**Koryaka**	**4.37**	**18**	*e*P	**Pn**	**09 11 00.8**	**+1.9**
KOK				*e*S	**Sn**	**09 11 52.4**	**+3.8**
SMAR	**Somma**	**4.38**	**19**	PN	**Pn**	**09 11 01.0**	**+1.9**
SMAR				S	**Sn**	**09 11 53.2**	**+4.2**
SMAR	**Somma**	**4.38**	**19**	*e*P	**Pn**	**09 11 01.0**	**+1.9**
SMAR				*e*S	**Sn**	**09 11 53.2**	**+4.2**
SDLR	**Sedlovina**	**4.41**	**20**	PN	**Pn**	**09 10 59.8**	**+0.3**
SDLR	**Sedlovina**	**4.41**	**20**	*e*P	**Pn**	**09 10 59.8**	**+0.3**
NLC	**Nalytchevo**	**4.42**	**24**	PN	**Pn**	**09 10 59.0**	**-0.5**
NLC	**Nalytchevo**	**4.42**	**24**	*e*P	**Pn**	**09 10 59.0**	**-0.5**
KRX	**Arik**	**4.43**	**18**	PN	**Pn**	**09 11 02.0**	**+2.1**
KRX	**Arik**	**4.43**	**18**	*e*P	**Pn**	**09 11 02.0**	**+2.1**
SPN	**Mys Shipunski**	**4.55**	**29**	PN	**Pn**	**09 11 01.1**	**-0.2**
SPN				S	**Sn**	**09 11 53.0**	**0.0**
SPN	**Mys Shipunski**	**4.55**	**29**	*e*P	**Pn**	**09 11 01.1**	**-0.2**
SPN				*e*S	**Sn**	**09 11 53.0**	**0.0**

ULN					pmax	pmax			
	comp=Z,1.0nm,0.3s								
HHC	**Hu-ho-hao-te**	**32.38**	**272**	*eP*	**P**		**09 16 20.9**	**-0.4**	
HHC					pmax	pmax			
	comp=Z,14nm,0.7s								
HHC					pmax	pmax			
	comp=Z,93nm,7.9s								
SONM	**Songino Array**	**32.69**	**287**	P	**P**		**09 16 22.3**	**-1.7**	
	comp=Z,0.2nm,0.4s,baz=65,slow=7.0,SNR=3.4								
SONM					LR	LR	09 31 04.3		
	comp=Z,89nm,18.2s,baz=72,slow=39								
NJ2	**Nanjing**	**32.83**	**253**	*eP*	**P**		**09 16 26.4**	**+1.3**	
NJ2					pmax	pmax			
	comp=Z,17nm,0.8s								
COLA	**College**	**32.87**	**41**	*eP*	**P**		**09 16 26.3**	**+1.2**	
COLA	**College**	**32.87**	**41**‖	*eP*	**P**		**09 16 26.3**	**+1.2**	
COLA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
TLY	**Talaya**	**33.12**	**295**	*eP*	**P**		**09 16 25.7**	**-1.8**	
TLY	**Talaya**	**33.12**	**295**‖	*eP*	**P**		**09 16 25.7**	**-1.8**	
TLY					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ILAR	**Eielson Array**	**33.28**	**41**	P	**P**		**09 16 30.2**	**+1.5**	
	comp=Z,0.3nm,0.8s,baz=252,slow=9.8,SNR=5.3								
LZH	**Lanzhou**	**40.05**	**271**	*eP*	P		09 17 34.8	+7.9	
LZH					pP	sP	09 17 45.0	+4.1	
LZH					sP	pP	09 17 49.6	+13	
ZALV	**Zalesovo Beam**	**43.03**	**305**	P	**P**		**09 17 48.1**	**-2.8**	
	comp=Z,0.6nm,0.4s,baz=74,slow=7.7,SNR=3.4								
CD2	**Chengdu**	**43.30**	**265**	*eP*	**P**		**09 17 52.5**	**-0.9**	
DGZ	**Jazzator, Alta**	**43.40**	**298**‖	*eP*	**P**		**09 17 53.9**	**-0.2**	
DGZ					pmax	pmax			
	comp=Z,1.0nm,0.7s								
WMQ	**Urumqi**	**46.14**	**291**	P	**P**		**09 18 16.1**	**+0.2**	
WMQ					LR	LR			
	comp=Z,79nm,17.7s								
WMQ					LR	LR			
	comp=Z,210nm,17.7s								
YKA	**Yellowknife Ar**	**47.66**	**39**	P	**P**		**09 18 28.7**	**+1.3**	
	comp=Z,0.3nm,0.8s,baz=296,slow=7.4,SNR=5.9								
MK31	**Makanchi Array**	**47.82**	**297**	*eP*	**P**		**09 18 27.4**	**-1.5**	
MK31	**Makanchi Array**	**47.82**	**297**	*eP*	**P**		**09 18 27.4**	**-1.5**	
MKAR	**Makanchi Array**	**47.82**	**297**	P	**P**		**09 18 27.6**	**-1.4**	
	comp=Z,1.1nm,0.8s,baz=62,slow=6.8,SNR=8.8								
MKAR	**Makanchi Array**	**47.82**	**297**	*eP*	**P**		**09 18 27.8**	**-1.1**	
MKAR	**Makanchi Array**	**47.82**	**297**	*ceP*	**P**		**09 18 27.8**	**-1.1**	
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**47.82**	**297**	*eP*	**P**		**09 18 27.2**	**-1.7**	
	comp=Z,11nm,0.9s								
MK01	**Makanchi Array**	**47.83**	**297**	*eP*	**P**		**09 18 27.6**	**-1.4**	
RES	**Resolute Bay**	**47.83**	**20**	P	**P**		**09 18 29.6**	**+1.0**	
	comp=Z,0.8nm,0.5s,baz=90,slow=5.5,SNR=7.3								
KURK	**Kurchatov**	**47.89**	**303**	*eP*	**P**		**09 18 28.1**	**-1.3**	
KURK	**Kurchatov**	**47.89**	**303**‖	*eP*	**P**		**09 18 28.1**	**-1.3**	
KURK					pmax	pmax			
	comp=Z,10.0nm,0.8s								
KURK	**Kurchatov**	**47.89**	**303**	*eP*	**P**		**09 18 28.0**	**-1.3**	
	comp=Z,3.9nm,0.8s								
KURBB	**Kurchatov Arra**	**47.99**	**303**	P	**P**		**09 18 29.4**	**-0.8**	
	comp=Z,3.6nm,0.8s,baz=64,slow=8.1,SNR=14								
BVAR	**Borovoye Array**	**51.05**	**309**	P	**P**		**09 18 52.1**	**-1.4**	
	comp=Z,0.6nm,0.3s,baz=46,slow=9.1,SNR=12								
BRVK	**Borovoye**	**51.09**	**309**	*eP*	**P**		**09 18 52.8**	**-0.9**	
BRVK	**Borovoye**	**51.09**	**309**‖	*eP*	**P**		**09 18 52.8**	**-0.9**	
BRVK					pmax	pmax			
	comp=Z,17nm,2.5s								
ARU	**Arti**	**54.73**	**318**	P	**P**		**09 19 18.8**	**-1.8**	
	comp=Z,2.8nm,0.3s,baz=35,slow=1.4,SNR=7.3								
ARU	**Arti**	**54.73**	**318**	*eP*	**P**		**09 19 18.9**	**-1.6**	
ARU	**Arti**	**54.73**	**318**‖	*i P*	**P**		**09 19 18.9**	**-1.6**	
ARU				PCP	**PcP**		**09 20 15.9**	**-6.9**	
ARU				S	**S**		**09 26 56.0**	**-2.3**	
ARU					pmax	pmax			
	comp=Z,23nm,2.5s								
ARU	**Arti**	**54.73**	**318**	*eP*	**P**		**09 19 18.9**	**-1.6**	
	comp=Z,11nm,1.2s								
CMAR	**Chiang Mai Arr**	**55.08**	**257**	P	**P**		**09 19 24.2**	**+0.7**	
	comp=Z,1.0nm,0.3s,baz=46,slow=8.2,SNR=5.4								
CMAR					LR	LR	09 43 46.0		
	comp=Z,18nm,18.6s,baz=345,slow=37								
CMAR	**Chiang Mai Arr**	**55.08**	**257**	*ceP*	**P**		**09 19 26.7**	**+3.2**	
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KSH	**Kashi**	**55.78**	**293**	*eP*	**P**		**09 19 31.8**	**+3.3**	
SUMG	**Summit**	**58.12**	**5**	*eP*	**P**		**09 19 45.7**	**+0.8**	
SUMG					pmax	pmax			
	comp=Z,11nm,1.5s								
SUMG	**Summit**	**58.12**	**5**	*eP*	**P**		**09 19 45.7**	**+0.8**	
	comp=Z,11nm,1.5s								
ABKAR	**Akbulak array**	**58.58**	**310**	*eP*	**P**		**09 19 46.5**	**-1.4**	
	comp=Z,27nm,0.5s								
AKTO	**Aktyubinsk**	**58.76**	**312**	P	**P**		**09 19 48.0**	**-1.2**	
	comp=Z,0.5nm,0.3s,baz=76,slow=8.3,SNR=4.3								
PDAR	**Pinedale Array**	**61.55**	**57**	P	**P**		**09 20 10.3**	**+1.6**	
	comp=Z,0.4nm,0.9s,baz=282,slow=1.7,SNR=3.6								
FINES	**FINESS Array B**	**62.78**	**336**	P	**P**		**09 20 14.7**	**-1.6**	
	comp=Z,1.7nm,0.8s,baz=36,slow=7.1,SNR=4.6								
FINES					LR	LR	09 48 12.0		
	comp=Z,12nm,20.6s,baz=19,slow=37								
FINES	**FINESS Array B**	**62.78**	**336**	*eP*	**P**		**09 20 14.6**	**-1.7**	
FINES	**FINESS Array B**	**62.78**	**336**	*i P*	**P**		**09 20 14.6**	**-1.7**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
NOA	**NORSAR Array B**	**66.64**	**342**	P	**P**		**09 20 40.4**	**-1.1**	
	comp=Z,1.4nm,0.9s,baz=34,slow=8.5,SNR=3.0								
NOA					LR	LR	09 53 30.8		
	comp=Z,33nm,18.2s,baz=25,slow=40								
HFS	**Hagfors**	**66.94**	**341**	P	**P**		**09 20 42.5**	**-0.9**	
	comp=Z,0.6nm,0.3s,baz=47,slow=2.6,SNR=9.5								
GEYT	**Alibeck**	**67.24**	**302**	P	**P**		**09 20 46.4**	**+0.6**	
	comp=Z,1.3nm,0.4s,baz=27,slow=6.6,SNR=3.1								
AKASG	**Malin Array Be**	**70.74**	**328**	P	**P**		**09 21 05.8**	**-1.4**	
	comp=Z,0.6nm,0.3s,baz=31,slow=6.0,SNR=2.9								
KBZ	**Khabaz**	**70.75**	**315**	P	**P**		**09 21 07.5**	**+0.1**	
	comp=Z,2.6nm,0.9s,baz=69,slow=8.6,SNR=3.8								
TXAR	**Lajitas Array**	**74.40**	**63**	P	**P**		**09 21 30.8**	**+1.3**	
	comp=Z,0.2nm,0.4s,baz=297,slow=4.8,SNR=8.9								
EKA	**Eskdalemuir Ar**	**74.48**	**348**	P	**P**		**09 21 29.2**	**-0.1**	
	comp=Z,0.5nm,0.4s,baz=23,slow=5.4,SNR=8.0								
CLL	**Collm**	**75.15**	**337**	*eP*	**P**		**09 21 33.0**	**-0.3**	
CLL	**Collm**	**75.15**	**337**	*eP*	**P**		**09 21 33.0**	**-0.3**	
CLL	**Collm**	**75.15**	**337**	*eP*	**P**		**09 21 33.0**	**-0.3**	
GERES	**GERESS Array B**	**77.22**	**336**	P	**P**		**09 21 45.1**	**-0.1**	
	comp=Z,0.5nm,0.5s,baz=46,slow=5.8,SNR=4.5								
CONA	**Conrad Observa**	**77.45**	**334**	*i P*	**P**		**09 21 47.4**	**+0.9**	
	comp=Z,1.1nm,0.6s								
BR131	**Keskin Array S**	**78.11**	**318**	*eP*	**P**		**09 21 50.5**	**+0.1**	
BRTR	**Keskin Array B**	**78.11**	**318**	P	**P**		**09 21 50.4**	**-0.1**	
	comp=Z,2.2nm,0.9s,baz=60,slow=2.8,SNR=8.1								
BRTR	**Keskin Array B**	**78.11**	**318**	*ceP*	**P**		**09 21 50.5**	**+0.1**	
BRTR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
ARSA	**Arzberg**	**78.16**	**334**	*eP*	**P**		**09 21 49.7**	**-0.7**	
	comp=Z,1.8nm,0.8s								
BR231	**Keskin MP Arra**	**78.38**	**319**	*eP*	**P**		**09 21 51.2**	**-0.7**	
KBA	**Koelnbreinsper**	**78.93**	**335**	*i P*	**P**		**09 21 56.0**	**+1.1**	
	comp=Z,5.3nm,0.6s								
OBKA	**Obir**	**79.11**	**334**	*i P*	**P**		**09 21 56.7**	**+1.0**	
	comp=Z,3.4nm,0.7s								
RETA	**Reutte**	**79.24**	**337**	*eP*	**P**		**09 21 57.3**	**+0.9**	
	comp=Z,2.7nm,0.9s								
MOTA	**Moosalm**	**79.28**	**337**	*i P*	**P**		**09 21 57.2**	**+0.5**	
	comp=Z,6.3nm,1.1s								
DIVS	**Divibare**	**79.60**	**330**	*eP*	**P**		**09 21 57.8**	**-0.7**	
	comp=Z,4.4nm,1.1s								
DAVA	**Damuels**	**79.65**	**338**	*eP*	**P**		**09 21 59.4**	**+0.6**	
	comp=Z,5.1nm,1.1s								
MMAI	**Mount Meron Ar**	**82.83**	**313**	P	**P**		**09 22 15.7**	**0.0**	
	comp=Z,1.6nm,0.5s,baz=52,slow=9.3,SNR=6.8								
KEST	**Kesra**	**90.56**	**334**	P	**P**		**09 22 54.6**	**+1.1**	
	comp=Z,3.5nm,0.5s,baz=94,slow=1.3,SNR=5.3								

IDC 17 09:11:26.8±2.8,54°.18N×87°.14E, h0km, mb1 2.9/2, mb1mx2.7/69, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=24.5km s-min=15.8km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**261**	*i*		09 21 06.9	
	baz=80,slow=334,SNR=6.3						
ZALV	**Zalesovo Beam**	**1.39**	**261**	Pg	Pg	09 11 51.6	-1.8
	1.4nm,0.3s,baz=83,slow=14,SNR=13						
ZALV				Lg	Lg	09 12 11.1	
	1.6nm,0.3s,baz=83,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**6.36**	**239**	Pn	Pn	09 13 02.4	+0.7
	0.1nm,0.3s,baz=55,slow=14,SNR=8.7						
KURBB				Lg	Lg	09 14 48.9	
	0.0nm,0.3s,baz=57,slow=29,SNR=4.6						
MKAR	**Makanchi Array**	**8.01**	**205**	Pn	Pn	09 13 25.8	+1.3
	0.1nm,0.3s,baz=20,slow=9.1,SNR=3.8						
MKAR				Sn	Sn	09 14 55.9	+0.2
	0.1nm,0.3s,baz=23,slow=27,SNR=4.4						
MKAR				Lg	Lg	09 15 40.0	
	0.1nm,0.3s,baz=19,slow=31,SNR=3.5						

NIED ***17*** *09:11:00.3, 35°.80N×141°.00E, h8km, Mw3.5 Best double couple: M₀2.01000×10¹⁴ NP1:φs187.00000°, δ40.00000°, λ-108.00000°. NP2:φs31.00000°, δ52.00000°, λ-75.00000°.*

IDC ***17*** *09:11:28.1±1.1, 35°.59N×140°.98E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/73, mbtmp3.4/7, ML3.1/1, Error ellipse: s-maj=30.4km s-min=20.1km az=59.0*

ISCJB ***17*** *09:11:29.7±1.1, 35°.78N±0°.04×141°.05E±0°.09, h22km±5km, mb3.5/6, Error ellipse: s-maj=11.8km s-min=6.6km az=177.8*

JMA ***17*** *09:11:31.2±0.1, 35°.80N×140°.94E, h12km±1km, M3.7*

JMA Felt I J1.

ISC 17 09:11:30.6±1.5, 35°.78N±0°.04×140°.95E±0°.08, h15km±8km, n20, σ0s83/20, mb3.6/6, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.10**	**225**	‖P	**Pb**	**09 11 34.1**	**-0.3**
CHOJ				*eS*	**Sg**	**09 11 36.3**	**+0.1**
JCN	**Nagara**	**0.71**	**240**	P	**Pn**	**09 11 45.8**	**-0.2**
JCN				S	**Sn**	**09 11 56.7**	**+0.1**
JYT	**Yasato**	**0.76**	**306**	P	**Pb**	**09 11 45.1**	**-0.4**
JYT				S	**Sg**	**09 11 55.4**	**-0.1**
JHO	**Hitachi**	**0.89**	**340**	P	**Pb**	**09 11 47.2**	**-0.5**
JHO				S	**Sb**	**09 11 58.8**	**-0.6**
BSO4	**Boso 4**	**0.93**	**213**	P	**Pn**	**09 11 49.9**	**+0.9**
MJAR	**Matsushiro Arr**	**2.34**	**290**	Pn	**Pn**	**09 12 08.8**	**+0.2**
	4.6nm,0.3s,baz=93,slow=8.7,SNR=56						
MJAR				Sn	**Sb**	**09 12 41.9**	**+0.5**
	6.6nm,0.3s,baz=270,slow=13,SNR=7.5						
MAT	**Matsushiro**	**2.35**	**290**	P	**Pn**	**09 12 09.0**	**+0.4**
MAT				*eS*	**Sn**	**09 12 37.1**	**-0.1**
JHJ	**Hachijo jima 2**	**2.82**	**200**	Sn	**Sn**	**09 12 48.5**	**-0.3**
	7.5nm,0.3s,baz=49,slow=19,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	09 46 15.8	
	baz=311,slow=75,SNR=78						
H11N1	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	09 46 19.3	
	baz=311,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**27.88**	**118**	T	T	09 46 17.3	
	baz=311,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	09 47 07.2	
	baz=312,slow=75,SNR=32						
H11S3	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	09 47 09.0	
	baz=312,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	09 47 08.3	
	baz=312,slow=75,SNR=34						
ZALV	**Zalesovo Beam**	**42.49**	**313**	P	**P**	**09 19 25.0**	**0.0**
	0.4nm,0.4s,baz=104,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	**44.48**	**303**	P	**P**	**09 19 42.5**	**+1.3**
	0.4nm,0.6s,baz=94,slow=6.9,SNR=2.5						
KURBB	**Kurchatov Arra**	**46.49**	**309**	P	**P**	**09 19 57.4**	**+0.5**
	0.7nm,0.8s,baz=84,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**50.76**	**32**	P	**P**	**09 20 30.9**	**+1.3**
	0.3nm,0.7s,baz=269,slow=6.6,SNR=2.6						
WRA	**Warramunga Arr**	**55.77**	**188**	P	**P**	**09 21 04.7**	**-2.2**
	0.7nm,0.9s,baz=7.9,slow=7.6,SNR=2.8						
ASAR	**Alice Springs**	**59.50**	**188**	P	**P**	**09 21 32.5**	**-0.7**
	0.4nm,0.8s,baz=20,slow=12,SNR=2.6						

KRSC 17 09:13:06.9±1.6, 49°.12N×157°.09E, h31km±21km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.69**	**339**	*eP*	Pn	09 13 35.1	+0.8
SKR				*eS*	Sn	09 13 55.3	+0.4
KDTR	**Khodutka, Kamc**	**2.77**	**13**	*eP*	Pn	09 13 52.4	+3.3
KDTR				*eS*	Sn	09 14 25.3	+3.8
ASAK	**Asacha**	**3.31**	**9**	*eP*	Pb	09 14 01.2	-3.8
MTVR	**Mutnovka**	**3.44**	**11**	*eP*	Pn	09 14 02.2	+3.7
MTVR				*eS*	Sn	09 14 42.5	+4.2
RUS	**Russkaya**	**3.44**	**15**	*eP*	Pn	09 14 01.6	+3.2
KRMR	**Karymshinskiy**	**3.78**	**10**	*eP*	Pn	09 14 07.8	+4.8
KRMR				*eS*	Sn	09 14 52.1	+5.8
UGLR	**Uglovaya**	**4.24**	**14**	*eP*	Pn	09 14 14.0	+4.5
AVH	**Avacha**	**4.28**	**13**	*eP*	Pn	09 14 15.1	+5.1
SMAR	**Somma**	**4.29**	**14**	*eP*	Pn	09 14 14.9	+4.6
KOK	**Koryaka**	**4.29**	**13**	*eP*	Pn	09 14 15.1	+4.9
SDLR	**Sedlovina**	**4.32**	**14**	*eP*	Pn	09 14 14.6	+4.0
KRX	**Arik**	**4.36**	**12**	*eP*	Pn	09 14 16.2	+5.0
SPN	**Mys Shipunski**	**4.40**	**24**	*eP*	Pn	09 14 16.7	+5.2
SPN				*eS*	Sn	09 15 07.4	+5.8
GNL	**Ganaly**	**4.62**	**6**	*eP*	Pn	09 14 19.3	+4.7
KBTR	**Krutoberegovo**	**7.91**	**24**	*eP*	Pn	09 15 03.8	+4.1

IDC 17 09:31:29.3±3.9, 14°.47S×178°.82W, h391km±60km, mb3.0/5, mb1 3.5/7, mb1mx3.1/47, mbtmp4.0/7, Error ellipse: s-maj=162.6km s-min=14.2km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.86**	**86**	P	Pn	09 33 10.1	-1.2
	28nm,0.3s,baz=259,slow=5.2,SNR=62						
AFI				S	S	09 34 36.0	+1.5
	baz=298,slow=21,SNR=1.5						
DZM	**Mont Dzumac**	**15.89**	**239**	P	P	09 34 53.2	+1.3
	1.0nm,0.3s,baz=67,slow=18,SNR=15						
CTA	**Charters Tower**	**33.77**	**255**	P	P	09 37 37.2	+0.8
	2.9nm,0.6s,baz=74,slow=16,SNR=3.9						
WRA	**Warramunga Arr**	**44.96**	**256**	P	P	09 39 07.1	-0.6
	1.0nm,0.5s,baz=94,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**45.43**	**251**	P	P	09 39 10.9	-0.4
	19nm,0.5s,baz=84,slow=8.4,SNR=335						
NVAR	**Mina Array Bea**	**77.25**	**45**	P	P	09 42 40.5	-1.4
	0.2nm,0.3s,baz=243,slow=5.7,SNR=2.5						
TXAR	**Lajitas Array**	**84.51**	**58**	P	P	09 43 20.8	+0.9
	0.2nm,0.8s,baz=217,slow=4.4,SNR=2.9						
PDAR	**Pinedale Array**	**85.15**	**44**	P	P	09 43 24.2	+1.3
	0.1nm,0.5s,baz=210,slow=5.2,SNR=2.3						

IDC ***17*** *09:39:54.3±1.8, 34°.55S×73°.57W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/32, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=54.9km s-min=28.0km az=76.0*

ISCJB ***17*** *09:39:56.1±2.4, 34°.62S±0°.04×73°.62W±0°.08, h27km±20km, mb3.4/3, Error ellipse: s-maj=11.3km s-min=6.7km az=22.1*

GUC ***17*** *09:39:56.9±0.6, 34°.71S×73°.65W, h75km±54km, ML3.4*

ISC 17 09:39:55.3±3.9, 34°.63S±0°.06×73°.57W±0°.10, h9km±24km, n11, σ1s36/19, mb3.4/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**1.40**	**106**	*eP*	**Pb**	**09 40 21.4**	**-0.3**
GO05				*eS*	**Sn**	**09 40 39.2**	**-0.6**
GO05				IAML		09 40 40.7	
	comp=N,470nm,0.3s						
COCH	**Cobquecura**	**1.63**	**157**	*eP*	**Pn**	**09 40 23.2**	**-1.1**
COCH				*eS*	**Sn**	**09 40 42.5**	**-3.0**
ROCH	**El Roble**	**2.69**	**53**	*eP*	**Pn**	**09 40 39.6**	**+0.5**
ROCH				*eS*	**Sn**	**09 41 10.4**	**-1.7**
ROCH				IAML		09 41 13.7	
	comp=N,178nm,0.3s						
CLCH	**Cerro Calan**	**2.80**	**65**	*eP*	**Pn**	**09 40 40.7**	**+0.2**
CLCH				*eS*	**Sn**	**09 41 14.3**	**-0.2**
CLCH				IAML		09 41 16.0	
	comp=E,186nm,0.5s						
PEL	**Peldehue**	**2.82**	**59**	*eP*	**Pn**	**09 40 41.2**	**+0.5**
PEL				*eS*	**Sn**	**09 41 14.6**	**-0.3**
PEL				IAML		09 41 15.8	
	comp=N,83nm,0.5s						
LMEL	**Las Melosas**	**2.90**	**75**	*eP*	**Pn**	**09 40 42.7**	**+0.8**
LMEL				*eS*	**Sn**	**09 41 17.5**	**+0.6**
FCH	**Farellones**	**3.02**	**65**	*eP*	**Pn**	**09 40 44.1**	**+0.4**
FCH				*eS*	**Sn**	**09 41 20.1**	**-0.1**
PLCA	**Paso Flores**	**6.55**	**159**	Pn	**Pn**	**09 41 33.1**	**+1.2**
	comp=N,0.1nm,0.3s,baz=346,slow=12,SNR=5.7						
PLCA				Sn	**Sn**	**09 42 50.1**	**+3.3**
	comp=N,0.1nm,0.3s,baz=76,slow=15,SNR=1.6						
SIV	**San Ignacio**	**21.69**	**34**	P	**P**	**09 44 46.4**	**-0.2**
	comp=N,1.0nm,0.7s,baz=218,slow=7.9,SNR=6.1						
TXAR	**Lajitas Array**	**69.68**	**332**	P	**P**	**09 51 05.5**	**0.0**
	comp=N,0.3nm,0.8s,baz=156,slow=8.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**85.61**	**71**	P	**P**	**09 52 34.7**	**+0.1**
	comp=N,0.2nm,0.7s,baz=215,slow=4.8,SNR=2.3						

MAN 17 09:41:40.10°.08N×125°.91E, h110km, mb3.7, ML2.5, MS2.0, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.03**	**273**	*eP*	Pn	09 42 02.4	+0.8
MSLP				*eS*	Sn	09 42 19.0	+1.2
BUTP	**Butuan**	**1.14**	**194**	*eP*	Pn	09 42 03.2	+0.6
BUTP				*eS*	Sn	09 42 21.7	+1.9
BESP	**Borongan**	**1.58**	**343**	*eP*	Pn	09 42 09.5	+1.7
BESP				*eS*	Sn	09 42 30.2	+1.2

MEX 17 09:42:49.0±0.4, 19°.88N×104°.07W, h8km±19km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZ5V		**0.59**	**132**	*eP*	Pg	09 42 59.8	-0.6
EZ5V				*i S*	Sg	09 43 08.4	+0.2
CJM	**Chamela**	**0.99**	**248**	*i P*	Pg	09 43 05.6	-2.5
CJM				*eS*	Sg	09 43 18.1	-2.9
SFJM	**Santa Fe**	**1.14**	**58**	*i P*	Pn	09 43 19.1	+7.7
SFJM				*i S*	Sn	09 43 34.4	+7.0
ZIIG	**Zihuatanejo**	**3.34**	**132**	*i P*	Pn	09 43 38.5	-3.2
ZIIG				*i S*	Sn	09 44 18.8	-2.7
ARIG	**Puente Sto Nin**	**3.86**	**114**	*eP*	Pn	09 43 46.5	-2.3
ARIG				*i S*	Sn	09 44 30.6	-3.7

ISCJB ***17*** *09:55:18.2±0.7, 58°.65S±0°.10×26°.4W±0°.3, h150km, mb3.9/8, Error ellipse: s-maj=21.4km s-min=10.3km az=150.0*

IDC ***17*** *09:55:20.6±5.4, 58°.74S×26°.35W, h157km±50km, mb3.7/8, mb1 3.8/9, mb1mx3.6/37, mbtmp4.1/9, Error ellipse: s-maj=21.5km s-min=16.4km az=59.0*

ISC 17 09:55:19.7±0.7, 58°.75S±0°.1×26°.4W±0°.2, h150km, n20, σ0s82/17, mb4.0/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.19**	**155**	P	**Pn**	**09 58 33.8**	**+0.2**
VNA3	**Neumayer Olymp**	**14.36**	**158**	P	**Pn**	**09 58 35.4**	**-0.3**
VNA3				S	Sn	10 00 57.9	-17
VNA2	**Neumayer--Watz**	**14.59**	**155**	P	**Pn**	**09 58 39.6**	**+1.0**
	baz=311,slow=12						
VNA2				S	Sn	10 01 05.7	-14
SNAA	**Sanae**	**16.16**	**153**	P	**Pn**	**09 58 58.1**	**+0.2**
SNAA				x	x	09 59 00.0	
SNAA				S	S	10 01 42.7	-15
SNAA	**Sanae**	**16.16**	**153**	P	**P**	**09 58 59.8**	**+1.4**
	0.5nm,0.3s,baz=37,slow=8.7,SNR=36						
SNAA				S	S	10 01 41.1	-16
	0.1nm,0.3s,baz=309,slow=21,SNR=4.3						
QSPA	**South Pole Qui**	**31.56**	**180**	P	**P**	**10 01 26.8**	**-0.7**
	2.8nm,0.5s,baz=189,slow=0.5,SNR=7.2						
PLCA	**Paso Flores**	**32.98**	**283**	P	**P**	**10 01 40.6**	**+0.5**
	1.2nm,0.5s,baz=152,slow=5.8,SNR=4.2						
VNDA	**Vanda**	**43.95**	**183**	P	**P**	**10 03 11.2**	**+0.2**
	2.8nm,0.6s,baz=187,slow=6.4,SNR=17						
BOSA	**Boshof**	**46.25**	**73**	P	**P**	**10 03 29.2**	**-0.7**
	2.3nm,0.6s,baz=223,slow=6.1,SNR=5.1						
SIV	**San Ignacio**	**49.73**	**314**	P	**P**	**10 03 55.7**	**-0.8**
	0.4nm,0.4s,baz=235,slow=16,SNR=3.2						
H10S2	**ASCENSION HYDR**	**50.42**	**15**	T	T	10 58 35.5	
	baz=188						
H10S3	**ASCENSION HYDR**	**50.42**	**15**	T	T	10 58 37.5	
	baz=188						
H10S1	**ASCENSION HYDR**	**50.44**	**15**	T	T	10 58 38.1	
	baz=188						
**LPAZ

ERM eSn **Sn** **10 17 19.2 -2.0**
JEM Erimo 1.89 308 P **Pn** **10 16 56.8 -1.6**
JEM S **Sn** **10 17 18.9 -2.4**
JAK Akkeshi 2.16 351 P **Pn** **10 16 59.7 -2.5**
JAK eS **Sn** **10 17 24.7 -3.4**
JCH Churui 2.20 323 P **Pn** **10 17 01.0 -1.7**
JCH eS **Sn** **10 17 26.4 -2.7**
JOB Onbets 2.27 335 P **Pn** **10 17 01.8 -1.8**
JOB S **Sn** **10 17 28.9 -1.7**
JNBK Urakawa-nobuka 2.29 309 P **Pn** **10 17 02.9 -1.0**
JNBK S **Sn** **10 17 30.2 -0.9**
NEM2 Nemuro 2 2.55 10 P **Pn** **10 17 05.0 -2.5**
NEM2 eS **Sn** **10 17 33.4 -4.1**
JAR Ashorobuto 2.64 338 P **Pn** **10 17 06.3 -2.5**
JAR eS **Sn** **10 17 36.6 -3.3**
JNK Nakash 2.74 354 P **Pn** **10 17 07.2 -3.0**
JNK eS **Sn** **10 17 37.1 -5.3**
JANG Nango 2.80 261 P **Pn** **10 17 08.4 -2.6**
JANG S **Sn** **10 17 39.1 -4.7**
JBT2 Biratori 2 2.83 314 P **Pn** **10 17 09.7 -1.6**
JBT2 eS **Sn** **10 17 43.7 -0.8**
GLVR Golovnino 2.89 5 *e*P **Pn** **10 17 10.3 -1.9**
GLVR eS **Sn** **10 17 42.5 -3.6**
JFR Furan 2.98 321 P **Pn** **10 17 11.7 -1.8**
JFR eS **Sn** **10 17 44.8 -3.6**
JRA Rausu 3.08 360 P **Pn** **10 17 12.1 -2.7**
JRA eS **Sn** **10 17 46.3 -4.4**
JOT Ohata 3.13 281 P **Pn** **10 17 13.8 -1.8**
JOT S **Sn** **10 17 48.6 -3.4**
GRPR Tuman 3.17 8 *e*P **Pn** **10 17 13.7 -2.3**
GRPR *i* S **Sn** **10 17 48.6 -4.3**
YUK Yuzh-Kuril'sk 3.22 9*c i*P **Pn** **10 17 14.9 -1.8**
YUK *i* S **Sn** **10 17 50.3 -3.8**
YUK pmax pmax
comp=E,87nm,0.3s
YUK pmax pmax
comp=Z,294nm,0.3s
YUK pmax pmax
comp=N,59nm,0.4s
LAGR Lagunnoye 3.23 8 *e*P **Pn** **10 17 15.4 -1.5**
LAGR eS **Sn** **10 17 51.3 -3.1**
JTKR Abashiri--Toko 3.24 344 P **Pn** **10 17 15.2 -1.8**
JTKR eS **Sn** **10 17 52.2 -2.5**
JOM Ohasama 3.25 246 P **Pn** **10 17 15.2 -2.0**
JOM S **Sn** **10 17 50.2 -4.9**
JKB Kayabe 3.26 290 P **Pn** **10 17 15.5 -1.7**
JKB eS **Sn** **10 17 51.7 -3.4**
JEW Eniwo 3.39 307 P **Pn** **10 17 18.6 -0.5**
JEW S **Sn** **10 17 57.1 -1.4**
JKK2 Kamakawa 2 3.50 330 P **Pn** **10 17 19.4 -1.1**
JMK Ichinoseki 3.56 239 P **Pn** **10 17 19.4 -2.1**
JMK S **Sn** **10 17 57.6 -5.1**
ASAJ Asahikawa 3.76 331 Pn **Pn** **10 17 23.3 -0.9**
comp=N,8.7nm,0.3s,baz=191,slow=18,SNR=64
ASAJ Sn **Sn** **10 18 05.8 -1.7**
comp=N,13nm,0.3s,baz=123,slow=33,SNR=4.9
KUR Kuril'sk 4.81 24 *e*P **Pn** **10 17 37.4 -1.1**
KUR *i* S **Sn** **10 18 28.7 -4.6**
KUR pmax pmax
comp=Z,157nm,0.4s
KUR pmax pmax
comp=N,69nm,0.3s
KUR pmax pmax
comp=E,69nm,0.3s
KUR smax smax
comp=E,420nm,0.5s
KUR smax smax
comp=N,211nm,0.4s
YSS Yuzh-Sakhalins 6.33 345 *e*P **Pn** **10 17 59.2 -0.3**
YSS eS **Sn** **10 19 06.4 -4.4**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,600nm,10.0s
YSS MLR MLR
comp=N,300nm,14.0s
YSS MLR MLR
comp=E,600nm,12.0s
YSS Yuzh-Sakhalins 6.33 345 *e*Pn **Pn** **10 17 59.1 -0.3**
MJAR Matsushiro Arr 6.92 234 Pn **Pn** **10 18 06.5 -1.2**
comp=E,2.6nm,0.3s,baz=44,slow=11,SNR=27
MJAR Sn **Sn** **10 19 23.6 -1.8**
comp=E,1.6nm,0.3s,baz=82,slow=5.2,SNR=4.1
MAJO Matsushiro 6.92 234*ce*P **Pn** **10 18 06.8 -0.9**
MAJO Matsushiro 6.92 234 *e*Pn **Pn** **10 18 06.5 -1.1**
MAT Matsushiro 6.92 234 P **Pn** **10 18 06.3 -1.4**
MAT eS **Sn** **10 19 22.7 -2.8**
MJB9 Matsu-Tunnel 6.92 234 *e*Pn **Pn** **10 18 06.7 -1.0**
TEY Ternei 7.53 307 *e*P **Pn** **10 18 14.5 -1.3**
TEY pmax pmax
comp=E,9.0nm,0.3s
TEY pmax pmax
comp=Z,13nm,0.3s
INU Inuyama 8.44 232 *e*Pn **Pn** **10 18 28.5 +0.1**
JHJ2 Mitsune 8.82 210 *e*Pn **Pn** **10 18 34.2 +0.5**
JHJ Hachijo jima 2 8.83 211 Pn **Pn** **10 18 30.3 -3.5**
comp=Z,23nm,0.3s,baz=255,slow=20,SNR=4.5
JHJ Sn Sn 10 20 01.0 -11
comp=Z,42nm,0.3s,baz=76,slow=24,SNR=8.2
TYV Tymovskoe 10.15 351 *e*P **Pn** **10 18 52.8 +0.9**
TYV pmax pmax
comp=Z,11nm,1.4s
USRK Ussuriysk Ar. 10.27 293 Pn **Pn** **10 18 53.3 -0.2**
comp=Z,1.1nm,0.3s,baz=96,slow=12,SNR=36
USRK LR LR 10 22 56.5
comp=Z,247nm,19.7s,baz=123,slow=38
GRNR Gornyy 11.62 331 *e*P **Pn** **10 19 10.2 -1.7**
GRNR pmax pmax
comp=Z,31nm,1.0s
MDJ Mudanjiang 12.03 293 P **Pn** **10 19 16.0 -1.6**
MDJ pP 10 19 18.8
MDJ pmax pmax
comp=Z,17nm,0.9s
MDJ pmax pmax
comp=Z,200nm,3.2s
MDJ Mudanjiang 12.03 293 *e*Pn **Pn** **10 19 17.2 -0.4**
comp=Z,30nm,1.1s
SKR Severo-Kuril's 12.45 34 *e*P Pn 10 19 11.7 -11
SKR pmax pmax
comp=Z,200nm,3.4s
SKR MLR MLR
comp=Z,200nm,16.0s
SKR MLR MLR
comp=Z,500nm,14.0s
KLR Kul'dur 12.62 316 Pn **Pn** **10 19 24.5 -1.2**
comp=Z,0.0nm,0.3s,baz=122,slow=15,SNR=14
KLR LR LR 10 24 40.9
comp=Z,24nm,20.8s,baz=135,slow=39
KLR Kul'dur 12.62 316⇓ *e*P **Pn** **10 19 23.0 -2.6**
NKL Nikolayevsk 12.66 348 *e*P **Pn** **10 19 22.2 -3.9**
NKL pmax pmax
comp=N,11nm,0.9s
NKL pmax pmax
comp=Z,19nm,0.9s
JNU Nakatsue 13.76 240 Pn **Pn** **10 19 38.6 -2.6**
comp=Z,0.4nm,0.3s,baz=297,slow=2.3,SNR=4.4
JNU LR LR 10 25 25.7
comp=Z,198nm,19.9s,baz=60,slow=40
KSRS Korea Array 13.79 261 Pn P 10 19 44.5 -5.2
comp=Z,0.2nm,0.3s,baz=61,slow=13,SNR=6.4
KSRS LR LR 10 24 45.4
comp=Z,111nm,18.2s,baz=66,slow=36
KSAR Wonju Array Be 13.82 261 P **Pn** **10 19 44.5 +2.5**
KSAR Wonju Array Be 13.82 261 Pn **Pn** **10 19 44.5 +2.5**
CBIJ Chichi jima 13.94 191 *e*Pn **Pn** **10 19 43.8 0.0**
CBIJ Sn Sn 10 22 03.3 -14
JCJ Chichijima 13.94 191 Pn **Pn** **10 19 40.7 -3.0**
baz=294,slow=20
JCJ Sn Sn 10 22 03.3 -14
baz=294,slow=19
CN2 Changchun 14.86 288 *e*P **Pn** **10 19 56.8 +0.7**
CN2 *es*P P 10 20 03.8 +2.2
CN2 eS **Sn** **10 22 41.5 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,900nm,19.0s
CN2 LR LR
comp=Z,500nm,19.0s
PETK Petropavlovsk- 14.93 31 Pn Pn 10 19 51.3 -5.6
comp=Z,0.2nm,0.3s,baz=199,slow=11,SNR=9.2
PETK LR LR 10 25 02.5
comp=Z,133nm,22.0s,baz=221,slow=35
PETK Petropavlovsk- 14.93 31 *e*P Pn 10 19 51.5 -5.5
PETK Petropavlovsk- 14.93 31 *e*Pn Pn 10 19 51.5 -5.5
PET Petropavlovsk 15.24 32 *e*P **Pn** **10 20 01.9 +0.8**
PET pmax pmax
comp=Z,7.0nm,0.8s
PET Petropavlovsk 15.24 32 *e*Pn **Pn** **10 20 01.9 +0.8**
comp=Z,6.7nm,0.8s
ZEA Zeya 17.63 323 *e*P **Pn** **10 20 30.8 -0.7**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,35nm,1.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
ZEA MLR MLR
comp=E,200nm,14.0s
MA2 Magadan 19.07 9 P **P** **10 20 48.5 +0.4**
comp=E,0.3nm,0.3s,baz=192,slow=9.9,SNR=5.8
MA2 Magadan 19.07 9⇑ *e*P **P** **10 20 49.0 +1.0**
CLNS Chul'man 20.68 327 *e*P **P** **10 21 06.3 +0.6**
CLNS pmax pmax
comp=Z,14nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.8s
BJI Beijing 22.02 277⇑ *e*P **P** **10 21 18.0 -2.1**
BJI pmax pmax
comp=E,7.0nm,1.2s
BJI pmax pmax
comp=E,140nm,3.3s
BJT Baijiatuau 22.03 277 *e*P **P** **10 21 20.4 +0.2**
BJT pmax pmax
comp=Z,17nm,0.8s
BJT Baijiatuau 22.03 277 *e*P **P** **10 21 20.4 +0.2**
comp=Z,16nm,0.8s
TIA Tai'an 22.36 267 P **P** **10 21 22.8 -1.0**
TIA pmax pmax
comp=Z,7.0nm,0.9s
SEY Seymchan 22.53 9 P **P** **10 21 23.9 -1.4**
comp=E,6.4nm,0.8s,baz=162,slow=20,SNR=41
SEY Seymchan 22.53 9‖ *e*P **P** **10 21 23.6 -1.8**
NJ2 Nanjing 22.83 256 *e*P **P** **10 21 28.8 0.0**
NJ2 pmax pmax
comp=Z,11nm,0.7s
YAK Yakutsk 23.17 341 P **P** **10 21 31.6 -0.4**
comp=Z,12nm,0.4s,baz=44,slow=0.6,SNR=5.0
YAK Yakutsk 23.17 341 *e*P **P** **10 21 31.5 -0.4**
YAK *e**PP **pP** **10 21 40.9 +1.3**
YAK *e* 10 21 57.0
YAK *e* 10 25 28.1
YAK eS **S** **10 25 43.2 +1.6**
YAK eSSS SSS 10 26 26.1
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,21nm,1.5s
YAK pmax pmax
comp=N,26nm,1.6s
YAK pmax pmax
comp=E,18nm,1.6s
YAK smax smax
comp=N,99nm,1.7s
YAK smax smax
comp=E,59nm,1.6s
YAK Yakutsk 23.17 341 *e*P **P** **10 21 32.2 +0.2**
comp=E,24nm,0.6s
HHC Hu-ho-hao-te 25.31 281 *e*P **P** **10 21 51.9 -0.5**
HHC pmax pmax
comp=E,19nm,0.6s
HHC pmax pmax
comp=E,94nm,6.4s
BOD Bodaibo 26.11 321 *e*P **P** **10 21 58.7 -0.6**
BOD pmax pmax
comp=Z,16nm,1.5s
WHN Wuhan 26.91 257 P **P** **10 22 10.3 +3.5**
WHN S **S** **10 26 49.0 +7.0**
WHN LR LR
comp=Z,940nm,16.9s
ULN Ulaanbaatar 27.90 297*de*P **P** **10 22 17.5 +1.8**
ULN pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 27.90 297 *e*P **P** **10 22 18.9 +3.3**
comp=Z,41nm,1.3s
H11N2 WAKE ISLAND Hy 28.08 132 T T 10 51 51.9
baz=319,slow=75,SNR=6.5
H11N3 WAKE ISLAND Hy 28.09 132 T T 10 51 55.1
baz=315,slow=75,SNR=7.0
SONA1 Songino Array 28.34 297 *e*P **P** **10 22 19.8 +0.3**
SONM Songino Array 28.34 297 P **P** **10 22 19.9 +0.3**
comp=Z,9.2nm,1.0s,baz=90,slow=8.2,SNR=36
SONM LR LR 10 34 33.6
comp=Z,165nm,18.9s,baz=93,slow=38
H11S1 WAKE ISLAND Hy 28.95 134 T T 10 52 53.4
baz=325,slow=75,SNR=7.9
H11S3 WAKE ISLAND Hy 28.96 134 T T 10 52 54.4
baz=325,slow=75,SNR=6.9
H11S2 WAKE ISLAND Hy 28.97 134 T T 10 52 57.6
baz=325,slow=75,SNR=6.7
XAN Xi'an 29.40 268 P **P** **10 22 31.4 +2.4**
XAN pP sP 10 22 38.4 -2.1
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN pmax pmax
comp=Z,100nm,3.7s
XAN LR LR
comp=Z,150nm,15.4s
BILL Bilibino 29.55 16*c i*P **P** **10 22 30.7 +0.8**
BILL *i* 10 22 40.8
BILL *i* 10 23 25.4
BILL *i* 10 25 33.3
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,76nm,15.0s
IRK Irkutsk 29.93 306 *e*P **P** **10 22 35.3 +1.8**
IRK pmax pmax
comp=Z,42nm,2.8s
TLY Talaya 30.27 305 LR LR 10 35 56.0
comp=Z,155nm,18.6s,baz=90,slow=39
TLY Talaya 30.27 305 *e*P **P** **10 22 37.0 +0.5**
TLY eS **S** **10 27 38.8 +4.3**
TLY pmax pmax
comp=Z,15nm,1.5s
TLY MLR MLR
comp=Z,201nm,20.0s
TLY Talaya 30.27 305 *e*P **P** **10 22 36.9 +0.4**
comp=Z,6.9nm,0.7s
ZAK Zakamensk 30.43 302 *e*P **P** **10 22 38.0 0.0**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
MOY Mondy 31.92 305 *e*P **P** **10 22 52.0 +0.9**
MOY pmax pmax
comp=Z,33nm,1.9s
TIXI Tiksi 31.93 350‖ *e*P **P** **10 22 49.8 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
TIXI Tiksi 31.93 350 *e*P **P** **10 22 49.7 -1.0**
comp=Z,2.2nm,0.6s
LZH Lanzhou 32.46 275 *e*P **P** **10 22 56.3 +0.2**
LZH pP pP 10 23 00.0 -4.3
LZH sP sP 10 23 02.3 -5.3
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,89nm,6.3s
LZH LR LR
comp=Z,380nm,18.0s
LZH LR LR
comp=Z,130nm,12.3s
LZH LR LR
comp=Z,190nm,15.7s
KNGR Kungurtug, Tuv 34.11 303‖ *e*P **P** **10 23 08.5 -1.8**
GTA Gaotai 34.39 283 ⇑P **P** **10 23 13.5 +0.6**
GTA pP sP 10 23 23.1 -1.3
GTA S **S** **10 28 42.0 +2.9**
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,77nm,6.9s
GTA LR LR
comp=Z,110nm,18.3s
GTA LR LR
comp=Z,150nm,21.9s
GTA LR LR
comp=Z,150nm,19.5s
CD2 Chengdu 34.69 267 P **P** **10 23 14.5 -0.9**
CD2 pP pP 10 23 17.6 -6.0
CD2 S **S** **10 28 44.5 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,250nm,14.9s
CD2 LR LR
comp=Z,220nm,17.9s
GYA Guiyang 34.80 258⇑ *i*P **P** **10 23 16.3 -0.2**
GYA S **S** **10 28 47.6 +2.0**
GYA ScP **ScP** **10 29 36.4 +3.5**
GYA SS **SnSn** **10 30 59.0 -1.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,480nm,16.6s
GYA LR LR
comp=Z,470nm,16.8s
GYA LR LR
comp=Z,450nm,17.1s
KMI Kunming 38.47 259 P **P** **10 23 49.0 +1.1**
KMI pmax pmax
comp=Z,17nm,0.5s
KMI pmax pmax
comp=Z,63nm,4.2s
KMI LR LR
comp=Z,140nm,7.0s
KMI LR LR
comp=Z,140nm,10.9s
KMI LR LR
comp=Z,160nm,14.2s
DGZ Jazzator, Alta 40.65 303*d i*P **P** **10 24 06.5 +0.8**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
SVW2 Sparrevohn 40.73 40 *e*P **P** **10 24 07.9 +1.8**
comp=Z,14nm,0.9s
ZAA0 Zalesovo Array 41.61 309 *e*P **P** **10 24 13.9 +0.5**
comp=Z,5.4nm,0.7s
ZAA0 *e*PcP **PcP** **10 26 10.6 +0.6**
ZALV Zalesovo Beam 41.61 309 P **P** **10 24 13.8 +0.4**
comp=Z,3.9nm,0.7s,baz=88,slow=7.0,SNR=12
ZALV PcP **PcP** **10 26 10.4 +0.5**
comp=Z,6.2nm,0.8s,baz=69,slow=1.9,SNR=7.4
ZALV LR LR 10 42 46.8
comp=Z,104nm,19.1s,baz=64,slow=38
ZALV Zalesovo Beam 41.61 309 *e*P **P** **10 24 13.3 -0.1**
ZALV *e* 10 26 10.2
ZALV Zalesovo Beam 41.61 309 *e*P **P** **10 24 13.3 -0.1**
ZALV *e*PcP **PcP** **10 26 10.2 +0.2**
WMQ Urumqi 41.83 294 P **P** **10 24 16.1 +0.7**
WMQ pP pP 10 24 22.3 -1.4
WMQ sP sP 10 24 26.4 -0.7
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,160nm,5.1s
WMQ LR LR
comp=Z,160nm,26.9s
WMQ LR LR
comp=Z,85nm,28.7s
WMQ LR LR
comp=Z,160nm,24.9s
KDAK Kodiak Island 42.33 45 P **P** **10 24 19.0 -0.2**
comp=Z,25nm,1.0s,baz=260,slow=7.3,SNR=7.5
KDAK Kodiak Island 42.33 45 P **P** **10 24 19.0 -0.2**
KDAK pmax pmax
comp=Z,25nm,1.0s
PPLA Purkeypile 42.37 37 *e*P **P** **10 24 21.8 +2.1**
comp=Z,45nm,1.5s
NVS Novosibirsk 42.42 311 *e*P **P** **10 24 20.4 +0.4**
NVS pmax pmax
comp=N,8.0nm,1.5s
NVS pmax pmax
comp=E,13nm,1.5s
NVS pmax pmax
comp=Z,16nm,1.5s
CAST Castle Rocks 42.43 36 *e*P **P** **10 24 21.6 +1.6**
comp=Z,14nm,0.8s
BPAW Bear Paw Mtn. 42.94 35 *e*P **P** **10 24 25.0 +0.9**
comp=Z,6.9nm,1.0s
KTH Kantishna Hill 42.95 36 *e*P **P** **10 24 25.8 +1.5**
comp=Z,26nm,1.0s
SUA Susitna One 43.06 39 *e*P **P** **10 24 25.6 +0.4**
comp=Z,55nm,2.0s
MLY Manley 43.07 34 *e*P **P** **10 24 27.1 +1.9**
comp=Z,11nm,0.9s
TRF Thorofare Moun 43.24 36 *e*P **P** **10 24 27.5 +0.8**
comp=Z,10nm,0.9s
COLD Coldfoot 43.40 31 *e*P **P** **10 24 28.9 +1.1**
comp=Z,4.7nm,0.8s
RC01 Rabbit Creek A 43.56 40 *e*P **P** **10 24 29.9 +0.8**
comp=Z,15nm,0.9s
TOLK Toolik Lake Re 43.74 29 *e*P **P** **10 24 31.9 +1.4**
comp=Z,17nm,0.8s
PMR Palmer 43.83 39 *e*P **P** **10 24 31.5 +0.3**
PMR pmax pmax
comp=Z,20nm,1.2s
PMR Palmer 43.83 39 *e*P **P** **10 24 31.5 +0.3**
comp=Z,20nm,1.2s
MCK McKinley 43.84 36 *e*P **P** **10 24 32.4 +1.0**
MCK pmax pmax
comp=Z,19nm,1.0s
MCK McKinley 43.84 36 *e*P **P** **10 24 32.4 +1.0**
comp=Z,19nm,1.0s
RND Reindeer 43.88 36 *e*P **P** **10 24 31.7 -0.1**
RND pmax pmax
comp=Z,16nm,1.0s
RND Reindeer 43.88 36 *e*P **P** **10 24 31.7 -0.1**
comp=Z,16nm,1.0s
MDM Murphy Dome 44.13 34 *e*P **P** **10 24 35.4 +1.7**
comp=Z,18nm,1.0s
SML Sawmill 44.20 39 *e*P **P** **10 24 35.3 +1.0**
SML pmax pmax
comp=Z,20nm,1.0s
SML Sawmill 44.20 39 *e*P **P** **10 24 35.3 +1.0**
comp=Z,20nm,1.0s
WRH Wood River Hil 44.20 35 *e*P **P** **10 24 35.2 +1.1**
comp=Z,6.1nm,0.9s
COLA College 44.29 34 *e*P **P** **10 24 36.6 +1.7**
COLA pmax pmax
comp=Z,17nm,1.3s
COLA College 44.29 34 *e*P **P** **10 24 36.6 +1.7**
comp=Z,17nm,1.3s
CCB Clear Creek Bu 44.32 35 *e*P **P** **10 24 35.8 +0.7**
comp=Z,6.0nm,1.1s
DHY Denali Highway 44.57 37 *e*P **P** **10 24 38.2 +0.9**
comp=Z,17nm,1.4s
MK01 Makanchi Array 44.66 300 *e*P **P** **10 24 37.9 -0.3**
MK31 Makanchi Array 44.66 300*ce*P **P** **10 24 37.9 -0.3**
MK31 pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 44.66 300 *e*P **P** **10 24 38.0 -0.1**
MKAR Makanchi Array 44.66 300 P **P** **10 24 38.3 +0.1**
comp=Z,2.3nm,0.7s,baz=82,slow=8.9,SNR=25
MKAR LR LR 10 44 39.3
comp=Z,97nm,20.0s,baz=81,slow=38
MKAR Makanchi Array 44.66 300 *e*P **P** **10 24 38.0 -0.1**
MKAR pmax pmax
comp=Z,61nm,0.8s
MKAR Makanchi Array 44.66 300 *e*P **P** **10 24 38.0 -0.1**
comp=Z,61nm,0.8s
HDA Harding Lake 44.70 35 *e*P **P** **10 24 38.6 +0.4**
comp=Z,14nm,1.0s
IL1 Eielson Array 44.71 34 *e*P **P** **10 24 38.7 +0.4**
ILAR Eielson Array 44.71 34 P **P** **10 24 38.7 +0.4**
comp=Z,6.4nm,0.9s,baz=260,slow=6.5,SNR=59
ILB Eielson Array 44.71 34 *e*P **P** **10 24 38.9 +0.6**
MAKZ Makanchi 44.86 300 *e*P **P** **10 24 39.8 0.0**
MAKZ pmax pmax
comp=Z,12nm,0.9s
MAKZ Makanchi 44.86 300 *e*P **P** **10 24 39.8 0.0**
comp=Z,12nm,0.9s
CHTO Chiang Mai 45.07 255 *e*P **P** **10 24 41.5 -0.2**
CHTO *e* 10 24 52.3
CHTO Chiang Mai 45.07 255 *e*P **P** **10 24 41.5 -0.2**

CHTO epwP **sP** **10 24 52.3 -1.1**
CMAR Chiang Mai Arr 45.30 255 P **P** **10 24 43.3 -0.2**
comp=Z,0.9nm,0.4s,baz=65,slow=6.1,SNR=5.4
CMAR LR LR 10 44 34.9
comp=Z,36nm,19.4s,baz=70,slow=37
KLU Klutina 45.37 39 *eP* **P** **10 24 44.7 +1.0**
comp=Z,25nm,1.2s
DIV Divide 45.48 39 *eP* **P** **10 24 45.6 +1.0**
comp=Z,27nm,1.2s
HARP HAARP 45.64 38 *eP* **P** **10 24 45.5 -0.3**
comp=Z,84nm,1.7s
KURK Kurchatov 45.96 306 *d iP* **P** **10 24 48.1 -0.3**
KURK pmax pmax
comp=Z,59nm,0.8s
KURK Kurchatov 45.96 306 *eP* **P** **10 24 48.4 +0.1**
comp=Z,31nm,1.0s
DOT Dot Lake 46.01 36 *eP* **P** **10 24 49.0 +0.4**
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 46.04 306 P **P** **10 24 49.2 +0.3**
comp=Z,12nm,0.7s,baz=79,slow=9.0,SNR=63
BMRM Bremner River 46.06 40 *eP* **P** **10 24 49.7 +0.6**
BMRM *e*PcP **PcP** **10 26 26.0 +1.0**
MENT Mentasta 46.24 37 *eP* **P** **10 24 52.1 +1.6**
comp=Z,8.6nm,0.9s
EGAK Eagle 47.16 34 *eP* **P** **10 24 56.4 -1.2**
comp=Z,10.0nm,1.1s
HYT Haines Junctio 49.50 39 *eP* **P** **10 25 17.4 +1.5**
comp=Z,29nm,0.9s
INK Inuvik 49.65 29 P **P** **10 25 17.9 +1.2**
comp=Z,5.8nm,0.6s,baz=295,slow=6.1,SNR=22
INK LR LR 10 46 54.4
comp=Z,28nm,19.6s,baz=130,slow=37
INK Inuvik 49.65 29 *eP* **P** **10 25 17.9 +1.2**
INK pmax pmax
comp=Z,20nm,1.3s
INK Inuvik 49.65 29 *eP* **P** **10 25 17.9 +1.2**
comp=Z,20nm,1.3s
BVA0 Borovoye Array 50.22 311 P **P** **10 25 21.5 +0.2**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 50.22 311 P **P** **10 25 22.0 +0.7**
comp=Z,6.1nm,0.7s,baz=81,slow=9.2,SNR=25
BVAR LR LR 10 47 04.1
comp=Z,100nm,18.9s,baz=64,slow=37
BVAR Borovoye Array 50.22 311 P **P** **10 25 22.0 +0.7**
BVAR pmax pmax
comp=Z,6.0nm,0.7s
BVAR MLR MLR
comp=Z,100nm,18.9s
BRVK Borovoye 50.27 311 *ceP* **P** **10 25 22.3 +0.7**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 50.27 311 *eP* **P** **10 25 22.5 +0.9**
comp=Z,13nm,1.2s
KSM Kuching 50.28 228 *eP* **P** **10 25 22.4 +0.3**
comp=Z,19nm,1.3s
TKM2 Tokmak 2 50.44 297 *i* P **P** **10 25 23.3 0.0**
TKM2 pmax pmax
comp=Z,18nm,0.9s
AAK Ala-Archa 51.30 297⇑ *eP* **P** **10 25 30.0 +0.3**
AAK pmax pmax
comp=Z,1.0nm,0.9s
AAK Ala-Archa 51.30 297 *eP* **P** **10 25 32.5 +2.8**
comp=Z,4.4nm,0.9s
KSH Kashi 51.56 293 *eP* **P** **10 25 34.8 +3.1**
KSH pmax pmax
comp=Z,130nm,5.8s
KKAR Karatay Array 53.77 299 *eP* **P** **10 25 48.0 +0.1**
KKAR Karatay Array 53.77 299 *eP* **P** **10 25 48.0 +0.1**
SVE Sverdlovsk 54.25 318⇓ *iP* **P** **10 25 52.1 +1.0**
SVE pmax pmax
comp=Z,33nm,1.4s
ARU Arti 55.46 318 *d iP* **P** **10 25 55.6 -4.3**
ARU S **S** **10 33 37.8 -5.0**
ARU SS **SS** **10 37 18.9 -8.2**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 55.46 318 *eP* **P** **10 25 59.1 -0.8**
comp=Z,10nm,0.9s
PSI Prapat 56.23 240 LR LR 10 55 07.5
comp=Z,33nm,19.0s,baz=0.5,slow=41
SPITS Spitsbergen Ar 57.34 349 P **P** **10 26 13.1 +0.2**
comp=Z,23nm,1.1s,baz=202,slow=15,SNR=61
ABKAR Akbulak array 57.73 309 *eP* **P** **10 26 16.5 +0.4**
comp=Z,55nm,0.6s
RES Resolute Bay 58.16 16 P **P** **10 26 19.2 +0.5**
comp=Z,12nm,0.8s,baz=311,slow=6.9,SNR=62
RES Resolute Bay 58.16 16 *eP* **P** **10 26 19.3 +0.5**
RES pmax pmax
comp=Z,13nm,0.8s
RES Resolute Bay 58.16 16 *eP* **P** **10 26 19.2 +0.5**
comp=Z,13nm,0.8s
AKTO Aktyubinsk 58.31 311 P **P** **10 26 20.7 +0.5**
comp=Z,4.4nm,0.7s,baz=64,slow=14,SNR=7.9
AKTO LR LR 10 53 20.6
comp=Z,76nm,18.7s,baz=58,slow=38
YKW3 Yellowknife Ar 59.00 32 *eP* **P** **10 26 24.6 -0.2**
comp=Z,12nm,1.5s
YKA Yellowknife Ar 59.04 32 P **P** **10 26 25.3 +0.3**
comp=Z,2.3nm,0.7s,baz=299,slow=6.6,SNR=60
HYB Hyderabad 61.21 269 *i* P **P** **10 26 40.0 -0.6**
WRAB Tennant Creek 61.30 192⇑ *eP* **P** **10 26 40.4 -0.6**
WRAB pmax pmax
comp=Z,88nm,1.2s
WRAB Tennant Creek 61.30 192 *eP* **P** **10 26 40.1 -0.8**
comp=Z,40nm,1.0s
WRA Warramunga Arr 61.31 192 P **P** **10 26 40.2 -0.9**
comp=Z,21nm,0.8s,baz=9.2,slow=6.6,SNR=60
ARCES ARCES Array B 61.44 340 P **P** **10 26 40.1 -1.3**
comp=Z,8.2nm,1.0s,baz=27,slow=8.2,SNR=3.5
KLMR Klimovskoe 62.08 328 *eP* **P** **10 26 44.7 -1.1**
KLMR *e* 10 29 02.4
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 62.08 328 *eP* **P** **10 26 44.7 -1.1**
KLMR AMP 10 26 56.8
comp=Z,15nm,1.3s
KLMR *e*PP **PP** **10 29 02.4 +0.4**
GEYT Alibeck 64.53 299 P **P** **10 27 02.7 +0.2**
comp=Z,4.9nm,0.9s,baz=27,slow=5.0,SNR=5.2
GEYT LR LR 10 57 33.3
comp=Z,107nm,18.0s,baz=195,slow=38
EDM Edmonton 64.55 41 *eP* **P** **10 27 01.3 -1.1**
EDM pmax pmax
comp=Z,10.0nm,0.9s
EDM Edmonton 64.55 41 *eP* **P** **10 27 01.2 -1.1**
comp=Z,9.7nm,0.9s
AS01 Alice Springs 65.03 191 *eP* **P** **10 27 04.9 -0.7**
AS31 Alice Springs 65.04 191 *eP* **P** **10 27 06.1 +0.4**
comp=Z,2.2nm,0.8s
ASAR Alice Springs 65.04 191 P **P** **10 27 05.3 -0.4**
comp=Z,5.9nm,0.7s,baz=13,slow=6.5,SNR=58
DZM Mont Dzumac 65.67 158 P **P** **10 27 08.6 -1.3**
comp=Z,5.6nm,1.0s,baz=229,slow=19,SNR=2.6
DZM LR LR 10 55 13.0
comp=Z,32nm,18.0s,baz=358,slow=36
PALK Pallekele 66.00 258 P **P** **10 27 12.0 -0.3**
comp=Z,3.7nm,0.6s,baz=300,slow=1.7
PALK Pallekele 66.00 258 P **P** **10 27 12.0 -0.3**
PALK pmax pmax
comp=Z,4.0nm,0.6s
VRH Novokhopyorsk 66.68 318 *eP* **P** **10 27 15.5 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 66.76 324⇓ *eP* **P** **10 27 17.1 +0.6**
OBN pmax pmax
comp=Z,8.0nm,1.0s
FIA1 FINESS Array S 66.77 333 *eP* **P** **10 27 16.4 0.0**
FINES FINESS Array B 66.77 333 P **P** **10 27 16.4 -0.1**
comp=Z,6.4nm,0.6s,baz=50,slow=6.6,SNR=40
FINES LR LR 10 57 45.4
comp=Z,64nm,18.1s,baz=51,slow=37
SUMG Summit 66.84 1 *i* P **P** **10 27 18.2 +1.0**
comp=Z,5.9nm,0.8s
SUMG Summit 66.84 1 *i* P **P** **10 27 18.2 +1.0**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 66.84 1 *eP* **P** **10 27 18.3 +1.1**
comp=Z,46nm,1.9s
LPSR Galich'ya Gora 67.22 321 *eP* **P** **10 27 18.9 -0.5**
LPSR pmax pmax
comp=Z,30nm,1.2s
VSR Storozhevoye 67.95 319 *eP* **P** **10 27 23.8 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSU Vasula 68.61 330⇓ *eP* **P** **10 27 28.4 +0.3**
VSU pmax pmax
comp=Z,25nm,0.9s
FFC Flin Flon 68.92 35 *eP* **P** **10 27 30.0 -0.1**
FFC pmax pmax
comp=Z,7.0nm,1.1s
FFC Flin Flon 68.92 35 *eP* **P** **10 27 30.0 -0.1**
comp=Z,6.8nm,1.1s
HRY Holter Researc 69.20 46 *eP* **P** **10 27 33.0 +0.9**
FCC Fort Churchill 69.27 29 *eP* **P** **10 27 32.0 -0.2**
FCC pmax pmax
comp=Z,8.0nm,1.1s
FCC Fort Churchill 69.27 29 *eP* **P** **10 27 32.0 -0.2**
comp=Z,8.2nm,1.1s
LRM Limekiln Ridge 69.40 47 *eP* **P** **10 27 34.1 +0.5**
YERR Yerington 69.49 56 *eP* **P** **10 27 33.8 -0.4**
comp=Z,46nm,0.7s
EGMT Eagleton 69.49 44 *eP* **P** **10 27 34.6 +0.6**
comp=Z,18nm,1.5s
DLMT Dillon 69.60 47 *eP* **P** **10 27 35.7 +1.0**
comp=Z,5.2nm,1.4s
GOF Gofitskoye 69.69 312⇑ *eP* **P** **10 27 35.6 +0.5**
BOZ Bozeman (W) 69.99 47 *eP* **P** **10 27 37.8 +0.7**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 69.99 47 *eP* **P** **10 27 37.8 +0.7**
comp=Z,3.8nm,0.8s
NVAR Mina Array Bea 70.41 56 P **P** **10 27 40.6 +0.8**
comp=Z,1.4nm,0.7s,baz=258,slow=7.4,SNR=5.7
KIV Kislovodsk 70.57 312 *eP* **P** **10 27 42.2 +1.6**
KIV pmax pmax
comp=Z,35nm,1.0s
KIV Kislovodsk 70.57 312 *eP* **P** **10 27 42.1 +1.6**
comp=Z,29nm,0.9s
KBZ Khabaz 70.59 311 P **P** **10 27 41.6 +1.0**
comp=Z,12nm,0.8s,baz=60,slow=5.4,SNR=16
KBZ LR LR 11 01 39.1
comp=Z,67nm,19.1s,baz=90,slow=38
ZEI Tsey 70.59 310 *eP* **P** **10 27 40.0 -0.9**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
GCMT Greycliff 70.94 46 *eP* **P** **10 27 43.9 +1.0**
NEY Neytrino 70.99 311⇑ *eP* **P** **10 27 45.0 +1.7**
NEY pmax pmax
comp=Z,2.0nm,0.9s
H17A Grant Village 71.33 47 *eP* **P** **10 27 48.1 +2.7**
comp=Z,4.8nm,0.9s
MOOW Moose Ponds 71.64 48 *eP* **P** **10 27 48.6 +1.3**
comp=Z,3.6nm,1.2s
AKH Akhalkalaki 71.69 309⇓ *iP* **P** **10 27 49.5 +2.0**
TPAW Teton Pass 71.69 48 *eP* **P** **10 27 48.6 +1.0**
comp=Z,6.1nm,1.2s
GNI Garni 71.72 307 LR LR 11 01 29.6
comp=Z,54nm,18.5s,baz=79,slow=38
GNI Garni 71.72 307⇑ *eP* **P** **10 27 48.8 +1.1**
GNI pmax pmax
comp=Z,23nm,1.7s
NB2 NORSAR Subarra 71.75 338 P **P** **10 27 47.2 -0.2**
comp=Z,3.2nm,0.6s,baz=36,slow=6.2
NOA NORSAR Array B 71.75 338 P **P** **10 27 47.5 +0.1**
comp=Z,6.2nm,0.8s,baz=36,slow=6.0,SNR=14
HFS Hagfors 71.77 337 P **P** **10 27 47.7 +0.3**
comp=Z,6.9nm,0.6s,baz=71,slow=6.2,SNR=32
HFS LR LR 11 05 48.8
comp=Z,43nm,18.2s,baz=15,slow=41
REDW Red Top Meadow 71.82 48 *eP* **P** **10 27 49.8 +1.4**
comp=Z,10nm,1.6s
STKA Stephens Creek 72.45 183 P **P** **10 27 51.5 -0.2**
comp=Z,3.0nm,0.8s,baz=4.7,slow=7.9,SNR=5.4
HWUT Hardware Ranch 72.53 50 *eP* **P** **10 27 53.9 +1.3**
comp=Z,6.9nm,1.2s
PDAR Pinedale Array 72.94 48 P **P** **10 27 55.4 +0.4**
comp=Z,1.1nm,0.7s,baz=270,slow=3.1,SNR=12
PDAR Pinedale Array 72.94 48 *eP* **P** **10 27 54.9 -0.1**
ANN Anapa 72.94 315 *eP* **P** **10 27 52.9 -1.8**
ANN pmax pmax
comp=Z,28nm,1.1s
AKASG Malin Array Be 73.02 323 P **P** **10 27 55.0 0.0**
comp=Z,7.0nm,0.6s,baz=43,slow=6.0,SNR=40
AKASG LR LR 11 04 00.3
comp=Z,25nm,19.2s,baz=45,slow=39
AKBB Malin Array Si 73.02 323 *eP* **P** **10 27 55.1 +0.1**
AKBB pmax pmax
comp=Z,13nm,0.8s
AKBB Malin Array Si 73.02 323 *eP* **P** **10 27 55.0 +0.1**
comp=Z,13nm,0.8s
KIEV Kiev 73.03 323⇓ *eP* **P** **10 27 54.8 -0.3**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 73.03 323 *eP* **P** **10 27 54.8 -0.3**
comp=Z,14nm,0.9s
KIEV *e*PcP **pP** **10 28 05.0 +1.2**
AK11 Malin Array Si 73.06 323 *eP* **P** **10 27 55.3 +0.1**
AK11 *e*PcP **pP** **10 28 05.5 +1.5**
MPU Maple Canyon 73.50 51 *eP* **P** **10 27 59.6 +1.2**
comp=Z,3.4nm,0.9s
KLNR Kaliningrad 73.90 330⇑ *eP* **P** **10 27 59.7 -0.4**
KLNR pmax pmax
comp=Z,42nm,0.8s
P17A Butcher Ranch, 74.37 51 *eP* **P** **10 28 04.8 +1.3**
comp=Z,6.2nm,0.8s
K22A Casper 74.70 47 *eP* **P** **10 28 04.4 -0.8**
comp=Z,5.2nm,1.0s
RSSD Black Hills 75.06 44 *eP* **P** **10 28 07.3 -0.1**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 75.06 44 *eP* **P** **10 28 07.3 -0.1**
comp=Z,3.8nm,0.8s
SORM Soroca 75.23 322⇑ *iP* **P** **10 28 07.9 -0.1**
PV10 Paradox Valley 76.09 51 *eP* **P** **10 28 15.2 +1.8**
KWP Kalwaria Pacla 76.67 326 *eP* **P** **10 28 17.3 +1.1**
KWP pmax pmax
comp=Z,158nm,0.9s
KWP Kalwaria Pacla 76.67 326 *eP* **P** **10 28 17.3 +1.1**
comp=Z,158nm,0.9s
BUR08 Bucovina Ar. S 77.05 323 *eP* **P** **10 28 19.5 +1.0**
BUR04 Bucovina Ar. S 77.06 323 *eP* **P** **10 28 18.9 +0.4**
BURAR Bucovina Array 77.06 323⇑ *iP* **P** **10 28 19.5 +0.9**
TESR Tescani 77.21 322⇓ *iP* **P** **10 28 19.5 +0.2**
OJC Ojcow 77.43 328 *eP* **P** **10 28 21.4 +0.9**
OJC pmax pmax
comp=Z,13nm,0.8s
OJC Ojcow 77.43 328 *eP* **P** **10 28 21.4 +0.9**
comp=Z,13nm,0.8s
STHS Stebnicka Huta 77.45 326 *eP* **P** **10 28 21.9 +1.3**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 77.45 326 *eP* **P** **10 28 21.9 +1.3**
CFR Carcaliu 77.46 320⇑ *iP* **P** **10 28 21.3 +0.6**
VRI Vrincioaia 77.64 321⇑ *iP* **P** **10 28 22.8 +1.1**
TIRR Tirgusor 77.84 319⇓ *iP* **P** **10 28 23.6 +0.8**
TLB Topalu 77.94 319⇓ *iP* **P** **10 28 23.9 +0.6**
DOPR Dopca 78.20 322⇓ *iP* **P** **10 28 24.9 0.0**
ISR Istrita 78.28 321⇑ *iP* **P** **10 28 26.9 +1.6**
MLR Muntele Rosu 78.29 321 LR LR 11 04 35.2
comp=Z,14nm,19.3s,baz=43,slow=37
MLR Muntele Rosu 78.29 321⇓ *iP* **P** **10 28 25.2 -0.3**
MLR Muntele Rosu 78.29 321 *eP* **P** **10 28 27.1 +1.6**
MLR pmax pmax
comp=Z,19nm,1.5s
MLR Muntele Rosu 78.29 321 *eP* **P** **10 28 27.1 +1.6**
comp=Z,19nm,1.5s
LANS Liptovska Anna 78.40 327 *eP* **P** **10 28 27.3 +1.4**
LANS Liptovska Anna 78.40 327 *eP* **P** **10 28 27.3 +1.4**
BR131 Keskin Array S 78.44 313 *eP* **P** **10 28 27.2 +0.8**
BRTR Keskin Array B 78.44 313 P **P** **10 28 27.2 +0.8**
comp=Z,2.3nm,0.8s,baz=94,slow=4.3,SNR=10
BRTR LR LR 11 07 40.6
comp=Z,29nm,18.3s,baz=54,slow=39
MORC Moravsky Berou 78.69 328⇑ *iP* **P** **10 28 28.1 +0.6**
MORC Moravsky Berou 78.69 328 *eP* **P** **10 28 28.3 +0.8**
MORC pmax pmax
comp=Z,38nm,1.1s
MORC Moravsky Berou 78.69 328 *eP* **P** **10 28 28.3 +0.8**
comp=Z,38nm,1.1s
DPC Dobruska-Polom 78.71 329 *eP* **P** **10 28 28.6 +1.0**
DPC *ex* x 10 28 38.5
DPC Dobruska-Polom 78.71 329 *eP* **P** **10 28 28.6 +1.0**
DPC *e* 10 28 38.5
VOIR 78.75 322⇑ *iP* **P** **10 28 29.1 +1.1**
DRGR 78.81 324⇓ *iP* **P** **10 28 28.9 +0.6**
BR231 Keskin MP Arra 78.83 313 *eP* **P** **10 28 27.6 -0.9**
ECSD EROS Data Cent 79.12 41 *eP* **P** **10 28 30.1 +0.1**
comp=Z,3.0nm,0.8s
CLL Collm 79.17 332⇓ *iP* **P** **10 28 30.1 +0.1**
CLL *i* 10 28 40.3
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 79.17 332⇓ *iP* **P** **10 28 30.1 +0.1**
comp=Z,12nm,1.0s
CLL *i* PcP **pP** **10 28 40.3 +1.4**
CLL Collm 79.17 332 *eP* **P** **10 28 30.4 +0.4**
comp=Z,8.3nm,0.8s
VYHS Vyhne 79.17 327 *eP* **P** **10 28 31.3 +1.2**
VYHS pmax pmax
comp=Z,105nm,3.7s
VYHS Vyhne 79.17 327 *eP* **P** **10 28 31.3 +1.2**
PSZ Piszkesteto 79.18 326⇑ *iP* **P** **10 28 31.6 +1.4**
PSZ Piszkesteto 79.18 326 *eP* **P** **10 28 31.6 +1.4**
PSZ pmax pmax
comp=Z,25nm,1.5s
PSZ Piszkesteto 79.18 326 *eP* **P** **10 28 31.6 +1.4**
comp=Z,25nm,1.5s
BRG Berggiesshubel 79.19 331 *eP* **P** **10 28 30.6 +0.5**
comp=Z,7.2nm,1.1s
BRG Berggiesshubel 79.19 331 *eP* **P** **10 28 30.6 +0.5**
BRG pmax pmax
comp=Z,7.0nm,1.1s
VRAC Vranov 79.44 329⇑ *iP* **P** **10 28 32.0 +0.4**
GOPC GO Pecny, Ondr 79.65 330 *eP* **P** **10 28 33.7 +1.0**
GOPC *ex* x 10 28 43.4
GOPC GO Pecny, Ondr 79.65 330 *eP* **P** **10 28 33.7 +1.0**
GOPC *e* 10 28 43.4
PRU Pruhonice 79.68 330 *eP* **P** **10 28 33.4 +0.5**
PRU *ex* x 10 28 43.7
PRU Pruhonice 79.68 330 *eP* **P** **10 28 33.4 +0.5**
PRU *e* 10 28 43.7
ANMO Albuquerque 79.93 52⇑ *eP* **P** **10 28 36.1 +1.4**
ANMO pmax pmax
comp=Z,3.0nm,1.7s
HERR Herculane 80.40 323⇑ *iP* **P** **10 28 37.1 +0.3**
EKA Eskdalemuir Ar 80.44 342 P **P** **10 28 37.3 +0.5**
comp=Z,1.2nm,0.5s,baz=30,slow=5.8,SNR=13
KHC Kasperske Hory 80.74 330 *eP* **P** **10 28 39.3 +0.6**
KHC *ex* x 10 28 48.9
KHC Kasperske Hory 80.74 330 *eP* **P** **10 28 39.3 +0.6**
KHC *e* 10 28 48.9
KHC Kasperske Hory 80.74 330 *eP* **P** **10 28 39.4 +0.6**
comp=Z,4.9nm,0.9s
CONA Conrad Observa 80.83 328 *epP* **P** **10 28 40.7 +1.4**
comp=Z,9.6nm,1.5s
SCHQ Schefferville 80.84 18 P **P** **10 28 39.3 +0.3**
comp=Z,2.5nm,0.7s,baz=322,slow=5.3,SNR=6.6
GEC2 GERESS Array S 80.93 330 *eP* **P** **10 28 40.4 +0.6**
GEC2 pmax pmax
comp=Z,22nm,1.9s
GEC2 GERESS Array S 80.93 330 *eP* **P** **10 28 40.4 +0.6**
comp=Z,22nm,1.9s
GERES GERESS Array B 80.93 330 P **P** **10 28 40.2 +0.5**
comp=Z,1.8nm,0.6s,baz=31,slow=5.2,SNR=17
GEA0 GERESS Array S 80.94 330 *eP* **P** **10 28 39.9 +0.1**
VTS Vitosha 81.77 321⇓ *iP* **P** **10 28 45.4 +1.0**
VTS Vitosha 81.77 321 *eP* **P** **10 28 45.2 +0.8**
VTS pmax pmax
comp=Z,12nm,1.0s
VTS Vitosha 81.77 321 *eP* **P** **10 28 45.2 +0.8**
comp=Z,12nm,1.0s
DIVS Divibare 82.11 324 *eP* **P** **10 28 46.5 +0.4**
comp=Z,8.8nm,1.1s
SOKA Soboth 82.17 328 *epP* **P** **10 28 47.2 +0.8**
comp=Z,9.9nm,0.7s,SNR=5.0
OBKA Obir 82.51 328 *i pP* **P** **10 28 48.6 +0.5**
comp=Z,4.7nm,0.7s
KBA Koelnbreinsper 82.52 329 *i pP* **P** **10 28 49.4 +1.2**
comp=Z,7.9nm,0.7s
MYKA Terra Mystica 82.77 329 *eP* **P** **10 28 49.6 +0.2**
comp=Z,4.4nm,0.8s
WATA Walderalm 82.98 330 *i pP* **P** **10 28 51.3 +0.7**
comp=Z,4.0nm,0.5s
WTTA Wattenberg 83.02 330 *epP* **P** **10 28 51.8 +0.9**
comp=Z,5.8nm,0.9s
MOTA Moosalm 83.15 331 *epP* **P** **10 28 52.2 +0.7**
comp=Z,10nm,0.9s,SNR=6.1
RETA Reutte 83.16 331 *i pP* **P** **10 28 52.4 +0.9**
comp=Z,6.6nm,0.7s
BFO Black Forest 83.32 333 *i* P **P** **10 28 53.3 +1.1**
FETA Feichten 83.56 331 *epP* **P** **10 28 54.4 +0.8**
comp=Z,4.2nm,0.8s
DAVA Damuels 83.65 331 *epP* **P** **10 28 54.7 +0.6**
comp=Z,5.9nm,0.7s
TTG Podgorica 83.75 323 *eP* **P** **10 28 55.0 +0.6**
TTG pmax pmax
comp=Z,28nm,1.3s
TTG Podgorica 83.75 323 *eP* **P** **10 28 55.0 +0.6**
comp=Z,28nm,1.3s
FUORN Ofenpass-Fuorn 84.07 331 *eP* **P** **10 28 57.4 +1.0**
comp=Z,12nm,1.0s
TUE Stuetta 84.54 331 *eP* **P** **10 28 59.6 +0.9**
comp=Z,8.7nm,0.9s
SENIN Lac Senin/Sane 85.37 332 *eP* **P** **10 29 03.4 +0.5**
comp=Z,3.9nm,0.9s
TX31 Lajitas Ar. Si 85.52 55 *eP* **P** **10 29 04.7 +0.9**
TXAR Lajitas Array 85.52 55 P **P** **10 29 04.2 +0.4**
comp=Z,3.1nm,0.9s,baz=298,slow=3.7,SNR=24
HPIG 85.93 58 *eP* **P** **10 29 07.0 +1.0**
comp=Z,4.9nm,1.0s
CCM Cathedral Cave 86.07 41 *eP* **P** **10 29 06.5 +0.3**
CCM pmax pmax
comp=Z,5.0nm,0.8s
CCM Cathedral Cave 86.07 41 *eP* **P** **10 29 06.5 +0.3**
comp=Z,5.2nm,0.8s
PBMO Poplar Bluff 87.47 42 *eP* **P** **10 29 13.5 +0.4**
comp=Z,7.8nm,1.1s
WHAR Wooly Hollow 87.67 44 *eP* **P** **10 29 14.7 +0.6**
comp=Z,6.8nm,0.9s
CMIG Matias Romero 99.91 57 LR LR 11 09 43.3
comp=Z,16nm,21.4s,baz=318,slow=32
TORD Torodi Ar. Bea 116.50 320 PKP **PKPdf** **10 35 08.8 -0.9**
comp=Z,0.2nm,0.4s,baz=30,slow=2.6,SNR=4.3
TORD PP **PP** **10 36 09.1 -6.7**
comp=Z,1.2nm,0.9s,baz=31,slow=6.2,SNR=4.3
QSPA South Pole Qui 130.59 180 PKP **PKPdf** **10 35 34.8 -0.4**
comp=Z,1.0nm,0.5s,baz=267,slow=2.5,SNR=10.0
LPAZ La Paz 142.25 59 PKP **PKPdf** **10 35 58.2 -0.8**
comp=Z,1.1nm,0.7s,baz=291,slow=5.2,SNR=5.6
SNAA Sanae 145.25 197 PKPbc **PKPbc** **10 36 00.7 -1.0**
comp=Z,6.3nm,0.6s,baz=161,slow=5.5,SNR=23
SNAA Sanae 145.25 197 *e*PKPbc **PKPbc** **10 36 00.8 -0.9**
PLCA Pasa Flores 153.09 102 PKPbc **PKPbc** **10 36 22.8 0.0**
comp=Z,2.1nm,0.8s,baz=338,slow=1.5,SNR=6.6
CPUP Villa Florida 156.42 59 PKP **PKPdf** **10 36 19.9 -0.4**
comp=Z,1.6nm,0.9s,baz=249,slow=1.3,SNR=3.8

MAN **17** *10:25:05, 18°.71N×120°.87E, h7km, mb5.0, ML3.9, MS3.9*
NEIC **17** *10:25:06.9±0.7, 18°.49N×121°.13E, h49km±6km, mb4.4/12, Error ellipse: s-maj=7.1km s-min=5.3km az=107.0*
NEIC Felt [IV PIVS] at Claveria and [II PIVS] at Sanchez-Mira. Also felt at Pagudpud and Pasuquin.
ISCJB **17** *10:25:08.0±0.4, 18°.71N±0°.02×121°.06E±0°.06, h64km±4km, mb4.3/30, Error ellipse: s-maj=9.1km s-min=3.6km az=2.9*
IDC **17** *10:25:10.1±2.8, 18°.54N×121°.19E, h75km±25km, mb3.8/17, mb1 3.9/20, mb1mx3.7/61, mbtmp4.1/20, MS3.3/8, Ms1 3.4/8, ms1mx3.0/54, Error ellipse: s-maj=19.6km s-min=11.3km az=73.0*
BJI **17** *10:25:12.1, 19°.25N×120°.69E, h30km, mb4.3/9, mB4.3/7, ML3.9/3, Ms3.8/1, Ms7 3.7/1*

ISC 17 10:25:09.1±0.9, 18°.68N±0°.03×121°.02E±0°.06, h63km±9km, n76, σ1°.57/85, mb4.3/30, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.84**	**165**	*eP*	**Pn**	**10 25 23.3**	**-1.9**
APYP				*eS*	**Sn**	**10 25 36.2**	**-0.9**
SGCP	**Mt. Cagua**	**1.07**	**114**	*eP*	**Pn**	**10 25 28.2**	**+0.2**
CVP	**Callao Caves**	**1.24**	**142**	*eP*	**Pn**	**10 25 30.8**	**+0.5**
CVP				*i* S	**Sn**	**10 25 49.3**	**+3.2**
CAUP	**Cauayan**	**1.89**	**156**	*eP*	**Pn**	**10 25 40.0**	**+0.9**
BOLP	**Bolinao**	**2.52**	**205**	*eP*	**Pn**	**10 25 47.4**	**-0.2**
BOLP				*eS*	**Sn**	**10 26 18.1**	**+0.9**
BALP	**Baler**	**2.97**	**170**	*eP*	**Pn**	**10 25 54.1**	**+0.3**
SCZP	**Santa Cruz**	**3.08**	**200**	*eP*	**Pn**	**10 25 55.8**	**+0.5**
SCZP				*eS*	**Sn**	**10 26 27.5**	**-3.4**
PCPH	**Palayan**	**3.10**	**179**⇓	*eP*	**Pn**	**10 25 56.0**	**+0.4**
PCPH				*eS*	**Sn**	**10 26 35.2**	**+3.7**
POLP	**Polilio Island**	**4.03**	**167**	*eP*	**Pn**	**10 26 09.2**	**+0.9**
TWG	**Pinlang**	**4.12**	**1**	*e*Pn	**Pn**	**10 26 09.2**	**-0.3**
TWG				*e*Sn	**Sn**	**10 26 54.1**	**-2.4**
TGY	**Tagaytay City**	**4.55**	**181**	P	**Pn**	**10 26 16.5**	**+0.9**

58nm,0.3s,baz=185,slow=3.9,SNR=3.7

TGY				S		Sn	10 27 24.4	+17
	44nm,0.3s,baz=130,slow=22,SNR=3.0							
TPUB	**Ta-pu**	**4.61**	**356**	*e*Pn		**Pn**	**10 26 15.9**	**-0.4**
TPUB				*e*Sn		**Sn**	**10 27 08.9**	**+0.3**
YULB	**Yu-li**	**4.70**	**3**	*e*Pn		**Pn**	**10 26 18.1**	**+0.6**
YULB				*e*Sn		**Sn**	**10 27 09.6**	**-1.1**
GQP	**Guinayangan**	**4.94**	**164**	*e*P		**Pn**	**10 26 21.7**	**+0.9**
GQP				*e*S		**Sn**	**10 27 15.2**	**-1.4**
SSLB	**Suanglung**	**5.08**	**359**	*e*Pn		**Pn**	**10 26 22.6**	**-0.2**
SSLB				*e*Sn		**Sn**	**10 27 23.0**	**+2.8**
NACB	**Ninganchiao**	**5.49**	**6**	*e*Pn		**Pn**	**10 26 28.6**	**+0.3**
NACB				*e*Sn		**Sn**	**10 27 26.1**	**-4.0**
YHNB	**Yeheng**	**5.97**	**3**	*e*Pn		**Pn**	**10 26 36.0**	**+1.0**
YHNB				*e*Sn		**Sn**	**10 27 42.2**	**+0.2**
YOJ	**Yonaguni jima**	**6.04**	**18**	*e*Pn		**Pn**	**10 26 35.2**	**-0.6**
YOJ				*e*Sn		**Sn**	**10 27 42.5**	**-1.2**
GZH	**Guangzhou**	**8.41**	**303**	Pn		**Pn**	**10 27 04.9**	**-3.3**
GZH				Sn		Sn	10 28 35.1	-6.6
GZH				smax		smax		
	comp=N,40nm,0.9s							
GZH				smax		smax		
	comp=E,44nm,0.7s							
QIZ	**Qiongzhong**	**10.59**	**274**	*e*Pn		Pn	10 27 33.8	-4.3
QIZ				*e*Sn		Sn	10 29 25.3	-10
DAV	**Davao City (W)**	**12.36**	**158**	LR		LR	10 33 16.8	
	comp=Z,240nm,19.8s,baz=338,slow=40							
JNU	**Nakatsue**	**16.88**	**30**	P		**P**	**10 29 03.0**	**+0.6**
	0.3nm,0.3s,baz=234,slow=11,SNR=5.1							
JNU				LR		LR	10 35 09.5	
	comp=Z,65nm,19.1s,baz=119,slow=35							
KMI	**Kunming**	**18.12**	**294**	P		**Pn**	**10 29 19.3**	**+2.5**
KMI				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KMI				pmax		pmax		
	comp=Z,60nm,5.1s							
KSAR	**Wonju Array Be**	**19.64**	**16**	P		**Pn**	**10 29 34.0**	**-0.5**
KSRS	**Korea Array**	**19.66**	**17**	P		**P**	**10 29 34.0**	**+1.2**
	0.4nm,0.3s,baz=200,slow=11,SNR=12							
KSRS				LR		LR	10 36 28.2	
	comp=Z,32nm,21.6s,baz=169,slow=34							
KSM	**Kuching**	**20.07**	**213**	*e*P		**P**	**10 29 35.3**	**-2.2**
	6.0nm,0.7s							
CHTO	**Chiang Mai**	**20.91**	**274**	*e*P		**P**	**10 29 47.0**	**+0.4**
	2.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**20.93**	**273**	P		**P**	**10 29 48.7**	**+1.9**
	2.2nm,0.7s,baz=61,slow=7.5,SNR=10							
BJT	**Baijiatuan**	**21.67**	**350**	*e*P		**P**	**10 29 54.5**	**0.0**
	15nm,1.3s							
GUMO	**Guam**	**23.45**	**99**	LR		LR	10 39 41.1	
	comp=Z,57nm,18.5s,baz=304,slow=37							
HHC	**Hu-ho-hao-te**	**23.54**	**342**	*e*P		**P**	**10 30 15.3**	**+1.4**
HHC				pmax		pmax		
	comp=Z,25nm,0.7s							
HHC				pmax		pmax		
	comp=Z,110nm,7.5s							
MYKOM	**Kota Tinggi**	**23.77**	**227**	*e*P		**P**	**10 30 14.3**	**-1.7**
	14nm,1.2s							
SONM	**Songino Array**	**31.43**	**341**	P		**P**	**10 31 25.5**	**+1.0**
	0.8nm,0.6s,baz=156,slow=9.7,SNR=6.3							
SONM				LR		LR	10 44 51.8	
	comp=Z,65nm,18.8s,baz=176,slow=37							
SONA1	**Songino Array**	**31.44**	**341**	*e*P		**P**	**10 31 25.6**	**+1.0**
WMQ	**Urumqi**	**37.53**	**319**	*e*P		**P**	**10 32 20.8**	**+3.6**
WRA	**Warramunga Arr**	**40.55**	**161**	P		**P**	**10 32 39.0**	**-3.4**
	1.1nm,0.4s,baz=342,slow=9.1,SNR=28							
WRA				PcP		**PcP**	**10 34 44.0**	**+0.1**
	2.2nm,0.6s,baz=344,slow=3.2,SNR=16							
MK01	**Makanchi Array**	**42.30**	**320**	*e*P		**P**	**10 32 58.0**	**+1.4**
MK31	**Makanchi Array**	**42.32**	**320**	*e*P		**P**	**10 32 57.8**	**+1.0**
MKAR	**Makanchi Array**	**42.32**	**320**	P		**P**	**10 32 59.0**	**+2.3**
	1.8nm,0.7s,baz=114,slow=9.9,SNR=18							
MKAR				PcP		**PcP**	**10 34 49.8**	**+0.4**
	1.0nm,0.7s,baz=87,slow=4.5,SNR=5.6							
MKAR	**Makanchi Array**	**42.32**	**320**	*e*P		**P**	**10 32 58.1**	**+1.4**
	14nm,0.8s							
MKAR				PcP		**PcP**	**10 34 49.8**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**43.20**	**83**	T		T	11 18 28.9	
	baz=276,slow=74,SNR=35							
H11S1	**WAKE ISLAND Hy**	**43.20**	**83**	T		T	11 18 29.7	
	baz=276,slow=74,SNR=16							
H11S2	**WAKE ISLAND Hy**	**43.21**	**83**	T		T	11 18 28.0	
	baz=276,slow=74,SNR=20							
H11N1	**WAKE ISLAND Hy**	**43.23**	**81**	T		T	11 18 39.5	
	baz=276,slow=75,SNR=8.4							
H11N2	**WAKE ISLAND Hy**	**43.24**	**81**	T		T	11 18 33.2	
	baz=276,slow=75,SNR=8.6							
H11N3	**WAKE ISLAND Hy**	**43.25**	**81**	T		T	11 18 41.0	
	baz=276,slow=75,SNR=8.6							
YAK	**Yakutsk**	**43.73**	**6**	LR		LR	10 52 02.5	
	comp=Z,52nm,18.6s,baz=88,slow=37							
AS31	**Alice Springs**	**43.93**	**163**	*e*P		**P**	**10 33 07.5**	**-2.4**
	4.4nm,1.5s							
ASAR	**Alice Springs**	**43.93**	**163**	P		**P**	**10 33 07.7**	**-2.3**
	1.3nm,0.4s,baz=343,slow=6.9,SNR=40							
ASAR				PcP		**PcP**	**10 34 55.1**	**+0.1**
	0.8nm,0.5s,baz=342,slow=3.0,SNR=9.4							
KSH	**Kashi**	**43.96**	**308**	*e*P		**P**	**10 33 14.4**	**+4.2**
KSH				pmax		pmax		
	comp=Z,89nm,6.2s							
PETK	**Petropavlovsk-**	**44.58**	**31**	P		**P**	**10 33 14.7**	**-0.1**
	1.2nm,0.6s,baz=237,slow=2.6,SNR=7.1							
ZALV	**Zalesovo Beam**	**44.85**	**330**	P		**P**	**10 33 17.8**	**+0.9**
	1.2nm,0.6s,baz=114,slow=8.5,SNR=5.4							
ZALV				PcP		**PcP**	**10 34 57.5**	**-0.3**
	0.9nm,0.6s,baz=109,slow=3.9,SNR=3.2							
KURK	**Kurchatov**	**46.31**	**324**	*e*P		**P**	**10 33 29.6**	**+1.1**
	4.7nm,0.9s							
KURBB	**Kurchatov Arra**	**46.32**	**323**	P		**P**	**10 33 30.2**	**+1.7**
	3.6nm,0.6s,baz=117,slow=7.7,SNR=40							
KKAR	**Karatay Array**	**48.83**	**311**	*e*P		**P**	**10 33 49.5**	**+1.2**
	2.6nm,1.0s							
BVAR	**Borovoye Array**	**51.91**	**324**	P		**P**	**10 34 12.4**	**+1.1**
	0.5nm,0.5s,baz=126,slow=8.3,SNR=3.4							
BVAR				PcP		**PcP**	**10 35 23.2**	**0.0**
	2.0nm,0.6s,baz=108,slow=4.7,SNR=9.3							
STKA	**Stephens Creek**	**54.00**	**158**	P		**P**	**10 34 25.3**	**-1.6**
	2.1nm,0.6s,baz=325,slow=6.2,SNR=6.9							
DGAR	**Diego Garcia**	**54.45**	**246**	*e*P		**P**	**10 34 29.2**	**-1.3**
DGAR				*e*PcP		**PcP**	**10 35 34.5**	**+1.0**
ABKAR	**Akbulak array**	**57.26**	**317**	*e*P		**P**	**10 34 50.8**	**+0.7**
	12nm,0.6s							
AKTO	**Aktyubinsk**	**58.67**	**318**	P		**P**	**10 35 00.6**	**+0.6**
	1.4nm,0.6s,baz=87,slow=11,SNR=4.9							
CAST	**Castle Rocks**	**72.10**	**28**	*e*P		**P**	**10 36 27.2**	**+0.6**
	5.8nm,0.7s							
MLY	**Manley**	**72.51**	**26**	*e*P		**P**	**10 36 29.4**	**+0.4**
	4.1nm,0.8s							
TOLK	**Toolik Lake Re**	**72.56**	**23**	*e*P		**P**	**10 36 29.7**	**+0.4**
	3.0nm,0.8s							
RND	**Reindeer**	**73.54**	**28**	*e*P		**P**	**10 36 35.4**	**+0.2**
	5.7nm,0.8s							
AFI	**Afiamalu**	**73.70**	**111**	LR		LR	11 03 40.8	
	comp=Z,30nm,20.6s,baz=278,slow=31							
ILAR	**Eielson Array**	**74.17**	**26**	P		**P**	**10 36 38.0**	**-0.8**
	0.7nm,0.6s,baz=265,slow=5.2,SNR=20							
FINES	**FINESS Array B**	**76.12**	**330**	P		**P**	**10 36 49.9**	**-0.1**
	5.3nm,1.2s,baz=54,slow=7.1,SNR=2.9							
SKAG	**Skagway**	**80.83**	**30**	*e*P		**P**	**10 37 15.7**	**-0.3**
	18nm,1.4s							
OPO	**Ambohidratompo**	**81.39**	**247**	P		**P**	**10 37 19.5**	**-0.4**
	2.6nm,0.7s,baz=7.0,slow=1.6,SNR=4.9							
HFS	**Hagfors**	**82.28**	**331**	P		**P**	**10 37 23.5**	**-0.1**
	1.2nm,0.6s,baz=116,slow=9.8,SNR=4.1							
NOA	**NORSAR Array B**	**83.00**	**333**	P		**P**	**10 37 26.3**	**-1.1**
	0.9nm,0.8s,baz=139,slow=11,SNR=3.3							
NOA				LR		LR	11 20 52.9	
	comp=Z,32nm,18.3s,baz=45,slow=40							
RES	**Resolute Bay**	**84.09**	**9**	*e*P		**P**	**10 37 33.0**	**+0.3**
	11nm,1.8s							
YKA	**Yellowknife Ar**	**88.08**	**23**	P		**P**	**10 37 53.1**	**+0.6**
	1.6nm,0.6s,baz=310,slow=4.6,SNR=50							
G08A	**Pilot Rock**	**96.28**	**38**	*e*P		**P**	**10 38 29.9**	**-1.0**
	6.1nm,0.6s							
TXAR	**Lajitas Array**	**115.68**	**43**	PKP		**PKPdf**	**10 43 45.5**	**+0.5**
	0.3nm,0.6s,baz=334,slow=0.7,SNR=6.2							
SDV	**Santo Domingo**	**150.29**	**24**	PKPbc		**PKPbc**	**10 44 53.6**	**-0.9**
	5.5nm,0.6s,baz=16,slow=7.7,SNR=9.1							

NIED ***17*** *10:37:00, 41.00N×145.30E, h5km, Mw3.6 Best double couple: M0 3.34000×10^14 NP1:ϕ=248.00000°, δ=44.00000°, λ=-89.00000°. NP2:ϕ=67.00000°, δ=46.00000°, λ=-91.00000°.*
IDC ***17*** *10:37:55.4±0.9, 40.90N×145.05E, h0km, mb3.4/8, mb1 3.6/10, mb1mx3.5/62, mbtmp3.4/10, ML3.0/2, Error ellipse: s-maj=23.9km s-min=17.1km az=110.0*

JMA ***17*** *10:37:57.2±0.3, 40.95N×145.27E, h63km±3km, M3.9*
ISC 17 10:37:56.7±2.1, 41.14N±0.05×144.82E±0.06, h8km±12km, n31,σ1ϕ80/44, mb3.5/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.52**	**306**	P		**Pg**	**10 38 28.4**	**+2.5**
JCH	**Churui**	**1.83**	**324**	P		**Pg**	**10 38 31.1**	**-0.7**
JCH				*e*S		**Sg**	**10 38 56.4**	**+0.9**
JAK	**Akkeshi**	**1.85**	**357**	P		**Pb**	**10 38 30.8**	**-0.1**
JAK				S		**Sg**	**10 38 54.7**	**-1.6**
JOB	**Onbets**	**1.91**	**338**	P		**Pg**	**10 38 33.0**	**-0.3**
JOB				*e*S		**Sg**	**10 38 57.8**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.92**	**307**	P		Pg	10 38 34.5	+1.0
JNBK				*e*S		**Sg**	**10 38 59.3**	**+0.9**
JAR	**Ashorobuto**	**2.29**	**340**	P		**Pb**	**10 38 36.6**	**-1.7**
JAR				*e*S		**Sb**	**10 39 06.1**	**-0.7**
NEM2	**Nemuro 2**	**2.33**	**17**	P		**Pn**	**10 38 35.3**	**0.0**
NEM2				*e*S		**Sn**	**10 39 03.3**	**-0.7**
JNK	**Nakash**	**2.44**	**358**	P		**Pn**	**10 38 38.1**	**+1.2**
JNK				*e*S		**Sb**	**10 39 07.7**	**-3.5**
JBT2	**Biratori 2**	**2.46**	**313**	P		**Pb**	**10 38 41.6**	**+0.5**
JBT2				*e*S		Sg	10 39 14.9	-0.7
JFR	**Furan**	**2.61**	**321**	P		**Pb**	**10 38 42.6**	**-1.2**
JFR				*e*S		**Sb**	**10 39 14.3**	**-1.7**
JANG	**Nango**	**2.62**	**254**	P		**Pn**	**10 38 39.9**	**+0.5**
JANG				*e*S		**Sn**	**10 39 10.5**	**-1.0**
JRA	**Rausu**	**2.80**	**4**	P		**Pn**	**10 38 42.4**	**+0.5**
JRA				*e*S		**Sn**	**10 39 15.6**	**-0.2**
JOT	**Ohata**	**2.85**	**276**	P		**Pn**	**10 38 44.2**	**+1.7**
JOT				*e*S		**Sb**	**10 39 17.8**	**-5.2**
JTKR	**Abashiri--Toko**	**2.91**	**347**	P		**Pb**	**10 38 46.1**	**-2.7**
JTKR				*e*S		**Sb**	**10 39 22.2**	**-2.3**
JKB	**Kayabe**	**2.94**	**286**	P		**Pb**	**10 38 47.4**	**-2.0**
JKB				*e*S		**Sb**	**10 39 22.5**	**-2.9**
JEW	**Eniwo**	**3.03**	**305**	P		**Pb**	**10 38 50.0**	**-0.9**
JEW				*e*S		**Sb**	**10 39 27.5**	**-0.6**
JKK2	**Kamakawa 2**	**3.13**	**331**	*e*S		**Sb**	**10 39 30.2**	**-0.7**
JOM	**Ohasama**	**3.17**	**239**	P		**Pn**	**10 38 46.0**	**-0.1**
JOM				*e*S		**Sn**	**10 39 22.7**	**-2.2**
ASAJ	**Asahikawa**	**3.40**	**332**	Pn		**Pb**	**10 38 54.2**	**-3.0**
	1.0nm,0.3s,baz=202,slow=19,SNR=9.7							
ASAJ				Sn		**Sb**	**10 39 38.0**	**-0.6**
	3.9nm,0.3s,baz=285,slow=30,SNR=10							
MJAR	**Matsushiro Arr**	**6.91**	**230**	Pn		**Pn**	**10 39 37.8**	**-0.5**
	0.2nm,0.3s,baz=37,slow=12,SNR=4.7							
MJAR				Sn		**Sn**	**10 40 59.0**	**+1.9**
	0.4nm,0.3s,baz=73,slow=41,SNR=4.4							
SEY	**Seymchan**	**22.28**	**9**	P		**P**	**10 42 57.1**	**+3.0**
	0.4nm,0.5s,baz=90,slow=20,SNR=3.4							
H11S1	**WAKE ISLAND Hy**	**29.32**	**134**	T		T	11 14 25.7	
	baz=325,slow=74,SNR=6.3							
H11S3	**WAKE ISLAND Hy**	**29.33**	**134**	T		T	11 14 24.2	
	baz=325,slow=74,SNR=3.4							
H11S2	**WAKE ISLAND Hy**	**29.34**	**134**	T		T	11 14 24.9	
	baz=325,slow=74,SNR=5.6							
MKAR	**Makanchi Array**	**44.31**	**299**	P		**P**	**10 46 08.1**	**+1.1**
	0.3nm,0.7s,baz=92,slow=8.7,SNR=2.4							
ILAR	**Eielson Array**	**44.61**	**35**	P		**P**	**10 46 08.9**	**-0.2**
	0.5nm,0.8s,baz=264,slow=7.2,SNR=7.0							
KURBB	**Kurchatov Arra**	**45.68**	**305**	P		**P**	**10 46 20.3**	**+2.5**
	1.0nm,0.7s,baz=78,slow=8.5,SNR=6.5							
YKA	**Yellowknife Ar**	**58.93**	**32**	P		**P**	**10 47 56.8**	**+0.8**
	0.1nm,0.6s,baz=299,slow=6.1,SNR=3.5							
WRA	**Warramunga Arr**	**61.55**	**191**	P		**P**	**10 48 13.3**	**-1.0**
	0.8nm,0.8s,baz=4.9,slow=6.6,SNR=3.1							
ASAR	**Alice Springs**	**65.27**	**191**	P		**P**	**10 48 37.2**	**-1.8**
	0.5nm,0.6s,baz=14,slow=6.5,SNR=4.3							
TXAR	**Lajitas Array**	**85.55**	**55**	P		**P**	**10 50 35.9**	**+0.1**
	0.2nm,0.7s,baz=287,slow=3.5,SNR=3.2							

DDA ***17*** *10:38:07.0, 40.18N×29.49E, h3km, Ml2.9*
ISK ***17*** *10:38:06.6, 40.12N×29.41E, h6km, ML2.5/7*
ISCJB ***17*** *10:38:07.1±0.5, 40.15N±0.04×29.44E±0.04, h9km, Error ellipse: s-maj=6.0km s-min=4.2km az=15.4*
CSEM ***17*** *10:38:07.3±0.1, 40.13N×29.46E, h10km, ML2.5, Error ellipse: s-maj=3.6km s-min=3.0km az=12.0*
ISC 17 10:38:07.0±0.9, 40.13N±0.03×29.46E±0.02, h9km, n33, σ0ϕ39/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IGD	**Bursa**	**0.24**	**303**	*i* P		**Pg**	**10 38 11.8**	**-0.1**
CAVI	**Cavuskoy**	**0.30**	**76**	PG		**Pg**	**10 38 13.5**	**+0.5**
CAVI				SG		**Sb**	**10 38 19.1**	**-0.5**
CAVI	**Cavuskoy**	**0.30**	**76**	*e*Pg		**Pg**	**10 38 13.5**	**+0.5**
CAVI				*e*Sg		**Sb**	**10 38 19.1**	**-0.5**
ARMT	**Armutlu**	**0.63**	**313**	PG		**Pg**	**10 38 19.4**	**+0.1**
ARMT				SG		**Sg**	**10 38 27.8**	**+0.3**
ARMT	**Armutlu**	**0.63**	**313**	*e*Pg		**Pg**	**10 38 19.4**	**+0.1**
ARMT				*e*Sg		**Sg**	**10 38 27.8**	**+0.3**
TVSB	**Tavsanli**	**0.68**	**180**	PG		**Pg**	**10 38 19.8**	**-0.4**
TVSB	**Tavsanli**	**0.68**	**180**	*e*Pg		**Pg**	**10 38 19.8**	**-0.4**
HRT	**Hereke**	**0.71**	**13**	PG		**Pg**	**10 38 20.9**	**+0.2**
HRT	**Hereke**	**0.71**	**13**	*e*Pg		**Pg**	**10 38 20.9**	**+0.2**
BORA	**Eskisehir**	**0.80**	**108**	*i* P		**Pg**	**10 38 22.6**	**+0.2**
BORA	**Eskisehir**	**0.80**	**108**	P		**Pg**	**10 38 22.6**	**+0.2**
GULT	**Gulveren**	**0.86**	**69**	PG		**Pb**	**10 38 24.3**	**+0.1**
GULT	**Gulveren**	**0.86**	**69**	*e*Pg		**Pb**	**10 38 24.3**	**+0.1**
KCTX	**Karacabey (Bur**	**0.86**	**279**	PG		**Pg**	**10 38 23.4**	**-0.2**
KCTX	**Karacabey (Bur**	**0.86**	**279**	*e*Pg		**Pg**	**10 38 23.4**	**-0.2**
SAUV	**Serdivan-Sakar**	**0.90**	**47**	PG		**Pb**	**10 38 24.9**	**+0.2**
SAUV	**Serdivan-Sakar**	**0.90**	**47**	*e*Pg		**Pb**	**10 38 24.9**	**+0.2**
KAVV	**Kandilli-Istan**	**0.98**	**342**	PG		**Pg**	**10 38 25.9**	**0.0**
KAVV	**Kandilli-Istan**	**0.98**	**342**	*e*Pg		**Pg**	**10 38 25.9**	**0.0**
ISK	**Istanbul-Kandi**	**0.98**	**342**	PG		**Pg**	**10 38 26.0**	**+0.1**
ISK	**Istanbul-Kandi**	**0.98**	**342**	*e*Pg		**Pg**	**10 38 26.0**	**+0.1**
KLYT	**Kilyos**	**1.16**	**344**	PN		**Pg**	**10 38 29.4**	**0.0**
KLYT	**Kilyos**	**1.16**	**344**	*e*Pn		**Pg**	**10 38 29.4**	**0.0**
ESKT	**Eskisehir**	**1.23**	**119**	*i* P		**Pb**	**10 38 30.2**	**-0.3**
SEYT	**Eskypehyr**	**1.23**	**119**	P		**Pb**	**10 38 30.2**	**-0.3**
DEMI	**Demirci**	**1.23**	**208**	*i* P		**Pg**	**10 38 31.7**	**+1.0**
DEMI	**Demirci**	**1.23**	**208**	P		**Pg**	**10 38 31.7**	**+1.0**
EDC	**Edincik**	**1.24**	**280**	PN		**Pn**	**10 38 30.0**	**-0.6**
EDC	**Edincik**	**1.24**	**280**	*e*Pn		**Pn**	**10 38 30.0**	**-0.6**
BALY	**Balya**	**1.47**	**255**	*i* P		**Pb**	**10 38 34.8**	**+0.2**
BALY	**Balya**	**1.47**	**255**	P		**Pb**	**10 38 34.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.68**	**280**	PN		**Pn**	**10 38 36.9**	**+0.4**
KRBG	**Karabiga-Canak**	**1.68**	**280**	*e*Pn		**Pn**	**10 38 36.9**	**+0.4**

CSEM ***17*** *10:38:31.8, 37.16N×27.86E, h4km, ML2.3, Suspected Mining explosion. After ISK*
ISK ***17*** *10:38:31.8, 37.16N×27.86E, h4km, ML2.3/5, Suspected Mining explosion.*
ISCJB ***17*** *10:38:32.1±0.5, 37.14N±0.04×27.87E±0.04, h0km, Error ellipse: s-maj=6.6km s-min=4.1km az=19.1*
ISC 17 10:38:31.5±1.0, 37.11N±0.04×27.85E±0.03, h0km, n24, σ0ϕ86/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.19**	**343**	PG		**Pg**	**10 38 35.8**	**+0.6**
MLSB				SG		**Sg**	**10 38 38.2**	**+0.5**
MLSB	**Milas**	**0.19**	**343**	*e*Pg		**Pg**	**10 38 35.8**	**+0.6**
MLSB				*e*Sg		**Sg**	**10 38 38.2**	**+0.5**
BDRM	**Kayabasi**	**0.33**	**262**	*i* P		**Pg**	**10 38 39.7**	**-0.6**
YER	**Yerkesik**	**0.35**	**86**	PG		**Pg**	**10 38 39.0**	**+0.8**
YER				SG		**Sg**	**10 38 44.4**	**+1.7**
YER	**Yerkesik**	**0.35**	**86**	*e*Pg		**Pg**	**10 38 39.0**	**+0.8**
YER				*e*Sg		**Sg**	**10 38 44.4**	**+1.7**
BODT	**Bodrum**	**0.43**	**263**	PG		**Pg**	**10 38 40.6**	**+0.8**
BODT				SG		**Sb**	**10 38 48.2**	**-0.9**
BODT	**Bodrum**	**0.43**	**263**	*e*Pg		**Pg**	**10 38 40.6**	**+0.8**
BODT				*e*Sg		**Sb**	**10 38 48.2**	**-0.9**
AYDN	**Tasoluk**	**0.55**	**3**	*i* P		**Pb**	**10 38 42.5**	**-1.6**
TURN	**Turunc**	**0.65**	**111**	PG		**Pg**	**10 38 42.3**	**-1.7**
TURN	**Turunc**	**0.65**	**111**	*e*Pg		**Pg**	**10 38 42.3**	**-1.7**
DALY	**Dalyan (Mu˘la**	**0.71**	**114**	PG		**Pb**	**10 38 46.6**	**-0.2**
DALY	**Dalyan (Mu˘la**	**0.71**	**114**	*i* P		**Pb**	**10 38 46.7**	**0.0**
DALY	**Dalyan (Mu˘la**	**0.71**	**114**	*e*Pg		**Pb**	**10 38 46.6**	**-0.2**
GCAM	**G?zelcaml?**	**0.76**	**320**	PG		**Pb**	**10 38 47.4**	**-0.3**
GCAM	**G?zelcaml?**	**0.76**	**320**	*i* P		**Pb**	**10 38 48.1**	**+0.4**
GCAM	**G?zelcaml?**	**0.76**	**320**	*e*Pg		**Pb**	**10 38 47.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**2**	PG		**Pg**	**10 38 47.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**2**	*e*Pg		**Pg**	**10 38 47.4**	**-0.1**
FETY	**Fethiye**	**1.10**	**115**	PN		**Pb**	**10 38 53.6**	**+0.2**
FETY	**Fethiye**	**1.10**	**115**	*e*Pn		**Pb**	**10 38 53.6**	**+0.2**
GMLD	**Gumuldur**	**1.21**	**323**	PN		**Pg**	**10 38 54.6**	**-0.2**
GMLD	**Gumuldur**	**1.21**	**323**	*e*Pn		**Pg**	**10 38 54.6**	**-0.2**
AKAS	**Kas**	**1.66**	**121**	PN		**Pb**	**10 39 03.2**	**+0.1**
AKAS	**Kas**	**1.66**	**121**	*e*Pn		**Pb**	**10 39 03.2**	**+0.1**

IDC 17 10:38:45.0±4.0, 28.08N×141.80E, h88km±33km, mb3.1/3, mb1 3.4/3, mb1mx2.9/59, mbtmp3.5/3, Error ellipse: s-maj=257.9km s-min=26.0km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.04**	**161**	P		Pn	10 39 05.1	+0.1
	27nm,0.3s,baz=304,slow=20,SNR=19							
JCJ				S		Sn	10 39 20.4	+0.3
	45nm,0.3s,baz=269,slow=23,SNR=9.4							
WRA	**Warramunga Arr**	**48.29**	**189**	P		P	10 47 17.9	+0.5
	1.9nm,0.7s,baz=10,slow=8.4,SNR=12							
MKAR	**Makanchi Array**	**49.59**	**309**	P		P	10 47 27.0	-0.2
	0.1nm,0.4s,baz=105,slow=8.0,SNR=2.5							
ASAR	**Alice Springs**	**52.01**	**189**	P		P	10 47 44.5	-1.0
	0.3nm,0.9s,baz=8.9,slow=6.6,SNR=4.1							

MAN 17 10:41:40, 11.57N×125.35E, h20km, mb3.8, ML2.5, MS2.0, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.09**	**72**	*e*P		Pb	10 41 45.5	+1.6
BESP				*e*S		Sb	10 41 52.0	+5.4
PLP	**Palo**	**0.54**	**222**	*e*P		Pb	10 41 51.1	+0.3
PLP				*i* S		Sn	10 42 00.7	-0.4
OCLP	**Ormoc**	**0.89**	**235**	*e*P		Pb	10 41 56.9	+0.1
MSLP	**Maasin**	**1.51**	**199**	*e*P		Pn	10 42 06.6	+0.7

NNC 17 10:51:56.2±7.8, 37.86N×71.41E, h0km, mb3.9, mpv3.5, 7C-1D, Error ellipse: s-maj=59.1km s-min=46.1km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.70**	**37**	⇑Pn		Pn	10 52 41.3	+0.2
	12nm,0.3s							
SFK				⇑Sn		Sn	10 53 15.7	+1.1
	76nm,0.7s							
MNAS	**Manas**	**4.70**	**10**	⇑Pn		Pn	10 53 09.3	+0.8
	4.8nm,0.6s							
MNAS				⇑Sn		Sn	10 54 04.6	+0.9
	9.3nm,0.5s							
KK31	**Karatay Array**	**5.28**	**353**	⇑Pn		Pn	10 53 18.9	+2.5
	0.9nm,0.3s,baz=183,slow=14,SNR=16							
KK31				⇑Sn		Sn	10 54 20.7	+2.8
	3.5nm,0.3s,baz=182,slow=25,SNR=16							
AAK	**Ala-Archa**	**5.32**	**25**	⇓Pn		Pn	10 53 14.7	-2.4
	2.3nm,0.5s							
AAK				⇑Sn		Sn	10 54 18.2	-1.0
	5.4nm,0.5s							

**KRSC 17 10:53:01.3±0.8, 53.02N×

SJG LR LR 11 11 02.8
comp=Z,458nm,18.5s,baz=58,slow=47
SJG San Juan 1.98 225‖*eP* **Pn 11 10 04.5 -0.6**
SJG *eS* **Sn 11 10 31.2 +1.4**
SJG San Juan 1.98 225‖*eP* **Pn 11 10 04.5 -0.6**
SJG *eS* **Sn 11 10 31.2 +1.4**
EMPR Esperanza - Ma 2.04 239‖*eP* **Pn 11 10 05.7 -0.2**
EMPR Esperanza - Ma 2.04 239‖*eP* **Pn 11 10 05.7 -0.2**
EMPR *eS* **Sb 11 10 32.9 -1.2**
SMRT St. Maarten 2.12 134 *eP* **Pn 11 10 07.5 +0.5**
SMRT *eS* **Sn 11 10 33.8 +0.5**
SMRT St. Maarten 2.12 134 *eP* **Pn 11 10 07.5 +0.5**
SMRT *eS* **Sn 11 10 33.8 +0.5**
AOPR Arecibo Observ 2.29 239‖*eP* **Pn 11 10 08.9 -0.5**
AOPR Arecibo Observ 2.29 239‖*eP* **Pn 11 10 08.9 -0.5**
AOPR *eS* **Sn 11 10 38.8 +1.4**
AOPR Arecibo Observ 2.29 239‖*eP* **Pn 11 10 08.9 -0.5**
AOPR *eS* **Sn 11 10 38.8 +1.4**
CELP Cerrillos 2.31 231‖*eP* **Pn 11 10 09.4 -0.2**
CELP Cerrillos 2.31 231‖*eP* **Pn 11 10 09.4 -0.2**
CELP Cerrillos 2.31 231‖*eP* **Pn 11 10 09.4 -0.2**
SABA Saba 2.34 144 *eP* **Pn 11 10 10.4 +0.3**
SABA *eS* **Sn 11 10 40.0 +1.3**
SABA Saba 2.34 144 *eP* **Pn 11 10 10.4 +0.3**
SABA *eS* **Sn 11 10 40.0 +1.3**
OBIP Obispado Ponce 2.35 231‖*eP* **Pn 11 10 09.1 -1.1**
OBIP Obispado Ponce 2.35 231‖*eP* **Pn 11 10 09.1 -1.1**
OBIP *eS* **Sn 11 10 40.1 +1.3**
OBIP Obispado Ponce 2.35 231‖*eP* **Pn 11 10 09.1 -1.1**
OBIP *eS* **Sn 11 10 40.1 +1.3**
ICMP Isla Caja de M 2.40 227‖*eP* **Pn 11 10 11.2 +0.4**
ICMP Isla Caja de M 2.40 227‖*eP* **Pn 11 10 11.2 +0.4**
ICMP *eS* **Sn 11 10 40.6 +0.6**
AGPR Aguadilla, PR 2.53 246⇑*eP* **Pn 11 10 12.3 -0.4**
AGPR Aguadilla, PR 2.53 246⇑*eP* **Pn 11 10 12.3 -0.4**
AGPR Aguadilla, PR 2.53 246⇑*eP* **Pn 11 10 12.3 -0.4**
AGP Aguadilla 2.58 245 *ePn* **Pn 11 10 13.4 0.0**
SEUS St. Eustatius 2.59 141 *eP* **Pn 11 10 13.3 -0.3**
SEUS *eS* **Sb 11 10 49.4 -0.7**
SEUS St. Eustatius 2.59 141 *eP* **Sn 11 10 13.3 -0.3**
SEUS *eS* **Sn 11 10 47.2 +2.4**
LSP Las Mesas 2.65 240‖*eP* **Pn 11 10 14.5 +0.2**
LSP Las Mesas 2.65 240‖*eP* **Pn 11 10 14.5 +0.2**
LSP Las Mesas 2.65 240‖*eP* **Pn 11 10 14.5 +0.2**
MPR Mayaguez 2.67 241 *ePn* **Pn 11 10 14.9 +0.3**
CRPR Cabo Rojo, PR 2.76 237‖*eP* **Pn 11 10 15.6 -0.2**
CRPR Cabo Rojo, PR 2.76 237‖*eP* **Pn 11 10 15.6 -0.2**
CRPR *eS* **Sn 11 10 50.1 +1.2**
CRPR Cabo Rojo, PR 2.76 237‖*eP* **Sn 11 10 15.6 -0.2**
CRPR *eS* **Sn 11 10 50.1 +1.2**
IDE Isla Desecheo 2.88 247‖*eP* **Pn 11 10 17.4 -0.1**
IDE Isla Desecheo 2.88 247‖*eP* **Pn 11 10 17.4 -0.1**
IDE *eS* **Sn 11 10 52.5 +0.6**
IDE Isla Desecheo 2.88 247‖*eP* **Pn 11 10 17.4 -0.1**
IDE *eS* **Sn 11 10 52.5 +0.6**
NEV Hard Times 3.12 140 *eP* **Pn 11 10 21.3 +0.5**
NEV *eS* **Sn 11 10 58.8 +1.0**
NEV Hard Times 3.12 140 *eP* **Pn 11 10 21.3 +0.5**
NEV Hard Times 3.12 140 *e* **Pb 11 10 27.6 +0.3**
NEV *eS* **Sn 11 10 58.8 +1.0**
ANWB Willy Bob 3.32 124 *ePn* **Sn 11 10 20.8 -2.7**
ANWB *eS* **Sn 11 11 03.3 +0.6**
ANWB Willy Bob 3.32 124 *eP* **Pn 11 10 23.9 +0.4**
ANWB *eS* **Sn 11 11 03.3 +0.6**
BPA Boggy Peak 3.65 132 *eP* **Pn 11 10 28.5 +0.1**
BPA *eS* **Sn 11 11 10.6 -0.5**
BPA Boggy Peak 3.65 132 *eP* **Pn 11 10 28.2 +0.1**
BPA *eS* **Sn 11 11 10.6 -0.5**
MBWH 3.65 139 *eP* **Pn 11 10 28.3 +0.1**
MLYT Lee's Yard 3.67 139 *eP* **Pn 11 10 28.6 +0.2**
MLYT *eS* **Sn 11 11 12.3 +0.9**
GDHS Morne Mazeau, 4.27 139 *eP* **Pn 11 10 37.3 +0.6**
GDHS *eS* **Sn 11 11 26.0 -0.4**
LZG Guadaloupe-1 4.37 140 *eP* **Pn 11 10 37.3 -0.6**
DR12 Loma Pena Alta 4.50 261‖*eP* **Pn 11 10 39.6 -0.2**
DR12 Loma Pena Alta 4.50 261‖*eP* **Pn 11 10 39.6 -0.2**
TBG Guadaloupe-3 4.67 141 *eP* **Pn 11 10 42.4 +0.3**
TBG Guadaloupe-3 4.67 141 *eS* **Sn 11 11 36.6 +0.6**
MGG Marie-Galante 4.82 138 *eP* **Pn 11 10 43.2 -1.0**
MGG *eS* **Sn 11 11 39.6 -0.3**
MGG Marie-Galante 4.82 138 *eP* **Pn 11 10 43.2 -1.0**
MDVC Dominica, Viel 5.00 141 *eP* **Pn 11 10 46.0 -0.6**
MDPO Dominica; Chan 5.00 141 *eP* **Pn 11 10 47.2 +0.5**
MDMP Dominica, Moor 5.01 141 *eP* **Pn 11 10 46.6 -0.2**
BBL Barber's Block 5.03 142 *eP* **Pn 11 10 46.9 -0.2**
BBL Barber's Block 5.03 142 *eP* **Pn 11 10 46.9 -0.2**
SDD Santo Domingo 5.06 259 *ePn* **Pn 11 10 47.9 +0.3**
SDDR Presa de Saban 6.26 266‖*eP* **Pn 11 11 04.2 +0.1**
SDDR *eS* **Sn 11 12 17.1 +1.6**
SDDR Presa de Saban 6.26 266‖*eP* **Pn 11 11 04.2 +0.1**
SDDR Presa de Saban 6.26 266‖*eP* **Pn 11 11 04.2 +0.1**
GRTK Grand Turk 6.36 289 *ePn* **Pn 11 11 03.8 -1.5**
GRTK *eSn* **Sn 11 12 10.4 -7.3**
SVB Belmont 7.04 152 *ePn* Pn 11 11 19.7 +4.9
PCRV Puerto La Cruz 9.30 180 Pn **Pn 11 11 45.8 0.0**
0.7nm,0.3s,baz=308,slow=6.4,SNR=3.7
PCRV Sn **Sn 11 13 31.0 +0.6**
0.6nm,0.3s,baz=360,slow=19,SNR=2.9
SDV Santo Domingo 12.05 209 Pn **Pn 11 12 27.0 +3.3**
0.6nm,0.3s,baz=38,slow=9.0,SNR=9.5
SDV Sn **Sn 11 14 39.2 +1.2**
0.3nm,0.3s,baz=180,slow=20,SNR=2.2
SDV LR LR 11 17 39.4
comp=Z,67nm,19.4s,baz=62,slow=41
SDV Santo Domingo 12.05 209 *ePn* **Pn 11 12 22.7 -1.0**
SDV *eSn* **Sn 11 14 36.6 -1.4**
SDV Santo Domingo 12.05 209 *eP* **Pn 11 12 26.9 +3.2**
PAMC Pamplona, Colo 14.41 214 *eP* **Pn 11 12 58.1 +2.0**
MONC Monteria, Cord 15.08 226 *eP* **Pn 11 13 06.7 +1.9**
BARC Barichara 15.29 214 *eP* **P 11 13 11.4 -1.2**
ZARC Zaragoza, Cauc 15.52 221 *eP* **Pn 11 13 10.1 -0.5**
RUSC La Rusia 15.83 212 *ePn* **Pn 11 13 15.9 +0.8**
43nm,1.5s
RUSC La Rusia 15.83 212 *eP* **Pn 11 13 13.4 -1.7**
PTBC PUERTO BERRIO, 16.04 218 *eP* **Pn 11 13 14.7 -2.6**
HELC Santa Helena 16.95 220 *ePn* **Pn 11 13 28.1 -1.2**
112nm,1.6s
ROSC El Rosal 17.37 214 P **Pn 11 13 34.9 +0.5**
0.9nm,0.3s,baz=13,slow=8.2,SNR=10
ROSC LR LR 11 21 24.7
comp=Z,95nm,18.4s,baz=334,slow=41
ROSC El Rosal 17.37 214 *ePn* **Pn 11 13 34.2 -0.3**
16nm,0.8s
RREF El Recreo 17.88 217 *eP* **Pn 11 13 41.3 +0.3**
PRAC Prado 18.61 214 *ePn* **Pn 11 13 49.9 +0.4**
72nm,2.0s
PTGA Pitinga 20.66 167 P **P 11 14 10.1 -1.4**
2.0nm,0.3s,baz=321,slow=20,SNR=6.3
PTGA LR LR 11 24 05.5
comp=Z,55nm,19.8s,baz=336,slow=42
TKL Tuckaleechee C 23.26 318 LR LR 11 24 16.0
comp=Z,47nm,19.3s,baz=314,slow=38
OTAV Otavalo 23.45 217 *eP* **P 11 14 42.2 +0.6**
26nm,1.4s
TZTN Tazewell 23.68 320 P P 11 14 31.1 -12
SAML Samuel 28.34 177 *eP* **P 11 15 26.3 +0.7**
23nm,1.6s
SCHQ Schefferville 35.27 358 LR LR 11 30 32.8
comp=Z,40nm,18.7s,baz=19,slow=36
LPAZ La Paz 35.76 186 LR LR 11 34 24.1
comp=Z,24nm,18.5s,baz=10,slow=42
TXAR Lajitas Array 36.66 293 P **P 11 16 39.4 +0.9**
1.5nm,0.8s,baz=110,slow=10,SNR=22
ULM Lac du Bonnet 39.39 328 P **P 11 16 59.5 -1.7**
0.8nm,0.6s,baz=161,slow=16,SNR=2.5
ANMO Albuquerque 39.88 301 *eP* **P 11 17 05.2 -0.5**
2.3nm,1.0s
LPIG La Paz 42.46 285 LR LR 11 39 25.0
comp=Z,34nm,18.2s,baz=192,slow=42
PDAR Pinedale Array 44.19 312 P **P 11 17 41.8 +0.9**
1.0nm,0.8s,baz=109,slow=7.0,SNR=8.6
CPUP Villa Florida 46.15 171 P **P 11 17 54.9 -1.2**
1.7nm,0.6s,baz=1.0,slow=7.5,SNR=5.9
SFJD Kangerlussuaq 48.30 7 LR LR 11 38 53.6
comp=Z,39nm,18.2s,baz=270,slow=36
YKA Yellowknife Ar 54.81 334 P **P 11 19 00.9 -0.3**
0.5nm,0.7s,baz=110,slow=7.5,SNR=11
KOWA Kowa 57.98 85 P **P 11 19 25.2 +0.5**
1.3nm,0.5s,baz=275,slow=8.5,SNR=2.9
KOWA LR LR 11 41 11.9
comp=Z,47nm,20.0s,baz=209,slow=33
DBIC Dimbokro 59.39 94 LR LR 11 43 42.2
comp=Z,21nm,18.1s,baz=288,slow=35
JMIC Jan Mayen 60.92 18 LR LR 11 41 36.0
comp=Z,120nm,19.3s,baz=62,slow=32
TORD Torodi Ar. Bea 63.69 85 P **P 11 20 03.9 +0.4**
0.5nm,0.7s,baz=284,slow=7.5,SNR=3.7
TORD LR LR 11 46 34.3
comp=Z,38nm,18.0s,baz=185,slow=35
NOA NORSAR Array B 66.28 31 LR LR 11 48 30.5
comp=Z,31nm,18.0s,baz=65,slow=35
HFS Hagfors 67.49 32 LR LR 11 48 58.1
comp=Z,59nm,18.2s,baz=321,slow=35
ILAR Eielson Array 69.20 333 P **P 11 20 38.0 +0.1**
0.7nm,0.6s,baz=105,slow=4.3,SNR=18
ARCES ARCESS Array B 71.94 22 P **P 11 20 55.3 +0.7**
3.5nm,0.9s,baz=325,slow=6.2,SNR=4.7
FINES FINESS Array B 73.41 30 P **P 11 21 04.2 +0.7**
2.6nm,1.0s,baz=198,slow=10.0,SNR=3.3
FINES LR LR 11 52 16.7
comp=Z,26nm,18.5s,baz=306,slow=35
AKTO Aktyubinsk 94.03 33 LR LR 12 05 09.3
comp=Z,27nm,18.1s,baz=280,slow=36
ASAR Alice Springs 162.24 253 PKPab **PKPab 11 30 20.6 -0.4**
0.5nm,0.9s,baz=106,slow=4.6,SNR=4.2

MEX 17 11:21:17.5±0.4, 17.58N×101.28W, h34km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.18**	**277**	*i* P	Pn	11 21 22.7	0.0
ZIIG				*eS*	Sb	11 21 26.5	-1.9
CAIG	**El Cayaco**	**1.10**	**119**	*eP*	Pn	11 21 34.4	-2.1
CAIG				*eS*	Sn	11 21 48.2	-2.4
ARIG	**Puente Sto Nin**	**1.12**	**52**	*i* P	Pn	11 21 34.9	-2.0
ARIG				*i* S	Sn	11 21 48.7	-2.5
PLIG	**Platanillo**	**1.87**	**64**	*eP*	Pn	11 21 46.1	-1.1
PLIG				*eS*	Sn	11 22 06.6	-3.2
MMIG	**Aquila**	**2.09**	**290**	*eP*	Pn	11 21 48.6	-1.6
MMIG				*i* S	Sn	11 22 13.1	-2.0
TLIG	**Tlapa**	**2.58**	**90**	*i* P	Pn	11 21 56.3	-0.8
TLIG				*i* S	Sn	11 22 26.0	-1.5

NIED ***17*** *11:24:00,36.80N×140.60E,h5km,Mw4.1 Best double couple: M₀1.39000×10¹⁵ NP1:ϕs345.00000°,δ33.00000°, λ-119.00000°. NP2:ϕs199.00000°,δ61.00000°, λ-72.00000°.*
IDC ***17*** *11:24:38.1±0.5,36.76N×140.55E,h0km,mb4.1/23, mb1 4.3/26,mb1mx4.1/68,mbtmp4.2/26,ML4.2/3,MS3.0/6, Ms1 3.0/6,ms1mx2.7/62,Error ellipse: s-maj=14.3km s-min=12.2km az=113.0*
ISCJB ***17*** *11:24:39.3±0.5,36.84N±0.02×140.59E±0.03,h12km±3km, mb4.3/58,MS3.6/5,Error ellipse: s-maj=4.7km s-min=3.6km az=44.1*
JMA ***17*** *11:24:39.7,36.83N×140.58E,h7km±1km,M4.2 Broadband fault plane solution: P waves. NP1: ϕs201.00000°,δ77.00000°,λ-80.00000°. NP2: ϕs344.00000°,δ16.00000°,λ-126.00000°. Principal axes: T Plg31.0000°, Azm283.0000°; N Plg10.0000°, Azm19.0000°; P Plg57.0000°, Azm124.0000°;*
JMA Felt III J1.
BJI ***17*** *11:24:41.3,36.52N×140.60E,h35km,mb4.3/13,mB4.6/3, Ms3.9/3,Ms7 3.8/2*
MOS ***17*** *11:24:42.6±1.5,36.86N×140.59E,h40km,mb4.5/31,Error ellipse: s-maj=9.2km s-min=5.9km az=90.1*
NEIC ***17*** *11:24:44.3±0.7,36.81N×140.45E,h38km±6km,mb4.5/29, Error ellipse: s-maj=6.9km s-min=5.0km az=138.0*
NEIC Felt at Tokyo. Recorded [3 JMA] in Ibaraki.

ISC 17 11:24:40.2±0.9, 36.81N±0.03×140.59E±0.03, h11km±5km, n137,σ1§49/139, mb4.4/58, MS3.6/5, 19C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.20**	**185**	‖P	**Pg**	**11 24 44.2**	**-0.2**
JHO				S	**Sg**	**11 24 47.3**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.34**	**30**	⇑P	**Pg**	**11 24 46.0**	**-0.9**
ONAJ				S	**Sg**	**11 24 50.8**	**-0.6**
JSB	**Shiboa**	**0.56**	**287**	⇑P	**Pg**	**11 24 50.9**	**-0.2**
JSB				S	**Sg**	**11 24 58.8**	**+0.3**
JFK	**Kawauchi**	**0.60**	**22**	⇑P	**Pg**	**11 24 50.5**	**-1.3**
JYT	**Yasato**	**0.66**	**209**	⇑P	**Pg**	**11 24 52.5**	**-0.5**
JFT	**Otama**	**0.73**	**344**	⇑P	**Pg**	**11 24 53.3**	**-1.1**
JFT				S	**Sg**	**11 25 02.8**	**-1.2**
JFY	**Yanaizu**	**0.92**	**310**	⇑P	**Pg**	**11 24 56.6**	**-1.4**
JFY				S	**Sg**	**11 25 08.7**	**-1.3**
MJAR	**Matsushiro Arr**	**1.93**	**263**	Pn	**Pn**	**11 25 12.9**	**-0.1**
	82nm,0.3s,baz=88,slow=14,SNR=10						
MJAR				LR	LR	11 25 36.9	
	comp=Z,118nm,18.7s,baz=80,slow=32						
MJAR				Sn	**Sn**	**11 25 37.3**	**+0.1**
	106nm,0.3s,baz=83,slow=28,SNR=5.8						
MAJO	**Matsushiro**	**1.93**	**263**	*c iP*	**Pn**	**11 25 13.4**	**+0.4**
MAJO	**Matsushiro**	**1.93**	**263**	*ePn*	**Pn**	**11 25 13.6**	**+0.6**
MAT	**Matsushiro**	**1.93**	**263**	P	**Pn**	**11 25 13.4**	**+0.4**
MAT				S	**Sb**	**11 25 39.1**	**-0.4**
MJB9	**Matsu-Tunnel**	**1.94**	**263**	*ePn*	**Pn**	**11 25 13.7**	**+0.7**
INU	**Inuyama**	**3.24**	**244**	*ePn*	**Pn**	**11 25 32.7**	**+1.8**
JHJ	**Hachijo jima 2**	**3.74**	**190**	Pn	**Pn**	**11 25 38.5**	**+0.7**
	44nm,0.3s,baz=24,slow=2.1,SNR=4.9						
JHJ				Sn	**Sb**	**11 26 27.9**	**-3.7**
	28nm,0.3s,baz=232,slow=19,SNR=4.6						
ERM	**Erimo**	**5.56**	**20**	⇑*eP*	**Pn**	**11 26 04.8**	**+2.0**
ERM	**Erimo**	**5.56**	**20**	*ePn*	**Pn**	**11 26 03.9**	**+1.1**
ERM				*eSn*	**Sn**	**11 27 05.9**	**-0.8**
ASAJ	**Asahikawa**	**7.46**	**11**	Pn	**Pn**	**11 26 28.6**	**-0.1**
	2.0nm,0.3s,baz=218,slow=9.7,SNR=19						
ASAJ				Sn	**Sn**	**11 27 55.8**	**+2.5**
	0.5nm,0.3s,baz=108,slow=20,SNR=3.7						
ASAJ	**Asahikawa**	**7.46**	**11**	*ePn*	**Pn**	**11 26 30.0**	**+1.2**
ASAJ				Sn	**Sn**	**11 27 55.8**	**+2.5**
JNU	**Nakatsue**	**8.78**	**248**	Pn	**Pn**	**11 26 50.3**	**+3.3**
	0.2nm,0.3s,baz=53,slow=9.6,SNR=4.9						
JNU				LR	LR	11 30 20.9	
	comp=Z,64nm,19.9s,baz=104,slow=39						
CBIJ	**Chichi jima**	**9.78**	**172**	Pn	**Pn**	**11 26 57.2**	**-3.5**
JCJ	**Chichijima**	**9.78**	**172**	Pn	**Pn**	**11 26 57.2**	**-3.5**
	11nm,0.3s,baz=83,slow=16,SNR=7.7						
USRK	**Ussuriysk Ar.**	**9.86**	**321**	Pn	Pn	11 27 07.6	+5.8
	0.3nm,0.3s,baz=136,slow=13,SNR=13						
USRK				LR	LR	11 30 20.7	
	comp=Z,60nm,21.4s,baz=193,slow=35						
KUR	**Kuril'sk**	**10.05**	**31**	*eP*	**Pn**	**11 27 03.6**	**-0.7**
KUR				*eS*	**Sn**	**11 28 52.7**	**-4.2**
KUR				pmax	pmax		
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**10.13**	**277**	Pn	Pn	11 27 11.4	+5.9
	comp=Z,0.2nm,0.3s,baz=100,slow=14,SNR=20						
KSRS				LR	LR	11 30 44.6	
	comp=Z,109nm,19.9s,baz=83,slow=36						
KS01	**Wonju Array Si**	**10.16**	**278**	*ePn*	**Pn**	**11 27 06.2**	**+0.3**
KSAR	**Wonju Array Be**	**10.17**	**277**	P	Pn	11 27 11.4	+5.4
KSAR	**Wonju Array Be**	**10.17**	**277**	Pn	Pn	11 27 11.4	+5.4
YSS	**Yuzh-Sakhalins**	**10.26**	**8**	*eP*	**Pn**	**11 27 06.9**	**-0.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
KLR	**Kul'dur**	**13.98**	**335**	Pn	**P**	**11 28 05.5**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=148,slow=14,SNR=7.2						
KLR	**Kul'dur**	**13.98**	**335**	⇑*eP*	**Pn**	**11 27 59.9**	**+1.8**
TYV	**Tymovskoe**	**14.13**	**5**	*eP*	**Pn**	**11 28 00.4**	**+0.4**
TYV				pmax	pmax		
	comp=Z,12nm,0.6s						
NJ2	**Nanjing**	**18.54**	**262**	*eP*	**Pn**	**11 28 57.4**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZEA	**Zeya**	**19.30**	**335**	*i* P	**P**	**11 29 05.2**	**+0.3**
PETK	**Petropavlovsk-**	**20.21**	**31**	P	**P**	**11 29 15.6**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=213,slow=7.7,SNR=3.8						
PETK				LR	LR	11 36 16.8	
	comp=Z,26nm,22.0s,baz=225,slow=34						
SARN	**Sarigan**	**20.55**	**166**	*eP*	**P**	**11 29 20.1**	**+1.3**
PET	**Petropavlovsk**	**20.55**	**32**	*eP*	Pn	11 29 20.3	-0.5
PET				pmax	pmax		
	comp=Z,18nm,1.5s						
PET	**Petropavlovsk**	**20.55**	**32**	*eP*	Pn	11 29 20.3	-0.5
	comp=Z,18nm,1.5s						
HHC	**Hu-ho-hao-te**	**22.92**	**289**	*eP*	**P**	**11 29 43.8**	**-0.4**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,7.4s						
MA2	**Magadan 23.71 13**			P	**P**	**11 29 51.6**	**-0.2**
	comp=Z,5.8nm,0.6s,baz=193,slow=6.9,SNR=20						
MA2	**Magadan 23.71 13**‖			*eP*	**P**	**11 29 51.4**	**-0.4**
YAK	**Yakutsk 26.15 348**			*eP*	**P**	**11 30 15.2**	**+1.2**
YAK				pmax	pmax		
	comp=Z,15nm,1.0s						
YAK	**Yakutsk 26.15 348**			*eP*	**P**	**11 30 15.2**	**+1.2**
	comp=Z,15nm,1.0s						
ULN	**Ulaanbaatar 26.94 305**⇑			*eP*	**P**	**11 30 21.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar 26.94 305**			*eP*	**P**	**11 30 22.9**	**+1.4**
	comp=Z,1.9nm,0.6s						
SEY	**Seymchan 27.14 12**			P	**P**	**11 30 23.1**	**+0.1**
	comp=Z,4.5nm,1.0s,baz=210,slow=7.0,SNR=16						
SEY	**Seymchan 27.14 12**‖			*eP*	**P**	**11 30 25.3**	**+2.3**
SONA1	**Songino Array 27.36 305**			*eP*	**P**	**11 30 24.4**	**-0.9**
SONM	**Songino Array 27.36 305**			P	**P**	**11 30 24.7**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=111,slow=7.1,SNR=14						
H11N2	**WAKE ISLAND Hy 28.61 119**			T	T	12 00 22.5	
	baz=312,slow=75,SNR=1497						
H11N1	**WAKE ISLAND Hy 28.62 119**			T	T	12 00 23.0	
	baz=312,slow=75,SNR=1586						
H11N3	**WAKE ISLAND Hy 28.63 119**			T	T	12 00 24.6	
	baz=312,slow=75,SNR=1952						
H11S1	**WAKE ISLAND Hy 29.30 121**			T	T	12 01 12.9	
	baz=314,slow=76,SNR=6352						
H11S3	**WAKE ISLAND Hy 29.30 121**			T	T	12 01 13.8	
	baz=314,slow=76,SNR=3424						
H11S2	**WAKE ISLAND Hy 29.32 121**			T	T	12 01 15.7	
	baz=314,slow=76,SNR=2480						
TLY	**Talaya 29.98 312**‖			*eP*	**P**	**11 30 46.9**	**-1.6**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CD2	**Chengdu 31.01 270**			*eP*	**P**	**11 30 57.5**	**-0.3**
BILL	**Bilibino 34.43 17**			*i* P	**P**	**11 31 26.2**	**-1.0**
BILL				*i*		11 34 05.2	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi 35.44 354**‖			*eP*	**P**	**11 31 36.2**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi 35.44 354**			*eP*	**P**	**11 31 36.2**	**+0.4**
	comp=Z,2.0nm,0.6s						
DGZ	**Jazzator, Alta 39.99 306**			*ceP*	**P**	**11 32 15.1**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMQ	**Urumqi 40.35 297**			P	**P**	**11 32 18.9**	**+1.1**
WMQ				sP	sP	11 32 32.0	+9.3
WMQ				LR	LR		
	comp=Z,89nm,16.9s						
WMQ				LR	LR		
	comp=Z,130nm,19.7s						
WMQ				LR	LR		
	comp=Z,74nm,18.3s						
CMAR	**Chiang Mai Arr 40.80 255**			LR	LR	11 49 53.2	
	comp=Z,19nm,20.5s,baz=85,slow=37						
CMAR	**Chiang Mai Arr 40.80 255**			*i* P	P	11 32 16.8	-4.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAA0	**Zalesovo Array 41.58 313**			*eP*	**P**	**11 32 27.2**	**-0.5**
	comp=Z,2.9nm,0.7s						
ZALV	**Zalesovo Beam 41.58 313**			P	**P**	**11 32 27.2**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=95,slow=5.1,SNR=7.1						
ZALV				PcP	**PcP**	**11 34 25.9**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=120,slow=2.5,SNR=4.2						
MKAR	**Makanchi Array 43.68 302**			P	**P**	**11 32 43.8**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=90,slow=10.0,SNR=7.0						
MKAR	**Makanchi Array 43.68 302**			*ceP*	**P**	**11 32 46.5**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov 45.55 308**⇑			*eP*	**P**	**11 32 58.3**	**-1.4**
KURK				pmax	pmax		
	comp=Z,16nm,1.0s						
KURK	**Kurchatov 45.55 308**			*eP*	**P**	**11 32 58.9**	**-0.8**
	comp=Z,3.8nm,0.6s						
KURBB	**Kurchatov Arra 45.62 308**			P	**P**	**11 32 59.0**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=84,slow=8.1,SNR=9.5						
MDM	**Murphy Dome 49.45 32**			*eP*	**P**	**11 33 31.0**	**+1.1**
	comp=Z,6.7nm,1.2s						
WRH	**Wood River Hil 49.53 33**			*eP*	**P**	**11 33 32.3**	**+1.8**
WRH				*e*PcP	**PcP**	**11 34 52.1**	**0.0**
KSH	**Kashi 49.89 294**			*eP*	**P**	**11 33 36.3**	**+2.5**
AAK	**Ala-Archa 50.01 298**			P	**P**	**11 33 33.9**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=297,slow=6.8,SNR=4.4						
AAK				LR	LR	11 55 44.6	
	comp=Z,60nm,18.6s,baz=67,slow=37						
AAK	**Ala-Archa 50.01 298**‖			*eP*	**P**	**11 33 33.8**	**-0.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
IL1	**Eielson Array 50.03 32**			*eP*	**P**	**11 33 34.6**	**+0.3**
ILAR	**Eielson Array 50.03 32**			P	**P**	**11 33 34.5**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=271,slow=4.4,SNR=21						
ILB	**Eielson Array 50.03 32**			*eP*	**P**	**11 33 34.9**	**+0.6**
BVAR	**Borovoye Array 50.23 312**			P	**P**	**11 33 35.7**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=77,slow=6.2,SNR=5.5						
BRVK	**Borovoye 50.29 312**‖			*eP*	**P**	**11 33 37.9**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	**Arti 56.09 318**			*c iP*	**P**	**11 34 18.8**	**-0.2**
ARU						11 36 22.0	
ARU				S	**S**	**11 42 06.1**	**-1.4**
ARU				SS	**SS**	**11 45 44.7**	**-8.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRAB	**Tennant Creek 56.74 187**⇑			*eP*	**P**	**11 34 23.1**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr 56.75 187**			P	**P**	**11 34 22.7**	**-1.4**
	comp=Z,3.9nm,0.6s,baz=2.5,slow=7.1,SNR=53						
ABKAR	**Akbulak array 57.58 310**			*eP*	**P**	**11 34 28.4**	**-1.3**
	comp=Z,2.0nm,0.9s						
AS01	**Alice Springs 60.48 187**			*eP*	**P**	**11 34 49.6**	**-0.4**
ASAR	**Alice Springs 60.48 187**			P	**P**	**11 34 49.7**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=20,slow=11,SNR=12						
ARCES	**ARCESS Array B 63.97 339**			P	**P**	**11 35 14.1**	**+1.2**
	comp=Z,6.5nm,1.0s,baz=38,slow=8.

	comp=Z,6.6nm,1.3s								
FXWY	**Fox Creek**	**76.91**	**45**	*e*P		**P**	**11 36 33.9**	**+1.2**
	comp=Z,2.9nm,1.0s								
MOOW	**Moose Ponds**	**77.00**	**45**	*e*P		**P**	**11 36 34.5**	**+1.3**
	comp=Z,15nm,2.0s								
PD31	**Pinedale Array**	**78.29**	**45**	*e*P		**P**	**11 36 41.1**	**+0.6**
PDAR	**Pinedale Array**	**78.29**	**45**	P		**P**	**11 36 40.0**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=294,slow=2.7,SNR=8.5								
MPU	**Maple Canyon**	**78.82**	**48**	*e*P		**P**	**11 36 44.4**	**+1.0**
	comp=Z,3.3nm,0.8s								
TMUT	**Trail Mountain**	**79.53**	**49**	*e*P		**P**	**11 36 48.4**	**+1.0**
	comp=Z,7.3nm,1.5s								
P17A	**Butcher Ranch,**	**79.69**	**48**	*e*P		**P**	**11 36 48.4**	**+0.2**
	comp=Z,13nm,1.5s								
ULM	**Lac du Bonnet**	**80.05**	**33**	P		**P**	**11 36 51.0**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=262,slow=7.1,SNR=3.3								
SRU	**San Rafael Swe**	**80.05**	**48**	*e*P		**P**	**11 36 50.6**	**+0.5**
SRU				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SRU	**San Rafael Swe**	**80.05**	**48**	*e*P		**P**	**11 36 50.6**	**+0.5**
	comp=Z,3.9nm,0.8s								
CLL	**Collm**	**80.96**	**330**	*e*P		**P**	**11 36 56.0**	**+1.6**
CLL	**Collm**	**80.96**	**330**	*e*P		**P**	**11 36 56.0**	**+1.6**
PV04	**Paradox Valley**	**81.48**	**48**	*e*P		**P**	**11 36 54.0**	**-3.8**
Y14A	**Wickenburg**	**81.77**	**54**	*e*P		**P**	**11 37 00.2**	**+1.0**
	comp=Z,13nm,0.9s								
PV01	**Paradox Valley**	**81.85**	**48**	*e*P		**P**	**11 37 00.6**	**+0.8**
X16A	**Lo Mia Camp, P**	**82.47**	**52**	*e*P		**P**	**11 37 04.2**	**+1.1**
	comp=Z,3.4nm,1.0s								
ISCO	**Idaho Springs**	**82.48**	**45**	*e*P		**P**	**11 37 03.2**	**+0.1**
ISCO				pmax	pmax				
	comp=Z,7.0nm,1.6s								
ISCO	**Idaho Springs**	**82.48**	**45**	*e*P		**P**	**11 37 03.2**	**+0.1**
	comp=Z,6.9nm,1.6s								
GERES	**GERESS Array B**	**82.55**	**328**	P		**P**	**11 37 01.4**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=40,slow=3.2,SNR=3.3								
S22A	**4UR Ranch, Cre**	**83.14**	**47**	*e*P		**P**	**11 37 07.6**	**+1.0**
	comp=Z,2.9nm,0.9s								
SDCO	**Great Sand Dun**	**83.92**	**47**	*e*P		**P**	**11 37 11.3**	**+0.7**
	comp=Z,5.3nm,1.5s								
MHTCO	**State Highway**	**84.82**	**47**	*e*P		**P**	**11 37 15.8**	**+0.8**
	comp=Z,8.1nm,1.4s								
T25A	**Trinidad**	**84.97**	**47**	*e*P		**P**	**11 37 16.7**	**+0.9**
	comp=Z,6.3nm,1.0s								
ANMO	**Albuquerque**	**85.23**	**49**	*c*e*P*		**P**	**11 37 18.7**	**+1.5**
ANMO				pmax	pmax				
	comp=Z,6.0nm,1.7s								
ANMO	**Albuquerque**	**85.23**	**49**	*e*P		**P**	**11 37 17.8**	**+0.6**
	comp=Z,3.2nm,1.0s								
TX31	**Lajitas Ar. Si**	**90.78**	**52**	*e*P		**P**	**11 37 44.1**	**+0.4**
TXAR	**Lajitas Array**	**90.78**	**52**	P		**P**	**11 37 44.2**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=294,slow=3.0,SNR=20								
LPAZ	**La Paz**	**147.37**	**59**	PKPbc		**PKPdf**	**11 44 23.1**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=316,slow=3.2,SNR=7.4								

MEX 17 11:37:47.9±0.8, 17°.53N×101°.19W, h15km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.27**	**286**	*e*P	Pg	11 37 52.7	-1.0
ZIIG				*e*S	Sg	11 37 57.9	+0.2
CAIG	**El Cayaco**	**1.00**	**118**	*e*P	Pb	11 38 03.5	-3.4
CAIG				*i* S	Sb	11 38 16.4	-3.6
ARIG	**Puente Sto Nin**	**1.10**	**47**	*e*P	Pb	11 38 04.6	-4.1
ARIG				*i* S	Sb	11 38 18.8	-3.9
MMIG	**Aquila**	**2.19**	**291**	*i* P	Pn	11 38 21.4	-2.3
MMIG				*i* S	Sn	11 38 45.9	-4.6

*ISCJB **17** 11:39:43.7±0.9, 48°.64N±0°.09×77°.5E±0°.1, h0km, Error ellipse: s-maj=12.7km s-min=11.0km az=13.1*
*IDC **17** 11:39:45.2±2.9, 48°.69N×77°.66E, h0km, mb1 2.7/3, mb1mx2.6/67, mbtmp2.7/3, ML2.1/3, Error ellipse: s-maj=41.0km s-min=12.8km az=75.0*
*NNC **17** 11:39:47.4±1.5, 48°.81N×77°.76E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=16.7km s-min=14.0km az=71.0, Suspected Mining explosion.*

ISC 17 11:39:44.3±1.2, 48°.64N±0°.07×77°.67E±0°.08, h0km, n8, σ1s70/8, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.06**	**15**	Pn	**Pn**	**11 40 21.0**	**+0.8**
	0.8nm,0.3s,baz=201,slow=16,SNR=33						
KURBB				Lg	Lg	11 40 48.4	
	0.5nm,0.3s,baz=201,slow=27,SNR=11						
KURK	**Kurchatov**	**2.17**	**16**	⇓Pn	**Pn**	**11 40 22.5**	**+0.8**
	6.0nm,0.5s						
KURK				⇑Lg	Lg	11 40 50.5	
	7.9nm,0.6s						
MAKZ	**Makanchi**	**3.44**	**121**	⇓Pn	**Pb**	**11 40 44.4**	**-1.7**
	1.2nm,0.8s						
MAKZ				⇑Lg	Lg	11 41 40.1	
	3.9nm,0.8s						
OTUK	**Ortayu**	**3.57**	**266**	⇑Pg	**Pg**	**11 40 52.6**	**-0.1**
	3.0nm,0.9s						
OTUK				⇑Lg	Lg	11 41 46.0	
	3.7nm,0.7s						
MK31	**Makanchi Array**	**3.63**	**119**	⇑Pn	**Pn**	**11 40 43.4**	**+1.7**
	0.6nm,0.5s,baz=312,slow=13,SNR=7.4						
MK31				⇑Lg	Lg	11 41 42.6	
	5.3nm,0.8s,baz=305,slow=27,SNR=12						
MKAR	**Makanchi Array**	**3.63**	**119**	Pn	**Pn**	**11 40 43.4**	**+1.6**
	0.2nm,0.3s,baz=300,slow=12,SNR=15						
MKAR				Lg	Lg	11 41 34.2	
	0.6nm,0.3s,baz=305,slow=27,SNR=17						
I46RU	**ZALESOVO INFRA**	**6.95**	**37**	*i*		12 22 28.3	
	baz=221,slow=331,SNR=2.0						
ZALV	**Zalesovo Beam**	**6.95**	**37**	Pn	**Pn**	**11 41 29.3**	**+2.0**
	0.2nm,0.3s,baz=225,slow=16,SNR=2.9						
ZALV				Sn	**Sn**	**11 42 46.1**	**-0.9**
	0.2nm,0.3s,baz=230,slow=22,SNR=4.0						

JMA 17 11:40:13.4±0.2, 38°.50N×144°.61E, h40km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.37**	**285**	P	Pn	11 40 51.3	+1.5
OFUJ				S	Sn	11 41 19.5	+1.9
MIYJ	**Miyakonagasawa**	**2.42**	**297**	P	Pn	11 40 51.7	+1.2
MIYJ				*e*S	Sn	11 41 19.5	+0.6
JMK	**Ichinoseki**	**2.69**	**281**	P	Pn	11 40 56.0	+1.9
JMK				*e*S	Sn	11 41 27.0	+1.5
JOM	**Ohasama**	**2.76**	**292**	P	Pn	11 40 57.0	+1.9
JOM				S	Sn	11 41 29.7	+2.4
JANG	**Nango**	**3.04**	**309**	P	Pn	11 40 59.8	+0.8
JANG				*e*S	Sn	11 41 36.5	+2.4
JYK	**Kaneyama**	**3.35**	**278**	P	Pn	11 41 05.8	+2.5
JFT	**Otama**	**3.52**	**255**	P	Pn	11 41 07.4	+1.9
JFT				*e*S	Sn	11 41 47.4	+1.5
JOT	**Ohata**	**3.97**	**318**	P	Pn	11 41 14.3	+2.5
JOT				S	Sn	11 41 57.0	-0.1
JCH	**Churui**	**4.22**	**347**	P	Pn	11 41 14.8	-0.3
JCH				*e*S	Sn	11 42 02.1	-1.0
JKB	**Kayabe**	**4.35**	**322**	*e*S	Sn	11 42 05.6	-0.8
NEM2	**Nemuro 2**	**4.94**	**10**	S	Sn	11 42 15.1	-5.7
JRY	**Ryogami san**	**5.18**	**243**	P	Pn	11 41 30.0	+1.5
JRY				*e*S	Sn	11 42 26.7	-0.3
JOSM	**Okushiri--Mats**	**5.31**	**314**	P	Pn	11 41 32.6	+2.5
JTKR	**Abashiri--Toko**	**5.49**	**355**	P	Pn	11 41 31.8	-0.8
JTKR				*e*S	Sn	11 42 30.7	-3.7

*ISK **17** 11:41:41.6, 41°.11N×30°.67E, h5km, ML2.5/5*
*CSEM **17** 11:41:42.3±0.4, 41°.12N×30°.68E, h10km, ML2.5, Error ellipse: s-maj=7.5km s-min=3.2km az=32.0*
*DDA **17** 11:41:43.7, 41°.00N×30°.59E, h7km, Ml2.1*

ISC 17 11:41:40.7±2.2, 41°.2N±0°.1×30°.69E±0°.05, h14km±14km, n18, σ0s36/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAHE	**Sakarya_HENDEK**	**0.35**	**159**	*i* P	**Pb**	**11 41 49.0**	**+0.2**
SAHE				*i* S	**Sg**	**11 41 52.9**	**+0.1**
SAHE	**Sakarya_HENDEK**	**0.35**	**159**	P	**Pb**	**11 41 49.0**	**+0.2**
SAHE				S	**Sg**	**11 41 52.9**	**+0.1**
KAND	**Kocaeli-Kandir**	**0.39**	**257**	*i* P	**Pb**	**11 41 50.1**	**+0.8**
KAND				*i* S	**Sb**	**11 41 55.3**	**+0.1**
KAND	**Kocaeli-Kandir**	**0.39**	**257**	P	**Pb**	**11 41 50.1**	**+0.8**
KAND				S	**Sb**	**11 41 55.3**	**+0.1**
SAUV	**Serdivan-Sakar**	**0.52**	**212**	PG	**Pg**	**11 41 50.8**	**-0.2**
SAUV				SG	**Sg**	**11 41 57.5**	**-0.4**
SAUV	**Serdivan-Sakar**	**0.52**	**212**	*e*Pg	**Pg**	**11 41 50.8**	**-0.2**
SAUV				*e*Sg	**Sg**	**11 41 57.5**	**-0.4**
GULT	**Gulveren**	**0.76**	**190**	PG	**Pb**	**11 41 56.2**	**+0.4**
GULT				SG	**Sg**	**11 42 05.5**	**-0.1**
GULT	**Gulveren**	**0.76**	**190**	*e*Pg	**Pb**	**11 41 56.2**	**+0.4**
GULT				*e*Sg	**Sg**	**11 42 05.5**	**-0.1**
SILT	**Sile**	**0.79**	**268**	PG	**Pn**	**11 41 57.0**	**-0.4**
SILT	**Sile**	**0.79**	**268**	*e*Pg	**Pn**	**11 41 57.0**	**-0.4**
MDUB	**Mudurnu**	**0.81**	**151**	PG	**Pb**	**11 41 56.6**	**0.0**
MDUB				SG	**Sg**	**11 42 07.3**	**+0.2**
MDUB	**Mudurnu**	**0.81**	**151**	*e*Pg	**Pb**	**11 41 56.6**	**0.0**
MDUB				*e*Sg	**Sg**	**11 42 07.3**	**+0.2**
HRT	**Hereke**	**0.85**	**245**	PG	**Pb**	**11 41 57.6**	**+0.3**
HRT	**Hereke**	**0.85**	**245**	*e*Pg	**Pb**	**11 41 57.6**	**+0.3**
BORA	**Eskisehir**	**1.31**	**188**	*i* P	**Pg**	**11 42 06.3**	**+0.3**
BORA	**Eskisehir**	**1.31**	**188**	P	**Pg**	**11 42 06.3**	**+0.3**
ARMT	**Armutlu**	**1.52**	**247**	PN	**Pg**	**11 42 09.6**	**-0.3**
ARMT	**Armutlu**	**1.52**	**247**	*i* Pn	**Pg**	**11 42 09.6**	**-0.3**

*NIED **17** 11:54:00, 40°.90N×145°.20E, h5km, Mw3.8 Best double couple: M₀6.12000×10¹⁴ NP1:φs143.00000°, δ19.00000°, λ-113.00000°. NP2:φs348.00000°, δ73.00000°, λ-82.00000°*

JMA 17 11:54:34.6±0.2, 40°.87N×145°.16E, h62km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.89**	**308**	P	Pn	11 55 05.4	+0.8
JEM				*e*S	Sn	11 55 25.5	-1.9
JAK	**Akkeshi**	**2.15**	**351**	P	Pn	11 55 08.9	+0.8
JAK				*e*S	Sn	11 55 34.3	+0.6
JCH	**Churui**	**2.20**	**323**	P	Pn	11 55 09.3	+0.5
JCH				*e*S	Sn	11 55 33.8	-1.1
JOB	**Onbets**	**2.26**	**334**	P	Pn	11 55 11.4	+1.8
JOB				*e*S	Sn	11 55 36.9	+0.6
JNBK	**Urakawa-nobuka**	**2.29**	**309**	P	Pn	11 55 11.6	+1.6
JNBK				*e*S	Sn	11 55 37.5	+0.4
NEM2	**Nemuro 2**	**2.53**	**10**	P	Pn	11 55 14.4	+1.1
NEM2				*e*S	Sn	11 55 42.1	-0.8
JAR	**Ashorobuto**	**2.64**	**337**	*e*S	Sn	11 55 45.0	-0.5
JANG	**Nango**	**2.82**	**261**	*e*S	Sn	11 55 46.7	-3.3
JFR	**Furan**	**2.98**	**321**	P	Pn	11 55 20.5	+1.0
JFR				*e*S	Sn	11 55 52.4	-1.7
JRA	**Rausu**	**3.07**	**359**	P	Pn	11 55 21.9	+1.3
JRA				*e*S	Sn	11 55 55.5	-0.5
JOT	**Ohata**	**3.15**	**281**	P	Pn	11 55 22.6	+0.9
JOT				*e*S	Sn	11 55 55.8	-2.2
JTKR	**Abashiri--Toko**	**3.23**	**344**	*e*S	Sn	11 56 00.9	+0.8
JKB	**Kayabe**	**3.27**	**289**	*e*S	Sn	11 55 59.9	-1.1
JOM	**Ohasama**	**3.27**	**246**	P	Pn	11 55 24.2	+0.7
JOM				*e*S	Sn	11 55 58.4	-2.8
JEW	**Eniwo**	**3.40**	**307**	*e*S	Sn	11 56 04.3	+0.1
JMK	**Ichinoseki**	**3.58**	**239**	P	Pn	11 55 28.1	+0.4
JMK				*e*S	Sn	11 56 06.1	-2.7

*ISCJB **17** 11:55:22.3±0.7, 43°.65S±0°.04×172°.92E±0°.04, h12km±4km, mb3.5/2, MS3.8/1, Error ellipse: s-maj=7.4km s-min=3.1km az=138.6*
*WEL **17** 11:55:24.2, 44°S×172°.7E±0°.8, h12km, ML4.3/12*
*NEIC **17** 11:55:24.8±0.0, 43°.59S×172°.76E, h12km, ML4.3(WEL), After WEL.*
NEIC Felt [IV] at Christchurch.
*IDC **17** 11:55:26.9±2.1, 43°.08S×172°.28E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/36, mbtmp3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=45.2km s-min=15.7km az=134.0*

ISC 17 11:55:23.5±0.9, 43°.63S±0°.04×172°.86E±0°.04, h14km±6km, n141, σ0s98/144, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.17**	**244**	*e*Pg	**Pg**	**11 55 28.5**	**+0.9**
MQZ				*e*Sg	**Sg**	**11 55 30.7**	**+0.4**
MQZ	**McQueen's Vall**	**0.17**	**244**	P	**Pg**	**11 55 28.4**	**+0.9**
MQZ	**McQueen's Vall**	**0.17**	**244**	S	**Sg**	**11 55 30.7**	**+0.4**
CRLZ	**Canterbury Las**	**0.18**	**289**	*e*Pg	**Pg**	**11 55 28.1**	**+0.3**
CRLZ				*e*Sg	**Sg**	**11 55 29.1**	**-1.5**
CRLZ	**Canterbury Las**	**0.18**	**289**	P	**Pg**	**11 55 28.0**	**+0.3**
CRLZ	**Canterbury Las**	**0.18**	**289**	S	**Sg**	**11 55 29.8**	**-0.8**
EYCZ	**Eyrewell**	**0.42**	**300**	P	**Pg**	**11 55 31.9**	**-0.1**
OXZ	**Oxford**	**0.67**	**297**	*e*Pg	**Pg**	**11 55 36.3**	**-0.3**
OXZ				*e*Pn	Pn	11 55 43.9	+5.2
OXZ	**Oxford**	**0.67**	**297**	P	**Pg**	**11 55 36.3**	**-0.3**
LTZ	**Lake Taylor**	**0.95**	**333**	*e*Pg	**Pg**	**11 55 42.0**	**0.0**
LTZ				*e*Sg	**Sg**	**11 55 54.0**	**-0.5**
LTZ	**Lake Taylor**	**0.95**	**333**	P	**Pg**	**11 55 41.9**	**0.0**
RPZ	**Rata Peaks**	**1.31**	**266**	Pg	**Pn**	**11 55 47.1**	**-0.3**
	183nm,0.3s,baz=144,slow=2.0,SNR=409						
RPZ				Lg	Lg	11 56 03.5	
	786nm,0.3s,baz=326,slow=23,SNR=23						
RPZ	**Rata Peaks**	**1.31**	**266**	*e*Pn	**Pn**	**11 55 47.2**	**-0.3**
RPZ				*e*Sn	**Sb**	**11 56 04.1**	**-0.6**
RPZ	**Rata Peaks**	**1.31**	**266**	P	**Pn**	**11 55 47.2**	**-0.3**
KHZ	**Kahutara**	**1.31**	**22**	*e*Pn	**Pg**	**11 55 48.0**	**-0.8**
KHZ	**Kahutara**	**1.31**	**22**	P	**Pb**	**11 55 47.4**	**-0.5**
INZ	**Inchbonnie**	**1.38**	**311**	P	**Pn**	**11 55 47.6**	**-0.7**
WVZ	**Waitaha Valley**	**1.65**	**289**	Pn	**Pn**	**11 55 51.8**	**-0.2**
WVZ	**Waitaha Valley**	**1.65**	**289**	P	**Pn**	**11 55 51.9**	**-0.1**
THZ	**Tophouse**	**1.87**	**1**	*e*Pn	**Pn**	**11 55 55.3**	**+0.1**
THZ	**Tophouse**	**1.87**	**1**	P	**Pn**	**11 55 55.2**	**+0.1**
DSZ	**Denniston Nort**	**2.04**	**337**	Pn	**Pn**	**11 55 58.0**	**+0.5**
DSZ	**Denniston Nort**	**2.04**	**337**	P	**Pn**	**11 55 57.7**	**+0.2**
BSWZ	**Blackbirch Sta**	**2.06**	**22**	Pn	**Pn**	**11 55 58.4**	**+0.7**
BSWZ	**Blackbirch Sta**	**2.06**	**22**	P	**Pn**	**11 55 58.4**	**+0.7**
LBZ	**Lake Benmore**	**2.07**	**248**	*e*Pn	**Pb**	**11 55 59.0**	**-1.9**
LBZ	**Lake Benmore**	**2.07**	**248**	P	**Pn**	**11 55 58.3**	**+0.5**
ODZ	**Otahua Downs**	**2.12**	**228**	*e*Pn	**Pb**	**11 55 59.2**	**-2.6**
ODZ	**Otahua Downs**	**2.12**	**228**	P	**Pn**	**11 55 58.9**	**+0.3**
CMWZ	**Cape Campbell**	**2.13**	**28**	P	**Pb**	**11 56 00.9**	**-1.0**
FOZ	**Fox Glacier**	**2.21**	**272**	*e*Pn	**Pn**	**11 56 01.2**	**+1.4**
FOZ	**Fox Glacier**	**2.21**	**272**	P	**Pn**	**11 56 00.9**	**+1.1**
TUWZ	**Tuamarina**	**2.34**	**20**	Pn	**Pn**	**11 56 01.8**	**+0.2**
TUWZ	**Tuamarina**	**2.34**	**20**	P	**Pn**	**11 56 01.8**	**+0.2**
NNZ	**Nelson**	**2.44**	**9**	P	**Pn**	**11 56 03.7**	**+0.7**
TCW	**Tory Channel**	**2.64**	**24**	Pn	**Pn**	**11 56 05.8**	**+0.1**
TCW	**Tory Channel**	**2.64**	**24**	P	**Pn**	**11 56 05.6**	**-0.1**
BHW	**Baring Head**	**2.67**	**34**	Pn	**Pn**	**11 56 06.3**	**+0.2**
BHW	**Baring Head**	**2.67**	**34**	P	**Pn**	**11 56 06.3**	**+0.2**
SNZO	**South Karori**	**2.69**	**31**	*e*Pn	**Pn**	**11 56 06.7**	**+0.3**
SNZO				*e*Sn	**Sn**	**11 56 38.1**	**-0.7**
PLWZ	**Palliser**	**2.72**	**41**	Pn	**Pn**	**11 56 06.7**	**-0.1**
PLWZ	**Palliser**	**2.72**	**41**	P	**Pn**	**11 56 06.7**	**-0.1**
WEL	**Wellington**	**2.74**	**32**	Pn	**Pn**	**11 56 07.3**	**+0.2**
HHSZ	**Highcliff Hill**	**2.77**	**215**	Pn	**Pn**	**11 56 07.9**	**+0.4**
HHSZ	**Highcliff Hill**	**2.77**	**215**	P	**Pn**	**11 56 07.9**	**+0.4**
QRZ	**Quartz Range**	**2.82**	**355**	Pn	**Pn**	**11 56 08.8**	**+0.7**
QRZ	**Quartz Range**	**2.82**	**355**	P	**Pn**	**11 56 08.9**	**+0.7**
MSWZ	**Moikau Station**	**2.83**	**39**	Pn	**Pn**	**11 56 08.3**	**-0.1**
MSWZ	**Moikau Station**	**2.83**	**39**	P	**Pn**	**11 56 08.3**	**-0.1**
DUWZ	**D'Urville Isla**	**2.94**	**16**	P	**Pn**	**11 56 11.1**	**+1.3**
DUWZ	**D'Urville Isla**	**2.94**	**16**	P	**Pn**	**11 56 11.8**	**+2.0**
PAWZ	**Paruwai Farm**	**2.94**	**41**	Pn	**Pn**	**11 56 09.7**	**-0.2**
PAWZ	**Paruwai Farm**	**2.94**	**41**	P	**Pn**	**11 56 09.7**	**-0.2**
JCZ	**Jackson Bay**	**2.98**	**260**	Pn	**Pn**	**11 56 10.9**	**+0.5**
JCZ	**Jackson Bay**	**2.98**	**260**	P	**Pn**	**11 56 10.9**	**+0.5**
EAZ	**Earnscleugh**	**3.00**	**237**	Pn	**Pn**	**11 56 11.1**	**+0.4**
EAZ	**Earnscleugh**	**3.00**	**237**	P	**Pn**	**11 56 11.1**	**+0.4**
CAW	**Cannon Point**	**3.01**	**34**	Pn	**Pn**	**11 56 10.6**	**-0.1**
CAW	**Cannon Point**	**3.01**	**34**	P	**Pn**	**11 56 10.8**	**0.0**
WKZ	**Wanaka**	**3.01**	**245**	*e*Pn	**Pn**	**11 56 12.5**	**+1.7**
WKZ	**Wanaka**	**3.01**	**245**	P	**Pn**	**11 56 11.2**	**+0.5**
TRWZ	**Traveller**	**3.06**	**44**	Pn	**Pn**	**11 56 11.3**	**-0.1**
TRWZ	**Traveller**	**3.06**	**44**	P	**Pn**	**11 56 11.4**	**-0.1**
MTW	**Mount Morrison**	**3.15**	**39**	Pn	**Pn**	**11 56 12.4**	**-0.3**
MTW	**Mount Morrison**	**3.15**	**39**	P	**Pn**	**11 56 12.5**	**-0.3**
KIW	**Kapiti Island**	**3.16**	**29**	Pn	**Pn**	**11 56 13.0**	**+0.2**
KIW	**Kapiti Island**	**3.16**	**29**	P	**Pn**	**11 56 13.0**	**+0.2**
TUZ	**Tuapeka**	**3.27**	**224**	Pn	**Pn**	**11 56 14.7**	**+0.4**
TUZ	**Tuapeka**	**3.27**	**224**	P	**Pn**	**11 56 14.7**	**+0.4**
OGWZ	**Otaki Gorge**	**3.30**	**32**	Pn	**Pn**	**11 56 14.6**	**-0.1**
OGWZ	**Otaki Gorge**	**3.30**	**32**	P	**Pn**	**11 56 14.6**	**-0.1**
HOWZ	**Holdsworth Sta**	**3.37**	**37**	Pn	**Pn**	**11 56 15.8**	**+0.1**
HOWZ	**Holdsworth Sta**	**3.37**	**37**	P	**Pn**	**11 56 15.9**	**+0.1**
TMWZ	**Te Maipa**	**3.38**	**43**	Pn	**Pn**	**11 56 15.5**	**-0.3**
TMWZ	**Te Maipa**	**3.38**	**43**	P	**Pn**	**11 56 15.6**	**-0.3**
MRZ	**Mangatainoka R**	**3.59**	**35**	Pn	**Pn**	**11 56 18.3**	**-0.5**
MRZ	**Mangatainoka R**	**3.59**	**35**	P	**Pn**	**11 56 18.4**	**-0.4**
MLZ	**Mavora Lakes**	**3.81**	**241**	*e*Pn	**Pn**	**11 56 22.5**	**+0.7**
MLZ	**Mavora Lakes**	**3.81**	**241**	P	**Pn**	**11 56 22.0**	**+0.2**
PRWZ	**Pori Road**	**3.85**	**38**	Pn	**Pn**	**11 56 22.0**	**-0.3**
PRWZ	**Pori Road**	**3.85**	**38**	P	**Pn**	**11 56 22.0**	**-0.3**
BFZ	**Birch Farm**	**3.88**	**42**	*e*Pn	**Pn**	**11 56 22.0**	**-0.6**
BFZ	**Birch Farm**	**3.88**	**42**	P	**Pn**	**11 56 22.1**	**-0.6**
POWZ	**Post Office Ro**	**3.90**	**35**	Pn	**Pn**	**11 56 23.0**	**0.0**
POWZ	**Post Office Ro**	**3.90**	**35**	P	**Pn**	**11 56 23.0**	**0.0**
SYZ	**Scrubby Hill**	**3.92**	**221**	Pn	**Pn**	**11 56 23.9**	**+0.7**
SYZ	**Scrubby Hill**	**3.92**	**221**	P	**Pn**	**11 56 23.9**	**+0.7**
DVHZ	**Dannevirke**	**4.14**	**38**	Pn	**Pn**	**11 56 25.4**	**-0.9**
DVHZ	**Dannevirke**	**4.14**	**38**	P	**Pn**	**11 56 25.5**	**-0.9**
ANWZ	**Angora Road**	**4.16**	**42**	P	**Pn**	**11 56 26.3**	**-0.2**
WHZ	**Wether Hill Ro**	**4.16**	**235**	*e*Pn	**Pn**	**11 56 26.1**	**-0.6**
WHZ	**Wether Hill Ro**	**4.16**	**235**	P	**Pn**	**11 56 26.2**	**-0.4**
WAZ	**Wanganui**	**4.19**	**23**	Pn	**Pn**	**11 56 29.0**	**+2.0**
WAZ	**Wanganui**	**4.19**	**23**	P	**Pn**	**11 56 29.0**	**+2.0**
TSZ	**Takapari Road**	**4.26**	**34**	Pn	**Pn**	**11 56 27.6**	**-0.3**
TSZ	**Takapari Road**	**4.26**	**34**	P	**Pn**	**11 56 27.7**	**-0.3**
NMEZ	**Namu Road**	**4.29**	**11**	Pn	**Pn**	**11 56 30.8**	**+2.6**
NMEZ	**Namu Road**	**4.29**	**11**	P	**Pn**	**11 56 30.9**	**+2.6**
LREZ	**Lake Rotokare**	**4.33**	**16**	P	**Pn**	**11 56 31.7**	**+2.8**
PRHZ	**Porangahau**	**4.39**	**41**	P	**Pn**	**11 56 30.3**	**+0.6**
PREZ	**Palmer Road**	**4.40**	**13**	Pn	**Pn**	**11 56 31.9**	**+2.1**
PREZ	**Palmer Road**	**4.40**	**13**	P	**Pn**	**11 56 32.0**	**+2.1**
KHEZ	**Kahui Hut**	**4.42**	**12**	Pn	**Pn**	**11 56 32.1**	**+1.9**
WPHZ	**Waipukurau**	**4.46**	**38**	P	**Pn**	**11 56 32.0**	**+1.3**
DCZ	**Deep Cove**	**4.47**	**244**	*e*Pn	**Pn**	**11 56 31.3**	**+0.5**
DCZ	**Deep Cove**	**4.47**	**244**	P	**Pn**	**11 56 31.5**	**+0.7**
PNHZ	**Pukenui**	**4.48**	**35**	Pn	**Pn**	**11 56 30.3**	**-0.7**
PNHZ	**Pukenui**	**4.48**	**35**	P	**Pn**	**11 56 30.3**	**-0.7**
PKE	**Pukeiti**	**4.52**	**11**	Pn	**Pn**	**11 56 33.1**	**+1.6**
PKE	**Pukeiti**	**4.52**	**11**	P	**Pn**	**11 56 33.7**	**+2.2**
DREZ	**Durham Road**	**4.55**	**13**	P	**Pn**	**11 56 33.8**	**+1.8**
MTVZ	**Mangateitei**	**4.67**	**26**	P	**Pn**	**11 56 34.8**	**+1.0**
PXZ	**Pawanui**	**4.68**	**41**	Pn	**Pn**	**11 56 32.5**	**-1.2**
PXZ	**Pawanui**	**4.68**	**41**	P	**Pn**	**11 56 34.1**	**+0.4**
APZ	**The Paps**	**4.70**	**225**	P	**Pn**	**11 56 34.8**	**+0.9**
VRZ	**Vera Road**	**4.73**	**18**	P	**Pn**	**11 56 35.9**	**+1.6**
MOVZ	**Moawhango**	**4.75**	**28**	Pn	**Pn**	**11 56 35.0**	**+0.2**
KRHZ	**Kereru**	**4.78**	**35**	P	**Pn**	**11 56 33.9**	**-1.2**
BHHZ	**Black Hill Sta**

15nm,0.8s,baz=240,slow=20,SNR=3.2
MJAR Matsushiro Arr 55.44 332 P **P** **12 41 38.1 -0.1**
0.7nm,0.5s,baz=168,slow=8.5,SNR=4.7
ASAJ Asahikawa 60.18 340 P **P** **12 42 11.7 +0.7**
2.2nm,0.5s,baz=170,slow=6.1,SNR=6.5
KSRS Korea Array 61.39 325 P **P** **12 42 20.3 +1.0**
0.7nm,0.7s,baz=129,slow=7.0,SNR=5.9
VNDA Vanda 65.44 181 P **P** **12 42 44.9 -0.3**
0.8nm,0.7s,baz=349,slow=8.2,SNR=3.6
PETK Petropavlovsk- 65.45 354 P **P** **12 42 45.7 +0.2**
1.9nm,0.8s,baz=108,slow=4.8,SNR=4.0
CMAR Chiang Mai Arr 73.56 293 P **P** **12 43 37.4 +1.5**
1.2nm,0.3s,baz=128,slow=4.9,SNR=10.0
QSPA South Pole Qui 77.88 180 P **P** **12 43 59.1 -0.6**
1.5nm,0.5s,baz=6.3,slow=9.2,SNR=12
SONM Songino Array 80.19 323 P **P** **12 44 12.9 +0.5**
0.5nm,0.5s,baz=119,slow=5.3,SNR=3.9
ILAR Eielson Array 84.19 18 P **P** **12 44 32.4 -0.2**
3.1nm,0.6s,baz=246,slow=5.1,SNR=72
MKAR Makanchi Array 95.06 317 P **P** **12 45 24.7 +0.4**
1.3nm,0.5s,baz=84,slow=6.9,SNR=23
TXAR Lajitas Array 95.38 61 P **P** **12 45 26.2 -0.1**
0.2nm,0.7s,baz=214,slow=4.4,SNR=2.9
YKA Yellowknife Ar 95.42 27 P **P** **12 45 24.5 -1.0**
0.3nm,0.4s,baz=259,slow=4.8,SNR=13
ARCES ARCESS Array B 117.65 346 PKP **PKPdf** **12 50 45.3 -0.3**
4.0nm,0.8s,baz=52,slow=2.0,SNR=7.9
BRTR Keskin Array B 130.51 312 PKP **PKPdf** **12 51 09.8 -1.6**
0.3nm,0.5s,baz=33,slow=5.5,SNR=2.4
ESDC Sonseca Array 151.39 345 PKPbc **PKPbc** **12 51 54.5 +0.1**
0.6nm,0.5s,baz=24,slow=3.0,SNR=6.7
ESDC PKPab **PKPab** **12 52 04.2 +0.8**
1.1nm,0.7s,baz=11,slow=3.8,SNR=7.9
TORD Torodi Ar. Bea 165.50 276 PKPab **PKPab** **12 53 05.3 +0.1**
1.0nm,0.9s,baz=95,slow=3.4,SNR=4.9

*ISCJB **17** 12:42:55.9±0.4,39.°33N±0.°02×26.°12E±0.°04,h17km±5km, Error ellipse: s-maj=5.5km s-min=4.1km az=0.4*
*CSEM **17** 12:42:55.5±0.1,39.°32N×26.°14E,h15km,ML2.6, Error ellipse: s-maj=4.1km s-min=2.6km az=96.0*
*DDA **17** 12:42:55.5,39.°27N×26.°16E,h7km,Ml2.5*
*ISK **17** 12:42:55.1,39.°32N×26.°13E,h19km,ML2.6/8*
*THE **17** 12:42:56.1,39.°32N×26.°09E,h7km±2km,ML2.1/4, Error ellipse: s-maj=2.4km s-min=0.5km az=122.0*

ISC 17 12:42:55.5±0.8, 39.°32N±0.°02×26.°12E±0.°02, h15km±5km, n44, σ0°45/65, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.14**	**122**	P		**Pg**		**12 42 59.4**	**+0.2**
PRK				S		**Sb**		**12 43 02.0**	**-0.6**
PRK	**Paraskevi**	**0.14**	**122**	P		**Pg**		**12 42 59.4**	**+0.2**
PRK				S		**Sb**		**12 43 02.0**	**-0.6**
GPNR	**Gulpinar-Canak**	**0.14**	**3**	PG		**Pg**		**12 42 59.2**	**-0.1**
GPNR				SG		**Sg**		**12 43 01.9**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.14**	**3**	*e*Pg		**Pg**		**12 42 59.2**	**-0.1**
GPNR				*e*Sg		**Sg**		**12 43 01.9**	**+0.1**
SIGR	**SIGRI**	**0.23**	**243**	PG		**Pb**		**12 43 01.7**	**+0.3**
SIGR				SG		**Sg**		**12 43 05.0**	**+0.8**
SIGR	**SIGRI**	**0.23**	**243**	P		**Pg**		**12 43 00.6**	**-0.1**
SIGR	**SIGRI**	**0.23**	**243**	*e*Pg		**Pb**		**12 43 01.7**	**+0.3**
SIGR				S		**Sg**		**12 43 03.8**	**-0.4**
SIGR				*e*Sg		**Sg**		**12 43 05.0**	**+0.8**
SIGR	**SIGRI**	**0.23**	**243**	P		**Pg**		**12 43 00.6**	**-0.1**
SIGR				S		**Sg**		**12 43 03.8**	**-0.4**
EZN	**Ezine**	**0.53**	**17**	PG		**Pb**		**12 43 06.3**	**-0.2**
EZN				SG		**Sb**		**12 43 14.3**	**+0.3**
EZN	**Ezine**	**0.53**	**17**	P		**Pb**		**12 43 06.5**	**0.0**
EZN				*e*Sg		**Sb**		**12 43 14.3**	**+0.3**
EZN	**Ezine**	**0.53**	**17**	P		**Pb**		**12 43 06.5**	**0.0**
EZN				S		**Sb**		**12 43 14.5**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.54**	**38**	*i* P		**Pb**		**12 43 06.3**	**-0.3**
BAYC				*i* S		**Sb**		**12 43 13.9**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.54**	**38**	P		**Pb**		**12 43 06.3**	**-0.3**
BAYC				S		**Sb**		**12 43 13.9**	**-0.2**
CAND	**Candarli**	**0.64**	**124**	PG		**Pg**		**12 43 08.1**	**0.0**
FOCM	**Fo˜şa**	**0.77**	**142**	PG		**Pb**		**12 43 10.6**	**+0.1**
FOCM	**Fo˜şa**	**0.77**	**142**	*e*Pg		**Pb**		**12 43 10.6**	**+0.1**
GADA	**Gvkgeada**	**0.89**	**349**	PG		**Pg**		**12 43 12.9**	**+0.1**
GADA	**Gvkgeada**	**0.89**	**349**	*e*Pg		**Pg**		**12 43 12.9**	**+0.1**
LIA	**Limnos Island**	**0.93**	**309**	P		**Pg**		**12 43 13.6**	**+0.1**
LIA				S		**Sg**		**12 43 25.8**	**+0.1**
LIA	**Limnos Island**	**0.93**	**309**	P		**Pg**		**12 43 13.6**	**+0.1**
LIA				S		**Sg**		**12 43 25.8**	**+0.1**
CHOS	**Chios island**	**0.93**	**183**	PG		**Pn**		**12 43 14.4**	**+0.3**
CHOS	**Chios island**	**0.93**	**183**	P		**Pg**		**12 43 13.7**	**+0.1**
CHOS	**Chios island**	**0.93**	**183**	*e*Pg		**Pn**		**12 43 14.4**	**+0.3**
CHOS				S		**Sn**		**12 43 27.3**	**+0.1**
CHOS	**Chios island**	**0.93**	**183**	P		**Pg**		**12 43 13.7**	**+0.1**
CHOS				S		**Sn**		**12 43 27.3**	**+0.1**
URLA	**Izmir**	**1.02**	**159**	PG		**Pb**		**12 43 14.1**	**-0.8**
URLA	**Izmir**	**1.02**	**159**	*i* P		**Pb**		**12 43 14.4**	**-0.5**
URLA				*i* S		**Sb**		**12 43 27.8**	**-0.4**
URLA	**Izmir**	**1.02**	**159**	*e*Pg		**Pb**		**12 43 14.1**	**-0.8**
URLA	**Izmir**	**1.02**	**159**	P		**Pb**		**12 43 14.4**	**-0.5**
URLA				S		**Sb**		**12 43 27.8**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.11**	**14**	PN		**Pb**		**12 43 15.8**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.11**	**14**	*e*Pn		**Pb**		**12 43 15.8**	**-0.7**
LPK	**Lapseki**	**1.16**	**25**	PN		**Pn**		**12 43 16.6**	**-0.6**
LPK	**Lapseki**	**1.16**	**25**	*e*Pn		**Pn**		**12 43 16.6**	**-0.6**
BALY	**Balya**	**1.23**	**69**	*i* P		**Pb**		**12 43 18.7**	**+0.2**
BALY				*i* S		**Sg**		**12 43 36.2**	**+0.9**
BALY	**Balya**	**1.23**	**69**	P		**Pb**		**12 43 18.7**	**+0.2**
BALY				S		**Sg**		**12 43 36.2**	**+0.9**
ERIK	**Erikli-Kesan**	**1.39**	**12**	PN		**Pn**		**12 43 20.1**	**-0.2**
ERIK	**Erikli-Kesan**	**1.39**	**12**	*e*Pn		**Pn**		**12 43 20.1**	**-0.2**
KRBG	**Karabiga-Canak**	**1.40**	**40**	PN		**Pn**		**12 43 19.9**	**-0.6**
KRBG	**Karabiga-Canak**	**1.40**	**40**	*e*Pn		**Pn**		**12 43 19.9**	**-0.6**
ALN	**Alexandroupoli**	**1.58**	**358**	PN		**Pn**		**12 43 23.2**	**+0.2**
ALN	**Alexandroupoli**	**1.58**	**358**	*e*Pn		**Pn**		**12 43 23.2**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.59**	**30**	PN		**Pn**		**12 43 22.5**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.59**	**30**	*e*Pn		**Pn**		**12 43 22.5**	**-0.7**
SBT3	**Marmara-Eregli**	**2.11**	**42**	PN		**Pn**		**12 43 30.9**	**+0.8**
SBT3	**Marmara-Eregli**	**2.11**	**42**	*e*Pn		**Pn**		**12 43 30.9**	**+0.8**

*IDC **17** 13:05:16.9±1.1,40.°04S×174.°65E,h79km±12km,mb3.5/4, mb1 3.7/6,mb1mx3.5/39,mbtmp3.9/6,MS3.7/1,Ms1 3.7/1, ms1mx2.5/25,Error ellipse: s-maj=19.8km s-min=8.9km az=131.0*
*ISCJB **17** 13:05:18.3±0.2,40.°03S±0.°02×174.°64E±0.°03,h112km, mb3.8/4,Error ellipse: s-maj=3.3km s-min=2.1km az=26.4*
*WEL **17** 13:05:18.4,40.°S±1.°×17.°5E±.°,h120km±2km*
*NEIC **17** 13:05:19.5±0.0,39.°99S×174.°67E,h114km,ML4.7(WEL), After WEL.*
NEIC Felt in the southern part of the North Island.

ISC 17 13:05:19.4±0.7, 40.°06S±0.°03×174.°62E±0.°03, h112km, n277, σ1°26/286, mb3.7/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.41**	**43**	Pn		**Pn**		**13 05 35.6**	**-0.4**
WAZ	**Wanganui**	**0.41**	**43**	P		**Pn**		**13 05 36.1**	**+0.1**
WAZ	**Wanganui**	**0.41**	**43**	S		**Sn**		**13 05 48.2**	**-0.2**
OHWZ	**Ohakea**	**0.55**	**106**	P		**Pn**		**13 05 37.3**	**+0.5**
OHWZ	**Ohakea**	**0.55**	**106**	S		**Sn**		**13 05 49.9**	**+0.1**
LREZ	**Lake Rotokare**	**0.62**	**344**	P		**Pn**		**13 05 37.2**	**-0.1**
LREZ	**Lake Rotokare**	**0.62**	**344**	S		**Sn**		**13 05 50.6**	**-0.1**
PREZ	**Palmer Road**	**0.80**	**333**	Pn		**Pn**		**13 05 38.6**	**-0.2**
PREZ	**Palmer Road**	**0.80**	**333**	P		**Pn**		**13 05 38.7**	**-0.2**
PREZ	**Palmer Road**	**0.80**	**333**	S		**Sn**		**13 05 53.4**	**-0.1**
KIW	**Kapiti Island**	**0.83**	**165**	Pn		**Pn**		**13 05 39.7**	**+0.5**
KIW	**Kapiti Island**	**0.83**	**165**	P		**Pn**		**13 05 39.7**	**+0.5**
KIW	**Kapiti Island**	**0.83**	**165**	S		**Sn**		**13 05 52.9**	**-1.1**
NMEZ	**Namu Road**	**0.86**	**318**	Pn		**Pn**		**13 05 39.1**	**-0.3**
NMEZ	**Namu Road**	**0.86**	**318**	P		**Pn**		**13 05 39.1**	**-0.3**
NMEZ	**Namu Road**	**0.86**	**318**	S		**Sn**		**13 05 54.2**	**-0.2**
OGWZ	**Otaki Gorge**	**0.87**	**151**	Pn		**Pn**		**13 05 40.1**	**+0.7**
OGWZ	**Otaki Gorge**	**0.87**	**151**	P		**Pn**		**13 05 40.2**	**+0.7**
OGWZ	**Otaki Gorge**	**0.87**	**151**	S		**Sn**		**13 05 54.5**	**0.0**
NEZ	**North Egmont**	**0.88**	**332**	Pn		**Pn**		**13 05 39.3**	**-0.4**
KHEZ	**Kahui Hut**	**0.89**	**328**	Pn		**Pn**		**13 05 39.5**	**-0.3**
DUWZ	**D'Urville Isla**	**0.92**	**215**	P		**Pn**		**13 05 39.9**	**0.0**
DREZ	**Durham Road**	**0.92**	**339**	Pn		**Pn**		**13 05 39.8**	**-0.2**
DREZ	**Durham Road**	**0.92**	**339**	P		**Pn**		**13 05 39.8**	**-0.2**
DREZ	**Durham Road**	**0.92**	**339**	S		**Sn**		**13 05 55.1**	**-0.5**
VRZ	**Vera Road**	**0.94**	**6**	Pn		**Pn**		**13 05 39.7**	**-0.4**
VRZ	**Vera Road**	**0.94**	**6**	P		**Pn**		**13 05 39.7**	**-0.4**
VRZ	**Vera Road**	**0.94**	**6**	S		**Sn**		**13 05 54.6**	**-1.1**
MTVZ	**Mangateitei**	**0.94**	**45**	Pn		**Pn**		**13 05 39.5**	**-0.7**
MTVZ	**Mangateitei**	**0.94**	**45**	P		**Pn**		**13 05 39.5**	**-0.7**
MTVZ	**Mangateitei**	**0.94**	**45**	S		**Sn**		**13 05 54.4**	**-1.4**
POWZ	**Post Office Ro**	**0.94**	**111**	Pn		**Pn**		**13 05 40.2**	**+0.1**
POWZ	**Post Office Ro**	**0.94**	**111**	P		**Pn**		**13 05 40.2**	**+0.1**
PKVZ	**Pokaka**	**0.95**	**36**	Pn		**Pn**		**13 05 39.6**	**-0.7**
PKVZ	**Pokaka**	**0.95**	**36**	P		**Pn**		**13 05 39.6**	**-0.7**
PKVZ	**Pokaka**	**0.95**	**36**	S		**Sn**		**13 05 54.3**	**-1.8**
MRZ	**Mangatainoka R**	**0.95**	**130**	Pn		**Pn**		**13 05 40.2**	**0.0**
MRZ	**Mangatainoka R**	**0.95**	**130**	P		**Pn**		**13 05 40.7**	**+0.4**
NWEZ	**Newall Road**	**0.97**	**323**	Pn		**Pn**		**13 05 40.4**	**-0.1**
PKE	**Pukeiti**	**0.99**	**330**	Pn		**Pn**		**13 05 40.3**	**-0.4**
PKE	**Pukeiti**	**0.99**	**330**	P		**Pn**		**13 05 40.3**	**-0.4**
MHEZ	**Mangahewa**	**1.00**	**347**	Pn		**Pn**		**13 05 40.8**	**+0.1**
MHEZ	**Mangahewa**	**1.00**	**347**	P		**Pn**		**13 05 40.9**	**+0.1**
TSZ	**Takapari Road**	**1.03**	**91**	Pn		**Pn**		**13 05 40.5**	**-0.6**
TSZ	**Takapari Road**	**1.03**	**91**	P		**Pn**		**13 05 40.8**	**-0.2**
WNVZ	**Wahianoa**	**1.05**	**46**	Pn		**Pn**		**13 05 40.7**	**-0.7**
DRZ	**Dome Shelter**	**1.06**	**43**	Pn		**Pn**		**13 05 41.1**	**-0.6**
DRZ	**Dome Shelter**	**1.06**	**43**	P		**Pn**		**13 05 41.2**	**-0.6**
WHVZ	**Whangaehu Hut**	**1.07**	**44**	Pn		**Pn**		**13 05 40.8**	**-0.9**
WHVZ	**Whangaehu Hut**	**1.07**	**44**	P		**Pn**		**13 05 40.9**	**-0.9**
FWVZ	**Far West T-bar**	**1.07**	**42**	Pn		**Pn**		**13 05 40.6**	**-1.2**
FWVZ	**Far West T-bar**	**1.07**	**42**	P		**Pn**		**13 05 40.9**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.08**	**141**	Pn		**Pn**		**13 05 42.1**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.08**	**141**	P		**Pn**		**13 05 42.1**	**+0.5**
MOVZ	**Moawhango**	**1.09**	**54**	Pn		**Pn**		**13 05 40.8**	**-0.9**
MOVZ	**Moawhango**	**1.09**	**54**	P		**Pn**		**13 05 40.8**	**-0.9**
CAW	**Cannon Point**	**1.10**	**162**	Pn		**Pn**		**13 05 42.7**	**+0.9**
CAW	**Cannon Point**	**1.10**	**162**	P		**Pn**		**13 05 42.7**	**+0.9**
COVZ	**Chateau Observ**	**1.11**	**40**	P		**Pn**		**13 05 41.1**	**-0.9**
TUVZ	**Tukino**	**1.12**	**46**	Pn		**Pn**		**13 05 41.5**	**-0.7**
TUVZ	**Tukino**	**1.12**	**46**	P		**Pn**		**13 05 41.5**	**-0.7**
PRWZ	**Pori Road**	**1.15**	**116**	Pn		**Pn**		**13 05 42.8**	**+0.5**
PRWZ	**Pori Road**	**1.15**	**116**	P		**Pn**		**13 05 42.8**	**+0.5**
NGZ	**Ngauruhoe**	**1.16**	**41**	Pn		**Pn**		**13 05 41.7**	**-0.9**
NGZ	**Ngauruhoe**	**1.16**	**41**	P		**Pn**		**13 05 41.7**	**-0.9**
TWVZ	**Taurewa**	**1.17**	**33**	Pn		**Pn**		**13 05 41.5**	**-1.1**
TWVZ	**Taurewa**	**1.17**	**33**	P		**Pn**		**13 05 41.5**	**-1.1**
TCW	**Tory Channel**	**1.18**	**193**	Pn		**Pn**		**13 05 43.5**	**+0.8**
TCW	**Tory Channel**	**1.18**	**193**	P		**Pn**		**13 05 43.5**	**+0.8**
WTVZ	**West Tongariro**	**1.20**	**39**	P		**Pn**		**13 05 42.1**	**-0.9**
OTVZ	**Oturere**	**1.20**	**42**	Pn		**Pn**		**13 05 42.4**	**-0.7**
TIWZ	**Tintock**	**1.20**	**127**	Pn		**Pn**		**13 05 43.4**	**+0.5**
TIWZ	**Tintock**	**1.20**	**127**	P		**Pn**		**13 05 43.4**	**+0.5**
DVHZ	**Dannevirke**	**1.21**	**102**	Pn		**Pn**		**13 05 42.9**	**-0.1**
DVHZ	**Dannevirke**	**1.21**	**102**	P		**Pn**		**13 05 42.9**	**-0.1**
PNHZ	**Pukenui**	**1.22**	**84**	Pn		**Pn**		**13 05 42.8**	**-0.4**
PNHZ	**Pukenui**	**1.22**	**84**	P		**Pn**		**13 05 42.8**	**-0.2**
WEL	**Wellington**	**1.23**	**175**	Pn		**Pn**		**13 05 44.0**	**+0.8**
KRVZ	**Karewarewa**	**1.24**	**40**	Pn		**Pn**		**13 05 42.5**	**-1.0**
KRVZ	**Karewarewa**	**1.24**	**40**	P		**Pn**		**13 05 42.5**	**-1.0**
BHHZ	**Black Hill Sta**	**1.25**	**63**	Pn		**Pn**		**13 05 42.5**	**-1.0**
BHHZ	**Black Hill Sta**	**1.25**	**63**	P		**Pn**		**13 05 42.5**	**-1.0**
SNZO	**South Karori**	**1.26**	**177**	*e*Pn		**Pn**		**13 05 44.1**	**+0.6**
MTW	**Mount Morrison**	**1.29**	**149**	Pn		**Pn**		**13 05 44.4**	**+0.5**
MTW	**Mount Morrison**	**1.29**	**149**	P		**Pn**		**13 05 44.4**	**+0.5**
KATZ	**Kakaramea**	**1.36**	**38**	Pn		**Pn**		**13 05 43.9**	**-1.0**
KATZ	**Kakaramea**	**1.36**	**38**	P		**Pn**		**13 05 44.1**	**-0.8**
BHW	**Baring Head**	**1.36**	**172**	Pn		**Pn**		**13 05 45.4**	**+0.7**
BHW	**Baring Head**	**1.36**	**172**	P		**Pn**		**13 05 45.4**	**+0.7**
BFZ	**Birch Farm**	**1.39**	**117**	*e*Pn		**Pn**		**13 05 45.1**	**+0.1**
BFZ	**Birch Farm**	**1.39**	**117**	P		**Pn**		**13 05 45.2**	**+0.1**
WPHZ	**Waipukurau**	**1.40**	**91**	Pn		**Pn**		**13 05 44.9**	**-0.2**
WPHZ	**Waipukurau**	**1.40**	**91**	P		**Pn**		**13 05 45.0**	**0.0**
KRHZ	**Kereru**	**1.41**	**74**	P		**Pn**		**13 05 44.7**	**-0.5**
TMWZ	**Te Maipa**	**1.43**	**138**	Pn		**Pn**		**13 05 46.1**	**+0.6**
TMWZ	**Te Maipa**	**1.43**	**138**	P		**Pn**		**13 05 46.1**	**+0.6**
RITZ	**Rihia Road**	**1.44**	**42**	Pn		**Pn**		**13 05 45.0**	**-0.6**
RITZ	**Rihia Road**	**1.44**	**42**	P		**Pn**		**13 05 45.1**	**-0.6**
MSWZ	**Moikau Station**	**1.44**	**161**	Pn		**Pn**		**13 05 46.3**	**+0.7**
MSWZ	**Moikau Station**	**1.44**	**161**	P		**Pn**		**13 05 46.4**	**+0.7**
PAWZ	**Paruwai Farm**	**1.46**	**155**	Pn		**Pn**		**13 05 46.5**	**+0.6**
PAWZ	**Paruwai Farm**	**1.46**	**155**	P		**Pn**		**13 05 46.5**	**+0.6**
TUWZ	**Tuamarina**	**1.47**	**200**	Pn		**Pn**		**13 05 46.3**	**+0.4**
TUWZ	**Tuamarina**	**1.47**	**200**	P		**Pn**		**13 05 46.3**	**+0.4**
ANWZ	**Angora Road**	**1.47**	**107**	P		**Pn**		**13 05 46.3**	**+0.3**
CPWZ	**Castlepoint**	**1.48**	**126**	Pn		**Pn**		**13 05 47.0**	**+1.0**
CPWZ	**Castlepoint**	**1.48**	**126**	P		**Pn**		**13 05 47.0**	**+1.0**
RATZ	**Rangitukua**	**1.48**	**37**	Pn		**Pn**		**13 05 45.3**	**-0.9**
RATZ	**Rangitukua**	**1.48**	**37**	P		**Pn**		**13 05 45.6**	**-0.6**
NNZ	**Nelson**	**1.50**	**219**	Pn		**Pn**		**13 05 46.4**	**+0.1**
NNZ	**Nelson**	**1.50**	**219**	P		**Pn**		**13 05 46.7**	**+0.5**
KWHZ	**Kaweka Forest**	**1.52**	**66**	P		**Pn**		**13 05 46.1**	**-0.6**
HIZ	**Hauiti**	**1.55**	**7**	*e*Pn		**Pn**		**13 05 46.2**	**-0.7**
HIZ	**Hauiti**	**1.55**	**7**	P		**Pn**		**13 05 46.2**	**-0.7**
PRHZ	**Porangahau**	**1.56**	**98**	Pn		**Pn**		**13 05 47.1**	**+0.1**
PRHZ	**Porangahau**	**1.56**	**98**	P		**Pn**		**13 05 47.1**	**+0.1**
TRWZ	**Traveller**	**1.57**	**149**	Pn		**Pn**		**13 05 47.5**	**+0.4**
TRWZ	**Traveller**	**1.57**	**149**	P		**Pn**		**13 05 47.6**	**+0.4**
PLWZ	**Palliser**	**1.59**	**163**	Pn		**Pn**		**13 05 47.9**	**+0.5**
PLWZ	**Palliser**	**1.59**	**163**	P		**Pn**		**13 05 47.9**	**+0.5**
WATZ	**Wairara**	**1.60**	**33**	Pn		**Pn**		**13 05 46.9**	**-0.7**
WATZ	**Wairara**	**1.60**	**33**	P		**Pn**		**13 05 47.0**	**-0.5**
HATZ	**Hinemaiaia**	**1.63**	**45**	P		**Pn**		**13 05 46.5**	**-1.3**
BKZ	**Black Stump Fm**	**1.70**	**59**	*e*Pn		**Pn**		**13 05 47.5**	**-1.2**
BKZ	**Black Stump Fm**	**1.70**	**59**	P		**Pn**		**13 05 47.6**	**-1.2**
MCHZ	**McNeill Hill**	**1.71**	**70**	Pn		**Pn**		**13 05 48.6**	**-0.3**
MCHZ	**McNeill Hill**	**1.71**	**70**	P		**Pn**		**13 05 48.6**	**-0.3**
PXZ	**Pawanui**	**1.72**	**90**	Pn		**Pn**		**13 05 48.5**	**-0.4**
PXZ	**Pawanui**	**1.72**	**90**	P		**Pn**		**13 05 48.6**	**-0.4**
CMWZ	**Cape Campbell**	**1.72**	**190**	Pn		**Pn**		**13 05 50.4**	**+1.4**
CMWZ	**Cape Campbell**	**1.72**	**190**	P		**Pn**		**13 05 50.4**	**+1.4**
WHTZ	**Whakaora**	**1.73**	**37**	P		**Pn**		**13 05 48.9**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.75**	**199**	Pn		**Pn**		**13 05 50.1**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.75**	**199**	P		**Pn**		**13 05 50.1**	**+0.7**
KAHZ	**Kahuranaki**	**1.75**	**82**	Pn		**Pn**		**13 05 49.0**	**-0.4**
KAHZ	**Kahuranaki**	**1.75**	**82**	P		**Pn**		**13 05 49.0**	**-0.4**
QRZ	**Quartz Range**	**1.77**	**244**	Pn		**Pn**		**13 05 49.2**	**-0.4**
QRZ	**Quartz Range**	**1.77**	**244**	P		**Pn**		**13 05 49.3**	**-0.3**
KUTZ	**Kaahu Road**	**1.82**	**31**	Pn		**Pn**		**13 05 49.6**	**-0.6**
KUTZ	**Kaahu Road**	**1.82**	**31**	P		**Pn**		**13 05 49.6**	**-0.6**
MRHZ	**Matea Rd**	**1.85**	**49**	P		**Pn**		**13 05 49.2**	**-1.5**
TLZ	**Tolley Road**	**1.86**	**23**	Pn		**Pn**		**13 05 49.8**	**-1.0**
TLZ	**Tolley Road**	**1.86**	**23**	P		**Pn**		**13 05 49.8**	**-1.0**
CKHZ	**Cape Kidnapper**	**1.93**	**79**	Pn		**Pn**		**13 05 50.9**	**-0.7**
CKHZ	**Cape Kidnapper**	**1.93**	**79**	P		**Pn**		**13 05 50.9**	**-0.7**
NMHZ	**Naumai**	**1.94**	**61**	Pn		**Pn**		**13 05 51.2**	**-0.6**
NMHZ	**Naumai**	**1.94**	**61**	P		**Pn**		**13 05 51.2**	**-0.6**
WPWZ	**Whakapapatarin**	**1.94**	**38**	Pn		**Pn**		**13 05 50.6**	**-1.2**
WPWZ	**Whakapapatarin**	**1.94**	**38**	P		**Pn**		**13 05 50.6**	**-1.2**
ARHZ	**Aropaoanui**	**2.00**	**67**	Pn		**Pn**		**13 05 51.6**	**-0.8**
ARHZ	**Aropaoanui**	**2.00**	**67**	P		**Pn**		**13 05 51.6**	**-0.8**
ALRZ	**Allen Road**	**2.00**	**42**	P		**Pn**		**13 05 51.2**	**-1.3**
GRRZ	**Galatos Road**	**2.06**	**35**	P		**Pn**		**13 05 52.6**	**-0.7**
PRRZ	**Plateau Road**	**2.07**	**42**	Pn		**Pn**		**13 05 52.1**	**-1.3**
PRRZ	**Plateau Road**	**2.07**	**42**	P		**Pn**		**13 05 52.2**	**-1.3**
MTHZ	**Maungataniwha**	**2.10**	**56**	P		**Pn**		**13 05 52.3**	**-1.5**
HRRZ	**Handcock Road**	**2.10**	**38**	Pn		**Pn**		**13 05 53.0**	**-0.9**
HRRZ	**Handcock Road**	**2.10**	**38**	P		**Pn**		**13 05 53.0**	**-0.9**
THZ	**Tophouse**	**2.15**	**217**	*e*Pn		**Pn**		**13 05 54.8**	**+0.4**
THZ	**Tophouse**	**2.15**	**217**	P		**Pn**		**13 05 54.7**	**+0.4**
HSRZ	**Hossack Road**	**2.15**	**36**	P		**Pn**		**13 05 53.6**	**-0.8**
RAHZ	**Arahi**	**2.22**	**60**	P		**Pn**		**13 05 54.1**	**-1.2**
UTU	**Utuhina**	**2.24**	**34**	P		**Pn**		**13 05 55.0**	**-0.5**
WHHZ	**Waihua**	**2.24**	**65**	P		**Pn**		**13 05 54.6**	**-1.0**
HLRZ	**Highlands Stat**	**2.25**	**37**	P		**Pn**		**13 05 55.2**	**-0.5**
RRRZ	**Republican Roa**	**2.26**	**41**	Pn		**Pn**		**13 05 54.3**	**-1.5**
RRRZ	**Republican Roa**	**2.26**	**41**	P		**Pn**		**13 05 54.5**	**-1.3**
MUGZ	**Murupara**	**2.29**	**47**	P		**Pn**		**13 05 54.3**	**-1.9**
NGRZ	**Ngongotaha**	**2.30**	**32**	P		**Pn**		**13 05 55.9**	**-0.5**
RTZ	**Ruatahuna**	**2.33**	**53**	P		**Pn**		**13 05 54.8**	**-2.0**
TARZ	**Mount Tarawera**	**2.33**	**39**	P		**Pn**		**13 05 55.9**	**-1.0**
OMRZ	**Omania**	**2.38**	**36**	P		**Pn**		**13 05 56.5**	**-0.9**
KARZ	**Kaharoa**	**2.39**	**32**	P		**Pn**		**13 05 56.9**	**-0.6**
TOZ	**Tahuroa Road**	**2.42**	**17**	Pn		**Pn**		**13 05 56.8**	**-1.0**
TOZ	**Tahuroa Road**	**2.42**	**17**	P		**Pn**		**13 05 56.8**	**-1.0**
SNGZ	**Shannon Statio**	**2.46**	**60**	Pn		**Pn**		**13 05 56.9**	**-1.5**
SNGZ	**Shannon Statio**	**2.46**	**60**	P		**Pn**		**13 05 57.0**	**-1.4**
KHZ	**Kahutara**	**2.50**	**199**	*e*Pn		**Pn**		**13 05 59.3**	**+0.6**
KHZ	**Kahutara**	**2.50**	**199**	P		**Pn**		**13 05 59.4**	**+0.6**
KNZ	**Kokohu**	**2.58**	**67**	Pn		**Pn**		**13 05 58.0**	**-1.8**
KNZ	**Kokohu**	**2.58**	**67**	P		**Pn**		**13 05 58.2**	**-1.6**
MARZ	**Manawahe**	**2.61**	**38**	P		**Pn**		**13 05 59.2**	**-1.2**
URZ	**Urewera**	**2.64**	**48**	P		**Pn**		**13 05 58.4**	**-2.2**
URZ	24nm,0.3s,baz=246,slow=4.0,SNR=197			S		**Sn**		**13 06 28.1**	**-4.3**
URZ	148nm,0.3s,baz=106,slow=20,SNR=77 **Urewera**	**2.64**	**48**	*e*Pn		**Pn**		**13 05 58.6**	**-2.1**
URZ	**Urewera**	**2.64**	**48**	P		**P

JBT2 eS Sn 13 14 10.8 -0.1
JNK Nakash 2.69 357 P Pn 13 13 36.5 -1.6
JNK eS Sn 13 14 06.6 -4.7
JFR Furan 2.85 323 P Pn 13 13 40.1 -0.2
JFR eS Sn 13 14 12.8 -2.4
GLVR Golovnino 2.88 9 ||i P Pn 13 13 41.0 +0.4
GLVR i S Sn 13 14 13.2 -2.7
JTM Tenmabayashi 2.92 269 P Pn 13 13 41.4 +0.2
JTM S Sn 13 14 13.9 -3.0
JOT Ohata 2.96 281 P Pn 13 13 41.9 +0.1
JOT eS Sn 13 14 15.1 -2.8
JRA Rausu 3.04 3 P Pn 13 13 41.6 -1.3
JKB Kayabe 3.08 290 P Pn 13 13 43.8 +0.4
JKB eS Sn 13 14 18.0 -2.9
JOM Ohasama 3.12 244 P Pn 13 13 43.5 -0.4
JOM eS Sn 13 14 18.1 -3.7
GRPR Tuman 3.16 11 eP Pn 13 13 43.8 -0.7
GRPR eS Sn 13 14 18.6 -4.3
JTKR Abashiri--Toko 3.16 347 P Pn 13 13 44.5 0.0
JTKR S Sn 13 14 21.3 -1.6
YUK Yuzh-Kuril'sk 3.21 12 c iP Pn 13 13 44.5 -0.8
YUK i S Sn 13 14 20.1 -4.1
YUK pmax pmax
comp=N,63nm,0.3s
YUK pmax pmax
comp=Z,326nm,0.3s
YUK pmax pmax
comp=E,69nm,0.1s
YUK smax smax
comp=N,2μm,0.5s
YUK smax smax
comp=E,1μm,0.5s
LAGR Lagunnoye 3.22 11 eP Pn 13 13 45.8 +0.4
LAGR i S Sn 13 14 21.6 -2.8
JEW Eniwo 3.23 308 P Pn 13 13 46.7 +1.2
JEW S Sn 13 14 24.0 -0.7
JKK2 Kamakawa 2 3.38 332 P Pn 13 13 47.6 0.0
JMK Ichinoseki 3.44 237 P Pn 13 13 47.9 -0.5
JMK eS Sn 13 14 24.9 -4.9
ASAJ Asahikawa 3.64 333 Pn Pn 13 13 51.8 +0.6
comp=E,2.4nm,0.3s,baz=196,slow=16,SNR=38
ASAJ Sn Sn 13 14 33.4 -1.4
comp=E,3.5nm,0.3s,baz=106,slow=23,SNR=8.4
ASAJ Asahikawa 3.64 333 ePn Pn 13 13 51.8 +0.6
ASAJ eSn Sn 13 14 32.0 -2.9
ASAJ Sn Sn 13 14 33.4 -1.4
KUR Kuril'sk 4.84 26 d iP Pn 13 14 07.8 +0.1
KUR i S Sn 13 14 59.2 -5.2
KUR pmax pmax
comp=Z,121nm,0.4s
KUR pmax pmax
comp=N,35nm,0.2s
KUR pmax pmax
comp=E,61nm,0.2s
KUR smax smax
comp=N,366nm,0.3s
KUR smax smax
comp=E,250nm,0.2s
YSS Yuzh-Sakhalins 6.25 346 ||eP Pn 13 14 24.4 -2.6
YSS eS Sn 13 15 30.5 -8.6
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS MLR MLR
comp=E,500nm,16.0s
MAJO Matsushiro 6.81 232 ||eP Pn 13 14 34.3 -0.4
MAJO Matsushiro 6.81 232 ePn Pn 13 14 34.8 0.0
MAJO eSn Sn 13 15 49.8 -3.1
MAT Matsushiro 6.81 232 P Pn 13 14 34.1 -0.6
MAT eS Sn 13 15 50.5 -2.4
MJAR Matsushiro Arr 6.81 232 Pn Pn 13 14 33.5 -1.3
comp=E,0.8nm,0.3s,baz=41,slow=11,SNR=14
MJAR Sn Sn 13 15 50.8 -2.1
comp=E,0.3nm,0.3s,baz=74,slow=23,SNR=4.3
MJAR LR LR 13 17 20.0
comp=E,95nm,21.5s,baz=55,slow=39
MJB9 Matsu-Tunnel 6.81 232 ePn Pn 13 14 34.8 0.0
TYV Tymovskoe 10.09 352 eP Pn 13 15 25.7 +6.1
TYV eS Sn 13 17 21.6 +8.2
TYV pmax pmax
comp=Z,16nm,1.1s
TYV smax smax
comp=N,6.0nm,0.9s
USRK Ussuriysk Ar. 10.09 293 Pn Pn 13 15 21.3 +1.6
comp=N,0.1nm,0.3s,baz=114,slow=13,SNR=11
USRK LR LR 13 19 31.2
comp=N,96nm,18.5s,baz=108,slow=39
GRNR Gornyy 11.50 332 eP Pn 13 15 39.8 +0.8
GRNR pmax pmax
comp=N,42nm,1.0s
GRNR pmax pmax
comp=Z,34nm,1.0s
KLR Kul'dur 12.47 316 Pn Pn 13 15 52.1 -0.2
comp=Z,0.0nm,0.3s,baz=128,slow=14,SNR=7.8
KLR LR LR 13 20 04.1
comp=Z,9.1nm,19.9s,baz=120,slow=34
KLR Kul'dur 12.47 316 ||eP Pn 13 15 52.8 +0.5
SKR Severo-Kuril's 12.51 35 ||eP Pn 13 15 52.4 -0.3
NKL Nikolayevsk 12.59 348 eP Pn 13 15 53.8 0.0
NKL pmax pmax
comp=Z,21nm,1.0s
KSRS Korea Array 13.62 261 Pn Pn 13 16 09.7 +1.7
comp=Z,0.1nm,0.3s,baz=74,slow=13,SNR=3.3
KSRS LR LR 13 20 37.8
comp=Z,16nm,20.5s,baz=94,slow=34
JNU Nakatsue 13.62 240 Pn Pn 13 16 06.8 -1.3
comp=Z,0.2nm,0.3s,baz=22,slow=19,SNR=3.5
JNU LR LR 13 20 57.4
comp=Z,45nm,20.1s,baz=298,slow=36
KSAR Wonju Array Be 13.65 261 P Pn 13 16 09.7 +1.3
KSAR Wonju Array Be 13.65 261 Pn Pn 13 16 09.7 +1.3
PETK Petropavlovsk- 14.98 31 Pn Pn 13 16 22.7 -3.7
comp=Z,0.2nm,0.3s,baz=187,slow=9.6,SNR=5.1
PETK LR LR 13 22 00.8
comp=Z,74nm,20.3s,baz=208,slow=36
PETK Petropavlovsk- 14.98 31 eP Pn 13 16 22.6 -3.8
PETK Petropavlovsk- 14.98 31 ePn Pn 13 16 22.6 -3.8
PET Petropavlovsk 15.30 33 i P P 13 16 37.3 +1.6
ZEA Zeya 17.50 323 eP Pn 13 16 56.6 -2.2
ZEA pmax pmax
comp=Z,23nm,1.0s
MA2 Magadan 19.06 9 P P 13 17 17.0 -0.1
comp=Z,0.3nm,0.3s,baz=192,slow=11,SNR=7.1
MA2 LR LR 13 25 19.9
comp=Z,38nm,19.2s,baz=341,slow=39
MA2 Magadan 19.06 9 ||eP P 13 17 16.8 -0.4
SEY Seymchan 22.51 9 P P 13 17 54.6 +0.1
comp=Z,4.4nm,0.8s,baz=189,slow=7.8,SNR=36
SEY Seymchan 22.51 9 ||eP P 13 17 54.0 -0.5
YAK Yakutsk 23.07 342 P P 13 18 01.4 +1.0
comp=Z,9.7nm,0.5s,baz=92,slow=1.4,SNR=5.8
YAK LR LR 13 26 48.1
comp=Z,66nm,19.9s,baz=93,slow=36
YAK Yakutsk 23.07 342 eP P 13 18 01.9 +1.5
YAK e 13 22 06.4
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 23.07 342 eP P 13 18 00.9 +0.5
comp=E,13nm,0.8s
BOD Bodaibo 25.97 321 eP P 13 18 26.7 -0.9
BOD pmax pmax
comp=Z,6.0nm,1.4s
GUMO Guam 27.21 180 LR LR 13 30 47.3
comp=Z,14nm,18.0s,baz=110,slow=40
ULN Ulaanbaatar 27.73 297 deP P 13 18 46.7 +3.0
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 27.73 297 eP P 13 18 46.4 +2.7
comp=Z,7.9nm,1.1s
SONA1 Songino Array 28.16 297 eP P 13 18 48.8 +1.2
SONM Songino Array 28.17 297 P P 13 18 48.1 +0.5
comp=Z,3.8nm,1.0s,baz=91,slow=8.1,SNR=18
SONM LR LR 13 31 26.8
comp=Z,46nm,18.2s,baz=2.0,slow=40
H11N2 WAKE ISLAND Hy 28.23 132 T T 13 48 22.4
baz=324,slow=74,SNR=22
H11N1 WAKE ISLAND Hy 28.24 132 T T 13 48 19.5
baz=324,slow=74,SNR=20
H11N3 WAKE ISLAND Hy 28.25 132 T T 13 48 20.5
baz=324,slow=74,SNR=27
H11S1 WAKE ISLAND Hy 29.11 134 T T 13 49 23.4
baz=325,slow=76,SNR=35
H11S3 WAKE ISLAND Hy 29.11 134 T T 13 49 29.2
baz=325,slow=76,SNR=24
H11S2 WAKE ISLAND Hy 29.12 134 T T 13 49 26.4
baz=325,slow=76,SNR=28
BILL Bilibino 29.56 16 i P P 13 18 59.7 +0.1
BILL i 13 19 12.0
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,59nm,21.0s
ZAK Zakamensk 30.26 302 eP P 13 19 07.1 +1.0
ZAK pmax pmax
comp=Z,3.0nm,1.3s
MOY Mondy 31.75 305 eP P 13 19 25.3 +6.0
TIXI Tiksi 31.86 350 ||eP P 13 19 19.1 -0.7
TIXI pmax pmax
comp=Z,2.0nm,1.0s
GTA Gaotai 34.21 283 eP P 13 19 42.1 +1.2
GTA pP 13 19 45.6
GTA sP 13 19 48.3
CD2 Chengdu 34.52 266 eP P 13 19 43.8 +0.2
DGZ Jazzator, Alta 40.48 303 ||eP P 13 20 35.5 +1.5
DGZ pmax pmax
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 41.45 309 P P 13 20 42.6 +0.8
comp=Z,1.0nm,0.6s,baz=76,slow=6.5,SNR=7.5
ZALV PcP PcP 13 22 40.0 +0.5
comp=Z,2.6nm,0.7s,baz=109,slow=1.6,SNR=6.8
ZALV LR LR 13 40 58.8
comp=Z,19nm,18.4s,baz=70,slow=41
ZALV Zalesovo Beam 41.45 309 eP P 13 20 42.1 +0.3
ZALV 13 22 40.0
ZALV Zalesovo Beam 41.45 309 eP P 13 20 42.1 +0.3
ZALV PcP PcP 13 22 40.0 +0.5
WMQ Urumqi 41.66 294 P P 13 20 45.5 +1.8
MK01 Makanchi Array 44.49 299 eP P 13 21 06.4 -0.1
MK31 Makanchi Array 44.49 299 eP P 13 21 06.7 +0.2
MK31 Makanchi Array 44.49 299 eP P 13 21 06.7 +0.2
MKAR Makanchi Array 44.49 299 P P 13 21 07.1 +0.6
comp=Z,0.8nm,0.6s,baz=86,slow=10,SNR=15
MKAR Makanchi Array 44.49 299 eP P 13 21 05.9 -0.6
comp=Z,18nm,0.9s
MAKZ Makanchi 44.69 300 eP P 13 21 08.3 +0.2
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MAKZ Makanchi 44.69 300 eP P 13 21 08.3 +0.2
comp=Z,3.3nm,0.9s
ILAR Eielson Array 44.77 34 P P 13 21 09.1 +0.6
comp=Z,1.0nm,0.7s,baz=260,slow=6.3,SNR=12
CMAR Chiang Mai Arr 45.14 254 P P 13 21 12.2 +0.3
comp=Z,1.1nm,0.3s,baz=35,slow=6.5,SNR=4.7
KURK Kurchatov 45.80 306 ceP P 13 21 17.6 +0.8
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 45.80 306 eP P 13 21 17.4 +0.6
comp=Z,6.2nm,1.0s
KURBB Kurchatov Arra 45.87 306 P P 13 21 17.3 -0.1
comp=Z,3.1nm,0.7s,baz=78,slow=8.6,SNR=11
INK Inuvik 49.70 29 P P 13 21 48.4 +1.6
comp=Z,1.5nm,0.5s,baz=318,slow=4.8,SNR=4.6
BVAR Borovoye Array 50.06 311 P P 13 21 50.7 +0.8
comp=Z,1.3nm,0.5s,baz=73,slow=8.4,SNR=8.5
BRVK Borovoye 50.11 311 ||eP P 13 21 51.5 +1.3
BRVK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 51.12 297 ||eP P 13 21 58.3 +0.1
AAK pmax pmax
comp=Z,1.0nm,1.0s
KSH Kashi 51.39 293 eP P 13 22 05.8 +5.6
BATI Baumata 54.50 206 LR LR 13 44 33.0
comp=Z,56nm,21.0s,baz=12,slow=35
ARU Arti 55.31 318 c iP P 13 22 30.8 +2.2
ARU 13 24 27.6
ARU S S 13 30 19.4 +6.1
ARU pmax pmax
comp=Z,24nm,2.2s
ABKAR Akbulak array 57.57 309 eP P 13 22 45.2 +0.4
comp=Z,17nm,0.6s
AKTO Aktyubinsk 58.15 311 P P 13 22 49.7 +0.8
comp=Z,1.0nm,0.6s,baz=76,slow=15,SNR=3.6
RES Resolute Bay 58.17 16 eP P 13 22 49.3 +0.7
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 58.17 16 eP P 13 22 49.3 +0.7
comp=Z,5.2nm,0.8s
YKA Yellowknife Ar 59.10 32 P P 13 22 55.8 +0.6
comp=Z,0.7nm,0.6s,baz=301,slow=6.4,SNR=18
WRAB Tennant Creek 61.31 191 ||eP P 13 23 10.3 -0.5
WRAB pmax pmax
comp=Z,118nm,2.5s
WRA Warramunga Arr 61.32 191 P P 13 23 10.4 -0.6
comp=Z,6.8nm,0.9s,baz=9.8,slow=7.1,SNR=20
GEYT Alibeck 64.36 299 LR LR 13 53 06.1
comp=Z,36nm,18.0s,baz=280,slow=38
AS01 Alice Springs 65.03 191 eP P 13 23 34.8 -0.8
ASAR Alice Springs 65.04 191 P P 13 23 35.4 -0.2
comp=Z,1.5nm,0.8s,baz=14,slow=6.2,SNR=9.9
OBN Obninsk 66.62 324 eP P 13 23 46.8 +1.3
OBN pmax pmax
comp=Z,4.0nm,1.3s
FINES FINESS Array B 66.65 333 P P 13 23 45.8 +0.2
comp=Z,2.3nm,0.6s,baz=38,slow=7.5,SNR=8.2
FINES LR LR 13 54 12.4
comp=Z,48nm,20.7s,baz=31,slow=37
FINES FINESS Array B 66.65 333 i P P 13 23 49.4 +3.8
FINES pmax pmax
comp=Z,2.0nm,0.6s
LBCM Butte Creek Ri 67.21 55 eP P 13 23 46.0 -3.8
BOZ Bozeman (W) 70.09 47 eP P 13 24 07.6 0.0
BOZ pmax pmax
comp=Z,11nm,1.6s
BOZ Bozeman (W) 70.09 47 eP P 13 24 07.5 0.0
comp=Z,11nm,1.6s
KIV Kislovodsk 70.42 311 eP P 13 24 09.0 -0.5
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,38nm,18.0s
KBZ Khabaz 70.44 311 P P 13 24 10.4 +0.9
comp=Z,3.5nm,0.8s,baz=44,slow=5.2,SNR=7.2
NVAR Mina Array Bea 70.53 56 P P 13 24 10.7 +0.2
comp=Z,0.9nm,0.6s,baz=296,slow=7.1,SNR=5.2
TIN Tinemaha, Big 71.41 57 eP P 13 24 16.8 +1.1
TIN Tinemaha, Big 71.41 57 eP P 13 24 16.8 +1.1
NB2 NORSAR Subarra 71.65 338 P P 13 24 16.8 +0.2
comp=Z,2.7nm,0.9s,baz=38,slow=6.2
NOA NORSAR Array B 71.65 338 P P 13 24 17.1 +0.5
comp=Z,1.5nm,0.7s,baz=37,slow=6.1,SNR=4.6
NOA LR LR 13 58 57.9
comp=Z,25nm,21.9s,baz=355,slow=38
HFS Hagfors 71.66 337 P P 13 24 17.4 +0.7
comp=Z,2.2nm,0.8s,baz=64,slow=6.6,SNR=3.1
HFS LR LR 13 58 17.0
comp=Z,24nm,18.4s,baz=8.5,slow=38
ARVC Arvin 72.19 59 eP P 13 24 21.1 +0.8
AKASG Malin Array Be 72.88 323 P P 13 24 24.7 +0.6
comp=Z,1.3nm,0.5s,baz=43,slow=5.7,SNR=8.6
KIEV Kiev 72.89 323 ||eP P 13 24 25.4 +1.2
KIEV pmax pmax
comp=Z,5.0nm,1.2s
PDAR Pinedale Array 73.04 48 P P 13 24 26.1 +0.5
comp=Z,0.6nm,0.6s,baz=254,slow=1.4,SNR=10
TMUT Trail Mountain 74.32 51 eP P 13 24 32.5 -0.8
comp=Z,2.9nm,0.7s
BUR04 Bucovina Ar. S 76.93 323 eP P 13 24 48.5 +0.7
BRTR Keskin Array B 78.28 313 i P P 13 25 00.0 +4.5
DPC Dobruska-Polom 78.59 329 eP P 13 24 58.3 +1.4
DPC Dobruska-Polom 78.59 329 eP P 13 24 58.3 +1.4
CLL Collm 79.05 332 eP P 13 25 03.0 +3.7
CLL Collm 79.05 332 epP P 13 25 03.0 +3.7
KHC Kasperske Hory 80.62 330 eP P 13 25 06.5 -1.5
KHC ex x 13 25 12.5
KHC Kasperske Hory 80.62 330 eP P 13 25 12.5 +4.5
GERES GERESS Array B 80.81 330 P P 13 25 09.6 +0.6
comp=Z,0.3nm,0.5s,baz=35,slow=3.6,SNR=3.7
TX31 Lajitas Ar. Si 85.63 55 eP P 13 25 34.8 +0.5
TXAR Lajitas Array 85.64 55 P P 13 25 35.0 +0.8
comp=Z,1.3nm,0.8s,baz=297,slow=3.5,SNR=15
TXAR Lajitas Array 85.64 55 P P 13 25 35.1 +0.8
TXAR pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 145.24 197 PKPbc PKPbc 13 32 30.5 -1.2
comp=Z,6.0nm,0.9s,baz=225,slow=5.7,SNR=9.8

IDC 17 13:19:22.4±565.0, 47.88N×49.34E, h0km, Error ellipse: s-maj=210.4km s-min=137.1km az=51.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF** baz=249,slow=285,SNR=0.9	**6.24**	**63**	*i*			13 54 30.0	
I43RU	**DUBNA INFRASON** baz=134,slow=331,SNR=2.9	**11.53**	**325**	*i*			14 29 40.0	
I46RU	**ZALESOVO INFRA** baz=269,slow=321,SNR=3.3	**23.00**	**61**	*i*			15 43 00.0	

*NIED **17** 13:47:00, 38.10N×141.50E, h68km, Mw4.3 Best double couple: M0 3.69000×10^15 NP1:φs 50.00000°, δ 21.00000°, λ 155.00000°. NP2:φs 164.00000°, δ 81.00000°, λ 70.00000°.*
*BJI **17** 13:47:33.9, 37.89N×141.73E, h54km, mb4.7/54, mB4.9/30, Ms4.4/6, Ms7 4.2/7*
*ISCJB **17** 13:47:37.6±0.3, 38.12N±0.02×141.51E±0.03, h72km±2km, mb4.5/110, Error ellipse: s-maj=4.9km s-min=3.2km az=40.2*
*MOS **17** 13:47:37.2±1.0, 38.24N×141.50E, h65km, mb4.7/48, Error ellipse: s-maj=7.2km s-min=4.9km az=92.7*
*NEIC **17** 13:47:38.5±0.2, 38.16N×141.50E, mb4.6/60, Error ellipse: s-maj=6.1km s-min=3.5km az=150.0*
NEIC Felt at Sendai. Recorded [3 JMA] in Miyagi.
*IDC **17** 13:47:38.5±0.5, 38.12N×141.46E, h65km±4km, mb4.1/29, mb1 4.3/35, mb1mx4.1/66, mbtmp4.4/35, MS3.1/15, Ms1 3.1/15, ms1mx2.9/62, Error ellipse: s-maj=11.7km s-min=10.8km az=114.0*
*JMA **17** 13:47:38.6, 38.12N×141.50E, h63km±1km, M4.4*
JMA Felt III J1.

ISC 17 13:47:37.5±0.5, 38.11N±0.04×141.62E±0.04, h61km±3km, h61km: pP-P, n255, σ1 s 40/287, mb4.6/110, 12C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.40**	**328**	P		Pn	13 47 49.6	+0.9
JIO				S		Sn	13 47 57.4	+0.7
JMM	**Marumori**	**0.70**	**250**	P		Pn	13 47 51.9	+0.1
JMM				eS		Sn	13 48 01.6	-0.7
JOU	**Okura**	**0.80**	**289**	P		Pn	13 47 53.1	+0.1
JOU				S		Sn	13 48 03.7	-0.7
JMK	**Ichinoseki**	**0.90**	**340**	P		Pn	13 47 55.0	+0.7
JMK				S		Sn	13 48 07.1	+0.4
JFK	**Kawauchi**	**0.95**	**219**	P		Pn	13 47 55.5	+0.5
JFK				S		Sn	13 48 08.0	+0.1
JFT	**Otama**	**1.18**	**240**	P		Pn	13 47 58.5	+0.5
JFT				S		Sn	13 48 12.7	-0.5
JYS	**Shirataka**	**1.23**	**276**	P		Pn	13 47 58.9	+0.2
JYS				eS		Sn	13 48 14.5	+0.1
JYK	**Kaneyama**	**1.28**	**310**	P		Pn	13 47 59.6	+0.3
JYK				eS		Sn	13 48 15.4	-0.1
JOM	**Ohasama**	**1.38**	**349**	P		Pn	13 48 01.7	+1.0
JOM				eS		Sn	13 48 18.9	+0.8
JRG	**Rokugo**	**1.50**	**329**	P		Pn	13 48 03.2	+1.0
JYA	**Atsumi**	**1.57**	**288**	P		Pn	13 48 03.2	0.0
JYA				S		Sn	13 48 22.3	-0.3
JFY	**Yanaizu**	**1.67**	**246**	P		Pn	13 48 05.2	+0.6
JFY				S		Sn	13 48 25.1	0.0
JNS	**Sasagawa**	**1.84**	**262**	P		Pn	13 48 07.1	+0.2
MJAR	**Matsushiro Arr** 26nm,0.3s,baz=15,slow=17,SNR=330	**3.14**	**241**	P		Pn	13 48 25.6	+1.1
MJAR				S		Sn	13 49 01.6	+0.8
	23nm,0.3s,baz=24,slow=42,SNR=5.6			LR	LR		13 49 56.4	
MJAR	comp=Z,588nm,21.9s,baz=70,slow=46							
MAJO	**Matsushiro**	**3.14**	**241**	c iP		Pn	13 48 26.4	+1.8
MAJO	**Matsushiro**	**3.14**	**241**	ePn		Pn	13 48 26.3	+1.8
MAJO				eSn		Sn	13 49 00.9	+0.1
MAT	**Matsushiro**	**3.14**	**241**	P		Pn	13 48 26.1	+1.5
MAT				eS		Sn	13 49 04.1	+3.3
MJB9	**Matsu-Tunnel**	**3.14**	**241**	ePn		Pn	13 48 26.4	+1.8
ERM	**Erimo**	**4.07**	**16**	c iP		Pn	13 48 37.2	-0.1
ERM	**Erimo**	**4.07**	**16**	ePn		Pn	13 48 37.3	0.0
ERM				eSn		Sn	13 49 30.1	+6.5
INU	**Inuyama**	**4.61**	**235**	ePn		Pn	13 48 46.3	+1.6
JHJ	**Hachijo jima 2** 81nm,0.3s,baz=308,slow=22,SNR=16	**5.20**	**197**	P		Pn	13 48 53.1	+0.4
JHJ				S		Sn	13 49 50.2	-1.2
	134nm,0.3s,baz=73,slow=22,SNR=7.2							
JHJ2	**Mitsune**	**5.20**	**197**	ePn		Pn	13 48 52.8	0.0
JHJ2				eSn		Sn	13 49 51.4	0.0
ASAJ	**Asahikawa** 15nm,0.3s,baz=209,slow=14,SNR=149	**6.04**	**7**	P		Pn	13 49 04.0	-0.3
ASAJ	**Asahikawa**	**6.04**	**7**	P		Pn	13 49 04.0	-0.3
ASAJ				pmax	pmax			
	comp=Z,15nm,0.3s							
ASAJ	**Asahikawa**	**6.04**	**7**	ePn		Pn	13 49 03.8	-0.5
ASAJ				eSn		Sn	13 50 08.9	-3.2
YUK	**Yuzh-Kuril'sk**	**6.73**	**27**	eP		Pn	13 49 13.2	-0.4
YUK				i S		Sn	13 50 24.0	-4.8
YUK				pmax	pmax			
	comp=Z,215nm,0.3s							
TEY	**Ternei**	**7.87**	**333**	i P		Pn	13 49 33.0	+3.7
KUR	**Kuril'sk**	**8.51**	**31**	||i P		Pn	13 49 37.3	-0.7
KUR				eS		Sn	13 51 07.8	-4.7
KUR				pmax	pmax			
	comp=N,19nm,0.4s							
KUR				pmax	pmax			
	comp=Z,74nm,0.4s							
KUR				pmax	pmax			
	comp=E,22nm,0.5s							
KUR				smax	smax			
	comp=E,195nm,0.4s							
KUR				smax	smax			
	comp=N,90nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.88**	**5**	eP		Pn	13 49 44.0	+1.0
YSS				eS		Sn	13 51 21.2	-0.2
YSS				pmax	pmax			
	comp=Z,40nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.88**	**5**	ePn		Pn	13 49 43.1	+0.2
USRK	**Ussuriysk Ar.**	**9.47**	**313**	P		Pn	13 49 52.1	+1.0
	comp=Z,2.8nm,0.3s,baz=123,slow=15,SNR=37							
USRK				LR	LR		13 53 14.3	
	comp=Z,107nm,21.3s,baz=143,slow=36							
JNU	**Nakatsue**	**10.06**	**244**	P		Pn	13 49 60.0	+0.7
	comp=Z,0.9nm,0.3s,baz=57,slow=1.2,SNR=8.6							
JNU				LR	LR		13 54 17.7	
	comp=Z,303nm,18.7s,baz=118,slow=40							
JNU	**Nakatsue**	**10.06**	**244**	ePn		Pn	13 50 00.3	+1.0
KSRS	**Korea Array**	**10.86**	**271**	P		Pn	13 50 11.7	+1.5
	comp=Z,1.4nm,0.3s,baz=80,slow=14,SNR=28							
KSRS				LR	LR		13 54 05.1	
	comp=Z,109nm,19.7s,baz=66,slow=36							
KS01	**Wonju Array Si**	**10.88**	**271**	ePn		Pn	13 50 12.1	+1.6
KS15	**Wonju Array Si**	**10.89**	**271**	ePn		Pn	13 50 12.8	+2.2
KSAR	**Wonju Array Be**	**10.89**	**271**	P		Pn	13 50 11.7	+1.1
KSAR	**Wonju Array Be**	**10.89**	**271**	P		Pn	13 50 11.7	+1.1
CBIJ	**Chichi jima**	**10.99**	**177**	ePn		Pn	13 50 11.3	-0.7
CBIJ				S		Sn	13 52 03.0	-10
JCJ	**Chichijima**	**10.99**	**177**	P		Pn	13 50 10.3	-1.7
	comp=Z,12nm,0.3s,baz=264,slow=24,SNR=12							
JCJ				S		Sn	13 52 03.0	-10
	comp=Z,7.5nm,0.3s,baz=287,slow=20,SNR=3.5							
JCJ				LR	LR		13 54 48.8	
	comp=Z,36nm,20.4s,baz=96,slow=39							
MDJ	**Mudanjiang**	**11.13**	**310**	P		Pn	13 50 16.8	+3.1
MDJ				pmax	pmax			
	comp=Z,17nm,0.7s							
MDJ				pmax	pmax			
	comp=Z,220nm,3.1s							
TJN	**Taejon**	**11.50**	**266**	||eP		Pn	13 50 19.9	+1.1
TYV	**Tymovskoe**	**12.77**	**3**	eP		Pn	13 50 35.4	-0.7
TYV				eS		Sn	13 52 49.8	-6.7
TYV				pmax	pmax			
	comp=Z,9.0nm,0.8s							
TYV				smax	smax			
	comp=N,5.0nm,1.1s							
KLR	**Kul'dur**	**13.20**	**331**	||eP		Pn	13 50 42.3	+0.3
NKL	**Nikolayevsk**	**15.05**	**358**	eP		Pn	13 51 06.9	+0.5
SKR	**Severo-Kuril's**	**16.25**	**35**	||eP		P	13 51 24.5	+0.8
ZEA	**Zeya**	**18.49**	**332**	eP		Pn	13 51 49.2	0.0
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PETK	**Petropavlovsk-**	**18.68**	**31**	P		P	13 51 49.2	-1.3
	comp=Z,0.3nm,0.3s,baz=215,slow=7.8,SNR=9.9							
PETK				LR	LR		13 59 29.4	
	comp=Z,32nm,18.7s,baz=216,slow=38							

PETK **Petropavlovsk-** 18.68 31 *eP* **P** 13 51 49.7 -0.8
PETK **Petropavlovsk-** 18.68 31 *eP* **P** 13 51 49.7 -0.8
PEA1 **Petropavlovsk-** 18.68 31 *eP* **P** 13 51 49.2 -1.3
PET **Petropavlovsk** 19.02 33⇑ *eP* **P** 13 51 55.7 +1.5
PET pmax pmax
comp=Z,20nm,1.3s
NJ2 **Nanjing** 19.57 259 *eP* **Pn** 13 52 01.3 -0.9
NJ2 pmax pmax
comp=Z,15nm,0.7s
TIA **Tai'an** 19.61 272 P **P** 13 52 00.1 -0.7
TIA pmax pmax
comp=Z,13nm,1.3s
BJI **Beijing** 19.83 284⇑ *eP* **P** 13 52 01.8 -1.4
BJI pP **pP** 13 52 13.3 -3.0
BJI pmax pmax
comp=Z,18nm,0.5s
BJT **Baijiatuau** 19.84 283 *eP* **P** 13 52 01.9 -1.4
BJT pmax pmax
comp=Z,24nm,0.8s
BJT **Baijiatuau** 19.84 283 *eP* **P** 13 52 01.9 -1.4
comp=Z,24nm,0.8s
MA2 **Magadan** 22.27 12⇓ *eP* **P** 13 52 28.7 -0.5
SSLB **Suanglung** 22.69 237 *eP* **P** 13 52 30.4 -3.7
comp=Z,12nm,0.8s
TPUB **Ta-pu** 23.24 237 *eP* **P** 13 52 37.3 -2.3
comp=Z,17nm,0.8s
HHC **Hu-ho-hao-te** 23.31 286 *eP* **P** 13 52 38.9 -1.3
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,95nm,6.3s
WHN **Wuhan** 23.70 260 P **P** 13 52 42.5 -1.2
GUMO **Guam** 24.59 172 LR LR 14 04 29.9
comp=Z,7.7nm,19.9s,baz=88,slow=41
YAK **Yakutsk** 25.06 347 P **P** 13 52 55.1 -0.7
comp=Z,10nm,0.3s,baz=35,slow=3.8,SNR=8.3
YAK LR LR 14 03 31.1
comp=Z,48nm,19.1s,baz=291,slow=38
YAK **Yakutsk** 25.06 347 *eP* **P** 13 52 54.9 -0.9
YAK *e**PP **sP** 13 53 16.9 -1.0
YAK *e* 13 56 33.6
YAK *e*S **S** 13 57 12.4 -3.1
YAK *e**SS **sS** 13 57 40.0 -0.9
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,1.0nm,0.9s
YAK pmax pmax
comp=Z,87nm,4.8s
YAK pmax pmax
comp=E,48nm,4.7s
YAK pmax pmax
comp=N,61nm,4.1s
YAK smax smax
comp=N,51nm,2.6s
YAK smax smax
comp=E,48nm,2.3s
YAK **Yakutsk** 25.06 347 *eP* **P** 13 52 54.0 -1.7
comp=E,19nm,0.7s
SEY **Seymchan** 25.70 11⇓ *eP* **P** 13 53 03.4 +1.8
XAN **Xi'an** 26.66 271 ⇑P **P** 13 53 09.3 -1.4
XAN pP pP 13 53 18.6 -7.0
XAN pmax pmax
comp=E,12nm,0.6s
XAN pmax pmax
comp=E,99nm,4.9s
BOD **Bodaibo** 26.71 327 *eP* **P** 13 53 09.6 -1.2
BOD pmax pmax
comp=Z,8.0nm,1.1s
ULN **Ulaanbaatar** 26.90 302 *ceP* **P** 13 53 12.8 0.0
ULN pmax pmax
comp=Z,8.0nm,1.2s
ULN **Ulaanbaatar** 26.90 302 *eP* **P** 13 53 11.3 -1.5
comp=Z,4.4nm,0.7s
SONA1 **Songino Array** 27.33 302 *eP* **P** 13 53 16.3 -0.4
SONA0 **Songino Array** 27.34 302 *eP* **P** 13 53 16.2 -0.5
SONM **Songino Array** 27.34 302 P **P** 13 53 16.2 -0.5
comp=Z,2.6nm,0.7s,baz=108,slow=8.5,SNR=18
ENH **Enshi** 27.61 263 *eP* **P** 13 53 17.8 -1.4
comp=Z,38nm,0.6s
H11N2 **WAKE ISLAND Hy** 28.57 123 T T 14 23 44.0
baz=316,slow=75,SNR=7637
H11N1 **WAKE ISLAND Hy** 28.58 123 T T 14 23 44.8
baz=316,slow=75,SNR=8781
H11N3 **WAKE ISLAND Hy** 28.59 123 T T 14 23 45.4
baz=316,slow=75,SNR=6607
H11S1 **WAKE ISLAND Hy** 29.32 125 T T 14 24 40.7
baz=317,slow=76,SNR=2388
H11S3 **WAKE ISLAND Hy** 29.32 125 T T 14 24 40.8
baz=317,slow=76,SNR=3475
H11S2 **WAKE ISLAND Hy** 29.34 125 T T 14 24 41.4
baz=317,slow=76,SNR=1698
ZAK **Zakamensk** 29.74 307 *eP* **P** 13 53 35.9 -2.1
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY **Talaya** 29.76 309 LR LR 14 05 47.9
comp=Z,29nm,20.5s,baz=112,slow=37
LZH **Lanzhou** 30.07 278 *eP* **P** 13 53 45.4 +4.3
LZH pmax pmax
comp=Z,21nm,1.2s
GYA **Guiyang** 31.58 259⇑ *i*P **P** 13 53 53.1 -1.4
GYA pP pP 13 54 10.3 +0.7
GYA sP sP 13 54 17.0 +0.3
GYA PP **PnPn** 13 55 02.8 +2.9
GYA S **S** 13 58 59.3 +0.3
GYA ScP **ScP** 14 00 25.0 +1.4
GYA SS **SnSn** 14 00 50.5 +0.9
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,460nm,16.9s
GYA LR LR
comp=Z,440nm,17.2s
GYA LR LR
comp=Z,420nm,17.4s
CD2 **Chengdu** 31.85 268 *eP* **P** 13 53 57.0 +0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
GTA **Gaotai** 32.42 286 ⇑P **P** 13 54 01.3 -0.4
GTA pP pP 13 54 13.3 -3.5
GTA sP sP 13 54 18.6 -5.5
GTA pmax pmax
comp=Z,5.0nm,1.0s
BILL **Bilibino** 32.95 17 *i*P **P** 13 54 06.1 +0.2
BILL *i* 13 54 26.3
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,34nm,18.0s
TIXI **Tiksi** 34.24 353 *ceP* **P** 13 54 18.3 +1.3
TIXI pmax pmax
comp=Z,3.0nm,1.2s
KMI **Kunming** 35.30 260 P **P** 13 54 28.3 +1.3
KMI pmax pmax
comp=Z,13nm,0.6s
KMI pmax pmax
comp=Z,95nm,4.3s
DGZ **Jazzator, Alta** 39.90 305 *diP* **P** 13 55 05.6 +0.1
DGZ pmax pmax
comp=Z,7.0nm,0.8s
WMQ **Urumqi** 40.51 296 P **P** 13 55 11.3 +0.8
WMQ pmax pmax
comp=Z,34nm,1.1s
WMQ pmax pmax
comp=Z,220nm,4.3s
WMQ LR LR
comp=Z,85nm,20.7s
ZAA0 **Zalesovo Array** 41.32 311 *eP* **P** 13 55 16.4 -0.5
comp=Z,7.1nm,0.8s
ZAA1 **Zalesovo Array** 41.32 311 *eP* **P** 13 55 16.6 -0.3
ZALV **Zalesovo Beam** 41.32 311 P **P** 13 55 16.6 -0.3
comp=Z,2.6nm,0.3s,baz=89,slow=7.4,SNR=28
ZALV LR LR 14 12 08.2
comp=Z,36nm,18.3s,baz=81,slow=36
ZALV **Zalesovo Beam** 41.32 311 *eP* **P** 13 55 15.8 -1.0
CHTO **Chiang Mai** 41.72 255 *eP* **P** 13 55 19.7 -0.9
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO **Chiang Mai** 41.72 255 *eP* **P** 13 55 19.7 -0.9
comp=Z,3.7nm,0.8s

CMAR **Chiang Mai Arr** 41.94 254 P **P** 13 55 22.1 -0.3
comp=Z,1.2nm,0.6s,baz=44,slow=7.9,SNR=9.5
CMAR LR LR 14 14 02.9
comp=Z,20nm,18.6s,baz=50,slow=38
CM01 **Chiang Mai Arr** 41.95 254 *eP* **P** 13 55 22.2 -0.3
NVS **Novosibirsk** 42.22 313 *eP* **P** 13 55 23.8 -0.5
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,4.0nm,0.5s
NVS pmax pmax
comp=Z,5.0nm,0.5s
MK01 **Makanchi Array** 43.69 301 *eP* **P** 13 55 35.7 -0.6
MK31 **Makanchi Array** 43.69 301 *i* P **P** 13 55 35.8 -0.5
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 **Makanchi Array** 43.69 301 *eP* **P** 13 55 35.1 -1.3
MK32 **Makanchi Array** 43.69 301 *eP* **P** 13 55 35.9 -0.5
MKAR **Makanchi Array** 43.69 301 P **P** 13 55 35.9 -0.5
comp=Z,5.4nm,0.7s,baz=86,slow=9.9,SNR=74
MKAR LR LR 14 13 01.0
comp=Z,18nm,18.0s,baz=298,slow=35
MKAR **Makanchi Array** 43.69 301 *eP* **P** 13 55 35.1 -1.3
comp=Z,45nm,0.8s
MAKZ **Makanchi** 43.90 301 *eP* **P** 13 55 37.7 -0.3
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ **Makanchi** 43.90 301 *eP* **P** 13 55 37.7 -0.3
comp=Z,8.4nm,0.9s
KURK **Kurchatov** 45.40 307 P **P** 13 55 50.2 +0.4
KURK pmax pmax
comp=Z,11nm,0.5s
KURK **Kurchatov** 45.40 307 *eP* **P** 13 55 48.8 -1.1
comp=Z,16nm,0.7s
KURBB **Kurchatov Arra** 45.48 307 P **P** 13 55 50.2 -0.2
comp=Z,11nm,0.5s,baz=81,slow=8.1,SNR=82
KDAK **Kodiak Island** 46.19 43 *i* P **P** 13 55 56.9 +1.0
CAST **Castle Rocks** 46.25 35 *eP* **P** 13 55 58.5 +2.2
comp=Z,4.9nm,0.8s
PDGK **Podgornoye** 46.42 297 P **P** 13 55 57.2 -1.0
PDGK pmax pmax
comp=Z,13nm,0.9s
KTH **Kantishna Hill** 46.77 35 *eP* **P** 13 56 02.6 +2.2
comp=Z,9.6nm,0.9s
MLY **Manley** 46.85 33 *eP* **P** 13 56 02.8 +1.7
comp=Z,7.2nm,0.8s
SUA **Susitna One** 46.90 37 *eP* **P** 13 56 01.4 -0.2
comp=Z,35nm,1.8s
JIRN **Jiri** 47.09 274 *eP* **P** 13 56 04.2 +0.3
comp=Z,38nm,0.6s
COLD **Coldfoot** 47.13 30 *eP* **P** 13 56 04.5 +1.3
comp=Z,2.4nm,0.7s
GUN **Gumba** 47.22 275 *eP* **P** 13 56 04.9 +0.1
comp=Z,55nm,0.4s
TOLK **Toolik Lake Re** 47.44 28 *eP* **P** 13 56 07.4 +1.8
comp=Z,14nm,1.1s
RND **Reindeer** 47.70 35 *eP* **P** 13 56 08.8 +1.1
RND pmax pmax
comp=Z,29nm,1.8s
RND **Reindeer** 47.70 35 *eP* **P** 13 56 08.8 +1.1
comp=Z,29nm,1.8s
KKN **Kakani** 47.75 275 *eP* **P** 13 56 08.6 -0.2
comp=Z,36nm,0.5s
PKI **Pulchoki** 47.75 275 *eP* **P** 13 56 08.5 -0.4
comp=Z,13nm,0.5s
PKIN **Phulchoki** 47.75 275 *eP* **P** 13 56 08.8 -0.1
comp=Z,18nm,0.6s
MDM **Murphy Dome** 47.92 33 *eP* **P** 13 56 11.4 +2.0
comp=Z,14nm,1.0s
DMN **Daman** 47.97 275 *eP* **P** 13 56 10.2 -0.3
comp=Z,6.5nm,0.3s
WRH **Wood River Hil** 47.99 33 *eP* **P** 13 56 12.0 +2.1
comp=Z,3.7nm,0.8s
TARG **Taragay, Kyrgy** 48.08 295 *eP* **P** 13 56 11.8 +0.4
comp=Z,12nm,0.7s
KDJ **Kajisay** 48.40 296 *eP* **P** 13 56 13.5 -0.1
comp=Z,8.4nm,0.6s
IL1 **Eielson Array** 48.50 33 *eP* **P** 13 56 14.6 +0.8
ILAR **Eielson Array** 48.50 33 P **P** 13 56 15.0 +1.2
comp=Z,5.4nm,0.7s,baz=271,slow=6.6,SNR=77
ILB **Eielson Array** 48.50 33 *eP* **P** 13 56 14.8 +1.0
DANN **Dangsing** 48.68 276 *eP* **P** 13 56 16.1 0.0
comp=Z,4.1nm,0.8s
KOLN **Koldanda** 49.08 276 *eP* **P** 13 56 18.1 -0.9
comp=Z,7.4nm,0.2s
KLU **Klutina** 49.21 37 *eP* **P** 13 56 21.3 +1.9
comp=Z,9.4nm,0.6s
PYUN **Piuthan** 49.40 277 *eP* **P** 13 56 20.9 -0.6
comp=Z,23nm,0.5s
BVA0 **Borovoye Array** 49.98 312 *i* P **P** 13 56 24.7 -0.5
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR **Borovoye Array** 49.98 312 P **P** 13 56 25.1 -0.2
comp=Z,2.8nm,0.5s,baz=76,slow=8.0,SNR=22
BVAR LR LR 14 18 32.1
comp=Z,38nm,18.1s,baz=338,slow=37
BRVK **Borovoye** 50.03 312 *eP* **P** 13 56 25.4 -0.2
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK **Borovoye** 50.03 312 *eP* **P** 13 56 25.4 -0.2
comp=Z,6.1nm,1.2s
KSH **Kashi** 50.12 293 *eP* **P** 13 56 30.4 +3.7
KSH pP pP 13 56 45.1 +2.5
KSH sP sP 13 56 53.8 +4.2
KSH PcS **PcS** 14 01 43.1 +0.5
KSH S **S** 14 03 37.1 +3.3
KSH sS sS 14 04 04.0 +3.3
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH pmax pmax
comp=Z,110nm,5.7s
KSH LR LR
comp=Z,110nm,7.2s
KSH LR LR
comp=Z,96nm,7.3s
KSH LR LR
comp=Z,220nm,6.1s
AAK **Ala-Archa** 50.13 298⇑ *eP* **P** 13 56 26.6 -0.1
AAK pmax pmax
comp=Z,1.0nm,0.8s
AAK **Ala-Archa** 50.13 298 *eP* **P** 13 56 26.5 -0.3
comp=Z,3.8nm,0.6s
MNAS **Manas** 51.57 298 P **P** 13 56 37.6 +0.1
MNAS pmax pmax
comp=Z,8.0nm,0.6s
SFK **Sufi-Kurgan** 51.73 295 P **P** 13 56 38.3 -0.6
SFK pmax pmax
comp=Z,5.0nm,0.4s
KK31 **Karatay Array** 52.73 299 *i* P **P** 13 56 45.7 -0.3
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR **Karatay Array** 52.73 299 *eP* **P** 13 56 45.7 -0.3
KKAR **Karatay Array** 52.73 299 *eP* **P** 13 56 45.7 -0.3
HYT **Haines Junctio** 53.34 37 *eP* **P** 13 56 52.6 +2.3
comp=Z,18nm,1.1s
INK **Inuvik** 53.36 27 P **P** 13 56 51.3 +1.2
comp=Z,5.4nm,0.7s,baz=317,slow=5.0,SNR=11
INK **Inuvik** 53.36 27 *eP* **P** 13 56 51.3 +1.2
comp=Z,7.1nm,0.8s
SVE **Sverdlovsk** 54.45 318 *eP* **P** 13 56 59.1 +0.8
GSI **Gunungsitoli** 54.50 239 *eP* **P** 13 56 59.7 +0.5
comp=Z,25nm,0.9s
LEM **Lembang** 54.77 223 LR LR 14 20 57.1
comp=Z,35nm,19.9s,baz=248,slow=36
ARU **Arti** 55.67 318 *diP* **P** 13 57 06.5 -0.6
ARU *PP **pP** 13 57 23.4 +0.2
ARU 13 58 03.8
ARU 13 59 09.4
ARU S **S** 14 04 47.8 -0.7
ARU SS **SS** 14 08 31.0 -2.9
ARU pmax pmax
comp=Z,14nm,2.5s
AB31 **Akbulak array** 57.38 310 *i* P **P** 13 57 18.5 -0.8
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR **Akbulak array** 57.38 310 *eP* **P** 13 57 18.5 -0.8
AKTO **Aktyubinsk** 58.08 312 P **P** 13 57 24.9 +0.6
comp=Z,2.6nm,0.8s,baz=77,slow=11,SNR=6.6
WRA **Warramunga Arr** 58.15 188 P **P** 13 57 25.1 +0.1
comp=Z,1.5nm,0.4s,baz=5.1,slow=7.0,SNR=22
WRA pP **pP** 13 57 42.5 +1.3
comp=Z,4.7nm,0.5s,baz=4.6,slow=7.3,SNR=10
RES **Resolute Bay** 61.52 15 *eP* **P** 13 57 47.9 +0.4
RES pmax pmax
comp=Z,8.0nm,1.0s
RES **Resolute Bay** 61.52 15 *eP* **P** 13 57 47.9 +0.4

comp=Z,8.3nm,1.0s
ASAR **Alice Springs** 61.88 188 P **P** 13 57 50.0 -0.5
comp=Z,1.5nm,0.8s,baz=7.8,slow=5.7,SNR=12
ASAR pP **pP** 13 58 07.8 +1.0
comp=Z,2.4nm,0.7s,baz=17,slow=5.5,SNR=7.4
YKA **Yellowknife Ar** 62.80 30 P **P** 13 57 57.0 +0.8
comp=Z,1.9nm,0.7s,baz=303,slow=6.6,SNR=53
YKA **Yellowknife Ar** 62.80 30 P **P** 13 57 57.0 +0.8
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA **Yellowknife Ar** 62.80 30 P **P** 13 57 57.0 +0.8
ARA0 **ARCESS Array S** 63.05 339 *eP* **P** 13 57 58.5 +0.7
ARCES **ARCESS Array B** 63.05 339 P **P** 13 57 58.5 +0.7
comp=Z,4.9nm,0.9s,baz=39,slow=7.8,SNR=4.3
ARCES pP **pP** 13 58 16.4 +2.2
comp=Z,2.9nm,0.8s,baz=62,slow=10,SNR=1.3
TULEG **Thule** 64.01 8 *eP* **P** 13 58 03.2 -0.8
comp=Z,8.3nm,0.7s
LLLB **Lillooet** 65.37 44 *eP* **P** 13 58 14.2 +0.9
comp=Z,8.1nm,0.9s
OBN **Obninsk** 67.33 323 *eP* **P** 13 58 26.0 +0.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
FIA0 **FINESS Array S** 67.94 332 *eP* **P** 13 58 28.4 -1.1
FIA0 **FINESS Array S** 67.94 332 *eP* **P** 13 58 28.4 -1.1
FINES **FINESS Array B** 67.94 332 P **P** 13 58 28.4 -1.1
comp=Z,2.7nm,0.7s,baz=42,slow=5.9,SNR=8.7
EDM **Edmonton** 68.40 39 *eP* **P** 13 58 33.7 +1.1
EDM pmax pmax
comp=Z,9.0nm,0.9s
EDM **Edmonton** 68.40 39 *eP* **P** 13 58 33.7 +1.1
comp=Z,9.4nm,0.9s
YBH **Yreka Blue Hor** 69.56 53 P **P** 13 58 41.8 +1.8
comp=Z,3.5nm,0.8s,baz=22,slow=6.4,SNR=7.4
VSU **Vasula** 69.61 329⇑ *eP* **P** 13 58 40.0 +0.1
VSU pmax pmax
comp=Z,23nm,1.0s
KIV **Kislovodsk** 70.33 311 *eP* **P** 13 58 46.1 +1.4
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,33nm,18.0s
KBZ **Khabaz** 70.33 310 P **P** 13 58 44.6 +0.1
comp=Z,3.4nm,0.9s,baz=151,slow=4.0,SNR=4.3
WALA **Waterton Lakes** 70.53 42 *eP* **P** 13 58 47.6 +1.7
comp=Z,7.6nm,0.7s
MOD **Modoc Plateau** 70.96 51 *eP* **P** 13 58 50.4 +1.7
comp=Z,5.8nm,0.7s
BMO **Blue Mountains** 71.08 48 *eP* **P** 13 58 51.1 +1.9
BMO pmax pmax
comp=Z,4.0nm,0.7s
BMO **Blue Mountains** 71.08 48 *eP* **P** 13 58 51.1 +1.9
comp=Z,3.7nm,0.7s
JTMT **Jette** 71.10 44 *eP* **P** 13 58 51.2 +1.9
comp=Z,9.4nm,0.8s
GNI **Garni** 71.20 306 LR LR 14 32 02.7
comp=Z,34nm,20.2s,baz=110,slow=38
J08A **Circle Bar Ran** 71.25 49 *eP* **P** 13 58 51.3 +0.9
comp=Z,5.8nm,0.7s
FFC **Flin Flon** 72.71 33 *eP* **P** 13 58 58.5 -0.2
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC **Flin Flon** 72.71 33 *eP* **P** 13 58 58.5 -0.2
comp=Z,6.5nm,0.9s
MFID **Camas Ranch** 72.78 48 *eP* **P** 13 58 58.8 -0.7
comp=Z,4.7nm,0.6s
PAHR **Pah Rah Range** 72.79 53 *eP* **P** 13 58 57.8 -1.8
comp=Z,3.6nm,0.8s
FCC **Fort Churchill** 72.97 27 *eP* **P** 13 58 59.9 -0.2
FCC pmax pmax
comp=Z,7.0nm,1.1s
FCC **Fort Churchill** 72.97 27 *eP* **P** 13 58 59.9 -0.2
comp=Z,7.0nm,1.1s
HFS **Hagfors** 73.18 336 P **P** 13 59 01.3 0.0
comp=Z,1.6nm,0.4s,baz=43,slow=6.5,SNR=15
NB2 **NORSAR Subarra** 73.26 337 P **P** 13 59 01.9 0.0
comp=Z,1.0nm,0.4s,baz=37,slow=6.5
NB200 **NORSAR Array S** 73.26 337 *eP* **P** 13 59 01.7 -0.2
NOA **NORSAR Array B** 73.26 337 P **P** 13 59 01.7 -0.2
comp=Z,1.2nm,0.5s,baz=39,slow=5.9,SNR=6.9
NOA pP **pP** 13 59 19.8 +1.1
comp=Z,0.9nm,0.5s,baz=53,slow=5.3,SNR=2.3
LRM **Limekiln Ridge** 73.26 45 *eP* **P** 13 59 03.6 +1.1
DLMT **Dillon** 73.46 45 *eP* **P** 13 59 04.2 +0.7
comp=Z,9.4nm,0.9s
HLID **Hailey** 73.52 47 *eP* **P** 13 59 05.4 +1.5
comp=Z,3.3nm,0.9s
AKASG **Malin Array Be** 73.55 322 P **P** 13 59 04.0 +0.3
comp=Z,1.9nm,0.4s,baz=46,slow=6.0,SNR=9.7
AKASG pP **PcP** 13 59 20.2 +0.8
comp=Z,2.4nm,0.5s,baz=47,slow=6.0,SNR=6.7
BOZ **Bozeman (W)** 73.86 44 *eP* **P** 13 59 07.1 +1.3
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ **Bozeman (W)** 73.86 44 *eP* **P** 13 59 07.1 +1.3
comp=Z,5.9nm,0.9s
NV01 **Mina Array Sit** 74.21 53 *eP* **P** 13 59 09.5 +1.4
NVAR **Mina Array Bea** 74.21 53 P **P** 13 59 10.2 +2.0
comp=Z,4.4nm,0.8s,baz=287,slow=6.0,SNR=22
MDYM **Dry Creek** 74.22 54 *eP* **P** 13 59 10.4 +2.1
GCMT **Greycliff** 74.81 43 *eP* **P** 13 59 11.8 +0.4
FXWY **Fox Creek** 75.41 46 *eP* **P** 13 59 16.0 +1.0
comp=Z,4.7nm,0.9s
RLMT **Red Lodge** 75.45 44 *eP* **P** 13 59 16.5 +1.3
comp=Z,21nm,1.6s
TPAW **Teton Pass** 75.55 46 *eP* **P** 13 59 17.2 +1.4
comp=Z,4.4nm,0.7s
R11A **Troy Canyon, C** 75.97 52 *eP* **P** 13 59 19.1 +0.9
comp=Z,3.6nm,0.6s
LAO **LASA Array** 76.05 41 *eP* **P** 13 59 19.6 +1.3
comp=Z,10nm,0.9s
BW06 **Boulder Array** 76.80 46 *eP* **P** 13 59 23.8 +0.9
comp=Z,3.8nm,0.6s
PD31 **Pinedale Array** 76.80 46 *eP* **P** 13 59 23.9 +1.0
PDAR **Pinedale Array** 76.80 46 P **P** 13 59 24.1 +1.3
comp=Z,3.3nm,0.6s,baz=270,slow=1.4,SNR=46
PDAR **Pinedale Array** 76.80 46 *eP* **P** 13 59 24.0 +1.2
NLU **North Lily Min** 77.12 49 *eP* **P** 13 59 25.9 +1.2
comp=Z,5.7nm,1.0s
MPU **Maple Canyon** 77.34 49 *eP* **P** 13 59 27.6 +1.6
comp=Z,5.7nm,0.8s
DSCC **Desert Studies** 77.60 55 *eP* **P** 13 59 24.1 -3.1
BR101 **Keskin Array S** 78.26 311 *eP* **P** 13 59 31.0 0.0
BRTR **Keskin Array B** 78.26 311 P **P** 13 59 31.0 0.0
comp=Z,0.5nm,0.4s,baz=105,slow=3.1,SNR=4.5
BRTR pP **pP** 13 59 48.1 +0.2
comp=Z,0.7nm,0.4s,baz=114,slow=4.1,SNR=4.2
ULM **Lac du Bonnet** 78.52 34 P **P** 13 59 32.5 +0.6
comp=Z,2.0nm,0.5s,baz=300,slow=6.5,SNR=9.5
ULM **Lac du Bonnet** 78.52 34 *eP* **P** 13 59 32.4 +0.4
ULM pmax pmax
comp=Z,5.0nm,1.0s
ULM **Lac du Bonnet** 78.52 34 *eP* **P** 13 59 32.4 +0.4
comp=Z,5.2nm,1.0s
RSSD **Black Hills** 78.92 42 *eP* **P** 13 59 32.7 -1.9
RSSD pmax pmax
comp=Z,15nm,1.7s
RSSD **Black Hills** 78.92 42 *eP* **P** 13 59 32.7 -1.9
comp=Z,15nm,1.7s
DPC **Dobruska-Polom** 79.63 328 *eP* **P** 13 59 39.1 +0.9
DPC **Dobruska-Polom** 79.63 328 *eP* **P** 13 59 39.1 +0.9
CLL **Collm** 80.25 330 *eP* **P** 13 59 43.0 +1.6
CLL **Collm** 80.25 330 *eP* **P** 13 59 43.0 +1.6
Y14A **Wickenburg** 80.35 54 *eP* **P** 13 59 43.5 +1.2
comp=Z,22nm,0.8s
PV01 **Paradox Valley** 80.38 49 *eP* **P** 13 59 44.2 +1.5
ISCO **Idaho Springs** 80.98 46 *eP* **P** 13 59 46.3 +0.3
ISCO pmax pmax
comp=Z,12nm,1.9s
ISCO **Idaho Springs** 80.98 46 *eP* **P** 13 59 46.2 +0.3
comp=Z,12nm,1.9s
KHC **Kasperske Hory** 81.71 328 *eP* **P** 13 59 49.7 +0.4
KHC *epP **pP** 14 00 06.0 -0.3
KHC **Kasperske Hory** 81.71 328 *eP* **P** 13 59 49.7 +0.4
KHC *e* 14 00 06.0
GERES **GERESS Array B** 81.88 328 P **P** 13 59 50.5 +0.2
comp=Z,0.5nm,0.4s,baz=37,slow=6.9,SNR=6.0
EKA **Eskdalemuir Ar** 82.17 341 P **P** 13 59 51.8 +0.3
comp=Z,0.5nm,0.5s,baz=24,slow=5.4,SNR=5.3
ECSD **EROS Data Cent** 82.97 38 *eP* **P** 13 59 55.4 -0.5
comp=Z,4.7nm,0.6s
T25A **Trinidad** 83.49 47 *eP* **P** 13 59 59.2 +0.3
comp=Z,4.0nm,0.6s
319A **Douglas** 84.39 54 *eP* **P** 14 00 04.9 +1.3
comp=Z,13nm,1.0s
IDI **Anoyia** 86.38 313 P **P** 14 00 13.3 0.0
comp=Z,2.5nm,0.5s,baz=34,slow=16,SNR=5.8

TX31	**Lajitas Ar. Si**	**89.33**	**52**	*e*P	**P**	**14 00 28.1 +0.5**
LTX	**Lajitas**	**89.33**	**52**	*e*P	**P**	**14 00 28.9 +1.3**
LTX	**Lajitas**	**89.33**	**52**	*e*P	**P**	**14 00 28.9 +1.3**
TXAR	**Lajitas Array**	**89.33**	**52**	P	**P**	**14 00 28.9 +1.3**
	comp=Z,3.0nm,0.6s,baz=301,slow=3.2,SNR=45					
WHAR	**Wooly Hollow**	**91.53**	**41**	*e*P	**P**	**14 00 38.4 +0.8**
	comp=Z,7.6nm,0.9s					
TKL	**Tuckaleechee C**	**95.42**	**36**	P	**P**	**14 00 55.7 +0.2**
	comp=Z,2.8nm,0.6s,baz=192,slow=4.2,SNR=7.2					
TORD	**Torodi Ar. Bea**	**116.69**	**315**	PKP	**PKPdf**	**14 06 13.8 -1.5**
	comp=Z,0.2nm,0.5s,baz=225,slow=3.9,SNR=2.7					
LPAZ	**La Paz**	**146.00**	**58**	PKPbc	**PKPbc**	**14 07 12.3 +0.8**
	comp=Z,2.9nm,0.6s,baz=335,slow=2.0,SNR=15					
LPAZ	**La Paz**	**146.00**	**58**	*e*PKP2	**PKPbc**	**14 07 11.9 +0.4**
LPAZ	**La Paz**	**146.00**	**58**	*e*PKPdf	**PKPbc**	**14 07 11.9 +0.4**

IDC 17 13:52:46.4±2.8, 7.87S×146.59E, h0km, mb1 3.6/2, mb1mx3.2/42, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=60.2km s-min=28.1km az=59.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.62**	**160**	Pn	Pn	13 53 15.9	-0.3
	11nm,0.3s,baz=32,slow=4.2,SNR=36						
PMG				Sn	Sg	13 53 39.8	+1.2
	17nm,0.3s,baz=112,slow=22,SNR=14						
WRA	**Warramunga Arr**	**16.88**	**223**	Pn	Pn	13 56 44.9	+0.7
	0.1nm,0.3s,baz=48,slow=10.0,SNR=4.5						
ASAR	**Alice Springs**	**19.86**	**216**	P	P	13 57 18.8	-0.5
	0.1nm,0.3s,baz=48,slow=10,SNR=6.2						
TORD	**Torodi Ar. Bea**	**145.11**	**282**	PKPbc	PKPbc	14 12 25.7	-0.7
	0.4nm,0.6s,baz=72,slow=3.4,SNR=2.2						

IDC 17 14:12:48.6±558.0, 47.96N×49.06E, h0km, Error ellipse: s-maj=206.9km s-min=138.5km az=51.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.37**	**64**	*i*		14 49 40.0	
	baz=250,slow=285,SNR=0.7						
I43RU	**DUBNA INFRASON**	**11.36**	**325**	*i*		15 20 30.0	
	baz=134,slow=331,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**23.13**	**62**	*i*		16 37 20.0	
	baz=269,slow=328,SNR=1.2						

SFS ***17*** *14:13:49.0, 36.57N×9.88W, h17km, ML3.0*
MDD ***17*** *14:13:49.9±1.1, 36.55N×9.91W, h27km±33km, mbLg3.0/27, Error ellipse: s-maj=31.6km s-min=7.1km az=46.0, PRXIMO*
INMG ***17*** *14:13:50.8±0.9, 36.61N×9.83W, h16km±3km, MD2.9, ML2.8, Error ellipse: s-maj=3.4km s-min=1.9km az=53.0*
IGIL ***17*** *14:13:50.9, 36.61N×9.82W, h14km, ML2.8*
CSEM ***17*** *14:13:51.4±0.3, 36.73N×9.68W, h20km, ML3.7/8, Error ellipse: s-maj=5.6km s-min=3.6km az=47.0*

ISC 17 14:13:50.1±2.1, 36.65N±0.07×9.79W±0.07, h32km, n135, σ1.9 35/267, 6C-8D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.91**	**57**	⇑*e*P	**Pb**	**14 14 07.9**	**+0.5**
PFVI				*e*S	**Sb**	**14 14 20.8**	**+1.6**
PFVI				A	A	14 14 21.6	
	92nm,0.1s						
PFVI	**Vila Bisbo**	**0.91**	**57**	⇑P	**Pb**	**14 14 07.9**	**+0.5**
	24nm,0.1s,SNR=18						
PFVI				S	**Sb**	**14 14 20.2**	**+1.0**
	49nm,0.1s,SNR=19						
PFVI	**Vila Bisbo**	**0.91**	**57**	P	**Pb**	**14 14 07.9**	**+0.5**
	24nm,0.1s,SNR=18						
PFVI				*e*S	**Sb**	**14 14 20.8**	**+1.6**
	92nm,0.1s						
MORF	**Marmelete**	**1.12**	**54**	*e*P	**Pn**	**14 14 11.0**	**+1.4**
MORF				*e*S	**Sb**	**14 14 25.9**	**+0.6**
MORF				AML	AML	14 14 27.1	
	comp=N,162nm,0.1s						
MORF	**Marmelete**	**1.12**	**54**	⇑*e*P	**Pn**	**14 14 11.0**	**+1.4**
MORF				*e*S	**Sb**	**14 14 26.4**	**+1.1**
MORF				A	A	14 14 26.9	
	comp=N,133nm,0.1s						
MORF	**Marmelete**	**1.12**	**54**	P	**Pn**	**14 14 11.0**	**+1.4**
MORF				S	**Sb**	**14 14 26.4**	**+1.1**
	comp=N,133nm,0.1s						
MORF	**Marmelete**	**1.12**	**54**	⇑*e*P	**Pn**	**14 14 11.0**	**+1.4**
MORF				S	**Sb**	**14 14 26.4**	**+1.1**
	comp=N,133nm,0.1s						
PTEO	**Sao Teotonio**	**1.24**	**43**	⇓*e*P	**Pn**	**14 14 12.6**	**+1.5**
PTEO				*e*S	**Sb**	**14 14 29.1**	**+0.7**
PTEO				A	A	14 14 30.1	
	comp=N,89nm,0.1s						
PTEO	**Sao Teotonio**	**1.24**	**43**	P	**Pn**	**14 14 12.6**	**+1.5**
PTEO				S	**Sb**	**14 14 29.1**	**+0.7**
	comp=N,45nm,0.1s						
PTEO	**Sao Teotonio**	**1.24**	**43**	⇓*e*P	**Pn**	**14 14 12.6**	**+1.5**
PTEO				S	**Sb**	**14 14 29.1**	**+0.7**
	comp=N,45nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.60**	**68**	⇑*e*Pn	**Pn**	**14 14 17.5**	**+1.3**
PBDV				*e*Sn	**Sb**	**14 14 37.4**	**-1.5**
PBDV				A	A	14 14 46.4	
	comp=N,15nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.60**	**68**	P	**Pn**	**14 14 17.5**	**+1.3**
PBDV				S	**Sb**	**14 14 37.4**	**-1.5**
	comp=N,15nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.60**	**68**	P	**Pn**	**14 14 17.5**	**+1.3**
PBDV				S	**Sb**	**14 14 37.4**	**-1.5**
	comp=N,15nm,0.1s						
PCVE	**Castro Verde**	**1.71**	**54**	*e*Pn	**Pn**	**14 14 19.4**	**+1.8**
PCVE				*e*Sn	**Sb**	**14 14 40.7**	**-1.2**
PCVE				A	A	14 14 43.0	
	comp=N,34nm,0.5s						
PCVE	**Castro Verde**	**1.71**	**54**	P	**Pn**	**14 14 19.4**	**+1.8**
PCVE				S	**Sb**	**14 14 40.7**	**-1.2**
	comp=N,34nm,0.5s						
PCVE	**Castro Verde**	**1.71**	**54**	P	**Pn**	**14 14 19.4**	**+1.8**
PCVE				S	**Sb**	**14 14 40.7**	**-1.2**
	comp=N,34nm,0.5s						
MESJ	**Messejana**	**1.73**	**46**	*e*P	**Pn**	**14 14 19.3**	**+1.4**
MESJ				*e*S	**Sb**	**14 14 40.3**	**-2.1**
MESJ				AML	AML	14 14 41.6	
	comp=N,48nm,0.1s						
MESJ	**Messejana**	**1.73**	**46**	*e*Pn	**Pn**	**14 14 19.4**	**+1.5**
MESJ				*e*Sn	**Sb**	**14 14 40.9**	**-1.6**
MESJ				A	A	14 14 43.0	
	comp=N,37nm,0.4s						
MESJ	**Messejana**	**1.73**	**46**	P	**Pn**	**14 14 19.4**	**+1.5**
MESJ				S	**Sb**	**14 14 40.9**	**-1.6**
	comp=N,37nm,0.4s						
MESJ	**Messejana**	**1.73**	**46**	P	**Pn**	**14 14 19.4**	**+1.5**
MESJ				S	**Sb**	**14 14 40.9**	**-1.6**
	comp=N,37nm,0.4s						
PNCL	**Nicolau / Gran**	**1.77**	**34**	⇓*e*Pn	**Pn**	**14 14 19.9**	**+1.4**
PNCL				*e*Sn	**Sb**	**14 14 41.6**	**-2.2**
PNCL				A	A	14 14 43.4	
	comp=N,55nm,0.2s						
PNCL	**Nicolau / Gran**	**1.77**	**34**	⇓*e*Pn	**Pn**	**14 14 19.9**	**+1.4**
PNCL				*e*Sn	**Sb**	**14 14 41.6**	**-2.2**
	comp=N,55nm,0.2s						
PVAQ	**Vaqueiros**	**1.82**	**65**	⇑*e*Pn	**Pn**	**14 14 20.5**	**+1.4**
PVAQ				*e*Sn	**Sn**	**14 14 42.6**	**+1.5**
PVAQ				A	A	14 14 52.6	
	comp=N,35nm,0.1s						
PVAQ	**Vaqueiros**	**1.82**	**65**	P	**Pn**	**14 14 20.5**	**+1.4**
PVAQ				S	**Sn**	**14 14 42.6**	**+1.5**
	comp=N,35nm,0.1s						
PVAQ	**Vaqueiros**	**1.82**	**65**	P	**Pn**	**14 14 20.5**	**+1.4**
PVAQ				S	**Sn**	**14 14 42.6**	**+1.5**
	comp=N,35nm,0.1s						
EGRO	**El Granado**	**2.04**	**64**	P	**Pn**	**14 14 23.4**	**+1.2**
	comp=N,3.5nm,0.1s,SNR=38						
EGRO				S	**Sb**	**14 14 48.7**	**-2.8**
	comp=N,23nm,0.1s,SNR=98						
EGRO	**El Granado**	**2.04**	**64**	P	**Pn**	**14 14 23.4**	**+1.2**
	comp=N,3.5nm,0.1s,SNR=38						
EGRO				S	**Sb**	**14 14 48.7**	**-2.8**
	comp=N,23nm,0.1s,SNR=98						
PBEJ	**Beja**	**2.06**	**47**	⇓*e*Pn	**Pn**	**14 14 23.7**	**+1.3**
PBEJ				*e*Sn	**Sn**	**14 14 48.3**	**+1.3**
PBEJ				A	A	14 14 50.9	
	comp=N,18nm,0.2s						
PBEJ	**Beja**	**2.06**	**47**	P	**Pn**	**14 14 23.7**	**+1.3**
PBEJ				S	**Sn**	**14 14 48.3**	**+1.3**
	comp=N,9.1nm,0.2s						
PBEJ	**Beja**	**2.06**	**47**	P	**Pn**	**14 14 23.7**	**+1.3**
PBEJ				S	**Sn**	**14 14 48.3**	**+1.3**
	comp=N,9.1nm,0.2s						
LIS	**Lisbon**	**2.13**	**14**	*e*P	**Pn**	**14 14 24.8**	**+1.4**
LIS				*e*S	**Sn**	**14 14 49.7**	**+1.0**
LIS				AML	AML	14 14 50.8	
	comp=N,103nm,0.2s						
LIS	**Lisbon**	**2.13**	**14**	P	**Pn**	**14 14 24.8**	**+1.4**
LIS				S	**Sn**	**14 14 49.7**	**+1.0**
	comp=N,103nm,0.2s						
PMST	**Lisbon--Monsan**	**2.14**	**13**	*e*Pn	**Pn**	**14 14 24.9**	**+1.3**
PMST				*e*Sn	**Sn**	**14 14 50.1**	**+1.1**
PMST				A	A	14 14 53.1	
	comp=N,60nm,0.2s						
PMST	**Lisbon--Monsan**	**2.14**	**13**	*e*Pn	**Pn**	**14 14 24.9**	**+1.3**
PMST				*e*Sn	**Sn**	**14 14 50.1**	**+1.1**
	comp=N,60nm,0.2s						
PMAFR	**Mafra**	**2.34**	**10**	*e*Pn	**Pn**	**14 14 27.4**	**+1.1**
PMAFR				*e*Sn	**Sn**	**14 14 54.6**	**+0.7**
PMAFR				A	A	14 14 58.3	
	comp=N,96nm,0.2s						
PMAFR	**Mafra**	**2.34**	**10**	⇓P	**Pn**	**14 14 27.4**	**+1.1**
	comp=N,22nm,0.3s,SNR=18						
PMAFR				S	**Sn**	**14 14 54.7**	**+0.7**
	comp=N,62nm,0.2s,SNR=20						
PMAFR	**Mafra**	**2.34**	**10**	P	**Pn**	**14 14 27.4**	**+1.1**
	comp=N,22nm,0.3s,SNR=18						
PMAFR				S	**Sn**	**14 14 54.7**	**+0.7**
	comp=N,62nm,0.2s,SNR=20						
EVO	**Evora**	**2.35**	**36**	*e*Pn	**Pn**	**14 14 27.8**	**+1.3**
EVO				*e*Sn	**Sn**	**14 14 55.4**	**+1.2**
EVO				A	A	14 14 58.6	
	comp=N,85nm,0.1s						
EVO	**Evora**	**2.35**	**36**	P	**Pn**	**14 14 27.3**	**+0.9**
EVO				S	**Sn**	**14 14 55.1**	**+0.9**
EVO	**Evora**	**2.35**	**36**	P	**Pn**	**14 14 27.3**	**+0.9**
EVO	**Evora**	**2.35**	**36**	*e*Pn	**Pn**	**14 14 27.8**	**+1.3**
EVO				S	**Sn**	**14 14 55.1**	**+0.9**
EVO				*e*Sn	**Sn**	**14 14 55.4**	**+1.2**
	comp=N,85nm,0.1s						
PBAR	**Barrancos**	**2.67**	**54**	*e*Pn	**Pn**	**14 14 31.9**	**+1.1**
PBAR				*e*Sn	**Sn**	**14 15 03.4**	**+1.4**
PBAR				A	A	14 15 06.8	
	comp=N,34nm,0.4s						
PBAR	**Barrancos**	**2.67**	**54**	P	**Pn**	**14 14 31.9**	**+1.1**
PBAR				S	**Sn**	**14 15 03.4**	**+1.4**
	comp=N,34nm,0.4s						
PBAR	**Barrancos**	**2.67**	**54**	P	**Pn**	**14 14 31.9**	**+1.1**
PBAR				S	**Sn**	**14 15 03.4**	**+1.4**
	comp=N,34nm,0.4s						
ALMR	**Almeirim**	**2.68**	**21**	*e*P	**Pn**	**14 14 32.5**	**+1.5**
ALMR				*e*S	**Sn**	**14 15 03.0**	**+0.6**
ALMR				AML	AML	14 15 04.7	
	comp=E,32nm,0.2s						
ALMR	**Almeirim**	**2.68**	**21**	*e*P	**Pn**	**14 14 32.5**	**+1.5**
ALMR				*e*S	**Sn**	**14 15 03.0**	**+0.6**
ALMR	**Almeirim**	**2.68**	**21**	P	**Pn**	**14 14 32.5**	**+1.5**
ALMR				S	**Sn**	**14 15 03.0**	**+0.6**
ALMR	**Almeirim**	**2.68**	**21**	*e*P	**Pn**	**14 14 32.5**	**+1.5**
ALMR				*e*S	**Sn**	**14 15 03.0**	**+0.6**
PMTG	**Montargil**	**2.72**	**27**	*e*Pn	**Pn**	**14 14 32.8**	**+1.3**
PMTG				*e*Sn	**Sn**	**14 15 04.3**	**+1.1**
PMTG				A	A	14 15 07.1	
	comp=E,26nm,0.2s						
PMTG	**Montargil**	**2.72**	**27**	*e*Pn	**Pn**	**14 14 32.8**	**+1.3**
PMTG				*e*Sn	**Sn**	**14 15 04.3**	**+1.1**
	comp=E,26nm,0.2s						
EMIN	**Mina Concepcio**	**2.73**	**65**	⇓P	**Pn**	**14 14 32.4**	**+0.8**
	comp=E,2.1nm,0.1s,SNR=18						
EMIN				S	**Sn**	**14 15 04.6**	**+1.1**
	comp=E,5.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.73**	**65**	P	**Pn**	**14 14 32.4**	**+0.8**
	comp=E,2.1nm,0.1s,SNR=18						
EMIN				S	**Sn**	**14 15 04.6**	**+1.1**
	comp=E,5.0nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.82**	**37**	*e*Pn	**Pn**	**14 14 33.9**	**+1.0**
PESTR				*e*Sn	**Sn**	**14 15 06.8**	**+1.0**
PESTR				A	A	14 15 09.7	
	comp=E,21nm,0.2s						
PESTR	**Estremoz**	**2.82**	**37**	*e*Pn	**Pn**	**14 14 33.9**	**+1.0**
PESTR				*e*Sn	**Sn**	**14 15 06.8**	**+1.0**
	comp=E,21nm,0.2s						
EBAD	**Badajoz**	**3.04**	**45**	⇓P	**Pn**	**14 14 36.9**	**+0.9**
	comp=E,2.6nm,0.1s,SNR=18						
EBAD				S	**Sn**	**14 15 12.2**	**+0.8**
	comp=E,30nm,0.2s						
EBAD	**Badajoz**	**3.04**	**45**	P	**Pn**	**14 14 36.9**	**+0.9**
	comp=E,2.6nm,0.1s,SNR=18						
EBAD				S	**Sn**	**14 15 12.1**	**+0.8**
	comp=E,30nm,0.2s						
PTOM	**Tomar**	**3.16**	**20**	*e*Pn	**Pn**	**14 14 38.7**	**+1.1**
PTOM				*e*Sn	**Sn**	**14 15 14.5**	**+0.3**
PTOM				A	A	14 15 20.5	
	comp=E,26nm,0.2s						
PTOM	**Tomar**	**3.16**	**20**	P	**Pn**	**14 14 38.7**	**+1.1**
PTOM				S	**Sn**	**14 15 14.5**	**+0.3**
	comp=E,13nm,0.2s						
PTOM	**Tomar**	**3.16**	**20**	P	**Pn**	**14 14 38.7**	**+1.1**
PTOM				S	**Sn**	**14 15 14.5**	**+0.3**
	comp=E,13nm,0.2s						
ESPR	**Espera**	**3.16**	**85**	P	**Pn**	**14 14 38.4**	**+0.8**
	comp=E,8.7nm,0.1s,SNR=32						
ESPR				S	**Sn**	**14 15 14.0**	**-0.2**
	comp=E,61nm,0.3s,SNR=7.9						
ESPR	**Espera**	**3.16**	**85**	P	**Pn**	**14 14 38.4**	**+0.8**
	comp=E,8.7nm,0.1s,SNR=32						
ESPR				S	**Sn**	**14 15 14.0**	**-0.2**
	comp=E,61nm,0.3s,SNR=7.9						
PMRV	**Marv??o**	**3.36**	**33**	*e*Pn	**Pn**	**14 14 41.5**	**+1.2**
PMRV				*e*Sn	**Sn**	**14 15 19.4**	**+0.3**
PMRV				A	A	14 15 22.3	
	comp=E,19nm,0.2s						
PMRV	**Marv??o**	**3.36**	**33**	P	**Pn**	**14 14 41.5**	**+1.2**
PMRV				S	**Sn**	**14 15 19.4**	**+0.3**
	comp=E,19nm,0.2s						
PMRV	**Marv??o**	**3.36**	**33**	P	**Pn**	**14 14 41.5**	**+1.2**
PMRV				S	**Sn**	**14 15 19.4**	**+0.3**
	comp=E,19nm,0.2s						
PCAS	**Casmilo, Conde**	**3.55**	**16**	*e*Pn	**Pn**	**14 14 44.3**	**+1.4**
PCAS				*e*Sn	**Sn**	**14 15 23.8**	**0.0**
PCAS				A	A	14 15 27.6	
	comp=E,11nm,0.4s						
PCAS	**Casmilo, Conde**	**3.55**	**16**	*e*Pn	**Pn**	**14 14 44.3**	**+1.4**
PCAS				*e*Sn	**Sn**	**14 15 23.8**	**0.0**
	comp=E,11nm,0.4s						
PCBR	**Castelo Branco**	**3.67**	**29**	*e*Pn	**Pn**	**14 14 46.3**	**+1.7**
PCBR				*e*Sn	**Sn**	**14 15 27.1**	**+0.3**
PCBR				A	A	14 15 31.5	
	comp=E,8.2nm,0.2s						
PCBR	**Castelo Branco**	**3.67**	**29**	P	**Pn**	**14 14 46.3**	**+1.7**
PCBR				S	**Sn**	**14 15 27.1**	**+0.3**
	comp=E,4.1nm,0.2s						
PCBR	**Castelo Branco**	**3.67**	**29**	P	**Pn**	**14 14 46.3**	**+1.7**
PCBR				S	**Sn**	**14 15 27.1**	**+0.3**
	comp=E,4.1nm,0.2s						
ECAB	**El Cabril**	**3.76**	**66**	P	**Pn**	**14 14 46.9**	**+1.0**
	comp=E,1.8nm,0.1s,SNR=59						
ECAB				S	**Sn**	**14 15 28.7**	**-0.3**
	comp=E,9.8nm,0.2s,SNR=8.1						
ECAB	**El Cabril**	**3.76**	**66**	P	**Pn**	**14 14 46.9**	**+1.0**
	comp=E,1.8nm,0.1s,SNR=59						
ECAB				S	**Sn**	**14 15 28.7**	**-0.3**
	comp=E,9.8nm,0.2s,SNR=8.1						
EMIJ	**Mijas**	**4.03**	**90**	P	**Pn**	**14 14 50.5**	**+0.9**
	comp=E,0.3nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**14 15 35.1**	**-0.7**
	comp=E,3.1nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.03**	**90**	P	**Pn**	**14 14 50.5**	**+0.9**
	comp=E,0.3nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**14 15 35.1**	**-0.7**
	comp=E,3.1nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.14**	**24**	*e*Pn	**Pn**	**14 14 52.4**	**+1.3**
MTE				*e*Sn	**Sn**	**14 15 38.2**	**-0.2**
MTE				A	A	14 15 41.8	
	comp=E,17nm,0.3s						
MTE	**Manteigas**	**4.14**	**24**	P	**Pn**	**14 14 52.4**	**+1.3**
MTE				S	**Sn**	**14 15 38.2**	**-0.2**
	comp=E,8.4nm,0.3s						
MTE	**Manteigas**	**4.14**	**24**	P	**Pn**	**14 14 52.4**	**+1.3**
MTE				S	**Sn**	**14 15 38.2**	**-0.2**
	comp=E,8.4nm,0.3s						
PVIS	**Viseu**	**4.33**	**19**	*e*Pn	**Pn**	**14 14 54.8**	**+1.2**
PVIS				*e*Sn	**Sn**	**14 15 41.9**	**-1.1**
PVIS				A	A	14 15 46.2	
	comp=E,18nm,0.1s						
PVIS	**Viseu**	**4.33**	**19**	P	**Pn**	**14 14 54.8**	**+1.2**
PVIS				S	**Sn**	**14 15 41.9**	**-1.1**
	comp=E,9.2nm,0.1s						
PVIS	**Viseu**	**4.33**	**19**	P	**Pn**	**14 14 54.8**	**+1.2**
PVIS				S	**Sn**	**14 15 41.9**	**-1.1**
	comp=E,9.2nm,0.1s						
EADA	**Adamuz**	**4.42**	**68**	P	**Pn**	**14 14 55.8**	**+0.9**
	comp=E,2.8nm,0.1s,SNR=38						
EADA				S	**Sn**	**14 15 44.5**	**-0.7**
	comp=E,3.9nm,0.1s						
EADA	**Adamuz**	**4.42**	**68**	P	**Pn**	**14 14 55.8**	**+0.9**
	comp=E,2.8nm,0.1s,SNR=38						
EADA				S	**Sn**	**14 15 44.5**	**-0.7**
	comp=E,3.9nm,0.1s						
EPLA	**Plasencia**	**4.49**	**39**	P	**Pn**	**14 14 56.3**	**+0.5**
	comp=E,1.7nm,0.1s,SNR=15						
EPLA				S	**Sn**	**14 15 46.1**	**-0.8**
	comp=E,13nm,0.2s						
EPLA	**Plasencia**	**4.49**	**39**	P	**Pn**	**14 14 56.3**	**+0.5**
	comp=E,1.7nm,0.1s,SNR=15						
EPLA				S	**Sn**	**14 15 46.1**	**-0.8**
	comp=E,13nm,0.2s						
EGOR	**Sierra Gorda,**	**4.57**	**82**	P	**Pn**	**14 14 56.4**	**-0.7**
	comp=E,0.4nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**14 15 49.6**	**+0.4**
	comp=E,5.5nm,0.4s,SNR=7.9						
EGOR	**Sierra Gorda,**	**4.57**	**82**	P	**Pn**	**14 14 56.4**	**-0.7**
	comp=E,0.4nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**14 15 49.6**	**+0.4**
	comp=E,5.5nm,0.4s,SNR=7.9						
PVRL	**Vila Real**	**4.90**	**19**	*e*Pn	**Pn**	**14 15 02.5**	**+1.0**
PVRL				*e*Sn	**Sn**	**14 15 55.4**	**-1.7**
PVRL				A	A	14 15 59.7	
	comp=E,17nm,0.2s						
PVRL	**Vila Real**	**4.90**	**19**	P	**Pn**	**14 15 02.5**	**+1.0**
PVRL				S	**Sn**	**14 15 55.4**	**-1.7**
	comp=E,8.6nm,0.2s						
PVRL	**Vila Real**	**4.90**	**19**	P	**Pn**	**14 15 02.5**	**+1.0**
PVRL				S	**Sn**	**14 15 55.4**	**-1.7**
	comp=E,8.6nm,0.2s						
ELGU	**Los Guajares,**	**4.95**	**86**	P	**Pn**	**14 15 04.1**	**+1.9**
	comp=E,0.9nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**14 15 58.2**	**-0.2**
	comp=E,1.7nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**4.95**	**86**	P	**Pn**	**14 15 04.1**	**+1.9**
	comp=E,0.9nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**14 15 58.2**	**-0.2**
	comp=E,1.7nm,0.2s,SNR=7.9						
POLO	**Lamas de Olo**	**4.97**	**18**	*e*Pn	**Pn**	**14 15 03.4**	**+0.9**
POLO				*e*Sn	**Sn**	**14 15 57.4**	**-1.5**
POLO				A	A	14 16 01.0	
	comp=E,3.9nm,0.3s						
POLO	**Lamas de Olo**	**4.97**	**18**	*e*Pn	**Pn**	**14 15 03.4**	**+0.9**
POLO				*e*Sn	**Sn**	**14 15 57.4**	**-1.5**
	comp=E,3.9nm,0.3s						
MVO	**Moncorvo**	**5.00**	**25**	*e*Pn	**Pn**	**14 15 04.0**	**+1.1**
MVO				*e*Sn	**Sn**	**14 15 58.5**	**-1.1**
MVO				A	A	14 16 01.2	
	comp=E,14nm,0.5s						
MVO	**Moncorvo**	**5.00**	**25**	P	**Pn**	**14 15 04.1**	**+1.2**
	comp=E,6.8nm,0.1s,SNR=36						
MVO				S	**Sn**	**14 15 58.5**	**-1.1**
	comp=E,13nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.00**	**25**	*e*Pn	**Pn**	**14 15 04.0**	**+1.1**
MVO				S	**Sn**	**14 15 58.5**	**-1.1**
	comp=E,13nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**5.12**	**82**	P	**Pn**	**14 15 06.1**	**+1.6**
	comp=E,0.5nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**14 15 59.4**	**-3.1**
	comp=E,1.0nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**5.12**	**82**	P	**Pn**	**14 15 06.1**	**+1.6**
	comp=E,0.5nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**14 15 59.4**	**-3.1**
	comp=E,1.0nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.17**	**54**	P	**Pn**	**14 15 06.6**	**+1.3**
	comp=E,0.9nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**14 16 02.8**	**-1.2**
	comp=E,4.0nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.17**	**54**	P	**Pn**	**14 15 06.6**	**+1.3**
	comp=E,0.9nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**14 16 02.8**	**-1.2**
	comp=E,4.0nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.24**	**15**	*e*Pn	**Pn**	**14 15 07.1**	**+0.9**
PCAB				*e*Sn	**Sn**	**14 16 03.7**	**-1.8**
PCAB				A	A	14 16 08.7	
	comp=E,12nm,0.5s						
PCAB	**Cabril**	**5.24**	**15**	P	**Pn**	**14 15 07.1**	**+0.9**
PCAB				S	**Sn**	**14 16 03.7**	**-1.8**
	comp=E,5.9nm,0.5s						
PCAB	**Cabril**	**5.24**	**15**	P	**Pn**	**14 15 07.1**	**+0.9**
PCAB				S	**Sn**	**14 16 03.7**	**-1.8**
	comp=E,5.9nm,0.5s						
ELOB	**Lobios**	**5.38**	**14**	P	**Pn**	**14 15 08.8**	**+0.6**
	comp=E,1.0nm,0.2s,SNR=6.9						
ELOB				S	**Sn**	**14 16 06.3**	**-2.8**
	comp=E,3.5nm,0.1s,SNR=7.3						
ELOB	**Lobios**	**5.38**	**14**	P	**Pn**	**14 15 08.8**	**+0.6**
	comp=E,1.0nm,0.2s,SNR=6.9

ETOB S Sn 14 16 43.0 -1.8
comp=E,0.8nm,0.1s,SNR=7.9
EPON Pontenova 6.97 16 P Pn 14 15 30.6 +0.6
comp=E,4.2nm,0.6s,SNR=7.9
EPON S Sn 14 16 45.3 -2.8
comp=E,4.1nm,0.4s,SNR=7.9
EPON Pontenova 6.97 16 P Pn 14 15 30.6 +0.6
comp=E,4.2nm,0.6s,SNR=7.9
ETOR Torete 7.34 53 P Pn 14 15 35.1 0.0
comp=E,0.7nm,0.1s,SNR=7.9
ETOR S Sn 14 16 53.7 -3.5
comp=E,2.8nm,0.2s,SNR=7.9
ETOR Torete 7.34 53 P Pn 14 15 35.1 0.0
comp=E,0.7nm,0.1s,SNR=7.9
EARI Arriondas 7.52 26 P Pn 14 15 39.7 +2.3
comp=E,0.9nm,0.2s,SNR=7.0
EARI S Sn 14 16 59.5 -2.1
comp=E,5.4nm,0.6s,SNR=7.9
EARI Arriondas 7.52 26 P Pn 14 15 39.7 +2.3
comp=E,0.9nm,0.2s,SNR=7.0
EARI S Sn 14 16 59.5 -2.1
comp=E,5.4nm,0.6s,SNR=7.9
EMOS Mosqueruela 8.19 60 P Pn 14 15 48.8 +2.0
comp=E,1.1nm,0.3s,SNR=7.9
EMOS S Sn 14 17 16.2 -2.1
comp=E,1.0nm,0.3s,SNR=4.0
EMOS Mosqueruela 8.19 60 P Pn 14 15 48.8 +2.0
comp=E,1.1nm,0.3s,SNR=7.9
EMOS S Sn 14 17 16.2 -2.1
comp=E,1.0nm,0.3s,SNR=4.0
EORO Oroz-Betelu 9.03 44 P Pn 14 15 59.4 +1.3
comp=E,0.7nm,0.2s,SNR=7.9
EORO S Sn 14 17 35.5 -3.2
comp=E,2.7nm,0.4s,SNR=7.9
EORO Oroz-Betelu 9.03 44 P Pn 14 15 59.4 +1.3
comp=E,0.7nm,0.2s,SNR=7.9
EORO S Sn 14 17 35.5 -3.2
comp=E,2.7nm,0.4s,SNR=7.9
IELO Elcoad 9.03 44 P Pn 14 15 58.9 +0.6
comp=E,0.3nm,0.2s,SNR=7.9
IELO S Sn 14 17 35.6 -3.3
comp=E,2.2nm,0.4s,SNR=7.9
IELO Elcoad 9.03 44 P Pn 14 15 58.9 +0.6
comp=E,0.3nm,0.2s,SNR=7.9
IELO S Sn 14 17 35.6 -3.3
comp=E,2.2nm,0.4s,SNR=7.9

*ISCJB **17** 14:14:13.4±0.6, 39°.89N±0°.04×30°.81E±0°.06, h10km, Error ellipse: s-maj=7.6km s-min=4.9km az=144.2*
*CSEM **17** 14:14:13.3±0.2, 39.89N×30.81E, h12km, ML2.5, Error ellipse: s-maj=6.0km s-min=4.6km az=61.0*
*ISK **17** 14:14:13.1, 39°.93N×30°.85E, h20km, ML2.5/2*
ISC 17 14:14:13.6±0.9, 39°.89N±0°.03×30°.82E±0°.04, h10km, n18, σ0s48/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORA	**Eskisehir**	**0.28**	**269**	*i* P	**Pg**	**14 14 19.3**	**0.0**
BORA	**Eskisehir**	**0.28**	**269**	P	**Pg**	**14 14 19.3**	**0.0**
ESKT	**Eskisehir**	**0.37**	**176**	*i* P	**Pg**	**14 14 20.6**	**-0.3**
SEYT	**Eskypehyr**	**0.37**	**176**	P	**Pg**	**14 14 20.6**	**-0.3**
GULT	**Gulveren**	**0.59**	**337**	PG	**Pg**	**14 14 24.6**	**-0.5**
GULT				SG	**Sg**	**14 14 33.5**	**+0.6**
GULT	**Gulveren**	**0.59**	**337**	*e*Pg	**Pg**	**14 14 24.6**	**-0.5**
GULT				*e*Sg	**Sg**	**14 14 33.5**	**+0.6**
MDUB	**Mudurnu**	**0.65**	**26**	PG	**Pg**	**14 14 25.5**	**-0.7**
MDUB	**Mudurnu**	**0.65**	**26**	*e*Pg	**Pg**	**14 14 25.5**	**-0.7**
SVRH	**Sivrihisar-ESK**	**0.70**	**129**	PG	**Pg**	**14 14 27.1**	**0.0**
SVRH				SG	**Sb**	**14 14 38.2**	**+0.6**
SVRH	**Sivrihisar-ESK**	**0.70**	**129**	*e*Pg	**Pg**	**14 14 27.1**	**0.0**
SVRH				*e*Sg	**Sb**	**14 14 38.2**	**+0.6**
CAVI	**Cavuskoy**	**0.81**	**293**	PG	**Pb**	**14 14 29.8**	**0.0**
CAVI	**Cavuskoy**	**0.81**	**293**	*e*Pg	**Pb**	**14 14 29.8**	**0.0**
SAHE	**Sakarya_HENDEK**	**0.96**	**2**	*i* P	**Pg**	**14 14 32.6**	**+0.5**
SAHE	**Sakarya_HENDEK**	**0.96**	**2**	P	**Pg**	**14 14 32.6**	**+0.5**
TVSB	**Tavsanli**	**1.13**	**248**	PN	**Pg**	**14 14 34.9**	**-0.5**
TVSB	**Tavsanli**	**1.13**	**248**	*e*Pn	**Pg**	**14 14 34.9**	**-0.5**
BCAM	**Yenicaga**	**1.33**	**45**	*i* P	**Pn**	**14 14 37.8**	**-0.5**
BCAM	**Yenicaga**	**1.33**	**45**	P	**Pn**	**14 14 37.8**	**-0.5**

*DJA **17** 14:21:08.5±3.3, 8°N×28°×12°7E±1°2, h195km±14km, M4.8/7, mb4.5/7, mB5.0/5, MLv5.2/4, Mw(mB)4.3/5*
*ISCJB **17** 14:21:23.2±0.6, 6°.61N±0°.04×126°.33E±0°.07, h80km±6km, mb3.9/15, Error ellipse: s-maj=10.8km s-min=6.1km az=173.7*
*IDC **17** 14:21:25.1±1.2, 6°.60N×126°.18E, h78km±9km, mb3.7/15, mb1 3.8/15, mb1mx3.6/57, mbtmp4.0/15, MS2.8/5, Ms1 2.9/5, ms1mx2.6/59, Error ellipse: s-maj=36.1km s-min=12.5km az=67.0*
*MAN **17** 14:21:25, 6°.69N×126°.20E, h13km, mb4.8, ML3.7, MS3.6*
ISC 17 14:21:24.7±1.0, 6°.62N±0°.06×126°.29E±0°.08, h75km±9km, n39, σ1s85/39, mb4.0/15, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.32**	**355**	*e*P	Pn	14 21 32.0	-4.5
DAV	**Davao City (W)**	**0.83**	**303**	P	**Pn**	**14 21 40.9**	**-0.5**
	584nm,0.3s,baz=116,slow=0.6,SNR=47						
DAV				S	**Sn**	**14 21 54.6**	**+0.8**
	567nm,0.3s,baz=270,slow=20,SNR=93						
DAV				LR	LR	14 22 09.4	
	comp=Z,288nm,18.2s,baz=161,slow=58						
KCP	**Kidapawan**	**1.25**	**288**	*i*P	**Pn**	**14 21 45.5**	**-1.1**
KCP				*i* S	**Sn**	**14 22 03.3**	**+0.2**
GSPH	**General Santos**	**1.43**	**248**	*e*P	**Pn**	**14 21 46.8**	**-2.2**
BIPH	**Bislig**	**1.56**	**3**	*i*P	**Pn**	**14 21 50.7**	**+0.2**
BIPH				*i* S	**Sn**	**14 22 08.6**	**-1.4**
BUKP	**Musuan**	**1.74**	**316**	*e*P	**Pn**	**14 21 52.1**	**-1.0**
BUKP				*e*S	**Sn**	**14 22 14.7**	**+0.2**
CTBH	**Cotabato--PC H**	**2.11**	**287**	*e*P	**Pn**	**14 21 59.4**	**+1.5**
CTBH				*i* S	**Sn**	**14 22 25.0**	**+1.7**
BUTP	**Butuan**	**2.42**	**344**	*e*P	**Pn**	**14 22 03.0**	**+0.8**
BUTP				*e*S	**Sn**	**14 22 37.7**	**+6.9**
SGSI	**Sangihe**	**3.01**	**195**	P	Pn	14 22 15.8	+5.7
MSLP	**Maasin**	**3.77**	**338**	*e*P	**Pn**	**14 22 18.5**	**-1.9**
KMSI	**Cibinong**	**6.43**	**201**	P	**Pn**	**14 23 00.0**	**+3.2**
LBMI	**Labuha**	**7.31**	**170**	P	**Pn**	**14 23 10.0**	**+1.1**
	26nm,0.9s						
MRSI	**Marisa**	**7.49**	**216**	P	**Pn**	**14 23 12.3**	**+1.1**
LUWI	**Luwuk**	**8.38**	**205**	P	**Pn**	**14 23 27.8**	**+4.3**
SANI	**Sanana**	**8.62**	**182**	P	**Pn**	**14 23 27.4**	**+0.7**
APSI	**Ampana**	**8.80**	**212**	P	**Pn**	**14 23 28.0**	**-1.1**
NLAI	**Namlea**	**9.83**	**175**	P	**Pn**	**14 23 42.0**	**-1.2**
TTSI	**Tana Toraja**	**11.57**	**214**	P	**Pn**	**14 24 06.3**	**-0.7**
GUMO	**Guam**	**19.55**	**68**	LR	LR	14 34 25.0	
	comp=Z,14nm,18.7s,baz=101,slow=40						
WRA	**Warramunga Arr**	**27.56**	**163**	P	**P**	**14 27 05.1**	**+0.3**
	0.7nm,0.7s,baz=342,slow=9.3,SNR=7.2						
CMAR	**Chiang Mai Arr**	**29.11**	**296**	LR	LR	14 39 00.7	
	comp=Z,220nm,20.1s,baz=192,slow=36						
KSRS	**Korea Array**	**30.73**	**3**	LR	LR	14 41 38.2	
	comp=Z,7.5nm,18.0s,baz=175,slow=40						
ASAR	**Alice Springs**	**31.01**	**166**	P	**P**	**14 27 34.9**	**-0.5**
	0.7nm,0.4s,baz=340,slow=7.0,SNR=17						
MJAR	**Matsushiro Arr**	**31.71**	**18**	P	**P**	**14 27 43.3**	**+1.9**
	0.7nm,0.6s,baz=178,slow=13,SNR=6.4						
USRK	**Ussuriysk Ar.**	**37.76**	**7**	LR	LR	14 44 14.0	
	comp=Z,15nm,19.3s,baz=264,slow=36						
STKA	**Stephens Creek**	**40.98**	**160**	P	**P**	**14 29 01.5**	**+1.2**
	4.0nm,0.7s,baz=339,slow=8.4,SNR=9.7						
SONM	**Songino Array**	**44.44**	**341**	P	**P**	**14 29 29.4**	**+1.1**
	0.8nm,0.7s,baz=174,slow=5.4,SNR=4.9						
MKAR	**Makanchi Array**	**54.95**	**324**	P	**P**	**14 30 48.1**	**0.0**
	2.2nm,0.6s,baz=122,slow=7.9,SNR=32						
MKAR				PcP	**PcP**	**14 31 50.4**	**+1.2**
	0.6nm,0.5s,baz=108,slow=4.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.83**	**332**	P	**P**	**14 31 07.3**	**-1.0**
	0.4nm,0.3s,baz=76,slow=6.3,SNR=3.9						
AAK	**Ala-Archa**	**57.95**	**317**	P	**P**	**14 31 10.2**	**+0.5**
	0.6nm,0.5s,baz=86,slow=11,SNR=4.1						
KURBB	**Kurchatov Arra**	**59.09**	**327**	P	**P**	**14 31 16.1**	**-1.0**
	2.1nm,0.8s,baz=128,slow=6.1,SNR=18						
BVAR	**Borovoye Array**	**64.68**	**326**	P	**P**	**14 31 55.0**	**+0.3**
	1.5nm,0.6s,baz=133,slow=8.1,SNR=11						
AKTO	**Aktyubinsk**	**71.14**	**321**	P	**P**	**14 32 34.9**	**-0.4**
	2.1nm,0.7s,baz=86,slow=8.2,SNR=9.3						
ILAR	**Eielson Array**	**82.70**	**26**	P	**P**	**14 33 38.4**	**-1.6**
	0.2nm,0.6s,baz=231,slow=5.8,SNR=4.5						
ARCES	**ARCESS Array B**	**87.60**	**340**	P	**P**	**14 34 03.4**	**-1.0**
	4.4nm,0.9s,baz=66,slow=7.1,SNR=3.9						
FINES	**FINESS Array B**	**89.09**	**332**	P	**P**	**14 34 10.8**	**-0.7**
	0.6nm,0.6s,baz=57,slow=7.0,SNR=5.5						
AKASG	**Malin Array Be**	**89.38**	**321**	P	**P**	**14 34 11.8**	**-1.3**
	0.1nm,0.3s,baz=70,slow=4.1,SNR=4.2						
VRAC	**Vranov**	**97.61**	**322**	LR	LR	15 21 18.5	
	comp=Z,16nm,18.1s,baz=33,slow=37						
TORD	**Torodi Ar. Bea**	**121.57**	**290**	PKP	**PKPdf**	**14 40 10.0**	**-0.8**
	0.7nm,0.7s,baz=30,slow=2.4,SNR=4.6						

IDC 17 14:35:32.8±2.5, 3°.57N×64°.10E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.3/66, mbtmp3.8/4, Error ellipse: s-maj=87.6km s-min=31.0km az=62.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**12.00**	**145**	T	T	14 50 47.8	
	baz=324,slow=76,SNR=182						
H08N3	**Diego Garcia H**	**12.01**	**145**	T	T	14 50 48.7	
	baz=324,slow=76,SNR=158						
H08N1	**Diego Garcia H**	**12.02**	**145**	T	T	14 50 49.5	
	baz=324,slow=76,SNR=171						
AKTO	**Aktyubinsk**	**46.98**	**355**	P	P	14 44 05.0	-0.6
	2.1nm,0.8s,baz=171,slow=6.3,SNR=5.3						
SONM	**Songino Array**	**57.10**	**33**	P	P	14 45 21.4	+0.2
	0.3nm,0.4s,baz=240,slow=5.3,SNR=2.8						
WRA	**Warramunga Arr**	**72.75**	**112**	P	P	14 47 03.7	+0.1
	1.3nm,0.9s,baz=290,slow=5.1,SNR=4.8						
ASAR	**Alice Springs**	**73.06**	**116**	P	P	14 47 05.3	-0.1
	0.6nm,0.9s,baz=288,slow=5.9,SNR=7.5						
TXAR	**Lajitas Array**	**145.24**	**341**	PKPbc	PKPbc	14 55 12.7	-0.4
	0.3nm,0.8s,baz=48,slow=1.3,SNR=3.8						

*NIED **17** 14:56:00, 40°.80N×145°.10E, h14km, Mw3.5 Best double couple: M₀2.01000×10¹⁴ NP1:φs341.00000°,δ48.00000°, λ-124.00000°. NP2:φs206.00000°,δ52.00000°, λ-58.00000°.*
*IDC **17** 14:56:25.1±1.2, 40°.79N×144°.99E, h0km, mb3.4/7, mb1 3.5/10, mb1mx3.4/68, mbtmp3.4/10, ML3.1/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/46, Error ellipse: s-maj=28.6km s-min=21.8km az=103.0*
*ISCJB **17** 14:56:27.9±0.6, 40°.80N±0°.03×144°.91E±0°.06, h33km, mb3.5/7, Error ellipse: s-maj=6.6km s-min=4.2km az=16.7*
*JMA **17** 14:56:27.3±0.2, 40°.80N×145°.08E, h66km±3km, M3.9*
ISC 17 14:56:29.7±0.9, 40°.80N±0°.05×144°.96E±0°.07, h35km, n29, σ1s37/43, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.82**	**313**	P	**Pn**	**14 56 58.0**	**-0.5**
JEM				S	**Sn**	**14 57 19.3**	**-1.1**
JCH	**Churui**	**2.17**	**327**	P	**Pn**	**14 57 02.6**	**-0.8**
JCH				S	**Sn**	**14 57 27.1**	**-2.0**
JAK	**Akkeshi**	**2.21**	**355**	P	**Pn**	**14 57 02.2**	**-1.6**
JAK				*e*S	**Sn**	**14 57 27.9**	**-1.9**
JNBK	**Urakawa-nobuka**	**2.22**	**313**	P	**Pn**	**14 57 04.1**	**+0.1**
JNBK				S	**Sn**	**14 57 30.3**	**+0.1**
JOB	**Onbets**	**2.27**	**339**	P	**Pn**	**14 57 04.9**	**+0.3**
JOB				S	**Sn**	**14 57 31.6**	**+0.3**
NEM2	**Nemuro 2**	**2.63**	**13**	P	**Pn**	**14 57 08.0**	**-1.6**
NEM2				S	**Sn**	**14 57 37.0**	**-3.3**
JAR	**Ashorobuto**	**2.65**	**341**	P	**Pn**	**14 57 08.4**	**-1.5**
JAR				*e*S	**Sn**	**14 57 39.5**	**-1.3**
JANG	**Nango**	**2.66**	**262**	P	**Pn**	**14 57 09.0**	**-1.0**
JANG				S	**Sn**	**14 57 37.3**	**-3.7**
JBT2	**Biratori 2**	**2.77**	**316**	P	**Pn**	**14 57 11.3**	**-0.3**
JBT2				*e*S	**Sn**	**14 57 43.6**	**-0.2**
JNK	**Nakash**	**2.79**	**356**	P	**Pn**	**14 57 09.9**	**-2.0**
JFR	**Furan**	**2.95**	**324**	P	**Pn**	**14 57 13.5**	**-0.5**
JFR				*e*S	**Sn**	**14 57 45.6**	**-2.6**
JOT	**Ohata**	**3.01**	**282**	P	**Pn**	**14 57 14.4**	**-0.5**
JOM	**Ohasama**	**3.11**	**246**	P	**Pn**	**14 57 16.0**	**-0.2**
JOM				*e*S	**Sn**	**14 57 49.9**	**-2.2**
JKB	**Kayabe**	**3.15**	**292**	P	**Pn**	**14 57 16.2**	**-0.6**
JTKR	**Abashiri--Toko**	**3.27**	**347**	P	**Pn**	**14 57 18.0**	**-0.3**
JTKR				*e*S	**Sn**	**14 57 54.9**	**-1.1**
JEW	**Eniwo**	**3.32**	**309**	P	**Pn**	**14 57 19.8**	**+0.6**
JEW				S	**Sn**	**14 57 57.1**	**-0.3**
JMK	**Ichinoseki**	**3.42**	**239**	P	**Pn**	**14 57 20.1**	**-0.3**
JMK				*e*S	**Sn**	**14 57 57.1**	**-2.6**
JKK2	**Kamakawa 2**	**3.48**	**333**	P	**Pn**	**14 57 21.4**	**0.0**
ASAJ	**Asahikawa**	**3.75**	**333**	Pn	**Pn**	**14 57 24.2**	**-0.8**
	1.3nm,0.3s,baz=171,slow=18,SNR=35						
ASAJ				Sn	**Sn**	**14 58 06.8**	**-1.1**
	1.3nm,0.3s,baz=126,slow=19,SNR=4.0						
MJAR	**Matsushiro Arr**	**6.78**	**233**	Pn	**Pn**	**14 58 06.3**	**-0.4**
	0.3nm,0.3s,baz=39,slow=12,SNR=7.4						
JHJ	**Hachijo jima 2**	**8.71**	**210**	LR	LR	15 01 22.2	
	comp=Z,374nm,19.8s,baz=82,slow=34						
USRK	**Ussuriysk Ar.**	**10.16**	**294**	Pn	**Pn**	**14 58 52.8**	**-0.2**
	0.1nm,0.3s,baz=120,slow=12,SNR=5.0						
SEY	**Seymchan**	**22.61**	**9**	P	**P**	**15 01 27.6**	**+0.6**
	0.3nm,0.5s,baz=163,slow=20,SNR=2.6						
MKAR	**Makanchi Array**	**44.57**	**300**	P	**P**	**15 04 38.3**	**+0.2**
	0.2nm,0.5s,baz=91,slow=10,SNR=4.5						
KURBB	**Kurchatov Arra**	**45.96**	**306**	P	**P**	**15 04 50.1**	**+1.0**
	0.7nm,0.5s,baz=77,slow=8.8,SNR=8.4						
BVAR	**Borovoye Array**	**50.16**	**311**	P	**P**	**15 05 22.5**	**+1.1**
	0.6nm,0.6s,baz=90,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**59.16**	**32**	P	**P**	**15 06 27.3**	**+0.8**
	0.1nm,0.5s,baz=299,slow=6.3,SNR=3.1						
WRA	**Warramunga Arr**	**61.23**	**191**	P	**P**	**15 06 41.8**	**+0.7**
	0.4nm,0.7s,baz=7.5,slow=6.6,SNR=2.7						
FINES	**FINESS Array B**	**66.76**	**333**	P	**P**	**15 07 17.3**	**+0.3**
	1.0nm,0.7s,baz=65,slow=9.8,SNR=4.6						

MEX 17 15:03:27.6±0.3, 16°.02N×98°.01W, h1km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**343**	*e*P	Pg	15 03 34.8	-0.3
PNIG				*e*S	Sg	15 03 40.6	+0.4
VHO	**Vista Hermosa**	**1.61**	**49**	*e*P	Pn	15 03 53.9	-3.6
VHO				*e*S	Sn	15 04 13.6	-5.4
TLIG	**Tlapa**	**1.63**	**341**	*e*P	Pn	15 03 53.9	-3.6
TLIG				*i* S	Sn	15 04 14.3	-5.0

IDC 17 15:04:19.5±571.0, 47°.82N×49°.17E, h0km, Error ellipse: s-maj=212.8km s-min=138.2km az=50.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.37**	**63**	*i*		15 41 00.0	
	baz=249,slow=286,SNR=0.7						
I43RU	**DUBNA INFRASONI**	**1.52**	**325**	*i*		16 14 20.0	
	baz=134,slow=334,SNR=1.4						
I46RU	**ZALESOVO INFRA**	**23.13**	**61**	*i*		17 28 30.0	
	baz=269,slow=325,SNR=1.6						

*BJI **17** 15:11:19.9, 3°.17N×62°.95E, h6km, mb4.6/35, mB4.9/24, Ms4.8/17, Ms7 4.6/16*
*IDC **17** 15:11:25.9±0.5, 3°.78N×63°.55E, h0km, mb4.3/40, mb1 4.3/42, mb1mx4.2/76, mbtmp4.3/42, ML3.4/2, Error ellipse: s-maj=13.1km s-min=11.1km az=160.0*
*ISCJB **17** 15:11:26.0±0.3, 3°.77N±0°.06×63°.42E±0°.04, h10km, mb4.5/78, MS4.6/5, Error ellipse: s-maj=8.4km s-min=5.4km az=177.8*
*GCMT **17** 15:11:27.6±0.3, 3°.74N×63°.49E, h12km, MW5.0/96, Moment Tensor Solution. s34,c47; s96,c143; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.40±.11; Mθθ2.38±.11; Mφφ1.02±.12; Mrθ2.27±.36; Mrφ-1.39±.09; Mθφ-1.77±.41; Best double couple: M₀4.39700×10¹⁶ NP1:φs306.00000°,δ65.00000°,λ-87.00000°. NP2: φs119.00000°,δ25.00000°,λ-97.00000°. Principal axes: T 4.3130, Plg20.0000°, Azm34.0000°; N 0.1670, Plg3.0000°, Azm125.0000°; P -4.4800, Plg69.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 15:11:27.6±0.3, 3°.78N×63°.51E, h10km, mb4.9/23 Error ellipse: s-maj=7.6km s-min=6.6km az=169.0*
ISC 17 15:11:27.8±0.5, 3°.80N±0°.08×63°.50E±0°.07, h10km, n170, σ1s141/169, mb4.6/78, MS4.6/5, 14C-8D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**12.54**	**143**	T	T	15 27 22.2	
	baz=323,slow=76,SNR=762						
H08N3	**Diego Garcia H**	**12.55**	**143**	T	T	15 27 12.1	
	baz=323,slow=76,SNR=776						
H08N1	**Diego Garcia H**	**12.56**	**143**	T	T	15 27 14.7	
	baz=323,slow=76,SNR=817						
PALK	**Pallekele**	**17.47**	**78**	P	**P**	**15 15 30.3**	**-2.7**
	0.2nm,0.3s,baz=297,slow=11,SNR=1.9						
PALK	**Pallekele**	**17.47**	**78**	*e*P	**P**	**15 15 36.3**	**+3.3**
	44nm,1.3s						
WSAR	**Wadi Sarin**	**19.89**	**347**	P	**Pn**	**15 16 00.2**	**-1.0**
	0.1nm,0.3s,baz=131,slow=10,SNR=2.7						
HYB	**Hyderabad**	**20.03**	**46**	*i* P	Pn	15 16 03.0	+0.1
HYB				*e*S	**S**	**15 19 43.5**	**-3.0**
HATD	**Hatta, Dubai**	**22.08**	**342**	P	**P**	**15 16 23.5**	**+0.3**
UOSS	**Minazif**	**22.17**	**342**	*e*P	**P**	**15 16 23.8**	**-0.3**
	40nm,1.2s						
UOSS	**Minazif**	**22.17**	**342**	P	**P**	**15 16 25.2**	**+1.1**
RAYN	**Ar Rayn**	**26.21**	**320**	*e*P	**P**	**15 17 04.5**	**+1.5**
	21nm,1.4s						
KMBO	**Kilima Mbogo**	**26.68**	**260**	P	**P**	**15 17 08.7**	**+1.0**
	1.3nm,0.3s,baz=68,slow=7.5,SNR=7.2						
KMBO	**Kilima Mbogo**	**26.68**	**260**	*e*P	**P**	**15 17 07.5**	**-0.1**
	40nm,1.5s						
KMBO	**Kilima Mbogo**	**26.68**	**260**	P	P	15 17 13.5	+5.8
	SNR=14						
OPO	**Ambohidratompo**	**27.43**	**215**	P	**P**	**15 17 15.4**	**+1.2**
	3.5nm,0.8s,baz=50,slow=8.2,SNR=4.6						
KBL	**Kabul**	**31.02**	**9**	*e*P	**P**	**15 17 47.1**	**+1.1**
	36nm,1.8s						
MBAR	**Mbarara**	**33.03**	**263**	P	**P**	**15 18 05.4**	**+1.5**
	2.1nm,0.2s,baz=62,slow=8.7,SNR=5.0						
GEYT	**Alibeck**	**34.33**	**352**	P	**P**	**15 18 16.1**	**+1.3**
	1.6nm,0.8s,baz=141,slow=5.0,SNR=4.8						
KSH	**Kashi**	**37.31**	**16**	P	**P**	**15 18 37.4**	**-3.1**
KSH				pP	pP	15 18 41.4	-2.2
KSH				sP	sP	15 18 45.1	+0.3
KSH				PcP	**PcP**	**15 21 00.5**	**+0.7**
KSH				S	**S**	**15 24 21.0**	**-7.2**
KSH				PcS	**PcS**	**15 24 47.1**	**-1.1**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,92nm,5.0s						
KSH				LR	LR		
	comp=N,290nm,13.8s						
KSH				LR	LR		
	comp=E,260nm,10.6s						
KSH				LR	LR		
	comp=Z,320nm,12.1s						
CMAR	**Chiang Mai Arr**	**37.60**	**64**	P	**P**	**15 18 43.3**	**+0.3**
	3.7nm,1.0s,baz=260,slow=9.1,SNR=20						
CM01	**Chiang Mai Arr**	**37.60**	**65**	*e*P	**P**	**15 18 44.6**	**+1.5**
CHTO	**Chiang Mai**	**37.71**	**64**	P	P	15 18 46.7	+2.7
	67nm,1.3s						
CHTO	**Chiang Mai**	**37.71**	**64**	*e*P	**P**	**15 18 45.8**	**+1.8**
	19nm,1.2s						
CHTO	**Chiang Mai**	**37.71**	**64**	P	**P**	**15 18 46.0**	**+2.0**
	SNR=6.8						
CMMT	**Chiang Mai**	**37.72**	**64**	P	**P**	**15 18 45.7**	**+1.7**
	15nm,1.2s						
CMAI	**Chiengmai2**	**38.18**	**62**	P	P	15 18 52.3	+4.2
	191nm,1.4s,45μm						
UCH	**Uchtor**	**39.51**	**13**	P	**P**	**15 19 00.2**	**+0.9**
	SNR=7.6						
KZA	**Kyzart**	**39.54**	**14**	P	**P**	**15 19 01.4**	**+1.9**
	SNR=35						
KKAR	**Karatay Array**	**39.63**	**8**	*e*P	**P**	**15 19 01.5**	**+1.7**
LSZ	**Lusaka**	**39.77**	**241**	P	**P**	**15 19 01.9**	**+0.5**
	1.8nm,0.6s,baz=62,slow=8.4,SNR=5.5						
LSZ	**Lusaka**	**39.77**	**241**	*e*P	**P**	**15 19 01.9**	**+0.5**
	22nm,1.5s						
LSZ	**Lusaka**	**39.77**	**241**	P	**P**	**15 19 03.3**	**+1.9**
EKS2	**Erkin-Say**	**39.77**	**12**	P	**P**	**15 19 03.4**	**+2.3**
	SNR=22						
AAK	**Ala-Archa**	**39.90**	**13**	P	**P**	**15 19 03.3**	**+1.2**
	5.5nm,0.7s,baz=203,slow=7.6,SNR=17						
AAK	**Ala-Archa**	**39.90**	**13**	P	**P**	**15 19 03.7**	**+1.5**
	SNR=7.8						
AAK	**Ala-Archa**	**39.90**	**13**	*e*P	**P**	**15 19 03.5**	**+1.3**
	13nm,0.9s						
AAK	**Ala-Archa**	**39.90**	**13**	P	**P**	**15 19 03.7**	**+1.5**
GNI	**Garni**	**39.96**	**337**	P	**P**	**15 19 04.2**	**+1.5**
	11nm,0.9s,baz=80,slow=2.8,SNR=5.6						
GNI	**Garni**	**39.96**	**337**	*e*P	**P**	**15 19 04.5**	**+1.7**
	102nm,1.7s						
KBK	**Karagaybulak**	**40.02**	**13**	P	**P**	**15 19 05.1**	**+1.9**
	SNR=9.3						
TKM2	**Tokmak 2**	**40.42**	**14**	P	P	15 19 09.9	+3.3
	SNR=5.5						
KHON	**Khomkaen**	**40.58**	**69**	P	P	15 19 20.0	+12
AKH	**Akhalkalaki**	**41.53**	**337**	*i*P	**P**	**15 19 18.5**	**+2.8**
SKNT	**Sakolnakorn**	**41.81**	**69**	P	**P**	**15 19 20.5**	**+2.4**
KMI	**Kunming**	**43.26**	**57**	P	**P**	**15 19 32.1**	**+2.0**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,110nm,4.6s						
KBZ	**Khabaz**	**43.74**	**338**	P	**P**	**15 19 34.0**	**+0.6**
	3.6nm,0.9s,baz=135,slow=5.5,SNR=6.7						
BR131	**Keskin Array S**	**44.83**	**327**	*e*P	**P**	**15 19 42.3**	**0.0**
BR131	**Kesk

LZH LR LR
comp=E,1µm,15.6s
LZH LR LR
comp=Z,2µm,17.1s
BVAR Borovoye Array 49.40 5 P **P 15 20 17.2 -0.4**
0.7nm,0.6s,baz=143,slow=9.9,SNR=5.1
BVAR PcP **PcP 15 21 40.6 +0.6**
1.0nm,0.8s,baz=132,slow=2.1,SNR=2.7
BRVK Borovoye 49.42 5 *e*P **P 15 20 17.5 -0.3**
31nm,1.8s
BRVK Borovoye 49.42 5 P **P 15 20 18.7 +0.8**
TSUM Tsumeb 50.61 241 P **P 15 20 26.8 -0.8**
7.2nm,1.1s,baz=72,slow=20,SNR=2.1
TSUM Tsumeb 50.61 241 *e*P P 15 20 31.6 +4.0
TIRR Tirgusor 50.90 328↑ *i*P **P 15 20 29.6 +0.4**
TLB Topalu 51.19 328↓ *i*P **P 15 20 32.2 +0.9**
HARR Harsova 51.31 328↑ *i*P **P 15 20 33.0 +0.7**
CFR Carcaliu 51.53 328↓ *i*P **P 15 20 35.1 +1.2**
XAN Xi'an 51.81 49 P **P 15 20 36.9 +0.6**
XAN pP sP 15 20 42.8 +2.1
XAN S **S 15 28 01.8 +3.0**
XAN pmax pmax
comp=Z,11nm,1.4s
XAN pmax pmax
comp=Z,140nm,4.5s
XAN LR LR
comp=N,280nm,22.1s
XAN LR LR
comp=E,220nm,22.1s
XAN LR LR
comp=Z,310nm,24.0s
KIS Kishinev 52.44 331 *e*P **P 15 20 41.0 +0.4**
ARU Arti 52.63 357 P **P 15 20 41.6 -0.3**
2.9nm,0.7s,baz=184,slow=5.1,SNR=6.3
ARU Arti 52.63 357 *e*P **P 15 20 41.6 -0.3**
17nm,1.4s
VTS Vitosha 52.67 323↓↓ *i*P **P 15 20 41.9 -0.7**
VTS Vitosha 52.67 323 *e*P **P 15 20 42.4 -0.2**
29nm,1.8s
VRI Vrincioaia 52.73 328↓ *i*P **P 15 20 44.5 +1.6**
PLOR Plostina 52.76 328↑ *i*P **P 15 20 44.3 +1.2**
MLR Muntele Rosu 52.90 327 P **P 15 20 44.1 -0.2**
1.2nm,0.9s,baz=292,slow=21,SNR=5.1
MLR Muntele Rosu 52.90 327↑ *i*P **P 15 20 45.5 +1.2**
MLR Muntele Rosu 52.90 327 *e*P **P 15 20 45.5 +1.2**
25nm,1.4s
ZAA0 Zalesovo Array 52.95 16 *e*P **P 15 20 43.2 -1.1**
18nm,0.9s
ZALV Zalesovo Beam 52.95 16 P **P 15 20 43.5 -0.8**
14nm,0.9s,baz=216,slow=6.6,SNR=33
ZALV Zalesovo Beam 52.95 16 *e*P **P 15 20 43.0 -1.3**
TESR Tescani 53.20 329↑ *i*P **P 15 20 46.6 +0.3**
VOIR 53.35 327↑ *i*P **P 15 20 48.3 +0.8**
SORM Soroca 53.46 331↑ *i*P **P 15 20 47.7 -0.4**
DOPR Dopca 53.51 328↓ *i*P **P 15 20 48.7 +0.1**
HERR Herculane 54.48 325↑ *i*P **P 15 20 55.5 -0.2**
BURAR Bucovina Array 54.66 329↑ *i*P **P 15 20 58.6 +1.5**
BUR04 Bucovina Ar. S 54.67 329 *e*P **P 15 20 56.1 -1.1**
WHN Wuhan 54.78 55 P **P 15 20 59.6 +1.5**
WHN S **S 15 28 42.3 +3.2**
AKASG Malin Array Be 54.89 334 P **P 15 20 57.8 -0.7**
0.4nm,0.5s,baz=127,slow=6.5,SNR=8.2
BZS Buzias 55.37 325↑ *i*P **P 15 21 01.9 -0.2**
HHC Hu-ho-hao-te 56.72 42 *e*P **P 15 21 13.5 +1.4**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,120nm,8.9s
SONM Songino Array 57.24 33 P **P 15 21 16.3 +0.7**
3.8nm,0.8s,baz=227,slow=6.1,SNR=25
SONA1 Songino Array 57.25 33 *e*P **P 15 21 16.0 +0.3**
MORH M¯‡r¯igy, Hung 57.42 324 *e*P **P 15 21 16.7 0.0**
CRVS Cervenica-Dubn 57.42 328 *e*P **P 15 21 16.8 +0.1**
ULN Ulaanbaatar 57.62 33 *e*P **P 15 21 18.7 +0.4**
6.1nm,1.1s
VYHS Vyhne 58.59 327 *e*P P 15 21 28.2 +3.3
NJ2 Nanjing 58.91 55 *e*P **P 15 21 28.3 +0.9**
NJ2 pmax pmax
comp=Z,14nm,0.6s
TAM Tamanrasset 59.09 294 *e*P **P 15 21 29.4 +0.4**
9.4nm,1.2s
BJI Beijing 59.56 45↑ *e*P **P 15 21 31.3 -0.5**
BJI pmax pmax
comp=Z,11nm,0.8s
KLMR Klimovskoe 59.76 347 *e*P **P 15 21 30.8 -1.9**
KLMR AMP 15 21 49.7
comp=Z,28nm,1.3s
KLMR *e*PcP **PcP 15 22 17.5 -1.9**
KLMR LQ LQ 15 45 21.0
KLMR LQ LQ 15 45 21.0
KLMR LR LR 15 48 31.0
ARSA Arzberg 59.79 324 *e*P **P 15 21 34.2 +0.9**
comp=Z,4.2nm,1.0s
CONA Conrad Observa 59.94 325 *e*P **P 15 21 35.1 +0.7**
comp=Z,6.8nm,1.1s
OBKA Obir 59.99 323 *e*P **P 15 21 35.4 +0.7**
comp=Z,13nm,1.7s
VRAC Vranov 60.27 327 P **P 15 21 36.9 +0.4**
comp=Z,4.6nm,0.8s,baz=87,slow=5.5,SNR=5.0
VRAC Vranov 60.27 327↓ *i*P **P 15 21 36.9 +0.4**
VRAC Vranov 60.27 327↓ *i*P **P 15 21 36.9 +0.4**
MOA Molln 60.82 324 *e*P **P 15 21 39.6 -0.7**
comp=Z,10nm,1.4s
KBA Koelnbreinsper 60.99 323 *e*P **P 15 21 41.7 0.0**
comp=Z,4.8nm,1.1s
H01W3 Cape Leeuwin H 61.13 133 T T 16 28 03.1
baz=298,slow=75,SNR=4.2
H01W2 Cape Leeuwin H 61.14 133 T T 16 28 05.6
baz=298,slow=75,SNR=3.9
H01W1 Cape Leeuwin H 61.15 133 T T 16 28 06.0
baz=298,slow=75,SNR=3.9
ABTA Abfaltersbach 61.33 322 *e*P **P 15 21 43.2 -0.7**
comp=Z,8.5nm,1.0s
GOPC GO Pecny, Ondr 61.59 326 *e*P **P 15 21 45.4 -0.1**
GERES GERESS Array B 61.65 325 P **P 15 21 45.5 -0.6**
comp=Z,0.4nm,0.7s,baz=77,slow=6.0,SNR=3.7
TOA0 Torodi Ar. Sit 61.70 283 *e*P **P 15 21 46.4 -0.4**
TORD Torodi Ar. Bea 61.70 283 P **P 15 21 46.9 +0.1**
comp=Z,1.6nm,1.1s,baz=95,slow=5.6,SNR=7.6
KHC Kasperske Hory 61.86 325 *e*P **P 15 21 46.1 -1.3**
KHC *e*pP **sP 15 21 53.6 +1.8**
WTTA Wattenberg 62.10 323 *e*P **P 15 21 49.0 -0.3**
comp=Z,5.7nm,1.1s
MOTA Moosalm 62.46 323 *e*P **P 15 21 50.4 -1.2**
comp=Z,4.9nm,0.9s
BRG Berggiesshubel 62.55 327 *e*(P) **P 15 21 52.5 +0.6**
comp=Z,22nm,2.0s
BRG *e* 15 21 59.9
comp=Z,12nm,1.6s
FETA Feichten 62.55 322 *e*P **P 15 21 52.3 +0.1**
comp=Z,3.7nm,1.1s
NKC Novy Kostel 63.05 326 *e*P **P 15 21 55.0 -0.3**
DAVA Damuels 63.18 322 *e*P **P 15 21 55.6 -0.8**
comp=Z,9.5nm,0.9s
CLL Collm 63.28 327 *e*P **P 15 21 56.0 -0.7**
comp=Z,23nm,1.5s
CLL Collm 63.28 327 *e*P **P 15 21 56.4 -0.4**
comp=Z,22nm,1.4s
FINES FINESS Array B 63.99 341 P **P 15 22 01.6 +0.4**
comp=Z,1.8nm,0.8s,baz=151,slow=4.4,SNR=4.2
SENIN Lac Senin/Sane 64.41 320 *e*P **P 15 22 04.2 -0.4**
comp=Z,11nm,0.8s
BFO Black Forest 64.58 323 *e*P **P 15 22 04.8 -0.5**
comp=Z,20nm,1.2s
WLF Walferdange 66.43 323↑↑P **P 15 22 16.9 -0.4**
MEM Membach 66.90 324↑↑AP pP 15 22 23.3 -0.2
KOWA Kowa 67.30 284 P **P 15 22 24.1 +0.6**
comp=Z,2.4nm,0.7s,baz=100,slow=5.5,SNR=8.1
KSAR Wonju Array Be 67.47 51 P **P 15 22 25.2 +1.0**
KSRS Korea Array 67.50 51 P **P 15 22 25.2 +0.8**
comp=Z,1.1nm,0.7s,baz=260,slow=7.7,SNR=5.7
DOU Dourbes 67.53 323↑↑P **P 15 22 23.5 -0.8**
HFS Hagfors 67.71 336 P **P 15 22 24.8 -0.4**
comp=Z,4.0nm,0.6s,baz=126,slow=7.5,SNR=21
DBIC Dimbokro 68.09 276 P **P 15 22 27.4 -1.1**
comp=Z,4.5nm,0.9s,baz=75,slow=15,SNR=3.7
NOA NORSAR Array B 69.23 336 P **P 15 22 34.3 -0.6**
comp=Z,1.2nm,0.9s,baz=118,slow=6.7,SNR=3.2
ARCES ARCESS Array B 70.23 347 P **P 15 22 39.2 -1.6**
comp=Z,5.1nm,0.7s,baz=114,slow=3.0,SNR=8.2
ES19 SONSECA Array 70.26 311 *e*P **P 15 22 40.5 -1.1**
ESDC Sonseca Array 70.31 311 P **P 15 22 41.5 -0.4**
comp=Z,5.1nm,0.8s,baz=89,slow=5.3,SNR=29
KLR Kul'dur 73.02 40 P **P 15 22 57.4 -0.6**
comp=Z,0.1nm,0.6s,baz=303,slow=7.5,SNR=7.6
WRA Warramunga Arr 73.39 112 P **P 15 22 59.9 -0.8**
comp=Z,5.1nm,0.9s,baz=290,slow=5.1,SNR=11
WB2 Warramunga Arr 73.41 112 *e*P **P 15 23 01.1 +0.3**
ASAR Alice Springs 73.71 116 P **P 15 23 02.9 +0.3**
comp=Z,4.2nm,0.9s,baz=282,slow=5.5,SNR=17
EKA Eskdalemuir Ar 73.75 327 P **P 15 23 01.0 -1.1**
comp=Z,0.3nm,0.5s,baz=119,slow=7.0,SNR=5.9
AS01 Alice Springs 73.75 116 *e*P **P 15 23 02.3 -0.5**
MJAR Matsushiro Ar 75.47 53 P **P 15 23 11.8 -0.8**
comp=Z,1.2nm,0.8s,baz=270,slow=3.8,SNR=4.4
YAK Yakutsk 75.64 26 P **P 15 23 12.3 -0.7**
comp=Z,7.1nm,0.7s,baz=64,slow=1.0,SNR=5.9
YAK Yakutsk 75.64 26 *e*P **P 15 23 11.9 -1.0**
comp=Z,28nm,1.0s
TIXI Tiksi 78.81 17 P **P 15 23 29.1 -1.4**
comp=Z,3.2nm,0.9s,baz=283,slow=1.5,SNR=7.0
STKA Stephens Creek 81.92 123 P **P 15 23 46.1 -2.1**
comp=Z,3.4nm,0.9s,baz=320,slow=16,SNR=2.2
MA2 Magadan 85.36 31 P **P 15 24 04.0 -1.2**
comp=Z,3.4nm,0.8s,baz=250,slow=4.2,SNR=9.6
SEY Seymchan 86.14 27 P **P 15 24 08.2 -0.7**
comp=Z,3.4nm,0.9s,baz=282,slow=4.3,SNR=15
ILAR Eielson Array 108.03 13 PP PP 15 30 16.6 -0.8
comp=Z,1.5nm,1.1s,baz=324,slow=5.8,SNR=7.8
YKA Yellowknife Ar 113.88 359 PKiKP **PKiKP 15 30 06.1 -0.6**
comp=Z,0.2nm,0.7s,baz=342,slow=2.7,SNR=3.5
YKA PP **PP 15 31 01.7 +2.5**
comp=Z,0.3nm,0.9s,baz=1.1,slow=8.0,SNR=4.2
PDAR Pinedale Array 133.23 353 PKP **PKPdf 15 30 43.6 -1.1**
comp=Z,0.4nm,0.7s,baz=78,slow=3.8,SNR=5.0
NVAR Mina Array Bea 137.95 2 PKP **PKPdf 15 30 53.5 -0.1**
comp=Z,0.9nm,0.8s,baz=221,slow=1.8,SNR=6.5
MNTX Cornudas Mount 143.15 344 *e*PKPdf **PKPdf 15 31 01.0 -2.0**
TX31 Lajitas Ar. Si 144.83 340 *e*PKPdf **PKPdf 15 31 04.8 -1.3**
TXAR Lajitas Array 144.83 340 PKP **PKPdf 15 31 04.9 -1.1**
comp=Z,1.5nm,0.8s,baz=48,slow=1.9,SNR=12
PMOR Pomariorio Ree 147.14 112 *e*PKPbc **PKPdf 15 31 08.7 -1.4**
comp=Z,30nm,1.2s
VAH Vaihoa 147.32 112 *e*PKPbc **PKPbc 15 31 10.0 -2.8**
comp=Z,18nm,1.2s

MEX 17 15:11:38.7±0.7, 16°.92N×100°.08W, h15km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.22**	**306**	*i* P		Pg	15 11 42.9	-0.7
CAIG				*i* S		Sg	15 11 47.1	+0.2
ACX	**Acapulco**	**0.22**	**103**	*e*P		Pg	15 11 42.0	-1.7
ACX				*e*S		Sg	15 11 45.9	-1.2
MEIG	**Mezcala**	**1.09**	**24**	*e*P		Pb	15 11 55.4	-4.1
MEIG				*i* S		Sb	15 12 09.1	-4.4
ARIG	**Puente Sto Nin**	**1.38**	**349**	*e*P		Pn	15 12 00.3	-3.1
ARIG				*i* S		Sn	15 12 16.6	-4.9
ZIIG	**Zihuatanejo**	**1.49**	**298**	*e*P		Pn	15 12 00.6	-4.3
ZIIG				*i* S		Sn	15 12 18.3	-5.8

*ISCJB **17** 15:12:06.8±1.2, 3°.9N±0°.2×63°.4E±0°.1, h10km, mb4.3/13, Error ellipse: s-maj=27.5km s-min=15.0km az=14.4*
*IDC **17** 15:12:06.5±1.5, 3°.79N×63°.41E, h0km, mb4.2/11, mb1 4.3/11, mb1mx3.8/75, mbtmp4.2/11, Error ellipse: s-maj=39.0km s-min=25.7km az=30.0*
*NEIC **17** 15:12:07.7±0.8, 3°.77N×63°.38E, h10km, mb4.8/1, Error ellipse: s-maj=19.8km s-min=12.4km az=194.0*
ISC 17 15:12:08.2±1.4, 3°.8N±0°.2×63°.4E±0°.2, h10km, n34, σ0s63/34, mb4.3/13, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**37.66**	**65**	*e*P		**P**	**15 19 23.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**37.66**	**65**	P		**P**	**15 19 25.0**	**+1.1**
	4.9nm,1.1s,baz=262,slow=8.9,SNR=5.1							
CMAR	**Chiang Mai Arr**	**37.66**	**65**	P		**P**	**15 19 25.0**	**+1.1**
CM01	**Chiang Mai Arr**	**37.66**	**65**	*e*P		**P**	**15 19 25.6**	**+1.6**
BR101	**Keskin Array S**	**44.75**	**327**	*e*P		**P**	**15 20 22.4**	**+0.3**
BRTR	**Keskin Array B**	**44.75**	**327**	P		**P**	**15 20 22.4**	**+0.3**
	2.2nm,1.0s,baz=143,slow=9.0,SNR=4.0							
BRTR	**Keskin Array B**	**44.75**	**327**	P		**P**	**15 20 22.4**	**+0.3**
MK32	**Makanchi Array**	**45.82**	**18**	*e*P		**P**	**15 20 29.9**	**-0.4**
MKAR	**Makanchi Array**	**45.82**	**18**	P		**P**	**15 20 29.9**	**-0.4**
	1.0nm,0.7s,baz=204,slow=9.7,SNR=3.5							
MKAR	**Makanchi Array**	**45.82**	**18**	P		**P**	**15 20 29.9**	**-0.4**
AKTO	**Aktyubinsk**	**46.66**	**355**	P		**P**	**15 20 37.6**	**+0.7**
	4.3nm,0.7s,baz=186,slow=8.5,SNR=4.3							
AKTO	**Aktyubinsk**	**46.66**	**355**	P		**P**	**15 20 37.6**	**+0.7**
KURBB	**Kurchatov Arra**	**48.34**	**13**	P		**P**	**15 20 49.5**	**-0.4**
	1.8nm,1.0s,baz=210,slow=8.2,SNR=4.7							
KURK	**Kurchatov**	**48.44**	**13**	*e*P		**P**	**15 20 49.5**	**-1.3**
ARU	**Arti**	**52.59**	**357**	P		**P**	**15 21 21.8**	**-0.2**
	0.6nm,0.3s,baz=176,slow=3.0,SNR=3.5							
ARU	**Arti**	**52.59**	**357**	P		**P**	**15 21 21.8**	**-0.2**
ZAA0	**Zalesovo Array**	**52.94**	**16**	*e*P		**P**	**15 21 24.2**	**-0.4**
	17nm,1.3s							
ZALV	**Zalesovo Beam**	**52.94**	**16**	P		**P**	**15 21 24.7**	**+0.1**
	9.9nm,1.1s,baz=224,slow=6.2,SNR=5.6							
ZALV	**Zalesovo Beam**	**52.94**	**16**	*e*P		**P**	**15 21 24.7**	**+0.1**
ZAA1	**Zalesovo Array**	**52.94**	**16**	*e*P		**P**	**15 21 24.7**	**+0.1**
SONA0	**Songino Array**	**57.26**	**33**	*e*P		**P**	**15 21 55.4**	**-0.7**
SONM	**Songino Array**	**57.26**	**33**	P		**P**	**15 21 55.4**	**-0.7**
	1.8nm,0.7s,baz=232,slow=6.1,SNR=4.3							
SONM	**Songino Array**	**57.26**	**33**	P		**P**	**15 21 55.4**	**-0.7**
CLL	**Collm**	**63.21**	**327**	*e*P		**P**	**15 22 37.0**	**+0.3**
	comp=Z,27nm,1.6s							
HFS	**Hagfors**	**67.65**	**336**	P		**P**	**15 23 05.4**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=138,slow=7.0,SNR=7.4							
HFS	**Hagfors**	**67.65**	**336**	P		**P**	**15 23 05.4**	**+0.2**
ES19	**SONSECA Array**	**70.18**	**311**	*e*P		**P**	**15 23 21.0**	**-0.5**
ESDC	**Sonseca Array**	**70.22**	**311**	P		**P**	**15 23 22.1**	**+0.3**
	1.8nm,0.7s,baz=85,slow=4.7,SNR=5.3							
ESDC	**Sonseca Array**	**70.22**	**311**	*e*P		**P**	**15 23 22.1**	**+0.3**
ASAR	**Alice Springs**	**73.79**	**116**	P		**P**	**15 23 43.4**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=274,slow=5.1,SNR=5.1							
ASAR	**Alice Springs**	**73.79**	**116**	P		**P**	**15 23 43.4**	**-0.1**
LTX	**Lajitas**	**144.77**	**340**	*e*PKPdf		**PKPab**	**15 31 44.6**	**-0.5**
TXAR	**Lajitas Array**	**144.77**	**340**	PKP		**PKPab**	**15 31 44.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=81,slow=1.6,SNR=5.1							
TXAR	**Lajitas Array**	**144.77**	**340**	PKP		**PKPab**	**15 31 44.6**	**-0.5**

IDC 17 15:13:46.9±3.8, 3°.71N×63°.65E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.4/75, mbtmp3.8/5, Error ellipse: s-maj=95.6km s-min=35.6km az=175.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**37.50**	**64**	P		P	15 21 02.0	-0.8
	1.0nm,0.8s,baz=250,slow=4.7,SNR=5.1							
MKAR	**Makanchi Array**	**45.87**	**18**	P		P	15 22 09.0	-2.0
	1.6nm,1.0s,baz=212,slow=9.7,SNR=2.7							
ZALV	**Zalesovo Beam**	**53.00**	**16**	P		P	15 23 06.0	+0.7
	1.2nm,0.7s,baz=198,slow=8.9,SNR=3.4							
SONM	**Songino Array**	**57.23**	**33**	P		P	15 23 37.7	+1.5
	0.7nm,0.7s,baz=228,slow=7.3,SNR=3.4							
ESDC	**Sonseca Array**	**70.47**	**311**	P		P	15 25 03.5	-0.1
	0.6nm,0.6s,baz=90,slow=5.5,SNR=5.1							

*ISCJB **17** 15:15:58.6±0.8, 3°.8N±0°.1×63°.4E±0°.1, h10km, mb3.9/17, Error ellipse: s-maj=19.1km s-min=14.8km az=174.6*
*IDC **17** 15:15:58.7±0.9, 3°.75N×63°.41E, h0km, mb3.9/17, mb1 4.1/17, mb1mx3.7/75, mbtmp3.9/17, Error ellipse: s-maj=22.8km s-min=18.1km az=3.0*
ISC 17 15:16:00.4±0.9, 3°.8N±0°.2×63°.4E±0°.1, h10km, n18, σ0s90/18, mb3.9/17, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**26.57**	**260**	P		**P**	**15 21 40.9**	**+1.6**
	0.8nm,0.3s,baz=55,slow=10,SNR=3.6							
CMAR	**Chiang Mai Arr**	**37.70**	**64**	P		**P**	**15 23 17.6**	**+1.1**
	0.4nm,0.5s,baz=258,slow=8.1,SNR=4.3							
AAK	**Ala-Archa**	**39.94**	**13**	P		**P**	**15 23 36.4**	**+1.2**
	1.9nm,0.8s,baz=208,slow=6.8,SNR=5.5							
GNI	**Garni**	**39.94**	**338**	P		**P**	**15 23 36.5**	**+1.4**
	2.8nm,0.3s,baz=175,slow=9.2,SNR=3.6							
BRTR	**Keskin Array B**	**44.79**	**327**	P		**P**	**15 24 14.8**	**+0.2**
	1.1nm,0.8s,baz=165,slow=11,SNR=4.9							
MKAR	**Makanchi Array**	**45.88**	**18**	P		**P**	**15 24 22.3**	**-0.7**
	0.2nm,0.4s,baz=199,slow=8.9,SNR=7.5							
AKTO	**Aktyubinsk**	**46.72**	**355**	P		**P**	**15 24 28.8**	**-0.7**
	1.2nm,0.7s,baz=165,slow=9.2,SNR=3.5							
KURBB	**Kurchatov Arra**	**48.40**	**13**	P		**P**	**15 24 41.9**	**-0.7**
	0.7nm,0.8s,baz=213,slow=8.2,SNR=4.6							
MLR	**Muntele Rosu**	**52.86**	**328**	P		**P**	**15 25 16.5**	**-0.1**
	0.4nm,0.5s,baz=304,slow=5.6,SNR=3.1							
ZALV	**Zalesovo Beam**	**53.00**	**16**	P		**P**	**15 25 16.8**	**-0.5**
	2.9nm,0.8s,baz=216,slow=7.3,SNR=8.2							
SONM	**Songino Array**	**57.32**	**33**	P		**P**	**15 25 49.2**	**+0.4**
	1.3nm,0.9s,baz=235,slow=7.0,SNR=6.9							
TORD	**Torodi Ar. Bea**	**61.60**	**283**	P		**P**	**15 26 18.8**	**+0.1**
	0.8nm,1.0s,baz=93,slow=5.2,SNR=4.0							
HFS	**Hagfors**	**67.69**	**336**	P		**P**	**15 26 56.5**	**-1.2**
	0.9nm,0.5s,baz=162,slow=6.2,SNR=5.3							
DBIC	**Dimbokro**	**67.98**	**276**	P		**P**	**15 26 59.5**	**-1.0**
	6.6nm,1.1s,baz=36,slow=5.6,SNR=3.7							
ESDC	**Sonseca Array**	**70.24**	**311**	P		**P**	**15 27 14.6**	**+0.5**
	1.2nm,0.6s,baz=85,slow=5.4,SNR=10							
WRA	**Warramunga Arr**	**73.48**	**112**	P		**P**	**15 27 33.5**	**-0.4**
	0.9nm,0.8s,baz=293,slow=5.6,SNR=4.7							
ASAR	**Alice Springs**	**73.79**	**116**	P		**P**	**15 27 35.2**	**-0.4**
	1.3nm,0.9s,baz=296,slow=6.4,SNR=6.3							
TXAR	**Lajitas Array**	**144.82**	**340**	PKP		**PKPdf**	**15 35 38.1**	**-0.5**
	1.0nm,0.9s,baz=40,slow=2.1,SNR=5.7							

*BJI **17** 15:16:17.0, 3°.29N×62°.87E, h6km, mb4.8/59, mB5.2/41, Ms4.9/49, Ms7 4.6/46*
*ISCJB **17** 15:16:21.8±1.1, 3°.83N±0°.04×63°.34E±0°.03, h4km±7km, mb4.8/132, MS4.7/20, Error ellipse: s-maj=7.6km s-min=4.6km az=7.9*
*MOS **17** 15:16:22.6±1.2, 3°.81N×63°.40E, h10km, mb5.2/44, Error ellipse: s-maj=7.8km s-min=5.1km az=102.1*
*IDC **17** 15:16:22.1±0.5, 3°.70N×63°.45E, h0km, mb4.4/41, mb1 4.4/43, mb1mx4.3/77, mbtmp4.4/43, ML3.3/2, MS3.9/2, Ms1 3.9/2, ms1mx3.5/29, Error ellipse: s-maj=14.0km s-min=11.0km az=2.0*
*GCMT **17** 15:16:23.8±0.2, 3°.72N×63°.45E, h12km, MW5.1/112, Moment Tensor Solution. s52,c64; s112,c183; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~5.88±.11; Mθθ4.07±.11; Mϕϕ1.80±.12; Mrθ2.63±.37; Mrϕ-2.26±.09; Mθϕ~1.06±.42; Best double couple: Mo6.34000×10^16^ NP1:ϕs298.00000°, δ58.00000°, λ-94.00000°. NP2: ϕs125.00000°, δ32.00000°, λ-83.00000°. Principal axes: T 6.1170, Plg13.0000°, Azm31.0000°; N 0.4350, Plg3.0000°, Azm300.0000°; P -6.5620, Plg76.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 15:16:23.8±0.3, 3°.71N×63°.41E, h10km, mb5.2/27 Error ellipse: s-maj=8.9km s-min=6.6km az=187.0*
ISC 17 15:16:25.2±0.7, 3°.81N±0°.06×63°.33E±0°.05, h14km±3km, n321, σ1s65/328, mb5.0/139, MS4.7/21, 34C-17D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**12.65**	**143**	T		T	15 32 08.0	
	baz=323,slow=76,SNR=119							
H08N3	**Diego Garcia H**	**12.66**	**143**	T		T	15 32 09.0	
	baz=323,slow=76,SNR=114							
H08N1	**Diego Garcia H**	**12.67**	**143**	T		T	15 32 12.6	
	baz=323,slow=76,SNR=66							
TRD	**Trivandrum**	**14.33**	**70**	*e*P		**Pn**	**15 19 45.9**	**-2.0**
TRD				IAmb		IAmb	15 20 04.2	
DGAR	**Diego Garcia**	**14.39**	**141**↑↑	*e*P		**Pn**	**15 19 49.5**	**+0.8**
GOA	**Goa**	**15.54**	**41**	*e*P		**Pn**	**15 20 03.0**	**-1.2**
GOA				IAmb		IAmb	15 20 05.4	
	comp=Z,88nm,1.6s							
BOM	**Bombay**	**17.63**	**31**	*e*P		**Pn**	**15 20 24.8**	**-5.8**
BOM				IAmb		IAmb	15 20 25.8	
	comp=Z,101nm,1.5s							
BOM				↑↑*ex*		x	15 25 11.1	
PALK	**Pallekele**	**17.63**	**78**	P		**Pn**	**15 20 29.0**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=295,slow=8.7,SNR=4.7							
PALK	**Pallekele**	**17.63**	**78**	*ce*P		**P**	**15 20 32.1**	**+0.4**
PALK	**Pallekele**	**17.63**	**78**	pPn		**P**	**15 20 35.6**	**+3.9**
	SNR=11							
PALK	**Pallekele**	**17.63**	**78**	P		**P**	**15 20 35.6**	**+3.9**
	SNR=11							
PALK	**Pallekele**	**17.63**	**78**	*i* P		**P**	**15 20 32.2**	**+0.5**
	SNR=8.1							
POO	**Poona**	**17.89**	**34**	*e*P		**Pn**	**15 20 32.7**	**-1.2**
POO				IAmb		IAmb	15 20 44.0	
	comp=Z,49nm,0.4s							
MDRS	**Chennai**	**19.08**	**60**	*e*P		**P**	**15 20 46.3**	**-1.3**
MDRS				IAmb		IAmb	15 20 51.5	
	comp=Z,72nm,0.2s							
WSAR	**Wadi Sarin**	**19.84**	**347**	P		**Pn**	**15 20 56.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=165,slow=9.8,SNR=6.9							
HYB	**Hyderabad**	**20.14**	**47**	*i* P		**P**	**15 20 59.5**	**+0.3**
HYB	**Hyderabad**	**20.14**	**47**	*e*P		**P**	**15 20 57.7**	**-1.6**
HYB				IAmb		IAmb	15 21 01.6	
	comp=Z,105nm,1.6s							
BIDO	**Bidbid**	**20.23**	**346**	pP		**P**	**15 21 06.0**	**+5.9**
	SNR=10							
BHJ	**Bhuj**	**20.28**	**17**	*e*P		**P**	**15 20 59.2**	**-1.4**
BHJ				IAmb		IAmb	15 21 10.7	
	comp=Z,73nm,1.0s							
AKL	**Akola**	**21.44**	**37**	*e*P		**P**	**15 21 11.3**	**-1.8**
ASHO	**Ashiyiah**	**21.90**	**342**	pP		P	15 21 30.7	+13
	SNR=6.8							
ASHO	**Ashiyiah**	**21.90**	**342**	P		P	15 21 30.7	+13
	SNR=6.8							
ASHO	**Ashiyiah**	**21.90**	**342**	P		**P**	**15 21 22.1**	**+3.9**
HATD	**Hatta, Dubai**	**22.01**	**342**	pP		P	15 21 33.0	+14
	SNR=6.9							
HATD	**Hatta, Dubai**	**22.01**	**342**	*i* P		**P**	**15 21 23.3**	**+4.0**
	SNR=6.9							
UOSS	**Minazif**	**22.11**	**343**	*e*P		**P**	**15 21 22.5**	**+2.2**
	comp=Z,121nm,1.4s							
UOSS	**Minazif**	**22.11**	**343**	*i* P		**P**	**15 21 22.7**	**+2.4**
	SNR=7.0							
NAZ	**Nazwa, Dubai**	**22.31**	**341**	pP		P	15 21 30.0	+7.5
	SNR=8.9							
NAZ	**Nazwa, Dubai**	**22.31**	**341**	P		P	15 21 30.0	+7.5
	SNR=8.9							
NAZ	**Nazwa, Dubai**	**22.31**	**341**	*i* P		**P**	**15 21 24.5**	**+1.9**
	SNR=8.9							
MSFE	**Esma-Masafi**	**22.51**	**343**	P		**P**	**15 21 25.1**	**+0.4**
BANOM	**Banah**	**23.00**	**344**

MNSI	**Mandailing Nat**	**36.34**	**94**	P	**P**	**15 23 31.3**	**+2.1**		
	comp=Z,50nm,1.5s,comp=Z,1μm								
LSA	**Lhasa**	**36.84**	**43**	P	**P**	**15 23 34.5**	**+0.8**		
LSA				pmax	pmax				
	comp=Z,8.0nm,0.7s								
KSH	**Kashi**	**37.35**	**16**	P	**P**	**15 23 34.3**	**-3.2**		
KSH				pP	pP	15 23 39.1	-2.7		
KSH				sP	sP	15 23 41.4	-2.2		
KSH				PP	**PP**	**15 25 01.8**	**-1.1**		
KSH				S	**S**	**15 29 18.3**	**-6.9**		
KSH				PcS	**PcS**	**15 29 42.0**	**-3.1**		
KSH				pmax	pmax				
	comp=Z,22nm,1.0s								
KSH				pmax	pmax				
	comp=Z,97nm,7.1s								
KSH				LR	LR				
	comp=Z,970nm,17.8s								
KSH				LR	LR				
	comp=Z,900nm,17.2s								
KSH				LR	LR				
	comp=Z,760nm,16.7s								
PDSI	**Padang**	**37.41**	**96**	P	**P**	**15 23 40.2**	**+1.9**		
	comp=Z,19nm,1.2s								
CMAR	**Chiang Mai Arr**	**37.75**	**65**	P	**P**	**15 23 41.1**	**+0.1**		
	comp=Z,13nm,1.2s,baz=261,slow=8.7,SNR=20								
BKNI	**Bangkinang**	**37.84**	**94**	P	**P**	**15 23 45.3**	**+3.4**		
	comp=Z,111nm,0.5s								
CHTO	**Chiang Mai**	**37.86**	**64**	P	**P**	**15 23 43.4**	**+1.4**		
	comp=Z,196nm,1.5s,comp=Z,3μm								
CHTO	**Chiang Mai**	**37.86**	**64**	*e*P	**P**	**15 23 42.7**	**+0.6**		
CHTO				pmax	pmax				
	comp=Z,69nm,1.3s								
CHTO	**Chiang Mai**	**37.86**	**64**	*e*P	**P**	**15 23 42.6**	**+0.6**		
	comp=Z,69nm,1.3s								
CHTO	**Chiang Mai**	**37.86**	**64**	P	**P**	**15 23 43.2**	**+1.1**		
	SNR=20								
CHTO	**Chiang Mai**	**37.86**	**64**	P	**P**	**15 23 43.2**	**+1.1**		
	SNR=20								
CMMT	**Chiang Mai**	**37.87**	**64**	P	**P**	**15 23 42.4**	**+0.3**		
	comp=Z,43nm,1.5s,comp=Z,600nm								
CMAI	**Chiengmai2**	**38.32**	**62**	P	**P**	**15 23 47.9**	**+1.8**		
	comp=Z,147nm,1.7s,comp=Z,37μm								
LAMP	**Lampang**	**38.39**	**65**	P	**P**	**15 23 50.9**	**+4.4**		
	comp=Z,5.1nm,1.0s								
NAYO	**Nakonayok**	**38.88**	**72**	P	P	15 23 58.6	+8.0		
MASI	**Maura Aman, Be**	**39.50**	**100**	P	P	15 24 03.0	+7.1		
LSZ	**Lusaka**	**39.62**	**241**	P	**P**	**15 23 57.7**	**+0.8**		
	comp=Z,3.5nm,0.9s,baz=84,slow=7.6,SNR=5.7								
LSZ	**Lusaka**	**39.62**	**241**	*e*P	**P**	**15 23 57.8**	**+0.8**		
LSZ				pmax	pmax				
	comp=Z,33nm,1.6s								
LSZ	**Lusaka**	**39.62**	**241**	*e*P	**P**	**15 23 57.8**	**+0.8**		
	comp=Z,33nm,1.6s								
KKAR	**Karatay Array**	**39.65**	**8**	*e*P	**P**	**15 23 58.5**	**+1.8**		
KKAR	**Karatay Array**	**39.65**	**8**	*e*P	**P**	**15 23 58.5**	**+1.8**		
GNI	**Garni**	**39.89**	**338**	P	**P**	**15 24 00.3**	**+1.4**		
	comp=Z,12nm,0.9s,baz=174,slow=6.0,SNR=4.9								
GNI	**Garni**	**39.89**	**338**↓	*e*P	**P**	**15 24 00.8**	**+1.9**		
GNI				pmax	pmax				
	comp=Z,135nm,1.4s								
GNI	**Garni**	**39.89**	**338**	*e*P	**P**	**15 24 01.1**	**+2.2**		
	comp=Z,156nm,1.7s								
AAK	**Ala-Archa**	**39.92**	**13**	P	**P**	**15 23 59.9**	**+0.8**		
	comp=Z,8.6nm,0.9s,baz=198,slow=8.3,SNR=8.7								
AAK	**Ala-Archa**	**39.92**	**13**	*ce*P	**P**	**15 24 00.6**	**+1.4**		
AAK				pmax	pmax				
	comp=Z,11nm,1.0s								
AAK	**Ala-Archa**	**39.92**	**13**	*e*P	**P**	**15 24 00.8**	**+1.6**		
	comp=Z,36nm,1.2s								
AAK	**Ala-Archa**	**39.92**	**13**	pP	P	15 24 05.4	+6.3		
	SNR=7.6								
AAK	**Ala-Archa**	**39.92**	**13**	P	P	15 24 05.4	+6.3		
	SNR=7.6								
FRU	**Bishkek**	**40.14**	**13**	*e*P	**P**	**15 24 00.0**	**-0.8**		
FRU				*e*		15 26 00.0			
FRU				pmax	pmax				
	comp=Z,100nm,1.4s								
JMBI	**JAMBI**	**40.65**	**97**	P	**P**	**15 24 06.8**	**+1.4**		
	comp=Z,259nm,0.5s								
KHON	**Khomkaen**	**40.74**	**69**	P	**P**	**15 24 09.6**	**+3.5**		
	comp=Z,17nm,1.0s,comp=Z,858nm								
AKH	**Akhalkalaki**	**41.45**	**337**↓	*i*P	**P**	**15 24 13.8**	**+2.0**		
AKH	**Akhalkalaki**	**41.45**	**337**	*e*P	**P**	**15 24 13.6**	**+1.8**		
AKH				pmax	pmax				
	comp=Z,107nm,1.8s								
AKH	**Akhalkalaki**	**41.45**	**337**	*e*P	**P**	**15 24 13.6**	**+1.8**		
	comp=Z,107nm,1.8s								
LWLI	**Liwa**	**41.62**	**102**	P	**P**	**15 24 16.6**	**+3.0**		
	comp=Z,46nm,1.3s								
MDSI	**Maura Dua**	**41.64**	**101**	P	**P**	**15 24 15.2**	**+1.7**		
	comp=Z,34nm,1.4s								
PMBI	**Palembang**	**41.96**	**99**	P	**P**	**15 24 19.0**	**+2.8**		
	comp=Z,144nm,0.4s								
SKNT	**Sakolnakorn**	**41.96**	**69**	P	**P**	**15 24 16.2**	**0.0**		
	comp=Z,17nm,1.4s								
GROC	**Groznyy**	**42.20**	**341**	*e*P	**P**	**15 24 19.0**	**+1.3**		
GROC				*e*		15 26 10.9			
GROC				pmax	pmax				
	comp=Z,49nm,1.1s								
UBPT	**Khong Chiam**	**43.00**	**72**	P	**P**	**15 24 25.8**	**+1.2**		
	comp=Z,24nm,1.3s								
NCK	**Nalchik**	**43.22**	**339**↓	*e*P	**P**	**15 24 27.7**	**+1.7**		
NCK				pmax	pmax				
	comp=Z,10.0nm,0.4s								
NEY	**Neytrino**	**43.32**	**338**↑	*e*P	**P**	**15 24 27.5**	**+0.5**		
KMI	**Kunming**	**43.39**	**57**	P	**P**	**15 24 28.3**	**+0.4**		
KMI				pP	pP	15 24 30.8	-1.5		
KMI				sP	sP	15 24 33.3	-0.7		
KMI				PP	**PP**	**15 26 10.4**	**+1.5**		
KMI				S	**S**	**15 30 55.8**	**-0.2**		
KMI				pmax	pmax				
	comp=Z,12nm,0.6s								
KMI				pmax	pmax				
	comp=Z,190nm,5.6s								
KMI				LR	LR				
	comp=Z,430nm,18.0s								
KMI				LR	LR				
	comp=Z,370nm,22.4s								
KMI				LR	LR				
	comp=Z,430nm,25.6s								
KBZ	**Khabaz**	**43.67**	**339**	P	**P**	**15 24 31.6**	**+2.0**		
	comp=Z,4.5nm,1.1s,baz=89,slow=11,SNR=5.7								
KIV	**Kislovodsk**	**43.94**	**338**	*e*P	**P**	**15 24 33.8**	**+1.9**		
KIV				pmax	pmax				
	comp=Z,16nm,1.0s								
BRTR	**Keskin Array B**	**44.72**	**327**	P	**P**	**15 24 39.5**	**+1.2**		
	comp=Z,1.8nm,0.9s,baz=149,slow=10,SNR=8.1								
GOF	**Gofitskoye**	**44.77**	**340**↑	*e*P	**P**	**15 24 40.7**	**+2.3**		
GOF				pmax	pmax				
	comp=Z,47nm,1.5s								
BR231	**Keskin MP Arra**	**45.27**	**327**	*e*P	**P**	**15 24 40.2**	**-2.5**		
WMQ	**Urumqi**	**45.30**	**25**	P	**P**	**15 24 44.3**	**+1.6**		
WMQ				pP	pP	15 24 45.8	-1.3		
WMQ				sP	sP	15 24 50.5	+1.7		
WMQ				PP	**PP**	**15 26 31.5**	**+2.7**		
WMQ				pmax	pmax				
	comp=Z,47nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,590nm,3.6s								
WMQ				LR	LR				
	comp=Z,1μm,31.7s								
WMQ				LR	LR				
	comp=Z,2μm,26.1s								
WMQ				LR	LR				
	comp=Z,2μm,26.1s								
ABKAR	**Akbulak array**	**45.37**	**357**	*e*P	**P**	**15 24 43.5**	**+0.4**		
LEM	**Lembang**	**45.46**	**103**	P	**P**	**15 24 43.7**	**-0.8**		
	comp=Z,25nm,0.7s,baz=194,slow=14,SNR=4.4								
LEM	**Lembang**	**45.46**	**103**	P	**P**	**15 24 45.9**	**+1.4**		
	comp=Z,861nm,1.5s								
MAKZ	**Makanchi**	**45.78**	**18**	*e*P	**P**	**15 24 46.1**	**-0.4**		
MAKZ				pmax	pmax				
	comp=Z,34nm,1.5s								
MAKZ	**Makanchi**	**45.78**	**18**	*e*P	**P**	**15 24 46.1**	**-0.4**		
	comp=Z,34nm,1.5s								
MK01	**Makanchi Array**	**45.85**	**18**	*e*P	**P**	**15 24 45.9**	**-1.1**		
MK31	**Makanchi Array**	**45.87**	**18**	*e*P	**P**	**15 24 46.5**	**-0.6**		
MK31	**Makanchi Array**	**45.87**	**18**	*e*P	**P**	**15 24 46.5**	**-0.6**		
MKAR	**Makanchi Array**	**45.87**	**18**	P	**P**	**15 24 46.4**	**-0.7**		
	comp=Z,1.9nm,0.8s,baz=206,slow=8.1,SNR=9.7								
MKAR				PcP	**PcP**	**15 26 24.3**	**+0.1**		
	comp=Z,2.4nm,1.0s,baz=235,slow=4.3,SNR=5.1								
MKAR	**Makanchi Array**	**45.87**	**18**	*e*P	**P**	**15 24 46.4**	**-0.7**		
	comp=Z,48nm,1.3s								
MKAR				PcP	**PcP**	**15 26 24.3**	**+0.1**		
CD2	**Chengdu**	**46.64**	**50**	P	**P**	**15 24 53.0**	**-0.5**		
CD2				pP	pP	15 24 56.1	-1.8		
CD2				PcS	**PcS**	**15 30 21.6**	**-0.7**		
CD2				S	**S**	**15 31 42.8**	**+0.1**		
CD2				pmax	pmax				
	comp=Z,20nm,0.5s								
CD2				pmax	pmax				
	comp=Z,140nm,5.0s								
CD2				LR	LR				
	comp=Z,660nm,16.9s								
CD2				LR	LR				
	comp=Z,890nm,21.4s								
CD2				LR	LR				
	comp=Z,910nm,18.4s								
AKTO	**Aktyubinsk**	**46.68**	**355**	P	**P**	**15 24 54.3**	**+0.9**		
	comp=Z,6.9nm,0.9s,baz=158,slow=9.0,SNR=8.4								
GYA	**Guiyang**	**47.17**	**57**↑	*i*P	**P**	**15 24 56.8**	**-1.0**		
GYA				PcP	**PcP**	**15 26 31.3**	**+1.9**		
GYA				PP	**PP**	**15 26 49.0**	**+0.2**		
GYA				S	**S**	**15 31 50.5**	**+0.1**		
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,130nm,5.2s								
GYA				LR	LR				
	comp=Z,660nm,17.9s								
GYA				LR	LR				
	comp=Z,580nm,18.2s								
GYA				LR	LR				
	comp=Z,550nm,18.4s								
IDI	**Anoyia**	**47.36**	**316**	P	**P**	**15 24 59.7**	**+0.6**		
	comp=Z,17nm,1.0s,baz=104,slow=6.4,SNR=5.9								
IDI				LR	LR	15 45 35.0			
	comp=Z,121nm,20.8s,baz=96,slow=37								
IDI	**Anoyia**	**47.36**	**316**	*e*P	**P**	**15 24 58.0**	**-1.2**		
	comp=Z,42nm,1.1s								
QIZ	**Qiongzhong**	**47.86**	**68**	P	**P**	**15 25 02.9**	**-0.2**		
QIZ				sP	**pP**	**15 25 06.0**	**-1.5**		
QIZ				PP	**PP**	**15 26 53.4**	**-1.7**		
QIZ				S	**S**	**15 31 59.8**	**-0.4**		
QIZ				sS	**sS**	**15 32 07.9**	**+0.5**		
QIZ				pmax	pmax				
	comp=Z,120nm,5.5s								
QIZ				LR	LR				
	comp=Z,280nm,15.7s								
QIZ				LR	LR				
	comp=Z,410nm,16.7s								
QIZ				LR	LR				
	comp=Z,500nm,18.1s								
KURBB	**Kurchatov Arra**	**48.38**	**13**	P	**P**	**15 25 06.3**	**-0.3**		
	comp=Z,4.3nm,0.9s,baz=214,slow=7.9,SNR=9.6								
GTA	**Gaotai**	**48.45**	**38**	P	**P**	**15 25 09.1**	**+1.5**		
GTA				pP	sP	15 25 15.3	+1.6		
GTA				sP	pP	15 25 17.9	+5.9		
GTA				PcP	**PcP**	**15 26 34.9**	**+1.1**		
GTA				S	**S**	**15 32 10.9**	**+2.6**		
GTA				sS	sS	15 32 20.6	+5.1		
GTA				pmax	pmax				
	comp=Z,7.0nm,1.7s								
GTA				pmax	pmax				
	comp=Z,160nm,5.5s								
GTA				LR	LR				
	comp=Z,1μm,18.5s								
GTA				LR	LR				
	comp=Z,1μm,18.1s								
GTA				LR	LR				
	comp=Z,2μm,22.3s								
KURK	**Kurchatov**	**48.49**	**13**	*ce*P	**P**	**15 25 07.2**	**-0.2**		
KURK				pmax	pmax				
	comp=Z,139nm,2.5s								
KURK	**Kurchatov**	**48.49**	**13**	*e*P	**P**	**15 25 07.0**	**-0.4**		
	comp=Z,37nm,1.5s								
KURK	**Kurchatov**	**48.49**	**13**	pP	P	15 25 14.8	+7.4		
	SNR=5.2								
KURK	**Kurchatov**	**48.49**	**13**	P	P	15 25 14.8	+7.4		
	SNR=5.2								
SBUM	**Sibu**	**48.84**	**90**	*e*P	**P**	**15 25 10.5**	**-0.2**		
	comp=Z,41nm,1.3s								
LZH	**Lanzhou**	**49.22**	**44**	*e*P	**P**	**15 25 15.6**	**+2.0**		
LZH				pP	sP	15 25 20.0	+0.3		
LZH				sP	pP	15 25 23.5	+5.5		
LZH				PcP	**PcP**	**15 26 38.8**	**+2.2**		
LZH				PP	**PP**	**15 27 09.1**	**+1.6**		
LZH				*e*S	**S**	**15 32 19.5**	**+0.2**		
LZH				sS	sS	15 32 28.3	+1.8		
LZH				pmax	pmax				
	comp=Z,17nm,1.2s								
LZH				pmax	pmax				
	comp=Z,120nm,4.2s								
LZH				LR	LR				
	comp=Z,1μm,15.0s								
LZH				LR	LR				
	comp=Z,1μm,14.9s								
LZH				LR	LR				
	comp=Z,2μm,18.8s								
BVAR	**Borovoye Array**	**49.40**	**6**	P	**P**	**15 25 14.6**	**+0.1**		
	comp=Z,1.1nm,0.8s,baz=163,slow=5.4,SNR=6.1								
BVAR				PcP	**PcP**	**15 26 35.5**	**-1.2**		
	comp=Z,2.7nm,1.1s,baz=182,slow=5.3,SNR=2.9								
BRVK	**Borovoye**	**49.42**	**6**↑	*e*P	**P**	**15 25 14.5**	**-0.1**		
BRVK				pmax	pmax				
	comp=Z,36nm,1.7s								
BRVK	**Borovoye**	**49.42**	**6**	*e*P	**P**	**15 25 14.0**	**-0.6**		
	comp=Z,69nm,1.8s								
BRVK	**Borovoye**	**49.42**	**6**	pP	P	15 25 22.3	+7.7		
	SNR=7.9								
BRVK	**Borovoye**	**49.42**	**6**	P	P	15 25 22.3	+7.7		
	SNR=7.9								
DGZ	**Jazzator, Alta**	**50.09**	**20**↓	*e*P	**P**	**15 25 20.0**	**+0.1**		
DGZ				pmax	pmax				
	comp=Z,3.0nm,1.0s								
TSUM	**Tsumeb**	**50.47**	**241**	P	**P**	**15 25 22.6**	**-0.6**		
	comp=Z,1.9nm,0.6s,baz=63,slow=9.6,SNR=3.3								
TIRR	**Tirgusor**	**50.80**	**328**↑	*i*P	**P**	**15 25 26.3**	**+1.1**		
TIRR	**Tirgusor**	**50.80**	**328**	*e*P	**P**	**15 25 25.7**	**+0.5**		
TIRR				pmax	pmax				
	comp=Z,73nm,1.7s								
TIRR	**Tirgusor**	**50.80**	**328**	*e*P	**P**	**15 25 25.7**	**+0.5**		
	comp=Z,72nm,1.7s								
TLB	**Topalu**	**51.08**	**328**↓	*i*P	**P**	**15 25 28.3**	**+1.0**		
CFR	**Carcaliu**	**51.43**	**329**↑	*i*P	**P**	**15 25 31.4**	**+1.5**		
XAN	**Xi'an**	**51.94**	**49**	P	**P**	**15 25 33.1**	**-0.9**		
XAN				pP	sP	15 25 39.6	-0.5		
XAN				S	**S**	**15 32 51.1**	**-5.8**		
XAN				pmax	pmax				
	comp=Z,35nm,1.4s								
XAN				pmax	pmax				
	comp=Z,240nm,3.1s								
XAN				LR	LR				
	comp=Z,500nm,21.1s								
XAN				LR	LR				
	comp=Z,230nm,20.2s								
XAN				LR	LR				
	comp=Z,550nm,27.8s								
GZH	**Guangzhou**	**51.97**	**64**	*e*P	**P**	**15 25 38.9**	**+4.6**		
GZH				LR	LR				
	comp=Z,350nm,16.4s								
GZH				LR	LR				
	comp=Z,480nm,16.8s								
KIS	**Kishinev**	**52.34**	**331**	*e*P	**P**	**15 25 36.0**	**-0.7**		
KIS	**Kishinev**	**52.34**	**331**	*e*P	**P**	**15 25 36.0**	**-0.7**		
KIS				*e*		15 25 42.0			
VTS	**Vitosha**	**52.56**	**323**↓	*i*P	**P**	**15 25 39.6**	**+1.0**		
VTS	**Vitosha**	**52.56**	**323**	*e*P	**P**	**15 25 39.5**	**+1.0**		
VTS				pmax	pmax				
	comp=Z,52nm,1.7s								
VTS	**Vitosha**	**52.56**	**323**	*e*P	**P**	**15 25 39.5**	**+0.9**		
	comp=Z,52nm,1.7s								
ARU	**Arti**	**52.61**	**357**	P	**P**	**15 25 38.9**	**+0.4**		
	comp=Z,2.9nm,0.7s,baz=175,slow=6.3,SNR=4.9								
ARU	**Arti**	**52.61**	**357***d*	*i*P	**P**	**15 25 38.5**	**0.0**		
ARU						15 26 48.0			
ARU						15 27 38.0			
ARU				S	**S**	**15 33 07.2**	**+2.0**		
ARU				SS	**SS**	**15 36 44.3**	**+0.7**		
ARU				pmax	pmax				
	comp=Z,18nm,1.2s								
ARU	**Arti**	**52.61**	**357**	*e*P	**P**	**15 25 38.1**	**-0.4**		
	comp=Z,39nm,1.3s								
VRI	**Vrincioaia**	**52.63**	**328**↓	*i*P	**P**	**15 25 40.2**	**+1.3**		
PLOR	**Plostina**	**52.66**	**328**↑	*i*P	**P**	**15 25 41.1**	**+2.0**		
MLR	**Muntele Rosu**	**52.80**	**328**	P	**P**	**15 25 40.9**	**+0.6**		
	comp=Z,2.4nm,1.1s,baz=92,slow=1.2,SNR=6.2								
MLR	**Muntele Rosu**	**52.80**	**328**↑	*i*P	**P**	**15 25 41.4**	**+1.1**		
MLR	**Muntele Rosu**	**52.80**	**328**	*e*P	**P**	**15 25 41.4**	**+1.1**		
MLR				pmax	pmax				
	comp=Z,138nm,2.0s								
MLR	**Muntele Rosu**	**52.80**	**328**	*e*P	**P**	**15 25 41.4**	**+1.1**		
	comp=Z,138nm,2.0s								
SVE	**Sverdlovsk**	**52.91**	**358**	*e*P	**P**	**15 25 41.0**	**+0.3**		
ZAA0	**Zalesovo Array**	**52.98**	**16**	*e*P	**P**	**15 25 39.9**	**-1.4**		
	comp=Z,42nm,1.1s								
ZALV	**Zalesovo Beam**	**52.98**	**16**	P	**P**	**15 25 40.3**	**-1.0**		
	comp=Z,14nm,1.0s,baz=224,slow=7.7,SNR=16								
ZALV	**Zalesovo Beam**	**52.98**	**16**	*e*P	**P**	**15 25 39.7**	**-1.6**		
ZALV	**Zalesovo Beam**	**52.98**	**16**	*e*P	**P**	**15 25 39.7**	**-1.6**		
TESR	**Tescani**	**53.10**	**329**↓	*i*P	**P**	**15 25 43.5**	**+1.2**		
VOIR		**53.25**	**327**↑	*i*P	**P**	**15 25 44.4**	**+0.9**		
SORM	**Soroca**	**53.37**	**331**↓	*i*P	**P**	**15 25 43.9**	**-0.3**		
NVS	**Novosibirsk**	**53.38**	**14**	*e*P	**P**	**15 25 43.5**	**-0.7**		
NVS				pmax	pmax				
	comp=N,21nm,1.1s								
NVS				pmax	pmax				
	comp=E,12nm,1.1s								
NVS				pmax	pmax				
	comp=Z,39nm,1.1s								
DOPR	**Dopca**	**53.40**	**328**↓	*i*P	**P**	**15 25 45.6**	**+1.0**		
HVS	**Khovu-Aksy**	**53.59**	**23**↓	*e*P	**P**	**15 25 47.2**	**+1.3**		
HVS				pmax	pmax				
	comp=Z,22nm,1.1s								
HERR	**Herculane**	**54.37**	**325**↑	*i*P	**P**	**15 25 52.6**	**+0.9**		
BURAR	**Bucovina Array**	**54.56**	**329**↓	*i*P	**P**	**15 25 54.7**	**+1.5**		
BUR04	**Bucovina Ar. S**	**54.57**	**329**	*e*P	**P**	**15 25 53.7**	**+0.5**		
BUR08	**Bucovina Ar. S**	**54.59**	**329**	*e*P	**P**	**15 25 53.7**	**+0.3**		
AKASG	**Malin Array Be**	**54.81**	**334**	P	**P**	**15 25 54.0**	**-0.7**		
	comp=Z,0.3nm,0.4s,baz=128,slow=6.4,SNR=10.0								
AKASG	**Malin Array Be**	**54.81**	**334**	*i* P	**P**	**15 25 54.7**	**0.0**		
KIEV	**Kiev**	**54.81**	**334**↑	*e*P	**P**	**15 25 54.2**	**-0.5**		
KIEV				pmax	pmax				
	comp=Z,14nm,1.7s								
WHN	**Wuhan**	**54.91**	**55**	↓P	**P**	**15 25 57.0**	**+1.2**		
WHN				S	**S**	**15 33 36.8**	**-0.5**		
WHN				LR	LR				
	comp=Z,910nm,19.1s								
BZS	**Buzias**	**55.26**	**325**↑	*i*P	**P**	**15 25 58.5**	**+0.4**		
OBN	**Obninsk**	**55.53**	**342**↓	*e*P	**P**	**15 26 00.5**	**+0.7**		
OBN				pmax	pmax				
	comp=Z,8.0nm,1.0s								
MOS	**Moscow**	**55.74**	**343**	*e*P	**P**	**15 25 58.5**	**-2.8**		
MOS				*e*		15 26 05.2			
MOS				*e*		15 28 10.7			
MOS				pmax	pmax				
	comp=Z,50nm,1.1s								
LVV	**L'vov**	**56.60**	**331**	*e*P	**P**	**15 26 08.6**	**+1.0**		
UZH	**Uzhgorod**	**56.72**	**329**	*e*P	**P**	**15 26 09.2**	**+0.7**		
UZH				*e*		15 26 11.4			
UZH				*e*S	**S**	**15 33 58.4**	**-2.4**		
HHC	**Hu-ho-hao-te**	**56.83**	**43**	*e*P	**P**	**15 26 09.8**	**+0.2**		
HHC				sP	sP	15 26 19.1	+3.4		
HHC				S	**S**	**15 34 00.3**	**-2.5**		
HHC				sS	sS	15 34 11.0	+0.9		
HHC				pmax	pmax				
	comp=Z,17nm,0.6s								
HHC				pmax	pmax				
	comp=Z,200nm,6.5s								
HHC				LR	LR				
	comp=Z,690nm,16.0s								
HHC				LR	LR				
	comp=Z,420nm,18.5s								
HHC				LR	LR				
	comp=Z,660nm,19.7s								
QZH	**Quanzhou**	**57.06**	**63**	*e*P	**P**	**15 26 12.1**	**+0.8**		
QZH				S	**S**	**15 34 10.9**	**+4.9**		
QZH				LR	LR				
	comp=Z,420nm,14.7s								
QZH				LR	LR				
	comp=Z,220nm,14.7s								
QZH				LR	LR				
	comp=Z,500nm,21.0s								
MOY	**Mondy**	**57.08**	**27**	*e*P	**P**	**15 26 10.9**	**-0.2**		
MOY				pmax	pmax				
	comp=Z,28nm,1.7s								
ZAK	**Zakamensk**	**57.29**	**29**	*e*P	**P**	**15 26 10.4**	**-2.2**		
ZAK				pmax	pmax				
	comp=Z,7.0nm,1.6s								
CRVS	**Cervenica-Dubn**	**57.32**	**328**	*e*P	**P**	**15 26 13.7**	**+0.9**		
CRVS	**Cervenica-Dubn**	**57.32**	**328**	*e*P	**P**	**15 26 13.7**	**+0.9**		
SONM	**Songino Array**	**57.33**	**33**	P	**P**	**15 26 12.2**	**-0.7**		
	comp=Z,6.2nm,0.9s,baz=232,slow=6.8,SNR=14								
SONA1	**Songino Array**	**57.34**	**33**	*e*P	**P**	**15 26 13.0**	**-0.1**		
ULN	**Ulaanbaatar**	**57.70**	**33**↑	*e*P	**P**	**15 26 15.5**	**-0.2**		
ULN				pmax	pmax				
	comp=Z,16nm,2.5s								
ULN	**Ulaanbaatar**	**57.70**	**33**	pP	P	15 26 23.0	+7.3		
	SNR=6.7								
ULN	**Ulaanbaatar**	**57.70**	**33**	P	P	15 26 23.0	+7.3		
	SNR=6.7								
STHS	**Stebnicka Huta**	**57.75**	**329**	*e*P	**P**	**15 26 17.3**	**+1.5**		
STHS				pmax	pmax				
	comp=Z,7.0nm,1.4s								
STHS	**Stebnicka Huta**	**57.75**	**329**	*e*P	**P**	**15 26 17.3**	**+1.5**		
STHS				*e*PP	**PP**	**15 28 25.6**	**+1.7**		
TLY	**Talaya**	**58.31**	**28**	*e*P	**P**	**15 26 20.0**	**+0.3**		
TLY				pmax	pmax				
	comp=Z,33nm,2.0s								
TLY	**Talaya**	**58.31**	**28**	pP	P	15 26 27.7	+8.0		
	SNR=7.6								
TLY	**Talaya**	**58.31**	**28**	P	P	15 26 27.7	+8.0		
	SNR=7.6								
VYHS	**Vyhne**	**58.48**	**327**	*e*P	**P**	**15 26 21.2**	**+0.3**		
VYHS				pmax	pmax				
	comp=Z,339nm,5.2s								
VYHS	**Vyhne**	**58.48**	**327**	*e*P	**P**	**15 26 21.2**	**+0.3**		
LANS	**Liptovska Anna**	**58.52**	**328**	*e*P	**P**	**15 26 22.0**	**+0.8**		
LANS				*e*		15 26 29.1			
LANS				*e*		15 28 32.5			
LANS	**Liptovska Anna**	**58.52**	**328**	*e*P	**P**	**15 26 22.0**	**+0.8**		
LANS				*e*		15 26 29.1			
LANS				*e*PP	**PP**	**15 28 32.5**	**+1.7**		
IRK	**Irkutsk**	**58.97**	**28**	*e*P	**P**	**15 26 23.8**	**-0.

baz=307,slow=75,SNR=5.5
H01W1 Cape Leeuwin H 61.28 133 T T 16 33 02.8
baz=300,slow=75,SNR=5.7
GOPC GO Pecny, Ondr 61.48 327 *e*P **P** **15 26 43.1 +1.6**
GOPC *ex* x 15 26 48.0
GOPC GO Pecny, Ondr 61.48 327 *e*P **P** **15 26 43.1 +1.6**
GOPC *e* 15 26 48.0
VSU Vasula 61.49 339⇓ *e*P **P** **15 26 42.6 +1.2**
VSU pmax pmax
comp=Z,33nm,1.1s
TOA0 Torodi Ar. Sit 61.53 283 *e*P **P** **15 26 42.8 +0.4**
comp=Z,20nm,1.6s
TORD Torodi Ar. Bea 61.53 283 P **P** **15 26 42.3 -0.1**
comp=Z,4.6nm,1.2s,baz=77,slow=7.3,SNR=12
GEA0 GERESS Array S 61.54 325 *e*P **P** **15 26 40.1 -1.9**
GERES GERESS Array B 61.54 325 P **P** **15 26 42.1 +0.1**
comp=Z,0.3nm,0.6s,baz=139,slow=6.3,SNR=4.9
PRU Pruhonice 61.66 327 *e*P **P** **15 26 42.1 -0.6**
PRU *ex* x 15 26 49.0
PRU Pruhonice 61.66 327 *e*P **P** **15 26 42.1 -0.6**
PRU *e* 15 26 49.0
KHC Kasperske Hory 61.76 325 *e*P **P** **15 26 42.4 -1.0**
KHC *ex* x 15 26 49.2
KHC Kasperske Hory 61.76 325 *e*P **P** **15 26 42.4 -1.0**
KHC *e* 15 26 49.2
KHC Kasperske Hory 61.76 325 *e*P **P** **15 26 42.6 -0.8**
comp=Z,8.8nm,1.5s
WTTA Wattenberg 61.99 323 *e*P **P** **15 26 44.7 -0.5**
comp=Z,8.4nm,1.2s
MOTA Moosalm 62.35 323 *e*P **P** **15 26 46.7 -0.9**
comp=Z,12nm,1.0s
BRG Berggiesshubel 62.44 327 *i* P **P** **15 26 47.9 0.0**
comp=Z,18nm,1.4s
BRG *e* 15 27 27.9
comp=Z,19nm,1.8s
BRG *e* 15 28 59.5
comp=Z,15nm,1.7s
BRG Berggiesshubel 62.44 327 *i* P **P** **15 26 47.9 0.0**
BRG *e* 15 27 27.9
BRG pmax pmax
comp=Z,18nm,1.4s
BRG pmax pmax
comp=Z,19nm,1.8s
BRG pmax pmax
comp=Z,15nm,1.7s
FUORN Ofenpass-Fuorn 62.54 322 *e*P **P** **15 26 49.2 +0.2**
comp=Z,41nm,1.5s
RETA Reutte 62.62 323 *e*P **P** **15 26 48.8 -0.5**
comp=Z,2.7nm,0.6s
NKC Novy Kostel 62.94 326 *e*P **P** **15 26 51.4 +0.1**
NKC *ex* x 15 26 58.0
NKC Novy Kostel 62.94 326 *e*P **P** **15 26 51.4 +0.1**
NKC *e* 15 26 58.0
TMCR Tamitsa 62.96 348 *e*P **P** **15 26 52.6 +1.5**
TMCR pmax pmax
comp=Z,43nm,1.3s
DAVA Damuels 63.07 322 *e*P **P** **15 26 52.0 -0.4**
comp=Z,28nm,1.1s
CLL Collm 63.18 327 *i* P **P** **15 26 52.8 0.0**
CLL *i* 15 26 59.1
CLL pmax pmax
comp=Z,43nm,1.6s
CLL MLR MLR
comp=Z,200nm,20.9s
CLL Collm 63.18 327 *i* P **P** **15 26 52.8 0.0**
comp=Z,43nm,1.6s
CLL *i* sP **sP** **15 26 59.1 +0.1**
comp=Z,60nm,1.6s
CLL *e*SSS SSS 15 42 42.0
CLL LmV 15 57 00.0
comp=Z,200nm,20.9s
CLL Collm 63.18 327 *e*P **P** **15 26 52.7 -0.1**
comp=Z,60nm,1.6s
FINES FINESS Array B 63.93 341 *i* P P 15 27 03.9 +6.4
FINES pmax pmax
comp=Z,7.0nm,1.1s
SENIN Lac Senin/Sane 64.30 320 *e*P **P** **15 26 59.3 -1.3**
comp=Z,26nm,1.0s
BFO Black Forest 64.46 323 *i* P **P** **15 27 02.1 +0.7**
BFO Black Forest 64.46 323 *e*P **P** **15 27 01.7 +0.3**
comp=Z,70nm,1.5s
ECH Echery 65.13 322 *e*P **P** **15 27 04.5 -1.2**
ECH pmax pmax
comp=Z,18nm,1.2s
ECH Echery 65.13 322 *e*P **P** **15 27 04.5 -1.2**
comp=Z,18nm,1.2s
HIA Hailar 65.71 37⇑ *i*P **P** **15 27 09.1 -0.4**
HIA pmax pmax
comp=Z,8.0nm,1.0s
BOD Bodaibo 66.79 27 *e*P **P** **15 27 11.4 -4.8**
BOD pmax pmax
comp=Z,16nm,1.9s
APA Apatity 66.87 348⇓ *i*P P 15 27 27.3 +11
APA MLR MLR
comp=Z,4μm,12.0s
BCLA Clavier 67.12 324 ⇑P **P** **15 27 18.7 +0.2**
KOWA Kowa 67.13 284 P **P** **15 27 19.0 -0.1**
comp=Z,3.4nm,0.9s,baz=72,slow=8.7,SNR=6.9
KOWA Kowa 67.13 284 *e*P **P** **15 27 18.6 -0.6**
comp=Z,26nm,1.6s
DOU Dourbes 67.42 323 ⇑P **P** **15 27 20.5 +0.2**
CN2 Changchun 67.46 44 *e*P **P** **15 27 22.0 +1.3**
CN2 *es*P sP 15 27 29.0 +2.1
CN2 *e*S **S** **15 36 15.8 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
KSAR Wonju Array Be 67.60 51 P **P** **15 27 19.8 -1.9**
KSAR Wonju Array Be 67.60 51 P **P** **15 27 19.8 -1.9**
KS01 Wonju Array Si 67.61 51 *e*P **P** **15 27 19.5 -2.3**
KSRS Korea Array 67.63 51 P **P** **15 27 19.8 -2.2**
comp=Z,2.5nm,1.0s,baz=252,slow=6.9,SNR=7.9
HFS Hagfors 67.63 336 P **P** **15 27 21.1 -0.4**
comp=Z,3.1nm,0.6s,baz=137,slow=9.3,SNR=8.8
KIC Kosan Boka 67.81 275 *e*P **P** **15 27 23.8 +0.3**
comp=Z,174nm,1.9s
DBIC Dimbokro 67.92 276 P **P** **15 27 23.8 -0.3**
comp=Z,4.4nm,0.9s,baz=161,slow=2.1,SNR=4.0
TIC Toumodi 68.08 276 *e*P **P** **15 27 25.2 0.0**
LIC Lamto 68.10 275 *e*P **P** **15 27 25.5 +0.2**
comp=Z,66nm,1.4s
NB2 NORSAR Subarra 69.15 336 P **P** **15 27 29.8 -1.3**
comp=Z,49nm,1.7s,baz=122,slow=6.5
NB2 NORSAR Subarra 69.15 336 P **P** **15 27 29.8 -1.3**
baz=122,slow=6.5
NOA NORSAR Array B 69.15 336 P **P** **15 27 30.2 -0.8**
comp=Z,2.0nm,0.9s,baz=118,slow=6.6,SNR=4.7
ES19 SONSECA Array 70.12 311 *e*P **P** **15 27 35.9 -1.6**
ESDC Sonseca Array 70.17 311 P **P** **15 27 37.4 -0.4**
comp=Z,6.4nm,0.9s,baz=87,slow=5.4,SNR=18
ESLA Sonseca Array 70.17 311 *e*P **P** **15 27 36.9 -0.9**
comp=Z,14nm,1.0s
ARCES ARCESS Array B 70.19 347 P **P** **15 27 36.8 -0.4**
comp=Z,5.2nm,1.0s,baz=48,slow=3.6,SNR=4.8
MDJ Mudanjiang 70.55 44 P **P** **15 27 39.4 -0.5**
MDJ pP pP 15 27 43.0 -1.5
MDJ sP sP 15 27 44.1 -2.0
MDJ S **S** **15 36 53.9 +0.7**
MDJ pmax pmax
comp=Z,16nm,1.4s
MDJ pmax pmax
comp=Z,320nm,4.3s
KLR Kul'dur 73.12 40 P **P** **15 27 53.9 -1.4**
comp=Z,0.5nm,0.9s,baz=255,slow=6.2,SNR=9.4
KLR Kul'dur 73.12 40*ce*P **P** **15 27 54.1 -1.2**
WRA Warramunga Arr 73.56 112 P **P** **15 27 56.6 -1.9**
comp=Z,13nm,1.1s,baz=289,slow=5.4,SNR=17
WRAB Tennant Creek 73.57 112⇑ *e*P **P** **15 27 58.2 -0.3**
WRAB pmax pmax
comp=Z,32nm,1.7s
EKA Eskdalemuir Ar 73.64 327 P **P** **15 27 57.5 -0.7**
comp=Z,1.4nm,0.9s,baz=290,slow=15,SNR=3.8
EKA LR LR 16 02 34.0
comp=Z,90nm,19.9s,baz=85,slow=38
ASAR Alice Springs 73.87 116 P **P** **15 27 59.3 -0.9**
comp=Z,10nm,1.0s,baz=284,slow=5.8,SNR=24
AS01 Alice Springs 73.91 116 *e*P **P** **15 27 57.5 -3.0**
MAJO Matsushiro 75.60 53⇑ *e*P **P** **15 28 11.6 +1.6**
MAJO pmax pmax
comp=Z,8.0nm,1.0s
MJAR Matsushiro Arr 75.60 53 P **P** **15 28 08.9 -1.1**
comp=Z,4.4nm,0.9s,baz=269,slow=9.0,SNR=6.6
MJAR Matsushiro Arr 75.60 53 P **P** **15 28 09.0 -1.1**
YAK Yakutsk 75.71 26 P **P** **15 28 08.6 -1.5**
comp=Z,5.9nm,0.7s,baz=144,slow=0.5,SNR=8.1
YAK Yakutsk 75.71 26 *e*P **P** **15 28 08.1 -1.9**
YAK pmax pmax
comp=Z,21nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,14nm,1.2s
YAK Yakutsk 75.71 26 *e*P **P** **15 28 09.7 -0.3**
GRNR Gornyy 76.40 39 *e*P **P** **15 28 12.0 -2.3**
TIXI Tiksi 78.85 17⇓ *e*P **P** **15 28 26.8 -0.7**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
NKL Nikolayevsk 79.38 37 *e*P **P** **15 28 28.8 -2.0**
YSS Yuzh-Sakhalins 80.01 43 *e*P P 15 28 40.3 +6.0
YSS pmax pmax
comp=Z,40nm,1.6s
TYV Tymovskoe 80.32 39 *e*P **P** **15 28 32.1 -3.8**
TYV pmax pmax
comp=Z,300nm,8.1s
TYV pmax pmax
comp=Z,10.0nm,1.5s
TYV MLR MLR
comp=Z,800nm,24.0s
NVL N'lazarevskaya 81.74 195 *e*P **P** **15 28 44.3 +1.3**
NVL pmax pmax
comp=Z,22nm,1.5s
STKA Stephens Creek 82.07 123 P **P** **15 28 43.4 -2.2**
comp=Z,2.7nm,0.8s,baz=321,slow=11,SNR=3.6
MA2 Magadan 85.44 31 P **P** **15 29 00.9 -1.4**
comp=Z,6.9nm,1.1s,baz=241,slow=5.3,SNR=8.6
MA2 Magadan 85.44 31⇑ *e*P **P** **15 29 01.9 -0.4**
SEY Seymchan 86.20 27 P **P** **15 29 05.2 -0.9**
comp=Z,7.2nm,1.0s,baz=253,slow=4.4,SNR=14
SEY Seymchan 86.20 27⇑ *e*P **P** **15 29 05.9 -0.1**
PETK Petropavlovsk- 89.61 37 P **P** **15 29 21.6 -1.0**
comp=Z,2.1nm,1.0s,baz=201,slow=7.6,SNR=3.0
PET Petropavlovsk 90.19 37⇑ *e*P **P** **15 29 25.6 +0.4**
PET pmax pmax
comp=Z,18nm,1.3s
BILL Bilibino 91.31 22 *i* P **P** **15 29 30.3 +0.1**
BILL *i* 15 29 37.0
BILL pmax pmax
comp=Z,9.0nm,1.1s
BILL MLR MLR
comp=Z,308nm,23.0s
DZM Mont Dzumac 103.58 112 *e*LR LR 16 04 27.2
comp=Z,346nm,24.4s
ILAR Eielson Array 108.06 13 PP PP 15 35 13.9 -0.3
comp=Z,1.6nm,1.0s,baz=311,slow=4.8,SNR=7.0
YKA Yellowknife Ar 113.86 359 PKiKP **PKiKP** **15 35 02.6 -0.8**
comp=Z,0.3nm,0.8s,baz=354,slow=2.2,SNR=6.5
YKA PP **PP** **15 36 01.7 +5.8**
comp=Z,0.7nm,1.0s,baz=354,slow=7.4,SNR=4.9
C09A Chrisman Ranch 128.59 1 *e*PKPdf **PKPdf** **15 35 33.5 +1.4**
LCO Las Campanas 129.74 235⇑ *e*PKIKP **PKPdf** **15 35 37.1 +1.9**
BOZ Bozeman (W) 130.61 355 *e*PKIKP **PKPdf** **15 35 37.8 +1.5**
BOZ Bozeman (W) 130.61 355 *e*PKPdf **PKPdf** **15 35 37.8 +1.5**
PDAR Pinedale Array 133.19 353 PKP **PKPdf** **15 35 39.4 -2.0**
comp=Z,0.6nm,0.8s,baz=48,slow=2.2,SNR=3.5
PV05 Paradox Valley 137.74 351 *e*PKPdf **PKPdf** **15 35 48.8 -1.1**
NVAR Mina Array Bea 137.95 2 PKP **PKPdf** **15 35 51.0 +0.7**
comp=Z,2.3nm,1.0s,baz=0.9,slow=0.1,SNR=7.0
OTAV Otavalo 141.59 275⇓ *e*PKIKP **PKPdf** **15 36 00.1 +2.2**
OTAV pmax pmax
comp=Z,14nm,2.5s
TXAR Lajitas Array 144.76 340 PKP **PKPab** **15 36 01.1 -0.2**
comp=Z,2.1nm,0.9s,baz=100,slow=1.5,SNR=14
PPT2 Papeete2 144.97 115 *e*PKPbc **PKPab** **15 36 00.8 -1.7**
comp=Z,68nm,1.5s
PPT2 Papeete2 144.97 115 *e*LR LR 16 23 25.2
comp=Z,180nm,29.5s
PMOR Pomariorio Ree 147.31 112 *e*PKPbc **PKPdf** **15 36 05.5 -1.6**
comp=Z,46nm,1.1s
VAH Vaihoa 147.49 113 *e*PKPbc **PKPdf** **15 36 05.2 -2.2**
comp=Z,43nm,1.3s

IDC 17 15:17:38.3±1.7, 6.71S×129.40E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.4/57, mbtmpg3.7/5, ML3.8/3, Error ellipse: s-maj=53.3km s-min=28.1km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.66**	**238**	Pn	Pn	15 19 17.2	-0.2
	4.1nm,0.3s,baz=174,slow=4.9,SNR=15						
BATI				Sn	Sn	15 20 18.4	-16
	3.4nm,0.3s,baz=233,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**14.01**	**160**	Pn	Pn	15 20 59.1	+0.9
	0.4nm,0.3s,baz=344,slow=13,SNR=23						
WRA				Sn	Sn	15 23 20.6	-14
	0.5nm,0.3s,baz=334,slow=23,SNR=6.4						
ASAR	**Alice Springs**	**17.41**	**166**	P	Pn	15 21 42.4	-0.5
	0.2nm,0.3s,baz=342,slow=10,SNR=14						
ASAR				S	Sn	15 24 43.5	-14
	0.1nm,0.3s,baz=346,slow=26,SNR=4.1						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	15 28 37.8	+0.5
	1.2nm,0.9s,baz=125,slow=7.3,SNR=3.8						
KURBB	**Kurchatov Arra**	**71.95**	**329**	P	P	15 29 03.1	-0.5
	0.2nm,0.7s,baz=123,slow=4.9,SNR=3.0						

*ISCJB **17** 15:18:32.7±0.5, 3.81N±0.09×63.39E±0.07, h10km, mb4.3/30, Error ellipse: s-maj=13.3km s-min=9.8km az=173.7*
*IDC **17** 15:18:32.9±0.7, 3.73N×63.34E, h0km, mb4.2/24, mb1 4.3/24, mb1mx4.0/74, mbtmp4.2/24, Error ellipse: s-maj=18.2km s-min=15.6km az=160.0*
*NEIC **17** 15:18:34.0±0.5, 3.72N×63.38E, h10km, mb4.9/6, Error ellipse: s-maj=12.8km s-min=9.7km az=166.0*
ISC 17 15:18:34.1±0.7, 3.7N±0.1×63.4E±0.1, h10km, n46, σ1$23/49, mb4.4/30, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**26.53**	**260**	P	P	**15 24 14.6**	**+2.1**
	4.7nm,0.9s,baz=86,slow=16,SNR=6.0						
CMAR	**Chiang Mai Arr**	**37.77**	**64**	P	P	**15 25 52.1**	**+1.4**
	3.1nm,1.0s,baz=260,slow=8.3,SNR=5.0						
CMAR				PcP	**PcP**	**15 28 09.6**	**+1.9**
	0.3nm,0.3s,baz=251,slow=4.7,SNR=4.9						
CM01	**Chiang Mai Ar**	**37.77**	**64**	*e*P	P	**15 25 49.6**	**-1.2**
CHTO	**Chiang Mai**	**37.89**	**64**	*e*P	P	**15 25 50.7**	**-1.0**
	20nm,1.4s						
LSZ	**Lusaka**	**39.59**	**241**	P	P	**15 26 05.3**	**-0.9**
	4.9nm,0.9s,baz=54,slow=5.7,SNR=5.0						
LSZ	**Lusaka**	**39.59**	**241**	*e*P	P	**15 26 04.0**	**-2.1**
	16nm,1.3s						
AAK	**Ala-Archa**	**40.05**	**13**	P	P	**15 26 09.3**	**-0.4**
	3.5nm,0.9s,baz=193,slow=16,SNR=3.8						
KBZ	**Khabaz**	**43.81**	**339**	P	P	**15 26 40.7**	**+0.5**
	2.3nm,1.0s,baz=111,slow=14,SNR=2.2						
BR101	**Keskin Array S**	**44.86**	**327**	*e*P	P	**15 26 48.9**	**0.0**
BRTR	**Keskin Array B**	**44.86**	**327**	P	P	**15 26 48.9**	**0.0**
	1.9nm,0.9s,baz=153,slow=12,SNR=3.8						
MK32	**Makanchi Array**	**45.99**	**18**	*e*P	P	**15 26 56.3**	**-1.3**
MKAR	**Makanchi Array**	**45.99**	**18**	P	P	**15 26 56.3**	**-1.3**
	0.6nm,0.6s,baz=205,slow=9.2,SNR=4.5						
MKAR				PcP	**PcP**	**15 28 33.5**	**-0.7**
	0.7nm,0.9s,baz=197,slow=3.0,SNR=4.0						
AKTO	**Aktyubinsk**	**46.82**	**355**	P	P	**15 27 04.0**	**0.0**
	2.2nm,0.7s,baz=171,slow=13,SNR=3.6						
IDI	**Anoyia**	**47.49**	**316**	P		**15 27 09.3**	**-0.2**
	12nm,1.0s,baz=103,slow=7.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**48.50**	**13**	P	P	**15 27 16.5**	**-0.5**
	2.3nm,1.1s,baz=216,slow=8.7,SNR=4.2						
KURK	**Kurchatov**	**48.61**	**13**	*e*P	P	**15 27 16.5**	**-1.3**
BOSA	**Boshof**	**48.69**	**226**	P	P	**15 27 17.6**	**-1.4**
	2.6nm,0.7s,baz=302,slow=20,SNR=4.1						
ZAA0	**Zalesovo Array**	**53.11**	**16**	*e*P	P	**15 27 51.2**	**-0.5**
	20nm,1.3s						
ZALV	**Zalesovo Beam**	**53.11**	**16**	P	P	**15 27 50.8**	**-0.9**
	0.0nm,0.8s,baz=218,slow=9.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**53.11**	**16**	*e*P	P	**15 27 49.5**	**-2.2**
ZAA1	**Zalesovo Array**	**53.11**	**16**	*e*P	P	**15 27 50.8**	**-0.9**
AKASG	**Malin Array Be**	**54.95**	**334**	P	P	**15 28 05.2**	**0.0**
	0.5nm,0.5s,baz=132,slow=6.6,SNR=3.2						
SONA0	**Songino Array**	**57.42**	**33**	*e*P	P	**15 28 23.4**	**+0.3**
SONM	**Songino Array**	**57.42**	**33**	P	P	**15 28 23.4**	**+0.3**
	4.7nm,1.1s,baz=228,slow=6.6,SNR=7.3						
SONA1	**Songino Array**	**57.43**	**33**	*e*P	P	**15 28 22.3**	**-0.9**
VRAC	**Vranov**	**60.30**	**327**	P	P	**15 28 43.6**	**+0.6**
	2.0nm,0.7s,baz=107,slow=5.5,SNR=4.8						
DPC	**Dobruska-Polom**	**61.02**	**328**	*e*P	P	**15 28 48.8**	**+0.9**
DPC				*ex*	x	15 28 55.2	
DPC				*ex*	x	15 29 06.3	
TORD	**Torodi Ar. Bea**	**61.60**	**283**	P	P	**15 28 53.6**	**+1.2**
	3.4nm,1.2s,baz=101,slow=5.4,SNR=4.6						
TOA1	**Torodi Ar. Sit**	**61.60**	**283**	*e*P	P	**15 28 53.6**	**+1.2**
KHC	**Kasperske Hory**	**61.89**	**325**	*e*P	P	**15 28 50.7**	**-3.1**
KHC				*ex*	x	15 28 59.8	
CLL	**Collm**	**63.31**	**327**	*i* P	P	**15 29 03.3**	**+0.1**
	comp=Z,38nm,1.7s						
CLL				*es*P	**sP**	**15 29 10.0**	**+2.3**
BFO	**Black Forest**	**64.60**	**323**	*e*P	P	**15 29 11.0**	**-0.8**
	comp=Z,30nm,1.4s						
HFS	**Hagfors**	**67.77**	**336**	P	P	**15 29 31.6**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=149,slow=6.3,SNR=7.5						
ES19	**SONSECA Array**	**70.25**	**311**	*e*P	P	**15 29 45.3**	**-2.5**
ESDC	**Sonseca Array**	**70.29**	**311**	P	P	**15 29 48.7**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=84,slow=5.5,SNR=5.6						
ARA0	**ARCESS Array S**	**70.33**	**347**	*e*P	P	**15 29 47.3**	**-0.3**
ARCES	**ARCESS Array B**	**70.33**	**347**	P	P	**15 29 47.3**	**-0.3**
	comp=Z,4.0nm,1.0s,baz=117,slow=6.9,SNR=3.7						
PAB	**San Pablo**	**70.55**	**311**	*e*P	P	**15 29 51.4**	**+1.7**
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**73.47**	**112**	P	P	**15 30 08.7**	**+1.2**
	comp=Z,5.4nm,1.0s,baz=290,slow=4.9,SNR=4.6						
WR1	**Warramunga Arr**	**73.47**	**112**	*e*P	P	**15 30 08.7**	**+1.2**
	comp=Z,13nm,1.1s						
ASAR	**Alice Springs**	**73.77**	**116**	P	P	**15 30 10.3**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=293,slow=5.6,SNR=5.4						
EKA	**Eskdalemuir Ar**	**73.78**	**327**	P	P	**15 30 08.1**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=113,slow=7.2,SNR=6.2						
MA2	**Magadan**	**85.54**	**31**	P	P	**15 31 11.9**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=247,slow=5.3,SNR=5.3						
SEY	**Seymchan**	**86.31**	**27**	P	P	**15 31 16.5**	**+0.4**
	comp=Z,7.6nm,1.2s,baz=286,slow=4.8,SNR=6.4						
LTX	**Lajitas**	**144.91**	**340**	*e*PKPbc	**PKPab**	**15 38 10.5**	**-0.9**
TXAR	**Lajitas Array**	**144.91**	**340**	PKP	**PKPab**	**15 38 10.5**	**-0.9**
	comp=Z,1.8nm,1.0s,baz=52,slow=2.1,SNR=5.4						

*CSEM **17** 15:21:09.2±0.7, 49.91N×18.47E, h1km, Error ellipse: s-maj=16.1km s-min=5.7km az=27.0*
PRU 17 15:21:09.9, 49.89N×18.45E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**255**	*e*Pg	Pg	15 21 14.3	+0.5
OKC				*e*Sg	Sg	15 21 17.3	+0.9
	comp=Z,18nm,0.4s						
OKC	**Ostrava-Krasne**	**0.20**	**255**	Pg	Pg	15 21 14.3	+0.5
OKC				Sg	Sg	15 21 17.3	+0.9
	18nm,0.4s						
MORC	**Moravsky Berou**	**0.60**	**259**	*e*Pg	Pg	15 21 21.2	-0.2
MORC				*e*Sg	Sg	15 21 29.7	+0.6
LANS	**Liptovska Anna**	**0.99**	**138**	*e*Pg	Pg	15 21 28.8	-0.1
LANS				*e*Sg	Sg	15 21 42.2	+0.4
LANS	**Liptovska Anna**	**0.99**	**138**	*e*PG	Pg	15 21 28.8	-0.1
LANS				*e*SG	Sg	15 21 42.2	+0.4
VRAC	**Vranov**	**1.34**	**245**	*e*Pg	Pg	15 21 35.0	-0.6
VRAC	**Vranov**	**1.34**	**245**	*e*Sg	Sg	15 21 52.5	-0.4
VYHS	**Vyhne**	**1.42**	**170**	*e*Pg	Pn	15 21 35.6	-1.4
VYHS				*e*Sn	Sg	15 21 54.6	-1.0
VYHS	**Vyhne**	**1.42**	**170**	*e*PG	Pn	15 21 35.6	-1.4
VYHS				*e*SN	Sg	15 21 54.4	-1.1
DPC	**Dobruska-Polom**	**1.45**	**289**	*e*PG	Pn	15 21 36.5	-0.9
DPC				*e*SG	Sg	15 21 56.3	0.0
DPC	**Dobruska-Polom**	**1.45**	**289**	Pg	Pn	15 21 36.5	-0.9
DPC				Sg	Sg	15 21 56.3	0.0
UPC	**Upice**	**1.68**	**292**	*e*SG	Sn	15 22 02.5	-0.4
UPC	**Upice**	**1.68**	**292**	Sg	Sn	15 22 02.5	-0.4
KHC	**Kasperske Hory**	**3.27**	**258**	*e*SG	Sg	15 22 52.3	-2.4
KHC	**Kasperske Hory**	**3.27**	**258**	Sg	Sg	15 22 52.3	-2.4

IDC 17 15:48:04.5±3.5, 35.32S×179.41W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/35, mbtmpg3.5/3, ML3.1/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/27, Error ellipse: s-maj=82.0km s-min=37.8km az=124.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.05**	**223**	Pn	Pn	15 49 07.6	-0.1
	1.1nm,0.3s,baz=9.8,slow=5.7,SNR=9.4						
URZ				Sn	Sn	15 49 57.1	+1.3
	1.6nm,0.3s,baz=89,slow=23,SNR=9.7						
URZ				LR	LR	15 50 46.2	
	comp=Z,46nm,20.5s,baz=98,slow=40						
ASAR	**Alice Springs**	**41.92**	**273**	P	P	15 55 57.0	0.0
	0.6nm,0.8s,baz=118,slow=7.1,SNR=5.3						
WRA	**Warramunga Arr**	**43.35**	**278**	P	P	15 56 08.5	-0.2
	0.6nm,0.8s,baz=121,slow=7.5,SNR=4.1						
FINES	**FINESS Array B**	**149.26**	**336**	PKPbc	PKPbc	16 07 53.8	-0.5
	3.2nm,1.1s,baz=38,slow=2.5,SNR=3.4						

*BJI **17** 15:49:08.5, 3.13N×62.86E, h6km, mb4.8/58, mB5.3/43, Ms5.1/50, Ms7 4.9/46*
*MOS **17** 15:49:15.5±1.0, 3.81N×63.42E, h10km, mb5.3/62, MS4.7/12, Error ellipse: s-maj=7.1km s-min=4.1km az=103.6*
*IDC **17** 15:49:15.3±0.4, 3.67N×63.50E, h0km, mb4.6/39, mb1 4.7/40, mb1mx4.6/65, mbtmpg4.6/40, ML4.0/1, MS4.5/53, Ms1 4.5/53, ms1mx4.5/66, Error ellipse: s-maj=12.0km s-min=10.2km az=27.0*
*ISCJB **17** 15:49:17.0±1.1, 3.74N±0.04×63.36E±0.02, h19km±7km, mb5.0/183, MS4.7/79, Error ellipse: s-maj=6.1km s-min=3.8km az=13.6*
*GCMT **17** 15:49:17.0±0.1, 3.71N×63.41E, h12km, MW5.3/128, Moment Tensor Solution. s80,c115; s128,c251; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.09±.01; $M_{\theta\theta}$0.85±.01; $M_{\phi\phi}$0.24±.01; $M_{r\theta}$0.51±.04; $M_{\theta\phi}$-0.49±.01; $M_{r\phi}$0.02±.04; Best double couple: M_{o}1.21700×10^{17} NP1:ϕ_s287.00000°, δ57.00000°, λ-104.00000°. NP2:ϕ_s131.00000°, δ35.00000°, λ-70.00000°. Principal axes: T 1.2050, Plg11.0000°, Azm27.0000°; N 0.0240, Plg11.0000°, Azm294.0000°; P -1.2280, Plg74.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 15:49:17.0±0.2, 3.76N×63.47E, h10km, mb5.1/52 Error ellipse: s-maj=6.4km s-min=5.2km az=191.0*
ISC 17 15:49:18.4±0.6, 3.73N±0.05×63.43E±0.04, h17km±3km, n486, σ1$65/513, mb5.1/183, MS4.6/79, 39C-33D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**12.52**	**143**	T	T	16 05 08.6	
	baz=323,slow=76,SNR=331						
H08N3	**Diego Garcia H**	**12.53**	**143**	T	T	16 05 11.5	
	baz=323,slow=76,SNR=319						
H08N1	**Diego Garcia H**	**12.54**	**143**	T	T	16 05 08.8	
	baz=323,slow=76,SNR=342						
ABTO	**Aybut**		**16.80**	**324**	pP	P	**15 53 19.0**	**+3.7**
	SNR=6.6						
ABTO	**Aybut**		**16.80**	**324**	P	P	**15 53 19.0**	**+3.7**
	SNR=6.6						
PALK	**Pallekele**		**17.55**	**78**	P	**Pn**	**15 53 22.7**	**+0.1**
	0.5nm,0.3s,baz=296,slow=12,SNR=11						
PALK				LR	LR	15 58 35.8	
	comp=Z,4μm,20.4s,baz=296,slow=32						
PALK	**Pallekele**		**17.55**	**78**	*e*P	P	**15 53 23.2**	**-0.4**
PALK				pmax	pmax		
	comp=Z,19nm,0.9s						
PALK	**Pallekele**		**17.55**	**78**	*e*Pn	P	**15 53 23.2**	**-0.4**
	comp=Z,19nm,0.9s						
PALK	**Pallekele**		**17.55**	**78**	pPn	P	**15 53 26.4**	**+2.8**
	SNR=15						
PALK	**Pallekele**		**17.55**	**78**	P	P	**15 53 26.4**	**+2.8**
	SNR=15						
PALK	**Pallekele**		**17.55**	**78**	*i* P	P	**15 53 25.4**	**+1.8**
	SNR=10						
WSAR	**Wadi Sarin**		**19.95**	**347**	P	P	**15 53 50.0**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=164,slow=8.4,SNR=3.9						
WSAR				LR	LR	16 00 04.7	
	comp=Z,3μ

HYB eS S 15 57 36.0 -1.5
HYB LR LR
comp=Z,6.8nm,18.0s
BIDO Bidbid 20.34 346 P Pn 15 53 58.0 +1.9
SNR=21
BIDO Bidbid 20.34 346 P Pn 15 53 58.0 +1.9
SNR=21
ARQ Araqi 20.61 342 pP P 15 54 08.0 +11
SNR=6.2
SOHO SOHO 21.35 342 *i* P **P 15 54 06.4 +1.3**
SNR=16
ALNE Al Ain 21.53 341 *i* P **P 15 54 08.1 +1.2**
SNR=24
ATD Arta Tunnel 21.81 292 P **P 15 54 12.2 +2.0**
comp=Z,8.4nm,0.8s,baz=78,slow=5.7,SNR=7.0
ATD LR LR 16 01 12.2
comp=Z,785nm,20.7s,baz=116,slow=33
ATD Arta Tunnel 21.81 292 *e*P **P 15 54 12.1 +2.0**
comp=Z,76nm,1.5s
ASHO Ashiyiah 22.01 342 pP **P 15 54 16.8 +4.7**
SNR=19
ASHO Ashiyiah 22.01 342 P **P 15 54 16.8 +4.7**
SNR=19
ASHO Ashiyiah 22.01 342 *i* P **P 15 54 13.1 +1.0**
SNR=15
HATD Hatta, Dubai 22.12 342 pP **P 15 54 18.1 +4.8**
SNR=20
HATD Hatta, Dubai 22.12 342 P **P 15 54 18.1 +4.8**
SNR=20
HATD Hatta, Dubai 22.12 342 *i* P **P 15 54 15.0 +1.6**
SNR=21
UOSS Minazif 22.21 342 *e*P **P 15 54 15.1 +0.8**
comp=Z,29nm,1.0s
UOSS Minazif 22.21 342 *i* P **P 15 54 14.7 +0.4**
SNR=14
AJN Ajban 22.26 339 *i* P **P 15 54 15.9 +1.2**
SNR=7.5
NAZ Nazwa, Dubai 22.42 341 pP **P 15 54 20.0 +3.5**
SNR=14
NAZ Nazwa, Dubai 22.42 341 P **P 15 54 20.0 +3.5**
SNR=14
NAZ Nazwa, Dubai 22.42 341 *i* P **P 15 54 17.7 +1.1**
SNR=8.9
MSFE Esma-Masafi 22.62 343 *i* P **P 15 54 19.7 +1.0**
SNR=12
NGP Nagpur 23.03 40 *e*P **P 15 54 22.9 -0.1**
NGP eS **S 15 58 34.0 +0.7**
BANOM Banah 23.11 343 pP **P 15 54 27.7 +3.9**
SNR=5.9
BANOM Banah 23.11 343 P **P 15 54 27.7 +3.9**
SNR=5.9
BANOM Banah 23.11 343 *i* P **P 15 54 24.9 +1.2**
SNR=6.8
SHME Shamm 23.27 343 P **P 15 54 26.7 +1.3**
RAYN Ar Rayn 26.22 320 P **P 15 54 52.8 0.0**
RAYN Ar Rayn 26.22 320 *e*P **P 15 54 52.8 0.0**
comp=Z,55nm,1.5s
KMBO Kilima Mbogo 26.61 260 P **P 15 54 58.2 +1.6**
comp=Z,19nm,1.1s,baz=60,slow=9.9,SNR=38
KMBO LR LR 16 04 00.2
comp=Z,1μm,21.0s,baz=88,slow=33
KMBO Kilima Mbogo 26.61 260 *e*P **P 15 54 58.3 +1.7**
KMBO pmax pmax
comp=Z,52nm,1.4s
KMBO Kilima Mbogo 26.61 260 *e*P **P 15 54 58.3 +1.7**
comp=Z,52nm,1.4s
KMBO Kilima Mbogo 26.61 260 P **P 15 54 59.3 +2.7**
SNR=36
KMBO Kilima Mbogo 26.61 260 P **P 15 54 59.3 +2.7**
SNR=36
KMBO Kilima Mbogo 26.61 260 *i* P **P 15 54 57.7 +1.1**
SNR=31
OPO Ambohidratompo 27.33 215 P **P 15 55 03.8 +0.9**
comp=Z,10nm,1.1s,baz=48,slow=5.4,SNR=8.1
OPO LR LR 16 03 14.9
comp=Z,4μm,21.7s,baz=23,slow=31
PYUN Piuthan 30.57 36 *e*P **P 15 55 33.5 +1.8**
KOLN Koldanda 30.69 37 *e*P **P 15 55 33.8 +1.0**
comp=Z,183nm,1.8s
KBL Kabul 31.10 9 *e*P **P 15 55 38.2 +1.9**
KBL pmax pmax
comp=Z,10.0nm,1.1s
KBL Kabul 31.10 9 *e*P **P 15 55 38.2 +1.9**
comp=Z,10.0nm,1.1s
DMN Daman 31.49 39 *e*P **P 15 55 41.2 +1.3**
comp=Z,38nm,0.8s
PKIN Phulchoki 31.65 39 *e*P **P 15 55 42.4 +1.1**
comp=Z,24nm,0.8s
PKI Pulchoki 31.66 39 *e*P **P 15 55 42.4 +0.9**
KKN Kakani 31.73 39 *e*P **P 15 55 43.1 +1.1**
comp=Z,27nm,0.8s
GUN Gumba 32.19 39 *e*P **P 15 55 47.5 +1.3**
comp=Z,56nm,0.9s
JIRN Jiri 32.22 40 *e*P **P 15 55 47.4 +1.0**
comp=Z,34nm,0.8s
MLSI Meulaboh, Aceh 32.90 88 pP **P 15 55 54.9 +2.8**
MBAR Mbarara 32.96 263 *e*P **P 15 55 54.2 +1.3**
MBAR pmax pmax
comp=Z,19nm,1.3s
MBAR Mbarara 32.96 263 *e*P **P 15 55 54.1 +1.3**
comp=Z,19nm,1.3s
GSI Gunungsitoli 34.19 93 P **P 15 56 04.8 +1.4**
KCSI Kotacane, Aceh 34.27 89 P **P 15 56 06.9 +2.8**
comp=Z,22nm,1.8s,comp=Z,681nm
GEYT Alibeck 34.39 353 P **P 15 56 05.6 +0.8**
comp=Z,3.8nm,1.0s,baz=149,slow=12,SNR=8.7
GEYT LR LR 16 10 19.8
comp=Z,1μm,19.0s,baz=150,slow=37
TSI Tuntungan 35.06 89 P **P 15 56 12.6 +1.6**
TSI pP **P 15 56 14.9 +3.9**
SISI Saibi 35.99 97 P **P 15 56 19.8 +0.9**
comp=Z,53nm,1.6s
MNSI Mandailing Nat 36.23 94 P **P 15 56 23.7 +2.7**
LSA Lhasa 36.83 42 P **P 15 56 27.3 +0.9**
LSA pmax pmax
comp=Z,24nm,1.3s
LSA Lhasa 36.83 42 P **P 15 56 27.6 +1.1**
SFK Sufi-Kurgan 37.25 13 P **P 15 56 30.1 +0.5**
LKRN Lenkeran, Azer 37.29 341 P **P 15 56 29.1 -0.6**
KSH Kashi 37.40 16 P **P 15 56 27.8 -3.0**
KSH sP pP 15 56 33.8 -2.1
KSH PP **PP 15 57 53.4 -2.8**
KSH PcP **PcP 15 58 49.1 -0.4**
KSH S **S 16 02 12.3 -6.1**
KSH PcS **PcS 16 02 35.4 -2.6**
KSH pmax pmax
comp=Z,22nm,0.8s
KSH pmax pmax
comp=Z,150nm,5.5s
KSH LR LR
comp=Z,1μm,15.6s
KSH LR LR
comp=Z,800nm,14.0s
KSH LR LR
comp=Z,1μm,16.5s
ASF Jabal al Asfar 37.69 322 LR LR 16 11 17.2
comp=Z,1μm,20.1s,baz=89,slow=35
CMAR Chiang Mai Arr 37.69 64 P **P 15 56 33.7 +0.3**
comp=Z,5.9nm,1.0s,baz=260,slow=9.1,SNR=46
CMAR PcP **PcP 15 58 50.9 +0.2**
comp=Z,3.6nm,0.8s,baz=247,slow=4.6,SNR=14
CMAR LR LR 16 11 31.1
comp=Z,746nm,19.0s,baz=256,slow=36
CMAR Chiang Mai Arr 37.69 64 *ce*P **P 15 56 34.7 +1.3**
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CM01 Chiang Mai Arr 37.69 64 *e*P **P 15 56 34.9 +1.5**
CHTO Chiang Mai 37.80 64 P **P 15 56 35.5 +1.2**
comp=Z,88nm,1.9s,comp=Z,3μm
CHTO Chiang Mai 37.80 64 *e*P **P 15 56 35.0 +0.7**
CHTO pmax pmax
comp=Z,34nm,1.4s
CHTO Chiang Mai 37.80 64 *e*P **P 15 56 35.0 +0.7**
comp=Z,34nm,1.4s
CHTO Chiang Mai 37.80 64 pP **P 15 56 36.0 +1.6**
SNR=19
CHTO Chiang Mai 37.80 64 P **P 15 56 36.0 +1.6**
SNR=19
CMMT Chiang Mai 37.80 64 P **P 15 56 34.5 +0.1**
comp=Z,26nm,1.9s,comp=Z,618nm
CMAI Chiengmai2 38.27 62 P **P 15 56 39.5 +1.1**
comp=Z,861nm,0.7s
PHIT Phitsanulok 38.65 67 P **P 15 56 43.2 +1.7**
comp=Z,21nm,1.0s,comp=Z,192nm
NAYO Nakonayok 38.80 72 P **P 15 56 45.9 +3.1**
comp=Z,50nm,0.9s
NAX Nakhchivan 38.87 338 P **P 15 56 42.2 -0.9**

MMAI Mount Meron Ar 39.18 321 LR LR 16 12 03.5
comp=Z,1μm,20.4s,baz=165,slow=35
NRN Naryn 39.20 15 P **P 15 56 46.5 +0.4**
AML Almayashu 39.32 12 P **P 15 56 47.7 +0.5**
SNR=6.1
MASI Maura Aman, Be 39.38 99 P **P 15 56 50.7 +3.0**
comp=Z,86nm,1.5s
MNAS Manas 39.43 11 *i* P **P 15 56 48.2 +0.3**
MNAS pmax pmax
comp=Z,32nm,1.2s
CHBT CHBT 39.48 75 P P 15 56 42.6 -5.8
UCH Uchtor 39.59 13 P **P 15 56 50.4 +0.9**
SNR=13
KZA Kyzart 39.62 14 P **P 15 56 50.6 +0.9**
SNR=49
LSZ Lusaka 39.68 241 *e*P **P 15 56 51.4 +1.2**
LSZ pmax pmax
comp=Z,59nm,1.4s
LSZ Lusaka 39.68 241 *e*P **P 15 56 51.4 +1.2**
comp=Z,59nm,1.4s
LSZ Lusaka 39.68 241 pP **P 15 56 52.6 +2.3**
SNR=9.7
LSZ Lusaka 39.68 241 P **P 15 56 52.6 +2.3**
SNR=9.7
KK31 Karatay Array 39.71 8 *ce*P **P 15 56 50.5 +0.5**
KK31 pmax pmax
comp=Z,16nm,1.2s
KKAR Karatay Array 39.71 8 *e*P **P 15 56 50.5 +0.5**
KKAR Karatay Array 39.71 8 *e*P **P 15 56 50.5 +0.5**
MNGR Mingchevir, A 39.71 340 P **P 15 56 49.4 -0.6**
CHAI Chaiyaphum 39.78 70 P **P 15 56 52.4 +1.4**
comp=Z,13nm,1.0s,comp=Z,122nm
EKS2 Erkin-Say 39.85 12 P **P 15 56 52.2 +0.9**
SNR=58
GANJ Ganja 39.86 340 P **P 15 56 50.5 -0.8**
AAK Ala-Archa 39.98 13 P **P 15 56 53.8 +1.4**
comp=Z,13nm,0.8s,baz=187,slow=7.1,SNR=63
AAK Ala-Archa 39.98 13 *ce*P **P 15 56 53.2 +0.7**
AAK pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 39.98 13 P **P 15 56 53.7 +1.4**
SNR=22
AAK Ala-Archa 39.98 13 *e*P **P 15 56 53.1 +0.7**
comp=Z,15nm,0.8s
AAK Ala-Archa 39.98 13 pP **P 15 56 54.1 +1.7**
SNR=13
AAK Ala-Archa 39.98 13 P **P 15 56 54.1 +1.7**
SNR=13
AAK Ala-Archa 39.98 13 *i* P **P 15 56 53.4 +1.0**
SNR=9.5
GNI Garni 40.00 338 P **P 15 56 54.1 +1.5**
comp=Z,20nm,0.8s,baz=193,slow=4.0,SNR=11
GNI LR LR 16 13 19.4
comp=Z,649nm,21.6s,baz=138,slow=36
GNI Garni 40.00 338 *d* P **P 15 56 54.1 +1.5**
GNI pmax pmax
comp=Z,107nm,1.1s
GNI Garni 40.00 338 *e*P **P 15 56 53.2 +0.6**
comp=Z,64nm,1.2s
GNI Garni 40.00 338 pP **P 15 56 54.9 +2.3**
SNR=10
GNI Garni 40.00 338 P **P 15 56 54.9 +2.3**
SNR=10
GNI Garni 40.00 338 *i* P **P 15 56 54.9 +2.3**
SNR=9.8
ULHL Ulahol 40.02 15 P **P 15 56 53.9 +1.1**
SNR=8.7
SEKA Sheki 40.07 341 P **P 15 56 52.2 -0.9**
KBK Karagaybulak 40.10 13 P **P 15 56 54.9 +1.5**
SNR=16
KDJ Kajisay 40.16 16 P **P 15 56 54.8 +0.8**
FRU Bishkek 40.19 13 *e*P **P 15 56 56.0 +2.0**
FRU pmax pmax
comp=Z,80nm,1.6s
CHMS Chumysh 40.38 13 P **P 15 56 55.8 +0.3**
SNR=7.9
TKM2 Tokmak 2 40.50 14 *i* P **P 15 56 57.2 +0.4**
TKM2 pmax pmax
comp=Z,11nm,0.8s
TKM2 Tokmak 2 40.50 14 P **P 15 56 57.9 +1.1**
SNR=16
JMBI JAMBI 40.54 97 P **P 15 56 59.3 +2.0**
comp=Z,541nm,0.4s
USP Ospenovka 40.58 12 P **P 15 56 57.6 +0.4**
SNR=11
ZKTA Zakatala 40.64 341 P **P 15 56 57.1 -0.7**
KHON Khomkaen 40.67 69 P **P 15 57 00.4 +2.1**
comp=Z,13nm,1.0s,comp=Z,660nm
LWLI Liwa 41.50 102 P **P 15 57 08.2 +2.8**
comp=Z,50nm,0.9s,comp=Z,5μm
MDSI Maura Dua 41.52 101 P **P 15 57 08.0 +2.6**
comp=Z,40nm,1.7s,comp=Z,713nm
MAK Makhachkala 41.56 342 *e*P **P 15 57 01.0 -4.2**
MAK *e*S **S 16 03 13.8 -6.7**
MAK pmax pmax
comp=Z,171nm,1.8s
MAK MLR MLR
comp=Z,318nm,16.0s
AKH Akhalkalaki 41.57 337 ⇓ *i* P **P 15 57 07.4 +1.8**
PMBI Palemang 41.84 99 P **P 15 57 09.3 +1.3**
comp=Z,129nm,0.4s,comp=Z,6μm
SKNT Sakolnakorn 41.89 69 P **P 15 57 08.3 -0.1**
comp=Z,15nm,2.1s
PDGK Podgornoye 41.93 18 *i* P **P 15 57 06.5 -2.0**
PDGK pmax pmax
comp=Z,11nm,1.1s
KLI Kotabumi 42.26 101 P **P 15 57 13.7 +2.3**
GROC Groznyy 42.31 341 *e*P **P 15 57 10.6 -0.8**
GROC *e* 15 58 48.5
GROC *e* 15 59 04.5
GROC pmax pmax
comp=Z,36nm,1.0s
BLSI Bandar Lampung 42.73 102 P **P 15 57 17.2 +1.9**
comp=Z,117nm,0.4s
UBPT Khong Chiam 42.93 72 P **P 15 57 16.5 -0.3**
comp=Z,28nm,1.4s,comp=Z,3μm
KMI Kunming 43.35 57 P **P 15 57 21.3 +0.9**
KMI pP pP 15 57 23.9 -1.7
KMI sP sP 15 57 25.3 -2.3
KMI PP **PP 15 59 03.3 +2.0**
KMI S **S 16 03 48.5 +0.6**
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI pmax pmax
comp=Z,180nm,5.1s
KMI LR LR
comp=Z,700nm,17.5s
KMI LR LR
comp=Z,560nm,18.3s
KMI LR LR
comp=Z,710nm,20.2s
NEY Neytrino 43.44 338 ⇓ *e*P **P 15 57 23.1 +2.3**
NEY pmax pmax
comp=Z,19nm,2.5s
KBZ Khabaz 43.78 338 P **P 15 57 24.4 +1.1**
comp=Z,5.7nm,0.9s,baz=154,slow=10,SNR=9.4
KBZ LR LR 16 16 49.5
comp=Z,447nm,19.5s,baz=147,slow=38
KIV Kislovodsk 44.06 338 *e*P **P 15 57 25.9 +0.3**
KIV *e* 15 59 08.3
KIV *e*S **S 16 03 59.1 +1.6**
KIV *e*SS **SS 16 07 17.4 +2.4**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,376nm,16.0s
KIV Kislovodsk 44.06 338 pP **P 15 57 27.8 +2.1**
SNR=5.8
KIV Kislovodsk 44.06 338 P **P 15 57 27.8 +2.1**
SNR=5.8
KIV Kislovodsk 44.06 338 *i* P **P 15 57 26.8 +1.2**
SNR=5.4
BR131 Keskin Array S 44.85 327 *e*P **P 15 57 32.5 +0.4**
BRTR Keskin Array B 44.85 327 P **P 15 57 32.0 0.0**
comp=Z,5.2nm,0.9s,baz=145,slow=9.8,SNR=28
BRTR LR LR 16 16 56.5
comp=Z,581nm,18.7s,baz=118,slow=37
BRTR Keskin Array B 44.85 327 *ce*P **P 15 57 33.0 +0.9**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
GOF Gofitskoye 44.88 340 ⇑ *e*P **P 15 57 32.4 +0.3**
GOF pmax pmax
comp=Z,33nm,1.3s
SOC Sochi 44.90 336 *e*P **P 15 57 30.0 -2.3**
SOC *e* 15 59 12.8
SOC *e*S **S 16 04 08.6 -1.0**

SOC *e*SS **ScS 16 07 20.4 -8.8**
SOC MLR MLR
comp=Z,408nm,13.0s
WMQ Urumqi 45.33 25 P **P 15 57 36.8 +1.1**
WMQ sP sP 15 57 43.3 +0.3
WMQ PP **PP 15 59 23.6 +1.7**
WMQ S **S 16 04 22.4 +6.6**
WMQ ScS **ScS 16 07 27.8 -4.3**
WMQ pmax pmax
comp=Z,47nm,0.7s
WMQ pmax pmax
comp=Z,520nm,3.7s
WMQ LR LR
comp=Z,3μm,20.7s
WMQ LR LR
comp=Z,4μm,19.3s
WMQ LR LR
comp=Z,4μm,27.5s
LEM Lembang 45.34 103 P **P 15 57 35.6 -0.7**
comp=Z,51nm,1.0s,baz=248,slow=5.4,SNR=6.7
LEM LR LR 16 14 06.1
comp=Z,804nm,19.6s,baz=234,slow=33
LEM Lembang 45.34 103 P **P 15 57 38.3 +1.9**
comp=Z,876nm,1.3s
BR231 Keskin MP Arra 45.40 327 *e*P **P 15 57 33.2 -3.2**
ANTO Ankara 45.41 327 pP **P 15 57 38.5 +2.0**
SNR=5.4
ANTO Ankara 45.41 327 P **P 15 57 38.5 +2.0**
SNR=5.4
AB31 Akbulak array 45.46 357 *ce*P **P 15 57 36.0 -0.6**
AB31 pmax pmax
comp=Z,33nm,1.3s
ABKAR Akbulak array 45.46 357 *e*P **P 15 57 36.4 -0.2**
ILGA Ilgaz 45.76 328 *e*P **P 15 57 38.9 -0.5**
comp=Z,13nm,1.0s
MAKZ Makanchi 45.83 18 *e*P **P 15 57 38.5 -1.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 45.83 18 *e*P **P 15 57 38.5 -1.1**
comp=Z,6.4nm,0.9s
MK01 Makanchi Array 45.89 18 *e*P **P 15 57 38.7 -1.4**
JCJI Jatiwangi 45.90 103 P **P 15 57 42.6 +2.0**
comp=Z,155nm,0.5s
MKAR Makanchi Array 45.91 18 P **P 15 57 39.2 -1.1**
comp=Z,3.5nm,0.7s,baz=209,slow=8.7,SNR=51
MKAR PcP **PcP 15 59 16.4 -0.8**
comp=Z,5.9nm,0.9s,baz=224,slow=5.1,SNR=14
MKAR LR LR 16 17 31.8
comp=Z,509nm,20.6s,baz=214,slow=37
MKAR Makanchi Array 45.91 18 *ce*P **P 15 57 39.9 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 45.91 18 *e*P **P 15 57 39.2 -1.1**
comp=Z,23nm,0.7s
MKAR PcP **PcP 15 59 16.4 -0.8**
MK31 Makanchi Array 45.91 18 *ce*P **P 15 57 38.7 -1.6**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 45.91 18 *e*P **P 15 57 39.2 -1.1**
CD2 Chengdu 46.62 50 P **P 15 57 45.0 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
AKTO Aktyubinsk 46.77 355 P **P 15 57 46.7 -0.2**
comp=Z,8.8nm,0.6s,baz=163,slow=7.8,SNR=26
AKTO PcP **PcP 15 59 19.7 -0.3**
comp=Z,1.8nm,0.7s,baz=163,slow=3.9,SNR=4.0
AKTO LR LR 16 19 22.9
comp=Z,452nm,19.0s,baz=163,slow=39
GYA Guiyang 47.13 57 ⇑ *i* P **P 15 57 49.6 -0.7**
GYA PcP **PcP 15 59 23.3 +1.3**
GYA PP **PP 15 59 41.0 -0.2**
GYA S **S 16 04 43.6 +1.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=Z,560nm,17.6s
GYA LR LR
comp=Z,520nm,18.0s
GYA LR LR
comp=Z,500nm,18.2s
IDI Anoyia 47.49 316 P **P 15 57 53.7 +0.8**
comp=Z,27nm,0.9s,baz=123,slow=7.9,SNR=11
IDI LR LR 16 18 18.3
comp=Z,259nm,21.3s,baz=97,slow=37
IDI Anoyia 47.49 316 ⇓ *i* P **P 15 57 54.5 +1.6**
IDI Anoyia 47.49 316 *e*P **P 15 57 51.7 -1.2**
comp=Z,86nm,1.3s
QIZ Qiongzhong 47.79 68 P **P 15 57 55.9 +0.5**
QIZ pP **pP 15 57 57.8 -2.8**
QIZ S **S 16 04 51.5 -0.2**
QIZ pmax pmax
comp=Z,13nm,1.6s
QIZ pmax pmax
comp=Z,120nm,5.3s
QIZ LR LR
comp=Z,470nm,16.2s
QIZ LR LR
comp=Z,840nm,17.2s
QIZ LR LR
comp=Z,890nm,16.2s
STKI Sintang 48.15 93 P **P 15 57 59.8 +1.6**
KURBB Kurchatov Arra 48.43 13 P **P 15 57 59.4 -0.4**
comp=Z,3.1nm,0.8s,baz=213,slow=8.1,SNR=31
KURBB PcP **PcP 15 59 25.4 -0.5**
comp=Z,2.1nm,0.9s,baz=213,slow=2.8,SNR=6.7
SIM Simferopol' 48.44 332 *e*P **P 15 58 00.8 +0.8**
SIM *e*S S 16 05 11.0 +11
SIM pmax pmax
comp=Z,20nm,1.4s
GTA Gaotai 48.45 38 ⇑ P **P 15 58 00.8 +0.4**
GTA pP pP 15 58 05.5 -0.1
GTA sP sP 15 58 07.8 +0.2
GTA PcP **PcP 15 59 27.8 +1.3**
GTA S **S 16 05 03.6 +2.8**
GTA sS sS 16 05 11.8 +2.4
GTA SS **SS 16 08 30.3 -0.5**
GTA pmax pmax
comp=Z,6.0nm,2.4s
GTA pmax pmax
comp=Z,220nm,5.5s
GTA LR LR
comp=Z,2μm,18.1s
GTA LR LR
comp=Z,3μm,19.0s
GTA LR LR
comp=Z,3μm,21.4s
KURK Kurchatov 48.54 13 *d* P **P 15 58 00.1 -0.5**
KURK pmax pmax
comp=Z,112nm,2.5s
KURK Kurchatov 48.54 13 *e*P **P 15 57 59.7 -0.9**
comp=Z,7.8nm,0.9s
KURK PcP **PcP 15 59 25.4 -0.9**
KURK Kurchatov 48.54 13 pP **P 15 58 02.4 +1.8**
SNR=5.5
KURK Kurchatov 48.54 13 P **P 15 58 02.4 +1.8**
SNR=5.5
SBUM Sibu 48.73 90 *e*P **P 15 58 02.1 -0.6**
comp=Z,23nm,1.1s
BOSA Boshof 48.78 226 P **P 15 58 02.6 -0.4**
comp=Z,15nm,1.2s,baz=80,slow=5.5,SNR=5.3
BOSA LR LR 16 17 35.5
comp=Z,2μm,18.1s,baz=52,slow=35
BOSA Boshof 48.78 226 *e*P **P 15 58 03.1 +0.1**
BOSA pmax pmax
comp=Z,29nm,1.3s
BOSA Boshof 48.78 226 *e*P **P 15 58 03.1 +0.1**
comp=Z,29nm,1.3s
LZH Lanzhou 49.21 44 *e*P **P 15 58 07.0 +0.7**
LZH pP pP 15 58 10.8 -0.7
LZH sP sP 15 58 14.5 +1.0
LZH PP **PP 16 00 04.0 +3.8**
LZH *e*S **S 16 05 11.5 -0.1**
LZH pmax pmax
comp=Z,33nm,1.4s
LZH pmax pmax
comp=Z,120nm,4.8s
LZH LR LR
comp=Z,2μm,16.7s
LZH LR LR
comp=Z,1μm,12.3s
LZH LR LR
comp=Z,2μm,18.1s

Sta	Name	Delta	Az	Phase	ISC	Time	Res
BVAR	**Borovoye Array**	**49.47**	**6**	P	**P**	**15 58 07.6**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=170,slow=9.0,SNR=16						
BVAR				PcP	**PcP**	**15 59 30.0**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=170,slow=4.1,SNR=5.4						
BVAR				LR	LR	16 20 10.7	
	comp=Z,978nm,20.9s,baz=188,slow=38						
BRVK	**Borovoye**	**49.49**	**5**	⇑*e*P	**P**	**15 58 08.3**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,87nm,2.5s						
BRVK	**Borovoye**	**49.49**	**5**	*e*P	**P**	**15 58 07.0**	**-0.9**
	comp=Z,5.5nm,0.9s						
BRVK	**Borovoye**	**49.49**	**5**	P	**P**	**15 58 08.6**	**+0.7**
	SNR=11						
BRVK	**Borovoye**	**49.49**	**5**	P	**P**	**15 58 08.6**	**+0.7**
	SNR=11						
DGZ	**Jazzator, Alta**	**50.13**	**20**	⇑*e*P	**P**	**15 58 12.2**	**-0.8**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TSUM	**Tsumeb**	**50.52**	**241**	*e*P	**P**	**15 58 15.6**	**-0.9**
	comp=Z,41nm,1.3s						
VRH	**Novokhopyorsk**	**50.69**	**342**	*e*P	**P**	**15 58 16.5**	**-0.5**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KDZ	**Kurdzhali**	**50.80**	**323**	*e*P	**P**	**15 58 19.0**	**+0.9**
TIRR	**Tirgusor**	**50.93**	**328**	⇑*i*P	**P**	**15 58 19.3**	**+0.4**
TIRR	**Tirgusor**	**50.93**	**328**	*e*P	**P**	**15 58 17.2**	**-1.7**
TIRR				pmax	pmax		
	comp=Z,54nm,1.4s						
TIRR	**Tirgusor**	**50.93**	**328**	*e*P	**P**	**15 58 17.2**	**-1.7**
	comp=Z,54nm,1.4s						
TLB	**Topalu**	**51.21**	**328**	⇑*i*P	**P**	**15 58 21.3**	**+0.3**
RZN	**Rozhen**	**51.25**	**323**	*e*P	**P**	**15 58 22.7**	**+1.1**
HARR	**Harsova**	**51.34**	**328**	⇑*i*P	**P**	**15 58 22.5**	**+0.5**
SZH	**Strazhica**	**51.51**	**325**	*e*P	**P**	**15 58 22.8**	**-0.5**
VSR	**Storozhevoye**	**51.51**	**341**	*e*P	**P**	**15 58 22.1**	**-1.1**
VSR				pmax	pmax		
	comp=Z,40nm,1.7s						
CFR	**Carcaliu**	**51.56**	**329**	⇓*i*P	**P**	**15 58 23.8**	**+0.2**
MMB	**Musomiste**	**51.78**	**322**	*e*P	**P**	**15 58 25.6**	**+0.1**
GZH	**Guangzhou**	**51.91**	**64**	P	**P**	**15 58 30.9**	**+4.3**
GZH				S	S	16 06 00.3	+11
GZH				LR	LR		
	comp=Z,760nm,16.5s						
GZH				LR	LR		
	comp=Z,630nm,17.0s						
XAN	**Xi'an**	**51.91**	**49**	P	**P**	**15 58 26.0**	**-0.6**
XAN				pP	sP	15 58 33.0	-0.9
XAN				PcS	**PcS**	**16 03 37.6**	**+0.2**
XAN				pmax	pmax		
	comp=Z,17nm,1.6s						
XAN				pmax	pmax		
	comp=Z,310nm,3.5s						
XAN				LR	LR		
	comp=Z,730nm,21.1s						
XAN				LR	LR		
	comp=Z,550nm,23.0s						
XAN				LR	LR		
	comp=Z,850nm,26.9s						
KKB	**Krupnik**	**52.34**	**322**	*e*P	**P**	**15 58 29.6**	**0.0**
ISR	**Istrita**	**52.36**	**328**	⇓*i*P	**P**	**15 58 31.5**	**+1.8**
KIS	**Kishinev**	**52.47**	**331**	*e*P	**P**	**15 58 30.0**	**-0.4**
	comp=Z,200nm,2.0s						
KIS				*e*S	**S**	**16 05 56.0**	**-0.1**
KIS				*e*L	L	16 18 42.0	
KIS				LRM	MLR	16 22 48.0	
	comp=Z,500nm,18.0s						
KIS	**Kishinev**	**52.47**	**331**	*e*P	**P**	**15 58 30.0**	**-0.4**
KIS				*e*S	**S**	**16 05 56.0**	**-0.1**
KIS				pmax	pmax		
	comp=Z,170nm,2.0s						
KIS				MLR	MLR		
	comp=Z,500nm,18.0s						
VTS	**Vitosha**	**52.68**	**323**	⇓*i*P	**P**	**15 58 32.8**	**+0.5**
VTS	**Vitosha**	**52.68**	**323**	*e*P	**P**	**15 58 32.8**	**+0.5**
VTS				pmax	pmax		
	comp=Z,17nm,1.0s						
VTS	**Vitosha**	**52.68**	**323**	*e*P	**P**	**15 58 32.8**	**+0.5**
	comp=Z,17nm,1.0s						
VTS	**Vitosha**	**52.68**	**323**	*e*P	**P**	**15 58 32.0**	**-0.3**
ARU	**Arti**	**52.69**	**357**	P	**P**	**15 58 31.2**	**-0.6**
ARU	**Arti**	**52.69**	**357**	*d i*P	**P**	**15 58 31.4**	**-0.5**
ARU						15 59 39.5	
ARU						16 00 30.7	
ARU				S	**S**	**16 06 00.8**	**+1.9**
ARU				SS	**SS**	**16 09 39.8**	**+2.3**
ARU				pmax	pmax		
	comp=Z,35nm,1.2s						
ARU				MLR	MLR		
	comp=Z,859nm,17.0s						
ARU	**Arti**	**52.69**	**357**	*e*P	**P**	**15 58 31.3**	**-0.6**
	comp=Z,14nm,1.0s						
VRI	**Vrincioaia**	**52.75**	**328**	⇓*i*P	**P**	**15 58 33.9**	**+1.3**
LPSR	**Galich'ya Gora**	**52.77**	**341**	*e*P	**P**	**15 58 31.7**	**-0.8**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PLOR	**Plostina**	**52.78**	**328**	⇑*i*P	**P**	**15 58 34.4**	**+1.6**
HUMR	**Humele**	**52.84**	**326**	⇓*i*P	**P**	**15 58 34.9**	**+1.7**
MLR	**Muntele Rosu**	**52.92**	**328**	LR	LR	16 21 42.1	
	comp=Z,68nm,20.7s,baz=108,slow=37						
MLR	**Muntele Rosu**	**52.92**	**328**	⇑*i*P	**P**	**15 58 35.7**	**+1.7**
MLR	**Muntele Rosu**	**52.92**	**328**	*e*P	**P**	**15 58 35.5**	**+1.5**
MLR				pmax	pmax		
	comp=Z,74nm,1.4s						
MLR	**Muntele Rosu**	**52.92**	**328**	*e*P	**P**	**15 58 35.5**	**+1.5**
	comp=Z,74nm,1.4s						
SVE	**Sverdlovsk**	**52.99**	**358**	*e*P	**P**	**15 58 33.5**	**-0.6**
SVE				pmax	pmax		
	comp=Z,40nm,1.7s						
ZAA0	**Zalesovo Array**	**53.03**	**16**	*e*P	**P**	**15 58 32.8**	**-1.6**
	comp=Z,22nm,0.8s						
ZALV	**Zalesovo Beam**	**53.03**	**16**	P	**P**	**15 58 33.1**	**-1.4**
	comp=Z,19nm,0.7s,baz=215,slow=7.7,SNR=82						
ZALV				PcP	**PcP**	**15 59 41.9**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=237,slow=5.0,SNR=2.1						
ZALV				LR	LR	16 21 05.3	
	comp=Z,967nm,21.7s,baz=249,slow=36						
ZALV	**Zalesovo Beam**	**53.03**	**16**	*e*P	**P**	**15 58 32.7**	**-1.8**
ZALV						15 59 41.9	
ZALV	**Zalesovo Beam**	**53.03**	**16**	*e*P	**P**	**15 58 32.6**	**-1.8**
ZALV				PcP	**PcP**	**15 59 41.9**	**-1.0**
TESR	**Tescani**	**53.22**	**329**	⇑*i*P	**P**	**15 58 36.5**	**+0.5**
MTUR	**Matau**	**53.23**	**327**	⇓*i*P	**P**	**15 58 37.8**	**+1.6**
VOIR		**53.37**	**327**	⇓*i*P	**P**	**15 58 37.5**	**+0.3**
NVS	**Novosibirsk**	**53.43**	**14**	*e*P	**P**	**15 58 36.1**	**-1.3**
NVS				pmax	pmax		
	comp=N,14nm,1.2s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,26nm,1.2s						
SORM	**Soroca**	**53.49**	**331**	⇑*i*P	**P**	**15 58 37.9**	**0.0**
DOPR	**Dopca**	**53.53**	**328**	⇓*i*P	**P**	**15 58 38.9**	**+0.6**
HVS	**Khovu-Aksy**	**53.62**	**23**	⇑*e*P	**P**	**15 58 39.0**	**0.0**
HVS				pmax	pmax		
	comp=Z,27nm,1.3s						
PRAR	**RASCA**	**54.01**	**329**	⇑*i*P	**P**	**15 58 42.9**	**+1.1**
LOT	**Lotru**	**54.08**	**326**	⇑*i*P	**P**	**15 58 42.7**	**+0.2**
HERR	**Herculane**	**54.50**	**325**	⇑*i*P	**P**	**15 58 46.0**	**+0.6**
BURAR	**Bucovina Array**	**54.69**	**329**	⇑*i*P	**P**	**15 58 47.6**	**+0.8**
BUR04	**Bucovina Ar. S**	**54.69**	**329**	*e*P	**P**	**15 58 47.2**	**+0.3**
BUR08	**Bucovina Ar. S**	**54.72**	**329**	*e*P	**P**	**15 58 47.2**	**+0.2**
WHN	**Wuhan**	**54.87**	**55**	P	**P**	**15 58 48.6**	**+0.3**
WHN				S	**S**	**16 06 31.4**	**+2.2**
WHN				LR	LR		
	comp=Z,2µm,18.8s						
WHN				LR	LR		
	comp=Z,490nm,12.6s						
WHN				LR	LR		
	comp=Z,2µm,20.2s						
AKASG	**Malin Array Be**	**54.92**	**334**	P	**P**	**15 58 46.8**	**-1.5**
	comp=Z,3.6nm,0.8s,baz=126,slow=6.4,SNR=17						
AKASG				PcP	**PcP**	**15 59 49.5**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=119,slow=2.9,SNR=6.3						
AKASG				LR	LR	16 24 57.6	
	comp=Z,221nm,19.3s,baz=115,slow=39						
AKASG	**Malin Array Be**	**54.92**	**334**	*ce*P	**P**	**15 58 47.7**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKBB	**Malin Array Si**	**54.92**	**334**	*e*P	**P**	**15 58 47.5**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,11nm,1.0s						
AKBB	**Malin Array Si**	**54.92**	**334**	*e*P	**P**	**15 58 47.5**	**-0.9**
	comp=Z,11nm,1.0s						
KIEV	**Kiev**	**54.93**	**334**	⇑*e*P	**P**	**15 58 48.2**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIEV	**Kiev**	**54.93**	**334**	*e*P	**P**	**15 58 47.5**	**-0.9**
	comp=Z,9.6nm,1.0s						
BZS	**Buzias**	**55.39**	**325**	⇓*i*P	**P**	**15 58 52.1**	**+0.3**
DRGR		**55.49**	**327**	⇓*i*P	**P**	**15 58 53.4**	**+0.8**
OBN	**Obninsk**	**55.64**	**342**	⇑*e*P	**P**	**15 58 53.1**	**-0.3**
OBN				*i* S	**S**	**16 06 44.7**	**+6.0**
OBN				*i* SS	**SS**	**16 10 29.0**	**+4.9**
OBN				pmax	pmax		
	comp=Z,75nm,2.5s						
OBN				MLR	MLR		
	comp=Z,560nm,20.0s						
MOS	**Moscow**	**55.85**	**343**	*e*P	**P**	**15 58 52.3**	**-2.6**
MOS				pmax	pmax		
	comp=Z,168nm,1.7s						
MOS				MLR	MLR		
	comp=Z,1µm,20.0s						
VAE	**Valguarnera**	**55.96**	**314**	LR	LR	16 21 19.3	
	comp=Z,139nm,21.7s,baz=151,slow=34						
CUC	**Castrocucco**	**56.07**	**317**	*e*P	**P**	**15 58 56.0**	**-0.9**
	comp=Z,20nm,1.4s						
MPSI	**Mapaga**	**56.52**	**92**	P	**P**	**15 59 01.6**	**+1.1**
	comp=Z,26nm,1.3s,comp=Z,559nm						
LVV	**L'vov**	**56.72**	**331**	*e*P	**P**	**15 59 01.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**56.82**	**42**	*e*P	**P**	**15 59 03.4**	**+1.1**
HHC				S	**S**	**16 06 54.5**	**-0.6**
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,4.9s						
HHC				LR	LR		
	comp=Z,1µm,15.4s						
HHC				LR	LR		
	comp=Z,1µm,16.6s						
HHC				LR	LR		
	comp=Z,1µm,17.5s						
UZH	**Uzhgorod**	**56.84**	**329**	*e*P	**P**	**15 59 02.0**	**-0.1**
UZH				*e*		15 59 05.4	
UZH				*e*S	**S**	**16 06 51.2**	**-3.7**
QZH	**Quanzhou**	**57.00**	**63**	*e*P	**P**	**15 59 04.4**	**+0.7**
QZH				S	**S**	**16 06 57.4**	**-0.4**
QZH				LR	LR		
	comp=Z,600nm,14.7s						
QZH				LR	LR		
	comp=Z,410nm,14.9s						
QZH				LR	LR		
	comp=Z,600nm,16.1s						
MOY	**Mondy**	**57.10**	**27**	*e*P	**P**	**15 59 04.4**	**+0.3**
MOY				pmax	pmax		
	comp=Z,33nm,1.9s						
BNSI	**Bone**	**57.20**	**98**	P	**P**	**15 59 06.0**	**+0.7**
	comp=Z,56nm,1.7s						
KWP	**Kalwaria Pacla**	**57.26**	**330**	*e*P	**P**	**15 59 05.8**	**+0.7**
KWP	**Kalwaria Pacla**	**57.26**	**330**	*e*P	**P**	**15 59 05.8**	**+0.7**
ZAK	**Zakamensk**	**57.31**	**29**	*e*P	P	15 58 55.1	-10
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s						
SONM	**Songino Array**	**57.33**	**33**	P	**P**	**15 59 05.2**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=229,slow=7.5,SNR=33						
SONM				LR	LR	16 23 50.0	
	comp=Z,2µm,21.7s,baz=226,slow=36						
SONA1	**Songino Array**	**57.35**	**33**	*e*P	**P**	**15 59 05.7**	**-0.2**
MORH	**Mˆ‡rˆ¡gy, Hung**	**57.44**	**325**	⇓*e*P	**P**	**15 59 06.6**	**+0.2**
CRVS	**Cervenica-Dubn**	**57.45**	**328**	*e*P	**P**	**15 59 07.2**	**+0.8**
CRVS	**Cervenica-Dubn**	**57.45**	**328**	*e*P	**P**	**15 59 07.2**	**+0.8**
TGY	**Tagaytay City**	**57.60**	**76**	LR	LR	16 20 50.7	
	comp=Z,622nm,22.0s,baz=298,slow=33						
PSZ	**Piszkesteto**	**57.70**	**327**	*e*P	**P**	**15 59 06.9**	**-1.4**
PSZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PSZ	**Piszkesteto**	**57.70**	**327**	*e*P	**P**	**15 59 06.9**	**-1.4**
	comp=Z,7.7nm,1.0s						
KECS	**Kecovo**	**57.71**	**328**	*e*P	**P**	**15 59 09.1**	**+0.8**
KECS				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KECS	**Kecovo**	**57.71**	**328**	*e*P	**P**	**15 59 09.1**	**+0.8**
ULN	**Ulaanbaatar**	**57.71**	**33**	⇑*e*P	**P**	**15 59 08.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,32nm,2.5s						
ULN	**Ulaanbaatar**	**57.71**	**33**	*e*P	**P**	**15 59 08.4**	**-0.1**
	comp=Z,10nm,1.3s						
ULN	**Ulaanbaatar**	**57.71**	**33**	P	**P**	**15 59 08.7**	**+0.2**
	SNR=9.0						
ULN	**Ulaanbaatar**	**57.71**	**33**	P	**P**	**15 59 08.7**	**+0.2**
	SNR=9.0						
STHS	**Stebnicka Huta**	**57.87**	**329**	*e*P	**P**	**15 59 09.6**	**+0.2**
STHS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
STHS	**Stebnicka Huta**	**57.87**	**329**	*e*P	**P**	**15 59 09.6**	**+0.2**
TLY	**Talaya**	**58.33**	**28**	*e*P	**P**	**15 59 13.5**	**+0.9**
TLY				*e*S	**S**	**16 07 06.0**	**-8.4**
TLY				pmax	pmax		
	comp=Z,18nm,1.7s						
TLY				MLR	MLR		
	comp=Z,1µm,20.0s						
TLY	**Talaya**	**58.33**	**28**	*e*P	**P**	**15 59 12.8**	**+0.2**
	comp=Z,19nm,1.5s						
TLY	**Talaya**	**58.33**	**28**	pP	**P**	**15 59 13.7**	**+1.1**
	SNR=7.5						
TLY	**Talaya**	**58.33**	**28**	P	**P**	**15 59 13.7**	**+1.1**
	SNR=7.5						
NIE	**Niedzica**	**58.37**	**328**	*e*P	**P**	**15 59 13.5**	**+0.6**
NIE	**Niedzica**	**58.37**	**328**	*e*P	**P**	**15 59 13.5**	**+0.6**
MRSI	**Marisa**	**58.55**	**92**	P	**P**	**15 59 14.2**	**-0.6**
VYHS	**Vyhne**	**58.61**	**327**	*e*P	**P**	**15 59 14.4**	**-0.2**
VYHS				pmax	pmax		
	comp=Z,46nm,1.9s						
VYHS	**Vyhne**	**58.61**	**327**	*e*P	**P**	**15 59 14.4**	**-0.2**
LANS	**Liptovska Anna**	**58.65**	**328**	*e*P	**P**	**15 59 15.5**	**+0.6**
LANS	**Liptovska Anna**	**58.65**	**328**	*e*P	**P**	**15 59 15.5**	**+0.6**
TIA	**Tai'an**	**58.95**	**50**	P	**P**	**15 59 17.1**	**-0.1**
TIA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KOGS	**Kog**	**58.96**	**324**	*e*P	**P**	**15 59 17.1**	**+0.1**
NACGM	**Naroch**	**58.99**	**336**	*e*	**P**	**15 59 16.0**	**-1.1**
NJ2	**Nanjing**	**59.00**	**55**	*e*P	**P**	**15 59 17.5**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,17nm,0.8s						
TAM	**Tamanrasset**	**59.06**	**294**	*e*P	**P**	**15 59 19.3**	**+0.9**
TAM				pmax	pmax		
	comp=Z,47nm,1.3s						
TAM	**Tamanrasset**	**59.06**	**294**	*e*P	**P**	**15 59 19.3**	**+0.9**
	comp=Z,47nm,1.3s						
BOJS	**Bojanci**	**59.08**	**322**	*i* P	**P**	**15 59 17.8**	**-0.1**
KEST	**Kesra**	**59.08**	**310**	P	**P**	**15 59 18.3**	**+0.1**
	comp=Z,5.6nm,0.9s,baz=86,slow=0.7,SNR=6.5						
KEST				LR	LR	16 23 03.6	
	comp=Z,329nm,21.5s,baz=36,slow=34						
KEST	**Kesra**	**59.08**	**310**	*e*P	**P**	**15 59 18.4**	**+0.1**
	comp=Z,31nm,1.4s						
OJC	**Ojcow**	**59.10**	**329**	*e*P	**P**	**15 59 17.4**	**-0.6**
OJC	**Ojcow**	**59.10**	**329**	*e*P	**P**	**15 59 17.4**	**-0.6**
OJC	**Ojcow**	**59.10**	**329**	*e*P	**P**	**15 59 17.4**	**-0.6**
	comp=Z,15nm,1.2s						
SOP	**Sopron**	**59.43**	**325**	⇓*e*P	**P**	**15 59 20.1**	**-0.2**
BEL	**Belsk**	**59.59**	**331**	*e*P	**P**	**15 59 21.5**	**+0.2**
BEL	**Belsk**	**59.59**	**331**	*e*P	**P**	**15 59 21.5**	**+0.2**
BJI	**Beijing**	**59.66**	**45**	⇓*e*P	**P**	**15 59 22.1**	**+0.1**
BJI				S	**S**	**16 07 30.3**	**-1.6**
BJI				pmax	pmax		
	comp=Z,20nm,1.5s						
BJI				pmax	pmax		
	comp=Z,280nm,3.0s						
BJI				LR	LR		
	comp=Z,1µm,19.2s						
BJI				LR	LR		
	comp=Z,2µm,18.0s						
OKC	**Ostrava-Krasne**	**59.75**	**328**	*e*P	**P**	**15 59 21.7**	**-0.7**
OKC	**Ostrava-Krasne**	**59.75**	**328**	*e*P	**P**	**15 59 21.7**	**-0.7**
LJU	**Ljubljana**	**59.79**	**323**	*i* P	**P**	**15 59 22.9**	**+0.1**
SOKA	**Soboth**	**59.80**	**323**	*e*P	**P**	**15 59 22.7**	**-0.2**
	comp=Z,20nm,1.4s,SNR=8.7						
ARSA	**Arzberg**	**59.80**	**324**	*e*P	**P**	**15 59 23.1**	**+0.2**
	comp=Z,25nm,1.6s,SNR=9.9						
KLMR	**Klimovskoe**	**59.81**	**347**	*e*P	**P**	**15 59 20.0**	**-2.6**
KLMR				*e*		16 00 06.6	
KLMR				*e*S	**S**	**16 07 33.3**	**+0.1**
KLMR				pmax	pmax		
	comp=Z,69nm,1.4s						
KLMR	**Klimovskoe**	**59.81**	**347**	*e*P	**P**	**15 59 20.1**	**-2.6**
KLMR				AMP		15 59 22.9	
	comp=Z,69nm,1.4s						
KLMR				*e*PcP	**PcP**	**16 00 06.7**	**-2.4**
KLMR				*e*S	**S**	**16 07 33.3**	**+0.1**
KLMR				*e*S	**S**	**16 07 33.3**	**+0.1**
KLMR				LQ	LQ	16 21 54.2	
KLMR				LQ	LQ	16 21 54.2	
KLMR				LR	LR	16 25 49.9	
SUW	**Suwalki**	**59.89**	**334**	*e*P	**P**	**15 59 23.6**	**+0.2**
SUW	**Suwalki**	**59.89**	**334**	*e*P	**P**	**15 59 23.5**	**+0.2**
CONA	**Conrad Observa**	**59.96**	**325**	*e*P	**P**	**15 59 23.7**	**-0.4**
	comp=Z,45nm,1.6s,SNR=16						
OBKA	**Obir**	**60.00**	**323**	*e*P	**P**	**15 59 24.5**	**+0.1**
	comp=Z,26nm,1.4s,SNR=6.9						
VRAC	**Vranov**	**60.29**	**327**	P	**P**	**15 59 25.8**	**-0.4**
	comp=Z,15nm,1.0s,baz=0.0,slow=0.0						
VRAC	**Vranov**	**60.29**	**327**	⇓*i*P	**P**	**15 59 26.0**	**-0.2**
MYKA	**Terra Mystica**	**60.61**	**323**	*e*P	**P**	**15 59 28.5**	**0.0**
	comp=Z,31nm,1.5s,SNR=9.8						
MOA	**Molln**	**60.84**	**324**	*e*P	**P**	**15 59 29.7**	**-0.3**
	comp=Z,40nm,1.4s,SNR=15						
KBA	**Koelnbreinsper**	**61.00**	**323**	*e*P	**P**	**15 59 31.0**	**-0.4**
	comp=Z,18nm,1.2s,SNR=6.7						
DPC	**Dobruska-Polom**	**61.01**	**328**	*e*P	**P**	**15 59 30.6**	**-0.5**
DPC	**Dobruska-Polom**	**61.01**	**328**	*e*P	**P**	**15 59 30.6**	**-0.5**
H01W3	**Cape Leeuwin H**	**61.13**	**133**	T	T	17 05 48.7	
	baz=298,slow=75,SNR=7.9						
H01W2	**Cape Leeuwin H**	**61.14**	**133**	T	T	17 06 04.8	
	baz=298,slow=75,SNR=9.5						
H01W1	**Cape Leeuwin H**	**61.15**	**133**	T	T	17 05 59.6	
	baz=298,slow=75,SNR=9.3						
UPC	**Upice**	**61.26**	**328**	*e*P	**P**	**15 59 32.4**	**-0.4**
UPC				AMS	AMS	16 26 20.0	
	comp=Z,600nm,19.1s						
UPC	**Upice**	**61.26**	**328**	*e*P	**P**	**15 59 32.4**	**-0.4**
UPC				MLR	MLR		
	comp=Z,600nm,19.1s						
KSP	**Ksiaz**	**61.29**	**328**	*e*P	**P**	**15 59 32.9**	**-0.1**
KSP	**Ksiaz**	**61.29**	**328**	*e*P	**P**	**15 59 32.9**	**-0.1**
ABTA	**Abfaltersbach**	**61.35**	**323**	*i* P	**P**	**15 59 33.4**	**-0.1**
	comp=Z,38nm,1.6s,SNR=13						
BATI	**Baumata**	**61.55**	**104**	LR	LR	16 25 38.7	
	comp=Z,438nm,20.4s,baz=288,slow=36						
KLNR	**Kaliningrad**	**61.60**	**333**	⇓*e*P	**P**	**15 59 34.3**	**-0.6**
KLNR				pmax	pmax		
	comp=Z,63nm,1.2s						
GOPC	**GO Pecny, Ondr**	**61.61**	**327**	*e*P	**P**	**15 59 34.2**	**-1.0**
GOPC	**GO Pecny, Ondr**	**61.61**	**327**	*e*P	**P**	**15 59 34.2**	**-1.0**
VSU	**Vasula**	**61.61**	**339**	⇓*e*P	**P**	**15 59 33.2**	**-1.7**
VSU				pmax	pmax		
	comp=Z,24nm,0.9s						
TOA0	**Torodi Ar. Sit**	**61.65**	**283**	*e*P	**P**	**15 59 36.5**	**+0.5**
	comp=Z,20nm,1.4s						
TORD	**Torodi Ar. Bea**	**61.65**	**283**	P	**P**	**15 59 36.8**	**+0.8**
	comp=Z,11nm,1.2s,baz=88,slow=4.9,SNR=31						
TORD				LR	LR	16 27 13.2	
	comp=Z,411nm,18.8s,baz=95,slow=37						
GEA0	**GERESS Array S**	**61.66**	**325**	*e*P	**P**	**15 59 33.7**	**-1.9**
GEC2	**GERESS Array S**	**61.67**	**325**	*e*P	**P**	**15 59 34.3**	**-1.4**
GEC2				pmax	pmax		
	comp=Z,11nm,1.4s						
GEC2	**GERESS Array S**	**61.67**	**325**	*e*P	**P**	**15 59 34.3**	**-1.4**
	comp=Z,11nm,1.4s						
GERES	**GERESS Array B**	**61.67**	**325**	P	**P**	**15 59 34.6**	**-1.1**
	comp=Z,2.0nm,1.0s,baz=139,slow=6.3,SNR=11						
PRU	**Pruhonice**	**61.78**	**326**	*e*P	**P**	**15 59 35.3**	**-1.0**
PRU	**Pruhonice**	**61.78**	**326**	*e*P	**P**	**15 59 35.3**	**-1.0**
KHC	**Kasperske Hory**	**61.88**	**325**	*e*P	**P**	**15 59 35.4**	**-1.6**
KHC				*e*pP	**pP**	**15 59 42.0**	**-0.4**
KHC	**Kasperske Hory**	**61.88**	**325**	*e*P	**P**	**15 59 35.4**	**-1.6**
KHC				*e*		15 59 42.0	
KHC	**Kasperske Hory**	**61.88**	**325**	*e*P	**P**	**15 59 35.1**	**-1.9**
	comp=Z,14nm,1.5s						
DAV	**Davao City (W)**	**61.92**	**84**	LR	LR	16 25 20.9	
	comp=Z,190nm,21.9s,baz=266,slow=35						
WTTA	**Wattenberg**	**62.12**	**323**	*e*P	**P**	**15 59 38.0**	**-0.8**
	comp=Z,21nm,1.5s						
WATA	**Walderalm**	**62.19**	**323**	*e*P	**P**	**15 59 38.6**	**-0.7**
	comp=Z,15nm,1.0s						
GKP	**Gorka Klasztor**	**62.19**	**331**	*e*P	**P**	**15 59 39.2**	**+0.3**
GKP	**Gorka Klasztor**	**62.19**	**331**	*e*P	**P**	**15 59 39.2**	**+0.3**
MOTA	**Moosalm**	**62.48**	**323**	*e*P	**P**	**15 59 39.9**	**-1.3**
	comp=Z,16nm,1.0s,SNR=8.3						
FETA	**Feichten**	**62.56**	**322**	*e*P	**P**	**15 59 41.4**	**-0.4**
	comp=Z,17nm,1.4s,SNR=5.7						
NWAO	**Narrogin (SRO)**	**62.57**	**130**	P	**P**	**15 59 40.2**	**-1.6**
	comp=Z,13nm,0.9s						
BRG	**Berggiesshubel**	**62.57**	**327**	⇑*i*P	**P**	**15 59 41.5**	**0.0**
	comp=Z,58nm,1.9s						
BRG				*e*		15 59 49.7	
	comp=Z,11nm,1.4s						
BRG				*e*		15 59 56.3	
	comp=Z,7.8nm,1.1s						
BRG	**Berggiesshubel**	**62.57**	**327**	⇑*i*P	**P**	**15 59 41.5**	**0.0**
BRG				*e*		15 59 49.7	
BRG				pmax	pmax		
	comp=Z,59nm,1.9s						
BRG				pmax	pmax		
	comp=Z,11nm,1.4s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**62.67**	**322**	*e*P	**P**	**15 59 42.7**	**+0.1**
RETA	**Reutte**	**62.75**	**323**	*e*P	**P**	**15 59 41.9**	**-1.0**
	comp=Z,9.1nm,0.8s						
TMCR	**Tamitsa**	**63.06**	**348**	*e*P	**P**	**15 59 43.1**	**-1.4**
TMCR				pmax	pmax		
	comp=Z,47nm,1.1s						
NKC	**Novy Kostel**	**63.07**	**326**	*e*P	**P**	**15 59 44.8**	**-0.1**
NKC	**Novy Kostel**	**63.07**	**326**	*e*P	**P**	**15 59 44.8**	**-0.1**
TUE	**Stuetta**	**63.18**	**321**	*e*P	**P**	**15 59 45.0**	**-1.0**
	comp=Z,19nm,1.3s						
DAVA	**Damuels**	**63.20**	**322**	*i* P	**P**	**15 59 45.6**	**-0.5**
	comp=Z,27nm,0.9s,SNR=12						
CLL	**Collm**	**63.30**	**327**	⇓*i*P	**P**	**15 59 46.2**	**-0.2**
CLL				*e*		15 59 53.0	
CLL				pmax	pmax		
	comp=Z,61nm,1.5s						
CLL				MLR	MLR		
	comp=Z,300nm,20.3s						
CLL	**Collm**	**63.30**	**327**	⇓*i*P	**P**	**15 59 46.2**	**-0.2**
	comp=Z,61nm,1.5s						
CLL				*e*sP	**sP**	**15 59 53.0**	**-0.8**
CLL				*e*S	**S**	**16 08 18.0**	**+0.2**
CLL				*e*SSS	SSS	16 15 24.0	
CLL				LmV		16 30 00.0	
	comp=Z,300nm,20.3s						
CLL				LmH		16 33 00.0	
	comp=N,300nm,20.0s						
CLL				LmH		16 33 00.0	
	comp=E,100nm,20.6s						
CLL	**Collm**	**63.30**	**327**	*e*P	**P**	**15 59 45.9**	**-0.6**
	comp=E,54nm,1.4s						
GRFO	**Grafenberg**	**63.50**	**325**	*e*P	**P**	**15 59 46.0**	**-1.8**
GRFO				pmax	pmax		
	comp=Z,50nm,1.3s						
GRFO	**Grafenberg**	**63.50**	**325**	*e*P	**P**	**15 59 46.0**	**-1.8**
	comp=Z,50nm,1.3s						
FINES	**FINESS Array B**	**64.04**	**341**	P	**P**	**15 59 50.4**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=142,slow=9.5,SNR=7.8						
SENIN	**Lac Senin/Sane**	**64.42**	**320**	*e*P	**P**	**15 59 53.6**	**-0.6**
	comp=Z,24nm,1.0s						
BFO	**Black Forest**	**64.59**	**323**	*i* P	**P**	**15 59 54.7**	**-0.3**
BFO	**Black Forest**	**64.59**	**323**	*e*P	**P**	**15 59 54.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**65.00**	**112**	LR	LR	16 26 09.9	
	comp=Z,236nm,18.3s,baz=270,slow=34						
ECH	**Echery**	**65.25**	**322**	*e*P	**P**	**15 59 58.3**	**-1.0**
ECH				pmax	pmax		
	comp=Z,33nm,1.3s						
ECH	**Echery**	**65.25**	**322**	*e*P	**P**	**15 59 58.3**	**-1.0**
	comp=Z,33nm,1.3s						
HIA	**Hailar**	**65.71**	**37**	*de*P	**P**	**16 00 02.1**	**-0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
SSB	**Saint Sauveur**	**65.81**	**318**	*e*P	**P**	**16 00 02.1**	**-0.9**
SSB				pmax	pmax		
	comp=Z,17nm,0.9s						
SSB	**Saint Sauveur**	**65.81**	**318**	*e*P	**P**	**16 00 02.1**	**-0.9**
	comp=Z,17nm,0.9s						
WLF	**Walferdange**	**66.45**	**323**	⇑P	**P**	**16 00 06.7**	**-0.3**
	comp=Z,22nm,1.6s						
WLF	**Walferdange**	**66.45**	**323**	*e*P	**P**	**16 00 06.4**	**-0.5**
WLF				pmax	pmax		
	comp=Z,48nm,1.4s						
WLF	**Walferdange**	**66.45**	**323**	*e*P	**P**	**16 00 06.4**	**-0.5**
	comp=Z,48nm,1.4s						
BOD	**Bodaibo**	**66.81**	**27**	*e*P	**P**	**16 00 08.4**	**-0.7**
BOD				pmax	pmax		
	comp=Z,18nm,2.1s						
MEM	**Membach**	**66.91**	**324**	⇓P	**P**	**16 00 09.9**	**0.0**
	comp=Z,13nm,1.4s						
BEBN	**Eben Emael**	**67.18**	**324**	⇑P	**P**	**16 00 11.2**	**-0.4**

KOWA	**Kowa**	**67.25**	**284**	P		**P**	**16 00 12.2**	**-0.5**
	comp=Z,7.6nm,0.8s,baz=78,slow=7.6,SNR=9.3							
KOWA				LR		LR	16 29 11.7	
	comp=Z,314nm,20.4s,baz=49,slow=36							
KOWA	**Kowa**	**67.25**	**284**	*e*P		**P**	**16 00 13.5**	**+0.8**
	comp=Z,22nm,1.1s							
BCLA	**Clavier**	**67.25**	**324**	⇓P		**P**	**16 00 11.9**	**-0.2**
	comp=Z,25nm,1.8s							
CN2	**Changchun**	**67.44**	**44**	*e*P		**P**	**16 00 14.0**	**+0.6**
CN2				*e*SP		sP	16 00 21.0	+0.2
CN2				*e*S		**S**	**16 09 07.8**	**-1.1**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=Z,500nm,18.0s							
CN2				LR	LR			
	comp=Z,300nm,18.0s							
CN2				LR	LR			
	comp=Z,600nm,17.0s							
DOU	**Dourbes**	**67.54**	**323**	⇑P		**P**	**16 00 14.0**	**+0.1**
	comp=Z,14nm,2.0s							
KSAR	**Wonju Array Be**	**67.56**	**51**	P		**P**	**16 00 12.9**	**-1.4**
KSAR	**Wonju Array Be**	**67.56**	**51**	P		**P**	**16 00 12.8**	**-1.4**
KS01	**Wonju Array Si**	**67.58**	**51**	*e*P		**P**	**16 00 12.5**	**-1.9**
KSRS	**Korea Array**	**67.60**	**51**	P		**P**	**16 00 12.8**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=258,slow=7.6,SNR=13							
KSRS				LR		LR	16 31 54.4	
	comp=Z,375nm,18.8s,baz=259,slow=38							
HFS	**Hagfors**	**67.75**	**336**	P		**P**	**16 00 14.5**	**-0.5**
	comp=Z,12nm,0.6s,baz=134,slow=6.4,SNR=46							
SNF	**Seneffe**	**67.89**	**324**	⇑P		**P**	**16 00 15.9**	**-0.2**
KIC	**Kosan Boka**	**67.92**	**275**	*e*P		**P**	**16 00 17.6**	**+0.6**
	comp=Z,93nm,1.3s							
UCC	**Uccle**	**67.95**	**324**	⇑P		**P**	**16 00 16.3**	**-0.2**
DBIC	**Dimbokro**	**68.03**	**276**	P		**P**	**16 00 16.9**	**-0.7**
	comp=Z,11nm,1.1s,baz=87,slow=11,SNR=4.8							
DBIC				PKKP		**PKKPdf**	**16 20 13.9**	**-6.3**
	comp=Z,4.6nm,1.0s,baz=318,slow=3.3,SNR=3.7							
DBIC				LR		LR	16 30 10.3	
	comp=Z,482nm,19.7s,baz=75,slow=36							
DBIC	**Dimbokro**	**68.03**	**276**	*e*P		**P**	**16 00 16.5**	**-1.1**
DBIC				pmax	pmax			
	comp=Z,30nm,1.3s							
DBIC	**Dimbokro**	**68.03**	**276**	*e*P		**P**	**16 00 16.5**	**-1.1**
	comp=Z,30nm,1.3s							
DBIC				PKKP		**PKKPdf**	**16 20 13.9**	**-6.3**
TIC	**Toumodi**	**68.19**	**276**	*e*P		**P**	**16 00 19.5**	**+0.8**
LIC	**Lamto**	**68.21**	**275**	*e*P		**P**	**16 00 19.2**	**+0.4**
	comp=Z,135nm,2.0s							
JNU	**Nakatsue**	**69.13**	**56**	LR		LR	16 32 30.6	
	comp=Z,339nm,18.6s,baz=292,slow=38							
NB2	**NORSAR Subarra**	**69.27**	**336**	P		**P**	**16 00 23.2**	**-1.4**
	comp=Z,22nm,1.2s,baz=122,slow=6.5							
NOA	**NORSAR Array B**	**69.27**	**336**	P		**P**	**16 00 23.2**	**-1.4**
	comp=Z,7.0nm,0.9s,baz=116,slow=6.9,SNR=14							
NBO02	**NORSAR Array S**	**69.42**	**336**	*e*P		**P**	**16 00 24.4**	**-1.0**
ES19	**SONSECA Array**	**70.26**	**311**	*e*P		**P**	**16 00 30.1**	**-1.0**
ARCES	**ARCESS Array B**	**70.29**	**347**	P		**P**	**16 00 30.1**	**-0.5**
	comp=Z,9.6nm,0.7s,baz=134,slow=5.2,SNR=17							
ARCES				LR		LR	16 34 08.4	
	comp=Z,370nm,19.5s,baz=131,slow=38							
ESDC	**Sonseca Array**	**70.30**	**311**	P		**P**	**16 00 31.4**	**0.0**
	comp=Z,13nm,0.8s,baz=88,slow=5.5,SNR=56							
ESDC				LR		LR	16 30 18.6	
	comp=Z,102nm,21.2s,baz=45,slow=35							
ESLA	**Sonseca Array**	**70.30**	**311**	*e*P		**P**	**16 00 30.7**	**-0.7**
	comp=Z,32nm,1.1s							
MDJ	**Mudanjiang**	**70.53**	**44**	P		**P**	**16 00 31.1**	**-1.5**
	comp=Z,188nm,2.3s							
PAB	**San Pablo**	**70.56**	**311**	*e*P		**P**	**16 00 33.0**	**0.0**
PAB				pmax	pmax			
	comp=Z,27nm,1.0s							
PAB	**San Pablo**	**70.56**	**311**	*e*P		**P**	**16 00 33.0**	**0.0**
	comp=Z,27nm,1.0s							
MSHR	**Mys Shultsa**	**71.16**	**46**	*ce*P		**P**	**16 00 35.1**	**-1.3**
MAW	**Mawson**	**71.17**	**180**	LR		LR	16 25 04.2	
	comp=Z,623nm,18.7s,baz=34,slow=30							
ZEA	**Zeya**	**71.73**	**34**	*e*P		**P**	**16 00 38.8**	**-0.9**
ZEA				pmax	pmax			
	comp=Z,28nm,1.4s							
ZEA				MLR	MLR			
	comp=Z,3μm,17.0s							
ZEA				MLR	MLR			
	comp=N,1μm,18.0s							
ZEA				MLR	MLR			
	comp=E,2μm,18.0s							
USRK	**Ussuriysk Ar.**	**72.11**	**45**	P		**P**	**16 00 41.5**	**-0.6**
	comp=E,2.3nm,0.6s,baz=238,slow=8.0,SNR=5.1							
USRK				LR		LR	16 33 15.1	
	comp=E,443nm,20.9s,baz=257,slow=37							
PBAR	**Barrancos**	**72.38**	**309**	*e*P		**P**	**16 00 43.5**	**-0.4**
	comp=E,25nm,1.7s							
PMRV	**Marv??o**	**72.86**	**310**	*e*P		**P**	**16 00 46.9**	**+0.1**
	comp=E,43nm,1.7s							
PCBR	**Castelo Branco**	**72.99**	**310**	*e*P		**P**	**16 00 48.0**	**+0.5**
	comp=E,38nm,1.9s							
KLR	**Kul'dur**	**73.11**	**40**	LR		LR	16 33 58.7	
	comp=E,42nm,19.2s,baz=244,slow=37							
KLR	**Kul'dur**	**73.11**	**40**	⇓*e*P		**P**	**16 00 46.8**	**-1.2**
EVO	**Evora**	**73.19**	**309**	*e*P		**P**	**16 00 49.1**	**+0.4**
	comp=E,38nm,1.9s							
MESJ	**Messejana**	**73.25**	**308**	*e*P		**P**	**16 00 49.6**	**+0.5**
	comp=E,31nm,2.1s							
PVRL	**Vila Real**	**73.41**	**312**	*e*P		**P**	**16 00 51.0**	**+1.0**
	comp=E,55nm,1.6s							
WRA	**Warramunga Arr**	**73.43**	**112**	P		**P**	**16 00 50.8**	**+0.3**
	comp=E,19nm,1.0s,baz=289,slow=5.3,SNR=43							
WRA				LR		LR	16 29 34.2	
	comp=E,202nm,20.1s,baz=280,slow=33							
WRAB	**Tennant Creek**	**73.44**	**112**	⇓*e*P		**P**	**16 00 50.9**	**+0.4**
WRAB				pmax	pmax			
	comp=Z,268nm,2.5s							
WRAB	**Tennant Creek**	**73.44**	**112**	*e*P		**P**	**16 00 50.2**	**-0.3**
	comp=Z,81nm,1.4s							
PMTG	**Montargil**	**73.44**	**310**	*e*P		**P**	**16 00 50.9**	**+0.7**
	comp=Z,50nm,1.7s							
PVIS	**Viseu**	**73.45**	**311**	*e*P		**P**	**16 00 50.8**	**+0.5**
	comp=Z,35nm,2.3s							
ASAR	**Alice Springs**	**73.74**	**116**	P		**P**	**16 00 51.8**	**-0.5**
	comp=Z,16nm,0.9s,baz=284,slow=5.9,SNR=69							
ASAR				LR		LR	16 28 39.5	
	comp=Z,144nm,21.5s,baz=293,slow=32							
AS31	**Alice Springs**	**73.74**	**116**	*e*P		**P**	**16 00 51.8**	**-0.5**
	comp=Z,5.5nm,0.9s							
EKA	**Eskdalemuir Ar**	**73.77**	**327**	P		**P**	**16 00 50.5**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=109,slow=7.2,SNR=9.7							
EKA				LR		LR	16 36 01.4	
	comp=Z,135nm,19.2s,baz=85,slow=38							
AS01	**Alice Springs**	**73.78**	**116**	*e*P		**P**	**16 00 51.4**	**-1.1**
PCAS	**Casmilo, Conde**	**73.80**	**311**	*e*P		**P**	**16 00 53.3**	**+1.0**
	comp=Z,59nm,1.8s							
SYO	**Syowa Base**	**74.42**	**189**	⇑*e*P		**P**	**16 00 55.0**	**-0.2**
MAT	**Matsushiro**	**75.56**	**53**	P		**P**	**16 01 00.7**	**-1.9**
MAT				*e*S		**SKiKP**	**16 10 31.4**	**+7.2**
MJAR	**Matsushiro Arr**	**75.56**	**53**	P		**P**	**16 01 01.4**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=265,slow=8.1,SNR=13							
MJAR				LR		LR	16 35 24.3	
	comp=Z,302nm,21.8s,baz=275,slow=37							
YAK	**Yakutsk**	**75.73**	**26**	*e*P		**P**	**16 01 01.5**	**-1.5**
YAK				*e*			16 01 14.2	
YAK				*e*PPP		PPP	16 05 44.4	
YAK				*e*S		**S**	**16 10 41.8**	**-2.0**
YAK				*e*			16 11 26.3	
YAK				*e*SS		**SS**	**16 15 37.1**	**+1.6**
YAK				*e*SSS		SSS	16 18 48.3	
YAK				pmax	pmax			
	comp=Z,23nm,1.2s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,15nm,1.3s							
YAK				pmax	pmax			
	comp=Z,114nm,3.5s							
YAK				pmax	pmax			
	comp=N,54nm,4.4s							
YAK				pmax	pmax			
	comp=E,71nm,3.7s							
YAK				smax	smax			
	comp=N,26nm,3.0s							
YAK				smax	smax			
	comp=E,39nm,2.6s							
YAK				MLR	MLR			
	comp=Z,1μm,18.0s							
YAK				MLR	MLR			
	comp=N,1μm,20.0s							
YAK				MLR	MLR			
	comp=E,578nm,19.0s							
YAK	**Yakutsk**	**75.73**	**26**	*e*P		**P**	**16 01 02.0**	**-1.0**
	comp=E,25nm,1.0s							
SPITS	**Spitsbergen Ar**	**78.27**	**351**	LR		LR	16 40 17.0	
	comp=E,374nm,18.2s,baz=20,slow=39							
TIXI	**Tiksi**	**78.89**	**17**	*d*/P		**P**	**16 01 19.4**	**-1.1**
TIXI				pmax	pmax			
	comp=Z,60nm,2.5s							
NKL	**Nikolayevsk**	**79.38**	**37**	*e*P		**P**	**16 01 22.0**	**-1.5**
YSS	**Yuzh-Sakhalins**	**80.00**	**43**	*e*P		P	16 01 21.0	-6.0
YSS				*e*			16 01 27.0	
YSS				pmax	pmax			
	comp=Z,10.0nm,1.3s							
TYV	**Tymovskoe**	**80.32**	**39**	*e*P		P	16 01 22.9	-5.8
TYV				pmax	pmax			
	comp=Z,300nm,3.5s							
TYV				pmax	pmax			
	comp=Z,9.0nm,2.0s							
TYV				MLR	MLR			
	comp=Z,900nm,17.0s							
GUMO	**Guam**	**80.82**	**77**	LR		LR	16 35 28.9	
	comp=Z,196nm,20.1s,baz=280,slow=34							
NVL	**N'lazarevskaya**	**81.69**	**195**	*e*P		**P**	**16 01 37.0**	**+1.4**
NVL				pmax	pmax			
	comp=Z,45nm,1.5s							
STKA	**Stephens Creek**	**81.94**	**123**	P		**P**	**16 01 36.8**	**-1.0**
	comp=Z,5.9nm,0.8s,baz=265,slow=6.5,SNR=8.3							
STKA				LR		LR	16 36 28.7	
	comp=Z,409nm,18.0s,baz=233,slow=35							
BORG	**Borgarnes**	**84.41**	**335**	LR		LR	16 40 57.1	
	comp=Z,196nm,21.8s,baz=82,slow=37							
PMG	**Port Moresby**	**84.43**	**100**	LR		LR	16 38 28.4	
	comp=Z,97nm,19.9s,baz=264,slow=35							
CTA	**Charters Tower**	**84.54**	**110**	LR		LR	16 35 51.5	
	comp=Z,353nm,20.0s,slow=33							
DAG	**Danmarks Havn**	**84.58**	**347**	*i* P		**P**	**16 01 49.8**	**-0.6**
	comp=Z,18nm,1.2s							
DAG	**Danmarks Havn**	**84.58**	**347**	*i* P		**P**	**16 01 49.8**	**-0.6**
DAG				pmax	pmax			
	comp=Z,18nm,1.2s							
MA2	**Magadan**	**85.46**	**31**	*de*P		**P**	**16 01 54.5**	**-0.7**
SEY	**Seymchan**	**86.23**	**27**	⇓*e*P		**P**	**16 01 58.9**	**0.0**
SNAA	**Sanae**	**86.23**	**197**	LR		LR	16 34 10.1	
	comp=Z,626nm,20.7s,baz=86,slow=31							
SNAA	**Sanae**	**86.23**	**197**	⇑*e*P		**P**	**16 01 58.3**	**-0.5**
PETK	**Petropavlovsk-**	**89.61**	**37**	LR		LR	16 44 21.7	
	comp=Z,499nm,19.9s,baz=277,slow=37							
SUMG	**Summit**	**90.02**	**343**	*i* P		**P**	**16 02 17.4**	**0.0**
	comp=Z,12nm,1.3s							
SUMG	**Summit**	**90.02**	**343**	*i* P		**P**	**16 02 17.4**	**0.0**
SUMG				pmax	pmax			
	comp=Z,12nm,1.3s							
PET	**Petropavlovsk**	**90.19**	**37**	⇑*e*P		**P**	**16 02 16.5**	**-1.5**
PET				pmax	pmax			
	comp=Z,28nm,2.5s							
BILL	**Bilibino**	**91.35**	**22**	*d* /P		**P**	**16 02 23.5**	**+0.4**
BILL				pmax	pmax			
	comp=Z,14nm,1.3s							
BILL				MLR	MLR			
	comp=Z,591nm,23.0s							
QSPA	**South Pole Qui**	**93.69**	**180**	LR		LR	16 39 39.5	
	comp=Z,734nm,18.8s,baz=252,slow=32							
VNDA	**Vanda**	**95.44**	**168**	LR		LR	16 40 14.0	
	comp=Z,642nm,19.3s,baz=242,slow=32							
SFJD	**Kangerlussuaq**	**95.77**	**339**	LR		LR	16 47 50.0	
	comp=Z,226nm,20.2s,baz=56,slow=37							
DZM	**Mont Dzumac**	**103.45**	**112**	*e*LR		LR	16 37 19.9	
	comp=Z,458nm,24.9s							
ILAR	**Eielson Array**	**108.11**	**13**	PP		PP	16 08 07.0	-0.4
	comp=Z,0.7nm,0.9s,baz=298,slow=6.3,SNR=5.2							
YKA	**Yellowknife Ar**	**113.94**	**359**	PKP		**PKiKP**	**16 07 56.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=350,slow=1.9,SNR=11							
YKA				PP		**PP**	**16 08 49.4**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=0.7,slow=7.2,SNR=7.6							
YKA				PKKPbc		**PKKPab**	**16 18 44.6**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=175,slow=4.3,SNR=16							
CPUP	**Villa Florida**	**119.11**	**242**	PKP		**PKPdf**	**16 08 06.3**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=62,slow=5.2,SNR=4.4							
ULM	**Lac du Bonnet**	**123.35**	**344**	PKP		**PKPdf**	**16 08 14.2**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=212,slow=3.0,SNR=3.5							
PLCA	**Paso Flores**	**124.65**	**222**	PKP		**PKPdf**	**16 08 17.1**	**-0.6**
	comp=Z,2.1nm,1.1s,baz=165,slow=5.5,SNR=3.9							
LPAZ	**La Paz**	**130.83**	**252**	PKP		**PKPdf**	**16 08 30.8**	**0.0**
	comp=Z,15nm,1.4s,baz=45,slow=3.6,SNR=14							
PDAR	**Pinedale Array**	**133.29**	**353**	PKP		**PKPdf**	**16 08 34.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=70,slow=2.0,SNR=13							
NVAR	**Mina Array Bea**	**138.02**	**2**	PKhKP		PKPpre	16 08 38.3	
	comp=Z,2.2nm,1.0s,baz=179,slow=0.5,SNR=4.4							
NVAR				PKP		**PKPdf**	**16 08 44.0**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=247,slow=1.0,SNR=14							
PPT2	**Papeete2**	**144.84**	**116**	*e*LR		LR	16 56 35.0	
	comp=Z,387nm,31.0s							
TXAR	**Lajitas Array**	**144.87**	**340**	PKP		PKPbc	16 08 54.6	0.0
	comp=Z,6.4nm,1.0s,baz=48,slow=1.9,SNR=44							

*ISCJB **17** 15:50:15.4±1.5,22°.8N±0°.1×11°.6W±0°.2, h10km, mb3.7/5, Error ellipse: s-maj=32.8km s-min=8.8km az=152.4*
*IDC **17** 15:50:16.2±2.4,22°.90N×11°.52W, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.5/60, mbtmp3.8/8, ML3.8/3, Error ellipse: s-maj=70.0km s-min=21.4km az=74.0*
ISC 17 15:50:16.5±1.7,22°.8N±0°.1×11°.7W±0°.3, h10km, n10, σ0s91/12, mb3.8/5, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KOWA	**Kowa**	**11.01**	**137**	Pn		**Pn**	**15 52 54.1**	**0.0**
	0.9nm,0.3s,baz=324,slow=12,SNR=9.0							
KOWA				Sn		**Sn**	**15 54 57.1**	**-0.4**
	0.4nm,0.3s,baz=131,slow=19,SNR=5.9							
TORD	**Torodi Ar. Bea**	**15.94**	**125**	Pn		**Pn**	**15 54 01.9**	**+0.8**
	0.2nm,0.3s,baz=310,slow=12,SNR=10							
TORD				Sn		**Sn**	**15 56 57.8**	**-0.2**
	0.1nm,0.3s,baz=308,slow=21,SNR=3.5							
DBIC	**Dimbokro**	**17.34**	**157**	P		**P**	**15 54 19.8**	**-0.4**
	0.3nm,0.3s,baz=320,slow=14,SNR=3.4							
GERES	**GERESS Array B**	**32.86**	**31**	P		**P**	**15 56 49.8**	**-0.7**
	0.3nm,0.5s,baz=212,slow=9.5,SNR=4.4							
HFS	**Hagfors**	**41.34**	**19**	P		**P**	**15 58 01.6**	**-0.6**
	1.5nm,0.5s,baz=198,slow=8.9,SNR=8.4							
FINES	**FINESS Array B**	**46.49**	**24**	P		**P**	**15 58 42.6**	**-1.0**
	0.8nm,0.6s,baz=209,slow=3.5,SNR=8.3							
KURBB	**Kurchatov Arra**	**72.86**	**42**	P		**P**	**16 01 47.2**	**+1.7**
	0.7nm,0.9s,baz=295,slow=7.3,SNR=4.2							
MKAR	**Makanchi Array**	**76.36**	**45**	P		**P**	**16 02 07.1**	**+1.1**
	0.4nm,0.5s,baz=291,slow=6.0,SNR=9.3							
WRA	**Warramunga Arr**	**148.28**	**91**	PKPbc		**PKPbc**	**16 10 03.4**	**-0.4**
	0.6nm,0.7s,baz=289,slow=3.1,SNR=4.0							
ASAR	**Alice Springs**	**148.42**	**98**	PKPbc		**PKPbc**	**16 10 04.7**	**+0.6**
	0.4nm,0.7s,baz=288,slow=2.7,SNR=7.7							

*SJA **17** 16:06:02.6±0.9, 31°.05S×72°.15W, h27km±5km, ML3.6, MW3.8*
*GUC **17** 16:06:05.4±0.5, 30°.92S×71°.90W, h60km±8km, ML3.8*
ISC 17 16:06:03.8±4.8, 30°.90S±0°.04×72°.27W±0°.09, h20km±24km, n25, σ1s95/43, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.46**	**60**	⇑*i*P		**Pn**	**16 06 28.1**	**-1.2**
TLL				*i* S		**Sn**	**16 06 44.9**	**-3.0**
TLL				IAML			16 06 49.0	
	comp=N,2μm,0.6s							
GO04	**Tololo Observa**	**1.46**	**61**	⇓*i*P		**Pn**	**16 06 28.0**	**-1.3**
GO04				*i* S		**Sn**	**16 06 45.4**	**-2.6**
GO04				IAML			16 06 48.1	
	comp=N,4μm,0.4s							
LCO	**Las Campanas**	**2.32**	**36**	*e*P		**Pn**	**16 06 42.7**	**+1.5**
LCO				*e*S		**Sb**	**16 07 12.7**	**-0.8**
LCO	**Las Campanas**	**2.32**	**36**	⇓*e*P		**Pn**	**16 06 41.1**	**0.0**
LCO				*i* S		**Sn**	**16 07 08.8**	**-0.5**
LCO				IAML			16 07 19.3	
	comp=E,307nm,0.3s							
ROCH	**El Roble**	**2.33**	**153**	*e*P		**Pn**	**16 06 39.2**	**-2.0**
ROCH				IAML			16 07 12.8	
	comp=E,868nm,0.7s							
ROC1	**El Roble**	**2.33**	**153**	*e*P		**Pn**	**16 06 39.3**	**-2.0**
ROC1				*e*S		**Sn**	**16 07 06.8**	**-2.6**
RTLS	**Leoncito**	**2.70**	**110**	*i* P		**Pn**	**16 06 46.0**	**-0.4**
RTLS				*e*S		**Sn**	**16 07 17.2**	**-1.4**
AUSP	**Uspallata**	**2.79**	**119**	*i* P		**Pn**	**16 06 47.5**	**-0.1**
AUSP				*e*S		**Sn**	**16 07 18.0**	**-2.9**
CLCH	**Cerro Calan**	**2.89**	**150**	*e*P		**Pn**	**16 06 48.8**	**-0.1**
CLCH				IAML			16 07 27.8	
	comp=E,743nm,0.7s							
AMOG	**MOGNA**	**3.25**	**92**	*e*P		**Pn**	**16 06 53.7**	**0.0**
AMOG				*e*S		**Sn**	**16 07 34.8**	**+3.0**
RTLL	**Cerro Villicun**	**3.28**	**99**	*e*P		**Pn**	**16 06 53.1**	**-1.1**
RTLL				*e*S		**Sn**	**16 07 31.4**	**-1.3**
RTLL				IAML			16 07 43.2	
	comp=Z,128nm,0.4s							
RTLL	**Cerro Villicun**	**3.28**	**99**	IAML			16 07 41.4	
	comp=N,419nm,0.7s							
RTCV	**Cerro Valdivia**	**3.33**	**108**	*i* Pn		**Pn**	**16 06 55.0**	**+0.1**
RTCV				*i* Pg		Pg	16 07 01.2	-6.5
RTCV				*e*S		**Sn**	**16 07 34.3**	**+0.4**
ASAL	**Salagasta**	**3.38**	**121**	*e*P		**Pn**	**16 06 56.1**	**+0.6**
ASAL				*e*S		**Sn**	**16 07 37.0**	**+1.9**
LMEL	**Las Melosas**	**3.42**	**150**	*e*P		**Pn**	**16 06 55.8**	**-0.4**
LMEL				IAML			16 07 43.3	
	comp=E,248nm,0.5s							
LMEL				IAML			16 07 43.4	
	comp=E,239nm,0.4s							
ARCO	**CERRO ARCO**	**3.44**	**125**	*e*P		**Pn**	**16 06 57.9**	**+1.5**
ARCO				*e*S		**Sn**	**16 07 40.5**	**+3.8**
ARCO				IAML			16 07 49.4	
	comp=Z,114nm,0.5s							
AGUA	**GUANDACOL**	**3.56**	**68**	*e*P		**Pn**	**16 07 00.8**	**+2.8**
AGUA				*e*S		**Sn**	**16 07 44.0**	**+4.3**
AAGR	**Agrelo**	**3.65**	**128**	*e*P		**Pn**	**16 07 00.4**	**+1.2**
AAGR				*e*S		**Sn**	**16 07 43.5**	**+1.8**
GO05	**Hualaæø**	**4.11**	**176**	*e*P		**Pn**	**16 07 04.7**	**-0.9**
GO05				*e*S		**Sb**	**16 08 05.8**	**+0.9**
VCA	**Vinchina**	**4.13**	**60**	*e*P		**Pn**	**16 07 08.9**	**+2.9**
VCA				*e*S		**Sb**	**16 08 03.8**	**-1.9**
VCA				IAML			16 08 12.4	
	comp=Z,177nm,0.5s							
ACAN	**Cantantal**	**4.55**	**109**	*e*P		**Pn**	**16 07 10.3**	**-1.3**
ACAN				*e*S		**Sn**	**16 08 02.3**	**-1.6**
APLL	**PUNTA DE LOS L**	**4.97**	**86**	*i* P		**Pn**	**16 07 16.4**	**-1.0**
APLL				*e*S		**Sn**	**16 08 13.7**	**-0.7**
APLL				IAML			16 08 19.9	
	comp=Z,62nm,0.9s							
RFA	**San Rafael**	**5.02**	**141**	*e*P		**Pn**	**16 07 20.1**	**+2.1**
RFA				IAML			16 08 36.1	
	comp=Z,20nm,0.5s							
MRA	**San Martin**	**5.79**	**107**	*e*P		**Pn**	**16 07 26.5**	**-2.1**
MRA				IAML			16 08 35.8	
	comp=Z,55nm,0.6s							
CYA	**Choya**	**6.13**	**68**	*e*P		**Pn**	**16 07 32.8**	**-0.6**
CYA				*e*S		**Sn**	**16 08 40.0**	**-3.1**
CYA				IAML			16 08 51.4	
	comp=Z,16nm,0.5s							

IDC 17 16:07:10.2±2.0, 2°.46N×127°.40E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/52, mbtmp3.5/3, Error ellipse: s-maj=148.0km s-min=23.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.29**	**163**	P	P	16 12 19.9	+0.2
	0.4nm,0.3s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.73**	**167**	P	P	16 12 51.1	-0.6
	0.2nm,0.5s,baz=351,slow=7.7,SNR=13						
MKAR	**Makanchi Array**	**58.97**	**325**	P	P	16 17 11.9	+0.3
	0.3nm,0.4s,baz=116,slow=9.3,SNR=11						

*IDC **17** 16:24:34.7±2.8, 40°.92N×144°.78E, h0km, mb3.4/3, mb1 3.4/5, mb1mx3.2/72, mbtmp3.3/5, ML3.1/2, Error ellipse: s-maj=68.5km s-min=26.5km az=73.0*
*ISCJB **17** 16:24:37.4±1.0, 40°.83N±0°.04×144°.81E±0°.08, h33km, mb3.4/3, Error ellipse: s-maj=9.2km s-min=5.6km az=23.5*
*JMA **17** 16:24:37.4±0.3, 40°.87N×144°.95E, h63km, M3.5*
ISC 17 16:24:39.0±1.3, 40°.87N±0°.06×144°.85E±0°.09, h35km, n17, σ1s50/22, mb3.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JEM	**Erimo**	**1.71**	**312**	P		**Pn**	**16 25 06.3**	**0.0**
JCH	**Churui**	**2.07**	**328**	P		**Pn**	**16 25 10.9**	**-0.3**
JCH				S		**Sn**	**16 25 34.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**2.11**	**312**	P		**Pn**	**16 25 12.8**	**+1.0**
JNBK				S		**Sn**	**16 25 38.5**	**+1.7**
JAR	**Ashorobuto**	**2.56**	**342**	S		**Sn**	**16 25 47.3**	**-0.4**
NEM2	**Nemuro 2**	**2.58**	**15**	S		**Sn**	**16 25 46.3**	**-2.0**
JANG	**Nango**	**2.59**	**260**	S		**Sn**	**16 25 46.5**	**-2.1**
JBT2	**Biratori 2**	**2.66**	**317**	P		**Pn**

*GCMT **17** 17:00:56.9±0.1,3.˙73N×63.˙40E,h12km,MW5.5/136, Moment Tensor Solution. s96,c158; s136,c278; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.06±.02; $M_{\theta\theta}$1.55±.02; $M_{\phi\phi}$0.50±.02; $M_{r\theta}$0.95±.06; $M_{\theta\phi}$-0.97±.02; $M_{\phi r}$0.01±.07; Best double couple: $M_{\odot}$2.29900×10^{17} NP1:ϕ_s289.00000°,δ57.00000°, λ-104.00000°. NP2:ϕ_s133.00000°,δ36.00000°, λ-70.00000°. Principal axes: T 2.2820, Plg11.0000°, Azm29.0000°; N 0.0280, Plg12.0000°, Azm296.0000°; P -2.3160, Plg74.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **17** 17:00:56.9±0.2,3.˙82N×63.˙40E,h10km,mb5.5/118, MS5.1/133,MW5.5 Error ellipse: s-maj=6.1km s-min=4.2km az=22.0,Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.36; $M_{\theta\theta}$1.11; $M_{\phi\phi}$0.25; $M_{r\theta}$0.85; $M_{\theta\phi}$-0.72; $M_{\phi r}$-1.02; Best double couple: $M_{\odot}$2.00000×10^{17} NP1:ϕ_s314.00000°,δ67.00000°, λ-78.00000°. NP2:ϕ_s105.00000°,δ26.00000°, λ-117.00000°. Principal axes: T 2.0000, Plg21.0000°, Azm34.0000°; N -0.0700, Plg11.0000°, Azm129.0000°; P -1.9300, Plg66.0000°, Azm246.0000°;*

ISC 17 17:00:58.2±0.4,3.˙**77N**±0.˙04×**63.˙50E**±0.˙04,**h15**km±2km, **h15**km:**pP-P,n832,**c1š**72/804,mb5.3**/282,**MS5.1**/227, **57C-28D,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res
				Op	ISC			ISC
H08N2	**Diego Garcia H**	**12.52**	**143**	T	T		17 16 51.5	
	baz=323,slow=76,SNR=1939							
H08N3	**Diego Garcia H**	**12.53**	**143**	T	T		17 16 44.0	
	baz=323,slow=76,SNR=2097							
H08N1	**Diego Garcia H**	**12.54**	**143**	T	T		17 16 42.4	
	baz=323,slow=76,SNR=1395							
TRD	**Trivandrum**	**14.19**	**70**	*e*P	**Pn**		**17 04 19.5**	**+0.7**
TRD				IAmb	IAmb		17 04 36.2	
	comp=Z,89nm,1.0s							
DGAR	**Diego Garcia**	**14.26**	**141**⇑	*e*P	**Pn**		**17 04 22.5**	**+2.8**
DGAR	**Diego Garcia**	**14.26**	**141**	*e*P	**P**		**17 04 24.4**	**-2.6**
GOA	**Goa**	**15.46**	**40**	*e*P	**Pn**		**17 04 35.4**	**-0.5**
GOA				IAmb	IAmb		17 04 43.5	
	comp=Z,125nm,0.2s							
SHAO	**Shalim**	**16.13**	**332**	P	**P**		**17 04 48.0**	**+0.2**
ABTO	**Aybut**	**16.80**	**324**	PnPn	**P**		**17 04 59.0**	**+3.6**
	SNR=11							
ABTO	**Aybut**	**16.80**	**324**	P	**P**		**17 04 59.0**	**+3.6**
	SNR=11							
PALK	**Pallekele**	**17.47**	**78**	P	**Pn**		**17 05 00.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=296,slow=9.7,SNR=14							
PALK				LR	LR		17 10 16.1	
	comp=Z,9μm,20.4s,baz=297,slow=32							
PALK	**Pallekele**	**17.47**	**78**	*e*P	**P**		**17 05 03.8**	**+1.0**
PALK				pmax	pmax			
	comp=Z,170nm,1.3s							
PALK	**Pallekele**	**17.47**	**78**	*e*P	**P**		**17 05 03.8**	**+1.0**
	comp=Z,174nm,1.3s							
PALK	**Pallekele**	**17.47**	**78**	pPn	**P**		**17 05 04.9**	**+2.1**
	SNR=26							
PALK	**Pallekele**	**17.47**	**78**	P	**P**		**17 05 04.9**	**+2.1**
	SNR=26							
PALK	**Pallekele**	**17.47**	**78**	*i* P	**P**		**17 05 04.4**	**+1.6**
	SNR=22							
URV	**Uravakonda**	**17.53**	**50**	*e*P	**Pn**		**17 05 01.1**	**-1.2**
URV				IAmb	IAmb		17 05 12.3	
	comp=Z,299nm,1.9s							
URV				IVMs_BB	IVMs_BB		17 10 33.6	
	comp=Z,3μm,19.1s							
BOM	**Bombay**	**17.58**	**30**	*e*P	**Pn**		**17 05 02.1**	**-0.7**
BOM				AMb	AMB		17 05 16.4	
	comp=Z,405nm,10.2s							
BOM				*ex*	x		17 09 41.9	
POO	**Poona**	**17.83**	**34**	*e*P	**Pn**		**17 05 05.5**	**-0.4**
POO				IAmb	IAmb		17 05 16.9	
	comp=Z,469nm,2.2s							
SKHT	**Srikalahasti**	**18.82**	**57**	*e*P	**P**		**17 05 16.7**	**-0.9**
SKHT				IAmb	IAmb		17 05 28.4	
	comp=Z,60nm,1.2s							
SKHT				IVMs_BB	IVMs_BB		17 10 57.1	
	comp=Z,4μm,21.5s							
MDRS	**Chennai**	**18.96**	**60**	*e*P	**Pn**		**17 05 20.3**	**+0.6**
MDRS				IAmb	IAmb		17 05 28.9	
	comp=Z,154nm,1.3s							
KLRI	**Killari**	**19.15**	**41**	*e*P	**P**		**17 05 20.3**	**-0.9**
KLRI				IAmb	IAmb		17 05 31.7	
	comp=Z,248nm,1.5s							
KLRI				IVMs_BB	IVMs_BB		17 11 23.7	
	comp=Z,6μm,21.2s							
SRLM	**Srisailam**	**19.47**	**50**	*e*P	**P**		**17 05 24.8**	**0.0**
SRLM				IAmb	IAmb		17 05 33.3	
	comp=Z,616nm,2.4s							
SRLM				IVMs_BB	IVMs_BB		17 11 27.7	
	comp=Z,3μm,18.8s							
SMDO	**Samad**	**19.89**	**345**	P	**Pn**		**17 05 35.0**	**+4.0**
	SNR=11							
SMDO	**Samad**	**19.89**	**345**	P	**Pn**		**17 05 35.0**	**+4.0**
	SNR=11							
WSAR	**Wadi Sarin**	**19.92**	**347**	P	**P**		**17 05 29.6**	**+0.1**
	comp=Z,5.8nm,0.8s,baz=173,slow=11,SNR=11							
WSAR				LR	LR		17 11 44.4	
	comp=Z,6μm,19.3s,baz=187,slow=32							
HYB	**Hyderabad**	**20.05**	**46**	*i* P	Pn		17 05 32.5	-0.4
	comp=Z,86nm,1.2s							
HYB				*e*S	Sn		17 09 20.0	+1.7
HYB				LR	LR			
	comp=Z,14nm,18.0s							
HYB	**Hyderabad**	**20.05**	**46**	*e*P	**P**		**17 05 31.7**	**+0.6**
HYBB	**Hyderabad (bro**	**20.05**	**46**	*e*P	**P**		**17 05 31.3**	**+0.2**
HYBB				IAmb	IAmb		17 05 39.8	
	comp=Z,171nm,1.5s							
HYBB				IVMs_BB	IVMs_BB		17 14 03.2	
	comp=Z,3μm,8.6s							
NJS	**Nagarjunasagar**	**20.06**	**50**	*e*P	**P**		**17 05 31.4**	**+0.2**
NJS				IAmb	IAmb		17 05 42.4	
	comp=Z,110nm,1.3s							
NJS				IVMs_BB	IVMs_BB		17 11 52.6	
	comp=Z,3μm,20.1s							
ADKI	**Addanki**	**20.16**	**52**	*e*P	**P**		**17 05 33.1**	**+0.9**
ADKI				IAmb	IAmb		17 05 41.9	
	comp=Z,93nm,1.4s							
ADKI				IVMs_BB	IVMs_BB		17 12 22.0	
	comp=Z,4μm,18.9s							
BHJ	**Bhuj**	**20.27**	**17**	*e*P	**P**		**17 05 34.0**	**+0.7**
BHJ				IAmb	IAmb		17 05 44.9	
	comp=Z,490nm,1.9s							
BIDO	**Bidbid**	**20.31**	**346**	pP	Pn		17 05 36.0	+0.1
	SNR=33							
BIDO	**Bidbid**	**20.31**	**346**	P	Pn		17 05 36.0	+0.1
	SNR=33							
HOQ	**Hoqain**	**20.58**	**344**	PnPn	Pn		17 05 50.1	+11
	SNR=8.0							
ARQ	**Araqi**	**20.59**	**341**	pP	Pn		17 05 43.1	+3.9
	SNR=14							
ARQ	**Araqi**	**20.59**	**341**	P	Pn		17 05 43.1	+3.9
	SNR=14							
SRSP	**Sriramsagar**	**20.92**	**43**	*e*P	Pn		17 05 42.2	-0.8
SRSP				IAmb	IAmb		17 05 51.1	
	comp=Z,286nm,1.4s							
SRSP				IVMs_BB	IVMs_BB		17 12 45.7	
	comp=Z,4μm,17.4s							
SOHO	**SOHO**	**21.33**	**342**	*i* P	**P**		**17 05 44.9**	**0.0**
	SNR=26							
ALNE	**Al Ain**	**21.51**	**340**	*i* P	**P**		**17 05 46.8**	**0.0**
	SNR=12							
RPR	**Rampur**	**21.53**	**45**	*e*P	**P**		**17 05 48.5**	**+1.5**
RPR				IAmb	IAmb		17 06 01.1	
	comp=Z,261nm,1.4s							
RPR				IVMs_BB	IVMs_BB		17 13 13.0	
	comp=Z,4μm,16.7s							
ATD	**Arta Tunnel**	**21.86**	**292**	P	**P**		**17 05 50.7**	**0.0**
	comp=Z,12nm,0.9s,baz=83,slow=6.7,SNR=11							
ATD				LR	LR		17 12 51.2	
	comp=Z,1μm,21.0s,baz=104,slow=33							
ATD	**Arta Tunnel**	**21.86**	**292**	*e*P	**P**		**17 05 50.1**	**-0.6**
	comp=Z,208nm,1.5s							
ASHO	**Ashiyiah**	**21.99**	**342**	pP	**P**		**17 05 53.7**	**+1.7**
	SNR=39							
ASHO	**Ashiyiah**	**21.99**	**342**	P	**P**		**17 05 53.7**	**+1.7**
	SNR=39							
ASHO	**Ashiyiah**	**21.99**	**342**	*i* P	**P**		**17 05 51.5**	**-0.6**
	SNR=33							
HATD	**Hatta, Dubai**	**22.10**	**342**	pP	**P**		**17 05 56.0**	**+2.8**
	SNR=28							
HATD	**Hatta, Dubai**	**22.10**	**342**	P	**P**		**17 05 56.0**	**+2.8**
	SNR=28							
HATD	**Hatta, Dubai**	**22.10**	**342**	*i* P	**P**		**17 05 53.1**	**-0.1**
	SNR=29							
UOSS	**Minazif**	**22.19**	**342**	*e*P	**P**		**17 05 53.6**	**-0.5**
	comp=Z,174nm,1.4s							
UOSS	**Minazif**	**22.19**	**342**	*i* P	**P**		**17 05 55.9**	**+1.8**
	SNR=15							
AJN	**Ajban**	**22.24**	**339**	*i* P	**P**		**17 05 55.0**	**+0.4**
	SNR=9.9							
PVM	**Polavaram**	**22.26**	**52**	*e*P	**P**		**17 05 56.3**	**+1.4**
PVM				IAmb	IAmb		17 06 05.6	
	comp=Z,154nm,1.4s							
PVM				IVMs_BB	IVMs_BB		17 12 52.7	
	comp=Z,3μm,23.1s							
NAZ	**Nazwa, Dubai**	**22.40**	**341**	pP	**P**		**17 05 59.0**	**+2.6**
	SNR=20							
NAZ	**Nazwa, Dubai**	**22.40**	**341**	P	**P**		**17 05 59.0**	**+2.6**
	SNR=20							
NAZ	**Nazwa, Dubai**	**22.40**	**341**	*i* P	**P**		**17 05 56.9**	**+0.5**
	SNR=21							
MSFE	**Esma-Masafi**	**22.59**	**342**	*i* P	**P**		**17 05 59.1**	**+0.6**
	SNR=19							
NGP	**Nagpur**	**22.96**	**40**	*e*P	**P**		**17 06 02.7**	**+0.4**
NGP				*ex*	x		17 06 18.1	
	comp=Z,314nm,1.5s							
NGP				*ex*	x		17 10 18.6	
BANOM	**Banah**	**23.09**	**343**	pP	**P**		**17 06 06.7**	**+3.1**
	SNR=11							
BANOM	**Banah**	**23.09**	**343**	P	**P**		**17 06 06.7**	**+3.1**
	SNR=11							
BANOM	**Banah**	**23.09**	**343**	*i* P	**P**		**17 06 04.9**	**+1.3**
	SNR=13							
SHME	**Shamm**	**23.25**	**343**	*i* P	**P**		**17 06 06.3**	**+1.1**
	SNR=12							
BHPL	**Bhopal**	**23.58**	**34**	*e*P	**P**		**17 06 08.3**	**-0.2**
BHPL				IAmb	IAmb		17 06 12.5	
	comp=Z,327nm,2.1s							
VIS	**Vishakhapatnam**	**23.87**	**53**	*i* P	**P**		**17 06 10.8**	**-0.6**
VIS				IAmb	IAmb		17 06 20.9	
	comp=Z,487nm,2.3s							
VIS				*i* x	x		17 10 50.9	
ANKE	**Ethiopia-Afar**	**24.29**	**285**	*i* P	**P**		**17 06 17.5**	**+1.7**
ANKE				*i* S	S		17 10 49.5	+15
ANKE	**Ethiopia-Afar**	**24.29**	**285**	*i* P	**P**		**17 06 17.5**	**+1.7**
ANKE				*i* S	S		17 10 49.5	+15
MRIV	**Mauritius Mete**	**24.63**	**194**	*e*P	**P**		**17 06 17.9**	**-0.5**
	comp=Z,99nm,1.4s							
DESE	**Dese**	**24.74**	**288**	*i* P	**P**		**17 06 22.7**	**+2.9**
DESE				*i* S	S		17 10 59.1	+17
DESE	**Dese**	**24.74**	**288**	*i* P	**P**		**17 06 22.7**	**+2.9**
DESE				*i* S	S		17 10 59.1	+17
JBP	**Jabalpur**	**25.02**	**38**	*e*P	**P**		**17 06 20.3**	**-1.5**
AAE	**Adis Abeba**	**25.12**	**283**	*i* P	**P**		**17 06 27.2**	**+4.0**
AAE				*i* S	S		17 11 05.2	+17
AAE	**Adis Abeba**	**25.12**	**283**	*i* P	**P**		**17 06 27.2**	**+4.0**
AAE				*i* S	S		17 11 05.2	+17
FURI	**Furi**	**25.18**	**283**	*e*P	**P**		**17 06 26.7**	**+2.9**
	comp=Z,282nm,1.6s							
RER	**Riviere de l'E**	**25.91**	**197**	PFAKE			17 06 40.0	+10
RER				LR	LR			
	comp=Z,7μm,21.0s							
RAYN	**Ar Rayn**	**26.23**	**320**	P	**P**		**17 06 32.4**	**-0.5**
RAYN	**Ar Rayn**	**26.23**	**320**	*e*P	**P**		**17 06 32.3**	**-0.5**
	comp=Z,61nm,1.4s							
RAYN				LR	LR			
	comp=Z,3μm,22.0s							
KMBO	**Kilima Mbogo**	**26.68**	**260**	P	**P**		**17 06 37.4**	**+0.1**
	comp=Z,46nm,1.2s,baz=63,slow=9.6,SNR=42							
KMBO				LR	LR		17 15 28.7	
	comp=Z,3μm,22.0s,baz=85,slow=33							
KMBO	**Kilima Mbogo**	**26.68**	**260**	*e*P	**P**		**17 06 37.6**	**+0.3**
KMBO				pmax	pmax			
	comp=Z,150nm,1.6s							
KMBO	**Kilima Mbogo**	**26.68**	**260**	*e*P	**P**		**17 06 37.6**	**+0.3**
	comp=Z,149nm,1.6s							
KMBO	**Kilima Mbogo**	**26.68**	**260**	pP	**P**		**17 06 38.4**	**+1.1**
	SNR=51							
KMBO	**Kilima Mbogo**	**26.68**	**260**	P	**P**		**17 06 38.4**	**+1.1**
	SNR=51							
KMBO	**Kilima Mbogo**	**26.68**	**260**	*i* P	**P**		**17 06 37.4**	**+0.1**
	SNR=44							
NAI	**Nairobi**	**27.14**	**260**	*e*P	**P**		**17 06 42.1**	**+0.6**
NAI				pmax	pmax			
	comp=Z,140nm,1.4s							
NAI	**Nairobi**	**27.14**	**260**	*e*P	**P**		**17 06 42.1**	**+0.6**
	comp=Z,138nm,1.4s							
OPO	**Ambohidratompo**	**27.40**	**215**	P	**P**		**17 06 43.2**	**-0.5**
	comp=Z,11nm,1.2s,baz=42,slow=9.2,SNR=8.0							
OPO				LR	LR		17 14 54.6	
	comp=Z,8μm,21.8s,baz=24,slow=31							
ABPO	**Ambohimpanom**	**27.73**	**215**	*e*P	**P**		**17 06 47.9**	**+1.3**
ABPO				pmax	pmax			
	comp=Z,56nm,1.7s							
ABPO	**Ambohimpanom**	**27.73**	**215**	*e*P	**P**		**17 06 47.9**	**+1.3**
	comp=Z,56nm,1.8s							
ABPO				LR	LR			
	comp=Z,4μm,22.0s							
BOK	**Bokaro**	**29.39**	**45**	*e*P	**P**		**17 07 01.4**	**+0.3**
BOK				IAmb	IAmb		17 07 10.4	
	comp=Z,17nm,0.5s							
DDI	**Dehra Dun**	**29.78**	**26**	*e*P	**P**		**17 07 04.6**	**0.0**
DDI				IAmb	IAmb		17 07 21.3	
	comp=Z,117nm,0.2s							
PBA	**Port Blair**	**30.00**	**73**	*e*P	P		17 07 08.3	+1.7
PBA				IAmb	IAmb		17 07 16.9	
	comp=Z,178nm,1.8s							
SMLA	**Simla**	**30.11**	**24**	*e*P	**P**		**17 07 08.0**	**+0.6**
SMLA				IAmb	IAmb		17 07 17.8	
	comp=Z,288nm,3.0s							
PYUN	**Piuthan**	**30.50**	**36**	*e*P	**P**		**17 07 11.8**	**+0.6**
DGPR	**DIGLIPUR**	**30.54**	**70**	*e*P	**P**		**17 07 13.2**	**+1.8**
KOLN	**Koldanda**	**30.61**	**37**	*e*P	**P**		**17 07 13.0**	**+0.8**
	comp=Z,239nm,1.6s							
DHRM	**DHARAMSHALA**	**30.77**	**22**	*e*P	**P**		**17 07 14.5**	**+0.9**
DHRM				IAmb	IAmb		17 07 23.7	
	comp=Z,70nm,1.1s							
KBL	**Kabul**	**31.05**	**9**	*e*P	**P**		**17 07 17.1**	**+1.2**
KBL				pmax	pmax			
	comp=Z,160nm,1.7s							
KBL	**Kabul**	**31.05**	**9**	*e*P	**P**		**17 07 17.1**	**+1.2**
	comp=Z,160nm,1.7s							
DMN	**Daman**	**31.42**	**39**	*e*P	**P**		**17 07 20.4**	**+1.1**
	comp=Z,80nm,1.0s							
PKIN	**Phulchoki**	**31.58**	**39**	*e*P	**P**		**17 07 21.9**	**+1.1**
	comp=Z,48nm,1.0s							
PKI	**Pulchoki**	**31.58**	**39**	*e*P	**P**		**17 07 21.7**	**+0.8**
	comp=Z,212nm,1.6s							
KKN	**Kakani**	**31.66**	**39**	*e*P	**P**		**17 07 22.5**	**+1.1**
	comp=Z,76nm,1.1s							
GUN	**Gumba**	**32.12**	**39**	*e*P	**P**		**17 07 26.8**	**+1.2**
	comp=Z,473nm,1.6s							
JIRN	**Jiri**	**32.14**	**40**	*e*P	**P**		**17 07 26.5**	**+0.7**
	comp=Z,80nm,1.2s							
MBAR	**Mbarara**	**33.02**	**263**	*e*P	**P**		**17 07 33.9**	**+0.4**
MBAR				pmax	pmax			
	comp=Z,82nm,1.7s							
LHMI	**Lhok Sumawe**	**33.38**	**86**	P	**P**		**17 07 39.9**	**+3.5**
	comp=Z,74nm,0.9s,comp=Z,2μm							
LHMI	**Lhok Sumawe**	**33.38**	**86**	*e*P	**P**		**17 07 39.6**	**+3.3**
	comp=Z,214nm,1.6s							
TPTI		**33.62**	**90**	P	**P**		**17 07 40.3**	**+1.8**
	comp=Z,36nm,2.0s,comp=Z,966nm							
GSI	**Gunungsitoli**	**34.13**	**93**	*e*P	**P**		**17 07 46.8**	**+3.8**
	comp=Z,31nm,1.2s							
KCSI	**Kotacane, Aceh**	**34.21**	**89**	P	**P**		**17 07 42.8**	**-0.8**
KCSI				pP	**P**		**17 07 47.6**	**+4.0**
GEYT	**Alibeck**	**34.35**	**352**	P	**P**		**17 07 45.3**	**+0.7**
	comp=Z,9.2nm,1.1s,baz=157,slow=4.2,SNR=14							
GEYT				LR	LR		17 21 59.4	
	comp=Z,2μm,19.0s,baz=160,slow=37							
SHL	**Shillong**	**34.82**	**49**	*e*P	**P**		**17 07 48.8**	**-0.3**
SHL				*e*S	**S**		**17 13 20.0**	**+0.3**
PSI	**Prapat**	**35.38**	**90**	*e*P	**P**		**17 07 54.4**	**+0.5**
PSI				pmax	pmax			
	comp=Z,62nm,1.5s							
PSI	**Prapat**	**35.38**	**90**	*e*P	**P**		**17 07 54.4**	**+0.5**
	comp=Z,62nm,1.5s							
SISI	**Saibi**	**35.93**	**97**	P	**P**		**17 07 59.9**	**+1.4**
	comp=Z,84nm,1.3s							
MNSI	**Mandailing Nat**	**36.17**	**94**	P	**P**		**17 08 03.6**	**+3.0**
	comp=Z,53nm,1.3s,comp=Z,968nm							
TRTT	**Trang**	**36.22**	**82**	P	P		17 08 08.2	+7.2
	comp=Z,7.9nm,1.6s							
COCO	**West Island**	**36.74**	**116**	*e*P	**P**		**17 08 06.2**	**+0.9**
COCO				pmax	pmax			
	comp=Z,520nm,1.7s							
COCO	**West Island**	**36.74**	**116**	*e*P	**P**		**17 08 06.2**	**+0.9**
	comp=Z,521nm,1.7s							
LSA	**Lhasa**	**36.75**	**42**	*e*P	**P**		**17 08 07.0**	**+1.1**
LSA				pmax	pmax			
	comp=Z,44nm,1.2s							
LSA				MLR	MLR			
	comp=Z,5μm,21.0s							
LSA	**Lhasa**	**36.75**	**42**	*e*P	**P**		**17 08 07.0**	**+1.1**
	comp=Z,44nm,1.2s							
LSA				LR	LR			
	comp=Z,5μm,21.0s							
LSA	**Lhasa**	**36.75**	**42**	P	**P**		**17 08 06.8**	**+1.0**
PHET	**Kaeng Krachan**	**36.84**	**74**	P	P		17 08 16.4	+10
KULM	**Kulim**	**37.06**	**86**	*e*P	**P**		**17 08 10.7**	**+2.5**
	comp=Z,59nm,1.4s							
KULM				LR	LR			
	comp=Z,987nm,20.0s							
SFK	**Sufi-Kurgan**	**37.20**	**13**	P	**P**		**17 08 08.3**	**-0.9**
SFK				pmax	pmax			
	comp=Z,48nm,1.5s							
LKRN	**Lenkeran, Azer**	**37.27**	**341**	P	**P**		**17 08 08.6**	**-1.0**
KSH	**Kashi**	**37.34**	**16**	P	**P**		**17 08 06.8**	**-3.5**
KSH				pP	pP		17 08 10.8	-4.1
KSH				sP	sP		17 08 13.9	-2.9
KSH				PcP	**PcP**		**17 10 27.9**	**-1.5**
KSH				S	**S**		**17 13 50.6**	**-7.2**
KSH				PcS	**PcS**		**17 14 15.8**	**-2.1**
KSH				pmax	pmax			
	comp=Z,51nm,1.0s							
KSH				pmax	pmax			
	comp=Z,500nm,4.6s							
KSH				LR	LR			
	comp=Z,2μm,15.1s							
KSH				LR	LR			
	comp=Z,2μm,16.0s							
KSH				LR	LR			
	comp=Z,2μm,16.5s							
IPM	**Ipoh**	**37.44**	**88**	*e*P	**P**		**17 08 12.0**	**+0.6**
	comp=Z,24nm,1.2s							
CM31	**Chiang Mai Arr**	**37.61**	**64**	*e*P	**P**		**17 08 13.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**37.61**	**64**	P	**P**		**17 08 13.8**	**+1.0**
	comp=Z,23nm,1.1s,baz=259,slow=8.9,SNR=67							
CMAR				PcP	**PcP**		**17 10 31.4**	**+0.9**
	comp=Z,6.7nm,1.0s,baz=251,slow=4.7,SNR=9.8							
CMAR				LR	LR		17 23 11.3	
	comp=Z,2μm,19.1s,baz=258,slow=36							
CM01	**Chiang Mai Arr**	**37.61**	**64**	*e*P	**P**		**17 08 12.7**	**-0.1**
BKNI	**Bangkinang**	**37.67**	**94**	P	**P**		**17 08 16.1**	**+2.8**
	comp=Z,113nm,1.0s							
BKNI	**Bangkinang**	**37.67**	**94**	*e*P	**P**		**17 08 16.2**	**+2.8**
	comp=Z,98nm,0.9s							
ASF	**Jabal al Asfar**	**37.69**	**322**	LR	LR		17 22 56.4	
	comp=Z,2μm,20.0s,baz=98,slow=35							
CHTO	**Chiang Mai**	**37.73**	**64**	P	**P**		**17 08 15.5**	**+1.8**
	comp=Z,289nm,1.5s,comp=Z,4μm							
CHTO	**Chiang Mai**	**37.73**	**64**	*e*P	**P**		**17 08 14.6**	**+0.9**
CHTO				pmax	pmax			
	comp=Z,130nm,1.4s							
CHTO	**Chiang Mai**	**37.73**	**64**	*e*P	**P**		**17 08 14.6**	**+0.9**
	comp=Z,126nm,1.4s							
CHTO				LR	LR			
	comp=Z,1μm,19.0s							
CHTO	**Chiang Mai**	**37.73**	**64**	pP	**P**		**17 08 15.6**	**+1.8**
	SNR=41							
CHTO	**Chiang Mai**	**37.73**	**64**	P	**P**		**17 08 15.6**	**+1.8**
	SNR=41							
CMMT	**Chiang Mai**	**37.73**	**64**	P	**P**		**17 08 14.5**	**+0.7**
	comp=Z,64nm,1.5s,comp=Z,991nm							
CMAI	**Chiengmai2**	**38.19**	**62**	P	**P**		**17 08 19.8**	**+2.0**
	comp=Z,1μm,1.0s,comp=Z,54μm							
LAMP	**Lampang**	**38.25**	**65**	P	**P**		**17 08 22.2**	**+4.0**
	comp=Z,6.7nm,1.1s,comp=Z,71nm							
PHIT	**Phitsanulok**	**38.58**	**67**	P	P		**17 08 24.3**	**+3.4**
	comp=Z,42nm,1.1s,comp=Z,374nm							
IUG	**Iuzhnay**	**38.66**	**8**⇑	*i* P	**P**		**17 08 22.7**	**+1.3**
	comp=Z,733nm,1.3s							
IUG				LR	LR		17 24 05.0	
	comp=Z,1μm,19.8s							
NAYO	**Nakonayok**	**38.73**	**72**	P	**P**		**17 08 25.9**	**+3.7**
	comp=Z,26nm,1.4s,comp=Z,6μm							
CHM	**Chimkent**	**38.77**	**7**	*e*P	**P**		**17 08 24.8**	**+2.6**
	comp=Z,455nm,1.3s							
CHM				LR	LR		17 24 00.1	
	comp=Z,1μm,19.3s							
NAX	**Nakhchivan**	**38.85**	**337**	P	**P**		**17 08 21.9**	**-1.1**
NRN	**Naryn**	**39.14**	**15**	P	**P**		**17 08 25.9**	**+0.2**
MMAI	**Mount Meron Ar**	**39.19**	**321**	LR	LR		17 23 43.0	
	comp=Z,2μm,20.7s,baz=165,slow=35							
AML	**Almayashu**	**39.27**	**12**	P	**P**		**17 08 29.1**	**+2.2**
	SNR=8.8							
MNAS	**Manas**	**39.38**	**11**	P	**P**		**17 08 27.8**	**+0.3**
MNAS				pmax	pmax			
	comp=Z,113nm,1.5s							
BRLS	**Borolday**	**39.50**	**7**	*i* P	**P**		**17 08 27.7**	**-0.6**
	comp=Z,11nm,1.3s							
BRLS				*e*S	**S**		**17 14 27.8**	**-2.3**
BRLS				LR	LR		17 24 06.0	
	comp=Z,91nm,18.8s							
UCH	**Uchtor**	**39.54**	**13**	P	**P**		**17 08 30.0**	**+0.9**
	SNR=39							
KZA	**Kyzart**	**39.56**	**14**	P	**P**		**17 08 32.4**	**+3.1**
	SNR=77							
DZA	**Taraz**	**39.58**	**9**	*e*P	**P**		**17 08 30.2**	**+1.2**
	comp=Z,270nm,1.2s							
DZA				*e*PP	**PP**		**17 10 00.5**	**+0.6**
DZA				*e*S	**S**		**17 14 32.5**	**+1.3**
KKAR	**Karat

FRU1 Bishkek 40.12 13 P P 17 08 34.6 +1.1
AKT Akhty 40.12 342 eP P 17 08 34.4 +0.8
AKT e 17 10 05.7
AKT pmax pmax
comp=Z,82nm,1.6s
FRU Bishkek 40.14 13 eP P 17 08 34.0 +0.4
FRU pmax pmax
comp=Z,200nm,1.8s
FRU pmax pmax
comp=E,2µm,18.0s
CHMS Chumysh 40.33 13 P P 17 08 35.9 +0.7
SNR=17
MYKOM Kota Tinggi 40.35 92 eP P 17 08 36.9 +1.1
comp=E,62nm,1.4s
TKM2 Tokmak 2 40.45 14 P P 17 08 36.4 0.0
TKM2 pmax pmax
comp=Z,31nm,1.5s
TKM2 Tokmak 2 40.45 14 P P 17 08 35.2 -1.2
SNR=18
USP Ospenovka 40.53 12 P P 17 08 37.3 +0.4
SNR=11
KHON Khomkaen 40.59 69 P P 17 08 41.4 +3.7
comp=Z,22nm,1.2s
ZKTA Zakatala 40.62 340 P P 17 08 36.7 -1.0
BMNS Besmoynak 40.64 14 eP P 17 08 38.8 +0.8
comp=Z,319nm,1.1s
BMNS eS S 17 14 48.1 +0.7
BMNS LR LR 17 25 01.4
comp=Z,330nm,14.3s
MDOK Medeo 41.03 15 iP P 17 08 41.4 +0.2
comp=Z,176nm,1.4s
MDOK i PP PP 17 10 15.8 -0.2
MDOK i S S 17 14 53.6 +0.3
MDOK LR LR 17 25 27.2
comp=Z,1µm,16.8s
SATY Saty 41.31 17 eP P 17 08 44.1 +0.6
comp=Z,482nm,1.1s
SATY LR LR 17 25 48.9
comp=Z,473nm,14.8s
TBLG Delisi 41.36 339 eP P 17 08 43.9 +0.1
TBLG pmax pmax
comp=Z,87nm,1.7s
TBLG Delisi 41.36 339 eP P 17 08 43.9 +0.1
comp=Z,87nm,1.7s
MDSI Maura Dua 41.47 101 P P 17 08 46.7 +1.7
comp=Z,58nm,1.4s,comp=Z,844nm
MAK Makhachkala 41.54 342 eP P 17 08 44.1 -1.0
MAK eS S 17 15 03.0 +2.6
MAK eSS SS 17 17 59.1 -6.3
MAK pmax pmax
comp=Z,185nm,1.6s
MAK MLR MLR
comp=Z,484nm,18.0s
KUU Kurty 41.54 14 iP P 17 08 45.2 0.0
comp=Z,80nm,2.5s
KUU LR LR 17 25 38.0
comp=Z,274nm,13.8s
AKH Akhalkalaki 41.55 337 iP P 17 08 46.5 +1.0
AKH Akhalkalaki 41.55 337 eP P 17 08 46.3 +0.8
AKH pmax pmax
comp=Z,99nm,1.4s
AKH Akhalkalaki 41.55 337 eP P 17 08 46.3 +0.8
comp=Z,98nm,1.5s
UZB Uzynbulak 41.57 17 iP P 17 08 46.1 +0.6
comp=Z,209nm,1.5s
UZB eS S 17 15 01.7 +0.5
KPKS Kokpek 41.76 17 eP P 17 08 47.7 +0.6
CSS Mathiatis 41.77 322 PFAKE 17 09 00.0 +13
CSS LR LR
comp=Z,457nm,22.0s
SKNT Sakolnakorn 41.82 69 P P 17 08 48.9 +1.1
comp=Z,31nm,0.9s
PDGK Podgornoye 41.87 18 P P 17 08 47.6 -0.4
PDGK pmax pmax
comp=Z,43nm,1.6s
KASI Kota Agung 41.98 102 P P 17 08 51.2 +2.0
BTLS Baital 42.14 11 iP P 17 08 50.6 +0.6
comp=Z,274nm,1.2s
BTLS eS S 17 15 10.0 +0.7
GROC Groznyy 42.30 341 eP P 17 08 52.0 +0.7
GROC e 17 10 28.9
GROC e 17 10 43.7
GROC pmax pmax
comp=Z,98nm,1.4s
ZEI Tsey 42.59 339 eP P 17 08 53.3 -0.7
ZEI pmax pmax
comp=Z,29nm,1.5s
UBPT Khong Chiam 42.85 72 P P 17 08 57.2 +0.9
comp=Z,26nm,1.2s
TDK Taldyqorghan 43.10 15 iP P 17 08 59.3 +1.4
comp=Z,548nm,1.2s
TDK LR LR 17 26 59.6
comp=Z,633nm,17.3s
KMI Kunming 43.27 57 P P 17 09 01.1 +1.3
KMI pP pP 17 09 04.4 -0.1
KMI sP sP 17 09 05.6 -0.7
KMI PP PP 17 10 44.3 +3.8
KMI S S 17 15 28.8 +1.8
KMI SS SS 17 18 34.9 -5.6
KMI pmax pmax
comp=Z,18nm,0.9s
KMI pmax pmax
comp=Z,410nm,5.4s
KMI LR LR
comp=Z,1µm,19.2s
KMI LR LR
comp=Z,1µm,21.8s
KMI LR LR
comp=Z,1µm,21.6s
NCK Nalchik 43.31 339 eP P 17 09 01.0 +1.4
NCK pmax pmax
comp=Z,12nm,1.0s
NEY Neytrino 43.42 338 eP P 17 09 01.3 +0.6
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 43.77 338 P P 17 09 03.2 0.0
comp=Z,9.0nm,1.0s,baz=151,slow=6.1,SNR=19
KBZ LR LR 17 28 29.3
comp=Z,721nm,19.9s,baz=145,slow=38
KVAR Kislovodsk Arr 44.04 338 LR LR 17 28 47.7
comp=Z,712nm,20.1s,baz=133,slow=38
KIV Kislovodsk 44.04 338 eP P 17 09 06.1 +0.5
KIV e 17 10 48.5
KIV eS S 17 15 38.2 +0.7
KIV eSS SS 17 18 55.4 +0.5
KIV pmax pmax
comp=Z,39nm,1.1s
KIV MLR MLR
comp=Z,639nm,16.0s
KIV Kislovodsk 44.04 338 eP P 17 09 05.9 +0.4
comp=Z,70nm,1.4s
KIV Kislovodsk 44.04 338 pP P 17 09 06.8 +1.2
SNR=12
KIV Kislovodsk 44.04 338 P P 17 09 06.8 +1.2
SNR=12
KIV Kislovodsk 44.04 338 iP P 17 09 05.8 +0.2
SNR=6.4
BR101 Keskin Array S 44.85 327 eP P 17 09 10.9 -1.2
BR101 ePcP PcP 17 10 55.0 +1.1
BR131 Keskin Array S 44.85 327 eP P 17 09 11.4 -0.7
BRTR Keskin Array B 44.85 327 P P 17 09 10.9 -1.2
comp=Z,4.2nm,0.9s,baz=149,slow=10,SNR=23
BRTR PcP PcP 17 10 55.0 +1.1
comp=Z,0.7nm,0.9s,baz=146,slow=2.8,SNR=2.2
BRTR LR LR 17 28 36.2
comp=Z,857nm,18.8s,baz=117,slow=37
BRTR Keskin Array B 44.85 327 iP P 17 09 11.8 -0.3
BRTR pmax pmax
comp=Z,4.0nm,0.9s
GOF Gofitskoye 44.87 339 iP P 17 09 12.2 +0.2
GOF pmax pmax
comp=Z,79nm,1.5s
SOC Sochi 44.89 335 eP P 17 09 10.2 -2.0
SOC eS S 17 15 45.7 -3.9
SOC eSS SS 17 19 10.4 -0.8
SOC pmax pmax
comp=Z,22nm,0.9s
SOC MLR MLR
comp=Z,577nm,16.0s
OTUK Ortayu 44.95 8 P P 17 09 12.9 +0.2
OTUK pmax pmax
comp=Z,68nm,1.3s
WMQ Urumqi 45.26 25 P P 17 09 16.0 +0.7
WMQ sP sP 17 09 22.9 +1.1
WMQ PP PP 17 11 01.3 0.0
WMQ S S 17 15 57.9 +2.7
WMQ SS ScS 17 19 13.9 +1.9
WMQ pmax pmax
comp=Z,74nm,2.3s
WMQ pmax pmax
comp=Z,940nm,3.7s
WMQ LR LR
comp=Z,4µm,29.7s
WMQ LR LR
comp=Z,5µm,24.9s
WMQ LR LR
comp=Z,7µm,23.5s
LEM Lembang 45.28 103 P P 17 09 14.5 -1.5
comp=Z,17nm,0.8s,baz=336,slow=20,SNR=2.1
LEM LR LR 17 25 36.7
comp=Z,2µm,20.1s,baz=238,slow=33
ISP Isparta 45.35 323 PFAKE 17 09 30.0 +14
ISP LR LR
comp=Z,807nm,22.0s
BR231 Keskin MP Arra 45.40 326 eP P 17 09 11.1 -5.4
ANTO Ankara 45.41 327 eP P 17 09 15.9 -0.6
ANTO pmax pmax
comp=Z,40nm,1.3s
ANTO Ankara 45.41 327 eP P 17 09 15.9 -0.6
comp=Z,40nm,1.3s
ANTO LR LR
comp=Z,681nm,20.0s
ANTO Ankara 45.41 327 P P 17 09 16.8 +0.2
SNR=7.5
ANTO Ankara 45.41 327 P P 17 09 16.8 +0.2
SNR=7.5
AB31 Akbulak array 45.42 357 P P 17 09 15.9 -0.5
AB31 pmax pmax
comp=Z,74nm,1.6s
ABKAR Akbulak array 45.42 357 eP P 17 09 16.5 +0.2
comp=Z,247nm,1.3s
ILGA Ilgaz 45.75 328 eP P 17 09 19.6 +0.2
comp=Z,66nm,1.4s
MAKZ Makanchi 45.77 18 eP P 17 09 18.4 -0.8
MAKZ pmax pmax
comp=Z,68nm,1.8s
MAKZ Makanchi 45.77 18 eP P 17 09 18.4 -0.8
comp=Z,68nm,1.8s
MK01 Makanchi Array 45.84 18 eP P 17 09 17.5 -2.2
MK31 Makanchi Array 45.85 18 P P 17 09 18.2 -1.7
MK31 pmax pmax
comp=Z,19nm,1.3s
MK31 Makanchi Array 45.85 18 eP P 17 09 17.3 -2.6
MK32 Makanchi Array 45.85 18 eP P 17 09 18.6 -1.3
MK32 ePcP PcP 17 10 58.1 +1.1
MKAR Makanchi Array 45.85 18 P P 17 09 18.6 -1.3
comp=Z,4.8nm,0.8s,baz=205,slow=7.7,SNR=34
MKAR PcP PcP 17 10 58.1 +1.1
comp=Z,7.7nm,1.1s,baz=224,slow=3.3,SNR=8.8
MKAR LR LR 17 29 21.0
comp=Z,828nm,18.7s,baz=212,slow=37
MKAR Makanchi Array 45.85 18 eP P 17 09 17.1 -2.7
comp=Z,51nm,1.0s
MKAR PcP PcP 17 10 58.1 +1.1
CD2 Chengdu 46.54 50 P P 17 09 25.1 -0.5
CD2 pP pP 17 09 28.3 -1.9
CD2 PP PP 17 11 14.3 -0.8
CD2 PcS PcS 17 14 53.9 -0.8
CD2 S S 17 16 14.6 +0.7
CD2 SS SS 17 19 42.3 +2.2
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,350nm,4.8s
CD2 LR LR
comp=Z,2µm,17.5s
CD2 LR LR
comp=Z,3µm,21.2s
CD2 LR LR
comp=Z,3µm,18.5s
BRZS Berezniki 46.70 8 iP P 17 09 28.4 +2.0
comp=Z,38nm,1.2s
AKTO Aktyubinsk 46.73 355 P P 17 09 26.2 -0.5
comp=Z,16nm,0.9s,baz=166,slow=9.9,SNR=23
AKTO LR LR 17 31 02.8
comp=Z,764nm,19.2s,baz=162,slow=39
AKTO Aktyubinsk 46.73 355 P P 17 09 26.6 -0.1
AKTO pmax pmax
comp=Z,68nm,1.4s
KSM Kuching 46.81 92 eP P 17 09 28.7 +0.8
comp=Z,34nm,1.5s
KSM LR LR
comp=Z,754nm,20.0s
ANN Anapa 46.84 335 eP P 17 09 28.7 +1.1
ANN e*PP pP 17 09 32.0 -0.3
ANN eS S 17 16 24.0 +6.4
ANN pmax pmax
comp=Z,68nm,1.0s
GYA Guiyang 47.05 57 iP P 17 09 30.8 +1.1
GYA PcP PcP 17 11 03.0 +1.2
GYA PP PP 17 11 21.3 +0.8
GYA S S 17 16 22.0 +0.5
GYA SS SS 17 19 43.5 -5.1
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.6s
GYA LR LR
comp=Z,860nm,17.6s
GYA LR LR
comp=Z,720nm,18.0s
GYA LR LR
comp=Z,700nm,18.2s
ZSN Zaisan 47.26 20 iP P 17 09 30.9 0.0
comp=Z,28nm,2.5s
ZSN i S S 17 16 22.9 -0.8
SIVA Sivas 47.42 316 P P 17 09 33.2 +0.9
SIVA Sivas 47.42 316 P P 17 09 33.2 +0.9
IDI Anoyia 47.51 316 P P 17 09 32.5 -0.6
comp=Z,28nm,1.0s,baz=104,slow=9.9,SNR=14
IDI LR LR 17 29 57.8
comp=Z,464nm,21.6s,baz=97,slow=37
IDI Anoyia 47.51 316 iP P 17 09 32.7 -0.4
IDI Anoyia 47.51 316 eP P 17 09 33.1 0.0
comp=Z,136nm,1.5s
SANT Santorini 47.71 318 eP P 17 09 33.2 -1.4
comp=Z,133nm,1.4s
SANT LR LR
comp=Z,378nm,20.0s
QIZ Qiongzhong 47.72 68 P P 17 09 35.9 +1.0
QIZ pP pP 17 09 37.9 -1.7
QIZ sP sP 17 09 39.4 -2.0
QIZ S S 17 16 31.1 +0.2
QIZ pmax pmax
comp=Z,11nm,1.7s
QIZ pmax pmax
comp=Z,250nm,5.3s
QIZ LR LR
comp=Z,840nm,15.2s
QIZ LR LR
comp=Z,2µm,18.1s
QIZ LR LR
comp=Z,2µm,16.7s
QIZ Qiongzhong 47.72 68 eP P 17 09 35.4 +0.5
comp=Z,49nm,1.5s
QIZ LR LR
comp=Z,2µm,21.0s
KURBB Kurchatov Arra 48.38 13 P P 17 09 38.2 -1.2
comp=Z,10nm,1.1s,baz=211,slow=7.7,SNR=39
GTA Gaotai 48.38 38 P P 17 09 40.0 +0.1
GTA pP sP 17 09 45.9 -0.5
GTA sP pP 17 09 48.5 +3.9
GTA S S 17 16 42.1 +2.1
GTA sS sS 17 16 50.4 +2.6
GTA pmax pmax
comp=Z,8.0nm,1.8s
GTA pmax pmax
comp=Z,410nm,5.2s
GTA LR LR
comp=Z,4µm,18.5s
GTA LR LR
comp=Z,5µm,19.0s
GTA LR LR
comp=Z,6µm,22.3s
SIM Simferopol' 48.44 332 iP P 17 09 41.9 +1.9
SIM i S S 17 16 57.0 +17
SIM pmax pmax
comp=Z,26nm,1.5s
SIM MLR MLR
comp=N,400nm,18.0s
KURK Kurchatov 48.49 13 eP P 17 09 39.8 -0.5
KURK pmax pmax
comp=Z,81nm,1.2s
KURK Kurchatov 48.49 13 eP P 17 09 38.2 -2.1
KURK LR LR
comp=Z,2µm,20.0s
KURK Kurchatov 48.49 13 P P 17 09 40.5 +0.2
SNR=13
KURK Kurchatov 48.49 13 P P 17 09 40.5 +0.2
SNR=13
SEM Semipalatinsk 48.58 14 iP P 17 09 40.9 -0.4
comp=Z,246nm,1.5s
SEM i S S 17 16 42.3 -0.4
SEM LR LR 17 29 31.6
comp=Z,1µm,17.8s
SBUM Sibu 48.66 90 eP P 17 09 43.1 +0.8
comp=Z,60nm,1.3s
BOSA Boshof 48.85 226 P P 17 09 41.4 -2.3
comp=Z,6.5nm,0.9s,baz=41,slow=11,SNR=4.6
BOSA LR LR 17 29 15.2
comp=Z,3µm,18.2s,baz=56,slow=35
BOSA Boshof 48.85 226 eP P 17 09 42.3 -1.4
BOSA pmax pmax
comp=Z,52nm,1.5s
SIGR SIGRI 49.08 321 P P 17 09 45.2 +0.1
LZH Lanzhou 49.13 44 eP P 17 09 47.5 +1.7
LZH pP sP 17 09 50.8 -1.5
LZH sP pP 17 09 53.0 +2.6
LZH PcP PcP 17 11 11.8 +2.6
LZH PP PP 17 11 42.1 +2.6
LZH eS S 17 16 50.0 -0.8
LZH SS SS 17 20 20.5 -1.7
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.8s
LZH LR LR
comp=Z,2µm,13.8s
LZH LR LR
comp=Z,2µm,13.0s
LZH LR LR
comp=Z,2µm,17.2s
BVA0 Borovoye Array 49.42 5 iP P 17 09 46.5 -1.0
BVA0 pmax pmax
comp=Z,67nm,1.8s
BVAR Borovoye Array 49.42 5 P P 17 09 46.4 -1.1
comp=Z,3.5nm,0.9s,baz=140,slow=3.4,SNR=28
BVAR LR LR 17 31 50.6
comp=Z,2µm,21.3s,baz=188,slow=38
BRVK Borovoye 49.45 5 eP P 17 09 47.3 -0.3
BRVK pmax pmax
comp=Z,142nm,2.5s
BRVK Borovoye 49.45 5 eP P 17 09 47.0 -0.7
comp=Z,89nm,1.7s
BRVK LR LR
comp=Z,2µm,21.0s
BRVK Borovoye 49.45 5 P P 17 09 47.7 +0.1
SNR=22
BRVK Borovoye 49.45 5 P P 17 09 47.7 +0.1
SNR=22
ALN Alexandroupoli 49.98 323 P P 17 09 52.0 +0.1
ALN Alexandroupoli 49.98 323 P P 17 09 52.0 +0.1
ALN Alexandroupoli 49.98 323 P P 17 09 52.0 +0.1
SMTH Samothraki Isl 50.03 322 P P 17 09 53.9 +1.6
DGZ Jazzator, Alta 50.07 20 ceP P 17 09 52.6 0.0
DGZ pmax pmax
comp=Z,6.0nm,1.1s
PSN Preselentsi 50.53 327 eP P 17 09 55.0 -1.0
TSUM Tsumeb 50.60 241 eP P 17 09 57.4 +0.3
comp=Z,85nm,1.6s
TSUM LR LR
comp=Z,5µm,19.0s
VRH Novokhopyorsk 50.67 342 eP P 17 09 56.8 -0.1
VRH pmax pmax
comp=Z,20nm,1.2s
ENH Enshi 50.76 53 eP P 17 09 57.8 -0.3
comp=Z,52nm,1.4s
ENH LR LR
comp=Z,1µm,21.0s
TIRR Tirgusor 50.92 328 iP P 17 09 58.7 -0.3
TIRR Tirgusor 50.92 328 eP P 17 09 58.0 -1.0
TIRR pmax pmax
comp=Z,100nm,1.6s
TIRR Tirgusor 50.92 328 eP P 17 09 58.0 -1.0
comp=Z,105nm,1.6s
TLB Topalu 51.21 328 iP P 17 10 00.0 -1.1
AGG Agios Georgios 51.24 319 eP P 17 09 58.9 -2.6
AGG pmax pmax
comp=Z,110nm,1.5s
AGG Agios Georgios 51.24 319 eP P 17 09 58.9 -2.6
comp=Z,109nm,1.5s
HARR Harsova 51.34 328 iP P 17 10 01.5 -0.6
VSR Storozhevoye 51.49 341 eP P 17 10 02.2 -0.9
VSR pmax pmax
comp=Z,20nm,1.2s
CFR Carcaliu 51.56 328 iP P 17 10 04.0 +0.3
NVR Nevrokopi 51.57 322 P P 17 10 05.3 +1.3
NVR Nevrokopi 51.57 322 P P 17 10 05.3 +1.3
SRS Serrai 51.60 322 P P 17 10 02.8 -1.4
MMB Musomiste 51.79 322 eP P 17 10 03.0 -2.6
GZH Guangzhou 51.83 64 P P 17 10 09.0 +2.9
GZH S S 17 17 38.8 +10
GZH pmax pmax
comp=Z,410nm,5.5s
GZH LR LR
comp=Z,1µm,17.8s
GZH LR LR
comp=Z,1µm,18.2s
XAN Xi'an 51.83 49 P P 17 10 05.6 -0.5
XAN pP sP 17 10 12.8 +0.2
XAN PP PP 17 12 04.3 +0.3
XAN S S 17 17 23.6 -4.6
XAN pmax pmax
comp=Z,45nm,1.5s
XAN pmax pmax
comp=Z,400nm,3.6s
XAN LR LR
comp=Z,1µm,21.1s
XAN LR LR
comp=Z,1µm,24.9s
XAN LR LR
comp=Z,2µm,25.9s
JAGI Jajag, Banyuwa 51.96 104 eP P 17 10 07.0 -0.2
comp=Z,96nm,1.2s
KNT Kendrikon 52.06 321 P P 17 10 06.5 -1.1
KNT Kendrikon 52.06 321 P P 17 10 06.5 -1.1
KNT Kendrikon 52.06 321 P P 17 10 06.5 -1.1
KKB Krupnik 52.34 322 eP P 17 10 08.0 -1.7
ISR Istrita 52.36 327 iP P 17 10 09.9 +0.1
KIS Kishinev 52.46 331 eP P 17 10 09.0 -1.4
comp=Z,300nm,1.7s
KIS eS S 17 17 32.0 -4.3
KIS eLR LR 17 30 12.0
comp=Z,800nm,16.0s
KIS Kishinev 52.46 331 eP P 17 10 09.0 -1.4
KIS i 17 10 15.0
KIS eS S 17 17 32.0 -4.3
KIS pmax pmax
comp=Z,260nm,1.7s
KIS MLR MLR
comp=Z,800nm,16.0s
KKM Kota Kinabalu 52.56 85 PFAKE 17 10 20.0 +8.2
KKM LR LR
comp=Z,992nm,20.0s
ARU Arti 52.66 357 LR LR 17 33 10.1
comp=Z,1µm,21.5s,baz=154,slow=37
ARU Arti 52.66 357 diP P 17 10 10.9 -0.8
ARU 17 11 22.2
ARU 17 12 07.1
ARU S S 17 17 39.4 +0.8
ARU SS SS 17 21 18.6 +1.4
ARU pmax pmax
comp=Z,53nm,1.7s
ARU MLR MLR
comp=Z,1µm,18.0s
ARU Arti 52.66 357 eP P 17 10 10.5 -1.2
comp=Z,110nm,1.8s
VTS Vitosha 52.69 323 iP P 17 10 11.0 -1.4
VTS Vitosha 52.69 323 eP P 17 10 10.7 -1.7
VTS pmax pmax
comp=Z,79nm,1.6s
VTS Vitosha 52.69 323 eP P 17 10 10.7 -1.7
comp=Z,79nm,1.6s
VTS Vitosha 52.69 323 P P 17 10 11.1 -1.4
LPSR Galich'ya Gora 52.75 341 eP P 17 10 08.6 -3.8
LPSR pmax pmax
comp=Z,10.0nm,0.6s

VRI	**Vrincioaia**	**52.75**	**328**	⇑	*i*	P	**P**	**17**	**10**	**12.9 +0.3**
PLOR	**Plostina**	**52.78**	**328**	⇑	*i*	P	**P**	**17**	**10**	**12.7 -0.2**
MLR	**Muntele Rosu**	**52.92**	**327**		*i*	P	**P**	**17**	**10**	**13.4 -0.6**
	comp=Z,6.0nm,1.1s,baz=174,slow=2.0,SNR=24									
MLR	**Muntele Rosu**	**52.92**	**327**	⇑	*i*	P	**P**	**17**	**10**	**14.5 +0.5**
MLR	**Muntele Rosu**	**52.92**	**327**		*e*	P	**P**	**17**	**10**	**14.3 +0.2**
MLR						pmax	pmax			
	comp=Z,140nm,1.6s									
MLR	**Muntele Rosu**	**52.92**	**327**		*e*	P	**P**	**17**	**10**	**14.3 +0.2**
	comp=Z,137nm,1.6s									
SVE	**Sverdlovsk**	**52.95**	**358**		*e*	P	**P**	**17**	**10**	**13.2 -0.7**
SVE					*e*	S	**S**	**17**	**17**	**45.8 +3.1**
SVE						pmax	pmax			
	comp=Z,59nm,1.7s									
SVE						MLR	MLR			
	comp=Z,2µm,20.0s									
ZAA0	**Zalesovo Array**	**52.98**	**16**		*e*	P	**P**	**17**	**10**	**13.8 -0.3**
	comp=Z,34nm,0.9s									
ZALV	**Zalesovo Beam**	**52.98**	**16**		P	P	**P**	**17**	**10**	**12.9 -1.2**
	comp=Z,36nm,1.0s,baz=219,slow=6.2,SNR=68									
ZALV						LR	LR	17	32	45.0
	comp=Z,2µm,21.7s,baz=249,slow=36									
ZALV	**Zalesovo Beam**	**52.98**	**16**		*e*	P	**P**	**17**	**10**	**10.7 -3.4**
ZALV	**Zalesovo Beam**	**52.98**	**16**		*e*	P	**P**	**17**	**10**	**10.7 -3.4**
ZAA1	**Zalesovo Array**	**52.98**	**16**		*e*	P	**P**	**17**	**10**	**12.9 -1.3**
TESR	**Tescani**	**53.22**	**329**	⇓	*i*	P	**P**	**17**	**10**	**15.1 -1.0**
PAF	**Port-aux-Franc**	**53.23**	**175**			PFAKE		17	10	30.0 +14
PAF						LR	LR			
	comp=Z,3µm,21.0s									
MTUR	**Matau**	**53.23**	**327**	⇓	*i*	P	**P**	**17**	**10**	**16.9 +0.6**
VOIR		**53.37**	**327**	⇓	*i*	P	**P**	**17**	**10**	**15.9 -1.4**
NVS	**Novosibirsk**	**53.38**	**14**		*e*	P	**P**	**17**	**10**	**17.0 0.0**
NVS						pmax	pmax			
	comp=N,48nm,1.3s									
NVS						pmax	pmax			
	comp=E,9.0nm,1.3s									
NVS						pmax	pmax			
	comp=Z,59nm,1.3s									
SORM	**Soroca**	**53.48**	**331**	⇓	*i*	P	**P**	**17**	**10**	**16.6 -1.3**
DOPR	**Dopca**	**53.53**	**328**	⇓	*i*	P	**P**	**17**	**10**	**17.9 -0.5**
HVS	**Khovu-Aksy**	**53.56**	**23**	⇓	*i*	P	**P**	**17**	**10**	**18.9 +0.3**
HVS						pmax	pmax			
	comp=Z,26nm,0.9s									
PRAR	**RASCA**	**54.00**	**329**	⇑	*i*	P	**P**	**17**	**10**	**21.9 +0.1**
TIR	**Tirane**	**54.07**	**320**			PFAKE		17	10	30.0 +7.6
TIR						LR	LR			
	comp=Z,595nm,22.0s									
LOT	**Lotru**	**54.08**	**326**	⇑	*i*	P	**P**	**17**	**10**	**19.9 -2.6**
SUR	**Sutherland**	**54.14**	**225**		*e*	P	**P**	**17**	**10**	**22.3 -1.0**
	comp=Z,133nm,1.7s									
SUR						LR	LR			
	comp=Z,7µm,19.0s									
HERR	**Herculane**	**54.50**	**325**	⇑	*i*	P	**P**	**17**	**10**	**24.0 -1.5**
BURAR	**Bucovina Array**	**54.69**	**329**	⇓	*i*	P	**P**	**17**	**10**	**26.9 0.0**
BUR04	**Bucovina Ar. S**	**54.69**	**329**		*e*	P	**P**	**17**	**10**	**26.0 -0.9**
BUR08	**Bucovina Ar. S**	**54.71**	**329**		*e*	P	**P**	**17**	**10**	**26.7 -0.4**
ARCR	**ARCALIA**	**54.79**	**328**	⇑	*i*	P	**P**	**17**	**10**	**27.7 +0.2**
WHN	**Wuhan**	**54.80**	**55**	⇑	*i*	P	**P**	**17**	**10**	**28.3 +0.5**
WHN						sP	**sP**	**17**	**10**	**34.4 0.0**
WHN						S	**S**	**17**	**18**	**04.8 -3.7**
WHN						LR	LR			
	comp=Z,4µm,22.9s									
WHN						LR	LR			
	comp=Z,3µm,19.4s									
WHN						LR	LR			
	comp=Z,3µm,23.0s									
AKASG	**Malin Array Be**	**54.92**	**334**			P	**P**	**17**	**10**	**27.2 -1.2**
	comp=Z,6.2nm,1.0s,baz=130,slow=6.5,SNR=45									
AKASG						PcP	**PcP**	**17**	**11**	**30.1 -0.1**
	comp=Z,2.8nm,0.8s,baz=122,slow=2.9,SNR=5.7									
AKASG						PP	**PP**	**17**	**12**	**35.5 +4.1**
	comp=Z,1.3nm,0.8s,baz=137,slow=8.3,SNR=4.1									
AKASG						LR	LR	17	36	37.3
	comp=Z,352nm,19.4s,baz=115,slow=39									
AKBB	**Malin Array Si**	**54.92**	**334**		*e*	P	**P**	**17**	**10**	**26.7 -1.6**
AKBB						pmax	pmax			
	comp=Z,76nm,1.6s									
AKBB	**Malin Array Si**	**54.92**	**334**		*e*	P	**P**	**17**	**10**	**26.7 -1.6**
	comp=Z,76nm,1.6s									
KIEV	**Kiev**	**54.92**	**334**		*c*	*i* P	**P**	**17**	**10**	**26.9 -1.4**
KIEV						pmax	pmax			
	comp=Z,24nm,1.6s									
KIEV	**Kiev**	**54.92**	**334**		*e*	P	**P**	**17**	**10**	**26.7 -1.7**
	comp=Z,74nm,1.6s									
KIEV						LR	LR			
	comp=Z,711nm,21.0s									
KIEV	**Kiev**	**54.92**	**334**		*i*	P	**P**	**17**	**10**	**27.3 -1.1**
	SNR=10.0									
AK11	**Malin Array Si**	**54.92**	**334**		*e*	P	**P**	**17**	**10**	**26.5 -1.9**
CJR	**Cluj-Napoca**	**54.96**	**327**	⇑	*i*	P	**P**	**17**	**10**	**28.8 0.0**
TIP	**Timpagrande**	**55.07**	**316**		*e*	P	**P**	**17**	**10**	**29.0 -0.8**
	comp=Z,30nm,1.6s									
TIP						LR	LR			
	comp=Z,388nm,21.0s									
CEL	**Celeste**	**55.25**	**315**		*e*	P	**P**	**17**	**10**	**30.5 -0.6**
	comp=Z,28nm,1.1s									
CEL						LR	LR			
	comp=Z,376nm,21.0s									
BZS	**Buzias**	**55.39**	**325**	⇓	*i*	P	**P**	**17**	**10**	**30.2 -1.7**
DRGR		**55.49**	**327**	⇑	*i*	P	**P**	**17**	**10**	**33.0 +0.3**
BTO	**Baotou**	**55.59**	**42**		*e*	P	**P**	**17**	**10**	**33.1 -0.5**
OBN	**Obninsk**	**55.62**	**342**	⇓	*e*	P	**P**	**17**	**10**	**33.2 -0.1**
OBN					*e*			17	12	38.4
OBN					*i*	S	S	17	18	35.8 +17
OBN						pmax	pmax			
	comp=Z,28nm,1.2s									
OBN	**Obninsk**	**55.62**	**342**		*e*	P	**P**	**17**	**10**	**30.9 -2.4**
	comp=Z,109nm,1.8s									
MOS	**Moscow**	**55.83**	**343**		*e*	P	**P**	**17**	**10**	**32.1 -2.7**
MOS					*e*			17	10	37.8
MOS						pmax	pmax			
	comp=Z,219nm,1.6s									
MOS						MLR	MLR			
	comp=Z,1µm,20.0s									
TIY	**Taiyuan**	**55.97**	**46**		*e*	P	P	17	10	41.5 +5.2
TIY						S	**S**	**17**	**18**	**21.0 -3.2**
TIY						pmax	pmax			
	comp=Z,330nm,3.9s									
TIY						LR	LR			
	comp=Z,1µm,15.7s									
TIY						LR	LR			
	comp=Z,940nm,18.8s									
TIY						LR	LR			
	comp=Z,830nm,24.8s									
VAE	**Valguarnera**	**55.98**	**314**			LR	LR	17	32	58.2
	comp=Z,256nm,21.6s,baz=140,slow=34									
CUC	**Castrocucco**	**56.09**	**317**		*e*	P	**P**	**17**	**10**	**35.8 -1.3**
	comp=Z,31nm,1.6s									
CUC						LR	LR			
	comp=Z,327nm,21.0s									
TRPA	**Tarpa**	**56.40**	**328**	⇑	*e*	P	**P**	**17**	**10**	**39.1 0.0**
LVV	**L'vov**	**56.72**	**330**		*e*	P	**P**	**17**	**10**	**39.6 -1.7**
HHC	**Hu-ho-hao-te**	**56.74**	**42**		*e*	P	**P**	**17**	**10**	**42.9 +1.1**
HHC						sP	sP	17	10	50.6 +2.2
HHC						S	**S**	**17**	**18**	**33.1 -1.3**
HHC						pmax	pmax			
	comp=Z,29nm,1.5s									
HHC						pmax	pmax			
	comp=Z,370nm,5.6s									
HHC						LR	LR			
	comp=Z,2µm,16.1s									
HHC						LR	LR			
	comp=Z,2µm,17.7s									
HHC						LR	LR			
	comp=Z,3µm,17.7s									
UZH	**Uzhgorod**	**56.84**	**329**		*e*	P	**P**	**17**	**10**	**41.0 -1.2**
UZH					*e*			17	10	42.6
UZH					*e*	S	**S**	**17**	**18**	**29.9 -5.3**
KAPI	**Kappang**	**56.87**	**98**			PFAKE		17	11	00.0 +17
KAPI						LR	LR			
	comp=Z,612nm,21.0s									
CLTB	**Caltabellotta**	**56.89**	**313**		*e*	P	**P**	**17**	**10**	**42.2 -0.7**
	comp=Z,79nm,1.7s									
CLTB						LR	LR			
	comp=Z,208nm,20.0s									
QZH	**Quanzhou**	**56.92**	**63**	⇑	*i*	P	**P**	**17**	**10**	**43.6 +0.4**
QZH						S	**S**	**17**	**18**	**42.4 +5.4**
QZH						LR	LR			
	comp=Z,1µm,15.9s									
QZH						LR	LR			
	comp=Z,720nm,16.1s									
QZH						LR	LR			
	comp=Z,1µm,15.1s									
MOY	**Mondy**	**57.03**	**27**		*e*	P	**P**	**17**	**10**	**44.2 +0.5**
MOY						pmax	pmax			
	comp=Z,57nm,1.8s									
ZAK	**Zakamensk**	**57.24**	**29**		*e*	P	**P**	**17**	**10**	**43.7 -1.5**
ZAK						pmax	pmax			
	comp=Z,11nm,1.4s									
ZAK						pmax	pmax			
	comp=Z,6.0nm,1.6s									
KWP	**Kalwaria Pacla**	**57.26**	**330**		*e*	P	**P**	**17**	**10**	**45.1 -0.1**
KWP	**Kalwaria Pacla**	**57.26**	**330**		*e*	P	**P**	**17**	**10**	**45.1 -0.1**
KWP	**Kalwaria Pacla**	**57.26**	**330**		*e*	P	**P**	**17**	**10**	**44.1 -1.0**
	comp=Z,2µm,1.5s									
SONA0	**Songino Array**	**57.26**	**33**		*e*	P	**P**	**17**	**10**	**44.6 -0.8**
SONM	**Songino Array**	**57.26**	**33**		P	P	**P**	**17**	**10**	**44.6 -0.8**
	comp=Z,17nm,1.1s,baz=229,slow=6.6,SNR=64									
SONM						LR	LR	17	35	30.0
	comp=Z,4µm,21.8s,baz=226,slow=36									
SONA1	**Songino Array**	**57.28**	**33**		*e*	P	**P**	**17**	**10**	**44.3 -1.2**
MORH	**M¯‡r ¡gy, Hung**	**57.44**	**324**	⇓	*e*	P	**P**	**17**	**10**	**46.0 -0.5**
CRVS	**Cervenica-Dubn**	**57.44**	**328**		*e*	P	**P**	**17**	**10**	**46.8 +0.3**
CRVS	**Cervenica-Dubn**	**57.44**	**328**		*e*	P	**P**	**17**	**10**	**46.8 +0.3**
BLY	**Banja Luka**	**57.52**	**322**		*e*	P	**P**	**17**	**10**	**46.4 -0.7**
	comp=Z,25nm,1.1s									
TGY	**Tagaytay City**	**57.53**	**76**			LR	LR	17	32	30.9
	comp=Z,1µm,21.8s,baz=280,slow=33									
ULN	**Ulaanbaatar**	**57.64**	**33**		*ce*	P	**P**	**17**	**10**	**48.2 +0.1**
ULN						pmax	pmax			
	comp=Z,39nm,2.5s									
ULN	**Ulaanbaatar**	**57.64**	**33**		*e*	P	**P**	**17**	**10**	**47.2 -0.9**
	comp=Z,52nm,1.6s									
ULN						LR	LR			
	comp=Z,4µm,21.0s									
ULN	**Ulaanbaatar**	**57.64**	**33**			P	**P**	**17**	**10**	**48.6 +0.5**
	SNR=10									
ULN	**Ulaanbaatar**	**57.64**	**33**			P	**P**	**17**	**10**	**48.6 +0.5**
	SNR=10									
PSZ	**Piszkesteto**	**57.70**	**327**		*e*	P	**P**	**17**	**10**	**47.0 -1.4**
PSZ						pmax	pmax			
	comp=Z,28nm,1.4s									
PSZ	**Piszkesteto**	**57.70**	**327**	⇑	*e*	P	**P**	**17**	**10**	**47.1 -1.4**
PSZ	**Piszkesteto**	**57.70**	**327**		*e*	P	**P**	**17**	**10**	**47.0 -1.4**
	comp=Z,28nm,1.4s									
PSZ						LR	LR			
	comp=Z,875nm,20.0s									
KECS	**Kecovo**	**57.71**	**328**		*e*	P	**P**	**17**	**10**	**47.0 -1.3**
KECS						pmax	pmax			
	comp=Z,11nm,1.9s									
KECS	**Kecovo**	**57.71**	**328**		*e*	P	**P**	**17**	**10**	**47.0 -1.3**
STHS	**Stebnicka Huta**	**57.87**	**329**		*e*	P	**P**	**17**	**10**	**48.8 -0.7**
STHS						pmax	pmax			
	comp=Z,20nm,1.7s									
STHS	**Stebnicka Huta**	**57.87**	**329**		*e*	P	**P**	**17**	**10**	**48.8 -0.7**
MICGM	**Minsk**	**58.25**	**336**		*e*	P	**P**	**17**	**10**	**50.0 -2.0**
MNK	**Minsk**	**58.25**	**336**		*e*	P	**P**	**17**	**10**	**50.0 -2.0**
TLY	**Talaya**	**58.26**	**28**			LR	LR	17	36	18.5
	comp=Z,3µm,20.0s,baz=232,slow=36									
TLY	**Talaya**	**58.26**	**28**		*c*	*i* P	**P**	**17**	**10**	**52.7 +0.5**
TLY						eS	**S**	**17**	**18**	**50.8 -3.0**
TLY						pmax	pmax			
	comp=Z,40nm,1.8s									
TLY						MLR	MLR			
	comp=Z,3µm,20.0s									
TLY	**Talaya**	**58.26**	**28**		*e*	P	**P**	**17**	**10**	**51.3 -0.9**
	comp=Z,44nm,1.5s									
TLY	**Talaya**	**58.26**	**28**			P	**P**	**17**	**10**	**53.5 +1.3**
	SNR=18									
TLY	**Talaya**	**58.26**	**28**			P	**P**	**17**	**10**	**53.5 +1.3**
	SNR=18									
NIE	**Niedzica**	**58.36**	**328**		*e*	P	**P**	**17**	**10**	**52.3 -0.7**
NIE	**Niedzica**	**58.36**	**328**		*e*	P	**P**	**17**	**10**	**52.3 -0.7**
SRO	**Srobarova**	**58.51**	**326**		*e*	P	**P**	**17**	**10**	**54.0 0.0**
SRO	**Srobarova**	**58.51**	**326**		*e*	P	**P**	**17**	**10**	**54.0 0.0**
VYHS	**Vyhne**	**58.61**	**327**		*e*	P	**P**	**17**	**10**	**53.7 -1.0**
VYHS						pmax	pmax			
	comp=Z,39nm,1.8s									
VYHS	**Vyhne**	**58.61**	**327**		*e*	P	**P**	**17**	**10**	**53.7 -1.0**
LANS	**Liptovska Anna**	**58.65**	**328**		*e*	P	**P**	**17**	**10**	**54.4 -0.6**
LANS	**Liptovska Anna**	**58.65**	**328**		*e*	P	**P**	**17**	**10**	**54.3 -0.7**
TWG	**Pinlang**	**58.75**	**66**		*e*	P	**P**	**17**	**10**	**56.3 +0.2**
	comp=Z,328nm,1.5s									
AQU	**L'Aquila**	**58.78**	**318**		*e*	P	**P**	**17**	**10**	**54.3 -1.7**
AQU						pmax	pmax			
	comp=Z,71nm,1.6s									
AQU	**L'Aquila**	**58.78**	**318**		*e*	P	**P**	**17**	**10**	**54.3 -1.7**
	comp=Z,71nm,1.6s									
AQU						LR	LR			
	comp=Z,455nm,20.0s									
SSLB	**Suanglung**	**58.81**	**65**		*e*	P	**P**	**17**	**10**	**57.5 +1.0**
	comp=Z,79nm,1.5s									
TIA	**Tai'an**	**58.87**	**50**			P	**P**	**17**	**10**	**52.3 -4.4**
TIA						S	**S**	**17**	**19**	**06.6 +4.4**
NJ2	**Nanjing**	**58.92**	**55**		*e*	P	**P**	**17**	**10**	**58.5 +1.4**
NJ2						pP	**pP**	**17**	**11**	**00.9 -1.0**
NJ2						sP	**sP**	**17**	**11**	**04.3 +0.6**
NJ2						S	**S**	**17**	**19**	**02.8 -0.2**
NJ2						ScS	**ScS**	**17**	**20**	**43.6 -3.5**
NJ2						pmax	pmax			
	comp=Z,20nm,0.8s									
NJ2						pmax	pmax			
	comp=Z,340nm,4.9s									
NJ2						LR	LR			
	comp=Z,760nm,22.8s									
NJ2						LR	LR			
	comp=Z,990nm,20.6s									
NJ2						LR	LR			
	comp=Z,2µm,19.5s									
IRK	**Irkutsk**	**58.93**	**28**		*e*	P	**P**	**17**	**10**	**56.0 -0.8**
IRK						pmax	pmax			
	comp=Z,88nm,2.6s									
KOGS	**Kog**	**58.97**	**324**		*e*	P	**P**	**17**	**10**	**56.8 -0.3**
YULB	**Yu-li**	**59.05**	**65**		*e*	P	**P**	**17**	**10**	**58.7 +0.6**
	comp=Z,71nm,1.5s									
BOJS	**Bojanci**	**59.09**	**322**		*e*	P	**P**	**17**	**10**	**57.8 -0.2**
TAM	**Tamanrasset**	**59.10**	**294**		*e*	P	**P**	**17**	**10**	**58.6 -0.1**
TAM						pmax	pmax			
	comp=Z,59nm,1.4s									
TAM	**Tamanrasset**	**59.10**	**294**		*e*	P	**P**	**17**	**10**	**58.6 -0.1**
	comp=Z,59nm,1.4s									
TAM						LR	LR			
	comp=Z,617nm,21.0s									
OJC	**Ojcow**	**59.10**	**329**		*e*	P	**P**	**17**	**10**	**57.5 -0.5**
OJC	**Ojcow**	**59.10**	**329**		*e*	P	**P**	**17**	**10**	**57.5 -0.5**
OJC	**Ojcow**	**59.10**	**329**		*e*	P	**P**	**17**	**10**	**56.1 -2.0**
	comp=Z,73nm,1.6s									
KEST	**Kesra**	**59.11**	**310**			P	**P**	**17**	**10**	**57.9 -0.6**
	comp=Z,13nm,1.2s,baz=74,slow=4.1,SNR=7.3									
KEST						LR	LR	17	34	43.0
	comp=Z,473nm,21.9s,baz=32,slow=34									
KEST	**Kesra**	**59.11**	**310**		*e*	P	**P**	**17**	**10**	**58.1 -0.3**
	comp=Z,93nm,1.8s									
IDID	**Didziasalis**	**59.30**	**337**		*e*	P	**P**	**17**	**10**	**59.4 +0.1**
IDID						IAmb	IAmb	17	11	01.0
	comp=Z,50nm,1.8s									
YHNB	**Yeheng**	**59.35**	**64**		*e*	P	**P**	**17**	**11**	**00.1 -0.2**
	comp=Z,68nm,1.4s									
YHNB						LR	LR			
	comp=Z,743nm,20.0s									
SOP	**Sopron**	**59.44**	**325**	⇑	*e*	P	**P**	**17**	**10**	**59.8 -0.6**
TATO	**Taipei**	**59.51**	**63**			PFAKE		17	11	10.0 +8.7
TATO						LR	LR			
	comp=Z,1µm,20.0s									
IIGN	**Ignalina**	**59.53**	**336**		*e*	P	**P**	**17**	**11**	**01.0 +0.2**
IIGN						IAmb	IAmb	17	11	02.7
	comp=Z,12nm,1.0s									
BJT	**Baijiatuau**	**59.57**	**45**		*e*	P	**P**	**17**	**11**	**01.4 -0.1**
BJT						pmax	pmax			
	comp=Z,50nm,1.3s									
BJT						MLR	MLR			
	comp=Z,2µm,20.0s									
BJT	**Baijiatuau**	**59.57**	**45**		*e*	P	**P**	**17**	**11**	**01.4 -0.1**
	comp=Z,50nm,1.3s									
BJT						LR	LR			
	comp=Z,2µm,20.0s									
BJI	**Beijing**	**59.58**	**45**	⇓	*e*	P	**P**	**17**	**11**	**01.0 -0.5**
BJI						S	**S**	**17**	**19**	**12.6 +1.4**
BJI						SS	**SS**	**17**	**23**	**07.3 +0.4**
BJI						pmax	pmax			
	comp=Z,17nm,1.7s									
BJI						pmax	pmax			
	comp=Z,480nm,4.0s									
BJI						LR	LR			
	comp=Z,2µm,17.7s									
BEL	**Belsk**	**59.59**	**331**		*e*	P	**P**	**17**	**11**	**01.6 +0.2**
BEL	**Belsk**	**59.59**	**331**		*e*	P	**P**	**17**	**11**	**01.6 +0.2**
ISAL	**Salakas**	**59.72**	**336**		*e*	P	**P**	**17**	**11**	**02.1 -0.1**
ISAL						IAmb	IAmb	17	11	05.0
	comp=Z,15nm,1.1s									
OKC	**Ostrava-Krasne**	**59.74**	**328**		*e*	P	**P**	**17**	**11**	**02.0 -0.5**
OKC	**Ostrava-Krasne**	**59.74**	**328**		*e*	P	**P**	**17**	**11**	**02.0 -0.5**
KLMR	**Klimovskoe**	**59.78**	**347**		*e*	P	**P**	**17**	**10**	**59.3 -3.2**
KLMR						eS	**S**	**17**	**19**	**13.1 0.0**
KLMR						pmax	pmax			
	comp=Z,107nm,1.5s									
KLMR	**Klimovskoe**	**59.78**	**347**		*e*	P	**P**	**17**	**10**	**59.4 -3.1**
KLMR						AMP		17	11	06.3
	comp=Z,107nm,1.5s									
KLMR						eS	**S**	**17**	**19**	**13.1 0.0**
KLMR						eS	**S**	**17**	**19**	**13.1 0.0**
KLMR						LQ	LQ	17	33	05.2
KLMR						LQ	LQ	17	33	05.2
KLMR						LR	LR	17	36	10.3
LJU	**Ljubljana**	**59.79**	**323**		*e*	P	**P**	**17**	**11**	**02.8 -0.2**
IZAR	**Zarasai**	**59.80**	**337**		*e*	P	**P**	**17**	**11**	**02.6 -0.1**
IZAR						IAmb	IAmb	17	11	05.7
	comp=Z,26nm,1.3s									
SOKA	**Soboth**	**59.80**	**323**		*e*	P	**P**	**17**	**11**	**02.3 -0.8**
	comp=Z,25nm,1.4s,SNR=12									
ARSA	**Arzberg**	**59.81**	**324**		*e*	P	**P**	**17**	**11**	**02.2 -0.9**
	comp=Z,34nm,1.5s,SNR=13									
SUW	**Suwalki**	**59.88**	**334**		*e*	P	**P**	**17**	**11**	**01.9 -1.4**
SUW	**Suwalki**	**59.88**	**334**		*e*	P	**P**	**17**	**11**	**01.9 -1.4**
SUW	**Suwalki**	**59.88**	**334**		*e*	P	**P**	**17**	**11**	**01.3 -2.0**
	comp=Z,98nm,1.4s									
CONA	**Conrad Observa**	**59.96**	**325**		*i*	P	**P**	**17**	**11**	**03.2 -0.9**
	comp=Z,69nm,1.5s,SNR=27									
OBKA	**Obir**	**60.01**	**323**		*e*	P	**P**	**17**	**11**	**04.6 +0.1**
	comp=Z,23nm,1.3s,SNR=6.9									
MORC	**Moravsky Berou**	**60.03**	**327**	⇑	*i*	P	**P**	**17**	**11**	**04.0 -0.6**
MORC	**Moravsky Berou**	**60.03**	**327**		*e*	P	**P**	**17**	**11**	**01.7 -2.9**
MORC						pmax	pmax			
	comp=Z,460nm,1.7s									
MORC	**Moravsky Berou**	**60.03**	**327**		*e*	P	**P**	**17**	**11**	**01.7 -2.9**
	comp=Z,465nm,1.7s									
TRI	**Trieste**	**60.10**	**322**		*e*	P	**P**	**17**	**11**	**03.1 -1.9**
TRI						pmax	pmax			
	comp=Z,110nm,1.8s									
TRI	**Trieste**	**60.10**	**322**		*e*	P	**P**	**17**	**11**	**03.1 -1.9**
	comp=Z,112nm,1.8s									
VRAC	**Vranov**	**60.29**	**327**	⇑	*i*	P	**P**	**17**	**11**	**06.4 +0.1**
MBWA	**Marble Bar**	**60.38**	**117**			PFAKE		17	11	20.0 +13
MBWA						LR	LR			
	comp=Z,861nm,19.0s									
VSL	**Villasalto**	**60.40**	**314**		*e*	P	**P**	**17**	**11**	**06.5 -0.7**
	comp=Z,44nm,1.2s									
VSL						LR	LR			
	comp=Z,294nm,22.0s									
KRLC	**Kraliky**	**60.61**	**327**		*e*	P	**P**	**17**	**11**	**07.8 -0.7**
KRLC	**Kraliky**	**60.61**	**327**		*e*	P	**P**	**17**	**11**	**07.8 -0.7**
MYKA	**Terra Mystica**	**60.61**	**323**		*e*	P	**P**	**17**	**11**	**07.7 -0.9**
	comp=Z,48nm,1.5s,SNR=17									
MOA	**Molln**	**60.84**	**324**		*i*	P	**P**	**17**	**11**	**09.2 -0.9**
	comp=Z,69nm,1.6s,SNR=22									
DPC	**Dobruska-Polom**	**61.01**	**328**		*e*	P	**P**	**17**	**11**	**08.9 -2.3**
DPC					*ex*	x		17	11	16.5
DPC						AMS	AMS	17	37	10.0
	comp=Z,800nm,18.4s									
DPC	**Dobruska-Polom**	**61.01**	**328**		*e*	P	**P**	**17**	**11**	**08.9 -2.3**
DPC					*e*			17	11	16.5
DPC						MLR	MLR			
	comp=Z,800nm,18.4s									
KBA	**Koelnbreinsper**	**61.01**	**323**		*e*	P	**P**	**17**	**11**	**10.1 -1.4**
	comp=Z,36nm,1.6s,SNR=11									
H01W3	**Cape Leeuwin H**	**61.11**	**133**			T	T	18	17	42.3
	baz=298,slow=75,SNR=14									
H01W2	**Cape Leeuwin H**	**61.12**	**133**			T	T	18	17	35.5
	baz=298,slow=75,SNR=12									
H01W1	**Cape Leeuwin H**	**61.13**	**133**			T	T	18	17	34.6
	baz=298,slow=75,SNR=12									
UPC	**Upice**	**61.26**	**328**		*e*	P	**P**	**17**	**11**	**12.1 -0.7**
UPC						AMS	AMS	17	37	30.0
	comp=Z,700nm,17.8s									
UPC	**Upice**	**61.26**	**328**		*e*	P	**P**	**17**	**11**	**12.1 -0.7**
UPC						MLR

BRG pmax pmax
comp=Z,82nm,2.3s
FUORN Ofenpass-Fuorn 62.68 322 *e*P **P 17 11 22.0 -0.7**
comp=Z,134nm,1.8s
RETA Reutte 62.76 323 *i* P **P 17 11 21.3 -1.7**
comp=Z,27nm,1.5s
TMCR Tamitsa 63.03 348 *e*P **P 17 11 23.7 -0.7**
TMCR pmax pmax
comp=Z,64nm,1.4s
NKC Novy Kostel 63.07 326 *e*P **P 17 11 24.1 -0.9**
NKC *ex* x 17 11 31.1
NKC *e*S **S 17 19 58.0 +2.7**
NKC Novy Kostel 63.07 326 *e*P **P 17 11 24.1 -0.9**
NKC *e* 17 11 31.1
NKC *e*S **S 17 19 58.0 +2.7**
DL2 Dalian 63.13 48 P P 17 11 30.9 +5.3
DL2 pmax pmax
comp=Z,45nm,1.7s
DL2 pmax pmax
comp=Z,1μm,4.1s
DL2 LR LR
comp=Z,1μm,20.2s
DL2 LR LR
comp=Z,970nm,21.2s
DL2 LR LR
comp=Z,1μm,17.5s
TUE Stuetta 63.18 321 *e*P **P 17 11 24.5 -1.6**
comp=Z,83nm,1.6s
TUE LR LR
comp=Z,478nm,19.0s
DAVA Damuels 63.20 322 *e*P **P 17 11 25.0 -1.1**
comp=Z,56nm,1.4s,SNR=17
CLL Collm 63.30 327⇑ *i*P **P 17 11 25.3 -1.2**
CLL *i* 17 11 31.5
CLL *e*S **S 17 20 00.0 +1.9**
CLL pmax pmax
comp=Z,110nm,1.6s
CLL MLR MLR
comp=Z,400nm,20.4s
CLL Collm 63.30 327⇑ *i*P **P 17 11 25.3 -1.2**
comp=Z,110nm,1.6s
CLL *i* sP **pP 17 11 31.5 +0.2**
CLL *e*S **S 17 20 00.0 +1.9**
CLL *e*PPS PPS 17 20 24.0
CLL *e*SS **SS 17 24 12.0 +7.3**
CLL *e*SSS SSS 17 27 00.0
CLL LmV 17 41 00.0
comp=Z,400nm,20.4s
CLL Collm 63.30 327 *e*P **P 17 11 25.2 -1.2**
comp=Z,106nm,1.6s
CIT Chita 63.43 32 *e*P **P 17 11 27.6 +0.2**
CIT *e* 17 12 04.6
CIT pmax pmax
comp=Z,80nm,1.5s
GRFO Grafenberg 63.50 325 *e*P **P 17 11 25.9 -2.0**
GRFO pmax pmax
comp=Z,110nm,1.7s
GRFO Grafenberg 63.50 325 *e*P **P 17 11 25.9 -2.0**
comp=Z,107nm,1.7s
TNTI Ternate 63.88 91 *e*P **P 17 11 30.1 -0.9**
comp=Z,95nm,1.1s
FIA0 FINESS Array S 64.02 341 *e*P **P 17 11 30.6 -0.4**
FIA0 FINESS Array S 64.02 341 *e*P **P 17 11 30.6 -0.4**
FIA1 FINESS Array S 64.02 341 *e*P **P 17 11 29.4 -1.6**
FINES FINESS Array B 64.02 341 P **P 17 11 30.6 -0.4**
comp=Z,14nm,1.2s,baz=116,slow=8.7,SNR=8.6
STU Stuttgart 64.27 323 *e*P **P 17 11 30.9 -2.0**
STU pmax pmax
comp=Z,36nm,1.4s
STU Stuttgart 64.27 323 *e*P **P 17 11 30.9 -2.0**
comp=Z,36nm,1.4s
BNI Bardonecchia 64.33 319 *e*P **P 17 11 32.0 -1.6**
BNI pmax pmax
comp=Z,57nm,1.6s
BNI Bardonecchia 64.33 319 *e*P **P 17 11 32.0 -1.6**
comp=Z,57nm,1.6s
BNI LR LR
comp=Z,454nm,20.0s
SENIN Lac Senin/Sane 64.43 320 *e*P **P 17 11 31.3 -3.0**
comp=Z,119nm,1.4s
BFO Black Forest 64.60 323 *i* P **P 17 11 34.5 -0.6**
BFO Black Forest 64.60 323 *e*P **P 17 11 33.7 -1.4**
comp=Z,172nm,1.6s
BFO LR LR
comp=Z,399nm,20.0s
RGN Rugen 64.82 330 *e*P **P 17 11 34.0 -2.4**
comp=Z,393nm,1.9s
FITZ Fitzroy Crossi 64.96 112 LR LR 17 37 50.4
comp=Z,552nm,18.5s,slow=34
ECH Echery 65.26 322 *e*P **P 17 11 36.6 -2.9**
ECH pmax pmax
comp=Z,63nm,1.6s
ECH Echery 65.26 322 *e*P **P 17 11 36.6 -2.9**
comp=Z,63nm,1.6s
ECH LR LR
comp=Z,531nm,22.0s
SNY Shenyang 65.46 45⇓ P **P 17 11 43.8 +3.0**
SNY S **S 17 20 30.8 +5.7**
SNY pmax pmax
comp=Z,22nm,1.2s
SNY pmax pmax
comp=Z,300nm,3.5s
SNY LR LR
comp=Z,980nm,15.5s
SNY LR LR
comp=Z,1μm,16.3s
SNY LR LR
comp=Z,1μm,19.4s
HIA Hailar 65.64 37 *e*P **P 17 11 42.6 +0.7**
HIA pmax pmax
comp=Z,56nm,1.5s
HIA MLR MLR
comp=Z,4μm,20.0s
HIA Hailar 65.64 37 *e*P **P 17 11 42.6 +0.7**
comp=Z,56nm,1.5s
HIA LR LR
comp=Z,4μm,20.0s
SSB Saint Sauveur 65.82 318 *e*P **P 17 11 40.3 -2.8**
SSB pmax pmax
comp=Z,56nm,1.5s
SSB Saint Sauveur 65.82 318 *e*P **P 17 11 40.3 -2.8**
comp=Z,56nm,1.5s
SSB LR LR
comp=Z,266nm,20.0s
WLF Walferdange 66.45 323⇑ P **P 17 11 46.5 -0.6**
comp=Z,28nm,1.8s
WLF Walferdange 66.45 323 *e*P **P 17 11 45.5 -1.6**
WLF pmax pmax
comp=Z,79nm,1.6s
WLF Walferdange 66.45 323 *e*P **P 17 11 45.5 -1.6**
comp=Z,79nm,1.6s
WLF LR LR
comp=Z,614nm,20.0s
INCN Inchon 66.53 51 PFAKE 17 12 00.0 +12
INCN LR LR
comp=Z,1μm,22.0s
BOD Bodaibo 66.75 27 *e*P **P 17 11 48.0 -0.8**
BOD pmax pmax
comp=Z,26nm,1.7s
TJN Taejon 66.84 52⇓ *e*P **P 17 11 49.7 -0.1**
MEM Membach 66.92 324⇑ P **P 17 11 49.3 -0.7**
APA Apatity 66.94 348⇑ *i*P **P 17 11 47.9 -1.9**
APA pmax pmax
comp=Z,9.0nm,1.0s
LVZ Lovozero 66.97 349 PFAKE 17 12 00.0 +10
LVZ LR LR
comp=Z,1μm,19.0s
HGN Heimansgroeve 67.03 324 *e*P **P 17 11 50.1 -0.6**
comp=Z,124nm,1.8s
WTSB Winterswijk 67.03 326 *e*P **P 17 11 50.0 -0.7**
comp=Z,244nm,2.1s
BEBN Eben Emael 67.19 324⇑ P **P 17 11 51.1 -0.6**
BCLA Clavier 67.25 324⇓ P **P 17 11 51.9 -0.2**
comp=Z,24nm,1.7s
KOWA Kowa 67.30 284 P **P 17 11 52.9 -0.2**
comp=Z,2.7nm,0.6s,baz=73,slow=4.0,SNR=11
KOWA LR LR 17 40 40.0
comp=Z,612nm,20.9s,baz=74,slow=35
KOWA Kowa 67.30 284 *e*P **P 17 11 52.7 -0.4**
comp=Z,52nm,1.4s
CN2 Changchun 67.37 44 *e*P **P 17 11 54.0 +1.0**
CN2 *es*P sP 17 12 01.0 +1.4
CN2 *e*S **S 17 20 47.8 -0.5**
CN2 SS **SS 17 25 09.4 +1.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,800nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,1μm,19.0s
KS15 Wonju Array Si 67.49 51 *e*P **P 17 11 53.8 -0.1**
KSAR Wonju Array Be 67.49 51 P **P 17 11 53.3 -0.6**
KSAR Wonju Array Be 67.49 51 P **P 17 11 53.3 -0.6**
KS01 Wonju Array Si 67.50 51 *e*P **P 17 11 53.3 -0.7**
KSRS Korea Array 67.52 51 P **P 17 11 53.3 -0.8**
comp=Z,5.2nm,1.0s,baz=256,slow=7.5,SNR=18
KSRS LR LR 17 43 25.1
comp=Z,787nm,20.1s,baz=262,slow=38
DOU Dourbes 67.55 323⇑ P **P 17 11 52.9 -1.1**
comp=Z,12nm,1.8s
HFS Hagfors 67.73 336 P **P 17 11 53.7 -1.2**
comp=Z,7.9nm,0.5s,baz=138,slow=6.8,SNR=41
SNF Seneffe 67.89 324⇑ P **P 17 11 54.9 -1.3**
comp=Z,34nm,1.5s
UCC Uccle 67.96 324 *e*P **P 17 11 54.6 -1.9**
UCC Uccle 67.96 324 *e*P **P 17 11 54.6 -1.9**
comp=Z,55nm,1.5s
KIC Kosan Boka 67.98 275 *e*P **P 17 11 55.9 -1.6**
comp=Z,149nm,1.5s
DBIC Dimbokro 68.09 276 P **P 17 11 57.0 -1.1**
comp=Z,13nm,1.1s,baz=88,slow=9.8,SNR=4.9
DBIC LR LR 17 41 49.4
comp=Z,970nm,19.7s,baz=76,slow=36
DBIC Dimbokro 68.09 276 *e*P **P 17 11 57.4 -0.7**
DBIC Dimbokro 68.09 276 *e*P **P 17 11 57.4 -0.7**
comp=Z,31nm,1.3s
TIC Toumodi 68.25 276 *e*P P 17 11 53.6 -5.6
LIC Lamto 68.27 275 *e*P **P 17 11 57.7 -1.6**
comp=Z,160nm,1.8s
NC602 NORSAR Array S 68.96 336 *e*P **P 17 12 00.0 -2.6**
FAKI Fak Fak 69.03 95 *e*P **P 17 12 03.1 -0.9**
comp=Z,41nm,1.2s
NC605 NORSAR Array S 69.03 336 *e*P **P 17 12 01.3 -1.8**
JNU Nakatsue 69.05 56 LR LR 17 44 10.6
comp=Z,681nm,18.7s,baz=280,slow=38
JNU Nakatsue 69.05 56 *e*P **P 17 12 05.9 +2.1**
comp=Z,77nm,1.4s
NC405 NORSAR Array S 69.09 336 *e*P **P 17 12 00.3 -3.2**
KONO Kongsberg 69.22 334⇑ *e*P **P 17 12 04.7 +0.4**
KONO pmax pmax
comp=Z,206nm,1.7s
KONO Kongsberg 69.22 334 *e*P **P 17 12 03.9 -0.4**
comp=Z,98nm,1.8s
NB201 NORSAR Array S 69.23 336 *e*P **P 17 12 02.2 -2.1**
NB2 NORSAR Subarra 69.26 336 P **P 17 12 02.8 -1.8**
comp=Z,34nm,1.2s,baz=120,slow=6.9
NB2 NORSAR Subarra 69.26 336 P **P 17 12 02.8 -1.8**
baz=120,slow=6.9
NB200 NORSAR Array S 69.26 336 *e*P **P 17 12 03.5 -1.1**
NOA NORSAR Array B 69.26 336 P **P 17 12 03.5 -1.1**
comp=Z,5.8nm,1.0s,baz=118,slow=6.7,SNR=6.3
NAO01 NORSAR Array S 69.29 335 *e*P **P 17 12 03.4 -1.3**
NBO02 NORSAR Array S 69.41 336 *e*P **P 17 12 03.6 -1.9**
NBO00 NORSAR Array S 69.43 336 *e*P **P 17 12 04.2 -1.5**
NC204 NORSAR Array S 69.57 336 *e*P **P 17 12 05.0 -1.5**
KEV Kevo 70.09 347 *e*P **P 17 12 08.0 -1.5**
KEV pmax pmax
comp=Z,309nm,1.9s
KEV Kevo 70.09 347 *e*P **P 17 12 08.0 -1.5**
comp=Z,309nm,1.9s
ARA0 ARCESS Array S 70.26 347 *e*P **P 17 12 09.2 -1.4**
ARCES ARCESS Array B 70.26 347 P **P 17 12 09.2 -1.4**
comp=Z,8.3nm,0.9s,baz=126,slow=6.2,SNR=11
ARCES LR LR 17 45 48.3
comp=Z,622nm,19.4s,baz=130,slow=38
ARCES ARCESS Array B 70.26 347 *e*P **P 17 12 08.8 -1.8**
ARCES ARCESS Array B 70.26 347 *e*P **P 17 12 08.8 -1.8**
ES19 SONSECA Array 70.28 311 *e*P **P 17 12 08.6 -2.7**
ESDC Sonseca Array 70.32 311 P **P 17 12 10.1 -1.5**
comp=Z,9.0nm,0.9s,baz=90,slow=5.3,SNR=34
ESDC LR LR 17 43 54.7
comp=Z,81nm,18.8s,baz=190,slow=37
ESLA Sonseca Array 70.32 311 *e*P **P 17 12 10.4 -1.1**
comp=Z,91nm,1.5s
MDJ Mudanjiang 70.46 44 P **P 17 12 11.3 -0.9**
MDJ pP pP 17 12 14.8 -2.3
MDJ sP sP 17 12 16.1 -2.8
MDJ S **S 17 21 26.3 +1.4**
MDJ pmax pmax
comp=Z,32nm,1.3s
MDJ pmax pmax
comp=Z,500nm,3.5s
MDJ LR LR
comp=Z,970nm,14.5s
MDJ LR LR
comp=Z,640nm,20.4s
MDJ LR LR
comp=Z,2μm,16.6s
MDJ Mudanjiang 70.46 44 *e*P **P 17 12 12.7 +0.5**
comp=Z,107nm,1.4s
MDJ LR LR
comp=Z,2μm,20.0s
PAB San Pablo 70.59 311 *e*P **P 17 12 12.2 -1.0**
PAB pmax pmax
comp=Z,99nm,1.6s
PAB San Pablo 70.59 311 *e*P **P 17 12 11.9 -1.3**
comp=Z,99nm,1.6s
PAB LR LR
comp=Z,255nm,19.0s
MAW Mawson 71.21 180 LR LR 17 36 44.6
comp=Z,1μm,19.2s,baz=28,slow=30
CLNS Chul'man 71.51 31 *e*P **P 17 12 17.3 -1.1**
CLNS pmax pmax
comp=Z,20nm,1.0s
CLNS pmax pmax
comp=N,5.0nm,1.2s
CLNS pmax pmax
comp=E,11nm,1.2s
CLNS MLR MLR
comp=N,659nm,18.0s
CLNS MLR MLR
comp=E,852nm,16.0s
CLNS MLR MLR
comp=Z,742nm,14.0s
RTC Rabat Centre 71.63 304 PFAKE 17 12 30.0 +10
RTC LR LR
comp=Z,2μm,20.0s
ZEA Zeya 71.66 34 *e*P **P 17 12 18.4 -0.9**
ZEA *e*S **S 17 21 46.0 +7.6**
ZEA pmax pmax
comp=Z,36nm,1.2s
ZEA pmax pmax
comp=Z,200nm,8.0s
ZEA smax smax
comp=E,500nm,10.0s
ZEA MLR MLR
comp=Z,5μm,17.0s
ZEA MLR MLR
comp=N,2μm,18.0s
ZEA MLR MLR
comp=E,4μm,18.0s
USRK Ussuriysk Ar. 72.03 45 LR LR 17 46 11.8
comp=E,864nm,18.2s,baz=249,slow=38
PBAR Barrancos 72.41 309 *e*P **P 17 12 23.1 -1.0**
comp=E,63nm,1.5s
PBRG Braganca 72.81 313 *e*P **P 17 12 26.6 +0.1**
comp=E,64nm,1.7s
PMRV Marv??o 72.88 310 *e*P **P 17 12 27.1 +0.1**
comp=E,45nm,1.5s
PESTR Estremoz 72.94 309 *e*P **P 17 12 27.1 -0.2**
comp=E,34nm,1.5s
PESTR Estremoz 72.94 309 *e*P **P 17 12 26.4 -0.9**
comp=E,14nm,1.3s
PCBR Castelo Branco 73.01 310 *e*P **P 17 12 27.2 -0.5**
comp=E,45nm,1.5s
KLR Kul'dur 73.04 40 LR LR 17 45 48.2
comp=E,74nm,18.8s,slow=37
KLR Kul'dur 73.04 40⇓ *e*P **P 17 12 27.3 -0.4**
MTE Manteigas 73.16 311 *e*P **P 17 12 27.7 -0.9**
comp=E,81nm,1.5s
MTE Manteigas 73.16 311 *e*P **P 17 12 27.3 -1.4**
comp=E,33nm,1.2s
MTE LR LR
comp=Z,339nm,20.0s
EVO Evora 73.22 309 *e*P **P 17 12 28.3 -0.7**
comp=Z,36nm,1.5s
WRA Warramunga Arr 73.39 112 P **P 17 12 29.0 -1.3**
comp=Z,23nm,1.0s,baz=288,slow=5.5,SNR=36
WRA LR LR 17 41 04.5
comp=Z,449nm,20.5s,baz=325,slow=33
WRA Warramunga Arr 73.39 112 P **P 17 12 29.0 -1.3**
WR1 Warramunga Arr 73.39 112 *e*P **P 17 12 29.0 -1.3**
comp=Z,73nm,1.3s
WRAB Tennant Creek 73.39 112⇑ *e*P **P 17 12 31.7 +1.4**
WRAB pmax pmax
comp=Z,21nm,0.9s
WRAB Tennant Creek 73.39 112 *e*P **P 17 12 30.6 +0.2**
comp=Z,75nm,1.3s
WRAB LR LR
comp=Z,809nm,21.0s
WC3 Warramunga Arr 73.42 112 *e*P **P 17 12 30.2 -0.2**
comp=Z,74nm,1.2s
PMTG Montargil 73.46 310 *e*P **P 17 12 31.1 +0.7**
comp=Z,51nm,1.6s
PVIS Viseu 73.47 311 *e*P **P 17 12 29.6 -0.9**
comp=Z,79nm,1.6s
MORF Marmelete 73.54 308 *e*P **P 17 12 31.5 +0.6**
comp=Z,36nm,1.7s
ASAR Alice Springs 73.70 116 P **P 17 12 31.4 -0.7**
comp=Z,21nm,1.0s,baz=287,slow=4.7,SNR=45
ASAR LR LR 17 40 20.6
comp=Z,391nm,22.0s,baz=291,slow=32
AS31 Alice Springs 73.70 116 *e*P **P 17 12 32.5 +0.3**
comp=Z,7.2nm,1.1s
AS01 Alice Springs 73.74 116 *e*P **P 17 12 30.7 -1.7**
EKA Eskdalemuir Ar 73.77 327 P **P 17 12 29.8 -2.0**
comp=Z,1.5nm,0.5s,baz=116,slow=6.8,SNR=18
EKA LR LR 17 47 51.3
comp=Z,201nm,19.1s,baz=100,slow=38
PGAV Gavieira, Arco 73.96 313 *e*P **P 17 12 33.4 0.0**
comp=Z,73nm,1.3s
INU Inuyama 74.39 54 *e*P **P 17 12 35.6 -0.3**
comp=Z,123nm,1.6s
SYO Syowa Base 74.47 189⇑ *i*P **P 17 12 34.0 -1.5**
MAJO Matsushiro 75.49 53⇑ *i*P **P 17 12 43.3 +1.1**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MAJO Matsushiro 75.49 53 *e*P **P 17 12 42.1 -0.1**
MAT Matsushiro 75.49 53 P **P 17 12 42.1 -0.1**
MAT *e*S **S 17 22 15.6 -6.9**
MJAR Matsushiro Arr 75.49 53 P **P 17 12 42.1 -0.2**
comp=Z,4.6nm,0.9s,baz=268,slow=8.9,SNR=14
MJAR LR LR 17 46 53.7
comp=Z,613nm,22.0s,baz=265,slow=36
YAK Yakutsk 75.67 26 *e*P **P 17 12 41.7 -1.0**
YAK *e**PP **pP 17 12 47.5 -0.1**
YAK *e* 17 12 53.5
YAK *e* 17 15 27.1
YAK *e*S **S 17 22 20.6 -2.8**
YAK *e* 17 22 51.2
YAK *e*SSS SSS 17 30 29.2
YAK pmax pmax
comp=Z,52nm,1.2s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,45nm,1.4s
YAK pmax pmax
comp=Z,92nm,3.5s
YAK pmax pmax
comp=N,30nm,3.0s
YAK pmax pmax
comp=E,80nm,3.8s
YAK smax smax
comp=N,90nm,4.3s
YAK smax smax
comp=E,60nm,3.0s
YAK MLR MLR
comp=Z,2μm,20.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=E,805nm,17.0s
YAK Yakutsk 75.67 26 *e*P **P 17 12 41.5 -1.1**
comp=E,62nm,1.1s
YAK LR LR
comp=Z,2μm,21.0s
GRNR Gornyy 76.32 39 *e*P **P 17 12 47.0 +0.3**
GRNR pmax pmax
comp=Z,29nm,1.0s
JHJ Hachijo jima 2 76.47 57 LR LR 17 45 41.6
comp=Z,558nm,21.9s,baz=61,slow=35
CASY Casey 77.56 162 PFAKE 17 13 00.0 +6.7
CASY LR LR
comp=Z,205nm,22.0s
SPITS Spitsbergen Ar 78.23 351 LR LR 17 51 48.0
comp=Z,600nm,18.1s,baz=40,slow=39
TIXI Tiksi 78.83 17 *e*P **P 17 12 58.5 -1.8**
TIXI pmax pmax
comp=Z,94nm,1.6s
TIXI MLR MLR
comp=Z,1μm,20.0s
TIXI Tiksi 78.83 17 *e*P **P 17 12 58.5 -1.8**
comp=Z,94nm,1.6s
TIXI LR LR
comp=Z,1μm,20.0s
NKL Nikolayevsk 79.31 37 *e*P **P 17 13 03.2 0.0**
NKL pmax pmax
comp=Z,21nm,1.0s
BBTS Babate 79.42 284 LR LR 17 48 53.9
comp=Z,1μm,19.5s,baz=88,slow=36
ERM Erimo 79.80 48 PFAKE 17 13 20.0 +14
ERM LR LR
comp=Z,628nm,19.0s
YSS Yuzh-Sakhalins 79.92 43 *e*P **P 17 13 07.0 +0.3**
YSS *e* 17 16 07.0
YSS *e*S **S 17 23 08.0 -2.0**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS Yuzh-Sakhalins 79.92 43 *e*P **P 17 13 06.3 -0.4**
comp=Z,67nm,1.1s
YSS LR LR
comp=Z,561nm,19.0s
TYV Tymovskoe 80.24 39 *e*P **P 17 13 06.1 -2.3**
TYV *e* 17 23 12.8
TYV pmax pmax
comp=Z,200nm,6.4s
TYV pmax pmax
comp=Z,15nm,1.9s
TYV MLR MLR
comp=Z,800nm,19.0s
GUMO Guam 80.75 77 LR LR 17 47 09.0
comp=Z,402nm,20.0s,baz=264,slow=34
NVL N'lazarevskaya 81.75 195 *e*P **P 17 13 17.6 +1.7**
NVL pmax pmax
comp=Z,42nm,1.7s
YUK Yuzh-Kuril'sk 81.90 46*d i*P **P 17 13 16.5 -0.8**
YUK *e* 17 16 26.2
YUK *e*PPP PPP 17 18 18.0
YUK *e*S **S 17 23 23.8 -6.9**
YUK MLR MLR
comp=Z,761nm,16.0s
YUK MLR MLR
comp=E,947nm,14.0s
STKA Stephens Creek 81.91 123 P **P 17 13 17.4 -0.2**
comp=E,8.5nm,0.9s,baz=325,slow=6.3,SNR=8.9
STKA LR LR 17 48 09.3
comp=E,822nm,18.0s,baz=260,slow=35
STKA Stephens Creek 81.91 123 *e*P **P 17 13 16.9 -0.7**
STKA pmax pmax
comp=Z,13nm,1.8s
STKA Stephens Creek 81.91 123 *e*P **P 17 13 16.9 -0.7**
comp=Z,13nm,1.8s
PMG Port Moresby 84.37 100 LR LR 17 50 18.5
comp=Z,196nm,19.7s,baz=248,slow=35
BORG Borgarnes 84.40 335 LR LR 17 53 32.5
comp=Z,350nm,21.8s,baz=85,slow=37
CTA Charters Tower 84.50 110 LR LR 17 47 21.6
comp=Z,712nm,20.2s,baz=258,slow=33
CTAO Charters Tower 84.50 110 PFAKE 17 13 40.0 +8.7
CTAO LR LR
comp=Z,1μm,20.0s
DAG Danmarks Havn 84.55 347 *i* P **P 17 13 28.6 -1.8**
comp=Z,28nm,1.3s
DAG Danmarks Havn 84.55 347 *i* P **P 17 13 28.6 -1.8**
DAG pmax pmax
comp=Z,28nm,1.3s
MA2 Magadan 85.39 31*ce*P **P 17 13 34.5 -0.4**
SEY Seymchan 86.16 27⇓ *i*P **P 17 13 38.6 -0.1**
SACV Santiago Islan 86.25 285 PFAKE 17 13 50.0 +10
SACV LR LR
comp=Z,472nm,20.0s
SNAA Sanae 86.29 197 P **P 17 13 38.0 -1.2**
comp=Z,3.1nm,1.1s,baz=72,slow=6.4,SNR=6.1
SNAA LR LR 17 46 00.1

comp=Z,1µm,20.4s,baz=64,slow=31
SNAA Sanae 86.29 197 ||*e*P **P 17 13 40.6 +1.4**
SNAA Sanae 86.29 197 *e*P **P 17 13 38.9 -0.3**
comp=Z,41nm,1.7s
VNA2 Neumayer--Watz 87.38 198 P **P 17 13 47.3 +2.8**
baz=33,slow=5.6
VNA3 Neumayer Olymp 88.18 198 P **P 17 13 51.4 +3.1**
CAN Canberra 88.49 125 *e*P **P 17 13 50.3 -0.3**
CAN pmax pmax
comp=Z,33nm,1.1s
CAN Canberra 88.49 125 *e*P **P 17 13 50.3 -0.3**
comp=Z,33nm,1.1s
SKR Severo-Kuril's 88.78 39 *e*P P 17 13 44.9 -6.6
SKR *e*S **S 17 24 31.6 -6.7**
SKR pmax pmax
comp=Z,400nm,3.8s
SKR MLR MLR
comp=Z,500nm,18.0s
SKR MLR MLR
comp=Z,900nm,19.0s
PEA1 Petropavlovsk- 89.54 37 *e*P **P 17 13 54.7 -0.4**
PEA0B Petropavlovsk- 89.54 37 *e*P **P 17 13 52.3 -2.8**
comp=Z,50nm,1.6s
PETK Petropavlovsk- 89.54 37 P **P 17 13 54.7 -0.4**
comp=Z,4.0nm,1.0s,baz=246,slow=2.6,SNR=4.6
PETK LR LR 17 56 01.5
comp=Z,926nm,20.1s,baz=275,slow=37
PETK Petropavlovsk- 89.54 37 *e*P **P 17 13 52.3 -2.8**
PETK Petropavlovsk- 89.54 37 *e*P **P 17 13 52.3 -2.8**
SUMG Summit 90.00 343 *i*P P 17 14 03.9 +6.6
comp=Z,18nm,1.4s
SUMG Summit 90.00 343 *e*P **P 17 13 57.0 -0.3**
SUMG pmax pmax
comp=Z,18nm,1.4s
SUMG Summit 90.00 343 *e*P **P 17 13 55.1 -2.3**
comp=Z,18nm,1.4s
PET Petropavlovsk 90.12 37 *e*P **P 17 13 56.7 -1.1**
PET *e* 17 17 32.9
PET *e* 17 24 31.3
PET *e*S **S 17 24 47.5 -3.3**
PET *e*PS **PnS 17 25 57.5 -1.0**
PET *e*SS **SS 17 30 50.0 +0.7**
PET pmax pmax
comp=Z,16nm,1.2s
PET MLR MLR
comp=Z,1µm,19.0s
PET Petropavlovsk 90.12 37 *e*P **P 17 13 56.9 -0.9**
comp=Z,17nm,1.1s
PET LR LR
comp=Z,876nm,20.0s
BILL Bilibino 91.29 22*c i*P **P 17 14 03.3 +0.4**
BILL *i* S **SKSac 17 24 38.8 +4.2**
BILL pmax pmax
comp=Z,23nm,1.3s
BILL MLR MLR
comp=Z,1µm,19.0s
QSPA South Pole Qui 93.73 180 LR LR 17 51 38.8
comp=Z,1µm,18.5s,baz=260,slow=32
VNDA Vanda 95.47 168 LR LR 17 52 04.1
comp=Z,1µm,19.1s,baz=243,slow=32
SFJD Kangerlussuaq 95.75 339 LR LR 17 59 29.7
comp=Z,408nm,20.3s,baz=56,slow=37
SBA Scott Base 96.45 168 PFAKE 17 14 40.0 +14
SBA LR LR
comp=Z,1µm,19.0s
HNR Honiara 96.96 99 PFAKE 17 14 40.0 +10
HNR LR LR
comp=Z,298nm,20.0s
RCBR Riachuelo 99.71 265 PFAKE 17 14 50.0 +7.5
RCBR LR LR
comp=Z,1µm,20.0s
DZM Mont Dzumac 103.40 112 *e*S **Sdif 17 26 45.3 -1.7**
comp=Z,154nm,27.1s
DZM *e*SS **SS 17 33 56.0 -3.1**
comp=Z,202nm,27.4s
DZM Mont Dzumac 103.40 112 *e*LR LR 17 48 42.3
comp=Z,922nm,24.4s
COLA College 107.75 13 PFAKE 17 19 40.0
COLA LR LR
comp=Z,733nm,22.0s
ILAR Eielson Array 108.06 13 PP PP 17 19 40.8 -6.4
comp=Z,3.1nm,1.2s,baz=302,slow=5.5,SNR=7.3
EGAK Eagle 109.24 11 PFAKE 17 19 40.0
EGAK LR LR
comp=Z,582nm,19.0s
SPB Sao Paulo 110.67 246 PFAKE 17 19 40.0
SPB LR LR
comp=Z,3µm,19.0s
KDAK Kodiak Island 112.14 20 PFAKE 17 19 40.0
KDAK LR LR
comp=Z,656nm,22.0s
YKA Yellowknife Ar 113.90 359 PKP **PKiKP 17 19 34.3 -2.0**
comp=Z,0.6nm,0.9s,baz=6.6,slow=2.2,SNR=7.3
YKA PP **PP 17 20 31.2 +2.2**
comp=Z,0.7nm,1.0s,baz=358,slow=7.0,SNR=6.4
YKA PKKPbc **PKKPab 17 30 25.5 -1.0**
comp=Z,0.9nm,1.0s,baz=178,slow=4.3,SNR=11
PKME Peaks-Kenny Pk 115.62 325 PFAKE 17 19 50.0 +10
PKME LR LR
comp=Z,546nm,20.0s
FUNA Funafuti 115.95 98 PFAKE 17 19 50.0 +8.4
FUNA LR LR
comp=Z,3µm,21.0s
LONY Lake Ozonia 118.98 327 PFAKE 17 20 00.0 +13
LONY LR LR
comp=Z,314nm,20.0s
TRQA Tornquist 119.82 228 PFAKE 17 20 00.0 +12
TRQA LR LR
comp=Z,1µm,21.0s
FFC Flin Flon 120.47 350 PFAKE 17 20 00.0 +11
FFC LR LR
comp=Z,553nm,22.0s
BINY Binghamton 121.33 326 PFAKE 17 20 00.0 +8.7
BINY LR LR
comp=Z,433nm,22.0s
ANWB Willy Bob 121.99 293 PFAKE 17 20 00.0 +6.9
ANWB LR LR
comp=Z,554nm,19.0s
FDF Fort de France 122.17 290 PFAKE 17 20 00.0 +6.4
FDF LR LR
comp=Z,263nm,21.0s
EDM Edmonton 123.16 358 *e*PKIKP **PKPdf 17 19 55.8 +1.3**
EDM Edmonton 123.16 358 *e*PKPpre PKPpre 17 19 42.7
EDM *e*PKPdf **PKPdf 17 19 54.1 -0.4**
GRGR Grenville 123.24 287 PFAKE 17 20 10.0 +14
GRGR LR LR
comp=Z,917nm,22.0s
PTGA Pitinga 123.44 272 PFAKE 17 20 10.0 +14
PTGA LR LR
comp=Z,37µm,21.0s
GLMI Grayling 123.85 333 PFAKE 17 20 10.0 +14
GLMI LR LR
comp=Z,552nm,20.0s
EYMN Ely 124.03 340 PFAKE 17 20 10.0 +14
EYMN LR LR
comp=Z,329nm,20.0s
CBN Corbin Frederi 124.72 323 PFAKE 17 20 10.0 +12
CBN LR LR
comp=Z,321nm,20.0s
PLCA Paso Flores 124.73 222 PKP **PKPdf 17 19 57.4 -0.5**
comp=Z,5.0nm,1.1s,baz=188,slow=5.0,SNR=5.1
PLCA Paso Flores 124.73 222 *e*PKIKP **PKPdf 17 19 59.2 +1.3**
PLCA Paso Flores 124.73 222 *e*PKPdf **PKPdf 17 19 59.2 +1.3**
COWI Conover 124.73 337 PFAKE 17 20 10.0 +12
COWI LR LR
comp=Z,409nm,19.0s
AGMN Agassiz Nation 125.09 343 PFAKE 17 20 10.0 +12
AGMN LR LR
comp=Z,253nm,20.0s
AAM Ann Arbor 125.32 330 PFAKE 17 20 10.0 +11
AAM LR LR
comp=Z,425nm,21.0s
SJG San Juan 125.83 295 PFAKE 17 20 10.0 +10
SJG LR LR
comp=Z,275nm,20.0s
ACSO Alum Creek Sta 126.50 328 PFAKE 17 20 10.0 +8.8
ACSO LR LR
comp=Z,406nm,22.0s
SAML Samuel 126.80 262 *e*PKPpre PKPpre 17 19 49.2
SAML *e*PKPdf **PKiKP 17 20 03.6 +0.7**
SAML LR LR
comp=Z,875nm,22.0s
DGMT Dagmar 126.88 350 PFAKE 17 20 10.0 +8.2
DGMT LR LR
comp=Z,596nm,22.0s
CNNC Cliffs of the 126.92 320 PFAKE 17 20 10.0 +7.8
CNNC LR LR
comp=Z,434nm,22.0s
BLA Blacksburg 127.19 324 PFAKE 17 20 10.0 +7.3
BLA LR LR
comp=Z,377nm,21.0s
JFWS Jewell Farm 127.82 336 PFAKE 17 20 10.0 +6.3
JFWS LR LR
comp=Z,462nm,21.0s
EGMT Eagleton 128.08 354 PFAKE 17 20 20.0 +16
EGMT LR LR
comp=Z,622nm,20.0s
NEW Newport 128.18 1 *e*PKIKP **PKPdf 17 20 06.0 +1.7**
NEW Newport 128.18 1 *e*PKPpre PKPpre 17 19 51.5
NEW *e*PKPdf **PKPdf 17 20 01.7 -2.5**
NEW LR LR
comp=Z,663nm,19.0s
JTMT Jette 128.66 358 *e*PKPpre PKPpre 17 19 50.1
JTMT *e*PKPdf **PKPdf 17 20 04.7 -0.7**
LAO LASA Array 128.94 351 PFAKE 17 20 20.0 +14
LAO LR LR
comp=Z,382nm,19.0s
GRTK Grand Turk 128.97 302 PFAKE 17 20 20.0 +14
GRTK LR LR
comp=Z,465nm,20.0s
HDIL Hopedale 129.34 333 PFAKE 17 20 20.0 +13
HDIL LR LR
comp=Z,440nm,20.0s
ECSD EROS Data Cent 129.43 341 *e*PKPpre PKPpre 17 19 50.6
ECSD *e*PKPdf **PKPdf 17 20 06.6 -0.1**
ECSD LR LR
comp=Z,464nm,20.0s
NHSC New Hope 129.74 320 PFAKE 17 20 20.0 +12
NHSC LR LR
comp=Z,468nm,22.0s
SCIA State Center 129.84 337 PFAKE 17 20 20.0 +12
SCIA LR LR
comp=Z,496nm,20.0s
LCO Las Campanas 129.85 235 *e*PKPpre PKPpre 17 19 51.0
LCO *e*PKPdf **PKPdf 17 20 06.4 -1.9**
LCO LR LR
comp=Z,969nm,19.0s
HAWA Hanford 129.98 3 PFAKE 17 20 20.0 +12
HAWA LR LR
comp=Z,547nm,21.0s
SDDR Presa de Saban 130.09 299 PFAKE 17 20 20.0 +11
SDDR LR LR
comp=Z,510nm,20.0s
BOZ Bozeman (W) 130.66 355 *e*PKIKP **PKPdf 17 20 10.0 +0.8**
BOZ MLR MLR
comp=Z,572nm,20.0s
BOZ Bozeman (W) 130.66 355 *e*PKPdf **PKPdf 17 20 10.0 +0.8**
BOZ LR LR
comp=Z,572nm,20.0s
RLMT Red Lodge 130.90 353 *e*PKPpre PKPpre 17 19 52.5
RLMT *e*PKPdf **PKiKP 17 20 10.4 -0.3**
RLMT LR LR
comp=Z,686nm,20.0s
LPAZ La Paz 130.90 252 PKP **PKPdf 17 20 11.4 +0.4**
comp=Z,6.9nm,1.2s,baz=43,slow=3.4,SNR=14
LPAZ La Paz 130.90 252 *e*PKIKP **PKPdf 17 20 10.3 -0.7**
LPAZ La Paz 130.90 252 *e*PKPdf **PKPdf 17 20 10.3 -0.7**
DLMT Dillon 130.96 356 *e*PKPpre PKPpre 17 19 53.1
DLMT *e*PKPdf **PKiKP 17 20 10.8 +0.1**
RSSD Black Hills 131.03 348 *e*PKIKP **PKPdf 17 20 09.3 -0.8**
RSSD Black Hills 131.03 348 *e*PKPdf **PKPdf 17 20 09.3 -0.8**
PB01 IPOC Station P 131.21 245 *e*PKPpre PKPpre 17 19 51.8
PB01 *e*PKPdf **PKPdf 17 20 10.6 -0.2**
YHH Holmes Hill 131.40 355 *e*PKPpre PKPpre 17 19 52.3
YHH *e*PKPdf **PKPdf 17 20 10.7 -0.2**
LKWY Lake 131.57 354 PFAKE 17 20 20.0 +8.9
LKWY LR LR
comp=Z,415nm,21.0s
BMO Blue Mountains 131.59 1 PFAKE 17 20 20.0 +9.1
BMO LR LR
comp=Z,485nm,20.0s
GOGA Godfrey 131.60 322 PFAKE 17 20 20.0 +8.9
GOGA LR LR
comp=Z,392nm,20.0s
PB11 IPOC Station P 131.66 247 *e*PKPpre PKPpre 17 19 55.5
PB11 *e*PKPdf **PKPdf 17 20 12.2 +0.4**
MNMC Minye Minye 131.74 248 *e*PKPdf **PKPdf 17 20 11.8 -0.3**
YPP Pitchstone Pla 131.90 354 *e*PKPdf **PKPdf 17 20 09.2 -2.6**
MOOW Moose Ponds 132.41 354 *e*PKPpre PKPpre 17 19 56.1
MOOW *e*PKPdf **PKPdf 17 20 12.1 -0.7**
LOHW Long Hollow 132.54 354 *e*PKPdf **PKPdf 17 20 12.8 -0.1**
FXWY Fox Creek 132.55 355 *e*PKPdf **PKPdf 17 20 09.5 -3.5**
SDV Santo Domingo 132.57 286 PFAKE 17 20 20.0 +6.3
SDV LR LR
comp=Z,534nm,20.0s
TPAW Teton Pass 132.69 355 *e*PKPpre PKPpre 17 19 59.9
TPAW *e*PKPdf **PKPdf 17 20 10.4 -2.9**
REDW Red Top Meadow 132.81 354 *e*PKPdf **PKPdf 17 20 13.2 -0.3**
HLID Hailey 132.85 358 *e*PKPdf **PKPdf 17 20 10.3 -3.1**
HLID LR LR
comp=Z,648nm,21.0s
GTBY Guantanamo Bay 133.01 302 PFAKE 17 20 20.0 +5.9
GTBY LR LR
comp=Z,372nm,19.0s
MFID Camas Ranch 133.03 359 *e*PKPdf **PKPdf 17 20 13.4 -0.4**
BW06 Boulder Array 133.25 353 PFAKE 17 20 30.0 +16
BW06 LR LR
comp=Z,675nm,22.0s
PD31 Pinedale Array 133.25 353 *e*PKPpre PKPpre 17 20 04.3
PD31 *e*PKPdf **PKPdf 17 20 14.0 -0.3**
PDAR Pinedale Array 133.25 353 PKP **PKPdf 17 20 13.9 -0.4**
comp=Z,0.7nm,0.7s,baz=75,slow=1.7,SNR=6.1
PDAR Pinedale Array 133.25 353 *e*PKPpre PKPpre 17 20 03.8
PDAR *e*PKPdf **PKPdf 17 20 12.8 -1.5**
AHID Auburn Hatcher 133.42 355 PFAKE 17 20 30.0 +15
AHID LR LR
comp=Z,503nm,22.0s
KSU1 Kansas State U 133.56 339 PFAKE 17 20 30.0 +15
KSU1 LR LR
comp=Z,514nm,20.0s
OGNE Ogallala 133.57 345 PFAKE 17 20 30.0 +15
OGNE LR LR
comp=Z,685nm,21.0s
LRAL Lakeview Retre 133.95 325 *e*PKPdf **PKPdf 17 20 14.8 -0.8**
WVOR Wild Horse Val 133.97 2 PFAKE 17 20 30.0 +14
WVOR LR LR
comp=Z,486nm,20.0s
HWUT Hardware Ranch 134.62 355 *e*PKPdf **PKPdf 17 20 16.7 -0.1**
HWUT LR LR
comp=Z,523nm,20.0s
BRAL Brewton 135.33 323 PFAKE 17 20 30.0 +12
BRAL LR LR
comp=Z,360nm,19.0s
ISCO Idaho Springs 135.50 348 PFAKE 17 20 30.0 +11
ISCO LR LR
comp=Z,531nm,20.0s
RUSC La Rusia 135.59 282 *e*PKPdf **PKPdf 17 20 18.6 -1.2**
MTDJ Mount Denham 135.81 301 PFAKE 17 20 30.0 +10
MTDJ LR LR
comp=Z,398nm,19.0s
DUG Dugway, Tooele 136.12 356 PFAKE 17 20 30.0 +10
DUG LR LR
comp=Z,774nm,22.0s
WLAR White Oak Lake 136.68 331 *e*PKPdf **PKPdf 17 20 22.2 +1.5**
SDCO Great Sand Dun 137.45 347 PFAKE 17 20 30.0 +7.6
SDCO LR LR
comp=Z,436nm,20.0s
NV01 Mina Array Sit 137.98 2 *e*PKPdf **PKPdf 17 20 22.9 -0.4**
NVAR Mina Array Bea 137.98 2 PKP **PKPdf 17 20 23.8 +0.6**
comp=Z,8.8nm,1.2s,baz=326,slow=0.8,SNR=14
NV11 Mina Array Sit 137.98 2 *e*PKPdf **PKPdf 17 20 23.4 +0.3**
WMOK Wichita Mounta 138.22 338 PFAKE 17 20 30.0 +6.5
WMOK LR LR
comp=Z,370nm,19.0s
MVCO Mesa Verde 138.55 350 PFAKE 17 20 40.0 +16
MVCO LR LR
comp=Z,496nm,20.0s
XMAS Kiritimati 138.68 83 PFAKE 17 20 40.0 +15
XMAS LR LR
comp=Z,4.0nm,20.0s
NATX Nacogdoches 139.01 331 PFAKE 17 20 40.0 +15
NATX LR LR
comp=Z,608nm,22.0s
NNA Nana 139.92 256 PFAKE 17 20 40.0 +13
NNA LR LR
comp=Z,345nm,22.0s
ANMO Albuquerque 140.35 347 *e*PKIKP **PKPdf 17 20 25.6 -2.1**
ANMO Albuquerque 140.35 347 *e*PKPpre PKPpre 17 20 20.0
ANMO *e*PKPdf **PKPdf 17 20 25.5 -2.1**
ANMO LR LR
comp=Z,435nm,20.0s
WUAZ Wupatki 140.62 353 PFAKE 17 20 40.0 +12
WUAZ LR LR
comp=Z,541nm,20.0s
BNM Barren Site 141.15 347 *e*PKPpre PKPpre 17 20 23.3
W13A Hualapai Mount 141.26 357 *e*PKPdf **PKPdf 17 20 25.8 -3.5**
BCIP Isla Barro Col 141.26 290 PFAKE 17 20 40.0 +10
BCIP LR LR
comp=Z,603nm,20.0s
OTAV Otavalo 141.76 275 *e*PKPdf **PKPdf 17 20 28.6 -2.4**
OTAV LR LR
comp=Z,996nm,20.0s
Y14A Wickenburg 142.35 355 *e*PKPdf **PKPdf 17 20 27.4 -3.7**
JCT Junction City 142.39 336 *e*PKIKP **PKPdf 17 20 28.5 -2.7**
JCT MLR MLR
comp=Z,456nm,22.0s
JCT Junction City 142.39 336 *e*PKPdf **PKPdf 17 20 28.5 -2.7**
JCT LR LR
comp=Z,456nm,22.0s
TBI Tubuai 142.68 124 *e*LR LR 18 06 53.3
comp=Z,331nm,29.2s
PFO Pinyon Flats O 142.82 360 PFAKE 17 20 40.0 +8.0
PFO LR LR
comp=Z,337nm,19.0s
MNTX Cornudas Mount 143.17 344 *e*PKPdf PKPbc 17 20 29.1 -0.3
MNTX LR LR
comp=Z,496nm,20.0s
TEIG Tepich 143.44 312 PFAKE 17 20 40.0 +6.8
TEIG LR LR
comp=Z,6.0nm,22.0s
TUC Tucson 143.71 352 *e*PKIKP PKPbc 17 20 32.1 +1.2
TUC Tucson 143.71 352 *e*PKPdf PKPab 17 20 30.4 +0.2
TUC LR LR
comp=Z,834nm,21.0s
KVTX Kingsville 144.06 331 PFAKE 17 20 50.0 +16
KVTX LR LR
comp=Z,551nm,20.0s
319A Douglas 144.38 349 *e*PKPdf **PKPab 17 20 32.8 0.0**
PPT2 Papeete2 144.81 115 *e*PKPbc **PKPdf 17 20 38.9 +3.1**
comp=Z,88nm,1.3s
PPT2 Papeete2 144.81 115 *e*LR LR 18 08 09.8
comp=Z,804nm,31.0s
LTX Lajitas 144.86 340 *e*PKIKP **PKPab 17 20 34.2 -0.4**
LTX Lajitas 144.86 340 *e*PKPdf **PKPab 17 20 34.2 -0.4**
TX31 Lajitas Ar. Si 144.86 340 *e*PKPdf **PKPab 17 20 33.2 -1.4**
TX31 *e*PKPdf PKPbc 17 20 33.6 -1.0
TXAR Lajitas Array 144.86 340 PKP **PKPab 17 20 34.2 -0.4**
comp=Z,14nm,1.1s,baz=70,slow=1.5,SNR=41
JTS JuntasAbangare 145.62 294 PFAKE 17 20 50.0 +12
JTS LR LR
comp=Z,634nm,20.0s
TGUH Tegucigalpa,Un 146.03 302 *e*PKPdf **PKPdf 17 20 37.4 -0.4**
HSIG 146.97 351 *e*PKPdf **PKPdf 17 20 38.7 -0.4**
PMOR Pomariorio Ree 147.13 112 *e*PKPbc **PKPbc 17 20 41.8 0.0**
comp=Z,73nm,1.1s
VAH Vaihoa 147.31 112 *e*PKPbc **PKPbc 17 20 42.0 -0.3**
comp=Z,54nm,1.2s
ZAIG Zacatecas 150.32 333 *e*PKPdf **PKPdf 17 20 46.3 +1.2**
TAOE Nuku Hiva Isla 155.97 103 *e*LR LR 18 13 18.8
comp=Z,313nm,27.8s

ATH **17** *17:03:55.9,38.˚63N×25.˚57E,h15km±2km,ML2.4/4, Error ellipse: s-maj=3.0km s-min=1.0km az=153.0*
ISK **17** *17:03:55.5,38.˚63N×25.˚54E,h14km,ML2.9/13*
ISCJB **17** *17:03:56.0±0.5,38.˚65N±0.˚02×25.˚57E±0.˚04,h9km±4km, Error ellipse: s-maj=5.1km s-min=3.9km az=179.6*
DDA **17** *17:03:56.1,38.˚70N×25.˚63E,h7km,Ml2.8*
CSEM **17** *17:03:56.1±0.2,38.˚64N×25.˚55E,h8km,ML2.4, Error ellipse: s-maj=4.0km s-min=3.2km az=84.0*
THE **17** *17:03:56.4,38.˚65N×25.˚60E,h3km×3km,ML2.1/5, Error ellipse: s-maj=3.8km s-min=0.7km az=106.0*
ISC 17 17:03:56.1±0.8, 38.˚63N±0.˚02×25.˚57E±0.˚02, h13km±6km, n52, σ0940/83, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.09**	**182**	P	**Pg**		**17 03 59.0**	**0.0**
PSRA				S	**Sg**		**17 04 00.8**	**-0.3**
PSRA				AML	AML		17 04 01.1	
	comp=N,16817µm,0.2s							
PSRA				AML	AML		17 04 02.2	
	comp=E,10613µm,0.2s							
PSRA	**Psara**	**0.09**	**182**	P	**Pg**		**17 03 59.0**	**0.0**
PSRA				S	**Sg**		**17 04 01.1**	**+0.1**
CHOS	**Chios island**	**0.46**	**123**	PG	**Pb**		**17 04 06.2**	**+0.2**
CHOS				SG	**Sb**		**17 04 12.2**	**-0.5**
CHOS	**Chios island**	**0.46**	**123**	P	**Pg**		**17 04 05.6**	**+0.4**
CHOS				S	**Sg**		**17 04 11.1**	**-0.2**
CHOS				AML	AML		17 04 11.6	
	comp=N,598µm,0.3s							
CHOS				AML	AML		17 04 12.3	
	comp=E,1047µm,0.4s							
CHOS	**Chios island**	**0.46**	**123**	P	**Pg**		**17 04 05.2**	**+0.1**
CHOS	**Chios island**	**0.46**	**123**	*e*Pg	**Pb**		**17 04 06.2**	**+0.2**
CHOS				S	**Sg**		**17 04 11.2**	**0.0**
CHOS				*e*Sg	**Sb**		**17 04 12.2**	**-0.5**
CHOS	**Chios island**	**0.46**	**123**	P	**Pg**		**17 04 05.3**	**+0.1**
CHOS				S	**Sg**		**17 04 11.2**	**0.0**
SIGR	**SIGRI**	**0.62**	**21**	PG	**Pg**		**17 04 08.5**	**+0.3**
SIGR				SG	**Sb**		**17 04 17.7**	**+0.3**
SIGR	**SIGRI**	**0.62**	**21**	P	**Pg**		**17 04 07.7**	**-0.4**
SIGR				S	**Sg**		**17 04 16.3**	**0.0**
SIGR				AML	AML		17 04 17.8	
	comp=E,613µm,0.2s							
SIGR				AML	AML		17 04 18.5	
	comp=N,590µm,0.2s							
SIGR	**SIGRI**	**0.62**	**21**	P	**Pg**		**17 04 07.8**	**-0.4**
SIGR	**SIGRI**	**0.62**	**21**	*e*Pg	**Pg**		**17 04 08.5**	**+0.3**
SIGR				S	**Sg**		**17 04 16.4**	**0.0**
SIGR				*e*Sg	**Sb**		**17 04 17.7**	**+0.3**
SIGR	**SIGRI**	**0.62**	**21**	P	**Pg**		**17 04 07.8**	**-0.4**
SIGR				S	**Sg**		**17 04 16.4**	**0.0**
CESE	**ˆe¯me**	**0.65**	**118**	PG	**Pg**		**17 04 08.9**	**+0.2**
CESE	**ˆe¯me**	**0.65**	**118**	*e*Pg	**Pg**		**17 04 08.9**	**+0.2**
KRBN	**Karaburun**	**0.77**	**93**	PG	**Pg**		**17 04 11.0**	**-0.1**
KRBN	**Karaburun**	**0.77**	**93**	*e*Pg	**Pg**		**17 04 11.0**	**-0.1**
PRK	**Paraskevi**	**0.82**	**42**	P	**Pg**		**17 04 11.2**	**-0.7**
PRK				S	**Sg**		**17 04 23.1**	**+0.3**
PRK				AML	AML		17 04 24.6	
	comp=E,571µm,0.4s							
PRK				AML	AML		17 04 26.1	
	comp=N,631µm,0.6s							
PRK	**Paraskevi**	**0.82**	**42**	P	**Pg**		**17 04 11.3**	**-0.7**
PRK				S	**Sg**		**17 04 22.9**	**+0.1**
PRK	**Paraskevi**	**0.82**	**42**	P	**Pg**		**17 04 11.3**	**-0.7**
PRK				S	**Sg**		**17 04 22.9**	**+0.1**
SKY	**Skiros Island**	**0.83**	**287**	P	**Pb**		**17 04 12.7**	**+0.3**
SKY	**Skiros Island**	**0.83**	**287**	P	**Pg**		**17 04 12.3**	**+0.1**
ZEY	**ˆzmir**	**0.83**	**118**	*i*P	**Pg**		**17 04 12.0**	**-0.2**
ZEY				*i*S	**Sb**		**17 04 23.9**	**+0.3**
URLA	**Izmir**	**0.85**	**108**	PG	**Pg**		**17 04 11.5**	**-1.1**
URLA	**Izmir**	**0.85**	**108**	*i*Pg	**Pg**		**17 04 11.5**	**-1.1**
URLA				*i*S	**Sg**		**17 04 23.5**	**-0.2**
URLA	**Izmir**	**0.85**	**108**	P	**Pg**		**17 04 11.5**	**-1.1**
URLA				S	**Sg**		**17 04 23.5**	**-0.2**
FOCM	**Foˆşa**	**0.91**	**85**	PG	**Pg**		**17 04 13.9**	**+0.1**
FOCM	**Foˆşa**	**0.91**	**85**	*e*Pg	**Pg**		**17 04 13.9**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.93**	**28**	PG	**Pb**		**17 04 13.9**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.93**	**28**	*e*Pg	**Pb**		**17 04 13.9**	**-0.2**
CAND	**Candarli**	**1.02**	**71**	PG	**Pg**		**17 04 15.9**	**+0.2**
KARY	**Karystos**	**1.07**	**236**	P	**Pb**		**17 04 16.6**	**+0.1**
KARY	**Karystos**	**1.07**	**236**	P	**Pb**		**17 04 16.6**	**+0.1**
DKL	**Dikili**	**1.13**	**67**	PN	**Pn**		**17 04 17.7**	**+0.1**
DKL	**Dikili**	**1.13**	**67**	*e*Pn	**Pn**		**17 04 17.7**	**+0.1**
TNSA	**Tinos**	**1.14**	**196**	P	**Pb**		**17 04 17.0**	**-0.6**
TNSA				S	**Sb**		**17 04 32.4**	**+0.1**
TNSA	**Tinos**	**1.14**	**196**	P	**Pb**		**17 04 17.2**	**-0.4**
TNSA				S	**Sg**		**17 04 32.8**	**-0.1**
DGB	**ˆzmir**	**1.19**	**119**	*i*P	**Pb**		**17 04 18.4**	**0.0**
DGB				*i*S	**Sg**		**17 04 34.5**	**+0.2**
LIA	**Limnos Island**	**1.30**	**347**	P	**Pn**		**17 04 20.0**	**+0.1**
LIA	**Limnos Island**	**1.30**	**347**	P	**Pb**		**17 04 20.2**	**-0.1**
LIA	**Limnos Island**	**1.30**	**347**	P	**Pb**		**17 04 20.4**	**+0.1**
EZN	**Ezine**	**1.33**	**26**	PN	**Pn**		**17 04 20.2**	**-0.1**
EZN	**Ezine**	**1.33**	**26**	*e*Pn	**Pn**		**17 04 20.2**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.34**	**34**	*i*P	**Pb**		**17 04 21.0**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.34**	**34**	P	**Pb**		**17 04 21.0**	**-0.1**
APE	**Apeiranthos**	**1.56**	**181**	PN	**Pn**		**17 04 23.2**	**-0.4**
APE	**Apeiranthos**	**1.56**	**181**	*e*Pn	**Pn**		**17 04 23.2**	**-0.4**
GCAM	**G?zelcaml?**	**1.61**	**125**	PN	**Pn**		**17 04 24.5**	**+0.3**
GCAM	**G?zelcaml?**	**1.61**	**125**	*i*P	**Pg**		**17 04 27.0**	**0.0**

GCAM	**G?zelcaml?**	**1.61**	**125**	*e*Pn		**Pn**	**17 04 24.5**	**+0.3**
GCAM	**G?zelcaml?**	**1.61**	**125**	P		**Pg**	**17 04 27.0**	**0.0**
SMTH	**Samothraki Isl**	**1.83**	**359**	P		**Pn**	**17 04 28.1**	**+0.8**
SMTH	**Samothraki Isl**	**1.83**	**359**	P		**Pb**	**17 04 28.6**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.90**	**21**	PN		**Pn**	**17 04 28.6**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.90**	**21**	*e*Pn		**Pn**	**17 04 28.6**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.95**	**110**	PN		**Pn**	**17 04 29.9**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.95**	**110**	*e*Pn		**Pn**	**17 04 29.9**	**+0.9**
LPK	**Lapseki**	**1.97**	**28**	PN		**Pn**	**17 04 29.3**	**+0.2**
LPK	**Lapseki**	**1.97**	**28**	*e*Pn		**Pn**	**17 04 29.3**	**+0.2**
AYDN	**Tasoluk**	**2.06**	**117**	*i* P		**Pb**	**17 04 33.6**	**+0.1**
AYDN	**Tasoluk**	**2.06**	**117**	P		**Pb**	**17 04 33.6**	**+0.1**
KRBG	**Karabiga-Canak**	**2.21**	**37**	PN		**Pn**	**17 04 32.6**	**+0.2**
KRBG	**Karabiga-Canak**	**2.21**	**37**	*e*Pn		**Pn**	**17 04 32.6**	**+0.2**

IDC 17 17:22:31.6±1.4, **18°44N**×**119°91E**, **h0**km, **mb3.5**/3, **mb1 3.6**/4, **mb1mx3.2**/66, **mbtmp3.4**/4, **ML3.0**/1, **Error ellipse: s-maj=48.8km s-min=31.3km az=57.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.89**	**273**	P	Pn	17 27 06.5	+0.3
	0.0nm,0.3s,baz=84,slow=9.2,SNR=4.6						
ASAR	**Alice Springs**	**44.02**	**161**	P	P	17 30 40.4	-0.8
	0.4nm,0.8s,baz=339,slow=6.8,SNR=4.5						
KURBB	**Kurchatov Arra**	**45.89**	**324**	P	P	17 30 53.6	-2.1
	0.3nm,0.6s,baz=125,slow=7.7,SNR=4.3						
YKA	**Yellowknife Ar**	**88.71**	**22**	P	P	17 35 28.2	+1.5
	0.3nm,0.8s,baz=320,slow=5.3,SNR=5.2						

NEIC ***17*** *17:24:26.4±2.0, 22°.45S×172°.50E, h78km±13km, mb4.5/4, Error ellipse: s-maj=46.7km s-min=11.7km az=151.0*
IDC ***17*** *17:24:31.9±7.4, 22°.34S×172°.27E, h116km±50km, mb3.8/7, mb1 3.9/8, mb1mx3.5/44, mbtmp4.2/8, Error ellipse: s-maj=67.8km s-min=26.3km az=129.0*

ISC 17 17:24:29.7±1.4, **22°.4S**±0°.3×**172°.4E**±0°.1, **h100**km, **n17**, σ1**s43**/19, **mb4.2**/9, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.48**	**272**	P	**Pn**	**17 25 49.5**	**+0.4**
	1.7nm,0.3s,baz=135,slow=14,SNR=34						
DZM				S	**Sn**	**17 26 53.2**	**+2.3**
	1.7nm,0.3s,baz=302,slow=20,SNR=7.1						
DZM	**Mont Dzumac**	**5.48**	**272**	*e*Pn	**Pn**	**17 25 48.6**	**-0.5**
DZM				*e*Sn	**Sn**	**17 26 47.5**	**-3.4**
DZM				S	**Sn**	**17 26 53.2**	**+2.3**
MSVF	**Nonsavu**	**7.06**	**50**	*e*Pn	Pn	17 26 06.0	-4.5
STKA	**Stephens Creek**	**28.89**	**244**	P	**P**	**17 30 19.5**	**+0.4**
	1.5nm,0.8s,baz=94,slow=14,SNR=2.7						
AS01	**Alice Springs**	**35.30**	**260**	*e*P	**P**	**17 31 14.8**	**-0.6**
AS31	**Alice Springs**	**35.34**	**260**	*e*P	**P**	**17 31 15.1**	**-0.7**
	1.4nm,0.9s						
ASAR	**Alice Springs**	**35.34**	**260**	P	**P**	**17 31 15.1**	**-0.7**
	2.3nm,0.8s,baz=89,slow=9.5,SNR=20						
WR1	**Warramunga Arr**	**35.47**	**267**	*e*P	**P**	**17 31 15.6**	**-1.3**
	81nm,2.0s						
WRA	**Warramunga Arr**	**35.47**	**267**	P	**P**	**17 31 15.6**	**-1.3**
	0.7nm,0.6s,baz=90,slow=5.6,SNR=8.4						
FITZ	**Fitzroy Crossi**	**43.90**	**267**	P	**P**	**17 32 27.5**	**+0.7**
	13nm,1.0s,baz=77,slow=3.9,SNR=5.8						
FITZ	**Fitzroy Crossi**	**43.90**	**267**	*e*P	**P**	**17 32 27.6**	**+0.7**
	58nm,1.7s						
KSRS	**Korea Array**	**72.72**	**324**	P	**P**	**17 35 46.1**	**-0.8**
	0.7nm,1.1s,baz=145,slow=6.8,SNR=4.3						
KSAR	**Wonju Array Be**	**72.73**	**324**	P	**P**	**17 35 46.1**	**-0.9**
PETK	**Petropavlovsk-**	**76.22**	**351**	P	**P**	**17 36 07.2**	**+0.4**
	2.9nm,0.8s,baz=149,slow=6.8,SNR=5.9						
PEA1	**Petropavlovsk-**	**76.23**	**351**	*e*P	**P**	**17 36 07.2**	**+0.4**
SEY	**Seymchan**	**86.47**	**351**	P	**P**	**17 37 00.7**	**-0.1**
	2.1nm,0.8s,baz=160,slow=5.9,SNR=17						
GERES	**GERESS Array B**	**148.60**	**333**	PKPbc	**PKPbc**	**17 44 06.6**	**+1.5**
	0.4nm,0.6s,baz=306,slow=2.5,SNR=4.1						

IDC ***17*** *17:25:15.2±0.9, 39°.28N×73°.55E, h0km, mb3.6/11, mb1 3.7/16, mb1mx3.5/70, mbtmp3.6/16, ML3.2/5, Error ellipse: s-maj=17.3km s-min=16.1km az=170.0*
KRNET ***17*** *17:25:17.0±0.1, 39°.46N×73°.72E, mb3.8*
SOME ***17*** *17:25:16.7, 39°.33N×73°.77E, h15km*
NNC ***17*** *17:25:18.2±1.2, 39°.49N×73°.57E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=14.9km s-min=6.4km az=81.0*

ISC 17 17:25:17.2±1.5, **39°.56N**±0°.05×**73°.79E**±0°.03, **h5**km±9km, **n76**, σ1**s88**/113, **mb3.7**/12, **37C-22D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.50**	**334**	⇑P	**Pb**	**17 25 28.0**	**-0.6**
	372nm,0.3s						
SFK				⇑S	**Sb**	**17 25 36.4**	**0.0**
	536nm,0.3s						
SFK	**Sufi-Kurgan**	**0.50**	**334**	⇓*i*P	**Pb**	**17 25 28.0**	**-0.6**
	baz=43						
SFK				⇓*i*S	**Sb**	**17 25 36.4**	**0.0**
	baz=43						
ARSB	**Arslanbob**	**1.86**	**341**	⇓*i*P	**Pg**	**17 25 53.0**	**+0.1**
	baz=43						
ARSB				⇓*i*S	**Sg**	**17 26 18.6**	**+1.6**
	baz=43						
TOKL	**Toktogul**	**2.48**	**344**	⇓*i*P	**Pb**	**17 26 02.2**	**0.0**
	baz=46						
TOKL				⇓*i*S	**Sb**	**17 26 34.0**	**+1.0**
	baz=46						
NRN	**Naryn**	**2.52**	**41**	⇑*i*P	**Pg**	**17 26 04.8**	**-0.6**
	baz=41						
NRN				⇑*i*S	**Sg**	**17 26 40.9**	**+2.8**
	baz=41						
AML	**Almayashu**	**2.57**	**358**	P	**Pb**	**17 26 04.2**	**+0.2**
	SNR=220						
AML	**Almayashu**	**2.57**	**358**	⇓*i*P	**Pb**	**17 26 03.3**	**-0.6**
	baz=60						
AML				⇓*i*S	**Sb**	**17 26 37.5**	**+1.5**
	baz=60						
ARK	**Arkit**	**2.63**	**329**	⇓*e*P	**Pb**	**17 26 03.3**	**-1.5**
	baz=31						
ARK				⇓*i*S	**Sb**	**17 26 36.6**	**-0.9**
	baz=31						
UCH	**Uchtor**	**2.72**	**11**	P	**Pg**	**17 26 07.1**	**-2.2**
	SNR=150						
UCH	**Uchtor**	**2.72**	**11**	⇑*i*P	**Pb**	**17 26 06.7**	**+0.1**
	baz=12						
UCH				⇑*i*S	**Sg**	**17 26 43.0**	**-1.5**
	baz=12						
KZA	**Kyzart**	**2.75**	**23**	P	**Pg**	**17 26 08.1**	**-1.7**
	SNR=150						
KZA	**Kyzart**	**2.75**	**23**	⇑*i*P	**Pg**	**17 26 07.8**	**-2.0**
	baz=24						
KZA				⇑*i*S	**Sg**	**17 26 44.9**	**-0.5**
	baz=24						
MNAS	**Manas**	**3.08**	**342**	⇓Pn	**Pb**	**17 26 10.4**	**-2.1**
	8.6nm,0.4s						
MNAS				⇑Pg	**Pg**	**17 26 15.3**	**-0.9**
	24nm,0.6s						
MNAS				⇑Lg	Lg	17 26 58.9	
	63nm,0.7s						
MNAS	**Manas**	**3.08**	**342**	⇑*i*P	**Pb**	**17 26 09.0**	**-3.5**
	baz=44						
MNAS				⇑*i*S	**Sn**	**17 26 47.0**	**+3.1**
	baz=44						
EKS2	**Erkin-Say**	**3.10**	**360**	P	**Pb**	**17 26 11.8**	**-1.0**
	SNR=40						
EKS2	**Erkin-Say**	**3.10**	**360**	⇓*i*P	**Pb**	**17 26 11.1**	**-1.7**
	baz=1.0						
EKS2				⇓*i*S	**Sb**	**17 26 50.1**	**-0.8**
	baz=1.0						
AAK	**Ala-Archa**	**3.12**	**10**	Pn	**Pb**	**17 26 13.0**	**-0.2**
	6.4nm,0.3s,baz=164,slow=6.8,SNR=96						
AAK				Lg	Lg	17 26 59.7	
	10nm,0.3s,baz=312,slow=21,SNR=7.7						
AAK	**Ala-Archa**	**3.12**	**10**	⇓Pn	**Pb**	**17 26 12.4**	**-0.8**
	17nm,0.6s						
AAK				⇑Lg	Lg	17 27 00.7	
	81nm,0.7s						
AAK	**Ala-Archa**	**3.12**	**10**	P	**Pb**	**17 26 12.7**	**-0.5**
	SNR=51						
AAK	**Ala-Archa**	**3.12**	**10**	⇑*i*P	**Pb**	**17 26 12.0**	**-1.2**
	baz=10.0						
AAK				⇑*i*S	**Sb**	**17 26 51.9**	**+0.3**
	baz=10.0						
MRKS	**Merke**	**3.21**	**353**	*e*P	**Pb**	**17 26 13.8**	**-0.9**
	68nm,0.4s						
MRKS				⇑*i*S	**Sb**	**17 26 55.4**	**+1.3**
	74nm,0.6s						
KBK	**Karagaybulak**	**3.21**	**15**	P	**Pb**	**17 26 14.6**	**-0.2**
	SNR=27						
KBK	**Karagaybulak**	**3.21**	**15**	⇑*i*P	**Pb**	**17 26 14.0**	**-0.8**
	baz=16						
KBK				⇑*i*S	**Sb**	**17 26 54.9**	**+0.5**
	baz=16						
ULHL	**Ulahol**	**3.26**	**34**	P	**Pb**	**17 26 15.3**	**-0.4**
	SNR=12						
ULHL	**Ulahol**	**3.26**	**34**	⇑*e*P	**Pb**	**17 26 15.3**	**-0.4**
	baz=34						
ULHL				⇑*i*S	**Sb**	**17 26 58.2**	**+2.4**
	baz=34						
FRU1	**Bishkek**	**3.31**	**11**	⇑*i*P	**Pb**	**17 26 14.0**	**-2.4**
	baz=11						
FRU1				⇑*e*S	**Sb**	**17 26 55.2**	**-1.7**
	baz=11						
BOOM	**Boomskoye usch**	**3.35**	**28**	⇑*i*P	**Pb**	**17 26 15.2**	**-1.9**
	baz=28						
BOOM				⇑*e*S	**Sb**	**17 26 57.1**	**-1.1**
	baz=28						
CHMS	**Chumysh**	**3.51**	**12**	P	**Pb**	**17 26 18.0**	**-1.8**
	SNR=10						
CHMS	**Chumysh**	**3.51**	**12**	⇑*i*P	**Pb**	**17 26 17.6**	**-2.2**
	baz=12						
CHMS				⇑*i*S	**Sb**	**17 27 01.6**	**-1.1**
	baz=12						
TKM2	**Tokmak 2**	**3.62**	**22**	⇑Lg	Lg	17 27 16.0	
	33nm,0.7s						
TKM2	**Tokmak 2**	**3.62**	**22**	P	**Pb**	**17 26 19.8**	**-2.1**
	SNR=19						
KDJ	**Kajisay**	**3.63**	**44**	⇑*i*P	**Pb**	**17 26 21.0**	**-1.0**
	baz=44						
KDJ				⇑*i*S	**Sb**	**17 27 08.4**	**+1.9**
	baz=44						
USP	**Ospenovka**	**3.74**	**8**	P	**Pn**	**17 26 18.7**	**+3.1**
	SNR=8.9						
USP	**Ospenovka**	**3.74**	**8**	⇓*i*P	**Pb**	**17 26 20.5**	**-3.2**
	baz=9.0						
USP				⇓*i*S	**Sb**	**17 27 06.2**	**-3.2**
	baz=9.0						
IUG	**Iuzhnay**	**3.84**	**313**	*e*P	**Pg**	**17 26 31.7**	**+0.9**
	97nm,0.7s						
IUG				*e*S	**Sg**	**17 27 25.3**	**+4.7**
	137nm,1.1s						
KST	**Kastek**	**3.84**	**25**	*e*P	**Pg**	**17 26 30.7**	**-0.1**
	4.2nm,0.3s						
KST				*e*S	**Sg**	**17 27 23.9**	**+3.3**
	42nm,0.6s						
DGS	**Degeres**	**3.97**	**21**	*e*P	**Pg**	**17 26 32.6**	**-0.6**
	28nm,0.6s						
DGS				*e*S	**Sg**	**17 27 26.9**	**+2.4**
	49nm,0.6s						
IZV	**Izvestkoviy**	**4.07**	**31**	*e*P	**Pg**	**17 26 33.4**	**-1.7**
	31nm,0.5s						
IZV				*e*S	**Sg**	**17 27 29.2**	**+1.3**
	72nm,0.5s						
MTBS	**Maitube**	**4.08**	**28**	*e*P	**Pg**	**17 26 35.0**	**-0.3**
	32nm,0.6s						
MTBS				*e*S	**Sg**	**17 27 30.9**	**+2.7**
	29nm,0.5s						
TNSS	**Tian-Shan**	**4.21**	**33**	*e*P	**Pg**	**17 26 36.7**	**-1.1**
	19nm,0.3s						
TNSS				*e*S	**Sg**	**17 27 34.7**	**+2.3**
	41nm,0.9s						
KK31	**Karatay Array**	**4.31**	**326**	⇑Pn	**Pn**	**17 26 26.4**	**+3.0**
	2.7nm,0.3s,baz=126,slow=13,SNR=140						
KK31				⇑Pg	**Pg**	**17 26 36.7**	**-3.0**
	4.6nm,0.4s,baz=151,slow=15,SNR=10						
KK31				⇓Sn	**Sn**	**17 27 17.0**	**+2.9**
	7.0nm,0.3s						
KK31				⇑Lg	Lg	17 27 36.3	
	16nm,0.5s,baz=155,slow=29,SNR=5.2						
MDOK	**Medeo**	**4.35**	**33**	⇑Pn	**Pb**	**17 26 30.5**	**-3.8**
	3.1nm,0.5s						
MDOK				⇓Pg	**Pg**	**17 26 40.0**	**-0.6**
	23nm,0.6s						
MDOK				⇓Lg	Lg	17 27 39.3	
	52nm,0.7s						
MDOK	**Medeo**	**4.35**	**33**	*e*P	**Pg**	**17 26 40.0**	**-0.6**
	12nm,0.4s						
MDOK				*e*S	**Sg**	**17 27 39.8**	**+2.8**
	45nm,0.9s						
KNDC	**Almaty**	**4.36**	**32**	⇓Pg	**Pg**	**17 26 40.7**	**-0.1**
	28nm,0.6s						
KNDC				⇑Lg	Lg	17 27 40.6	
	50nm,0.5s						
KOTS	**Kotyrbulak**	**4.44**	**33**	*e*P	**Pg**	**17 26 39.8**	**-2.4**
	12nm,0.5s						
KOTS				*e*S	**Sg**	**17 27 39.2**	**-0.5**
	76nm,0.8s						
BRLS	**Borolday**	**4.57**	**321**	*e*P	**Pb**	**17 26 39.5**	**+1.7**
	0.6nm,0.4s						
BRLS				*e*S	**Sg**	**17 27 38.9**	**-4.9**
	6.7nm,0.7s						
KTBS	**Karatobe**	**4.68**	**27**	*e*P	**Pg**	**17 26 45.0**	**-1.8**
	13nm,0.6s						
KTBS				*e*S	**Sg**	**17 27 48.1**	**+0.7**
	36nm,0.9s						
KUU	**Kurty**	**4.73**	**23**	*e*P	**Pg**	**17 26 45.6**	**-2.2**
	14nm,0.6s						
KUU				*e*S	**Sg**	**17 27 50.4**	**+1.4**
	41nm,0.6s						
CHKK	**Chushkaly**	**4.91**	**28**	*e*P	**Pg**	**17 26 49.8**	**-1.4**
	9.0nm,0.6s						
CHKK				*e*S	**Sg**	**17 27 56.5**	**+1.6**
	42nm,0.6s						
SATY	**Saty**	**4.93**	**43**	*e*P	**Pg**	**17 26 50.9**	**-0.6**
	24nm,0.7s						
SATY				*e*S	**Sg**	**17 27 58.6**	**+3.2**
	46nm,1.0s						
KURS	**Kuram**	**5.12**	**39**	*e*P	**Pg**	**17 26 52.8**	**-2.4**
	3.4nm,1.2s						
KURS				*e*S	**Sg**	**17 28 01.7**	**+0.2**
	14nm,1.0s						
UZB	**Uzynbulak**	**5.32**	**46**	*e*P	**Pg**	**17 26 56.6**	**-2.5**
	6.0nm,0.5s						
UZB				*e*S	**Sg**	**17 28 08.5**	**+0.4**
	15nm,1.1s						
KPKS	**Kokpek**	**5.36**	**42**	*e*P	**Pg**	**17 26 58.3**	**-1.5**
	7.9nm,0.6s						
KPKS				*e*S	**Sg**	**17 28 11.1**	**+1.9**
	31nm,0.7s						
ARXS	**Arharly**	**5.54**	**32**	*e*P	**Pg**	**17 26 59.6**	**-3.6**
	20nm,0.8s						
ARXS				*e*S	**Sg**	**17 28 13.5**	**-1.5**
	45nm,0.6s						
PDGK	**Podgornoye**	**5.70**	**47**	⇑Pn	Pn	17 26 48.7	+6.0
	3.6nm,0.6s						
PDGK				⇑Pg	**Pg**	**17 27 06.9**	**+0.5**
	5.0nm,0.6s						
PDGK				⇓Lg	Lg	17 28 23.8	
	26nm,0.8s						
CHCP	**Chirah Chowk**	**5.91**	**184**	P	Pn	17 26 48.9	+3.5
CEP	**Cherat**	**5.92**	**195**	P	**Pn**	**17 26 48.3**	**+2.6**
THW	**Thamme Wali**	**6.95**	**194**	P	**Pn**	**17 27 00.8**	**+1.0**
OTUK	**Ortayu**	**8.74**	**354**	⇓Pn	**Pn**	**17 27 27.4**	**+3.2**
	5.7nm,1.2s						
OTUK				⇑Lg	Lg	17 29 59.4	
	12nm,0.9s						
MKAR	**Makanchi Array**	**9.52**	**38**	Pn	Pn	17 27 40.3	+5.3
	0.0nm,0.3s,baz=227,slow=14,SNR=5.3						
MKAR				Lg	Lg	17 30 21.9	
	0.1nm,0.3s,baz=232,slow=26,SNR=3.9						
KURBB	**Kurchatov Arra**	**11.55**	**15**	Lg	Lg	17 31 25.9	
	0.0nm,0.3s,baz=203,slow=31,SNR=7.3						
BVAR	**Borovoye Array**	**13.67**	**351**	Pn	**Pn**	**17 28 31.6**	**0.0**
	0.1nm,0.3s,baz=174,slow=14,SNR=5.6						
AKTO	**Aktyubinsk**	**15.54**	**320**	Pn	**Pn**	**17 28 56.0**	**-0.9**
	0.2nm,0.3s,baz=118,slow=15,SNR=5.3						
ZALV	**Zalesovo Beam**	**16.22**	**24**	Pn	**P**	**17 29 07.9**	**-1.0**
	0.2nm,0.3s,baz=208,slow=8.4,SNR=7.8						
SONM	**Songino Array**	**24.84**	**60**	P	**P**	**17 30 43.6**	**+3.1**
	0.1nm,0.3s,baz=255,slow=10,SNR=2.5						
BRTR	**Keskin Array B**	**30.74**	**283**	P	**P**	**17 31 31.5**	**-1.9**
	0.8nm,0.7s,baz=83,slow=10,SNR=5.1						
FINES	**FINESS Array B**	**36.27**	**323**	P	**P**	**17 32 20.9**	**-0.2**
	1.3nm,0.6s,baz=128,slow=9.6,SNR=9.4						
ARCES	**ARCESS Array B**	**39.22**	**335**	P	**P**	**17 32 46.4**	**+0.5**
	18nm,1.2s,baz=109,slow=9.6,SNR=3.3						
HFS	**Hagfors**	**42.09**	**320**	P	**P**	**17 33 09.0**	**-0.8**
	1.6nm,0.5s,baz=105,slow=11,SNR=7.2						
NOA	**NORSAR Array B**	**43.33**	**321**	P	**P**	**17 33 19.3**	**-0.5**
	1.0nm,0.8s,baz=93,slow=8.1,SNR=3.3						
ESDC	**Sonseca Array**	**58.00**	**297**	P	**P**	**17 35 09.7**	**-1.2**
	0.1nm,0.3s,baz=34,slow=5.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**67.98**	**269**	P	**P**	**17 36 14.8**	**-2.8**
	0.4nm,0.6s,baz=40,slow=5.7,SNR=3.6						
ILAR	**Eielson Array**	**71.22**	**17**	P	**P**	**17 36 36.6**	**-0.2**
	0.3nm,0.8s,baz=336,slow=5.9,SNR=3.8						
YKA	**Yellowknife Ar**	**78.07**	**4**	P	**P**	**17 37 16.9**	**+0.4**
	0.1nm,0.5s,baz=350,slow=5.2,SNR=3.3						
WRA	**Warramunga Arr**	**81.81**	**124**	P	**P**	**17 37 36.3**	**-1.1**
	0.5nm,0.7s,baz=315,slow=5.9,SNR=3.9						
ASAR	**Alice Springs**	**84.27**	**127**	P	**P**	**17 37 48.5**	**-1.5**
	0.7nm,0.9s,baz=303,slow=4.9,SNR=5.1						

ISCJB ***17*** *17:28:54.0±0.5, 5°.85N±0°.04×125°.65E±0°.10, h129km±6km, mb3.6/5, Error ellipse: s-maj=16.4km s-min=6.1km az=3.5*
MAN ***17*** *17:28:54, 5°.83N×125°.91E, h100km, mb5.0, ML3.9, MS3.9*
IDC ***17*** *17:28:54.5±1.4, 6°.10N×126°.15E, h132km±11km, mb3.4/5, mb1 3.6/5, mb1mx3.0/62, mbtmp3.8/5, Error ellipse: s-maj=97.8km s-min=18.1km az=67.0*
DJA ***17*** *17:29:25.7±3.1, 3°N±28°×12°5E±°, h120km±30km, M3.9/7, mB4.9/2, mb4.2/3, MLv3.8/7, Mw(mB)4.2/2*

ISC 17 17:28:54.7±0.8, **5°.81N**±0°.04×**125°.71E**±0°.09, **h113**km±10km, **n20**, σ1**s83**/26, **mb3.6**/5, **1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.81**	**290**	⇑*e*P	**Pn**	**17 29 13.8**	**-0.6**
GSPH				*e*S	**Sn**	**17 29 29.0**	**-0.3**
MATI	**Mati**	**1.25**	**26**	*e*P	**Pn**	**17 29 16.6**	**-2.2**
DAV	**Davao City (W)**	**1.25**	**354**	P	**Pn**	**17 29 18.2**	**-0.7**
	27nm,0.3s,baz=0.0,slow=11,SNR=4.0						
DAV				S	**Sn**	**17 29 37.4**	**+0.1**
	90nm,0.3s,baz=105,slow=21,SNR=8.4						
KCP	**Kidapawan**	**1.34**	**332**	⇓*i*P	**Pn**	**17 29 20.1**	**+0.2**
KCP				*i* S	**Sn**	**17 29 39.0**	**0.0**
SGSI	**Sangihe**	**2.12**	**185**	P	**Sn**	**17 29 54.7**	**-1.3**
SGSI				S	**Sn**	**17 29 58.9**	**+2.9**
BUKP	**Musuan**	**2.15**	**343**	*e*P	**Pn**	**17 29 29.2**	**-0.7**
BUKP				*e*S	**Sn**	**17 29 57.4**	**+0.7**
BIPH	**Bislig**	**2.44**	**15**	⇓*e*P	**Pn**	**17 29 36.5**	**+3.0**
BIPH				*e*S	**Sn**	**17 30 05.9**	**+2.6**
BUTP	**Butuan**	**3.13**	**358**	*e*P	**Pn**	**17 29 43.3**	**+0.7**
BUTP				*e*S	**Sn**	**17 30 22.8**	**+3.2**
KMSI	**Cibinong**	**5.49**	**198**	P	**Pn**	**17 30 15.2**	**+1.0**
MRSI	**Marisa**	**6.50**	**216**	P	**Pn**	**17 30 31.1**	**+3.2**
LBMI	**Labuha**	**6.65**	**164**	P	**Pn**	**17 30 30.4**	**+0.4**
LUWI	**Luwuk**	**7.42**	**203**	P	Pn	17 30 46.4	+6.1
APSI	**Ampana**	**7.82**	**211**	P	**Pn**	**17 30 47.8**	**+2.1**
SANI	**Sanana**	**7.82**	**178**	P	**Pn**	**17 30 43.7**	**-2.0**
MSAI	**Masohi**	**9.65**	**160**	P	**Pn**	**17 31 12.1**	**+1.5**
FITZ	**Fitzroy Crossi**	**23.76**	**180**	P	**P**	**17 33 57.9**	**+1.1**
	3.6nm,0.6s,baz=9.9,slow=8.6,SNR=6.3						
WRA	**Warramunga Arr**	**26.96**	**162**	P	**P**	**17 34 24.6**	**-1.3**
	0.3nm,0.5s,baz=342,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**30.37**	**165**	P	**P**	**17 34 55.5**	**-0.7**
	0.6nm,0.5s,baz=346,slow=7.3,SNR=18						
STKA	**Stephens Creek**	**40.42**	**159**	P	**P**	**17 36 21.5**	**-0.5**
	2.2nm,0.7s,baz=333,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**55.28**	**325**	P	**P**	**17 38 14.2**	**-2.2**
	0.1nm,0.4s,baz=116,slow=7.8,SNR=3.7						

ISCJB ***17*** *17:35:25.3±0.5, 67°.18N±0°.02×20°.72E±0°.09, h0km, Error ellipse: s-maj=5.0km s-min=3.6km az=0.0*
CSEM ***17*** *17:35:25.7±0.4, 67°.15N×20°.71E, h2km, ML2.7, Error ellipse: s-maj=9.6km s-min=5.6km az=63.0, Mining explosion.*
HEL ***17*** *17:35:25.9, 67°.15N×20°.60E, h0km, ML1.6, Explosion*
UPP ***17*** *17:35:25.8, 67°.16N×20°.61E, h0km, ML2.7, Suspected Mining explosion.*

ISC 17 17:35:25.9±0.8, **67°.17N**±0°.02×**20°.70E**±0°.03, **h0**km, **n36**, σ0**s66**/53, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**227**	P	**Pg**	**17 35 27.1**	**-0.1**
DUNU				S	**Sg**	**17 35 28.2**	**+0.1**
DUNU	**Dundret**	**0.07**	**227**	P	**Pg**	**17 35 27.2**	**-0.1**
DUNU				S	**Sg**	**17 35 28.2**	**+0.1**
DUNU	**Dundret**	**0.07**	**227**	*i* P	**Pg**	**17 35 27.2**	**-0.1**
DUNU				*i* S	**Sg**	**17 35 28.2**	**+0.1**
RATU	**Laukkuluspa**	**0.78**	**328**	P	**Pg**	**17 35 40.3**	**-0.6**
RATU	**Laukkuluspa**	**0.78**	**328**	P	**Pg**	**17 35 40.3**	**-0.6**
RATU	**Laukkuluspa**	**0.78**	**328**	*i* P	**Pg**	**17 35 40.3**	**-0.6**
ERTU	**Ertsjaerv**	**0.85**	**136**	P	**Pg**	**17 35 41.5**	**-0.8**
ERTU				Sb	**Sg**	**17 35 53.4**	**+0.1**
ERTU	**Ertsjaerv**	**0.85**	**136**	P	**Pg**	**17 35 41.5**	**-0.8**
ERTU	**Ertsjaerv**	**0.85**	**136**	*e*P	**Pg**	**17 35 41.4**	**-0.9**
	baz=317						
ERTU				*e*SB	**Sg**	**17 35 53.4**	**+0.1**
NIKU	**Nikkaluokta**	**0.95**	**319**	P	**Pg**	**17 35 43.1**	**-1.0**
NIKU	**Nikkaluokta**	**0.95**	**319**	P	**Pg**	**17 35 43.1**	**-1.0**
NIKU	**Nikkaluokta**	**0.95**	**319**	*e*P	**Pg**	**17 35 43.1**	**-1.0**
PAJU	**Pajala**	**0.96

TBLG S Sg 17 37 13.6 -0.1

*ISCJB **17** 18:06:02.6±0.4, 43˚.75N×0˚.06×105˚.20W±0˚.06, h0km, mb4.0/8, Error ellipse: s-maj=8.9km s-min=5.7km az=156.3*
*IDC **17** 18:06:03.1±2.1, 43˚.64N×105˚.47W, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.6/62, mbtmp3.7/11, ML3.4/3, Error ellipse: s-maj=69.6km s-min=12.5km az=149.0*
*NEIC **17** 18:06:04.3±0.4, 43˚.75N×105˚.20W, h0km, ML3.3, Error ellipse: s-maj=9.3km s-min=5.5km az=158.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 17 18:06:03.6±0.7, 43˚.70N±0˚.07×105˚.21W±0˚.07, h0km, n36, σ1♀33/32, mb3.9/8, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	0.95	63	*e*Pg	Pn	18 06 23.6	-0.8
K22A	Casper	1.42	223	*e*Pn	Pn	18 06 29.3	-1.6
RLMT	Red Lodge	3.24	297	*e*Pn	Pn	18 06 56.2	+0.3
PDAR	Pinedale Array	3.31	255	Pn	Pn	18 06 57.4	+0.4
	5.0nm,0.3s,baz=75,slow=15,SNR=79						
PDAR				Sn	Sb	18 07 42.2	-2.1
	25nm,0.3s,baz=81,slow=25,SNR=11						
OGNE	Ogallala	3.62	138	*e*Pn	Pn	18 07 03.8	+2.7
GCMT	Greycliff	3.80	305	*e*Pn	Pn	18 07 03.7	+0.1
ISCO	Idaho Springs	3.91	185	*e*Pn	Pn	18 07 00.4	-4.8
H17A	Grant Village	3.93	282	*e*Pn	Pn	18 07 07.0	+1.5
YFT	Old Faithful	4.12	282	*e*Pn	Pn	18 07 08.8	+0.7
O20A	White River Ci	4.22	213	*e*Pn	Pn	18 07 09.8	+0.4
AHID	Auburn Hatcher	4.41	260	*e*Pn	Pn	18 07 12.3	+0.3
QLMT	Earthquake Lak	4.61	286	*e*Pn	Pn	18 07 17.5	+2.7
HWUT	Hardware Ranch	5.13	248	*e*Pn	Pn	18 07 21.8	-0.1
	12nm,0.4s						
HRY	Holter Researc	5.56	305	*e*Pn	Pn	18 07 27.7	-0.1
	23nm,0.5s						
ECSD	EROS Data Cent	6.23	87	*e*Pn	Pn	18 07 38.2	+1.4
	6.9nm,0.4s						
DUG	Dugway, Tooele	6.66	241	*e*Pn	Pn	18 07 43.8	+0.9
	4.0nm,0.3s						
HLID	Hailey	6.68	272	*e*Pn	Pn	18 07 45.2	+2.1
	3.2nm,0.8s						
AGMN	Agassiz Nation	7.96	52	*e*Pn	Pn	18 07 57.7	-2.9
	9.1nm,0.5s						
CCUT	Cedar City	8.72	228	*e*Pn	Pn	18 08 12.3	+1.1
	1.4nm,0.5s						
ANMO	Albuquerque	8.80	187	Lg	Lg	18 10 37.3	
	0.1nm,0.3s,baz=162,slow=20,SNR=2.5						
I10CA	LAC DU BONNET	9.04	41	*i*		18 56 00.0	
	baz=224,slow=320,SNR=1.1						
ULM	Lac du Bonnet	9.14	41	Pn	Pn	18 08 16.5	-0.2
	1.5nm,0.3s,baz=232,slow=9.9,SNR=14						
ULM				Lg	Lg	18 10 45.9	
	0.3nm,0.3s,baz=120,slow=20,SNR=2.8						
NEW	Newport	9.46	303	Lg	Lg	18 10 54.5	
	0.2nm,0.3s,baz=35,slow=16,SNR=2.4						
NVAR	Mina Array Bea	11.20	246	Pn	Pn	18 08 47.4	+2.3
	baz=52,slow=12,SNR=4.1						
TXAR	Lajitas Array	14.39	175	Pn	P	18 09 35.7	-0.2
	0.0nm,0.3s,baz=344,slow=9.4,SNR=2.7						
TXAR				Pg		18 10 32.4	
	0.1nm,0.3s,baz=13,slow=12,SNR=3.4						
TXAR				Lg	Lg	18 13 42.1	
	0.1nm,0.3s,baz=11,slow=20,SNR=3.4						
TKL	Tuckaleechee C	18.32	109	Lg	Lg	18 15 40.8	
	0.1nm,0.3s,baz=37,slow=20,SNR=2.2						
YKA	Yellowknife Ar	19.61	347	P	P	18 10 33.0	-0.3
	0.1nm,0.3s,baz=164,slow=12,SNR=4.3						
YKA				Lg	Lg	18 16 23.0	
	baz=158,slow=28,SNR=3.7						
ARCES	ARCESS Array B	61.44	18	P	P	18 16 21.2	-0.1
	6.1nm,1.0s,baz=331,slow=5.4,SNR=6.3						
FINES	FINESS Array B	68.05	23	P	P	18 17 04.8	+0.4
	3.9nm,1.1s,baz=328,slow=4.9,SNR=3.9						
GERES	GERESS Array B	73.43	37	P	P	18 17 38.6	+1.0
	0.2nm,0.5s,baz=310,slow=9.7,SNR=2.7						
AKASG	Malin Array Be	77.97	28	P	P	18 18 03.6	+0.2
	0.3nm,0.3s,baz=340,slow=5.1,SNR=2.9						
ZALV	Zalesovo Beam	82.35	354	P	P	18 18 25.6	-1.3
	0.8nm,0.6s,baz=352,slow=6.9,SNR=4.1						
SONM	Songino Array	84.69	339	P	P	18 18 39.2	-0.1
	0.2nm,0.5s,baz=20,slow=5.9,SNR=2.7						
KURK	Kurchatov	85.91	358	P	P	18 18 44.9	-0.3
KURBB	Kurchatov Arra	86.00	358	P	P	18 18 44.9	-0.7
	0.5nm,0.5s,baz=2.8,slow=5.1,SNR=3.8						
MKAR	Makanchi Array	89.64	355	P	P	18 19 03.0	-0.2
	0.3nm,0.6s,baz=16,slow=5.5,SNR=4.9						

*ISCJB **17** 18:09:53.2±0.9, 56˚.15±0˚.1×27˚.4W±0˚.4, h112km, mb3.9/5, Error ellipse: s-maj=37.3km s-min=11.7km az=156.2*
*IDC **17** 18:10:02.4±5.4, 56˚.26S×27˚.39W, h185km±49km, mb3.6/5, mb1 3.7/6, mb1mx3.5/28, mbtmp4.1/6, Error ellipse: s-maj=31.0km s-min=12.5km az=71.0*

ISC 17 18:09:54.3±0.9, 56˚.1S±0˚.1×27˚.3W±0˚.3, h112km, n16, σ1♀57/13, mb3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	16.74	158	P	P	18 13 49.0	+7.0
VNA3	Neumayer Olymp	16.93	160	P	P	18 13 45.7	+1.5
VNA2	Neumayer--Watz	17.14	158	P	Pn	18 13 48.5	+2.0
	baz=314,slow=14						
SNAA	Sanae	18.69	156	P	Pn	18 14 05.0	-0.1
SNAA	Sanae	18.69	156	P	Pn	18 14 05.3	+0.2
	2.3nm,0.3s,baz=292,slow=13,SNR=129						
SNAA				S	S	18 17 26.5	-3.7
	0.0nm,0.3s,baz=189,slow=13,SNR=3.2						
QSPA	South Pole Qui	34.12	180	P	P	18 16 29.4	+1.4
	1.1nm,0.5s,baz=180,slow=4.0,SNR=6.3						
VNDA	Vanda	46.49	183	P	P	18 18 09.0	-0.4
	0.8nm,0.8s,baz=181,slow=7.4,SNR=5.0						
H10S2	ASCENSION HYDR	48.10	17	T	T	19 10 32.3	
	baz=189						
H10S3	ASCENSION HYDR	48.10	17	T	T	19 10 43.2	
	baz=189						
H10S1	ASCENSION HYDR	48.11	17	T	T	19 10 32.4	
	baz=189						
LPAZ	La Paz	50.37	305	P	P	18 18 40.3	-0.3
	0.8nm,0.4s,baz=142,slow=6.6,SNR=6.2						
TORD	Torodi Ar. Bea	73.16	30	P	P	18 21 13.1	+0.6
	2.0nm,0.5s,baz=200,slow=6.6,SNR=21						
ASAR	Alice Springs	98.93	163	P	P	18 23 21.6	-0.3
	0.3nm,0.9s,baz=190,slow=3.9,SNR=4.8						
YKA	Yellowknife Ar	136.19	318	PKP	PKPdf	18 28 59.6	-1.2
	0.2nm,0.5s,baz=128,slow=2.2,SNR=3.8						
ILAR	Eielson Array	150.12	312	PKPbc	PKPbc	18 29 29.5	-0.8
	1.6nm,0.8s,baz=135,slow=1.9,SNR=16						
SONM	Songino Array	150.80	87	PKPbc	PKPbc	18 29 32.6	-0.1
	1.9nm,0.5s,baz=220,slow=3.8,SNR=23						

*IDC **17** 18:12:00.3±6.7, 41˚.83N×147˚.56E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/59, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=216.3km s-min=25.1km az=61.0*
*NIED **17** 18:12:00, 40˚.90N×145˚.10E, h5km, Mw3.8 Best double couple: M≈5.22000×10¹⁴ NP1:φs≈203.00000°, δ26.00000°, λ-155.00000°. NP2:φs≈90.00000°, δ80.00000°, λ-67.00000°.*
*JMA **17** 18:12:10.4±0.2, 40˚.90N×145˚.13E, h70km±3km, M3.6*
*ISCJB **17** 18:12:11.4±0.7, 40˚.89N±0˚.03×144˚.93E±0˚.06, h33km, mb3.5/5, Error ellipse: s-maj=6.5km s-min=4.3km az=17.4*

ISC 17 18:12:13.1±1.1, 40˚.87N±0˚.05×145˚.05E±0˚.07, h35km, n29, σ2♀31/40, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	Erimo	1.83	310	P	Pn	18 12 40.8	-1.2
JEM				*e*S	Sn	18 13 01.5	-2.4
JAK	Akkeshi	2.15	353	P	Pn	18 12 44.6	-1.7
JAK				*e*S	Sn	18 13 08.3	-3.4
JCH	Churui	2.16	325	P	Pn	18 12 45.2	-1.3
JCH				*e*S	Sn	18 13 09.4	-2.6
JNBK	Urakawa-nobuka	2.23	310	P	Pn	18 12 47.0	-0.5
JNBK				*e*S	Sn	18 13 12.4	-1.4
JOB	Onbets	2.23	336	*e*S	Sn	18 13 12.8	-1.0
NEM2	Nemuro 2	2.55	11	P	Pn	18 12 49.8	-2.1
NEM2				*e*S	Sn	18 13 17.7	-4.0
JAR	Ashorobuto	2.61	339	P	Pn	18 12 50.9	-1.8
JAR				*e*S	Sn	18 13 20.7	-2.5
JNK	Nakash	2.73	355	P	Pn	18 12 52.0	-2.4
JNK				*e*S	Sn	18 13 21.9	-4.2
JANG	Nango	2.74	261	P	Pn	18 12 52.6	-1.9
JANG				*e*S	Sn	18 13 22.5	-3.8
JBT2	Biratori 2	2.77	314	P	Pn	18 12 54.6	-0.4
JBT2				*e*S	Sn	18 13 26.7	-0.5
JFR	Furan	2.94	322	P	Pn	18 12 56.1	-1.1
JFR				*e*S	Sn	18 13 28.3	-3.0
JOT	Ohata	3.07	281	P	Pn	18 12 57.7	-1.3
JOT				*e*S	Sn	18 13 30.7	-3.7
JKB	Kayabe	3.19	290	P	Pn	18 12 59.2	-1.5
JKB				*e*S	Sn	18 13 34.1	-3.4
JOM	Ohasama	3.20	245	P	Pn	18 12 59.7	-1.1
JOM				*e*S	Sn	18 13 34.6	-3.1
JTKR	Abashiri--Toko	3.22	345	P	Pn	18 13 00.4	-0.6
JTKR				*e*S	Sn	18 13 36.5	-1.6
JEW	Eniwo	3.33	307	P	Pn	18 13 02.6	-0.1
JEW				*e*S	Sn	18 13 39.9	-1.2
JMK	Ichinoseki	3.51	238	P	Pn	18 13 03.8	-1.3
JMK				*e*S	Sn	18 13 41.8	-3.6
ASAJ	Asahikawa	3.72	332	Pn	Pn	18 13 07.7	-0.3
	1.0nm,0.3s,baz=180,slow=12,SNR=3.8						
ASAJ				Sn	Sn	18 13 52.5	+1.9
	2.1nm,0.3s,baz=225,slow=20,SNR=3.2						
H11N2	WAKE ISLAND Hy	28.13	132	T	T	18 47 30.8	
	baz=324,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	28.14	132	T	T	18 47 31.8	
	baz=324,slow=76,SNR=11						
H11N3	WAKE ISLAND Hy	28.15	132	T	T	18 47 33.1	
	baz=324,slow=76,SNR=9.0						
SONM	Songino Array	28.28	297	P	P	18 18 06.7	+3.6
	0.3nm,0.5s,baz=72,slow=8.1,SNR=3.0						
H11S1	WAKE ISLAND Hy	29.01	134	T	T	18 48 39.3	
	baz=325,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	29.01	134	T	T	18 48 39.7	
	baz=325,slow=76,SNR=7.0						
H11S2	WAKE ISLAND Hy	29.02	134	T	T	18 48 38.3	
	baz=325,slow=76,SNR=7.6						
MKAR	Makanchi Array	44.59	300	P	P	18 20 22.4	+0.7
	0.3nm,0.7s,baz=82,slow=11,SNR=3.1						
KURBB	Kurchatov Arra	45.98	306	P	P	18 20 33.0	+0.5
	0.9nm,0.6s,baz=76,slow=9.1,SNR=4.5						
WRA	Warramunga Arr	61.31	191	P	P	18 22 26.7	+1.7
	1.0nm,1.1s,baz=8.0,slow=6.3,SNR=3.7						
ASAR	Alice Springs	65.03	191	P	P	18 22 51.1	+1.4
	0.3nm,0.8s,baz=10,slow=6.3,SNR=2.0						

NNC 17 18:41:52.5±6.7, 36˚.89N×72˚.20E, h0km, mb3.5, mpv3.1, 5C-5D, Error ellipse: s-maj=59.8km s-min=46.3km az=110.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	Sufi-Kurgan	3.29	18	⇓Pn	Pn	18 42 45.4	-0.1
	6.1nm,0.6s						
SFK				⇑Sn	Sb	18 43 29.0	-3.5
	21nm,0.9s						
MNAS	Manas	5.60	2	⇓Pn	Pn	18 43 16.3	-0.8
	3.9nm,1.4s						
MNAS				⇓Sn	Sn	18 44 21.2	-1.0
	3.2nm,1.4s						
MNAS				⇑Lg	Lg	18 44 50.0	
	4.1nm,1.2s						
AAK	Ala-Archa	6.01	16	⇑Pn	Pn	18 43 22.9	+0.1
	2.1nm,0.8s						
AAK				⇑Sn	Sn	18 44 30.0	-2.4
	3.2nm,1.0s						
KK31	Karatay Array	6.34	349	⇓Pn	Pn	18 43 27.5	+0.2
	0.4nm,0.3s,baz=157,slow=13,SNR=6.6						
KK31				⇓Sn	Sn	18 44 40.8	+0.4
	1.5nm,0.7s,baz=163,slow=22						
KK31				⇑Lg	Lg	18 45 17.9	
	1.7nm,0.8s						

TRN 17 18:43:49.0, 14˚.30N×59˚.52W, h18km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBGH	Gun Hill	1.15	182	*e*P	Pg	18 44 11.5	+0.2
BBGH				*e*S	Sg	18 44 29.0	+2.7
BBSP	Saint Philip	1.19	177	*e*S	Sg	18 44 28.0	+0.4
MVM	Montagne Vaucl	1.35	281	*e*P	Pb	18 44 14.1	+0.2
LPMF	Morne Lapointe	1.43	281	*e*P	Pb	18 44 14.9	-0.1
MCLT	Moule a Chique	1.50	247	*e*P	Pn	18 44 15.4	+0.5
MCLT				*e*S	Sb	18 44 35.4	+0.4
TRMF	Trois Ilets	1.50	279	*e*P	Pb	18 44 16.3	0.0
SLB	Belfond	1.55	252	*e*P	Pb	18 44 16.5	-0.7
FDF	Fort de France	1.64	285	*e*P	Pb	18 44 18.0	-0.7
FDF				*e*S	Sb	18 44 40.0	+1.1
CXM	Morne La Croix	1.67	288	*e*P	Pb	18 44 19.5	+0.2
CXM				*e*S	Sb	18 44 40.9	+0.7
PCM	Pelee Case Pet	1.71	288	*e*P	Pb	18 44 19.4	-0.6
SVCV	St. Vincent, C	1.88	237	*e*P	Pb	18 44 21.6	-1.2
SVCV				*e*S	Sn	18 44 44.5	+0.9
SSV	Crater Summit	1.89	239	*e*S	Sb	18 44 45.7	-0.6
SVV	Soufriere Volc	1.92	240	*e*P	Pn	18 44 21.8	+1.1
SVV				*e*S	Sb	18 44 47.0	+0.1
SVB	Belmont	1.97	239	*e*P	Pb	18 44 23.0	-1.3
SVB				*e*S	Sb	18 44 47.2	-1.3
MGG	Marie-Galante	2.37	313	*e*P	Pn	18 44 27.9	+1.0
MGG				*e*S	Sb	18 44 57.8	-2.1
DEG	La Desirade	2.49	324	*e*P	Pn	18 44 30.9	+2.2
DEG				*e*S	Sn	18 44 59.5	+0.8

*ISK **17** 19:04:20.4, 41˚.74N×44˚.07E, h5km, ML3.2/5*
*NSSP **17** 19:04:20.9, 41˚.62N×44˚.07E, h10km, Ms3.4*
*TIF **17** 19:04:20.9, 41˚.68N×44˚.12E, h11km±2km*
*DDA **17** 19:04:21.3, 41˚.60N×44˚.13E, h15km, Ml3.4*
*CSEM **17** 19:04:21.9±0.2, 41˚.62N×44˚.09E, h2km, ML3.3, Error ellipse: s-maj=3.7km s-min=3.0km az=102.0*
*MOS **17** 19:04:22.5±1.4, 41˚.58N×44˚.01E, h15km, mb4.2/1, Error ellipse: s-maj=9.2km s-min=4.8km az=79.3*

ISC 17 19:04:21.4±1.1, 41˚.63N±0˚.01×44˚.08E±0˚.02, h4km±9km, n102, σ1♀17/159, 19C-13D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZR	Kazreti	0.35	134	P	Pg	19 04 28.7	+0.5
KZR				S	Sb	19 04 34.1	-2.0
KZR	Kazreti	0.35	134	P	Pg	19 04 28.7	+0.5
KZR				S	Sb	19 04 34.2	-2.0
AKH	Akhalkalaki	0.49	244	PG	Pb	19 04 31.6	-1.1
AKH				SG	Sb	19 04 39.1	-1.3
AKH	Akhalkalaki	0.49	244	P	Pb	19 04 31.8	-1.0
AKH				S	Sb	19 04 39.1	-1.3
AKH	Akhalkalaki	0.49	244	⇑*i*PG	Pb	19 04 31.7	-1.0
AKH				*e*S	Sb	19 04 39.0	-1.3
AKH	Akhalkalaki	0.49	244	*i* Pg	Pb	19 04 31.7	-1.0
AKH				*e*Sg	Sb	19 04 39.0	-1.3
TBLG	Delisi	0.50	78	PG	Pg	19 04 30.6	-0.5
TBLG				SG	Sg	19 04 37.8	+0.2
TBLG	Delisi	0.50	78	P	Pg	19 04 30.6	-0.5
TBLG				S	Sg	19 04 37.8	+0.2
TBLG	Delisi	0.50	78	⇑*i*PG	Pg	19 04 30.5	-0.5
TBLG	Delisi	0.50	78	P	Pg	19 04 30.5	-0.5
TBLG				S	Sg	19 04 37.8	+0.2
BTNK	Botanikuri	0.54	84	P	Pg	19 04 31.3	-0.5
BTNK	Botanikuri	0.54	84	P	Pg	19 04 31.3	-0.5
BTNK				S	Sg	19 04 39.5	+0.7
SEAG	Tbilisi Sea	0.56	76	P	Pg	19 04 32.2	+0.1
SEAG				S	Sb	19 04 41.3	-0.9
SEAG	Tbilisi Sea	0.56	76	P	Pg	19 04 32.2	+0.1
SEAG				S	Sg	19 04 40.1	+0.7
STE	Stepanavan	0.67	161	⇓P	Pg	19 04 33.6	-0.5
STE				S	Sg	19 04 43.0	+0.3
STEZ	Stepenevan	0.67	159	⇓*i*P	Pg	19 04 33.6	-0.7
STEZ				⇓*i*S	Sg	19 04 43.0	0.0
GUDG	Gudauri	0.89	19	P	Pg	19 04 37.6	-0.8
GUDG				S	Sg	19 04 49.4	-0.5
GUDG	Gudauri	0.89	19	P	Pg	19 04 37.6	-0.8
GUDG				S	Sg	19 04 49.4	-0.5
DGRG	David-gareji	0.99	100	PG	Pg	19 04 39.0	-1.3
DGRG	David-gareji	0.99	100	P	Pg	19 04 39.0	-1.3
EAK	Akyaka	1.01	201	*i* P	Pg	19 04 40.1	-0.6
EAK				*i* S	Sb	19 04 54.7	-0.4
EAK	Akyaka	1.01	201	P	Pg	19 04 40.1	-0.6
EAK				S	Sb	19 04 54.7	-0.4
EPOS	Posof	1.02	263	*i* P	Pg	19 04 40.0	-1.0
EPOS				*i* S	Sn	19 04 57.9	+0.4
EPOS	Posof	1.02	263	P	Pg	19 04 40.0	-1.0
EPOS				S	Sn	19 04 57.9	+0.4
ONI	Oni	1.07	334	P	Pb	19 04 40.8	-1.7
ONI				S	Sg	19 04 56.0	+0.3
ONI	Oni	1.07	334	*e*PG	Pb	19 04 40.7	-1.7
ONI				*e*S	Sg	19 04 56.0	+0.3
ONI	Oni	1.07	334	P	Pb	19 04 40.8	-1.7
ONI				S	Sg	19 04 56.0	+0.3
QZX	Qazax, Azerbai	1.13	120	⇑P	Pb	19 04 42.2	-1.3
	SNR=120						
QZX				⇑S	Sg	19 04 57.8	+0.2
ZEI	Tsey	1.17	354	⇑*i*PG	Pb	19 04 42.9	-1.3
ZEI				*e*S	Sg	19 04 59.2	+0.3
LACR	Lac	1.21	8	⇓*i*PG	Pn	19 04 43.6	-1.6
LACR				*e*S	Sb	19 05 00.2	-0.8
LACR	Lac	1.21	8	*i* Pg	Pn	19 04 43.6	-1.6
LACR				*e*Sg	Sb	19 05 00.2	-0.8
KARS	Kars	1.25	217	PN	Pg	19 04 46.0	+0.6
KARS	Kars	1.25	217	PG	Pg	19 04 45.9	+0.6
KARS	Kars	1.25	217	Pg	Pg	19 04 45.9	+0.6
DIGR	Digorskoe uzhe	1.32	344	*e*PG	Pn	19 04 45.8	-1.1
DIGR				*e*S	Sg	19 05 04.8	+0.9
DIGR	Digorskoe uzhe	1.32	344	*e*Pg	Pn	19 04 45.8	-1.1
DIGR				*e*Sg	Sg	19 05 04.8	+0.9
DIGO	Kars	1.32	204	*i* P	Pn	19 04 46.0	-0.9
DIGO				*i* S	Sg	19 05 04.4	+0.5
DIGO	Kars	1.32	204	P	Pn	19 04 46.0	-0.9
DIGO				S	Sg	19 05 04.4	+0.5
KORR	Kora	1.46	360	*e*PG	Pb	19 04 48.6	-0.5
KORR				*e*S	Sg	19 05 09.2	+1.0
KORR	Kora	1.46	360	*e*Pg	Pb	19 04 48.6	-0.5
KORR				*e*Sg	Sg	19 05 09.2	+1.0
VLKR	Vladikavkaz	1.48	17	*e*PG	Pg	19 04 49.8	0.0
VLKR				*e*S	Sg	19 05 11.3	+2.2
VLKR	Vladikavkaz	1.48	17	*e*Pg	Pg	19 04 49.8	0.0
VLKR				*e*Sg	Sg	19 05 11.3	+2.2
KMGR	Komgaron	1.54	22	⇑*i*PG	Pg	19 04 50.6	-0.3
KMGR				*e*S	Sg	19 05 13.1	+2.2
KMGR	Komgaron	1.54	22	*i* Pg	Pg	19 04 50.6	-0.3
KMGR				*e*Sg	Sg	19 05 13.1	+2.2
GDB	GEDABAY	1.56	125	⇑P	Pn	19 04 49.1	-0.9
	SNR=18						
GDB				⇓S	Sb	19 05 09.4	-1.5
ARNR	Ardon	1.56	6	*e*PG	Pg	19 04 51.5	+0.3
ARNR				*e*S	Sg	19 05 13.2	+1.8
ARNR	Ardon	1.56	6	*e*Pg	Pg	19 04 51.5	+0.3
ARNR				*e*Sg	Sg	19 05 13.2	+1.8
GNI	Garni	1.56	161	⇓*i*P	Pg	19 04 50.9	-0.4
GNI				⇑*i*S	Sg	19 05 13.0	+1.5
GNI	Garni	1.56	161	*d i*PG	Pg	19 04 50.7	-0.6
GNI	Garni	1.56	161	⇓P	Pg	19 04 50.9	-0.4
GNI				S	Sg	19 05 13.0	+1.5
TASB	TASBURUN-IGDIR	1.65	176	PN	Pg	19 04 52.4	-0.5
TASB	TASBURUN-IGDIR	1.65	176	*e*Pn	Pg	19 04 52.4	-0.5
LSNR	Lesken	1.66	354	⇓*i*PN	Pb	19 04 52.4	-0.1
LSNR				*e*S	Sg	19 05 15.7	+1.0
LSNR	Lesken	1.66	354	*i* Pn	Pb	19 04 52.4	-0.1
LSNR				*e*Sg	Sg	19 05 15.7	+1.0
ARTV	Artvin	1.68	255	*i* P	Pn	19 04 51.4	-0.3
ARTV	Artvin	1.68	255	P	Pn	19 04 51.4	-0.3
SENK	Senkaya-Erzuru	1.69	231	PN	Pb	19 04 52.2	-0.9
SENK	Senkaya-Erzuru	1.69	231	*e*Pn	Pb	19 04 52.2	-0.9
STDR	Stavd-Durt	1.74	360	*e*PN	Pg	19 04 54.9	+0.2
STDR				*e*S	Sg	19 05 20.0	+2.7
STDR	Stavd-Durt	1.74	360	*e*Pn	Pg	19 04 54.9	+0.2
STDR				*e*Sg	Sg	19 05 20.0	+2.7
IGDI	IGDIR	1.76	180	*i* P	Pb	19 04 53.9	-0.4
BTKR	Batakoyurt	1.78	11	⇓*i*PN	Pg	19 04 55.6	+0.2
BTKR				*e*S	Sg	19 05 21.0	+2.6
BTKR	Batakoyurt	1.78	11	*i* Pn	Pg	19 04 55.6	+0.2
BTKR				*e*Sg	Sg	19 05 21.0	+2.6
DBAD	Bademkaya	1.90	252	*i* P	Pb	19 04 56.4	-0.2
DBAD	Bademkaya	1.90	252	P	Pb	19 04 56.4	-0.2
BTLR	Botlikh	1.90	56	*e*PN	Pb	19 04 55.5	-1.2
BTLR	Botlikh	1.90	56	*e*Pn	Pb	19 04 55.5	-1.2
NCK	Nalchik	1.90	349	*de*PN	Pb	19 04 57.0	+0.4
NCK	Nalchik	1.90	349	*e*Pn	Pb	19 04 57.0	+0.4
DDEM	Demirkent	1.90	248	*i* P	Pb	19 04 56.6	-0.1
DDEM	Demirkent	1.90	248	P	Pb	19 04 56.6	-0.1
NEY	Neytrino	1.91	329	*e*PN	Pg	19 04 57.8	-0.1
NEY				pmax	pmax		
	comp=Z,86nm,0.5s						
NEY	Neytrino	1.91	329	*e*Pn	Pg	19 04 57.8	-0.1
	comp=Z,86nm,0.5s						
VADZ	Vardenis	1.93	138	*e*P	Pg	19 05 01.0	+2.7
VADZ				*e*S	Sg	19 05 28.0	+4.8
GANJ	Ganja	1.96	119	⇑P	Pn	19 04 55.4	0.0
	SNR=10						
GANJ				⇓S	Sb	19 05 20.9	-1.5
DVE	Vedeno	2.02	48	*e*PN	Pb	19 04 58.0	-0.7
DVE				*e*S	Sg	19 05 25.2	-1.0
DVE	Vedeno	2.02	48	*e*Pn	Pb	19 04 58.0

IDC ***17*** *19:05:07.5±1.7, 1.38N×126.57E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/49, mbtmp3.5/4, Error ellipse: s-maj=162.9km s-min=21.7km az=66.0*
DJA ***17*** *19:05:21.8±2.2, 2.5°×12.7°E±°, h12km±21km, M3.8/6, MLv3.8/6*
ISC 17 19:05:09.3±1.5, 1.5N±0.1×126.4E±0.1, h10km, n11, σ1§34/8, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.35**	**152**	P		Pg	19 05 59.6	+5.2
SGSI	**Sangihe**	**2.38**	**338**	P		Pg	19 06 02.2	+7.1
KMSI	**Cibinong**	**2.58**	**250**	P		Pg	19 06 07.6	+8.9
SANI	**Sanana**	**3.50**	**187**	P		**Pg**	**19 06 17.9**	**+1.4**
LUWI	**Luwuk**	**4.40**	**236**	P		**Pg**	**19 06 34.1**	**+0.5**
NLAI	**Namlea**	**4.71**	**172**	P		**Pb**	**19 06 32.0**	**-0.1**
APSI	**Ampana**	**5.30**	**244**	P		**Pn**	**19 06 28.0**	**-0.6**
WRA	**Warramunga Arr** 1.0nm,0.4s,baz=340,slow=10,SNR=20	**22.64**	**160**	P		**P**	**19 10 09.4**	**-1.3**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=342,slow=7.7,SNR=6.6	**26.01**	**164**	P		**P**	**19 10 41.0**	**-1.7**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=121,slow=7.6,SNR=8.5	**59.24**	**326**	P		**P**	**19 15 12.2**	**+1.3**
KURBB	**Kurchatov Arra** 0.4nm,0.9s,baz=132,slow=5.2,SNR=3.3	**63.48**	**328**	P		**P**	**19 15 39.8**	**+0.3**

IDC ***17*** *19:10:19.6±0.7, 3.07S×130.66E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/50, mbtmp4.1/15, MS3.8/9, Ms1 3.9/9, ms1mx3.4/49, Error ellipse: s-maj=32.1km s-min=14.7km az=71.0*
ISCJB ***17*** *19:10:21.5±0.2, 3.26S±0.03×130.58E±0.04, h33km, mb4.4/34, MS3.9/11, Error ellipse: s-maj=5.1km s-min=3.7km az=168.1*
NEIC ***17*** *19:10:21.5±3.0, 3.23S×130.55E, h18km±19km, mb4.6/26, Error ellipse: s-maj=8.7km s-min=5.5km az=55.0*
DJA ***17*** *19:10:24.1±0.2, 3°S±2°×13°0E±°, h10km, M4.8/9, mB5.3/1, mb4.8/9, MLv4.8/8, Mw(mB)4.7/1*
BJI ***17*** *19:10:26.9, 2.84S×130.47E, h42km, mb4.6/21, mB5.0/11, Ms4.4/5, Ms7 4.2/4*
ISC 17 19:10:23.2±0.4, 3.26S±0.04×130.67E±0.05, h35km, n103, σ2§36/103, mb4.4/34, MS4.0/12, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.47**	**211**	P		**Pn**	**19 10 49.3**	**+2.1**
BNDI				S		**Sn**	**19 11 14.1**	**+8.8**
FAKI	**Fak Fak**	**1.61**	**78**	P		Pn	19 10 54.1	+5.0
FAKI				S		Sn	19 11 20.1	+11
FAKI	**Fak Fak**	**1.61**	**78**	*e*Pn		Pn	19 10 53.7	+4.5
FAKI				*e*Sn		**Sn**	**19 11 07.3**	**-1.4**
MSAI	**Masohi**	**1.74**	**267**	P		**Pn**	**19 10 50.1**	**-0.9**
MSAI				S		**Sn**	**19 11 13.7**	**+1.7**
SWI	**Sorong**	**2.45**	**14**	P		Pn	19 11 01.9	+1.2
SWI				S		**Sn**	**19 11 31.5**	**+2.0**
AAI	**Ambon**	**2.51**	**260**	P		**Pn**	**19 11 01.4**	**-0.1**
KMPI	**Kaimana, Papua**	**3.05**	**98**	P		Pn	19 11 14.5	+5.5
NLAI	**Namlea**	**3.57**	**270**	P		**Pn**	**19 11 15.7**	**-0.4**
RKPI	**Ransiki, Papua**	**3.91**	**64**	P		Pn	19 11 26.1	+5.3
LBMI	**Labuha**	**4.10**	**309**	P		**Pn**	**19 11 21.4**	**-2.1**
SAUI	**Saumlaki**	**4.73**	**172**	P		Pn	19 11 39.6	+7.5
SAUI	**Saumlaki**	**4.73**	**172**	*e*Pn		**Pn**	**19 11 31.6**	**-0.6**
SAUI				*e*Sn		**Sn**	**19 12 26.7**	**+0.8**
SANI	**Sanana**	**4.83**	**284**	P		**Pn**	**19 11 30.1**	**-3.4**
TNTI	**Ternate**	**5.19**	**320**	*e*Pn		**Pn**	**19 11 36.5**	**-1.9**
KMSI	**Cibinong** 84nm,0.6s	**7.70**	**300**	P		**Pn**	**19 12 11.5**	**-1.4**
LUWI	**Luwuk**	**8.20**	**285**	P		**Pn**	**19 12 20.5**	**+0.8**
LUWI	**Luwuk**	**8.20**	**285**	*e*Pn		**Pn**	**19 12 15.9**	**-3.9**
LUWI				*e*Sn		**Sn**	**19 13 43.0**	**-8.2**
SOEI	**Soe**	**9.06**	**224**	P		**Pn**	**19 12 34.3**	**+2.6**
SOEI	**Soe**	**9.06**	**224**	*e*Pn		**Pn**	**19 12 30.8**	**-1.0**
APSI	**Ampana** 153nm,0.8s,1μm	**9.31**	**284**	P		**Pn**	**19 12 32.6**	**-2.5**
MRSI	**Marisa** 24nm,1.0s	**9.48**	**293**	P		**Pn**	**19 12 36.1**	**-1.3**
GENI	**Genyem**	**9.51**	**86**	P		Pn	19 12 45.4	+7.7
MTN	**Manton Dam**	**9.53**	**177**	*e*Pn		**Pn**	**19 12 38.9**	**+0.8**
MTN				*e*Sn		**Sn**	**19 14 22.7**	**-1.4**
EDFI	**Ende, Flores** 36nm,0.9s	**10.46**	**238**	P		**Pn**	**19 12 53.1**	**+2.1**
BNSI	**Bone** 28nm,1.1s	**10.60**	**264**	P		**Pn**	**19 12 52.9**	**+0.1**
MPSI	**Mapaga**	**11.35**	**288**	P		**Pn**	**19 13 01.8**	**-1.1**
MYLDM	**Lahad Datu**	**14.77**	**305**	*e*Pn		**Pn**	**19 13 49.5**	**-0.2**
FITZ	**Fitzroy Crossi** baz=7.4,slow=12	**15.55**	**198**	Pn		**Pn**	**19 14 03.1**	**+3.1**
FITZ				Sn		**Sn**	**19 16 50.9**	**-0.3**
	0.2nm,0.3s,baz=114,slow=19,SNR=2.4							
FITZ	**Fitzroy Crossi**	**15.55**	**198**	*e*Pn		**Pn**	**19 14 02.1**	**+2.1**
FITZ				Sn		**Sn**	**19 16 50.9**	**-0.3**
COEN	**Coen** 42nm,1.0s	**16.29**	**131**	*e*Pn		**P**	**19 14 12.3**	**+0.1**
WRAB	**Tennant Creek** 21nm,1.0s	**16.96**	**168**	*e*Pn		**Pn**	**19 14 18.9**	**+1.0**
WR1	**Warramunga Arr** 133nm,2.0s	**16.96**	**168**	*e*Pn		**Pn**	**19 14 16.4**	**-1.5**
WR1				*e*Sn		**Sn**	**19 17 17.7**	**-7.9**
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=343,slow=13,SNR=29	**16.96**	**168**	P		**Pn**	**19 14 16.4**	**-1.5**
WRA				S		**Sn**	**19 17 17.7**	**-7.9**
	0.5nm,0.3s,baz=349,slow=20,SNR=4.7							
WC3	**Warramunga Arr** 19nm,0.9s	**16.99**	**168**	*e*Pn		**Pn**	**19 14 14.8**	**-3.5**
KKM	**Kota Kinabalu** 250nm,1.7s	**17.14**	**303**	*e*Pn		**Pn**	**19 14 18.8**	**-1.6**
PMG	**Port Moresby** comp=Z,650nm,18.8s,baz=294,slow=46	**17.48**	**111**	LR		LR	19 23 47.6	
SBUM	**Sibu** 34nm,1.7s	**19.30**	**287**	*e*P		**Pn**	**19 14 45.7**	**-0.8**
AS31	**Alice Springs** 9.8nm,0.6s	**20.53**	**172**	*e*P		**P**	**19 15 00.3**	**+1.6**
AS31				*e*S		**S**	**19 18 39.1**	**-7.5**
ASAR	**Alice Springs** 20nm,0.6s,baz=350,slow=11,SNR=165	**20.53**	**172**	P		**P**	**19 15 00.3**	**+1.7**
ASAR				S		**S**	**19 18 47.6**	**+1.0**
	5.5nm,0.9s,baz=354,slow=24,SNR=8.6							
ASAR				LR		LR	19 24 08.0	
	comp=Z,332nm,21.1s,baz=354,slow=40							
AS01	**Alice Springs**	**20.53**	**171**	*e*P		**P**	**19 15 00.4**	**+1.6**
MBWA	**Marble Bar** 133nm,1.6s	**20.73**	**210**	*e*P		**P**	**19 14 58.3**	**-2.6**
KSM	**Kuching** 14nm,0.8s	**20.89**	**283**	*e*P		**P**	**19 15 01.6**	**-1.1**
RABL	**Rabaul** 29nm,0.8s	**21.46**	**93**	*e*P		**P**	**19 15 10.1**	**+1.2**
CTA	**Charters Tower** 4.3nm,0.6s,baz=322,slow=11,SNR=5.9	**22.60**	**139**	P		**P**	**19 15 25.2**	**+4.2**
CTAO	**Charters Tower** 25nm,1.2s	**22.60**	**139**	*e*P		**P**	**19 15 25.7**	**+4.7**
LEM	**Lembang** comp=Z,1μm,21.8s,baz=99,slow=40	**23.23**	**260**	LR		LR	19 25 43.6	
STKA	**Stephens Creek** 1.4nm,0.3s,baz=334,slow=12,SNR=2.9	**30.27**	**161**	P		**P**	**19 16 33.5**	**+2.5**
STKA				LR		LR	19 30 05.9	
	comp=Z,425nm,19.5s,baz=336,slow=39							
NWAO	**Narrogin (SRO)** comp=Z,139nm,18.1s,baz=308,slow=37	**32.09**	**202**	LR		LR	19 30 17.3	
NJ2	**Nanjing**	**36.87**	**343**	*e*P		**P**	**19 17 29.8**	**+1.4**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
WHN	**Wuhan**	**37.05**	**336**	*e*P		**P**	**19 17 31.6**	**+1.6**
WHN				LR		LR		
	comp=Z,490nm,21.0s							
CM01	**Chiang Mai Arr**	**37.95**	**306**	*e*P		**P**	**19 17 38.9**	**+1.2**
CM31	**Chiang Mai Arr**	**37.98**	**306**	*e*P		**P**	**19 17 38.3**	**+0.2**
CMAR	**Chiang Mai Arr** 0.9nm,0.9s,baz=128,slow=7.0,SNR=7.9	**37.98**	**306**	P		**P**	**19 17 38.9**	**+0.9**
CMAR				LR		LR	19 34 40.2	
	comp=Z,89nm,21.2s,baz=136,slow=39							
CHTO	**Chiang Mai** 4.3nm,1.0s	**38.16**	**306**	*e*P		**P**	**19 17 39.3**	**-0.3**
DZM	**Mont Dzumac** 33nm,1.6s	**39.42**	**121**	*e*P		**P**	**19 17 51.3**	**+1.1**
MJAR	**Matsushiro Arr** 1.7nm,0.7s,baz=191,slow=9.7,SNR=8.4	**40.22**	**9**	P		**P**	**19 17 56.0**	**-0.4**
MAJO	**Matsushiro** 38nm,1.6s	**40.22**	**9**	*e*P		**P**	**19 17 55.8**	**-0.7**
MJB9	**Matsu-Tunnel** 42nm,1.7s	**40.22**	**9**	*e*P		**P**	**19 17 56.2**	**-0.4**
KS15	**Wonju Array Si**	**40.58**	**357**	*e*P		**P**	**19 17 59.1**	**-0.3**
KSAR	**Wonju Array Be**	**40.58**	**357**	P		**P**	**19 18 00.0**	**+0.6**
KSRS	**Korea Array** 2.0nm,0.6s,baz=174,slow=9.4,SNR=16	**40.59**	**357**	P		**P**	**19 18 00.0**	**+0.5**
KS01	**Wonju Array Si**	**40.61**	**357**	*e*P		**P**	**19 17 58.8**	**-0.9**
XAN	**Xi'an**	**42.39**	**333**	P		P	19 18 19.6	+5.2
XAN				pP		sP	19 18 27.4	-1.5
XAN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
CD2	**Chengdu**	**42.58**	**325**	*e*P		**P**	**19 18 16.0**	**-0.1**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BJI	**Beijing**	**45.10**	**344**	⇓*e*P		**P**	**19 18 34.8**	**-1.2**
BJI				pP		**sP**	**19 18 50.9**	**+0.3**
BJI				pmax		pmax		
	comp=Z,9.0nm,2.9s							
LZH	**Lanzhou**	**46.48**	**330**	*e*P		P	19 18 52.6	+5.3
LZH				sP		sP	19 19 10.4	+8.5
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
LZH				pmax		pmax		
	comp=Z,59nm,4.6s							
LZH				LR		LR		
	comp=N,130nm,13.8s							
LZH				LR		LR		
	comp=E,100nm,11.8s							
LZH				LR		LR		
	comp=Z,170nm,15.0s							
HHC	**Hu-ho-hao-te**	**47.25**	**340**	*e*P		P	19 18 55.9	+2.8
HHC				pmax		pmax		
	comp=Z,12nm,0.7s							
HHC				pmax		pmax		
	comp=Z,150nm,8.6s							
MSVF	**Nonsavu** 17nm,1.3s	**48.59**	**111**	*e*P		**P**	**19 19 03.1**	**-0.7**
LSA	**Lhasa** 2.7nm,1.0s	**50.04**	**314**	*e*P		**P**	**19 19 12.9**	**-2.3**
GTA	**Gaotai**	**51.08**	**329**	*e*P		P	19 19 33.1	+11
GTA				pP		sP	19 19 39.3	+2.2
GTA				sP		pP	19 19 42.1	+9.1
ULN	**Ulaanbaatar** 7.4nm,1.5s	**54.96**	**341**	*e*P		**P**	**19 19 51.2**	**+0.3**
SONA0	**Songino Array**	**55.15**	**340**	*e*P		**P**	**19 19 52.9**	**+0.6**
SONM	**Songino Array** 0.9nm,0.7s,baz=140,slow=7.5,SNR=6.4	**55.15**	**340**	P		**P**	**19 19 52.9**	**+0.6**
SONA1	**Songino Array**	**55.16**	**340**	*e*P		**P**	**19 19 51.9**	**-0.5**
AFI	**Afiamalu** comp=Z,51nm,20.1s,baz=278,slow=36	**57.74**	**104**	LR		LR	19 44 40.0	
PETK	**Petropavlovsk-** 2.7nm,0.8s,baz=192,slow=1.9,SNR=4.7	**60.59**	**18**	P		**P**	**19 20 30.6**	**+0.5**
PETK				LR		LR	19 46 35.2	
	comp=Z,20nm,20.4s,baz=207,slow=36							
PETK	**Petropavlovsk-**	**60.59**	**18**	*e*P		**P**	**19 20 31.9**	**+1.8**
PEA1	**Petropavlovsk-**	**60.59**	**18**	*e*P		**P**	**19 20 30.6**	**+0.4**
WMQ	**Urumqi**	**60.68**	**326**	P		**P**	**19 20 33.4**	**+2.3**
WMQ				LR		LR		
	comp=N,160nm,27.7s							
WMQ				LR		LR		
	comp=E,220nm,27.7s							
WMQ				LR		LR		
	comp=Z,190nm,24.7s							
YAK	**Yakutsk** 18nm,0.6s	**65.11**	**359**	*e*P		**P**	**19 21 01.3**	**+1.2**
MK01	**Makanchi Array**	**65.49**	**326**	*e*P		**P**	**19 21 03.1**	**+0.2**
MK31	**Makanchi Array**	**65.51**	**326**	*e*P		**P**	**19 21 03.1**	**+0.1**
MK32	**Makanchi Array**	**65.51**	**326**	*e*P		**P**	**19 21 03.8**	**+0.7**
MKAR	**Makanchi Array** 1.6nm,0.5s,baz=122,slow=8.2,SNR=26	**65.51**	**326**	P		**P**	**19 21 03.8**	**+0.7**
MKAR				LR		LR	19 51 12.1	
	comp=Z,61nm,19.9s,baz=92,slow=38							
MKAR	**Makanchi Array** 12nm,0.6s	**65.51**	**326**	*e*P		**P**	**19 21 03.4**	**+0.3**
MAKZ	**Makanchi** 7.4nm,1.4s	**65.69**	**326**	*e*P		**P**	**19 21 04.6**	**+0.3**
KSH	**Kashi**	**65.77**	**316**	*e*P		**P**	**19 21 07.8**	**+2.8**
KSH				S		**S**	**19 29 48.3**	**-1.0**
KSH				pmax		pmax		
	comp=Z,100nm,6.2s							
KSH				LR		LR		
	comp=N,170nm,8.1s							
KSH				LR		LR		
	comp=E,150nm,13.2s							
KSH				LR		LR		
	comp=Z,100nm,8.1s							
KDJ	**Kajisay** 2.0nm,0.8s	**66.17**	**319**	*e*P		**P**	**19 21 08.7**	**+1.1**
ZAA0	**Zalesovo Array** 13nm,1.9s	**68.56**	**333**	*e*P		**P**	**19 21 21.9**	**-0.3**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=120,slow=7.7,SNR=5.1	**68.56**	**333**	P		**P**	**19 21 22.4**	**+0.1**
ZALV	**Zalesovo Beam**	**68.56**	**333**	*e*P		**P**	**19 21 22.1**	**-0.2**
ZAA1	**Zalesovo Array**	**68.56**	**333**	*e*P		**P**	**19 21 22.4**	**+0.1**
KURBB	**Kurchatov Arra** 2.1nm,0.7s,baz=126,slow=5.8,SNR=30	**69.71**	**328**	P		**P**	**19 21 30.2**	**+0.7**
KURK	**Kurchatov** 6.1nm,0.8s	**69.71**	**328**	*e*P		**P**	**19 21 29.8**	**+0.3**
KKAR	**Karatay Array**	**71.01**	**318**	*e*P		**P**	**19 21 37.2**	**-0.4**
TIXI	**Tiksi** 2.2nm,0.8s	**74.78**	**359**	*e*P		**P**	**19 21 58.8**	**-0.5**
BVAR	**Borovoye Array** 1.1nm,0.6s,baz=121,slow=5.4,SNR=7.1	**75.29**	**327**	P		**P**	**19 22 03.1**	**+0.4**
ABKAR	**Akbulak array** 17nm,0.8s	**80.03**	**321**	*e*P		**P**	**19 22 28.7**	**-0.4**
AKTO	**Aktyubinsk** 1.0nm,0.7s,baz=134,slow=5.9,SNR=3.9	**81.55**	**322**	P		**P**	**19 22 38.7**	**+1.4**
ILAR	**Eielson Array** 0.4nm,0.7s,baz=255,slow=4.5,SNR=4.7	**89.70**	**25**	P		**P**	**19 23 17.2**	**-0.2**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=100,slow=3.4,SNR=3.0	**128.65**	**284**	PKP		**PKPdf**	**19 29 29.8**	**+2.0**
TOA1	**Torodi Ar. Sit**	**128.65**	**284**	*e*PKPdf		**PKPdf**	**19 29 29.8**	**+2.0**
CPUP	**Villa Florida** 0.9nm,0.6s,baz=134,slow=1.2,SNR=3.6	**149.58**	**166**	PKPbc		**PKPab**	**19 30 12.5**	**-2.2**

IDC ***17*** *19:18:12.0±1.1, 64.23S×175.95E, h0km, mb4.3/3, mb1 4.5/3, mb1mx4.0/29, mbtmp4.3/3, MS3.8/8, Ms1 3.8/8, ms1mx3.5/26, Error ellipse: s-maj=55.5km s-min=26.0km az=61.0*
ISC 17 19:18:13.7±1.0, 64.4S±0.1×175.6E±0.3, h10km, n26, σ1§33/13, mb4.4/3, MS3.7/7, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.2nm,0.3s,baz=46,slow=17,SNR=15	**13.86**	**192**	Pn		**Pn**	**19 21 28.8**	**-1.0**
VNDA				LR		LR	19 25 36.8	
	comp=Z,366nm,19.0s,baz=40,slow=32							
RPZ	**Rata Peaks** comp=Z,230nm,18.6s,baz=165,slow=35	**20.88**	**351**	LR		LR	19 30 21.6	
QSPA	**South Pole Qui** 7.2nm,0.8s,baz=28,slow=2.9,SNR=13	**25.70**	**180**	P		**P**	**19 23 45.6**	**+2.0**
QSPA				LR		LR	19 32 30.0	
	comp=Z,231nm,18.4s,baz=50,slow=33							
URZ	**Urewera** comp=Z,231nm,20.3s,baz=148,slow=32	**26.18**	**3**	LR		LR	19 31 59.8	
DZM	**Mont Dzumac** comp=Z,133nm,18.1s,baz=239,slow=35	**42.74**	**347**	LR		LR	19 42 55.9	
SNAA	**Sanae** comp=Z,132nm,18.7s,baz=160,slow=34	**44.20**	**181**	LR		LR	19 43 40.1	
H01W1	**Cape Leeuwin H** baz=148,slow=76,SNR=12	**46.89**	**278**	T		T	20 17 38.2	
H01W2	**Cape Leeuwin H** baz=148,slow=76,SNR=12	**46.89**	**278**	T		T	20 17 32.0	
H01W3	**Cape Leeuwin H** baz=148,slow=76,SNR=11	**46.90**	**278**	T		T	20 17 36.4	
ASAR	**Alice Springs** 3.4nm,0.9s,baz=154,slow=8.1,SNR=15	**48.94**	**306**	P		**P**	**19 27 00.7**	**+0.9**
WRA	**Warramunga Arr** 2.6nm,0.9s,baz=162,slow=6.4,SNR=6.5	**52.23**	**308**	P		**P**	**19 27 24.3**	**-0.3**
WRA				LR		LR	19 47 40.2	
	comp=Z,94nm,19.7s,baz=5.0,slow=34							
PMG	**Port Moresby** comp=Z,51nm,18.0s,baz=142,slow=33	**58.45**	**326**	LR		LR	19 50 14.1	
H08S2	**Diego Garcia H** baz=154,slow=76,SNR=5.6	**88.79**	**255**	T		T	21 10 01.2	
H08S1	**Diego Garcia H** baz=154,slow=76,SNR=5.1	**88.80**	**255**	T		T	21 10 01.8	
H08S3	**Diego Garcia H** baz=154,slow=76,SNR=5.9	**88.81**	**255**	T		T	21 10 02.7	
H06S1	**SOCORRO T** SNR=6.5	**99.78**	**67**	T		T	21 22 54.9	
H06E1	**SOCORRO T-PHAS**	**99.84**	**67**	T		T	21 22 57.9	
TORD	**Torodi Ar. Bea** 1.2nm,1.1s,baz=108,slow=0.5,SNR=3.3	**128.65**	**188**	PKP		**PKPdf**	**19 37 19.4**	**-1.3**
BBTS	**Babate** 6.8nm,0.4s,baz=334,slow=2.6,SNR=2.5	**129.62**	**165**	PKP		**PKPdf**	**19 37 24.6**	**+2.0**
ILAR	**Eielson Array** 0.8nm,1.2s,baz=178,slow=3.4,SNR=4.1	**131.75**	**20**	PKhKP	PKPpre		19 37 18.0	
ILAR				PKP		**PKPdf**	**19 37 24.4**	**-0.6**
	0.9nm,0.9s,baz=236,slow=2.9,SNR=8.3							
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=90,slow=4.8,SNR=2.3	**132.21**	**292**	PKP		**PKPdf**	**19 37 25.2**	**-1.3**
AKTO	**Aktyubinsk** 4.9nm,0.9s,baz=204,slow=2.5,SNR=11	**145.21**	**277**	PKPbc		**PKPdf**	**19 37 49.6**	**-0.4**
IDI	**Anoyia** 7.1nm,0.8s,baz=328,slow=2.4,SNR=5.6	**145.91**	**225**	PKPbc		**PKPdf**	**19 37 51.7**	**-0.2**
KBZ	**Khabaz** 3.1nm,0.9s,baz=258,slow=1.9,SNR=5.4	**146.53**	**255**	PKPbc		**PKPdf**	**19 37 53.6**	**+1.1**
BRTR	**Keskin Array B** 6.9nm,0.9s,baz=165,slow=5.1,SNR=26	**146.87**	**240**	PKPbc		**PKPdf**	**19 37 54.6**	**+1.2**
SCHQ	**Schefferville** 2.5nm,0.7s,baz=169,slow=5.2,SNR=2.9	**148.30**	**78**	PKPbc		**PKPbc**	**19 37 57.7**	**-0.9**

NEIC ***17*** *19:19:10.1±0.0, 43.50S±1.2×172.8E±0.9, h10km±1km, ML3.7/23, After WEL.*
NEIC Felt at Christchurch.
WEL 17 19:19:09.0, 44.S±1.×172.8E±0.9, h10km±1km, ML3.7/23, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.14**	**239**	*e*Pg		Pb	19 19 13.9	+0.3
CRLZ	**Canterbury Las**	**0.14**	**239**	P		Pb	19 19 14.0	+0.4
CRLZ	**Canterbury Las**	**0.14**	**239**	S		Sg	19 19 16.6	+2.3
MQZ	**McQueen's Vall**	**0.22**	**205**	*e*Pg		Pb	19 19 15.0	-0.1
MQZ	**McQueen's Vall**	**0.22**	**205**	P		Pb	19 19 15.0	-0.1
MQZ	**McQueen's Vall**	**0.22**	**205**	S		Sg	19 19 18.8	+2.1
EYCZ	**Eyrewell**	**0.32**	**285**	P		Pb	19 19 16.8	0.0
EYCZ	**Eyrewell**	**0.32**	**285**	S		Sb	19 19 21.9	-0.1
OXZ	**Oxford**	**0.57**	**288**	*e*Pg		Pb	19 19 21.2	+0.2
OXZ	**Oxford**	**0.57**	**288**	P		Pb	19 19 21.3	+0.2
OXZ	**Oxford**	**0.57**	**288**	S		Sb	19 19 29.8	+0.6
LTZ	**Lake Taylor**	**0.81**	**332**	*e*Pg		Pb	19 19 25.8	+0.6
LTZ	**Lake Taylor**	**0.81**	**332**	P		Pn	19 19 25.9	-0.6
KHZ	**Kahutara**	**1.22**	**27**	*e*Pn		Pn	19 19 31.7	-0.3
KHZ	**Kahutara**	**1.22**	**27**	P		Pn	19 19 31.4	-0.6
INZ	**Inchbonnie**	**1.25**	**308**	P		Pb	19 19 32.6	-0.1
RPZ	**Rata Peaks**	**1.27**	**260**	*e*Pn		Pb	19 19 32.9	-0.1
RPZ	**Rata Peaks**	**1.27**	**260**	P		Pb	19 19 33.1	+0.1
WVZ	**Waitaha Valley**	**1.56**	**285**	Pn		Pb	19 19 37.6	-0.1
WVZ	**Waitaha Valley**	**1.56**	**285**	P		Pb	19 19 37.6	-0.2
THZ	**Tophouse**	**1.74**	**3**	*e*Pn		Pn	19 19 39.1	-0.1
THZ	**Tophouse**	**1.74**	**3**	P		Pn	19 19 39.2	0.0
DSZ	**Denniston Nort**	**1.90**	**337**	P		Pn	19 19 42.2	+0.7
BSWZ	**Blackbirch Sta**	**1.96**	**25**	Pn		Pn	19 19 42.3	+0.1
BSWZ	**Blackbirch Sta**	**1.96**	**25**	P		Pn	19 19 42.4	+0.1
LBZ	**Lake Benmore**	**2.07**	**244**	*e*Pn		Pn	19 19 44.6	+0.8
LBZ	**Lake Benmore**	**2.07**	**244**	P		Pn	19 19 44.7	+0.8
FOZ	**Fox Glacier**	**2.16**	**268**	*e*Pn		Pb	19 19 46.6	-1.5
FOZ	**Fox Glacier**	**2.16**	**268**	P		Pb	19 19 46.9	-1.2
ODZ	**Otahua Downs**	**2.17**	**224**	*e*Pn		Pn	19 19 45.6	+0.5
ODZ	**Otahua Downs**	**2.17**	**224**	P		Pn	19 19 45.6	+0.4
TUWZ	**Tuamarina**	**2.24**	**23**	Pn		Pn	19 19 46.0	-0.1
TUWZ	**Tuamarina**	**2.24**	**23**	P		Pn	19 19 46.1	0.0
NNZ	**Nelson**	**2.33**	**11**	Pn		Pn	19 19 48.2	+1.0
NNZ	**Nelson**	**2.33**	**11**	P		Pn	19 19 45.8	-1.4
TCW	**Tory Channel**	**2.54**	**26**	Pn		Pn	19 19 50.2	0.0
TCW	**Tory Channel**	**2.54**	**26**	P		Pn	19 19 50.3	+0.1
BHW	**Baring Head**	**2.60**	**37**	P		Pn	19 19 50.6	-0.4
SNZO	**South Karori**	**2.61**	**34**	*e*Pn		Pn	19 19 50.6	-0.6
PLWZ	**Palliser**	**2.66**	**44**	P		Pn	19 19 50.8	-1.1
QRZ	**Quartz Range**	**2.68**	**356**	Pn		Pn	19 19 52.7	+0.6
QRZ	**Quartz Range**	**2.68**	**356**	P		Pn	19 19 52.6	+0.5
MSWZ	**Moikau Station**	**2.77**	**42**	P		Pn	19 19 52.4	-1.0
HHSZ	**Highcliff Hill**	**2.84**	**212**	P		Pn	19 19 54.6	+0.2
CAW	**Cannon Point**	**2.93**	**36**	Pn		Pn	19 19 54.9	-0.7
CAW	**Cannon Point**	**2.93**	**36**	P		Pn	19 19 55.0	-0.6
JCZ	**Jackson Bay**	**2.95**	**258**	P		Pn	19 19 57.4	+1.5
TRWZ	**Traveller**	**3.01**	**47**	P		Pn	19 19 55.6	-1.1
WKZ	**Wanaka**	**3.02**	**243**	*e*Pn		Pn	19 19 57.5	+0.8
WKZ	**Wanaka**	**3.02**	**243**	P		Pn	19 19 57.3	+0.6
EAZ	**Earnscleugh**	**3.03**	**234**	Pn		Pn	19 19 57.5	+0.5
EAZ	**Earnscleugh**	**3.03**	**234**	P		Pn	19 19 57.5	+0.5
OGWZ	**Otaki Gorge**	**3.22**	**34**	Pn		Pn	19 19 58.8	-0.7
OGWZ	**Otaki Gorge**	**3.22**	**34**	P		Pn	19 19 58.8	-0.7
TUZ	**Tuapeka**	**3.32**	**221**	Pn		Pn	19 20 01.4	+0.4
TUZ	**Tuapeka**	**3.32**	**221**	P		Pn	19 20 01.4	+0.4
TUZ	**Tuapeka**	**3.32**	**221**	P		Pn	19 20 01.4	+0.5
MRZ	**Mangatainoka R**	**3.52**	**37**	Pn		Pn	19

	comp=E,2µm,0.5s							
KUR				smax	smax			
	comp=N,1µm,0.2s							
SHO	**Shikotan**	**1.03 249**	*i* P		**Pn**	**19 27 35.9**	**-0.8**	
SHO			AMB		AMB	19 27 36.7		
	comp=N,81nm,0.3s							
SHO			AMB		AMB	19 27 36.7		
	comp=N,177nm,0.3s							
SHO			AMB		AMB	19 27 36.7		
	comp=N,167nm,0.3s							
SHO			*i* S		**Sn**	**19 27 48.0**	**-2.1**	
SHO			A		A	19 27 48.3		
	comp=N,1µm,0.3s							
SHO			A		A	19 27 48.3		
	comp=N,367nm,0.3s							
SHO	**Shikotan**	**1.03 249**	*d i* PN		**Pn**	**19 27 35.8**	**-0.9**	
SHO			*i* S		**Sn**	**19 27 47.9**	**-2.1**	
SHO			pmax		pmax			
	comp=Z,167nm,0.3s							
SHO			pmax		pmax			
	comp=N,81nm,0.2s							
SHO			pmax		pmax			
	comp=E,177nm,0.2s							
SHO			smax		smax			
	comp=E,4µm,0.2s							
SHO			smax		smax			
	comp=N,1µm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.67 263**	*i* P		**Pn**	**19 27 45.3**	**-0.1**	
YUK			AMB		AMB	19 27 47.2		
	comp=N,220nm,0.4s							
YUK			AMB		AMB	19 27 47.2		
	comp=N,53nm,0.4s							
YUK			AMB		AMB	19 27 47.2		
	comp=N,1µm,0.4s							
YUK			*i* S		**Sn**	**19 28 04.5**	**-1.2**	
YUK			A		A	19 28 09.6		
	comp=N,181nm,0.4s							
YUK			A		A	19 28 09.6		
	comp=N,2µm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.67 263**	*d i* PN		**Pn**	**19 27 45.3**	**-0.1**	
YUK			*i* S		**Sn**	**19 28 04.5**	**-1.2**	
YUK			pmax		pmax			
	comp=Z,1µm,0.2s							
YUK			pmax		pmax			
	comp=E,53nm,0.1s							
YUK			pmax		pmax			
	comp=N,218nm,0.2s							
YUK			smax		smax			
	comp=N,2µm,0.2s							
YUK			smax		smax			
	comp=E,2µm,0.6s							
LAGR	**Lagunnoye**	**1.72 264**	*i* P		**Pn**	**19 27 46.6**	**+0.5**	
LAGR			*i* S		**Sn**	**19 28 06.1**	**-0.8**	
LAGR	**Lagunnoye**	**1.72 264**	⇓ *i* PN		**Pn**	**19 27 46.6**	**+0.5**	
LAGR			*i* S		**Sn**	**19 28 06.1**	**-0.8**	
GRPR	**Tuman**	**1.74 262**	*i* P		**Pn**	**19 27 46.8**	**+0.4**	
GRPR			*i* S		**Sn**	**19 28 06.9**	**-0.5**	
GRPR	**Tuman**	**1.74 262**	⇓ *i* PN		**Pn**	**19 27 46.8**	**+0.4**	
GRPR			*i* S		**Sn**	**19 28 06.9**	**-0.5**	
NEM2	**Nemuro 2**	**1.96 244**	P		**Pn**	**19 27 49.1**	**-0.3**	
NEM2			*e*S		**Sn**	**19 28 10.8**	**-2.0**	
GLVR	**Golovnino**	**1.98 256**	*i* P		**Pn**	**19 27 50.0**	**+0.4**	
GLVR			*i* S		**Sn**	**19 28 13.4**	**+0.3**	
GLVR	**Golovnino**	**1.98 256**	⇓ *i* PN		**Pn**	**19 27 50.0**	**+0.4**	
GLVR			*i* S		**Sn**	**19 28 13.4**	**+0.3**	
JRA	**Rausu**	**2.21 263**	P		**Pn**	**19 27 53.8**	**+1.0**	
JRA			*e*S		**Sn**	**19 28 19.7**	**+0.7**	
JNK	**Nakash**	**2.58 256**	P		**Pn**	**19 27 58.5**	**+0.7**	
JNK			*e*S		**Sn**	**19 28 27.7**	**-0.2**	
JAK	**Akkeshi**	**2.81 245**	P		**Pn**	**19 28 01.2**	**+0.2**	
JAK			*e*S		**Sn**	**19 28 32.3**	**-1.4**	
JTKR	**Abashiri--Toko**	**3.08 266**	P		**Pn**	**19 28 07.5**	**+2.8**	
JAR	**Ashorobuto**	**3.32 255**	P		**Pn**	**19 28 09.5**	**+1.4**	
JAR			*e*S		**Sn**	**19 28 47.1**	**+0.8**	
JOB	**Onbets**	**3.42 248**	P		**Pn**	**19 28 10.3**	**+0.9**	
JMP	**Maruseppu**	**3.47 268**	P		**Pn**	**19 28 11.2**	**+1.1**	
JCH	**Churui**	**3.86 247**	P		**Pn**	**19 28 15.8**	**+0.4**	
JKK2	**Kamakawa 2**	**3.92 266**	P		**Pn**	**19 28 18.3**	**+2.0**	
JKA	**Kamikawa-asahi**	**4.00 270**	*e*P		**Pn**	**19 28 19.2**	**+1.8**	
ASAJ	**Asahikawa**	**4.01 270**	P		**Pn**	**19 28 19.2**	**+1.8**	
	comp=E,1.1nm,0.3s,baz=57,slow=15,SNR=15							
ASAJ			S		Sn	19 29 15.0	+12	
	comp=E,1.7nm,0.3s,baz=7.1,slow=16,SNR=2.7							
JFR	**Furan**	**4.18 257**	P		**Pn**	**19 28 22.4**	**+2.5**	
JNBK	**Urakawa-nobuka**	**4.42 245**	P		**Pn**	**19 28 23.6**	**+0.6**	
JEW	**Eniwo**	**5.08 256**	P		**Pn**	**19 28 35.5**	**+3.3**	
MJAR	**Matsushiro Arr**	**10.80 228**	P		**Pn**	**19 29 51.4**	**+0.7**	
	comp=E,0.1nm,0.3s,baz=29,slow=13,SNR=5.1							
PETK	**Petropavlovsk-**	**10.87 32**	P		**Pn**	**19 29 53.8**	**+2.4**	
	baz=200,slow=10,SNR=2.2							
PETK			LR		LR	19 34 44.0		
	comp=E,41nm,18.6s,baz=48,slow=41							
KSRS	**Korea Array**	**16.73 253**	P		**P**	**19 31 10.8**	**-0.4**	
	comp=E,0.2nm,0.3s,baz=61,slow=13,SNR=3.3							
SONM	**Songino Array**	**28.96 292**	P		**P**	**19 33 12.0**	**-1.5**	
	comp=E,0.2nm,0.4s,baz=101,slow=7.5,SNR=2.3							
SONM	**Songino Array**	**28.96 292**	P		**P**	**19 33 12.0**	**-1.5**	
H11N2	**WAKE ISLAND Hy**	**29.02 141**	T		T	20 04 01.4		
	baz=332,slow=76,SNR=277							
H11N1	**WAKE ISLAND Hy**	**29.03 141**	T		T	20 04 03.9		
	baz=332,slow=76,SNR=200							
H11N3	**WAKE ISLAND Hy**	**29.03 141**	T		T	20 03 59.2		
	baz=332,slow=76,SNR=225							
H11S1	**WAKE ISLAND Hy**	**30.01 143**	T		T	20 05 14.5		
	baz=333,slow=76,SNR=414							
H11S3	**WAKE ISLAND Hy**	**30.01 143**	T		T	20 05 11.3		
	baz=333,slow=76,SNR=302							
H11S2	**WAKE ISLAND Hy**	**30.02 143**	T		T	20 05 19.3		
	baz=333,slow=76,SNR=251							
ILAR	**Eielson Array**	**40.65 37**	P		**P**	**19 34 54.1**	**+0.5**	
	comp=E,0.2nm,0.4s,baz=266,slow=7.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**41.28 307**	PcP		**PcP**	**19 36 56.5**	**-0.3**	
	comp=E,0.6nm,0.3s,baz=60,slow=3.6,SNR=3.7							
MKAR	**Makanchi Array**	**45.00 298**	P		**P**	**19 35 28.6**	**-0.5**	
	comp=E,0.6nm,0.6s,baz=78,slow=9.0,SNR=8.0							
MKAR			PcP		**PcP**	**19 37 09.1**	**-0.3**	
	comp=E,0.4nm,0.6s,baz=73,slow=4.5,SNR=4.8							
KURK	**Kurchatov**	**45.86 304**	*e*P		**P**	**19 35 36.6**	**+0.8**	
KURK	**Kurchatov**	**45.86 304**	P		**P**	**19 35 36.6**	**+0.8**	
KURBB	**Kurchatov Arra**	**45.94 304**	P		**P**	**19 35 36.6**	**+0.1**	
	comp=E,0.3nm,0.4s,baz=73,slow=8.4,SNR=5.2							
CMAR	**Chiang Mai Arr**	**48.37 254**	P		**P**	**19 35 56.8**	**+1.0**	
	comp=E,0.4nm,0.6s,baz=50,slow=6.5,SNR=4.7							
YKA	**Yellowknife Ar**	**54.98 34**	P		**P**	**19 36 44.9**	**+0.4**	
	comp=E,0.5nm,0.5s,baz=301,slow=7.2,SNR=10							
FINES	**FINESS Array B**	**64.76 333**	P		**P**	**19 37 50.0**	**-1.6**	
	comp=E,1.8nm,0.8s,baz=53,slow=7.4,SNR=7.7							
ASAR	**Alice Springs**	**68.83 194**	P		**P**	**19 38 18.6**	**+0.6**	
	comp=E,0.3nm,0.9s,baz=12,slow=5.6,SNR=5.4							
HFS	**Hagfors**	**69.51 338**	P		**P**	**19 38 20.1**	**-1.7**	
	comp=E,0.9nm,0.7s,baz=52,slow=9.5,SNR=3.3							
AKASG	**Malin Array Be**	**71.61 324**	P		**P**	**19 38 33.5**	**-1.1**	
	comp=E,0.2nm,0.3s,baz=39,slow=6.1,SNR=3.8							
BRTR	**Keskin Array B**	**77.73 314**	P		**P**	**19 39 09.7**	**-0.8**	
	comp=E,0.4nm,0.7s,baz=23,slow=3.7,SNR=1.4							
TXAR	**Lajitas Array**	**81.76 57**	P		**P**	**19 39 33.4**	**+0.9**	
	comp=E,0.3nm,0.6s,baz=303,slow=5.0,SNR=3.6							

IDC ***17*** *19:44:41.4±4.1, 2°.34S×133°.30E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/48, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=279.6km s-min=24.9km az=78.0*

ISCJB ***17*** *19:44:52.2±0.6, 3°.06S±0°.09×130°.42E±0°.05, h24km, mb3.3/3, Error ellipse: s-maj=13.3km s-min=6.5km az=177.4*

DJA ***17*** *19:44:52.1±1.8, 3°.5S×13°.0E±°, h14km±14km, M3.7/7, MLv3.7/7*

ISC 17 19:44:50.7±0.8, 3°.07S±0°.07×130°.48E±0°.04, h24km, n13, σ2s21/15, mb3.5/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.56**	**202**	P	**Pn**	**19 45 18.5**	**+1.5**
MSAI	**Masohi**	**1.57**	**260**	P	**Pn**	**19 45 19.3**	**+2.1**
MSAI				S	**Sb**	**19 45 40.7**	**+2.0**
FAKI	**Fak Fak**	**1.77**	**85**	P	**Pb**	**19 45 23.0**	**+0.4**
FAKI				S	**Sb**	**19 45 45.8**	**+1.4**
SWI	**Sorong**	**2.32**	**20**	P	**Pb**	**19 45 31.9**	**0.0**
KMPI	**Kaimana, Papua**	**3.27**	**101**	P	**Pn**	**19 45 43.2**	**+2.7**
NLAI	**Namlea**	**3.38**	**267**	P	**Pn**	**19 45 44.8**	**+2.8**
LBMI	**Labuha**	**3.83**	**309**	P	**Pn**	**19 45 50.2**	**+1.9**
SANI	**Sanana**	**4.60**	**283**	P	**Pn**	**19 45 59.5**	**+0.7**
WRA	**Warramunga Arr**	**17.19**	**168**	P	**Pn**	**19 48 46.3**	**-3.2**
	0.1nm,0.3s,baz=355,slow=12,SNR=1.8						

ASAR	**Alice Springs**	**20.75 171**	P		**P**	**19 49 29.3**	**-0.6**	
	1.5nm,0.6s,baz=352,slow=10,SNR=11							
SONM	**Songino Array**	**54.90 340**	P		**P**	**19 54 16.0**	**-3.5**	
	0.5nm,1.1s,baz=132,slow=2.1,SNR=2.2							
MKAR	**Makanchi Array**	**65.24 326**	P		**P**	**19 55 32.3**	**+1.8**	
	0.3nm,0.6s,baz=116,slow=8.1,SNR=4.1							
KURBB	**Kurchatov Arra**	**69.45 328**	P		**P**	**19 55 56.7**	**-0.3**	
	0.1nm,0.5s,baz=118,slow=5.2,SNR=1.7							

IDC ***17*** *19:50:18.0±0.4, 34°.98S×108°.05W, h0km, mb4.6/15, mb1 4.8/15, mb1mx4.6/34, mbtmp4.6/15, MS5.0/27, Ms1 5.0/27, ms1mx4.9/36, Error ellipse: s-maj=17.2km s-min=15.1km az=94.0*

ISCJB ***17*** *19:50:19.1±0.3, 34°.81S±0°.04×107°.61W±0°.05, h10km, mb5.0/227, MS5.2/162, Error ellipse: s-maj=7.0km s-min=5.7km az=41.6*

GCMT ***17*** *19:50:20.6±0.1, 35°.09S×107°.79W, h18km, MW5.9/140, Moment Tensor Solution. s128,c270; s140,c427; Duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.36±.06; Mθθ-2.36±.06; Mϕϕ2.72±.06; Mrθ0.67±.14; Mθϕ-7.47±.06; Mϕr-1.87±.15; Best double couple: M₀8.11800×10¹⁷ NP1:ϕs190.00000°, δ84.00000°, λ12.00000°. NP2:ϕs99.00000°, δ78.00000°, λ174.00000°. Principal axes: T 8.4840, Plg12.0000°, Azm55.0000°; N -0.7290, Plg77.0000°, Azm215.0000°; P -7.7510, Plg4.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***17*** *19:50:20.6±0.9, 34°.91S×107°.64W, h12km±5km, mb5.1/210, MS5.2/130, MW5.7, MW5.8 Error ellipse: s-maj=6.9km s-min=6.0km az=47.0, Moment Tensor Solution. s23 Moment tensor: Scale 10¹⁷Nm; Mrr0.82; Mθθ-2.28; Mϕϕ1.46; Mrθ-0.33; Mθϕ-4.18; Mϕr0.70; Best double couple: M₀4.70000×10¹⁷ NP1:ϕs281.00000°, δ81.00000°, λ172.00000°. NP2:ϕs13.00000°, δ82.00000°, λ9.00000°. Principal axes: T 4.3300, Plg12.0000°, Azm237.0000°; N 0.6600, Plg78.0000°, Azm52.0000°; P -4.9900, Plg1.0000°, Azm147.0000°;*

MOS ***17*** *19:50:20.1±1.6, 34°.65S×107°.59W, h10km, mb5.2/51, MS5.0/16 Error ellipse: s-maj=13.5km s-min=7.4km az=81.7*

NEIC ***17*** *19:50:22.0±0.0, 35°.15S×107°.66W, h21km, Moment Tensor Solution. s11 Moment tensor: Scale 10¹⁷Nm; Mrr-0.20; Mθθ-2.29; Mϕϕ2.48; Mrθ3.38; Mθϕ-5.74; Mϕr-0.45; Best double couple: M₀7.10000×10¹⁷ NP1:ϕs282.00000°, δ88.00000°, λ-151.00000°. NP2:ϕs191.00000°, δ61.00000°, λ-2.00000°. Principal axes: T 7.0600, Plg18.0000°, Azm52.0000°; N 0.0600, Plg61.0000°, Azm285.0000°; P -7.1200, Plg21.0000°, Azm150.0000°;*

BJI ***17*** *19:50:27.4, 34°.80S×107°.60W, h32km, mB5.2/8, Ms5.5/9, Ms7 5.4/10*

ISC 17 19:50:21.4±0.6, 34°.81S±0°.06×107°.73W±0°.05, h14km±3km, h14km:pP-P, n635, σ1s73/534, mb5.1/227, MS5.2/162, 21C-13D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.78**	**349**	LR	LR	19 54 26.6	
	comp=Z,7µm,21.4s,baz=165,slow=31						
RKT	**Rikitea**	**26.44**	**289**	*e*S	**S**	**20 00 26.0**	**-5.4**
	918nm,31.6s						
RKT				*e*LQ	LQ	20 01 20.9	
	4µm,31.8s						
RKT				*e*LR	LR	20 02 27.0	
	2µm,38.5s						
RKT	**Rikitea**	**26.44**	**289**	*e*T	T	20 23 06.8	
	8.7nm,0.3s						
GO05	**Hualaae0**	**29.26**	**101**	*e*P	**P**	**19 56 22.5**	**-0.7**
	95nm,1.8s						
PLCA	**Paso Flores**	**29.82**	**113**	P	**P**	**19 56 28.8**	**+0.6**
	19nm,0.9s,baz=295,slow=9.0,SNR=19						
PLCA				LR	LR	20 04 46.4	
	comp=Z,4µm,20.8s,baz=298,slow=29						
PLCA	**Paso Flores**	**29.82**	**113**	*e*P	**P**	**19 56 28.7**	**+0.6**
PLCA				pmax	pmax		
	comp=Z,34nm,1.0s						
PLCA	**Paso Flores**	**29.82**	**113**	*e*P	**P**	**19 56 28.7**	**+0.6**
	comp=Z,34nm,1.0s						
GO09	**Cerro Castillo**	**30.29**	**134**	*e*P	**P**	**19 56 32.0**	**0.0**
	comp=Z,193nm,1.4s						
ROC1	**El Roble**	**30.43**	**97**	*e*P	**P**	**19 56 33.9**	**+0.2**
	comp=Z,19nm,0.8s						
LCO	**Las Campanas**	**31.84**	**90**	⇑ *e*P	**P**	**19 56 47.4**	**+1.2**
LCO	**Las Campanas**	**31.84**	**90**	*e*P	**P**	**19 56 46.2**	**0.0**
	comp=Z,27nm,0.9s						
LCO				LR	LR		
	comp=Z,7µm,22.0s						
PB04	**IPOC Station P**	**35.07**	**79**	*e*P	**P**	**19 57 14.5**	**+0.2**
	comp=Z,45nm,1.0s						
NNA	**Nana**	**36.08**	**59**	*ce*P	**P**	**19 57 24.4**	**+1.5**
NNA				pmax	pmax		
	comp=Z,192nm,1.7s						
NNA	**Nana**	**36.08**	**59**	*e*P	**P**	**19 57 22.5**	**-0.4**
	comp=Z,64nm,1.3s						
NNA				LR	LR		
	comp=Z,4µm,19.0s						
PB01	**IPOC Station P**	**36.24**	**78**	*e*P	**P**	**19 57 25.7**	**+1.4**
	comp=Z,36nm,1.0s						
TRQA	**Tornquist**	**36.67**	**109**	⇑ *e*P	**P**	**19 57 29.1**	**+1.3**
TRQA				pmax	pmax		
	comp=Z,56nm,2.5s						
TRQA	**Tornquist**	**36.67**	**109**	*e*P	**P**	**19 57 28.1**	**+0.3**
	comp=Z,44nm,1.3s						
PB11	**IPOC Station P**	**36.77**	**76**	*e*P	**P**	**19 57 29.0**	**+0.1**
	comp=Z,45nm,0.9s						
MNMC	**Minye Minye**	**37.15**	**75**	*e*P	**P**	**19 57 32.6**	**+0.3**
TBI	**Tubuai**	**37.97**	**276**	*e*S	**S**	**20 03 26.4**	**-4.2**
	comp=Z,1µm,31.3s						
TBI				*e*LQ	LQ	20 06 10.6	
	comp=Z,11µm,34.5s						
TBI				*e*LR	LR	20 07 45.2	
	comp=Z,3µm,27.5s						
ATAH	**Atahualpa**	**38.56**	**51**	P	**P**	**19 57 46.6**	**+2.3**
	comp=Z,21nm,0.9s,baz=196,slow=5.2,SNR=12						
EFI	**East Falkland**	**39.08**	**131**	⇑ *e*P	**P**	**19 57 49.1**	**+1.2**
EFI				pmax	pmax		
	comp=Z,11nm,0.7s						
EFI	**East Falkland**	**39.08**	**131**	PFAKE		19 58 00.0	+12
EFI				LR	LR		
	comp=Z,9µm,21.0s						
TAOE	**Nuku Hiva Isla**	**39.34**	**303**	*e*S	**S**	**20 03 49.3**	**-2.3**
	comp=Z,1µm,30.1s						
TAOE				*e*LQ	LQ	20 06 47.9	
	comp=Z,10µm,30.8s						
TAOE				*e*LR	LR	20 08 27.8	
	comp=Z,4µm,32.5s						
TAOE	**Nuku Hiva Isla**	**39.34**	**303**	*e*P	**P**	**19 57 53.9**	**+3.3**
	comp=Z,225nm,1.8s						
PMSA	**Palmer Station**	**39.79**	**152**	PFAKE		19 58 00.0	+6.4
PMSA				LR	LR		
	comp=Z,8µm,21.0s						
LPAZ	**La Paz**	**39.89**	**73**	P	**P**	**19 57 56.2**	**+0.4**
	comp=Z,24nm,0.7s,baz=236,slow=4.2,SNR=91						
LPAZ				LR	LR	20 10 40.6	
	comp=Z,3µm,19.0s,baz=234,slow=30						
LPAZ	**La Paz**	**39.89**	**73**	*e*P	**P**	**19 57 55.6**	**-0.2**
LPAZ				pmax	pmax		
	comp=Z,36nm,0.8s						
LPAZ	**La Paz**	**39.89**	**73**	*e*P	**P**	**19 57 55.6**	**-0.2**
	comp=Z,36nm,0.8s						
TVO	**Taravao**	**40.58**	**284**	*e*T	T	20 40 42.7	
	comp=Z,1.2nm,0.3s						
TIAR	**Tiarei**	**40.78**	**284**	*e*T	T	20 40 59.6	
	comp=Z,5.4nm,0.3s						
PPT2	**Papeete2**	**40.94**	**284**	*e*S	**S**	**20 04 11.3**	**-4.2**
	comp=Z,3µm,27.5s						
PPT2				*e*LQ	LQ	20 07 25.7	
	comp=Z,11µm,31.2s						
PPT	**Papeete**	**40.96**	**284**	LR	LR	20 10 51.0	
	comp=Z,709nm,20.4s,baz=120,slow=30						
PMOR	**Pomariorio Ree**	**41.08**	**288**	*e*P	**P**	**19 58 01.5**	**-3.3**
	comp=Z,38nm,1.6s						
CPUP	**Villa Florida**	**43.83**	**93**	P	**P**	**19 58 27.2**	**0.0**
	comp=Z,7.8nm,0.8s,baz=255,slow=8.7,SNR=21						
CPUP				LR	LR	20 13 46.0	
	comp=Z,3µm,19.8s,baz=252,slow=32						
CPUP	**Villa Florida**	**43.83**	**93**	*e*P	**P**	**19 58 26.3**	**-0.9**
CPUP				pmax	pmax		
	comp=Z,27nm,1.4s						
CPUP	**Villa Florida**	**43.83**	**93**	*e*P	**P**	**19 58 26.3**	**-0.9**
	comp=Z,27nm,1.4s						
OTAV	**Otavalo**	**44.32**	**44**	⇑ *e*P	**P**	**19 58 33.3**	**+1.6**
OTAV				pmax	pmax		
	comp=Z,26nm,1.7s						
OTAV	**Otavalo**	**44.32**	**44**	*e*P	**P**	**19 58 31.8**	**+0.1**
	comp=Z,47nm,1.5s						
OTAV				LR	LR		
	comp=Z,866nm,21.0s						
OTAV	**Otavalo**	**44.32**	**44**	*e*P	**P**	**19 58 31.0**	**-0.7**
GCUF	**Volcan Galeras**	**45.76**	**45**	*e*P	**P**	**19 58 45.0**	**+1.8**
SOTA	**Rioblanco**	**46.93**	**45**	*e*P	**P**	**19 58 52.3**	**-0.1**
FLOC	**Florencia**	**47.05**	**46**	*e*P	**P**	**19 58 51.2**	**-1.6**
RAR	**Rarotonga**	**47.42**	**272**	LR	LR	20 15 05.7	
	comp=Z,545nm,18.1s,baz=127,slow=32						
HORQ	**Saladito**	**48.01**	**44**	*e*P	**P**	**19 59 01.3**	**+0.7**
SAML	**Samuel**	**48.15**	**69**	⇑ *e*P	**P**	**19 59 02.6**	**+1.3**
SAML				pmax	pmax		
	comp=Z,18nm,1.7s						
SAML	**Samuel**	**48.15**	**69**	*e*P	**P**	**19 59 00.8**	**-0.6**
	comp=Z,37nm,1.3s						
SAML				LR	LR		
	comp=Z,7µm,19.0s						
SAML	**Samuel**	**48.15**	**69**	*e*P	**P**	**19 59 01.3**	**-0.1**
YOTC	**Yotoco, Valle**	**48.58**	**44**	*e*P	**P**	**19 59 05.2**	**+0.4**
PRAC	**Prado**	**49.20**	**46**	*e*P	**P**	**19 59 10.2**	**+0.7**
	comp=Z,66nm,1.5s						
JTS	**JuntasAbangare**	**49.77**	**30**	P	**P**	**19 59 15.5**	**+1.7**
	comp=Z,5.7nm,0.6s,baz=127,slow=5.1,SNR=4.8						
JTS				LR	LR	20 15 10.0	
	comp=Z,7µm,20.4s,baz=258,slow=30						
RREF	**El Recreo**	**49.90**	**44**	*e*P	**P**	**19 59 14.2**	**-1.3**
ROSC	**El Rosal**	**50.44**	**45**	P	**P**	**19 59 21.5**	**+2.2**
	comp=Z,37nm,0.8s,baz=164,slow=3.3,SNR=22						
ROSC				LR	LR	20 16 46.2	
	comp=Z,5µm,21.5s,baz=226,slow=31						
ROSC	**El Rosal**	**50.44**	**45**	*e*P	**P**	**19 59 20.7**	**+1.4**
	comp=Z,36nm,0.8s						
HELC	**Santa Helena**	**50.84**	**43**	*e*P	**P**	**19 59 23.0**	**+0.7**
	comp=Z,92nm,1.5s						
BCIP	**Isla Barro Col**	**51.08**	**36**	PFAKE		19 59 40.0	+16
BCIP				LR	LR		
	comp=Z,5µm,21.0s						
PTBC	**PUERTO BERRIO,**	**51.74**	**44**	*e*P	**P**	**19 59 26.5**	**-2.1**
RUSC	**La Rusia**	**52.01**	**46**	*e*P	**P**	**19 59 30.8**	**-0.4**
	comp=Z,42nm,1.4s						
HOPE	**Hope Point**	**52.02**	**135**	PFAKE		19 59 40.0	+10
HOPE				LR	LR		
	comp=Z,5µm,20.0s						
TGUH	**Tegucigalpa,Un**	**52.33**	**25**	*e*P	**P**	**19 59 33.8**	**+0.9**
	comp=Z,49nm,1.3s						
CMIG	**Matias Romero**	**53.03**	**15**	LR	LR	20 16 41.3	
	comp=Z,2µm,20.2s,baz=180,slow=30						
SPB	**Sao Paulo**	**53.12**	**95**	*e*P	**P**	**19 59 38.5**	**-0.3**
	comp=Z,36nm,1.1s						
SPB				LR	LR		
	comp=Z,5µm,22.0s						
H06E1	**SOCORRO T-PHAS**	**53.38**	**356**	T	T	20 57 26.7	
SBA	**Scott Base**	**55.32**	**195**	PFAKE		20 00 10.0	+16
SBA				LR	LR		
	comp=Z,1µm,19.0s						
QSPA	**South Pole Qui**	**55.40**	**180**	P	**P**	**19 59 53.5**	**-1.5**
	comp=Z,7.0nm,1.0s,baz=146,slow=2.4,SNR=7.8						
QSPA				LR	LR	20 20 23.5	
	comp=Z,2µm,18.7s,baz=113,slow=33						
SDV	**Santo Domingo**	**55.85**	**46**	P	**P**	**19 59 57.6**	**-1.3**
	comp=Z,12nm,0.9s,baz=241,slow=8.2,SNR=13						
SDV				LR	LR	20 20 27.3	
	comp=Z,4µm,20.3s,baz=224,slow=32						
SDV	**Santo Domingo**	**55.85**	**46**	*e*P	**P**	**19 59 57.1**	**-1.8**
	comp=Z,41nm,1.4s						
SDV	**Santo Domingo**	**55.85**	**46**	*e*P	**P**	**19 59 56.8**	**-2.1**
PTGA	**Pitinga**	**55.92**	**63**	*e*P	**P**	**19 59 57.9**	**-1.4**
	comp=Z,16nm,1.0s						
PTGA				LR	LR		
	comp=Z,28µm,20.0s						
VNDA	**Vanda**	**56.41**	**195**	P	**P**	**20 00 00.7**	**-1.2**
	comp=Z,3.3nm,1.1s,baz=69,slow=6.6,SNR=3.9						
VNDA				LR	LR	20 19 05.2	
	comp=Z,1µm,18.5s,baz=100,slow=31						
VNDA	**Vanda**	**56.41**	**195**	*e*P	**P**	**20 00 04.6**	**+2.7**
VNDA				pmax	pmax		
	comp=Z,20nm,1.2s						
VNDA	**Vanda**	**56.41**	**195**	*e*P	**P**	**20 00 04.6**	**+2.7**
	comp=Z,20nm,1.2s						
ZAIG	**Zacatecas**	**57.47**	**6**	*e*P	**P**	**20 00 09.9**	**-0.4**
LNIG	**Linares**	**59.89**	**9**	*e*P	**P**	**20 00 25.8**	**-1.1**
	comp=Z,18nm,1.1s						
VNA3	**Neumayer Olymp**	**59.98**	**158**	P	**P**	**20 00 24.9**	**-2.1**
MTDJ	**Mount Denham**	**60.04**	**33**	PFAKE		20 00 40.0	+12
MTDJ				LR	LR		
	comp=Z,2µm,20.0s						
PCRV	**Puerto La Cruz**	**60.54**	**51**	LR	LR	20 24 02.3	
	comp=Z,5µm,20.4s,baz=223,slow=33						
THZ	**Tophouse**	**60.62**	**238**	*e*P	**P**	**20 00 33.4**	**+1.5**
	comp=Z,88nm,1.7s						
VNA1	**Neumayer--Stat**	**60.62**	**158**	P	**P**	**20 00 29.5**	**-1.8**
VNA2	**Neumayer--Watz**	**60.78**	**158**	P	**P**	**20 00 30.4**	**-2.1**
	baz=254,slow=4.8						
AFI	**Afiamalu**	**60.96**	**273**	LR	LR	20 21 04.7	
	comp=Z,652nm,18.7s,baz=126,slow=30						
HPIG		**61.44**	**2**	*e*P	**P**	**20 00 36.5**	**-1.1**
	comp=Z,21nm,1.3s						
SNAA	**Sanae**	**61.83**	**160

NVL **N'lazarevskaya** 66.32 162 eP P 20 01 05.5 -3.5
NVL eS S 20 09 57.5 -0.4
NVL eSS SS 20 14 15.2 +1.9
NVL pmax pmax
comp=Z,25nm,1.7s
GDL2 **Guadalupe Moun** 66.73 3 eP P 20 01 14.9 +2.7
TUC **Tucson** 66.82 357 P P 20 01 13.4 +0.7
baz=177
TUC **Tucson** 66.82 357 eP P 20 01 12.6 -0.1
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC **Tucson** 66.82 357 eP P 20 01 12.6 -0.1
comp=Z,6.9nm,0.9s
GDHS **Morne Mazeau,** 66.97 49 eP P 20 01 12.7 -1.3
comp=Z,62nm,0.9s
WHTX **Lake Whitney,** 67.14 9 eP P 20 01 14.1 -0.5
comp=Z,38nm,0.9s
SEUS **St. Eustatius** 67.17 47 eP P 20 01 14.5 -0.6
comp=Z,177nm,1.0s
DWPF **Disney Wildern** 67.33 25 P P 20 01 17.2 +1.3
baz=203
DWPF **Disney Wildern** 67.33 25 eP P 20 01 16.0 +0.1
comp=Z,45nm,0.9s
MSVF **Nonsavu** 67.34 264 ceP P 20 01 20.3 +3.8
MSVF pmax pmax
comp=Z,21nm,1.7s
MSVF **Nonsavu** 67.34 264 eP P 20 01 18.5 +2.0
comp=Z,103nm,1.9s
NATX **Nacogdoches** 67.34 12 eP P 20 01 15.9 0.0
comp=Z,39nm,0.9s
NATX LR LR
comp=Z,625nm,21.0s
ABTX **Abilene, Hawle** 67.50 7 eP P 20 01 16.5 -0.5
comp=Z,39nm,1.6s
ANWB **Willy Bob** 68.03 48 PFAKE 20 01 30.0 +9.5
ANWB LR LR
comp=Z,1µm,20.0s
BRAL **Brewton** 68.45 19 eP P 20 01 24.3 +1.4
comp=Z,32nm,0.4s
BRAL LR LR
comp=Z,2µm,21.0s
Y12C **Blythe** 68.50 354 eP P 20 01 24.9 +1.8
comp=Z,6.5nm,0.6s
Y22D **IRIS PASSCAL I** 68.53 1 eP P 20 01 25.2 +1.7
comp=Z,28nm,0.8s
PFO **Pinyon Flats O** 68.55 352 PFAKE 20 01 40.0 +16
PFO LR LR
comp=Z,873nm,21.0s
Y14A **Wickenburg** 68.56 355 eP P 20 01 24.1 +0.5
comp=Z,30nm,1.1s
MSTX **Muleshoe** 68.58 4 P P 20 01 24.6 +0.8
baz=184
MSTX **Muleshoe** 68.58 4 eP P 20 01 23.8 0.0
comp=Z,17nm,1.0s
SNCC **San Nicolas Is** 68.60 349 eP P 20 01 26.8 +3.0
comp=Z,255nm,1.4s
BNM **Barren Site** 68.61 1 eP P 20 01 24.6 +0.5
VBMS **Vicksburg** 68.61 16 eP P 20 01 24.1 +0.3
comp=Z,22nm,0.8s
LPM **Los Pinos Moun** 68.77 1 eP P 20 01 22.5 -2.5
LAZ **Ladron** 68.85 1 eP P 20 01 24.9 -0.7
X16A **Lo Mia Camp, P** 68.95 357 eP P 20 01 26.1 -0.1
comp=Z,5.8nm,0.9s
X18A **Snowflake** 69.01 358 eP P 20 01 26.4 -0.1
comp=Z,13nm,1.1s
454A **Quitman** 69.01 22 P P 20 01 27.4 +1.0
baz=201
ANMO **Albuquerque** 69.40 1 LR LR 20 28 16.7
comp=Z,494nm,19.0s,baz=18,slow=33
ANMO **Albuquerque** 69.40 1 eP P 20 01 29.7 +0.7
ANMO pmax pmax
comp=Z,1.0nm,1.1s
ANMO **Albuquerque** 69.40 1 eP P 20 01 30.0 +1.0
comp=Z,6.3nm,1.2s
ANMO LR LR
comp=Z,536nm,20.0s
WLAR **White Oak Lake** 69.50 13 eP P 20 01 30.0 +0.7
comp=Z,55nm,0.4s
AMTX **Amarillo** 69.56 5 eP P 20 01 30.7 +0.9
comp=Z,28nm,1.3s
WMOK **Wichita Mounta** 69.69 8 eP P 20 01 31.1 +0.5
WMOK pmax pmax
comp=Z,6.0nm,1.0s
WMOK **Wichita Mounta** 69.69 8 eP P 20 01 31.1 +0.5
comp=Z,5.5nm,1.0s
CCAR **Cane Creek** 69.98 14 eP P 20 01 33.4 +1.0
comp=Z,42nm,0.5s
WUAZ **Wupatki** 70.04 357 eP P 20 01 32.4 -0.5
comp=Z,8.8nm,0.9s
X39A **Fountain Ranch** 70.12 12 P P 20 01 34.3 +1.1
baz=192
LRAL **Lakeview Retre** 70.23 18 P P 20 01 34.1 +0.1
baz=198
LRAL **Lakeview Retre** 70.23 18 eP P 20 01 34.0 +0.1
comp=Z,11nm,1.0s
254A **Abbeville** 70.26 22 P P 20 01 35.1 +1.0
baz=201
X40A **Basin Creek Fa** 70.33 13 P P 20 01 34.3 -0.2
baz=193
KHU **Kahuku** 70.42 312 eP P 20 01 35.6 0.0
KHU pmax pmax
comp=Z,495nm,1.6s
KHU **Kahuku** 70.42 312 eP P 20 01 35.6 0.0
comp=Z,495nm,1.6s
Z49A **Columbiana** 70.51 19 P P 20 01 35.2 -0.3
baz=198
MWH **Moku'aweowe** 70.59 312 eP P 20 01 37.0 0.0
comp=Z,101nm,0.7s
UALR **University of** 70.70 13 eP P 20 01 36.4 -0.3
comp=Z,37nm,1.5s
ISA **Isabella, Lake** 70.82 351 eP P 20 01 38.1 +0.6
ISA pmax pmax
comp=Z,55nm,1.9s
ISA **Isabella, Lake** 70.82 351 eP P 20 01 38.1 +0.6
comp=Z,55nm,1.9s
KHLU **Kahalu'u** 70.85 312 eP P 20 01 39.6 +1.5
comp=Z,207nm,1.4s
W39A **Magazine** 70.85 12 P P 20 01 37.7 +0.1
baz=192
W40A **Ferguson Farm,** 70.97 13 eP P 20 01 38.2 -0.1
comp=Z,19nm,0.8s
U15A **North Rim** 71.00 356 eP P 20 01 39.5 +0.7
comp=Z,18nm,1.3s
OXF **Oxford** 71.06 16 eP P 20 01 38.3 -0.6
OXF pmax pmax
comp=Z,39nm,1.1s
OXF **Oxford** 71.06 16 eP P 20 01 38.3 -0.6
comp=Z,39nm,1.1s
W41B **Gary Mavity, V** 71.11 13 P P 20 01 39.2 0.0
baz=193
WHAR **Wooly Hollow** 71.21 13 eP P 20 01 40.0 +0.2
comp=Z,118nm,1.9s
TUL1 **Leonard** 71.23 10 P P 20 01 39.8 -0.1
baz=190
TUL1 **Leonard** 71.23 10 eP P 20 01 39.5 -0.4
comp=Z,32nm,0.9s
SHPR **Sheep Range** 71.28 354 eP P 20 01 40.9 +0.5
comp=Z,12nm,1.2s
FUNA **Funafuti** 71.30 273 eP P 20 01 41.4 +0.4
comp=Z,180nm,1.4s
V39A **Pettigrew** 71.50 12 P P 20 01 41.8 +0.2
baz=192
GOGA **Godfrey** 71.57 21 P P 20 01 42.2 +0.2
baz=201
GOGA **Godfrey** 71.57 21 eP P 20 01 42.1 +0.1
GOGA pmax pmax
comp=Z,20nm,1.4s
GOGA MLR MLR
comp=Z,1µm,20.0s
GOGA **Godfrey** 71.57 21 eP P 20 01 42.1 +0.1
comp=Z,20nm,1.4s
GOGA LR LR
comp=Z,1µm,20.0s
V40A **Witts Springs** 71.61 13 P P 20 01 42.6 +0.3
baz=193
KNB **Kanab** 71.61 356 eP P 20 01 43.1 +0.6
KNB pmax pmax
comp=Z,31nm,1.5s
KNB **Kanab** 71.61 356 eP P 20 01 43.1 +0.6
comp=Z,31nm,1.5s
T25A **Trinidad** 71.65 3 eP P 20 01 42.4 -0.3
comp=Z,28nm,1.5s
MVCO **Mesa Verde** 71.65 359 eP P 20 01 42.5 -0.2
comp=Z,25nm,1.3s
MVCO LR LR
comp=Z,788nm,19.0s

V41A **Mountainview** 71.72 13 P P 20 01 43.6 +0.7
baz=193
RCBR **Riachuelo** 71.78 84 eP P 20 01 42.7 -1.2
comp=Z,20nm,1.1s
RCBR LR LR
comp=Z,11µm,21.0s
PLAL **Pickwick Lake** 71.82 17 eP P 20 01 42.3 -1.2
comp=Z,12nm,1.1s
HHAR **Hobbs** 71.88 12 eP P 20 01 43.1 -0.7
comp=Z,38nm,1.1s
V42A **Cord** 71.89 14 P P 20 01 43.1 -0.7
baz=194
PKCU **Pink Cliffs** 72.01 356 eP P 20 01 45.9 +0.9
comp=Z,41nm,1.5s
U39A **Green Forest** 72.06 12 P P 20 01 44.5 -0.4
baz=192
U40A **Yellville** 72.14 13 P P 20 01 45.7 +0.3
baz=193
CCUT **Cedar City** 72.18 355 eP P 20 01 46.2 +0.3
comp=Z,23nm,1.5s
S22A **4UR Ranch, Cre** 72.19 1 P P 20 01 47.1 +1.1
baz=181
S22A **4UR Ranch, Cre** 72.19 1 eP P 20 01 45.9 -0.2
comp=Z,22nm,1.4s
W47A **Westpoint** 72.19 17 P P 20 01 45.4 -0.3
baz=197
SZCU **Shurtz Canyon** 72.21 356 eP P 20 01 46.6 +0.6
comp=Z,12nm,1.2s
SDCO **Great Sand Dun** 72.22 2 eP P 20 01 46.7 +0.5
comp=Z,7.4nm,1.0s
SDCO LR LR
comp=Z,441nm,20.0s
W48A **Pulaski** 72.25 18 P P 20 01 46.5 +0.4
baz=198
U41A **Viola** 72.30 13 P P 20 01 46.6 +0.2
baz=194
NHSC **New Hope** 72.33 24 eP P 20 01 47.3 +0.7
comp=Z,162nm,1.8s
NHSC LR LR
comp=Z,2µm,21.0s
U42A **Revenden** 72.44 14 P P 20 01 47.0 -0.2
baz=194
V46A **Holladay** 72.59 17 P P 20 01 47.0 -1.1
baz=197
HODGE **Hodges** 72.70 22 eP P 20 01 49.0 +0.2
comp=Z,14nm,1.1s
T39A **Clever** 72.70 12 P P 20 01 47.6 -1.2
baz=192
PV09 **Paradox Valley** 72.95 359 eP P 20 01 51.4 +0.8
WVT **Waverly** 72.97 17 eP P 20 01 49.8 -0.6
WVT pmax pmax
comp=Z,7.0nm,0.9s
WVT **Waverly** 72.97 17 eP P 20 01 49.8 -0.6
comp=Z,7.4nm,0.9s
T40A **Mansfield** 72.98 13 P P 20 01 48.9 -1.5
baz=193
T41A **Mountain View** 73.01 13 P P 20 01 49.5 -1.1
baz=194
PBMO **Poplar Bluff** 73.02 14 eP P 20 01 50.7 +0.1
comp=Z,20nm,0.9s
JSC **Jenkinsville** 73.06 23 eP P 20 01 51.5 +0.6
JSC pmax pmax
comp=Z,37nm,1.4s
JSC **Jenkinsville** 73.06 23 eP P 20 01 51.5 +0.6
comp=Z,37nm,1.4s
T42A **Van Buren** 73.13 14 P P 20 01 50.3 -1.0
baz=194
R11A **Troy Canyon, C** 73.15 354 eP P 20 01 52.6 +1.0
comp=Z,38nm,1.8s
TCRU **Three Creeks R** 73.18 356 eP P 20 01 53.1 +1.2
comp=Z,11nm,1.0s
BG3 **Lake Jocassee** 73.21 21 eP P 20 01 52.0 +0.2
comp=Z,99nm,2.0s
S38A **Stockton** 73.21 11 P P 20 01 51.2 -0.5
baz=192
T43A **Greenville** 73.34 14 P P 20 01 51.9 -0.6
baz=195
S39A **Bolivar** 73.36 12 P P 20 01 52.1 -0.5
baz=192
S40A **Lebanon** 73.42 13 P P 20 01 52.7 -0.2
baz=193
CMB **Columbia Colle** 73.42 350 eP P 20 01 54.1 +1.1
CMB pmax pmax
comp=Z,13nm,1.2s
CMB **Columbia Colle** 73.42 350 eP P 20 01 54.1 +1.1
comp=Z,13nm,1.2s
Q16A **Castle Valley** 73.42 357 eP P 20 01 54.3 +1.0
comp=Z,19nm,1.3s
Q24A **Divide** 73.44 2 eP P 20 01 53.7 +0.2
comp=Z,20nm,1.6s
NV11 **Mina Array Sit** 73.51 351 eP P 20 01 53.9 +0.2
comp=Z,1.4nm,1.1s
NV01 **Mina Array Sit** 73.53 351 eP P 20 01 53.7 -0.1
NVAR **Mina Array Bea** 73.53 351 P P 20 01 53.2 -0.7
comp=Z,3.7nm,0.9s,baz=180,slow=8.3,SNR=13
NVAR LR LR 20 28 15.0
comp=Z,383nm,19.4s,baz=170,slow=31
S41A **Jillco Farms,** 73.54 13 P P 20 01 53.8 +0.1
baz=194
TKL **Tuckaleechee C** 73.58 20 LR LR 20 29 24.1
comp=Z,956nm,19.7s,baz=199,slow=32
TKL **Tuckaleechee C** 73.58 20 eP P 20 01 52.7 -1.3
TKL pmax pmax
comp=Z,25nm,1.5s
TKL **Tuckaleechee C** 73.58 20 eP P 20 01 52.7 -1.3
comp=Z,25nm,1.5s
SRU **San Rafael Swe** 73.59 358 eP P 20 01 53.9 -0.3
SRU pmax pmax
comp=Z,12nm,1.0s
SRU **San Rafael Swe** 73.59 358 eP P 20 01 53.9 -0.3
comp=Z,12nm,1.0s
KSCO **Kaye Shedlock'** 73.60 4 eP P 20 01 54.7 +0.6
comp=Z,48nm,1.4s
SMCO **Snowmass** 73.62 1 eP P 20 01 55.0 +0.4
comp=Z,14nm,1.0s
CBKS **Cedar Bluff** 73.62 6 eP P 20 01 53.7 -0.5
CBKS pmax pmax
comp=Z,27nm,0.9s
CBKS MLR MLR
comp=Z,690nm,22.0s
CBKS **Cedar Bluff** 73.62 6 eP P 20 01 53.7 -0.5
comp=Z,27nm,0.9s
CBKS LR LR
comp=Z,690nm,22.0s
SYO **Syowa Base** 73.71 168 eP P 20 01 51.2 -3.2
WAKR **Walker** 73.75 350 eP P 20 01 56.4 +1.3
comp=Z,42nm,1.8s
RYN **Ryan** 73.75 351 eP P 20 01 55.0 -0.1
comp=Z,17nm,1.2s
R38A **Fenwick Farm,** 73.75 11 P P 20 01 54.7 -0.2
baz=192
TMUT **Trail Mountain** 73.80 357 eP P 20 01 53.3 -2.3
comp=Z,20nm,1.1s
KMSC **Kings Mountain** 73.83 22 eP P 20 01 55.8 +0.3
comp=Z,13nm,0.9s
S42A **Caledonia** 73.90 14 P P 20 01 55.3 -0.5
baz=194
P17A **Butcher Ranch,** 73.96 358 eP P 20 01 55.7 -0.6
comp=Z,50nm,1.8s
T47A **Sharon Grove** 73.96 17 P P 20 01 55.5 -0.6
baz=197
R39A **Chumby, Stover** 74.02 12 P P 20 01 56.8 +0.3
baz=192
CCM **Cathedral Cave** 74.09 13 P P 20 01 56.4 -0.4
baz=194
CCM **Cathedral Cave** 74.09 13 eP P 20 01 56.1 -0.8
CCM pmax pmax
comp=Z,26nm,1.1s
CCM **Cathedral Cave** 74.09 13 eP P 20 01 56.1 -0.8
comp=Z,26nm,1.1s
P18A **Preston Nutter** 74.10 358 eP P 20 01 57.1 -0.2
comp=Z,26nm,1.7s
KVN **Kaiserville** 74.11 352 eP P 20 01 57.5 +0.3
KVN pmax pmax
comp=Z,19nm,1.1s
KVN **Kaiserville** 74.11 352 eP P 20 01 57.5 +0.3
comp=Z,19nm,1.1s
FVM **French Village** 74.18 14 eP P 20 01 57.1 -0.3
FVM pmax pmax
comp=Z,16nm,0.9s
FVM **French Village** 74.18 14 eP P 20 01 57.1 -0.3
comp=Z,16nm,0.9s
YERR **Yerington** 74.19 351 eP P 20 01 58.8 +1.1
comp=Z,27nm,1.5s
T48A **Bowling Green** 74.25 18 P P 20 01 56.8 -1.1
baz=198
KSU1 **Kansas State U** 74.25 9 eP P 20 01 58.3 +0.5
comp=Z,12nm,0.7s

KSU1 LR LR
comp=Z,449nm,20.0s
ISCO **Idaho Springs** 74.26 2 eP P 20 01 59.0 +0.8
ISCO pmax pmax
comp=Z,21nm,1.6s
ISCO MLR MLR
comp=Z,711nm,19.0s
ISCO **Idaho Springs** 74.26 2 eP P 20 01 59.0 +0.8
comp=Z,21nm,1.6s
ISCO LR LR
comp=Z,711nm,19.0s
R41A **Rosebud** 74.30 13 P P 20 01 57.3 -0.8
baz=194
NDHM **Dunnigan Hills** 74.37 349 eP P 20 01 55.0 -3.5
R42A **Luebbering** 74.40 14 P P 20 01 58.6 0.0
baz=194
AFDM **Forest Hills D** 74.40 349 eP P 20 01 59.6 +0.9
comp=Z,23nm,1.5s
DZM **Mont Dzumac** 74.47 254 LR LR 20 25 59.5
comp=Z,433nm,20.1s,baz=108,slow=29
DZM **Mont Dzumac** 74.47 254 eS SKiKP 20 11 28.7 +2.7
comp=Z,2µm,31.6s
DZM eSS SS 20 16 16.4 -4.4
comp=Z,764nm,31.2s
DZM eLQ LQ 20 21 29.5
comp=Z,2µm,31.1s
DZM eLR LR 20 24 36.0
comp=Z,3µm,31.9s
DZM **Mont Dzumac** 74.47 254 eP P 20 02 00.7 +1.0
comp=Z,42nm,1.8s
TZTN **Tazewell** 74.47 20 eP P 20 01 59.4 +0.2
comp=Z,42nm,1.5s
NLU **North Lily Min** 74.50 357 eP P 20 01 59.3 -0.2
comp=Z,17nm,1.3s
Q38A **Cooks Store, C** 74.55 11 P P 20 01 59.8 +0.3
baz=192
Q39A **Willow Grove F** 74.74 12 P P 20 02 02.1 +1.4
baz=192
USIN **University of** 74.76 16 eP P 20 01 59.9 -0.8
comp=Z,36nm,1.1s
DUG **Dugway, Tooele** 74.78 356 eP P 20 02 00.6 -0.4
DUG pmax pmax
comp=Z,9.0nm,1.0s
DUG MLR MLR
comp=Z,521nm,20.0s
DUG **Dugway, Tooele** 74.78 356 eP P 20 02 00.6 -0.4
comp=Z,8.8nm,1.0s
DUG LR LR
comp=Z,521nm,20.0s
SLM **Saint Louis** 74.85 14 eP P 20 02 02.0 +0.7
SLM pmax pmax
comp=Z,12nm,0.7s
SLM **Saint Louis** 74.85 14 eP P 20 02 02.0 +0.7
comp=Z,12nm,0.7s
S48A **Wiedeman Farm,** 74.86 18 P P 20 02 00.6 -0.8
baz=198
PAHR **Pah Rah Range** 74.92 351 eP P 20 02 01.9 0.0
comp=Z,13nm,1.2s
CASY **Casey** 75.03 195 PFAKE 20 02 10.0 +7.9
CASY LR LR
comp=Z,205nm,21.0s
CNNC **Cliffs of the** 75.05 25 eP P 20 02 00.8 -1.7
comp=Z,29nm,0.3s
CNNC LR LR
comp=Z,3µm,20.0s
ORV **Oroville** 75.08 349 eP P 20 02 05.5 +2.9
ORV pmax pmax
comp=Z,31nm,1.7s
ORV **Oroville** 75.08 349 eP P 20 02 05.5 +2.9
comp=Z,31nm,1.7s
JLU **Jordanelle** 75.12 357 eP P 20 02 04.0 +0.9
comp=Z,45nm,1.6s
NCAT **North Carolina** 75.19 23 eP P 20 02 03.8 +0.5
comp=Z,48nm,1.9s
BEKR **Beckworth** 75.21 350 eP P 20 02 04.9 +1.3
comp=Z,10.0nm,1.0s
P38A **Dawn** 75.22 11 P P 20 02 04.3 +1.0
baz=192
CTU **Camp Tracy** 75.22 357 eP P 20 02 04.0 +0.4
comp=Z,17nm,1.2s
O34A **Beatrice** 75.31 9 P P 20 02 04.9 +1.0
baz=189
WCI **Wyandotte Cave** 75.34 17 eP P 20 02 03.9 -0.2
WCI pmax pmax
comp=Z,10.0nm,1.1s
WCI **Wyandotte Cave** 75.34 17 eP P 20 02 03.9 -0.2
comp=Z,9.7nm,1.1s
N23A **Red Feather La** 75.35 1 eP P 20 02 03.2 -1.3
comp=Z,32nm,1.5s
OLIL **Olney** 75.40 16 eP P 20 02 03.5 -0.9
comp=Z,33nm,1.4s
BGU **Big Grassy Mou** 75.52 356 eP P 20 02 06.4 +1.1
comp=Z,19nm,1.3s
Q45A **Warren Harvey,** 75.54 16 P P 20 02 07.9 +2.6
baz=196
OGNE **Ogallala** 75.56 4 P P 20 02 07.6 +2.1
baz=185
OGNE **Ogallala** 75.56 4 eP P 20 02 05.3 -0.2
comp=Z,41nm,1.2s
OGNE LR LR
comp=Z,735nm,19.0s
P41A **Barry, Barry** 75.69 13 P P 20 02 06.6 +0.5
baz=194
PHWY **Pilot Hill** 75.77 2 eP P 20 02 07.7 +0.8
comp=Z,28nm,1.6s
BLA **Blacksburg** 76.02 22 eP P 20 02 06.9 -1.2
BLA pmax pmax
comp=Z,16nm,1.1s
BLA MLR MLR
comp=Z,1µm,19.0s
BLA **Blacksburg** 76.02 22 eP P 20 02 06.9 -1.2
comp=Z,16nm,1.1s
BLA LR LR
comp=Z,1µm,19.0s
HWUT **Hardware Ranch** 76.12 357 eP P 20 02 09.0 +0.2
comp=Z,12nm,1.3s
HWUT LR LR
comp=Z,958nm,19.0s
BLO **Bloomington** 76.18 17 eP P 20 02 07.8 -1.1
BLO pmax pmax
comp=Z,49nm,1.8s
BLO **Bloomington** 76.18 17 eP P 20 02 07.8 -1.1
comp=Z,49nm,1.8s
VWCC **Virginia Weste** 76.19 22 eP P 20 02 08.6 -0.5
HVU **Hansel Valley** 76.36 356 eP P 20 02 10.2 +0.2
HVU pmax pmax
comp=Z,11nm,1.2s
HVU **Hansel Valley** 76.36 356 eP P 20 02 10.2 +0.2
comp=Z,11nm,1.2s
HDIL **Hopedale** 76.89 14 eP P 20 02 12.9 0.0
comp=Z,80nm,1.6s
HDIL LR LR
comp=Z,789nm,20.0s
K22A **Casper** 77.09 1 eP P 20 02 13.1 -1.1
comp=Z,34nm,0.4s
LGMM **Garner Mountai** 77.13 349 eP P 20 02 13.3 -1.1
SFIN **Lafayette** 77.20 16 eP P 20 02 13.2 -1.5
comp=Z,32nm,1.5s
MOD **Modoc Plateau** 77.20 350 eP P 20 02 16.0 +1.2
comp=Z,46nm,1.8s
BW06 **Boulder Array** 77.22 359 P P 20 02 15.3 +0.3
baz=178
BW06 **Boulder Array** 77.22 359 eP P 20 02 14.8 -0.2
comp=Z,20nm,1.0s
BW06 LR LR
comp=Z,766nm,21.0s
LHEM **Herd Peak** 77.22 349 eP P 20 02 13.4 -1.7
LHEM eSP pP 20 02 18.5 -1.0
PD31 **Pinedale Array** 77.22 359 eP P 20 02 14.2 -0.8
PDAR **Pinedale Array** 77.22 359 P P 20 02 14.5 -0.5
comp=Z,4.5nm,0.9s,baz=164,slow=5.3,SNR=20
PDAR **Pinedale Array** 77.22 359 eP P 20 02 14.1 -0.9
AHID **Auburn Hatcher** 77.26 357 eP P 20 02 15.6 +0.4
comp=Z,12nm,1.0s
AHID LR LR
comp=Z,942nm,20.0s
URVA **University of** 77.28 24 eP P 20 02 13.1 -2.0
YBH **Yreka Blue Hor** 77.40 349 LR LR 20 30 35.1
comp=Z,219nm,19.2s,baz=173,slow=31
IP07 **Quail** 77.43 24 eP P 20 02 16.1 +0.1
comp=Z,40nm,1.8s
IP05 **Hopewell Churc** 77.44 24 eP P 20 02 15.9 -0.2
comp=Z,54nm,1.9s
IP06 **Yanceyville** 77.46 24 eP P 20 02 15.2 -1.0
comp=Z,21nm,1.6s
SCIA **State Center** 77.49 11 PFAKE 20 02 30.0 +14
SCIA LR LR

comp=Z,638nm,21.0s
WVOR Wild Horse Val 77.52 352 *e*P P 20 02 16.7 +0.2
WVOR pmax pmax
comp=Z,16nm,1.1s
WVOR Wild Horse Val 77.52 352 *e*P P 20 02 16.7 +0.2
comp=Z,16nm,1.1s
IP03 Louisa 77.53 24 *e*P P 20 02 13.8 -2.7
comp=Z,12nm,1.2s
IP04 Greensprings 77.57 24 *e*P P 20 02 15.8 -1.0
comp=Z,25nm,1.5s
SPRD Spring Road, M 77.58 24 *e*P P 20 02 16.2 -0.5
comp=Z,24nm,1.5s
MAW Mawson 77.66 176 LR LR 20 34 28.7
comp=Z,1µm,19.2s,baz=190,slow=34
PTRD Partlow Road 77.75 24 *e*P P 20 02 16.4 -1.4
comp=Z,107nm,0.2s
REDW Red Top Meadow 77.85 358 *e*P P 20 02 17.8 -0.7
comp=Z,20nm,1.2s
CBN Corbin Frederi 77.91 24 PFAKE 20 02 30.0 +11
CBN LR LR
comp=Z,3µm,20.0s
SNOW Snow King Moun 77.94 358 *e*P P 20 02 19.5 +0.4
comp=Z,24nm,1.2s
TPAW Teton Pass 77.98 358 *e*P P 20 02 19.3 0.0
comp=Z,21nm,1.2s
ACSO Alum Creek Sta 78.08 19 *e*P P 20 02 18.2 -1.4
ACSO LR LR
comp=Z,2µm,20.0s
LOHW Long Hollow 78.09 358 *e*P P 20 02 19.6 -0.2
comp=Z,32nm,1.6s
BBSR BB Station 78.10 36 *e*P P 20 02 18.2 -1.6
comp=Z,94nm,1.9s
BBSR LR LR
comp=Z,850nm,19.0s
FXWY Fox Creek 78.13 358 *e*P P 20 02 20.0 -0.1
comp=Z,45nm,1.9s
MFID Camas Ranch 78.20 354 *e*P P 20 02 19.6 -0.7
comp=Z,32nm,2.0s
MOOW Moose Ponds 78.23 358 *e*P P 20 02 19.9 -0.7
comp=Z,7.4nm,1.1s
HLID Hailey 78.23 355 P P 20 02 21.2 +0.7
baz=174
HLID Hailey 78.23 355 *e*P P 20 02 20.2 -0.3
HUMO Hull Mountain 78.29 349 *e*P P 20 02 20.4 -0.3
comp=Z,37nm,1.5s
IMW Indian Meadow 78.39 358 *e*P P 20 02 21.2 -0.4
comp=Z,16nm,1.1s
J08A Circle Bar Ran 78.41 352 *e*P P 20 02 21.9 +0.5
comp=Z,61nm,1.9s
MCWV Mont Chateau 78.45 22 *e*P P 20 02 20.0 -1.6
comp=Z,37nm,1.6s
BBOR Butler Butte 78.52 349 *e*P P 20 02 23.2 +1.1
RSSD Black Hills 78.63 3 *e*P P 20 02 23.3 +0.5
RSSD pmax pmax
comp=Z,37nm,1.0s
RSSD Black Hills 78.63 3 *e*P P 20 02 23.3 +0.5
comp=Z,37nm,1.0s
YPP Pitchstone Pla 78.75 358 *e*P P 20 02 22.8 -0.8
comp=Z,16nm,1.5s
ECSD EROS Data Cent 78.82 8 P P 20 02 24.8 +1.2
baz=189
ECSD EROS Data Cent 78.82 8 *e*P P 20 02 23.9 +0.3
comp=Z,18nm,1.0s
ECSD LR LR
comp=Z,415nm,20.0s
YFT Old Faithful 78.94 358 *e*P P 20 02 22.1 -2.4
comp=Z,8.7nm,0.4s
JFWS Jewell Farm 78.98 13 *e*P P 20 02 21.8 -2.7
JFWS pmax pmax
comp=Z,12nm,1.1s
JFWS MLR MLR
comp=Z,663nm,20.0s
JFWS Jewell Farm 78.98 13 *e*P P 20 02 21.8 -2.7
comp=Z,12nm,1.1s
JFWS LR LR
comp=Z,663nm,20.0s
LKWY Lake 79.04 358 PFAKE 20 02 40.0 +15
LKWY LR LR
comp=Z,277nm,20.0s
J39A Decorah 79.13 12 P P 20 02 26.8 +1.5
baz=193
PINE Pine Mountain 79.15 350 *e*P P 20 02 28.3 +2.7
comp=Z,45nm,1.5s
YMR Madison River 79.16 358 *e*P P 20 02 26.1 +0.4
comp=Z,18nm,1.2s
SDMD Soldier's Deli 79.18 24 *e*P P 20 02 24.8 -0.8
comp=Z,7.6nm,1.0s
YNR Norris Junctio 79.19 358 *e*P P 20 02 24.5 -1.4
comp=Z,18nm,1.5s
I07A Izee 79.24 351 *e*P P 20 02 26.4 +0.3
comp=Z,22nm,1.4s
YHB Horse Butte 79.25 357 *e*P P 20 02 23.5 -2.7
comp=Z,31nm,1.8s
YHH Holmes Hill 79.27 358 *e*P P 20 02 27.2 +0.8
comp=Z,31nm,1.7s
MCMT McKenzie Canyo 79.40 356 *e*P P 20 02 27.1 +0.1
O56A Blue Knob Stat 79.40 22 P P 20 02 27.6 +0.7
baz=204
O56A Blue Knob Stat 79.40 22 *e*P P 20 02 26.7 -0.2
comp=Z,22nm,1.4s
RLMT Red Lodge 79.57 359 *e*P P 20 02 28.6 +0.6
comp=Z,14nm,1.2s
RLMT LR LR
comp=Z,707nm,19.0s
N54A Moraine State 79.60 21 *e*P P 20 02 28.1 +0.2
comp=Z,20nm,0.9s
I39A Houston 79.67 12 P P 20 02 29.2 +1.0
baz=193
BMO Blue Mountains 79.76 353 *e*P P 20 02 30.1 +1.3
BMO pmax pmax
comp=Z,29nm,1.9s
BMO MLR MLR
comp=Z,413nm,20.0s
BMO Blue Mountains 79.76 353 *e*P P 20 02 30.1 +1.3
comp=Z,29nm,1.9s
BMO LR LR
comp=Z,413nm,20.0s
J43A Natural Harves 79.79 14 P P 20 02 30.4 +1.6
baz=196
AAM Ann Arbor 79.84 18 *e*P P 20 02 28.9 -0.2
AAM pmax pmax
comp=Z,16nm,0.9s
AAM MLR MLR
comp=Z,2µm,19.0s
AAM Ann Arbor 79.84 18 *e*P P 20 02 28.9 -0.2
comp=Z,16nm,0.9s
AAM LR LR
comp=Z,2µm,19.0s
MVL Millersville 79.87 24 *e*P P 20 02 28.5 -0.9
comp=Z,14nm,1.2s
DLMT Dillon 79.92 357 *e*P P 20 02 30.2 +0.5
comp=Z,6.9nm,1.0s
SSPA Standing Stone 79.95 23 *e*P P 20 02 30.1 +0.3
comp=Z,31nm,1.6s
PAGS Pennsylvania G 79.95 24 *e*P P 20 02 29.1 -0.8
comp=Z,23nm,1.3s
CAN Canberra 80.06 234 PFAKE 20 02 40.0 +9.1
CAN LR LR
comp=Z,856nm,21.0s
BOZ Bozeman (W) 80.11 357 *e*P P 20 02 31.8 +1.0
BOZ pmax pmax
comp=Z,10.0nm,0.6s
BOZ MLR MLR
comp=Z,615nm,19.0s
BOZ Bozeman (W) 80.11 357 *e*P P 20 02 31.8 +1.0
comp=Z,9.9nm,0.6s
BOZ LR LR
comp=Z,615nm,19.0s
ALLY Alegheny Colle 80.19 21 *e*P P 20 02 30.6 -0.5
comp=Z,26nm,0.9s
M54A Oil Creek Stat 80.20 21 *e*P P 20 02 31.9 +0.7
comp=Z,12nm,1.0s
H04A Detroit Lake 80.20 350 *e*P P 20 02 31.7 +0.6
comp=Z,37nm,1.4s
GCMT Greycliff 80.24 359 *e*P P 20 02 32.0 +0.5
H38A Maiden Rock 80.34 11 P P 20 02 33.8 +2.0
baz=193
G08A Pilot Rock 80.37 352 *e*P P 20 02 31.8 -0.3
comp=Z,24nm,1.4s
H40A Chili 80.61 12 P P 20 02 33.4 +0.1
baz=194
ERPA Erie 80.67 21 *e*P P 20 02 32.9 -0.7
comp=Z,11nm,1.0s
LUPA Lehigh Univers 80.74 24 *e*P P 20 02 33.9 -0.1
comp=Z,4.3nm,1.9s
SPMN Marine on St. 80.80 11 *e*P P 20 02 33.0 -1.3
comp=Z,12nm,0.8s

F10A Beach Ranch, E 80.86 353 *e*P P 20 02 35.2 +0.5
comp=Z,22nm,1.4s
N59A State Game Lan 80.89 24 *e*P P 20 02 33.8 -1.1
comp=Z,32nm,1.6s
F07A Phinny Hill Vi 81.08 351 *e*P P 20 02 36.7 +1.0
comp=Z,19nm,1.3s
LAO LASA Array 81.13 1 PFAKE 20 02 50.0 +14
LAO LR LR
comp=Z,531nm,19.0s
G40A Rib Lake 81.27 12 P P 20 02 38.2 +1.4
baz=194
F36A Milaca 81.32 10 P P 20 02 38.4 +1.4
baz=192
HAWA Hanford 81.52 352 PFAKE 20 02 50.0 +12
HAWA LR LR
comp=Z,324nm,20.0s
F39A Loretta 81.77 12 P P 20 02 41.4 +2.0
baz=194
MMNY Mt. Morris Dam 81.85 22 *e*P P 20 02 38.9 -1.0
comp=Z,36nm,1.5s
BINY Binghamton 81.97 23 PFAKE 20 02 50.0 +9.4
BINY LR LR
comp=Z,3µm,21.0s
GLMI Grayling 81.99 16 PFAKE 20 02 50.0 +9.4
GLMI LR LR
comp=Z,2µm,20.0s
E36A McGregor 82.00 10 P P 20 02 42.5 +1.9
baz=192
COWI Conover 82.27 13 *e*P P 20 02 42.2 +0.1
comp=Z,11nm,0.8s
COWI LR LR
comp=Z,931nm,20.0s
JTMT Jette 82.39 356 *e*P P 20 02 43.7 +0.9
comp=Z,14nm,1.2s
EGMT Eagleton 82.48 359 PFAKE
EGMT LR LR
comp=Z,627nm,21.0s
MDND Maddock 82.60 6 P P 20 02 44.4 +0.6
comp=Z,21nm,1.0s
D05A Enumclaw 82.62 350 *e*P P 20 02 45.5 +1.7
comp=Z,122nm,1.9s
E41A Kenton 82.65 13 P P 20 02 46.3 +2.3
baz=195
C31A Landman Farms, 82.71 7 P P 20 02 45.6 +1.3
baz=188
C09A Chrisman Ranch 82.78 353 *e*P P 20 02 46.1 +1.5
comp=Z,34nm,1.4s
NLWA Neilton Lookou 83.10 349 PFAKE 20 03 00.0 +14
NLWA LR LR
comp=Z,533nm,19.0s
NEW Newport 83.12 354 P P 20 02 49.2 +2.7
baz=172
NEW Newport 83.12 354 *e*P P 20 02 47.9 +1.4
NEW pmax pmax
comp=Z,24nm,1.4s
NEW MLR MLR
comp=Z,465nm,20.0s
NEW Newport 83.12 354 *e*P P 20 02 47.9 +1.4
comp=Z,24nm,1.4s
NEW LR LR
comp=Z,465nm,20.0s
QUA2 Belchertown 83.28 26 *e*P P 20 02 46.7 -0.6
comp=Z,33nm,1.3s
AGMN Agassiz Nation 83.41 8 P P 20 02 47.9 0.0
baz=190
AGMN Agassiz Nation 83.41 8 *e*P P 20 02 47.0 -0.9
comp=Z,45nm,1.9s
AGMN LR LR
comp=Z,455nm,20.0s
B08A Colville Reser 83.44 352 *e*P P 20 02 48.6 +0.5
comp=Z,13nm,1.3s
EYMN Ely 83.65 11 *e*P P 20 02 49.4 +0.3
comp=Z,32nm,1.6s
EYMN LR LR
comp=Z,845nm,20.0s
WALA Waterton Lakes 83.67 356 *e*P P 20 02 50.1 +0.7
comp=Z,43nm,1.9s
B35A Bob, Littlefor 83.74 9 P P 20 02 50.8 +1.3
baz=191
B06A Marblemount 83.86 351 *e*P P 20 02 51.4 +1.2
comp=Z,32nm,1.5s
A33A Warroad 84.09 8 P P 20 02 52.0 +0.6
baz=190
NCB Newcomb 84.13 24 *e*P P 20 02 52.6 +0.9
comp=Z,48nm,1.6s
PGC Sidney 84.26 350 *e*P P 20 02 53.1 +1.0
comp=Z,31nm,1.1s
EIDS Eidsvold 84.40 243 *e*P P 20 02 54.6 +0.9
comp=Z,30nm,1.4s
FFD Franklin Falls 84.57 26 *e*P P 20 02 53.3 -0.6
comp=Z,122nm,1.9s
LONY Lake Ozonia 84.59 23 *e*P P 20 02 51.9 -2.2
comp=Z,21nm,1.2s
LONY LR LR
comp=Z,1µm,22.0s
FRNY Flat Rock 85.11 24 *e*P P 20 02 57.1 +0.6
comp=Z,37nm,1.8s
ULM Lac du Bonnet 85.33 8 P P 20 02 59.4 +1.8
comp=Z,4.6nm,0.8s,baz=213,slow=3.7,SNR=12
ULM Lac du Bonnet 85.33 8 *e*P P 20 02 57.3 -0.3
ULM pmax pmax
comp=Z,9.0nm,0.8s
ULM Lac du Bonnet 85.33 8 *e*P P 20 02 57.3 -0.3
comp=Z,9.4nm,0.8s
TRQ Mont Tremblant 86.03 22 *e*P P 20 03 00.9 -0.3
HNR Honiara 86.58 261 PFAKE 20 03 20.0 +15
HNR LR LR
comp=Z,608nm,20.0s
STKA Stephens Creek 87.05 233 LR LR 20 35 45.3
comp=Z,536nm,19.5s,baz=156,slow=31
EDM Edmonton 87.80 357 *e*P P 20 03 09.3 -0.4
EDM pmax pmax
comp=Z,69nm,1.9s
EDM Edmonton 87.80 357 *e*P P 20 03 09.3 -0.4
comp=Z,69nm,1.9s
ASCN Ascension 88.28 98 PFAKE 20 03 20.0 +7.0
ASCN LR LR
comp=Z,2µm,21.0s
FFC Flin Flon 89.31 3 *e*P P 20 03 15.4 -1.3
FFC pmax pmax
comp=Z,25nm,1.8s
FFC MLR MLR
comp=Z,661nm,21.0s
FFC Flin Flon 89.31 3 *e*P P 20 03 15.4 -1.3
comp=Z,25nm,1.8s
FFC LR LR
comp=Z,661nm,21.0s
CTAO Charters Tower 91.11 245 PFAKE 20 03 40.0 +14
CTAO LR LR
comp=Z,992nm,19.0s
SACV Santiago Islan 93.69 74 PFAKE 20 03 50.0 +12
SACV LR LR
comp=Z,758nm,20.0s
SCHQ Schefferville 95.94 22 LR LR 20 43 42.0
comp=Z,699nm,21.1s,baz=211,slow=33
PAF Port-aux-Franc 96.19 179 PFAKE 20 04 00.0 +11
PAF LR LR
comp=Z,2µm,22.0s
PMG Port Moresby 96.86 254 LR LR 20 37 25.7
comp=Z,324nm,21.9s,baz=132,slow=29
YKA Yellowknife Ar 97.12 357 P P 20 03 51.0 -1.5
comp=Z,0.4nm,0.9s,baz=165,slow=4.5,SNR=6.2
YKA LR LR 20 44 42.0
comp=Z,55nm,19.1s,baz=180,slow=34
YKA Yellowknife Ar 97.12 357 P P 20 03 51.0 -1.5
YKA MLR MLR
comp=Z,55nm,19.1s
YKA Yellowknife Ar 97.12 357 P P 20 03 51.0 -1.5
SUR Sutherland 97.53 138 PFAKE 20 04 10.0 +14
SUR LR LR
comp=Z,3µm,20.0s
AS01 Alice Springs 97.54 235 *e*P Pdif 20 03 59.3 +3.6
ASAR Alice Springs 97.57 234 P P 20 03 54.4 -1.4
ASAR LR LR 20 40 51.4
comp=Z,0.6nm,1.0s,baz=134,slow=4.0,SNR=3.0
comp=Z,676nm,21.9s,baz=164,slow=31
BBTS Babate 99.18 79 LR LR 20 46 24.0
comp=Z,1µm,18.9s,baz=238,slow=34
KDAK Kodiak Island 99.63 337 PFAKE 20 04 20.0 +16
KDAK LR LR
comp=Z,191nm,20.0s
WRAB Tennant Creek 99.78 238⇑ *e*P **Pdif 20 04 07.7 +2.0**
WRAB Tennant Creek 99.78 238 PFAKE 20 04 20.0 +14
WRAB LR LR
comp=Z,1µm,19.0s
WRA Warramunga Arr 99.79 238 LR LR 20 45 04.0
comp=Z,806nm,18.6s,baz=150,slow=33

H01W1 Cape Leeuwin H 100.37 214 T T 21 56 23.0
baz=144,slow=75,SNR=21
H01W2 Cape Leeuwin H 100.38 214 T T 21 56 23.7
baz=144,slow=75,SNR=24
H01W3 Cape Leeuwin H 100.39 214 T T 21 56 24.3
baz=144,slow=75,SNR=20
NWAO Narrogin (SRO) 100.50 217 PFAKE 20 04 20.0 +11
NWAO LR LR
comp=Z,1µm,21.0s
EGAK Eagle 102.66 346 PFAKE 20 04 30.0 +13
EGAK LR LR
comp=Z,557nm,22.0s
COLA College 104.19 344 PFAKE 20 04 40.0 +16
COLA LR LR
comp=Z,674nm,22.0s
CMLA Cha da Macela 104.95 54 PFAKE 20 04 40.0 +12
CMLA LR LR
comp=Z,1µm,20.0s
MBWA Marble Bar 108.39 226 PFAKE 20 09 00.0
MBWA LR LR
comp=Z,536nm,19.0s
TORD Torodi Ar. Bea 113.27 90 PP PP 20 09 43.4 -6.2
comp=Z,1.1nm,0.8s,baz=249,slow=6.3,SNR=5.5
TOA1 Torodi Ar. Sit 113.27 90 *e*PP PP 20 09 43.4 -6.2
LSZ Lusaka 114.94 132 PFAKE 20 09 10.0 +7.3
LSZ LR LR
comp=Z,1µm,19.0s
RTC Rabat Centre 116.43 66 PFAKE 20 09 20.0 +15
RTC LR LR
comp=Z,6µm,20.0s
MTE Manteigas 118.55 59 PFAKE 20 09 20.0 +11
MTE LR LR
comp=Z,1µm,20.0s
PET Petropavlovsk 118.96 316 *e*PKIKP **PKPdf 20 09 11.6 +2.6**
PET *e* 20 10 38.4
PET *e*PS **PS 20 20 20.5 +4.3**
PET *e*PPS PPS 20 21 34.0
PET *e*SS SS 20 26 52.5 +4.0
PET Petropavlovsk 118.96 316 PFAKE 20 09 20.0 +11
PET LR LR
comp=Z,254nm,19.0s
PETK Petropavlovsk- 119.53 316 PKP **PKPdf 20 09 08.5 -1.6**
comp=Z,1.5nm,0.8s,baz=83,slow=13,SNR=6.4
PETK Petropavlovsk- 119.53 316 PKIKP **PKPdf 20 09 08.5 -1.6**
PETK pmax pmax
comp=Z,1.0nm,0.9s
PEA1 Petropavlovsk- 119.53 316 *e*PKPdf **PKPdf 20 09 08.5 -1.6**
KAPI Kappang 120.31 238 PFAKE 20 09 20.0 +7.1
KAPI LR LR
comp=Z,467nm,20.0s
PAB San Pablo 120.50 61 PFAKE 20 09 20.0 +7.4
PAB LR LR
comp=Z,1µm,20.0s
TAM Tamanrasset 121.24 83 PFAKE 20 09 30.0 +15
TAM LR LR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 121.42 152 PFAKE 20 09 30.0 +15
ABPO LR LR
comp=Z,378nm,21.0s
DAV Davao City (W) 123.88 253 PFAKE 20 09 30.0 +10
DAV LR LR
comp=Z,358nm,22.0s
MA2 Magadan 124.93 323⇑ *i*PKIKP **PKPdf 20 09 22.8 +2.5**
EKA Eskdalemuir Ar 125.78 43 PKP **PKPdf 20 09 22.2 +0.2**
comp=Z,1.3nm,0.8s,baz=100,slow=6.8,SNR=4.4
MBAR Mbarara 127.59 123 PFAKE 20 09 40.0 +13
MBAR LR LR
comp=Z,323nm,19.0s
SSB Saint Sauveur 128.50 57 PFAKE 20 09 40.0 +12
SSB LR LR
comp=Z,844nm,21.0s
KBS Kingsbay 129.51 13 PFAKE 20 09 40.0 +11
KBS LR LR
comp=Z,2µm,19.0s
BNI Bardonecchia 129.93 57 PFAKE 20 09 40.0 +10
BNI LR LR
comp=Z,2µm,20.0s
WLF Walferdange 130.42 51 PFAKE 20 09 40.0 +8.9
WLF LR LR
comp=Z,721nm,19.0s
KKM Kota Kinabalu 130.44 245 PFAKE 20 09 40.0 +7.6
KKM LR LR
comp=Z,345nm,22.0s
VSL Villasalto 130.55 65 PFAKE 20 09 40.0 +8.3
VSL LR LR
comp=Z,652nm,22.0s
ECH Echery 130.85 53 PFAKE 20 09 40.0 +8.0
ECH LR LR
comp=Z,729nm,20.0s
KSM Kuching 131.48 235 PFAKE 20 09 50.0 +16
KSM LR LR
comp=Z,429nm,22.0s
KMBO Kilima Mbogo 131.50 130 PFAKE 20 09 50.0 +15
KMBO LR LR
comp=Z,1µm,21.0s
BFO Black Forest 131.64 53 PFAKE 20 09 40.0 +6.5
BFO LR LR
comp=Z,644nm,20.0s
TUE Stuetta 132.03 56 PFAKE 20 09 50.0 +15
TUE LR LR
comp=Z,828nm,20.0s
VLC Villacollemand 132.34 59 PFAKE 20 09 50.0 +15
VLC LR LR
comp=Z,883nm,22.0s
CLTB Caltabellotta 132.94 69 PFAKE 20 09 50.0 +14
CLTB LR LR
comp=Z,635nm,20.0s
TIXI Tiksi 133.04 339⇑ *i*PKIKP **PKPdf 20 09 36.7 +1.3**
WDD Wied Dalam 133.47 71 PFAKE 20 09 50.0 +13
WDD LR LR
comp=Z,1µm,20.0s
AQU L'Aquila 134.17 62 PFAKE 20 09 50.0 +12
AQU LR LR
comp=Z,800nm,21.0s
NKC Novy Kostel 134.52 51 *e*PKPdf **PKPdf 20 09 44.2 +5.4**
NKC *ex* x 20 09 51.6
NKC Novy Kostel 134.52 51 *e*PKIKP **PKPdf 20 09 44.2 +5.4**
NKC *e* 20 09 51.6
CLL Collm 134.93 50 *e*PKIKP **PKPdf 20 09 47.0 +7.5**
CLL MLR MLR
comp=Z,800nm,22.0s
CLL Collm 134.93 50 *es*PKiKP **PKPdf 20 09 47.0 +7.5**
CLL *e*PKSdf **PKSdf 20 13 18.0 +2.4**
CLL *e*PSKS 20 22 23.0
CLL *e*PPS PPS 20 24 19.0
CLL *e*SS SS 20 30 06.0 -1.8
CLL *e* 20 34 24.0
CLL *e*SSS SSS 20 35 06.0
CLL *e* 20 37 12.0
CLL *e*SSSS 20 39 06.0
CLL Lm MLR 21 00 00.0
comp=Z,800nm,22.0s
HFS Hagfors 134.96 37 PKP **PKPdf 20 09 37.5 -1.8**
comp=Z,1.5nm,0.7s,baz=191,slow=15,SNR=2.9
CEL Celeste 135.16 68 PFAKE 20 09 50.0 +10
CEL LR LR
comp=Z,637nm,20.0s
KHC Kasperske Hory 135.18 53 *e*PKPdf **PKPdf 20 09 41.0 +0.9**
KHC *ex* x 20 09 53.3
KHC Kasperske Hory 135.18 53 *e*PKIKP **PKPdf 20 09 41.0 +0.9**
GEA0 GERESS Array S 135.24 53 *e*PKPdf **PKPdf 20 09 38.6 -1.7**
GERES GERESS Array B 135.24 53 PKP **PKPdf 20 09 38.6 -1.7**
comp=Z,0.7nm,0.9s,baz=311,slow=3.6,SNR=2.8
YAK Yakutsk 135.24 326‖ *e*PKIKP **PKPdf 20 09 40.6 +0.9**
YAK pmax pmax
comp=Z,10.0nm,1.7s
CUC Castrocucco 135.49 66 PFAKE 20 09 50.0 +9.0
CUC LR LR
comp=Z,437nm,20.0s
BRG Berggiesshubel 135.51 50 *e*PKP PKPdf 20 09 54.0 +13
comp=Z,6.4nm,1.4s
BRG *e* 20 30 57.0
BRG *e* 20 35 31.0
BRG Berggiesshubel 135.51 50 *e*PKIKP PKPdf 20 09 54.0 +13
BRG pmax pmax
comp=Z,6.0nm,1.4s
MDJ Mudanjiang 135.65 301 PFAKE 20 09 50.0 +8.9
MDJ LR LR
comp=Z,416nm,21.0s
TIP Timpagrande 136.03 67 PFAKE 20 09 50.0 +7.9
TIP LR LR
comp=Z,806nm,21.0s
INCN Inchon 136.53 290 PFAKE 20 09 50.0 +7.0
INCN LR LR
comp=Z,365nm,19.0s

YHNB	**Yeheng**	**136.55**	**270**	PFAKE			20 09 50.0	+6.5
YHNB				LR	LR			
	comp=Z,322nm,20.0s							
DGAR	**Diego Garcia**	**138.01**	**180**	PFAKE			20 10 00.0	+14
DGAR				LR	LR			
	comp=Z,598nm,21.0s							
CN2	**Changchun**	**138.50**	**299**	*e*PKP	**PKPdf**		**20 09 51.3**	**+4.9**
CN2				*e*PP	PP		20 12 46.8	+9.5
CN2				LR	LR			
	comp=Z,400nm,19.0s							
CN2				LR	LR			
	comp=Z,300nm,19.0s							
CN2				LR	LR			
	comp=Z,300nm,22.0s							
VYHS	**Vyhne**	**138.62**	**54**	*e*PKIKP	**PKPdf**		**20 09 50.2**	**+3.7**
VYHS	**Vyhne**	**138.62**	**54**	*e*PKP	**PKPdf**		**20 09 50.2**	**+3.7**
TIR	**Tirane**	**138.76**	**65**	PFAKE			20 10 00.0	+13
TIR				LR	LR			
	comp=Z,723nm,22.0s							
PSZ	**Piszkesteto**	**139.32**	**55**	PFAKE			20 10 00.0	+12
PSZ				LR	LR			
	comp=Z,656nm,20.0s							
BZS	**Buzias**	**140.44**	**58**	⇑*iP*	**PKPdf**		**20 09 52.1**	**+2.2**
BZS	**Buzias**	**140.44**	**58**	⇑PKIKP	**PKPdf**		**20 09 52.1**	**+2.2**
FIA0	**FINESS Array S**	**140.54**	**33**	*e*PKPpre	PKPpre		20 09 45.8	
FINES	**FINESS Array B**	**140.54**	**33**	PKhKP	PKPpre		20 09 45.8	
	comp=Z,1.3nm,0.8s,baz=204,slow=3.0,SNR=3.4							
KULM	**Kulim**	**140.62**	**228**	PFAKE			20 10 00.0	+8.8
KULM				LR	LR			
	comp=Z,746nm,22.0s							
DRGR		**141.22**	**57**	⇑*iP*	**PKPdf**		**20 09 48.5**	**-2.9**
DRGR		**141.22**	**57**	⇑PKIKP	**PKPdf**		**20 09 48.5**	**-2.9**
NJ2	**Nanjing**	**141.29**	**279**	*e*PKP	**PKPdf**		**20 09 54.1**	**+2.3**
IDI	**Anoyia**	**141.50**	**75**	PKhKP	PKPpre		20 09 45.6	
	comp=Z,3.3nm,0.9s,baz=304,slow=18,SNR=2.1							
IDI	**Anoyia**	**141.50**	**75**	⇑*iP*	**PKPdf**		**20 09 53.0**	**+0.8**
SANT	**Santorini**	**142.19**	**74**	PFAKE			20 10 00.0	+6.6
SANT				LR	LR			
	comp=Z,443nm,22.0s							
HIA	**Hailar**	**142.53**	**307**	PFAKE			20 10 00.0	+6.4
HIA				LR	LR			
	comp=Z,337nm,20.0s							
BUR04	**Bucovina Ar. S**	**142.91**	**55**	*e*PKPpre	PKPpre		20 09 50.0	
BURAR	**Bucovina Array**	**142.91**	**55**	⇓*iP*	**PKPdf**		**20 10 01.9**	**+7.5**
BURAR	**Bucovina Array**	**142.91**	**55**	⇓PKIKP	**PKPdf**		**20 10 01.9**	**+7.5**
QIZ	**Qiongzhong**	**143.24**	**255**	PKP	**PKPdf**		**20 09 57.6**	**+1.9**
QIZ				PP	**PP**		**20 13 09.8**	**+3.3**
QIZ				SS	SS		20 31 53.4	+6.8
QIZ				LR	LR			
	comp=Z,280nm,21.2s							
QIZ				LR	LR			
	comp=Z,160nm,18.6s							
QIZ				LR	LR			
	comp=Z,340nm,21.6s							
QIZ	**Qiongzhong**	**143.24**	**255**	PFAKE			20 10 10.0	+14
QIZ				LR	LR			
	comp=Z,405nm,21.0s							
MLR	**Muntele Rosu**	**143.47**	**59**	PKhKP	PKPpre		20 09 48.3	
	comp=Z,0.4nm,0.8s,baz=72,slow=16,SNR=2.4							
MLR	**Muntele Rosu**	**143.47**	**59**	⇑*iP*	PKPpre		20 09 48.3	
MLR	**Muntele Rosu**	**143.47**	**59**	*e*PKPpre	PKPpre		20 09 49.4	
MLR				*e*PKPdf	**PKPdf**		**20 09 55.5**	**0.0**
BOD	**Bodaibo**	**143.96**	**323**	*e*PKHKP	PKPpre		20 09 48.9	
BOD				pmax	pmax			
	comp=Z,23nm,1.5s							
PLOR	**Plostina**	**143.96**	**58**	⇓*iP*	PKPbc		20 09 55.0	+0.9
PLOR	**Plostina**	**143.96**	**58**	⇓PKIKP	PKPbc		20 09 55.0	+0.9
VRI	**Vrincioaia**	**144.02**	**58**	⇑*iP*	**PKPab**		**20 09 52.7**	**-1.0**
VRI	**Vrincioaia**	**144.02**	**58**	⇑PKIKP	**PKPab**		**20 09 52.7**	**-1.0**
WHN	**Wuhan**	**144.51**	**275**	PKP	**PKPdf**		**20 10 03.8**	**+6.2**
WHN				LR	LR			
	comp=Z,1μm,17.9s							
ATD	**Arta Tunnel**	**144.62**	**124**	PKP	**PKPdf**		**20 09 58.0**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=299,slow=19,SNR=4.1							
TLB	**Topalu**	**144.97**	**60**	⇓*iP*	PKPbc		20 09 55.8	-1.4
TLB	**Topalu**	**144.97**	**60**	⇓PKIKP	PKPbc		20 09 55.8	-1.4
BJI	**Beijing**	**145.01**	**292**	PKPbc	**PKPdf**		**20 09 58.3**	**+0.2**
BJT	**Baijiatuau**	**145.02**	**292**	PFAKE			20 10 10.0	+12
BJT				LR	LR			
	comp=Z,721nm,20.0s							
CFR	**Carcaliu**	**145.02**	**59**	⇑*iP*	**PKPbc**		**20 09 54.4**	**-3.0**
KIEV	**Kiev**	**145.17**	**49**	⇓*e*PKIKP	**PKPbc**		**20 09 56.1**	**-1.6**
KIEV				pmax	pmax			
	comp=Z,23nm,1.7s							
KIEV	**Kiev**	**145.17**	**49**	*e*PKPbc	**PKPbc**		**20 09 55.4**	**-2.3**
KIEV				LR	LR			
	comp=Z,1μm,20.0s							
AKASG	**Malin Array Be**	**145.18**	**49**	PKPbc	**PKPbc**		**20 09 54.8**	**-2.9**
	comp=Z,3.9nm,0.8s,baz=278,slow=3.5,SNR=17							
AKBB	**Malin Array Si**	**145.18**	**49**	*e*PKIKP	**PKPbc**		**20 09 55.8**	**-1.9**
AKBB	**Malin Array Si**	**145.18**	**49**	*e*PKPbc	**PKPbc**		**20 09 55.8**	**-1.9**
TIRR	**Tirgusor**	**145.24**	**60**	⇓*iP*	**PKPbc**		**20 09 57.5**	**-0.6**
TIRR	**Tirgusor**	**145.24**	**60**	⇓PKIKP	**PKPbc**		**20 09 57.5**	**-0.6**
TIRR	**Tirgusor**	**145.24**	**60**	*e*PKPbc	**PKPbc**		**20 09 56.2**	**-1.9**
KIS	**Kishinev**	**145.40**	**56**	*e*PKP	**PKPbc**		**20 09 57.0**	**-1.5**
KIS				*e*L	L		21 02 26.0	
KIS				LRM	MLR		21 08 08.0	
	comp=Z,600nm,20.0s							
KIS	**Kishinev**	**145.40**	**56**	*e*PKP2	**PKPbc**		**20 09 57.0**	**-1.5**
TLCR		**145.50**	**59**	⇓*iP*	PKPpre		20 09 53.0	
TLCR		**145.50**	**59**	⇓PKHKP	PKPpre		20 09 53.0	
ISP	**Isparta**	**146.42**	**72**	PFAKE			20 10 10.0	+6.9
ISP				LR	LR			
	comp=Z,529nm,20.0s							
KLMR	**Klimovskoe**	**146.54**	**29**	*e*PKIKP	**PKPdf**		**20 09 58.3**	**-1.8**
KLMR				pmax	pmax			
	comp=Z,59nm,1.5s							
KLMR	**Klimovskoe**	**146.54**	**29**	*e*PKPdf	**PKPdf**		**20 09 58.4**	**-1.7**
KLMR				AMP			20 10 15.1	
	comp=Z,59nm,1.5s							
OBN	**Obninsk**	**148.10**	**39**	*i* PKIKP	**PKPdf**		**20 10 03.9**	**+1.1**
OBN				*e*SS	SS		20 32 43.0	+2.6
OBN				pmax	pmax			
	comp=Z,20nm,1.0s							
OBN	**Obninsk**	**148.10**	**39**	*e*PKPdf	**PKPdf**		**20 10 03.5**	**+0.7**
OBN				LR	LR			
	comp=Z,780nm,20.0s							
CSS	**Mathiatis**	**148.19**	**78**	PFAKE			20 10 10.0	0.0
CSS				LR	LR			
	comp=Z,133nm,20.0s							
MOS	**Moscow**	**148.37**	**38**	*e*PKIKP	**PKPdf**		**20 10 04.4**	**+1.1**
MOS				pmax	pmax			
	comp=Z,31nm,0.9s							
BR231	**Keskin MP Arra**	**148.38**	**69**	*e*PKPdf	**PKPdf**		**20 10 03.5**	**-0.5**
ANTO	**Ankara**	**148.39**	**69**	PFAKE			20 10 10.0	-0.7
ANTO				LR	LR			
	comp=Z,348nm,20.0s							
ENH	**Enshi**	**148.42**	**272**	PFAKE			20 10 20.0	+8.9
ENH				LR	LR			
	comp=Z,475nm,21.0s							
HHC	**Hu-ho-hao-te**	**148.58**	**293**	*e*PKPbc	**PKPdf**		**20 10 00.6**	**-3.7**
HHC				PP	**PP**		**20 13 38.3**	**+0.1**
BR101	**Keskin Array S**	**149.03**	**69**	*e*pPKPdf	pPKPdf		20 10 07.3	-2.4
BR131	**Keskin Array S**	**149.03**	**69**	*e*PKPdf	**PKPdf**		**20 10 05.4**	**+0.3**
BRTR	**Keskin Array B**	**149.03**	**69**	PKPbc	**PKPbc**		**20 10 07.3**	**-1.9**
	comp=Z,1.5nm,0.9s,baz=190,slow=3.5,SNR=8.7							
GYA	**Guiyang**	**149.38**	**264**	*e*PKPbc	**PKPdf**		**20 10 07.0**	**+1.0**
GYA				PKPab	**sPKPab**		**20 10 20.4**	**-0.9**
GYA				PKS	**PKSdf**		**20 13 41.8**	**+0.6**
GYA				PP	**PP**		**20 13 49.6**	**+6.6**
GYA				AMB	AMB			
	comp=Z,120nm,8.2s							
MMAI	**Mount Meron Ar**	**149.46**	**83**	PKPbc	**PKPbc**		**20 10 08.2**	**-2.2**
	comp=Z,2.6nm,0.8s,baz=180,slow=3.9,SNR=2.1							
XAN	**Xi'an**	**149.86**	**279**	PKPbc	**PKPdf**		**20 10 07.8**	**+1.3**
XAN				AMB	AMB			
	comp=Z,120nm,4.7s							
LPSR	**Galich'ya Gora**	**150.41**	**43**	*e*PKIKP	**PKPbc**		**20 10 09.2**	**-2.7**
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ASF	**Jabal al Asfar**	**150.47**	**85**	PKP	**PKPdf**		**20 10 07.7**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=270,slow=6.1,SNR=2.3							
VSR	**Storozhevoye**	**151.08**	**45**	*e*PKIKP	**PKPbc**		**20 10 11.0**	**-2.5**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CM01	**Chiang Mai Arr**	**151.22**	**242**	*e*PKPdf	**PKPdf**		**20 10 10.6**	**+1.6**
CM31	**Chiang Mai Arr**	**151.26**	**242**	*e*PKPbc	**PKPbc**		**20 10 13.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**151.26**	**242**	PKPbc	**PKPdf**		**20 10 11.8**	**+2.8**
	comp=Z,2.7nm,0.8s,baz=194,slow=1.8,SNR=23							
IRK	**Irkutsk**	**151.31**	**317**	*e*PKIKP	**PKPbc**		**20 10 14.0**	**-0.1**
IRK				pmax	pmax			
	comp=Z,42nm,2.3s							
CHTO	**Chiang Mai**	**151.48**	**243**	*e*PKIKP	**PKPbc**		**20 10 13.3**	**-2.2**
CHTO				MLR	MLR			
	comp=Z,282nm,20.0s							
CHTO	**Chiang Mai**	**151.48**	**243**	*e*PKPdf	**PKPbc**		**20 10 13.3**	**-2.2**
CHTO				LR	LR			
	comp=Z,282nm,20.0s							
SONA1	**Songino Array**	**151.50**	**308**	*e*PKPdf	**PKPdf**		**20 10 07.6**	**-1.1**
SONA1				*e*PKPbc	**sPKPdf**		**20 10 13.8**	**-1.1**
SONA0	**Songino Array**	**151.50**	**308**	*e*PKPdf	**PKPbc**		**20 10 12.0**	**-2.9**
SONA0				*e*PKPab	**sPKPbc**		**20 10 21.0**	**0.0**
SONM	**Songino Array**	**151.50**	**308**	PKPbc	**PKPbc**		**20 10 12.0**	**-2.9**
	comp=Z,2.2nm,0.9s,baz=110,slow=1.6,SNR=12							
SONM				PKPab	**sPKPbc**		**20 10 21.0**	**0.0**
	comp=Z,4.3nm,0.8s,baz=138,slow=1.7,SNR=17							
PALK	**Pallekele**	**151.52**	**198**	PKPbc	**PKPbc**		**20 10 15.4**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=117,slow=2.6,SNR=5.1							
PALK	**Pallekele**	**151.52**	**198**	*e*PKPbc	**PKPbc**		**20 10 14.4**	**-1.4**
TLY	**Talaya**	**151.89**	**317**	PKPbc	**PKPbc**		**20 10 13.7**	**-1.8**
	baz=45,slow=2.9							
TLY				PKPab	**PKPab**		**20 10 23.1**	**-1.6**
	baz=250,slow=4.5							
TLY	**Talaya**	**151.89**	**317**	*e*PKIKP	**PKPbc**		**20 10 15.1**	**-0.4**
TLY				pmax	pmax			
	comp=Z,12nm,1.0s							
TLY	**Talaya**	**151.89**	**317**	*e*PKPbc	**PKPbc**		**20 10 13.7**	**-1.8**
TLY				*e*PKPab	**PKPab**		**20 10 23.1**	**-1.6**
TLY				LR	LR			
	comp=Z,438nm,21.0s							
KMI	**Kunming**	**151.99**	**258**	PKPbc	**PKPdf**		**20 10 11.9**	**+1.6**
KMI				AMB	AMB			
	comp=Z,110nm,4.5s							
VRH	**Novokhopyorsk**	**152.56**	**44**	*e*PKIKP	**PKPbc**		**20 10 17.5**	**+0.6**
VRH				pmax	pmax			
	comp=Z,10.0nm,1.4s							
ZAK	**Zakamensk**	**152.63**	**314**	*e*PKIKP	**PKPbc**		**20 10 15.0**	**-2.3**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.6s							
CD2	**Chengdu**	**153.32**	**271**	PKPbc	**PKPdf**		**20 10 12.5**	**+0.7**
RAYN	**Ar Rayn**	**154.14**	**109**	*e*PKPbc	**PKPbc**		**20 10 19.2**	**-2.1**
RAYN				LR	LR			
	comp=Z,1μm,22.0s							
LZH	**Lanzhou**	**154.30**	**282**	*e*PKPbc	**PKPdf**		**20 10 12.3**	**-0.9**
LZH				AMB	AMB			
	comp=Z,110nm,4.8s							
LZH				LR	LR			
	comp=Z,260nm,14.3s							
LZH				LR	LR			
	comp=Z,270nm,16.6s							
LZH				LR	LR			
	comp=Z,580nm,17.3s							
KIV	**Kislovodsk**	**155.48**	**59**	PFAKE			20 10 20.0	+5.5
KIV				LR	LR			
	comp=Z,489nm,20.0s							
KBZ	**Khabaz**	**155.68**	**60**	PKP	**PKPdf**		**20 10 14.6**	**0.0**
	comp=Z,0.7nm,0.8s,baz=252,slow=3.2,SNR=1.6							
KBZ				PKPab	**PKPab**		**20 10 40.5**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=225,slow=5.0,SNR=4.6							
ARU	**Arti**	**156.43**	**19**	PKIKP	**PKPdf**		**20 10 16.9**	**+1.7**
ARU	**Arti**	**156.43**	**19**	PFAKE			20 10 30.0	-14
ARU				LR	LR			
	comp=Z,807nm,19.0s							
GNI	**Garni**	**157.56**	**68**	PFAKE			20 10 30.0	+13
GNI				LR	LR			
	comp=Z,711nm,22.0s							
GTA	**Gaotai**	**157.60**	**290**	*e*P	**PKPab**		**20 10 56.8**	**+7.2**
GTA				pP	sPKPab		20 11 01.3	+5.5
GTA				sP	pPKPab		20 11 03.6	+9.5
GTA	**Gaotai**	**157.60**	**290**	*e*PKP	**PKPdf**		**20 10 23.1**	**+5.7**
GTA				PKPab	**PKPab**		**20 10 56.8**	**+7.2**
GTA				PP	PP		20 14 38.8	+9.5
GTA				AMB	AMB			
	comp=Z,90nm,8.6s							
GTA				LR	LR			
	comp=Z,320nm,21.9s							
GTA				LR	LR			
	comp=Z,370nm,23.8s							
GTA				LR	LR			
	comp=Z,560nm,23.8s							
ZAA1	**Zalesovo Array**	**158.92**	**339**	*e*PKPdf	**PKPdf**		**20 10 17.6**	**-0.8**
ZAA1				*e*PKPab	**PKPab**		**20 10 53.4**	**-1.1**
ZALV	**Zalesovo Beam**	**158.93**	**339**	PKP	**PKPdf**		**20 10 17.6**	**-0.8**
	comp=Z,0.2nm,0.2s,baz=48,slow=2.1,SNR=2.5							
ZALV				PKPab	**PKPab**		**20 10 53.4**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=37,slow=3.7,SNR=3.6							
MAK	**Makhachkala**	**159.12**	**60**	*e*PKIKP	**PKPdf**		**20 10 15.6**	**-3.3**
MAK				*e*			20 14 36.5	
MAK				*e*			20 17 19.5	
MAK				pmax	pmax			
	comp=Z,75nm,0.9s							
AKTO	**Aktyubinsk**	**161.24**	**29**	PKP	**PKPdf**		**20 10 22.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=225,slow=4.3,SNR=2.9							
BRVK	**Borovoye**	**161.70**	**4**	*e*PKIKP	**PKPdf**		**20 10 19.3**	**-2.2**
BRVK				*e*			20 11 07.3	
BRVK				MLR	MLR			
	comp=Z,404nm,21.0s							
BRVK	**Borovoye**	**161.70**	**4**	*e*PKPdf	**PKPdf**		**20 10 19.3**	**-2.2**
BRVK				*e*PKPab	**PKPab**		**20 11 07.3**	**+0.6**
BRVK				LR	LR			
	comp=Z,404nm,21.0s							
BVAR	**Borovoye Array**	**161.74**	**4**	PKP	**PKPdf**		**20 10 25.7**	**+4.1**
	comp=Z,1.0nm,0.8s,baz=60,slow=3.5,SNR=5.6							
BVAR				PKPab	**PKPab**		**20 11 06.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=5.7,slow=4.5,SNR=5.3							
LSA	**Lhasa**	**163.24**	**258**	PFAKE			20 10 30.0	+5.6
LSA				LR	LR			
	comp=Z,576nm,22.0s							
KURK	**Kurchatov**	**163.44**	**346**	PKIKP	**PKPdf**		**20 10 24.5**	**+1.3**
KURK							20 11 13.5	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KURK	**Kurchatov**	**163.44**	**346**	*e*PKPdf	**PKPdf**		**20 10 24.5**	**+1.3**
KURK				LR	LR			
	comp=Z,913nm,22.0s							
KURBB	**Kurchatov Arra**	**163.55**	**346**	PKP	**PKPdf**		**20 10 24.5**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=20,slow=1.8,SNR=2.6							
KURBB				PKPab	**PKPab**		**20 11 13.5**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=16,slow=4.2,SNR=5.6							
WMQ	**Urumqi**	**165.07**	**312**	*e*PKP	**PKPdf**		**20 10 27.0**	**+1.9**
WMQ				LR	LR			
	comp=Z,2μm,37.1s							
WMQ				LR	LR			
	comp=Z,1μm,33.3s							
WMQ				LR	LR			
	comp=Z,1μm,25.9s							
MK31	**Makanchi Array**	**165.84**	**331**	*e*PKP2	**PKPab**		**20 11 22.5**	**-2.6**
MK31	**Makanchi Array**	**165.84**	**331**	*e*PKPab	**PKPab**		**20 11 22.5**	**-2.6**
MK32	**Makanchi Array**	**165.84**	**331**	*e*PKPdf	**PKPdf**		**20 10 22.8**	**-2.8**
MK32				*e*PKPab	**PKPab**		**20 11 21.8**	**-3.3**
MKAR	**Makanchi Array**	**165.84**	**331**	PKP	**PKPdf**		**20 10 22.8**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=114,slow=1.7,SNR=2.8							
MKAR				PKPab	**PKPab**		**20 11 21.8**	**-3.3**
	comp=Z,1.6nm,0.9s,baz=47,slow=3.2,SNR=6.9							
MKAR	**Makanchi Array**	**165.84**	**331**	*e*PKPdf	**PKPdf**		**20 10 23.0**	**-2.6**
MKAR				*e*PKPab	**PKPab**		**20 11 22.8**	**-2.3**
MAKZ	**Makanchi**	**165.95**	**332**	*e*PKIKP	**PKPdf**		**20 10 23.7**	**-1.9**
MAKZ				*e*			20 11 24.9	
MAKZ	**Makanchi**	**165.95**	**332**	*e*PKPdf	**PKPdf**		**20 10 23.7**	**-1.9**
MAKZ				*e*PKPab	**PKPab**		**20 11 24.9**	**-0.7**
GEYT	**Alibeck**	**168.17**	**71**	PKP	**PKPdf**		**20 10 25.6**	**-2.0**
	comp=Z,0.7nm,0.8s,baz=270,slow=7.2,SNR=3.0							
GEYT				PKPab	**PKPab**		**20 11 34.5**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=316,slow=4.0,SNR=2.2							
AAK	**Ala-Archa**	**171.99**	**348**	PFAKE			20 10 40.0	+10
AAK				LR	LR			
	comp=Z,890nm,21.0s							
KSH	**Kashi**	**174.45**	**329**	*e*PKP	**PKPdf**		**20 10 29.1**	**-1.7**

MAN 17 19:54:05,11°.91N×125°.73E,h39km,mb4.5,ML3.3,MS3.2, 1D,Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.04**	**225**	⇓*e*P	Pn	19 54 24.3	+1.2
PLP				*i* S	Sn	19 54 37.2	+0.8
MSLP	**Maasin**	**1.96**	**206**	*e*P	Pn	19 54 39.5	+3.8
MSLP				*e*S	Sn	19 55 06.3	+7.2

MAN 17 19:58:50,10°.36N×122°.89E,h67km,mb4.5,ML3.3,MS3.2, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.40**	**312**	*e*P	Pn	19 59 03.5	+1.9
GUIM				*e*S	Sn	19 59 14.0	+3.8
SNPH	**Sibulan**	**1.06**	**161**	*i* P	Pn	19 59 10.6	+1.4
SNPH				*i* S	Sn	19 59 24.9	+1.5
MSLP	**Maasin**	**1.95**	**96**	*e*P	Pn	19 59 22.1	+1.2
MSLP				*e*S	Sn	19 59 45.7	+1.4

DJA 17 20:01:43.3±0.3,1°S±2°×12°2E±°,h10km,M4.0/11,mB4.9/1, mb4.4/4,MLv3.9/11,Mw(mB)4.2/1,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.50**	**143**	P	Pg	20 01 52.7	-0.4
LUWI				S	Sg	20 02 00.5	+0.8
APSI	**Ampana**	**0.86**	**252**	P	Pg	20 01 59.4	-0.6
APSI				S	Sb	20 02 11.9	-0.1
MRSI	**Marisa**	**1.23**	**334**	P	Pn	20 02 04.9	-1.7
MRSI				S	Sb	20 02 21.9	-0.7
KMSI	**Cibinong**	**1.93**	**51**	P	Pn	20 02 15.2	-1.1
MPSI	**Mapaga**	**2.75**	**291**	P	Pn	20 02 29.2	+1.7
TTSI	**Tana Toraja**	**3.57**	**228**	P	Pn	20 02 39.3	+0.6
SANI	**Sanana**	**3.79**	**112**	P	Pn	20 02 40.9	-0.9
BNSI	**Bone**	**4.42**	**212**	P	Pn	20 02 50.9	+0.4
LBMI	**Labuha**	**5.03**	**90**	P	Pn	20 02 59.5	+0.6
NLAI	**Namlea**	**5.30**	**119**	P	Pn	20 03 04.1	+1.5

NNC 17 20:28:02.2±5.2,35°.21N×73°.55E,h0km,mb3.5,mpv3.2, 5C-1D,Error ellipse: s-maj=98.3km s-min=38.1km az=87.0,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.79**	**360**	⇑Pn	Pn	20 29 16.3	+0.4
	0.5nm,0.3s						
SFK				⇑Sn	Sn	20 30 14.2	+2.0
	4.4nm,0.3s						
MNAS	**Manas**	**7.31**	**354**	⇑Pn	Pn	20 29 49.5	-0.8
	3.9nm,1.4s						
MNAS				⇑Sn	Sn	20 31 13.1	-0.9
	1.5nm,0.5s						
KK31	**Karatay Array**	**8.22**	**344**	⇑Pn	Pn	20 30 03.0	+0.2
	0.5nm,0.4s,baz=145,slow=12,SNR=12						
KK31				⇓Sn	Sn	20 31 38.6	+2.2
	1.1nm,0.5s,baz=153,slow=24,SNR=7.8						

IDC 17 20:46:19.0±2.0,35°.41S×179°.02W,h0km,mb3.7/2, mb1 3.9/2,mb1mx3.5/39,mbtmp3.7/2,Error ellipse: s-maj=78.6km s-min=46.4km az=15.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.24**	**273**	P	P	20 54 14.6	+0.4
	1.1nm,0.8s,baz=114,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**43.68**	**278**	P	P	20 54 25.0	-0.9
	0.5nm,0.6s,baz=119,slow=7.6,SNR=6.9						
FINES	**FINESS Array B**	**149.46**	**336**	PKPbc	PKPbc	21 06 09.2	-0.1
	0.9nm,0.5s,baz=23,slow=4.5,SNR=7.1						
TORD	**Torodi Ar. Bea**	**157.83**	**182**	PKPab	PKPab	21 06 49.8	-0.8
	0.5nm,0.7s,baz=194,slow=5.2,SNR=3.1						

IDC ***17****.20:50:01.6±0.9,30°.09N×96°.87E,h0km,mb3.6/14, mb1 3.8/16,mb1mx3.6/68,mbtmp3.6/16,ML3.3/2,MS4.1/2, Ms1 4.1/2,ms1mx3.1/55,Error ellipse: s-maj=36.6km s-min=16.9km az=57.0*

ISCJB ***17****.20:50:04.2±0.5,30°.09N±0°.05×97°.02E±0°.07,h33km, mb3.9/15,MS4.1/2,Error ellipse: s-maj=8.9km s-min=7.4km az=168.1*

NEIC ***17****.20:50:04.8±3.9,30°.18N×96°.96E,h21km±30km,mb4.3/2, Error ellipse: s-maj=18.2km s-min=9.5km az=64.0*

BJI ***17****.20:50:04.4,30°.04N×96°.87E,h7km,mb3.6/3,ML3.5/1*

ISC 17 20:50:06.7±0.7,30°.10N±0°.07×96°.98E±0°.09,h35km,n35, σ1s55/34,mb3.9/15,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.08**	**267**	Pn	Pn	20 51 25.3	+4.6
LSA				Sn	**Sn**	**20 52 19.8**	**+1.4**
LSA	**Lhasa**	**5.08**	**267**	*e*Pn	**Pn**	**20 51 22.7**	**+2.0**
SHL	**Shillong**	**6.38**	**226**	*e*P	**Pn**	**20 51 40.0**	**+1.6**
SHL				*e*S	**Sn**	**20 52 47.0**	**-3.1**
CM31	**Chiang Mai Arr**	**11.73**	**171**	*e*Pn	**Pn**	**20 52 52.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**11.73**	**171**	Pn	**Pn**	**20 52 51.0**	**-0.5**
	0.1nm,0.3s,baz=342,slow=12,SNR=7.2						
WMQ	**Urumqi**	**15

JOD2	**Odawara 2**	**2.31**	**50**	P		**Pn**	**21 02 53.6**	**+1.6**
JHJ	**Hachijo jima 2**	**2.49**	**105**	P		**Pn**	**21 02 55.7**	**+2.3**
	9.2nm,0.3s,baz=350,slow=6.1,SNR=3.6							
JHJ				S		**S**	**21 03 43.9**	**+4.9**
	8.6nm,0.3s,baz=250,slow=14,SNR=2.7							
JKG	**Kaga**	**2.51**	**349**	P		**Pn**	**21 02 53.9**	**+0.5**
JHU	**Hanno**	**2.82**	**43**	P		**Pn**	**21 02 56.9**	**+0.9**
JHU				*eS*		**S**	**21 03 43.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.93**	**21**	P		**Pn**	**21 02 57.4**	**+0.5**
	1.1nm,0.3s,baz=188,slow=8.2,SNR=31							
MJAR				S		**S**	**21 03 45.7**	**+0.2**
	0.4nm,0.3s,baz=216,slow=7.7,SNR=5.3							
BSO4	**Boso 4**	**3.06**	**66**	*eS*		**S**	**21 03 47.9**	**+0.5**
BSO3	**Boso 3**	**3.13**	**71**	P		**Pn**	**21 02 58.7**	**+0.3**
BSO3				*eS*		**S**	**21 03 48.5**	**+0.3**
JAG	**Ashikaga**	**3.34**	**38**	P		**Pn**	**21 03 01.3**	**+0.8**
JAG				S		**S**	**21 03 50.1**	**-1.9**
JHS	**Saijyo**	**3.36**	**292**	P		**Pn**	**21 03 00.5**	**-0.3**
BSO1	**Boso 1**	**3.47**	**75**	P		**Pn**	**21 03 01.5**	**+0.4**
BSO1				*eS*		**S**	**21 03 52.1**	**-1.1**
JYT	**Yasato**	**3.62**	**47**	P		**Pn**	**21 03 02.8**	**-0.3**
JYT				*eS*		**S**	**21 03 53.2**	**-3.5**
JHO	**Hitachi**	**4.09**	**46**	P		**Pn**	**21 03 07.6**	**-0.2**
JHO				S		**S**	**21 04 01.4**	**-3.8**
JNU	**Nakatsue**	**5.09**	**264**	P		**Pn**	**21 03 18.0**	**-0.3**
	2.2nm,0.3s,baz=114,slow=1.6,SNR=35							
JCJ	**Chichijima**	**8.08**	**144**	P		**Pn**	**21 03 50.6**	**-1.7**
	4.5nm,0.3s,baz=306,slow=19,SNR=4.7							
JCJ				S		**S**	**21 05 19.8**	**-6.9**
	9.7nm,0.3s,baz=295,slow=23,SNR=6.7							
KSRS	**Korea Array**	**8.18**	**299**	P		**Pn**	**21 03 52.9**	**-0.2**
	0.9nm,0.3s,baz=113,slow=12,SNR=30							
USRK	**Ussuriysk Ar.**	**11.06**	**341**	P		**P**	**21 04 26.3**	**-0.7**
	0.5nm,0.3s,baz=150,slow=11,SNR=10							
ASAJ	**Asahikawa**	**11.20**	**22**	P		**P**	**21 04 28.0**	**-0.5**
	1.3nm,0.3s,baz=234,slow=10.0,SNR=20							
KLR	**Kul'dur**	**15.88**	**348**	P		**P**	**21 05 19.1**	**-0.7**
	0.0nm,0.3s,baz=166,slow=8.3,SNR=3.0							
SONM	**Songino Array**	**26.81**	**311**	P		**P**	**21 07 05.2**	**+0.5**
	1.3nm,0.9s,baz=124,slow=10,SNR=10.0							
MA2	**Magadan**	**27.36**	**15**	P		**P**	**21 07 10.0**	**+0.9**
	1.3nm,0.2s,baz=172,slow=5.4,SNR=6.3							
YAK	**Yakutsk**	**28.62**	**353**	P		**P**	**21 07 20.8**	**+0.6**
	3.8nm,0.5s,baz=133,slow=1.6,SNR=2.4							
CMAR	**Chiang Mai Arr**	**37.13**	**255**	P		**P**	**21 08 33.0**	**-0.8**
	0.3nm,0.4s,baz=60,slow=7.6,SNR=4.1							
MKAR	**Makanchi Array**	**42.81**	**304**	P		**P**	**21 09 19.2**	**-0.4**
	0.1nm,0.4s,baz=88,slow=8.6,SNR=6.5							
WRA	**Warramunga Arr**	**53.50**	**183**	P		**P**	**21 10 40.2**	**-0.4**
	0.6nm,0.5s,baz=358,slow=7.7,SNR=12							
ILAR	**Eielson Array**	**54.16**	**31**	P		**P**	**21 10 45.5**	**+0.6**
	0.4nm,0.7s,baz=271,slow=5.4,SNR=6.3							
ASAR	**Alice Springs**	**57.23**	**183**	P		**P**	**21 11 07.9**	**+1.0**
	0.2nm,0.4s,baz=356,slow=5.4,SNR=10							
INK	**Inuvik**	**58.91**	**26**	P		**P**	**21 11 18.8**	**+1.0**
	0.4nm,0.5s,baz=297,slow=5.0,SNR=3.2							
YKA	**Yellowknife Ar**	**68.41**	**28**	P		**P**	**21 12 20.3**	**+1.0**
	0.1nm,0.5s,baz=289,slow=7.7,SNR=3.0							
FRB	**Frobisher Bay**	**80.70**	**11**	P		**P**	**21 13 28.8**	**-0.4**
	5.6nm,1.2s,baz=270,slow=4.0,SNR=3.0							

*ISCJB **17** 21:08:32.4±0.3, 67.13N±0.02×20.62E±0.07, h0km, Error ellipse: s-maj=3.9km s-min=2.7km az=5.6*
*UPP **17** 21:08:33.4, 67.16N×20.62E, h1km, ML1.8, Suspected Mining explosion.*
*CSEM **17** 21:08:33.7±0.2, 67.17N×20.72E, h2km, ML2.0, Error ellipse: s-maj=5.0km s-min=3.5km az=88.0, Mining explosion.*
*NAO **17** 21:08:33.8±0.9, 67.15N×20.76E, ML2.5*
*IDC **17** 21:08:34.3±1.0, 67.14N×20.76E, h0km, mb1 3.1/4, mb1mx2.9/64, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=15.2km s-min=7.5km az=115.0*
*HEL **17** 21:08:34.1±0.1, 67.19N×20.70E, h0km, ML2.0, ML1.8(UPP), Explosion*
*BER **17** 21:08:36.3±5.2, 67.14N×21.09E, h0km, ML2.0, ML2.5(NAO), Suspected explosion*

ISC 17 21:08:33.0±0.7, **67.15N**±0.02×**20.63E**±0.02, **h0km**, **n79**, **σ1928**/129, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.61**	**59**	P		**Pg**	**21 08 44.9**	**+0.1**
MASU				S		**Sg**	**21 08 52.9**	**+0.2**
MASU	**Masugnsbyn**	**0.61**	**59**	P		**Pg**	**21 08 44.9**	**+0.1**
MASU				S		**Sg**	**21 08 52.9**	**+0.2**
MASU	**Masugnsbyn**	**0.61**	**59**	*i* P		**Pg**	**21 08 44.9**	**+0.1**
MASU				*i* S		**Sg**	**21 08 52.9**	**+0.2**
RATU	**Laukkuluspa**	**0.79**	**330**	P		**Pg**	**21 08 47.9**	**-0.2**
RATU	**Laukkuluspa**	**0.79**	**330**	P		**Pg**	**21 08 47.9**	**-0.2**
RATU	**Laukkuluspa**	**0.79**	**330**	*i* P		**Pg**	**21 08 47.9**	**-0.2**
KUA	**Kurravaara**	**0.82**	**352**	P		**Pg**	**21 08 48.2**	**-0.5**
KUA	**Kurravaara**	**0.82**	**352**	P		**Pg**	**21 08 48.1**	**-0.5**
KUA	**Kurravaara**	**0.82**	**352**	*i* P		**Pg**	**21 08 48.1**	**-0.5**
ERTU	**Ertsjaerv**	**0.86**	**133**	P		**Pg**	**21 08 49.5**	**0.0**
ERTU				S		**Sg**	**21 09 01.5**	**+1.0**
ERTU	**Ertsjaerv**	**0.86**	**133**	P		**Pg**	**21 08 49.5**	**0.0**
ERTU	**Ertsjaerv**	**0.86**	**133**	*e*P		**Pg**	**21 08 49.0**	**0.0**
ERTU				*e*S		**Sg**	**21 09 01.5**	**+1.0**
NIKU	**Nikkaluokta**	**0.95**	**320**	P		**Pg**	**21 08 50.8**	**-0.4**
NIKU	**Nikkaluokta**	**0.95**	**320**	P		**Pg**	**21 08 50.8**	**-0.4**
NIKU	**Nikkaluokta**	**0.95**	**320**	*e*P		**Pg**	**21 08 50.8**	**-0.4**
PAJU	**Pajala**	**0.98**	**96**	P		**Pg**	**21 08 51.5**	**-0.3**
PAJU	**Pajala**	**0.98**	**96**	P		**Pg**	**21 08 51.5**	**-0.3**
PAJU	**Pajala**	**0.98**	**96**	*e*P		**Pg**	**21 08 51.5**	**-0.3**
LANU	**Lannavaara**	**1.04**	**29**	P		**Pg**	**21 08 52.2**	**-0.8**
LANU	**Lannavaara**	**1.04**	**29**	P		**Pg**	**21 08 52.2**	**-0.8**
LANU	**Lannavaara**	**1.04**	**29**	*e*P		**Pg**	**21 08 52.2**	**-0.8**
KALU	**Kalix**	**1.70**	**139**	P		**Pn**	**21 09 04.5**	**+0.7**
KALU				Sn		**Sb**	**21 09 27.3**	**+0.5**
	12nm,0.2s							
KALU	**Kalix**	**1.70**	**139**	*e*P		**Pn**	**21 09 04.5**	**+0.7**
KALU				*e*SN		**Sb**	**21 09 27.4**	**+0.5**
HEF	**Hetta**	**1.71**	**41**	Pg		**Pn**	**21 09 03.8**	**-0.3**
HEF	**Hetta**	**1.71**	**41**	*e*P		**Pn**	**21 09 04.1**	**0.0**
	SNR=50							
HEF				*e*Sg		**Sn**	**21 09 25.5**	**-1.1**
	SNR=90							
HEF				Sn		**Sn**	**21 09 26.6**	**0.0**
HEF	**Hetta**	**1.71**	**41**	*e*P		**Pn**	**21 09 04.1**	**0.0**
HEF				*e*Sg		**Sn**	**21 09 25.5**	**-1.1**
HEF	**Hetta**	**1.71**	**41**	*e*PG		**Pn**	**21 09 03.8**	**-0.3**
HEF				MSG			21 09 24.3	
	comp=Z,11nm,0.2s							
HEF				*e*SN		**Sn**	**21 09 26.6**	**0.0**
TOF	**Tornio**	**1.82**	**124**	MSG			21 09 29.2	
	comp=Z,12nm,0.2s							
TOF				*e*SN		**Sg**	**21 09 31.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.86**	**2**	Pn		**Pb**	**21 09 07.5**	**-0.4**
KIF				Sn		**Sg**	**21 09 33.3**	**+0.5**
KIF	**Kilpisjarvi**	**1.86**	**2**	P		**Pb**	**21 09 06.9**	**-1.0**
KIF	**Kilpisjarvi**	**1.86**	**2**	Pn		**Pb**	**21 09 07.5**	**-0.4**
	SNR=50							
KIF				Sg		**Sg**	**21 09 33.2**	**+0.3**
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*P		**Pb**	**21 09 07.3**	**-0.6**
KIF				Pn		**Pb**	**21 09 07.5**	**-0.4**
KIF				*e*Sg		**Sg**	**21 09 33.2**	**+0.3**
KIF				Sn		**Sg**	**21 09 33.3**	**+0.5**
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*P		**Pb**	**21 09 06.9**	**-1.0**
KIF				MSG			21 09 29.2	
	comp=Z,14nm,0.2s							
KIF				*e*SG		**Sg**	**21 09 33.2**	**+0.3**
KTK1	**Kautokeino**	**2.11**	**26**	*e*P		**Pb**	**21 09 11.0**	**-1.1**
	SNR=50							
KTK1				*e*Sg		**Sb**	**21 09 38.3**	**-0.5**
	SNR=90							
KTK1	**Kautokeino**	**2.11**	**26**	*e*P		**Pb**	**21 09 11.0**	**-1.1**
KTK1				*e*Sg		**Sb**	**21 09 38.3**	**-0.5**
KTK1				IAML			21 09 40.0	
	comp=Z,24nm,0.5s							
STEI	**Steigen**	**2.21**	**293**	*e*P		**Pg**	**21 09 15.1**	**-0.3**
	SNR=50							
STEI	**Steigen**	**2.21**	**293**	*e*P		**Pg**	**21 09 15.1**	**-0.3**
STEI				*e*S		**Sg**	**21 09 46.6**	**+2.6**
STEI				IAML			21 09 49.7	
	comp=Z,13nm,0.5s							
SGF	**Sodankyl**	**2.31**	**80**	*e*PB		**Pn**	**21 09 13.6**	**+1.4**
SGF				*e*SG		**Sb**	**21 09 43.9**	**-0.5**
TRO	**Tromso**	**2.57**	**347**	*e*P		**Pb**	**21 09 18.8**	**-1.2**
	SNR=50							
TRO				*e*S		**Sn**	**21 09 49.2**	**+1.4**
	SNR=50							
TRO	**Tromso**	**2.57**	**347**	*e*P		**Pb**	**21 09 18.8**	**-1.2**
TRO				*e*S		**Sn**	**21 09 49.2**	**+1.4**
TRO				IAML			21 09 56.7	
	comp=Z,10nm,0.5s							
BURU	**Burvik**	**2.60**	**173**	P		**Pn**	**21 09 18.1**	**+1.9**
BURU				Sg		**Sb**	**21 09 54.9**	**+2.2**
BURU	**Burvik**	**2.60**	**173**	*e*P		**Pn**	**21 09 18.1**	**+1.9**
BURU				*e*SG		**Sb**	**21 09 55.0**	**+2.2**
MOR8	**Moi Rana**	**2.65**	**251**	*e*P		**Pn**	**21 09 18.6**	**+1.6**
	SNR=50							
MOR8				*e*S		**Sn**	**21 09 51.0**	**+1.2**
	SNR=50							
MOR8	**Moi Rana**	**2.65**	**251**	*e*P		**Pn**	**21 09 18.6**	**+1.6**
MOR8				*e*S		**Sn**	**21 09 51.0**	**+1.2**
MOR8				IAML			21 09 53.9	
	comp=Z,33nm,0.4s							
OUL	**Oulu**	**2.98**	**132**	P		**Pn**	**21 09 22.5**	**+1.1**
OUL	**Oulu**	**2.98**	**132**	*e*P		**Pn**	**21 09 22.6**	**+1.1**
ARA0	**ARCESS Array S**	**3.00**	**35**	Pn		**Pn**	**21 09 22.0**	**+0.2**
	baz=209,slow=14							
ARA0				Sn		**Sn**	**21 09 59.8**	**+1.4**
	baz=212,slow=28							
ARA0	**ARCESS Array S**	**3.00**	**35**	Pn		**Pn**	**21 09 22.0**	**+0.2**
	SNR=50							
ARA0				Sn		**Sn**	**21 09 59.8**	**+1.4**
	SNR=50							
ARA0	**ARCESS Array S**	**3.00**	**35**	Pn		**Pn**	**21 09 22.0**	**+0.2**
	baz=209,slow=14							
ARA0				Sn		**Sn**	**21 09 59.8**	**+1.4**
	baz=212,slow=28							
ARCES	**ARCESS Array B**	**3.00**	**35**	Pn		**Pn**	**21 09 22.7**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=216,slow=13,SNR=14							
ARCES				Sn		**Sn**	**21 09 59.9**	**+1.5**
	comp=Z,2.4nm,0.3s,baz=216,slow=22,SNR=13							
ARE0	**ARCESS Array S**	**3.00**	**35**	P		**Pn**	**21 09 22.1**	**+0.3**
ARE0	**ARCESS Array S**	**3.00**	**35**	*e*P		**Pn**	**21 09 22.8**	**+1.0**
ARE0				*e*Sg		**Sn**	**21 10 00.8**	**+2.4**
ARE0	**ARCESS Array S**	**3.00**	**35**	*e*P		**Pn**	**21 09 22.1**	**+0.3**
ARE0				*e*SB		**Sb**	**21 10 03.4**	**-1.0**
STOK	**Stokkvaagen**	**3.13**	**258**	*e*P		**Pg**	**21 09 31.3**	**-1.6**
OUF	**Merijarvi**	**3.27**	**147**	Sg		**Sg**	**21 10 15.9**	**-1.9**
OUF	**Merijarvi**	**3.27**	**147**	*e*SG		**Sg**	**21 10 15.9**	**-1.9**
UMAU	**Umeaa**	**3.28**	**180**	*e*P		**Pn**	**21 09 27.0**	**+1.5**
VRF	**Varrio**	**3.51**	**76**	P		**Pn**	**21 09 29.2**	**+0.4**
VRF	**Varrio**	**3.51**	**76**	*e*P		**Pn**	**21 09 29.2**	**+0.4**
VRF				*e*SG		**Sb**	**21 10 20.4**	**+1.3**
MSF	**Maaselka**	**3.59**	**106**	*e*PG		**Pb**	**21 09 38.3**	**+1.1**
MSF				*e*SG		**Sb**	**21 10 23.9**	**+2.6**
KU6	**Riekki**	**3.87**	**103**	P		**Pn**	**21 09 34.4**	**+0.8**
KU6				Sg		**Sg**	**21 10 35.3**	**-1.7**
KU6	**Riekki**	**3.87**	**103**	*e*P		**Pn**	**21 09 34.4**	**+0.8**
KU6				*e*SG		**Sg**	**21 10 35.3**	**-1.7**
VAF	**Ylistaro**	**4.21**	**167**	P		**Pn**	**21 09 40.4**	**+2.0**
VAF				Sg		**Sg**	**21 10 47.1**	**-1.1**
VAF	**Ylistaro**	**4.21**	**167**	*e*P		**Pn**	**21 09 40.4**	**+2.0**
VAF				*e*SG		**Sg**	**21 10 47.1**	**-1.1**
HEMU	**Hemsoen**	**4.63**	**195**	S		**Sn**	**21 10 38.6**	**+0.2**
HEMU	**Hemsoen**	**4.63**	**195**	*e*S		**Sn**	**21 10 38.6**	**+0.2**
FIA0	**FINESS Array S**	**6.20**	**155**	Pn		**Pn**	**21 10 07.1**	**+1.5**
	baz=347,slow=14							
FIA0				Sn		**Sn**	**21 11 16.9**	**-0.2**
	baz=343,slow=28							
FIA0				Lg		Lg	21 11 47.2	
	baz=349,slow=28							
FIA0	**FINESS Array S**	**6.20**	**155**	Pn		**Pn**	**21 10 07.1**	**+1.5**
	baz=347,slow=14							
FIA0				Sn		**Sn**	**21 11 16.9**	**-0.2**
	baz=343,slow=28							
FIA0				Lg		Lg	21 11 47.2	
	baz=349,slow=28							
FINES	**FINESS Array B**	**6.20**	**155**	Pn		**Pn**	**21 10 07.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=355,slow=12,SNR=7.5							
FINES				Sn		**Sn**	**21 11 17.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=346,slow=22,SNR=10							
FINES				Lg		Lg	21 11 47.2	
	comp=Z,0.9nm,0.3s,baz=350,slow=30,SNR=8.9							
NB2	**NORSAR Subarra**	**7.38**	**218**	Pn		**Pn**	**21 10 23.1**	**+1.2**
NB2				Sn		**Sn**	**21 11 42.9**	**-3.4**
	baz=21,slow=28							
NB2				Lg		Lg	21 12 26.9	
NB2	**NORSAR Subarra**	**7.38**	**218**	Pn		**Pn**	**21 10 23.1**	**+1.2**
	SNR=50							
NB2				Lg		Lg	21 12 26.9	
	SNR=50							
NB2	**NORSAR Subarra**	**7.38**	**218**	Pn		**Pn**	**21 10 23.1**	**+1.2**
NB2				Sn		**Sn**	**21 11 42.9**	**-3.4**
	baz=21,slow=28							
NB2				Lg		Lg	21 12 26.9	
NOA	**NORSAR Array B**	**7.38**	**218**	Pn		**Pn**	**21 10 23.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=28,slow=11,SNR=1.2							
NOA				Sn		**Sn**	**21 11 42.3**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=43,slow=15,SNR=2.4							
NOA				Lg		Lg	21 12 27.5	
	comp=Z,0.7nm,0.3s,baz=2.9,slow=18,SNR=5.4							
NRA0	**NORESS Array S**	**7.57**	**216**	Pn		**Pn**	**21 10 24.5**	**0.0**
NRA0				Sn		**Sn**	**21 11 47.7**	**-3.2**
	baz=40,slow=28							
NRA0				Lg		Lg	21 12 31.5	
NRA0	**NORESS Array S**	**7.57**	**216**	Pn		**Pn**	**21 10 24.5**	**0.0**
	SNR=50							
NRA0				Lg		Lg	21 12 31.5	
	SNR=50							
NRA0	**NORESS Array S**	**7.57**	**216**	Pn		**Pn**	**21 10 24.5**	**0.0**
NRA0				Sn		**Sn**	**21 11 47.7**	**-3.2**
	baz=40,slow=28							
NRA0				Lg		Lg	21 12 31.5	
HFS	**Hagfors**	**7.68**	**207**	Pn		**Pn**	**21 10 25.9**	**-0.2**
	baz=17,slow=12							
HFS				Sn		**Sn**	**21 11 51.2**	**-2.5**
	baz=27,slow=22							
HFS	**Hagfors**	**7.68**	**207**	Pn		**Pn**	**21 10 26.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=1.5							
HFS				Sn		**Sn**	**21 11 51.3**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=18,slow=19,SNR=2.8							
HFS				Lg		Lg	21 12 33.7	
	comp=Z,0.4nm,0.3s,baz=21,slow=21,SNR=2.3							
HFS	**Hagfors**	**7.68**	**207**	Pn		**Pn**	**21 10 25.9**	**-0.2**
	baz=17,slow=12							
HFS				Sn		**Sn**	**21 11 51.2**	**-2.5**
	baz=27,slow=22							

IDC 17 21:09:49.1±3.4, **20.83S**×**169.91E**, **h0km**, **mb3.6**/3, **mb1 3.8**/4, **mb1mx3.6**/40, **mbtmp3.7**/4, **ML4.0**/1, **MS3.1**/1, **Ms1 3.1**/1, **ms1mx2.8**/33, **Error ellipse: s-maj=136.6km s-min=27.4km az=148.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.46**	**248**	Pn		Pn	21 10 45.5	+1.2
	15nm,0.3s,baz=121,slow=14,SNR=173							
DZM				Sn		Sn	21 11 27.0	+0.8
	12nm,0.3s,baz=187,slow=20,SNR=9.3							
URZ	**Urewera**	**18.45**	**162**	LR		LR	21 18 44.5	
	comp=Z,66nm,20.1s,baz=102,slow=29							
WRA	**Warramunga Arr**	**33.32**	**265**	P		P	21 16 28.6	-0.3
	0.5nm,0.5s,baz=98,slow=8.4,SNR=6.4							
ASAR	**Alice Springs**	**33.40**	**258**	P		P	21 16 29.1	-0.5
	0.7nm,0.7s,baz=85,slow=8.8,SNR=10							
SONM	**Songino Array**	**88.86**	**323**	P		P	21 22 45.1	-0.1
	0.2nm,0.7s,baz=113,slow=3.3,SNR=2.2							
VRAC	**Vranov**	**144.52**	**330**	PKP		PKPbc	21 29 26.0	0.0
	1.1nm,0.4s,baz=50,slow=7.9,SNR=3.6							
EKA	**Eskdalemuir Ar**	**145.15**	**353**	PKPbc		PKPbc	21 29 27.2	-0.7
	0.4nm,0.4s,baz=9.0,slow=2.7,SNR=7.1							
GERES	**GERESS Array B**	**146.18**	**331**	PKPbc		PKPbc	21 29 31.2	-0.2
	0.6nm,0.6s,baz=48,slow=2.0,SNR=8.8							

*ISCJB **17** 21:10:09.0±0.8, 21.16S±0.04×68.9W±0.1, h126km±9km, mb3.5/1, Error ellipse: s-maj=19.2km s-min=5.8km az=8.0*
*GUC **17** 21:10:09.5±0.5, 21.14S×69.00W, h121km±3km, ML3.5*
*IDC **17** 21:10:16.1±10.0, 20.79S×68.22W, h148km±75km, mb3.4/1, mb1 3.5/4, mb1mx3.2/41, mbtmp4.0/4, Error ellipse: s-maj=128.1km s-min=29.4km az=8.0*

ISC 17 21:10:09.7±1.0, **21.11S**±0.05×**68.71W**±0.09, **h108km**±10km, **n16**, **σ2903**/26, **4C-5D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB01	**IPOC Station P**	**0.73**	**275**	*i* P		**Pn**	**21 10 27.9**	**-0.4**
PB01				*i* S		**Sn**	**21 10 41.4**	**-0.8**
PB01				IAML			21 10 42.1	
	comp=N,2μm,0.3s							
PB09	**IPOC Station P**	**0.85**	**216**	*i* P		**Pn**	**21 10 29.7**	**+0.2**
PB09				*i* S		**Sn**	**21 10 44.7**	**+0.4**
PB09				IAML			21 10 46.4	
	comp=E,3μm,0.4s							
PB08	**IPOC Station P**	**1.05**	**336**	*i* P		**Pn**	**21 10 32.7**	**+1.0**
PB08				*i* S		**Sn**	**21 10 50.2**	**+1.9**
PB08				IAML			21 10 51.0	
	comp=E,1μm,0.2s							
PB02	**IPOC Station P**	**1.13**	**259**	*i* P		**Pn**	**21 10 31.7**	**-0.6**
PB02				*i* S		**Sn**	**21 10 48.0**	**-1.3**
PB02				IAML			21 10 49.1	
	comp=E,2μm,0.3s							
PB07	**IPOC Station P**	**1.26**	**241**	*i* P		**Pn**	**21 10 33.0**	**-0.8**
PB07				*i* S		**Sn**	**21 10 50.6**	**-1.4**
PB07				IAML			21 10 51.3	
	comp=N,761nm,0.2s							
PB11	**IPOC Station P**	**1.61**	**326**	*i* P		**Pn**	**21 10 37.8**	**-0.2**
PB11				*i* S		**Sn**	**21 10 59.6**	**+0.2**
PB06	**IPOC Station P**	**1.78**	**207**	*i* P		**Pn**	**21 10 39.9**	**-0.2**
PB06				*i* S		**Sn**	**21 11 02.2**	**-0.9**
PB06				IAML			21 11 04.5	
	comp=E,681nm,0.2s							
PB04	**IPOC Station P**	**1.81**	**228**	*e*P		**Pn**	**21 10 39.5**	**-1.0**
PB04				*e*S		**Sn**	**21 11 01.3**	**-2.5**
PB04				IAML			21 11 02.6	
	comp=N,481nm,0.6s							
PSGC	**Pisagua**	**2.01**	**318**	*i* P		**Pn**	**21 10 41.8**	**-1.1**
PSGC				IAML			21 11 08.7	
	comp=N,410nm,0.7s							
MNMC	**Minye Minye**	**2.14**	**337**	*i* P		**Pn**	**21 10 45.1**	**+0.3**
MNMC				*i* S		**Sn**	**21 11 12.9**	**+1.5**
MNMC				IAML			21 11 16.0	
	comp=N,714nm,0.2s							
ANCH	**Antofagasta**	**3.01**	**211**	*i* S		**Sn**	**21 11 29.4**	**-1.8**
LPAZ	**La Paz**	**4.83**	**7**	P		**Pn**	**21 11 23.1**	**+2.3**
	comp=N,1.1nm,0.3s,baz=170,slow=4.5,SNR=22							
SIV	**San Ignacio**	**8.85**	**56**	P		**Pn**	**21 12 13.5**	**-1.3**
	comp=N,0.7nm,0.3s,baz=251,slow=11,SNR=13							
SIV				S		**Sn**	**21 13 46.5**	**-6.4**
	comp=N,0.2nm,0.3s,baz=292,slow=18,SNR=2.1							
ATAH	**Atahualpa**	**16.76**	**325**	P		**P**	**21 14 02.9**	**+4.0**
	comp=N,4.3nm,0.3s,baz=100,slow=17,SNR=15							
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P		**P**	**21 21 50.5**	**-0.9**
	comp=N,0.6nm,0.6s,baz=253,slow=5.3,SNR=4.6							
MKAR	**Makanchi Array**	**145.21**	**36**	PKP		**PKPab**	**21 29 34.3**	**-0.4**
	comp=N,0.9nm,0.7s,baz=315,slow=3.6,SNR=11							

IDC 17 21:26:14.7±2.7, **16.61S**×**174.23W**, **h0km**, **mb4.1**/3, **mb1 4.5**/3, **mb1mx3.7**/47, **mbtmp4.1**/3, **Error ellipse: s-maj=297.9km s-min=32.9km az=158.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.80**	**258**	P		P	21 35 01.8	-0.3
	1.1nm,0.5s,baz=95,slow=7.1,SNR=17							
ASAR	**Alice Springs**	**48.99**	**253**	P		P	21 35 03.5	+0.1
	5.6nm,0.6s,baz=88,slow=8.5,SNR=69							
TXAR	**Lajitas Array**	**81.94**	**56**	P		P	21 38 36.8	0.0
	0.5nm,1.0s,baz=210,slow=5.2,SNR=3.9							

*TAP **17** 21:29:30.7, 24.98N×122.33E, h135km, ML4.1, D*
*ISCJB **17** 21:29:31.0±0.3, 24.93N±0.02×122.28E±0.02, h133km±2km, mb3.3/8, Error ellipse: s-maj=3.4km s-min=2.7km az=151.9*
*JMA **17** 21:29:31.9±0.2, 24.91N×122.26E, h125km±2km, M3.1*
*IDC **17** 21:29:35.2±6.3, 24.67N×122.26E, h197km±65km, mb3.0/8, mb1 3.1/9, mb1mx2.9/65, mbtmp3.5/9, Error ellipse: s-maj=42.3km s-min=15.8km az=62.0*

ISC 17 21:29:30.7±0.7, **24.95N**±0.04×**122.28E**±0.03, **h135km**±4km, **n117**, **σ0986**/218, **mb3.4**/8, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res

	baz=280							
TWS1	**Kuangyinshan**	**0.80**	**281**	P	**Pn**	**21 29 52.9**	**+0.6**
	baz=277							
TWS1				S	**Sn**	**21 30 08.9**	**+0.2**
	baz=277							
YOJ	**Yonaguni jima**	**0.82**	**126**	*e*P	**Pn**	**21 29 53.2**	**+0.7**
	baz=136							
YOJ				*e*S	**Sn**	**21 30 09.2**	**+0.1**
	baz=136							
YOJ	**Yonaguni jima**	**0.82**	**126**	P	**Pn**	**21 29 52.9**	**+0.4**
YOJ				S	**Sn**	**21 30 08.9**	**-0.1**
YHNB	**Yeheng**	**0.87**	**251**	*e*P	**Pn**	**21 29 53.7**	**+0.6**
	baz=251							
YHNB				*e*S	**Sn**	**21 30 09.3**	**-0.6**
	baz=251							
WLTB	**Daxi**	**0.94**	**264**	P	**Pn**	**21 29 54.3**	**+0.8**
	baz=263							
WLTB				S	**Sn**	**21 30 11.2**	**+0.4**
	baz=263							
NNSB	**Datong**	**0.97**	**238**	*e*P	**Pn**	**21 29 55.0**	**+1.0**
	baz=245							
NNSB				*e*S	**Sn**	**21 30 11.5**	**-0.1**
	baz=245							
NNSH	**Datong**	**0.97**	**238**	P	**Pn**	**21 29 54.9**	**+1.0**
	baz=244							
NNSH				S	**Sn**	**21 30 11.6**	**0.0**
	baz=244							
NNS	**Nan Shan**	**0.97**	**239**	P	**Pn**	**21 29 54.9**	**+1.0**
	baz=245							
NNS				S	**Sn**	**21 30 11.9**	**+0.3**
	baz=245							
NCU	**National Centr**	**1.00**	**271**	*e*S	**Sn**	**21 30 12.1**	**+0.4**
	baz=260							
NACB	**Ninganchiao**	**1.00**	**219**	*e*P	**Pn**	**21 29 54.2**	**+0.2**
	baz=217							
NACB				*e*S	**Sn**	**21 30 11.1**	**-0.7**
	baz=217							
NCUH	**Zhongli**	**1.00**	**271**	P	**Pn**	**21 29 54.9**	**+0.9**
	baz=260							
NCUH				S	**Sn**	**21 30 11.6**	**-0.2**
	baz=260							
TWD	**Chiawan**	**1.07**	**216**	P	**Pn**	**21 29 55.3**	**+0.6**
	baz=216							
TWD				S	**Sn**	**21 30 12.7**	**-0.3**
	baz=216							
HWA	**Hwalien**	**1.15**	**213**	*e*P	**Pn**	**21 29 56.2**	**+0.8**
	baz=207							
HWA				*e*S	**Sn**	**21 30 14.7**	**+0.3**
	baz=207							
SBCB	**Hsinchu**	**1.19**	**263**	*e*P	**Pn**	**21 29 56.9**	**+1.0**
	baz=262							
SBCB				*e*S	**Sn**	**21 30 14.8**	**-0.2**
	baz=262							
LIOB	**Emei**	**1.19**	**255**	P	**Pn**	**21 29 56.6**	**+0.7**
	baz=249							
LIOB				*e*S	**Sn**	**21 30 15.7**	**+0.6**
	baz=249							
HSN	**Hsinchu**	**1.20**	**263**	*e*P	**Pn**	**21 29 56.8**	**+0.8**
	baz=256							
HSN				*e*S	**Sn**	**21 30 14.9**	**-0.3**
	baz=256							
NSTT	**Nanjuang**	**1.21**	**255**	P	**Pn**	**21 29 56.6**	**+0.6**
	baz=248							
NSTT				S	**Sn**	**21 30 14.9**	**-0.5**
	baz=248							
ENLB	**Shoufeng**	**1.22**	**211**	P	**Pn**	**21 29 56.8**	**+0.6**
	baz=213							
ENLB				S	**Sn**	**21 30 15.8**	**+0.4**
	baz=213							
TWT	**Tachien**	**1.23**	**236**	P	**Pn**	**21 29 57.7**	**+1.3**
	baz=241							
TWT				S	**Sn**	**21 30 16.4**	**+0.5**
	baz=241							
WHF	**Hehuan Shan**	**1.23**	**229**	P	**Pn**	**21 29 57.6**	**+0.9**
	baz=230							
WHF				S	**Sn**	**21 30 16.9**	**+0.5**
	baz=230							
TDCB	**Techi**	**1.24**	**236**	*e*P	**Pn**	**21 29 58.0**	**+1.5**
	baz=241							
TDCB				*e*S	**Sn**	**21 30 16.5**	**+0.3**
	baz=241							
CHGB	**Renai**	**1.35**	**229**	*e*P	**Pn**	**21 29 59.1**	**+1.4**
	baz=230							
CHGB				*e*S	**Sn**	**21 30 18.3**	**0.0**
	baz=230							
ESL	**Shilin**	**1.37**	**215**	*e*P	**Pn**	**21 29 58.7**	**+0.9**
	baz=222							
ESL				*e*S	**Sn**	**21 30 18.7**	**+0.3**
	baz=222							
OWD	**Renai**	**1.42**	**226**	P	**Pn**	**21 29 59.2**	**+0.8**
	baz=223							
OWD				S	**Sn**	**21 30 19.6**	**+0.1**
	baz=223							
NMLH	**Miaoli**	**1.42**	**253**	P	**Pn**	**21 29 58.8**	**+0.6**
	baz=253							
NMLH				S	**Sn**	**21 30 19.5**	**+0.2**
	baz=253							
IRIF	**Iriomote-Funau**	**1.45**	**115**	P	**Pn**	**21 29 59.2**	**+0.6**
IRIF				*e*S	**Sn**	**21 30 20.1**	**+0.3**
NSY	**Sanyi**	**1.48**	**249**	P	**Pn**	**21 29 59.8**	**+0.8**
	baz=249							
NSY				S	**Sn**	**21 30 21.2**	**+0.7**
	baz=249							
EGFH	**Guangfu**	**1.50**	**212**	*e*P	**Pn**	**21 30 00.1**	**+1.0**
	baz=220							
EGFH				*e*S	**Sn**	**21 30 20.9**	**+0.1**
	baz=220							
TWQ1	**Liyutan**	**1.50**	**247**	P	**Pn**	**21 30 00.1**	**+1.0**
	baz=247							
TWQ1				S	**Sn**	**21 30 20.6**	**-0.2**
	baz=247							
DPDB	**Guoxing**	**1.54**	**234**	P	**Pn**	**21 30 01.0**	**+1.4**
	baz=241							
DPDB				S	**Sn**	**21 30 22.8**	**+1.1**
	baz=241							
HATJ	**Hateruma jima**	**1.65**	**122**	P	**Pn**	**21 30 02.2**	**+1.4**
HATJ				*e*S	**Sn**	**21 30 24.1**	**+0.4**
SMLT	**Sun Moon Lake**	**1.65**	**230**	P	**Pn**	**21 30 02.4**	**+1.5**
	baz=231							
SMLT				S	**Sn**	**21 30 25.1**	**+1.1**
	baz=231							
HGSD	**Ruisui**	**1.65**	**209**	*e*P	**Pn**	**21 30 01.5**	**+0.7**
	baz=219							
HGSD				*e*S	**Sn**	**21 30 23.9**	**0.0**
	baz=219							
TYC	**Yuchr**	**1.67**	**232**	P	**Pn**	**21 30 01.9**	**+0.9**
	baz=233							
TYC				S	**Sn**	**21 30 25.1**	**+0.9**
	baz=233							
TCU	**Taichung**	**1.67**	**242**	*e*P	**Pn**	**21 30 02.2**	**+1.2**
	baz=248							
TCU				*e*S	**Sn**	**21 30 23.9**	**-0.3**
	baz=248							
SSLB	**Suanglung**	**1.68**	**227**	*e*P	**Pn**	**21 30 02.7**	**+1.5**
	baz=228							
SSLB				*e*S	**Sn**	**21 30 25.2**	**+0.7**
	baz=228							
EHY	**Hungye**	**1.69**	**212**	*e*P	**Pn**	**21 30 02.2**	**+0.9**
	baz=214							
EHY				*e*S	**Sn**	**21 30 24.9**	**+0.3**
	baz=214							
JKRS	**Kuro-shima**	**1.72**	**114**	P	**Pn**	**21 30 02.9**	**+1.3**
JKRS				*e*S	**Sn**	**21 30 25.6**	**+0.3**
JIJ	**Ishigaki jima**	**1.79**	**109**	P	**Pn**	**21 30 03.3**	**+0.9**
JIJ				S	**Sn**	**21 30 26.0**	**-0.7**
YULB	**Yu-li**	**1.79**	**210**	*e*P	**Pn**	**21 30 02.4**	**-0.2**
	baz=217							
YULB				*e*S	**Sn**	**21 30 25.8**	**-1.1**
	baz=217							
WCHH	**Zhanghua**	**1.80**	**241**	*e*P	**Pn**	**21 30 03.3**	**+0.8**
	baz=248							
WCHH				S	**Sn**	**21 30 27.8**	**+1.0**
	baz=248							
WNT	**Mingjian**	**1.81**	**234**	P	**Pn**	**21 30 04.0**	**+1.3**
	baz=243							
WNT				S	**Sn**	**21 30 28.0**	**+0.9**
	baz=243							
WJS	**Zhushan**	**1.81**	**232**	P	**Pn**	**21 30 03.6**	**+0.9**
	baz=233							
WJS				S	**Sn**	**21 30 27.3**	**+0.2**
	baz=233							
TWF1	**Yuli**	**1.83**	**210**	*e*P	**Pn**	**21 30 04.0**	**+1.1**
	baz=217							
TWF1				*e*S	**Sn**	**21 30 27.8**	**+0.2**
	baz=217							
JISG	**Ishigakijimahi**	**1.88**	**101**	P	**Pn**	**21 30 04.4**	**+1.0**
JISG				*e*S	**Sn**	**21 30 28.5**	**0.0**
YUS	**Yu-Shan**	**1.90**	**220**	*e*P	**Pn**	**21 30 04.8**	**+0.6**
	baz=216							
YUS				*e*S	**Sn**	**21 30 29.4**	**-0.4**
	baz=216							
FULB	**Fuli**	**1.97**	**208**	*e*P	**Pn**	**21 30 05.8**	**+1.2**
	baz=219							
FULB				S	**Sn**	**21 30 31.1**	**+0.6**
	baz=219							
ALS	**Alishan**	**1.97**	**224**	P	**Pn**	**21 30 06.2**	**+1.3**
	baz=218							
ALS				S	**Sn**	**21 30 31.7**	**+0.7**
	baz=218							
CHN5	**Tsauling**	**1.99**	**228**	P	**Pn**	**21 30 06.3**	**+1.4**
	baz=229							
CHN5				S	**Sn**	**21 30 32.1**	**+1.0**
	baz=229							
WGK	**Gukeng**	**2.01**	**232**	*e*S	**Sn**	**21 30 31.9**	**+0.5**
	baz=233							
CHKT	**Chengkung**	**2.03**	**205**	*e*P	**Pn**	**21 30 06.5**	**+1.3**
	baz=200							
CHKT				*e*S	**Sn**	**21 30 31.8**	**+0.1**
	baz=200							
WDLH	**Douliu**	**2.03**	**232**	*e*P	**Pn**	**21 30 06.5**	**+1.3**
	baz=233							
WDLH				S	**Sn**	**21 30 32.3**	**+0.6**
	baz=233							
RLNB	**Erlin**	**2.05**	**239**	*e*P	**Pn**	**21 30 06.4**	**+1.0**
	baz=240							
RLNB				*e*S	**Sn**	**21 30 32.5**	**+0.4**
	baz=240							
ELDTW	**Lidau**	**2.10**	**214**	P	**Pn**	**21 30 06.6**	**+0.3**
	baz=216							
ELDTW				*e*S	**Sn**	**21 30 33.6**	**0.0**
	baz=216							
CHN2	**Minshiung**	**2.17**	**230**	P	**Pn**	**21 30 07.7**	**+0.6**
	baz=231							
CHN2				S	**Sn**	**21 30 36.1**	**+1.2**
	baz=231							
JTJ	**Tarama**	**2.22**	**98**	P	**Pn**	**21 30 08.8**	**+1.2**
JTJ				S	**Sn**	**21 30 35.8**	**-0.1**
CHN4	**Tsaushan**	**2.22**	**224**	P	**Pn**	**21 30 08.7**	**+1.1**
	baz=226							
CHN4				S	**Sn**	**21 30 36.0**	**0.0**
	baz=226							
CHY	**Chiayi**	**2.23**	**230**	*e*P	**Pn**	**21 30 08.3**	**+0.5**
	baz=231							
CHY				*e*S	**Sn**	**21 30 35.7**	**-0.5**
	baz=231							
STYT	**Tauyuan**	**2.26**	**218**	P	**Pn**	**21 30 09.2**	**+1.0**
	baz=221							
STYT				S	**Sn**	**21 30 37.0**	**0.0**
	baz=221							
WTP	**Ta-pu**	**2.28**	**222**	*e*P	**Pn**	**21 30 09.1**	**+0.7**
	baz=231							
WTP				*e*S	**Sn**	**21 30 37.3**	**-0.2**
	baz=231							
WSF	**Szhu**	**2.29**	**236**	*e*S	**Sn**	**21 30 37.8**	**+0.3**
	baz=231							
WLGB	**Puzi**	**2.33**	**231**	*e*P	**Pn**	**21 30 09.5**	**+0.6**
	baz=233							
WLGB				*e*S	**Sn**	**21 30 39.6**	**+1.2**
	baz=233							
TWH	**Lutao**	**2.35**	**198**	*e*P	**Pn**	**21 30 10.2**	**+0.9**
	baz=205							
TWH				*e*S	**Sn**	**21 30 39.7**	**+0.8**
	baz=205							
CHN1	**Nanshi**	**2.38**	**223**	P	**Pn**	**21 30 11.0**	**+1.4**
	baz=225							
CHN1				*e*S	**Sn**	**21 30 39.9**	**+0.3**
	baz=225							
TWG	**Pinlang**	**2.39**	**208**	*e*P	**Pn**	**21 30 10.6**	**+0.8**
	baz=206							
TWG				*e*S	**Sn**	**21 30 39.8**	**0.0**
	baz=206							
SGST	**Jiashian**	**2.43**	**220**	*e*P	**Pn**	**21 30 11.2**	**+1.1**
	baz=230							
SGST				S	**Sn**	**21 30 41.1**	**+0.5**
	baz=230							
MATB	**Ma-tsu**	**2.43**	**300**	*e*P	**Pn**	**21 30 10.6**	**+0.4**
	baz=298							
SLGT	**Liugui**	**2.46**	**218**	P	**Pn**	**21 30 11.5**	**+0.9**
	baz=220							
SLGT				S	**Sn**	**21 30 42.3**	**+1.0**
	baz=220							
VWUC	**VWUC**	**2.57**	**271**	*e*P	**Pn**	**21 30 12.4**	**+0.4**
	baz=270							
VWUC				*e*S	**Sn**	**21 30 42.0**	**-1.7**
	baz=270							
ECL	**Taimali**	**2.64**	**208**	*e*P	**Pn**	**21 30 14.0**	**+1.1**
	baz=209							
ECL				*e*S	**Sn**	**21 30 45.2**	**-0.2**
	baz=209							
SSD	**Sandimen**	**2.67**	**215**	*e*P	**Pn**	**21 30 14.1**	**+0.9**
	baz=224							
SSD				*e*S	**Sn**	**21 30 45.9**	**-0.1**
	baz=224							
JOGS	**Gusukube**	**2.84**	**93**	P	**Pn**	**21 30 17.5**	**+2.1**
PNG	**Penghu**	**2.85**	**242**	*e*P	**Pn**	**21 30 16.6**	**+1.1**
	baz=236							
PNG				*e*S	**Sn**	**21 30 50.0**	**0.0**
	baz=236							
PHUB	**P'eng-hu**	**2.86**	**241**	*e*P	**Pn**	**21 30 15.7**	**+0.1**
	baz=235							
PHUB				*e*S	**Sn**	**21 30 48.2**	**-2.1**
	baz=235							
EAST	**Anshuo**	**2.88**	**208**	*e*P	**Pn**	**21 30 16.7**	**+0.8**
	baz=206							
EAST				*e*S	**Sn**	**21 30 50.3**	**-0.6**
	baz=206							
WDGT	**Dungji**	**2.93**	**235**	*e*P	**Pn**	**21 30 17.5**	**+0.9**
	baz=236							
WDGT				*e*S	**Sn**	**21 30 52.3**	**+0.4**
	baz=236							
WSSB	**Gushan**	**2.95**	**219**	*e*P	**Pn**	**21 30 18.6**	**+1.7**
	baz=222							
WSSB				*e*S	**Sn**	**21 30 52.7**	**+0.1**
	baz=222							
LAY	**Lan-yu**	**2.98**	**193**	*e*P	**Pn**	**21 30 18.2**	**+1.0**
	baz=198							
LAY				*e*S	**Sn**	**21 30 52.4**	**-0.8**
	baz=198							
SCZT	**Fangliau**	**2.99**	**211**	*e*P	**Pn**	**21 30 18.6**	**+1.3**
	baz=223							
SCZT				*e*S	**Sn**	**21 30 52.7**	**-0.6**
	baz=223							
WLCH	**Liuqiu**	**3.12**	**214**	*e*P	**Pn**	**21 30 20.3**	**+1.3**
	baz=225							
WLCH				*e*S	**Sn**	**21 30 56.1**	**-0.3**
	baz=225							
TWP	**Hsiaoliuchiu**	**3.14**	**215**	*e*P	**Pn**	**21 30 20.4**	**+1.2**
	baz=226							
TWP				*e*S	**Sn**	**21 30 56.3**	**-0.5**
	baz=226							
HEN	**Hengchun**	**3.26**	**206**	*e*P	**Pn**	**21 30 21.5**	**+0.7**
	baz=218							
HEN				*e*S	**Sn**	**21 30 58.7**	**-0.9**
	baz=218							
KNM	**Kinmen**	**3.54**	**262**	*e*P	**Pn**	**21 30 26.6**	**+2.1**
	baz=261							
KNM				*e*S	**Sn**	**21 31 10.0**	**+3.8**
	baz=261							
KNMB	**Chin-men Tao**	**3.58**	**263**	*e*P	**Pn**	**21 30 25.3**	**+0.4**
	baz=261							
KNMB				*e*S	**Sn**	**21 31 05.1**	**-1.8**
	baz=261							
KSRS	**Korea Array**	**13.36**	**20**	P	**P**	**21 32 41.0**	**+1.4**
	0.2nm,0.3s,baz=203,slow=12,SNR=9.0							
SONM	**Songino Array**	**26.07**	**335**	P	**P**	**21 34 52.5**	**+0.9**
	2.0nm,0.8s,baz=153,slow=10,SNR=15							
MKAR	**Makanchi Array**	**38.50**	**315**	P	**P**	**21 36 40.5**	**+0.8**
	0.5nm,0.5s,baz=99,slow=10,SNR=14							
ZALV	**Zalesovo Beam**	**40.16**	**326**	P	**P**	**21 36 52.4**	**-0.9**
	0.7nm,0.4s,baz=109,slow=9.2,SNR=4.4							
KURBB	**Kurchatov Arra**	**42.18**	**319**	P	**P**	**21 37 09.4**	**-0.4**
	0.3nm,0.4s,baz=125,slow=7.9,SNR=5.8							
WRA	**Warramunga Arr**	**46.14**	**164**	P	**P**	**21 37 38.8**	**-2.8**
	0.7nm,1.0s,baz=348,slow=8.3,SNR=5.1							
BVAR	**Borovoye Array**	**47.72**	**320**	P	**P**	**21 37 54.2**	**+0.5**
	0.4nm,0.4s,baz=99,slow=10,SNR=3.3							
ASAR	**Alice Springs**	**49.63**	**166**	P	P	21 38 03.4	-5.1
	0.2nm,0.6s,baz=354,slow=8.4,SNR=1.3							
YKA	**Yellowknife Ar**	**81.87**	**23**	P	**P**	**21 41 33.6**	**-0.9**
	0.1nm,0.4s,baz=310,slow=4.6,SNR=2.0							

GUC 17 21:32:30.3±0.5, 23°.96S×67°.84W, h155km±25km, ML3.8, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**2.00**	**233**	⇑*i*P	Pn	21 33 07.3	+1.3
GO02				*i* S	Sn	21 33 35.0	+1.6
GO02				IAML		21 33 36.5	
	comp=N,582nm,0.3s						
PB06	**IPOC Station P**	**2.03**	**308**	⇑*i*P	Pn	21 33 08.7	+2.5
PB06				*i* S	Sn	21 33 36.8	+3.0
PB06				IAML		21 33 38.1	
	comp=E,370nm,0.1s						
ANCH	**Antofagasta**	**2.38**	**276**	⇓*i*P	Pn	21 33 15.2	+5.1
ANCH				*i* S	Sn	21 33 46.5	+5.7
PB14	**IPOC Station P**	**2.44**	**254**	IAML		21 33 46.3	
	comp=E,281nm,0.2s						
PB09	**IPOC Station P**	**2.52**	**329**	⇑*i*P	Pn	21 33 14.8	+2.8
PB09				*i* S	Sn	21 33 48.1	+3.9
PB09				IAML		21 33 50.6	
	comp=N,470nm,0.5s						
PB04	**IPOC Station P**	**2.68**	**307**	*e*P	Pn	21 33 15.7	+1.7
PB04				*i* S	Sn	21 33 49.5	+1.7
PB04				IAML		21 33 52.2	
	comp=N,248nm,0.2s						
PB07	**IPOC Station P**	**2.92**	**319**	⇑*i*P	Pn	21 33 19.0	+2.0
PB07				*i* S	Sn	21 33 54.8	+1.6
PB07				IAML		21 33 56.6	
	comp=N,211nm,0.3s						
PB02	**IPOC Station P**	**3.25**	**324**	⇑*i*P	Pn	21 33 22.6	+1.5
PB02				*i* S	Sn	21 34 02.4	+1.9
PB02				IAML		21 34 06.1	
	comp=E,175nm,0.3s						
PB01	**IPOC Station P**	**3.28**	**332**	⇑*i*P	Pn	21 33 22.8	+1.2
PB01				*i* S	Sn	21 34 03.1	+1.8
PB01				IAML		21 34 05.8	
	comp=E,144nm,0.2s						

IDC **17** *21:42:42.4±0.6, 35°.71N×140°.90E, h0km, mb3.7/17, mb1 3.9/21, mb1mx3.7/67, mbtmp3.8/21, ML3.9/4, Error ellipse: s-maj=17.6km s-min=13.6km az=94.0*

ISCJB **17** *21:42:43.5±0.7, 35°.76N±0°.03×140°.96E±0°.06, h17km±4km, mb3.7/17, Error ellipse: s-maj=8.4km s-min=5.5km az=179.5*

JMA **17** *21:42:44.5±0.1, 35°.76N×140°.89E, h12km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs40.00000°, δ86.00000°, λ-88.00000°. NP2: ϕs189.00000°, δ5.00000°, λ-122.00000°. Principal axes: T Plg41.0000°, Azm128.0000°; N Plg2.0000°, Azm220.0000°; P Plg49.0000°, Azm313.0000°;*

JMA Felt III J1.

ISC 17 21:42:44.5±0.9, 35°.75N±0°.04×140°.90E±0°.06, h12km±5km, n42, σ1s24/40, mb3.8/18, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.06**	**212**	⇓P		**Pg**	**21 42 47.0**	**+0.2**
CHOJ				S		**Sg**	**21 42 48.6**	**0.0**
JCN	**Nagara**	**0.66**	**240**	P		**Pb**	**21 42 58.2**	**+0.4**
JYT	**Yasato**	**0.74**	**310**	⇓P		**Pg**	**21 42 58.3**	**-0.5**
JYT				S		**Sg**	**21 43 08.1**	**-0.5**
BSO4	**Boso 4**	**0.89**	**211**	P		**Pb**	**21 43 01.8**	**+0.1**
JHO	**Hitachi**	**0.90**	**343**	⇓P		**Pg**	**21 43 00.6**	**-1.2**
JHO				*e*S		**Sg**	**21 43 12.6**	**-0.9**
BSO3	**Boso 3**	**1.00**	**199**	⇑P		**Pb**	**21 43 03.0**	**-0.5**
MJAR	**Matsushiro Arr**	**2.31**	**291**	Pn		**Pn**	**21 43 21.5**	**-0.9**
	7.0nm,0.3s,baz=294,slow=31,SNR=110							
MJAR				Sn		**Sb**	**21 43 54.8**	**+0.1**
	21nm,0.3s,baz=107,slow=28,SNR=7.6							
MAT	**Matsushiro**	**2.31**	**291**	P		**Pn**	**21 43 21.7**	**-0.7**
MAT				*e*S		**Sn**	**21 43 50.1**	**-0.7**
JHJ	**Hachijo jima 2**	**2.78**	**200**	Pn		**Pn**	**21 43 26.8**	**-2.0**
	16nm,0.3s,baz=30,slow=16,SNR=4.2							
JHJ				Sn		**Sn**	**21 44 03.5**	**+1.1**
	41nm,0.3s,baz=90,slow=20,SNR=4.4							
ASAJ	**Asahikawa**	**8.46**	**8**	Pn		**Pn**	**21 44 45.2**	**-1.5**
	2.4nm,0.3s,baz=218,slow=12,SNR=30							
JCJ	**Chichijima**	**8.70**	**172**	Pn		**Pn**	**21 44 47.8**	**-2.4**
	5.5nm,0.3s,baz=294,slow=20,SNR=7.5							
YUK	**Yuzh-Kuril'sk**	**9.11**	**23**	*e*P		**Pn**	**21 44 58.2**	**+2.6**
YUK				pmax	pmax			
	comp=Z,150nm,0.4s							
SHO	**Shikotan**	**9.30**	**28**	⇑*i*P		**Pn**	**21 44 57.6**	**-0.7**
SHO				pmax	pmax			
	comp=Z,43nm,0.4s							
KSRS	**Korea Array**	**10.57**	**283**	Pn		Pn	21 45 21.8	+6.1
	comp=Z,0.1nm,0.3s,baz=93,slow=14,SNR=2.9							
USRK	**Ussuriysk Ar.**	**10.85**	**324**	Pn		**Pn**	**21 45 23.2**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=2.6							
NKL	**Nikolayevsk**	**17.40**	**360**	*e*P		**P**	**21 46 51.2**	**+3.1**
PETK	**Petropavlovsk-**	**21.00**	**29**	P		**P**	**21 47 28.6**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=216,slow=14,SNR=2.8							
MA2	**Magadan**	**24.69**	**12**	P		**P**	**21 48 05.6**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=218,slow=9.2,SNR=4.8							
H11N2	**WAKE ISLAND Hy**	**27.88**	**118**	T		T	22 17 32.4	
	baz=310,slow=75,SNR=338							
H11N1	**WAKE ISLAND Hy**	**27.89**	**118**	T		T	22 17 34.7	
	baz=310,slow=75,SNR=304							
H11N3	**WAKE ISLAND Hy**	**27.90**	**118**	T		T	22 17 32.3	
	baz=310,slow=75,SNR=39							
SONM	**Songino Array**	**28.18**	**306**	P		**P**	**21 48 36.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=112,slow=9.1,SNR=8.4							
H11S1	**WAKE ISLAND Hy**	**28.55**	**120**	T		T	22 18 20.6	
	baz=312,slow=75,SNR=78							
H11S3	**WAKE ISLAND Hy**	**28.55**	**120**	T		T	22 18 21.2	
	baz=312,slow=75,SNR=401							
H11S2	**WAKE ISLAND Hy**	**28.56**	**120**	T		T	22 18 21.8	
	baz=312,slow=75,SNR=73							
BILL	**Bilibino**	**35.37**	**16**	*i* P		**P**	**21 49 38.8**	**-0.7**
BILL				*i*			21 49 53.4	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ZALV	**Zalesovo Beam**	**42.48**	**313**	P		**P**	**21 50 39.2**	**0.0**
	comp=Z,0.7nm,0.4s,baz=90,slow=5.9,SNR=5.6							
MKAR	**Makanchi Array**	**44.46**	**303**	P		**P**	**21 50 55.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=89,slow=9.9,SNR=10							
KURBB	**Kurchatov Arra**	**46.47**	**309**	P		**P**	**21 51 10.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=83,slow=7.6,SNR=24							
ILAR	**Eielson Array**	**50.80**	**32**	P		**P**	**21 51 44.0**	**-0.3**
	comp=Z,0.8nm,1.0s,baz=266,slow=5.4,SNR=8.4							
BVAR	**Borovoye Array**	**51.13**	**313**	P		**P**	**21 51 47.9**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=91,slow=7.5,SNR=8.7							
WRA	**Warramunga Arr**	**55.74**	**187**	P		**P**	**21 52 20.0**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=3.0,slow=7.8,SNR=11							
AKTO	**Aktyubinsk**	**59.22**	**312**	P		**P**	**21 52 44.1**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=45,slow=4.3,SNR=2.3							
ASAR	**Alice Springs**	**59.47**	**187**	P		**P**	**21 52 47.9**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=17,slow=12,SNR=3.5							
YKA	**Yellowknife Ar**	**65.12**	**30**	P		**P**	**21 53 24.5**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=299,slow=6.4,SNR=3.2							
FINES	**FINESS Array B**	**69.75**	**332**	P		**P**	**21 53 54.2**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=51,slow=10.0,SNR=3.9							
NOA	**NORSAR Array B**	**75.20**	**337**	P		**P**	**21 54 26

CHOS					*e*Sg		**Sb**	**21 43 02.8**	**-0.4**
ZEY	**˜zmir**	**0.51**	**64**	*i* P			**Pg**	**21 42 58.8**	**+0.3**
ZEY				*i* S			**Sb**	**21 43 07.9**	**+1.2**
PSRA	**Psara**	**0.59**	**332**	P			**Pg**	**21 43 00.1**	**-0.1**
PSRA	**Psara**	**0.59**	**332**	P			**Pg**	**21 43 00.1**	**-0.1**
URLA	**Izmir**	**0.63**	**57**	PG			**Pg**	**21 43 00.3**	**-0.5**
URLA				SG			**Sg**	**21 43 09.3**	**+0.1**
URLA	**Izmir**	**0.63**	**57**	*i* P			**Pg**	**21 43 00.3**	**-0.5**
URLA				*i* S			**Sn**	**21 43 13.2**	**-0.1**
URLA	**Izmir**	**0.63**	**57**	P			**Pg**	**21 43 00.3**	**-0.5**
URLA				*e*Sg			**Sg**	**21 43 09.3**	**+0.1**
URLA				S			**Sn**	**21 43 13.2**	**-0.1**
DGB	**˜zmir**	**0.76**	**87**	*i* P			**Pg**	**21 43 03.1**	**-0.1**
KRBN	**Karaburun**	**0.76**	**41**	PG			**Pg**	**21 43 02.9**	**-0.4**
KRBN	**Karaburun**	**0.76**	**41**	*e*Pg			**Pg**	**21 43 02.9**	**-0.4**
TNSA	**Tinos**	**0.77**	**232**	P			**Pb**	**21 43 03.8**	**0.0**
TNSA				S			**Sg**	**21 43 13.4**	**-0.1**
TNSA	**Tinos**	**0.77**	**232**	P			**Pg**	**21 43 03.5**	**+0.1**
TNSA				S			**Sg**	**21 43 13.6**	**+0.1**
SMG	**Samos**	**0.79**	**113**	P			**Pg**	**21 43 03.9**	**+0.1**
SMG				S			**Sb**	**21 43 15.0**	**+0.3**
SMG					AML	AML		21 43 16.8	
	comp=E,80µm,0.4s								
SMG					AML	AML		21 43 17.3	
	comp=N,140µm,0.4s								
SMG	**Samos**	**0.79**	**113**	P			**Pg**	**21 43 03.9**	**+0.1**
SMG				S			**Sb**	**21 43 14.9**	**+0.2**
APE	**Apeiranthos**	**1.00**	**198**	PG			**Pg**	**21 43 07.5**	**+0.1**
APE	**Apeiranthos**	**1.00**	**198**	P			**Pb**	**21 43 08.5**	**-1.3**
APE	**Apeiranthos**	**1.00**	**198**	P			**Pb**	**21 43 07.0**	**-0.8**
APE	**Apeiranthos**	**1.00**	**198**	*e*Pg			**Pg**	**21 43 07.9**	**+0.1**
SIGR	**SIGRI**	**1.19**	**357**	PN			**Pn**	**21 43 10.8**	**-0.2**
SIGR	**SIGRI**	**1.19**	**357**	P			**Pb**	**21 43 11.2**	**+0.1**
SIGR				S			**Sn**	**21 43 27.7**	**+0.6**
SIGR					AML	AML		21 43 30.6	
	comp=E,63µm,0.7s								
SIGR					AML	AML		21 43 31.0	
	comp=N,52µm,0.6s								
SIGR	**SIGRI**	**1.19**	**357**	*e*Pn			**Pn**	**21 43 10.8**	**-0.2**
SIGR	**SIGRI**	**1.19**	**357**	P			**Pb**	**21 43 11.2**	**+0.1**
SIGR				S			**Sn**	**21 43 27.7**	**+0.6**
PRK	**Paraskevi**	**1.26**	**12**	P			**Pn**	**21 43 11.2**	**-0.7**
PRK	**Paraskevi**	**1.26**	**12**	P			**Pn**	**21 43 11.8**	**-0.1**
DKL	**Dikili**	**1.30**	**36**	PN			**Pb**	**21 43 12.8**	**-0.1**
DKL	**Dikili**	**1.30**	**36**	*e*Pn			**Pb**	**21 43 12.8**	**-0.1**
SERI	**Serifos**	**1.43**	**234**	P			**Pg**	**21 43 16.4**	**+0.4**
SERI	**Serifos**	**1.43**	**234**	P			**Pg**	**21 43 15.8**	**-0.2**
ANAF	**Anafi Island**	**1.66**	**184**	P			**Pb**	**21 43 19.4**	**+0.3**
ANAF	**Anafi Island**	**1.66**	**184**	P			**Pb**	**21 43 19.4**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.79**	**16**	*i* P			**Pn**	**21 43 19.2**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.79**	**16**	P			**Pn**	**21 43 19.2**	**0.0**

NIED **17** *21:43:00,36˙80N×143˙80E,h11km,Mw4.3 Best double couple: M0 3.17000×10^15 NP1:φs 77.00000°, δ52.00000°, λ-27.00000°. NP2:φs 184.00000°, δ69.00000°, λ-139.00000°.*

IDC **17** *21:43:11.6±0.5,36˙62N×144˙14E,h0km,mb4.2/29, mb1 4.5/35,mb1mx4.3/67,mbtmp4.3/35,ML4.3/6,MS3.5/5, Ms1 3.5/5,ms1mx3.0/62,Error ellipse: s-maj=13.9km s-min=12.1km az=132.0*

MOS **17** *21:43:15.1±0.9,36˙58N×144˙13E,h33km,mb4.6/41,Error ellipse: s-maj=10.4km s-min=6.7km az=124.0*

BJI **17** *21:43:15.5,37˙15N×144˙42E,h40km,mb4.6/53,mB5.1/34, Ms4.5/11,Ms7 4.5/5*

ISCJB **17** *21:43:16.6±0.3,36˙80N±0˙04×143˙91E±0˙03,h34km, mb4.5/76,MS3.9/6,Error ellipse: s-maj=5.3km s-min=3.6km az=165.5*

NEIC **17** *21:43:17.2±0.2,36˙64N×144˙09E,h35km,mb4.7/22,Error ellipse: s-maj=6.0km s-min=4.6km az=147.0*

JMA **17** *21:43:17.7±0.3,36˙82N×143˙78E,h57km,M5.0*

ISC 17 21:43:16.3±0.5,36˙70N±0˙05×144˙08E±0˙05,h27km±2km, h27km:pP-P,n224,σ1§77/246,mb4.5/76,MS3.8/6,27C-11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.65**	**286**		⇑P		**Pn**	**21 43 55.5**	**-1.7**
JFK					S		**Sn**	**21 44 23.8**	**-4.7**
JIO	**Ouri**	**2.79**	**310**		P		**Pn**	**21 43 57.2**	**-1.9**
JIO					*e*S		**Sn**	**21 44 27.2**	**-4.7**
JHO	**Hitachi**	**2.82**	**269**		P		**Pn**	**21 43 58.1**	**-1.5**
JHO					*e*S		**Sn**	**21 44 27.5**	**-5.2**
JMK	**Ichinoseki**	**3.19**	**316**		P		**Pn**	**21 44 02.9**	**-1.8**
JOM	**Ohasama**	**3.54**	**322**		⇑P		**Pn**	**21 44 07.6**	**-1.8**
JOM					S		**Sn**	**21 44 45.2**	**-5.2**
JYK	**Kaneyama**	**3.69**	**308**		P		**Pn**	**21 44 10.4**	**-1.1**
JAG	**Ashikaga**	**3.73**	**267**		⇓P		**Pn**	**21 44 11.1**	**-1.0**
JAG					S		**Sn**	**21 44 50.3**	**-4.9**
JRY	**Ryogami san**	**4.23**	**262**		P		**Pn**	**21 44 17.7**	**-1.3**
JRY					*e*S		**Sn**	**21 45 02.6**	**-4.9**
JOD2	**Odawara 2**	**4.29**	**252**		S		**Sn**	**21 45 04.3**	**-4.7**
MJAR	**Matsushiro Arr**	**4.72**	**270**		Pn		**Pn**	**21 44 25.3**	**-0.5**
	48nm,0.3s,baz=97,slow=9.5,SNR=6.2								
MJAR					Sn		**Sn**	**21 45 16.7**	**-3.0**
	17nm,0.3s,baz=82,slow=27,SNR=3.5								
MAJO	**Matsushiro**	**4.72**	**270**	*d*	iP		**Pn**	**21 44 25.8**	**0.0**
MAJO	**Matsushiro**	**4.72**	**270**	*e*	Pn		**Pn**	**21 44 26.1**	**+0.3**
MAT	**Matsushiro**	**4.72**	**270**		P		**Pn**	**21 44 25.7**	**-0.1**
MAT					*e*S		**Sn**	**21 45 16.5**	**-3.2**
MJB9	**Matsu-Tunnel**	**4.73**	**270**	*e*	Pn		**Pn**	**21 44 26.2**	**+0.4**
JHJ2	**Mitsune**	**5.00**	**226**	*e*	Pn		**Pn**	**21 44 28.1**	**-1.5**
JHJ	**Hachijo jima 2**	**5.02**	**226**		Pn		**Pn**	**21 44 28.1**	**-1.7**
	70nm,0.3s,baz=352,slow=22,SNR=13								
JHJ					Sn		**Sn**	**21 45 22.6**	**-4.3**
	444nm,0.3s,baz=80,slow=23,SNR=12								
JOT	**Ohata**	**5.24**	**334**		P		**Pn**	**21 44 31.2**	**-1.6**
ERM	**Erimo**	**5.36**	**353**	*de*	P		**Pn**	**21 44 31.3**	**-3.1**
ERM	**Erimo**	**5.36**	**353**	*e*	Pn		**Pn**	**21 44 31.8**	**-2.7**
JKB	**Kayabe**	**5.70**	**336**		P		**Pn**	**21 44 37.1**	**-2.0**
JKB					*e*S		**Sn**	**21 45 36.0**	**-7.5**
JCH	**Churui**	**5.94**	**355**		P		**Pn**	**21 44 39.3**	**-3.1**
JCH					S		Sn	21 45 40.4	-9.1
JOSM	**Okushiri--Mats**	**6.45**	**328**		P		**Pn**	**21 44 47.7**	**-1.7**
JTKR	**Abashiri--Toko**	**7.27**	**359**		P		**Pn**	**21 44 57.5**	**-3.1**
JTKR					S		Sn	21 46 12.9	-9.3
ASAJ	**Asahikawa**	**7.50**	**352**		Pn		**Pn**	**21 45 01.9**	**-1.9**
	28nm,0.3s,baz=190,slow=12,SNR=86								
ASAJ					Sn		**Sn**	**21 46 21.6**	**-6.3**
	baz=24,slow=19,SNR=2.5								
KUR	**Kuril'sk**	**9.00**	**17**	*e*	P		**Pn**	**21 45 22.2**	**-2.1**
KUR					pmax		pmax		
	comp=Z,43nm,0.8s								
KUR					pmax		pmax		
	comp=E,22nm,0.7s								
KUR					pmax		pmax		
	comp=N,21nm,0.8s								
CBIJ	**Chichi jima**	**9.71**	**190**	*e*	Pn		**Pn**	**21 45 30.2**	**-3.9**
JCJ	**Chichijima**	**9.71**	**190**		Pn		Pn	21 45 28.9	-5.3
	comp=N,23nm,0.3s,baz=106,slow=22,SNR=14								
JCJ					Sn		Sn	21 47 08.1	-14
	comp=N,24nm,0.3s,baz=107,slow=20,SNR=4.2								
TEY	**Ternei**	**10.07**	**328**	*e*	P		**Pn**	**21 45 37.5**	**-1.5**
TEY					pmax		pmax		
	comp=N,55nm,0.7s								
TEY					pmax		pmax		
	comp=E,47nm,0.7s								
TEY					pmax		pmax		
	comp=Z,58nm,0.8s								
YSS	**Yuzh-Sakhalins**	**10.30**	**355**	*e*	P		**Pn**	**21 45 41.7**	**-0.4**
YSS					pmax		pmax		
	comp=Z,50nm,1.2s								
YSS	**Yuzh-Sakhalins**	**10.30**	**355**	*e*	Pn		**Pn**	**21 45 41.5**	**-0.7**
JNU	**Nakatsue**	**11.41**	**256**		Pn		**Pn**	**21 45 55.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=45,slow=17,SNR=4.8								
USRK	**Ussuriysk Ar.**	**11.87**	**313**		Pn		**Pn**	**21 46 03.1**	**-0.5**
	comp=Z,5.6nm,0.3s,baz=123,slow=14,SNR=58								
KSRS	**Korea Array**	**12.93**	**278**		Pn		**Pn**	**21 46 16.3**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=92,slow=14,SNR=19								
KSRS					LR		LR	21 50 36.5	
	comp=Z,162nm,19.4s,baz=280,slow=34								
KS01	**Wonju Array Si**	**12.95**	**278**	*e*	Pn		**Pn**	**21 46 20.3**	**+1.9**
KS15	**Wonju Array Si**	**12.96**	**278**	*e*	Pn		**Pn**	**21 46 19.9**	**+1.3**
KSAR	**Wonju Array Be**	**12.96**	**278**		P		**Pn**	**21 46 16.3**	**-2.3**
KSAR	**Wonju Array Be**	**12.96**	**278**		Pn		**Pn**	**21 46 16.3**	**-2.3**
MDJ	**Mudanjiang**	**13.53**	**310**		P		**Pn**	**21 46 24.4**	**-2.0**
MDJ					pP		P	21 46 32.1	-3.1
MDJ					sP			21 46 37.3	
MDJ					pmax		pmax		
	comp=Z,24nm,0.7s								
MDJ					pmax		pmax		
	comp=Z,330nm,5.1s								
MDJ	**Mudanjiang**	**13.53**	**310**	*e*	Pn		**Pn**	**21 46 25.9**	**-0.5**
TYV	**Tymovskoe**	**14.20**	**356**	*e*	P		**Pn**	**21 46 32.6**	**-2.8**
TYV					pmax		pmax		
	comp=Z,7.0nm,1.0s								
KLR	**Kul'dur**	**15.41**	**328**	*i*	P		**Pn**	**21 46 47.4**	**-4.3**
CN2	**Changchun**	**15.88**	**302**	*e*	P		**P**	**21 47 00.1**	**-1.2**
ZEA	**Zeya**	**20.67**	**331**	*e*	P		**P**	**21 47 53.8**	**0.0**
ZEA					pmax		pmax		
	comp=N,73nm,0.8s								
ZEA					pmax		pmax		
	comp=E,42nm,0.8s								
ZEA					pmax		pmax		
	comp=Z,100nm,0.8s								
NJ2	**Nanjing**	**21.30**	**265**	*e*	P		**P**	**21 48 02.1**	**+1.2**
TIA	**Tai'an**	**21.66**	**277**		P		**P**	**21 48 07.9**	**+3.2**
TIA					pmax		pmax		
	comp=Z,14nm,1.0s								
HIA	**Hailar**	**21.68**	**313**		⇑P		**P**	**21 48 05.6**	**+0.8**
HIA					pmax		pmax		
	comp=Z,7.0nm,1.1s								
BJI	**Beijing**	**22.09**	**287**		⇑P		**P**	**21 48 08.5**	**-0.8**
BJI					pP		**sP**	**21 48 19.5**	**-0.7**
BJI					pmax		pmax		
	comp=Z,24nm,0.8s								
BJI					pmax		pmax		
	comp=Z,500nm,3.6s								
BJT	**Baijiatuan**	**22.10**	**287**	*e*	P		**P**	**21 48 08.8**	**-0.6**
BJT					pmax		pmax		
	comp=Z,16nm,0.7s								
BJT	**Baijiatuan**	**22.10**	**287**	*e*	P		**P**	**21 48 08.8**	**-0.6**
	comp=Z,16nm,0.7s								
CLNS	**Chul'man**	**23.90**	**334**	*e*	P		**P**	**21 48 31.0**	**+3.4**
CLNS					pmax		pmax		
	comp=Z,37nm,0.7s								
CLNS					pmax		pmax		
	comp=N,25nm,0.8s								
CLNS					pmax		pmax		
	comp=E,21nm,0.9s								
TPUB	**Ta-pu**	**24.22**	**243**	*e*	P		**P**	**21 48 31.1**	**+0.3**
	comp=E,22nm,1.0s								
WHN	**Wuhan**	**25.44**	**265**		P		**P**	**21 48 42.3**	**+0.5**
HHC	**Hu-ho-hao-te**	**25.60**	**289**	*e*	P		**P**	**21 48 43.5**	**+0.2**
HHC					pmax		pmax		
	comp=E,15nm,0.9s								
HHC					pmax		pmax		
	comp=E,120nm,9.3s								
H11N2	**WAKE ISLAND Hy**	**26.16**	**124**		T		T	22 15 46.3	
	baz=316,slow=74,SNR=46								
H11N1	**WAKE ISLAND Hy**	**26.17**	**124**		T		T	22 15 52.6	
	baz=316,slow=74,SNR=41								
H11N3	**WAKE ISLAND Hy**	**26.18**	**124**		T		T	22 15 47.6	
	baz=316,slow=74,SNR=36								
SEY	**Seymchan**	**26.76**	**8**		⇑P		**P**	**21 48 54.2**	**+0.8**
H11S1	**WAKE ISLAND Hy**	**26.91**	**126**		T		T	22 16 45.9	
	baz=311,slow=74								
H11S3	**WAKE ISLAND Hy**	**26.91**	**126**		T		T	22 16 55.0	
	baz=311								
H11S2	**WAKE ISLAND Hy**	**26.93**	**126**		T		T	22 16 47.5	
	baz=311,slow=74								
XAN	**Xi'an**	**28.70**	**275**		P		**P**	**21 49 14.0**	**+2.9**
XAN					pP		sP	21 49 24.0	+1.5
XAN					sP		pP	21 49 28.8	+10
XAN					pmax		pmax		
	comp=E,9.0nm,0.7s								
BOD	**Bodaibo**	**28.97**	**326**	*e*	P		**P**	**21 49 17.7**	**+4.4**
BOD					pmax		pmax		
	comp=Z,11nm,0.7s								
ULN	**Ulaanbaatar**	**29.31**	**304**	*ce*	P		**P**	**21 49 18.9**	**+2.3**
ULN					pmax		pmax		
	comp=Z,14nm,1.5s								
ULN	**Ulaanbaatar**	**29.31**	**304**	*e*	P		**P**	**21 49 18.8**	**+2.2**
	comp=Z,9.1nm,0.8s								
ENH	**Enshi**	**29.44**	**268**	*e*	P		**P**	**21 49 18.0**	**+0.2**
	comp=Z,12nm,0.8s								
SONA1	**Songino Array**	**29.74**	**304**	*e*	P		**P**	**21 49 21.9**	**+1.5**
SONM	**Songino Array**	**29.75**	**304**		P		**P**	**21 49 24.3**	**+3.9**
	comp=Z,3.9nm,0.6s,baz=107,slow=9.4,SNR=22								
SONM					PcP		**PcP**	**21 52 24.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=124,slow=2.8,SNR=4.1								
ZAK	**Zakamensk**	**32.16**	**308**	*e*	P		**P**	**21 49 44.6**	**+3.0**
ZAK					pmax		pmax		
	comp=Z,3.0nm,0.9s								
TLY	**Talaya**	**32.17**	**311**	*e*	P		P	21 49 49.8	+8.2
TLY					pmax		pmax		
	comp=Z,6.0nm,1.5s								
LZH	**Lanzhou**	**32.23**	**281**	*e*	P		**P**	**21 49 44.0**	**+1.5**
LZH					pP		sP	21 49 53.4	-0.4
LZH					sP		pP	21 49 57.4	+6.9
LZH					SS		SS	21 56 56.3	-16
LZH					pmax		pmax		
	comp=Z,31nm,1.3s								
LZH					pmax		pmax		
	comp=Z,120nm,4.4s								
LZH					LR		LR		
	comp=Z,1µm,12.6s								
LZH					LR		LR		
	comp=Z,1µm,13.0s								
LZH					LR		LR		
	comp=Z,1µm,16.2s								
CD2	**Chengdu**	**33.81**	**272**		P		**P**	**21 49 56.0**	**-0.2**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2					pmax		pmax		
	comp=Z,120nm,5.0s								
GTA	**Gaotai**	**34.70**	**288**	*e*	P		**P**	**21 50 05.8**	**+1.9**
GTA					PcP		**PcP**	**21 52 38.3**	**+0.9**
GTA					S		**S**	**21 55 33.9**	**+1.6**
GTA					pmax		pmax		
	comp=Z,4.0nm,1.0s								
GTA					pmax		pmax		
	comp=Z,200nm,6.9s								
GTA					LR		LR		
	comp=Z,77nm,17.1s								
GTA					LR		LR		
	comp=Z,160nm,15.7s								
TIXI	**Tiksi**	**35.90**	**352**		⇑P		**P**	**21 50 15.4**	**+1.7**
TIXI					pmax		pmax		
	comp=Z,1.0nm,0.9s								
KMI	**Kunming**	**37.03**	**264**		P		**P**	**21 50 26.0**	**+1.8**
KMI					pmax		pmax		
	comp=Z,4.0nm,0.5s								
KMI					pmax		pmax		
	comp=Z,170nm,4.6s								
SDPT	**Sand Point**	**41.52**	**45**	*e*	P		**P**	**21 51 01.1**	**+0.2**
	comp=Z,417nm,1.9s								
DGZ	**Jazzator, Alta**	**42.32**	**306**	*ce*	P		**P**	**21 51 09.8**	**+2.0**
DGZ					pmax		pmax		
	comp=Z,3.0nm,0.9s								
WMQ	**Urumqi**	**42.89**	**298**		P		**P**	**21 51 15.5**	**+3.1**
WMQ					pP		pP	21 51 21.8	+1.2
CHTO	**Chiang Mai**	**43.30**	**258**	*e*	P		**P**	**21 51 17.0**	**+1.1**
CHTO					pmax		pmax		
	comp=Z,9.0nm,1.2s								
CHTO	**Chiang Mai**	**43.30**	**258**	*e*	P		**P**	**21 51 17.0**	**+1.1**
	comp=Z,9.2nm,1.2s								
CM31	**Chiang Mai Arr**	**43.49**	**258**	*e*	P		**P**	**21 51 18.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**43.49**	**258**		P		**P**	**21 51 18.3**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=46,slow=7.0,SNR=20								
CM01	**Chiang Mai Arr**	**43.50**	**258**	*e*	P		**P**	**21 51 17.7**	**+0.2**
ZAA0	**Zalesovo Array**	**43.72**	**313**	*e*	P		**P**	**21 51 20.9**	**+2.1**
ZAA0				*e*	pP		**pP**	**21 51 27.6**	**+0.6**
ZALV	**Zalesovo Beam**	**43.72**	**313**		P		**P**	**21 51 18.9**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=94,slow=6.2,SNR=4.4								
ZALV					PcP		**PcP**	**21 53 05.1**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=87,slow=2.7,SNR=7.0								
LSA	**Lhasa**	**44.37**	**277**	*e*	P		**P**	**21 51 26.0**	**+1.1**
LSA				*e**	PP		**pP**	**21 51 34.3**	**+1.1**
LSA	**Lhasa**	**44.37**	**277**	*e*	P		**P**	**21 51 26.0**	**+1.1**
LSA				*e*	pP		**pP**	**21 51 34.3**	**+1.1**
NVS	**Novosibirsk**	**44.61**	**314**	*e*	P		P	21 51 35.1	+9.1
SBUM	**Sibu**	**44.98**	**228**	*e*	P		**P**	**21 51 29.4**	**0.0**
	comp=Z,10nm,1.2s								
MK01	**Makanchi Array**	**46.10**	**303**	*e*	P		**P**	**21 51 38.2**	**+0.3**
MK31	**Makanchi Array**	**46.10**	**303**	*ce*	P		**P**	**21 51 38.2**	**+0.2**
MK31					pmax		pmax		
	comp=Z,4.0nm,0.7s								
MK31	**Makanchi Array**	**46.10**	**303**	*e*	P		**P**	**21 51 39.1**	**+1.2**
MKAR	**Makanchi Array**	**46.10**	**303**		P		**P**	**21 51 38.8**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=83,slow=9.5,SNR=9.0								
MKAR	**Makanchi Array**	**46.10**	**303**	*ce*	P		**P**	**21 51 38.7**	**+0.7**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.7s								
MAKZ	**Makanchi**	**46.31**	**303**	*e*	P		**P**	**21 51 41.0**	**+1.4**
MAKZ					pmax		pmax		
	comp=Z,5.0nm,0.8s								
MAKZ	**Makanchi**	**46.31**	**303**	*e*	P		**P**	**21 51 41.0**	**+1.4**
	comp=Z,5.2nm,0.8s								
KSM	**Kuching**	**46.91**	**230**	*e*	P		**P**	**21 51 44.8**	**+0.2**
	comp=Z,5.8nm,0.8s								
KURK	**Kurchatov**	**47.82**	**309**	⇓	*e*P		**P**	**21 51 50.7**	**-0.5**
KURK					pmax		pmax		
	comp=Z,2.0nm,0.5s								
KURK	**Kurchatov**	**47.82**	**309**	*e*	P		**P**	**21 51 51.5**	**+0.3**
	comp=Z,24nm,0.8s								
KURBB	**Kurchatov Arra**	**47.89**	**309**		P		**P**	**21 51 52.0**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=83,slow=8.0,SNR=7.4								
IL1	**Eielson Array**	**48.64**	**32**	*e*	P		**P**	**21 51 57.8**	**+0.3**
ILAR	**Eielson Array**	**48.64**	**32**		P		**P**	**21 51 57.0**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=260,slow=6.5,SNR=15								
ILAR	**Eielson Array**	**48.64**	**32**		P		**P**	**21 51 57.0**	**-0.4**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
ILB	**Eielson Array**	**48.64**	**32**	*e*	P		**P**	**21 51 57.0**	**-0.4**
ILB				*e*	pP		**sP**	**21 52 09.2**	**+0.2**
JIRN	**Jiri**	**49.18**	**277**	*e*	P		**P**	**21 52 03.3**	**+0.8**
	comp=Z,5.9nm,0.4s								
GUN	**Gumba**	**49.31**	**277**	*e*	P		**P**	**21 52 04.1**	**+0.6**
PRZ	**Przheval'sk**	**49.81**	**298**		P		**P**	**21 52 08.1**	**+1.1**
PKI	**Pulchoki**	**49.84**	**277**	*e*	P		**P**	**21 52 07.7**	**+0.2**
KKN	**Kakani**	**49.84**	**277**	*e*	P		**P**	**21 52 08.1**	**+0.7**
	comp=Z,18nm,0.6s								
PKIN	**Phulchoki**	**49.85**	**277**	*e*	P		**P**	**21 52 07.9**	**+0.4**
	comp=Z,15nm,0.6s								
DMN	**Daman**	**50.06**	**277**	*e*	P		**P**	**21 52 09.4**	**+0.3**
MENT	**Mentasta**	**50.10**	**35**	*e*	P		**P**	**21 52 09.3**	**+0.7**
	comp=Z,17nm,1.6s								
MTN	**Manton Dam**	**50.76**	**196**	*e*	P		**P**	**21 52 13.6**	**-0.4**
	comp=Z,84nm,1.5s								
KDJ	**Kajisay**	**50.78**	**298**		P		**P**	**21 52 15.1**	**+0.8**
DANN	**Dangsing**	**50.81**	**279**	*e*	P		**P**	**21 52 15.7**	**+0.9**
KOLN	**Koldanda**	**51.19**	**278**	*e*	P		**P**	**21 52 17.3**	**-0.3**
PYUN	**Piuthan**	**51.53**	**279**	*e*	P		**P**	**21 52 20.9**	**+0.8**
	comp=Z,27nm,0.5s								
TKM2	**Tokmak 2**	**51.66**	**299**		P		**P**	**21 52 22.3**	**+1.4**
	SNR=10								
NRN	**Naryn**	**51.84**	**297**		P		**P**	**21 52 23.9**	**+1.5**
KZA	**Kyzart**	**52.17**	**298**		P		**P**	**21 52 27.1**	**+2.2**
	SNR=12								
KBK	**Karagaybulak**	**52.20**	**299**		P		**P**	**21 52 26.0**	**+1.1**
	SNR=12								
USP	**Ospenovka**	**52.32**	**300**		P		**P**	**21 52 26.6**	**+1.0**
	SNR=6.7								
BVAR	**Borovoye Array**	**52.37**	**313**		P		**P**	**21 52 26.1**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=78,slow=9.0,SNR=7.4								
BVAR					PcP		**PcP**	**21 53 36.1**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=87,slow=3.2,SNR=3.2								
BRVK	**Borovoye**	**52.43**	**313**		⇑P		**P**	**21 52 26.7**	**+0.5**
BRVK					pmax		pmax		
	comp=Z,17nm,2.5s								
BRVK	**Borovoye**	**52.43**	**313**	*e*	P		**P**	**21 52 26.4**	**+0.2**
BRVK				*e*	pP		**pP**	**21 52 35.1**	**+0.6**
KSH	**Kashi**	**52.49**	**295**	*e*	P		**P**	**21 52 31.4**	**+4.4**
KSH					pP		sP	21 52 41.8	+3.2
KSH					PcP		**PcP**	**21 53 37.5**	**+0.2**
KSH					PcS		**PcS**	**21 57 36.0**	**+0.1**
KSH					S		**S**	**21 59 55.1**	**+3.2**
KSH					sS		sS	22 00 11.3	+5.7
KSH					pmax		pmax		
	comp=Z,10.0nm,0.9s								
KSH					pmax		pmax		
	comp=Z,120nm,7.5s								
KSH					LR		LR		
	comp=Z,100nm,7.0s								
KSH					LR		LR		
	comp=Z,130nm,6.5s								
KSH					LR		LR		
	comp=Z,82nm,8.7s								
AAK	**Ala-Archa**	**52.52**	**299**		⇑P		**P**	**21 52 28.3**	**+1.0**
AAK					pmax		pmax		
	comp=Z,3.0nm,0.9s								
AAK	**Ala-Archa**	**52.52**	**299**	*e*	P		**P**	**21 52 28.1**	**+0.8**
	comp=Z,3.7nm,0.7s								
EKS2	**Erk

	comp=Z,38nm,18.1s,baz=62,slow=39								
NB2	**NORSAR Subarra**	**75.31**	**338**	P		**P**	**21 54 56.7**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=39,slow=5.9								
NOA	**NORSAR Array B**	**75.31**	**338**	P		**P**	**21 54 56.8**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=39,slow=5.7,SNR=15								
NOA	**NORSAR Array B**	**75.31**	**338**	P		**P**	**21 54 56.8**	**+0.1**
NOA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
AKASG	**Malin Array Be**	**75.86**	**323**	P		**P**	**21 54 59.8**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=46,slow=6.1,SNR=21								
KIEV	**Kiev**	**75.87**	**323**	*i* P		**P**	**21 55 00.1**	**+0.1**
KIEV				pmax	pmax				
	comp=Z,4.0nm,0.8s								
PDAR	**Pinedale Array**	**76.36**	**47**	P		**P**	**21 55 03.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=270,slow=0.9,SNR=7.8								
FRB	**Frobisher Bay**	**76.59**	**14**	P		**P**	**21 55 03.2**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=145,slow=2.3,SNR=3.9								
SORM	**Soroca**	**77.99**	**322**			**P**	**21 55 11.8**	**-0.2**
SORM	**Soroca**	**77.99**	**322**			**P**	**21 55 11.8**	**-0.2**
ULM	**Lac du Bonnet**	**78.59**	**35**	P		**P**	**21 55 15.1**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=300,slow=8.1,SNR=3.7								
BUR08	**Bucovina Ar. S**	**79.87**	**323**	*e*P		**P**	**21 55 23.2**	**+0.8**
BUR04	**Bucovina Ar. S**	**79.88**	**323**	*e*P		**P**	**21 55 22.9**	**+0.4**
BUR04				*e*pP		**PcP**	**21 55 27.1**	**-3.0**
BURAR	**Bucovina Array**	**79.88**	**323**	*i* P		**P**	**21 55 23.1**	**+0.6**
BURAR	**Bucovina Array**	**79.88**	**323**	*i* P		**P**	**21 55 23.1**	**+0.6**
TESR	**Tescani**	**79.94**	**321**	*i* P		**P**	**21 55 22.7**	**-0.1**
VRI	**Vrincioaia**	**80.35**	**321**	*i* P		**P**	**21 55 25.4**	**+0.4**
VRI	**Vrincioaia**	**80.35**	**321**	*i* P		**P**	**21 55 25.4**	**+0.4**
STHS	**Stebnicka Huta**	**80.45**	**326**	*e*P		**P**	**21 55 26.4**	**+1.0**
STHS	**Stebnicka Huta**	**80.45**	**326**	*e*P		**P**	**21 55 26.4**	**+1.0**
BRTR	**Keskin Array B**	**80.66**	**313**	P		**P**	**21 55 27.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=101,slow=3.7,SNR=8.5								
DOPR	**Dopca**	**80.95**	**322**			**P**	**21 55 29.4**	**+1.2**
MLR	**Muntele Rosu**	**81.01**	**321**	P		**P**	**21 55 28.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=343,slow=8.8,SNR=8.3								
MLR				LR		LR	22 34 33.6		
	comp=Z,11nm,18.3s,baz=53,slow=38								
BR231	**Keskin MP Arra**	**81.09**	**313**	*e*P		**P**	**21 55 28.2**	**-1.0**
VOIR		**81.49**	**322**	*i* P		**P**	**21 55 31.7**	**+0.5**
VOIR		**81.49**	**322**	*i* P		**P**	**21 55 31.7**	**+0.5**
DRGR		**81.67**	**324**	*i* P		**P**	**21 55 28.2**	**-3.9**
DRGR		**81.67**	**324**	*i* P		**P**	**21 55 28.2**	**-3.9**
MORC	**Moravsky Berou**	**81.79**	**328**	*i* P		**P**	**21 55 28.8**	**-3.8**
MORC	**Moravsky Berou**	**81.79**	**328**	*i* P		**P**	**21 55 28.8**	**-3.8**
DPC	**Dobruska-Polom**	**81.86**	**329**	*e*P		**P**	**21 55 33.6**	**+0.6**
DPC	**Dobruska-Polom**	**81.86**	**329**	*e*P		**P**	**21 55 33.6**	**+0.6**
CLL	**Collm**	**82.43**	**331**	*i* P		**P**	**21 55 35.7**	**-0.2**
CLL				*i*			21 55 47.7		
CLL				pmax	pmax				
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**82.43**	**331**	*i* P		**P**	**21 55 35.7**	**-0.2**
	comp=Z,5.0nm,0.9s								
CLL				*i* pP		**sP**	**21 55 47.7**	**-0.1**
PRU	**Pruhonice**	**82.87**	**330**	*e*P		**P**	**21 55 38.3**	**+0.1**
PRU	**Pruhonice**	**82.87**	**330**	*e*P		**P**	**21 55 38.3**	**+0.1**
ANMO	**Albuquerque**	**83.15**	**51**	*i* P		**P**	**21 55 41.7**	**+1.5**
ANMO				pmax	pmax				
	comp=Z,3.0nm,1.7s								
MMAI	**Mount Meron Ar**	**83.89**	**307**	P		**P**	**21 55 44.9**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=35,slow=5.3,SNR=8.9								
KHC	**Kasperske Hory**	**83.93**	**330**	*e*P		**P**	**21 55 43.7**	**0.0**
KHC				*e*pP		**sP**	**21 55 56.7**	**+1.0**
KHC				*ex*		x	21 56 29.0		
KHC	**Kasperske Hory**	**83.93**	**330**	*e*P		**P**	**21 55 43.7**	**0.0**
KHC				*e*			21 55 56.7		
GERES	**GERESS Array B**	**84.10**	**330**	P		**P**	**21 55 44.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=52,slow=6.5,SNR=6.3								
EKA	**Eskdalemuir Ar**	**84.14**	**342**	P		**P**	**21 55 45.1**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=24,slow=5.0,SNR=6.8								
VTS	**Vitosha**	**84.45**	**320**	*i* P		**P**	**21 55 47.2**	**+0.5**
VTS	**Vitosha**	**84.45**	**320**	*i* P		**P**	**21 55 47.2**	**+0.5**
VTS	**Vitosha**	**84.45**	**320**	*e*P		**P**	**21 55 47.2**	**+0.5**
	comp=Z,3.7nm,0.7s								
VTS				*e*pP		**sP**	**21 55 59.6**	**+1.0**
TX31	**Lajitas Ar. Si**	**88.61**	**54**	*e*P		**P**	**21 56 07.5**	**+0.4**
TXAR	**Lajitas Array**	**88.61**	**54**	P		**P**	**21 56 07.2**	**0.0**
	comp=Z,1.3nm,0.6s,baz=305,slow=3.2,SNR=24								
CCM	**Cathedral Cave**	**89.76**	**40**	*e*P		**P**	**21 56 12.3**	**0.0**
CCM				pmax	pmax				
	comp=Z,5.0nm,0.8s								
CCM	**Cathedral Cave**	**89.76**	**40**	*e*P		**P**	**21 56 12.3**	**0.0**
	comp=Z,5.3nm,0.8s								
KEST	**Kesra**	**96.56**	**324**	LR		LR	22 45 21.7		
	comp=Z,40nm,18.6s,baz=279,slow=39								
TORD	**Torodi Ar. Bea**	**119.06**	**317**	PKP		**PKPdf**	**22 02 02.0**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=31,slow=1.6,SNR=13								
KOWA	**Kowa**	**120.85**	**323**	PKP		**PKPdf**	**22 02 05.9**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=48,slow=2.9,SNR=6.8								
QSPA	**South Pole Qui**	**126.44**	**180**	PKP		**PKPdf**	**22 02 14.7**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=331,slow=1.7,SNR=4.4								
DBIC	**Dimbokro**	**127.97**	**319**	PKP		**PKPdf**	**22 02 19.1**	**-1.1**
	comp=Z,5.5nm,1.0s,baz=295,slow=3.7,SNR=3.6								
LPAZ	**La Paz**	**144.98**	**63**	PKP		**PKPab**	**22 02 51.3**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=13,slow=7.9,SNR=6.9								
MNMC	**Minye Minye**	**145.71**	**69**	*e*PKPdf		**PKPab**	**22 02 53.7**	**0.0**
PB11	**IPOC Station P**	**146.05**	**69**	*e*PKPdf		**PKPab**	**22 02 54.6**	**-0.2**
LCO	**Las Campanas**	**149.92**	**85**	*e*PKPbc		**PKPbc**	**22 03 03.5**	**-1.0**

*IDC **17** 21:44:20.6±1.9, 42°.23N×143°.39E, h0km, mb4.3/8, mb1 4.4/9, mb1mx3.8/63, mbtmp4.3/9, ML4.7/1, Error ellipse: s-maj=39.8km s-min=36.2km az=150.0*
*ISCJB **17** 21:44:23.2±0.8, 42°.11N±0°.08×143°.4E±0°.2, h35km, mb4.2/12, Error ellipse: s-maj=19.3km s-min=11.5km az=2.3*
*NEIC **17** 21:44:25.4±1.2, 42°.18N×143°.30E, h35km, mb4.4/3, Error ellipse: s-maj=30.2km s-min=17.2km az=127.0*
ISC 17 21:44:25.3±1.1, **42°.2N**±0°.1×**143°.3E**±0°.2, **h35**km, **n27, σ2$09/29, mb4.3/12, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**1.98**	**345**	Pn	**Pn**	**21 44 54.9**	**-1.4**
	1.1nm,0.3s,baz=233,slow=15,SNR=6.5						
ASAJ				Sn	**Sn**	**21 45 21.8**	**+2.0**
	9.3nm,0.3s,baz=88,slow=31,SNR=4.3						
ASAJ	**Asahikawa**	**1.98**	**345**	Pn	**Pn**	**21 44 54.9**	**-1.4**
ASAJ				Sn	**Sn**	**21 45 21.8**	**+2.0**
MA2	**Magadan**	**18.00**	**12**	P	**Pn**	**21 48 32.5**	**+0.1**
	0.2nm,0.3s,baz=191,slow=9.5,SNR=5.9						
MA2	**Magadan**	**18.00**	**12**	P	**Pn**	**21 48 32.5**	**+0.1**
YAK	**Yakutsk**	**21.45**	**342**	*e*P	**P**	**21 49 04.3**	**-5.9**
YAK				*e**PP	pP	21 49 11.6	-7.9
YAK				*e*		21 49 44.7	
YAK				*e*PPP	PPP	21 49 56.2	
YAK				*e*		21 52 19.8	
YAK				*e*SS		21 54 48.8	
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,33nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,137nm,4.2s						
YAK				pmax	pmax		
	comp=N,70nm,4.4s						
YAK				pmax	pmax		
	comp=E,81nm,4.1s						
YAK	**Yakutsk**	**21.45**	**342**	*e*P	**P**	**21 49 04.3**	**-5.9**
	comp=E,43nm,0.7s						
TATO	**Taipei**	**24.89**	**233**	P	**P**	**21 49 43.2**	**-1.7**
	comp=E,4.7nm,0.4s						
SONM	**Songino Array**	**26.50**	**295**	P	**P**	**21 50 00.1**	**+0.6**
	comp=E,1.6nm,0.7s,baz=112,slow=6.2,SNR=1.9						
SONM	**Songino Array**	**26.50**	**295**	P	**P**	**21 50 00.1**	**+0.6**
COLA	**College**	**43.97**	**35**	P	**P**	**21 52 28.6**	**0.0**
	comp=E,1.4nm,0.6s						
YKA	**Yellowknife Ar**	**58.63**	**32**	P	**P**	**21 54 17.8**	**-0.6**
	comp=E,0.4nm,0.6s,baz=301,slow=3.8,SNR=6.0						
YKA	**Yellowknife Ar**	**58.63**	**32**	P	**P**	**21 54 17.8**	**-0.6**
ARCES	**ARCESS Array B**	**59.69**	**339**	P	**P**	**21 54 27.1**	**+1.4**
	comp=E,5.0nm,0.7s,baz=55,slow=7.8,SNR=8.3						
ARCES	**ARCESS Array B**	**59.69**	**339**	P	**P**	**21 54 27.1**	**+1.4**
FINES	**FINESS Array B**	**64.93**	**332**	P	**P**	**21 55 01.4**	**+0.6**
	comp=E,8.7nm,0.5s,baz=64,slow=6.8,SNR=30						
FINES	**FINESS Array B**	**64.93**	**332**	P	**P**	**21 55 01.4**	**+0.6**
HFS	**Hagfors**	**69.98**	**336**	P	**P**	**21 55 32.9**	**+0.2**
	comp=E,3.0nm,0.4s,baz=42,slow=6.6,SNR=13						
HFS	**Hagfors**	**69.98**	**336**	P	**P**	**21 55 32.9**	**+0.2**
NOA	**NORSAR Array B**	**69.98**	**337**	P	**P**	**21 55 33.0**	**+0.2**
	comp=E,1.8nm,0.6s,baz=38,slow=6.3,SNR=5.3						
NOA	**NORSAR Array B**	**69.98**	**337**	P	**P**	**21 55 33.0**	**+0.2**

AKASG	**Malin Array Be**	**71.10**	**322**	P		**P**	**21 55 39.4**	**-0.4**
	comp=E,1.0nm,0.3s,baz=44,slow=6.5,SNR=5.5							
AKASG	**Malin Array Be**	**71.10**	**322**	P		**P**	**21 55 39.4**	**-0.4**
CLL	**Collm**	**77.32**	**331**	*i* P		**P**	**21 56 17.6**	**+1.6**
EKA	**Eskdalemuir Ar**	**78.73**	**341**	P		**P**	**21 56 25.9**	**+2.2**
	comp=E,0.4nm,0.5s,baz=24,slow=5.5,SNR=3.1							
EKA	**Eskdalemuir Ar**	**78.73**	**341**	P		**P**	**21 56 25.9**	**+2.2**
GERES	**GERESS Array B**	**79.07**	**329**	P		**P**	**21 56 28.1**	**+2.2**
	comp=E,0.5nm,0.5s,baz=38,slow=5.5,SNR=5.4							
GERES	**GERESS Array B**	**79.07**	**329**	P		**P**	**21 56 28.1**	**+2.2**

*DDA **17** 21:52:47.6, 41°.64N×44°.08E, h2km, Ml3.3*
*NSSP **17** 21:52:47.4, 41°.60N×44°.08E, h10km, Ms3.3*
*TIF **17** 21:52:48.2, 41°.68N×44°.12E, h1km±2km*
*ISK **17** 21:52:49.0, 41°.58N×44°.13E, h5km, ML3.1/5*
*MOS **17** 21:52:49.8±1.0, 41°.58N×43°.99E, h15km, mb4.1/2, Error ellipse: s-maj=8.1km s-min=4.6km az=83.4*
*CSEM **17** 21:52:49.4±0.1, 41°.62N×44°.06E, h2km, ML3.4, Error ellipse: s-maj=3.3km s-min=3.0km az=99.0*
ISC 17 21:52:49.1±1.0, **41°.62N**±0°.01×**44°.09E**±0°.01, **h8**km±8km, **n132, σ1$30/209, 22C-22D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.34**	**134**	P	**Pg**	**21 52 56.1**	**+0.2**
KZR				S	**Sb**	**21 53 01.5**	**-1.7**
KZR	**Kazreti**	**0.34**	**134**	P	**Pg**	**21 52 56.1**	**+0.2**
KZR				S	**Sb**	**21 53 01.5**	**-1.7**
AKH	**Akhalkalaki**	**0.50**	**245**	PG	**Pb**	**21 52 59.7**	**-0.5**
AKH				SG	**Sb**	**21 53 06.9**	**-0.8**
AKH	**Akhalkalaki**	**0.50**	**245**	P	**Pg**	**21 52 59.1**	**+0.3**
AKH				S	**Sg**	**21 53 06.4**	**+1.1**
AKH	**Akhalkalaki**	**0.50**	**245**	*i* PG	**Pg**	**21 52 59.0**	**+0.3**
AKH				*e*S	**Sg**	**21 53 06.3**	**+1.1**
AKH	**Akhalkalaki**	**0.50**	**245**	P	**Pg**	**21 52 59.1**	**+0.3**
AKH	**Akhalkalaki**	**0.50**	**245**	*e*Pg	**Pb**	**21 52 59.7**	**-0.5**
AKH				*e*Sg	**Sg**	**21 53 06.3**	**+1.1**
TBLG	**Delisi**	**0.50**	**77**	PG	**Pg**	**21 52 58.6**	**-0.2**
TBLG				SG	**Sg**	**21 53 05.9**	**+0.6**
TBLG	**Delisi**	**0.50**	**77**	P	**Pg**	**21 52 58.0**	**-0.8**
TBLG				S	**Sg**	**21 53 05.0**	**-0.3**
TBLG	**Delisi**	**0.50**	**77**	*i* PG	**Pg**	**21 52 57.9**	**-0.8**
TBLG	**Delisi**	**0.50**	**77**	P	**Pg**	**21 52 58.0**	**-0.8**
TBLG	**Delisi**	**0.50**	**77**	*e*Pg	**Pg**	**21 52 58.6**	**-0.2**
TBLG				S	**Sg**	**21 53 05.0**	**-0.3**
BTNK	**Botanikuri**	**0.54**	**83**	P	**Pg**	**21 52 58.6**	**-0.9**
BTNK	**Botanikuri**	**0.54**	**83**	P	**Pg**	**21 52 58.6**	**-0.9**
BTNK				S	**Sg**	**21 53 06.0**	**-0.5**
SEAG	**Tbilisi Sea**	**0.55**	**75**	P	**Pg**	**21 52 59.5**	**-0.3**
SEAG				S	**Sb**	**21 53 08.5**	**-0.8**
SEAG	**Tbilisi Sea**	**0.55**	**75**	P	**Pg**	**21 52 59.5**	**-0.3**
SEAG				S	**Sb**	**21 53 08.5**	**-0.8**
STE	**Stepanavan**	**0.66**	**161**	P	**Pg**	**21 53 01.0**	**-0.8**
STE				S	**Sg**	**21 53 10.4**	**0.0**
STEZ	**Stepenevan**	**0.67**	**159**	*i* P	**Pg**	**21 53 01.0**	**-1.0**
STEZ				*i* S	**Sg**	**21 53 10.4**	**-0.2**
GUDG	**Gudauri**	**0.89**	**19**	P	**Pg**	**21 53 05.0**	**-1.3**
GUDG				S	**Sg**	**21 53 17.4**	**-0.4**
GUDG	**Gudauri**	**0.89**	**19**	P	**Pg**	**21 53 04.9**	**-1.3**
GUDG				S	**Sg**	**21 53 17.4**	**-0.4**
DGRG	**David-gareji**	**0.98**	**100**	PG	**Pg**	**21 53 06.9**	**-1.0**
DGRG	**David-gareji**	**0.98**	**100**	P	**Pg**	**21 53 06.9**	**-1.0**
EAK	**Akyaka**	**1.00**	**201**	*i* P	**Pg**	**21 53 07.3**	**-1.1**
EAK				*i* S	**Sb**	**21 53 22.3**	**-0.1**
EAK	**Akyaka**	**1.00**	**201**	P	**Pg**	**21 53 07.3**	**-1.1**
EAK				S	**Sb**	**21 53 22.3**	**-0.1**
EPOS	**Posof**	**1.03**	**264**	*i* P	**Pg**	**21 53 06.8**	**-2.1**
EPOS				*i* S	**Sb**	**21 53 22.7**	**-0.3**
EPOS	**Posof**	**1.03**	**264**	P	**Pg**	**21 53 06.8**	**-2.1**
EPOS				S	**Sb**	**21 53 22.7**	**-0.3**
ONI	**Oni**	**1.08**	**334**	P	**Pg**	**21 53 08.0**	**-1.8**
ONI				S	**Sg**	**21 53 23.4**	**-0.4**
ONI	**Oni**	**1.08**	**334**	*e*PG	**Pg**	**21 53 08.0**	**-1.8**
ONI				*e*S	**Sg**	**21 53 23.4**	**-0.4**
ONI	**Oni**	**1.08**	**334**	P	**Pg**	**21 53 08.0**	**-1.8**
ONI				S	**Sg**	**21 53 23.4**	**-0.4**
QZX	**Qazax, Azerbai**	**1.12**	**120**	P	**Pg**	**21 53 09.2**	**-1.4**
	SNR=193						
QZX				*i* S	**Sg**	**21 53 24.8**	**-0.3**
ZEI	**Tsey**	**1.17**	**353**	*i* PG	**Pg**	**21 53 10.2**	**-1.4**
ZEI				*e*S	**Sg**	**21 53 26.4**	**-0.5**
LACR	**Lac**	**1.21**	**7**	*i* PG	**Pg**	**21 53 10.9**	**-1.5**
LACR				*e*S	**Sg**	**21 53 27.5**	**-0.7**
LACR	**Lac**	**1.21**	**7**	*i* Pg	**Pg**	**21 53 10.9**	**-1.5**
LACR				*e*Sg	**Sg**	**21 53 27.5**	**-0.7**
KARS	**Kars**	**1.25**	**218**	PN	**Pg**	**21 53 12.8**	**-0.4**
KARS	**Kars**	**1.25**	**218**	PG	**Pn**	**21 53 13.2**	**+0.1**
KARS	**Kars**	**1.25**	**218**	*e*Pn	**Pg**	**21 53 12.8**	**-0.4**
KARS	**Kars**	**1.25**	**218**	Pg	**Pn**	**21 53 13.2**	**+0.1**
DIGO	**Kars**	**1.32**	**204**	*i* P	**Pg**	**21 53 13.2**	**-1.3**
DIGO				*i* S	**Sn**	**21 53 32.3**	**+0.1**
DIGO	**Kars**	**1.32**	**204**	P	**Pg**	**21 53 13.2**	**-1.3**
DIGO				S	**Sn**	**21 53 32.3**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.33**	**344**	*e*PG	**Pn**	**21 53 13.5**	**-0.8**
DIGR				*e*S	**Sb**	**21 53 32.1**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.33**	**344**	*e*Pg	**Pn**	**21 53 13.5**	**-0.8**
DIGR				*e*Sg	**Sb**	**21 53 32.1**	**+0.3**
KORR	**Kora**	**1.46**	**359**	*e*PG	**Pn**	**21 53 15.9**	**0.0**
KORR				*e*S	**Sg**	**21 53 38.2**	**+2.1**
KORR	**Kora**	**1.46**	**359**	*e*Pg	**Pn**	**21 53 15.9**	**0.0**
KORR				*e*Sg	**Sg**	**21 53 38.2**	**+2.1**
VLKR	**Vladikavkaz**	**1.49**	**17**	*e*PG	**Pg**	**21 53 17.3**	**-0.4**
VLKR				*e*S	**Sg**	**21 53 38.6**	**+1.6**
VLKR	**Vladikavkaz**	**1.49**	**17**	*e*Pg	**Pg**	**21 53 17.3**	**-0.4**
VLKR				*e*Sg	**Sg**	**21 53 38.6**	**+1.6**
KMGR	**Komgaron**	**1.54**	**22**	*e*PG	**Pb**	**21 53 17.8**	**-0.3**
KMGR				*e*S	**Sg**	**21 53 40.9**	**+2.1**
KMGR	**Komgaron**	**1.54**	**22**	*e*Pg	**Pb**	**21 53 17.8**	**-0.3**
KMGR				*e*Sg	**Sg**	**21 53 40.9**	**+2.1**
GDB	**GEDABAY**	**1.55**	**125**	P	**Pn**	**21 53 16.1**	**-1.1**
	SNR=89						
GDB				*i* S	**Sn**	**21 53 36.5**	**-1.1**
GNI	**Garni**	**1.55**	**161**	*i* P	**Pg**	**21 53 18.2**	**-0.7**
GNI				*i* S	**Sg**	**21 53 40.0**	**+0.9**
GNI	**Garni**	**1.55**	**161**	*d* PN	**Pb**	**21 53 18.1**	**-0.2**
GNI	**Garni**	**1.55**	**161**	*i* Pn	**Pb**	**21 53 18.1**	**-0.2**
GNI				S	**Sg**	**21 53 40.0**	**+0.9**
ARNR	**Ardon**	**1.56**	**5**	*e*PN	**Pg**	**21 53 18.8**	**-0.3**
ARNR				*e*S	**Sg**	**21 53 41.5**	**+2.1**
ARNR	**Ardon**	**1.56**	**5**	*e*Pn	**Pg**	**21 53 18.8**	**-0.3**
ARNR				*e*Sg	**Sg**	**21 53 41.5**	**+2.1**
TASB	**TASBURUN-IGDIR**	**1.64**	**176**	PN	**Pn**	**21 53 18.8**	**+0.4**
TASB	**TASBURUN-IGDIR**	**1.64**	**176**	*e*Pn	**Pn**	**21 53 18.8**	**+0.4**
LSNR	**Lesken**	**1.67**	**353**	*e*PN	**Pb**	**21 53 19.8**	**-0.3**
LSNR				*e*S	**Sg**	**21 53 43.0**	**+0.4**
LSNR	**Lesken**	**1.67**	**353**	*e*Pn	**Pb**	**21 53 19.8**	**-0.3**
LSNR				*e*Sg	**Sg**	**21 53 43.0**	**+0.4**
ARTV	**Artvin**	**1.68**	**256**	*i* P	**Pn**	**21 53 18.6**	**-0.5**
ARTV	**Artvin**	**1.68**	**256**	P	**Pn**	**21 53 18.6**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.69**	**232**	PN	**Pb**	**21 53 20.2**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.69**	**232**	*e*Pn	**Pb**	**21 53 20.2**	**-0.4**
STDR	**Stavd-Durt**	**1.75**	**359**	*e*PN	**Pg**	**21 53 22.0**	**-0.6**
STDR				*e*S	**Sg**	**21 53 47.0**	**+1.8**
STDR	**Stavd-Durt**	**1.75**	**359**	*e*Pn	**Pg**	**21 53 22.0**	**-0.6**
STDR				*e*Sg	**Sg**	**21 53 47.0**	**+1.8**
IGDI	**IGDIR**	**1.75**	**180**	*i* P	**Pb**	**21 53 21.1**	**-0.5**
IGDI				*i* S	**Sg**	**21 53 45.3**	**-0.2**
BTKR	**Batakoyurt**	**1.78**	**11**	*e*PN	**Pg**	**21 53 22.6**	**-0.6**
BTKR				*e*S	**Sg**	**21 53 48.0**	**+1.7**
BTKR	**Batakoyurt**	**1.78**	**11**	*e*Pn	**Pg**	**21 53 22.6**	**-0.6**
BTKR				*e*Sg	**Sg**	**21 53 48.0**	**+1.7**
BTLR	**Botlikh**	**1.90**	**56**	*e*PN	**Pg**	**21 53 25.6**	**+0.1**
BTLR				*e*		21 53 55.2	
BTLR				pmax	pmax		
	comp=Z,59nm,0.7s						
BTLR				smax	smax		
	comp=N,136nm,1.1s						
BTLR	**Botlikh**	**1.90**	**56**	*e*Pn	**Pg**	**21 53 25.6**	**+0.1**
	comp=N,59nm,0.7s						
BTLR				*e*Sg	**Sg**	**21 53 55.2**	**+5.1**
	comp=N,136nm,1.1s						
ZKTA	**Zakatala**	**1.90**	**89**	PN	**Pn**	**21 53 22.7**	**+0.8**
ZKTA	**Zakatala**	**1.90**	**89**	Pn	**Pn**	**21 53 22.7**	**+0.8**
DBAD	**Bademkaya**	**1.90**	**252**	*i* P	**Pb**	**21 53 23.6**	**-0.6**
DBAD	**Bademkaya**	**1.90**	**252**	P	**Pb**	**21 53 23.6**	**-0.6**
NCK	**Nalchik**	**1.91**	**349**	*i* PN	**Pb**	**21 53 23.1**	**-1.1**
NCK	**Nalchik**	**1.91**	**349**	*e*Pn	**Pb**	**21 53 23.1**	**-1.1**
DDEM	**Demirkent**	**1.91**	**248**	*i* P	**Pb**	**21 53 23.8**	**-0.4**
DDEM	**Demirkent**	**1.91**	**248**	P	**Pb**	**21 53 23.8**	**-0.4**

NEY	**Neytrino**	**1.91**	**329**	*de*PN	**Pb**	**21 53 23.4**	**-1.0**
NEY				pmax	pmax			
	comp=Z,78nm,0.4s							
NEY	**Neytrino**	**1.91**	**329**	*e*Pn	**Pb**	**21 53 23.4**	**-1.0**
	comp=Z,78nm,0.4s							
GANJ	**Ganja**	**1.95**	**119**	PN	**Pn**	**21 53 22.7**	**+0.1**
GANJ	**Ganja**	**1.95**	**119**	Pn	**Pn**	**21 53 22.7**	**+0.1**
GANJ					**Sn**	**21 53 48.0**	**+0.7**
HYR	**Heyderabad**	**1.99**	**163**	P	**Pb**	**21 53 26.0**	**+0.4**
	SNR=14						
HYR				*i* S	**Sn**	**21 53 49.4**	**+1.1**
DVE	**Vedeno**	**2.02**	**48**	*e*PN	**Pb**	**21 53 25.5**	**-0.6**
DVE				*e*S	**Sg**	**21 53 52.5**	**-1.4**
DVE	**Vedeno**	**2.02**	**48**	*e*Pn	**Pb**	**21 53 25.5**	**-0.6**
DVE				*e*Sb	**Sg**	**21 53 52.5**	**-1.4**
GROC	**Groznyy**	**2.02**	**38**	*e*PN	**Pg**	**21 53 26.7**	**-1.2**
GROC				*e*S	**Sg**	**21 53 54.8**	**+0.7**
GROC	**Groznyy**	**2.02**	**38**	*e*Pn	**Pg**	**21 53 26.7**	**-1.2**
GROC				*e*Sb	**Sg**	**21 53 54.8**	**+0.7**
DYDN	**Diyadin**	**2.10**	**188**	*i* P	**Pg**	**21 53 29.6**	**+0.2**
DYDN	**Diyadin**	**2.10**	**188**	P	**Pg**	**21 53 29.6**	**+0.2**
PRTR	**Priterechnaya**	**2.13**	**4**	*e*PN	**Pg**	**21 53 30.0**	**0.0**
PRTR				*e*S	**Sg**	**21 53 57.8**	**+0.2**
PRTR	**Priterechnaya**	**2.13**	**4**	*e*Pn	**Pg**	**21 53 30.0**	**0.0**
PRTR				*e*Sn	**Sg**	**21 53 57.8**	**+0.2**
EATA	**Eleskirt**	**2.14**	**215**	*i* P	**Pb**	**21 53 28.7**	**+0.4**
EATA	**Eleskirt**	**2.14**	**215**	P	**Pb**	**21 53 28.7**	**+0.4**
TRKR	**Terskaya**	**2.15**	**13**	*e*PN	**Pb**	**21 53 28.5**	**+0.1**
TRKR				*e*S	**Sb**	**21 53 55.3**	**+0.1**
TRKR	**Terskaya**	**2.15**	**13**	*e*Pn	**Pb**	**21 53 28.5**	**+0.1**
TRKR				*e*Sn	**Sb**	**21 53 55.3**	**+0.1**
XNZR	**Khunzakh**	**2.15**	**64**	*i* PN	**Pg**	**21 53 29.4**	**-1.0**
XNZR				*e*		21 54 03.0	
XNZR	**Khunzakh**	**2.15**	**64**	*i* Pn	**Pg**	**21 53 29.4**	**-1.0**
XNZR				*e*Sb	**Sg**	**21 54 03.0**	**+4.7**
AGRB	**Hanur-Agry**	**2.21**	**203**	PN	**Pn**	**21 53 26.9**	**+0.6**
AGRB	**Hanur-Agry**	**2.21**	**203**	*e*Pn	**Pn**	**21 53 26.9**	**+0.6**
**

EAK	**Akyaka**	**1.01 200**	*i* P	**Pg**	22 04 17.6	**-0.5**
EAK			*i* S	**Sb**	22 04 32.6	**+0.1**
EAK	**Akyaka**	**1.01 200**	P	**Pg**	22 04 17.6	**-0.5**
EAK			S	**Sb**	22 04 32.6	**+0.1**
ONI	**Oni**	**1.05 335**	P	**Pg**	22 04 18.6	**-0.3**
ONI			S	**Sb**	22 04 33.6	**+0.1**
KARS	**Kars**	**1.26 217**	PN	**Pb**	22 04 23.1	**+0.2**
KARS	**Kars**	**1.26 217**	*e*Pn	**Pb**	22 04 23.1	**+0.2**
DIGO	**Kars**	**1.33 203**	*i* P	**Pg**	22 04 23.6	**-0.6**
DIGO	**Kars**	**1.33 203**	P	**Pg**	22 04 23.6	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.66 175**	PN	**Pn**	22 04 28.5	**0.0**
TASB	**TASBURUN-IGDIR**	**1.66 175**	*e*Pn	**Pn**	22 04 28.5	**0.0**
ARTV	**Artvin**	**1.67 255**	*i* P	**Pn**	22 04 29.1	**+0.3**
ARTV	**Artvin**	**1.67 255**	P	**Pn**	22 04 29.1	**+0.3**
SENK	**Senkaya-Erzuru**	**1.69 231**	PN	**Pn**	22 04 29.7	**+0.7**
SENK	**Senkaya-Erzuru**	**1.69 231**	*e*Pn	**Pn**	22 04 29.7	**+0.7**
IGDI	**IGDIR**	**1.77 180**	*i* P	**Pb**	22 04 31.8	**+0.1**
DBAD	**Bademkaya**	**1.89 252**	*i* P	**Pb**	22 04 34.1	**+0.4**
DBAD	**Bademkaya**	**1.89 252**	P	**Pb**	22 04 34.1	**+0.4**
DDEM	**Demirkent**	**1.90 248**	*i* P	**Pb**	22 04 34.1	**+0.3**
DDEM	**Demirkent**	**1.90 248**	P	**Pb**	22 04 34.1	**+0.3**
AGRB	**Hanur-Agry**	**2.22 202**	PN	**Pn**	22 04 36.8	**+0.5**
AGRB	**Hanur-Agry**	**2.22 202**	*e*Pn	**Pn**	22 04 36.8	**+0.5**

JMA ***17*** *22:28:28.9±0.1, 35.74N×140.91E, h11km±1km, M3.2*
JMA Felt II J1.
ISCJB ***17*** *22:28:29.3±0.7, 35.75N±0.04×140.83E±0.07, h10km, mb3.1/2, Error ellipse: s-maj=9.1km s-min=5.2km az=154.0*
IDC ***17*** *22:28:34.0±6.0, 36.27N×140.59E, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.0/60, mbtmp3.2/2, Error ellipse: s-maj=151.9km s-min=32.0km az=166.0*

ISC 17 22:28:30.2±0.9, 35.74N±0.04×140.81E±0.07, h10km, n10, σ1ᵍ64/15, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**131**	⇓P	**Pg**	**22 28 31.1**	**-1.1**
CHOJ				S	**Sg**	**22 28 32.6**	**-1.1**
JCN	**Nagara**	**0.59**	**238**	⇑P	**Pb**	**22 28 42.7**	**+0.1**
JYT	**Yasato**	**0.70**	**315**	⇑P	**Pg**	**22 28 43.0**	**-0.8**
JYT				S	**Sg**	**22 28 53.1**	**+0.2**
BSO4	**Boso 4**	**0.84**	**208**	P	**Pb**	**22 28 46.3**	**-0.5**
JHO	**Hitachi**	**0.89**	**347**	P	**Pg**	**22 28 45.3**	**-2.2**
JHO				*e*S	**Sg**	**22 28 57.8**	**-1.3**
BSO3	**Boso 3**	**0.96**	**195**	P	**Pg**	**22 28 47.3**	**-1.4**
MJAR	**Matsushiro Arr**	**2.25**	**292**	Pn	**Pn**	**22 29 06.2**	**-1.4**
	0.9nm,0.3s,baz=94,slow=8.3,SNR=19						
MJAR				Sn	**Sn**	**22 29 36.7**	**+1.3**
	1.8nm,0.3s,baz=174,slow=9.9,SNR=5.3						
MAT	**Matsushiro**	**2.26**	**292**	P	**Pn**	**22 29 06.2**	**-1.4**
MAT				*e*S	**Sn**	**22 29 33.9**	**-1.6**
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**22 36 44.0**	**+3.0**
	0.2nm,0.8s,baz=78,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**50.85**	**32**	P	**P**	**22 37 32.7**	**+2.0**
	0.2nm,0.6s,baz=279,slow=7.2,SNR=4.2						

IDC 17 22:33:42.9±4.0, 2.92S×130.94E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/48, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=290.3km s-min=27.5km az=72.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.24**	**169**	P	P	22 37 46.2	-0.7
	0.1nm,0.3s,baz=350,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**20.82**	**172**	P	P	22 38 25.6	-0.6
	1.6nm,0.5s,baz=350,slow=11,SNR=20						
MKAR	**Makanchi Array**	**65.38**	**325**	P	P	22 44 27.4	+0.1
	0.1nm,0.4s,baz=130,slow=5.6,SNR=4.0						

IDC ***17*** *22:44:30.3±3.8, 2.79S×131.19E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/50, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=286.0km s-min=25.3km az=73.0*
DJA ***17*** *22:44:36.6±1.4, 3.3S±6.3×13.0E±1.1, h16km±12km, M3.4/7, MLv3.4/7*

ISC 17 22:44:36.0±0.8, 3.03S±0.06×130.47E±0.04, h24km, n12, σ1ᵍ93/17, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.57**	**259**	P	**Pb**	**22 45 03.7**	**-0.6**
MSAI				S	**Sb**	**22 45 27.2**	**+3.4**
FAKI	**Fak Fak**	**1.78**	**86**	P	**Pb**	**22 45 06.9**	**-1.0**
FAKI				S	**Sb**	**22 45 31.8**	**+1.9**
SWI	**Sorong**	**2.30**	**20**	P	**Pb**	**22 45 15.3**	**-1.4**
SWI				S	**Sb**	**22 45 45.0**	**+0.3**
AAI	**Ambon**	**2.36**	**254**	P	**Pb**	**22 45 17.5**	**-0.3**
KMPI	**Kaimana, Papua**	**3.29**	**101**	P	**Pn**	**22 45 28.5**	**+2.5**
NLAI	**Namlea**	**3.37**	**266**	P	**Pn**	**22 45 26.7**	**-0.4**
LBMI	**Labuha**	**3.80**	**309**	P	**Pn**	**22 45 34.7**	**+1.6**
LBMI				S	**Sn**	**22 46 20.1**	**+3.0**
SANI	**Sanana**	**4.58**	**282**	P	**Pn**	**22 45 44.4**	**+0.6**
SANI				S	**Sn**	**22 46 33.6**	**-2.7**
WRA	**Warramunga Arr**	**17.23**	**168**	P	**Pn**	**22 48 33.0**	**-2.2**
	0.1nm,0.3s,baz=349,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**20.78**	**171**	P	**P**	**22 49 14.8**	**-0.6**
	4.0nm,0.5s,baz=350,slow=11,SNR=35						
MKAR	**Makanchi Array**	**65.2**	**326**	P	**P**	**22 55 16.1**	**+0.6**
	0.1nm,0.4s,baz=110,slow=8.0,SNR=5.0						
KURBB	**Kurchatov Arra**	**69.41**	**328**	P	**P**	**22 55 40.5**	**-1.5**
	0.2nm,0.7s,baz=102,slow=8.6,SNR=2.9						

NAO ***17*** *23:00:13.6±0.8, 72.01N×20.15E, ML3.1*
ISCJB ***17*** *23:00:13.6±0.5, 71.89N±0.03×19.15E±0.1, h10km, Error ellipse: s-maj=7.0km s-min=4.4km az=158.7*
IDC ***17*** *23:00:14.7±0.9, 71.95N×19.98E, h0km, mb1 3.4/5, mb1mx3.0/64, mbtmp3.4/5, ML2.9/5, Error ellipse: s-maj=19.7km s-min=10.0km az=75.0*
CSEM ***17*** *23:00:15.2±0.2, 71.95N×19.45E, h10km, ML2.2, Error ellipse: s-maj=9.0km s-min=4.9km az=75.0*
BER ***17*** *23:00:16.9±3.2, 71.99N×19.42E, h15km, ML2.2, ML3.1(NAO)*
KOLA ***17*** *23:00:19.9, 72.43N×22.70E, h0km*
HEL ***17*** *23:00:19.2±0.3, 71.74N×20.03E, h10km, ML3.0, ML2.2(UPP)*
UPP ***17*** *23:00:20.9±2.6, 71.52N×19.24E, h0km, ML2.2*

ISC 17 23:00:12.7±0.9, 71.95N±0.04×19.38E±0.05, h10km, n79, σ2ᵍ90/122, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAMF	**Hammerfest**	**1.91**	**131**	*e*P	**Pb**	**23 00 48.2**	**+0.7**
	SNR=55						
HAMF				*e*S	**Sn**	**23 01 09.5**	**+0.3**
	SNR=55						
HAMF	**Hammerfest**	**1.91**	**131**	*e*P	**Pb**	**23 00 48.2**	**+0.7**
HAMF				*e*S	**Sn**	**23 01 09.5**	**+0.3**
HAMF				IAML		23 01 12.7	
	comp=Z,46nm,0.2s						
TRO	**Tromso**	**2.33**	**184**	*e*P	**Pb**	**23 00 53.8**	**-0.9**
	SNR=55						
TRO	**Tromso**	**2.33**	**184**	*e*P	**Pb**	**23 00 53.8**	**-0.9**
TRO				*e*S	**Sn**	**23 01 19.3**	**-0.3**
TRO				IAML		23 01 21.6	
	comp=Z,13nm,0.5s						
BJO	**Bjornoya**	**2.58**	**359**	*e*S	**Sn**	**23 01 23.4**	**-2.3**
KIF	**Kilpisjarvi**	**2.99**	**170**	P	**Pn**	**23 01 03.4**	**+3.3**
KIF				S	**Sn**	**23 01 35.5**	**-0.4**
KIF	**Kilpisjarvi**	**2.99**	**170**	*e*P	**Pn**	**23 01 03.2**	**+3.1**
KIF				*e*S	**Sn**	**23 01 35.3**	**-0.6**
KIF	**Kilpisjarvi**	**2.99**	**170**	*e*P	**Pn**	**23 01 03.4**	**+3.3**
KIF				*e*S	**Sn**	**23 01 35.5**	**-0.4**
ARA0	**ARCESS Array S**	**3.16**	**137**	Pn	**Pn**	**23 01 05.5**	**+3.1**
	baz=332,slow=14						
ARA0				Sn	**Sn**	**23 01 39.9**	**-0.2**
	baz=324,slow=22						
ARA0	**ARCESS Array S**	**3.16**	**137**	Pn	**Pn**	**23 01 05.5**	**+3.1**
	SNR=55						
ARA0				Sn	**Sn**	**23 01 39.9**	**-0.2**
	SNR=55						
ARA0	**ARCESS Array S**	**3.16**	**137**	Pn	**Pn**	**23 01 05.5**	**+3.1**
	baz=332,slow=14						
ARA0				Sn	**Sn**	**23 01 39.9**	**-0.2**
	baz=324,slow=22						
ARCES	**ARCESS Array B**	**3.16**	**137**	Pn	**Pn**	**23 01 05.5**	**+3.0**
	comp=Z,1.3nm,0.3s,baz=327,slow=13,SNR=50						
ARCES				Sn	**Sn**	**23 01 40.0**	**-0.2**
	comp=Z,19nm,0.3s,baz=328,slow=25,SNR=41						
ARE0	**ARCESS Array S**	**3.16**	**137**	P	**Pn**	**23 01 05.4**	**+3.0**
ARE0				*e*S	**Sn**	**23 01 40.1**	**0.0**
	SNR=55						
ARE0	**ARCESS Array S**	**3.16**	**137**	*e*P	**Pn**	**23 01 05.8**	**+3.3**
ARE0				*e*S	**Sn**	**23 01 40.1**	**0.0**
ARE0				IAML		23 01 42.7	
	comp=Z,33nm,0.3s						
ARE0	**ARCESS Array S**	**3.16**	**137**	*e*P	**Pn**	**23 01 05.4**	**+3.0**
ARE0				*e*S	**Sn**	**23 01 38.9**	**-1.2**
KTK1	**Kautokeino**	**3.22**	**154**	*e*P	**Pb**	**23 01 07.4**	**-2.5**
KTK1				*e*S	**Sn**	**23 01 42.7**	**+1.1**
KTK1				IAML		23 01 46.4	
	comp=Z,32nm,0.3s						
HEF	**Hetta**	**3.84**	**156**	*e*P	**Pn**	**23 01 15.0**	**+3.3**
	SNR=53						
HEF				*e*S	**Sn**	**23 01 56.8**	**-0.1**
	SNR=53						
HEF	**Hetta**	**3.84**	**156**	*e*P	**Pn**	**23 01 15.0**	**+3.3**
HEF				*e*S	**Sn**	**23 01 56.8**	**-0.1**
HEF	**Hetta**	**3.84**	**156**	*e*P	**Pn**	**23 01 15.3**	**+3.5**
HEF				*e*S	**Sn**	**23 01 56.0**	**-0.9**
HEF				MSN		23 02 00.1	
	comp=Z,13nm,0.2s						
LANU	**Lannavaara**	**4.02**	**166**	P	**Pn**	**23 01 17.0**	**+2.8**
LANU				S	**Sn**	**23 01 59.9**	**-1.3**
LANU	**Lannavaara**	**4.02**	**166**	*e*P	**Pn**	**23 01 17.6**	**+3.4**
LANU				*e*S	**Sn**	**23 02 00.5**	**-0.7**
KUA	**Kurravaara**	**4.03**	**175**	P	**Pn**	**23 01 17.3**	**+3.0**
KUA				S	**Sn**	**23 02 01.5**	**+0.1**
KUA	**Kurravaara**	**4.03**	**175**	P	**Pn**	**23 01 17.3**	**+3.0**
KUA				S	**Sn**	**23 02 01.5**	**+0.1**
KUA	**Kurravaara**	**4.03**	**175**	*e*P	**Pn**	**23 01 17.3**	**+3.0**
KUA				*e*S	**Sn**	**23 02 01.5**	**+0.1**
RATU	**Laukkuluspa**	**4.14**	**179**	P	**Pn**	**23 01 19.0**	**+3.1**
RATU	**Laukkuluspa**	**4.14**	**179**	P	**Pn**	**23 01 19.0**	**+3.1**
RATU	**Laukkuluspa**	**4.14**	**179**	*e*P	**Pn**	**23 01 19.0**	**+3.1**
STEI	**Steigen**	**4.28**	**201**	*e*P	**Pn**	**23 01 21.9**	**+4.2**
	SNR=53						
STEI	**Steigen**	**4.28**	**201**	*e*P	**Pn**	**23 01 21.9**	**+4.2**
LOF	**Lofoten**	**4.32**	**210**	*e*P	**Pn**	**23 01 20.4**	**+2.1**
	SNR=53						
LOF	**Lofoten**	**4.32**	**210**	*e*P	**Pn**	**23 01 20.4**	**+2.1**
LOF				*e*S	**Sn**	**23 02 06.2**	**-2.4**
LOF				IAML		23 02 09.9	
	comp=Z,7.7nm,0.5s						
MASU	**Masugnsbyn**	**4.60**	**167**	P	**Pn**	**23 01 25.4**	**+3.2**
MASU				S	**Sn**	**23 02 15.4**	**-0.2**
MASU	**Masugnsbyn**	**4.60**	**167**	P	**Pn**	**23 01 25.5**	**+3.2**
MASU				S	**Sn**	**23 02 15.4**	**-0.2**
MASU	**Masugnsbyn**	**4.60**	**167**	*e*P	**Pn**	**23 01 25.5**	**+3.2**
MASU				*e*S	**Sn**	**23 02 15.4**	**-0.2**
DUNU	**Dundret**	**4.87**	**174**	P	**Pn**	**23 01 29.5**	**+3.7**
DUNU	**Dundret**	**4.87**	**174**	P	**Pn**	**23 01 29.5**	**+3.7**
DUNU	**Dundret**	**4.87**	**174**	*e*P	**Pn**	**23 01 29.5**	**+3.7**
PAJU	**Pajala**	**5.12**	**163**	P	**Pn**	**23 01 32.7**	**+3.5**
PAJU	**Pajala**	**5.12**	**163**	P	**Pn**	**23 01 32.7**	**+3.5**
PAJU	**Pajala**	**5.12**	**163**	*e*P	**Pn**	**23 01 32.7**	**+3.5**
SGF	**Sodankyl**	**5.16**	**148**	P	**Pn**	**23 01 32.6**	**+2.8**
SGF				S	**Sn**	**23 02 26.2**	**-3.1**
SGF	**Sodankyl**	**5.16**	**148**	*e*P	**Pn**	**23 01 32.7**	**+2.8**
SGF				*e*S	**Sn**	**23 02 26.2**	**-3.1**
HSPB	**Hornsund (broa**	**5.19**	**350**	Pn	**Pn**	**23 01 33.4**	**+3.3**
HSPB				Sn	**Sn**	**23 02 25.9**	**-4.0**
HSP	**Hornsund**	**5.19**	**350**	Pn	**Pn**	**23 01 33.4**	**+3.2**
HSP				Sn	**Sn**	**23 02 25.9**	**-4.1**
VRF	**Varrio**	**5.50**	**135**	*e*P	**Pn**	**23 01 37.0**	**+2.3**
VRF				*e*S	**Sn**	**23 02 34.8**	**-2.8**
ERTU	**Ertsjaerv**	**5.51**	**168**	P	**Pn**	**23 01 37.9**	**+3.3**
ERTU	**Ertsjaerv**	**5.51**	**168**	*e*P	**Pn**	**23 01 37.9**	**+3.3**
MOR8	**Moi Rana**	**6.06**	**199**	*e*P	**Pn**	**23 01 44.6**	**+2.3**
MOR8				*e*S	**Sn**	**23 02 48.9**	**-2.6**
TOF	**Tornio**	**6.15**	**161**	P	**Pn**	**23 01 47.0**	**+3.6**
TOF	**Tornio**	**6.15**	**161**	*e*P	**Pn**	**23 01 47.0**	**+3.6**
TOF				*e*S	**Sn**	**23 02 52.2**	**-1.5**
KALU	**Kalix**	**6.28**	**165**	P	**Pn**	**23 01 48.8**	**+3.6**
KALU	**Kalix**	**6.28**	**165**	*e*P	**Pn**	**23 01 48.8**	**+3.6**
SPA0	**Spitsbergen Ar**	**6.32**	**354**	Pn	**Pn**	**23 01 48.2**	**+2.6**
	baz=159,slow=16						
SPA0				Sn	**Sn**	**23 02 53.1**	**-4.6**
	baz=170,slow=16						
SPA0	**Spitsbergen Ar**	**6.32**	**354**	Pn	**Pn**	**23 01 48.2**	**+2.6**
	baz=159,slow=16						
SPA0				Sn	**Sn**	**23 02 53.1**	**-4.6**
	baz=170,slow=16						
SPITS	**Spitsbergen Ar**	**6.32**	**354**	Pn	**Pn**	**23 01 48.3**	**+2.6**
	baz=163,slow=10,SNR=88						
SPITS				Sn	**Sn**	**23 02 53.2**	**-4.5**
	baz=159,slow=29,SNR=3.0						
APA0	**Apatity Array**	**6.41**	**126**	P	**Pn**	**23 01 48.0**	**+1.0**
APA0				S	**Sn**	**23 02 54.3**	**-5.8**
SJUU	**Sjulsmark**	**6.52**	**172**	P	**Pn**	**23 01 51.2**	**+2.8**
SJUU	**Sjulsmark**	**6.52**	**172**	*e*P	**Pn**	**23 01 51.2**	**+2.8**
MSF	**Maaselka**	**6.98**	**145**	*e*P	**Pn**	**23 01 56.8**	**+2.0**
MSF				*e*S	**Sn**	**23 03 10.1**	**-4.0**
KU6	**Riekki**	**7.03**	**142**	P	**Pn**	**23 01 57.8**	**+2.3**
KU6	**Riekki**	**7.03**	**142**	*e*P	**Pn**	**23 01 57.9**	**+2.3**
KU6				*e*S	**Sn**	**23 03 11.2**	**-4.2**
KU6				MSN		23 03 15.1	
	comp=Z,3.5nm,0.2s						
KBS	**Kingsbay**	**7.26**	**349**	Pn	**Pn**	**23 01 59.4**	**+0.9**
KBS	**Kingsbay**	**7.26**	**349**	Pn	**Pn**	**23 01 59.4**	**+0.9**
	SNR=55						
KBS	**Kingsbay**	**7.26**	**349**	Pn	**Pn**	**23 01 59.4**	**+0.9**
OUF	**Merijarvi**	**7.87**	**163**	P	**Pn**	**23 02 09.7**	**+2.8**
OUF	**Merijarvi**	**7.87**	**163**	*e*P	**Pn**	**23 02 09.7**	**+2.8**
OUF				*e*S	**Sn**	**23 03 31.5**	**-4.3**
OUF				MSN		23 03 35.3	
	comp=Z,3.1nm,0.2s						
VAF	**Ylistaro**	**9.03**	**170**	*e*P	**Pn**	**23 02 25.4**	**+2.5**
VAF				*e*S	**Sn**	**23 03 60.0**	**-4.5**
SUF	**Sumiainen**	**9.62**	**161**	*e*P	**Pn**	**23 02 32.5**	**+1.6**
SUF				*e*S	**Sn**	**23 04 12.7**	**-6.2**
FIA0	**FINESS Array S**	**10.87**	**163**	Pn	**Pn**	**23 02 49.6**	**+1.6**
	baz=351,slow=14						
FIA0				Sn	**Sn**	**23 04 42.8**	**-6.6**
	baz=353,slow=22						
FIA0	**FINESS Array S**	**10.87**	**163**	Pn	**Pn**	**23 02 49.6**	**+1.6**
	baz=351,slow=14						
FIA0				Sn	**Sn**	**23 04 42.8**	**-6.6**
	baz=353,slow=22						
FINES	**FINESS Array B**	**10.87**	**163**	Pn	**Pn**	**23 02 49.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=357,slow=12,SNR=7.2						
FINES				Sn	**Sn**	**23 04 42.9**	**-6.5**
	comp=Z,0.5nm,0.3s,baz=355,slow=23,SNR=9.6						
NB2	**NORSAR Subarra**	**11.41**	**200**	Pn	**Pn**	**23 02 58.6**	**+3.1**
NB2	**NORSAR Subarra**	**11.41**	**200**	Pn	**Pn**	**23 02 58.6**	**+3.1**
NOA	**NORSAR Array B**	**11.41**	**200**	Pn	**Pn**	**23 02 58.2**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=6.7,slow=13,SNR=2.9						
NRA0	**NORESS Array S**	**11.67**	**199**	Pn	**Pn**	**23 03 00.8**	**+1.7**
	baz=19,slow=18						
NRA0	**NORESS Array S**	**11.67**	**199**	Pn	**Pn**	**23 03 00.8**	**+1.7**
	baz=19,slow=18						
HFS	**Hagfors**	**12.08**	**194**	Pn	**Pn**	**23 03 06.4**	**+1.8**
	baz=27,slow=14						
HFS	**Hagfors**	**12.08**	**194**	Pn	**Pn**	**23 03 06.3**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=18,slow=15,SNR=2.9						
HFS	**Hagfors**	**12.08**	**194**	Pn	**Pn**	**23 03 06.4**	**+1.8**
	baz=27,slow=14						

ISCJB ***17*** *23:04:37.1±1.2, 35.47S±0.08×178.9W±0.1, h47km, mb4.0/3, MS3.6/3, Error ellipse: s-maj=17.2km s-min=8.6km az=32.7*
WEL ***17*** *23:04:38.2±1.2, 35.5S±10×179.1W±1.1, h33km, ML4.4/11*
IDC ***17*** *23:04:40.8±1.1, 35.35S×179.18W, h39km±6km, mb3.8/3, mb1 4.1/4, mb1mx3.6/40, mbtmp4.0/4, ML3.9/1, MS3.5/4, Ms1 3.5/4, ms1mx2.9/35, Error ellipse: s-maj=31.5km s-min=24.5km az=21.0*

ISC 17 23:04:39.8±1.1, 35.42S±0.10×179.0W±0.1, h47km, n32, σ1ᵍ32/34, mb4.1/3, MS3.7/3, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.06**	**225**	P	**Pn**	**23 05 24.4**	**-1.2**
MXZ	**Matakaoa Point**	**3.06**	**225**	S	**Sn**	**23 05 59.8**	**-1.1**
WMGZ	**Waiomatatini S**	**3.18**	**220**	P	**Pn**	**23 05 26.5**	**-0.8**
WMGZ	**Waiomatatini S**	**3.18**	**220**	S	**Sn**	**23 06 05.0**	**+1.0**
PKGZ	**Pakihiroa**	**3.41**	**223**	P	**Pn**	**23 05 29.6**	**-1.0**
PKGZ	**Pakihiroa**	**3.41**	**223**	S	**Sn**	**23 06 09.8**	**-0.1**
PUZ	**Puketiti**	**3.45**	**219**	P	**Pn**	**23 05 29.2**	**-1.8**
PUZ	**Puketiti**	**3.45**	**219**	S	**Sn**	**23 06 09.9**	**-0.8**
HAZ	**Te Kaha**	**3.49**	**227**	P	**Pn**	**23 05 31.4**	**-0.2**
HAZ	**Te Kaha**	**3.49**	**227**	S	**Sn**	**23 06 13.2**	**+1.5**
TWGZ	**Tauwhareparae**	**3.67**	**221**	P	**Pn**	**23 05 34.1**	**0.0**
TWGZ	**Tauwhareparae**	**3.67**	**221**	S	**Sn**	**23 06 17.3**	**+1.1**
RUGZ	**Raukumara Rang**	**3.69**	**226**	P	**Pn**	**23 05 33.6**	**-0.8**
CNGZ	**Carnagh Statio**	**3.80**	**215**	P	**Pn**	**23 05 34.6**	**-1.2**
MWZ	**Matawai**	**4.04**	**223**	P	**Pn**	**23 05 37.6**	**-1.4**
RIGZ	**Rimuhau**	**4.19**	**217**	P	**Pn**	**23 05 39.5**	**-1.7**
RIGZ	**Rimuhau**	**4.19**	**217**	S	**Sn**	**23 06 28.3**	**-0.5**
URZ	**Urewera**	**4.22**	**227**	Pn	**Pn**	**23 05 40.2**	**-1.4**
	7.3nm,0.3s,baz=250,slow=4.7,SNR=30						
URZ				Sn	**Sn**	**23 06 29.1**	**-0.6**
	5.9nm,0.3s,baz=146,slow=23,SNR=12						
URZ	**Urewera**	**4.22**	**227**	P	**Pn**	**23 05 40.3**	**-1.4**
URZ	**Urewera**	**4.22**	**227**	S	**Sn**	**23 06 29.2**	**-0.4**
KUZ	**Kuaotunu**	**4.49**	**251**	P	**Pn**	**23 05 45.1**	**-0.1**
KUZ	**Kuaotunu**	**4.49**	**251**	S	**Sn**	**23 06 37.6**	**+1.4**
MKAZ	**Moumakai**	**5.02**	**249**	P	**Pn**	**23 05 52.7**	**+0.2**
DZM	**Mont Dzumac**	**18.41**	**312**	LR	LR	23 13 55.0	
	comp=Z,74nm,19.4s,baz=180,slow=30						
ASAR	**Alice Springs**	**42.27**	**273**	P	**P**	**23 12 29.4**	**+0.6**
	2.0nm,0.7s,baz=112,slow=7.1,SNR=13						
ASAR				pP	**pP**	**23 12 40.9**	**-0.6**
	2.4nm,0.6s,baz=115,slow=7.8,SNR=8.6						
ASAR				LR	LR	23 29 49.1	
	comp=Z,61nm,18.0s,baz=356,slow=36						
WRA	**Warramunga Arr**	**43.71**	**278**	P	**P**	**23 12 40.4**	**-0.1**
	1.6nm,0.6s,baz=120,slow=7.6,SNR=8.2						
WRA				pP	**pP**	**23 12 51.9**	**-1.4**
	3.3nm,0.7s,baz=120,slow=7.6,SNR=10						
QSPA	**South Pole Qui**	**54.70**	**180**	P	**P**	**23 14 06.7**	**+2.7**
	1.5nm,0.7s,baz=106,slow=5.0,SNR=3.9						
GUMO	**Guam**	**59.56**	**318**	LR	LR	23 36 57.8	
	comp=Z,56nm,21.2s,baz=100,slow=33						
CPUP	**Villa Florida**	**97.48**	**130**	LR	LR	23 54 19.0	
	comp=Z,24nm,19.9s,baz=202,slow=30						
FINES	**FINESS Array B**	**149.48**	**336**	PKPbc	**PKPab**	**23 24 24.5**	**-3.5**
	1.3nm,0.7s,baz=112,slow=4.5,SNR=3.8						
FINES				pPKPbc	**pPKPbc**	**23 24 36.3**	**-1.0**
	2.6nm,0.8s,baz=44,slow=5.4,SNR=2.8						
DBIC	**Dimbokro**	**150.88**	**168**	PKPbc	**PKPbc**	**23 24 29.3**	**+1.5**
	3.7nm,0.7s,baz=194,slow=3.1,SNR=6.0						
DBIC				pPKPbc	**pPKPbc**	**23 24 42.0**	**-0.2**
	3.1nm,0.6s,baz=189,slow=4.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**157.82**	**182**	PKPab	**PKPab**	**23 25 05.9**	**+1.5**
	0.4nm,0.6s,baz=160,slow=4.1,SNR=3.3						

IDC ***17*** *23:06:29.6±3.8, 2.45S×130.86E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/55, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=294.7km s-min=24.0km az=72.0*
DJA ***17*** *23:06:34.9±0.4, 3.3S±3.3×13.0E±1.1, h10km, M3.4/6, MLv3.4/6*
ISCJB ***17*** *23:06:35.7±0.7, 2.71S±0.08×129.57E±0.07, h28km, mb3.7/3, Error ellipse: s-maj=11.6km s-min=8.5km az=150.7*

ISC 17 23:06:36.3±0.9, 2.85S±0.06×129.62E±0.06, h28km, n11, σ1ᵍ58/13, mb3.8/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.85**	**234**	P	**Pn**	**23 06 52.4**	**0.0**
MSAI				S	**Sn**	**23 07 07.0**	**+3.1**
BNDI	**Bandanaira**	**1.69**	**170**	P	**Pb**	**23 07 07.0**	**+0.3**
NLAI	**Namlea**	**2.54**	**261**	P	**Pn**	**23 07 16.4**	**+0.7**
SWI	**Sorong**	**2.56**	**40**	P	**Pn**	**23 07 15.8**	**-0.2**
SWI				S	**Sn**	**23 07 48.9**	**+2.6**
FAKI	**Fak Fak**	**2.63**	**92**	P	**Pn**	**23 07 17.2**	**+0.3**
LBMI	**Labuha**	**3.05**	**316**	P	**Pn**	**23 07 22.0**	**-0.7**
SANI	**Sanana**	**3.71**	**282**	P	**Pn**	**23 07 30.8**	**-1.0**
WRA	**Warramunga Arr**	**17.61**	**165**	P	**Pn**	**23 10 37.5**	**-2.3**
	0.3nm,0.3s,baz=348,slow=11,SNR=15						
ASAR	**Alice Springs**	**21.11**	**169**	P	**P**	**23 11 17.8**	**-1.2**
	2

0.1nm,0.3s,baz=20,slow=13,SNR=4.0
HFS Sn **Sn** **23 10 02.7 -1.8**
0.5nm,0.3s,baz=38,slow=24,SNR=5.5
HFS Hagfors 7.68 208 Pn **Pn** **23 08 37.3 +0.5**
baz=8.8,slow=13,SNR=50
HFS Hagfors 7.68 208 Pn **Pn** **23 08 37.4 +0.5**
baz=8.8,slow=14
HFS Sn **Sn** **23 10 02.2 -2.2**
baz=21,slow=22

IDC 17 23:07:05.0±1.2, 67.18N×20.88E, h0km, mb1 2.9/4, mb1mx2.7/68, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=19.7km s-min=12.6km az=111.0, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCES	**ARCESS Array B**	**2.92**	**34**	Pn		23 07 53.2	+0.5
	0.8nm,0.3s,baz=214,slow=15,SNR=5.3						
FINES	**FINESS Array B**	**6.19**	**156**	Pn		23 08 37.4	-0.1
	0.2nm,0.3s,baz=345,slow=14,SNR=5.1						
FINES				Sn		23 09 48.9	+0.1
	0.4nm,0.3s,baz=349,slow=26,SNR=3.3						
NOA	**NORSAR Array B**	**7.47**	**219**	Pn		23 08 53.9	-1.3
	0.2nm,0.3s,baz=28,slow=11,SNR=3.7						
HFS	**Hagfors**	**7.76**	**208**	Pn		23 08 57.1	-2.0
	0.2nm,0.3s,baz=21,slow=12,SNR=4.2						

ISCJB ***17*** *23:07:24.5±0.6, 67.03N×0.04×20.4E±0.2, h0km, Error ellipse: s-maj=12.2km s-min=4.5km az=22.9*
IDC ***17*** *23:07:24.6±1.0, 67.32N×21.13E, h0km, mb1 3.2/4, mb1mx2.9/68, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=17.5km s-min=7.5km az=111.0*
NAO ***17*** *23:07:26.3±0.9, 67.17N×20.65E, ML3.3*
CSEM ***17*** *23:07:26.4±0.2, 67.10N×20.68E, h1km, ML3.3, Error ellipse: s-maj=14.6km s-min=5.0km az=113.0, Suspected Mining explosion.*
BER ***17*** *23:07:29.0±2.6, 67.12N×20.74E, h0km, ML3.3(NAO), Suspected explosion*

ISC 17 23:07:25.4±0.8, 67.09N±0.05×20.65E±0.08, h0km, n27, σ1§51/41, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEF	**Hetta**	**1.75**	**40**	*e*P		**23 07 57.1**	**+0.1**
	SNR=50						
HEF	**Hetta**	**1.75**	**40**	*e*P		**23 07 57.1**	**+0.1**
KIF	**Kilpisjarvi**	**1.92**	**2**	Pn		**23 08 00.7**	**-0.6**
KIF				Sn		**23 08 25.3**	**-0.4**
KIF	**Kilpisjarvi**	**1.92**	**2**	Pn		**23 08 00.7**	**-0.6**
	SNR=50						
KIF				Sn		**23 08 25.3**	**-0.4**
	SNR=50						
KIF	**Kilpisjarvi**	**1.92**	**2**	Pn		**23 08 00.7**	**-0.6**
KIF				Sn		**23 08 25.3**	**-0.4**
KTK1	**Kautokeino**	**2.16**	**26**	*e*P		**23 08 03.9**	**+1.3**
ARA0	**ARCESS Array S**	**3.04**	**34**	Pn		**23 08 15.0**	**+0.2**
	baz=210,slow=16						
ARA0				Sn		**23 08 51.5**	**-0.4**
	baz=209,slow=28						
ARA0	**ARCESS Array S**	**3.04**	**34**	Pn		**23 08 15.0**	**+0.2**
	SNR=50						
ARA0				Sn		**23 08 51.5**	**-0.4**
	SNR=50						
ARA0	**ARCESS Array S**	**3.04**	**34**	Pn		**23 08 15.0**	**+0.2**
	baz=210,slow=16						
ARA0				Sn		**23 08 51.5**	**-0.4**
	baz=209,slow=28						
ARCES	**ARCESS Array B**	**3.04**	**34**	Pn		23 08 09.4	-5.4
	1.7nm,0.3s,baz=213,slow=16,SNR=8.3						
ARCES				Lg		23 08 52.1	
	3.5nm,0.3s,baz=215,slow=20,SNR=5.7						
ARCES	**ARCESS Array B**	**3.04**	**34**	Pn		**23 08 24.4**	**+0.7**
ARCES				Sn		**23 08 57.0**	**-1.1**
FIA0	**FINESS Array S**	**6.14**	**155**	Pn		**23 08 59.1**	**+1.8**
	baz=351,slow=14						
FIA0				Lg		23 10 40.1	
	baz=337,slow=37						
FIA0	**FINESS Array S**	**6.14**	**155**	Pn		**23 08 59.1**	**+1.8**
	baz=351,slow=14						
FIA0				Lg		23 10 40.1	
	baz=337,slow=37						
FINES	**FINESS Array B**	**6.14**	**155**	Pn		**23 08 59.5**	**+2.2**
	0.5nm,0.3s,baz=349,slow=14,SNR=12						
FINES				Sn		**23 10 09.8**	**+1.7**
	1.0nm,0.3s,baz=347,slow=25,SNR=3.4						
FINES				Lg		23 10 40.4	
	2.5nm,0.3s,baz=346,slow=28,SNR=11						
FINES	**FINESS Array B**	**6.14**	**155**	Pn		**23 08 59.1**	**+1.8**
FINES				Sn		**23 10 04.4**	**-3.7**
NB2	**NORSAR Subarra**	**7.34**	**219**	Pn		**23 09 15.2**	**+1.4**
	baz=27,slow=14						
NB2	**NORSAR Subarra**	**7.34**	**219**	Pn		**23 09 15.2**	**+1.4**
	baz=27,slow=14						
NOA	**NORSAR Array B**	**7.34**	**219**	Pn		**23 09 15.4**	**+1.7**
	0.3nm,0.3s,baz=28,slow=11,SNR=4.4						
NOA				Lg		23 11 18.7	
	1.4nm,0.3s,baz=25,slow=21,SNR=8.7						
NOA	**NORSAR Array B**	**7.34**	**219**	Pn		**23 09 16.2**	**+2.4**
NOA				Sn		**23 10 36.8**	**-0.9**
NRA0	**NORESS Array S**	**7.53**	**216**	Pn		**23 09 17.6**	**+1.3**
	baz=32,slow=14						
NRA0				Lg		23 11 23.5	
	baz=23,slow=28						
NRA0	**NORESS Array S**	**7.53**	**216**	Pn		**23 09 17.6**	**+1.3**
	baz=32,slow=14						
NRA0				Lg		23 11 23.5	
	baz=23,slow=28						
HFS	**Hagfors**	**7.64**	**207**	Pn		**23 09 18.7**	**+1.0**
	baz=17,slow=14						
HFS				Sn		**23 10 44.1**	**-0.8**
	baz=22,slow=22						
HFS				Lg		23 11 26.0	
	baz=25,slow=37						
HFS	**Hagfors**	**7.64**	**207**	Pn		**23 09 18.8**	**+1.0**
	0.2nm,0.3s,baz=25,slow=13,SNR=8.1						
HFS				Sn		**23 10 42.9**	**-2.0**
	0.9nm,0.3s,baz=37,slow=22,SNR=8.9						
HFS	**Hagfors**	**7.64**	**207**	Pn		**23 09 18.7**	**+1.0**
	SNR=50						
HFS				Sn		**23 10 44.1**	**-0.8**
	SNR=50						
HFS				Lg		23 11 26.0	
	SNR=53						
HFS	**Hagfors**	**7.64**	**207**	Pn		**23 09 18.7**	**+1.0**
	baz=17,slow=14						
HFS				Sn		**23 10 44.1**	**-0.8**
	baz=22,slow=22						
HFS				Lg		23 11 26.0	
	baz=25,slow=37						
HFS	**Hagfors**	**7.64**	**207**	Pn		**23 09 18.7**	**+0.9**
HFS				Sn		**23 10 40.3**	**-4.6**

IDC ***17*** *23:10:59.9±0.8, 18.16N×121.57E, h109km±7km, mb3.5/10, mb1 3.7/11, mb1mx3.3/70, mbtmp3.9/11, MS3.1/3, Ms1 3.1/3, ms1mx2.5/41, Error ellipse: s-maj=37.5km s-min=12.4km az=67.0*

ISC 17 23:11:00.0±0.6, 18.32N±0.07×121.7E±0.2, h100km, n23, σ1§78/21, mb3.9/10, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CVP	**Callao Caves**	**0.62**	**170**	⇑*i*P		**23 11 19.2**	**+2.4**
CVP				*i* S		**23 11 32.7**	**+3.4**
PCPH	**Palayan**	**2.81**	**192**	*e*P		**23 11 43.2**	**0.0**
PCPH				*e*S		**23 12 17.6**	**+1.2**
TGY	**Tagaytay City**	**4.26**	**190**	P		**23 12 05.0**	**+2.2**
	53nm,0.3s,baz=132,slow=9.1,SNR=2.3						
KSRS	**Korea Array**	**19.83**	**15**	P		**23 15 23.8**	**+1.0**
	0.6nm,0.3s,baz=194,slow=10,SNR=8.7						
JHJ	**Hachijo jima 2**	**21.91**	**44**	LR		23 25 19.8	
	comp=Z,9.5nm,18.1s,baz=46,slow=39						
SONM	**Songino Array**	**31.99**	**340**	P		**23 17 17.7**	**+0.9**
	0.4nm,0.7s,baz=159,slow=10,SNR=4.0						
PMG	**Port Moresby**	**37.28**	**136**	LR		23 34 41.2	
	comp=Z,70nm,19.0s,baz=350,slow=38						
WRA	**Warramunga Arr**	**39.99**	**161**	P		**23 18 22.4**	**-2.7**
	2.4nm,0.5s,baz=342,slow=9.2,SNR=57						
WRA				PcP		**23 20 28.1**	**-0.4**
	1.5nm,0.4s,baz=344,slow=3.2,SNR=18						
H11S3	**WAKE ISLAND Hy**	**42.59**	**82**	T		00 04 26.7	
	baz=277,slow=74,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**42.60**	**82**	T		00 04 15.0	
	baz=277,slow=74,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**42.60**	**82**	T		00 04 26.4	
	baz=277,slow=74,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**42.64**	**81**	T		00 04 44.9	
	baz=277,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**42.65**	**81**	T		00 04 45.6	
	baz=277,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**42.66**	**81**	T		00 04 44.9	
	baz=277,slow=75,SNR=2.9						
MKAR	**Makanchi Array**	**43.01**	**320**	P		**23 18 49.0**	**-0.6**
	0.9nm,0.6s,baz=112,slow=9.9,SNR=11						
MKAR				pP		**23 19 14.9**	**+1.9**
	0.4nm,0.5s,baz=117,slow=7.7,SNR=3.7						
ASAR	**Alice Springs**	**43.39**	**164**	P		**23 18 50.8**	**-2.1**
	1.1nm,0.3s,baz=341,slow=7.8,SNR=17						
KURBB	**Kurchatov Arra**	**47.00**	**323**	P		**23 19 20.2**	**-0.8**
	1.5nm,0.6s,baz=120,slow=7.9,SNR=13						
KURBB				pP		**23 19 45.2**	**+0.5**
	1.2nm,0.8s,baz=123,slow=7.7,SNR=5.6						
BVAR	**Borovoye Array**	**52.59**	**324**	P		**23 20 01.8**	**-1.5**
	0.2nm,0.3s,baz=111,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**53.43**	**159**	P		**23 20 08.2**	**-1.5**
	1.3nm,0.5s,baz=347,slow=5.5,SNR=4.5						
DZM	**Mont Dzumac**	**59.38**	**131**	LR		23 46 34.7	
	comp=Z,24nm,18.1s,baz=240,slow=36						
FINES	**FINESS Array B**	**76.75**	**331**	P		**23 22 39.0**	**-1.3**
	3.5nm,1.0s,baz=49,slow=5.8,SNR=5.6						
FINES				pP		**23 23 08.0**	**+2.1**
	0.9nm,0.5s,baz=70,slow=5.5,SNR=1.6						
NOA	**NORSAR Array B**	**83.63**	**333**	P		**23 23 15.3**	**-2.0**
	0.7nm,0.8s,baz=273,slow=3.5,SNR=3.5						
YKA	**Yellowknife Ar**	**88.16**	**23**	P		**23 23 39.7**	**+0.2**
	0.2nm,0.7s,baz=310,slow=4.8,SNR=2.6						
YKA				pP		**23 24 06.4**	**+0.7**
	0.3nm,0.6s,baz=309,slow=4.5,SNR=4.6						

NIED ***17*** *23:11:00, 32.80N×140.60E, h68km, Mw4.1 Best double couple: Mo1.77000×10^15 NP1:φ=83.00000°, δ=49.00000°, λ=168.00000°. NP2:φ=181.00000°, δ=81.00000°, λ=42.00000°.*
BJI ***17*** *23:11:23.1, 32.52N×141.25E, h73km, mb4.4/21, mB5.0/12, Ms4.6/2, Ms7 4.3/1*
MOS ***17*** *23:11:27.1±1.1, 32.65N×140.64E, h61km, mb4.5/36, Error ellipse: s-maj=11.0km s-min=5.4km az=114.4*
ISCJB ***17*** *23:11:28.7±0.5, 32.69N±0.03×140.63E±0.05, h74km±3km, mb4.3/57, Error ellipse: s-maj=7.0km s-min=5.5km az=166.5*
IDC ***17*** *23:11:29.6±1.0, 32.67N×140.53E, h66km±6km, mb3.9/27, mb1 4.1/29, mb1mx3.9/67, mbtmp4.2/29, MS2.8/7, Ms1 2.8/7, ms1mx2.6/57, Error ellipse: s-maj=15.3km s-min=12.0km az=67.0*
NEIC ***17*** *23:11:30.3±0.7, 32.69N×140.65E, h74km±5km, mb4.5/15, Error ellipse: s-maj=7.3km s-min=7.2km az=54.0*
NEIC Recorded [1 JMA] on Hachijo-jima.
JMA ***17*** *23:11:30.6±0.2, 32.81N×140.68E, h60km, M4.5*
JMA Felt I J1.

ISC 17 23:11:29.3±0.7, 32.70N±0.05×140.69E±0.06, h68km±5km, n153, σ1§38/163, mb4.4/58, 12C-14D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.84**	**297**	⇑P		**23 11 46.0**	**+0.3**
JHCJ				S		**23 11 56.8**	**-1.0**
JHJ2	**Mitsune**	**0.84**	**300**	⇓P		**23 11 46.3**	**+0.6**
JHJ2				S		**23 11 56.9**	**-1.0**
JHJ2	**Mitsune**	**0.84**	**300**	*e*Pn		**23 11 46.4**	**+0.6**
JHJ	**Hachijo jima 2**	**0.87**	**299**	P		**23 11 46.4**	**+0.3**
	1μm,0.3s,baz=274,slow=8.4,SNR=763						
JHJ				S		**23 11 56.7**	**-1.9**
	5μm,0.3s,baz=58,slow=19,SNR=40						
JHJ				LR		23 12 13.3	
	comp=Z,1μm,18.9s,baz=67,slow=58						
BSO1	**Boso 1**	**1.96**	**7**	P		**23 11 59.8**	**-0.1**
JKO	**Kozu shima**	**1.97**	**319**	⇓P		**23 12 01.3**	**+0.8**
JKO				*e*S		**23 12 23.6**	**-0.7**
JNIO	**Niijimaoohara**	**2.03**	**325**	P		**23 12 01.8**	**+0.5**
BSO3	**Boso 3**	**2.10**	**356**	⇓P		**23 12 02.1**	**+0.1**
JIM2	**Oshima 3**	**2.27**	**333**	⇓P		**23 12 04.5**	**-0.1**
JIM2				S		**23 12 29.8**	**-1.7**
JIZS	**Izushimoda**	**2.52**	**324**	⇓P		**23 12 08.9**	**+1.0**
JIZS				*e*S		**23 12 36.7**	**-0.8**
TK02	**Tokai 2**	**2.75**	**298**	P		**23 12 12.8**	**+1.9**
JOD2	**Odawara 2**	**2.88**	**333**	⇓P		**23 12 13.3**	**+0.4**
JOD2				S		**23 12 44.2**	**-2.3**
TK04	**Tokai 4**	**2.89**	**306**	⇓P		**23 12 14.8**	**+1.9**
INU	**Inuyama**	**4.04**	**312**	*e*Pn		**23 12 30.4**	**+1.8**
MJAR	**Matsushiro Arr**	**4.34**	**333**	P		**23 12 33.5**	**+0.6**
	14nm,0.3s,baz=156,slow=11,SNR=132						
MJAR				S		**23 13 22.8**	**+0.6**
	9.2nm,0.3s,baz=146,slow=4.0,SNR=8.8						
MJAR				LR		23 14 21.2	
	comp=Z,76nm,21.0s,baz=165,slow=40						
MAJO	**Matsushiro**	**4.35**	**333**	*d*iP		**23 12 33.6**	**+0.7**
MAJO	**Matsushiro**	**4.35**	**333**	*e*Pn		**23 12 33.8**	**+0.9**
MAT	**Matsushiro**	**4.35**	**333**	P		**23 12 33.5**	**+0.6**
MAT				*e*S		**23 13 17.5**	**-4.7**
MJB9	**Matsu-Tunnel**	**4.35**	**333**	*e*Pn		**23 12 34.1**	**+1.2**
CBIJ	**Chichi jima**	**5.73**	**167**	*e*Pn		**23 12 52.1**	**+0.3**
CBIJ				S		**23 13 51.9**	**-4.4**
CBIJ				*e*Sn		23 13 58.1	+1.9
JCJ	**Chichijima**	**5.73**	**167**	P		**23 12 52.1**	**+0.3**
	58nm,0.3s,baz=320,slow=22,SNR=19						
JCJ				S		**23 13 51.9**	**-4.4**
	33nm,0.3s,baz=285,slow=20,SNR=3.8						
JNU	**Nakatsue**	**8.26**	**276**	P		**23 13 29.9**	**+3.5**
	1.6nm,0.3s,baz=112,slow=8.6,SNR=26						
JNU				LR		23 16 32.8	
	comp=Z,49nm,21.3s,baz=119,slow=37						
JNU	**Nakatsue**	**8.26**	**276**	*e*Pn		**23 13 29.4**	**+3.0**
ERM	**Erimo**	**9.50**	**11**	⇓P		**23 13 42.6**	**-0.7**
KSRS	**Korea Array**	**11.48**	**298**	P		**23 14 12.6**	**+2.3**
	0.3nm,0.3s,baz=112,slow=14,SNR=7.0						
KSRS				LR		23 18 23.2	
	comp=Z,50nm,18.5s,baz=90,slow=36						
ASAJ	**Asahikawa**	**11.50**	**7**	P		**23 14 07.6**	**-2.9**
	2.6nm,0.3s,baz=258,slow=15,SNR=6.9						
ASAJ	**Asahikawa**	**11.50**	**7**	*e*Pn		**23 14 07.9**	**-2.6**
KSAR	**Wonju Array Be**	**11.51**	**298**	P		**23 14 12.6**	**+1.9**
KSAR	**Wonju Array Be**	**11.51**	**298**	P		**23 14 12.6**	**+1.9**
USRK	**Ussuriysk Ar.**	**13.34**	**332**	LR		23 19 03.5	
	comp=Z,22nm,21.1s,baz=180,slow=34						
YSS	**Yuzh-Sakhalins**	**14.32**	**6**	⇑*e*P		**23 14 51.7**	**-1.9**
KLR	**Kul'dur**	**17.82**	**341**	P		**23 15 29.0**	**-3.3**
	0.1nm,0.3s,baz=161,slow=11,SNR=22						
KLR	**Kul'dur**	**17.82**	**341**	⇑*e*P		**23 15 31.6**	**-0.7**
TYV	**Tymovskoe**	**18.21**	**4**	*e*P		**23 15 35.4**	**-1.2**
TYV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NJ2	**Nanjing**	**18.45**	**274**	*e*P		**Pn**	**23 15 39.9**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NKL	**Nikolayevsk**	**20.44**	**360**	*e*P		Pn	23 16 04.5	+0.9
NKL				pmax	pmax		
	comp=N,6.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
BJI	**Beijing**	**21.02**	**297**	⇑*e*P		**P**	**23 16 09.5**	**+2.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WHN	**Wuhan**	**22.52**	**272**	P		**P**	**23 16 24.0**	**+0.6**
HIA	**Hailar**	**22.77**	**323**	⇓*e*P		**P**	**23 16 26.9**	**+0.9**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PETK	**Petropavlovsk-**	**23.79**	**26**	LR		LR	23 27 44.6	
	comp=Z,14nm,18.7s,baz=291,slow=41						
PET	**Petropavlovsk**	**24.08**	**27**	⇑*e*P		**P**	**23 16 39.9**	**+1.8**
PET				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**24.62**	**298**	*e*P		**P**	**23 16 42.9**	**-0.5**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,84nm,6.5s						
CLNS	**Chul'man**	**26.48**	**340**	*e*P		**P**	**23 17 00.2**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,16nm,0.9s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
XAN	**Xi'an**	**26.51**	**282**	P		**P**	**23 16 58.8**	**-1.7**
XAN				pmax	pmax		
	comp=E,4.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**26.74**	**112**	T		T	23 46 11.2	
	baz=304,slow=75,SNR=111						
H11N1	**WAKE ISLAND Hy**	**26.75**	**112**	T		T	23 46 02.7	
	baz=304,slow=75,SNR=110						
H11N3	**WAKE ISLAND Hy**	**26.76**	**112**	T		T	23 46 03.6	
	baz=304,slow=75,SNR=112						
H11S3	**WAKE ISLAND Hy**	**27.29**	**115**	T		T	23 46 29.2	
	baz=305,slow=75,SNR=105						
H11S1	**WAKE ISLAND Hy**	**27.29**	**115**	T		T	23 46 26.2	
	baz=305,slow=75,SNR=88						
H11S2	**WAKE ISLAND Hy**	**27.30**	**115**	T		T	23 46 26.8	
	baz=305,slow=75,SNR=71						
MA2	**Magadan**	**27.71**	**11**	*ce*P		**P**	**23 17 12.2**	**+1.3**
DAV	**Davao City (W)**	**29.11**	**212**	LR		LR	23 27 24.1	
	comp=E,159nm,21.8s,baz=90,slow=33						
ULN	**Ulaanbaatar**	**29.52**	**311**	*ce*P		**P**	**23 17 28.0**	**+0.7**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.5s						
ULN	**Ulaanbaatar**	**29.52**	**311**	*e*P		**P**	**23 17 28.0**	**+0.7**
	comp=Z,3.2nm,0.8s						
SONA1	**Songino Array**	**29.93**	**310**	*e*P		**P**	**23 17 31.4**	**+0.5**
SONM	**Songino Array**	**29.93**	**310**	P		**P**	**23 17 31.4**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=111,slow=8.6,SNR=22						
SONM				LR		LR	23 28 44.3	
	comp=Z,20nm,18.1s,baz=316,slow=35						
YAK	**Yakutsk**	**30.19**	**350**	*e*P		**P**	**23 17 32.1**	**-0.7**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s						
LZH	**Lanzhou**	**30.48**	**287**	*e*P		**P**	**23 17 31.4**	**-4.5**
LZH				pP	pP		23 17 48.8	-3.5
LZH				sP	sP		23 17 57.9	-2.4
LZH				pmax	pmax			
	comp=Z,16nm,1.0s						
BOD	**Bodaibo**	**30.98**	**332**	*e*P		**P**	**23 17 39.1**	**-0.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s						
SEY	**Seymchan**	**31.15**	**10**	⇓*e*P		**P**	**23 17 43.9**	**+2.6**
CD2	**Chengdu**	**31.34**	**277**	*e*P		**P**	**23 17 43.0**	**-0.4**
ZAK	**Zakamensk**	**32.67**	**314**	*e*P		**P**	**23 17 54.7**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s						
TLY	**Talaya**	**32.89**	**316**	*e*P		**P**	**23 17 57.3**	**+0.6**
TLY				pmax	pmax			
	comp=Z,9.0nm,0.9s						
TLY	**Talaya**	**32.89**	**316**	*e*P		**P**	**23 17 57.9**	**+1.2**
	comp=Z,8.2nm,0.9s						
MOY	**Mondy**	**34.44**	**315**	*e*P		**P**	**23 18 10.5**	**+0.2**
BILL	**Bilibino**	**38.35**	**15**	*i* P		**P**	**23 18 43.6**	**+0.4**
BILL				*i*			23 20 18.2	
BILL				*i*			23 20 59.4	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s						
HVS	**Khovu-Aksy**	**38.75**	**313**	⇑*e*P		**P**	**23 18 47.9**	**+1.0**
HVS				pmax	pmax			
	comp=Z,12nm,0.9s						
TIXI	**Tiksi**	**39.52**	**354**	⇓*e*P		**P**	**23 18 53.4**	**+0.5**
TIXI				pmax	pmax			
	comp=Z,7.0nm,1.7s						
TIXI	**Tiksi**	**39.52**	**354**	*e*P		**P**	**23 18 52.9**	**0.0**
	comp=Z,3.0nm,0.5s						
CHTO	**Chiang Mai**	**39.80**	**260**	*e*P		**P**	**23 18 55.2**	**-0.8**
CHTO				pmax	pmax			
	comp=Z,3.0nm,0.9s						
CHTO	**Chiang Mai**	**39.80**	**260**	*e*P		**P**	**23 18 55.2**	**-0.8**
	comp=Z,3.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.98**	**260**	P		**P**	**23 18 56.4**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=51,slow=7.4,SNR=9.3						
WMQ	**Urumqi**	**42.41**	**301**	*e*P		**P**	**23 19 18.4**	**+1.2**
DGZ	**Jazzator, Alta**	**42.57**	**310**	*d*iP		**P**	**23 19 18.9**	**+0.4**
DGZ				pmax	pmax			
	comp=Z,4.0nm,1.0s						
ZAA0	**Zalesovo Array**	**44.49**	**316**	*e*P		**P**	**23 19 33.9**	**+0.2**
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**44.49**	**316**	P		**P**	**23 19 33.2**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=113,slow=7.0,SNR=12						
ZALV				PcP		**PcP**	**23 21 15.9**	**0.0**
	comp=Z,0.8nm,0.4s,baz=98,slow=3.0,SNR=3.7						
NVS	**Novosibirsk**	**45.50**	**317**	*e*P		**P**	**23 19 40.0**	**-1.6**
NVS				pmax	pmax			
	comp=N,3.0nm,0.7s						
NVS				pmax	pmax			
	comp=E,4.0nm,0.7s						
NVS				pmax	pmax			
	comp=Z,6.0nm,0.7s						
MK01	**Makanchi Array**	**46.03**	**306**	*e*P		**P**	**23 19 45.7**	**-0.3**
MK31	**Makanchi Array**	**46.03**	**306**	*e*P		**P**	**23 19 46.0**	**0.0**
MK31	**Makanchi Array**	**46.03**	**306**	*e*P		**P**	**23 19 46.0**	**0.0**
MKAR	**Makanchi Array**	**46.03**	**306**	P		**P**	**23 19 45.9**	**-0.1**
	comp=Z,12nm,0.7s,baz=90,slow=9.8,SNR=67						
MKAR				ScP		**ScP**	**23 25 07.0**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=79,slow=5.4,SNR=5.9						
MKAR	**Makanchi Array**	**46.03**	**306**	*e*P		**P**	**23 19 46.0**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,77nm,0.8s						
MKAR	**Makanchi Array**	**46.03**	**306**	*e*P		**P**	**23 19 46.0**	**-0.1**
	comp=Z,77nm,0.8s						
MKAR				ScP		**ScP**	**23 25 07.0**	**-1.6**
JIRN	**Jiri**	**46.95**	**279**	*e*P		**P**	**23 19 53.0**	**-0.9**
	comp=Z,11nm,0.4s						
GUN	**Gumba**	**47.13**	**279**	*e*P		**P**	**23 19 54.8**	**-0.4**
	comp=Z,5.4nm,0.4s						
KKN	**Kakani**	**47.67**	**279**	*e*P		**P**	**23 19 59.0**	**-0.2**
KURK	**Kurchatov**	**48.23**	**311**	⇑*e*P		**P**	**23 20 02.7**	**-0.3**
KURK				pmax	pmax			
	comp=Z,25nm,1.2s						
KURK	**Kurchatov**	**48.23**	**311**	*e*P		**P**	**23 20 03.0**	**0.0**
	comp=Z,6.3nm,0.8s						
KURBB	**Kurchatov Arra**	**48.30**	**311**	P		**P**	**23 20 03.1**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=88,slow=7.5,SNR=36						
PDGK	**Podgornoye**	**48.39**	**301**	*i* P		**P**	**23 20 03.6**	**-0.9**
PDGK				pmax	pmax			
	comp=Z,7.0nm,0.8s						
KOLN	**Koldanda**	**49.07**	**280**	*e*P		**P**	**23 20 09.0**	**-1.0**
	comp=Z,4.0nm,0.3s			

comp=Z,0.4nm,0.6s,baz=4.4,slow=6.4,SNR=4.3
KBL Kabul 58.49 293 *e*P **P 23 21 18.2 -0.5**
KBL pmax pmax
comp=Z,3.0nm,0.7s
KBL Kabul 58.49 293 *e*P **P 23 21 18.2 -0.5**
comp=Z,2.9nm,0.7s
INK Inuvik 58.52 26 P **P 23 21 19.5 +1.4**
comp=Z,1.9nm,0.6s,baz=310,slow=7.3,SNR=10
INK Inuvik 58.52 26 *e*P **P 23 21 19.8 +1.7**
INK pmax pmax
comp=Z,17nm,1.9s
INK Inuvik 58.52 26 *e*P **P 23 21 19.8 +1.7**
comp=Z,17nm,1.9s
ARU Arti 59.26 320 P **P 23 21 23.0 -0.4**
comp=Z,2.0nm,0.3s,baz=88,slow=4.1,SNR=7.1
ARU Arti 59.26 320*c i*P **P 23 21 23.2 -0.2**
ARU *PP **pP 23 21 40.3 -0.9**
ARU 23 22 08.6
ARU S **S 23 29 26.3 +0.2**
ARU SS **SS 23 33 18.8 -2.2**
ARU pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 59.26 320 *e*P **P 23 21 23.3 -0.1**
comp=Z,6.3nm,0.9s
AB31 Akbulak array 60.33 312 *i* P **P 23 21 30.2 -0.7**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 60.33 312 *e*P **P 23 21 30.1 -0.8**
comp=Z,52nm,0.4s
AKTO Aktyubinsk 61.18 314 P **P 23 21 37.5 +0.8**
comp=Z,1.8nm,0.6s,baz=70,slow=13,SNR=5.8
GEYT Alibeck 65.46 300 P **P 23 22 04.8 -0.5**
comp=Z,1.9nm,0.8s,baz=85,slow=3.4,SNR=5.5
YKA Yellowknife Ar 67.86 29 P **P 23 22 20.7 +0.7**
comp=Z,0.2nm,0.6s,baz=294,slow=5.8,SNR=4.7
YKA pP **pP 23 22 40.1 +2.0**
comp=Z,0.4nm,0.7s,baz=292,slow=6.2,SNR=4.8
FINES FINESS Array B 72.38 333 P **P 23 22 47.6 0.0**
comp=Z,1.6nm,0.4s,baz=64,slow=6.2,SNR=19
KBZ Khabaz 73.29 311 P **P 23 22 54.2 +0.8**
comp=Z,5.2nm,0.9s,baz=77,slow=1.7,SNR=9.6
KVAR Kislovodsk Arr 73.31 312 P **P 23 22 54.4 +0.7**
comp=Z,2.9nm,0.6s,baz=268,slow=5.2,SNR=6.8
KIV Kislovodsk 73.31 312 *e*P **P 23 22 54.1 +0.5**
KIV pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 77.36 323 P **P 23 23 16.3 -0.3**
comp=Z,0.6nm,0.4s,baz=53,slow=6.0,SNR=5.2
AKASG Malin Array Be 77.36 323*ce*P **P 23 23 19.2 +2.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 77.79 336 P **P 23 23 18.7 -0.1**
comp=Z,2.8nm,0.8s,baz=79,slow=9.0,SNR=7.8
NB2 NORSAR Subarra 77.95 337 P **P 23 23 19.5 -0.2**
comp=Z,1.3nm,0.6s,baz=41,slow=5.3
NOA NORSAR Array B 77.95 337 P **P 23 23 19.8 0.0**
comp=Z,1.7nm,0.8s,baz=42,slow=5.4,SNR=6.4
BR131 Keskin Array S 81.28 312 *e*P **P 23 23 39.2 +0.9**
BRTR Keskin Array B 81.28 312 P **P 23 23 38.5 +0.1**
comp=Z,2.4nm,0.9s,baz=124,slow=3.8,SNR=14
BRTR Keskin Array B 81.28 312*ce*P **P 23 23 38.7 +0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BR231 Keskin MP Arra 81.75 312 *e*P **P 23 23 39.7 -1.1**
RAYN Ar Rayn 81.75 293 *e*P **P 23 23 41.3 +0.3**
comp=Z,5.2nm,0.7s
DPC Dobruska-Polom 83.80 328 *e*P **P 23 23 52.0 +0.9**
DPC Dobruska-Polom 83.80 328 *e*P **P 23 23 52.0 +0.9**
VYHS Vyhne 83.95 325 *e*P **P 23 23 52.7 +0.8**
VYHS Vyhne 83.95 325 *e*P **P 23 23 52.7 +0.8**
MMAI Mount Meron Ar 83.98 305 P **P 23 23 53.7 +1.3**
comp=Z,2.8nm,0.8s,baz=46,slow=4.2,SNR=5.1
CLL Collm 84.55 330 *e*P **P 23 23 54.0 -0.8**
CLL Collm 84.55 330 *e*P **P 23 23 54.0 -0.8**
PRU Pruhonice 84.86 328 *e*P **P 23 23 57.1 +0.7**
PRU Pruhonice 84.86 328 *e*P **P 23 23 57.1 +0.7**
GERES GERESS Array B 86.07 328 P **P 23 24 02.5 -0.1**
comp=Z,0.3nm,0.5s,baz=28,slow=6.2,SNR=5.6
EKA Eskdalemuir Ar 87.01 340 P **P 23 24 07.0 +0.1**
comp=Z,0.6nm,0.6s,baz=45,slow=5.1,SNR=7.3
EKA Eskdalemuir Ar 87.01 340 P **P 23 24 07.0 +0.1**
EKA pmax pmax
comp=Z,1.0nm,0.6s
TX31 Lajitas Ar. Si 93.24 52 *e*P **P 23 24 38.2 +1.5**
TXAR Lajitas Array 93.24 52 P **P 23 24 38.6 +1.8**
comp=Z,1.0nm,0.6s,baz=302,slow=3.1,SNR=17
LPAZ La Paz 149.24 65 PKPbc **PKPbc 23 31 10.9 -0.5**
comp=Z,1.0nm,0.5s,baz=352,slow=4.8,SNR=4.1
LPAZ La Paz 149.24 65 PKP2 **PKPbc 23 31 11.0 -0.5**
LPAZ pmax pmax
comp=Z,1.0nm,0.5s

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*ISN **17** 23:11:47.8±0.3, 32°.35N×46°.69E, h0km, ML2.6*
TEH 17 23:11:48.2, 32°.42N×46°.81E, h10km, ML2.6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**1.91**	**354**	*e*Sg	Sb	23 12 47.7	+0.3
IVIS	**Veis**	**2.10**	**1**	*e*Pn	Pb	23 12 25.1	-1.3
IVIS				*e*AMB	AMB	23 12 54.5	
comp=Z,550nm,0.2s							
IDHR	**Dehrash**	**2.30**	**351**	*e*Pn	Pn	23 12 26.2	-0.2
IDHR				*e*AMB	AMB	23 13 04.1	
comp=Z,559nm,0.2s							
HSAM	**Samen**	**2.33**	**40**	*e*Pn	Pn	23 12 27.1	+0.2
HSAM				*e*AMB	AMB	23 13 02.3	
comp=Z,99nm,0.2s							
IPIR	**Pirpir**	**3.46**	**85**	*e*Pn	Pn	23 12 41.6	-0.8
IPIR				*e*Sn	Sn	23 13 21.4	-2.2
IPIR				*e*AMB	AMB	23 13 25.2	
comp=Z,159nm,0.3s							
QAM	**Ghamsar**	**4.11**	**70**	*e*Pn	Pn	23 12 51.6	+0.3
QAM				*e*AMB	AMB	23 13 42.9	
comp=N,124nm,0.1s							
IKLH	**Kolahrood**	**4.11**	**76**	*e*Pn	Pn	23 12 50.7	-0.7
IKLH				*e*AMB	AMB	23 12 52.3	
comp=Z,63nm,0.1s							
IZEF	**Zefreh**	**4.68**	**83**	*e*Pn	Pn	23 12 58.0	-1.2
IZEF				*e*AMB	AMB	23 12 59.3	
comp=Z,28nm,0.1s							

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*IDC **17** 23:19:09.4±1.5, 3°.21S×130°.41E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/52, mbtmp4.0/7, ML4.4/1, MS3.5/5, Ms1 3.5/5, ms1mx2.9/49, Error ellipse: s-maj=158.0km s-min=18.9km az=70.0*
*ISCJB **17** 23:19:10.8±0.4, 3°.31S±0°.06×130°.30E±0°.05, h24km, mb3.9/8, MS3.4/5, Error ellipse: s-maj=8.5km s-min=6.2km az=21.8*
*DJA **17** 23:19:13.0±0.6, 3°.5S×13°.0E±°, h121km±9km, M4.2/4, MLv4.2/4*
*NEIC **17** 23:19:14.2±0.5, 3°.30S×130°.37E, h35km, mb4.2/6, Error ellipse: s-maj=12.3km s-min=8.1km az=55.0*
ISC 17 23:19:12.6±0.6, 3°.37S±0°.06×130°.34E±0°.06, h24km, n29, σ2§19/29, mb3.9/8, MS3.5/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.41**	**271**	P	**Pb**	23 19 40.9	**+2.8**
MSAI				S	Sb	23 20 04.1	+8.5
FAKI	**Fak Fak**	**1.96**	**77**	P	**Pn**	23 19 43.9	**-0.4**
FAKI				S	**Sn**	23 20 07.8	**-0.4**
FAKI	**Fak Fak**	**1.96**	**77**	*e*Pn	**Pn**	23 19 44.0	**-0.4**
AAI	**Ambon**	**2.16**	**262**	P	**Pb**	23 19 51.7	**+0.7**
SWI	**Sorong**	**2.66**	**20**	P	**Pn**	23 19 51.9	**-2.0**
NLAI	**Namlea**	**3.23**	**272**	P	**Pb**	23 20 05.5	**-3.8**
LBMI	**Labuha**	**3.92**	**314**	P	**Pn**	23 20 11.3	**0.0**
SANI	**Sanana**	**4.54**	**287**	P	**Pn**	23 20 20.2	**+0.4**
APSI	**Ampana**	**9.02**	**286**	P	**Pn**	23 21 21.1	**-0.3**
MRSI	**Marisa**	**9.22**	**294**	P	**Pn**	23 21 23.3	**-0.8**
WRAB	**Tennant Creek**	**16.92**	**167**	*e*Pn	**Pn**	23 23 09.0	**+1.0**
WRAB				*e*Sn	**Sn**	23 26 10.2	**-5.2**
WRA	**Warramunga Arr**	**16.93**	**167**	P	**Pn**	23 23 08.4	**+0.3**
1.6nm,0.3s,baz=350,slow=12,SNR=18							
WRA				S	**Sn**	23 26 08.5	**-7.1**
0.3nm,0.3s,baz=338,slow=21,SNR=5.0							
PMG	**Port Moresby**	**17.76**	**111**	Pn	**Pn**	23 23 17.0	**-1.3**
12nm,1.0s							
ASAR	**Alice Springs**	**20.47**	**171**	P	**P**	23 23 50.5	**+1.8**
12nm,0.5s,baz=350,slow=11,SNR=78							
ASAR				S	**S**	23 27 38.5	**+1.5**
1.3nm,0.8s,baz=355,slow=21,SNR=4.5							
MBWA	**Marble Bar**	**20.47**	**209**	P	**P**	23 23 48.7	**-0.1**
91nm,1.2s							
KSM	**Kuching**	**20.59**	**283**	*e*P	**P**	23 23 49.8	**-0.3**
17nm,1.0s							
CTAO	**Charters Tower**	**22.74**	**138**	P	**P**	23 24 15.6	**+2.4**
9.9nm,0.6s							
LEM	**Lembang**	**22.88**	**260**	LR	LR	23 34 32.7	
comp=Z,240nm,21.4s,baz=144,slow=40							
HNR	**Honiara**	**30.02**	**103**	LR	LR	23 38 56.4	
comp=Z,51nm,18.3s,baz=306,slow=40							
STKA	**Stephens Creek**	**30.27**	**161**	P	**P**	23 25 23.9	**+2.1**
1.5nm,0.8s,baz=1.6,slow=7.2,SNR=4.6							
CMAR	**Chiang Mai Arr**	**37.77**	**306**	LR	LR	23 43 18.9	
comp=Z,29nm,20.3s,baz=140,slow=38							
CHTO	**Chiang Mai**	**37.95**	**307**	P	**P**	23 26 28.9	**+0.2**
0.7nm,0.6s							
ULN	**Ulaanbaatar**	**54.95**	**341**	*e*P	**P**	23 28 41.6	**-0.2**
2.3nm,1.1s							
SONM	**Songino Array**	**55.14**	**341**	P	**P**	23 28 43.0	**-0.1**
0.4nm,0.5s,baz=165,slow=6.0,SNR=4.2							
MKAR	**Makanchi Array**	**65.41**	**326**	P	**P**	23 29 53.1	**-0.2**
0.6nm,0.6s,baz=117,slow=8.1,SNR=12							
MKAR				LR	LR	00 00 24.2	
comp=Z,28nm,18.6s,baz=58,slow=38							
KURBB	**Kurchatov Arra**	**69.62**	**328**	P	**P**	23 30 19.9	**0.0**
1.2nm,0.7s,baz=125,slow=5.7,SNR=8.0							
KURK	**Kurchatov**	**69.63**	**328**	P	**P**	23 30 19.9	**0.0**
BVAR	**Borovoye Array**	**75.20**	**327**	P	**P**	23 30 53.7	**+0.6**
0.8nm,0.7s,baz=121,slow=9.0,SNR=5.9							
KMBO	**Kilima Mbogo**	**93.01**	**269**	LR	LR	00 10 25.9	
comp=Z,34nm,20.7s,baz=92,slow=33							

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*IDC **17** 23:37:52.5±3.9, 53°.28N×160°.49E, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.1/64, mbtmp3.6/2, Error ellipse: s-maj=71.0km s-min=32.5km az=147.0*
*KRSC **17** 23:37:55.8±1.3, 52°.76N×160°.45E, h40km±13km, ML3.9*
*ISCJB **17** 23:37:56.7±1.0, 52°.73N±0°.04×160°.35E±0°.06, h16km±7km, mb3.8/2, Error ellipse: s-maj=8.2km s-min=4.7km az=138.9*
ISC 17 23:37:57.7±1.3, 52°.77N±0°.06×160°.36E±0°.05, h42km±12km, n35, σ1§65/45, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.39**	**329**	*i* P	**Pn**	**23 38 07.0**	**-0.1**
SPN				*i* S	**Sn**	**23 38 13.0**	**-0.7**
NLC	**Nalytchevo**	**0.73**	**304**	*e*P	**Pn**	**23 38 11.2**	**-0.4**
NLC				*e*S	**Sn**	**23 38 20.7**	**-0.9**
DALK	**Dalny**	**1.01**	**286**	*e*P	**Pn**	**23 38 15.3**	**0.0**
DALK				*e*S	**Sn**	**23 38 28.5**	**+0.2**
SDLR	**Sedlovina**	**1.03**	**300**	*i* P	**Pn**	**23 38 15.8**	**+0.1**
UGLR	**Uglovaya**	**1.03**	**296**	*i* P	**Pn**	**23 38 15.9**	**+0.2**
UGLR				*e*S	**Sn**	**23 38 29.4**	**+0.4**
SMAR	**Somma**	**1.06**	**298**	*e*P	**Pn**	**23 38 16.1**	**-0.2**
PET	**Petropavlovsk**	**1.06**	**285**	*i* P	**Pn**	**23 38 16.3**	**+0.2**
PET				*e*S	**Sn**	**23 38 29.5**	**-0.2**
AVH	**Avacha**	**1.10**	**298**	*i* P	**Pn**	**23 38 17.0**	**+0.3**
KOK	**Koryaka**	**1.16**	**298**	*e*P	**Pn**	**23 38 18.0**	**+0.4**
RUS	**Russkaya**	**1.17**	**254**	*e*P	**Pn**	**23 38 17.9**	**+0.3**
RUS				*e*S	**Sn**	**23 38 32.9**	**+0.5**
KRX	**Arik**	**1.19**	**301**	*i* P	**Pn**	**23 38 18.3**	**+0.3**
KRX				*e*S	**Sn**	**23 38 33.4**	**+0.4**
KRMR	**Karymshinskiy**	**1.35**	**274**	*e*P	**Pn**	**23 38 20.0**	**-0.1**
KRMR				*e*S	**Sn**	**23 38 36.2**	**-0.6**
MTVR	**Mutnovka**	**1.35**	**259**	*e*P	**Pn**	**23 38 20.9**	**+0.6**
MTVR				*e*S	**Sn**	**23 38 37.8**	**+0.7**
KII	**Karymskiy**	**1.38**	**337**	*e*P	**Pn**	**23 38 21.2**	**+0.6**
KII				*e*S	**Sn**	**23 38 38.8**	**+1.1**
ASAK	**Asacha**	**1.55**	**257**	*i* P	**Pn**	**23 38 24.3**	**+1.5**
ASAK				*e*S	**Sn**	**23 38 43.7**	**+2.0**
PETK	**Petropavlovsk-**	**1.64**	**283**	Pn	**Pn**	**23 38 25.2**	**+1.1**
32nm,0.3s,baz=85,slow=20,SNR=841							
PETK				Sn	**Sn**	**23 38 44.7**	**+0.7**
29nm,0.3s,baz=131,slow=17,SNR=14							
PETK				LR	LR	23 39 14.3	
comp=Z,33nm,19.0s,baz=109,slow=48							
KDTR	**Khodutka, Kamc**	**1.70**	**236**	*e*P	**Pn**	**23 38 26.0**	**+1.2**
KDTR				*e*S	**Sn**	**23 38 47.1**	**+1.8**
GNL	**Ganaly**	**1.72**	**304**	*i* P	**Pn**	**23 38 26.7**	**+1.4**
GNL				*e*S	**Sn**	**23 38 48.9**	**+2.8**
APC	**Apacha**	**1.95**	**276**	*e*P	**Pn**	**23 38 30.2**	**+2.0**
APC				*e*S	**Sn**	**23 38 54.9**	**+3.5**
MIPR	**Malaya Ipel'ka**	**2.25**	**259**	*e*P	**Pn**	**23 38 34.9**	**+2.4**
TUMR	**Tumrok**	**2.52**	**357**	*e*P	**Pn**	**23 38 38.3**	**+2.0**
KMNR	**Kamenistaya**	**3.00**	**359**	*e*P	**Pn**	**23 38 45.7**	**+3.0**
KBTR	**Krutoberegovo**	**3.73**	**22**	*e*P	**Pn**	**23 38 55.2**	**+2.4**
BDR	**Baidarnaya**	**3.84**	**7**	*e*P	**Pn**	**23 38 57.4**	**+3.1**
SMKR	**Semkarok**	**3.88**	**9**	*e*P	**Pn**	**23 38 57.7**	**+2.9**
SRKR	**Sorokina**	**3.92**	**7**	*e*P	**Pn**	**23 38 59.0**	**+3.6**
BKI	**Bering**	**4.12**	**51**	*e*P	**Pn**	**23 38 58.9**	**+0.9**
BKI				*e*S	**Sn**	**23 39 42.9**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**33.36**	**169**	T	T	00 20 10.3	
baz=353							
H11N3	**WAKE ISLAND Hy**	**33.38**	**169**	T	T	00 20 12.2	
baz=353							
H11N1	**WAKE ISLAND Hy**	**33.38**	**169**	T	T	00 20 12.9	
baz=353							
H11S1	**WAKE ISLAND Hy**	**34.55**	**169**	T	T	00 21 52.7	
baz=353							
H11S3	**WAKE ISLAND Hy**	**34.56**	**169**	T	T	00 21 44.8	
baz=353							
H11S2	**WAKE ISLAND Hy**	**34.57**	**169**	T	T	00 21 42.9	
baz=353							
MKAR	**Makanchi Array**	**48.44**	**296**	P	**P**	**23 46 33.3**	**-2.3**
0.2nm,0.4s,baz=54,slow=7.8,SNR=5.7							
FINES	**FINESS Array B**	**60.48**	**337**	P	**P**	**23 48 01.2**	**-1.4**
1.3nm,0.8s,baz=23,slow=7.5,SNR=4.2							

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*NIED **17** 23:50:00, 36°.80N×140°.60E, h5km, Mw3.7 Best double couple: M0 3.79000×10^14 NP1: ϕs 338.00000°, δ 23.00000°, λ -98.00000°. NP2: ϕs 166.00000°, δ 67.00000°, λ -87.00000°.*
*IDC **17** 23:50:25.9±0.9, 36°.73N×140°.58E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.5/69, mbtmp3.6/9, MS2.5/2, Ms1 2.5/2, ms1mx2.3/50, Error ellipse: s-maj=22.0km s-min=19.2km az=2.0*
*ISCJB **17** 23:50:26.9±0.6, 36°.73N±0°.03×140°.67E±0°.05, h18km±4km, mb3.5/9, Error ellipse: s-maj=7.6km s-min=4.7km az=21.2*
*JMA **17** 23:50:27.7, 36°.78N×140°.58E, h7km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs 163.00000°, δ 58.00000°, λ -91.00000°. NP2: ϕs 345.00000°, δ 32.00000°, λ -88.00000°. Principal axes: T Plg13.0000°, Azm254.0000°; N Plg1.0000°, Azm164.0000°; P Plg77.0000°, Azm70.0000°;*
JMA Felt II J1.
ISC 17 23:50:27.7±1.0, 36°.77N±0°.03×140°.58E±0°.04, h11km±6km, n26, σ0§92/26, mb3.7/9, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.16**	**184**	⇑P	**Pg**	**23 50 31.1**	**-0.2**
JHO				S	**Sg**	**23 50 33.5**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.37**	**27**	⇑P	**Pg**	**23 50 34.9**	**-0.3**
ONAJ				S	**Sg**	**23 50 40.4**	**+0.3**
JSB	**Shiboa**	**0.57**	**290**	⇑P	**Pg**	**23 50 39.2**	**+0.4**
JSB				S	**Sg**	**23 50 47.2**	**+0.9**
JYT	**Yasato**	**0.63**	**210**	⇑P	**Pg**	**23 50 39.6**	**-0.3**
JYT				S	**Sg**	**23 50 48.0**	**-0.2**
JFK	**Kawauchi**	**0.64**	**21**	⇑P	**Pg**	**23 50 39.6**	**-0.5**
JFT	**Otama**	**0.77**	**345**	⇓P	**Pg**	**23 50 42.3**	**-0.3**
JFT				S	**Sg**	**23 50 52.6**	**-0.1**
MJAR	**Matsushiro Arr**	**1.92**	**264**	Pn	**Pn**	**23 51 00.8**	**+0.4**
38nm,0.3s,baz=87,slow=15,SNR=476							
MJAR				Sn	**Sn**	**23 51 24.9**	**+0.2**
35nm,0.3s,baz=84,slow=24,SNR=14							
MAT	**Matsushiro**	**1.93**	**264**	P	**Pn**	**23 51 00.8**	**+0.3**
MAT				S	**Sb**	**23 51 26.0**	**-0.9**
JHJ	**Hachijo jima 2**	**3.70**	**190**	Pn	**Pn**	**23 51 27.9**	**+3.0**
6.2nm,0.3s,baz=90,slow=20,SNR=4.6							
JHJ				Sn	**Sn**	**23 52 06.5**	**-2.1**
10nm,0.3s,baz=60,slow=20,SNR=3.2							
JNU	**Nakatsue**	**8.76**	**248**	LR	LR	23 56 26.4	
comp=Z,35nm,20.7s,baz=124,slow=41							
KSRS	**Korea Array**	**10.14**	**278**	LR	LR	23 56 24.1	
comp=Z,29nm,21.3s,baz=145,slow=35							
SONM	**Songino Array**	**27.38**	**305**	P	**P**	**23 56 12.6**	**-0.5**
0.6nm,0.8s,baz=97,slow=9.4,SNR=4.3							
H11N2	**WAKE ISLAND Hy**	**28.59**	**119**	T	T	00 26 09.2	
baz=312,slow=75,SNR=126							
H11N1	**WAKE ISLAND Hy**	**28.60**	**119**	T	T	00 26 10.2	
baz=312,slow=75,SNR=100							
H11N3	**WAKE ISLAND Hy**	**28.61**	**119**	T	T	00 26 11.0	
baz=312,slow=75,SNR=108							
H11S1	**WAKE ISLAND Hy**	**29.28**	**121**	T	T	00 26 59.3	
baz=314,slow=75,SNR=629							
H11S3	**WAKE ISLAND Hy**	**29.28**	**121**	T	T	00 26 59.4	
baz=314,slow=75,SNR=439							
H11S2	**WAKE ISLAND Hy**	**29.30**	**121**	T	T	00 27 02.4	
baz=314,slow=75,SNR=403							
ZALV	**Zalesovo Beam**	**41.60**	**313**	P	**P**	**23 58 15.3**	**-0.2**
0.4nm,0.3s,baz=87,slow=8.8,SNR=3.0							
MKAR	**Makanchi Array**	**43.70**	**302**	P	**P**	**23 58 32.8**	**+0.1**
0.2nm,0.7s,baz=82,slow=10,SNR=3.4							
KURBB	**Kurchatov Arra**	**45.64**	**308**	P	**P**	**23 58 47.6**	**-0.5**
0.6nm,0.7s,baz=84,slow=7.9,SNR=5.0							
ILAR	**Eielson Array**	**50.07**	**32**	P	**P**	**23 59 22.4**	**+0.2**
0.5nm,0.9s,baz=268,slow=5.1,SNR=5.3							
WRA	**Warramunga Arr**	**56.72**	**187**	P	**P**	**00 00 11.0**	**-0.5**
0.6nm,0.6s,baz=3.1,slow=7.2,SNR=5.0							
ASAR	**Alice Springs**	**60.44**	**187**	P	**P**	**00 00 36.7**	**-0.7**
0.4nm,0.7s,baz=0.0,slow=6.5,SNR=2.9							
PDAR	**Pinedale Array**	**78.32**	**45**	P	**P**	**00 02 28.2**	**0.0**
0.5nm,0.7s,baz=156,slow=1.5,SNR=4.9							
TXAR	**Lajitas Array**	**90.81**	**52**	P	**P**	**00 03 32.4**	**+0.9**
0.4nm,0.6s,baz=299,slow=3.5,SNR=7.3							

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*DJA **17** 23:54:50.2±0.5, 3°.5S±6°×13°.0E±°, h10km, M3.1/5, MLv3.1/5*
*IDC **17** 23:54:52.3±2.5, 3°.61S×128°.84E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/53, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=199.2km s-min=27.4km az=68.0*
ISC 17 23:54:49.4±1.1, 2.78S±0°.10×129°.86E±0°.07, h33km, n8, σ1§18/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.09**	**239**	P	**Pn**	**23 55 07.5**	**-0.9**
MSAI				S	**Sb**	**23 55 23.0**	**-0.7**
AAI	**Ambon**	**1.89**	**241**	P	**Pb**	**23 55 23.5**	**+0.1**
SWI	**Sorong**	**2.36**	**36**	P	**Pb**	**23 55 30.9**	**-0.4**
FAKI	**Fak Fak**	**2.39**	**93**	P	**Pb**	**23 55 32.2**	**+0.3**
NLAI	**Namlea**	**2.79**	**260**	P	**Pn**	**23 55 33.0**	**+1.2**
WRA	**Warramunga Arr**	**17.62**	**166**	P	**Pn**	**23 58 51.2**	**-1.3**
0.1nm,0.3s,baz=344,slow=12,SNR=3.4							
ASAR	**Alice Springs**	**21.14**	**170**	P	**P**	**23 59 33.2**	**+1.5**
1.1nm,0.6s,baz=350,slow=10,SNR=20							
MKAR	**Makanchi Array**	**64.65**	**326**	P	P	00 05 32.7	+8.7
0.2nm,0.8s,baz=126,slow=7.3,SNR=2.6							

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*TIR **18** 00:07:44.3, 41°.45N×20°.89E, h15km, ML2.7*
*SKO **18** 00:07:45.4, 41°.36N×20°.84E, h21km, M2.0, ML2.4*
*THE **18** 00:07:46.2, 41°.42N×20°.90E, h0km±2km, ML2.4/6, Error ellipse: s-maj=2.9km s-min=1.0km az=292.0*
*CSEM **18** 00:07:46.3±0.1, 41°.39N×20°.87E, h2km, ML2.4, Error ellipse: s-maj=3.8km s-min=2.3km az=64.0*
*ATH **18** 00:07:46.1, 41°.40N×20°.94E, h16km±2km, ML2.2/9, Error ellipse: s-maj=5.5km s-min=1.9km az=141.0*
*BEO **18** 00:07:47.0±0.3, 41°.41N×20°.90E, h1km±3km, M2.4/1*
ISC 18 00:07:45.8±1.1, 41°.40N±0°.02×20°.90E±0°.02, h3km±10km, n93, σ0§83/127, 1C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUS	**Krusevo**	**0.27**	**97**	*i* Pg	**Pb**	**00 07 52.4**	**-1.0**
KRUS				*i* Sg	**Sb**	**00 07 57.3**	**-1.1**
OHR	**Ohrid**	**0.30**	**194**	⇑*i* Pg	**Pg**	**00 07 51.4**	**-0.2**
OHR				*e*Lg	Lg	00 07 56.5	
comp=N,1μm,0.3s							
OHR				*i* Sg	**Sg**	**00 07 56.5**	**+1.0**
OHR				*e*Lg	Lg	00 07 56.8	
comp=E,527nm,0.3s							
PHP	**Peshkopia**	**0.44**	**310**	*i* PG	**Pg**	**00 07 53.2**	**-1.2**
PHP				*i* SG	**Sg**	**00 07 59.6**	**-0.5**
BIA	**Bitola**	**0.50**	**140**	P	**Pg**	**00 07 56.4**	**+0.9**
BIA	**Bitola**	**0.50**	**140**	P	**Pg**	**00 07 56.4**	**+0.9**
BIA				S	**Sb**	**00 08 04.5**	**-0.6**
BIA	**Bitola**	**0.50**	**140**	*i* Pg	**Pg**	**00 07 56.3**	**+0.8**
BIA				*i* Sg	**Sb**	**00 08 05.0**	**0.0**
SKO	**Skopje**	**0.70**	**35**	P	**Pb**	**00 08 00.4**	**-0.3**
SKO				S	**Sb**	**00 08 10.0**	**-0.8**
SKO	**Skopje**	**0.70**	**35**	P	**Pb**	**00 08 00.4**	**-0.3**
SKO				S	**Sb**	**00 08 10.0**	**-0.8**
SKO	**Skopje**	**0.70**	**35**	*e*Pg	**Pb**	**00 08 00.4**	**-0.3**
SKO				*i* Sg	**Sb**	**00 08 10.6**	**-0.2**
FNA	**Florina**	**0.72**	**149**	*i* PG	**Pg**	**00 07 59.6**	**0.0**
FNA				*i* SG	**Sb**	**00 08 10.6**	**-0.7**
FNA	**Florina**	**0.72**	**149**	*e*Pg	**Pg**	**00 07 59.5**	**-0.1**
FNA				*e*Sg	**Sb**	**00 08 10.6**	**-0.9**
FNA	**Florina**	**0.72**	**149**	P	**Pg**	**00 07 59.4**	**-0.2**
FNA				AML	AML	00 08 10.7	
comp=E,1768μm,0.2s							
FNA				S	**Sb**	**00 08 11.0**	**-0.3**
FNA				AML	AML	00 08 14.7	
comp=N,1439μm,0.4s							
FNA	**Florina**	**0.72**	**149**	P	**Pg**	**00 07 59.5**	**-0.1**
FNA				S	**Sg**	**00 08 09.9**	**+1.0**
FNA				*e*Sg	**Sb**	**00 08 10.4**	**-0.9**
FNA	**Florina**	**0.72**	**149**	P	**Pg**	**00 07 59.4**	**-0.1**
FNA				S	**Sg**	**00 08 09.9**	**+1.0**
TIR	**Tirane**	**0.78**	**266**	*i* PG	**Pg**	**00 07 59.5**	**-1.2**
TIR				*i* SG	**Sg**	**00 08 11.3**	**+0.5**
TIR	**Tirane**	**0.78**	**266**	P	**Pg**	**00 07 59.9**	**-0.8**
KBN	**Korca**	**0.78**	**186**	*i* PG	**Pg**	**00 08 00.6**	**-0.2**
KBN				*

comp=N,68μm,0.6s

KNT	**Kendrikon**	**1.53**	**98**	P	**Pb**	**00 08 14.2**	**-0.6**
KNT				S	**Sg**	**00 08 36.5**	**+1.6**
KNT	**Kendrikon**	**1.53**	**98**	P	**Pb**	**00 08 14.2**	**-0.6**
KNT				S	**Sg**	**00 08 36.5**	**+1.6**
BARS	**Barje**	**1.57**	**26**	*e*Pn	**Pg**	**00 08 16.1**	**+0.2**
BARS				*e*Sn	**Sg**	**00 08 36.3**	**0.0**
BARS	**Barje**	**1.57**	**26**	*e*Pn	**Pg**	**00 08 16.1**	**+0.2**
PDG	**Podgorica**	**1.60**	**311**	*e*Pg	**Pb**	**00 08 16.3**	**+0.3**
PDG				*e*Sg	**Sg**	**00 08 38.3**	**+1.1**
PDG	**Podgorica**	**1.60**	**311**	*e*Pn	**Pb**	**00 08 15.5**	**-0.5**
PDG	**Podgorica**	**1.60**	**311**	*e*Pg	**Pb**	**00 08 16.3**	**+0.3**
PDG				*e*Sg	**Sg**	**00 08 38.3**	**+1.1**
BEY	**Berane**	**1.65**	**333**	P	**Pb**	**00 08 17.3**	**+0.4**
LIT	**Litokhoron**	**1.78**	**137**	P	**Pn**	**00 08 16.2**	**-1.3**
LIT				AML	AML	00 08 50.9	

comp=E,74μm,0.6s

LIT				AML	AML	00 08 52.2		

comp=N,74μm,0.7s

LIT	**Litokhoron**	**1.78**	**137**	P	**Pb**	**00 08 18.2**	**-0.9**
LIT	**Litokhoron**	**1.78**	**137**	P	**Pb**	**00 08 18.2**	**-0.9**
SGD	**Sagiada**	**1.86**	**196**	P	**Pb**	**00 08 20.3**	**-0.1**
KEK	**Kerkira**	**1.88**	**207**	P	**Pn**	**00 08 18.7**	**-0.2**
KEK	**Kerkira**	**1.88**	**207**	P	**Pn**	**00 08 19.4**	**+0.5**
KEK	**Kerkira**	**1.88**	**207**	P	**Pn**	**00 08 19.6**	**+0.7**
IGT	**Igoumenitsa**	**1.92**	**193**	*i* PG	**Pb**	**00 08 20.7**	**-0.8**
IGT	**Igoumenitsa**	**1.92**	**193**	*e*Sn	**Sg**	**00 08 46.8**	**-0.6**
IGT	**Igoumenitsa**	**1.92**	**193**	P	**Pb**	**00 08 21.4**	**-0.1**
IGT				AML	AML	00 08 48.9	

comp=E,109μm,0.6s

IGT				AML	AML	00 08 50.2		

comp=N,76μm,0.5s

THL	**Klokotos Trika**	**2.02**	**155**	P	**Pn**	**00 08 21.1**	**+0.2**
THL				AML	AML	00 08 55.9		

comp=N,78μm,0.7s

THL				AML	AML	00 08 56.2		

comp=E,56μm,0.6s

THL	**Klokotos Trika**	**2.02**	**155**	P	**Pn**	**00 08 21.3**	**+0.4**
SRS	**Serrai**	**2.05**	**97**	*e*Pn	**Pn**	**00 08 21.3**	**0.0**
SRS	**Serrai**	**2.05**	**97**	*e*Pn	**Pn**	**00 08 21.3**	**0.0**
HCY	**Herceg Novi**	**2.07**	**301**	*e*Pn	**Pn**	**00 08 22.2**	**+0.6**
VTS	**Vitosha**	**2.09**	**55**	*e*Pn	**Pn**	**00 08 23.0**	**+1.0**
VTS				*e*Sn	**Sb**	**00 08 50.5**	**-0.5**
VTS	**Vitosha**	**2.09**	**55**	*e*Pn	**Pn**	**00 08 23.0**	**+1.0**
NVR	**Nevrokopi**	**2.23**	**90**	P	**Pb**	**00 08 25.4**	**-1.5**
NVR	**Nevrokopi**	**2.23**	**90**	P	**Pn**	**00 08 24.9**	**+1.1**
DSL	**Palaion Diasel**	**2.27**	**176**	P	**Pb**	**00 08 26.9**	**-0.7**
DSL	**Palaion Diasel**	**2.27**	**176**	P	**Pb**	**00 08 26.0**	**-1.5**
TREB	**Trebinje**	**2.31**	**306**	*e*Pn	**Pn**	**00 08 25.5**	**+0.7**
EVR	**Evrytania**	**2.58**	**164**	P	**Pn**	**00 08 29.7**	**+1.1**
EVR	**Evrytania**	**2.58**	**164**	P	**Pn**	**00 08 29.6**	**+1.0**
PAIG	**Paliouri**	**2.58**	**124**	P	**Pn**	**00 08 27.3**	**-1.2**
PAIG	**Paliouri**	**2.58**	**124**	P	**Pn**	**00 08 28.2**	**-0.3**
ZAGS	**Zajecar**	**2.60**	**22**	*e*Pn	**Pb**	**00 08 31.2**	**-1.9**
ZAGS	**Zajecar**	**2.60**	**22**	*e*Pn	**Pb**	**00 08 31.2**	**-1.9**
LKD2	**Lefkada island**	**2.62**	**184**	P	**Pn**	**00 08 30.7**	**+1.6**
LKD2	**Lefkada island**	**2.62**	**184**	P	**Pn**	**00 08 30.4**	**+1.3**
AGG	**Agios Georgios**	**2.62**	**155**	P	**Pn**	**00 08 29.3**	**+0.2**
AGG	**Agios Georgios**	**2.62**	**155**	P	**Pn**	**00 08 29.6**	**+0.5**
XOR	**Xorichti**	**2.69**	**138**	P	**Pn**	**00 08 29.2**	**-0.8**
XOR	**Xorichti**	**2.69**	**138**	P	**Pn**	**00 08 30.0**	**0.0**
BBLS	**Lazići**	**2.70**	**336**	*e*Pn	**Pn**	**00 08 30.2**	**0.0**
BBLS	**Lazići**	**2.70**	**336**	*e*Pn	**Pn**	**00 08 29.8**	**-0.4**
NEO	**Neokhori**	**2.75**	**139**	P	**Pn**	**00 08 30.1**	**-0.8**
NEO	**Neokhori**	**2.75**	**139**	P	**Pn**	**00 08 30.8**	**-0.1**
STON	**Ston**	**2.79**	**303**	*e*Pn	**Pn**	**00 08 32.9**	**+1.5**
STON				Sn	**Sn**	**00 09 06.6**	**+0.9**
HAPS	**Han Pijesak,BI**	**3.04**	**333**	*e*Pn	**Pn**	**00 08 35.0**	**0.0**
HAPS				*e*Sn	**Sn**	**00 09 13.5**	**+1.6**
HAPS	**Han Pijesak,BI**	**3.04**	**333**	*e*Pn	**Pn**	**00 08 33.3**	**-1.7**
HAPS				*e*Sn	**Sn**	**00 09 13.5**	**+1.6**
KALE	**Kalithea**	**3.16**	**162**	P	**Pn**	**00 08 37.8**	**+1.2**
KALE	**Kalithea**	**3.16**	**162**	P	**Pn**	**00 08 37.7**	**+1.2**
UDBI	**Udbina**	**4.89**	**311**	*e*Pn	**Pn**	**00 09 01.9**	**+1.6**
NVLJ	**Novalja**	**5.43**	**308**	*e*Pn	**Pn**	**00 09 06.8**	**-0.8**

*ISCJB **18** 00:07:59.9±0.5,21°.80N±0°.05×143°.3E±0°.1, h300km, mb3.6/23, Error ellipse: s-maj=16.2km s-min=6.2km az=170.1*
*IDC **18** 00:08:00.2±1.8,21°.66N×143°.17E, h287km±17km, mb3.4/24, mb1 3.6/28, mb1mx3.5/64, mbtmp4.1/28, Error ellipse: s-maj=15.5km s-min=8.4km az=78.0*
*JMA **18** 00:08:02.8±0.3,22°.18N×143°.79E, h311km*
ISC 18 00:08:01.3±0.6, 21°.82N±0°.07×143°.3E±0°.1, h300km, n54, σ1§49/56, mb3.6/23, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**4.89**	**348**	P	**Pn**	**00 09 17.5**	**-0.1**
JHHJ				*e*S	**S**	**00 10 15.3**	**-3.6**
CBIJ	**Chichi jima**	**5.35**	**349**	P	**Pn**	**00 09 22.4**	**-0.5**
CBIJ				*e*S	**S**	**00 10 25.3**	**-3.2**
JCJ	**Chichijima**	**5.35**	**349**	P	**Pn**	**00 09 22.4**	**-0.5**

32nm,0.3s,baz=248,slow=22,SNR=11

JCJ				S	**S**	**00 10 25.6**	**-2.9**

24nm,0.3s,baz=252,slow=21,SNR=5.8

JHJ	**Hachijo jima 2**	**11.68**	**345**	P	**Pn**	**00 10 40.4**	**+0.5**

24nm,0.3s,baz=254,slow=23,SNR=12

JHJ				S	**S**	**00 12 50.7**	**+0.7**

5.3nm,0.3s,baz=225,slow=19,SNR=2.1

BSO3	**Boso 3**	**13.16**	**350**	P	**Pn**	**00 10 57.0**	**-0.6**
BSO4	**Boso 4**	**13.38**	**349**	P	**P**	**00 11 00.2**	**-0.1**
JWZ	**Kozaga**	**13.45**	**332**	P	**Pn**	**00 11 03.1**	**+1.8**
JIE	**Ise**	**13.80**	**337**	P	**Pn**	**00 11 06.1**	**+0.6**
JOD2	**Odawara 2**	**13.89**	**346**	P	**Pn**	**00 11 06.9**	**+0.3**
JNY	**Yasuok**	**14.30**	**342**	P	**P**	**00 11 11.0**	**+0.3**
JAO	**Obara**	**14.40**	**340**	P	**Pn**	**00 11 13.2**	**+0.5**
JTO	**Tosashimizu**	**14.40**	**322**	P	**Pn**	**00 11 14.5**	**+1.8**
JHU	**Hanno**	**14.41**	**347**	P	**P**	**00 11 11.5**	**-0.4**
JRY	**Ryogami san**	**14.65**	**346**	P	**P**	**00 11 14.9**	**+0.3**
JHO	**Hitachi**	**14.93**	**351**	P	**Pn**	**00 11 19.0**	**+0.2**
JAG	**Ashikaga**	**14.93**	**348**	P	**P**	**00 11 17.7**	**+0.1**
JAG				*e*S	**S**	**00 13 54.0**	**-6.5**
MJAR	**Matsushiro Arr**	**15.32**	**344**	P	**P**	**00 11 22.4**	**+0.6**

2.3nm,0.3s,baz=171,slow=10,SNR=36

MJAR				S	**S**	**00 14 10.4**	**+2.0**

0.2nm,0.3s,baz=156,slow=12,SNR=3.4

MAT	**Matsushiro**	**15.32**	**344**	P	**P**	**00 11 22.4**	**+0.5**
JNU	**Nakatsue**	**15.73**	**318**	P	**Pn**	**00 11 28.2**	**-0.1**

1.1nm,0.3s,baz=104,slow=4.8,SNR=12

KSRS	**Korea Array**	**20.48**	**323**	P	**P**	**00 12 18.1**	**+1.1**

1.9nm,0.5s,baz=152,slow=8.6,SNR=11

H11N1	**WAKE ISLAND Hy**	**22.17**	**91**	T	T	00 35 09.7		

baz=311

H11N2	**WAKE ISLAND Hy**	**22.17**	**91**	T	T	00 35 08.2		

baz=311

H11N3	**WAKE ISLAND Hy**	**22.18**	**91**	T	T	00 35 10.9		

baz=311

H11S3	**WAKE ISLAND Hy**	**22.21**	**94**	T	T	00 36 00.1		

baz=312,slow=75,SNR=5.0

H11S1	**WAKE ISLAND Hy**	**22.22**	**94**	T	T	00 35 59.6		

baz=312,slow=75,SNR=7.2

H11S2	**WAKE ISLAND Hy**	**22.23**	**94**	T	T	00 36 00.8		

baz=312,slow=75,SNR=7.8

ASAJ	**Asahikawa**	**22.25**	**359**	P	**P**	**00 12 34.9**	**+1.5**

4.1nm,0.7s,baz=194,slow=4.2,SNR=2.7

USRK	**Ussuriysk Ar.**	**24.20**	**340**	P	**P**	**00 12 52.2**	**+1.1**

1.7nm,0.7s,baz=123,slow=9.7,SNR=3.6

KLR	**Kul'dur**	**28.85**	**344**	P	**P**	**00 13 33.4**	**+0.9**

0.9nm,0.6s,baz=164,slow=7.8,SNR=32

PETK	**Petropavlovsk-**	**33.13**	**16**	P	**P**	**00 14 11.8**	**+2.0**

2.4nm,0.9s,baz=225,slow=3.0,SNR=4.4

SONM	**Songino Array**	**39.31**	**320**	P	**P**	**00 15 03.0**	**+1.0**

0.6nm,0.4s,baz=126,slow=7.3,SNR=14

WRA	**Warramunga Arr**	**42.42**	**193**	P	**P**	**00 15 25.7**	**-1.6**

5.9nm,0.5s,baz=22,slow=7.4,SNR=98

ASAR	**Alice Springs**	**46.13**	**192**	P	**P**	**00 15 54.6**	**-1.9**

2.5nm,0.6s,baz=16,slow=12,SNR=43

DZM	**Mont Dzumac**	**49.12**	**151**	P	**P**	**00 16 18.3**	**-1.2**

2.3nm,0.8s,baz=306,slow=19,SNR=3.1

STKA	**Stephens Creek**	**53.42**	**182**	P	**P**	**00 16 49.2**	**-1.7**

2.6nm,0.6s,baz=14,slow=6.4,SNR=6.7

ZALV	**Zalesovo Beam**	**54.18**	**322**	P	**P**	**00 16 56.3**	**+0.2**

0.6nm,0.4s,baz=114,slow=8.9,SNR=4.4

ZALV				PcP	**PcP**	**00 17 56.1**	**-0.3**

1.2nm,0.6s,baz=113,slow=3.8,SNR=5.4

MKAR	**Makanchi Array**	**54.69**	**313**	P	**P**	**00 17 00.6**	**+0.5**

0.5nm,0.6s,baz=86,slow=9.5,SNR=7.8

MKAR				PcP	**PcP**	**00 17 58.9**	**+0.2**

0.9nm,0.5s,baz=78,slow=6.4,SNR=9.5

KURBB	**Kurchatov Arra**	**57.50**	**317**	P	**P**	**00 17 19.9**	**+0.3**

1.1nm,0.4s,baz=92,slow=7.6,SNR=20

ILAR	**Eielson Array**	**61.89**	**27**	P	**P**	**00 17 49.5**	**+0.3**

0.3nm,0.5s,baz=257,slow=5.2,SNR=5.8

BVAR	**Borovoye Array**	**62.64**	**319**	P	**P**	**00 17 55.0**	**+0.7**

1.1nm,0.3s,baz=85,slow=6.8,SNR=19

INK	**Inuvik**	**67.42**	**24**	P	**P**	**00 18 25.9**	**+1.3**

0.5nm,0.5s,baz=263,slow=8.1,SNR=3.0

AKTO	**Aktyubinsk**	**70.54**	**317**	P	**P**	**00 18 44.5**	**+0.4**

0.5nm,0.5s,baz=84,slow=13,SNR=2.3

YKA	**Yellowknife Ar**	**76.30**	**28**	P	**P**	**00 19 18.4**	**+1.2**

0.4nm,0.4s,baz=292,slow=5.8,SNR=6.8

ARCES	**ARCESS Array B**	**78.84**	**342**	P	**P**	**00 19 31.6**	**+0.5**

7.3nm,1.1s,baz=70,slow=8.0,SNR=5.2

KBZ	**Khabaz**	**82.35**	**314**	P	**P**	**00 19 50.6**	**+0.5**

2.8nm,0.8s,baz=132,slow=3.9,SNR=8.0

NVAR	**Mina Array Bea**	**82.99**	**52**	P	**P**	**00 19 55.0**	**+1.2**

0.3nm,0.3s,baz=309,slow=5.7,SNR=3.3

FINES	**FINESS Array B**	**83.11**	**335**	P	**P**	**00 19 53.2**	**-0.4**

1.3nm,0.6s,baz=68,slow=5.2,SNR=15

HFS	**Hagfors**	**88.65**	**337**	P	**P**	**00 20 19.6**	**-1.0**

1.6nm,0.9s,baz=38,slow=2.6,SNR=4.3

BRTR	**Keskin Array B**	**90.33**	**313**	P	**P**	**00 20 28.3**	**-0.8**

0.3nm,0.6s,baz=52,slow=7.7,SNR=3.8

SNAA	**Sanae**	**126.49**	**193**	PKP	**PKPdf**	**00 26 27.8**	**-0.3**

2.0nm,1.0s,baz=149,slow=5.9,SNR=3.8

TORD	**Torodi Ar. Bea**	**128.74**	**309**	PKP	**PKPdf**	**00 26 34.0**	**0.0**

0.3nm,0.5s,baz=32,slow=1.6,SNR=8.0

KOWA	**Kowa**	**131.72**	**315**	PKP	**PKPdf**	**00 26 40.5**	**+0.9**

0.8nm,0.4s,baz=54,slow=4.9,SNR=3.5

PLCA	**Paso Flores**	**145.76**	**131**	PKPbc	**PKPab**	**00 27 06.3**	**-0.2**

5.1nm,0.7s,baz=274,slow=3.5,SNR=16

LPAZ	**La Paz**	**149.83**	**85**	PKPbc	**PKPbc**	**00 27 18.7**	**+1.1**

2.7nm,0.5s,baz=309,slow=2.3,SNR=19

*TIR **18** 00:12:13.0,41°.42N×20°.86E, h7km, ML2.5*
*CSEM **18** 00:12:13.0,41°.42N×20°.86E, h7km, ML2.5, After TIR*
*SKO **18** 00:12:13.7,41°.39N×20°.79E, h15km, M1.5, ML1.8*
ISC 18 00:12:13.7±1.1, 41°.40N±0°.04×20°.79E±0°.04, h20km±3km, n14, σ0§59/27, 1C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.29**	**178**	⇑*i*Pg	**Pb**	**00 12 19.9**	**-0.3**
OHR				*e*Sg	**Sb**	**00 12 24.6**	**-0.1**
OHR				*e*Lg	Lg	00 12 24.7	

comp=E,148nm,0.4s

OHR				*e*Lg	Lg	00 12 24.8		

comp=N,138nm,0.3s

KRUS	**Krusevo**	**0.35**	**95**	⇓*i*Pg	**Pb**	**00 12 20.8**	**-0.4**
PHP	**Peshkopia**	**0.39**	**318**	*i* PG	**Pb**	**00 12 21.7**	**-0.1**
PHP				*i* SG	**Sb**	**00 12 28.3**	**+1.0**
PHP	**Peshkopia**	**0.39**	**318**	*i* Pg	**Pb**	**00 12 21.7**	**-0.1**
PHP				*i* Sg	**Sb**	**00 12 28.3**	**+1.0**
BIA	**Bitola**	**0.56**	**133**	*e*Pg	**Pb**	**00 12 24.8**	**0.0**
BIA				*e*Sg	**Sb**	**00 12 33.4**	**+1.1**
TIR	**Tirane**	**0.69**	**266**	*i* PG	**Pn**	**00 12 27.9**	**-0.4**
TIR				*i* SG	**Sn**	**00 12 39.0**	**+0.5**
TIR	**Tirane**	**0.69**	**266**	*i* Pg	**Pn**	**00 12 27.9**	**-0.4**
TIR				*i* Sg	**Sn**	**00 12 39.0**	**+0.5**
SKO	**Skopje**	**0.76**	**40**	*e*Pg	**Pn**	**00 12 29.1**	**-0.1**
SKO				*e*Sg	**Sb**	**00 12 38.7**	**+0.7**
FNA	**Florina**	**0.76**	**144**	*i* PG	**Pb**	**00 12 27.9**	**-0.3**
FNA				*i* SG	**Sn**	**00 12 39.9**	**-0.2**
FNA	**Florina**	**0.76**	**144**	*i* Pg	**Pb**	**00 12 27.9**	**-0.3**
FNA				*i* Sg	**Sn**	**00 12 39.9**	**-0.2**
KBN	**Korca**	**0.77**	**180**	*i* PG	**Pb**	**00 12 29.0**	**+0.6**
KBN				*i* SG	**Sn**	**00 12 40.1**	**-0.4**
KBN	**Korca**	**0.77**	**180**	*i* Pg	**Pb**	**00 12 29.0**	**+0.6**
KBN				*i* Sg	**Sn**	**00 12 40.1**	**-0.4**
PUK	**Puka**	**0.93**	**314**	*i* PG	**Pn**	**00 12 31.5**	**-0.1**
PUK				*i* SG	**Sb**	**00 12 42.1**	**-0.9**
PUK	**Puka**	**0.93**	**314**	*i* Pg	**Pn**	**00 12 31.5**	**-0.1**
PUK				*i* Sg	**Sb**	**00 12 42.1**	**-0.9**

*NNC **18** 00:13:29.4±1.9,44°.43N×79°.99E, h0km, mb2.3, mpv2.6, Error ellipse: s-maj=19.5km s-min=11.7km az=105.0*
*SOME **18** 00:13:30.2,44°.50N×79°.83E, h20km*
ISC 18 00:13:27.7±1.8, 44°.51N±0°.04×79°.90E±0°.08, h5km±12km, n12, σ0§55/21, 2C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**0.87**	**334**	*e*P	**Pb**	**00 13 45.2**	**-0.2**

1.0nm,0.1s

KAPS				*e*S	**Sg**	**00 13 55.8**	**+0.1**

6.5nm,0.3s

MNBS	**Baschi**	**1.16**	**249**	*e*P	**Pb**	**00 13 50.2**	**-0.2**

1.0nm,0.2s

MNBS				*e*S	**Sg**	**00 14 04.7**	**-0.3**

8.3nm,0.1s

PDGK	**Podgornoye**	**1.22**	**194**	⇑P	**Pn**	**00 13 51.6**	**+0.1**

1.6nm,0.2s

PDGK				⇑S	**Sb**	**00 14 07.5**	**+0.1**

1.8nm,0.3s

KPKS	**Kokpek**	**1.36**	**221**	*e*P	**Pg**	**00 13 53.9**	**0.0**

0.4nm,0.2s

KPKS				*e*S	**Sg**	**00 14 10.8**	**-0.7**

16nm,0.3s

UZB	**Uzynbulak**	**1.50**	**205**	*e*P	**Pg**	**00 13 56.4**	**-0.1**

9.1nm,0.1s

UZB				*e*S	**Sn**	**00 14 15.5**	**-0.1**

8.0nm,0.1s

ARXS	**Arharly**	**1.52**	**260**	*e*P	**Pn**	**00 13 55.9**	**+0.3**

1.2nm,0.1s

ARXS				*e*S	**Sn**	**00 14 14.6**	**-1.3**

7.8nm,0.3s

CHKK	**Chushkaly**	**2.20**	**254**	*e*P	**Pb**	**00 14 08.7**	**+0.7**

2.1nm,0.2s

CHKK				*e*S	**Sb**	**00 14 36.3**	**+0.8**

14nm,0.2s

KTBS	**Karatobe**	**2.45**	**252**	*e*P	**Pb**	**00 14 12.9**	**+0.6**

0.5nm,0.2s

KTBS				*e*S	**Sb**	**00 14 43.5**	**+0.6**

2.8nm,0.2s

MDOK	**Medeo**	**2.47**	**238**	⇓S	**Sb**	**00 14 43.4**	**+0.1**

3.8nm,0.8s

MDOK	**Medeo**	**2.47**	**238**	*e*P	**Pb**	**00 14 12.9**	**+0.3**

0.8nm,0.3s

MDOK				*e*S	**Sb**	**00 14 44.0**	**+0.7**

2.8nm,0.5s

KUU	**Kurty**	**2.64**	**258**	*e*P	**Pb**	**00 14 15.5**	**0.0**

0.5nm,0.2s

KUU				*e*S	**Sb**	**00 14 47.8**	**-0.4**

3.7nm,0.3s

MK31	**Makanchi Array**	**2.83**	**35**	⇓Lg	Lg	00 14 59.4		

0.1nm,0.2s,baz=219,slow=28,SNR=7.4

*IDC **18** 00:32:12.3±1.2,35°.35S×178°.98W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/42, mbtmp4.0/5, ML3.8/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/39, Error ellipse: s-maj=39.2km s-min=28.4km az=43.0*
*ISCJB **18** 00:32:17.6±0.9,35°.55S±0°.09×179°.1W±0°.1, h47km, mb4.0/6, Error ellipse: s-maj=17.9km s-min=11.2km az=33.5*
*NEIC **18** 00:32:18.0±0.6,35°.54S×179°.06W, h35km, mb4.2/2, Error ellipse: s-maj=16.0km s-min=14.0km az=110.0*
ISC 18 00:32:19.2±0.8, 35°.5S±0°.1×179°.1W±0°.1, h47km, n16, σ1§08/16, mb4.0/6, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**4.09**	**227**	Pn	**Pn**	**00 33 18.4**	**-0.8**

5.6nm,0.3s,baz=267,slow=0.9,SNR=20

URZ				Sn	**Sn**	**00 34 07.0**	**+1.1**

4.6nm,0.3s,baz=330,slow=22,SNR=9.7

BKZ	**Black Stump Fm**	**5.06**	**223**	*e*Pn	**Pn**	**00 33 30.6**	**-2.0**
RAO	**Raoul Island**	**6.33**	**9**	Pn	Pn	00 33 59.2	+9.2

97nm,0.3s,baz=126,slow=19,SNR=2.2

RAO				LR	LR	00 35 38.6		

comp=Z,339nm,20.4s,baz=102,slow=34

DZM	**Mont Dzumac**	**18.43**	**313**	P	**Pn**	**00 36 32.3**	**+1.0**

0.1nm,0.3s,baz=152,slow=23,SNR=3.5

DZM				LR	LR	00 42 11.1		

comp=Z,143nm,19.7s,baz=262,slow=33

ASAR	**Alice Springs**	**42.20**	**273**	P	**P**	**00 40 07.9**	**+0.2**

2.6nm,0.7s,baz=113,slow=7.5,SNR=20

WRAB	**Tennant Creek**	**43.64**	**278**	*e*P	**P**	**00 40 18.8**	**-0.6**

3.8nm,0.6s

WRA	**Warramunga Arr**	**43.65**	**278**	P	**P**	**00 40 18.5**	**-0.9**

2.6nm,0.9s,baz=119,slow=7.7,SNR=12

QSPA	**South Pole Qui**	**54.60**	**180**	P	**P**	**00 41 44.3**	**+1.7**

1.0nm,1.0s,baz=128,slow=8.7,SNR=4.3

SNAA	**Sanae**	**73.07**	**179**	P	**P**	**00 43 43.6**	**-0.3**

1.4nm,1.1s,baz=176,slow=2.7,SNR=2.3

ANMO	**Albuquerque**	**97.46**	**52**	P	**P**	**00 45 47.3**	**-0.8**

0.4nm,0.6s

KURK	**Kurchatov**	**123.85**	**312**	PKP	**PKPdf**	**00 51 11.2**	**-0.2**
KURBB	**Kurchatov Arra**	**123.88**	**311**	PKP	**PKPdf**	**00 51 11.2**	**-0.3**

0.4nm,0.5s,baz=114,slow=1.6,SNR=4.0

FINES	**FINESS Array B**	**149.55**	**336**	PKPbc	**PKPbc**	**00 52 01.9**	**-0.6**

3.2nm,1.0s,baz=39,slow=2.4,SNR=4.4

DBIC	**Dimbokro**	**150.79**	**168**	PKPbc	**PKPbc**	**00 52 07.4**	**+0.4**

3.4nm,1.1s,baz=198,slow=8.0,SNR=3.4

MMAI	**Mount Meron Ar**	**151.48**	**275**	PKPbc	**PKPbc**	**00 52 09.8**	**+1.6**

1.8nm,0.8s,baz=88,slow=10,SNR=2.6

TORD	**Torodi Ar. Bea**	**157.71**	**182**	PKPab	**PKPab**	**00 52 43.2**	**-0.1**

0.7nm,0.8s,baz=174,slow=2.4,SNR=3.4

*NIED **18** 00:36:00,39°.10N×142°.30E, h47km, Mw5.1 Best double couple: M0:4.47000×10^16 NP1:φs5.00000°, δ27.00000°, λ64.00000°. NP2:φs214.00000°, δ66.00000°, λ103.00000°.*
*BJI **18** 00:36:28.3,39°.23N×142°.25E, h54km, mb4.9/73, mB5.0/50, Ms4.5/72, Ms7 4.5/65*
*MOS **18** 00:36:28.5±0.8,39°.31N×142°.17E, h40km, mb5.1/103, MS4.3/33, Error ellipse: s-maj=5.8km s-min=3.6km az=93.2*
*ISCJB **18**

YSS pmax pmax
comp=Z,120nm,0.9s
YSS pmax pmax
comp=E,60nm,1.2s
YSS pmax pmax
comp=Z,200nm,3.1s
YSS pmax pmax
comp=E,300nm,2.7s
YSS smax smax
comp=N,80nm,1.0s
YSS smax smax
comp=E,60nm,0.6s
YSS MLR MLR
comp=Z,1µm,18.0s
YSS MLR MLR
comp=N,1µm,10.0s
YSS MLR MLR
comp=E,1µm,15.0s
YSS Yuzh-Sakhalins 7.82 2 *e*Pn **Pn 00 38 21.3 +0.9**
USRK Ussuriysk Ar. 9.24 307 P **Pn 00 38 41.8 +2.0**
comp=E,7.2nm,0.3s,baz=110,slow=12,SNR=66
USRK LR LR 00 42 10.5
comp=E,3µm,18.3s,baz=106,slow=37
MDJ Mudanjiang 10.95 304 P **Pn 00 39 04.3 +1.0**
MDJ pP 00 39 12.1
MDJ sP 00 39 19.8
MDJ S **Sn 00 41 01.0 -3.3**
MDJ sS 00 41 15.4
MDJ pmax pmax
comp=E,110nm,1.1s
MDJ pmax pmax
comp=E,620nm,5.1s
MDJ LR LR
comp=E,1µm,14.0s
MDJ LR LR
comp=E,3µm,17.0s
MDJ LR LR
comp=E,4µm,18.8s
MDJ Mudanjiang 10.95 304 *e*Pn **Pn 00 39 04.5 +1.3**
comp=E,118nm,1.0s
JNU Nakatsue 11.03 241 P **Pn 00 39 05.3 +0.9**
comp=E,1.5nm,0.3s,baz=93,slow=2.3,SNR=14
JNU LR LR 00 43 40.0
comp=E,2µm,18.4s,baz=3.5,slow=39
JNU Nakatsue 11.03 241 *e*Pn **Pn 00 39 06.4 +2.0**
KSRS Korea Array 11.44 266 P **Pn 00 39 11.0 +1.0**
comp=E,1.4nm,0.3s,baz=75,slow=13,SNR=20
KSRS S **Sn 00 41 24.5 +8.1**
comp=E,0.5nm,0.3s,baz=75,slow=24,SNR=3.1
KSRS LR LR 00 43 15.8
comp=E,1µm,18.9s,baz=70,slow=36
KS01 Wonju Array Si 11.46 266 *e*Pn **Pn 00 39 14.8 +4.6**
KS15 Wonju Array Si 11.47 266 *e*Pn **Pn 00 39 15.2 +4.7**
KSAR Wonju Array Be 11.47 266 P **Pn 00 39 11.0 +0.6**
KSAR S **Sn 00 41 24.5 +7.3**
KSAR Wonju Array Be 11.47 266 P **Pn 00 39 11.0 +0.6**
KSAR S **Sn 00 41 24.5 +7.3**
TYV Tymovskoe 11.73 1 *e*P **Pn 00 39 13.3 -0.5**
TYV *e*S **Sn 00 41 19.2 -3.9**
TYV pmax pmax
comp=Z,100nm,2.8s
TYV pmax pmax
comp=Z,15nm,0.9s
TYV smax smax
comp=E,10.0nm,1.2s
TYV MLR MLR
comp=Z,2µm,22.0s
TYV MLR MLR
comp=N,2µm,19.0s
CBIJ Chichi jima 12.01 181 P **Pn 00 39 14.5 -3.4**
CBIJ S Sn 00 41 19.7 -11
JCJ Chichijima 12.01 181 P **Pn 00 39 14.5 -3.4**
comp=N,12nm,0.3s,baz=351,slow=19,SNR=12
JCJ S Sn 00 41 19.7 -11
comp=N,8.3nm,0.3s,baz=288,slow=20,SNR=3.6
TJN Taejon 12.16 262⇑ *e*P **Pn 00 39 15.7 -4.1**
GRNR Gornyy 12.35 342 *e*P **Pn 00 39 23.0 +0.6**
GRNR pmax pmax
comp=Z,50nm,1.0s
KLR Kul'dur 12.61 327 LR LR 00 44 21.3
comp=Z,236nm,18.9s,baz=148,slow=37
KLR Kul'dur 12.61 327 *c iP* **Pn 00 39 26.1 +0.2**
CN2 Changchun 13.48 296 *e*P **Pn 00 39 36.8 -1.0**
CN2 *es*P P 00 39 51.8 +5.9
CN2 *e*S **Sn 00 42 06.6 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,1µm,14.0s
CN2 LR LR
comp=Z,800nm,14.0s
NKL Nikolayevsk 14.06 356 *e*P **Pn 00 39 42.8 -2.8**
NKL pmax pmax
comp=N,34nm,1.2s
NKL pmax pmax
comp=Z,41nm,1.2s
NKL MLR MLR
comp=N,500nm,17.0s
NKL MLR MLR
comp=E,600nm,17.0s
NKL MLR MLR
comp=Z,900nm,17.0s
SNY Shenyang 14.52 287 ⇓P **P 00 39 55.8 -1.6**
SNY pmax pmax
comp=Z,15nm,0.6s
SNY pmax pmax
comp=Z,400nm,5.3s
SNY LR LR
comp=Z,840nm,14.6s
SNY LR LR
comp=Z,2µm,22.6s
SNY LR LR
comp=Z,3µm,26.7s
SKR Severo-Kuril's 15.09 36 *e*P **Pn 00 39 58.8 -0.5**
SKR pmax pmax
comp=Z,68nm,0.8s
SKR pmax pmax
comp=Z,100nm,4.6s
SKR pmax pmax
comp=Z,500nm,2.6s
SKR MLR MLR
comp=Z,800nm,14.0s
SKR MLR MLR
comp=Z,1µm,15.0s
DL2 Dalian 16.09 276 P **Pn 00 40 08.8 -3.4**
DL2 S **Sn 00 43 01.5 -8.0**
DL2 pmax pmax
comp=Z,74nm,1.1s
DL2 pmax pmax
comp=Z,760nm,3.8s
DL2 LR LR
comp=Z,760nm,27.0s
DL2 LR LR
comp=Z,2µm,23.0s
DL2 LR LR
comp=Z,2µm,21.6s
PETK Petropavlovsk- 17.52 32 P **P 00 40 30.5 -0.1**
comp=Z,0.4nm,0.3s,baz=202,slow=7.8,SNR=5.0
PETK LR LR 00 47 52.4
comp=Z,647nm,18.8s,baz=215,slow=39
PETK Petropavlovsk- 17.52 32 *e*Pn **Pn 00 40 27.8 -2.2**
PET Petropavlovsk 17.86 34 *e*P **P 00 40 36.3 +2.0**
PET *e*S **Sn 00 43 50.4 -1.7**
PET pmax pmax
comp=Z,22nm,1.3s
PET MLR MLR
comp=Z,600nm,19.0s
PET MLR MLR
comp=Z,700nm,18.0s
PET Petropavlovsk 17.86 34 Pn **P 00 40 36.2 +2.0**
comp=Z,14nm,0.8s
ZEA Zeya 17.86 330 *e*P **Pn 00 40 31.8 -2.4**
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,64nm,1.0s
ZEA MLR MLR
comp=Z,2µm,16.0s
ZEA MLR MLR
comp=E,1µm,17.0s
ZEA MLR MLR
comp=N,1µm,15.0s
HIA Hailar 19.03 310⇓ *e*P **P 00 40 44.0 -3.2**
HIA pmax pmax
comp=Z,30nm,1.2s
HIA Hailar 19.03 310 *e*P **P 00 40 44.6 -2.7**
comp=Z,20nm,0.7s
SSE Sheshan 19.03 252 P **Pn 00 40 48.4 -0.1**
SSE S **Sn 00 44 23.4 +2.6**
SSE pmax pmax
comp=Z,34nm,0.7s
SSE LR LR
comp=Z,230nm,12.8s
SSE LR LR
comp=Z,390nm,13.0s
TIA Tai'an 20.14 270 P **P 00 40 58.1 -1.4**
TIA S **S 00 44 34.6 -8.5**
TIA pmax pmax
comp=Z,17nm,1.3s
TIA LR LR
comp=Z,770nm,15.4s
TIA LR LR
comp=Z,580nm,24.1s
TIA LR LR
comp=Z,970nm,23.7s
BJI Beijing 20.15 281 P **P 00 40 57.1 -2.4**
BJI pmax pmax
comp=Z,25nm,1.2s
BJT Baijiatuau 20.16 281 *e*P **P 00 40 57.5 -2.2**
BJT pmax pmax
comp=Z,25nm,0.6s
BJT Baijiatuau 20.16 281 *e*P **P 00 40 57.5 -2.2**
comp=Z,25nm,0.6s
NJ2 Nanjing 20.32 257 *e*P **P 00 41 01.0 -0.4**
NJ2 pP **pP 00 41 09.5 -2.9**
NJ2 S **S 00 44 44.8 -1.8**
NJ2 pmax pmax
comp=Z,61nm,0.8s
NJ2 pmax pmax
comp=Z,220nm,6.2s
NJ2 LR LR
comp=Z,830nm,17.3s
NJ2 LR LR
comp=Z,1µm,17.4s
NJ2 LR LR
comp=Z,1µm,19.0s
CLNS Chul'man 21.09 333 *e*P **P 00 41 08.6 -1.0**
CLNS *e* 00 41 23.8
CLNS *e*S **S 00 44 57.9 -3.8**
CLNS *e* 00 45 17.1
CLNS *e*SS **SnSn 00 45 31.4 +6.0**
CLNS pmax pmax
comp=Z,41nm,1.0s
CLNS pmax pmax
comp=N,44nm,1.4s
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS pmax pmax
comp=E,19nm,0.9s
CLNS pmax pmax
comp=Z,14nm,1.3s
CLNS pmax pmax
comp=N,31nm,0.8s
CLNS smax smax
comp=N,338nm,10.0s
CLNS smax smax
comp=E,185nm,11.0s
CLNS MLR MLR
comp=E,435nm,14.0s
CLNS MLR MLR
comp=N,702nm,15.0s
CLNS MLR MLR
comp=Z,875nm,13.0s
MA2 Magadan 21.15 12 LR LR 00 49 46.0
comp=Z,568nm,20.1s,baz=200,slow=38
MA2 Magadan 21.15 12 *d iP* **P 00 41 10.7 +0.6**
HHC Hu-ho-hao-te 23.57 284 *e*P **P 00 41 34.1 -1.6**
HHC PP **PnPn 00 42 07.8 +3.7**
HHC S **S 00 45 40.1 -6.5**
HHC SS **SnSn 00 46 29.3 +3.0**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.1s
HHC LR LR
comp=Z,410nm,16.0s
HHC LR LR
comp=Z,1µm,21.0s
HHC LR LR
comp=Z,1µm,18.5s
SSLB Suanglung 23.71 236 *e*P **P 00 41 35.6 -1.5**
comp=Z,19nm,0.9s
CIT Chita 23.72 312 *e*P **P 00 41 37.2 +0.3**
CIT *e* 00 41 44.0
CIT *e* 00 42 11.4
CIT pmax pmax
comp=Z,198nm,1.2s
YULB Yu-li 23.78 235 *e*P **P 00 41 36.6 -1.0**
comp=Z,17nm,0.8s
YAK Yakutsk 24.20 345 P **P 00 41 40.0 -1.1**
comp=Z,334nm,1.0s,baz=87,slow=0.1,SNR=33
YAK LR LR 00 51 36.4
comp=Z,795nm,20.0s,baz=86,slow=37
YAK Yakutsk 24.20 345 *e*P **P 00 41 39.6 -1.5**
YAK *e**PP **pP 00 41 51.2 -2.1**
YAK *e* 00 42 08.5
YAK *e* 00 45 17.3
YAK *e*S **S 00 45 53.7 -2.2**
YAK *e*SS **SnSn 00 46 40.4 -0.7**
YAK *e* 00 52 36.4
YAK pmax pmax
comp=Z,174nm,1.0s
YAK pmax pmax
comp=N,63nm,1.1s
YAK pmax pmax
comp=E,16nm,1.0s
YAK pmax pmax
comp=Z,76nm,0.9s
YAK pmax pmax
comp=N,20nm,0.9s
YAK pmax pmax
comp=E,20nm,1.1s
YAK smax smax
comp=N,527nm,2.5s
YAK smax smax
comp=E,196nm,1.9s
YAK Yakutsk 24.20 345 *e*P **P 00 41 39.6 -1.5**
comp=E,204nm,0.9s
WHN Wuhan 24.43 258 P **P 00 41 39.4 -4.2**
WHN pP **pP 00 41 52.6 -3.2**
WHN S S 00 45 46.3 -14
WHN LR LR
comp=E,1µm,13.1s
WHN LR LR
comp=E,1µm,13.2s
WHN LR LR
comp=E,2µm,16.0s
QZH Quanzhou 24.50 242 *e*P **P 00 41 49.5 +5.3**
QZH S **S 00 45 55.9 -5.6**
SEY Seymchan 24.59 11 P **P 00 41 46.0 +1.3**
comp=E,27nm,0.8s,baz=199,slow=7.4,SNR=35
SEY Seymchan 24.59 11⇑ *e*P **P 00 41 46.3 +1.6**
GUMO Guam 25.55 174 LR LR 00 51 02.9
comp=E,256nm,21.5s,baz=356,slow=34
BOD Bodaibo 26.18 325⇑ *iP* **P 00 41 58.3 -0.8**
BOD pmax pmax
comp=Z,42nm,1.3s
ULN Ulaanbaatar 26.84 301⇓ *e*P **P 00 42 05.7 +0.3**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 26.84 301 *e*P **P 00 42 05.8 +0.4**
comp=Z,6.8nm,0.9s
XAN Xi'an 27.20 270 P **P 00 42 09.1 +0.4**
XAN S **S 00 46 40.3 -4.0**
XAN pmax pmax
comp=Z,7.0nm,0.6s
XAN pmax pmax
comp=Z,79nm,4.5s
XAN LR LR
comp=Z,610nm,21.1s
XAN LR LR
comp=Z,500nm,20.6s
XAN LR LR
comp=Z,710nm,26.4s
SONA1 Songino Array 27.27 300 *e*P **P 00 42 08.7 -0.6**
SONM Songino Array 27.27 300 P **P 00 42 09.2 -0.1**
comp=Z,3.8nm,0.4s,baz=100,slow=9.4,SNR=36
SONM PcP **PcP 00 45 28.5 +0.5**
comp=Z,1.0nm,0.8s,baz=89,slow=3.7,SNR=1.9
SONM ScP **ScP 00 49 03.1 -1.3**
comp=Z,0.5nm,0.7s,baz=96,slow=2.9,SNR=4.3
SONM LR LR 00 53 31.9
comp=Z,999nm,18.7s,baz=102,slow=38
ENH Enshi 28.28 262 *e*P **P 00 42 17.2 -1.1**
comp=Z,54nm,0.6s
H11N2 WAKE ISLAND Hy 28.69 125 T T 01 12 47.7
baz=318,slow=75,SNR=8201
H11N1 WAKE ISLAND Hy 28.70 125 T T 01 12 49.9
baz=318,slow=75,SNR=9928
H11N3 WAKE ISLAND Hy 28.71 125 T T 01 12 46.8
baz=318,slow=75,SNR=6971
IRK Irkutsk 29.27 309 *e*P **P 00 42 25.3 -1.6**
IRK pmax pmax
comp=Z,34nm,1.8s
H11S1 WAKE ISLAND Hy 29.48 127 T T 01 13 46.5
baz=319,slow=76,SNR=931
H11S3 WAKE ISLAND Hy 29.48 127 T T 01 13 46.7
baz=319,slow=76,SNR=1177
H11S2 WAKE ISLAND Hy 29.50 127 T T 01 13 51.1
baz=319,slow=76,SNR=790
TLY Talaya 29.55 308 *e*P **P 00 42 29.8 +0.4**
TLY *e*S **S 00 47 21.6 +0.7**
TLY pmax pmax
comp=Z,28nm,1.0s
TLY MLR MLR
comp=Z,1µm,14.0s
TLY Talaya 29.55 308 *e*P **P 00 42 29.4 0.0**
comp=Z,24nm,1.0s
ZAK Zakamensk 29.59 305 *e*P **P 00 42 28.7 -1.1**
ZAK pmax pmax
comp=Z,22nm,1.2s
LZH Lanzhou 30.48 276 *e*P **P 00 42 42.3 +4.4**
LZH pP pP 00 42 51.9 +1.7
LZH sP sP 00 42 56.4 +0.6
LZH PP **PP 00 43 43.3 -3.9**
LZH *e*S **S 00 47 37.3 +1.2**
LZH sS sS 00 47 56.8 +0.1
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,150nm,4.1s
LZH LR LR
comp=Z,2µm,13.2s
LZH LR LR
comp=Z,2µm,12.3s
LZH LR LR
comp=Z,2µm,13.5s
MOY Mondy 31.18 307 *e*P **P 00 42 43.3 -0.6**
MOY pmax pmax
comp=Z,28nm,1.6s
BILL Bilibino 31.81 17 *e*P **P 00 42 50.5 +1.5**
BILL *e* 00 43 56.4
BILL *e*PPP PPP 00 44 06.9
BILL *e* 00 45 38.4
BILL *e*S **S 00 47 54.9 -0.9**
BILL *e*SS **SnSn 00 49 49.9 +3.6**
BILL pmax pmax
comp=Z,12nm,1.0s
BILL MLR MLR
comp=Z,314nm,20.0s
GYA Guiyang 32.33 258⇑ *iP* **P 00 42 53.4 -0.8**
GYA pP pP 00 43 09.8 +3.3
GYA PP **PnPn 00 44 04.3 +2.4**
GYA PcP **PcP 00 45 43.0 +1.7**
GYA S **S 00 48 04.6 -0.3**
GYA sS sS 00 48 27.3 +1.7
GYA SS **SnSn 00 50 00.1 +0.1**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=Z,560nm,16.6s
GYA LR LR
comp=Z,520nm,17.0s
GYA LR LR
comp=Z,500nm,17.2s
CD2 Chengdu 32.44 267 P **P 00 42 54.3 -0.8**
CD2 pP pP 00 43 07.8 +0.4
CD2 sP sP 00 43 14.4 +1.5
CD2 S **S 00 48 04.6 -1.9**
CD2 sS sS 00 48 28.1 +0.9
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,750nm,19.4s
CD2 LR LR
comp=Z,980nm,15.4s
CD2 LR LR
comp=Z,1µm,15.9s
GTA Gaotai 32.69 284 ⇓P **P 00 42 57.3 +0.1**
GTA pP pP 00 43 09.3 -0.3
GTA sP sP 00 43 14.5 -0.6
GTA PcP **PcP 00 45 43.3 +1.2**
GTA S **S 00 48 08.4 -2.0**
GTA sS sS 00 48 28.8 -2.2
GTA SS **SnSn 00 50 09.1 +0.6**
GTA pmax pmax
comp=Z,14nm,1.2s
GTA pmax pmax
comp=Z,59nm,5.0s
GTA LR LR
comp=Z,520nm,18.1s
GTA LR LR
comp=Z,1µm,19.5s
GTA LR LR
comp=Z,2µm,19.5s
TIXI Tiksi 33.30 352 P **P 00 43 01.5 -0.5**
comp=Z,2.3nm,0.3s,baz=144,slow=4.8,SNR=5.8
TIXI Tiksi 33.30 352 *e*P **P 00 43 01.8 -0.2**
TIXI pmax pmax
comp=Z,8.0nm,0.7s
TIXI Tiksi 33.30 352 *e*P **P 00 43 01.8 -0.2**
comp=Z,7.6nm,0.7s
QIZ Qiongzhong 34.48 244 P **P 00 43 14.4 +1.6**
QIZ S **S 00 48 40.9 +2.8**
QIZ sS **sS 00 49 00.0 +1.1**
QIZ pmax pmax
comp=Z,10.0nm,1.3s
QIZ LR LR
comp=Z,360nm,16.2s
QIZ LR LR
comp=Z,340nm,15.7s
QIZ LR LR
comp=Z,560nm,15.7s
DAV Davao City (W) 35.31 210 LR LR 00 59 24.3
comp=Z,146nm,18.9s,baz=21,slow=39
HVS Khovu-Aksy 35.70 306⇓ *iP* **P 00 43 23.1 -0.1**
HVS pmax pmax
comp=Z,23nm,1.0s
KMI Kunming 36.02 259 P **P 00 43 27.9 +1.5**
KMI pmax pmax
comp=Z,21nm,0.7s
KMI pmax pmax
comp=Z,120nm,4.1s
DGZ Jazzator, Alta 39.78 304 *d iP* **P 00 43 58.1 +0.4**
DGZ pmax pmax
comp=Z,21nm,0.9s
SKNT Sakolnakorn 39.99 247 P P 00 44 06.8 +7.2
WMQ Urumqi 40.57 295 P **P 00 44 04.8 +0.6**
WMQ pP sP 00 44 22.0 -0.3
WMQ PcP **PcP 00 46 08.3 +2.6**
WMQ S **S 00 50 10.3 0.0**
WMQ ScS **ScS 00 54 03.5 -2.1**
WMQ pmax pmax
comp=Z,150nm,1.1s
WMQ pmax pmax
comp=Z,57nm,3.6s
WMQ LR LR
comp=Z,430nm,27.1s
WMQ LR LR
comp=Z,660nm,31.5s
WMQ LR LR
comp=Z,780nm,34.5s
ZAA0 Zalesovo Array 41.06 311 *e*P **P 00 44 07.5 -0.4**
comp=Z,25nm,0.6s
ZALV Zalesovo Beam 41.06 311 P **P 00 44 08.0 0.0**
comp=Z,15nm,0.4s,baz=92,slow=8.3,SNR=93
ZALV PcP **PcP 00 46 07.0 0.0**
comp=Z,3.5nm,0.6s,baz=126,slow=2.8,SNR=4.4
ZALV LR LR 01 01 51.3

comp=Z,985nm,18.8s,baz=70,slow=37
ZALV Zalesovo Beam 41.06 311 P P 00 44 08.0 0.0
ZALV 00 46 07.0
ZALV pmax pmax
comp=Z,15nm,0.4s
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV MLR MLR
comp=Z,985nm,18.8s
ZALV Zalesovo Beam 41.06 311 eP P 00 44 07.0 -1.0
ZALV PcP **PcP 00 46 07.0 0.0**
CMAI Chiengmai2 41.78 255 P P 00 44 17.6 +3.1
comp=Z,739nm,0.7s
NVS Novosibirsk 41.94 312 eP P 00 44 14.4 -0.7
NVS *e*S **S 00 50 22.8 -7.2**
NVS pmax pmax
comp=N,4.0nm,0.5s
NVS pmax pmax
comp=E,10.0nm,0.5s
NVS pmax pmax
comp=Z,14nm,0.5s
NVS smax smax
comp=N,8.0nm,1.7s
NVS smax smax
comp=E,15nm,1.7s
CHAI Chaiyaphum 42.13 248 P P 00 44 18.1 +0.9
comp=E,3.6nm,0.7s,comp=E,96nm
CMMT Chiang Mai 42.53 254 P P 00 44 20.2 -0.2
comp=E,14nm,0.9s
CHTO Chiang Mai 42.53 254 P P 00 44 21.3 +0.9
comp=E,62nm,0.9s
CHTO Chiang Mai 42.53 254 eP P 00 44 21.3 +0.9
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 42.53 254 eP P 00 44 21.3 +0.9
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 42.75 254 P P 00 44 22.3 +0.1
comp=Z,2.8nm,0.6s,baz=44,slow=6.9,SNR=15
CMAR PcP **PcP 00 46 13.6 +0.4**
comp=Z,1.4nm,0.5s,baz=26,slow=3.2,SNR=4.6
CMAR ScP **ScP 00 50 00.1 -0.1**
comp=Z,0.8nm,0.3s,baz=25,slow=3.3,SNR=4.8
CMAR LR LR 01 03 47.1
comp=Z,126nm,18.4s,baz=58,slow=38
CM01 Chiang Mai Arr 42.76 254 eP P 00 44 24.0 +1.7
LSA Lhasa 42.77 273 P P 00 44 24.5 +1.7
LSA pmax pmax
comp=Z,6.0nm,0.4s
LSA Lhasa 42.77 273 eP P 00 44 24.3 +1.5
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 42.77 273 eP P 00 44 24.3 +1.5
comp=Z,12nm,0.8s
FAKI Fak Fak 42.87 195 eP P 00 44 22.0 -1.1
comp=Z,17nm,0.8s
SVW2 Sparrevohn 43.42 39 eP P 00 44 25.3 -1.8
comp=Z,28nm,1.0s
MK01 Makanchi Array 43.64 300 eP P 00 44 28.9 -0.2
MK31 Makanchi Array 43.64 300 *ce*P **P 00 44 29.0 -0.2**
MK31 pmax pmax
comp=Z,35nm,0.9s
MK31 Makanchi Array 43.64 300 eP P 00 44 29.0 -0.2
MKAR Makanchi Array 43.64 300 P P 00 44 29.1 -0.1
comp=Z,18nm,0.7s,baz=86,slow=11,SNR=138
MKAR ScP **ScP 00 50 02.2 -1.1**
comp=Z,0.9nm,0.8s,baz=115,slow=5.8,SNR=4.0
MKAR LR LR 01 03 21.0
comp=Z,735nm,21.3s,baz=68,slow=37
MKAR Makanchi Array 43.64 300 P P 00 44 29.1 -0.1
MKAR pmax pmax
comp=Z,19nm,0.7s
MKAR pmax pmax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,735nm,21.3s
MKAR Makanchi Array 43.64 300 eP P 00 44 29.0 -0.2
comp=Z,164nm,0.9s
MKAR ScP **ScP 00 50 02.2 -1.1**
PPLA Purkeypile 45.04 36 eP P 00 44 40.0 -0.3
comp=Z,31nm,1.2s
KDAK Kodiak Island 45.07 43 P P 00 44 41.2 +0.9
comp=Z,34nm,0.8s,baz=305,slow=2.3,SNR=28
KDAK Kodiak Island 45.07 43 eP P 00 44 39.9 -0.4
comp=Z,111nm,1.4s
CAST Castle Rocks 45.09 35 eP P 00 44 41.4 +0.9
comp=Z,14nm,0.8s
KURK Kurchatov 45.23 307 *d*/P **P 00 44 41.2 -0.5**
KURK pmax pmax
comp=Z,176nm,0.8s
KURK Kurchatov 45.23 307 eP P 00 44 41.4 -0.3
comp=Z,80nm,1.1s
KURBB Kurchatov Arra 45.30 306 P P 00 44 42.3 0.0
comp=Z,35nm,0.5s,baz=80,slow=8.4,SNR=501
BPAW Bear Paw Mtn. 45.58 34 eP P 00 44 44.3 -0.1
comp=Z,12nm,1.1s
KTH Kantishna Hill 45.61 35 eP P 00 44 45.9 +1.3
comp=Z,30nm,0.9s
MLY Manley 45.69 33 eP P 00 44 46.4 +1.1
comp=Z,12nm,0.9s
SUA Susitna One 45.75 38 eP P 00 44 47.1 +1.2
comp=Z,31nm,0.8s
BRLK Bradley Lake 45.79 40 eP P 00 44 47.7 +1.6
comp=Z,219nm,2.0s
PHET Kaeng Krachan 45.82 247 P P 00 44 50.3 +3.5
comp=Z,8.2nm,0.8s
TRF Thorofare Moun 45.90 35 eP P 00 44 48.8 +1.7
comp=Z,20nm,1.0s
RC01 Rabbit Creek A 46.26 39 eP P 00 44 48.6 -1.1
comp=Z,31nm,0.9s
TOLK Toolik Lake Re 46.28 28 eP P 00 44 50.9 +1.1
comp=Z,12nm,1.1s
PDGK Podgornoye 46.45 296 *i*P **P 00 44 50.9 -0.7**
PDGK pmax pmax
comp=Z,28nm,1.2s
MCK McKinley 46.49 35 eP P 00 44 51.5 -0.1
MCK pmax pmax
comp=Z,19nm,0.9s
MCK McKinley 46.49 35 eP P 00 44 51.5 -0.1
comp=Z,19nm,0.9s
PMR Palmer 46.52 38 eP P 00 44 52.9 +1.2
PMR pmax pmax
comp=Z,23nm,0.8s
PMR Palmer 46.52 38 eP P 00 44 52.9 +1.2
comp=Z,23nm,0.8s
RND Reindeer 46.54 35 eP P 00 44 53.4 +1.4
RND pmax pmax
comp=Z,18nm,1.0s
RND Reindeer 46.54 35 eP P 00 44 53.4 +1.4
comp=Z,18nm,1.0s
MDM Murphy Dome 46.76 33 eP P 00 44 53.5 -0.1
comp=Z,19nm,1.0s
WRH Wood River Hil 46.84 34 eP P 00 44 54.0 -0.2
comp=Z,11nm,1.0s
WRH *e*PcP **PcP 00 46 27.1 +0.7**
SML Sawmill 46.88 38 eP P 00 44 56.0 +1.4
SML pmax pmax
comp=Z,31nm,0.9s
SML Sawmill 46.88 38 eP P 00 44 56.0 +1.4
comp=Z,31nm,0.9s
COLA College 46.92 33 eP P 00 44 56.8 +2.0
COLA pmax pmax
comp=Z,13nm,0.6s
COLA College 46.92 33 eP P 00 44 56.8 +2.0
comp=Z,13nm,0.6s
CCB Clear Creek Bu 46.95 34 eP P 00 44 56.5 +1.5
comp=Z,4.2nm,0.7s
DHY Denali Highway 47.23 36 eP P 00 44 58.9 +1.5
comp=Z,12nm,0.9s
ILAR Eielson Array 47.34 33 P P 00 44 59.0 +0.9
comp=Z,16nm,0.8s,baz=265,slow=6.2,SNR=214
ILAR LR LR 01 06 19.8
comp=Z,134nm,19.9s,baz=294,slow=38
ILAR Eielson Array 47.34 33 P P 00 44 59.0 +0.9
ILAR pmax pmax
comp=Z,16nm,0.8s
ILAR MLR MLR
comp=Z,134nm,20.0s
ILB Eielson Array 47.34 33 eP P 00 44 59.0 +0.9
IL1 Eielson Array 47.34 33 eP P 00 44 57.6 -0.5
SCM Sheep Creek Mo 47.35 37 eP P 00 45 00.2 +1.9
SCM pmax pmax
comp=Z,30nm,0.8s
SCM Sheep Creek Mo 47.35 37 eP P 00 45 00.2 +1.9
comp=Z,30nm,0.8s
KSM Kuching 47.53 226 eP P 00 45 00.7 +0.6
comp=Z,18nm,1.1s
GLI Glacier Island 47.56 39 eP P 00 45 01.3 +1.4
comp=Z,26nm,0.7s
JIRN Jiri 47.57 274 *e*P **P 00 45 00.7 -0.1**
comp=Z,53nm,0.4s
GUN Gumba 47.69 274 *e*P **P 00 45 01.5 -0.2**
comp=Z,81nm,0.5s
FYU Fort Yukon 47.93 31 eP P 00 45 05.6 +3.0
comp=Z,20nm,1.0s
KLU Klutina 48.06 38 eP P 00 45 05.5 +1.7
comp=Z,24nm,0.8s
PAX Paxson 48.10 36 eP P 00 45 06.7 +2.6
PAX pmax pmax
comp=Z,8.0nm,0.8s
PAX Paxson 48.10 36 eP P 00 45 06.7 +2.6
comp=Z,8.3nm,0.8s
DIV Divide 48.17 38 eP P 00 45 06.8 +2.1
comp=Z,36nm,1.0s
KKN Kakani 48.21 274 eP P 00 45 05.4 -0.2
comp=Z,54nm,0.6s
PKI Pulchoki 48.22 274 eP P 00 45 05.2 -0.6
comp=Z,20nm,0.5s
PKIN Phulchoki 48.22 274 eP P 00 45 04.8 -1.0
comp=Z,30nm,0.6s
EYAK Cordova Ski Ar 48.26 39 eP P 00 45 07.5 +2.2
comp=Z,32nm,0.8s
RIDG Independ'e Rid 48.31 35 eP P 00 45 06.7 +1.0
comp=Z,13nm,0.9s
HARP HAARP 48.31 36 eP P 00 45 08.1 +2.4
comp=Z,23nm,0.8s
DMN Daman 48.43 274 eP P 00 45 07.1 -0.3
comp=Z,23nm,0.5s
PMG Port Moresby 48.51 174 LR LR 01 04 47.6
comp=Z,48nm,21.9s,baz=346,slow=35
SCRK Sand Creek 48.66 34 eP P 00 45 09.6 +1.1
comp=Z,15nm,0.7s
DOT Dot Lake 48.66 35 eP P 00 45 08.8 +0.4
comp=Z,19nm,0.7s
BMRM Bremner River 48.76 38 eP P 00 45 11.0 +1.9
comp=Z,38nm,0.9s
RAGM Ragged Mountai 48.81 39 eP P 00 45 12.0 +2.4
comp=Z,33nm,0.9s
DANN Dangsing 49.12 276 eP P 00 45 13.1 +0.4
comp=Z,12nm,0.9s
TKM2 Tokmak 2 49.29 297 *i*P **P 00 45 13.7 0.0**
TKM2 pmax pmax
comp=Z,33nm,0.9s
TKM2 Tokmak 2 49.29 297 P P 00 45 14.3 +0.6
SNR=69
KOLN Koldanda 49.52 275 eP P 00 45 15.5 -0.2
comp=Z,27nm,0.4s
BVA0 Borovoye Array 49.71 311 P P 00 45 15.9 -0.6
BVA0 pmax pmax
comp=Z,15nm,0.8s
BVAR Borovoye Array 49.71 311 P P 00 45 16.6 +0.1
comp=Z,13nm,0.6s,baz=68,slow=7.8,SNR=126
BVAR LR LR 01 07 18.8
comp=Z,673nm,18.3s,baz=76,slow=37
BRVK Borovoye 49.76 311 *d*/P **P 00 45 16.6 -0.3**
BRVK pmax pmax
comp=Z,42nm,0.8s
BRVK Borovoye 49.76 311 eP P 00 45 16.9 +0.1
comp=Z,16nm,0.6s
EGAK Eagle 49.78 33 eP P 00 45 17.9 +1.0
comp=Z,7.5nm,0.8s
OTUK Ortayu 49.80 305 P P 00 45 16.7 -0.6
OTUK pmax pmax
comp=Z,23nm,1.0s
KZA Kyzart 49.81 296 P P 00 45 18.9 +1.0
SNR=20
KBK Karagaybulak 49.83 297 P P 00 45 18.0 +0.3
SNR=26
PYUN Piuthan 49.84 276 eP P 00 45 17.9 -0.1
comp=Z,161nm,1.0s
CHMS Chumysh 49.84 297 P P 00 45 17.7 0.0
SNR=8.1
USP Osenenovka 49.93 298 P P 00 45 18.3 0.0
SNR=24
AAK Ala-Archa 50.15 297 LR LR 01 07 33.6
comp=Z,304nm,18.3s,baz=55,slow=37
AAK Ala-Archa 50.15 297 *de*P **P 00 45 19.9 -0.2**
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 50.15 297 P P 00 45 20.4 +0.2
SNR=6.8
AAK Ala-Archa 50.15 297 eP P 00 45 20.1 -0.1
comp=Z,8.3nm,0.9s
KSH Kashi 50.23 293 P P 00 45 24.5 +3.7
KSH pP pP 00 45 35.8 +2.2
KSH sP sP 00 45 41.3 +2.2
KSH PcP **PcP 00 46 43.9 +4.6**
KSH S **S 00 52 31.9 +2.2**
KSH sS sS 00 52 58.4 +7.2
KSH ScS **ScS 00 55 10.1 +2.1**
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,65nm,5.9s
KSH LR LR
comp=Z,150nm,7.7s
KSH LR LR
comp=Z,130nm,8.7s
KSH LR LR
comp=Z,230nm,7.7s
UCH Uchtor 50.27 297 P P 00 45 22.2 +0.7
SNR=7.2
EKS2 Erkin-Say 50.63 297 P P 00 45 23.9 +0.1
SNR=14
DAWY Dawson 50.65 34 eP P 00 45 25.2 +1.7
comp=Z,4.8nm,1.0s
AML Almayashu 50.88 297 P P 00 45 26.5 +0.5
SNR=27
HNR Honiara 51.03 157 LR LR 01 05 17.5
comp=Z,472nm,21.6s,baz=334,slow=34
MNAS Manas 51.57 298 *i*P **P 00 45 31.0 +0.1**
MNAS pmax pmax
comp=Z,34nm,0.9s
SFK Sufi-Kurgan 51.80 294 *i*P **P 00 45 32.1 -0.6**
SFK pmax pmax
comp=Z,15nm,1.1s
BATI Baumata 52.08 204 P P 00 45 34.8 +0.2
comp=Z,16nm,0.5s,baz=90,slow=5.1,SNR=3.3
BATI LR LR 01 07 02.3
comp=Z,54nm,21.9s,baz=26,slow=35
HYT Haines Junctio 52.19 38 eP P 00 45 37.2 +2.1
comp=Z,45nm,0.9s
INK Inuvik 52.19 28 P P 00 45 36.1 +1.3
comp=Z,7.6nm,0.8s,baz=289,slow=6.2,SNR=26
INK Inuvik 52.19 28 eP P 00 45 36.5 +1.6
INK pmax pmax
comp=Z,9.0nm,0.8s
INK Inuvik 52.19 28 eP P 00 45 36.5 +1.6
comp=Z,8.8nm,0.8s
KK31 Karatay Array 52.71 299 *ce*P **P 00 45 38.8 -0.4**
KK31 pmax pmax
comp=Z,20nm,1.0s
KKAR Karatay Array 52.71 299 eP P 00 45 38.9 -0.3
KKAR Karatay Array 52.71 299 eP P 00 45 38.9 -0.3
MTN Manton Dam 52.76 194 eP P 00 45 39.6 0.0
comp=Z,51nm,1.3s
COEN Coen 52.83 179 eP P 00 45 40.3 +0.2
comp=Z,36nm,1.0s
WHY Whitehorse 53.48 37 eP P 00 45 46.9 +2.3
comp=Z,9.3nm,0.8s
SVE Sverdlovsk 54.06 318 *ce*P **P 00 45 49.2 +0.4**
SVE pmax pmax
comp=Z,67nm,1.0s
SVE MLR MLR
comp=Z,1μm,17.0s
ARU Arti 55.27 318 P P 00 45 57.6 0.0
comp=Z,14nm,0.4s,baz=81,slow=5.0,SNR=50
ARU Arti 55.27 318 *d*/P **P 00 45 57.3 -0.3**
ARU 00 46 52.9
ARU S **S 00 53 40.3 +2.6**
ARU SS **SS 00 57 23.2 +1.3**
ARU pmax pmax
comp=Z,64nm,1.2s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 55.27 318 eP P 00 45 57.6 0.0
comp=Z,48nm,1.0s
GSI Gunungsitoli 55.50 239 eP P 00 45 60.0 +0.2
comp=Z,18nm,0.8s
DLBC Dease Lake 56.53 39 eP P 00 46 09.2 +2.5
comp=Z,13nm,0.8s
AB31 Akbulak array 57.15 309 *ce*P **P 00 46 10.7 -0.3**
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 57.15 309 eP P 00 46 10.7 -0.4
comp=Z,154nm,0.6s
KBL Kabul 57.35 290 eP P 00 46 12.6 -0.4
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 57.35 290 eP P 00 46 12.6 -0.4
comp=Z,16nm,0.9s
AKTO Aktyubinsk 57.82 311 P P 00 46 15.3 -0.4
comp=Z,7.2nm,0.7s,baz=59,slow=10,SNR=18
AKTO LR LR 01 12 16.4
comp=Z,406nm,18.8s,baz=61,slow=37
SPITS Spitsbergen Ar 58.60 349 P P 00 46 22.0 +1.2
comp=Z,0.8nm,0.3s,baz=46,slow=10,SNR=7.4
SPITS LR LR 01 13 44.5
comp=Z,184nm,18.7s,baz=5.0,slow=38
HYB Hyderabad 58.99 268 *i*P **P 00 46 24.0 -0.4**
WRAB Tennant Creek 59.23 189⇑ *e*P **P 00 46 24.4 -1.4**
WRAB pmax pmax
comp=Z,87nm,1.7s
WRAB Tennant Creek 59.23 189 eP P 00 46 24.7 -1.2
comp=Z,25nm,0.9s
WRA Warramunga Arr 59.24 189 P P 00 46 24.6 -1.3
comp=Z,19nm,0.5s,baz=6.6,slow=7.1,SNR=123
WRA LR LR 01 09 17.2
comp=Z,112nm,21.6s,baz=15,slow=33
RES Resolute Bay 60.38 15 P P 00 46 33.5 +0.3
comp=Z,10nm,0.9s,baz=307,slow=7.4,SNR=38
RES Resolute Bay 60.38 15 eP P 00 46 33.4 +0.3
RES pmax pmax
comp=Z,9.0nm,0.8s
RES Resolute Bay 60.38 15 eP P 00 46 33.4 +0.2
comp=Z,8.9nm,0.8s
APA Apatity 61.07 335 *i*P P 00 46 32.7 -5.2
APA MLR MLR
comp=Z,3μm,16.0s
TMCR Tamitsa 61.25 331 eP P 00 46 39.5 +0.4
TMCR pmax pmax
comp=Z,34nm,1.0s
YKW3 Yellowknife Ar 61.59 31 eP P 00 46 41.9 +0.4
YKA Yellowknife Ar 61.63 31 P P 00 46 42.3 +0.5
comp=Z,3.3nm,0.7s,baz=302,slow=6.7,SNR=66
YKA LR LR 01 17 58.8
comp=Z,7.8nm,18.0s,baz=0.0,slow=40
ARCES ARCESS Array B 62.28 339 P P 00 46 46.4 +0.3
comp=Z,9.4nm,1.0s,baz=44,slow=7.4,SNR=8.1
KLMR Klimovskoe 62.37 327 eP P 00 46 44.5 -2.2
KLMR pmax pmax
comp=Z,24nm,1.1s
KLMR Klimovskoe 62.37 327 eP P 00 46 44.6 -2.2
KLMR AMP 00 46 48.2
comp=Z,24nm,1.1s
KLMR *e*PP **PP 00 49 02.0 -1.8**
KLMR LQ LQ 01 11 21.8
KLMR LQ LQ 01 11 21.8
KLMR LR LR 01 13 00.4
TULEG Thule 62.92 8 eP P 00 46 50.1 -0.1
comp=Z,12nm,0.7s
AS01 Alice Springs 62.96 189 eP P 00 46 49.4 -1.7
AS31 Alice Springs 62.97 189 eP P 00 46 50.6 -0.5
comp=Z,5.3nm,1.1s
ASAR Alice Springs 62.97 189 P P 00 46 50.2 -0.9
comp=Z,11nm,0.8s,baz=8.7,slow=6.3,SNR=63
ASAR LR LR 01 14 59.1
comp=Z,96nm,20.4s,baz=8.5,slow=37
GEYT Alibeck 63.45 298 P P 00 46 54.1 -0.3
comp=Z,6.1nm,0.8s,baz=31,slow=3.5,SNR=20
GEYT LR LR 01 16 20.3
comp=Z,201nm,20.2s,baz=50,slow=38
PALK Pallekele 63.53 257 LR LR 01 16 48.6
comp=Z,167nm,20.8s,baz=116,slow=38
DAG Dannmarks Havn 63.74 355⇑ *i*P **P 00 46 55.9 +0.3**
comp=Z,9.7nm,1.0s
DAG Danmarks Havn 63.74 355⇑ *i*P **P 00 46 55.9 +0.3**
DAG pmax pmax
comp=Z,10.0nm,1.0s
LLLB Lillooet 64.25 45 eP P 00 47 00.7 +1.3
comp=Z,12nm,0.9s
NLWA Neilton Lookou 64.78 49 eP P 00 47 04.6 +1.7
comp=Z,25nm,0.9s
DZM Mont Dzumac 64.94 155 P P 00 47 05.2 +1.0
comp=Z,12nm,1.0s,baz=69,slow=11,SNR=6.4
DZM LR LR 01 12 08.8
comp=Z,355nm,21.8s,baz=26,slow=33
DZM Mont Dzumac 64.94 155 eP P 00 47 05.2 +1.0
comp=Z,49nm,1.2s
DZM Mont Dzumac 64.94 155 *e*LR LR 01 06 37.8
comp=Z,723nm,22.7s
DZM Mont Dzumac 64.94 155 eP P 00 47 05.6 +1.4
comp=Z,26nm,1.2s
E03A Lebam 65.39 49 eP P 00 47 09.2 +2.4
comp=Z,46nm,1.0s
B06A Marblemount 65.56 47 eP P 00 47 09.5 +1.6
comp=Z,16nm,0.9s
D05A Enumclaw 65.97 48 eP P 00 47 12.6 +2.0
comp=Z,26nm,0.8s
LON Longmire 66.31 48 eP P 00 47 14.5 +1.6
LON pmax pmax
comp=Z,8.0nm,0.8s
LON Longmire 66.31 48 eP P 00 47 14.5 +1.6
comp=Z,7.7nm,0.8s
VRH Novokhopyorsk 66.51 318 eP P 00 47 13.1 -0.8
VRH pmax pmax
comp=Z,20nm,1.4s
LTY Liberty 66.69 47 eP P 00 47 16.4 +1.1
comp=Z,11nm,0.8s
OBN Obninsk 66.84 323⇓ *e*P **P 00 47 15.6 -0.4**
OBN *e**PP **pP 00 47 27.6 -1.7**
OBN *e**SP **sP 00 47 34.7 +0.1**
OBN 00 47 42.0
OBN *e* 00 56 39.5
OBN pmax pmax
comp=Z,50nm,1.7s
OBN MLR MLR
comp=Z,623nm,17.0s
B08A Colville Reser 66.85 46 eP P 00 47 17.5 +1.2
comp=Z,7.8nm,0.8s
LPSR Galich'ya Gora 67.15 320 eP P 00 47 18.3 +0.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
H04A Detroit Lake 67.20 50 eP P 00 47 20.4 +1.9
comp=Z,23nm,0.9s
EDM Edmonton 67.26 39 eP P 00 47 19.8 +1.1
EDM pmax pmax
comp=Z,13nm,0.6s
EDM Edmonton 67.26 39 eP P 00 47 19.8 +1.1
comp=Z,13nm,0.6s
FIA1 FINESS Array S 67.29 332 eP P 00 47 19.4 +0.7
FINES FINESS Array B 67.29 332 P P 00 47 18.8 0.0
comp=Z,14nm,0.8s,baz=61,slow=9.0,SNR=35
FINES LR LR 01 18 52.1
comp=Z,500nm,20.3s,baz=46,slow=38
MAK Makhachkala 67.73 308 eP P 00 47 27.0 +5.2
MAK *e* 00 49 53.3
MAK *e*S **S 00 56 17.4 +1.5**
MAK pmax pmax
comp=Z,48nm,0.9s
MAK MLR MLR
comp=Z,258nm,16.0s
C09A Chrisman Ranch 67.75 46 eP P 00 47 23.2 +1.3
comp=Z,20nm,0.8s
D08A Wollman Farm, 67.80 47 eP P 00 47 23.5 +1.2
comp=Z,15nm,0.8s
G06A Carlson Farm, 67.82 49 eP P 00 47 24.4 +1.9
comp=Z,11nm,1.0s
HAWA Hanford 67.82 48 eP P 00 47 23.8 +1.4
comp=Z,8.0nm,0.8s
HAWA *e*pP **pP 00 47 38.8 +3.0**
VSR Storozhevoye 67.83 319 eP P 00 47 22.0 -0.3
VSR pmax pmax
comp=Z,10.0nm,0.6s
F07A Phinny Hill Vi 67.87 48 eP P 00 47 24.7 +2.0
comp=Z,18nm,0.8s
AFI Afiamalu 67.95 131 LR LR 01 12 36.2
comp=Z,216nm,21.8s,baz=342,slow=32
E08A Dider Farm, El 68.04 47 eP P 00 47 25.2 +1.5
comp=Z,11nm,0.8s
NEW Newport 68.13 45 eP P 00 47 25.5 +1.1
NEW pmax pmax
comp=Z,12nm,0.8s
NEW Newport 68.13 45 eP P 00 47 25.5 +1.1
comp=Z,12nm,0.8s
PINE Pine Mountain 68.44 51 eP P 00 47 28.2 +1.7
comp=Z,27nm,0.9s
YBH Yreka Blue Hor 68.50 53 P P 00 47 28.6 +1.8
comp=Z,6.9nm,0.8s,baz=315,slow=4.8,SNR=16
YBH Yreka Blue Hor 68.50 53 eP P 00 47 29.1 +2.3
YBH pmax pmax
comp=Z,9.0nm,0.9s

YBH Yreka Blue Hor 68.50 53 *e*P **P 00 47 29.1 +2.3**
comp=Z,9.1nm,0.9s
E09A Wood Farm, Sta 68.55 47 *e*P **P 00 47 28.7 +1.8**
comp=Z,12nm,0.8s
SUMG Summit 68.58 0 *i* P **P 00 47 27.3 +0.1**
comp=Z,12nm,0.8s
SUMG Summit 68.58 0 *e*P **P 00 47 28.1 +0.9**
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 68.58 0 *e*P **P 00 47 28.1 +0.9**
comp=Z,12nm,0.8s
GROC Groznyy 68.64 309 *e*P **P 00 47 26.3 -1.2**
GROC *e* 00 47 51.4
GROC pmax pmax
comp=Z,9.0nm,1.1s
G08A Pilot Rock 68.77 48 *e*P **P 00 47 29.8 +1.3**
G08A *e*pP **pP 00 47 43.2 +1.3**
VSU Vasula 69.01 329⇓ *e*P **P 00 47 30.3 +0.8**
VSU pmax pmax
comp=Z,140nm,2.5s
GOF Gofitskoye 69.23 312⇑ *i*P **P 00 47 31.8 +0.6**
GOF pmax pmax
comp=Z,35nm,0.8s
WDC Whiskeytown Da 69.25 54 *e*P **P 00 47 33.2 +1.8**
WDC pmax pmax
comp=Z,12nm,1.0s
WDC Whiskeytown Da 69.25 54 *e*P **P 00 47 33.2 +1.8**
comp=Z,12nm,1.0s
F10A Beach Ranch, E 69.38 47 *e*P **P 00 47 33.0 +0.7**
comp=Z,6.8nm,1.1s
WALA Waterton Lakes 69.40 43 *e*P **P 00 47 33.9 +1.5**
comp=Z,11nm,0.8s
NCK Nalchik 69.80 310⇑ *e*P **P 00 47 35.0 +0.2**
NCK pmax pmax
comp=Z,9.0nm,1.2s
MOD Modoc Plateau 69.89 52 *e*P **P 00 47 37.2 +1.7**
comp=Z,8.2nm,0.9s
JTMT Jette 69.98 44 *e*P **P 00 47 37.8 +1.8**
comp=Z,18nm,0.9s
BMO Blue Mountains 69.98 48 *e*P **P 00 47 37.3 +1.3**
BMO pmax pmax
comp=Z,7.0nm,1.0s
BMO Blue Mountains 69.98 48 *e*P **P 00 47 37.3 +1.3**
comp=Z,7.4nm,1.0s
ZEI Tsey 70.02 309 *e*P **P 00 47 34.9 -1.5**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
KIV Kislovodsk 70.07 311 *e*P **P 00 47 37.3 +0.8**
KIV pmax pmax
comp=Z,39nm,1.1s
KIV MLR MLR
comp=Z,282nm,17.0s
KIV Kislovodsk 70.07 311 *e*P **P 00 47 37.5 +1.0**
comp=Z,46nm,0.9s
KBZ Khabaz 70.08 310 P **P 00 47 37.1 +0.8**
comp=Z,11nm,0.9s,baz=96,slow=2.0,SNR=17
KBZ LR LR 01 23 28.0
comp=Z,166nm,18.4s,baz=56,slow=40
J08A Circle Bar Ran 70.16 50 *e*P **P 00 47 38.6 +1.5**
comp=Z,15nm,1.3s
NEY Neytrino 70.46 310⇓ *e*P **P 00 47 39.8 +0.8**
NEY pmax pmax
comp=Z,2.0nm,1.0s
ORV Oroville 70.49 55 *e*P **P 00 47 39.5 +0.5**
ORV pmax pmax
comp=Z,7.0nm,0.8s
ORV Oroville 70.49 55 *e*P **P 00 47 39.5 +0.5**
comp=Z,6.7nm,0.8s
WVOR Wild Horse Val 70.60 51 *e*P **P 00 47 41.3 +1.5**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 70.60 51 *e*P **P 00 47 41.2 +1.5**
comp=Z,8.0nm,1.0s
STKA Stephens Creek 70.66 181 P **P 00 47 39.6 -0.3**
comp=Z,5.1nm,0.8s,baz=340,slow=10,SNR=8.1
STKA LR LR 01 25 47.2
comp=Z,39nm,18.0s,baz=22,slow=42
IZAR Zarasai 71.02 328 *e*P **P 00 47 42.6 +0.7**
IZAR IAmb IAmb 00 47 44.0
comp=Z,7.0nm,0.8s
WSAR Wadi Sarin 71.02 285 P **P 00 47 42.5 -0.1**
comp=Z,2.3nm,0.8s,baz=45,slow=2.9,SNR=2.4
WSAR LR LR 01 22 04.9
comp=Z,78nm,19.5s,baz=102,slow=38
BEKR Beckworth 71.03 54 *e*P **P 00 47 44.0 +1.4**
comp=Z,16nm,0.9s
GNI Garni 71.03 307 P **P 00 47 43.1 +0.6**
comp=Z,6.1nm,1.1s,baz=27,slow=16,SNR=3.6
GNI LR LR 01 22 02.4
comp=Z,397nm,18.7s,baz=70,slow=38
GNI Garni 71.03 307⇑ *e*P **P 00 47 43.5 +1.0**
GNI pmax pmax
comp=Z,40nm,1.7s
GNI Garni 71.03 307 *e*P **P 00 47 44.2 +1.7**
comp=Z,11nm,0.8s
AKH Akhalkalaki 71.07 308⇑ *i*P **P 00 47 44.5 +1.8**
AKH Akhalkalaki 71.07 308 *e*P **P 00 47 45.0 +2.3**
AKH pmax pmax
comp=Z,10.0nm,1.1s
AKH Akhalkalaki 71.07 308 *e*P **P 00 47 45.0 +2.3**
comp=Z,10nm,1.1s
IDID Didziasalis 71.11 327 *e*P **P 00 47 43.1 +0.7**
IDID IAmb IAmb 00 47 44.8
comp=Z,9.6nm,0.9s
AFDM Forest Hills D 71.17 55 *e*P **P 00 47 45.1 +1.9**
comp=Z,4.6nm,0.9s
ISAL Salakas 71.19 327 *e*P **P 00 47 43.8 +0.8**
ISAL IAmb IAmb 00 47 45.4
comp=Z,13nm,0.9s
IIGN Ignalina 71.30 327 *e*P **P 00 47 44.4 +0.7**
IIGN IAmb IAmb 00 47 45.2
comp=Z,7.8nm,0.7s
NACGM Naroch 71.36 327 *e* **P 00 47 44.0 0.0**
FFC Flin Flon 71.55 33 *e*P **P 00 47 45.8 +0.6**
FFC pmax pmax
comp=Z,15nm,0.9s
FFC Flin Flon 71.55 33 *e*P **P 00 47 45.8 +0.6**
comp=Z,15nm,0.9s
MFID Camas Ranch 71.69 49 *e*P **P 00 47 47.3 +0.9**
MFID *e*pP **pP 00 48 01.6 +1.8**
PAHR Pah Rah Range 71.73 54 *e*P **P 00 47 48.3 +1.6**
comp=Z,14nm,1.0s
FCC Fort Churchill 71.80 27 *e*P **P 00 47 46.9 +0.4**
FCC pmax pmax
comp=Z,11nm,0.9s
FCC Fort Churchill 71.80 27 *e*P **P 00 47 46.9 +0.4**
comp=Z,11nm,0.9s
VCNR Virginia City 71.80 54 *e*P **P 00 47 49.1 +1.9**
comp=Z,11nm,0.8s
HRY Holter Researc 71.94 44 *e*P **P 00 47 49.1 +1.3**
CMB Columbia Colle 72.07 55 *e*P **P 00 47 50.1 +1.4**
CMB pmax pmax
comp=Z,8.0nm,0.9s
CMB Columbia Colle 72.07 55 *e*P **P 00 47 50.1 +1.4**
comp=Z,8.3nm,0.9s
LRM Limekiln Ridge 72.15 45 *e*P **P 00 47 50.4 +1.2**
YERR Yerington 72.24 54 *e*P **P 00 47 51.0 +1.1**
comp=Z,15nm,0.8s
DLMT Dillon 72.35 46 *e*P **P 00 47 52.0 +1.6**
comp=Z,14nm,0.8s
WAKR Walker 72.40 55 *e*P **P 00 47 52.7 +1.9**
comp=Z,7.5nm,0.9s
HLID Hailey 72.42 48 *e*P **P 00 47 52.3 +1.4**
comp=Z,6.0nm,0.9s
HFS Hagfors 72.47 336 P **P 00 47 50.7 +0.2**
comp=Z,2.9nm,0.3s,baz=46,slow=6.6,SNR=57
HFS LR LR 01 22 52.9
comp=Z,424nm,18.9s,baz=38,slow=38
NB2 NORSAR Subarra 72.52 337 P **P 00 47 51.0 +0.1**
comp=Z,13nm,1.0s,baz=38,slow=6.2
NOA NORSAR Array B 72.52 337 P **P 00 47 51.0 +0.1**
comp=Z,5.7nm,0.8s,baz=39,slow=6.0,SNR=20
NOA LR LR 01 22 26.6
comp=Z,329nm,21.2s,baz=35,slow=38
NOA NORSAR Array B 72.52 337 P **P 00 47 51.0 +0.1**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,329nm,21.2s
ANN Anapa 72.59 314 *e*P **P 00 47 49.3 -2.2**
ANN *e*S **S 00 57 14.7 +2.0**
ANN pmax pmax
comp=Z,99nm,0.9s
BOZ Bozeman (W) 72.74 45 *e*P **P 00 47 53.9 +1.2**
BOZ pmax pmax
comp=Z,13nm,0.8s

BOZ Bozeman (W) 72.74 45 *e*P **P 00 47 53.9 +1.2**
comp=Z,13nm,0.8s
RYN Ryan 72.91 54 *e*P **P 00 47 55.9 +2.2**
comp=Z,8.1nm,0.9s
AKASG Malin Array Be 73.07 322 P **P 00 47 54.0 -0.2**
comp=Z,8.1nm,0.5s,baz=44,slow=6.1,SNR=40
AKASG LR LR 01 23 42.5
comp=Z,180nm,18.1s,baz=40,slow=39
AKBB Malin Array Si 73.07 322 *e*P **P 00 47 54.3 0.0**
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 73.07 322 *e*P **P 00 47 54.3 0.0**
comp=Z,14nm,0.8s
KIEV Kiev 73.08 322 *e*P **P 00 47 54.3 -0.1**
KIEV pmax pmax
comp=Z,13nm,0.8s
KIEV Kiev 73.08 322 *e*P **P 00 47 54.2 -0.1**
comp=Z,13nm,0.8s
AK11 Malin Array Si 73.11 322 *e*P **P 00 47 55.0 +0.5**
NV01 Mina Array Sit 73.16 54 *e*P **P 00 47 55.9 +0.5**
NVAR Mina Array Bea 73.16 54 P **P 00 47 56.7 +1.4**
comp=Z,8.3nm,0.8s,baz=287,slow=5.9,SNR=44
NV11 Mina Array Sit 73.25 54 *e*P **P 00 47 57.1 +1.3**
comp=Z,1.1nm,1.4s
QLMT Earthquake Lak 73.33 45 *e*P **P 00 47 57.9 +1.7**
SUW Suwalki 73.50 327 *e*P **P 00 47 57.3 +0.6**
SUW pmax pmax
comp=Z,35nm,1.3s
SUW Suwalki 73.50 327 *e*P **P 00 47 57.3 +0.6**
comp=Z,35nm,1.3s
YHB Horse Butte 73.51 45 *e*P **P 00 47 59.1 +1.8**
comp=Z,13nm,0.9s
YHH Holmes Hill 73.68 45 *e*P **P 00 48 00.1 +1.7**
comp=Z,5.5nm,0.9s
GCMT Greycliff 73.69 44 *e*P **P 00 48 00.1 +1.9**
YMR Madison River 73.69 45 *e*P **P 00 48 00.3 +1.9**
comp=Z,7.9nm,0.9s
SFJD Kangerlussuaq 73.73 5 P **P 00 47 58.1 +0.2**
comp=Z,8.8nm,0.8s,baz=306,slow=0.8,SNR=5.0
SFJD LR LR 01 21 19.2
comp=Z,247nm,21.9s,baz=350,slow=36
SFJD Kangerlussuaq 73.73 5⇑ *i*P **P 00 47 58.6 +0.8**
comp=Z,8.9nm,0.9s
SFJD Kangerlussuaq 73.73 5⇑ *i*P **P 00 47 58.6 +0.8**
SFJD pmax pmax
comp=Z,9.0nm,0.9s
SFJD Kangerlussuaq 73.73 5 *e*P **P 00 47 59.2 +1.4**
comp=Z,10nm,0.9s
YNR Norris Junctio 73.82 45 *e*P **P 00 48 00.5 +1.4**
comp=Z,4.3nm,0.8s
YFT Old Faithful 73.90 46 *e*P **P 00 48 02.8 +3.1**
comp=Z,14nm,0.8s
YPP Pitchstone Pla 74.03 46 *e*P **P 00 48 03.2 +2.8**
comp=Z,4.7nm,0.8s
H17A Grant Village 74.08 45 *e*P **P 00 48 03.7 +3.0**
comp=Z,16nm,0.9s
IMW Indian Meadow 74.19 46 *e*P **P 00 48 03.4 +2.0**
comp=Z,8.6nm,0.8s
KLNR Kaliningrad 74.29 329⇓ *e*P **P 00 48 02.0 +0.7**
KLNR pmax pmax
comp=Z,20nm,0.9s
FXWY Fox Creek 74.30 46 *e*P **P 00 48 03.8 +1.8**
comp=Z,5.8nm,0.8s
RLMT Red Lodge 74.33 44 *e*P **P 00 48 03.5 +1.5**
comp=Z,5.6nm,0.8s
SIM Simferopol' 74.33 316 *e*P **P 00 48 03.3 +1.5**
SIM pmax pmax
comp=Z,16nm,0.8s
SIM MLR MLR
comp=Z,250nm,16.9s
MOOW Moose Ponds 74.39 46 *e*P **P 00 48 04.3 +1.8**
comp=Z,4.9nm,0.8s
TPAW Teton Pass 74.44 46 *e*P **P 00 48 04.1 +1.3**
comp=Z,6.0nm,0.8s
FRB Frobisher Bay 74.56 14 P **P 00 48 02.8 +0.1**
comp=Z,7.6nm,0.7s,baz=156,slow=6.2,SNR=29
SNOW Snow King Moun 74.57 46 *e*P **P 00 48 05.7 +2.2**
comp=Z,2.2nm,1.0s
REDW Red Top Meadow 74.58 46 *e*P **P 00 48 05.6 +2.0**
comp=Z,5.5nm,0.9s
R11A Troy Canyon, C 74.91 53 *e*P **P 00 48 06.9 +1.4**
LAO LASA Array 74.92 42 *e*P **P 00 48 06.6 +1.3**
comp=Z,15nm,0.7s
SORM Soroca 75.22 321⇓ *i*P **P 00 48 07.3 +0.5**
HWUT Hardware Ranch 75.28 48 *e*P **P 00 48 09.2 +1.6**
comp=Z,7.9nm,0.9s
DUG Dugway, Tooele 75.44 50 *e*P **P 00 48 10.2 +1.7**
DUG pmax pmax
comp=Z,12nm,0.8s
DUG Dugway, Tooele 75.44 50 *e*P **P 00 48 10.2 +1.7**
comp=Z,12nm,0.8s
BORG Borgarnes 75.65 353 P **P 00 48 09.6 +0.6**
comp=Z,22nm,1.1s,baz=28,slow=6.2,SNR=3.8
BORG LR LR 01 22 34.8
comp=Z,54nm,18.9s,baz=357,slow=36
BW06 Boulder Array 75.69 46 *e*P **P 00 48 11.1 +1.1**
BW06 *e*PcP **PcP 00 48 22.6 0.0**
PD31 Pinedale Array 75.69 46 *e*P **P 00 48 10.8 +0.8**
PDAR Pinedale Array 75.69 46 P **P 00 48 10.8 +0.8**
comp=Z,5.3nm,0.7s,baz=266,slow=2.0,SNR=61
PDAR LR LR 01 20 58.3
comp=Z,40nm,19.9s,baz=327,slow=35
PDAR Pinedale Array 75.69 46 *e*P **P 00 48 10.5 +0.6**
CTU Camp Tracy 75.76 49 *e*P **P 00 48 12.0 +1.6**
comp=Z,6.9nm,1.0s
BSD Bornholm Skovb 75.93 332 *i* P **P 00 48 09.8 -1.0**
comp=Z,24nm,1.1s
BSD Bornholm Skovb 75.93 332 *i* P **P 00 48 09.8 -1.0**
BSD pmax pmax
comp=Z,24nm,1.1s
JLU Jordanelle 75.99 49 *e*P **P 00 48 13.6 +1.8**
comp=Z,5.4nm,0.7s
NLU North Lily Min 76.03 50 *e*P **P 00 48 13.8 +1.8**
comp=Z,11nm,0.9s
LVV L'vov 76.10 324 *e*P **P 00 48 13.5 +1.6**
LVV MLR MLR
comp=N,160nm,16.0s
LVV MLR MLR
comp=E,230nm,16.0s
LVV MLR MLR
comp=Z,300nm,16.0s
MPU Maple Canyon 76.26 49 *e*P **P 00 48 15.0 +1.8**
comp=Z,14nm,0.8s
SHPR Sheep Range 76.32 54 *e*P **P 00 48 15.5 +1.9**
SHPR *e*pP **pP 00 48 30.4 +3.2**
LEOM Leova 76.40 320⇑ *i*P **P 00 48 14.6 +1.0**
CCUT Cedar City 76.78 52 *e*P **P 00 48 18.2 +1.9**
comp=Z,7.1nm,0.8s
KWP Kalwaria Pacla 76.84 325 *e*P **P 00 48 17.9 +1.8**
KWP Kalwaria Pacla 76.84 325 *e*P **P 00 48 17.9 +1.8**
KWP Kalwaria Pacla 76.84 325 *e*P **P 00 48 17.8 +1.8**
comp=Z,403nm,1.1s
TMUT Trail Mountain 76.97 50 *e*P **P 00 48 19.6 +2.2**
comp=Z,7.1nm,0.9s
ILGA Ilgaz 77.08 313 *e*P **P 00 48 18.6 +0.8**
ILGA *e*pP **pP 00 48 31.2 -0.2**
BUR08 Bucovina Ar. S 77.09 322 *e*P **P 00 48 18.2 +0.6**
BUR04 Bucovina Ar. S 77.10 322 *e*P **P 00 48 17.8 +0.1**
BURAR Bucovina Array 77.10 322⇑ *i*P **P 00 48 18.3 +0.6**
P17A Butcher Ranch, 77.13 49 *e*P **P 00 48 20.0 +1.9**
comp=Z,18nm,0.9s
TESR Tescani 77.18 320⇑ *i*P **P 00 48 18.3 +0.3**
MTPU Mount Pierson 77.19 51 *e*P **P 00 48 21.0 +2.3**
comp=Z,11nm,0.9s
LCMT Little Creek M 77.19 53 *e*P **P 00 48 20.9 +2.4**
Q16A Castle Valley 77.23 50 *e*P **P 00 48 20.6 +1.9**
comp=Z,8.1nm,1.0s
P18A Preston Nutter 77.32 49 *e*P **P 00 48 21.1 +1.8**
comp=Z,11nm,0.9s
CFR Carcaliu 77.35 319⇑ *i*P **P 00 48 19.9 +0.9**
ULM Lac du Bonnet 77.36 34 P **P 00 48 18.9 0.0**
comp=Z,7.0nm,0.9s,baz=324,slow=7.9,SNR=13
ULM LR LR 01 26 03.1
comp=Z,58nm,18.1s,baz=333,slow=38
ULM Lac du Bonnet 77.36 34 P **P 00 48 19.0 0.0**
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM MLR MLR
comp=Z,59nm,18.2s
ULM Lac du Bonnet 77.36 34 *e*P **P 00 48 19.0 0.0**
K22A Casper 77.45 45 *e*P **P 00 48 21.0 +1.2**
KNB Kanab 77.45 52 *e*P **P 00 48 22.1 +2.1**
KNB pmax pmax
comp=Z,13nm,1.0s
KNB Kanab 77.45 52 *e*P **P 00 48 22.1 +2.1**
comp=Z,13nm,1.0s

SRU San Rafael Swe 77.50 50 *e*P **P 00 48 21.5 +1.3**
SRU pmax pmax
comp=Z,19nm,0.8s
SRU San Rafael Swe 77.50 50 *e*P **P 00 48 21.5 +1.3**
comp=Z,19nm,0.8s
VRI Vrincioaia 77.59 320⇓ *i*P **P 00 48 21.9 +1.5**
STHS Stebnicka Huta 77.65 325 *e*P **P 00 48 21.6 +1.0**
STHS pmax pmax
comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 77.65 325 *e*P **P 00 48 21.6 +1.0**
OJC Ojcow 77.69 326 *e*P **P 00 48 22.4 +1.6**
OJC Ojcow 77.69 326 *e*P **P 00 48 22.4 +1.6**
OJC Ojcow 77.69 326 *e*P **P 00 48 21.7 +0.9**
comp=Z,18nm,1.0s
TIRR Tirgusor 77.70 318⇓ *i*P **P 00 48 22.0 +1.1**
RWWY Rawlins 77.71 46 *e*P **P 00 48 21.6 +0.2**
comp=Z,7.6nm,0.8s
RSSD Black Hills 77.79 42 *e*P **P 00 48 22.4 +0.6**
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD Black Hills 77.79 42 *e*P **P 00 48 22.4 +0.6**
comp=Z,11nm,0.8s
ARCR ARCALIA 77.89 322⇑ *i*P **P 00 48 24.1 +2.1**
CRVS Cervenica-Dubn 77.93 325 *e*P **P 00 48 23.4 +1.2**
CRVS Cervenica-Dubn 77.93 325 *e*P **P 00 48 23.4 +1.2**
BR131 Keskin Array S 77.99 312 *e*P **P 00 48 23.8 +0.9**
BRTR Keskin Array B 77.99 312 P **P 00 48 23.1 +0.2**
comp=Z,1.2nm,0.5s,baz=117,slow=3.9,SNR=12
BRTR PP PP 00 51 30.6 +12
comp=Z,1.7nm,0.9s,baz=76,slow=6.0,SNR=3.8
BRTR LR LR 01 28 00.5
comp=Z,106nm,18.1s,baz=54,slow=40
NIE Niedzica 78.07 326 *e*P **P 00 48 24.5 +1.5**
NIE Niedzica 78.07 326 *e*P **P 00 48 24.5 +1.5**
PGOR Pogoanele 78.12 319⇓ *i*P **P 00 48 25.1 +1.8**
O20A White River Ci 78.16 48 *e*P **P 00 48 25.1 +1.2**
DOPR Dopca 78.18 321⇑ *i*P **P 00 48 25.3 +1.6**
ISR Istrita 78.20 319⇑ *i*P **P 00 48 25.8 +2.0**
MLR Muntele Rosu 78.24 320 P **P 00 48 23.9 -0.2**
comp=Z,0.8nm,1.0s,baz=80,slow=6.1,SNR=3.9
MLR LR LR 01 26 13.1
comp=Z,127nm,18.7s,baz=52,slow=38
MLR Muntele Rosu 78.24 320⇑ *i*P **P 00 48 25.2 +1.1**
MLR Muntele Rosu 78.24 320 *e*P **P 00 48 25.2 +1.1**
MLR Muntele Rosu 78.24 320 *e*P **P 00 48 25.2 +1.1**
ANTO Ankara 78.39 312 *e*P **P 00 48 25.9 +0.9**
ANTO pmax pmax
comp=Z,11nm,0.8s
ANTO Ankara 78.39 312 *e*P **P 00 48 25.9 +0.9**
comp=Z,11nm,0.8s
BR231 Keskin MP Arra 78.41 312 *e*P **P 00 48 23.8 -1.3**
SECR 78.50 320⇑ *i*P **P 00 48 27.2 +1.8**
CJR Cluj-Napoca 78.52 322⇑ *i*P **P 00 48 27.5 +1.9**
LANS Liptovska Anna 78.63 326 *e*P **P 00 48 27.7 +1.6**
LANS Liptovska Anna 78.63 326 *e*P **P 00 48 27.7 +1.6**
SULR 78.66 319⇑ *i*P **P 00 48 27.4 +1.2**
OKC Ostrava-Krasne 78.68 327 *e*P **P 00 48 27.5 +1.2**
OKC *e*sP **pP 00 48 39.8 -0.1**
OKC Ostrava-Krasne 78.68 327 *e*P **P 00 48 27.5 +1.2**
OKC *e* 00 48 39.8
KSP Ksiaz 78.69 328 *e*P **P 00 48 28.0 +1.7**
KSP Ksiaz 78.69 328 *e*P **P 00 48 28.0 +1.7**
VOIR 78.72 320⇓ *i*P **P 00 48 28.5 +1.8**
AGMN Agassiz Nation 78.80 35 *e*P **P 00 48 27.2 +0.2**
comp=Z,6.7nm,1.1s
PV10 Paradox Valley 78.85 49 *e*P **P 00 48 29.8 +1.9**
DRGR 78.89 322⇑ *i*P **P 00 48 28.4 +0.8**
N23A Red Feather La 78.95 46 *e*P **P 00 48 30.1 +1.8**
MORC Moravsky Berou 78.98 327⇓ *i*P **P 00 48 29.2 +1.1**
MORC Moravsky Berou 78.98 327 *e*P **P 00 48 28.7 +0.7**
MORC Moravsky Berou 78.98 327 *e*P **P 00 48 28.7 +0.7**
PV05 Paradox Valley 79.01 50 *e*P **P 00 48 30.2 +1.6**
DPC Dobruska-Polom 79.06 328 *e*P **P 00 48 29.4 +1.0**
DPC *e*sP **pP 00 48 41.6 -0.4**
DPC Dobruska-Polom 79.06 328 *e*P **P 00 48 29.4 +1.0**
DPC *e* 00 48 41.6
UPC Upice 79.06 328 *e*P **P 00 48 29.6 +1.2**
UPC *e*sP **pP 00 48 41.6 -0.4**
UPC AMS AMS 01 26 00.0
comp=Z,600nm,17.5s
UPC Upice 79.06 328 *e*P **P 00 48 29.6 +1.2**
UPC *e* 00 48 41.6
UPC MLR MLR
comp=Z,600nm,17.5s
KRLC Kraliky 79.08 328 *e*P **P 00 48 27.8 -0.7**
KRLC Kraliky 79.08 328 *e*P **P 00 48 27.8 -0.7**
PSZ Piszkesteto 79.36 325⇓ *i*P **P 00 48 31.9 +1.7**
VYHS Vyhne 79.40 326 *e*P **P 00 48 31.3 +1.0**
VYHS pmax pmax
comp=Z,72nm,3.4s
VYHS Vyhne 79.40 326 *e*P **P 00 48 31.3 +1.0**
HUMR Humele 79.41 320⇑ *i*P **P 00 48 31.4 +1.0**
DEV Deva 79.45 322⇓ *i*P **P 00 48 32.6 +2.0**
SMCO Snowmass 79.52 48 *e*P **P 00 48 32.9 +1.2**
BRG Berggiesshubel 79.60 330 *e*P **P 00 48 32.2 +0.9**
comp=Z,7.8nm,0.9s
BRG *e* 00 48 44.1
comp=Z,4.9nm,0.8s
BRG Berggiesshubel 79.60 330 *e*P **P 00 48 32.2 +0.9**
BRG *e* 00 48 44.1
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 79.63 330 *i* P **P 00 48 32.1 +0.7**
CLL *i* 00 48 43.7
CLL *e*S **S 00 58 25.0 -4.8**
CLL pmax pmax
comp=Z,16nm,1.0s
CLL MLR MLR
comp=Z,300nm,19.3s
CLL Collm 79.63 330 *i* P **P 00 48 32.1 +0.7**
comp=Z,16nm,1.0s
CLL *e*(PcP) **PcP 00 48 42.0 +2.8**
CLL *i* pP **pP 00 48 43.7 -1.4**
comp=Z,16nm,0.9s
CLL *e*PP **PP 00 51 30.0 -1.9**
CLL *e*S **S 00 58 25.0 -4.8**
CLL *e*SS **SS 01 03 42.0 +4.6**
CLL *e*SSS SSS 01 07 06.0
CLL LmV 01 26 00.0
comp=Z,300nm,19.3s
CLL Collm 79.63 330 *e*P **P 00 48 31.2 -0.2**
PVCC Panska Ves 79.63 329 *e*P **P 00 48 32.4 +0.9**
PVCC Panska Ves 79.63 329 *e*P **P 00 48 32.4 +0.9**
VRAC Vranov 79.74 327⇑ *i*P **P 00 48 33.3 +1.2**
ISCO Idaho Springs 79.88 46 *e*P **P 00 48 35.1 +1.7**
ISCO pmax pmax
comp=Z,7.0nm,1.1s
ISCO Idaho Springs 79.88 46 *e*P **P 00 48 35.1 +1.7**
comp=Z,6.7nm,1.1s
MVCO Mesa Verde 79.95 50 *e*P **P 00 48 35.3 +1.5**
comp=Z,7.3nm,0.8s
GOPC GO Pecny, Ondr 80.02 329 *e*P **P 00 48 34.5 +0.9**
GOPC AMS AMS 01 26 10.0
comp=Z,700nm,23.4s
GOPC GO Pecny, Ondr 80.02 329 *e*P **P 00 48 34.5 +0.9**
GOPC MLR MLR
comp=Z,700nm,23.4s
PRU Pruhonice 80.06 329 *e*P **P 00 48 35.1 +1.3**
PRU *e*sP **pP 00 48 46.9 -0.6**
PRU Pruhonice 80.06 329 *e*P **P 00 48 35.1 +1.3**
PRU *e* 00 48 46.9
TREC Trest 80.21 328 *e*P **P 00 48 35.6 +0.9**
TREC Trest 80.21 328 *e*P **P 00 48 35.6 +0.9**
BZS Buzias 80.27 322⇓ *i*P **P 00 48 35.4 +0.4**
HERR Herculane 80.42 321⇓ *i*P **P 00 48 36.7 +0.9**
S22A 4UR Ranch, Cre 80.57 49 *e*P **P 00 48 39.9 +2.7**
NKC Novy Kostel 80.69 330 *e*P **P 00 48 38.4 +1.1**
NKC Novy Kostel 80.69 330 *e*P **P 00 48 38.4 +1.1**
Q24A Divide 80.71 47 *e*P **P 00 48 39.0 +1.0**
RAR Rarotonga 80.83 127 LR LR 01 17 25.9
comp=Z,149nm,21.6s,baz=296,slow=30
ASF Jabal al Asfar 80.93 304 P **P 00 48 40.0 +1.1**
comp=Z,1.9nm,0.8s,baz=72,slow=6.4,SNR=3.7
ASF LR LR 01 28 37.1
comp=Z,118nm,18.1s,baz=340,slow=39
EYMN Ely 80.98 33 *e*P **P 00 48 39.2 +0.3**
CONA Conrad Observa 81.12 327 *e*P **P 00 48 40.8 +1.2**
comp=Z,6.1nm,0.8s
KHC Kasperske Hory 81.12 329 *e*P **P 00 48 39.9 +0.3**
KHC *ex* x 00 48 52.3
KHC AMS AMS 01 27 10.0

comp=Z,800nm,19.8s
KHC **Kasperske Hory** 81.12 329 *e*P P 00 48 39.9 +0.3
KHC *e* 00 48 52.3
KHC MLR MLR
comp=Z,800nm,19.8s
KHC **Kasperske Hory** 81.12 329 *e*P P 00 48 39.6 0.0
GEC2 **GERESS Array S** 81.30 329 *e*P P 00 48 41.3 +0.7
GEC2 **GERESS Array S** 81.30 329 *e*P P 00 48 41.3 +0.7
GERES **GERESS Array B** 81.30 329 P P 00 48 40.7 +0.1
comp=Z,2.5nm,0.7s,baz=36,slow=5.2,SNR=27
GERES PKKPbc **PKKPbc** 01 07 13.3 -1.0
comp=Z,0.4nm,0.9s,baz=209,slow=1.8,SNR=4.0
GEA0 **GERESS Array S** 81.30 329 *e*P P 00 48 40.7 +0.1
MMAI **Mount Meron Ar** 81.33 306 P P 00 48 40.7 -0.3
comp=Z,7.4nm,1.0s,baz=29,slow=6.6,SNR=4.5
MMAI LR LR 01 28 09.4
comp=Z,174nm,21.6s,baz=65,slow=38
SDCO **Great Sand Dun** 81.34 48 *e*P P 00 48 42.5 +1.2
EKA **Eskdalemuir Ar** 81.39 341 P P 00 48 40.7 -0.1
comp=Z,1.2nm,0.6s,baz=27,slow=6.2,SNR=9.4
EKA LR LR 01 29 01.6
comp=Z,150nm,19.0s,baz=340,slow=39
GRFO **Grafenberg** 81.60 330 *e*P P 00 48 43.5 +1.4
GRFO **Grafenberg** 81.60 330 *e*P P 00 48 43.5 +1.4
VTS **Vitosha** 81.69 319⇑ *i*P P 00 48 44.0 +1.1
VTS **Vitosha** 81.69 319 *e*P P 00 48 43.9 +1.1
VTS **Vitosha** 81.69 319 *e*P P 00 48 43.9 +1.0
ARSA **Arzberg** 81.79 327 *e*P P 00 48 44.1 +1.0
comp=Z,4.4nm,1.1s
ECSD **EROS Data Cent** 81.83 39 *e*P P 00 48 43.5 +0.2
MOA **Molln** 81.85 328 *e*P P 00 48 44.4 +0.9
comp=Z,6.6nm,1.1s
MHTCO **State Highway** 82.23 48 *e*P P 00 48 47.9 +1.9
T25A **Trinidad** 82.39 48 *e*P P 00 48 48.1 +1.4
PERS **Pernice** 82.44 326 *i*P P 00 48 47.0 +0.4
SOKA **Soboth** 82.44 326 *e*P P 00 48 47.6 +1.0
comp=Z,17nm,1.0s,SNR=6.5
LAZ **Ladron** 82.65 51 *e*P P 00 48 50.0 +1.9
ANMO **Albuquerque** 82.69 51 LR LR 01 20 41.1
comp=Z,50nm,20.0s,baz=106,slow=32
ANMO **Albuquerque** 82.69 51 *ce*P P 00 48 49.6 +1.3
ANMO pmax pmax
comp=Z,17nm,2.5s
ANMO **Albuquerque** 82.69 51 *e*P P 00 48 49.7 +1.4
MEM **Membach** 82.75 334 ⇓P P 00 48 49.0 +0.9
comp=Z,5.3nm,0.9s
OBKA **Obir** 82.78 327 *e*P P 00 48 48.6 +0.2
comp=Z,6.3nm,0.8s
KBA **Koelnbreinsper** 82.84 328 *e*P P 00 48 49.8 +0.9
comp=Z,8.0nm,0.8s
MYKA **Terra Mystica** 83.07 327 *e*PcP P 00 48 50.9 +1.0
comp=Z,8.1nm,0.8s
SCHQ **Schefferville** 83.12 16 P P 00 48 49.6 -0.3
comp=Z,4.1nm,0.8s,baz=346,slow=4.8,SNR=5.8
SCHQ LR LR 01 27 23.2
comp=Z,112nm,21.8s,baz=328,slow=37
SCHQ **Schefferville** 83.12 16 *e*P P 00 48 50.8 +0.9
STU **Stuttgart** 83.12 331 *e*P P 00 48 50.1 +0.1
STU **Stuttgart** 83.12 331 *e*P P 00 48 50.1 +0.1
BNM **Barren Site** 83.13 51 *e*P P 00 48 52.3 +1.6
BCLA **Clavier** 83.15 334 ⇓P P 00 48 50.1 0.0
VISS **Visnje** 83.21 326 *i*P P 00 48 50.8 +0.2
BOJS **Bojanci** 83.27 326 *i*P P 00 48 51.4 +0.5
WATA **Walderalm** 83.36 329 *e*PcP P 00 48 52.5 +1.0
comp=Z,5.1nm,0.9s
URZ **Urewera** 83.39 153 P P 00 48 50.3 -0.9
comp=Z,12nm,0.8s,baz=5.7,slow=18,SNR=3.1
WTTA **Wattenberg** 83.40 329 *e*P P 00 48 52.2 +0.6
comp=Z,5.2nm,0.8s
ABTA **Abfaltersbach** 83.45 328 *e*P P 00 48 51.7 -0.1
comp=Z,6.4nm,0.9s
JAVS **Javornik** 83.48 326 *i*P P 00 48 51.3 -0.7
121A **Cookes Peak, D** 83.52 53 *e*P P 00 48 53.7 +1.1
comp=Z,6.6nm,1.0s
MOTA **Moosalm** 83.55 329 *e*PcP P 00 48 53.4 +0.9
comp=Z,9.5nm,0.9s,SNR=10
RETA **Reutte** 83.57 329 *e*P P 00 48 53.1 +0.7
comp=Z,11nm,0.9s,SNR=5.5
PDG **Podgorica** 83.77 321⇓ *i*P P 00 48 53.9 +0.4
TTG **Podgorica** 83.77 321 *e*P P 00 48 53.5 +0.1
TTG **Podgorica** 83.77 321 *e*P P 00 48 53.5 +0.1
BFO **Black Forest** 83.81 331 *e*P P 00 48 54.0 +0.4
BFO *e**PP **pP** 00 49 06.6 -0.7
BFO **Black Forest** 83.81 331 *e*P P 00 48 54.0 +0.4
BFO *e*pP **pP** 00 49 06.6 -0.7
FETA **Feichten** 83.96 329 *e*P P 00 48 55.0 +0.4
comp=Z,8.4nm,1.0s,SNR=6.3
DAVA **Damuels** 84.08 330 *e*P P 00 48 55.6 +0.4
comp=Z,15nm,0.9s,SNR=6.2
PMOR **Pomariorio Ree** 84.38 114 *e*T T 02 22 18.1
comp=Z,64nm,0.2s
APE **Apeiranthos** 84.44 314⇓ *i*P P 00 48 56.5 -0.5
FUORN **Ofenpass-Fuorn** 84.47 329 *e*P P 00 48 58.1 +0.8
SCIA **State Center** 84.84 38 *e*P P 00 49 00.5 +1.6
PPT **Papeete** 84.95 117 LR LR 01 26 31.9
comp=Z,46nm,19.2s,baz=317,slow=35
PPT2 **Papeete2** 84.96 117 *e*LR LR 01 15 41.7
comp=Z,527nm,22.0s,baz=315
PPT2 **Papeete2** 84.96 117 *e*T T 02 23 01.7
comp=Z,25nm,0.3s
PAE **Paea** 85.01 117 *e*T T 02 23 04.2
comp=Z,2.3nm,0.2s
TIAR **Tiarei** 85.10 117 *e*T T 02 23 11.3
comp=Z,8.6nm,0.2s
TVO **Taravao** 85.32 117 *e*T T 02 23 16.4
comp=Z,1.0nm,0.3s
JFWS **Jewell Farm** 85.45 36 *e*P P 00 49 02.1 +0.1
JFWS **Jewell Farm** 85.45 36 *e*P P 00 49 02.1 +0.1
AMTX **Amarillo** 85.55 48 *e*P P 00 49 04.0 +1.4
MSTX **Muleshoe** 85.56 49 *e*P P 00 49 04.1 +1.3
MNTX **Cornudas Mount** 85.57 52 *e*P P 00 49 03.6 +0.8
SENIN **Lac Senin/Sane** 85.84 331 *e*P P 00 49 04.5 +0.4
TAOE **Nuku Hiva Isla** 86.00 105 *e*LR LR 01 16 07.6
comp=Z,465nm,22.3s
TAOE **Nuku Hiva Isla** 86.00 105 *e*T T 02 24 23.5
comp=Z,88nm,0.3s
IDI **Anoyia** 86.08 313 P P 00 49 03.9 -1.4
comp=Z,2.8nm,0.5s,baz=24,slow=12,SNR=6.3
IDI LR LR 01 32 34.4
comp=Z,81nm,18.6s,baz=54,slow=39
GLMI **Grayling** 86.34 31 *e*P P 00 49 07.4 +1.1
WMOK **Wichita Mounta** 87.30 46 *e*P P 00 49 12.0 +0.8
WMOK **Wichita Mounta** 87.30 46 *e*P P 00 49 12.0 +0.8
LPIG **La Paz** 87.53 61 LR LR 01 22 05.6
comp=Z,81nm,19.3s,baz=260,slow=31
HDIL **Hopedale** 87.75 37 *e*P P 00 49 14.0 +0.8
TX31 **Lajitas Ar. Si** 88.28 53 *e*P P 00 49 16.9 +0.9
TXAR **Lajitas Array** 88.28 53 P P 00 49 16.6 +0.5
comp=Z,2.2nm,0.7s,baz=294,slow=3.4,SNR=30
HHAR **Hobbs** 88.77 42 *e*P P 00 49 18.5 +0.4
SFIN **Lafayette** 88.90 35 *e*P P 00 49 19.4 +0.8
TBI **Tubuai** 89.00 121 *e*LR LR 01 17 26.4
comp=Z,436nm,22.8s,baz=311
TBI **Tubuai** 89.00 121 *e*T T 02 28 01.3
comp=Z,82nm,0.3s
PLVO **Plevna** 89.01 27 *e*P P 00 49 19.5 +0.4
FVM **French Village** 89.24 39 *e*P P 00 49 20.8 +0.5
FVM **French Village** 89.24 39 *e*P P 00 49 20.8 +0.5
OLIL **Olney** 89.76 37 *e*P P 00 49 23.5 +0.8
JCT **Junction City** 89.81 50 *e*P P 00 49 23.9 +0.7
JCT **Junction City** 89.81 50 *e*P P 00 49 23.9 +0.7
VAE **Valguarnera** 89.96 321 LR LR 01 35 04.9
comp=Z,254nm,18.9s,baz=94,slow=39
ATD **Arta Tunnel** 90.04 285 LR LR 01 34 14.7
comp=Z,58nm,19.2s,baz=7.5,slow=38
W40A **Ferguson Farm,** 90.06 42 *e*P P 00 49 24.9 +0.8
PBMO **Poplar Bluff** 90.18 40 *e*P P 00 49 25.6 +0.9
WHAR **Wooly Hollow** 90.39 42 *e*P P 00 49 26.3 +0.6
ERPA **Erie** 90.45 30 *e*P P 00 49 26.9 +1.1
MMNY **Mt. Morris Dam** 90.71 28 *e*P P 00 49 27.8 +0.8
ALLY **Alegheny Colle** 90.79 30 *e*P P 00 49 28.9 +1.5
ACSO **Alum Creek Sta** 90.82 33 *e*P P 00 49 28.5 +0.9
M54A **Oil Creek Stat** 91.09 30 *e*P P 00 49 29.9 +0.9
WLAR **White Oak Lake** 91.19 43 *e*P P 00 49 31.1 +1.7
WVT **Waverly** 91.97 38 *e*P P 00 49 33.7 +0.7
WVT **Waverly** 91.97 38 *e*P P 00 49 33.7 +0.7
SWET **Sewanee** 93.62 38 *e*P P 00 49 40.4 -0.3
comp=Z,2.0nm,0.9s
KEST **Kesra** 93.78 323 LR LR 01 36 31.7
comp=Z,148nm,18.1s,baz=252,slow=38
TKL **Tuckaleechee C** 94.26 36 P P 00 49 44.0 +0.4
comp=Z,3.6nm,0.8s,baz=301,slow=18,SNR=6.6
TKL LR LR 01 33 40.2
comp=Z,92nm,21.3s,baz=332,slow=36
ESDC **Sonseca Array** 95.71 334 P P 00 49 50.2 -0.1
comp=Z,0.5nm,0.6s,baz=37,slow=4.4,SNR=4.5
ESDC LR LR 01 38 21.5
comp=Z,257nm,18.5s,baz=10.0,slow=39
RKT **Rikitea** 98.89 112 *e*LR LR 01 22 06.5
comp=Z,423nm,24.2s
TORD **Torodi Ar. Bea** 116.33 316 PKP **PKPdf** 00 55 07.2 -1.0
comp=Z,2.0nm,1.1s,baz=356,slow=3.2,SNR=5.0
TORD PP **PP** 00 56 12.7 -1.0
comp=Z,0.9nm,0.8s,baz=34,slow=7.5,SNR=5.8
KOWA **Kowa** 118.07 323 PKP **PKPdf** 00 55 11.3 -0.2
comp=Z,1.2nm,0.4s,baz=48,slow=2.6,SNR=6.6
SDV **Santo Domingo** 123.25 40 PKP **PKPdf** 00 55 21.8 +0.1
comp=Z,12nm,0.8s,baz=340,slow=1.6,SNR=16
DBIC **Dimbokro** 125.21 319 PKP **PKPdf** 00 55 24.2 -1.0
comp=Z,7.3nm,1.0s,baz=261,slow=7.6,SNR=4.3
BOSA **Boshof** 127.64 261 PKP **PKPdf** 00 55 28.8 -0.8
comp=Z,3.1nm,0.9s,baz=90,slow=3.0,SNR=2.7
QSPA **South Pole Qui** 128.88 180 PKP **PKPdf** 00 55 29.6 -1.1
comp=Z,1.0nm,0.5s,baz=303,slow=1.1,SNR=6.8
SAML **Samuel** 142.24 44 *e*PKPdf **PKPdf** 00 55 54.7 -2.4
SNAA **Sanae** 142.97 197 PKP PKPpre 00 55 51.9
SNAA **Sanae** 142.97 197 PKhKP PKPpre 00 55 52.1
comp=Z,7.3nm,0.8s,baz=195,slow=5.5,SNR=68
VNA2 **Neumayer--Watz** 144.54 197 PKP **PKPab** 00 55 57.6 -0.3
baz=130,slow=3.4
VNA3 **Neumayer Olymp** 144.78 195 PKP **PKPab** 00 55 58.2 -0.6
VNA1 **Neumayer--Stat** 144.94 197 PKP PKPbc 00 55 59.0 -0.3
LPAZ **La Paz** 144.99 58 PKPbc PKPbc 00 56 01.9 0.0
comp=Z,4.4nm,0.7s,baz=326,slow=3.6,SNR=18
LCO **Las Campanas** 150.98 80 *e*PKPbc **PKPbc** 00 56 17.5 +0.1
PLCA **Paso Flores** 154.82 104 PKPbc **PKPbc** 00 56 25.9 +0.6
comp=Z,3.8nm,0.9s,baz=248,slow=5.4,SNR=6.1
CPUP **Villa Florida** 159.16 58 PKPab **PKPab** 00 56 59.8 +0.2
comp=Z,2.3nm,0.9s,baz=294,slow=3.7,SNR=7.7

IGQ 18 00:38:10.5±0.9, 3°S±5°×8°1W±°, h10km, MLv 4.3/9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISPT	**Isla de la Pla**	**1.48**	**4**	P	Pn	00 38 37.4	+0.1
ISPT				S	Sn	00 38 56.2	-0.6
IGUA	**Igualata**	**2.83**	**64**	P	Pn	00 38 53.6	-2.7
BMAS	**Trigal station**	**2.96**	**65**	P	Pn	00 38 55.4	-2.6
BPAT	**Tungurahua Vol**	**3.01**	**66**	P	Pn	00 38 55.3	-3.4
JUI6	**Juive**	**3.01**	**64**	P	Pn	00 38 56.5	-2.1
MAG1	**Magdalena**	**3.01**	**28**	P	Pn	00 38 58.5	+0.2
BULB	**Ulba Tungurahu**	**3.06**	**65**	P	Pn	00 38 59.0	-0.3
BULB				S	Sn	00 39 33.2	-3.0
ILLI	**Illinizas Sur**	**3.17**	**50**	P	Pn	00 38 59.6	-1.5
ILLI				S	Sn	00 39 37.8	-1.5
CAMI	**Rancho Maria**	**3.37**	**52**	P	Pn	00 39 04.2	+0.5
BMOR	**Cotopaxi Volca**	**3.38**	**54**	P	Pn	00 39 03.3	-0.5
BNAS	**Cotopaxi Volca**	**3.39**	**53**	P	Pn	00 39 03.3	-0.8
BNAS				S	Sn	00 39 45.8	+1.1
BREF	**Cotopaxi Volca**	**3.43**	**53**	P	Pn	00 39 04.5	-0.1
BREF				S	Sn	00 39 46.6	+0.9
BVC2	**Cotopaxi Volca**	**3.46**	**53**	P	Pn	00 39 04.3	-0.7
BTAM	**Cotopaxi Volca**	**3.46**	**53**	P	Pn	00 39 04.3	-0.8
VC1	**Cotopaxi 1**	**3.47**	**53**	P	Pn	00 39 05.4	+0.2
TERV	**Terraza Guagua**	**3.63**	**45**	P	Pn	00 39 07.7	+0.4
YANA	**Yana**	**3.69**	**45**	P	Pn	00 39 07.1	-1.0
PULU	**Pululahua**	**3.84**	**44**	P	Pn	00 39 09.5	-0.6
COTA	**Cotacachi**	**4.18**	**43**	P	Pn	00 39 15.2	+0.3

IDC 18 00:52:34.5±3.5, 35°32S×179°75W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.5/39, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=80.8km s-min=38.0km az=121.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**3.87**	**220**	Pn	Pn	00 53 33.9	-1.3
	0.8nm,0.3s,baz=135,slow=20,SNR=4.2						
URZ				Sn	Sn	00 54 24.2	+3.0
	0.8nm,0.3s,baz=261,slow=21,SNR=7.9						
ASAR	**Alice Springs**	**41.64**	**273**	P	P	01 00 25.1	+0.4
	0.6nm,1.0s,baz=124,slow=7.9,SNR=3.0						
WRA	**Warramunga Arr**	**43.08**	**278**	P	P	01 00 36.0	-0.4
	0.2nm,0.4s,baz=116,slow=8.1,SNR=7.5						
FINES	**FINESS Array B**	**149.14**	**336**	PKPbc	PKPbc	01 12 23.6	-0.3
	1.6nm,1.1s,baz=43,slow=3.0,SNR=2.5						

MAN 18 01:20:21,9°84N×123°19E, h1km, mb4.3, ML3.1, MS2.8, 1C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.50**	**174** ⇓ *i*P		Pg	01 20 31.5	+1.0
SNPH				*i* S	Sg	01 20 38.0	+1.0
TBP	**Tagbilaran**	**0.68**	**103** *e*P		Pg	01 20 34.5	+0.4
TBP				*i* S	Sb	01 20 44.9	-0.8
LLP	**Lapu-Lapu**	**0.90**	**58** *e*P		Pg	01 20 38.0	-0.3
LLP				*e*S	Sg	01 20 50.1	+0.1
GUIM	**Jordan**	**0.98**	**323** *e*P		Pg	01 20 40.0	+0.3
GUIM				*e*S	Sb	01 20 53.9	-0.2
DCPH	**Dipolog City**	**1.26**	**173**⇑ *e*P		Pg	01 20 44.2	-1.0
DCPH				*e*S	Sg	01 21 00.4	-1.2
MSLP	**Maasin**	**1.67**	**80** *e*P		Pn	01 20 51.6	+0.1
MSLP				*e*S	Sg	01 21 14.8	0.0
RCP	**Roxas**	**1.76**	**346**⇓ *e*P		Pb	01 20 53.5	-0.6
RCP				*e*S	Sg	01 21 18.9	+1.2
PAGZ	**Pagadian**	**1.99**	**174** *e*P		Pb	01 20 57.7	-0.4

*MOS **18** 01:29:37.8±1.8, 51°72N×95°95E, h10km, mb3.8/1, Error ellipse: s-maj=20.4km s-min=10.6km az=174.7*
*IDC **18** 01:29:39.6±1.3, 51°50N×96°26E, h0km, mb1 3.0/4, mb1mx2.8/70, mbtmp3.0/4, ML2.3/3, Error ellipse: s-maj=41.4km s-min=12.9km az=2.0*

ISC 18 01:29:37.3±0.7, 51°9N±0°1×95°94E±0°05, h10km, n25, σ1°96/19, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**0.94**	**260** *e*PG		**Pg**	**01 29 54.7**	**-0.6**
HVS	**Khovu-Aksy**	**1.58**	**243** *d*PG		**Pn**	**01 30 05.1**	**-0.3**
ORL	**Orlik**	**2.48**	**73** *e*PN		**Pn**	**01 30 20.0**	**+2.3**
ORL				*e*		01 30 52.3	
ORL				pmax	pmax		
	comp=Z,48nm,0.3s						
ORL				smax	smax		
	comp=N,158nm,0.6s						
MOY	**Mondy**	**3.15**	**92** *e*PN		**Pb**	**01 30 31.3**	**-2.0**
MOY				*e*		01 31 12.6	
MOY				pmax	pmax		
	comp=Z,32nm,0.4s						
MOY				smax	smax		
	comp=N,197nm,0.8s						
ARS	**Arshan**	**4.02**	**87** *e*PN		**Pn**	**01 30 40.4**	**+1.5**
ARS				*e*		01 30 48.4	
ARS				*e*		01 31 40.7	
ARS				pmax	pmax		
	comp=Z,28nm,0.4s						
ARS				smax	smax		
	comp=E,450nm,0.9s						
TLY	**Talaya**	**4.79**	**89** Pg		**Pb**	**01 31 00.8**	**-0.4**
	comp=E,0.0nm,0.3s,baz=273,slow=14,SNR=4.0						
TLY				Lg	Lg	01 32 02.2	
	comp=E,0.1nm,0.3s,baz=22,slow=19,SNR=14						
TLY	**Talaya**	**4.79**	**89** *e*PN		**Pb**	**01 31 02.1**	**+0.9**
TLY				*e*		01 32 02.0	
TLY				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZAK	**Zakamensk**	**4.86**	**105** *e*PN		**Pb**	**01 31 00.9**	**-1.6**
ZAK				*e*		01 32 04.4	
ZAK				pmax	pmax		
	comp=Z,20nm,0.6s						
ZAK				smax	smax		
	comp=N,600nm,0.7s						
IRK	**Irkutsk**	**5.16**	**83** *e*PN		**Pb**	**01 31 08.6**	**+1.1**
IRK				*e*		01 32 12.9	
IRK				pmax	pmax		
	comp=Z,119nm,0.1s						
IRK				smax	smax		
	comp=N,270nm,1.1s						
DGZ	**Jazzator, Alta**	**5.82**	**251**⇑ *e*PN		**Pn**	**01 31 06.6**	**+2.9**
TRG	**Tyrgan**	**6.45**	**78** *e*PN		**Pn**	**01 31 09.6**	**-2.6**
TRG				*e*		01 32 52.6	
TRG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TRG				smax	smax		
	comp=N,75nm,1.3s						
ZALV	**Zalesovo Beam**	**7.04**	**292** Pn		Pn	01 31 27.3	+7.0
	comp=N,0.2nm,0.3s,baz=104,slow=14,SNR=3.2						
ZALV				Lg	Lg	01 33 19.1	
	comp=N,1.3nm,0.3s,baz=115,slow=26,SNR=8.0						
OGRR	**Ongureny**	**7.29**	**71** *e*P		**Pn**	**01 31 26.3**	**+2.5**
OGRR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SONM	**Songino Array**	**7.87**	**117** Pg		**Pb**	**01 31 55.2**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=300,slow=16,SNR=16						
SONM				Lg	Lg	01 33 38.5	
	comp=Z,1.0nm,0.3s,baz=300,slow=29,SNR=9.5						
ULN	**Ulaanbaatar**	**8.22**	**115**⇑ *e*P		Pn	01 31 27.1	-10
MKAR	**Makanchi Array**	**10.25**	**246** Pn		Pn	01 32 09.3	+4.9
	comp=Z,0.1nm,0.3s,baz=58,slow=14,SNR=3.4						
MKAR				Lg	Lg	01 35 00.7	
	comp=Z,0.2nm,0.3s,baz=49,slow=33,SNR=5.0						
KURK	**Kurchatov**	**10.91**	**271** P		Pn	01 32 19.4	+6.1
KURBB	**Kurchatov Arra**	**10.98**	**270** Pn		Pn	01 32 19.4	+5.1
	comp=Z,0.0nm,0.3s,baz=74,slow=15,SNR=3.0						
KURBB				Lg	Lg	01 35 24.8	
	comp=Z,0.0nm,0.3s,baz=83,slow=32,SNR=6.1						
HIA	**Hailar**	**15.33**	**90**⇑ *e*P		Pn	01 33 02.8	-11
BVAR	**Borovoye Array**	**15.60**	**284** Pn		**P**	**01 33 21.9**	**+0.7**
	baz=79,slow=15,SNR=3.7						
BRVK	**Borovoye**	**15.66**	**284**⇓ *e*P		**Pn**	**01 33 19.1**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	**Ala-Archa**	**17.18**	**246**⇑ *e*P		**Pn**	**01 33 37.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ARU	**Arti**	**22.16**	**297**⇑ *e*P		**P**	**01 34 35.4**	**+2.4**
TIXI	**Tiksi**	**24.63**	**24**⇑ *e*P		**P**	**01 34 54.5**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,2.0s						
CLL	**Collm**	**48.80**	**304** *e*P		**P**	**01 38 20.0**	**-2.2**

IDC 18 01:31:30.0±2.0, 2°89N×127°88E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/56, mbtmp3.5/4, Error ellipse: s-maj=167.9km s-min=20.7km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.56**	**165**	P	P	01 36 42.2	-0.1
	0.4nm,0.4s,baz=343,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**27.04**	**168**	P	P	01 37 12.9	-1.3
	0.3nm,0.4s,baz=351,slow=7.2,SNR=7.5						
MKAR	**Makanchi Array**	**58.90**	**325**	P	P	01 41 31.8	+0.9
	0.2nm,0.5s,baz=118,slow=8.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**63.06**	**327**	P	P	01 41 59.4	+0.3
	0.3nm,0.4s,baz=127,slow=5.9,SNR=8.2						

*ISCJB **18** 01:32:18.6±0.6, 36°92N±0°03×33°94E±0°05, h4km±8km, Error ellipse: s-maj=8.1km s-min=4.1km az=31.0*
*DDA **18** 01:32:18.6, 36°93N×33°88E, h7km, Ml2.5*
*ISK **18** 01:32:18.3, 36°92N×33°96E, h5km, ML2.6/9*
*CSEM **18** 01:32:19.0±0.1, 36°93N×33°93E, h8km, ML2.5, Error ellipse: s-maj=4.3km s-min=2.1km az=122.0*

ISC 18 01:32:18.8±1.1, 36°93N±0°03×33°94E±0°04, h11km±12km, n25, σ0°37/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIZK	**Mersin**	**0.48**	**160**	PG	**Pg**	**01 32 28.6**	**+0.4**
KIZK				SG	**Sg**	**01 32 34.7**	**+0.2**
KIZK	**Mersin**	**0.48**	**160** *i* P		**Pb**	**01 32 28.7**	**-0.5**
KIZK				*i* S	**Sb**	**01 32 35.8**	**-0.4**
KIZK	**Mersin**	**0.48**	**160**	P	**Pb**	**01 32 28.7**	**-0.5**
KIZK				S	**Sb**	**01 32 35.8**	**-0.4**
KERG	**Konya-Eregli**	**0.50**	**17** *i* P		**Pg**	**01 32 28.6**	**-0.1**
KERG				*i* S	**Sb**	**01 32 36.7**	**-0.4**
KERG	**Konya-Eregli**	**0.50**	**17**	P	**Pg**	**01 32 28.6**	**-0.1**
KERG				S	**Sb**	**01 32 36.7**	**-0.4**
TEVE	**Tevekalti-Mers**	**0.64**	**219**	PG	**Pg**	**01 32 31.3**	**+0.2**
TEVE				SG	**Sg**	**01 32 40.5**	**-0.3**
TEVE	**Tevekalti-Mers**	**0.64**	**219** *e*Pg		**Pg**	**01 32 31.3**	**+0.2**
TEVE				*e*Sg	**Sb**	**01 32 40.5**	**-0.3**
GULN	**MERSIN_Gulnar**	**0.81**	**203** *i* P		**Pg**	**01 32 34.4**	**-0.1**
GULN				*i* S	**Sg**	**01 32 45.2**	**+0.1**
GULN	**MERSIN_Gulnar**	**0.81**	**203**	P	**Pg**	**01 32 34.3**	**-0.1**
GULN				S	**Sg**	**01 32 45.2**	**+0.1**
AKKU	**Akkuyu-Mersin**	**0.83**	**202**	PG	**Pg**	**01 32 34.5**	**-0.3**
AKKU				SG	**Sg**	**01 32 45.9**	**+0.2**
AKKU	**Akkuyu-Mersin**	**0.83**	**202** *e*Pg		**Pg**	**01 32 34.5**	**-0.3**
AKKU				*e*Sg	**Sg**	**01 32 45.9**	**+0.2**
KARA	**Karaisali**	**0.95**	**69**	PG	**Pg**	**01 32 36.5**	**-0.6**
KARA				SG	**Sb**	**01 32 50.0**	**+0.2**
KARA	**Karaisali**	**0.95**	**69** *e*Pg		**Pg**	**01 32 36.5**	**-0.6**
KARA				*e*Sg	**Sb**	**01 32 50.0**	**+0.2**
TEKE	**Tekeli-Mersin**	**1.03**	**220**	PG	**Pg**	**01 32 38.3**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.03**	**220** *e*Pg		**Pg**	**01 32 38.3**	**-0.3**
SULT	**Sultanhani-AKS**	**1.31**	**345** PN		**Pg**	**01 32 44.0**	**+0.1**
SULT	**Sultanhani-AKS**	**1.31**	**345** *e*Pn		**Pg**	**01 32 44.0**	**+0.1**
CEYT	**Ceyhan**	**1.45**	**86** PN		**Pn**	**01 32 45.4**	**+0.5**
CEYT	**Ceyhan**	**1.45**	**86** *e*Pn		**Pn**	**01 32 45.4**	**+0.5**
KOZT	**Kozan**	**1.60**	**69** PN		**Pb**	**01 32 48.2**	**-0.2**
KOZT	**Kozan**	**1.60**	**69** *e*Pn		**Pb**	**01 32 48.2**	**-0.2**
YAHY	**KAYSERI_Yahyal**	**1.62**	**44** *i* P		**Pb**	**01 32 48.5**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**1.62**	**44** P		**Pb**	**01 32 48.5**	**-0.3**
YAYL	**Yayladag**	**1.96**	**117** PN		**Pn**	**01 32 52.7**	**+0.6**
YAYL	**Yayladag**	**1.96**	**117** *e*Pn		**Pn**	**01 32 52.7**	**+0.6**

*IDC **18** 01:44:01.6±1.7, 3°51S×128°83E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/52, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=162.7km s-min=18.0km az=69.0*
*ISCJB **18** 01:44:04.5±0.9, 2°95S±0°07×129°86E±0°07, h33km, mb3.8/3, Error ellipse: s-maj=10.5km s-min=9.4km az=22.4*
*DJA **18** 01:44:06.7±1.1, 3°S±5°×13°0E±°, h13km±9km, M3.6/7, MLv3.6/7*

ISC 18 01:44:04.4±0.9, 2°98S±0°07×129°87E±0°05, h33km, n13, σ1°73/15, mb3.9/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.01**	**249**	P	**Pb**	**01 44 23.6**	**+0.3**
MSAI				S	**Sb**	**01 44 38.3**	**+2.0**
BNDI	**Bandanaira**	**1.53**	**179**	P	Pb	01 44 38.4	+6.2
AAI	**Ambon**	**1.81**	**247**	P	**Pb**	**01 44 36.4**	**-0.5**
AAI				S	**Sn**	**01 44 54.3**	**-0.8**
FAKI	**Fak Fak**	**2.38**	**89**	P	**Pb**	**01 44 48.3**	**+1.7**
SWI	**Sorong**	**2.52**	**33**	P	**Pb**	**01 44 47.4**	**-1.6**
NLAI	**Namlea**	**2.78**	**265**	P	**Pn**	**01 44 47.6**	**+1.1**

KBZ	Khabaz	146.87	297	PKPbc	PKPbc	02 10 17.8	-0.3
	1.3nm,0.9s,baz=151,slow=3.8,SNR=3.5						
FINES	FINESS Array B	149.49	336	PKPbc	PKPbc	02 10 24.1	-0.3
	2.7nm,0.9s,baz=103,slow=6.1,SNR=5.3						
TORD	Torodi Ar. Bea	157.76	182	PKPab	PKPab	02 11 05.2	-0.3
	0.4nm,0.8s,baz=174,slow=6.2,SNR=3.6						

*ISCJB **18** 01:59:54.7±0.4,35˚.16S±0˚.06×111˚.2W±0˚.1, h10km, mb4.5/72, MS3.9/12, Error ellipse: s-maj=13.8km s-min=8.2km az=163.3*

*IDC **18** 01:59:54.1±0.5,35˚.14S×111˚.38W, h0km, mb4.3/17, mb1 4.5/17, mb1mx4.3/39, mbtmp4.3/17, MS3.9/12, Ms1 3.9/12, ms1mx3.7/25, Error ellipse: s-maj=21.2km s-min=16.1km az=84.0*

*NEIC **18** 01:59:56.0±0.3,35˚.20S×111˚.19W, h10km, mb4.7/53, Error ellipse: s-maj=10.6km s-min=8.0km az=72.0*

ISC 18 01:59:59.8±0.7,35˚.05S±0˚.10×111˚.3W±0˚.1, h34km±2km, h35km:pP-P, n138, σ1§29/134, mb4.6/72, MS3.9/12, 2D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKT	Rikitea	23.81	294	eLR	LR	02 10 55.3	
	619nm,27.2s,baz=121						
RKT	Rikitea	23.81	294	eT	T	02 29 33.0	
	1.0nm,0.3s						
PLCA	Paso Flores	32.43	112	P	P	02 06 27.2	+0.5
	7.7nm,0.9s,baz=287,slow=8.2,SNR=14						
PLCA				PcP	PcP	02 09 13.5	+0.1
	1.5nm,0.9s,baz=270,slow=2.0,SNR=3.6						
PLCA				LR	LR	02 15 40.1	
	comp=Z,197nm,21.7s,baz=346,slow=29						
PLCA	Paso Flores	32.43	112	eP	P	02 06 27.6	+0.9
	15nm,1.0s						
PLCA				PcP	PcP	02 09 13.5	+0.1
LCO	Las Campanas	34.75	92	eP	P	02 06 46.3	-0.9
	9.6nm,1.0s						
TBI	Tubuai	35.11	279	eLR	LR	02 16 09.0	
	637nm,26.8s,baz=108						
TAOE	Nuku Hiva Isla	37.10	308	eLR	LR	02 17 05.4	
	256nm,26.4s						
TVO	Taravao	37.83	287	eT	T	02 47 04.3	
	1.3nm,0.3s						
TIAR	Tiarei	38.03	287	eT	T	02 47 19.8	
	1.6nm,0.2s						
PPT2	Papeete2	38.19	287	eLR	LR	02 17 27.1	
	529nm,26.2s,baz=124						
TRQA	Tornquist	39.35	109	eP	P	02 07 25.6	-0.3
	44nm,1.9s						
LPAZ	La Paz	42.76	75	P	P	02 07 55.8	+0.9
	3.0nm,0.9s,baz=250,slow=3.7,SNR=12						
LPAZ				PcP	PcP	02 09 46.6	+0.6
	0.8nm,0.9s,baz=180,slow=2.0,SNR=2.5						
LPAZ				LR	LR	02 21 32.3	
	comp=Z,122nm,18.7s,baz=216,slow=30						
LPAZ	La Paz	42.76	75	eP	P	02 07 55.7	+0.9
	5.5nm,1.1s						
LPAZ				PcP	PcP	02 09 46.6	+0.6
RAR	Rarotonga	44.52	275	LR	LR	02 22 04.1	
	comp=Z,59nm,18.8s,baz=144,slow=30						
OTAV	Otavalo	46.60	48	eP	P	02 08 24.4	-0.9
	5.6nm,1.2s						
CPUP	Villa Florida	46.73	95	LR	LR	02 24 58.1	
	comp=Z,224nm,18.5s,baz=214,slow=32						
SAML	Samuel	50.97	71	eP	P	02 08 57.7	-0.7
	4.0nm,1.0s						
JTS	JuntasAbangare	51.52	34	LR	LR	02 25 31.4	
	comp=Z,193nm,19.3s,baz=162,slow=30						
JTS	JuntasAbangare	51.52	34	eP	P	02 09 00.3	-2.1
	14nm,1.1s						
ROSC	El Rosal	52.74	49	P	P	02 09 13.1	+1.1
	2.6nm,0.4s,baz=106,slow=20,SNR=5.1						
ROSC				LR	LR	02 28 14.5	
	comp=Z,68nm,18.0s,baz=234,slow=32						
CMIG	Matias Romero	54.14	19	P	P	02 09 22.1	+0.5
	1.8nm,0.7s,baz=288,slow=7.2,SNR=5.0						
RUSC	La Rusia	54.33	49	eP	P	02 09 23.0	-0.7
	22nm,2.0s						
QSPA	South Pole Qui	55.15	180	P	P	02 09 28.5	-0.2
	2.0nm,0.8s,baz=107,slow=3.4,SNR=4.8						
VNDA	Vanda	55.41	195	LR	LR	02 28 10.2	
	comp=Z,42nm,18.4s,baz=146,slow=31						
AFI	Afiamalu	58.06	275	LR	LR	02 29 16.0	
	comp=Z,69nm,18.9s,baz=112,slow=30						
SDV	Santo Domingo	58.17	49	P	P	02 09 49.9	-0.9
	7.5nm,1.1s,baz=269,slow=9.5,SNR=5.2						
SDV				LR	LR	02 31 22.1	
	comp=Z,113nm,18.2s,baz=222,slow=32						
SDV	Santo Domingo	58.17	49	eP	P	02 09 48.7	-2.1
	8.5nm,1.1s						
VNA3	Neumayer Olymp	60.83	159	P	P	02 10 07.8	-0.3
VNA1	Neumayer--Stat	61.49	158	P	P	02 10 12.6	0.0
VNA2	Neumayer--Watz	61.63	159	P	P	02 10 13.4	-0.2
	baz=236,slow=6.3						
SNAA	Sanae	62.60	160	P	P	02 10 19.4	-0.8
SNAA	Sanae	62.60	160	P	P	02 10 19.2	-1.0
	5.1nm,0.9s,baz=276,slow=4.5,SNR=12						
SNAA	Sanae	62.60	160	eP	P	02 10 19.7	-0.5
	8.0nm,1.0s						
TXAR	Lajitas Array	64.44	7	P	P	02 10 33.7	+1.0
	1.1nm,1.0s,baz=178,slow=9.5,SNR=9.6						
TX31	Lajitas Ar. Si	64.44	7	eP	P	02 10 33.9	+1.1
JCT	Junction City	66.07	11	eP	P	02 10 43.6	+0.3
	7.6nm,1.0s						
MNTX	Cornudas Mount	66.62	5	eP	P	02 10 47.1	+0.3
	2.9nm,0.9s						
TUC	Tucson	67.00	0	eP	P	02 10 49.2	0.0
	14nm,1.8s						
NATX	Nacogdoches	68.27	15	eP	P	02 10 57.6	+0.5
	15nm,0.8s						
MSTX	Muleshoe	69.12	8	eP	P	02 11 02.0	-0.5
	7.9nm,0.9s						
X18A	Snowflake	69.23	1	eP	P	02 11 04.8	+1.5
ANMO	Albuquerque	69.78	4	P	P	02 11 06.8	+0.1
	1.1nm,0.8s,baz=21,slow=8.1,SNR=4.3						
SHPR	Sheep Range	71.28	357	eP	P	02 11 17.6	+1.9
	6.6nm,1.2s						
DZM	Mont Dzumac	71.58	256	LR	LR	02 33 35.0	
	comp=Z,106nm,20.8s,baz=32,slow=28						
DZM	Mont Dzumac	71.58	256	eLR	LR	02 33 05.1	
	157nm,24.1s						
MVCO	Mesa Verde	71.94	2	eP	P	02 11 20.7	+0.9
	4.9nm,0.9s						
WHAR	Wooly Hollow	72.19	16	eP	P	02 11 22.4	+1.4
	13nm,1.3s						
CCUT	Cedar City	72.26	358	eP	P	02 11 23.2	+1.5
	9.1nm,0.9s						
SZCU	Shurtz Canyon	72.29	358	eP	P	02 11 23.9	+2.1
	8.4nm,1.5s						
SDCO	Great Sand Dun	72.62	5	eP	P	02 11 24.9	+0.9
	4.1nm,1.1s						
HHAR	Hobbs	72.78	15	eP	P	02 11 25.3	+0.7
	6.9nm,0.9s						
NV11	Mina Array Sit	73.39	354	eP	P	02 11 30.1	+1.8
	0.4nm,0.9s						
NV01	Mina Array Sit	73.40	354	eP	P	02 11 29.6	+1.2
NVAR	Mina Array Bea	73.40	354	P	P	02 11 29.9	+1.5
	3.7nm,0.9s,baz=187,slow=8.1,SNR=14						
Q16A	Castle Valley	73.59	0	eP	P	02 11 30.6	+1.1
	7.5nm,0.9s						
SRU	San Rafael Swe	73.79	1	eP	P	02 11 30.5	-0.2
	7.8nm,0.9s						
SMCO	Snowmass	73.96	3	eP	P	02 11 33.2	+1.2
	3.6nm,0.9s						
TMUT	Trail Mountain	73.97	0	eP	P	02 11 32.4	+0.5
	8.3nm,1.0s						
SYO	Syowa Base	74.04	169	⇓eP	P	02 11 30.0	-1.6
SYO	Syowa Base	74.04	169	⇓esP	P	02 11 36.0	+4.4
PBMO	Poplar Bluff	74.05	17	eP	P	02 11 32.6	+0.6
	12nm,0.6s						
P17A	Butcher Ranch,	74.15	0	eP	P	02 11 33.9	+1.2
	6.9nm,1.0s						
NLU	North Lily Min	74.63	359	eP	P	02 11 37.0	+1.4
	6.9nm,0.9s						
ISCO	Idaho Springs	74.66	5	eP	P	02 11 37.6	+1.7
	11nm,1.8s						
TKL	Tuckaleechee C	74.88	23	LR	LR	02 39 15.3	
	comp=Z,66nm,21.9s,baz=200,slow=32						
HWUT	Hardisty Ranch	76.28	360	eP	P	02 11 46.2	+1.2
	5.4nm,1.1s						
MOD	Modoc Plateau	77.02	353	eP	P	02 11 50.6	+1.5
	4.7nm,0.8s						
YBH	Yreka Blue Hor	77.12	351	P	P	02 11 49.9	+0.3
	2.2nm,1.0s,baz=143,slow=10,SNR=2.8						
K22A	Casper	77.45	4	eP	P	02 11 52.5	+1.0
	14nm,1.1s						
PD31	Pinedale Array	77.46	1	eP	P	02 11 51.9	+0.2
PDAR	Pinedale Array	77.46	1	P	P	02 11 51.8	+0.2
	6.2nm,0.8s,baz=160,slow=4.7,SNR=32						
PDAR	Pinedale Array	77.46	1	eP	P	02 11 51.3	-0.4
TPAW	Teton Pass	78.16	0	eP	P	02 11 55.6	0.0
	7.0nm,0.8s						
HLID	Hailey	78.29	358	eP	P	02 11 57.4	+1.2
	11nm,0.9s						
J08A	Circle Bar Ran	78.31	355	eP	P	02 11 58.5	+2.4
	6.8nm,1.0s						
FXWY	Fox Creek	78.31	0	eP	P	02 11 57.0	+0.6
	3.5nm,0.8s						
MOOW	Moose Ponds	78.42	0	eP	P	02 11 56.9	0.0
	3.9nm,1.0s						
IMW	Indian Meadow	78.57	0	eP	P	02 11 58.5	+0.6
	6.5nm,1.0s						
PINE	Pine Mountain	78.96	353	eP	P	02 12 01.5	+1.7
	11nm,0.9s						
RSSD	Black Hills	79.07	5	eP	P	02 12 00.3	-0.2
	5.8nm,0.8s						
CVRD	Centerville Ro	79.10	26	eP	P	02 11 57.8	-2.7
	39nm,1.8s						
I07A	Izee	79.11	354	eP	P	02 12 02.4	+1.8
	16nm,1.5s						
YMR	Madison River	79.34	0	eP	P	02 12 04.0	+2.0
	5.0nm,0.9s						
YHB	Horse Butte	79.42	0	eP	P	02 12 04.2	+1.8
	26nm,1.9s						
YHH	Holmes Hill	79.46	0	eP	P	02 12 04.0	+1.3
	3.4nm,0.9s						
QLMT	Earthquake Lak	79.50	360	eP	P	02 12 04.7	+1.8
MCMT	McKenzie Canyo	79.51	359	eP	P	02 12 04.2	+1.3
ECSD	EROS Data Cent	79.54	11	eP	P	02 12 02.0	-0.8
	4.7nm,1.1s						
BMO	Blue Mountains	79.71	356	eP	P	02 12 05.0	+1.2
	3.8nm,1.0s						
RLMT	Red Lodge	79.82	1	eP	P	02 12 05.4	+0.8
	2.3nm,0.8s						
G08A	Pilot Rock	80.27	355	eP	P	02 12 08.3	+1.5
	5.4nm,0.9s						
BOZ	Bozeman (W)	80.27	360	eP	P	02 12 08.0	+1.1
	2.5nm,0.8s						
LRM	Limekiln Ridge	80.50	359	eP	P	02 12 08.2	0.0
F10A	Beach Ranch, E	80.83	356	eP	P	02 12 12.2	+2.4
	6.9nm,1.2s						
HRY	Holter Researc	81.39	360	eP	P	02 12 13.8	+1.0
	4.1nm,0.9s						
E08A	Dider Farm, El	81.47	355	eP	P	02 12 14.9	+1.9
	27nm,1.9s						
LAO	LASA Array	81.49	4	eP	P	02 12 14.3	+1.1
	7.8nm,0.8s						
JTMT	Jette	82.46	358	eP	P	02 12 20.1	+1.7
	8.6nm,1.0s						
NEW	Newport	83.10	356	P	P	02 12 20.8	-0.8
	2.0nm,0.7s,baz=236,slow=4.6,SNR=6.5						
NEW	Newport	83.10	356	eP	P	02 12 22.2	+0.5
	6.0nm,1.3s						
MMNY	Mt. Morris Dam	83.20	24	eP	P	02 12 23.2	+0.9
	11nm,1.0s						
HNR	Honiara	83.66	263	LR	LR	02 41 42.5	
	comp=Z,73nm,19.6s,baz=44,slow=30						
STKA	Stephens Creek	84.55	235	P	P	02 12 27.1	-2.6
	1.8nm,0.8s,baz=96,slow=9.2,SNR=2.2						
ULM	Lac du Bonnet	86.01	10	P	P	02 12 35.6	-0.6
	2.2nm,0.8s,baz=215,slow=2.0,SNR=6.6						
FFC	Flin Flon	89.77	5	eP	P	02 12 53.7	-0.4
	6.6nm,1.4s						
H11S2	WAKE ISLAND Hy	94.13	290	T	T	03 57 37.7	
	baz=126,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	94.14	290	T	T	03 57 40.6	
	baz=126,slow=75,SNR=15						
H11S3	WAKE ISLAND Hy	94.14	290	T	T	03 57 37.5	
	baz=126,slow=75,SNR=14						
ASAR	Alice Springs	95.02	237	P	P	02 13 19.3	-0.1
	0.9nm,0.9s,baz=131,slow=3.1,SNR=5.1						
YKA	Yellowknife Ar	97.24	358	P	P	02 13 27.8	-0.5
	0.7nm,0.8s,baz=171,slow=4.8,SNR=15						
TORD	Torodi Ar. Bea	116.18	92	PKP	PKPdf	02 18 39.0	-1.0
	0.6nm,0.9s,baz=322,slow=1.8,SNR=3.2						
STU	Stuttgart	134.75	53	eP	Pdif	02 16 14.4	-1.2
HFS	Hagfors	136.91	37	PKP	PKPdf	02 19 16.9	-1.1
	2.8nm,0.9s,baz=174,slow=1.4,SNR=3.5						
CLL	Collm	137.32	50	ePKPdf	PKPdf	02 19 19.0	-0.1
FINES	FINESS Array B	142.31	32	PKhKP	PKPpre	02 19 23.1	
	3.6nm,1.1s,baz=333,slow=0.3,SNR=3.5						
FINES				PKP	PKPdf	02 19 28.7	+0.8
	2.2nm,0.9s,baz=251,slow=2.5,SNR=3.1						
IDI	Anoyia	144.39	77	PKP	PKPbc	02 19 31.5	+0.5
	17nm,1.0s,baz=286,slow=4.9,SNR=7.9						
IDI	Anoyia	144.39	77	ePKPdf	PKPab	02 19 30.8	+0.1
ENH	Enshi	145.52	274	ePKPbc	PKPab	02 19 35.4	+0.5
MLR	Muntele Rosu	146.10	59	PKPbc	PKPdf	02 19 35.6	+0.4
	0.6nm,0.6s,baz=150,slow=8.1,SNR=7.6						
KIEV	Kiev	147.54	49	ePKPbc	PKPdf	02 19 38.3	+1.1
AKASG	Malin Array Be	147.55	49	PKPbc	PKPdf	02 19 38.9	+1.6
	3.0nm,0.8s,baz=278,slow=3.3,SNR=12						
TIRR	Tirgusor	147.90	61	ePKPbc	PKPbc	02 19 40.4	-0.6
CMAR	Chiang Mai Arr	148.52	246	PKPbc	PKPbc	02 19 43.0	-0.5
	8.2nm,0.9s,baz=173,slow=2.1,SNR=26						
CHTO	Chiang Mai	148.73	247	ePKPbc	PKPbc	02 19 45.9	+1.8
CHTO				ePKPab	pPKPdf	02 19 51.0	-0.3
ULN	Ulaanbaatar	148.87	306	ePKPbc	PKPbc	02 19 44.9	+1.2
SONM	Songino Array	149.31	306	PKPbc	PKPbc	02 19 43.9	-0.8
	1.8nm,0.9s,baz=129,slow=2.7,SNR=8.1						
OBN	Obninsk	150.11	38	ePKPbc	PKPbc	02 19 45.2	-1.1
OBN				ePKPab	pPKPdf	02 19 52.3	-0.1
CD2	Chengdu	150.41	272	PKPbc	PKPdf	02 19 42.5	-0.1
CSS	Mathiatis	151.11	80	ePKPdf	PKPdf	02 19 43.7	+0.2
CSS				ePKPbc	PKPbc	02 19 49.1	-0.2
CSS				ePKPab	pPKPdf	02 19 56.1	+1.5
ANTO	Ankara	151.21	70	ePKPbc	PKPbc	02 19 49.2	-0.3
LZH	Lanzhou	151.50	282	ePKPbc	PKPdf	02 19 40.6	-3.7
LZH				pPKP	PKPbc	02 19 50.8	+0.4
LZH				sPKP		02 19 55.1	
LZH				PKPbc	PKPab	02 19 58.3	-0.7
BRTR	Keskin Array B	151.85	70	PKP	PKPdf	02 19 44.9	+0.2
	1.4nm,0.9s,baz=181,slow=3.8,SNR=8.9						
BRTR				PKPbc	PKPbc	02 19 50.5	-0.7
	1.8nm,0.8s,baz=186,slow=1.4,SNR=9.6						
BRTR				PKPab	pPKPdf	02 19 58.0	+2.2
	1.6nm,0.9s,baz=220,slow=1.0,SNR=5.6						
MMAI	Mount Meron Ar	152.39	85	PKPbc	PKPbc	02 19 52.3	-0.1
	1.1nm,0.6s,baz=0.0,slow=1.6,SNR=2.7						
MMAI				PKPab	sPKPdf	02 20 00.3	-0.3
	2.9nm,0.7s,baz=255,slow=4.6,SNR=2.8						
GTA	Gaotai	154.93	289	ePKP	PKPbc	02 19 57.3	-0.5
GTA				PKPab	pPKPab	02 20 22.9	-1.3
ZALV	Zalesovo Beam	157.98	334	PKP	PKPdf	02 19 50.9	-1.4
	0.7nm,0.5s,baz=347,slow=2.0,SNR=4.1						
ZALV				PKPab	PKPab	02 20 26.1	+0.4
	0.6nm,0.2s,baz=46,slow=4.3,SNR=4.1						
KURK	Kurchatov	162.76	338	PKPab	PKPab	02 20 47.4	+0.7
KURBB	Kurchatov Arra	162.87	338	PKPab	PKPab	02 20 47.4	+0.2
	0.9nm,0.9s,baz=21,slow=4.1,SNR=6.9						
KSH	Kashi	172.69	310	ePKP	PKPdf	02 20 07.8	+2.5
KSH				PKS	PKSdf	02 23 39.1	+1.5
KSH				PP	PP	02 25 31.1	+8.3
KSH				SKS	SKSdf	02 27 10.1	+4.1

*DJA **18** 02:01:49.5±0.7,2˚.N±3˚×9˚6E±˚, h10km, M4.5/9, mb4.8/4, mB5.0/4, MLv4.4/9, Mw(mB)4.3/4*

*IDC **18** 02:01:50.4±1.0,2˚.28N×96˚.47E, h0km, mb4.1/12, mb1 4.1/12, mb1mx3.8/60, mbtmp4.1/12, MS3.5/3, Ms1 3.6/3, ms1mx2.9/59, Error ellipse: s-maj=36.1km s-min=15.9km az=49.0*

*ISCJB **18** 02:01:51.7±1.6,2˚.17N±0˚.04×96˚.32E±0˚.05, h25km±11km, mb4.5/29, MS3.6/3, Error ellipse: s-maj=10.0km s-min=5.5km az=150.8*

*BJI **18** 02:01:52.5, 1˚.99N×96˚.39E, h39km, mb4.7/24, mB4.8/20, Ms4.3/8, Ms7 4.1/5*

*NEIC **18** 02:01:54.5±1.7,2˚.21N×96˚.34E, h31km±12km, mb4.6/9, Error ellipse: s-maj=7.9km s-min=4.5km az=51.0*

ISC 18 02:01:54.3±1.9,2˚.14N±0˚.05×96˚.33E±0˚.07, h31km±13km, n68, σ0§97/71, mb4.6/29, MS3.5/3, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPTI		1.40	37	P	Pn	02 02 16.0	-1.7
TPTI				S	Sb	02 02 38.3	+1.0
GSI	Gunungsitoli	1.50	124	P	Pn	02 02 19.1	0.0
GSI				S	Sb	02 02 38.7	-1.4
GSI	Gunungsitoli	1.50	124	ePn	Pn	02 02 19.3	+0.2
GSI				eSn	Sn	02 02 36.3	-1.3
KCSI	Kotacane, Aceh	1.99	46	P	Pn	02 02 25.8	0.0
KCSI				S	Sb	02 02 56.3	+2.1
MLSI	Meulaboh, Aceh	2.11	2	P	Pn	02 02 26.3	-1.3
MLSI				S	Sn	02 02 51.5	-1.3
TSI	Tuntungan	2.61	59	P	Pn	02 02 34.1	-0.3
PSI	Prapat	2.67	76	ePn	Pn	02 02 35.5	+0.1
LHMI	Lhok Sumawe	3.13	11	P	Pn	02 02 40.6	-0.9
LHMI	Lhok Sumawe	3.13	11	ePn	Pn	02 02 41.1	-0.5
SISI	Saibi	4.41	141	P	Pn	02 02 59.8	+0.6
IPM	Ipoh	5.23	64	ePn	Pn	02 03 10.9	+0.4
KULM	Kulim	5.33	54	ePn	Pn	02 03 11.7	0.0
TRTT	Trang	6.57	30	P	Pn	02 03 27.8	-1.1
	11nm,1.1s,0.0nm						
SKLT	Songkhla	6.58	40	P	Pn	02 03 27.4	-1.5
	60nm,0.6s,767nm0.2nm						
SURT	Suratani	7.20	20	P	Pn	02 03 36.4	-1.1
	4.9nm,1.0s,0.0nm						
MYKOM	Kota Tinggi	7.52	93	ePn	Pn	02 03 43.0	+1.0
MNAI	Manna	9.25	134	ePn	Pn	02 04 05.8	+0.2
MDSI	Maura Dua	10.24	130	P	Pn	02 04 19.2	0.0
SRDT	SRDT	12.44	13	P	Pn	02 04 49.7	+0.3
KSM	Kuching	13.99	92	ePn	Pn	02 05 10.1	-0.4
	6.8nm,0.8s						
PALK	Pallekele	16.38	289	ePn	Pn	02 05 41.9	-0.4
CMAR	Chiang Mai Arr	16.42	9	Pn	Pn	02 05 43.1	+0.6
	1.1nm,0.3s,baz=198,slow=11,SNR=25						
CMAR				LR	LR	02 12 45.2	
	comp=Z,193nm,19.0s,baz=195,slow=40						
CHTO	Chiang Mai	16.77	9	ePn	Pn	02 05 45.4	-1.6
KKM	Kota Kinabalu	20.20	78	eP	P	02 06 26.9	0.0
	38nm,1.1s						
KMI	Kunming	23.67	15	P	P	02 07 05.0	+1.4
KMI				pmax	pmax		
	comp=Z,11nm,0.6s						
KMI				pmax	pmax		
	comp=Z,65nm,5.3s						
SHL	Shillong	23.68	350	eP	P	02 07 01.0	-2.6
H08S2	Diego Garcia H	25.69	248	T	T	02 33 58.5	
	baz=68,slow=76,SNR=898						
H08S3	Diego Garcia H	25.69	248	T	T	02 33 55.8	
	baz=68,slow=76,SNR=1002						
H08S1	Diego Garcia H	25.71	248	T	T	02 33 57.6	
	baz=68,slow=76,SNR=959						
LSA	Lhasa	27.85	350	eP	P	02 07 41.0	-0.7
	14nm,0.8s						
CD2	Chengdu	29.46	13	eP	P	02 07 56.0	+0.4
WHN	Wuhan	33.01	29	eP	P	02 08 29.6	+2.9
XAN	Xi'an	33.85	19	P	P	02 08 32.8	-1.3
XAN				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH	Lanzhou	34.49	11	eP	P	02 08 39.4	-0.4
LZH				pP	sP	02 08 50.4	-2.2
LZH				sP	pP	02 08 54.8	+6.0
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
NJ2	Nanjing	36.54	33	eP	P	02 08 56.3	-1.0
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
GTA	Gaotai	37.23	4	⇑P	P	02 09 02.3	-0.9
GTA				pP	pP	02 09 09.8	-2.5
GTA				sP	sP	02 09 13.8	-2.3
GTA				S	S	02 14 47.8	-0.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,54nm,6.4s						
GTA				LR	LR		
	comp=N,86nm,14.3s						
GTA				LR	LR		
	comp=E,63nm,15.7s						
HHC	Hu-ho-hao-te	40.92	18	eP	P	02 09 35.5	+1.5
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,85nm,5.3s						
KSH	Kashi	41.56	336	eP	P	02 09 40.9	+1.5
KSH				sP	sP	02 09 55.1	+2.8
KSH				S	S	02 15 54.3	+0.8
KSH				sS	sS	02 16 11.9	+3.2
KSH				pmax	pmax		
	comp=Z,130nm,5.7s						
KSH				LR	LR		
	comp=N,110nm,6.4s						
KSH				LR	LR		
	comp=E,81nm,5.7s						
KSH				LR	LR		
	comp=Z,170nm,6.1s						
WMQ	Urumqi	42.21	351	P	P	02 09 44.6	+0.1
WRA	Warramunga Arr	43.27	122	P	P	02 09 53.6	+0.2
	1.9nm,1.1s,baz=301,slow=9.2,SNR=6.5						
WRAB	Tennant Creek	43.27	122	eP	P	02 09 54.3	+0.9
	3.9nm,0.7s						
ASAR	Alice Springs	44.65	127	P	P	02 10 04.6	+0.1

	0.5nm,0.5s,baz=298,slow=8.1,SNR=8.1							
KSRS	**Korea Array**	**45.58**	**36**	LR	LR	02 30 52.5		
	comp=Z,42nm,18.4s,baz=228,slow=38							
MK01	**Makanchi Array**	**46.10**	**347**	*eP*	**P**	**02 10 15.3**	**-0.3**	
MK31	**Makanchi Array**	**46.13**	**347**	*eP*	**P**	**02 10 15.6**	**-0.3**	
MKAR	**Makanchi Array**	**46.13**	**347**	P	**P**	**02 10 15.6**	**-0.3**	
	9.0nm,0.8s,baz=161,slow=6.7,SNR=63							
MKAR	**Makanchi Array**	**46.13**	**347**	*eP*	**P**	**02 10 15.6**	**-0.3**	
	53nm,0.9s							
MAKZ	**Makanchi**	**46.22**	**346**	*eP*	**P**	**02 10 16.5**	**0.0**	
	7.6nm,0.7s							
SONM	**Songino Array**	**46.34**	**9**	P	**P**	**02 10 17.2**	**-0.4**	
	1.6nm,0.7s,baz=191,slow=9.2,SNR=11							
SONM				LR	LR	02 31 58.0		
	comp=Z,59nm,19.2s,baz=170,slow=39							
SONA1	**Songino Array**	**46.36**	**9**	*eP*	**P**	**02 10 17.1**	**-0.6**	
KKAR	**Karatay Array**	**46.83**	**334**	*eP*	**P**	**02 10 21.8**	**+0.4**	
	1.4nm,0.8s							
GEYT	**Alibeck**	**49.94**	**320**	P	**P**	**02 10 46.4**	**+0.9**	
	1.2nm,0.5s,baz=115,slow=6.7,SNR=4.0							
KURBB	**Kurchatov Arra**	**50.60**	**345**	P	**P**	**02 10 50.2**	**0.0**	
	3.1nm,0.7s,baz=160,slow=7.0,SNR=29							
KURK	**Kurchatov**	**50.67**	**346**	*eP*	**P**	**02 10 50.6**	**-0.1**	
	4.3nm,0.9s							
JHJ	**Hachijo jima 2**	**51.02**	**48**	P	**P**	**02 10 53.8**	**+0.1**	
	85nm,0.8s,baz=255,slow=12,SNR=2.1							
MJAR	**Matsushiro Arr**	**51.60**	**43**	P	**P**	**02 10 57.6**	**-0.4**	
	0.8nm,0.8s,baz=236,slow=14,SNR=3.1							
PMG	**Port Moresby**	**51.92**	**104**	P	**P**	**02 11 01.0**	**+0.3**	
	3.7nm,0.4s,baz=275,slow=12,SNR=2.1							
PMG	**Port Moresby**	**51.92**	**104**	P	**P**	**02 11 01.0**	**+0.3**	
ZAA0	**Zalesovo Array**	**52.50**	**351**	*eP*	**P**	**02 11 04.2**	**-0.1**	
	10.0nm,0.9s							
ZALV	**Zalesovo Beam**	**52.50**	**351**	P	**P**	**02 11 04.1**	**-0.3**	
	8.1nm,0.8s,baz=182,slow=6.3,SNR=32							
BVAR	**Borovoye Array**	**55.08**	**341**	P	**P**	**02 11 22.9**	**-0.4**	
	2.7nm,0.8s,baz=144,slow=10,SNR=14							
BRVK	**Borovoye**	**55.15**	**341**	*eP*	**P**	**02 11 22.5**	**-1.2**	
	6.8nm,0.8s							
ABKAR	**Akbulak array**	**56.28**	**332**	*eP*	**P**	**02 11 30.8**	**-1.2**	
	17nm,0.9s							
KMBO	**Kilima Mbogo**	**59.16**	**267**	*eP*	**P**	**02 11 54.0**	**+0.9**	
	1.1nm,0.9s							
HNR	**Honiara**	**64.40**	**101**	P	**P**	**02 12 27.3**	**-0.8**	
	73nm,0.4s,baz=249,slow=8.6,SNR=2.6							
FINES	**FINESS Array B**	**78.77**	**333**	P	**P**	**02 13 53.5**	**-0.2**	
	1.1nm,0.8s,baz=87,slow=7.2,SNR=3.3							
GERES	**GERESS Array B**	**83.54**	**319**	P	**P**	**02 14 20.6**	**+1.0**	
	0.2nm,0.7s,baz=87,slow=7.0,SNR=3.0							
CPUP	**Villa Florida**	**145.09**	**224**	PKPbc	**PKPdf**	**02 21 31.1**	**+1.6**	
	1.2nm,0.9s,baz=47,slow=5.9,SNR=3.0							

*ISCJB **18** 02:05:22.4±0.6,67.20N±0.02×20.67E±0.09,h0km, Error ellipse: s-maj=5.2km s-min=3.3km az=178.4*
*CSEM **18** 02:05:22.7±0.3,67.18N×20.72E,h2km, ML2.5, Error ellipse: s-maj=6.6km s-min=3.8km az=64.0, Mining explosion.*
*UPP **18** 02:05:23.1,67.18N×20.65E,h0km, ML2.5, Suspected Mining explosion.*
*HEL **18** 02:05:23.7±0.0,67.17N×20.64E,h0km, ML1.6, ML2.5(UPP), Explosion*

ISC 18 02:05:23.1±0.8, 67.17N±0.02×20.68E±0.03, h0km, n37, σ1s21/50, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.06**	**224**	P	**Pg**	**02 05 24.6**	**+0.4**
DUNU				S	**Sg**	**02 05 25.8**	**+0.7**
DUNU	**Dundret**	**0.06**	**224**	P	**Pg**	**02 05 24.6**	**+0.4**
DUNU				S	**Sg**	**02 05 25.8**	**+0.7**
DUNU	**Dundret**	**0.06**	**224**	*i* P	**Pg**	**02 05 24.6**	**+0.4**
DUNU				*i* S	**Sg**	**02 05 25.8**	**+0.7**
MASU	**Masugnsbyn**	**0.59**	**60**	P	**Pg**	**02 05 34.4**	**+0.1**
MASU	**Masugnsbyn**	**0.59**	**60**	P	**Pg**	**02 05 34.5**	**+0.1**
MASU	**Masugnsbyn**	**0.59**	**60**	*i* P	**Pg**	**02 05 34.5**	**+0.1**
RATU	**Laukkuluspa**	**0.78**	**328**	P	**Pg**	**02 05 37.6**	**-0.5**
RATU	**Laukkuluspa**	**0.78**	**328**	P	**Pg**	**02 05 37.6**	**-0.5**
RATU	**Laukkuluspa**	**0.78**	**328**	*i* P	**Pg**	**02 05 37.6**	**-0.5**
KUA	**Kurravaara**	**0.80**	**351**	P	**Pg**	**02 05 37.8**	**-0.6**
KUA	**Kurravaara**	**0.80**	**351**	P	**Pg**	**02 05 37.8**	**-0.6**
KUA	**Kurravaara**	**0.80**	**351**	*i* P	**Pg**	**02 05 37.8**	**-0.6**
ERTU	**Ertsjaerv**	**0.86**	**135**	P	**Pg**	**02 05 39.1**	**-0.4**
ERTU				Sb	**Sg**	**02 05 51.4**	**+0.9**
ERTU	**Ertsjaerv**	**0.86**	**135**	P	**Pg**	**02 05 39.1**	**-0.4**
ERTU	**Ertsjaerv**	**0.86**	**135**	*eP*	**Pg**	**02 05 39.2**	**-0.4**
ERTU				*e*SB	**Sg**	**02 05 51.4**	**+0.9**
LANU	**Lannavaara**	**1.02**	**29**	Sb	**Sg**	**02 05 56.5**	**+0.7**
LANU	**Lannavaara**	**1.02**	**29**	*e*SB	**Sg**	**02 05 56.5**	**+0.7**
HEF	**Hetta**	**1.69**	**41**	Pg	**Pn**	**02 05 54.0**	**+0.2**
HEF				S	**Sn**	**02 06 15.4**	**-0.7**
HEF	**Hetta**	**1.69**	**41**	*e*PG	**Pn**	**02 05 54.0**	**+0.2**
	baz=222						
HEF				MSG		02 06 14.1	
	comp=Z,3.5nm,0.2s						
HEF				*e*S	**Sn**	**02 06 15.4**	**-0.7**
KALU	**Kalix**	**1.69**	**140**	Pn	**Pn**	**02 05 54.6**	**+0.7**
KALU	**Kalix**	**1.69**	**140**	*e*PN	**Pn**	**02 05 54.6**	**+0.7**
KALU				*e*SN	**Sb**	**02 06 17.5**	**+0.7**
TOF	**Tornio**	**1.82**	**125**	Pg	**Pb**	**02 05 56.7**	**-0.5**
TOF	**Tornio**	**1.82**	**125**	*e*PG	**Pb**	**02 05 56.7**	**-0.4**
	baz=308						
TOF				MSG		02 06 18.5	
	comp=Z,3.3nm,0.2s						
TOF				*e*SN	**Sg**	**02 06 21.6**	**+0.2**
KIF	**Kilpisjarvi**	**1.85**	**1**	Pg	**Pb**	**02 05 57.5**	**-0.2**
KIF				Sg	**Sg**	**02 06 22.9**	**+0.5**
KIF	**Kilpisjarvi**	**1.85**	**1**	*e*PG	**Pb**	**02 05 57.5**	**-0.2**
	baz=181						
KIF				MSG		02 06 19.8	
	comp=Z,4.1nm,0.2s						
KIF				*e*SG	**Sg**	**02 06 22.9**	**+0.5**
SGF	**Sodankyl**	**2.28**	**80**	Sb	**Sb**	**02 06 33.3**	**-0.5**
SGF	**Sodankyl**	**2.28**	**80**	*e*SB	**Sb**	**02 06 33.4**	**-0.5**
ARE0	**ARCESS Array S**	**2.98**	**35**	Pb	**Pb**	**02 06 15.2**	**-1.7**
ARE0				S	**Sn**	**02 06 49.5**	**+1.6**
ARE0	**ARCESS Array S**	**2.98**	**35**	*e*PB	**Pb**	**02 06 15.2**	**-1.7**
	baz=217						
ARE0				*e*S	**Sn**	**02 06 49.5**	**+1.6**
OUL	**Oulu**	**2.98**	**132**	Sb	**Sb**	**02 06 53.6**	**-0.2**
OUL	**Oulu**	**2.98**	**132**	*e*SB	**Sb**	**02 06 53.6**	**-0.2**
MSF	**Maaselka**	**3.57**	**107**	Sg	**Sb**	**02 07 14.1**	**+3.2**
MSF	**Maaselka**	**3.57**	**107**	*e*SG	**Sb**	**02 07 14.2**	**+3.2**
KU6	**Riekki**	**3.85**	**103**	Sg	**Sg**	**02 07 24.8**	**-1.8**
KU6	**Riekki**	**3.85**	**103**	*e*SG	**Sg**	**02 07 24.9**	**-1.8**
HEMU	**Hemsoen**	**4.65**	**195**	Sg	**Sg**	**02 07 49.0**	**-3.2**
HEMU	**Hemsoen**	**4.65**	**195**	*e*SG	**Sg**	**02 07 49.1**	**-3.2**

MEX 18 02:28:42.1±0.4, 14.77N×93.35W, h16km±999km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.94**	**8**	*eP*	Pb	02 28 56.8	-3.2
PCIG				*e*S	Sb	02 29 08.1	-4.0
THIG		**1.06**	**83**	*i* P	Pb	02 28 58.8	-3.3
THIG				*e*S	Sb	02 29 11.7	-4.0
CCIG	**Comitan**	**1.90**	**38**	*eP*	Pn	02 29 11.0	-3.1
CCIG				*e*S	Sn	02 29 33.5	-4.3
TGIG		**2.01**	**6**	*eP*	Pn	02 29 11.6	-3.8
TGIG				*i* S	Sn	02 29 35.9	-4.3

NNC 18 02:35:17.9±1.9, 39.55N×67.02E, h6km±6km, mb3.8, mpv3.4, 11C-12D, Error ellipse: s-maj=15.3km s-min=10.5km az=7.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**2.48**	**43**	⇑Pg	Pb	02 36 02.1	-0.6
	33nm,0.4s						
TAS				⇓Lg	Lg	02 36 38.2	
	247nm,0.6s						
KK31	**Karatay Array**	**4.41**	**35**	⇓Pn	Pn	02 36 27.3	+1.9
	0.8nm,0.4s,baz=206,slow=11,SNR=34						
KK31				Pg	Pg	02 36 40.3	-2.1
	4.0nm,0.5s,baz=218,slow=16,SNR=13						
KK31				Lg	Lg	02 37 39.4	
	11nm,0.4s,baz=216,slow=28,SNR=8.9						
SFK	**Sufi-Kurgan**	**5.01**	**83**	⇓Pn	Pn	02 36 34.0	+0.2
	0.8nm,0.3s						
SFK				⇑Pg	Pb	02 36 47.5	+1.4
	4.7nm,0.6s						
SFK				⇑Sn	Sn	02 37 32.9	+0.7
	16nm,0.4s						
SFK				⇑Lg	Lg	02 37 57.2	
	10nm,0.3s						
MNAS	**Manas**	**5.08**	**53**	⇓Pn	Pn	02 36 35.4	+0.8
	3.8nm,0.4s						
MNAS				⇑Pg	Pb	02 36 49.3	+2.2
	3.6nm,0.5s						
MNAS				⇓Sn	Sn	02 37 34.3	+0.6
	4.7nm,0.4s						
MNAS				⇓Lg	Lg	02 37 56.8	
	12nm,0.5s						
AAK	**Ala-Archa**	**6.43**	**59**	⇓Pn	Pn	02 36 53.0	-0.2
	0.7nm,0.3s						
AAK				⇑Pg	Pb	02 37 15.4	+5.1
	2.2nm,0.5s						
AAK				⇓Sn	Sn	02 38 08.8	+1.7
	4.2nm,0.9s						
AAK				⇑Lg	Lg	02 38 41.9	
	11nm,0.8s						
TKM2	**Tokmak 2**	**7.28**	**60**	⇑Pn	Pn	02 37 06.1	+1.1
	1.0nm,0.6s						
TKM2				⇓Pg	Pb	02 37 30.2	+5.4
	2.4nm,0.5s						
TKM2				⇑Sn	Sn	02 38 29.1	+1.0
	2.6nm,0.7s						
TKM2				⇓Lg	Lg	02 39 05.3	
	7.5nm,0.7s						
MDOK	**Medeo**	**8.36**	**61**	Sn	Sn	02 38 54.0	-0.4
	3.3nm,0.8s						
MDOK				⇑Lg	Lg	02 39 41.5	
	5.7nm,0.8s						
OTUK	**Ortayu**	**9.50**	**22**	⇓Pn	Pn	02 37 37.4	+2.2
	1.4nm,0.8s						
AB31	**Akbulak array**	**10.94**	**335**	⇑Pn	Pn	02 37 53.6	-1.3
	0.8nm,0.6s						
AB31				⇓Sn	Sn	02 39 54.0	-3.5
	0.7nm,0.5s						

DJA 18 02:36:05.8±0.7, 0°N±6°×12°5E±°, h70km±21km, M3.5/7, MLv3.5/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.75**	**305**	P	Pn	02 36 22.3	+1.1
LUWI	**Luwuk**	**2.16**	**237**	P	Pn	02 36 40.0	+0.3
LUWI				S	Sn	02 37 06.3	+0.8
SANI	**Sanana**	**2.58**	**147**	P	Pn	02 36 43.7	-1.7
MRSI	**Marisa**	**2.67**	**277**	P	Pn	02 36 44.7	-1.8
APSI	**Ampana**	**3.12**	**250**	P	Pn	02 36 53.7	+1.0

*TEH **18** 02:38:15.3,36.75N×49.06E,h10km, ML4.6*
*ISN **18** 02:38:15.2±4.0,36.78N×49.21E,h0km, ML4.6*
*NEIC **18** 02:38:16.3±0.0,36.82N×49.20E,h14km,mb4.4/13, ML4.5(THR),MN4.6(TEH), After THR.*
*THR **18** 02:38:16.3±0.9,36.82N×49.20E,h14km±7km, ML4.5*
*IDC **18** 02:38:16.2±0.8,36.79N×49.15E,h0km,mb4.0/19, mb1 4.1/28,mb1mx3.9/64,mbtmp4.0/28,ML3.5/7,MS3.1/12, Ms1 3.2/12,ms1mx2.9/60, Error ellipse: s-maj=16.0km s-min=11.7km az=7.0*
*CSEM **18** 02:38:17.8±0.1,36.68N×49.21E,h10km,mb4.2/19, Error ellipse: s-maj=4.0km s-min=2.7km az=58.0*
*MOS **18** 02:38:19.2±1.2,36.71N×49.19E,h39km,mb4.3/19, Error ellipse: s-maj=8.4km s-min=4.1km az=111.9*
*NNC **18** 02:38:25.7±1.8,37.66N×49.74E,h0km, mb4.4,mpv4.4, Error ellipse: s-maj=21.7km s-min=14.7km az=49.0*

ISC 18 02:38:16.5±1.1, 36.72N±0.03×49.25E±0.02, h6km±8km, n277, σ2s03/296, mb4.1/31, MS3.1/9, 62C-43D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZNJK	**Zanjan**	**0.46**	**264**	Pg	**Pg**	**02 38 25.0**	**-0.3**
ZNJK	**Zanjan**	**0.46**	**264**	*e*Pg	**Pg**	**02 38 25.1**	**-0.3**
ZNJK	**Zanjan**	**0.46**	**264**	*e*Pg	**Pg**	**02 38 25.1**	**-0.3**
ZNJK				AML	AML	02 38 31.4	
	comp=N,46μm,0.4s						
IGZV	**Ghazvin**	**0.85**	**113**	*e*Pg	**Pg**	**02 38 32.8**	**-0.1**
IGZV				*e*AMB	AMB	02 38 58.2	
	comp=Z,77μm,0.1s						
IGZV	**Ghazvin**	**0.85**	**113**	Pg	**Pg**	**02 38 32.7**	**-0.1**
IGZV	**Ghazvin**	**0.85**	**113**	*e*Pg	**Pg**	**02 38 32.8**	**-0.1**
HKZM	**Kohzaman**	**1.37**	**192**	*e*Pg	**Pn**	**02 38 42.8**	**+0.4**
HKZM				*e*Sg	**Sg**	**02 39 02.1**	**+1.5**
HKZM				*e*AMB	AMB	02 39 03.8	
	comp=Z,99nm,0.1s						
HKZM	**Kohzaman**	**1.37**	**192**	*e*Pg	**Pn**	**02 38 42.8**	**+0.4**
HKZM				*e*Sg	**Sg**	**02 39 02.1**	**+1.5**
THKV	**Tehran--Karaj**	**1.54**	**121**	Pn	**Pn**	**02 38 46.0**	**+1.3**
THKV	**Tehran--Karaj**	**1.54**	**121**	Pn	**Pn**	**02 38 46.0**	**+1.3**
THKV	**Tehran--Karaj**	**1.54**	**121**	*e*Pn	**Pb**	**02 38 46.4**	**+0.7**
THKV				AML	AML	02 39 10.0	
	comp=E,6μm,0.4s						
CHTH	**Charan**	**1.72**	**118**	P	**Pn**	**02 38 48.0**	**+0.8**
CHTH	**Charan**	**1.72**	**118**	P	**Pn**	**02 38 48.0**	**+0.8**
CHTH	**Charan**	**1.72**	**118**	*e*Pg	**Pb**	**02 38 49.0**	**+0.3**
IR5	**Iran Long-Peri**	**1.85**	**144**	*e*Pn	**Pb**	**02 38 51.0**	**+0.1**
IR5	**Iran Long-Peri**	**1.85**	**144**	*e*Pn	**Pb**	**02 38 51.0**	**+0.1**
ASTR	**Astara**	**1.87**	**349**	⇓P	**Pb**	**02 38 50.5**	**-0.6**
	SNR=41						
HAGD	**Aghdareh**	**1.90**	**183**	*e*Pn	**Pb**	**02 38 51.8**	**+0.1**
HAGD				*e*AMB	AMB	02 39 19.5	
	comp=Z,99nm,0.4s						
HAGD	**Aghdareh**	**1.90**	**183**	*e*Pn	**Pb**	**02 38 51.8**	**+0.1**
LKRN	**Lenkeran, Azer**	**2.02**	**350**	⇓P	**Pb**	**02 38 52.6**	**-1.0**
	SNR=56						
LRK	**Lerik**	**2.05**	**340**	⇓P	**Pn**	**02 38 52.9**	**+1.2**
	SNR=72						
LRK				⇑S	**Sb**	**02 39 19.3**	**-0.7**
IBST	**Bostanabad**	**2.12**	**298**	*e*Pn	**Pn**	**02 38 52.6**	**-0.1**
IBST				*e*Sg	**Sb**	**02 39 21.1**	**-1.0**
IBST				*e*AMB	AMB	02 39 22.2	
	comp=Z,77μm,0.1s						
IBST	**Bostanabad**	**2.12**	**298**	Pn	**Pn**	**02 38 52.5**	**-0.1**
IBST				Sg	**Sb**	**02 39 21.1**	**-1.0**
IBST	**Bostanabad**	**2.12**	**298**	*e*Pn	**Pn**	**02 38 52.6**	**-0.1**
IBST				*e*Sg	**Sb**	**02 39 21.1**	**-1.0**
ASAO	**Ashtian**	**2.26**	**163**	Pn	**Pn**	**02 38 56.0**	**+1.4**
ASAO	**Ashtian**	**2.26**	**163**	Pn	**Pn**	**02 38 56.0**	**+1.4**
ASAO	**Ashtian**	**2.26**	**163**	*e*Pn	**Pn**	**02 38 57.0**	**+2.3**
ASAO				AML	AML	02 39 35.0	
	comp=N,3μm,1.0s						
GRMI	**Germi**	**2.34**	**333**	Pn	**Pn**	**02 38 55.0**	**-0.7**
GRMI	**Germi**	**2.34**	**333**	*e*Pn	**Pn**	**02 38 55.3**	**-0.4**
GRMI	**Germi**	**2.34**	**333**	*e*Pn	**Pn**	**02 38 55.3**	**-0.4**
IDMV	**Damavand**	**2.53**	**116**	*e*AMB	AMB	02 39 09.9	
	comp=Z,17μm,0.3s						
IDMV				*e*Pn	**Pb**	**02 39 01.5**	**-0.9**
IPRN	**Peran**	**2.54**	**100**	*e*AMB	AMB	02 39 06.1	
	comp=Z,36μm,0.2s						
IPRN				*e*Pn	**Pb**	**02 39 01.7**	**-0.8**
HSAM	**Samen**	**2.56**	**192**	*e*AMB	AMB	02 39 44.2	
	comp=Z,99nm,0.4s						
GLBA	**Clilabad**	**2.60**	**345**	⇓P	**Pn**	**02 39 00.6**	**+1.5**
	SNR=94						
GLBA				⇑S	**Sn**	**02 39 33.2**	**+2.1**
IVRN	**Varamin**	**2.65**	**130**	*e*Pn	**Pb**	**02 39 03.2**	**-1.2**
IVRN				*e*AMB	AMB	02 39 49.5	
	comp=Z,22μm,0.3s						
IVRN	**Varamin**	**2.65**	**130**	Pn	**Pb**	**02 39 03.1**	**-1.3**
IVRN	**Varamin**	**2.65**	**130**	Pn	**Pb**	**02 39 03.1**	**-1.3**
GHVR	**GHOM**	**2.79**	**143**	Pn	**Pn**	**02 39 03.0**	**+1.2**
GHVR				Sg	**Sg**	**02 39 46.0**	**-0.1**
GHVR	**GHOM**	**2.79**	**143**	Pn	**Pn**	**02 39 03.0**	**+1.2**
GHVR				*e*Sg	**Sg**	**02 39 46.1**	**-0.1**
GHVR	**GHOM**	**2.79**	**143**	*e*Pn	**Pn**	**02 39 04.0**	**+2.2**
GHVR				*e*Sg	**Sg**	**02 39 46.1**	**-0.1**
GHVR				AML	AML	02 39 55.9	
	comp=E,1μm,0.6s						
ITBZ	**Tabriz**	**2.89**	**302**	*e*Pn	**Pn**	**02 39 03.2**	**-0.1**
ITBZ				*e*AMB	AMB	02 39 51.5	
	comp=Z,15μm,0.2s						
ITBZ	**Tabriz**	**2.89**	**302**	Pn	**Pn**	**02 39 03.1**	**-0.2**
ITBZ	**Tabriz**	**2.89**	**302**	*e*Pn	**Pn**	**02 39 03.2**	**-0.1**
IKOM	**Komasi**	**2.91**	**210**	*e*AMB	AMB	02 39 56.7	
	comp=Z,14μm,0.4s						
IVIS	**Veis**	**2.94**	**222**	*e*AMB	AMB	02 39 56.9	
	comp=Z,12μm,0.4s						
IALA	**Alasht**	**2.94**	**101**	*e*AMB	AMB	02 39 13.0	
	comp=Z,26μm,0.3s						
IALA				*e*Pn	**Pn**	**02 39 07.3**	**+3.2**
IFIR	**Firoozkooh**	**3.03**	**110**	*e*AMB	AMB	02 39 18.8	
	comp=Z,6μm,0.2s						
IFIR				*e*Pn	**Pb**	**02 39 09.2**	**-1.9**
IDHR	**Dehrash**	**3.08**	**230**	*e*Pn	**Pn**	**02 39 07.7**	**+1.8**
IDHR				*e*AMB	AMB	02 40 06.3	
	comp=Z,10μm,0.6s						
IDHR	**Dehrash**	**3.08**	**230**	Pn	**Pn**	**02 39 07.6**	**+1.7**
IDHR	**Dehrash**	**3.08**	**230**	Pn	**Pn**	**02 39 07.6**	**+1.7**
SAAT	**Saatly**	**3.20**	**349**	⇓P	**Pn**	**02 39 09.9**	**+2.6**
	SNR=3.4						
SAAT				⇓S	**Sb**	**02 39 49.9**	**-3.1**
ALIB	**Äli-Bayra**	**3.24**	**357**	⇑P	**Pn**	**02 39 09.4**	**+1.6**
	SNR=12						
ALIB				⇓S	**Sn**	**02 39 48.8**	**+2.2**
ISHB	**Shabestar**	**3.28**	**299**	*e*Pn	**Pn**	**02 39 08.4**	**-0.3**
ISHB				*e*AMB	AMB	02 40 03.2	
	comp=Z,25μm,0.2s						
ISHB	**Shabestar**	**3.28**	**299**	Pn	**Pn**	**02 39 08.4**	**-0.3**
ISHB	**Shabestar**	**3.28**	**299**	Pn	**Pn**	**02 39 08.4**	**-0.3**
ORD	**Ordubad**	**3.39**	**312**	⇓P	**Pn**	**02 39 11.1**	**+1.1**
	SNR=22						
ORD				⇑S	**Sn**	**02 39 51.9**	**+1.3**
IMRD	**Marand**	**3.44**	**306**	*e*Pn	**Pn**	**02 39 11.5**	**+0.6**
IMRD				*e*AMB	AMB	02 40 12.0	
	comp=Z,22μm,0.2s						
IMRD	**Marand**	**3.44**	**306**	Pn	**Pn**	**02 39 11.4**	**+0.6**
IMRD	**Marand**	**3.44**	**306**	*e*Pn	**Pn**	**02 39 11.5**	**+0.6**
QAM	**Ghamsar**	**3.46**	**148**	*e*AMB	AMB	02 40 16.8	
	comp=Z,14μm,0.2s						
GOBA	**Gobu**	**3.69**	**6**	⇑P	**Pn**	**02 39 15.6**	**+1.5**
	SNR=9.6						
GOBA				⇓S	**Sn**	**02 40 00.0**	**+2.1**
IGLO	**Ghaloghah**	**3.69**	**92**	*e*Pn	**Pn**	**02 39 16.6**	**+2.2**
IGLO				*e*AMB	AMB	02 40 32.7	
	comp=Z,11μm,0.4s						
IGLO	**Ghaloghah**	**3.69**	**92**	Pn	**Pn**	**02 39 16.5**	**+2.2**
KDMR	**Kurdemir**	**3.74**	**347**	⇑P	**Pn**	**02 39 16.4**	**+1.6**
KDMR				⇑S	**Sn**	**02 40 01.5**	**+2.4**
GALA	**Gala**	**3.75**	**11**	⇑P	**Pn**	**02 39 16.3**	**+1.4**
GALA				⇑S	**Sn**	**02 40 01.3**	**+2.0**
ZRD	**Zardab**	**3.76**	**341**	⇓P	**Pn**	**02 39 16.5**	**+1.5**
	SNR=3.1						
ZRD				⇑S	**Sn**	**02 40 01.7**	**+2.2**
GBS	**Qobustan**	**3.81**	**356**	⇓P	**Pn**	**02 39 17.3**	**+1.5**
	SNR=6.3						
GBS				⇑S	**Sn**	**02 40 03.1**	**+2.1**
NAX	**Nakhchivan**	**3.85**	**311**	P	**Pn**	**02 39 17.3**	**+1.0**
NAX	**Nakhchivan**	**3.85**	**311**	⇑P	**Pn**	**02 39 17.3**	**+1.0**
	SNR=11						
NAX				⇓S	**Sn**	**02 40 03.1**	**+1.3**
BRDA	**Brd**	**3.89**	**336**	⇑P	**Pn**	**02 39 18.4**	**+1.6**
	SNR=35						
BRDA				⇑S	**Sn**	**02 40 05.0**	**+2.2**
NDR	**Nardaran**	**3.90**	**8**	⇓P	**Pn**	**02 39 18.4**	**+1.5**
	SNR=21						
NDR				⇑S	**Sn**	**02 40 05.0**	**+2.1**
IKLH	**Kolahrood**	**3.90**	**150**	*e*Pn	**Pn**	**02 39 20.4**	**+3.2**
IKLH				*e*AMB	AMB	02 40 27.7	
	comp=Z,7μm,0.3s						
IKLH	**Kolahrood**	**3.90**	**150**	Pn	**Pn**	**02 39 20.3**	**+3.1**
IKLH	**Kolahrood**	**3.90**	**150**	Pn	**Pn**	**02 39 20.3**	**+3.1**
SBZ	**Shahbuz**	**3.95**	**314**	⇓P	**Pn**	**02 39 18.9**	**+1.1**
	SNR=39						
SBZ				⇑S	**Sn**	**02 40 05.9**	**+1.4**
PQL	**Pirkuli**	**4.09**	**353**	⇑P	**Pn**	**02 39 21.2**	**+1.4**
	SNR=9.1						
PQL				⇓S	**Sn**	**02 40 10.1**	**+2.1**
IML	**Ismayilli**	**4.15**	**349**	⇓P	**Pn**	**02 39 21.9**	**+1.5**
	SNR=14						
IML				⇓S	**Sn**	**02 40 11.4**	**+2.1**
SIZA	**Siyzn**	**4.36**	**357**	⇓P	**Pn**	**02 39 24.7**	**+1.4**
	SNR=22						
SIZA				⇑S	**Sn**	**02 40 16.5**	**+2.1**
QBL	**Gabala**	**4.36**	**346**	⇓P	**Pn**	**02 39 24.8**	**+1.5**
	SNR=15						
QBL				⇓S	**Sn**	**02 40 16.6**	**+2.2**
MNGR	**Mingechevir, A**	**4.38**	**338**	P	**Pn**	**02 39 25.1**	**+1.5**
MNGR	**Mingechevir, A**	**4.38**	**338**	⇓P	**Pn**	**02 39 25.1**	**+1.5**
	SNR=4.7						
MNGR				⇑S	**Sn**	**02 40 17.1**	**+2.2**
XNQ	**Khinaliq**	**4.53**	**349**	⇓P	**Pn**	**02 39 27.3**	**+1.5**
	SNR=19						
XNQ				⇑S	**Sn**	**02 40 21.0**	**+2.2**
GANJ	**Ganja**	**4.54**	**331**	P	**Pn**	**02 39 27.1

comp=Z,9.0nm,0.8s
ONI Oni 7.37 324 P **Pn** 02 40 08.6 +3.9
ONI Oni 7.37 324 *e*P **Pn** 02 40 08.5 +3.9
NCK Nalchik 8.03 329⇓*e*P **Pn** 02 40 17.1 +3.4
NCK Nalchik 8.03 329 *e*P **Pn** 02 40 17.1 +3.4
NEY Neytrino 8.22 324⇑*e*P **Pn** 02 40 19.0 +2.6
NEY Neytrino 8.22 324 *e*P **Pn** 02 40 19.0 +2.6
KBZ Khabaz 8.52 327 Pn **Pn** 02 40 21.9 +1.6
comp=Z,0.1nm,0.3s,baz=141,slow=10,SNR=3.8
KVAR Kislovodsk Arr 8.79 327 Pn **Pn** 02 40 25.1 +1.0
baz=134,slow=12,SNR=3.1
KIV Kislovodsk 8.79 327 *e*P **Pn** 02 40 27.8 +3.6
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,60nm,9.0s
KIV Kislovodsk 8.79 327 *e*Pn **Pn** 02 40 24.1 0.0
KIV Kislovodsk 8.79 327 *e*Pn **Pn** 02 40 24.1 0.0
KIV Kislovodsk 8.79 327 *e*P **Pn** 02 40 27.8 +3.6
comp=Z,60nm,9.0s
SOC Sochi 10.00 316 *e*P **Pn** 02 40 38.9 -1.8
SOC *e* 02 42 31.5
SOC MLR MLR
comp=Z,137nm,11.0s
ASF Jabal al Asfar 11.16 250 Pn **Pn** 02 40 57.3 +0.7
comp=Z,0.1nm,0.3s,baz=65,slow=13,SNR=2.9
MMAI Mount Meron Ar 11.96 256 LR LR 02 46 31.4
comp=Z,65nm,21.2s,baz=115,slow=42
BRTR Keskin Array B 12.64 288 Pn **Pn** 02 41 16.8 -0.1
comp=Z,0.1nm,0.3s,baz=112,slow=16,SNR=2.8
BRTR LR LR 02 46 42.5
comp=Z,74nm,19.4s,baz=68,slow=40
UOSS Minazif 13.17 151 *e*Pn **Pn** 02 41 24.0 0.0
UOSS Minazif 13.17 151 *e*Pn **Pn** 02 41 24.0 0.0
BR231 Keskin MP Arra 13.31 289 *e*Pn **Pn** 02 41 26.0 -0.1
BR231 Keskin MP Arra 13.31 289 *e*Pn **Pn** 02 41 26.0 -0.1
RAYN Ar Rayn 13.55 195 P **Pn** 02 41 29.7 +0.4
RAYN Ar Rayn 13.55 195 *e*Pn **Pn** 02 41 28.8 -0.5
RAYN Ar Rayn 13.55 195 *e*Pn **Pn** 02 41 28.8 -0.5
RAYN Ar Rayn 13.55 195 P **Pn** 02 41 29.7 +0.4
SIM Simferopol' 14.08 310 P **Pn** 02 41 37.2 +0.7
SIM pmax pmax
comp=Z,11nm,0.9s
SIM MLR MLR
comp=Z,50nm,14.2s
SIM Simferopol' 14.08 310 P **Pn** 02 41 37.2 +0.7
comp=Z,50nm,14.2s
AB31 Akbulak array 14.75 29⇑Pn Pn 02 41 41.1 -4.5
comp=Z,2.3nm,0.6s
AB31 ⇑Sn Sn 02 44 15.4 -14
comp=Z,3.9nm,0.7s
AKTO Aktyubinsk 15.09 22 Pn **Pn** 02 41 45.4 -4.7
comp=Z,3.3nm,0.3s,baz=201,slow=12,SNR=45
AKTO LR LR 02 49 10.4
comp=Z,56nm,18.2s,baz=193,slow=43
AKTO Aktyubinsk 15.09 22⇓Pn **Pn** 02 41 45.1 -5.1
comp=Z,9.0nm,0.5s
AKTO ⇑Sn Sn 02 44 25.1 -12
comp=Z,14nm,0.8s
VRH Novokhopyorsk 15.44 342 *e*P **Pn** 02 41 53.7 -1.1
VRH pmax pmax
comp=Z,20nm,1.1s
WSAR Wadi Sarin 15.69 146 Pn **P** 02 42 05.3 +3.0
comp=Z,0.2nm,0.3s,baz=344,slow=13,SNR=2.7
VSR Storozhevoye 16.18 337 *e*P **Pn** 02 42 01.7 -2.6
VSR pmax pmax
comp=Z,7.0nm,0.7s
LPSR Galich'ya Gora 17.46 339 *e*P **Pn** 02 42 18.4 -2.1
LPSR pmax pmax
comp=Z,20nm,0.7s
KKAR Karatay Array 17.49 62 *e*P **Pn** 02 42 19.5 -1.5
KKAR Karatay Array 17.49 62 *e*Pn **Pn** 02 42 19.5 -1.5
SORM Soroca 19.12 313⇑*i*P **P** 02 42 39.5 -0.5
SORM Soroca 19.12 313⇑P **P** 02 42 39.5 -0.5
VRI Vrincioaia 19.18 305⇑*i*P **Pn** 02 42 47.7 +6.1
VRI Vrincioaia 19.18 305⇑P **Pn** 02 42 47.7 +6.1
PLOR Plostina 19.22 305⇓*i*P **Pn** 02 42 48.1 +5.9
PLOR Plostina 19.22 305⇓P **Pn** 02 42 48.1 +5.9
TESR Tescani 19.46 307⇑*i*P **P** 02 42 44.2 +0.4
MLR Muntele Rosu 19.57 304 P **Pn** 02 42 46.4 -0.1
comp=Z,0.1nm,0.3s,baz=273,slow=18,SNR=5.7
MLR LR LR 02 52 18.3
comp=Z,34nm,18.1s,baz=82,slow=43
MLR Muntele Rosu 19.57 304⇓*i*P **Pn** 02 42 46.8 +0.4
MLR Muntele Rosu 19.57 304⇓P **Pn** 02 42 46.8 +0.4
IDI Anoyia 19.75 273 P **P** 02 42 47.2 0.0
comp=Z,0.1nm,0.3s,baz=42,slow=12,SNR=2.5
AKASG Malin Array Be 20.03 321 P **P** 02 42 49.1 -0.8
comp=Z,0.7nm,0.3s,baz=122,slow=12,SNR=14
AKASG Malin Array Be 20.03 321 *ce*P Pn 02 42 51.0 -0.7
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 20.03 321 *e*P Pn 02 42 51.0 -0.7
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 20.03 321 *e*P Pn 02 42 51.9 +0.2
AKBB pmax pmax
comp=Z,33nm,1.6s
AKBB Malin Array Si 20.03 321 *e*P Pn 02 42 51.9 +0.2
comp=Z,32nm,1.6s
AKBB Malin Array Si 20.03 321 *e*P Pn 02 42 51.9 +0.2
comp=Z,32nm,1.6s
KIEV Kiev 20.03 320⇑*e*P **P** 02 42 48.6 -1.4
KIEV pmax pmax
comp=Z,6.0nm,1.1s
KIEV Kiev 20.03 320 *e*P Pn 02 42 51.1 -0.6
comp=Z,27nm,1.5s
AK11 Malin Array Si 20.05 320 *e*P Pn 02 42 51.5 -0.3
AK11 Malin Array Si 20.05 320 *e*P Pn 02 42 51.5 -0.4
PRAR RASCA 20.06 309⇓*i*P Pn 02 42 53.8 +1.7
DOPR Dopca 20.09 305⇑*i*P Pn 02 42 52.0 -0.5
VOIR 20.15 303⇑*i*P Pn 02 42 53.1 -0.2
VOIR 20.15 303⇑P Pn 02 42 53.1 -0.2
VOIR 20.15 303 P Pn 02 42 53.1 -0.2
AAK Ala-Archa 20.27 65 P Pn 02 42 54.8 0.0
comp=Z,1.1nm,0.8s,baz=211,slow=9.1,SNR=2.2
AAK LR LR 02 51 06.9
comp=Z,67nm,19.9s,baz=246,slow=38
AAK Ala-Archa 20.27 65⇑*e*P Pn 02 42 55.0 +0.2
AAK pmax pmax
comp=Z,1.0nm,0.9s
AAK Ala-Archa 20.27 65 *e*P **P** 02 42 53.0 +0.1
comp=Z,2.7nm,0.9s
AAK Ala-Archa 20.27 65 *e*P Pn 02 42 55.0 +0.2
comp=Z,1.0nm,0.9s
OBN Obninsk 20.34 339 P **P** 02 42 52.6 -0.7
comp=Z,14nm,0.6s,baz=18,slow=23,SNR=4.5
OBN LR LR 02 51 30.3
comp=Z,98nm,18.1s,baz=242,slow=39
OBN Obninsk 20.34 339⇓*i*P **P** 02 42 52.9 -0.4
OBN *e* 02 43 09.7
OBN *e*S Sn 02 46 43.0 -1.4
OBN SS **SnSn** 02 47 04.0 +5.0
OBN pmax pmax
comp=Z,15nm,0.6s
OBN MLR MLR
comp=Z,111nm,17.0s
OBN Obninsk 20.34 339 *e*P **P** 02 42 52.5 -0.8
comp=Z,35nm,1.2s
OTUK Ortayu 20.47 49⇑P **P** 02 42 54.6 -0.3
comp=Z,16nm,1.3s
MOS Moscow 20.60 341 *e*P **P** 02 42 54.9 -1.2
MOS pmax pmax
comp=Z,109nm,1.0s
ARU Arti 20.69 15 P **P** 02 42 56.8 -0.3
comp=Z,30nm,0.5s,baz=200,slow=5.0,SNR=80
ARU LR LR 02 53 42.0
comp=Z,81nm,18.2s,baz=220,slow=45
ARU Arti 20.69 15*c i*P **P** 02 42 56.1 -1.0
ARU 02 43 14.7
ARU S **S** 02 46 47.4 -0.9
ARU SS **SnSn** 02 47 06.0 -1.6
ARU pmax pmax
comp=Z,91nm,1.7s
ARU Arti 20.69 15 *e*P **P** 02 42 56.3 -0.8
comp=Z,43nm,0.6s
ARU Arti 20.69 15 *e*P **P** 02 42 56.3 -0.8
comp=Z,43nm,0.6s
BURAR Bucovina Array 20.79 309⇓*i*P **P** 02 42 58.4 0.0
BURAR Bucovina Array 20.79 309⇓P **P** 02 42 58.4 0.0
BURAR Bucovina Array 20.79 309⇓*i*P **P** 02 42 58.4 0.0
BUR04 Bucovina Ar. S 20.79 309 *e*P **P** 02 42 58.2 -0.2
BUR04 Bucovina Ar. S 20.79 309 *e*P **P** 02 42 58.2 -0.2
BUR08 Bucovina Ar. S 20.81 309 *e*P **P** 02 42 58.8 +0.2
VTS Vitosha 20.85 294⇑*i*P Pn 02 43 00.5 -1.0
VTS Vitosha 20.85 294⇑P Pn 02 43 00.5 -1.0
VTS Vitosha 20.85 294 *e*P **P** 02 43 00.1 +1.0
comp=Z,5.9nm,1.2s
VTS Vitosha 20.85 294 *e*P **P** 02 43 00.1 +1.0
comp=Z,5.9nm,1.2s
ARCR ARCALIA 21.14 307⇑*i*P **P** 02 43 03.5 +1.4
ARCR ARCALIA 21.14 307⇑*i*P **P** 02 43 03.5 +1.4
CJR Cluj-Napoca 21.51 306⇑*i*P **P** 02 43 10.3 +4.3
CJR Cluj-Napoca 21.51 306⇑P **P** 02 43 10.3 +4.3
SVE Sverdlovsk 21.52 17⇓*e*P **P** 02 43 06.5 +0.5
SVE *e*S **S** 02 46 54.7 -10
SVE pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 21.98 35*c i*P **P** 02 43 10.9 -0.1
BRVK pmax pmax
comp=Z,78nm,1.2s
BRVK Borovoye 21.98 35 *e*P **P** 02 43 11.1 +0.1
comp=Z,22nm,0.9s
BVA0 Borovoye Array 22.01 36⇑P **P** 02 43 10.9 -0.4
comp=Z,17nm,0.8s,baz=236,slow=9.3,SNR=33
BVA0 Borovoye Array 22.01 36 P **P** 02 43 10.9 -0.4
comp=Z,17nm,0.8s,baz=33,slow=9.3,SNR=33
BVAR Borovoye Array 22.01 36 P **P** 02 43 11.8 +0.5
comp=Z,11nm,0.7s,baz=241,slow=9.1,SNR=46
DRGR 22.11 305⇑*i*P **P** 02 43 14.5 +1.9
DRGR 22.11 305⇑P **P** 02 43 14.5 +1.9
DRGR 22.11 305 P **P** 02 43 14.5 +1.9
LVV L'vov 22.42 314 *e*P **P** 02 43 18.4 +2.6
CRVS Cervenica-Dubn 23.60 310 *e*P **P** 02 43 32.8 +4.8
CRVS Cervenica-Dubn 23.60 310 *e*P **P** 02 43 32.8 +4.8
PSZ Piszkesteto 24.27 307 *e*P **P** 02 43 34.2 -0.3
PSZ pmax pmax
comp=Z,4.0nm,0.9s
PSZ Piszkesteto 24.27 307 *e*P **P** 02 43 34.2 -0.3
comp=Z,3.6nm,0.9s
PSZ Piszkesteto 24.27 307 *e*P **P** 02 43 34.2 -0.3
comp=Z,3.6nm,0.9s
KLMR Klimovskoe 24.93 349 *e*P **P** 02 43 39.8 -0.4
KLMR pmax pmax
comp=Z,36nm,0.9s
KLMR Klimovskoe 24.93 349 *e*P **P** 02 43 39.9 -0.3
KLMR AMP 02 43 48.0
comp=Z,36nm,0.9s
VYHS Vyhne 25.11 308 *e*P **P** 02 43 46.2 +4.2
VYHS Vyhne 25.11 308 *e*P **P** 02 43 46.2 +4.2
KURBB Kurchatov Arra 25.13 47 P **P** 02 43 44.0 +1.9
comp=Z,2.1nm,0.7s,baz=252,slow=9.8,SNR=8.5
KURK Kurchatov 25.22 47*de*P **P** 02 43 44.7 +1.8
KURK pmax pmax
comp=Z,30nm,1.2s
KURK Kurchatov 25.22 47 *e*P **P** 02 43 43.6 +0.8
comp=Z,18nm,1.6s
TIP Timpagrande 25.66 285 *e*P **P** 02 43 46.4 -0.8
comp=Z,17nm,1.5s
TIP Timpagrande 25.66 285 *e*P **P** 02 43 46.4 -0.8
comp=Z,17nm,1.5s
VSU Vasula 26.28 333⇓*e*P **P** 02 43 52.3 -0.1
VSU pmax pmax
comp=Z,144nm,2.5s
CUC Castrocucco 26.33 287 *e*P **P** 02 43 52.9 -0.3
CUC Castrocucco 26.33 287 *e*P **P** 02 43 52.9 -0.3
MK31 Makanchi Array 26.45 57⇑P **P** 02 43 57.3 +3.2
comp=Z,1.6nm,0.6s,baz=260,slow=6.8,SNR=12
MK31 Makanchi Array 26.45 57 *e*P **P** 02 43 55.1 +0.9
MK31 Makanchi Array 26.45 57 *e*P **P** 02 43 55.0 +0.9
MK31 Makanchi Array 26.45 57 *e*P **P** 02 43 55.1 +0.9
MKAR Makanchi Array 26.45 57 P **P** 02 43 55.9 +1.8
comp=Z,1.6nm,0.6s,baz=258,slow=9.6,SNR=13
MKAR LR LR 02 55 53.0
comp=Z,39nm,19.2s,baz=297,slow=40
MKAR Makanchi Array 26.45 57*ce*P **P** 02 43 55.4 +1.3
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 26.45 57 *e*P **P** 02 43 54.2 +0.1
comp=Z,15nm,0.6s
MKAR Makanchi Array 26.45 57 *e*P **P** 02 43 55.4 +1.3
comp=Z,2.0nm,0.6s
MK01 Makanchi Array 26.45 57 *e*P **P** 02 43 55.7 +1.6
GEA0 GERESS Array S 28.50 306 *e*P **P** 02 44 12.2 -0.4
GERES GERESS Array B 28.50 306 P **P** 02 44 13.0 +0.5
comp=Z,0.6nm,0.6s,baz=96,slow=9.0,SNR=4.5
GERES LR LR 02 57 06.6
comp=Z,34nm,19.8s,baz=86,slow=40
FINES FINESS Array B 28.71 337 P **P** 02 44 14.0 -0.2
comp=Z,4.0nm,1.0s,baz=100,slow=4.5,SNR=6.0
FINES FINESS Array B 28.71 337 P **P** 02 44 14.0 -0.2
FINES pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 29.52 311 *e*P **P** 02 44 25.0 +3.5
CLL Collm 29.52 311 *ep*P **P** 02 44 25.0 +3.5
ZALV Zalesovo Beam 29.94 44 P **P** 02 44 26.0 +0.8
comp=Z,0.9nm,0.5s,baz=240,slow=12,SNR=4.8
ZALV LR LR 02 59 12.0
comp=Z,21nm,18.2s,baz=81,slow=42
ZALV Zalesovo Beam 29.94 44 P **P** 02 44 26.0 +0.8
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,21nm,18.3s
WMQ Urumqi 29.97 64 P **P** 02 44 27.5 +1.8
DGZ Jazzator, Alta 30.36 53⇑*e*P **P** 02 44 30.8 +1.7
DGZ pmax pmax
comp=Z,1.0nm,0.9s
HFS Hagfors 32.59 327 P **P** 02 44 48.2 -0.2
comp=Z,1.9nm,0.7s,baz=118,slow=8.6,SNR=4.7
NB2 NORSAR Subarra 34.10 328 P **P** 02 45 00.2 -1.4
comp=Z,0.6nm,0.6s,baz=120,slow=8.6
NOA NORSAR Array B 34.10 328 P **P** 02 45 01.0 -0.6
comp=Z,0.6nm,0.7s,baz=139,slow=7.4,SNR=4.1
NOA LR LR 03 00 34.5
comp=Z,66nm,18.1s,baz=125,slow=39
NOA NORSAR Array B 34.10 328 P **P** 02 45 01.0 -0.6
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,66nm,18.1s
EKA Eskdalemuir Ar 39.77 315 P **P** 02 45 48.7 -1.2
comp=Z,1.1nm,0.8s,baz=99,slow=8.8,SNR=4.3
TAM Tamanrasset 40.08 262 *e*P **P** 02 45 52.2 -0.8
TAM pmax pmax
comp=Z,2.0nm,1.1s
TAM Tamanrasset 40.08 262 *e*P **P** 02 45 52.2 -0.8
comp=Z,2.1nm,1.1s
TAM Tamanrasset 40.08 262 *e*P **P** 02 45 52.2 -0.8
comp=Z,2.1nm,1.1s
CD2 Chengdu 45.15 81 *e*P **P** 02 46 32.0 -2.1
JMIC Jan Mayen 45.33 337 LR LR 03 04 25.5
comp=Z,36nm,18.1s,baz=76,slow=35
CMAR Chiang Mai Arr 47.10 99 P **P** 02 46 50.0 +0.5
comp=Z,0.6nm,0.3s,baz=310,slow=7.0,SNR=4.3
HHC Hu-ho-hao-te 47.85 65 *e*P **P** 02 46 55.8 +0.6
TORD Torodi Ar. Bea 48.49 254 P **P** 02 47 00.2 0.0
comp=Z,0.5nm,1.0s,baz=49,slow=4.4,SNR=2.8
KOWA Kowa 52.15 259 P **P** 02 47 28.0 -0.1
comp=Z,1.8nm,0.8s,baz=72,slow=9.6,SNR=2.5
TIXI Tiksi 52.37 23⇑*e*P **P** 02 47 29.9 +1.0
TIXI pmax pmax
comp=Z,3.0nm,1.7s
SUMG Summit 54.73 338 *e*P **P** 02 47 47.7 +1.0
SUMG pmax pmax
comp=Z,11nm,1.2s
SUMG Summit 54.73 338 *e*P **P** 02 47 47.7 +1.0
comp=Z,11nm,1.2s
BILL Bilibino 65.52 22 *e*P **P** 02 49 00.4 +0.2
BILL *e* 02 49 32.6
BILL *e* 02 51 21.5
BILL pmax pmax
comp=Z,2.0nm,0.7s
BILL MLR MLR
comp=Z,39nm,17.0s
BOSA Boshof 68.79 203 P **P** 02 49 21.5 -0.1
comp=Z,4.8nm,1.0s,baz=91,slow=10,SNR=3.1
KUR Kuril'sk 70.36 48⇑*e*P **P** 02 49 31.5 +0.5
SCHQ Schefferville 73.67 327 P **P** 02 49 52.3 +1.6
comp=Z,2.6nm,0.9s,baz=62,slow=15,SNR=3.0
COLA College 77.85 7 *e*P **P** 02 50 14.5 +0.1
COLA pmax pmax
comp=Z,5.0nm,1.0s
COLA College 77.85 7 *e*P **P** 02 50 14.5 +0.1
comp=Z,5.5nm,1.0s
ILAR Eielson Array 78.05 7 P **P** 02 50 15.7 +0.1
comp=Z,0.5nm,0.9s,baz=331,slow=5.4,SNR=6.3
YKA Yellowknife Ar 80.27 352 *e*P **P** 02 50 27.1 -0.7
comp=Z,0.3nm,0.7s,baz=9.7,slow=5.9,SNR=8.9
YKA Yellowknife Ar 80.27 352*ce*P **P** 02 50 26.2 -1.6

UPP ***18*** *02:40:28.3, 67.°18N×20.°65E, h0km, ML2.5, Suspected Mining explosion.*
CSEM ***18*** *02:40:28.2±0.2, 67.°19N×20.°69E, h2km, ML2.5, Error ellipse: s-maj=5.8km s-min=3.6km az=58.0, Mining explosion.*
HEL ***18*** *02:40:29.1±0.1, 67.°17N×20.°59E, h0km, ML2.5(UPP), Explosion*

ISC 18 02:40:28.7±0.8, 67.°17N±0.°02×20.°68E±0.°03, h0km, n28, σ0s68/40, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**221**	P	**Pg**	**02 40 29.8**	**0.0**
DUNU				S	**Sg**	**02 40 31.0**	**+0.3**
DUNU	**Dundret**	**0.07**	**221**	P	**Pg**	**02 40 29.9**	**0.0**
DUNU				S	**Sg**	**02 40 31.0**	**+0.3**
DUNU	**Dundret**	**0.07**	**221**	*i* P	**Pg**	**02 40 29.9**	**0.0**
DUNU				*i* S	**Sg**	**02 40 31.0**	**+0.3**
MASU	**Masugnsbyn**	**0.59**	**60**	P	**Pg**	**02 40 39.6**	**-0.2**
MASU	**Masugnsbyn**	**0.59**	**60**	P	**Pg**	**02 40 39.7**	**-0.2**
MASU	**Masugnsbyn**	**0.59**	**60**	*i* P	**Pg**	**02 40 39.7**	**-0.2**
RATU	**Laukkuluspa**	**0.78**	**328**	P	**Pg**	**02 40 42.6**	**-0.9**
RATU	**Laukkuluspa**	**0.78**	**328**	P	**Pg**	**02 40 42.6**	**-0.9**
RATU	**Laukkuluspa**	**0.78**	**328**	*i* P	**Pg**	**02 40 42.6**	**-0.9**
ERTU	**Ertsjaerv**	**0.86**	**135**	P	**Pg**	**02 40 44.3**	**-0.8**
ERTU				S	**Sg**	**02 40 56.6**	**+0.4**
ERTU	**Ertsjaerv**	**0.86**	**135**	P	**Pg**	**02 40 44.3**	**-0.8**
ERTU	**Ertsjaerv**	**0.86**	**135**	*e*P	**Pg**	**02 40 44.2**	**-0.8**
ERTU				*e*S	**Sg**	**02 40 56.6**	**+0.4**
PAJU	**Pajala**	**0.96**	**98**	P	**Pg**	**02 40 46.5**	**-0.6**
PAJU	**Pajala**	**0.96**	**98**	P	**Pg**	**02 40 46.5**	**-0.6**
PAJU	**Pajala**	**0.96**	**98**	*e*P	**Pg**	**02 40 46.5**	**-0.6**
HEF	**Hetta**	**1.68**	**41**	*e*SN	**Sg**	**02 41 23.3**	**+0.6**
KALU	**Kalix**	**1.70**	**140**	Sn	**Sg**	**02 41 23.3**	**+0.2**
KALU	**Kalix**	**1.70**	**140**	*e*SN	**Sg**	**02 41 23.4**	**+0.2**
SJUU	**Sjulsmark**	**1.71**	**167**	P	**Pn**	**02 40 59.1**	**-0.5**
SJUU	**Sjulsmark**	**1.71**	**167**	P	**Pn**	**02 40 59.1**	**-0.5**
SJUU	**Sjulsmark**	**1.71**	**167**	*e*P	**Pn**	**02 40 59.1**	**-0.5**
TOF	**Tornio**	**1.82**	**125**	P	**Pn**	**02 41 01.7**	**+0.6**
TOF				Sg	**Sg**	**02 41 27.1**	**+0.1**
TOF	**Tornio**	**1.82**	**125**	*e*P	**Pn**	**02 41 01.7**	**+0.6**
TOF				*e*SG	**Sg**	**02 41 27.1**	**+0.1**
KIF	**Kilpisjarvi**	**1.84**	**1**	Pg	**Pb**	**02 41 03.0**	**-0.2**
KIF				Sg	**Sg**	**02 41 27.7**	**-0.1**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*PG	**Pb**	**02 41 03.0**	**-0.2**
KIF				*e*SG	**Sg**	**02 41 27.7**	**-0.1**
SGF	**Sodankyl**	**2.29**	**80**	Pb	**Pb**	**02 41 09.5**	**-1.2**
SGF				Sg	**Sg**	**02 41 40.2**	**+0.8**
SGF	**Sodankyl**	**2.29**	**80**	*e*PB	**Pb**	**02 41 09.6**	**-1.2**
SGF				*e*SG	**Sb**	**02 41 40.2**	**+0.8**
ARE0	**ARCESS Array S**	**2.97**	**35**	*e*PG	**Pb**	**02 41 21.8**	**-0.6**
ARE0				*e*S	**Sn**	**02 41 55.4**	**+2.0**

MAN 18 02:43:02, 10.°13N×123.°50E, h18km, mb4.0, ML2.7, MS2.3, 2C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.49**	**68**	*e*P	Pb	02 43 13.2	+1.0
LLP				*e*S	Sn	02 43 23.5	+1.2
TBP	**Tagbilaran**	**0.57**	**141**	*e*P	Pb	02 43 13.7	+0.3
TBP				*i* S	Sn	02 43 25.6	+1.5
SNPH	**Sibulan**	**0.83**	**198**⇑	*i*P	Pb	02 43 14.2	-3.7
SNPH				*i* S	Sb	02 43 24.5	-4.3
MSLP	**Maasin**	**1.34**	**90**	*e*P	Pg	02 43 28.2	+0.4
MSLP				*e*S	Sg	02 43 50.5	+5.2
RCP	**Roxas**	**1.60**	**332**⇑	*e*P	Pn	02 43 29.5	0.0

CSEM ***18*** *02:46:19.9±0.2, 38.°71N×43.°29E, h2km, ML3.4, Error ellipse: s-maj=4.6km s-min=3.4km az=143.0*
DDA ***18*** *02:46:19.5, 38.°67N×43.°24E, h18km, Ml3.5*
ATA ***18*** *02:46:19.0±0.8, 38.°71N×43.°18E, h2km±9km, ML3.7, MW3.8*
ISK ***18*** *02:46:19.1, 38.°70N×43.°26E, h7km, ML3.4/15*
ISCJB ***18*** *02:46:20.3±0.3, 38.°70N±0.°02×43.°28E±0.°03, h10km±3km, Error ellipse: s-maj=4.0km s-min=2.9km az=41.2*

ISC 18 02:46:20.7±0.8, 38.°70N±0.°02×43.°25E±0.°02, h11km±6km, n111, σ1s22/140, 7C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.15**	**133**	PG	**Pg**	**02 46 23.9**	**-0.3**
VANB				SG	**Sg**	**02 46 28.1**	**+1.4**
VANB	**Van**	**0.15**	**133**	*e*Pg	**Pg**	**02 46 23.9**	**-0.3**
VANB				*e*Sg	**Sg**	**02 46 28.1**	**+1.4**
TVAN	**Van**	**0.20**	**144**	*i* P	**Pg**	**02 46 24.2**	**-1.0**
TVAN				*i* S	**Sg**	**02 46 28.2**	**-0.1**
TVAN	**Van**	**0.20**	**144**	P	**Pg**	**02 46 24.2**	**-1.0**
TVAN				S	**Sg**	**02 46 28.2**	**-0.1**
ERCV	**ERCIS-VAN**	**0.33**	**12**	PG	**Pg**	**02 46 26.3**	**-1.1**
ERCV				SG	**Sg**	**02 46 31.7**	**-0.2**
ERCV	**ERCIS-VAN**	**0.33**	**12**	*e*Pg	**Pg**	**02 46 26.3**	**-1.1**
ERCV				*e*Sg	**Sg**	**02 46 31.7**	**-0.2**
VMUR	**Van-Muradiye**	**0.39**	**40**	*i* P	**Pg**	**02 46 28.1**	**-0.3**
VMUR				*i* S	**Sb**	**02 46 35.2**	**-0.4**
VMUR	**Van-Muradiye**	**0.39**	**40**	P	**Pg**	**02 46 28.1**	**-0.3**
GEVA	**Gevas**	**0.41**	**202**	*i* P	**Pg**	**02 46 27.4**	**-1.4**
GEVA				*e*S	**Sg**	**02 46 35.1**	**+0.7**
GEVA	**Gevas**	**0.41**	**202**	*i* P	**Pg**	**02 46 27.6**	**-1.2**
GEVA				*i* S	**Sb**	**02 46 35.7**	**-0.6**
GEVA	**Gevas**	**0.41**	**202**	P	**Pg**	**02 46 27.6**	**-1.2**
GEVA				S	**Sb**	**02 46 35.7**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.43**	**285**	*i* P	**Pg**	**02 46 28.7**	**-0.5**
ADCV				*i* S	**Sb**	**02 46 35.9**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.43**	**285**	P	**Pg**	**02 46 28.7**	**-0.5**
ADCV				S	**Sb**	**02 46 35.9**	**-1.0**
CLDR	**Caldiran**	**0.69**	**49**	PG	**Pg**	**02 46 31.9**	**-2.1**
CLDR				SG	**Sg**	**02 46 42.3**	**-0.7**
CLDR	**Caldiran**	**0.69**	**49**	*i* P	**Pg**	**02 46 32.1**	**-1.9**
CLDR				*i* S	**Sb**	**02 46 44.5**	**+0.2**
CLDR	**Caldiran**	**0.69**	**49**	P	**Pg**	**02 46 32.1**	**-1.9**
CLDR				*e*Sg	**Sg**	**02 46 42.3**	**-0.7**
CLDR				S	**Sb**	**02 46 44.5**	**+0.2**
TUTA	**Tutak**	**0.78**	**334**	*i* P	**Pg**	**02 46 34.7**	**-1.1**
TUTA				*e*S	**Sg**	**02 46 45.9**	**-0.3**
TUTA				IAML		02 46 47.2	
	comp=Z,684nm,0.4s						
TUTA	**Tutak**	**0.78**	**334**	*i* P	**Pg**	**02 46 34.9**	**-1.0**
TUTA				*i* S	**Sg**	**02 46 45.5**	**-0.7**
TUTA	**Tutak**	**0.78**	**334**	P	**Pg**	**02 46 34.9**	**-1.0**
TUTA				S	**Sg**	**02 46 45.5**	**-0.7**
AGRB	**Hanur-Agry**	**0.90**	**347**	PG	**Pg**	**02 46 36.4**	**-1.7**
AGRB	**Hanur-Agry**	**0.90**	**347**	*e*Pg	**Pg**	**02 46 36.4**	**-1.7**
DYDN	**Diyadin**	**0.91**	**22**	*e*P	**Pg**	**02 46 37.0**	**-1.3**
DYDN				IAML		02 47 09.2	
	comp=Z,117nm,0.5s						
DYDN	**Diyadin**	**0.91**	**22**	*i* P	**Pg**	**02 46 37.2**	**-1.1**
DYDN	**Diyadin**	**0.91**	**22**	P	**Pg**	**02 46 37.2**	**-1.1**
EKAR	**Karacoban**	**1.08**	**302**	*e*P	**Pg**	**02 46 39.6**	**-1.9**
EKAR				IAML		02 47 12.6	
	comp=Z,131nm,0.6s						
EKAR	**Karacoban**	**1.08**	**302**	*i* P	**Pg**	**02 46 39.6**	**-1.9**
EKAR				*i* S	**Sn**	**02 46 59.6**	**+2.5**
EKAR	**Karacoban**	**1.08**	**302**	P	**Pg**	**02 46 39.6**	**-1.9**
EKAR				S	**Sn**	**02 46 59.6**	**+2.5**
SRTM	**Siirt_Merkez**	**1.26**	**237**	*i* P	**Pn**	**02 46 43.2**	**-1.1**
SRTM				*i* S	**Sn**	**02 47 02.3**	**+1.0**
SRTM	**Siirt_Merkez**	**1.26**	**237**	P	**Pn**	**02 46 43.2**	**-1.1**
SRTM				S	**Sn**	**02 47 02.3**	**+1.0**
EATA	**Eleskirt**	**1.31**	**333**	*i* P	**Pn**	**02 46 44.1**	**-1.0**
EATA				*e*S	**Sn**	**02 47 03.6**	**+0.9**
EATA				IAML		02 47 09.2	
	comp=Z,56nm,0.5s						
EATA	**Eleskirt**	**1.31**	**333**	*i* P	**Pn**	**02 46 44.4**	**-0.8**
EATA				*i* S	**Sn**	**02 47 04.1**	**+1.4**
EATA	**Eleskirt**	**1.31**	**333**	P	**Pn**	**02 46 44.4**	**-0.8**
EATA				S	**Sn**	**02 47 04.1**	**+1.4**
IGDI	**IGDIR**	**1.33**	**28**	*e*P	**Pn**	**02 46 45.3**	**+0.1**
IGDI				IAML		02 47 16.6	
	comp=Z,40nm,0.7s						
IGDI	**IGDIR**	**1.33**	**28**	*i* P	**Pn**	**02 46 45.4**	**+0.1**
SIRT	**Sirnak**	**1.35**	**209**	PN	**Pn**	**02 46 44.9**	**-0.7**
SIRT	**Sirnak**	**1.35**	**209**	*e*Pn	**Pn**	**02 46 44.9

HYR	**Heyderabad**	**1.61**	**50**	⇑P		**Pb**	**02 46 49.9**	**-0.5**
HOMI	**Horasan**	**1.71**	**323**	*e*P		**Pn**	**02 46 50.6**	**0.0**
HOMI	**Horasan**	**1.71**	**323**	*i* P		**Pn**	**02 46 50.5**	**0.0**
HOMI				*i* S		**Sg**	**02 47 19.2**	**+3.6**
DIGO	**Kars**	**1.72**	**3**	*e*P		**Pb**	**02 46 52.3**	**-0.1**
DIGO				IAML			02 47 23.8	
	comp=Z,23nm,0.6s							
DIGO	**Kars**	**1.72**	**3**	*i* P		**Pb**	**02 46 51.9**	**-0.5**
DIGO	**Kars**	**1.72**	**3**	P		**Pb**	**02 46 51.9**	**-0.5**
BTMN	**Batman**	**1.75**	**243**	*i* P		**Pn**	**02 46 51.9**	**+0.8**
BTMN				*i* S		**Sg**	**02 47 17.4**	**+0.3**
BTMN	**Batman**	**1.75**	**243**	P		**Pn**	**02 46 51.9**	**+0.8**
BTMN				S		**Sg**	**02 47 17.4**	**+0.3**
NAX	**Nakhchivan**	**1.81**	**74**	⇓P		**Pg**	**02 46 56.0**	**+0.6**
ERZM	**Erzurum**	**1.90**	**310**	*e*P		**Pb**	**02 46 53.9**	**+0.7**
SBZ	**Shahbuz**	**1.92**	**68**	⇓P		**Pb**	**02 46 56.1**	**+0.3**
KARS	**Kars**	**1.94**	**356**	PN		**Pb**	**02 46 53.5**	**-0.1**
KARS	**Kars**	**1.94**	**356**	*e*Pn		**Pn**	**02 46 53.5**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.99**	**340**	PN		**Pn**	**02 46 54.3**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.99**	**340**	*e*Pn		**Pn**	**02 46 54.3**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.99**	**298**	*e*P		**Pb**	**02 46 56.7**	**-0.3**
ECAT				IAML			02 47 30.0	
	comp=Z,30nm,0.5s							
ECAT	**Cat-ERZURUM**	**1.99**	**298**	*i* P		**Pb**	**02 46 56.6**	**-0.3**
ECAT	**Cat-ERZURUM**	**1.99**	**298**	P		**Pb**	**02 46 56.7**	**-0.3**
EAK	**Akyaka**	**2.01**	**8**	*i* P		**Pb**	**02 46 57.9**	**+0.6**
EAK	**Akyaka**	**2.01**	**8**	P		**Pb**	**02 46 57.9**	**+0.6**
HANI	**Diyarbakir_Han**	**2.25**	**264**	*i* P		**Pb**	**02 47 00.4**	**-1.0**
HANI	**Diyarbakir_Han**	**2.25**	**264**	P		**Pb**	**02 47 00.4**	**-1.0**
MARD	**Mardin**	**2.39**	**236**	*i* P		**Pn**	**02 46 58.5**	**-1.3**
DDEM	**Demirkent**	**2.48**	**333**	*i* P		**Pb**	**02 47 05.5**	**+0.2**
DDEM	**Demirkent**	**2.48**	**333**	P		**Pb**	**02 47 05.5**	**+0.2**
DIY	**Diyarbakir**	**2.51**	**252**	*e*Pn		**Pn**	**02 47 02.4**	**+0.9**
KOPT	**Kop Dagi**	**2.51**	**303**	*e*P		**Pb**	**02 47 07.2**	**+1.2**
KOPT	**Kop Dagi**	**2.51**	**303**	*i* P		**Pb**	**02 47 06.9**	**+0.9**
MAZI	**Mazidag**	**2.54**	**242**	PN		**Pn**	**02 47 01.6**	**-0.2**
MAZI	**Mazidag**	**2.54**	**242**	*i* Pn		**Pn**	**02 47 01.6**	**-0.2**
DYBB	**Diyarbakir**	**2.56**	**254**	PN		**Pn**	**02 47 02.4**	**+0.3**
DIYA	**Diyarbakir**	**2.58**	**254**	*i* P		**Pn**	**02 47 03.7**	**+1.3**
DIYA	**Diyarbakir**	**2.58**	**254**	P		**Pn**	**02 47 03.7**	**+1.3**
DBAD	**Bademkaya**	**2.61**	**333**	*i* P		**Pb**	**02 47 07.4**	**-0.1**
DBAD	**Bademkaya**	**2.61**	**333**	P		**Pb**	**02 47 07.4**	**-0.1**
BAYB	**BAYBURT**	**2.79**	**305**	*e*P		**Pb**	**02 47 11.6**	**+0.9**
BAYB	**BAYBURT**	**2.79**	**305**	*i* P		**Pb**	**02 47 11.5**	**+0.8**
GDB	**GEDABAY**	**2.80**	**43**	⇑P		**Pn**	**02 47 03.2**	**-2.3**
EPOS	**Posof**	**2.83**	**352**	*e*P		**Pb**	**02 47 12.8**	**+1.5**
QZX	**Qazax, Azerbai**	**2.87**	**34**	⇑P		Pn	02 47 01.5	-4.8
QZX				⇓S		**Sb**	**02 47 44.8**	**-2.2**
TNCL	**Tunceli-Merkez**	**2.92**	**279**	*e*P		**Pb**	**02 47 10.8**	**-2.1**
TNCL	**Tunceli-Merkez**	**2.92**	**279**	*i* P		**Pb**	**02 47 11.8**	**-1.1**
TNCL	**Tunceli-Merkez**	**2.92**	**279**	P		**Pb**	**02 47 11.8**	**-1.1**
EUZM	**Uzumlu**	**2.94**	**291**	*e*P		**Pb**	**02 47 13.8**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**2.94**	**306**	PN		**Pn**	**02 47 07.6**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**2.94**	**306**	*e*Pn		**Pn**	**02 47 07.6**	**+0.1**
PTK	**Pertek**	**3.02**	**275**	PN		**Pn**	**02 47 09.0**	**+0.4**
PTK	**Pertek**	**3.02**	**275**	*e*Pn		**Pn**	**02 47 09.0**	**+0.4**
GANJ	**Ganja**	**3.07**	**50**	⇑P		**Pn**	**02 47 08.1**	**-1.0**
DGRG	**David-gareji**	**3.20**	**30**	*e*P		**Pn**	**02 47 13.5**	**+2.7**
KELT	**Kelkit**	**3.42**	**296**	*e*P		**Pb**	**02 47 23.5**	**+2.1**
URFA	**Urfa**	**3.71**	**252**	PN		**Pn**	**02 47 19.0**	**+1.0**
URFA	**Urfa**	**3.71**	**252**	*e*Pn		**Pn**	**02 47 19.0**	**+1.0**
ILIC	**ilic-Erzincan**	**3.72**	**283**	PN		**Pn**	**02 47 19.1**	**+0.9**
ILIC	**ilic-Erzincan**	**3.72**	**283**	*e*Pn		**Pn**	**02 47 19.1**	**+0.9**
KEMA	**Kemaliye**	**3.75**	**280**	*e*P		**Pb**	**02 47 23.7**	**-3.3**
MALT	**Malatya**	**3.81**	**266**	PN		**Pn**	**02 47 20.5**	**+1.2**
MALT	**Malatya**	**3.81**	**266**	*e*Pn		**Pn**	**02 47 20.5**	**+1.2**
SEKA	**Sheki**	**3.94**	**49**	⇓P		**Pn**	**02 47 19.6**	**-1.4**
QBL	**Gabala**	**4.18**	**56**	⇓P		**Pn**	**02 47 23.5**	**-0.9**
LKRN	**Lenkeran, Azer**	**4.32**	**88**	⇓P		**Pn**	**02 47 30.7**	**+4.4**
XNQ	**Khinaliq**	**4.50**	**55**	⇑P		**Pn**	**02 47 28.1**	**-0.8**
DARE	**Darende-Malaty**	**4.52**	**270**	PN		**Pn**	**02 47 30.4**	**+1.3**
DARE	**Darende-Malaty**	**4.52**	**270**	*e*Pn		**Pn**	**02 47 30.4**	**+1.3**
PQL	**Pirkuli**	**4.62**	**61**	⇓P		**Pn**	**02 47 30.9**	**+0.4**
GBS	**Qobustan**	**4.76**	**66**	⇑P		**Pn**	**02 47 34.3**	**+1.9**
ATGJ	**Altiaghaj**	**4.88**	**62**	⇑P		**Pn**	**02 47 34.6**	**+0.5**
GAZ	**Gaziantep**	**5.01**	**254**	PN		**Pn**	**02 47 37.6**	**+1.8**
GAZ	**Gaziantep**	**5.01**	**254**	*e*Pn		**Pn**	**02 47 37.6**	**+1.8**
KMRS	**Kahramanmaras**	**5.15**	**259**	PN		**Pn**	**02 47 38.9**	**+1.2**
KMRS	**Kahramanmaras**	**5.15**	**259**	*e*Pn		**Pn**	**02 47 38.9**	**+1.2**

ISCJB ***18*** *02:51:11.9±0.9, 17°.5S±0°.2×175°.0W±0°.2, h256km, mb3.9/6, Error ellipse: s-maj=34.0km s-min=9.5km az=135.9*

IDC ***18*** *02:51:11.3±2.4, 17°.53S×175°.23W, h221km±28km, mb3.7/6, mb1 3.9/7, mb1mx3.3/46, mbtmp4.3/7, Error ellipse: s-maj=37.8km s-min=15.7km az=120.0*

ISC 18 02:51:12.9±1.1, 17°.6S±0°.2×174°.8W±0°.2, h256km, n9, σ1§67/10, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.66**	**39**	P	**Pn**	**02 52 25.3**	**+0.4**
	9.4nm,0.3s,baz=218,slow=3.3,SNR=11						
AFI				S	**S**	**02 53 19.4**	**-2.8**
	48nm,0.3s,baz=94,slow=20,SNR=15						
DZM	**Mont Dzumac**	**18.19**	**253**	P	**P**	**02 55 07.6**	**+0.2**
	0.3nm,0.3s,baz=82,slow=21,SNR=5.6						
URZ	**Urewera**	**21.81**	**197**	P	**P**	**02 55 44.9**	**+0.3**
	5.1nm,0.4s,baz=20,slow=3.6,SNR=11						
STKA	**Stephens Creek**	**41.80**	**242**	P	**P**	**02 58 37.0**	**-0.9**
	1.7nm,0.5s,baz=82,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**48.06**	**259**	P	**P**	**02 59 25.6**	**-1.6**
	2.3nm,0.4s,baz=98,slow=6.7,SNR=78						
ASAR	**Alice Springs**	**48.18**	**254**	P	**P**	**02 59 26.9**	**-1.2**
	15nm,0.6s,baz=89,slow=8.5,SNR=217						
PETK	**Petropavlovsk-**	**74.27**	**343**	P	**P**	**03 02 23.3**	**+1.4**
	1.3nm,0.7s,baz=122,slow=7.6,SNR=4.0						
ILAR	**Eielson Array**	**84.81**	**12**	P	**P**	**03 03 20.2**	**+2.1**
	0.2nm,0.5s,baz=225,slow=5.6,SNR=8.1						
BRTR	**Keskin Array B**	**146.89**	**318**	PKPbc	**PKPab**	**03 10 27.4**	**-0.1**
	0.4nm,0.8s,baz=144,slow=4.6,SNR=3.5						

MEX 18 02:51:29.0±0.5, 18°.20N×99°.97W, h51km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.37**	**283**	*i* P	Pn	02 51 37.2	-1.8
ARIG				*e*S	Sn	02 51 44.4	-1.7
PLIG	**Platanillo**	**0.48**	**66**	*i* P	Pn	02 51 38.8	-1.4
PLIG				*i* S	Sn	02 51 46.5	-1.9
MAVM	**Malinalco, Edo**	**0.88**	**31**	*e*P	Pn	02 51 43.9	-1.5
MAVM				*i* S	Sn	02 51 55.7	-1.7
TOVM	**TOLUCA**	**1.11**	**14**	*i* P	Pn	02 52 47.7	-0.9
TOVM				*i* S	Sn	02 52 00.8	-2.4
TLIG	**Tlapa**	**1.48**	**115**	*e*P	Pn	02 51 52.1	-1.2
TLIG				*e*S	Sn	02 52 09.8	-1.8
ZIIG	**Zihuatanejo**	**1.54**	**248**	*e*P	Pn	02 51 51.6	-2.5
ZIIG				*i* S	Sn	02 52 11.5	-1.5

ISCJB ***18*** *02:56:10.0±0.2, 23°.61N±0°.02×90°.17E±0°.02, h33km, mb4.2/76, MS3.4/12, Error ellipse: s-maj=3.4km s-min=2.8km az=6.6*

MOS ***18*** *02:56:10.2±0.9, 23°.65N×90°.26E, h33km, mb4.6/24, Error ellipse: s-maj=9.2km s-min=5.3km az=120.6*

BJI ***18*** *02:56:11.4, 23°.89N×90°.27E, h18km, mb4.6/43, mB4.6/28, ML4.2/1, Ms3.9/11, Ms7 3.9/6*

IDC ***18*** *02:56:12.4±5.8, 23°.67N×90°.21E, h33km±44km, mb3.9/32, mb1 4.0/33, mb1mx3.9/71, mbtmp4.1/33, ML4.6/2, MS3.4/13, Ms1 3.4/13, ms1mx3.1/64, Error ellipse: s-maj=15.7km s-min=13.3km az=41.0*

NEIC ***18*** *02:56:13.4±0.7, 23°.66N×90°.26E, h44km±7km, mb4.5/23, Error ellipse: s-maj=5.6km s-min=4.4km az=61.0*

NEIC Felt [IV] at Dhaka. Also felt at Barguna, Dhamrai, Dohar, Gajipur, Tangail and Tungi.

ISC 18 02:56:12.0±0.3, 23°.65N±0°.04×90°.17E±0°.03, h35km, n221, σ1§57/232, mb4.3/76, MS3.4/13, 26C-12D, Bangladesh

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.47**	**39**	*e*P	**Pn**	**02 56 49.0**	**-0.9**
SHL				*e*S	**Sn**	**02 57 14.9**	**-4.1**
SHL				IAML		02 57 38.4	
	comp=N,2μm,0.2s						
SHL				IAML		02 57 38.7	
	comp=E,3μm,0.2s						
BOK	**Bokaro**	**3.93**	**273**	*e*P	**Pn**	**02 57 11.3**	**+1.4**
BOK				*e*S	**Sn**	**02 57 54.0**	**-0.7**
BOK				IAML		02 58 21.8	
	comp=N,31μm,1.5s						
BOK				IAML		02 58 23.0	
	comp=E,110nm,0.4s						
JIRN	**Jiri**	**5.37**	**319**	*e*Pn	**Pn**	**02 57 32.1**	**+2.0**
JIRN				*e*Sn	**Sn**	**02 58 29.6**	**-1.3**
GUN	**Gumba**	**5.74**	**319**	*e*Pn	**Pn**	**02 57 37.0**	**+1.9**
GUN				*e*Sn	**Sn**	**02 58 38.3**	**-1.7**
PKI	**Pulchoki**	**5.81**	**313**	*e*Pn	**Pn**	**02 57 38.0**	**+2.0**
PKI				*e*Sn	**Sn**	**02 58 40.2**	**-1.4**
	comp=E,488nm,0.5s						
PKIN	**Phulchoki**	**5.82**	**313**	*e*Pn	**Pn**	**02 57 38.2**	**+2.1**
DMN	**Daman**	**6.04**	**312**	*e*Pn	**Pn**	**02 57 40.9**	**+1.8**
DMN				*e*Sn	**Sn**	**02 58 45.9**	**-1.2**
	comp=E,404nm,0.4s						
KKN	**Kakani**	**6.04**	**314**	*e*Pn	**Pn**	**02 57 40.6**	**+1.5**
KKN				*e*Sn	**Sn**	**02 58 45.2**	**-1.9**
LSA	**Lhasa**	**6.09**	**8**	Pn	**Pn**	**02 57 41.8**	**+1.7**
LSA				Sn	**Sn**	**02 58 46.8**	**-2.0**
LSA				smax	smax		
	comp=E,140nm,0.7s						
LSA				smax	smax		
	comp=E,250nm,0.6s						
LSA	**Lhasa**	**6.09**	**8**	*e*P	**Pn**	**02 57 41.4**	**+1.3**
LSA				*e*		02 58 46.1	
LSA				pmax	pmax		
	comp=Z,238nm,0.3s						
LSA	**Lhasa**	**6.09**	**8**	*e*Pn	**Pn**	**02 57 41.4**	**+1.3**
	comp=Z,238nm,0.3s						
LSA				*e*Sn	**Sn**	**02 58 46.0**	**-2.8**
GKN	**Gorkha**	**6.61**	**312**	*e*Pn	**Pn**	**02 57 48.4**	**+1.5**
KOLN	**Koldanda**	**7.21**	**306**	*e*Pn	**Pn**	**02 57 56.4**	**+1.3**
KOLN				*e*Sn	**Sn**	**02 59 12.4**	**-3.5**
	comp=Z,754nm,0.5s						
DANN	**Dangsing**	**7.43**	**310**	*e*Pn	**Pn**	**02 57 59.3**	**+1.1**
PYUN	**Piuthan**	**7.84**	**306**	*e*Pn	**Pn**	**02 58 05.0**	**+1.2**
PYUN				*e*Sn	**Sn**	**02 59 28.6**	**-2.9**
	comp=Z,579nm,0.5s						
VIS	**Vishakhapatnam**	**8.70**	**229**	*e*P	**Pn**	**02 58 16.4**	**+0.9**
VIS				*e*S	**Sn**	**02 59 45.8**	**-6.6**
CMAI	**Chiengmai2**	**9.04**	**112**	P	**Pn**	**02 58 19.8**	**-0.4**
CHTO	**Chiang Mai**	**9.49**	**119**	P	**Pn**	**02 58 25.9**	**-0.4**
CHTO	**Chiang Mai**	**9.49**	**119**	*e*P	**Pn**	**02 58 26.1**	**-0.2**
CHTO				*e*		03 00 05.2	
CHTO	**Chiang Mai**	**9.49**	**119**	*e*Pn	**Pn**	**02 58 26.1**	**-0.2**
CHTO				*e*Sn	**Sn**	**03 00 05.2**	**-6.6**
CMMT	**Chiang Mai**	**9.49**	**119**	P	**Pn**	**02 58 24.8**	**-1.6**
CM31	**Chiang Mai Arr**	**9.68**	**121**	*e*Pn	**Pn**	**02 58 29.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**9.68**	**121**	Pn	**Pn**	**02 58 28.9**	**0.0**
	comp=Z,2.9nm,0.3s,baz=302,slow=14,SNR=152						
CMAR				LR	LR	03 04 00.5	
	comp=Z,90nm,18.3s,baz=302,slow=48						
CMAR	**Chiang Mai Arr**	**9.68**	**121**	*i* P	**Pn**	**02 58 29.2**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,28nm,0.7s						
CM01	**Chiang Mai Arr**	**9.71**	**121**	*e*Pn	**Pn**	**02 58 28.9**	**-0.4**
LAMP	**Lampang**	**10.20**	**118**	P	**Pn**	**02 58 36.1**	**+0.1**
PVM	**Polavaram**	**10.23**	**233**	*e*P	**Pn**	**02 58 37.5**	**+1.1**
PVM				IAmb	IAmb	02 58 40.7	
	comp=Z,14nm,0.6s						
PVM				*e*S	**Sn**	**03 00 23.1**	**-6.8**
NGP	**Nagpur**	**10.58**	**259**	*e*P	**Pn**	**02 58 41.6**	**+0.4**
NGP				*ex*	x	03 00 31.7	
DGPR	**DIGLIPUR**	**10.73**	**165**	*e*P	**Pn**	**02 58 41.7**	**-1.6**
RPR	**Rampur**	**11.20**	**247**	*e*P	**Pn**	**02 58 49.2**	**-0.5**
RPR				IAmb	IAmb	02 58 56.2	
	comp=Z,15nm,0.6s						
RPR				*e*S	Sn	03 00 46.1	-7.7
KMI	**Kunming**	**11.55**	**80**	P	**Pn**	**02 58 57.3**	**+2.6**
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				pmax	pmax		
	comp=Z,100nm,4.5s						
PHIT	**Phitsanulok**	**11.55**	**122**	P	**Pn**	**02 58 55.0**	**+0.5**
BHPL	**Bhopal**	**11.71**	**271**	*e*P	**Pn**	**02 58 55.2**	**-1.5**
BHPL				*e*S	Sn	03 00 56.5	-10
BHPL				IAML		03 01 03.5	
	comp=N,655nm,1.1s						
BHPL				IAML		03 01 04.7	
	comp=E,41nm,0.0s						
SRSP	**Sriramsagar**	**11.98**	**249**	*e*P	**Pn**	**02 58 59.0**	**-1.4**
SRSP				IAmb	IAmb	02 59 01.8	
	comp=Z,68nm,0.6s						
SRSP				*e*S	Sn	03 01 02.3	-11
PBA	**Port Blair**	**12.17**	**168**	*e*P	Pn	02 59 00.9	-2.1
ADKI	**Addanki**	**12.34**	**233**	*e*P	**Pn**	**02 59 07.3**	**+1.9**
ADKI				IAmb	IAmb	02 59 14.4	
	comp=Z,7.6nm,0.6s						
ADKI				*e*S	Sn	03 01 14.1	-7.6
NJS	**Nagarjunasagar**	**12.40**	**237**	*e*P	**Pn**	**02 59 06.2**	**+0.1**
NJS				IAmb	IAmb	02 59 13.2	
	comp=Z,5.5nm,0.9s						
NJS				*e*S	Sn	03 01 14.6	-8.5
NJS				*e*		03 01 26.0	
HYB	**Hyderabad**	**12.52**	**242**	*i* P	**Pn**	**02 59 07.5**	**-0.3**
HYB				*e*S	**Sn**	**03 01 28.0**	**+1.9**
HYB	**Hyderabad**	**12.52**	**242**	*e*P	**Pn**	**02 59 06.7**	**-1.1**
HYBB	**Hyderabad (bro**	**12.52**	**242**	*e*P	**Pn**	**02 59 07.6**	**-0.2**
HYBB				IAmb	IAmb	02 59 08.8	
	comp=Z,17nm,0.5s						
HYBB				*e*S	Sn	03 01 15.8	-10
DDI	**Dehra Dun**	**12.68**	**304**	*e*P	**Pn**	**02 59 06.4**	**-3.5**
SRLM	**Srisailam**	**12.99**	**237**	*e*P	**Pn**	**02 59 14.3**	**+0.1**
SRLM				IAmb	IAmb	02 59 21.2	
	comp=Z,8.8nm,0.7s						
SRLM				*e*S	Sn	03 01 26.9	-11
SRLM				*e*		03 01 38.5	
CHAI	**Chaiyaphum**	**13.52**	**123**	P	**Pn**	**02 59 24.4**	**+2.9**
	comp=Z,4.5nm,0.8s,comp=Z,0.0nm						
SMLA	**Simla**	**13.74**	**306**	*e*P	**Pn**	**02 59 22.1**	**-2.3**
KLRI	**Killari**	**13.84**	**249**	*e*P	**Pn**	**02 59 24.7**	**-1.2**
KLRI				IAmb	IAmb	02 59 27.0	
	comp=Z,54nm,0.4s						
KLRI				*e*S	Sn	03 01 47.0	-11
SKHT	**Srikalahasti**	**13.96**	**227**	*e*P	**Pn**	**02 59 28.8**	**+1.3**
SKHT				IAmb	IAmb	02 59 29.4	
	comp=Z,8.4nm,0.6s						
SKHT				*e*S	**Sn**	**03 01 54.8**	**-6.6**
CD2	**Chengdu**	**14.08**	**56**	*e*P	**Pn**	**02 59 28.6**	**-0.4**
CD2				S	**Sn**	**03 02 02.9**	**-1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.6s						
CD2				LR	LR		
	comp=Z,500nm,6.8s						
CD2				LR	LR		
	comp=Z,260nm,7.5s						
MDRS	**Chennai**	**14.11**	**224**	*e*P	**Pn**	**02 59 29.4**	**-0.1**
SKNT	**Sakolnakorn**	**14.55**	**115**	P	**Pn**	**02 59 34.7**	**-0.8**
	comp=Z,8.7nm,0.9s,comp=Z,0.0nm						
URV	**Uravakonda**	**14.94**	**237**	*e*P	**Pn**	**02 59 41.3**	**+0.6**
URV				IAmb	IAmb	02 59 46.7	
	comp=Z,5.8nm,0.5s						
URV				*e*S	Sn	03 02 13.2	-12
DHRM	**DHARAMSHALA**	**14.95**	**308**	*ex*	**Pn**	**02 59 37.0**	**-4.0**
GYA	**Guiyang**	**15.21**	**76**	*e*P	**Pn**	**02 59 45.0**	**+0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
POO	**Poona**	**16.05**	**255**	*e*P	**Pn**	**02 59 54.0**	**-1.3**
LZH	**Lanzhou**	**17.13**	**41**	*e*P	**P**	**03 00 10.8**	**+0.5**
LZH				pP	Pn	03 00 12.5	+3.6
LZH				sP	pP	03 00 14.8	-4.7
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
GTA	**Gaotai**	**17.72**	**25**	⇑P	**Pn**	**03 00 13.8**	**-2.3**
GTA				pP	P	03 00 17.8	+1.1
GTA				S	**Sn**	**03 03 29.3**	**-3.2**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,82nm,5.2s						
CHCP	**Chirah Chowk**	**17.86**	**308**	P	**Pn**	**03 00 14.7**	**-3.1**
ENH	**Enshi**	**18.43**	**65**	*e*P	**Pn**	**03 00 24.7**	**-0.1**
	comp=Z,21nm,0.6s						
THW	**Thamme Wali**	**18.60**	**303**	P	**P**	**03 00 23.0**	**-3.4**
PALK	**Pallekele**	**18.64**	**211**	P	**P**	**03 00 27.0**	**0.0**
	comp=Z,0.7nm,0.3s,baz=260,slow=0.4,SNR=4.3						
PALK				S	Sn	03 03 38.7	-16
	comp=Z,1.8nm,0.3s,baz=295,slow=22,SNR=11						
PALK	**Pallekele**	**18.64**	**211**	*e*P	**Pn**	**03 00 29.8**	**+2.3**
PALK				pmax	pmax		
	comp=Z,17nm,1.2s						
PALK	**Pallekele**	**18.64**	**211**	*e*P	**Pn**	**03 00 29.8**	**+2.3**
PALK				S	Sn	03 03 38.7	-16
	comp=Z,17nm,1.2s						
QIZ	**Qiongzhong**	**18.89**	**100**	*e*P	**P**	**03 00 29.6**	**0.0**
	comp=Z,20nm,0.9s						
CEP	**Cherat**	**18.93**	**306**	P	**P**	**03 00 27.1**	**-3.0**
XAN	**Xi'an**	**19.39**	**54**	P	**P**	**03 00 34.5**	**-0.5**
XAN				pP	pP	03 00 45.9	+1.7
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSH	**Kashi**	**19.87**	**326**	*e*P	**Pn**	**03 00 42.3**	**+0.2**
WMQ	**Urumqi**	**20.23**	**355**	P	**P**	**03 00 44.5**	**+0.4**
WMQ				sP	sP	03 00 57.8	0.0
WMQ				pmax	pmax		
	comp=Z,49nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,43nm,3.9s						
WMQ				LR	LR		
	comp=Z,130nm,17.9s						
WMQ				LR	LR		
	comp=Z,250nm,23.3s						
KULM	**Kulim**	**20.86**	**149**	*e*P	**P**	**03 00 51.7**	**+0.7**
	comp=Z,8.1nm,0.7s						
PRZ	**Przheval'sk**	**21.18**	**335**	*e*P	**P**	**03 00 55.3**	**+0.8**
PRZ	**Przheval'sk**	**21.18**	**335**	*e*P	**P**	**03 00 55.3**	**+0.8**
KCSI	**Kotacane, Aceh**	**21.31**	**159**	P	**P**	**03 01 01.1**	**+5.2**
	comp=Z,32nm,1.0s						
AAK	**Ala-Archa**	**22.97**	**329**	LR	LR	03 11 15.7	
	comp=Z,62nm,20.5s,baz=108,slow=39						
GSI	**Gunungsitoli**	**23.34**	**161**	P	**P**	**03 01 16.9**	**-0.4**
	comp=Z,18nm,1.9s						
MK01	**Makanchi Array**	**23.93**	**347**	*e*P	**P**	**03 01 23.1**	**+0.3**
MK31	**Makanchi Array**	**23.95**	**347**	*e*P	**P**	**03 01 23.8**	**+0.8**
MK31	**Makanchi Array**	**23.95**	**347**	*e*P	**P**	**03 01 23.8**	**+0.8**
MKAR	**Makanchi Array**	**23.95**	**347**	P	**P**	**03 01 23.4**	**+0.4**
	comp=Z,5.9nm,0.7s,baz=170,slow=8.6,SNR=49						
MKAR				LR	LR	03 12 33.1	
	comp=Z,53nm,21.3s,baz=170,slow=41						
MKAR	**Makanchi Array**	**23.95**	**347**	*ce*P	**P**	**03 01 23.7**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**23.95**	**347**	*e*P	**P**	**03 01 23.8**	**+0.8**
	comp=Z,100nm,0.6s						
MAKZ	**Makanchi**	**24.03**	**346**	*e*P	**P**	**03 01 24.8**	**+1.1**
MAKZ				pmax	pmax		
	comp=Z,17nm,1.0s						
MAKZ	**Makanchi**	**24.03**	**346**	*e*P	**P**	**03 01 24.8**	**+1.1**
	comp=Z,16nm,1.0s						
MNSI	**Mandailing Nat**	**24.48**	**157**	P	**P**	**03 01 29.3**	**+1.3**
HHC	**Hu-ho-hao-te**	**24.83**	**41**	*e*P	**P**	**03 01 32.1**	**+1.0**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,77nm,5.4s						
DGZ	**Jazzator, Alta**	**26.09**	**356**	⇓*e*P	**P**	**03 01 43.3**	**+0.7**
TIA	**Tai'an**	**26.41**	**56**	P	**P**	**03 01 46.3**	**+0.9**
TIA				pmax	pmax		
	comp=Z,11nm,0.9s						
NJ2	**Nanjing**	**26.65**	**65**	*e*P	**P**	**03 01 50.1**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
SONM	**Songino Array**	**27.38**	**24**	P	**P**	**03 01 55.0**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=205,slow=10,SNR=25						
SONM	**Songino Array**	**27.38**	**24**	P	**P**	**03 01 55.0**	**+0.8**
SONA1	**Songino Array**	**27.40**	**24**	*e*P	**P**	**03 01 54.8**	**+0.5**
ULN	**Ulaanbaatar**	**27.66**	**25**	*ce*P	**P**	**03 01 57.5**	**+0.8**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ULN	**Ulaanbaatar**	**27.66**	**25**	*e*P	**P**	**03 01 57.2**

VRI Vrincioaia 55.12 310 ⇑P P 03 05 42.0 +1.2
PLOR Plostina 55.18 310 ⇓iP P 03 05 43.0 +1.7
PLOR Plostina 55.18 310 ⇓P P 03 05 43.0 +1.7
MLR Muntele Rosu 55.67 310 P P 03 05 46.1 +1.2
comp=Z,1.2nm,0.8s,baz=118,slow=0.5,SNR=11
MLR Muntele Rosu 55.67 310 ⇑iP P 03 05 46.1 +1.2
MLR Muntele Rosu 55.67 310 eP P 03 05 46.5 +1.6
comp=Z,5.9nm,0.8s
BURAR Bucovina Array 56.20 312 ⇑iP P 03 05 49.2 +0.6
BURAR Bucovina Array 56.20 312 ⇑P P 03 05 49.2 +0.6
VOIR 56.30 310 ⇑iP P 03 05 49.9 +0.5
VOIR 56.30 310 ⇑P P 03 05 49.9 +0.5
SANT Santorini 56.52 299 ⇑iP P 03 05 50.4 -0.6
SEY Seymchan 56.62 29 ⇑eP P 03 05 51.5 +0.3
KMBO Kilima Mbogo 56.97 252 P P 03 05 55.2 +0.5
comp=Z,0.8nm,0.7s,baz=72,slow=11,SNR=4.0
IDI Anoyia 57.11 298 P P 03 05 54.8 -0.4
comp=Z,3.7nm,0.8s,baz=278,slow=22,SNR=5.5
FINES FINESS Array B 57.16 329 P P 03 05 55.3 +0.2
comp=Z,1.3nm,0.6s,baz=121,slow=6.1,SNR=12
FINES LR LR 03 33 17.1
comp=Z,89nm,18.3s,baz=132,slow=39
CJR Cluj-Napoca 57.30 311 ⇑iP P 03 05 58.1 +1.7
CJR Cluj-Napoca 57.30 311 ⇑P P 03 05 58.1 +1.7
VTS Vitosha 57.73 307 ⇓iP P 03 06 00.6 +1.0
VTS Vitosha 57.73 307 ⇓P P 03 06 00.6 +1.0
VTS Vitosha 57.73 307 eP P 03 06 00.2 +0.6
comp=Z,6.3nm,1.0s
DRGR 57.91 311 ⇓iP P 03 06 01.6 +0.9
DRGR 57.91 311 ⇓P P 03 06 01.7 +1.0
AGG Agios Georgios 58.70 302 eP P 03 06 05.6 -0.7
AGG pmax pmax
comp=Z,11nm,0.7s
AGG Agios Georgios 58.70 302 eP P 03 06 05.6 -0.7
comp=Z,11nm,0.7s
BZS Buzias 58.71 310 ⇑iP P 03 06 06.9 +0.7
BZS Buzias 58.71 310 ⇑P P 03 06 06.9 +0.7
OPO Ambohidratompo 59.33 229 LR LR 03 28 53.6
comp=Z,40nm,18.0s,baz=342,slow=33
TIR Tirane 60.32 305 ⇑iP P 03 06 17.4 0.0
TIR Tirane 60.32 305 ⇑P P 03 06 17.4 0.0
PDG Podgorica 60.65 307 ⇑iP P 03 06 19.9 +0.3
WRA Warramunga Arr 61.08 132 P P 03 06 23.8 +1.0
comp=Z,1.9nm,1.0s,baz=323,slow=7.0,SNR=12
MORC Moravsky Berou 61.24 315 ⇓iP P 03 06 23.9 +0.3
MORC Moravsky Berou 61.24 315 ⇓P P 03 06 23.9 +0.3
MORC Moravsky Berou 61.24 315 eP P 03 06 23.4 -0.2
comp=Z,8.5nm,0.7s
KRLC Kraliky 61.71 315 eP P 03 06 27.2 +0.4
KRLC Kraliky 61.71 315 eP P 03 06 27.2 +0.4
VRAC Vranov 61.89 315 P P 03 06 28.1 +0.2
comp=Z,1.0nm,0.5s,baz=90,slow=8.1,SNR=5.6
DPC Dobruska-Polom 61.99 316 eP P 03 06 29.5 +0.9
DPC Dobruska-Polom 61.99 316 eP P 03 06 29.5 +0.9
CONA Conrad Observa 62.49 313 eP P 03 06 31.4 -0.6
comp=Z,4.2nm,0.9s
ARSA Arzberg 62.78 312 eP P 03 06 34.3 +0.4
comp=Z,2.2nm,0.8s
TIP Timpagrande 62.97 303 ⇓iP P 03 06 35.6 +0.2
TIP Timpagrande 62.97 303 eP P 03 06 35.3 -0.1
comp=Z,3.1nm,0.6s
GOPC GO Pecny, Ondr 63.01 315 eP P 03 06 36.2 +0.8
GOPC GO Pecny, Ondr 63.01 315 eP P 03 06 36.2 +0.8
HFS Hagfors 63.09 327 P P 03 06 36.0 +0.3
comp=Z,2.4nm,0.6s,baz=104,slow=6.3,SNR=14
BILL Bilibino 63.10 24 eP P 03 06 33.9 -1.8
BILL e 03 06 49.2
BILL pmax pmax
comp=Z,3.0nm,0.9s
PRU Pruhonice 63.16 316 eP P 03 06 37.0 +0.6
PRU Pruhonice 63.16 316 eP P 03 06 37.0 +0.6
ASAR Alice Springs 63.36 135 P P 03 06 38.9 +0.8
comp=Z,0.5nm,0.7s,baz=321,slow=7.2,SNR=3.5
BRG Berggiesshubel 63.46 317 iP P 03 06 38.8 +0.5
comp=Z,4.6nm,0.8s
BRG e 03 07 20.0
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 63.46 317 iP P 03 06 38.8 +0.5
BRG e 03 07 20.0
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,1.0s
OBKA Obir 63.53 312 eP P 03 06 39.1 0.0
comp=Z,3.8nm,0.8s
CUC Castrocucco 63.56 304 eP P 03 06 40.2 +0.9
comp=Z,4.1nm,0.8s
MOA Molln 63.56 313 eP P 03 06 38.9 -0.3
comp=Z,4.3nm,1.1s
GERES GERESS Array B 63.82 314 P P 03 06 41.3 +0.3
comp=Z,2.3nm,0.7s,baz=84,slow=6.5,SNR=28
GEA0 GERESS Array S 63.82 314 eP P 03 06 41.1 +0.2
KHC Kasperske Hory 63.87 315 eP P 03 06 41.5 +0.3
KHC Kasperske Hory 63.87 315 eP P 03 06 41.5 +0.3
KBA Koelnbreinsper 64.28 312 eP P 03 06 43.6 -0.5
comp=Z,1.3nm,0.5s
NB2 NORSAR Subarra 64.28 328 P P 03 06 43.3 -0.4
comp=Z,8.8nm,1.2s,baz=85,slow=6.5
NOA NORSAR Array B 64.28 328 P P 03 06 43.5 -0.2
comp=Z,0.9nm,0.7s,baz=86,slow=6.7,SNR=3.6
NOA LR LR 03 36 57.2
comp=Z,27nm,20.7s,baz=15,slow=38
WATA Walderalm 65.44 313 eP P 03 06 50.5 -1.0
comp=Z,1.0nm,0.5s
SQTA Sankt Quirin 65.70 313 eP P 03 06 52.4 -0.8
MOTA Moosalm 65.75 313 eP P 03 06 52.4 -1.2
comp=Z,1.6nm,0.6s,SNR=4.9
RETA Reutte 65.96 313 eP P 03 06 54.4 -0.4
comp=Z,3.9nm,0.9s,SNR=4.4
FETA Feichten 66.06 313 eP P 03 06 54.7 -0.8
comp=Z,2.8nm,1.1s
DAVA Damuels 66.58 313 eP P 03 06 58.3 -0.7
comp=Z,7.3nm,1.4s
WLF Walferdange 68.58 316 eP P 03 07 12.2 +1.0
WLF pmax pmax
comp=Z,6.0nm,0.8s
WLF Walferdange 68.58 316 eP P 03 07 12.2 +1.0
comp=Z,5.8nm,0.8s
KEST Kesra 69.46 301 P P 03 07 17.2 +0.1
comp=Z,5.9nm,0.9s,baz=284,slow=3.0,SNR=6.6
SSB Saint Sauveur 70.62 312 eP P 03 07 24.0 0.0
SSB pmax pmax
comp=Z,3.0nm,0.7s
SSB Saint Sauveur 70.62 312 eP P 03 07 24.0 0.0
comp=Z,3.3nm,0.7s
LSZ Lusaka 71.86 244 eP P 03 07 32.3 +0.3
LSZ pmax pmax
comp=Z,3.0nm,0.8s
LSZ Lusaka 71.86 244 eP P 03 07 32.3 +0.3
comp=Z,2.8nm,0.8s
EKA Eskdalemuir Ar 72.73 323 P P 03 07 36.9 +0.4
comp=Z,1.8nm,0.8s,baz=80,slow=6.9,SNR=4.8
STKA Stephens Creek 73.93 136 LR LR 03 45 48.7
comp=Z,19nm,18.6s,baz=21,slow=40
TAM Tamanrasset 76.55 289 eP P 03 08 00.7 +1.3
TAM pmax pmax
comp=Z,4.0nm,1.3s
TAM Tamanrasset 76.55 289 eP P 03 08 00.7 +1.3
comp=Z,4.4nm,1.3s
ESDC Sonseca Array 78.31 308 P P 03 08 09.7 +0.9
comp=Z,0.3nm,0.5s,baz=51,slow=6.6,SNR=5.4
TOLK Toolik Lake Re 78.36 19 eP P 03 08 07.8 -0.7
comp=Z,6.1nm,0.8s
BOSA Boshof 81.27 234 P P 03 08 25.8 +0.8
comp=Z,2.7nm,1.0s,baz=87,slow=1.8,SNR=4.2
ILAR Eielson Array 81.57 21 P P 03 08 26.1 +0.3
comp=Z,0.3nm,0.9s,baz=317,slow=6.1,SNR=3.7
INK Inuvik 82.89 15 P P 03 08 32.4 -0.3
comp=Z,0.5nm,0.5s,baz=323,slow=8.3,SNR=3.1
TOA0 Torodi Ar. Sit 83.46 281 eP P 03 08 37.5 +0.9
TORD Torodi Ar. Bea 83.46 281 P P 03 08 37.4 +0.8
comp=Z,1.6nm,0.7s,baz=71,slow=4.6,SNR=15
TORD LR LR 03 51 53.5
comp=Z,32nm,18.7s,baz=155,slow=40
KOWA Kowa 88.03 285 P P 03 09 00.8 +1.5
comp=Z,2.8nm,0.6s,baz=50,slow=6.0,SNR=15
YKA Yellowknife Ar 91.91 11 P P 03 09 16.5 0.0
comp=Z,0.1nm,0.6s,baz=332,slow=4.3,SNR=3.5
DBIC Dimbokro 91.94 278 P P 03 09 18.2 +0.6
comp=Z,2.8nm,0.6s,baz=49,slow=2.3,SNR=6.7
ROSC El Rosal 147.90 330 PKPbc PKPbc 03 15 55.5 +0.7
comp=Z,3.3nm,0.4s,baz=66,slow=20,SNR=3.8
CPUP Villa Florida 150.46 258 PKPbc PKPbc 03 16 00.5 +0.1
comp=Z,1.6nm,0.8s,baz=13,slow=6.7,SNR=5.2
SAML Samuel 150.62 295 ePKIKP PKPbc 03 16 01.9 +0.7
SAML Samuel 150.62 295 ePKPbc PKPbc 03 16 01.9 +0.7

*ISCJB **18** 02:56:53.9±0.5,67.°07N±0.°03×20.°4E±0.°1,h0km, Error ellipse: s-maj=6.1km s-min=3.9km az=16.5*
*NAO **18** 02:56:55.9±0.9,67.°16N×20.°55E, ML2.4*
*CSEM **18** 02:56:55.8±0.2,67.°16N×20.°64E, h0km±3km, ML1.8, Error ellipse: s-maj=5.5km s-min=4.0km az=94.0, Suspected Mining explosion.*
*UPP **18** 02:56:55.9,67.°18N×20.°66E, h0km, ML1.8, Suspected Mining explosion.*
*IDC **18** 02:56:56.2±1.0,67.°18N×20.°83E, h0km, mb1 3.0/4, mb1mx2.8/70, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=15.9km s-min=8.3km az=113.0*
*BER **18** 02:56:58.7±3.7,67.°14N×20.°53E, h0km, ML2.2, ML2.4(NAO), Suspected explosion*

ISC 18 02:56:55.3±0.8, 67.°16N±0.°02×20.°63E±0.°03, h0km, n41, σ2s 00/62, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUNU	Dundret	0.05	208	P		Pg	02 56 57.6	+1.4
DUNU				S		Sg	02 56 58.9	+2.1
DUNU	Dundret	0.05	208	P		Pg	02 56 57.6	+1.4
DUNU				S		Sg	02 56 58.9	+2.1
MASU	Masugnsbyn	0.61	60	P		Pg	02 57 07.3	+0.4
MASU	Masugnsbyn	0.61	60	P		Pg	02 57 07.3	+0.4
RATU	Laukkuluspa	0.77	329	P		Pg	02 57 10.2	+0.2
RATU	Laukkuluspa	0.77	329	P		Pg	02 57 10.2	+0.2
KUA	Kurravaara	0.80	352	P		Pg	02 57 10.7	+0.1
KUA	Kurravaara	0.80	352	P		Pg	02 57 10.7	+0.1
ERTU	Ertsjaerv	0.87	134	P		Pg	02 57 11.9	0.0
ERTU	Ertsjaerv	0.87	134	P		Pg	02 57 11.9	0.0
NIKU	Nikkaluokta	0.94	320	P		Pg	02 57 13.4	+0.2
NIKU	Nikkaluokta	0.94	320	P		Pg	02 57 13.4	+0.2
PAJU	Pajala	0.98	97	P		Pg	02 57 13.9	-0.1
PAJU	Pajala	0.98	97	P		Pg	02 57 13.9	-0.1
LANU	Lannavaara	1.03	30	P		Pg	02 57 14.7	-0.3
LANU	Lannavaara	1.03	30	P		Pg	02 57 14.7	-0.3
HEF	Hetta	1.70	41	eP		Pn	02 57 26.7	+0.6
	SNR=50							
HEF	Hetta	1.70	41	eP		Pn	02 57 26.7	+0.6
KALU	Kalix	1.71	139	P		Pn	02 57 27.0	+0.8
KALU	Kalix	1.71	139	P		Pn	02 57 27.0	+0.8
KIF	Kilpisjarvi	1.85	2	Pn		Pn	02 57 29.3	+1.1
KIF				Sn		Sg	02 57 55.1	+0.5
KIF	Kilpisjarvi	1.85	2	Pn		Pn	02 57 29.3	+1.1
	SNR=50							
				Sn		Sg	02 57 55.1	+0.5
	SNR=50							
KIF	Kilpisjarvi	1.85	2	Pn		Pn	02 57 29.3	+1.1
KIF				Sn		Sg	02 57 55.1	+0.5
KTK1	Kautokeino	2.10	27	eP		Pb	02 57 33.7	-0.4
	SNR=50							
KTK1	Kautokeino	2.10	27	eP		Pb	02 57 33.7	-0.4
KTK1				IAML			02 58 04.0	
	comp=Z,33nm,0.5s							
ARA0	ARCESS Array S	2.99	35	Pn		Pn	02 57 44.8	+0.9
	baz=209,slow=14							
ARA0				Sn		Sn	02 58 22.5	+2.1
	baz=213,slow=22							
ARA0	ARCESS Array S	2.99	35	Pn		Pn	02 57 44.8	+0.9
	SNR=50							
ARA0				Sn		Sn	02 58 22.5	+2.1
	SNR=50							
ARA0	ARCESS Array S	2.99	35	Pn		Pn	02 57 44.8	+0.9
	baz=209,slow=14							
ARA0				Sn		Sn	02 58 22.5	+2.1
	baz=213,slow=22							
ARCES	ARCESS Array B	2.99	35	Pn		Pn	02 57 45.0	+1.1
	comp=Z,0.3nm,0.3s,baz=218,slow=13,SNR=6.4							
ARCES				Sn		Sn	02 58 19.1	-1.2
	comp=Z,1.1nm,0.3s,baz=217,slow=23,SNR=8.0							
FIA0	FINESS Array S	6.21	155	Pn		Pn	02 58 29.5	+1.4
	baz=348,slow=16							
FIA0				Sn		Sn	02 59 39.5	-0.2
	baz=344,slow=22							
FIA0				Lg		Lg	03 00 09.6	
	baz=336,slow=28							
FIA0	FINESS Array S	6.21	155	Pn		Pn	02 58 29.5	+1.4
	SNR=50							
FIA0				Sn		Sn	02 59 39.5	-0.2
	SNR=50							
FIA0				Lg		Lg	03 00 09.6	
	SNR=50							
FIA0	FINESS Array S	6.21	155	Pn		Pn	02 58 29.5	+1.4
	baz=348,slow=16							
FIA0				Sn		Sn	02 59 39.5	-0.2
	baz=344,slow=22							
FIA0				Lg		Lg	03 00 09.6	
	baz=336,slow=28							
FINES	FINESS Array B	6.21	155	Pn		Pn	02 58 29.8	+1.7
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=7.5							
FINES				Sn		Sn	02 59 39.9	+0.3
	comp=Z,0.2nm,0.3s,baz=345,slow=20,SNR=6.4							
FINES				Lg		Lg	03 00 09.3	
	comp=Z,0.4nm,0.3s,baz=339,slow=27,SNR=5.4							
NB2	NORSAR Subarra	7.39	218	Pn		Pn	02 58 45.3	+1.0
NB2				Sn		Sn	03 00 05.4	-3.4
	baz=45,slow=28							
NB2	NORSAR Subarra	7.39	218	Pn		Pn	02 58 45.3	+1.0
NB2				Sn		Sn	03 00 05.4	-3.4
	baz=45,slow=28							
NOA	NORSAR Array B	7.39	218	Pn		Pn	02 58 44.9	+0.6
	comp=Z,0.1nm,0.3s,baz=40,slow=18,SNR=3.3							
NOA				Sn		Sn	03 00 03.6	-5.2
	comp=Z,0.3nm,0.3s,baz=190,slow=19,SNR=7.5							
NOA				Lg		Lg	03 00 44.9	
	comp=Z,0.6nm,0.3s,baz=135,slow=18,SNR=5.0							
NRA0	NORESS Array S	7.58	216	Pn		Pn	02 58 47.2	+0.3
	baz=17,slow=16							
NRA0				Sn		Sn	03 00 06.8	-6.6
	baz=33,slow=16							
NRA0				Lg		Lg	03 00 53.4	
	baz=21,slow=28							
NRA0	NORESS Array S	7.58	216	Pn		Pn	02 58 47.2	+0.3
	baz=17,slow=16							
NRA0				Sn		Sn	03 00 06.8	-6.6
	baz=33,slow=16							
NRA0				Lg		Lg	03 00 53.4	
	baz=21,slow=28							
HFS	Hagfors	7.70	207	Pn		Pn	02 58 48.2	-0.2
	baz=15,slow=14							
HFS				Sn		Sn	03 00 11.9	-4.3
	baz=32,slow=28							
HFS	Hagfors	7.70	207	Pn		Pn	02 58 47.7	-0.8
	comp=Z,0.1nm,0.3s,baz=18,slow=14,SNR=6.7							
HFS				Sn		Sn	03 00 13.1	-3.1
	comp=Z,0.3nm,0.3s,baz=31,slow=21,SNR=7.9							
HFS				Lg		Lg	03 00 59.9	
	comp=Z,0.4nm,0.3s,baz=37,slow=29,SNR=4.5							
HFS	Hagfors	7.70	207	Pn		Pn	02 58 48.2	-0.2
	baz=15,slow=14							
HFS				Sn		Sn	03 00 11.9	-4.3
	baz=32,slow=28							

*IDC **18** 02:59:25.4±1.4,38.°80N×72.°27E, h0km, mb3.7/11, mb1 3.9/14, mb1mx3.6/70, mbtmp3.7/14, ML3.5/2, Error ellipse: s-maj=32.9km s-min=14.8km az=146.0*
*ISCJB **18** 02:59:27.2±0.6,38.°57N±0.°05×72.°31E±0.°06, h30km, mb3.6/11, Error ellipse: s-maj=8.5km s-min=5.7km az=142.5*
*NNC **18** 02:59:28.0±2.0,38.°80N×72.°52E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=18.8km s-min=9.5km az=154.0*

ISC 18 02:59:28.8±0.7, 38.°63N±0.°05×72.°45E±0.°06, h30km, n40, σ1s 96/44, mb3.8/11, 11C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	Sufi-Kurgan	1.61	30	⇑P		Pn	02 59 53.0	-2.4
	120nm,0.7s							
SFK				⇑S		Sn	03 00 15.1	-0.2
	492nm,0.5s							
AML	Almayashu	3.63	15	P		Pn	03 00 24.5	+1.1
	SNR=112							
TAS	Tashkent	3.63	319	⇑Pg		Pb	03 00 34.2	+1.9
TAS				⇑Lg		Lg	03 01 19.2	
	410nm,0.7s							
MNAS	Manas	3.86	1	⇓Pn		Pn	03 00 28.0	+1.7
	41nm,0.5s							
MNAS				⇓Lg		Lg	03 01 20.7	
	102nm,0.7s							
UCH	Uchtor	3.93	23	P		Pn	03 00 28.6	+1.1
	SNR=13							
KZA	Kyzart	4.06	31	P		Pn	03 00 30.0	+0.7
	SNR=14							
EKS2	Erkin-Say	4.16	14	P		Pb	03 00 41.1	-0.2
	SNR=6.9							
AAK	Ala-Archa	4.30	21	Pn		Pn	03 00 34.3	+2.0
	1.8nm,0.3s,baz=184,slow=7.9,SNR=23							
AAK				Sn		Sn	03 01 25.7	+4.2
	2.5nm,0.3s,baz=142,slow=22,SNR=5.1							
AAK	Ala-Archa	4.30	21	⇓Pn		Pn	03 00 33.7	+1.4
	11nm,0.8s							
AAK				⇑Pg		Pb	03 00 41.7	-2.1
	30nm,0.8s							
AAK				⇑Lg		Lg	03 01 36.9	
	144nm,1.1s							
AAK	Ala-Archa	4.30	21	P		Pn	03 00 33.9	+1.6
	SNR=14							
KBK	Karagaybulak	4.45	24	P		Pn	03 00 40.5	+6.1
	SNR=6.7							
ULHL	Ulahol	4.63	37	P		Pb	03 00 47.9	-1.6
	SNR=9.1							
KK31	Karatay Array	4.71	342	⇑Pn		Pn	03 00 39.6	+1.7
	13nm,0.4s,baz=147,slow=12,SNR=215							
KK31				⇑Lg		Lg	03 01 50.4	
	17nm,0.5s							
CEP	Cherat	4.81	185	P		Pb	03 00 48.6	-3.9
CEP				S		Sb	03 01 54.0	+4.0
USP	Ospenovka	4.89	18	P		Pn	03 00 41.3	+1.0
	SNR=8.3							
TKM2	Tokmak 2	4.91	28	⇓Pn		Pn	03 00 42.1	+1.3
	5.2nm,0.6s							
TKM2				⇓Pg		Pb	03 00 52.0	-2.2
	13nm,0.6s							
TKM2				⇓Lg		Lg	03 01 58.2	
	54nm,0.8s							
TKM2	Tokmak 2	4.91	28	P		Pn	03 00 46.5	+5.7
	SNR=6.9							
CHCP	Chirah Chowk	5.00	172	P		Pn	03 00 43.7	+1.8
MDOK	Medeo	5.72	36	⇑Pn		Pn	03 00 54.2	+2.4
MDOK				Pg		Pb	03 01 07.3	-0.6
	22nm,0.8s							
MDOK				⇑Lg		Lg	03 02 24.2	
	107nm,1.4s							
KNDC	Almaty	5.72	35	⇓Pg		Pb	03 01 09.4	+1.5
	51nm,0.6s							
KNDC				⇓Lg		Lg	03 02 25.1	
	147nm,0.8s							
PDGK	Podgornoye	7.10	46	⇓Lg		Lg	03 03 08.6	
	52nm,1.5s							
OTUK	Ortayu	9.62	360	⇓Pn		Pn	03 01 43.5	-1.6
	4.2nm,1.0s							
OTUK				⇓Pg			03 02 18.8	
	8.0nm,0.9s							
OTUK				⇓Lg		Lg	03 04 25.2	
	51nm,1.1s							
MKAR	Makanchi Array	10.90	38	Lg		Lg	03 05 10.3	
	0.1nm,0.3s,baz=176,slow=24,SNR=3.0							
GEYT	Ailbeck	11.29	271	Pn		Pn	03 02 06.3	-1.8
	0.5nm,0.3s,baz=110,slow=11,SNR=3.7							
GEYT				Sn		Sn	03 04 13.3	+0.1
	1.1nm,0.3s,baz=314,slow=36,SNR=4.0							
KURBB	Kurchatov Arra	12.75	18	Lg		Lg	03 06 05.1	
	0.0nm,0.3s,baz=206,slow=31,SNR=4.4							
AB31	Akbulak array	13.91	324	⇓Pn		Pn	03 02 41.3	-2.4
	2.2nm,0.5s							
AB31				⇓Sn		Sn	03 05 19.7	+2.6
	2.7nm,0.6s							
AKTO	Aktyubinsk	15.63	324	Pn		Pn	03 03 04.8	-2.0
	0.2nm,0.3s,baz=126,slow=16,SNR=4.5							
AKTO				Sn		Sn	03 05 46.9	-12
	0.1nm,0.3s,baz=126,slow=19,SNR=1.9							
AKTO	Aktyubinsk	15.63	324	⇓Pn		Pn	03 03 08.1	+1.3
	8.8nm,0.9s							
AKTO				⇑Sn		Sn	03 06 01.9	+3.0
	7.4nm,1.1s							
ZALV	Zalesovo Beam	17.50	25	P		Pn	03 03 27.7	-2.8
	0.0nm,0.3s,baz=204,slow=9.5,SNR=2.8							
SONM	Songino Array	26.21	58	P		P	03 05 02.8	+1.8
	0.9nm,0.8s,baz=259,slow=12,SNR=3.4							
FINES	FINESS Array B	36.40	324	P		P	03 06 29.6	-0.6
	1.6nm,0.8s,baz=120,slow=8.2,SNR=5.1							
ARCES	ARCESS Array B	39.64	336	P		P	03 06 57.1	-0.4
	3.1nm,0.8s,baz=114,slow=10,SNR=3.9							
HFS	Hagfors	42.13	320	P		P	03 07 17.9	-0.2
	0.5nm,0.6s,baz=93,slow=10,SNR=3.2							
GERES	GERESS Array B	42.68	304	P		P	03 07 21.5	-1.3
	0.5nm,0.6s,baz=72,slow=6.3,SNR=2.2							
NOA	NORSAR Array B	43.40	322	P		P	03 07 28.0	-0.4
	1.2nm,0.7s,baz=92,slow=8.0,SNR=4.2							
TORD	Torodi Ar. Bea	66.92	269	P		P	03 10 17.7	-0.9
	0.3nm,0.5s,baz=57,slow=5.7,SNR=3.9							
KOWA	Kowa	70.60	273	P		P	03 10 41.6	0.0
	0.7nm,0.7s,baz=53,slow=10,SNR=2.7							
INK	Inuvik	71.62	10	P		P	03 10 48.5	+1.6
	0.7nm,0.6s,baz=346,slow=4.2,SNR=3.5							
ILAR	Eielson Array	72.42	17	P		P	03 10 53.5	+1.7
	0.5nm,0.9s,baz=310,slow=4.2,SNR=2.9							
YKA	Yellowknife Ar	79.06	3	P		P	03 11 28.3	-1.4
	0.2nm,0.6s,baz=348,slow=4.7,SNR=5.7							

*ISCJB **18** 03:04:39.1±1.1,38.°26N±0.°08×72.°5E±0.°1,h30km, mb3.5/5, Error ellipse: s-maj=13.3km s-min=10.5km az=37.9*
*NNC **18** 03:04:40.7±1.2,38.°57N×72.°95E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=9.6km s-min=6.1km az=153.0*
*IDC **18** 03:04:43.4±6.0,38.°37N×72.°36E, h42km±51km, mb3.4/5, mb1 3.5/10, mb1mx3.2/70, mbtmp3.6/10, ML3.2/5, Error ellipse: s-maj=44.3km s-min=27.6km az=179.0*

ISC 18 03:04:41.1±1.3, 38.°4N±0.°1×72.°38E±0.°06, h30km, n21, σ2s 48/26, mb3.5/5, 11C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	Sufi-Kurgan	1.80	29	⇑P		Pn	03 05 07.6	-2.7
	35nm,0.3s							
SFK				⇓S		Sn	03 05 29.6	-2.7
	325nm,0.5s							
TAS	Tashkent	3.74	322	⇑Pn		Pb	03 05 43.0	-3.4
	55nm,0.4s							
TAS				⇓Sn		Sb	03 06 30.3	-1.0
	93nm,0.4s							
MNAS	Manas	4.05	1	⇓Pn		Pn	03 05 42.6	+1.5
	20nm,0.4s							
AAK	Ala-Archa	4.50	20	P		Pn	03 05 49.2	+2.0
	3.2nm,0.3s,baz=139,slow=6.3,SNR=13							
AAK				S		Sn	03 06 42.6	+4.0
	2.8nm,0.3s,baz=334,slow=19,SNR=8.1							
AAK	Ala-Archa	4.50	20	⇓Pn		Pn	03 05 47.7	+0.4
	20nm,0.7s							
AAK				⇑Lg		Lg	03 06 53.5	
	71nm,1.0s							
KK31	Karatay Array	4.87	344	⇓Pn		Pn	03 05 54.4	+2.1
	7.7nm,0.3s,baz=148,slow=12,SNR=131							
KK31				⇓Sn		Sn	03 06 53.9	+6.2
	13nm,0.4s							
TKM2	Tokmak 2	5.10	28	⇑Pn		Pn	03 05 55.8	+0.1
	6.0nm,0.6s							
TKM2				⇓Lg		Lg	03 07 11.2	
	31nm,0.8s							
MDOK	Medeo	5.90	35	⇓Pg		Pb	03 06 21.9	-1.4
	9.9nm,0.7s							
MDOK				⇑Lg		Lg	03 07 38.2	
	26nm,1.0s							
KNDC	Almaty	5.91	35	⇓Pg		Pb	03 06 22.9	-0.4
	36nm,0.9s							
KNDC				⇑Lg		Lg	03 07 37.2	
	80nm,0.8s							
PDGK	Podgornoye	7.27	46	⇑Pn		Pn	03 06 22.6	-2.8
	4.0nm,0.6s							
PDGK				⇑Pg		Pb	03 06 46.2	-0.4
	4.5nm,0.6s							
PDGK				⇑Lg		Lg	03 08 19.3	
	20nm,1.2s							
OTUK	Ortayu	9.80	360	⇑Lg		Lg	03 09 45.4	
	27nm,1.1s

FINES	**FINESS Array B** 3.0nm,1.1s,baz=132,slow=5.7,SNR=4.8	**36.52**	**324**	P		**P**	**03 11 44.9**	**+1.4**
HFS	**Hagfors** 1.0nm,0.7s,baz=98,slow=11,SNR=4.0	**42.24**	**321**	P		**P**	**03 12 31.9**	**+0.7**
NOA	**NORSAR Array B** 0.5nm,0.7s,baz=90,slow=8.8,SNR=2.9	**43.52**	**322**	P		**P**	**03 12 41.4**	**-0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=39,slow=7.6,SNR=2.5	**66.86**	**269**	P		**P**	**03 15 31.9**	**+1.4**

DJA 18 03:14:35.5±0.6, 8°S±20°×10°9E±°, h91km±7km, M4.0/4, MLv4.0/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.20**	**245**	P	Pn	03 14 49.3	+0.7
CISI	**Cisompet, Garu**	**0.82**	**280**	P	Pn	03 14 54.0	+0.6
CISI				S	Sn	03 15 08.7	+2.0
CNJI	**Cibinong**	**1.54**	**285**	P	Pn	03 15 01.4	-0.4
CNJI				S	Sn	03 15 22.2	+0.5
UGM	**Wanagama**	**1.89**	**97**	P	Pn	03 15 06.5	+0.2
UGM				S	Sn	03 15 31.1	+1.3
PCJI	**Pacitan**	**2.57**	**101**	P	Pn	03 15 15.8	+0.5
PCJI				S	Sn	03 15 46.5	+0.6
PWJI	**Pagerwojo**	**3.16**	**96**	P	Pn	03 15 23.3	+0.1
PWJI				S	Sn	03 16 00.8	+0.8

*SOME **18** 03:15:57.6, 40°.92N×74°.92E, h0km*
*KRNET **18** 03:15:57.6±0.1, 40°.90N×74°.91E, h16km, mb3.2*
*KNET **18** 03:15:58.7±1.4, 40°.98N×74°.88E, h0km, ml2.7, Error ellipse: s-maj=11.7km s-min=3.8km az=1.0*
*ISCJB **18** 03:16:00.6±0.6, 40°.85N±0°.03×74°.79E±0°.04, h10km, Error ellipse: s-maj=5.1km s-min=3.8km az=150.6*
*NNC **18** 03:16:02.1±1.8, 41°.04N×74°.76E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=15.8km s-min=10.0km az=170.0*

ISC 18 03:15:57.8±0.9, 40°.92N±0°.04×74°.91E±0°.02, h10km, n52, σ1s30/85, 44C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn** baz=57	**0.97**	**58**	↑*i*P	**Pg**	**03 16 16.0**	**-0.5**
NRN				↑*i*S	**Sg**	**03 16 29.5**	**+0.4**
KZA	**Kyzart** 22nm,0.2s,SNR=66	**1.18**	**12**	↑P	**Pg**	**03 16 20.6**	**+0.1**
KZA	**Kyzart** baz=12	**1.18**	**12**	↑*i*P	**Pg**	**03 16 20.5**	**0.0**
KZA				↑*i*S	**Sn**	**03 16 37.1**	**-0.1**
UCH	**Uchtor** 14nm,0.3s,SNR=50	**1.34**	**347**	P	**Pb**	**03 16 23.3**	**+0.1**
UCH	**Uchtor** baz=48	**1.34**	**347**	↑*i*P	**Pn**	**03 16 23.1**	**+0.2**
UCH				↑*i*S	**Sn**	**03 16 42.0**	**+1.0**
SFK	**Sufi-Kurgan** baz=31	**1.41**	**230**	↑*i*P	**Pn**	**03 16 23.3**	**-0.3**
SFK				↑*i*S	**Sb**	**03 16 42.3**	**0.0**
ARSB	**Arslanbob** baz=87	**1.51**	**286**	↑*e*P	**Pg**	**03 16 27.1**	**+0.4**
ARSB				↑*e*S	**Sg**	**03 16 49.7**	**+3.4**
AML	**Almayashu** 14nm,0.3s,SNR=29	**1.51**	**323**	↓P	**Pb**	**03 16 26.1**	**0.0**
AML	**Almayashu** baz=24	**1.51**	**323**	↑*i*P	**Pb**	**03 16 26.0**	**-0.2**
AML				↑*i*S	**Sg**	**03 16 46.4**	**-0.1**
ULHL	**Ulahol** 19nm,0.2s,SNR=27	**1.66**	**37**	↑P	**Pb**	**03 16 29.1**	**+0.6**
ULHL	**Ulahol** baz=36	**1.66**	**37**	↓*i*P	**Pb**	**03 16 28.9**	**+0.4**
ULHL				↓*i*S	**Sg**	**03 16 51.7**	**+0.6**
KBK	**Karagaybulak** 18nm,0.2s,SNR=27	**1.73**	**1**	↑P	**Pg**	**03 16 31.0**	**0.0**
KBK	**Karagaybulak** baz=1.0	**1.73**	**1**	↑*i*P	**Pb**	**03 16 30.1**	**+0.3**
KBK				↑*i*S	**Sg**	**03 16 54.1**	**+0.6**
AAK	**Ala-Archa** 13nm,0.6s	**1.74**	**350**	↓Pn	**Pg**	**03 16 31.0**	**-0.2**
AAK				↑Lg	Lg	03 16 55.0	
AAK	**Ala-Archa** 106nm,0.8s	**1.74**	**350**	↓P	**Pg**	**03 16 30.6**	**-0.6**
AAK	**Ala-Archa** 17nm,0.3s,SNR=41	**1.74**	**350**	↓P	**Pb**	**03 16 30.1**	**+0.2**
AAK	**Ala-Archa** baz=50	**1.74**	**350**	↓*i*P	**Pb**	**03 16 30.1**	**+0.2**
AAK				↓*i*S	**Sg**	**03 16 54.1**	**+0.3**
BOOM	**Boomskoye usch** baz=26	**1.75**	**26**	↑*e*P	**Pb**	**03 16 30.6**	**+0.6**
BOOM				↑*i*S	**Sg**	**03 16 56.2**	**+2.2**
EKS2	**Erkin-Say** 1.4nm,0.2s,SNR=21	**1.93**	**334**	↑P	**Pb**	**03 16 33.9**	**+0.7**
EKS2	**Erkin-Say** baz=35	**1.93**	**334**	↑*i*P	**Pb**	**03 16 33.5**	**+0.3**
EKS2				↑*i*S	**Sg**	**03 16 59.6**	**-0.3**
TKM2	**Tokmak 2** 7.0nm,0.3s	**2.06**	**14**	↑Pn	**Pg**	**03 16 36.6**	**-0.8**
TKM2				↓Lg	Lg	03 17 05.1	
TKM2	**Tokmak 2** 39nm,0.3s	**2.06**	**14**	P	**Pg**	**03 16 36.5**	**-0.8**
TKM2	**Tokmak 2** 17nm,0.2s,SNR=36	**2.06**	**14**	↓*i*P	**Pb**	**03 16 35.5**	**+0.1**
TKM2				↓*i*S	**Sg**	**03 17 03.6**	**-0.5**
CHMS	**Chumysh** 6.2nm,0.2s,SNR=14	**2.08**	**357**	↓P	**Pg**	**03 16 36.8**	**-0.8**
CHMS	**Chumysh** baz=57	**2.08**	**357**	↑*i*P	**Pb**	**03 16 35.8**	**+0.2**
CHMS				↑*i*S	**Sg**	**03 17 03.7**	**-0.9**
KDJ	**Kajisay** baz=54	**2.09**	**54**	↑*i*P	**Pb**	**03 16 35.8**	**-0.1**
KDJ				↑*i*S	**Sg**	**03 17 04.2**	**-0.7**
MRKS	**Merke** 28nm,0.6s	**2.21**	**326**	*e*P	**Pb**	**03 16 38.6**	**+0.7**
MRKS				*e*S	**Sg**	**03 17 08.1**	**-0.8**
KST	**Kastek** 5.2nm,0.7s	**2.26**	**20**	↑*i*P	**Pg**	**03 16 40.1**	**-1.0**
KST				↑*i*S	**Sg**	**03 17 10.6**	**+0.2**
TARG	**Taragay, Kyrgy** baz=68	**2.33**	**69**	↑*i*P	**Pb**	**03 16 39.1**	**-0.9**
TARG				↑*i*S	**Sb**	**03 17 09.9**	**+0.9**
USP	**Ospenovka** 33nm,0.3s,SNR=50	**2.36**	**353**	↑P	**Pb**	**03 16 41.3**	**+0.8**
USP	**Ospenovka** baz=53	**2.36**	**353**	↑*i*P	**Pb**	**03 16 39.4**	**-1.1**
USP				↑*i*S	**Sb**	**03 17 10.4**	**+0.7**
MNAS	**Manas** 10nm,0.7s	**2.38**	**312**	↓Pn	**Pb**	**03 16 41.4**	**+0.5**
MNAS				↑Lg	Lg	03 17 13.2	
MNAS	**Manas** 34nm,0.7s	**2.38**	**312**	↑*e*P	**Pb**	**03 16 39.7**	**-1.2**
MNAS				↑*i*S	**Sb**	**03 17 10.6**	**+0.2**
DGS	**Degeres** 38nm,0.6s	**2.41**	**15**	*e*P	**Pb**	**03 16 42.2**	**+1.0**
DGS				*e*S	**Sg**	**03 17 14.2**	**-0.8**
IZV	**Izvestkoviy** 25nm,0.6s	**2.46**	**30**	*e*P	**Pb**	**03 16 42.9**	**+0.7**
IZV				*e*S	**Sg**	**03 17 15.6**	**-1.4**
MTBS	**Maitube** 12nm,0.3s	**2.48**	**27**	*e*P	**Pg**	**03 16 44.2**	**-1.1**
MTBS				*e*S	**Sg**	**03 17 17.6**	**+0.2**
TNSS	**Tian-Shan** 18nm,0.3s	**2.60**	**35**	*e*P	**Pg**	**03 16 46.6**	**-1.1**
TNSS				*e*S	**Sg**	**03 17 21.8**	**+0.4**
AAA	**Alma-Ata** 19nm,0.1s	**2.73**	**33**	*e*P	**Pb**	**03 16 48.5**	**+1.8**
AAA				*e*S	**Sg**	**03 17 24.9**	**-0.6**
MDOK	**Medeo** 8.8nm,0.4s	**2.75**	**35**	↓Pn	**Pb**	**03 16 48.8**	**+1.7**
MDOK				↑Lg	Lg	03 17 26.7	
MDOK	**Medeo** 18nm,0.4s	**2.75**	**35**	↑*i*P	**Pg**	**03 16 49.4**	**-1.1**
MDOK				↓*i*S	**Sg**	**03 17 26.8**	**+0.7**
KNDC	**Almaty** 17nm,0.5s	**2.76**	**33**	↑Pn	**Pg**	**03 16 49.3**	**-1.3**
KNDC				↓Lg	Lg	03 17 27.7	
KOTS	**Kotyrbulak**	**2.83**	**35**	*e*P	**Pb**	**03 16 49.7**	**+1.2**
KOTS				*e*S	**Sg**	**03 17 27.2**	**-1.6**
KTBS	**Karatobe** 15nm,0.3s	**3.08**	**25**	*e*P	**Pb**	**03 16 54.8**	**+2.1**
KTBS				*e*S	**Sg**	**03 17 36.1**	**-0.7**
KUU	**Kurty** 12nm,0.4s	**3.15**	**19**	*e*P	**Pb**	**03 16 55.8**	**+2.0**
KUU				*e*S	**Sg**	**03 17 37.5**	**-1.5**
CHKK	**Chushkaly** 3.9nm,0.4s	**3.31**	**27**	*e*P	**Pb**	**03 16 58.9**	**+2.3**
CHKK				*e*S	**Sg**	**03 17 42.9**	**-1.1**
KURS	**Kuram** 1.2nm,0.3s	**3.53**	**42**	*e*P	**Pb**	**03 17 02.5**	**+2.2**
KURS				*e*S	**Sg**	**03 17 49.0**	**-2.0**
IUG	**Iuzhnay** 3.8nm,0.5s	**3.86**	**290**	*e*P	**Pb**	**03 17 08.5**	**+2.5**
IUG				*e*S	**Sg**	**03 17 59.0**	**-2.7**
ARXS	**Arharly** 3.4nm,0.6s	**3.93**	**32**	*e*P	**Pb**	**03 17 08.8**	**+1.6**
ARXS				*e*S	**Sg**	**03 17 59.9**	**-4.1**
KK31	**Karatay Array** 1.0nm,0.4s,baz=119,slow=16,SNR=14	**3.94**	**305**	↓Pg	**Pb**	**03 17 08.6**	**+1.4**
KK31				↓Lg	Lg	03 18 00.2	
MNBS	**Baschi** 7.3nm,0.5s	**4.08**	**38**	*e*P	**Pb**	**03 17 12.2**	**+2.5**
MNBS				*e*S	**Sg**	**03 18 05.8**	**-2.9**
PDGK	**Podgornoye** 4.6nm,0.8s	**4.17**	**53**	↑Pg	**Pg**	**03 17 17.5**	**-0.2**
PDGK				↑Lg	Lg	03 18 13.4	
BRLS	**Boroldday** 0.6nm,0.3s	**4.33**	**301**	*e*P	**Pg**	**03 17 17.9**	**-2.8**
BRLS				*e*S	**Sg**	**03 18 15.0**	**-1.7**
OTUK	**Ortayu** 10.0nm,1.1s	**7.55**	**347**	↑Lg	Lg	03 19 56.2	

MAN 18 03:34:35, 10°.03N×123°.30E, h33km, mb3.8, ML2.5, MS2.0, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.69**	**186**	↑*i*P	Pb	03 34 50.3	+1.6
SNPH				*i*S	Sn	03 34 59.5	+1.5
LLP	**Lapu-Lapu**	**0.71**	**66**	*e*P	Pb	03 34 49.8	+0.7
LLP				*e*S	Sb	03 35 00.5	+1.9
GUIM	**Jordan**	**0.92**	**310**	*e*P	Pb	03 34 52.4	-0.1
GUIM				*e*S	Sb	03 35 05.0	+0.5
MSLP	**Maasin**	**1.54**	**86**	*e*P	Pb	03 35 04.4	+1.5
MSLP				*e*S	Sb	03 35 26.8	+4.8

*ISCJB **18** 03:49:41.0±0.4, 19°.20S±0°.04×69°.41W±0°.08, h126km±4km, mb4.0/4, Error ellipse: s-maj=11.7km s-min=6.1km az=177.1*
*GUC **18** 03:49:42.3±0.5, 19°.23S×69°.41W, h111km±2km, ML4.0*
*NEIC **18** 03:49:42.0±0.0, 19°.20S×69°.36W, h108km, mb4.1/1, ML4.1(GUC), After GUC.*
*IDC **18** 03:49:44.5±4.5, 19°.20S×69°.00W, h130km±28km, mb3.9/4, mb1 3.8/6, mb1mx3.3/42, mbtmp4.1/6, Error ellipse: s-maj=50.5km s-min=26.6km az=59.0*

ISC 18 03:49:41.6±0.7, 19°.20S±0°.05×69°.35W±0°.08, h115km±7km, n19, σ1s13/27, mb4.0/4, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.24**	**286**	↑*e*P	**Pn**	**03 49 58.4**	**+0.3**
MNMC				*e*S	**Sn**	**03 50 10.5**	**+0.1**
MNMC	comp=E,19μm,0.6s			IAML		03 50 13.3	
PB11	**IPOC Station P**	**0.63**	**207**	↑*i*P	**Pn**	**03 50 00.6**	**+0.5**
PB11				*e*S	**Sn**	**03 50 14.2**	**+0.2**
PSGC	**Pisagua**	**0.83**	**241**	↑*i*P	**Pn**	**03 50 02.0**	**+0.3**
PSGC				*i*S	**Sn**	**03 50 16.7**	**-0.1**
PB08	**IPOC Station P**	**0.96**	**169**	↓*e*P	**Pn**	**03 50 04.2**	**+0.9**
PB08				*e*S	**Sn**	**03 50 20.4**	**+0.9**
PB08	comp=E,4μm,0.2s			IAML		03 50 21.4	
PB12	**IPOC Station P**	**1.09**	**302**	↑*i*P	**Pn**	**03 50 04.7**	**+0.5**
PB12				*i*S	**Sn**	**03 50 21.5**	**+0.1**
PB12	comp=E,10μm,0.3s			IAML		03 50 22.2	
PB01	**IPOC Station P**	**1.84**	**184**	↑*e*P	**Pn**	**03 50 13.9**	**+0.9**
PB01				*e*S	**Sn**	**03 50 37.5**	**+0.6**
PB01	comp=N,844nm,0.4s			IAML		03 50 39.4	
PB02	**IPOC Station P**	**2.17**	**193**	*e*P	**Pn**	**03 50 18.1**	**+0.9**
PB02				*e*S	**Sn**	**03 50 45.4**	**+1.1**
PB02	comp=E,790nm,0.4s			IAML		03 50 53.2	
PB09	**IPOC Station P**	**2.59**	**178**	*e*P	**Pn**	**03 50 23.9**	**+1.4**
LPAZ	**La Paz** comp=E,2.2nm,0.3s,baz=188,slow=6.7,SNR=84	**3.12**	**22**	P	**Pn**	**03 50 32.4**	**+2.4**
LPAZ				S	**Sn**	**03 51 08.9**	**+1.8**
	comp=E,2.5nm,0.3s,baz=158,slow=5.3,SNR=6.9						
LCO	**Las Campanas**	**9.85**	**187**	*e*Pn	**Pn**	**03 51 59.6**	**-0.7**
NNA	**Nana**	**10.17**	**314**	*e*Pn	**Pn**	**03 52 02.7**	**-1.8**
SAML	**Samuel**	**11.81**	**31**	*e*Pn	**Pn**	**03 52 25.1**	**-1.5**
CPUP	**Villa Florida** comp=E,0.3nm,0.3s,baz=301,slow=1.1,SNR=9.8	**13.16**	**125**	P	**Pn**	**03 52 42.7**	**-1.5**
TRQA	**Tornquist** comp=E,6.8nm,0.6s	**19.86**	**163**	*e*P	**P**	**03 54 04.2**	**+0.6**
JTS	**JuntasAbangare**	**33.09**	**331**	*e*P	**P**	**03 56 07.7**	**+0.9**
DBIC	**Dimbokro** comp=E,3.4nm,0.9s,baz=236,slow=8.5,SNR=3.9	**68.50**	**74**	P	**P**	**04 00 31.4**	**-0.7**
KOWA	**Kowa** comp=E,1.1nm,0.4s,baz=231,slow=6.5,SNR=6.1	**72.50**	**67**	P	**P**	**04 00 56.0**	**-0.4**
TORD	**Torodi Ar. Bea** comp=E,0.9nm,0.4s,baz=250,slow=5.7,SNR=23	**76.99**	**71**	P	**P**	**04 01 21.6**	**-0.7**
YKA	**Yellowknife Ar** comp=E,1.0nm,0.7s,baz=134,slow=4.6,SNR=28	**88.89**	**341**	P	**P**	**04 02 24.0**	**+1.5**

*THE **18** 03:51:43.6, 37°.12N×31°.13E, h29km±.95km, ML3.4/3, Error ellipse: s-maj=95.0km s-min=2.2km az=350.0*
*DDA **18** 03:51:44.7, 37°.05N×30°.58E, h17km, Ml3.7*
*ISK **18** 03:51:44.2, 37°.06N×30°.62E, h10km, ML3.5/35*
*ISCJB **18** 03:51:44.5±0.4, 37°.08N±0°.02×30°.64E±0°.02, h5km±3km, mb3.4/2, MS2.6/1, Error ellipse: s-maj=3.0km s-min=2.8km az=157.5*
*CSEM **18** 03:51:45.6±0.1, 37°.05N×30°.62E, h10km, ML3.5, Error ellipse: s-maj=3.9km s-min=3.4km az=166.0*
*IDC **18** 03:51:45.1±1.2, 37°.14N×30°.62E, h0km, mb3.4/2, mb1 3.4/7, mb1mx3.2/64, mbtmp3.3/7, ML3.1/5, MS2.8/2, Ms1 2.8/2, ms1mx2.3/32, Error ellipse: s-maj=19.3km s-min=17.0km az=142.0*

ISC 18 03:51:44.7±1.1, 37°.06N±0°.02×30°.61E±0°.02, h2km±9km, n197, σ1s69/233, 12C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.17**	**167**	PG	**Pg**	**03 51 48.8**	**+0.9**
ANTB				SG	**Sg**	**03 51 51.8**	**+1.7**
ANTB	**Antalya**	**0.17**	**167**	*e*Pg	**Pg**	**03 51 48.8**	**+0.9**
ANTB				*e*Sg	**Sg**	**03 51 51.8**	**+1.7**
KORT	**Korkueli**	**0.21**	**253**	PG	**Pg**	**03 51 48.9**	**+0.1**
KORT				SG	**Sg**	**03 51 53.0**	**+1.4**
KORT	**Korkueli**	**0.21**	**253**	*i*P	**Pg**	**03 51 49.0**	**+0.1**
KORT				*i*S	**Sg**	**03 51 53.1**	**+1.4**
KORT	**Korkueli**	**0.21**	**253**	P	**Pg**	**03 51 49.0**	**+0.1**
KORT				S	**Sg**	**03 51 53.1**	**+1.4**
BCK	**Bucak**	**0.40**	**358**	PG	**Pg**	**03 51 52.3**	**0.0**
BCK				SG	**Sb**	**03 51 58.5**	**-2.6**
BCK	**Bucak**	**0.40**	**358**	*e*Pg	**Pg**	**03 51 52.3**	**0.0**
BCK				*e*Sg	**Sb**	**03 51 58.5**	**-2.6**
SUTC	**Sutluce-Ispart**	**0.52**	**37**	PG	**Pg**	**03 51 54.4**	**-0.3**
SUTC	**Sutluce-Ispart**	**0.52**	**37**	*e*Pg	**Pg**	**03 51 54.4**	**-0.3**
ELL	**Elmali**	**0.64**	**241**	PG	**Pg**	**03 51 56.8**	**-0.2**
ELL	**Elmali**	**0.64**	**241**	*e*Pg	**Pg**	**03 51 56.8**	**-0.2**
ISP	**Isparta**	**0.76**	**355**	PG	**Pb**	**03 51 59.3**	**-1.4**
ISP	**Isparta**	**0.76**	**355**	↓*i*P	**Pn**	**03 52 03.8**	**+1.2**
ISP				S	**Sn**	**03 52 12.6**	**-2.1**
ISP	**Isparta**	**0.76**	**355**	*e*Pg	**Pb**	**03 51 59.3**	**-1.4**
ISP	**Isparta**	**0.76**	**355**	P	**Pb**	**03 51 59.6**	**-1.1**
ISP				S	**Sb**	**03 52 09.8**	**-1.8**
ISP	**Isparta**	**0.76**	**355**	P	**Pb**	**03 51 59.6**	**-1.1**
ISP				S	**Sb**	**03 52 09.8**	**-1.8**
ISP	**Isparta**	**0.76**	**355**	P	**Pb**	**03 51 59.6**	**-1.1**
ISP				S	**Sb**	**03 52 09.8**	**-1.8**
BRDR	**BURDUR-Merkez**	**0.77**	**326**	*i*P	**Pg**	**03 51 59.4**	**0.0**
BRDR				*i*S	**Sn**	**03 52 12.8**	**-2.0**
BRDR	**BURDUR-Merkez**	**0.77**	**326**	P	**Pg**	**03 51 59.4**	**0.0**
BRDR				S	**Sn**	**03 52 12.8**	**-2.0**
KEPZ	**Antalya-Kepez**	**0.81**	**101**	*i*P	**Pn**	**03 52 01.1**	**-2.3**
KEPZ	**Antalya-Kepez**	**0.81**	**101**	P	**Pn**	**03 52 01.0**	**-2.3**
GOLH	**Golhisar**	**0.85**	**282**	*i*P	**Pg**	**03 52 00.1**	**-1.0**
GOLH				*i*S	**Sn**	**03 52 16.4**	**-0.6**
GOLH	**Golhisar**	**0.85**	**282**	P	**Pg**	**03 52 00.1**	**-1.0**
GOLH				S	**Sn**	**03 52 16.4**	**-0.6**
BAGO	**Egridir - ISPA**	**0.94**	**9**	*i*P	**Pn**	**03 52 03.2**	**-1.8**
BAGO				*i*S	**Sn**	**03 52 20.9**	**+1.8**
AKAS	**Kas**	**1.16**	**224**	PN	**Pb**	**03 52 06.4**	**-1.1**
AKAS	**Kas**	**1.16**	**224**	*i*P	**Pb**	**03 52 05.5**	**-2.1**
AKAS				*i*S	**Sn**	**03 52 30.5**	**+6.1**
AKAS	**Kas**	**1.16**	**224**	P	**Pb**	**03 52 05.4**	**-2.1**
AKAS	**Kas**	**1.16**	**224**	*e*Pn	**Pb**	**03 52 06.4**	**-1.1**
KSL	**Kastellorizon**	**1.23**	**222**	P	**Pn**	**03 52 06.9**	**-2.0**
KSL				S	**Sn**	**03 52 29.2**	**+3.1**
KSL	**Kastellorizon**	**1.23**	**222**	P	**Pn**	**03 52 06.9**	**-2.0**
KSL				S	**Sn**	**03 52 29.2**	**+3.1**
KZIL	**AFYON_Kizioren**	**1.25**	**343**	*i*P	**Pg**	**03 52 08.2**	**-0.4**
KZIL				*i*S	**Sn**	**03 52 31.1**	**+4.4**
KZIL	**AFYON_Kizioren**	**1.25**	**343**	P	**Pg**	**03 52 08.2**	**-0.4**
FETY	**Fethiye**	**1.29**	**251**	PN	**Pg**	**03 52 09.3**	**-0.2**
FETY	**Fethiye**	**1.29**	**251**	P	**Pb**	**03 52 08.8**	**-1.0**
FETY	**Fethiye**	**1.29**	**251**	*e*Pn	**Pg**	**03 52 09.3**	**-0.2**
FETY				S	**Sg**	**03 52 29.9**	**+3.6**
FETY	**Fethiye**	**1.29**	**251**	P	**Pb**	**03 52 08.8**	**-1.0**
FETY				S	**Sg**	**03 52 29.9**	**+3.6**
FETY	**Fethiye**	**1.29**	**251**	P	**Pb**	**03 52 08.8**	**-1.0**
FETY				S	**Sg**	**03 52 29.9**	**+3.6**
DOGA	**KONYA_Doganhis**	**1.34**	**39**	*i*P	**Pg**	**03 52 10.2**	**-0.2**
DOGA	**KONYA_Doganhis**	**1.34**	**39**	P	**Pg**	**03 52 10.2**	**-0.2**
TAVA	**DENIZLI_Tavas**	**1.41**	**287**	*i*P	**Pb**	**03 52 10.9**	**-0.9**
TAVA				*i*S	**Sg**	**03 52 34.1**	**+4.1**
TAVA	**DENIZLI_Tavas**	**1.41**	**287**	P	**Pb**	**03 52 10.9**	**-0.9**
TAVA				S	**Sg**	**03 52 34.1**	**+4.1**
DENT	**Denizli**	**1.43**	**299**	PN	**Pg**	**03 52 11.5**	**-0.6**
DENT	**Denizli**	**1.43**	**299**	*e*Pn	**Pg**	**03 52 11.5**	**-0.6**
SHUT	**Suhut-Afyon**	**1.49**	**358**	PN	**Pb**	**03 52 12.1**	**-1.0**
SHUT	**Suhut-Afyon**	**1.49**	**358**	*e*Pn	**Pb**	**03 52 12.1**	**-1.0**
KHAL	**Karahalli**	**1.57**	**326**	*i*P	**Pb**	**03 52 13.6**	**-1.1**
KHAL	**Karahalli**	**1.57**	**326**	P	**Pb**	**03 52 13.6**	**-1.1**
DALY	**Dalyan (Mu¨la**	**1.58**	**262**	PN	**Pb**	**03 52 13.3**	**-1.4**
DALY	**Dalyan (Mu¨la**	**1.58**	**262**	*i*P	**Pg**	**03 52 14.7**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.58**	**262**	*e*Pn	**Pb**	**03 52 13.3**	**-1.4**
DALY	**Dalyan (Mu¨la**	**1.58**	**262**	P	**Pg**	**03 52 14.7**	**-0.3**
TURN	**Turunc**	**1.61**	**264**	PN	**Pg**	**03 52 17.8**	**+2.1**
TURN	**Turunc**	**1.61**	**264**	*i*P	Pg	03 52 20.6	+4.9
BOLV	**Bolvadin**	**1.67**	**9**	*i*P	**Pg**	**03 52 16.0**	**-0.8**
BOLV	**Bolvadin**	**1.67**	**9**	P	**Pg**	**03 52 16.0**	**-0.8**
YER	**Yerkesik**	**1.86**	**273**	PN	**Pb**	**03 52 17.5**	**-1.9**
YER	**Yerkesik**	**1.86**	**273**	*e*Pn	**Pb**	**03 52 17.5**	**-1.9**
YER	**Yerkesik**	**1.86**	**273**	P	**Pg**	**03 52 19.7**	**-0.6**
YER				S	**Sg**	**03 52 45.2**	**+0.8**
YER	**Yerkesik**	**1.86**	**273**	P	**Pg**	**03 52 19.7**	**-0.6**
YER				S	**Sg**	**03 52 45.2**	**+0.8**
YER	**Yerkesik**	**1.86**	**273**	P	**Pg**	**03 52 19.7**	**-0.6**
YER				S	**Sg**	**03 52 45.2**	**+0.8**
KDHN	**Kadinhani**	**1.88**	**39**	*i*P	**Pb**	**03 52 18.1**	**-1.8**
KDHN	**Kadinhani**	**1.88**	**39**	P	**Pb**	**03 52 18.1**	**-1.8**
KULA	**Kula-Manisa**	**2.12**	**314**	PN	**Pn**	**03 52 21.0**	**-0.2**
KULA	**Kula-Manisa**	**2.12**	**314**	*e*Pn	**Pn**	**03 52 21.0**	**-0.2**
ARG	**Arkhangelos**	**2.17**	**248**	P	**Pb**	**03 52 23.0**	**-1.6**
ARG				S	**Sg**	**03 52 53.0**	**-1.3**
ARG	**Arkhangelos**	**2.17**	**248**	P	**Pb**	**03 52 23.0**	**-1.6**
ARG				S	**Sg**	**03 52 53.0**	**-1.3**
GDZ	**Gediz**	**2.21**	**337**	*i*P	**Pn**	**03 52 21.8**	**-0.7**
GDZ	**Gediz**	**2.21**	**337**	P	**Pn**	**03 52 21.8**	**-0.7**
TEKE	**Tekeli-Mersin**	**2.22**	**114**	PN	**Pn**	**03 52 21.5**	**-1.0**
TEKE	**Tekeli-Mersin**	**2.22**	**114**	*e*Pn	**Pn**	**03 52 21.5**	**-1.0**
AYDN	**Tasoluk**	**2.25**	**286**	*i*P	**Pb**	**03 52 24.6**	**-1.6**
AYDN	**Tasoluk**	**2.25**	**286**	P	**Pb**	**03 52 24.6**	**-1.6**
MLSB	**Milas**	**2.27**	**277**	PN	**Pn**	**03 52 23.5**	**+0.2**
MLSB	**Milas**	**2.27**	**277**	*e*Pn	**Pn**	**03 52 23.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.33**	**293**	PN	**Pn**	**03 52 23.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.33**	**293**	*e*Pn	**Pn**	**03 52 23.9**	**-0.3**
CHBY	**Cihanbeyli**	**2.36**	**49**	PN	**Pn**	**03 52 24.3**	**-0.3**
CHBY	**Cihanbeyli**	**2.36**	**49**	*e*Pn	**Pn**	**03 52 24.3**	**-0.3**
SIMA	**Simav-Kutahya**	**2.39**	**328**	PN	**Pn**	**03 52 24.4**	**-0.6**
SIMA	**Simav-Kutahya**	**2.39**	**328**	*e*Pn	**Pn**	**03 52 24.4**	**-0.6**
ESKT	**Eskisehir**	**2.46**	**4**	*i*P	**Pn**	**03 52 24.9**	**-1.0**
SEYT	**Eskypehyr**	**2.46**	**4**	P	**Pn**	**03 52 25.0**	**-1.0**
SVRH	**Sivrihisar-ESK**	**2.49**	**17**	PN	**Pn**	**03 52 26.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**2.49**	**17**	*e*Pn	**Pn**	**03 52 26.3**	**0.0**
GULN	**MERSIN_Gulnar**	**2.52**	**110**	*i*P	**Pb**	**03 52 27.3**	**-3.4**
GULN	**MERSIN_Gulnar**	**2.52**	**110**	P	**Pb**	**03 52 27.3**	**-3.4**
BDRM	**Kayabasi**	**2.53**	**271**	*i*P	**Pb**	**03 52 28.9**	**-2.0**
BDRM	**Kayabasi**	**2.53**	**271**	P	**Pb**	**03 52 28.9**	**-2.0**
AKKU	**Akkuyu-Mersin**	**2.54**	**110**	PN	**Pn**	**03 52 26.6**	**-0.3**
AKKU	**Akkuyu-Mersin**	**2.54**	**110**	*e*Pn	**Pn**	**03 52 26.6**	**-0.3**
TVSB	**Tavsanli**	**2.55**	**340**	PN	**Pn**	**03 52 26.2**	**-0.9**
TVSB	**Tavsanli**	**2.55

BBAL	**Bala**	**3.17**	**38**	*i* P	**Pn**	**03 52 36.8**	**+1.1**
BBAL	**Bala**	**3.17**	**38**	P	**Pn**	**03 52 36.8**	**+1.1**
CAVI	**Cavuskoy**	**3.19**	**349**	PN	**Pn**	**03 52 36.2**	**+0.3**
CAVI	**Cavuskoy**	**3.19**	**349**	*e*Pn	**Pn**	**03 52 36.2**	**+0.3**
STEP	**BALIKESİR_Sava**	**3.24**	**316**	*i* P	**Pn**	**03 52 36.8**	**+0.2**
STEP	**BALIKESİR_Sava**	**3.24**	**316**	P	**Pn**	**03 52 36.8**	**+0.2**
EREN	**Erenkoy**	**3.26**	**117**	PN	**Pn**	**03 52 36.8**	**0.0**
EREN	**Erenkoy**	**3.26**	**117**	*e*Pn	**Pn**	**03 52 36.8**	**0.0**
ANTO	**Ankara**	**3.29**	**31**	PN	**Pn**	**03 52 37.3**	**0.0**
ANTO	**Ankara**	**3.29**	**31**	*e*Pn	**Pn**	**03 52 37.3**	**0.0**
LOD	**Lodumlu**	**3.29**	**30**	PN	**Pn**	**03 52 36.7**	**-0.6**
LOD	**Lodumlu**	**3.29**	**30**	*e*Pn	**Pn**	**03 52 36.7**	**-0.6**
BALB	**Balikesir**	**3.35**	**321**	PN	**Pn**	**03 52 38.6**	**+0.6**
BALB	**Balikesir**	**3.35**	**321**	*e*Pn	**Pn**	**03 52 38.6**	**+0.6**
GULT	**Gulveren**	**3.36**	**359**	PN	**Pn**	**03 52 38.5**	**+0.1**
GULT	**Gulveren**	**3.36**	**359**	*e*Pn	**Pn**	**03 52 38.5**	**+0.1**
MDUB	**Mudurnu**	**3.43**	**8**	PN	**Pn**	**03 52 39.5**	**+0.2**
MDUB	**Mudurnu**	**3.43**	**8**	*e*Pn	**Pn**	**03 52 39.5**	**+0.2**
URLA	**Izmir**	**3.43**	**293**	PN	**Pn**	**03 52 38.8**	**-0.5**
URLA	**Izmir**	**3.43**	**293**	*i* P	**Pn**	**03 52 39.0**	**-0.3**
URLA	**Izmir**	**3.43**	**293**	P	**Pn**	**03 52 39.0**	**-0.3**
ZEY	**¯zmir**	**3.46**	**291**	*i* P	**Pn**	**03 52 40.2**	**+0.6**
BALY	**Balya**	**3.56**	**320**	*i* P	**Pn**	**03 52 40.5**	**-0.5**
BALY	**Balya**	**3.56**	**320**	P	**Pn**	**03 52 40.5**	**-0.5**
KARA	**Karaisali**	**3.56**	**86**	PN	**Pn**	**03 52 41.2**	**+0.2**
KARA	**Karaisali**	**3.56**	**86**	*e*Pn	**Pn**	**03 52 41.2**	**+0.2**
BRTR	**Keskin Array B**	**3.57**	**41**	Pn	**Pn**	**03 52 41.2**	**0.0**
	1.8nm,0.3s,baz=220,slow=17,SNR=49						
BRTR				Sn	**Sn**	**03 53 25.9**	**+1.8**
	2.2nm,0.3s,baz=203,slow=26,SNR=7.9						
APE	**Apeiranthos**	**4.06**	**272**	*i*P	**Pn**	**03 52 49.8**	**+1.9**
APE	**Apeiranthos**	**4.06**	**272**	P	**Pn**	**03 52 48.9**	**+1.0**
APE	**Apeiranthos**	**4.06**	**272**	P	**Pn**	**03 52 48.9**	**+1.0**
APE	**Apeiranthos**	**4.06**	**272**	P	**Pn**	**03 52 48.9**	**+1.0**
SANT	**Santorini**	**4.19**	**262**	*i*P	**Pn**	**03 52 52.7**	**+3.0**
SANT	**Santorini**	**4.19**	**262**	*i*P	**Pn**	**03 52 52.7**	**+3.0**
YAYL	**Yayladag**	**4.55**	**101**	*i* P	**Pn**	**03 52 53.8**	**-0.9**
YAYL	**Yayladag**	**4.55**	**101**	P	**Pn**	**03 52 53.8**	**-0.9**
IDI	**Anoyia**	**4.95**	**251**	Pn	**Pn**	**03 53 02.1**	**+2.0**
	2.4nm,0.3s,baz=66,slow=17,SNR=21						
IDI				Sn	**Sn**	**03 53 59.7**	**+1.6**
	1.2nm,0.3s,baz=348,slow=20,SNR=3.0						
IDI	**Anoyia**	**4.95**	**251**	*i*P	**Pn**	**03 53 01.5**	**+1.3**
IDI	**Anoyia**	**4.95**	**251**	*i*P	**Pn**	**03 53 01.5**	**+1.3**
IDI				S	**Sn**	**03 54 00.7**	**+2.6**
MMAI	**Mount Meron Ar**	**5.64**	**134**	Pn	**Pn**	**03 53 10.6**	**+1.0**
	1.3nm,0.3s,baz=312,slow=15,SNR=3.5						
MMAI				Sn	**Sn**	**03 54 20.1**	**+5.1**
	0.9nm,0.3s,baz=314,slow=26,SNR=2.5						
ASF	**Jabal al Asfar**	**7.12**	**131**	Pn	**Pn**	**03 53 31.4**	**+1.4**
	0.1nm,0.3s,baz=301,slow=18,SNR=1.7						
ASF				Sn	**Sn**	**03 54 54.7**	**+3.2**
	0.1nm,0.3s,baz=150,slow=20,SNR=1.6						
TIRR	**Tirgusor**	**7.57**	**348**	*i*P	**Pn**	**03 53 37.1**	**+1.1**
TIRR	**Tirgusor**	**7.57**	**348**	*i*P	**Pn**	**03 53 37.1**	**+1.1**
CFR	**Carcaliu**	**8.32**	**348**	*i*P	**Pn**	**03 53 48.0**	**+1.7**
CFR	**Carcaliu**	**8.32**	**348**	*i*P	**Pn**	**03 53 48.0**	**+1.7**
MLR	**Muntele Rosu**	**9.12**	**339**	Pn	**Pn**	**03 53 58.9**	**+1.5**
	0.0nm,0.3s,baz=174,slow=10,SNR=5.4						
MLR	**Muntele Rosu**	**9.12**	**339**	*i*P	**Pn**	**03 53 59.5**	**+2.1**
MLR	**Muntele Rosu**	**9.12**	**339**	*i*P	**Pn**	**03 53 59.5**	**+2.1**
VRI	**Vrincioaia**	**9.26**	**343**	*i*P	**Pn**	**03 54 00.8**	**+1.5**
VRI	**Vrincioaia**	**9.26**	**343**	*i*P	**Pn**	**03 54 00.8**	**+1.5**
PLOR	**Plostina**	**9.27**	**343**	*i*P	**Pn**	**03 54 01.8**	**+2.5**
PLOR	**Plostina**	**9.27**	**343**	*i*P	**Pn**	**03 54 01.8**	**+2.5**
VOIR		**9.35**	**335**	*i*P	**Pn**	**03 54 02.1**	**+1.6**
VOIR		**9.35**	**335**	*i*P	**Pn**	**03 54 02.1**	**+1.6**
DOPR	**Dopca**	**9.71**	**338**	*i*P	**Pn**	**03 54 07.8**	**+2.3**
DOPR	**Dopca**	**9.71**	**338**	*i*P	**Pn**	**03 54 07.8**	**+2.3**
TESR	**Tescani**	**9.89**	**344**	*i*P	**Pn**	**03 54 08.4**	**+0.5**
TESR	**Tescani**	**9.89**	**344**	*i*P	**Pn**	**03 54 08.4**	**+0.5**
TIP	**Timpagrande**	**11.11**	**285**	*i*P	**Pn**	**03 54 27.7**	**+3.0**
TIP	**Timpagrande**	**11.11**	**285**	*i*P	**Pn**	**03 54 27.7**	**+3.0**
GNI	**Garni**	**11.48**	**70**	LR	LR	03 59 42.8	
	comp=Z,54nm,18.7s,baz=277,slow=42						
NOA	**NORSAR Array B**	**26.94**	**339**	LR	LR	04 08 46.1	
	comp=Z,15nm,18.6s,baz=240,slow=38						
TORD	**Torodi Ar. Bea**	**35.14**	**235**	P	**P**	**03 58 40.6**	**+0.7**
	0.3nm,0.6s,baz=36,slow=8.5,SNR=4.5						
MKAR	**Makanchi Array**	**39.03**	**59**	P	**P**	**03 59 13.2**	**+0.4**
	0.4nm,0.6s,baz=272,slow=8.1,SNR=4.4						

SJA 18 04:14:33.1±1.2, 31°29'S×68°72'W, h103km±6km, ML3.1, MW3.5, 7D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.21**	**102**	*e*P	Pn	04 14 48.1	+0.4
RTLL				IAML		04 14 48.5	
	comp=Z,630nm,0.5s						
AMOG	**MOGNA**	**0.40**	**29**	*e*P	Pn	04 14 49.6	+0.9
AMOG				*e*S	Sn	04 15 03.6	+3.4
RTCV	**Cerro Valdivia**	**0.59**	**165**	*e*P	Pn	04 14 50.8	+0.8
RTCV				*e*S	Sn	04 15 03.1	+0.5
RTLS	**Leoncito**	**0.71**	**224**	*e*P	Pn	04 14 52.3	+1.0
RTLS				*e*S	Sn	04 15 06.4	+1.6
RTLS				IAML		04 15 06.7	
	comp=Z,303nm,0.3s						
AUSP	**Uspallata**	**1.09**	**211**	*e*P	Pn	04 14 56.3	+1.2
AUSP				*e*S	Sn	04 15 13.0	+1.4
ASAL	**Salagasta**	**1.30**	**184**	*e*P	Pn	04 14 58.5	+1.2
ASAL				*e*S	Sn	04 15 17.8	+2.3
ARCO	**CERRO ARCO**	**1.56**	**187**	*e*P	Pn	04 15 01.6	+1.2
ARCO				*e*S	Sn	04 15 23.3	+2.2
ARCO				IAML		04 15 25.3	
	comp=Z,235nm,0.5s						
ACAN	**Cantantal**	**1.63**	**128**	*e*P	Pn	04 15 02.5	+1.4
ACAN				*e*S	Sn	04 15 23.5	+1.0
AAGR	**Agrelo**	**1.80**	**183**	*e*P	Pn	04 15 04.4	+1.1
AGUA	**GUANDACOL**	**1.80**	**6**	*e*P	Pn	04 15 05.1	+1.6
APLL	**PUNTA DE LOS L**	**2.08**	**65**	*e*P	Pn	04 15 07.8	+0.9
APLL				*e*S	Sn	04 15 31.3	-1.5
APLL				IAML		04 15 36.6	
	comp=Z,35nm,0.2s						
AVIZ	**Vizcacheras**	**2.19**	**176**	*e*P	Pn	04 15 09.4	+1.1
ROC1	**El Roble**	**2.58**	**229**	*e*P	Pn	04 15 14.0	+0.5
ROC1				*e*S	Sn	04 15 43.7	-0.9
VCA	**Vinchina**	**2.58**	**10**	*e*P	Pn	04 15 14.9	+1.4
VCA				IAML		04 15 50.1	
	comp=Z,119nm,0.2s						
MRA	**San Martin**	**2.79**	**115**	*e*P	Pn	04 15 16.9	+0.6
MRA				*e*S	Sn	04 15 43.5	-5.9
MRA				IAML		04 15 49.7	
	comp=Z,109nm,0.6s						

IDC ***18*** *04:33:26.7±0.6, 11°.93S×166°.03E, h0km, mb4.3/16, mb1 4.4/19, mb1mx4.3/46, mbtmp4.4/19, ML2.5/1, MS3.7/12, Ms1 3.8/12, ms1mx3.4/40, Error ellipse: s-maj=21.1km s-min=15.3km az=95.0*

ISCJB ***18*** *04:33:30.2±0.4, 12°.08S±0°.06×165°.79E±0°.06, h30km, mb4.5/28, MS3.8/9, Error ellipse: s-maj=9.6km s-min=7.1km az=147.6*

NEIC ***18*** *04:33:30.7±3.6, 11°.96S×165°.89E, h24km±24km, mb4.5/9, Error ellipse: s-maj=11.8km s-min=8.3km az=54.0*

ISC 18 04:33:31.1±0.4, 12°.01S±0°.06×165°.94E±0°.07, h30km, n69, σ1ᵍ36/67, mb4.6/27, MS3.8/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.42**	**293**	Pn	**Pn**	**04 35 04.7**	**+1.1**
	26nm,0.3s,baz=42,slow=1.8,SNR=5.8						
HNR				Sn	**Sn**	**04 36 14.0**	**-1.9**
	8.9nm,0.3s,baz=0.0,slow=20,SNR=3.8						
HNR				LR	LR	04 37 57.1	
	comp=Z,512nm,19.1s,baz=136,slow=42						
HNR	**Honiara**	**6.42**	**293**	*e*Pn	**Pn**	**04 35 02.7**	**-0.9**
HNR				Sn	**Sn**	**04 36 14.1**	**-1.9**
DZM	**Mont Dzumac**	**10.02**	**177**	Pn	**Pn**	**04 35 53.9**	**+0.8**
	2.6nm,0.3s,baz=342,slow=11,SNR=29						
DZM				Sn	**Sn**	**04 37 41.3**	**-3.3**
	0.8nm,0.3s,baz=112,slow=19,SNR=2.9						
DZM				LR	LR	04 38 29.4	
	comp=Z,71nm,20.0s,baz=20,slow=30						
DZM	**Mont Dzumac**	**10.02**	**177**	*e*Pn	**Pn**	**04 35 53.7**	**+0.6**
	6.3nm,0.2s						
DZM				*e*Sn	**Sn**	**04 37 42.9**	**-1.7**
	3.1nm,0.3s						
DZM				eLR	LR	04 38 17.4	
	326nm,24.4s						
DZM	**Mont Dzumac**	**10.02**	**177**	*e*Pn	**Pn**	**04 35 53.4**	**+0.2**
DZM				*e*Sn	**Sn**	**04 37 43.4**	**-1.2**
MSVF	**Nonsavu**	**13.02**	**117**	*e*Pn	**P**	**04 36 42.7**	**-1.5**
PMG	**Port Moresby**	**18.63**	**276**	P	**Pn**	**04 37 47.6**	**+0.7**
	0.5nm,0.3s,baz=195,slow=4.7,SNR=3.8						
PMG				LR	LR	04 44 55.0	
	comp=Z,375nm,18.5s,baz=156,slow=37						
CTA	**Charters Tower**	**20.54**	**244**	P	Pn	04 38 08.9	-0.7
	6.5nm,0.7s,baz=76,slow=12,SNR=9.7						
CTAO	**Charters Tower**	**20.54**	**244**	*e*P	**P**	**04 38 07.1**	**-0.2**
	46nm,0.7s						
AFI	**Afiamalu**	**21.80**	**97**	LR	LR	04 45 19.5	
	comp=Z,167nm,19.2s,baz=234,slow=33						
STKA	**Stephens Creek**	**29.89**	**225**	P	**P**	**04 39 37.4**	**+1.2**
	4.4nm,0.7s,baz=39,slow=10,SNR=7.8						
STKA				LR	LR	04 51 31.7	
	comp=Z,200nm,18.4s,baz=26,slow=36						
STKA	**Stephens Creek**	**29.89**	**225**	*e*P	**P**	**04 39 37.9**	**+1.7**
	8.7nm,2.0s						
WRAB	**Tennant Creek**	**31.33**	**251**	*e*P	**P**	**04 39 48.5**	**-0.7**
	3.2nm,0.8s						
WB2	**Warramunga Arr**	**31.33**	**251**	*e*P	**P**	**04 39 49.0**	**-0.2**
WRA	**Warramunga Arr**	**31.34**	**251**	P	**P**	**04 39 49.1**	**-0.2**
	2.5nm,0.8s,baz=83,slow=8.8,SNR=15						
WRA				LR	LR	04 52 34.2	
	comp=Z,100nm,18.1s,baz=240,slow=36						
OXZ	**Oxford**	**31.65**	**172**	*e*P	**P**	**04 39 53.8**	**+2.2**
	36nm,1.3s						
RPZ	**Rata Peaks**	**31.90**	**173**	P	**P**	**04 39 54.9**	**+1.1**
	4.3nm,0.5s,baz=270,slow=10,SNR=2.0						
AS01	**Alice Springs**	**32.50**	**245**	*e*P	**P**	**04 39 58.3**	**-1.1**
AS31	**Alice Springs**	**32.54**	**245**	*e*P	**P**	**04 39 59.3**	**-0.5**
	2.2nm,0.8s						
ASAR	**Alice Springs**	**32.54**	**245**	P	**P**	**04 39 59.0**	**-0.7**
	6.2nm,0.7s,baz=71,slow=9.5,SNR=44						
ASAR				LR	LR	04 52 59.0	
	comp=Z,170nm,18.6s,baz=72,slow=36						
GUMO	**Guam**	**32.91**	**320**	LR	LR	04 53 45.1	
	comp=Z,144nm,18.1s,baz=119,slow=37						
DCZ	**Deep Cove**	**33.36**	**178**	*e*P	**P**	**04 40 07.2**	**+0.7**
	70nm,1.5s						
RAR	**Rarotonga**	**34.04**	**110**	LR	LR	04 53 18.1	
	comp=Z,56nm,19.0s,baz=262,slow=35						
BBOO	**Buckleboo**	**34.32**	**228**	*e*P	**P**	**04 40 15.5**	**+0.4**
	4.1nm,0.7s						
SOEI	**Soe**	**40.96**	**269**	*e*P	**P**	**04 41 09.2**	**-2.4**
	76nm,1.3s						
PPT	**Papeete**	**43.29**	**103**	LR	LR	04 57 04.9	
	comp=Z,179nm,18.4s,baz=282,slow=33						
PPT2	**Papeete2**	**43.29**	**103**	*e*LR	LR	04 53 54.0	
	138nm,26.2s						
TAOE	**Nuku Hiva Isla**	**53.05**	**92**	*e*LR	LR	04 58 33.9	
	66nm,22.9s						
TAOE	**Nuku Hiva Isla**	**53.05**	**92**	*e*P	**P**	**04 42 47.3**	**+1.2**
	80nm,1.3s						
ASAJ	**Asahikawa**	**59.76**	**341**	P	**P**	**04 43 34.2**	**+1.0**
	6.2nm,0.8s,baz=175,slow=12,SNR=4.8						
USRK	**Ussuriysk Ar.**	**63.89**	**333**	P	**P**	**04 44 02.0**	**+1.0**
	2.7nm,0.7s,baz=74,slow=6.2,SNR=4.0						
VNDA	**Vanda**	**65.54**	**181**	P	**P**	**04 44 12.7**	**+1.4**
	1.6nm,0.9s,baz=4.4,slow=5.4,SNR=5.0						
IPM	**Ipoh**	**66.58**	**280**	*e*P	**P**	**04 44 18.9**	**-0.2**
	3.6nm,0.5s						
CN2	**Changchun**	**66.66**	**329**	*e*P	**P**	**04 44 19.3**	**+0.4**
CN2				*e*sP	pP	04 44 26.3	-2.0
CMAR	**Chiang Mai Arr**	**72.67**	**294**	P	**P**	**04 44 56.6**	**0.0**
	1.6nm,0.4s,baz=101,slow=4.8,SNR=3.7						
HHC	**Hu-ho-hao-te**	**72.68**	**320**	*e*P	**P**	**04 44 59.0**	**+2.7**
QSPA	**South Pole Qui**	**78.00**	**180**	P	**P**	**04 45 27.6**	**+1.1**
	10nm,1.0s,baz=2.1,slow=3.3,SNR=14						
ULN	**Ulaanbaatar**	**79.19**	**324**	*e*P	**P**	**04 45 34.7**	**+1.3**
	2.6nm,0.7s						
SONM	**Songino Array**	**79.55**	**324**	P	**P**	**04 45 36.5**	**+1.2**
	1.4nm,1.1s,baz=133,slow=6.3,SNR=4.8						
SONA1	**Songino Array**	**79.55**	**324**	*e*P	**P**	**04 45 36.4**	**+1.1**
SONA1				*e*pP	**sP**	**04 45 48.0**	**-0.3**
GTA	**Gaotai**	**79.86**	**314**	*e*P	**P**	**04 45 40.8**	**+3.6**
GTA				pP	sP	04 45 51.3	+1.1
GTA				sP	pP	04 45 55.3	+8.6
TLY	**Talaya**	**83.02**	**326**	*e*P	**P**	**04 45 54.5**	**+1.0**
	4.0nm,0.8s						
ILAR	**Eielson Array**	**84.36**	**18**	P	**P**	**04 45 58.0**	**-2.0**
	0.9nm,1.0s,baz=223,slow=5.4,SNR=3.7						
NVAR	**Mina Array Bea**	**86.50**	**50**	P	**P**	**04 46 10.1**	**-1.5**
	0.3nm,0.7s,baz=249,slow=7.6,SNR=3.2						
NVAR				LR	LR	05 23 14.4	
	comp=Z,145nm,18.5s,baz=90,slow=34						
WMQ	**Urumqi**	**89.90**	**315**	P	**P**	**04 46 28.9**	**+1.4**
MK01	**Makanchi Array**	**94.34**	**317**	*e*P	**P**	**04 46 48.2**	**+0.4**
MK31	**Makanchi Array**	**94.35**	**317**	*e*P	**P**	**04 46 48.6**	**+0.6**
MKAR	**Makanchi Array**	**94.35**	**317**	P	**P**	**04 46 48.6**	**+0.7**
	1.5nm,0.6s,baz=88,slow=5.3,SNR=13						
MKAR	**Makanchi Array**	**94.35**	**317**	*e*P	**P**	**04 46 48.6**	**+0.7**
	24nm,0.8s						
ZAA0	**Zalesovo Array**	**94.44**	**324**	*e*P	**P**	**04 46 48.5**	**+0.4**
	3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**94.44**	**324**	P	**P**	**04 46 47.8**	**-0.4**
	3.1nm,0.9s,baz=119,slow=5.2,SNR=11						
ZALV	**Zalesovo Beam**	**94.44**	**324**	*e*P	**P**	**04 46 47.3**	**-0.8**
MAKZ	**Makanchi**	**94.56**	**317**	*e*P	**P**	**04 46 51.2**	**+2.3**
	3.7nm,0.9s						
YKA	**Yellowknife Ar**	**95.74**	**27**	P	**P**	**04 46 50.8**	**-3.1**
	0.1nm,0.5s,baz=246,slow=4.6,SNR=2.7						
TXAR	**Lajitas Array**	**96.12**	**61**	LR	LR	05 26 25.0	
	comp=Z,51nm,18.2s,baz=0.0,slow=33						
KURK	**Kurchatov**	**97.50**	**320**	P	Pdif	04 47 02.1	-0.1
KURBB	**Kurchatov Arra**	**97.54**	**320**	P	Pdif	04 47 02.1	-0.3
	0.2nm,0.6s,baz=104,slow=3.6,SNR=3.7						
FINES	**FINESS Array B**	**122.73**	**338**	PKP	**PKPdf**	**04 52 23.2**	**-0.4**
	1.1nm,0.8s,baz=64,slow=4.4,SNR=4.8						
NOA	**NORSAR Array B**	**127.67**	**345**	PKP	**PKPdf**	**04 52 33.5**	**+0.3**
	0.5nm,0.7s,baz=21,slow=2.0,SNR=2.8						
AKASG	**Malin Array Be**	**127.77**	**327**	PKP	**PKPdf**	**04 52 34.0**	**+0.4**
	0.3nm,0.5s,baz=48,slow=2.3,SNR=5.3						
BRTR	**Keskin Array B**	**129.75**	**312**	PKP	**PKPdf**	**04 52 37.8**	**-0.2**
	0.7nm,0.9s,baz=206,slow=4.5,SNR=4.4						
CLL	**Collm**	**135.06**	**336**	*e*PKPdf	**PKPdf**	**04 52 47.0**	**-0.4**
GERES	**GERESS Array B**	**136.64**	**333**	PKP	**PKPdf**	**04 52 50.6**	**0.0**
	0.7nm,0.7s,baz=90,slow=2.7,SNR=6.2						
KEST	**Kesra**	**148.29**	**322**	PKPbc	**PKPab**	**04 53 15.8**	**-2.2**
	10nm,1.0s,baz=265,slow=7.3,SNR=8.5						
KEST	**Kesra**	**148.29**	**322**	*e*PKPbc	**PKPab**	**04 53 16.2**	**-1.8**
ES19	**SONSECA Array**	**150.99**	**344**	*e*PKPbc	**PKPbc**	**04 53 21.8**	**+0.4**
ES19				*e*PKPab	**pPKPbc**	**04 53 29.6**	**-1.7**
ESDC	**Sonseca Array**	**151.03**	**344**	PKPbc	**PKPbc**	**04 53 21.6**	**0.0**
	2.2nm,1.0s,baz=3.7,slow=3.6,SNR=5.2						
ESDC				PKPab	**sPKPdf**	**04 53 29.0**	**-0.1**
	0.7nm,0.7s,baz=28,slow=3.5,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**164.58**	**276**	*e*PKPdf	**PKPdf**	**04 53 33.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**164.58**	**276**	PKP	**PKPdf**	**04 53 33.2**	**+0.2**
	1.4nm,1.0s,baz=56,slow=1.0,SNR=6.6						

CSEM ***18*** *04:38:29.5±0.3, 35°.46N×49°.45E, h2km, ML3.6, Error ellipse: s-maj=8.6km s-min=6.5km az=160.0*

TEH 18 04:38:30.6, 35°.47N×49°.45E, h4km, ML3.6, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.40**	**100**	*e*Pg	Pg	04 38 37.1	-1.2
IRAZ				*e*AMB	AMB	04 38 49.5	
	comp=Z,85μm,0.1s						
IRAZ	**Razeghan**	**0.40**	**100**	*e*Pg	Pg	04 38 37.1	-1.2
HKZM	**Kohzaman**	**0.46**	**258**	*e*Pg	Pg	04 38 38.9	-0.5
HKZM				*e*AMB	AMB	04 38 46.9	
	comp=Z,99nm,0.1s						
HKZM	**Kohzaman**	**0.46**	**258**	*e*Pg	Pg	04 38 38.9	-0.5
HAGD	**Aghdareh**	**0.70**	**202**	*e*Pg	Pg	04 38 43.2	-0.8
HAGD				*e*AMB	AMB	04 38 54.1	
	comp=Z,99nm,0.0s						
HAGD	**Aghdareh**	**0.70**	**202**	*e*Pg	Pg	04 38 43.2	-0.8
IR5	**Iran Long-Peri**	**0.96**	**105**	*e*Pg	Pg	04 38 47.7	-1.3
IR5				*e*AMB	AMB	04 39 01.0	
	comp=E,49μm,0.1s						
IR5	**Iran Long-Peri**	**0.96**	**105**	*e*Pg	Pg	04 38 47.7	-1.3
ASAO	**Ashtian**	**1.03**	**153**	*e*Pg	Pg	04 38 49.7	-0.7
IGZV	**Ghazvin**	**1.10**	**34**	*e*AMB	AMB	04 39 06.4	
	comp=Z,16μm,0.1s						
IGZV				*e*Sg	Sg	04 39 05.0	-1.2
THKV	**Tehran--Karaj**	**1.24**	**69**	*e*Pg	Pg	04 38 53.2	-1.3
ZNJK	**Zanjan**	**1.35**	**333**	*e*Pg	Pn	04 38 55.1	-1.4
CHTH	**Charan**	**1.43**	**72**	*e*Pg	Pn	04 38 56.2	-1.4
HSAM	**Samen**	**1.44**	**209**	*e*Pg	Pn	04 38 56.0	-1.7
HSAM				*e*AMB	AMB	04 39 18.2	
	comp=Z,99nm,0.1s						
HSAM	**Samen**	**1.44**	**209**	*e*Pg	Pn	04 38 56.0	-1.7
SNGE	**Sanandaj**	**1.76**	**258**	*e*Pg	Pn	04 39 02.3	+0.2
KHMZ	**Khomeyn**	**1.78**	**166**	*e*Pg	Pn	04 39 02.1	-0.2
GHVR	**GHOM**	**1.81**	**123**	*e*Pg	Pn	04 39 02.7	+0.1
IVRN	**Varamin**	**1.92**	**104**	*e*AMB	AMB	04 39 33.4	
	comp=Z,21μm,0.1s						
IVRN				*e*Pn	Pn	04 39 05.0	+0.8
IDMV	**Damavand**	**2.11**	**86**	*e*Sg	Sb	04 39 35.9	-0.3
IDMV				*e*Pn	Pn	04 39 07.5	+0.6
IDMV				*e*AMB	AMB	04 39 39.4	
	comp=Z,7μm,0.2s						
QAM	**Ghamsar**	**2.37**	**136**	*e*Pn	Pb	04 39 12.5	-1.4
QAM				*e*AMB	AMB	04 39 47.6	
	comp=Z,6μm,0.2s						
IPRN	**Peran**	**2.47**	**71**	*e*Pn	Pb	04 39 14.5	-1.1
IPRN				*e*AMB	AMB	04 39 18.4	
	comp=Z,5μm,0.3s						
IFIR	**Firoozkooh**	**2.70**	**85**	*e*Pn	Pn	04 39 16.0	+1.0
IFIR				*e*AMB	AMB	04 39 19.2	
	comp=Z,5μm,0.1s						
IFIR	**Firoozkooh**	**2.70**	**85**	*e*Pn	Pn	04 39 16.0	+1.0
IKLH	**Kolahrood**	**2.77**	**140**	*e*Pn	Pb	04 39 19.3	-1.6
IKLH				*e*AMB	AMB	04 40 02.7	
	comp=Z,2μm,0.1s						
IALA	**Alasht**	**2.80**	**76**	*e*Pn	Pb	04 39 19.9	-1.4
IALA				*e*AMB	AMB	04 39 21.3	
	comp=Z,2μm,0.1s						
IPIR	**Pirpir**	**3.03**	**156**	*e*Pn	Pb	04 39 24.0	-1.2
IPIR				*e*AMB	AMB	04 40 16.2	
	comp=Z,684nm,0.3s						
IZEF	**Zefreh**	**3.50**	**136**	*e*Pn	Pb	04 39 29.8	-3.6
IZEF				*e*AMB	AMB	04 40 27.2	
	comp=Z,375nm,0.2s						
NASN	**Na'in**	**3.85**	**133**	*e*Pn	Pn	04 39 31.7	+0.7
MRVT	**Maraveh tapeh**	**5.77**	**66**	*e*Pn	Pn	04 39 57.2	+0.1
TABS	**Tabas**	**6.58**	**104**	*e*Pn	Pn	04 40 09.5	+1.2

IDC ***18*** *04:42:01.9±1.4, 36°.99N×141°.55E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.3/60, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=35.4km s-min=23.7km az=112.0*

ISCJB ***18*** *04:42:02.3±1.1, 36°.99N±0°.03×141°.63E±0°.07, h15km±7km, mb3.6/3, Error ellipse: s-maj=9.0km s-min=5.6km az=9.8*

JMA ***18*** *04:42:04.1±0.1, 36°.99N×141°.50E, h42km±2km, M3.4*

ISC 18 04:42:02.3±1.9, 37°.02N±0°.04×141°.63E±0°.07, h5km±10km, n16, σ1ᵍ01/27, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.67**	**277**	P	**Pg**	**04 42 15.7**	**+0.6**
ONAJ				S	**Sg**	**04 42 24.3**	**+0.5**
JFK	**Kawauchi**	**0.69**	**300**	P	**Pg**	**04 42 16.2**	**+0.6**
JFK				S	**Sg**	**04 42 24.9**	**+0.3**
JHO	**Hitachi**	**0.94**	**244**	P	**Pg**	**04 42 19.4**

AKAR	**Aktash**	**5.51**	**259**	*e*PN		**Pn**	**05 01 30.0**	**+2.0**	
AKAR				*e*			05 01 45.1		
AKAR				*e*			05 02 52.3		
AKAR	**Aktash**	**5.51**	**259**	*e*Pn		**Pn**	**05 01 30.0**	**+2.0**	
AKAR				*e*Pg		**Pb**	**05 01 45.1**	**+3.0**	
AKAR				*e*Sg		**Sb**	**05 02 52.3**	**+3.9**	
DGZ	**Jazzator, Alta**	**5.84**	**254**	*c i*PN		**Pn**	**05 01 34.2**	**+1.6**	
ELT	**Eltsovka**	**6.23**	**289**	*e*PN		**Pn**	**05 01 39.5**	**+1.8**	
ELT				*e*			05 01 54.9		
ELT				*e*			05 03 14.9		
ELT	**Eltsovka**	**6.23**	**289**	*e*P		**Pn**	**05 01 40.1**	**+2.4**	
ELT	**Eltsovka**	**6.23**	**289**	*e*Pn		**Pn**	**05 01 39.5**	**+1.8**	
ELT				*e*Pg		**Pb**	**05 01 54.9**	**+0.6**	
ELT				*e*Sg		**Sb**	**05 03 14.9**	**+6.2**	
TRG	**Tyrgan**	**6.40**	**76**	*e*PN		**Pn**	**05 01 40.8**	**+0.6**	
TRG				*e*			05 02 00.4		
TRG				*e*			05 03 21.9		
TRG					pmax	pmax			
	comp=Z,57nm,0.4s								
TRG					smax	smax			
	comp=N,587nm,0.7s								
KAB	**Kabansk**	**6.56**	**82**	*e*PN		Pg	05 02 04.8	-6.6	
KAB					pmax	pmax			
	comp=Z,215nm,0.7s								
UKR	**Ust'-Kan**	**7.13**	**269**	*e*PN		**Pn**	**05 01 53.4**	**+3.2**	
UKR				*e*			05 02 16.8		
UKR				*e*			05 03 44.6		
UKR	**Ust'-Kan**	**7.13**	**269**	*e*Pn		**Pn**	**05 01 53.4**	**+3.2**	
UKR				*e*Pg		Pg	05 02 16.8	-5.5	
UKR				*e*Sg		Sg	05 03 44.6	-10	
ZAA0	**Zalesovo Array**	**7.20**	**293**	⇓Pn		**Pn**	**05 01 50.2**	**-0.9**	
	comp=Z,2.6nm,0.4s								
ZAA0				⇓Pg		**Pb**	**05 02 13.8**	**+2.9**	
	comp=Z,7.6nm,0.7s								
ZAA0				⇓Lg		Lg	05 03 44.3		
	comp=Z,160nm,0.8s								
ZALV	**Zalesovo Beam**	**7.20**	**293**	Pn		**Pn**	**05 01 52.6**	**+1.6**	
	comp=Z,2.3nm,0.3s,baz=105,slow=12,SNR=21								
ZALV				Lg		Lg	05 03 44.7		
	comp=Z,11nm,0.3s,baz=96,slow=26,SNR=7.2								
ZALV				LR		LR	05 04 42.1		
	comp=Z,147nm,19.5s,baz=72,slow=38								
OGRR	**Ongureny**	**7.28**	**70**	*e*P		**Pn**	**05 01 53.3**	**+1.2**	
OGRR					pmax	pmax			
	comp=Z,42nm,0.8s								
SONM	**Songino Array**	**7.70**	**116**	Pn		**Pn**	**05 01 58.7**	**+0.7**	
	comp=Z,0.3nm,0.3s,baz=302,slow=15,SNR=2.9								
SONM				Pg		**Pb**	**05 02 22.0**	**+2.6**	
	comp=Z,3.5nm,0.3s,baz=306,slow=18,SNR=68								
SONM				Lg		Lg	05 04 05.9		
	comp=Z,10nm,0.3s,baz=299,slow=33,SNR=14								
SONM				LR		LR	05 05 03.0		
	comp=Z,189nm,19.8s,baz=354,slow=39								
ULN	**Ulaanbaatar**	**8.05**	**114**	⇑*e*P		Pn	05 01 57.1	-5.8	
NVS	**Novosibirsk**	**8.34**	**297**	*e*P		Pn	05 02 11.2	+4.6	
NVS				*e*			05 03 36.1		
NVS	**Novosibirsk**	**8.34**	**297**	*e*Pn		**Pn**	**05 02 04.1**	**-2.5**	
NVS				*e*Pg		Pb	05 02 37.0	+6.9	
NVS				*e*Sg		Sb	05 04 19.2	+10	
SYVR	**Suvo**	**8.69**	**71**	*e*P		**Pn**	**05 02 12.7**	**+1.2**	
SYVR					pmax	pmax			
	comp=Z,23nm,1.3s								
NIZ	**Nizh Angarsk**	**8.98**	**57**	*e*P		**Pn**	**05 02 15.8**	**+0.4**	
NIZ					pmax	pmax			
	comp=Z,31nm,0.9s								
YLYR	**Ulyunkhan**	**9.59**	**64**	*e*P		**Pn**	**05 02 25.3**	**+1.5**	
YLYR				*e*S		**Sn**	**05 04 07.7**	**-3.8**	
MK31	**Makanchi Array**	**10.25**	**247**	Pn		**Pn**	**05 02 32.0**	**-0.9**	
	comp=Z,6.7nm,0.8s,baz=76,slow=12,SNR=24								
MK31				⇑Pg			05 03 08.5		
	comp=Z,9.0nm,0.7s,baz=72,slow=16,SNR=5.0								
MK31				⇑Lg		Lg	05 05 22.6		
	comp=Z,79nm,1.0s,baz=79,slow=34,SNR=6.6								
MKAR	**Makanchi Array**	**10.25**	**247**	Pn		**Pn**	**05 02 33.3**	**+0.4**	
	comp=Z,0.5nm,0.3s,baz=71,slow=13,SNR=18								
MKAR				Lg		Lg	05 05 24.5		
	comp=Z,1.3nm,0.3s,baz=74,slow=27,SNR=3.3								
MKAR				LR		LR	05 06 51.0		
	comp=Z,169nm,20.0s,baz=56,slow=40								
MKAR	**Makanchi Array**	**10.25**	**247**	*i* P		**Pn**	**05 02 33.5**	**+0.6**	
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
KURK	**Kurchatov**	**11.01**	**272**	⇑Pn		**Pn**	**05 02 42.9**	**-0.3**	
	comp=Z,6.0nm,1.0s								
KURK				⇑Lg		Lg	05 05 44.4		
	comp=Z,102nm,1.0s								
KURK	**Kurchatov**	**11.01**	**272**	⇑*e*P		**Pn**	**05 02 43.8**	**+0.6**	
KURK	**Kurchatov**	**11.01**	**272**	*e*Pn		**Pn**	**05 02 43.8**	**+0.6**	
	comp=Z,29nm,0.6s								
KURK				*e*Sn		Sn	05 05 05.7	+19	
KURK				Lg		Lg	05 05 49.8		
KURBB	**Kurchatov Arra**	**11.08**	**272**	Pn		**Pn**	**05 02 45.2**	**+1.0**	
	comp=Z,0.2nm,0.3s,baz=77,slow=14,SNR=16								
KURBB				Lg		Lg	05 05 49.8		
	comp=Z,0.2nm,0.3s,baz=76,slow=32,SNR=6.0								
BOD	**Bodaibo**	**12.03**	**52**	*e*P		**Pn**	**05 02 56.8**	**-0.3**	
PDGK	**Podgornoye**	**13.95**	**240**	⇓Pn		**Pn**	**05 03 21.9**	**-1.7**	
	comp=Z,4.9nm,0.9s								
PDGK	**Podgornoye**	**13.95**	**240**	P		**Pn**	**05 03 22.8**	**-0.8**	
HHC	**Hu-ho-hao-te**	**15.18**	**129**	*e*P		**Pn**	**05 03 39.3**	**-1.0**	
HHC					pmax	pmax			
	comp=Z,20nm,1.1s								
HHC					pmax	pmax			
	comp=Z,73nm,3.8s								
HHC					LR	LR			
	comp=Z,140nm,6.2s								
HHC					LR	LR			
	comp=Z,210nm,8.5s								
HHC					LR	LR			
	comp=Z,130nm,5.6s								
OTUK	**Ortayu**	**15.64**	**267**	⇓Pn		**Pn**	**05 03 45.4**	**-0.8**	
	comp=Z,5.5nm,0.8s								
BVAR	**Borovoye Array**	**15.74**	**285**	Pn		**Pn**	**05 03 46.1**	**-1.3**	
	comp=Z,0.5nm,0.3s,baz=72,slow=14,SNR=13								
BVAR				Sn		**Sn**	**05 06 36.4**	**-5.3**	
	comp=Z,0.1nm,0.3s,baz=48,slow=20,SNR=3.0								
BRVK	**Borovoye**	**15.80**	**285**	⇑*e*P		**Pn**	**05 03 48.1**	**-0.1**	
BRVK	**Borovoye**	**15.80**	**285**	*e*Pn		**Pn**	**05 03 48.7**	**+0.5**	
	comp=Z,9.3nm,0.6s								
BRVK				*e*Sn		**S**	**05 06 53.8**	**-4.0**	
TKM2	**Tokmak 2**	**16.38**	**246**	⇑Pn		**Pn**	**05 03 54.2**	**-1.6**	
	comp=Z,11nm,1.6s								
FRU	**Bishkek**	**16.99**	**247**	*e*P		**Pn**	**05 04 03.0**	**-0.5**	
FRU					pmax	pmax			
	comp=N,120nm,2.0s								
AAK	**Ala-Archa**	**17.18**	**247**	P		**Pn**	**05 04 04.8**	**-1.2**	
	comp=N,0.1nm,0.3s,baz=73,slow=9.7,SNR=5.9								
AAK				Lg		Lg	05 09 02.0		
	comp=N,0.1nm,0.3s,baz=194,slow=19,SNR=4.1								
AAK				LR		LR	05 10 53.7		
	comp=N,231nm,19.5s,baz=2.5,slow=38								
AAK	**Ala-Archa**	**17.18**	**247**	⇓Pn		**Pn**	**05 04 04.5**	**-1.6**	
	comp=N,5.2nm,1.1s								
AAK	**Ala-Archa**	**17.18**	**247**	⇑*e*P		**Pn**	**05 04 05.3**	**-0.7**	
AAK					pmax	pmax			
	comp=Z,7.0nm,1.6s								
AAK	**Ala-Archa**	**17.18**	**247**	*e*Pn		**P**	**05 04 06.1**	**-1.5**	
AAK				Lg		Lg	05 09 02.0		
MNAS	**Manas**	**18.43**	**249**	⇑Pn		**P**	**05 04 20.0**	**-1.3**	
	comp=Z,8.2nm,1.2s								
MNAS	**Manas**	**18.43**	**249**	P		**Pn**	**05 04 20.6**	**-0.8**	
KK31	**Karatay Array**	**19.24**	**254**	Pn		**P**	**05 04 29.1**	**-1.0**	
	comp=Z,4.1nm,0.9s,baz=47,slow=11,SNR=20								
KKAR	**Karatay Array**	**19.24**	**254**	*e*P		**P**	**05 04 29.3**	**-0.8**	
KKAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KKAR	**Karatay Array**	**19.24**	**254**	*e*P		**P**	**05 04 29.2**	**-0.8**	
	comp=Z,2.1nm,0.6s								
SFK	**Sufi-Kurgan**	**19.49**	**242**	⇓Pn		**Pn**	**05 04 33.0**	**-1.2**	
	comp=Z,4.5nm,0.7s								
SFK	**Sufi-Kurgan**	**19.49**	**242**	P		**Pn**	**05 04 33.1**	**-1.2**	
SVE	**Sverdlovsk**	**21.18**	**298**	*e*P		**P**	**05 04 51.5**	**+0.5**	
SVE					pmax	pmax			
	comp=Z,10.0nm,0.9s								
ARU	**Arti**	**22.34**	**297**	P		**P**	**05 05 05.4**	**+1.9**	
	comp=Z,5.7nm,0.5s,baz=74,slow=3.3,SNR=15								
ARU	**Arti**	**22.34**	**297**	*c i*P		**P**	**05 05 05.2**	**+1.7**	
ARU							05 05 26.8		
ARU					SS	Sn	05 09 40.2	+19	
ARU					pmax	pmax			
	comp=Z,7.0nm,0.7s								
KLR	**Kul'dur**	**22.70**	**82**	⇑*e*P		**P**	**05 05 02.4**	**-5.0**	
AB31	**Akbulak array**	**22.99**	**278**	⇑Pn		**P**	**05 05 11.2**	**+0.8**	
	comp=Z,2.4nm,0.7s,baz=92,slow=7.6,SNR=22								
ABKAR	**Akbulak array**	**22.99**	**278**	*e*P		**P**	**05 05 10.3**	**-0.1**	
	comp=Z,1.8nm,0.6s								
AKTO	**Aktyubinsk**	**23.79**	**282**	P		**P**	**05 05 18.9**	**+0.5**	
	comp=Z,7.3nm,0.6s,baz=84,slow=9.0,SNR=23								
AKTO	**Aktyubinsk**	**23.79**	**282**	⇓Pn		**P**	**05 05 18.5**	**0.0**	
	comp=Z,8.7nm,0.6s								
TIXI	**Tiksi**	**24.78**	**24**	P		**P**	**05 05 27.2**	**-0.2**	
	comp=Z,42nm,0.8s,baz=250,slow=6.0,SNR=45								
TIXI					LR	LR	05 15 30.1		
	comp=Z,57nm,19.1s,baz=188,slow=37								
TIXI	**Tiksi**	**24.78**	**24**	⇑*e*P		**P**	**05 05 26.8**	**-0.5**	
USRK	**Ussuriysk Ar.**	**24.99**	**93**	P		**P**	**05 05 30.4**	**+1.0**	
	comp=Z,1.8nm,0.5s,baz=290,slow=7.0,SNR=4.4								
SHL	**Shillong**	**26.25**	**189**	*e*P		**P**	**05 05 42.0**	**+0.8**	
GEYT	**Alibeck**	**29.87**	**258**	LR		LR	05 18 32.7		
	comp=Z,41nm,18.2s,baz=110,slow=37								
JNU	**Nakatsue**	**31.27**	**113**	LR		LR	05 19 06.1		
	comp=Z,31nm,19.1s,baz=299,slow=37								
KLMR	**Klimovskoe**	**31.77**	**309**	*e*P		**P**	**05 06 30.1**	**+0.3**	
KLMR					pmax	pmax			
	comp=Z,10.0nm,1.6s								
KLMR	**Klimovskoe**	**31.77**	**309**	*e*P		**P**	**05 06 30.2**	**+0.4**	
KLMR					AMP		05 06 44.2		
	comp=Z,10.0nm,1.6s								
CMAR	**Chiang Mai Arr**	**33.21**	**175**	LR		LR	05 19 42.9		
	comp=Z,22nm,18.9s,baz=274,slow=36								
VRH	**Novokhopyorsk**	**33.24**	**291**	*e*P		**P**	**05 06 42.7**	**0.0**	
VRH					pmax	pmax			
	comp=Z,10.0nm,0.6s								
MJAR	**Matsushiro Arr**	**33.30**	**100**	LR		LR	05 20 45.7		
	comp=Z,42nm,18.4s,baz=40,slow=37								
VSR	**Storozhevoye**	**34.71**	**292**	*e*P		**P**	**05 06 55.9**	**+0.4**	
VSR					pmax	pmax			
	comp=Z,10.0nm,1.1s								
OBN	**Obninsk**	**34.73**	**300**	⇑*e*P		**P**	**05 06 56.8**	**+1.2**	
OBN				*e*			05 06 58.7		
OBN					S	S	05 12 34.0	+8.6	
OBN					pmax	pmax			
	comp=Z,5.0nm,0.9s								
OBN					MLR	MLR			
	comp=Z,94nm,19.0s								
KBZ	**Khabaz**	**35.96**	**279**	P		**P**	**05 07 07.5**	**+1.1**	
	comp=Z,1.2nm,0.7s,baz=56,slow=11,SNR=3.1								
KIV	**Kislovodsk**	**35.97**	**279**	*e*P		**P**	**05 07 08.2**	**+1.6**	
KIV					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KIV					MLR	MLR			
	comp=Z,24nm,16.0s								
NEY	**Neytrino**	**36.32**	**278**	⇑*e*P		**P**	**05 07 11.5**	**+1.8**	
NEY					pmax	pmax			
	comp=Z,2.0nm,0.7s								
BILL	**Bilibino**	**36.46**	**37**	*e*P		**P**	**05 07 10.0**	**-0.4**	
BILL				*e*			05 08 41.0		
BILL				*e*			05 09 33.8		
BILL					pmax	pmax			
	comp=Z,1.0nm,0.9s								
BILL					MLR	MLR			
	comp=Z,66nm,16.0s								
PETK	**Petropavlovsk-**	**36.61**	**63**	LR		LR	05 22 49.9		
	comp=Z,46nm,18.8s,baz=281,slow=37								
GNI	**Garni**	**36.81**	**272**	LR		LR	05 24 15.5		
	comp=Z,34nm,20.4s,baz=100,slow=39								
GNI	**Garni**	**36.81**	**272**	⇓*e*P		**P**	**05 07 14.0**	**+0.1**	
GNI					pmax	pmax			
	comp=Z,13nm,1.1s								
SPITS	**Spitsbergen Ar**	**37.96**	**341**	P		**P**	**05 07 24.3**	**+1.2**	
	comp=Z,10nm,0.9s,baz=188,slow=8.7,SNR=2.9								
SPITS	**Spitsbergen Ar**	**37.96**	**341**	P		**P**	**05 07 24.3**	**+1.2**	
SPITS					pmax	pmax			
	comp=Z,9.0nm,0.9s								
FINES	**FINESS Array B**	**37.96**	**313**	P		**P**	**05 07 23.5**	**+0.3**	
	comp=Z,1.7nm,0.5s,baz=75,slow=9.7,SNR=13								
FINES					LR	LR	05 24 52.0		
	comp=Z,51nm,18.4s,baz=3.5,slow=39								
FINES	**FINESS Array B**	**37.96**	**313**	*i* P		**P**	**05 07 24.7**	**+1.5**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.5s								
AKASG	**Malin Array Be**	**40.59**	**296**	P		**P**	**05 07 45.2**	**0.0**	
	comp=Z,2.8nm,0.6s,baz=56,slow=8.9,SNR=13								
AKASG					LR	LR	05 25 33.4		
	comp=Z,59nm,18.5s,baz=90,slow=38								
AKASG	**Malin Array Be**	**40.59**	**296**	*ce*P		**P**	**05 07 45.4**	**+0.2**	
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.6s								
BRTR	**Keskin Array B**	**43.93**	**280**	P		**P**	**05 08 13.3**	**+0.5**	
	comp=Z,3.4nm,0.7s,baz=83,slow=6.0,SNR=17								
BRTR	**Keskin Array B**	**43.93**	**280**	*ce*P		**P**	**05 08 14.0**	**+1.2**	
BRTR					pmax	pmax			
	comp=Z,3.0nm,0.7s								
HFS	**Hagfors**	**44.06**	**314**	P		**P**	**05 08 13.2**	**-0.2**	
	comp=Z,2.6nm,0.5s,baz=72,slow=9.5,SNR=9.4								
HFS					LR	LR	05 27 18.4		
	comp=Z,28nm,20.1s,baz=68,slow=37								
CFR	**Carcaliu**	**44.07**	**290**	⇑*i*P		**P**	**05 08 17.0**	**+3.3**	
TIRR	**Tirgusor**	**44.32**	**289**	⇓*i*P		**P**	**05 08 18.3**	**+2.7**	
BURAR	**Bucovina Array**	**44.42**	**294**	⇓*i*P		**P**	**05 08 17.9**	**+1.3**	
NB2	**NORSAR Subarra**	**44.72**	**316**	P		**P**	**05 08 18.8**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=78,slow=7.9								
NOA	**NORSAR Array B**	**44.72**	**316**	P		**P**	**05 08 18.8**	**0.0**	
	comp=Z,1.9nm,0.5s,baz=62,slow=7.9,SNR=10								
MLR	**Muntele Rosu**	**45.18**	**291**	LR		LR	05 26 32.7		
	comp=Z,5.7nm,21.1s,baz=242,slow=35								
MLR	**Muntele Rosu**	**45.18**	**291**	⇑*i*P		**P**	**05 08 26.5**	**+3.8**	
DOPR	**Dopca**	**45.23**	**292**	⇓*i*P		P	05 08 27.6	+4.6	
SIRR	**Siria**	**47.20**	**294**	⇓*i*P		P	05 08 44.5	+6.1	
MORC	**Moravsky Berou**	**47.48**	**300**	⇑*i*P		P	05 08 44.6	+4.0	
VYHS	**Vyhne**	**47.50**	**298**	*e*P		**P**	**05 08 44.6**	**+3.8**	
VYHS	**Vyhne**	**47.50**	**298**	*e*P		**P**	**05 08 44.6**	**+3.8**	
RAYN	**Ar Rayn**	**47.66**	**254**	*e*P		**P**	**05 08 42.8**	**+0.4**	
	comp=Z,10nm,0.8s								
CLL	**Collm**	**49.00**	**304**	*i* P		**P**	**05 08 53.2**	**+1.0**	
CLL				*i*			05 08 56.0		
CLL	**Collm**	**49.00**	**304**	*i* P		**P**	**05 08 53.2**	**+1.0**	
CLL				*i* pP		**sP**	**05 08 56.0**	**-0.6**	
	comp=Z,4.0nm,0.5s								
GERES	**GERESS Array B**	**50.07**	**301**	P		**P**	**05 09 02.7**	**+2.1**	
	comp=Z,0.5nm,0.7s,baz=54,slow=6.8,SNR=7.4								
COLD	**Coldfoot**	**51.46**	**27**	*e*P		**P**	**05 09 11.4**	**+0.7**	
	comp=Z,4.3nm,1.1s								
TRF	**Thorofare Moun**	**54.08**	**31**	*e*P		**P**	**05 09 30.5**	**+0.2**	
ILAR	**Eielson Array**	**54.16**	**28**	P		**P**	**05 09 30.8**	**+0.1**	
	comp=Z,0.6nm,0.8s,baz=317,slow=4.0,SNR=7.6								
EKA	**Eskdalemuir Ar**	**54.21**	**316**	P		**P**	**05 09 32.6**	**+1.5**	
	comp=Z,0.7nm,0.6s,baz=58,slow=7.0,SNR=3.2								
YKA	**Yellowknife Ar**	**63.63**	**15**	P		**P**	**05 10 35.7**	**-0.7**	
	comp=Z,0.2nm,0.6s,baz=338,slow=7.3,SNR=4.1								
YKA	**Yellowknife Ar**	**63.63**	**15**	*ce*P		**P**	**05 10 38.7**	**+2.3**	
ESDC	**Sonseca Array**	**65.57**	**303**	P		**P**	**05 10 50.2**	**+0.7**	
	comp=Z,1.4nm,0.6s,baz=43,slow=6.5,SNR=13								
WRA	**Warramunga Arr**	**78.76**	**144**	P		**P**	**05 12 08.2**	**-0.2**	
	comp=Z,0.9nm,1.0s,baz=345,slow=6.0,SNR=3.0								
ASAR	**Alice Springs**	**82.02**	**145**	P		**P**	**05 12 25.3**	**-0.6**	
	comp=Z,0.5nm,0.7s,baz=340,slow=5.9,SNR=4.9								
TORD	**Torodi Ar. Bea**	**82.51**	**282**	P		**P**	**05 12 29.0**	**+0.2**	
	comp=Z,0.9nm,0.7s,baz=27,slow=5.6,SNR=10.0								
PDAR	**Pinedale Array**	**83.35**	**19**	LR		LR	05 54 46.7		
	comp=Z,12nm,18.5s,baz=136,slow=39								
KOWA	**Kowa**	**84.91**	**287**	P		**P**	**05 12 41.8**	**+0.8**	
	comp=Z,1.0nm,0.7s,baz=64,slow=5.5,SNR=3.8								
NVAR	**Mina Array Bea**	**85.38**	**26**	P		**P**	**05 12 43.7**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=309,slow=5.7,SNR=3.0								
CPUP	**Villa Florida**	**147.67**	**311**	PKPbc		**PKPab**	**05 19 51.0**	**-1.5**	
	comp=Z,0.8nm,0.6s,baz=30,slow=3.8,SNR=3.6								

ISCJB ***18*** *05:10:01.3±0.8, 40.97N±0.04°×145.00E±0.06, h10km, mb3.6/7, Error ellipse: s-maj=7.3km s-min=5.0km az=20.2*
JMA ***18*** *05:10:03.4±0.2, 40.94N×145.13E, h62km±2km, M3.7*
IDC ***18*** *05:10:03.8±1.1, 40.49N×145.27E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.4/61, mbtmp3.5/8, ML3.0/1, Error ellipse: s-maj=34.1km s-min=21.7km az=87.0*

ISC 18 05:10:03.5±1.1, 40.97N±0.06×145.01E±0.07, h10km, n28, σ2s 20/32, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.74**	**308**	P		P	**Pn**	**05 10 33.4**	**-0.4**
JEM						*e*S	**Sn**	**05 10 54.0**	**-2.1**
JAK	**Akkeshi**	**2.04**	**354**	P		P	**Pn**	**05 10 36.6**	**-1.3**
JAK						*e*S	**Sn**	**05 11 00.7**	**-2.7**
JCH	**Churui**	**2.06**	**324**	P		P	**Pn**	**05 10 37.5**	**-0.6**
JCH						*e*S	**Sn**	**05 11 01.9**	**-1.9**
JOB	**Onbets**	**2.12**	**336**	P		P	**Pn**	**05 10 38.6**	**-0.5**
JOB						*e*S	**Sn**	**05 11 04.3**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.14**	**309**	P		P	**Pn**	**05 10 39.7**	**+0.4**
JNBK						*e*S	**Sn**	**05 11 05.8**	**-0.1**
NEM2	**Nemuro 2**	**2.46**	**13**	P		P	**Pn**	**05 10 42.0**	**-1.6**
NEM2						*e*S	**Sn**	**05 11 09.8**	**-3.9**
JAR	**Ashorobuto**	**2.50**	**339**	P		P	**Pn**	**05 10 42.8**	**-1.5**
JAR						*e*S	**Sn**	**05 11 12.4**	**-2.5**
JNK	**Nakash**	**2.62**	**355**	P		P	**Pn**	**05 10 44.2**	**-1.8**
JNK						*e*S	**Sn**	**05 11 13.8**	**-4.1**
JANG	**Nango**	**2.72**	**259**	P		P	**Pn**	**05 10 45.8**	**-1.5**
JANG						*e*S	**Sn**	**05 11 16.0**	**-4.3**
JRA	**Rausu**	**2.97**	**2**	P		P	**Pn**	**05 10 49.2**	**-1.5**
JTM	**Tenmabayashi**	**3.00**	**268**	P		P	**Pn**	**05 10 50.8**	**-0.2**
JTM						*e*S	**Sn**	**05 11 23.9**	**-3.1**
JOT	**Ohata**	**3.02**	**279**	P		P	**Pn**	**05 10 50.9**	**-0.5**
JOT						*e*S	**Sn**	**05 11 24.0**	**-3.6**
JTKR	**Abashiri--Toko**	**3.11**	**345**	P		P	**Pn**	**05 10 52.4**	**-0.2**
JTKR						*e*S	**Sn**	**05 11 28.1**	**-1.7**
ASAJ	**Asahikawa**	**3.62**	**331**	Pn			**Pn**	**05 11 00.3**	**+0.7**
	1.8nm,0.3s,baz=238,slow=21,SNR=8.5								
ASAJ						Sn	**Sn**	**05 11 41.4**	**-0.9**
	1.8nm,0.3s,baz=126,slow=16,SNR=4.0								
MJAR	**Matsushiro Arr**	**6.91**	**232**	Pn			**Pn**	**05 11 44.4**	**-0.5**
	0.3nm,0.3s,baz=38,slow=12,SNR=7.4								
H11N2	**WAKE ISLAND Hy**	**28.22**	**132**	T		T	T	05 45 27.9	
	baz=324,slow=76,SNR=22								
H11N1	**WAKE ISLAND Hy**	**28.23**	**132**	T		T	T	05 45 25.9	
	baz=324,slow=76,SNR=22								
H11N3	**WAKE ISLAND Hy**	**28.24**	**132**	T		T	T	05 45 28.0	
	baz=324,slow=76,SNR=24								
H11S1	**WAKE ISLAND Hy**	**29.10**	**134**	T		T	T	05 46 29.5	
	baz=325,slow=76,SNR=30								
H11S3	**WAKE ISLAND Hy**	**29.10**	**134**	T		T	T	05 46 29.7	
	baz=325,slow=76,SNR=24								
H11S2	**WAKE ISLAND Hy**	**29.12**	**134**	T		T	T	05 46 31.3	
	baz=325,slow=76,SNR=24								
ZALV	**Zalesovo Beam**	**41.47**	**309**	P		P	P	05 17 55.8	+5.5
	0.5nm,0.5s,baz=76,slow=6.1,SNR=2.7								
MKAR	**Makanchi Array**	**44.52**	**299**	P			**P**	**05 18 18.5**	**+3.3**
	0.3nm,0.6s,baz=77,slow=6.4,SNR=3.1								
ILAR	**Eielson Array**	**44.67**	**34**	P			**P**	**05 18 19.4**	**+3.3**
	0.2nm,0.8s,baz=263,slow=7.1,SNR=3.7								
KURBB	**Kurchatov Arra**	**45.90**	**306**	P			P	05 18 31.6	+5.6
	1.0nm,0.4s,baz=74,slow=8.9,SNR=7.6								
WRA	**Warramunga Arr**	**61.40**	**191**	P			**P**	**05 20 19.0**	**-0.9**
	0.5nm,0.8s,baz=9.4,slow=7.0,SNR=2.7								
ASAR	**Alice Springs**	**65.13**	**191**	P			**P**	**05 20 43.5**	**-1.0**
	0.3nm,0.8s,baz=346,slow=9.4,SNR=5.9								
FINES	**FINESS Array B**	**66.63**	**333**	P			P	05 20 59.6	+5.9
	1.5nm,0.7s,baz=46,slow=7.1,SNR=8.8								

SJA ***18*** *05:17:01.5±0.2, 33.42S×72.72W, h40km, ML3.1, MW3.4*
GUC ***18*** *05:17:04.0±0.5, 33.51S×72.18W, h39km±3km, ML3.0*

ISC 18 05:17:01.7±2.3, 33.51S±0.08×72.3W±0.1, h15km±17km, n13, σ1s 15/21, Off coast of central Chile

| Code |

PCVE	**Castro Verde**	**6.12**	**63**	*e*Pn		**Pn**	**05 33 32.3**	**+3.9**
PCVE				*e*Sn		Sn	05 34 33.8	-4.7
PCVE	**Castro Verde**	**6.12**	**63**	P		**Pn**	**05 33 32.3**	**+3.9**
PCVE				S		Sn	05 34 33.8	-4.7
PCVE	**Castro Verde**	**6.12**	**63**	P		**Pn**	**05 33 32.3**	**+3.9**
PVAQ	**Vaqueiros**	**6.28**	**66**	*e*Pn		**Pn**	**05 33 35.1**	**+4.6**
PVAQ				*e*Sn		Sn	05 34 37.2	-5.1
PVAQ	**Vaqueiros**	**6.28**	**66**	P		**Pn**	**05 33 35.1**	**+4.6**
PVAQ				S		Sn	05 34 37.2	-5.1
PVAQ	**Vaqueiros**	**6.28**	**66**	P		**Pn**	**05 33 35.1**	**+4.6**
EGRO	**El Granado**	**6.50**	**65**	P		**Pn**	**05 33 37.8**	**+4.3**
	0.6nm,0.1s,SNR=7.9							
EGRO				S		Sn	05 34 42.7	-5.0
	0.7nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**6.50**	**65**	P		**Pn**	**05 33 37.8**	**+4.3**
	0.6nm,0.1s,SNR=7.9							
EVO	**Evora**	**6.54**	**56**	*e*Sn		**Sn**	**05 34 44.6**	**-4.2**
EVO				A		A	05 34 47.5	
	2.1nm,0.7s							
EVO	**Evora**	**6.54**	**56**	S		**Sn**	**05 34 44.6**	**-4.2**
	2.1nm,0.7s							
PMTG	**Montargil**	**6.69**	**51**	*e*Pn		**Pn**	**05 33 39.9**	**+3.7**
PMTG				*e*Sn		**Sn**	**05 34 48.6**	**-3.8**
PMTG				A		A	05 34 53.1	
	1.1nm,0.3s							
PMTG	**Montargil**	**6.69**	**51**	*e*Pn		**Pn**	**05 33 39.9**	**+3.7**
PESTR	**Estremoz**	**7.00**	**55**	*e*Pn		**Pn**	**05 33 44.0**	**+3.6**
PESTR				*e*Sn		**Sn**	**05 34 56.4**	**-3.6**
PESTR	**Estremoz**	**7.00**	**55**	*e*Pn		**Pn**	**05 33 44.0**	**+3.6**
PBAR	**Barrancos**	**7.07**	**61**	*e*Pn		**Pn**	**05 33 45.2**	**+3.9**
PBAR				*e*Sn		Sn	05 34 56.6	-5.1
PBAR				A		A	05 35 01.9	
	2.6nm,0.6s							
PBAR	**Barrancos**	**7.07**	**61**	P		**Pn**	**05 33 45.2**	**+3.9**
PBAR				S		Sn	05 34 56.6	-5.1
	2.6nm,0.6s							
PBAR	**Barrancos**	**7.07**	**61**	P		**Pn**	**05 33 45.2**	**+3.9**
EMIN	**Mina Concepcio**	**7.18**	**65**	P		**Pn**	**05 33 46.5**	**+3.6**
	0.9nm,0.2s,SNR=7.9							
EMIN				S		Sn	05 34 59.1	-5.5
	0.2nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.18**	**65**	P		**Pn**	**05 33 46.5**	**+3.6**
	0.9nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**7.34**	**57**	P		**Pn**	**05 33 48.9**	**+3.9**
	0.3nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**05 35 04.1**	**-4.2**
	0.4nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**7.34**	**57**	P		**Pn**	**05 33 48.9**	**+3.9**
	0.3nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**7.43**	**52**	*e*Pn		**Pn**	**05 33 49.8**	**+3.5**
PMRV				*e*Sn		Sn	05 35 04.2	-6.4
PMRV				A		A	05 35 14.8	
	1.4nm,0.7s							
PMRV	**Marv??o**	**7.43**	**52**	P		**Pn**	**05 33 49.8**	**+3.5**
PMRV				S		Sn	05 35 04.2	-6.4
	1.4nm,0.7s							
PMRV	**Marv??o**	**7.43**	**52**	P		**Pn**	**05 33 49.8**	**+3.5**
ESPR	**Espera**	**7.57**	**73**	P		**Pn**	**05 33 52.2**	**+4.0**
	1.3nm,0.2s,SNR=7.9							
ESPR				S		Sn	05 35 08.3	-5.8
	2.7nm,0.2s,SNR=7.9							
ESPR	**Espera**	**7.57**	**73**	P		**Pn**	**05 33 52.2**	**+4.0**
	1.3nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**7.93**	**42**	*e*Sn		**Sn**	**05 35 18.7**	**-4.3**
PVIS	**Viseu**	**7.93**	**42**	S		**Sn**	**05 35 18.7**	**-4.3**
ECAB	**El Cabril**	**8.22**	**66**	P		**Pn**	**05 34 01.0**	**+3.8**
	0.5nm,0.2s,SNR=7.8							
ECAB				S		Sn	05 35 23.7	-6.4
	0.0nm,0.0s,SNR=7.9							
ECAB	**El Cabril**	**8.22**	**66**	P		**Pn**	**05 34 01.0**	**+3.8**
	0.5nm,0.2s,SNR=7.8							
ELOB	**Lobios**	**8.68**	**36**	S		Sn	05 35 36.4	-5.0
	0.1nm,0.0s,SNR=4.0							
EADA	**Adamuz**	**8.88**	**66**	P		**Pn**	**05 34 10.4**	**+4.1**
	0.5nm,0.2s,SNR=4.0							
EADA				S		Sn	05 35 40.6	-5.8
	0.4nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**8.88**	**66**	P		**Pn**	**05 34 10.4**	**+4.1**
	0.5nm,0.2s,SNR=4.0							
EGOR	**Sierra Gorda,**	**8.99**	**74**	S		Sn	05 35 43.7	-5.6
	2.1nm,0.5s,SNR=7.9							
PAB	**San Pablo**	**9.54**	**59**	P		**Pn**	**05 34 19.5**	**+4.1**
	0.2nm,0.2s,SNR=7.9							
PAB				S		Sn	05 35 57.6	-5.1
	0.3nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**9.54**	**59**	P		**Pn**	**05 34 19.5**	**+4.1**
	0.2nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**9.87**	**59**	P		**Pn**	**05 34 24.0**	**+4.2**
	0.1nm,0.2s,baz=142,SNR=4.7							
ESDC	**Sonseca Array**	**9.87**	**59**	P		**Pn**	**05 34 24.0**	**+4.2**
	0.1nm,0.2s,slow=14,SNR=4.7							

*IDC **18** 05:41:45.8±1.7, 1.°49N×126.°75E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.4/55, mbtmp3.9/4, Error ellipse: s-maj=157.2km s-min=20.5km az=66.0*

*ISCJB **18** 05:41:55.4±1.1, 1.°6N±0.°1×127.°4E±0.°2, h100km, mb3.7/4, Error ellipse: s-maj=24.2km s-min=13.0km az=159.5*

*DJA **18** 05:41:59.9±2.8, 1.°N±6.°×12.°7E±.°, h17km±28km, M4.0/3, MLv4.0/3*

ISC 18 05:41:57.1±1.4, **1.°56N**±0.°09×**127.°3E**±0.°2, **h100**km, **n8,** σ0°**82**/7, **mb3.9**/4, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**2.77**	**320**	P		**Pn**	**05 42 40.5**	**+0.7**
KMSI	**Cibinong**	**3.47**	**254**	P		**Pn**	**05 42 49.4**	**+0.2**
SANI	**Sanana**	**3.82**	**200**	P		**Pn**	**05 42 54.3**	**+0.4**
SWI	**Sorong**	**4.62**	**121**	P		Pn	05 43 13.7	+9.0
WRA	**Warramunga Arr**	**22.45**	**162**	P		**P**	**05 46 48.3**	**+0.2**
	2.1nm,0.4s,baz=340,slow=11,SNR=32							
ASAR	**Alice Springs**	**25.88**	**166**	P		**P**	**05 47 19.9**	**+0.1**
	0.5nm,0.4s,baz=345,slow=8.0,SNR=14							
MKAR	**Makanchi Array**	**59.66**	**326**	P		**P**	**05 51 49.6**	**-1.4**
	0.5nm,0.4s,baz=114,slow=8.3,SNR=15							
KURBB	**Kurchatov Arra**	**63.87**	**328**	P		**P**	**05 52 19.3**	**+0.2**
	0.5nm,0.3s,baz=122,slow=6.4,SNR=4.6							

*MOS **18** 05:50:31.2±2.9, 51.°85N×95.°98E, h10km, mb3.7/1, Error ellipse: s-maj=40.9km s-min=16.0km az=172.6*

*IDC **18** 05:50:33.8±1.4, 51.°42N×96.°23E, h0km, mb3.6/1, mb1 3.1/3, mb1mx2.8/70, mbtmp3.1/3, ML2.4/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/55, Error ellipse: s-maj=47.9km s-min=13.8km az=174.0*

ISC 18 05:50:33.5±1.0, **52.°1N**±0.°1×**96.°03E**±0.°06, **h10**km, **n14,** σ2°**10**/13, **Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ORL	**Orlik**	**2.36**	**78**	*e*PN		**Pb**	**05 51 15.0**	**-1.2**
ORL				*e*			05 51 47.4	
ORL				pmax	pmax			
	comp=Z,46nm,0.4s							
ORL				smax	smax			
	comp=N,93nm,1.0s							
MOY	**Mondy**	**3.11**	**96**	*e*PN		**Pb**	**05 51 26.6**	**-2.3**
MOY				*e*			05 52 08.6	
MOY				pmax	pmax			
	comp=Z,45nm,0.4s							
MOY				smax	smax			
	comp=N,129nm,0.9s							
ARS	**Arshan**	**3.96**	**90**	*e*PN		**Pn**	**05 51 35.7**	**+1.4**
ARS				*e*			05 51 43.5	
ARS				*e*			05 52 35.7	
ARS				pmax	pmax			
	comp=Z,40nm,0.4s							
ARS				smax	smax			
	comp=E,222nm,0.8s							
TLY	**Talaya**	**4.74**	**92**	Pg		**Pb**	**05 51 55.3**	**-1.3**
TLY				Lg		Lg	05 52 57.5	
TLY	**Talaya**	**4.74**	**92**	*e*PN		**Pb**	**05 51 56.6**	**0.0**
TLY				*e*			05 52 58.2	
TLY				pmax	pmax			
	comp=Z,8.0nm,0.4s							
ZAK	**Zakamensk**	**4.87**	**108**	*e*PN		**Pb**	**05 51 56.3**	**-2.6**
ZAK				*e*			05 52 58.8	
ZAK				pmax	pmax			
	comp=Z,16nm,0.8s							
ZAK				smax	smax			
	comp=N,83nm,1.1s							
IRK	**Irkutsk**	**5.08**	**85**	*e*PN		**Pb**	**05 52 02.9**	**+0.6**
IRK				*e*			05 53 08.6	
IRK				pmax	pmax			
	comp=Z,144nm,0.2s							
IRK				smax	smax			
	comp=E,153nm,0.4s							
TRG	**Tyrgan**	**6.35**	**80**	*e*PN		**Pn**	**05 52 05.4**	**-1.7**
TRG				*e*			05 52 25.7	
TRG				*e*			05 53 48.8	
TRG				pmax	pmax			
	comp=Z,6.0nm,0.4s							
TRG				smax	smax			
	comp=N,38nm,1.1s							
ZALV	**Zalesovo Beam**	**7.01**	**290**	Pn		Pn	05 52 23.7	+7.6
	comp=N,0.2nm,0.3s,baz=103,slow=14,SNR=2.5							
ZALV				Sn		**Sb**	**05 53 55.7**	**-3.2**
	comp=N,0.3nm,0.3s,baz=99,slow=19,SNR=3.1							
OGRR	**Ongureny**	**7.17**	**73**	*e*P		**Pn**	**05 52 19.7**	**+1.4**
OGRR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
SONM	**Songino Array**	**7.93**	**118**	Pg		**Pb**	**05 52 50.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=296,slow=18,SNR=12							
SONM				Lg		Lg	05 54 36.5	
	comp=Z,0.9nm,0.3s,baz=307,slow=23,SNR=6.1							
MKAR	**Makanchi Array**	**10.39**	**245**	Pn		**Pn**	**05 53 02.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=57,slow=14,SNR=3.0							
MKAR				Lg		Lg	05 55 57.3	
	comp=Z,0.2nm,0.3s,baz=59,slow=33,SNR=3.7							
MKAR				LR		LR	05 57 08.7	
	comp=Z,25nm,19.8s,baz=222,slow=39							
KURBB	**Kurchatov Arra**	**11.04**	**269**	Lg		Lg	05 56 23.8	
	comp=Z,0.0nm,0.3s,baz=79,slow=33,SNR=3.9							
AKTO	**Aktyubinsk**	**23.67**	**281**	P		**P**	**05 55 48.3**	**+3.4**
	comp=Z,1.2nm,0.7s,baz=75,slow=10,SNR=5.6							

*IDC **18** 05:51:51.2±0.7, 16.°54S×173.°19W, h0km, mb4.1/11, mb1 4.4/11, mb1mx4.0/44, mbtmp4.1/11, MS3.8/17, Ms1 3.8/17, ms1mx3.5/45, Error ellipse: s-maj=39.3km s-min=16.3km az=132.0*

*NEIC **18** 05:51:52.0±0.4, 16.°81S×172.°86W, h10km, mb4.9/4, Error ellipse: s-maj=15.9km s-min=10.3km az=155.0*

ISC 18 05:51:56.6±0.8, **16.°3S**±0.1×**173.0W**±0.2, **h32**km, **n54,** σ1°**68**/32, **mb4.4**/15, **MS3.7**/15, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.63**	**27**	Pn		**Pn**	**05 52 35.9**	**-1.1**
	14nm,0.3s,baz=124,slow=3.6,SNR=16							
AFI				Sn		**Sn**	**05 53 08.4**	**+0.4**
	49nm,0.3s,baz=162,slow=19,SNR=6.5							
AFI				LR		LR	05 53 47.5	
	comp=Z,534nm,19.9s,baz=226,slow=39							
AFI	**Afiamalu**	**2.63**	**27**	Pn		**Pn**	**05 52 36.0**	**-1.1**
AFI				Sn		**Sn**	**05 53 08.4**	**+0.4**
AFI				*e*Sn		**Sb**	**05 53 11.7**	**-3.5**
MSVF	**Nonsavu**	**8.69**	**259**	*e*Pn		**Pn**	**05 54 00.1**	**-0.2**
	8.5nm,0.8s							
RAR	**Rarotonga**	**13.44**	**113**	Pn		Pn	05 54 57.9	-7.3
	3.1nm,0.3s,baz=283,slow=8.5,SNR=5.5							
RAR				LR		LR	05 58 53.4	
	comp=Z,417nm,21.8s,baz=280,slow=31							
DZM	**Mont Dzumac**	**20.25**	**250**	P		**P**	**05 56 31.6**	**+2.0**
	0.2nm,0.3s,baz=97,slow=18,SNR=3.2							
DZM				LR		LR	06 03 03.7	
	comp=Z,650nm,19.7s,baz=100,slow=34							
DZM	**Mont Dzumac**	**20.25**	**250**	*e*LR		LR	06 01 32.4	
	915nm,24.1s							
PAE	**Paea**	**22.43**	**97**	*e*T		T	06 19 43.0	
	2.3nm,0.4s							
PPT	**Papeete**	**22.43**	**97**	LR		LR	06 03 02.7	
	comp=Z,218nm,21.4s,baz=260,slow=30							
PPT2	**Papeete2**	**22.43**	**97**	*e*LR		LR	06 02 00.8	
	516nm,24.5s,baz=257							
PPT2	**Papeete2**	**22.43**	**97**	*e*T		T	06 19 45.0	
	3.5nm,0.3s							
TIAR	**Tiarei**	**22.65**	**97**	*e*T		T	06 20 00.0	
	1.8nm,0.3s							
TVO	**Taravao**	**22.74**	**97**	*e*T		T	06 20 06.9	
	1.2nm,0.4s							
TBI	**Tubuai**	**23.20**	**111**	*e*LQ		LQ	06 01 26.2	
	313nm,27.8s							
TBI				*e*LR		LR	06 02 21.3	
	614nm,27.2s,baz=283							
TBI	**Tubuai**	**23.20**	**111**	*e*T		T	06 20 40.0	
	7.3nm,0.4s							
URZ	**Urewera**	**23.56**	**200**	P		**P**	**05 56 59.7**	**-4.6**
	12nm,0.4s,baz=1.2,slow=4.9,SNR=19							
PMOR	**Pomariorio Ree**	**24.20**	**90**	*e*T		T	06 21 56.4	
	2.4nm,0.3s							
HNR	**Honiara**	**27.23**	**281**	LR		LR	06 06 41.7	
	comp=Z,921nm,21.6s,baz=122,slow=33							
RPZ	**Rata Peaks**	**30.52**	**203**	P		**P**	**05 58 04.6**	**-2.4**
	3.4nm,0.6s,baz=263,slow=8.1,SNR=2.3							
TAOE	**Nuku Hiva Isla**	**32.86**	**81**	*e*LR		LR	06 06 44.5	
	316nm,25.7s							
RKT	**Rikitea**	**36.35**	**107**	*e*LR		LR	06 08 32.0	
	358nm,24.8s							
RKT	**Rikitea**	**36.35**	**107**	*e*T		T	06 37 06.2	
	2.2nm,0.3s							
PMG	**Port Moresby**	**39.40**	**275**	LR		LR	06 14 18.1	
	comp=Z,205nm,19.0s,baz=66,slow=34							
STKA	**Stephens Creek**	**43.95**	**241**	P		P	05 59 57.1	-3.8
	2.6nm,0.9s,baz=0.7,slow=7.0,SNR=3.8							
STKA				LR		LR	06 16 54.7	
	comp=Z,77nm,18.6s,baz=25,slow=34							
WRA	**Warramunga Arr**	**50.03**	**257**	P		**P**	**06 00 46.2**	**-2.4**
	0.6nm,0.5s,baz=93,slow=7.0,SNR=20							
WRA				LR		LR	06 21 16.8	
	comp=Z,150nm,18.2s,baz=95,slow=36							
ASAR	**Alice Springs**	**50.22**	**253**	P		P	06 00 46.5	-3.6
	6.7nm,0.5s,baz=88,slow=8.4,SNR=123							
GUMO	**Guam**	**51.4**	**303**	LR		LR	06 19 22.7	
	comp=Z,42nm,19.5s,baz=108,slow=32							
JHJ	**Hachijo jima 2**	**66.69**	**318**	LR		LR	06 25 38.2	
	comp=Z,23nm,21.4s,baz=165,slow=30							
MJAR	**Matsushiro Arr**	**69.86**	**320**	LR		LR	06 28 01.1	
	comp=Z,45nm,21.8s,baz=135,slow=31							
JNU	**Nakatsue**	**72.69**	**313**	LR		LR	06 28 56.8	
	comp=Z,48nm,21.4s,baz=119,slow=31							
NVAR	**Mina Array Bea**	**74.72**	**42**	P		**P**	**06 03 35.2**	**+1.5**
	0.9nm,0.8s,baz=227,slow=8.5,SNR=6.1							
NVAR				LR		LR	06 28 34.4	
	comp=Z,100nm,19.7s,baz=104,slow=29							
KSRS	**Korea Array**	**77.06**	**316**	LR		LR	06 31 09.9	
	comp=Z,30nm,21.0s,baz=134,slow=31							
USRK	**Ussuriysk Ar.**	**78.32**	**323**	LR		LR	06 32 35.9	
	comp=Z,47nm,21.3s,baz=137,slow=31							
TXAR	**Lajitas Array**	**80.78**	**56**	P		**P**	**06 04 08.6**	**+1.1**
	0.8nm,1.1s,baz=240,slow=6.9,SNR=5.5							
TRF	**Thorofare Moun**	**81.42**	**10**	*e*P		**P**	**06 04 10.9**	**+0.7**
	3.4nm,0.6s							
MCK	**McKinley**	**81.91**	**11**	*e*P		**P**	**06 04 13.5**	**+0.9**
	8.9nm,0.8s							
MCK				*e*PP		**PP**	**06 07 18.7**	**-1.9**
PDAR	**Pinedale Array**	**82.66**	**42**	P		**P**	**06 04 17.9**	**+0.6**
	0.4nm,0.6s,baz=208,slow=4.7,SNR=4.7							
COLA	**College**	**83.15**	**11**	*e*P		**P**	**06 04 20.6**	**+1.6**
	6.6nm,0.8s							
ILAR	**Eielson Array**	**83.23**	**11**	P		**P**	**06 04 20.4**	**+1.0**
	2.0nm,0.6s,baz=230,slow=6.2,SNR=65							
DAWY	**Dawson**	**84.17**	**14**	*e*P		**P**	**06 04 25.9**	**+1.5**
	5.1nm,0.7s							
INK	**Inuvik**	**89.03**	**14**	P		**P**	**06 04 49.0**	**+1.2**
	0.9nm,0.6s,baz=249,slow=3.5,SNR=6.3							
YKA	**Yellowknife Ar**	**90.75**	**23**	P		**P**	**06 04 56.4**	**+0.4**
	0.1nm,0.4s,baz=237,slow=4.6,SNR=6.8							
CMAR	**Chiang Mai Arr**	**93.27**	**288**	LR		LR	06 42 30.4	
	comp=Z,26nm,21.8s,baz=250,slow=33							
ULM	**Lac du Bonnet**	**94.37**	**39**	LR		LR	06 40 49.2	
	comp=Z,93nm,21.4s,baz=271,slow=31							
CLL	**Collm**	**144.73**	**353**	*i* PKPbc		**PKPab**	**06 11 29.6**	**+0.7**
UPC	**Upice**	**145.10**	**350**	*e*PKP		**PKPab**	**06 11 31.5**	**+1.2**
DPC	**Dobruska-Polom**	**145.20**	**350**	*e*PKP		**PKPab**	**06 11 31.9**	**+1.2**
DPC				*ex*		x	06 11 43.7	
KRLC	**Kraliky**	**145.38**	**349**	*e*PKP		**PKPdf**	**06 11 33.1**	**+1.7**
PRU	**Pruhonice**	**145.83**	**351**	*e*PKP		**PKPab**	**06 11 33.8**	**+0.8**
NKC	**Novy Kostel**	**145.85**	**354**	*e*PKP		**PKPbc**	**06 11 33.8**	**+1.1**
GOPC	**GO Pecny, Ondr**	**145.87**	**351**	*e*PKP		**PKPab**	**06 11 34.0**	**+0.8**
KHC	**Kasperske Hory**	**146.80**	**352**	*e*PKP		**PKPbc**	**06 11 36.7**	**+1.1**
KHC				*ex*		x	06 11 55.6	
KHC	**Kasperske Hory**	**146.80**	**352**	*e*PKPbc		**PKPdf**	**06 11 34.7**	**+0.9**
GERES	**GERESS Array B**	**147.07**	**352**	PKPbc		**PKPbc**	**06 11 37.5**	**+1.1**
	1.7nm,0.7s,baz=23,slow=3.8,SNR=8.9							
BRTR	**Keskin Array B**	**147.09**	**320**	PKPbc		**PKPbc**	**06 11 37.7**	**+0.9**
	1.2nm,0.7s,baz=84,slow=3.0,SNR=4.0							

*NIED **18** 05:55:00, 39.°30N×142.°20E, h32km, Mw3.5 Best double couple: M0 2.10000×10^14 NP1:ϕs 251.00000°, δ 11.00000°, λ 130.00000°. NP2:ϕs 30.00000°, δ 81.00000°, λ 83.00000°.*

*JMA **18** 05:55:50.6, 39.°28N×142.°24E, h43km±1km, M3.7*

JMA Felt II J1.

*IDC **18** 05:55:53.5±2.9, 39.°19N×142.°33E, h79km±23km, mb3.4/7, mb1 3.5/10, mb1mx3.2/63, mbtmp3.8/10, MS2.4/3, Ms1 2.4/3, ms1mx2.2/36, Error ellipse: s-maj=45.8km s-min=20.6km az=89.0*

ISC 18 05:55:47.6±1.7, **39.°28N**±0.°04×**142.°45E**±0.°08, **h28**km±11km, **n23,** σ1°**97**/30, **mb3.8**/7, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.57**	**301**	P		**Pn**	**05 56 00.6**	**+0.7**
MIYJ				S		**Sn**	**05 56 07.7**	**-0.7**
OFUJ	**Ofunato**	**0.64**	**252**	P		**Pn**	**05 56 01.2**	**+0.3**
OFUJ				S		**Sn**	**05 56 08.6**	**-1.5**
JTH	**Tanohata**	**0.80**	**325**	P		**Pb**	**05 56 04.2**	**+1.2**
JTH				*e*S		**Sb**	**05 56 14.0**	**+0.6**
JOM	**Ohasama**	**0.92**	**282**	P		**Pb**	**05 56 05.0**	**0.0**
JOM				S		**Sn**	**05 56 15.5**	**-1.5**
JMK	**Ichinoseki**	**1.01**	**251**	P		**Pb**	**05 56 06.3**	**-0.2**
JMK				S		**Sn**	**05 56 17.5**	**-1.8**
JKZ	**Kuzumaki**	**1.12**	**309**	P		**Pb**	**05 56 08.5**	**+0.2**
JIO	**Ouri**	**1.19**	**227**	P		**Pb**	**05 56 09.0**	**-0.6**
JIO				S		**Sn**	**05 56 22.1**	**-1.6**
JANG	**Nango**	**1.31**	**327**	P		**Pn**	**05 56 11.3**	**+1.2**
JANG				S		**Sn**	**05 56 27.6**	**+1.0**
JRG	**Rokugo**	**1.42**	**275**	P		**Pn**	**05 56 12.2**	**+0.7**
JYK	**Kaneyama**	**1.67**	**258**	P		**Pn**	**05 56 15.8**	**+0.8**
MAT	**Matsushiro**	**4.33**	**232**	P		**Pn**	**05 56 55.4**	**+3.8**
MAT				S		**Sn**	**05 57 41.8**	**+0.6**
MJAR	**Matsushiro Arr**	**4.33**	**232**	P		**Pn**	**05 56 55.4**	**+3.8**
	1.3nm,0.3s,baz=39,slow=11,SNR=26							
MJAR				LR		LR	05 58 18.6	
	comp=Z,20nm,20.9s,baz=15,slow=35							
ASAJ	**Asahikawa**	**4.83**	**1**	P		Pn	05 57 05.1	+6.6
	1.0nm,0.3s,baz=173,slow=17,SNR=4.1							
ASAJ				S		**Sb**	**05 58 04.2**	**-5.0**
	0.7nm,0.3s,baz=322,slow=19,SNR=3.0							
JHJ	**Hachijo jima 2**	**6.52**	**200**	P		**Pn**	**05 57 24.6**	**+2.9**
	3.1nm,0.3s,baz=58,slow=15,SNR=2.7							
JHJ				S		**Sn**	**05 58 30.7**	**-4.3**
	3.8nm,0.3s,baz=72,slow=20,SNR=2.2							
JNU	**Nakatsue**	**11.19**	**240**	LR		LR	06 02 21.7	
	comp=Z,36nm,19.2s,baz=120,slow=35							
KSRS	**Korea Array**	**11.55**	**265**	LR		LR	06 02 19.4	
	comp=Z,17nm,19.7s,baz=350,slow=34							
ZALV	**Zalesovo Beam**	**41.04**	**311**	P		**P**	**06 03 28.6**	**+0.4**
	0.8nm,0.5s,baz=85,slow=7.9,SNR=4.9							
MKAR	**Makanchi Array**	**43.66**	**300**	P		**P**	**06 03 49.8**	**+0.1**
	0.4nm,0.7s,baz=82,slow=9.2,SNR=4.2							
KURBB	**Kurchatov Arra**	**45.30**	**306**	P		**P**	**06 04 02.7**	**0.0**
	1.7nm,0.6s,baz=81,slow=8.5,SNR=9.6							
BVAR	**Borovoye Array**	**49.69**	**311**	P		**P**	**06 04 37.5**	**+0.6**
	0.4nm,0.4s,baz=79,slow=7.5,SNR=3.5							
WRA	**Warramunga Arr**	**59.40**	**189**	P		**P**	**06 05 47.2**	**-0.3**
	0.6nm,0.8s,baz=6.5,slow=7.1,SNR=3.8							
FINES	**FINESS Array B**	**67.21**	**332**	P		**P**	**06 06 39.5**	**+0.7**
	0.5nm,0.6s,baz=20,slow=9.1,SNR=2.7							
AKASG	**Malin Array Be**	**73.02**	**322**	P		**P**	**06 07 14.1**	**-0.6**
	0.4nm,0.3s,baz=45,slow=6.7,SNR=6.4							

*ISCJB **18** 06:00:15.9±0.3, 0.°16S±0.°06×16.°09W±0.°04, h10km, mb4.7/100, MS4.0/33, Error ellipse: s-maj=9.5km s-min=5.2km az=155.3*

*IDC **18** 06:00:15.9±0.5, 0.°28S×16.°09W, h0km, mb4.4/27, mb1 4.5/29, mb1mx4.3/57, mbtmp4.4/29, ML4.0/2, MS3.9/34, Ms1 3.9/34, ms1mx3.8/49, Error ellipse: s-maj=17.2km s-min=12.8km az=128.0*

*MOS **18** 06:00:16.0±1.0, 0.°19S×16.°12W, h12km, mb5.1/33, Error ellipse: s-maj=12.2km s-min=5.5km az=57.0*

*GCMT **18** 06:00:18.9±0.3, 0.°32S×16.°16W, h13km±1km, MW4.9/75, Moment Tensor Solution. s24,c26; s75,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.90±.14; Mθθ-0.01±.09; Mϕϕ 1.91±.10; Mrθ-1.50±.36; Mθϕ-0.34±.07; Mϕr 0.56±.20; Best double couple: M0 2.46400×10^16 NP1:ϕs 142.00000°, δ 63.00000°, λ-118.00000°. NP2: ϕs 11.00000°, δ 38.00000°, λ-48.00000°. Principal axes: T 2.1750, Plg14.0000°, Azm251.0000°; N 0.5720, Plg24.0000°, Azm155.0000°; P -2.

KEST LR LR 06 27 32.0
comp=Z,577nm,18.4s,baz=182,slow=38
KEST Kesra 42.84 31 *eP* **P 06 08 18.5 +1.9**
comp=Z,15nm,1.2s
LSZ Lusaka 46.34 111 P **P 06 08 43.8 -1.1**
comp=Z,3.0nm,0.8s,baz=285,slow=5.8,SNR=6.3
VAE Valguarnera 46.85 34 LR LR 06 28 15.7
comp=Z,408nm,18.8s,baz=152,slow=36
SIV San Ignacio 47.02 248 P **P 06 08 50.1 -0.1**
comp=Z,2.6nm,0.9s,baz=103,slow=10,SNR=7.9
SIV LR LR 06 26 46.6
comp=Z,534nm,21.2s,baz=26,slow=34
SUR Sutherland 47.41 136 P **P 06 08 51.4 -1.8**
comp=Z,0.8nm,0.9s,baz=282,slow=9.3,SNR=3.9
SUR LR LR 06 24 13.7
comp=Z,14nm,20.4s,baz=302,slow=30
CPUP Villa Florida 47.44 233 P **P 06 08 50.6 -2.6**
comp=Z,1.5nm,1.0s,baz=25,slow=5.4,SNR=2.9
CPUP LR LR 06 27 10.3
comp=Z,234nm,19.2s,baz=70,slow=34
SAML Samuel 47.62 258 *eP* **P 06 08 55.3 +0.5**
SAML pmax pmax
comp=Z,46nm,1.9s
SAML Samuel 47.62 258 *eP* **P 06 08 55.3 +0.5**
comp=Z,46nm,1.9s
BOSA Boshof 48.71 129 P **P 06 09 00.8 -2.3**
comp=Z,13nm,0.9s,baz=287,slow=4.9,SNR=9.8
BOSA LR LR 06 26 08.5
comp=Z,128nm,20.4s,baz=274,slow=32
PCRV Puerto La Cruz 49.26 283 LR LR 06 26 26.3
comp=Z,134nm,21.5s,baz=100,slow=32
TIP Timpagrande 49.36 34 *eP* **P 06 09 07.9 0.0**
comp=Z,19nm,1.3s
AQU L'Aquila 49.94 29 *eP* **P 06 09 14.2 +1.9**
AQU pmax pmax
comp=Z,45nm,1.1s
AQU L'Aquila 49.94 29 *eP* **P 06 09 14.2 +1.9**
comp=Z,45nm,1.1s
FUORN Ofenpass-Fuorn 51.97 23 *eP* **P 06 09 28.3 +0.5**
comp=Z,11nm,1.4s
IDI Anoyia 51.98 43 LR LR 06 31 58.5
comp=Z,90nm,21.8s,baz=252,slow=36
DAVA Damuels 52.38 22 *eP* **P 06 09 31.2 +0.5**
comp=Z,12nm,0.8s,SNR=9.0
FETA Feichten 52.48 23 *eP* **P 06 09 31.9 +0.5**
comp=Z,12nm,1.2s
BFO Black Forest 52.70 20 *i* P **P 06 09 34.2 +1.4**
BFO Black Forest 52.70 20 *eP* **P 06 09 31.4 -1.4**
comp=Z,12nm,1.1s
RETA Reutte 52.88 23 *eP* **P 06 09 33.6 -0.7**
comp=Z,3.5nm,0.6s
MOTA Moosalm 52.90 23 *eP* **P 06 09 34.3 -0.2**
comp=Z,2.8nm,0.6s
PDG Podgorica 52.97 33⇓ *iP* P 06 09 44.9 +10
ABTA Abfaltersbach 52.98 24 *eP* **P 06 09 35.4 +0.4**
comp=Z,3.6nm,0.8s
ABTA *ePP* PP 06 11 42.9 +8.1
comp=Z,11nm,1.5s
WTTA Wattenberg 53.04 23 *eP* **P 06 09 36.0 +0.5**
comp=Z,8.5nm,1.0s
DOU Dourbes 53.06 17 ⇑P **P 06 09 34.7 -0.7**
comp=Z,8.7nm,1.5s
WATA Walderalm 53.08 23 *eP* **P 06 09 36.1 +0.4**
comp=Z,3.0nm,0.7s
WLF Walferdange 53.14 18 ⇑P **P 06 09 36.7 +0.7**
MYKA Terra Mystica 53.36 25 *eP* **P 06 09 39.5 +1.7**
comp=Z,4.8nm,0.8s
KMBO Kilima Mbogo 53.44 91 P **P 06 09 39.5 +0.4**
comp=Z,1.8nm,0.9s,baz=260,slow=6.0,SNR=3.3
BCLA Clavier 53.55 17 ⇑P **P 06 09 40.0 +0.9**
KBA Koelnbreinsper 53.59 25 *epP* **P 06 09 42.4 +2.8**
comp=Z,3.8nm,0.8s
LPAZ La Paz 53.68 250 P **P 06 09 40.5 -0.7**
comp=Z,1.6nm,0.8s,baz=213,slow=2.3,SNR=4.8
LPAZ LR LR 06 31 26.3
comp=Z,308nm,19.3s,baz=86,slow=35
LPAZ La Paz 53.68 250 *eP* **P 06 09 42.0 +0.7**
LPAZ pmax pmax
comp=Z,7.0nm,1.1s
LPAZ La Paz 53.68 250 *eP* **P 06 09 42.0 +0.7**
comp=Z,7.2nm,1.1s
BEBN Eben Emael 54.00 17 ⇑AP **P 06 09 43.8 +1.5**
SOKA Soboth 54.00 26 *eP* **P 06 09 44.1 +1.6**
comp=Z,4.3nm,0.7s
MOA Molln 54.58 25 *eP* **P 06 09 46.6 -0.1**
comp=Z,3.1nm,0.7s,SNR=5.8
ARSA Arzberg 54.66 26 *eP* **P 06 09 48.1 +0.9**
comp=Z,5.0nm,1.1s
SDV Santo Domingo 54.96 281 LR LR 06 32 10.3
comp=Z,83nm,20.0s,baz=67,slow=35
GEA0 GERESS Array S 55.13 24 *eP* **P 06 09 50.8 +0.1**
GEC2 GERESS Array S 55.14 24 *eP* **P 06 09 50.7 0.0**
GEC2 pmax pmax
comp=Z,40nm,1.8s
GEC2 GERESS Array S 55.14 24 *eP* **P 06 09 50.7 0.0**
comp=Z,40nm,1.8s
GERES GERESS Array B 55.14 24 P **P 06 09 51.1 +0.4**
comp=Z,2.7nm,0.6s,baz=206,slow=6.9,SNR=37
VTS Vitosha 55.27 35⇑ *iP* **P 06 09 53.7 +1.8**
VTS Vitosha 55.27 35 ⇑P **P 06 09 53.7 +1.8**
VTS Vitosha 55.27 35 *eP* **P 06 09 52.9 +1.0**
comp=Z,9.8nm,1.0s
KHC Kasperske Hory 55.32 23 *eP* **P 06 09 52.2 +0.3**
KHC *ex* x 06 09 58.1
KHC Kasperske Hory 55.32 23 *eP* **P 06 09 52.2 +0.3**
KHC *e* 06 09 58.1
KHC Kasperske Hory 55.32 23 *eP* **P 06 09 51.7 -0.2**
comp=Z,9.8nm,1.8s
CONA Conrad Observa 55.32 26 *eP* **P 06 09 52.9 +0.8**
comp=Z,7.2nm,1.2s,SNR=4.3
EKA Eskdalemuir Ar 56.26 9 P **P 06 09 59.0 +0.5**
comp=Z,3.3nm,0.8s,baz=186,slow=6.3,SNR=8.5
HERR Herculane 56.32 32⇓ *iP* **P 06 10 01.0 +1.8**
PRU Pruhonice 56.38 23 *eP* **P 06 10 00.1 +0.6**
PRU Pruhonice 56.38 23 *eP* **P 06 10 00.1 +0.6**
GOPC GO Pecny, Ondr 56.42 24 *eP* **P 06 10 00.3 +0.5**
GOPC *ex* x 06 10 06.9
GOPC GO Pecny, Ondr 56.42 24 *eP* **P 06 10 00.3 +0.5**
GOPC *e* 06 10 06.9
VRAC Vranov 56.69 25⇑ *iP* **P 06 10 02.1 +0.3**
VRAC Vranov 56.69 25 ⇑P **P 06 10 02.1 +0.3**
CLL Collm 56.85 21 *eP* **P 06 10 03.0 +0.2**
CLL *eS* **S 06 17 57.0 +0.7**
CLL pmax pmax
comp=Z,30nm,2.0s
CLL Collm 56.85 21 *eP* **P 06 10 03.0 +0.2**
comp=Z,30nm,2.0s
CLL *eS* **S 06 17 57.0 +0.7**
CLL Collm 56.85 21 *eP* **P 06 10 01.9 -1.0**
comp=Z,25nm,1.8s
VYHS Vyhne 57.07 27 *eP* **P 06 10 05.1 +0.6**
VYHS pmax pmax
comp=Z,330nm,5.0s
VYHS Vyhne 57.07 27 *eP* **P 06 10 05.1 +0.6**
PSZ Piszkesteto 57.14 28⇓ *iP* **P 06 10 04.8 -0.3**
PSZ Piszkesteto 57.14 28 ⇓P **P 06 10 04.8 -0.3**
PSZ Piszkesteto 57.14 28 *eP* **P 06 10 04.0 -1.0**
comp=Z,6.5nm,0.9s
SDDR Presa de Saban 57.26 293 *eP* **P 06 10 05.7 -0.7**
comp=Z,26nm,1.1s
KRLC Kraliky 57.36 25 *eP* **P 06 10 07.3 +0.8**
KRLC Kraliky 57.36 25 *eP* **P 06 10 07.3 +0.8**
UPC Upice 57.37 24 *eP* P 06 10 13.8 +7.2
DPC Dobruska-Polom 57.38 24 *eP* **P 06 10 06.7 +0.1**
DPC *ex* x 06 10 13.4
DPC Dobruska-Polom 57.38 24 *eP* **P 06 10 06.7 +0.1**
DPC *e* 06 10 13.4
MORC Moravsky Berou 57.45 25⇓ *iP* **P 06 10 07.9 +0.7**
MORC Moravsky Berou 57.45 25 *eP* **P 06 10 06.5 -0.7**
MORC pmax pmax
comp=Z,168nm,2.0s
MORC Moravsky Berou 57.45 25 *eP* **P 06 10 06.5 -0.7**
comp=Z,168nm,2.0s
DRGR 57.75 31⇑ *iP* **P 06 10 10.1 +0.8**
DRGR 57.75 31 ⇑P **P 06 10 10.2 +0.9**
KECS Kecovo 57.82 28 *eP* **P 06 10 10.5 +0.7**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 57.82 28 *eP* **P 06 10 10.5 +0.7**
VOIR 58.10 33⇓ *iP* **P 06 10 12.4 +0.6**
VOIR 58.10 33 ⇓P **P 06 10 12.5 +0.6**
ROSC El Rosal 58.28 276 P **P 06 10 15.5 +1.5**
comp=Z,2.8nm,0.5s,baz=106,slow=14,SNR=3.7
ROSC LR LR 06 33 36.6
comp=Z,133nm,18.1s,baz=118,slow=34
CRVS Cervenica-Dubn 58.58 28 *eP* **P 06 10 16.4 +1.4**
CRVS Cervenica-Dubn 58.58 28 *eP* **P 06 10 16.4 +1.4**
MLR Muntele Rosu 58.63 34 P **P 06 10 15.9 +0.3**
comp=Z,0.9nm,0.7s,baz=320,slow=9.4,SNR=5.6
MLR LR LR 06 38 12.4
comp=Z,62nm,18.1s,baz=229,slow=39
MLR Muntele Rosu 58.63 34⇑ *iP* **P 06 10 16.3 +0.7**
MLR Muntele Rosu 58.63 34 ⇑P **P 06 10 16.3 +0.7**
MLR Muntele Rosu 58.63 34 *eP* **P 06 10 15.8 +0.2**
comp=Z,22nm,1.4s
BMR Baia Mare 58.73 30⇓ *iP* P 06 10 24.3 +8.2
BMR Baia Mare 58.73 30 ⇓P P 06 10 24.3 +8.2
OJC Ojcow 58.76 26 *eP* **P 06 10 16.0 -0.3**
OJC pmax pmax
comp=Z,7.0nm,0.8s
OJC Ojcow 58.76 26 *eP* **P 06 10 16.0 -0.3**
comp=Z,6.7nm,0.8s
UZH Uzhgorod 58.79 29 *eP* **P 06 10 17.1 +0.6**
UZH *e* 06 10 23.5
STHS Stebnicka Huta 58.84 28 *eP* **P 06 10 17.8 +0.9**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 58.84 28 *eP* **P 06 10 17.8 +0.9**
PLOR Plostina 59.24 34⇓ *iP* **P 06 10 19.3 -0.4**
PLOR Plostina 59.24 34 ⇓P **P 06 10 19.3 -0.4**
TLB Topalu 59.27 35⇑ *iP* **P 06 10 19.7 -0.2**
TLB Topalu 59.27 35 ⇑P **P 06 10 19.7 -0.2**
VRI Vrincioaia 59.29 34⇑ *iP* **P 06 10 20.1 0.0**
VRI Vrincioaia 59.29 34 ⇑P **P 06 10 20.1 0.0**
HELC Santa Helena 59.56 277 *eP* **P 06 10 23.2 +0.3**
comp=Z,40nm,1.6s
BUR04 Bucovina Ar. S 59.58 31 *eP* **P 06 10 21.6 -0.5**
BURAR Bucovina Array 59.58 31⇓ *iP* **P 06 10 23.2 +1.1**
BURAR Bucovina Array 59.58 31 ⇓P **P 06 10 23.2 +1.1**
BUR08 Bucovina Ar. S 59.59 31 *eP* **P 06 10 20.6 -1.6**
BR231 Keskin MP Arra 59.70 42 *eP* **P 06 10 27.0 +3.9**
ATD Arta Tunnel 59.73 77 LR LR 06 37 21.6
comp=Z,63nm,18.1s,baz=33,slow=37
BR131 Keskin Array S 60.22 43 *eP* **P 06 10 27.3 +0.5**
BRTR Keskin Array B 60.22 43 P **P 06 10 27.3 +0.5**
comp=Z,5.7nm,1.1s,baz=232,slow=6.0,SNR=19
BRTR Keskin Array B 60.22 43*ceP* **P 06 10 27.6 +0.8**
BRTR pmax pmax
comp=Z,6.0nm,1.1s
SORM Soroca 61.55 32⇓ *iP* **P 06 10 34.0 -1.4**
SORM Soroca 61.55 32 ⇓P **P 06 10 34.0 -1.4**
GO05 HualaæØ 62.43 230 *eP* **P 06 10 46.0 +4.4**
comp=Z,15nm,1.0s
KONO Kongsberg 62.87 14 *i* P **P 06 10 43.3 -0.8**
KONO pmax pmax
comp=Z,5.0nm,0.9s
SUW Suwalki 62.93 25 *eP* **P 06 10 44.3 -0.3**
SUW pmax pmax
comp=Z,25nm,1.0s
SUW Suwalki 62.93 25 *eP* **P 06 10 44.2 -0.3**
comp=Z,25nm,1.0s
AK11 Malin Array Si 63.52 30 *eP* **P 06 10 47.8 -0.8**
KIEV Kiev 63.55 30⇑ *iP* **P 06 10 48.2 -0.5**
KIEV pmax pmax
comp=Z,15nm,1.2s
KIEV Kiev 63.55 30 *eP* **P 06 10 48.4 -0.3**
comp=Z,13nm,1.1s
AKASG Malin Array Be 63.56 30 P **P 06 10 48.2 -0.6**
comp=Z,2.0nm,0.6s,baz=231,slow=5.6,SNR=21
AKBB Malin Array Si 63.56 30 *eP* **P 06 10 48.3 -0.5**
AKBB pmax pmax
comp=Z,15nm,1.1s
AKBB Malin Array Si 63.56 30 *eP* **P 06 10 48.3 -0.5**
comp=Z,14nm,1.1s
HFS Hass 64.36 16 P **P 06 10 54.3 +0.4**
comp=Z,5.6nm,0.7s,baz=198,slow=7.6,SNR=23
NBO00 NORSAR Array S 64.37 14 *eP* **P 06 10 55.3 +1.3**
NBO02 NORSAR Array S 64.40 14 *eP* **P 06 10 55.0 +0.8**
NB2 NORSAR Subarra 64.48 14 P **P 06 10 55.5 +0.7**
comp=Z,7.9nm,0.9s,baz=209,slow=6.5
NOA NORSAR Array B 64.48 14 P **P 06 10 55.4 +0.6**
comp=Z,6.6nm,0.9s,baz=208,slow=6.7,SNR=12
OPO Ambohidratompo 64.80 110 LR LR 06 37 27.4
comp=Z,96nm,18.1s,baz=319,slow=34
NEY Neytrino 67.89 42 *i* P **P 06 11 15.4 -1.8**
NEY pmax pmax
comp=Z,4.0nm,1.2s
KIV Kislovodsk 68.14 42 *eP* **P 06 11 19.1 +0.5**
KIV pmax pmax
comp=Z,12nm,1.1s
IP07 Quail 68.15 311 *eP* **P 06 11 21.4 +2.7**
comp=Z,9.0nm,0.9s
GNI Garni 68.19 46 *i* P **P 06 11 19.8 +0.7**
GNI pmax pmax
comp=Z,76nm,2.3s
KBZ Khabaz 68.19 42 P **P 06 11 19.4 +0.6**
comp=Z,9.1nm,1.0s,baz=3.7,slow=0.9,SNR=7.4
KBZ LR LR 06 43 16.5
comp=Z,38nm,19.8s,baz=221,slow=38
NHSC New Hope 68.46 306 *eP* **P 06 11 20.1 -0.6**
comp=Z,29nm,1.0s
VSR Storozhevoye 69.12 34 *eP* **P 06 11 23.0 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 69.25 20 P **P 06 11 25.5 +0.5**
comp=Z,5.5nm,0.5s,baz=217,slow=4.6,SNR=46
FIA1 FINESS Array S 69.25 20 *eP* **P 06 11 24.9 -0.2**
LPSR Galich'ya Gora 69.66 32 *eP* **P 06 11 26.0 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 69.73 29⇓ *eP* **P 06 11 26.2 -1.9**
OBN *e**PP **pP 06 11 30.3 -1.0**
OBN *e**SP **sP 06 11 33.2 +0.6**
OBN S **S 06 20 40.0 +3.1**
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,105nm,19.0s
KMSC Kings Mountain 69.91 308 *eP* **P 06 11 30.4 +0.7**
comp=Z,8.1nm,0.9s
MOS Moscow 70.57 29 *eP* **P 06 11 31.7 -1.5**
MAK Makhachkala 71.07 44 *eP* **P 06 11 36.8 +0.2**
MAK *e* 06 14 16.2
MAK *eS* **S 06 20 55.3 +2.2**
MAK *eSS* **SS 06 25 22.4 -4.2**
MAK pmax pmax
comp=Z,138nm,1.2s
MAK MLR MLR
comp=Z,215nm,18.0s
TGUH Tegucigalpa,Un 71.70 285 *eP* **P 06 11 41.9 +1.0**
comp=Z,31nm,1.0s
TKL Tuckaleechee C 71.97 308 LR LR 06 37 55.1
comp=Z,84nm,20.0s,baz=166,slow=31
SNAA Sanae 71.98 176 P **P 06 11 39.4 -2.2**
comp=Z,3.6nm,0.9s,baz=344,slow=9.9,SNR=7.7
ACSO Alum Creek Sta 72.51 312 *eP* **P 06 11 45.0 -0.3**
comp=Z,9.1nm,1.0s
SUMG Summit 73.90 353 *i* P **P 06 11 55.0 +1.6**
comp=Z,12nm,1.2s
SUMG Summit 73.90 353 *i* P **P 06 11 55.0 +1.6**
SUMG pmax pmax
comp=Z,12nm,1.2s
SUMG Summit 73.90 353 *eP* **P 06 11 52.4 -1.0**
comp=Z,13nm,1.2s
LRAL Lakeview Retre 74.03 304 *eP* **P 06 11 54.3 -0.1**
comp=Z,4.8nm,1.0s
KLMR Klimovskoe 74.07 25 *eP* **P 06 11 52.3 -1.8**
KLMR pmax pmax
comp=Z,19nm,1.3s
KLMR Klimovskoe 74.07 25 *eP* **P 06 11 52.4 -1.7**
KLMR AMP 06 11 54.7
comp=Z,19nm,1.3s
ARCES ARCESS Array B 74.86 14 P **P 06 11 57.9 -0.6**
comp=Z,2.3nm,0.6s,baz=282,slow=6.1,SNR=4.8
WVT Waverly 75.29 307 *eP* **P 06 12 00.6 -1.1**
WVT pmax pmax
comp=Z,7.0nm,1.0s
WVT Waverly 75.29 307 *eP* **P 06 12 00.6 -1.1**
comp=Z,6.6nm,1.0s
OLIL Olney 76.01 310 *eP* **P 06 12 04.4 -1.4**
comp=Z,17nm,1.1s
WSAR Wadi Sarin 76.09 66 LR LR 06 45 37.3
comp=Z,58nm,20.3s,baz=280,slow=36
OXF Oxford 76.27 306 *eP* **P 06 12 06.3 -1.0**
OXF pmax pmax
comp=Z,16nm,1.2s
OXF Oxford 76.27 306 *eP* **P 06 12 06.3 -1.0**
comp=Z,16nm,1.2s
DAG Danmarks Havn 76.79 359 *i* P **P 06 12 10.4 +1.0**
comp=Z,14nm,1.1s
DAG Danmarks Havn 76.79 359 *i* P **P 06 12 10.4 +1.0**
DAG pmax pmax
comp=Z,15nm,1.1s
GEYT Alibeck 77.70 51 LR LR 06 49 53.6
comp=Z,108nm,18.8s,baz=245,slow=38
W40A Ferguson Farm, 79.35 306 *eP* **P 06 12 24.1 -0.4**
comp=Z,19nm,1.3s
AKTO Aktyubinsk 80.04 39 P **P 06 12 28.4 +0.4**
comp=Z,3.8nm,0.8s,baz=248,slow=6.5,SNR=8.3
AKTO LR LR 06 52 59.4
comp=Z,19nm,18.1s,baz=261,slow=40
SPITS Spitsbergen Ar 80.08 6 P **P 06 12 28.8 +1.2**
comp=Z,12nm,0.9s,baz=197,slow=4.5,SNR=3.5
SPITS LR LR 06 46 26.8
comp=Z,20nm,18.1s,baz=240,slow=34
HHAR Hobbs 80.19 307 *eP* **P 06 12 28.7 -0.4**
comp=Z,7.6nm,1.2s
ABKAR Akbulak array 81.03 40 *eP* **P 06 12 32.8 -0.5**
comp=Z,31nm,0.9s
ARU Arti 81.67 33 LR LR 06 50 17.2
comp=Z,66nm,20.7s,baz=208,slow=37
ARU Arti 81.67 33 *eP* **P 06 12 36.6 +0.1**
ARU pmax pmax
comp=Z,16nm,1.1s
ARU Arti 81.67 33 *eP* **P 06 12 36.6 +0.1**
comp=Z,16nm,1.1s
SVE Sverdlovsk 82.87 33⇓ *eP* **P 06 12 43.5 +0.7**
SVE pmax pmax
comp=Z,17nm,1.2s
ECSD EROS Data Cent 83.14 314 *eP* **P 06 12 44.0 -0.5**
comp=Z,7.8nm,1.3s
AGMN Agassiz Nation 83.20 319 *eP* **P 06 12 44.6 -0.1**
comp=Z,11nm,1.4s
FCC Fort Churchill 83.81 329 *eP* **P 06 12 46.9 -0.7**
FCC pmax pmax
comp=Z,7.0nm,1.3s
FCC Fort Churchill 83.81 329 *eP* **P 06 12 46.9 -0.7**
comp=Z,6.5nm,1.3s
WMOK Wichita Mounta 83.97 305 *eP* **P 06 12 48.7 -0.3**
WMOK pmax pmax
comp=Z,9.0nm,1.1s
WMOK Wichita Mounta 83.97 305 *eP* **P 06 12 48.7 -0.3**
comp=Z,9.4nm,1.1s
JCT Junction City 84.54 300 *eP* **P 06 12 52.5 +0.5**
JCT pmax pmax
comp=Z,14nm,1.1s
JCT Junction City 84.54 300 *eP* **P 06 12 52.5 +0.5**
comp=Z,14nm,1.1s
MDND Maddock 85.64 318 *eP* **P 06 12 56.4 -0.7**
comp=Z,26nm,1.3s
OGNE Ogallala 86.92 311 *eP* **P 06 13 03.5 -0.2**
RES Resolute Bay 87.11 345 *eP* **P 06 13 04.2 +0.5**
comp=Z,11nm,1.8s
MSTX Muleshoe 87.22 304 *eP* **P 06 13 06.2 +0.9**
comp=Z,26nm,1.1s
KKAR Karatay Array 87.64 47 *eP* **P 06 13 04.0 -3.0**
KKAR Karatay Array 87.64 47 *eP* **P 06 13 04.0 -3.0**
TX31 Lajitas Ar. Si 87.85 299 *eP* **P 06 13 08.6 +0.2**
TXAR Lajitas Array 87.85 299 P **P 06 13 08.7 +0.2**
comp=Z,1.3nm,0.9s,baz=115,slow=5.7,SNR=9.5
TXAR LR LR 06 48 54.0
comp=Z,30nm,20.9s,baz=0.0,slow=33
BRVK Borovoye 87.94 37⇓ *eP* **P 06 13 08.4 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.4s
BRVK Borovoye 87.94 37 *eP* **P 06 13 08.8 +0.7**
comp=Z,12nm,1.4s
BVAR Borovoye Array 88.00 37 P **P 06 13 08.5 0.0**
comp=Z,2.4nm,0.9s,baz=274,slow=4.2,SNR=7.9
BVAR LR LR 06 56 37.7
comp=Z,42nm,18.1s,baz=256,slow=38
MHTCO State Highway 88.87 307 *eP* **P 06 13 12.8 -0.4**
comp=Z,17nm,1.5s
ISCO Idaho Springs 89.62 310 *eP* **P 06 13 15.8 -1.0**
ISCO pmax pmax
comp=Z,6.0nm,1.4s
ISCO Idaho Springs 89.62 310 *eP* **P 06 13 15.8 -1.0**
comp=Z,6.1nm,1.4s
ANMO Albuquerque 90.28 305*ceP* **P 06 13 20.0 +0.1**
ANMO pmax pmax
comp=Z,3.0nm,2.5s
AAK Ala-Archa 90.56 48⇓ *eP* **P 06 13 21.0 +0.1**
AAK pmax pmax
comp=Z,8.0nm,1.3s
KSH Kashi 91.72 51 P **P 06 13 25.4 -1.0**
KSH pP sP 06 13 31.0 +0.1
KSH SKS **SKSac 06 23 54.6 -5.1**
KSH S **SKKSac 06 24 19.6 +3.7**
KSH pmax pmax
comp=Z,17nm,1.2s
KSH pmax pmax
comp=Z,110nm,7.5s
KSH LR LR
comp=Z,86nm,6.5s
KSH LR LR
comp=Z,46nm,10.6s
KSH LR LR
comp=Z,140nm,6.3s
PDAR Pinedale Array 92.55 313 LR LR 06 51 20.1
comp=Z,45nm,20.7s,baz=96,slow=33
RPN Rapa Nui 92.77 243 LR LR 06 52 26.7
comp=Z,62nm,21.5s,baz=78,slow=34
KURBB Kurchatov Arra 93.07 39 P **P 06 13 31.9 -0.2**
comp=Z,0.4nm,0.3s,baz=274,slow=5.4,SNR=5.3
KURK Kurchatov 93.12 39⇑ *eP* **P 06 13 31.8 -0.6**
KURK pmax pmax
comp=Z,17nm,1.7s
KURK Kurchatov 93.12 39 P **P 06 13 31.9 -0.4**
LPIG La Paz 93.81 294 LR LR 06 52 44.7
comp=Z,29nm,18.4s,baz=325,slow=34
YKA Yellowknife Ar 93.98 333 P **P 06 13 36.3 +0.3**
comp=Z,0.3nm,0.8s,baz=83,slow=4.8,SNR=6.0
YKA Yellowknife Ar 93.98 333*ceP* **P 06 13 36.2 +0.1**
MK31 Makanchi Array 95.87 43 *eP* **P 06 13 44.6 -0.6**
MK31 Makanchi Array 95.87 43 *eP* **P 06 13 44.6 -0.6**
MKAR Makanchi Array 95.87 43 P **P 06 13 44.6 -0.6**
comp=Z,1.3nm,0.9s,baz=275,slow=4.4,SNR=12
MKAR LR LR 07 03 40.5
comp=Z,56nm,18.0s,baz=250,slow=40
MKAR Makanchi Array 95.87 43*ceP* **P 06 13 45.0 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 95.87 43 *eP* **P 06 13 44.7 -0.5**
comp=Z,7.4nm,0.8s
MK01 Makanchi Array 95.88 43 *eP* **P 06 13 44.8 -0.5**
ZALV Zalesovo Beam 96.55 36 LR LR 07 00 54.9
comp=Z,54nm,19.8s,baz=252,slow=38
NVAR Mina Array Bea 99.55 309 LR LR 06 52 20.9
comp=Z,70nm,22.0s,baz=277,slow=31
WMQ Urumqi 100.06 46 P **Pdif 06 14 05.9 +1.8**
BILL Bilibino 112.16 359 *i* PKIKP **PKiKP 06 18 52.9 -0.7**
BILL *e* 06 19 33.9
BILL pmax pmax
comp=Z,1.0nm,1.0s
CD2 Chengdu 115.45 56 PKP **PKPdf 06 19 01.0 0.0**
HHC Hu-ho-hao-te 117.73 43 *e*PKP **PKPdf 06 19 07.0 +1.8**
HHC AMB AMB
comp=Z,87nm,5.3s
GYA Guiyang 119.13 60 *e*Pdif **Pdif 06 15 30.0 +0.6**
GYA PKP **PKiKP 06 19 08.6 +0.2**
GYA PP **PP 06 20 32.0 +3.8**
GYA AMB AMB
comp=Z,120nm,7.8s
NJ2 Nanjing 126.98 49 *e*PKP **PKPdf 06 19 24.5 +1.5**
ASAR Alice Springs 142.57 131 PKhKP PKPpre 06 19 45.8
comp=Z,1.5nm,0.7s,baz=224,slow=2.3,SNR=7.8
ASAR PKP **PKPdf 06 19 50.6 -1.8**
comp=Z,1.4nm,0.8s,baz=232,slow=2.2,SNR=6.2
WRA Warramunga Arr 144.93 126 PKP **PKPab 06 19 53.9 -1.8**
comp=Z,7.2nm,1.0s,baz=245,slow=2.8,SNR=19

MEX 18 06:10:09.5±0.3, 18.73N×104.60W, h14km±5km, MD3.7,
Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.88**	**331**	*eP*		Pb	06 10 23.6	-2.9
CJM				*eS*		Sg	06 10 34.2	-3.8
EZ5V		**1.20**	**51**	*eP*		Pn	06 10 28.4	-3.7
EZ5V				*i* S		Sb	06 10 43.2	-4.5
MMIG	**Aquila**	**1.27**	**110**	*i* P		Pn	06 10 29.0	-3.7
MMIG				*i* S		Sb	06 10 44.5	-4.8
SFJM	**Santa Fe**	**2.29**	**40**	*i* P		Pn	06 10 44.1	-2.8
SFJM				*i* S		Sn	06 11 10.5	-4.5
ZIIG	**Zihuatanejo**	**3.18**	**110**	*i* P		Pn	06 10 55.6	-3.4
ZIIG				*i* S		Sn	06 11 33.6	-3.2

IDC ***18*** *06:42:29.3±1.8, 32°.42S×178°.01W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.7/40, mbtmp4.1/4, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/38, Error ellipse: s-maj=57.3km s-min=32.9km az=149.0*

ISC 18 06:42:33.6±4.2, 33°.S±1°×177°.9W±0°.4, h35km, n8, σ1§27/6, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.03**	**214**	Pn	Pn		Pn	06 44 13.2	-0.8
	1.1nm,0.3s,baz=284,slow=1.4,SNR=8.7								
URZ				Sn	Sn			06 45 28.5	-4.2
	8.3nm,0.3s,baz=214,slow=21,SNR=14								
DZM	**Mont Dzumac**	**17.39**	**303**	LR	LR			06 52 01.7	
	comp=Z,88nm,18.6s,baz=158,slow=33								
CTA	**Charters Tower**	**34.31**	**282**	P	**P**		**06 49 17.8**		**+0.9**
	1.9nm,0.5s,baz=112,slow=12,SNR=4.0								
ASAR	**Alice Springs**	**43.15**	**269**	P	**P**		**06 50 30.7**		**-0.3**
	1.2nm,0.6s,baz=107,slow=7.5,SNR=15								
WRA	**Warramunga Arr**	**44.33**	**274**	P	**P**		**06 50 39.5**		**-1.0**
	1.9nm,0.4s,baz=113,slow=8.0,SNR=52								
FINES	**FINESS Array B**	**147.18**	**339**	PKPbc	**PKPab**		**07 02 12.9**		**-1.1**
	3.5nm,0.9s,baz=18,slow=4.9,SNR=11								
NOA	**NORSAR Array B**	**150.87**	**351**	PKPbc	**PKPbc**		**07 02 21.8**		**+0.1**
	1.2nm,1.1s,baz=18,slow=4.6,SNR=2.9								
HFS	**Hagfors**	**151.35**	**348**	PKPbc	**PKPbc**		**07 02 24.1**		**+1.3**
	0.3nm,0.4s,baz=319,slow=4.0,SNR=3.3								

IDC 18 06:45:14.1±2.4, 54°.30N×85°.94E, h0km, mb1 3.0/2, mb1mx2.8/67, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=17.3km s-min=9.8km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.75**	**243**	*i*				06 51 13.6	
	baz=61,slow=329,SNR=0.8								
ZALV	**Zalesovo Beam**	**0.75**	**243**	Pg	Pg		Pg	06 45 27.1	-1.4
	0.9nm,0.3s,baz=61,slow=17,SNR=12								
ZALV				Lg	Lg			06 45 38.9	
	10nm,0.3s,baz=64,slow=30,SNR=77								
KURBB	**Kurchatov Arra**	**5.84**	**234**	Pn	Pn			06 46 43.0	+1.2
	0.1nm,0.3s,baz=50,slow=13,SNR=8.7								
KURBB				Sn	Sn			06 47 49.7	+0.3
	0.1nm,0.3s,baz=44,slow=20,SNR=6.5								
KURBB				Lg	Lg			06 48 24.0	
	0.1nm,0.3s,baz=50,slow=29,SNR=4.0								
MKAR	**Makanchi Array**	**7.86**	**199**	Pn	Pn			06 47 10.2	+0.5
	0.2nm,0.3s,baz=22,slow=13,SNR=11								
MKAR				Sn	Sn			06 48 40.1	+0.7
	0.1nm,0.3s,baz=24,slow=22,SNR=2.9								
MKAR				Lg	Lg			06 49 23.1	
	0.1nm,0.3s,baz=10,slow=35,SNR=4.4								

IDC ***18*** *06:52:18.0±3.5, 35°.55N×70°.48E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.4/70, mbtmp3.7/7, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/57, Error ellipse: s-maj=71.4km s-min=26.1km az=142.0*

ISCJB ***18*** *06:52:29.6±0.6, 35°.95N±0°.05×70°.67E±0°.09, h110km, mb3.6/3, Error ellipse: s-maj=10.7km s-min=6.0km az=154.2*

NNC ***18*** *06:52:36.7±2.1, 36°.56N×70°.18E, h74km±67km, mb3.6, mpv3.6, Error ellipse: s-maj=25.7km s-min=16.1km az=118.0*

ISC 18 06:52:31.2±1.0, 36°.05N±0°.08×70°.65E±0°.10, h110km, n24, σ2§05/28, mb3.6/3, 5C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.55**	**29**	⇓Pn	**Pn**		**Pn**	**06 53 39.6**	**+1.5**
	7.9nm,0.4s								
SFK				⇑Sn	**Sn**		**Sn**	**06 54 31.1**	**+1.0**
	8.3nm,0.2s								
MNAS	**Manas**	**6.59**	**12**	⇓Pn	**Pn**		**Pn**	**06 54 05.7**	**+0.1**
	1.8nm,0.3s								
MNAS				⇑Sn	**Sn**		**Sn**	**06 55 15.6**	**-3.8**
	9.8nm,0.5s								
KK31	**Karatay Array**	**7.05**	**359**	Pn	**Pn**		**Pn**	**06 54 11.1**	**-0.6**
	1.1nm,0.3s,baz=175,slow=12,SNR=25								
KK31				⇑Sn	**Sn**		**Sn**	**06 55 25.0**	**-5.3**
	2.9nm,0.4s,baz=190,slow=27,SNR=5.7								
AAK	**Ala-Archa**	**7.22**	**23**	Pn	**Pn**		**Pn**	**06 54 14.9**	**+0.7**
	1.2nm,0.3s,baz=180,slow=5.4,SNR=12								
AAK				Sn	**Sn**		**Sn**	**06 55 33.2**	**-1.5**
	0.9nm,0.3s,baz=331,slow=21,SNR=13								
AAK	**Ala-Archa**	**7.22**	**23**	⇓Pn	**Pn**		**Pn**	**06 54 15.6**	**+1.4**
	2.3nm,0.5s								
AAK				⇓Sn	**Sn**		**Sn**	**06 55 32.7**	**-2.0**
	8.6nm,0.7s								
TKM2	**Tokmak 2**	**7.86**	**28**	⇑Pn	**Pn**		**Pn**	**06 54 24.7**	**+1.8**
	1.4nm,0.4s								
PYUN	**Piuthan**	**13.11**	**124**	*eP*	**Pn**		**Pn**	**06 55 30.7**	**-2.7**
	5.9nm,0.2s								
KOLN	**Koldanda**	**13.74**	**123**	*eP*	**Pn**		**Pn**	**06 55 39.3**	**-2.3**
	6.1nm,0.5s								
MKAR	**Makanchi Array**	**13.82**	**35**	Pn	**Pn**		**Pn**	**06 55 42.7**	**+0.4**
	0.1nm,0.3s,baz=222,slow=13,SNR=5.1								
DMN	**Daman**	**14.88**	**120**	*eP*	**Pn**		**Pn**	**06 55 54.6**	**-1.6**
	10nm,0.5s								
KKN	**Kakani**	**14.89**	**119**	*eP*	**Pn**		**Pn**	**06 55 54.3**	**-2.0**
	9.9nm,0.4s								
PKIN	**Phulchoki**	**15.10**	**120**	*eP*	**Pn**		**Pn**	**06 55 57.1**	**-1.9**
	12nm,0.4s								
PKI	**Pulchoki**	**15.11**	**120**	*eP*	**Pn**		**Pn**	**06 55 57.4**	**-1.8**
	6.6nm,0.4s								
GUN	**Gumba**	**15.24**	**118**	*eP*	**Pn**		**Pn**	**06 55 59.8**	**-1.1**
	5.5nm,0.3s								
AB31	**Akbulak array**	**15.35**	**333**	Pn	**Pn**		**Pn**	**06 56 00.7**	**-1.0**
	1.1nm,0.4s,baz=157,slow=12,SNR=48								
AB31				Sn	Sn			06 58 40.6	-11
	1.4nm,0.6s,baz=152,slow=23,SNR=5.5								
JIRN	**Jiri**	**15.61**	**118**	*eP*	**Pn**		**Pn**	**06 56 04.4**	**-1.1**
	17nm,0.3s								
KURBB	**Kurchatov Arra**	**15.64**	**19**	Pn	**P**		**P**	**06 56 08.6**	**+1.5**
	0.1nm,0.3s,baz=209,slow=10,SNR=5.4								
AKTO	**Aktyubinsk**	**17.04**	**331**	P	**P**		**P**	**06 56 24.1**	**+1.6**
	0.1nm,0.3s,baz=150,slow=14,SNR=6.6								
AKTO	**Aktyubinsk**	**17.04**	**331**	⇑Pn	**P**		**P**	**06 56 23.9**	**+1.4**
	4.7nm,1.1s								
ZALV	**Zalesovo Beam**	**20.44**	**24**	P	**P**		**P**	**06 57 02.2**	**+2.6**
	1.3nm,0.4s,baz=220,slow=11,SNR=9.4								
EIL	**Elat**	**30.54**	**268**	LR	LR			07 12 48.7	
	comp=Z,35nm,19.0s,baz=11,slow=40								
HFS	**Hagfors**	**43.25**	**322**	P	**P**		**P**	**07 00 22.9**	**+1.6**
	1.3nm,0.8s,baz=108,slow=9.3,SNR=5.3								
NOA	**NORSAR Array B**	**44.57**	**323**	P	**P**		**P**	**07 00 33.4**	**+1.5**
	0.7nm,0.7s,baz=98,slow=7.9,SNR=3.2								
TORD	**Torodi Ar. Bea**	**65.43**	**269**	P	**P**		**P**	**07 03 02.3**	**-0.2**
	0.6nm,0.7s,baz=47,slow=6.4,SNR=3.7								

ATA ***18*** *06:59:38.8±1.1, 41°.66N×44°.07E, h15km±8km, ML3.7, MW3.8*

NSSP ***18*** *06:59:39.9, 41°.62N×44°.05E, h8km, ML3.6*

IDC ***18*** *06:59:39.2±0.8, 41°.57N×44°.00E, h0km, mb3.4/6, mb1 3.5/9, mb1mx3.3/65, mbtmp3.4/9, ML2.8/3, MS2.9/1, Ms1 3.0/1, ms1mx2.1/41, Error ellipse: s-maj=14.1km s-min=9.3km az=66.0*

TIF ***18*** *06:59:39.1, 41°.66N×44°.11E, h18km±2km*

ISK ***18*** *06:59:39.8, 41°.64N×44°.11E, h5km, ML3.3/5*

DDA ***18*** *06:59:39.1, 41°.64N×44°.08E, h6km, Ml3.8*

CSEM ***18*** *06:59:40.7±0.1, 41°.63N×44°.08E, h2km, ML3.7, Error ellipse: s-maj=2.8km s-min=2.6km az=95.0*

MOS ***18*** *06:59:40.6±1.0, 41°.59N×44°.05E, h10km, mb3.9/2, Error ellipse: s-maj=7.8km s-min=4.4km az=84.7*

NNC ***18*** *06:59:52.0±7.8, 41°.75N×45°.34E, h0km, mb3.9, Error ellipse: s-maj=112.5km s-min=44.9km az=110.0*

ISC 18 06:59:40.5±0.9, 41°.64N±0°.01×44°.08E±0°.01, h8km±7km, n158, σ1§45/244, mb3.6/7, 35C-25D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.36**	**135**	P	**Pg**		**06 59 47.3**		**-0.3**
KZR				S	**Sg**		**06 59 52.6**		**+0.3**
KZR	**Kazreti**	**0.36**	**135**	P	**Pg**		**06 59 47.3**		**-0.3**
KZR				S	**Sg**		**06 59 52.6**		**+0.3**
AKH	**Akhalkalaki**	**0.49**	**243**	PG	**Pb**		**06 59 51.2**		**-0.3**
AKH				SG	**Sg**		**06 59 57.6**		**+1.0**
AKH	**Akhalkalaki**	**0.49**	**243**	P	**Pg**		**06 59 50.3**		**+0.2**
AKH				S	**Sg**		**06 59 57.4**		**+0.7**
AKH	**Akhalkalaki**	**0.49**	**243**	⇑*i*PG	**Pg**		**06 59 50.2**		**+0.2**
AKH				*e*S	**Sg**		**06 59 57.3**		**+0.7**
AKH	**Akhalkalaki**	**0.49**	**243**	P	**Pg**		**06 59 50.3**		**+0.2**
AKH				*e*Sg	**Sg**		**06 59 57.3**		**+0.7**
TBLG	**Delisi**	**0.50**	**79**	PG	**Pg**		**06 59 49.3**		**-1.0**
TBLG				SG	**Sg**		**06 59 56.9**		**+0.1**
TBLG	**Delisi**	**0.50**	**79**	*i* P	**Pg**		**06 59 49.2**		**-1.0**
TBLG				*e*S	**Sg**		**06 59 56.4**		**-0.4**
TBLG	**Delisi**	**0.50**	**79**	P	**Pg**		**06 59 49.2**		**-1.0**
TBLG				S	**Sg**		**06 59 56.1**		**-0.7**
TBLG	**Delisi**	**0.50**	**79**	⇑*i*PG	**Pg**		**06 59 49.2**		**-1.0**
TBLG	**Delisi**	**0.50**	**79**	P	**Pg**		**06 59 49.3**		**-1.0**
TBLG				S	**Sg**		**06 59 56.1**		**-0.7**
BTNK	**Botanikuri**	**0.54**	**85**	P	**Pg**		**06 59 49.9**		**-1.0**
BTNK	**Botanikuri**	**0.54**	**85**	P	**Pg**		**06 59 50.0**		**-1.0**
BTNK				S	**Sg**		**06 59 57.7**		**-0.4**
SEAG	**Tbilisi Sea**	**0.56**	**77**	P	**Pg**		**06 59 50.7**		**-0.6**
SEAG				S	**Sg**		**06 59 59.6**		**+1.0**
SEAG	**Tbilisi Sea**	**0.56**	**77**	P	**Pg**		**06 59 50.7**		**-0.6**
SEAG				S	**Sg**		**06 59 58.1**		**-0.5**
STE	**Stepanavan**	**0.68**	**161**	⇓P	**Pg**		**06 59 52.6**		**-0.9**
STE				S	**Sg**		**07 00 02.0**		**-0.3**
STEZ	**Stepenevan**	**0.68**	**159**	⇓*i*P	**Pg**		**06 59 52.6**		**-1.0**
STEZ				⇓S	**Sg**		**07 00 02.0**		**-0.6**
GMRZ	**Gyumri**	**0.85**	**193**	*e*P	**Pg**		**06 59 57.0**		**+0.2**
GMRZ				S	**Sb**		**07 00 10.0**		**+0.8**
GUDG	**Gudauri**	**0.88**	**20**	P	**Pg**		**06 59 56.2**		**-1.2**
GUDG				S	**Sg**		**07 00 08.0**		**-0.8**
GUDG	**Gudauri**	**0.88**	**20**	P	**Pg**		**06 59 56.2**		**-1.2**
GUDG				S	**Sg**		**07 00 08.0**		**-0.8**
DGRG	**David-gareji**	**0.99**	**101**	*i* P	**Pg**		**06 59 58.1**		**-1.5**
DGRG				*e*S	**Sb**		**07 00 13.3**		**+0.2**
DGRG	**David-gareji**	**0.99**	**101**	P	**Pg**		**06 59 58.0**		**-1.5**
DGRG	**David-gareji**	**0.99**	**101**	⇓*i*PG	**Pg**		**06 59 58.0**		**-1.5**
DGRG	**David-gareji**	**0.99**	**101**	P	**Pg**		**06 59 58.2**		**-1.3**
DGRG				S	**Sb**		**07 00 13.0**		**-0.1**
EAK	**Akyaka**	**1.02**	**201**	*e*P	**Pg**		**06 59 58.7**		**-1.3**
EAK				*e*S	**Sg**		**07 00 12.9**		**-0.3**
EAK	**Akyaka**	**1.02**	**201**	*i* P	**Pg**		**06 59 58.7**		**-1.3**
EAK				*i* S	**Sg**		**07 00 13.3**		**+0.1**
EAK	**Akyaka**	**1.02**	**201**	P	**Pg**		**06 59 58.7**		**-1.3**
EAK				S	**Sg**		**07 00 13.3**		**+0.1**
EPOS	**Posof**	**1.02**	**263**	*i* P	**Pg**		**06 59 58.5**		**-1.6**
EPOS				IAML			07 00 24.9		
	comp=Z,119nm,0.4s								
EPOS	**Posof**	**1.02**	**263**	*i* P	**Pg**		**06 59 58.5**		**-1.6**
EPOS				*i* S	**Sg**		**07 00 13.2**		**-0.2**
EPOS	**Posof**	**1.02**	**263**	P	**Pg**		**06 59 58.5**		**-1.6**
EPOS				S	**Sg**		**07 00 13.1**		**-0.2**
ONI	**Oni**	**1.06**	**334**	P	**Pg**		**06 59 59.2**		**-1.6**
ONI	**Oni**	**1.06**	**334**	*e*PG	**Pg**		**06 59 59.2**		**-1.6**
ONI	**Oni**	**1.06**	**334**	P	**Pg**		**06 59 59.2**		**-1.6**
ONI				S	**Sg**		**07 00 13.1**		**-1.4**
QZX	**Qazax, Azerbai**	**1.13**	**120**	⇓P	**Pg**		**07 00 00.5**		**-1.7**
	SNR=39								
QZX				⇑S	**Sg**		**07 00 15.0**		**-2.0**
ZEI	**Tsey**	**1.16**	**354**	⇑*i*PG	**Pg**		**07 00 01.5**		**-1.2**
ZEI				*e*S	**Sg**		**07 00 17.7**		**0.0**
LACR	**Lac**	**1.20**	**8**	⇓*i*PG	**Pg**		**07 00 02.2**		**-1.3**
LACR				*i* S	**Sg**		**07 00 18.8**		**-0.2**
LACR	**Lac**	**1.20**	**8**	*i* Pg	**Pg**		**07 00 02.2**		**-1.3**
LACR				*i* Sg	**Sg**		**07 00 18.8**		**-0.2**
KARS	**Kars**	**1.26**	**217**	PN	**Pg**		**07 00 04.6**		**-0.1**
KARS	**Kars**	**1.26**	**217**	PG	**Pg**		**07 00 04.8**		**+0.1**
KARS	**Kars**	**1.26**	**217**	Pg	**Pg**		**07 00 04.8**		**+0.1**
DIGR	**Digorskoe uzhe**	**1.31**	**344**	⇓*i*PG	**Pn**		**07 00 05.0**		**-0.3**
DIGR				*e*S	**Sn**		**07 00 23.3**		**+0.2**
DIGR	**Digorskoe uzhe**	**1.31**	**344**	*i* Pg	**Pn**		**07 00 05.0**		**-0.3**
DIGR				*e*Sg	**Sn**		**07 00 23.3**		**+0.2**
DIGO	**Kars**	**1.33**	**204**	*i* P	**Pn**		**07 00 04.3**		**-1.3**
DIGO	**Kars**	**1.33**	**204**	*i* P	**Pn**		**07 00 04.3**		**-1.3**
DIGO				*i* S	**Sb**		**07 00 22.9**		**-0.3**
DIGO	**Kars**	**1.33**	**204**	P	**Pn**		**07 00 04.3**		**-1.3**
DIGO				S	**Sb**		**07 00 22.9**		**-0.3**
KORR	**Kora**	**1.45**	**360**	*e*PG	**Pn**		**07 00 07.1**		**+0.1**
KORR				*e*S	**Sg**		**07 00 27.6**		**+0.6**
KORR	**Kora**	**1.45**	**360**	*e*Pg	**Pn**		**07 00 07.1**		**+0.1**
KORR				*e*Sg	**Sg**		**07 00 27.6**		**+0.6**
VLKR	**Vladikavkaz**	**1.48**	**17**	⇑*i*PG	**Pb**		**07 00 08.2**		**0.0**
VLKR				*e*S	**Sg**		**07 00 30.0**		**+2.1**
VLKR	**Vladikavkaz**	**1.48**	**17**	*i* Pg	**Pb**		**07 00 08.2**		**0.0**
VLKR				*e*Sg	**Sg**		**07 00 30.0**		**+2.1**
KMGR	**Komgaron**	**1.53**	**22**	*e*PG	**Pb**		**07 00 09.1**		**-0.1**
KMGR				*e*S	**Sg**		**07 00 32.2**		**+2.4**
KMGR	**Komgaron**	**1.53**	**22**	*e*Pg	**Pb**		**07 00 09.1**		**-0.1**
KMGR				*e*Sg	**Sg**		**07 00 32.2**		**+2.4**
ARNR	**Ardon**	**1.55**	**6**	*i* Pg	**Pg**		**07 00 10.1**		**-0.1**
ARNR				*e*Sg	**Sg**		**07 00 31.6**		**+1.4**
GDB	**GEDABAY**	**1.56**	**125**	⇑P	**Pn**		**07 00 07.8**		**-0.9**
	SNR=24								
GDB				⇑S	**Sn**		**07 00 27.7**		**-1.5**
GNI	**Garni**	**1.57**	**161**	Pg	**Pb**		**07 00 09.5**		**-0.4**
	comp=Z,37nm,0.3s,baz=303,slow=5.1,SNR=90								
GNI				Lg	Lg			07 00 31.6	
	comp=Z,74nm,0.3s,baz=148,slow=20,SNR=8.7								
GNI				LR	LR			07 00 37.7	
	comp=Z,17nm,19.2s,baz=355,slow=38								
GNI	**Garni**	**1.57**	**161**	⇓*i*P	**Pb**		**07 00 09.5**		**-0.4**
GNI				⇑*i*S	**Sg**		**07 00 31.3**		**+0.3**
LSNR	**Lesken**	**1.65**	**354**	⇓*i*PN	**Pb**		**07 00 11.0**		**-0.1**
LSNR				*e*S	**Sg**		**07 00 34.2**		**+0.7**
LSNR	**Lesken**	**1.65**	**354**	*i* Pn	**Pb**		**07 00 11.0**		**-0.1**
LSNR				*e*Sg	**Sg**		**07 00 34.2**		**+0.7**
TASB	**TASBURUN-IGDIR**	**1.66**	**176**	PN	**Pn**		**07 00 10.3**		**+0.4**
TASB	**TASBURUN-IGDIR**	**1.66**	**176**	*e*Pn	**Pn**		**07 00 10.3**		**+0.4**
ARTV	**Artvin**	**1.68**	**255**	*e*P	**Pn**		**07 00 10.1**		**-0.3**
ARTV	**Artvin**	**1.68**	**255**	*i* P	**Pn**		**07 00 09.9**		**-0.4**
ARTV				*i* S	**Sn**		**07 00 32.4**		**+0.2**
ARTV	**Artvin**	**1.68**	**255**	P	**Pn**		**07 00 09.9**		**-0.4**
ARTV				S	**Sn**		**07 00 32.4**		**+0.2**
SENK	**Senkaya-Erzuru**	**1.69**	**231**	PN	**Pn**		**07 00 10.9**		**+0.4**
SENK	**Senkaya-Erzuru**	**1.69**	**231**	*e*Pn	**Pn**		**07 00 10.9**		**+0.4**
STDR	**Stavd-Durt**	**1.73**	**360**	*e*PN	**Pg**		**07 00 13.5**		**-0.1**
STDR				*e*S	**Sg**		**07 00 37.5**		**+1.5**
STDR	**Stavd-Durt**	**1.73**	**360**	*e*Pn	**Pg**		**07 00 13.5**		**-0.1**
STDR				*e*Sg	**Sg**		**07 00 37.5**		**+1.5**
BTKR	**Batakoyurt**	**1.77**	**11**	⇓*i*PN	**Pg**		**07 00 14.2**		**-0.1**
BTKR				*e*S	**Sg**		**07 00 39.5**		**+2.3**
BTKR	**Batakoyurt**	**1.77**	**11**	*i* Pn	**Pg**		**07 00 14.2**		**-0.1**
BTKR				*e*Sg	**Sg**		**07 00 39.5**		**+2.3**
IGDI	**IGDIR**	**1.77**	**180**	*e*P	**Pn**		**07 00 12.1**		**+0.6**
IGDI				*e*S	**Sg**		**07 00 36.5**		**-0.8**
IGDI	**IGDIR**	**1.77**	**180**	*i* P	**Pb**		**07 00 12.4**		**-0.7**
IGDI				*i* S	**Sg**		**07 00 37.3**		**0.0**
NCK	**Nalchik**	**1.89**	**349**	⇑*e*PN	**Pg**		**07 00 16.0**		**-0.7**
NCK	**Nalchik**	**1.89**	**349**	*e*Pn	**Pg**		**07 00 16.0**		**-0.7**
BTLR	**Botlikh**	**1.90**	**57**	⇑*i*PN	**Pb**		**07 00 15.6**		**+0.2**
BTLR				*e*			07 00 45.4		
BTLR				pmax	pmax				
	comp=Z,153nm,0.6s								
BTLR				smax	smax				
	comp=N,339nm,1.1s								
BTLR	**Botlikh**	**1.90**	**57**	*i* Pn	**Pb**		**07 00 15.6**		**+0.2**
	comp=N,153nm,0.6s								
BTLR				*e*Sg	**Sg**		**07 00 45.4**		**+4.0**
	comp=N,339nm,1.1s								
NEY	**Neytrino**	**1.90**	**329**	*ce*PN	**Pb**		**07 00 14.9**		**-0.5**
NEY				pmax	pmax				
	comp=Z,2μm,0.7s								
NEY	**Neytrino**	**1.90**	**329**	*e*Pn	**Pb**		**07 00 14.9**		**-0.5**
	comp=Z,2μm,0.7s								
DDEM	**Demirkent**	**1.91**	**248**	*i* P	**Pb**		**07 00 15.2**		**-0.4**
DDEM				*i* S	**Sg**		**07 00 41.6**		**-0.1**
DDEM	**Demirkent**	**1.91**	**248**	P	**Pb**		**07 00 15.2**		**-0.4**
DDEM				S	**Sg**		**07 00 41.6**		**-0.1**
VADZ	**Vardenis**	**1.94**	**139**	⇓*i*P	**Pb**		**07 00 15.0**		**-1.1**
VADZ				⇑*i*S	**Sg**		**07 00 44.0**		**+1.3**
VADZ	**Vardenis**	**1.94**	**139**	⇓P	**Pb**		**07 00 15.0**		**-1.1**
GANJ	**Ganja**	**1.96**	**120**	⇑P	**Pn**		**07 00 14.0**		**-0.1**
	SNR=5.9								
GANJ				⇑S	**Sn**		**07 00 39.5**		**+0.6**
HYR	**Heyderabad**	**2.01**	**163**	⇑P	**Pb**		**07 00 17.5**		**+0.3**
	SNR=10								
DVE	**Vedeno**	**2.01**	**48**	*e*PN	**Pb**		**07 00 16.8**		**-0.5**
DVE				*e*S	**Sg**		**07 00 45.5**		**+0.4**
DVE	**Vedeno**	**2.01**	**48**	*e*Pn	**Pb**		**07 00 16.8**		**-0.5**
DVE				*e*Sg	**Sg**		**07 00 45.5**		**+0.4**
GROC	**Groznyy**	**2.02**	**39**	*e*PN	**Pb**		**07 00 17.9**		**+0.6**
GROC				*e*S	**Sg**		**07 00 46.7**		**+1.5**
GROC	**Groznyy**	**2.02**	**39**	*e*Pn	**Pb**		**07 00 17.9**		**+0.6**
GROC				*e*Sg	**Sg**		**07 00 46.7**		**+1.5**
DYDN	**Diyadin**	**2.11**	**188**	*e*P	**Pb**		**07 00 19.1**		**0.0**
TRKR	**Terskaya**	**2.14**	**13**	*e*PN	**Pb**		**07 00 18.4**		**-1.0**
TRKR				*e*S	**Sg**		**07 00 48.2**		**-1.0**
TRKR	**Terskaya**	**2.14**	**13**	*e*Pn	**Pb**		**07 00 18.4**		**-1.0**
TRKR				*e*Sn	**Sg**		**07 00 48.2**		**-1.0**
EATA	**Eleskirt**	**2.15**	**215**	*e*P	**Pb**		**07 00 19.1**		**-0.6**
EATA	**Eleskirt**	**2.15**	**215**	*i* P	**Pb**		**07 00 19.4**		**-0.4**
EATA	**Eleskirt**	**2.15**	**215**	P	**Pb**		**07 00 19.4**		**-0.4**
XNZR	**Khunzakh**	**2.15**	**64**	⇓*e*PN	**Pg**		**07 00 22.0**		**+0.3**
XNZR				*e*			07 00 54.1		
AGRB	**Hanur-Agry**	**2.22**	**202**	PN	**Pn**		**07 00 18.5**		**+0.7**
AGRB	**Hanur-Agry**	**2.22**	**202**	*e*Pn	**Pn**		**07 00 18.5**		**+0.7**
KBZ	**Khabaz**	**2.26**	**338**	Pn	**Pn**		**07 00 19.4**		**+1.3**
	comp=Z,3.2nm,0.3s,baz=162,slow=12,SNR=40								
KBZ				Sn	**Sg**		**07 00 52.4**		**-0.7**
	comp=Z,12nm,0.3s,baz=270,slow=22,SNR=9.1								
GNBR	**Gunib**	**2.28**	**70**	⇓*i*PN	**Pb**		**07 00 20.3**		**-1.6**
GNBR				*e*			07 00 56.1		
GNBR				pmax	pmax				
	comp=Z,270nm,28.5s								
GNBR				smax	smax				
	comp=N,297nm,12.4s								
GNBR	**Gunib**	**2.28**	**70**	*i* Pn	**Pb**		**07 00 20.3**		**-1.6**
	comp=N,270nm,28.5s								
HOMI	**Horasan**	**2.29**	**227**	*e*P	**Pn**		**07 00 19.9**		**+1.1**
HOMI	**Horasan**	**2.29**	**227**	*i* P	**Pn**		**07 00 19.7**		**+0.9**
SEKA	**Sheki**	**2.39**	**99**	⇑P	**Pb**		**07 00 21.9**		**-1.8**
	SNR=11								
SEKA				⇑S	**Sb**		**07 00 51.5**		**-1.8**
MNGR	**Mingechevir, A**	**2.43**	**110**	⇓P	**Pn**		**07 00 21.6**		**+1.2**
MNGR				⇓S	**Sn**		**07 00 51.7**		**+1.4**
TUTA	**Tutak**	**2.43**	**204**	*i* P	**Pb**		**07 00 23.2**		**-1.4**
TUTA	**Tutak**	**2.43**	**204**	P	**Pb**		**07 00 23.2**		**-1.4**
CLDR	**Caldiran**	**2.50**	**183**	PN	**Pn**		**07 00 22.2**		**+0.6**
CLDR	**Caldiran**	**2.50**	**183**	*e*Pn	**Pn**		**07 00 22.2**		**+0.6**
SBZ	**Shahbuz**	**2.51**	**153**	⇑P	**Pb**		**07 00 24.5**		**-1.3**
	SNR=16								
KIV	**Kislovodsk**	**2.53**	**337**	⇑*e*PN	**Pb**		**07 00 24.4**		**-1.8**
KIV				pmax	pmax				
	comp=Z,211nm,1.0s								
KIV	**Kislovodsk**	**2.53**	**337**	*e*Pn	**Pb**		**07 00 24.4**		**-1.8**
	comp=Z,211nm,1.0s								
ERZM	**Erzurum**	**2.69**	**231**	*e*P	**Pn**		**07 00 25.9**		**+1.6**
ERZM	**Erzurum**	**2.69**	**231**	*i* P	**Pn**		**07 00 25.9**		**+1.6**
ERZM	**Erzurum**	**2.69

NOA LR LR 07 17 28.1
comp=Z,20nm,18.3s,baz=170,slow=38
DGZ Jazzator, Alta 30.98 60 *i* P **P 07 06 01.1 +2.8**

ISCJB ***18*** *07:00:22.0±0.8, 16°.9S×0°.2×174°.4W±0°.2, h100km, mb3.9/8, Error ellipse: s-maj=38.6km s-min=10.7km az=136.3*
IDC ***18*** *07:00:21.2±3.4, 17°.00S×174°.38W, h77km±30km, mb3.7/8, mb1 3.9/9,mb1mx3.5/53, mbtmp4.0/9, Error ellipse: s-maj=36.5km s-min=17.6km az=135.0*
ISC 18 07:00:23.4±0.9, 16°.9S×0°.2×174°.3W±0°.2, h100km, n12, σ1§17/13, mb3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.82**	**40**	P	**Pn**	**07 01 20.1**	**-0.1**
	6.9nm,0.3s,baz=258,slow=4.4,SNR=10						
AFI				S	**Sn**	**07 02 01.9**	**-2.3**
	46nm,0.3s,baz=67,slow=16,SNR=11						
STKA	**Stephens Creek**	**42.56**	**241**	P	**P**	**07 08 08.8**	**-0.6**
	3.6nm,0.6s,baz=90,slow=10.0,SNR=10						
WRA	**Warramunga Arr**	**48.67**	**258**	P	**P**	**07 08 56.8**	**-1.0**
	1.9nm,0.9s,baz=98,slow=7.0,SNR=15						
ASAR	**Alice Springs**	**48.84**	**253**	P	**P**	**07 08 58.3**	**-0.8**
	4.6nm,0.5s,baz=89,slow=8.5,SNR=86						
QSPA	**South Pole Qui**	**73.20**	**180**	P	**P**	**07 11 42.9**	**-0.4**
	3.1nm,0.7s,baz=70,slow=2.2,SNR=9.2						
NVAR	**Mina Array Bea**	**75.99**	**42**	P	**P**	**07 12 01.2**	**+1.3**
	0.3nm,0.6s,baz=232,slow=6.5,SNR=2.9						
SEY	**Seymchan**	**83.69**	**345**	P	**P**	**07 12 41.8**	**+1.2**
	0.3nm,0.3s,baz=132,slow=4.4,SNR=8.1						
ILAR	**Eielson Array**	**84.03**	**11**	P	**P**	**07 12 43.5**	**+1.2**
	0.6nm,0.8s,baz=236,slow=6.5,SNR=6.8						
YKA	**Yellowknife Ar**	**91.77**	**24**	P	**P**	**07 13 19.9**	**+0.5**
	0.1nm,0.4s,baz=247,slow=4.6,SNR=2.7						
BVAR	**Borovoye Array**	**118.48**	**322**	PKP	**PKPdf**	**07 18 59.7**	**+0.5**
	0.5nm,0.5s,baz=0.0,slow=0.4,SNR=3.8						
BRTR	**Keskin Array B**	**146.70**	**319**	PKPbc	**PKPab**	**07 19 55.0**	**-0.4**
	1.1nm,0.8s,baz=107,slow=3.9,SNR=5.3						
GERES	**GERESS Array B**	**147.43**	**350**	PKPbc	**PKPab**	**07 19 56.8**	**-1.1**
	0.3nm,0.6s,baz=31,slow=2.3,SNR=3.0						

KOLA ***18*** *07:01:13.8, 67°.69N×33°.76E, h0km*
CSEM ***18*** *07:01:14.3±0.7, 67°.57N×33°.38E, h2km, ML2.2, Error ellipse: s-maj=12.5km s-min=8.2km az=91.0, Mining explosion.*
HEL ***18*** *07:01:14.5±0.4, 67°.66N×33°.67E, h0km, ML2.2, Explosion*
NAO ***18*** *07:01:14.9±1.8, 67°.63N×33°.31E, ML2.5*
ISC 18 07:01:10.1±1.5, 67°.55N±0°.04×34°.07E±0°.08, h0km, n28, σ1§79/47, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.25**	**275**	P	**Pg**	**07 01 17.1**	**+2.2**
APA				S	**Sg**	**07 01 19.5**	**+1.3**
APA0	**Apatity Array**	**0.42**	**278**	P	**Pg**	**07 01 19.3**	**+1.3**
APA0				S	**Sg**	**07 01 23.3**	**-0.1**
VRF	**Varrio**	**1.72**	**279**	Pg	**Pn**	**07 01 41.9**	**+0.7**
VRF				Sg	**Sn**	**07 02 02.0**	**-1.8**
VRF	**Varrio**	**1.72**	**279**	PG	**Pn**	**07 01 42.0**	**+0.7**
	baz=90						
VRF				MSG		07 02 00.9	
	comp=Z,33nm,0.2s						
VRF				SG	**Sn**	**07 02 02.0**	**-1.8**
KU6	**Riekki**	**2.25**	**229**	Pb	**Pb**	**07 01 52.6**	**+1.0**
KU6				Sg	**Sg**	**07 02 22.6**	**+0.2**
KU6	**Riekki**	**2.25**	**229**	PB	**Pb**	**07 01 52.6**	**+1.0**
KU6				MSG		07 02 20.1	
	comp=Z,8.1nm,0.2s						
KU6				SG	**Sg**	**07 02 22.6**	**+0.2**
MSF	**Maaselka**	**2.59**	**233**	Pb	**Pb**	**07 01 58.3**	**+1.0**
MSF				Sg	**Sg**	**07 02 32.1**	**-1.0**
MSF	**Maaselka**	**2.59**	**233**	PB	**Pb**	**07 01 58.3**	**+1.0**
MSF				SG	**Sg**	**07 02 32.1**	**-1.0**
SGF	**Sodankyl**	**2.90**	**271**	Pn	**Pn**	**07 01 59.5**	**+2.1**
SGF				Sg	**Sb**	**07 02 37.6**	**-1.0**
SGF	**Sodankyl**	**2.90**	**271**	PN	**Pn**	**07 01 59.6**	**+2.1**
SGF				SG	**Sb**	**07 02 37.6**	**-1.0**
ARA0	**ARCESS Array S**	**3.72**	**306**	Pn	**Pn**	**07 02 09.9**	**+1.1**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**07 02 50.6**	**-2.7**
	baz=121,slow=28						
ARA0				Lg	Lg	07 03 02.1	
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.72**	**306**	Pn	**Pn**	**07 02 09.9**	**+1.1**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**07 02 50.6**	**-2.7**
	baz=121,slow=28						
ARA0				Lg	Lg	07 03 02.1	
	baz=112,slow=37						
ARE0	**ARCESS Array S**	**3.72**	**306**	PN	**Pn**	**07 02 09.5**	**+0.7**
ARE0				SN	**Sn**	**07 02 51.4**	**-1.8**
HEF	**Hetta**	**4.01**	**287**	Pn	**Pn**	**07 02 14.5**	**+1.8**
HEF				Sn	**Sn**	**07 02 59.5**	**-0.9**
HEF	**Hetta**	**4.01**	**287**	PN	**Pn**	**07 02 14.5**	**+1.8**
	baz=94						
HEF				SN	**Sn**	**07 02 59.5**	**-0.9**
OUL	**Oulu**	**4.12**	**237**	PB	**Pb**	**07 02 21.1**	**-2.3**
	baz=48						
OUL				SG	**Sg**	**07 03 20.9**	**-1.3**
TOF	**Tornio**	**4.12**	**254**	PG	**Pb**	**07 02 26.5**	**+3.1**
KALU	**Kalix**	**4.58**	**253**	Sg	**Sg**	**07 03 34.1**	**-2.9**
KALU	**Kalix**	**4.58**	**253**	SG	**Sg**	**07 03 34.1**	**-2.9**
ERTU	**Ertsjaerv**	**4.75**	**263**	Sn	**Sn**	**07 03 18.1**	**-0.5**
ERTU	**Ertsjaerv**	**4.75**	**263**	SN	**Sn**	**07 03 18.1**	**-0.5**
FIA0	**FINESS Array S**	**7.03**	**213**	Pn	**Pn**	**07 02 57.0**	**+2.9**
	baz=32,slow=14						
FIA0				Sn	**Sn**	**07 04 12.2**	**-2.3**
	baz=33,slow=28						
FIA0				Lg	Lg	07 04 47.3	
	baz=34,slow=28						
FIA0	**FINESS Array S**	**7.03**	**213**	Pn	**Pn**	**07 02 57.0**	**+2.9**
FIA0				Sn	**Sn**	**07 04 12.2**	**-2.3**
FIA0				Lg	Lg	07 04 47.3	
	SNR=55						
FIA0	**FINESS Array S**	**7.03**	**213**	Pn	**Pn**	**07 02 57.0**	**+2.9**
	baz=32,slow=14						
FIA0				Sn	**Sn**	**07 04 12.2**	**-2.3**
	baz=33,slow=28						
FIA0				Lg	Lg	07 04 47.3	
	baz=34,slow=28						
SPA0	**Spitsbergen Ar**	**11.79**	**342**	Pn	**Pn**	**07 03 57.6**	**-1.6**
	baz=151,slow=12						
SPA0	**Spitsbergen Ar**	**11.79**	**342**	Pn	**Pn**	**07 03 57.6**	**-1.6**
	baz=151,slow=12						
NRA0	**NORESS Array S**	**11.91**	**246**	Pn	**Pn**	**07 04 00.7**	**-0.2**
	baz=41,slow=10						
NRA0	**NORESS Array S**	**11.91**	**246**	Pn	**Pn**	**07 04 00.7**	**-0.2**
	baz=41,slow=10						

IDC ***18*** *07:14:58.5±2.1, 28°.11S×176°.51W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/35, mbtmp4.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/40, Error ellipse: s-maj=74.9km s-min=27.8km az=142.0*
ISC 18 07:15:03.3±2.0, 28°.3S±0°.4×176°.4W±0°.3, h37km, n11, σ0§78/11, mb4.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.64**	**233**	Pn	**Pn**	**07 15 29.0**	**-0.5**
	230nm,0.3s,baz=66,slow=12,SNR=3.5						
RAO				Sn	**Sn**	**07 15 49.9**	**+0.6**
	356nm,0.3s,baz=90,slow=22,SNR=3.6						
DZM	**Mont Dzumac**	**16.70**	**288**	LR	LR	07 24 18.5	
	comp=Z,84nm,18.9s,baz=178,slow=34						
CTA	**Charters Tower**	**34.91**	**275**	P	**P**	**07 21 51.1**	**-0.5**
	2.8nm,0.8s,baz=97,slow=15,SNR=2.0						
STKA	**Stephens Creek**	**36.35**	**254**	P	**P**	**07 22 04.5**	**+0.7**
	2.6nm,0.7s,baz=90,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**44.66**	**264**	P	**P**	**07 23 12.4**	**-0.2**
	1.7nm,0.5s,baz=98,slow=6.7,SNR=37						
WRA	**Warramunga Arr**	**45.46**	**269**	P	**P**	**07 23 18.7**	**-0.2**
	3.5nm,0.8s,baz=110,slow=8.0,SNR=15						
FINES	**FINESS Array B**	**143.60**	**342**	PKP	**PKPdf**	**07 34 32.1**	**-1.3**
	0.7nm,0.6s,baz=81,slow=4.4,SNR=6.0						
NB2	**NORSAR Subarra**	**146.84**	**353**	PKP	**PKPab**	**07 34 43.5**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=7.1,slow=2.9						
NOA	**NORSAR Array B**	**146.84**	**353**	PKPbc	**PKPbc**	**07 34 40.7**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=12,slow=4.4,SNR=4.3						
HFS	**Hagfors**	**147.41**	**351**	PKPbc	**PKPbc**	**07 34 42.9**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=320,slow=4.3,SNR=3.5						
AKASG	**Malin Array Be**	**150.38**	**326**	PKPbc	**PKPbc**	**07 34 50.8**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=45,slow=3.1,SNR=7.8						

ISK ***18*** *07:41:18.7, 40°.36N×35°.48E, h5km, MD2.5/2*
CSEM ***18*** *07:41:19.8±0.2, 40°.34N×35°.52E, h8km, ML2.7, Error ellipse: s-maj=4.2km s-min=4.0km az=144.0*
DDA ***18*** *07:41:20.2, 40°.34N×35°.49E, h7km, Ml2.7*
ISC 18 07:41:19.7±1.1, 40°.33N±0°.03×35°.51E±0°.03, h8km±10km, n26, σ0§59/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COAL	**Corum-Alaca**	**0.41**	**259**	*i* P	**Pg**	**07 41 27.8**	**+0.1**
COAL				*i* S	**Sb**	**07 41 34.2**	**-1.4**
COAL	**Corum-Alaca**	**0.41**	**259**	P	**Pg**	**07 41 27.8**	**+0.1**
COAL				S	**Sb**	**07 41 34.2**	**-1.4**
CTAK	**Corum_Osmancik**	**0.63**	**300**	*i* P	**Pg**	**07 41 32.2**	**+0.3**
CTAK				*i* S	**Sb**	**07 41 41.6**	**-0.4**
CTAK	**Corum_Osmancik**	**0.63**	**300**	P	**Pg**	**07 41 32.2**	**+0.3**
CTAK				S	**Sb**	**07 41 41.7**	**-0.4**
CORM	**Corum**	**0.69**	**257**	PG	**Pg**	**07 41 31.9**	**-1.1**
CORM				SG	**Sg**	**07 41 42.1**	**+0.1**
CORM	**Corum**	**0.69**	**257**	*e*Pg	**Pg**	**07 41 31.9**	**-1.1**
CORM				*e*Sg	**Sg**	**07 41 42.1**	**+0.1**
YOZ	**Yozgat**	**0.71**	**192**	PG	**Pg**	**07 41 33.6**	**+0.3**
YOZ				SG	**Sb**	**07 41 43.8**	**-0.4**
YOZ	**Yozgat**	**0.71**	**192**	*e*Pg	**Pg**	**07 41 33.6**	**+0.3**
YOZ				*e*Sg	**Sb**	**07 41 43.8**	**-0.4**
HAVZ	**Havza**	**0.76**	**12**	*i* P	**Pg**	**07 41 34.7**	**+0.4**
HAVZ				*i* S	**Sb**	**07 41 45.6**	**0.0**
HAVZ	**Havza**	**0.76**	**12**	P	**Pg**	**07 41 34.7**	**+0.4**
HAVZ				S	**Sb**	**07 41 45.6**	**0.0**
TOKT	**Tokat**	**0.79**	**91**	PG	**Pg**	**07 41 34.7**	**-0.2**
TOKT	**Tokat**	**0.79**	**91**	*e*Pg	**Pg**	**07 41 34.7**	**-0.2**
KVT	**Kavak**	**0.85**	**29**	PG	**Pg**	**07 41 35.4**	**-0.6**
KVT	**Kavak**	**0.85**	**29**	*e*Pg	**Pg**	**07 41 35.4**	**-0.6**
CUSAR	**Sarkisla-SIVAS**	**1.07**	**148**	*i* P	**Pb**	**07 41 41.1**	**+0.6**
CUSAR				*i* S	**Sn**	**07 41 56.6**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**1.07**	**148**	P	**Pb**	**07 41 41.2**	**+0.6**
CUSAR				S	**Sn**	**07 41 56.6**	**+0.3**
CDAG	**Cicekdag**	**1.13**	**231**	*i* P	**Pg**	**07 41 41.4**	**+0.1**
CDAG				*i* S	**Sn**	**07 41 59.0**	**+1.6**
CDAG	**Cicekdag**	**1.13**	**231**	P	**Pg**	**07 41 41.4**	**+0.1**
SVSK	**Karacayir**	**1.22**	**110**	PN	**Pb**	**07 41 42.7**	**-0.2**
SVSK	**Karacayir**	**1.22**	**110**	*e*Pn	**Pb**	**07 41 42.7**	**-0.2**
DIKM	**Dikmen**	**1.33**	**352**	PN	**Pn**	**07 41 44.1**	**-0.4**
DIKM	**Dikmen**	**1.33**	**352**	*e*Pn	**Pn**	**07 41 44.1**	**-0.4**
ILGA	**Ilgaz**	**1.54**	**298**	*i* P	**Pg**	**07 41 49.3**	**0.0**
ILGA				*i* S	**Sg**	**07 42 09.7**	**+0.5**
ILGA	**Ilgaz**	**1.54**	**298**	P	**Pg**	**07 41 49.3**	**0.0**
ILGA				S	**Sg**	**07 42 09.7**	**+0.5**
SNOP	**Sinop**	**1.70**	**352**	PN	**Pn**	**07 41 49.3**	**-0.3**
SNOP	**Sinop**	**1.70**	**352**	*e*Pn	**Pn**	**07 41 49.3**	**-0.3**

IDC ***18*** *07:56:13.2±1.1, 54°.74N×160°.36W, h0km, mb4.0/21, mb1 4.1/23,mb1mx3.9/74, mbtmp4.0/23, ML4.0/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/58, Error ellipse: s-maj=28.7km s-min=14.5km az=5.0*
MOS ***18*** *07:56:14.9±0.9, 55°.04N×160°.54W, h10km, mb4.4/9, Error ellipse: s-maj=15.6km s-min=6.4km az=81.8*
NEIC ***18*** *07:56:17.1±0.0, 54°.57N×160°.20W, h20km, mb4.6/5, After AEIC.*
ISC 18 07:56:16.2±1.4, 54°.62N±0°.07×160°.07W±0°.04, h25km±9km, n140, σ1§48/145, mb4.2/31, 5C, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.77**	**342**	*e*Pn	**Pn**	**07 56 32.6**	**+1.1**
SDPT				*e*Sn	**Sn**	**07 56 43.5**	**+1.2**
DOL	**Dolgoi Island**	**1.17**	**298**	P	**Pb**	**07 56 37.3**	**-0.4**
PVV	**Pavlof Volcano**	**1.25**	**308**	P	**Pb**	**07 56 39.1**	**0.0**
PS4A	**Pavlof South-4**	**1.26**	**306**	P	**Pb**	**07 56 39.4**	**0.0**
DRIA	**Deer Island**	**1.32**	**286**	P	**Pn**	**07 56 39.1**	**0.0**
DT1	**Dutton Round H**	**1.37**	**292**	P	**Pn**	**07 56 40.1**	**+0.4**
VNWF	**Veniaminof 8**	**1.56**	**10**	P	**Pb**	**07 56 44.5**	**0.0**
VNWF				S	**Sb**	**07 57 06.7**	**+2.8**
VNSG	**Veniaminof 6**	**1.61**	**20**	P	**Pb**	**07 56 45.5**	**+0.2**
BALA	**Baldy Mountain**	**1.67**	**291**	P	**Pb**	**07 56 45.7**	**-0.5**
VNHG	**Veniaminof 1**	**1.69**	**17**	P	**Pb**	**07 56 46.9**	**+0.3**
CHGN	**Chignik**	**1.93**	**28**	*e*Pn	**Pn**	**07 56 49.5**	**+2.0**
CHGN				*e*Sn	**Sb**	**07 57 14.4**	**+0.1**
FALS	**False Pass**	**1.96**	**278**	*e*Pn	**Pn**	**07 56 48.2**	**+0.4**
FALS				*e*Sn	**Sb**	**07 57 13.0**	**-2.0**
ISLZ	**Isanotski Laza**	**2.12**	**274**	P	**Pn**	**07 56 50.9**	**+0.8**
SSLS	**Shishaldin Sou**	**2.29**	**274**	P	**Pn**	**07 56 53.9**	**+1.5**
SSLS				S	**Sn**	**07 57 21.6**	**-2.9**
SSLW	**Shishaldin Wes**	**2.36**	**275**	P	**Pn**	**07 56 54.7**	**+1.4**
ANNE	**Aniakchak Nort**	**2.56**	**25**	P	**Pn**	**07 56 58.8**	**+2.6**
ANNW	**Aniakchak Nort**	**2.58**	**23**	P	**Pn**	**07 56 59.2**	**+2.8**
WESN	**West Dahl Nort**	**2.63**	**271**	P	**Pn**	**07 56 58.7**	**+1.6**
WESP	**Westdahl Peak**	**2.71**	**269**	P	**Pn**	**07 56 59.9**	**+1.6**
AKSA	**Akutan Strait**	**3.33**	**264**	P	**Pn**	**07 57 08.1**	**+1.4**
AKUT	**Akutan**	**3.37**	**264**	*e*Pn	**Pn**	**07 57 08.6**	**+1.4**
AHB	**Akutan Harbor**	**3.40**	**264**	P	**Pn**	**07 57 08.9**	**+1.2**
UNV	**Unalaska Valle**	**3.85**	**261**	*e*Pn	**Pn**	**07 57 14.3**	**+0.4**
MCIR	**Makushin Cirqu**	**4.05**	**263**	P	**Pn**	**07 57 17.9**	**+1.2**
MGOD	**Makushin Gods**	**4.08**	**261**	P	**Pn**	**07 57 18.2**	**+1.2**
OHAK	**Old Harbor**	**4.62**	**53**	*e*Pn	**Pn**	**07 57 25.2**	**+0.9**
KDAK	**Kodiak Island**	**5.25**	**50**	Pn	**Pn**	**07 57 33.4**	**+0.4**
	2.7nm,0.3s,baz=248,slow=11,SNR=52						
KDAK				Sn	**Sn**	**07 58 31.4**	**-1.1**
	2.8nm,0.3s,baz=349,slow=23,SNR=6.8						
KDAK	**Kodiak Island**	**5.25**	**50**	*e*P	**Pn**	**07 57 33.7**	**+0.8**
KDAK						07 58 31.4	
KDAK	**Kodiak Island**	**5.25**	**50**	*e*Pn	**Pn**	**07 57 33.7**	**+0.8**
KDAK				Sn	**Sn**	**07 58 31.4**	**-1.1**
SVW2	**Sparrevohn**	**6.92**	**18**	*e*Pn	**Pn**	**07 57 58.2**	**+2.2**
BRLK	**Bradley Lake**	**7.17**	**40**	*e*Pn	**Pn**	**07 57 59.6**	**+0.2**
SUA	**Susitna One**	**8.45**	**32**	*e*Pn	**Pn**	**07 58 18.5**	**+1.4**
RC01	**Rabbit Creek A**	**8.50**	**36**	*e*Pn	**Pn**	**07 58 18.4**	**+0.8**
PMR	**Palmer**	**9.07**	**35**	*e*P	**Pn**	**07 58 26.9**	**+1.6**
PMR	**Palmer**	**9.07**	**35**	*e*Pn	**Pn**	**07 58 26.9**	**+1.6**
PPLA	**Purkeypile**	**9.25**	**23**	*e*Pn	**Pn**	**07 58 29.6**	**+1.6**
GLI	**Glacier Island**	**9.34**	**43**	*e*Pn	**Pn**	**07 58 29.9**	**+0.8**
SML	**Sawmill**	**9.49**	**36**	*e*P	**Pn**	**07 58 32.0**	**+0.8**
SML	**Sawmill**	**9.49**	**36**	*e*Pn	**Pn**	**07 58 31.9**	**+0.8**
EYAK	**Cordova Ski Ar**	**9.71**	**46**	*e*Pn	**Pn**	**07 58 33.8**	**-0.3**
CAST	**Castle Rocks**	**9.73**	**22**	*e*Pn	**Pn**	**07 58 40.8**	**+6.3**
SCM	**Sheep Creek Mo**	**9.86**	**38**	*e*P	**Pn**	**07 58 37.3**	**+1.1**
SCM	**Sheep Creek Mo**	**9.86**	**38**	*e*Pn	**Pn**	**07 58 37.3**	**+1.1**
DIV	**Divide**	**10.01**	**44**	*e*Pn	**Pn**	**07 58 39.2**	**+0.9**
RAGM	**Ragged Mountai**	**10.09**	**49**	*e*Pn	**Pn**	**07 58 40.5**	**+1.2**
KTH	**Kantishna Hill**	**10.11**	**24**	*e*Pn	**Pn**	**07 58 39.2**	**-0.5**
KLU	**Klutina**	**10.16**	**42**	*e*Pn	**Pn**	**07 58 41.2**	**+0.8**
TRF	**Thorofare Moun**	**10.18**	**26**	*e*Pn	**Pn**	**07 58 42.7**	**+2.0**
BMRM	**Bremner River**	**10.40**	**46**	*e*Pn	**Pn**	**07 58 44.6**	**+0.9**
RND	**Reindeer**	**10.52**	**29**	*e*P	**Pn**	**07 58 45.8**	**+0.5**
RND	**Reindeer**	**10.52**	**29**	*e*Pn	**Pn**	**07 58 45.8**	**+0.5**
BPAW	**Bear Paw Mtn.**	**10.57**	**22**	*e*Pn	**Pn**	**07 58 47.7**	**+1.8**
DHY	**Denali Highway**	**10.71**	**33**	*e*Pn	**Pn**	**07 58 49.1**	**+1.1**
MCK	**McKinley**	**10.76**	**27**	*e*P	**Pn**	**07 58 50.2**	**+1.7**
MCK	**McKinley**	**10.76**	**27**	*e*Pn	**Pn**	**07 58 50.2**	**+1.7**
PAX	**Paxson**	**11.26**	**36**	*e*P	**Pn**	**07 58 57.0**	**+1.6**
PAX	**Paxson**	**11.26**	**36**	*e*Pn	**Pn**	**07 58 57.0**	**+1.6**
WRH	**Wood River Hil**	**11.57**	**27**	*e*Pn	**Pn**	**07 58 59.6**	**0.0**
CCB	**Clear Creek Bu**	**11.79**	**27**	*e*Pn	**Pn**	**07 59 02.4**	**-0.1**
HDA	**Harding Lake**	**11.83**	**29**	*e*Pn	**Pn**	**07 59 02.7**	**-0.5**
MENT	**Mentasta**	**11.86**	**39**	*e*Pn	**Pn**	**07 59 04.9**	**+1.3**
MDM	**Murphy Dome**	**11.93**	**25**	*e*Pn	**Pn**	**07 59 00.4**	**-4.2**
COLA	**College**	**11.96**	**26**	*e*P	**Pn**	**07 59 05.0**	**+0.2**
COLA	**College**	**11.96**	**26**	*e*Pn	**Pn**	**07 59 05.0**	**+0.2**
RIDG	**Independ'e Rid**	**11.99**	**34**	*e*Pn	**Pn**	**07 59 06.1**	**+0.7**
ILAR	**Eielson Array**	**12.13**	**28**	Pn	**Pn**	**07 59 05.9**	**-1.4**
	0.3nm,0.3s,baz=220,slow=13,SNR=13						
ILB	**Eielson Array**	**12.13**	**28**	*e*Pn	**Pn**	**07 59 06.3**	**-1.0**
DOT	**Dot Lake**	**12.19**	**36**	*e*Pn	**Pn**	**07 59 09.4**	**+1.4**
SCRK	**Sand Creek**	**12.43**	**35**	*e*Pn	**Pn**	**07 59 11.3**	**-0.1**
EGAK	**Eagle**	**13.89**	**35**	*e*Pn	**Pn**	**07 59 30.8**	**-0.4**
SIT	**Sitka**	**14.09**	**70**	*e*P	**Pn**	**07 59 33.8**	**-0.1**
SIT	**Sitka**	**14.09**	**70**	*e*Pn	**Pn**	**07 59 33.8**	**-0.1**
SIT				*e*Sn	**Sn**	**08 02 01.5**	**-7.7**
DAWY	**Dawson**	**14.10**	**40**	*e*Pn	**Pn**	**07 59 34.6**	**+0.5**
SKAG	**Skagway**	**14.27**	**60**	*e*Pn	**Pn**	**07 59 38.9**	**+2.5**
BESE	**Bessie Mountai**	**14.40**	**64**	*e*Pn	**Pn**	**07 59 40.5**	**+2.2**
WHY	**Whitehorse**	**14.72**	**56**	*e*Pn	**P**	**07 59 46.7**	**-1.9**
TOLK	**Toolik Lake Re**	**14.89**	**15**	*e*Pn	**P**	**07 59 51.4**	**+1.1**
INK	**Inuvik**	**18.45**	**32**	P	**P**	**08 00 29.6**	**0.0**
	0.5nm,0.3s,baz=197,slow=10.0,SNR=15						
INK				S	**Sn**	**08 03 51.9**	**-3.0**
	0.0nm,0.3s,baz=47,slow=19,SNR=3.4						
INK	**Inuvik**	**18.45**	**32**	*e*P	**P**	**08 00 29.8**	**+0.2**
INK				S	**Sn**	**08 03 51.9**	**-3.0**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
INK	**Inuvik**	**18.45**	**32**	*e*P	**P**	**08 00 29.8**	**+0.2**
	comp=Z,4.5nm,0.8s						
INK				S	**Sn**	**08 03 51.9**	**-3.0**
BILL	**Bilibino**	**20.64**	**324**	*e*P	**P**	**08 00 50.2**	**-3.3**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**24.51**	**53**	P	**P**	**08 01 34.4**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=266,slow=8.6,SNR=5.9						
PETK	**Petropavlovsk-**	**24.68**	**284**	P	**P**	**08 01 34.3**	**-0.6**
	comp=Z,4.1nm,0.5s,baz=81,slow=14,SNR=16						
PETK	**Petropavlovsk-**	**24.68**	**284**	*e*P	**P**	**08 01 35.2**	**+0.3**
PETK	**Petropavlovsk-**	**24.68**	**284**	*e*P	**P**	**08 01 35.2**	**+0.3**
SEY	**Seymchan**	**25.45**	**308**	P	**P**	**08 01 39.7**	**-2.0**
	comp=Z,1.9nm,0.5s,baz=135,slow=3.1,SNR=11						
SEY	**Seymchan**	**25.45**	**308**	*e*P	**P**	**08 01 40.0**	**-1.7**
NVAR	**Mina Array Bea**	**32.41**	**103**	P	**P**	**08 02 46.5**	**+2.4**
	comp=Z,1.7nm,1.2s,baz=301,slow=8.7,SNR=4.2						
TIXI	**Tiksi**	**33.76**	**327**	*e*P	**P**	**08 02 54.8**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.5s						
PDAR	**Pinedale Array**	**34.64**	**89**	P	**P**	**08 03 05.7**	**+2.2**
	comp=Z,0.3nm,0.8s,baz=273,slow=7.1,SNR=3.2						
KLR	**Kul'dur**	**40.89**	**292**	*i* P	**P**	**08 03 54.6**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**42.92**	**229**	T	T	08 50 05.5	
	baz=28,slow=76,SNR=99						
H11N3	**WAKE ISLAND Hy**	**42.93**	**229**	T	T	08 50 07.9	
	baz=28,slow=76,SNR=80						
H11N1	**WAKE ISLAND Hy**	**42.94**	**229**	T	T	08 50 06.9	
	baz=28,slow=76,SNR=66						
H11S1	**WAKE ISLAND Hy**	**44.08**	**228**	T	T	08 51 48.9	
	baz=28,slow=74						
H11S2	**WAKE ISLAND Hy**	**44.10**	**228**	T	T	08 51 49.9	
	baz=28,slow=74						
H11S3	**WAKE ISLAND Hy**	**44.10**	**228**	T	T	08 51 50.4	
	baz=28						
AMTX	**Amarillo**	**44.46**	**92**	*e*P	**P**	**08 04 25.9**	**+0.7**
	comp=Z,15nm,1.3s						
TXAR	**Lajitas Array**	**47.35**	**99**	P	**P**	**08 04 49.8**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=314,slow=5.4,SNR=4.0						
SPITS	**Spitsbergen Ar**	**47.45**	**1**	P	**P**	**08 04 48.1**	**0.0**
	comp=Z,9.5nm,1.0s,baz=347,slow=5.9,SNR=5.1						
SFJD	**Kangerlussuaq**	**47.79**	**30**	LR	LR	08 27 34.1	
	comp=Z,15nm,19.4s,baz=153,slow=39						
TLY	**Talaya**	**53.35**	**310**	*e*P	**P**	**08 05 32.1**	**-1.0**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**54.76**	**305**	P	**P**	**08 05 43.2**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=41,slow=

H08S2	**Diego Garcia H** baz=198	**20.47**	**18**	T	T	08 36 44.9	
H08S3	**Diego Garcia H** baz=198	**20.48**	**18**	T	T	08 36 45.3	
ASAR	**Alice Springs** 1.9nm,0.9s,baz=249,slow=6.4,SNR=19	**60.41**	**103**	P	P	08 21 11.1	0.0
WRA	**Warramunga Arr** 2.9nm,0.9s,baz=249,slow=6.2,SNR=9.7	**62.07**	**99**	P	P	08 21 22.2	-0.1
QSPA	**South Pole Qui** 4.7nm,1.0s,baz=281,slow=6.8,SNR=8.6	**62.77**	**180**	P	P	08 21 26.5	+0.1
MKAR	**Makanchi Array** 0.4nm,0.9s,baz=185,slow=5.2,SNR=3.4	**75.22**	**11**	P	P	08 22 43.9	+0.2
KURBB	**Kurchatov Arra** 0.3nm,0.5s,baz=211,slow=6.0,SNR=3.1	**78.40**	**8**	P	P	08 23 01.4	-0.1
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=256,slow=4.3,SNR=3.4	**80.13**	**2**	P	P	08 23 11.0	+0.1
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=197,slow=4.6,SNR=5.1	**82.55**	**11**	P	P	08 23 23.7	-0.1
SONM	**Songino Array** 0.2nm,0.6s,baz=198,slow=4.2,SNR=2.5	**83.07**	**26**	P	P	08 23 26.9	+0.1
YKA	**Yellowknife Ar** 1.3nm,0.7s,baz=344,slow=3.5,SNR=26	**144.87**	**1**	PKP	PKPbc	08 30 36.9	+0.1

NIED ***18*** *08:35:00,40.30N×144.70E,h5km,Mw3.7 Best double couple: M0=4.41000×10^14 NP1:φs=260.00000°,δ=13.00000°, λ=-59.00000°. NP2:φs=48.00000°,δ=79.00000°,λ=-97.00000°.*

JMA 18 08:35:34.1±0.2, 40.29N×144.69E, h46km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JEM	**Erimo**	**2.08**	**327**	P		Pn	08 36 08.1	+1.7
JEM				S		Sn	08 36 32.0	+0.9
JTH	**Tanohata**	**2.20**	**262**	P		Pn	08 36 08.8	+0.7
JTH				S		Sn	08 36 34.9	+0.9
MIYJ	**Miyakonagasawa**	**2.32**	**253**	P		Pn	08 36 11.0	+1.2
MIYJ				S		Sn	08 36 37.6	+0.5
JANG	**Nango**	**2.43**	**273**	P		Pn	08 36 12.4	+1.1
JANG				S		Sn	08 36 40.5	+0.7
JNBK	**Urakawa-nobuka**	**2.47**	**324**	P		Pn	08 36 13.8	+2.0
JNBK				S		Sn	08 36 43.5	+2.8
JCH	**Churui**	**2.53**	**337**	P		Pn	08 36 13.5	+0.9
JCH				S	*e*	Sn	08 36 43.3	+1.1
JAK	**Akkeshi**	**2.70**	**0**	P		Pn	08 36 15.3	+0.3
JAK				S		Sn	08 36 46.9	+0.4
JOM	**Ohasama**	**2.74**	**254**	P		Pn	08 36 17.4	+1.9
JOM				S	*e*	Sn	08 36 48.7	+1.3
JOT	**Ohata**	**2.97**	**293**	P		Pn	08 36 20.8	+2.1
JOT				S		Sn	08 36 54.7	+1.6
JMK	**Ichinoseki**	**3.00**	**245**	P		Pn	08 36 20.3	+1.3
JMK				S		Sn	08 36 54.8	+1.1
JAR	**Ashorobuto**	**3.08**	**347**	P		Pn	08 36 20.7	+0.5
JAR				S		Sn	08 36 56.0	+0.2
NEM2	**Nemuro 2**	**3.17**	**14**	P		Pn	08 36 20.6	-0.8
NEM2				S		Sn	08 36 55.2	-2.8
JKB	**Kayabe**	**3.19**	**301**	*e*S		Sn	08 37 00.5	+2.0
JFR	**Furan**	**3.27**	**332**	P		Pn	08 36 24.5	+1.6
JFR				S		Sn	08 37 01.6	+1.1
JEW	**Eniwo**	**3.52**	**317**	S		Sn	08 37 10.0	+3.4
JYK	**Kaneyama**	**3.62**	**249**	P		Pn	08 36 30.4	+2.8
JYK				S		Sn	08 37 11.1	+2.1
JRA	**Rausu**	**3.66**	**5**	P		Pn	08 36 29.1	+1.0
JRA				S		Sn	08 37 08.9	-1.1
JTKR	**Abashiri--Toko**	**3.72**	**351**	P		Pn	08 36 30.4	+1.4
JKK2	**Kamakawa 2**	**3.86**	**339**	P		Pn	08 36 32.5	+1.6
JKK2				S		Sn	08 37 18.5	+3.5

ATH ***18*** *08:35:53.0,37.88N×27.23E,h25km±1km, ML3.0/18, Error ellipse: s-maj=2.9km s-min=1.2km az=254.0*
CSEM ***18*** *08:35:54.9±0.1,37.89N×27.10E,h10km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.8km az=68.0*
DDA ***18*** *08:35:54.0,37.93N×27.12E,h23km, Ml3.8*
THE ***18*** *08:35:54.6,37.91N×27.16E,h2km±2km, ML3.5/5, Error ellipse: s-maj=2.3km s-min=0.8km az=166.0*
ISCJB ***18*** *08:35:54.5±0.3,37.90N±0.01×27.10E±0.02,h10km±2km, mb3.3/2, Error ellipse: s-maj=2.8km s-min=2.0km az=155.7*
ISK ***18*** *08:35:54.2,37.91N×27.11E,h8km, ML3.2/38*
IDC ***18*** *08:35:55.4±1.6,37.33N×27.77E,h0km, mb3.3/2, mb1 3.2/5, mb1mx3.0/59, mbtmp3.0/5, ML2.7/3, Error ellipse: s-maj=42.1km s-min=15.2km az=129.0*

ISC 18 08:35:55.0±0.8, 37.91N±0.01×27.13E±0.01, h12km±6km, n184,σ0 98/242, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GCAM	**G?zelcaml?**	**0.23**	**159**	PG		**Pg**	**08 35 59.4**	**-0.4**
GCAM				SG		**Sg**	**08 36 03.4**	**+0.4**
GCAM	**G?zelcaml?**	**0.23**	**159**	*i* P		**Pg**	**08 35 60.0**	**+0.2**
GCAM				*i* S		**Sg**	**08 36 03.5**	**+0.4**
GCAM	**G?zelcaml?**	**0.23**	**159**	*e*Pg		**Pg**	**08 35 59.4**	**-0.4**
GCAM	**G?zelcaml?**	**0.23**	**159**	P		**Pg**	**08 36 00.0**	**+0.2**
GCAM				S		**Sg**	**08 36 03.2**	**+0.4**
GMLD	**Gumuldur**	**0.24**	**314**	PG		**Pg**	**08 35 59.8**	**-0.2**
GMLD				SG		**Sg**	**08 36 03.4**	**+0.1**
GMLD	**Gumuldur**	**0.24**	**314**	*e*Pg		**Pg**	**08 35 59.8**	**-0.2**
GMLD				*e*Sg		**Sg**	**08 36 03.4**	**+0.1**
DGB	**¯zmir**	**0.24**	**305**	*i* P		**Pg**	**08 35 59.8**	**-0.3**
DGB				*i* S		**Sg**	**08 36 03.3**	**-0.2**
SMG	**Samos**	**0.31**	**229**	P		**Pb**	**08 36 02.1**	**-0.4**
SMG				S		**Sg**	**08 36 06.3**	**+0.7**
SMG				AML	AML		08 36 08.1	
	comp=E,27887μm,0.2s							
SMG				AML	AML		08 36 08.1	
	comp=N,31365μm,0.2s							
SMG	**Samos**	**0.31**	**229**	P		**Pg**	**08 36 01.5**	**+0.2**
SMG				S		**Sg**	**08 36 06.4**	**+0.8**
SMG	**Samos**	**0.31**	**229**	P		**Pg**	**08 36 01.5**	**+0.2**
SMG				S		**Sg**	**08 36 06.4**	**+0.8**
DIDI	**Didim-Aydin**	**0.54**	**171**	PG		**Pg**	**08 36 04.8**	**-0.8**
DIDI				SG		**Sb**	**08 36 13.3**	**-0.9**
DIDI	**Didim-Aydin**	**0.54**	**171**	*e*Pg		**Pg**	**08 36 04.8**	**-0.8**
DIDI				*e*Sg		**Sb**	**08 36 13.3**	**-0.9**
ZEY	**¯zmir**	**0.59**	**303**	*i* P		**Pg**	**08 36 06.2**	**-0.4**
ZEY				*i* S		**Sg**	**08 36 14.8**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.60**	**87**	PG		**Pg**	**08 36 06.2**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.60**	**87**	*e*Pg		**Pg**	**08 36 06.2**	**-0.6**
URLA	**Izmir**	**0.61**	**317**	PG		**Pg**	**08 36 05.6**	**-1.4**
URLA	**Izmir**	**0.61**	**317**	*i* P		**Pg**	**08 36 05.5**	**-1.4**
URLA				*i* S		**Sg**	**08 36 14.4**	**-0.7**
URLA	**Izmir**	**0.61**	**317**	*e*Pg		**Pg**	**08 36 05.6**	**-1.4**
URLA				S		**Sg**	**08 36 14.4**	**-0.7**
AYDN	**Tasoluk**	**0.64**	**113**	*i* P		**Pb**	**08 36 07.2**	**-1.0**
AYDN				*i* S		**Sg**	**08 36 15.6**	**-0.4**
AYDN	**Tasoluk**	**0.64**	**113**	P		**Pb**	**08 36 07.2**	**-1.0**
AYDN				S		**Sg**	**08 36 15.6**	**-0.4**
YKAV	**Yalikavak-Bodr**	**0.80**	**171**	PG		**Pb**	**08 36 10.2**	**-0.6**
YKAV	**Yalikavak-Bodr**	**0.80**	**171**	*e*Pg		**Pb**	**08 36 10.2**	**-0.6**
MLSB	**Milas**	**0.80**	**140**	PG		**Pb**	**08 36 10.2**	**-0.7**
MLSB	**Milas**	**0.80**	**140**	*e*Pg		**Pb**	**08 36 10.2**	**-0.7**
KRBN	**Karaburun**	**0.82**	**326**	PG		**Pg**	**08 36 10.2**	**-0.6**
KRBN	**Karaburun**	**0.82**	**326**	*e*Pg		**Pg**	**08 36 10.2**	**-0.6**
FOCM	**Fo¸ça**	**0.86**	**339**	PG		**Pg**	**08 36 11.2**	**-0.4**
FOCM	**Fo¸ça**	**0.86**	**339**	*e*Pg		**Pg**	**08 36 11.2**	**-0.4**
BODT	**Bodrum**	**0.86**	**170**	PG		**Pb**	**08 36 10.8**	**-0.6**
BODT	**Bodrum**	**0.86**	**170**	P		**Pg**	**08 36 10.8**	**-0.9**
BODT	**Bodrum**	**0.86**	**170**	*e*Pg		**Pb**	**08 36 11.3**	**-0.6**
BODT				S		**Sb**	**08 36 23.2**	**-0.2**
BODT	**Bodrum**	**0.86**	**170**	P		**Pg**	**08 36 10.8**	**-0.9**
BODT				S		**Sb**	**08 36 23.2**	**-0.2**
BDRM	**Kayabasi**	**0.88**	**164**	*i* P		**Pg**	**08 36 11.3**	**-0.8**
BDRM				*i* S		**Sb**	**08 36 24.0**	**0.0**
BDRM	**Kayabasi**	**0.88**	**164**	P		**Pg**	**08 36 11.3**	**-0.8**
BDRM				S		**Sb**	**08 36 24.0**	**0.0**
CHOS	**Chios island**	**0.97**	**299**	PG		**Pg**	**08 36 13.3**	**-0.4**
CHOS	**Chios island**	**0.97**	**299**	P		**Pg**	**08 36 13.3**	**-0.4**
CHOS				AML	AML		08 36 29.0	
	comp=E,16514μm,0.5s							
CHOS				S		**Sn**	**08 36 29.1**	**+0.8**
CHOS				AML	AML		08 36 29.5	
	comp=N,7398μm,0.4s							
CHOS	**Chios island**	**0.97**	**299**	P		**Pg**	**08 36 13.3**	**-0.4**
CHOS				S		**Sb**	**08 36 27.4**	**+0.8**
CHOS	**Chios island**	**0.97**	**299**	P		**Pg**	**08 36 13.3**	**-0.4**
CHOS				S		**Sb**	**08 36 27.4**	**+0.8**
AKHS	**Akhisar**	**1.10**	**29**	*i* P		**Pb**	**08 36 15.1**	**-0.9**
AKHS				*i* S		**Sb**	**08 36 30.5**	**+0.1**
AKHS	**Akhisar**	**1.10**	**29**	P		**Pb**	**08 36 15.1**	**-0.9**
AKHS				S		**Sb**	**08 36 30.5**	**+0.1**
AKS	**Akhisar**	**1.10**	**29**	PN		**Pb**	**08 36 15.2**	**-0.8**
AKS	**Akhisar**	**1.10**	**29**	*e*Pn		**Pb**	**08 36 15.2**	**-0.8**
DKL	**Dikili**	**1.17**	**351**	PN		**Pb**	**08 36 17.0**	**-0.1**
DKL	**Dikili**	**1.17**	**351**	*e*Pn		**Pb**	**08 36 17.0**	**-0.1**
YER	**Yerkesik**	**1.20**	**130**	PN		**Pg**	**08 36 17.5**	**-0.5**
YER	**Yerkesik**	**1.20**	**130**	P		**Pg**	**08 36 17.6**	**-0.5**
YER				S		**Sn**	**08 36 33.0**	**-0.9**
YER	**Yerkesik**	**1.20**	**130**	P		**Pg**	**08 36 17.6**	**-0.5**
YER				S		**Sn**	**08 36 33.0**	**-0.9**
NISR	**Nisiros**	**1.30**	**180**	P		**Pn**	**08 36 15.5**	**-3.5**
NISR	**Nisiros**	**1.30**	**180**	P		**Pn**	**08 36 16.3**	**-2.6**
KULA	**Kula-Manisa**	**1.34**	**63**	PN		**Pg**	**08 36 20.3**	**-0.6**
KULA	**Kula-Manisa**	**1.34**	**63**	*e*Pn		**Pg**	**08 36 20.3**	**-0.6**
PSRA	**Psara**	**1.39**	**297**	P		**Pb**	**08 36 22.0**	**+0.4**
PSRA				S		**Sg**	**08 36 41.2**	**+1.6**
PSRA				AML	AML		08 36 41.9	
	comp=N,2612μm,0.3s							
PSRA				AML	AML		08 36 42.0	
	comp=E,2307μm,0.2s							
PSRA	**Psara**	**1.39**	**297**	P		**Pb**	**08 36 21.0**	**+0.2**
PSRA				S		**Sg**	**08 36 40.4**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.48**	**107**	*i* P		**Pg**	**08 36 23.3**	**-0.2**
TAVA				*i* S		**Sg**	**08 36 45.7**	**+3.0**
TAVA	**DENIZLI_Tavas**	**1.48**	**107**	P		**Pg**	**08 36 23.3**	**-0.2**
TAVA				S		**Sg**	**08 36 45.7**	**+3.0**
PRK	**Paraskevi**	**1.49**	**333**	P		**Pn**	**08 36 21.0**	**-0.6**
PRK				S		**Sb**	**08 36 41.9**	**+0.4**
PRK				AML	AML		08 36 44.6	
	comp=N,5204μm,0.6s							
PRK				AML	AML		08 36 45.8	
	comp=E,4129μm,0.7s							
PRK	**Paraskevi**	**1.49**	**333**	P		**Pn**	**08 36 21.1**	**-0.5**
PRK				S		**Sb**	**08 36 41.9**	**+0.4**
PRK	**Paraskevi**	**1.49**	**333**	P		**Pn**	**08 36 21.1**	**-0.5**
PRK				S		**Sg**	**08 36 42.5**	**-0.5**
APE	**Apeiranthos**	**1.53**	**237**	PN		**Pn**	**08 36 21.9**	**-0.2**
APE	**Apeiranthos**	**1.53**	**237**	P		**Pn**	**08 36 21.1**	**-1.0**
APE				AML	AML		08 36 48.4	
	comp=N,852μm,0.2s							
APE				AML	AML		08 36 51.5	
	comp=E,799μm,0.4s							
APE	**Apeiranthos**	**1.53**	**237**	P		**Pn**	**08 36 21.4**	**-0.7**
APE	**Apeiranthos**	**1.53**	**237**	*e*Pn		**Pn**	**08 36 21.9**	**-0.2**
APE				S		**Sg**	**08 36 44.0**	**-0.2**
APE	**Apeiranthos**	**1.53**	**237**	P		**Pn**	**08 36 21.3**	**-0.8**
APE				S		**Sg**	**08 36 44.0**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.53**	**17**	*i* P		**Pn**	**08 36 22.0**	**-0.2**
STEP				*i* S		**Sb**	**08 36 42.8**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.53**	**17**	P		**Pn**	**08 36 22.0**	**-0.2**
STEP				S		**Sb**	**08 36 42.8**	**+0.1**
TURN	**Turunc**	**1.57**	**131**	PN		**Pn**	**08 36 20.6**	**-2.0**
TURN	**Turunc**	**1.57**	**131**	*i* P		**Pn**	**08 36 20.7**	**-1.9**
TURN				*i* S		**Sb**	**08 36 42.6**	**-1.0**
TURN	**Turunc**	**1.57**	**131**	P		**Pn**	**08 36 20.7**	**-1.9**
TURN				S		**Sb**	**08 36 42.6**	**-1.0**
TNSA	**Tinos**	**1.60**	**257**	P		**Pn**	**08 36 21.3**	**-1.8**
TNSA	**Tinos**	**1.60**	**257**	P		**Pn**	**08 36 22.1**	**-1.0**
DALY	**Dalyan (Mu¸la**	**1.63**	**132**	PN		**Pb**	**08 36 24.2**	**-0.8**
DALY	**Dalyan (Mu¸la**	**1.63**	**132**	*i* P		**Pb**	**08 36 24.5**	**-0.5**
DALY				*i* S		**Sg**	**08 36 49.9**	**+2.4**
DALY	**Dalyan (Mu¸la**	**1.63**	**132**	*e*Pn		**Pb**	**08 36 24.2**	**-0.8**
DALY	**Dalyan (Mu¸la**	**1.63**	**132**	P		**Pb**	**08 36 24.5**	**-0.5**
DALY				S		**Sg**	**08 36 49.9**	**+2.4**
SIGR	**SIGRI**	**1.64**	**323**	PN		**Pn**	**08 36 24.0**	**+0.4**
SIGR	**SIGRI**	**1.64**	**323**	P		**Pn**	**08 36 23.4**	**-0.2**
SIGR				S		**Sn**	**08 36 45.3**	**+0.7**
SIGR				AML	AML		08 36 49.1	
	comp=N,1102μm,0.5s							
SIGR				AML	AML		08 36 50.7	
	comp=E,1067μm,0.4s							
SIGR	**SIGRI**	**1.64**	**323**	P		**Pn**	**08 36 23.4**	**-0.2**
SIGR	**SIGRI**	**1.64**	**323**	*e*Pn		**Pn**	**08 36 24.0**	**+0.4**
SIGR				S		**Sn**	**08 36 45.4**	**+0.8**
SIGR	**SIGRI**	**1.64**	**323**	P		**Pn**	**08 36 23.2**	**-0.4**
SIGR				S		**Sb**	**08 36 46.1**	**+0.4**
DEMI	**Demirci**	**1.68**	**47**	*i* P		**Pb**	**08 36 25.4**	**-0.5**
DEMI				*i* S		**Sg**	**08 36 47.4**	**-1.6**
DEMI	**Demirci**	**1.68**	**47**	P		**Pb**	**08 36 25.4**	**-0.5**
DEMI				S		**Sg**	**08 36 47.4**	**-1.6**
BALB	**Balikesir**	**1.82**	**19**	PN		**Pb**	**08 36 27.6**	**-0.6**
BALB	**Balikesir**	**1.82**	**19**	*e*Pn		**Pb**	**08 36 27.6**	**-0.6**
BALY	**Balya**	**1.86**	**12**	*i* P		**Pn**	**08 36 24.4**	**-2.3**
BALY				*i* S		**Sb**	**08 36 52.2**	**0.0**
BALY	**Balya**	**1.86**	**12**	P		**Pn**	**08 36 24.4**	**-2.3**
BALY				S		**Sb**	**08 36 52.2**	**0.0**
SIMA	**Simav-Kutahya**	**1.86**	**51**	PN		**Pb**	**08 36 27.7**	**-1.3**
SIMA	**Simav-Kutahya**	**1.86**	**51**	*e*Pn		**Pb**	**08 36 27.7**	**-1.3**
ARG	**Arkhangelos**	**1.87**	**155**	P		**Pn**	**08 36 24.6**	**-2.2**
ARG				AML	AML		08 37 03.7	
	comp=N,378μm,0.5s							
ARG				AML	AML		08 37 04.5	
	comp=E,472μm,0.5s							
ARG	**Arkhangelos**	**1.87**	**155**	P		**Pn**	**08 36 24.7**	**-2.2**
BAYC	**CANAKKALE_Bayr**	**1.88**	**346**	*i* P		**Pn**	**08 36 26.2**	**-0.8**
BAYC				*i* S		**Sn**	**08 36 49.4**	**-1.2**
BAYC	**CANAKKALE_Bayr**	**1.88**	**346**	P		**Pn**	**08 36 26.2**	**-0.8**
BAYC				S		**Sn**	**08 36 49.4**	**-1.2**
ANAF	**Anafi Island**	**1.90**	**215**	P		**Pn**	**08 36 27.5**	**+0.4**
ANAF				AML	AML		08 37 03.1	
	comp=E,3374μm,0.3s							
ANAF				AML	AML		08 37 06.4	
	comp=N,3818μm,0.3s							
ANAF	**Anafi Island**	**1.90**	**215**	P		**Pn**	**08 36 26.9**	**-0.3**
KHAL	**Karahalli**	**1.92**	**76**	*i* P		**Pn**	**08 36 27.8**	**+0.3**
KHAL				*i* S		**Sn**	**08 36 51.8**	**+0.1**
KHAL	**Karahalli**	**1.92**	**76**	P		**Pn**	**08 36 27.8**	**+0.3**
KHAL				S		**Sn**	**08 36 51.8**	**+0.1**
THR2	**Thira island,**	**2.00**	**223**	P		**Pn**	**08 36 26.3**	**-2.2**
THR2	**Thira island,**	**2.00**	**223**	P		**Pn**	**08 36 27.1**	**-1.4**
EZN	**Ezine**	**2.01**	**342**	PN		**Pn**	**08 36 29.6**	**+0.9**
EZN	**Ezine**	**2.01**	**342**	*e*Pn		**Pn**	**08 36 29.6**	**+0.9**
FETY	**Fethiye**	**2.01**	**129**	PN		**Pn**	**08 36 29.6**	**+0.8**
FETY	**Fethiye**	**2.01**	**129**	P		**Pn**	**08 36 29.0**	**+0.2**
FETY	**Fethiye**	**2.01**	**129**	*e*Pn		**Pn**	**08 36 29.6**	**+0.8**
FETY				S		**Sn**	**08 36 54.1**	**+0.2**
FETY	**Fethiye**	**2.01**	**129**	P		**Pn**	**08 36 29.6**	**-0.7**
SANT	**Santorini**	**2.04**	**221**	P		**Pn**	**08 36 29.8**	**+0.7**
SANT				AML	AML		08 37 05.9	
	comp=E,1342μm,0.3s							
SANT				AML	AML		08 37 06.0	
	comp=N,301μm,0.1s							
SANT	**Santorini**	**2.04**	**221**	P		**Pn**	**08 36 29.2**	**0.0**
THR3	**Thira Island,**	**2.04**	**223**	P		**Pn**	**08 36 29.1**	**-0.1**
THR3	**Thira Island,**	**2.04**	**223**	P		**Pn**	**08 36 28.8**	**-0.3**
THR3	**Thira Island,**	**2.04**	**223**	P		**Pn**	**08 36 29.1**	**-0.1**
THT1	**Athinios (Pele**	**2.04**	**222**	P		**Pn**	**08 36 28.5**	**-0.7**
THT1				S		**Sn**	**08 36 54.1**	**-0.5**
THT1	**Athinios (Pele**	**2.04**	**222**	P		**Pn**	**08 36 28.5**	**-0.7**
THT1				S		**Sn**	**08 36 54.3**	**-0.3**
GOLH	**Golhisar**	**2.04**	**109**	*i* P		**Pn**	**08 36 29.8**	**+0.5**
GOLH				*i* S		**Sg**	**08 37 02.1**	**+1.4**
GOLH	**Golhisar**	**2.04**	**109**	P		**Pn**	**08 36 29.8**	**+0.5**
DST	**Dursunbey**	**2.05**	**34**	PN		**Pb**	**08 36 30.5**	**-1.7**
DST	**Dursunbey**	**2.05**	**34**	*e*Pn		**Pb**	**08 36 30.5**	**-1.7**
THR5	**Thira Island,**	**2.06**	**224**	P		**Pn**	**08 36 30.3**	**+0.8**
THR5	**Thira Island,**	**2.06**	**224**	P		**Pn**	**08 36 29.6**	**+0.1**
KARY	**Karystos**	**2.13**	**274**	P		**Pn**	**08 36 29.2**	**-1.2**
KARY	**Karystos**	**2.13**	**274**	P		**Pn**	**08 36 29.9**	**-0.5**
GONE	**Gonen-Balikesi**	**2.17**	**11**	PN		**Pn**	**08 36 31.9**	**+0.9**
GONE	**Gonen-Balikesi**	**2.17**	**11**	*e*Pn		**Pn**	**08 36 31.9**	**+0.9**
GDZ	**Gediz**	**2.19**	**57**	*i* P		**Pb**	**08 36 33.3**	**-1.2**
GDZ				*i* S		**Sb**	**08 37 00.9**	**-0.7**
GDZ	**Gediz**	**2.19**	**57**	P		**Pb**	**08 36 33.3**	**-1.2**
GDZ				S		**Sb**	**08 37 00.9**	**-0.7**
SERI	**Serifos**	**2.23**	**251**	P		**Pn**	**08 36 29.9**	**-1.9**
SERI	**Serifos**	**2.23**	**251**	P		**Pn**	**08 36 30.8**	**-1.0**
KARP	**Karpathos**	**2.36**	**179**	PN		**Pn**	**08 36 34.7**	**+1.1**
KARP	**Karpathos**	**2.36**	**179**	P		**Pn**	**08 36 34.6**	**+1.0**
KARP				AML	AML		08 37 17.1	
	comp=E,135μm,0.4s							
KARP				AML	AML		08 37 25.8	
	comp=N,150μm,0.5s							
KARP	**Karpathos**	**2.36**	**179**	P		**Pn**	**08 36 33.4**	**-0.2**
KARP	**Karpathos**	**2.36**	**179**	*e*Pn		**Pn**	**08 36 34.7**	**+1.1**
TVSB	**Tavsanli**	**2.38**	**49**	PN		**Pn**	**08 36 35.1**	**+1.1**
TVSB	**Tavsanli**	**2.38**	**49**	*e*Pn		**Pn**	**08 36 35.1**	**+1.1**
GADA	**Gvkgeada**	**2.47**	**337**	PN		**Pn**	**08 36 35.7**	**+0.7**
GADA	**Gvkgeada**	**2.47**	**337**	*e*Pn		**Pn**	**08 36 35.7**	**+0.7**
LPK	**Lapseki**	**2.47**	**353**	PN		**Pn**	**08 36 36.2**	**+1.1**
LPK	**Lapseki**	**2.47**	**353**	*e*Pn		**Pn**	**08 36 36.2**	**+1.1**
KRBG	**Karabiga-Canak**	**2.48**	**3**	PN		**Pn**	**08 36 34.6**	**-0.6**
KRBG	**Karabiga-Canak**	**2.48**	**3**	*e*Pn		**Pn**	**08 36 34.6**	**-0.6**
EDC	**Edincik**	**2.50**	**13**	PN		**Pn**	**08 36 36.5**	**+1.1**
EDC	**Edincik**	**2.50**	**13**	*e*Pn		**Pn**	**08 36 36.5**	**+1.1**
LIA	**Limnos Island**	**2.50**	**323**	P		**Pn**	**08 36 35.2**	**-0.2**
LIA				AML	AML		08 37 16.8	
	comp=E,291μm,0.5s							
LIA				AML	AML		08 37 24.4	
	comp=N,199μm,0.6s							
LIA	**Limnos Island**	**2.50**	**323**	P		**Pn**	**08 36 35.4**	**0.0**
ELL	**Elmali**	**2.50**	**117**	PN		**Pn**	**08 36 36.8**	**+1.2**
ELL	**Elmali**	**2.50**	**117**	*e*Pn		**Pn**	**08 36 36.8**	**+1.2**
GELI	**Tayfur-Gelibol**	**2.53**	**349**	PN		**Pn**	**08 36 35.9**	**0.0**
GELI	**Tayfur-Gelibol**	**2.53**	**349**	*e*Pn		**Pn**	**08 36 35.9**	**0.0**
KCTX	**Karacabey (Bur**	**2.53**	**22**	PN		**Pn**	**08 36 37.1**	**+1.1**
KCTX	**Karacabey (Bur**	**2.53**	**22**	*e*Pn		**Pn**	**08 36 37.1**	**+1.1**
PTL	**Penteli**	**2.58**	**274**	P		**Pn**	**08 36 36.6**	**-0.1**
PTL				AML	AML		08 37 30.5	
	comp=N,97μm,0.6s							
PTL				AML	AML		08 37 37.3	
	comp=E,95μm,0.6s							
PTL	**Penteli**	**2.58**	**274**	P		**Pn**	**08 36 36.7**	**0.0**
AKAS	**Kas**	**2.59**	**130**	PN		**Pn**	**08 36 37.8**	**+0.9**
AKAS	**Kas**	**2.59**	**130**	*e*Pn		**Pn**	**08 36 37.8**	**+0.9**
ATHU	**Athens Univers**	**2.65**	**272**	P		**Pn**	**08 36 36.4**	**-1.1**
ATHU				AML	AML		08 37 31.9	
	comp=E,28μm,0.4s							
ATHU				AML	AML		08 37 34.1	
	comp=N,37μm,0.6s							
ATHU	**Athens Univers**	**2.65**	**272**	P		**Pn**	**08 36 37.1**	**-0.4**
KORT	**Korkueli**	**2.72**	**109**	PN		**Pn**	**08 36 39.7**	**+1.1**
KORT	**Korkueli**	**2.72**	**109**	*e*Pn		**Pn**	**08 36 39.7**	**+1.1**
SHUT	**Suhut-Afyon**	**2.77**	**76**	PN		**Pn**	**08 36 40.5**	**+1.2**
SHUT	**Suhut-Afyon**	**2.77**	**76**	*e*Pn		**Pn**	**08 36 40.5**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.77**	**1**	PN		**Pn**	**08 36 39.4**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.77**	**1**	*e*Pn		**Pn**	**08 36 39.4**	**+0.2**
ERIK	**Erikli-Kesan**	**2.79**	**350**	PN		**Pn**	**08 36 39.9**	**+0.4**
ERIK	**Erikli-Kesan**	**2.79**	**350**	*e*Pn		**Pn**	**08 36 39.9**	**+0.4**
SMTH	**Samothraki Isl**	**2.84**	**335**	P		**Pn**	**08 36 39.5**	**-0.7**
SMTH				AML	AML		08 37 29.0	
	comp=E,77μm,0.6s							
SMTH				AML	AML		08 37 30.1	
	comp=N,78μm,0.4s							
SMTH	**Samothraki Isl**	**2.84**	**335**	P		**Pn**	**08 36 39.8**	**-0.4**
ZKR	**Zakros**	**2.89**	**195**	PN		**Pn**	**08 36 41.8**	**+1.0**
ZKR	**Zakros**	**2.89**	**195**	*e*Pn		**Pn**	**08 36 41.8**	**+1.0**
ARMT	**Armutlu**	**2.97**	**26**	PN		**Pn**	**08 36 43.

LAKA				S	Sg	08 41 44.1	+0.5
KALE	**Kalithea**	**0.74**	**115**	P	Pb	08 41 33.0	-1.0
KALE				S	Sn	08 41 46.5	+0.6
KALE	**Kalithea**	**0.74**	**115**	P	Pb	08 41 33.6	-0.4
KALE				S	Sn	08 41 45.6	-0.3
VLS	**Valsamata**	**0.77**	**226**	P	Pb	08 41 32.6	-1.8
VLS				S	Sn	08 41 47.0	+0.7
VLS				AML	AML	08 41 47.1	
	comp=E,61μm,0.1s						
VLS				AML	AML	08 41 49.5	
	comp=N,66μm,0.2s						
VLS	**Valsamata**	**0.77**	**226**	P	Pb	08 41 33.6	-0.8
VLS				S	Sn	08 41 46.2	-0.2
DRO	**Drossia**	**0.83**	**156**	P	Pb	08 41 34.0	-1.5
DRO				S	Sn	08 41 48.3	+0.3
DRO				AML	AML	08 41 50.2	
	comp=E,170μm,0.3s						
DRO				AML	AML	08 41 50.7	
	comp=N,192μm,0.3s						
DRO	**Drossia**	**0.83**	**156**	P	Pb	08 41 34.8	-0.7
DRO				S	Sn	08 41 47.9	-0.1
AGG	**Agios Georgios**	**0.87**	**69**	P	Pg	08 41 36.6	-0.2
AGG				S	Sn	08 41 50.7	+1.6
AGG				AML	AML	08 41 51.2	
	comp=N,165μm,0.3s						
AGG				AML	AML	08 41 51.3	
	comp=E,138μm,0.3s						
AGG	**Agios Georgios**	**0.87**	**69**	P	Pg	08 41 36.6	-0.2
AGG				S	Sn	08 41 49.7	+0.6
KLV	**Kalavryta, Ach**	**0.95**	**134**	P	Pb	08 41 36.4	-1.2
KLV				S	Sn	08 41 52.7	+1.5
KLV				AML	AML	08 42 00.5	
	comp=E,21μm,0.7s						
KLV				AML	AML	08 42 00.6	
	comp=N,14μm,0.7s						
KLV	**Kalavryta, Ach**	**0.95**	**134**	P	Pb	08 41 37.2	-0.4
KLV				S	Sn	08 41 52.0	+0.9

*ISCJB **18** 08:43:40.7±0.8,2°.9N±0°.1×94°.11E±0°.07,h18km,mb4.0/11, MS2.9/1, Error ellipse: s-maj=16.7km s-min=7.0km az=32.6*

*IDC **18** 08:43:40.3±1.1,2°.91N×94°.15E, h0km,mb4.0/8,mb1 4.1/9, mb1mx3.7/63,mbtmp4.0/9,ML4.3/1,MS2.7/2,Ms1 2.7/2, ms1mx2.3/63, Error ellipse: s-maj=43.3km s-min=18.0km az=54.0*

*NEIC **18** 08:43:41.2±0.7,2°.91N×94°.11E,h10km,mb4.0/4, Error ellipse: s-maj=16.2km s-min=7.9km az=222.0*

*DJA **18** 08:43:46.3±2.5,3°.N±11°.×9°.4E±2°.0,h10km,M3.6/2, MLv3.6/2*

ISC 18 08:43:42.6±0.9,3°.0N±0°.1×94°.18E±0°.10,h18km,n27, σ1°.49/25,mb4.1/11,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.58**	**59**	P	**Pn**	**08 44 24.5**	**+1.0**
TPTI		**3.01**	**84**	P	**Pn**	**08 44 30.6**	**+1.1**
KCSI	**Kotacane, Aceh**	**3.63**	**81**	P	**Pn**	**08 44 40.3**	**+2.3**
GSI	**Gunungsitoli**	**3.77**	**116**	P	**Pn**	**08 44 40.5**	**+0.6**
GSI				S	**Sn**	**08 45 22.9**	**-0.9**
GSI	**Gunungsitoli**	**3.77**	**116**	*e*Pn	**Pn**	**08 44 40.1**	**+0.3**
GSI				*e*Sn	**Sn**	**08 45 22.5**	**-1.3**
IPM	**Ipoh**	**7.00**	**77**	*e*Pn	**Pn**	**08 45 25.8**	**+1.5**
	6.7nm,0.5s						
PALK	**Pallekele**	**14.09**	**288**	LR	LR	08 51 49.0	
	comp=Z,18nm,20.8s,baz=116,slow=35						
CMAR	**Chiang Mai Arr**	**16.10**	**17**	Pn	**Pn**	**08 47 28.6**	**+0.4**
	0.4nm,0.3s,baz=228,slow=12,SNR=8.8						
KSM	**Kuching**	**16.18**	**95**	*e*Pn	**Pn**	**08 47 29.2**	**-0.1**
	7.5nm,0.9s						
CHTO	**Chiang Mai**	**16.44**	**16**	*e*Pn	**Pn**	**08 47 27.2**	**-5.3**
H08S2	**Diego Garcia H**	**24.06**	**244**	T	T	09 14 00.7	
	baz=64,slow=75,SNR=112						
H08S3	**Diego Garcia H**	**24.06**	**244**	T	T	09 14 00.9	
	baz=64,slow=75,SNR=173						
H08S1	**Diego Carcia H**	**24.08**	**244**	T	T	09 14 02.0	
	baz=64,slow=75,SNR=102						
LSA	**Lhasa**	**26.76**	**354**	*e*P	**P**	**08 49 20.8**	**-1.2**
	2.8nm,0.6s						
MKAR	**Makanchi Array**	**44.88**	**348**	P	**P**	**08 51 56.9**	**+0.9**
	1.0nm,0.5s,baz=166,slow=8.7,SNR=20						
WRA	**Warramunga Arr**	**45.52**	**122**	P	**P**	**08 52 01.9**	**+0.4**
	0.9nm,0.6s,baz=303,slow=8.6,SNR=6.3						
JNU	**Nakatsue**	**45.59**	**45**	LR	LR	09 15 38.5	
	comp=Z,14nm,18.3s,baz=300,slow=42						
SONM	**Songino Array**	**45.94**	**11**	P	**P**	**08 52 05.1**	**+0.5**
	1.4nm,0.6s,baz=192,slow=8.2,SNR=13						
ULN	**Ulaanbaatar**	**46.10**	**12**	*e*P	**P**	**08 52 05.9**	**0.0**
	1.0nm,0.3s						
ASAR	**Alice Springs**	**46.85**	**127**	P	**P**	**08 52 12.5**	**+0.5**
	0.7nm,0.4s,baz=295,slow=7.9,SNR=14						
ASAR				PcP	**PcP**	**08 53 45.6**	**+0.7**
	0.3nm,0.6s,baz=299,slow=3.7,SNR=4.5						
GEYT	**Alibeck**	**47.96**	**321**	P	**P**	**08 52 21.3**	**+0.9**
	0.7nm,0.3s,baz=72,slow=9.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**49.31**	**347**	P	**P**	**08 52 31.2**	**+0.7**
	1.0nm,0.5s,baz=169,slow=7.0,SNR=11						
KURK	**Kurchatov**	**49.38**	**347**	P	**P**	**08 52 31.2**	**+0.2**
ZALV	**Zalesovo Beam**	**51.41**	**353**	P	**P**	**08 52 47.2**	**+0.8**
	1.5nm,0.4s,baz=186,slow=8.1,SNR=8.3						
ABKAR	**Akbulak array**	**54.58**	**333**	*e*P	**P**	**08 53 09.3**	**-0.5**
	0.4nm,0.6s						
IDI	**Anoyia**	**71.44**	**306**	P	**P**	**08 55 02.7**	**+0.4**
	2.8nm,0.8s,baz=100,slow=11,SNR=3.1						
TXAR	**Lajitas Array**	**143.62**	**27**	PKP	**PKPdf**	**09 03 16.0**	**-1.4**
	0.1nm,0.4s,baz=327,slow=1.5,SNR=2.9						

IDC 18 08:50:44.1±7.1,7°.56N×102°.54W,h0km,mb3.3/4, mb1 3.8/5,mb1mx3.5/39,mbtmp3.4/5,ML3.2/1,MS3.2/15, Ms1 3.2/15,ms1mx3.2/23,Error ellipse: s-maj=139.5km s-min=64.5km az=149.0,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.07**	**38**	Pn	Pn	08 53 37.5	0.0
	0.2nm,0.3s,baz=212,slow=14,SNR=4.5						
CMIG				LR	LR	08 57 14.9	
	comp=Z,275nm,18.2s,baz=202,slow=32						
LPIG	**La Paz**	**18.05**	**337**	LR	LR	08 59 53.9	
	comp=Z,104nm,19.5s,baz=212,slow=30						
TXAR	**Lajitas Array**	**21.69**	**357**	P	P	08 55 36.7	-0.1
	0.9nm,0.8s,baz=175,slow=11,SNR=7.2						
TXAR				LR	LR	09 03 55.0	
	comp=Z,44nm,18.4s,baz=0.0,slow=36						
ANMO	**Albuquerque**	**27.49**	**353**	LR	LR	09 05 36.8	
	comp=Z,55nm,18.9s,baz=302,slow=32						
ATAH	**Atahualpa**	**28.16**	**121**	LR	LR	09 06 05.8	
	comp=Z,77nm,20.0s,baz=327,slow=33						
SDV	**Santo Domingo**	**31.60**	**85**	LR	LR	09 09 10.2	
	comp=Z,26nm,19.1s,baz=70,slow=35						
TKL	**Tuckaleechee C**	**32.83**	**29**	LR	LR	09 11 43.2	
	comp=Z,32nm,18.1s,baz=120,slow=38						
NVAR	**Mina Array Bea**	**33.87**	**337**	LR	LR	09 08 29.9	
	comp=Z,49nm,18.3s,baz=265,slow=32						
RPN	**Rapa Nui**	**35.10**	**191**	LR	LR	09 07 40.5	
	comp=Z,27nm,21.7s,baz=40,slow=29						
PDAR	**Pinedale Array**	**35.61**	**351**	P	P	08 57 43.8	-0.1
	0.4nm,0.8s,baz=166,slow=8.0,SNR=3.5						
SJG	**San Juan**	**35.93**	**70**	LR	LR	09 12 27.0	
	comp=Z,36nm,18.9s,baz=274,slow=35						
TAOE	**Nuku Hiva Isla**	**40.87**	**247**	*e*LR	LR	09 09 28.3	
	66nm,26.6s						
LPAZ	**La Paz**	**41.49**	**125**	LR	LR	09 14 54.5	
	comp=Z,29nm,20.3s,baz=308,slow=35						
ULM	**Lac du Bonnet**	**42.91**	**6**	LR	LR	09 15 41.5	
	comp=Z,30nm,19.9s,baz=306,slow=35						
RKT	**Rikitea**	**44.00**	**225**	*e*T	T	09 46 00.7	
	3.6nm,0.3s						
SIV	**San Ignacio**	**47.26**	**120**	LR	LR	09 17 39.1	
	comp=Z,69nm,20.4s,baz=7.0,slow=34						
PPT	**Papeete**	**52.74**	**241**	LR	LR	09 15 36.1	
	comp=Z,29nm,19.6s,baz=68,slow=28						
PPT2	**Papeete2**	**52.75**	**241**	*e*LR	LR	09 14 54.2	
	62nm,25.0s						
YKA	**Yellowknife Ar**	**55.53**	**353**	P	P	09 00 20.8	0.0
	0.2nm,0.7s,baz=160,slow=8.2,SNR=4.4						
YKA				LR	LR	09 23 29.1	
	comp=Z,5.6nm,18.2s,baz=180,slow=35						
ILAR	**Eielson Array**	**65.04**	**341**	P	P	09 01 25.9	-0.1
	0.8nm,0.8s,baz=147,slow=4.5,SNR=7.5						

*IDC **18** 09:04:00.9±3.8,38°.14N×73°.70E,h114km±29km,mb3.5/11, mb1 3.5/15,mb1mx3.3/71,mbtmp3.8/15,Error ellipse: s-maj=27.9km s-min=17.7km az=5.0*

*ISCJB **18** 09:04:04.7±0.7,38°.50N±0°.06×73°.65E±0°.07,h150km, mb3.6/11,Error ellipse: s-maj=8.2km s-min=8.0km az=13.5*

*NNC **18** 09:04:05.2±1.7,38°.51N×73°.53E,h149km±8km,mb2.9, mpv3.7,Error ellipse: s-maj=15.9km s-min=14.3km az=69.0*

ISC 18 09:04:04.6±1.1,38°.52N±0°.09×73°.60E±0°.08,h150km,n38, σ2°.90/39,mb3.7/11,11C-4D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.49**	**357**	⇑P	**Pn**	**09 04 34.8**	**+0.5**
	39nm,0.2s						
SFK				⇑S	**Sn**	**09 04 57.8**	**+0.6**
	523nm,0.3s						
KSH	**Kashi**	**2.10**	**61**	Pg	Pn	09 04 33.8	-7.2
KSH				Sg	Sn	09 04 52.8	-16
AML	**Almayashu**	**3.61**	**1**	P	**Pn**	**09 05 01.3**	**+1.2**
	SNR=28						
UCH	**Uchtor**	**3.77**	**10**	P	**Pn**	**09 05 03.4**	**+1.1**
	SNR=26						
KZA	**Kyzart**	**3.77**	**19**	P	**Pn**	**09 05 02.6**	**+0.4**
	SNR=18						
MNAS	**Manas**	**4.05**	**348**	⇓Pn	**Pn**	**09 05 07.1**	**+1.5**
	9.5nm,0.4s						
MNAS				⇑Sn	**Sn**	**09 05 54.6**	**+1.6**
	55nm,0.4s						
EKS2	**Erkin-Say**	**4.14**	**2**	P	**Pn**	**09 05 08.5**	**+1.8**
	SNR=19						
AAK	**Ala-Archa**	**4.17**	**9**	P	**Pn**	**09 05 08.7**	**+1.5**
	1.9nm,0.3s,baz=142,slow=5.7,SNR=21						
AAK				S	**Sn**	**09 05 59.6**	**+3.8**
	3.6nm,0.3s,baz=335,slow=16,SNR=18						
AAK	**Ala-Archa**	**4.17**	**9**	⇑Pn	**Pn**	**09 05 08.4**	**+1.3**
	3.3nm,0.5s						
AAK				⇑Sn	**Sn**	**09 05 58.2**	**+2.3**
	34nm,0.6s						
AAK	**Ala-Archa**	**4.17**	**9**	P	**Pn**	**09 05 08.5**	**+1.3**
	SNR=9.9						
ULHL	**Ulahol**	**4.23**	**28**	P	**Pn**	**09 05 08.7**	**+0.6**
	SNR=7.4						
TKM2	**Tokmak 2**	**4.65**	**18**	⇑Pn	**Pn**	**09 05 14.2**	**+0.7**
	7.2nm,0.8s						
TKM2				⇑Sn	**Sn**	**09 06 08.6**	**+1.4**
	19nm,0.8s						
TKM2	**Tokmak 2**	**4.65**	**18**	P	**Pn**	**09 05 14.4**	**+0.9**
	SNR=14						
KK31	**Karatay Array**	**5.14**	**334**	⇓Pn	**Pn**	**09 05 21.3**	**+1.4**
	2.9nm,0.3s,baz=132,slow=12,SNR=154						
KK31				⇑Sn	**Sn**	**09 06 18.5**	**-0.1**
	21nm,0.4s,baz=143,slow=16,SNR=20						
PDGK	**Podgornoye**	**6.55**	**41**	⇑Pn	**Pn**	**09 05 37.4**	**-1.4**
	2.9nm,0.6s						
OTUK	**Ortayu**	**9.76**	**355**	⇓Pn	**Pn**	**09 06 21.2**	**-0.2**
	6.2nm,1.1s						
MKAR	**Makanchi Array**	**10.45**	**35**	P	**Pn**	**09 06 31.0**	**+0.6**
	0.1nm,0.3s,baz=201,slow=14,SNR=20						
WMQ	**Urumqi**	**11.86**	**59**	*e*P	**P**	**09 06 52.1**	**-3.8**
KURBB	**Kurchatov Arra**	**12.60**	**15**	P	**Pn**	**09 06 56.9**	**-1.5**
	0.0nm,0.3s,baz=201,slow=12,SNR=5.5						
AB31	**Akbulak array**	**14.54**	**322**	⇓Pn	**P**	**09 07 23.9**	**-1.6**
	1.0nm,0.6s,baz=137,slow=9.2,SNR=21						
AB31				Sn	**Sn**	**09 09 58.4**	**-5.9**
	0.6nm,0.5s,baz=152,slow=21,SNR=4.6						
BVA0	**Borovoye Array**	**14.68**	**352**	Pn	**P**	**09 07 26.0**	**-1.0**
	2.8nm,0.5s,baz=169,slow=6.0,SNR=19						
BVAR	**Borovoye Array**	**14.68**	**352**	P	**P**	**09 07 25.3**	**-1.7**
	0.2nm,0.3s,baz=158,slow=12,SNR=5.7						
AKTO	**Aktyubinsk**	**16.26**	**322**	P	**P**	**09 07 46.0**	**+1.5**
	0.4nm,0.3s,baz=135,slow=10,SNR=8.9						
AKTO				S	**S**	**09 10 41.7**	**-3.1**
	0.1nm,0.3s,baz=157,slow=19,SNR=3.8						
AKTO	**Aktyubinsk**	**16.26**	**322**	⇑Pn	**P**	**09 07 45.8**	**+1.2**
	3.8nm,0.8s						
AKTO				⇑Sn	**S**	**09 10 42.7**	**-2.1**
	3.8nm,1.1s						
ZALV	**Zalesovo Beam**	**17.23**	**23**	P	**Pn**	**09 07 56.4**	**+0.3**
	0.9nm,0.3s,baz=221,slow=11,SNR=11						
ARU	**Arti**	**20.52**	**336**	P	Pn	09 08 32.9	-1.8
	1.1nm,0.3s,baz=117,slow=9.0,SNR=3.7						
KVAR	**Kislovodsk Arr**	**23.79**	**293**	P	**P**	**09 09 05.8**	**+2.3**
	4.0nm,0.7s,baz=166,slow=4.2,SNR=2.6						
SONM	**Songino Array**	**25.50**	**58**	P	**P**	**09 09 20.6**	**+1.6**
	0.3nm,0.4s,baz=246,slow=7.3,SNR=4.1						
FINES	**FINESS Array B**	**37.02**	**324**	P	P	09 11 02.3	+2.9
	0.6nm,0.4s,baz=117,slow=11,SNR=12						
ARCES	**ARCESS Array B**	**40.10**	**336**	P	**P**	**09 11 27.1**	**+2.0**
	2.3nm,0.7s,baz=27,slow=8.2,SNR=5.4						
HFS	**Hagfors**	**42.79**	**320**	P	P	09 11 49.9	+2.8
	1.7nm,0.5s,baz=102,slow=10,SNR=16						
NB2	**NORSAR Subarra**	**44.05**	**322**	P	P	09 11 59.5	+2.3
	comp=Z,0.6nm,0.5s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.05**	**322**	P	P	09 11 59.5	+2.3
	comp=Z,0.7nm,0.6s,baz=92,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**67.82**	**269**	P	P	09 14 47.5	+0.7
	comp=Z,0.5nm,0.4s,baz=47,slow=5.5,SNR=7.4						
INK	**Inuvik**	**71.56**	**10**	P	**P**	**09 15 11.2**	**+2.4**
	comp=Z,0.6nm,0.4s,baz=111,slow=8.6,SNR=7.6						
KDAK	**Kodiak Island**	**76.54**	**23**	P	P	09 15 41.9	+4.1
	comp=Z,13nm,0.9s,baz=185,slow=6.2,SNR=3.7						
YKA	**Yellowknife Ar**	**79.11**	**4**	P	**P**	**09 15 53.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=346,slow=5.7,SNR=5.0						
WRA	**Warramunga Arr**	**81.35**	**124**	P	**P**	**09 16 02.7**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=324,slow=4.7,SNR=4.9						

KRSC 18 09:10:32.5±1.4,53°.74N×162°.74E,h67km±28km,ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.75**	**250**	*e*P	Pn	09 11 02.7	+2.0
SPN				*e*S	Sn	09 11 23.7	+1.7
KII	**Karymskiy**	**1.97**	**280**	*e*P	Pn	09 11 06.1	+2.4
KII				*e*S	Sn	09 11 28.9	+1.4
KZV	**Kizimen**	**1.98**	**315**	*e*P	Pn	09 11 06.4	+2.4
KZV				*e*S	Sn	09 11 29.6	+1.6
TUMD	**Tumrok D**	**2.00**	**318**	*e*P	Pn	09 11 05.9	+1.7
NLC	**Nalytchevo**	**2.11**	**256**	*e*P	Pn	09 11 07.8	+2.3
NLC				*e*S	Sn	09 11 32.4	+1.8
TUMR	**Tumrok**	**2.16**	**317**	*e*P	Pn	09 11 09.0	+2.6
SDLR	**Sedlovina**	**2.35**	**260**	*e*P	Pn	09 11 11.5	+2.6
SDLR				*e*S	Sn	09 11 38.4	+1.7
BKI	**Bering**	**2.39**	**51**	*e*P	Pn	09 11 10.2	+0.9
BKI				*e*S	Sn	09 11 36.2	-1.3
UGLR	**Uglovaya**	**2.40**	**259**	*e*P	Pn	09 11 12.7	+3.1
UGLR				*e*S	Sn	09 11 40.4	+2.5
SMAR	**Somma**	**2.40**	**260**	*e*P	Pn	09 11 12.4	+2.7
SMAR				*e*S	Sn	09 11 39.4	+1.3
AVH	**Avacha**	**2.44**	**260**	*e*P	Pn	09 11 13.2	+3.2
AVH				*e*S	Sn	09 11 41.4	+2.6
KRX	**Arik**	**2.47**	**263**	*e*P	Pn	09 11 13.5	+2.9
KRX				*e*S	Sn	09 11 41.8	+2.1
KBTR	**Krutoberegovo**	**2.48**	**1**	*e*P	Pn	09 11 11.8	+1.3
KMNR	**Kamenistaya**	**2.49**	**325**	*e*P	Pn	09 11 14.1	+3.3
KMNR				*e*S	Sn	09 11 42.9	+2.8
DALK	**Dalny**	**2.49**	**255**	*e*P	Pn	09 11 13.5	+2.8
DALK				*e*S	Sn	09 11 42.0	+2.1
KOK	**Koryaka**	**2.49**	**261**	*e*P	Pn	09 11 13.7	+2.9
KOK				*e*S	Sn	09 11 42.4	+2.3
PET	**Petropavlovsk**	**2.55**	**255**	*e*P	Pn	09 11 14.5	+3.0
PET				*e*S	Sn	09 11 43.5	+2.1
BZMR	**Bezymyannaya**	**2.56**	**330**	*e*P	Pn	09 11 15.3	+3.6
BZWR	**Bezymyannyi-We**	**2.58**	**331**	*e*P	Pn	09 11 15.2	+3.1
KRSR	**Krestovskiy**	**2.78**	**334**	*e*P	Pn	09 11 18.0	+3.2
KLY	**Klyuchi**	**2.85**	**336**	*e*P	Pn	09 11 18.2	+2.7
KLY				*e*S	Sn	09 11 49.9	+1.3
GNL	**Ganaly**	**2.85**	**271**	*e*P	Pn	09 11 19.7	+4.0
GNL				*e*S	Sn	09 11 52.7	+3.8
KOZ	**Kozyrevsk**	**2.85**	**326**	*e*P	Pn	09 11 19.6	+3.9
RUS	**Russkaya**	**2.86**	**245**	*e*P	Pn	09 11 18.3	+2.5
RUS				*e*S	Sn	09 11 50.0	+0.9
KRMR	**Karymshinskiy**	**2.91**	**254**	*e*P	Pn	09 11 19.6	+3.2
KRMR				*e*S	Sn	09 11 52.4	+2.2
SMKR	**Semkarok**	**2.94**	**346**	*e*P	Pn	09 11 20.2	+3.3
BDR	**Baidarnaya**	**2.97**	**343**	*e*P	Pn	09 11 20.8	+3.5
MTVR	**Mutnovka**	**3.02**	**247**	*e*P	Pn	09 11 21.1	+3.1
MTVR				*e*S	Sn	09 11 55.2	+2.1
SRKR	**Sorokina**	**3.06**	**344**	*e*P	Pn	09 11 21.9	+3.4
ESO	**Esso**	**3.20**	**315**	*e*P	Pn	09 11 23.5	+3.1
ESO				*e*S	Sn	09 11 59.2	+1.8
ASAK	**Asacha**	**3.22**	**247**	*e*P	Pn	09 11 24.3	+3.6
ASAK				*e*S	Sn	09 12 00.7	+2.8
APC	**Apacha**	**3.44**	**259**	*e*P	Pn	09 11 28.0	+4.3
APC				*e*S	Sn	09 12 07.2	+4.0
SKR	**Severo-Kuril's**	**5.09**	**236**	*e*S	Sn	09 12 44.8	+1.2
TILK	**Tilichiki**	**6.98**	**14**	*e*P	Pn	09 12 15.5	+3.6

*ISCJB **18** 09:16:40.2±0.5,56°.74N±0°.08×156°.9W±0°.1, h80km±9km, mb2.9/2, Error ellipse: s-maj=17.7km s-min=4.5km az=140.0*

*NEIC **18** 09:16:41.0±0.0,56°.75N×156°.92W,h65km,ML3.0(AEIC), After AEIC.*

*IDC **18** 09:16:42.8±6.5,56°.98N×156°.86W,h74km±47km,mb2.7/2, mb1 3.4/5,mb1mx2.9/78,mbtmp3.3/5,ML3.5/3,Error ellipse: s-maj=60.0km s-min=36.1km az=25.0*

ISC 18 09:16:41.3±1.0,56°.73N±0°.08×156°.88W±0°.07, h67km±14km,n26,σ0°.73/31,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNE	**Aniakchak Nort**	**0.67**	**286**	P	**Pn**	**09 16 55.3**	**-0.4**
ANNW	**Aniakchak Nort**	**0.77**	**288**	P	**Pn**	**09 16 56.6**	**-0.2**
CHGN	**Chignik**	**0.95**	**244**	P	**Pn**	**09 16 58.8**	**-0.2**
CHGN				S	**Sn**	**09 17 11.7**	**-0.4**
PLK3	**Peulik 3**	**1.01**	**19**	P	**Pn**	**09 17 00.6**	**+0.9**
PLK3				S	**Sn**	**09 17 14.7**	**+1.2**
VNHG	**Veniaminof 1**	**1.37**	**249**	P	**Pn**	**09 17 04.9**	**+0.5**
VNSG	**Veniaminof 6**	**1.37**	**245**	P	**Pn**	**09 17 04.4**	**0.0**
KABU	**Katmai Buttres**	**1.77**	**29**	P	**Pn**	**09 17 10.1**	**+0.4**
KABU				S	**Sn**	**09 17 31.9**	**+0.6**
KELA	**Mount Kelaz**	**1.82**	**19**	P	**Pn**	**09 17 10.2**	**-0.2**
OHAK	**Old Harbor**	**2.03**	**74**	P	**Pn**	**09 17 13.6**	**+0.5**
KARR	**Katmai Rainbow**	**2.12**	**33**	P	**Pn**	**09 17 14.7**	**+0.3**
KAPH	**Katmai Pasha**	**2.31**	**35**	P	**Pn**	**09 17 17.8**	**+0.7**
SDPT	**Sand Point**	**2.45**	**237**	P	**Pn**	**09 17 19.0**	**+0.2**
SDPT				S	**Sn**	**09 17 47.5**	**-0.1**
KDAK	**Kodiak Island**	**2.56**	**64**	P	**Pn**	**09 17 20.6**	**+0.3**
	13nm,0.3s,baz=265,slow=12,SNR=311						
KDAK				S	**Sn**	**09 17 50.1**	**-0.3**
	5.9nm,0.3s,baz=304,slow=23,SNR=19						
KDAK	**Kodiak Island**	**2.56**	**64**	P	**Pn**	**09 17 20.8**	**+0.4**
PS4A	**Pavlof South-4**	**3.12**	**246**	P	**Pn**	**09 17 28.4**	**+0.4**
DT1	**Dutton Round H**	**3.45**	**244**	P	**Pn**	**09 17 32.5**	**0.0**
RDWB	**Redoubt West**	**4.32**	**28**	P	**Pn**	**09 17 45.8**	**+1.3**
ISLZ	**Isanotski Laza**	**4.36**	**245**	P	**Pn**	**09 17 44.9**	**0.0**
BRLK	**Bradley Lake**	**4.39**	**44**	P	**Pn**	**09 17 45.0**	**-0.3**
SLKM	**Skilak Lake**	**5.14**	**40**	P	**Pn**	**09 17 55.5**	**-0.1**
SUA	**Susitna One**	**5.70**	**31**	P	**Pn**	**09 18 03.5**	**+0.2**
RC01	**Rabbit Creek A**	**5.72**	**37**	P	**Pn**	**09 18 03.3**	**-0.2**
ILAR	**Eielson Array**	**9.42**	**27**	P	**Pn**	**09 18 51.8**	**-2.1**
	0.4nm,0.3s,baz=216,slow=13,SNR=35						
INK	**Inuvik**	**15.69**	**33**	P	**Pn**	**09 20 16.6**	**-1.3**
	0.1nm,0.3s,baz=237,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**21.82**	**57**	P	**P**	**09 21 26.8**	**-0.7**
	0.3nm,0.5s,baz=272,slow=9.7,SNR=10						
TXAR	**Lajitas Array**	**45.98**	**103**	P	**P**	**09 24 58.7**	**+1.1**
	0.1nm,0.4s,baz=298,slow=7.7,SNR=2.8						

IDC 18 09:17:40.6±31.0,20°.75S×176°.40W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.6/47,mbtmp3.9/4,MS3.7/2,Ms1 3.7/2, ms1mx2.7/40,Error ellipse: s-maj=563.3km s-min=158.1km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.95**	**264**	P	P	09 24 35.0	+0.3
	2.1nm,0.6s,baz=97,slow=15,SNR=3.7						
STKA	**Stephens Creek**	**39.03**	**245**	P	P	09 25 08.5	-0.7
	2.1nm,1.0s,baz=90,slow=16,SNR=3.0						
ASAR	**Alice Springs**	**45.92**	**257**	P	P	09 26 05.2	-0.3
	1.4nm,0.9s,baz=95,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**46.05**	**262**	P	P	09 26 06.7	+0.1
	1.4nm,1.0s,baz=96,slow=8.4,SNR=23						
WRA				LR	LR	09 44 59.7	
	comp=Z,72nm,19.1s,baz=285,slow=36						
TGY	**Tagaytay City**	**70.63**	**294**	LR	LR	09 55 19.8	
	comp=Z,70nm,21.2s,baz=114,slow=32						

*SOME **18** 09:19:44.1,43°.32N×81°.90E,h0km*

ISC 18 09:19:44.2±3.3,43°.3N±0°.1×81°.9E±0°.1,h18km±8km,n6, σ1°.35/12,2C-2D,Northern Xinjiang

| Code | Station Name | Δ° | AZ° |

ILAR	**Eielson Array**	**13.61**	**31**	Pn		**Pn**	**10 00 20.9**	**+1.8**
	0.1nm,0.3s,baz=220,slow=12,SNR=6.1							
INK	**Inuvik**	**19.99**	**33**	P		**P**	**10 01 36.3**	**-2.1**
	0.6nm,0.5s,baz=241,slow=9.7,SNR=7.1							
YKA	**Yellowknife Ar**	**26.42**	**52**	P		**P**	**10 02 43.8**	**+1.3**
	0.3nm,0.5s,baz=275,slow=9.7,SNR=5.8							
NVAR	**Mina Array Bea**	**34.24**	**98**	P		**P**	**10 03 53.6**	**+1.5**
	1.0nm,0.7s,baz=298,slow=8.7,SNR=8.0							
H11N2	**WAKE ISLAND Hy**	**41.09**	**225**	T		T	10 48 36.2	
	baz=26,slow=76,SNR=27							
H11N3	**WAKE ISLAND Hy**	**41.09**	**225**	T		T	10 48 36.7	
	baz=26,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**41.10**	**225**	T		T	10 48 37.9	
	baz=26,slow=76,SNR=23							
H11S1	**WAKE ISLAND Hy**	**42.26**	**225**	T		T	10 49 58.5	
	baz=26,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**42.27**	**225**	T		T	10 49 57.2	
	baz=26,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**42.28**	**225**	T		T	10 50 04.5	
	baz=26,slow=76,SNR=13							
TXAR	**Lajitas Array**	**49.23**	**95**	P		**P**	**10 05 55.3**	**+0.7**
	0.2nm,0.5s,baz=298,slow=5.6,SNR=4.6							

IDC ***18*** *09:57:59.4±0.9, 40.72N×145.30E, h0km, mb3.6/11, mb1 3.7/14, mb1mx3.5/68, mbtmp3.5/14, ML2.9/3, MS2.6/4, Ms1 2.6/4, ms1mx2.3/63, Error ellipse: s-maj=23.2km s-min=18.4km az=112.0*

NIED ***18*** *09:58:00, 40.80N×145.40E, h5km, Mw3.7 Best double couple: M₀3.93000×10¹⁴ NP1:φs177.00000°, δ41.00000°, λ-97.00000°. NP2:φs7.00000°, δ50.00000°, λ-84.00000°.*

JMA ***18*** *09:58:00.5±0.2, 40.82N×145.43E, h66km±3km, M3.7*

ISCJB ***18*** *09:58:02.1±0.5, 40.83N±0.03×145.19E±0.05, h33km, mb3.5/11, MS2.8/1, Error ellipse: s-maj=5.6km s-min=4.4km az=2.0*

ISC 18 09:58:03.0±1.1, 40.76N±0.05×145.29E±0.07, h35km, n38, σ1s98/46, mb3.5/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.03**	**309**	P	Pn	**09 58 33.8**	**-0.9**
JEM				S	**Sn**	**09 58 56.3**	**-2.6**
JAK	**Akkeshi**	**2.27**	**349**	P	**Pn**	**09 58 36.0**	**-2.0**
JAK				S	**Sn**	**09 59 02.9**	**-1.9**
JCH	**Churui**	**2.34**	**323**	P	**Pn**	**09 58 38.0**	**-1.0**
JCH				S	**Sn**	**09 59 03.7**	**-2.9**
JOB	**Onbets**	**2.40**	**334**	P	**Pn**	**09 58 38.9**	**-0.8**
JOB				S	**Sn**	**09 59 06.3**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.43**	**309**	P	**Pn**	**09 58 40.2**	**0.0**
JNBK				S	**Sn**	**09 59 08.3**	**-0.4**
NEM2	**Nemuro 2**	**2.62**	**7**	P	**Pn**	**09 58 41.0**	**-1.8**
NEM2				S	**Sn**	**09 59 09.6**	**-3.7**
JAR	**Ashorobuto**	**2.77**	**336**	P	**Pn**	**09 58 43.0**	**-1.9**
JAR				S	**Sn**	**09 59 13.6**	**-3.5**
JNK	**Nakash**	**2.85**	**352**	P	**Pn**	**09 58 43.6**	**-2.4**
JNK				*e*S	**Sn**	**09 59 14.6**	**-4.5**
JANG	**Nango**	**2.90**	**263**	P	**Pn**	**09 58 45.1**	**-1.6**
JANG				*e*S	**Sn**	**09 59 16.4**	**-3.9**
JBT2	**Biratori 2**	**2.97**	**314**	P	**Pn**	**09 58 48.0**	**+0.4**
JBT2				S	**Sn**	**09 59 22.2**	**+0.2**
JFR	**Furan**	**3.13**	**321**	P	**Pn**	**09 58 48.9**	**-0.9**
JFR				*e*S	**Sn**	**09 59 22.2**	**-3.7**
JRA	**Rausu**	**3.17**	**358**	P	**Pn**	**09 58 48.6**	**-1.8**
JRA				*e*S	**Sn**	**09 59 25.0**	**-2.0**
JOT	**Ohata**	**3.26**	**282**	P	**Pn**	**09 58 50.7**	**-0.9**
JOT				S	**Sn**	**09 59 26.4**	**-2.8**
JOM	**Ohasama**	**3.32**	**248**	P	**Pn**	**09 58 51.9**	**-0.6**
JTKR	**Abashiri--Toko**	**3.36**	**343**	P	**Pn**	**09 58 52.2**	**-0.8**
JTKR				S	**Sn**	**09 59 29.7**	**-2.0**
JKB	**Kayabe**	**3.40**	**291**	P	**Pn**	**09 58 52.6**	**-0.8**
JEW	**Eniwo**	**3.54**	**307**	P	**Pn**	**09 58 56.0**	**+0.6**
JEW				S	**Sn**	**09 59 35.6**	**-0.5**
JMK	**Ichinoseki**	**3.62**	**241**	P	**Pn**	**09 58 55.6**	**-0.9**
JMK				S	**Sn**	**09 59 34.2**	**-3.7**
JKK2	**Kamakawa 2**	**3.63**	**330**	P	**Pn**	**09 58 57.2**	**+0.5**
JKK2				S	**Sn**	**09 59 38.7**	**+0.3**
ASAJ	**Asahikawa**	**3.90**	**330**	Pn	**Pn**	**09 59 01.4**	**+1.1**
	0.8nm,0.3s,baz=206,slow=19,SNR=14						
ASAJ				Sn	**Sn**	**09 59 44.6**	**-0.2**
	1.4nm,0.3s,baz=126,slow=11,SNR=4.0						
MJAR	**Matsushiro Arr**	**6.96**	**235**	Pn	**Pn**	**09 59 42.2**	**-0.3**
	0.3nm,0.3s,baz=48,slow=11,SNR=5.7						
MJAR				LR	LR	10 02 30.0	
	comp=Z,36nm,18.8s,baz=45,slow=39						
USRK	**Ussuriysk Ar.**	**10.41**	**294**	Pn	**Pn**	**10 00 31.1**	**+1.4**
	0.2nm,0.3s,baz=99,slow=10,SNR=5.6						
JNU	**Nakatsue**	**13.81**	**241**	LR	LR	10 07 23.9	
	comp=Z,16nm,18.8s,baz=93,slow=41						
KSRS	**Korea Array**	**13.88**	**262**	LR	LR	10 07 05.3	
	comp=Z,21nm,18.4s,baz=115,slow=39						
SEY	**Seymchan**	**22.60**	**8**	P	**P**	**10 03 01.1**	**+0.8**
	0.4nm,0.3s,baz=168,slow=8.8,SNR=5.1						
SONM	**Songino Array**	**28.48**	**298**	P	P	10 03 58.0	+3.2
	0.2nm,0.3s,baz=96,slow=7.2,SNR=3.2						
SONM				LR	LR	10 15 52.9	
	comp=Z,25nm,19.5s,baz=249,slow=38						
H11S1	**WAKE ISLAND Hy**	**28.81**	**134**	T	T	10 34 16.2	
	baz=325						
H11S3	**WAKE ISLAND Hy**	**28.81**	**134**	T	T	10 34 15.6	
	baz=325						
H11S2	**WAKE ISLAND Hy**	**28.82**	**134**	T	T	10 34 18.1	
	baz=325						
ZALV	**Zalesovo Beam**	**41.76**	**309**	P	**P**	**10 05 50.2**	**+1.6**
	0.4nm,0.3s,baz=82,slow=10,SNR=2.7						
ILAR	**Eielson Array**	**44.72**	**34**	P	P	10 06 14.1	+1.8
	0.4nm,0.7s,baz=263,slow=6.6,SNR=5.7						
MKAR	**Makanchi Array**	**44.80**	**300**	P	**P**	**10 06 13.3**	**0.0**
	0.2nm,0.8s,baz=84,slow=8.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**46.19**	**306**	P	**P**	**10 06 25.6**	**+1.5**
	1.0nm,0.8s,baz=76,slow=8.5,SNR=5.3						
INK	**Inuvik**	**49.68**	**29**	P	P	10 06 53.3	+2.5
	0.7nm,0.5s,baz=312,slow=6.8,SNR=4.9						
YKA	**Yellowknife Ar**	**59.06**	**32**	P	P	10 08 00.8	+1.8
	0.1nm,0.6s,baz=297,slow=6.1,SNR=4.2						
WRA	**Warramunga Arr**	**61.25**	**192**	P	**P**	**10 08 15.4**	**+0.9**
	1.5nm,1.0s,baz=8.3,slow=6.6,SNR=5.3						
ASAR	**Alice Springs**	**64.97**	**192**	P	P	10 08 41.3	+2.1
	0.4nm,0.8s,baz=9.9,slow=5.9,SNR=4.1						
FINES	**FINESS Array B**	**66.90**	**333**	P	**P**	**10 08 53.0**	**+1.8**
	1.9nm,0.9s,baz=58,slow=14,SNR=4.3						

IDC 18 10:10:37.1±1.6, 6.67S×129.90E, h0km, mb3.9/2, mb1 3.8/5, mb1mx3.5/56, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=41.6km s-min=27.0km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.10**	**240**	Pn	Pn	10 12 22.8	+0.4
	2.7nm,0.3s,baz=356,slow=12,SNR=2.3						
BATI				Sn	Sn	10 13 44.6	+0.7
	2.7nm,0.3s,baz=259,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**13.88**	**162**	Pn	Pn	10 13 55.2	-0.1
	0.3nm,0.3s,baz=345,slow=14,SNR=29						
WRA				Sn	Sn	10 16 14.5	-16
	0.8nm,0.3s,baz=337,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.34**	**168**	P	Pn	10 14 40.8	0.0
	0.1nm,0.3s,baz=341,slow=8.6,SNR=11						
ASAR				S	Sn	10 17 39.2	-15
	0.2nm,0.3s,baz=321,slow=14,SNR=6.1						
MKAR	**Makanchi Array**	**57.85**	**327**	P	P	10 21 37.8	+0.2
	0.9nm,0.4s,baz=125,slow=7.9,SNR=19						
KURBB	**Kurchatov Arra**	**72.17**	**328**	P	P	10 22 03.5	-0.2
	0.3nm,0.4s,baz=126,slow=5.0,SNR=4.9						

IDC ***18*** *10:22:45.6±1.1, 36.10N×27.25E, h0km, mb3.6/4, mb1 3.3/7, mb1mx3.2/69, mbtmp3.4/7, ML2.3/2, Error ellipse: s-maj=32.7km s-min=16.4km az=151.0*

ISK ***18*** *10:22:47.7, 36.04N×27.24E, h8km, ML3.1/12*

DDA ***18*** *10:22:48.2, 36.08N×27.31E, h4km, Ml3.2*

CSEM ***18*** *10:22:48.4±0.1, 36.04N×27.21E, h8km, ML2.9, Error ellipse: s-maj=3.2km s-min=2.3km az=147.0*

ISCJB ***18*** *10:22:48.9±0.5, 36.01N±0.02×27.26E±0.02, h20km±4km, mb3.4/4, Error ellipse: s-maj=4.3km s-min=2.7km az=151.6*

THE ***18*** *10:22:48.1, 36.01N×27.29E, h4km±2km, ML2.9/9, Error ellipse: s-maj=2.1km s-min=0.8km az=89.0*

ATH ***18*** *10:22:48.1, 36.02N×27.26E, h29km±2km, ML2.9/15, Error ellipse: s-maj=3.6km s-min=1.6km az=75.0*

GII ***18*** *10:22:55.4±0.0, 34.76N×27.90E, h1km*

ISC 18 10:22:48.8±0.7, 36.01N±0.02×27.30E±0.02, h22km±5km, n116, σ1s45/159, mb3.5/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.48**	**194**	PG	**Pb**	**10 22 57.8**	**-0.7**
KARP				SG	**Sb**	**10 23 05.1**	**-0.1**
KARP	**Karpathos**	**0.48**	**194**	P	**Pb**	**10 22 57.9**	**-0.6**
KARP				AML	AML	10 23 06.2	
	comp=E,3705μm,0.3s						
KARP				AML	AML	10 23 09.0	
	comp=N,3702μm,0.1s						
KARP	**Karpathos**	**0.48**	**194**	*e*Pg	**Pb**	**10 22 57.8**	**-0.7**
KARP	**Karpathos**	**0.48**	**194**	P	**Pb**	**10 22 58.1**	**-0.4**
KARP				S	**Sb**	**10 23 04.2**	**-1.0**
KARP				*e*Sg	**Sb**	**10 23 05.1**	**-0.1**
KARP	**Karpathos**	**0.48**	**194**	P	**Pb**	**10 22 58.1**	**-0.4**
KARP				S	**Sb**	**10 23 04.2**	**-1.0**
NISR	**Nisiros**	**0.61**	**347**	P	**Pb**	**10 23 01.4**	**+0.5**
NISR				S	**Sb**	**10 23 09.8**	**+0.7**
NISR				AML	AML	10 23 13.2	
	comp=N,5855μm,0.8s						
NISR				AML	AML	10 23 15.1	
	comp=E,6839μm,0.4s						
NISR	**Nisiros**	**0.61**	**347**	P	**Pb**	**10 23 00.5**	**-0.4**
NISR				S	**Sb**	**10 23 09.5**	**+0.4**
NISR	**Nisiros**	**0.61**	**347**	P	**Pb**	**10 23 00.5**	**-0.4**
NISR				S	**Sb**	**10 23 09.5**	**+0.4**
ARG	**Arkhangelos**	**0.70**	**73**	P	**Pb**	**10 23 02.2**	**0.0**
ARG				AML	AML	10 23 15.5	
	comp=N,10762μm,0.3s						
ARG				AML	AML	10 23 15.6	
	comp=E,11955μm,0.3s						
ARG	**Arkhangelos**	**0.70**	**73**	P	**Pb**	**10 23 02.4**	**+0.2**
ARG				S	**Sb**	**10 23 11.9**	**+0.5**
ARG	**Arkhangelos**	**0.70**	**73**	P	**Pb**	**10 23 02.3**	**0.0**
ARG				S	**Sb**	**10 23 11.9**	**+0.5**
BODT	**Bodrum**	**1.05**	**0**	PG	**Pn**	**10 23 07.7**	**-0.5**
BODT				SG	**Sn**	**10 23 22.0**	**-0.1**
BODT	**Bodrum**	**1.05**	**0**	*e*Pg	**Pn**	**10 23 07.7**	**-0.5**
BODT				*e*Sg	**Sn**	**10 23 22.0**	**-0.1**
BDRM	**Kayabasi**	**1.05**	**6**	*i* P	**Pn**	**10 23 07.3**	**-1.0**
BDRM				*i* S	**Sb**	**10 23 21.6**	**-0.1**
BDRM	**Kayabasi**	**1.05**	**6**	P	**Pn**	**10 23 07.3**	**-1.0**
BDRM				S	**Sb**	**10 23 21.6**	**-0.1**
YKAV	**Yalikavak-Bodr**	**1.11**	**359**	PN	**Pb**	**10 23 09.5**	**+0.3**
YKAV	**Yalikavak-Bodr**	**1.11**	**359**	*e*Pn	**Pb**	**10 23 09.5**	**+0.3**
ZKR	**Zakros**	**1.26**	**225**	PN	**Pb**	**10 23 11.5**	**-0.3**
ZKR				SN	**Sb**	**10 23 29.4**	**+1.8**
ZKR	**Zakros**	**1.26**	**225**	P	**Pb**	**10 23 12.8**	**+0.9**
ZKR				S	**Sn**	**10 23 27.2**	**-0.2**
ZKR				AML	AML	10 23 33.3	
	comp=N,668μm,0.5s						
ZKR				AML	AML	10 23 33.8	
	comp=E,1177μm,0.3s						
ZKR	**Zakros**	**1.26**	**225**	P	**Pb**	**10 23 11.6**	**-0.3**
ZKR				S	**Sb**	**10 23 27.7**	**+0.1**
ZKR				*e*Sn	**Sb**	**10 23 29.4**	**+1.8**
ZKR	**Zakros**	**1.26**	**225**	P	**Pb**	**10 23 11.6**	**-0.3**
ZKR				S	**Sb**	**10 23 28.4**	**+0.8**
ANAF	**Anafi Island**	**1.28**	**286**	P	**Pn**	**10 23 09.9**	**-1.5**
ANAF				S	**Sb**	**10 23 30.5**	**+2.2**
ANAF				AML	AML	10 23 32.4	
	comp=N,5840μm,0.4s						
ANAF				AML	AML	10 23 34.1	
	comp=E,4919μm,0.4s						
ANAF	**Anafi Island**	**1.28**	**286**	P	**Pn**	**10 23 10.7**	**-0.7**
ANAF				S	**Sb**	**10 23 29.4**	**+1.1**
MLSB	**Milas**	**1.33**	**16**	PN	**Pb**	**10 23 13.9**	**+0.8**
MLSB	**Milas**	**1.33**	**16**	*e*Pn	**Pb**	**10 23 13.9**	**+0.8**
DALY	**Dalyan (Mu¨la**	**1.35**	**53**	PN	**Pb**	**10 23 14.1**	**+0.7**
DALY	**Dalyan (Mu¨la**	**1.35**	**53**	*i* P	**Pb**	**10 23 14.1**	**+0.7**
DALY				*i* S	**Sb**	**10 23 31.7**	**+1.5**
DALY	**Dalyan (Mu¨la**	**1.35**	**53**	*e*Pn	**Pb**	**10 23 14.1**	**+0.7**
DALY				S	**Sb**	**10 23 31.7**	**+1.5**
TURN	**Turunc**	**1.35**	**50**	PN	**Pn**	**10 23 09.3**	**-3.0**
TURN				SN	**Sn**	**10 23 24.6**	**-5.0**
TURN	**Turunc**	**1.35**	**50**	*i* P	**Pn**	**10 23 08.9**	**-3.5**
TURN				*i* S	**Sn**	**10 23 23.4**	**-6.3**
TURN	**Turunc**	**1.35**	**50**	P	**Pn**	**10 23 08.9**	**-3.5**
TURN	**Turunc**	**1.35**	**50**	*e*Pn	**Pn**	**10 23 09.3**	**-3.0**
YER	**Yerkesik**	**1.37**	**35**	PN	**Pb**	**10 23 13.2**	**-0.5**
YER	**Yerkesik**	**1.37**	**35**	*e*Pn	**Pb**	**10 23 13.2**	**-0.5**
THR8	**Santorini-Mono**	**1.53**	**285**	P	**Pn**	**10 23 14.1**	**-0.6**
THR8	**Santorini-Mono**	**1.53**	**285**	P	**Pn**	**10 23 14.1**	**-0.6**
SANT	**Santorini**	**1.53**	**284**	P	**Pn**	**10 23 13.4**	**-1.5**
SANT				AML	AML	10 23 41.1	
	comp=E,846μm,0.3s						
SANT				AML	AML	10 23 42.7	
	comp=N,987μm,0.4s						
SANT	**Santorini**	**1.53**	**284**	P	**Pn**	**10 23 14.2**	**-0.7**
SANT	**Santorini**	**1.53**	**284**	P	**Pn**	**10 23 14.2**	**-0.7**
SANT				S	**Sb**	**10 23 35.8**	**+0.3**
THT1	**Athinios (Pele**	**1.56**	**284**	P	**Pn**	**10 23 13.6**	**-1.6**
THT1				S	**Sb**	**10 23 37.0**	**+0.9**
THT1				AML	AML	10 23 40.3	
	comp=E,320μm,0.3s						
THT1				AML	AML	10 23 43.3	
	comp=N,447μm,0.4s						
THT1	**Athinios (Pele**	**1.56**	**284**	P	**Pn**	**10 23 14.5**	**-0.7**
THT1				S	**Sb**	**10 23 36.2**	**0.0**
THT1	**Athinios (Pele**	**1.56**	**284**	P	**Pn**	**10 23 14.4**	**-0.7**
THT1				S	**Sb**	**10 23 36.6**	**+0.4**
FETY	**Fethiye**	**1.57**	**66**	PN	**Pb**	**10 23 16.8**	**-0.2**
FETY	**Fethiye**	**1.57**	**66**	P	**Pb**	**10 23 17.0**	**0.0**
FETY				S	**Sb**	**10 23 38.5**	**+2.1**
NPS	**Neapolis**	**1.57**	**242**	P	**Pn**	**10 23 14.9**	**-0.4**
NPS				AML	AML	10 23 39.5	
	comp=N,712μm,0.5s						
NPS				AML	AML	10 23 40.1	
	comp=E,796μm,0.6s						
NPS	**Neapolis**	**1.57**	**242**	P	**Pn**	**10 23 15.2**	**-0.1**
NPS				S	**Sn**	**10 23 35.2**	**+0.2**
NPS	**Neapolis**	**1.57**	**242**	P	**Pn**	**10 23 15.2**	**-0.1**
NPS				S	**Sn**	**10 23 35.2**	**+0.2**
THR3	**Thira Island,**	**1.59**	**285**	P	**Pn**	**10 23 15.0**	**-0.6**
THR3	**Thira Island,**	**1.59**	**285**	P	**Pn**	**10 23 15.0**	**-0.6**
THR5	**Thira Island,**	**1.63**	**285**	P	**Pn**	**10 23 16.0**	**-0.2**
THR5	**Thira Island,**	**1.63**	**285**	P	**Pn**	**10 23 16.0**	**-0.2**
GCAM	**G?zelcaml?**	**1.68**	**358**	PN	**Pb**	**10 23 18.1**	**-0.9**
GCAM	**G?zelcaml?**	**1.68**	**358**	*e*Pn	**Pb**	**10 23 18.1**	**-0.9**
AYDN	**Tasoluk**	**1.71**	**16**	*i* P	**Pn**	**10 23 18.2**	**+0.9**
AYDN				*i* S	**Sb**	**10 23 45.0**	**+4.5**
AYDN	**Tasoluk**	**1.71**	**16**	P	**Pn**	**10 23 18.2**	**+0.9**
LAST	**Lasithi**	**1.71**	**241**	P	**Pn**	**10 23 17.4**	**+0.1**
LAST				AML	AML	10 23 49.1	
	comp=E,340μm,0.6s						
LAST				AML	AML	10 23 51.3	
	comp=N,333μm,0.6s						
LAST	**Lasithi**	**1.71**	**241**	P	**Pn**	**10 23 17.5**	**+0.1**
LAST				S	**Sn**	**10 23 39.2**	**+0.5**
LAST	**Lasithi**	**1.71**	**241**	P	**Pn**	**10 23 17.0**	**-0.4**
LAST				S	**Sn**	**10 23 39.2**	**+0.5**
SMG	**Samos**	**1.73**	**348**	P	**Pn**	**10 23 16.3**	**-1.3**
SMG				AML	AML	10 23 51.7	
	comp=E,480μm,0.4s						
SMG				AML	AML	10 23 53.4	
	comp=N,241μm,0.3s						
SMG	**Samos**	**1.73**	**348**	P	**Pn**	**10 23 17.2**	**-0.4**
SMG	**Samos**	**1.73**	**348**	P	**Pn**	**10 23 17.1**	**-0.5**
APE	**Apeiranthos**	**1.77**	**307**	PN	**Pn**	**10 23 18.4**	**+0.2**
APE	**Apeiranthos**	**1.77**	**307**	P	**Pn**	**10 23 16.8**	**-1.4**
APE				AML	AML	10 23 50.7	
	comp=E,207μm,0.5s						
APE				AML	AML	10 23 51.4	
	comp=N,315μm,0.4s						
APE	**Apeiranthos**	**1.77**	**307**	P	**Pn**	**10 23 17.6**	**-0.6**
APE	**Apeiranthos**	**1.77**	**307**	*e*Pn	**Pn**	**10 23 18.4**	**+0.2**
APE	**Apeiranthos**	**1.77**	**307**	P	**Pn**	**10 23 17.6**	**-0.6**
KSL	**Kastellorizon**	**1.85**	**85**	P	**Pb**	**10 23 22.8**	**+0.9**
KSL				AML	AML	10 23 56.3	
	comp=N,383μm,0.6s						
KSL				AML	AML	10 23 58.7	
	comp=E,387μm,0.5s						
KSL	**Kastellorizon**	**1.85**	**85**	P	**Pb**	**10 23 21.7**	**-0.2**
KSL				S	**Sb**	**10 23 43.6**	**-1.0**
KSL	**Kastellorizon**	**1.85**	**85**	P	**Pn**	**10 23 20.4**	**+1.2**
KSL				S	**Sb**	**10 23 43.6**	**-1.0**
AKAS	**Kas**	**1.88**	**83**	PN	**Pb**	**10 23 21.1**	**-1.3**
AKAS	**Kas**	**1.88**	**83**	*i* P	**Pb**	**10 23 21.3**	**-1.1**
AKAS				*i* S	**Sb**	**10 23 46.6**	**+1.1**
AKAS	**Kas**	**1.88**	**83**	P	**Pb**	**10 23 21.3**	**-1.1**
AKAS				S	**Sb**	**10 23 46.6**	**+1.1**
TAVA	**DENIZLI_Tavas**	**1.94**	**41**	*i* P	**Pb**	**10 23 22.9**	**-0.6**
TAVA				*i* S	**Sb**	**10 23 48.7**	**+1.4**
TAVA	**DENIZLI_Tavas**	**1.94**	**41**	P	**Pb**	**10 23 22.9**	**-0.6**
TAVA				S	**Sb**	**10 23 48.7**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**1.98**	**14**	PN	**Pb**	**10 23 22.9**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**1.98**	**14**	*e*Pn	**Pb**	**10 23 22.9**	**-1.4**
IDI	**Anoyia**	**2.09**	**250**	Pn	**Pn**	**10 23 22.4**	**-0.2**
	comp=E,2.8nm,0.3s,baz=62,slow=14,SNR=12						
IDI				Sn	**Sn**	**10 23 48.1**	**0.0**
	comp=E,8.6nm,0.3s,baz=102,slow=23,SNR=10.0						
GOLH	**Golhisar**	**2.19**	**55**	*i* P	**Pb**	**10 23 27.5**	**-0.2**
GOLH				*i* S	**Sb**	**10 23 57.9**	**+3.5**
GOLH	**Golhisar**	**2.19**	**55**	P	**Pb**	**10 23 27.5**	**-0.2**
GOLH				S	**Sb**	**10 23 57.9**	**+3.5**
ELL	**Elmali**	**2.23**	**70**	PN	**Pb**	**10 23 26.6**	**-1.8**
ELL	**Elmali**	**2.23**	**70**	*e*Pn	**Pb**	**10 23 26.6**	**-1.8**
SIVA	**Sivas**	**2.26**	**245**	P	**Pb**	**10 23 27.7**	**-1.2**
SIVA				AML	AML	10 24 04.5	
	comp=E,558μm,0.6s						
SIVA				AML	AML	10 24 06.0	
	comp=N,340μm,0.6s						
SIVA	**Sivas**	**2.26**	**245**	P	**Pn**	**10 23 26.5**	**+1.6**
URLA	**Izmir**	**2.41**	**347**	PN	**Pn**	**10 23 28.6**	**+1.7**
URLA	**Izmir**	**2.41**	**347**	*e*Pn	**Pn**	**10 23 28.6**	**+1.7**
SERI	**Serifos**	**2.54**	**298**	P	**Pn**	**10 23 27.0**	**-1.7**
SERI	**Serifos**	**2.54**	**298**	P	**Pn**	**10 23 28.1**	**-0.6**
CHOS	**Chios island**	**2.57**	**338**	PN	**Pn**	**10 23 29.5**	**+0.3**
CHOS	**Chios island**	**2.57**	**338**	*e*Pn	**Pn**	**10 23 29.5**	**+0.3**
VAM	**Vamos**	**2.60**	**257**	P	**Pn**	**10 23 31.4**	**+2.0**
VAM				AML	AML	10 24 15.5	
	comp=E,185μm,0.5s						
VAM				AML	AML	10 24 15.7	
	comp=N,145μm,0.4s						
VAM	**Vamos**	**2.60**	**257**	P	**Pn**	**10 23 30.7**	**+1.2**
KORT	**Korkueli**	**2.65**	**67**	PN	**Pn**	**10 23 32.6**	**+2.3**
KORT	**Korkueli**	**2.65**	**67**	*i* P	**Pn**	**10 23 33.4**	**-2.1**
KORT				*i* S	**Sb**	**10 24 09.2**	**+1.6**
KORT	**Korkueli**	**2.65**	**67**	*e*Pn	**Pn**	**10 23 32.6**	**+2.3**
KORT	**Korkueli**	**2.65**	**67**	P	**Pb**	**10 23 33.4**	**-2.1**
KORT				S	**Sb**	**10 24 09.2**	**+1.6**
IMMV	**Iera Moni Meta**	**2.76**	**259**	PN	**Pn**	**10 23 32.8**	**+1.1**
IMMV	**Iera Moni Meta**	**2.76**	**259**	*e*Pn	**Pn**	**10 23 32.8**	**+1.1**
BCK	**Bucak**	**3.01**	**60**	PN	**Pn**	**10 23 38.0**	**+2.8**
BCK	**Bucak**	**3.01**	**60**	*e*Pn	**Pn**	**10 23 38.0**	**+2.8**
SUTC	**Sutluce-Ispart**	**3.31**	**63**	PN	**Pn**	**10 23 42.0**	**+2.6**
SUTC	**Sutluce-Ispart**	**3.31**	**63**	*e*Pn	**Pn**	**10 23 42.0**	**+2.6**
VLI	**Veliai**	**3.59**	**283**	P	**Pn**	**10 23 45.0**	**+1.9**
VLI				AML	AML	10 24 34.6	
	comp=E,56μm,0.7s						
VLI				AML	AML	10 24 34.8	
	comp=N,67μm,0.8s						
VLI	**Veliai**	**3.59**	**283**	P	**Pn**	**10 23 44.5**	**+1.3**
CSS	**Mathiatis**	**5.03**	**100**	Pn	**Pn**	**10 24 04.4**	**+1.5**
CSS				Sn	**Sn**	**10 24 58.3**	**-2.1**
BRTR	**Keskin Array B**	**6.23**	**52**	Pn	**Pn**	**10 24 19.8**	**+0.2**
	comp=N,0.0nm,0.3s,baz=227,slow=16,SNR=2.3						
MMAI	**Mount Meron Ar**	**7.32**	**112**	Pn	**Pn**	**10 24 35.0**	**+0.5**
	comp=N,1.7nm,0.3s,baz=313,slow=16,SNR=2.3						
MMAI				Sn	**Sn**	**10 25 57.2**	**+0.2**
	comp=N,3.1nm,0.3s,baz=309,slow=26,SNR=2.7						
KSDI	**Kefar Szold**	**7.44**	**110**	Pn	**Pn**	**10 24 34.1**	**-1.9**
DSI	**Dead Sea**	**8.05**	**121**	Pn	Pn	10 24 39.5	-4.9
PRNI	**Paran**	**8.57**	**129**	Pn	Pn	10 24 44.6	-7.0
MBRI	**Mt Berech**	**8.91**	**132**	Pn	Pn	10 24 49.4	-6.9
EIL	**Elat**	**9.02**	**132**	Sn	**Sn**	**10 26 37.7**	**-1.0**
	comp=N,0.8nm,0.3s,baz=312,slow=16,SNR=3.8						
EIL	**Elat**	**9.02**	**132**	Pn	Pn	10 24 51.3	-6.4
HFS	**Hagfors**	**25.68**	**344**	P	**P**	**10 28 16.5**	**-0.5**
	comp=N,1.1nm,0.9s,baz=168,slow=

KURBB	**Kurchatov Arra**	**64.31**	**328**	P		P	10 37 30.6	-0.1	
	0.3nm,0.5s,baz=129,slow=6.9,SNR=2.8								

*ISCJB **18** 10:29:41.4±0.5,67°.10N±0°.02×20°.6E±0°.1,h0km, Error ellipse: s-maj=5.8km s-min=2.8km az=2.4*
*IDC **18** 10:29:43.6±0.8,67°.16N×20°.82E,h0km,mb1 3.0/4, mb1mx2.8/81,mbtmp2.9/4,ML2.3/4, Error ellipse: s-maj=14.5km s-min=6.3km az=118.0*
*HEL **18** 10:29:43.5±0.2,67°.17N×20°.57E,h0km,ML2.0, Explosion*
*CSEM **18** 10:29:43.8±0.2,67°.12N×20°.80E,h2km,ML2.0, Error ellipse: s-maj=6.7km s-min=4.0km az=86.0, Mining explosion.*
*NAO **18** 10:29:43.6±0.9,67°.16N×20°.63E, ML2.2*
*BER **18** 10:29:46.5±3.9,67°.15N×20°.62E,h0km,ML2.1, ML2.2(NAO), Suspected explosion*

ISC 18 10:29:43.1±0.8, 67.11N±0.03×20.63E±0.04, h0km, n48, σ1s43/81, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERTU	**Ertsjaerv**	**0.83**	**132**	Pg		**Pg**	**10 29 59.3**	**+0.3**
ERTU				Sb		**Sb**	**10 30 11.9**	**-0.2**
ERTU	**Ertsjaerv**	**0.83**	**132**	PG		**Pg**	**10 29 59.4**	**+0.3**
ERTU				SB		**Sb**	**10 30 12.0**	**-0.2**
LANU	**Lannavaara**	**1.07**	**28**	Pg		**Pg**	**10 30 02.2**	**-1.4**
LANU	**Lannavaara**	**1.07**	**28**	PG		**Pg**	**10 30 02.2**	**-1.4**
KALU	**Kalix**	**1.67**	**138**	Pg		**Pb**	**10 30 14.6**	**0.0**
KALU				Sn		**Sg**	**10 30 37.6**	**+1.0**
KALU	**Kalix**	**1.67**	**138**	PG		**Pb**	**10 30 14.6**	**0.0**
KALU				SN		**Sg**	**10 30 37.6**	**+1.0**
HEF	**Hetta**	**1.74**	**40**	*e*P		**Pn**	**10 30 14.1**	**-0.4**
	SNR=50							
HEF				*e*S		**Sn**	**10 30 36.5**	**-0.9**
	SNR=50							
HEF	**Hetta**	**1.74**	**40**	*e*P		**Pn**	**10 30 14.1**	**-0.4**
HEF				*e*S		**Sn**	**10 30 36.5**	**-0.9**
HEF	**Hetta**	**1.74**	**40**	PG		**Pn**	**10 30 13.9**	**-0.6**
HEF				MSG			10 30 34.6	
	comp=Z,7.8nm,0.2s							
HEF				SG		**Sn**	**10 30 36.4**	**-0.9**
TOF	**Tornio**	**1.80**	**123**	Pg		**Pb**	**10 30 16.6**	**-0.3**
TOF				Sg		**Sg**	**10 30 41.3**	**+0.4**
TOF	**Tornio**	**1.80**	**123**	PG		**Pb**	**10 30 16.6**	**-0.3**
TOF				MSG			10 30 39.0	
	comp=Z,8.5nm,0.2s							
TOF				SG		**Sg**	**10 30 41.3**	**+0.4**
KIF	**Kilpisjarvi**	**1.90**	**2**	Pn		**Pn**	**10 30 17.0**	**+0.3**
KIF				Sn		**Sb**	**10 30 43.8**	**+1.0**
KIF	**Kilpisjarvi**	**1.90**	**2**	Pn		**Pn**	**10 30 17.0**	**+0.3**
	SNR=50							
KIF				Sg		**Sb**	**10 30 43.4**	**+0.6**
KIF	**Kilpisjarvi**	**1.90**	**2**	Pn		**Pn**	**10 30 17.0**	**+0.3**
KIF				Sn		**Sb**	**10 30 43.8**	**+1.0**
KIF	**Kilpisjarvi**	**1.90**	**2**	PG		**Pn**	**10 30 17.2**	**+0.5**
KIF				MSG			10 30 39.5	
	comp=Z,12nm,0.2s							
KIF				SG		**Sb**	**10 30 43.4**	**+0.6**
KTK1	**Kautokeino**	**2.14**	**26**	*e*P		**Pn**	**10 30 21.2**	**+1.2**
	SNR=50							
KTK1				*e*S		**Sn**	**10 30 48.2**	**+0.9**
	SNR=50							
KTK1	**Kautokeino**	**2.14**	**26**	*e*P		**Pn**	**10 30 21.2**	**+1.2**
KTK1				*e*S		**Sn**	**10 30 48.1**	**+0.9**
KTK1				IAML			10 30 50.0	
	comp=Z,20nm,0.6s							
SGF	**Sodankyl**	**2.31**	**79**	PB		**Pn**	**10 30 24.0**	**+1.7**
	baz=270							
SGF				SG		**Sb**	**10 30 54.2**	**-0.4**
BURU	**Burvik**	**2.56**	**173**	PB		**Pn**	**10 30 28.0**	**+2.3**
MOR8	**Moi Rana**	**2.64**	**252**	*e*Sg		**Sn**	**10 31 01.3**	**+1.7**
MOR8				IAML			10 31 04.0	
	comp=Z,28nm,0.5s							
OUL	**Oulu**	**2.96**	**131**	PB		**Pb**	**10 30 35.6**	**-1.0**
ARA0	**ARCESS Array S**	**3.03**	**34**	Pn		**Pn**	**10 30 32.5**	**+0.3**
	baz=216,slow=14							
ARA0				Sn		**Sn**	**10 31 08.7**	**-0.5**
	baz=214,slow=22							
ARA0	**ARCESS Array S**	**3.03**	**34**	Pn		**Pn**	**10 30 32.5**	**+0.3**
	SNR=50							
ARA0				Sn		**Sn**	**10 31 08.7**	**-0.5**
	SNR=50							
ARA0	**ARCESS Array S**	**3.03**	**34**	Pn		**Pn**	**10 30 32.5**	**+0.3**
	baz=216,slow=14							
ARA0				Sn		**Sn**	**10 31 08.7**	**-0.5**
	baz=214,slow=22							
ARCES	**ARCESS Array B**	**3.03**	**34**	Pn		**Pn**	**10 30 32.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=215,slow=16,SNR=12							
ARCES				Sn		**Sn**	**10 31 09.2**	**0.0**
	comp=Z,0.8nm,0.3s,baz=214,slow=21,SNR=5.0							
ARCES				Lg		Lg	10 31 14.0	
	comp=Z,1.6nm,0.3s,baz=216,slow=30,SNR=13							
ARE0	**ARCESS Array S**	**3.03**	**34**	Pn		**Pn**	**10 30 32.5**	**+0.3**
ARE0	**ARCESS Array S**	**3.03**	**34**	Pn		**Pn**	**10 30 32.5**	**+0.3**
ARE0				SB		**Sn**	**10 31 11.3**	**+2.1**
KONS	**Konsvik**	**3.04**	**262**	*e*P		**Pn**	**10 30 34.8**	**+2.5**
	SNR=50							
KONS	**Konsvik**	**3.04**	**262**	*e*P		**Pn**	**10 30 34.8**	**+2.5**
OUF	**Merijarvi**	**3.24**	**147**	Sg		**Sg**	**10 31 26.2**	**-0.7**
OUF	**Merijarvi**	**3.24**	**147**	SG		**Sg**	**10 31 26.2**	**-0.7**
UMAU	**Umeaa**	**3.25**	**180**	PN		**Pn**	**10 30 37.4**	**+2.3**
UMAU				SB		**Sn**	**10 31 18.2**	**+3.8**
MSF	**Maaselka**	**3.58**	**106**	SG		**Sg**	**10 31 35.5**	**-2.4**
VAF	**Ylistaro**	**4.18**	**167**	PN		**Pn**	**10 30 50.9**	**+2.9**
VAF				SG		**Sg**	**10 31 56.1**	**-1.1**
HEMU	**Hemsoen**	**4.59**	**195**	Sn		**Sn**	**10 31 48.1**	**+0.6**
HEMU	**Hemsoen**	**4.59**	**195**	SN		**Sn**	**10 31 48.2**	**+0.6**
FIA0	**FINESS Array S**	**6.17**	**155**	Pn		**Pn**	**10 31 17.3**	**+2.0**
	baz=348,slow=14							
FIA0				Sn		**Sn**	**10 32 26.5**	**+0.2**
	baz=339,slow=28							
FIA0				Lg		Lg	10 32 57.0	
	baz=339,slow=28							
FIA0	**FINESS Array S**	**6.17**	**155**	Pn		**Pn**	**10 31 17.3**	**+2.0**
	baz=348,slow=14							
FIA0				Sn		**Sn**	**10 32 26.5**	**+0.2**
	baz=339,slow=28							
FIA0				Lg		Lg	10 32 57.0	
	baz=339,slow=28							
FINES	**FINESS Array B**	**6.17**	**155**	Pn		**Pn**	**10 31 17.1**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=3.8							
FINES				Sn		**Sn**	**10 32 26.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=344,slow=23,SNR=7.4							
FINES				Lg		Lg	10 32 57.6	
	comp=Z,0.4nm,0.3s,baz=348,slow=26,SNR=3.7							
NB2	**NORSAR Subarra**	**7.35**	**218**	Pn		**Pn**	**10 31 32.3**	**+0.7**
NB2				Sn		**Sn**	**10 32 53.4**	**-2.3**
	baz=23,slow=28							
NB2				Lg		Lg	10 33 36.6	
NB2	**NORSAR Subarra**	**7.35**	**218**	Pn		**Pn**	**10 31 32.3**	**+0.7**
	SNR=50							
NB2				Sn		**Sn**	**10 32 53.3**	**-2.3**
	SNR=50							
NB2				Lg		Lg	10 33 36.6	
	SNR=50							
NB2	**NORSAR Subarra**	**7.35**	**218**	Pn		**Pn**	**10 31 32.3**	**+0.7**
NB2				Sn		**Sn**	**10 32 53.4**	**-2.3**
	baz=23,slow=28							
NB2				Lg		Lg	10 33 36.6	
NOA	**NORSAR Array B**	**7.35**	**218**	Pn		**Pn**	**10 31 31.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=56,slow=10,SNR=2.9							
NOA				Sn		**Sn**	**10 32 52.0**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=32,slow=23,SNR=7.4							
NOA				Lg		Lg	10 33 35.0	
	comp=Z,0.6nm,0.3s,baz=35,slow=22,SNR=5.6							
NRA0	**NORESS Array S**	**7.54**	**216**	Sn		**Sn**	**10 32 57.7**	**-2.5**
	baz=39,slow=28							
NRA0				Lg		Lg	10 33 41.0	
	baz=24,slow=37							
NRA0	**NORESS Array S**	**7.54**	**216**	Sn		**Sn**	**10 32 57.7**	**-2.5**
	baz=39,slow=28							
NRA0				Lg		Lg	10 33 41.0	
	baz=24,slow=37							
HFS	**Hagfors**	**7.65**	**207**	Pn		**Pn**	**10 31 35.8**	**+0.2**
	baz=26,slow=11							
HFS				Sn		**Sn**	**10 33 00.3**	**-2.6**
	baz=45,slow=22							
HFS	**Hagfors**	**7.65**	**207**	Pn		**Pn**	**10 31 35.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=24,slow=11,SNR=7.0							
HFS				Sn		**Sn**	**10 33 00.5**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=19,slow=23,SNR=12							
HFS				Lg		Lg	10 33 42.4	
	comp=Z,0.3nm,0.3s,baz=31,slow=28,SNR=3.1							
HFS	**Hagfors**	**7.65**	**207**	Pn		**Pn**	**10 31 35.8**	**+0.2**
	baz=26,slow=11							
HFS				Sn		**Sn**	**10 33 00.3**	**-2.6**
	baz=45,slow=22							

PRE 18 10:35:39.1±1.2, 28°.03S×26°.77E, h2km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOAB	**Moab Khotsong**	**1.04**	**1**	*e*P		Pb	10 36 00.3	+0.4
MOAB				*e*S		Sg	10 36 13.3	+0.7
MOAB				AML		AML	10 36 18.4	
	comp=Z,93nm,0.4s							
PRYS	**Parys**	**1.22**	**25**	*e*P		Pg	10 36 02.4	-0.1
PRYS				*e*S		Sb	10 36 19.0	-0.3
PRYS				AML		AML	10 36 24.1	
	comp=Z,190nm,0.5s							
BOSA	**Boshof**	**1.46**	**246**	*e*P		Pg	10 36 07.6	+0.5
BOSA				*e*S		Sn	10 36 26.8	+0.5
BOSA				AML		AML	10 36 31.7	
	comp=Z,102nm,0.2s							
SWZ	**Schweizer**	**1.53**	**303**	*e*P		Pg	10 36 08.5	-0.1
SWZ				*e*S		Sg	10 36 28.8	+0.4
SWZ				AML		AML	10 36 32.1	
	comp=Z,308nm,0.3s							
WDLM	**Western Deep L**	**1.70**	**20**	*e*P		Pn	10 36 10.6	+0.6
WDLM				AML		AML	10 36 36.2	
	comp=Z,214nm,0.2s							
KLOF	**Kloof**	**1.83**	**24**	*e*P		Pn	10 36 12.3	+0.5
KLOF				*e*S		Sb	10 36 36.4	-0.6
KLOF				AML		AML	10 36 41.5	
	comp=Z,178nm,0.2s							
ERPM	**east rand prop**	**2.13**	**38**	*e*P		Pb	10 36 18.0	-0.5
ERPM				*e*S		Sb	10 36 45.3	-0.3
ERPM				AML		AML	10 36 57.4	
	comp=Z,46nm,0.6s							
KSR	**Koster**	**2.17**	**3**	*e*P		Pn	10 36 17.7	+1.2
KSR				*e*S		Sn	10 36 45.2	+1.1
KSR				AML		AML	10 36 49.7	
	comp=Z,111nm,0.2s							
SLR	**Silverton**	**2.66**	**31**	*e*P		Pn	10 36 23.0	-0.1
SLR				*e*S		Sn	10 36 55.6	-0.3
SLR				AML		AML	10 37 10.7	
	comp=Z,94nm,0.5s							
HVD	**Gariep Dam**	**2.79**	**203**	*e*P		Pn	10 36 25.9	+0.9
HVD				*e*S		Sn	10 36 59.0	-0.4
HVD				AML		AML	10 37 21.2	
	comp=Z,42nm,0.5s							
KSD	**Kokstad**	**3.40**	**138**	*e*P		Pn	10 36 33.9	+0.5
KSD				*e*S		Sn	10 37 13.2	-1.2
KSD				AML		AML	10 37 31.3	
	comp=Z,19nm,0.5s							
SOE	**Somerset East**	**4.78**	**192**	*e*P		Pn	10 36 53.3	+1.1
SOE				*e*S		Sn	10 37 46.8	-1.4
SOE				AML		AML	10 38 08.6	
	comp=Z,6.8nm,0.5s							
ARMS	**Ukamas**	**6.22**	**268**	*e*P		Pn	10 37 12.7	+0.7
ARMS				*e*S		Sn	10 38 20.7	-3.0
ARMS				AML		AML	10 39 02.0	
	comp=Z,12nm,0.4s							
BUFB	**Buffelsbos**	**6.34**	**195**	*e*P		Pn	10 37 14.2	+0.6
BUFB				*e*S		Sn	10 38 23.6	-3.0
BUFB				AML		AML	10 38 39.8	
	comp=Z,2.9nm,0.5s							
KROM	**Kromhout**	**6.37**	**196**	*e*P		Pn	10 37 14.9	+1.0
KROM				*e*S		Sn	10 38 24.5	-2.7
KROM				AML		AML	10 38 25.9	
	comp=Z,1.3nm,0.9s							
MSNA	**Messina**	**6.38**	**28**	*e*P		Pn	10 37 12.8	-1.5
MSNA				*e*S		Sn	10 38 22.3	-5.5
MSNA				AML		AML	10 39 04.1	
	comp=Z,16nm,0.7s							
SUR	**Sutherland**	**6.74**	**229**	*e*P		Pn	10 37 20.9	+1.7
SUR				AML		AML	10 39 26.6	
	comp=Z,39nm,0.7s							
CVNA	**Calvinia**	**7.00**	**239**	*e*P		Pn	10 37 23.4	+0.7
CVNA				*e*S		Sn	10 38 39.4	-3.6
CVNA				AML		AML	10 38 42.6	
	comp=Z,15nm,0.3s							
KOMG	**Komaggas**	**8.33**	**256**	*e*P		Pn	10 37 42.5	+1.5
KOMG				*e*S		Sn	10 39 11.1	-4.5
KOMG				AML		AML	10 40 03.9	
	comp=Z,17nm,0.5s							

*ISCJB **18** 10:37:55.6±0.3,55°.34N±0°.04×160°.24W±0°.04, h67km±2km, mb4.2/60, Error ellipse: s-maj=6.7km s-min=2.8km az=152.0*
*IDC **18** 10:37:55.4±2.3,55°.40N×160°.25W,h47km±19km,mb3.6/24, mb1 3.8/27,mb1mx3.7/81,mbtmp3.9/27,ML3.8/3,MS2.9/3, Ms1 2.9/3,ms1mx2.5/66, Error ellipse: s-maj=20.2km s-min=11.5km az=6.0*
*NEIC **18** 10:37:56.2±0.0,55°.30N×160°.28W,h51km,mb4.5/38, ML3.9(AEIC), After AEIC.*

ISC 18 10:37:56.5±0.8, 55°.32N±0°.07×160°.22W±0°.04, h58km±6km, n158, σ1s08/165, mb4.3/60, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SDPT	**Sand Point**	**0.15**	**281**	P		**Pn**	**10 38 04.5**	**-0.9**
SDPT				S		**Sn**	**10 38 11.2**	**-0.7**
VNSW	**Veniaminof 7**	**0.84**	**26**	P		**Pn**	**10 38 12.9**	**+0.5**
VNSW				S		**Sn**	**10 38 25.5**	**+1.3**
PVV	**Pavlof Volcano**	**0.90**	**274**	P		**Pn**	**10 38 12.4**	**-0.7**
VNWF	**Veniaminof 8**	**0.91**	**24**	P		**Pn**	**10 38 14.2**	**+0.7**
VNWF				S		**Sn**	**10 38 27.7**	**+1.8**
PS4A	**Pavlof South-4**	**0.94**	**272**	P		**Pn**	**10 38 12.9**	**-0.7**
DOL	**Dolgoi Island**	**0.96**	**260**	P		**Pn**	**10 38 12.7**	**-1.2**
VNSG	**Veniaminof 6**	**1.03**	**38**	P		**Pn**	**10 38 15.4**	**+0.5**
VNSG				S		**Sn**	**10 38 29.8**	**+1.2**
VNHG	**Veniaminof 1**	**1.08**	**33**	P		**Pn**	**10 38 16.3**	**+0.7**
DT1	**Dutton Round H**	**1.20**	**261**	P		**Pn**	**10 38 16.0**	**-1.1**
CHGN	**Chignik**	**1.42**	**45**	P		**Pn**	**10 38 20.8**	**+0.9**
CHGN				S		**Sn**	**10 38 39.9**	**+2.3**
BALA	**Baldy Mountain**	**1.48**	**266**	P		**Pn**	**10 38 21.3**	**+0.5**
ANPB	**Aniakchak Plen**	**1.84**	**35**	P		**Pn**	**10 38 26.6**	**+0.9**
FALS	**False Pass**	**1.90**	**257**	P		**Pn**	**10 38 26.2**	**-0.3**
ANNW	**Aniakchak Nort**	**2.00**	**33**	P		**Pn**	**10 38 29.3**	**+1.4**
ANNE	**Aniakchak Nort**	**2.00**	**36**	P		**Pn**	**10 38 29.2**	**+1.2**
ISLZ	**Isanotski Laza**	**2.10**	**255**	P		**Pn**	**10 38 28.7**	**-0.5**
SSLS	**Shishaldin Sou**	**2.26**	**256**	P		**Pn**	**10 38 31.6**	**0.0**
SSLS				S		**Sn**	**10 38 58.7**	**+0.4**
SSLW	**Shishaldin Wes**	**2.31**	**258**	P		**Pn**	**10 38 32.2**	**0.0**
WESN	**West Dahl Nort**	**2.63**	**255**	P		**Pn**	**10 38 36.7**	**+0.2**
WESE	**West Dahl East**	**2.66**	**253**	P		**Pn**	**10 38 37.2**	**+0.2**
WESP	**Westdahl Peak**	**2.73**	**254**	P		**Pn**	**10 38 38.5**	**+0.6**
WESP				S		**Sn**	**10 39 10.2**	**+0.5**
PLK3	**Peulik 3**	**3.23**	**41**	P		**Pn**	**10 38 46.2**	**+1.5**
AKSA	**Akutan Strait**	**3.39**	**252**	P		**Pn**	**10 38 46.7**	**-0.2**
AKUT	**Akutan**	**3.43**	**252**	*e*Pn		**Pn**	**10 38 47.4**	**0.0**
AHB	**Akutan Harbor**	**3.46**	**252**	P		**Pn**	**10 38 47.9**	**0.0**
UNV	**Unalaska Valle**	**3.94**	**251**	P		**Pn**	**10 38 53.7**	**-0.7**
KABU	**Katmai Buttres**	**4.01**	**41**	P		**Pn**	**10 38 56.9**	**+1.4**
OHAK	**Old Harbor**	**4.31**	**61**	*e*Pn		**Pn**	**10 38 58.2**	**-1.2**
KDAK	**Kodiak Island**	**4.89**	**57**	P		**Pn**	**10 39 06.4**	**-1.0**
	4.1nm,0.3s,baz=194,slow=4.7,SNR=97							
KDAK				S		**Sn**	**10 40 01.0**	**-1.6**
	3.3nm,0.3s,baz=284,slow=12,SNR=3.6							
CDD	**Cape Douglas**	**5.09**	**42**	P		**Pn**	**10 39 11.2**	**+1.0**
SVW2	**Sparrevohn**	**6.29**	**21**	*e*Pn		**Pn**	**10 39 27.6**	**+1.0**
BRLK	**Bradley Lake**	**6.71**	**45**	*e*Pn		**Pn**	**10 39 32.4**	**+0.1**
SUA	**Susitna One**	**7.91**	**35**	*e*Pn		**Pn**	**10 39 48.9**	**+0.1**
RC01	**Rabbit Creek A**	**8.00**	**39**	*e*Pn		**Pn**	**10 39 50.0**	**+0.1**
PMR	**Palmer**	**8.55**	**38**	*e*Pn		**Pn**	**10 39 58.9**	**+1.4**
PPLA	**Purkeypile**	**8.64**	**25**	*e*Pn		**Pn**	**10 40 01.7**	**+2.9**
GLI	**Glacier Island**	**8.90**	**46**	*e*Pn		**Pn**	**10 40 03.2**	**+1.0**
SML	**Sawmill**	**8.98**	**39**	*e*Pn		**Pn**	**10 40 04.4**	**+1.0**
CAST	**Castle Rocks**	**9.12**	**24**	*e*Pn		**Pn**	**10 40 06.9**	**+1.7**
EYAK	**Cordova Ski Ar**	**9.30**	**50**	*e*Pn		**Pn**	**10 40 07.0**	**-0.7**
SCM	**Sheep Creek Mo**	**9.37**	**41**	*e*Pn		**Pn**	**10 40 08.7**	**0.0**
KTH	**Kantishna Hill**	**9.51**	**26**	*e*Pn		**Pn**	**10 40 12.4**	**+1.8**
TRF	**Thorofare Moun**	**9.59**	**28**	*e*Pn		**Pn**	**10 40 12.1**	**+0.4**
RAGM	**Ragged Mountai**	**9.71**	**52**	*e*Pn		**Pn**	**10 40 12.8**	**-0.5**
KLU	**Klutina**	**9.71**	**45**	*e*Pn		**Pn**	**10 40 12.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**9.95**	**24**	*e*Pn		**Pn**	**10 40 18.2**	**+1.6**
RND	**Reindeer**	**9.95**	**31**	*e*Pn		**Pn**	**10 40 17.4**	**+0.8**
BMRM	**Bremner River**	**9.99**	**49**	*e*Pn		**Pn**	**10 40 17.6**	**+0.4**
DHY	**Denali Highway**	**10.17**	**35**	*e*Pn		**Pn**	**10 40 19.7**	**0.0**
MCK	**McKinley**	**10.18**	**30**	*e*Pn		**Pn**	**10 40 20.9**	**+1.2**
GAMB	**Gambell**	**10.27**	**330**	*e*Pn		**Pn**	**10 40 22.1**	**+1.2**
HARP	**HAARP**	**10.53**	**41**	*e*Pn		**Pn**	**10 40 26.0**	**+1.5**
PAX	**Paxson**	**10.75**	**39**	*e*Pn		**Pn**	**10 40 29.1**	**+1.5**
MLY	**Manley**	**10.81**	**22**	*e*Pn		**Pn**	**10 40 29.3**	**+1.0**
WRH	**Wood River Hil**	**10.99**	**29**	*e*Pn		**Pn**	**10 40 29.4**	**-1.4**
CCB	**Clear Creek Bu**	**11.21**	**28**	*e*Pn		**Pn**	**10 40 31.1**	**-2.5**
HDA	**Harding Lake**	**11.27**	**31**	*e*Pn		**Pn**	**10 40 33.4**	**-1.1**
MDM	**Murphy Dome**	**11.34**	**27**	*e*Pn		**Pn**	**10 40 35.5**	**0.0**
COLA	**College**	**11.37**	**28**	*e*Pn		**Pn**	**10 40 34.8**	**-1.1**
	2.6nm,0.6s							
MENT	**Mentasta**	**11.38**	**41**	*e*Pn		**Pn**	**10 40 36.3**	**+0.2**
RIDG	**Independe'e Rid**	**11.46**	**36**	*e*Pn		**Pn**	**10 40 36.5**	**-0.8**
ILAR	**Eielson Array**	**11.55**	**30**	P		**Pn**	**10 40 36.9**	**-1.5**
	0.3nm,0.3s,baz=218,slow=14,SNR=14							
ILAR				S		**Sn**	**10 42 41.9**	**-3.8**
	0.2nm,0.3s,baz=195,slow=7.7,SNR=3.5							
ILAR				LR		LR	10 45 24.9	
	comp=Z,48nm,19.5s,baz=312,slow=39							
ILB	**Eielson Array**	**11.55**	**30**	*e*Pn		**Pn**	**10 40 37.6**	**-0.8**
IL1	**Eielson Array**	**11.56**	**30**	*e*Pn		**Pn**	**10 40 38.4**	**0.0**
SCRK	**Sand Creek**	**11.91**	**37**	*e*Pn		**Pn**	**10 40 42.8**	**-0.6**
COLD	**Coldfoot**	**12.86**	**18**	*e*Pn		**Pn**	**10 40 57.3**	**+1.2**
HYT	**Haines Junctio**	**13.19**	**56**	*e*Pn		**Pn**	**10 41 03.9**	**+3.1**
EGAK	**Eagle**	**13.37**	**37**	*e*Pn		**Pn**	**10 41 02.5**	**-0.7**
FYU	**Fort Yukon**	**13.37**	**27**	*e*Pn		**Pn**	**10 41 03.6**	**+0.4**
DAWY	**Dawson**	**13.62**	**42**	*e*Pn		**Pn**	**10 41 06.0**	**-0.7**
SKAG	**Skagway**	**14.01**	**63**	*e*Pn		**Pn**	**10 41 12.6**	**+0.8**
BESE	**Bessie Mountai**	**14.19**	**66**	*e*Pn		**Pn**	**10 41 15.5**	**+1.3**
TOLK	**Toolik Lake Re**	**14.24**	**16**	*e*Pn		**P**	**10 41 17.3**	**-3.2**
WHY	**Whitehorse**	**14.41**	**58**	*e*Pn		**Pn**	**10 41 16.6**	**-0.5**
INK	**Inuvik**	**17.90**	**33**	P		**Pn**	**10 42 00.1**	**-0.9**
	0.5nm,0.3s,baz=232,slow=9.6,SNR=16							
INK	**Inuvik**	**17.90**	**33**	*e*P		**Pn**	**10 42 00.2**	**-0.9**
	6.0nm,1.3s							
BBB	**Bella Bella**	**19.15**	**86**	LR		LR	10 47 40.2	
	comp=Z,46nm,20.2s,baz=29,slow=30							
LLLB	**Lillooet**	**23.35**	**86**	*e*P		**P**	**10 43 01.3**	**+1.7**
	14nm,1.8s							
YKW3	**Yellowknife Ar**	**24.16**	**54**	*e*P		**P**	**10 43 09.1**	**+2.3**
	9.5nm,1.7s							
YKA	**Yellowknife Ar**	**24.16**	**54**	P		**P**	**10 43 06.4**	**-0.4**
	0.5nm,0.5s,baz=272,slow=9.0,SNR=13							
YKA				PcP		**PcP**	**10 46 45.1**	**-0.8**
	0.1nm,0.7s,baz=293,slow=2.4,SNR=3.9							
YKA				ScP		**ScP**	**10 50 18.7**	**-0.4**
	0.1nm,0.5s,baz=284,slow=2.4,SNR=3.8							
PETK	**Petropavlovsk-**	**24.44**	**282**	P		**P**	**10 43 08.9**	**-0.6**
	2.6nm,0.7s,baz=75,slow=14,SNR=14							
SEY	**Seymchan**	**24.95**	**307**	P		**P**	**10 43 11.9**	**-2.1**
	1.6nm,0.6s,baz=106,slow=11,SNR=10							
LON	**Longmire**	**25.34**	**94**	*e*P		**P**	**10 43 18.7**	**+0.9**
	24nm,1.8s							
B08A	**Colville Reser**	**25.89**	**88**	*e*P		**P**	**10 43 24.1**	**+1.4**
	2.7nm,0.8s							
F07A	**Phinny Hill Vi**	**26.90**	**94**	*e*P		**P**	**10 43 33.4**	**+1.6**
	4.7nm,0.9s							
EDM	**Edmonton**	**27.05**	**75**	*e*P		**P**	**10 43 33.6**	**+0.5**
	18nm,1.4s							
JTMT	**Jette**	**29.10**	**86**	*e*P		**P**	**10 43 52.5**	**+1.0**
	11nm,1.6s							
J08A	**Circle Bar Ran**	**29.26**	**97**	*e*P		**P**	**10 43 54.2**	**+1.3**
	17nm,1.9s							
PAHR	**Pah Rah Range**	**31.16**	**103**	*e*P		**P**	**10 44 10.4**	**+0.6**
	30nm,2.0s							
NVAR	**Mina Array Bea**	**32.65**	**103**	P		**P**	**10 44 23.0**	**0.0**
	0.4nm,0.6s,baz=302,slow=9.1,SNR=3.8							
NVAR				PcP		**PcP**	**10 47 07.1**	**-0.5**
	0.4nm,0.7s,baz=293,slow=1.7,SNR=3.5							
YHH	**Holmes Hill**	**32.74**	**88**	*e*P		**P**	**10 44 24.3**	**+0.5**
	3.8nm,1.2s				

WMQ	**Urumqi**	**65.76**	**313**	P	**P**	**10 48 37.0**	**+1.9**
EKA	**Eskdalemuir Ar**	**68.12**	**14**	P	**P**	**10 48 50.1**	**+0.3**
	1.6nm,0.7s,baz=353,slow=5.2,SNR=5.5						
AKTO	**Aktyubinsk**	**69.90**	**335**	P	**P**	**10 49 00.4**	**-0.4**
	2.0nm,0.7s,baz=360,slow=3.9,SNR=6.1						
ABKAR	**Akbulak array**	**70.51**	**333**	*eP*	**P**	**10 49 04.2**	**-0.4**
	18nm,0.4s						
AKASG	**Malin Array Be**	**74.06**	**354**	P	**P**	**10 49 24.8**	**-0.9**
	1.4nm,0.4s,baz=7.3,slow=5.8,SNR=13						
KIEV	**Kiev**	**74.06**	**354**	*eP*	**P**	**10 49 24.9**	**-0.8**
	24nm,2.0s						
AK11	**Malin Array Si**	**74.08**	**354**	*eP*	**P**	**10 49 24.9**	**-0.9**
KSH	**Kashi**	**74.10**	**318**	*eP*	**P**	**10 49 29.0**	**+2.7**
KSH				S	**S**	**10 58 55.5**	**+0.8**
KSH				sS	SKSac	10 59 24.8	-3.9
STHS	**Stebnicka Huta**	**75.63**	**359**	*eP*	**P**	**10 49 36.2**	**+1.3**
GERES	**GERESS Array B**	**76.08**	**4**	P	**P**	**10 49 37.5**	**-0.1**
	0.5nm,0.7s,baz=355,slow=6.9,SNR=2.8						
GEA0	**GERESS Array S**	**76.09**	**4**	*eP*	**P**	**10 49 38.4**	**+0.8**
BUR08	**Bucovina Ar. S**	**77.31**	**356**	*eP*	**P**	**10 49 44.8**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**78.11**	**7**	*eP*	**P**	**10 49 50.2**	**+1.0**
	10nm,1.5s						
KBZ	**Khabaz**	**79.39**	**343**	P	**P**	**10 49 56.4**	**+0.6**
	2.1nm,0.9s,baz=335,slow=9.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**81.01**	**289**	P	**P**	**10 50 04.7**	**-0.4**
	1.7nm,0.6s,baz=21,slow=6.0,SNR=6.9						
ESDC	**Sonseca Array**	**83.22**	**18**	P	**P**	**10 50 16.4**	**0.0**
	0.3nm,0.5s,baz=350,slow=4.2,SNR=3.5						
WRA	**Warramunga Arr**	**93.14**	**239**	P	**P**	**10 51 04.8**	**+0.8**
	0.7nm,0.6s,baz=28,slow=4.2,SNR=2.3						

WEL 18 10:42:12.7±1.1, 31°S±7″×17°8E±1″1, h33km, ML4.6/6, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.98**	**71**	S	Sn	10 43 57.7	+0.9
HAZ	**Te Kaha**	**7.12**	**180**	P	Pn	10 43 56.1	+1.7
HAZ	**Te Kaha**	**7.12**	**180**	S	Sn	10 45 16.9	+2.8
WMGZ	**Waiomatatini S**	**7.20**	**176**	P	Pn	10 43 57.0	+1.4
PKGZ	**Pakihiroa**	**7.25**	**178**	P	Pn	10 43 57.9	+1.5
PKGZ	**Pakihiroa**	**7.25**	**178**	S	Sn	10 45 18.3	+0.7
RUGZ	**Raukumara Rang**	**7.33**	**181**	P	Pn	10 43 59.0	+1.5
RUGZ	**Raukumara Rang**	**7.33**	**181**	S	Sn	10 45 19.0	-0.5
PUZ	**Puketiti**	**7.44**	**177**	P	Pn	10 43 58.0	-0.9
PUZ	**Puketiti**	**7.44**	**177**	S	Sn	10 45 19.9	-2.4
URZ	**Urewera**	**7.64**	**184**	P	Pn	10 44 02.0	+0.4
URZ	**Urewera**	**7.64**	**184**	S	Sn	10 45 31.0	+4.0
MWZ	**Matawai**	**7.70**	**181**	P	Pn	10 44 02.7	+0.2
MWZ	**Matawai**	**7.70**	**181**	S	Sn	10 45 29.9	+1.4
MUGZ	**Murupara**	**7.88**	**186**	P	Pn	10 44 06.6	+1.7
MUGZ	**Murupara**	**7.88**	**186**	S	Sn	10 45 37.2	+4.2
RTZ	**Ruatahuna**	**8.00**	**184**	P	Pn	10 44 06.8	+0.1
RIGZ	**Rimuhau**	**8.07**	**180**	P	Pn	10 44 05.3	-2.2
RIGZ	**Rimuhau**	**8.07**	**180**	S	Sn	10 45 36.4	-1.1
NMHZ	**Naumai**	**8.49**	**185**	P	Pn	10 44 13.7	+0.3
BKZ	**Black Stump Fm**	**8.59**	**187**	P	Pn	10 44 13.6	-1.1
BKZ	**Black Stump Fm**	**8.59**	**187**	S	Sn	10 45 49.8	-0.7
KWHZ	**Kaweka Forest**	**8.85**	**187**	P	Pn	10 44 16.5	-1.8
KWHZ	**Kaweka Forest**	**8.85**	**187**	S	Sn	10 45 56.8	-0.2
KAHZ	**Kahuranaki**	**9.18**	**184**	P	Pn	10 44 19.4	-3.4

*ISCJB **18** 10:43:51.2±0.2,2.38N±0.03×128.53E±0.03,h33km, mb4.7/71,MS3.4/11,Error ellipse: s-maj=4.6km s-min=3.5km az=155.3*
*DJA **18** 10:43:53.1±1.4,2.7N±6.6×12.78E±.7,h23km±9km,M4.7/8, mb5.0/7,mB5.0/5,MLv4.8/8,Mw(mB)4.3/5*
*IDC **18** 10:43:54.8±2.5,2.38N×128.57E,h60km±22km,mb4.0/20, mb1 4.1/21,mb1mx3.9/57,mbtmp4.3/21,ML5.0/1,MS3.3/13, Ms1 3.3/13,ms1mx3.1/47,Error ellipse: s-maj=21.8km s-min=11.2km az=80.0*
*BJI **18** 10:43:55.6,2.36N×128.45E,h61km, mb4.6/23,mB5.0/19, Ms4.5/4,Ms7 4.2/3*
*NEIC **18** 10:43:55.6±0.7,2.31N×128.49E,h62km±7km,mb4.8/41, Error ellipse: s-maj=7.4km s-min=4.4km az=65.0*
NEIC Felt [IV] on Morotai and [III] at Tobelo.

ISC 18 10:43:53.0±0.3, 2.35N±0.04×128.54E±0.05, h35km, n138, σ1§64/133, mb4.7/70, MS3.4/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.96**	**217**	*e*Pn	**Pn**	**10 44 23.6**	**-0.2**
TNTI				*e*Sn	**Sn**	**10 44 50.6**	**+3.5**
LBMI	**Labuha**	**3.15**	**199**	P	**Pn**	**10 44 40.7**	**+0.6**
SGSI	**Sangihe**	**3.29**	**294**	P	**Pn**	**10 44 40.3**	**-1.7**
SGSI				S	**Sn**	**10 45 19.8**	**-0.1**
SWI	**Sorong**	**4.20**	**140**	P	**Pn**	**10 44 56.9**	**+2.4**
SWI				S	**Sn**	**10 45 44.3**	**+2.0**
SANI	**Sanana**	**5.06**	**210**	P	**Pn**	**10 45 06.4**	**0.0**
	107nm,0.8s,944nm0.3nm						
DAV	**Davao City (W)**	**5.54**	**328**	P	**Pn**	**10 45 15.9**	**+2.9**
	48nm,0.3s,baz=79,slow=5.2,SNR=2.6						
DAV				S	**Sn**	**10 46 20.7**	**+5.2**
	34nm,0.3s,baz=254,slow=20,SNR=2.8						
NLAI	**Namlea**	**5.74**	**195**	P	**Pn**	**10 45 18.0**	**+2.3**
NLAI				S	**Pn**	**10 45 18.0**	**+2.3**
FAKI	**Fak Fak**	**6.42**	**145**	P	**Pn**	**10 45 27.5**	**+2.4**
	149nm,1.0s,2μm0.5nm						
FAKI	**Fak Fak**	**6.42**	**145**	*e*Pn	**Pn**	**10 45 27.4**	**+2.4**
LUWI	**Luwuk**	**6.68**	**240**	P	**Pn**	**10 45 29.4**	**+0.7**
	92nm,0.6s,0.8nm						
LUWI	**Luwuk**	**6.68**	**240**	*e*Pn	**Pn**	**10 45 30.5**	**+1.8**
MRSI	**Marisa**	**6.85**	**254**	P	**Pn**	**10 45 31.8**	**+0.7**
	149nm,1.0s,1μm0.5nm						
APSI	**Ampana**	**7.61**	**245**	P	**Pn**	**10 45 41.8**	**+0.3**
	109nm,0.6s,1μm0.5nm						
MYLDM	**Lahad Datu**	**10.40**	**286**	*e*Pn	**Pn**	**10 46 21.6**	**+1.8**
SAUI	**Saumlaki**	**10.63**	**165**	*e*Pn	**Pn**	**10 46 24.0**	**+1.1**
KKM	**Kota Kinabalu**	**12.82**	**287**	*e*Pn	**Pn**	**10 46 55.6**	**+2.6**
BATI	**Baumata**	**13.39**	**201**	LR	LR	10 52 22.7	
	comp=Z,148nm,21.8s,baz=31,slow=38						
MTN	**Manton Dam**	**15.31**	**170**	*e*Pn	**Pn**	**10 47 26.4**	**-0.3**
	20nm,0.6s						
SBUM	**Sibu**	**16.30**	**271**	*e*Pn	**Pn**	**10 47 40.1**	**+0.7**
	25nm,0.9s						
KSM	**Kuching**	**18.24**	**268**	*e*P	**Pn**	**10 48 03.8**	**+0.2**
	16nm,0.8s						
PWJI	**Pagerwojo**	**19.62**	**238**	P	**Pn**	**10 48 20.0**	**-0.1**
	56nm,0.8s						
GUMO	**Guam**	**19.63**	**54**	LR	LR	10 54 32.9	
	comp=Z,68nm,21.9s,baz=177,slow=33						
PCJI	**Pacitan**	**20.24**	**239**	P	Pn	10 48 26.6	-0.8
UGM	**Wanagama**	**20.66**	**240**	*e*P	**P**	**10 48 30.1**	**+0.1**
	1μm,1.8s						
COEN	**Coen**	**21.75**	**139**	*e*P	**P**	**10 48 44.0**	**+2.3**
	121nm,1.8s						
PMG	**Port Moresby**	**21.92**	**122**	P	**P**	**10 48 46.0**	**+2.5**
	2.6nm,0.5s,baz=270,slow=9.1,SNR=2.7						
YULB	**Yu-li**	**22.06**	**342**	*e*P	**P**	**10 48 46.5**	**+1.6**
	18nm,1.0s						
SSLB	**Suanglung**	**22.54**	**342**	*e*P	**P**	**10 48 51.1**	**+1.0**
	19nm,0.9s						
YOJ	**Yonaguni jima**	**22.62**	**347**	*e*P	**P**	**10 48 52.5**	**+1.7**
	878nm,1.9s						
LEM	**Lembang**	**22.79**	**246**	P	**P**	**10 48 53.9**	**+0.9**
	59nm,1.0s,baz=351,slow=12,SNR=5.5						
WRAB	**Tennant Creek**	**22.87**	**166**	*e*P	**P**	**10 48 53.5**	**-0.1**
	33nm,0.8s						
WRA	**Warramunga Arr**	**22.88**	**166**	P	**P**	**10 48 53.4**	**-0.3**
	16nm,0.7s,baz=343,slow=10,SNR=45						
WB2	**Warramunga Arr**	**22.88**	**166**	*e*P	**P**	**10 48 50.0**	**-3.7**
CISI	**Cisompet, Garu**	**22.90**	**244**	*e*P	**P**	**10 48 52.3**	**-1.7**
	117nm,1.2s						
YHNB	**Yeheng**	**23.24**	**343**	*e*P	**P**	**10 48 57.5**	**+0.1**
	58nm,1.3s						
MBWA	**Marble Bar**	**24.91**	**200**	*e*P	**P**	**10 49 11.1**	**-1.7**
	74nm,1.5s						
AS31	**Alice Springs**	**26.38**	**169**	*e*P	**P**	**10 49 26.0**	**-0.3**
	4.3nm,0.9s						
ASAR	**Alice Springs**	**26.38**	**169**	P	**P**	**10 49 25.9**	**-0.3**
	3.3nm,0.7s,baz=342,slow=7.4,SNR=34						
ASAR				PcP	**PcP**	**10 52 50.0**	**-1.5**
	1.4nm,0.5s,baz=354,slow=2.0,SNR=8.6						
ASAR				ScP	**ScP**	**10 56 25.1**	**-3.9**
	0.6nm,0.8s,baz=359,slow=3.4,SNR=4.9						
AS01	**Alice Springs**	**26.39**	**169**	*e*P	**P**	**10 49 25.8**	**-0.5**
AS01				*e*PcP	**PcP**	**10 52 49.3**	**-2.3**
SKNT	**Sakolnakorn**	**28.17**	**303**	P	**P**	**10 49 42.3**	**-0.1**
	6.5nm,0.8s						
CHAI	**Chaiyaphum**	**29.41**	**299**	P	**P**	**10 49 53.6**	**+0.2**
	5.0nm,1.0s						

SURT	**Suratani**	**30.30**	**284**	P	P	10 50 09.4	+8.1
JNU	**Nakatsue**	**30.69**	**4**	LR	LR	11 01 23.9	
	comp=Z,88nm,20.8s,baz=122,slow=34						
NJ2	**Nanjing**	**30.92**	**344**	*e*P	**P**	**10 50 07.6**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
PHIT	**Phitsanulok**	**31.32**	**300**	P	**P**	**10 50 11.3**	**+1.1**
	11nm,0.9s,409nm						
JHJ	**Hachijo jima 2**	**32.37**	**18**	LR	LR	11 01 43.4	
	comp=Z,57nm,20.7s,baz=264,slow=33						
CMAR	**Chiang Mai Arr**	**33.12**	**301**	P	**P**	**10 50 26.0**	**-0.1**
	1.2nm,0.4s,baz=122,slow=7.5,SNR=13						
CMMT	**Chiang Mai**	**33.27**	**302**	P	**P**	**10 50 27.7**	**+0.3**
	5.6nm,1.4s,487nm						
CHTO	**Chiang Mai**	**33.28**	**302**	P	**P**	**10 50 28.8**	**+1.4**
	25nm,1.5s						
CHTO	**Chiang Mai**	**33.28**	**302**	*e*P	**P**	**10 50 27.0**	**-0.4**
	7.2nm,1.1s						
KMI	**Kunming**	**33.63**	**315**	P	**P**	**10 50 32.9**	**+2.2**
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
KMI				pmax	pmax		
	comp=Z,53nm,4.1s						
CMAI	**Chiengmai2**	**33.69**	**303**	P	P	10 50 40.4	+9.2
KSAR	**Wonju Array Be**	**34.92**	**359**	P	**P**	**10 50 40.7**	**-0.7**
KSRS	**Korea Array**	**34.94**	**359**	P	**P**	**10 50 40.7**	**-0.8**
	3.3nm,0.8s,baz=172,slow=9.4,SNR=7.3						
KSRS				LR	LR	11 04 24.6	
	comp=Z,44nm,20.1s,baz=184,slow=35						
EIDS	**Eidsvold**	**35.17**	**143**	*e*P	**P**	**10 50 42.9**	**-0.8**
	93nm,1.9s						
MJAR	**Matsushiro Arr**	**35.17**	**14**	P	**P**	**10 50 41.5**	**-2.2**
	2.1nm,0.7s,baz=190,slow=9.9,SNR=8.8						
MAJO	**Matsushiro**	**35.17**	**14**	*e*P	**P**	**10 50 44.2**	**+0.5**
	6.3nm,0.8s						
MJB9	**Matsu-Tunnel**	**35.18**	**14**	*e*P	**P**	**10 50 44.2**	**+0.5**
	6.4nm,0.8s						
BBOO	**Buckleboo**	**35.69**	**169**	*e*P	**P**	**10 50 47.8**	**-0.3**
	54nm,1.8s						
STKA	**Stephens Creek**	**36.23**	**161**	P	**P**	**10 50 52.5**	**-0.2**
	10nm,0.8s,baz=336,slow=8.6,SNR=22						
STKA				LR	LR	11 08 18.0	
	comp=Z,60nm,18.2s,baz=22,slow=40						
STKA	**Stephens Creek**	**36.23**	**161**	*e*P	**P**	**10 50 53.0**	**+0.2**
	1.8nm,0.7s						
XAN	**Xi'an**	**36.46**	**332**	P	**P**	**10 50 54.9**	**+0.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CD2	**Chengdu**	**36.82**	**323**	*e*P	**P**	**10 50 58.5**	**+0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
BJI	**Beijing**	**39.16**	**345**	P	**P**	**10 51 19.1**	**+1.7**
ARMA	**Armidale**	**39.34**	**148**	*e*P	**P**	**10 51 20.4**	**+1.2**
	120nm,1.9s						
LZH	**Lanzhou**	**40.60**	**329**	*e*P	**P**	**10 51 34.1**	**+4.4**
LZH				pP	sP	10 51 51.5	+7.3
LZH				PP	**PnPn**	**10 53 11.3**	**+3.5**
LZH				*e*S	**S**	**10 57 39.0**	**+1.8**
LZH				SS	**SS**	**11 00 34.4**	**-3.8**
LZH				pmax	pmax		
	comp=Z,44nm,1.3s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
H11S3	**WAKE ISLAND Hy**	**40.66**	**64**	T	T	11 34 45.9	
	baz=252,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**40.68**	**64**	T	T	11 34 53.5	
	baz=252,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**40.68**	**64**	T	T	11 34 54.1	
	baz=252,slow=75,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**41.25**	**62**	T	T	11 35 36.1	
	baz=250,slow=75,SNR=48						
H11N2	**WAKE ISLAND Hy**	**41.26**	**62**	T	T	11 35 32.4	
	baz=250,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**41.27**	**62**	T	T	11 35 37.4	
	baz=250,slow=75,SNR=31						
HHC	**Hu-ho-hao-te**	**41.28**	**340**	*e*P	P	10 51 40.3	+5.2
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,62nm,6.6s						
CN2	**Changchun**	**41.36**	**357**	*e*P	**P**	**10 51 34.6**	**-1.0**
CN2				*e*pP	sP	10 51 49.9	-0.2
USRK	**Ussuriysk Ar.**	**41.78**	**4**	P	**P**	**10 51 38.6**	**-0.4**
	3.0nm,0.6s,baz=204,slow=7.3,SNR=3.2						
SHL	**Shillong**	**42.14**	**307**	*e*P	**P**	**10 51 42.0**	**-0.5**
JIRN	**Jiri**	**47.64**	**306**	*e*P	**P**	**10 52 25.6**	**-0.9**
	18nm,0.6s						
GUN	**Gumba**	**47.99**	**306**	*e*P	**P**	**10 52 28.3**	**-0.9**
	18nm,0.6s						
PKI	**Pulchoki**	**48.23**	**306**	*e*P	**P**	**10 52 30.5**	**-0.5**
	5.3nm,0.5s						
PKIN	**Phulchoki**	**48.25**	**306**	*e*P	**P**	**10 52 30.9**	**-0.2**
	17nm,0.7s						
DMN	**Daman**	**48.50**	**305**	*e*P	**P**	**10 52 32.9**	**-0.1**
	9.5nm,0.5s						
ULN	**Ulaanbaatar**	**48.99**	**341**	*e*P	**P**	**10 52 36.2**	**0.0**
	5.7nm,0.8s						
SONM	**Songino Array**	**49.18**	**340**	P	**P**	**10 52 36.4**	**-1.3**
	2.3nm,0.7s,baz=154,slow=8.1,SNR=15						
SONM				LR	LR	11 15 36.5	
	comp=Z,37nm,18.2s,baz=162,slow=39						
SONA1	**Songino Array**	**49.19**	**340**	*e*P	**P**	**10 52 36.6**	**-1.2**
KOLN	**Koldanda**	**49.79**	**305**	*e*P	**P**	**10 52 42.4**	**-0.4**
	13nm,0.4s						
PYUN	**Piuthan**	**50.41**	**305**	*e*P	**P**	**10 52 47.2**	**-0.3**
	22nm,0.7s						
HYB	**Hyderabad**	**51.28**	**290**	*i* P	**P**	**10 52 54.0**	**0.0**
WMQ	**Urumqi**	**54.88**	**325**	P	**P**	**10 53 21.9**	**+1.7**
WMQ				LR	LR		
	comp=N,120nm,28.1s						
PETK	**Petropavlovsk-**	**56.04**	**21**	P	**P**	**10 53 27.2**	**-1.0**
	2.9nm,0.8s,baz=209,slow=2.2,SNR=6.6						
PETK	**Petropavlovsk-**	**56.04**	**21**	*e*P	**P**	**10 53 28.3**	**+0.1**
MA2	**Magadan**	**59.61**	**13**	P	**P**	**10 53 52.1**	**-1.0**
	1.6nm,0.3s,baz=220,slow=7.8,SNR=3.1						
MK01	**Makanchi Array**	**59.69**	**325**	*e*P	**P**	**10 53 54.1**	**0.0**
MK31	**Makanchi Array**	**59.71**	**325**	*e*P	**P**	**10 53 53.7**	**-0.4**
MKAR	**Makanchi Array**	**59.71**	**325**	P	**P**	**10 53 52.5**	**-1.6**
	1.3nm,0.5s,baz=122,slow=9.3,SNR=9.6						
MKAR	**Makanchi Array**	**59.71**	**325**	*e*P	**P**	**10 53 53.6**	**-0.5**
	24nm,0.8s						
MAKZ	**Makanchi**	**59.90**	**325**	*e*P	**P**	**10 53 53.8**	**-1.7**
	3.3nm,0.8s						
KSH	**Kashi**	**60.29**	**315**	*e*P	**P**	**10 54 01.5**	**+3.1**
KSH				pmax	pmax		
	comp=Z,130nm,6.3s						
AFI	**Afiamalu**	**61.31**	**107**	LR	LR	11 20 51.5	
	comp=Z,22nm,18.2s,baz=112,slow=36						
MCQ	**Macquarie Isla**	**62.00**	**160**	*e*P	**P**	**10 54 10.2**	**+0.7**
	826nm,1.8s						
ZALV	**Zalesovo Beam**	**62.63**	**333**	P	**P**	**10 54 12.4**	**-1.4**
	0.6nm,0.5s,baz=134,slow=4.2,SNR=2.8						
ZALV				LR	LR	11 23 10.9	
	comp=Z,19nm,18.6s,baz=70,slow=38						
ZALV	**Zalesovo Beam**	**62.63**	**333**	*e*P	**P**	**10 54 16.4**	**+2.6**
SEY	**Seymchan**	**62.98**	**12**	P	**P**	**10 54 15.6**	**-0.3**
	2.0nm,0.7s,baz=168,slow=4.1,SNR=10						
KURBB	**Kurchatov Arra**	**63.87**	**327**	P	**P**	**10 54 19.8**	**-2.2**
	1.6nm,0.7s,baz=127,slow=6.1,SNR=12						
KURK	**Kurchatov**	**63.87**	**327**	*e*P	**P**	**10 54 22.2**	**+0.2**
	4.7nm,0.8s						
KKAR	**Karatay Array**	**65.47**	**317**	*e*P	**P**	**10 54 36.7**	**+4.1**
TIXI	**Tiksi**	**69.20**	**0**	*e*P	**P**	**10 54 55.2**	**-0.4**
	3.4nm,1.0s						
BVAR	**Borovoye Array**	**69.45**	**327**	P	**P**	**10 54 56.9**	**-0.8**
	0.7nm,0.6s,baz=111,slow=7.9,SNR=3.1						
BVAR				LR	LR	11 27 00.1	
	comp=Z,29nm,18.6s,baz=294,slow=37						
BRVK	**Borovoye**	**69.53**	**327**	*e*P	**P**	**10 54 57.4**	**-0.7**
	3.7nm,0.6s						
AKUT	**Akutan**	**74.04**	**34**	*e*P	**P**	**10 55 23.0**	**-2.1**
	337nm,1.8s						
ABKAR	**Akbulak array**	**74.35**	**321**	*e*P	**P**	**10 55 29.3**	**+2.2**
	14nm,0.8s						
GAMB	**Gambell**	**74.92**	**23**	*e*PcP	**PcP**	**10 55 40.5**	**-3.3**
AKTO	**Aktyubinsk**	**75.85**	**322**	P	**P**	**10 55 35.8**	**0.0**
	0.5nm,0.4s,baz=94,slow=13,SNR=2.7						
VNDA	**Vanda**	**81.85**	**173**	P	**P**	**10 56 06.3**	**-1.8**
	1.0nm,0.8s,baz=6.1,slow=3.4,SNR=3.9						
VNDA				LR	LR	11 30 25.7	
	comp=Z,19nm,19.9s,baz=257,slow=34						
KDAK	**Kodiak Island**	**82.09**	**32**	*e*P	**P**	**10 56 10.0**	**+0.4**
	248nm,1.8s						
PPLA	**Purkeypile**	**83.03**	**27**	*e*P	**P**	**10 56 15.9**	**+1.2**
	29nm,1.7s						

CAST	**Castle Rocks**	**83.15**	**26**	*e*P	**P**	**10 56 15.9**	**+0.7**
	22nm,1.9s						
SUA	**Susitna One**	**83.50**	**28**	*e*P	**P**	**10 56 17.5**	**+0.3**
	36nm,2.0s						
RC01	**Rabbit Creek A**	**83.94**	**29**	*e*P	**P**	**10 56 18.4**	**-0.9**
	19nm,1.5s						
TRF	**Thorofare Moun**	**83.95**	**27**	*e*P	**P**	**10 56 19.2**	**-0.3**
	19nm,1.7s						
MLY	**Manley**	**83.95**	**25**	*e*P	**P**	**10 56 19.1**	**-0.3**
	7.3nm,1.4s						
PMR	**Palmer**	**84.28**	**28**	*e*P	**P**	**10 56 20.2**	**-0.8**
	32nm,1.9s						
COLD	**Coldfoot**	**84.45**	**23**	*e*P	**P**	**10 56 22.0**	**+0.2**
	4.7nm,0.9s						
RND	**Reindeer**	**84.59**	**27**	*e*P	**P**	**10 56 22.2**	**-0.4**
	36nm,2.0s						
SML	**Sawmill**	**84.68**	**28**	*e*P	**P**	**10 56 22.9**	**-0.2**
	34nm,1.8s						
TOLK	**Toolik Lake Re**	**84.86**	**21**	*e*P	**P**	**10 56 23.9**	**0.0**
	4.1nm,1.0s						
SCM	**Sheep Creek Mo**	**85.16**	**28**	*e*P	**P**	**10 56 25.6**	**0.0**
	46nm,1.7s						
GLI	**Glacier Island**	**85.21**	**29**	*e*P	**P**	**10 56 25.5**	**-0.2**
	23nm,1.0s						
DHY	**Denali Highway**	**85.23**	**27**	*e*P	**P**	**10 56 26.4**	**+0.4**
	8.0nm,1.4s						
ILAR	**Eielson Array**	**85.56**	**25**	P	**P**	**10 56 26.5**	**-0.9**
	0.2nm,0.4s,baz=239,slow=5.1,SNR=10						
ILAR				LR	LR	11 38 21.2	
	comp=Z,14nm,18.0s,baz=169,slow=38						
RIDG	**Independ'e Rid**	**86.40**	**26**	*e*P	**P**	**10 56 31.1**	**-0.5**
	36nm,2.0s						
DAWY	**Dawson**	**88.81**	**26**	*e*P	**P**	**10 56 42.5**	**-0.6**
	14nm,1.8s						
SPITS	**Spitsbergen Ar**	**92.17**	**349**	LR	LR	11 44 23.1	
	comp=Z,8.3nm,20.7s,baz=160,slow=39						
YKA	**Yellowknife Ar**	**99.99**	**25**	P	**Pdif**	**10 57 33.4**	**-0.8**
	0.1nm,0.6s,baz=298,slow=4.4,SNR=4.0						
NRS	**Narsarsuaq**	**116.49**	**357**	*e*PKPdf	**PKPdf**	**11 02 31.1**	**-1.8**
KSCO	**Kaye Shedlock'**	**117.55**	**43**	*e*PKPdf	**PKPdf**	**11 02 33.4**	**-2.4**
TORD	**Torodi Ar. Bea**	**125.06**	**288**	PKP	**PKPdf**	**11 02 50.6**	**-0.1**
	0.7nm,0.9s,baz=71,slow=0.9,SNR=3.4						
TKL	**Tuckaleechee C**	**131.61**	**36**	*e*PKPdf	**PKPdf**	**11 02 58.5**	**-4.2**
LCO	**Las Campanas**	**147.78**	**147**	*e*PKPbc	**PKPbc**	**11 03 34.3**	**-0.9**

*IDC **18** 10:54:10.8±3.0, 19.7S×177.08W, h276km±31km, mb3.5/7, mb1 3.7/9,mb1mx3.3/48,mbtmp4.1/9,Error ellipse: s-maj=32.7km s-min=16.0km az=157.0*
*ISCJB **18** 10:54:11.5±0.8, 19.0S±0.2×177.2W±0.2, h300km, mb3.7/7, Error ellipse: s-maj=36.2km s-min=12.0km az=147.4*

ISC 18 10:54:14.1±1.7, 19.0S±0.9×177.3W±0.4, h300km, n9, σ0§57/6, mb3.9/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.31**	**47**	P	Pn	10 55 55.6	-3.8
	1.8nm,0.3s,baz=4.4,slow=14,SNR=4.1						
AFI				S	S	10 57 14.0	-11
	2.1nm,0.3s,baz=36,slow=19,SNR=3.5						
DZM	**Mont Dzumac**	**15.53**	**256**	P	**P**	**10 57 36.3**	**-0.8**
	0.0nm,0.3s,baz=83,slow=17,SNR=1.7						
CTA	**Charters Tower**	**34.31**	**262**	P	**P**	**11 00 33.6**	**+0.5**
	2.7nm,0.7s,baz=75,slow=9.6,SNR=4.3						
STKA	**Stephens Creek**	**39.05**	**243**	P	**P**	**11 01 12.8**	**+0.1**
	5.0nm,0.8s,baz=101,slow=15,SNR=7.3						
WRA	**Warramunga Arr**	**45.47**	**260**	P	**P**	**11 02 04.4**	**0.0**
	1.4nm,0.4s,baz=98,slow=7.5,SNR=34						
ASAR	**Alice Springs**	**45.52**	**255**	P	**P**	**11 02 04.8**	**+0.1**
	8.7nm,0.7s,baz=92,slow=8.2,SNR=151						
QSPA	**South Pole Qui**	**71.11**	**180**	P	P	11 04 57.7	-2.3
	1.9nm,0.7s,baz=101,slow=1.7,SNR=10.0						
TXAR	**Lajitas Array**	**85.68**	**57**	P	**P**	**11 06 19.8**	**-0.1**
	0.5nm,0.7s,baz=198,slow=8.5,SNR=4.3						
ILAR	**Eielson Array**	**86.67**	**13**	P	P	11 06 22.8	-0.9
	0.2nm,0.7s,baz=214,slow=6.3,SNR=5.1						

*NIED **18** 10:58:00,39.40N×143.50E,h14km,Mw3.5 Best double couple: M0 1.69000×10^14 NP1:φ=175.00000°,δ=30.00000°, λ=65.00000°. NP2:φ=23.00000°,δ=63.00000°,λ=104.00000°.*
*ISCJB **18** 10:58:28.4±0.9,39.36N±0.05×143.51E±0.

NVAR	**Mina Array Bea**	**80.27**	**43**	P	**P**	**11 17 29.6**	**+1.1**
	0.3nm,0.6s,baz=220,slow=6.8,SNR=2.8							
TXAR	**Lajitas Array**	**86.43**	**57**	P	**P**	**11 18 00.8**	**+1.1**
	0.5nm,0.9s,baz=184,slow=6.1,SNR=4.0							
ILAR	**Eielson Array**	**87.44**	**13**	P	**P**	**11 18 03.1**	**-0.4**
	0.3nm,0.5s,baz=224,slow=4.2,SNR=11							
PDAR	**Pinedale Array**	**88.21**	**43**	P	**P**	**11 18 07.0**	**-0.9**
	0.5nm,0.9s,baz=253,slow=6.3,SNR=3.5							
SNAA	**Sanae**	**88.85**	**178**	P	**P**	**11 18 09.1**	**-1.2**
	0.5nm,0.5s,baz=168,slow=9.3,SNR=4.9							
VNA3	**Neumayer Olymp**	**88.97**	**176**	P	**P**	**11 18 10.0**	**-0.8**
VNA2	**Neumayer--Watz**	**89.42**	**177**	P	**P**	**11 18 12.3**	**-0.6**
	baz=190,slow=4.3							
EKA	**Eskdalemuir Ar**	**144.14**	**5**	PKP	**PKPab**	**11 24 48.3**	**-0.1**
	1.0nm,0.5s,baz=329,slow=2.9,SNR=6.5							

*IDC **18** 11:05:57.2±1.2, 15.°15N×145.°14E, h0km, mb3.9/6, mb1 3.9/6, mb1mx3.5/57, mbtmp3.9/6, Error ellipse: s-maj=39.5km s-min=23.2km az=96.0*
*ISCJB **18** 11:06:00.3±0.9, 15.°1N±0.°1×145.°1E±0.°3, h33km, mb3.7/6, Error ellipse: s-maj=39.4km s-min=14.8km az=2.4*

ISC 18 11:06:01.8±1.0, 14.°98N±0.°09×145.°1E±0.°3, h35km, n7, σ1§30/8, mb3.8/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.41**	**190**			Pn	**Pn**	**11 06 26.7**	**+1.7**
	158nm,0.3s,baz=333,slow=4.5,SNR=111								
GUMO						Sn	**Sn**	**11 06 40.1**	**-2.1**
	339nm,0.3s,baz=179,slow=23,SNR=29								
ASAJ	**Asahikawa**	**29.12**	**356**	P			**P**	**11 11 58.8**	**-0.5**
	1.3nm,0.4s,baz=253,slow=19,SNR=5.8								
MKAR	**Makanchi Array**	**60.67**	**315**	P			**P**	**11 16 09.9**	**+0.3**
	0.2nm,0.5s,baz=89,slow=8.8,SNR=3.6								
KURBB	**Kurchatov Arra**	**63.73**	**319**	P			**P**	**11 16 29.7**	**-0.2**
	0.8nm,0.4s,baz=103,slow=7.0,SNR=9.2								
ILAR	**Eielson Array**	**67.21**	**26**	P			**P**	**11 16 52.6**	**+0.4**
	0.2nm,0.4s,baz=247,slow=5.5,SNR=7.5								
BVAR	**Borovoye Array**	**69.00**	**321**	P			**P**	**11 17 03.5**	**-0.2**
	0.8nm,0.5s,baz=103,slow=6.2,SNR=4.2								
YKA	**Yellowknife Ar**	**81.52**	**28**	P			**P**	**11 18 14.9**	**-0.6**
	0.1nm,0.4s,baz=284,slow=5.3,SNR=3.2								

*SKO **18** 11:43:45.0, 40.°79N×21.°17E, h25km, M3.1, ML3.5*
*TIR **18** 11:43:45.8, 40.°83N×21.°18E, h15km, ML3.3*
*PDG **18** 11:43:46.4±0.7, 40.°83N×21.°29E, h13km±1km, ML3.2/9, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*
*BEO **18** 11:43:46.9±0.2, 40.°83N×21.°32E, h18km±2km, M2.6/1*
*ATH **18** 11:43:46.2, 40.°78N×21.°34E, h23km±1km, ML2.9/15, Error ellipse: s-maj=2.1km s-min=1.0km az=143.0*
*CSEM **18** 11:43:46.2±0.1, 40.°82N×21.°32E, h8km, ML2.9, Error ellipse: s-maj=2.7km s-min=1.9km az=70.0*
*THE **18** 11:43:47.0, 40.°79N×21.°27E, h14km±1km, ML3.0/10, Error ellipse: s-maj=1.6km s-min=0.9km az=112.0*

ISC 18 11:43:46.5±0.9, 40.°81N±0.°01×21.°26E±0.°02, h19km, n213, σ1§20/293, 18C-17D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.09**	**105**	*i*	PG		**Pb**	**11 43 50.1**	**-0.2**
FNA				*i*	SG		**Sb**	**11 43 53.2**	**+0.5**
FNA	**Florina**	**0.09**	**105**	*e*	Pg		**Pb**	**11 43 50.0**	**-0.3**
FNA				*e*	Sg		**Sb**	**11 43 53.1**	**+0.4**
FNA	**Florina**	**0.09**	**105**		P		**Pb**	**11 43 50.0**	**-0.3**
FNA					S		**Sb**	**11 43 53.2**	**+0.5**
FNA					AML	AML		11 43 53.4	
	comp=N,72101μm,0.2s								
FNA					AML	AML		11 43 53.5	
FNA	**Florina**	**0.09**	**105**		P		**Pb**	**11 43 50.1**	**-0.2**
FNA					S		**Sb**	**11 43 53.2**	**+0.5**
FNA	**Florina**	**0.09**	**105**		P		**Pb**	**11 43 50.2**	**-0.2**
FNA					S		**Sb**	**11 43 53.2**	**+0.5**
BIA	**Bitola**	**0.22**	**14**		P		**Pb**	**11 43 51.9**	**+0.4**
BIA					S		**Sb**	**11 43 56.1**	**+1.4**
BIA	**Bitola**	**0.22**	**14**		P		**Pb**	**11 43 51.9**	**+0.4**
BIA					S		**Sb**	**11 43 56.1**	**+1.4**
BIA	**Bitola**	**0.22**	**14**	*i*	Pg		**Pb**	**11 43 51.9**	**+0.4**
BIA				*i*	Sg		**Sb**	**11 43 56.2**	**+1.6**
KBN	**Korca**	**0.40**	**243**	*i*	PG		**Pb**	**11 43 53.5**	**-1.6**
KBN				*i*	SG		**Sb**	**11 43 59.5**	**-1.5**
KBN	**Korca**	**0.40**	**243**	*i*	Pg		**Pb**	**11 43 53.5**	**-1.6**
NEST	**Nestorio**	**0.42**	**202**		P		**Pb**	**11 43 53.4**	**-2.1**
NEST					S		**Sb**	**11 44 01.1**	**-0.5**
NEST					AML	AML		11 44 01.9	
	comp=E,12794μm,0.3s								
NEST					AML	AML		11 44 02.5	
	comp=N,9780μm,0.3s								
NEST	**Nestorio**	**0.42**	**202**		P		**Pb**	**11 43 54.3**	**-1.2**
NEST					S		**Sb**	**11 44 01.4**	**-0.2**
NEST	**Nestorio**	**0.42**	**202**		P		**Pb**	**11 43 54.3**	**-1.2**
NEST					S		**Sb**	**11 44 01.1**	**-0.5**
OHR	**Ohrid**	**0.46**	**311**	*e*	Pg		**Pb**	**11 43 54.6**	**-1.5**
OHR				*i*	Sg		**Sb**	**11 44 02.2**	**-0.4**
OHR				*e*	Lg	Lg		11 44 02.3	
	comp=N,3μm,0.4s								
OHR				*e*	Lg	Lg		11 44 02.3	
	comp=E,4μm,0.5s								
KRUS	**Krusevo**	**0.56**	**359**	*i*	Pg		**Pb**	**11 43 56.7**	**-1.0**
KRUS				*i*	Sg		**Sb**	**11 44 05.5**	**+0.2**
PENT	**Pentalofos**	**0.62**	**188**		P		**Pb**	**11 43 57.4**	**-1.3**
PENT					S		**Sb**	**11 44 07.3**	**+0.3**
PENT					AML	AML		11 44 10.4	
	comp=N,2848μm,0.1s								
PENT					AML	AML		11 44 11.4	
	comp=E,2992μm,0.2s								
PENT	**Pentalofos**	**0.62**	**188**		P		**Pb**	**11 43 57.9**	**-0.8**
PENT					S		**Sb**	**11 44 07.2**	**+0.3**
PENT	**Pentalofos**	**0.62**	**188**		P		**Pb**	**11 43 57.7**	**-1.0**
PENT					S		**Sb**	**11 44 07.1**	**+0.1**
KZN	**Kozani**	**0.64**	**142**		P		**Pb**	**11 43 58.7**	**-0.2**
KZN					S		**Sb**	**11 44 07.3**	**-0.1**
KZN					AML	AML		11 44 11.8	
	comp=E,4920μm,0.3s								
KZN					AML	AML		11 44 12.1	
	comp=N,4609μm,0.5s								
KZN	**Kozani**	**0.64**	**142**		P		**Pb**	**11 43 58.3**	**-0.7**
KZN					S		**Sb**	**11 44 06.9**	**-0.6**
KZN	**Kozani**	**0.64**	**142**		P		**Pb**	**11 43 58.3**	**-0.7**
KZN					S		**Sb**	**11 44 08.4**	**+0.9**
KTI	**Kastanea**	**0.78**	**122**		P		**Pb**	**11 44 00.8**	**-0.7**
KTI	**Kastanea**	**0.78**	**122**		P		**Pb**	**11 44 00.8**	**-0.7**
KPRO	**Kipourio**	**0.86**	**175**		P		**Pb**	**11 44 02.5**	**-0.4**
KPRO					S		**Sb**	**11 44 13.3**	**-0.6**
KPRO					AML	AML		11 44 18.9	
	comp=E,3166μm,0.5s								
KPRO					AML	AML		11 44 20.0	
	comp=N,2842μm,0.5s								
KPRO	**Kipourio**	**0.86**	**175**		P		**Pb**	**11 44 02.4**	**-0.4**
KPRO					S		**Sb**	**11 44 13.6**	**-0.3**
KPRO	**Kipourio**	**0.86**	**175**		P		**Pb**	**11 44 01.2**	**-1.6**
KPRO					S		**Sn**	**11 44 16.4**	**+0.7**
GRG	**Griva**	**0.88**	**80**		P		**Pn**	**11 44 03.5**	**-0.4**
GRG					AML	AML		11 44 21.6	
	comp=E,1087μm,0.4s								
GRG					AML	AML		11 44 27.9	
	comp=N,760μm,0.4s								
GRG	**Griva**	**0.88**	**80**		P		**Pb**	**11 44 02.9**	**-0.3**
PHP	**Peshkopia**	**1.07**	**325**	*i*	PG		**Pb**	**11 44 04.9**	**-1.6**
PHP				*i*	SG		**Sn**	**11 44 20.5**	**-0.4**
PHP	**Peshkopia**	**1.07**	**325**	*i*	Pg		**Pb**	**11 44 04.9**	**-1.6**
VAY	**Valandovo**	**1.12**	**62**	*e*	Pg		**Pb**	**11 44 07.5**	**+0.3**
VAY				*e*	Sg		**Sb**	**11 44 19.4**	**-2.0**
VAY	**Valandovo**	**1.12**	**62**		P		**Pn**	**11 44 07.0**	**-0.1**
VAY	**Valandovo**	**1.12**	**62**	*e*	Pg		**Pb**	**11 44 07.5**	**+0.3**
VAY	**Valandovo**	**1.12**	**62**		P		**Pn**	**11 44 07.0**	**-0.1**
VAY	**Valandovo**	**1.12**	**62**	*e*	Pg		**Pb**	**11 44 07.5**	**+0.3**
SKO	**Skopje**	**1.17**	**7**	*e*	Pg		**Pn**	**11 44 07.6**	**-0.3**
SKO				*e*	Sg		**Sn**	**11 44 23.9**	**+0.5**
SKO	**Skopje**	**1.17**	**7**		P		**Pn**	**11 44 06.8**	**-1.1**
SKO	**Skopje**	**1.17**	**7**	*e*	Pg		**Pn**	**11 44 07.6**	**-0.3**
SKO				*e*	Sg		**Sn**	**11 44 23.9**	**+0.5**
SKO	**Skopje**	**1.17**	**7**		P		**Pn**	**11 44 06.8**	**-1.1**
SKO	**Skopje**	**1.17**	**7**	*i*	Pg		**Pn**	**11 44 07.6**	**-0.3**
SKO				*i*	Sg		**Sn**	**11 44 24.7**	**+1.4**
LIT	**Litokhoron**	**1.18**	**127**		P		**Pb**	**11 44 08.9**	**+0.7**
LIT					S		**Sn**	**11 44 24.0**	**+0.5**
LIT					AML	AML		11 44 28.6	
	comp=E,1236μm,0.5s								
LIT					AML	AML		11 44 31.2	
	comp=N,1396μm,0.3s								
LIT	**Litokhoron**	**1.18**	**127**		P		**Pb**	**11 44 08.2**	**0.0**
LIT					S		**Sn**	**11 44 23.4**	**-0.1**
LIT	**Litokhoron**	**1.18**	**127**		P		**Pb**	**11 44 08.4**	**+0.2**
LIT					S		**Sn**	**11 44 23.8**	**+0.3**
TIR	**Tirane**	**1.18**	**298**	*i*	PG		**Pb**	**11 44 08.5**	**+0.2**
TIR				*i*	SG		**Sn**	**11 44 26.6**	**+3.1**
TIR	**Tirane**	**1.18**	**298**	*e*	Pg		**Pb**	**11 44 08.5**	**+0.2**
TIR				*e*	Sg		**Sn**	**11 44 26.7**	**+3.1**
TIR	**Tirane**	**1.18**	**298**	*i*	P		**Pn**	**11 44 07.8**	**-0.2**
TIR	**Tirane**	**1.18**	**298**		S		**Sn**	**11 44 26.5**	**+2.9**
TIR	**Tirane**	**1.18**	**298**	*i*	P		**Pn**	**11 44 07.8**	**-0.2**
TIR	**Tirane**	**1.18**	**298**	*e*	Pg		**Pb**	**11 44 08.5**	**+0.2**
TIR				*e*	Sg		**Sn**	**11 44 26.7**	**+3.1**
JAN	**Janina**	**1.19**	**195**		P		**Pn**	**11 44 07.8**	**-0.4**
JAN					AML	AML		11 44 30.2	
	comp=E,1119μm,0.3s								
JAN					AML	AML		11 44 30.7	
	comp=N,986μm,0.3s								
JAN	**Janina**	**1.19**	**195**		P		**Pn**	**11 44 08.3**	**+0.1**
JAN					S		**Sn**	**11 44 24.4**	**+0.5**
JAN	**Janina**	**1.19**	**195**		P		**Pn**	**11 44 07.9**	**-0.3**
JAN					S		**Sn**	**11 44 24.4**	**+0.5**
KNT	**Kendrikon**	**1.29**	**74**		P		**Pb**	**11 44 10.4**	**+0.2**
KNT					S		**Sb**	**11 44 28.8**	**+2.3**
KNT					AML	AML		11 44 33.5	
	comp=N,788μm,0.5s								
KNT					AML	AML		11 44 36.8	
	comp=E,288μm,0.4s								
KNT	**Kendrikon**	**1.29**	**74**		P		**Pb**	**11 44 10.1**	**-0.1**
KNT					S		**Sb**	**11 44 27.8**	**+1.4**
KNT	**Kendrikon**	**1.29**	**74**		P		**Pb**	**11 44 10.1**	**-0.1**
THE	**Thessaloniki**	**1.31**	**97**		P		**Pn**	**11 44 09.5**	**-0.2**
THE					AML	AML		11 44 34.8	
	comp=E,183μm,0.5s								
THE					AML	AML		11 44 41.9	
	comp=N,188μm,0.4s								
THE	**Thessaloniki**	**1.31**	**97**		P		**Pn**	**11 44 09.7**	**-0.1**
SRN	**Sarande**	**1.33**	**226**	*i*	PN		**Pb**	**11 44 11.9**	**+1.0**
SRN				*i*	SN		**Sb**	**11 44 30.4**	**+2.8**
SRN	**Sarande**	**1.33**	**226**	*i*	Pn		**Pb**	**11 44 11.9**	**+1.0**
SRN				*i*	Sn		**Sb**	**11 44 30.4**	**+2.8**
THL	**Klokotos Trika**	**1.37**	**155**		P		**Pn**	**11 44 10.0**	**-0.7**
THL					AML	AML		11 44 34.7	
	comp=E,584μm,0.6s								
THL					AML	AML		11 44 38.6	
	comp=N,862μm,0.8s								
THL	**Klokotos Trika**	**1.37**	**155**		P		**Pn**	**11 44 10.6**	**0.0**
THL	**Klokotos Trika**	**1.37**	**155**		P		**Pn**	**11 44 10.6**	**0.0**
HORT	**Hortiatis**	**1.42**	**98**		P		**Pn**	**11 44 10.5**	**-0.8**
HORT	**Hortiatis**	**1.42**	**98**		P		**Pn**	**11 44 11.3**	**0.0**
HORT	**Hortiatis**	**1.42**	**98**		P		**Pn**	**11 44 11.3**	**0.0**
SGD	**Sagiada**	**1.43**	**214**		P		**Pb**	**11 44 13.5**	**+1.0**
SGD	**Sagiada**	**1.43**	**214**		P		**Pb**	**11 44 13.3**	**+0.8**
SGD	**Sagiada**	**1.43**	**214**		P		**Pb**	**11 44 12.8**	**+0.3**
IGT	**Igoumenitsa**	**1.46**	**209**	*e*	Pg		**Pb**	**11 44 13.3**	**+0.3**
IGT	**Igoumenitsa**	**1.46**	**209**		P		**Pb**	**11 44 14.0**	**+1.0**
IGT					AML	AML		11 44 40.1	
	comp=E,433μm,0.9s								
IGT					AML	AML		11 44 41.0	
	comp=N,636μm,0.5s								
IGT	**Igoumenitsa**	**1.46**	**209**	*e*	Pg		**Pb**	**11 44 13.3**	**+0.3**
IGT	**Igoumenitsa**	**1.46**	**209**		P		**Pb**	**11 44 13.8**	**+0.8**
IGT					S		**Sb**	**11 44 32.5**	**+1.3**
IGT	**Igoumenitsa**	**1.46**	**209**		P		**Pb**	**11 44 12.6**	**-0.4**
IGT					S		**Sb**	**11 44 32.5**	**+1.3**
KASA	**Kassiopi**	**1.47**	**224**		P		**Pb**	**11 44 15.2**	**+2.0**
KASA	**Kassiopi**	**1.47**	**224**		P		**Pb**	**11 44 14.5**	**+1.4**
KEK	**Kerkira**	**1.56**	**226**		P		**Pb**	**11 44 14.8**	**0.0**
KEK					AML	AML		11 44 41.8	
	comp=N,482μm,0.4s								
KEK					AML	AML		11 44 43.9	
	comp=E,390μm,0.5s								
KEK	**Kerkira**	**1.56**	**226**		P		**Pb**	**11 44 15.0**	**+0.1**
KEK	**Kerkira**	**1.56**	**226**		P		**Pb**	**11 44 14.9**	**+0.1**
SOH	**Sokhos**	**1.59**	**89**		P		**Pb**	**11 44 14.4**	**-0.9**
SOH	**Sokhos**	**1.59**	**89**		P		**Pn**	**11 44 14.1**	**+0.4**
SOH	**Sokhos**	**1.59**	**89**		P		**Pn**	**11 44 14.1**	**+0.4**
PUK	**Puka**	**1.60**	**321**	*i*	PN		**Pb**	**11 44 15.4**	**-0.2**
PUK				*i*	SN		**Sb**	**11 44 38.2**	**+2.7**
PUK	**Puka**	**1.60**	**321**	*i*	Pn		**Pb**	**11 44 15.4**	**-0.2**
PUK				*i*	Sn		**Sb**	**11 44 38.2**	**+2.7**
DSL	**Palaion Diasel**	**1.68**	**184**		P		**Pb**	**11 44 17.4**	**+0.6**
DSL					AML	AML		11 44 45.6	
	comp=E,563μm,0.7s								
DSL					AML	AML		11 44 49.5	
	comp=N,505μm,0.8s								
DSL	**Palaion Diasel**	**1.68**	**184**		P		**Pb**	**11 44 16.2**	**-0.6**
DSL	**Palaion Diasel**	**1.68**	**184**		P		**Pb**	**11 44 16.2**	**-0.6**
PLG	**Polygyros**	**1.72**	**104**		P		**Pn**	**11 44 15.8**	**+0.3**
PLG	**Polygyros**	**1.72**	**104**		P		**Pn**	**11 44 15.9**	**+0.4**
SRS	**Serrai**	**1.79**	**79**	*e*	Pn		**Pn**	**11 44 16.2**	**-0.3**
SRS				*e*	Sg		**Sb**	**11 44 44.1**	**+3.2**
SRS	**Serrai**	**1.79**	**79**		P		**Pn**	**11 44 15.7**	**-0.8**
SRS	**Serrai**	**1.79**	**79**		P		**Pn**	**11 44 16.1**	**-0.1**
SRS				*e*	Sg		**Sb**	**11 44 44.1**	**+3.2**
SRS	**Serrai**	**1.79**	**79**		P		**Pn**	**11 44 16.2**	**-0.3**
FYTO	**Fytoko, Volos**	**1.90**	**137**		P		**Pn**	**11 44 18.5**	**+0.5**
FYTO	**Fytoko, Volos**	**1.90**	**137**		P		**Pn**	**11 44 18.6**	**+0.7**
ULC	**Ulcinj**	**1.90**	**308**	*i*	Pn		**Pb**	**11 44 20.2**	**-0.4**
ULC				*e*	Sn		**Sb**	**11 44 46.4**	**+2.3**
ULC	**Ulcinj**	**1.90**	**308**	*i*	Pn		**Pb**	**11 44 20.2**	**-0.4**
ULC				*e*	Sn		**Sb**	**11 44 46.4**	**+2.3**
EVR	**Evrytania**	**1.94**	**167**		P		**Pb**	**11 44 20.3**	**-1.0**
EVR					AML	AML		11 44 56.4	
	comp=N,319μm,0.7s								
EVR					AML	AML		11 45 01.9	
	comp=E,246μm,0.4s								
EVR	**Evrytania**	**1.94**	**167**		P		**Pn**	**11 44 19.6**	**+1.1**
EVR	**Evrytania**	**1.94**	**167**		P		**Pn**	**11 44 19.6**	**+1.1**
AGG	**Agios Georgios**	**1.97**	**155**		P		**Pn**	**11 44 19.4**	**+0.5**
AGG	**Agios Georgios**	**1.97**	**155**		P		**Pn**	**11 44 19.6**	**+0.7**
AGG	**Agios Georgios**	**1.97**	**155**		P		**Pn**	**11 44 19.5**	**+0.7**
PVY	**Plav**	**2.03**	**332**	*i*	PN		**Pb**	**11 44 21.4**	**-1.5**
PVY				*e*	Sn		**Sb**	**11 44 49.2**	**+1.4**
PVY	**Plav**	**2.03**	**332**	*i*	Pn		**Pb**	**11 44 21.4**	**-1.5**
PVY				*e*	Sn		**Sb**	**11 44 49.2**	**+1.4**
NVR	**Nevrokopi**	**2.04**	**74**		P		**Pb**	**11 44 21.6**	**-1.4**
NVR	**Nevrokopi**	**2.04**	**74**		P		**Pn**	**11 44 21.2**	**+1.3**
NVR	**Nevrokopi**	**2.04**	**74**		P		**Pn**	**11 44 21.2**	**+1.3**
BARS	**Barje**	**2.05**	**12**	*e*	Pn		**Pn**	**11 44 20.4**	**+0.4**
BARS				*e*	Sn		**Sn**	**11 44 44.9**	**-0.1**
BARS	**Barje**	**2.05**	**12**	*e*	Pn		**Pn**	**11 44 20.4**	**+0.4**
BARS				*e*	Sn		**Sn**	**11 44 44.9**	**-0.1**
PAIG	**Paliouri**	**2.05**	**115**		P		**Pn**	**11 44 19.7**	**-0.3**
PAIG	**Paliouri**	**2.05**	**115**		P		**Pn**	**11 44 20.1**	**+0.1**
PAIG	**Paliouri**	**2.05**	**115**		P		**Pn**	**11 44 19.9**	**-0.1**
LKD2	**Lefkada island**	**2.07**	**193**		P		**Pb**	**11 44 22.5**	**-1.0**
LKD2	**Lefkada island**	**2.07**	**193**		P		**Pb**	**11 44 22.1**	**-1.4**
LKD2	**Lefkada island**	**2.07**	**193**		P		**Pb**	**11 44 22.3**	**-1.2**
XOR	**Xorichti**	**2.07**	**134**		P		**Pn**	**11 44 20.1**	**-0.2**
XOR	**Xorichti**	**2.07**	**134**		P		**Pn**	**11 44 20.5**	**+0.2**
XOR	**Xorichti**	**2.07**	**134**		P		**Pn**	**11 44 20.5**	**+0.2**
DRME	**Dracevica, Mon**	**2.08**	**312**	*i*	Pn		**Pb**	**11 44 22.9**	**-0.7**
DRME				*e*	Sn		**Sb**	**11 44 51.0**	**+1.9**
DRME	**Dracevica, Mon**	**2.08**	**312**	*i*	Pn		**Pb**	**11 44 22.9**	**-0.7**
DRME				*e*	Sn		**Sb**	**11 44 51.0**	**+1.9**
NEO	**Neokhori**	**2.13**	**134**		P		**Pn**	**11 44 20.9**	**-0.1**
NEO	**Neokhori**	**2.13**	**134**		P		**Pn**	**11 44 21.4**	**+0.3**
NEO	**Neokhori**	**2.13**	**134**		P		**Pn**	**11 44 21.4**	**+0.3**
OUR	**Ouranopolis**	**2.13**	**102**		P		**Pn**	**11 44 21.2**	**+0.2**
OUR	**Ouranopolis**	**2.13**	**102**		P		**Pn**	**11 44 21.5**	**+0.5**
OUR	**Ouranopolis**	**2.13**	**102**		P		**Pn**	**11 44 21.7**	**+0.7**
PVO	**Paravola**	**2.20**	**174**		P		**Pb**	**11 44 24.5**	**-1.2**
PVO	**Paravola**	**2.20**	**174**		P		**Pn**	**11 44 23.9**	**+1.9**
PDG	**Podgorica**	**2.21**	**318**	*i*	Pn		**Pb**	**11 44 24.6**	**-1.2**
PDG	**Podgorica**	**2.21**	**318**	*i*	Pn		**Pb**	**11 44 24.3**	**-1.5**
PDG	**Podgorica**	**2.21**	**318**	*i*	Pn		**Pb**	**11 44 24.6**	**-1.2**
PDG					S		**Sb**	**11 44 52.4**	**-0.4**
PDG				*e*	Sn		**Sb**	**11 44 53.7**	**+0.9**
PDO	**Prodromos**	**2.21**	**181**		P		**Pn**	**11 44 24.0**	**+1.9**
PDO	**Prodromos**	**2.21**	**181**		P		**Pn**	**11 44 23.8**	**+1.7**
TTG	**Podgorica**	**2.21**	**318**	*i*	Pn		**Pb**	**11 44 24.3**	**-1.5**
TTG				*e*	Sn		**Sb**	**11 44 53.7**	**+0.9**
ANX	**Ano Chora**	**2.27**	**167**		P		**Pb**	**11 44 25.7**	**-1.2**
ANX	**Ano Chora**	**2.27**	**167**		P		**Pn**	**11 44 24.9**	**+1.8**
ANX	**Ano Chora**	**2.27**	**167**		P		**Pn**	**11 44 24.9**	**+1.8**
BEY	**Berane**	**2.30**	**334**	*i*	Pn		**Pn**	**11 44 24.9**	**+1.4**
BEY				*e*	Sn		**Sb**	**11 44 55.8**	**+0.3**
IVA	**Berane**	**2.30**	**334**	*i*	Pn		**Pn**	**11 44 24.9**	**+1.4**
IVA				*e*	Sn		**Sb**	**11 44 55.8**	**+0.3**
VTS	**Vitosha**	**2.30**	**39**	*i*	P		**Pb**	**11 44 25.8**	**-1.7**
VTS	**Vitosha**	**2.30**	**39**	*i*	P		**Pb**	**11 44 25.8**	**-1.7**
VTS					S		**Sn**	**11 44 53.0**	**+1.5**
BUM	**Brajici-Budva**	**2.32**	**311**	*i*	Pn		**Pn**	**11 44 25.5**	**+1.8**
BUM				*e*	Sn		**Sb**	**11 44 56.6**	**+0.6**
BUM	**Brajici-Budva**	**2.32**	**311**	*i*	Pn		**Pn**	**11 44 25.5**	**+1.8**
BUM				*e*	Sn		**Sb**	**11 44 56.6**	**+0.6**
SKIA	**Skiathos**	**2.36**	**133**		P		**Pn**	**11 44 23.8**	**-0.4**
SKIA	**Skiathos**	**2.36**	**133**		P		**Pn**	**11 44 24.5**	**+0.2**
SKIA	**Skiathos**	**2.36**	**133**		P		**Pn**	**11 44 24.4**	**+0.2**
SELS	**Selova**	**2.41**	**358**	*e*	Pn		**Pn**	**11 44 24.9**	**-0.1**
SELS				*e*	Sn		**Sn**	**11 44 54.7**	**+0.7**
KOME	**Kolasin**	**2.42**	**328**	*e*	Pn		**Pn**	**11 44 27.0**	**+1.8**
KOME				*e*	Sn		**Sb**	**11 44 58.0**	**-1.0**
KOME	**Kolasin**	**2.42**	**328**	*e*	Pn		**Pn**	**11 44 27.0**	**+1.8**
KOME				*e*	Sn		**Sb**	**11 44 58.0**	**-1.0**
EFP	**Efpalio**	**2.43**	**168**		P		**Pb**	**11 44 28.6**	**-1.0**
EFP	**Efpalio**	**2.43**	**168**		P		**Pb**	**11 44 27.5**	**-2.1**
CEME	**Cevo**	**2.47**	**316**	*i*	Pn		**Pn**	**11 44 27.9**	**+2.1**
CEME				*e*	Sn		**Sb**	**11 44 59.5**	**-0.8**
CEME	**Cevo**	**2.47**	**316**	*i*	Pn		**Pn**	**11 44 27.9**	**+2.1**
CEME				*e*	Sn		**Sb**	**11 44 59.5**	**-0.8**
SERG	**Sergoula**	**2.47**	**165**		P		**Pn**	**11 44 27.4**	**+1.6**
SERG	**Sergoula**	**2.47**	**165**		P		**Pn**	**11 44 27.2**	**+1.4**
KAVA	**Kavala**	**2.48**	**85**		P		**Pn**	**11 44 25.5**	**-0.3**
KAVA	**Kavala**	**2.48**	**85**		P		**Pn**	**11 44 26.1**	**+0.3**
KALE	**Kalithea**	**2.51**	**164**		P		**Pn**	**11 44 26.9**	**+0.6**
KALE	**Kalithea**	**2.51**	**164**		P		**Pn**	**11 44 27.2**	**+0.9**
TRIZ	**Trizonia**	**2.52**	**165**		P		**Pn**	**11 44 28.7**	**+2.3**
TRIZ	**Trizonia**	**2.52**	**165**		P		**Pn**	**11 44 28.2**	**+1.8**
DSF	**Desfina**	**2.59**	**157**		P		**Pn**	**11 44 27.9**	**+0.5**
DSF	**Desfina**	**2.59**	**157**		P		**Pn**	**11 44 28.2**	**+0.8**
NKME	**Niksic**	**2.61**	**319**	*i*	Pn		**Pn**	**11 44 29.8**	**+2.1**
NKME				*e*	Sn		**Sb**	**11 45 03.3**	**-1.0**
NKME	**Niksic**	**2.61**	**319**	*i*	Pn		**Pn**	**11 44 29.8**	**+2.1**
NKME				*e*	Sn		**Sb**	**11 45 03.3**	**-1.0**
SJES	**Sjenica**	**2.63**	**339**	*e*	Pn		**Pn**	**11 44 28.5**	**+0.4**
SJES				*e*	Sn		**Sn**	**11 45 00.2**	**+0.7**
HCY	**Herceg Novi**	**2.64**	**309**	*i*	Pn		**Pn

HEF				MSG			11 55 41.9	
	comp=Z,5.1nm,0.2s							
HEF				*e*SB		**Sg**	**11 55 43.1**	**-0.3**
ERTU	**Ertsjaerv**	**1.48**	**148**	P		**Pn**	**11 55 26.2**	**+0.1**
ERTU				Sb		**Sg**	**11 55 46.0**	**+0.3**
ERTU	**Ertsjaerv**	**1.48**	**148**	P		**Pn**	**11 55 26.2**	**+0.1**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*PG		**Pn**	**11 55 26.2**	**+0.1**
	baz=325							
ERTU				*e*SB		**Sg**	**11 55 46.0**	**+0.3**
KALU	**Kalix**	**2.32**	**147**	Sg		**Sb**	**11 56 10.7**	**+0.6**
KALU	**Kalix**	**2.32**	**147**	*e*SG		**Sb**	**11 56 10.7**	**+0.6**
TOF	**Tornio**	**2.37**	**136**	Pb		**Pn**	**11 55 40.3**	**+1.9**
TOF				Sb		**Sb**	**11 56 11.0**	**-0.6**
TOF	**Tornio**	**2.37**	**136**	*e*PB		**Pn**	**11 55 40.3**	**+1.9**
TOF				MSG			11 56 09.1	
	comp=Z,2.5nm,0.2s							
TOF				*e*SB		**Sb**	**11 56 11.1**	**-0.6**
SGF	**Sodankyl**	**2.43**	**96**	Pb		**Pb**	**11 55 41.7**	**-1.1**
SGF				Sg		**Sb**	**11 56 14.2**	**+0.9**
SGF	**Sodankyl**	**2.43**	**96**	*e*PB		**Pb**	**11 55 41.7**	**-1.1**
	baz=280							
SGF				*e*SG		**Sb**	**11 56 14.2**	**+0.9**
ARE0	**ARCESS Array S**	**2.58**	**46**	P		**Pn**	**11 55 42.4**	**+1.2**
ARE0				Sb		**Sb**	**11 56 16.3**	**-1.3**
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P		**Pn**	**11 55 42.4**	**+1.2**
ARE0				*e*SB		**Sb**	**11 56 16.3**	**-1.3**

NIED ***18*** *11:58:00,24˚.80N×122˚.20E,h135km,Mw4.0 Best double couple: M0 1.28000×10^15 NP1:φ301.00000°, δ77.00000°,λ-180.00000°. NP2:φ211.00000°, δ90.00000°,λ-13.00000°.*

ISCJB ***18*** *11:58:08.8±0.2,24˚.79N±0˚.02×122˚.27E±0˚.01, h105km±1km,mb4.3/22,Error ellipse: s-maj=3.0km s-min=2.1km az=158.0*

BJI ***18*** *11:58:08.0,24˚.79N×122˚.21E,h58km,ML3.5/3*

JMA ***18*** *11:58:09.0±0.2,24˚.76N×122˚.23E,h102km±3km,M4.0*

NEIC ***18*** *11:58:09.7±0.4,24˚.74N×122˚.31E,h100km±4km,mb4.5/17, ML4.9(TAP),Error ellipse: s-maj=8.0km s-min=6.0km az=104.0*

NEIC Recorded [2 TAP] in Yilan and [1 TAP] in Hualien and Hsinchu.

TAP ***18*** *11:58:10.1,24˚.78N×122˚.24E,h97km,ML4.8,B*

IDC ***18*** *11:58:16.1±3.9,24˚.88N×122˚.38E,h173km±40km,mb3.3/8, mb1 3.4/10,mb1mx3.0/65,mbtmp3.8/10,Error ellipse: s-maj=21.3km s-min=13.8km az=74.0*

ISC 18 11:58:09.6±0.6,24˚.78N±0˚.03×122˚.27E±0˚.02,h101km±4km, n174,σ1s00/274,mb4.3/22,54C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.26**	**209**	*e*P		**Pn**	**11 58 24.3**	**+0.2**
	baz=212							
EOS1				*e*S		**Sn**	**11 58 35.7**	**+0.8**
	baz=212							
EGS		**0.31**	**282**	*e*P		**Pn**	**11 58 24.7**	**+0.3**
	baz=275							
TWB1	**Santiao Chiao**	**0.34**	**312**	⇓*i*P		**Pn**	**11 58 24.6**	**+0.1**
	baz=311							
TWB1				S		**Sn**	**11 58 35.0**	**-0.6**
	baz=311							
TWC	**Suao**	**0.42**	**246**	⇑P		**Pn**	**11 58 24.8**	**-0.2**
	baz=245							
TWC				*e*S		**Sn**	**11 58 35.0**	**-1.4**
	baz=245							
TIPB	**Shuangxi**	**0.45**	**295**	⇓*i*P		**Pn**	**11 58 24.4**	**-0.8**
	baz=286							
TIPB				*e*S		**Sn**	**11 58 35.1**	**-1.6**
	baz=286							
ILA	**Ilan**	**0.47**	**268**	⇑*i*P		**Pn**	**11 58 25.6**	**+0.3**
	baz=269							
ILA				S		**Sn**	**11 58 36.7**	**-0.3**
	baz=269							
NWF	**Wu-fen Shan**	**0.53**	**303**	⇓*i*P		**Pn**	**11 58 26.0**	**+0.2**
	baz=298							
NWF				S		**Sn**	**11 58 37.3**	**-0.6**
	baz=298							
WFSB	**Wu-fen Shan**	**0.53**	**303**	⇓P		**Pn**	**11 58 26.0**	**+0.3**
	baz=298							
WFSB				S		**Sn**	**11 58 37.5**	**-0.2**
	baz=298							
ENAH	**Nanao**	**0.53**	**232**	⇑*i*P		**Pn**	**11 58 26.1**	**+0.4**
	baz=232							
ENAH				*e*S		**Sn**	**11 58 37.2**	**-0.5**
	baz=232							
TWE	**Neicheng**	**0.55**	**264**	⇑*i*P		**Pn**	**11 58 26.1**	**+0.2**
	baz=269							
TWE				S		**Sn**	**11 58 37.2**	**-0.8**
	baz=269							
NANB	**Nanao**	**0.59**	**233**	⇑P		**Pn**	**11 58 26.4**	**+0.3**
	baz=229							
NANB				*e*S		**Sn**	**11 58 38.3**	**-0.3**
	baz=229							
ENA	**Nanau**	**0.59**	**234**	⇑P		**Pn**	**11 58 26.5**	**+0.3**
	baz=229							
ENA				*e*S		**Sn**	**11 58 38.8**	**+0.2**
	baz=229							
TWA	**Mucha**	**0.65**	**288**	⇑P		**Pn**	**11 58 26.7**	**0.0**
	baz=289							
TWA				S		**Sn**	**11 58 38.4**	**-1.1**
	baz=289							
ENTT	**Nioudou**	**0.65**	**258**	⇑P		**Pn**	**11 58 27.2**	**+0.4**
	baz=260							
ENTT				*e*S		**Sn**	**11 58 40.2**	**+0.7**
	baz=260							
NWLT	**Wulai**	**0.70**	**270**	*e*P		**Pn**	**11 58 27.1**	**0.0**
	baz=275							
NWLT				*e*S		**Sn**	**11 58 39.8**	**-0.5**
	baz=275							
JYNG	**Yonagunijimaku**	**0.70**	**118**	P		**Pn**	**11 58 27.1**	**0.0**
JYNG				S		**Sn**	**11 58 39.7**	**-0.5**
YM07	**YM07**	**0.71**	**304**	⇓*e*P		**Pn**	**11 58 26.4**	**-0.8**
	baz=298							
YM07				*e*S		**Sn**	**11 58 39.0**	**-1.5**
	baz=298							
TATO	**Taipei**	**0.73**	**285**	⇑P		**Pn**	**11 58 27.4**	**0.0**
	baz=293							
TATO				*i* S		**Sn**	**11 58 39.3**	**-1.4**
	baz=293							
TATO	**Taipei**	**0.73**	**285**	*e*Pn		**Pn**	**11 58 27.3**	**0.0**
TATO				*e*Sn		**Sn**	**11 58 39.7**	**-1.1**
YM08	**YM08**	**0.74**	**303**	*e*P		**Pn**	**11 58 27.3**	**-0.2**
	baz=297							
YM08				*e*S		**Sn**	**11 58 39.8**	**-1.1**
	baz=297							
YM10	**YM10**	**0.74**	**300**	⇓P		**Pn**	**11 58 27.8**	**+0.2**
	baz=296							
YM10				*e*S		**Sn**	**11 58 40.5**	**-0.5**
	baz=296							
YOJ	**Yonaguni jima**	**0.75**	**115**	⇑P		**Pn**	**11 58 27.5**	**0.0**
	baz=121							
YOJ				S		**Sn**	**11 58 40.4**	**-0.6**
	baz=121							
YOJ	**Yonaguni jima**	**0.75**	**115**	P		**Pn**	**11 58 27.6**	**0.0**
YOJ				S		**Sn**	**11 58 40.4**	**-0.6**
YOJ	**Yonaguni jima**	**0.75**	**115**	*e*Pn		**Pn**	**11 58 27.5**	**0.0**
YOJ				*e*Sn		**Sn**	**11 58 40.4**	**-0.6**
YM04	**YM04**	**0.76**	**299**	*e*P		**Pn**	**11 58 27.8**	**+0.1**
	baz=294							
YM04				*e*S		**Sn**	**11 58 40.1**	**-1.2**
	baz=294							
YM03	**YM03**	**0.77**	**301**	*e*P		**Pn**	**11 58 27.7**	**-0.2**
	baz=294							
TWY	**Chenhua**	**0.78**	**309**	⇓*i*P		**Pn**	**11 58 28.3**	**+0.4**
	baz=303							
TWY				*e*S		**Sn**	**11 58 41.5**	**-0.1**
	baz=303							
YHNB	**Yeheng**	**0.82**	**262**	⇑P		**Pn**	**11 58 28.8**	**+0.4**
	baz=269							
YHNB				S		**Sn**	**11 58 42.0**	**-0.3**
	baz=269							
YHNB	**Yeheng**	**0.82**	**262**	*e*Pn		**Pn**	**11 58 28.3**	**-0.1**
YHNB				*e*Sn		**Sn**	**11 58 42.1**	**-0.3**
TWS1	**Kuangyinshan**	**0.83**	**293**	⇑P		**Pn**	**11 58 28.6**	**+0.3**
	baz=293							
TWS1				*e*S		**Sn**	**11 58 41.7**	**-0.8**
	baz=293							
NTST	**Danshui**	**0.84**	**297**	*e*P		**Pn**	**11 58 27.7**	**-0.7**
	baz=293							
NACB	**Ninganchiao**	**0.86**	**226**	⇑P		**Pn**	**11 58 28.3**	**-0.4**
	baz=219							
NACB				S		**Sn**	**11 58 42.3**	**-0.6**
	baz=219							
NACB	**Ninganchiao**	**0.86**	**226**	*e*Pn		**Pn**	**11 58 28.2**	**-0.4**
NACB				*e*Sn		**Sn**	**11 58 42.4**	**-0.5**
NNSB	**Datong**	**0.88**	**247**	⇑P		**Pn**	**11 58 29.4**	**+0.5**
	baz=240							
NNSB				*e*S		**Sn**	**11 58 43.1**	**-0.4**
	baz=240							
NNSH	**Datong**	**0.88**	**247**	*e*P		**Pn**	**11 58 29.3**	**+0.3**
	baz=240							
NNSH				*e*S		**Sn**	**11 58 43.5**	**0.0**
	baz=240							
NNS	**Nan Shan**	**0.88**	**248**	⇑P		**Pn**	**11 58 29.5**	**+0.5**
	baz=240							
NNS				S		**Sn**	**11 58 43.2**	**-0.4**
	baz=240							
WLTB	**Daxi**	**0.93**	**275**	⇑P		**Pn**	**11 58 30.1**	**+0.8**
	baz=275							
WLTB				*e*S		**Sn**	**11 58 44.5**	**+0.4**
	baz=275							
TWD	**Chiawan**	**0.93**	**221**	⇑P		**Pn**	**11 58 28.9**	**-0.4**
	baz=216							
TWD				*e*S		**Sn**	**11 58 43.4**	**-0.8**
	baz=216							
NCU	**National Centr**	**1.00**	**281**	⇑P		**Pn**	**11 58 30.8**	**+0.7**
	baz=288							
NCU				*e*S		**Sn**	**11 58 46.5**	**+1.0**
	baz=288							
NCUH	**Zhongli**	**1.00**	**281**	*e*P		**Pn**	**11 58 30.8**	**+0.6**
	baz=289							
HWA	**Hwalien**	**1.00**	**217**	*e*P		**Pn**	**11 58 30.1**	**-0.1**
	baz=210							
HWA				*e*S		**Sn**	**11 58 45.8**	**+0.3**
	baz=210							
ENLB	**Shoufeng**	**1.06**	**215**	⇑*i*P		**Pn**	**11 58 30.8**	**-0.1**
	baz=215							
ENLB				*e*S		**Sn**	**11 58 46.2**	**-0.5**
	baz=215							
WHF	**Hehuan Shan**	**1.11**	**236**	⇑P		**Pn**	**11 58 31.9**	**+0.1**
	baz=231							
WHF				*e*S		**Sn**	**11 58 47.4**	**-1.1**
	baz=231							
TWT	**Tachien**	**1.13**	**242**	⇑*i*P		**Pn**	**11 58 32.7**	**+1.0**
	baz=237							
TWT				S		**Sn**	**11 58 48.6**	**+0.3**
	baz=237							
TDCB	**Techi**	**1.14**	**243**	⇑P		**Pn**	**11 58 32.6**	**+0.8**
	baz=237							
TDCB				S		**Sn**	**11 58 48.2**	**-0.3**
	baz=237							
LIOB	**Emei**	**1.15**	**264**	⇑*i*P		**Pn**	**11 58 32.2**	**+0.4**
	baz=264							
LIOB				*e*S		**Sn**	**11 58 48.4**	**-0.1**
	baz=264							
NSTT	**Nanjuang**	**1.16**	**263**	⇑P		**Pn**	**11 58 32.2**	**+0.3**
	baz=263							
NSTT				S		**Sn**	**11 58 48.6**	**-0.2**
	baz=263							
SBCB	**Hsinchu**	**1.17**	**271**	⇑P		**Pn**	**11 58 32.5**	**+0.6**
	baz=271							
SBCB				*e*S		**Sn**	**11 58 49.1**	**+0.3**
	baz=271							
HSN	**Hsinchu**	**1.18**	**271**	⇑*i*P		**Pn**	**11 58 32.3**	**+0.2**
	baz=264							
HSN				S		**Sn**	**11 58 48.5**	**-0.5**
	baz=264							
ESL	**Shilin**	**1.23**	**219**	⇑P		**Pn**	**11 58 31.8**	**-0.9**
	baz=225							
ESL				*e*S		**Sn**	**11 58 47.9**	**-2.2**
	baz=225							
CHGB	**Renai**	**1.23**	**234**	⇑P		**Pn**	**11 58 33.5**	**+0.6**
	baz=228							
CHGB				S		**Sn**	**11 58 49.6**	**-0.9**
	baz=228							
OWD	**Renai**	**1.29**	**231**	*e*P		**Pn**	**11 58 33.9**	**+0.3**
	baz=226							
OWD				*e*S		**Sn**	**11 58 50.6**	**-1.0**
	baz=226							
EGFH	**Guangfu**	**1.35**	**215**	*e*P		**Pn**	**11 58 33.2**	**-0.9**
	baz=222							
EGFH				*e*S		**Sn**	**11 58 50.7**	**-1.9**
	baz=222							
NMLH	**Miaoli**	**1.37**	**260**	*e*P		**Pn**	**11 58 34.5**	**+0.3**
	baz=260							
IRIF	**Iriomote-Funau**	**1.40**	**108**	P		**Pn**	**11 58 34.5**	**-0.2**
IRIF				*e*S		**Sn**	**11 58 53.6**	**-0.1**
NSY	**Sanyi**	**1.42**	**255**	⇑*i*P		**Pn**	**11 58 35.7**	**+0.7**
	baz=256							
NSY				*e*S		**Sn**	**11 58 54.5**	**+0.3**
	baz=256							
TWQ1	**Liyutan**	**1.43**	**253**	⇑*i*P		**Pn**	**11 58 35.5**	**+0.5**
	baz=253							
TWQ1				*e*S		**Sn**	**11 58 54.3**	**0.0**
	baz=253							
DPDB	**Guoxing**	**1.43**	**239**	⇑*i*P		**Pn**	**11 58 36.1**	**+0.9**
	baz=248							
DPDB				*e*S		**Sn**	**11 58 55.5**	**+1.0**
	baz=248							
HGSD	**Ruisui**	**1.50**	**211**	⇑P		**Pn**	**11 58 35.6**	**-0.3**
	baz=221							
HGSD				*e*S		**Sn**	**11 58 55.2**	**-0.6**
	baz=221							
EHY	**Hungye**	**1.54**	**214**	*e*P		**Pn**	**11 58 35.1**	**-1.3**
	baz=220							
SMLT	**Sun Moon Lake**	**1.54**	**235**	⇑*i*P		**Pn**	**11 58 37.5**	**+1.0**
	baz=235							
SMLT				*e*S		**Sn**	**11 58 54.8**	**+1.6**
	baz=235							
SSLB	**Suanglung**	**1.56**	**231**	⇑P		**Pn**	**11 58 37.0**	**+0.4**
	baz=227							
SSLB				*e*S		**Sn**	**11 58 58.4**	**+1.3**
	baz=227							
SSLB	**Suanglung**	**1.56**	**231**	*e*Pn		**Pn**	**11 58 37.6**	**+1.0**
SSLB				*e*Sn		**Sn**	**11 58 59.1**	**+2.0**
TYC	**Yuchr**	**1.56**	**236**	⇑P		**Pn**	**11 58 37.4**	**+0.8**
	baz=245							
TYC				*e*S		**Sn**	**11 58 58.2**	**+1.1**
	baz=245							
HATJ	**Hateruma jima**	**1.57**	**117**	P		**Pn**	**11 58 37.3**	**+0.5**
HATJ				*e*S		**Sn**	**11 58 57.6**	**+0.1**
TCU	**Taichung**	**1.58**	**247**	*e*P		**Pn**	**11 58 37.5**	**+0.6**
	baz=246							
YULB	**Yu-li**	**1.64**	**213**	*e*P		**Pn**	**11 58 36.4**	**-1.3**
	baz=219							
YULB	**Yu-li**	**1.64**	**213**	*e*Pn		**Pn**	**11 58 36.6**	**-1.2**
JKRS	**Kuro-shima**	**1.68**	**108**	P		**Pn**	**11 58 38.3**	**+0.2**
JKRS				S		**Sn**	**11 58 59.6**	**-0.1**
TWF1	**Yuli**	**1.68**	**212**	*e*P		**Pn**	**11 58 37.3**	**-0.9**
	baz=219							
WJS	**Zhushan**	**1.70**	**236**	⇑P		**Pn**	**11 58 39.2**	**+0.8**
	baz=246							
WJS				*e*S		**Sn**	**11 59 02.5**	**+2.2**
	baz=246							
WNT	**Mingjian**	**1.70**	**238**	⇑P		**Pn**	**11 58 39.2**	**+0.8**
	baz=247							
WCHH	**Zhanghua**	**1.71**	**246**	*e*P		**Pn**	**11 58 38.8**	**+0.3**
	baz=253							
JIJ	**Ishigaki jima**	**1.76**	**103**	P		**Pn**	**11 58 39.0**	**-0.1**
JIJ				S		**Sn**	**11 59 00.7**	**-0.9**
YUS	**Yu-Shan**	**1.76**	**223**	*e*P		**Pn**	**11 58 40.1**	**+0.5**
	baz=216							
YUS				*e*S		**Sn**	**11 59 01.9**	**-0.6**
	baz=216							
FULB	**Fuli**	**1.81**	**210**	*e*P		**Pn**	**11 58 39.5**	**-0.4**
	baz=218							
FULB				*e*S		**Sn**	**11 59 02.0**	**-0.9**
	baz=218							
ALS	**Alishan**	**1.84**	**227**	⇑P		**Pn**	**11 58 41.6**	**+1.1**
	baz=220							
ALS				*e*S		**Sn**	**11 59 05.0**	**+1.0**
	baz=220							
CHKT	**Chengkung**	**1.87**	**206**	*e*P		**Pn**	**11 58 39.7**	**-0.9**
	baz=200							
CHKT				*e*S		**Sn**	**11 59 01.2**	**-2.9**
	baz=200							
JISG	**Ishigakijimahi**	**1.87**	**96**	P		**Pn**	**11 58 40.7**	**+0.2**
JISG				S		**Sn**	**11 59 03.6**	**-0.5**
CHN5	**Tsauling**	**1.87**	**231**	⇑*e*P		**Pn**	**11 58 41.4**	**+0.7**
	baz=241							
CHN5				*e*S		**Sn**	**11 59 05.0**	**+0.7**
	baz=241							
WGK	**Gukeng**	**1.90**	**235**	*e*P		**Pn**	**11 58 41.7**	**+0.8**
	baz=236							
WGK				*e*S		**Sn**	**11 59 06.2**	**+1.3**
	baz=236							
WDLH	**Douliu**	**1.92**	**236**	*e*P		**Pn**	**11 58 41.9**	**+0.7**
	baz=236							
RLNB	**Erlin**	**1.95**	**243**	⇑P		**Pn**	**11 58 41.9**	**+0.3**
	baz=251							
RLNB				*e*S		**Sn**	**11 59 06.0**	**-0.1**
	baz=251							
ELDTW	**Lidau**	**1.96**	**216**	*e*P		**Pn**	**11 58 41.2**	**-0.6**
	baz=212							
WTCT	**Ta-ch'eng**	**2.03**	**244**	⇑P		**Pn**	**11 58 42.6**	**0.0**
	baz=250							
WTCT				*e*S		**Sn**	**11 59 07.1**	**-0.7**
	baz=250							
CHN2	**Minshiung**	**2.06**	**233**	⇑P		**Pn**	**11 58 44.0**	**+1.0**
	baz=242							
CHN2				*e*S		**Sn**	**11 59 09.4**	**+1.0**
	baz=242							
TPUB	**Ta-pu**	**2.10**	**226**	⇑P		**Pn**	**11 58 44.4**	**+0.8**
	baz=237							
TPUB				*e*S		**Sn**	**11 59 09.6**	**+0.1**
	baz=237							
TPUB	**Ta-pu**	**2.10**	**226**	*e*Pn		**Pn**	**11 58 44.2**	**+0.7**
TPUB				*e*Sn		**Sn**	**11 59 10.2**	**+0.7**
CHY	**Chiayi**	**2.12**	**233**	*e*P		**Pn**	**11 58 44.3**	**+0.6**
	baz=242							
CHY				*e*S		**Sn**	**11 59 09.8**	**+0.1**
	baz=242							
STYT	**Tauyuan**	**2.12**	**221**	*e*P		**Pn**	**11 58 45.1**	**+1.2**
	baz=222							
STYT				*e*S		**Sn**	**11 59 11.0**	**+0.9**
	baz=222							
WTP	**Ta-pu**	**2.15**	**225**	⇑P		**Pn**	**11 58 45.0**	**+0.7**
	baz=237							
WTP				*e*S		**Sn**	**11 59 11.1**	**+0.4**
	baz=237							
TWH	**Lutao**	**2.19**	**200**	*e*P		**Pn**	**11 58 44.0**	**-0.7**
	baz=200							
TWH				*e*S		**Sn**	**11 59 08.8**	**-2.6**
	baz=200							
WSF	**Szhu**	**2.19**	**239**	⇑P		**Pn**	**11 58 44.9**	**+0.3**
	baz=240							
WSF				*e*S		**Sn**	**11 59 11.6**	**+0.2**
	baz=240							
JTJ	**Tarama**	**2.22**	**93**	P		**Pn**	**11 58 45.5**	**+0.5**
JTJ				*e*S		**Sn**	**11 59 12.6**	**+0.4**
WLGB	**Puzi**	**2.22**	**235**	*e*P		**Pn**	**11 58 45.3**	**+0.2**
	baz=235							
WLGB				*e*S		**Sn**	**11 59 12.2**	**0.0**
	baz=235							
TWGBT	**Beinan**	**2.24**	**209**	*e*P		**Pn**	**11 58 44.1**	**-1.2**
	baz=205							
TWGBT				*e*S		**Sn**	**11 59 09.8**	**-2.9**
	baz=205							
TWG	**Pinlang**	**2.24**	**210**	*e*P		**Pn**	**11 58 44.0**	**-1.3**
	baz=205							
TWG				*e*S		**Sn**	**11 59 10.3**	**-2.4**
	baz=205							
TWG	**Pinlang**	**2.24**	**210**	*e*Pn		**Pn**	**11 58 44.1**	**-1.3**
TWG				*e*Sn		**Sn**	**11 59 10.7**	**-2.0**
CHN1	**Nanshi**	**2.25**	**225**	⇑P		**Pn**	**11 58 46.2**	**+0.7**
	baz=236							
CHN1				*e*S		**Sn**	**11 59 12.9**	**-0.1**
	baz=236							
SGST	**Jiashian**	**2.29**	**223**	⇑*i*P		**Pn**	**11 58 47.1**	**+1.1**
	baz=223							
SGST				*e*S		**Sn**	**11 59 14.7**	**+0.8**
	baz=223							
SLGT	**Liugui**	**2.32**	**220**	*e*P		**Pn**	**11 58 47.6**	**+1.2**
	baz=221							
SLGT				*e*S		**Sn**	**11 59 15.9**	**+1.4**
	baz=221							
CHN8	**Yiju**	**2.36**	**233**	*e*P		**Pn**	**11 58 47.1**	**+0.1**
	baz=234							
CHN8				*e*S		**Sn**	**11 59 15.5**	**-0.1**
	baz=234							
CHN3	**Shinhua**	**2.43**	**226**	⇑P		**Pn**	**11 58 49.2**	**+1.3**
	baz=234							
SCLT	**Jiali**	**2.48**	**230**	*e*P		**Pn**	**11 58 49.0**	**+0.5**
	baz=231							
SCLT				*e*S		**Sn**	**11 59 18.8**	**+0.4**
	baz=231							
ECL	**Taimali**	**2.49**	**209**	*e*P		**Pn**	**11 58 47.2**	**-1.4**
	baz=206							
ECL				*e*S		**Sn**	**11 59 15.0**	**-3.5**
	baz=206							
MATB	**Ma-tsu**	**2.50**	**304**	*e*P		**Pn**	**11 58 48.2**	**-0.6**
	baz=303							
SSD	**Sandimen**	**2.52**	**217**	⇑P		**Pn**	**11 58 50.1**	**+1.1**
	baz=226							
SSD				*e*S		**Sn**	**11 59 20.5**	**+1.2**
	baz=226							
TAI1	**Yung-k'ang**	**2.55**	**228**	*e*P		**Pn**	**11 58 50.3**	**+0.9**
	baz=238							
TAI1				*e*S		**Sn**	**11 59 20.2**	**+0.3**
	baz=238							
VWUC	**VWUC**	**2.57**	**275**	⇑*e*P		**Pn**	**11 58 49.3**	**-0.4**
	baz=275							
TWM1	**Shoushan**	**2.58**	**221**	*e*P		**Pn**	**11 58 51.3**	**+1.5**
	baz=222							
TWM1				*e*S		**Sn**	**11 59 23.4**	**+2.7**
	baz=222							
SGLT	**Jiouru**	**2.62**	**219**	*e*P		**Pn**	**11 58 51.3**	**+1.0**
	baz=220							
MASBT	**Mashibuluo**	**2.63**	**215**	*e*P		**Pn**	**11 58 51.1**	**+0.6**
	baz=227							
MASBT				*e*S		**Sn**	**11 59 21.5**	**-0.4**
	baz=227							
JIRB	**Irabujima**	**2.64**	**88**	P		**Pn**	**11 58 51.3**	**+0.7**
JIRB				S		**Sn**	**11 59 23.3**	**+1.2**
JIKM	**Ikemajima**	**2.71**	**86**	P		**Pn**	**11 58 52.4**	**+0.9**
JIKM				*e*S		**Sn**	**11 59 24.1**	**+0.4**
EAST	**Anshuo**	**2.72**	**209**	*e*P		**Pn**	**11 58 50.9**	**-0.9**
	baz=205							
TAW	**Tawu**	**2.72**	**208**	*e*P		**Pn**	**11 58 50.5**	**-1.2**
	baz=204							
JMJ	**Miyako jima 2**	**2.75**	**89**	*e*P		**Pn**	**11 58 53.8**	**+1.8**
	baz=90							
JMJ	**Miyako jima 2**	**2.75**	**89**	P		**Pn**	**11 58 53.8**	**+1.8**
PNG	**Penghu**	**2.76**	**245**	P		**Pn**	**11 58 51.5**	**-0.7**
	baz=244							
PNG				*e*S		**Sn**	**11 59 23.1**	**-1.8**
	baz=244							
PHUB	**P'eng-hu**	**2.77**	**243**	⇑P		**Pn**	**11 58 51.6**	**-0.7**
	baz=242							
LAY	**Lan-yu**	**2.81**	**194**	⇓*e*P		**Pn**	**11 58 51.8**	**-1.1**
	baz=188							
WSSB	**Gushan**	**2.81**	**221**	*e*P		**Pn**	**11 58 53.4**	**+0.4**
	baz=222							
WDGT	**Dungji**	**2.83**	**238**	⇑P		**Pn**	**11 58 52.5**	**-0.6**
	baz=238							
WDGT				*e*S		**Sn**	**11 59 24.0**	**-2.5**
	baz=238							
SCZT	**Fangliau**	**2.83**	**213**	*e*P		**Pn**	**11 58 53.2**	**0.0**
	baz=223							
JOGS	**Gusukube**	**2.85**	**90**	P		**Pn**	**11 58 54.6**	**+1.2**
JOGS				*e*S		**Sn**	**11 59 28.0**	**+0.9**
WLCH	**Liuqiu**	**2.98**	**216**	*e*P		**Pn**	**11 58 56.3**	**+1.2**
	baz=227							
TWP	**Hsiaoliuchiu**	**2.99**	**216**	*e*P		**Pn**	**11 58 57.5**	**+2.2**
	baz=227							
HEN	**Hengchun**	**3.10**	**207**	*e*P		**Pn**	**11 58 58.7**	**+1.9**
	baz=218							
TWK1	**Hengchun**	**3.

	83nm,1.1s								
ASAJ	**Asahikawa**	**25.43**	**36**	P		**P**	**12 03 25.9**	**-1.9**
	4.3nm,1.0s,baz=235,slow=9.6,SNR=5.1								
ASAJ	**Asahikawa**	**25.43**	**36**	*e*P		**P**	**12 03 26.4**	**-1.5**
	8.9nm,1.2s								
LUWI	**Luwuk**	**25.67**	**179**	*e*P		**P**	**12 03 29.7**	**-0.6**
	16nm,1.1s								
ULN	**Ulaanbaatar**	**26.00**	**336**	*e*P		**P**	**12 03 33.4**	**+0.2**
	1.6nm,0.7s								
SONM	**Songino Array**	**26.22**	**335**	P		**P**	**12 03 34.9**	**-0.3**
	1.0nm,0.6s,baz=142,slow=7.3,SNR=6.3								
SONA1	**Songino Array**	**26.23**	**335**	*e*P		**P**	**12 03 36.0**	**+0.8**
IPM	**Ipoh**	**28.72**	**229**	*e*P		**P**	**12 03 59.2**	**+1.6**
	17nm,1.5s								
WMQ	**Urumqi**	**33.97**	**313**	*e*P		P	12 04 49.9	+6.4
MTN	**Manton Dam**	**38.38**	**166**	*e*P		**P**	**12 05 20.0**	**-1.2**
	59nm,1.4s								
MK31	**Makanchi Array**	**38.61**	**315**	*e*P		**P**	**12 05 24.3**	**+1.4**
MKAR	**Makanchi Array**	**38.61**	**315**	P		**P**	**12 05 22.2**	**-0.8**
	0.1nm,0.3s,baz=100,slow=9.2,SNR=4.2								
MKAR	**Makanchi Array**	**38.61**	**315**	*e*P		**P**	**12 05 24.2**	**+1.3**
	4.8nm,0.4s								
ZALV	**Zalesovo Beam**	**40.29**	**326**	P		**P**	**12 05 35.3**	**-1.4**
	0.5nm,0.4s,baz=129,slow=7.9,SNR=3.6								
KURK	**Kurchatov**	**42.28**	**319**	*e*P		**P**	**12 05 53.5**	**+0.5**
	5.2nm,1.5s								
COEN	**Coen**	**43.57**	**150**	*e*P		**P**	**12 06 04.5**	**+0.6**
	235nm,1.9s								
WRAB	**Tennant Creek**	**45.98**	**164**	*e*P		**P**	**12 06 22.4**	**-0.4**
	92nm,2.0s								
WRA	**Warramunga Arr**	**45.98**	**164**	P		**P**	**12 06 22.4**	**-0.5**
	7.2nm,0.5s,baz=347,slow=8.8,SNR=96								
WB2	**Warramunga Arr**	**45.98**	**164**	*e*P		**P**	**12 06 21.1**	**-1.9**
AS31	**Alice Springs**	**49.46**	**166**	*e*P		**P**	**12 06 50.0**	**+0.2**
	4.2nm,1.4s								
ASAR	**Alice Springs**	**49.46**	**166**	P		**P**	**12 06 49.6**	**-0.2**
	2.9nm,0.7s,baz=344,slow=7.0,SNR=39								
AS01	**Alice Springs**	**49.47**	**166**	*e*P		**P**	**12 06 49.7**	**-0.1**
ABKAR	**Akbulak array**	**53.74**	**314**	*e*P		**P**	**12 07 21.8**	**+0.5**
	38nm,1.8s								
BBOO	**Buckleboo**	**58.76**	**166**	*e*P		**P**	**12 07 56.7**	**-0.4**
	40nm,1.8s								
STKA	**Stephens Creek**	**59.29**	**161**	P		**P**	**12 08 00.1**	**-0.7**
	0.9nm,0.5s,baz=18,slow=6.4,SNR=3.3								
STKA	**Stephens Creek**	**59.29**	**161**	*e*P		**P**	**12 08 00.5**	**-0.3**
	4.4nm,1.8s								
TOLK	**Toolik Lake Re**	**66.51**	**24**	*e*P		**P**	**12 08 49.1**	**+0.8**
	13nm,1.8s								
YKA	**Yellowknife Ar**	**82.04**	**23**	P		**P**	**12 10 16.4**	**-2.0**
	0.2nm,0.6s,baz=310,slow=5.3,SNR=7.0								
YKB5	**Yellowknife Ar**	**82.04**	**23**	*e*P		**P**	**12 10 17.7**	**-0.7**
VTV	**Victorville**	**98.29**	**46**	*e*P		**P**	**12 11 35.7**	**-0.6**
HEC	**Hector,Ludlow**	**98.78**	**45**	*e*P		**P**	**12 11 36.8**	**-1.6**
HOPE	**Hope Point**	**146.56**	**203**	*e*PKPbc		**PKPbc**	**12 17 39.5**	**+0.6**

IDC 18 12:02:34.9±3.0, 24°49N×141°69E, h78km±27km, mb3.3/3, mb1 3.5/4, mb1mx2.9/62, mbtmp3.6/4, Error ellipse: s-maj=70.8km s-min=22.4km az=99.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.64**	**10**	P		Pn	12 03 15.7	+0.4
	3.3nm,0.3s,baz=192,slow=19,SNR=2.6							
JCJ				S		Sn	12 03 46.9	+0.5
	7.0nm,0.3s,baz=253,slow=19,SNR=3.4							
WRA	**Warramunga Arr**	**44.74**	**190**	P		P	12 10 40.4	-0.3
	0.5nm,0.6s,baz=11,slow=8.0,SNR=8.4							
YKA	**Yellowknife Ar**	**74.64**	**28**	P		P	12 14 05.7	+0.2
	0.1nm,0.6s,baz=291,slow=5.6,SNR=4.2							
FINES	**FINESS Array B**	**80.08**	**334**	P		P	12 14 35.9	0.0
	1.7nm,1.0s,baz=39,slow=6.6,SNR=2.9							

IDC 18 12:08:50.0±4.1, 31°82S×177°79W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/37, mbtmp3.6/2, Error ellipse: s-maj=223.7km s-min=49.6km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.23**	**268**	P		P	12 16 53.5	+0.2
	0.3nm,0.4s,baz=107,slow=7.2,SNR=17							
WRA	**Warramunga Arr**	**44.35**	**273**	P		P	12 17 01.7	-0.5
	0.3nm,0.3s,baz=112,slow=8.1,SNR=12							
MKAR	**Makanchi Array**	**118.81**	**309**	PKP		PKPdf	12 27 39.1	-1.0
	0.1nm,0.4s,baz=97,slow=3.4,SNR=2.8							
FINES	**FINESS Array B**	**146.53**	**339**	PKPbc		PKPbc	12 28 32.7	+0.2
	0.9nm,0.7s,baz=64,slow=4.4,SNR=3.4							

*ISCJB **18** 12:21:55.9±0.2, 18°34S±0°05×178°15W±0°05, h557km, mb4.3/118, Error ellipse: s-maj=7.9km s-min=4.3km az=42.4*

*IDC **18** 12:21:57.1±1.3, 18°36S×178°04W, h561km±15km, mb3.7/23, mb1 3.9/25, mb1mx3.8/45, mbtmp4.6/25, Error ellipse: s-maj=14.0km s-min=10.3km az=133.0*

*NEIC **18** 12:21:58.0±0.6, 18°37S×178°08W, h572km±6km, mb4.5/99, Error ellipse: s-maj=9.0km s-min=5.0km az=132.0*

ISC 18 12:21:56.7±0.4, 18°31S±0°08×178°07W±0°08, h557km, n206, σ0°95/208, mb4.4/118, 3C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.73**	**278**	*e*P		P	12 23 22.5	+5.2
AFI	**Afiamalu**	**7.46**	**55**	P		**P**	**12 23 50.1**	**+0.5**
	21nm,0.3s,baz=180,slow=3.0,SNR=34							
AFI				S		**S**	**12 25 21.2**	**-0.8**
	baz=197,slow=19,SNR=2.7							
AFI	**Afiamalu**	**7.46**	**55**	*e*P		**P**	**12 23 50.2**	**+0.5**
AFI				*e*S		**S**	**12 25 25.1**	**+3.1**
DZM	**Mont Dzumac**	**15.01**	**253**	P		**P**	**12 25 07.0**	**+0.7**
	1.8nm,0.3s,baz=143,slow=17,SNR=26							
DZM	**Mont Dzumac**	**15.01**	**253**	*e*P		**P**	**12 25 06.6**	**+0.3**
KNTN	**Kanton**	**16.64**	**23**	*e*P		**P**	**12 25 21.8**	**-0.3**
	388nm,1.6s							
OUZ	**Omahuta**	**18.40**	**202**	*e*P		**P**	**12 25 41.1**	**+3.3**
	252nm,1.8s							
URZ	**Urewera**	**20.32**	**191**	P		**P**	**12 25 53.3**	**-1.9**
	9.3nm,0.6s,baz=297,slow=2.7,SNR=7.7							
URZ	**Urewera**	**20.32**	**191**	*e*P		**P**	**12 25 53.1**	**-2.1**
	87nm,1.7s							
BKZ	**Black Stump Fm**	**21.32**	**192**	*e*P		**P**	**12 26 02.2**	**-2.1**
	28nm,1.5s							
SNZO	**South Karori**	**23.75**	**194**	*e*P		**P**	**12 26 25.1**	**-0.8**
THZ	**Tophouse**	**24.62**	**196**	*e*P		**P**	**12 26 32.7**	**-1.0**
	85nm,1.8s							
THZ				*e*S		**S**	**12 30 15.9**	**-0.2**
KHZ	**Kahutara**	**25.07**	**195**	*e*P		**P**	**12 26 36.3**	**-1.2**
	81nm,1.7s							
FOZ	**Fox Glacier**	**27.15**	**200**	*e*P		**P**	**12 26 55.9**	**+0.1**
	166nm,1.9s							
WKZ	**Wanaka**	**28.57**	**199**	*e*P		**P**	**12 27 07.2**	**-1.0**
	59nm,1.4s							
MLZ	**Mavora Lakes**	**29.33**	**200**	*e*P		**P**	**12 27 15.6**	**+0.7**
	18nm,0.8s							
EIDS	**Eidsvold**	**29.43**	**251**	*e*P		**P**	**12 27 17.0**	**+0.9**
	89nm,1.8s							
WHZ	**Wether Hill Ro**	**29.86**	**200**	*e*P		**P**	**12 27 19.7**	**+0.3**
	80nm,1.8s							
ARMA	**Armidale**	**30.02**	**241**	*e*P		**P**	**12 27 22.7**	**+1.6**
	59nm,1.6s							
CTAO	**Charters Tower**	**33.70**	**261**	*e*P		**P**	**12 27 53.1**	**+0.7**
	20nm,0.8s							
CAN	**Canberra**	**33.72**	**233**	*e*P		**P**	**12 27 53.6**	**+1.1**
	86nm,1.8s							
PMG	**Port Moresby**	**34.84**	**280**	P		**P**	**12 28 03.4**	**+1.4**
	16nm,0.8s,baz=104,slow=12,SNR=6.8							
COEN	**Coen**	**37.43**	**271**	*e*P		**P**	**12 28 24.5**	**+1.1**
	36nm,1.0s							
STKA	**Stephens Creek**	**38.72**	**242**	P		**P**	**12 28 34.5**	**+0.9**
	11nm,0.5s,baz=72,slow=5.3,SNR=51							
STKA	**Stephens Creek**	**38.72**	**242**	*e*P		**P**	**12 28 34.8**	**+1.1**
	5.4nm,1.1s							
BBOO	**Buckleboo**	**43.50**	**241**	*e*P		**P**	**12 29 12.0**	**+0.5**
	17nm,0.8s							
WRAB	**Tennant Creek**	**44.87**	**260**	*e*P		**P**	**12 29 22.0**	**-0.2**
	20nm,1.1s							
WRA	**Warramunga Arr**	**44.88**	**260**	P		**P**	**12 29 21.9**	**-0.5**
	9.5nm,0.7s,baz=96,slow=6.9,SNR=211							
WRA				ScP		**ScP**	**12 33 50.7**	**-0.9**
	0.4nm,0.8s,baz=99,slow=4.3,SNR=3.1							
AS01	**Alice Springs**	**44.95**	**255**	*e*P		**P**	**12 29 22.9**	**0.0**
AS31	**Alice Springs**	**44.99**	**255**	*e*P		**P**	**12 29 23.4**	**+0.2**
	8.3nm,0.6s							
ASAR	**Alice Springs**	**44.99**	**255**	P		**P**	**12 29 23.4**	**+0.2**
	39nm,0.9s,baz=91,slow=7.6,SNR=553							
ASAR				ScP		**ScP**	**12 33 52.3**	**+0.3**
	0.6nm,0.7s,baz=101,slow=4.3,SNR=4.8							
ASAR				S		**S**	**12 35 18.9**	**-2.9**
	1.2nm,0.9s,baz=91,slow=15,SNR=7.2							
MTN	**Manton Dam**	**49.11**	**269**	*e*P		**P**	**12 29 54.1**	**-0.1**
	132nm,1.9s							
MBWA	**Marble Bar**	**58.29**	**256**	*e*P		**P**	**12 30 58.5**	**-0.4**
	94nm,1.6s							
JHJ	**Hachijo jima 2**	**65.08**	**322**	P		**P**	**12 31 43.0**	**+0.1**
	128nm,0.8s,baz=107,slow=19,SNR=4.8							
MJAR	**Matsushiro Arr**	**68.41**	**323**	P		**P**	**12 32 03.0**	**-0.3**
	3.0nm,0.6s,baz=162,slow=6.5,SNR=14							
MAJO	**Matsushiro**	**68.42**	**323**	*e*P		**P**	**12 32 03.4**	**0.0**
	44nm,1.9s							
MAT	**Matsushiro**	**68.42**	**323**	P		**P**	**12 32 03.2**	**-0.2**
MJB9	**Matsu-Tunnel**	**68.42**	**323**	*e*P		**P**	**12 32 03.4**	**-0.1**
	45nm,1.9s							
QSPA	**South Pole Qui**	**71.75**	**180**	P		**P**	**12 32 23.2**	**+0.4**
	2.5nm,0.6s,baz=24,slow=19,SNR=9.8							
ASAJ	**Asahikawa**	**71.78**	**331**	P		**P**	**12 32 24.4**	**+1.3**
	5.0nm,0.8s,baz=158,slow=5.6,SNR=7.6							
ASAJ	**Asahikawa**	**71.78**	**331**	*e*P		**P**	**12 32 24.8**	**+1.7**
	17nm,0.6s							
UNV	**Unalaska Valle**	**72.54**	**7**	*e*P		**P**	**12 32 26.7**	**-0.6**
	51nm,1.3s							
TPUB	**Tau-pu**	**72.74**	**302**	*e*P		**P**	**12 32 28.7**	**-0.5**
	54nm,1.6s							
PEA0B	**Petropavlovsk-**	**74.14**	**345**	*e*P		**P**	**12 32 36.5**	**0.0**
	48nm,1.4s							
PETK	**Petropavlovsk-**	**74.14**	**345**	P		**P**	**12 32 36.4**	**-0.1**
	8.3nm,0.6s,baz=106,slow=8.4,SNR=29							
PETK	**Petropavlovsk-**	**74.14**	**345**	*e*P		**P**	**12 32 36.6**	**+0.2**
KSRS	**Korea Array**	**75.21**	**318**	P		**P**	**12 32 43.8**	**+1.0**
	1.0nm,0.6s,baz=130,slow=5.9,SNR=4.4							
USRK	**Usuriysk Ar.**	**77.12**	**326**	P		**P**	**12 32 53.1**	**-0.1**
	0.9nm,0.5s,baz=150,slow=3.2,SNR=2.3							
CMB	**Columbia Colle**	**77.91**	**43**	*e*P		**P**	**12 32 58.7**	**+1.1**
	27nm,1.9s							
OHAK	**Old Harbor**	**78.04**	**13**	*e*P		**P**	**12 32 57.8**	**+0.1**
	201nm,1.9s							
NJ2	**Nanjing**	**78.44**	**309**	*e*P		**P**	**12 32 59.5**	**-1.0**
YBH	**Yreka Blue Hor**	**78.63**	**39**	P		**P**	**12 33 02.6**	**+1.1**
	3.7nm,0.6s,baz=283,slow=4.1,SNR=11							
YBH	**Yreka Blue Hor**	**78.63**	**39**	*e*P		**P**	**12 33 03.1**	**+1.7**
	65nm,2.0s							
WAKR	**Walker**	**78.79**	**43**	*e*P		**P**	**12 33 03.1**	**+0.5**
	9.6nm,1.1s							
DAC	**Darwin (Calif)**	**78.79**	**46**	*e*P		**P**	**12 32 59.9**	**-2.7**
	9.3nm,1.4s							
BEKR	**Beckworth**	**78.97**	**42**	*e*P		**P**	**12 33 04.5**	**+1.1**
	17nm,1.5s							
HUMO	**Hull Mountain**	**79.01**	**38**	*e*P		**P**	**12 33 05.1**	**+1.7**
	49nm,1.8s							
YERR	**Yerington**	**79.19**	**43**	*e*P		**P**	**12 33 05.8**	**+1.2**
	8.3nm,0.8s							
NV01	**Mina Array Sit**	**79.49**	**44**	*e*P		**P**	**12 33 07.3**	**+1.0**
NVAR	**Mina Array Bea**	**79.49**	**44**	P		**P**	**12 33 07.1**	**+0.8**
	3.6nm,0.7s,baz=224,slow=9.4,SNR=28							
PAHR	**Pah Rah Range**	**79.50**	**42**	*e*P		**P**	**12 33 07.0**	**+0.8**
	27nm,1.9s							
NV11	**Mina Array Sit**	**79.59**	**44**	*e*P		**P**	**12 33 07.7**	**+1.0**
	0.4nm,1.0s							
KVN	**Kaiserville**	**79.96**	**43**	*e*P		**P**	**12 33 09.5**	**+0.8**
	5.0nm,0.8s							
MOD	**Modoc Plateau**	**80.18**	**40**	*e*P		**P**	**12 33 10.6**	**+0.9**
	4.1nm,0.6s							
KLR	**Kul'dur**	**80.61**	**329**	P		**P**	**12 33 12.0**	**+0.4**
	0.1nm,0.2s,baz=180,slow=4.0,SNR=4.6							
H04A	**Detroit Lake**	**80.72**	**37**	*e*P		**P**	**12 33 12.7**	**+0.5**
	41nm,1.7s							
BRLK	**Bradley Lake**	**80.88**	**14**	*e*P		**P**	**12 33 12.5**	**-0.3**
	114nm,2.0s							
PINE	**Pine Mountain**	**80.90**	**38**	*e*P		**P**	**12 33 14.7**	**+1.2**
	15nm,0.9s							
SVW2	**Sparrevohn**	**81.17**	**11**	*e*P		**P**	**12 33 12.5**	**-1.7**
	24nm,1.7s							
R11A	**Troy Canyon, C**	**81.25**	**45**	*e*P		**P**	**12 33 15.9**	**+0.5**
	3.0nm,1.1s							
WVOR	**Wild Horse Val**	**81.50**	**40**	*e*P		**P**	**12 33 17.5**	**+1.0**
	8.0nm,1.0s							
MA2	**Magadan**	**81.66**	**345**	P		**P**	**12 33 15.8**	**-0.9**
	2.6nm,0.8s,baz=155,slow=8.7,SNR=4.0							
GAMB	**Gambell**	**81.97**	**3**	*e*P		**P**	**12 33 18.7**	**+0.6**
	24nm,1.8s							
J08A	**Circle Bar Ran**	**82.12**	**39**	*e*P		**P**	**12 33 20.5**	**+0.9**
	11nm,1.3s							
LCMT	**Little Creek M**	**82.17**	**47**	*e*P		**P**	**12 33 21.4**	**+1.4**
	4.1nm,0.9s							
LON	**Longmire**	**82.17**	**35**	*e*P		**P**	**12 33 20.1**	**+0.3**
	14nm,1.5s							
RC01	**Rabbit Creek A**	**82.33**	**13**	*e*P		**P**	**12 33 19.3**	**-0.8**
	20nm,1.6s							
CCUT	**Cedar City**	**82.35**	**46**	*e*P		**P**	**12 33 20.4**	**-0.6**
	4.0nm,0.9s							
SUA	**Susitna One**	**82.45**	**13**	*e*P		**P**	**12 33 20.5**	**-0.3**
	11nm,0.7s							
GLI	**Glacier Island**	**82.75**	**15**	*e*P		**P**	**12 33 21.6**	**-0.6**
	32nm,1.4s							
WUAZ	**Wupatki**	**82.76**	**49**	*e*P		**P**	**12 33 24.6**	**+1.5**
	7.6nm,1.1s							
PMR	**Palmer**	**82.91**	**13**	*e*P		**P**	**12 33 22.5**	**-0.5**
	5.8nm,0.6s							
G08A	**Pilot Rock**	**82.93**	**38**	*e*P		**P**	**12 33 24.7**	**+1.0**
	12nm,1.4s							
LTY	**Liberty**	**83.10**	**35**	*e*P		**P**	**12 33 25.1**	**+0.6**
	6.9nm,1.1s							
SML	**Sawmill**	**83.28**	**14**	*e*P		**P**	**12 33 24.5**	**-0.4**
	17nm,1.4s							
MTPU	**Mount Pierson**	**83.40**	**47**	*e*P		**P**	**12 33 27.4**	**+0.9**
	4.1nm,0.9s							
BMRM	**Bremner River**	**83.45**	**16**	*e*P		**P**	**12 33 25.5**	**-0.3**
	9.5nm,0.8s							
PPLA	**Purkeypile**	**83.46**	**12**	*e*P		**P**	**12 33 24.9**	**-0.9**
	43nm,2.0s							
SCM	**Sheep Creek Mo**	**83.53**	**14**	*e*P		**P**	**12 33 26.0**	**-0.2**
	16nm,0.7s							
CAST	**Castle Rocks**	**83.95**	**11**	*e*P		**P**	**12 33 26.9**	**-1.3**
	10nm,0.7s							
SEY	**Seymour**	**84.23**	**347**	P		**P**	**12 33 29.1**	**-0.4**
	4.7nm,0.5s,baz=153,slow=5.6,SNR=31							
KTH	**Kantishna Hill**	**84.30**	**12**	*e*P		**P**	**12 33 28.9**	**-1.1**
	8.1nm,0.8s							
F10A	**Beach Ranch, E**	**84.32**	**38**	*e*P		**P**	**12 33 30.6**	**+0.1**
	6.9nm,0.9s							
TRF	**Thorofare Moun**	**84.33**	**12**	*e*P		**P**	**12 33 29.2**	**-1.0**
	16nm,0.7s							
B08A	**Colville Reser**	**84.48**	**35**	*e*P		**P**	**12 33 30.7**	**-0.5**
	5.4nm,0.9s							
HARP	**HAARP**	**84.55**	**15**	*e*P		**P**	**12 33 31.3**	**+0.2**
	9.9nm,0.8s							
RND	**Reindeer**	**84.58**	**13**	*e*P		**P**	**12 33 31.3**	**0.0**
	13nm,0.8s							
DHY	**Denali Highway**	**84.61**	**14**	*e*P		**P**	**12 33 31.3**	**-0.3**
	7.7nm,1.3s							
HLID	**Hailey**	**84.72**	**41**	*e*P		**P**	**12 33 33.6**	**+1.0**
	3.0nm,0.8s							
MCK	**McKinley**	**84.86**	**13**	*e*P		**P**	**12 33 32.1**	**-0.4**
	8.2nm,0.8s							
HYT	**Haines Junctio**	**85.33**	**19**	*e*P		**P**	**12 33 34.9**	**-0.2**
	37nm,1.9s							
MENT	**Mentasta**	**85.35**	**15**	*e*P		**P**	**12 33 34.9**	**-0.1**
	30nm,2.0s							
MNTX	**Cornudas Mount**	**85.54**	**55**	*e*P		**P**	**12 33 37.8**	**+1.2**
	4.6nm,1.3s							
WRH	**Wood River Hil**	**85.69**	**13**	*e*P		**P**	**12 33 35.7**	**-0.8**
	14nm,1.2s							
RIDG	**Independ'e Rid**	**85.76**	**14**	*e*P		**P**	**12 33 36.6**	**-0.4**
	6.7nm,1.0s							
DOT	**Dot Lake**	**85.87**	**14**	*e*P		**P**	**12 33 35.5**	**-1.9**
	20nm,1.2s							
HDA	**Harding Lake**	**85.87**	**13**	*e*P		**P**	**12 33 37.0**	**-0.4**
	7.6nm,0.9s							
CCB	**Clear Creek Bu**	**85.90**	**13**	*e*P		**P**	**12 33 36.6**	**-1.0**
	13nm,1.2s							
TX31	**Lajitas Ar. Si**	**85.94**	**57**	*e*P		**P**	**12 33 40.4**	**+1.7**
TXAR	**Lajitas Array**	**85.94**	**57**	P		**P**	**12 33 40.4**	**+1.7**
	4.4nm,0.7s,baz=218,slow=6.2,SNR=65							
WHY	**Whitehorse**	**86.02**	**20**	*e*P		**P**	**12 33 38.7**	**+0.4**
	43nm,2.0s							
DLBC	**Dease Lake**	**86.07**	**23**	*e*P		**P**	**12 33 38.6**	**0.0**
	24nm,1.6s							
MDM	**Murphy Dome**	**86.09**	**12**	*e*P		**P**	**12 33 37.6**	**-0.8**
	5.3nm,0.9s							
ANMO	**Albuquerque**	**86.09**	**51**	*e*P		**P**	**12 33 39.0**	**-0.4**
	4.2nm,1.2s							
SCRK	**Sand Creek**	**86.16**	**14**	*e*P		**P**	**12 33 38.7**	**-0.3**
	2.8nm,1.0s							
IL1	**Eielson Array**	**86.20**	**13**	*e*P		**P**	**12 33 38.1**	**-0.9**
ILAR	**Eielson Array**	**86.20**	**13**	P		**P**	**12 33 38.0**	**-1.0**
	2.0nm,0.4s,baz=219,slow=4.8,SNR=84							
ILB	**Eielson Array**	**86.20**	**13**	*e*P		**P**	**12 33 38.3**	**-0.7**
MCMT	**McKenzie Canyo**	**86.33**	**40**	*e*P		**P**	**12 33 41.6**	**+1.2**
DLMT	**Dillon**	**86.75**	**40**	*e*P		**P**	**12 33 43.0**	**+0.8**
	3.9nm,0.8s							
IMW	**Indian Meadow**	**87.07**	**42**	*e*P		**P**	**12 33 44.4**	**+0.4**
	10nm,1.2s							
MOOW	**Moose Ponds**	**87.12**	**42**	*e*P		**P**	**12 33 44.6**	**+0.5**
	5.4nm,1.6s							
LOHW	**Long Hollow**	**87.14**	**42**	*e*P		**P**	**12 33 44.8**	**+0.5**
	10nm,1.7s							
DAWY	**Dawson**	**87.38**	**16**	*e*P		**P**	**12 33 44.9**	**+0.3**
	18nm,2.0s							
BW06	**Boulder Array**	**87.42**	**43**	*e*P		**P**	**12 33 45.3**	**-0.2**
	2.9nm,0.8s							
PD31	**Pinedale Array**	**87.42**	**43**	*e*P		**P**	**12 33 46.0**	**+0.5**
PDAR	**Pinedale Array**	**87.42**	**43**	P		**P**	**12 33 45.6**	**+0.1**
	2.3nm,0.7s,baz=213,slow=3.2,SNR=22							
YMR	**Madison River**	**87.42**	**41**	*e*P		**P**	**12 33 46.5**	**+1.0**
	3.9nm,0.7s							
BOZ	**Bozeman (W)**	**87.46**	**40**	*e*P		**P**	**12 33 46.3**	**+0.7**
	5.6nm,1.2s							
EGAK	**Eagle**	**87.51**	**15**	*e*P		**P**	**12 33 45.1**	**-0.1**
	3.8nm,0.8s							
H17A	**Grant Village**	**87.53**	**42**	*e*P		**P**	**12 33 48.4**	**+2.3**
	4.2nm,0.9s							
YHH	**Holmes Hill**	**87.55**	**41**	*e*P		**P**	**12 33 48.0**	**+1.8**
	2.7nm,1.2s							
LNIG	**Linares**	**87.72**	**63**	*e*P		**P**	**12 33 47.3**	**+0.2**
	5.0nm,0.9s							
COLD	**Coldfoot**	**87.74**	**10**	*e*P		**P**	**12 33 46.4**	**+0.2**
	5.4nm,1.0s							
HHC	**Hu-ho-hao-te**	**87.78**	**314**	*e*P		**P**	**12 33 49.5**	**+2.4**
TOLK	**Toolik Lake Re**	**89.12**	**10**	*e*P		**P**	**12 33 52.7**	**+0.1**
	7.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**89.32**	**290**	P		**P**	**12 33 56.0**	**+1.4**
	0.5nm,0.5s,baz=121,slow=5.1,SNR=4.6							
SNAA	**Sanae**	**90.19**	**178**	P		**P**	**12 33 57.0**	**-0.8**
SNAA	**Sanae**	**90.19**	**178**	P		**P**	**12 33 56.8**	**-1.0**
	1.9nm,1.1s,baz=180,slow=10,SNR=5.0							
SNAA	**Sanae**	**90.19**	**178**	*e*P		**P**	**12 33 57.5**	**-0.2**
	26nm,1.8s							
EDM	**Edmonton**	**90.32**	**33**	*e*P		**P**	**12 33 58.1**	**-0.4**
	12nm,1.4s							
VNA3	**Neumayer Olymp**	**90.33**	**176**	P		**P**	**12 33 57.8**	**-0.5**
LZH	**Lanzhou**	**91.39**	**308**	*e*P		P	12 34 08.9	+4.9
LZH				pP		pP	12 36 05.5	-0.6
LZH				sP		sP	12 36 57.4	-4.5
INK	**Inuvik**	**92.18**	**15**	P		**P**	**12 34 05.5**	**-1.1**
	3.0nm,0.8s,baz=213,slow=2.7,SNR=13							
INK	**Inuvik**	**92.18**	**15**	*e*P		**P**	**12 34 06.0**	**-0.6**
	4.1nm,0.9s							
SONM	**Songino Array**	**94.06**	**319**	P		**P**	**12 34 16.7**	**+0.8**
	0.3nm,0.3s,baz=104,slow=3.6,SNR=4.6							
YKA	**Yellowknife Ar**	**94.56**	**25**	P		**P**	**12 34 17.3**	**-0.3**
	0.8nm,0.6s,baz=241,slow=4.4,SNR=26							
MKAR	**Makanchi Array**	**109.64**	**314**	PKiKP		**PKiKP**	**12 39 22.9**	**-1.6**
	0.3nm,0.5s,baz=144,slow=0.5,SNR=7.3							
BVAR	**Borovoye Array**	**117.35**	**321**	PKP		**PKPdf**	**12 39 37.7**	**-1.4**
	0.5nm,0.5s,baz=132,slow=2.1,SNR=3.7							
ARCES	**ARCESS Array B**	**126.76**	**350**	PKP		**PKPdf**	**12 39 55.9**	**-0.8**
	4.4nm,0.9s,baz=33,slow=2.5,SNR=9.

SKR	Severo-Kuril's	1.80	102	eS	S	12 33 39.1	-2.6
KDTR	Khodutka, Kamc	3.04	75	eS	S	12 33 52.9	-4.7
PETK	Petropavlovsk-	3.35	51	P	Pn	12 33 07.9	-0.9
	0.4nm,0.3s,baz=219,slow=11,SNR=18						
RUS	Russkaya	3.48	65	eP	Pn	12 33 09.3	-0.6
RUS				eS	S	12 34 01.2	-3.2
GNL	Ganaly	3.83	45	eP	Pn	12 33 12.8	-0.4
DALK	Dalny	3.86	58	eP	Pn	12 33 13.9	+0.6
DALK				eS	S	12 34 09.0	-1.6
AVH	Avacha	3.96	55	eP	Pn	12 33 15.9	+1.5
UGLR	Uglovaya	3.98	56	eP	Pn	12 33 16.0	+1.4
UGLR				eS	S	12 34 12.8	-0.2
SDLR	Sedlovina	4.05	55	eP	Pn	12 33 16.2	+1.0
SDLR				eS	S	12 34 13.1	-1.1
SPN	Mys Shipunski	4.58	61	eP	Pn	12 33 19.9	-0.4
SPN				eS	S	12 34 19.1	-4.3
ASAJ	Asahikawa	10.07	230	P	P	12 34 18.7	-2.3
	2.5nm,0.3s,baz=51,slow=6.5,SNR=31						
MJAR	Matsushiro Arr	18.14	222	P	P	12 35 48.4	-0.4
	0.3nm,0.3s,baz=20,slow=11,SNR=4.6						
ZALV	Zalesovo Beam	40.32	302	P	P	12 39 01.3	-1.6
	0.4nm,0.3s,baz=72,slow=9.3,SNR=3.0						
MKAR	Makanchi Array	45.20	294	P	P	12 39 40.5	-1.2
	0.2nm,0.4s,baz=51,slow=5.5,SNR=6.1						
KURBB	Kurchatov Arra	45.29	300	P	P	12 39 41.5	-0.7
	2.5nm,0.2s,baz=64,slow=8.5,SNR=4.4						
BVAR	Borovoye Array	48.30	307	P	P	12 40 04.1	-1.1
	0.4nm,0.5s,baz=70,slow=8.3,SNR=3.3						
FINES	FINESS Array B	60.18	334	P	P	12 41 29.2	-0.3
	1.6nm,0.9s,baz=46,slow=11,SNR=5.1						
NOA	NORSAR Array B	64.17	341	P	P	12 41 55.5	-0.2
	1.2nm,1.1s,baz=23,slow=7.2,SNR=2.7						
HFS	Hagfors	64.44	339	P	P	12 41 57.1	-0.3
	0.6nm,0.4s,baz=45,slow=4.3,SNR=5.6						
EKA	Eskdalemuir Ar	72.15	346	P	P	12 42 45.7	+1.0
	0.2nm,0.4s,baz=18,slow=4.8,SNR=2.8						
WRA	Warramunga Arr	72.68	199	P	P	12 42 49.6	+1.4
	0.4nm,0.5s,baz=16,slow=6.1,SNR=4.5						
TXAR	Lajitas Array	75.25	62	P	P	12 43 07.4	+4.3
	0.1nm,0.5s,baz=298,slow=5.7,SNR=2.8						
ASAR	Alice Springs	76.39	198	P	P	12 43 11.4	+2.2
	0.3nm,0.4s,baz=16,slow=4.9,SNR=8.9						

IDC ***18*** *12:39:36.6±1.2, 7.77N×126.98E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/57, mbtmp3.3/4, Error ellipse: s-maj=22.0km s-min=16.6km az=147.0*

ISCJB ***18*** *12:39:42.2±1.0, 7.49N±0.05×126.89E±0.08, h35km, mb3.2/4, Error ellipse: s-maj=11.6km s-min=6.5km az=165.0*

MAN ***18*** *12:39:44, 7.47N×126.67E, h22km, mb4.4, ML3.3, MS3.1*

ISC 18 12:39:43.0±1.3, 7.48N±0.05×126.8E±0.1, h35km, n10, σ1°69/15, mb3.2/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	Mati	0.77	227	eP		Pn		12 39 58.2	+0.7
MATI				eS		Sn		12 40 08.6	+0.8
BIPH	Bislig	0.84	327	eP		Pn		12 39 59.9	+1.6
BIPH				i S		Sn		12 40 08.2	-1.3
DAV	Davao City (W)	1.30	252	Pg		Pn		12 40 06.3	+1.6
	69nm,0.3s,baz=49,slow=18,SNR=5.8								
DAV				Lg		Lg		12 40 24.8	
	54nm,0.3s,baz=78,slow=20,SNR=13								
BUKP	Musuan	1.79	283	eP		Pn		12 40 10.7	-0.8
BUKP				eS		Sn		12 40 33.5	+0.4
BUTP	Butuan	1.90	321	eP		Pn		12 40 14.0	+1.1
BUTP				eS		Sn		12 40 35.5	-0.1
MSLP	Maasin	3.27	324	eP		Pn		12 40 33.4	+1.5
MSLP				eS		Sn		12 41 12.6	+3.0
WRA	Warramunga Arr	28.24	165	P		P		12 45 34.2	+1.3
	0.5nm,1.0s,baz=346,slow=10,SNR=5.3								
ASAR	Alice Springs	31.72	168	P		P		12 46 03.7	-0.1
	0.5nm,1.0s,baz=340,slow=8.1,SNR=5.4								
MKAR	Makanchi Array	54.58	324	P		P		12 49 05.0	-2.9
	0.2nm,0.7s,baz=125,slow=7.6,SNR=3.1								
KURBB	Kurchatov Arra	58.67	326	P		P		12 49 35.2	-1.7
	0.1nm,0.5s,baz=118,slow=8.2,SNR=2.1								

JMA 18 12:47:56.7±0.2, 40.89N×145.31E, h62km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.97	306	P		Pn		12 48 29.0	+1.3
JEM				eS		Sn		12 48 51.0	-0.4
JAK	Akkeshi	2.15	348	P		Pn		12 48 31.0	+0.8
JAK				eS		Sn		12 48 55.6	-0.2
JCH	Churui	2.26	320	P		Pn		12 48 32.7	+1.1
JCH				eS		Sn		12 48 58.1	-0.3
JOB	Onbets	2.29	332	P		Pn		12 48 33.6	+1.5
JOB				eS		Sn		12 48 59.7	+0.5
JNBK	Urakawa-nobuka	2.37	307	P		Pn		12 48 35.0	+1.8
JNBK				eS		Sn		12 49 02.4	+1.3
NEM2	Nemuro 2	2.49	7	P		Pn		12 48 36.3	+1.4
JAR	Ashorobuto	2.66	335	P		Pn		12 48 37.9	+0.7
JAR				eS		Sn		12 49 07.4	-0.9
JNK	Nakash	2.73	351	eS		Sn		12 49 08.3	-1.6
JANG	Nango	2.93	261	P		Pn		12 48 40.6	-0.3
JFR	Furan	3.04	319	P		Pn		12 48 43.4	+1.0
JTKR	Abashiri--Toko	3.25	342	P		Pn		12 48 47.1	+1.9
JTKR				eS		Sn		12 49 23.5	+0.9
JOT	Ohata	3.26	280	P		Pn		12 48 46.1	+0.8
JOT				eS		Sn		12 49 19.8	-3.0
JOM	Ohasama	3.39	247	P		Pn		12 48 47.4	+0.3
JOM				eS		Sn		12 49 23.0	-3.0
JEW	Eniwo	3.48	305	eS		Sn		12 49 28.9	+0.6

IDC ***18*** *12:57:12.2±2.1, 38.03S×75.25W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/31, mbtmp3.5/4, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/18, Error ellipse: s-maj=64.4km s-min=28.3km az=45.0*

ISCJB ***18*** *12:57:16.2±1.0, 37.90S±0.05×75.06W±0.08, h33km, mb3.4/3, MS3.4/1, Error ellipse: s-maj=9.8km s-min=6.4km az=163.4*

GUC ***18*** *12:57:16.3±0.6, 37.95S×74.96W, h20km±5km, ML3.5*

ISC 18 12:57:18.0±1.3, 37.91S±0.06×75.1W±0.1, h35km, n11, σ1°04/16, mb3.3/3, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TMU	Temuco	2.09	114	∥iP		Pn		12 57 50.1	-0.4
TMU				i S		Sn		12 58 15.4	+0.1
COCH	Cobquecura	2.53	46	∥eP		Pn		12 57 56.2	-0.4
COCH				i S		Sn		12 58 27.2	+1.0
COCH				IAML				12 58 29.2	
	comp=E,147nm,0.5s								
CCHI	Chillan	2.71	62	eP		Pn		12 57 58.5	-0.5
CCHI				i S		Sn		12 58 29.6	-0.9
CCHI				IAML				12 58 40.5	
	comp=E,279nm,0.7s								
GO06	Curarrehue	3.26	122	eP		Pn		12 58 06.0	-0.7
GO06				eS		Sn		12 58 44.1	-0.2
GO06				IAML				12 58 47.2	
	comp=N,52nm,0.4s								
GO05	HualaæØ	3.83	42	eP		Pn		12 58 13.8	-0.8
GO05				i S		Sn		12 58 58.3	-0.1
PLCA	Paso Flores	4.48	130	Pn		Pn		12 58 21.9	-1.6
	comp=N,1.8nm,0.3s,baz=309,slow=15,SNR=23								
PLCA				Sn		Sn		12 59 17.1	+2.7
	comp=N,1.5nm,0.3s,baz=32,slow=19,SNR=2.5								
LMEL	Las Melosas	5.65	46	eP		Pn		12 58 39.6	0.0
SIV	San Ignacio	25.08	33	P		P		13 02 40.3	+0.9
	comp=N,0.7nm,0.7s,baz=219,slow=13,SNR=3.9								
RPN	Rapa Nui	30.69	280	LR		LR		13 11 58.8	
	comp=N,73nm,18.4s,baz=85,slow=29								
TXAR	Lajitas Array	72.06	334	P		P		13 08 38.3	-0.2
	comp=N,0.2nm,0.6s,baz=151,slow=7.7,SNR=4.4								
PDAR	Pinedale Array	86.22	335	P		P		13 09 55.9	+0.1
	comp=N,0.6nm,0.9s,baz=141,slow=6.0,SNR=3.8								

ISCJB ***18*** *13:00:59.7±0.5, 34.59N±0.07×136.84E±0.07, h353km±4km, mb2.8/7, Error ellipse: s-maj=12.0km s-min=9.6km az=171.8*

JMA ***18*** *13:00:59.9±0.3, 34.69N×136.75E, h356km±3km, M3.3*

IDC ***18*** *13:01:00.8±1.0, 34.54N×136.73E, h347km±12km, mb2.7/7, mb1 2.9/11, mb1mx2.7/68, mbtmp3.4/11, Error ellipse: s-maj=17.7km s-min=12.5km az=77.0*

ISC 18 13:01:00.8±0.7, 34.64N±0.08×136.81E±0.07, h345km±6km, n22, σ0°89/27, mb2.9/7, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIE	Ise	0.26	198	P		Pn		13 01 44.7	+0.5
JIE				eS		S		13 02 19.0	+0.1
JAA	Atsumi	0.28	91	P		Pn		13 01 44.9	+0.8
JAA				eS		S		13 02 19.3	+0.6
JWY	Kouya	1.09	248	P		Pn		13 01 46.8	+0.3
JWT	Wachi	1.32	300	P		Pn		13 01 47.5	+0.1
JWZ	Kozaga	1.43	220	P		Pn		13 01 47.9	-0.2
JKG	Kaga	1.68	347	P		Pn		13 01 49.4	0.0
JAI	Aioi	2.12	247	P		Pn		13 01 52.5	0.0
JRY	Ryogami san	2.20	51	P		Pn		13 01 54.0	+1.0
JRY				eS		S		13 02 34.9	-0.1
MJAR	Matsushiro Arr	2.22	31	P		Pn		13 01 53.3	+0.1
	0.6nm,0.3s,baz=207,slow=8.9,SNR=12								
MJAR				S		S		13 02 33.0	-2.3
	0.2nm,0.3s,baz=231,slow=15,SNR=3.2								
JAG	Ashikaga	2.80	50	P		Pn		13 01 57.1	-0.8
JHJ	Hachijo jima 2	2.90	121	P		Pn		13 02 00.3	+1.4
	2.4nm,0.3s,baz=248,slow=16,SNR=6.5								
JHJ				S		S		13 02 43.5	-2.1
	3.6nm,0.3s,baz=65,slow=18,SNR=2.0								
JHS	Saijyo	3.06	278	P		Pn		13 02 00.3	0.0
BSO1	Boso 1	3.44	89	eS		S		13 02 53.1	-0.5
KSRS	Korea Array	7.72	294	P		P		13 02 52.0	+0.5
	0.4nm,0.3s,baz=105,slow=13,SNR=8.8								
ASAJ	Asahikawa	10.47	24	P		P		13 03 25.5	+0.1
	0.2nm,0.3s,baz=197,slow=11,SNR=4.1								
SONM	Songino Array	26.21	309	P		P		13 06 05.1	0.0
	0.3nm,0.4s,baz=114,slow=8.2,SNR=3.0								
MKAR	Makanchi Array	42.27	304	P		P		13 08 21.7	+0.3
	0.3nm,0.5s,baz=85,slow=9.1,SNR=5.6								
KURBB	Kurchatov Arra	44.57	309	P		P		13 08 39.2	-0.3
	0.1nm,0.4s,baz=95,slow=7.8,SNR=3.3								
ILAR	Eielson Array	53.50	31	P		P		13 09 47.0	+0.8
	0.3nm,0.8s,baz=267,slow=4.5,SNR=3.9								
WRA	Warramunga Arr	54.33	183	P		P		13 09 51.7	-1.1
	0.5nm,0.3s,baz=1.1,slow=7.6,SNR=36								
ASAR	Alice Springs	58.05	183	P		P		13 10 17.9	-0.9
	0.2nm,0.4s,baz=358,slow=5.4,SNR=15								
YKA	Yellowknife Ar	67.72	28	P		P		13 11 22.0	+0.5
	0.1nm,0.4s,baz=297,slow=6.4,SNR=3.3								

ISCJB ***18*** *13:07:18.7±0.3, 24.02N±0.02×122.65E±0.01, h26km±3km, mb3.2/5, Error ellipse: s-maj=3.0km s-min=2.2km az=168.4*

TAP ***18*** *13:07:18.8, 24.09N×122.68E, h36km, ML3.5, D*

JMA ***18*** *13:07:18.5±0.1, 24.04N×122.62E, h24km±3km, M2.9*

IDC ***18*** *13:07:42.5±22.0, 24.61N×123.17E, h284km±283km, mb2.6/5, mb1 2.8/6, mb1mx2.5/65, mbtmp3.4/6, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/6, Error ellipse: s-maj=206.7km s-min=16.8km az=60.0*

ISC 18 13:07:16.0±1.1, 24.03N±0.02×122.67E±0.02, h11km±8km, n80, σ0°97/148, mb3.4/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.49	30	P		Pn		13 07 28.6	-0.4
JYNG				eS		Sb		13 07 35.6	+1.7
YOJ	Yonaguni jima	0.53	35	P		Pn		13 07 29.4	-0.1
	baz=44								
YOJ				S		Sb		13 07 36.8	+1.8
	baz=44								
YOJ	Yonaguni jima	0.53	35	P		Pn		13 07 29.3	-0.2
YOJ				S		Sb		13 07 37.3	+2.2
EOS1	EOS1	0.72	316	P		Pn		13 07 32.4	+0.3
	baz=312								
EOS1				eS		Sb		13 07 41.6	+1.2
	baz=312								
ENAH	Nanao	0.89	298	i P		Pn		13 07 34.9	+0.4
	baz=294								
ENAH				S		Sb		13 07 46.8	+1.4
	baz=294								
NANB	Nanao	0.93	296	P		Pn		13 07 35.5	+0.5
	baz=292								
NANB				S		Sb		13 07 48.0	+1.5
	baz=292								
ENA	Nanau	0.94	295	P		Pn		13 07 35.5	+0.4
	baz=292								
ENA				S		Sb		13 07 48.1	+1.3
	baz=292								
TWC	Suao	0.95	308	P		Pn		13 07 35.5	+0.2
	baz=305								
TWC				S		Sb		13 07 48.0	+0.9
	baz=305								
HWA	Hwalien	0.98	267	eP		Pn		13 07 36.2	+0.5
	baz=251								
HWA				eS		Sb		13 07 49.7	+1.8
	baz=251								
TWD	Chiawan	0.99	273	P		Pn		13 07 36.1	+0.4
	baz=270								
TWD				S		Sg		13 07 48.7	+0.8
	baz=270								
ENLB	Shoufeng	0.99	263	P		Pn		13 07 36.5	+0.7
	baz=248								
ENLB				i S		Sb		13 07 49.9	+1.7
	baz=248								
NACB	Ninganchiao	1.00	279	P		Pn		13 07 36.1	+0.2
	baz=262								
NACB				S		Sb		13 07 50.2	+1.8
	baz=262								
IRIF	Iriomote-Funau	1.01	72	P		Pn		13 07 37.5	+1.4
IRIF				S		Sn		13 07 51.9	+1.5
HATJ	Hateruma jima	1.04	88	P		Pn		13 07 38.5	+2.0
HATJ				eS		Sn		13 07 52.7	+1.8
EGS		1.06	321	P		Pn		13 07 37.6	+0.8
	baz=329								
EGS				eS		Sn		13 07 51.5	0.0
	baz=329								
ILA	Ilan	1.12	311	P		Pg		13 07 39.0	+1.5
	baz=309								
ILA				eS		Sn		13 07 53.7	+0.7
	baz=309								
TWE	Neicheng	1.15	307	P		Pg		13 07 38.9	+0.7
	baz=305								
TWE				S		Sn		13 07 54.2	+0.4
	baz=305								
ESL	Shilin	1.15	260	eP		Pn		13 07 37.8	-0.3
	baz=247								
ESL				eS		Sb		13 07 54.3	+1.4
	baz=247								
TWB1	Santiao Chiao	1.16	328	i P		Pg		13 07 38.1	-0.2
	baz=326								
TWB1				S		Sn		13 07 53.8	-0.2
	baz=326								
ENTT	Nioudou	1.18	301	P		Pg		13 07 39.6	+0.9
	baz=299								
ENTT				eS		Sb		13 07 54.4	+0.7
	baz=299								
SLBB	Yuanshan	1.19	308	eP		Pg		13 07 40.0	+1.0
	baz=314								
SLBB				eS		Sn		13 07 55.6	+0.8
	baz=314								
EGFH	Guangfu	1.19	253	eP		Pg		13 07 39.5	+0.5
	baz=250								
EGFH				eS		Sb		13 07 54.1	0.0
	baz=250								
TIPB	Shuangxi	1.22	321	P		Pb		13 07 38.5	-0.5
	baz=331								
TIPB				S		Sg		13 07 56.0	+0.7
	baz=331								
JKRS	Kuro-shima	1.24	80	P		Pg		13 07 41.7	+1.9
JKRS				eS		Sn		13 07 58.6	+2.6
NNSB	Datong	1.24	289	eP		Pg		13 07 40.2	+0.2
	baz=286								
NNSB				eS		Sb		13 07 56.4	+0.8
	baz=286								
NNSH	Datong	1.24	289	P		Pg		13 07 40.2	+0.3
	baz=286								
NNSH				eS		Sb		13 07 56.2	+0.5
	baz=286								
NNS	Nan Shan	1.26	289	P		Pg		13 07 40.5	+0.3
	baz=286								
NNS				eS		Sb		13 07 56.5	+0.5
	baz=286								
HGSD	Ruisui	1.26	245	eP		Pb		13 07 39.9	+0.1
	baz=242								
HGSD				eS		Sb		13 07 54.5	-1.6
	baz=242								
WHF	Hehuan Shan	1.29	276	i P		Pb		13 07 40.8	+0.2
	baz=273								
WHF				S		Sb		13 07 57.4	0.0
	baz=273								
NWLT	Wulai	1.30	305	i P		Pg		13 07 41.3	+0.2
	baz=316								
NWLT				S		Sn		13 07 58.2	+0.6
	baz=316								
NWF	Wu-fen Shan	1.32	322	P		Pg		13 07 40.9	-0.5
	baz=320								
NWF				eS		Sn		13 07 58.0	-0.1
	baz=320								
WFSB	Wu-fen Shan	1.32	322	P		Pg		13 07 41.0	-0.4
	baz=320								
WFSB				S		Sn		13 07 58.2	+0.3
	baz=320								
EHY	Hungye	1.34	248	eP		Pb		13 07 41.3	+0.1
	baz=244								
EHY				S		Sn		13 07 59.5	+0.9
	baz=244								
YHNB	Yeheng	1.34	299	P		Pg		13 07 41.8	-0.1
	baz=296								
YHNB				eS		Sb		13 07 59.4	+0.8
	baz=296								
CHGB	Renai	1.37	272	P		Pb		13 07 42.0	+0.2
	baz=269								
CHGB				eS		Sn		13 07 59.3	-0.2
	baz=269								
OWD	Renai	1.37	267	P		Pb		13 07 41.6	-0.1
	baz=264								
OWD				S		Sn		13 07 59.1	-0.4
	baz=264								
TWA	Mucha	1.37	314	eP		Pg		13 07 42.4	-0.1
	baz=312								
TWA				eS		Sb		13 07 60.0	+0.7
	baz=312								
JIJ	Ishigaki jima	1.38	76	P		Pg		13 07 42.7	+0.1
JIJ				S		Sg		13 08 00.3	-0.3
TDCB	Techi	1.40	280	eP		Pb		13 07 42.9	+0.6
	baz=265								
TDCB				eS		Sn		13 08 01.0	+0.8
	baz=265								
YULB	Yu-li	1.41	244	eP		Pb		13 07 42.4	+0.1
	baz=231								
YULB				eS		Sn		13 08 00.1	-0.1
	baz=231								
TWF1	Yuli	1.43	242	eP		Pb		13 07 42.7	0.0
	baz=239								
TWF1				eS		Sn		13 08 00.3	-0.4
	baz=239								
YM07	YM07	1.49	320	eP		Pn		13 07 42.0	-0.8
	baz=318								
YM07				eS		Sn		13 08 01.6	-0.7
	baz=318								
FULB	Fuli	1.51	237	eP		Pn		13 07 43.5	+0.4
	baz=225								
FULB				eS		Sn		13 08 01.4	-1.3
	baz=225								
YM10	YM10	1.51	318	eP		Pb		13 07 43.7	-0.4
	baz=316								
YM10				eS		Sn		13 08 03.2	+0.4
	baz=316								
WLTB	Daxi	1.53	303	eP		Pb		13 07 44.8	+0.4
	baz=287								
WLTB				eS		Sn		13 08 04.1	+0.9
	baz=287								
TWS1	Kuangyinshan	1.57	313	eP		Pg		13 07 45.5	-0.6
	baz=324								
TWS1				eS		Sb		13 08 05.2	+0.4
	baz=324								
TWY	Chenhua	1.58	322	eP		Pb		13 07 44.8	-0.4
	baz=320								
TWY				eS		Sb		13 08 05.2	-0.1
	baz=320								
SSLB	Suanglung	1.59	262	eP		Pb		13 07 45.3	-0.1
	baz=259								
SSLB				eS		Sn		13 08 04.3	-0.4
	baz=259								
JISG	Ishigakijimahi	1.59	69	P		Pg		13 07 45.6	-1.0
JISG				S		Sg		13 08 05.6	-1.8
DPDB	Guoxing	1.60	271	eP		Pb		13 07 45.4	-0.1
	baz=268								
DPDB				eS		Sn		13 08 06.1	+1.2
	baz=268								
SMLT	Sun Moon Lake	1.63	265	eP		Pb		13 07 45.8	-0.3
	baz=263								
SMLT				eS		Sn		13 08 05.2	-0.6
	baz=263								
LIOB	Emei	1.63	293	i P		Pb		13 07 46.6	+0.4
	baz=291								
LIOB				eS		Sn		13 08 05.9	+0.2
	baz=291								
NSTT	Nanjuang	1.64	292	P		Pb		13 07 46.6	+0.4
	baz=290								
NSTT				eS		Sb		13 08 07.3	+0.4
	baz=290								
TYC	Yuchr	1.67	266	P		Pb		13 07 46.5	-0.2
	baz=264								
TYC				eS		Sn		13 08 07.2	+0.8
	baz=264								
YUS	Yu-Shan	1.67	252	eP		Pb		13 07 46.9	-0.1
	baz=249								
YUS				eS		Sn		13 08 07.2	0.0
	baz=249								
TWH	Lutao	1.71	220	eP		Pn		13 07 46.1	+0.4
	baz=217								
TWH				eS		Sn		13 08 05.5	-2.1
	baz=217								
ELDTW	Lidau	1.73	242	eP		Pn		13 07 46.4	+0.2
	baz=239								
ELDTW				eS		Sn		13 08 06.8	-1.5
	baz=239								
TWQ1	Liyutan	1.76	281	P		Pb		13 07 48.6	+0.2
	baz=279								
TWQ1				eS		Sn		13 08 09.7	+0.7
	baz=279								
ALS	Alishan	1.79	254	eP		Pb		13 07 48.7	-0.3
	baz=251								
ALS				S		Sn		13 08 10.0	+0.1
	baz=251								
NMLH	Miaoli	1.79	287	eP		Pb		13 07 48.7	-0.1
	baz=284								
WJS	Zhushan	1.79	264	eP		Pb		13 07 49.0	+0.1
	baz=262								
WJS				eS		Sn		13 08 10.6	+0.9
	baz=262								
CHN5	Tsauling	1.88	257	P		Pb		13 07 50.5	+0.1
	baz=246								
CHN5				eS		Sn		13 08 12.8	+1.0
	baz=246								
TWGBT	Beinan	1.89	231	eP		Pb		13 07 49.5	-1.0
	baz=220								
TWGBT				eS		Sn		13 08 12.4	+0.2
	baz=220								
TWG	Pinlang	1.90	231	eP		Pn		13 07 49.1	+0.8
	baz=220								
TWG				eS		Sn		13 08 12.2	0.0
	baz=220								
JTJ	Tarama	1.95	71	P		Pg		13 07 52.0	-1.4
STYT	Tauyuan	1.96	244	eP		Pb		13 07 51.0	-0.7
	baz=235								
STYT				eS		Sn		13 08 14.0	+0.2
	baz=235								
TPUB	Ta-pu	2.01	249	eP		Pn		13 07 50.6	+0.7
	baz=247								
TPUB				eS		Sn		13 08 17.1	+2.1
	baz=247								
RLNB	Erlin	2.12	267	eP		Pn		13 07 52.6	+1.3
	baz=278								
RLNB				eS		Sn		13 08 19.4	+1.7
	baz=278								
SLGT	Liugui

MJAR	**Matsushiro Arr**	**18.29**	**43**	LR	LR	13 17 34.6			
	comp=Z,64nm,21.1s,baz=190,slow=34								
SONM	**Songino Array**	**27.06**	**335**	P	**P**	**13 12 55.9**	**-2.6**		
	0.3nm,0.3s,baz=146,slow=7.9,SNR=3.1								
MKAR	**Makanchi Array**	**39.40**	**315**	P	**P**	**13 14 44.4**	**-1.4**		
	0.1nm,0.4s,baz=106,slow=8.7,SNR=5.3								
KURBB	**Kurchatov Arra**	**43.11**	**320**	P	**P**	**13 15 13.9**	**-2.2**		
	0.1nm,0.4s,baz=109,slow=8.5,SNR=3.3								
WRA	**Warramunga Arr**	**45.16**	**164**	P	**P**	**13 15 34.2**	**+1.3**		
	0.2nm,0.3s,baz=347,slow=8.4,SNR=15								
ASAR	**Alice Springs**	**48.65**	**166**	P	**P**	**13 16 03.0**	**+2.8**		
	0.4nm,1.0s,baz=345,slow=7.0,SNR=3.0								

MAN 18 13:10:51,12.35N×123.74E, h12km, mb4.1, ML2.9, MS2.5, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.12**	**272**	*i* P	Pb	13 10 55.5	+0.3
MMPH				*i* S	Sg	13 10 57.4	+1.2
CNP	**Catarman**	**0.91**	**80**	*e*P	Pn	13 11 09.5	-0.2
CNP				*e*S	Sn	13 11 23.6	+0.9
RCP	**Roxas**	**1.26**	**231**	⇑*e*P	Pn	13 11 13.3	-1.1
PVCP	**Virac**	**1.30**	**18**	*e*P	Pn	13 11 14.8	-0.1
PVCP				*e*S	Sg	13 11 32.9	0.0
AUQP	**San Andres**	**1.42**	**313**	*e*P	Pg	13 11 18.4	+0.1
AUQP				*e*S	Sg	13 11 37.2	+0.5
OCLP	**Ormoc**	**1.55**	**147**	*e*P	Pb	13 11 19.5	-0.2
OCLP				*e*S	Sg	13 11 43.7	+2.8
LLP	**Lapu-Lapu**	**2.04**	**174**	*e*P	Pn	13 11 24.9	-0.2
LLP				*e*S	Sb	13 11 53.6	+0.4
GUIM	**Jordan**	**2.06**	**213**	*e*P	Pb	13 11 27.4	-1.0
GUIM				*e*S	Sb	13 11 53.1	-0.7
JAP	**San Jose, Anti**	**2.38**	**228**	⇓*e*P	Pb	13 11 34.7	+0.9

*NIED **18** 13:16:00, 35.90N×141.00E, h8km, Mw4.0 Best double couple: M0 9.82000×10^14 NP1:φs=323.00000°, δ60.00000°, λ=-150.00000°. NP2:φs=216.00000°, δ64.00000°, λ=-34.00000°.*
*IDC **18** 13:16:36.8±0.7, 35.64N×140.98E, h0km, mb3.8/10, mb1 3.9/14, mb1mx3.7/68, mbtmp3.8/14, ML3.3/3, MS3.0/5, Ms1 3.1/5, ms1mx2.6/62, Error ellipse: s-maj=21.1km s-min=15.0km az=95.0*
*ISCJB **18** 13:16:38.2±0.6, 35.73N±0.03×140.97E±0.06, h21km±4km, mb3.9/12, MS3.0/3, Error ellipse: s-maj=7.7km s-min=5.2km az=160.6*
*NEIC **18** 13:16:38.3±0.3, 35.65N×140.96E, h10km, mb4.9/2, Error ellipse: s-maj=6.5km s-min=5.4km az=83.0*
NEIC Recorded [2 JMA] in Chiba and Ibaraki.
*JMA **18** 13:16:38.7±0.1, 35.83N×140.98E, h14km±1km, M4.2*
JMA Felt II J1.

ISC 18 13:16:39.0±1.0, 35.75N±0.04×140.96E±0.06, h17km±5km, n47, σ1°80/46, mb3.8/12, MS2.9/3, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**243**	⇑P	**Pg**	**13 16 42.6**	**+0.2**
CHOJ				S	**Sg**	**13 16 45.4**	**+0.6**
JCN	**Nagara**	**0.70**	**242**	⇑P	**Pn**	**13 16 54.3**	**+0.3**
JYT	**Yasato**	**0.79**	**308**	⇑P	**Pg**	**13 16 52.7**	**-1.6**
JYT				*e*S	**Sg**	**13 17 03.0**	**-1.7**
JHO	**Hitachi**	**0.92**	**340**	P	**Pg**	**13 16 54.5**	**-2.4**
JHO				S	**Sg**	**13 17 06.3**	**-2.7**
BSO3	**Boso 3**	**1.01**	**201**	P	**Pn**	**13 16 58.9**	**+0.8**
BSO1	**Boso 1**	**1.09**	**179**	⇓P	**Pn**	**13 16 59.3**	**+0.4**
MJAR	**Matsushiro Arr**	**2.36**	**290**	Pn	**Pn**	**13 17 16.7**	**-0.3**
	9.6nm,0.3s,baz=114,slow=8.1,SNR=162						
MJAR				Sn	**Sn**	**13 17 45.8**	**+0.2**
	12nm,0.3s,baz=92,slow=28,SNR=6.0						
MAJO	**Matsushiro**	**2.37**	**290**	*e*Pn	**Pn**	**13 17 17.2**	**+0.2**
MAJO				*e*Sn	**Sn**	**13 17 45.8**	**+0.2**
MAT	**Matsushiro**	**2.37**	**290**	P	**Pn**	**13 17 16.9**	**-0.1**
MAT				S	**Sn**	**13 17 43.7**	**-1.9**
MJB9	**Matsu-Tunnel**	**2.37**	**291**	*e*Pn	**Pn**	**13 17 17.4**	**+0.3**
JHJ2	**Mitsune**	**2.79**	**200**	*e*Pn	**Pn**	**13 17 21.8**	**-1.0**
JHJ	**Hachijo jima 2**	**2.79**	**201**	Pn	**Pn**	**13 17 20.0**	**-2.9**
	4.1nm,0.3s,baz=338,slow=19,SNR=3.0						
JHJ				Sn	**Sn**	**13 17 55.2**	**-1.0**
	31nm,0.3s,baz=92,slow=17,SNR=4.8						
INU	**Inuyama**	**3.24**	**264**	*e*Pn	**Pn**	**13 17 29.6**	**+0.6**
ASAJ	**Asahikawa**	**8.46**	**8**	Pn	**Pn**	**13 18 41.0**	**+0.3**
	0.7nm,0.3s,baz=223,slow=11,SNR=10.0						
ASAJ				Sn	**Sn**	**13 20 13.0**	**-2.6**
	0.1nm,0.3s,baz=319,slow=20,SNR=2.4						
CBIJ	**Chichi jima**	**8.69**	**173**	*e*Pn	**Pn**	**13 18 41.9**	**-1.9**
CBIJ				Sn	**Sn**	**13 20 15.9**	**-5.4**
JCJ	**Chichijima**	**8.69**	**173**	Pn	**Pn**	**13 18 41.7**	**-2.1**
	baz=60,slow=20						
JCJ				Sn	**Sn**	**13 20 15.9**	**-5.4**
	3.0nm,0.3s,baz=261,slow=19,SNR=2.0						
JNU	**Nakatsue**	**8.73**	**255**	LR	LR	13 22 33.3	
	comp=Z,145nm,20.6s,baz=117,slow=41						
KSRS	**Korea Array**	**10.62**	**283**	LR	LR	13 23 13.9	
	comp=Z,34nm,19.6s,baz=87,slow=37						
MA2	**Magadan**	**24.69**	**12**	LR	LR	13 31 58.2	
	comp=Z,32nm,18.0s,baz=110,slow=37						
YAK	**Yakutsk**	**27.25**	**348**	LR	LR	13 32 59.2	
	comp=Z,53nm,18.3s,baz=98,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	13 51 33.4	
	baz=311,slow=75,SNR=348						
H11N1	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	13 51 34.0	
	baz=311,slow=75,SNR=176						
H11N3	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	13 51 34.7	
	baz=311,slow=75,SNR=230						
SEY	**Seymchan**	**28.12**	**11**	P	**P**	**13 22 31.6**	**+1.9**
	0.3nm,0.3s,baz=270,slow=20,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	13 52 18.1	
	baz=312,slow=75,SNR=227						
H11S3	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	13 52 19.9	
	baz=312,slow=75,SNR=117						
H11S2	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	13 52 17.9	
	baz=312,slow=75,SNR=186						
CMAR	**Chiang Mai Arr**	**40.83**	**256**	LR	LR	13 42 02.6	
	comp=Z,17nm,18.4s,baz=195,slow=37						
ZAA1	**Zalesovo Array**	**42.52**	**313**	*e*P	**P**	**13 24 34.8**	**+1.5**
ZALV	**Zalesovo Beam**	**42.52**	**313**	P	**P**	**13 24 34.8**	**+1.5**
	0.5nm,0.4s,baz=91,slow=9.5,SNR=2.4						
MK31	**Makanchi Array**	**44.50**	**303**	*e*P	**P**	**13 24 50.8**	**+1.4**
MK32	**Makanchi Array**	**44.50**	**303**	*e*P	**P**	**13 24 50.9**	**+1.5**
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**13 24 50.9**	**+1.5**
	0.6nm,0.7s,baz=88,slow=8.9,SNR=8.0						
MKAR	**Makanchi Array**	**44.50**	**303**	*e*P	**P**	**13 24 50.6**	**+1.2**
	5.7nm,0.8s						
KURK	**Kurchatov**	**46.45**	**309**	*e*P	**P**	**13 25 05.8**	**+1.1**
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**46.51**	**309**	P	**P**	**13 25 05.8**	**+0.6**
	2.0nm,0.7s,baz=85,slow=8.4,SNR=12						
ILAR	**Eielson Array**	**50.78**	**32**	P	**P**	**13 25 38.1**	**+0.3**
	1.5nm,0.9s,baz=258,slow=6.1,SNR=14						
IL1	**Eielson Array**	**50.78**	**32**	*e*P	**P**	**13 25 39.2**	**+1.3**
WR1	**Warramunga Array**	**55.74**	**188**	*e*P	**P**	**13 26 14.8**	**+0.1**
	65nm,1.8s						
WRA	**Warramunga Arr**	**55.74**	**188**	P	**P**	**13 26 14.8**	**+0.1**
	2.9nm,1.0s,baz=5.7,slow=8.1,SNR=9.7						
ASAR	**Alice Springs**	**59.46**	**188**	P	**P**	**13 26 40.6**	**-0.3**
	0.5nm,0.7s,baz=7.8,slow=7.5,SNR=5.8						
YKA	**Yellowknife Ar**	**65.11**	**30**	P	**P**	**13 27 18.8**	**+0.5**
	0.4nm,0.7s,baz=300,slow=6.5,SNR=9.7						
FIA0	**FINESS Array S**	**69.78**	**332**	*e*P	**P**	**13 27 49.2**	**+1.3**
FINES	**FINESS Array B**	**69.78**	**332**	P	**P**	**13 27 49.2**	**+1.3**
	3.8nm,1.1s,baz=19,slow=8.8,SNR=3.1						
PDAR	**Pinedale Array**	**78.83**	**45**	P	**P**	**13 28 42.8**	**+1.5**
	0.4nm,0.9s,baz=335,slow=4.0,SNR=2.9						
LPAZ	**La Paz**	**147.65**	**61**	PKPbc	**PKPbc**	**13 36 24.7**	**+0.9**
	1.5nm,0.8s,baz=308,slow=5.1,SNR=4.0						
LPAZ	**La Paz**	**147.65**	**61**	*e*PKPdf	**PKPdf**	**13 36 22.1**	**+1.1**

MEX 18 13:39:56.4±0.7, 14.77N×93.30W, h17km±999km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.94**	**5**	*e*P	Pb	13 40 11.0	-3.2
PCIG				*e*S	Sb	13 40 22.4	-3.9
THIG		**1.01**	**82**	*i* P	Pb	13 40 12.4	-3.0
THIG				*i* S	Sb	13 40 25.1	-3.3
CCIG	**Comitan**	**1.88**	**36**	*e*P	Pn	13 40 25.4	-2.6
CCIG				*e*S	Sn	13 40 47.6	-3.8
TGIG		**2.01**	**5**	*e*P	Pn	13 40 26.5	-3.1
TGIG				*e*S	Sn	13 40 49.7	-4.7

IDC 18 13:41:05.3±5.0, 6.37S×149.47E, h72km±47km, mb3.6/3, mb1 4.0/5, mb1mx3.3/46, mbtmp4.1/5, ML4.4/1, MS3.6/2, Ms1 3.6/2, ms1mx2.6/30, Error ellipse: s-maj=93.1km s-min=30.8km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**217**	P	Pn	13 42 02.0	+0.7
	21nm,0.3s,baz=14,slow=9.0,SNR=95						
PMG				S	Sn	13 42 45.3	+0.6
	12nm,0.3s,baz=142,slow=18,SNR=3.9						
WRA	**Warramunga Arr**	**19.95**	**226**	P	P	13 45 31.3	-0.5
	1.0nm,0.3s,baz=52,slow=11,SNR=60						
ASAR	**Alice Springs**	**22.80**	**219**	P	P	13 46 02.5	+0.1
	2.1nm,0.5s,baz=55,slow=9.5,SNR=74						
FITZ	**Fitzroy Crossi**	**26.00**	**241**	P	P	13 46 31.7	-0.1
	1.9nm,0.5s,baz=58,slow=9.4,SNR=5.7						
JHJ	**Hachijo jima 2**	**40.33**	**347**	LR	LR	14 04 30.1	
	comp=Z,129nm,20.8s,baz=105,slow=35						
ILAR	**Eielson Array**	**84.86**	**23**	P	P	13 53 32.1	+0.2
	0.3nm,0.7s,baz=260,slow=4.8,SNR=6.3						
BBB	**Bella Bella**	**90.35**	**38**	LR	LR	14 30 22.1	
	comp=Z,17nm,18.3s,baz=183,slow=33						

*ATA **18** 13:41:34.6±1.0, 38.47N×43.43E, h18km±10km, ML3.7, MW3.8*
*ISK **18** 13:41:35.0, 38.45N×43.34E, h5km, ML3.0/6*
*CSEM **18** 13:41:36.2±0.3, 38.49N×43.34E, h5km, ML3.6, Error ellipse: s-maj=6.6km s-min=4.1km az=129.0*
*DDA **18** 13:41:36.3, 38.50N×43.37E, h13km, Ml3.6*

ISC 18 13:41:36.2±0.8, 38.50N±0.02×43.33E±0.02, h6km±6km, n72, σ1°08/99, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.06**	**66**	*i* P	**Pg**	**13 41 38.6**	**+0.6**
TVAN				*i* S	**Sg**	**13 41 40.7**	**+1.4**
TVAN	**Van**	**0.06**	**66**	P	**Pg**	**13 41 38.6**	**+0.6**
TVAN				S	**Sg**	**13 41 40.7**	**+1.4**
VANB	**Van**	**0.10**	**26**	PG	**Pg**	**13 41 37.5**	**-1.0**
VANB				SG	**Sg**	**13 41 39.3**	**-0.8**
VANB	**Van**	**0.10**	**26**	*e*Pg	**Pg**	**13 41 37.5**	**-1.0**
VANB				*e*Sg	**Sg**	**13 41 39.3**	**-0.8**
GEVA	**Gevas**	**0.29**	**229**	*i* P	**Pg**	**13 41 42.0**	**+0.2**
GEVA				*e*S	**Sb**	**13 41 48.5**	**-0.5**
GEVA				IAML		13 41 54.9	
	comp=Z,1μm,0.4s						
GEVA	**Gevas**	**0.29**	**229**	*i* P	**Pg**	**13 41 42.0**	**+0.2**
GEVA				*i* S	**Sb**	**13 41 48.3**	**-0.7**
GEVA	**Gevas**	**0.29**	**229**	P	**Pg**	**13 41 42.0**	**+0.2**
GEVA				S	**Sb**	**13 41 48.3**	**-0.7**
ERCV	**ERCIS-VAN**	**0.52**	**1**	PG	**Pg**	**13 41 46.4**	**+0.2**
ERCV				SG	**Sb**	**13 41 55.3**	**-0.4**
ERCV	**ERCIS-VAN**	**0.52**	**1**	*e*Pg	**Pg**	**13 41 46.4**	**+0.2**
ERCV				*e*Sg	**Sb**	**13 41 55.3**	**-0.4**
VMUR	**Van-Muradiye**	**0.52**	**21**	*i* P	**Pb**	**13 41 47.5**	**-0.4**
VMUR				*i* S	**Sb**	**13 41 56.7**	**+0.9**
VMUR	**Van-Muradiye**	**0.52**	**21**	P	**Pb**	**13 41 47.5**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.56**	**303**	*i* P	**Pb**	**13 41 47.7**	**-1.0**
ADCV				*i* S	**Sb**	**13 41 57.0**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.56**	**303**	P	**Pb**	**13 41 47.7**	**-1.0**
ADCV				S	**Sb**	**13 41 57.0**	**0.0**
CLDR	**Caldiran**	**0.79**	**35**	PG	**Pg**	**13 41 51.0**	**-0.3**
CLDR				SG	**Sb**	**13 42 02.9**	**-0.6**
CLDR	**Caldiran**	**0.79**	**35**	*i* P	**Pb**	**13 41 51.2**	**-1.3**
CLDR				*i* S	**Sb**	**13 42 03.7**	**+0.2**
CLDR	**Caldiran**	**0.79**	**35**	*e*Pg	**Pg**	**13 41 51.0**	**-0.3**
CLDR	**Caldiran**	**0.79**	**35**	P	**Pb**	**13 41 51.2**	**-1.3**
CLDR				*e*Sg	**Sb**	**13 42 02.9**	**-0.6**
CLDR				S	**Sb**	**13 42 03.7**	**+0.2**
TUTA	**Tutak**	**0.98**	**336**	*i* P	**Pg**	**13 41 54.7**	**-0.3**
TUTA				*i* Pg	**Pb**	**13 41 55.2**	**-0.7**
TUTA				IAML		13 42 04.9	
	comp=Z,198nm,0.3s						
TUTA				*e*S	**Sn**	**13 42 11.2**	**-0.1**
TUTA	**Tutak**	**0.98**	**336**	*i* P	**Pg**	**13 41 54.8**	**-0.3**
TUTA				*i* S	**Sn**	**13 42 11.3**	**+0.1**
TUTA	**Tutak**	**0.98**	**336**	P	**Pg**	**13 41 54.8**	**-0.3**
GURO	**Guroymak-BITLI**	**1.02**	**273**	PG	**Pg**	**13 41 54.8**	**-1.0**
GURO	**Guroymak-BITLI**	**1.02**	**273**	*e*Pg	**Pg**	**13 41 54.8**	**-1.0**
DYDN	**Diyadin**	**1.08**	**15**	*e*P	**Pg**	**13 41 55.4**	**-1.5**
DYDN				IAML		13 42 41.0	
	comp=Z,38nm,0.6s						
DYDN	**Diyadin**	**1.08**	**15**	*i* P	**Pn**	**13 41 57.2**	**-0.9**
DYDN	**Diyadin**	**1.08**	**15**	P	**Pn**	**13 41 57.2**	**-0.9**
AGRB	**Hanur-Agry**	**1.10**	**346**	PN	**Pg**	**13 41 56.9**	**-0.5**
AGRB	**Hanur-Agry**	**1.10**	**346**	*e*Pn	**Pg**	**13 41 56.9**	**-0.5**
YOVA	**Hakkari_Y'...kse**	**1.19**	**140**	*i* P	**Pn**	**13 41 59.5**	**-0.1**
YOVA	**Hakkari_Y'...kse**	**1.19**	**140**	P	**Pn**	**13 41 59.5**	**-0.1**
SRTM	**Siirt_Merkez**	**1.22**	**246**	*i* P	**Pg**	**13 41 59.7**	**+0.1**
SRTM				*i* S	**Sn**	**13 42 18.1**	**+1.3**
SRTM	**Siirt_Merkez**	**1.22**	**246**	P	**Pg**	**13 41 59.7**	**+0.1**
SRTM				S	**Sn**	**13 42 18.1**	**+1.3**
SIRT	**Sirnak**	**1.22**	**215**	PN	**Pb**	**13 41 58.3**	**-1.5**
SIRT	**Sirnak**	**1.22**	**215**	*e*Pn	**Pb**	**13 41 58.3**	**-1.5**
EKAR	**Karacoban**	**1.24**	**308**	*e*P	**Pn**	**13 41 59.4**	**-1.0**
EKAR				*e*S	**Sn**	**13 42 20.2**	**+2.6**
EKAR				IAML		13 42 31.6	
	comp=Z,84nm,0.7s						
EKAR	**Karacoban**	**1.24**	**308**	*i* P	**Pn**	**13 41 59.4**	**-1.0**
EKAR				*i* S	**Sn**	**13 42 21.3**	**+3.7**
EKAR	**Karacoban**	**1.24**	**308**	P	**Pn**	**13 41 59.3**	**-1.0**
IGDI	**IGDIR**	**1.48**	**23**	*e*P	**Pb**	**13 42 03.5**	**-0.7**
IGDI				IAML		13 42 25.1	
	comp=Z,15nm,0.6s						
IGDI	**IGDIR**	**1.48**	**23**	*i* P	**Pn**	**13 42 02.5**	**-1.1**
EATA	**Eleskirt**	**1.51**	**335**	*e*P	**Pb**	**13 42 04.2**	**-0.6**
EATA	**Eleskirt**	**1.51**	**335**	*i* P	**Pb**	**13 42 04.5**	**-0.3**
EATA				*i* S	**Sg**	**13 42 27.7**	**+3.0**
EATA	**Eleskirt**	**1.51**	**335**	P	**Pb**	**13 42 04.5**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.64**	**25**	PN	**Pb**	**13 42 06.0**	**-0.9**
TASB	**TASBURUN-IGDIR**	**1.64**	**25**	*e*Pn	**Pb**	**13 42 06.0**	**-0.9**
BTMN	**Batman**	**1.73**	**250**	*i* P	**Pg**	**13 42 08.8**	**-0.6**
BTMN				*i* S	**Sg**	**13 42 34.6**	**+2.7**
BTMN	**Batman**	**1.73**	**250**	P	**Pg**	**13 42 08.8**	**-0.6**
HOMI	**Horasan**	**1.90**	**325**	*e*P	**Pb**	**13 42 10.7**	**-0.7**
HOMI				*e*S	**Sg**	**13 42 38.2**	**+1.0**
HOMI				IAML		13 42 38.8	
	comp=Z,22nm,0.7s						
HOMI	**Horasan**	**1.90**	**325**	*i* P	**Pb**	**13 42 10.7**	**-0.7**
DIGO	**Kars**	**1.91**	**1**	*e*P	**Pb**	**13 42 11.3**	**-0.3**
DIGO				IAML		13 42 27.4	
	comp=Z,7.9nm,0.4s						
DIGO	**Kars**	**1.91**	**1**	*i* P	**Pb**	**13 42 11.7**	**+0.1**
DIGO	**Kars**	**1.91**	**1**	P	**Pb**	**13 42 11.7**	**+0.1**
ERZM	**Erzurum**	**2.07**	**313**	*e*P	**Pb**	**13 42 14.1**	**-0.3**
ERZM				*e*S	**Sg**	**13 42 44.4**	**+1.5**
ERZM	**Erzurum**	**2.07**	**313**	*i* P	**Pb**	**13 42 13.3**	**-1.0**
ERZM	**Erzurum**	**2.07**	**313**	P	**Pb**	**13 42 13.4**	**-1.0**
KARS	**Kars**	**2.13**	**355**	PN	**Pn**	**13 42 12.9**	**+0.4**
KARS	**Kars**	**2.13**	**355**	*e*Pn	**Pn**	**13 42 12.9**	**+0.4**
ECAT	**Cat-ERZURUM**	**2.14**	**302**	*e*P	**Pg**	**13 42 16.4**	**-0.9**
ECAT				IAML		13 42 50.2	
	comp=Z,18nm,0.5s						
EAK	**Akyaka**	**2.19**	**5**	*e*P	**Pn**	**13 42 14.0**	**+0.6**
EAK				IAML		13 42 35.8	
	comp=Z,14nm,0.7s						
SENK	**Senkaya-Erzuru**	**2.19**	**340**	PN	**Pn**	**13 42 13.8**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.19**	**340**	*e*Pn	**Pn**	**13 42 13.8**	**+0.4**
MARD	**Mardin**	**2.34**	**240**	*i* P	**Pn**	**13 42 14.5**	**-0.9**
MAZI	**Mazidag**	**2.51**	**246**	PN	**Pn**	**13 42 17.2**	**-0.4**
MAZI	**Mazidag**	**2.51**	**246**	*e*Pn	**Pn**	**13 42 17.2**	**-0.4**
DIY	**Diyarbakir**	**2.52**	**257**	*e*Pn	**Pn**	**13 42 18.6**	**+0.8**
DYBB	**Diyarbakir**	**2.57**	**259**	PN	**Pn**	**13 42 18.6**	**+0.1**
KOPT	**Kop Dagi**	**2.67**	**305**	*e*P	**Pb**	**13 42 22.4**	**-2.2**
KOPT				IAML		13 42 31.1	
	comp=Z,12nm,0.5s						
ARTV	**Artvin**	**2.89**	**338**	*e*P	**Pb**	**13 42 27.6**	**-0.7**
BAYB	**BAYBURT**	**2.96**	**307**	*e*P	**Pb**	**13 42 29.2**	**-0.3**
BAYB				IAML		13 43 01.3	
	comp=Z,3.4nm,0.5s						
TNCL	**Tunceli-Merkez**	**3.02**	**283**	*e*P	**Pb**	**13 42 28.6**	**-1.9**
EPOS	**Posof**	**3.03**	**351**	*e*P	**Pg**	**13 42 33.6**	**-0.7**
DGRG	**David-gareji**	**3.34**	**27**	*e*P	**Pn**	**13 42 28.4**	**-0.5**
KELT	**Kelkit**	**3.56**	**299**	*e*P	**Pb**	**13 42 36.6**	**-3.2**
KEMA	**Kemaliye**	**3.85**	**283**	*e*P	**Pb**	**13 42 42.9**	**-1.7**

*ISCJB **18** 13:49:23.6±0.9, 35.79N±0.04×140.96E±0.09, h25km±4km, mb3.3/4, Error ellipse: s-maj=12.9km s-min=5.4km az=162.6*
*JMA **18** 13:49:23.9±0.1, 35.83N×140.99E, h14km±1km, M3.4*
*IDC **18** 13:49:31.6±2.8, 35.57N×140.45E, h63km±24km, mb3.0/4, mb1 3.2/6, mb1mx3.0/62, mbtmp3.3/6, ML2.7/2, Error ellipse: s-maj=32.7km s-min=8.1km az=68.0*

ISC 18 13:49:24.1±1.5, 35.80N±0.06×141.0E±0.1, h19km±4km, n18, σ0°83/18, mb3.4/4, 2C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.12**	**219**	⇑P	**Pg**	**13 49 28.0**	**-0.2**
CHOJ				S	**Sg**	**13 49 30.6**	**-0.4**
JYT	**Yasato**	**0.75**	**305**	⇑P	**Pb**	**13 49 38.3**	**-0.2**
JYT				S	**Sb**	**13 49 48.2**	**-0.1**
JHO	**Hitachi**	**0.87**	**339**	P	**Pb**	**13 49 39.9**	**-0.6**
JHO				S	**Sb**	**13 49 51.7**	**0.0**
BSO3	**Boso 3**	**1.06**	**200**	P	**Pn**	**13 49 44.0**	**+0.4**
BSO3				*e*S	**Sn**	**13 49 57.7**	**+0.1**
BSO1	**Boso 1**	**1.14**	**179**	P	**Pn**	**13 49 44.3**	**-0.2**
MJAR	**Matsushiro Arr**	**2.34**	**289**	P	**Pn**	**13 50 01.6**	**+0.1**
	4.3nm,0.3s,baz=115,slow=8.0,SNR=60						
MJAR				S	**Sn**	**13 50 28.3**	**-1.4**
	3.9nm,0.3s,baz=128,slow=20,SNR=6.9						
MAT	**Matsushiro**	**2.34**	**289**	P	**Pn**	**13 50 02.1**	**+0.6**
MAT				S	**Sn**	**13 50 30.1**	**+0.3**
JHJ	**Hachijo jima 2**	**2.84**	**200**	P	**Pn**	**13 50 09.7**	**+1.3**
	3.0nm,0.3s,baz=51,slow=13,SNR=4.8						
JHJ				S	**Sn**	**13 50 40.5**	**-1.6**
	6.4nm,0.3s,baz=58,slow=19,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	14 24 13.5	
	baz=311,slow=75,SNR=90						
H11N1	**WAKE ISLAND Hy**	**27.87**	**118**	T	T	14 24 15.0	
	baz=311,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy**	**27.88**	**118**	T	T	14 24 14.9	
	baz=311,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	14 25 03.6	
	baz=312,slow=75,SNR=81						
H11S3	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	14 25 00.7	
	baz=312,slow=75,SNR=56						
H11S2	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	14 25 01.9	
	baz=312,slow=75,SNR=53						
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**13 57 35.0**	**+1.1**
	0.3nm,0.7s,baz=89,slow=9.2,SNR=3.7						
ILAR	**Eielson Array**	**50.73**	**32**	P	P	13 58 28.3	+6.1
	0.4nm,0.9s,baz=270,slow=6.6,SNR=4.2						
WRA	**Warramunga Arr**	**55.79**	**188**	P	**P**	**13 59 00.4**	**+0.6**
	0.2nm,0.4s,baz=5.8,slow=7.4,SNR=4.2						
ASAR	**Alice Springs**	**59.52**	**188**	P	**P**	**13 59 25.4**	**-0.7**
	0.3nm,0.9s,baz=359,slow=7.4,SNR=2.7						

*IDC **18** 13:53:57.6±1.1, 7.77N×92.22E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/64, mbtmp3.6/9, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx2.5/54, Error ellipse: s-maj=38.7km s-min=19.2km az=52.0*
*ISCJB **18** 13:53:58.9±0.8, 7.7N±0.1×92.1E±0.1, h24km, mb3.5/8, MS4.5/1, Error ellipse: s-maj=16.9km s-min=15.1km az=8.5*

ISC 18 13:54:01.0±1.1, 7.7N±0.2×92.1E±0.1, h24km, n14, σ0°94/10, mb3.6/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.35**	**269**	Pn	**Pn**	**13 56 41.7**	**-0.1**
	0.9nm,0.3s,baz=114,slow=12,SNR=5.8						
PALK				Sn	Sn	13 58 34.0	-14
	2.2nm,0.3s,baz=116,slow=16,SNR=8.2						
PALK				LR	LR	14 00 35.2	
	comp=Z,25nm,19.7s,baz=116,slow=35

VNA3	Neumayer Olymp	21.16	139	P		P	14 17 46.9	-3.5	
PLCA	Paso Flores	21.74	330	LR		LR	14 26 59.1		
	comp=Z,94nm,18.5s,baz=188,slow=39								
VNA2	Neumayer--Watz	21.87	138	P		P	14 17 57.6	-0.4	
	baz=288,slow=9.3								
SNAA	Sanae	23.36	140	P		P	14 18 16.0	+2.2	
SNAA	Sanae	23.36	140	P		P	14 18 14.9	+1.1	
	2.6nm,0.7s,baz=291,slow=10,SNR=6.9								
SNAA				LR		LR	14 26 10.8		
	comp=Z,70nm,18.8s,baz=310,slow=34								
QSPA	South Pole Qui	29.67	180	P		P	14 19 13.0	+1.9	
	1.1nm,0.7s,baz=171,slow=3.2,SNR=3.6								
QSPA				LR		LR	14 31 39.2		
	comp=Z,153nm,20.2s,baz=168,slow=38								
CPUP	Villa Florida	34.23	358	LR		LR	14 33 00.4		
	comp=Z,51nm,21.8s,baz=200,slow=35								
LPAZ	La Paz	45.05	344	LR		LR	14 41 47.1		
	comp=Z,79nm,18.6s,baz=150,slow=38								
H10S2	ASCENSION HYDR	60.03	49	T		T	15 28 55.9		
	baz=202,slow=75,SNR=69								
H10S3	ASCENSION HYDR	60.03	49	T		T	15 28 47.1		
	baz=202,slow=75,SNR=60								
H10S1	ASCENSION HYDR	60.05	49	T		T	15 28 48.4		
	baz=202,slow=75,SNR=62								
H10N3	ASCENSION HYDR	61.12	49	T		T	15 30 15.2		
	baz=202,slow=75,SNR=134								
H10N1	ASCENSION HYDR	61.12	49	T		T	15 30 14.4		
	baz=202,slow=75,SNR=102								
H10N2	ASCENSION HYDR	61.13	49	T		T	15 30 15.5		
	baz=202,slow=75,SNR=105								
BOSA	Boshof	61.41	98	LR		LR	14 44 31.2		
	comp=Z,59nm,20.4s,baz=206,slow=31								
ROSC	El Rosal	66.73	340	LR		LR	14 56 28.5		
	comp=Z,37nm,18.5s,baz=118,slow=39								
SDV	Santo Domingo	70.17	345	LR		LR	14 58 51.7		
	comp=Z,32nm,18.1s,baz=98,slow=39								
TORD	Torodi Ar. Bea	86.62	56	P		P	14 25 50.1	+1.2	
	0.7nm,0.8s,baz=194,slow=5.3,SNR=3.3								
STKA	Stephens Creek	86.74	195	LR		LR	15 01 24.5		
	comp=Z,28nm,20.2s,baz=201,slow=33								
ASAR	Alice Springs	95.67	189	P		P	14 26 30.1	-1.2	
	0.2nm,0.7s,baz=168,slow=4.7,SNR=4.7								
WRA	Warramunga Arr	99.32	190	P		Pdif	14 26 45.8	-2.1	
	0.4nm,0.8s,baz=179,slow=3.8,SNR=3.2								
YKA	Yellowknife Ar	130.53	329	PKP		PKPdf	14 32 15.9	+1.1	
	0.4nm,1.0s,baz=139,slow=2.4,SNR=3.5								
ILAR	Eielson Array	142.00	316	PKP		PKPdf	14 32 34.5	-1.5	
	0.2nm,0.8s,baz=179,slow=3.1,SNR=3.0								
BVAR	Borovoye Array	150.57	81	PKPbc		PKPbc	14 32 56.5	+0.2	
	0.8nm,0.9s,baz=240,slow=4.8,SNR=3.5								
MKAR	Makanchi Array	152.38	101	PKPbc		PKPbc	14 33 00.0	-0.7	
	0.5nm,0.8s,baz=285,slow=1.7,SNR=5.9								
SONM	Songino Array	163.77	134	PKPab		PKPab	14 33 59.4	-0.8	
	0.9nm,1.0s,baz=191,slow=3.3,SNR=5.1								

KRSC 18 14:13:36.1±1.0, 53°54.N×160°.88E, h46km±18km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.68	230	eP	Pn	14 13 51.0	+1.6
SPN				eS	Sn	14 14 00.3	+1.4
KII	Karymskiy	0.99	301	eP	Pn	14 13 54.6	+1.0
KII				eS	Sn	14 14 06.5	+0.1
NLC	Nalytchevo	0.99	249	eP	Pn	14 13 55.0	+1.5
NLC				eS	Sn	14 14 07.1	+0.7
SDLR	Sedlovina	1.23	258	iP	Pn	14 13 58.6	+1.7
SDLR				eS	Sn	14 14 13.8	+1.5
SMAR	Somma	1.28	258	eP	Pn	14 13 59.3	+1.7
UGLR	Uglovaya	1.28	256	iP	Pn	14 13 59.6	+2.0
UGLR				eS	Sn	14 14 15.4	+1.8
AVH	Avacha	1.31	259	iP	Pn	14 14 00.2	+2.2
AVH				eS	Sn	14 14 16.1	+1.7
KRX	Arik	1.35	263	eP	Pn	14 14 00.3	+1.7
KRX				eS	Sn	14 14 16.6	+1.2
KOK	Koryaka	1.37	260	eP	Pn	14 14 00.8	+2.0
KOK				eS	Sn	14 14 17.0	+1.2
DALK	Dalny	1.38	249	eP	Pn	14 14 00.5	+1.7
DALK				eS	Sn	14 14 17.1	+1.3
PET	Petropavlovsk	1.44	250	iP	Pn	14 14 01.8	+2.2
PET				eS	Sn	14 14 18.7	+1.5
KZV	Kizimen	1.61	348	eP	Pn	14 14 04.3	+2.1
KZV				eS	Sn	14 14 23.4	+1.5
TUMD	Tumrok D	1.69	351	eP	Pn	14 14 05.0	+1.9
TUMD				eS	Sn	14 14 24.3	+0.7
GNL	Ganaly	1.76	276	iP	Pn	14 14 06.5	+2.4
TUMR	Tumrok	1.80	346	iP	Pn	14 14 07.4	+2.7
TUMR				eS	Sn	14 14 28.6	+2.2
KRMR	Karymshinskiy	1.80	248	eP	Pn	14 14 06.9	+2.3
KRMR				eS	Sn	14 14 28.0	+1.8
RUS	Russkaya	1.81	233	eP	Pn	14 14 06.7	+2.0
RUS				eS	Sn	14 14 27.2	+0.8
MTVR	Mutnovka	1.94	238	eP	Pn	14 14 09.4	+2.7
MTVR				eS	Sn	14 14 32.2	+2.2
ASAK	Asacha	2.14	239	eP	Pn	14 14 12.3	+2.9
ASAK				eS	Sn	14 14 37.0	+2.2
KMNR	Kamenistaya	2.25	351	eP	Pn	14 14 14.6	+3.7
KMNR				eS	Sn	14 14 41.0	+3.5
APC	Apacha	2.32	256	eP	Pn	14 14 15.1	+3.4
APC				eS	Sn	14 14 41.6	+2.6
BZMR	Bezymyannaya	2.41	355	eP	Pn	14 14 18.0	+4.9
KDTR	Khodutka, Kamc	2.43	226	eP	Pn	14 14 16.8	+3.6
KDTR				eS	Sn	14 14 44.7	+3.0
BZWR	Bezymyannyi-We	2.44	355	eP	Pn	14 14 18.0	+4.5
KOZ	Kozyrevsk	2.59	347	eP	Pn	14 14 18.5	+3.0
KRSR	Krestovskiy	2.69	356	eP	Pn	14 14 21.2	+4.3
KLY	Klyuchi	2.78	357	eP	Pn	14 14 21.4	+3.3
KLY				eS	Sn	14 14 53.2	+2.8
MIPR	Malaya Ipel'ka	2.80	245	eP	Pn	14 14 23.2	+4.9
KBTR	Krutoberegovo	2.90	22	eP	Pn	14 14 23.2	+3.5
KBTR				eS	Sn	14 14 55.8	+2.6
BDR	Baidarnaya	3.04	3	eP	Pn	14 14 25.7	+4.0
SMKR	Semkarok	3.07	6	eP	Pn	14 14 25.6	+3.5
SMKR				eS	Sn	14 15 00.5	+3.0
SRKR	Sorokina	3.13	3	eP	Pn	14 14 26.8	+4.0
BKI	Bering	3.41	59	eP	Pn	14 14 29.8	+3.1
BKI				eS	Sn	14 15 06.0	+0.2
SKR	Severo-Kuril's	4.10	228	eS	Sn	14 15 28.0	+5.2

ISK 18 14:28:10.4, 37°.23N×28°.21E, h5km, MD2.5/3
ISCJB 18 14:28:11.1±0.5, 37°.23N±0°.03×28°.21E±0°.03, h0km, Error ellipse: s-maj=5.1km s-min=3.3km az=30.3
DDA 18 14:28:11.3, 37°.23N×28°.21E, h7km, Ml2.2, Suspected Mining explosion.
CSEM 18 14:28:11.2±0.1, 37°.23N×28°.21E, h1km, MD2.5, Error ellipse: s-maj=4.1km s-min=2.5km az=35.0, Suspected Mining explosion.

ISC 18 14:28:09.7±0.8, 37°.20N±0°.03×28°.08E±0°.03, h0km, n25, σ0°44/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.17	113	PG	Pg	14 28 13.5	+0.4
YER				SG	Sg	14 28 15.8	+0.5
YER	Yerkesik	0.17	113	ePg	Pg	14 28 13.5	+0.4
YER				eSg	Sg	14 28 15.8	+0.5
MLSB	Milas	0.26	291	PG	Pb	14 28 17.8	+0.4
MLSB				SG	Sb	14 28 23.2	+0.8
MLSB	Milas	0.26	291	ePg	Pb	14 28 17.8	+0.4
MLSB				eSg	Sb	14 28 23.2	+0.8
AYDN	Tasoluk	0.49	341	iP	Pb	14 28 21.1	-0.1
AYDN				iS	Sb	14 28 28.8	-0.2
AYDN	Tasoluk	0.49	341	P	Pb	14 28 21.1	-0.1
AYDN				S	Sb	14 28 28.8	-0.2
BDRM	Kayabasi	0.53	255	iP	Pn	14 28 23.8	-0.7
BDRM				iS	Sn	14 28 33.4	-0.8
BDRM	Kayabasi	0.53	255	P	Pn	14 28 23.8	-0.7
BDRM				S	Sn	14 28 33.4	-0.8
TURN	Turunc	0.53	128	PG	Pg	14 28 19.8	-0.1
TURN				SG	Sg	14 28 26.7	-0.1
TURN	Turunc	0.53	128	iP	Pg	14 28 19.8	-0.1
TURN				iS	Sg	14 28 27.3	+0.5
TURN	Turunc	0.53	128	P	Pg	14 28 19.8	-0.1
TURN				eSg	Sg	14 28 26.7	-0.1
TURN				S	Sg	14 28 27.3	+0.5
DALY	Dalyan (Mu˘la	0.60	130	PG	Pg	14 28 21.3	+0.1
DALY	Dalyan (Mu˘la	0.60	130	ePg	Pg	14 28 21.3	+0.1
TAVA	DENIZLI_Tavas	0.71	68	iP	Pg	14 28 23.6	+0.2
TAVA				iS	Sg	14 28 32.1	-0.5
TAVA	DENIZLI_Tavas	0.71	68	P	Pg	14 28 23.6	+0.2
TAVA				S	Sg	14 28 32.1	-0.5
AYDB	Zeytinkoy-Aydi	0.76	349	PG	Pg	14 28 24.9	+0.6
AYDB	Zeytinkoy-Aydi	0.76	349	ePg	Pg	14 28 24.9	+0.6
GCAM	G?zelcaml?	0.84	307	PG	Pn	14 28 28.6	-0.2
GCAM	G?zelcaml?	0.84	307	ePg	Pn	14 28 28.6	-0.2
AKAS	Kas	1.56	128	PN	Pn	14 28 39.0	+0.1
AKAS	Kas	1.56	128	ePn	Pn	14 28 39.0	+0.1
KARP	Karpathos	1.81	204	PN	Pb	14 28 43.9	+0.1
KARP	Karpathos	1.81	204	ePn	Pb	14 28 43.9	+0.1
KORT	Korkueli	1.82	96	PN	Pn	14 28 42.3	-0.2
KORT	Korkueli	1.82	96	ePn	Pn	14 28 42.3	-0.2

IDC 18 14:32:00.8±2.1, 40°.77N×144°.93E, h0km, mb3.5/8, mb1 3.5/10, mb1mx3.4/64, mbtmp3.4/10, ML3.0/2, Error ellipse: s-maj=46.0km s-min=23.2km az=155.0
NIED 18 14:32:00, 40°.90N×145°.10E, h5km, Mw3.5 Best double couple: M0 2.36000×10^14 NP1:φs305.00000°, δ42.00000°, λ-96.00000°. NP2:φs134.00000°, δ48.00000°, λ-84.00000°.
JMA 18 14:32:02.3±0.3, 40°.86N×145°.10E, h68km±4km, M3.7
ISCJB 18 14:32:03.7±0.7, 40°.86N±0°.03×144°.89E±0°.05, h33km, mb3.4/8, Error ellipse: s-maj=6.2km s-min=4.2km az=23.4

ISC 18 14:32:04.4±1.1, 40°.81N±0°.05×145°.08E±0°.07, h35km, n34, σ2°21/44, mb3.4/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.88	310	P	Pn	14 32 33.5	-0.5
JEM				S	Sn	14 32 54.0	-2.4
JAK	Akkeshi	2.20	353	P	Pn	14 32 36.7	-1.7
JAK				S	Sn	14 33 01.9	-2.5
JCH	Churui	2.21	325	P	Pn	14 32 37.0	-1.6
JCH				S	Sn	14 33 02.1	-2.6
JNBK	Urakawa-nobuka	2.28	311	P	Pn	14 32 39.1	-0.4
JNBK				S	Sn	14 33 04.9	-1.4
JOB	Onbets	2.29	336	P	Pn	14 32 39.1	-0.5
JOB				S	Sn	14 33 04.4	-2.1
NEM2	Nemuro 2	2.60	11	P	Pn	14 32 41.6	-2.3
NEM2				S	Sn	14 33 10.7	-3.5
JAR	Ashorobuto	2.67	339	P	Pn	14 32 43.1	-1.7
JAR				S	Sn	14 33 12.6	-3.3
JANG	Nango	2.75	262	P	Pn	14 32 44.1	-1.8
JANG				S	Sn	14 33 14.0	-3.9
JNK	Nakash	2.78	355	S	Sn	14 33 15.0	-3.8
JBT2	Biratori 2	2.82	315	P	Pn	14 32 47.6	+0.6
JBT2				S	Sn	14 33 19.3	-0.5
JFR	Furan	2.99	323	P	Pn	14 32 48.5	-0.8
JFR				S	Sn	14 33 20.1	-3.8
JOT	Ohata	3.10	282	P	Pn	14 32 49.8	-0.9
JOT				S	Sn	14 33 23.1	-3.4
JRA	Rausu	3.12	1	P	Pn	14 32 49.4	-1.7
JRA				eS	Sn	14 33 22.9	-4.2
JOM	Ohasama	3.19	246	P	Pn	14 32 51.5	-0.6
JOM				S	Sn	14 33 25.8	-3.1
JTKR	Abashiri--Toko	3.27	345	P	Pn	14 32 52.9	-0.2
JTKR				S	Sn	14 33 29.3	-1.5
JEW	Eniwo	3.38	308	P	Pn	14 32 55.5	+0.8
JEW				S	Sn	14 33 32.2	-1.4
JMK	Ichinoseki	3.50	239	P	Pn	14 32 55.6	-0.7
JMK				S	Sn	14 33 33.1	-3.4
JKK2	Kamakawa 2	3.51	331	P	Pn	14 32 56.5	0.0
JKK2				S	Sn	14 33 36.6	-0.2
ASAJ	Asahikawa	3.78	332	Pn	Pn	14 32 59.6	-0.5
	0.7nm,0.3s,baz=193,slow=13,SNR=3.8						
ASAJ				Sn	Sn	14 33 39.8	-3.5
	1.4nm,0.3s,baz=123,slow=17,SNR=4.6						
MJAR	Matsushiro Arr	6.86	234	Pn	Pn	14 33 40.3	-2.1
	0.4nm,0.3s,baz=37,slow=12,SNR=6.3						
SEY	Seymchan	22.58	9	P	P	14 37 02.7	+1.3
	0.9nm,0.8s,baz=180,slow=20,SNR=3.7						
H11N2	WAKE ISLAND Hy	28.08	132	T	T	15 07 27.3	
	baz=324,slow=74						
H11N1	WAKE ISLAND Hy	28.09	132	T	T	15 07 27.8	
	baz=324,slow=74						
H11N3	WAKE ISLAND Hy	28.10	132	T	T	15 07 28.6	
	baz=324						
SONM	Songino Array	28.32	297	P	P	14 37 56.3	+1.6
	0.6nm,0.9s,baz=90,slow=7.6,SNR=4.5						
H11S1	WAKE ISLAND Hy	28.96	134	T	T	15 08 30.3	
	baz=325,slow=74,SNR=9.6						
H11S3	WAKE ISLAND Hy	28.96	134	T	T	15 08 30.4	
	baz=325,slow=74,SNR=6.8						
H11S2	WAKE ISLAND Hy	28.97	134	T	T	15 08 31.4	
	baz=325,slow=74,SNR=9.1						
MKAR	Makanchi Array	44.64	300	P	P	14 40 13.8	+0.4
	0.3nm,0.5s,baz=86,slow=9.2,SNR=5.5						
ILAR	Eielson Array	44.77	34	P	P	14 40 17.0	+2.8
	0.2nm,0.8s,baz=263,slow=6.3,SNR=3.3						
KURBB	Kurchatov Arra	46.03	306	P	P	14 40 25.3	+1.0
	0.7nm,0.6s,baz=78,slow=8.6,SNR=5.1						
BVAR	Borovoye Array	50.21	311	P	P	14 40 58.5	+1.9
	0.5nm,0.5s,baz=64,slow=10,SNR=5.1						
YKA	Yellowknife Ar	59.10	32	P	P	14 42 02.8	+2.1
	0.2nm,0.7s,baz=302,slow=6.6,SNR=4.7						
FINES	FINESS Array B	66.79	333	P	P	14 42 52.8	+0.9
	1.0nm,0.9s,baz=45,slow=2.2,SNR=2.5						

NNC 18 14:33:34.7±3.5, 37°.67N×71°.49E, h0km, mb3.5, mpv3.1, 7C-1D, Error ellipse: s-maj=27.0km s-min=24.2km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.82	33	↑P	Pn	14 34 21.0	-0.3
	2.0nm,0.3s						
SFK				↑S	Sn	14 34 58.4	+2.3
	8.0nm,0.4s						
MNAS	Manas	4.88	9	↑P	Pn	14 34 50.3	+0.8
	1.6nm,0.4s						
MNAS				↑S	Sn	14 35 46.7	0.0
	1.8nm,0.4s						
AAK	Ala-Archa	5.47	24	↓P	Pn	14 34 56.6	-1.0
	1.5nm,0.5s						
AAK				↑S	Sn	14 36 00.7	-0.7
	4.8nm,0.7s						
KK31	Karatay Array	5.48	352	↑P	Pn	14 34 58.3	+0.7
	0.6nm,0.3s,baz=164,slow=11,SNR=5.7						
KK31				↑S	Sn	14 36 03.6	+2.2
	0.7nm,0.3s,baz=171,slow=22,SNR=6.1						

NIED 18 14:45:00, 35°.80N×141°.90E, h11km, Mw3.5 Best double couple: M0 1.98000×10^14 NP1:φs34.00000°, δ57.00000°, λ-34.00000°. NP2:φs144.00000°, δ62.00000°, λ-142.00000°.
IDC 18 14:45:13.9±1.1, 35°.68N×141°.88E, h0km, mb3.6/6, mb1 3.6/9, mb1mx3.4/76, mbtmp3.5/9, ML3.2/3, MS3.3/2, Ms1 3.3/2, ms1mx2.5/47, Error ellipse: s-maj=28.5km s-min=19.0km az=85.0
ISCJB 18 14:45:14.7±0.7, 35°.72N±0°.05×141°.92E±0°.06, h22km, mb3.6/6, MS3.9/1, Error ellipse: s-maj=7.5km s-min=7.3km az=166.9
JMA 18 14:45:16.0±0.1, 35°.81N×141°.85E, h30km±2km, M3.6

ISC 18 14:45:16.8±0.9, 35°.73N±0°.06×141°.86E±0°.07, h22km, n24, σ1°15/21, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.81	269	P	Pb	14 45 31.2	-1.0
CHOJ				S	Sb	14 45 42.1	-0.6
BSO1	Boso 1	1.29	214	P	Pb	14 45 39.5	-0.5
JHO	Hitachi	1.37	311	P	Pn	14 45 38.8	-1.7
JYT	Yasato	1.44	291	P	Pn	14 45 39.9	-1.6
JAG	Ashikaga	2.07	290	P	Pn	14 45 49.0	-1.2
JFT	Otama	2.17	326	P	Pn	14 45 51.3	-0.3
MJAR	Matsushiro Arr	3.06	286	Pn	Pn	14 46 02.9	-1.0
	1.6nm,0.3s,baz=107,slow=7.9,SNR=20						
MJAR				Sn	Sn	14 46 40.6	+0.7
	1.1nm,0.3s,baz=78,slow=22,SNR=4.2						
MAT	Matsushiro	3.06	286	P	Pn	14 46 04.4	+0.5
MAT				S	Sn	14 46 41.1	+1.2
JHJ	Hachijo jima 2	3.11	214	Pn	Pn	14 46 03.7	-0.8
	20nm,0.3s,baz=19,slow=20,SNR=13						
JHJ				Sn	Sn	14 46 40.4	-0.7
	16nm,0.3s,baz=88,slow=23,SNR=6.2						
ASAJ	Asahikawa	8.40	4	Pn	Pn	14 47 16.4	-0.8
	0.3nm,0.3s,baz=200,slow=18,SNR=7.7						
ASAJ				Sn	Sn	14 48 49.1	-2.1
	0.2nm,0.3s,baz=108,slow=20,SNR=1.9						
JNU	Nakatsue	9.43	257	LR	LR	14 51 31.5	
	comp=Z,35nm,18.7s,baz=120,slow=40						
H11N2	WAKE ISLAND Hy	27.18	119	T	T	15 20 14.2	
	baz=313,slow=74						
H11N1	WAKE ISLAND Hy	27.19	119	T	T	15 20 14.8	
	baz=313,slow=74						
H11N3	WAKE ISLAND Hy	27.20	119	T	T	15 20 15.5	
	baz=313						
H11S1	WAKE ISLAND Hy	27.86	121	T	T	15 21 07.8	
	baz=312,slow=75,SNR=11						
H11S3	WAKE ISLAND Hy	27.88	121	T	T	15 21 04.0	
	baz=312,slow=75,SNR=9.6						
H11S2	WAKE ISLAND Hy	27.88	121	T	T	15 21 08.6	
	baz=312,slow=75,SNR=7.8						
SONM	Songino Array	28.83	306	P	P	14 51 15.4	+2.0
	0.2nm,0.5s,baz=107,slow=10.0,SNR=2.2						
MKAR	Makanchi Array	45.12	303	P	P	14 53 32.0	+0.6
	0.4nm,0.7s,baz=90,slow=9.4,SNR=5.9						
KURBB	Kurchatov Arra	47.09	309	P	P	14 53 47.0	+0.1
	0.4nm,0.3s,baz=86,slow=7.7,SNR=6.7						
ILAR	Eielson Array	50.41	32	P	P	14 54 13.0	+0.9
	0.3nm,0.9s,baz=254,slow=6.5,SNR=3.1						
WRA	Warramunga Arr	55.82	189	P	P	14 54 52.4	0.0
	1.5nm,0.7s,baz=7.6,slow=7.5,SNR=8.3						
ASAR	Alice Springs	59.55	188	P	P	14 55 18.9	+0.3
	0.7nm,0.8s,baz=2.7,slow=6.4,SNR=7.4						
ARCES	ARCESS Array B	65.34	340	LR	LR	15 27 10.7	
	comp=Z,89nm,21.0s,baz=114,slow=38						

MAN 18 14:50:02, 9°.82N×123°.07E, h31km, mb4.1, ML2.9, MS2.6, 1C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.51	161	↓iP	Pn	14 50 14.2	+1.0
SNPH				iS	Sn	14 50 22.3	+1.5
GUIM	Jordan	0.93	330	eP	Pn	14 50 18.7	-0.2
GUIM				eS	Sb	14 50 32.0	+0.4
LLP	Lapu-Lapu	1.01	61	↓eP	Pn	14 50 20.3	+0.2
LLP				iS	Sn	14 50 33.5	+0.2
DCPH	Dipolog City	1.26	167	↑eP	Pb	14 50 26.2	+0.9
DCPH				eS	Sb	14 50 44.1	+3.0
MSLP	Maasin	1.79	80	eP	Pb	14 50 34.3	+0.1
MSLP				eS	Sb	14 50 59.0	+2.7
PAGZ	Pagadian	1.99	171	eP	Pb	14 50 38.8	+1.2

IDC 18 14:53:42.8±0.9, 39°.10N×21°.73E, h0km, mb3.7/13, mb1 3.7/18, mb1mx3.6/65, mbtmp3.6/18, ML3.4/5, Error ellipse: s-maj=17.2km s-min=15.4km az=8.0
ATH 18 14:53:43.5, 39°.11N×21°.77E, h20km±1km, ML3.4/27, Error ellipse: s-maj=1.1km s-min=0.6km az=222.0
CSEM 18 14:53:43.8±0.1, 39°.09N×21°.79E, h2km, ML3.4, Error ellipse: s-maj=1.9km s-min=1.3km az=69.0
THE 18 14:53:43.9, 39°.10N×21°.74E, h0km±2km, ML3.6/9, Error ellipse: s-maj=2.6km s-min=0.6km az=314.0
PDG 18 14:53:44.1±0.5, 39°.08N×21°.77E, h11km, ML3.4/7, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0
ISCJB 18 14:53:44.6±0.2, 39°.10N±0°.01×21°.77E±0°.02, h19km±2km, mb3.6/13, Error ellipse: s-maj=2.5km s-min=1.9km az=157.1

ISC 18 14:53:44.0±0.9, 39°.09N±0°.01×21°.77E±0°.01, h8km±6km, n303, σ1°05/389, mb3.6/13, 14C-13D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.18	171	P	Pg	14 53 47.4	-0.3
EVR				S	Sg	14 53 50.5	+0.2
EVR				AML	AML	14 53 51.5	
	comp=N,64680μm,0.3s						
EVR				AML	AML	14 53 51.6	
	comp=E,54810μm,0.4s						
EVR	Evrytania	0.18	171	P	Pg	14 53 48.0	+0.3
EVR				S	Sg	14 53 50.4	+0.2
EVR	Evrytania	0.18	171	P	Pg	14 53 48.0	+0.3
EVR				S	Sg	14 53 50.4	+0.2
AGG	Agios Georgios	0.44	99	P	Pb	14 53 54.4	+0.4
AGG				S	Sb	14 54 00.2	-0.5
AGG				AML	AML	14 54 01.6	
	comp=E,29540μm,0.4s						
AGG				AML	AML	14 54 02.7	
	comp=N,19450μm,0.3s						
AGG	Agios Georgios	0.44	99	P	Pb	14 53 53.4	-0.6
AGG				S	Sb	14 53 59.8	-0.9
AGG	Agios Georgios	0.44	99	P	Pb	14 53 53.4	-0.6
AGG				S	Sb	14 54 01.2	+0.5
THL	Klokotos Trika	0.51	22	P	Pb	14 53 55.0	-0.1
THL				S	Sb	14 54 01.8	-0.8
THL				AML	AML	14 54 03.5	
	comp=E,5338μm,0.3s						
THL				AML	AML	14 54 04.3	
	comp=N,6333μm,0.5s						
THL	Klokotos Trika	0.51	22	P	Pg	14 53 54.1	+0.3
THL				S	Sb	14 54 01.3	-1.3
THL	Klokotos Trika	0.51	22	P	Pg	14 53 54.1	+0.3
THL				S	Sb	14 54 02.4	-0.2
ANX	Ano Chora	0.51	167	P	Pg	14 53 53.9	0.0
ANX				S	Sb	14 54 03.3	+0.4
ANX				AML	AML	14 54 05.2	
	comp=N,20937μm,0.4s						
ANX				AML	AML	14 54 05.9	
	comp=E,11782μm,0.3s						
ANX	Ano Chora	0.51	167	P	Pg	14 53 53.6	-0.3
ANX				S	Sb	14 54 02.5	-0.3
ANX	Ano Chora	0.51	167	P	Pg	14 53 53.6	-0.3
ANX				S	Sb	14 54 02.6	-0.3
PVO	Paravola	0.51	202	P	Pg	14 53 52.7	-1.2
PVO				S	Sb	14 54 02.5	-0.3
PVO				AML	AML	14 54 03.6	
	comp=N,8314μm,0.2s						
PVO				AML	AML	14 54 03.9	
	comp=E,8700μm,0.3s						
PVO	Paravola	0.51	202	P	Pg	14 53 53.4	-0.5
PVO				S	Sg

AXAR	**Agios Charalam**	**0.77**	**115**	P	**Pb**	14 53 59.5	**0.0**
AXAR				S	**Sb**	14 54 10.6	**+0.5**
AXAR				AML	AML	14 54 14.4	
	comp=N,6933µm,0.3s						
AXAR				AML	AML	14 54 15.1	
	comp=E,6226µm,0.4s						
AXAR	**Agios Charalam**	**0.77**	**115**	P	**Pg**	14 53 58.9	**+0.2**
AXAR				S	**Sb**	14 54 09.9	**-0.2**
UPR	**University Cam**	**0.81**	**179**	P	**Pb**	14 54 01.0	**+0.7**
UPR	**University Cam**	**0.81**	**179**	P	**Pb**	14 54 00.1	**-0.1**
UPR	**University Cam**	**0.81**	**179**	P	**Pb**	14 54 00.1	**-0.1**
DLFA	**Delphi**	**0.83**	**137**	P	**Pg**	14 53 58.7	**-1.3**
DLFA				S	**Sb**	14 54 12.0	**-0.1**
DLFA	**Delphi**	**0.83**	**137**	P	**Pg**	14 53 59.2	**-0.8**
DLFA				S	**Sb**	14 54 11.8	**-0.3**
LAKA	**Lakka**	**0.87**	**169**	P	**Pg**	14 54 00.1	**-0.5**
LAKA	**Lakka**	**0.87**	**169**	P	**Pg**	14 54 00.1	**-0.5**
MGNA	**Meganis_,,**	**0.88**	**241**	P	**Pg**	14 53 59.4	**-1.5**
MGNA	**Meganis_,,**	**0.88**	**241**	P	**Pg**	14 54 00.0	**-0.9**
DSF	**Desfina**	**0.90**	**139**	P	**Pg**	14 53 59.3	**-2.0**
DSF				S	**Sg**	14 54 13.2	**+0.2**
DSF				AML	AML	14 54 17.0	
	comp=N,7960µm,0.1s						
DSF				AML	AML	14 54 17.5	
	comp=E,3875µm,0.1s						
DSF	**Desfina**	**0.90**	**139**	P	**Pg**	14 54 00.2	**-1.1**
DSF				S	**Sb**	14 54 13.5	**-0.5**
DSF	**Desfina**	**0.90**	**139**	P	**Pg**	14 54 00.2	**-1.1**
JAN	**Janina**	**0.91**	**309**	P	**Pg**	14 54 00.8	**-0.6**
JAN				AML	AML	14 54 17.0	
	comp=E,2894µm,0.2s						
JAN				AML	AML	14 54 19.6	
	comp=N,2842µm,0.3s						
JAN	**Janina**	**0.91**	**309**	P	**Pg**	14 54 00.8	**-0.6**
JAN	**Janina**	**0.91**	**309**	P	**Pg**	14 54 00.8	**-0.6**
KPRO	**Kipourio**	**0.92**	**340**	P	**Pg**	14 54 00.3	**-1.3**
KPRO				S	**Sg**	14 54 13.4	**-0.1**
KPRO				AML	AML	14 54 20.1	
	comp=N,6010µm,0.4s						
KPRO				AML	AML	14 54 20.4	
	comp=E,4629µm,0.4s						
KPRO	**Kipourio**	**0.92**	**340**	P	**Pg**	14 54 00.6	**-1.0**
KPRO				S	**Sg**	14 54 13.4	**-0.1**
KPRO	**Kipourio**	**0.92**	**340**	P	**Pg**	14 54 00.6	**-1.0**
LKD2	**Lefkada island**	**0.92**	**251**	P	**Pg**	14 54 00.9	**-0.7**
LKD2				S	**Sb**	14 54 15.2	**+0.6**
LKD2				AML	AML	14 54 21.7	
	comp=N,4799µm,0.5s						
LKD2				AML	AML	14 54 22.5	
	comp=E,5258µm,0.4s						
LKD2	**Lefkada island**	**0.92**	**251**	P	**Pg**	14 54 01.1	**-0.5**
LKD2				S	**Sb**	14 54 14.7	**+0.2**
LKD2	**Lefkada island**	**0.92**	**251**	P	**Pg**	14 54 00.9	**-0.7**
FYTO	**Fytoko, Volos**	**0.96**	**71**	P	**Pb**	14 54 02.4	**-0.4**
FYTO				S	**Sn**	14 54 16.8	**-0.8**
FYTO				AML	AML	14 54 21.1	
	comp=N,3239µm,0.6s						
FYTO				AML	AML	14 54 22.3	
	comp=E,1766µm,0.6s						
FYTO	**Fytoko, Volos**	**0.96**	**71**	P	**Pg**	14 54 02.1	**-0.3**
FYTO				S	**Sb**	14 54 15.9	**+0.2**
FYTO	**Fytoko, Volos**	**0.96**	**71**	P	**Pg**	14 54 02.1	**-0.3**
RLS	**Riolos of Patr**	**1.06**	**193**	P	**Pg**	14 54 04.0	**-0.3**
RLS				S	**Sn**	14 54 20.6	**+0.7**
RLS				AML	AML	14 54 22.2	
	comp=E,2767µm,0.5s						
RLS				AML	AML	14 54 25.5	
	comp=N,1922µm,0.5s						
RLS	**Riolos of Patr**	**1.06**	**193**	P	**Pg**	14 54 04.0	**-0.3**
RLS				S	**Sn**	14 54 19.8	**-0.2**
RLS	**Riolos of Patr**	**1.06**	**193**	P	**Pg**	14 54 03.6	**-0.7**
KLV	**Kalavryta, Ach**	**1.09**	**164**	P	**Pg**	14 54 03.8	**-1.0**
KLV				S	**Sn**	14 54 20.5	**-0.3**
KLV				AML	AML	14 54 21.9	
	comp=E,1943µm,0.5s						
KLV				AML	AML	14 54 24.3	
	comp=N,1826µm,0.5s						
KLV	**Kalavryta, Ach**	**1.09**	**164**	P	**Pg**	14 54 04.1	**-0.8**
KLV				S	**Sb**	14 54 20.1	**+0.7**
KLV	**Kalavryta, Ach**	**1.09**	**164**	P	**Pg**	14 54 04.1	**-0.8**
XOR	**Xorichti**	**1.14**	**76**	P	**Pb**	14 54 05.8	**0.0**
XOR				S	**Sb**	14 54 21.0	**+0.2**
XOR				AML	AML	14 54 27.1	
	comp=E,2230µm,0.7s						
XOR				AML	AML	14 54 27.8	
	comp=N,4696µm,0.6s						
XOR	**Xorichti**	**1.14**	**76**	P	**Pg**	14 54 05.4	**-0.4**
XOR				S	**Sb**	14 54 20.9	**+0.1**
XOR	**Xorichti**	**1.14**	**76**	P	**Pg**	14 54 05.3	**-0.5**
DRO	**Drossia**	**1.14**	**182**	P	**Pg**	14 54 05.6	**-0.2**
DRO				AML	AML	14 54 25.0	
	comp=E,4542µm,0.3s						
DRO				AML	AML	14 54 27.8	
	comp=N,3734µm,0.5s						
DRO	**Drossia**	**1.14**	**182**	P	**Pg**	14 54 05.5	**-0.3**
DRO	**Drossia**	**1.14**	**182**	P	**Pg**	14 54 05.3	**-0.5**
SMIA	**Simia**	**1.14**	**100**	P	**Pg**	14 54 05.6	**-0.3**
SMIA	**Simia**	**1.14**	**100**	P	**Pg**	14 54 05.6	**-0.3**
NEO	**Neokhori**	**1.15**	**79**	P	**Pn**	14 54 06.5	**+0.2**
NEO				S	**Sg**	14 54 20.0	**-0.9**
NEO				AML	AML	14 54 24.7	
	comp=E,1238µm,0.3s						
NEO				AML	AML	14 54 25.2	
	comp=N,3130µm,0.3s						
NEO	**Neokhori**	**1.15**	**79**	P	**Pb**	14 54 05.9	**-0.1**
NEO				S	**Sg**	14 54 20.5	**-0.4**
NEO	**Neokhori**	**1.15**	**79**	P	**Pg**	14 54 05.2	**-0.8**
LIT	**Litokhoron**	**1.15**	**29**	P	**Pn**	14 54 06.8	**+0.4**
LIT				S	**Sn**	14 54 22.1	**-0.2**
LIT				AML	AML	14 54 27.0	
	comp=N,4035µm,0.5s						
LIT				AML	AML	14 54 27.2	
	comp=E,3494µm,0.3s						
LIT	**Litokhoron**	**1.15**	**29**	P	**Pb**	14 54 05.9	**-0.2**
LIT				S	**Sb**	14 54 21.5	**+0.4**
LIT	**Litokhoron**	**1.15**	**29**	P	**Pg**	14 54 05.2	**-0.8**
IGT	**Igoumenitsa**	**1.20**	**292**	P	**Pb**	14 54 06.4	**-0.5**
IGT				AML	AML	14 54 28.3	
	comp=N,1309µm,0.7s						
IGT				AML	AML	14 54 34.3	
	comp=E,842µm,0.5s						
IGT	**Igoumenitsa**	**1.20**	**292**	P	**Pb**	14 54 06.3	**-0.6**
IGT	**Igoumenitsa**	**1.20**	**292**	P	**Pb**	14 54 06.1	**-0.8**
PENT	**Pentalofos**	**1.20**	**336**	P	**Pg**	14 54 05.5	**-1.6**
PENT				S	**Sn**	14 54 24.9	**+1.2**
PENT				AML	AML	14 54 27.9	
	comp=E,1741µm,0.6s						
PENT				AML	AML	14 54 29.4	
	comp=N,1960µm,0.5s						
PENT	**Pentalofos**	**1.20**	**336**	P	**Pg**	14 54 05.8	**-1.3**
PENT				S	**Sn**	14 54 23.8	**+0.1**
PENT	**Pentalofos**	**1.20**	**336**	P	**Pg**	14 54 05.8	**-1.3**
KZN	**Kozani**	**1.21**	**360**	P	**Pg**	14 54 06.5	**-0.7**
KZN				S	**Sn**	14 54 23.8	**-0.1**
KZN				AML	AML	14 54 26.2	
	comp=N,2198µm,0.4s						
KZN				AML	AML	14 54 28.1	
	comp=E,4959µm,0.3s						
KZN	**Kozani**	**1.21**	**360**	P	**Pg**	14 54 06.3	**-0.9**
KZN				S	**Sb**	14 54 23.3	**+0.3**
KZN	**Kozani**	**1.21**	**360**	P	**Pg**	14 54 05.8	**-1.4**
PROD	**Prodromos**	**1.22**	**133**	P	**Pb**	14 54 05.0	**-2.2**
PROD	**Prodromos**	**1.22**	**133**	P	**Pb**	14 54 05.8	**-1.4**
GUR	**Goura**	**1.24**	**159**	P	**Pb**	14 54 06.3	**-1.3**
GUR				AML	AML	14 54 28.7	
	comp=N,4294µm,0.3s						
GUR				AML	AML	14 54 29.9	
	comp=E,3407µm,0.6s						
GUR	**Goura**	**1.24**	**159**	P	**Pb**	14 54 06.7	**-0.9**
GUR	**Goura**	**1.24**	**159**	P	**Pb**	14 54 06.7	**-0.9**
KFL	**Anninata**	**1.25**	**218**	P	**Pn**	14 54 05.5	**-2.1**
KFL	**Anninata**	**1.25**	**218**	P	**Pn**	14 54 06.4	**-1.3**
KFL	**Anninata**	**1.25**	**218**	P	**Pn**	14 54 06.3	**-1.4**
VTN	**Vitineika**	**1.26**	**202**	P	**Pb**	14 54 08.1	**+0.1**
VTN	**Vitineika**	**1.26**	**202**	P	**Pn**	14 54 07.8	**0.0**
THAL	**Thalero**	**1.27**	**146**	P	**Pn**	14 54 07.8	**0.0**
THAL				AML	AML	14 54 29.9	
	comp=N,3820µm,0.3s						
THAL				AML	AML	14 54 30.0	
	comp=E,3773µm,0.4s						
THAL	**Thalero**	**1.27**	**146**	P	**Pn**	14 54 07.8	**0.0**
THAL	**Thalero**	**1.27**	**146**	P	**Pn**	14 54 07.9	**0.0**
SGD	**Sagiada**	**1.30**	**294**	P	**Pb**	14 54 08.7	**+0.1**
SGD	**Sagiada**	**1.30**	**294**	P	**Pn**	14 54 08.3	**-0.1**
SGD	**Sagiada**	**1.30**	**294**	P	**Pn**	14 54 08.5	**+0.1**
VLS	**Valsamata**	**1.30**	**226**	P	**Pn**	14 54 05.5	**-2.9**
VLS	**Valsamata**	**1.30**	**226**	P	**Pn**	14 54 06.9	**-1.5**
VLS	**Valsamata**	**1.30**	**226**	P	**Pn**	14 54 06.9	**-1.5**
SKIA	**Skiathos**	**1.32**	**86**	P	**Pb**	14 54 08.7	**-0.3**
SKIA	**Skiathos**	**1.32**	**86**	P	**Pn**	14 54 08.6	**-0.1**
SKIA	**Skiathos**	**1.32**	**86**	P	**Pn**	14 54 08.0	**-0.7**
KTI	**Kastanea**	**1.32**	**11**	P	**Pn**	14 54 08.7	**-0.2**
KTI	**Kastanea**	**1.32**	**11**	P	**Pn**	14 54 08.7	**-0.2**
LTK	**Loutraki**	**1.42**	**138**	P	**Pn**	14 54 09.9	**-0.1**
LTK	**Loutraki**	**1.42**	**138**	P	**Pn**	14 54 10.2	**+0.2**
LTK	**Loutraki**	**1.42**	**138**	P	**Pn**	14 54 10.3	**+0.2**
NEST	**Nestorio**	**1.43**	**337**	P	**Pb**	14 54 10.3	**-0.3**
NEST	**Nestorio**	**1.43**	**337**	P	**Pn**	14 54 10.5	**+0.2**
NEST	**Nestorio**	**1.43**	**337**	P	**Pn**	14 54 10.1	**-0.2**
LOUT	**Loutraki**	**1.45**	**139**	P	**Pn**	14 54 10.6	**+0.2**
LOUT	**Loutraki**	**1.45**	**139**	P	**Pn**	14 54 10.7	**+0.2**
LOUT	**Loutraki**	**1.45**	**139**	P	**Pn**	14 54 10.7	**+0.2**
VIL2	**Platees**	**1.47**	**126**	P	**Pg**	14 54 12.6	**+0.5**
VILL	**Villia**	**1.52**	**127**	P	**Pb**	14 54 12.2	**-0.2**
VILL	**Villia**	**1.52**	**127**	P	**Pb**	14 54 12.3	**-0.2**
AMT	**Artemida-Makis**	**1.56**	**182**	P	**Pg**	14 54 14.0	**+0.1**
AMT	**Artemida-Makis**	**1.56**	**182**	P	**Pb**	14 54 12.7	**-0.3**
AMT	**Artemida-Makis**	**1.56**	**182**	P	**Pb**	14 54 12.7	**-0.3**
KASA	**Kassiopi**	**1.56**	**295**	P	**Pn**	14 54 11.8	**-0.2**
KASA	**Kassiopi**	**1.56**	**295**	P	**Pn**	14 54 12.0	**0.0**
TRIP	**Tripoli**	**1.61**	**166**	P	**Pn**	14 54 13.2	**+0.5**
TRIP	**Tripoli**	**1.61**	**166**	P	**Pn**	14 54 13.2	**+0.5**
ALNA	**Alonissos**	**1.63**	**87**	P	**Pn**	14 54 12.8	**-0.1**
ALNA	**Alonissos**	**1.63**	**87**	P	**Pn**	14 54 13.0	**+0.1**
KEK	**Kerkira**	**1.65**	**293**	P	**Pb**	14 54 14.6	**+0.1**
KEK	**Kerkira**	**1.65**	**293**	P	**Pb**	14 54 14.0	**-0.5**
KEK	**Kerkira**	**1.65**	**293**	P	**Pb**	14 54 14.1	**-0.5**
PAIG	**Paliouri**	**1.69**	**60**	P	**Pn**	14 54 12.2	**-1.6**
PAIG	**Paliouri**	**1.69**	**60**	P	**Pn**	14 54 13.2	**-0.6**
PAIG	**Paliouri**	**1.69**	**60**	P	**Pn**	14 54 13.2	**-0.6**
FNA	**Florina**	**1.71**	**350**	P	**Pb**	14 54 15.4	**-0.4**
FNA	**Florina**	**1.71**	**350**	P	**Pn**	14 54 14.7	**+0.5**
FNA	**Florina**	**1.71**	**350**	P	**Pn**	14 54 14.7	**+0.5**
VLX	**Vlachokerasia**	**1.79**	**164**	P	**Pg**	14 54 18.3	**+0.1**
VLX	**Vlachokerasia**	**1.79**	**164**	P	**Pn**	14 54 16.0	**+0.9**
VLX	**Vlachokerasia**	**1.79**	**164**	P	**Pn**	14 54 16.0	**+0.9**
THE	**Thessaloniki**	**1.79**	**30**	P	**Pn**	14 54 13.5	**-1.6**
THE	**Thessaloniki**	**1.79**	**30**	P	**Pn**	14 54 14.4	**-0.7**
HORT	**Hortiatis**	**1.82**	**34**	P	**Pn**	14 54 13.8	**-1.8**
HORT	**Hortiatis**	**1.82**	**34**	P	**Pn**	14 54 14.7	**-0.9**
HORT	**Hortiatis**	**1.82**	**34**	P	**Pn**	14 54 14.7	**-0.9**
PLG	**Polygyros**	**1.82**	**45**	P	**Pn**	14 54 14.1	**-1.5**
PLG	**Polygyros**	**1.82**	**45**	P	**Pn**	14 54 14.9	**-0.6**
PLG	**Polygyros**	**1.82**	**45**	P	**Pn**	14 54 14.9	**-0.6**
EREA	**Eretria**	**1.82**	**111**	P	**Pn**	14 54 16.0	**+0.6**
EREA	**Eretria**	**1.82**	**111**	P	**Pn**	14 54 16.1	**+0.6**
EREA	**Eretria**	**1.82**	**111**	P	**Pn**	14 54 16.1	**+0.6**
ATH	**Athens Observa**	**1.89**	**126**	P	**Pb**	14 54 17.8	**-0.9**
ATH	**Athens Observa**	**1.89**	**126**	P	**Pn**	14 54 17.4	**+0.9**
ITM	**Ithomi**	**1.92**	**176**	P	**Pg**	14 54 20.6	**0.0**
ITM	**Ithomi**	**1.92**	**176**	P	**Pb**	14 54 19.0	**-0.1**
ITM	**Ithomi**	**1.92**	**176**	P	**Pb**	14 54 19.6	**+0.5**
GRG	**Griva**	**1.92**	**14**	P	**Pn**	14 54 17.1	**+0.1**
GRG	**Griva**	**1.92**	**14**	P	**Pn**	14 54 17.1	**+0.1**
ATHU	**Athens Univers**	**1.94**	**125**	P	**Pn**	14 54 18.1	**+0.9**
ATHU				AML	AML	14 54 48.5	
	comp=E,90µm,0.4s						
ATHU				AML	AML	14 54 53.4	
	comp=N,158µm,0.7s						
ATHU	**Athens Univers**	**1.94**	**125**	P	**Pn**	14 54 17.8	**+0.6**
PTL	**Penteli**	**1.94**	**122**	P	**Pb**	14 54 18.7	**-0.9**
PTL	**Penteli**	**1.94**	**122**	P	**Pn**	14 54 18.1	**+0.8**
PTL	**Penteli**	**1.94**	**122**	P	**Pn**	14 54 18.1	**+0.8**
BIA	**Bitola**	**1.95**	**350**	*e*Pg	**Pg**	14 54 20.6	**-0.9**
BIA				*i* Sg	**Sg**	14 54 46.1	**-0.6**
DID	**Didima**	**1.96**	**144**	P	**Pn**	14 54 17.6	**+0.2**
DID	**Didima**	**1.96**	**144**	P	**Pn**	14 54 17.8	**+0.3**
DID	**Didima**	**1.96**	**144**	P	**Pn**	14 54 17.7	**+0.2**
VLY	**Voula,Athens**	**2.01**	**127**	P	**Pn**	14 54 18.9	**+0.7**
VLY	**Voula,Athens**	**2.01**	**127**	P	**Pn**	14 54 18.8	**+0.6**
VLY	**Voula,Athens**	**2.01**	**127**	P	**Pn**	14 54 18.8	**+0.6**
KRND	**KRANIDI**	**2.02**	**147**	P	**Pn**	14 54 19.0	**+0.6**
KRND	**KRANIDI**	**2.02**	**147**	P	**Pn**	14 54 18.9	**+0.6**
KRND	**KRANIDI**	**2.02**	**147**	P	**Pn**	14 54 19.0	**+0.6**
OUR	**Ouranopolis**	**2.11**	**53**	P	**Pn**	14 54 18.7	**-0.7**
OUR	**Ouranopolis**	**2.11**	**53**	P	**Pn**	14 54 19.4	**-0.1**
OUR	**Ouranopolis**	**2.11**	**53**	P	**Pn**	14 54 19.4	**-0.1**
SOH	**Sokhos**	**2.11**	**35**	P	**Pn**	14 54 20.3	**+0.6**
SOH	**Sokhos**	**2.11**	**35**	P	**Pn**	14 54 20.2	**+0.6**
SOH	**Sokhos**	**2.11**	**35**	P	**Pn**	14 54 20.2	**+0.6**
OHR	**Ohrid**	**2.15**	**340**	*i* Pg	**Pg**	14 54 24.2	**-0.9**
OHR				*i* Sg	**Sg**	14 54 52.8	**-0.3**
SKY	**Skiros Island**	**2.18**	**95**	P	**Pn**	14 54 20.8	**+0.4**
SKY	**Skiros Island**	**2.18**	**95**	P	**Pn**	14 54 20.8	**+0.4**
PYL	**PYLOS**	**2.19**	**181**	P	**Pb**	14 54 24.9	**+1.0**
PYL	**PYLOS**	**2.19**	**181**	P	**Pb**	14 54 23.1	**-0.8**
PYL	**PYLOS**	**2.19**	**181**	P	**Pb**	14 54 24.1	**+0.2**
KNT	**Kendrikon**	**2.24**	**22**	P	**Pn**	14 54 22.1	**+0.7**
KNT	**Kendrikon**	**2.24**	**22**	P	**Pn**	14 54 21.8	**+0.5**
KNT	**Kendrikon**	**2.24**	**22**	P	**Pn**	14 54 21.5	**+0.2**
KRUS	**Krusevo**	**2.31**	**350**	*e*Pg	**Pn**	14 54 23.3	**+1.0**
KRUS				*i* Sg	**Sg**	14 54 57.6	**-0.5**
VAY	**Valandovo**	**2.31**	**15**	*e*Pg	**Pn**	14 54 23.4	**+1.2**
KARY	**Karystos**	**2.34**	**116**	P	**Pn**	14 54 23.1	**+0.4**
KARY	**Karystos**	**2.34**	**116**	P	**Pn**	14 54 23.1	**+0.4**
DYR	**Agios Nikonas**	**2.37**	**169**	P	**Pb**	14 54 25.7	**-1.2**
DYR	**Agios Nikonas**	**2.37**	**169**	P	**Pn**	14 54 24.7	**+1.6**
SRS	**Serrai**	**2.46**	**34**	P	**Pn**	14 54 23.9	**-0.4**
SRS	**Serrai**	**2.46**	**34**	P	**Pn**	14 54 24.3	**0.0**
SRS	**Serrai**	**2.46**	**34**	P	**Pn**	14 54 24.3	**0.0**
VLI	**Veliai**	**2.54**	**158**	P	**Pn**	14 54 26.9	**+1.4**
VLI	**Veliai**	**2.54**	**158**	P	**Pn**	14 54 26.6	**+1.1**
VLI	**Veliai**	**2.54**	**158**	P	**Pn**	14 54 26.7	**+1.2**
LIA	**Limnos Island**	**2.76**	**72**	P	**Pn**	14 54 27.4	**-1.0**
LIA	**Limnos Island**	**2.76**	**72**	P	**Pn**	14 54 28.2	**-0.2**
NVR	**Nevrokopi**	**2.76**	**35**	P	**Pn**	14 54 28.6	**0.0**
NVR	**Nevrokopi**	**2.76**	**35**	P	**Pn**	14 54 28.8	**+0.2**
NVR	**Nevrokopi**	**2.76**	**35**	P	**Pn**	14 54 28.7	**+0.2**
KAVA	**Kavala**	**2.84**	**47**	P	**Pn**	14 54 27.8	**-1.7**
KAVA	**Kavala**	**2.84**	**47**	P	**Pn**	14 54 28.9	**-0.6**
KAVA	**Kavala**	**2.84**	**47**	P	**Pn**	14 54 28.8	**-0.7**
SKO	**Skopje**	**2.89**	**355**	*e*Pg	**Pn**	14 54 31.1	**+0.9**
SIGR	**SIGRI**	**3.18**	**87**	P	**Pn**	14 54 33.8	**-0.4**
SIGR	**SIGRI**	**3.18**	**87**	P	**Pn**	14 54 34.4	**+0.2**
SMTH	**Samothraki Isl**	**3.21**	**63**	P	**Pn**	14 54 32.9	**-1.7**
SMTH	**Samothraki Isl**	**3.21**	**63**	P	**Pn**	14 54 34.1	**-0.5**
CHOS	**Chios island**	**3.42**	**101**	P	**Pn**	14 54 38.8	**+1.2**
CHOS	**Chios island**	**3.42**	**101**	P	**Pn**	14 54 38.6	**+1.0**
ANKY	**Antikythira Is**	**3.44**	**159**	P	**Pn**	14 54 39.9	**+2.1**
ANKY	**Antikythira Is**	**3.44**	**159**	P	**Pn**	14 54 39.4	**+1.6**
ULC	**Ulcinj**	**3.45**	**327**	*e*Pn	**Pn**	14 54 39.6	**+1.6**
ULC				*e*Sn	**Sn**	14 55 21.5	**+2.4**
ULC	**Ulcinj**	**3.45**	**327**	*e*Pn	**Pn**	14 54 39.6	**+1.6**
ULC				*e*Sn	**Sn**	14 55 21.5	**+2.4**
RDO	**Rodhopi**	**3.54**	**53**	P	**Pn**	14 54 37.7	**-1.5**
RDO	**Rodhopi**	**3.54**	**53**	P	**Pn**	14 54 38.9	**-0.3**
RDO	**Rodhopi**	**3.54**	**53**	P	**Pn**	14 54 38.9	**-0.3**
VTS	**Vitosha**	**3.66**	**17**	*i* Pn	**Pn**	14 55 26.9	**+2.5**
DRME	**Dracevica, Mon**	**3.66**	**328**	*i* Pn	**Pn**	14 54 42.2	**+1.3**
DRME				*e*Sn	**Sn**	14 55 26.4	**+2.2**
DRME	**Dracevica, Mon**	**3.66**	**328**	*i* Pn	**Pn**	14 54 42.2	**+1.3**
DRME				*e*Sn	**Sn**	14 55 26.4	**+2.2**
BARS	**Barje**	**3.72**	**0**	*e*Pn	**Pn**	14 54 42.3	**+0.6**
ALN	**Alexandroupoli**	**3.75**	**60**	P	**Pn**	14 54 40.2	**-1.7**
ALN	**Alexandroupoli**	**3.75**	**60**	P	**Pn**	14 54 41.6	**-0.4**
PVY	**Plav**	**3.76**	**339**	*i* Pn	**Pn**	14 54 44.5	**+2.2**
PVY				*e*Sn	**Sn**	14 55 28.2	**+1.4**
PVY	**Plav**	**3.76**	**339**	*i* Pn	**Pn**	14 54 44.5	**+2.2**
PVY				*e*Sn	**Sn**	14 55 28.2	**+1.4**
FASA	**Fasano**	**3.81**	**298**	*e*Pn	**Pn**	14 54 44.8	**+2.0**
PDG	**Podgorica**	**3.84**	**331**	*i* P	**Sn**	14 55 32.1	**+3.5**
PDG	**Podgorica**	**3.84**	**331**	*i* Pn	**Pn**	14 54 45.0	**+1.7**
PDG				*e*Sn	**Sn**	14 55 31.0	**+2.4**
TTG	**Podgorica**	**3.84**	**331**	*i* Pn	**Pn**	14 54 45.0	**+1.7**
TTG				*e*Sn	**Sn**	14 55 31.0	**+2.4**
MASS	**Massafra**	**3.88**	**295**	*e*Pn	**Pn**	14 54 45.8	**+2.0**
BUM	**Brajici-Budva**	**3.88**	**327**	*i* Pn	**Pn**	14 54 45.4	**+1.5**
BUM				*e*Sn	**Sn**	14 55 31.2	**+1.5**
BUM	**Brajici-Budva**	**3.88**	**327**	*i* Pn	**Pn**	14 54 45.4	**+1.5**
BUM				*e*Sn	**Sn**	14 55 31.2	**+1.5**
BEY	**Berane**	**4.03**	**340**	*i* Pn	**Pn**	14 54 47.9	**+1.9**
BEY				*e*Sn	**Sn**	14 55 35.1	**+1.6**
IVA	**Berane**	**4.03**	**340**	*i* Pn	**Pn**	14 54 47.9	**+1.9**
IVA				*e*Sn	**Sn**	14 55 35.1	**+1.6**
CEME	**Cevo**	**4.07**	**329**	*i* Pn	**Pn**	14 54 47.9	**+1.3**
CEME				*e*Sn	**Sn**	14 55 35.6	**+1.2**
CEME	**Cevo**	**4.07**	**329**	*i* Pn	**Pn**	14 54 47.9	**+1.3**
CEME				*e*Sn	**Sn**	14 55 35.6	**+1.2**
KOME	**Kolasin**	**4.12**	**336**	*e*Pn	**Pn**	14 54 49.4	**+2.1**
KOME				*e*Sn	**Sn**	14 55 37.5	**+1.8**
KOME	**Kolasin**	**4.12**	**336**	*e*Pn	**Pn**	14 54 49.4	**+2.1**
KOME				*e*Sn	**Sn**	14 55 37.5	**+1.8**
HCY	**Herceg Novi**	**4.17**	**324**	*e*Pn	**Pn**	14 54 49.2	**+1.3**
HCY				*e*Sn	**Sn**	14 55 38.3	**+1.5**
HCY	**Herceg Novi**	**4.17**	**324**	*e*Pn	**Pn**	14 54 49.2	**+1.3**
HCY				*e*Sn	**Sn**	14 55 38.3	**+1.5**
MATE	**Matera**	**4.20**	**293**	*i* P	**Pn**	14 55 36.2	**-1.1**
NKME	**Niksic**	**4.25**	**331**	*i* Pn	**Pn**	14 54 50.6	**+1.7**
NKME				*e*Sn	**Sn**	14 55 40.3	**+1.6**
NKME	**Niksic**	**4.25**	**331**	*i* Pn	**Pn**	14 54 50.6	**+1.7**
NKME				*e*Sn	**Sn**	14 55 40.3	**+1.6**
BAI	**Bari**	**4.26**	**300**	*e*Pn	**Pn**	14 54 50.1	**+1.1**
SG1	**Sgolgore (BA)**	**4.28**	**296**	*e*Pn	**Pn**	14 54 50.8	**+1.4**
SG1				Sn	**Sn**	14 55 37.9	**-1.7**
TREB	**Trebinje**	**4.45**	**325**	*e*Pn	**Pn**	14 54 52.3	**+0.6**
BOVS	**Bovan**	**4.54**	**359**	*e*Pn	**Pn**	14 54 53.0	**+0.1**
IDI	**Anoyia**	**4.54**	**146**	Pn	**Pn**	14 54 54.5	**+1.5**
	comp=N,0.6nm,0.3s,baz=310,slow=16,SNR=6.0						
IDI				Sn	**Sn**	14 55 45.3	**-0.7**
	comp=N,1.4nm,0.3s,baz=299,slow=19,SNR=3.2						
IVAS	**Ivanjica**	**4.64**	**345**	*e*Pn	**Pn**	14 54 55.4	**+1.0**
ZAGS	**Zajecar**	**4.73**	**4**	*e*Pn	**Pn**	14 54 55.6	**+0.1**
GRUS	**Gruza**	**4.86**	**351**	*e*Pn	**Pn**	14 54 57.9	**+0.6**
STON	**Ston**	**4.87**	**322**	*e*Pn	**Pn**	14 54 57.1	**-0.4**
STON				Sn	**Sn**	14 55 51.1	**-2.9**
STON	**Ston**	**4.87**	**322**	*e*Pn	**Pn**	14 54 57.0	**-0.4**
STON				Sn	**Sn**	14 55 51.0	**-2.9**
BBLS	**Lazići**	**5.09**	**340**	*e*Pn	**Pn**	14 54 59.8	**-0.

LTZ	Lake Taylor	19.74	198	*e*P	P		15 01 24.7	-1.2
	82nm,1.8s							
RPZ	Rata Peaks	20.95	199	P	P		15 01 33.8	-3.0
	6.3nm,0.4s,baz=2.8,slow=1.4,SNR=9.6							
HNR	Honiara	24.45	303	P	P		15 02 07.1	-1.5
	34nm,0.6s,baz=175,slow=2.3,SNR=5.2							
CTA	Charters Tower	31.89	271	P	P		15 03 13.4	-0.2
	22nm,0.4s,baz=93,slow=11,SNR=61							
CTAO	Charters Tower	31.89	271	*e*P	P		15 03 12.9	-0.6
	41nm,1.0s							
PMG	Port Moresby	34.97	289	P	P		15 03 38.9	-0.8
	19nm,0.8s,baz=90,slow=6.2,SNR=8.6							
STKA	Stephens Creek	35.00	249	P	P		15 03 38.9	-0.8
	5.5nm,0.6s,baz=91,slow=10,SNR=17							
STKA	Stephens Creek	35.00	249	*e*P	P		15 03 38.4	-1.3
	2.7nm,1.0s							
BBOO	Buckleboo	39.71	247	*e*P	P		15 04 16.6	-1.8
	16nm,0.9s							
AS01	Alice Springs	42.35	261	*e*P	P		15 04 38.0	-1.6
AS31	Alice Springs	42.39	261	*e*P	P		15 04 38.6	-1.3
	3.9nm,1.0s							
ASAR	Alice Springs	42.39	261	P	P		15 04 38.8	-1.1
	7.7nm,0.6s,baz=93,slow=6.4,SNR=115							
ASAR				pP	pP		15 06 09.4	-2.1
	0.7nm,0.8s,baz=111,slow=7.8,SNR=2.4							
WRAB	Tennant Creek	42.79	266	*e*P	P		15 04 41.0	-2.0
	57nm,1.6s							
WR1	Warramunga Arr	42.80	266	*e*P	P		15 04 41.6	-1.5
	19nm,0.6s							
WR1				*e*PcP	PcP		15 06 23.8	+0.6
WR1				*e*ScP	ScP		15 09 30.0	+3.6
WRA	Warramunga Arr	42.80	266	P	P		15 04 41.6	-1.5
	15nm,0.7s,baz=97,slow=8.3,SNR=242							
WRA				PcP	PcP		15 06 23.8	+0.5
	2.2nm,0.9s,baz=108,slow=3.3,SNR=4.8							
WRA				ScP	ScP		15 09 30.0	+3.6
	3.2nm,1.0s,baz=104,slow=3.9,SNR=6.7							
FITZ	Fitzroy Crossi	51.22	266	P	P		15 05 46.1	-0.7
	20nm,0.8s,baz=119,slow=7.3,SNR=19							
QSPA	South Pole Qui	65.90	180	P	P		15 07 25.7	+0.4
	6.5nm,1.0s,baz=28,slow=4.8,SNR=12							
LEM	Lembang	71.59	271	P	P		15 08 00.2	-0.5
	38nm,0.8s,baz=146,slow=5.0,SNR=7.2							
MJAR	Matsushiro Arr	72.36	325	P	P		15 08 04.7	+0.2
	3.3nm,0.9s,baz=169,slow=5.8,SNR=9.2							
MAJO	Matsushiro	72.37	325	*e*P	P		15 08 04.7	+0.2
KSM	Kuching	72.56	280	*e*P	P		15 08 05.6	-0.5
	14nm,0.8s							
KSRS	Korea Array	78.73	320	P	P		15 08 41.3	+1.4
	1.1nm,0.7s,baz=128,slow=4.5,SNR=4.0							
KSAR	Wonju Array Be	78.74	320	P	P		15 08 41.3	+1.3
PETK	Petropavlovsk-	79.47	346	P	P		15 08 44.7	+1.2
	1.9nm,0.7s,baz=110,slow=7.5,SNR=4.2							
PEA1	Petropavlovsk-	79.48	346	*e*P	P		15 08 44.7	+1.2
USRK	Ussuriysk Ar.	81.23	327	P	P		15 08 53.7	+0.9
	3.0nm,0.8s,baz=149,slow=4.4,SNR=5.7							
NV01	Mina Array Sit	84.67	44	*e*P	P		15 09 11.3	+0.7
NVAR	Mina Array Bea	84.67	44	P	P		15 09 12.7	+2.0
	0.3nm,0.7s,baz=226,slow=7.5,SNR=2.9							
KLR	Kul'dur	84.98	330	P	P		15 09 13.4	+1.8
	0.1nm,0.5s,baz=135,slow=8.6,SNR=4.3							
ENH	Enshi	86.94	305	*e*P	P		15 09 22.0	+0.5
	7.6nm,0.9s							
SEY	Seymchan	89.64	348	P	P		15 09 34.6	+1.4
	1.0nm,0.5s,baz=184,slow=14							
CM01	Chiang Mai Arr	89.98	290	*e*P	P		15 09 36.9	+1.1
CM31	Chiang Mai Arr	90.01	290	*e*P	P		15 09 36.8	+0.8
CMAR	Chiang Mai Arr	90.01	290	P	P		15 09 37.7	+1.7
	2.7nm,0.9s,baz=135,slow=3.2,SNR=19							
CHTO	Chiang Mai	90.16	290	*e*P	P		15 09 37.5	+0.8
	5.0nm,1.0s							
LTX	Lajitas	90.23	58	*e*P	P		15 09 39.5	+2.6
TXAR	Lajitas Array	90.23	58	P	P		15 09 39.5	+2.6
	0.7nm,0.8s,baz=209,slow=7.1,SNR=9.1							
PV05	Paradox Valley	90.52	48	*e*P	P		15 09 36.5	-1.8
PV01	Paradox Valley	90.91	48	*e*pP	pP		15 11 24.6	-7.0
ILAR	Eielson Array	92.21	13	P	P		15 09 45.9	+0.9
	0.2nm,0.6s,baz=210,slow=5.2,SNR=3.5							
MK32	Makanchi Array	112.65	313	*e*PKiKP	PKiKP		15 15 08.1	-0.8
MKAR	Makanchi Array	112.65	313	PKiKP	PKiKP		15 15 08.1	-0.8
	0.3nm,0.7s,baz=153,slow=0.5,SNR=3.8							
KURK	Kurchatov	115.69	316	*e*PKPdf	PKPdf		15 15 14.2	-0.4
KURBB	Kurchatov Arra	115.73	316	PKP	PKPdf		15 15 14.1	-0.5
	0.5nm,0.7s,baz=112,slow=2.1,SNR=5.0							
BVAR	Borovoye Array	120.92	319	PKP	PKPdf		15 15 24.5	-0.1
	0.4nm,0.3s,baz=103,slow=2.7,SNR=6.9							
FIA0	FINESS Array S	138.85	342	*e*PKPdf	PKPdf		15 16 00.3	+2.2
FINES	FINESS Array B	138.85	342	PKP	PKPdf		15 16 00.3	+2.2
	1.4nm,0.8s,baz=26,slow=2.5,SNR=5.3							
NB200	NORSAR Array S	142.43	351	*e*PKPpre	PKPpre		15 16 02.1	
NOA	NORSAR Array B	142.43	351	PKhKP	PKPpre		15 16 02.1	
	2.5nm,0.9s,baz=15,slow=5.0,SNR=4.0							
HFS	Hagfors	142.90	349	PKhKP	PKPpre		15 16 03.2	
	1.5nm,0.3s,baz=64,slow=3.4,SNR=22							
AKASG	Malin Array Be	145.43	327	PKPbc	PKPbc		15 16 11.1	-0.2
	0.7nm,0.3s,baz=46,slow=4.2,SNR=11							
AKBB	Malin Array Si	145.43	327	*e*PKPdf	PKPbc		15 16 11.2	-0.1
KIEV	Kiev	145.44	327	*e*PKPdf	PKPbc		15 16 10.7	-0.7
AK11	Malin Array Si	145.47	327	*e*PKPdf	PKPbc		15 16 10.7	-0.7
ASF	Jabal al Asfar	147.02	292	PKPbc	PKPab		15 16 17.5	-2.0
	2.7nm,0.8s,baz=101,slow=5.2,SNR=4.6							
BR101	Keskin Array S	148.08	307	*e*PKPbc	PKPbc		15 16 19.2	+0.2
BR131	Keskin Array S	148.08	307	*e*PKPbc	PKPbc		15 16 19.1	0.0
BRTR	Keskin Array B	148.08	307	PKPbc	PKPbc		15 16 19.2	+0.2
	2.1nm,0.8s,baz=130,slow=4.3,SNR=11							
MMAI	Mount Meron Ar	148.19	294	PKPbc	PKPbc		15 16 20.6	+1.2
	4.4nm,0.5s,baz=90,slow=2.9,SNR=6.5							
BR231	Keskin MP Arra	148.66	308	*e*PKPbc	PKPbc		15 16 19.7	-0.7
EKA	Eskdalemuir Ar	148.78	4	PKPbc	PKPbc		15 16 20.3	+0.2
	1.4nm,0.9s,baz=333,slow=2.4,SNR=4.3							
BUR04	Bucovina Ar. S	149.44	326	*e*PKPbc	PKPbc		15 16 23.0	+1.0
MLR	Muntele Rosu	150.39	322	PKPbc	PKPbc		15 16 24.4	0.0
	0.3nm,0.5s,baz=58,slow=6.1,SNR=3.3							
CLL	Collm	151.25	344	*i* PKPbc	PKPbc		15 16 26.6	+0.6
	comp=Z,7.0nm,1.0s							
GERES	GERESS Array B	153.26	340	PKPbc	PKPbc		15 16 30.4	-0.3
	comp=Z,0.1nm,0.3s,baz=126,slow=1.7,SNR=3.6							
GERES				PKPab	PKPab		15 16 45.6	+0.7
	comp=Z,0.6nm,0.8s,baz=58,slow=2.6,SNR=3.2							
VTS	Vitosha	153.72	320	*e*PKPab	PKPab		15 16 48.9	+1.7
TORD	Torodi Ar. Bea	168.96	186	PKP	PKPdf		15 16 39.5	-0.4
	comp=Z,0.9nm,0.9s,baz=202,slow=0.8,SNR=3.7							
TORD				PKPab	PKPab		15 17 53.7	-0.4
	comp=Z,1.1nm,0.9s,baz=160,slow=3.8,SNR=4.9							
TOA1	Torodi Ar. Sit	168.96	186	*e*PKPdf	PKPdf		15 16 39.5	-0.4
TOA1				*e*PKPab	PKPab		15 17 53.7	-0.5

NIED ***18*** *15:09:00.4⁰.90N×145⁰.20E,h5km,Mw3.7 Best double couple: M₀4.48000×10¹⁴ NP1:φ₀=101.00000°,δ45.00000°, λ-90.00000°. NP2:φ₀=282.00000°,δ45.00000°, λ-90.00000°.*

IDC ***18*** *15:09:47.8±1.7,40⁰.78N×144⁰.92E,h0km,mb3.6/8, mb1 3.7/10,mb1mx3.5/70,mbtmp3.5/10,ML2.9/2,MS2.5/3, Ms1 2.5/3,ms1mx2.3/57,Error ellipse: s-maj=38.8km s-min=24.2km az=160.0*

JMA ***18*** *15:09:48.8±0.2,40⁰.88N×145⁰.19E,h68km,3km,M3.6*

ISCJB ***18*** *15:09:50.5±0.7,40⁰.96N±0⁰.04×145⁰.05E±0⁰.07,h33km, mb3.5/8,Error ellipse: s-maj=7.6km s-min=5.1km az=10.5*

ISC 18 15:09:51.7±1.2**,40.88N**±0⁰.06×**145.11E**±0⁰.09**,h35**km,n32,**
σ1ᵍ99/34,mb3.4/8,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.85	308	P	Pn	15 10 19.6	-1.3
JEM				*e*S	Sn	15 10 41.4	-1.7
JAK	Akkeshi	2.14	352	P	Pn	15 10 23.0	-1.8
JAK				*e*S	Sn	15 10 49.1	-1.0
JCH	Churui	2.17	324	P	Pn	15 10 23.9	-1.4
JCH				*e*S	Sn	15 10 48.3	-2.6
JOB	Onbets	2.23	335	P	Pn	15 10 25.3	-0.9
JOB				*e*S	Sn	15 10 50.8	-1.7
JNBK	Urakawa-nobuka	2.25	309	P	Pn	15 10 26.1	-0.3
JNBK				*e*S	Sn	15 10 52.6	-0.4
NEM2	Nemuro 2	2.53	11	*e*S	Sn	15 10 56.6	-3.2
JAR	Ashorobuto	2.61	338	P	Pn	15 10 29.5	-1.9
JAR				*e*S	Sn	15 10 59.5	-2.4
JNK	Nakash	2.72	354	P	Pn	15 10 30.5	-2.4
JNK				*e*S	Sn	15 11 00.7	-3.8
JANG	Nango	2.78	261	P	Pn	15 10 31.7	-2.0
JRA	Rausu	3.06	0	P	Pn	15 10 35.9	-1.6
JRA				*e*S	Sn	15 11 10.0	-2.8
JTKR	Abashiri--Toko	3.21	344	P	Pn	15 10 38.8	-0.8
JTKR				*e*S	Sn	15 11 15.0	-1.7
JOM	Ohasama	3.24	246	P	Pn	15 10 38.9	-1.2
JEW	Eniwo	3.36	307	P	Pn	15 10 41.6	-0.1
JEW				*e*S	Sn	15 11 19.6	-0.7
JMK	Ichinoseki	3.56	238	P	Pn	15 10 42.9	-1.5
JMK				*e*S	Sn	15 11 21.2	-3.9
ASAJ	Asahikawa	3.73	331	Pn	Pn	15 10 46.3	-0.5
	0.7nm,0.3s,baz=192,slow=17,SNR=22						
ASAJ				Sn	Sn	15 11 26.9	-2.5
	1.9nm,0.3s,baz=158,slow=33,SNR=4.8						
MJAR	Matsushiro Arr	6.92	233	Pn	Pn	15 11 29.2	-1.3
	0.2nm,0.3s,baz=50,slow=10,SNR=3.5						
MJAR				LR	LR	15 14 43.9	
	comp=Z,48nm,18.6s,baz=45,slow=44						
KSRS	Korea Array	13.77	261	LR	LR	15 17 35.6	
	comp=Z,14nm,20.1s,baz=85,slow=34						
PETK	Petropavlovsk-	14.92	31	LR	LR	15 19 21.6	
	comp=Z,15nm,20.5s,baz=244,slow=38						
SEY	Seymchan	22.51	9	P	P	15 14 51.5	+3.6
	0.5nm,0.5s,baz=199,slow=7.6,SNR=4.3						
H11N2	WAKE ISLAND Hy	28.11	132	T	T	15 45 14.5	
	baz=324,slow=75,SNR=6.9						
H11N1	WAKE ISLAND Hy	28.12	132	T	T	15 45 10.7	
	baz=324,slow=75,SNR=8.2						
H11N3	WAKE ISLAND Hy	28.13	132	T	T	15 45 14.9	
	baz=324,slow=75,SNR=5.7						
SONM	Songino Array	28.31	297	P	P	15 15 42.4	+0.4
	0.5nm,0.7s,baz=79,slow=7.6,SNR=3.2						
H11S1	WAKE ISLAND Hy	28.99	134	T	T	15 46 17.7	
	baz=325,slow=76,SNR=6.8						
H11S3	WAKE ISLAND Hy	28.99	134	T	T	15 46 18.9	
	baz=325,slow=76,SNR=5.7						
H11S2	WAKE ISLAND Hy	29.00	134	T	T	15 46 21.0	
	baz=325,slow=76,SNR=6.5						
MKAR	Makanchi Array	44.63	300	P	P	15 18 01.2	+0.7
	0.3nm,0.7s,baz=70,slow=8.3,SNR=3.6						
ILAR	Eielson Array	44.70	34	P	P	15 18 03.9	+2.9
	0.2nm,0.7s,baz=269,slow=5.0,SNR=5.2						
KURBB	Kurchatov Arra	46.01	306	P	P	15 18 12.4	+1.0
	0.8nm,0.6s,baz=77,slow=8.7,SNR=5.9						
FINES	FINESS Array B	66.74	333	P	P	15 20 39.5	+0.7
	2.8nm,1.0s,baz=46,slow=11,SNR=4.1						
AKASG	Malin Array Be	72.98	323	P	P	15 21 18.7	+1.3
	0.6nm,0.6s,baz=41,slow=6.8,SNR=5.1						
TXAR	Lajitas Array	85.52	55	P	P	15 22 28.3	+1.9
	0.3nm,0.9s,baz=273,slow=1.7,SNR=2.7						

ISCJB ***18*** *15:13:28.1±0.4,67⁰.15N±0⁰.02×20⁰.51E±0⁰.07,h0km,Error ellipse: s-maj=4.1km s-min=2.8km az=1.3*

UPP ***18*** *15:13:29.4,67⁰.16N×20⁰.63E,h0km,ML1.7,Suspected Mining explosion.*

NAO ***18*** *15:13:29.4±0.9,67⁰.19N×20⁰.51E,ML2.5*

HEL ***18*** *15:13:29.6,67⁰.17N×20⁰.60E,h0km,ML2.0,Explosion*

CSEM ***18*** *15:13:29.8±0.2,67⁰.19N×20⁰.61E,h2km,ML2.0,Error ellipse: s-maj=4.4km s-min=3.3km az=93.0,Mining explosion.*

IDC ***18*** *15:13:30.2±0.9,67⁰.14N×21⁰.02E,h0km,mb1 2.9/4, mb1mx2.7/69,mbtmp2.9/4,ML2.4/4,Error ellipse: s-maj=16.1km s-min=7.8km az=112.0*

BER ***18*** *15:13:32.3±3.4,67⁰.15N×20⁰.51E,h0km,ML2.2, ML2.5(NAO),Suspected explosion*

ISC 18 15:13:29.1±0.7**,67⁰.15N**±0⁰.02×**20⁰.57E**±0⁰.02**,h0**km**,n78,**
σ1ᵍ17/118**,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.64	60	P	Pg	15 13 41.0	-0.3
MASU	Masugnsbyn	0.64	60	P	Pg	15 13 41.0	-0.3
MASU	Masugnsbyn	0.64	60	*i* P	Pg	15 13 41.0	-0.3
RATU	Laukkuluspa	0.78	332	P	Pg	15 13 44.0	0.0
RATU	Laukkuluspa	0.78	332	P	Pg	15 13 44.0	0.0
RATU	Laukkuluspa	0.78	332	*i* P	Pg	15 13 44.0	0.0
KUA	Kurravaara	0.82	354	P	Pg	15 13 44.3	-0.4
KUA	Kurravaara	0.82	354	P	Pg	15 13 44.3	-0.4
KUA	Kurravaara	0.82	354	*i* P	Pg	15 13 44.3	-0.4
ERTU	Ertsjaerv	0.88	132	P	Pg	15 13 45.6	-0.2
ERTU				Sb	Sg	15 13 57.8	+0.6
ERTU	Ertsjaerv	0.88	132	P	Pg	15 13 45.6	-0.2
ERTU	Ertsjaerv	0.88	132	*e*P	Pg	15 13 45.4	-0.5
ERTU				*e*SB	Sg	15 13 57.8	+0.6
NIKU	Nikkaluokta	0.93	322	P	Pg	15 13 47.1	+0.1
NIKU	Nikkaluokta	0.93	322	P	Pg	15 13 47.1	+0.1
NIKU	Nikkaluokta	0.93	322	*e*P	Pg	15 13 47.1	+0.1
PAJU	Pajala	1.00	96	P	Pg	15 13 47.6	-0.7
PAJU	Pajala	1.00	96	P	Pg	15 13 47.6	-0.7
PAJU	Pajala	1.00	96	*e*P	Pg	15 13 47.6	-0.7
LANU	Lannavaara	1.06	30	P	Pg	15 13 48.4	-1.0
LANU				Sb	Sg	15 14 01.9	-1.1
LANU	Lannavaara	1.06	30	P	Pg	15 13 48.4	-1.0
LANU	Lannavaara	1.06	30	*e*P	Pg	15 13 48.3	-1.0
	baz=207						
LANU				*e*SB	Sg	15 14 02.0	-1.1
SJUU	Sjulsmark	1.70	165	P	Pn	15 14 00.7	+0.8
SJUU	Sjulsmark	1.70	165	P	Pn	15 14 00.7	+0.8
SJUU	Sjulsmark	1.70	165	*e*P	Pn	15 14 00.7	+0.8
KALU	Kalix	1.71	138	*e*PG	Pn	15 14 00.6	+0.6
KALU				*e*SN	Sg	15 14 24.5	+0.6
HEF	Hetta	1.73	41	*e*P	Pn	15 14 00.2	-0.2
	SNR=50						
HEF				Sg	Sn	15 14 22.2	-1.0
HEF				*e*S	Sn	15 14 22.7	-0.5
	SNR=50						
HEF	Hetta	1.73	41	*e*P	Pn	15 14 00.2	-0.2
HEF				*e*S	Sn	15 14 22.7	-0.5
HEF	Hetta	1.73	41	*e*P	Pn	15 13 59.8	-0.6
	baz=222						
HEF				MSG		15 14 20.4	
	comp=Z,7.8nm,0.2s						
HEF				*e*SG	Sn	15 14 22.2	-1.0
TOF	Tornio	1.84	124	P	Pn	15 14 02.4	+0.5
TOF				Sn	Sb	15 14 27.3	+0.1
TOF	Tornio	1.84	124	*e*P	Pn	15 14 02.5	+0.5
TOF				MSG		15 14 24.8	
	comp=Z,15nm,0.2s						
TOF				*e*SN	Sb	15 14 27.3	+0.1
KIF	Kilpisjarvi	1.87	3	Pn	Pn	15 14 03.3	+1.0
KIF				Sn	Sg	15 14 29.6	+0.4
KIF	Kilpisjarvi	1.87	3	P	Pn	15 14 03.1	+0.8
KIF				Sn	Sg	15 14 29.5	+0.4
	SNR=50						
KIF	Kilpisjarvi	1.87	3	Pn	Pn	15 14 03.3	+1.0
KIF				Sn	Sg	15 14 29.6	+0.4
KIF	Kilpisjarvi	1.87	3	*e*P	Pn	15 14 03.1	+0.8
KIF				MSG		15 14 25.6	
	comp=Z,13nm,0.2s						
KIF				*e*SG	Sg	15 14 29.5	+0.4
LILU	Lilltraesk	1.89	189	P	Pn	15 14 03.9	+1.3
LILU	Lilltraesk	1.89	189	P	Pn	15 14 03.9	+1.3
LILU	Lilltraesk	1.89	189	*e*P	Pn	15 14 03.9	+1.3
KTK1	Kautokeino	2.12	27	*e*P	Pn	15 14 07.2	+1.4
	SNR=50						
KTK1				*e*S	Sb	15 14 34.8	-0.5
	SNR=50						
KTK1	Kautokeino	2.12	27	*e*P	Pn	15 14 07.2	+1.4
KTK1				*e*S	Sb	15 14 34.8	-0.5
KTK1				IAML		15 14 36.6	
	comp=Z,31nm,0.6s						
SGF	Sodankyl	2.33	80	*e*PB	Pn	15 14 09.7	+1.0
SGF				*e*SG	Sb	15 14 40.0	-1.2
BURU	Burvik	2.59	172	P	Pn	15 14 14.0	+1.8
BURU	Burvik	2.59	172	*e*P	Pn	15 14 14.0	+1.8
BURU				*e*SG	Sg	15 14 52.1	-0.2
MOR8	Moi Rana	2.63	251	*e*Pg	Pn	15 14 14.8	+2.1
MOR8				*e*Sg	Sn	15 14 46.6	+1.2
MOR8				IAML		15 14 52.0	
	comp=Z,30nm,0.4s						
OUL	Oulu	3.00	131	P	Pn	15 14 19.9	+2.1
OUL	Oulu	3.00	131	*e*P	Pn	15 14 19.9	+2.1
	baz=313						
OUL				*e*SG	Sb	15 15 00.8	+0.4
KONS	Konsvik	3.02	261	*e*Sg	Sg	15 15 05.2	-0.7
	SNR=90						
KONS	Konsvik	3.02	261	*e*Sg	Sg	15 15 05.2	-0.7
KONS				IAML		15 15 16.6	
	comp=Z,21nm,0.5s						
ARA0	ARCESS Array S	3.02	35	Pn	Pn	15 14 18.3	+0.2
	baz=209,slow=16						
ARA0				Sn	Sn	15 14 54.8	-0.1
	baz=210,slow=28						
ARCES	ARCESS Array B	3.02	35	Pn	Pn	15 14 18.1	0.0
	comp=Z,0.5nm,0.3s,baz=212,slow=16,SNR=28						
ARCES				Sn	Sn	15 14 54.4	-0.6
	comp=Z,1.4nm,0.3s,baz=213,slow=18,SNR=9.4						
ARE0	ARCESS Array S	3.02	35	P	Pn	15 14 18.3	+0.2
ARE0	ARCESS Array S	3.02	35	*e*P	Pn	15 14 18.3	+0.2
OUF	Merijarvi	3.28	146	P	Pn	15 14 23.1	+1.5
OUF	Merijarvi	3.28	146	*e*P	Pn	15 14 23.1	+1.5
	baz=329						
UMAU	Umeaa	3.28	179	P	Pn	15 14 23.1	+1.5
UMAU	Umeaa	3.28	179	*e*P	Pn	15 14 23.1	+1.5
	baz=2.0						
VRF	Varrio	3.54	76	*e*P	Pn	15 14 25.4	+0.2
VRF				*e*SG	Sb	15 15 16.6	+0.7
MSF	Maaselka	3.61	106	*e*PG	Pb	15 14 34.9	+1.2
	baz=295						
MSF				*e*SG	Sb	15 15 19.8	+1.7
KU6	Riekki	3.89	103	P	Pn	15 14 30.6	+0.6
KU6				S	Sn	15 15 17.1	+0.8
KU6	Riekki	3.89	103	*e*P	Pn	15 14 30.7	+0.6
KU6				*e*S	Sn	15 15 17.1	+0.8
VAF	Ylistaro	4.22	167	P	Pn	15 14 36.3	+1.8
VAF	Ylistaro	4.22	167	*e*P	Pn	15 14 36.3	+1.8
HEMU	Hemsoen	4.62	195	*e*SG	Sg	15 15 55.2	-2.0
FIA0	FINESS Array S	6.21	155	Pn	Pn	15 15 03.2	+1.4
	baz=347,slow=16						
FIA0				Sn	Sn	15 16 12.5	-0.8
	baz=345,slow=28						
FIA0				Lg	Lg	15 16 42.5	
	baz=342,slow=28						
FIA0	FINESS Array S	6.21	155	Pn	Pn	15 15 03.2	+1.4
	SNR=50						
FIA0				Lg	Lg	15 16 42.5	
FIA0	FINESS Array S	6.21	155	Pn	Pn	15 15 03.2	+1.4
	baz=347,slow=16						
FIA0				Sn	Sn	15 16 12.5	-0.8
	baz=345,slow=28						
FIA0				Lg	Lg	15 16 42.5	
	baz=342,slow=28						
FINES	FINESS Array B	6.21	155	Pn	Pn	15 15 03.2	+1.4
	comp=Z,0.2nm,0.3s,baz=347,slow=16,SNR=9.0						
FINES				Sn	Sn	15 16 11.8	-1.5
	comp=Z,0.4nm,0.3s,baz=345,slow=22,SNR=7.4						
FINES				Lg	Lg	15 16 41.5	
	comp=Z,0.6nm,0.3s,baz=345,slow=26,SNR=5.9						
NB2	NORSAR Subarra	7.36	218	Pn	Pn	15 15 19.4	+1.6
NB2				Sn	Sn	15 16 39.8	-2.2
NB2	NORSAR Subarra	7.36	218	Pn	Pn	15 15 19.4	+1.6
	SNR=50						
NB2	NORSAR Subarra	7.36	218	Pn	Pn	15 15 19.4	+1.6
NB2				Sn	Sn	15 16 39.8	-2.2
NOA	NORSAR Array B	7.36	218	Pn	Pn	15 15 18.8	+1.0
	comp=Z,0.1nm,0.3s,baz=17,slow=14,SNR=2.4						
NOA				Sn	Sn	15 16 37.7	-4.2
	comp=Z,0.4nm,0.3s,baz=30,slow=21,SNR=5.2						
NOA				Lg	Lg	15 17 17.2	
	comp=Z,0.6nm,0.3s,baz=55,slow=21,SNR=3.6						
NRA0	NORESS Array S	7.55	216	Pn	Pn	15 15 20.9	+0.5
	baz=25,slow=16						
NRA0				Sn	Sn	15 16 44.2	-2.4
	baz=35,slow=22						
NRA0				Lg	Lg	15 17 26.9	
	baz=20,slow=28						
NRA0	NORESS Array S	7.55	216	Pn	Pn	15 15 20.9	+0.5
	SNR=50						
NRA0				Lg	Lg	15 17 26.9	
	SNR=8.0						
NRA0	NORESS Array S	7.55	216	Pn	Pn	15 15 20.9	+0.5
	baz=25,slow=16						
NRA0				Sn	Sn	15 16 44.2	-2.4
	baz=35,slow=22						
NRA0				Lg	Lg	15 17 26.9	
	baz=20,slow=28						
HFS	Hagfors	7.67	207	Pn	Pn	15 15 22.0	+0.1
	baz=11,slow=12						
HFS				Sn	Sn	15 16 47.1	-2.3
	baz=18,slow=28						
HFS	Hagfors	7.67	207	Pn	Pn	15 15 22.0	+0.1
	comp=Z,0.1nm,0.3s,baz=24,slow=14,SNR=5.2						
HFS				Sn	Sn	15 16 47.0	-2.3
	comp=Z,0.4nm,0.3s,baz=26,slow=27,SNR=7.6						
HFS				Lg	Lg	15 17 32.5	
	comp=Z,0.6nm,0.3s,baz

ASAR				PcP		PcP	15 22 30.9	+1.0
	0.2nm,0.5s,baz=349,slow=1.9,SNR=3.3							
NJ2	Nanjing	29.48	345	eP		P	15 19 30.4	+1.2
JNU	Nakatsue	29.67	6	LR		LR	15 30 19.1	
	comp=Z,18nm,20.6s,baz=134,slow=34							
CMAR	Chiang Mai Arr	31.42	300	P		P	15 19 44.7	-1.9
	0.3nm,0.7s,baz=110,slow=6.9,SNR=3.4							
CMAR				LR		LR	15 34 22.2	
	comp=Z,13nm,18.1s,baz=151,slow=40							
KSAR	Wonju Array Be	33.79	1	P		P	15 20 08.0	+1.0
KSRS	Korea Array	33.81	1	P		P	15 20 08.0	+0.9
	5.7nm,1.1s,baz=177,slow=10,SNR=4.0							
KSRS				LR		LR	15 33 09.7	
	comp=Z,15nm,21.7s,baz=178,slow=35							
CD2	Chengdu	35.13	323	eP		P	15 20 18.6	-0.2
BJI	Beijing	37.73	346	P		P	15 20 41.9	+1.1
STKA	Stephens Creek	37.73	160	P		P	15 20 40.2	-0.6
	1.6nm,0.4s,baz=344,slow=10.0,SNR=7.8							
LZH	Lanzhou	38.96	329	eP		P	15 20 51.9	+0.5
LZH				pP		pP	15 21 05.9	+1.7
LZH				sP		sP	15 21 12.3	+2.5
LZH				SS		SS	15 29 33.6	-6.6
HHC	Hu-ho-hao-te	39.78	341	eP		P	15 20 57.8	-0.3
CN2	Changchun	40.17	358	eP		P	15 21 00.3	-0.8
ASAJ	Asahikawa	42.67	16	P		P	15 21 22.7	+1.0
	3.4nm,0.8s,baz=180,slow=6.1,SNR=4.4							
GTA	Gaotai	43.56	329	eP		P	15 21 34.8	+5.8
GTA				pP		pP	15 21 39.4	-2.6
GTA				sP		sP	15 21 41.8	-5.8
KLR	Kul'dur	45.73	4	P		P	15 21 46.8	+0.7
	0.1nm,0.5s,baz=200,slow=11,SNR=4.8							
SONM	Songino Array	47.68	341	P		P	15 22 02.5	+1.0
	0.8nm,0.6s,baz=163,slow=9.3,SNR=5.2							
WMQ	Urumqi	53.20	325	P		P	15 22 43.8	+0.6
PETK	Petropavlovsk-	55.46	22	P		P	15 23 00.9	+1.6
	4.2nm,1.0s,baz=181,slow=5.1,SNR=13							
MK01	Makanchi Array	58.02	325	eP		P	15 23 16.8	-0.9
MK31	Makanchi Array	58.03	325	eP		P	15 23 16.7	-1.1
MKAR	Makanchi Array	58.03	325	P		P	15 23 17.3	-0.5
	0.8nm,0.5s,baz=116,slow=7.1,SNR=14							
MKAR				LR		LR	15 49 44.1	
	comp=Z,15nm,20.7s,baz=336,slow=38							
MKAR	Makanchi Array	58.03	325	eP		P	15 23 17.1	-0.7
	9.2nm,0.5s							
KSH	Kashi	58.56	315	eP		P	15 23 25.5	+3.8
ZALV	Zalesovo Beam	61.02	333	P		P	15 23 37.3	-0.8
	0.5nm,0.4s,baz=134,slow=8.2,SNR=2.3							
SEY	Seymchan	62.15	13	P		P	15 23 47.3	+1.7
	1.4nm,0.8s,baz=185,slow=4.3,SNR=7.8							
KURBB	Kurchatov Arra	62.21	327	P		P	15 23 45.8	-0.4
	0.9nm,0.6s,baz=131,slow=6.5,SNR=13							
KURK	Kurchatov	62.21	327	eP		P	15 23 46.2	0.0
	4.0nm,0.6s							
BVAR	Borovoye Array	67.79	327	P		P	15 24 22.2	-0.3
	0.5nm,0.5s,baz=100,slow=7.5,SNR=4.6							
TIXI	Tiksi	68.07	1	eP		P	15 24 23.3	-0.5
	3.0nm,1.2s							
ABKAR	Akbulak array	72.65	321	P		P	15 24 51.8	-0.4
	0.9nm,0.6s							
AKTO	Aktyubinsk	74.15	322	P		P	15 25 00.1	-1.1
	0.8nm,0.7s,baz=111,slow=11,SNR=2.7							
AKTO				LR		LR	15 59 36.4	
	comp=Z,14nm,20.2s,baz=70,slow=38							
GAMB	Gambell	74.41	24	eP		P	15 25 01.4	-0.9
	12nm,1.8s							
ARU	Arti	75.40	328	P		P	15 25 07.2	-1.0
	0.9nm,0.4s,baz=90,slow=20,SNR=3.2							
ILAR	Eielson Array	85.10	25	P		P	15 26 00.5	+0.3
	0.2nm,0.8s,baz=254,slow=5.0,SNR=4.5							
BRTR	Keskin Array B	90.56	310	LR		LR	16 13 28.6	
	comp=Z,7.1nm,19.2s,baz=294,slow=40							
FINES	FINESS Array B	92.28	332	P		P	15 26 32.4	-2.0
	1.2nm,0.9s,baz=69,slow=7.6,SNR=3.4							
AKASG	Malin Array Be	92.39	321	LR		LR	16 11 58.0	
	comp=Z,9.9nm,18.4s,baz=95,slow=38							
NOA	NORSAR Array B	99.22	334	LR		LR	16 16 26.1	
	comp=Z,13nm,18.5s,baz=350,slow=38							

NIED ***18*** *15:20:00,40.90N×145.20E,h5km,Mw3.6 Best double couple: M₀3.09000×10¹⁴ NP1:φs92.00000°,δ41.00000°, λ-92.00000°. NP2:φs275.00000°,δ49.00000°, λ-88.00000°.*

IDC ***18*** *15:20:37.2±1.8,40.82N×145.04E,h0km,mb3.7/6, mb1 3.7/8,mb1mx3.4/63,mbtmp3.6/8,ML2.8/2,MS2.4/1, Ms1 2.4/1,ms1mx2.1/55,Error ellipse: s-maj=53.9km s-min=21.1km az=73.0*

JMA ***18*** *15:20:38.9±0.2,40.89N×145.17E,h67km±3km,M3.7*

ISC 18 15:20:37.0±3.6,40.94N±0.04×144.99E±0.07,h1km±22km, n28,σ1s67/33,mb3.8/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.75	309	P		P	Pb	15 21 09.6	-0.2
JEM				eS		S	Sn	15 21 30.3	-1.0
JAK	Akkeshi	2.07	354	P		P	Pn	15 21 12.8	0.0
JCH	Churui	2.07	324	P		P	Pn	15 21 13.8	+1.0
JCH				eS		S	Sn	15 21 38.1	-1.1
JOB	Onbets	2.14	337	eS		S	Sn	15 21 41.7	+0.6
JNBK	Urakawa-nobuka	2.15	309	P		P	Pb	15 21 16.0	-0.6
JNBK				eS		Sb	Sb	15 21 42.2	-1.5
NEM2	Nemuro 2	2.49	13	eS		S	Sn	15 21 47.6	-1.9
JAR	Ashorobuto	2.52	339	P		P	Pn	15 21 19.3	+0.2
JAR				eS		S	Sn	15 21 50.3	-0.2
JNK	Nakash	2.65	356	P		P	Pn	15 21 20.5	-0.3
JNK				eS		S	Sn	15 21 50.2	-3.4
JBT2	Biratori 2	2.69	314	eS		Sb	Sb	15 21 56.3	-3.0
JANG	Nango	2.70	259	P		P	Pn	15 21 21.6	0.0
JANG				eS		S	Sn	15 21 53.0	-1.9
JTKR	Abashiri--Toko	3.13	346	P		P	Pn	15 21 28.6	+1.2
JTKR				eS		S	Sn	15 22 04.7	-0.8
JOM	Ohasama	3.19	244	P		P	Pn	15 21 28.8	+0.6
JEW	Eniwo	3.25	307	P		P	Pn	15 21 31.5	+2.4
JEW				eS		S	Sn	15 22 09.3	+0.8
JMK	Ichinoseki	3.51	237	P		P	Pn	15 21 32.7	0.0
JMK				eS		S	Sn	15 22 10.5	-4.3
ASAJ	Asahikawa	3.63	332	Pn		P	Pn	15 21 37.0	+2.6
	0.4nm,0.3s,baz=144,slow=14,SNR=13								
ASAJ				Sn		S	Sn	15 22 16.4	-1.4
	0.9nm,0.3s,baz=117,slow=27,SNR=6.3								
MJAR	Matsushiro Arr	6.88	233	Pn		P	Pn	15 22 19.6	+0.6
	0.4nm,0.3s,baz=48,slow=12,SNR=6.2								
MJAR				Sn		S	Sn	15 23 40.0	+2.0
	0.1nm,0.3s,baz=45,slow=31,SNR=3.4								
MJAR				LR		LR	LR	15 25 08.1	
	comp=Z,33nm,20.1s,baz=80,slow=40								
SONM	Songino Array	28.20	297	P		P	P	15 26 31.6	+0.4
	0.1nm,0.3s,baz=86,slow=8.8,SNR=2.1								
H11N2	WAKE ISLAND Hy 28.22	132		T		T	T	15 55 58.7	
	baz=324,slow=75,SNR=5.9								
H11N1	WAKE ISLAND Hy 28.23	132		T		T	T	15 56 00.0	
	baz=324,slow=75,SNR=7.7								
H11N3	WAKE ISLAND Hy 28.23	132		T		T	T	15 56 02.8	
	baz=324,slow=75,SNR=4.7								
H11S1	WAKE ISLAND Hy 29.09	134		T		T	T	15 57 09.0	
	baz=325,slow=76,SNR=4.4								
H11S3	WAKE ISLAND Hy 29.10	134		T		T	T	15 57 12.4	
	baz=325,slow=76,SNR=4.0								
H11S2	WAKE ISLAND Hy 29.11	134		T		T	T	15 57 09.0	
	baz=325,slow=76,SNR=4.5								
MKAR	Makanchi Array	44.52	299	P		P	P	15 28 51.0	+1.0
	0.3nm,0.9s,baz=63,slow=6.6,SNR=5.1								
KURBB	Kurchatov Arra	45.90	306	P		P	P	15 29 02.0	+1.2
	0.5nm,0.4s,baz=76,slow=8.4,SNR=4.7								
WRA	Warramunga Arr	61.37	191	P		P	P	15 30 54.4	-0.1
	0.9nm,0.9s,baz=10,slow=7.2,SNR=3.8								
ASAR	Alice Springs	65.10	191	P		P	P	15 31 18.4	-0.8
	0.5nm,0.9s,baz=20,slow=8.2,SNR=4.1								
FINES	FINESS Array B	66.64	331	P		P	P	15 31 30.1	+1.4
	2.7nm,1.1s,baz=33,slow=8.3,SNR=4.9								

KRSC ***18*** *15:24:12.6±0.7,55.14N×161.93E,h88km±18km,ML4.3*

ISCJB ***18*** *15:24:14.0±0.3,55.15N±0.02×161.86E±0.06,h90km±3km, mb3.5/14,Error ellipse: s-maj=5.9km s-min=2.7km az=23.2*

MOS ***18*** *15:24:14.2±0.7,55.19N×161.85E,h90km,mb3.9/5,Error ellipse: s-maj=9.2km s-min=4.4km az=80.0*

IDC ***18*** *15:24:17.8±2.1,55.31N×161.43E,h102km±19km, mb3.3/13,mb1 3.4/17,mb1mx3.3/72,mbtmp3.6/17,Error ellipse: s-maj=17.7km s-min=13.1km az=136.0*

ISC 18 15:24:14.7±0.8,55.14N±0.03×161.93E±0.03,h78km±7km,

2012 MAR

n104,σ1s18/162,mb3.5/14,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	0.88	275	eP		P	Pn	15 24 31.6	-0.6
TUMD				eS		S	Sn	15 24 44.1	-1.2
KZV	Kizimen	0.94	269	PN		P	Pn	15 24 32.7	-0.3
KZV				S		S	Sn	15 24 45.9	-0.8
KZV	Kizimen	0.94	269	i P		P	Pn	15 24 32.7	-0.3
KZV				eS		S	Sn	15 24 45.9	-0.8
TUMR	Tumrok	1.03	279	PN		P	Pn	15 24 34.3	+0.2
TUMR				S		S	Sn	15 24 48.7	+0.1
TUMR	Tumrok	1.03	279	i P		P	Pn	15 24 34.3	+0.2
TUMR				eS		S	Sn	15 24 48.7	+0.1
BZMR	Bezymyannaya	1.14	315	PN		P	Pn	15 24 35.0	-0.5
BZMR				S		S	Sn	15 24 50.4	-0.7
BZMR	Bezymyannaya	1.14	315	eP		P	Pn	15 24 35.0	-0.5
BZMR				eS		S	Sn	15 24 50.4	-0.7
KMNR	Kamenistaya	1.15	303	PN		P	Pn	15 24 35.5	0.0
KMNR				S		S	Sn	15 24 52.0	+0.9
KMNR	Kamenistaya	1.15	303	i P		P	Pn	15 24 35.5	0.0
KMNR				eS		S	Sn	15 24 52.0	+0.9
BZWR	Bezymyannyi-We	1.16	316	PN		P	Pn	15 24 35.5	-0.2
BZWR				S		S	Sn	15 24 51.2	-0.3
BZWR	Bezymyannyi-We	1.16	316	eP		P	Pn	15 24 35.5	-0.2
BZWR				eS		S	Sn	15 24 51.2	-0.3
LGNR	Loginova	1.18	324	PN		P	Pn	15 24 36.5	+0.4
LGNR				S		S	Sn	15 24 53.1	+1.0
LGNR	Loginova	1.18	324	eP		P	Pn	15 24 36.5	+0.4
LGNR				eS		S	Sn	15 24 53.1	+1.0
KBTR	Krutoberegovo	1.18	25	PN		P	Pn	15 24 36.1	+0.3
KBTR				S		S	Sn	15 24 52.6	+0.9
KBTR	Krutoberegovo	1.18	25	i P		P	Pn	15 24 36.1	+0.3
KBTR				eS		S	Sn	15 24 52.6	+0.9
KBG	Krutoberegovo	1.20	21	PN		P	Pn	15 24 36.3	+0.3
KBG				S		S	Sn	15 24 53.5	+1.4
KBG	Krutoberegovo	1.20	21	eP		P	Pn	15 24 36.3	+0.3
KBG				eS		S	Sn	15 24 53.5	+1.4
KIRR	Kirishev	1.22	313	PN		P	Pn	15 24 36.4	0.0
KIRR	Kirishev	1.22	313	eP		P	Pn	15 24 36.4	0.0
KPT	Kopyto	1.28	311	PN		P	Pn	15 24 37.3	+0.2
KPT				S		S	Sn	15 24 54.4	+0.4
KPT	Kopyto	1.28	311	eP		P	Pn	15 24 37.3	+0.2
KPT				eS		S	Sn	15 24 54.4	+0.4
KRSR	Krestovskiy	1.33	325	PN		P	Pn	15 24 37.6	-0.2
KRSR				S		S	Sn	15 24 55.1	-0.1
KRSR	Krestovskiy	1.33	325	eP		P	Pn	15 24 37.6	-0.2
KRSR				eS		S	Sn	15 24 55.1	-0.1
KLY	Klyuchi	1.38	329	PN		P	Pn	15 24 37.7	-0.6
KLY				S		S	Sn	15 24 55.6	-0.6
KLY	Klyuchi	1.38	329	eP		P	Pn	15 24 37.7	-0.6
KLY				eS		S	Sn	15 24 55.6	-0.6
SMKR	Semkarok	1.47	350	PN		P	Pn	15 24 40.1	+0.5
SMKR				S		S	Sn	15 24 59.9	+1.5
SMKR	Semkarok	1.47	350	eP		P	Pn	15 24 40.1	+0.5
SMKR				eS		S	Sn	15 24 59.9	+1.5
KOZ	Kozyrevsk	1.49	309	PN		P	Pn	15 24 39.9	+0.2
KOZ				S		S	Sn	15 24 59.0	+0.3
KOZ	Kozyrevsk	1.49	309	eP		P	Pn	15 24 39.9	+0.2
KOZ				eS		S	Sn	15 24 59.0	+0.3
BDR	Baidarnaya	1.49	344	PN		P	Pn	15 24 40.2	+0.4
BDR				S		S	Sn	15 24 59.1	+0.3
BDR	Baidarnaya	1.49	344	eP		P	Pn	15 24 40.2	+0.4
BDR				eS		S	Sn	15 24 59.1	+0.3
SRKR	Sorokina	1.58	345	PN		P	Pn	15 24 41.4	+0.4
SRKR				S		S	Sn	15 25 01.9	+1.0
SRKR	Sorokina	1.58	345	eP		P	Pn	15 24 41.4	+0.4
SRKR				eS		S	Sn	15 25 01.9	+1.0
KII	Karymskiy	1.82	234	PN		P	Pn	15 24 44.2	0.0
KII				S		S	Sn	15 25 06.1	-0.4
KII	Karymskiy	1.82	234	eP		P	Pn	15 24 44.2	0.0
KII				eS		S	Sn	15 25 06.1	-0.4
ESO	Esso	2.00	295	PN		P	Pn	15 24 46.1	-0.4
ESO				S		S	Sn	15 25 09.5	-1.2
ESO	Esso	2.00	295	eP		P	Pn	15 24 46.1	-0.4
ESO				eS		S	Sn	15 25 09.5	-1.2
BKI	Bering	2.32	87	PN		P	Pn	15 24 50.7	0.0
BKI				S		S	Sn	15 25 16.6	-1.7
BKI	Bering	2.32	87	eP		P	Pn	15 24 50.7	0.0
BKI				eS		S	Sn	15 25 16.6	-1.7
SPN	Mys Shipunski	2.33	210	PN		P	Pn	15 24 49.9	-1.0
SPN				S		S	Sn	15 25 16.9	-1.8
SPN	Mys Shipunski	2.33	210	eP		P	Pn	15 24 49.9	-1.0
SPN				eS		S	Sn	15 25 16.9	-1.8
NLC	Nalytchevo	2.49	219	PN		P	Pn	15 24 53.1	+0.1
NLC				S		S	Sn	15 25 22.5	+0.1
NLC	Nalytchevo	2.49	219	eP		P	Pn	15 24 53.1	+0.1
NLC				eS		S	Sn	15 25 22.5	+0.1
SDLR	Sedlovina	2.58	225	PN		P	Pn	15 24 55.0	+0.6
SDLR				S		S	Sn	15 25 26.0	+1.1
SDLR	Sedlovina	2.58	225	i P		P	Pn	15 24 55.0	+0.6
SDLR				eS		S	Sn	15 25 26.0	+1.1
KRX	Arik	2.62	229	PN		P	Pn	15 24 55.6	+0.6
KRX	Arik	2.62	229	eP		P	Pn	15 24 55.6	+0.6
SMAR	Somma	2.63	226	PN		P	Pn	15 24 55.9	+0.8
SMAR				S		S	Sn	15 25 26.7	+0.6
SMAR	Somma	2.63	226	eP		P	Pn	15 24 55.9	+0.8
SMAR				eS		S	Sn	15 25 26.7	+0.6
AVH	Avacha	2.65	226	PN		P	Pn	15 24 56.5	+1.2
AVH				S		S	Sn	15 25 27.6	+1.1
AVH	Avacha	2.65	226	i P		P	Pn	15 24 56.5	+1.2
AVH				eS		S	Sn	15 25 27.6	+1.1
UGLR	Uglovaya	2.66	225	PN		P	Pn	15 24 56.4	+1.0
UGLR	Uglovaya	2.66	225	i P		P	Pn	15 24 56.4	+1.0
KOK	Koryaka	2.68	228	PN		P	Pn	15 24 56.8	+1.1
KOK	Koryaka	2.68	228	eP		P	Pn	15 24 56.8	+1.1
GNL	Ganaly	2.74	240	PN		P	Pn	15 24 57.6	+1.0
GNL	Ganaly	2.74	240	i P		P	Pn	15 24 57.6	+1.0
DALK	Dalny	2.82	223	PN		P	Pn	15 24 57.8	+0.3
DALK				S		S	Sn	15 25 30.0	-0.5
DALK	Dalny	2.82	223	eP		P	Pn	15 24 57.8	+0.3
DALK				eS		S	Sn	15 25 30.0	-0.5
PET	Petropavlovsk	2.87	224	ePN		P	Pn	15 24 58.8	+0.7
PET				eS		S	Sn	15 25 30.7	-0.8
PET				pmax		pmax			
	comp=Z,196nm,0.3s								
PET				smax		smax			
	comp=E,295nm,0.5s								
PET				smax		smax			
	comp=N,462nm,0.6s								
PET				smax		smax			
	comp=N,400nm,0.6s								
PET	Petropavlovsk	2.87	224	i P		P	Pn	15 24 58.9	+0.8
PET				eS		S	Sn	15 25 31.7	+0.2
PETK	Petropavlovsk-	3.22	232	P		P	Pn	15 25 04.0	+1.2
	comp=N,14nm,0.3s,baz=64,slow=16,SNR=197								
PETK				S		S	Sn	15 25 46.0	+5.9
	comp=N,6.5nm,0.3s,baz=32,slow=26,SNR=5.4								
KRMR	Karymshinskiy	3.22	226	PN		P	Pn	15 25 03.8	+0.9
KRMR				S		S	Sn	15 25 40.5	+0.3
KRMR	Karymshinskiy	3.22	226	eP		P	Pn	15 25 03.8	+0.9
KRMR				eS		S	Sn	15 25 40.5	+0.3
RUS	Russkaya	3.38	218	PN		P	Pn	15 25 05.1	0.0
RUS				S		S	Sn	15 25 42.8	-1.3
RUS	Russkaya	3.38	218	i P		P	Pn	15 25 05.1	0.0
RUS				eS		S	Sn	15 25 42.8	-1.3
MTVR	Mutnovka	3.47	221	PN		P	Pn	15 25 08.0	+1.6
MTVR	Mutnovka	3.47	221	eP		P	Pn	15 25 08.0	+1.6
APC	Apacha	3.58	234	PN		P	Pn	15 25 09.5	+1.7
APC	Apacha	3.58	234	eP		P	Pn	15 25 09.5	+1.7
ASAK	Asacha	3.65	223	PN		P	Pn	15 25 10.8	+1.9
ASAK				S		S	Sn	15 25 52.1	+1.3
ASAK	Asacha	3.65	223	i P		P	Pn	15 25 10.8	+1.9
ASAK				eS		S	Sn	15 25 52.1	+1.3
KDTR	Khodutka, Kamc	4.05	216	eP		P	Pn	15 25 14.4	+0.2
KDTR				eS		S	Sn	15 25 58.6	-1.8
PALN	Palana	4.10	346	PN		P	Pn	15 25 15.2	+0.3
PALN	Palana	4.10	346	eP		P	Pn	15 25 15.2	+0.3
OSSR	Ossora	4.17	8	PN		P	Pn	15 25 15.6	-0.1
OSSR				S		S	Sn	15 26 00.5	-2.6
OSSR	Ossora	4.17	8	eP		P	Pn	15 25 15.6	-0.1
OSSR				eS		S	Sn	15 26 00.5	-2.6
SKR	Severo-Kuril's	5.68	221	ePN		P	Pn	15 25 37.1	+0.7
SKR				eS		S	Sn	15 26 45.7	+5.5
SKR				pmax		pmax			
	comp=Z,142nm,1.5s								
SKR				smax		smax			
	comp=N,81nm,1.0s								
SKR				smax		smax			
	comp=E,134nm,1.2s								
SKR	Severo-Kuril's	5.68	221	eP		P	Pn	15 25 37.1	+0.7
TILK	Tilichiki	5.78	21	PN		P	Pn	15 25 38.7	+1.0
TILK	Tilichiki	5.78	21	eP		P	Pn	15 25 38.7	+1.0
MA2	Magadan	7.49	311	P		P	Pn	15 26 01.7	+0.6
	comp=E,0.2nm,0.3s,baz=148,slow=19,SNR=2.1								
SEY	Seymchan	9.23	332	P		P	Pn	15 26 24.3	-0.4
	comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=4.8								
ASAJ	Asahikawa	16.63	236	P		P	P	15 28 03.9	+0.1
	comp=E,0.1nm,0.3s,baz=72,slow=20,SNR=2.6								
MJAR	Matsushiro Arr	24.67	231	P		P	P	15 29 27.2	-0.8
	comp=E,1.1nm,0.5s,baz=26,slow=6.6,SNR=8.7								
ILAR	Eielson Array	26.62	48	P		P	P	15 29 46.3	+0.9
	comp=E,0.4nm,0.7s,baz=256,slow=7.2,SNR=5.8								
H11N2	WAKE ISLAND Hy 35.55	172		T		T		16 08 28.0	
	baz=355,slow=76,SNR=147								
H11N3	WAKE ISLAND Hy 35.56	172		T		T		16 08 31.0	
	baz=355,slow=76,SNR=95								
H11N1	WAKE ISLAND Hy 35.57	172		T		T		16 08 30.7	
	baz=355,slow=76,SNR=117								
H11S1	WAKE ISLAND Hy 36.75	172		T		T		16 10 05.5	
	baz=352,slow=75								
H11S3	WAKE ISLAND Hy 36.76	172		T		T		16 09 51.6	
	baz=352,slow=75								
H11S2	WAKE ISLAND Hy 36.76	172		T		T		16 10 00.7	
	baz=352,slow=75								
YKA	Yellowknife Ar	40.93	45	P		P	P	15 31 50.1	+1.2
	comp=E,0.5nm,0.6s,baz=298,slow=7.9,SNR=7.2								
SPITS	Spitsbergen Ar	45.29	351	P		P	P	15 32 22.7	-1.1
	comp=E,6.4nm,0.9s,baz=40,slow=9.7,SNR=3.9								
KURK	Kurchatov	47.58	301	P		P	P	15 32 40.1	-2.0
KURK				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KURBB	Kurchatov Arra	47.69	301	P		P	P	15 32 40.1	-2.8
	comp=Z,0.5nm,0.4s,baz=56,slow=7.8,SNR=2.7								
MKAR	Makanchi Array	48.25	295	P		P	P	15 32 45.0	-2.3
	comp=Z,0.3nm,0.7s,baz=57,slow=8.3,SNR=4.1								
MKAR				PcP		PcP	P	15 34 12.9	-0.3
	comp=Z,0.2nm,0.6s,baz=63,slow=3.6,SNR=3.4								
BVAR	Borovoye Array	49.97	308	P		P	P	15 32 58.1	-2.2
	comp=Z,0.3nm,0.3s,baz=50,slow=7.8,SNR=2.8								
BVAR				PcP		PcP	P	15 34 18.1	-1.2
	comp=Z,0.4nm,0.3s,baz=66,slow=4.0,SNR=3.7								
NVAR	Mina Array Bea	54.06	73	P		P	P	15 33 34.2	+3.0
	comp=Z,0.2nm,0.6s,baz=306,slow=7.7,SNR=2.8								
FINES	FINESS Array B	58.66	337	P		P	P	15 34 01.8	-1.4
	comp=Z,0.5nm,0.4s,baz=28,slow=8.4,SNR=8.3								
CMAR	Chiang Mai Arr	59.66	258	P		P	P	15 34 10.4	-0.3
	comp=Z,0.5nm,0.7s,baz=28,slow=7.4,SNR=4.8								
TXAR	Lajitas Array	68.86	69	P		P	P	15 35 12.4	+1.5
	comp=Z,0.2nm,0.4s,baz=298,slow=5.1,SNR=5.1								
WRA	Warramunga Arr	78.40	206	P		P	P	15 36 06.8	+0.3
	comp=Z,0.5nm,0.9s,baz=24,slow=6.2,SNR=3.0								
ASAR	Alice Springs	82.07	206	P		P	P	15 36 27.4	+1.2
	comp=Z,0.3nm,0.7s,baz=20,slow=4.8,SNR=3.8								

MEX 18 15:33:54.5±0.4,14.80N×93.27W,h23km±76km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		0.90	3	eP		P	Pb	15 34 08.5	-3.0
PCIG				eS		S	Sb	15 34 19.9	-3.2
CCIG	Comitan	1.84	36	eP		P	Pn	15 34 22.6	-2.3
CCIG				i S		S	Sn	15 34 44.3	-3.2
TGIG		1.97	4	i P		P	Pn	15 34 24.1	-2.5
TGIG				i S		S	Sn	15 34 47.0	-3.7

ISCJB ***18*** *15:34:38.5±0.9,7.58S±0.07×128.43E±0.09,h100km, mb3.4/3,Error ellipse: s-maj=12.5km s-min=10.1km az=157.0*

IDC ***18*** *15:34:39.5±8.0,7.48S×128.65E,h95km±87km,mb3.1/3, mb1 3.4/7,mb1mx3.2/50,mbtmp3.6/7,ML3.7/4,Error ellipse: s-maj=87.3km s-min=32.8km az=41.0*

ISC 18 15:34:39.9±1.1,7.72S±0.09×128.6E±0.1,h100km,n7, σ2s79/10,mb3.2/3,Banda Sea

| Code

*ISK **18** 15:49:39.9,37.°23N×28.°19E,h7km,MD2.6/3*
*ISCJB **18** 15:49:40.2±0.4,37.°22N±0.°03×28.°20E±0.°04,h0km,Error ellipse: s-maj=5.6km s-min=3.1km az=37.2*
*CSEM **18** 15:49:40.4±0.2,37.°22N×28.°20E,h1km,MD2.6,Error ellipse: s-maj=4.9km s-min=2.7km az=38.0,Suspected Mining explosion.*
*DDA **18** 15:49:40.1,37.°22N×28.°17E,h7km,Ml2.7,Suspected Mining explosion.*

ISC 18 15:49:39.5±0.8, 37.°27N±0.°04×28.°20E±0.°03, h0km, n29, σ0.°68/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.15**	**155**	PG	**Pg**	**15 49 42.8**	**+0.5**
YER				SG	**Sg**	**15 49 45.2**	**+1.0**
YER	**Yerkesik**	**0.15**	**155**	*e*Pg	**Pg**	**15 49 42.8**	**+0.5**
YER				*e*Sg	**Sg**	**15 49 45.2**	**+1.0**
MLSB	**Milas**	**0.34**	**275**	PG	**Pg**	**15 49 46.9**	**+0.9**
MLSB				SG	**Sg**	**15 49 52.0**	**+1.5**
MLSB	**Milas**	**0.34**	**275**	*e*Pg	**Pg**	**15 49 46.9**	**+0.9**
MLSB				*e*Sg	**Sg**	**15 49 52.0**	**+1.5**
AYDN	**Tasoluk**	**0.47**	**327**	*i* P	**Pb**	**15 49 50.2**	**-0.5**
AYDN				*i* S	**Sb**	**15 49 58.0**	**-0.2**
AYDN	**Tasoluk**	**0.47**	**327**	P	**Pb**	**15 49 50.2**	**-0.5**
AYDN				S	**Sb**	**15 49 58.0**	**-0.2**
TURN	**Turunc**	**0.51**	**141**	PG	**Pg**	**15 49 49.2**	**0.0**
TURN				SG	**Sg**	**15 49 56.5**	**+0.8**
TURN	**Turunc**	**0.51**	**141**	*i* P	**Pg**	**15 49 49.1**	**0.0**
TURN	**Turunc**	**0.51**	**141**	*e*Pg	**Pg**	**15 49 49.2**	**0.0**
TURN				*e*Sg	**Sg**	**15 49 56.5**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.58**	**141**	PG	**Pg**	**15 49 51.2**	**+0.7**
DALY	**Dalyan (Mu¨la**	**0.58**	**141**	*e*Pg	**Pg**	**15 49 51.2**	**+0.7**
TAVA	**DENIZLI_Tavas**	**0.60**	**70**	*i* P	**Pb**	**15 49 52.6**	**-0.3**
TAVA				*i* S	**Sb**	**15 50 00.8**	**-1.1**
TAVA	**DENIZLI_Tavas**	**0.60**	**70**	P	**Pb**	**15 49 52.6**	**-0.3**
TAVA				S	**Sb**	**15 50 00.8**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**340**	PG	**Pb**	**15 49 54.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**340**	*e*Pg	**Pb**	**15 49 54.9**	**-0.1**
BODT	**Bodrum**	**0.74**	**254**	PG	**Pg**	**15 49 53.4**	**-0.3**
BODT	**Bodrum**	**0.74**	**254**	*e*Pg	**Pg**	**15 49 53.4**	**-0.3**
GCAM	**G?zelcaml?**	**0.89**	**300**	PG	**Pb**	**15 49 57.4**	**-0.3**
GCAM	**G?zelcaml?**	**0.89**	**300**	*i* P	**Pn**	**15 49 58.8**	**-0.4**
GCAM				*i* S	**Sn**	**15 50 11.9**	**-0.8**
GCAM	**G?zelcaml?**	**0.89**	**300**	*e*Pg	**Pb**	**15 49 57.4**	**-0.3**
GCAM	**G?zelcaml?**	**0.89**	**300**	P	**Pn**	**15 49 58.8**	**-0.4**
GCAM				S	**Sn**	**15 50 11.9**	**-0.8**
FETY	**Fethiye**	**0.95**	**132**	PG	**Pg**	**15 49 58.3**	**+0.7**
FETY	**Fethiye**	**0.95**	**132**	*e*Pg	**Pg**	**15 49 58.3**	**+0.7**
KULA	**Kula-Manisa**	**1.30**	**16**	PN	**Pn**	**15 50 05.4**	**+0.4**
KULA	**Kula-Manisa**	**1.30**	**16**	*e*Pn	**Pn**	**15 50 05.4**	**+0.4**
AKAS	**Kas**	**1.53**	**132**	PN	**Pn**	**15 50 08.1**	**-0.1**
AKAS	**Kas**	**1.53**	**132**	*e*Pn	**Pn**	**15 50 08.1**	**-0.1**
KARP	**Karpathos**	**1.91**	**206**	PN	**Pn**	**15 50 13.1**	**-0.3**
KARP	**Karpathos**	**1.91**	**206**	*e*Pn	**Pn**	**15 50 13.1**	**-0.3**

JMA 18 15:50:03.6±0.3, 40.°74N×145.°00E, h51km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.88**	**313**	P	Pn	15 50 35.0	+1.7
JEM				*e*S	Sn	15 50 55.1	-0.8
JCH	**Churui**	**2.24**	**327**	P	Pn	15 50 38.7	+0.5
JCH				*e*S	Sn	15 51 03.6	-1.0
JAK	**Akkeshi**	**2.27**	**354**	*e*S	Sn	15 51 05.0	-0.3
JNBK	**Urakawa-nobuka**	**2.28**	**313**	P	Pn	15 50 40.7	+1.9
JNBK				*e*S	Sn	15 51 06.9	+1.2
JOB	**Onbets**	**2.33**	**338**	P	Pn	15 50 41.2	+1.8
JOB				S	Sn	15 51 07.2	+0.3
JANG	**Nango**	**2.68**	**263**	P	Pn	15 50 44.6	+0.3
NEM2	**Nemuro 2**	**2.68**	**12**	P	Pn	15 50 44.6	+0.4
JAR	**Ashorobuto**	**2.71**	**341**	P	Pn	15 50 45.3	+0.6
JAR				*e*S	Sn	15 51 15.4	-0.9
JBT2	**Biratori 2**	**2.83**	**317**	P	Pn	15 50 49.5	+3.1
JBT2				*e*S	Sn	15 51 20.5	+1.2
JTM	**Tenmabayashi**	**2.99**	**272**	P	Pn	15 50 49.9	+1.5
JTM				S	Sn	15 51 22.0	-1.0
JFR	**Furan**	**3.01**	**324**	P	Pn	15 50 49.9	+1.1
JOT	**Ohata**	**3.06**	**283**	S	Sn	15 51 23.3	-1.4
JOM	**Ohasama**	**3.11**	**247**	P	Pn	15 50 51.5	+1.3
JOM				*e*S	Sn	15 51 25.8	-0.3
JTKR	**Abashiri--Toko**	**3.33**	**346**	P	Pn	15 50 55.1	+2.0
JTKR				*e*S	Sn	15 51 31.4	0.0
JAH	**Hinai**	**3.38**	**262**	P	Pn	15 50 55.5	+1.7
JAH				S	Sn	15 51 32.2	-0.3
JEW	**Eniwo**	**3.38**	**309**	*e*S	Sn	15 51 32.8	0.0
JMK	**Ichinoseki**	**3.41**	**240**	P	Pn	15 50 55.7	+1.4
JMK				*e*S	Sn	15 51 32.3	-1.2
JRG	**Rokugo**	**3.61**	**250**	P	Pn	15 50 59.0	+2.0
JRG				S	Sn	15 51 39.6	+1.3

*IDC **18** 15:58:11.3±0.9,21.°64N×119.°68E,h0km,mb3.6/10, mb1 3.8/10,mb1mx3.5/61,mbtmp3.6/10,MS2.9/5, Ms1 3.0/5,ms1mx2.6/57,Error ellipse: s-maj=33.1km s-min=17.3km az=66.0*
*TAP **18** 15:58:15.4,21.°77N×119.°73E,h59km±1km,ML4.6,D*

ISC 18 15:58:15.2±2.4, 21.°73N±0.°06×119.°65E±0.°06, h27km±16km, n89, σ1.°33/148, mb3.6/10, MS3.2/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWP	**Hsiaoliuchiu**	**0.90**	**47**	*i* P	**Pn**	**15 58 31.8**	**-0.2**
TWP	baz=45			*i* S	**Sb**	**15 58 44.1**	**+0.3**
WLCH	**Liuqiu**	**0.91**	**48**	P	**Pn**	**15 58 32.2**	**0.0**
WLCH	baz=46			S	**Sb**	**15 58 44.9**	**+0.7**
KAU	**Kaohsiung**	**1.03**	**36**	*e*P	**Pn**	**15 58 33.9**	**0.0**
KAU	baz=34			S	**Sn**	**15 58 47.4**	**0.0**
HEN	**Hengchun**	**1.04**	**75**	P	**Pn**	**15 58 34.0**	**-0.1**
HEN	baz=76			S	**Sb**	**15 58 47.6**	**-0.4**
WSSB	**Gushan**	**1.06**	**32**	*e*P	**Pn**	**15 58 34.3**	**-0.1**
WSSB	baz=29			*e*S	**Sn**	**15 58 47.7**	**-0.6**
TWK1	**Hengchun**	**1.09**	**79**	*i* P	**Pn**	**15 58 34.4**	**-0.3**
TWK1	baz=80			S	**Sn**	**15 58 48.1**	**-0.9**
SCZT	**Fangliau**	**1.10**	**55**	*i* P	**Pn**	**15 58 34.2**	**-0.7**
SCZT	baz=54			S	**Sn**	**15 58 47.5**	**-1.7**
TSEB	**Hengchuen, Pin**	**1.17**	**82**	*e*P	**Pn**	**15 58 34.9**	**-1.0**
TSEB	baz=82			*e*S	**Sn**	**15 58 49.4**	**-1.5**
SGLT	**Jiouru**	**1.26**	**38**	P	**Pn**	**15 58 37.4**	**+0.4**
SGLT	baz=36			*e*S	**Sb**	**15 58 54.0**	**-0.1**
EAST	**Anshuo**	**1.28**	**60**	*i* P	**Pn**	**15 58 36.9**	**-0.5**
EAST	baz=59			*e*S	**Sn**	**15 58 52.0**	**-1.8**
TWM1	**Shoushan**	**1.30**	**33**	*e*P	**Pn**	**15 58 38.0**	**+0.4**
TWM1	baz=31			*e*S	**Sb**	**15 58 55.3**	**0.0**
TAW	**Tawu**	**1.31**	**62**	P	**Pn**	**15 58 37.1**	**-0.6**
TAW	baz=61			*e*S	**Sn**	**15 58 52.4**	**-2.0**
SSD	**Sandimen**	**1.36**	**42**	*i* P	**Pn**	**15 58 38.0**	**-0.4**
SSD	baz=40			*e*S	**Sn**	**15 58 53.4**	**-2.1**
TAI1	**Yung-k'ang**	**1.40**	**22**	*e*S	**Sn**	**15 58 56.2**	**-0.4**
ECL	**Taimali**	**1.48**	**54**	*i* P	**Pn**	**15 58 39.6**	**-0.5**
ECL	baz=54			*e*S	**Sn**	**15 58 55.7**	**-2.9**
CHN3	**Shinhua**	**1.49**	**26**	*e*P	**Pn**	**15 58 40.4**	**+0.2**
CHN3	baz=24			*e*S	**Sn**	**15 58 58.5**	**-0.3**
WDGT	**Dungji**	**1.52**	**0**	*e*P	**Pn**	**15 58 39.1**	**-1.5**
WDGT	baz=357			*e*S	**Sn**	**15 58 56.5**	**-3.0**
SCLT	**Jiali**	**1.52**	**19**	*e*P	**Pn**	**15 58 40.5**	**-0.1**
SCLT	baz=17			*e*S	**Sn**	**15 58 58.6**	**-0.9**
SLGT	**Liugui**	**1.56**	**36**	*e*P	**Pn**	**15 58 40.9**	**-0.2**
SLGT	baz=34			*e*S	**Sn**	**15 58 58.5**	**-1.9**
SGST	**Jiashian**	**1.59**	**33**	P	**Pn**	**15 58 41.8**	**+0.1**
SGST	baz=31			*e*S	**Sn**	**15 58 59.7**	**-1.7**
CHN1	**Nanshi**	**1.66**	**29**	*e*P	**Pn**	**15 58 42.3**	**-0.2**
CHN1	baz=27			*e*S	**Sn**	**15 59 00.8**	**-2.2**
TWG	**Pinlang**	**1.70**	**50**	*i* P	**Pn**	**15 58 43.2**	**+0.1**
TWG	baz=50			S	**Sn**	**15 59 02.2**	**-1.9**
TTN	**Taitung**	**1.72**	**54**	*e*P	**Pn**	**15 58 44.1**	**+0.7**
TTN	baz=53			*e*S	**Sn**	**15 59 05.2**	**+0.8**
WTP	**Ta-pu**	**1.75**	**30**	*e*P	**Pn**	**15 58 43.6**	**-0.3**
WTP	baz=29			*e*S	**Sn**	**15 59 03.5**	**-1.7**
STYT	**Tauyuan**	**1.75**	**36**	*e*P	**Pn**	**15 58 43.5**	**-0.4**
LAY	**Lan-yu**	**1.79**	**80**	*e*P	**Pn**	**15 58 42.8**	**-1.6**
PNG	**Penghu**	**1.83**	**357**	*e*P	**Pn**	**15 58 43.4**	**-1.4**
PNG	baz=355			*e*S	**Sn**	**15 59 04.7**	**-2.4**
WLGB	**Puzi**	**1.83**	**19**	P	**Pn**	**15 58 44.2**	**-0.8**
WLGB	baz=17			S	**Sn**	**15 59 05.6**	**-1.7**
CHY	**Chiayi**	**1.89**	**22**	*e*P	**Pn**	**15 58 45.1**	**-0.7**
CHY	baz=20			*e*S	**Sn**	**15 59 06.5**	**-2.3**
ELDTW	**Lidau**	**1.92**	**41**	*e*P	**Pn**	**15 58 46.1**	**-0.2**
ELDTW	baz=40			*e*S	**Sn**	**15 59 07.8**	**-1.8**
CHN2	**Minshiung**	**1.94**	**23**	*e*P	**Pn**	**15 58 46.3**	**-0.2**
CHN2	baz=21			*e*S	**Sn**	**15 59 08.6**	**-1.4**
TWH	**Lutao**	**1.95**	**60**	*e*P	**Pn**	**15 58 45.4**	**-1.2**
TWH	baz=60			*e*S	**Sn**	**15 59 07.2**	**-2.9**
WSF	**Szhu**	**1.97**	**15**	*e*P	**Pn**	**15 58 46.0**	**-0.8**
WSF	baz=13			*e*S	**Sn**	**15 59 09.1**	**-1.4**
ALS	**Alishan**	**2.06**	**31**	*e*P	**Pn**	**15 58 48.3**	**-0.1**
ALS	baz=30			*e*S	**Sn**	**15 59 11.2**	**-2.2**
CHN5	**Tsauling**	**2.08**	**27**	P	**Pn**	**15 58 48.1**	**-0.4**
CHN5	baz=25			*e*S	**Sn**	**15 59 11.7**	**-1.9**
CHKT	**Chengkung**	**2.09**	**49**	*e*P	**Pn**	**15 58 48.8**	**+0.3**
CHKT	baz=48			*e*S	**Sn**	**15 59 12.5**	**-1.1**
FULB	**Fuli**	**2.10**	**46**	P	**Pn**	**15 58 49.3**	**+0.5**
FULB	baz=45			*e*S	**Sn**	**15 59 14.1**	**+0.1**
WDLH	**Douliu**	**2.11**	**23**	P	**Pn**	**15 58 48.2**	**-0.6**
WDLH	baz=21			*e*S	**Sn**	**15 59 11.7**	**-2.5**
WGK	**Gukeng**	**2.12**	**23**	P	**Pn**	**15 58 48.6**	**-0.3**
WGK	baz=22			S	**Sn**	**15 59 12.8**	**-1.4**
YUS	**Yu-Shan**	**2.12**	**34**	*e*P	**Pn**	**15 58 49.1**	**-0.2**
YUS	baz=33			*e*S	**Sn**	**15 59 13.1**	**-1.9**
WTCT	**Ta-ch'eng**	**2.20**	**15**	*e*P	**Pn**	**15 58 49.5**	**-0.4**
WTCT	baz=13			*e*S	**Sn**	**15 59 15.0**	**-1.2**
TWF1	**Yuli**	**2.21**	**43**	P	**Pn**	**15 58 50.5**	**+0.3**
TWF1	baz=42			*e*S	**Sn**	**15 59 14.9**	**-1.8**
WJS	**Zhushan**	**2.30**	**25**	*e*P	**Pn**	**15 58 51.1**	**-0.3**
WJS	baz=24			*e*S	**Sn**	**15 59 16.4**	**-2.4**
WNT	**Mingjian**	**2.34**	**24**	*e*P	**Pn**	**15 58 51.6**	**-0.3**
WNT	baz=22			*e*S	**Sn**	**15 59 17.9**	**-1.8**
EHY	**Hungye**	**2.34**	**41**	*e*P	**Pn**	**15 58 52.5**	**+0.5**
EHY	baz=40			*e*S	**Sn**	**15 59 18.0**	**-1.9**
SMLT	**Sun Moon Lake**	**2.43**	**28**	*e*P	**Pn**	**15 58 53.2**	**0.0**
SMLT	baz=27			*e*S	**Sn**	**15 59 20.8**	**-1.4**
TYC	**Yuchr**	**2.43**	**27**	*e*P	**Pn**	**15 58 53.0**	**-0.1**
TYC	baz=26			*e*S	**Sn**	**15 59 20.8**	**-1.2**
WCHH	**Zhanghua**	**2.48**	**20**	*e*P	**Pn**	**15 58 53.9**	**+0.1**
WCHH	baz=18			*e*S	**Sn**	**15 59 22.6**	**-0.7**
EGFH	**Guangfu**	**2.53**	**40**	*e*P	**Pn**	**15 58 54.7**	**+0.2**
EGFH	baz=39			*e*S	**Sn**	**15 59 22.8**	**-1.7**
DPDB	**Guoxing**	**2.57**	**27**	*e*P	**Pn**	**15 58 55.0**	**-0.2**
DPDB	baz=26			*e*S	**Sn**	**15 59 23.8**	**-1.9**
TCU	**Taichung**	**2.58**	**21**	*e*P	**Pn**	**15 58 55.4**	**+0.1**
TCU	baz=20			*e*S	**Sn**	**15 59 23.7**	**-2.0**
OWD	**Renai**	**2.62**	**32**	*e*P	**Pn**	**15 58 56.4**	**+0.5**
OWD	baz=31			*e*S	**Sn**	**15 59 25.0**	**-1.9**
ESL	**Shilin**	**2.64**	**38**	*e*P	**Pn**	**15 58 56.2**	**+0.1**
ESL	baz=37			*e*S	**Sn**	**15 59 25.9**	**-1.4**
TWQ1	**Liyutan**	**2.80**	**21**	P	**Pn**	**15 58 58.8**	**+0.5**
TWQ1	baz=20			*e*S	**Sn**	**15 59 29.5**	**-1.7**
WHF	**Hehuan Shan**	**2.82**	**31**	*e*P	**Pn**	**15 58 59.6**	**+0.6**
WHF	baz=31			*e*S	**Sn**	**15 59 32.0**	**-0.3**
TWT	**Tachien**	**2.87**	**29**	*e*S	**Sn**	**15 59 32.1**	**-1.2**
KNM	**Kinmen**	**2.90**	**337**	*e*P	**Pn**	**15 58 58.9**	**-0.7**
TWD	**Chiawan**	**2.94**	**37**	*e*P	**Pn**	**15 59 00.2**	**0.0**
TWD	baz=36			*e*S	**Sn**	**15 59 31.9**	**-2.8**
NMLH	**Miaoli**	**2.98**	**20**	*e*S	**Sn**	**15 59 35.3**	**-0.3**
NNSH	**Datong**	**3.12**	**30**	*e*P	**Pn**	**15 59 03.5**	**+0.8**
NNSH	baz=29			*e*S	**Sn**	**15 59 34.6**	**-4.6**
NNS	**Nan Shan**	**3.12**	**30**	*e*P	**Pn**	**15 59 04.2**	**+1.4**
NNS	baz=29			*e*S	**Sn**	**15 59 36.9**	**-2.4**
NSTT	**Nanjuang**	**3.14**	**23**	*e*P	**Pn**	**15 59 02.5**	**-0.4**
NSTT	baz=22			*e*S	**Sn**	**15 59 37.8**	**-1.7**
LIOB	**Emei**	**3.16**	**23**	*e*P	**Pn**	**15 59 02.7**	**-0.5**
LIOB	baz=22			*e*S	**Sn**	**15 59 38.2**	**-1.8**
ENA	**Nanau**	**3.30**	**35**	*e*P	**Pn**	**15 59 05.3**	**+0.2**
ENTT	**Nioudou**	**3.39**	**31**	*e*P	**Pn**	**15 59 07.8**	**+1.4**
WLTB	**Daxi**	**3.44**	**25**	*e*S	**Sn**	**15 59 45.9**	**-0.9**
NWLT	**Wulai**	**3.47**	**29**	*e*P	**Pn**	**15 59 08.0**	**+0.5**
TWE	**Neicheng**	**3.50**	**32**	*e*P	**Pn**	**15 59 09.6**	**+1.7**
TWE	baz=31			*e*S	**Sn**	**15 59 48.2**	**-0.3**
TWC	**Suao**	**3.50**	**35**	*e*P	**Pn**	**15 59 09.3**	**+1.4**
SLBB	**Yuanshan**	**3.52**	**31**	*e*P	**Pn**	**15 59 09.5**	**+1.3**
SLBB	baz=30			*e*S	**Sn**	**15 59 48.9**	**0.0**
TWA	**Mucha**	**3.69**	**28**	*e*P	**Pn**	**15 59 10.8**	**+0.3**
TWA	baz=28			*e*S	**Sn**	**15 59 50.8**	**-2.2**
TWS1	**Kuangyinshan**	**3.72**	**25**	*e*P	**Pn**	**15 59 10.9**	**0.0**
TWS1	baz=25			*e*S	**Sn**	**15 59 51.9**	**-2.0**
TIPB	**Shuangxi**	**3.79**	**31**	P	**Pn**	**15 59 11.8**	**-0.1**
TIPB	baz=31			*e*S	**Sn**	**15 59 53.8**	**-1.8**
YM10	**YM10**	**3.83**	**27**	*e*P	**Pn**	**15 59 12.4**	**-0.1**
YM10	baz=26			*e*S	**Sn**	**15 59 54.2**	**-2.4**
YM03	**YM03**	**3.84**	**26**	*e*S	**Sn**	**15 59 54.1**	**-2.8**
DAV	**Davao City (W)** comp=Z,28nm,19.4s,baz=87,slow=43	**15.66**	**158**	LR	LR	16 09 19.2	
KSRS	**Korea Array** comp=Z,20nm,18.9s,baz=180,slow=42	**17.22**	**23**	LR	LR	16 10 10.2	
MJAR	**Matsushiro Arr** 0.6nm,0.6s,baz=226,slow=8.0,SNR=4.7	**21.86**	**43**	P	**P**	**16 03 06.7**	**+0.8**
MJAR	comp=Z,29nm,18.7s,baz=135,slow=41			LR	LR	16 13 06.1	
SONM	**Songino Array** 0.9nm,0.7s,baz=164,slow=10,SNR=8.4	**28.14**	**341**	P	**P**	**16 04 05.9**	**+0.7**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=112,slow=11,SNR=6.7	**39.17**	**319**	P	**P**	**16 05 41.8**	**+1.0**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=119,slow=11,SNR=5.1	**41.58**	**329**	P	**P**	**16 06 00.6**	**+0.1**
AAK	**Ala-Archa** comp=Z,30nm,18.6s,baz=124,slow=37	**42.92**	**310**	LR	LR	16 24 35.5	
KURBB	**Kurchatov Arra** 2.2nm,0.8s,baz=124,slow=7.5,SNR=22	**43.12**	**322**	P	**P**	**16 06 14.2**	**+1.1**
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=342,slow=9.1,SNR=4.2	**43.84**	**160**	P	**P**	**16 06 18.0**	**-1.3**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=343,slow=7.0,SNR=22	**47.21**	**162**	P	**P**	**16 06 45.5**	**-0.4**
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=118,slow=9.4,SNR=4.3	**48.71**	**322**	P	**P**	**16 06 58.3**	**+1.1**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=285,slow=4.6,SNR=3.8	**72.03**	**27**	P	**P**	**16 09 37.6**	**+1.1**
NOA	**NORSAR Array B** comp=Z,14nm,20.4s,baz=25,slow=37	**79.72**	**332**	LR	LR	16 47 41.2	
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=318,slow=4.3,SNR=3.9	**85.76**	**22**	P	**P**	**16 10 52.1**	**+0.3**

*ISCJB **18** 15:59:59.3±0.2,45.°81N±0.°01×10.°98E±0.°01,h12km±1km, Error ellipse: s-maj=1.8km s-min=1.5km az=179.9*
*ZUR **18** 16:00:00.6,45.°79N×10.°96E,h2km,ML3.3/14*
*ROM **18** 16:00:00.7±0.1,45.°78N×11.°00E,h11km,Ml3.2/47,Error ellipse: s-maj=0.8km s-min=0.7km az=92.0*
*CSEM **18** 16:00:00.1±0.1,45.°79N×11.°01E,h5km,ML3.6/27,Error ellipse: s-maj=1.9km s-min=1.5km az=172.0*
*PRU **18** 16:00:01.0,45.°81N×11.°09E,h7km*
*LDG **18** 16:00:01.4±0.1,45.°81N×11.°02E,h2km,Ml3.1/16,Error ellipse: s-maj=2.6km s-min=2.2km az=116.0*
*BGR **18** 16:00:04.0±0.4,45.°90N×11.°03E,h10km,ML3.2/15,Error ellipse: s-maj=4.4km s-min=2.2km az=4.0*
*STR **18** 16:00:05.2±0.6,45.°85N±0.°03×10.°68E±0.°08,h10km, MLv3.2/12*

ISC 18 16:00:00.7±0.8, 45.°79N±0.°01×10.°98E±0.°01, h15km±4km, n326, σ1.°23/478, 10C-23D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALD	**Monte Baldo**	**0.15**	**228**	*e*Pg	**Pg**	**16 00 04.6**	**-0.3**
BALD	**Monte Baldo**	**0.15**	**228**⇑	*e*Pg	**Pg**	**16 00 04.6**	**-0.3**
BALD				*e*Sg	**Sg**	**16 00 07.4**	**-0.2**
ROVR	**Rover¯¤ Verone**	**0.15**	**156**⇑	*i*Pg	**Pg**	**16 00 04.3**	**-0.5**
ROVR	28μm,0.2s			Sg	**Sg**	**16 00 06.7**	**-0.8**
ROVR	**Rover¯¤ Verone**	**0.15**	**156**⇑	*i*Pg	**Pg**	**16 00 04.3**	**-0.5**
ROVR	28μm,0.2s			Sg	**Sg**	**16 00 06.7**	**-0.8**
MARN	**Marana (Italy)**	**0.22**	**133**	*e*Pg	**Pg**	**16 00 05.3**	**-0.4**
MARN	**Marana (Italy)**	**0.22**	**133**⇓	*e*Pg	**Pg**	**16 00 05.3**	**-0.4**
MARN				*e*Sg	**Sg**	**16 00 08.4**	**-0.6**
MAGA	**Magasa**	**0.25**	**267**	Pg	**Pg**	**16 00 06.1**	**-0.1**
MAGA	13μm,0.4s			Sg	**Sg**	**16 00 10.0**	**+0.1**
MAGA	**Magasa**	**0.25**	**267**	Pg	**Pg**	**16 00 06.1**	**-0.1**
MAGA	13μm,0.4s			Sg	**Sg**	**16 00 10.0**	**+0.1**
RNI	**Roncone**	**0.32**	**308**⇓	*e*Pg	**Pg**	**16 00 06.3**	**-1.1**
RNI				*e*Sg	**Sg**	**16 00 11.7**	**-0.3**
PANI	**Panarotta**	**0.36**	**43**⇓	*e*Pg	**Pg**	**16 00 07.0**	**-1.1**
PANI				*e*Sg	**Sg**	**16 00 11.8**	**-1.4**
SALO	**Salr** 2μm,0.3s	**0.36**	**242**⇑	*i*Pg	**Pg**	**16 00 08.0**	**-0.1**
SALO	**Salr** 2μm,0.3s	**0.36**	**242**⇑	*i*Pg	**Pg**	**16 00 08.0**	**-0.1**
SALO				Sg	**Sg**	**16 00 13.6**	**+0.4**
SALO	**Salr** 2μm,0.3s	**0.36**	**242**	Pg	**Pg**	**16 00 08.1**	**-0.1**
SALO				Sg	**Sg**	**16 00 13.6**	**+0.4**
MABI	**Malga Bissina** 2μm,0.2s	**0.42**	**309**⇓	*i*Pg	**Pg**	**16 00 08.9**	**-0.3**
MABI	2μm,0.2s			*e*Sg	**Sg**	**16 00 14.9**	**-0.2**
MABI	**Malga Bissina** 458nm,0.3s	**0.42**	**309**	Pg	**Pg**	**16 00 08.9**	**-0.3**
MABI				Sg	**Sg**	**16 00 14.8**	**-0.3**
MABI	**Malga Bissina** 458nm,0.3s	**0.42**	**309**	Pg	**Pg**	**16 00 08.9**	**-0.3**
MABI				Sg	**Sg**	**16 00 14.8**	**-0.3**
CTI	**Castel Tesino**	**0.53**	**61**	Pg	**Pg**	**16 00 11.0**	**-0.3**
CTI				Sg	**Sg**	**16 00 18.0**	**-0.4**
CTI	**Castel Tesino**	**0.53**	**61**	Pg	**Pg**	**16 00 11.0**	**-0.3**
CTI				Sg	**Sg**	**16 00 18.0**	**-0.4**
CGRP	**Cima Grappa** 3μm,0.3s	**0.58**	**81**	*e*Pg	**Pg**	**16 00 11.6**	**-0.5**
CGRP	3μm,0.3s			*e*Sg	**Sg**	**16 00 19.4**	**-0.5**
CGRP	**Cima Grappa** 965nm,0.3s	**0.58**	**81**⇓	*i*Pg	**Pg**	**16 00 11.9**	**-0.2**
CGRP				Sg	**Sg**	**16 00 19.3**	**-0.6**
CGRP	**Cima Grappa** 965nm,0.3s	**0.58**	**81**⇓	*i*Pg	**Pg**	**16 00 11.9**	**-0.2**
CGRP				Sg	**Sg**	**16 00 19.3**	**-0.6**
CGRP	**Cima Grappa**	**0.58**	**81**⇓	*e*Pg	**Pg**	**16 00 11.9**	**-0.2**
CGRP				*e*Sg	**Sg**	**16 00 19.3**	**-0.6**
OZOL	**Ozolo**	**0.62**	**4**	*e*Pg	**Pg**	**16 00 11.6**	**-1.3**
OZOL				*e*Sg	**Sg**	**16 00 21.0**	**-0.1**
OZOL	**Ozolo**	**0.62**	**4**⇑	*e*Pg	**Pg**	**16 00 11.6**	**-1.3**
OZOL				*e*Sg	**Sg**	**16 00 21.0**	**-0.1**
TEOL	**Teolo**	**0.65**	**131**	Pg	**Pg**	**16 00 13.0**	**-0.3**
TEOL	1μm,0.4s			Sg	**Sg**	**16 00 21.7**	**-0.2**
TEOL	**Teolo**	**0.65**	**131**	Pg	**Pg**	**16 00 13.0**	**-0.3**
TEOL				Sg	**Sg**	**16 00 21.7**	**-0.2**

	1µm,0.4s										
TEOL	**Teolo**	**0.65**	**131**	*e*Pg	**Pg**	**16 00 12.9**	**-0.3**	WTTA			Sn	**Sb**	**16 00 49.4**	**+0.9**
CARE	**Lago del Cares**	**0.67**	**343**	*e*Pg	**Pg**	**16 00 12.8**	**-1.1**		51nm,0.3s					
CARE	**Lago del Cares**	**0.67**	**343⇓**	*e*Pg	**Pg**	**16 00 12.8**	**-1.1**	**MOTA**	**Moosalm**	**1.56**	**3**	Pg	**Pb**	**16 00 29.9**	**+0.6**
APPI	**Appiano**	**0.71**	**14**	Pg	**Pg**	**16 00 14.4**	**-0.2**		9.8nm,0.3s,SNR=70						
APPI				Sg	**Sg**	**16 00 23.9**	**-0.1**	MOTA			Sg	**Sg**	**16 00 51.2**	**+0.2**
	1µm,0.3s								64nm,0.3s						
APPI	**Appiano**	**0.71**	**14**	Pg	**Pg**	**16 00 14.4**	**-0.2**	**MOTA**	**Moosalm**	**1.56**	**3**	*e*Pg	**Pb**	**16 00 29.9**	**+0.6**
APPI				Sg	**Sg**	**16 00 23.9**	**-0.1**		9.8nm,0.3s,SNR=70						
	1µm,0.3s							MOTA			Sg	**Sg**	**16 00 51.2**	**+0.2**
KOSI	**Kohlern**	**0.73**	**22⇓**	*i*Pg	**Pg**	**16 00 14.8**	**-0.1**		64nm,0.3s						
	2µm,0.2s							**BOO**	**Bordano**	**1.57**	**69**	*e*Pg	**Pn**	**16 00 28.2**	**+0.2**
KOSI	**Kohlern**	**0.73**	**22**	Pg	**Pg**	**16 00 14.8**	**-0.1**	**BOO**	**Bordano**	**1.57**	**69**	*e*Pg	**Pn**	**16 00 28.2**	**+0.2**
KOSI				Sg	**Sg**	**16 00 24.9**	**+0.3**	**GEPF**	**Gemona**	**1.58**	**71**	Pg	**Pn**	**16 00 28.6**	**+0.5**
	475nm,0.3s								311nm,0.5s						
KOSI	**Kohlern**	**0.73**	**22**	Pg	**Pg**	**16 00 14.8**	**-0.1**	**GEPF**	**Gemona**	**1.58**	**71**	Pg	**Pn**	**16 00 28.6**	**+0.5**
KOSI				Sg	**Sg**	**16 00 24.9**	**+0.3**		311nm,0.5s						
	475nm,0.3s							**ZOU**	**Zoufplan**	**1.58**	**60**	*e*Pg	**Pn**	**16 00 29.4**	**+1.0**
BOSI	**Bolzano**	**0.74**	**18**	Pg	**Pg**	**16 00 15.2**	**0.0**	**ZOU**	**Zoufplan**	**1.58**	**60**	*e*Pg	**Pn**	**16 00 29.4**	**+1.0**
	1µm,0.6s							**ZOU**	**Zoufplan**	**1.58**	**60**	*e*Pg	**Pn**	**16 00 29.4**	**+1.0**
BOSI	**Bolzano**	**0.74**	**18**	Pg	**Pg**	**16 00 15.2**	**0.0**	**WATA**	**Walderalm**	**1.60**	**15**	Pg	**Pn**	**16 00 29.8**	**+1.2**
	1µm,0.6s								1.3nm,0.2s,SNR=92						
MTLO	**Montello**	**0.78**	**88**	*e*Pg	**Pg**	**16 00 15.9**	**+0.1**	WATA			Sn	**Sb**	**16 00 51.0**	**+0.9**
MTLO	**Montello**	**0.78**	**88⇓**	*e*Pg	**Pg**	**16 00 15.9**	**+0.1**		49nm,0.2s						
BRMO	**Bormio**	**0.81**	**329**	Pg	**Pg**	**16 00 16.2**	**-0.2**	**WATA**	**Walderalm**	**1.60**	**15**	*e*Pg	**Pn**	**16 00 29.8**	**+1.2**
BRMO				Sg	**Sg**	**16 00 26.9**	**-0.2**		1.3nm,0.2s,SNR=92						
	564nm,0.2s							WATA			Sn	**Sb**	**16 00 51.0**	**+0.9**
BRMO	**Bormio**	**0.81**	**329**	Pg	**Pg**	**16 00 16.2**	**-0.2**		49nm,0.2s						
BRMO				Sg	**Sg**	**16 00 26.9**	**-0.2**	**FNVD**	**Fontana Vidola**	**1.62**	**176**	Pg	**Pb**	**16 00 30.7**	**+0.3**
	564nm,0.2s								140nm,0.3s						
VARN	**Col Varnada, M**	**0.81**	**75**	*e*Pg	**Pg**	**16 00 15.7**	**-0.7**	**FNVD**	**Fontana Vidola**	**1.62**	**176**	Pg	**Pb**	**16 00 30.7**	**+0.3**
VARN	**Col Varnada, M**	**0.81**	**75**	*e*Pg	**Pg**	**16 00 15.7**	**-0.7**		140nm,0.3s						
MOSI	**Grossmontoni**	**0.88**	**340⇓**	*i*Pn	**Pg**	**16 00 17.8**	**0.0**	**BAD**	**Bernadia**	**1.64**	**73**	*e*Pg	**Pn**	**16 00 29.4**	**+0.4**
	6µm,0.3s							**BAD**	**Bernadia**	**1.64**	**73**	*e*Pg	**Pn**	**16 00 29.4**	**+0.4**
MOSI	**Grossmontoni**	**0.88**	**340⇓**	*i*P	**Pg**	**16 00 17.8**	**0.0**	**VINO**	**Villanova**	**1.67**	**73**	*e*Pg	**Pn**	**16 00 29.5**	**+0.1**
MOSI	**Grossmontoni**	**0.88**	**340⇓**	*i*Pg	**Pg**	**16 00 17.8**	**0.0**	**VINO**	**Villanova**	**1.67**	**73**	Pg	**Pn**	**16 00 29.6**	**+0.1**
	1µm,0.3s								228nm,0.7s						
MDI	**Monti di Nese**	**0.89**	**270**	Pg	**Pg**	**16 00 17.5**	**-0.4**	**VINO**	**Villanova**	**1.67**	**73**	*e*Pg	**Pn**	**16 00 29.6**	**+0.1**
	219nm,0.2s							**PLONS**	**Plons/SG**	**1.68**	**319**	*e*Pn	**Pn**	**16 00 26.6**	**-3.0**
MDI	**Monti di Nese**	**0.89**	**270**	Pg	**Pg**	**16 00 17.5**	**-0.4**		254nm,0.5s						
	219nm,0.2s							**PLONS**	**Plons/SG**	**1.68**	**319**	*e*Pn	**Pb**	**16 00 32.1**	**+0.8**
AGOR	**Agordo**	**0.89**	**56**	Pg	**Pb**	**16 00 17.8**	**-0.1**	PLONS			eSg	**Sb**	**16 00 54.3**	**+2.0**
	479nm,0.4s							**PLONS**	**Plons/SG**	**1.68**	**319**	*e*P	**Pb**	**16 00 31.7**	**+0.4**
AGOR	**Agordo**	**0.89**	**56**	*e*Pg	**Pb**	**16 00 17.8**	**-0.1**	**PLONS**	**Plons/SG**	**1.68**	**319**	Pn	**Pb**	**16 00 32.1**	**+0.8**
BERNI	**Berninapass**	**0.92**	**313**	*e*Pn	**Pg**	**16 00 17.8**	**-0.7**	PLONS			Sg	**Sb**	**16 00 54.3**	**+2.0**
	602nm,0.4s							**PLONS**	**Plons/SG**	**1.68**	**319**	Pg	**Pb**	**16 00 31.7**	**+0.4**
BERNI	**Berninapass**	**0.92**	**313**	*e*P	**Pg**	**16 00 18.0**	**-0.5**		85nm,0.6s						
BERNI	**Berninapass**	**0.92**	**313**	Pg	**Pg**	**16 00 18.0**	**-0.5**	**DAVA**	**Damuels**	**1.68**	**334**	*e*Pn	**Pb**	**16 00 32.2**	**+0.8**
	183nm,0.5s							DAVA			*e*Pg	**Pg**	**16 00 34.7**	**+1.7**
ABSI	**Aberstueckl**	**0.97**	**14**	*i*Pn	**Pb**	**16 00 18.0**	**-1.3**	DAVA			eSg	**Sg**	**16 00 54.9**	**+0.1**
	5µm,0.3s							**DAVA**	**Damuels**	**1.68**	**334**	Pn	**Pb**	**16 00 32.2**	**+0.8**
ABSI	**Aberstueckl**	**0.97**	**14⇓**	*i*P	**Pb**	**16 00 19.1**	**-0.2**	**DAVA**	**Damuels**	**1.68**	**334**	Pg	**Pb**	**16 00 32.1**	**+0.7**
ABSI	**Aberstueckl**	**0.97**	**14**	Pg	**Pb**	**16 00 19.1**	**-0.2**		24nm,0.3s,SNR=35						
	831nm,0.3s							DAVA			*e*Sg	**Sg**	**16 00 54.8**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**0.97**	**329⇓**	*i*Pn	**Pb**	**16 00 19.0**	**-0.4**		87nm,0.4s						
	1µm,0.2s							**VLC**	**Villacollemand**	**1.68**	**195**	Pg	**Pb**	**16 00 31.2**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**0.97**	**329⇓**	*i*P	**Pb**	**16 00 19.0**	**-0.4**		108nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**0.97**	**329**	Pg	**Pb**	**16 00 19.0**	**-0.4**	**VLC**	**Villacollemand**	**1.68**	**195**	Pg	**Pb**	**16 00 31.2**	**-0.1**
	311nm,0.2s								108nm,0.8s						
NOVE	**Novellara**	**1.01**	**191**	Pg	**Pg**	**16 00 20.6**	**+0.5**	**PLRO**	**Paularo**	**1.69**	**62**	*e*Pg	**Pn**	**16 00 31.0**	**+1.2**
	1µm,0.3s							**PLRO**	**Paularo**	**1.69**	**62**	*e*Pg	**Pn**	**16 00 31.0**	**+1.2**
NOVE	**Novellara**	**1.01**	**191**	Pg	**Pg**	**16 00 20.6**	**+0.5**	**OBER**	**Oberstdorf**	**1.69**	**344**	*e*Pn	**Pb**	**16 00 32.4**	**+0.9**
	1µm,0.3s							OBER			eSg	**Sg**	**16 00 55.6**	**+0.5**
RAVA	**Ravarino**	**1.04**	**175**	Pg	**Pb**	**16 00 20.9**	**+0.6**	**OBER**	**Oberstdorf**	**1.69**	**344**	Pn	**Pb**	**16 00 32.4**	**+0.9**
	2µm,0.6s							**RETA**	**Reutte**	**1.71**	**355**	Pg	**Pb**	**16 00 32.4**	**+0.6**
RAVA	**Ravarino**	**1.04**	**175**	Pg	**Pb**	**16 00 20.9**	**+0.6**		29nm,0.3s,SNR=13						
	2µm,0.6s							RETA			Sg	**Sg**	**16 00 56.8**	**+1.2**
CAE	**Caneva**	**1.04**	**77**	*e*Pg	**Pb**	**16 00 20.1**	**-0.3**		51nm,0.4s						
CAE	**Caneva**	**1.04**	**77**	*e*Pg	**Pb**	**16 00 20.1**	**-0.3**	**RETA**	**Reutte**	**1.71**	**355**	*e*Pg	**Pb**	**16 00 32.4**	**+0.6**
POLC	**Polcenigo**	**1.09**	**77**	Pg	**Pb**	**16 00 21.1**	**-0.1**		29nm,0.3s,SNR=13						
	1µm,0.4s							RETA			Sg	**Sg**	**16 00 56.8**	**+1.2**
POLC	**Polcenigo**	**1.09**	**77**	Pg	**Pb**	**16 00 21.1**	**-0.1**		51nm,0.4s						
	1µm,0.4s							**COLI**	**Coloredo**	**1.71**	**77**	*e*Pg	**Pn**	**16 00 30.1**	**+0.2**
POLC	**Polcenigo**	**1.09**	**77**	*e*Pg	**Pb**	**16 00 21.3**	**+0.1**	**COLI**	**Coloredo**	**1.71**	**77**	*e*Pg	**Pn**	**16 00 30.1**	**+0.2**
AFL	**Alpe Faloria**	**1.12**	**48**	Pg	**Pb**	**16 00 22.1**	**+0.3**	**FUSIO**	**Fusio**	**1.75**	**293**	Pg	**Pn**	**16 00 32.1**	**+1.6**
AFL	**Alpe Faloria**	**1.12**	**48**	Pg	**Pb**	**16 00 22.1**	**+0.3**		208nm,0.7s						
PRMA	**PARMA**	**1.13**	**205**	Pg	**Pg**	**16 00 22.8**	**+0.4**	**FUSIO**	**Fusio**	**1.75**	**293**	Pg	**Pn**	**16 00 32.1**	**+1.6**
	427nm,0.6s								208nm,0.7s						
PRMA	**PARMA**	**1.13**	**205**	Pg	**Pg**	**16 00 22.8**	**+0.4**	**BDI**	**Bagni Di Lucca**	**1.75**	**189**	Pg	**Pn**	**16 00 31.1**	**+0.6**
	427nm,0.6s								152nm,0.6s						
IESO	**Jesolo**	**1.13**	**103**	*e*Pg	**Pb**	**16 00 22.3**	**+0.4**	**PTCC**	**Patocco-Chiusa**	**1.76**	**69**	Pg	**Pn**	**16 00 31.1**	**+0.4**
IESO	**Jesolo**	**1.13**	**103**	*e*Pg	**Pb**	**16 00 22.3**	**+0.4**		117nm,0.2s						
CIMO	**Cimolais**	**1.14**	**62**	*e*Pg	**Pb**	**16 00 22.0**	**-0.1**	**SABO**	**M.te Sabotino**	**1.84**	**83**	*e*Pn	**Pn**	**16 00 32.1**	**+0.4**
CIMO	**Cimolais**	**1.14**	**62**	*e*Pg	**Pb**	**16 00 22.0**	**-0.1**	**SABO**	**M.te Sabotino**	**1.84**	**83**	Pg	**Pn**	**16 00 32.1**	**+0.4**
ROSI	**Rosskopf**	**1.18**	**14⇑**	*i*Pn	**Pn**	**16 00 19.1**	**-3.7**		456nm,0.3s						
	4µm,0.3s							**SABO**	**M.te Sabotino**	**1.84**	**83**	*e*Pn	**Pn**	**16 00 32.1**	**+0.4**
ROSI	**Rosskopf**	**1.18**	**14⇑**	*i*P	**Pn**	**16 00 22.8**	**0.0**	**DRE**	**Drenchia**	**1.90**	**77**	*e*Pn	**Pn**	**16 00 32.4**	**-0.1**
ROSI	**Rosskopf**	**1.18**	**14**	Pg	**Pn**	**16 00 22.8**	**0.0**	**DRE**	**Drenchia**	**1.90**	**77**	*e*Pn	**Pn**	**16 00 32.4**	**-0.1**
	1µm,0.5s							**LSR**	**Lussari**	**1.90**	**68**	*e*Pn	**Pn**	**16 00 33.9**	**+1.2**
MLNI	**Malnisio**	**1.19**	**72**	*e*Pg	**Pn**	**16 00 23.1**	**+0.2**	**LSR**	**Lussari**	**1.90**	**68**	*e*Pn	**Pn**	**16 00 33.9**	**+1.2**
MLNI	**Malnisio**	**1.19**	**72**	*e*Pg	**Pn**	**16 00 23.1**	**+0.2**	**MAIM**	**Mastiano**	**1.91**	**191**	Pg	**Pn**	**16 00 32.9**	**+0.3**
FIU	**Minerbio Fiu**	**1.20**	**162**	Pg	**Pb**	**16 00 23.8**	**+0.7**		95nm,0.4s						
	1µm,0.6s							**PRED**	**Cave del Predi**	**1.91**	**69**	*e*Pn	**Pn**	**16 00 34.0**	**+1.2**
FIU	**Minerbio Fiu**	**1.20**	**162**	Pg	**Pb**	**16 00 23.8**	**+0.7**	**PRED**	**Cave del Predi**	**1.91**	**69**	*e*Pn	**Pn**	**16 00 34.0**	**+1.2**
	1µm,0.6s							**PLMA**	**Palmaria, Port**	**1.92**	**205**	Pg	**Pn**	**16 00 34.1**	**+1.4**
FETA	**Feichten**	**1.25**	**352**	Pg	**Pn**	**16 00 24.1**	**+0.4**	**ACOM**	**Acomizza, Ital**	**1.92**	**66**	*e*Pn	**Pn**	**16 00 34.4**	**+1.5**
	8.5nm,0.2s,SNR=83							**ACOM**	**Acomizza, Ital**	**1.92**	**66**	Pg	**Pn**	**16 00 34.0**	**+1.1**
FETA				Sg	**Sb**	**16 00 39.8**	**-0.1**		464nm,0.5s						
	36nm,0.2s							**ACOM**	**Acomizza, Ital**	**1.92**	**66**	*e*Pn	**Pn**	**16 00 34.4**	**+1.5**
FETA	**Feichten**	**1.25**	**352**	*e*Pg	**Pn**	**16 00 24.1**	**+0.4**	**TRI**	**Trieste**	**1.95**	**91**	*e*Pn	**Pn**	**16 00 32.5**	**-0.7**
	8.5nm,0.2s,SNR=83							**TRI**	**Trieste**	**1.95**	**91**	*e*Pn	**Pn**	**16 00 32.5**	**-0.7**
FETA				Sg	**Sb**	**16 00 39.8**	**-0.1**	**CADS**	**Cadrg**	**1.97**	**76**	*i*Pn	**Pn**	**16 00 33.5**	**0.0**
	36nm,0.2s							**CADS**	**Cadrg**	**1.97**	**76**	*i*Pn	**Pn**	**16 00 33.5**	**0.0**
DAVOX	**Davos/Dischmat**	**1.25**	**323⇓**	*i*Pn	**Pn**	**16 00 22.8**	**-1.0**	**SFI**	**Santa Sofia**	**1.98**	**162**	Pg	**Pn**	**16 00 33.7**	**0.0**
	798nm,0.4s								155nm,1.0s						
DAVOX	**Davos/Dischmat**	**1.25**	**323⇓**	*i*P	**Pn**	**16 00 24.2**	**+0.4**	**MYKA**	**Terra Mystica**	**2.03**	**65**	Pn	**Pn**	**16 00 35.6**	**+1.2**
DAVOX	**Davos/Dischmat**	**1.25**	**323**	Pg	**Pn**	**16 00 24.3**	**+0.4**		4.9nm,0.3s,SNR=19						
	232nm,0.4s							MYKA			Sn	**Sn**	**16 01 01.2**	**+1.7**
VDL	**Val di Lei**	**1.27**	**304⇓**	*i*Pn	**Pn**	**16 00 24.0**	**-0.1**		14nm,0.2s						
	741nm,0.4s							**MYKA**	**Terra Mystica**	**2.03**	**65**	*e*Pn	**Pn**	**16 00 35.6**	**+1.2**
VDL	**Val di Lei**	**1.27**	**304⇓**	*i*P	**Pn**	**16 00 24.0**	**-0.1**		4.9nm,0.3s,SNR=19						
STAL	**STALIGIAL**	**1.29**	**68**	Pg	**Pn**	**16 00 24.5**	**+0.3**	MYKA			Sn	**Sn**	**16 01 01.2**	**+1.7**
	218nm,0.2s								14nm,0.2s						
STAL	**STALIGIAL**	**1.29**	**68**	Pg	**Pn**	**16 00 24.5**	**+0.3**	**KBA**	**Koelnbreinsper**	**2.08**	**51**	*e*Pn	**Pn**	**16 00 37.0**	**+1.8**
	218nm,0.2s							KBA			*e*Sg	**Sb**	**16 01 06.2**	**+2.2**
TUE	**Stuetta**	**1.33**	**302⇓**	*i*Pn	**Pn**	**16 00 24.2**	**-0.7**	**KBA**	**Koelnbreinsper**	**2.08**	**51**	Pn	**Pn**	**16 00 37.0**	**+1.8**
	767nm,0.5s							KBA			Sg	**Sb**	**16 01 06.2**	**+2.2**
TUE	**Stuetta**	**1.33**	**302⇓**	*i*P	**Pn**	**16 00 25.1**	**+0.2**	**KBA**	**Koelnbreinsper**	**2.08**	**51**	Pn	**Pn**	**16 00 37.0**	**+1.8**
TUE	**Stuetta**	**1.33**	**302**	Pg	**Pn**	**16 00 25.1**	**+0.2**		7.4nm,0.2s,SNR=45						
	251nm,0.4s							KBA			Sg	**Sg**	**16 01 08.3**	**+0.6**
MUGIO	**Muggio**	**1.36**	**276**	Pg	**Pn**	**16 00 25.4**	**+0.2**		44nm,0.5s						
	266nm,0.3s							**SKDS**	**Skadanscina**	**2.14**	**95**	*i*Pn	**Pn**	**16 00 35.8**	**-0.1**
MUGIO	**Muggio**	**1.36**	**276**	Pg	**Pn**	**16 00 25.4**	**+0.2**	SKDS			*e*Sn	**Sn**	**16 01 01.5**	**-0.7**
	266nm,0.3s							**SKDS**	**Skadanscina**	**2.14**	**95**	*i*Pn	**Pn**	**16 00 35.8**	**-0.1**
CSMI	**Casera Mimoias**	**1.37**	**57**	*e*Pg	**Pn**	**16 00 26.4**	**+1.0**	SKDS			*e*Sn	**Sn**	**16 01 01.5**	**-0.7**
CSMI	**Casera Mimoias**	**1.37**	**57**	*e*Pg	**Pn**	**16 00 26.4**	**+1.0**		122nm,0.2s						
RISI	**Rein**	**1.39**	**33⇑**	*i*Pn	**Pn**	**16 00 25.1**	**-0.6**	**WILA**	**Wila**	**2.17**	**319**	*e*Pn	**Pb**	**16 00 38.9**	**-0.7**
	5µm,0.4s							WILA			*e*Sg	**Sg**	**16 01 11.6**	**+1.3**
RISI	**Rein**	**1.39**	**33⇑**	*i*P	**Pn**	**16 00 26.6**	**+0.9**	**WILA**	**Wila**	**2.17**	**319**	Pn	**Pb**	**16 00 38.9**	**-0.7**
RISI	**Rein**	**1.39**	**33**	Pg	**Pn**	**16 00 26.6**	**+0.9**	**RJOB**	**Jochberg**	**2.31**	**32**	*e*Pn	**Pn**	**16 00 40.0**	**+1.7**
	1µm,0.3s							RJOB			*e*Sg	**Sg**	**16 01 14.0**	**-1.1**
RISI	**Rein**	**1.39**	**33**	*e*Pg	**Pn**	**16 00 26.6**	**+0.9**	**RJOB**	**Jochberg**	**2.31**	**32**	Pn	**Pn**	**16 00 40.0**	**+1.7**
ABTA	**Abfaltersbach**	**1.43**	**47**	Pg	**Pn**	**16 00 27.4**	**+1.2**	RJOB			Sg	**Sg**	**16 01 14.0**	**-1.1**
	4.0nm,0.1s,SNR=204							**PARC**	**Parchiule**	**2.32**	**157**	Pg	**Pn**	**16 00 38.8**	**+0.5**
ABTA				Sg	**Sg**	**16 00 47.4**	**+0.5**		53nm,0.8s						
	35nm,0.2s							**CSNT**	**Castellina Chi**	**2.33**	**174**	Pg	**Pn**	**16 00 38.3**	**-0.1**
ABTA	**Abfaltersbach**	**1.43**	**47**	*e*Pg	**Pn**	**16 00 27.4**	**+1.2**		47nm,0.6s						
	4.0nm,0.1s,SNR=204							**FUR**	**Furstenfeldbru**	**2.39**	**5**	*e*Pg	**Pg**	**16 00 46.3**	**-0.1**
ABTA				*e*Sg	**Sg**	**16 00 47.4**	**+0.5**	FUR			*e*Sg	**Sg**	**16 01 16.0**	**-1.4**
	35nm,0.2s							**FUR**	**Furstenfeldbru**	**2.39**	**5**	Pg	**Pg**	**16 00 46.3**	**-0.1**
MPRI	**Monte Prat**	**1.47**	**71**	*e*Pg	**Pn**	**16 00 27.2**	**+0.5**	FUR			Sg	**Sg**	**16 01 16.0**	**-1.4**
MPRI	**Monte Prat**	**1.47**	**71**	*e*Pg	**Pn**	**16 00 27.2**	**+0.5**	**ATMC**	**Monte Cedrone**	**2.50**	**159**	Pg	**Pn**	**16 00 41.1**	**+0.3**
CLUD	**Cludinico**	**1.48**	**62**	*e*Pg	**Pn**	**16 00 27.5**	**+0.7**		91nm,0.8s						
CLUD	**Cludinico**	**1.48**	**62**	*e*Pg	**Pn**	**16 00 27.5**	**+0.7**	**MPAG**	**Monte Paganucc**	**2.50**	**149**	Pg	**Pn**	**16 00 40.5**	**-0.4**
BOB	**Bobbio (Coli)**	**1.49**	**227**	Pg	**Pg**	**16 00 29.5**	**+0.2**		246nm,1.9s						
BOB	**Bobbio (Coli)**	**1.49**	**227**	Pg	**Pg**	**16 00 29.5**	**+0.2**	**PIEI**	**Pieia**	**2.51**	**153**	Pg	**Pn**	**16 00 40.8**	**-0.2**
FVI	**Forni Avoltri**	**1.49**	**56**	Pg	**Pn**	**16 00 28.2**	**+1.2**		36nm,0.5s						
	274nm,0.4s							**OBKA**	**Obir**	**2.58**	**73**	*e*Pn	**Pn**	**16 00 43.1**	**+1.1**
FVI	**Forni Avoltri**	**1.49**	**56**	Pg	**Pn**	**16 00 28.2**	**+1.2**	OBKA			*e*Sg	**Sg**	**16 01 23.8**	**+0.2**
	274nm,0.4s							**OBKA**	**Obir**	**2.58**	**73**	Pn	**Pn**	**16 00 43.1**	**+1.1**
TLI	**Talmassons**	**1.49**	**84**	Pg	**Pn**	**16 00 27.1**	**+0.3**	OBKA			Sg	**Sg**	**16 01 23.8**	**+0.2**
TLI	**Talmassons**	**1.49**	**84**	Pg	**Pn**	**16 00 27.1**	**+0.3**	**OBKA**	**Obir**	**2.58**	**73**	Pn	**Pn**	**16 00 43.2**	**+1.1**
FUSE	**Fusea**	**1.54**	**65**	*e*Pg	**Pn**	**16 00 28.1**	**+0.5**		0.5nm,0.1s						
FUSE	**Fusea**	**1.54**	**65**	*e*Pg	**Pn**	**16 00 28.1**	**+0.5**	OBKA			Sg	**Sg**	**16 01 24.4**	**+0.8**
WTTA	**Wattenberg**	**1.54**	**17**	*e*Pn	**Pn**	**16 00 28.5**	**+0.7**	**ATVO**	**AVT- Monte Val**	**2.61**	**157**	Pg	**Pn**	**16 00 43.0**	**+0.6**
WTTA				*e*Pg	**Pb**	**16 00 30.0**	**+0.9**		107nm,1.0s						
WTTA				*e*Sg	**Sb**	**16 00 49.9**	**+1.4**	**SLE**	**Schleitheim**	**2.61**	**320**	*e*Pn	**Pn**	**16 00 44.1**	**+1.7**
WTTA	**Wattenberg**	**1.54**	**17**	Pn	**Pn**	**16 00 28.5**	**+0.7**	SLE			*e*Pg	**Pg**	**16 00 50.5**	**-0.3**
WTTA	**Wattenberg**	**1.54**	**17**	Pg	**Pb**	**16 00 30.0**	**+0.9**	SLE			*e*Sg	**Sg**	**16 01 25.2**	**+0.5**
WTTA				Sn	**Sb**	**16 00 49.4**	**+0.9**	**SLE**	**Schleitheim**	**2.61**	**320**	Pn	**Pn**	**16 00 44.1**	**+1.7**
	51nm,0.3s							**SULZ**	**Cheisacher**	**2.63**	**312**	*e*Pn	**Pn**	**16 00 45.7**	**+3.0**
WTTA				Sg	**Sb**	**16 00 49.9**	**+1.4**	SULZ			*e*Sg	**Sg**	**16 01 24.9**	**-0.4**
WTTA	**Wattenberg**	**1.54**	**17**	Pg	**Pn**	**16 00 29.2**	**+1.3**	**SULZ**	**Cheisacher**	**2.63**	**312**	Pn	**Pn**	**16 00 45.7**	**+3.0**
	140nm,0.6s							SULZ			Sg	**Sg**	**16 01 24.9**	**-0.4**
WTTA	**Wattenberg**	**1.54**	**17**	*e*Pg	**Pn**	**16 00 29.1**	**+1.3**								

VISS	**Visnje**	**2.70**	**88**	*i*Pn	**Pn**	**16 00 44.1**	**+0.6**
VISS	**Visnje**	**2.70**	**88**	*i*Pn	**Pn**	**16 00 44.1**	**+0.6**
BALST	**Balsthal**	**2.75**	**306**	*e*Pn	**Pn**	**16 00 46.2**	**+2.0**
BALST				*e*Pg	**Pg**	**16 00 52.9**	**-0.4**
BALST				*e*Sg	**Sg**	**16 01 29.6**	**+0.7**
BALST	**Balsthal**	**2.75**	**306**	Pn	**Pn**	**16 00 46.2**	**+2.0**
SPAK	**Spaichingen-Ko**	**2.76**	**328**	Pn	**Pn**	**16 00 45.9**	**+1.5**
SPAK	**Spaichingen-Ko**	**2.76**	**328**	Pg	**Pg**	**16 00 53.5**	**-0.1**
SPAK	**Spaichingen-Ko**	**2.76**	**328**	Pn	**Pn**	**16 00 46.0**	**+1.5**
SPAK	**Spaichingen-Ko**	**2.76**	**328**	Pg	**Pg**	**16 00 53.5**	**-0.1**
FELD	**Feldberg im Sc**	**2.92**	**317**	Pn	**Pn**	**16 00 48.1**	**+1.4**
FELD	**Feldberg im Sc**	**2.92**	**317**	Pg	**Pg**	**16 00 55.9**	**-0.8**
FELD				Sg	**Sg**	**16 01 34.8**	**+0.3**
FELD	**Feldberg im Sc**	**2.92**	**317**	Pn	**Pn**	**16 00 48.1**	**+1.4**
FELD	**Feldberg im Sc**	**2.92**	**317**	Pg	**Pg**	**16 00 55.9**	**-0.8**
LPG	**La Plagne**	**2.98**	**266**	*e*Pn	**Pn**	**16 00 50.4**	**+2.7**
LPG				*e*Sn	**Sn**	**16 01 22.5**	**-0.8**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**16 01 34.9**	**-1.6**
	20nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.98**	**266**	*e*Pn	**Pn**	**16 00 50.4**	**+2.7**
LPG				*e*Sn	**Sn**	**16 01 22.5**	**-0.8**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**16 01 34.9**	**-1.6**
	9.8nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**2.99**	**266**	*e*Pn	**Pn**	**16 00 50.8**	**+3.0**
LPL				*e*Sn	**Sn**	**16 01 22.9**	**-0.6**
LPL				*e*Sg	**Sg**	**16 01 35.7**	**-1.1**
	22nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**2.99**	**266**	*e*Pn	**Pn**	**16 00 50.8**	**+3.0**
LPL				*e*Sn	**Sn**	**16 01 22.9**	**-0.6**
LPL				*e*Sg	**Sg**	**16 01 35.7**	**-1.1**
	11nm,0.4s,SNR=1.0						
NVLJ	**Novalja**	**3.01**	**113**	*i*Pn	**Pn**	**16 00 47.8**	**0.0**
NVLJ				Sn	**Sn**	**16 01 21.6**	**-1.9**
NVLJ	**Novalja**	**3.01**	**113**	*i*Pn	**Pn**	**16 00 47.8**	**0.0**
NVLJ				Sn	**Sn**	**16 01 21.6**	**-1.9**
MOA	**Molln**	**3.06**	**46**	*e*Pn	**Pn**	**16 00 50.3**	**+1.8**
MOA	**Molln**	**3.06**	**46**	Pn	**Pn**	**16 00 50.3**	**+1.8**
MOA				Sg	**Sg**	**16 01 39.5**	**+0.7**
	10nm,0.4s						
MOA	**Molln**	**3.06**	**46**	*e*Pn	**Pn**	**16 00 50.1**	**+1.6**
	5.3nm,0.3s,SNR=14						
MOA				Sg	**Sg**	**16 01 39.5**	**+0.7**
	10nm,0.4s						
BFO	**Black Forest**	**3.12**	**325**	*e*Pn	**Pn**	**16 00 51.2**	**+1.8**
BFO				*e*Pg	**Pg**	**16 00 59.8**	**-0.7**
BFO				*e*Sn	**Sn**	**16 01 27.4**	**+1.0**
BFO				*e*Sg	**Sg**	**16 01 38.9**	**-2.0**
BFO	**Black Forest**	**3.12**	**325**	Pn	**Pn**	**16 00 51.2**	**+1.8**
OZLJ	**Ozalj**	**3.15**	**92**	*e*Pn	**Pn**	**16 00 50.9**	**+1.2**
OZLJ				Pg	**Pg**	**16 00 59.5**	**-1.5**
OZLJ	**Ozalj**	**3.15**	**92**

CONA				*e*Sn		**Sn**	**16 01 50.5**	**+3.0**
	5.0nm,0.4s							
LMR	**La Mourre**	**4.03**	**234**	*e*Pn		**Pn**	**16 01 01.5**	**-0.3**
	SNR=1.0							
LMR	**La Mourre**	**4.03**	**234**	*e*Pn		**Pn**	**16 01 01.5**	**-0.3**
	SNR=1.0							
ROTZ	**Rotzenmuhle**	**4.07**	**11**	*e*Pn		**Pn**	**16 01 01.8**	**-0.5**
ROTZ				*e*Sn		**Sn**	**16 01 48.6**	**-1.0**
ROTZ				*e*Sg		**Sg**	**16 02 08.1**	**-3.1**
ROTZ	**Rotzenmuhle**	**4.07**	**11**	Pn		**Pn**	**16 01 01.8**	**-0.5**
ROTZ				Sn		**Sn**	**16 01 48.6**	**-1.0**
ROTZ				Sg		**Sg**	**16 02 08.1**	**-3.1**
SMRF	**Simiane la Rot**	**4.25**	**247**	*e*Pn		**Pn**	**16 01 06.3**	**+1.4**
	SNR=1.0							
SMRF				*e*Sn		**Sn**	**16 01 51.1**	**-3.1**
	SNR=1.0							
SMRF				*e*Sg		**Sg**	**16 02 14.7**	**-2.3**
	4.3nm,0.4s,SNR=1.0							
SMRF	**Simiane la Rot**	**4.25**	**247**	*e*Pn		**Pn**	**16 01 06.3**	**+1.4**
	SNR=1.0							
SMRF				*e*Sn		**Sn**	**16 01 51.1**	**-3.1**
	SNR=1.0							
SMRF				*e*Sg		**Sg**	**16 02 14.7**	**-2.3**
	2.2nm,0.4s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.55**	**260**	*e*Pn		**Pn**	**16 01 09.0**	**+0.1**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**16 01 59.2**	**-2.3**
	2.5nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.55**	**260**	*e*Pn		**Pn**	**16 01 09.0**	**+0.1**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**16 01 59.2**	**-2.3**
	1.2nm,0.3s,SNR=1.0							
NKC	**Novy Kostel**	**4.55**	**12**	*e*SN		**Sn**	**16 02 00.6**	**-1.1**
NKC				*e*SG		**Sg**	**16 02 25.5**	**-1.3**
	comp=Z,14nm,0.4s							
NKC	**Novy Kostel**	**4.55**	**12**	Sn		**Sn**	**16 02 00.6**	**-1.1**
NKC				Sg		**Sg**	**16 02 25.5**	**-1.3**
	14nm,0.4s							
TNS	**Taunus Mts**	**4.75**	**340**	*e*Pn		**Pn**	**16 01 13.6**	**+1.8**
TNS	**Taunus Mts**	**4.75**	**340**	Pn		**Pn**	**16 01 13.6**	**+1.8**
PRU	**Pruhonice**	**4.84**	**28**	*e*PN		**Pn**	**16 01 13.1**	**+0.2**
PRU				*e*SN		**Sn**	**16 02 07.6**	**-1.0**
PRU				*e*SG		**Sg**	**16 02 31.3**	**-4.5**
	comp=Z,21nm,0.9s							
PRU	**Pruhonice**	**4.84**	**28**	Pn		**Pn**	**16 01 13.1**	**+0.2**
PRU				Sn		**Sn**	**16 02 07.6**	**-1.0**
PRU				Sg		**Sg**	**16 02 31.3**	**-4.5**
	21nm,0.9s							
GOPC	**GO Pecny, Ondr**	**4.86**	**30**	*e*SN		**Sn**	**16 02 08.1**	**-1.1**
GOPC	**GO Pecny, Ondr**	**4.86**	**30**	Sn		**Sn**	**16 02 08.1**	**-1.1**
MEZF	**Maizieres J'vi**	**4.87**	**306**	*e*Pn		**Pn**	**16 01 15.5**	**+2.1**
	SNR=1.0							
MEZF	**Maizieres J'vi**	**4.87**	**306**	*e*Pn		**Pn**	**16 01 15.5**	**+2.1**
	SNR=1.0							
MOX	**Moxa**	**4.88**	**5**	*e*Pn		**Pn**	**16 01 15.2**	**+1.7**
MOX				*e*Sn		**Sn**	**16 02 07.8**	**-1.9**
MOX	**Moxa**	**4.88**	**5**	Pn		**Pn**	**16 01 15.2**	**+1.7**
MOX				Sn		**Sn**	**16 02 07.8**	**-1.9**
SMF	**Signal de Mont**	**5.03**	**282**	*e*Pn		**Pn**	**16 01 15.8**	**+0.2**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**16 02 11.9**	**-1.5**
	11nm,0.3s,SNR=1.0							
SMF	**Signal de Mont**	**5.03**	**282**	*e*Pn		**Pn**	**16 01 15.8**	**+0.2**
	SNR=1.0							
LOR	**Lormes**	**5.13**	**289**	*e*Pn		**Pn**	**16 01 17.5**	**+0.5**
	baz=111,SNR=1.0							
LOR				*e*Sn		**Sn**	**16 02 14.2**	**-1.8**
	7.8nm,0.3s,SNR=1.0							
LOR	**Lormes**	**5.13**	**289**	*e*Pn		**Pn**	**16 01 17.5**	**+0.5**
	SNR=1.0							
PLDF	**La Plantade**	**5.14**	**275**	Pn		**Pn**	**16 01 16.8**	**-0.4**
PLDF	**La Plantade**	**5.14**	**275**	Pn		**Pn**	**16 01 16.8**	**-0.4**
SSF	**Saint Saulge**	**5.32**	**287**	*e*Pn		**Pn**	**16 01 20.5**	**+0.9**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**16 02 17.9**	**-2.7**
	4.0nm,0.3s,SNR=1.0							
SSF	**Saint Saulge**	**5.32**	**287**	*e*Pn		**Pn**	**16 01 20.5**	**+0.9**
	SNR=1.0							
LASF	**Ste Croix**	**5.34**	**254**	*e*Pn		**Pn**	**16 01 19.0**	**-0.8**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**16 02 18.5**	**-2.6**
	2.3nm,0.3s,SNR=1.0							
LASF	**Ste Croix**	**5.34**	**254**	*e*Pn		**Pn**	**16 01 19.0**	**-0.8**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**16 02 18.5**	**-2.6**
	1.1nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**5.38**	**283**	*e*Pn		**Pn**	**16 01 20.7**	**+0.3**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**16 02 18.7**	**-3.3**
	2.3nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**5.38**	**283**	*e*Pn		**Pn**	**16 01 20.7**	**+0.3**
	SNR=1.0							
BRG	**Berggiesshubel**	**5.46**	**20**	PN		**Pn**	**16 01 22.9**	**+1.5**
BRG				PG		**Pg**	**16 01 46.1**	**+1.0**
BRG				SN		**Sn**	**16 02 22.5**	**-1.4**
BRG				SG		**Sg**	**16 02 51.9**	**-3.8**
	7.0nm,0.5s							
LBL	**Lubilhac**	**5.46**	**267**	Pn		**Pn**	**16 01 21.3**	**-0.3**
LBL	**Lubilhac**	**5.46**	**267**	Pn		**Pn**	**16 01 21.3**	**-0.3**
AGO	**Saint Agoulin**	**5.48**	**276**	Pn		**Pn**	**16 01 21.6**	**-0.2**
AGO	**Saint Agoulin**	**5.48**	**276**	Pn		**Pn**	**16 01 21.6**	**-0.2**
PYM	**Petit Puy Mans**	**5.58**	**272**	Pn		**Pn**	**16 01 23.7**	**+0.5**
PYM	**Petit Puy Mans**	**5.58**	**272**	Pn		**Pn**	**16 01 23.7**	**+0.5**
STON	**Ston**	**5.63**	**119**	*e*Pn		**Pn**	**16 01 22.7**	**-1.1**
STON				Sn		**Sn**	**16 02 24.1**	**-4.1**
STON	**Ston**	**5.63**	**119**	*e*Pn		**Pn**	**16 01 22.7**	**-1.1**
CLL	**Collm**	**5.68**	**13**	*e*Pn		Pn	16 01 19.0	-5.5
CLL				*e*Sg		**Sg**	**16 03 00.0**	**-3.0**
	comp=Z,14nm,0.9s							
BGF	**Bois d'Agland**	**5.70**	**281**	*e*Pn		**Pn**	**16 01 25.5**	**+0.7**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**16 02 28.3**	**-1.7**
	comp=Z,9.7nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**5.70**	**281**	*e*Pn		**Pn**	**16 01 25.5**	**+0.7**
	SNR=1.0							
KRLC	**Kraliky**	**5.79**	**40**	*e*SG		**Sg**	**16 03 03.2**	**-3.3**
UPC	**Upice**	**5.80**	**34**	*e*SN		**Sn**	**16 02 30.6**	**-1.7**
UPC	**Upice**	**5.80**	**34**	Sn		**Sn**	**16 02 30.6**	**-1.7**
DPC	**Dobruska-Polom**	**5.80**	**36**	*e*PN		**Pn**	**16 01 25.4**	**-0.8**
DPC				*e*SN		**Sn**	**16 02 29.1**	**-3.3**
DPC	**Dobruska-Polom**	**5.80**	**36**	Pn		**Pn**	**16 01 25.4**	**-0.8**
VYHS	**Vyhne**	**6.00**	**60**	*e*Pn		**Pn**	**16 01 29.9**	**+1.0**
VYHS	**Vyhne**	**6.00**	**60**	*e*Pn		**Pn**	**16 01 29.9**	**+1.0**
TCF	**Toulx Ste Croi**	**6.13**	**278**	*e*Pn		**Pn**	**16 01 32.1**	**+1.5**
	SNR=1.0							
TCF	**Toulx Ste Croi**	**6.13**	**278**	*e*Pn		**Pn**	**16 01 32.1**	**+1.5**
	SNR=1.0							
LANS	**Liptovska Anna**	**6.66**	**57**	*e*SG		**Sb**	**16 03 17.7**	**+2.1**

IDC ***18*** *16:06:25.5±1.1,29.°58N×142.°00E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.3/65, mbtmp3.4/7, ML3.6/1, Error ellipse: s-maj=40.3km s-min=20.7km az=77.0*

ISCJB ***18*** *16:06:27.8±1.1,29.°6N±0.°1×142.°0E±0.°3, h30km, mb3.4/6, Error ellipse: s-maj=39.6km s-min=16.0km az=165.9*

ISC 18 16:06:30.3±1.3,29.°7N±0.°1×141.°9E±0.°3, h30km, n7, σ1§39/8, mb3.4/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.49**	**337**	Pn	**Pn**	**16 08 17.5**	**0.0**
	1.0nm,0.3s,baz=159,slow=11,SNR=14						
MJAR				Sn	**Sn**	**16 09 39.3**	**-2.1**
	0.1nm,0.3s,baz=128,slow=19,SNR=3.1						
SONM	**Songino Array**	**32.70**	**314**	P	**P**	**16 13 01.4**	**+1.4**
	0.4nm,0.8s,baz=121,slow=9.0,SNR=3.3						
MKAR	**Makanchi Array**	**48.65**	**308**	P	**P**	**16 15 11.6**	**+0.2**
	0.2nm,0.5s,baz=91,slow=8.2,SNR=3.7						
WRA	**Warramunga Arr**	**49.88**	**189**	P	**P**	**16 15 19.9**	**-1.2**
	0.7nm,0.8s,baz=7.2,slow=7.8,SNR=9.1						
KURBB	**Kurchatov Arra**	**51.06**	**313**	P	**P**	**16 15 30.7**	**+1.1**
	0.5nm,0.4s,baz=89,slow=7.6,SNR=6.4						
ASAR	**Alice Springs**	**53.61**	**189**	P	**P**	**16 15 47.9**	**-0.9**
	0.1nm,0.3s,baz=5.0,slow=6.1,SNR=6.1						
YKA	**Yellowknife Ar**	**69.99**	**29**	P	**P**	**16 17 38.9**	**+0.3**
	0.1nm,0.6s,baz=298,slow=7.5,SNR=3.2						

MAN 18 16:15:29,10.°09N×123.°33E, h30km, mb3.6, ML2.3, MS1.7, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.66**	**127**	*e*P	Pn	16 15 42.5	+0.2
LLP	**Lapu-Lapu**	**0.66**	**70**	*e*P	Pn	16 15 42.8	+0.4
LLP				*e*S	Sn	16 15 52.9	+1.1
SNPH	**Sibulan**	**0.75**	**187**	*i*P	Pn	16 15 43.6	0.0
SNPH				*i*S	Sn	16 15 54.6	+0.6
GUIM	**Jordan**	**0.90**	**306**	*e*P	Pn	16 15 45.6	-0.1
GUIM				*e*S	Sb	16 15 58.4	+0.5

MAN 18 16:17:01,10.°16N×123.°25E, h0km, mb4.0, ML2.8, MS2.5, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.72**	**77**	*e*P	Pg	16 17 15.4	+0.6
LLP				*e*S	Sg	16 17 24.4	+0.2
TBP	**Tagbilaran**	**0.76**	**128**	*e*P	Pg	16 17 11.7	-3.9
GUIM	**Jordan**	**0.80**	**306**	*e*P	Pb	16 17 18.5	+0.7
GUIM				*e*S	Sn	16 17 30.8	-1.4
SNPH	**Sibulan**	**0.81**	**181**	*i*P	Pb	16 17 17.9	-0.2
SNPH				*i*S	Sb	16 17 29.4	-0.1
MSLP	**Maasin**	**1.58**	**91**	*e*P	Pn	16 17 30.6	+0.3
MSLP				*e*S	Sg	16 17 52.6	+0.7
OCLP	**Ormoc**	**1.60**	**56**	*e*P	Pg	16 17 31.7	0.0

ISCJB ***18*** *16:19:36.6±0.4,67.°18N±0.°02×20.°73E±0.°07, h0km, Error ellipse: s-maj=4.1km s-min=2.8km az=5.7*

UPP ***18*** *16:19:37.5,67.°18N×20.°66E, h0km, ML2.7, Suspected Mining explosion.*

CSEM ***18*** *16:19:37.4±0.2,67.°18N×20.°79E, h2km, ML2.7, Error ellipse: s-maj=5.4km s-min=3.6km az=73.0, Mining explosion.*

HEL ***18*** *16:19:38.1±0.1,67.°18N×20.°69E, h0km, ML1.9, ML2.7(UPP), Explosion*

IDC ***18*** *16:19:38.1±0.9,67.°12N×21.°00E, h0km, mb1 2.9/4, mb1mx2.7/68, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=16.2km s-min=8.2km az=112.0*

ISC 18 16:19:37.1±0.7,67.°15N±0.°02×20.°72E±0.°02, h0km, n58, σ1§34/83, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**243**	P	**Pg**	**16 19 39.1**	**+0.8**
DUNU				S	**Sg**	**16 19 40.6**	**+1.4**
DUNU	**Dundret**	**0.07**	**243**	P	**Pg**	**16 19 39.1**	**+0.8**
DUNU				S	**Sg**	**16 19 40.6**	**+1.4**
DUNU	**Dundret**	**0.07**	**243**	*i* P	**Pg**	**16 19 39.1**	**+0.8**
DUNU				*i* S	**Sg**	**16 19 40.6**	**+1.4**
MASU	**Masugnsbyn**	**0.58**	**58**	P	**Pg**	**16 19 48.8**	**+0.6**
MASU	**Masugnsbyn**	**0.58**	**58**	P	**Pg**	**16 19 48.8**	**+0.6**
MASU	**Masugnsbyn**	**0.58**	**58**	*i* P	**Pg**	**16 19 48.8**	**+0.6**
RATU	**Laukkuluspa**	**0.80**	**328**	P	**Pg**	**16 19 51.9**	**-0.5**
RATU	**Laukkuluspa**	**0.80**	**328**	P	**Pg**	**16 19 51.9**	**-0.5**
RATU	**Laukkuluspa**	**0.80**	**328**	*i* P	**Pg**	**16 19 51.9**	**-0.5**
KUA	**Kurravaara**	**0.82**	**350**	P	**Pg**	**16 19 52.1**	**-0.7**
KUA	**Kurravaara**	**0.82**	**350**	P	**Pg**	**16 19 52.1**	**-0.7**
KUA	**Kurravaara**	**0.82**	**350**	*i* P	**Pg**	**16 19 52.1**	**-0.7**
ERTU	**Ertsjaerv**	**0.84**	**135**	P	**Pg**	**16 19 53.4**	**+0.3**
ERTU				Sb	**Sb**	**16 20 05.5**	**-0.7**
ERTU	**Ertsjaerv**	**0.84**	**135**	P	**Pg**	**16 19 53.4**	**+0.3**
ERTU	**Ertsjaerv**	**0.84**	**135**	*e*P	**Pg**	**16 19 53.2**	**+0.1**
ERTU				*e*SB	**Sb**	**16 20 05.5**	**-0.7**
PAJU	**Pajala**	**0.95**	**97**	P	**Pg**	**16 19 55.4**	**+0.2**
PAJU	**Pajala**	**0.95**	**97**	P	**Pg**	**16 19 55.4**	**+0.2**
PAJU	**Pajala**	**0.95**	**97**	*e*P	**Pg**	**16 19 55.4**	**+0.2**
NIKU	**Nikkaluokta**	**0.97**	**319**	P	**Pg**	**16 19 55.0**	**-0.6**
NIKU	**Nikkaluokta**	**0.97**	**319**	P	**Pg**	**16 19 55.0**	**-0.6**
NIKU	**Nikkaluokta**	**0.97**	**319**	*e*P	**Pg**	**16 19 55.0**	**-0.6**
LANU	**Lannavaara**	**1.02**	**28**	P	**Pg**	**16 19 56.2**	**-0.5**
LANU	**Lannavaara**	**1.02**	**28**	P	**Pg**	**16 19 56.3**	**-0.5**
LANU	**Lannavaara**	**1.02**	**28**	*e*P	**Pg**	**16 19 56.3**	**-0.5**
KALU	**Kalix**	**1.67**	**140**	Pg	**Pb**	**16 20 08.4**	**-0.3**
KALU				Sn	**Sg**	**16 20 32.0**	**+1.2**
KALU	**Kalix**	**1.67**	**140**	*e*PG	**Pb**	**16 20 08.4**	**-0.3**
KALU				*e*SN	**Sg**	**16 20 32.0**	**+1.2**
HEF	**Hetta**	**1.69**	**40**	P	**Pn**	**16 20 07.6**	**-0.2**
HEF				Sg	**Sn**	**16 20 29.9**	**-0.2**
HEF	**Hetta**	**1.69**	**40**	*e*P	**Pn**	**16 20 07.6**	**-0.2**
HEF				MSG		16 20 27.1	
	comp=Z,6.6nm,0.2s						
HEF				*e*SG	**Sn**	**16 20 29.9**	**-0.2**
SJUU	**Sjulsmark**	**1.69**	**167**	P	**Pb**	**16 20 08.5**	**-0.5**
SJUU	**Sjulsmark**	**1.69**	**167**	P	**Pb**	**16 20 08.5**	**-0.5**
SJUU	**Sjulsmark**	**1.69**	**167**	*e*P	**Pb**	**16 20 08.5**	**-0.5**
TOF	**Tornio**	**1.80**	**125**	P	**Pb**	**16 20 10.1**	**-0.7**
TOF				Sn	**Sg**	**16 20 35.1**	**+0.4**
TOF	**Tornio**	**1.80**	**125**	*e*P	**Pb**	**16 20 10.1**	**-0.7**
TOF				MSG		16 20 31.8	
	comp=Z,9.7nm,0.2s						
TOF				*e*SN	**Sg**	**16 20 35.1**	**+0.4**
KIF	**Kilpisjarvi**	**1.86**	**1**	P	**Pb**	**16 20 11.1**	**-0.8**
KIF				Sg	**Sg**	**16 20 36.6**	**-0.2**
KIF	**Kilpisjarvi**	**1.86**	**1**	*e*P	**Pb**	**16 20 11.1**	**-0.8**
	baz=177						
KIF				MSG		16 20 33.4	
	comp=Z,6.2nm,0.2s						
KIF				*e*SG	**Sg**	**16 20 36.6**	**-0.2**
LILU	**Lilltraesk**	**1.91**	**191**	P	**Pb**	**16 20 11.8**	**-0.9**
LILU	**Lilltraesk**	**1.91**	**191**	P	**Pb**	**16 20 11.8**	**-0.9**
LILU	**Lilltraesk**	**1.91**	**191**	*e*P	**Pb**	**16 20 11.8**	**-0.9**
SGF	**Sodankyl**	**2.27**	**80**	Pb	**Pb**	**16 20 18.0**	**-0.9**
SGF				Sg	**Sb**	**16 20 47.4**	**-0.1**
SGF	**Sodankyl**	**2.27**	**80**	*e*PB	**Pb**	**16 20 18.0**	**-0.9**
	baz=269						
SGF				*e*SG	**Sb**	**16 20 47.5**	**-0.1**
BURU	**Burvik**	**2.59**	**174**	P	**Pn**	**16 20 21.7**	**+1.5**
BURU				Sg	**Sg**	**16 21 00.4**	**+0.1**
BURU	**Burvik**	**2.59**	**174**	*e*P	**Pn**	**16 20 21.7**	**+1.5**
BURU				*e*SG	**Sg**	**16 21 00.4**	**+0.1**
OUL	**Oulu**	**2.96**	**132**	Pb	**Pb**	**16 20 29.3**	**-1.3**
OUL				Sb	**Sb**	**16 21 06.5**	**-0.7**
OUL	**Oulu**	**2.96**	**132**	*e*PB	**Pb**	**16 20 29.3**	**-1.3**
	baz=313						
OUL				*e*SB	**Sb**	**16 21 06.5**	**-0.7**
ARCES	**ARCESS Array B**	**2.98**	**34**	Pn	**Pn**	**16 20 26.1**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=214,slow=16,SNR=11						
ARCES				Sn	**Sn**	**16 21 02.4**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=216,slow=22,SNR=9.0						
ARE0	**ARCESS Array S**	**2.98**	**34**	P	**Pn**	**16 20 26.5**	**+0.9**
ARE0				S	**Sn**	**16 21 03.5**	**+1.5**
ARE0	**ARCESS Array S**	**2.98**	**34**	*e*P	**Pn**	**16 20 26.5**	**+0.9**
ARE0				*e*S	**Sn**	**16 21 03.5**	**+1.5**
UMAU	**Umeaa**	**3.28**	**180**	S	**Sn**	**16 21 11.2**	**+1.9**
UMAU	**Umeaa**	**3.28**	**180**	*e*S	**Sn**	**16 21 11.2**	**+1.9**
VRF	**Varrio**	**3.48**	**76**	Sg	**Sb**	**16 21 24.1**	**+1.9**
VRF	**Varrio**	**3.48**	**76**	*e*SG	**Sb**	**16 21 24.1**	**+1.9**
MSF	**Maaselka**	**3.56**	**107**	*e*SG	**Sb**	**16 21 26.6**	**+2.2**
KU6	**Riekki**	**3.83**	**103**	*e*SG	**Sg**	**16 21 37.9**	**-2.1**
VAF	**Ylistaro**	**4.21**	**168**	*e*SG	**Sg**	**16 21 49.1**	**-3.0**
HEMU	**Hemsoen**	**4.64**	**195**	*e*S	**Sn**	**16 21 45.4**	**+2.7**
FINES	**FINESS Array B**	**6.18**	**155**	Pn	**Pn**	**16 21 10.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=345,slow=16,SNR=6.1						
FINES				Sn	**Sn**	**16 22 19.6**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=345,slow=22,SNR=7.1						
FINES				Lg	Lg	16 22 49.4	
	comp=Z,0.4nm,0.3s,baz=344,slow=28,SNR=4.4						
NOA	**NORSAR Array B**	**7.41**	**219**	Pn	**Pn**	**16 21 26.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=16,slow=11,SNR=2.5						
NOA				Sn	**Sn**	**16 22 44.6**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=46,slow=27,SNR=2.9						
NOA				Lg	Lg	16 23 21.2	
	comp=Z,0.2nm,0.3s,baz=37,slow=23,SNR=3.1						
HFS	**Hagfors**	**7.70**	**207**	Pn	**Pn**	**16 21 29.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=17,slow=17,SNR=2.7						
HFS				Sn	**Sn**	**16 22 53.7**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=28,slow=23,SNR=3.8						
HFS				Lg	Lg	16 23 35.5	
	comp=Z,0.2nm,0.3s,baz=32,slow=31,SNR=2.8						

IDC ***18*** *16:29:30.3±0.9,35.°64N×141.°82E, h0km, mb3.4/8, mb1 3.5/11, mb1mx3.4/66, mbtmp3.4/11, ML3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.3/35, Error ellipse: s-maj=24.6km s-min=18.4km az=93.0*

ISCJB ***18*** *16:29:31.8±1.3,35.°72N±0.°04×141.°89E±0.°06, h25km±9km, mb3.4/8, Error ellipse: s-maj=8.3km s-min=6.0km az=11.3*

JMA ***18*** *16:29:32.9±0.1,35.°77N×141.°84E, h34km±2km, M3.4*

ISC 18 16:29:32.2±3.8,35.°72N±0.°05×141.°85E±0.°07, h14km±23km, n28, σ1§08/28, mb3.4/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.81**	**269**	P	**Pb**	**16 29 47.8**	**-0.2**
CHOJ				S	**Sb**	**16 29 58.3**	**-0.4**
BSO1	**Boso 1**	**1.28**	**214**	P	**Pn**	**16 29 55.5**	**+0.4**
BSO1				*e*S	**Sn**	**16 30 12.2**	**+0.4**
BSO2	**Boso 2**	**1.32**	**223**	*e*S	**Sn**	**16 30 13.0**	**-0.1**
JHO	**Hitachi**	**1.37**	**311**	P	**Pn**	**16 29 55.7**	**-1.1**
BSO3	**Boso 3**	**1.43**	**231**	P	**Pn**	**16 29 57.3**	**-0.1**
JFK	**Kawauchi**	**1.82**	**335**	P	**Pn**	**16 30 03.0**	**-0.1**
JAG	**Ashikaga**	**2.07**	**291**	P	**Pn**	**16 30 05.8**	**-0.6**
JAG				*e*S	**Sn**	**16 30 31.0**	**-1.0**
JFT	**Otama**	**2.17**	**326**	*e*S	**Sn**	**16 30 33.2**	**-1.3**
JIM2	**Oshima 3**	**2.22**	**244**	*e*S	**Sn**	**16 30 34.9**	**-0.9**
MJAR	**Matsushiro Arr**	**3.06**	**287**	Pn	**Pn**	**16 30 20.7**	**+0.6**
	3.0nm,0.3s,baz=94,slow=8.3,SNR=51						
MJAR				Sn	**Sn**	**16 30 58.6**	**+2.1**
	1.9nm,0.3s,baz=117,slow=22,SNR=4.6						
MJAR				LR	LR	16 31 38.5	
	comp=Z,105nm,18.1s,baz=110,slow=42						
MAT	**Matsushiro**	**3.06**	**287**	P	**Pn**	**16 30 21.0**	**+0.9**
MAT				*e*S	**Sn**	**16 30 55.6**	**-1.0**
JHJ	**Hachijo jima 2**	**3.11**	**214**	Pn	**Pn**	**16 30 19.5**	**-1.2**
	36nm,0.3s,baz=83,slow=23,SNR=8.2						
JHJ				Sn	**Sn**	**16 30 55.8**	**-1.8**
	61nm,0.3s,baz=90,slow=20,SNR=6.9						
ASAJ	**Asahikawa**	**8.41**	**4**	Pn	**Pn**	**16 31 32.9**	**-0.6**
	0.5nm,0.3s,baz=219,slow=5.8,SNR=7.7						
ASAJ				Sn	**Sn**	**16 33 06.0**	**-2.2**
	0.1nm,0.3s,baz=152,slow=18,SNR=2.0						
JNU	**Nakatsue**	**9.43**	**257**	LR	LR	16 35 58.4	
	comp=Z,100nm,18.4s,baz=118,slow=41						
H11N2	**WAKE ISLAND Hy 27.19**	**119**		T	T	17 03 41.6	
	baz=311,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy 27.19**	**119**		T	T	17 03 42.2	
	baz=311,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy 27.20**	**119**		T	T	17 03 42.9	
	baz=311,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy 27.86**	**121**		T	T	17 04 33.2	
	baz=314,slow=75,SNR=40						
H11S3	**WAKE ISLAND Hy 27.86**	**121**		T	T	17 04 33.6	
	baz=314,slow=75,SNR=40						
H11S2	**WAKE ISLAND Hy 27.88**	**121**		T	T	17 04 33.3	
	baz=314,slow=75,SNR=26						
SONM	**Songino Array**	**28.82**	**306**	P	**P**	**16 35 29.8**	**-0.2**
	0.2nm,0.4s,baz=105,slow=8.3,SNR=3.4						
MKAR	**Makanchi Array**	**45.12**	**303**	P	**P**	**16 37 48.2**	**+0.2**
	0.3nm,0.7s,baz=88,slow=9.1,SNR=4.6						
KURBB	**Kurchatov Arra**	**47.09**	**309**	P	**P**	**16 38 03.3**	**-0.1**
	0.7nm,0.5s,baz=82,slow=7.2,SNR=5.2						
ILAR	**Eielson Array**	**50.42**	**32**	P	**P**	**16 38 29.9**	**+1.1**
	0.4nm,0.8s,baz=266,slow=6.2,SNR=4.3						
BVAR	**Borovoye Array**	**51.72**	**313**	P	**P**	**16 38 40.3**	**+1.6**
	0.2nm,0.6s,baz=79,slow=7.6,SNR=2.6						
WRA	**Warramunga Arr**	**55.81**	**189**	P	**P**	**16 39 08.3**	**-0.6**
	0.7nm,0.6s,baz=3.1,slow=7.3,SNR=6.7						
ASAR	**Alice Springs**	**59.54**	**188**	P	**P**	**16 39 34.9**	**-0.2**
	0.3nm,0.8s,baz=1.5,slow=5.9,SNR=6.2						
YKA	**Yellowknife Ar**	**64.77**	**30**	P	**P**	**16 40 11.0**	**+1.3**
	0.1nm,0.7s,baz=304,slow=7.1,SNR=3.9						

IDC ***18*** *16:35:01.6±1.0,6.°14N×124.°74E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.4/64, mbtmp3.8/5, MS2.5/1, Ms1 2.5/1, ms1mx2.1/55,

YUK					AMB	AMB	16 38 36.6	
	422nm,0.4s							
YUK					*e*S	**Sn**	**16 38 50.0**	**-0.3**
YUK					A	A	16 38 50.7	
	850nm,0.4s							
YUK					A	A	16 38 50.7	
	130nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**0.79**	**21**	*e*PN		**Pn**	**16 38 35.9**	**+0.1**
YUK				*e*S		**Sn**	**16 38 50.0**	**-0.3**
YUK				pmax	pmax			
	comp=N,89nm,0.2s							
YUK				pmax	pmax			
	comp=Z,421nm,0.2s							
YUK				pmax	pmax			
	comp=E,44nm,0.1s							
YUK				smax	smax			
	comp=E,1μm,0.5s							
YUK				smax	smax			
	comp=N,849nm,0.3s							
LAGR	**Lagunnoye**	**0.79**	**16**	*e*P		**Pn**	**16 38 36.5**	**+0.7**
LAGR				*e*S		**Sn**	**16 38 51.0**	**+0.7**
LAGR	**Lagunnoye**	**0.79**	**16**	*e*PN		**Pn**	**16 38 36.5**	**+0.7**
LAGR				*e*S		**Sn**	**16 38 51.0**	**+0.7**
SHO	**Shikotan**	**1.14**	**59**	*e*P		**Pn**	**16 38 38.8**	**-0.5**
SHO				*e*S		**Sn**	**16 38 55.1**	**-1.4**
SHO				A	A		16 38 56.1	
	comp=N,280nm,0.4s							
SHO				A	A		16 38 56.1	
	comp=N,290nm,0.4s							
SHO	**Shikotan**	**1.14**	**59**	PN		**Pn**	**16 38 38.8**	**-0.5**
SHO				*e*S		**Sn**	**16 38 55.1**	**-1.4**
SHO				smax	smax			
	comp=E,278nm,0.1s							
SHO				smax	smax			
	comp=N,293nm,0.2s							
JAR	**Ashorobuto**	**1.25**	**270**	P		**Pn**	**16 38 41.3**	**+0.7**
JAR				*e*S		**Sn**	**16 38 58.4**	**-0.3**
JOB	**Onbets**	**1.27**	**252**	P		**Pn**	**16 38 41.7**	**+0.9**
JOB				*e*S		**Sn**	**16 38 59.2**	**+0.1**
JTKR	**Abashiri--Toko**	**1.32**	**301**	P		**Pn**	**16 38 41.6**	**+0.2**
JTKR				*e*S		**Sn**	**16 38 59.4**	**-0.8**
JMP	**Maruseppu**	**1.69**	**295**	P		**Pn**	**16 38 46.0**	**+0.1**
JCH	**Churui**	**1.70**	**247**	P		**Pn**	**16 38 46.6**	**+0.7**
JCH				*e*S		**Sn**	**16 39 07.3**	**-0.9**
JKA	**Kamikawa-asahi**	**2.24**	**292**	*e*P		**Pn**	**16 38 53.8**	**+1.1**
ASAJ	**Asahikawa**	**2.24**	**292**	P		**Pn**	**16 38 53.8**	**+1.1**
	comp=N,30nm,0.3s,baz=103,slow=8.6,SNR=331							
ASAJ				S		**Sn**	**16 39 20.3**	**-0.1**
	comp=N,3.1nm,0.3s,baz=151,slow=33,SNR=7.5							
KUR	**Kuril'sk**	**2.58**	**41**	*e*P		**Pn**	**16 38 58.1**	**+1.0**
KUR				*e*S		**Sn**	**16 39 28.9**	**+0.6**
KUR				A	A		16 39 32.3	
	comp=N,520nm,0.6s							
KUR				A	A		16 39 32.3	
	comp=N,23nm,0.6s							
KUR	**Kuril'sk**	**2.58**	**41**	*e*PN		**Pn**	**16 38 58.1**	**+1.0**
KUR				*e*S		**Sn**	**16 39 28.9**	**+0.6**
KUR				smax	smax			
	comp=E,32nm,0.5s							
KUR				smax	smax			
	comp=N,39nm,0.4s							
SONM	**Songino Array**	**27.53**	**293**	P		**P**	**16 43 50.9**	**-1.9**
	comp=N,0.7nm,0.7s,baz=84,slow=8.3,SNR=5.9							
H11N2	**WAKE ISLAND Hy**	**29.59**	**136**	T		T	17 15 16.9	
	baz=328,slow=75							
H11N1	**WAKE ISLAND Hy**	**29.60**	**136**	T		T	17 15 28.9	
	baz=328,slow=75							
H11N3	**WAKE ISLAND Hy**	**29.61**	**136**	T		T	17 15 18.4	
	baz=328,slow=75							
H11S1	**WAKE ISLAND Hy**	**30.52**	**137**	T		T	17 16 36.4	
	baz=329,slow=76							
H11S3	**WAKE ISLAND Hy**	**30.53**	**137**	T		T	17 16 27.2	
	baz=329,slow=76							
H11S2	**WAKE ISLAND Hy**	**30.54**	**137**	T		T	17 16 38.6	
	baz=329,slow=76							
ILAR	**Eielson Array**	**42.57**	**36**	P		**P**	**16 46 02.4**	**+1.3**
	comp=N,0.4nm,0.8s,baz=292,slow=11,SNR=10.0							
MKAR	**Makanchi Array**	**43.72**	**297**	P		**P**	**16 46 10.2**	**-0.4**
	comp=N,0.2nm,0.5s,baz=75,slow=9.4,SNR=5.4							
KURK	**Kurchatov**	**44.77**	**304**	*e*P		**P**	**16 46 19.2**	**+0.3**
KURK	**Kurchatov**	**44.77**	**304**	P		**P**	**16 46 19.2**	**+0.3**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Array**	**44.85**	**304**	P		**P**	**16 46 19.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=69,slow=9.3,SNR=6.8							
INK	**Inuvik**	**47.40**	**30**	P		**P**	**16 46 40.0**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=299,slow=4.7,SNR=7.4							
INK	**Inuvik**	**47.40**	**30**	*e*P		**P**	**16 46 40.0**	**+0.8**
INK	**Inuvik**	**47.40**	**30**	P		**P**	**16 46 40.0**	**+0.8**
INK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	**48.85**	**309**	P		**P**	**16 46 49.9**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=65,slow=10,SNR=3.2							
YKA	**Yellowknife Ar**	**56.85**	**33**	P		**P**	**16 47 49.9**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=302,slow=6.5,SNR=4.4							
FINES	**FINESS Array B**	**64.72**	**332**	P		**P**	**16 48 41.9**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=29,slow=8.0,SNR=9.6							
NOA	**NORSAR Array B**	**69.58**	**338**	P		**P**	**16 49 12.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=33,slow=6.4,SNR=3.0							
HFS	**Hagfors**	**69.63**	**337**	P		**P**	**16 49 13.2**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=74,slow=11,SNR=5.8							
AKASG	**Malin Array Be**	**71.21**	**323**	P		**P**	**16 49 22.7**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=42,slow=6.6,SNR=3.4							

NIED ***18*** *16:40:00,40°.90N×145°.10E,h5km,Mw3.6 Best double couple: M₀3.16000×10¹⁴ NP1:φ₀=81.00000°,δ38.00000°, λ-93.00000°. NP2:φ₀=264.00000°,δ52.00000°, λ-88.00000°.*

IDC ***18*** *16:40:07.8±1.2,40°.79N×144°.84E,h0km,mb3.4/8, mb1 3.6/10,mb1mx3.4/66,mbtmp3.4/10,ML3.1/2,MS2.5/1, Ms1 2.5/1,ms1mx2.1/47, Error ellipse: s-maj=27.5km s-min=21.0km az=125.0*

JMA ***18*** *16:40:08.7±0.2,40°.86N×145°.08E,h65km±4km,M3.7*

ISCJB ***18*** *16:40:10.7±0.7,40°.89N±0°.03×144°.85E±0°.06,h33km, mb3.4/8,Error ellipse: s-maj=6.5km s-min=4.4km az=18.2*

ISC 18 16:40:11.6±1.1,40°.86N±0°.05×144°.98E±0°.08,h35km,n26, σ1§74/36,mb3.4/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.79**	**311**	P	**Pn**	**16 40 39.0**	**-1.0**
JEM				S	**Sn**	**16 41 00.1**	**-1.5**
JCH	**Churui**	**2.13**	**326**	P	**Pn**	**16 40 43.4**	**-1.3**
JCH				S	**Sn**	**16 41 07.4**	**-2.5**
JAK	**Akkeshi**	**2.15**	**354**	P	**Pn**	**16 40 42.9**	**-2.0**
JAK				S	**Sn**	**16 41 08.5**	**-1.8**
JNBK	**Urakawa-nobuka**	**2.19**	**311**	P	**Pn**	**16 40 45.4**	**-0.1**
JNBK				S	**Sn**	**16 41 10.2**	**-1.3**
JOB	**Onbets**	**2.21**	**338**	P	**Pn**	**16 40 44.7**	**-1.1**
JOB				S	**Sn**	**16 41 11.0**	**-1.0**
NEM2	**Nemuro 2**	**2.57**	**12**	S	**Sn**	**16 41 17.6**	**-3.0**
JAR	**Ashorobuto**	**2.60**	**340**	P	**Pn**	**16 40 49.4**	**-1.7**
JAR				S	**Sn**	**16 41 18.8**	**-2.6**
JANG	**Nango**	**2.68**	**261**	P	**Pn**	**16 40 50.7**	**-1.6**
JANG				*e*S	**Sn**	**16 41 20.5**	**-3.1**
JFR	**Furan**	**2.91**	**323**	P	**Pn**	**16 40 54.1**	**-1.3**
JFR				S	**Sn**	**16 41 26.4**	**-2.8**
JOT	**Ohata**	**3.02**	**281**	P	**Pn**	**16 40 56.5**	**-0.4**
JOT				S	**Sn**	**16 41 29.7**	**-2.1**
JOM	**Ohasama**	**3.15**	**245**	P	**Pn**	**16 40 58.1**	**-0.6**
JTKR	**Abashiri--Toko**	**3.21**	**346**	P	**Pn**	**16 40 58.6**	**-0.9**
JEW	**Eniwo**	**3.30**	**308**	P	**Pn**	**16 41 01.2**	**+0.5**
JEW				S	**Sn**	**16 41 37.8**	**-0.9**
JKK2	**Kamakawa 2**	**3.44**	**332**	P	**Pn**	**16 41 02.9**	**+0.2**
JKK2				S	**Sn**	**16 41 42.3**	**+0.2**
JMK	**Ichinoseki**	**3.46**	**238**	S	**Sn**	**16 41 40.4**	**-2.4**
ASAJ	**Asahikawa**	**3.70**	**332**	Pn	**Pn**	**16 41 06.1**	**-0.2**
	1.2nm,0.3s,baz=154,slow=11,SNR=10						
ASAJ				Sn	**Sn**	**16 41 47.9**	**-0.8**
	2.2nm,0.3s,baz=198,slow=20,SNR=3.7						
MJAR	**Matsushiro Arr**	**6.83**	**233**	Pn	**Pn**	**16 41 45.5**	**-3.8**
	0.3nm,0.3s,baz=38,slow=12,SNR=4.6						
MJAR				Sn	**Sn**	**16 43 07.3**	**+1.5**
	0.2nm,0.3s,baz=67,slow=27,SNR=3.0						
PETK	**Petropavlovsk-**	**14.98**	**31**	LR	LR	16 49 01.9	
	comp=Z,20nm,20.5s,baz=254,slow=35						
SEY	**Seymchan**	**22.54**	**9**	P	**P**	**16 45 08.0**	**-0.3**
	0.2nm,0.3s,baz=180,slow=20,SNR=4.4						
SONM	**Songino Array**	**28.23**	**297**	P	**P**	**16 46 02.2**	**+0.9**
	0.2nm,0.3s,baz=92,slow=8.2,SNR=6.1						
MKAR	**Makanchi Array**	**44.55**	**300**	P	**P**	**16 48 21.4**	**+1.5**
	0.3nm,0.6s,baz=88,slow=10,SNR=4.5						
ILAR	**Eielson Array**	**44.77**	**34**	P	P	16 48 24.5	+3.1
	0.2nm,0.7s,baz=272,slow=5.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**45.94**	**306**	P	**P**	**16 48 31.8**	**+1.0**
	0.3nm,0.2s,baz=77,slow=8.5,SNR=4.1						
YKA	**Yellowknife Ar**	**59.10**	**32**	P	P	16 50 10.1	+2.1
	0.2nm,0.5s,baz=302,slow=6.9,SNR=4.6						
WRA	**Warramunga Arr**	**61.29**	**191**	P	**P**	**16 50 24.3**	**+0.8**
	0.7nm,0.7s,baz=7.7,slow=7.0,SNR=5.3						
FINES	**FINESS Array B**	**66.71**	**333**	P	**P**	**16 51 00.1**	**+1.6**
	1.0nm,0.9s,baz=27,slow=9.4,SNR=3.2						

NEIC ***18*** *16:41:16.4±0.0,36°.23S×177°.40E,h213km,ML4.0(WEL), After WEL.*

WEL 18 16:41:17.5±1.1,37°.5S±8°.×177°.8E±°,h232km±6km,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.21**	**151**	Pn	Pn	16 41 51.8	-0.1
MXZ				Sn	S	16 42 18.2	-0.7
MXZ	**Matakaoa Point**	**1.21**	**151**	P	Pn	16 41 51.4	-0.4
MXZ	**Matakaoa Point**	**1.21**	**151**	S	S	16 42 18.8	0.0
HAZ	**Te Kaha**	**1.26**	**173**	P	Pn	16 41 51.7	-0.6
HAZ	**Te Kaha**	**1.26**	**173**	S	S	16 42 18.4	-1.1
PKGZ	**Pakihiroa**	**1.44**	**164**	P	Pn	16 41 53.3	-0.3
PKGZ	**Pakihiroa**	**1.44**	**164**	S	S	16 42 22.1	+0.1
RUGZ	**Raukumara Rang**	**1.46**	**177**	P	Pn	16 41 52.9	-1.0
WMGZ	**Waiomatatini S**	**1.47**	**153**	Pn	Pn	16 41 53.9	+0.1
WMGZ				Sn	S	16 42 22.0	-0.3
WMGZ	**Waiomatatini S**	**1.47**	**153**	P	Pn	16 41 53.8	0.0
WMGZ	**Waiomatatini S**	**1.47**	**153**	S	S	16 42 22.2	-0.2
KUZ	**Kuaotunu**	**1.52**	**260**	P	Pn	16 41 53.3	-0.9
MARZ	**Manawahe**	**1.65**	**206**	P	Pn	16 41 57.3	+2.0
PUZ	**Puketiti**	**1.66**	**161**	Pn	Pn	16 41 55.3	-0.1
PUZ	**Puketiti**	**1.66**	**161**	P	Pn	16 41 55.3	0.0
PUZ	**Puketiti**	**1.66**	**161**	S	S	16 42 25.2	+0.1
TWGZ	**Tauwhareparae**	**1.70**	**169**	Pn	Pn	16 41 56.5	+0.8
TWGZ	**Tauwhareparae**	**1.70**	**169**	P	Pn	16 41 56.5	+0.8
TWGZ	**Tauwhareparae**	**1.70**	**169**	P	Pn	16 41 56.6	+0.8
TWGZ	**Tauwhareparae**	**1.70**	**169**	S	S	16 42 28.6	+2.8
URZ	**Urewera**	**1.79**	**192**	Pn	Pn	16 41 56.6	+0.1
URZ				Sn	S	16 42 27.6	+0.4
URZ	**Urewera**	**1.79**	**192**	P	Pn	16 41 56.6	+0.1
URZ	**Urewera**	**1.79**	**192**	S	S	16 42 27.6	+0.4
MWZ	**Matawai**	**1.83**	**181**	Pn	Pn	16 41 56.9	+0.1
MWZ	**Matawai**	**1.83**	**181**	P	Pn	16 41 57.0	+0.1
MWZ	**Matawai**	**1.83**	**181**	S	S	16 42 28.8	+1.0
TKGZ	**Te Karaka**	**1.94**	**174**	Pn	Pn	16 41 58.3	+0.5
TKGZ	**Te Karaka**	**1.94**	**174**	P	Pn	16 41 58.3	+0.5
TKGZ	**Te Karaka**	**1.94**	**174**	S	S	16 42 31.0	+1.4
WIAZ	**Waiheke Island**	**1.99**	**261**	P	Pn	16 41 57.7	-0.6
RAGZ	**Rawiri**	**1.99**	**184**	Pn	Pn	16 41 59.1	+0.7
RAGZ	**Rawiri**	**1.99**	**184**	P	Pn	16 41 59.2	+0.8
MKAZ	**Moumakai**	**2.03**	**252**	P	Pn	16 41 58.9	+0.1
CNGZ	**Carnagh Statio**	**2.04**	**166**	Pn	Pn	16 41 59.7	+0.9
CNGZ	**Carnagh Statio**	**2.04**	**166**	P	Pn	16 41 59.6	+0.9
MUGZ	**Murupara**	**2.07**	**198**	P	Pn	16 41 59.7	+0.5
RTZ	**Ruatahuna**	**2.16**	**193**	P	Pn	16 42 00.1	+0.1
RIGZ	**Rimuhau**	**2.20**	**176**	P	Pn	16 42 00.9	+0.5
SNGZ	**Shannon Statio**	**2.28**	**185**	Pn	Pn	16 42 01.7	+0.5
SNGZ	**Shannon Statio**	**2.28**	**185**	P	Pn	16 42 01.7	+0.6
MTHZ	**Maungataniwha**	**2.42**	**194**	P	Pn	16 42 03.1	+0.5
PRGZ	**Paritu Road**	**2.43**	**174**	Pn	Pn	16 42 03.1	+0.4
PRGZ	**Paritu Road**	**2.43**	**174**	P	Pn	16 42 03.3	+0.6
RVAZ	**Riverhead Bore**	**2.43**	**263**	P	Pn	16 42 02.5	-0.1
RAHZ	**Arahi**	**2.44**	**189**	P	Pn	16 42 03.7	+0.9
TLZ	**Tolley Road**	**2.44**	**221**	P	Pn	16 42 06.0	+3.2
KNZ	**Kokohu**	**2.51**	**178**	Pn	Pn	16 42 03.8	+0.3
KNZ	**Kokohu**	**2.51**	**178**	P	Pn	16 42 03.8	+0.3
WHHZ	**Waihua**	**2.58**	**186**	P	Pn	16 42 05.2	+0.9
MHGZ	**Mahia Peninsul**	**2.66**	**175**	Pn	Pn	16 42 05.8	+0.7
MHGZ	**Mahia Peninsul**	**2.66**	**175**	P	Pn	16 42 05.7	+0.7
NMHZ	**Naumai**	**2.66**	**193**	Pn	Pn	16 42 06.3	+1.1
NMHZ	**Naumai**	**2.66**	**193**	P	Pn	16 42 06.3	+1.1
ARHZ	**Aropaoanui**	**2.79**	**189**	Pn	Pn	16 42 07.3	+0.7
ARHZ	**Aropaoanui**	**2.79**	**189**	P	Pn	16 42 07.3	+0.8
BKZ	**Black Stump Fm**	**2.79**	**198**	Pn	Pn	16 42 06.6	0.0
BKZ	**Black Stump Fm**	**2.79**	**198**	P	Pn	16 42 06.6	0.0
HIZ	**Hauiti**	**2.95**	**226**	P	Pn	16 42 11.1	+2.8
MCHZ	**McNeill Hill**	**3.02**	**193**	Pn	Pn	16 42 09.8	+0.8
MCHZ	**McNeill Hill**	**3.02**	**193**	P	Pn	16 42 09.9	+0.9
KWHZ	**Kaweka Forest**	**3.06**	**197**	P	Pn	16 42 09.7	+0.2
OTVZ	**Oturere**	**3.06**	**209**	Pn	Pn	16 42 10.3	+0.7
NGZ	**Ngauruhoe**	**3.09**	**210**	P	Pn	16 42 11.6	+1.6
TUVZ	**Tukino**	**3.15**	**208**	P	Pn	16 42 11.4	+0.7
CKHZ	**Cape Kidnapper**	**3.17**	**187**	Pn	Pn	16 42 11.1	+0.4
CKHZ	**Cape Kidnapper**	**3.17**	**187**	P	Pn	16 42 11.2	+0.4
FWVZ	**Far West T-bar**	**3.18**	**210**	Pn	Pn	16 42 11.7	+0.6
FWVZ	**Far West T-bar**	**3.18**	**210**	P	Pn	16 42 11.7	+0.6
BHHZ	**Black Hill Sta**	**3.21**	**201**	Pn	Pn	16 42 11.2	-0.1
BHHZ	**Black Hill Sta**	**3.21**	**201**	P	Pn	16 42 11.2	0.0
WNVZ	**Wahianoa**	**3.23**	**209**	Pn	Pn	16 42 11.8	+0.3
MOVZ	**Moawhango**	**3.24**	**206**	P	Pn	16 42 11.9	+0.4
KRHZ	**Kereru**	**3.28**	**197**	P	Pn	16 42 12.0	0.0
PKVZ	**Pokaka**	**3.29**	**212**	P	Pn	16 42 13.7	+1.5
MTVZ	**Mangateitei**	**3.33**	**209**	Pn	Pn	16 42 13.2	+0.6
MTVZ	**Mangateitei**	**3.33**	**209**	P	Pn	16 42 13.2	+0.6
KAHZ	**Kahuranaki**	**3.33**	**189**	Pn	Pn	16 42 13.1	+0.5
KAHZ	**Kahuranaki**	**3.33**	**189**	P	Pn	16 42 13.0	+0.4
VRZ	**Vera Road**	**3.44**	**220**	P	Pn	16 42 17.6	+3.8
PXZ	**Pawanui**	**3.57**	**189**	Pn	Pn	16 42 14.9	-0.3
PXZ	**Pawanui**	**3.57**	**189**	P	Pn	16 42 15.1	-0.2
PNHZ	**Pukenui**	**3.57**	**197**	Pn	Pn	16 42 14.9	-0.5
PNHZ	**Pukenui**	**3.57**	**197**	P	Pn	16 42 15.0	-0.4
TSZ	**Takapari Road**	**3.77**	**199**	Pn	Pn	16 42 17.2	-0.5
TSZ	**Takapari Road**	**3.77**	**199**	P	Pn	16 42 17.1	-0.7
PRHZ	**Porangahau**	**3.83**	**191**	Pn	Pn	16 42 18.3	-0.1
PRHZ	**Porangahau**	**3.83**	**191**	P	Pn	16 42 18.3	0.0
DVHZ	**Dannevirke**	**3.95**	**196**	P	Pn	16 42 19.0	-0.9
ANWZ	**Angora Road**	**4.04**	**192**	P	Pn	16 42 20.7	-0.2
PRWZ	**Pori Road**	**4.24**	**197**	P	Pn	16 42 23.2	-0.1
BFZ	**Birch Farm**	**4.30**	**194**	Pn	Pn	16 42 23.2	-0.9
BFZ	**Birch Farm**	**4.30**	**194**	P	Pn	16 42 23.3	-0.8
MRZ	**Mangatainoka R**	**4.44**	**200**	Pn	Pn	16 42 24.5	-1.2
MRZ	**Mangatainoka R**	**4.44**	**200**	P	Pn	16 42 24.6	-1.1
HOWZ	**Holdsworth Sta**	**4.67**	**200**	Pn	Pn	16 42 27.1	-1.5
HOWZ	**Holdsworth Sta**	**4.67**	**200**	P	Pn	16 42 27.3	-1.3
OGWZ	**Otaki Gorge**	**4.70**	**203**	Pn	Pn	16 42 27.9	-1.1
OGWZ	**Otaki Gorge**	**4.70**	**203**	P	Pn	16 42 27.9	-1.0
TMWZ	**Te Maipa**	**4.78**	**196**	Pn	Pn	16 42 29.2	-0.7
TMWZ	**Te Maipa**	**4.78**	**196**	P	Pn	16 42 28.9	-1.0
KIW	**Kapiti Island**	**4.83**	**205**	Pn	Pn	16 42 29.0	-1.5
KIW	**Kapiti Island**	**4.83**	**205**	P	Pn	16 42 29.5	-0.9
MTW	**Mount Morrison**	**4.92**	**199**	P	Pn	16 42 30.4	-1.2
CAW	**Cannon Point**	**5.00**	**202**	P	Pn	16 42 31.0	-1.6
MSWZ	**Moikau Station**	**5.23**	**200**	P	Pn	16 42 35.5	0.0
BHW	**Baring Head**	**5.33**	**203**	P	Pn	16 42 35.6	-1.2
TCW	**Tory Channel**	**5.36**	**208**	P	Pn	16 42 37.0	-0.1
PLWZ	**Palliser**	**5.37**	**199**	P	Pn	16 42 35.8	-1.5
TUWZ	**Tuamarina**	**5.68**	**209**	P	Pn	16 42 39.3	-1.7
QRZ	**Quartz Range**	**5.85**	**221**	P	Pn	16 42 43.3	0.0
THZ	**Tophouse**	**6.38**	**213**	P	Pn	16 42 50.3	+0.3
KHZ	**Kahutara**	**6.68**	**207**	P	Pn	16 42 53.1	-0.6
LTZ	**Lake Taylor**	**7.49**	**212**	P	Pn	16 43 05.2	+1.1
WHZ	**Wether Hill Ro**	**11.85**	**215**	P	Pn	16 43 58.2	-1.2

IDC 18 16:58:22.0±5.7,15°.37S×175°.20E,h650km±130km, mb2.4/3,mb1 2.7/4,mb1mx2.5/42,mbtmp3.5/4,Error ellipse: s-maj=254.3km s-min=42.0km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.64**	**230**	P	P	17 00 47.8	-0.3
	0.4nm,0.3s,baz=45,slow=20,SNR=6.9						
WRA	**Warramunga Arr**	**39.14**	**257**	P	P	17 04 56.5	-0.4
	0.3nm,0.8s,baz=90,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**39.68**	**251**	P	P	17 05 01.5	+0.3
	0.2nm,0.3s,baz=83,slow=8.8,SNR=12						
ILAR	**Eielson Array**	**84.94**	**15**	P	P	17 09 50.1	0.0
	0.3nm,0.6s,baz=230,slow=5.5,SNR=5.0						

IDC 18 16:59:44.5±4.6,15°.25S×175°.21E,h616km±62km,mb2.7/5, mb1 3.0/6,mb1mx2.8/42,mbtmp3.7/6,Error ellipse: s-maj=97.8km s-min=36.9km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.73**	**229**	P	P	17 02 11.9	+1.0
	1.1nm,0.3s,baz=273,slow=22,SNR=15						
WRA	**Warramunga Arr**	**39.17**	**257**	P	P	17 06 20.9	-0.7
	0.3nm,0.4s,baz=89,slow=8.2,SNR=15						
ASAR	**Alice Springs**	**39.73**	**251**	P	P	17 06 25.8	-0.3
	0.3nm,0.4s,baz=84,slow=8.5,SNR=9.6						
CMAR	**Chiang Mai Arr**	**82.23**	**291**	P	P	17 11 04.7	+1.5
	0.6nm,0.7s,baz=127,slow=4.1,SNR=4.4						
ILAR	**Eielson Array**	**84.82**	**15**	P	P	17 11 14.2	-0.7
	0.3nm,0.6s,baz=228,slow=6.2,SNR=7.4						
SONM	**Songino Array**	**87.60**	**321**	P	P	17 11 28.7	+0.1
	0.3nm,0.9s,baz=126,slow=4.4,SNR=4.0						
ARCES	**ARCESS Array B**	**122.53**	**348**	PKP	PKPdf	17 17 31.0	+0.4
	6.4nm,1.1s,baz=62,slow=2.1,SNR=4.0						
GERES	**GERESS Array B**	**143.22**	**340**	PKP	PKPbc	17 18 08.8	+0.4
	0.5nm,0.6s,baz=26,slow=3.4,SNR=6.0						

ISCJB ***18*** *17:00:19.7±0.6,55°.20S±0°.07×140°.3E±0°.3,h10km, mb4.4/12,MS3.5/16,Error ellipse: s-maj=28.3km s-min=9.3km az=3.9*

IDC ***18*** *17:00:19.7±0.7,55°.22S×140°.88E,h0km,mb4.3/8, mb1 4.4/8,mb1mx4.2/40,mbtmp4.3/8,MS3.6/16, Ms1 3.6/16,ms1mx3.4/34, Error ellipse: s-maj=44.4km s-min=15.1km az=89.0*

NEIC ***18*** *17:00:21.6±0.5,55°.22S×140°.65E,h10km,mb4.5/8,Error ellipse: s-maj=23.9km s-min=8.9km az=92.0*

ISC 18 17:00:21.1±0.6,55°.22S±0°.09×140°.7E±0°.2,h10km,n53, σ1§41/37,mb4.5/12,MS3.5/16,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	**Casey**	**18.20**	**221**	*e*Pn	**Pn**	**17 04 32.4**	**-1.0**
	22nm,0.9s						
BBOO	**Buckleboo**	**22.64**	**350**	*e*P	**P**	**17 05 22.6**	**+0.5**
	22nm,1.0s						
RPZ	**Rata Peaks**	**22.66**	**72**	LR	LR	17 12 49.6	
	comp=Z,240nm,18.9s,baz=224,slow=33						
STKA	**Stephens Creek**	**23.35**	**2**	P	**P**	**17 05 30.6**	**+1.2**
	8.0nm,0.7s,baz=175,slow=9.9,SNR=16						
STKA				LR	LR	17 12 50.9	
	comp=Z,145nm,19.7s,baz=191,slow=32						
STKA	**Stephens Creek**	**23.35**	**2**	*e*P	**P**	**17 05 30.9**	**+1.6**
	2.0nm,0.8s						
VNDA	**Vanda**	**23.63**	**169**	P	**P**	**17 05 31.9**	**0.0**
	4.7nm,0.9s,baz=330,slow=11,SNR=13						
VNDA				LR	LR	17 13 47.2	
	comp=Z,146nm,19.7s,baz=340,slow=34						
VNDA	**Vanda**	**23.63**	**169**	*e*P	**P**	**17 05 32.4**	**+0.6**
	18nm,0.9s						
NWAO	**Narrogin (SRO)**	**27.69**	**314**	LR	LR	17 14 28.6	
	comp=Z,112nm,20.0s,baz=34,slow=31						
AS01	**Alice Springs**	**31.91**	**348**	*e*P	**P**	**17 06 43.7**	**-2.9**
ASAR	**Alice Springs**	**31.92**	**348**	P	**P**	**17 06 46.6**	**0.0**
	4.9nm,0.7s,baz=167,slow=9.7,SNR=84						
ASAR				PcP	**PcP**	**17 09 36.4**	**-0.6**
	0.4nm,0.7s,baz=170,slow=2.7,SNR=3.4						
ASAR				LR	LR	17 19 05.7	
	comp=Z,97nm,18.0s,baz=166,slow=35						
AS31	**Alice Springs**	**31.92**	**348**	*e*P	**P**	**17 06 47.0**	**+0.3**
	2.4nm,0.6s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.40**	**25**	Pn	**Pn**	**17 04 06.1**	**+1.0**
	4.2nm,0.3s,baz=187,slow=8.1,SNR=4.2						
AFI				Sn	**Sn**	**17 04 54.1**	**-1.0**
	10nm,0.3s,baz=196,slow=12,SNR=3.6						
AFI	**Afiamalu**	**4.40**	**25**	*e*Pn	**Pn**	**17 04 05.6**	**+0.6**
AFI				Sn	**Sn**	**17 04 54.1**	**-1.0**
DZM	**Mont Dzumac**	**19.11**	**254**	P	**P**	**17 07 19.1**	**-1.5**
	0.1nm,0.3s,baz=94,slow=19,SNR=2.2						
DZM	**Mont Dzumac**	**19.11**	**254**	*e*P	**Pn**	**17 07 23.2**	**+1.5**
	22nm,0.9s						
DZM				*e*LR	LR	17 11 59.5	
	106nm,22.8s						
DZM	**Mont Dzumac**	**19.11**	**254**	*e*P	**Pn**	**17 07 22.6**	**+0.9**
	12nm,1.0s						
THZ	**Tophouse**	**26.38**	**203**	*e*P	**P**	**17 08 33.6**	**+0.1**
	15nm,0.8s						
HNR	**Honiara**	**26.94**	**285**	LR	LR	17 18 15.9	
	comp=Z,100nm,18.8s,baz=278,slow=34						
CTA	**Charters Tower**	**37.87**	**260**	P	**P**	**17 10 14.1**	**-0.3**
	2.7nm,0.4s,baz=88,slow=11,SNR=5.5						
PMG	**Port Moresby**	**38.91**	**277**	LR	LR	17 25 16.2	
	comp=Z,43nm,18.7s,baz=42,slow=34						
STKA	**Stephens Creek**	**42.58**	**242**	LR	LR	17 25 40.1	
	comp=Z,37nm,20.5s,baz=24,slow=32						
WRA	**Warramunga Arr**	**49.04**	**259**	P	**P**	**17 11 43.5**	**-0.9**
	0.7nm,0.4s,baz=96,slow=7.7,SNR=27						
AS31	**Alice Springs**	**49.10**	**254**	*e*P	**P**	**17 11 44.2**	**-0.6**
	1.0nm,0.7s						
ASAR	**Alice Springs**	**49.11**	**254**	P	**P**	**17 11 44.2**	**-0.7**
	3.1nm,0.6s,baz=96,slow=7.9,SNR=48						
ASAR				PcP	**PcP**	**17 13 08.6**	**+0.5**
	0.6nm,0.9s,baz=96,slow=3.9,SNR=2.6						
RPV	**Rancho Palos V**	**73.59**	**46**	*e*P	**P**	**17 14 26.2**	**-4.0**
CNIC	**Niles Canyon**	**73.60**	**41**	*e*P	**P**	**17 14 31.2**	**+1.0**
OAT	**Oat Mountain**	**73.79**	**45**	*e*P	**P**	**17 14 30.3**	**-1.3**
DNR	**Dunn Ranch,Anz**	**74.70**	**47**	*e*P	**P**	**17 14 37.0**	**+0.1**
NVAR	**Mina Array Bea**	**76.39**	**42**	P	**P**	**17 14 47.5**	**+1.0**
	0.5nm,0.7s,baz=235,slow=7.6,SNR=3.5						
ILAR	**Eielson Array**	**84.97**	**11**	P	**P**	**17 15 33.4**	**+1.8**
	0.7nm,0.7s,baz=213,slow=5.8,SNR=10						
BRTR	**Keskin Array B**	**147.90**	**318**	PKPbc	**PKPbc**	**17 22 43.0**	**+0.6**
	0.5nm,0.9s,baz=60,slow=3.5,SNR=2.9						
GERES	**GERESS Array B**	**148.59**	**351**	PKPbc	**PKPab**	**17 22 46.3**	**-1.0**
	0.2nm,0.4s,baz=7.8,slow=2.2,SNR=2.3						

ISCJB ***18*** *17:21:19.9±0.4,24.2°92N±0.0°08×45.2°83W±0.0°06,h15km, mb4.2/34,MS3.7/28,Error ellipse: s-maj=11.1km s-min=8.0km az=173.8*

IDC ***18*** *17:21:19.4±0.6,24.1°91N×45.2°86W,h0km,mb4.0/20, mb1 4.2/20,mb1mx3.9/60,mbtmp4.0/20,MS3.7/27, Ms1 3.7/27,ms1mx3.4/49,Error ellipse: s-maj=19.2km s-min=14.6km az=136.0*

NEIC ***18*** *17:21:20.7±0.4,24.1°87N×45.2°82W,h10km,mb4.5/15,Error ellipse: s-maj=10.5km s-min=7.6km az=175.0*

ISC 18 17:21:21.5±0.6,24°9N±0.1°×45°81W±0.1°10,h15km,n84, σ1ˢ49/59,mb4.2/34,MS3.7/28,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**28.50**	**240**	LR	LR	17 37 23.1	
	comp=Z,51nm,21.2s,baz=60,slow=34						
BBTS	**Babate**	**29.30**	**105**	LR	LR	17 36 23.5	
	comp=Z,160nm,20.8s,baz=260,slow=31						
SCHQ	**Schefferville**	**33.72**	**338**	LR	LR	17 40 26.0	
	comp=Z,122nm,21.6s,baz=86,slow=34						
TKL	**Tuckaleechee C**	**34.32**	**297**	LR	LR	17 39 14.3	
	comp=Z,251nm,21.9s,baz=118,slow=31						
SAML	**Samuel**	**37.65**	**209**	*e*P	**P**	**17 28 36.6**	**+0.5**
	6.6nm,0.9s						
PLAL	**Pickwick Lake**	**37.75**	**296**	*e*P	**P**	**17 28 39.3**	**+2.4**
	11nm,1.3s						
KOWA	**Kowa**	**40.54**	**97**	LR	LR	17 44 07.8	
	comp=Z,186nm,19.1s,baz=218,slow=34						
W40A	**Ferguson Farm,**	**41.85**	**296**	*e*P	**P**	**17 29 12.9**	**+2.0**
	7.5nm,0.9s						
SFJD	**Kangerlussuaq**	**42.23**	**357**	LR	LR	17 43 29.4	
	comp=Z,73nm,18.8s,baz=167,slow=32						
DBIC	**Dimbokro**	**43.14**	**108**	LR	LR	17 44 13.7	
	comp=Z,164nm,20.0s,baz=282,slow=32						
SIV	**San Ignacio**	**43.26**	**202**	P	**P**	**17 29 21.9**	**-0.7**
	2.8nm,1.0s,baz=56,slow=10.0,SNR=7.6						
H10N2	**ASCENSION HYDR**	**44.59**	**133**	T	T	18 17 11.2	
	baz=317,slow=75,SNR=143						
H10N3	**ASCENSION HYDR**	**44.59**	**133**	T	T	18 17 11.2	
	baz=317,slow=75,SNR=219						
H10N1	**ASCENSION HYDR**	**44.60**	**133**	T	T	18 17 03.2	
	baz=317,slow=75,SNR=233						
H10S3	**ASCENSION HYDR**	**45.30**	**134**	T	T	18 18 00.4	
	baz=318,slow=75,SNR=176						
H10S1	**ASCENSION HYDR**	**45.30**	**134**	T	T	18 18 02.1	
	baz=318,slow=75,SNR=174						
H10S2	**ASCENSION HYDR**	**45.32**	**134**	T	T	18 18 08.7	
	baz=318,slow=75,SNR=185						
ULM	**Lac du Bonnet**	**45.97**	**317**	P	**P**	**17 29 42.7**	**-1.2**
	4.2nm,1.0s,baz=102,slow=7.1,SNR=6.6						
ULM				LR	LR	17 47 25.1	
	comp=Z,142nm,18.8s,baz=110,slow=34						
TOA1	**Torodi Ar. Sit**	**46.19**	**96**	*e*P	**P**	**17 29 46.6**	**+0.6**
TOA0	**Torodi Ar. Sit**	**46.19**	**96**	*e*P	**P**	**17 29 43.7**	**-2.4**
TORD	**Torodi Ar. Bea**	**46.19**	**96**	P	**P**	**17 29 46.6**	**+0.5**
	1.1nm,0.9s,baz=297,slow=9.3,SNR=4.7						
TORD				LR	LR	17 47 50.6	
	comp=Z,153nm,18.6s,baz=280,slow=34						
LPAZ	**La Paz**	**46.34**	**210**	P	**P**	**17 29 48.7**	**+0.8**
	5.3nm,0.9s,baz=28,slow=7.6,SNR=15						
LPAZ				LR	LR	17 48 10.7	
	comp=Z,54nm,21.0s,baz=5.0,slow=35						
LPAZ	**La Paz**	**46.34**	**210**	*e*P	**P**	**17 29 47.2**	**-0.7**
	10nm,1.1s						
WMOK	**Wichita Mounta**	**46.55**	**295**	*e*P	**P**	**17 29 49.7**	**+1.0**
	6.3nm,1.1s						
FCC	**Fort Churchill**	**47.77**	**328**	*e*P	**P**	**17 29 58.3**	**+0.5**
	4.7nm,1.0s						
KEST	**Kesra**	**48.28**	**63**	P	P	17 30 11.8	+9.5
	3.2nm,0.8s,baz=277,slow=8.1,SNR=4.3						
FFC	**Flin Flon**	**50.65**	**321**	*e*P	**P**	**17 30 20.3**	**+0.3**
	5.7nm,1.0s						
LTX	**Lajitas**	**51.26**	**289**	*e*P	**P**	**17 30 25.5**	**+0.5**
TXAR	**Lajitas Array**	**51.26**	**289**	P	**P**	**17 30 25.5**	**+0.5**
	0.5nm,0.5s,baz=83,slow=7.4,SNR=4.9						
TXAR				LR	LR	17 51 02.0	
	comp=Z,45nm,22.0s,baz=0.0,slow=35						
CLL	**Collm**	**51.62**	**43**	*e*P	**P**	**17 30 27.0**	**-0.2**
CLL				*e*gP	**pP**	**17 30 30.0**	**-2.0**
KHC	**Kasperske Hory**	**51.74**	**46**	*e*P	**P**	**17 30 27.5**	**-0.8**
GEA0	**GERESS Array S**	**51.79**	**46**	*e*P	**P**	**17 30 27.9**	**-0.8**
GERES	**GERESS Array B**	**51.79**	**46**	P	**P**	**17 30 28.3**	**-0.4**
	0.2nm,0.3s,baz=268,slow=7.6,SNR=5.8						
CPUP	**Villa Florida**	**52.11**	**193**	LR	LR	17 51 27.7	
	comp=Z,38nm,21.3s,baz=132,slow=35						
NB200	**NORSAR Array S**	**52.69**	**31**	*e*P	**P**	**17 30 34.5**	**-0.7**
NOA	**NORSAR Array B**	**52.69**	**31**	P	**P**	**17 30 34.5**	**-0.7**
	0.5nm,0.6s,baz=258,slow=10,SNR=2.4						
TULEG	**Thule**	**52.95**	**353**	*e*P	**P**	**17 30 36.0**	**-0.8**
	8.2nm,1.3s						
HFS	**Hagfors**	**53.64**	**32**	P	**P**	**17 30 42.0**	**-0.1**
	2.1nm,0.9s,baz=252,slow=7.4,SNR=2.2						
HFS				LR	LR	17 49 49.2	
	comp=Z,35nm,19.1s,baz=261,slow=32						
PV09	**Paradox Valley**	**54.60**	**301**	*e*P	**P**	**17 30 46.3**	**-3.5**
PDAR	**Pinedale Array**	**54.63**	**306**	P	**P**	**17 30 50.5**	**+0.6**
	1.6nm,0.9s,baz=76,slow=9.3,SNR=9.2						
PDAR				LR	LR	17 53 38.9	
	comp=Z,91nm,18.1s,baz=62,slow=36						
PDAR	**Pinedale Array**	**54.63**	**306**	*e*P	**P**	**17 30 48.3**	**-1.6**
FXWY	**Fox Creek**	**55.66**	**307**	*e*P	**P**	**17 30 57.6**	**+0.3**
	1.0nm,0.8s						
BOZ	**Bozeman (W)**	**56.01**	**309**	*e*P	**P**	**17 30 59.5**	**-0.2**
	4.8nm,1.4s						
MPU	**Maple Canyon**	**56.39**	**303**	*e*P	**P**	**17 31 01.4**	**-1.1**
	4.2nm,0.9s						
EDM	**Edmonton**	**57.12**	**319**	*e*P	**P**	**17 31 08.2**	**+0.8**
	10nm,0.9s						
HLID	**Hailey**	**58.12**	**307**	*e*P	**P**	**17 31 14.0**	**-0.8**
	1.4nm,0.8s						
LPIG	**La Paz**	**58.18**	**284**	LR	LR	17 55 32.7	
	comp=Z,41nm,21.5s,baz=118,slow=35						
YKA	**Yellowknife Ar**	**58.46**	**329**	P	**P**	**17 31 16.1**	**-0.5**
	1.0nm,0.8s,baz=95,slow=7.6,SNR=15						
YKA				LR	LR	17 57 06.8	
	comp=Z,6.7nm,18.8s,baz=0.0,slow=37						
YKB5	**Yellowknife Ar**	**58.46**	**329**	*e*P	**P**	**17 31 16.1**	**-0.5**
NEW	**Newport**	**59.62**	**313**	*e*P	**P**	**17 31 24.9**	**-0.1**
	4.9nm,0.8s						
FIA0	**FINESS Array S**	**59.83**	**32**	*e*P	**P**	**17 31 25.6**	**-0.3**
FINES	**FINESS Array B**	**59.83**	**32**	P	**P**	**17 31 25.7**	**-0.3**
	1.4nm,0.9s,baz=253,slow=8.3,SNR=2.5						
MLR	**Muntele Rosu**	**60.17**	**50**	LR	LR	17 55 45.2	
	comp=Z,4.6nm,18.3s,baz=302,slow=34						
ARA0	**ARCESS Array S**	**60.40**	**23**	*e*P	**P**	**17 31 31.2**	**+1.4**
ARCES	**ARCESS Array B**	**60.40**	**23**	P	**P**	**17 31 31.3**	**+1.4**
	4.2nm,0.8s,baz=271,slow=6.0,SNR=4.9						
ERPC	**Ernies Place**	**60.74**	**295**	*e*P	**P**	**17 31 28.8**	**-3.9**
DNR	**Dunn Ranch,Anz**	**61.36**	**296**	*e*P	**P**	**17 31 35.1**	**-2.0**
NVAR	**Mina Array Bea**	**61.74**	**302**	P	**P**	**17 31 39.3**	**-0.5**
	0.3nm,0.5s,baz=96,slow=5.7,SNR=2.8						
NVAR				LR	LR	17 56 20.3	
	comp=Z,187nm,21.4s,baz=271,slow=34						
AKASG	**Malin Array Be**	**61.83**	**44**	P	**P**	**17 31 40.1**	**+0.3**
	0.5nm,0.6s,baz=277,slow=6.3,SNR=5.6						
WBSM	**Bird Springs**	**62.17**	**299**	*e*P	**P**	**17 31 38.0**	**-4.7**
GVRC	**Garvey Reservo**	**62.47**	**297**	*e*P	**P**	**17 31 41.6**	**-2.8**
BAKC	**Calstate**	**62.98**	**298**	*e*P	**P**	**17 31 51.6**	**+3.8**
YBH	**Yreka Blue Hor**	**64.44**	**306**	LR	LR	17 57 55.7	
	comp=Z,87nm,21.6s,baz=71,slow=34						
MHC	**Mount Hamilton**	**64.54**	**301**	*e*P	**P**	**17 31 58.2**	**0.0**
CPIM	**Pinole Ridge**	**64.84**	**302**	*e*P	**P**	**17 32 00.5**	**+0.5**
BR101	**Keskin Array S**	**66.76**	**56**	*e*P	**P**	**17 32 13.1**	**+0.6**
BRTR	**Keskin Array B**	**66.76**	**56**	P	**P**	**17 32 13.1**	**+0.6**
	0.8nm,0.8s,baz=291,slow=3.4,SNR=4.7						
PLCA	**Paso Flores**	**69.21**	**200**	P	**P**	**17 32 28.3**	**+0.7**
	2.8nm,0.9s,baz=28,slow=5.0,SNR=5.5						
IL1	**Eielson Array**	**72.35**	**334**	*e*P	**P**	**17 32 46.5**	**+0.1**
ILAR	**Eielson Array**	**72.35**	**334**	P	**P**	**17 32 46.8**	**+0.4**
	1.9nm,1.0s,baz=66,slow=4.3,SNR=13						
ILAR				LR	LR	18 04 50.2	
	comp=Z,119nm,18.6s,baz=98,slow=36						
AKTO	**Aktyubinsk**	**79.47**	**39**	LR	LR	18 06 35.2	
	comp=Z,27nm,20.1s,baz=207,slow=34						
NRIK	**Noril'sk**	**80.22**	**15**	LR	LR	18 06 18.8	
	comp=Z,299nm,21.9s,baz=258,slow=34						
ATD	**Arta Tunnel**	**84.03**	**80**	LR	LR	18 11 37.4	
	comp=Z,29nm,18.7s,baz=64,slow=36						
KMBO	**Kilima Mbogo**	**84.17**	**94**	LR	LR	18 09 29.3	
	comp=Z,55nm,20.8s,baz=90,slow=34						
BVAR	**Borovoye Array**	**84.77**	**33**	P	**P**	**17 33 56.5**	**+1.4**
	0.9nm,0.7s,baz=298,slow=3.1,SNR=7.5						
MATP	**Matopo**	**85.11**	**115**	LR	LR	18 05 39.2	
	comp=Z,42nm,19.2s,baz=302,slow=31						
BOSA	**Boshof**	**86.57**	**124**	LR	LR	18 05 49.7	
	comp=Z,43nm,19.6s,baz=224,slow=31						
KURK	**Kurchatov**	**90.20**	**32**	*e*P	**P**	**17 34 22.6**	**+1.3**
KURBB	**Kurchatov Arra**	**90.22**	**32**	P	**P**	**17 34 22.6**	**+1.2**
	0.8nm,0.7s,baz=310,slow=5.2,SNR=12						
ZAA1	**Zalesovo Array**	**90.69**	**27**	*e*P	**P**	**17 34 24.5**	**+1.0**
ZALV	**Zalesovo Beam**	**90.70**	**27**	P	**P**	**17 34 24.5**	**+1.0**
	0.6nm,0.3s,baz=320,slow=6.4,SNR=3.2						
WSAR	**Wadi Sarin**	**92.53**	**63**	LR	LR	18 18 29.6	
	comp=Z,22nm,19.9s,baz=16,slow=37						
PETK	**Petropavlovsk-**	**99.69**	**346**	LR	LR	18 20 37.4	
	comp=Z,32nm,21.8s,baz=38,slow=36						
AFI	**Afiamalu**	**128.17**	**272**	PKP	**PKPdf**	**17 40 27.0**	**-1.1**
	6.9nm,0.3s,baz=69,slow=6.2,SNR=1.8						

DJA 18 17:22:01.4±1.5,1°S±11°×13°4E±°,h36km±6km,M3.6/4, MLv3.6/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.96**	**171**	P	Pn	17 22 18.7	+0.4
RKPI				S	Sn	17 22 31.6	+0.9
SWI	**Sorong**	**2.78**	**264**	P	Pn	17 22 43.3	0.0
SWI				S	Sn	17 23 16.5	+0.9
FAKI	**Fak Fak**	**2.94**	**217**	P	Pn	17 22 45.4	-0.2

NDI ***18*** *17:23:57.8±2.2,24.2°94N×92.2°30E,h30km,ML3.6*

ISC 18 17:23:57.5±1.9,24°91N±0.0°04×92°32E±0.0°06,h34km±4km, n9,σ1ˢ45/18,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.77**	**329**	*i* PGCN	**Pn**	**17 24 14.5**	**+2.4**
SHL				*i* SG	**Sn**	**17 24 23.5**	**+0.9**
GUWA	**GUWAHATI**	**1.40**	**336**	*e*P	**Pn**	**17 24 21.0**	**+0.3**
GUWA				*e*S	**Sn**	**17 24 37.3**	**-0.8**
AGT	**Agartala**	**1.41**	**224**	*e*P	**Pb**	**17 24 23.0**	**-0.2**
AGT				*e*S	**Sb**	**17 24 40.3**	**-0.5**
AGT				IAML		17 24 42.6	
	comp=N,524nm,0.3s						
AGT				IAML		17 24 42.7	
	comp=E,387nm,0.3s						
TEZP	**TEZPUR**	**1.76**	**14**	*e*P	**Pn**	**17 24 26.3**	**+0.7**
TEZP				*e*S	**Sn**	**17 24 46.2**	**-0.6**
TEZP				IAML		17 24 47.1	
	comp=E,624nm,0.1s						
TEZP				IAML		17 24 47.3	
	comp=N,1μm,0.1s						
BELO	**BELONIA**	**1.83**	**206**	*e*P	**Pn**	**17 24 28.4**	**+1.8**
BELO				*e*S	**Sn**	**17 24 48.4**	**-0.2**
BELO				IAML		17 24 52.0	
	comp=E,5μm,0.2s						
BELO				IAML		17 24 52.1	
	comp=N,10μm,0.1s						
DHUB	**DHUBRI**	**2.37**	**298**	*e*P	**Pn**	**17 24 34.4**	**+0.4**
DHUB				*e*S	**Sn**	**17 24 60.0**	**-2.1**
DHUB				IAML		17 25 02.0	
	comp=N,322nm,0.1s						
DHUB				IAML		17 25 02.1	
	comp=E,308nm,0.1s						
SAIH	**SAIHA**	**2.48**	**166**	*e*P	**Pn**	**17 24 37.1**	**+1.4**
SAIH				*e*S	**Sn**	**17 25 02.9**	**-2.0**
SAIH				IAML		17 25 08.2	
	comp=N,65nm,0.2s						
SAIH				IAML		17 25 08.3	
	comp=E,80nm,0.1s						
ITAN	**ITANAGAR**	**2.56**	**29**	*e*P	**Pn**	**17 24 38.2**	**+1.5**
ITAN				*e*S	**Sn**	**17 25 05.3**	**-1.4**
ITAN				IAML		17 25 11.4	
	comp=E,966nm,0.2s						
ITAN				IAML		17 25 11.6	
	comp=N,786nm,0.2s						
ZIRO	**ZIRO**	**2.95**	**27**	*e*P	**Pn**	**17 24 43.3**	**+1.1**
ZIRO				*e*S	**Sn**	**17 25 15.2**	**-1.4**
ZIRO				IAML		17 25 18.1	
	comp=N,1μm,0.2s						
ZIRO				IAML		17 25 18.4	
	comp=E,2μm,0.5s						

MAN 18 17:34:51,10°03N×123°22E,h1km,mb4.2,ML3.0,MS2.7, 2C-1D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.69**	**179**	*i*P	Pg	17 35 04.3	+0.1
SNPH				*i* S	Sg	17 35 13.6	+0.5
TBP	**Tagbilaran**	**0.72**	**118**	*e*P	Pg	17 35 04.8	0.0
LLP	**Lapu-Lapu**	**0.79**	**69**	*e*P	Pg	17 35 06.0	-0.2
LLP				*e*S	Sg	17 35 17.1	+0.7
GUIM	**Jordan**	**0.85**	**314**	*e*P	Pg	17 35 07.2	-0.3
GUIM				*e*S	Sb	17 35 19.7	-0.9
RCP	**Roxas**	**1.59**	**343**	*e*P	Pb	17 35 20.8	-0.4
RCP				*e*S	Sg	17 35 43.6	+1.5
MSLP	**Maasin**	**1.62**	**86**	*e*P	Pn	17 35 20.2	-0.5
MSLP				*e*S	Sg	17 35 43.5	+0.4
OCLP	**Ormoc**	**1.70**	**53**	*e*P	Pn	17 35 22.3	+0.4
OCLP				*e*S	Sg	17 35 45.9	+0.1

ISCJB ***18*** *17:35:51.8±0.6,3°50S±0.0°05×138°95E±0.0°06,h35km, mb3.6/5,MS3.1/1,Error ellipse: s-maj=8.7km s-min=7.0km az=44.8*

IDC ***18*** *17:35:51.8±1.5,2°43S×138°95E,h0km,mb3.6/6, mb1 3.9/7,mb1mx3.5/51,mbtmp3.7/7,ML3.8/1,MS3.2/1, Ms1 3.2/1,ms1mx2.4/32,Error ellipse: s-maj=54.4km s-min=24.5km az=89.0*

DJA ***18*** *17:35:54.6±1.8,4°S±4°×13°9E±°,h21km±16km,M4.1/2, mb4.9/2,MLv3.7/2*

ISC 18 17:35:53.4±0.8,3°45S±0.0°07×138°98E±0.0°09,h35km,n20, σ1ˢ77/16,mb3.8/5,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.47**	**54**	P	**Pn**	**17 36 18.3**	**+0.9**
GENI				S	**Sn**	**17 36 35.8**	**+0.4**
JAY	**Jayapura**	**1.96**	**62**	P	**Pn**	**17 36 24.4**	**+0.1**
JAY				S	**Sn**	**17 36 47.2**	**-0.5**
MMPI	**Merauke**	**5.17**	**164**	P	**Pn**	**17 37 08.6**	**+0.2**
	396nm,0.9s						
MMPI				S	**Sn**	**17 38 07.1**	**+0.2**
	396nm,0.9s						
FAKI	**Fak Fak**	**6.74**	**274**	P	Pn	17 37 36.3	+6.3
WRA	**Warramunga Arr**	**17.00**	**195**	P	P	17 40 03.3	+13
	0.3nm,0.3s,baz=17,slow=12,SNR=19						
ASAR	**Alice Springs**	**20.68**	**193**	P	Pn	17 40 44.5	+11
	0.8nm,0.4s,baz=13,slow=10,SNR=30						
NWAO	**Narrogin (SRO)**	**35.69**	**212**	LR	LR	17 58 48.9	
	comp=Z,37nm,19.7s,slow=38						
CMAR	**Chiang Mai Arr**	**45.04**	**300**	P	**P**	**17 44 04.7**	**-1.5**
	0.3nm,0.5s,baz=125,slow=7.8,SNR=4.1						
JIRN	**Jiri**	**59.48**	**305**	*e*P	**P**	**17 45 54.2**	**+0.4**
	9.4nm,0.8s						
GUN	**Gumba**	**59.83**	**305**	*e*P	**P**	**17 45 56.7**	**+0.5**
	10nm,0.5s						
KKN	**Kakani**	**60.27**	**305**	*e*P	**P**	**17 46 00.6**	**+1.5**
	9.9nm,0.6s						
DANN	**Dangsing**	**61.73**	**305**	*e*P	**P**	**17 46 11.8**	**+2.8**
	1.0nm,0.7s						
PYUN	**Piuthan**	**62.27**	**304**	*e*P	**P**	**17 46 17.4**	**+4.8**
	26nm,0.9s						
H08S2	**Diego Garcia H**	**66.25**	**263**	T	T	18 59 01.9	
	baz=60						
H08S3	**Diego Garcia H**	**66.26**	**263**	T	T	18 59 05.0	
	baz=60						
H08S1	**Diego Carcia H**	**66.27**	**263**	T	T	18 59 04.7	
	baz=60						
MKAR	**Makanchi Array**	**70.54**	**322**	P	**P**	**17 47 04.3**	**-0.6**
	0.7nm,0.6s,baz=116,slow=7.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**74.49**	**325**	P	**P**	**17 47 27.0**	**-1.3**
	0.3nm,0.7s,baz=111,slow=5.1,SNR=2.4						
BVAR	**Borovoye Array**	**80.07**	**325**	P	**P**	**17 47 59.8**	**+0.3**
	0.5nm,0.5s,baz=103,slow=5.5,SNR=2.7						
ILAR	**Eielson Array**	**86.40**	**24**	P	**P**	**17 48 30.7**	**-1.3**
	0.5nm,0.8s,baz=256,slow=4.3,SNR=4.6						

NIED ***18*** *17:37:00,39°30N×142°20E,h80km,Mw4.0 Best double couple: M0 1.02000×10^15 NP1:φs29.00000°,δ34.00000°, λ-84.00000°. NP2:φs202.00000°,δ57.00000°, λ-94.00000°.*

ISCJB ***18*** *17:37:27.1±0.5,39°25N±0.0°03×142°23E±0.0°07,h91km±3km, mb3.8/19,Error ellipse: s-maj=9.7km s-min=4.9km az=18.6*

IDC ***18*** *17:37:28.0±0.8,39°27N×142°17E,h82km±5km,mb3.6/19, mb1 3.7/23,mb1mx3.5/71,mbtmp3.9/23,MS2.6/1, Ms1 2.6/1,ms1mx2.1/56,Error ellipse: s-maj=14.5km s-min=10.7km az=117.0*

JMA ***18*** *17:37:28.5±0.1,39°26N×142°20E,h84km±1km,M4.1 JMA Felt I J1.*

ISC 18 17:37:27.8±0.7,39°25N±0.0°04×142°27E±0.0°07,h84km±5km, n48,σ0ˢ74/61,mb4.0/20,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.48**	**313**	P	**Pn**	**17 37 42.2**	**+0.5**
MIYJ				S	**Sn**	**17 37 52.0**	**0.0**
OFUJ	**Ofunato**	**0.50**	**250**	P	**Pn**	**17 37 42.5**	**+0.6**
OFUJ				S	**Sn**	**17 37 52.5**	**+0.2**
JTH	**Tanohata**	**0.76**	**336**	P	**Pn**	**17 37 44.7**	**+0.4**
JTH				S	**Sn**	**17 37 56.6**	**0.0**
JOM	**Ohasama**	**0.79**	**287**	P	**Pn**	**17 37 45.1**	**+0.4**
JOM				S	**Sn**	**17 37 57.4**	**+0.1**
JMK	**Ichinoseki**	**0.87**	**250**	P	**Pn**	**17 37 46.0**	**+0.4**
JMK				S	**Sn**	**17 37 58.7**	**-0.1**
JIO	**Ouri**	**1.07**	**222**	P	**Pn**	**17 37 48.0**	**+0.1**
JIO				S	**Sn**	**17 38 02.0**	**-1.0**
JANG	**Nango**	**1.26**	**333**	P	**Pn**	**17 37 50.4**	**+0.1**
JANG				S	**Sn**	**17 38 06.5**	**-0.7**
JRG	**Rokugo**	**1.28**	**277**	P	**Pn**	**17 37 50.6**	**+0.2**
JRG				S	**Sn**	**17 38 07.6**	**+0.1**
JYK	**Kaneyama**	**1.52**	**258**	P	**Pn**	**17 37 54.0**	**+0.4**
JYK				S	**Sn**	**17 38 13.5**	**+0.5**
JOU	**Okura**	**1.53**	**235**	P	**Pn**	**17 37 53.8**	**+0.1**
JOU				S	**Sn**	**17 38 12.9**	**-0.4**
JAH	**Hinai**	**1.57**	**307**	P	**Pn**	**17 37 54.7**	**+0.5**
JAH				S	**Sn**	**17 38 15.0**	**+0.9**
JTM	**Tenmabayashi**	**1.79**	**329**	P	**Pn**	**17 37 57.1**	**+0.1**
JTM				S	**Sn**	**17 38 18.6**	**-0.6**
JMM	**Marumori**	**1.80**	**220**	P	**Pn**	**17 37 56.6**	**-0.6**
JMM				S	**Sn**	**17 38 17.8**	**-1.7**
MJAR	**Matsushiro Arr**	**4.20**	**231**	P	**Pn**	**17 38 29.8**	**+0.3**
	1.2nm,0.3s,baz=32,slow=13,SNR=25						
MAT	**Matsushiro**	**4.20**	**231

0.1nm,0.3s,baz=51,slow=5.8,SNR=3.9
AKASG pP **pP** **17 49 09.6 -0.1**
0.3nm,0.3s,baz=44,slow=6.8,SNR=4.3
NVAR Mina Array Bea 73.13 54 P **P** **17 48 50.9 +1.4**
0.6nm,0.7s,baz=302,slow=5.2,SNR=4.1
PDAR Pinedale Array 75.64 46 P **P** **17 49 04.7 +0.7**
0.4nm,0.5s,baz=242,slow=3.2,SNR=4.1

IDC ***18*** *17:54:41.3±1.4,5.°75N×125.°12E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.1/56,mbtmp3.3/3,Error ellipse: s-maj=49.2km s-min=18.8km az=91.0*
MAN ***18*** *17:54:47,6.°29N×126.°31E,h7km,mb4.9,ML3.8,MS3.8*
ISC 18 17:54:49.2±1.8,6.°3N±0.°1×126.°5E±0.°2,h68km,n7,σ1§67/8, mb3.2/3,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.70**	**344**	*eP*	**Pn**	17 55 00.6	-3.4
MATI				*eS*	**Sn**	**17 55 14.0**	**-0.9**
DAV	**Davao City (W)**	**1.18**	**313**	Pn	**Pn**	**17 55 08.4**	**-1.4**
	73nm,0.3s,baz=203,slow=7.7,SNR=11						
DAV				Sn	**Sn**	**17 55 27.3**	**+2.1**
	36nm,0.3s,baz=225,slow=20,SNR=7.6						
BUKP	**Musuan**	**2.11**	**319**	*eP*	**Pn**	**17 55 21.9**	**-0.5**
BUKP				*eS*	**Sn**	**17 55 48.3**	**+0.7**
BUTP	**Butuan**	**2.81**	**343**	*eP*	**Pn**	**17 55 33.4**	**+1.6**
BUTP				*eS*	**Sn**	**17 56 02.7**	**-1.8**
WRA	**Warramunga Arr**	**27.18**	**164**	P	**P**	**18 00 26.7**	**+0.2**
	0.5nm,0.7s,baz=342,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**30.63**	**166**	P	P	18 00 55.4	-1.8
	0.3nm,1.0s,baz=337,slow=7.3,SNR=1.0						
MKAR	**Makanchi Array**	**55.33**	**324**	P	P	18 04 14.2	-1.8
	0.2nm,0.6s,baz=118,slow=7.4,SNR=5.1						

IDC ***18*** *17:59:49.5±2.5,23.°96N×124.°89E,h0km,mb3.5/6, mb1 3.6/6,mb1mx3.3/56,mbtmp3.5/6,Error ellipse: s-maj=179.5km s-min=20.8km az=64.0*
JMA ***18*** *17:59:53.8±0.3,24.°16N×125.°20E,h0km,M3.4*
ISCJB ***18*** *17:59:54.2±0.9,24.°22N±0.°08×125.°30E±0.°07,h53km±8km, mb3.5/6,Error ellipse: s-maj=15.1km s-min=7.3km az=149.4*
ISC 18 17:59:55.3±1.6,24.°3N±0.°1×125.°27E±0.°08,h45km±14km, n16,σ0§87/24,mb3.5/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.52**	**14**	P	**Pn**	**18 00 06.5**	**-0.1**
JOGS				S	**Sn**	**18 00 15.8**	**+1.2**
JMJ	**Miyako jima 2**	**0.56**	**2**	P	**Pn**	**18 00 06.9**	**-0.2**
JMJ				S	**Sn**	**18 00 16.1**	**+0.6**
JIRB	**Irabujima**	**0.58**	**351**	P	**Pn**	**18 00 06.8**	**-0.5**
JIRB				*i* S	**Sn**	**18 00 16.2**	**+0.3**
JTJ	**Tarama**	**0.65**	**307**	P	**Pn**	**18 00 07.0**	**-1.2**
JTJ				S	**Sn**	**18 00 16.5**	**-0.9**
JIKM	**Ikemajima**	**0.67**	**358**	P	**Pn**	**18 00 08.5**	**0.0**
JIKM				S	**Sn**	**18 00 18.6**	**+0.6**
JISG	**Ishigakijimahi**	**0.94**	**291**	P	**Pn**	**18 00 11.2**	**-0.9**
JISG				*eS*	**Sn**	**18 00 24.6**	**+0.3**
JIJ	**Ishigaki jima**	**1.03**	**276**	P	**Pn**	**18 00 12.8**	**-0.6**
JIJ				S	**Sn**	**18 00 27.4**	**+0.6**
JKRS	**Kuro-shima**	**1.15**	**270**	P	**Pn**	**18 00 15.5**	**+0.5**
JKRS				*eS*	**Sn**	**18 00 30.4**	**+0.8**
HATJ	**Hateruma jima**	**1.35**	**262**	P	**Pn**	**18 00 19.1**	**+1.3**
IRIF	**Iriomote-Funau**	**1.41**	**274**	P	**Pn**	**18 00 18.5**	**0.0**
MKAR	**Makanchi Array**	**40.92**	**314**	P	**P**	**18 07 33.7**	**+0.4**
	0.5nm,0.5s,baz=99,slow=8.9,SNR=15						
KURBB	**Kurchatov Arra**	**44.49**	**319**	P	**P**	**18 08 01.9**	**-0.3**
	0.4nm,0.7s,baz=107,slow=9.0,SNR=3.6						
WRA	**Warramunga Arr**	**44.81**	**168**	P	**P**	**18 08 04.0**	**-1.0**
	0.5nm,0.9s,baz=348,slow=8.7,SNR=1.8						
ASAR	**Alice Springs**	**48.37**	**169**	P	**P**	**18 08 31.1**	**-1.8**
	0.2nm,0.5s,baz=354,slow=7.5,SNR=10						
BVAR	**Borovoye Array**	**50.01**	**320**	P	**P**	**18 08 44.9**	**-0.1**
	0.3nm,0.3s,baz=107,slow=9.9,SNR=3.1						
FINES	**FINESS Array B**	**73.25**	**330**	P	**P**	**18 11 22.8**	**+1.3**
	1.2nm,0.9s,baz=64,slow=6.5,SNR=3.8						

ISK ***18*** *18:01:57.2,39.°09N×29.°22E,h8km,MD2.5/3*
ISCJB ***18*** *18:01:58.5±0.5,39.°12N±0.°03×29.°15E±0.°04,h7km±5km, Error ellipse: s-maj=6.4km s-min=4.3km az=143.5*
DDA ***18*** *18:01:58.2,39.°11N×29.°15E,h7km,Ml2.3*
CSEM ***18*** *18:01:58.4±0.1,39.°13N×29.°16E,h8km,MD2.5,Error ellipse: s-maj=4.3km s-min=2.8km az=131.0*
ISC 18 18:01:58.6±0.9,39.°13N±0.°03×29.°16E±0.°03,h11km±7km, n20,σ0§56/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**253**	PG	**Pg**	**18 02 02.2**	**+0.2**
SIMA				SG	**Sg**	**18 02 04.2**	**-0.2**
SIMA	**Simav-Kutahya**	**0.14**	**253**	*eP*g	**Pg**	**18 02 02.2**	**+0.2**
SIMA				*eS*g	**Sg**	**18 02 04.2**	**-0.2**
GDZ	**Gediz**	**0.25**	**98**	*i* P	**Pg**	**18 02 03.8**	**-0.1**
GDZ				*i* S	**Sg**	**18 02 07.9**	**+0.5**
GDZ	**Gediz**	**0.25**	**98**	P	**Pg**	**18 02 03.8**	**-0.1**
GDZ				S	**Sg**	**18 02 07.9**	**+0.5**
DEMI	**Demirci**	**0.35**	**257**	*i* P	**Pg**	**18 02 05.9**	**+0.2**
DEMI				*i* S	**Sg**	**18 02 10.1**	**-0.3**
DEMI	**Demirci**	**0.35**	**257**	P	**Pg**	**18 02 05.9**	**+0.2**
DEMI				S	**Sg**	**18 02 10.1**	**-0.3**
TVSB	**Tavsanli**	**0.40**	**36**	PG	**Pg**	**18 02 05.7**	**-0.8**
TVSB				SG	**Sg**	**18 02 11.5**	**-0.4**
TVSB	**Tavsanli**	**0.40**	**36**	*eP*g	**Pg**	**18 02 05.7**	**-0.8**
TVSB				*eS*g	**Sg**	**18 02 11.5**	**-0.4**
KULA	**Kula-Manisa**	**0.72**	**213**	PG	**Pg**	**18 02 11.7**	**-0.9**
KULA				SG	**Sg**	**18 02 21.8**	**-0.2**
KULA	**Kula-Manisa**	**0.72**	**213**	*eP*g	**Pg**	**18 02 11.7**	**-0.9**
KULA				*eS*g	**Sg**	**18 02 21.8**	**-0.2**
KHAL	**Karahalli**	**0.80**	**161**	*i* P	**Pb**	**18 02 14.6**	**+0.1**
KHAL				*i* S	**Sb**	**18 02 24.8**	**-0.6**
KHAL	**Karahalli**	**0.80**	**161**	P	**Pb**	**18 02 14.6**	**+0.1**
KHAL				S	**Sb**	**18 02 24.8**	**-0.6**
CAVI	**Cavuskoy**	**1.20**	**26**	PN	**Pb**	**18 02 20.8**	**-0.5**
CAVI	**Cavuskoy**	**1.20**	**26**	*ePn*	**Pb**	**18 02 20.8**	**-0.5**
BORA	**Eskisehir**	**1.25**	**53**	*i* P	**Pg**	**18 02 22.6**	**-0.1**
BORA				*i* S	**Sn**	**18 02 40.5**	**+1.4**
BORA	**Eskisehir**	**1.25**	**53**	P	**Pg**	**18 02 22.6**	**-0.1**
BORA				S	**Sn**	**18 02 40.5**	**+1.4**
MDNY	**Mudanya-Bursa**	**1.26**	**350**	PN	**Pn**	**18 02 22.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**350**	*ePn*	**Pn**	**18 02 22.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**332**	PN	**Pb**	**18 02 23.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**332**	*ePn*	**Pb**	**18 02 23.1**	**+0.1**

ISCJB ***18*** *18:04:13.7±2.5,25.°71N±0.°08×57.°38E±0.°07,h10km±19km, Error ellipse: s-maj=16.2km s-min=7.0km az=32.8*
CSEM ***18*** *18:04:13.8±0.2,25.°69N×57.°35E,h2km,ML2.8,Error ellipse: s-maj=5.2km s-min=2.5km az=33.0*
DSN ***18*** *18:04:14.8±1.0,25.°70N×57.°29E,h15km,ML2.8/3,Error ellipse: s-maj=11.1km s-min=2.3km az=45.0*
OMAN ***18*** *18:04:15.6±0.8,25.°71N×57.°30E,h23km±5km,Error ellipse: s-maj=4.6km s-min=2.9km az=40.0*
ISC 18 18:04:15.6±2.3,25.°69N±0.°06×57.°27E±0.°07,h19km±6km, n14,σ0§33/24,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**0.90**	**285**	P	**Pb**	**18 04 32.4**	**-0.3**
	SNR=25						
BANOM				S	**Sg**	**18 04 45.5**	**+0.3**
	SNR=21						
BANOM	**Banah**	**0.90**	**285**	P	**Pb**	**18 04 32.4**	**-0.3**
	SNR=25						
BANOM				S	**Sg**	**18 04 45.7**	**+0.5**
BANOM	**Banah**	**0.90**	**285**	*eP*	**Pb**	**18 04 32.4**	**-0.3**
	SNR=25						
BANOM				S	**Sg**	**18 04 45.7**	**+0.5**
MDH	**Madha**	**0.96**	**246**	*eP*	**Pb**	**18 04 33.6**	**0.0**
	SNR=6.7						
MSFE	**Esma-Masafi**	**1.05**	**252**	P	**Pb**	**18 04 35.1**	**-0.2**
	SNR=9.7						
MSFE				S	**Sn**	**18 04 50.3**	**+0.7**
MSFE	**Esma-Masafi**	**1.05**	**252**	*eP*	**Pb**	**18 04 35.0**	**-0.2**
	SNR=9.7						
SHME	**Shamm**	**1.08**	**290**	P	**Pn**	**18 04 35.7**	**-0.1**
	SNR=14						
SHME				S	**Sg**	**18 04 50.4**	**-0.3**
	SNR=8.9						
SHME	**Shamm**	**1.08**	**290**	*eP*	**Pn**	**18 04 35.6**	**-0.1**
	SNR=14						
SHME				S	**Sg**	**18 04 50.3**	**-0.3**
UOSS	**Minazif**	**1.21**	**233**	P	**Pb**	**18 04 37.9**	**-0.1**
UOSS				S	**Sg**	**18 04 54.7**	**-0.3**
UOSS	**Minazif**	**1.21**	**233**	P	**Pb**	**18 04 37.9**	**-0.1**
UOSS				S	**Sg**	**18 04 54.7**	**-0.3**
UOSS	**Minazif**	**1.21**	**233**	P	**Pn**	**18 04 37.1**	**-0.4**
SOHO	**SOHO**	**1.68**	**203**	P	**Pn**	**18 04 44.2**	**+0.2**
WSAR	**Wadi Sarin**	**2.73**	**153**	P	**Pn**	**18 04 58.7**	**+0.2**
WSAR				S	**Sn**	**18 05 31.0**	**-0.1**
WSAR	**Wadi Sarin**	**2.73**	**153**	P	**Pn**	**18 04 58.7**	**+0.2**
WSAR				S	**Sn**	**18 05 31.0**	**-0.1**

IDC ***18*** *18:22:01.3±1.7,10.°48S×123.°78E,h0km,mb3.9/2, mb1 3.6/4,mb1mx3.4/46,mbtmp3.5/4,ML2.9/2,Error ellipse: s-maj=130.2km s-min=21.1km az=61.0*
ISCJB ***18*** *18:22:02.7±0.7,10.°64S±0.°05×123.°80E±0.°08,h27km, mb3.8/2,Error ellipse: s-maj=12.7km s-min=5.2km az=156.5*
DJA ***18*** *18:22:03.5±1.6,11°S±9'×12°4E±°,h11km±5km,M3.1/3, MLv3.1/3*
ISC 18 18:22:04.0±0.9,10.°60S±0.°07×123.°84E±0.°09,h27km,n8, σ1§06/13,Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.43**	**336**	Pn	**Pb**	**18 22 12.5**	**-0.7**
	276nm,0.3s,baz=179,slow=7.1,SNR=252						
BATI				Sn	**Sb**	**18 22 18.8**	**-0.7**
	311nm,0.3s,baz=108,slow=19,SNR=62						
BATI	**Baumata**	**0.43**	**336**	P	**Pb**	**18 22 11.9**	**-1.3**
BATI				S	**Sb**	**18 22 18.3**	**-1.2**
SOEI	**Soe**	**0.94**	**26**	P	**Pb**	**18 22 21.2**	**-0.6**
SOEI				S	**Sn**	**18 22 34.8**	**+0.6**
MMRI	**Maumere**	**2.51**	**321**	P	**Pn**	**18 22 43.9**	**+0.8**
WRA	**Warramunga Arr**	**13.73**	**134**	Pn	**Pn**	**18 25 17.2**	**+0.1**
	0.1nm,0.3s,baz=305,slow=15,SNR=4.6						
WRA				Sn	**Sn**	**18 27 48.1**	**-0.7**
	0.1nm,0.3s,baz=301,slow=24,SNR=5.0						
ASAR	**Alice Springs**	**16.15**	**145**	Pn	**P**	**18 25 51.1**	**-1.2**
	0.1nm,0.3s,baz=318,slow=12,SNR=7.7						
ASAR				Sn	**Sn**	**18 28 47.9**	**+0.2**
	0.1nm,0.3s,baz=308,slow=20,SNR=7.2						
MKAR	**Makanchi Array**	**68.12**	**331**	P	**P**	**18 33 03.1**	**+1.6**
	1.2nm,0.6s,baz=137,slow=7.7,SNR=18						
KURBB	**Kurchatov Arra**	**72.57**	**332**	P	**P**	**18 33 29.8**	**+1.1**
	0.4nm,0.6s,baz=145,slow=5.5,SNR=7.3						

IDC 18 18:43:13.6±7.0,16.°88S×16.°00W,h0km,mb3.7/3, mb1 3.7/3,mb1mx3.4/50,mbtmp3.7/3,MS3.3/4,Ms1 3.3/4, ms1mx2.7/46,Error ellipse: s-maj=437.7km s-min=150.1km az=121.0,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**7.99**	**10**	T	T	18 54 13.8	
	baz=175,slow=74,SNR=27						
H10S3	**ASCENSION HYDR**	**7.99**	**10**	T	T	18 54 17.8	
	baz=175,slow=74,SNR=22						
H10S1	**ASCENSION HYDR**	**8.00**	**10**	T	T	18 54 18.1	
	baz=175,slow=74,SNR=24						
H10N1	**ASCENSION HYDR**	**9.10**	**10**	T	T	18 55 38.0	
	baz=178,slow=74						
H10N3	**ASCENSION HYDR**	**9.10**	**9**	T	T	18 55 38.4	
	baz=178,slow=74						
H10N2	**ASCENSION HYDR**	**9.12**	**9**	T	T	18 55 41.2	
	baz=178						
TORD	**Torodi Ar. Bea**	**34.58**	**31**	P	P	18 50 04.3	-0.1
	1.2nm,0.6s,baz=209,slow=9.2,SNR=5.4						
MATP	**Matopo**	**42.21**	**102**	LR	LR	19 04 42.4	
	comp=Z,42nm,21.6s,baz=280,slow=30						
LPAZ	**La Paz**	**49.85**	**263**	LR	LR	19 13 27.8	
	comp=Z,30nm,18.3s,baz=107,slow=36						
SDV	**Santo Domingo**	**59.78**	**291**	LR	LR	19 18 49.9	
	comp=Z,20nm,19.1s,baz=170,slow=36						
ROSC	**El Rosal**	**61.52**	**285**	LR	LR	19 19 09.8	
	comp=Z,23nm,19.8s,baz=228,slow=35						
BRTR	**Keskin Array B**	**72.87**	**38**	P	P	18 54 44.8	0.0
	0.7nm,0.8s,baz=234,slow=5.8,SNR=4.3						
AKASG	**Malin Array Be**	**78.11**	**27**	P	P	18 55 14.3	+0.1
	0.3nm,0.4s,baz=230,slow=5.3,SNR=4.1						

ATA ***18*** *18:47:58.5±1.1,38.°64N×43.°17E,h16km±9km,ML3.3, MW3.3*
CSEM ***18*** *18:47:59.4±0.2,38.°66N×43.°13E,h2km,ML2.6,Error ellipse: s-maj=4.3km s-min=3.9km az=138.0*
DDA ***18*** *18:47:59.6,38.°66N×43.°16E,h6km,Ml3.0*
ISK 18 18:47:58.4,38.°64N×43.°15E,h9km,ML2.6/8,1C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.19**	**102**	PG	Pg	18 48 03.7	+1.2
VANB				SG	Sg	18 48 07.8	+2.6
VANB	**Van**	**0.19**	**102**	*eP*g	Pg	18 48 03.7	+1.2
VANB				*eS*g	Sg	18 48 07.8	+2.6
TVAN	**Van**	**0.23**	**118**	*i* P	Pg	18 48 03.7	+0.6
TVAN				*i* S	Sg	18 48 07.9	+1.6
TVAN	**Van**	**0.23**	**118**	P	Pg	18 48 03.7	+0.6
TVAN				S	Sg	18 48 07.9	+1.6
GEVA	**Gevas**	**0.33**	**193**	*i* P	Pg	18 48 05.8	+0.8
GEVA				*eS*	Sb	18 48 12.2	+0.2
GEVA				IAML		18 48 14.5	
	comp=Z,336nm,0.3s						
GEVA	**Gevas**	**0.33**	**193**	*i* P	Pb	18 48 06.0	-0.5
GEVA				*i* S	Sb	18 48 12.8	+0.8
GEVA	**Gevas**	**0.33**	**193**	P	Pb	18 48 06.0	-0.6
GEVA				S	Sb	18 48 12.8	+0.8
ADCV	**BITLIS_Adilcev**	**0.38**	**298**	*i* P	Pb	18 48 07.5	+0.1
ADCV				*i* S	Sb	18 48 14.6	+1.2
ADCV	**BITLIS_Adilcev**	**0.38**	**298**	P	Pb	18 48 07.5	+0.1
ADCV				S	Sb	18 48 14.6	+1.2
ERCV	**ERCIS-VAN**	**0.41**	**21**	PG	Pg	18 48 07.0	+0.5
ERCV				SG	Sb	18 48 13.6	-0.8
ERCV	**ERCIS-VAN**	**0.41**	**21**	*eP*g	Pg	18 48 07.0	+0.5
ERCV				*eS*g	Sb	18 48 13.6	-0.8
VMUR	**Van-Muradiye**	**0.48**	**43**	*i* P	Pb	18 48 09.1	-0.1
VMUR				*i* S	Sb	18 48 17.6	+1.0
VMUR	**Van-Muradiye**	**0.48**	**43**	P	Pb	18 48 09.1	-0.1
VMUR				S	Sb	18 48 17.5	+1.0
CLDR	**Caldiran**	**0.79**	**49**	PG	Pg	18 48 13.3	-0.3
CLDR				SG	Sb	18 48 25.2	0.0
CLDR	**Caldiran**	**0.79**	**49**	*i* P	Pg	18 48 13.4	-0.1
CLDR				*i* S	Sb	18 48 25.4	+0.1
CLDR	**Caldiran**	**0.79**	**49**	P	Pg	18 48 13.4	-0.2
CLDR				*eS*g	Sb	18 48 25.2	0.0
TUTA	**Tutak**	**0.81**	**341**	↓*i* P	Pb	18 48 14.7	-0.2
TUTA				*eS*	Sb	18 48 26.9	+1.0
TUTA				IAML		18 48 28.1	
	comp=Z,93nm,0.4s						
TUTA	**Tutak**	**0.81**	**341**	*i* P	Pb	18 48 14.7	-0.1
TUTA	**Tutak**	**0.81**	**341**	P	Pb	18 48 14.7	-0.1
GURO	**Guroymak-BITLI**	**0.88**	**265**	PG	Pb	18 48 15.8	-0.1
GURO	**Guroymak-BITLI**	**0.88**	**265**	*eP*g	Pb	18 48 15.8	-0.1
AGRB	**Hanur-Agry**	**0.95**	**353**	PG	Pb	18 48 17.1	0.0
AGRB	**Hanur-Agry**	**0.95**	**353**	*eP*g	Pb	18 48 17.1	0.0
DYDN	**Diyadin**	**1.00**	**25**	*eP*	Pb	18 48 18.0	0.0
DYDN				IAML		18 48 52.2	
	comp=Z,17nm,0.5s						
DYDN	**Diyadin**	**1.00**	**25**	*i* P	Pn	18 48 19.1	+0.2
DYDN	**Diyadin**	**1.00**	**25**	P	Pn	18 48 19.1	+0.3
EKAR	**Karacoban**	**1.05**	**307**	↓*e*P	Pb	18 48 18.9	0.0
EKAR				*eS*	Sn	18 48 36.5	+2.1
EKAR				IAML		18 48 45.4	
	comp=Z,38nm,0.8s						
EKAR	**Karacoban**	**1.05**	**307**	*i* P	Pg	18 48 18.7	+0.1
EKAR				*i* S	Sn	18 48 37.6	+3.2
EKAR	**Karacoban**	**1.05**	**307**	P	Pg	18 48 18.7	+0.1
SRTM	**Siirt_Merkez**	**1.16**	**237**	*i* P	Pn	18 48 22.7	+1.8
SRTM				*i* S	Sn	18 48 40.2	+3.3
SRTM	**Siirt_Merkez**	**1.16**	**237**	P	Pn	18 48 22.7	+1.8
SRTM				S	Sn	18 48 40.2	+3.3
SIRT	**Sirnak**	**1.26**	**207**	PN	Pg	18 48 22.7	+0.1
SIRT	**Sirnak**	**1.26**	**207**	*ePn*	Pg	18 48 22.7	+0.1
EATA	**Eleskirt**	**1.33**	**338**	↓*eP*	Pg	18 48 23.8	-0.1
EATA				*eS*	Sn	18 48 44.4	+3.0
EATA	**Eleskirt**	**1.33**	**338**	*i* P	Pg	18 48 24.0	+0.1
EATA				*i* S	Sn	18 48 43.4	+2.0
EATA	**Eleskirt**	**1.33**	**338**	P	Pg	18 48 24.0	+0.1
EATA				S	Sn	18 48 43.4	+2.0
YOVA	**Hakkari_Y'…kse**	**1.38**	**139**	*i* P	Pg	18 48 26.8	+1.9
YOVA				*i* S	Sg	18 48 45.9	+3.2
YOVA	**Hakkari_Y'…kse**	**1.38**	**139**	P	Pg	18 48 26.8	+1.9
YOVA				S	Sg	18 48 45.9	+3.1
IGDI	**IGDIR**	**1.43**	**30**	*eP*	Pg	18 48 26.4	+0.6
BTMN	**Batman**	**1.66**	**244**	*i* P	Pg	18 48 30.9	+0.8
BTMN				*i* S	Sg	18 48 53.1	+1.5
BTMN	**Batman**	**1.66**	**244**	P	Pg	18 48 31.0	+0.9
BTMN				S	Sg	18 48 53.1	+1.5
HOMI	**Horasan**	**1.71**	**326**	*eP*	Pb	18 48 30.1	0.0
HOMI	**Horasan**	**1.71**	**326**	*i* P	Pb	18 48 30.0	-0.1
DIGO	**Kars**	**1.79**	**6**	*eP*	Pb	18 48 31.5	+0.1
DIGO	**Kars**	**1.79**	**6**	*i* P	Pb	18 48 31.5	+0.1
DIGO	**Kars**	**1.79**	**6**	P	Pb	18 48 31.5	0.0
ERZM	**Erzurum**	**1.88**	**313**	*eP*	Pg	18 48 34.0	-0.5
ERZM				*eS*	Sg	18 49 01.4	+2.6
ERZM	**Erzurum**	**1.88**	**313**	*i* P	Pb	18 48 33.4	+0.4
ERZM	**Erzurum**	**1.88**	**313**	P	Pb	18 48 33.4	+0.4
ECAT	**Cat-ERZURUM**	**1.95**	**301**	*eP*	Pb	18 48 34.7	+0.5
ECAT	**Cat-ERZURUM**	**1.95**	**301**	*i* P	Pg	18 48 35.5	-0.3
ECAT				*i* S	Sg	18 49 02.4	+1.3
ECAT	**Cat-ERZURUM**	**1.95**	**301**	P	Pg	18 48 35.5	-0.3
SENK	**Senkaya-Erzuru**	**2.02**	**342**	PN	Pn	18 48 33.6	+0.7
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*ePn*	Pn	18 48 33.6	+0.7
EAK	**Akyaka**	**2.08**	**10**	*eP*	Pg	18 48 37.4	-0.8
MAZI	**Mazidag**	**2.44**	**242**	PN	Pn	18 48 39.5	+1.0
MAZI	**Mazidag**	**2.44**	**242**	*ePn*	Pn	18 48 39.5	+1.0
KOPT	**Kop Dagi**	**2.48**	**305**	*eP*	Pb	18 48 43.2	-0.1
PTK	**Pertek**	**2.95**	**276**	PN	Pn	18 48 47.0	+1.4
PTK	**Pertek**	**2.95**	**276**	*ePn*	Pn	18 48 47.0	+1.4

DDA ***18*** *18:48:47.9,39.°88N×36.°61E,h16km,Ml2.9*
CSEM ***18*** *18:48:48.0±0.2,39.°90N×36.°61E,h2km,MD2.7,Error ellipse: s-maj=3.9km s-min=3.2km az=18.0*
ISK 18 18:48:47.1,39.°90N×36.°62E,h8km,MD2.7/2,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVSK	**Karacayir**	**0.29**	**87**	PG	Pb	18 48 53.9	-0.7
SVSK				SG	Sg	18 48 58.0	+1.3
SVSK	**Karacayir**	**0.29**	**87**	*eP*g	Pb	18 48 53.9	-0.7
SVSK				*eS*g	Sg	18 48 58.0	+1.3
SCER	**sogukcermik**	**0.39**	**96**	*i* P	Pb	18 48 55.9	-0.6
SCER				*i* S	Sb	18 49 02.0	-0.7
SCER	**sogukcermik**	**0.39**	**96**	P	Pb	18 48 55.8	-0.6
SCER				S	Sb	18 49 02.0	-0.7
TOKT	**Tokat**	**0.42**	**352**	PG	Pb	18 48 56.3	-0.6
TOKT				SG	Sb	18 49 02.2	-1.2
TOKT	**Tokat**	**0.42**	**352**	*eP*g	Pb	18 48 56.3	-0.6
TOKT				*eS*g	Sb	18 49 02.2	-1.2
TOKA	**Tokat**	**0.43**	**345**	*i* P	Pb	18 48 57.0	-0.1
TOKA	**Tokat**	**0.43**	**345**	P	Pb	18 48 57.0	-0.1
CUSAR	**Sarkisla-SIVAS**	**0.56**	**211**	*i* P	Pg	18 48 58.5	+0.5
CUSAR				*i* S	Sg	18 49 06.5	+1.0
CUSAR	**Sarkisla-SIVAS**	**0.56**	**211**	P	Pg	18 48 58.5	+0.5
CUSAR				S	Sg	18 49 06.5	+1.1
CUALT	**Altinyayla-SIV**	**0.64**	**170**	*i* P	Pb	18 49 00.3	-0.3
CUALT				*i* S	Sb	18 49 09.5	-0.3
CUALT	**Altinyayla-SIV**	**0.64**	**170**	P	Pb	18 49 00.3	-0.3
CUALT				S	Sb	18 49 09.5	-0.3
RSDY	**Resadiye-TOKAT**	**0.73**	**47**	PG	Pg	18 49 00.8	-0.4
RSDY				SG	Sb	18 49 11.9	-0.5
RSDY	**Resadiye-TOKAT**	**0.73**	**47**	*eP*g	Pg	18 49 00.8	-0.4
RSDY				*eS*g	Sb	18 49 11.9	-0.5
ERBA	**Erbaa**	**0.78**	**7**	*i* P	Pn	18 49 03.8	-0.7
ERBA	**Erbaa**	**0.78**	**7**	P	Pb	18 49 03.8	+0.7
CUKAN	**kangal_SIVAS**	**0.88**	**132**	*i* P	Pb	18 49 04.5	-0.2
CUKAN				*i* S	Sb	18 49 17.1	+0.4
CUKAN	**kangal_SIVAS**	**0.88**	**132**	P	Pb	18 49 04.5	-0.2
CUKAN				S	Sb	18 49 17.1	+0.4
CUZAR	**Zara_SIVAS**	**0.89**	**91**	*i* P	Pb	18 49 05.2	+0.4
CUZAR				*i* S	Sb	18 49 17.8	+1.0
CUZAR	**Zara_SIVAS**	**0.89**	**91**	P	Pb	18 49 05.2	+0.4
YOZ	**Yozgat**	**1.04**	**256**	PG	Pb	18 49 07.2	-0.2
YOZ	**Yozgat**	**1.04**	**256**	*eP*g	Pb	18 49 07.2	-0.2
SUSE	**Susehri**	**1.25**	**75**	*i* P	Pb	18 49 10.6	-0.5
SUSE				S	Sn	18 49 29.8	+

TMWZ	Te Maipa	0.24	106	S	Sn	18 57 42.2	-2.6
TIWZ	Tintock	0.35	40	P	Pn	18 57 37.7	+0.3
TIWZ	Tintock	0.35	40	S	Sn	18 57 44.4	+0.3
PAWZ	Paruwai Farm	0.36	200	P	Pn	18 57 38.1	+0.6
PAWZ	Paruwai Farm	0.36	200	S	Sn	18 57 44.9	+0.7
TRWZ	Traveller	0.36	168	P	Pn	18 57 38.1	+0.5
TRWZ	Traveller	0.36	168	S	Sn	18 57 45.0	+0.8
MRZ	Mangatainoka R	0.38	359	P	Pn	18 57 37.9	+0.2
MRZ	Mangatainoka R	0.38	359	S	Sn	18 57 44.4	0.0
OGWZ	Otaki Gorge	0.39	305	P	Pn	18 57 38.2	+0.4
CAW	Cannon Point	0.40	261	P	Pn	18 57 38.6	+0.6
CAW	Cannon Point	0.40	261	S	Sn	18 57 45.5	+0.8
MSWZ	Moikau Station	0.45	214	P	Pn	18 57 39.1	+0.3
MSWZ	Moikau Station	0.45	214	S	Sn	18 57 46.5	+0.6
CPWZ	Castlepoint	0.48	74	P	Pn	18 57 39.9	+0.7
KIW	Kapiti Island	0.55	289	P	Pn	18 57 40.7	+0.4
PRWZ	Pori Road	0.57	31	P	Pn	18 57 40.8	+0.2
PLWZ	Palliser	0.58	205	P	Pn	18 57 40.9	0.0
BFZ	Birch Farm	0.62	54	P	Pn	18 57 41.2	-0.1
BHW	Baring Head	0.65	236	P	Pn	18 57 42.0	+0.2
POWZ	Post Office Ro	0.66	12	P	Pn	18 57 41.9	0.0
OHWZ	Ohakea	0.86	346	P	Pn	18 57 45.8	+1.3
DVHZ	Dannevirke	0.86	31	P	Pn	18 57 44.5	-0.1
ANWZ	Angora Road	0.89	49	P	Pn	18 57 44.7	-0.2
ANWZ	Angora Road	0.89	49	P	Pn	18 57 44.8	-0.2
TCW	Tory Channel	1.00	260	P	Pn	18 57 46.9	+0.4
TSZ	Takapari Road	1.02	16	P	Pn	18 57 47.0	+0.3
PRHZ	Porangahau	1.11	46	P	Pn	18 57 47.5	-0.4
WPHZ	Waipukurau	1.17	34	P	Pn	18 57 49.0	+0.1
PNHZ	Pukenui	1.22	23	P	Pn	18 57 49.8	+0.3
CMWZ	Cape Campbell	1.25	235	P	Pn	18 57 55.6	+5.7
DUWZ	D'Urville Isla	1.29	280	P	Pn	18 57 51.5	+1.1
TUWZ	Tuarnarina	1.30	252	P	Pn	18 57 50.4	-0.1
WAZ	Wanganui	1.37	340	P	Pn	18 57 53.5	+2.0
PXZ	Pawanui	1.40	44	P	Pn	18 57 51.1	-0.8
BSWZ	Blackbirch Sta	1.45	242	P	Pn	18 57 52.7	0.0
KRHZ	Kereru	1.52	23	P	Pn	18 57 53.6	0.0
KAHZ	Kahuranaki	1.59	39	P	Pn	18 57 53.9	-0.6
BHHZ	Black Hill Sta	1.59	13	P	Pn	18 57 55.3	+0.6
MOVZ	Moawhango	1.64	4	P	Pn	18 57 56.0	+0.7
MTVZ	Mangateitei	1.66	357	P	Pn	18 57 57.1	+1.5
NNZ	Nelson	1.68	263	P	Pn	18 57 56.3	+0.6
KWHZ	Kaweka Forest	1.74	22	P	Pn	18 57 56.6	-0.1
WHVZ	Whangaehu Hut	1.76	0	P	Pn	18 57 58.4	+1.3
PKVZ	Pokaka	1.76	354	P	Pn	18 57 58.5	+1.5
DRZ	Dome Shelter	1.77	359	P	Pn	18 57 58.8	+1.5
TUVZ	Tukino	1.77	2	P	Pn	18 57 58.5	+1.3
FWVZ	Far West T-bar	1.79	359	P	Pn	18 57 58.7	+1.3
CKHZ	Cape Kidnapper	1.79	40	P	Pn	18 57 56.1	-1.2
MCHZ	McNeill Hill	1.81	28	P	Pn	18 57 57.4	-0.1
LREZ	Lake Rotokare	1.82	330	P	Pn	18 58 02.8	+5.1
COVZ	Chateau Observ	1.84	359	P	Pn	18 57 59.6	+1.5
NGZ	Ngauruhoe	1.86	0	P	Pn	18 58 00.0	+1.6
WTVZ	West Tongariro	1.93	0	P	Pn	18 58 00.6	+1.4
KRVZ	Karewarewa	1.95	1	P	Pn	18 58 01.1	+1.5
TWVZ	Taurewa	1.97	357	P	Pn	18 58 01.2	+1.3
BKZ	Black Stump Fm	2.00	21	P	Pn	18 58 00.5	+0.3
VRZ	Vera Road	2.02	341	P	Pn	18 58 02.6	+2.2
PREZ	Palmer Road	2.02	327	P	Pn	18 58 03.7	+3.2
KHZ	Kahutara	2.06	228	P	Pn	18 58 00.1	-0.8
KATZ	Kakaramea	2.07	2	P	Pn	18 58 02.9	+1.7
ARHZ	Aropaoanui	2.08	32	P	Pn	18 58 01.4	+0.1
THZ	Tophouse	2.14	250	P	Pn	18 58 02.6	+0.4
PKE	Pukeiti	2.22	326	P	Pn	18 58 07.2	+4.0
MRHZ	Matea Rd	2.30	16	P	Pn	18 58 04.2	-0.1
QRZ	Quartz Range	2.33	274	P	Pn	18 58 05.4	+0.7
WATZ	Wairara	2.33	6	P	Pn	18 58 05.4	+0.6
MTHZ	Maungataniwha	2.39	24	P	Pn	18 58 05.4	-0.2
KNZ	Kokohu	2.58	39	P	Pn	18 58 06.6	-1.5
HIZ	Hauiti	2.59	347	P	Pn	18 58 09.7	+1.5
RTZ	Ruatahuna	2.65	24	P	Pn	18 58 08.8	-0.4
TLZ	Tolley Road	2.71	359	P	Pn	18 58 11.2	+1.2
DSZ	Denniston Nort	2.93	255	P	Pn	18 58 13.1	0.0
URZ	Urewera	3.02	23	P	Pn	18 58 12.5	-1.7
LTZ	Lake Taylor	3.02	234	P	Pn	18 58 16.3	+2.0
MWZ	Matawai	3.09	30	P	Pn	18 58 13.3	-1.9
MQZ	McQueen's Vall	3.44	218	P	Pn	18 58 19.6	-0.3
RUGZ	Raukumara Rang	3.47	28	P	Pn	18 58 18.9	-1.6
CTZ	Chatham Island	6.37	118	P	Pn	18 58 59.5	-0.6

*ISCJB **18** 19:00:17.0±0.4, 67°.07N±0°.02×20°.87E±0°.06, h0km, Error ellipse: s-maj=3.6km s-min=2.9km az=15.7*
*NAO **18** 19:00:17.7±0.9, 67°.12N×20°.81E, ML2.2*
*UPP **18** 19:00:17.2, 67°.16N×20°.62E, h0km, ML1.5, Suspected Mining explosion.*
*CSEM **18** 19:00:18.2±0.2, 67°.11N×20°.90E, h2km, ML1.5, Error ellipse: s-maj=4.7km s-min=4.1km az=105.0, Mining explosion.*
*HEL **18** 19:00:18.3, 67°.19N×20°.71E, h0km, ML2.0, Explosion*
*BER **18** 19:00:21.0±3.6, 67°.10N×20°.90E, h0km, ML2.0, ML2.2(NAO), Suspected explosion*

ISC 18 19:00:17.4±0.7, 67°.15N±0°.02×20°.82E±0°.02, h0km, n70, σ1°69/112, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.55**	**56**	P	**Pg**	**19 00 28.9**	**+0.9**
MASU				S	**Sb**	**19 00 36.9**	**-1.6**
MASU	**Masugnsbyn**	**0.55**	**56**	P	**Pg**	**19 00 28.9**	**+0.9**
MASU				S	**Sb**	**19 00 36.9**	**-1.6**
MASU	**Masugnsbyn**	**0.55**	**56**	*i* P	**Pg**	**19 00 28.9**	**+0.9**
MASU				*i* S	**Sb**	**19 00 36.9**	**-1.6**
ERTU	**Ertsjaerv**	**0.81**	**137**	P	**Pg**	**19 00 33.5**	**+0.6**
ERTU	**Ertsjaerv**	**0.81**	**137**	P	**Pg**	**19 00 33.5**	**+0.6**
ERTU	**Ertsjaerv**	**0.81**	**137**	*i* P	**Pg**	**19 00 33.5**	**+0.6**
PAJU	**Pajala**	**0.91**	**97**	P	**Pg**	**19 00 35.4**	**+0.6**
PAJU	**Pajala**	**0.91**	**97**	P	**Pg**	**19 00 35.5**	**+0.7**
PAJU	**Pajala**	**0.91**	**97**	*e*P	**Pg**	**19 00 35.5**	**+0.6**
HARU	**Harads**	**0.99**	**176**	P	**Pg**	**19 00 35.5**	**-1.0**
HARU	**Harads**	**0.99**	**176**	P	**Pg**	**19 00 35.5**	**-1.0**
HARU	**Harads**	**0.99**	**176**	*e*P	**Pg**	**19 00 35.5**	**-1.0**
LANU	**Lannavaara**	**1.01**	**26**	P	**Pg**	**19 00 36.3**	**-0.4**
LANU	**Lannavaara**	**1.01**	**26**	P	**Pg**	**19 00 36.3**	**-0.4**
LANU	**Lannavaara**	**1.01**	**26**	*e*P	**Pg**	**19 00 36.3**	**-0.4**
HEF	**Hetta**	**1.66**	**39**	*e*P	**Pn**	**19 00 48.0**	**+0.2**
	SNR=50						
HEF				*e*S	**Sn**	**19 01 10.2**	**+0.4**
	SNR=50						
HEF				Sn	**Sg**	**19 01 11.3**	**+0.5**
HEF	**Hetta**	**1.66**	**39**	*e*P	**Pn**	**19 00 48.0**	**+0.2**
HEF				*e*S	**Sn**	**19 01 10.2**	**+0.4**
HEF				IAML		19 01 14.5	
HEF	**Hetta**	**1.66**	**39**	*e*P	**Pn**	**19 00 47.7**	**-0.1**
	baz=224						
HEF				MSG		19 01 08.1	
	comp=Z,8.9nm,0.2s						
HEF				*e*SN	**Sg**	**19 01 11.3**	**+0.5**
SJUU	**Sjulsmark**	**1.68**	**169**	P	**Pn**	**19 00 48.6**	**+0.6**
SJUU	**Sjulsmark**	**1.68**	**169**	P	**Pn**	**19 00 48.7**	**+0.6**
SJUU	**Sjulsmark**	**1.68**	**169**	*e*P	**Pn**	**19 00 48.7**	**+0.6**
TOF	**Tornio**	**1.77**	**126**	P	**Pb**	**19 00 50.6**	**0.0**
TOF				Sg	**Sg**	**19 01 15.2**	**+1.1**
TOF	**Tornio**	**1.77**	**126**	*e*P	**Pb**	**19 00 50.6**	**0.0**
TOF				MSG		19 01 12.7	
	comp=Z,10nm,0.2s						
TOF				*e*SG	**Sg**	**19 01 15.2**	**+1.1**
KIF	**Kilpisjarvi**	**1.86**	**360**	Pn	**Pn**	**19 00 52.0**	**+1.5**
KIF				Sn	**Sg**	**19 01 17.5**	**+0.3**
KIF	**Kilpisjarvi**	**1.86**	**360**	Pg	**Pn**	**19 00 51.6**	**+1.1**
KIF	**Kilpisjarvi**	**1.86**	**360**	Pn	**Pn**	**19 00 52.0**	**+1.5**
	SNR=50						
KIF				Sn	**Sg**	**19 01 17.5**	**+0.3**
	SNR=50						
KIF	**Kilpisjarvi**	**1.86**	**360**	Pn	**Pn**	**19 00 52.0**	**+1.5**
KIF				Sn	**Sg**	**19 01 17.5**	**+0.3**
KIF	**Kilpisjarvi**	**1.86**	**360**	*e*PG	**Pn**	**19 00 51.6**	**+1.1**
KIF				MSG		19 01 13.8	
	comp=Z,11nm,0.2s						
KIF				*e*SG	**Sg**	**19 01 17.4**	**+0.3**
LILU	**Lilltraesk**	**1.92**	**192**	P	**Pn**	**19 00 51.8**	**+0.6**
LILU	**Lilltraesk**	**1.92**	**192**	P	**Pn**	**19 00 51.8**	**+0.6**
LILU	**Lilltraesk**	**1.92**	**192**	*e*P	**Pn**	**19 00 51.8**	**+0.6**
KTK1	**Kautokeino**	**2.08**	**25**	*e*P	**Pn**	**19 00 55.3**	**+1.8**
	SNR=50						
KTK1				*e*S	**Sb**	**19 01 22.5**	**+0.2**
	SNR=50						
KTK1	**Kautokeino**	**2.08**	**25**	*e*P	**Pn**	**19 00 55.3**	**+1.8**
KTK1				*e*S	**Sb**	**19 01 22.5**	**+0.2**
KTK1				IAML		19 01 26.3	
	comp=Z,22nm,0.4s						
SGF	**Sodankyl**	**2.23**	**80**	Pb	**Pb**	**19 00 57.6**	**-1.0**
SGF				Sg	**Sg**	**19 01 28.7**	**-0.4**
SGF	**Sodankyl**	**2.23**	**80**	*e*PB	**Pb**	**19 00 57.6**	**-1.0**
	baz=267						
SGF				*e*SG	**Sg**	**19 01 28.7**	**-0.4**
STEI	**Steigen**	**2.28**	**293**	*e*P	**Pn**	**19 00 58.0**	**+1.8**
	SNR=50						
STEI				*e*S	**Sb**	**19 01 28.6**	**+0.6**
	SNR=50						
STEI	**Steigen**	**2.28**	**293**	*e*P	**Pn**	**19 00 58.0**	**+1.8**
STEI				*e*S	**Sb**	**19 01 28.6**	**+0.6**
STEI				IAML		19 01 30.2	
	comp=Z,12nm,0.6s						
MOR8	**Moi Rana**	**2.72**	**252**	*e*P	**Pn**	**19 01 02.1**	**-0.3**
	SNR=50						
MOR8				*e*S	**Sn**	**19 01 35.4**	**-0.6**
	SNR=50						
MOR8	**Moi Rana**	**2.72**	**252**	*e*P	**Pn**	**19 01 02.1**	**-0.3**
MOR8				*e*S	**Sn**	**19 01 35.4**	**-0.6**
MOR8				IAML		19 01 39.3	
	comp=Z,24nm,0.6s						
OUL	**Oulu**	**2.93**	**133**	Pb	**Pb**	**19 01 08.9**	**-1.5**
OUL				Sb	**Sb**	**19 01 48.4**	**+1.7**
OUL	**Oulu**	**2.93**	**133**	*e*PB	**Pb**	**19 01 08.9**	**-1.5**
	baz=319						
OUL				*e*SB	**Sb**	**19 01 48.4**	**+1.7**
ARA0	**ARCESS Array S**	**2.96**	**34**	Pn	**Pn**	**19 01 06.3**	**+0.7**
	baz=209,slow=16						
ARA0				Sn	**Sn**	**19 01 43.7**	**+1.9**
	baz=214,slow=22						
ARA0	**ARCESS Array S**	**2.96**	**34**	Pn	**Pn**	**19 01 06.3**	**+0.7**
	SNR=50						
ARA0				Sn	**Sn**	**19 01 43.7**	**+1.9**
	SNR=50						
ARA0	**ARCESS Array S**	**2.96**	**34**	Pn	**Pn**	**19 01 06.3**	**+0.7**
	baz=209,slow=16						
ARA0				Sn	**Sn**	**19 01 43.7**	**+1.9**
	baz=214,slow=22						
ARE0	**ARCESS Array S**	**2.96**	**34**	P	**Pn**	**19 01 06.3**	**+0.7**
ARE0				Sb	**Sb**	**19 01 45.6**	**-2.0**
ARE0	**ARCESS Array S**	**2.96**	**34**	*e*P	**Pn**	**19 01 07.4**	**+1.8**
ARE0	**ARCESS Array S**	**2.96**	**34**	*e*P	**Pn**	**19 01 06.3**	**+0.7**
ARE0				*e*SB	**Sb**	**19 01 45.6**	**-2.0**
KONS	**Konsvik**	**3.11**	**261**	*e*P	**Pn**	**19 01 09.8**	**+2.1**
	SNR=50						
KONS	**Konsvik**	**3.11**	**261**	*e*P	**Pn**	**19 01 09.8**	**+2.1**
OUF	**Merijarvi**	**3.23**	**148**	Pg	**Pg**	**19 01 18.7**	**-0.5**
OUF				Sg	**Sg**	**19 02 00.0**	**-1.0**
OUF	**Merijarvi**	**3.23**	**148**	*e*PG	**Pg**	**19 01 18.7**	**-0.5**
	baz=334						
OUF				*e*SG	**Sg**	**19 02 00.1**	**-1.0**
VRF	**Varrio**	**3.44**	**76**	Sb	**Sb**	**19 02 03.5**	**+2.0**
VRF	**Varrio**	**3.44**	**76**	*e*SB	**Sb**	**19 02 03.5**	**+2.0**
MSF	**Maaselka**	**3.52**	**107**	Pg	**Pb**	**19 02 22.5**	**+2.0**
MSF				Sg	**Sg**	**19 02 08.5**	**-1.8**
MSF	**Maaselka**	**3.52**	**107**	*e*PG	**Pb**	**19 01 22.6**	**+2.0**
MSF				*e*SG	**Sg**	**19 02 08.6**	**-1.8**
KU6	**Riekki**	**3.79**	**103**	P	**Pn**	**19 01 18.5**	**+1.4**
KU6				Sg	**Sg**	**19 02 18.8**	**-0.4**
KU6	**Riekki**	**3.79**	**103**	*e*P	**Pn**	**19 01 18.5**	**+1.4**
KU6				*e*SG	**Sg**	**19 02 18.9**	**-0.4**
VAF	**Ylistaro**	**4.20**	**168**	*e*P	**Pn**	**19 01 24.8**	**+2.2**
VAF				*e*SG	**Sg**	**19 02 31.1**	**-1.1**
HEMU	**Hemsoen**	**4.65**	**196**	Sg	**Sb**	**19 02 42.5**	**+6.4**
HEMU	**Hemsoen**	**4.65**	**196**	*e*SG	**Sb**	**19 02 42.5**	**+6.4**
FIA0	**FINESS Array S**	**6.17**	**156**	Pn	**Pn**	**19 01 50.0**	**+0.3**
	baz=350,slow=14						
FIA0				Sn	**Sn**	**19 02 59.3**	**-1.5**
	baz=343,slow=22						
FIA0				Lg	Lg	19 03 32.4	
	baz=347,slow=37						
FIA0	**FINESS Array S**	**6.17**	**156**	Pn	**Pn**	**19 01 50.0**	**+0.3**
	SNR=50						
FIA0				Sn	**Sn**	**19 02 59.3**	**-1.5**
	SNR=50						
FIA0				Lg	Lg	19 03 32.4	
	SNR=50						
FIA0	**FINESS Array S**	**6.17**	**156**	Pn	**Pn**	**19 01 50.0**	**+0.3**
	baz=350,slow=14						
FIA0				Sn	**Sn**	**19 02 59.3**	**-1.5**
	baz=343,slow=22						
FIA0				Lg	Lg	19 03 32.4	
	baz=347,slow=37						
NB2	**NORSAR Subarra**	**7.43**	**219**	Sn	**Sn**	**19 03 28.3**	**-3.5**
NB2				Lg	Lg	19 04 10.5	
	baz=24,slow=37						
NB2	**NORSAR Subarra**	**7.43**	**219**	Sn	**Sn**	**19 03 28.3**	**-3.5**
NB2				Lg	Lg	19 04 10.5	
	baz=24,slow=37						
NRA0	**NORESS Array S**	**7.62**	**217**	Pn	**Pn**	**19 02 08.3**	**-1.2**
	baz=27,slow=16						
NRA0				Sn	**Sn**	**19 03 31.9**	**-4.5**
	baz=22,slow=22						
NRA0	**NORESS Array S**	**7.62**	**217**	Pn	**Pn**	**19 02 08.3**	**-1.2**
	SNR=50						
NRA0	**NORESS Array S**	**7.62**	**217**	Pn	**Pn**	**19 02 08.3**	**-1.2**
	baz=27,slow=16						
NRA0				Sn	**Sn**	**19 03 31.9**	**-4.5**
	baz=22,slow=22						
HFS	**Hagfors**	**7.72**	**208**	Pn	**Pn**	**19 02 10.1**	**-0.8**
	baz=17,slow=14						
HFS				Sn	**Sn**	**19 03 35.6**	**-3.3**
	baz=24,slow=22						
HFS				Lg	Lg	19 04 15.3	
	baz=20,slow=28						

MAN 18 19:14:44, 9°.98N×123°.16E, h1km, mb4.5, ML3.4, MS3.2, 3C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.64**	**173**	*i* P	Pb	19 14 57.5	-0.6
SNPH				*i* S	Sb	19 15 06.9	-0.6
TBP	**Tagbilaran**	**0.75**	**113**	*e*P	Pg	19 14 59.1	+0.6
GUIM	**Jordan**	**0.85**	**319**	*e*P	Pb	19 15 01.3	-0.3
GUIM				*e*S	Sb	19 15 13.8	+0.4
LLP	**Lapu-Lapu**	**0.86**	**67**	*e*P	Pg	19 15 00.8	+0.2
LLP				*e*S	Sb	19 15 12.8	-1.0
DCPH	**Dipolog City**	**1.40**	**172**	*e*P	Pn	19 15 01.1	-1.0
DCPH				*i* S	Sg	19 15 27.8	-1.3
JAP	**San Jose, Anti**	**1.41**	**303**	*e*P	Pb	19 15 12.9	+1.7
RCP	**Roxas**	**1.62**	**346**	*e*P	Pg	19 15 15.0	-0.1
RCP				*e*S	Sg	19 15 38.4	+2.3
MSLP	**Maasin**	**1.68**	**85**	*e*P	Pn	19 15 14.9	+0.3
MSLP				*e*S	Sg	19 15 38.4	+0.3
OCLP	**Ormoc**	**1.78**	**53**	*e*P	Pn	19 15 16.2	+0.3
OCLP				*e*S	Sg	19 15 42.3	+1.1
BUTP	**Butuan**	**2.63**	**112**	*e*P	Pn	19 15 28.2	+0.6
BUKP	**Musuan**	**2.81**	**138**	*e*P	Pn	19 15 31.1	+0.9
SJMP	**San Jose**	**3.17**	**321**	*e*P	Pn	19 15 37.1	+2.0
BUSP	**Coron**	**3.53**	**305**	*e*P	Pn	19 15 41.5	+1.5
ENPP	**El Nido**	**3.87**	**289**	*e*P	Pn	19 15 45.6	+0.9

DJA 18 19:23:35.0±0.3, 2°.3S×123°.1E, h10km, M4.2/5, mb4.4/1, MLv4.0/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.55**	**9**	P	Pn	19 24 01.8	-0.8
APSI				S	Sb	19 24 23.8	+0.4
TTSI	**Tana Toraja**	**1.70**	**250**	P	Pn	19 24 03.1	-1.6
LUWI	**Luwuk**	**1.95**	**44**	P	Pn	19 24 08.0	-0.2
MRSI	**Marisa**	**2.96**	**10**	P	Pn	19 24 21.4	-0.6
MPSI	**Mapaga**	**3.15**	**331**	P	Pn	19 24 24.7	-0.1
SANI	**Sanana**	**4.59**	**85**	P	Pn	19 24 43.4	-1.1

IDC 18 19:27:41.7±6.9, 7°.39S×128°.65E, h133km±69km, mb3.2/3, mb1 3.4/6, mb1mx3.1/57, mbtmp3.7/6, Error ellipse: s-maj=61.8km s-min=20.1km az=43.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.67**	**240**	P	Pn	19 29 05.6	+1.7
	4.5nm,0.3s,baz=73,slow=18,SNR=6.4						
BATI				S	Sn	19 30 08.0	0.0
	4.8nm,0.3s,baz=114,slow=19,SNR=7.2						
FITZ	**Fitzroy Crossi**	**11.04**	**195**	P	Pn	19 30 14.7	-1.2
	0.4nm,0.3s,baz=18,slow=12,SNR=126						
FITZ				S	Sn	19 32 09.0	-8.6
	baz=3.4,slow=19						
WRA	**Warramunga Arr**	**13.64**	**157**	P	Pn	19 30 48.0	-1.8
	0.3nm,0.3s,baz=339,slow=13,SNR=31						
WRA				S	Sn	19 33 08.1	-12
	1.0nm,0.3s,baz=328,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.95**	**163**	P	Pn	19 31 32.4	+1.4
	0.5nm,0.3s,baz=333,slow=10,SNR=49						
ASAR				S	Sn	19 34 29.4	-11
	0.3nm,0.3s,baz=342,slow=26,SNR=8.3						
STKA	**Stephens Creek**	**27.18**	**155**	P	P	19 33 13.1	+0.2
	1.4nm,0.8s,baz=334,slow=9.6,SNR=3.1						
MKAR	**Makanchi Array**	**67.83**	**328**	P	P	19 38 24.9	-0.6
	0.2nm,0.4s,baz=121,slow=8.0,SNR=4.9						
KURBB	**Kurchatov Arra**	**72.15**	**329**	P	P	19 38 52.2	+0.4
	0.2nm,0.5s,baz=126,slow=5.3,SNR=4.5						

*DDA **18** 19:33:54.4, 35°.16N×27°.80E, h3km, Ml3.5*
*ISCJB **18** 19:33:59.7±0.9, 35°.36N±0°.03×27°.94E±0°.02, h12km±7km, mb3.1/2, Error ellipse: s-maj=5.2km s-min=3.2km az=1.6*
*ISK **18** 19:33:59.4, 35°.20N×27°.91E, h52km, ML3.3/7*
*CSEM **18** 19:34:00.4±0.2, 35°.40N×27°.97E, h10km, ML2.8, Error ellipse: s-maj=5.5km s-min=3.0km az=169.0*
*IDC **18** 19:34:00.8±1.3, 35°.17N×27°.89E, h0km, mb3.2/2, mb1 3.2/6, mb1mx3.0/57, mbtmp3.2/6, ML2.9/4, MS2.0/1, Ms1 2.0/1, ms1mx1.8/29, Error ellipse: s-maj=30.3km s-min=17.3km az=177.0*
*THE **18** 19:34:01.7, 35°.51N×27°.83E, h0km±3km, ML2.7/2, Error ellipse: s-maj=7.5km s-min=1.5km az=146.0*
*ATH **18** 19:34:01.7, 35°.54N×27°.83E, h23km±1km, ML2.8/4, Error ellipse: s-maj=2.3km s-min=1.0km az=322.0*

ISC 18 19:34:00.7±1.2, 35°.40N±0°.04×27°.88E±0°.02, h8km±8km, n133, σ1°36/166, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.60**	**284**	PG	**Pb**	**19 34 13.4**	**-0.2**
KARP	**Karpathos**	**0.60**	**284**	P	**Pg**	**19 34 12.1**	**-0.3**
KARP				S	**Sg**	**19 34 21.2**	**+0.9**
KARP				AML	AML	19 34 25.5	
	comp=N,2486μm,0.5s						
KARP				AML	AML	19 34 25.6	
	comp=E,1522μm,0.4s						
KARP	**Karpathos**	**0.60**	**284**	P	**Pg**	**19 34 12.4**	**0.0**
KARP	**Karpathos**	**0.60**	**284**	*e*Pg	**Pb**	**19 34 13.4**	**-0.2**
KARP				S	**Sg**	**19 34 21.4**	**+1.1**
KARP	**Karpathos**	**0.60**	**284**	P	**Pg**	**19 34 12.0**	**-0.4**
KARP				S	**Sg**	**19 34 21.4**	**+1.1**
ARG	**Arkhangelos**	**0.83**	**14**	P	**Pg**	**19 34 16.2**	**-0.6**
ARG				S	**Sg**	**19 34 25.4**	**-2.2**
ARG				AML	AML	19 34 33.9	
	comp=N,976μm,0.7s						
ARG				AML	AML	19 34 35.4	
	comp=E,1542μm,0.3s						
ARG	**Arkhangelos**	**0.83**	**14**	P	**Pg**	**19 34 16.0**	**-0.7**
ARG				S	**Sg**	**19 34 27.8**	**+0.2**
ARG	**Arkhangelos**	**0.83**	**14**	P	**Pg**	**19 34 16.0**	**-0.7**
ARG				S	**Sg**	**19 34 27.8**	**+0.2**
NISR	**Nisiros**	**1.35**	**333**	P	**Pn**	**19 34 24.8**	**-1.1**
NISR	**Nisiros**	**1.35**	**333**	P	**Pn**	**19 34 25.4**	**-0.5**
NISR	**Nisiros**	**1.35**	**333**	P	**Pn**	**19 34 25.4**	**-0.5**
ZKR	**Zakros**	**1.39**	**259**	PN	**Pn**	**19 34 23.9**	**-2.5**
ZKR	**Zakros**	**1.39**	**259**	P	**Pn**	**19 34 25.3**	**-1.1**
ZKR	**Zakros**	**1.39**	**259**	*e*Pn	**Pn**	**19 34 23.9**	**-2.5**
ZKR	**Zakros**	**1.39**	**259**	P	**Pn**	**19 34 26.5**	**+0.1**
ZKR	**Zakros**	**1.39**	**259**	P	**Pn**	**19 34 26.3**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.54**	**24**	PN	**Pn**	**19 34 28.1**	**-0.4**
DALY	**Dalyan (Mu¨la**	**1.54**	**24**	*i* P	**Pb**	**19 34 29.0**	**-0.5**
DALY				*i* S	**Sg**	**19 34 54.3**	**+4.0**
DALY	**Dalyan (Mu¨la**	**1.54**	**24**	*e*Pn	**Pn**	**19 34 28.1**	**-0.4**
DALY	**Dalyan (Mu¨la**	**1.54**	**24**	P	**Pb**	**19 34 29.0**	**-0.5**
FETY	**Fethiye**	**1.57**	**38**	PN	**Pn**	**19 34 27.6**	**-1.3**
FETY	**Fethiye**	**1.57**	**38**	*e*Pn	**Pn**	**19 34 27.6**	**-1.3**
FETY	**Fethiye**	**1.57**	**38**	P	**Pn**	**19 34 27.9**	**-1.0**
FETY	**Fethiye**	**1.57**	**38**	P	**Pn**	**19 34 27.6**	**-1.3**
KSL	**Kastellorizon**	**1.57**	**61**	P	**Pb**	**19 34 29.6**	**-0.4**
TURN	**Turunc**	**1.58**	**22**	PN	**Pn**	**19 34 25.9**	**-3.1**
TURN				SN	**Sn**	**19 34 46.3**	**-3.3**
TURN	**Turunc**	**1.58**	**22**	*i* P	**Pn**	**19 34 26

APE	**Apeiranthos**	**2.52**	**312**	PN	**Pn**	**19**	**34**	**41.8 -0.3**
APE	**Apeiranthos**	**2.52**	**312**	P	**Pn**	**19**	**34**	**42.0 -0.1**
APE				S	**Sn**	**19**	**35**	**12.5 -0.6**
APE				AML	AML	19	35	14.9
	comp=E,172μm,0.4s							
APE				AML	AML	19	35	17.8
	comp=N,127μm,0.6s							
APE	**Apeiranthos**	**2.52**	**312**	*e*Pn	**Pn**	**19**	**34**	**41.8 -0.3**
APE	**Apeiranthos**	**2.52**	**312**	P	**Pn**	**19**	**34**	**42.1 0.0**
APE				S	**Sn**	**19**	**35**	**12.1 -1.0**
AYDB	**Zeytinkoy-Aydi**	**2.54**	**0**	PN	**Pn**	**19**	**34**	**42.5 +0.2**
AYDB	**Zeytinkoy-Aydi**	**2.54**	**0**	*e*Pn	**Pn**	**19**	**34**	**42.5 +0.2**
SIVA	**Sivas**	**2.54**	**262**	P	**Pn**	**19**	**34**	**44.0 +1.7**
SIVA	**Sivas**	**2.54**	**262**	P	**Pn**	**19**	**34**	**43.9 +1.6**
KORT	**Korkueli**	**2.56**	**51**	PN	**Pn**	**19**	**34**	**41.4 -1.2**
KORT	**Korkueli**	**2.56**	**51**	*i* P	**Pb**	**19**	**34**	**45.6 -1.3**
KORT				*i* S	**Sn**	**19**	**35**	**15.3 +1.4**
KORT	**Korkueli**	**2.56**	**51**	*e*Pn	**Pn**	**19**	**34**	**41.4 -1.2**
KORT	**Korkueli**	**2.56**	**51**	P	**Pb**	**19**	**34**	**45.6 -1.3**
KORT				S	**Sn**	**19**	**35**	**15.3 +1.4**
VAM	**Vamos**	**3.01**	**271**	P	**Pn**	**19**	**34**	**50.2 +1.5**
VAM	**Vamos**	**3.01**	**271**	P	**Pn**	**19**	**34**	**50.1 +1.4**
URLA	**Izmir**	**3.13**	**341**	PN	**Pn**	**19**	**34**	**49.8 -0.5**
URLA	**Izmir**	**3.13**	**341**	*e*Pn	**Pn**	**19**	**34**	**49.8 -0.5**
GVD	**Gavdhos**	**3.16**	**261**	P	**Pn**	**19**	**34**	**52.6 +1.9**
GVD	**Gavdhos**	**3.16**	**261**	P	**Pn**	**19**	**34**	**52.5 +1.7**
KULA	**Kula-Manisa**	**3.17**	**11**	PN	**Pn**	**19**	**34**	**50.9 0.0**
KULA	**Kula-Manisa**	**3.17**	**11**	*e*Pn	**Pn**	**19**	**34**	**50.9 0.0**
IMMV	**Iera Moni Meta**	**3.19**	**272**	P	**Pn**	**19**	**34**	**52.8 +1.7**
IMMV	**Iera Moni Meta**	**3.19**	**272**	P	**Pn**	**19**	**34**	**50.9 -0.2**
IMMV	**Iera Moni Meta**	**3.19**	**272**	P	**Pn**	**19**	**34**	**50.9 -0.2**
SUTC	**Sutluce-Ispart**	**3.26**	**50**	PN	**Pn**	**19**	**34**	**51.4 -0.8**
SUTC	**Sutluce-Ispart**	**3.26**	**50**	*e*Pn	**Pn**	**19**	**34**	**51.4 -0.8**
VLY	**Voula,Athens**	**4.10**	**308**	P	**Pn**	**19**	**35**	**03.9 +0.3**
VLY	**Voula,Athens**	**4.10**	**308**	P	**Pn**	**19**	**35**	**04.1 +0.5**
LEF	**Lefka**	**4.11**	**93**	PN	**Pn**	**19**	**35**	**00.9 -2.9**
LEF	**Lefka**	**4.11**	**93**	*i* Pn	**Pn**	**19**	**35**	**00.9 -2.9**
VLI	**Veliai**	**4.21**	**290**	P	**Pn**	**19**	**35**	**05.9 +0.7**
VLI	**Veliai**	**4.21**	**290**	P	**Pn**	**19**	**35**	**06.1 +0.8**
DID	**Didima**	**4.29**	**301**	P	**Pn**	**19**	**35**	**07.2 +0.8**
DID	**Didima**	**4.29**	**301**	P	**Pn**	**19**	**35**	**07.2 +0.8**
TEKE	**Tekeli-Mersin**	**4.32**	**79**	PN	**Pn**	**19**	**35**	**05.5 -1.2**
TEKE	**Tekeli-Mersin**	**4.32**	**79**	*e*Pn	**Pn**	**19**	**35**	**05.5 -1.2**
CSS	**Mathiatis**	**4.49**	**94**	PN	**Pn**	**19**	**35**	**06.8 -2.2**
CSS	**Mathiatis**	**4.49**	**94**	*e*Pn	**Pn**	**19**	**35**	**06.8 -2.2**
LFK	**Lefkose**	**4.62**	**90**	PN	**Pn**	**19**	**35**	**08.9 -2.0**
LFK	**Lefkose**	**4.62**	**90**	*e*Pn	**Pn**	**19**	**35**	**08.9 -2.0**
AKKU	**Akkuyu-Mersin**	**4.67**	**79**	PN	**Pn**	**19**	**35**	**10.1 -1.4**
AKKU	**Akkuyu-Mersin**	**4.67**	**79**	*e*Pn	**Pn**	**19**	**35**	**10.1 -1.4**
DYR	**Agios Nikonas**	**4.69**	**288**	P	**Pn**	**19**	**35**	**13.9 +2.1**
DYR	**Agios Nikonas**	**4.69**	**288**	P	**Pn**	**19**	**35**	**13.5 +1.6**
GUR	**Goura**	**5.12**	**301**	P	**Pn**	**19**	**35**	**18.5 +0.7**
GUR	**Goura**	**5.12**	**301**	P	**Pn**	**19**	**35**	**18.7 +0.9**
EREN	**Erenkoy**	**5.13**	**87**	PN	**Pn**	**19**	**35**	**16.3 -1.6**
EREN	**Erenkoy**	**5.13**	**87**	*i* Pn	**Pn**	**19**	**35**	**16.3 -1.6**
PYL	**PYLOS**	**5.19**	**288**	P	**Pn**	**19**	**35**	**20.0 +1.4**
PYL	**PYLOS**	**5.19**	**288**	P	**Pn**	**19**	**35**	**20.0 +1.4**
KIZK	**Mersin**	**5.19**	**76**	PN	**Pn**	**19**	**35**	**17.6 -1.1**
BRTR	**Keskin Array B**	**6.29**	**45**	Pn	**Pn**	**19**	**35**	**37.0 +3.2**
	comp=N,0.1nm,0.3s,baz=222,slow=15,SNR=3.7							
BRTR				Sn	**Sn**	**19**	**36**	**47.6 +1.6**
	comp=N,0.1nm,0.3s,baz=218,slow=28,SNR=4.1							
MMAI	**Mount Meron Ar**	**6.67**	**109**	Pn	**Pn**	**19**	**35**	**38.8 -0.3**
	comp=N,1.1nm,0.3s,baz=299,slow=13,SNR=3.5							
MMAI				Sn	**Sn**	**19**	**36**	**57.3 +1.9**
	comp=N,1.1nm,0.3s,baz=262,slow=22,SNR=2.7							
EIL	**Elat**	**8.26**	**132**	Pn	**Pn**	**19**	**36**	**00.2 -0.6**
	comp=N,0.1nm,0.3s,baz=346,slow=4.2,SNR=2.6							
EIL				Sn	**Sn**	**19**	**37**	**31.7 -2.7**
	comp=N,0.4nm,0.3s,baz=255,slow=20,SNR=2.8							
TORD	**Torodi Ar. Bea**	**32.39**	**233**	P	**P**	**19**	**40**	**30.7 -0.3**
	comp=N,0.3nm,0.4s,baz=43,slow=7.9,SNR=5.1							
MKAR	**Makanchi Array**	**41.78**	**57**	P	**P**	**19**	**41**	**53.9 +3.4**
	comp=N,0.1nm,0.4s,baz=263,slow=10.0,SNR=2.5							

IDC ***18*** *19:36:30.9±1.7, 17°.61S×167°.32E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/41, mbtmp3.9/7, ML4.0/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/39, Error ellipse: s-maj=45.8km s-min=24.7km az=113.0*

ISCJB ***18*** *19:36:32.6±1.3, 17°.63S±0°.08×167°.2E±0°.2, h19km, mb3.8/6, MS2.9/2, Error ellipse: s-maj=32.2km s-min=10.8km az=1.2*

ISC 18 19:36:34.0±1.4, 17°.6S±0°.1×167°.3E±0°.3, h19km, n10, σ1§23/8, mb3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.50**	**190**	Pn	**Pn**	**19**	**37**	**41.3 0.0**
	6.8nm,0.3s,baz=322,slow=12,SNR=56							
DZM				Sn	**Sn**	**19**	**38**	**33.2 0.0**
	2.9nm,0.3s,baz=324,slow=22,SNR=3.7							
HNR	**Honiara**	**10.84**	**318**	LR	LR	19	42	17.5
	comp=Z,61nm,20.2s,baz=176,slow=32							
AFI	**Afiamalu**	**20.45**	**83**	LR	LR	19	47	19.4
	comp=Z,59nm,19.7s,baz=80,slow=32							
PMG	**Port Moresby**	**21.22**	**290**	LR	LR	19	47	07.9
	comp=Z,50nm,20.0s,baz=212,slow=30							
STKA	**Stephens Creek**	**27.25**	**234**	P	**P**	**19**	**42**	**18.0 +0.9**
	4.4nm,0.8s,baz=44,slow=9.3,SNR=7.1							
WRA	**Warramunga Arr**	**31.28**	**260**	P	**P**	**19**	**42**	**51.3 -1.7**
	0.6nm,0.7s,baz=86,slow=8.4,SNR=5.9							
ASAR	**Alice Springs**	**31.79**	**253**	P	**P**	**19**	**42**	**56.7 -0.8**
	1.2nm,0.5s,baz=81,slow=8.4,SNR=38							
CMAR	**Chiang Mai Arr**	**76.18**	**295**	P	**P**	**19**	**48**	**22.9 +1.5**
	0.6nm,0.8s,baz=123,slow=4.9,SNR=5.4							
SONM	**Songino Array**	**84.84**	**324**	P	**P**	**19**	**49**	**07.8 +0.4**
	0.5nm,1.0s,baz=136,slow=4.5,SNR=3.6							
ILAR	**Eielson Array**	**89.25**	**18**	P	**P**	**19**	**49**	**27.4 -0.9**
	0.4nm,0.8s,baz=236,slow=6.1,SNR=3.1							

IDC ***18*** *19:54:22.2±1.2, 18°.04S×167°.40E, h0km, mb4.0/10, mb1 4.3/12, mb1mx4.0/49, mbtmp4.1/12, ML4.2/2, MS3.3/11, Ms1 3.3/11, ms1mx3.1/39, Error ellipse: s-maj=34.0km s-min=20.4km az=132.0*

ISC 18 19:54:24.1±0.9, 18°.48S±0°.08×167°.7E±0°.2, h23km, n25, σ1§68/18, mb4.0/8, MS3.4/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.74**	**197**	Pn	**Pb**	**19**	**55**	**27.3 -2.2**
	2.3nm,0.3s,baz=135,slow=19,SNR=28							
DZM				Sn	**Sb**	**19**	**56**	**13.3 -1.2**
	9.3nm,0.3s,baz=312,slow=23,SNR=9.4							
DZM				LR	LR	19	56	49.1
	comp=Z,236nm,20.2s,baz=84,slow=36							
DZM	**Mont Dzumac**	**3.74**	**197**	*e*Pn	**Pb**	**19**	**55**	**27.8 -1.8**
	14nm,0.2s							
DZM				*e*Sn	**Sn**	**19**	**56**	**07.7 +3.7**
	59nm,0.2s							
DZM				*e*LR	LR	19	56	18.3
	471nm,24.3s							
HNR	**Honiara**	**11.69**	**319**	Pn	Pn	19	57	03.0 -6.6
	9.7nm,0.3s,baz=38,slow=3.3,SNR=6.1							
HNR				LR	LR	20	00	33.8
	comp=Z,72nm,19.7s,baz=161,slow=33							
CTA	**Charters Tower**	**20.25**	**262**	P	**P**	**19**	**58**	**58.5 +0.5**
	8.9nm,0.9s,baz=81,slow=14,SNR=3.8							
AFI	**Afiamalu**	**20.27**	**80**	LR	LR	20	06	14.5
	comp=Z,31nm,18.8s,baz=36,slow=35							
PMG	**Port Moresby**	**21.81**	**292**	LR	LR	20	06	21.1
	comp=Z,130nm,18.1s,baz=166,slow=34							
RPZ	**Rata Peaks**	**25.32**	**174**	LR	LR	20	08	56.3
	comp=Z,106nm,19.2s,baz=326,slow=34							
STKA	**Stephens Creek**	**27.00**	**235**	P	**P**	**20**	**00**	**07.3 +2.9**
	3.8nm,0.9s,baz=72,slow=13,SNR=1.6							
STKA				LR	LR	20	10	05.8
	comp=Z,111nm,18.2s,baz=45,slow=35							
WRA	**Warramunga Arr**	**31.46**	**262**	P	**P**	**20**	**00**	**42.6 -1.5**
	1.1nm,0.9s,baz=92,slow=9.6,SNR=5.3							
ASAR	**Alice Springs**	**31.86**	**255**	P	**P**	**20**	**00**	**46.9 -0.7**
	1.4nm,0.7s,baz=80,slow=8.6,SNR=11							
ASAR				LR	LR	20	13	26.5
	comp=Z,122nm,18.1s,baz=103,slow=36							
PPT2	**Papeete2**	**40.62**	**96**	*e*LR	LR	20	13	11.9
	129nm,30.8s							
PPT	**Papeete**	**40.62**	**96**	LR	LR	20	18	23.9
	comp=Z,20nm,18.0s,baz=228,slow=35							
BATI	**Baumata**	**43.31**	**275**	LR	LR	20	21	33.8
	comp=Z,64nm,18.0s,baz=219,slow=38							
USRK	**Ussuriysk Ar.**	**70.39**	**334**	P	**P**	**20**	**05**	**36.1 0.0**
	1.7nm,0.6s,baz=103,slow=9.9,SNR=3.0							
PETK	**Petropavlovsk-**	**71.81**	**354**	LR	LR	20	30	29.4
	comp=Z,13nm,21.7s,baz=120,slow=30							
CMAR	**Chiang Mai Arr**	**76.82**	**295**	P	**P**	**20**	**06**	**15.3 +0.8**
	1.3nm,0.8s,baz=129,slow=4.2,SNR=6.1							
SONM	**Songino Array**	**85.72**	**324**	P	**P**	**20**	**07**	**00.5 -0.8**
	0.6nm,1.1s,baz=116,slow=3.4,SNR=3.1							
NVAR	**Mina Array Bea**	**89.44**	**49**	P	**P**	**20**	**07**	**21.2 +1.7**
	0.6nm,0.6s,baz=243,slow=6.5,SNR=4.0							
BBB	**Bella Bella**	**89.68**	**34**	LR	LR	20	40	06.4
	comp=Z,17nm,20.0s,baz=180,slow=31							
ILAR	**Eielson Array**	**89.97**	**18**	P	**P**	**20**	**07**	**19.8 -1.4**
	1.6nm,0.6s,baz=236,slow=5.0,SNR=32							
MKAR	**Makanchi Array**	**100.15**	**316**	P	**Pdif**	**20**	**08**	**08.7 +0.7**
	0.2nm,0.7s,baz=95,slow=4.9,SNR=3.3							
YKA	**Yellowknife Ar**	**100.69**	**28**	P	**Pdif**	**20**	**08**	**10.3 +0.3**
	0.1nm,0.4s,baz=264,slow=4.7,SNR=5.3							
OBKA	**Obir**	**144.33**	**328**	*e*PKPdf	**PKPdf**	**20**	**13**	**57.7 -0.8**
	4.6nm,1.0s							
ABTA	**Abfaltersbach**	**145.18**	**330**	*e*PKPdf	**PKPab**	**20**	**13**	**59.5 -0.1**
	9.7nm,1.4s							
FETA	**Feichten**	**145.81**	**331**	*e*PKPdf	**PKPab**	**20**	**14**	**02.3 +0.3**
	4.0nm,0.8s							

NEIC ***18*** *20:09:25.6±3.1, 19°.90S×176°.10W, h10km, mb4.1/2, Error ellipse: s-maj=229.0km s-min=17.9km az=156.0*

ISCJB ***18*** *20:09:26.8±4.1, 20°.5±2°.1×176°.1W±0°.9, h33km, mb4.0/4, Error ellipse: s-maj=295.7km s-min=24.6km az=155.7*

IDC ***18*** *20:09:26.3±5.1, 19°.39S×176°.53W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.6/39, mbtmp4.0/2, Error ellipse: s-maj=294.0km s-min=44.0km az=151.0*

ISC 18 20:09:29.5±4.0, 20°.5S±2°.1×176°.1W±0°.8, h35km, n9, σ1§12/9, mb4.1/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**35.31**	**263**	P	**P**	**20**	**16**	**21.2 -0.3**
AS31	**Alice Springs**	**46.38**	**256**	*e*P	**P**	**20**	**17**	**52.5 -0.3**
	3.7nm,1.5s							
ASAR	**Alice Springs**	**46.38**	**256**	P	**P**	**20**	**17**	**52.5 -0.3**
	1.4nm,0.5s,baz=84,slow=8.5,SNR=24							
WRAB	**Tennant Creek**	**46.43**	**261**	*e*P	**P**	**20**	**17**	**52.8 -0.4**
	1.2nm,0.7s							
WRA	**Warramunga Arr**	**46.44**	**261**	P	**P**	**20**	**17**	**53.1 -0.1**
	0.6nm,0.3s,baz=99,slow=9.4,SNR=54							
GVRC	**Garvey Reservo**	**76.93**	**46**	*e*P	**P**	**20**	**21**	**17.3 -1.1**
HFS	**Hagfors**	**139.14**	**352**	PKP	**PKPdf**	**20**	**28**	**52.1 0.0**
	0.4nm,0.3s,baz=28,slow=3.5,SNR=4.2							
AKASG	**Malin Array Be**	**143.25**	**333**	PKP	**PKPdf**	**20**	**29**	**02.1 +2.3**
	0.7nm,0.4s,baz=21,slow=2.0,SNR=8.9							
GERES	**GERESS Array B**	**150.00**	**347**	PKPbc	**PKPbc**	**20**	**29**	**17.0 +0.7**
	0.2nm,0.3s,baz=12,slow=5.0,SNR=3.3							

ISCJB ***18*** *20:09:42.1±0.5, 67°.00N±0°.03×21°.01E±0°.09, h0km, Error ellipse: s-maj=5.7km s-min=3.7km az=32.4*

CSEM ***18*** *20:09:42.9±0.4, 66°.97N×21°.17E, h1km, ML2.3, Error ellipse: s-maj=11.8km s-min=5.2km az=124.0, Suspected Mining explosion.*

NAO ***18*** *20:09:43.8±0.9, 67°.12N×20°.76E, ML2.5*

IDC ***18*** *20:09:44.4±0.8, 67°.09N×21°.04E, h0km, mb1 3.4/5, mb1mx3.0/63, mbtmp3.4/5, ML2.6/5, Error ellipse: s-maj=13.6km s-min=6.7km az=111.0*

BER ***18*** *20:09:47.1±3.9, 67°.10N×20°.95E, h0km, ML2.3, ML2.5(NAO), Suspected explosion*

ISC 18 20:09:42.9±0.8, 67°.05N±0°.04×20°.82E±0°.04, h0km, n42, σ1§19/69, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEF	**Hetta**	**1.75**	**37**	*e*P	**Pn**	**20**	**10**	**13.8 -0.6**
	SNR=50							
HEF				*e*S	**Sn**	**20**	**10**	**37.1 -0.2**
	SNR=50							
HEF	**Hetta**	**1.75**	**37**	*e*P	**Pn**	**20**	**10**	**13.8 -0.6**
HEF				*e*S	**Sn**	**20**	**10**	**37.1 -0.2**
KIF	**Kilpisjarvi**	**1.97**	**360**	Pn	**Pn**	**20**	**10**	**17.5 +0.1**
KIF				Sn	**Sb**	**20**	**10**	**43.7 -0.8**
KIF	**Kilpisjarvi**	**1.97**	**360**	Pn	**Pn**	**20**	**10**	**17.5 +0.1**
	SNR=50							
KIF				Sn	**Sb**	**20**	**10**	**43.7 -0.8**
	SNR=50							
KIF	**Kilpisjarvi**	**1.97**	**360**	Pn	**Pn**	**20**	**10**	**17.5 +0.1**
KIF				Sn	**Sb**	**20**	**10**	**43.7 -0.8**
KTK1	**Kautokeino**	**2.17**	**24**	*e*P	**Pn**	**20**	**10**	**20.3 0.0**
	SNR=50							
KTK1				*e*S	**Sn**	**20**	**10**	**48.8 +0.9**
	SNR=50							
KTK1	**Kautokeino**	**2.17**	**24**	*e*P	**Pn**	**20**	**10**	**20.3 0.0**
KTK1				*e*S	**Sn**	**20**	**10**	**48.8 +0.9**
KTK1				IAML		20	10	50.4
	comp=Z,36nm,0.5s							
STEI	**Steigen**	**2.32**	**295**	*e*P	**Pb**	**20**	**10**	**25.0 -0.6**
	SNR=50							
STEI				*e*S	**Sb**	**20**	**10**	**54.8 +0.1**
	SNR=50							
STEI	**Steigen**	**2.32**	**295**	*e*P	**Pb**	**20**	**10**	**24.9 -0.6**
STEI				*e*S	**Sb**	**20**	**10**	**54.8 +0.1**
STEI				IAML		20	11	01.1
	comp=Z,22nm,0.4s							
MOR8	**Moi Rana**	**2.69**	**254**	*e*P	**Pn**	**20**	**10**	**28.8 +1.4**
	SNR=50							
MOR8				*e*S	**Sn**	**20**	**11**	**01.7 +1.1**
	SNR=50							
MOR8	**Moi Rana**	**2.69**	**254**	*e*P	**Pn**	**20**	**10**	**28.8 +1.4**
MOR8				*e*S	**Sn**	**20**	**11**	**01.7 +1.1**
MOR8				IAML		20	11	04.6
	comp=Z,46nm,0.5s							
TRO	**Tromso**	**2.69**	**346**	*e*P	**Pn**	**20**	**10**	**29.1 +1.8**
	SNR=50							
TRO				*e*S	**Sn**	**20**	**11**	**01.6 +1.0**
	SNR=50							
TRO	**Tromso**	**2.69**	**346**	*e*P	**Pn**	**20**	**10**	**29.1 +1.8**
TRO				*e*S	**Sn**	**20**	**11**	**01.6 +1.0**
LOF	**Lofoten**	**2.99**	**295**	*e*P	**Pb**	**20**	**10**	**36.1 -0.9**
	SNR=50							
LOF	**Lofoten**	**2.99**	**295**	*e*P	**Pb**	**20**	**10**	**36.1 -0.9**
ARE0	**ARCESS Array S**	**3.05**	**33**	*e*P	**Pn**	**20**	**10**	**33.3 +1.0**
	SNR=50							
ARE0	**ARCESS Array S**	**3.05**	**33**	*e*P	**Pn**	**20**	**10**	**33.3 +1.0**
ARA0	**ARCESS Array S**	**3.05**	**33**	Pn	**Pn**	**20**	**10**	**32.7 +0.4**
	baz=212,slow=16							
ARA0				Sn	**Sn**	**20**	**11**	**09.0 -0.4**
	baz=207,slow=22							
ARA0	**ARCESS Array S**	**3.05**	**33**	Pn	**Pn**	**20**	**10**	**32.7 +0.4**
	SNR=50							
ARA0				Sn	**Sn**	**20**	**11**	**09.0 -0.4**
	SNR=50							
ARA0	**ARCESS Array S**	**3.05**	**33**	Pn	**Pn**	**20**	**10**	**32.7 +0.4**
	baz=212,slow=16							
ARA0				Sn	**Sn**	**20**	**11**	**09.0 -0.4**
	baz=207,slow=22							
ARCES	**ARCESS Array B**	**3.05**	**33**	Pn	**Pn**	**20**	**10**	**32.4 +0.2**
	comp=Z,1.0nm,0.3s,baz=212,slow=14,SNR=16							
ARCES				Sn	**Sn**	**20**	**11**	**09.2 -0.2**
	comp=Z,2.4nm,0.3s,baz=212,slow=20,SNR=7.4							
KONS	**Konsvik**	**3.10**	**263**	*e*P	**Pn**	**20**	**10**	**34.7 +1.8**
	SNR=50							
KONS	**Konsvik**	**3.10**	**263**	*e*P	**Pn**	**20**	**10**	**34.7 +1.8**
STOK	**Stokkvaagen**	**3.18**	**261**	*e*P	**Pn**	**20**	**10**	**36.1 +2.0**
	SNR=50							
STOK	**Stokkvaagen**	**3.18**	**261**	*e*P	**Pn**	**20**	**10**	**36.1 +2.0**
FIA0	**FINESS Array S**	**6.07**	**155**	Sn	**Sn**	**20**	**12**	**25.8 +1.9**
	baz=344,slow=28							
FIA0				Lg	Lg	20	12	58.1
	baz=340,slow=37							
FIA0	**FINESS Array S**	**6.07**	**155**	Lg	Lg	20	12	58.1
	SNR=55							
FIA0	**FINESS Array S**	**6.07**	**155**	Sn	**Sn**	**20**	**12**	**25.8 +1.9**
	baz=344,slow=28							
FIA0				Lg	Lg	20	12	58.1
	baz=340,slow=37							
FINES	**FINESS Array B**	**6.07**	**155**	Pn	**Pn**	**20**	**11**	**14.9 +1.2**
	comp=Z,0.2nm,0.3s,baz=338,slow=18,SNR=5.7							
FINES				Sn	**Sn**	**20**	**12**	**26.3 +2.5**
	comp=Z,0.3nm,0.3s,baz=341,slow=21,SNR=4.2							
FINES				Lg	Lg	20	12	56.5
	comp=Z,1.1nm,0.3s,baz=343,slow=27,SNR=7.4							
NB2	**NORSAR Subarra**	**7.35**	**219**	Pn	**Pn**	**20**	**11**	**33.0 +1.7**
NB2				Sn	**Sn**	**20**	**12**	**53.7 -1.6**
	baz=26,slow=28							
NB2				Lg	Lg	20	13	37.0
	baz=27,slow=37							
NB2	**NORSAR Subarra**	**7.35**	**219**	Pn	**Pn**	**20**	**11**	**33.0 +1.7**
	SNR=50							
NB2				Sn	**Sn**	**20**	**12**	**53.7 -1.6**
	SNR=50							
NB2				Lg	Lg	20	13	37.0
	SNR=50							
NB2	**NORSAR Subarra**	**7.35**	**219**	Pn	**Pn**	**20**	**11**	**33.0 +1.7**
NB2				Sn	**Sn**	**20**	**12**	**53.7 -1.6**
	baz=26,slow=28							
NB2				Lg	Lg	20	13	37.0
	baz=27,slow=37							
NOA	**NORSAR Array B**	**7.35**	**219**	Pn	**Pn**	**20**	**11**	**33.0 +1.7**
	comp=Z,0.1nm,0.3s,baz=349,slow=10,SNR=2.9							
NOA				Sn	**Sn**	**20**	**12**	**53.9 -1.4**
	comp=Z,0.5nm,0.3s,baz=32,slow=23,SNR=7.0							
NOA				Lg	Lg	20	13	36.7
	comp=Z,0.9nm,0.3s,baz=45,slow=7.6,SNR=5.4							
NRA0	**NORESS Array S**	**7.53**	**217**	Pn	**Pn**	**20**	**11**	**34.4 +0.6**
	baz=34,slow=14							
NRA0				Sn	**Sn**	**20**	**12**	**58.0 -1.8**
	baz=26,slow=28							
NRA0				Lg	Lg	20	13	43.4
	baz=32,slow=37							
NRA0	**NORESS Array S**	**7.53**	**217**	Pn	**Pn**	**20**	**11**	**34.4 +0.6**
	SNR=50							
NRA0				Sn	**Sn**	**20**	**12**	**58.0 -1.8**
	SNR=0.3							
NRA0				Lg	Lg	20	13	43.4
	SNR=55							
NRA0	**NORESS Array S**	**7.53**	**217**	Pn	**Pn**	**20**	**11**	**34.4 +0.6**
	baz=34,slow=14							
NRA0				Sn	**Sn**	**20**	**12**	**58.0 -1.8**
	baz=26,slow=28							
NRA0				Lg	Lg	20	13	43.4
	baz=32,slow=37							
HFS	**Hagfors**	**7.62**	**208**	Pn	**Pn**	**20**	**11**	**34.8 -0.2**
	baz=15,slow=12							
HFS				Sn	**Sn**	**20**	**13**	**01.0 -1.1**
	baz=33,slow=22							
HFS	**Hagfors**	**7.62**	**208**	Pn	**Pn**	**20**	**11**	**36.0 +0.9**
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=6.5							
HFS				Sn	**Sn**	**20**	**13**	**01.3 -0.7**
	comp=Z,0.5nm,0.3s,baz=29,slow=25,SNR=6.5							
HFS				Lg	Lg	20	13	45.3
	comp=Z,0.5nm,0.3s,baz=22,slow=25,SNR=7.3							
HFS	**Hagfors**	**7.62**	**208**	Pn	**Pn**	**20**	**11**	**34.8 -0.2**
	baz=15,slow=12							
HFS				Sn	**Sn**	**20**	**13**	**01.0 -1.1**
	baz=33,slow=22							
SPA0	**Spitsbergen Ar**	**11.27**	**355**	Pn	**Pn**	**20**	**12**	**23.6 -1.3**
	baz=165,slow=10							
SPA0	**Spitsbergen Ar**	**11.27**	**355**	Pn	**Pn**	**20**	**12**	**23.6 -1.3**
	baz=165,slow=10							
SPITS	**Spitsbergen Ar**	**11.27**	**355**	Pn	**Pn**	**20**	**12**	**24.1 -0.7**
	baz=165,slow=12,SNR=4.1							

IDC ***18*** *20:18:35.5±1.0, 6°.02S×151°.30E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/46, mbtmp4.0/9, MS3.0/5, Ms1 3.0/5, ms1mx2.6/38, Error ellipse: s-maj=45.1km s-min=18.9km az=123.0*

ISCJB ***18*** *20:18:40.4±0.8, 6°.0S±0°.2×151°.2E±0°.2, h41km, mb3.9/9, MS2.9/4, Error ellipse: s-maj=36.5km s-min=14.8km az=32.8*

ISC 18 20:18:41.6±0.9, 6°.0S±0°.2×151°.3E±0°.3, h41km, n15, σ0§98/11, mb3.9/9, MS2.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.26**	**112**	LR	LR	20	23	48.4
	comp=Z,60nm,20.1s,baz=3.0,slow=34							
WRA	**Warramunga Arr**	**21.47**	**228**	P	**P**	**20**	**23**	**25.9 -0.9**
	5.6nm,1.1s,baz=55

KNZ	Kokohu	1.95 178	S	Sn	20 44 30.7	-1.6		
MRHZ	Matea Rd	1.99 207	P	Pn	20 44 05.4	+1.0		
WHHZ	Waihua	2.02 188	P	Pn	20 44 06.5	+1.8		
MHGZ	Mahia Peninsul	2.09 173	P	Pn	20 44 07.2	+1.7		
ARHZ	Aropaoanui	2.24 192	P	Pn	20 44 08.8	+1.7		
BKZ	Black Stump Fm	2.26 202	P	Pn	20 44 08.6	+1.2		
AWAZ	Awhitu Peninsu	2.36 269	P	Pn	20 44 10.1	+1.7		
MCHZ	McNeill Hill	2.47 196	P	Pn	20 44 11.5	+1.7		
KWHZ	Kaweka Forest	2.52 201	P	Pn	20 44 11.4	+0.9		
WTVZ	West Tongariro	2.58 217	P	Pn	20 44 13.5	+2.4		
CKHZ	Cape Kidnapper	2.61 189	P	Pn	20 44 12.6	+1.2		
CKHZ	Cape Kidnapper	2.61 189	S	Sn	20 44 45.1	-0.7		
BHHZ	Black Hill Sta	2.70 206	P	Pn	20 44 13.7	+1.2		
BHHZ	Black Hill Sta	2.70 206	S	Sn	20 44 46.7	-1.0		
FWZ	Far West T-bar	2.71 216	P	Pn	20 44 14.8	+2.1		
KRHZ	Kereru	2.74 200	P	Pn	20 44 13.7	+0.7		
MOVZ	Moawhango	2.74 211	P	Pn	20 44 14.6	+1.6		
KAHZ	Kahuranaki	2.77 191	P	Pn	20 44 14.6	+1.2		
MTVZ	Mangateitei	2.85 215	P	Pn	20 44 17.4	+3.1		
PXZ	Pawanui	3.01 191	P	Pn	20 44 16.9	+0.8		
PNHZ	Pukenui	3.04 201	P	Pn	20 44 17.2	+0.6		
PNHZ	Pukenui	3.04 201	S	Sn	20 44 52.7	-2.3		
TSZ	Takapari Road	3.24 203	P	Pn	20 44 19.6	+0.6		
PRHZ	Porangahau	3.28 193	P	Pn	20 44 20.0	+0.6		
ANWZ	Angora Road	3.49 194	P	Pn	20 44 22.6	+0.5		
BFZ	Birch Farm	3.75 196	P	Pn	20 44 25.8	+0.4		
BFZ	Birch Farm	3.75 196	S	Sn	20 45 09.3	-1.5		
MRZ	Mangatainoka R	3.91 203	P	Pn	20 44 27.8	+0.5		
HOWZ	Holdsworth Sta	4.15 202	P	Pn	20 44 29.9	-0.5		
TMWZ	Te Maipa	4.24 198	P	Pn	20 44 31.5	-0.1		
KIW	Kapiti Island	4.32 208	P	Pn	20 44 32.4	-0.2		
MTW	Mount Morrison	4.39 201	P	Pn	20 44 33.2	-0.3		
TRWZ	Traveller	4.57 198	P	Pn	20 44 35.4	-0.4		
PLWZ	Palliser	4.84 201	P	Pn	20 44 38.6	-0.8		
TCW	Tory Channel	4.87 211	P	Pn	20 44 39.2	-0.4		
QRZ	Quartz Range	5.44 225	P	Pn	20 44 47.4	+0.4		
THZ	Tophouse	5.92 216	P	Pn	20 44 54.0	+0.6		
KHZ	Kahutara	6.18 209	P	Pn	20 44 57.1	+0.4		
ASAR	Alice Springs	39.66 277	P	P	20 50 51.0	+9.0		
	0.3nm,0.5s,baz=129,slow=8.3,SNR=4.7							
WRA	Warramunga Arr	41.27 282	P	P	20 51 03.4	+8.1		
	0.6nm,1.0s,baz=122,slow=8.1,SNR=7.7							
FINES	FINESS Array B	149.79 333	PKPbc	PKPab	21 03 04.7	+3.5		
	1.2nm,0.9s,baz=24,slow=8.8,SNR=2.7							

IDC 18 20:46:34.0±3.2, 35°19.9S×179°66.6W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/36, mbtmpg3.7/3, ML3.4/1, Error ellipse: s-maj=72.9km s-min=36.5km az=121.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	4.01	219	Pn	Pn	20 47 36.7	0.0
	2.2nm,0.3s,baz=42,slow=14,SNR=9.4						
URZ				Sn	Sn	20 48 24.4	0.0
	2.7nm,0.3s,baz=254,slow=20,SNR=11						
ASAR	Alice Springs	41.71	273	P	P	20 54 25.1	+0.3
	0.6nm,0.6s,baz=115,slow=8.1,SNR=9.4						
WRA	Warramunga Arr	43.13	278	P	P	20 54 36.0	-0.4
	0.7nm,0.5s,baz=119,slow=7.7,SNR=13						
FINES	FINESS Array B	149.06	336	PKPbc	PKPbc	21 06 22.6	-0.6
	1.1nm,0.8s,baz=48,slow=2.1,SNR=4.7						

IDC 18 20:58:18.4±1.7, 5°.93S×147°.78E, h0km, mb4.6/3, mb1 4.7/5, mb1mx3.8/46, mbtmp4.6/5, ML4.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/32, Error ellipse: s-maj=46.2km s-min=17.1km az=104.0

NEIC 18 20:58:27.0±1.2, 6°.25S×147°.99E, h82km±14km, mb4.3/8, Error ellipse: s-maj=20.6km s-min=10.4km az=129.0

ISC 18 20:58:25.6±0.9, 6°.07S±0°.09×148°.0E±0°.1, h60km, n20, σ2s57/23, mb4.4/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.41	193	Pn	Pn	20 59 16.2	-0.1
	19nm,0.3s,baz=38,slow=10,SNR=21						
PMG				Sn	Sn	20 59 56.9	+1.4
	16nm,0.3s,baz=12,slow=20,SNR=3.5						
PMG	Port Moresby	3.41	193	ePn	Pn	20 59 15.6	-0.7
PMG				Sn	Sn	20 59 56.9	+1.4
RABL	Rabaul	4.59	66	ePn	Pn	20 59 34.8	+2.2
COEN	Coen	9.14	211	ePn	Pn	21 00 34.8	-0.1
MTN	Manton Dam	17.89	247	eP	P	21 02 29.6	-0.9
	62nm,1.5s						
WRAB	Tennant Creek	19.09	223	eP	P	21 02 41.8	-1.8
	11nm,0.6s						
WR1	Warramunga Arr	19.11	223	eP	P	21 02 42.2	-1.5
	11nm,0.6s						
WRA	Warramunga Arr	19.11	223	P	P	21 02 42.2	-1.5
	1.8nm,0.3s,baz=51,slow=11,SNR=69						
WRA				S	Sn	21 06 25.7	+6.9
	0.0nm,0.3s,baz=55,slow=17,SNR=2.9						
EIDS	Eidsvold	19.42	171	eP	P	21 02 42.7	-4.5
	18nm,0.9s						
GUMO	Guam	19.77	351	LR	LR	21 10 41.4	
	comp=Z,29nm,18.0s,baz=90,slow=38						
AS01	Alice Springs	22.08	216	eP	P	21 03 12.7	-3.1
AS31	Alice Springs	22.11	216	eP	P	21 03 15.1	-1.1
	4.3nm,0.5s						
ASAR	Alice Springs	22.11	216	P	P	21 03 15.3	-0.9
	7.0nm,0.4s,baz=49,slow=9.5,SNR=171						
ASAR				S	S	21 07 21.6	+5.0
	1.8nm,0.9s,baz=31,slow=21,SNR=5.7						
FITZ	Fitzroy Crossi	24.84	239	P	P	21 03 42.1	-0.5
	18nm,0.7s,baz=64,slow=9.4,SNR=31						
STKA	Stephens Creek	26.35	192	P	P	21 03 57.7	+1.5
	5.3nm,0.6s,baz=2.2,slow=8.4,SNR=15						
STKA	Stephens Creek	26.35	192	eP	P	21 03 55.7	-0.5
	1.5nm,0.8s						
BBOO	Buckleboo	28.82	201	eP	P	21 04 17.6	-0.6
	17nm,1.3s						
MBWA	Marble Bar	31.17	238	eP	P	21 04 36.8	-2.5
	61nm,1.5s						
SONM	Songino Array	64.93	330	P	P	21 08 58.9	-0.2
	0.1nm,0.5s,baz=147,slow=3.4,SNR=2.5						
TORD	Torodi Ar. Bea	146.02	284	PKPbc	PKPdf	21 17 58.9	-0.1
	0.2nm,0.4s,baz=82,slow=3.0,SNR=5.4						

ISCJB 18 21:09:12.8±0.7, 40°.93N±0°.04×145°.20E±0°.06, h35km, mb3.5/6, Error ellipse: s-maj=6.5km s-min=4.9km az=18.2

JMA 18 21:09:12.0±0.2, 40°.90N×145°.32E, h64km±3km, M3.3

IDC 18 21:09:13.3±1.1, 40°.59N×144°.00E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/63, mbtmp3.5/7, ML3.3/1, Error ellipse: s-maj=36.1km s-min=19.4km az=81.0

ISC 18 21:09:14.1±1.1, 40°.87N±0°.06×145°.22E±0°.07, h35km, n32, σ1s76/41, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	Erimo	1.93	307	P	Pn	21 09 44.0	-0.3
JEM				eS	Sn	21 10 06.4	-0.9
JAK	Akkeshi	2.16	350	P	Pn	21 09 46.3	-1.3
JAK				eS	Sn	21 10 11.8	-1.4
JCH	Churui	2.23	322	P	Pn	21 09 47.7	-0.8
JCH				eS	Sn	21 10 13.2	-1.6
JOB	Onbets	2.28	334	P	Pn	21 09 48.6	-0.6
JOB				eS	Sn	21 10 14.9	-1.2
JNBK	Urakawa-nobuka	2.33	308	P	Pn	21 09 50.0	+0.2
JNBK				eS	Sn	21 10 17.0	-0.2
NEM2	Nemuro 2	2.53	9	P	Pn	21 09 51.3	-1.3
NEM2				eS	Sn	21 10 19.9	-2.2
JAR	Ashorobuto	2.66	337	P	Pn	21 09 53.1	-1.3
JAR				eS	Sn	21 10 22.6	-2.8
JNK	Nakash	2.74	352	P	Pn	21 09 53.8	-1.8
JNK				eS	Sn	21 10 23.6	-3.9
JANG	Nango	2.86	261	P	Pn	21 09 56.1	-1.1
JANG				eS	Sn	21 10 26.4	-4.0
JBT2	Biratori 2	2.86	313	eS	Sn	21 10 30.6	+0.2
JFR	Furan	3.01	320	P	Pn	21 09 58.7	-0.6
JRA	Rausu	3.07	359	P	Pn	21 09 58.5	-1.6
JRA				eS	Sn	21 10 33.0	-2.5
JOT	Ohata	3.19	281	P	Pn	21 10 01.4	-0.3
JOT				eS	Sn	21 10 35.5	-3.0
JTKR	Abashiri--Toko	3.25	343	P	Pn	21 10 02.0	-0.5
JTKR				eS	Sn	21 10 38.4	-1.6
JKB	Kayabe	3.31	289	P	Pn	21 10 03.3	0.0
JKB				eS	Sn	21 10 39.7	-1.7
JOM	Ohasama	3.31	246	P	Pn	21 10 03.1	-0.3
JOM				eS	Sn	21 10 38.9	-2.7
JEW	Eniwo	3.44	306	P	Pn	21 10 06.0	+0.9
JEW				eS	Sn	21 10 44.3	-0.3
JKK2	Kamakawa 2	3.52	329	P	Pn	21 10 06.7	+0.5
ASAJ	Asahikawa	3.78	330	Pn	Pn	21 10 10.4	+0.6
	1.7nm,0.3s,baz=197,slow=8.5,SNR=17						
ASAJ				Sn	Sn	21 10 56.5	+3.4
	1.0nm,0.3s,baz=47,slow=32,SNR=5.5						
USRK	Ussuriysk Ar.	10.31	293	Pn	Pn	21 11 40.6	+1.1
	0.1nm,0.3s,baz=102,slow=14,SNR=4.1						
H11N2	WAKE ISLAND Hy	28.04	132	T	T	21 44 48.3	
	baz=315,slow=75,SNR=4.3						
H11N1	WAKE ISLAND Hy	28.05	132	T	T	21 44 51.2	
	baz=315,slow=75,SNR=4.6						
H11N3	WAKE ISLAND Hy	28.06	132	T	T	21 44 51.8	
	baz=315,slow=75,SNR=3.6						
SONM	Songino Array	28.39	297	P	P	21 15 03.7	-1.4
	0.2nm,0.7s,baz=90,slow=9.3,SNR=2.4						
H11S1	WAKE ISLAND Hy	28.92	134	T	T	21 45 45.3	
	baz=317						
H11S3	WAKE ISLAND Hy	28.92	134	T	T	21 45 43.9	
	baz=317,slow=74						
H11S2	WAKE ISLAND Hy	28.93	134	T	T	21 45 44.9	
	baz=317,slow=74						
ILAR	Eielson Array	44.67	34	P	P	21 17 34.1	+11
	0.3nm,0.7s,baz=256,slow=7.0,SNR=5.9						
KURBB	Kurchatov Arra	46.08	306	P	P	21 17 34.8	+0.4
	0.3nm,0.6s,baz=76,slow=8.5,SNR=3.5						
WRA	Warramunga Arr	61.34	192	P	P	21 19 27.4	+1.2
	1.2nm,1.0s,baz=8.8,slow=6.9,SNR=5.3						
ASAR	Alice Springs	65.06	191	P	P	21 19 52.7	+1.8
	0.4nm,0.8s,baz=2.1,slow=7.7,SNR=2.8						
FINES	FINESS Array B	66.79	333	P	P	21 20 03.8	+2.3
	1.8nm,1.0s,baz=46,slow=8.1,SNR=2.2						

MAN 18 21:34:24, 10°.10N×123°.30E, h34km, mb3.5, ML2.2, MS1.6, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	Lapu-Lapu	0.69	72	eP	Pb	21 34 38.7	+0.9
LLP				eS	Sb	21 34 48.6	+1.5
SNPH	Sibulan	0.76	185	iP	Pb	21 34 39.9	+1.0
SNPH				iS	Sb	21 34 49.8	+0.8
GUIM	Jordan	0.87	307	eP	Pb	21 34 40.6	-0.1
GUIM				eS	Sb	21 34 52.7	+0.6
MSLP	Maasin	1.54	89	eP	Pb	21 34 53.7	+1.8
MSLP				eS	Sb	21 35 15.7	+4.6

ATA 18 21:35:35.8±1.8, 38°.62N×43°.54E, h41km±14km, ML2.4, MW2.6

ISK 18 21:35:39.3, 38°.68N×43°.23E, h21km, ML2.0/4

CSEM 18 21:35:40.6±0.2, 38°.70N×43°.20E, h10km, ML2.0, Error ellipse: s-maj=3.9km s-min=3.8km az=79.0

DDA 18 21:35:40.9, 38°.69N×43°.20E, h7km, Ml2.6

ISC 18 21:35:39.9±0.9, 38°.65N±0°.03×43°.27E±0°.03, h27km±6km, n29, σ1s24/54, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	Van	0.11	120	PG	Pb	21 35 45.6	+0.5
VANB				SG	Sb	21 35 49.1	+0.5
VANB	Van	0.11	120	ePg	Pb	21 35 45.6	+0.5
VANB				eSg	Sb	21 35 49.1	+0.5
TVAN	Van	0.16	139	iP	Pb	21 35 45.6	0.0
TVAN				iS	Sb	21 35 49.1	-0.4
TVAN	Van	0.16	139	P	Pb	21 35 45.6	-0.4
TVAN				S	Sb	21 35 49.1	-0.4
ERCV	ERCIS-VAN	0.37	8	PG	Pb	21 35 47.2	-1.2
ERCV				SG	Sb	21 35 53.0	-1.1
ERCV	ERCIS-VAN	0.37	8	ePg	Pb	21 35 47.2	-1.2
ERCV				eSg	Sb	21 35 53.0	-1.1
GEVA	Gevas	0.38	207	eP	Pb	21 35 48.3	-0.1
GEVA				eS	Sn	21 35 55.7	-0.5
GEVA				IAML		21 35 56.4	
	comp=Z,16nm,0.5s						
GEVA	Gevas	0.38	207	iP	Pb	21 35 48.3	-0.1
GEVA				iS	Sn	21 35 55.5	-0.7
GEVA	Gevas	0.38	207	P	Pb	21 35 48.3	-0.1
GEVA				S	Sn	21 35 55.5	-0.7
VMUR	Van-Muradiye	0.41	34	iP	Pb	21 35 49.3	+0.3
VMUR				iS	Sn	21 35 56.5	-0.6
VMUR	Van-Muradiye	0.41	34	P	Pb	21 35 49.3	+0.3
VMUR				S	Sn	21 35 56.5	-0.6
ADCV	BITLIS_Adilcev	0.46	291	iP	Pb	21 35 48.7	-0.9
ADCV				iS	Sb	21 35 54.8	-1.5
ADCV	BITLIS_Adilcev	0.46	291	P	Pb	21 35 48.7	-0.9
ADCV				S	Sb	21 35 54.8	-1.5
CLDR	Caldiran	0.70	45	PG	Pb	21 35 53.3	-0.5
CLDR				SG	Sb	21 36 04.1	+0.9
CLDR	Caldiran	0.70	45	iP	Pb	21 35 48.2	-5.5
CLDR				iS	Sn	21 36 04.6	+0.2
CLDR	Caldiran	0.70	45	ePg	Pb	21 35 53.3	-0.5
CLDR				eSg	Sb	21 36 04.1	+0.9
TUTA	Tutak	0.83	335	eP	Pb	21 35 55.2	-0.8
TUTA				IAML		21 36 07.0	
	comp=Z,16nm,0.1s						
TUTA	Tutak	0.83	335	iP	Pb	21 35 55.2	-0.8
TUTA				iS	Sb	21 36 05.3	-1.6
TUTA	Tutak	0.83	335	P	Pb	21 35 55.2	-0.8
TUTA				S	Sb	21 36 05.3	-1.6
AGRB	Hanur-Agry	0.95	347	PG	Pb	21 35 57.4	-0.5
AGRB				SG	Sn	21 36 10.4	0.0
AGRB	Hanur-Agry	0.95	347	ePg	Pb	21 35 57.4	-0.5
AGRB				eSg	Sn	21 36 10.4	0.0
GURO	Guroymak-BITLI	0.98	265	PG	Pb	21 35 57.8	-0.5
GURO	Guroymak-BITLI	0.98	265	ePg	Pb	21 35 57.8	-0.5
EKAR	Karacoban	1.12	303	eP	Pn	21 35 59.6	-0.4
EKAR				eS	Sn	21 36 20.6	+5.9
EKAR				IAML		21 36 23.2	
	comp=Z,2.0nm,0.6s						
EKAR	Karacoban	1.12	303	iP	Pb	21 36 01.3	+0.5
EKAR				iS	Sn	21 36 16.8	+2.1
EKAR	Karacoban	1.12	303	P	Pb	21 36 01.3	+0.5
EKAR				S	Sn	21 36 16.8	+2.1
EATA	Eleskirt	1.35	334	eP	Pn	21 36 03.1	-0.2
EATA				eS	Sb	21 36 23.5	+1.6
EATA				IAML		21 36 26.9	
	comp=Z,0.9nm,0.6s						
EATA	Eleskirt	1.35	334	iP	Pb	21 36 04.7	-0.1
EATA				iS	Sb	21 36 23.4	+1.6
EATA	Eleskirt	1.35	334	P	Pb	21 36 04.7	-0.1
EATA				S	Sb	21 36 23.4	+1.6

ISCJB 18 21:55:40.1±0.5, 67°.19N±0°.03×20°.79E±0°.08, h0km, Error ellipse: s-maj=4.6km s-min=3.8km az=165.9

CSEM 18 21:55:40.8±0.2, 67°.17N×20°.74E, h2km, ML0.8, Error ellipse: s-maj=5.9km s-min=3.8km az=58.0, Mining explosion.

UPP 18 21:55:40.9, 67°.15N×20°.68E, h0km, ML0.8, Suspected Mining explosion.

HEL 18 21:55:41.7±0.0, 67°.15N×20°.67E, h0km, ML1.3, ML0.8(UPP), Explosion

ISC 18 21:55:41.2±0.8, 67°.17N±0°.02×20°.70E±0°.03, h0km, n32, σ0s87/46, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.07	227	P	Pg	21 55 42.1	-0.4
DUNU				S	Sg	21 55 43.2	-0.1
DUNU	Dundret	0.07	227	iP	Pg	21 55 42.1	-0.4
DUNU				iS	Sg	21 55 43.2	-0.1
MASU	Masugnsbyn	0.58	59	P	Pg	21 55 52.3	0.0
MASU	Masugnsbyn	0.58	59	iP	Pg	21 55 52.4	0.0
RATU	Laukkuluspa	0.78	328	P	Pg	21 55 55.8	-0.4
RATU	Laukkuluspa	0.78	328	iP	Pg	21 55 55.9	-0.4
KUA	Kurravaara	0.80	350	P	Pg	21 55 56.4	-0.2
KUA	Kurravaara	0.80	350	iP	Pg	21 55 56.4	-0.2
ERTU	Ertsjaerv	0.85	136	P	Pg	21 55 57.0	-0.5
ERTU				Sb	Sg	21 56 09.1	+0.6
ERTU	Ertsjaerv	0.85	136	eP	Pg	21 55 57.1	-0.5
	baz=311						
ERTU				eSB	Sg	21 56 09.1	+0.6
NIKU	Nikkaluokta	0.95	318	P	Pg	21 55 58.7	-0.7
NIKU	Nikkaluokta	0.95	318	eP	Pg	21 55 58.7	-0.7
HEF	Hetta	1.68	41	P	Pn	21 56 11.7	-0.1
HEF				Sn	Sg	21 56 35.0	-0.1
HEF	Hetta	1.68	41	eP	Pn	21 56 11.7	-0.1
	baz=219						
HEF				MSG		21 56 31.8	
	comp=Z,1.5nm,0.2s						
HEF				eSN	Sg	21 56 35.0	0.0
KALU	Kalix	1.69	140	Pg	Pn	21 56 11.9	0.0
KALU				Sn	Sg	21 56 34.7	-0.8
KALU	Kalix	1.69	140	ePG	Pn	21 56 11.9	0.0
KALU				eSN	Sg	21 56 34.7	-0.8
SJUU	Sjulsmark	1.71	167	P	Pn	21 56 11.4	-0.8
SJUU	Sjulsmark	1.71	167	eP	Pn	21 56 11.4	-0.8
TOF	Tornio	1.81	125	Pn	Pn	21 56 14.0	+0.4
TOF				Sn	Sg	21 56 39.1	-0.3
TOF	Tornio	1.81	125	ePN	Pn	21 56 14.0	+0.4
	baz=317						
TOF				MSG		21 56 35.6	
	comp=Z,2.1nm,0.2s						
TOF				eSN	Sg	21 56 39.1	-0.3
KIF	Kilpisjarvi	1.85	1	Pg	Pb	21 56 15.8	0.0
KIF				Sg	Sg	21 56 40.3	-0.1
KIF	Kilpisjarvi	1.85	1	ePG	Pb	21 56 15.8	0.0
KIF				MSG		21 56 38.0	
	comp=Z,2.0nm,0.2s						
KIF				eSG	Sg	21 56 40.3	-0.1
SGF	Sodankyl	2.28	80	Pg	Pb	21 56 23.3	+0.2
SGF				Sg	Sb	21 56 52.1	+0.3
SGF	Sodankyl	2.28	80	ePG	Pb	21 56 23.3	+0.2
SGF				eSG	Sb	21 56 52.1	+0.3
BURU	Burvik	2.61	174	P	Pn	21 56 24.9	+0.3
BURU	Burvik	2.61	174	eP	Pn	21 56 24.9	+0.3
VRF	Varrio	3.48	76	Pg	Pb	21 56 46.8	-1.1
VRF	Varrio	3.48	76	ePG	Pg	21 56 46.8	-1.1
MSF	Maaselka	3.57	107	Sg	Sb	21 57 31.5	+2.6
MSF	Maaselka	3.57	107	eSG	Sb	21 57 31.6	+2.6
KU6	Riekki	3.84	103	Sg	Sg	21 57 42.3	-2.2
KU6	Riekki	3.84	103	eSG	Sg	21 57 42.3	-2.2

ISK 18 21:55:42.5, 38°.68N×43°.14E, h5km, ML3.1/9

ATA 18 21:55:43.3±1.1, 38°.68N×43°.11E, h5km±21km, ML3.3, MW3.6

CSEM 18 21:55:44.3±0.2, 38°.69N×43°.14E, h2km, ML3.1, Error ellipse: s-maj=4.5km s-min=3.5km az=132.0

DDA 18 21:55:44.0, 38°.67N×43°.16E, h17km, Ml3.1

ISC 18 21:55:44.9±0.8, 38°.68N±0°.02×43°.14E±0°.02, h13km±7km, n74, σ1s22/113, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	Van	0.21	113	PG	Pg	21 55 49.3	-0.3
VANB				SG	Sg	21 55 54.0	+1.2
VANB	Van	0.21	113	ePg	Pg	21 55 49.3	-0.3
VANB				eSg	Sg	21 55 54.0	+1.2
TVAN	Van	0.25	126	iP	Pg	21 55 49.2	-1.1
TVAN				iS	Sg	21 55 54.2	+0.1
TVAN	Van	0.25	126	P	Pg	21 55 49.2	-1.1
TVAN				S	Sg	21 55 54.2	+0.1
ADCV	BITLIS_Adilcev	0.35	292	iP	Pg	21 55 51.6	-0.5
ADCV				iS	Sb	21 55 58.0	-0.7
ADCV	BITLIS_Adilcev	0.35	292	P	Pg	21 55 51.6	-0.5
GEVA	Gevas	0.37	190	eP	Pg	21 55 50.9	-1.6
GEVA				eS	Sg	21 55 57.5	+0.1
GEVA				IAML		21 56 02.2	
	comp=Z,537nm,0.4s						
GEVA	Gevas	0.37	190	iP	Pg	21 55 51.2	-1.2
GEVA				iS	Sb	21 55 59.0	-0.2
GEVA	Gevas	0.37	190	P	Pg	21 55 51.2	-1.2
GEVA				S	Sb	21 55 59.0	-0.2
ERCV	ERCIS-VAN	0.37	24	PG	Pg	21 55 51.6	-0.9
ERCV	ERCIS-VAN	0.37	24	ePg	Pg	21 55 51.6	-0.9
VMUR	Van-Muradiye	0.46	47	iP	Pb	21 55 53.8	-1.1
VMUR				iS	Sb	21 56 02.9	+1.1
VMUR	Van-Muradiye	0.46	47	P	Pb	21 55 53.8	-1.1
VMUR				S	Sb	21 56 02.8	+1.1
CLDR	Caldiran	0.76	52	PG	Pg	21 55 57.6	-2.1
CLDR				SG	Sb	21 56 10.0	-0.5
CLDR	Caldiran	0.76	52	iP	Pg	21 55 57.9	-1.8
CLDR				iS	Sb	21 56 09.7	-0.8
CLDR	Caldiran	0.76	52	ePg	Pg	21 55 57.6	-2.1
CLDR	Caldiran	0.76	52	P	Pg	21 55 57.9	-1.8
CLDR				eSg	Sb	21 56 10.0	-0.5
TUTA	Tutak	0.77	341	eP	Pg	21 55 59.0	-0.9
TUTA				eS	Sb	21 56 10.1	-0.6
TUTA				IAML		21 56 14.1	
	comp=Z,257nm,0.3s						
TUTA	Tutak	0.77	341	iP	Pg	21 55 58.9	-0.9
TUTA				iS	Sg	21 56 09.2	-0.8
TUTA	Tutak	0.77	341	P	Pg	21 55 58.9	-0.9
TUTA				S	Sg	21 56 09.2	-0.8
GURO	Guroymak-BITLI	0.88	262	PG	Pg	21 56 00.0	-1.9
GURO	Guroymak-BITLI	0.88	262	ePg	Pg	21 56 00.0	-1.9
AGRB	Hanur-Agry	0.90	353	PG	Pg	21 56 01.1	-1.3
AGRB	Hanur-Agry	0.90	353	ePg	Pg	21 56 01.1	-1.3
DYDN	Diyadin	0.96	26	eP	Pg	21 56 02.0	-1.6
DYDN				IAML		21 56 25.2	
	comp=Z,33nm,0.6s						
DYDN	Diyadin	0.96	26	iP	Pg	21 56 01.9	-1.6
DYDN				iS	Sn	21 56 17.6	-0.4
DYDN	Diyadin	0.96	26	P	Pg	21 56 01.9	-1.6
DYDN				S	Sn	21 56 17.6	-0.4
EKAR	Karacoban	1.02	305	eP	Pg	21 56 03.0	-1.6
EKAR				IAML		21 56 26.9	
	comp=Z,46nm,0.4s						
EKAR	Karacoban	1.02	305	iP	Pg	21 56 03.2	-1.4
EKAR				iS	Sn	21 56 22.8	+3.3
EKAR	Karacoban	1.02	305	P	Pg	21 56 03.2	-1.4
SRTM	Siirt_Merkez	1.18	235	iP	Pg	21 56 06.2	-1.4
SRTM				iS	Sb

EAK	**Akyaka**	**2.04**	**10**	P		**Pg**	**21 56 22.1**	**-1.8**
HANI	**Diyarbakir_Han**	**2.17**	**264**	*i* P		**Pb**	**21 56 23.6**	**-0.5**
HANI				*i* S		**Sg**	**21 56 53.1**	**-1.5**
HANI	**Diyarbakir_Han**	**2.17**	**264**	P		**Pb**	**21 56 23.5**	**-0.5**
HANI				S		**Sg**	**21 56 53.1**	**-1.5**
DIY	**Diyarbakir**	**2.42**	**252**	*e*Pn		**Pn**	**21 56 25.4**	**+1.1**
KOPT	**Kop Dagi**	**2.45**	**304**	*e*P		**Pg**	**21 56 31.2**	**-0.6**
MAZI	**Mazidag**	**2.45**	**241**	PN		**Pn**	**21 56 25.9**	**+1.2**
MAZI	**Mazidag**	**2.45**	**241**	*e*Pn		**Pn**	**21 56 25.9**	**+1.2**
DYBB	**Diyarbakir**	**2.47**	**254**	PN		**Pn**	**21 56 25.4**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**2.89**	**307**	PN		**Pn**	**21 56 31.6**	**+0.9**
BAYT	**Ayd¨–ntepe-Bay**	**2.89**	**307**	*e*Pn		**Pn**	**21 56 31.6**	**+0.9**
PTK	**Pertek**	**2.94**	**275**	PN		**Pn**	**21 56 32.7**	**+1.2**
PTK	**Pertek**	**2.94**	**275**	*e*Pn		**Pn**	**21 56 32.7**	**+1.2**
URFA	**Urfa**	**3.63**	**251**	PN		**Pn**	**21 56 42.1**	**+1.3**
URFA	**Urfa**	**3.63**	**251**	*e*Pn		**Pn**	**21 56 42.1**	**+1.3**
MALT	**Malatya**	**3.72**	**266**	PN		**Pn**	**21 56 42.8**	**+0.7**
MALT	**Malatya**	**3.72**	**266**	*e*Pn		**Pn**	**21 56 42.8**	**+0.7**

MEX 18 22:00:13.8±0.3, 14°.77N×93°.31W, h28km±9km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.93**	**6**	*i* P	Pn	22 00 28.5	-2.6
PCIG				*e*S	Sb	22 00 39.9	-3.4
CCIG	**Comitan**	**1.88**	**37**	*e*P	Pn	22 00 42.0	-2.3
CCIG				*i* S	Sn	22 01 04.4	-2.8
TGIG		**2.00**	**5**	*i* P	Pn	22 00 43.8	-2.0
TGIG				*i* S	Sn	22 01 07.2	-2.8

NNC 18 22:12:55.9±2.5, 37°.73N×71°.35E, h0km, mb3.7, mpv3.2, 3C-6D, Error ellipse: s-maj=18.8km s-min=18.0km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.83**	**36**	⇓P	Pn	22 13 42.7	0.0
	1.2nm,0.2s						
SFK				⇑S	Sn	22 14 19.8	+2.2
	7.0nm,0.3s						
MNAS	**Manas**	**4.83**	**10**	⇓P	Pn	22 14 10.5	+0.5
	1.3nm,0.3s						
MNAS				⇓S	Sn	22 15 07.6	+0.8
	6.1nm,0.5s						
KK31	**Karatay Array**	**5.41**	**354**	⇑P	Pn	22 14 18.7	+1.0
	0.7nm,0.3s,baz=173,slow=12,SNR=22						
KK31				S	Sn	22 15 22.3	+1.6
	2.0nm,0.6s,baz=178,slow=24,SNR=7.3						
AAK	**Ala-Archa**	**5.46**	**25**	⇑P	Pn	22 14 18.1	-0.6
	2.2nm,0.5s						
AAK				⇓S	Sn	22 15 21.3	-1.0
	1.8nm,0.5s						
TKM2	**Tokmak 2**	**6.12**	**31**	⇓P	Pn	22 14 26.4	-1.3
	2.5nm,0.7s						
MDOK	**Medeo**	**6.95**	**37**	⇓P	Pn	22 14 38.8	-0.3
	2.1nm,0.8s						

GUC 18 22:29:50.6±0.3, 23°.85S×67°.07W, h189km±22km, ML3.7, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.56**	**296**	⇑*i* P	Pn	22 30 37.8	+3.1
PB06				*i* S	Sn	22 31 12.5	+3.4
PB06				IAML		22 31 13.8	
	comp=E,153nm,0.3s						
GO02	**Mina Guanaco**	**2.64**	**240**	⇑*i* P	Pn	22 30 37.5	+1.7
GO02				*i* S	Sn	22 31 13.2	+2.3
GO02				IAML		22 31 13.4	
	comp=N,149nm,0.3s						
PB14	**IPOC Station P**	**3.14**	**255**	*e*P	Pn	22 30 43.6	+1.9
PB14				IAML		22 31 24.5	
	comp=E,84nm,0.4s						
PB04	**IPOC Station P**	**3.21**	**297**	*e*S	Sn	22 31 25.3	+2.4
PB04				IAML		22 31 27.4	
	comp=N,107nm,0.5s						
PB10	**IPOC Station P**	**3.21**	**275**	⇑*i* P	Pn	22 30 44.7	+2.4
PB10				*i* S	Sn	22 31 25.2	+2.6
PB10				IAML		22 31 27.1	
	comp=E,147nm,0.4s						
PB01	**IPOC Station P**	**3.58**	**321**	⇓*i* P	Pn	22 30 49.2	+2.4
PB01				*i* S	Sn	22 31 32.9	+2.1
PB01				IAML		22 31 35.5	
	comp=E,63nm,0.2s						
PB08	**IPOC Station P**	**4.17**	**332**	*i* S	Sn	22 31 47.7	+3.1

*IDC **18** 22:38:13.5±1.1, 37°.86N×29°.18E, h0km, mb3.5/5, mb1 3.5/11, mb1mx3.3/62, mbtmp3.4/11, ML3.0/5, MS2.7/2, Ms1 2.7/2, ms1mx2.2/54, Error ellipse: s-maj=18.9km s-min=16.5km az=176.0*

*ISK **18** 22:38:13.7, 37°.81N×29°.15E, h12km, ML3.5/26*

*ISCJB **18** 22:38:14.2±0.4, 37°.85N±0°.02×29°.14E±0°.02, h7km±3km, mb3.4/5, MS2.6/1, Error ellipse: s-maj=2.9km s-min=2.6km az=15.7*

*CSEM **18** 22:38:14.4±0.1, 37°.84N×29°.16E, h5km, ML3.5, Error ellipse: s-maj=3.3km s-min=2.9km az=103.0*

*DDA **18** 22:38:14.1, 37°.85N×29°.17E, h16km, Ml3.3*

ISC 18 22:38:14.5±0.9, 37°.85N±0°.02×29°.15E±0°.02, h8km±6km, n147, σ1§28/183, mb3.5/5, 9C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.13**	**223**	PG	**Pg**	**22 38 17.3**	**-0.1**
DENT				SG	**Sg**	**22 38 19.3**	**-0.1**
DENT	**Denizli**	**0.13**	**223**	*e*Pg	**Pg**	**22 38 17.3**	**-0.1**
DENT				*e*Sg	**Sg**	**22 38 19.3**	**-0.1**
TAVA	**DENIZLI_Tavas**	**0.43**	**206**	*i* P	**Pg**	**22 38 22.7**	**-0.1**
TAVA				*i* S	**Sg**	**22 38 28.9**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.43**	**206**	P	**Pg**	**22 38 22.7**	**-0.1**
TAVA				S	**Sg**	**22 38 29.0**	**+0.5**
KHL	**Karahalli**	**0.56**	**32**	PG	**Pg**	**22 38 25.1**	**-0.3**
KHL				SG	**Sb**	**22 38 33.9**	**-1.0**
KHL	**Karahalli**	**0.56**	**32**	*e*Pg	**Pg**	**22 38 25.1**	**-0.3**
KHL				*e*Sg	**Sb**	**22 38 33.9**	**-1.0**
GOLH	**Golhisar**	**0.70**	**151**	*i* P	**Pg**	**22 38 26.6**	**-1.4**
GOLH				*i* S	**Sb**	**22 38 38.0**	**-0.8**
GOLH	**Golhisar**	**0.70**	**151**	P	**Pg**	**22 38 26.6**	**-1.4**
GOLH				S	**Sb**	**22 38 38.0**	**-0.8**
BRDR	**BURDUR-Merkez**	**0.74**	**102**	*i* P	**Pg**	**22 38 28.3**	**-0.5**
BRDR				*i* S	**Sb**	**22 38 41.1**	**+1.0**
BRDR	**BURDUR-Merkez**	**0.74**	**102**	P	**Pg**	**22 38 28.3**	**-0.5**
BRDR				S	**Sb**	**22 38 41.1**	**+1.0**
KULA	**Kula-Manisa**	**0.77**	**330**	PG	**Pb**	**22 38 30.3**	**+0.1**
KULA				SG	**Sb**	**22 38 41.2**	**+0.4**
KULA	**Kula-Manisa**	**0.77**	**330**	*e*Pg	**Pb**	**22 38 30.3**	**+0.1**
KULA				*e*Sg	**Sb**	**22 38 41.2**	**+0.4**
KZIL	**AFYON_Kizioren**	**0.89**	**62**	*i* P	**Pg**	**22 38 31.2**	**-0.4**
KZIL				*i* S	**Sn**	**22 38 46.3**	**-0.3**
KZIL	**AFYON_Kizioren**	**0.89**	**62**	P	**Pg**	**22 38 31.2**	**-0.4**
KZIL				S	**Sn**	**22 38 46.3**	**-0.3**
YER	**Yerkesik**	**0.99**	**224**	PG	**Pg**	**22 38 33.0**	**-0.6**
YER	**Yerkesik**	**0.99**	**224**	P	**Pg**	**22 38 33.0**	**-0.6**
YER	**Yerkesik**	**0.99**	**224**	P	**Pg**	**22 38 33.0**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**276**	PG	**Pg**	**22 38 33.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**276**	*e*Pg	**Pg**	**22 38 33.5**	**-0.2**
AYDN	**Tasoluk**	**1.02**	**260**	*i* P	**Pg**	**22 38 34.2**	**+0.1**
AYDN				*i* S	**Sb**	**22 38 48.1**	**0.0**
AYDN	**Tasoluk**	**1.02**	**260**	P	**Pg**	**22 38 34.2**	**+0.1**
AYDN				S	**Sb**	**22 38 48.1**	**0.0**
TURN	**Turunc**	**1.07**	**204**	PN	**Pn**	**22 38 36.5**	**+0.7**
TURN	**Turunc**	**1.07**	**204**	*i* P	**Pn**	**22 38 38.7**	**+2.6**
TURN				*i* S	**Sn**	**22 38 57.9**	**+7.0**
TURN	**Turunc**	**1.07**	**204**	*e*Pn	**Pn**	**22 38 36.5**	**+0.7**
TURN	**Turunc**	**1.07**	**204**	P	**Pn**	**22 38 38.4**	**+2.6**
ISP	**Isparta**	**1.09**	**91**	PN	**Pg**	**22 38 34.6**	**-0.9**
ISP	**Isparta**	**1.09**	**91**	P	**Pg**	**22 38 34.2**	**-1.3**
ISP	**Isparta**	**1.09**	**91**	*e*Pn	**Pg**	**22 38 34.6**	**-0.9**
ISP				S	**Sn**	**22 38 51.7**	**+0.1**
ISP	**Isparta**	**1.09**	**91**	P	**Pg**	**22 38 34.2**	**-1.3**
ISP				S	**Sn**	**22 38 51.7**	**+0.1**
DALY	**Dalyan (Mu¨la**	**1.10**	**201**	PG	**Pg**	**22 38 34.9**	**-0.8**
DALY	**Dalyan (Mu¨la**	**1.10**	**201**	*i* P	**Pg**	**22 38 35.7**	**0.0**
DALY				*i* S	**Sn**	**22 38 52.2**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.10**	**201**	*e*Pg	**Pg**	**22 38 34.9**	**-0.8**
DALY	**Dalyan (Mu¨la**	**1.10**	**201**	P	**Pg**	**22 38 35.7**	**0.0**
DALY				S	**Sn**	**22 38 52.2**	**+0.5**
FETY	**Fethiye**	**1.21**	**182**	PN	**Pg**	**22 38 35.9**	**-1.9**
FETY	**Fethiye**	**1.21**	**182**	P	**Pg**	**22 38 36.5**	**-1.3**
FETY				S	**Sg**	**22 38 53.7**	**+0.1**
FETY	**Fethiye**	**1.21**	**182**	P	**Pg**	**22 38 35.8**	**-2.0**
FETY				S	**Sb**	**22 38 53.9**	**+0.3**
MLSB	**Milas**	**1.22**	**243**	PN	**Pg**	**22 38 36.7**	**-1.2**
MLSB	**Milas**	**1.22**	**243**	*e*Pn	**Pg**	**22 38 36.7**	**-1.2**
DEMI	**Demirci**	**1.24**	**344**	*i* P	**Pn**	**22 38 38.2**	**-0.1**
DEMI				*i* S	**Sn**	**22 38 54.6**	**-0.6**
DEMI	**Demirci**	**1.24**	**344**	P	**Pn**	**22 38 38.2**	**-0.1**
DEMI				S	**Sn**	**22 38 54.6**	**-0.6**
SIMA	**Simav-Kutahya**	**1.24**	**354**	PN	**Pn**	**22 38 38.1**	**-0.2**
SIMA	**Simav-Kutahya**	**1.24**	**354**	*e*Pn	**Pn**	**22 38 38.1**	**-0.2**
ELL	**Elmali**	**1.26**	**151**	PN	**Pn**	**22 38 37.3**	**-1.3**
ELL	**Elmali**	**1.26**	**151**	*e*Pn	**Pn**	**22 38 37.3**	**-1.3**
GDZ	**Gediz**	**1.26**	**12**	*i* P	**Pg**	**22 38 37.2**	**-1.6**
GDZ				*i* S	**Sb**	**22 38 54.7**	**-0.5**
GDZ	**Gediz**	**1.26**	**12**	P	**Pg**	**22 38 37.2**	**-1.6**
GDZ				S	**Sb**	**22 38 54.7**	**-0.5**
KORT	**Korkueli**	**1.28**	**131**	PN	**Pn**	**22 38 38.1**	**-0.8**
KORT	**Korkueli**	**1.28**	**131**	*i* P	**Pg**	**22 38 39.2**	**+0.1**
KORT				*i* S	**Sb**	**22 38 55.6**	**-0.1**
KORT	**Korkueli**	**1.28**	**131**	*e*Pn	**Pn**	**22 38 38.1**	**-0.8**
KORT	**Korkueli**	**1.28**	**131**	P	**Pg**	**22 38 39.2**	**+0.1**
KORT				S	**Sb**	**22 38 55.6**	**-0.1**
BAGO	**Egridir - ISPA**	**1.31**	**83**	*i* P	**Pn**	**22 38 38.6**	**-0.6**
BAGO				*i* S	**Sn**	**22 38 58.9**	**+1.9**
SHUT	**Suhut-Afyon**	**1.31**	**57**	PN	**Pn**	**22 38 38.8**	**-0.5**
SHUT	**Suhut-Afyon**	**1.31**	**57**	*e*Pn	**Pn**	**22 38 38.8**	**-0.5**
AKS	**Akhisar**	**1.47**	**315**	PN	**Pn**	**22 38 40.7**	**-0.6**
AKS	**Akhisar**	**1.47**	**315**	*i* Pn	**Pn**	**22 38 40.7**	**-0.6**
SUTC	**Sutluce-Ispart**	**1.52**	**104**	PN	**Pn**	**22 38 41.4**	**-0.8**
SUTC	**Sutluce-Ispart**	**1.52**	**104**	*e*Pn	**Pn**	**22 38 41.4**	**-0.8**
GCAM	**G?zelcaml?**	**1.52**	**265**	PN	**Pn**	**22 38 41.4**	**-0.7**
GCAM	**G?zelcaml?**	**1.52**	**265**	*e*Pn	**Pn**	**22 38 41.4**	**-0.7**
TVSB	**Tavsanli**	**1.62**	**9**	PN	**Pn**	**22 38 42.6**	**-0.9**
TVSB	**Tavsanli**	**1.62**	**9**	*e*Pn	**Pn**	**22 38 42.6**	**-0.9**
YKAV	**Yalikavak-Bodr**	**1.65**	**245**	PN	**Pn**	**22 38 43.6**	**-0.2**
YKAV	**Yalikavak-Bodr**	**1.65**	**245**	*e*Pn	**Pn**	**22 38 43.6**	**-0.2**
AKAS	**Kas**	**1.66**	**167**	PN	**Pn**	**22 38 43.2**	**-0.9**
AKAS	**Kas**	**1.66**	**167**	*i* P	**Pb**	**22 38 45.0**	**-0.4**
AKAS				*i* S	**Sg**	**22 39 09.8**	**+2.0**
AKAS	**Kas**	**1.66**	**167**	*e*Pn	**Pn**	**22 38 43.2**	**-0.9**
AKAS	**Kas**	**1.66**	**167**	P	**Pb**	**22 38 45.0**	**-0.4**
AKAS				S	**Sg**	**22 39 09.8**	**+2.0**
BODT	**Bodrum**	**1.66**	**242**	PN	**Pn**	**22 38 42.6**	**-1.4**
BODT	**Bodrum**	**1.66**	**242**	*e*Pn	**Pn**	**22 38 42.6**	**-1.4**
BODT	**Bodrum**	**1.66**	**242**	P	**Pn**	**22 38 43.4**	**-0.6**
BODT	**Bodrum**	**1.66**	**242**	P	**Pn**	**22 38 43.4**	**-0.6**
BOLV	**Bolvadin**	**1.66**	**58**	*i* P	**Pb**	**22 38 44.7**	**-0.8**
BOLV				*i* S	**Sg**	**22 39 10.3**	**+2.3**
BOLV	**Bolvadin**	**1.66**	**58**	P	**Pb**	**22 38 44.7**	**-0.8**
BOLV				S	**Sg**	**22 39 10.4**	**+2.3**
KSL	**Kastellorizon**	**1.73**	**168**	P	**Pb**	**22 38 46.9**	**+0.3**
ARG	**Arkhangelos**	**1.82**	**207**	P	**Pb**	**22 38 48.1**	**-0.1**
ARG				S	**Sg**	**22 39 13.0**	**-0.1**
ARG	**Arkhangelos**	**1.82**	**207**	P	**Pb**	**22 38 48.1**	**-0.1**
ARG				S	**Sg**	**22 39 13.0**	**-0.1**
SMG	**Samos**	**1.83**	**266**	P	**Pn**	**22 38 46.3**	**-0.1**
SMG	**Samos**	**1.83**	**266**	P	**Pn**	**22 38 46.3**	**-0.1**
DOGA	**KONYA_Doganhis**	**2.01**	**82**	*i* P	**Pn**	**22 38 49.7**	**+0.8**
DOGA				*i* S	**Sg**	**22 39 22.3**	**+3.2**
DOGA	**KONYA_Doganhis**	**2.01**	**82**	P	**Pn**	**22 38 49.7**	**+0.8**
BALB	**Balikesir**	**2.04**	**331**	PN	**Pn**	**22 38 50.0**	**+0.8**
BALB	**Balikesir**	**2.04**	**331**	*e*Pn	**Pn**	**22 38 50.0**	**+0.8**
URLA	**Izmir**	**2.07**	**285**	PN	**Pn**	**22 38 49.1**	**-0.6**
URLA	**Izmir**	**2.07**	**285**	*e*Pn	**Pn**	**22 38 49.1**	**-0.6**
DKL	**Dikili**	**2.14**	**305**	PN	**Pn**	**22 38 50.4**	**-0.2**
DKL	**Dikili**	**2.14**	**305**	*e*Pn	**Pn**	**22 38 50.4**	**-0.2**
CAVI	**Cavuskoy**	**2.41**	**13**	PN	**Pn**	**22 38 55.4**	**+1.1**
CAVI	**Cavuskoy**	**2.41**	**13**	*e*Pn	**Pn**	**22 38 55.4**	**+1.1**
KDHN	**Kadinhani**	**2.44**	**73**	*i* P	**Pn**	**22 38 55.6**	**+0.8**
KDHN	**Kadinhani**	**2.44**	**73**	P	**Pn**	**22 38 55.6**	**+0.8**
SVRH	**Sivrihisar-ESK**	**2.45**	**49**	PN	**Pn**	**22 38 55.4**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.45**	**49**	*e*Pn	**Pn**	**22 38 55.4**	**+0.4**
GONE	**Gonen-Balikesi**	**2.47**	**333**	PN	**Pn**	**22 38 55.6**	**+0.5**
GONE	**Gonen-Balikesi**	**2.47**	**333**	*e*Pn	**Pn**	**22 38 55.6**	**+0.5**
KCTX	**Karacabey (Bur**	**2.49**	**346**	PN	**Pn**	**22 38 55.7**	**+0.3**
KCTX	**Karacabey (Bur**	**2.49**	**346**	*e*Pn	**Pn**	**22 38 55.7**	**+0.3**
CHOS	**Chios island**	**2.50**	**283**	PN	**Pn**	**22 38 55.4**	**-0.1**
CHOS	**Chios island**	**2.50**	**283**	*e*Pn	**Pn**	**22 38 55.4**	**-0.1**
CHOS	**Chios island**	**2.50**	**283**	P	**Pn**	**22 38 55.7**	**+0.2**
CHOS	**Chios island**	**2.50**	**283**	P	**Pn**	**22 38 55.7**	**+0.2**
MDNY	**Mudanya-Bursa**	**2.52**	**355**	PN	**Pn**	**22 38 56.6**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.52**	**355**	*e*Pn	**Pn**	**22 38 56.6**	**+0.8**
GEMT	**Gemlik**	**2.58**	**1**	PN	**Pn**	**22 38 57.1**	**+0.4**
GEMT	**Gemlik**	**2.58**	**1**	*e*Pn	**Pn**	**22 38 57.1**	**+0.4**
PRK	**Paraskevi**	**2.65**	**303**	P	**Pn**	**22 38 58.5**	**+0.9**
PRK	**Paraskevi**	**2.65**	**303**	P	**Pn**	**22 38 58.5**	**+0.9**
KARP	**Karpathos**	**2.80**	**215**	PN	**Pn**	**22 38 59.6**	**-0.1**
KARP	**Karpathos**	**2.80**	**215**	*e*Pn	**Pn**	**22 38 59.6**	**-0.1**
KARP	**Karpathos**	**2.80**	**215**	P	**Pn**	**22 39 01.1**	**+1.4**
KARP	**Karpathos**	**2.80**	**215**	P	**Pn**	**22 39 01.1**	**+1.4**
SIGR	**SIGRI**	**2.92**	**299**	P	**Pn**	**22 39 01.8**	**+0.6**
SIGR	**SIGRI**	**2.92**	**299**	P	**Pn**	**22 39 01.8**	**+0.6**
APE	**Apeiranthos**	**2.98**	**256**	⇑*i* P	**Pb**	**22 39 06.1**	**-1.8**
APE	**Apeiranthos**	**2.98**	**256**	⇑*i* P	**Pb**	**22 39 06.1**	**-1.8**
SANT	**Santorini**	**3.30**	**244**	⇓*i* P	**Pg**	**22 39 19.1**	**+1.4**
BRTR	**Keskin Array B**	**3.98**	**61**	Pn	**Pn**	**22 39 16.8**	**+0.7**
	0.7nm,0.3s,baz=239,slow=15,SNR=26						
BRTR				Sn	**Sn**	**22 40 05.1**	**+2.1**
	0.3nm,0.3s,baz=239,slow=25,SNR=4.0						
IDI	**Anoyia**	**4.27**	**235**	Pn	**Pn**	**22 39 21.6**	**+1.6**
	1.2nm,0.3s,baz=45,slow=16,SNR=16						
IDI	**Anoyia**	**4.27**	**235**	⇑*i* P	**Pn**	**22 39 22.2**	**+2.2**
IDI	**Anoyia**	**4.27**	**235**	⇑*i* P	**Pn**	**22 39 22.2**	**+2.2**
ANX	**Ano Chora**	**5.74**	**280**	P	**Pn**	**22 39 42.3**	**+2.2**
ANX	**Ano Chora**	**5.74**	**280**	P	**Pn**	**22 39 42.3**	**+2.2**
VTS	**Vitosha**	**6.56**	**318**	⇓*i* P	**Pn**	**22 39 49.6**	**-1.9**
VTS	**Vitosha**	**6.56**	**318**	⇓*i* P	**Pn**	**22 39 49.6**	**-1.9**
TIRR	**Tirgusor**	**6.62**	**355**	⇑*i* P	**Pn**	**22 39 52.7**	**+0.5**
TIRR	**Tirgusor**	**6.62**	**355**	⇑*i* P	**Pn**	**22 39 52.7**	**+0.5**
MMAI	**Mount Meron Ar**	**7.03**	**132**	Pn	**Pn**	**22 39 57.2**	**-0.6**
	5.1nm,0.3s,baz=319,slow=12,SNR=36						
MMAI				Sn	**Sn**	**22 41 15.0**	**-2.9**
	0.6nm,0.3s,baz=100,slow=25,SNR=2.4						
CFR	**Carcaliu**	**7.36**	**354**	⇓*i* P	**Pn**	**22 40 06.0**	**+3.7**
MLR	**Muntele Rosu**	**8.00**	**344**	Pn	**Pn**	**22 40 12.0**	**+0.8**
	0.0nm,0.3s,baz=103,slow=14,SNR=4.1						
MLR	**Muntele Rosu**	**8.00**	**344**	⇓*i* P	**Pn**	**22 40 13.4**	**+2.2**
MLR	**Muntele Rosu**	**8.00**	**344**	⇓*i* P	**Pn**	**22 40 13.4**	**+2.2**
VOIR		**8.18**	**339**	⇓*i* P	**Pn**	**22 40 16.5**	**+2.9**
VOIR		**8.18**	**339**	⇓*i* P	**Pn**	**22 40 16.5**	**+2.9**
PLOR	**Plostina**	**8.21**	**348**	⇑*i* P	Pn	22 40 22.5	+8.5
VRI	**Vrincioaia**	**8.21**	**348**	⇑*i* P	**Pn**	**22 40 17.2**	**+3.2**
ASF	**Jabal al Asfar**	**8.51**	**129**	Pn	**Pn**	**22 40 19.1**	**+0.9**
	0.3nm,0.3s,baz=282,slow=9.3,SNR=2.4						
ASF				Sn	Sn	22 42 03.6	+9.0
	0.3nm,0.3s,baz=159,slow=14,SNR=2.6						
DOPR	**Dopca**	**8.58**	**342**	⇑*i* P	**Pn**	**22 40 21.5**	**+2.5**
DOPR	**Dopca**	**8.58**	**342**	⇑*i* P	**Pn**	**22 40 21.5**	**+2.5**
SORM	**Soroca**	**10.29**	**357**	⇓*i* P	**Pn**	**22 40 44.2**	**+1.7**
SORM	**Soroca**	**10.29**	**357**	⇓*i* P	**Pn**	**22 40 44.2**	**+1.7**
GNI	**Garni**	**12.35**	**74**	LR	LR	22 46 07.9	
	comp=Z,33nm,18.1s,baz=292,slow=38						
GERES	**GERESS Array B**	**15.68**	**319**	Pn	**P**	**22 41 58.9**	**-1.0**
	0.1nm,0.3s,baz=120,slow=9.1,SNR=2.9						
AKTO	**Aktyubinsk**	**24.07**	**49**	LR	LR	22 56 19.1	
	comp=Z,17nm,18.2s,baz=335,slow=45						
HFS	**Hagfors**	**24.37**	**341**	P	**P**	**22 43 31.8**	**-1.1**
	2.1nm,0.9s,baz=146,slow=14,SNR=2.4						
TORD	**Torodi Ar. Bea**	**34.67**	**232**	P	**P**	**22 45 04.1**	**-0.7**
	0.3nm,0.4s,baz=38,slow=8.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**36.94**	**54**	P	**P**	**22 45 24.0**	**+0.1**
	0.5nm,0.6s,baz=273,slow=8.8,SNR=5.1						
MKAR	**Makanchi Array**	**39.63**	**60**	P	**P**	**22 45 46.9**	**+0.2**
	0.5nm,0.8s,baz=268,slow=7.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**40.82**	**48**	P	**P**	**22 45 56.1**	**-0.3**
	0.2nm,0.3s,baz=271,slow=8.7,SNR=3.0						

*ISCJB **18** 22:45:50.3±0.4, 17°.57S±0°.06×167°.69E±0°.07, h19km, mb4.6/20, MS3.7/10, Error ellipse: s-maj=10.5km s-min=8.1km az=30.1*

*IDC **18** 22:45:50.3±1.0, 17°.45S×167°.49E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/45, mbtmp4.1/9, ML3.8/1, MS3.7/12, Ms1 3.7/12, ms1mx3.4/40, Error ellipse: s-maj=33.3km s-min=24.3km az=113.0*

*NEIC **18** 22:45:54.6±0.5, 17°.59S×167°.68E, h35km, mb4.9/10, Error ellipse: s-maj=15.3km s-min=11.6km az=113.0*

ISC 18 22:45:52.2±0.5, 17°.56S±0°.07×167°.7E±0°.1, h19km, n51, σ1§46/44, mb4.4/19, MS3.7/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.63**	**194**	Pn	**Pn**	**22 47 01.2**	**-0.1**
	4.2nm,0.3s,baz=330,slow=11,SNR=38						
DZM				Sn	**Sn**	**22 47 51.5**	**-3.2**
	3.6nm,0.3s,baz=308,slow=22,SNR=6.8						
DZM				LR	LR	22 48 41.3	
	comp=Z,514nm,19.7s,baz=28,slow=36						
DZM	**Mont Dzumac**	**4.63**	**194**	*e*Pn	**Pn**	**22 47 00.9**	**-0.5**
	24nm,0.3s						
DZM				*e*Sn	**Sn**	**22 47 54.0**	**-0.7**
	26nm,0.2s						
MSVF	**Nonsavu**	**9.90**	**93**	Pn	**Pn**	**22 48 14.5**	**+0.8**
HNR	**Honiara**	**11.02**	**316**	LR	LR	22 51 55.1	
	comp=Z,275nm,21.2s,baz=154,slow=34						
PMG	**Port Moresby**	**21.51**	**289**	LR	LR	22 58 09.0	
	comp=Z,257nm,18.5s,baz=104,slow=35						
BKZ	**Black Stump Fm**	**22.86**	**162**	*e*P	**P**	**22 50 54.8**	**+0.2**
	14nm,1.0s						
THZ	**Tophouse**	**24.54**	**171**	*e*P	**P**	**22 51 13.8**	**+3.0**
	140nm,1.9s						
KNTN	**Kanton**	**25.00**	**56**	*e*P	**P**	**22 51 12.9**	**-2.3**
	309nm,1.7s						
RPZ	**Rata Peaks**	**26.23**	**174**	LR	LR	23 01 32.4	
	comp=Z,264nm,18.3s,baz=346,slow=36						
ODZ	**Otahua Downs**	**27.52**	**175**	*e*P	**P**	**22 51 35.9**	**-1.7**
	64nm,1.8s						
STKA	**Stephens Creek**	**27.55**	**234**	P	**P**	**22 51 39.4**	**+1.3**
	2.4nm,0.6s,baz=48,slow=7.7,SNR=5.7						
STKA				LR	LR	23 01 29.7	
	comp=Z,208nm,18.4s,baz=33,slow=34						
STKA	**Stephens Creek**	**27.55**	**234**	*e*P	**P**	**22 51 39.4**	**+1.3**
	6.0nm,1.8s						
WR1	**Warramunga Arr**	**31.62**	**260**	*e*P	**P**	**22 52 13.5**	**-0.7**
	47nm,1.8s						
WR1				*e*PcP	**PcP**	**22 55 06.8**	**+0.3**
WRA	**Warramunga Arr**	**31.62**	**260**	P	**P**	**22 52 13.5**	**-0.8**
	1.5nm,1.0s,baz=92,slow=9.7,SNR=6.2						
WRA				PcP	**PcP**	**22 55 06.8**	**+0.3**
	0.4nm,0.7s,baz=91,slow=2.1,SNR=4.6						
WRA				LR	LR	23 03 44.0	
	comp=Z,93nm,21.1s,baz=195,slow=34						
AS01	**Alice Springs**	**32.08**	**253**	*e*P	**

baz=313,slow=75,SNR=8.1
H11S2 WAKE ISLAND Hy 27.91 121 T T 23 24 20.9
baz=313,slow=75
SONM Songino Array 28.80 306 P **P** 22 55 16.3 -0.2
1.6nm,0.9s,baz=109,slow=8.2,SNR=8.3
SONM LR LR 23 06 42.9
comp=Z,41nm,18.4s,baz=174,slow=36
ZALV Zalesovo Beam 43.06 313 P **P** 22 57 17.7 -0.3
1.5nm,0.8s,baz=95,slow=8.0,SNR=6.0
MKAR Makanchi Array 45.10 303 P **P** 22 57 35.0 +0.6
1.4nm,0.8s,baz=88,slow=9.6,SNR=11
KURBB Kurchatov Arra 47.08 309 P **P** 22 57 50.0 0.0
5.8nm,0.8s,baz=84,slow=8.3,SNR=26
ILAR Eielson Array 50.54 32 P **P** 22 58 17.0 +0.7
0.4nm,0.8s,baz=260,slow=6.8,SNR=5.4
BVAR Borovoye Array 51.72 313 P **P** 22 58 25.7 +0.4
0.4nm,0.4s,baz=66,slow=8.6,SNR=3.8
WRA Warramunga Arr 55.71 188 P **P** 22 58 53.8 -1.0
2.3nm,0.9s,baz=6.8,slow=7.6,SNR=7.0
ASAR Alice Springs 59.44 188 P **P** 22 59 20.5 -0.5
1.2nm,0.8s,baz=17,slow=7.4,SNR=6.6
RES Resolute Bay 63.89 14 P **P** 22 59 51.0 +0.6
1.3nm,1.1s,baz=355,slow=6.8,SNR=4.5
YKA Yellowknife Ar 64.89 30 P **P** 22 59 58.4 +1.3
0.2nm,0.7s,baz=301,slow=6.3,SNR=4.0
FINES FINESS Array B 70.18 333 P **P** 23 00 29.8 -0.7
2.3nm,1.0s,baz=113,slow=11,SNR=2.4
AKASG Malin Array Be 75.57 323 P **P** 23 01 02.2 -0.5
0.1nm,0.3s,baz=54,slow=3.7,SNR=6.2
NOA NORSAR Array B 75.58 338 P **P** 23 01 01.2 -1.5
1.3nm,0.9s,baz=37,slow=9.6,SNR=2.5
BRTR Keskin Array B 79.98 312 P **P** 23 01 28.6 +0.9
0.8nm,0.9s,baz=76,slow=5.2,SNR=4.6
GERES GERESS Array B 84.04 328 P **P** 23 01 49.2 +0.4
0.3nm,0.7s,baz=7.1,slow=5.4,SNR=4.0
GERES LR LR 23 44 19.5
comp=Z,85nm,19.1s,baz=6.0,slow=39
SIV San Ignacio 151.76 52 PKPbc **PKPbc** 23 09 13.9 +0.5
0.8nm,0.8s,baz=329,slow=2.0,SNR=5.7

*BEO **18** 22:50:17.6±0.5, 43.75°N×17.05°E, h0km, M2.6/1*
*CSEM **18** 22:50:18.1±0.2, 43.73°N×17.21°E, h2km, ML2.5, Error ellipse: s-maj=6.6km s-min=3.7km az=39.0*
*VIE **18** 22:50:22.1±1.1, 44.05°N×17.37°E, h8km±6km, mb2.5/4, ML2.2/8, Error ellipse: s-maj=9.8km s-min=4.9km az=11.0*
ISC 18 22:50:17.6±1.2, 43.75°N±0.02°×17.22°E±0.02°, h0km±10km, n51, σ1s18/87, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.94**	**158**	*e*Pg	**Pg**	**22 50 34.0**	**-1.7**
STON				Sg	**Sg**	**22 50 48.9**	**+1.0**
STON	**Ston**	**0.94**	**158**	*e*Pg	**Pg**	**22 50 34.4**	**-1.3**
STON				*e*Sg	**Sg**	**22 50 49.0**	**+1.1**
STON	**Ston**	**0.94**	**158**	*e*Pg	**Pg**	**22 50 34.4**	**-1.3**
STON				*e*Sg	**Sg**	**22 50 49.0**	**+1.1**
BLY	**Banja Luka**	**1.00**	**358**	*e*Pg	**Pg**	**22 50 37.1**	**+0.3**
BLY				*e*Sg	**Sg**	**22 50 50.0**	**+0.2**
BLY	**Banja Luka**	**1.00**	**358**	*e*Pg	**Pg**	**22 50 37.1**	**+0.3**
BLY				*e*Sg	**Sg**	**22 50 50.0**	**+0.2**
HAPS	**Han Pijesak,Bl**	**1.29**	**74**	*e*Pg	**Pg**	**22 50 41.6**	**-0.8**
HAPS				*e*Sg	**Sn**	**22 51 01.9**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.29**	**74**	*e*Pg	**Pg**	**22 50 41.6**	**-0.8**
HAPS				*e*Sg	**Sn**	**22 51 01.9**	**+0.8**
UDBI	**Udbina**	**1.31**	**307**	*e*Pg	**Pg**	**22 50 41.9**	**-0.7**
UDBI				Sg	**Sb**	**22 51 00.3**	**-0.1**
UDBI	**Udbina**	**1.31**	**307**	*e*Pg	**Pg**	**22 50 41.9**	**-0.7**
UDBI				Sg	**Sb**	**22 51 00.2**	**-0.1**
TREB	**Trebinje**	**1.32**	**141**	*e*Pg	**Pg**	**22 50 41.4**	**-1.5**
TREB				*e*Sg	**Sb**	**22 51 01.1**	**+0.4**
BBLS	**Lazići**	**1.58**	**85**	*e*Pg	**Pn**	**22 50 47.3**	**+0.3**
BBLS				*e*Sg	**Sg**	**22 51 10.6**	**+2.1**
BBLS	**Lazići**	**1.58**	**85**	*e*Pn	**Pn**	**22 50 46.6**	**-0.4**
BBLS	**Lazići**	**1.58**	**85**	*e*Pg	**Pn**	**22 50 47.3**	**+0.3**
BBLS				*e*Sn	**Sn**	**22 51 07.4**	**-0.8**
BBLS				*e*Sg	**Sg**	**22 51 10.6**	**+2.1**
HCY	**Herceg Novi**	**1.60**	**144**	*e*Pn	**Pn**	**22 50 47.4**	**+0.3**
HCY				*e*Sn	**Sn**	**22 51 07.9**	**-0.5**
TEKS	**Tekeris**	**1.84**	**63**	*e*Pn	**Pb**	**22 50 52.2**	**0.0**
TEKS	**Tekeris**	**1.84**	**63**	*e*Pn	**Pb**	**22 50 52.2**	**0.0**
TEKS				*e*Sn	**Sn**	**22 51 14.6**	**+0.1**
NVLJ	**Novalja**	**1.88**	**297**	*e*Pn	**Pn**	**22 50 51.7**	**+0.8**
NVLJ				Sn	**Sg**	**22 51 18.4**	**+0.4**
NVLJ	**Novalja**	**1.88**	**297**	*e*Pn	**Pn**	**22 50 51.7**	**+0.8**
NVLJ				Sn	**Sg**	**22 51 18.3**	**+0.4**
PDG	**Podgorica**	**1.99**	**131**	*e*Pn	**Pb**	**22 50 54.2**	**-0.4**
PDG				*e*Sn	**Sg**	**22 51 21.6**	**+0.1**
PDG	**Podgorica**	**1.99**	**131**	*e*Pn	**Pb**	**22 50 54.2**	**-0.4**
PDG				*e*Sn	**Sg**	**22 51 21.6**	**+0.1**
DIVS	**Divibare**	**2.03**	**79**	*e*Pn	**Pn**	**22 50 54.0**	**+0.9**
DIVS				*e*Sn	**Sb**	**22 51 22.0**	**+0.7**
DIVS	**Divibare**	**2.03**	**79**	*e*Pn	**Pn**	**22 50 54.0**	**+0.9**
DIVS				*e*Sn	**Sb**	**22 51 22.0**	**+0.7**
SJES	**Sjenica**	**2.06**	**103**	*e*Pn	**Pn**	**22 50 54.3**	**+0.8**
SJES				*e*Sn	**Sg**	**22 51 23.8**	**0.0**
DRME	**Dracevica, Mon**	**2.12**	**137**	*e*Pn	**Pn**	**22 50 54.6**	**+0.3**
DRME				*e*Sn	**Sn**	**22 51 20.8**	**-0.6**
IVAS	**Ivanjica**	**2.13**	**94**	*e*Pn	**Pn**	**22 50 55.7**	**+1.2**
IVAS				*e*Sn	**Sb**	**22 51 25.0**	**+0.8**
IVAS	**Ivanjica**	**2.13**	**94**	*e*Pn	**Pn**	**22 50 55.7**	**+1.2**
IVAS				*e*Sn	**Sb**	**22 51 25.0**	**+0.8**
OZLJ	**Ozalj**	**2.25**	**327**	*e*Pn	**Pn**	**22 50 56.8**	**+0.8**
OZLJ	**Ozalj**	**2.25**	**327**	*e*Pn	**Pn**	**22 50 56.7**	**+0.8**
FGSL	**Fruska Gora**	**2.33**	**52**	*e*Pn	**Pn**	**22 50 58.3**	**+1.2**
FGSL				*e*Sn	**Sb**	**22 51 30.0**	**+0.3**
FRGS	**Fruska Gora**	**2.33**	**52**	*e*Pn	**Pn**	**22 50 58.3**	**+1.2**
FRGS				*e*Sn	**Sb**	**22 51 30.0**	**+0.3**
TRUS	**Trudelj**	**2.35**	**77**	*e*Pn	**Pb**	**22 51 00.3**	**-0.4**
TRUS				*e*Sn	**Sb**	**22 51 30.3**	**+0.1**
TRUS	**Trudelj**	**2.35**	**77**	*e*Pn	**Pb**	**22 51 00.3**	**-0.4**
TRUS				*e*Sn	**Sb**	**22 51 30.3**	**+0.1**
CRES	**Cresnjev**	**2.43**	**329**	*e*Pn	**Pn**	**22 50 57.8**	**-0.7**
GRUS	**Gruza**	**2.53**	**86**	*e*Pn	**Pn**	**22 51 01.4**	**+1.5**
GRUS				*e*Sn	**Sb**	**22 51 34.8**	**-0.8**
GRUS	**Gruza**	**2.53**	**86**	*e*Pn	**Pn**	**22 51 01.4**	**+1.5**
GRUS				*e*Sn	**Sb**	**22 51 34.8**	**-0.8**
MORH	**M¨‡r¨igy, Hung**	**2.67**	**22**	⇓*e*Pn	**Pn**	**22 51 00.9**	**-0.8**
MORH				*e*Sn	**Sg**	**22 51 42.3**	**-0.9**
CEY	**Cerknica**	**2.81**	**316**	*e*Pn	**Pn**	**22 51 03.5**	**-0.3**
ARSA	**Arzberg**	**3.70**	**342**	Pn	**Pn**	**22 51 16.0**	**0.0**
	2.5nm,0.3s						
ARSA	**Arzberg**	**3.70**	**342**	*e*Pn	**Pn**	**22 51 16.0**	**0.0**
	2.5nm,0.3s						
ZAPS	**Zavoj**	**3.97**	**95**	*e*Pn	**Pn**	**22 51 22.2**	**+2.5**
CONA	**Conrad Observa**	**4.29**	**348**	Pn	**Pn**	**22 51 24.3**	**+0.2**
	1.0nm,0.3s						
CONA	**Conrad Observa**	**4.29**	**348**	*e*Pn	**Pn**	**22 51 24.3**	**+0.2**
	1.0nm,0.3s						
ABTA	**Abfaltersbach**	**4.48**	**314**	*e*Pn	**Pn**	**22 51 28.8**	**+2.1**
	0.2nm,0.1s						
ABTA				Sn	**Sn**	**22 52 20.7**	**+1.2**
	1.6nm,0.6s						
MOA	**Molln**	**4.59**	**334**	Pn	**Pn**	**22 51 29.4**	**+1.2**
	0.4nm,0.2s						
MOA				Sn	**Sn**	**22 52 21.8**	**-0.5**
	0.5nm,0.3s						
MOA	**Molln**	**4.59**	**334**	*e*Pn	**Pn**	**22 51 29.4**	**+1.2**
	0.4nm,0.2s						
MOA				*e*Sn	**Sn**	**22 52 21.8**	**-0.5**
	0.5nm,0.3s						
VYHS	**Vyhne**	**4.88**	**13**	*e*Pn	**Pn**	**22 51 32.1**	**-0.1**
VYHS	**Vyhne**	**4.88**	**13**	*e*PN	**Pn**	**22 51 32.1**	**-0.1**
VYHS				*e*SN	**Sn**	**22 52 23.2**	**-6.1**
WATA	**Walderalm**	**5.35**	**314**	Pn	**Pn**	**22 51 40.7**	**+2.0**
	1.4nm,0.3s						
WATA	**Walderalm**	**5.35**	**314**	*e*Pn	**Pn**	**22 51 40.7**	**+2.0**
	1.4nm,0.3s						
MOTA	**Moosalm**	**5.60**	**312**	Pn	**Pn**	**22 51 44.0**	**+1.8**
	0.3nm,0.2s						
MOTA	**Moosalm**	**5.60**	**312**	*e*Pn	**Pn**	**22 51 44.0**	**+1.8**
	0.3nm,0.2s						

*IDC **18** 22:52:52.8±2.9, 36.50°N×71.30°E, h205km±25km, mb3.1/4, mb1 3.2/10, mb1mx2.8/71, mbtmp3.7/10, MS2.8/1, Ms1 2.8/1, ms1mx2.1/30, Error ellipse: s-maj=26.7km s-min=23.0km az=132.0*
*ISCJB **18** 22:52:53.5±0.6, 36.60°N±0.04°×71.09°E±0.08°, h200km, mb3.2/4, Error ellipse: s-maj=9.2km s-min=4.9km az=163.8*
*NNC **18** 22:53:00.8±1.5, 37.07°N×71.16°E, h225km±19km, mb2.6, mpv3.6, Error ellipse: s-maj=17.5km s-min=12.5km az=68.0*
ISC 18 22:52:53.1±0.9, 36.57°N±0.07°×71.14°E±0.09°, h200km, n34, σ1s79/40, mb3.4/4, 10C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.91**	**28**	⇑P	**Pn**	**22 53 56.9**	**+3.0**
	8.4nm,0.3s						
SFK				⇑S	**Sn**	**22 54 43.0**	**+1.2**
	120nm,0.4s						
AML	**Almayashu**	**5.90**	**19**	P	**Pn**	**22 54 21.2**	**+1.9**
	SNR=29						
MNAS	**Manas**	**6.00**	**10**	⇑P	**Pn**	**22 54 22.9**	**+2.5**
	2.8nm,0.4s						
MNAS				⇑S	**Sn**	**22 55 26.6**	**-3.1**
	16nm,0.4s						
UCH	**Uchtor**	**6.23**	**24**	P	**Pn**	**22 54 25.5**	**+1.9**
	SNR=27						
KZA	**Kyzart**	**6.36**	**29**	P	**Pn**	**22 54 26.8**	**+1.5**
	SNR=6.0						
EKS2	**Erkin-Say**	**6.42**	**18**	P	**Pn**	**22 54 28.2**	**+2.5**
	SNR=5.5						
KK31	**Karatay Array**	**6.55**	**356**	⇑P	**Pn**	**22 54 29.0**	**+1.6**
	1.1nm,0.4s,baz=183,slow=16,SNR=14						
KK31				⇑S	**Sn**	**22 55 39.6**	**-2.5**
	8.6nm,0.5s,baz=184,slow=22,SNR=18						
AAK	**Ala-Archa**	**6.59**	**22**	P	**Pn**	**22 54 29.6**	**+1.5**
	2.4nm,0.3s,baz=178,slow=7.0,SNR=39						
AAK				S	**Sn**	**22 55 41.7**	**-1.6**
	0.8nm,0.3s,baz=176,slow=5.7,SNR=5.1						
AAK	**Ala-Archa**	**6.59**	**22**	⇑P	**Pn**	**22 54 30.0**	**+2.0**
	3.3nm,0.4s						
AAK				⇑S	**Sn**	**22 55 42.3**	**-1.1**
	23nm,0.8s						
AAK	**Ala-Archa**	**6.59**	**22**	P	**Pn**	**22 54 30.1**	**+2.0**
	SNR=13						
ULHL	**Ulahol**	**6.91**	**33**	P	**Pn**	**22 54 33.8**	**+1.6**
	SNR=6.3						
TKM2	**Tokmak 2**	**7.21**	**27**	⇓P	**Pn**	**22 54 38.1**	**+1.9**
	6.8nm,0.8s						
TKM2				⇑S	**Sn**	**22 55 55.9**	**-2.2**
	15nm,1.0s						
TKM2	**Tokmak 2**	**7.21**	**27**	P	**Pn**	**22 54 38.3**	**+2.1**
	SNR=5.1						
GEYT	**Alibeck**	**10.47**	**281**	P	**Pn**	**22 55 19.0**	**+0.5**
	0.4nm,0.3s,baz=102,slow=12,SNR=5.1						
PYUN	**Piuthan**	**13.09**	**127**	*e*P	**P**	**22 55 52.6**	**-2.5**
	6.0nm,0.3s						
MKAR	**Makanchi Array**	**13.17**	**36**	P	**Pn**	**22 55 53.2**	**+0.6**
	0.1nm,0.3s,baz=211,slow=11,SNR=6.9						
KOLN	**Koldanda**	**13.71**	**126**	*e*P	**P**	**22 56 00.8**	**-1.1**
	3.8nm,0.3s						
GKN	**Gorkha**	**14.24**	**123**	*e*P	**P**	**22 56 09.7**	**+1.9**
	1.1nm,0.2s						
DMN	**Daman**	**14.81**	**123**	*e*P	**P**	**22 56 15.0**	**+0.8**
	14nm,0.6s						
KKN	**Kakani**	**14.81**	**122**	*e*P	**P**	**22 56 14.8**	**+0.6**
	9.7nm,0.4s						
KURBB	**Kurchatov Arra**	**15.02**	**18**	P	**Pn**	**22 56 15.6**	**+0.2**
	0.1nm,0.3s,baz=213,slow=8.2,SNR=3.7						
PKIN	**Phulchoki**	**15.03**	**123**	*e*P	**P**	**22 56 17.6**	**+1.0**
	11nm,0.6s						
PKI	**Pulchoki**	**15.04**	**123**	*e*P	**P**	**22 56 17.5**	**+0.7**
	4.9nm,0.3s						
AB31	**Akbulak array**	**15.08**	**331**	P	**P**	**22 56 18.5**	**+1.8**
	1.1nm,0.6s,baz=145,slow=11,SNR=16						
AB31				⇓S	**S**	**22 59 02.4**	**-1.0**
	0.7nm,0.5s						
GUN	**Gumba**	**15.15**	**121**	*e*P	**P**	**22 56 20.4**	**+2.4**
	7.8nm,0.4s						
JIRN	**Jiri**	**15.52**	**121**	*e*P	**P**	**22 56 24.1**	**+1.9**
	18nm,0.4s						
AKTO	**Aktyubinsk**	**16.78**	**330**	P	**P**	**22 56 37.0**	**+1.6**
	0.3nm,0.3s,baz=148,slow=12,SNR=8.4						
AKTO	**Aktyubinsk**	**16.78**	**330**	⇑P	**P**	**22 56 36.8**	**+1.4**
	3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**19.81**	**24**	P	**P**	**22 57 07.6**	**-0.5**
	0.7nm,0.3s,baz=214,slow=12,SNR=12						
ARU	**Arti**	**21.61**	**341**	LR	LR	23 06 42.3	
	comp=Z,22nm,19.2s,baz=248,slow=38						
ILAR	**Eielson Array**	**74.68**	**16**	P	**P**	**23 04 09.2**	**-1.0**
	0.3nm,0.7s,baz=308,slow=4.4,SNR=3.4						
YKA	**Yellowknife Ar**	**81.17**	**3**	P	**P**	**23 04 45.8**	**-0.1**
	0.4nm,0.4s,baz=350,slow=5.4,SNR=10.0						
WRA	**Warramunga Arr**	**81.93**	**122**	P	**P**	**23 04 48.9**	**-1.6**
	0.8nm,1.0s,baz=322,slow=4.7,SNR=5.6						
ASAR	**Alice Springs**	**84.20**	**125**	P	**P**	**23 05 00.3**	**-1.8**
	0.4nm,0.6s,baz=325,slow=5.8,SNR=3.3						

*ISCJB **18** 23:02:12.9±0.8, 35.44°N±0.06°×140.15°E±0.08°, h77km±6km, mb3.2/3, Error ellipse: s-maj=11.1km s-min=8.8km az=144.3*
*IDC **18** 23:02:12.4±7.0, 35.54°N×140.43°E, h64km±48km, mb3.0/3, mb1 3.3/5, mb1mx3.0/69, mbtmp3.4/5, ML2.7/2, Error ellipse: s-maj=85.7km s-min=23.8km az=64.0*
*JMA **18** 23:02:13.7±0.1, 35.59°N×140.12°E, h63km±2km, M2.6*
ISC 18 23:02:14.0±1.2, 35.48°N±0.06°×140.14°E±0.07°, h68km±9km, n15, σ1s10/21, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.08**	**139**	P	**Pn**	**23 02 23.9**	**0.0**
KTR	**Katsuura**	**0.36**	**156**	P	**Pn**	**23 02 25.5**	**+0.1**
BSO3	**Boso 3**	**0.74**	**155**	P	**Pn**	**23 02 29.3**	**+0.3**
BSO3				X		23 02 41.2	
JOD2	**Odawara 2**	**0.88**	**256**	P	**Pn**	**23 02 30.5**	**-0.5**
JOD2				S	**Sn**	**23 02 42.8**	**-0.7**
JIM2	**Oshima 3**	**0.95**	**217**	P	**Pn**	**23 02 31.6**	**-0.3**
JIM2				S	**Sn**	**23 02 45.1**	**0.5**
JAG	**Ashikaga**	**1.09**	**330**	P	**Pn**	**23 02 32.1**	**-1.5**
JRY	**Ryogami san**	**1.14**	**298**	P	**Pn**	**23 02 33.7**	**-0.5**
JIZS	**Izushimoda**	**1.28**	**234**	P	**Pn**	**23 02 35.9**	**-0.1**
JIZS				S	**Sn**	**23 02 52.4**	**-0.1**
JYN	**Shimob**	**1.30**	**271**	P	**Pn**	**23 02 35.9**	**-0.4**
JYN				S	**Sn**	**23 02 52.5**	**-0.5**
MJAR	**Matsushiro Arr**	**1.89**	**305**	P	**Pn**	**23 02 43.6**	**-0.5**
	3.7nm,0.3s,baz=142,slow=15,SNR=31						
MJAR				S	**Sn**	**23 03 09.6**	**+2.6**
	2.6nm,0.3s,baz=163,slow=13,SNR=4.7						
MAT	**Matsushiro**	**1.89**	**305**	P	**Pn**	**23 02 43.8**	**-0.3**
MAT				*e*S	**Sn**	**23 03 09.8**	**+2.8**
JNU	**Nakatsue**	**8.01**	**256**	P	**Pn**	**23 04 09.0**	**+1.2**
	0.1nm,0.3s,baz=31,slow=18,SNR=2.7						
MKAR	**Makanchi Array**	**44.09**	**303**	P	**P**	**23 10 14.9**	**-0.5**
	0.2nm,0.6s,baz=82,slow=7.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**46.16**	**309**	P	**P**	**23 10 31.6**	**-0.1**
	0.3nm,0.7s,baz=89,slow=9.5,SNR=3.2						
WRA	**Warramunga Arr**	**55.39**	**187**	P	**P**	**23 11 40.9**	**-0.5**
	0.6nm,1.0s,baz=1.2,slow=7.3,SNR=4.4						

*NIED **18** 23:05:00, 35.60°N×141.80°E, h17km, Mw4.2 Best double couple: M0 2.60000×10^15 NP1:φs173.00000°, δ28.00000°, λ-47.00000°. NP2:φs306.00000°, δ70.00000°, λ-110.00000°.*
*ISCJB **18** 23:05:23.9±0.3, 35.59°N±0.03°×141.81°E±0.04°, h25km, mb4.2/35, MS3.3/7, Error ellipse: s-maj=5.0km s-min=4.4km az=24.4*
*MOS **18** 23:05:24.8±1.0, 35.54°N×141.71°E, h33km, mb4.4/11, Error ellipse: s-maj=13.1km s-min=7.2km az=117.0*
*JMA **18** 23:05:25.1±0.2, 35.65°N×141.81°E, h46km±3km, M3.7*
*IDC **18** 23:05:27.8±2.5, 35.54°N×141.63°E, h37km±21km, mb3.9/25, mb1 4.1/31, mb1mx3.9/71, mbtmp4.2/31, ML3.7/4, MS3.3/9, Ms1 3.3/9, ms1mx2.9/65, Error ellipse: s-maj=15.6km s-min=11.0km az=95.0*
*NEIC **18** 23:05:27.4±1.6, 35.56°N×141.64°E, h34km±11km, mb4.2/3, Error ellipse: s-maj=6.7km s-min=5.0km az=93.0*
ISC 18 23:05:26.0±0.5, 35.61°N±0.04°×141.73°E±0.06°, h25km, n91, σ1s107/88, mb4.1/35, MS3.3/7, 7C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.72**	**277**	P	**Pb**	**23 05 39.8**	**0.0**
CHOJ				*e*S	**Sn**	**23 05 50.2**	**-0.5**
BSO1	**Boso 1**	**1.14**	**213**	P	**Pb**	**23 05 45.7**	**-1.0**
BSO3	**Boso 3**	**1.29**	**231**	P	**Pn**	**23 05 48.1**	**0.0**
BSO4	**Boso 4**	**1.30**	**242**	P	**Pb**	**23 05 48.7**	**-1.0**
JFK	**Kawauchi**	**1.88**	**339**	P	**Pn**	**23 05 55.6**	**-1.0**
JFK				*e*S	**Sn**	**23 06 17.3**	**-2.2**
JIM2	**Oshima 3**	**2.09**	**245**	P	**Pn**	**23 05 58.5**	**-0.9**
JOD2	**Odawara 2**	**2.19**	**262**	P	**Pn**	**23 06 00.6**	**-0.2**
JOD2				*e*S	**Sn**	**23 06 27.5**	**+0.4**
JFT	**Otama**	**2.21**	**330**	P	**Pn**	**23 06 01.0**	**-0.1**
JKT	**Katashina**	**2.31**	**301**	P	**Pn**	**23 06 02.7**	**+0.1**
JRY	**Ryogami san**	**2.33**	**281**	P	**Pn**	**23 06 03.6**	**+0.8**
JFY	**Yanaizu**	**2.42**	**318**	P	**Pn**	**23 06 04.0**	**0.0**
JHJ	**Hachijo jima 2**	**2.96**	**213**	Pn	**Pn**	**23 06 10.8**	**-0.6**
	111nm,0.3s,baz=266,slow=23,SNR=19						
JHJ				Sn	**Sn**	**23 06 44.7**	**-1.6**
	109nm,0.3s,baz=53,slow=19,SNR=8.8						
MJAR	**Matsushiro Arr**	**3.00**	**289**	Pn	**Pn**	**23 06 12.8**	**+0.8**
	5.1nm,0.3s,baz=34,slow=11,SNR=27						
MJAR				LR	LR	23 07 26.5	
	comp=Z,240nm,21.2s,baz=130,slow=41						
MAJO	**Matsushiro**	**3.00**	**289**	*i* P	**Pn**	**23 06 13.2**	**+1.2**
MAJO	**Matsushiro**	**3.00**	**289**	*e*Pn	**Pn**	**23 06 12.3**	**+0.3**
MAT	**Matsushiro**	**3.00**	**289**	P	**Pn**	**23 06 13.2**	**+1.2**
MAT				*e*S	**Sn**	**23 06 48.1**	**+0.9**
ERM	**Erimo**	**6.49**	**9**	*i* P	**Pn**	**23 06 56.9**	**-2.9**
CBIJ	**Chichi jima**	**8.50**	**177**	Pn	**Pn**	**23 07 28.3**	**+0.7**
JCJ	**Chichijima**	**8.50**	**177**	Pn	**Pn**	**23 07 28.3**	**+0.7**
	baz=328,slow=19						
ASAJ	**Asahikawa**	**8.52**	**4**	Pn	**Pn**	**23 07 27.5**	**-0.2**
	2.0nm,0.3s,baz=211,slow=12,SNR=10.0						
ASAJ				Sn	**Sn**	**23 08 57.6**	**-5.3**
	0.8nm,0.3s,baz=184,slow=16,SNR=2.7						
JNU	**Nakatsue**	**9.31**	**258**	Pn	**Pn**	**23 07 37.2**	**-1.4**
	0.2nm,0.3s,baz=45,slow=17,SNR=1.9						
JNU				LR	LR	23 11 43.8	
	comp=Z,660nm,18.7s,baz=115,slow=41						
USRK	**Ussuriysk Ar.**	**11.37**	**322**	Pn	**Pn**	**23 08 08.2**	**+1.4**
	0.2nm,0.3s,baz=124,slow=13,SNR=2.3						
USRK				LR	LR	23 12 25.1	
	comp=Z,146nm,18.4s,baz=139,slow=37						
KLR	**Kul'dur**	**15.45**	**335**	Pn	**Pn**	**23 09 02.6**	**+0.4**
	0.0nm,0.3s,baz=150,slow=20,SNR=3.1						
KLR				LR	LR	23 14 40.4	
	comp=Z,8.4nm,20.4s,baz=288,slow=36						
PETK	**Petropavlovsk-**	**20.80**	**28**	LR	LR	23 19 07.9	
	comp=Z,29nm,19.2s,baz=198,slow=39						
HHC	**Hu-ho-hao-te**	**24.20**	**292**	*e*P	**P**	**23 10 41.4**	**+0.8**
HHC				S	**S**	**23 14 55.6**	**-1.9**
MA2	**Magadan**	**24.69**	**11**	LR	LR	23 22 37.2	
	comp=Z,70nm,18.0s,baz=115,slow=42						
XAN	**Xi'an**	**26.91**	**276**	P	**P**	**23 11 04.6**	**-0.6**
XAN				pP	sP	23 11 16.8	+1.1
H11N2	**WAKE ISLAND Hy 27.22 119**			T	T	23 39 39.3	
	baz=311,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy 27.23 119**			T	T	23 39 36.5	
	baz=311,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy 27.24 119**			T	T	23 39 37.3	
	baz=311,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy 27.89 121**			T	T	23 40 22.8	
	baz=313,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hy 27.89 121**			T	T	23 40 30.9	
	baz=313,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy 27.91 121**			T	T	23 40 26.1	
	baz=313,slow=75,SNR=20						
SEY	**Seymchan**	**28.14**	**10**	P	**P**	**23 11 17.2**	**+1.5**
	0.8nm,0.4s,baz=162,slow=19,SNR=2.2						
ULN	**Ulaanbaatar**	**28.38**	**306**	*ce*P	**P**	**23 11 17.8**	**-0.5**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ULN	**Ulaanbaatar**	**28.38**	**306**	*e*P	**P**	**23 11 17.7**	**-0.6**
	comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**28.81**	**306**	P	**P**	**23 11 22.3**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=107,slow=7.4,SNR=13						
BOD	**Bodaibo**	**28.87**	**329**	*e*P	**P**	**23 11 21.7**	**-0.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ZAK	**Zakamensk**	**31.36**	**310**	*e*P	**P**	**23 11 44.5**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	**Talaya**	**31.47**	**313**	*e*P	**P**	**23 11 46.5**	**+1.1**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,73nm,16.0s						
DAV	**Davao City (W)**	**32.04**	**211**	LR	LR	23 22 53.0	
	comp=Z,54nm,22.0s,baz=102,slow=33						
GTA	**Gaotai**	**33.25**	**289**	*e*P	**P**	**23 12 02.8**	**+1.5**
GTA				pP	sP	23 12 10.6	-1.3
GTA				sP	pP	23 12 13.9	+5.1
BILL	**Bilibino**	**35.32**	**16**	*i* P	**P**	**23 12

FFC	Flin Flon	74.76	33	*i* P		P	23 17 05.8	+2.2
AKASG	Malin Array Be	75.58	323	P		P	23 17 08.3	-0.1
	comp=Z,1.8nm,0.8s,baz=46,slow=6.1,SNR=10							
NOA	NORSAR Array B	75.59	338	P		P	23 17 08.9	+0.5
NOA	comp=Z,1.4nm,0.8s,baz=39,slow=5.5,SNR=3.9			LR		LR	23 54 18.4	
	comp=Z,34nm,18.2s,baz=270,slow=39							
NVAR	Mina Array Bea	75.63	53	P		P	23 17 10.5	+1.3
	comp=Z,1.3nm,0.9s,baz=275,slow=7.2,SNR=6.4							
FRB	Frobisher Bay	78.09	13	P		P	23 17 22.7	+0.4
	comp=Z,1.6nm,0.8s,baz=53,slow=20,SNR=3.5							
PDAR	Pinedale Array	78.48	45	P		P	23 17 25.5	+0.4
	comp=Z,0.5nm,0.6s,baz=280,slow=1.6,SNR=3.1							
BRTR	Keskin Array B	79.99	312	P		P	23 17 33.4	0.0
	comp=Z,1.4nm,1.0s,baz=88,slow=4.3,SNR=7.2							
BRTR	Keskin Array B	79.99	312	*ce*P		P	23 17 33.7	+0.4
BRTR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
MLR	Muntele Rosu	80.63	320	LR		LR	23 56 52.9	
	comp=Z,12nm,18.3s,baz=38,slow=38							
MMAI	Mount Meron Ar	83.00	306	P		P	23 17 49.4	+0.1
	comp=Z,6.8nm,1.1s,baz=57,slow=5.3,SNR=3.3							
GERES	GERESS Array B	84.05	328	P		P	23 17 54.4	-0.1
	comp=Z,1.1nm,1.0s,baz=20,slow=4.7,SNR=6.7							
LPAZ	La Paz	147.16	62	PKPbc		PKPbc	23 25 08.4	+0.3
	comp=Z,1.0nm,0.7s,baz=241,slow=6.1,SNR=5.2							

*CSEM **18** 23:11:05.5,37.09N×24.38W, h10km, ML3.4, After PDA*
PDA 18 23:11:05.5±1.2, 37.09N×24.38W, h10km, MD4.0, ML3.4, 5C, Error ellipse: s-maj=6.4km s-min=4.3km az=79.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	Pico do Norte,	0.55	262	*i* P	Pg	23 11 14.4	-1.8
PSMN				*e*S	Sg	23 11 21.5	-2.0
PSMN				A	A	23 11 24.3	
	226nm,0.2s						
PSMN	Pico do Norte,	0.55	262	↑ *i* P	Pg	23 11 14.4	-1.8
PSMN				*e*S	Sg	23 11 21.5	-2.0
PSMA	Santa Maria	0.60	262	↑ *i* P	Pg	23 11 15.0	-2.2
PSMA				*e*S	Sg	23 11 22.7	-2.4
PSMA				A	A	23 11 25.0	
	255nm,0.2s						
BART	Pico Bartolome	0.93	318	*e*P	Pg	23 11 19.3	-4.2
BART				*e*S	Sg	23 11 30.8	-4.8
BART				A	A	23 11 32.0	
	600nm,0.2s						
BART	Pico Bartolome	0.93	318	*e*P	Pg	23 11 19.3	-4.2
BART				*e*S	Sg	23 11 30.8	-4.8
PCALD	Caldeiras da R	1.13	309	*e*P	Pb	23 11 22.6	-4.6
PCALD				*e*S	Sb	23 11 35.6	-6.3
PCALD				A	A	23 11 37.9	
	141nm,0.1s						
PCALD	Caldeiras da R	1.13	309	*e*P	Pb	23 11 22.6	-4.6
PCALD				*e*S	Sb	23 11 35.6	-6.3
CMLA	Cha da Macela	1.13	307	*e*P	Pb	23 11 22.4	-4.8
CMLA				*e*S	Sb	23 11 35.7	-6.3
CMLA				A	A	23 11 40.0	
	1μm,0.4s						
CMLA	Cha da Macela	1.13	307	*e*P	Pb	23 11 22.4	-4.8
CMLA				*e*S	Sb	23 11 35.7	-6.3
GRON	Grota Negra	1.14	307	*e*P	Pb	23 11 21.1	-6.3
GRON				*e*S	Sb	23 11 33.7	-8.6
GRON				A	A	23 11 37.7	
	103nm,0.2s						
PDA	Ponta Delgada	1.22	303	*e*P	Pn	23 11 23.4	-5.1
PDA				*e*S	Sb	23 11 37.4	-6.9
PDA				A	A	23 11 39.3	
	150nm,0.2s						
PDA	Ponta Delgada	1.22	303	*e*P	Pn	23 11 23.4	-5.1
PDA				*e*S	Sb	23 11 37.4	-6.9
PSET	Sete Cidades	1.29	305	↑ *i* P	Pn	23 11 24.9	-4.8
PSET				*e*S	Sb	23 11 39.7	-7.0
PSET				A	A	23 11 45.8	
	347nm,0.3s						
PSET	Sete Cidades	1.29	305	↑ *i* P	Pn	23 11 24.9	-4.8
PSET				*e*S	Sb	23 11 39.7	-7.0
ADH	Angra Heroismo	2.75	306	*e*P	Pn	23 11 45.8	-3.8
ADH				*e*S	Sn	23 12 14.8	-8.1
ADH				A	A	23 12 18.4	
	81nm,0.3s						
ADH	Angra Heroismo	2.75	306	*e*P	Pn	23 11 45.8	-3.8
ADH				*e*S	Sn	23 12 14.8	-8.1
PMAN	Manadas	3.31	299	*e*P	Pn	23 11 53.3	-4.1
PMAN				*e*S	Sn	23 12 28.7	-8.2
PMAN				A	A	23 12 31.5	
	23nm,0.2s						
PMAN	Manadas	3.31	299	*e*P	Pn	23 11 53.3	-4.1
PMAN				*e*S	Sn	23 12 28.7	-8.2
PGRA	Graciosa	3.44	305	*e*P	Pn	23 11 55.5	-3.6
PGRA				*e*S	Sn	23 12 31.8	-8.2
PGRA				A	A	23 12 36.0	
	15nm,0.3s						
PGRA	Graciosa	3.44	305	*e*P	Pn	23 11 55.5	-3.6
PGRA				*e*S	Sn	23 12 31.8	-8.2
ROSA	Rosais	3.46	299	*e*P	Pn	23 11 55.6	-3.8
ROSA				*e*S	Sn	23 12 32.4	-8.1
ROSA				A	A	23 12 35.8	
	14nm,0.2s						
ROSA	Rosais	3.46	299	*e*P	Pn	23 11 55.6	-3.8
ROSA				*e*S	Sn	23 12 32.4	-8.1
PICO	Pico	3.50	295	*e*P	Pn	23 11 56.2	-3.8
PICO				*e*S	Sn	23 12 33.4	-8.2
PICO				A	A	23 12 37.4	
	29nm,0.3s						
PICO	Pico	3.50	295	*e*P	Pn	23 11 56.2	-3.8
PICO				*e*S	Sn	23 12 33.4	-8.2
PCAN	Candelaria	3.53	294	*e*P	Pn	23 11 56.4	-4.0
PCAN				*e*S	Sn	23 12 34.0	-8.2
PCAN				A	A	23 12 40.4	
	38nm,0.3s						
PCAN	Candelaria	3.53	294	*e*P	Pn	23 11 56.4	-4.0
PCAN				*e*S	Sn	23 12 34.0	-8.2
CALA	Caldeira	3.73	295	*e*P	Pn	23 11 59.1	-4.1
CALA				*e*S	Sn	23 12 39.0	-8.3
CALA	Caldeira	3.73	295	*e*P	Pn	23 11 59.1	-4.1
CALA				*e*S	Sn	23 12 39.0	-8.3
PCED	Cedros	3.75	296	*e*P	Pn	23 11 59.5	-3.9
PCED				*e*S	Sn	23 12 39.3	-8.3
PCED				A	A	23 12 44.2	
	8.8nm,0.3s						
PCED	Cedros	3.75	296	*e*P	Pn	23 11 59.5	-3.9
PCED				*e*S	Sn	23 12 39.3	-8.3

MAN 18 23:13:22, 10.34N×123.04E, h22km, mb3.8, ML2.5, MS2.1, 2D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	Jordan	0.53	303	*e*P	Pn	23 13 34.0	-0.2
GUIM				*e*S	Sn	23 13 43.8	+1.3
SNPH	Sibulan	1.00	169	↓ *i* P	Pb	23 13 40.8	0.0
SNPH				*i* S	Sn	23 13 55.5	+1.2
RCP	Roxas	1.25	347	↓ *e*P	Pb	23 13 45.3	+0.3
MSLP	Maasin	1.80	96	*e*P	Pn	23 13 52.0	+0.3
MSLP				*e*S	Sb	23 14 15.6	-0.9

*CSEM **18** 23:15:08.8±0.2, 38.68N×43.11E, h10km, ML2.5, Error ellipse: s-maj=5.7km s-min=5.0km az=127.0*
*ISK **18** 23:15:08.2, 38.66N×43.11E, h12km, ML2.5/3*
*ISCJB **18** 23:15:09.2±0.7, 38.66N±0.03×43.13E±0.05, h23km±9km, Error ellipse: s-maj=6.5km s-min=5.3km az=33.6*
*DDA **18** 23:15:09.4, 38.69N×43.16E, h7km, Ml2.9*
ISC 18 23:15:09.2±0.9, 38.68N±0.03×43.12E±0.03, h16km±8km, n23, σ0.89/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	Van	0.23	111	PG	Pg	23 15 14.3	-0.2
VANB				SG	Sg	23 15 18.9	+0.9
VANB	Van	0.23	111	*e*Pg	Pg	23 15 14.3	-0.2
VANB				*e*Sg	Sg	23 15 18.9	+0.9
TVAN	Van	0.27	123	*i* P	Pg	23 15 13.7	-1.5
TVAN				*i* S	Sg	23 15 19.4	+0.1
TVAN	Van	0.27	123	P	Pg	23 15 13.7	-1.5
TVAN				S	Sg	23 15 19.4	+0.1
ADCV	BITLIS_Adilcev	0.34	293	*i* P	Pb	23 15 16.4	-0.5
ADCV				*i* S	Sb	23 15 23.1	+1.1
ADCV	BITLIS_Adilcev	0.34	293	P	Pb	23 15 16.4	-0.5
ADCV				S	Sb	23 15 23.1	+1.1
GEVA	Gevas	0.37	187	*i* P	Pg	23 15 16.3	-0.5
GEVA				*i* S	Sb	23 15 23.7	+0.8
GEVA	Gevas	0.37	187	P	Pg	23 15 16.3	-0.5
GEVA				S	Sb	23 15 23.7	+0.8
ERCV	ERCIS-VAN	0.38	26	PG	Pg	23 15 16.5	-0.6
ERCV				SG	Sb	23 15 23.1	-0.3
ERCV	ERCIS-VAN	0.38	26	*e*Pg	Pg	23 15 16.5	-0.6
ERCV				*e*Sg	Sb	23 15 23.1	-0.3
VMUR	Van-Muradiye	0.47	48	*i* P	Pg	23 15 18.6	-0.1
VMUR				*i* S	Sb	23 15 27.2	+1.2
VMUR	Van-Muradiye	0.47	48	P	Pg	23 15 18.6	-0.1
VMUR				S	Sb	23 15 27.2	+1.2
TUTA	Tutak	0.76	342	*i* P	Pg	23 15 23.7	-0.4
TUTA	Tutak	0.76	342	P	Pg	23 15 23.7	-0.4
CLDR	Caldiran	0.78	53	PG	Pg	23 15 22.9	-1.4
CLDR	Caldiran	0.78	53	*i* P	Pg	23 15 23.0	-1.4
CLDR				*i* S	Sb	23 15 35.7	+0.9
CLDR	Caldiran	0.78	53	P	Pg	23 15 23.0	-1.4
CLDR				S	Sb	23 15 35.7	+0.9
GURO	Guroymak-BITLI	0.86	262	PG	Pg	23 15 24.9	-1.0
GURO	Guroymak-BITLI	0.86	262	*e*Pg	Pg	23 15 24.9	-1.0
AGRB	Hanur-Agry	0.90	354	PG	Pg	23 15 26.1	-0.7
AGRB	Hanur-Agry	0.90	354	*e*Pg	Pg	23 15 26.1	-0.7
SIRT	Sirnak	1.29	205	PN	Pn	23 15 32.9	+0.3
SIRT	Sirnak	1.29	205	*e*Pn	Pn	23 15 32.9	+0.3

*JMA **18** 23:23:34.7±0.1, 24.04N×122.60E, h35km±4km, M2.2*
*ISCJB **18** 23:23:35.2±0.5, 24.16N±0.04×122.61E±0.02, h49km±10km, Error ellipse: s-maj=6.9km s-min=3.3km az=176.1*
*TAP **18** 23:23:35.1, 24.15N×122.62E, h53km±1km, ML2.9, D*
ISC 18 23:23:35.8±1.3, 24.16N±0.05×122.61E±0.03, h45km±16km, n36, σ0.75/62, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	Yonagunijimaku	0.42	47	P	Pn	23 23 45.3	-0.5
JYNG				S	Sn	23 23 52.6	-0.3
YOJ	Yonaguni jima	0.47	51	*e*P	Pn	23 23 46.7	+0.2
	baz=50						
YOJ				*e*S	Sn	23 23 54.0	0.0
	baz=50						
YOJ	Yonaguni jima	0.47	51	P	Pn	23 23 46.0	-0.5
YOJ				S	Sn	23 23 54.0	0.0
EOS1	EOS1	0.58	311	P	Pn	23 23 48.4	+0.5
	baz=311						
EOS1				S	Sn	23 23 58.3	+1.9
	baz=311						
ENAH	Nanao	0.78	292	*e*P	Pn	23 23 50.1	-0.4
	baz=292						
TWC	Suao	0.82	303	P	Pn	23 23 51.0	0.0
	baz=303						
TWC				*e*S	Sn	23 24 03.1	+1.0
	baz=303						
NANB	Nanao	0.83	289	*e*S	Sn	23 24 02.1	-0.1
	baz=289						
ENA	Nanau	0.83	289	*e*P	Pn	23 23 50.8	-0.4
	baz=289						
ENA				*e*S	Sn	23 24 03.4	+0.9
	baz=289						
NACB	Ninganchiao	0.93	271	*e*P	Pn	23 23 51.3	-1.2
	baz=262						
NACB				*e*S	Sn	23 24 03.1	-1.6
	baz=262						
TWD	Chiawan	0.93	265	*e*P	Pn	23 23 51.4	-1.1
	baz=257						
TWD				*e*S	Sn	23 24 04.4	-0.3
	baz=257						
TWE	Neicheng	1.02	303	*e*P	Pn	23 23 53.7	0.0
	baz=304						
TWE				*e*S	Sn	23 24 07.5	+0.6
	baz=304						
IRIF	Iriomote-Funau	1.04	80	P	Pn	23 23 53.8	-0.2
IRIF				S	Sn	23 24 07.9	+0.6
ENTT	Nioudou	1.06	297	*e*P	Pn	23 23 54.6	+0.3
	baz=297						
TIPB	Shuangxi	1.08	319	*e*P	Pn	23 23 54.1	-0.4
	baz=327						
TIPB				*e*S	Sn	23 24 07.8	-0.5
	baz=327						
NNSB	Datong	1.15	284	*e*P	Pn	23 23 55.2	-0.4
	baz=284						
NNS	Nan Shan	1.16	284	*e*P	Pn	23 23 55.5	-0.3
	baz=284						
NNS				*e*S	Sn	23 24 10.6	+0.1
	baz=284						
NWLT	Wulai	1.18	301	*e*P	Pn	23 23 56.0	+0.1
	baz=311						
NWLT				*e*S	Sn	23 24 11.6	+0.8
	baz=311						
WHF	Hehuan Shan	1.23	269	*e*P	Pn	23 23 56.2	-0.7
	baz=260						
WHF				*e*S	Sn	23 24 11.9	-0.7
	baz=260						
JKRS	Kuro-shima	1.28	86	P	Pn	23 23 57.8	+0.5
OWD	Renai	1.33	261	*e*P	Pn	23 23 57.1	-0.9
	baz=262						
OWD				*e*S	Sn	23 24 13.5	-1.1
	baz=262						
YM10	YM10	1.37	316	*e*P	Pn	23 23 58.3	-0.3
	baz=316						
YM10				*e*S	Sn	23 24 14.7	-1.0
	baz=316						
JIJ	Ishigaki jima	1.41	82	P	Pn	23 23 58.8	-0.3
JIJ				*e*S	Sn	23 24 16.3	-0.3
TWF1	Yuli	1.45	236	*e*P	Pn	23 23 59.2	-0.4
	baz=237						
TWF1				*e*S	Sn	23 24 17.2	-0.2
	baz=237						
LIOB	Emei	1.53	289	*e*P	Pn	23 24 00.5	-0.2
	baz=288						
FULB	Fuli	1.54	232	*e*P	Pn	23 24 00.3	-0.6
	baz=232						
DPDB	Guoxing	1.54	266	*e*P	Pn	23 24 00.7	-0.3
	baz=266						
SMLT	Sun Moon Lake	1.59	260	*e*P	Pn	23 24 01.2	-0.4
	baz=261						
SMLT				*e*S	Sn	23 24 20.3	-0.6
	baz=261						
JISG	Ishigakijimahi	1.61	74	*e*S	Sn	23 24 20.7	-0.6
TYC	Yuchr	1.62	261	*e*P	Pn	23 24 02.0	+0.1
	baz=262						
TYC				*e*S	Sn	23 24 21.5	-0.1
	baz=262						
YUS	Yu-Shan	1.66	246	*e*P	Pn	23 24 02.3	-0.6
	baz=247						
YUS				*e*S	Sn	23 24 21.4	-1.9
	baz=247						
ALS	Alishan	1.77	249	*e*P	Pn	23 24 04.1	-0.3
	baz=249						
CHN5	Tsauling	1.85	253	*e*P	Pn	23 24 06.0	+0.8
	baz=254						
CHN5				*e*S	Sn	23 24 28.4	+0.8
	baz=254						
CHN4	Tsaushan	2.02	247	*e*P	Pn	23 24 08.2	+0.8
	baz=248						
CHN4				*e*S	Sn	23 24 32.7	+1.3
	baz=248						
WTP	Ta-pu	2.04	244	*e*P	Pn	23 24 08.5	+0.7
	baz=245						
WTP				*e*S	Sn	23 24 32.8	+0.6
	baz=245						
CHN1	Nanshi	2.14	243	*e*P	Pn	23 24 09.9	+0.8
	baz=244						
CHN1				*e*S	Sn	23 24 35.5	+1.0
	baz=244						
SLGT	Liugui	2.14	238	*e*P	Pn	23 24 10.2	+1.0
	baz=233						
SLGT				*e*S	Sn	23 24 35.7	+1.1
	baz=233						

IDC 18 23:33:20.0±2.7, 3.09N×93.30E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.3/72, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=70.4km s-min=25.0km az=42.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	5.62	93	Pn	Pn	23 34 44.7	-0.4
	1.0nm,0.3s,baz=280,slow=12,SNR=5.2						
PSI				Sn	Sn	23 35 52.2	+1.7
	0.4nm,0.3s,baz=194,slow=19,SNR=1.9						

CMAR	Chiang Mai Arr	16.25	19	Pn		P	23 37 17.1	+4.1
	baz=217,slow=12,SNR=3.1							
H08S2	Diego Garcia H	23.34	243	T		T	00 04 16.9	
	baz=64							
H08S3	Diego Garcia H	23.34	243	T		T	00 04 09.4	
	baz=64							
H08S1	Diego Garcia H	23.35	243	T		T	00 04 19.4	
	baz=64							
MKAR	Makanchi Array	44.58	349	P		P	23 41 33.5	-0.3
	1.1nm,0.6s,baz=172,slow=8.7,SNR=16							
SONM	Songino Array	45.99	12	P		P	23 41 46.1	+0.9
	0.2nm,0.6s,baz=209,slow=7.9,SNR=3.0							
WRA	Warramunga Arr	46.34	121	P		P	23 41 48.0	-0.2
	0.6nm,0.9s,baz=300,slow=8.6,SNR=3.3							
ZALV	Zalesovo Beam	51.18	354	P		P	23 42 24.4	-0.5
	1.4nm,0.4s,baz=171,slow=6.9,SNR=7.4							

*IDC **18** 23:33:29.9±0.9, 36.40N×142.00E, h0km, mb3.6/11, mb1 3.8/13, mb1mx3.6/70, mbtmp3.6/13, ML3.1/2, MS3.7/3, Ms1 3.7/3, ms1mx2.6/68, Error ellipse: s-maj=25.0km s-min=18.4km az=176.0*
*ISCJB **18** 23:33:31.3±0.7, 36.34N±0.05×141.94E±0.06, h19km, mb3.5/11, MS3.8/3, Error ellipse: s-maj=7.9km s-min=6.6km az=141.8*
*JMA **18** 23:33:35.6±0.2, 36.36N×141.60E, h36km±5km, M3.1*
ISC 18 23:33:33.2±0.7, 36.39N±0.05×141.80E±0.06, h19km, n33, σ1.9/17/27, mb3.6/11, MS3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	1.01	283	P	Pb	23 33 51.4	-0.8
CHOJ	Chosi	1.03	228	P	Pb	23 33 51.9	-0.5
CHOJ				*e*S	Sb	23 34 03.9	-1.5
ONAJ	Iwakimizuishiy	1.07	312	P	Pg	23 33 53.6	-0.4
JFK	Kawauchi	1.22	323	P	Pb	23 33 55.8	+0.1
JFK				*e*S	Sb	23 34 10.4	-0.8
JFT	Otama	1.62	314	P	Pb	23 34 02.2	-0.4
JMM	Marumori	1.68	332	P	Pn	23 34 02.2	+0.7
JFY	Yanaizu	1.96	302	P	Pb	23 34 07.3	-1.0
MJAR	Matsushiro Arr	2.90	274	Pn	Pn	23 34 19.8	+1.5
	3.6nm,0.3s,baz=115,slow=7.7,SNR=21						
MJAR				Sn	Sb	23 34 57.2	-2.1
	2.8nm,0.3s,baz=262,slow=28,SNR=4.7						
MAT	Matsushiro	2.90	274	P	Pn	23 34 20.2	+1.8
MAT				*e*S	Sn	23 34 53.3	+0.6
JNU	Nakatsue	9.56	253	Pn	Pn	23 35 52.5	+2.7
	0.1nm,0.3s,baz=41,slow=18,SNR=2.5						
USRK	Ussuriysk Ar.	10.81	319	Pn	Pn	23 36 13.8	+7.0
	0.1nm,0.3s,baz=127,slow=14,SNR=3.8						
H11N2	WAKE ISLAND Hy	27.56	120	T	T	00 07 53.1	
	baz=312,slow=75,SNR=24						
H11N1	WAKE ISLAND Hy	27.57	120	T	T	00 07 55.4	
	baz=312,slow=75,SNR=28						
H11N3	WAKE ISLAND Hy	27.57	120	T	T	00 07 50.4	
	baz=312,slow=75,SNR=23						
H11S1	WAKE ISLAND Hy	28.25	122	T	T	00 08 42.7	
	baz=314,slow=75,SNR=16						
H11S3	WAKE ISLAND Hy	28.25	122	T	T	00 08 39.0	
	baz=314,slow=75,SNR=15						
H11S2	WAKE ISLAND Hy	28.27	122	T	T	00 08 40.2	
	baz=314,slow=75,SNR=12						
SONM	Songino Array	28.40	305	P	P	23 39 27.2	+0.7
	1.5nm,0.6s,baz=105,slow=5.3,SNR=12						
CMAR	Chiang Mai Arr	41.64	256	P	P	23 41 20.1	-0.4
	0.7nm,0.4s,baz=61,slow=9.4,SNR=4.8						
ZALV	Zalesovo Beam	42.58	313	P	P	23 41 28.1	+0.4
	0.5nm,0.4s,baz=96,slow=9.1,SNR=4.9						
MKAR	Makanchi Array	44.72	303	P	P	23 41 46.3	+1.2
	0.9nm,0.9s,baz=92,slow=8.8,SNR=5.9						
PMG	Port Moresby	45.83	173	LR	LR	23 57 31.6	
	comp=Z,147nm,21.8s,baz=172,slow=32						
KURBB	Kurchatov Arra	46.64	309	P	P	23 42 00.3	+0.1
	1.3nm,0.8s,baz=84,slow=7.9,SNR=12						
ILAR	Eielson Array	49.87	32	P	P	23 42 24.2	-0.7
	0.2nm,0.8s,baz=272,slow=6.2,SNR=3.0						
BVAR	Borovoye Array	51.23	313	P	P	23 42 36.0	+0.7
	0.4nm,0.8s,baz=117,slow=8.4,SNR=3.1						
WRA	Warramunga Arr	56.47	188	P	P	23 43 14.6	+0.7
	0.9nm,1.0s,baz=5.8,slow=7.5,SNR=4.7						
YKA	Yellowknife Ar	64.21	30	P	P	23 44 04.8	-1.6
	0.1nm,0.5s,baz=301,slow=6.4,SNR=3.1						
AKASG	Malin Array Be	74.99	323	P	P	23 45 13.1	0.0
	0.2nm,0.4s,baz=51,slow=7.2,SNR=4.4						
NVAR	Mina Array Bea	75.12	53	P	P	23 45 14.8	+0.4
	0.2nm,0.4s,baz=317,slow=4.9,SNR=2.3						
URZ	Urewera	81.14	153	LR	LR	00 21 09.6	
	comp=Z,31nm,18.8s,baz=324,slow=35						
RPZ	Rata Peaks	84.05	159	LR	LR	00 19 49.4	
	comp=Z,46nm,21.0s,baz=31,slow=33						
QSPA	South Pole Qui	126.14	180	PKP	PKPdf	23 52 31.4	-1.9
	0.5nm,0.5s,baz=105,slow=2.6,SNR=4.9						
LPAZ	La Paz	146.74	61	PKPbc	PKPdf	23 53 13.5	+0.1
	0.4nm,0.5s,baz=349,slow=1.7,SNR=2.6						

*CSEM **18** 23:34:07.4±0.7, 35.46N×27.93E, h5km, ML1.6, Error ellipse: s-maj=17.6km s-min=6.9km az=157.0*
*ISK **18** 23:34:07.1, 35.31N×27.80E, h29km, MD3.0/2*
*ATH **18** 23:34:10.4, 35.63N×27.70E, h18km±2km, ML1.6/2, Error ellipse: s-maj=8.7km s-min=1.1km az=323.0*
*DDA **18** 23:34:46.6, 35.81N×27.80E, h10km, Ml2.5*
ISC 18 23:34:08.6±1.4, 35.51N±0.06×27.83E±0.04, h27km±13km, n36, σ1.9/49, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.54	274	PG	Pb	23 34 19.5	-0.2
KARP				SG	Sn	23 34 28.4	-0.5
KARP	Karpathos	0.54	274	P	Pb	23 34 19.3	-0.4
KARP				S	Sb	23 34 26.0	-1.2
KARP				AML	AML	23 34 29.4	
	comp=N,246μm,0.5s						
KARP				AML	AML	23 34 31.2	
	comp=E,178μm,0.4s						
KARP	Karpathos	0.54	274	P	Pb	23 34 19.3	-0.4
KARP	Karpathos	0.54	274	*e*Pg	Pb	23 34 19.5	-0.2
KARP				S	Sb	23 34 26.0	-1.2
KARP				*e*Sg	Sn	23 34 28.4	-0.5
ARG	Arkhangelos	0.74	19	P	Pn	23 34 23.7	+0.3
ARG				S	Sn	23 34 32.9	-0.9
ARG				AML	AML	23 34 37.5	
	comp=E,182μm,0.3s						
ARG				AML	AML	23 34 38.7	
	comp=N,91μm,0.3s						
ARG	Arkhangelos	0.74	19	P	Pn	23 34 23.6	+0.3
ARG				S	Sn	23 34 32.9	-0.9
DALY	Dalyan (Mu¨la	1.47	27	PN	Pb	23 34 34.9	-0.3
DALY	Dalyan (Mu¨la	1.47	27	*i* S	Sb	23 35 03.0	+10
DALY	Dalyan (Mu¨la	1.47	27	*e*Pn	Pb	23 34 34.9	-0.3
TURN	Turunc	1.50	25	PN	Pn	23 34 32.7	-1.0
TURN				SN	Sn	23 34 51.6	-0.7
TURN	Turunc	1.50	25	*i* P	Pn	23 34 33.2	-0.5
TURN				*i* S

AYDN	**Tasoluk**	**2.15**	**1**	P		**Pb**	**23 34 45.8**	**-1.1**
AYDN				S		**Sb**	**23 35 16.4**	**+3.3**
AYDB	**Zeytinkoy-Aydi**	**2.43**	**1**	PN		**Pb**	**23 34 48.6**	**-3.2**
AYDB	**Zeytinkoy-Aydi**	**2.43**	**1**	*e*Pn		**Pb**	**23 34 48.6**	**-3.2**

*IDC **18** 23:51:23.4±1.3, 40˚.36N×48˚.63E, h0km, mb3.4/4, mb1 3.3/9, mb1mx3.2/61, mbtmp3.3/9, ML3.0/4, Error ellipse: s-maj=25.3km s-min=10.4km az=167.0*
*CSEM **18** 23:51:24.4, 40˚.49N×48˚.62E, h4km, ML3.0/31, After AZER*
*AZER **18** 23:51:24.4±0.0, 40˚.49N×48˚.62E, h4km, ml3.0*
*ISCJB **18** 23:51:26.8±0.4, 40˚.39N±0˚.02×48˚.57E±0˚.02, h2km±3km, mb3.2/4, Error ellipse: s-maj=3.4km s-min=2.8km az=39.3*
*TEH **18** 23:51:31.8, 39˚.96N×48˚.56E, h10km, ML3.0*

ISC 18 23:51:27.4±0.7, **40˚.48N**±0˚.02×**48˚.65E**±0˚.02, **h21**km±2km, **n51**, σ1°**94**/88, **mb3.5**/4, **29C-30D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GBS	**Qobustan**	**0.23**	**76**	⇓P		**Pb**	**23 51 32.3**	**-1.2**
	SNR=265							
GBS				⇓S		**Sb**	**23 51 39.0**	**+1.3**
PQL	**Pirkuli**	**0.31**	**352**	⇑P		**Pb**	**23 51 34.0**	**-0.4**
	SNR=411							
PQL				⇓S		**Sn**	**23 51 41.5**	**-1.5**
KDMR	**Kurdemir**	**0.37**	**254**	⇑P		**Pb**	**23 51 34.7**	**-0.4**
	SNR=24							
KDMR				⇓S		**Sn**	**23 51 43.1**	**-1.0**
ATGJ	**Altiaghaj**	**0.44**	**30**	⇓P		**Pb**	**23 51 36.4**	**0.0**
	SNR=244							
ATGJ				⇑S		**Sn**	**23 51 45.1**	**-0.9**
IML	**Ismayilli**	**0.47**	**312**	⇓P		**Pb**	**23 51 36.3**	**-0.7**
	SNR=100							
IML				⇓S		**Sb**	**23 51 45.3**	**+1.7**
ALIB	**Äli-Bayra**	**0.59**	**152**	⇑P		**Pb**	**23 51 39.6**	**+0.5**
	SNR=27							
ALIB				⇑S		**Sn**	**23 51 49.2**	**-0.3**
SIZA	**Siyzn**	**0.62**	**18**	⇑P		**Pb**	**23 51 39.9**	**+0.1**
	SNR=140							
SIZA				⇑S		**Sn**	**23 51 52.1**	**+1.5**
SAAT	**Saatly**	**0.64**	**196**	⇑P		**Pb**	**23 51 39.6**	**-0.3**
	SNR=25							
SAAT				⇓S		**Sn**	**23 51 50.8**	**0.0**
ZRD	**Zardab**	**0.76**	**255**	⇑P		**Pb**	**23 51 41.6**	**-0.3**
	SNR=81							
ZRD				⇓S		**Sn**	**23 51 55.1**	**+1.3**
QBL	**Gabala**	**0.77**	**307**	⇑P		**Pb**	**23 51 41.2**	**-1.0**
	SNR=56							
QBL				⇓S		**Sn**	**23 51 53.6**	**-0.6**
XNQ	**Khinaliq**	**0.79**	**331**	⇑P		**Pb**	**23 51 42.1**	**-0.5**
	SNR=42							
XNQ				⇑S		**Sn**	**23 51 56.4**	**+1.5**
GOBA	**Gobu**	**0.83**	**95**	⇑P		**Pn**	**23 51 45.2**	**+1.3**
	SNR=28							
GOBA				⇓S		**Sn**	**23 51 57.3**	**+1.8**
QUBA	**Quba, Azerbaij**	**0.88**	**352**	⇓P		**Pn**	**23 51 44.8**	**+0.2**
	SNR=33							
QUBA				⇓S		**Sn**	**23 51 59.7**	**+2.8**
NDR	**Nardaran**	**1.02**	**84**	⇓P		**Pn**	**23 51 47.2**	**+0.7**
	SNR=35							
NDR				⇓S		**Sn**	**23 52 03.3**	**+3.1**
QSAR	**Qusar**	**1.07**	**344**	⇓P		**Pb**	**23 51 48.0**	**+0.7**
	SNR=98							
QSAR				⇑S		**Sn**	**23 52 05.0**	**+3.4**
BRDA	**Brd**	**1.14**	**260**	⇓P		**Pn**	**23 51 48.2**	**0.0**
	SNR=22							
BRDA				⇑S		**Sn**	**23 52 07.1**	**+3.9**
GALA	**Gala**	**1.15**	**93**	⇑P		**Pb**	**23 51 49.3**	**+0.8**
	SNR=4.4							
GALA				⇓S		**Sn**	**23 52 07.5**	**+4.1**
MNGR	**Mingechevir, A**	**1.23**	**284**	⇑P		**Pn**	**23 51 49.6**	**+0.3**
	SNR=9.7							
MNGR				⇑S		**Sb**	**23 52 07.9**	**+2.7**
GLBA	**Cilabad**	**1.25**	**189**	⇓P		**Pn**	**23 51 48.0**	**-1.6**
	SNR=24							
GLBA				⇑S		**Sb**	**23 52 07.4**	**+1.5**
SEKA	**Sheki**	**1.32**	**304**	⇑P		**Pn**	**23 51 49.9**	**-0.8**
	SNR=24							
SEKA				⇑S		**Sb**	**23 52 09.0**	**+1.0**
LKRN	**Lenkeran, Azer**	**1.77**	**177**	⇓Pn		**Pn**	**23 51 55.4**	**-1.4**
	SNR=7.2							
LKRN				⇑Sn		**Sb**	**23 52 21.6**	**+0.8**
GANJ	**Ganja**	**1.78**	**276**	⇑Pn		**Pn**	**23 51 56.4**	**-0.6**
	SNR=36							
GANJ				⇓Sn		**Sb**	**23 52 21.0**	**-0.2**
LRK	**Lerik**	**1.85**	**188**	⇑Pn		**Pn**	**23 51 57.2**	**-0.8**
	SNR=11							
LRK				⇑Sn		**Sb**	**23 52 23.9**	**+0.6**
ASTR	**Astara**	**1.92**	**177**	⇓Pg		**Pn**	**23 51 57.3**	**-1.5**
	SNR=44							
ASTR				⇓Sn		**Sb**	**23 52 26.7**	**+1.5**
GDB	**GEDABAY**	**2.22**	**277**	⇑Pn		**Pn**	**23 52 03.8**	**+0.7**
	SNR=27							
GDB				⇓Sn		**Sb**	**23 52 32.8**	**-1.1**
QZX	**Qazax, Azerbai**	**2.56**	**284**	⇑Pn		**Pn**	**23 52 08.7**	**+1.1**
	SNR=6.0							
QZX				⇓Sn		**Sn**	**23 52 41.1**	**+3.0**
ORD	**Ordubad**	**2.57**	**234**	⇓Pn		**Pn**	**23 52 08.4**	**+0.6**
	SNR=14							
ORD				⇓Sn		**Sn**	**23 52 41.3**	**+2.8**
SBZ	**Shahbuz**	**2.61**	**247**	Pn		**Pn**	**23 52 09.7**	**+1.2**
	SNR=19							
SBZ				⇓Sn		**Sb**	**23 52 45.6**	**+0.3**
DGRG	**David-gareji**	**2.66**	**292**	P		**Pn**	**23 52 10.4**	**+1.3**
DGRG				S		**Sb**	**23 52 46.0**	**-0.6**
NAX	**Nakhchivan**	**2.76**	**243**	⇓Pg		**Pb**	**23 52 14.1**	**-1.9**
	SNR=6.4							
NAX				⇑Sg		**Sb**	**23 52 51.6**	**+2.3**
IMRD	**Marand**	**2.88**	**233**	*e*Pn		**Pn**	**23 52 12.9**	**+0.7**
IMRD				*e*AMB		AMB	23 52 55.0	
	comp=Z,2μm,0.2s							
ITBZ	**Tabriz**	**2.96**	**222**	*e*Pn		**Pn**	**23 52 13.7**	**+0.3**
ITBZ				*e*AMB		AMB	23 52 22.8	
	comp=Z,428nm,0.1s							
ITBZ				*e*Sg		**Sn**	**23 52 50.4**	**+2.0**
GNI	**Garni**	**3.01**	**265**	Pn		**Pn**	**23 52 15.9**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=128,slow=19,SNR=4.3							
GNI				Pg		**Pb**	**23 52 21.8**	**+1.5**
	comp=Z,2.5nm,0.3s,baz=307,slow=20,SNR=18							
HYR	**Heyderabad**	**3.01**	**257**	⇓Pg		**Pb**	**23 52 18.6**	**-1.7**
	SNR=3.4							
HYR				⇑Sg		**Sb**	**23 52 59.3**	**+2.7**
IBST	**Bostanabad**	**3.09**	**207**	*e*Pn		**Pn**	**23 52 14.3**	**-0.9**
IBST				*e*AMB		AMB	23 52 26.2	
	comp=Z,234nm,0.1s							
IBST				*e*Sg		**Sn**	**23 52 53.8**	**+2.1**
BTNK	**Botanikuri**	**3.15**	**294**	P		**Pn**	**23 52 18.0**	**+2.2**
TBLG	**Delisi**	**3.21**	**294**	P		**Pn**	**23 52 17.8**	**+1.2**
ISHB	**Shabestar**	**3.21**	**228**	*e*Pn		**Pn**	**23 52 17.5**	**+0.6**
ISHB				*e*AMB		AMB	23 52 26.9	
	comp=Z,300nm,0.1s							
GUDG	**Gudauri**	**3.71**	**304**	P		**Pn**	**23 52 25.9**	**+2.3**
GUDG				S		**Sb**	**23 53 12.3**	**-4.6**
IGZV	**Ghazvin**	**4.27**	**163**	*e*Pn		**Pn**	**23 52 30.2**	**-1.2**
IGZV				*e*AMB		AMB	23 53 20.5	
	comp=Z,248nm,0.1s							
ONI	**Oni**	**4.43**	**300**	P		**Pn**	**23 52 35.6**	**+2.1**
ONI				S		**Sn**	**23 53 30.9**	**+6.5**
KBZ	**Khabaz**	**5.37**	**309**	Pn		**Pn**	**23 52 47.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=153,slow=2.3,SNR=2.2							
KBZ				Lg		Lg	23 54 15.6	
	comp=Z,0.1nm,0.3s,baz=197,slow=14,SNR=2.9							
IDMV	**Damavand**	**5.58**	**150**	*e*Pn		**Pn**	**23 52 48.7**	**-0.7**
IDMV				*e*AMB		AMB	23 53 55.2	
	comp=Z,100nm,0.1s							
IFIR	**Firoozkooh**	**5.81**	**145**	*e*Pn		**Pn**	**23 52 52.1**	**-0.5**
IFIR				*e*AMB		AMB	23 54 00.2	
	comp=N,145nm,0.1s							
GEYT	**Alibeck**	**7.78**	**106**	Pn		**Pn**	**23 53 16.5**	**-2.9**
	comp=N,0.6nm,0.3s,baz=299,slow=13,SNR=10							
AKTO	**Aktyubinsk**	**11.92**	**30**	Pn		**Pn**	**23 54 16.4**	**+0.4**
	comp=N,0.1nm,0.3s,baz=229,slow=11,SNR=2.9							
AKTO				Sn		**Sn**	**23 56 21.0**	**-7.3**
	comp=N,0.1nm,0.3s,baz=208,slow=17,SNR=3.3							
BVAR	**Borovoye Array**	**19.38**	**42**	P		**Pn**	**23 55 52.9**	**+0.1**
	comp=N,0.1nm,0.3s,baz=239,slow=9.9,SNR=3.2							
KURBB	**Kurchatov Arra**	**23.11**	**54**	P		**P**	**23 56 31.3**	**-0.5**
	comp=N,0.1nm,0.5s,baz=261,slow=9.8,SNR=3.4							
MKAR	**Makanchi Array**	**25.02**	**64**	P		**P**	**23 56 48.9**	**-1.0**
	comp=N,0.4nm,0.5s,baz=256,slow=9.6,SNR=8.0							
FINES	**FINESS Array B**	**25.10**	**334**	P		**P**	**23 56 50.2**	**-0.2**
	comp=N,1.6nm,0.8s,baz=137,slow=10,SNR=7.2							
HFS	**Hagfors**	**29.22**	**324**	P		**P**	**23 57 27.5**	**+0.1**
	comp=N,1.4nm,0.8s,baz=98,slow=8.9,SNR=3.2							

*ISCJB **18** 23:55:41.3±0.6, 5˚.42S×0˚.04×147˚.04E±0˚.04, h203km±5km, mb4.3/41, Error ellipse: s-maj=6.9km s-min=6.0km az=175.9*
*IDC **18** 23:55:43.6±0.5, 5˚.45S×147˚.05E, h216km±4km, mb3.9/25, mb1 4.1/28, mb1mx4.0/53, mbtmp4.5/28, Error ellipse: s-maj=11.8km s-min=7.6km az=110.0*
*NEIC **18** 23:55:43.2±0.6, 5˚.46S×147˚.12E, h213km±6km, mb4.6/15, Error ellipse: s-maj=7.1km s-min=5.2km az=115.0*
*DJA **18** 23:55:45.0±1.7, 5˚S±10˚×14˚7E±1˚7, h218km±17km, M4.7/4, mb4.7/4*

ISC 18 23:55:42.9±0.5, **5˚.47S**±0˚.05×**147˚.08E**±0˚.05, **h209**km±4km, **h211**km:**pP-P, n92**, σ1°**44**/109, **mb4.3**/41, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.42**	**5**	*e*Pn		**Pn**	**23 56 38.2**	**+0.2**
PMG	**Port Moresby**	**3.91**	**179**	P		**Pn**	**23 56 42.4**	**-1.5**
	122nm,0.3s,baz=43,slow=10,SNR=132							
PMG				S		**S**	**23 57 28.1**	**-3.4**
	214nm,0.3s,baz=46,slow=24,SNR=13							
PMG	**Port Moresby**	**3.91**	**179**	*e*Pn		**Pn**	**23 56 42.5**	**-1.4**
PMG				*e*S		**S**	**23 57 29.7**	**-1.8**
RABL	**Rabaul**	**5.22**	**76**	*e*Pn		**Pn**	**23 57 00.7**	**+0.4**
JAY	**Jayapura**	**7.01**	**295**	P		**Pn**	**23 57 21.9**	**-1.5**
JAY				S		**S**	**23 58 38.7**	**-4.5**
MMPI	**Merauke**	**7.29**	**246**	P		**Pn**	**23 57 25.0**	**-1.9**
GENI	**Genyem**	**7.47**	**292**	P		**Pn**	**23 57 28.4**	**-0.9**
COEN	**Coen**	**9.27**	**204**	*e*Pn		**Pn**	**23 57 53.6**	**+1.0**
COEN				*e*S		**S**	**23 59 37.9**	**+1.1**
HNR	**Honiara**	**13.35**	**108**	P		**Pn**	**23 58 44.5**	**0.0**
	41nm,0.3s,baz=202,slow=4.0,SNR=16							
HNR	**Honiara**	**13.35**	**108**	*e*P		**Pn**	**23 58 40.0**	**-4.5**
HNR	**Honiara**	**13.35**	**108**	*e*Pn		**Pn**	**23 58 44.3**	**-0.3**
CTA	**Charters Tower**	**14.55**	**183**	P		**P**	**23 59 00.7**	**+0.4**
	3.0nm,0.3s,baz=1.0,slow=12,SNR=21							
CTAO	**Charters Tower**	**14.55**	**183**	*e*Pn		**Pn**	**23 58 59.5**	**+0.2**
SWI	**Sorong**	**16.45**	**286**	P		**P**	**23 59 20.3**	**-1.0**
MTN	**Manton Dam**	**17.36**	**244**	*e*P		**P**	**23 59 31.7**	**+0.4**
WRA	**Warramunga Arr**	**18.99**	**220**	P		**P**	**23 59 49.3**	**+0.3**
	29nm,0.3s,baz=47,slow=12,SNR=676							
WRA				S		**S**	**00 03 12.1**	**-1.4**
	0.8nm,0.3s,baz=38,slow=22,SNR=8.3							
EIDS	**Eidsvold**	**20.15**	**169**	*e*P		**P**	**00 00 02.2**	**+0.8**
	29nm,0.6s							
SANI	**Sanana**	**21.32**	**278**	P		P	00 00 28.3	+14
AS01	**Alice Springs**	**22.07**	**214**	*e*P		**P**	**00 00 21.2**	**0.0**
AS01				*e*S		**S**	**00 04 15.0**	**+5.6**
AS31	**Alice Springs**	**22.10**	**214**	*e*P		**P**	**00 00 22.0**	**+0.5**
	24nm,0.6s							
ASAR	**Alice Springs**	**22.10**	**214**	P		**P**	**00 00 22.1**	**+0.6**
	46nm,0.6s,baz=47,slow=8.7,SNR=332							
ASAR				S		**S**	**00 04 10.7**	**+0.9**
	4.3nm,0.9s,baz=30,slow=17,SNR=6.1							
BATI	**Baumata**	**23.67**	**257**	P		**P**	**00 00 35.5**	**-0.2**
	17nm,0.5s,baz=7.1,slow=8.1,SNR=2.5							
FITZ	**Fitzroy Crossi**	**24.41**	**237**	P		**P**	**00 00 42.8**	**+0.2**
	61nm,0.5s,baz=54,slow=9.7							
DZM	**Mont Dzumac**	**24.96**	**133**	*e*P		**P**	**00 00 44.1**	**-3.5**
	64nm,0.7s							
ARMA	**Armidale**	**25.18**	**171**	*e*P		**P**	**00 00 49.4**	**0.0**
	29nm,0.7s							
STKA	**Stephens Creek**	**26.77**	**190**	P		**P**	**00 01 03.4**	**-0.1**
	3.5nm,0.4s,baz=9.4,slow=7.8,SNR=12							
STKA				pP		**pP**	**00 01 47.9**	**+2.5**
	16nm,0.6s,baz=24,slow=14,SNR=5.0							
KAPI	**Kappang**	**27.22**	**270**	*e*P		**P**	**00 01 07.8**	**0.0**
	371nm,1.0s							
BBOO	**Buckleboo**	**29.08**	**199**	*e*P		**P**	**00 01 24.2**	**+0.1**
	14nm,0.6s							
MBWA	**Marble Bar**	**30.76**	**237**	*e*P		**P**	**00 01 38.9**	**-0.2**
	20nm,0.7s							
NWAO	**Narrogin (SRO)**	**38.98**	**222**	P		**P**	**00 02 48.8**	**-0.3**
	7.3nm,0.8s,baz=283,slow=10,SNR=3.2							
AFI	**Afiamalu**	**41.35**	**105**	P		**P**	**00 03 09.5**	**+0.6**
	24nm,0.5s,baz=266,slow=16,SNR=5.3							
URZ	**Urewera**	**42.53**	**144**	P		**P**	**00 03 19.0**	**+1.0**
	5.3nm,0.4s,baz=272,slow=6.8,SNR=3.7							
RPZ	**Rata Peaks**	**43.55**	**155**	P		**P**	**00 03 28.3**	**+2.2**
	4.8nm,0.7s,baz=243,slow=11,SNR=2.4							
KSRS	**Korea Array**	**46.29**	**339**	pP		pP	00 04 30.8	-2.1
	0.9nm,0.6s,baz=171,slow=8.6,SNR=2.3							
CMAR	**Chiang Mai Arr**	**53.08**	**298**	P		**P**	**00 04 38.9**	**-0.4**
	0.4nm,0.3s,baz=128,slow=5.8,SNR=2.5							
CMAR				pP		**pP**	**00 05 27.4**	**+1.7**
	2.7nm,0.6s,baz=121,slow=5.9,SNR=5.3							
CD2	**Chengdu**	**54.97**	**314**	*e*P		**P**	**00 04 53.5**	**+0.7**
HHC	**Hu-ho-hao-te**	**56.43**	**328**	*e*P		**P**	**00 05 06.5**	**+3.5**
LZH	**Lanzhou**	**57.87**	**319**	*e*P		**P**	**00 05 14.4**	**+1.1**
LZH				pP		PcP	00 06 01.9	-1.4
LZH				sP		sP	00 06 23.5	+0.1
LZH				PP		**PP**	**00 07 27.4**	**+3.3**
LZH				*e*S		**S**	**00 12 55.1**	**-1.5**
LZH				sS		sS	00 14 15.6	-3.6
LZH				SS		SS	00 16 56.0	+4.8
LZH	**Lanzhou**	**57.87**	**319**	SS				
PETK	**Petropavlovsk-**	**59.05**	**7**	P		**P**	**00 05 20.5**	**-0.3**
	2.2nm,0.5s,baz=176,slow=5.4,SNR=5.2							
SONM	**Songino Array**	**63.99**	**331**	P		**P**	**00 05 54.7**	**+0.5**
	0.5nm,0.4s,baz=147,slow=6.2,SNR=12							
SONM				pP		**pP**	**00 06 42.5**	**+0.1**
	0.9nm,0.8s,baz=150,slow=3.4,SNR=4.5							
SONA1	**Songino Array**	**63.99**	**331**	*e*P		**P**	**00 05 54.5**	**+0.3**
SEY	**Seymchan**	**68.33**	**3**	P		**P**	**00 06 22.0**	**+0.7**
	0.9nm,0.3s,baz=131,slow=19,SNR=7.0							
VNDA	**Vanda**	**72.43**	**177**	P		**P**	**00 06 46.7**	**+0.8**
	1.7nm,0.5s,baz=333,slow=7.0,SNR=17							
VNDA	**Vanda**	**72.43**	**177**	*e*P		**P**	**00 06 46.5**	**+0.5**
	4.7nm,0.9s							
WMQ	**Urumqi**	**72.45**	**319**	P		**P**	**00 06 47.6**	**+0.9**
MK01	**Makanchi Array**	**77.13**	**320**	*e*P		**P**	**00 07 13.7**	**+0.3**
MK01				*e*pP		**pP**	**00 08 03.9**	**+0.4**
MKAR	**Makanchi Array**	**77.15**	**320**	P		**P**	**00 07 12.9**	**-0.6**
	0.5nm,0.6s,baz=73,slow=9.4,SNR=5.1							
MKAR				pP		**pP**	**00 08 04.2**	**+0.7**
	2.8nm,0.7s,baz=92,slow=7.3,SNR=4.3							
MAKZ	**Makanchi**	**77.35**	**320**	*e*P		**P**	**00 07 16.1**	**+1.4**
MAKZ				*e*pP		**pP**	**00 08 05.5**	**+0.8**
TIXI	**Tiksi**	**77.90**	**354**	*e*P		**P**	**00 07 17.1**	**0.0**
	3.0nm,1.1s							
ZALV	**Zalesovo Beam**	**78.61**	**328**	P		**P**	**00 07 20.8**	**-0.6**
	1.4nm,0.4s,baz=127,slow=6.5,SNR=3.2							
ZALV				pP		**pP**	**00 08 12.3**	**+0.8**
	2.1nm,0.9s,baz=106,slow=7.9,SNR=2.2							
KSH	**Kashi**	**79.09**	**312**	*e*P		**P**	**00 07 26.8**	**+2.3**
KDAK	**Kodiak Island**	**79.40**	**28**	P		**P**	**00 07 26.0**	**+0.4**
	4.7nm,0.9s,baz=260,slow=4.8,SNR=3.5							
KURK	**Kurchatov**	**80.84**	**323**	P		**P**	**00 07 34.0**	**+0.6**
KURK				pP		**pP**	**00 08 24.2**	**+0.3**
KURBB	**Kurchatov Arra**	**80.86**	**323**	P		**P**	**00 07 34.0**	**+0.5**
	0.2nm,0.3s,baz=76,slow=4.2,SNR=3.5							
KURBB				pP		**pP**	**00 08 24.2**	**+0.2**
	1.0nm,1.1s,baz=115,slow=4.3,SNR=3.2							
AAK	**Ala-Archa**	**81.03**	**315**	P		**P**	**00 07 35.7**	**+0.9**
	0.9nm,0.7s,baz=201,slow=8.6,SNR=3.2							
RC01	**Rabbit Creek A**	**82.22**	**26**	*e*P		**P**	**00 07 40.2**	**-0.3**
	3.2nm,0.5s							
SML	**Sawmill**	**83.14**	**26**	*e*P		**P**	**00 07 45.3**	**+0.1**
	22nm,1.5s							
RND	**Reindeer**	**83.61**	**24**	*e*P		**P**	**00 07 47.0**	**-0.7**
	18nm,1.8s							
DHY	**Denali Highway**	**84.07**	**25**	*e*P		**P**	**00 07 50.5**	**+0.4**
	24nm,1.9s							
WRH	**Wood River Hil**	**84.37**	**23**	*e*P		**P**	**00 07 50.5**	**-0.9**
	3.4nm,0.9s							
QSPA	**South Pole Qui**	**84.49**	**180**	P		**P**	**00 07 52.1**	**0.0**
	2.2nm,0.7s,baz=338,slow=5.4,SNR=8.6							
CCB	**Clear Creek Bu**	**84.56**	**23**	*e*P		**P**	**00 07 51.3**	**-1.0**
	5.5nm,1.2s							
IL1	**Eielson Array**	**84.97**	**23**	*e*P		**P**	**00 07 52.5**	**-1.9**
ILAR	**Eielson Array**	**84.97**	**23**	P		**P**	**00 07 52.6**	**-1.7**
	2.6nm,0.6s,baz=252,slow=4.8,SNR=54							
ILB	**Eielson Array**	**84.97**	**23**	*e*P		**P**	**00 07 53.0**	**-1.3**
BVAR	**Borovoye Array**	**86.39**	**324**	P		**P**	**00 08 00.5**	**-1.2**
	0.4nm,0.5s,baz=108,slow=4.8,SNR=4.2							
BVAR				pP		**pP**	**00 08 53.0**	**+0.3**
	0.9nm,0.6s,baz=100,slow=7.8,SNR=4.0							
INK	**Inuvik**	**91.14**	**21**	P		**P**	**00 08 23.1**	**-0.4**
	0.5nm,0.6s,baz=248,slow=5.4,SNR=2.5							
YBH	**Yreka Blue Hor**	**93.76**	**49**	P		**P**	**00 08 37.3**	**+0.9**
	3.7nm,0.9s,baz=182,slow=3.7,SNR=5.5							
J08A	**Circle Bar Ran**	**96.95**	**47**	*e*P		**P**	**00 08 50.9**	**0.0**
	4.9nm,0.4s							
NV01	**Mina Array Sit**	**96.98**	**52**	*e*P		**P**	**00 08 52.3**	**+1.0**
NVAR	**Mina Array Bea**	**96.98**	**52**	P		**P**	**00 08 52.6**	**+1.3**
	1.8nm,0.8s,baz=256,slow=6.2,SNR=9.6							
OPO	**Ambohidratompo**	**97.60**	**251**	P		Pdif	00 08 54.6	0.0
	1.7nm,0.7s,baz=72,slow=2.2,SNR=2.5							
NEW	**Newport**	**97.91**	**42**	P		**P**	**00 08 54.8**	**-0.3**
	2.1nm,0.7s,baz=194,slow=4.2,SNR=4.1							
YKA	**Yellowknife Ar**	**98.67**	**28**	P		**P**	**00 08 58.0**	**0.0**
	0.2nm,0.6s,baz=278,slow=5.1,SNR=6.0							
YKA				pP		**pP**	**00 09 50.6**	**+1.0**
	0.2nm,0.7s,baz=278,slow=4.6,SNR=2.5							
PDAR	**Pinedale Array**	**103.50**	**47**	Pdiff		**Pdif**	**00 09 20.1**	**-0.2**
	0.8nm,0.8s,baz=242,slow=3.2,SNR=6.7							
FRB	**Frobisher Bay**	**116.40**	**17**	PKP		**PKPdf**	**00 13 60.0**	**-1.4**
	0.8nm,0.5s,baz=37,slow=2.2,SNR=7.8							
GERES	**GERESS Array B**	**121.52**	**326**	PKP		**PKPdf**	**00 14 11.0**	**-0.8**
	0.6nm,0.5s,baz=113,slow=1.3,SNR=6.2							
SCHQ	**Schefferville**	**123.73**	**23**	PKP		**PKPdf**	**00 14 14.7**	**-1.0**
	2.1nm,0.9s,baz=346,slow=4.2,SNR=2.7							
TKL	**Tuckaleechee C**	**124.52**	**50**	PKP		**PKPdf**	**00 14 17.3**	**-0.5**
	3.5nm,0.8s,baz=237,slow=3.1,SNR=5.4							
EKA	**Eskdalemuir Ar**	**124.86**	**340**	PKP		**PKPdf**	**00 14 17.5**	**-0.4**
	0.3nm,0.5s,baz=9.5,slow=2.0,SNR=3.8							
JTS	**JuntasAbangare**	**128.28**	**81**	PKP		**PKPdf**	**00 14 25.6**	**0.0**
	6.9nm,1.0s,baz=8.6,slow=18,SNR=3.7							
LPAZ	**La Paz**	**139.00**	**122**	PKP		**PKPdf**	**00 14 44.6**	**-1.8**
	0.7nm,0.4s,baz=233,slow=4.5,SNR=3.9							
SDV	**Santo Domingo**	**142.44**	**83**	*e*PKPdf		**PKPdf**	**00 14 48.4**	**-3.8**
TOA0	**Torodi Ar. Sit**	**145.04**	**285**	*e*PKPbc		**PKPbc**	**00 14 55.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**145.04**	**285**	PKPbc		**PKPbc**	**00 14 55.4**	**-0.8**
	1.4nm,0.5s,baz=66,slow=3.9,SNR=30							
TORD				pPKPbc		**pPKPdf**	**00 15 51.5**	**+1.1**
	2.4nm,0.9s,baz=70,slow=2.9,SNR=3.8							
SJG	**San Juan**	**145.21**	**66**	*e*PKPdf		**PKPdf**	**00 14 55.9**	**-0.6**
HUMP	**Col San Antoni**	**145.47**	**66**	*e*PKPdf		**PKPdf**	**00 14 57.1**	**+0.1**
STVI	**Saint Thomas**	**146.22**	**65**	*e*PKPdf		**PKPdf**	**00 14 58.8**	**+0.5**
SAML	**Samuel**	**146.60**	**115**	*e*PKPdf		**PKPdf**	**00 14 58.2**	**-0.9**
PCRV	**Puerto La Cruz**	**148.24**	**80**	PKPbc		**PKPdf**	**00 15 03.0**	**+1.1**
	7.0nm,0.6s,baz=315,slow=2.9,SNR=4.1							
KOWA	**Kowa**	**150.19**	**290**	PKPbc		**PKPbc**	**00 15 09.5**	**-0.7**
	1.2nm,0.4s,baz=50,slow=2.3,SNR=6.6							

*ISCJB **18** 23:59:04.4±0.4, 15˚.34S±0˚.05×167˚.67E±0˚.07, h124km, mb4.3/27, Error ellipse: s-maj=9.3km s-min=6.4km az=164.8*
*IDC **18** 23:59:06.1±0.7, 15˚.35S×167˚.67E, h125km±6km, mb4.0/25, mb1 4.1/27, mb1mx4.0/52, mbtmp4.4/27, Error ellipse: s-maj=13.9km s-min=10.2km az=84.0*
*NEIC **18** 23:59:06.5±1.1, 15˚.35S×167˚.63E, h129km±9km, mb4.4/6, Error ellipse: s-maj

	7.2nm,1.6s								
MOTA	**Moosalm**	**142.66**	**334**	*e*PKPdf	**PKPdf**	**00 18 20.9**	**-3.8**
	2.2nm,0.8s								
FETA	**Feichten**	**143.07**	**334**	*e*PKPdf	PKPbc	00 18 22.9	+0.2
	4.8nm,1.1s								
DAVA	**Damuels**	**143.22**	**335**	PKPdf	PKPbc	00 18 23.2	+0.1
	3.4nm,1.2s								
KEST	**Kesra**	**151.96**	**320**	PKPbc	**PKPbc**	**00 18 46.9**	**-0.1**
	3.1nm,0.7s,baz=137,slow=3.0,SNR=10								
KEST				PKPab	**PKPab**	**00 18 57.6**	**+1.0**
	2.0nm,0.8s,baz=9.5,slow=6.1,SNR=4.3								
ESDC	**Sonseca Array**	**154.69**	**345**	PKPab	**PKPab**	**00 19 08.5**	**+0.5**
	0.5nm,0.7s,baz=14,slow=4.8,SNR=4.4								
TORD	**Torodi Ar. Bea**	**166.26**	**263**	PKP	**PKPdf**	**00 18 57.1**	**-0.3**
	0.7nm,0.7s,baz=120,slow=1.3,SNR=4.3								
TORD				PKPab	**PKPab**	**00 19 59.0**	**-0.1**
	0.8nm,1.0s,baz=122,slow=5.6,SNR=3.2								

*THE **19** 00:07:19.8,35˚.50N×26˚.75E,h26km±27km, ML1.5/4, Error ellipse: s-maj=34.2km s-min=1.1km az=141.0*
*CSEM **19** 00:07:19.9±0.4,35˚.55N×26˚.72E,h20km, ML1.5, Error ellipse: s-maj=14.5km s-min=8.3km az=157.0*
ATH 19 00:07:19.0,35˚.61N×26˚.66E,h13km±3km, ML1.7/4, Error ellipse: s-maj=3.7km s-min=1.0km az=132.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.41**	**99**	P	Pg	00 07 27.6	+0.3
KARP				S	Sg	00 07 33.0	+0.2
KARP				AML	AML	00 07 35.2	
	comp=E,182μm,0.2s						
KARP				AML	AML	00 07 37.0	
	comp=N,168μm,0.1s						
KARP	**Karpathos**	**0.41**	**99**	P	Pg	00 07 27.4	+0.2
KARP				S	Sg	00 07 33.1	+0.3
KARP	**Karpathos**	**0.41**	**99**	P	Pg	00 07 27.3	+0.1
KARP				S	Sg	00 07 33.1	+0.3
ZKR	**Zakros**	**0.61**	**216**	P	Pg	00 07 30.8	-0.1
ZKR				S	Sg	00 07 39.8	-0.3
ZKR				AML	AML	00 07 40.3	
	comp=N,61μm,0.2s						
ZKR				AML	AML	00 07 40.3	
	comp=E,194μm,0.2s						
ZKR	**Zakros**	**0.61**	**216**	P	Pg	00 07 30.8	-0.1
ZKR				S	Sg	00 07 39.5	+0.5
ZKR	**Zakros**	**0.61**	**216**	P	Pg	00 07 30.9	0.0
ZKR				S	Sg	00 07 39.5	+0.5
NPS	**Neapolis**	**0.92**	**248**	P	Pb	00 07 36.9	0.0
NPS				S	Sg	00 07 48.1	-0.7
NPS				AML	AML	00 07 50.6	
	comp=E,84μm,0.2s						
NPS				AML	AML	00 07 50.7	
	comp=N,82μm,0.3s						
NPS	**Neapolis**	**0.92**	**248**	P	Pg	00 07 36.7	-0.1
NPS				S	Sg	00 07 48.4	-0.4
NPS	**Neapolis**	**0.92**	**248**	P	Pg	00 07 36.7	-0.1
NPS				S	Sg	00 07 48.4	-0.4
ANAF	**Anafi Island**	**1.03**	**316**	P	Pb	00 07 38.3	-0.4
ANAF				S	Sg	00 07 53.0	+0.6
ANAF				AML	AML	00 07 55.4	
	comp=E,241μm,0.2s						
ANAF				AML	AML	00 07 55.6	
	comp=N,242μm,0.4s						
ANAF	**Anafi Island**	**1.03**	**316**	P	Pb	00 07 38.4	-0.4
ANAF				S	Sg	00 07 52.9	+0.5
LAST	**Lasithi**	**1.06**	**245**	P	Pb	00 07 39.2	0.0
LAST	**Lasithi**	**1.06**	**245**	P	Pb	00 07 39.2	-0.1
LAST				S	Sb	00 07 51.9	-1.2
LAST	**Lasithi**	**1.06**	**245**	P	Pb	00 07 39.1	-0.2
LAST				S	Sb	00 07 51.9	-1.2
NISR	**Nisiros**	**1.07**	**21**	P	Pn	00 07 40.5	+0.9
NISR	**Nisiros**	**1.07**	**21**	P	Pn	00 07 39.9	+0.2
ARG	**Arkhangelos**	**1.34**	**63**	P	Pn	00 07 43.0	-0.4
ARG	**Arkhangelos**	**1.34**	**63**	P	Pn	00 07 43.5	+0.2
SIVA	**Sivas**	**1.62**	**249**	P	Pg	00 07 49.8	-0.4
SIVA	**Sivas**	**1.62**	**249**	P	Pg	00 07 49.6	-0.5

*CSEM **19** 00:07:46.6,35˚.09N×22˚.71E,h25km, ML2.0/1, After ATH*
ATH 19 00:07:46.6,35˚.09N×22˚.71E,h25km±4km, ML2.0/1, Error ellipse: s-maj=7.7km s-min=2.1km az=61.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.91**	**32**	P	Pn	00 08 04.2	+0.3
ANKY	**Antikythira Is**	**0.91**	**32**	P	Pn	00 08 04.9	+1.0
ANKY				S	Sn	00 08 16.0	-0.2
ANKY	**Antikythira Is**	**0.91**	**32**	P	Pn	00 08 04.6	+0.7
ANKY				S	Sn	00 08 16.6	+0.4
ANKY	**Antikythira Is**	**0.91**	**32**	P	Pn	00 08 04.7	+0.8
IMMV	**Iera Moni Meta**	**1.10**	**70**	P	Pb	00 08 07.8	+0.8
IMMV				AML	AML	00 08 32.8	
	comp=N,135μm,0.7s						
IMMV				AML	AML	00 08 38.6	
	comp=E,174μm,1.1s						
IMMV	**Iera Moni Meta**	**1.10**	**70**	P	Pb	00 08 07.8	+0.8
GVD	**Gavdhos**	**1.16**	**102**	P	Pb	00 08 08.5	+0.6
GVD	**Gavdhos**	**1.16**	**102**	P	Pb	00 08 08.6	+0.7
KYTH	**Kithira**	**1.20**	**13**	P	Pb	00 08 10.6	+1.9
KYTH	**Kithira**	**1.20**	**13**	P	Pb	00 08 10.0	+1.3
VAM	**Vamos**	**1.26**	**75**	P	Pb	00 08 09.9	+0.2
VAM	**Vamos**	**1.26**	**75**	P	Pb	00 08 10.2	+0.5
VLI	**Veliai**	**1.63**	**6**	P	Pb	00 08 17.7	+1.7
VLI	**Veliai**	**1.63**	**6**	P	Pb	00 08 16.8	+0.8
DYR	**Agios Nikonas**	**1.69**	**350**	P	Pb	00 08 17.3	+0.2
DYR	**Agios Nikonas**	**1.69**	**350**	P	Pb	00 08 17.0	-0.1
PYL	**PYLOS**	**1.96**	**337**	P	Pn	00 08 18.2	-0.1
PYL	**PYLOS**	**1.96**	**337**	P	Pn	00 08 19.4	+1.1
DID	**Didima**	**2.45**	**10**	P	Pn	00 08 26.4	+1.4
DID	**Didima**	**2.45**	**10**	P	Pn	00 08 26.9	+1.9
GUR	**Goura**	**2.85**	**354**	P	Pn	00 08 33.3	+2.7
GUR	**Goura**	**2.85**	**354**	P	Pn	00 08 33.2	+2.5
KLV	**Kalavryta, Ach**	**2.98**	**351**	P	Pn	00 08 35.6	+3.2
KLV	**Kalavryta, Ach**	**2.98**	**351**	P	Pn	00 08 35.2	+2.8

*ISCJB **19** 00:15:45.6±0.9,37˚.37N±0˚.05×72˚.2E±0˚.1,h150km, Error ellipse: s-maj=15.2km s-min=6.1km az=160.7*
*NNC **19** 00:15:52.1±1.0,37˚.80N×72˚.05E,h167km±12km, mb2.4, mpv3.3, Error ellipse: s-maj=11.7km s-min=9.4km az=85.0*
ISC 19 00:15:45.0±1.2,37˚.33N±0˚.09×72˚.0E±0˚.1,h150km±12km, σ1=178/16, 3C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.92**	**23**	⇓P	**Pn**	**00 16 33.8**	**+2.3**
	8.3nm,0.3s						
SFK				⇓S	**Sn**	**00 17 07.5**	**0.0**
	18nm,0.2s						
MNAS	**Manas**	**5.16**	**4**	⇓P	**Pn**	**00 17 02.0**	**+1.4**
	2.7nm,0.4s						
MNAS				⇓S	**Sn**	**00 17 57.0**	**-2.7**
	17nm,0.4s						
AAK	**Ala-Archa**	**5.63**	**19**	⇓P	**Pn**	**00 17 08.7**	**+1.9**
	1.3nm,0.6s						
AAK				⇓S	**Sn**	**00 18 08.6**	**-2.1**
	4.8nm,0.5s						
KK31	**Karatay Array**	**5.88**	**349**	P	**Pn**	**00 17 11.6**	**+1.5**
	0.5nm,0.2s,baz=163,slow=12,SNR=20						
KK31				⇑S	**Sn**	**00 18 13.5**	**-3.1**
	4.2nm,0.3s,baz=166,slow=23,SNR=5.7						
PYUN	**Piuthan**	**13.03**	**132**	*e*P	**Pn**	**00 18 43.7**	**-1.0**
	5.5nm,0.4s						
GKN	**Gorkha**	**14.11**	**128**	*e*P	**Pn**	**00 18 58.9**	**+0.5**
	0.7nm,0.2s						
KKN	**Kakani**	**14.66**	**127**	*e*P	**Pn**	**00 19 05.2**	**-0.2**
	5.1nm,0.4s						
AB31	**Akbulak array**	**14.79**	**327**	⇑P	**P**	**00 19 08.5**	**-0.2**
	0.3nm,0.4s,baz=134,slow=11,SNR=9.1						
PKI	**Pulchoki**	**14.90**	**127**	*e*P	**P**	**00 19 09.1**	**-1.3**
	2.6nm,0.3s						
GUN	**Gumba**	**14.97**	**125**	*e*P	**Pn**	**00 19 09.6**	**+0.2**
	6.4nm,0.4s						
JIRN	**Jiri**	**15.34**	**125**	*e*P	**P**	**00 19 14.7**	**-0.6**
	30nm,0.7s						
AKTO	**Aktyubinsk**	**16.50**	**327**	⇑P	**Pn**	**00 19 29.3**	**+1.7**
	0.8nm,0.5s						

JMA 19 01:13:00.1±0.3,40˚.83N×145˚.45E,h63km±5km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.09**	**305**	P	Pn	01 13 33.8	+1.0
JAK	**Akkeshi**	**2.24**	**346**	P	Pn	01 13 35.7	+0.9
JAK				S	Sn	01 14 00.9	-0.4
JCH	**Churui**	**2.37**	**319**	P	Pn	01 13 37.4	+0.8
JCH				S	Sn	01 14 03.6	-1.0
JNBK	**Urakawa-nobuka**	**2.49**	**306**	P	Pn	01 13 40.1	+1.9
JNBK				S	Sn	01 14 08.5	+1.1
NEM2	**Nemuro 2**	**2.54**	**5**	P	Pn	01 13 40.4	+1.5
NEM2				S	Sn	01 14 09.2	+0.5
JAR	**Ashorobuto**	**2.76**	**334**	P	Pn	01 13 42.7	+0.7
JAR				S	Sn	01 14 13.2	-1.0
JBT2	**Biratori 2**	**3.02**	**311**	*e*S	Sn	01 14 21.5	+1.1
JANG	**Nango**	**3.03**	**263**	P	Pn	01 13 45.5	-0.1
JANG				S	Sn	01 14 16.6	-4.1
JRA	**Rausu**	**3.12**	**356**	P	Pn	01 13 48.1	+1.4
JTM	**Tenmabayashi**	**3.33**	**271**	P	Pn	01 13 50.6	+1.0
JTKR	**Abashiri--Toko**	**3.34**	**341**	P	Pn	01 13 51.4	+1.6
JTKR				*e*S	Sn	01 14 28.8	+0.6
JOT	**Ohata**	**3.37**	**281**	P	Pn	01 13 51.3	+1.0
JOT				S	Sn	01 14 26.5	-2.5
JOM	**Ohasama**	**3.46**	**248**	P	Pn	01 13 52.7	+1.2
JKB	**Kayabe**	**3.49**	**289**	P	Pn	01 13 53.3	+1.5
JKB				*e*S	Sn	01 14 31.0	-0.9
JEW	**Eniwo**	**3.60**	**305**	P	Pn	01 13 55.9	+2.5
JEW				S	Sn	01 14 35.9	+1.2
JAH	**Hinai**	**3.73**	**262**	P	Pn	01 13 56.3	+1.2
JAH				*e*S	Sn	01 14 35.0	-2.7
JMK	**Ichinoseki**	**3.76**	**241**	P	Pn	01 13 56.2	+0.7
JMK				S	Sn	01 14 35.1	-3.4
JRG	**Rokugo**	**3.96**	**250**	P	Pn	01 13 59.6	+1.3
JRG				S	Sn	01 14 42.4	-1.1
JOU	**Okura**	**4.44**	**238**	P	Pn	01 14 05.7	+0.8

MEX 19 01:35:51.1±0.5,19˚.32N×104˚.05W,h66km±7km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.45**	**70**	*e*P	Pn	01 36 01.7	-1.6
EZ5V				*i* S	Sn	01 36 10.8	-1.4
CJM	**Chamela**	**0.96**	**281**	*e*P	Pn	01 36 07.5	-1.3
CJM				*e*S	Sn	01 36 20.2	-1.7
MMIG	**Aquila**	**1.23**	**147**	*e*P	Pn	01 36 11.1	-1.2
MMIG				*i* S	Sn	01 36 26.4	-1.8
SFJM	**Santa Fe**	**1.50**	**39**	*i* P	Pn	01 36 15.5	-0.6
SFJM				*i* S	Sn	01 36 32.9	-1.9

*ISCJB **19** 01:36:03.8±0.4,38˚.67N±0˚.02×43˚.45E±0˚.02,h14km±2km, Error ellipse: s-maj=3.9km s-min=2.8km az=142.9*
*CSEM **19** 01:36:03.8±0.1,38˚.70N×43˚.43E,h10km, ML3.4, Error ellipse: s-maj=4.4km s-min=2.9km az=157.0*
*DDA **19** 01:36:03.5,38˚.67N×43˚.36E,h5km, Ml3.3*
*ISK **19** 01:36:03.4,38˚.68N×43˚.32E,h7km, ML3.4/12*
ISC 19 01:36:04.4±0.8,38˚.69N±0˚.02×43˚.37E±0˚.02,h14km±6km, n101, σ1=10/127, 14C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**171**	PG	**Pg**	**01 36 08.1**	**+0.4**
VANB	**Van**	**0.10**	**171**	*e*Pg	**Pg**	**01 36 08.1**	**+0.4**
TVAN	**Van**	**0.17**	**170**	*i* P	**Pg**	**01 36 07.8**	**-0.8**
TVAN				*i* S	**Sg**	**01 36 10.9**	**-0.6**
TVAN	**Van**	**0.17**	**170**	P	**Pg**	**01 36 07.8**	**-0.8**
TVAN				S	**Sg**	**01 36 10.9**	**-0.6**
ERCV	**ERCIS-VAN**	**0.33**	**356**	PG	**Pg**	**01 36 10.7**	**-0.5**
ERCV				SG	**Sg**	**01 36 16.1**	**+0.2**
ERCV	**ERCIS-VAN**	**0.33**	**356**	*e*Pg	**Pg**	**01 36 10.7**	**-0.5**
ERCV				*e*Sg	**Sg**	**01 36 16.1**	**+0.2**
VMUR	**Van-Muradiye**	**0.34**	**28**	*i* P	**Pb**	**01 36 11.5**	**-0.8**
VMUR				*i* S	**Sb**	**01 36 18.3**	**+0.7**
VMUR	**Van-Muradiye**	**0.34**	**28**	P	**Pb**	**01 36 11.5**	**-0.8**
VMUR				S	**Sb**	**01 36 18.3**	**+0.7**
GEVA	**Gevas**	**0.45**	**213**	*i* P	**Pg**	**01 36 12.5**	**-1.0**
GEVA	**Gevas**	**0.45**	**213**	P	**Pg**	**01 36 12.5**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.52**	**283**	*i* P	**Pb**	**01 36 14.4**	**-1.0**
ADCV				*i* S	**Sb**	**01 36 23.0**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.52**	**283**	P	**Pb**	**01 36 14.4**	**-1.0**
ADCV				S	**Sb**	**01 36 23.0**	**+0.1**
CLDR	**Caldiran**	**0.62**	**43**	PG	**Pg**	**01 36 15.4**	**-1.1**
CLDR				SG	**Sb**	**01 36 26.1**	**+0.3**
CLDR	**Caldiran**	**0.62**	**43**	*i* P	**Pg**	**01 36 15.5**	**-1.1**
CLDR				*i* S	**Sb**	**01 36 25.7**	**-0.1**
CLDR	**Caldiran**	**0.62**	**43**	P	**Pg**	**01 36 15.5**	**-1.1**
CLDR				S	**Sb**	**01 36 25.7**	**-0.1**
TUTA	**Tutak**	**0.83**	**329**	*i* P	**Pg**	**01 36 20.0**	**-0.6**
TUTA	**Tutak**	**0.83**	**329**	P	**Pg**	**01 36 20.0**	**-0.6**
DYDN	**Diyadin**	**0.89**	**16**	*i* P	**Pg**	**01 36 20.8**	**-0.8**
DYDN				*i* S	**Sb**	**01 36 34.0**	**+0.5**
DYDN	**Diyadin**	**0.89**	**16**	P	**Pg**	**01 36 20.8**	**-0.8**
DYDN				S	**Sb**	**01 36 34.0**	**+0.5**
AGRB	**Hanur-Agry**	**0.93**	**342**	PG	**Pg**	**01 36 21.0**	**-0.7**
AGRB				SG	**Sb**	**01 36 35.5**	**+0.8**
AGRB	**Hanur-Agry**	**0.93**	**342**	*e*Pg	**Pg**	**01 36 21.7**	**-0.7**
AGRB				*e*Sg	**Sb**	**01 36 35.5**	**+0.8**
GURO	**Guroymak-BITLI**	**1.06**	**263**	PG	**Pg**	**01 36 23.2**	**-1.6**
GURO				SG	**Sg**	**01 36 37.6**	**-1.0**
GURO	**Guroymak-BITLI**	**1.06**	**263**	*e*Pg	**Pg**	**01 36 23.2**	**-1.6**
GURO				*e*Sg	**Sg**	**01 36 37.6**	**-1.0**
EKAR	**Karacoban**	**1.16**	**299**	*i* P	**Pg**	**01 36 25.7**	**-1.1**
EKAR	**Karacoban**	**1.16**	**299**	P	**Pg**	**01 36 25.7**	**-1.1**
IGDI	**IGDIR**	**1.30**	**25**	*i* P	**Pb**	**01 36 28.6**	**0.0**
YOVA	**Hakkari_Y`...kse**	**1.32**	**146**	*i* P	**Pn**	**01 36 28.1**	**-0.5**
YOVA	**Hakkari_Y`...kse**	**1.32**	**146**	P	**Pn**	**01 36 28.1**	**-0.5**
SRTM	**Siirt_Merkez**	**1.34**	**239**	*i* P	**Pg**	**01 36 29.9**	**-0.2**
SRTM				*i* S	**Sn**	**01 36 48.7**	**+2.3**
SRTM	**Siirt_Merkez**	**1.34**	**239**	P	**Pg**	**01 36 30.0**	**-0.2**
SRTM				S	**Sn**	**01 36 48.7**	**+2.3**
EATA	**Eleskirt**	**1.35**	**330**	*i* P	**Pn**	**01 36 29.3**	**+0.1**
EATA	**Eleskirt**	**1.35**	**330**	P	**Pn**	**01 36 29.3**	**+0.1**
SIRT	**Sirnak**	**1.40**	**212**	PN	**Pn**	**01 36 29.4**	**-0.2**
SIRT				SN	**Sn**	**01 36 48.6**	**+0.7**
SIRT	**Sirnak**	**1.40**	**212**	*e*Pn	**Pn**	**01 36 29.4**	**-0.2**
SIRT				*e*Sn	**Sn**	**01 36 48.6**	**+0.7**
HYR	**Heyderabad** SNR=37	**1.54**	**48**	⇓P	**Pn**	**01 36 30.2**	**-1.3**
DIGO	**Kars**	**1.72**	**0**	*i* P	**Pb**	**01 36 35.3**	**-0.7**
DIGO	**Kars**	**1.72**	**0**	P	**Pb**	**01 36 35.3**	**-0.7**
NAX	**Nakhchivan** SNR=86	**1.73**	**73**	⇓P	**Pn**	**01 36 34.4**	**+0.3**
HOMI	**Horasan**	**1.76**	**320**	*i* P	**Pb**	**01 36 35.8**	**-0.9**
BTMN	**Batman**	**1.84**	**245**	*i* P	**Pb**	**01 36 37.1**	**-0.7**
BTMN	**Batman**	**1.84**	**245**	P	**Pb**	**01 36 37.1**	**-0.7**
SBZ	**Shahbuz** SNR=135	**1.84**	**67**	⇑P	**Pn**	**01 36 35.6**	**-0.1**
KARS	**Kars**	**1.94**	**353**	PN	**Pn**	**01 36 37.9**	**+0.7**
KARS	**Kars**	**1.94**	**353**	*e*Pn	**Pn**	**01 36 37.9**	**+0.7**
ERZM	**Erzurum**	**1.97**	**309**	*i* P	**Pb**	**01 36 39.5**	**-0.7**
ERZM				*i* S	**Sn**	**01 37 01.2**	**-1.1**
ERZM	**Erzurum**	**1.97**	**309**	P	**Pb**	**01 36 39.5**	**-0.7**
ERZM				S	**Sn**	**01 37 01.2**	**-1.1**
EAK	**Akyaka**	**2.00**	**5**	*i* P	**Pg**	**01 36 42.2**	**-0.6**
EAK	**Akyaka**	**2.00**	**5**	P	**Pg**	**01 36 42.2**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.02**	**337**	PN	**Pn**	**01 36 38.8**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.02**	**337**	*e*Pn	**Pn**	**01 36 38.8**	**+0.5**
ORD	**Ordubad** SNR=28	**2.06**	**83**	⇓P	**Pn**	**01 36 39.4**	**+0.7**
ECAT	**Cat-ERZURUM**	**2.07**	**297**	*i* P	**Pb**	**01 36 41.0**	**-1.0**
ECAT	**Cat-ERZURUM**	**2.07**	**297**	P	**Pb**	**01 36 41.0**	**-1.0**
HANI	**Diyarbakir_Han**	**2.34**	**264**	*i* P	**Pb**	**01 36 45.8**	**-0.7**
HANI	**Diyarbakir_Han**	**2.34**	**264**	P	**Pb**	**01 36 45.8**	**-0.7**
DDEM	**Demirkent**	**2.53**	**331**	*i* P	**Pb**	**01 36 50.5**	**+0.9**
KOPT	**Kop Dagi**	**2.59**	**302**	*i* P	**Pg**	**01 36 52.0**	**-2.1**
DIY	**Diyarbakir**	**2.60**	**253**	*e*Pn	**Pn**	**01 36 47.1**	**+1.0**
MAZI	**Mazidag**	**2.62**	**243**	PN	**Pn**	**01 36 46.4**	**+0.1**
MAZI	**Mazidag**	**2.62**	**243**	*e*Pn	**Pn**	**01 36 46.4**	**+0.1**
DYBB	**Diyarbakir**	**2.65**	**255**	PN	**Pn**	**01 36 47.1**	**+0.4**
DBAD	**Bademkaya**	**2.66**	**331**	*i* P	**Pb**	**01 36 52.1**	**+0.3**
DIYA	**Diyarbakir**	**2.67**	**254**	*i* P	**Pn**	**01 36 47.3**	**+0.3**
DIYA	**Diyarbakir**	**2.67**	**254**	P	**Pn**	**01 36 47.3**	**+0.3**
AKH	**Akhalkalaki**	**2.71**	**2**	PN	**Pn**	**01 36 48.9**	**+1.1**
AKH	**Akhalkalaki**	**2.71**	**2**	*e*Pn	**Pn**	**01 36 48.9**	**+1.1**
GDB	**GEDABAY** SNR=15	**2.74**	**41**	⇑P	**Pn**	**01 36 45.9**	**-2.2**
GDB				⇓S	**Sn**	**01 37 23.5**	**+2.5**
QZX	**Qazax, Azerbai** SNR=5.3	**2.82**	**32**	⇓P	**Pn**	**01 36 45.5**	**-3.6**
QZX				⇓S	**Sn**	**01 37 22.5**	**-0.4**
EPOS	**Posof**	**2.85**	**350**	*i* P	**Pb**	**01 36 56.0**	**+0.9**
BAYB	**BAYBURT**	**2.87**	**304**	*i* P	**Pb**	**01 36 56.9**	**+1.4**
DBOC	**Borcka**	**2.95**	**334**	*i* P	**Pb**	**01 36 57.3**	**+0.4**
GANJ	**Ganja** SNR=9.2	**3.00**	**49**	⇓P	**Pn**	**01 36 50.3**	**-1.2**
GANJ				⇓S	**Sn**	**01 37 30.4**	**+3.1**
BAYT	**Ayd¯–ntepe-Bay**	**3.02**	**305**	PN	**Pn**	**01 36 52.7**	**+0.7**
BAYT	**Ayd¯–ntepe-Bay**	**3.02**	**305**	*e*Pn	**Pn**	**01 36 52.7**	**+0.7**
EUZM	**Uzumlu**	**3.03**	**291**	*i* P	**Pb**	**01 36 59.2**	**+1.1**
PTK	**Pertek**	**3.11**	**275**	PN	**Pn**	**01 36 54.0**	**+0.7**
PTK	**Pertek**	**3.11**	**275**	*e*Pn	**Pn**	**01 36 54.0**	**+0.7**
KELT	**Kelkit**	**3.50**	**296**	*i* P	**Pb**	**01 37 08.1**	**+1.8**
MNGR	**Mingechevir, A**	**3.54**	**53**	⇓S	**Sn**	**01 37 44.1**	**+3.6**
ZRD	**Zardab**	**3.69**	**63**	⇓P	**Pn**	**01 37 00.4**	**-0.6**
URFA	**Urfa**	**3.80**	**252**	PN	**Pn**	**01 37 03.4**	**+0.8**
URFA	**Urfa**	**3.80**	**252**	*e*Pn	**Pn**	**01 37 03.4**	**+0.8**
SEKA	**Sheki**	**3.87**	**48**	⇓P	**Pn**	**01 37 02.0**	**-1.5**
LRK	**Lerik**	**3.89**	**89**	⇑P	**Pn**	**01 37 04.2**	**+0.3**
MALT	**Malatya**	**3.90**	**266**	PN	**Pn**	**01 37 05.2**	**+1.3**
MALT	**Malatya**	**3.90**	**266**	*e*Pn	**Pn**	**01 37 05.2**	**+1.3**
GLBA	**Clilabad**	**3.95**	**80**	⇓P	**Pn**	**01 37 04.7**	**+0.1**
KDMR	**Kurdemir**	**4.08**	**64**	⇑P	**Pn**	**01 37 05.3**	**-1.1**
SAAT	**Saatly**	**4.09**	**72**	⇑P	**Pn**	**01 37 05.3**	**-1.2**
QBL	**Gabala**	**4.11**	**55**	⇑P	**Pn**	**01 37 04.9**	**-1.9**
LKRN	**Lenkeran, Azer**	**4.23**	**88**	⇑P	**Pn**	**01 37 08.8**	**+0.4**
ASTR	**Astara**	**4.25**	**90**	⇑P	**Pn**	**01 37 09.2**	**+0.5**
IML	**Ismayilli**	**4.26**	**59**	⇑P	**Pn**	**01 37 07.0**	**-1.9**
XNQ	**Khinaliq**	**4.42**	**54**	⇑P	**Pn**	**01 37 09.4**	**-1.9**
PQL	**Pirkuli**	**4.54**	**61**	⇓P	**Pn**	**01 37 11.8**	**-1.0**
GBS	**Qobustan**	**4.68**	**65**	⇑P	**Pn**	**01 37 14.0**	**-0.7**
QSAR	**Qusar**	**4.69**	**52**	⇑P	**Pn**	**01 37 12.9**	**-1.9**
QUBA	**Quba, Azerbaij**	**4.75**	**54**	⇓P	**Pn**	**01 37 14.2**	**-1.4**
ATGJ	**Altiaghaj**	**4.80**	**61**	⇑P	**Pn**	**01 37 15.9**	**-0.5**
SIZA	**Siyzn**	**4.87**	**59**	⇑P	**Pn**	**01 37 16.1**	**-1.3**
GOBA	**Gobu**	**5.21**	**69**	⇓P	**Pn**	**01 37 21.6**	**-0.2**

*ISK **19** 01:40:43.4,38˚.68N×43˚.37E,h18km, ML2.0/2*
*CSEM **19** 01:40:44.4±0.3,38˚.70N×43˚.36E,h10km, ML2.0, Error ellipse: s-maj=6.9km s-min=5.4km az=129.0*
*DDA **19** 01:40:44.7,38˚.66N×43˚.34E,h7km, Ml2.5*
ISC 19 01:40:44.7±1.1,38˚.68N±0˚.02×43˚.38E±0˚.03,h18km±2km, n22, σ1=88/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.09**	**176**	PG	**Pg**	**01 40 48.3**	**-0.1**
VANB				SG	**Sg**	**01 40 51.9**	**+1.0**
VANB	**Van**	**0.09**	**176**	*e*Pg	**Pg**	**01 40 48.3**	**-0.1**
VANB				*e*Sg	**Sg**	**01 40 51.9**	**+1.0**
TVAN	**Van**	**0.15**	**173**	*i* P	**Pb**	**01 40 48.3**	**-0.1**
TVAN	**Van**	**0.15**	**173**	P	**Pb**	**01 40 48.3**	**-0.1**
VMUR	**Van-Muradiye**	**0.34**	**26**	*i* P	**Pg**	**01 40 52.0**	**0.0**
VMUR				*i* S	**Sb**	**01 40 58.3**	**+0.8**
VMUR	**Van-Muradiye**	**0.34**	**26**	P	**Pg**	**01 40 52.0**	**0.0**
VMUR				S	**Sb**	**01 40 58.3**	**+0.8**
GEVA	**Gevas**	**0.45**	**215**	*i* P	**Pg**	**01 40 52.6**	**-1.3**
GEVA	**Gevas**	**0.45**	**215**	P	**Pg**	**01 40 52.6**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.53**	**284**	*i* P	**Pb**	**01 40 54.6**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.53**	**284**	P	**Pg**	**01 40 54.6**	**-0.8**
CLDR	**Caldiran**	**0.62**	**42**	PG	**Pg**	**01 40 56.1**	**-1.0**
CLDR				SG	**Sg**	**01 41 05.7**	**+0.2**
CLDR	**Caldiran**	**0.62**	**42**	*i* P	**Pg**	**01 40 55.6**	**-1.5**
CLDR	**Caldiran**	**0.62**	**42**	P	**

σ2^{s}44/55, **mb3.8**/12, **5C-7D, Northwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.26**	**7**	⇓Pn	**Pn**	**01 56 46.4**	**+3.0**
	55nm,0.7s						
SFK				⇓Sn	Sn	01 57 31.1	+10
	34nm,0.4s						
KSH	**Kashi**	**3.60**	**40**	P	Pn	01 56 42.8	-5.1
KSH				S	Sn	01 57 19.3	-10
KSH				smax	smax		
	comp=N,210nm,1.0s						
KSH				smax	smax		
	comp=E,240nm,1.0s						
KBL	**Kabul**	**3.92**	**237**	*e*Pn	Pn	01 56 58.2	+5.7
AML	**Almayashu**	**5.38**	**5**	P	**Pn**	**01 57 14.1**	**+1.5**
	SNR=6.5						
UCH	**Uchtor**	**5.57**	**12**	P	**Pn**	**01 57 16.3**	**+1.0**
	SNR=19						
KZA	**Kyzart**	**5.57**	**17**	P	**Pn**	**01 57 16.1**	**+0.8**
	SNR=12						
MNAS	**Manas**	**5.72**	**356**	⇑Pn	**Pn**	**01 57 17.6**	**+0.5**
	2.7nm,0.4s						
MNAS				⇓Sn	**Sn**	**01 58 26.8**	**+5.3**
	4.8nm,0.5s						
EKS2	**Erkin-Say**	**5.91**	**5**	P	**Pn**	**01 57 22.1**	**+2.5**
	SNR=7.7						
AAK	**Ala-Archa**	**5.97**	**11**	Pn	**Pn**	**01 57 21.5**	**+1.0**
	0.8nm,0.3s,baz=169,slow=6.7,SNR=19						
AAK				Sn	**Sn**	**01 58 31.0**	**+3.4**
	0.4nm,0.3s,baz=151,slow=19,SNR=2.5						
AAK	**Ala-Archa**	**5.97**	**11**	⇑Pn	**Pn**	**01 57 21.4**	**+1.0**
	5.2nm,0.6s						
AAK				⇑Sn	**Sn**	**01 58 32.7**	**+5.1**
	9.8nm,0.9s						
AAK	**Ala-Archa**	**5.97**	**11**	P	**Pn**	**01 57 21.8**	**+1.3**
	SNR=8.9						
AAK	**Ala-Archa**	**5.97**	**11**	*e*Pn	**Pn**	**01 57 21.7**	**+1.3**
AAK				*e*S	**Sn**	**01 58 20.1**	**-7.5**
CHMS	**Chumysh**	**6.36**	**12**	P	**Pn**	**01 57 26.6**	**+0.9**
	SNR=5.6						
TKM2	**Tokmak 2**	**6.45**	**17**	⇓Pn	**Pn**	**01 57 27.6**	**+0.4**
	3.5nm,0.5s						
TKM2				⇓Sn	**Sn**	**01 58 41.5**	**+1.8**
	4.0nm,0.7s						
TKM2	**Tokmak 2**	**6.45**	**17**	P	**Pn**	**01 57 27.9**	**+0.7**
	SNR=16						
KK31	**Karatay Array**	**6.61**	**344**	⇓Pn	**Pn**	**01 57 29.8**	**+0.7**
	1.0nm,0.2s,baz=159,slow=12,SNR=59						
KK31				⇑Sn	**Sn**	**01 58 45.3**	**+2.2**
	5.1nm,0.7s,baz=164,slow=24,SNR=5.7						
KKAR	**Karatay Array**	**6.61**	**344**	*e*Pn	**Pn**	**01 57 29.6**	**+0.5**
KKAR				*e*S	**Sn**	**01 58 44.6**	**+1.4**
GEYT	**Alibeck**	**11.91**	**280**	Pn	**Pn**	**01 58 41.9**	**+0.1**
	0.5nm,0.3s,baz=97,slow=12,SNR=6.5						
GEYT				Sn	**Sn**	**02 00 54.4**	**+1.0**
	baz=106,slow=21,SNR=2.3						
GEYT				LR	LR	02 04 44.8	
	comp=Z,46nm,19.3s,baz=180,slow=44						
MK01	**Makanchi Array**	**12.15**	**32**	*e*Pn	**Pn**	**01 58 44.2**	**-0.8**
MK31	**Makanchi Array**	**12.16**	**32**	*e*Pn	**Pn**	**01 58 44.9**	**-0.3**
MKAR	**Makanchi Array**	**12.16**	**32**	Pn	**Pn**	**01 58 43.9**	**-1.2**
	0.1nm,0.3s,baz=192,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**12.16**	**32**	*e*Pn	**Pn**	**01 58 44.9**	**-0.3**
WMQ	**Urumqi**	**13.22**	**53**	P	**Pn**	**01 59 01.1**	**+1.4**
KURBB	**Kurchatov Arra**	**14.40**	**14**	Pn	**Pn**	**01 59 12.0**	**-3.5**
	0.0nm,0.3s,baz=205,slow=11,SNR=4.1						
KURK	**Kurchatov**	**14.51**	**14**	Pn	**Pn**	**01 59 17.9**	**+0.9**
AB31	**Akbulak array**	**15.69**	**327**	P	**Pn**	**01 59 29.9**	**-2.5**
	0.6nm,0.5s,baz=131,slow=13,SNR=12						
ABKAR	**Akbulak array**	**15.69**	**327**	*e*Pn	**Pn**	**01 59 30.2**	**-2.2**
	12nm,0.5s						
ABKAR				*e*S	**Sn**	**02 02 20.4**	**-4.7**
BVA0	**Borovoye Array**	**16.36**	**354**	⇓P	**Pn**	**01 59 40.0**	**-1.0**
	0.9nm,0.6s,baz=153,slow=8.3,SNR=7.0						
BVAR	**Borovoye Array**	**16.36**	**354**	Pn	**Pn**	**01 59 37.5**	**-3.5**
	0.1nm,0.3s,baz=163,slow=10,SNR=3.1						
AKTO	**Aktyubinsk**	**17.40**	**326**	P	**Pn**	**01 59 54.6**	**+0.5**
	0.3nm,0.3s,baz=149,slow=7.1,SNR=9.0						
AKTO	**Aktyubinsk**	**17.40**	**326**	⇑P	**Pn**	**01 59 54.8**	**+0.7**
	2.8nm,0.7s						
ZAA0	**Zalesovo Beam**	**19.03**	**22**	*e*P	**P**	**02 00 11.1**	**-1.6**
	4.7nm,0.8s						
ZALV	**Zalesovo Beam**	**19.03**	**22**	P	**P**	**02 00 11.0**	**-1.7**
	0.5nm,0.3s,baz=215,slow=10,SNR=20						
ZALV	**Zalesovo Beam**	**19.03**	**22**	*e*P	**P**	**02 00 10.8**	**-2.0**
LZH	**Lanzhou**	**24.77**	**82**	*e*P	**P**	**02 01 12.5**	**0.0**
LZH				pP	sP	02 01 31.0	+2.2
LZH				sP	pP	02 01 41.3	+18
LZH				*e*PP	**PnPn**	**02 01 53.6**	**+7.8**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,45nm,4.8s						
LZH				LR	LR		
	comp=N,83nm,12.0s						
LZH				LR	LR		
	comp=E,75nm,12.4s						
LZH				LR	LR		
	comp=Z,130nm,15.6s						
CD2	**Chengdu**	**26.13**	**94**	*e*P	**P**	**02 01 23.8**	**-0.9**
SONM	**Songino Array**	**26.85**	**55**	P	**P**	**02 01 29.9**	**-1.3**
	0.5nm,0.8s,baz=260,slow=8.3,SNR=3.9						
HHC	**Hu-ho-hao-te**	**30.15**	**70**	*e*P	**P**	**02 01 58.6**	**-2.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,73nm,4.8s						
BRTR	**Keskin Array B**	**30.89**	**288**	P	**P**	**02 02 09.2**	**+2.0**
	0.5nm,0.7s,baz=95,slow=10,SNR=4.2						
FINES	**FINESS Array B**	**38.17**	**325**	P	**P**	**02 03 10.4**	**+0.8**
	1.4nm,0.8s,baz=116,slow=13,SNR=3.8						
ARCES	**ARCESS Array B**	**41.52**	**337**	P	**P**	**02 03 37.6**	**+0.3**
	1.7nm,0.8s,baz=94,slow=8.6,SNR=5.9						
HFS	**Hagfors**	**43.85**	**322**	P	**P**	**02 03 57.0**	**+0.6**
	2.5nm,1.0s,baz=114,slow=9.6,SNR=4.3						
NOA	**NORSAR Array B**	**45.14**	**323**	P	**P**	**02 04 06.1**	**-0.6**
	1.5nm,0.9s,baz=94,slow=7.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**67.34**	**270**	P	**P**	**02 06 45.6**	**+0.1**
	0.1nm,0.4s,baz=51,slow=5.6,SNR=6.1						
ILAR	**Eielson Array**	**74.06**	**17**	P	**P**	**02 07 24.4**	**-1.4**
	0.2nm,0.7s,baz=322,slow=5.7,SNR=3.9						
WRA	**Warramunga Arr**	**80.77**	**123**	P	**P**	**02 08 03.4**	**-0.4**
	0.9nm,0.8s,baz=326,slow=5.8,SNR=5.5						
YKA	**Yellowknife Ar**	**80.89**	**4**	P	**P**	**02 08 03.4**	**-0.4**
	0.6nm,0.6s,baz=348,slow=5.4,SNR=15						

GUC 19 02:00:16.3±0.7,**21°.25S**×**68°.93W**,**h122**km±4km, **ML3.6, 6D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.56**	**291**	⇓*i*P	Pn	02 00 35.5	+0.5
PB01				*e*S	Sn	02 00 49.7	+0.6
PB01				IAML		02 00 50.2	
	comp=N,2μm,0.4s						
PB09	**IPOC Station P**	**0.62**	**208**	*e*P	Pn	02 00 36.1	+0.6
PB09				*e*S	Sn	02 00 50.7	+0.8
PB09				IAML		02 00 51.9	
	comp=N,4μm,0.3s						
PB02	**IPOC Station P**	**0.91**	**265**	⇓*i*P	Pn	02 00 38.7	+1.0
PB02				*i* S	Sn	02 00 54.9	+1.0
PB02				IAML		02 00 56.5	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**1.01**	**242**	⇓*i*P	Pn	02 00 39.7	+0.9
PB07				*e*S	Sn	02 00 57.0	+1.2
PB07				IAML		02 00 57.8	
	comp=N,1μm,0.3s						
PB08	**IPOC Station P**	**1.12**	**349**	⇓*i*P	Pn	02 00 41.0	+0.8
PB08				*e*S	Sn	02 00 59.6	+1.4
PB08				IAML		02 01 00.4	
	comp=E,783nm,0.7s						
PB04	**IPOC Station P**	**1.57**	**226**	*e*P	Pn	02 00 45.5	+0.7
PB04				*e*S	Sn	02 01 07.4	+0.9
PB04				IAML		02 01 11.8	
	comp=E,573nm,0.2s						
PB06	**IPOC Station P**	**1.57**	**202**	*e*P	Pn	02 00 45.5	+0.7
PB06				IAML		02 01 07.3	
	comp=E,621nm,0.4s						
PB06				*i* S	Sn	02 01 07.4	+0.9
PB11	**IPOC Station P**	**1.63**	**335**	⇓*i*P	Pn	02 00 46.0	+0.4
PB11				*i* S	Sn	02 01 08.9	+1.1
PSGC	**Pisagua**	**1.99**	**326**	⇓*i*P	Pn	02 00 49.9	0.0
PSGC				*i* S	Sn	02 01 15.0	-0.5

CSEM ***19*** *02:04:07.5±0.3,38°.93N×43°.76E,h15km,ML2.7, Error ellipse: s-maj=6.8km s-min=4.7km az=127.0*
DDA ***19*** *02:04:07.9,38°.91N×43°.74E,h7km,Ml2.7*
ISK ***19*** *02:04:07.4,38°.90N×43°.72E,h11km,ML2.3/3*
ISCJB ***19*** *02:04:08.4±1.0,38°.91N±0°.04×43°.73E±0°.06,h10km±6km, Error ellipse: s-maj=8.9km s-min=5.6km az=26.9*

ISC 19 02:04:08.0±1.1,**38°.90N**±0°.04×**43°.73E**±0°.04,**h11**km±8km, **n18**,σ0^{s}**41**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**307**	*i* P	**Pg**	**02 04 11.4**	**-0.2**
VMUR	**Van-Muradiye**	**0.15**	**307**	P	**Pg**	**02 04 11.4**	**-0.2**
CLDR	**Caldiran**	**0.29**	**31**	PG	**Pg**	**02 04 13.6**	**-0.3**
CLDR				SG	**Sg**	**02 04 18.2**	**+0.3**
CLDR	**Caldiran**	**0.29**	**31**	*i* P	**Pg**	**02 04 13.8**	**-0.2**
CLDR				*i* S	**Sb**	**02 04 20.8**	**+0.6**
CLDR	**Caldiran**	**0.29**	**31**	*e*Pg	**Pg**	**02 04 13.6**	**-0.3**
CLDR				*e*Sg	**Sg**	**02 04 18.2**	**+0.3**
ERCV	**ERCIS-VAN**	**0.33**	**292**	PG	**Pg**	**02 04 14.3**	**-0.3**
ERCV				SG	**Sg**	**02 04 19.5**	**+0.4**
ERCV	**ERCIS-VAN**	**0.33**	**292**	*e*Pg	**Pg**	**02 04 14.3**	**-0.3**
ERCV				*e*Sg	**Sg**	**02 04 19.5**	**+0.4**
VANB	**Van**	**0.40**	**221**	PG	**Pb**	**02 04 16.9**	**-0.2**
VANB				SG	**Sb**	**02 04 23.9**	**+0.6**
VANB	**Van**	**0.40**	**221**	*e*Pg	**Pb**	**02 04 16.9**	**-0.2**
VANB				*e*Sg	**Sb**	**02 04 23.9**	**+0.6**
DYDN	**Diyadin**	**0.65**	**357**	*i* S	**Sb**	**02 04 31.0**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.79**	**264**	*i* P	**Pb**	**02 04 23.5**	**-0.3**
ADCV				*i* S	**Sb**	**02 04 34.9**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.79**	**264**	P	**Pb**	**02 04 23.5**	**-0.3**
ADCV				S	**Sb**	**02 04 34.9**	**+0.4**
TUTA	**Tutak**	**0.87**	**306**	*i* P	**Pg**	**02 04 24.4**	**-0.4**
TUTA				*i* S	**Sb**	**02 04 37.5**	**+0.6**
TUTA	**Tutak**	**0.87**	**306**	P	**Pg**	**02 04 24.4**	**-0.4**
TUTA				S	**Sb**	**02 04 37.5**	**+0.6**
AGRB	**Hanur-Agry**	**0.89**	**320**	PG	**Pg**	**02 04 24.8**	**-0.3**
AGRB				SG	**Sb**	**02 04 37.4**	**+0.1**
AGRB	**Hanur-Agry**	**0.89**	**320**	*e*Pg	**Pg**	**02 04 24.8**	**-0.3**
AGRB				*e*Sg	**Sb**	**02 04 37.4**	**+0.1**
GURO	**Guroymak-BITLI**	**1.37**	**256**	PN	**Pn**	**02 04 32.9**	**-0.2**
GURO	**Guroymak-BITLI**	**1.37**	**256**	*e*Pn	**Pn**	**02 04 32.9**	**-0.2**

SJA 19 02:12:43.7±0.7,**32°.81S**×**66°.77W**,**h22**km±5km, **ML3.5, MW3.9, 4C-5D, Fault plane solution: NP1:**ϕ_s344.60000°, δ47.00000°,λ84.30000°.,**San Luis Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.64**	**327**	*e*P	Pb	02 12 56.8	+0.6
ACAN				*i* S	Sn	02 13 06.2	-0.9
MRA	**San Martin**	**0.97**	**67**	*i* P	Pb	02 13 01.0	-0.9
MRA				*i* S	Sn	02 13 16.5	+1.2
MRA				IAML		02 13 17.1	
	comp=Z,2μm,0.2s						
AVIZ	**Vizcacheras**	**1.60**	**245**	⇓*e*P	Pb	02 13 13.2	+0.6
AAGR	**Agrelo**	**1.75**	**260**	⇓*i*P	Pb	02 13 16.2	+1.0
ASAL	**Salagasta**	**1.75**	**277**	*e*P	Pb	02 13 15.1	-0.1
RTCV	**Cerro Valdivia**	**1.77**	**302**	*i* P	Pb	02 13 16.4	+0.9
ARCO	**CERRO ARCO**	**1.82**	**268**	⇓*e*P	Pb	02 13 17.6	+1.2
ARCO				IAML		02 13 19.1	
	comp=Z,277nm,0.2s						
RTLL	**Cerro Villicun**	**2.07**	**315**	⇑*e*P	Pb	02 13 19.2	-1.4
AUSP	**Uspallata**	**2.29**	**284**	⇓*e*P	Pb	02 13 22.7	-1.7
RTLS	**Leoncito**	**2.36**	**295**	*i* P	Pb	02 13 24.4	-1.3
AMOG	**MOGNA**	**2.37**	**321**	⇑*e*P	Pb	02 13 24.1	-1.7
RFA	**San Rafael**	**2.41**	**215**	⇓*e*P	Pn	02 13 21.8	-0.1
AGUA	**GUANDACOL**	**3.63**	**336**	*e*P	Pn	02 13 42.1	+3.5
CYA	**Choya**	**4.44**	**11**	⇑*e*P	Pn	02 13 51.4	+1.7

ISCJB ***19*** *02:15:57.5±0.5, 12°.30N±0°.05×43°.59E±0°.06,h10km, Error ellipse: s-maj=10.5km s-min=3.8km az=43.2*
CSEM ***19*** *02:15:58.4, 12°.47N×43°.67E,h3km,ML3.3,After DHMR*
DHMR ***19*** *02:15:58.4±1.4, 12°.47N×43°.67E,h4km±46km,ML3.3*
ARO ***19*** *02:16:00.3, 12°.N±1°.×4°.4E±°, h9km±1km,MDJ3.0*

ISC 19 02:15:55.6±0.9,**12°.40N**±0°.04×**43°.62E**±0°.04,**h10**km,**n17**, σ1^{s}**13**/**24**,**2D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.52**	**218**	*e*P	**Pg**	**02 16 07.3**	**+1.5**
MCAD	**Moucha**	**0.77**	**211**	*e*P	**Pg**	**02 16 11.2**	**+0.6**
TDD	**Tadjoura Ara**	**0.92**	**230**	*e*P	**Pg**	**02 16 13.8**	**+0.6**
ATA	**Atar**	**1.02**	**204**	*e*P	**Pb**	**02 16 14.9**	**-0.6**
ATD	**Arta Tunnel**	**1.15**	**221**	*e*P	**Pn**	**02 16 17.2**	**-0.6**
ATD				*e*S	**Sb**	**02 16 31.2**	**-1.4**
ATD	**Arta Tunnel**	**1.15**	**221**	*e*P	**Pn**	**02 16 17.2**	**-0.6**
SGH	**Sud-Ghoubbet**	**1.36**	**226**	*e*P	**Pn**	**02 16 21.0**	**+0.2**
LDLD	**Lac de Lave**	**1.36**	**234**	*e*P	**Pn**	**02 16 20.9**	**+0.1**
ADEN	**Aden**	**1.38**	**74**	*i* P	**Pg**	**02 16 23.0**	**+0.8**
ADEN				*i* S	**Sg**	**02 16 41.7**	**+1.6**
ADEN	**Aden**	**1.38**	**74**	*i* P	**Pg**	**02 16 23.0**	**+0.8**
ADEN				*i* S	**Sg**	**02 16 41.7**	**+1.6**
MAOD	**Malaho**	**1.40**	**258**	*e*P	**Pn**	**02 16 22.4**	**+1.2**
UDYN	**Al 'Udayn**	**1.60**	**12**	⇓*i*P	**Pg**	**02 16 27.2**	**+0.9**
UDYN				*i* S	**Sg**	**02 16 48.4**	**+1.3**
UDYN	**Al 'Udayn**	**1.60**	**12**	⇓*i*P	**Pg**	**02 16 27.2**	**+0.9**
UDYN				*i* S	**Sg**	**02 16 48.4**	**+1.3**
DHBB	**Dhamar BB**	**2.29**	**19**	*i* S	**Sg**	**02 17 07.9**	**-1.3**
DHBB	**Dhamar BB**	**2.29**	**19**	*i* S	**Sg**	**02 17 07.9**	**-1.3**
BDHA	**Al Bayda'**	**2.46**	**50**	*i* P	**Pb**	**02 16 39.3**	**-0.8**
BDHA				*i* S	**Sg**	**02 17 13.6**	**-1.2**
BDHA				AML	AML	02 17 21.7	
	comp=N,202nm,0.4s						
BDHA	**Al Bayda'**	**2.46**	**50**	*i* P	**Pb**	**02 16 39.3**	**-0.8**
BDHA				*i* S	**Sg**	**02 17 13.6**	**-1.2**
	comp=N,101nm,0.4s						

ISCJB ***19*** *02:17:09.1±0.6,4°.61S±0°.08×152°.9E±0°.1,h55km, mb4.2/19,MS3.2/1, Error ellipse: s-maj=17.3km s-min=8.1km az=30.7*
IDC ***19*** *02:17:11.2±4.2,4°.65S×152°.96E,h61km±40km,mb3.8/16, mb1 3.9/17,mb1mx3.8/56,mbtmp4.1/17,ML2.0/1,MS3.4/1, Ms1 3.4/1,ms1mx2.6/44,Error ellipse: s-maj=23.6km s-min=20.6km az=93.0*
NEIC ***19*** *02:17:12.8±2.0,4°.64S×152°.94E,h75km±18km,mb4.2/2, Error ellipse: s-maj=14.1km s-min=12.0km az=89.0*

ISC 19 02:17:10.7±0.8,**4°.6S**±0°.1×**153°.0E**±0°.1,**h55**km,**n26**, σ0^{s}**85**/**28**,**mb4.2**/19,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.48**	**230**	P	**Pn**	**02 18 57.8**	**+0.6**
	1.4nm,0.3s,baz=23,slow=10,SNR=4.7						
PMG				S	**Sn**	**02 20 19.4**	**-1.3**
	3.5nm,0.3s,baz=84,slow=21,SNR=4.0						
PMG	**Port Moresby**	**7.48**	**230**	*e*Pn	**Pn**	**02 18 58.9**	**+1.7**
PMG				*e*S	**Sn**	**02 20 20.5**	**-0.2**
DZM	**Mont Dzumac**	**21.72**	**144**	P	**P**	**02 21 58.0**	**+0.5**
	4.5nm,0.8s,baz=200,slow=0.9,SNR=6.0						
DZM				LR	LR	02 29 18.8	
	comp=Z,91nm,19.2s,baz=242,slow=34						
WRAB	**Tennant Creek**	**23.68**	**228**	*e*P	**P**	**02 22 17.4**	**-0.1**
	5.8nm,0.6s						
WRA	**Warramunga Arr**	**23.69**	**228**	P	**P**	**02 22 17.4**	**-0.4**
	6.3nm,0.6s,baz=53,slow=9.9,SNR=70						
ASAR	**Alice Springs**	**26.40**	**222**	P	**P**	**02 22 41.8**	**-0.5**
	0.7nm,0.6s,baz=58,slow=8.5,SNR=4.9						
MBWA	**Marble Bar**	**36.21**	**240**	*e*P	**P**	**02 24 07.4**	**-1.1**
	31nm,0.7s						
KSRS	**Korea Array**	**47.91**	**333**	P	**P**	**02 25 44.1**	**+0.5**
	2.8nm,0.8s,baz=153,slow=8.5,SNR=6.3						
KSAR	**Wonju Array Be**	**47.92**	**333**	P	**P**	**02 25 44.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**52.13**	**341**	P	**P**	**02 26 16.6**	**+1.1**
	2.7nm,0.7s,baz=170,slow=8.8,SNR=4.4						
KLR	**Kul'dur**	**56.72**	**344**	P	**P**	**02 26 48.9**	**+0.2**
	0.3nm,0.7s,baz=145,slow=2.6,SNR=11						
PETK	**Petropavlovsk-**	**57.65**	**3**	P	**P**	**02 26 54.8**	**-0.4**
	1.4nm,0.6s,baz=167,slow=8.6,SNR=3.1						
CMAR	**Chiang Mai Arr**	**57.95**	**295**	P	**P**	**02 26 59.0**	**+1.1**
	2.3nm,0.7s,baz=106,slow=5.2,SNR=7.8						
SONM	**Songino Array**	**66.26**	**328**	P	**P**	**02 27 53.5**	**+0.2**
	0.7nm,0.6s,baz=148,slow=6.1,SNR=5.8						
MKAR	**Makanchi Array**	**80.30**	**319**	P	**P**	**02 29 16.0**	**0.0**
	1.5nm,0.8s,baz=100,slow=7.0,SNR=15						
ZALV	**Zalesovo Beam**	**81.09**	**326**	P	**P**	**02 29 19.0**	**-0.9**
	1.2nm,0.6s,baz=119,slow=4.7,SNR=5.9						
ILAR	**Eielson Array**	**81.92**	**22**	P	**P**	**02 29 22.6**	**-1.6**
	0.9nm,0.8s,baz=247,slow=6.0,SNR=10						
KURK	**Kurchatov**	**83.72**	**322**	P	**P**	**02 29 33.5**	**-0.2**
KURBB	**Kurchatov Arra**	**83.76**	**322**	P	**P**	**02 29 33.5**	**-0.4**
	1.4nm,0.9s,baz=106,slow=4.1,SNR=9.4						
AAK	**Ala-Archa**	**84.66**	**313**	P	**P**	**02 29 38.5**	**-0.5**
	2.2nm,0.7s,baz=125,slow=4.8,SNR=8.0						
AAK	**Ala-Archa**	**84.66**	**313**	*e*P	**P**	**02 29 39.2**	**+0.2**
	1.9nm,0.6s						
BVAR	**Borovoye Array**	**89.19**	**323**	P	**P**	**02 29 59.3**	**-1.2**
	4.9nm,0.7s,baz=103,slow=5.2,SNR=27						
BRVK	**Borovoye**	**89.26**	**323**	*e*P	**P**	**02 29 59.6**	**-1.2**
	12nm,0.9s						
YKA	**Yellowknife Ar**	**95.19**	**28**	P	**P**	**02 30 28.3**	**+0.3**
	0.3nm,0.9s,baz=274,slow=5.0,SNR=3.4						
GERES	**GERESS Array B**	**123.98**	**329**	PKP	**PKPdf**	**02 36 03.2**	**+0.1**
	0.4nm,0.6s,baz=45,slow=4.0,SNR=4.5						
LPAZ	**La Paz**	**134.36**	**118**	PKP	**PKPdf**	**02 36 25.5**	**+1.1**
	0.7nm,0.7s,baz=231,slow=6.5,SNR=4.8						

ISCJB ***19*** *02:19:35.9±0.9,8°.12S±0°.04×110°.39E±0°.03,h10km±6km, mb3.7/6,MS2.4/1,Error ellipse: s-maj=7.2km s-min=5.0km az=9.2*
NEIC ***19*** *02:19:37.0±2.0,8°.06S×110°.40E,h10km±15km,mb3.7/1, Error ellipse: s-maj=20.4km s-min=10.1km az=207.0*
NEIC Felt [III] at Bantul, Muntilan and Yogyakarta.
DJA ***19*** *02:19:37.5±0.3,8°.S±2°.×11°.0E±°,h10km,MA4.2/16,mb4.1/1, MLv4.3/16*
IDC ***19*** *02:19:44.0±3.5,8°.05S×110°.17E,h82km±38km,mb3.5/5, mb1 3.7/6,mb1mx3.2/62,mbtmp3.8/6,MS2.6/1,Ms1 2.6/1, ms1mx2.3/46,Error ellipse: s-maj=92.7km s-min=16.7km az=43.0*

ISC 19 02:19:36.3±1.2,**8°.08S**±0°.05×**110°.36E**±0°.03,**h13**km±8km, **n27**,σ1^{s}**54**/**38**,**mb3.7**/6,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.24**	**44**	P	**Pg**	**02 19 41.2**	**-0.2**
UGM				S	**Sg**	**02 19 44.2**	**-0.6**
UGM	**Wanagama**	**0.24**	**44**	*e*Pg	**Pg**	**02 19 41.2**	**-0.2**
PCJI	**Pacitan**	**0.82**	**98**	P	**Pg**	**02 19 51.9**	**-0.2**
PCJI				S	**Sg**	**02 20 02.3**	**-0.6**
SMRI	**Semarang**	**1.03**	**5**	P	**Pg**	**02 19 56.4**	**+0.2**
SMRI				S	**Sg**	**02 20 10.3**	**+0.6**
SMRI	**Semarang**	**1.03**	**5**	*e*Pn	**Pb**	**02 19 56.1**	**+0.1**
SMRI				*e*S	**Sg**	**02 20 10.2**	**+0.6**
PWJI	**Pagerwojo**	**1.43**	**88**	P	**Pn**	**02 20 01.5**	**-0.5**
PWJI				S	**Sn**	**02 20 18.7**	**-2.0**
CMJI	**Cimerak**	**1.92**	**279**	P	**Pn**	**02 20 09.5**	**+0.9**
TBJI	**Tambak Boyo**	**1.94**	**50**	P	**Pn**	**02 20 09.2**	**+0.2**
TBJI				S	**Sn**	**02 20 33.3**	**+0.1**
GRJI	**Gresik**	**2.40**	**61**	P	**Pn**	**02 20 15.1**	**-0.2**
GRJI				S	**Sn**	**02 20 44.5**	**-0.1**
CISI	**Cisompet, Garu**	**2.57**	**282**	*e*Pn	**Pn**	**02 20 18.0**	**+0.2**
CISI				*e*S	**Sn**	**02 20 45.9**	**-3.1**
LEM	**Lembang**	**2.99**	**295**	P	**Pn**	**02 20 26.9**	**+3.3**
	18nm,0.3s,baz=43,slow=16,SNR=8.2						
LEM				S	**Sb**	**02 21 04.6**	**-1.5**
	27nm,0.3s,baz=52,slow=15,SNR=5.3						
LEM	**Lembang**	**2.99**	**295**	P	**Pn**	**02 20 26.9**	**+3.3**
GMJI	**Gumukmas**	**3.06**	**94**	P	**Pn**	**02 20 25.5**	**+1.1**
GMJI				S	**Sn**	**02 21 03.9**	**+3.0**
BLJI	**Banyuglugur**	**3.22**	**84**	P	**Pn**	**02 20 28.0**	**+1.4**
JAGI	**Jajag, Banyuwa**	**3.77**	**96**	P	**Pn**	**02 20 36.2**	**+2.0**
JAGI				S	**Sn**	**02 21 18.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.77**	**96**	*e*Pn	**Pn**	**02 20 35.0**	**+0.8**
JAGI				*e*S	**Sn**	**02 21 19.6**	**+1.0**
ABJI	**Asem Bagus**	**3.85**	**86**	P	**Pn**	**02 20 35.9**	**+0.6**
SRBI	**Singaraja**	**4.81**	**90**	P	**Pn**	**02 20 49.8**	**+1.4**
MDSI	**Maura Dua**	**7.11**	**300**	P	**Pn**	**02 21 22.4**	**+2.3**
MBWA	**Marble Bar**	**15.84**	**146**	*e*Pn	**Pn**	**02 23 18.9**	**-0.2**
DAV	**Davao City (W

MAT	**Matsushiro**	**1.26 301**	P	**Pn**	**02 30 28.4**	**-0.2**
MAT			S	**Sn**	**02 30 44.0**	**-2.0**
MAT	**Matsushiro**	**1.26 301**	P	**Pn**	**02 30 28.8**	**+0.2**
BSO1	**Boso 1**	**1.71 136**	P	**Pn**	**02 30 33.8**	**+0.1**
JFT	**Otama**	**1.73 21**	⇑P	**Pn**	**02 30 35.4**	**+0.8**
JHJ	**Hachijo jima 2**	**2.78 176**	P	**Pn**	**02 30 49.4**	**+1.0**
	212nm,0.3s,baz=37,slow=2.6,SNR=26					
JHJ			S	**Sn**	**02 31 20.5**	**-0.7**
	53nm,0.3s,baz=72,slow=24,SNR=6.2					
JNU	**Nakatsue**	**7.67 251**	P	**Pn**	**02 31 56.5**	**+1.9**
	1.3nm,0.3s,baz=32,slow=5.2,SNR=6.7					
KSRS	**Korea Array**	**9.46 283**	P	**Pn**	**02 32 21.8**	**+2.8**
	0.3nm,0.3s,baz=97,slow=14,SNR=5.7					
MKAR	**Makanchi Array**	**43.45 303**	P	**P**	**02 37 59.6**	**+0.4**
	0.5nm,0.6s,baz=87,slow=9.9,SNR=7.5					
KURBB	**Kurchatov Arra**	**45.52 309**	P	**P**	**02 38 15.6**	**0.0**
	0.9nm,0.4s,baz=84,slow=7.8,SNR=11					
ILAR	**Eielson Array**	**51.25 32**	P	**P**	**02 38 59.4**	**+0.1**
	0.2nm,0.5s,baz=275,slow=5.7,SNR=4.8					
WRA	**Warramunga Arr**	**55.76 186**	P	**P**	**02 39 32.4**	**-0.4**
	1.6nm,0.4s,baz=1.2,slow=7.7,SNR=7.1					
ASAR	**Alice Springs**	**59.48 186**	P	**P**	**02 39 58.7**	**-0.1**
	1.2nm,0.8s,baz=17,slow=10,SNR=4.2					
FINES	**FINESS Array B**	**69.11 332**	P	**P**	**02 41 01.1**	**-0.1**
	1.9nm,0.9s,baz=88,slow=3.3,SNR=4.1					
TORD	**Torodi Ar. Bea**	**117.03 313**	PKP	**PKPdf**	**02 48 38.8**	**-1.3**
	0.2nm,0.5s,baz=18,slow=2.9,SNR=4.5					

MOS ***19*** *02:30:17.4± 1.1, 4°.51S× 152°.96E, h33km, mb5.1/30, Error ellipse: s-maj=10.4km s-min=6.5km az=95.0*

ISCJB ***19*** *02:30:19.5± 0.2, 4°.60S± 0°.03× 153°.01E± 0°.04, h55km, mb4.9/108, MS4.1/15, Error ellipse: s-maj=5.8km s-min=4.3km az=178.9*

BJI ***19*** *02:30:20.0, 4°.43S× 153°.24E, h63km, mb4.9/56, mB5.0/34, Ms5.1/16, Ms7 5.0/15*

IDC ***19*** *02:30:20.4± 1.3, 4°.63S× 152°.95E, h48km± 11km, mb4.5/30, mb1 4.6/34, mb1mx4.5/58, mbtmp4.8/34, ML4.5/3, MS3.6/13, Ms1 3.6/13, ms1mx3.4/45, Error ellipse: s-maj=14.5km s-min=8.9km az=86.0*

NEIC ***19*** *02:30:21.9± 0.6, 4°.59S× 152°.96E, h63km± 5km, mb5.0/55, Error ellipse: s-maj=5.4km s-min=3.5km az=92.0*

ISC 19 02:30:21.1± 0.3, 4°.65S± 0°.04× 153°.01E± 0°.06, h55km, n242, σ1s18/250, mb4.9/108, MS3.9/16, 8C-5D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.96**	**298**	*e*Pn			**Pn**	**02 30 38.9**	**+0.4**
MANU	**Manus Island**	**6.21**	**294**	*e*Pn			**Pn**	**02 31 54.1**	**+3.9**
PMG	**Port Moresby**	**7.49**	**231**	P			**Pn**	**02 32 08.6**	**+0.8**
	7.1nm,0.3s,baz=20,slow=9.7,SNR=29								
PMG				S			**Sn**	**02 33 29.5**	**-1.9**
	11nm,0.3s,baz=302,slow=22,SNR=9.6								
PMG	**Port Moresby**	**7.49**	**231**	*e*Pn			**Pn**	**02 32 08.8**	**+1.0**
	117nm,0.8s								
PMG				*e*Sn			**Sn**	**02 33 32.0**	**+0.7**
HNR	**Honiara**	**8.36**	**125**	P			**Pn**	**02 32 20.9**	**+1.2**
	7.9nm,0.3s,baz=321,slow=18,SNR=3.6								
HNR				LR			LR	02 34 44.1	
	comp=Z,104nm,21.4s,baz=285,slow=31								
HNR	**Honiara**	**8.36**	**125**	*e*Pn			**Pn**	**02 32 21.4**	**+1.7**
PATS	**Pohnpei**	**12.58**	**25**	*e*Pn			**Pn**	**02 33 16.5**	**-0.9**
CTA	**Charters Tower**	**16.70**	**203**	P			**P**	**02 34 12.6**	**-0.5**
	0.5nm,0.3s,baz=25,slow=13,SNR=11								
CTA				LR			LR	02 39 35.8	
	comp=Z,304nm,19.8s,baz=23,slow=33								
CTAO	**Charters Tower**	**16.70**	**203**	*e*P			**P**	**02 34 12.9**	**-0.2**
CTAO				pmax			pmax		
	comp=Z,151nm,0.9s								
CTAO	**Charters Tower**	**16.70**	**203**	*e*Pn			**P**	**02 34 12.9**	**-0.2**
	comp=Z,151nm,0.9s								
GUMO	**Guam**	**19.84**	**336**	P			**P**	**02 34 48.0**	**+0.3**
	comp=Z,3.6nm,0.3s,baz=176,slow=9.7,SNR=6.0								
GUMO				LR			LR	02 42 53.9	
	comp=Z,82nm,18.8s,baz=130,slow=38								
GUMO	**Guam**	**19.84**	**336**	*e*P			**Pn**	**02 34 50.6**	**+0.9**
	comp=Z,458nm,1.2s								
EIDS	**Eidsvold**	**20.68**	**185**	*e*P			**P**	**02 34 57.0**	**+0.3**
	comp=Z,180nm,1.9s								
DZM	**Mont Dzumac**	**21.66**	**144**	P			**P**	**02 35 08.0**	**+0.6**
	comp=Z,66nm,0.8s,baz=338,slow=10,SNR=44								
DZM	**Mont Dzumac**	**21.66**	**144**	*e*P			**P**	**02 35 07.8**	**+0.5**
	comp=Z,176nm,1.1s								
DZM				*e*LR			LR	02 40 24.0	
	comp=Z,773nm,26.9s								
DZM	**Mont Dzumac**	**21.66**	**144**	*e*P			**P**	**02 35 07.8**	**+0.5**
	comp=Z,60nm,0.7s								
WRAB	**Tennant Creek**	**23.69**	**229**	*e*P			**P**	**02 35 27.3**	**-0.8**
WRAB				pmax			pmax		
	comp=Z,69nm,0.8s								
WRAB	**Tennant Creek**	**23.69**	**229**	*e*P			**P**	**02 35 27.3**	**-0.8**
	comp=Z,69nm,0.8s								
WRA	**Warramunga Arr**	**23.70**	**229**	P			**P**	**02 35 27.4**	**-0.8**
	comp=Z,54nm,0.7s,baz=53,slow=10.0,SNR=230								
WRA				PcP			**PcP**	**02 39 11.0**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=50,slow=2.4,SNR=2.6								
WRA				ScP			**ScP**	**02 42 45.5**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=57,slow=3.3,SNR=6.0								
WRA				LR			LR	02 44 49.6	
	comp=Z,185nm,20.6s,baz=50,slow=37								
WRA	**Warramunga Arr**	**23.70**	**229**	*i* P			**P**	**02 35 27.3**	**-0.9**
WRA				pmax			pmax		
	comp=Z,38nm,0.5s								
ARMA	**Armidale**	**25.66**	**183**	*e*P			**P**	**02 35 48.1**	**+2.1**
	comp=Z,78nm,1.4s								
AS01	**Alice Springs**	**26.37**	**222**	*e*P			**P**	**02 35 51.4**	**-1.1**
AS31	**Alice Springs**	**26.40**	**222**	*e*P			**P**	**02 35 52.1**	**-0.6**
	comp=Z,4.9nm,0.6s								
ASAR	**Alice Springs**	**26.40**	**222**	P			**P**	**02 35 51.9**	**-0.9**
	comp=Z,9.4nm,0.6s,baz=54,slow=8.6,SNR=36								
ASAR				ScP			**ScP**	**02 42 53.1**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=40,slow=3.6,SNR=4.4								
ASAR				LR			LR	02 46 21.4	
	comp=Z,137nm,19.4s,baz=58,slow=36								
STKA	**Stephens Creek**	**29.13**	**200**	P			**P**	**02 36 16.1**	**-0.9**
	comp=Z,12nm,0.8s,baz=13,slow=10,SNR=23								
STKA				LR			LR	02 47 40.3	
	comp=Z,219nm,21.1s,baz=26,slow=36								
STKA	**Stephens Creek**	**29.13**	**200**	*e*P			**P**	**02 36 16.0**	**-0.9**
	comp=Z,2.2nm,0.8s								
BATI	**Baumata**	**29.61**	**258**	LR			LR	02 50 17.6	
	comp=Z,152nm,21.1s,baz=113,slow=40								
DAV	**Davao City (W)**	**29.75**	**293**	LR			LR	02 48 06.8	
	comp=Z,59nm,19.9s,baz=210,slow=36								
FITZ	**Fitzroy Crossi**	**29.92**	**241**	P			**P**	**02 36 22.9**	**-1.2**
	comp=Z,22nm,0.7s,baz=75,slow=9.4								
CAN	**Canberra**	**30.74**	**186**	*e*P			**P**	**02 36 31.9**	**+0.6**
CAN				pmax			pmax		
	comp=Z,125nm,2.0s								
CAN	**Canberra**	**30.74**	**186**	*e*P			**P**	**02 36 31.9**	**+0.6**
	comp=Z,125nm,2.0s								
BBOO	**Buckleboo**	**32.18**	**207**	*e*P			**P**	**02 36 43.2**	**-0.7**
	comp=Z,49nm,1.6s								
AFI	**Afiamalu**	**35.90**	**107**	LR			LR	02 48 55.4	
	comp=Z,108nm,19.7s,baz=225,slow=31								
MBWA	**Marble Bar**	**36.23**	**240**	*e*P			**P**	**02 37 17.9**	**-1.2**
	comp=Z,43nm,1.4s								
TAU	**Tasmania Unive**	**38.43**	**187**	*e*P			**P**	**02 37 38.6**	**+1.2**
TAU				pmax			pmax		
	comp=Z,8.0nm,0.5s								
TAU	**Tasmania Unive**	**38.43**	**187**	*e*P			**P**	**02 37 38.6**	**+1.2**
	comp=Z,7.8nm,0.5s								
HIZ	**Hauiti**	**39.12**	**152**	*e*P			**P**	**02 37 44.3**	**+1.0**
	comp=Z,86nm,1.3s								
URZ	**Urewera**	**40.01**	**150**	P			**P**	**02 37 51.8**	**+1.1**
	comp=Z,15nm,0.7s,baz=272,slow=3.8,SNR=7.9								
URZ	**Urewera**	**40.01**	**150**	*e*P			**P**	**02 37 52.4**	**+1.7**
	comp=Z,154nm,1.7s								
BKZ	**Black Stump Fm**	**40.41**	**151**	*e*P			**P**	**02 37 55.3**	**+1.2**
	comp=Z,114nm,1.9s								
THZ	**Tophouse**	**41.00**	**157**	*e*P			**P**	**02 38 00.3**	**+1.4**
	comp=Z,199nm,1.9s								
BFZ	**Birch Farm**	**41.51**	**153**	*e*P			**P**	**02 38 03.5**	**+0.4**
	comp=Z,330nm,1.9s								
RPZ	**Rata Peaks**	**42.04**	**160**	P			**P**	**02 38 08.3**	**+0.9**
	comp=Z,20nm,0.8s,baz=241,slow=1.1,SNR=7.2								
RPZ	**Rata Peaks**	**42.04**	**160**	*e*P			**P**	**02 38 08.8**	**+1.5**
	comp=Z,32nm,0.9s								
DCZ	**Deep Cove**	**42.49**	**165**	*e*P			**P**	**02 38 12.4**	**+1.5**
	comp=Z,54nm,1.3s								
MLZ	**Mavora Lakes**	**42.65**	**164**	*e*P			**P**	**02 38 13.5**	**+1.2**
	comp=Z,26nm,1.0s								
JNU	**Nakatsue**	**43.03**	**332**	P			**P**	**02 38 15.7**	**+0.1**
	comp=Z,39nm,0.8s,baz=125,slow=5.5,SNR=14								
JNU	**Nakatsue**	**43.03**	**332**	*e*P			**P**	**02 38 14.9**	**-0.6**
	comp=Z,43nm,0.9s								
WHZ	**Wether Hill Ro**	**43.09**	**165**	*e*P			**P**	**02 38 16.4**	**+0.5**
	comp=Z,79nm,1.7s								
LEM	**Lembang**	**45.21**	**265**	LR			LR	03 00 42.0	
	comp=Z,64nm,19.1s,baz=228,slow=40								
TJN	**Taejon**	**47.35**	**332**	*ce*P			**P**	**02 38 49.3**	**-0.3**
KSRS	**Korea Array**	**47.97**	**333**	P			**P**	**02 38 54.6**	**+0.2**
	comp=Z,9.3nm,0.8s,baz=151,slow=7.9,SNR=22								
KS15	**Wonju Array Si**	**47.97**	**333**	*e*P			**P**	**02 38 55.1**	**+0.7**
KSAR	**Wonju Array Be**	**47.97**	**333**	P			**P**	**02 38 54.7**	**+0.2**
KSAR	**Wonju Array Be**	**47.97**	**333**	P			**P**	**02 38 54.6**	**+0.2**
KS01	**Wonju Array Si**	**48.00**	**333**	*e*P			**P**	**02 38 53.7**	**-1.0**
INCN	**Inchon**	**48.58**	**332**	*e*P			**P**	**02 38 59.5**	**+0.2**
	comp=Z,64nm,0.8s								
RAR	**Rarotonga**	**48.65**	**114**	LR			LR	02 56 24.5	
	comp=Z,98nm,21.4s,baz=256,slow=32								
NJ2	**Nanjing**	**48.87**	**321**	*e*P			**P**	**02 39 02.1**	**+0.6**
NJ2				pmax			pmax		
	comp=Z,26nm,0.7s								
ASAJ	**Asahikawa**	**49.44**	**350**	P			**P**	**02 39 06.2**	**+0.6**
	comp=Z,10.0nm,0.6s,baz=325,slow=17,SNR=5.4								
USRK	**Ussuriysk Ar.**	**52.18**	**341**	P			**P**	**02 39 26.4**	**+0.1**
	comp=Z,11nm,0.7s,baz=174,slow=7.9,SNR=17								
SKNT	**Sakolnakorn**	**52.99**	**295**	P			**P**	**02 39 32.2**	**-0.5**
	comp=Z,5.5nm,1.0s								
ENH	**Enshi**	**54.21**	**313**	*e*P			**P**	**02 39 41.4**	**-0.2**
	comp=Z,17nm,0.8s								
CN2	**Changchun**	**54.25**	**336**	*e*P			**P**	**02 39 41.1**	**-0.4**
CN2				pmax			pmax		
	comp=Z,10.0nm,1.3s								
GYA	**Guiyang**	**54.48**	**307**	*e*P			**P**	**02 39 44.8**	**+1.2**
GYA				pmax			pmax		
	comp=Z,10.0nm,1.0s								
NAYO	**Nakonayok**	**54.61**	**291**	P			**P**	**02 39 45.4**	**+0.8**
	comp=Z,18nm,1.0s								
PHIT	**Phitsanulok**	**56.28**	**294**	P			**P**	**02 39 57.9**	**+1.3**
	comp=Z,10nm,1.0s								
XAN	**Xi'an**	**56.66**	**316**	P			**P**	**02 39 59.0**	**-0.1**
XAN				pmax			pmax		
	comp=Z,17nm,0.7s								
SRDT	**SRDT**	**56.67**	**290**	P			**P**	**02 39 59.7**	**+0.3**
	comp=Z,30nm,0.9s								
KLR	**Kul'dur**	**56.76**	**343**	P			**P**	**02 39 59.4**	**0.0**
	comp=Z,1.5nm,0.8s,baz=171,slow=4.0,SNR=45								
KMI	**Kunming**	**57.08**	**304**	P			**P**	**02 40 04.6**	**+2.2**
KMI				pmax			pmax		
	comp=Z,8.0nm,0.6s								
KMI				LR			LR		
	comp=Z,210nm,17.4s								
KMI				LR			LR		
	comp=Z,110nm,16.6s								
LAMP	**Lampang**	**57.41**	**295**	P			**P**	**02 40 06.0**	**+1.4**
	comp=Z,4.6nm,0.9s								
PPT2	**Papeete2**	**57.57**	**108**	*e*LR			LR	02 57 07.8	
	comp=Z,70nm,25.2s								
PETK	**Petropavlovsk-**	**57.68**	**3**	P			**P**	**02 40 06.1**	**+0.3**
	comp=Z,9.1nm,0.6s,baz=160,slow=6.3,SNR=14								
CMAR	**Chiang Mai Arr**	**58.01**	**295**	P			**P**	**02 40 09.4**	**+0.6**
	comp=Z,6.6nm,0.8s,baz=112,slow=5.3,SNR=25								
CMMT	**Chiang Mai**	**58.11**	**295**	P			**P**	**02 40 10.0**	**+0.5**
	comp=Z,7.2nm,1.0s,comp=Z,387nm								
CHTO	**Chiang Mai**	**58.12**	**295**	P			**P**	**02 40 11.1**	**+1.5**
	comp=Z,33nm,1.1s								
TBI	**Tubuai**	**58.42**	**114**	*e*LR			LR	02 57 29.7	
	comp=Z,260nm,31.0s								
NKL	**Nikolayevsk**	**58.52**	**351**	*e*P			**P**	**02 40 11.8**	**+0.1**
NKL				pmax			pmax		
	comp=Z,16nm,0.9s								
CD2	**Chengdu**	**58.80**	**310**	*e*P			**P**	**02 40 13.5**	**-0.7**
CD2				pmax			pmax		
	comp=Z,10.0nm,0.5s								
CD2				pmax			pmax		
	comp=Z,120nm,5.0s								
HHC	**Hu-ho-hao-te**	**59.05**	**324**	*e*P			**P**	**02 40 17.0**	**+1.2**
HHC				sP			sP	02 40 39.8	+2.8
HHC				S			**S**	**02 48 24.6**	**+5.8**
HHC				pmax			pmax		
	comp=Z,15nm,0.9s								
HHC				pmax			pmax		
	comp=Z,150nm,5.2s								
HHC				LR			LR		
	comp=Z,140nm,14.6s								
HHC				LR			LR		
	comp=Z,280nm,13.6s								
HHC				LR			LR		
	comp=Z,360nm,16.4s								
LZH	**Lanzhou**	**61.27**	**316**	*e*P			**P**	**02 40 31.3**	**+0.1**
LZH				pP			pP	02 40 47.6	+1.4
LZH				sP			sP	02 40 54.5	+2.1
LZH				PP			**PP**	**02 42 50.0**	**+3.3**
LZH				*e*S			**S**	**02 48 45.8**	**-1.8**
LZH				*e*SS			**SS**	**02 52 50.3**	**+1.4**
LZH				pmax			pmax		
	comp=Z,41nm,1.3s								
LZH				pmax			pmax		
	comp=Z,120nm,6.2s								
MA2	**Magadan**	**64.05**	**359**	P			**P**	**02 40 48.9**	**-0.1**
	comp=Z,9.2nm,0.5s,baz=144,slow=8.8,SNR=6.2								
MA2	**Magadan**	**64.05**	**359**	*ce*P			**P**	**02 40 48.6**	**-0.4**
GTA	**Gaotai**	**65.69**	**317**	*e*P			**P**	**02 41 00.9**	**+0.6**
GTA				pP			pP	02 41 17.3	+1.9
GTA				sP			sP	02 41 23.6	+2.0
GTA				S			**S**	**02 49 41.9**	**-0.6**
GTA				sS			sS	02 50 09.3	+1.3
GTA				SS			**SS**	**02 53 59.8**	**+2.0**
GTA				pmax			pmax		
	comp=Z,14nm,1.0s								
GTA				pmax			pmax		
	comp=Z,77nm,5.2s								
GTA				LR			LR		
	comp=Z,540nm,18.5s								
GTA				LR			LR		
	comp=Z,1μm,17.1s								
GTA				LR			LR		
	comp=Z,1μm,18.5s								
ULN	**Ulaanbaatar**	**65.98**	**328**	*ce*P			**P**	**02 41 01.5**	**-0.5**
ULN				pmax			pmax		
	comp=Z,3.0nm,0.7s								
SONM	**Songino Array**	**66.31**	**328**	P			**P**	**02 41 04.1**	**0.0**
	comp=Z,2.8nm,0.7s,baz=149,slow=5.7,SNR=19								
SONA1	**Songino Array**	**66.32**	**328**	*e*P			**P**	**02 41 04.1**	**0.0**
SHL	**Shillong**	**66.42**	**300**	*e*P			**P**	**02 41 05.5**	**+0.3**
TAOE	**Nuku Hiva Isla**	**66.44**	**98**	*e*LR			LR	03 01 13.8	
	comp=Z,131nm,31.7s								
SEY	**Seymchan**	**67.40**	**360**	P			**P**	**02 41 10.0**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=153,slow=6.7,SNR=10.0								
SEY	**Seymchan**	**67.40**	**360**	*ce*P			**P**	**02 41 09.9**	**-0.6**
YAK	**Yakutsk**	**68.87**	**348**	*e*P			**P**	**02 41 15.6**	**-4.1**
YAK				pmax			pmax		
	comp=Z,17nm,1.3s								
YAK				pmax			pmax		
	comp=N,5.0nm,1.4s								
YAK				pmax			pmax		
	comp=E,5.0nm,1.5s								
ZAK	**Zakamensk**	**69.48**	**329**	*e*P			**P**	**02 41 21.2**	**-2.7**
ZAK				pmax			pmax		
	comp=Z,9.0nm,0.9s								
BOD	**Bodaibo**	**69.73**	**339**	*e*P			**P**	**02 41 24.4**	**-0.7**
BOD				pmax			pmax		
	comp=Z,6.0nm,1.1s								
TLY	**Talaya**	**70.06**	**330**	P			**P**	**02 41 28.3**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=177,slow=6.6,SNR=5.3								
TLY	**Talaya**	**70.06**	**330**	*e*P			**P**	**02 41 28.2**	**+0.9**
TLY				pmax			pmax		
	comp=Z,4.0nm,0.9s								
JIRN	**Jiri**	**71.90**	**301**	*e*P			**P**	**02 41 38.9**	**-0.5**
	comp=Z,13nm,0.6s								
GUN	**Gumba**	**72.23**	**301**	*e*P			**P**	**02 41 40.9**	**-0.5**
	comp=Z,28nm,0.8s								
PKI	**Pulchoki**	**72.54**	**301**	*e*P			**P**	**02 41 42.8**	**-0.4**
	comp=Z,4.9nm,0.5s								
PKIN	**Phulchoki**	**72.55**	**301**	*e*P			**P**	**02 41 42.3**	**-0.9**
	comp=Z,12nm,0.6s								
KKN	**Kakani**	**72.71**	**301**	*e*P			**P**	**02 41 44.0**	**-0.1**
	comp=Z,8.6nm,0.4s								
DMN	**Daman**	**72.81**	**301**	*e*P			**P**	**02 41 44.6**	**-0.1**
	comp=Z,48nm,1.1s								
VNDA	**Vanda**	**72.97**	**178**	P			**P**	**02 41 45.2**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=317,slow=6.2,SNR=11								
VNDA				LR			LR	03 11 48.4	
	comp=Z,82nm,18.2s,baz=310,slow=34								
VNDA	**Vanda**	**72.97**	**178**	*e*P			**P**	**02 41 45.2**	**+0.8**
VNDA				pmax			pmax		
	comp=Z,6.0nm,0.9s								
VNDA	**Vanda**	**72.97**	**178**	*e*P			**P**	**02 41 45.2**	**+0.8**
	comp=Z,6.0nm,0.9s								
BILL	**Bilibino**	**73.12**	**5**	⇑*i*P			**P**	**02 41 45.2**	**-0.2**
BILL				*e*				02 41 59.5	
BILL				*e*				02 44 30.7	
BILL				*e*PPP			PPP	02 46 10.0	
BILL				pmax			pmax		
	comp=Z,12nm,0.8s								
BILL				MLR			MLR		
	comp=Z,804nm,20.0s								
GAMB	**Gambell**	**73.18**	**16**	*e*P			**P**	**02 41 46.5**	**+0.7**
	comp=Z,6.1nm,0.9s								
KOLN	**Koldanda**	**74.14**	**300**	*e*P			**P**	**02 41 51.8**	**-0.7**
	comp=Z,14nm,0.7s								
PYUN	**Piuthan**	**74.75**	**301**	*e*P			**P**	**02 41 55.2**	**-0.8**
WMQ	**Urumqi**	**75.78**	**317**	P			**P**	**02 42 02.0**	**+0.6**
WMQ				pP			pP	02 42 18.0	+1.1
WMQ				sP			sP	02 42 24.5	+1.5
WMQ				pmax			pmax		
	comp=Z,23nm,1.3s								
WMQ				pmax			pmax		
	comp=Z,150nm,5.3s								
WMQ				LR			LR		
	comp=Z,1μm,19.1s								
WMQ				LR			LR		
	comp=Z,3μm,15.5s								
WMQ				LR			LR		
	comp=Z,2μm,17.3s								
SVW2	**Sparrevohn**	**76.61**	**23**	*e*P			**P**	**02 42 05.0**	**-0.6**
	comp=Z,5.5nm,0.9s								
HYB	**Hyderabad**	**76.65**	**289**	*i* P			**P**	**02 42 06.0**	**-0.8**
TIXI	**Tiksi**	**77.78**	**352**	P			**P**	**02 42 11.3**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=141,slow=7.0,SNR=3.8								
TIXI	**Tiksi**	**77.78**	**352**	*ce*P			**P**	**02 42 11.2**	**-0.8**
TIXI				pmax			pmax		
	comp=Z,5.0nm,1.2s								
SUA	**Susitna One**	**78.74**	**24**	*e*P			**P**	**02 42 16.8**	**-0.8**
	comp=Z,21nm,1.2s								
RC01	**Rabbit Creek A**	**78.95**	**25**	*e*P			**P**	**02 42 18.1**	**-0.5**
	comp=Z,61nm,1.1s								
CAST	**Castle Rocks**	**79.29**	**22**	*e*P			**P**	**02 42 20.0**	**-0.5**
	comp=Z,8.6nm,0.8s								
PMR	**Palmer**	**79.46**	**24**	*e*P			**P**	**02 42 20.6**	**-0.8**
PMR				pmax			pmax		
	comp=Z,14nm,0.6s								
PMR	**Palmer**	**79.46**	**24**	*e*P			**P**	**02 42 20.6**	**-0.8**
	comp=Z,14nm,0.6s								
KTH	**Kantishna Hill**	**79.80**	**22**	*e*P			**P**	**02 42 22.2**	**-1.2**
	comp=Z,7.2nm,0.8s								
SML	**Sawmill**	**79.90**	**24**	*e*P			**P**	**02 42 23.3**	**-0.6**
SML				pmax			pmax		
	comp=Z,29nm,0.7s								
SML	**Sawmill**	**79.90**	**24**	*e*P			**P**	**02 42 23.3**	**-0.6**
	comp=Z,29nm,0.7s								
GLI	**Glacier Island**	**79.96**	**25**	*e*P			**P**	**02 42 24.5**	**+0.3**
	comp=Z,65nm,0.5s								
TRF	**Thorofare Moun**	**79.98**	**22**	*e*P			**P**	**02 42 23.1**	**-1.4**
	comp=Z,26nm,1.7s								
BPAW	**Bear Paw Mtn.**	**80.07**	**22**	*e*P			**P**	**02 42 23.3**	**-1.4**
	comp=Z,7.7nm,1.3s								
MK01	**Makanchi Array**	**80.34**	**319**	*e*P			**P**	**02 42 26.4**	**-0.2**
MK31	**Makanchi Array**	**80.36**	**319**	*e*P			**P**	**02 42 26.7**	**0.0**
MK31	**Makanchi Array**	**80.36**	**319**	*e*P			**P**	**02 42 26.6**	**0.0**
MKAR	**Makanchi Array**	**80.36**	**319**	P			**P**	**02 42 26.6**	**0.0**
	comp=Z,5.6nm,0.8s,baz=102,slow=6.6,SNR=45								
MKAR	**Makanchi Array**	**80.36**	**319**	*e*P			**P**	**02 42 26.7**	**0.0**
MKAR				pmax			pmax		
	comp=Z,38nm,0.8s								
MKAR	**Makanchi Array**	**80.36**	**319**	*e*P			**P**	**02 42 26.6**	**0.0**
	comp=Z,38nm,0.8s								
RND	**Reindeer**	**80.51**	**23**	*e*P			**P**	**02 42 26.4**	**-0.8**
RND				pmax			pmax		
	comp=Z,12nm,0.8s								
RND	**Reindeer**	**80.51**	**23**	*e*P			**P**	**02 42 26.4**	**-0.8**
	comp=Z,12nm,0.8s								
MAKZ	**Makanchi**	**80.56**	**319**	*e*P			**P**	**02 42 27.8**	**0.0**
MAKZ	**Makanchi**	**80.56**	**319**	*e*P			**P**	**02 42 27.8**	**0.0**
MCK	**McKinley**	**80.64**	**22**	*e*P			**P**	**02 42 26.7**	**-1.2**
MCK				pmax			pmax		
	comp=Z,19nm,0.9s								
MCK	**McKinley**	**80.64**	**22**	*e*P

QSPA	**South Pole Qui**	**85.31**	**180**	P		**P**	**02 42 52.2**	**+0.1**	
	comp=Z,2.7nm,0.5s,baz=184,slow=1.1,SNR=19								
MAW	**Mawson**	**85.79**	**203**	P		**P**	**02 42 54.5**	**+0.3**	
	comp=Z,15nm,1.0s,baz=70,slow=8.6,SNR=3.6								
MAW				LR		LR	03 18 08.2		
	comp=Z,59nm,19.9s,baz=59,slow=33								
MNAS	**Manas**	**86.14**	**313**	*i* P		**P**	**02 42 56.3**	**-0.4**	
MNAS				pmax	pmax				
	comp=Z,18nm,1.1s								
OTUK	**Ortayu**	**87.25**	**319**	P		**P**	**02 43 00.8**	**-1.0**	
OTUK				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KK31	**Karatay Array**	**87.68**	**313**	*i* P		**P**	**02 43 03.0**	**-1.1**	
KK31				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KKAR	**Karatay Array**	**87.68**	**313**	*e*P		**P**	**02 43 03.5**	**-0.6**	
KKAR	**Karatay Array**	**87.68**	**313**	*e*P		**P**	**02 43 03.5**	**-0.6**	
INK	**Inuvik**	**88.24**	**21**	P		**P**	**02 43 05.3**	**-0.7**	
	comp=Z,4.0nm,0.9s,baz=256,slow=5.6,SNR=12								
INK	**Inuvik**	**88.24**	**21**	*e*P		**P**	**02 43 04.8**	**-1.2**	
INK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
INK	**Inuvik**	**88.24**	**21**	*e*P		**P**	**02 43 04.8**	**-1.2**	
	comp=Z,5.2nm,1.0s								
BVA0	**Borovoye Array**	**89.25**	**323**	*i* P		**P**	**02 43 09.7**	**-1.5**	
BVA0				pmax	pmax				
	comp=Z,23nm,0.9s								
BVAR	**Borovoye Array**	**89.25**	**323**	P		**P**	**02 43 10.0**	**-1.1**	
	comp=Z,18nm,0.7s,baz=101,slow=5.5,SNR=110								
BRVK	**Borovoye**	**89.32**	**323**	*e*P		**P**	**02 43 09.7**	**-1.8**	
BRVK				pmax	pmax				
	comp=Z,12nm,0.7s								
BRVK	**Borovoye**	**89.32**	**323**	*e*P		**P**	**02 43 10.3**	**-1.2**	
	comp=Z,14nm,0.8s								
SYO	**Syowa Base**	**93.88**	**199**	⇓*e*X		**P**	**02 43 28.0**	**-4.3**	
YKA	**Yellowknife Ar**	**95.20**	**28**	P		**P**	**02 43 37.9**	**-0.5**	
	comp=Z,1.0nm,0.8s,baz=271,slow=4.8,SNR=21								
YKA	**Yellowknife Ar**	**95.20**	**28**	P		**P**	**02 43 38.0**	**-0.5**	
AB31	**Akbulak array**	**95.50**	**319**	*i* P		**P**	**02 43 37.3**	**-2.8**	
AB31				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ABKAR	**Akbulak array**	**95.50**	**319**	*e*P		**P**	**02 43 37.9**	**-2.3**	
	comp=Z,0.4nm,0.4s								
ARU	**Arti**	**96.31**	**326**	*d* iP		**P**	**02 43 41.0**	**-2.7**	
ARU							02 47 34.8		
ARU				S		**SKSac**	**02 54 11.9**	**-3.7**	
ARU				pmax	pmax				
	comp=Z,13nm,1.7s								
AKTO	**Aktyubinsk**	**96.75**	**320**	P		**P**	**02 43 43.6**	**-2.2**	
	comp=Z,1.7nm,0.8s,baz=90,slow=7.8,SNR=7.6								
ARCES	**ARCESS Array B**	**106.79**	**343**	PKiKP		**PKiKP**	**02 48 40.5**	**+0.4**	
	comp=Z,3.8nm,0.8s,baz=78,slow=1.3,SNR=3.5								
FINES	**FINESS Array B**	**111.01**	**336**	PKiKP		**PKiKP**	**02 48 48.5**	**+0.4**	
	comp=Z,1.4nm,0.8s,baz=90,slow=3.3,SNR=3.4								
AKASG	**Malin Array Be**	**114.50**	**324**	PKP		PKPdf	02 48 54.1	-0.9	
	comp=Z,1.4nm,0.7s,baz=65,slow=2.1,SNR=7.4								
BRTR	**Keskin Array B**	**115.36**	**312**	PKP		**PKPdf**	**02 48 56.6**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=130,slow=1.7,SNR=4.8								
BRTR				PP		**PP**	**02 49 57.4**	**-1.4**	
	comp=Z,0.7nm,1.0s,baz=56,slow=5.4,SNR=4.3								
NB2	**NORSAR Subarra**	**116.85**	**340**	PKPdf		**PKPdf**	**02 48 59.2**	**-0.1**	
	comp=Z,6.2nm,1.4s,baz=39,slow=1.9								
NOA	**NORSAR Array B**	**116.85**	**340**	PKP		**PKPdf**	**02 48 59.2**	**-0.1**	
	comp=Z,1.5nm,0.7s,baz=44,slow=1.9,SNR=4.5								
MLR	**Muntele Rosu**	**118.68**	**320**	PKP		**PKPdf**	**02 49 02.7**	**-0.8**	
	comp=Z,0.2nm,0.5s,baz=256,slow=13,SNR=3.2								
TKL	**Tuckaleechee C**	**119.43**	**51**	PKP		**PKPdf**	**02 49 04.3**	**-0.8**	
	comp=Z,2.1nm,0.8s,baz=186,slow=6.4,SNR=3.4								
PLCA	**Paso Flores**	**119.77**	**143**	PKP		**PKPdf**	**02 49 04.4**	**-1.3**	
	comp=Z,0.3nm,0.4s,baz=204,slow=5.4,SNR=4.8								
BOSA	**Boshof**	**119.88**	**233**	PKP		**PKPdf**	**02 49 07.7**	**+1.4**	
	comp=Z,2.7nm,0.8s,baz=184,slow=6.6,SNR=3.5								
MATP	**Matopo**	**120.12**	**243**	PKP		**PKPdf**	**02 49 05.5**	**-1.5**	
	comp=Z,1.2nm,0.7s,baz=108,slow=3.2,SNR=3.2								
BRG	**Berggiesshubel**	**122.65**	**330**	*i* PKP		**PKPdf**	**02 49 12.2**	**+1.4**	
	comp=Z,3.7nm,0.6s								
BRG	**Berggiesshubel**	**122.65**	**330**	*i* PKIKP		**PKPdf**	**02 49 12.2**	**+1.4**	
BRG				pmax	pmax				
	comp=Z,4.0nm,0.6s								
CLL	**Collm**	**122.83**	**331**	⇓*i*PKIKP		**PKPdf**	**02 49 12.3**	**+1.2**	
CLL				*e*			02 49 28.0		
CLL				pmax	pmax				
	comp=Z,6.0nm,0.6s								
CLL	**Collm**	**122.83**	**331**	⇓*i*PKPdf		**PKPdf**	**02 49 12.3**	**+1.2**	
	comp=Z,6.0nm,0.6s								
CLL				*e*pPKPdf		**pPKPdf**	**02 49 28.0**	**+0.5**	
PRU	**Pruhonice**	**122.90**	**329**	*e*PKPdf		**PKPdf**	**02 49 12.5**	**+1.2**	
PRU				*ex*		x	02 49 14.9		
PRU	**Pruhonice**	**122.90**	**329**	*e*PKIKP		**PKPdf**	**02 49 12.5**	**+1.2**	
CONA	**Conrad Observa**	**123.44**	**327**	*e*PKiKP		**PKiKP**	**02 49 14.2**	**+1.4**	
	comp=Z,1.2nm,0.5s								
NKC	**Novy Kostel**	**123.79**	**331**	*e*PKPdf		**PKPdf**	**02 49 14.7**	**+1.7**	
NKC	**Novy Kostel**	**123.79**	**331**	*e*PKIKP		**PKPdf**	**02 49 14.7**	**+1.7**	
KHC	**Kasperske Hory**	**123.92**	**329**	*e*PKPdf		**PKPdf**	**02 49 14.6**	**+1.3**	
KHC				*ex*		x	02 49 17.4		
KHC				*e*pPKP		**pPKPdf**	**02 49 31.9**	**+2.2**	
KHC	**Kasperske Hory**	**123.92**	**329**	*e*PKIKP		**PKPdf**	**02 49 14.6**	**+1.3**	
GERES	**GERESS Array B**	**124.04**	**329**	PKP		**PKPdf**	**02 49 13.4**	**-0.2**	
	comp=Z,2.5nm,0.6s,baz=68,slow=2.0,SNR=30								
MOA	**Molln**	**124.35**	**327**	*e*PKiKP		**PKiKP**	**02 49 15.5**	**+1.0**	
	comp=Z,1.0nm,0.6s								
KBA	**Koelnbreinsper**	**125.32**	**327**	*e*PKiKP		**PKiKP**	**02 49 17.1**	**+0.5**	
	comp=Z,1.8nm,0.5s								
MYKA	**Terra Mystica**	**125.43**	**327**	*e*PKiKP		**PKiKP**	**02 49 17.4**	**+0.7**	
	comp=Z,1.0nm,0.4s								
EKA	**Eskdalemuir Ar**	**125.95**	**343**	PKP		**PKPdf**	**02 49 16.8**	**-0.1**	
	comp=Z,2.0nm,0.5s,baz=24,slow=3.4,SNR=9.4								
ABTA	**Abfaltersbach**	**125.97**	**327**	*e*PKiKP		**PKiKP**	**02 49 18.4**	**+0.6**	
	comp=Z,3.0nm,0.6s								
WATA	**Walderalm**	**126.10**	**328**	*e*PKiKP		**PKiKP**	**02 49 18.9**	**+0.8**	
	comp=Z,2.7nm,0.6s								
WTTA	**Wattenberg**	**126.11**	**328**	*e*PKiKP		**PKiKP**	**02 49 19.3**	**+1.1**	
	comp=Z,5.8nm,0.8s								
MOTA	**Moosalm**	**126.34**	**329**	*e*PKiKP		**PKPdf**	**02 49 18.2**	**+0.1**	
	comp=Z,6.2nm,0.7s								
MEM	**Membach**	**126.50**	**334**	⇓PKP		**PKPdf**	**02 49 19.3**	**+1.1**	
FETA	**Feichten**	**126.74**	**329**	*e*PKiKP		**PKPdf**	**02 49 18.4**	**-0.6**	
	comp=Z,6.0nm,0.8s								
DAVA	**Damuels**	**127.01**	**329**	*e*PKiKP		**PKiKP**	**02 49 21.0**	**+1.0**	
	comp=Z,2.5nm,0.6s								
LPAZ	**La Paz**	**134.30**	**118**	PKP		**PKPdf**	**02 49 35.0**	**+0.4**	
	comp=Z,1.2nm,0.7s,baz=205,slow=4.4,SNR=6.7								
LPAZ				SKPbc		**SKPab**	**02 53 01.5**	**-1.4**	
	comp=Z,2.9nm,1.0s,baz=301,slow=2.3,SNR=7.3								
SDV	**Santo Domingo**	**136.47**	**82**	PKP		**PKPdf**	**02 49 38.5**	**+0.2**	
	comp=Z,6.7nm,0.8s,baz=252,slow=4.7,SNR=9.6								
SDV	**Santo Domingo**	**136.47**	**82**	*e*PKPdf		**PKPdf**	**02 49 39.0**	**+0.7**	
CPUP	**Villa Florida**	**137.43**	**138**	PKP		**PKPdf**	**02 49 40.3**	**+0.8**	
	comp=Z,1.5nm,0.9s,baz=301,slow=6.2,SNR=3.7								
ESDC	**Sonseca Array**	**139.40**	**332**	PKP		**PKPdf**	**02 49 43.4**	**+0.6**	
	comp=Z,0.3nm,0.5s,baz=357,slow=3.7,SNR=3.1								
ESDC				SKPbc		**SKPbc**	**02 53 14.3**	**+0.6**	
	comp=Z,0.8nm,0.9s,baz=45,slow=1.6,SNR=5.0								
TAM	**Tamanrasset**	**143.78**	**303**	*e*PKIKP		PKPbc	02 49 49.2	+0.3	
TAM	**Tamanrasset**	**143.78**	**303**	*e*PKPdf		PKPbc	02 49 49.2	+0.2	
TORD	**Torodi Ar. Bea**	**150.46**	**289**	PKPbc		**PKPbc**	**02 50 07.1**	**-0.6**	
	comp=Z,17nm,0.8s,baz=85,slow=2.1,SNR=97								
KOWA	**Kowa**	**155.36**	**295**	PKP		**PKPdf**	**02 50 10.7**	**+1.2**	
	comp=Z,1.2nm,0.8s,baz=340,slow=1.4,SNR=2.1								
KOWA				PKPab		**PKPab**	**02 50 34.3**	**-0.7**	
	comp=Z,2.7nm,0.6s,baz=80,slow=2.6,SNR=8.0								
DBIC	**Dimbokro**	**157.89**	**276**	PKPab		**PKPab**	**02 50 45.2**	**-0.8**	
	comp=Z,6.8nm,0.9s,baz=103,slow=6.7,SNR=5.4								

DDA ***19*** *02:33:44.2,38.˚40N×43.˚60E,h7km,Ml2.8*
CSEM ***19*** *02:33:45.9±0.2,38.˚44N×43.˚37E,h12km,MD2.5,Error ellipse: s-maj=6.0km s-min=3.6km az=132.0*
ISCJB ***19*** *02:33:46.5±0.9,38.˚47N±0.˚05×43.˚33E±0.˚06,h11km±5km, Error ellipse: s-maj=10.1km s-min=5.8km az=135.3*
ISK ***19*** *02:33:46.1,38.˚48N×43.˚30E,h14km, ML2.3/4*

ISC 19 02:33:46.4±1.1,38.˚46N±0.˚04×43.˚34E±0.˚04,h11km±7km, n18,σ0s62/32,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TVAN	**Van**	**0.08**	**36**	*i* P		**Pg**	**02 33 49.4**	**+0.3**
TVAN				*i* S		**Sg**	**02 33 51.5**	**+0.4**
TVAN	**Van**	**0.08**	**36**	P		**Pg**	**02 33 49.4**	**+0.3**
TVAN				S		**Sg**	**02 33 51.5**	**+0.4**
VANB	**Van**	**0.14**	**15**	PG		**Pg**	**02 33 49.3**	**-0.5**
VANB				SG		**Sg**	**02 33 51.7**	**-0.5**
VANB	**Van**	**0.14**	**15**	*e*Pg		**Pg**	**02 33 49.3**	**-0.5**
VANB				*e*Sg		**Sg**	**02 33 51.7**	**-0.5**
GEVA	**Gevas**	**0.27**	**237**	*i* P		**Pb**	**02 33 52.8**	**-0.6**
GEVA				*i* S		**Sb**	**02 33 59.6**	**+1.6**
GEVA	**Gevas**	**0.27**	**237**	P		**Pb**	**02 33 52.8**	**-0.6**
GEVA				S		**Sb**	**02 33 59.6**	**+1.6**
ERCV	**ERCIS-VAN**	**0.56**	**360**	PG		**Pg**	**02 33 57.3**	**0.0**
ERCV				SG		**Sg**	**02 34 05.2**	**+0.4**
ERCV	**ERCIS-VAN**	**0.56**	**360**	*e*Pg		**Pg**	**02 33 57.3**	**0.0**
ERCV				*e*Sg		**Sg**	**02 34 05.2**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.60**	**306**	*i* P		**Pb**	**02 33 58.8**	**-0.1**
ADCV				*i* S		**Sb**	**02 34 07.8**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.60**	**306**	P		**Pb**	**02 33 58.8**	**-0.1**
ADCV				S		**Sb**	**02 34 07.8**	**+0.3**
CLDR	**Caldiran**	**0.82**	**33**	PG		**Pb**	**02 34 02.3**	**-0.4**
CLDR				SG		**Sb**	**02 34 14.3**	**+0.5**
CLDR	**Caldiran**	**0.82**	**33**	*e*Pg		**Pb**	**02 34 02.3**	**-0.4**
CLDR				*e*Sg		**Sb**	**02 34 14.3**	**+0.5**
GURO	**Guroymak-BITLI**	**1.03**	**275**	PG		**Pb**	**02 34 05.6**	**-0.8**
GURO				SG		**Sg**	**02 34 19.9**	**+0.2**
GURO	**Guroymak-BITLI**	**1.03**	**275**	*e*Pg		**Pb**	**02 34 05.6**	**-0.8**
GURO				*e*Sg		**Sg**	**02 34 19.9**	**+0.2**
AGRB	**Hanur-Agry**	**1.15**	**346**	PN		**Pb**	**02 34 07.8**	**-0.6**
AGRB	**Hanur-Agry**	**1.15**	**346**	*e*Pn		**Pb**	**02 34 07.8**	**-0.6**
SIRT	**Sirnak**	**1.20**	**217**	PN		**Pg**	**02 34 08.8**	**-0.5**
SIRT	**Sirnak**	**1.20**	**217**	*e*Pn		**Pg**	**02 34 08.8**	**-0.5**

NNC ***19*** *02:37:33.0±6.8,36.˚63N×73.˚03E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=75.2km s-min=44.7km az=115.0*
IDC ***19*** *02:38:22.6±17.0,39.˚37N×73.˚56E,h325km±103km, mb3.0/2,mb1 2.9/6,mb1mx2.5/71,mbtmp3.6/6, Error ellipse: s-maj=180.7km s-min=55.2km az=14.0*

ISC 19 02:37:38.0±3.6,36.˚7N±0.˚2×72.˚9E±0.˚2,h35km,n13, σ1s79/12,5C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFK	**Sufi-Kurgan**	**3.34**	**8**	⇓Pn		**Pn**	**02 38 29.6**	**+1.7**
	17nm,0.5s							
SFK				⇓Sn		Sn	02 39 13.8	+7.4
	17nm,0.4s							
MNAS	**Manas**	**5.79**	**357**	⇑Pn		**Pn**	**02 39 00.8**	**-0.7**
	3.5nm,0.8s							
MNAS				⇓Sn		**Sn**	**02 40 09.9**	**+3.3**
	2.1nm,0.5s							
AAK	**Ala-Archa**	**6.05**	**11**	⇓Pn		**Pn**	**02 39 03.7**	**-1.4**
	2.3nm,0.7s							
AAK				⇑Sn		**Sn**	**02 40 12.6**	**-0.6**
	5.4nm,1.1s							
TKM2	**Tokmak 2**	**6.55**	**18**	⇑Pn		**Pn**	**02 39 10.6**	**-1.4**
	2.5nm,0.6s							
TKM2				⇓Sn		**Sn**	**02 40 23.7**	**-1.7**
	2.4nm,0.7s							
KK31	**Karatay Array**	**6.65**	**345**	Pn		**Pn**	**02 39 12.7**	**-0.6**
	0.5nm,0.3s,baz=158,slow=12,SNR=46							
KK31				⇑Sn		**Sn**	**02 40 26.8**	**-1.0**
	1.8nm,0.6s,baz=165,slow=24,SNR=3.5							
MKAR	**Makanchi Array**	**12.27**	**32**	P		Pn	02 40 37.4	+7.2
	0.1nm,0.3s,baz=219,slow=11,SNR=4.1							
KURBB	**Kurchatov Arra**	**14.49**	**14**	P		**Pn**	**02 41 02.5**	**+2.1**
	0.1nm,0.3s,baz=205,slow=11,SNR=9.8							
AB31	**Akbulak array**	**15.70**	**327**	P		Pn	02 41 13.2	-3.1
	0.3nm,0.5s,baz=132,slow=12,SNR=5.2							
BVAR	**Borovoye Array**	**16.42**	**355**	P		**Pn**	**02 41 24.7**	**-0.8**
	0.2nm,0.3s,baz=162,slow=9.4,SNR=3.6							
AKTO	**Aktyubinsk**	**17.41**	**327**	⇑P		**Pn**	**02 41 39.1**	**+1.1**
	0.7nm,0.6s							
ZALV	**Zalesovo Beam**	**19.12**	**22**	P		P	02 41 53.9	-3.9
	0.3nm,0.3s,baz=213,slow=11,SNR=7.7							
ARCES	**ARCESS Array B**	**41.55**	**337**	P		P	02 45 20.4	-1.3
	1.6nm,0.7s,baz=114,slow=9.0,SNR=2.8							
YKA	**Yellowknife Ar**	**80.96**	**4**	P		P	02 49 46.5	-1.9
	0.2nm,0.6s,baz=342,slow=5.8,SNR=5.4							

BJI ***19*** *02:55:58.5,41.˚48N×142.˚27E,h65km,mb4.8/64,mB5.0/58, Ms4.7/67,Ms7 4.4/63*
NIED ***19*** *02:56:00,41.˚50N×142.˚10E,h50km,Mw5.3 Best double couple: M09.47000×10^16 NP1:φs193.00000°,δ18.00000°, λ76.00000°. NP2:φs27.00000°,δ73.00000°,λ94.00000°.*
ISCJB ***19*** *02:56:00.4±0.2,41.˚54N±0.˚02×142.˚03E±0.˚02,h61km±2km, mb4.7/162, Error ellipse: s-maj=3.9km s-min=2.3km az=146.2*
MOS ***19*** *02:56:00.0±1.1,41.˚56N×142.˚07E,h59km,mb5.1/48, MS4.5/12,Error ellipse: s-maj=6.1km s-min=4.0km az=92.8*
JMA ***19*** *02:56:00.6±0.1,41.˚50N×142.˚04E,h63km±2km,M5.0 Broadband fault plane solution: P waves. NP1: φs15.00000°,δ80.00000°,λ98.00000°. NP2:φs154.00000°, δ13.00000°,λ50.00000°. Principal axes: T Plg54.0000°, Azm295.0000°; N Plg8.0000°, Azm194.0000°; P Plg35.0000°, Azm98.0000°;*
JMA Felt III J1.
IDC ***19*** *02:56:02.6±1.4,41.˚52N×142.˚05E,h72km±11km,mb4.3/41, mb1 4.4/46,mb1mx4.3/71,mbtmp4.6/46,MS4.3/54, Ms1 4.3/54,ms1mx4.3/60 Error ellipse: s-maj=11.3km s-min=8.5km az=128.0*
NEIC ***19*** *02:56:04.0±0.4,41.˚52N×141.˚95E,h82km±4km,mb4.9/80, Error ellipse: s-maj=4.3km s-min=2.9km az=149.0*
NEIC Felt [III] at Misawa, Honshu. Also felt at Obihiro, Hokkaido. Recorded [3 JMA] in Aomori, Honshu.
GCMT ***19*** *02:56:04.0±0.2,41.˚56N×142.˚21E,h58km,MW5.3/111, Moment Tensor Solution. s90,c152; s111,c199; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.81±.02; Mθθ-0.01±.02; Mφφ-0.80±.02; Mrθ0.30±.01; Mθφ-0.23±.01; Mφr0.43±.01; Best double couple: M0.98700×10^17 NP1:φs26.00000°,δ61.00000°, λ101.00000°. NP2:φs184.00000°,δ31.00000°,λ71.00000°. Principal axes: T 0.9740, Plg72.0000°, Azm321.0000°; N 0.0280, Plg10.0000°, Azm201.0000°; P -1.0010, Plg15.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 02:56:01.4±0.4,41.˚52N±0.˚03×142.˚10E±0.˚03,h61km±3km, h62km:pP-P,n491,σ1s69/518,mb4.8/166,27C-31D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JOT	**Ohata**	**0.80**	**260**	⇓P		**Pn**	**02 56 15.8**	**-1.1**
JOT				S		**Sn**	**02 56 27.6**	**-0.8**
JKB	**Kayabe**	**0.88**	**295**	⇓P		**Pn**	**02 56 16.6**	**-1.3**
JNBK	**Urakawa-nobuka**	**0.90**	**33**	P		**Pn**	**02 56 17.8**	**-0.4**
ERM	**Erimo**	**0.93**	**58**	*ce*P		**Pn**	**02 56 18.5**	**-0.1**
ERM				pmax	pmax			
	comp=Z,7μm,0.8s							
ERM	**Erimo**	**0.93**	**58**	*e*Pn		**Pn**	**02 56 18.6**	**0.0**
ERM				*e*Sn		**Sn**	**02 56 33.3**	**+1.9**
JEM	**Erimo**	**0.93**	**58**	⇑P		**Pn**	**02 56 18.5**	**-0.1**
JEM				S		**Sn**	**02 56 32.0**	**+0.6**
JTM	**Tenmabayashi**	**1.07**	**227**	⇓P		**Pn**	**02 56 19.5**	**-0.9**
JTM				S		**Sn**	**02 56 33.1**	**-1.4**
JANG	**Nango**	**1.23**	**201**	⇓P		**Pn**	**02 56 21.2**	**-1.3**
JANG				S		**Sn**	**02 56 36.6**	**-1.7**
JNB	**Noboribetsu**	**1.23**	**321**	⇓P		**Pn**	**02 56 21.3**	**-1.2**
JNB				S		**Sn**	**02 56 37.3**	**-1.0**
JSR	**Shiriuchi**	**1.26**	**271**	⇓P		**Pn**	**02 56 21.9**	**-1.0**
JBT2	**Biratori 2**	**1.27**	**9**	⇓P		**Pn**	**02 56 23.2**	**+0.1**
JSI2	**Shiura 2**	**1.35**	**250**	⇓P		**Pn**	**02 56 23.7**	**-0.4**
JEW	**Eniwo**	**1.40**	**340**	⇓P		**Pn**	**02 56 24.6**	**-0.2**
JEW				S		**Sn**	**02 56 41.7**	**-0.7**
JYM2	**Yakumo 2**	**1.42**	**295**	⇓P		**Pn**	**02 56 24.7**	**-0.3**
JCH	**Churui**	**1.44**	**40**	⇓P		**Pn**	**02 56 26.0**	**+0.7**
JCH				S		**Sn**	**02 56 44.4**	**+1.1**
JKZ	**Kuzumaki**	**1.64**	**201**	⇓P		**Pn**	**02 56 27.4**	**-0.7**
JFR	**Furan**	**1.68**	**12**	P		**Pn**	**02 56 28.6**	**0.0**
JAH	**Hinai**	**1.73**	**220**	⇓P		**Pn**	**02 56 29.1**	**-0.2**
MIYJ	**Miyakonagasawa**	**1.96**	**186**	⇑P		**Pn**	**02 56 30.9**	**-1.4**
JOSM	**Okushiri–Mats**	**2.04**	**287**	P		**Pn**	**02 56 32.1**	**-1.3**
ASAJ	**Asahikawa**	**2.62**	**8**	P		**Pn**	**02 56 42.8**	**+1.5**
	comp=Z,104nm,0.3s,baz=228,slow=9.5,SNR=158							
ASAJ				S		**Sn**	**02 57 13.9**	**+2.0**
	comp=Z,74nm,0.3s,baz=216,slow=19,SNR=9.9							
ASAJ	**Asahikawa**	**2.62**	**8**	*e*Pn		**Pn**	**02 56 42.6**	**+1.3**
ASAJ				*e*S		**Sn**	**02 57 18.4**	**+6.5**
GLVR	**Golovnino**	**3.36**	**48**	*e*P		**Pn**	**02 56 51.0**	**-0.4**
GLVR				*e*S		**Sn**	**02 57 28.9**	**-1.1**
GRPR	**Tuman**	**3.66**	**46**	*e*P		**Pn**	**02 56 54.7**	**-0.8**
GRPR				*e*S		**Sn**	**02 57 35.5**	**-2.0**
LAGR	**Lagunnoye**	**3.71**	**46**	*e*P		**Pn**	**02 56 56.3**	**+0.1**
LAGR				*e*S		**Sn**	**02 57 38.2**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**3.74**	**47**	*e*P		**Pn**	**02 56 55.9**	**-0.7**
YUK				*e*S		**Sn**	**02 57 37.9**	**-1.4**
YUK				pmax	pmax			
	comp=N,596nm,0.2s							
YUK				pmax	pmax			
	comp=E,302nm,0.2s							
YUK				pmax	pmax			
	comp=Z,1μm,0.2s							
YUK				smax	smax			
	comp=E,10μm,0.5s							
YUK				smax	smax			
	comp=N,4μm,0.4s							
SHO	**Shikotan**	**4.20**	**55**	*e*P		**Pn**	**02 57 00.4**	**-2.5**
SHO				*e*S		**Sn**	**02 57 45.9**	**-4.8**
SHO				pmax	pmax			
	comp=N,118nm,0.2s							
SHO				pmax	pmax			
	comp=Z,338nm,0.2s							
SHO				pmax	pmax			
	comp=E,127nm,0.1s							
SHO				smax	smax			
	comp=E,3μm,0.5s							
SHO				smax	smax			
	comp=N,4μm,0.2s							
JHK	**Hiroka**	**4.89**	**210**	P		**Pn**	**02 57 13.9**	**+1.5**
TEY	**Ternei**	**5.33**	**313**	*e*P		**Pn**	**02 57 17.8**	**-0.5**
TEY				*i*			02 58 23.0	
TEY				pmax	pmax			
	comp=N,18nm,0.6s							
TEY				pmax	pmax			
	comp=E,17nm,0.6s							
TEY				pmax	pmax			
	comp=Z,18nm,0.6s							
TEY				pmax	pmax			
	comp=Z,1μm,4.0s							
TEY				pmax	pmax			
	comp=Z,4μm,5.0s							
YSS	**Yuzh-Sakhalins**	**5.45**	**5**	⇑*i*P		**Pn**	**02 57 21.5**	**+1.5**
YSS				*e*S		**Sn**	**02 58 19.9**	**-1.4**
YSS				pmax	pmax			
	comp=Z,50nm,0.7s							
YSS				smax	smax			
	comp=N,130nm,1.1s							
YSS				smax	smax			
	comp=N,2μm,5.8s							
YSS				MLR	MLR			
	comp=N,2μm,13.0s							
YSS				MLR	MLR			
	comp=Z,3μm,13.0s							
YSS	**Yuzh-Sakhalins**	**5.45**	**5**	*e*Pn		**Pn**	**02 57 21.3**	**+1.3**
KUR	**Kuril'sk**	**5.61**	**47**	*e*P		**Pn**	**02 57 23.0**	**+0.9**
KUR				*e*S		**Sn**	**02 58 25.1**	**0.0**
KUR				pmax	pmax			
	comp=N,199nm,0.9s							
KUR				pmax	pmax			
	comp=Z,473nm,0.9s							
KUR				pmax	pmax			
	comp=E,103nm,0.4s							
KUR				smax	smax			
	comp=N,856nm,0.5s							
KUR				smax	smax			
	comp=E,588nm,0.6s							
KUR				smax	smax			
	comp=N,5μm,4.6s							
MJB9	**Matsu-Tunnel**	**5.82**	**213**	*e*Pn		**Pn**	**02 57 26.9**	**+1.8**
MAJO	**Matsushiro**	**5.82**	**213**	⇑*i*P		**Pn**	**02 57 26.8**	**+1.6**
MAJO	**Matsushiro**	**5.82**	**213**	*e*Pn		**Pn**	**02 57 26.7**	**+1.5**
MAT	**Matsushiro**	**5.82**	**213**	P		**Pn**	**02 57 26.1**	**+0.9**
MAT				*e*S		**Sn**	**02 58 28.8**	**-1.8**
MJAR

PETK Petropavlovsk- 15.65 37 P **Pn** **02 59 34.8 -3.2**
comp=Z,0.7nm,0.3s,baz=210,slow=8.9,SNR=6.9
PETK LR LR 03 05 40.6
comp=Z,1μm,21.9s,baz=217,slow=37
ZEA Zeya 15.75 326 *e*P **Pn** **02 59 37.7 -1.5**
ZEA pmax pmax
comp=Z,35nm,0.9s
ZEA MLR MLR
comp=Z,2μm,16.0s
ZEA MLR MLR
comp=N,2μm,14.0s
DL2 Dalian 15.85 267⇑ *i*P **Pn** **02 59 41.0 +0.4**
DL2 sP **sP** **03 00 01.3 -2.7**
DL2 S **Sn** **03 02 33.9 -1.4**
DL2 pmax pmax
comp=N,71nm,1.1s
DL2 pmax pmax
comp=N,310nm,3.6s
DL2 LR LR
comp=N,750nm,20.9s
DL2 LR LR
comp=N,1μm,25.6s
DL2 LR LR
comp=N,2μm,30.4s
PET Petropavlovsk 16.04 39 *e*P **P** **02 59 48.7 +3.5**
PET *e*S **S** **03 02 45.8 -4.2**
PET MLR MLR
comp=Z,1μm,17.0s
JOW Kunigami 18.55 222 *e*P **P** **03 00 11.7 -1.4**
comp=Z,137nm,1.8s
MA2 Magadan 18.86 14 P **P** **03 00 14.3 -2.0**
comp=Z,0.8nm,0.3s,baz=200,slow=11,SNR=6.6
MA2 Magadan 18.86 14 *ce*P **P** **03 00 14.8 -1.5**
CLNS Chul'man 18.92 330 *e*P **P** **03 00 17.9 +0.9**
CLNS *e*S **Sn** **03 03 49.3 0.0**
CLNS pmax pmax
comp=Z,20nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.7s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS smax smax
comp=N,201nm,11.0s
CLNS smax smax
comp=E,344nm,14.8s
CLNS MLR MLR
comp=N,960nm,16.0s
CLNS MLR MLR
comp=Z,1μm,15.0s
CLNS MLR MLR
comp=E,569nm,12.0s
BJI Beijing 19.67 274 P **P** **03 00 23.1 -2.1**
BJI pmax pmax
comp=E,16nm,1.8s
BJI LR LR
comp=E,710nm,12.8s
BJI LR LR
comp=E,3μm,15.3s
BJI LR LR
comp=E,3μm,29.4s
BJT Baijiatuau 19.68 274 *e*P **P** **03 00 25.2 -0.1**
BJT pmax pmax
comp=Z,58nm,1.2s
BJT Baijiatuau 19.68 274 *e*P **P** **03 00 25.2 -0.1**
comp=Z,58nm,1.2s
SSE Sheshan 19.76 245 P **P** **03 00 25.3 -1.0**
SSE S **S** **03 04 02.9 -2.7**
SSE pmax pmax
comp=Z,24nm,0.7s
SSE pmax pmax
comp=Z,290nm,4.4s
SSE LR LR
comp=Z,510nm,17.3s
SSE LR LR
comp=Z,550nm,17.9s
TIA Tai'an 20.12 263 P **P** **03 00 27.4 -2.9**
TIA S **S** **03 04 03.8 -9.1**
NJ2 Nanjing 20.82 250 *e*P **P** **03 00 37.9 +0.1**
NJ2 S **S** **03 04 24.0 -2.7**
NJ2 pmax pmax
comp=Z,17nm,0.7s
NJ2 LR LR
comp=Z,890nm,15.6s
NJ2 LR LR
comp=Z,1μm,14.6s
NJ2 LR LR
comp=Z,2μm,17.4s
YAK Yakutsk 21.85 344 P **P** **03 00 45.5 -3.0**
comp=Z,29nm,0.4s,baz=56,slow=0.8,SNR=6.8
YAK Yakutsk 21.85 344 *e*P **P** **03 00 44.1 -4.4**
YAK *e* 03 01 26.2
YAK *e*S **S** **03 04 38.2 -8.2**
YAK *e**SS Sn 03 04 57.4 -1.9
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,136nm,1.5s
YAK pmax pmax
comp=N,145nm,1.7s
YAK pmax pmax
comp=E,65nm,1.9s
YAK smax smax
comp=N,181nm,3.0s
YAK smax smax
comp=E,175nm,3.3s
YAK MLR MLR
comp=Z,1μm,21.0s
YAK MLR MLR
comp=E,251nm,9.0s
YAK MLR MLR
comp=N,3μm,25.0s
YAK Yakutsk 21.85 344 *e*P **P** **03 00 45.5 -3.0**
comp=N,40nm,0.8s
SEY Seymchan 22.29 12 P **P** **03 00 50.9 -2.4**
comp=N,3.1nm,0.4s,baz=202,slow=12,SNR=8.4
SEY Seymchan 22.29 12 *ce*P **P** **03 00 51.3 -2.0**
HHC Hu-ho-hao-te 22.93 279 *e*P **P** **03 00 58.8 -1.6**
HHC pP pP 03 01 14.3 +0.4
HHC sP sP 03 01 26.5 +4.9
HHC S **S** **03 05 01.3 -4.5**
HHC sS Sn 03 05 26.6 +0.8
HHC SS **SnSn** **03 05 46.9 +4.4**
HHC pmax pmax
comp=N,16nm,0.9s
HHC pmax pmax
comp=N,180nm,7.5s
HHC LR LR
comp=N,500nm,13.5s
HHC LR LR
comp=N,1μm,21.8s
HHC LR LR
comp=N,1μm,21.8s
TIY Taiyuan 23.11 270 *e*P **P** **03 01 02.3 +0.2**
YHNB Yeheng 24.06 232 *e*Pn **P** **03 01 11.7 +0.6**
BOD Bodaibo 24.16 322 *e*P **P** **03 01 09.8 -1.7**
BOD pmax pmax
comp=Z,48nm,0.3s
YULB Yu-li 25.09 230 *e*P **P** **03 01 19.8 -0.5**
comp=Z,2.4nm,0.5s
ULN Ulaanbaatar 25.55 296 *ce*P **P** **03 01 23.3 -1.2**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 25.55 296 *e*P **P** **03 01 23.1 -1.3**
comp=Z,8.5nm,0.7s
QZH Quanzhou 25.57 237 *e*P P 03 01 31.8 +7.2
QZH S **S** **03 05 44.5 -3.5**
SONA1 Songino Array 25.99 296 *e*P **P** **03 01 27.6 -0.8**
SONM Songino Array 25.99 296 P **P** **03 01 27.7 -0.8**
comp=Z,9.7nm,0.8s,baz=86,slow=8.6,SNR=41
SONM LR LR 03 12 27.5
comp=Z,1μm,18.9s,baz=93,slow=38
XAN Xi'an 27.14 265 P **P** **03 01 37.6 -1.2**
XAN PP **PnPn** **03 02 23.8 -1.0**
XAN S **S** **03 06 05.5 -7.4**
XAN pmax pmax
comp=Z,7.0nm,0.6s
XAN LR LR
comp=Z,330nm,24.9s
XAN LR LR
comp=Z,400nm,23.5s
XAN LR LR
comp=Z,860nm,35.5s
GUMO Guam 27.93 174 LR LR 03 11 52.4
comp=Z,385nm,20.9s,baz=358,slow=34
TLY Talaya 28.00 304 P **P** **03 01 46.6 +0.2**
comp=Z,3.4nm,0.6s,baz=112,slow=7.0,SNR=11
TLY LR LR 03 13 31.3
comp=Z,1μm,18.3s,baz=96,slow=38
TLY Talaya 28.00 304 *ci*P **P** **03 01 45.8 -0.5**
TLY *e*S **S** **03 06 25.2 -0.9**
TLY pmax pmax
comp=Z,13nm,1.5s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 28.00 304 *e*P **P** **03 01 45.6 -0.8**
comp=Z,11nm,1.0s
ZAK Zakamensk 28.13 302 *e*P **P** **03 01 46.5 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
BILL Bilibino 29.59 18 *e*P **P** **03 01 59.1 -1.1**
BILL *e* 03 03 04.9
BILL pmax pmax
comp=Z,3.0nm,0.9s
MOY Mondy 29.65 304 *e*P **P** **03 02 01.3 +0.3**
MOY pmax pmax
comp=Z,38nm,1.8s
H11N2 WAKE ISLAND Hy 30.26 128 T T 03 33 50.3
baz=321,slow=74,SNR=492
H11N1 WAKE ISLAND Hy 30.27 128 T T 03 33 50.4
baz=321,slow=74,SNR=757
H11N3 WAKE ISLAND Hy 30.28 128 T T 03 33 50.7
baz=321,slow=74,SNR=558
TIXI Tiksi 30.91 352 P **P** **03 02 10.1 -1.7**
comp=Z,1.7nm,0.4s,baz=150,slow=8.1,SNR=3.7
H11S1 WAKE ISLAND Hy 31.10 130 T T 03 34 47.2
baz=325,slow=74
H11S3 WAKE ISLAND Hy 31.11 130 T T 03 34 42.6
baz=325
H11S2 WAKE ISLAND Hy 31.12 130 T T 03 34 47.1
baz=325,slow=74
GTA Gaotai 32.01 280 *e*P **P** **03 02 21.4 -0.6**
GTA pP pP 03 02 36.3 -0.8
GTA sP sP 03 02 43.5 -0.8
GTA PcP **PcP** **03 05 11.3 +0.8**
GTA S **S** **03 07 25.6 -3.7**
GTA sS sS 03 07 52.0 -3.1
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,6.2s
GTA LR LR
comp=Z,560nm,19.0s
GTA LR LR
comp=Z,1μm,16.4s
GTA LR LR
comp=Z,1μm,19.0s
CD2 Chengdu 32.46 263 *e*P **P** **03 02 26.0 +0.1**
CD2 pP pP 03 02 43.0 +2.0
CD2 sP sP 03 02 51.5 +3.3
CD2 S **S** **03 07 35.3 -1.0**
CD2 sS sS 03 08 05.0 +2.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,1μm,24.5s
CD2 LR LR
comp=Z,1μm,24.0s
CD2 LR LR
comp=Z,990nm,25.5s
GYA Guiyang 32.74 254 P **P** **03 02 28.8 +0.3**
GYA pP pP 03 02 47.4 +3.8
GYA PP **PnPn** **03 03 41.0 +2.5**
GYA S **S** **03 07 41.3 +0.4**
GYA sS sS 03 08 09.8 +3.1
GYA ScP **ScP** **03 08 52.3 +1.0**
GYA SS **SnSn** **03 09 42.4 +0.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,580nm,17.6s
GYA LR LR
comp=Z,540nm,18.0s
GYA LR LR
comp=Z,560nm,18.2s
QIZ Qiongzhong 35.43 241 P **P** **03 02 51.1 -0.6**
QIZ S **S** **03 08 23.9 +1.6**
QIZ pmax pmax
comp=Z,180nm,5.3s
QIZ LR LR
comp=Z,390nm,19.6s
QIZ LR LR
comp=Z,420nm,18.6s
QIZ LR LR
comp=Z,480nm,19.1s
KMI Kunming 36.37 256 P **P** **03 03 01.8 +1.8**
KMI sP sP 03 03 21.3 -1.1
KMI S **S** **03 08 37.4 +0.3**
KMI pmax pmax
comp=Z,14nm,0.9s
KMI pmax pmax
comp=Z,74nm,4.4s
KMI LR LR
comp=Z,360nm,23.3s
KMI LR LR
comp=Z,500nm,23.0s
KMI LR LR
comp=Z,770nm,26.4s
DAV Davao City (W) 37.32 208 LR LR 03 17 51.2
comp=Z,172nm,21.1s,baz=16,slow=35
ZAA0 Zalesovo Array 39.41 308 *e*P **P** **03 03 24.7 -0.3**
ZALV Zalesovo Beam 39.41 308 P **P** **03 03 24.5 -0.4**
comp=Z,22nm,0.7s,baz=90,slow=7.5,SNR=59
ZALV PcP **PcP** **03 05 32.4 +0.5**
comp=Z,2.5nm,0.7s,baz=109,slow=2.7,SNR=2.2
ZALV LR LR 03 20 41.3
comp=Z,1μm,18.7s,baz=73,slow=38
ZALV Zalesovo Beam 39.41 308 *e*P **P** **03 03 24.1 -0.9**
ZALV PcP **PcP** **03 05 32.4 +0.5**
WMQ Urumqi 39.46 292 P **P** **03 03 25.3 -0.3**
WMQ pP pP 03 03 41.9 +0.8
WMQ PcP **PcP** **03 05 27.5 -4.9**
WMQ S **S** **03 09 23.5 +0.3**
WMQ pmax pmax
comp=Z,61nm,0.7s
WMQ pmax pmax
comp=Z,540nm,4.5s
WMQ LR LR
comp=Z,1μm,18.9s
WMQ LR LR
comp=Z,3μm,16.9s
WMQ LR LR
comp=Z,2μm,18.9s
NVS Novosibirsk 40.24 310 *e*P **P** **03 03 32.0 +0.2**
NVS pmax pmax
comp=Z,15nm,0.9s
NVS pmax pmax
comp=E,10.0nm,0.8s
SVW2 Sparrevohn 41.70 40 *e*P **P** **03 03 45.8 +2.1**
comp=E,18nm,1.1s
MK01 Makanchi Array 42.33 298 *e*P **P** **03 03 48.0 -1.1**
MK31 Makanchi Array 42.33 298 *e*P **P** **03 03 48.5 -0.6**
MK31 Makanchi Array 42.33 298 *e*P **P** **03 03 48.5 -0.6**
MKAR Makanchi Array 42.33 298 P **P** **03 03 48.4 -0.7**
comp=E,4.1nm,0.6s,baz=83,slow=12,SNR=55
MKAR LR LR 03 22 43.5
comp=E,773nm,19.9s,baz=87,slow=38
MKAR Makanchi Array 42.33 298 *e*P **P** **03 03 48.5 -0.7**
MKAR pmax pmax
comp=Z,90nm,0.8s
MKAR Makanchi Array 42.33 298 *e*P **P** **03 03 48.5 -0.7**
comp=Z,90nm,0.8s
LSA Lhasa 42.51 271 P **P** **03 03 52.5 +1.2**
LSA pmax pmax
comp=Z,4.0nm,0.4s
LSA Lhasa 42.51 271 *e*P **P** **03 03 51.8 +0.5**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 42.51 271 *e*P **P** **03 03 51.8 +0.5**
comp=Z,16nm,0.8s
MAKZ Makanchi 42.53 298 *e*P **P** **03 03 50.4 -0.4**
MAKZ Makanchi 42.53 298 *e*P **P** **03 03 50.4 -0.4**
CHTO Chiang Mai 43.06 252 *e*P **P** **03 03 55.5 +0.2**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 43.06 252 *e*P **P** **03 03 55.5 +0.2**
comp=Z,6.3nm,0.6s
OHAK Old Harbor 43.17 46 *e*P **P** **03 03 57.5 +1.8**
comp=Z,48nm,1.0s
PPLA Purkeypile 43.24 38 *e*P **P** **03 03 58.1 +1.7**
comp=Z,128nm,1.9s
CAST Castle Rocks 43.27 37 *e*P **P** **03 03 58.3 +1.8**
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 43.30 251 P **P** **03 03 56.5 -0.7**
comp=Z,2.5nm,0.6s,baz=38,slow=7.5,SNR=8.1
CMAR Chiang Mai Arr 43.30 251 *i*P **P** **03 03 59.5 +2.3**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CM01 Chiang Mai Arr 43.31 251 *e*P **P** **03 03 57.6 +0.2**
KDAK Kodiak Island 43.48 45 P **P** **03 03 58.2 0.0**
comp=Z,7.3nm,0.6s,baz=308,slow=2.1,SNR=13
KDAK Kodiak Island 43.48 45 *e*P **P** **03 03 59.6 +1.4**
KDAK pmax pmax
comp=Z,24nm,0.8s
KDAK Kodiak Island 43.48 45 *e*P **P** **03 03 59.6 +1.4**
comp=Z,24nm,0.8s
KURK Kurchatov 43.70 305 *ce*P **P** **03 03 59.1 -1.0**
KURK pmax pmax
comp=Z,58nm,0.7s
KURK Kurchatov 43.70 305 *e*P **P** **03 03 59.1 -1.0**
comp=Z,33nm,1.1s
BPAW Bear Paw Mtn. 43.73 36 *e*P **P** **03 04 01.1 +0.9**
comp=Z,14nm,0.9s
KURBB Kurchatov Arra 43.78 304 P **P** **03 03 59.9 -0.8**
comp=Z,18nm,0.6s,baz=78,slow=8.8,SNR=133
KTH Kantishna Hill 43.78 37 *e*P **P** **03 04 01.9 +1.2**
comp=Z,56nm,1.2s
MLY Manley 43.81 34 *e*P **P** **03 04 02.4 +1.5**
comp=Z,19nm,1.2s
SUA Susitna One 44.01 40 *e*P **P** **03 04 03.2 +0.7**
comp=Z,12nm,0.8s
COLD Coldfoot 44.01 31 *e*P **P** **03 04 02.8 +0.4**
comp=Z,11nm,1.0s
TRF Thorofare Moun 44.07 37 *e*P **P** **03 04 04.3 +1.1**
comp=Z,12nm,0.9s
BRLK Bradley Lake 44.11 42 *e*P **P** **03 04 07.7 +4.4**
comp=Z,80nm,1.8s
SHL Shillong 44.15 265 *e*P **P** **03 04 04.5 +0.2**
TOLK Toolik Lake Re 44.27 29 *e*P **P** **03 04 05.0 +0.5**
comp=Z,6.6nm,0.8s
RC01 Rabbit Creek A 44.53 40 *e*P **P** **03 04 07.1 +0.6**
comp=Z,20nm,1.0s
MCK McKinley 44.66 36 *e*P **P** **03 04 08.1 +0.5**
MCK pmax pmax
comp=Z,25nm,1.2s
MCK McKinley 44.66 36 *e*P **P** **03 04 08.1 +0.5**
comp=Z,25nm,1.2s
RND Reindeer 44.72 37 *e*P **P** **03 04 08.8 +0.6**
RND pmax pmax
comp=Z,30nm,1.3s
RND Reindeer 44.72 37 *e*P **P** **03 04 08.8 +0.6**
comp=Z,30nm,1.3s
PMR Palmer 44.76 39 *e*P **P** **03 04 08.9 +0.5**
PMR pmax pmax
comp=Z,12nm,0.9s
PMR Palmer 44.76 39 *e*P **P** **03 04 08.9 +0.5**
comp=Z,12nm,0.9s
MDM Murphy Dome 44.88 34 *e*P **P** **03 04 10.2 +0.9**
comp=Z,18nm,0.8s
WRH Wood River Hil 44.97 35 *e*P **P** **03 04 11.1 +1.1**
comp=Z,12nm,1.0s
COLA College 45.04 35 *e*P **P** **03 04 11.4 +0.8**
COLA pmax pmax
comp=Z,32nm,0.8s
COLA College 45.04 35 *e*P **P** **03 04 11.4 +0.8**
comp=Z,32nm,0.8s
CCB Clear Creek Bu 45.08 35 *e*P **P** **03 04 11.3 +0.4**
comp=Z,12nm,1.0s
SML Sawmill 45.12 39 *e*P **P** **03 04 12.2 +0.9**
SML pmax pmax
comp=Z,6.0nm,0.9s
SML Sawmill 45.12 39 *e*P **P** **03 04 12.2 +0.9**
comp=Z,6.2nm,0.9s
PDGK Podgornoye 45.28 294 *i*P **P** **03 04 12.1 -0.9**
PDGK pmax pmax
comp=Z,12nm,0.9s
DHY Denali Highway 45.42 37 *e*P **P** **03 04 14.6 +0.8**
comp=Z,18nm,1.0s
ILAR Eielson Array 45.46 35 P **P** **03 04 14.2 +0.2**
comp=Z,14nm,0.9s,baz=266,slow=4.8,SNR=103
ILAR LR LR 03 25 33.2
comp=Z,248nm,18.2s,baz=280,slow=39
ILB Eielson Array 45.46 35 *e*P **P** **03 04 14.4 +0.5**
IL1 Eielson Array 45.46 35 *e*P **P** **03 04 13.8 -0.1**
SCM Sheep Creek Mo 45.59 39 *e*P **P** **03 04 16.3 +1.2**
SCM pmax pmax
comp=Z,37nm,1.2s
SCM Sheep Creek Mo 45.59 39 *e*P **P** **03 04 16.3 +1.2**
comp=Z,37nm,1.2s
FYU Fort Yukon 45.99 32 *e*P **P** **03 04 20.1 +2.1**
comp=Z,104nm,1.6s
PAX Paxson 46.29 37 *e*P **P** **03 04 21.9 +1.3**
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX Paxson 46.29 37 *e*P **P** **03 04 21.9 +1.3**
comp=Z,8.7nm,1.0s
KLU Klutina 46.30 39 *e*P **P** **03 04 22.1 +1.4**
comp=Z,31nm,1.1s
DIV Divide 46.43 40 *e*P **P** **03 04 23.1 +1.4**
comp=Z,58nm,1.4s
RIDG Independ'e Rid 46.47 36 *e*P **P** **03 04 22.1 +0.2**
comp=Z,12nm,1.0s
HARP HAARP 46.52 38 *e*P **P** **03 04 24.1 +1.8**
comp=Z,32nm,0.8s
EYAK Cordova Ski Ar 46.54 40 *e*P **P** **03 04 26.9 +4.4**
comp=Z,18nm,0.8s
SCRK Sand Creek 46.81 36 *e*P **P** **03 04 24.8 +0.1**
comp=Z,14nm,0.8s
DOT Dot Lake 46.82 36 *e*P **P** **03 04 24.8 +0.1**
comp=Z,19nm,0.7s
BMRM Bremner River 47.02 40 *e*P **P** **03 04 27.7 +1.4**
comp=Z,21nm,0.9s
MENT Mentasta 47.09 37 *e*P **P** **03 04 28.5 +1.7**
comp=Z,17nm,1.0s
JIRN Jiri 47.29 271 *e*P **P** **03 04 29.1 -0.1**
comp=Z,32nm,0.4s
GUN Gumba 47.39 272 *e*P **P** **03 04 30.7 +0.7**
comp=Z,108nm,0.5s
EGAK Eagle 47.90 34 *e*P **P** **03 04 33.0 0.0**
comp=Z,20nm,1.1s
KKN Kakani 47.90 272 *e*P **P** **03 04 34.0 +0.2**
comp=Z,82nm,0.8s
PKI Pulchoki 47.92 272 *e*P **P** **03 04 33.7 -0.4**
comp=Z,32nm,0.6s
PKIN Phulchoki 47.93 272 *e*P **P** **03 04 34.0 0.0**
comp=Z,60nm,0.9s
BVA0 Borovoye Array 48.03 310 P **P** **03 04 34.1 -0.1**
BVA0 pmax pmax
comp=Z,13nm,1.2s
BVAR Borovoye Array 48.03 310 P **P** **03 04 34.2 0.0**
comp=Z,5.4nm,0.3s,baz=81,slow=9.5,SNR=51
BVAR LR LR 03 25 59.1
comp=Z,852nm,19.3s,baz=76,slow=37
BRVK Borovoye 48.09 310⇑ *e*P **P** **03 04 34.7 +0.1**
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 48.09 310 *e*P **P** **03 04 34.2 -0.4**
comp=Z,22nm,1.1s
DMN Daman 48.13 272 *e*P **P** **03 04 35.3 -0.3**
comp=Z,41nm,0.8s
GKN Gorkha 48.27 273 *e*P **P** **03 04 36.8 +0.2**
OTUK Ortayu 48.33 303 P **P** **03 04 35.7 -0.9**
OTUK pmax pmax
comp=Z,10.0nm,0.7s
DANN Dangsing 48.75 274 *e*P **P** **03 04 40.6 +0.2**
comp=Z,13nm,0.9s
DAWY Dawson 48.78 35 *e*P **P** **03 04 40.8 +0.9**
comp=Z,5.1nm,1.0s
AAK Ala-Archa 48.94 295 P **P** **03 04 41.6 +0.1**
comp=Z,6.7nm,0.3s,baz=108,slow=3.1,SNR=12
AAK Ala-Archa 48.94 295⇑ *e*P **P** **03 04 41.6 +0.1**
AAK pmax pmax
comp=Z,14nm,1.3s
KOLN Koldanda 49.17 273 *e*P **P** **03 04 43.0 -0.5**
comp=Z,78nm,0.9s
KSH Kashi 49.18 291 *e*P **P** **03 04 47.5 +4.1**

KSH PcP **PcP** **03 06 08.8 +3.0**
KSH S **S** **03 11 47.1 +2.6**
KSH ScS **ScS** **03 14 32.3 +2.5**
KSH pmax pmax
comp=Z,140nm,5.2s
KSH LR LR
comp=Z,650nm,14.8s
KSH LR LR
comp=Z,360nm,14.0s
KSH LR LR
comp=Z,630nm,13.7s
PYUN Piuthan 49.45 274 *eP* **P** **03 04 45.2 -0.5**
comp=Z,137nm,1.1s
INK Inuvik 50.18 29 P **P** **03 04 50.9 +0.5**
comp=Z,11nm,0.5s,baz=295,slow=7.3,SNR=141
INK Inuvik 50.18 29 *eP* **P** **03 04 50.7 +0.4**
comp=Z,14nm,0.6s
MNAS Manas 50.35 296 *i* P **P** **03 04 52.9 +0.7**
HYT Haines Junctio 50.43 39 *eP* **P** **03 04 54.0 +1.5**
comp=Z,58nm,0.9s
PMG Port Moresby 50.89 174 LR LR 03 25 03.1
comp=Z,66nm,21.7s,baz=346,slow=34
WHY Whitehorse 51.71 39 *eP* **P** **03 05 04.0 +1.9**
comp=Z,40nm,1.4s
SVE Sverdlovsk 52.20 317‖ *eP* **P** **03 05 08.4 +2.8**
SVE pmax pmax
comp=Z,34nm,1.1s
SVE MLR MLR
comp=Z,1µm,18.0s
HNR Honiara 53.30 158 LR LR 03 26 04.6
comp=Z,428nm,21.9s,baz=334,slow=34
ARU Arti 53.41 317 P **P** **03 05 14.8 +0.2**
comp=Z,7.6nm,0.2s,baz=83,slow=3.9,SNR=7.0
ARU Arti 53.41 317 *d iP* **P** **03 05 14.7 +0.2**
ARU *PP **pP** **03 05 30.1 -0.5**
ARU 03 06 16.4
ARU 03 07 14.3
ARU S **S** **03 12 43.5 +1.5**
ARU SS **SS** **03 16 20.3 -1.7**
ARU pmax pmax
comp=Z,24nm,1.7s
ARU MLR MLR
comp=Z,1µm,18.0s
ARU Arti 53.41 317 *eP* **P** **03 05 14.1 -0.5**
comp=Z,5.8nm,0.5s
BATI Baumata 54.20 203 LR LR 03 31 10.0
comp=Z,44nm,18.8s,baz=34,slow=39
DLBC Dease Lake 54.81 40 *eP* **P** **03 05 26.1 +1.2**
AB31 Akbulak array 55.52 308 *i* P **P** **03 05 29.7 -0.3**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 55.52 308 *eP* **P** **03 05 29.7 -0.3**
AKTO Aktyubinsk 56.13 310 LR LR 03 31 06.8
comp=Z,716nm,20.8s,baz=63,slow=38
SPITS Spitsbergen Ar 56.23 348 P **P** **03 05 34.3 -0.4**
comp=Z,1.7nm,0.4s,baz=22,slow=4.7,SNR=11
SPITS LR LR 03 32 15.9
comp=Z,282nm,19.5s,baz=335,slow=39
LEM Lembang 57.54 222 LR LR 03 29 46.3
comp=Z,73nm,21.7s,baz=54,slow=35
RES Resolute Bay 58.13 15 P **P** **03 05 47.6 -0.5**
comp=Z,17nm,0.8s,baz=307,slow=5.6,SNR=88
RES Resolute Bay 58.13 15 *eP* **P** **03 05 47.4 -0.6**
RES pmax pmax
comp=Z,8.0nm,0.3s
RES Resolute Bay 58.13 15 *eP* **P** **03 05 47.4 -0.6**
comp=Z,8.5nm,0.3s
HYB Hyderabad 58.95 266 *i* P **P** **03 05 54.5 -0.1**
TMCR Tamitsa 59.09 330 *eP* **P** **03 05 55.1 +0.3**
TMCR pmax pmax
comp=Z,15nm,0.8s
YKA Yellowknife Ar 59.69 32 P **P** **03 05 59.1 +0.1**
comp=Z,2.8nm,0.9s,baz=305,slow=6.5,SNR=30
YKA LR LR 03 35 46.8
comp=Z,14nm,18.7s,baz=0.0,slow=40
ARCES ARCESS Array B 60.00 339 P **P** **03 06 01.0 -0.1**
comp=Z,2.0nm,0.5s,baz=52,slow=6.6,SNR=7.7
ARCES LR LR 03 34 29.7
comp=Z,404nm,21.8s,baz=49,slow=38
KLMR Klimovskoe 60.28 327 *eP* **P** **03 06 01.5 -1.6**
KLMR AMP 03 06 20.1
comp=Z,25nm,1.2s
KLMR LQ LQ 03 28 57.5
KLMR LQ LQ 03 28 57.5
KLMR LR LR 03 31 00.1
TULEG Thule 60.59 8 *eP* **P** **03 06 04.5 -0.4**
DAG Danmarks Havn 61.35 355 *i* P **P** **03 06 10.2 0.0**
comp=Z,9.7nm,0.8s
DAG Danmarks Havn 61.35 355 *i* P **P** **03 06 10.2 0.0**
DAG pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 61.56 188 *eP* **P** **03 06 11.2 -1.0**
WRAB pmax pmax
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 61.56 188 *eP* **P** **03 06 11.2 -1.0**
comp=Z,7.3nm,0.8s
WRA Warramunga Arr 61.57 188 P **P** **03 06 11.3 -1.0**
comp=Z,6.2nm,0.7s,baz=6.1,slow=6.9,SNR=60
WRA LR LR 03 33 24.0
comp=Z,62nm,21.3s,baz=345,slow=36
GEYT Alibeck 62.19 297 P **P** **03 06 15.9 -0.5**
comp=Z,6.4nm,0.5s,baz=33,slow=3.5,SNR=6.9
GEYT LR LR 03 35 36.4
comp=Z,783nm,18.2s,baz=65,slow=38
LLLB Lillooet 62.69 45 *eP* **P** **03 06 22.8 +3.2**
VRH Novokhopyorsk 64.64 317 *eP* **P** **03 06 31.2 -1.1**
VRH pmax pmax
comp=Z,9.0nm,0.5s
OBN Obninsk 64.85 322 *ce* P **P** **03 06 32.9 -0.7**
OBN *e* 03 07 04.9
OBN *e* 03 08 57.5
OBN *eS* **S** **03 15 14.3 +4.6**
OBN pmax pmax
comp=Z,20nm,1.2s
OBN MLR MLR
comp=Z,634nm,18.0s
FIA1 FINESS Array S 65.11 332 *eP* **P** **03 06 35.1 -0.1**
FINES FINESS Array B 65.11 332 P **P** **03 06 34.4 -0.8**
comp=Z,8.6nm,0.5s,baz=41,slow=7.3,SNR=40
FINES LR LR 03 37 16.3
comp=Z,1µm,20.0s,baz=42,slow=38
LPSR Galich'ya Gora 65.23 319 *eP* **P** **03 06 36.2 +0.1**
LPSR pmax pmax
comp=Z,20nm,0.8s
AS01 Alice Springs 65.29 188 *eP* **P** **03 06 35.8 -1.0**
AS31 Alice Springs 65.30 188 *eP* **P** **03 06 36.8 -0.1**
ASAR Alice Springs 65.30 188 P **P** **03 06 36.6 -0.3**
comp=Z,4.5nm,0.9s,baz=10.0,slow=10.0,SNR=22
ASAR LR LR 03 34 31.0
comp=Z,215nm,21.8s,baz=11,slow=35
B08A Colville Reser 65.33 47 *eP* **P** **03 06 38.5 +1.5**
EDM Edmonton 65.53 40 *eP* **P** **03 06 38.5 +0.4**
EDM pmax pmax
comp=Z,11nm,1.2s
EDM Edmonton 65.53 40 *eP* **P** **03 06 38.5 +0.4**
comp=Z,11nm,1.2s
VSR Storozhevoye 65.94 318 *eP* **P** **03 06 40.3 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.6s
SUMG Summit 66.20 0 *i* P **P** **03 06 43.7 +1.1**
comp=Z,21nm,1.1s
SUMG Summit 66.20 0 *i* P **P** **03 06 43.7 +1.1**
SUMG pmax pmax
comp=Z,21nm,1.1s
SUMG Summit 66.20 0 *eP* **P** **03 06 43.1 +0.5**
comp=Z,4.4nm,0.6s
NEW Newport 66.58 46 *eP* **P** **03 06 46.5 +1.5**
NEW pmax pmax
comp=Z,2.0nm,0.9s
NEW Newport 66.58 46 *eP* **P** **03 06 46.5 +1.5**
comp=Z,2.1nm,0.9s
VSU Vasula 66.87 329 *ce* P **P** **03 06 47.1 +0.5**
VSU pmax pmax
comp=Z,109nm,2.5s
PINE Pine Mountain 67.08 51 *eP* **P** **03 06 53.0 +4.6**
DZM Mont Dzumac 67.18 155 LR LR 03 32 18.8
comp=Z,251nm,21.8s,baz=26,slow=32
DZM Mont Dzumac 67.18 155 *eLR* LR 03 27 05.0
comp=Z,578nm,22.7s
YBH Yreka Blue Hor 67.23 54 LR LR 03 31 18.1
comp=Z,102nm,21.3s,baz=311,slow=32
GOF Gofitskoye 67.53 311⇑ *eP* **P** **03 06 51.5 +0.5**
GOF pmax pmax
comp=Z,58nm,1.4s
SCO Scoresbysund 67.71 354 *i* P **P** **03 06 53.3 +1.7**
SCO Scoresbysund 67.71 354 *eP* **P** **03 06 53.3 +1.7**

NCK Nalchik 68.15 309‖ *eP* **P** **03 06 55.5 +0.5**
NCK pmax pmax
comp=Z,8.0nm,1.1s
KVAR Kislovodsk Arr 68.39 310 P **P** **03 06 57.6 +1.0**
comp=Z,22nm,0.8s,baz=247,slow=4.3,SNR=14
ZEI Tsey 68.40 308 *eP* **P** **03 06 53.8 -2.9**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
KIV Kislovodsk 68.40 310 *eP* **P** **03 06 56.6 0.0**
KIV *e*PP **pP** **03 07 15.2 +2.0**
KIV *eS* **S** **03 15 53.1 -0.2**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,503nm,17.0s
KIV Kislovodsk 68.40 310 *eP* **P** **03 06 57.2 +0.6**
KBZ Khabaz 68.42 310 P **P** **03 06 57.5 +1.0**
comp=Z,7.3nm,0.8s,baz=36,slow=5.4,SNR=15
KBZ LR LR 03 39 45.7
comp=Z,348nm,21.4s,baz=39,slow=38
BMO Blue Mountains 68.53 49 *eP* **P** **03 06 59.1 +1.7**
BMO pmax pmax
comp=Z,1.0nm,0.6s
BMO Blue Mountains 68.53 49 *eP* **P** **03 06 59.1 +1.7**
comp=Z,0.6nm,0.6s
NEY Neytrino 68.81 309 *i* P **P** **03 06 59.6 +0.3**
NEY pmax pmax
comp=Z,2.0nm,0.8s
IZAR Zarasai 68.92 327 *eP* **P** **03 06 58.2 -1.3**
IZAR IAmb IAmb 03 07 00.5
comp=Z,6.2nm,0.6s
IDID Didziasalis 69.02 326 *eP* **P** **03 06 59.8 -0.3**
IDID IAmb IAmb 03 07 01.3
comp=Z,2.5nm,0.6s
ISAL Salakas 69.10 327 *eP* **P** **03 07 00.2 -0.3**
ISAL IAmb IAmb 03 07 02.4
comp=Z,4.7nm,0.5s
IIGN Ignalina 69.21 327 *eP* **P** **03 07 00.9 -0.3**
IIGN IAmb IAmb 03 07 02.6
comp=Z,5.7nm,0.6s
ORV Oroville 69.26 55 *eP* **P** **03 07 01.6 -0.3**
ORV Oroville 69.26 55 *eP* **P** **03 07 01.6 -0.3**
NACGM Naroch 69.28 326 *e* **P** **03 07 02.0 +0.3**
NACGM *eLQ* LQ 03 38 10.0
NACGM *eLR* LR 03 39 20.0
AKH Akhalkalaki 69.47 307‖ *iP* **P** **03 07 04.3 +0.9**
AKH Akhalkalaki 69.47 307 *eP* **P** **03 07 05.3 +1.9**
AKH Akhalkalaki 69.47 307 *eP* **P** **03 07 05.3 +1.9**
GNI Garni 69.48 306 P **P** **03 07 04.1 +0.6**
comp=Z,2.4nm,0.5s,baz=179,slow=12,SNR=5.2
GNI LR LR 03 40 26.8
comp=Z,198nm,19.2s,baz=46,slow=38
GNI Garni 69.48 306 *ce* P **P** **03 07 04.6 +1.1**
GNI pmax pmax
comp=Z,70nm,1.7s
GNI Garni 69.48 306 *eP* **P** **03 07 04.4 +0.9**
comp=Z,23nm,0.8s
AFI Afiamalu 69.66 132 LR LR 03 31 29.3
comp=Z,207nm,21.7s,baz=6.5,slow=30
FFC Flin Flon 69.67 34 *eP* **P** **03 07 03.9 -0.2**
FFC Flin Flon 69.67 34 *eP* **P** **03 07 03.9 -0.2**
FCC Fort Churchill 69.77 27 *eP* **P** **03 07 04.4 -0.2**
FCC Fort Churchill 69.77 27 *eP* **P** **03 07 04.4 -0.2**
BEKR Beckworth 69.77 54 *eP* **P** **03 07 06.6 +1.3**
HFS Hagfors 70.23 335 P **P** **03 07 06.7 -0.7**
comp=Z,5.2nm,0.3s,baz=39,slow=6.0,SNR=82
HFS LR LR 03 40 23.3
comp=Z,413nm,20.9s,baz=40,slow=38
MFID Camas Ranch 70.26 49 *eP* **P** **03 07 09.0 +0.9**
comp=Z,1.2nm,0.6s
NB2 NORSAR Subarra 70.26 337 P **P** **03 07 07.2 -0.5**
comp=Z,2.7nm,0.5s,baz=35,slow=6.5
NOA NORSAR Array B 70.26 337 P **P** **03 07 07.6 -0.1**
comp=Z,0.7nm,0.4s,baz=55,slow=14,SNR=14
NOA LR LR 03 40 58.4
comp=Z,393nm,21.9s,baz=40,slow=38
WSAR Wadi Sarin 70.26 284 LR LR 03 41 20.8
comp=Z,212nm,21.4s,baz=88,slow=39
HRY Holter Researc 70.36 45 *eP* **P** **03 07 10.1 +1.4**
comp=Z,4.9nm,0.6s
PAHR Pah Rah Range 70.46 54 *eP* **P** **03 07 10.2 +0.7**
comp=Z,11nm,1.3s
VCNR Virginia City 70.55 55 *eP* **P** **03 07 14.2 +4.1**
LRM Limekiln Ridge 70.60 46 *eP* **P** **03 07 11.1 +0.8**
DLMT Dillon 70.81 46 *eP* **P** **03 07 12.4 +0.8**
CMB Columbia Colle 70.87 56 *eP* **P** **03 07 12.7 +0.8**
CMB pmax pmax
comp=Z,16nm,0.9s
CMB Columbia Colle 70.87 56 *eP* **P** **03 07 12.7 +0.8**
comp=Z,16nm,0.9s
HLID Hailey 70.96 48 *eP* **P** **03 07 13.7 +1.2**
YERR Yerington 71.00 55 *eP* **P** **03 07 14.5 +1.7**
AKASG Malin Array Be 71.09 322 P **P** **03 07 12.4 -0.5**
comp=Z,7.9nm,0.5s,baz=44,slow=6.3,SNR=62
AKASG LR LR 03 41 12.1
comp=Z,453nm,18.4s,baz=30,slow=38
AKBB Malin Array Si 71.09 322 *eP* **P** **03 07 12.1 -0.8**
AKBB Malin Array Si 71.09 322 *eP* **P** **03 07 12.1 -0.8**
KIEV Kiev 71.10 322 *i* P **P** **03 07 12.4 -0.5**
KIEV pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 71.10 322 *eP* **P** **03 07 12.1 -0.9**
comp=Z,6.2nm,0.5s
AK11 Malin Array Si 71.13 322 *eP* **P** **03 07 12.3 -0.8**
WAKR Walker 71.17 55 *eP* **P** **03 07 17.9 +4.0**
BOZ Bozeman (W) 71.18 45 *eP* **P** **03 07 14.0 +0.2**
BOZ pmax pmax
comp=Z,1.0nm,0.5s
BOZ Bozeman (W) 71.18 45 *eP* **P** **03 07 14.0 +0.2**
comp=Z,1.2nm,0.5s
SFJD Kangerlussuaq 71.37 5 LR LR 03 39 33.3
comp=Z,423nm,22.0s,baz=346,slow=37
SFJD Kangerlussuaq 71.37 5 *i* P **P** **03 07 14.4 +0.1**
comp=Z,5.7nm,0.7s
SFJD Kangerlussuaq 71.37 5 *i* P **P** **03 07 14.4 +0.1**
SFJD pmax pmax
comp=Z,6.0nm,0.7s
RYN Ryan 71.66 55 *eP* **P** **03 07 21.4 +4.7**
QLMT Earthquake Lak 71.79 46 *eP* **P** **03 07 18.3 +0.8**
NV01 Mina Array Sit 71.91 55 *eP* **P** **03 07 19.1 +0.8**
NVAR Mina Array Bea 71.91 55 P **P** **03 07 19.3 +0.9**
comp=Z,3.6nm,0.8s,baz=288,slow=5.8,SNR=14
YHB Horse Butte 71.97 46 *eP* **P** **03 07 20.2 +1.6**
NV11 Mina Array Sit 72.00 54 *eP* **P** **03 07 20.2 +1.4**
YHH Holmes Hill 72.13 46 *eP* **P** **03 07 21.2 +1.6**
YMR Madison River 72.15 46 *eP* **P** **03 07 20.7 +1.1**
comp=Z,2.1nm,0.4s
SIM Simferopol' 72.52 315 *eP* **P** **03 07 22.4 +0.8**
SIM pmax pmax
comp=Z,15nm,0.8s
SIM MLR MLR
comp=Z,410nm,17.8s
H17A Grant Village 72.53 46 *eP* **P** **03 07 24.0 +2.0**
IMW Indian Meadow 72.67 46 *eP* **P** **03 07 24.4 +1.5**
FXWY Fox Creek 72.79 47 *eP* **P** **03 07 24.9 +1.4**
MOOW Moose Ponds 72.87 46 *eP* **P** **03 07 25.5 +1.5**
TPAW Teton Pass 72.93 47 *eP* **P** **03 07 25.3 +1.0**
LOHW Long Hollow 73.04 46 *eP* **P** **03 07 26.5 +1.5**
STKA Stephens Creek 73.04 180 P **P** **03 07 24.8 +0.2**
comp=Z,3.3nm,0.8s,baz=344,slow=9.7,SNR=5.3
REDW Red Top Meadow 73.07 47 *eP* **P** **03 07 26.6 +1.5**
LAO LASA Array 73.26 42 *eP* **P** **03 07 26.1 +0.1**
comp=Z,20nm,1.2s
SORM Soroca 73.27 320‖ *iP* **P** **03 07 25.8 -0.1**
HWUT Hardware Ranch 73.83 49 *eP* **P** **03 07 30.9 +1.3**
DUG Dugway, Tooele 74.05 50 *eP* **P** **03 07 32.8 +1.9**
DUG Dugway, Tooele 74.05 50 *eP* **P** **03 07 32.8 +1.9**
LVV L'vov 74.08 324 *eP* **P** **03 07 30.7 +0.1**
LVV MLR MLR
comp=N,100nm,16.0s
LVV MLR MLR
comp=E,300nm,16.0s
LVV MLR MLR
comp=Z,200nm,16.0s
BW06 Boulder Array 74.17 47 *eP* **P** **03 07 31.9 +0.2**
PD31 Pinedale Array 74.17 47 *eP* **P** **03 07 32.2 +0.6**
PDAR Pinedale Array 74.17 47 P **P** **03 07 32.1 +0.6**
comp=Z,2.9nm,0.8s,baz=264,slow=1.7,SNR=22
PDAR LR LR 03 40 49.3
comp=Z,122nm,21.3s,baz=336,slow=36
PDAR Pinedale Array 74.17 47 *eP* **P** **03 07 30.9 -0.7**
TCUT Toone Canyon 74.24 49 *eP* **P** **03 07 33.3 +1.2**
LEOM Leova 74.49 319‖ *iP* P 03 07 45.9 +13
NLU North Lily Min 74.63 50 *eP* **P** **03 07 34.6 +0.3**
comp=Z,4.3nm,1.1s

KWP Kalwaria Pacla 74.80 324 *eP* **P** **03 07 36.9 +2.0**
KWP Kalwaria Pacla 74.80 324 *eP* **P** **03 07 36.8 +2.0**
MPU Maple Canyon 74.85 50 *eP* **P** **03 07 37.3 +1.7**
SHPR Sheep Range 75.06 54 *eP* **P** **03 07 38.8 +2.0**
SHPR *ePcP* **PcP** **03 07 45.5 -4.7**
BUR08 Bucovina Ar. S 75.12 321 *eP* **P** **03 07 37.0 +0.1**
BUR04 Bucovina Ar. S 75.13 321 *eP* **P** **03 07 36.1 -0.8**
BURAR Bucovina Array 75.13 321‖ *iP* **P** **03 07 36.7 -0.2**
TESR Tescani 75.24 320‖ *iP* **P** **03 07 37.7 +0.3**
ILGA Ilgaz 75.34 312 *eP* **P** **03 07 40.1 +1.6**
CFR Carcaliu 75.45 318‖ *iP* **P** **03 07 38.3 -0.3**
ULM Lac du Bonnet 75.48 34 P **P** **03 07 40.4 +1.7**
comp=Z,1.2nm,0.6s,baz=309,slow=5.8,SNR=4.4
ULM LR LR 03 44 17.2
comp=Z,165nm,18.2s,baz=294,slow=38
MSU Marysvale 75.53 51 *eP* **P** **03 07 40.8 +1.3**
MSU Marysvale 75.53 51 *eP* **P** **03 07 40.8 +1.3**
STHS Stebnicka Huta 75.60 325 *eP* **P** **03 07 40.6 +1.1**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 75.60 325 *eP* **P** **03 07 40.6 +1.1**
OJC Ojcow 75.62 326 *eP* **P** **03 07 40.4 +0.9**
OJC Ojcow 75.62 326 *eP* **P** **03 07 40.4 +0.9**
OJC Ojcow 75.62 326 *eP* **P** **03 07 39.6 0.0**
VRI Vrincioaia 75.66 319‖ *iP* **P** **03 07 40.4 +0.5**
P17A Butcher Ranch, 75.72 50 *eP* **P** **03 07 41.8 +1.2**
UZH Uzhgorod 75.72 324 *eP* **P** **03 07 42.1 +2.0**
UZH *e* 03 07 55.9
CRVS Cervenica-Dubn 75.89 324 *eP* **P** **03 07 42.1 +1.0**
CRVS Cervenica-Dubn 75.89 324 *eP* **P** **03 07 42.1 +1.0**
LCMT Little Creek M 75.89 53 *eP* **P** **03 07 43.6 +2.1**
NIE Niedzica 76.01 325 *eP* **P** **03 07 43.1 +1.3**
NIE Niedzica 76.01 325 *eP* **P** **03 07 43.1 +1.3**
SRU San Rafael Swe 76.09 50 *eP* **P** **03 07 42.7 0.0**
SRU pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 76.09 50 *eP* **P** **03 07 42.7 0.0**
comp=Z,3.6nm,0.9s
RSSD Black Hills 76.15 43 *eP* **P** **03 07 42.9 -0.1**
RSSD Black Hills 76.15 43 *eP* **P** **03 07 42.9 -0.1**
DOPR Dopca 76.24 320‖ *iP* **P** **03 07 43.5 +0.3**
BR131 Keskin Array S 76.29 311 *eP* **P** **03 07 44.4 +0.7**
ISR Istrita 76.29 319⇑ *iP* **P** **03 07 44.2 +0.7**
BRTR Keskin Array B 76.29 311 P **P** **03 07 44.2 +0.5**
comp=Z,2.6nm,0.6s,baz=73,slow=4.0,SNR=21
BRTR LR LR 03 46 19.2
comp=Z,171nm,19.9s,baz=44,slow=40
MLR Muntele Rosu 76.31 319 LR LR 03 43 33.4
comp=Z,99nm,21.6s,baz=50,slow=37
MLR Muntele Rosu 76.31 319‖ *iP* **P** **03 07 45.9 +2.2**
LANS Liptovska Anna 76.57 325 *eP* **P** **03 07 46.6 +1.6**
LANS Liptovska Anna 76.57 325 *eP* **P** **03 07 46.6 +1.6**
KSP Ksiaz 76.57 328 *eP* **P** **03 07 45.7 +0.8**
KSP Ksiaz 76.57 328 *eP* **P** **03 07 45.7 +0.8**
OKC Ostrava-Krasne 76.60 326 AMS AMS 03 44 10.0
ANTO Ankara 76.67 312 *eP* **P** **03 07 46.2 +0.4**
ANTO pmax pmax
comp=Z,18nm,0.6s
ANTO Ankara 76.67 312 *eP* **P** **03 07 46.2 +0.4**
comp=Z,18nm,0.6s
BR231 Keskin MP Arra 76.69 312 *eP* **P** **03 07 47.3 +1.3**
VOIR 76.79 320⇑ *iP* **P** **03 07 46.8 +0.4**
MORC Moravsky Berou 76.89 327 *eP* **P** **03 07 46.4 -0.5**
MORC pmax pmax
comp=Z,16nm,0.7s
MORC Moravsky Berou 76.89 327 *eP* **P** **03 07 46.4 -0.5**
comp=Z,16nm,0.7s
DRGR 76.90 322‖ *iP* **P** **03 07 47.3 +0.4**
DPC Dobruska-Polom 76.94 328 *eP* **P** **03 07 47.5 +0.4**
DPC *ep*P **pP** **03 08 06.4 +2.4**
DPC AMS AMS 03 44 40.0
DPC Dobruska-Polom 76.94 328 *eP* **P** **03 07 47.5 +0.4**
DPC *e* 03 08 06.4
UPC Upice 76.95 328 *eP* **P** **03 07 47.7 +0.6**
UPC Upice 76.95 328 *eP* **P** **03 07 47.7 +0.6**
KRLC Kraliky 76.97 327 *eP* **P** **03 07 48.5 +1.2**
KRLC Kraliky 76.97 327 *eP* **P** **03 07 48.5 +1.2**
PSZ Piszkesteto 77.32 324‖ *iP* **P** **03 07 50.5 +1.2**
PSZ Piszkesteto 77.32 324 *eP* **P** **03 07 50.3 +1.0**
PSZ Piszkesteto 77.32 324 *eP* **P** **03 07 50.3 +1.0**
VYHS Vyhne 77.34 325 *eP* **P** **03 07 48.9 -0.4**
VYHS pmax pmax
comp=Z,10.0nm,1.6s
VYHS Vyhne 77.34 325 *eP* **P** **03 07 48.9 -0.4**
BRG Berggiesshubel 77.47 329 *eP* **P** **03 07 50.4 +0.4**
comp=Z,14nm,1.5s
BRG Berggiesshubel 77.47 329 *eP* **P** **03 07 50.4 +0.4**
BRG pmax pmax
comp=Z,14nm,1.5s
CLL Collm 77.47 330‖ *iP* **P** **03 07 49.9 -0.1**
CLL *i* *SP **sP** **03 08 13.4 -0.3**
CLL pmax pmax
comp=Z,35nm,1.8s
CLL MLR MLR
comp=Z,500nm,22.0s
CLL Collm 77.47 330‖ *iP* **P** **03 07 49.9 -0.1**
comp=Z,35nm,1.8s
CLL *i* pP **sP** **03 08 13.4 -0.3**
CLL *e*(PP) 03 10 40.0
CLL *ePS* **PnS** **03 18 23.0 +0.8**
CLL Lm MLR 03 44 00.0
comp=Z,500nm,22.0s
CLL Collm 77.47 330 *eP* **P** **03 07 49.4 -0.6**
PVCC Panska Ves 77.50 329 *eP* **P** **03 07 51.3 +1.2**
PVCC Panska Ves 77.50 329 *eP* **P** **03 07 51.3 +1.2**
VRAC Vranov 77.65 327‖ *iP* **P** **03 07 52.5 +1.5**
PRU Pruhonice 77.94 328 *eP* **P** **03 07 53.5 +0.9**
PRU AMS AMS 03 45 20.0
comp=Z,600nm,14.4s
PRU Pruhonice 77.94 328 *eP* **P** **03 07 53.5 +0.9**
PRU MLR MLR
comp=Z,600nm,14.4s
WUAZ Wupatki 78.01 53 *eP* **P** **03 07 54.3 +0.8**
comp=Z,5.5nm,1.1s
SMCO Snowmass 78.05 48 *eP* **P** **03 07 55.1 +1.1**
BZS Buzias 78.28 322‖ *iP* **P** **03 07 55.3 +0.7**
ISCO Idaho Springs 78.37 47 *eP* **P** **03 07 56.7 +1.1**
ISCO Idaho Springs 78.37 47 *eP* **P** **03 07 56.7 +1.1**
MVCO Mesa Verde 78.55 50 *eP* **P** **03 07 57.1 +0.5**
comp=Z,29nm,1.4s
KHC Kasperske Hory 79.00 328 *eP* **P** **03 07 59.4 +0.9**
KHC *ex* x 03 08 02.9
KHC *ePCP* **PcP** **03 08 08.4 +1.5**
KHC *epP* **pP** **03 08 18.6 +3.1**
KHC AMS AMS 03 45 50.0
comp=Z,500nm,16.7s
KHC Kasperske Hory 79.00 328 *eP* **P** **03 07 59.4 +0.9**
KHC *e* 03 08 08.4
KHC *e* 03 08 18.6
KHC MLR MLR
comp=Z,500nm,16.7s
KHC Kasperske Hory 79.00 328 *eP* **P** **03 07 59.0 +0.4**
CONA Conrad Observa 79.03 326 *eP* **P** **03 07 59.6 +0.8**
comp=Z,3.2nm,0.7s,SNR=4.8
EKA Eskdalemuir Ar 79.08 341 P **P** **03 07 58.9 +0.1**
comp=Z,2.1nm,0.5s,baz=25,slow=5.0,SNR=14
EKA LR LR 03 47 42.4
comp=Z,210nm,18.4s,baz=20,slow=39
EYMN Ely 79.09 33 *eP* **P** **03 07 58.7 -0.3**
comp=Z,9.6nm,1.3s
GERES GERESS Array B 79.18 328 P **P** **03 07 59.9 +0.3**
comp=Z,2.5nm,0.8s,baz=35,slow=6.3,SNR=12
GERES LR LR 03 46 34.8
comp=Z,358nm,18.2s,baz=4.5,slow=38
ASF Jabal al Asfar 79.45 304 P **P** **03 08 01.2 -0.2**
comp=Z,2.3nm,0.8s,baz=16,slow=7.4,SNR=3.7
RAYN Ar Rayn 79.46 292 *eP* **P** **03 08 01.3 -0.2**
ARSA Arzberg 79.71 326 *eP* **P** **03 08 02.7 +0.3**
comp=Z,4.6nm,0.9s
CSS Mathiatis 79.73 308 *eP* **P** **03 08 03.5 +0.8**
MOA Molln 79.75 327 *eP* **P** **03 08 02.5 -0.1**
comp=Z,8.1nm,1.3s
VTS Vitosha 79.78 319⇑ *iP* **P** **03 08 03.3 +0.3**
VTS Vitosha 79.78 319 *eP* **P** **03 08 03.3 +0.3**
VTS Vitosha 79.78 319 *eP* **P** **03 08 03.3 +0.3**
MMAI Mount Meron Ar 79.81 305 P **P** **03 08 03.2 -0.1**
comp=Z,3.0nm,0.5s,baz=43,slow=6.5,SNR=9.7
MMAI LR LR 03 47 20.1
comp=Z,225nm,19.4s,baz=55,slow=39
SDCO Great Sand Dun 79.88 48 *eP* **P** **03 08 04.8 +1.0**
ECSD EROS Data Cent 80.08 39 *eP* **P** **03 08 04.4 -0.1**
comp=Z,6.1nm,1.1s
SOKA Soboth 80.37 326 *eP* **P** **03 08 06.1 +0.1**

comp=Z,16nm,1.1s
MEM Membach 80.54 333 ⇑P **P** **03 08 05.9 -0.9**
OBKA Obir 80.70 326 *e*P **P** **03 08 08.6 +0.8**
comp=Z,5.7nm,0.8s
KBA Koelnbreinsper 80.74 327 *e*P **P** **03 08 09.1 +1.0**
comp=Z,18nm,1.9s,SNR=7.4
SCHQ Schefferville 80.88 16 P **P** **03 08 08.3 -0.3**
comp=Z,7.8nm,1.1s,baz=1.0,slow=6.8,SNR=7.3
SCHQ LR LR 03 48 22.4
comp=Z,97nm,19.5s,baz=329,slow=39
BCLA Clavier 80.94 334 ⇓P **P** **03 08 08.8 0.0**
MYKA Terra Mystica 80.98 327 *e*P **P** **03 08 09.1 -0.2**
comp=Z,6.4nm,0.9s
WATA Walderalm 81.24 328 *e*P **P** **03 08 11.5 +0.8**
comp=Z,2.0nm,0.5s
WTTA Wattenberg 81.28 328 *e*P **P** **03 08 11.0 0.0**
comp=Z,8.0nm,1.0s
WLF Walferdange 81.30 333 ⇓P **P** **03 08 10.2 -0.6**
LAZ Ladron 81.30 51 *e*P **P** **03 08 13.0 +1.7**
comp=Z,0.9nm,0.8s
ANMO Albuquerque 81.31 51 *ce*P **P** **03 08 11.6 +0.2**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
ANMO Albuquerque 81.31 51 *e*P **P** **03 08 11.7 +0.3**
MOTA Moosalm 81.42 329 *e*P **P** **03 08 12.4 +0.7**
comp=Z,7.0nm,1.0s
RETA Reutte 81.43 329 *e*P **P** **03 08 11.9 +0.2**
comp=Z,6.1nm,0.8s,SNR=7.2
BFO Black Forest 81.65 331 *i* P **P** **03 08 14.4 +1.7**
BFO Black Forest 81.65 331 *e*P **P** **03 08 12.3 -0.5**
comp=Z,34nm,1.6s
FETA Feichten 81.83 329 *e*P **P** **03 08 14.0 +0.1**
comp=Z,7.8nm,1.0s,SNR=4.8
DAVA Damuels 81.94 329 *e*P **P** **03 08 14.2 -0.3**
comp=Z,8.5nm,1.0s
121A Cookes Peak, D 82.22 53 *e*P **P** **03 08 18.0 +1.8**
comp=Z,13nm,0.9s
RAR Rarotonga 82.39 127 LR LR 03 39 14.3
comp=Z,189nm,21.4s,baz=276,slow=31
MNTX Cornudas Mount 84.25 52 *e*P **P** **03 08 26.7 +0.2**
comp=Z,4.1nm,1.3s
IDI Anoyia 84.32 313 P **P** **03 08 26.0 -0.9**
comp=Z,4.4nm,0.3s,baz=76,slow=5.0,SNR=17
IDI LR LR 03 51 15.8
comp=Z,117nm,18.6s,baz=38,slow=39
IDI Anoyia 84.32 313 ⇑*i*P **P** **03 08 25.7 -1.1**
IDI Anoyia 84.32 313 *e*P **P** **03 08 25.3 -1.5**
comp=Z,29nm,1.1s
BNI Bardonecchia 85.02 330 *e*P **P** **03 08 31.0 +0.7**
BNI pmax pmax
comp=Z,35nm,1.6s
BNI Bardonecchia 85.02 330 *e*P **P** **03 08 30.9 +0.7**
comp=Z,35nm,1.6s
PMOR Pomariorio Ree 85.52 114 *e*T T 04 42 13.9
comp=Z,25nm,0.2s
PPT Papeete 86.19 117 LR LR 03 41 06.7
comp=Z,438nm,20.4s,baz=335,slow=31
PPT2 Papeete2 86.21 117 *e*S **S** **03 19 11.6 +5.0**
comp=Z,173nm,26.0s
PPT2 Papeete2 86.21 117 *e*LR LR 03 35 43.4
comp=Z,1μm,26.2s,baz=318
PPT2 Papeete2 86.21 117 *e*T T 04 43 08.0
comp=Z,6.4nm,0.3s
LPIG La Paz 86.52 61 LR LR 03 41 10.0
comp=Z,86nm,19.2s,baz=298,slow=31
TAOE Nuku Hiva Isla 86.77 105 *e*S **S** **03 19 15.9 +3.6**
comp=Z,124nm,25.8s
TAOE Nuku Hiva Isla 86.77 105 *e*LR LR 03 36 04.2
comp=Z,694nm,23.6s,baz=316
TXAR Lajitas Array 86.98 53 P **P** **03 08 40.2 0.0**
comp=Z,2.0nm,1.0s,baz=308,slow=3.0,SNR=9.0
VAE Valguarnera 88.00 321 LR LR 03 50 53.5
comp=Z,312nm,20.7s,baz=96,slow=37
ATD Arta Tunnel 89.26 285 LR LR 03 54 31.9
comp=Z,125nm,18.7s,baz=33,slow=39
TBI Tubuai 90.38 121 *e*S **S** **03 19 50.3 +4.6**
comp=Z,198nm,28.0s
TBI Tubuai 90.38 121 *e*LR LR 03 37 22.8
comp=Z,640nm,35.5s,baz=324
TBI Tubuai 90.38 121 *e*T T 04 48 23.2
comp=Z,22nm,0.3s
SSPA Standing Stone 90.54 29 *e*P **P** **03 08 57.9 +1.3**
comp=Z,63nm,1.3s
KEST Kesra 91.76 323 P **P** **03 09 02.3 -0.2**
comp=Z,2.5nm,0.9s,baz=0.0,slow=2.0,SNR=4.5
KEST LR LR 03 54 53.1
comp=Z,551nm,20.2s,baz=334,slow=38
TKL Tuckaleechee C 92.44 36 LR LR 03 54 45.4
comp=Z,158nm,18.6s,baz=332,slow=38
ESDC Sonseca Array 93.49 334 P **P** **03 09 10.3 -0.1**
comp=Z,1.3nm,0.8s,baz=20,slow=4.0,SNR=7.4
ESDC LR LR 03 56 45.7
comp=Z,237nm,19.2s,baz=15,slow=39
RKT Rikitea 99.95 112 *e*LR LR 03 41 31.6
comp=Z,649nm,33.8s
TORD Torodi Ar. Bea 114.48 317 PKP PKPdf 03 14 33.7 -1.1
comp=Z,0.5nm,0.8s,baz=23,slow=3.3,SNR=2.8
TORD PP **PP** **03 15 32.6 +1.5**
comp=Z,1.8nm,1.0s,baz=13,slow=5.2,SNR=5.0
QSPA South Pole Qui 131.26 180 PKP **PKPdf** **03 15 04.0 -1.4**
comp=Z,1.0nm,0.8s,baz=147,slow=0.4,SNR=3.5
LPAZ La Paz 143.82 55 PKP **PKPdf** **03 15 30.0 -0.7**
comp=Z,0.5nm,0.7s,baz=292,slow=5.4,SNR=2.6
SNAA Sanae 145.18 199 PKP **PKPbc** **03 15 30.5 +0.1**
SNAA Sanae 145.18 199 PKPbc **PKPbc** **03 15 30.4 -0.1**
comp=Z,7.2nm,0.8s,baz=143,slow=3.5,SNR=15
SNAA Sanae 145.18 199 *e*PKPdf **PKPbc** **03 15 29.3 -1.2**
VNA2 Neumayer--Watz 146.76 198 PKP **PKPdf** **03 15 34.3 +0.9**
baz=115,slow=2.2

*IDC **19** 03:01:17.1±0.9,36.°72N×73.°04E,h0km,mb3.6/7, mb1 3.8/10,mb1mx3.6/63,mbtmp3.7/10,ML3.4/3,MS2.2/1, Ms1 2.2/1,ms1mx2.1/53,Error ellipse: s-maj=23.6km s-min=21.2km az=31.0*
*ISCJB **19** 03:01:21.4±0.7,36.°70N±0.°06×72.°9E±0.°1,h42km,mb3.5/7, Error ellipse: s-maj=12.6km s-min=8.0km az=3.8*
*NNC **19** 03:01:23.9±4.5,36.°76N×73.°42E,h209km±46km,mb2.5, mpv3.6,Error ellipse: s-maj=49.4km s-min=39.6km az=117.0*
ISC 19 03:01:22.6±1.0,**36.°59N**±0.°09×**72.°9E**±0.°1,**h42**km,**n23,** σ1=**88**/28,**mb3.6**/7,**5C-4D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.44**	**7**	⇓P		**Pn**	**03 02 16.6**	**+2.6**
	35nm,0.5s							
SFK				⇓S		**Sn**	**03 03 00.0**	**+6.4**
	24nm,0.3s							
AML	**Almayashu**	**5.56**	**6**	P		**Pn**	**03 02 43.3**	**+0.1**
	SNR=7.1							
UCH	**Uchtor**	**5.76**	**12**	P		**Pn**	**03 02 45.8**	**-0.1**
	SNR=20							
KZA	**Kyzart**	**5.76**	**17**	P		**Pn**	**03 02 44.9**	**-1.1**
	SNR=9.1							
MNAS	**Manas**	**5.90**	**357**	⇑P		**Pn**	**03 02 47.8**	**+0.2**
	1.1nm,0.4s							
MNAS				⇑S		**Sn**	**03 03 56.1**	**+2.2**
	4.0nm,0.5s							
EKS2	**Erkin-Say**	**6.09**	**6**	P		**Pn**	**03 02 51.5**	**+1.2**
	SNR=7.5							
AAK	**Ala-Archa**	**6.16**	**11**	Pn		**Pn**	**03 02 51.1**	**+0.1**
	0.7nm,0.3s,baz=148,slow=4.4,SNR=13							
AAK				Sn		Sn	03 03 51.9	-8.3
	0.4nm,0.3s,baz=348,slow=20,SNR=2.3							
AAK				LR		LR	03 04 25.5	
	comp=Z,24nm,20.3s,baz=238,slow=31							
AAK	**Ala-Archa**	**6.16**	**11**	⇑P		**Pn**	**03 02 50.9**	**-0.2**
	4.4nm,0.6s							
AAK				⇑S		**Sn**	**03 04 00.8**	**+0.5**
	7.9nm,0.9s							
AAK	**Ala-Archa**	**6.16**	**11**	P		**Pn**	**03 02 51.2**	**+0.1**
	SNR=8.6							
KBK	**Karagaybulak**	**6.25**	**14**	P		**Pn**	**03 02 52.3**	**-0.1**
	SNR=8.4							
TKM2	**Tokmak 2**	**6.64**	**17**	⇓P		**Pn**	**03 02 57.0**	**-0.8**
	3.6nm,0.5s							
TKM2				⇓S		**Sn**	**03 04 09.7**	**-2.7**
	2.9nm,0.6s							
TKM2	**Tokmak 2**	**6.64**	**17**	P		**Pn**	**03 02 57.4**	**-0.4**
	SNR=15							
KK31	**Karatay Array**	**6.77**	**345**	P		**Pn**	**03 02 59.1**	**-0.3**
	0.8nm,0.3s,baz=164,slow=12,SNR=64							
KK31				⇑S		**Sn**	**03 04 13.3**	**-1.8**
	2.9nm,0.6s,baz=155,slow=23,SNR=4.8							
AB31	**Akbulak array**	**15.81**	**327**	P		**Pn**	**03 04 58.7**	**-3.4**
	1.1nm,0.6s,baz=132,slow=14,SNR=13							
AKTO	**Aktyubinsk**	**17.52**	**327**	P		**Pn**	**03 05 22.5**	**-1.1**
	0.3nm,0.3s,baz=123,slow=9.0,SNR=8.8							
ZALV	**Zalesovo Beam**	**19.22**	**22**	P		**P**	**03 05 40.9**	**-2.0**
	0.4nm,0.3s,baz=202,slow=9.5,SNR=3.7							
SONM	**Songino Array**	**27.00**	**55**	P		**P**	**03 06 59.5**	**-1.1**
	0.3nm,0.7s,baz=260,slow=8.2,SNR=2.2							
BRTR	**Keskin Array B**	**30.89**	**288**	P		**P**	**03 07 35.5**	**+0.2**
	0.4nm,0.8s,baz=104,slow=10,SNR=2.7							
ARCES	**ARCESS Array B**	**41.66**	**337**	P		**P**	**03 09 07.0**	**+0.5**
	1.7nm,0.8s,baz=108,slow=8.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**67.28**	**270**	P		**P**	**03 12 14.1**	**+0.9**
	0.4nm,0.9s,baz=47,slow=5.6,SNR=8.1							
WRA	**Warramunga Arr**	**80.72**	**123**	P		**P**	**03 13 32.1**	**+0.5**
	0.6nm,0.7s,baz=334,slow=4.7,SNR=4.1							
YKA	**Yellowknife Ar**	**81.07**	**4**	P		**P**	**03 13 32.8**	**0.0**
	0.5nm,0.6s,baz=349,slow=5.6,SNR=13							
ASAR	**Alice Springs**	**83.03**	**126**	P		**P**	**03 13 45.2**	**+1.4**
	0.5nm,0.7s,baz=306,slow=5.2,SNR=3.9							

NNC 19 03:04:36.5±8.2,**37.°94N**×**69.°12E**,**h0**km,**mb4.3,mpv4.0, 7C-3D,Error ellipse: s-maj=61.8km s-min=39.1km az=25.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TAS	**Tashkent**	**3.39**	**2**	⇑Pn		Pn	03 05 31.0	+0.3
	31nm,0.2s							
TAS				⇓Sn		Sn	03 06 10.9	-0.7
	263nm,0.4s							
SFK	**Sufi-Kurgan**	**4.00**	**57**	⇑Pn		Pn	03 05 41.6	+2.3
	11nm,0.5s							
SFK				⇓Sn		Sn	03 06 29.5	+2.6
	30nm,0.4s							
MNAS	**Manas**	**5.23**	**29**	⇑Pn		Pn	03 05 53.0	-3.1
	12nm,0.6s							
MNAS				⇑Sn		Sn	03 07 02.0	+4.8
	20nm,0.8s							
KK31	**Karatay Array**	**5.27**	**11**	⇑Pn		Pn	03 05 53.7	-2.8
	5.7nm,0.4s,baz=190,slow=16,SNR=4.2							
KK31				⇑Sn		Sb	03 07 06.3	-7.0
	13nm,0.6s,baz=188,slow=29,SNR=6.1							
AAK	**Ala-Archa**	**6.24**	**40**	⇑Pn		Pn	03 06 08.5	-1.5
	3.3nm,0.5s							
AAK				⇓Sn		Sn	03 07 18.3	-3.8
	4.5nm,0.6s							

*IDC **19** 03:09:10.4±0.7,36.°73N×73.°16E,h0km,mb4.0/17, mb1 4.1/23,mb1mx3.9/67,mbtmp4.0/23,ML3.6/5,MS3.6/2, Ms1 3.5/2,ms1mx2.7/57,Error ellipse: s-maj=16.2km s-min=15.6km az=128.0*
*NNC **19** 03:09:13.5±6.9,36.°71N×72.°72E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=81.1km s-min=46.0km az=115.0*
*ISCJB **19** 03:09:14.9±0.5,36.°72N±0.°05×72.°99E±0.°08,h42km, mb3.9/19,MS3.6/2,Error ellipse: s-maj=9.8km s-min=6.0km az=18.1*
*NEIC **19** 03:09:18.4±1.9,36.°87N×73.°11E,h57km±16km,mb4.1/2, Error ellipse: s-maj=15.3km s-min=10.6km az=173.0*
ISC 19 03:09:16.7±0.8,**36.°75N**±0.°08×**72.°98E**±0.°07,**h42**km,**n47,** σ1=**77**/51,**mb4.0**/19,**5C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.29**	**7**	⇑Pn		**Pn**	**03 10 09.7**	**+3.8**
	78nm,0.8s							
SFK				⇓Sn		Sn	03 10 53.8	+10
	76nm,0.7s							
AML	**Almayashu**	**5.40**	**6**	P		**Pn**	**03 10 37.1**	**+2.0**
	SNR=7.9							
UCH	**Uchtor**	**5.60**	**12**	P		**Pn**	**03 10 38.9**	**+1.1**
	SNR=29							
KZA	**Kyzart**	**5.60**	**18**	P		**Pn**	**03 10 38.4**	**+0.6**
	SNR=20							
MNAS	**Manas**	**5.74**	**356**	⇑Pn		**Pn**	**03 10 39.5**	**0.0**
	4.8nm,0.6s							
MNAS				⇓Sn		**Sn**	**03 11 47.4**	**+3.2**
	9.7nm,0.6s							
EKS2	**Erkin-Say**	**5.94**	**6**	P		**Pn**	**03 10 44.2**	**+2.0**
	SNR=12							
AAK	**Ala-Archa**	**6.00**	**11**	Pn		**Pn**	**03 10 44.3**	**+1.3**
	1.0nm,0.3s,baz=170,slow=8.3,SNR=13							
AAK				Sn		**Sn**	**03 11 45.3**	**-5.1**
	0.1nm,0.3s,baz=54,slow=19,SNR=2.2							
AAK	**Ala-Archa**	**6.00**	**11**	⇓Pn		**Pn**	**03 10 43.4**	**+0.4**
	7.7nm,0.7s							
AAK				⇑Sn		**Sn**	**03 11 51.5**	**+1.1**
	23nm,0.9s							
AAK	**Ala-Archa**	**6.00**	**11**	P		**Pn**	**03 10 44.3**	**+1.3**
	SNR=11							
AAK	**Ala-Archa**	**6.00**	**11**	*e*Pn		**Pn**	**03 10 43.6**	**+0.6**
AAK				*e*S		**Sn**	**03 11 48.3**	**-2.1**
KBK	**Karagaybulak**	**6.09**	**14**	P		**Pn**	**03 10 45.7**	**+1.3**
	SNR=13							
CHMS	**Chumysh**	**6.39**	**12**	P		**Pn**	**03 10 49.2**	**+0.9**
	SNR=9.9							
TKM2	**Tokmak 2**	**6.49**	**17**	⇓Pn		**Pn**	**03 10 50.3**	**+0.5**
	6.8nm,0.6s							
TKM2				⇓Sn		**Sn**	**03 12 05.4**	**+2.9**
	12nm,0.9s							
TKM2	**Tokmak 2**	**6.49**	**17**	P		**Pn**	**03 10 50.7**	**+0.9**
	SNR=16							
KK31	**Karatay Array**	**6.62**	**344**	Pn		**Pn**	**03 10 52.5**	**+1.0**
	2.6nm,0.4s,baz=149,slow=11,SNR=53							
KK31				⇑Sn		**Sn**	**03 12 07.2**	**+1.5**
	8.2nm,0.6s,baz=159,slow=24,SNR=5.9							
KKAR	**Karatay Array**	**6.62**	**344**	*e*Pn		**Pn**	**03 10 52.2**	**+0.7**
GEYT	**Alibeck**	**11.89**	**280**	Pn		**Pn**	**03 12 03.8**	**+0.1**
	0.6nm,0.3s,baz=110,slow=8.7,SNR=4.2							
GEYT				Sn		**Sn**	**03 14 11.2**	**-3.7**
	1.0nm,0.3s,baz=99,slow=19,SNR=3.8							
KURBB	**Kurchatov Arra**	**14.43**	**14**	Pn		**Pn**	**03 12 34.5**	**-3.6**
	0.0nm,0.3s,baz=204,slow=12,SNR=4.4							
KURBB				Lg		Lg	03 16 43.0	
	0.0nm,0.3s,baz=205,slow=30,SNR=4.1							
KURK	**Kurchatov**	**14.54**	**14**	Pn		Pn	03 12 34.5	-5.0
KURK				Lg		Lg	03 16 43.0	
AB31	**Akbulak array**	**15.69**	**327**	P		**Pn**	**03 12 51.7**	**-3.0**
	3.3nm,0.7s,baz=134,slow=12,SNR=13							
BVAR	**Borovoye Array**	**16.38**	**354**	Pn		**Pn**	**03 13 00.5**	**-2.8**
	0.2nm,0.3s,baz=172,slow=13,SNR=4.1							
BRVK	**Borovoye**	**16.42**	**354**	*e*Pn		**Pn**	**03 13 04.6**	**+0.7**
AKTO	**Aktyubinsk**	**17.41**	**326**	P		**Pn**	**03 13 15.4**	**-0.8**
	0.3nm,0.3s,baz=133,slow=14,SNR=5.9							
AKTO	**Aktyubinsk**	**17.41**	**326**	⇑P		**P**	**03 13 17.8**	**+0.7**
	6.2nm,0.8s							
ZALV	**Zalesovo Beam**	**19.06**	**22**	P		**P**	**03 13 33.4**	**-1.8**
	0.7nm,0.3s,baz=213,slow=11,SNR=40							
ARU	**Arti**	**21.95**	**338**	P		**P**	**03 14 05.9**	**-0.6**
	7.4nm,0.2s,baz=118,slow=3.4,SNR=4.6							
GNI	**Garni**	**22.34**	**287**	P		**P**	**03 14 12.2**	**+1.2**
	2.4nm,0.8s,baz=118,slow=10,SNR=2.9							
KBZ	**Khabaz**	**23.91**	**296**	LR		LR	03 25 38.9	
	comp=Z,69nm,21.7s,baz=28,slow=41							
SONM	**Songino Array**	**26.89**	**55**	P		**P**	**03 14 52.8**	**-0.8**
	0.7nm,0.7s,baz=247,slow=10,SNR=3.8							
BRTR	**Keskin Array B**	**30.88**	**288**	P		**P**	**03 15 31.4**	**+2.2**
	1.0nm,0.6s,baz=101,slow=9.5,SNR=7.2							
AKASG	**Malin Array Be**	**34.04**	**308**	P		**P**	**03 15 57.4**	**+0.9**
	0.5nm,0.5s,baz=105,slow=9.4,SNR=4.7							
FINES	**FINESS Array B**	**38.17**	**325**	P		**P**	**03 16 32.4**	**+0.6**
	2.0nm,0.7s,baz=123,slow=7.0,SNR=5.7							
ARCES	**ARCESS Array B**	**41.53**	**337**	P		**P**	**03 16 59.7**	**+0.2**
	2.0nm,0.6s,baz=105,slow=6.9,SNR=13							
HFS	**Hagfors**	**43.86**	**322**	P		**P**	**03 17 18.6**	**+0.1**
	2.9nm,0.6s,baz=94,slow=9.2,SNR=6.7							
NB2	**NORSAR Subarra**	**45.14**	**323**	P		**P**	**03 17 28.8**	**0.0**
	comp=Z,1.0nm,0.6s,baz=93,slow=8.6							
NOA	**NORSAR Array B**	**45.14**	**323**	P		**P**	**03 17 28.9**	**0.0**
	comp=Z,1.7nm,0.8s,baz=92,slow=7.6,SNR=4.8							
ESDC	**Sonseca Array**	**58.74**	**298**	P		**P**	**03 19 11.2**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=61,slow=5.8,SNR=4.8							
TORD	**Torodi Ar. Bea**	**67.31**	**270**	P		**P**	**03 20 06.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=51,slow=5.8,SNR=13							
MATP	**Matopo**	**70.68**	**224**	P		**P**	**03 20 29.1**	**+0.7**
	comp=Z,3.6nm,1.1s,baz=36,slow=3.9,SNR=4.5							
KOWA	**Kowa**	**71.14**	**274**	P		**P**	**03 20 31.3**	**0.0**
	comp=Z,1.2nm,0.6s,baz=338,slow=3.2,SNR=3.7							
INK	**Inuvik**	**73.39**	**10**	*e*P		**P**	**03 20 43.8**	**0.0**
	comp=Z,1.0nm,0.5s							
ILAR	**Eielson Array**	**74.10**	**17**	P		**P**	**03 20 45.8**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=329,slow=4.0,SNR=9.0							
DAWY	**Dawson**	**76.31**	**14**	*e*P		**P**	**03 21 00.4**	**-0.4**
	comp=Z,4.3nm,1.3s							
WRA	**Warramunga Arr**	**80.78**	**123**	P		**P**	**03 21 25.8**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=323,slow=5.3,SNR=9.0							
YKA	**Yellowknife Ar**	**80.91**	**4**	P		**P**	**03 21 26.0**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=348,slow=5.5,SNR=50							
BBTS	**Babate**	**81.00**	**282**	LR		LR	04 06 43.6	
	comp=Z,70nm,18.3s,baz=28,slow=43							
ASAR	**Alice Springs**	**83.10**	**126**	P		**P**	**03 21 38.3**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=318,slow=5.6,SNR=7.0							

*GUC **19** 03:35:10.9±0.7,21.°48S×68.°64W,h130km±6km,ML3.6*
*IDC **19** 03:35:17.8±9.8,21.°09S×67.°95W,h162km±65km,mb3.2/2, mb1 3.2/4,mb1mx3.0/36,mbtmp3.5/4,MS3.9/1,Ms1 3.9/1, ms1mx2.7/12,Error ellipse: s-maj=114.1km s-min=31.9km az=8.0*
ISC 19 03:35:11.7±1.2,**21.°53S**±0.°07×**68.°7W**±0.°2,**h130**km±12km, **n11,** σ1=**72**/15,**6C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.61**	**244**	⇑*i*P		**Pn**	**03 35 31.7**	**+0.1**
PB09				*e*S		**Sn**	**03 35 47.1**	**+0.4**
PB09				IAML			03 35 48.3	
	comp=E,4μm,0.5s							
PB01	**IPOC Station P**	**0.92**	**301**	⇑*e*P		**Pn**	**03 35 33.6**	**-0.3**
PB01				*e*S		**Sn**	**03 35 50.5**	**-0.2**
PB01				IAML			03 35 51.4	
	comp=N,1μm,0.3s							
PB07	**IPOC Station P**	**1.17**	**260**	⇑*i*P		**Pn**	**03 35 36.5**	**+0.2**
PB07				*e*S		**Sn**	**03 35 55.5**	**+0.4**
PB07				IAML			03 35 55.7	
	comp=N,1μm,0.2s							
PB02	**IPOC Station P**	**1.18**	**280**	⇑*e*P		**Pn**	**03 35 36.5**	**0.0**
PB02				*e*S		**Sn**	**03 35 55.6**	**+0.4**
PB02				IAML			03 35 59.7	
	comp=E,1μm,0.4s							
PB06	**IPOC Station P**	**1.45**	**216**	⇑*i*P		**Pn**	**03 35 39.4**	**0.0**
PB06				*e*S		**Sn**	**03 36 00.6**	**+0.1**
PB06				IAML			03 36 01.2	
	comp=E,963nm,0.3s							
PB11	**IPOC Station P**	**1.99**	**332**	⇑*e*P		**Pn**	**03 35 45.2**	**-0.6**
PB11				*e*S		**Sn**	**03 36 11.3**	**-0.5**
LPAZ	**La Paz**	**5.23**	**5**	P		**Pn**	**03 36 29.8**	**+1.2**
	comp=E,0.3nm,0.3s,baz=174,slow=5.6,SNR=8.3							
SIV	**San Ignacio**	**9.04**	**54**	P		Pn	03 37 13.8	-5.5
	comp=E,0.7nm,0.3s,baz=251,slow=8.5,SNR=16							
SIV				S		Sn	03 38 47.6	-12
	comp=E,0.1nm,0.3s,baz=139,slow=19,SNR=4.2							
RPN	**Rapa Nui**	**37.37**	**253**	LR		LR	03 54 25.3	
	comp=E,162nm,21.0s,baz=282,slow=30							
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P		**P**	**03 46 50.0**	**-1.4**
	comp=E,0.3nm,0.5s,baz=249,slow=5.4,SNR=9.0							
YKA	**Yellowknife Ar**	**91.29**	**340**	P		**P**	**03 48 03.0**	**+1.0**
	comp=E,0.3nm,0.6s,baz=131,slow=4.2,SNR=6.3							

*DDA **19** 03:44:48.6,38.°38N×43.°74E,h8km,Ml2.7*
*ISCJB **19** 03:44:50.1±0.8,38.°47N±0.°04×43.°66E±0.°05,h8km±6km, Error ellipse: s-maj=7.7km s-min=5.8km az=144.7*
*CSEM **19** 03:44:50.4±0.3,38.°51N×43.°65E,h12km,ML2.5,Error ellipse: s-maj=6.5km s-min=5.1km az=103.0*
*ISK **19** 03:44:50.0,38.°53N×43.°63E,h13km,ML2.5/2*
ISC 19 03:44:49.6±1.2,**38.°52N**±0.°04×**43.°71E**±0.°03,**h3**km±11km, **n22,** σ1=**27**/39,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VANB	**Van**	**0.26**	**286**	PG		**Pg**	**03 44 54.5**	**-0.2**
VANB				SG		**Sg**	**03 44 57.8**	**-0.4**
VANB	**Van**	**0.26**	**286**	*e*Pg		**Pg**	**03 44 54.5**	**-0.2**
VANB				*e*Sg		**Sg**	**03 44 57.8**	**-0.4**
VMUR	**Van-Muradiye**	**0.48**	**347**	*i* P		**Pb**	**03 45 00.3**	**-0.5**
VMUR				*i* S		**Sb**	**03 45 10.7**	**+2.4**
VMUR	**Van-Muradiye**	**0.48**	**347**	P		**Pb**	**03 45 00.3**	**-0.5**
VMUR				S		**Sb**	**03 45 10.7**	**+2.4**
CLDR	**Caldiran**	**0.64**	**14**	PG		**Pg**	**03 45 03.0**	**+1.1**
CLDR				SG		**Sb**	**03 45 12.7**	**-0.3**
CLDR	**Caldiran**	**0.64**	**14**	*i* P		**Pb**	**03 45 03.6**	**0.0**
CLDR				*i* S		**Sn**	**03 45 15.0**	**-1.6**
CLDR	**Caldiran**	**0.64**	**14**	*e*Pg		**Pg**	**03 45 03.0**	**+1.1**
CLDR	**Caldiran**	**0.64**	**14**	P		**Pb**	**03 45 03.6**	**0.0**
CLDR				*e*Sg		**Sb**	**03 45 12.7**	**-0.3**
CLDR				S		**Sn**	**03 45 15.0**	**-1.6**
ADCV	**BITLIS_Adilcev**	**0.82**	**291**	*i* S		**Sb**	**03 45 18.9**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.82**	**291**	S		**Sb**	**03 45 18.9**	**+0.6**
YOVA	**Hakkari_Y`…kse**	**1.04**	**154**	*i* P		**Pn**	**03 45 11.7**	**+0.4**
YOVA				*i* S		**Sg**	**03 45 22.1**	**-1.0**
YOVA	**Hakkari_Y`…kse**	**1.04**	**154**	P		**Pn**	**03 45 11.7**	**+0.4**
YOVA				S		**Sg**	**03 45 22.0**	**-1.0**
TUTA	**Tutak**	**1.12**	**322**	*i* P		**Pb**	**03 45 11.9**	**+0.1**
TUTA				*i* S		**Sn**	**03 45 29.8**	**+1.3**
TUTA	**Tutak**	**1.12**	**322**	P		**Pb**	**03 45 11.9**	**+0.1**
TUTA				S		**Sn**	**03 45 29.8**	**+1.3**
AGRB	**Hanur-Agry**	**1.19**	**332**	PN		**Pg**	**03 45 12.4**	**-0.1**
AGRB				SN		**Sb**	**03 45 28.8**	**-0.1**
AGRB	**Hanur-Agry**	**1.19**	**332**	*e*Pn		**Pg**	**03 45 12.4**	**-0.1**
AGRB				*e*Sn		**Sb**	**03 45 28.8**	**-0.1**
GURO	**Guroymak-BITLI**	**1.32**	**272**	PN		**Pn**	**03 45 13.8**	**-1.2**
GURO				SN		**Sg**	**03 45 30.9**	**-1.1**
GURO	**Gu

σ2^{s}46/21, **2C-3D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**2.18**	**140**	Pn	**Pn**	**04 01 21.4**	**-1.8**
	32nm,0.3s,baz=312,slow=16,SNR=82						
GEYT				Sn	**Sn**	**04 01 47.2**	**-3.1**
	63nm,0.3s,baz=298,slow=13,SNR=17						
ASHT	**Ashkhabad**	**2.31**	**136**	⇓Pn	**Pb**	**04 01 30.9**	**+2.4**
	169nm,0.5s						
ASHT				⇑Sn	**Sn**	**04 01 55.3**	**+1.9**
	438nm,0.5s						
GNI	**Garni**	**8.94**	**277**	Pn	**Pn**	**04 02 56.4**	**+0.3**
	0.6nm,0.3s,baz=229,slow=20,SNR=2.6						
AB31	**Akbulak array**	**9.98**	**14**	Pn	**Pn**	**04 03 14.9**	**+4.7**
	0.2nm,0.3s,baz=206,slow=16,SNR=8.9						
AB31				⇓Sn	**Sn**	**04 05 00.5**	**-1.7**
	0.4nm,0.3s,baz=201,slow=24,SNR=3.5						
KBZ	**Khabaz**	**10.86**	**297**	Pn	**Pn**	**04 03 21.8**	**-0.5**
	0.6nm,0.3s,baz=124,slow=6.0,SNR=16						
KBZ				Sn	**Sn**	**04 05 20.1**	**-3.7**
	0.2nm,0.3s,baz=180,slow=20,SNR=3.0						
AKTO	**Aktyubinsk**	**10.89**	**6**	Pn	**Pn**	**04 03 22.8**	**+0.2**
	0.5nm,0.3s,baz=163,slow=13,SNR=9.7						
AKTO				Sn	**Sn**	**04 05 22.2**	**-2.3**
	0.2nm,0.3s,baz=90,slow=20,SNR=5.0						
AKTO	**Aktyubinsk**	**10.89**	**6**	Pn	**Pn**	**04 03 27.3**	**+4.7**
	2.5nm,0.7s						
AKTO				⇑Sn	**Sn**	**04 05 25.3**	**+0.8**
	0.7nm,0.3s						
KK31	**Karatay Array**	**11.21**	**67**	Pn	**Pn**	**04 03 26.0**	**-1.1**
	0.1nm,0.3s,baz=256,slow=14,SNR=8.2						
KK31				⇓Sn	**Sn**	**04 05 29.4**	**-3.0**
	0.4nm,0.4s						
AAK	**Ala-Archa**	**14.02**	**72**	Pn	Pn	04 04 01.4	-4.2
	0.1nm,0.3s,baz=241,slow=18,SNR=1.9						
BVAR	**Borovoye Array**	**16.51**	**31**	Pn	**Pn**	**04 04 36.7**	**-1.7**
	0.1nm,0.3s,baz=212,slow=7.8,SNR=3.0						
BRTR	**Keskin Array B**	**17.48**	**278**	P	**Pn**	**04 04 51.9**	**+1.1**
	0.0nm,0.3s,baz=97,slow=10,SNR=4.6						
KURBB	**Kurchatov Arra**	**19.07**	**47**	P	**P**	**04 05 10.6**	**+1.4**
	baz=253,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**20.17**	**61**	P	**P**	**04 05 23.0**	**+1.6**
	0.5nm,0.7s,baz=241,slow=12,SNR=5.5						
AKASG	**Malin Array Be**	**21.98**	**309**	P	**P**	**04 05 42.1**	**+1.3**
	1.7nm,0.4s,baz=106,slow=9.5,SNR=9.0						
TORD	**Torodi Ar. Bea**	**54.62**	**257**	P	**P**	**04 10 15.3**	**-0.5**
	0.6nm,1.1s,baz=48,slow=5.7,SNR=2.3						

IDC 19 04:07:30.5±1.7, 0°.82N×126°.96E, h0^{km}, mb3.5/4, mb1 3.7/4, mb1mx3.4/52, mbtmp3.5/4, Error ellipse: s-maj=157.9km s-min=21.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.87**	**161**	P	P	04 12 25.1	+0.1
	1.2nm,0.6s,baz=340,slow=11,SNR=16						
ASAR	**Alice Springs**	**25.26**	**165**	P	P	04 12 58.5	-0.1
	0.8nm,0.6s,baz=351,slow=16,SNR=8.2						
MKAR	**Makanchi Array**	**60.07**	**326**	P	P	04 17 38.5	-1.0
	0.4nm,0.5s,baz=113,slow=7.9,SNR=5.7						
KURBB	**Kurchatov Arra**	**64.31**	**328**	P	P	04 18 08.5	+0.8
	0.4nm,0.6s,baz=123,slow=6.6,SNR=3.9						

*CSEM **19** 04:08:52.1, 14°.11N×43°.41E, h19^{km}, ML3.0, After DHMR*
DHMR 19 04:08:52.1±2.0, 14°.11N×43°.41E, h19^{km}±14^{km}, ML3.0, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**0.56**	**104**	⇑*i*P	Pg	04 09 04.2	+0.7
UDYN				*i* S	Sg	04 09 12.2	+1.0
UDYN				AML	AML	04 09 12.5	
	comp=E,510nm,0.5s						
UDYN	**Al 'Udayn**	**0.56**	**104**	*i* P	Pg	04 09 03.6	+0.1
UDYN				*i* S	Sg	04 09 11.6	+0.5
UDYN				AML	AML	04 09 12.4	
	comp=E,510nm,0.5s						
DHBB	**Dhamar BB**	**1.06**	**64**	*i* P	Pg	04 09 14.6	+1.8
DHBB				*i* S	Sg	04 09 30.2	+3.4
DHBB	**Dhamar BB**	**1.06**	**64**	*i* P	Pg	04 09 12.6	-0.2
DHBB				*i* S	Sg	04 09 28.2	+1.4
DHBB				AML	AML	04 09 35.3	
	comp=N,371nm,0.5s						
DHBB	**Dhamar BB**	**1.06**	**64**	*i* P	Pg	04 09 12.6	-0.2
DHBB				*i* S	Sg	04 09 28.2	+1.4
SANA	**San'a**	**1.49**	**31**	*i* S	Sg	04 09 43.9	+3.5
SANA	**San'a**	**1.49**	**31**	*i* P	Pn	04 09 17.7	-0.3
SANA				*i* S	Sb	04 09 39.0	+1.1
BDHA	**Al Bayda'**	**2.10**	**93**	*i* P	Pb	04 09 30.2	+0.5
BDHA				*i* S	Sg	04 09 58.2	-1.7
BDHA				AML	AML	04 10 03.8	
	comp=N,136nm,0.7s						
BDHA	**Al Bayda'**	**2.10**	**93**	*i* P	Pb	04 09 28.9	-0.9
BDHA				*i* S	Sb	04 09 55.9	+0.3
BDHA				AML	AML	04 10 03.8	
	comp=N,136nm,0.7s						
BDHA	**Al Bayda'**	**2.10**	**93**	*i* P	Pb	04 09 30.2	+0.4
BDHA				*i* S	Sg	04 09 58.2	-1.7
	comp=N,68nm,0.7s						
BDHA	**Al Bayda'**	**2.10**	**93**	*i* P	Pb	04 09 28.9	-0.9
BDHA				*i* S	Sb	04 09 55.8	+0.2
	comp=N,68nm,0.7s						

*ISCJB **19** 04:09:29.8±0.5, 13°.91N±0°.08×90°.72W±0°.06, h111^{km}±3^{km}, mb4.0/12, Error ellipse: s-maj=15.7km s-min=3.6km az=33.0*
*CASC **19** 04:09:31.3±1.7, 13°.69N×90°.74W, h79^{km}±23^{km}, MD4.9, ML4.1*
*IDC **19** 04:09:35.8±2.3, 14°.13N×90°.25W, h136^{km}±20^{km}, mb3.7/12, mb1 3.8/15, mb1mx3.6/49, mbtmp4.1/15, MS3.4/1, Ms1 3.4/1, ms1mx2.6/43, Error ellipse: s-maj=27.1km s-min=12.6km az=43.0*
*MEX **19** 04:09:35.2±0.7, 13°.92N×90°.93W, h81^{km}±32^{km}, MD4.1*
ISC 19 04:09:30.6±1.0, 13°.9N±0°.1×90°.72W±0°.07, h99^{km}±7^{km}, n59, σ1^{s}25/75, mb4.2/12, 3C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.37**	**43**	*e*P	**Pn**	**04 09 45.0**	**-0.6**
SBLS	**San Blas**	**1.06**	**93**	*e*P	**Pn**	**04 09 52.0**	**+0.2**
SBLS				*e*S	**Sn**	**04 10 08.3**	**+0.5**
SNJE	**San Jose**	**1.08**	**92**	*e*P	**Pn**	**04 09 52.2**	**+0.3**
UNIC	**Santa Ana**	**1.13**	**85**	*e*P	**Pn**	**04 09 52.6**	**+0.3**
UNIC				*e*S	**Sn**	**04 10 09.9**	**+1.1**
UNIC				IAML		04 10 13.1	
	comp=Z,1μm,0.4s						
COLS	**Colinas**	**1.40**	**100**	*e*P	**Pn**	**04 09 55.9**	**+0.3**
COLS				*e*S	**Sn**	**04 10 15.2**	**+0.6**
BOQS	**Boqueron**	**1.40**	**97**	*e*P	**Pn**	**04 09 56.1**	**+0.3**
MTO3	**Montecristo**	**1.40**	**69**	⇓*e*P	**Pn**	**04 09 56.2**	**+0.4**
UEES	**San Salvador**	**1.44**	**97**	*e*P	**Pn**	**04 09 56.4**	**+0.2**
UEES				IAML		04 10 20.3	
	comp=Z,4μm,0.2s						
SNET	**Serv Nac Est T**	**1.46**	**98**	*e*P	**Pn**	**04 09 56.6**	**+0.2**
SNET				*e*S	**Sn**	**04 10 16.4**	**+0.6**
SNET				IAML		04 10 20.0	
	comp=Z,4μm,0.4s						
OPAM	**San Salvador**	**1.48**	**97**	*e*P	**Pn**	**04 09 57.2**	**+0.6**
OPAM				IAML		04 10 22.4	
	comp=Z,3μm,0.2s						
UESS	**San Salvador**	**1.48**	**97**	*e*P	**Pn**	**04 09 57.2**	**+0.5**
UESS				IAML		04 09 58.7	
	comp=Z,3μm,0.2s						
UDBS	**Soyapango**	**1.52**	**96**	*e*P	**Pn**	**04 09 57.7**	**+0.6**
UDBS				IAML		04 10 21.9	
	comp=Z,4μm,0.5s						
SOYA	**Soyapango**	**1.53**	**97**	*e*P	**Pn**	**04 09 57.6**	**+0.4**
SOYA				IAML		04 10 24.1	
	comp=Z,3μm,0.3s						
LFU	**La Fuente**	**1.56**	**95**	⇑*e*P	**Pn**	**04 09 58.2**	**+0.6**
LFRS	**El Faro**	**1.63**	**100**	*e*P	**Pn**	**04 09 58.7**	**+0.2**
LBRS	**Las Brisas**	**1.63**	**96**	⇓*e*P	**Pn**	**04 09 58.9**	**+0.4**
LLGN	**La Laguna**	**1.73**	**81**	*e*P	**Pn**	**04 10 00.2**	**+0.4**
LLGN				IAML		04 10 24.4	
	comp=Z,650nm,0.5s						
PAVA	**Las Pavas**	**1.74**	**96**	*e*P	**Pn**	**04 10 00.4**	**+0.6**
THIG		**1.80**	**304**	*e*P	**Pn**	**04 10 00.9**	**+0.3**
THIG				*e*S	**Sn**	**04 10 21.6**	**-1.9**
PACA	**Pacayal**	**2.36**	**100**	*e*P	**Pn**	**04 10 09.2**	**+1.2**
CCIG	**Comitan**	**2.74**	**330**	*i* P	**Pn**	**04 10 15.4**	**+2.4**
LCND	**La Ca˜–ada**	**2.81**	**102**	⇓*e*P	**Pn**	**04 10 14.4**	**+0.6**
PCIG		**3.01**	**307**	*e*P	**Pn**	**04 10 17.7**	**+1.2**
PCIG				*i* S	**Sn**	**04 10 49.8**	**-2.0**
TGIG		**3.68**	**321**	*e*P	**Pn**	**04 10 26.5**	**+1.0**
TGIG				*i* S	**Sn**	**04 11 07.9**	**-0.2**
CRIN	**San Cristobal**	**3.76**	**108**	*e*P	**Pn**	**04 10 28.4**	**+1.8**
CRIN				*e*S	**Sn**	**04 11 10.3**	**+0.3**
CRIN				AML	AML	04 11 13.8	
	comp=N,1μm,0.7s						
TELN	**Telica**	**4.00**	**108**	*e*P	**Pn**	**04 10 30.6**	**+0.8**
ESTN	**Estel**	**4.30**	**100**	*e*P	**Pn**	**04 10 34.8**	**+0.9**
COPN	**Copaltepe**	**4.37**	**113**	*e*P	**Pn**	**04 10 35.0**	**+0.3**
XAVN	**Gruta Xavier**	**4.62**	**112**	*e*P	**Pn**	**04 10 38.7**	**+0.6**
TISN	**Laguna Tiscapa**	**4.67**	**111**	*e*P	**Pn**	**04 10 39.7**	**+0.8**
MGAN	**Managua**	**4.69**	**111**	*e*P	**Pn**	**04 10 39.9**	**+0.8**
MGAN				*e*S	**Sn**	**04 11 29.5**	**-2.9**
CMIG	**Matias Romero**	**5.12**	**309**	P	**Pn**	**04 10 45.5**	**+0.6**
	comp=N,1.8nm,0.3s,baz=124,slow=5.8,SNR=25						
CMIG				S	**Sn**	**04 11 44.1**	**+1.3**
	comp=N,3.0nm,0.3s,baz=198,slow=20,SNR=2.6						
CRZ1	**La Cruz**	**5.70**	**119**	*e*P	**Pn**	**04 10 53.1**	**+0.2**
CRZ1				*e*S	**Sn**	**04 11 54.4**	**-2.6**
CUI	**Cuipilapa**	**6.31**	**120**	*e*P	**Pn**	**04 11 02.0**	**+0.9**
JTS	**JuntasAbangare**	**6.68**	**122**	P	**Pn**	**04 11 07.6**	**+1.5**
	comp=N,22nm,0.3s,baz=15,slow=18,SNR=62						
JTS				S	**Sn**	**04 12 20.9**	**0.0**
	comp=N,5.1nm,0.3s,baz=307,slow=20,SNR=2.9						
CGA2	**Cerro Gallo 2**	**7.23**	**122**	*e*P	**Pn**	**04 11 16.2**	**+2.4**
URSC	**Urasca**	**7.90**	**120**	⇑*e*P	**Pn**	**04 11 24.9**	**+1.9**
BUS	**Buena Vista**	**8.07**	**122**	⇑*i*P	**Pn**	**04 11 28.0**	**+2.5**
EDBA	**Buenos Aires**	**8.68**	**122**	*e*P	**Pn**	**04 11 33.5**	**+0.2**
EDBA				*e*S	**Sn**	**04 13 09.0**	**-0.6**
TXAR	**Lajitas Array**	**19.49**	**324**	P	**Pn**	**04 13 53.4**	**+1.3**
	comp=N,0.2nm,0.3s,baz=152,slow=10,SNR=13						
TXAR				PcP	**PcP**	**04 18 08.4**	**+1.4**
	comp=N,0.1nm,0.3s,baz=174,slow=3.3,SNR=4.6						
SDV	**Santo Domingo**	**20.30**	**102**	P	**P**	**04 13 57.8**	**-1.1**
	comp=N,0.3nm,0.3s,baz=324,slow=6.9,SNR=5.0						
TKL	**Tuckaleechee C**	**22.55**	**15**	P	**P**	**04 14 23.2**	**+0.8**
	comp=N,9.7nm,0.7s,baz=182,slow=11,SNR=24						
NNA	**Nana**	**29.17**	**151**	LR	LR	04 25 13.2	
	comp=N,88nm,21.9s,baz=323,slow=32						
PDAR	**Pinedale Array**	**33.04**	**334**	PcP	**PcP**	**04 18 39.0**	**+0.7**
	comp=N,0.3nm,0.4s,baz=116,slow=4.6,SNR=4.4						
NVAR	**Mina Array Bea**	**34.54**	**320**	P	**P**	**04 16 13.4**	**+3.6**
	comp=N,4.2nm,0.7s,baz=133,slow=8.5,SNR=37						
NVAR				PcP	**PcP**	**04 18 44.4**	**+1.7**
	comp=N,2.2nm,0.7s,baz=132,slow=3.5,SNR=15						
ULM	**Lac du Bonnet**	**36.49**	**354**	P	**P**	**04 16 25.5**	**-0.6**
	comp=N,3.5nm,0.8s,baz=176,slow=8.6,SNR=7.9						
ULM				PcP	**PcP**	**04 18 48.4**	**+0.5**
	comp=N,1.3nm,0.6s,baz=160,slow=1.8,SNR=3.2						
YBH	**Yreka Blue Hor**	**39.22**	**321**	P	**P**	**04 16 50.6**	**+1.3**
	comp=N,1.8nm,0.7s,baz=142,slow=4.7,SNR=6.4						
SCHQ	**Schefferville**	**44.89**	**19**	P	**P**	**04 17 34.5**	**-0.6**
	comp=N,5.2nm,0.7s,baz=219,slow=6.5,SNR=21						
YKA	**Yellowknife Ar**	**51.41**	**346**	P	**P**	**04 18 25.0**	**-0.1**
	comp=N,0.3nm,0.5s,baz=146,slow=8.0,SNR=8.6						
YKA				PcP	**PcP**	**04 19 38.3**	**0.0**
	comp=N,0.5nm,0.6s,baz=152,slow=3.8,SNR=9.4						
RES	**Resolute Bay**	**60.82**	**359**	P	**P**	**04 19 31.0**	**-0.9**
	comp=N,1.3nm,0.5s,baz=178,slow=7.0,SNR=14						
INK	**Inuvik**	**60.89**	**343**	P	**P**	**04 19 32.5**	**0.0**
	comp=N,1.6nm,0.7s,baz=120,slow=5.3,SNR=12						
ILAR	**Eielson Array**	**63.42**	**337**	P	**P**	**04 19 49.7**	**+0.2**
	comp=N,0.2nm,0.4s,baz=168,slow=5.3,SNR=6.0						
ESDC	**Sonseca Array**	**78.80**	**52**	P	**P**	**04 21 20.5**	**-2.4**
	comp=N,0.1nm,0.4s,baz=293,slow=4.8,SNR=3.7						
DBIC	**Dimbokro**	**84.42**	**85**	P	**P**	**04 21 50.8**	**-2.0**
	comp=N,3.9nm,0.9s,baz=288,slow=6.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**89.19**	**77**	P	**P**	**04 22 14.0**	**-2.0**
	comp=N,0.2nm,0.5s,baz=296,slow=4.0,SNR=8.6						
MKAR	**Makanchi Array**	**119.26**	**6**	PKP	**PKPdf**	**04 28 08.0**	**-0.4**
	comp=N,0.2nm,0.4s,baz=1.5,slow=2.7,SNR=3.5						
WRA	**Warramunga Arr**	**136.58**	**256**	PKP	**PKPdf**	**04 28 43.9**	**+1.9**
	comp=N,0.4nm,0.6s,baz=87,slow=2.6,SNR=5.3						
ASAR	**Alice Springs**	**136.81**	**250**	PKP	**PKPdf**	**04 28 43.8**	**+1.4**
	comp=N,0.2nm,0.3s,baz=69,slow=2.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**146.47**	**343**	PKPbc	**PKPab**	**04 29 01.9**	**-0.2**
	comp=N,3.9nm,0.6s,baz=328,slow=3.1,SNR=15						

*MOS **19** 04:13:52.5±2.6, 49°.04N×156°.58E, h6^{km}, mb4.3/1, Error ellipse: s-maj=68.9km s-min=8.0km az=80.8*
*SKHL **19** 04:13:56.6±2.9, 49°.00N×155°.90E, h36^{km}±4^{km}*
KRSC 19 04:13:52.6±1.5, 49°.04N×156°.58E, h6^{km}±29^{km}, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.67**	**350**	*e*P	Pn	04 14 22.1	-0.2
SKR				*e*S	Sn	04 14 43.4	-0.6
SKR				A	A	04 14 45.4	
	610nm,0.5s						
SKR				A	A	04 14 45.4	
	470nm,0.5s						
SKR	**Severo-Kuril's**	**1.67**	**350**	PN	Pn	04 14 22.1	-0.2
SKR				S	Sn	04 14 44.2	+0.2
SKR	**Severo-Kuril's**	**1.67**	**350**	*e*P	Pn	04 14 22.1	-0.2
SKR				*e*S	Sn	04 14 44.2	+0.2
ASAK	**Asacha**	**3.45**	**14**	PN	Pb	04 14 50.7	-3.4
ASAK	**Asacha**	**3.45**	**14**	*e*P	Pb	04 14 50.7	-3.4
MTVR	**Mutnovka**	**3.59**	**16**	PN	Pn	04 14 51.9	+3.0
MTVR	**Mutnovka**	**3.59**	**16**	*e*P	Pn	04 14 51.9	+3.0
RUS	**Russkaya**	**3.61**	**19**	*e*P	Pn	04 14 51.1	+2.1
RUS	**Russkaya**	**3.61**	**19**	PN	Pn	04 14 51.1	+2.1
RUS	**Russkaya**	**3.61**	**19**	*e*P	Pn	04 14 51.1	+2.1
PET	**Petropavlovsk**	**4.20**	**17**	*e*P	Pb	04 15 04.2	-2.5
PET				*e*S	Sb	04 15 52.8	-4.8
PET				A	A	04 16 07.8	
	46nm,0.6s						
PET				A	A	04 16 07.8	
	40nm,0.6s						
PET	**Petropavlovsk**	**4.20**	**17**	*e*PN	Pb	04 15 04.2	-2.5
PET				*e*S	Sb	04 15 52.8	-4.8
PET				smax	smax		
	comp=E,40nm,0.6s						
PET				smax	smax		
	comp=N,46nm,0.6s						
DALK	**Dalny**	**4.22**	**18**	PN	Pn	04 15 01.2	+3.8
DALK				S	Sn	04 15 51.9	+4.9
DALK	**Dalny**	**4.22**	**18**	*e*P	Pn	04 15 01.2	+3.8
DALK				*e*S	Sn	04 15 51.9	+4.9
UGLR	**Uglovaya**	**4.41**	**18**	PN	Pb	04 15 05.4	-5.0
UGLR	**Uglovaya**	**4.41**	**18**	*e*P	Pb	04 15 05.4	-5.0
AVH	**Avacha**	**4.44**	**17**	*e*P	Pn	04 15 05.4	+4.9
AVH	**Avacha**	**4.44**	**17**	PN	Pn	04 15 04.8	+4.3
AVH	**Avacha**	**4.44**	**17**	*e*P	Pn	04 15 04.8	+4.3
KRX	**Arik**	**4.52**	**16**	PN	Pn	04 15 06.1	+4.6
KRX	**Arik**	**4.52**	**16**	*e*P	Pn	04 15 06.1	+4.6
SPN	**Mys Shipunski**	**4.61**	**27**	*e*P	Pn	04 15 06.1	+3.5
SPN	**Mys Shipunski**	**4.61**	**27**	PN	Pn	04 15 06.1	+3.5
SPN				S	Sn	04 16 02.7	+6.3
SPN	**Mys Shipunski**	**4.61**	**27**	*e*P	Pn	04 15 06.1	+3.5
SPN				*e*S	Sn	04 16 02.7	+6.3
GNL	**Ganaly**	**4.74**	**10**	PN	Pn	04 15 08.2	+3.6
GNL	**Ganaly**	**4.74**	**10**	*e*P	Pn	04 15 08.2	+3.6

IDC 19 04:15:53.9±2.3, 8°.19S×123°.82E, h172^{km}±23^{km}, mb3.3/3, mb1 3.6/6, mb1mx3.3/53, mbtmp4.0/6, MS2.6/2, Ms1 2.6/2, ms1mx2.3/21, Error ellipse: s-maj=60.4km s-min=18.4km az=61.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.00**	**184**	P	Pn	04 16 31.1	+0.6
	77nm,0.3s,baz=5.5,slow=4.9,SNR=43						
BATI				S	Sn	04 16 59.2	+0.2
	62nm,0.3s,baz=218,slow=19,SNR=9.3						
WRA	**Warramunga Arr**	**15.50**	**140**	P	Pn	04 19 22.2	-1.3
	0.9nm,0.3s,baz=318,slow=12,SNR=46						
WRA				S	Sn	04 22 08.1	-8.6
	0.6nm,0.3s,baz=314,slow=24,SNR=6.0						
ASAR	**Alice Springs**	**18.17**	**149**	P	P	04 19 54.0	+0.4
	0.7nm,0.3s,baz=332,slow=12,SNR=27						
ASAR				S	S	04 23 08.0	-4.7
	0.1nm,0.3s,baz=312,slow=21,SNR=3.2						
STKA	**Stephens Creek**	**28.79**	**147**	P	P	04 21 35.3	-0.4
	0.5nm,0.3s,baz=325,slow=4.6,SNR=3.7						
GUMO	**Guam**	**30.09**	**44**	LR	LR	04 34 05.5	
	comp=Z,17nm,20.1s,baz=112,slow=36						
KSRS	**Korea Array**	**45.57**	**5**	LR	LR	04 46 27.9	
	comp=Z,4.9nm,18.5s,baz=165,slow=40						
SONM	**Songino Array**	**57.88**	**346**	P	P	04 25 28.0	+0.3
	0.2nm,0.5s,baz=156,slow=7.5,SNR=2.8						
MKAR	**Makanchi Array**	**66.03**	**330**	P	P	04 26 21.7	-0.3
	0.8nm,0.5s,baz=132,slow=7.7,SNR=19						
TORD	**Torodi Ar. Bea**	**123.01**	**280**	PKP	PKPdf	04 34 29.4	-1.4
	0.3nm,0.7s,baz=38,slow=1.9,SNR=4.2						
CPUP	**Villa Florida**	**145.66**	**178**	PKPbc	PKPab	04 35 13.5	-0.1
	1.2nm,0.5s,baz=185,slow=1.7,SNR=5.3						

*CSEM **19** 04:29:51.9±0.2, 32°.24N×46°.68E, h2^{km}, ML3.0, Error ellipse: s-maj=7.3km s-min=1.8km az=14.0*
*ISN **19** 04:29:54.0±0.3, 32°.53N×46°.33E, h0^{km}, ML3.3*
TEH 19 04:29:57.6, 32°.62N×46°.83E, h5^{km}, ML3.3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.24**	**43**	*e*Pg	Pg	04 30 19.5	-1.9
IKFM				*e*Sg	Sg	04 30 36.7	-0.8
IKFM				*e*AMB	AMB	04 30 45.6	
	comp=Z,99nm,0.2s						
IKOM	**Komasi**	**1.65**	**20**	*e*Pg	Pn	04 30 27.5	+0.1
IKOM				*e*AMB	AMB	04 30 54.0	
	comp=Z,5μm,0.1s						
IGHG	**Ghaleghazi**	**1.72**	**353**	*e*AMB	AMB	04 31 03.0	
	comp=Z,12μm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.74**	**106**	*e*Pg	Pn	04 30 26.6	-1.9
SHGR				*e*Sg	Sn	04 30 49.7	-1.4
IVIS	**Veis**	**1.90**	**0**	*e*Pn	Pn	04 30 30.7	-0.2
IVIS				*e*Sg	Sb	04 30 56.2	-0.9
IVIS				*e*AMB	AMB	04 31 05.8	
	comp=Z,3μm,0.3s						
BHD	**Baghdad**	**2.16**	**288**	*e*Pg	Pn	04 30 34.0	-0.3
	baz=114,SNR=90						
BHD				*e*Sg	Sn	04 31 02.0	+0.5
	SNR=9.0						
HSAM	**Samen**	**2.17**	**42**	*e*Pn	Pn	04 30 34.4	-0.3
ILIN	**Lien**	**2.30**	**3**	*e*Pn	Pn	04 30 36.2	-0.2
ILIN				*e*AMB	AMB	04 31 17.3	
	comp=Z,2μm,0.3s						
SNGE	**Sanandaj**	**2.51**	**10**	*e*Pn	Pn	04 30 39.2	0.0
KHMZ	**Khomeyn**	**2.85**	**66**	*e*Pn	Pn	04 30 42.8	-1.2
HKZM	**Kohzaman**	**3.25**	**31**	*e*Pn	Pn	04 30 49.8	+0.3
ASAG	**Ashtian**	**3.29**	**53**	*e*Pn	Pn	04 30 49.5	-0.5
ASAG				*e*Sg	Sg	04 31 40.6	-2.6
IKLH	**Kolahrood**	**4.05**	**79**	*e*Pn	Pn	04 30 59.5	-1.0
IZEF	**Zefreh**	**4.64**	**85**	*e*Pn	Pn	04 31 07.4	-1.2
IZEF				*e*AMB	AMB	04 32 00.8	
	comp=Z,61nm,0.2s						

*KRNET **19** 04:39:09.6±0.1, 41°.18N×71°.38E, h5^{km}, mb2.0*
*ISCJB **19** 04:39:13.5±0.8, 41°.16N±0°.05×71°.49E±0°.04, h10^{km}, Error ellipse: s-maj=6.9km s-min=4.2km az=21.2*
*SOME **19** 04:39:13.4±4.3, 41°.14N×71°.45E, h0^{km}, mb2.6, mpv2.2, Error ellipse: s-maj=35.2km s-min=26.3km az=70.0*
ISC 19 04:39:12.3±1.1, 41°.20N±0°.04×71°.49E±0°.03, h10^{km}, n18, σ1^{s}45/36, 18C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.70**	**31**	⇑*i*P	**Pg**	**04 39 23.7**	**-2.1**
	baz=37						
ARK				⇑*i*S	**Sg**	**04 39 34.4**	**-0.5**
	baz=37						
ARSB	**Arslanbob**	**1.13**	**83**	⇑*i*P	**Pb**	**04 39 32.8**	**-1.2**
	baz=83						
ARSB				⇑*i*S	**Sn**	**04 39 49.8**	**-0.2**
	baz=83						
TOKL	**Toktogul**	**1.27**	**54**	⇑*i*P	**Pn**	**04 39 34.3**	**-1.9**
	baz=55						
TOKL				⇑*i*S	**Sg**	**04 39 53.3**	**0.0**
	baz=55						
IUG	**Iuzhnay**	**1.45**	**311**	*e*P	**Pb**	**04 39 39.6**	**+0.2**
	7.4nm,0.2s						
IUG				*e*S	**Sg**	**04 39 59.5**	**+0.7**
	24nm,0.2s						
MNAS	**Manas**	**1.50**	**30**	⇑P	**Pb**	**04 39 40.0**	**-0.2**
	0.3nm,0.2s						
MNAS				⇓S	**S

JMK				S	Sn	04 45 11.3	+0.2	
JFT	**Otama**	**1.38**	**258**	P	Pb	04 44 57.3	-0.9	
JFT				S	Sb	04 45 14.5	-0.9	
JYK	**Kaneyama**	**1.72**	**311**	P	Pn	04 45 01.8	+1.3	
JYK				*e*S	Sn	04 45 22.4	+1.2	
JOM	**Ohasama**	**1.76**	**341**	P	Pn	04 45 01.8	+0.7	

IDC 19 04:47:09.8±15.0, 17°.85S×178°.77W, h666km±212km, mb3.0/10, mb1 3.3/10, mb1mx3.1/43, mbtmp3.9/10, Error ellipse: s-maj=62.0km s-min=34.8km az=74.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.36**	**241**	P	P	04 53 37.7	+0.2
	2.8nm,0.7s,baz=75,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**44.31**	**260**	P	P	04 54 23.7	-0.4
	0.8nm,0.4s,baz=90,slow=8.1,SNR=34						
ASAR	**Alice Springs**	**44.48**	**254**	P	P	04 54 25.9	+0.4
	6.7nm,0.7s,baz=88,slow=8.6,SNR=67						
VNDA	**Vanda**	**60.47**	**185**	P	P	04 56 17.3	-0.2
	0.9nm,0.6s,baz=9.9,slow=8.1,SNR=3.7						
YBH	**Yreka Blue Hor**	**78.69**	**39**	P	P	04 58 05.7	0.0
	0.7nm,0.6s,baz=229,slow=9.3,SNR=3.2						
NVAR	**Mina Array Bea**	**79.62**	**44**	P	P	04 58 10.8	0.0
	0.5nm,0.7s,baz=220,slow=9.6,SNR=4.7						
ILAR	**Eielson Array**	**85.91**	**13**	P	P	04 58 40.9	-0.3
	0.2nm,0.4s,baz=222,slow=4.7,SNR=7.5						
TXAR	**Lajitas Array**	**86.25**	**58**	P	P	04 58 44.2	+0.5
	0.6nm,0.7s,baz=216,slow=6.5,SNR=6.8						
PDAR	**Pinedale Array**	**87.54**	**44**	P	P	04 58 50.0	+0.4
	0.4nm,0.6s,baz=242,slow=3.2,SNR=3.9						
YKA	**Yellowknife Ar**	**94.42**	**25**	P	P	04 59 20.7	+0.2
	0.1nm,0.5s,baz=233,slow=4.6,SNR=4.1						

*IDC **19** 05:04:53.7±0.5, 0°.79S×119°.93E, h0km, mb4.7/24, mb1 4.8/24, mb1mx4.5/53, mbtmp4.7/24, MS3.5/22, Ms1 3.5/22, ms1mx3.3/58, Error ellipse: s-maj=18.8km s-min=11.1km az=63.0*

*ISCJB **19** 05:04:56.6±0.2, 0°.77S±0°.02×119°.95E±0°.02, h28km, mb4.8/91, MS3.6/23, Error ellipse: s-maj=3.5km s-min=2.8km az=28.5*

*DJA **19** 05:04:57.6±0.9, 1°.S±2°×12°.0E±°, h13km±7km, M4.9/30, mb5.0/30, mB5.4/17, MLv4.9/16, Mw(mB)4.8/17*

*MOS **19** 05:04:57.4±0.9, 0°.77S×119°.92E, h36km, mb5.0/41, Error ellipse: s-maj=12.7km s-min=6.2km az=112.3*

*NEIC **19** 05:04:59.6±0.7, 0°.88S×119°.93E, h43km±6km, mb5.1/37, Error ellipse: s-maj=7.4km s-min=4.9km az=47.0*

NEIC Felt [IV] at Palu.

ISC 19 05:04:58.1±0.3, 0°.78S±0°.04×119°.98E±0°.04, h28km, n240, σ1°55/239, mb4.9/91, MS3.6/23, 9C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.11**	**356**	P	**Pn**	**05 05 16.9**	**-0.9**
APSI	**Ampana**	**1.68**	**95**	P	**Pb**	**05 05 28.0**	**-0.3**
TTSI	**Tana Toraja**	**2.26**	**184**	P	**Pn**	**05 05 34.0**	**+0.4**
TTSI				S	**Sb**	**05 06 06.8**	**+1.0**
MRSI	**Marisa**	**2.32**	**58**	P	**Pn**	**05 05 35.7**	**+1.2**
SGKI	**Sangatta, Kali**	**2.39**	**276**	P	**Pn**	**05 05 36.8**	**+1.4**
SMKI	**Samarinda**	**2.79**	**277**	P	**Pn**	**05 05 39.9**	**-1.0**
LUWI	**Luwuk**	**2.81**	**95**	P	**Pn**	**05 05 42.3**	**+1.2**
LUWI	**Luwuk**	**2.81**	**95**	*e*Pn	**Pn**	**05 05 42.4**	**+1.2**
LUWI				*e*Sn	**Sn**	**05 06 09.6**	**-4.5**
BKB	**Balikpapan**	**3.12**	**261**	P	**Pn**	**05 05 43.3**	**-2.2**
BKB				S	**Sn**	**05 06 22.0**	**+0.2**
KMSI	**Cibinong**	**4.22**	**71**	P	**Pn**	**05 06 04.6**	**+4.0**
KBKI	**Kotabaru**	**4.56**	**237**	P	**Pn**	**05 06 03.3**	**-2.0**
KBKI				S	**Sn**	**05 06 57.3**	**-0.1**
MTKI	**Muara Teweh, K**	**5.08**	**268**	P	**Pn**	**05 06 12.6**	**+0.1**
BSSI	**Bau Bau, Buton**	**5.36**	**175**	P	**Pn**	**05 06 18.9**	**+2.7**
	213nm,1.1s,6μm0.8nm						
MYLDM	**Lahad Datu**	**6.10**	**346**	*e*Pn	**Pn**	**05 06 28.1**	**+1.7**
SANI	**Sanana**	**6.14**	**102**	P	**Pn**	**05 06 27.9**	**+0.9**
LBMI	**Labuha**	**7.52**	**89**	P	**Pn**	**05 06 47.3**	**+1.3**
KKM	**Kota Kinabalu**	**7.75**	**331**	*e*Pn	**Pn**	**05 06 50.4**	**+1.2**
KKM				*e*Sn	**Sn**	**05 08 17.0**	**+0.9**
EDFI	**Ende, Flores**	**8.10**	**168**	P	**Pn**	**05 06 57.9**	**+3.8**
	126nm,1.1s,10μm						
SBUM	**Sibu**	**8.39**	**292**	*e*Pn	**Pn**	**05 06 57.9**	**-0.1**
STKI	**Sintang**	**8.54**	**276**	P	**Pn**	**05 06 58.4**	**-1.6**
AAI	**Ambon**	**8.70**	**110**	P	**Pn**	**05 07 06.3**	**+4.1**
WBSI	**Waikabubak, Su**	**8.83**	**184**	P	**Pn**	**05 07 06.1**	**+2.1**
MSAI	**Masohi**	**9.30**	**106**	P	Pn	05 07 15.4	+5.0
JAGI	**Jajag, Banyuwa**	**9.60**	**217**	*e*Pn	**Pn**	**05 07 16.2**	**+1.7**
SOEI	**Soe**	**9.89**	**155**	P	**Pn**	**05 07 22.7**	**+4.1**
SOEI	**Soe**	**9.89**	**155**	*e*Pn	**Pn**	**05 07 18.1**	**-0.5**
SOEI				*e*Sn	**Sn**	**05 09 08.1**	**-0.7**
BATI	**Baumata**	**10.06**	**159**	LR	LR	05 12 00.6	
	comp=Z,268nm,19.7s,baz=328,slow=42						
SWI	**Sorong**	**11.28**	**91**	P	**Pn**	**05 07 39.1**	**+1.5**
	49nm,0.9s						
FAKI	**Fak Fak**	**12.45**	**100**	*e*Pn	**Pn**	**05 07 53.6**	**+0.1**
FAKI				*e*Sn	**Sn**	**05 10 12.9**	**+1.5**
LEM	**Lembang**	**13.72**	**244**	LR	LR	05 13 37.1	
	comp=Z,264nm,19.6s,baz=80,slow=38						
PMBI	**Palembang**	**15.35**	**262**	P	**Pn**	**05 08 34.0**	**+1.1**
	492nm,0.4s,16μm						
CGJI	**Cibinong**	**15.38**	**248**	P	**Pn**	**05 08 34.8**	**+1.4**
KASI	**Kota Agung**	**16.16**	**253**	P	**Pn**	**05 08 43.8**	**+0.4**
MDSI	**Maura Dua**	**16.21**	**257**	P	**P**	**05 08 46.9**	**0.0**
MTN	**Manton Dam**	**16.31**	**138**	P	**Pn**	**05 08 45.7**	**+0.4**
	baz=16,SNR=5.4						
MYKOM	**Kota Tinggi**	**16.33**	**279**	*e*Pn	**Pn**	**05 08 45.2**	**-0.4**
	66nm,1.6s						
LWLI	**Liwa**	**16.45**	**255**	P	**P**	**05 08 48.6**	**-1.1**
MNAI	**Manna**	**17.37**	**258**	*e*Pn	**P**	**05 09 01.8**	**+1.9**
	272nm,1.0s						
MASI	**Maura Aman, Be**	**17.88**	**262**	P	**P**	**05 09 07.9**	**+2.3**
	282nm,1.1s,3μm						
PDSI	**Padang**	**19.52**	**269**	P	**Pn**	**05 09 24.9**	**0.0**
	31nm,0.9s,8μm						
IPM	**Ipoh**	**19.64**	**286**	*e*P	**P**	**05 09 25.4**	**+0.5**
	116nm,1.5s						
KULM	**Kulim**	**20.22**	**288**	*e*P	**P**	**05 09 30.4**	**-0.7**
	55nm,1.1s						
GENI	**Genyem**	**20.26**	**95**	P	Pn	05 09 34.0	+0.3
JAY	**Jayapura**	**20.79**	**95**	P	Pn	05 09 39.8	-0.1
	212nm,1.1s						
SKLT	**Songkhla**	**20.86**	**293**	P	**P**	**05 09 38.6**	**+0.5**
	32nm,1.6s,572nm						
SISI	**Saibi**	**20.89**	**268**	P	**P**	**05 09 36.9**	**-1.5**
	79nm,0.9s						
PSI	**Prapat**	**21.35**	**280**	LR	LR	05 19 13.6	
	comp=Z,513nm,18.5s,baz=108,slow=40						
PSI	**Prapat**	**21.35**	**280**	*e*P	**P**	**05 09 42.0**	**-1.5**
PSI				pmax	pmax		
	comp=Z,64nm,1.2s						
PSI	**Prapat**	**21.35**	**280**	*e*P	**P**	**05 09 42.0**	**-1.5**
	comp=Z,64nm,1.2s						
TRTT	**Trang**	**21.96**	**293**	P	**P**	**05 09 48.9**	**-1.1**
	comp=Z,14nm,1.7s,comp=Z,246nm						
QIZ	**Qiongzhong**	**22.06**	**334**	*e*P	**P**	**05 09 51.9**	**+1.0**
	comp=Z,26nm,1.1s						
CHBT	**CHBT**	**22.07**	**308**	P	P	05 09 58.8	+7.7
GSI	**Gunungsitoli**	**22.50**	**275**	P	**P**	**05 09 57.5**	**+1.8**
GSI	**Gunungsitoli**	**22.50**	**275**	*e*P	**P**	**05 09 55.0**	**-0.8**
	comp=Z,48nm,1.1s						
KCSI	**Kotacane, Aceh**	**22.60**	**281**	P	**P**	**05 09 56.9**	**+0.1**
	comp=Z,24nm,1.4s						
SRAK	**Srakaew**	**23.05**	**310**	P	**P**	**05 09 58.7**	**-2.8**
	comp=Z,45nm,0.8s,comp=Z,499nm						
TPTI		**23.14**	**280**	P	**P**	**05 10 01.1**	**-1.3**
	comp=Z,34nm,0.9s						
SURT	**Suratani**	**23.21**	**295**	P	**P**	**05 10 02.5**	**-0.6**
	comp=Z,9.6nm,1.0s						
SKNT	**Sakolnakorn**	**23.66**	**319**	P	**P**	**05 10 07.2**	**-0.3**
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**23.67**	**144**	*ce*P	**P**	**05 10 07.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,205nm,1.2s						
WRAB	**Tennant Creek**	**23.67**	**144**	*e*P	**P**	**05 10 07.3**	**-0.2**
	comp=Z,81nm,1.1s						
WRA	**Warramunga Arr**	**23.67**	**144**	P	**P**	**05 10 07.2**	**-0.4**
	comp=Z,27nm,1.0s,baz=308,slow=12,SNR=59						
WRA				LR	LR	05 21 16.7	
	comp=Z,156nm,19.2s,baz=310,slow=42						
WB2	**Warramunga Arr**	**23.68**	**144**	*e*P	**P**	**05 10 06.8**	**-0.8**
WB2				*e*S	**S**	**05 14 21.3**	**+0.3**
NAYO	**Nakonayok**	**23.79**	**310**	P	**P**	**05 10 09.6**	**+0.9**
	comp=Z,12nm,1.7s						
MLSI	**Meulaboh, Aceh**	**24.08**	**282**	P	**P**	**05 10 13.8**	**+2.3**
CHAI	**Chaiyaphum**	**24.30**	**314**	P	**P**	**05 10 14.6**	**+1.2**
	comp=Z,11nm,1.2s,comp=Z,101nm						
SSLB	**Suanglung**	**24.43**	**2**	*e*P	**P**	**05 10 11.5**	**-3.1**
	comp=Z,107nm,1.8s						
WRKA	**Warakurna**	**25.42**	**162**	P	**P**	**05 10 23.2**	**-0.4**
	baz=25,SNR=12						
PHIT	**Phitsanulok**	**26.27**	**314**	P	**P**	**05 10 35.4**	**+4.0**
	comp=Z,9.5nm,0.8s						
ASAR	**Alice Springs**	**26.46**	**150**	P	**P**	**05 10 32.5**	**-0.5**
	comp=Z,6.2nm,0.7s,baz=348,slow=14,SNR=38						
ASAR				LR	LR	05 22 20.5	
	comp=Z,183nm,19.2s,baz=316,slow=40						
AS01	**Alice Springs**	**26.48**	**150**	*e*P	**P**	**05 10 32.3**	**-0.9**
CM01	**Chiang Mai Arr**	**28.13**	**314**	*e*P	**P**	**05 10 49.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**28.16**	**314**	P	**P**	**05 10 48.0**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=133,slow=6.9,SNR=6.5						
CMAR				LR	LR	05 24 45.0	
	comp=Z,141nm,18.6s,baz=144,slow=42						
PMG	**Port Moresby**	**28.37**	**108**	P	**P**	**05 10 50.5**	**+0.2**
	comp=Z,11nm,0.7s,baz=300,slow=11,SNR=4.5						
CHTO	**Chiang Mai**	**28.39**	**314**	*e*P	**P**	**05 10 51.6**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,22nm,1.8s						
CHTO	**Chiang Mai**	**28.39**	**314**	*e*P	**P**	**05 10 51.6**	**+1.2**
	comp=Z,22nm,1.8s						
GUMO	**Guam**	**28.50**	**59**	*e*P	**P**	**05 10 48.8**	**-2.5**
GUMO				pmax	pmax		
	comp=Z,441nm,1.6s						
GUMO	**Guam**	**28.50**	**59**	*e*P	**P**	**05 10 48.8**	**-2.5**
	comp=Z,441nm,1.6s						
GYA	**Guiyang**	**29.97**	**336**	*e*P	**P**	**05 11 05.8**	**+1.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
KMI	**Kunming**	**30.68**	**328**	P	**P**	**05 11 13.0**	**+2.1**
KMI				pmax	pmax		
	comp=Z,16nm,1.4s						
CTAO	**Charters Tower**	**32.08**	**128**	*e*P	**P**	**05 11 20.1**	**-2.9**
CTAO				pmax	pmax		
	comp=Z,47nm,1.4s						
CTAO	**Charters Tower**	**32.08**	**128**	*e*P	**P**	**05 11 20.1**	**-2.9**
	comp=Z,47nm,1.4s						
NWAO	**Narrogin (SRO)**	**32.09**	**184**	P	**P**	**05 11 22.1**	**-0.8**
	comp=Z,8.5nm,0.8s,baz=176,slow=9.5,SNR=3.3						
NWAO	**Narrogin (SRO)**	**32.09**	**184**	*e*P	**P**	**05 11 22.1**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,144nm,1.8s						
NWAO	**Narrogin (SRO)**	**32.09**	**184**	*e*P	**P**	**05 11 22.1**	**-0.8**
	comp=Z,144nm,1.8s						
ENH	**Enshi**	**32.45**	**343**	*e*P	**P**	**05 11 27.9**	**+1.7**
	comp=Z,21nm,0.8s						
NJ2	**Nanjing**	**32.67**	**358**	*e*P	**P**	**05 11 30.1**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
QLP	**Quilpie**	**34.68**	**140**	P	**P**	**05 11 46.5**	**+0.9**
	baz=35,SNR=4.6						
CBIJ	**Chichi jima**	**34.99**	**36**	*e*P	**P**	**05 11 50.1**	**+1.8**
	comp=Z,290nm,1.0s						
JCJ	**Chichijima**	**34.99**	**36**	P	**P**	**05 11 47.1**	**-1.2**
	comp=Z,160nm,0.7s,baz=285,slow=20						
CD2	**Chengdu**	**35.08**	**335**	*e*P	**P**	**05 11 50.5**	**+1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.2s						
BBOO	**Buckleboo**	**35.28**	**156**	P	**P**	**05 11 49.9**	**-0.8**
	baz=35,SNR=12						
BBOO	**Buckleboo**	**35.28**	**156**	*e*P	**P**	**05 11 50.4**	**-0.2**
	comp=Z,14nm,0.8s						
XAN	**Xi'an**	**36.16**	**344**	P	**P**	**05 12 00.3**	**+2.1**
XAN				pP	sP	05 12 10.8	+0.9
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
HTT	**Hallett**	**37.03**	**153**	P	**P**	**05 12 05.9**	**+0.2**
	baz=37,SNR=13						
STKA	**Stephens Creek**	**37.07**	**149**	P	**P**	**05 12 05.9**	**-0.1**
	comp=Z,22nm,0.7s,baz=319,slow=9.4,SNR=28						
STKA				LR	LR	05 29 41.3	
	comp=Z,175nm,18.1s,baz=350,slow=40						
STKA	**Stephens Creek**	**37.07**	**149**	P	**P**	**05 12 06.0**	**0.0**
	baz=37,SNR=21						
STKA	**Stephens Creek**	**37.07**	**149**	*e*P	**P**	**05 12 05.6**	**-0.4**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
STKA	**Stephens Creek**	**37.07**	**149**	*e*P	**P**	**05 12 05.6**	**-0.4**
	comp=Z,5.5nm,0.7s						
SHL	**Shillong**	**37.73**	**316**	*e*P	**P**	**05 12 12.0**	**+0.1**
KSRS	**Korea Array**	**38.74**	**10**	P	**P**	**05 12 19.4**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=184,slow=10.0,SNR=7.0						
KSRS				LR	LR	05 28 20.5	
	comp=Z,40nm,21.9s,baz=184,slow=36						
KS01	**Wonju Array Si**	**38.76**	**10**	*e*P	**P**	**05 12 22.7**	**+2.6**
CMSA	**Cobar Meteorol**	**39.08**	**144**	P	**P**	**05 12 23.7**	**+0.7**
	baz=39,SNR=14						
LZH	**Lanzhou**	**39.63**	**339**	*e*P	**P**	**05 12 31.0**	**+3.3**
LZH				pP	sP	05 12 41.5	+2.0
LZH				sP	pP	05 12 46.1	+10
LZH				*e*PP	**PnPn**	**05 14 07.0**	**+4.8**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,87nm,5.2s						
LZH				LR	LR		
	comp=Z,370nm,13.6s						
LZH				LR	LR		
	comp=Z,380nm,14.2s						
LZH				LR	LR		
	comp=Z,430nm,17.3s						
HNR	**Honiara**	**40.69**	**104**	LR	LR	05 30 42.1	
	comp=Z,43nm,18.4s,baz=240,slow=38						
BJT	**Baijiatuau**	**40.75**	**356**	*e*P	**P**	**05 12 38.2**	**+1.5**
BJT				pmax	pmax		
	comp=Z,40nm,1.0s						
BJT	**Baijiatuau**	**40.75**	**356**	*e*P	**P**	**05 12 38.2**	**+1.5**
	comp=Z,40nm,1.0s						
BJI	**Beijing**	**40.77**	**356**	P	**P**	**05 12 38.5**	**+1.7**
BJI				pmax	pmax		
	comp=Z,27nm,0.9s						
MAJO	**Matsushiro**	**40.81**	**23**	*e*P	**P**	**05 12 36.5**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,18nm,1.3s						
MAJO	**Matsushiro**	**40.81**	**23**	*e*P	**P**	**05 12 36.8**	**-0.5**
MJAR	**Matsushiro Arr**	**40.81**	**23**	P	**P**	**05 12 36.8**	**-0.5**
	comp=Z,7.0nm,0.9s,baz=206,slow=9.4,SNR=11						
MJAR				LR	LR	05 29 06.4	
	comp=Z,30nm,21.6s,baz=195,slow=36						
ARPS	**Mount Arapiles**	**41.13**	**153**	P	**P**	**05 12 40.3**	**+0.4**
	baz=41,SNR=6.9						
HHC	**Hu-ho-hao-te**	**42.13**	**350**	*e*P	**P**	**05 12 51.0**	**+2.8**
HHC				sP	sP	05 13 04.8	+4.8
HHC				S	**S**	**05 19 07.8**	**+1.5**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,4.9s						
HHC				LR	LR		
	comp=Z,160nm,15.0s						
HHC				LR	LR		
	comp=Z,150nm,16.4s						
YNG	**Young**	**42.64**	**144**	P	**P**	**05 12 53.3**	**+1.0**
	baz=43,SNR=5.0						
JIRN	**Jiri**	**43.04**	**314**	*e*P	**P**	**05 12 56.7**	**+0.6**
	comp=Z,37nm,0.8s						
GUN	**Gumba**	**43.41**	**314**	*e*P	**P**	**05 12 59.4**	**+0.4**
	comp=Z,48nm,0.7s						
PKI	**Pulchoki**	**43.55**	**313**	*e*P	**P**	**05 13 00.4**	**+0.2**
	comp=Z,33nm,1.3s						
PKIN	**Phulchoki**	**43.57**	**313**	*e*P	**P**	**05 13 00.6**	**+0.4**
	comp=Z,11nm,0.6s						
CAN	**Canberra**	**43.72**	**145**	*e*P	**P**	**05 13 02.3**	**+1.2**
CAN				pmax	pmax		
	comp=Z,85nm,1.5s						
CAN	**Canberra**	**43.72**	**145**	*e*P	**P**	**05 13 02.3**	**+1.2**
	comp=Z,85nm,1.5s						
KKN	**Kakani**	**43.77**	**313**	*e*P	**P**	**05 13 02.3**	**+0.5**
	comp=Z,52nm,1.2s						
DMN	**Daman**	**43.80**	**313**	*e*P	**P**	**05 13 02.3**	**+0.2**
	comp=Z,21nm,0.9s						
GTA	**Gaotai**	**44.06**	**337**	*e*P	**P**	**05 13 07.1**	**+3.3**
GTA				pP	sP	05 13 16.3	+0.7
GTA				sP	pP	05 13 20.8	+8.6
GTA				pmax	pmax		
	comp=Z,16nm,1.0s						
HYB	**Hyderabad**	**44.62**	**296**	*i* P	**P**	**05 13 07.0**	**-1.5**
KOLN	**Koldanda**	**45.00**	**312**	*e*P	**P**	**05 13 11.8**	**+0.2**
	comp=Z,27nm,0.9s						
DANN	**Dangsing**	**45.20**	**313**	*e*P	**P**	**05 13 14.8**	**+1.5**
	comp=Z,4.5nm,0.9s						
PYUN	**Piuthan**	**45.63**	**312**	*e*P	**P**	**05 13 17.2**	**+0.6**
	comp=Z,53nm,0.9s						
MDJ	**Mudanjiang**	**46.00**	**10**	P	**P**	**05 13 19.5**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,24nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,200nm,3.6s						
MDJ	**Mudanjiang**	**46.00**	**10**	*e*P	**P**	**05 13 21.0**	**+2.1**
	comp=Z,46nm,1.4s						
USRK	**Ussuriysk Ar.**	**46.05**	**12**	P	**P**	**05 13 19.2**	**-0.1**
	comp=Z,6.0nm,0.7s,baz=210,slow=7.1,SNR=6.2						
USRK				LR	LR	05 32 37.1	
	comp=Z,20nm,20.4s,baz=19,slow=36						
ASAJ	**Asahikawa**	**49.04**	**22**	P	**P**	**05 13 43.5**	**+0.9**
	comp=Z,12nm,0.7s,baz=127,slow=20,SNR=4.0						
ASAJ	**Asahikawa**	**49.04**	**22**	*e*P	**P**	**05 13 43.4**	**+0.8**
	comp=Z,28nm,1.3s						
POO	**Poona**	**49.21**	**295**	*e*P	P	05 13 37.0	-7.5
ULN	**Ulaanbaatar**	**49.74**	**349**	*ce*P	**P**	**05 13 47.2**	**-0.9**
ULN				pmax	pmax		
	comp=Z,22nm,1.7s						
ULN	**Ulaanbaatar**	**49.74**	**349**	*e*P	**P**	**05 13 49.5**	**+1.4**
	comp=Z,58nm,2.0s						
SONA0	**Songino Array**	**49.84**	**348**	*e*P	**P**	**05 13 49.7**	**+0.8**
SONM	**Songino Array**	**49.84**	**348**	P	**P**	**05 13 49.7**	**+0.8**
	comp=Z,3.1nm,0.6s,baz=170,slow=8.7,SNR=23						
SONA1	**Songino Array**	**49.85**	**348**	*e*P	**P**	**05 13 49.4**	**+0.4**
DZM	**Mont Dzumac**	**49.92**	**118**	P	**P**	**05 13 51.1**	**+1.3**
	comp=Z,22nm,1.1s,baz=300,slow=20,SNR=5.5						
DZM	**Mont Dzumac**	**49.92**	**118**	*e*P	**P**	**05 13 51.5**	**+1.6**
	comp=Z,50nm,1.3s						
KLR	**Kul'dur**	**50.84**	**10**	*e*P	**P**	**05 13 55.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**51.55**	**20**	*e*P	**P**	**05 14 01.5**	**-0.1**
YSS				pmax	pmax		
	comp=Z,66nm,2.5s						
ZAK	**Zakamensk**	**52.93**	**347**	*e*P	**P**	**05 14 12.8**	**+0.9**
ZAK				*e*		05 15 19.6	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WMQ	**Urumqi**	**52.94**	**331**	P	**P**	**05 14 15.3**	**+3.2**
WMQ				sP	sP	05 14 27.3	+3.2
WMQ				pmax	pmax		
	comp=Z,40nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,210nm,7.5s						
TLY	**Talaya**	**54.06**	**348**	*e*P	**P**	**05 14 21.2**	**+1.1**
TLY				pmax	pmax		
	comp=Z,16nm,2.0s						
TLY	**Talaya**	**54.06**	**348**	*e*P	**P**	**05 14 21.6**	**+1.5**
	comp=Z,6.6nm,0.9s						
ZEA	**Zeya**	**54.66**	**5**	*e*P	**P**	**05 14 27.0**	**+2.6**
ZEA				pmax	pmax		
	comp=Z,42nm,1.6s						
MOY	**Mondy**	**54.67**	**346**	*e*P	**P**	**05 14 25.8**	**+1.2**
MOY				pmax	pmax		
	comp=Z,33nm,2.1s						
KSH	**Kashi**	**56.78**	**320**	*e*P	**P**	**05 14 41.4**	**+1.3**
KSH				sP	sP	05 14 55.5	+3.4
KSH				S	**S**	**05 22 28.3**	**-3.4**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,92nm,6.1s						
KSH				LR	LR		
	comp=Z,89nm,9.8s						
KSH				LR	LR		
	comp=Z,78nm,6.2s						
KSH				LR	LR		
	comp=Z,100nm,14.3s						
MK01	**Makanchi Array**	**57.71**	**330**	*e*P	**P**	**05 14 46.5**	**+0.2**
MK31	**Makanchi Array**	**57.73**	**330**	*e*P	**P**	**05 14 46.8**	**+0.3**
MK31	**Makanchi Array**	**57.73**	**330**	*e*P	**P**	**05 14 46.8**	**+0.3**
MK32	**Makanchi Array**	**57.73**	**330**	*e*P	**P**	**05 14 46.8**	**+0.3**
MKAR	**Makanchi Array**	**57.73**	**330**	P	**P**	**05 14 46.8**	**+0.3**
	comp=Z,10nm,0.7s,baz=130,slow=8.2,SNR=36						
MKAR				LR	LR	05 41 15.6	
	comp=Z,42nm,19.8s,baz=172,slow=38						
MKAR	**Makanchi Array**	**57.73**	**330**	*e*P	**P**	**05 14 46.9**	**+0.3**
	comp=Z,74nm,0.8s						
MAKZ	**Makanchi**	**57.90**	**330**	*e*P	**P**	**05 14 47.7**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAKZ	**Makanchi**	**57.90**	**330**	*e*P	**P**	**05 14 47.7**	**0.0**
	comp=Z,9.7nm,0.9s						
BOD	**Bodaibo**	**58.61**	**356**	*e*P	**P**	**05 14 53.2**	**+0.8**
BOD				pmax	pmax		
	comp=Z,15nm,1.6s						
KBL	**Kabul**	**59.16**	**312**	*e*P	**P**	**05 14 56.6**	**-0.4**
KBL				pmax	pmax		
	comp=Z,14nm,1.0s						
KBL	**Kabul**	**59.16**	**312**	*e*P	**P**	**05 14 56.6**	**-0.4**
	comp=Z,14nm,1.0s						
AAK	**Ala-Archa**	**59.45**	**322**	*e*P	**P**	**05 14 57.5**	**-1.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AAK	**Ala-Archa**	**59.45**	**322**	*

	comp=Z,29nm,1.7s							
BILL	**Bilibino**	**75.67**	**16**	*e*P		**P**	**05 16 40.3**	**-0.2**
BILL				*e*			05 16 56.6	
BILL				*e*			05 19 30.6	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.3s							
ATD	**Arta Tunnel**	**77.55**	**282**	LR	LR		05 48 46.2	
	comp=Z,22nm,19.5s,baz=94,slow=34							
GNI	**Garni**	**79.24**	**311**	LR	LR		05 57 37.5	
	comp=Z,22nm,21.9s,baz=128,slow=40							
ZEI	**Tsey**	**80.33**	**314**	*e*P		**P**	**05 17 05.7**	**-1.5**
ZEI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
GAMB	**Gambell**	**81.25**	**25**	*e*P		**P**	**05 17 14.1**	**+2.8**
	comp=Z,7.1nm,1.1s							
KMBO	**Kilima Mbogo**	**82.71**	**269**	P		**P**	**05 17 20.3**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=97,slow=6.7,SNR=6.6							
KMBO	**Kilima Mbogo**	**82.71**	**269**	*e*P		**P**	**05 17 20.7**	**+0.3**
	comp=Z,35nm,2.0s							
FALS	**False Pass**	**82.94**	**35**	*e*P		**P**	**05 17 20.6**	**+0.3**
	comp=Z,197nm,1.1s							
ASF	**Jabal al Asfar**	**84.55**	**302**	P		**P**	**05 17 29.1**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=63,slow=2.3,SNR=4.7							
VSR	**Storozhevoye**	**84.84**	**321**	*e*P		**P**	**05 17 29.3**	**-0.9**
VSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
LPSR	**Galich'ya Gora**	**85.17**	**323**	*e*P		**P**	**05 17 32.3**	**+0.5**
LPSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SYO	**Syowa Base**	**85.83**	**201**⇓	*e*P		**P**	**05 17 33.3**	**-1.4**
SYO	**Syowa Base**	**85.83**	**201**⇓	*e*X		**P**	**05 17 35.0**	**+0.3**
MMAI	**Mount Meron Ar**	**85.86**	**303**	LR	LR		06 00 16.0	
	comp=Z,26nm,20.5s,baz=20,slow=39							
KLMR	**Klimovskoe**	**86.02**	**331**	*e*P		**P**	**05 17 35.2**	**-0.6**
KLMR				pmax	pmax			
	comp=Z,20nm,1.3s							
KLMR	**Klimovskoe**	**86.02**	**331**	*e*P		**P**	**05 17 35.3**	**-0.6**
KLMR				AMP			05 17 37.1	
	comp=Z,20nm,1.3s							
MOS	**Moscow**	**86.32**	**326**	*e*P		**P**	**05 17 35.3**	**-2.1**
OBN	**Obninsk**	**86.85**	**325**⇑	*e*P		**P**	**05 17 40.0**	**0.0**
OBN				*e*S		**S**	**05 28 10.7**	**-5.5**
OBN				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BR101	**Keskin Array S**	**87.67**	**310**	*e*P		**P**	**05 17 44.1**	**-0.4**
BR131	**Keskin Array S**	**87.67**	**310**	*e*P		**P**	**05 17 45.6**	**+1.1**
BRTR	**Keskin Array B**	**87.67**	**310**	P		**P**	**05 17 44.1**	**-0.4**
	comp=Z,4.2nm,1.0s,baz=127,slow=3.3,SNR=17							
BRTR				LR	LR		06 03 18.6	
	comp=Z,15nm,19.3s,baz=106,slow=40							
BR231	**Keskin MP Arra**	**88.34**	**310**	*e*P		**P**	**05 17 44.4**	**-3.4**
AKASG	**Malin Array Be**	**91.08**	**321**	P		**P**	**05 17 58.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=76,slow=5.0,SNR=5.6							
AKBB	**Malin Array Si**	**91.08**	**321**	*e*P		**P**	**05 17 59.6**	**-0.5**
AKBB				pmax	pmax			
	comp=Z,17nm,1.9s							
AKBB	**Malin Array Si**	**91.08**	**321**	*e*P		**P**	**05 17 59.6**	**-0.5**
	comp=Z,17nm,1.9s							
KIEV	**Kiev**	**91.08**	**321**	*e*P		**P**	**05 17 58.5**	**-1.6**
KIEV				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MATP	**Matopo**	**91.12**	**250**	LR	LR		05 56 46.0	
	comp=Z,40nm,18.6s,baz=94,slow=34							
ARA0	**ARCESS Array S**	**92.29**	**339**	*e*P		**P**	**05 18 05.3**	**-0.1**
ARCES	**ARCESS Array B**	**92.29**	**339**	P		**P**	**05 18 05.3**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=46,slow=5.2,SNR=5.2							
FIA0	**FINESS Array S**	**92.55**	**331**	*e*P		**P**	**05 18 06.2**	**-0.5**
FIA0	**FINESS Array S**	**92.55**	**331**	*e*P		**P**	**05 18 06.2**	**-0.5**
FINES	**FINESS Array B**	**92.55**	**331**	P		**P**	**05 18 06.2**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=215,slow=2.3,SNR=4.8							
KARP	**Karpathos**	**92.74**	**305**	*e*P		**P**	**05 18 07.2**	**-1.1**
	comp=Z,7.1nm,1.2s							
SPITS	**Spitsbergen Ar**	**93.54**	**348**	LR	LR		06 06 14.1	
	comp=Z,16nm,18.6s,baz=345,slow=39							
BOSA	**Boshof**	**93.78**	**241**	LR	LR		06 01 24.5	
	comp=Z,31nm,18.1s,baz=162,slow=36							
IDI	**Anoyia**	**94.61**	**305**	LR	LR		06 07 22.5	
	comp=Z,23nm,21.7s,baz=76,slow=40							
YHB	**Horse Butte**	**117.14**	**39**	*e*PKPdf		**PKPdf**	**05 23 41.1**	**-0.1**
YPP	**Pitchstone Pla**	**117.61**	**39**	*e*PKPdf		**PKPdf**	**05 23 41.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**117.68**	**284**	PKP		**PKPdf**	**05 23 41.3**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=72,slow=1.1,SNR=4.3							
TOA1	**Torodi Ar. Sit**	**117.69**	**284**	*e*PKPdf		**PKPdf**	**05 23 41.3**	**-1.5**
ULM	**Lac du Bonnet**	**122.05**	**26**	PKP		**PKPdf**	**05 23 49.5**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=312,slow=0.9,SNR=4.4							
ROC1	**El Roble**	**144.86**	**164**	*e*PKPdf		**PKPab**	**05 24 30.8**	**-1.8**
CPUP	**Villa Florida**	**152.93**	**185**	PKPbc		**PKPbc**	**05 24 54.0**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=178,slow=1.7,SNR=8.6							
CPUP	**Villa Florida**	**152.93**	**185**	*e*PKIKP		**PKPdf**	**05 24 44.4**	**-1.9**
CPUP				*e*			05 24 51.5	
CPUP	**Villa Florida**	**152.93**	**185**	*e*PKPdf		**PKPdf**	**05 24 44.4**	**-1.9**
CPUP				*e*PKPbc		**PKPbc**	**05 24 51.5**	**-2.0**
LPAZ	**La Paz**	**161.25**	**155**	PKPab		**PKPab**	**05 25 42.0**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=172,slow=7.1,SNR=5.1							
LPAZ	**La Paz**	**161.25**	**155**	*e*PKIKP		**PKPdf**	**05 24 55.8**	**-2.1**
LPAZ				*e*			05 25 40.7	
LPAZ	**La Paz**	**161.25**	**155**	*e*PKPdf		**PKPdf**	**05 24 55.8**	**-2.1**
LPAZ				*e*PKPab		**PKPab**	**05 25 40.7**	**-0.7**

MAN 19 05:29:42.9±0.8, 0N×123°21.2E±0.1, h33km±3km, mb3.7, ML2.5, MS2.0, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.45**	**177**⇑	*i*P	Pn	05 29 53.5	+1.2
SNPH				*i* S	Sn	05 30 00.7	+1.5
TBP	**Tagbilaran**	**0.65**	**99**	*e*P	Pb	05 29 55.2	+0.2
TBP				*i* S	Sn	05 30 05.4	+1.4
GUIM	**Jordan**	**1.03**	**323**	*e*P	Pn	05 30 00.2	+0.1
GUIM				*e*S	Sn	05 30 13.4	0.0

*SJA **19** 05:36:08.3±1.1, 34.7°S×71.8°W, h67km±14km, ML3.6, MW3.6*
*ISCJB **19** 05:36:09.6±0.4, 34.8°S±0.0°×71.8°W±0.0°, 05, h42km±6km, mb3.7/4, MS2.8/1, Error ellipse: s-maj=7.7km s-min=4.4km az=23.6*
*IDC **19** 05:36:09.4±1.3, 34.8°S×69.7°W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/35, mbtmp3.7/6, ML3.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/28, Error ellipse: s-maj=44.4km s-min=20.6km az=96.0*
*GUC **19** 05:36:09.5±0.5, 34.8°S×71.8°W, h44km±1km, ML4.0*
*NEIC **19** 05:36:09.0±0.0, 34.7°S×71.8°W, h44km, ML4.0(GUC), After GUC.*
NEIC Felt [IV] at Curico and Lolol; [III] at Pelarco, Rancagua, Rengo and San Fernando; [II] at Iloca, Pencahue, Romeral and Talca.

ISC 19 05:36:09.5±1.0, 34.7°S±0.0°×71.8°W±0.0°, 04, h30km±8km, n41, σ1s96/50, mb3.8/4, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.26**	**204**	*e*P	**Pb**	**05 36 17.4**	**+0.8**
GO05				*e*S	**Sn**	**05 36 23.5**	**+1.0**
GO05	**HualaæØ**	**0.26**	**204**⇓	*e*P	**Pb**	**05 36 17.1**	**+0.6**
GO05				*e*S	**Sn**	**05 36 23.2**	**+0.7**
GO05				IAML		05 36 23.5	
	comp=E,11μm,0.4s						
CHPI	**Pichilemu**	**0.41**	**336**⇑	*e*P	**Pb**	**05 36 18.8**	**+0.2**
CHPI				*e*S	**Sn**	**05 36 26.5**	**+0.4**
NICH	**Los Niches**	**0.52**	**117**⇓	*e*P	**Pb**	**05 36 20.3**	**0.0**
NICH				*e*S	**Sn**	**05 36 28.5**	**-0.3**
COCH	**Cobquecura**	**1.58**	**210**	*e*P	**Pn**	**05 36 34.7**	**-0.8**
COCH	**Cobquecura**	**1.58**	**210**	*e*P	**Pn**	**05 36 34.6**	**-0.9**
COCH				*e*S	**Sn**	**05 36 54.0**	**-1.0**
LMEL	**Las Melosas**	**1.61**	**56**	*e*P	**Pn**	**05 36 36.3**	**+0.2**
LMEL				*e*S	**Sb**	**05 36 57.0**	**-1.7**
LMEL				IAML		05 37 02.7	
	comp=N,5μm,0.2s						
CLCH	**Cerro Calan**	**1.72**	**38**⇑	*e*P	**Pn**	**05 36 38.2**	**+0.6**
CLCH				*e*S	**Sb**	**05 37 00.2**	**-1.7**
CCHI	**Chillan**	**1.84**	**187**	*e*P	**Pn**	**05 36 39.1**	**0.0**
PEL	**Peldehue**	**1.87**	**30**	*e*P	**Pn**	**05 36 40.0**	**+0.5**
ROC1	**El Roble**	**1.90**	**20**	*e*Pn	**Pn**	**05 36 41.0**	**+0.7**
ROC1				*e*Sn	**Sn**	**05 37 04.6**	**+1.3**
ROC1	**El Roble**	**1.90**	**20**	*e*P	**Pn**	**05 36 40.9**	**+0.7**
FCH	**Farellones**	**1.91**	**41**	*e*P	**Pn**	**05 36 40.9**	**+0.6**
FCH				*e*S	**Sn**	**05 37 04.9**	**+1.4**
FCH				IAML		05 37 09.2	
	comp=N,3μm,0.2s						
ROCH	**El Roble**	**1.91**	**20**	*e*P	**Pn**	**05 36 40.8**	**+0.6**
ROCH				*e*S	**Sn**	**05 37 04.3**	**+0.9**
ROCH				IAML		05 37 10.4	
	comp=N,2μm,0.5s						
RFA	**San Rafael**	**2.74**	**91**	*e*P	**Pn**	**05 36 52.8**	**+1.2**
RFA				IAML		05 37 08.9	
	comp=Z,168nm,0.6s						
AAGR	**Agrelo**	**2.99**	**57**	*e*P	**Pn**	**05 36 57.3**	**+2.3**
ARCO	**CERRO ARCO**	**3.06**	**52**	IAML		05 37 18.5	
	comp=Z,102nm,0.4s						
CANA	**Caviahue**	**3.17**	**169**	*e*P	**Pn**	**05 36 58.1**	**+0.6**
AUSP	**Uspallata**	**3.24**	**39**	*e*P	**Pn**	**05 37 01.1**	**+2.4**
ASAL	**Salagasta**	**3.29**	**50**	*e*P	**Pn**	**05 37 01.3**	**+2.2**
RTLS	**Leoncito**	**3.63**	**36**	*e*P	**Pn**	**05 37 06.3**	**+2.3**
RTLS				IAML		05 38 08.0	
	comp=Z,106nm,0.4s						
RTCV	**Cerro Valdivia**	**3.98**	**44**	*e*P	**Pn**	**05 37 09.7**	**+1.1**
RTLL	**Cerro Villicun**	**4.42**	**40**	*e*P	**Pn**	**05 37 15.5**	**+0.8**
RTLL				IAML		05 38 22.0	
	comp=Z,83nm,0.5s						
ACAN	**Cantantal**	**4.58**	**58**	*e*P	**Pn**	**05 37 17.3**	**+0.4**
AMOG	**MOGNA**	**4.72**	**37**	*e*P	**Pn**	**05 37 19.3**	**+0.5**
LCO	**Las Campanas**	**5.82**	**10**	*e*Pn	**Pn**	**05 37 33.1**	**-0.9**
LCO				*e*Sn	**Sn**	**05 38 37.6**	**-2.2**
PLCA	**Paso Flores**	**6.04**	**171**	Pn	**Pn**	**05 37 37.1**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=358,slow=12,SNR=31						
PLCA				Lg	Lg	05 39 16.9	
	comp=Z,0.4nm,0.3s,baz=293,slow=16,SNR=2.8						
PLCA	**Paso Flores**	**6.04**	**171**	*e*Pn	**Pn**	**05 37 37.8**	**+1.0**
PLCA				Lg	Lg	05 39 16.9	
PB04	**IPOC Station P**	**12.47**	**7**	*e*Pn	Pn	05 39 10.8	+5.6
PB04				*e*Sn	**Sn**	**05 41 16.0**	**-7.3**
LPAZ	**La Paz**	**18.70**	**11**	P	**P**	**05 40 26.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=171,slow=9.2,SNR=5.8						
LPAZ	**La Paz**	**18.70**	**11**	*e*P	**P**	**05 40 26.9**	**+0.8**
LPAZ				*e*Pn	**Pn**	**05 40 27.2**	**+0.6**
SIV	**San Ignacio**	**21.03**	**30**	P	**P**	**05 40 48.5**	**-2.5**
	comp=Z,3.0nm,0.8s,baz=225,slow=9.1,SNR=14						
ATAH	**Atahualpa**	**28.16**	**346**	LR	LR	05 50 49.5	
	comp=Z,26nm,21.8s,baz=104,slow=31						
TXAR	**Lajitas Array**	**70.50**	**331**	P	P	05 47 32.0	+11
	comp=Z,0.3nm,0.5s,baz=153,slow=8.1,SNR=5.9						
KOWA	**Kowa**	**80.78**	**65**	P	**P**	**05 48 16.8**	**-3.7**
	comp=Z,0.7nm,0.5s,baz=237,slow=4.5,SNR=5.1						
WHFM	**Hanning Flat**	**82.47**	**323**	*e*P	**P**	**05 48 33.6**	**+4.6**
TORD	**Torodi Ar. Bea**	**84.29**	**70**	P	**P**	**05 48 36.1**	**-2.7**
	comp=Z,1.0nm,0.8s,baz=220,slow=6.4,SNR=4.7						
TOA1	**Torodi Ar. Sit**	**84.29**	**70**	*e*P	**P**	**05 48 36.1**	**-2.7**
YPP	**Pitchstone Pla**	**86.29**	**333**	*e*P	**P**	**05 48 49.8**	**+1.3**
MCID	**Moose Creek**	**86.36**	**333**	*e*P	**P**	**05 48 50.0**	**+1.2**
YHB	**Horse Butte**	**86.85**	**333**	*e*P	**P**	**05 48 54.9**	**+3.7**

*IDC **19** 05:39:54.3±1.8, 17.9°N×62.3°W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/54, mbtmp3.5/4, ML2.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/39, Error ellipse: s-maj=57.5km s-min=28.2km az=83.0*

ISC 19 05:40:06.1±5.1, 18.9°N±0.3°×63.0°W±0.5, h35km, n11, σ1s49/6, mb3.5/3, 1C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**0.88**	**184**⇓	*e*P	**Pn**	**05 40 21.0**	**-1.1**
SMRT				*e*S	**Sn**	**05 40 31.9**	**-1.8**
SABA	**Saba**	**1.32**	**190**⇓	*i*P	**Pn**	**05 40 28.5**	**+0.4**
SABA				*e*S	**Sn**	**05 40 45.7**	**+1.2**
SEUS	**St. Eustatius**	**1.43**	**179**⇑	*i*P	**Pn**	**05 40 30.4**	**+0.8**
SEUS				*e*S	**Sn**	**05 40 47.8**	**+0.6**
ANWB	**Willy Bob**	**1.71**	**137**	*e*P	Pn	05 40 33.2	-0.2
MBWH		**2.31**	**160**	*e*P	Pn	05 40 42.7	+0.9
SJG	**San Juan**	**3.09**	**255**	Pn	Pn	05 40 52.2	-0.3
	0.9nm,0.3s,baz=90,slow=17,SNR=3.5						
SJG				Sn	Sn	05 41 32.7	+4.5
	4.1nm,0.3s,baz=345,slow=20,SNR=3.9						
H05N1	**Guadeloupe/Mar**	**3.20**	**144**	T	T	05 41 08.6	
	SNR=14						
LPAZ	**La Paz**	**35.36**	**189**	P	P	05 46 44.6	-15
	1.5nm,0.5s,baz=32,slow=7.7,SNR=15						
PDAR	**Pinedale Array**	**45.77**	**312**	LR	LR	06 09 40.2	
	comp=Z,15nm,19.5s,baz=344,slow=38						
YKA	**Yellowknife Ar**	**56.04**	**334**	P	P	05 49 42.8	+1.6
	0.2nm,0.7s,baz=101,slow=7.7,SNR=3.8						
ILAR	**Eielson Array**	**70.45**	**333**	P	P	05 51 18.0	+1.4
	0.2nm,0.5s,baz=99,slow=4.9,SNR=5.1						

*IDC **19** 05:59:25.1±1.0, 40.7°N×145.3°E, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.7/68, mbtmp3.9/14, ML3.6/3, MS2.8/3, Ms1 2.8/3, ms1mx2.3/63, Error ellipse: s-maj=24.7km s-min=18.4km az=132.0*
*ISCJB **19** 05:59:26.1±1.4, 40.7°N±0.0°×145.1°E±0.0°, 04, h20km±10km, mb4.1/13, MS2.9/2, Error ellipse: s-maj=5.3km s-min=4.3km az=17.2*
*JMA **19** 05:59:26.9±0.2, 40.8°N×145.3°E, h64km±3km, M3.9*
*NEIC **19** 05:59:26.9±3.0, 40.7°N×145.2°E, h12km±18km, mb4.4/4, Error ellipse: s-maj=9.2km s-min=4.5km az=133.0*

ISC 19 05:59:25.5±2.6, 40.8°N±0.0°×145.1°E±0.0°, 05, h2km±15km, n60, σ1s84/71, mb4.1/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.88**	**308**	*e*Pn	**Pb**	**05 59 59.9**	**-0.8**
ERM				*e*Sn	**Sg**	**06 00 26.9**	**+0.9**
JEM	**Erimo**	**1.88**	**308**	P	**Pb**	**05 59 59.6**	**-1.0**
JEM				*e*S	**Sb**	**06 00 22.3**	**-2.4**
JAK	**Akkeshi**	**2.16**	**351**	P	**Pn**	**06 00 01.9**	**-0.6**
JAK				*e*S	**Sn**	**06 00 27.2**	**-2.6**
JCH	**Churui**	**2.20**	**323**	P	**Pn**	**06 00 03.5**	**+0.4**
JCH				*e*S	**Sn**	**06 00 29.3**	**-1.6**
JOB	**Onbets**	**2.26**	**335**	P	**Pn**	**06 00 04.3**	**+0.4**
JOB				*e*S	**Sn**	**06 00 31.2**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.28**	**309**	*e*S	**Sb**	**06 00 33.6**	**-2.6**
NEM2	**Nemuro 2**	**2.54**	**10**	P	**Pn**	**06 00 06.5**	**-1.3**
NEM2				*e*S	**Sn**	**06 00 35.5**	**-3.8**
JAR	**Ashorobuto**	**2.64**	**338**	P	**Pn**	**06 00 08.8**	**-0.3**
JAR				*e*S	**Sn**	**06 00 38.7**	**-3.0**
JNK	**Nakash**	**2.74**	**354**	P	**Pn**	**06 00 09.4**	**-1.1**
JNK				*e*S	**Sn**	**06 00 39.5**	**-4.7**
JANG	**Nango**	**2.80**	**261**	P	**Pn**	**06 00 11.2**	**-0.2**
JANG				*e*S	**Sn**	**06 00 42.0**	**-3.8**
JBT2	**Biratori 2**	**2.82**	**314**	P	**Pn**	**06 00 12.4**	**+0.7**
JBT2				*e*S	**Sb**	**06 00 47.0**	**-4.7**
JRA	**Rausu**	**3.07**	**360**	P	**Pn**	**06 00 14.1**	**-1.0**
JOT	**Ohata**	**3.13**	**281**	P	**Pn**	**06 00 16.8**	**+0.8**
JOT				*e*S	**Sn**	**06 00 52.3**	**-1.7**
JTKR	**Abashiri--Toko**	**3.24**	**344**	P	**Pn**	**06 00 17.9**	**+0.6**
JTKR				*e*S	**Sn**	**06 00 54.5**	**-2.0**
JKB	**Kayabe**	**3.26**	**290**	P	**Pn**	**06 00 19.0**	**+1.4**
JKB				*e*S	**Sn**	**06 00 55.6**	**-1.4**
JOM	**Ohasama**	**3.26**	**246**	P	**Pn**	**06 00 18.2**	**+0.5**
JOM				*e*S	**Sn**	**06 00 54.2**	**-2.9**
JEW	**Eniwo**	**3.39**	**307**	P	**Pn**	**06 00 21.8**	**+2.3**
JEW				*e*S	**Sn**	**06 01 01.3**	**+1.0**
ASAJ	**Asahikawa**	**3.76**	**331**	Pn	**Pn**	**06 00 26.6**	**+2.1**
	3.0nm,0.3s,baz=186,slow=16,SNR=5.0						
ASAJ				Sn	**Sn**	**06 01 08.9**	**-0.4**
	2.3nm,0.3s,baz=260,slow=32,SNR=5.3						
ASAJ	**Asahikawa**	**3.76**	**331**	*e*Pn	**Pn**	**06 00 22.9**	**-1.6**
ASAJ				*e*Sn	**Sn**	**06 01 09.0**	**-0.4**
MJAR	**Matsushiro Arr**	**6.93**	**234**	Pn	**Pn**	**06 01 07.8**	**-0.3**
	0.5nm,0.3s,baz=50,slow=12,SNR=3.6						
MJAR				LR	LR	06 04 14.3	
	comp=Z,34nm,21.8s,baz=250,slow=42						
MAJO	**Matsushiro**	**6.93**	**234**	*e*Pn	**Pn**	**06 01 07.8**	**-0.3**
MAJO				*e*Sn	**Sn**	**06 02 25.9**	**-1.6**
MJB9	**Matsu-Tunnel**	**6.93**	**234**	*e*Sn	**Sn**	**06 02 25.9**	**-1.6**
INU	**Inuyama**	**8.44**	**232**	*e*Sn	**Sn**	**06 03 02.4**	**-2.3**
JHJ2	**Mitsune**	**8.83**	**210**	*e*Sn	**Sn**	**06 03 10.2**	**-4.0**
JHJ	**Hachijo jima 2**	**8.84**	**211**	Pn	**Pn**	**06 01 33.1**	**-1.2**
	8.9nm,0.3s,baz=72,slow=20,SNR=3.5						
USRK	**Ussuriysk Ar.**	**10.26**	**293**	Pn		**06 01 56.7**	**+2.9**
	0.2nm,0.3s,baz=120,slow=14,SNR=4.6						
MDJ	**Mudanjiang**	**12.03**	**293**	*e*Pn	**Pn**	**06 02 18.1**	**+0.1**
MDJ				*e*Sn	**Sn**	**06 04 34.8**	**+2.1**
YAK	**Yakutsk**	**23.16**	**341**	LR	LR	06 14 53.2	
	comp=Z,31nm,20.1s,baz=126,slow=40						
YULB	**Yu-li**	**26.54**	**236**	*e*P	**P**	**06 05 04.7**	**0.0**
GUMO	**Guam**	**27.17**	**181**	*e*P	**P**	**06 05 10.0**	**-0.4**
	134nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**28.08**	**132**	T	T	06 34 46.5	
	baz=324,slow=76,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**28.09**	**132**	T	T	06 34 47.4	
	baz=324,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**28.10**	**132**	T	T	06 34 48.7	
	baz=324,slow=76,SNR=4.4						
SONA1	**Songino Array**	**28.33**	**297**	*e*P	**P**	**06 05 23.4**	**+2.6**
SONA0	**Songino Array**	**28.34**	**297**	*e*P	**P**	**06 05 22.1**	**+1.2**
SONM	**Songino Array**	**28.34**	**297**	P	**P**	**06 05 22.1**	**+1.2**
	1.8nm,1.0s,baz=94,slow=9.7,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**28.96**	**134**	T	T	06 35 58.0	
	baz=325,slow=76,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**28.96**	**134**	T	T	06 35 50.6	
	baz=325,slow=76,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**28.97**	**134**	T	T	06 35 57.5	
	baz=325,slow=76,SNR=5.5						
ILAR	**Eielson Array**	**44.70**	**34**	P	**P**	**06 07 40.7**	**+1.1**
	0.7nm,0.8s,baz=257,slow=6.2,SNR=7.0						
ILB	**Eielson Array**	**44.70**	**34**	*e*P	**P**	**06 07 38.8**	**-0.9**
KURK	**Kurchatov**	**45.96**	**306**	*e*P	**P**	**06 07 50.5**	**+0.8**
	2.8nm,0.7s						
KURBB	**Kurchatov Arra**	**46.04**	**306**	P	**P**	**06 07 51.5**	**+1.1**
	2.5nm,0.8s,baz=78,slow=8.7,SNR=11						
INK	**Inuvik**	**49.65**	**29**	P	**P**	**06 08 18.2**	**+0.1**
	1.0nm,0.5s,baz=323,slow=8.7,SNR=12						
INK	**Inuvik**	**49.65**	**29**	*e*P	**P**	**06 08 20.0**	**+1.9**
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**50.22**	**311**	P	**P**	**06 08 24.4**	**+1.7**
	0.6nm,0.4s,baz=73,slow=9.7,SNR=4.3						
ABKAR	**Akbulak array**	**57.73**	**309**	*e*P	**P**	**06 09 18.9**	**+1.3**
	12nm,0.8s						
RES	**Resolute Bay**	**58.15**	**16**	P	**P**	**06 09 20.9**	**+0.7**
	1.5nm,0.8s,baz=311,slow=8.1						
RES	**Resolute Bay**	**58.15**	**16**	*e*P	**P**	**06 09 20.8**	**+0.5**
	2.1nm,0.6s						
YKA	**Yellowknife Ar**	**59.03**	**32**	P	**P**	**06 09 25.9**	**-0.6**
	0.2nm,0.6s,baz=299,slow=6.6,SNR=4.1						
WR1	**Warramunga Arr**	**61.32**	**192**	*e*P	**P**	**06 09 41.6**	**-1.0**
WRA	**Warramunga Arr**	**61.32**	**192**	P	**P**	**06 09 41.7**	**-1.0**
	2.0nm,0.6s,baz=8.6,slow=6.8,SNR=5.3						
FIA0	**FINESS Array S**	**66.76**	**333**	*e*P	**P**	**06 10 18.6**	**+0.6**
FINES	**FINESS Array B**	**66.76**	**333**	P	**P**	**06 10 18.6**	**+0.6**
	1.0nm,0.7s,baz=41,slow=6.1,SNR=4.7						
GCMT	**Greycliff**	**70.94**	**46**	*e*P	**P**	**06 10 47.9**	**+3.4**
YMS	**Mount Sheridan**	**71.43**	**47**	*e*P	**P**	**06 10 47.2**	**-0.5**
PDAR	**Pinedale Array**	**72.93**	**48**	LR	LR	06 45 02.0	
	comp=Z,8.4nm,18.8s,baz=36,slow=38						
AKASG	**Malin Array Be**	**73.01**	**323**	P	**P**	**06 10 57.2**	**+0.6**
	0.8nm,0.5s,baz=43,slow=6.2,SNR=7.0						
DNR	**Dunn Ranch,Anz**	**74.45**	**59**	*e*P	**P**	**06 11 04.3**	**-1.2**
BELC	**Belle Mtn. Jos**	**74.59**	**58**	*e*P	**P**	**06 11 06.0**	**-0.3**

*ISCJB **19** 06:06:51.6±0.8, 29.3°S±0.0°×71.3°W±0.0°, 07, h34km±35km, Error ellipse: s-maj=10.5km s-min=5.1km az=10.6*
*GUC **19** 06:06:52.6±0.5, 29.4°S×70.8°W, h54km±2km, ML3.8*
*SJA **19** 06:06:53.1±0.4, 29.5°S×70.9°W, h10km±8km, ML3.3, MW3.4*

ISC 19 06:06:53.5±1.5, 29.3°S±0.0°×71.2°W±0.0°, 07, h28km±13km, n24, σ1s83/36, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.56**	**51**	*e*P	**Pb**	**06 07 05.3**	**+0.3**
LCO				*e*S	**

	baz=292								
TWH	**Lutao**	**0.57**	**183**	⇑	*e*P	**Pn**	**06 09 03.3**	**-0.7**
	baz=176								
TWGBT	**Beinan**	**0.61**	**221**	⇓	*e*P	**Pb**	**06 09 02.8**	**-1.0**
	baz=224								
TWGBT					*e*S	**Sb**	**06 09 10.7**	**-1.3**
	baz=224								
TWG	**Pinlang**	**0.61**	**222**	⇓	*e*P	**Pb**	**06 09 02.8**	**-1.1**
	baz=224								
TWG					*e*S	**Sb**	**06 09 10.7**	**-1.4**
	baz=224								
TTN	**Taitung**	**0.62**	**213**		*e*P	**Pn**	**06 09 04.1**	**-0.5**
	baz=205								
ENLB	**Shoufeng**	**0.63**	**8**	⇓	P	**Pn**	**06 09 04.8**	**0.0**
ENLB					S	**Sn**	**06 09 14.9**	**+1.0**
ALS	**Alishan**	**0.69**	**290**	⇓	*i*P	**Pb**	**06 09 05.0**	**-0.3**
	baz=289								
ALS					*i* S	**Sb**	**06 09 13.8**	**-0.9**
	baz=289								
HWA	**Hwalien**	**0.70**	**7**		*e*P	**Pn**	**06 09 05.9**	**+0.1**
	baz=1.0								
STYT	**Tauyuan**	**0.70**	**261**	⇓	P	**Pb**	**06 09 04.7**	**-0.7**
	baz=255								
STYT					S	**Sb**	**06 09 13.8**	**-1.1**
	baz=255								
SSLB	**Suanglung**	**0.72**	**315**	⇓	P	**Pb**	**06 09 04.9**	**-0.8**
	baz=317								
OWD	**Renai**	**0.74**	**336**		*e*P	**Pb**	**06 09 05.4**	**-0.8**
	baz=330								
OWD					*e*S	**Sb**	**06 09 14.3**	**-1.7**
	baz=330								
TWD	**Chiawan**	**0.80**	**6**		*e*P	**Pb**	**06 09 06.2**	**-0.8**
	baz=356								
TWD					*e*S	**Sn**	**06 09 19.2**	**+1.0**
	baz=356								
TPUB	**Ta-pu**	**0.81**	**272**		*e*P	**Pb**	**06 09 07.0**	**-0.3**
	baz=270								
TPUB					*e*S	**Sb**	**06 09 17.5**	**-0.4**
	baz=270								
SMLT	**Sun Moon Lake**	**0.82**	**317**	⇓	P	**Pb**	**06 09 07.0**	**-0.5**
	baz=322								
SMLT					*e*S	**Sb**	**06 09 16.8**	**-1.5**
	baz=322								
WTP	**Ta-pu**	**0.83**	**268**	⇓	*i*P	**Pb**	**06 09 07.3**	**-0.2**
	baz=260								
WTP					*e*S	**Sb**	**06 09 18.2**	**-0.1**
	baz=260								
CHGB	**Renai**	**0.84**	**338**		*e*P	**Pb**	**06 09 07.2**	**-0.6**
	baz=349								
CHGB					*e*S	**Sb**	**06 09 17.7**	**-1.1**
	baz=349								
SLGT	**Liugui**	**0.84**	**251**		*e*P	**Pb**	**06 09 07.5**	**-0.3**
	baz=241								
CHN4	**Tsaushan**	**0.85**	**275**	⇓	*i*P	**Pn**	**06 09 07.9**	**0.0**
	baz=273								
CHN4					*e*S	**Sn**	**06 09 19.8**	**+0.5**
	baz=273								
ECL	**Taimali**	**0.85**	**217**		*e*P	**Pb**	**06 09 06.1**	**-1.8**
	baz=211								
TYC	**Yuchr**	**0.86**	**316**	⇓	P	**Pb**	**06 09 07.7**	**-0.5**
	baz=324								
TYC					*e*S	**Sb**	**06 09 19.1**	**-0.3**
	baz=324								
SGST	**Jiashian**	**0.88**	**257**	⇓	P	**Pn**	**06 09 08.3**	**0.0**
	baz=254								
SGST					S	**Sn**	**06 09 20.4**	**+0.3**
	baz=254								
WHF	**Hehuan Shan**	**0.89**	**345**		*e*P	**Pb**	**06 09 07.8**	**-1.1**
	baz=358								
NACB	**Ninganchiao**	**0.90**	**5**		*e*P	**Pb**	**06 09 07.1**	**-1.5**
	baz=358								
WJS	**Zhushan**	**0.90**	**307**		*e*P	**Pn**	**06 09 09.2**	**+0.6**
	baz=307								
WJS					*e*S	**Sn**	**06 09 21.4**	**+0.7**
	baz=307								
CHN1	**Nanshi**	**0.91**	**264**	⇓	*i*P	**Pn**	**06 09 09.0**	**+0.3**
	baz=262								
CHN1					S	**Sn**	**06 09 21.5**	**+0.6**
	baz=262								
DPDB	**Guoxing**	**0.92**	**325**		*e*P	**Pb**	**06 09 08.8**	**-0.4**
	baz=336								
TWK	**Hsinying**	**0.94**	**269**	⇓	*i*P	**Pn**	**06 09 09.3**	**+0.1**
	baz=267								
TWK					*e*S	**Sn**	**06 09 22.4**	**+0.6**
	baz=267								
WGK	**Gukeng**	**0.96**	**295**		*e*P	**Pn**	**06 09 09.4**	**0.0**
	baz=294								
WGK					*e*S	**Sn**	**06 09 22.6**	**+0.5**
	baz=294								
WNT	**Mingjian**	**0.96**	**308**		*e*P	**Pn**	**06 09 10.1**	**+0.6**
	baz=308								
WNT					*e*S	**Sn**	**06 09 22.8**	**+0.6**
	baz=308								
SSD	**Sandimen**	**0.97**	**237**		*e*P	**Pb**	**06 09 08.4**	**-1.5**
	baz=229								
WDLH	**Douliu**	**0.98**	**295**		*e*P	**Pn**	**06 09 10.2**	**+0.5**
	baz=294								
CHN2	**Minshiung**	**0.98**	**285**		*e*P	**Pn**	**06 09 10.7**	**+1.0**
	baz=284								
TWT	**Tachien**	**1.02**	**343**		*e*P	**Pb**	**06 09 10.1**	**-0.8**
	baz=332								
CHY	**Chiayi**	**1.02**	**283**		*e*P	**Pb**	**06 09 10.8**	**+0.1**
	baz=281								
CHY					*e*S	**Sn**	**06 09 24.6**	**+0.9**
	baz=281								
TDCB	**Techi**	**1.02**	**342**	⇑	*e*P	**Pn**	**06 09 10.2**	**-0.2**
	baz=332								
MASBT	**Mashibuluo**	**1.05**	**231**	⇓	*e*P	**Pn**	**06 09 09.8**	**-0.7**
	baz=218								
CHN3	**Shihua**	**1.07**	**259**	⇓	*e*P	**Pb**	**06 09 12.8**	**+1.1**
	baz=268								
CHN3					*e*S	**Sn**	**06 09 28.3**	**+3.4**
	baz=268								
EAST	**Anshuo**	**1.08**	**215**	⇓	P	**Pn**	**06 09 09.8**	**-1.3**
	baz=202								
SGLT	**Jiouru**	**1.09**	**240**		*e*P	**Pb**	**06 09 13.5**	**+1.6**
	baz=236								
TWM1	**Shoushan**	**1.10**	**246**		*e*P	**Pb**	**06 09 12.8**	**+0.6**
	baz=242								
NNSB	**Datong**	**1.15**	**354**	⇓	P	**Pn**	**06 09 11.8**	**-0.3**
	baz=5.0								
NNSB					*e*S	**Sb**	**06 09 25.6**	**-2.1**
	baz=5.0								
NNSH	**Datong**	**1.15**	**354**		*e*P	**Pn**	**06 09 11.5**	**-0.7**
	baz=10.0								
TCU	**Taichung**	**1.16**	**319**		*e*P	**Pb**	**06 09 13.4**	**+0.3**
	baz=320								
NNS	**Nan Shan**	**1.16**	**354**		*e*P	**Pn**	**06 09 12.2**	**-0.2**
	baz=10.0								
ENA	**Nanau**	**1.16**	**10**		*e*P	**Pn**	**06 09 12.2**	**0.0**
	baz=1.0								
NANB	**Nanao**	**1.17**	**11**		*e*P	**Pn**	**06 09 12.1**	**-0.1**
	baz=1.0								
WCHH	**Zhanghua**	**1.18**	**313**		*e*P	**Pb**	**06 09 13.5**	**0.0**
	baz=313								
CHN8	**Yiju**	**1.20**	**273**		*e*P	**Pb**	**06 09 13.6**	**-0.2**
	baz=272								
CHN8					*e*S	**Sb**	**06 09 29.7**	**+0.9**
	baz=272								
ENAH	**Nanao**	**1.20**	**13**		*e*P	**Pb**	**06 09 13.0**	**-0.8**
	baz=3.0								
RLNB	**Erlin**	**1.22**	**300**		*e*P	**Pb**	**06 09 13.6**	**-0.5**
	baz=299								
RLNB					*e*S	**Sn**	**06 09 28.9**	**+0.3**
	baz=299								
SCZT	**Fangliau**	**1.22**	**223**		*e*P	**Pn**	**06 09 12.9**	**-0.1**
	baz=207								
LAY	**Lan-yu**	**1.23**	**178**		*e*P	**Pn**	**06 09 11.9**	**-1.2**
	baz=166								
WSF	**Szhu**	**1.24**	**287**		*e*P	**Pn**	**06 09 12.8**	**-0.4**
	baz=286								
TWQ1	**Liyutan**	**1.26**	**328**		*e*P	**Pb**	**06 09 14.6**	**-0.3**
	baz=327								
TWQ1					*e*S	**Sb**	**06 09 31.6**	**+0.9**
	baz=327								
WTCT	**Ta-ch'eng**	**1.27**	**298**		*e*P	**Pn**	**06 09 13.0**	**-0.6**
	baz=296								
WTCT					*e*S	**Sb**	**06 09 30.6**	**-0.3**
	baz=296								
WSSB	**Gushan**	**1.31**	**241**		*e*P	**Pb**	**06 09 16.7**	**+1.0**
	baz=237								
NSY	**Sanyi**	**1.32**	**329**		*e*P	**Pb**	**06 09 16.1**	**+0.2**
	baz=328								
NSY					*e*S	**Sb**	**06 09 33.7**	**+1.1**
	baz=328								
ENTT	**Nioudou**	**1.36**	**2**		*e*P	**Pn**	**06 09 15.1**	**+0.2**
	baz=5.0								
TWC	**Suao**	**1.36**	**13**		*e*P	**Pb**	**06 09 15.6**	**-0.9**
	baz=4.0								
PTSB	**Yuanli**	**1.38**	**328**		*e*P	**Pb**	**06 09 16.6**	**-0.3**
	baz=327								
PTSB					*e*S	**Sb**	**06 09 34.7**	**+0.7**
	baz=327								
EOS1	**EOS1**	**1.39**	**24**		*e*P	**Pb**	**06 09 16.1**	**-0.8**
	baz=41								
YHNB	**Yeheng**	**1.39**	**355**		*e*P	**Pn**	**06 09 15.9**	**+0.5**
	baz=9.0								
WLCH	**Liuqiu**	**1.39**	**229**		*e*P	**Pb**	**06 09 19.2**	**+2.1**
	baz=223								
TWP	**Hsiaoliuchiu**	**1.41**	**229**		*e*P	**Pb**	**06 09 19.1**	**+1.8**
	baz=223								
NMLH	**Miaoli**	**1.42**	**332**		*e*P	**Pb**	**06 09 17.9**	**+0.4**
	baz=334								
NSTT	**Nanjuang**	**1.43**	**341**		*e*P	**Pb**	**06 09 17.6**	**-0.1**
	baz=342								
LIOB	**Emei**	**1.44**	**342**		*e*P	**Pb**	**06 09 17.9**	**0.0**
	baz=343								
TWE	**Neicheng**	**1.44**	**6**		*e*P	**Pn**	**06 09 16.4**	**+0.3**
	baz=9.0								
HEN	**Hengchun**	**1.45**	**210**		*e*P	**Pb**	**06 09 17.4**	**-0.8**
	baz=194								
TWK1	**Hengchun**	**1.48**	**206**		*e*P	**Pn**	**06 09 17.1**	**+0.5**
	baz=192								
TWKBT	**Hengchun**	**1.48**	**206**		*e*P	**Pn**	**06 09 16.8**	**+0.3**
	baz=192								
TSEB	**Hengchuen, Pin**	**1.48**	**202**		*e*P	**Pb**	**06 09 18.6**	**0.0**
	baz=191								
NWLT	**Wulai**	**1.49**	**360**		*e*P	**Pb**	**06 09 18.0**	**-0.8**
	baz=16								
EGS		**1.61**	**14**		*e*P	**Pb**	**06 09 19.8**	**-0.9**
	baz=4.0								
TATO	**Taipei**	**1.69**	**359**		*e*P	**Pn**	**06 09 20.4**	**+0.9**
	baz=14								
TWA	**Mucha**	**1.70**	**2**		*e*P	**Pb**	**06 09 21.1**	**-1.2**
	baz=16								
WDGT	**Dungji**	**1.70**	**270**		*e*P	**Pn**	**06 09 19.7**	**+0.1**
	baz=267								
TIPB	**Shuangxi**	**1.71**	**10**		*e*P	**Pn**	**06 09 19.6**	**-0.1**
	baz=13								
JYNG	**Yonagunijimaku**	**1.76**	**48**		P	**Pn**	**06 09 21.4**	**+1.1**
JYNG					*e*S	**Sn**	**06 09 42.5**	**+0.7**
TWB1	**Santiao Chiao**	**1.78**	**14**		*e*P	**Pb**	**06 09 21.8**	**-1.8**
	baz=4.0								
PHUB	**P'eng-hu**	**1.80**	**278**		*e*P	**Pn**	**06 09 20.9**	**+0.1**
	baz=276								
PHUB					*e*S	**Sn**	**06 09 41.5**	**-1.3**
	baz=276								
NWF	**Wu-fen Shan**	**1.80**	**8**		*e*P	**Pb**	**06 09 22.8**	**-1.3**
	baz=11								
WFSB	**Wu-fen Shan**	**1.80**	**8**		*e*P	**Pb**	**06 09 22.8**	**-1.3**
	baz=10.0								
TWS1	**Kuangyinshan**	**1.82**	**357**		*e*P	**Pn**	**06 09 22.0**	**+0.9**
	baz=16								
PNG	**Penghu**	**1.82**	**279**		*e*P	**Pn**	**06 09 21.4**	**+0.2**
	baz=278								
PNG					*e*S	**Sn**	**06 09 42.4**	**-1.0**
	baz=278								
YM04	**YM04**	**1.87**	**1**		*e*P	**Pb**	**06 09 23.4**	**-1.8**
	baz=17								
YM10	**YM10**	**1.87**	**1**		*e*P	**Pb**	**06 09 23.5**	**-1.8**
	baz=3.0								
YM07	**YM07**	**1.89**	**3**		*e*P	**Pn**	**06 09 22.4**	**+0.1**
	baz=5.0								
YM08	**YM08**	**1.90**	**2**		*e*P	**Pb**	**06 09 23.9**	**-1.9**
	baz=4.0								
HATJ	**Hateruma jima**	**2.24**	**69**		P	**Pn**	**06 09 27.8**	**+0.8**
HATJ					S	**Sn**	**06 09 54.2**	**+0.4**
IRIF	**Iriomote-Funau**	**2.29**	**62**		P	**Pn**	**06 09 28.6**	**+1.0**
IRIF					*e*S	**Sn**	**06 09 56.1**	**+1.2**
JKRS	**Kuro-shima**	**2.48**	**67**		P	**Pn**	**06 09 31.3**	**+1.0**
JKRS					*e*S	**Sn**	**06 10 00.9**	**+1.3**
VWUC	**VWUC**	**2.54**	**313**		*e*P	**Pn**	**06 09 30.9**	**-0.2**
	baz=313								
JIJ	**Ishigaki jima**	**2.64**	**65**		P	**Pn**	**06 09 33.0**	**+0.5**
JIJ					S	**Sn**	**06 10 03.7**	**+0.1**
KNMB	**Chin-men Tao**	**3.09**	**293**		*e*P	**Pn**	**06 09 38.2**	**-0.5**
	baz=292								
MATB	**Ma-tsu**	**3.19**	**334**		*e*P	**Pn**	**06 09 40.4**	**+0.3**
	baz=336								
JTJ	**Tarama**	**3.22**	**64**		P	**Pn**	**06 09 41.2**	**+0.8**
JTJ					*e*S	**Sn**	**06 10 19.6**	**+1.7**
JIRB	**Irabujima**	**3.69**	**65**		P	**Pn**	**06 09 47.5**	**+0.6**
JMJ	**Miyako jima 2**	**3.78**	**65**		P	**Pn**	**06 09 49.5**	**+1.3**
JIKM	**Ikemajima**	**3.79**	**64**		P	**Pn**	**06 09 49.0**	**+0.7**
JOGS	**Gusukube**	**3.85**	**67**		P	**Pn**	**06 09 50.7**	**+1.5**

IDC ***19*** *06:46:29.0±5.3, 33°.98N×141°.97E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/65, mbtmp3.3/4, ML3.0/1, MS2.2/1, Ms1 2.2/1, ms1mx1.8/45, Error ellipse: s-maj=186.8km s-min=28.8km az=65.0*

JMA ***19*** *06:46:38.1±0.2, 36°.15N×142°.56E, h30km, M3.1*

ISC 19 06:46:37.4±3.8, 36°.28N±0°.09×142°.4E±0°.1, h1km±17km, n17, σ0s54/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**1.53**	**283**	P	**Pn**	**06 47 06.2**	**+0.2**
JHO				S	**Sg**	**06 47 26.8**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.54**	**303**	P	**Pb**	**06 47 06.6**	**-0.3**
ONAJ				S	**Sg**	**06 47 27.8**	**+0.7**
JFK	**Kawauchi**	**1.65**	**312**	P	**Pn**	**06 47 07.8**	**+0.1**
JFK				S	**Sg**	**06 47 30.4**	**-0.1**
JMM	**Marumori**	**2.05**	**321**	P	**Pn**	**06 47 13.7**	**+0.6**
JMM				S	**Sn**	**06 47 40.2**	**+0.8**
JFT	**Otama**	**2.08**	**307**	P	**Pb**	**06 47 15.4**	**-0.6**
JFT				S	**Sb**	**06 47 41.9**	**-0.5**
JAG	**Ashikaga**	**2.40**	**274**	P	**Pn**	**06 47 18.8**	**+0.9**
JAG				S	**Sn**	**06 47 48.0**	**0.0**
JRY	**Ryogami san**	**2.86**	**266**	P	**Pn**	**06 47 24.8**	**+0.5**
JRY				S	**Sn**	**06 47 59.3**	**-0.1**
JOD2	**Odawara 2**	**2.89**	**251**	P	**Pn**	**06 47 25.2**	**+0.5**
MJAR	**Matsushiro Arr**	**3.41**	**276**	Pn	**Pn**	**06 47 31.6**	**-0.2**
	1.0nm,0.3s,baz=129,slow=12,SNR=6.0						
MJAR				LR	LR	06 49 15.9	
	comp=Z,31nm,18.5s,baz=70,slow=42						
H11N2	**WAKE ISLAND Hy**	**27.06**	**121**	T	T	07 20 31.0	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**27.07**	**121**	T	T	07 20 29.3	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**27.08**	**121**	T	T	07 20 31.0	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.77**	**123**	T	T	07 21 22.0	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**27.77**	**123**	T	T	07 21 21.3	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**27.78**	**123**	T	T	07 21 23.5	
	baz=314						
MKAR	**Makanchi Array**	**45.21**	**303**	P	**P**	**06 54 55.5**	**-0.5**
	0.4nm,0.7s,baz=94,slow=9.3,SNR=5.2						
KURBB	**Kurchatov Arra**	**47.11**	**309**	P	**P**	**06 55 11.1**	**+0.2**
	0.2nm,0.5s,baz=80,slow=7.9,SNR=3.2						

ISCJB ***19*** *06:58:51.8±0.9, 36°.08N±0°.03×31°.24E±0°.03, h9km±6km, Error ellipse: s-maj=5.9km s-min=3.3km az=37.7*

DDA ***19*** *06:58:51.2, 36°.06N×31°.30E, h28km, Ml3.2*

ISK ***19*** *06:58:51.5, 36°.12N×31°.24E, h9km, ML3.2/17*

CSEM ***19*** *06:58:52.2±0.2, 36°.07N×31°.24E, h10km, ML3.2, Error ellipse: s-maj=5.9km s-min=3.2km az=35.0*

NIC ***19*** *06:58:53.5±0.0, 36°.37N×31°.42E, h25km, ML3.3*

ISC 19 06:58:51.1±1.3, 36°.10N±0°.03×31°.28E±0°.02, h5km±11km, n70, σ0s85/95, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEPZ	**Antalya-Kepez**	**0.84**	**18**	*i* P	**Pn**	**06 59 09.2**	**-0.5**
KEPZ				*i* S	**Sb**	**06 59 20.2**	**+0.3**
KEPZ	**Antalya-Kepez**	**0.84**	**18**	P	**Pn**	**06 59 09.2**	**-0.5**
KEPZ				S	**Sb**	**06 59 20.2**	**+0.3**
ANTB	**Antalya**	**0.94**	**328**	PG	**Pg**	**06 59 09.5**	**+0.3**
ANTB				SG	**Sb**	**06 59 22.5**	**-0.2**
ANTB	**Antalya**	**0.94**	**328**	*e*Pg	**Pg**	**06 59 09.5**	**+0.3**
ANTB				*e*Sg	**Sb**	**06 59 22.5**	**-0.2**
KORT	**Korkueli**	**1.17**	**321**	PN	**Pg**	**06 59 13.7**	**+0.2**
KORT				SN	**Sb**	**06 59 29.7**	**+0.3**
KORT	**Korkueli**	**1.17**	**321**	*i* P	**Pg**	**06 59 13.6**	**+0.2**
KORT				*i* S	**Sn**	**06 59 34.6**	**+3.9**
KORT	**Korkueli**	**1.17**	**321**	*e*Pn	**Pg**	**06 59 13.7**	**+0.2**
KORT				*e*Sn	**Sb**	**06 59 29.7**	**+0.3**
ELL	**Elmali**	**1.28**	**301**	PN	**Pb**	**06 59 15.8**	**+0.1**
ELL				SN	**Sn**	**06 59 33.2**	**-0.2**
AKAS	**Kas**	**1.36**	**276**	PN	**Pn**	**06 59 16.6**	**-0.3**
AKAS	**Kas**	**1.36**	**276**	*e*Pn	**Pn**	**06 59 16.6**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.39**	**351**	PN	**Pn**	**06 59 17.3**	**-0.1**
SUTC				SN	**Sn**	**06 59 36.3**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.39**	**351**	*e*Pn	**Pn**	**06 59 17.3**	**-0.1**
SUTC				*e*Sn	**Sn**	**06 59 36.3**	**+0.1**
ALFC	**Alefka**	**1.43**	**131**	P	**Pn**	**06 59 17.9**	**+0.1**
	baz=321						
ALFC				S	**Sb**	**06 59 36.9**	**0.0**
ALFC	**Alefka**	**1.43**	**131**	P	**Pn**	**06 59 17.9**	**+0.1**
ALFC				S	**Sb**	**06 59 36.9**	**0.0**
BCK	**Bucak**	**1.47**	**338**	PN	**Pn**	**06 59 18.3**	**0.0**
BCK	**Bucak**	**1.47**	**338**	*e*Pn	**Pn**	**06 59 18.3**	**0.0**
TEKE	**Tekeli-Mersin**	**1.49**	**88**	PN	**Pb**	**06 59 19.3**	**0.0**
TEKE	**Tekeli-Mersin**	**1.49**	**88**	*e*Pn	**Pb**	**06 59 19.3**	**0.0**
PPCY	**Paphos**	**1.49**	**144**	P	**Pb**	**06 59 19.5**	**+0.2**
	baz=333						
PPCY	**Paphos**	**1.49**	**144**	P	**Pb**	**06 59 19.5**	**+0.2**
AKDN	**Akdeniz- K¯–br**	**1.59**	**120**	PN	**Pb**	**06 59 21.1**	**+0.1**
AKDN	**Akdeniz- K¯–br**	**1.59**	**120**	*e*Pn	**Pb**	**06 59 21.1**	**+0.1**
LEF	**Lefka**	**1.64**	**126**	P	**Pn**	**06 59 19.4**	**-1.2**
TEVE	**Tevekalti-Mers**	**1.78**	**79**	PN	**Pb**	**06 59 23.9**	**-0.4**
TEVE	**Tevekalti-Mers**	**1.78**	**79**	*e*Pn	**Pb**	**06 59 23.9**	**-0.4**
GOLH	**Golhisar**	**1.79**	**310**	*i* P	**Pb**	**06 59 24.6**	**+0.2**
GOLH				*i* S	**Sg**	**06 59 48.3**	**-0.2**
GOLH	**Golhisar**	**1.79**	**310**	P	**Pb**	**06 59 24.6**	**+0.2**
GOLH				S	**Sg**	**06 59 48.3**	**-0.2**
ISP	**Isparta**	**1.82**	**341**	PN	**Pn**	**06 59 23.4**	**+0.2**
ISP	**Isparta**	**1.82**	**341**	*e*Pn	**Pn**	**06 59 23.4**	**+0.2**
GULN	**MERSIN_Gulnar**	**1.84**	**87**	*i* P	**Pb**	**06 59 24.3**	**-0.9**
GULN				*i* S	**Sn**	**06 59 47.6**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.84**	**87**	P	**Pb**	**06 59 24.3**	**-0.9**
GULN				S	**Sn**	**06 59 47.6**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.84**	**88**	PN	**Pb**	**06 59 24.5**	**-0.8**
AKKU	**Akkuyu-Mersin**	**1.84**	**88**	*e*Pn	**Pb**	**06 59 24.5**	**-0.8**
FETY	**Fethiye**	**1.85**	**287**	PN	**Pn**	**06 59 23.5**	**0.0**
FETY	**Fethiye**	**1.85**	**287**	*e*Pn	**Pn**	**06 59 23.5**	**0.0**
FETY				S	**Sn**	**06 59 45.6**	**-1.7**
BRDR	**BURDUR-Merkez**	**1.87**	**329**	*i* P	**Pg**	**06 59 26.8**	**-0.1**
BRDR	**BURDUR-Merkez**	**1.87**	**329**	P	**Pg**	**06 59 26.8**	**-0.1**
SZAC	**Souni**	**1.88**	**135**	P	**Pn**	**06 59 24.2**	**+0.3**
	baz=323						
SZAC				S	**Sn**	**06 59 48.3**	**+0.3**
SZAC	**Souni**	**1.88**	**135**	P	**Pn**	**06 59 24.2**	**+0.3**
SZAC				S	**Sn**	**06 59 48.3**	**+0.3**
BAGO	**Egridir - ISPA**	**1.93**	**348**	*i* P	**Pb**	**06 59 27.2**	**+0.5**
BAGO				*i* S	**Sb**	**06 59 51.1**	**-0.1**
DOGA	**KONYA_Doganhis**	**2.03**	**9**	*i* P	**Pn**	**06 59 27.2**	**+1.1**
DOGA				*i* S	**Sn**	**06 59 51.2**	**-0.7**
DOGA	**KONYA_Doganhis**	**2.03**	**9**	P	**Pn**	**06 59 27.2**	**+1.1**
DOGA				S	**Sn**	**06 59 51.2**	**-0.7**
DALY	**Dalyan (Mu¯la**	**2.23**	**289**	PN	**Pn**	**06 59 29.0**	**+0.3**
DALY	**Dalyan (Mu¯la**	**2.23**	**289**	*i* P	**Pn**	**06 59 29.1**	**+0.3**
DALY				*i* S	**Sn**	**06 59 54.5**	**-2.2**
DALY	**Dalyan (Mu¯la**	**2.23**	**289**	*e*Pn	**Pn**	**06 59 29.0**	**+0.3**
DALY				S	**Sn**	**06 59 54.5**	**-2.2**
TURN	**Turunc**	**2.29**	**290**	PN	**Pb**	**06 59 33.5**	**+0.6**
TURN	**Turunc**	**2.29**	**290**	*e*Pn	**Pb**	**06 59 33.5**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.33**	**306**	*i* P	**Pb**	**06 59 32.0**	**-1.7**
TAVA	**DENIZLI_Tavas**	**2.33**	**306**	P	**Pb**	**06 59 32.0**	**-1.7**
KZIL	**AFYON_Kizioren**	**2.34**	**338**	*i* P	**Pb**	**06 59 32.8**	**-1.0**
KZIL	**AFYON_Kizioren**	**2.34**	**338**	P	**Pb**	**06 59 32.8**	**-1.0**
SHUT	**Suhut-Afyon**	**2.52**	**347**	PN	**Pn**	**06 59 33.3**	**+0.5**
SHUT	**Suhut-Afyon**	**2.52**	**347**	*e*Pn	**Pn**	**06 59 33.3**	**+0.5**
YER	**Yerkesik**	**2.62**	**294**	PN	**Pn**	**06 59 34.8**	**+0.6**
YER	**Yerkesik**	**2.62**	**294**	*e*Pn	**Pn**	**06 59 34.8**	**+0.6**
KERG	**Konya-Eregli**	**2.64**	**59**	*i* P	**Pb**	**06 59 37.3**	**-1.6**
KERG	**Konya-Eregli**	**2.64**	**59**	P	**Pb**	**06 59 37.3**	**-1.6**
CHBY	**Cihanbeyli**	**2.79**	**27**	PN	**Pn**	**06 59 37.4**	**+0.8**
CHBY	**Cihanbeyli**	**2.79**	**27**	*e*Pn	**Pn**	**06 59 37.4**	**+0.8**
KULA	**Kula-Manisa**	**3.19**	**320**	PN	**Pn**	**06 59 42.8**	**+0.8**
KULA	**Kula-Manisa**	**3.19**	**320**	*e*Pn	**Pn**	**06 59 42.8**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**3.28**	**305**	PN	**Pn**	**06 59 44.4**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**3.28**	**305**	*e*Pn	**Pn**	**06 59 44.4**	**+1.2**
SVRH	**Sivrihisar-ESK**	**3.35**	**3**	PN	**Pn**	**06 59 45.5**	**+1.3**
SVRH	**Sivrihisar-ESK**	**3.35**	**3**	*e*Pn	**Pn**	**06 59 45.5**	**+1.3**
SIMA	**Simav-Kutahya**	**3.49**	**329**	PN	**Pn**	**06 59 46.9**	**+0.7**
SIMA	**Simav-Kutahya**	**3.49**	**329**	*e*Pn	**Pn**	**06 59

	comp=Z,1.0nm,0.3s						
YKW3	**Yellowknife Ar**	**15.03**	**179**	*e*Pn	Pn	07 05 48.5	-0.9
	14nm,2.0s						
YKW3				*e*Sn	Sn	07 08 29.1	-6.0
WHFN	**White Fish Lak**	**15.26**	**165**	PN	Pn	07 05 45.6	-6.9
WHFN				SN	Sn	07 08 28.1	-13
DAWY	**Dawson**	**15.43**	**222**	*e*Pn	Pn	07 05 50.8	-3.8
	13nm,2.0s						
ILB	**Eielson Array**	**15.99**	**235**	*e*Pn	Pn	07 06 00.9	-1.0
MDM	**Murphy Dome**	**16.06**	**237**	*e*Pn	Pn	07 05 59.7	-3.1
	13nm,2.0s						
MDM				*e*Sn	Sn	07 08 56.2	-3.9
SEDN	**First Sedna Si**	**16.21**	**139**	PN	Pn	07 06 02.9	-1.8
SEDN				SN	Sn	07 08 50.2	-13
SEDN				Trac		07 08 58.6	
	comp=Z,125nm,3.3s						
SCRK	**Sand Creek**	**16.23**	**229**	*e*Pn	Pn	07 06 03.0	-2.0
	19nm,2.0s						
SCRK				*e*Sn	Sn	07 09 01.8	-2.5

IDC 19 07:07:54.9±2.2, 7°.21S×127°.70E, h0km, mb3.9/1, mb1 4.4/3, mb1mx3.6/53, mbtmp4.1/3, ML4.3/2, Error ellipse: s-maj=281.8km s-min=30.3km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.20**	**154**	Pn	Pn	07 11 16.6	-0.8
	1.1nm,0.3s,baz=330,slow=13,SNR=51						
WRA				Sn	Sn	07 13 41.5	-14
	1.1nm,0.3s,baz=328,slow=21,SNR=8.1						
ASAR	**Alice Springs**	**17.41**	**161**	P	Pn	07 12 00.0	+0.6
	1.3nm,0.3s,baz=341,slow=12,SNR=117						
ASAR				S	Sn	07 15 01.2	-13
	0.4nm,0.3s,baz=343,slow=24,SNR=5.9						
MKAR	**Makanchi Array**	**67.17**	**328**	P	P	07 18 50.7	0.0
	0.6nm,0.5s,baz=117,slow=8.0,SNR=13						

*DDA **19** 07:12:50.5, 38°.48N×43°.69E, h7km, Ml2.7*
*ISCJB **19** 07:12:51.8±1.0, 38°.58N±0°.05×43°.58E±0°.07, h8km±4km, Error ellipse: s-maj=10.4km s-min=5.0km az=39.1*
*CSEM **19** 07:12:51.5±0.5, 38°.55N×43°.58E, h8km, ML2.4, Error ellipse: s-maj=12.3km s-min=5.7km az=127.0*
*ISK **19** 07:12:51.4, 38°.61N×43°.50E, h5km, ML2.4/4*
ISC 19 07:12:51.0±1.3, 38°.54N±0°.04×43°.63E±0°.04, h7km±9km, n26, σ1°27/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.17**	**266**	*i* P	Pg	07 12 54.6	-0.1
TVAN				*i* S	Sg	07 12 58.5	+1.3
TVAN	**Van**	**0.17**	**266**	P	Pg	07 12 54.6	-0.1
TVAN				S	Sg	07 12 58.5	+1.3
VANB	**Van**	**0.20**	**286**	PG	Pg	07 12 54.5	-0.5
VANB				SG	Sg	07 12 56.7	-1.1
VANB	**Van**	**0.20**	**286**	*e*Pg	Pg	07 12 54.5	-0.5
VANB				*e*Sg	Sg	07 12 56.7	-1.1
VMUR	**Van-Muradiye**	**0.45**	**354**	*i* P	Pb	07 13 02.1	+0.7
VMUR				*i* S	Sb	07 13 11.3	+2.9
VMUR	**Van-Muradiye**	**0.45**	**354**	P	Pb	07 13 02.1	+0.7
GEVA	**Gevas**	**0.50**	**243**	*i* P	Pg	07 13 00.0	-0.8
GEVA				*i* S	Sb	07 13 09.4	-0.4
GEVA	**Gevas**	**0.50**	**243**	P	Pg	07 13 00.0	-0.8
GEVA				S	Sb	07 13 09.4	-0.4
CLDR	**Caldiran**	**0.64**	**20**	PG	Pg	07 13 03.9	+0.4
CLDR				SG	Sb	07 13 13.3	-0.7
CLDR	**Caldiran**	**0.64**	**20**	*i* P	Pg	07 13 03.6	+0.1
CLDR				*i* S	Sb	07 13 14.0	0.0
CLDR	**Caldiran**	**0.64**	**20**	P	Pg	07 13 03.6	+0.1
CLDR	**Caldiran**	**0.64**	**20**	*e*Pg	Pg	07 13 03.9	+0.4
CLDR				*e*Sg	Sb	07 13 13.3	-0.7
CLDR				S	Sb	07 13 14.0	0.0
ADCV	**BITLIS_Adilcev**	**0.76**	**291**	*i* P	Pg	07 13 05.8	+0.2
ADCV				*i* S	Sb	07 13 17.9	+0.7
ADCV	**BITLIS_Adilcev**	**0.76**	**291**	P	Pg	07 13 05.8	+0.2
ADCV				S	Sb	07 13 17.9	+0.7
TUTA	**Tutak**	**1.07**	**324**	*i* P	Pb	07 13 11.8	-0.2
TUTA	**Tutak**	**1.07**	**324**	P	Pb	07 13 11.8	-0.2
AGRB	**Hanur-Agry**	**1.15**	**335**	PG	Pg	07 13 11.9	-1.2
AGRB				SG	Sg	07 13 26.8	-1.1
AGRB	**Hanur-Agry**	**1.15**	**335**	*e*Pg	Pg	07 13 11.9	-1.2
AGRB				*e*Sg	Sg	07 13 26.8	-1.1
GURO	**Guroymak-BITLI**	**1.25**	**271**	PN	Pn	07 13 13.8	-1.2
GURO				SN	Sb	07 13 30.1	-1.3
GURO	**Guroymak-BITLI**	**1.25**	**271**	*e*Pn	Pn	07 13 13.8	-1.2
GURO				*e*Sn	Sb	07 13 30.1	-1.3
SIRT	**Sirnak**	**1.40**	**222**	PN	Pb	07 13 17.9	+0.4
SIRT	**Sirnak**	**1.40**	**222**	*e*Pn	Pb	07 13 17.9	+0.4
EKAR	**Karacoban**	**1.41**	**301**	*i* P	Pg	07 13 19.4	+1.3
EKAR				*i* S	Sg	07 13 40.1	+3.6
EKAR	**Karacoban**	**1.41**	**301**	P	Pg	07 13 19.5	+1.3
SRTM	**Siirt_Merkez**	**1.45**	**248**	*i* P	Pb	07 13 18.1	-0.3
SRTM				*i* S	Sg	07 13 40.8	+3.1
SRTM	**Siirt_Merkez**	**1.45**	**248**	P	Pb	07 13 18.1	-0.3
SRTM				S	Sg	07 13 40.8	+3.1

*ISCJB **19** 07:19:43.2±0.3, 32°.69N±0°.02×115°.70W±0°.02, h20km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=5.9*
*NEIC **19** 07:19:43.7±0.0, 32°.67N×115°.71W, h9km, ML3.2(PAS), After PAS.*
NEIC Felt at Calexico and El Centro.
*MEX **19** 07:19:44.8±1.0, 32°.61N×115°.63W, h15km, MD3.8*
*ECX **19** 07:19:44.6±0.6, 32°.70N×115°.73W, h9km, MD3.0, ML3.2*
ISC 19 07:19:42.7±0.8, 32°.66N±0°.02×115°.70W±0°.01, h17km±5km, n78, σ1°14/115, 6C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPC	**Ernies Place**	**0.09**	**22**	*e*Pg	Pg	07 19 46.3	+0.2
WESC	**Westside Schoo**	**0.10**	**345**	*e*Pg	Pg	07 19 46.3	+0.1
WESC	**Westside Schoo**	**0.10**	**345**	⇑*e*P	Pg	07 19 46.3	+0.1
COK	**Cook Ranch**	**0.19**	**353**	⇓*i*P	Pb	07 19 47.9	+0.2
YUH	**Yuha Desert**	**0.19**	**266**	*e*Pg	Pg	07 19 47.7	+0.3
YUH	**Yuha Desert**	**0.19**	**266**	⇑*i*P	Pg	07 19 47.7	+0.3
DREC	**Desert Rsrch C**	**0.26**	**56**	*e*Pg	Pg	07 19 50.2	+1.3
DREC	**Desert Rsrch C**	**0.26**	**56**	⇓*e*P	Pg	07 19 49.7	+0.9
SWSC	**Sam W. Stewart**	**0.29**	**344**	P	Pg	07 19 49.3	+0.2
	baz=169,SNR=133						
SWSC				S	Sg	07 19 53.2	-0.2
	baz=169						
SWSC	**Sam W. Stewart**	**0.29**	**344**	*e*Pg	Pg	07 19 49.3	+0.2
SWSC	**Sam W. Stewart**	**0.29**	**344**	⇑*i*P	Pg	07 19 49.2	+0.2
CRR	**Carrizo Plain**	**0.32**	**315**	*e*Pg	Pg	07 19 49.9	+0.4
CRR	**Carrizo Plain**	**0.32**	**315**	⇑*i*P	Pg	07 19 49.5	0.0
RMX	**La Rumorosa**	**0.32**	**260**	*e*P	Pg	07 19 49.9	+0.2
RMX				*e*P	Pn	07 19 53.9	+1.2
IKP	**In-Ko-Pah, Jac**	**0.34**	**268**	P	Pg	07 19 50.6	+0.6
	baz=84,SNR=104						
IKP				S	Sg	07 19 55.1	+0.2
	baz=84						
IKP	**In-Ko-Pah, Jac**	**0.34**	**268**	*e*P	Pg	07 19 50.5	+0.6
CPBX	**Cerro Prieto**	**0.41**	**126**	⇑*e*P	Pg	07 19 51.4	+0.2
CPBX				*e*S	Sb	07 19 59.1	+1.6
CPBX				IAML		07 20 01.8	
	comp=N,4μm,0.3s						
CPBX				⇓*e*		07 20 01.8	
ERRC	**Elmore Ranch**	**0.47**	**347**	*e*Pg	Pb	07 19 53.1	+0.8
MBIG	**Mexicali**	**0.49**	**121**	*e*P	Pg	07 19 52.7	+0.1
MBIG				*e*S	Sg	07 19 57.8	-1.5
MBIG	**Mexicali**	**0.49**	**121**	*e*P	Pb	07 19 54.0	+1.2
CLIC	**Calipatria**	**0.50**	**17**	*e*Pg	Pb	07 19 53.6	+0.6
CBKC	**Canebrake**	**0.52**	**297**	*e*Pg	Pb	07 19 53.9	+0.6
COA	**Coachella**	**0.53**	**67**	*e*Pg	Pb	07 19 54.2	+0.8
EMSC	**East Mesa**	**0.61**	**83**	*e*Pg	Pb	07 19 55.6	+0.8
MONP2	**Monument Peak**	**0.65**	**291**	P	Pg	07 19 55.9	+0.3
	baz=110,SNR=28						
MONP2				S	Sg	07 20 04.1	-0.2
	baz=110						
FRK	**Frink**	**0.74**	**4**	*e*Pg	Pg	07 19 56.8	-0.3
BAR	**Barrett**	**0.82**	**272**	*e*Pg	Pg	07 19 58.9	+0.3
BAR				*e*Sg	Sg	07 20 09.2	-0.3
BAR				*e*Sn	Sb	07 20 09.8	+0.7
BAR	**Barrett**	**0.82**	**272**	⇑*e*P	Pg	07 19 58.9	+0.3
GLA	**Glamis**	**0.83**	**62**	P	Pg	07 19 58.4	-0.5
	baz=244,SNR=23						
GLA				S	Sg	07 20 09.1	-0.9
	baz=244						
GLA	**Glamis**	**0.83**	**62**	*e*Pg	Pg	07 19 58.5	-0.4
GLA				*e*Sg	Sg	07 20 09.4	-0.5
GLA				*e*Sn	Sb	07 20 09.7	+0.1
BORC	**Borrego Spring**	**0.85**	**315**	*e*Pn	Pb	07 19 59.8	+0.8
BORC				*e*Sn	Sb	07 20 10.9	+0.8
TJIG	**Tijuana**	**0.85**	**255**	*e*P	Pb	07 19 59.4	+0.4
TJIG				*e*S	Sg	07 20 10.0	-0.6
CBX	**Cerro Bola**	**0.89**	**247**	*i* P	Pb	07 20 00.3	+0.7
CBX				*e*S	Sg	07 20 10.1	-1.5
CBX	**Cerro Bola**	**0.89**	**247**	*e*P	Pb	07 20 00.3	+0.7
CBX				*e*S	Sg	07 20 12.0	+0.3
CBX				⇓*e*		07 20 14.9	
CBX				IAML		07 20 14.9	
	comp=N,1μm,0.4s						
EML	**El Monte Cty P**	**0.99**	**284**	*e*Pg	Pb	07 20 01.8	+0.5
EML				*e*Sn	Sg	07 20 15.0	+0.1
BC3	**Big Chuckawall**	**1.01**	**12**	P	Pb	07 20 00.7	-1.1
	baz=194,SNR=30						
BC3				S	Sb	07 20 13.6	-1.2
	baz=194						
CTW	**Cottonwood Mou**	**1.02**	**352**	*e*Pn	Pn	07 20 04.3	+2.1
SDRC	**San Diego Road**	**1.05**	**274**	*e*P	Pb	07 20 02.7	+0.4
DPP	**Dos Picos Cty**	**1.10**	**288**	*e*Pn	Pb	07 20 03.5	+0.4
DPP				*e*Sn	Sg	07 20 18.2	-0.1
HWB	**Hans Werner Br**	**1.12**	**289**	*e*Pn	Pb	07 20 04.0	+0.4
HWB				*e*Sn	Sb	07 20 18.1	+0.3
FRD	**Ford Ranch, An**	**1.12**	**318**	*e*Pg	Pb	07 20 03.1	-0.5
XPFO	**Piæon Flat**	**1.14**	**326**	*e*Pg	Pb	07 20 03.0	-0.9
XPFO				*e*Sg	Sb	07 20 17.4	-1.1
PFO	**Pinyon Flats O**	**1.14**	**326**	P	Pb	07 20 03.1	-0.9
	baz=147,SNR=6.4						
PFO				S	Sb	07 20 17.5	-1.0
	baz=147						
PFO	**Pinyon Flats O**	**1.14**	**326**	*e*Pg	Pb	07 20 03.0	-0.9
PFO				*e*Sg	Sb	07 20 17.4	-1.2
SNDA	**J Saunders Pla**	**1.17**	**319**	*e*Pn	Pb	07 20 04.4	-0.1
SNDA				*e*Sn	Sb	07 20 19.1	-0.3
DNR	**Dunn Ranch,Anz**	**1.19**	**319**	*e*Pn	Pn	07 20 04.5	-0.1
PLM	**Palomar**	**1.19**	**306**	*e*Pn	Pg	07 20 06.4	+0.6
109C	**Camp Elliot, M**	**1.20**	**281**	P	Pn	07 20 04.8	+0.1
	baz=100,SNR=23						
109C				S	Sb	07 20 20.4	+0.2
	baz=100						
CPE	**Camp Elliot**	**1.20**	**281**	*e*Pn	Pn	07 20 05.1	+0.4
CPE				*e*Sg	Sb	07 20 19.6	-0.6
ZAX	**El Zacaton**	**1.24**	**203**	*e*P	Pn	07 20 06.2	+0.9
CRY	**Cary Ranch**	**1.25**	**316**	*e*Pn	Pn	07 20 05.3	-0.2
ECNX	**Esteban Cantu**	**1.26**	**217**	*e*P	Pb	07 20 06.3	+0.3
ECNX				⇓*e*P	Pn	07 20 04.9	-0.6
BELC	**Belle Mtn. Jos**	**1.36**	**350**	S	Sb	07 20 23.1	-1.7
	baz=171						
Y12C	**Blythe**	**1.47**	**42**	S	Sn	07 20 26.4	-0.7
	baz=224						
Y12C	**Blythe**	**1.47**	**42**	*e*Pn	Pb	07 20 10.1	+0.7
Y12C				*e*Sn	Sg	07 20 29.9	-0.1
DGR	**Domenigoni Val**	**1.48**	**312**	*e*Pn	Pn	07 20 08.2	-0.2
DGR				*e*Sn	Sg	07 20 29.8	-0.5
IRM	**Iron Mountain**	**1.56**	**17**	Pb	Pn	07 20 10.4	+0.8
	baz=199,SNR=27						
MURC	**Murrieta**	**1.56**	**307**	P	Pn	07 20 09.5	-0.1
	baz=127,SNR=39						
MURC				Sb	Sb	07 20 32.0	+1.4
	baz=127						
SPIG	**San Pedro Mart**	**1.62**	**173**	*e*P	Pn	07 20 08.9	-1.8
SPIG				*i* S	Sn	07 20 27.1	-4.3
SPX	**San Pedro Mart**	**1.62**	**173**	*e*P	Pb	07 20 12.8	+0.5
SPX				*e*S	Sb	07 20 34.7	+2.0
113A	**Mohawk Valley,**	**1.63**	**86**	*e*Pn	Pn	07 20 10.5	-0.1
113A				*e*Sn	Sn	07 20 30.6	-0.6
BBRC	**Big Bear Solar**	**1.89**	**328**	S	Sn	07 20 36.9	-1.0
	baz=148						
BFSC	**Mount Baldy Ra**	**2.27**	**314**	Sb	Sb	07 20 52.0	+1.0
	baz=134						
DSCC	**Desert Studies**	**2.50**	**352**	*e*Pn	Pn	07 20 24.8	+2.4
MWC	**Mount Wilson**	**2.51**	**309**	*e*Pn	Pb	07 20 28.1	+0.8
MWC				*e*Sn	Sn	07 20 52.4	-0.8
214A	**Organ Pipe Nat**	**2.55**	**105**	P	Pn	07 20 22.7	-0.5
	baz=287						
PASC	**Pasadena Art C**	**2.56**	**307**	*e*Pn	Pn	07 20 25.0	+1.6
PASC				*e*Sn	Sn	07 20 52.7	-1.5
Y14A	**Wickenburg**	**2.59**	**60**	*e*Pn	Pb	07 20 28.8	+0.1
Y14A				*e*Sn	Sb	07 21 00.3	+0.1
GSC	**Goldstone, Bar**	**2.79**	**341**	*e*Pn	Pn	07 20 27.6	+1.0
W13A	**Hualapai Mount**	**2.86**	**31**	*e*Pn	Pn	07 20 28.4	+0.7
DAC	**Darwin (Calif)**	**3.93**	**337**	*e*Pn	Pn	07 20 42.5	+0.2
X16A	**Lo Mia Camp, P**	**3.96**	**63**	*e*Pn	Pn	07 20 44.9	+2.1
X16A				*e*Sn	Sb	07 21 35.5	-4.4
TUC	**Tucson**	**4.17**	**94**	*e*Pn	Pn	07 20 48.3	+2.7
U15A	**North Rim**	**4.69**	**36**	*e*Pn	Pn	07 20 55.2	+2.3
LCMT	**Little Creek M**	**4.79**	**24**	*e*Pn	Pn	07 20 56.1	+2.0
LCMT				*e*Sn	Sn	07 21 50.5	+1.3
X18A	**Snowflake**	**5.15**	**67**	*e*Pn	Pn	07 21 02.0	+3.0
CCUT	**Cedar City**	**5.24**	**21**	*e*Pn	Pn	07 21 02.7	+2.3
SRIG	**Santa Rosalia**	**6.11**	**150**	*e*Pn	Pn	07 21 13.4	+1.3

*ISCJB **19** 08:18:59.1±0.8, 5°.3S±0°.1×153°.3E±0°.1, h35km, mb3.6/8, MS3.6/1, Error ellipse: s-maj=19.1km s-min=10.8km az=137.1*
*IDC **19** 08:19:07.6±4.1, 5°.44S×153°.16E, h99km±36km, mb3.5/9, mb1 3.6/10, mb1mx3.5/44, mbtmp3.8/10, MS3.0/3, Ms1 3.0/3, ms1mx2.6/26, Error ellipse: s-maj=24.7km s-min=21.9km az=85.0*
ISC 19 08:19:00.5±0.9, 5°.2S±0°.1×153°.4E±0°.1, h35km, n13, σ1°77/13, mb3.5/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.41**	**236**	P	Pn	08 20 47.8	+1.6
	3.0nm,0.3s,baz=45,slow=8.6,SNR=5.2						
PMG				S	Sn	08 22 10.4	+1.2
	2.1nm,0.3s,baz=24,slow=19,SNR=5.4						
PMG				LR	LR	08 23 44.9	
	comp=Z,77nm,20.2s,baz=32,slow=39						
HNR	**Honiara**	**7.75**	**123**	LR	LR	08 24 34.7	
	comp=Z,51nm,19.0s,baz=328,slow=42						
DZM	**Mont Dzumac**	**20.98**	**144**	P	P	08 23 42.5	+1.5
	6.1nm,0.6s,baz=338,slow=19,SNR=8.0						
WRA	**Warramunga Arr**	**23.58**	**230**	P	P	08 24 07.1	-1.1
	1.2nm,0.5s,baz=53,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.21**	**224**	P	P	08 24 31.2	-1.0
	0.5nm,0.5s,baz=58,slow=9.1,SNR=11						
ASAR				PcP	PcP	08 27 55.7	-3.1
	0.3nm,0.6s,baz=64,slow=2.2,SNR=2.5						
STKA	**Stephens Creek**	**28.70**	**201**	P	P	08 24 53.9	-0.5
	1.0nm,0.7s,baz=80,slow=12,SNR=2.6						
FITZ	**Fitzroy Crossi**	**29.94**	**242**	P	P	08 25 04.3	-1.3
	4.5nm,0.7s,baz=90,slow=10						
NWAO	**Narrogin (SRO)**	**43.48**	**226**	LR	LR	08 45 16.3	
	comp=Z,70nm,18.4s,slow=36						
SONM	**Songino Array**	**66.99**	**328**	P	P	08 29 51.8	+1.8
	0.2nm,0.5s,baz=156,slow=4.0,SNR=2.7						
MKAR	**Makanchi Array**	**81.02**	**319**	P	P	08 31 11.1	-0.9
	0.3nm,0.5s,baz=85,slow=8.3,SNR=6.8						
ILAR	**Eielson Array**	**82.36**	**22**	P	P	08 31 20.4	+1.9
	0.5nm,1.0s,baz=255,slow=4.8,SNR=5.5						
KURBB	**Kurchatov Arra**	**84.49**	**322**	P	P	08 31 28.3	-1.5
	0.3nm,0.7s,baz=127,slow=4.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**150.97**	**288**	PKPbc	PKPbc	08 38 49.5	-1.3
	1.3nm,0.6s,baz=88,slow=1.2,SNR=11						

*ISK **19** 08:35:54.4, 36°.88N×31°.24E, h18km, ML2.8/11*
*CSEM **19** 08:35:55.8±0.3, 36°.97N×31°.22E, h30km, ML2.8, Error ellipse: s-maj=11.7km s-min=5.8km az=13.0*
*DDA **19** 08:36:03.3, 37°.15N×31°.12E, h75km, Ml2.8*
ISC 19 08:35:57.4±1.2, 37°.05N±0°.04×31°.12E±0°.03, h28km±13km, n32, σ2°17/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEPZ	**Antalya-Kepez**	**0.41**	**111**	*i* P	Pn	08 36 08.0	+0.4
KEPZ				*i* S	Sn	08 36 19.0	+4.5
KEPZ	**Antalya-Kepez**	**0.41**	**111**	P	Pn	08 36 08.0	+0.4
KEPZ				S	Sn	08 36 19.0	+4.5
SUTC	**Sutluce-Ispart**	**0.44**	**347**	PG	Pn	08 36 07.3	-0.7
SUTC				SG	Sn	08 36 16.6	+1.4
SUTC	**Sutluce-Ispart**	**0.44**	**347**	*e*Pg	Pn	08 36 07.3	-0.7
SUTC				*e*Sg	Sn	08 36 16.6	+1.4
KORT	**Korkueli**	**0.62**	**266**	PG	Pb	08 36 09.2	-0.6
KORT				SG	Sn	08 36 19.9	+0.3
KORT	**Korkueli**	**0.62**	**266**	*i* P	Pn	08 36 10.0	-0.5
KORT				*i* S	Sn	08 36 23.0	+3.4
KORT	**Korkueli**	**0.62**	**266**	*e*Pg	Pb	08 36 09.2	-0.6
KORT	**Korkueli**	**0.62**	**266**	P	Pn	08 36 10.0	-0.5
KORT				*e*Sg	Sn	08 36 19.9	+0.3
KORT				S	Sn	08 36 23.0	+3.4
BAGO	**Egridir - ISPA**	**0.98**	**344**	*i* P	Pn	08 36 12.9	-2.5
BAGO				*i* S	Sb	08 36 29.6	+1.3
ELL	**Elmali**	**1.02**	**253**	PN	Pn	08 36 15.2	-0.8
ELL				SN	Sb	08 36 30.5	+1.0
ELL	**Elmali**	**1.02**	**253**	*e*Pn	Pn	08 36 15.2	-0.8
ELL				*e*Sn	Sb	08 36 30.5	+1.0
GOLH	**Golhisar**	**1.26**	**279**	*i* P	Pn	08 36 16.8	-2.5
GOLH				*i* S	Sb	08 36 37.2	+0.7
GOLH	**Golhisar**	**1.26**	**279**	P	Pn	08 36 16.8	-2.5
AKAS	**Kas**	**1.47**	**237**	PN	Pn	08 36 20.9	-1.3
AKAS				SN	Sn	08 36 39.9	-0.6
AKAS	**Kas**	**1.47**	**237**	*e*Pn	Pn	08 36 20.9	-1.3
AKAS				*e*Sn	Sn	08 36 39.9	-0.6
FETY	**Fethiye**	**1.69**	**256**	PN	Pn	08 36 24.6	-0.5
FETY	**Fethiye**	**1.69**	**256**	*e*Pn	Pn	08 36 24.6	-0.5
BOZY	**Bozyazi-Mersin**	**1.77**	**122**	PN	Pn	08 36 22.6	-3.5
BOZY	**Bozyazi-Mersin**	**1.77**	**122**	*e*Pn	Pn	08 36 22.6	-3.5
TAVA	**DENIZLI_Tavas**	**1.81**	**284**	*i* P	Pn	08 36 24.3	-2.6
TAVA				*i* S	Sn	08 36 47.7	-1.2
TAVA	**DENIZLI_Tavas**	**1.81**	**284**	P	Pn	08 36 24.3	-2.6
TAVA				S	Sn	08 36 47.7	-1.2
TEKE	**Tekeli-Mersin**	**1.84**	**119**	PN	Pn	08 36 23.7	-3.5
TEKE	**Tekeli-Mersin**	**1.84**	**119**	*e*Pn	Pn	08 36 23.7	-3.5
TEVE	**Tevekalti-Mers**	**1.96**	**107**	PN	Pn	08 36 25.8	-3.2
TEVE	**Tevekalti-Mers**	**1.96**	**107**	*e*Pn	Pn	08 36 25.8	-3.2
DALY	**Dalyan (Mu¨la**	**1.99**	**264**	PN	Pn	08 36 29.1	-0.1
DALY	**Dalyan (Mu¨la**	**1.99**	**264**	*e*Pn	Pn	08 36 29.1	-0.1
TURN	**Turunc**	**2.02**	**266**	PN	Pb	08 36 34.2	+0.7
AKKU	**Akkuyu-Mersin**	**2.15**	**114**	PN	Pn	08 36 28.2	-3.2
AKKU	**Akkuyu-Mersin**	**2.15**	**114**	*e*Pn	Pn	08 36 28.2	-3.2
MLSB	**Milas**	**2.68**	**276**	PN	Pn	08 36 39.6	+0.8
MLSB	**Milas**	**2.68**	**276**	*e*Pn	Pn	08 36 39.6	+0.8

IDC 19 08:39:46.6±2.8, 3°.71S×135°.91E, h0km, mb3.4/1, mb1 4.1/4, mb1mx3.5/56, mbtmp3.8/4, ML4.0/3, Error ellipse: s-maj=93.1km s-min=29.1km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.21**	**185**	Pn	Pn	08 43 34.4	-1.5
	0.3nm,0.3s,baz=7.9,slow=13,SNR=13						
WRA				Sn	Sn	08 46 27.7	-8.8
	0.4nm,0.3s,baz=2.5,slow=23,SNR=6.1						
FITZ	**Fitzroy Crossi**	**17.49**	**214**	P	Pn	08 43 51.0	-1.1
	0.5nm,0.3s,baz=33,slow=12,SNR=6.2						
FITZ				S	Sn	08 46 51.9	-16
	0.2nm,0.3s,baz=200,slow=16,SNR=2.7						
ASAR	**Alice Springs**	**19.94**	**185**	P	Pn	08 44 21.5	-0.4
	1.3nm,0.3s,baz=7.8,slow=11,SNR=52						
MKAR	**Makanchi Array**	**68.90**	**324**	P	P	08 50 53.4	0.0
	0.2nm,0.4s,baz=110,slow=6.2,SNR=5.4						

*ISK **19** 08:52:08.3, 37°.89N×29°.36E, h10km, ML2.3/9*
*ISCJB **19** 08:52:11.3±0.6, 37°.86N±0°.03×29°.17E±0°.05, h10km±6km, Error ellipse: s-maj=6.9km s-min=5.2km az=4.3*
*CSEM **19** 08:52:11.1±0.3, 37°.85N×29°.19E, h15km, ML2.3, Error ellipse: s-maj=9.2km s-min=5.9km az=88.0*
*DDA **19** 08:52:12.2, 37°.84N×29°.17E, h8km, Ml2.5*
ISC 19 08:52:09.2±1.3, 37°.88N±0°.03×29°.34E±0°.05, h9km±10km, n25, σ0°74/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.27**	**243**	PG	Pg	08 52 14.5	-0.1
DENT	**Denizli**	**0.27**	**243**	*e*Pg	Pg	08 52 14.5	-0.1
KHAL	**Karahalli**	**0.51**	**14**	*i* P	Pn	08 52 23.5	+0.8
KHAL				*i* S	Sn	08 52 31.8	+0.1
KHAL	**Karahalli**	**0.51**	**14**	P	Pn	08 52 23.5	+0.8
KHAL				S	Sn	08 52 31.8	+0.1
TAVA	**DENIZLI_Tavas**	**0.53**	**219**	*i* P	Pb	08 52 21.0	+0.3
TAVA				*i* S	Sg	08 52 26.8	+0.4
TAVA	**DENIZLI_Tavas**	**0.53**	**219**	P

TDD	**Tadjoura Ara**	**0.84**	**234**	*e*P		**Pb**	**09 12 13.9**	**+0.6**
TDD	**Tadjoura Ara**	**0.84**	**234**	*e*P		**Pb**	**09 12 13.9**	**+0.6**
ATA	**Atar**	**0.93**	**204**	*e*P		**Pb**	**09 12 15.1**	**+0.2**
ATA	**Atar**	**0.93**	**204**	*e*P		**Pb**	**09 12 15.1**	**+0.2**
ATD	**Arta Tunnel**	**1.06**	**224**	*e*P		**Pb**	**09 12 17.5**	**+0.3**
ATD	**Arta Tunnel**	**1.06**	**224**	*e*P		**Pb**	**09 12 17.3**	**+0.1**
ATD	**Arta Tunnel**	**1.06**	**224**	*e*P		**Pb**	**09 12 17.3**	**+0.1**
ATD				*e*S		**Sg**	**09 12 29.7**	**-1.2**
ATD	**Arta Tunnel**	**1.06**	**224**	*e*P		**Pb**	**09 12 17.3**	**+0.1**
ATD				*e*S		**Sb**	**09 12 31.4**	**0.0**
ATD	**Arta Tunnel**	**1.06**	**224**	*e*P		**Pb**	**09 12 17.3**	**+0.1**
SGH	**Sud-Ghoubbet**	**1.28**	**228**	*e*P		**Pb**	**09 12 21.2**	**+0.2**
SGH	**Sud-Ghoubbet**	**1.28**	**228**	*e*P		**Pn**	**09 12 20.9**	**+0.1**
LDLD	**Lac de Lave**	**1.29**	**236**	*e*P		**Pb**	**09 12 21.6**	**+0.3**
LDLD	**Lac de Lave**	**1.29**	**236**	*e*P		**Pg**	**09 12 21.4**	**+0.1**
MAOD	**Malaho**	**1.36**	**261**	*e*P		**Pb**	**09 12 22.6**	**+0.3**
MAOD	**Malaho**	**1.36**	**261**	*e*P		**Pb**	**09 12 22.5**	**+0.3**
ADEN	**Aden**	**1.43**	**71**	*i* P		**Pn**	**09 12 22.5**	**-0.3**
ADEN				*i* S		**Sn**	**09 12 41.0**	**-0.8**
ADEN					AML	AML	09 12 43.7	
	comp=N,2μm,0.6s							
UDYN	**Al 'Udayn**	**1.69**	**12**	*i* P		**Pn**	**09 12 26.7**	**+0.2**
UDYN				*i* S		**Sn**	**09 12 47.1**	**-1.4**
BDHA	**Al Bayda'**	**2.54**	**49**	*i* P		**Pn**	**09 12 39.0**	**+0.7**
BDHA				*i* S		**Sn**	**09 13 10.2**	**+0.7**
BDHA					AML	AML	09 13 21.5	
	comp=N,639nm,0.4s							

IDC 19 09:14:13.8±3.1, 54°.04N×86°.54E, h0km, mb1 2.6/2, mb1mx2.6/71, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=25.5km s-min=15.4km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**265**	*i*		09 21 20.0	
	baz=84,slow=339,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.02**	**265**	Pg	Pg	09 14 32.3	-1.1
	0.6nm,0.3s,baz=85,slow=18,SNR=7.2						
ZALV				Lg	Lg	09 14 47.9	
	1.1nm,0.3s,baz=87,slow=30,SNR=7.2						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	09 15 44.7	+1.1
	0.1nm,0.3s,baz=56,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	09 16 08.7	+0.9
	0.1nm,0.3s,baz=23,slow=13,SNR=3.4						

*DDA **19** 09:50:15.6, 36°.93N×30°.57E, h6km, Ml2.3, Suspected Mining explosion.*
*ISK **19** 09:50:15.1, 37°.05N×30°.54E, h17km, ML2.6/3*
*ISCJB **19** 09:50:16.6±0.5, 37°.06N±0°.03×30°.54E±0°.03, h0km, Error ellipse: s-maj=4.4km s-min=3.5km az=147.6*
*CSEM **19** 09:50:16.0±0.3, 37°.07N×30°.53E, h1km, ML2.6, Error ellipse: s-maj=7.1km s-min=5.6km az=147.0, Suspected Mining explosion.*

ISC 19 09:50:15.2±0.8, 37°.11N±0°.04×30°.55E±0°.02, h0km, n18, σ0s99/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.19**	**235**	PG	**Pg**	**09 50 19.7**	**+0.8**
KORT				SG	**Sg**	**09 50 22.9**	**+1.6**
KORT	**Korkueli**	**0.19**	**235**	*i* P	**Pg**	**09 50 19.5**	**+0.6**
KORT				*i* S	**Sg**	**09 50 23.3**	**+2.0**
KORT	**Korkueli**	**0.19**	**235**	P	**Pg**	**09 50 19.5**	**+0.6**
KORT				*e*Sg	**Sg**	**09 50 22.9**	**+1.6**
KORT				S	**Sg**	**09 50 23.3**	**+2.0**
ANTB	**Antalya**	**0.23**	**158**	PG	**Pg**	**09 50 19.9**	**+0.3**
ANTB				SG	**Sg**	**09 50 23.4**	**+0.9**
ANTB	**Antalya**	**0.23**	**158**	*e*Pg	**Pg**	**09 50 19.9**	**+0.3**
ANTB				*e*Sg	**Sg**	**09 50 23.4**	**+0.9**
BCK	**Bucak**	**0.35**	**6**	PG	**Sb**	**09 50 23.9**	**-0.5**
BCK				SG	**Sb**	**09 50 30.4**	**-0.2**
BCK	**Bucak**	**0.35**	**6**	*e*Pg	**Pb**	**09 50 23.9**	**-0.5**
BCK				*e*Sg	**Sb**	**09 50 30.4**	**-0.2**
SUTC	**Sutluce-Ispart**	**0.51**	**45**	PG	**Pb**	**09 50 26.8**	**-0.4**
SUTC				SG	**Sb**	**09 50 35.2**	**-0.1**
SUTC	**Sutluce-Ispart**	**0.51**	**45**	*e*Pg	**Pb**	**09 50 26.8**	**-0.4**
SUTC				*e*Sg	**Sb**	**09 50 35.2**	**-0.1**
ELL	**Elmali**	**0.62**	**235**	PG	**Pg**	**09 50 27.2**	**0.0**
ELL				SG	**Sg**	**09 50 35.9**	**+0.6**
ELL	**Elmali**	**0.62**	**235**	*e*Pg	**Pg**	**09 50 27.2**	**0.0**
ELL				*e*Sg	**Sg**	**09 50 35.9**	**+0.6**
GOLH	**Golhisar**	**0.80**	**279**	*i* P	**Pb**	**09 50 31.7**	**-0.3**
GOLH				*i* S	**Sn**	**09 50 45.6**	**-0.9**
GOLH	**Golhisar**	**0.80**	**279**	P	**Pb**	**09 50 31.7**	**-0.3**
GOLH				S	**Sn**	**09 50 45.6**	**-0.9**
KEPZ	**Antalya-Kepez**	**0.87**	**104**	*i* P	**Pg**	**09 50 32.4**	**+0.5**
KEPZ				*i* S	**Sn**	**09 50 47.6**	**-0.6**
KEPZ	**Antalya-Kepez**	**0.87**	**104**	P	**Pg**	**09 50 32.4**	**+0.5**
KEPZ				S	**Sn**	**09 50 47.7**	**-0.6**
BAGO	**Egridir - ISPA**	**0.90**	**12**	*i* P	**Pn**	**09 50 35.1**	**-0.1**
BAGO				*i* S	**Sn**	**09 50 51.4**	**+2.4**
AYDB	**Zeytinkoy-Aydi**	**2.27**	**292**	PN	**Pn**	**09 50 52.5**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**2.27**	**292**	*e*Pn	**Pn**	**09 50 52.5**	**-1.6**

*NEIC **19** 09:50:22.4±0.0, 40°.41N×124°.59W, h23km, MW3.6(BRK), After NCEDC.*
NEIC Felt at Fortuna and McKinleyville.

ISC 19 09:50:20.3±1.9, 40°.43N±0°.04×124°.68W±0°.08, h27km±13km, n53, σ1s14/65, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**0.63**	**52**	*e*Pg	**Pb**	**09 50 33.0**	**+0.3**
JCC				*e*Sn	**Sb**	**09 50 40.4**	**-0.8**
KMRM	**Mail Ridge**	**0.77**	**105**	*e*Pg	**Pb**	**09 50 35.7**	**+0.5**
KMRM				*e*Sg	**Sn**	**09 50 46.5**	**+0.2**
KHMM	**Horse Mountain**	**0.85**	**58**	*e*Pg	**Pb**	**09 50 36.6**	**+0.1**
KHMM				*e*Sg	**Sb**	**09 50 46.5**	**-1.1**
KIPM	**Iron Peak**	**1.11**	**124**	*e*Pn	**Pn**	**09 50 40.5**	**+0.3**
KCPM	**Cahto Peak**	**1.12**	**131**	*e*Pn	**Pn**	**09 50 40.2**	**-0.2**
KRMB	**Red Mountain**	**1.24**	**28**	*e*Pn	**Pn**	**09 50 42.1**	**+0.2**
KRMB				*e*Sn	**Sn**	**09 50 56.5**	**-1.4**
KFPM	**Farley Peak**	**1.25**	**129**	*e*Pn	**Pn**	**09 50 41.8**	**-0.2**
GNAM	**Navarro Ridge**	**1.47**	**146**	*e*Pn	**Pn**	**09 50 44.9**	**-0.2**
N02D	**Trinity Center**	**1.60**	**69**	P	**Pn**	**09 50 47.0**	**+0.1**
	baz=249,SNR=464						
N02D				S	**Sn**	**09 51 05.0**	**-1.6**
	baz=249						
WDC	**Whiskeytown Da**	**1.64**	**84**	*e*Pn	**Pn**	**09 50 47.4**	**0.0**
M02C	**Callahan**	**1.69**	**55**	P	**Pn**	**09 50 48.3**	**+0.2**
	baz=234,SNR=548						
M02C				S	**Sn**	**09 51 07.1**	**-1.7**
	baz=234						
KTRM	**Thompson Ridge**	**1.78**	**33**	*e*Pn	**Pn**	**09 50 49.8**	**+0.5**
KBO	**Bosley Butte**	**1.81**	**11**	*e*Pn	**Pn**	**09 50 49.7**	**-0.2**
HOPS	**Hopland Field**	**1.90**	**139**	*e*Pn	**Pn**	**09 50 50.8**	**-0.1**
L02D	**Cave Junction,**	**1.91**	**25**	P	**Pn**	**09 50 51.4**	**+0.3**
	baz=203,SNR=18						
L02D				S	**Sn**	**09 51 13.2**	**-1.0**
	baz=203						
YBH	**Yreka Blue Hor**	**1.98**	**48**	*e*Pn	**Pn**	**09 50 52.5**	**+0.4**
YBH				*e*Sn	**Sn**	**09 51 14.2**	**-1.9**
LGBM	**Gray Butte**	**2.10**	**63**	*e*Pn	**Pn**	**09 50 55.2**	**+1.4**
LMPM	**Military Pass**	**2.18**	**60**	*e*Pn	**Pn**	**09 50 56.7**	**+1.7**
O03D	**Paynes Creek**	**2.20**	**93**	P	**Pn**	**09 50 55.0**	**-0.2**
	baz=274,SNR=204						
O03D				S	**Sn**	**09 51 20.5**	**-1.1**
	baz=274						
O03D	**Paynes Creek**	**2.20**	**93**	*e*Pn	**Pn**	**09 50 55.3**	**+0.1**
LHEM	**Herd Peak**	**2.21**	**56**	*e*Pn	**Pn**	**09 50 57.2**	**+1.7**
LBFM	**Black Fox Moun**	**2.31**	**66**	*e*Pn	**Pn**	**09 50 58.5**	**+1.8**
LGMM	**Garner Mountai**	**2.45**	**61**	*e*Pn	**Pn**	**09 51 00.1**	**+1.4**
LRDM	**Redding Peak**	**2.46**	**88**	*e*Pn	**Pn**	**09 50 59.7**	**+1.1**
OSUM	**Sutter Buttes**	**2.46**	**117**	*e*Pn	**Pn**	**09 50 58.9**	**+0.2**
MGL	**Magalia**	**2.47**	**103**	*e*Pn	**Pn**	**09 50 58.8**	**-0.1**
OGOM	**Van Goodin Ran**	**2.48**	**107**	*e*Pn	**Pn**	**09 50 58.8**	**-0.1**
HUMO	**Hull Mountain**	**2.53**	**30**	*e*Pn	**Pn**	**09 51 00.5**	**+0.9**
LTIM	**Timbered Crate**	**2.54**	**72**	*e*Pn	**Pn**	**09 51 00.4**	**+0.6**
M04C	**Macdoel**	**2.54**	**57**	P	**Pn**	**09 51 00.8**	**+1.0**
	baz=237,SNR=16						
M04C				Sb	**Sn**	**09 51 31.7**	**+1.9**
	baz=237						
LBCM	**Butte Creek Ri**	**2.57**	**80**	*e*Pn	**Pn**	**09 51 01.0**	**+0.7**
ORV	**Oroville**	**2.59**	**109**	*e*Pn	**Pn**	**09 51 00.4**	**-0.1**
K04D	**Chiloquin, OR**	**3.10**	**44**	S	**Sn**	**09 51 42.4**	**-1.4**
	baz=225						

AFDM	**Forest Hills D**	**3.22**	**116**	*e*Pn		**Pn**	**09 51 09.7**	**+0.6**
BEKR	**Beckworth**	**3.36**	**98**	*e*Pn		**Pn**	**09 51 11.9**	**+0.7**
IND	**Independence**	**3.52**	**105**	*e*Pn		**Pn**	**09 51 15.8**	**+2.4**
MOD	**Modoc Plateau**	**3.62**	**65**	*e*Pn		**Pn**	**09 51 15.5**	**+0.8**
I04A	**Tendick Farm,**	**3.76**	**26**	P		**Pn**	**09 51 18.9**	**+2.3**
	baz=206,SNR=7.8							
I04A				S		**Sn**	**09 51 59.4**	**-0.6**
	baz=206							
RDG13	**Poverty Ridge**	**3.77**	**142**	*e*Pn		**Pn**	**09 51 16.8**	**0.0**
EMB	**Emerald Bay**	**3.82**	**111**	*e*Pn		**Pn**	**09 51 19.6**	**+2.1**
J05D	**Fort Rock, OR**	**3.84**	**41**	P		**Pn**	**09 51 19.1**	**+1.4**
	baz=222,SNR=28							
J05D				S		**Sn**	**09 52 00.5**	**-1.6**
	baz=222							
JBNB	**Ben Lomond Mou**	**3.84**	**148**	*e*Pn		**Pn**	**09 51 17.9**	**+0.1**
VCNR	**Virginia City**	**4.03**	**105**	*e*Pn		**Pn**	**09 51 21.8**	**+1.3**
CMB	**Columbia Colle**	**4.10**	**124**	*e*Pn		**Pn**	**09 51 22.9**	**+1.6**
PAHR	**Pah Rah Range**	**4.13**	**98**	*e*Pn		**Pn**	**09 51 22.2**	**+0.5**
PINE	**Pine Mountain**	**4.36**	**38**	*e*Pn		**Pn**	**09 51 27.2**	**+2.2**
YERR	**Yerington**	**4.44**	**107**	*e*Pn		**Pn**	**09 51 27.3**	**+1.3**
SAO	**San Andreas Ge**	**4.45**	**144**	*e*Pn		**Pn**	**09 51 27.9**	**+1.9**
WAKR	**Walker**	**4.49**	**114**	*e*Pn		**Pn**	**09 51 26.9**	**+0.1**
KVN	**Kaiserville**	**5.26**	**103**	*e*Pn		**Pn**	**09 51 37.7**	**+0.5**
NV01	**Mina Array Sit**	**5.33**	**110**	*e*Pn		**Pn**	**09 51 39.6**	**+1.4**
NV11	**Mina Array Sit**	**5.43**	**109**	*e*Pn		**Pn**	**09 51 40.8**	**+1.1**
TIN	**Tinemaha, Big**	**6.06**	**122**	*e*Sn		**Sn**	**09 52 56.8**	**-0.1**

*KRNET **19** 09:53:49.0±0.1, 42°.33N×70°.44E, h24km, mb3.0*
*ISCJB **19** 09:53:49.6±0.6, 42°.39N±0°.04×70°.32E±0°.06, h22km±9km, Error ellipse: s-maj=8.3km s-min=4.9km az=30.2*
*SOME **19** 09:53:49.2, 42°.37N×70°.48E, h5km*
*NNC **19** 09:53:49.7±2.1, 42°.42N×70°.51E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=15.3km s-min=8.5km az=18.0*

ISC 19 09:53:49.8±1.0, 42°.41N±0°.03×70°.16E±0°.05, h31km±9km, n29, σ1s35/55, 26C-12D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**0.28**	**200**	*e*P	**Pb**	**09 53 56.9**	**-0.3**
	83nm,0.2s						
IUG				*e*S	**Sb**	**09 54 02.6**	**+0.4**
	1μm,0.3s						
IUG	**Iuzhnay**	**0.28**	**200**	*e*P	**Pb**	**09 53 56.9**	**-0.3**
	baz=40						
IUG				*e*S	**Sb**	**09 54 02.6**	**+0.4**
	baz=40						
BRLS	**Borolday**	**0.66**	**339**	*e*P	**Pb**	**09 54 02.9**	**-0.1**
	0.3nm,0.1s						
BRLS				*e*S	**Sb**	**09 54 13.2**	**+1.3**
	10nm,0.2s						
BRLS	**Borolday**	**0.66**	**339**	*e*P	**Pb**	**09 54 02.9**	**-0.1**
	baz=10.0						
BRLS				*e*S	**Sb**	**09 54 13.2**	**+1.3**
	baz=10.0						
KK31	**Karatay Array**	**0.74**	**21**	⇑P	**Pb**	**09 54 03.2**	**-1.1**
	0.7nm,0.2s,baz=186,slow=16,SNR=526						
KK31				⇑S	**Sb**	**09 54 13.0**	**-1.1**
	16nm,0.2s,baz=180,slow=33,SNR=72						
TAS	**Tashkent**	**1.26**	**211**	⇑*i*P	**Pb**	**09 54 12.5**	**-0.5**
	baz=21						
TAS				⇑*i*S	**Sb**	**09 54 30.7**	**+1.9**
	baz=21						
ARK	**Arkit**	**1.48**	**114**	⇑*i*P	**Pn**	**09 54 11.8**	**-2.5**
	baz=15						
ARK				⇑*i*S	**Sn**	**09 54 29.4**	**-3.2**
	baz=15						
MNAS	**Manas**	**1.74**	**87**	⇓Pn	**Pn**	**09 54 16.5**	**-1.5**
	3.6nm,0.2s						
MNAS				⇓Sn	**Sn**	**09 54 37.0**	**-2.1**
	11nm,0.4s						
MNAS	**Manas**	**1.74**	**87**	⇑*i*P	**Pn**	**09 54 16.4**	**-1.5**
	baz=83						
MNAS				⇑*i*S	**Sn**	**09 54 37.5**	**-1.7**
	baz=83						
TOKL	**Toktogul**	**2.07**	**102**	⇓*i*P	**Pn**	**09 54 21.1**	**-1.4**
	baz=1.0						
TOKL				⇓*i*S	**Sn**	**09 54 46.2**	**-1.1**
	baz=1.0						
MRKS	**Merke**	**2.29**	**81**	*e*P	**Pn**	**09 54 26.9**	**+1.4**
	12nm,0.4s						
MRKS				*e*S	**Sn**	**09 54 54.1**	**+1.4**
	37nm,0.3s						
MRKS	**Merke**	**2.29**	**81**	*e*P	**Pn**	**09 54 26.9**	**+1.4**
	baz=78						
MRKS				*e*S	**Sn**	**09 54 54.1**	**+1.4**
	baz=78						
ARSB	**Arslanbob**	**2.37**	**116**	⇑*i*P	**Pn**	**09 54 25.3**	**-1.4**
	baz=17						
ARSB				⇑*i*S	**Sn**	**09 54 53.9**	**-0.9**
	baz=17						
AML	**Almayashu**	**2.64**	**95**	⇓*i*P	**Pn**	**09 54 30.6**	**0.0**
	baz=94						
AML				⇓*i*S	**Sn**	**09 55 02.1**	**+0.4**
	baz=94						
EKS2	**Erkin-Say**	**2.69**	**83**	⇑*e*P	**Pn**	**09 54 31.0**	**0.0**
	baz=81						
EKS2				⇑*e*S	**Sn**	**09 55 02.7**	**+0.2**
	baz=81						
AAK	**Ala-Archa**	**3.21**	**85**	⇑Pn	**Pn**	**09 54 41.5**	**+3.2**
	1.3nm,0.5s						
AAK				⇑Lg	Lg	09 55 23.2	
	4.2nm,0.5s						
AAK	**Ala-Archa**	**3.21**	**85**	⇑*e*P	**Pn**	**09 54 38.6**	**+0.3**
	baz=83						
AAK				⇑*i*S	**Sn**	**09 55 16.1**	**+0.5**
	baz=83						
UCH	**Uchtor**	**3.24**	**92**	⇑*e*P	**Pn**	**09 54 38.7**	**-0.1**
	baz=91						
UCH				⇑*e*S	**Sn**	**09 55 16.3**	**-0.2**
	baz=91						
USP	**Ospenovka**	**3.31**	**74**	⇓*e*P	**Pn**	**09 54 39.1**	**-0.3**
	baz=71						
USP				⇓*i*S	**Sn**	**09 55 17.1**	**-0.6**
	baz=71						
FRU1	**Bishkek**	**3.33**	**82**	⇑*i*P	**Pn**	**09 54 40.1**	**+0.4**
	baz=80						
FRU1				⇑*i*S	**Sn**	**09 55 17.8**	**-0.4**
	baz=80						
SFK	**Sufi-Kurgan**	**3.48**	**132**	⇑Pg	**Pb**	**09 54 53.7**	**+2.9**
	0.4nm,0.2s						
SFK				⇓Lg	Lg	09 55 30.2	
	1.4nm,0.3s						
SFK	**Sufi-Kurgan**	**3.48**	**132**	⇑*i*P	**Pn**	**09 54 41.5**	**-0.5**
	baz=34						
SFK				⇑*i*S	**Sn**	**09 55 21.9**	**-0.3**
	baz=34						
KBK	**Karagaybulak**	**3.55**	**84**	⇓*e*P	**Pn**	**09 54 43.5**	**+0.6**
	baz=83						
KBK				⇓*i*S	**Sn**	**09 55 23.7**	**-0.2**
	baz=83						
KZA	**Kyzart**	**3.79**	**93**	⇑*e*P	**Pn**	**09 54 46.8**	**+0.3**
	baz=92						
KZA				⇑*e*S	**Sn**	**09 55 29.9**	**-0.4**
	baz=92						
TKM2	**Tokmak 2**	**4.04**	**81**	⇓Pg	**Pb**	**09 54 58.9**	**-1.5**
	0.1nm,0.2s						
TKM2				⇑Lg	Lg	09 55 47.2	
	3.1nm,0.4s						
DGS	**Degeres**	**4.21**	**77**	*e*P	**Pb**	**09 55 01.7**	**-1.5**
	1.9nm,0.2s						
DGS				*e*S	**Sb**	**09 55 54.4**	**+0.8**
	8.3nm,0.6s						
DGS	**Degeres**	**4.21**	**77**	*e*P	**Pb**	**09 55 01.7**	**-1.5**
	baz=75						
DGS				*e*S	**Sb**	**09 55 54.4**	**+0.8**
	baz=75						
KUU	**Kurty**	**4.76**	**70**	*e*P	**Pb**	**09 55 12.2**	**-0.2**
	1.7nm,0.3s						
KUU				*e*S	**Sb**	**09 56 11.7**	**+2.5**
	5.8nm,0.4s						
KUU	**Kurty**	**4.76**	**70**	*e*P	**Pb**	**09 55 12.2**	**-0.2**
	baz=68						
KUU				*e*S	**Sb**	**09 56 11.7**	**+2.5**
	baz=68						

JMA 19 09:56:24.6±0.1, 42°.66N×145°.28E, h40km±3km, M1.1, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.55**	**308**	P	Pn	09 56 35.8	-0.1
NEM2	**Nemuro 2**	**0.78**	**26**	P	Pn	09 56 39.2	0.0
JAR	**Ashorobuto**	**1.28**	**300**	P	Pn	09 56 45.8	-0.2

JMA 19 09:58:17.5, 36°.46N×138°.13E, h4km±1km, M0.3, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.06**	**204**	P	Pg	09 58 18.9	0.0
JNG				*e*S	Sg	09 58 19.9	+0.1
MAT	**Matsushiro**	**0.10**	**37**	⇓P	Pg	09 58 19.8	+0.2
MAT				S	Sg	09 58 21.4	+0.3
MAT	**Matsushiro**	**0.10**	**37**	P	Pg	09 58 19.8	+0.2
MAT				S	Sg	09 58 21.4	+0.3

IDC 19 10:08:31.4±2.6, 53°.54N×87°.87E, h0km, mb1 3.4/3, mb1mx3.0/71, mbtmp3.4/3, ML3.0/3, 2C-4D, Error ellipse: s-maj=24.4km s-min=17.4km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**284**	*i*		10 20 53.6	
	baz=99,slow=344,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.85**	**284**	Pn	Pn	10 09 03.4	-1.0
	4.2nm,0.3s,baz=102,slow=15,SNR=32						
ZALV				Sn	Sb	10 09 29.7	-0.1
	7.0nm,0.3s,baz=102,slow=24,SNR=21						
KURBB	**Kurchatov Arra**	**6.45**	**247**	Pn	Pn	10 10 08.2	+0.6
	0.2nm,0.3s,baz=62,slow=14,SNR=17						
KURBB				Sn	Sn	10 11 19.7	-2.1
	0.1nm,0.3s,baz=66,slow=25,SNR=3.1						
KURBB				Lg	Lg	10 11 54.6	
	0.1nm,0.3s,baz=60,slow=33,SNR=5.6						
MK31	**Makanchi Array**	**7.64**	**210**	⇓Pn	Pn	10 10 25.1	+1.2
	0.1nm,0.2s,baz=28,slow=13,SNR=26						
MK31				⇑Sn	Sn	10 11 51.0	-0.2
	0.8nm,0.6s						
MK31				⇓Lg	Lg	10 12 35.7	
	2.7nm,0.7s,baz=31,slow=32,SNR=3.1						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	10 10 25.3	+1.3
	0.3nm,0.3s,baz=26,slow=13,SNR=20						
MAKZ	**Makanchi**	**7.73**	**212**	⇑Pn	Pn	10 10 34.5	+9.4
	0.8nm,0.7s						
MAKZ				⇓Sn	Sn	10 11 54.2	+1.0
	0.6nm,0.6s						
MAKZ				⇓Lg	Lg	10 12 33.1	
	7.3nm,1.2s						
BVAR	**Borovoye Array**	**10.48**	**274**	Pn	Pn	10 11 01.2	-1.5
	0.1nm,0.3s,baz=66,slow=15,SNR=3.0						
BVAR				Sn	Sn	10 12 57.6	-3.1
	0.3nm,0.3s,baz=74,slow=26,SNR=3.6						

*IDC **19** 10:14:13.1±1.1, 55°.85N×114°.01E, h0km, mb3.3/7, mb1 3.5/7, mb1mx3.3/74, mbtmp3.3/7, MS3.4/1, Ms1 3.4/1, ms1mx2.3/43, Error ellipse: s-maj=32.5km s-min=20.3km az=152.0*
*MOS **19** 10:14:14.1±1.0, 55°.92N×113°.77E, h11km, mb3.7/2, Error ellipse: s-maj=11.7km s-min=7.3km az=77.4*
MOS Felt (II-III) at Severomuisk.
*BYKL **19** 10:14:15.8±0.3, 56°.03N×113°.66E, FELT I=III MSK at Severomuisk*

ISC 19 10:14:14.6±1.0, 55°.97N±0°.02×113°.72E±0°.02, h5km±8km, n66, σ2s49/101, mb3.4/8, 7C-8D, East of Lake Baikal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.17**	**328**	⇓*i*PG	**Pg**	**10 14 20.5**	**+2.4**
SVKR				*e*		10 14 23.3	
SVKR				pmax	pmax		
	comp=Z,8μm,0.2s						
SVKR				smax	smax		
	comp=N,9μm,0.9s						
UKT	**Uakit**	**0.48**	**187**	⇑*i*Pg	**Pg**	**10 14 25.7**	**+1.9**
UKT				*e*Sg	**Sg**	**10 14 33.3**	**+3.1**
UKT				Pmax			
	comp=N,969nm,0.2s						
UKT				Smax			
	comp=N,4μm,0.4s						
UKT	**Uakit**	**0.48**	**187**	⇑*i*PG	**Pg**	**10 14 25.8**	**+1.9**
UKT				*e*		10 14 32.8	
UKT				pmax	pmax		
	comp=Z,2μm,0.6s						
UKT				smax	smax		
	comp=E,4μm,0.8s						
YOA	**Uoyan**	**1.13**	**279**	⇑*i*Pg	**Pg**	**10 14 35.8**	**-0.5**
YOA				*e*Sg	**Sb**	**10 14 51.1**	**-0.7**
YOA				Pmax			
	comp=E,2μm,0.2s						
YOA				Smax			
	comp=E,4μm,0.5s						
YOA	**Uoyan**	**1.13**	**279**	⇑*i*PG	**Pg**	**10 14 36.0**	**-0.3**
YOA				*i*		10 14 51.5	
YOA				pmax	pmax		
	comp=Z,2μm,0.2s						
YOA				smax	smax		
	comp=N,14μm,0.4s						
NLYR	**Nelyaty**	**1.22**	**64**	⇓*i*Pg	**Pn**	**10 14 38.3**	**-0.1**
NLYR				*e*		10 14 42.0	
NLYR				*e*Sg	**Sg**	**10 14 55.3**	**+1.5**
NLYR				Pmax			
	comp=N,442nm,0.6s						
NLYR				Smax			
	comp=N,2μm,1.0s						
NLYR	**Nelyaty**	**1.22**	**64**	⇓*i*PG	**Pn**	**10 14 38.3**	**-0.1**
NLYR				*e*		10 14 54.8	
NLYR				pmax	pmax		
	comp=Z,438nm,0.6s						
NLYR				smax	smax		
	comp=E,2μm,1.2s						
KMO	**Kumora**	**1.42**	**268**	⇑*i*Pg	**Pn**	**10 14 40.8**	**-0.3**
KMO				*e*Sg	**Sn**	**10 14 59.7**	**-0.6**
K

NIZ smax smax
comp=N,511nm,0.5s
CRS Chara 2.69 68 ⇓ *i* Pn Pn 10 14 59.2 +0.6
CRS *e* Pg **Pb 10 15 04.2 +1.0**
CRS *e* 10 15 11.0
CRS *i* Sg **Sg 10 15 40.6 -0.3**
CRS max
comp=N,333nm,0.9s
CRS Smax
comp=N,537nm,0.7s
CRS Chara 2.69 68 *e* PN **Pn 10 14 59.4 +0.8**
CRS *e* 10 15 05.2
CRS *e* 10 15 40.3
CRS pmax pmax
comp=Z,334nm,0.5s
CRS smax smax
comp=E,539nm,0.7s
SYVR Suvo 3.16 224 *e* Pn **Pn 10 15 05.3 +0.2**
SYVR *e* 10 15 07.3
SYVR *e* Pg **Pb 10 15 11.5 +0.2**
SYVR *e* Sg **Sb 10 15 53.2 +3.1**
SYVR *e* SgSg **SnSn 10 15 55.4 +1.6**
SYVR Pmax
comp=E,87nm,0.7s
SYVR max
comp=E,384nm,0.9s
SYVR Suvo 3.16 224 *e* PN **Pn 10 15 05.4 +0.3**
SYVR *e* 10 15 13.1
SYVR *e* S **Sn 10 15 42.9 -0.3**
SYVR *e* 10 15 53.3
SYVR pmax pmax
comp=Z,88nm,0.6s
SYVR smax smax
comp=E,395nm,0.9s
VTMR Vitim 3.54 350 *e* Pn **Pn 10 15 10.4 +0.2**
VTMR *e* Pg **Pb 10 15 17.3 -0.3**
VTMR *e* Sg **Sb 10 16 02.7 +1.8**
VTMR *e* 10 16 07.8
KHNR Khani 3.60 72 *e* **Sn 10 15 53.1 -0.9**
KHNR *e* Sg **Sb 10 16 07.7 +5.0**
TUP Tupik 3.89 111 ⇓ *i* Pn **Pn 10 15 15.7 +0.6**
TUP *e* 10 15 20.7
TUP *e* 10 15 23.4
TUP *e* Pg **Pb 10 15 26.1 +2.4**
TUP *e* Sg **Sg 10 16 18.1 -1.3**
TUP *e* 10 16 22.8
TUP Pmax
comp=E,62nm,0.6s
TUP max
comp=E,772nm,1.1s
TUP Tupik 3.89 111 *e* PN **Pn 10 15 15.5 +0.4**
TUP *e* 10 15 26.0
TUP *e* S **Sn 10 16 01.5 +0.4**
TUP *e* 10 16 18.1
TUP pmax pmax
comp=Z,61nm,0.5s
TUP smax smax
comp=N,764nm,0.8s
CIT Chita 3.96 182 *e* Sg **Sg 10 16 20.0 -1.6**
CIT Smax
comp=N,667nm,0.6s
OGRR Ongureny 4.24 239 ⇓ *i* Pn **Pn 10 15 19.9 +0.1**
OGRR *e* Pg **Pb 10 15 30.5 +0.8**
OGRR *e* 10 15 35.3
OGRR *e* Sg **Sb 10 16 26.3 +5.1**
OGRR max
comp=N,36nm,0.4s
OGRR Smax
comp=N,110nm,0.5s
OGRR Ongureny 4.24 239 *e* PN **Pn 10 15 20.0 +0.1**
OGRR *e* 10 15 31.3
OGRR *e* 10 16 26.9
OGRR pmax pmax
comp=Z,37nm,0.6s
OGRR smax smax
comp=N,111nm,0.5s
YKLR Yuktali 4.46 79 *e* **Sb 10 16 22.8 -4.7**
YKLR *e* Sg **Sg 10 16 34.8 -3.0**
ZRHB Zarechye 5.15 231 *e* **Pg 10 15 50.9 -2.3**
ZRHB *e* Sg **Sg 10 16 57.0 -2.9**
ZRHB Smax
comp=N,401nm,1.4s
TRTB Turuntaevo 5.18 226 *e* Pn **Pn 10 15 33.3 +0.5**
TRTB *e* Pg **Pb 10 15 49.6 +3.9**
TRTB *e* Sg **Sg 10 16 58.1 -2.8**
TRTB Pmax
comp=N,1.0nm,0.7s
TRTB Smax
comp=N,103nm,1.1s
TRG Tyrgan 5.38 236 *e* Pn **Pn 10 15 35.7 +0.2**
TRG *e* Pg **Pb 10 15 51.6 +2.6**
TRG *e* Sg **Sg 10 17 01.9 -5.2**
TRG Pmax
comp=N,10.0nm,0.7s
TRG Smax
comp=N,66nm,0.9s
TRG Tyrgan 5.38 236 *e* PN **Pn 10 15 35.2 -0.3**
TRG *e* 10 15 51.4
TRG *e* S **Sn 10 16 36.2 -1.6**
TRG *e* 10 17 00.1
TRG pmax pmax
comp=Z,9.0nm,0.4s
TRG smax smax
comp=N,76nm,0.4s
UUDB Ulan-Yde 5.45 224 *e* Pg **Pb 10 15 53.3 +3.1**
UUDB *e* Sg **Sg 10 17 05.1 -4.3**
UUDB Pmax
comp=N,26nm,1.0s
UUDB Smax
comp=N,216nm,1.0s
KAB Kabansk 5.72 230 *e* **Sb 10 17 02.2 -1.6**
KAB *e* Sg **Sg 10 17 14.4 -3.9**
KAB *e* 10 17 33.4
KAB max
comp=N,502nm,1.4s
CLNS Chul'man 6.26 77 *e* PG Pb 10 16 10.2 +6.1
CLNS pmax pmax
comp=N,1.0nm,0.3s
CLNS pmax pmax
comp=Z,3.0nm,0.4s
CLNS pmax pmax
comp=E,2.0nm,0.4s
BGT Bolshoye Golou 6.28 235 *e* Pg **Pb 10 16 08.5 +4.1**
BGT *e* Sg **Sg 10 17 31.1 -5.0**
BGT Pmax
comp=E,9.0nm,0.1s
BGT Smax
comp=E,84nm,0.9s
KPC Khapcheranga 6.33 188 *e* **Pn 10 15 49.0 +0.4**
KPC *e* Pg Pb 10 16 10.3 +5.1
KPC *e* Sg **Sg 10 17 32.9 -4.7**
KPC *e* 10 17 37.0
KPC Pmax
comp=E,8.0nm,0.4s
KPC max
comp=E,194nm,0.9s
KPC Khapcheranga 6.33 188 *e* PN **Pn 10 15 48.3 -0.3**
KPC *e* 10 16 09.2
KPC *e* 10 17 32.7
KPC pmax pmax
comp=Z,8.0nm,0.4s
KPC smax smax
comp=E,194nm,0.9s
LSTR Listvyanka 6.67 236 *e* Pn **Pn 10 15 57.5 +4.4**
LSTR *e* Pg **Pb 10 16 14.5 +3.6**
LSTR *e* Sg **Sg 10 17 42.9 -5.5**
LSTR *e* 10 17 57.2
LSTR Pmax
comp=E,4.0nm,0.4s
LSTR Smax
comp=E,50nm,1.3s
IVK Ivanovka 6.91 237 *e* Pn 10 16 04.8 +8.4
IVK *e* 10 16 16.7
IVK *e* Sg **Sg 10 17 49.0 -7.1**
IVK max
IVK Smax
comp=E,74nm,1.6s
TLY Talaya 7.35 238 *e* Pn **Pn 10 16 05.3 +2.8**
TLY *e* Pg **Pb 10 16 26.8 +4.3**
TLY *e* 10 16 31.0
TLY *e* Sg Sg 10 18 02.4 -7.9
TLY max
comp=E,4.0nm,0.6s
TLY Smax
comp=E,43nm,1.0s
TLY Talaya 7.35 238 *e* PG Pb 10 16 29.4 +6.9
TLY *e* 10 18 03.0
TLY pmax pmax
comp=Z,3.0nm,0.4s
TLY smax smax
comp=N,14nm,0.5s
HIA Hailar 7.64 149 *e* Pg 10 17 07.4 +27
HIA *e* Sg **Sg 10 18 14.6 -5.2**
HIA Hailar 7.64 149 *i* PN **Pn 10 16 06.6 0.0**
ARS Arshan 7.80 243 *e* **Pn 10 16 10.8 +2.0**
ARS *e* Sg Sg 10 18 15.6 -9.2
ARS *e* 10 18 21.2
ARS max
comp=N,172nm,0.8s
ZEA Zeya 8.12 100 *e* PG **Pg 10 16 49.7 -0.2**
ZEA pmax pmax
comp=Z,70nm,0.5s
ZAK Zakamensk 8.40 233 *e* Pg Pb 10 16 45.5 +5.0
ZAK *e* Sg Sg 10 18 35.1 -8.9
ZAK *e* 10 18 49.6
ZAK Pmax
comp=Z,1.0nm,0.1s
ZAK max
comp=Z,40nm,1.1s
ZAK Zakamensk 8.40 233 *e* PN Pn 10 16 07.2 -10
MOY Mondy 8.67 246 *e* Pn **Pn 10 16 20.0 -0.8**
MOY *e* 10 16 25.6
MOY *e* Pg Pg 10 16 51.7 -8.8
MOY *e* 10 18 10.2
MOY *e* Sg **Sg 10 18 45.2 -7.6**
MOY Pmax
comp=Z,9.0nm,0.9s
MOY Smax
comp=Z,90nm,1.5s
ORL Orlik 8.84 253 *e* Pn **Pn 10 16 23.6 +0.6**
ORL *e* Sn **Sn 10 17 59.6 -3.4**
ORL *e* 10 18 11.2
ORL *e* Sg Sg 10 18 49.4 -8.6
ORL Smax
comp=Z,57nm,1.2s
ULN Ulaanbaatar 9.10 210 *e* 10 17 55.9
ULN *e* Sg Sn 10 19 01.2 +52
ULN Ulaanbaatar 9.10 210 *i* P **Pn 10 16 26.2 -0.4**
SONM Songino Array 9.31 212 Lg Lg 10 19 10.7
comp=Z,2.2nm,0.3s,baz=20,slow=30,SNR=16
KLR Kul'dur 12.84 114 Pn **Pn 10 17 18.4 +0.7**
comp=Z,0.0nm,0.3s,baz=295,slow=11,SNR=6.5
KLR Lg Lg 10 20 54.0
comp=Z,0.0nm,0.3s,baz=279,slow=16,SNR=3.5
KLR Kul'dur 12.84 114 ⇑ *i* P **Pn 10 17 18.1 +0.4**
TIXI Tiksi 17.00 16 ⇑ *i* P **Pn 10 18 12.4 -0.4**
TIXI pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 21.44 271 P **P 10 19 06.5 +3.1**
MKAR Makanchi Array 21.49 258 P **P 10 19 03.6 -0.4**
comp=Z,0.7nm,0.9s,baz=58,slow=9.1,SNR=5.1
MKAR Makanchi Array 21.49 258 *i* P **P 10 19 06.9 +2.9**
KURBB Kurchatov Arra 21.54 270 P **P 10 19 06.5 +2.1**
comp=Z,0.7nm,0.7s,baz=62,slow=11,SNR=3.4
BVAR Borovoye Array 25.03 282 P **P 10 19 40.1 +0.8**
comp=Z,0.6nm,0.7s,baz=35,slow=18,SNR=2.6
BRVK Borovoye 25.08 282 *i* P **P 10 19 39.4 -0.3**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
ARU Arti 30.00 294 LR LR 10 34 11.9
comp=Z,61nm,18.3s,baz=149,slow=40
ILAR Eielson Array 44.94 37 P **P 10 22 30.1 +0.2**
comp=Z,0.4nm,0.8s,baz=302,slow=9.5,SNR=5.5
INK Inuvik 46.62 28 P **P 10 22 42.8 -0.4**
comp=Z,0.2nm,0.5s,baz=333,slow=2.3,SNR=2.9
YKA Yellowknife Ar 56.02 25 P **P 10 23 51.6 -2.1**
comp=Z,0.2nm,0.7s,baz=331,slow=6.9,SNR=3.3
WRA Warramunga Arr 77.60 160 P **P 10 26 10.0 -1.6**
comp=Z,0.3nm,0.6s,baz=348,slow=6.3,SNR=3.5

NIED ***19*** *10:23:00, 43˚.40N×146˚.10E, h98km, Mw4.2 Best double couple: M₀2.58000×10¹⁵ NP1:φ₀s57.00000°, δ42.00000°, λ-64.00000°. NP2:φ₀s203.00000°, δ53.00000°, λ-112.00000°.*
MOS ***19*** *10:23:18.4±0.9, 43˚.55N×146˚.08E, h105km, mb4.8/31, Error ellipse: s-maj=7.4km s-min=5.5km az=98.2*
ISCJB ***19*** *10:23:18.7±0.3, 43˚.51N±0˚.03×146˚.07E±0˚.03, h107km±1km, mb4.6/118, Error ellipse: s-maj=5.3km s-min=3.2km az=153.5*
SKHL ***19*** *10:23:19.2±0.6, 43˚.50N×146˚.20E, h106km±2km, mb4.9/9, msha5.4/5*
BJI ***19*** *10:23:19.1, 43˚.76N×146˚.00E, h103km, mb4.8/39, mB5.0/22*
IDC ***19*** *10:23:19.4±0.7, 43˚.52N×146˚.15E, h100km±6km, mb4.2/30, mb1 4.2/36, mb1mx4.1/73, mbtmp4.4/36, MS2.3/2, Ms1 2.3/2, ms1mx2.1/63, Error ellipse: s-maj=11.6km s-min=8.3km az=14.0*
NEIC ***19*** *10:23:20.0±0.4, 43˚.53N×146˚.05E, h104km±3km, mb4.6/71, Error ellipse: s-maj=4.5km s-min=2.7km az=157.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
JMA ***19*** *10:23:20.1±0.1, 43˚.42N×146˚.11E, h95km±1km, M4.6*
JMA Felt II J1.

ISC 19 10:23:19.4±0.4, 43˚.47N±0˚.04×146˚.14E±0˚.04, h103km±3km, h103km:pP-P, n282, σ1°17/324, mb4.6/118, 14C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.31**	**250**	⇓P		**Pn**	**10 23 34.0**	**-0.3**
NEM2				*e*S		**Sn**	**10 23 44.4**	**-1.1**
GLVR	**Golovnino**	**0.53**	**301**	*e*P		**Pn**	**10 23 35.7**	**+0.1**
GLVR				*i* S		**Sn**	**10 23 48.3**	**+0.5**
GLVR	**Golovnino**	**0.53**	**301**	*e*PN		**Pn**	**10 23 35.7**	**+0.1**
GLVR				*i* S		**Sn**	**10 23 48.3**	**+0.5**
GRPR	**Tuman**	**0.59**	**333**	*e*P		**Pn**	**10 23 35.5**	**-0.6**
GRPR				*e*S		**Sn**	**10 23 48.0**	**-0.7**
GRPR	**Tuman**	**0.59**	**333**	*e*PN		**Pn**	**10 23 35.5**	**-0.6**
GRPR				*e*S		**Sn**	**10 23 48.0**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**0.60**	**341**	*e*P		**Pn**	**10 23 35.7**	**-0.5**
YUK	170nm,0.4s			AMB		AMB	10 23 36.2	
YUK				*e*S		**Sn**	**10 23 47.9**	**-0.9**
YUK	3μm,0.4s			A		A	10 23 48.9	
YUK	2μm,0.4s			A		A	10 23 48.9	
YUK	**Yuzh-Kuril'sk**	**0.60**	**341**	*e*PN		**Pn**	**10 23 35.7**	**-0.5**
YUK				*e*S		**Sn**	**10 23 47.9**	**-0.9**
YUK				pmax	pmax			
	comp=N,652nm,0.2s							
YUK				pmax	pmax			
	comp=Z,2μm,0.2s							
YUK				pmax	pmax			
	comp=E,458nm,0.1s							
YUK				smax	smax			
	comp=E,16μm,0.4s							
YUK				smax	smax			
	comp=N,3μm,0.2s							
LAGR	**Lagunnoye**	**0.64**	**337**	*e*P		**Pn**	**10 23 36.5**	**0.0**
LAGR				*e*S		**Sn**	**10 23 49.5**	**+0.1**
LAGR	**Lagunnoye**	**0.64**	**337**	*e*PN		**Pn**	**10 23 36.5**	**0.0**
LAGR				*e*S		**Sn**	**10 23 49.5**	**+0.1**
SHO	**Shikotan**	**0.64**	**51**	*e*P		**Pn**	**10 23 35.0**	**-1.5**
SHO				AMB		AMB	10 23 36.2	
	comp=N,540nm,0.4s							
SHO				*e*S		**Sn**	**10 23 47.2**	**-2.2**
SHO				A		A	10 23 48.6	
	comp=N,2μm,0.5s							
SHO				A		A	10 23 48.6	
	comp=N,2μm,0.5s							
SHO	**Shikotan**	**0.64**	**51**	*e*PN		**Pn**	**10 23 35.0**	**-1.5**
SHO				*e*S		**Sn**	**10 23 47.2**	**-2.2**
SHO				pmax	pmax			
	comp=Z,541nm,0.4s							
SHO				pmax	pmax			
	comp=N,166nm,0.2s							
SHO				pmax	pmax			
	comp=E,241nm,0.2s							
SHO				smax	smax			
	comp=N,17μm,0.5s							
SHO				smax	smax			
	comp=E,21μm,0.2s							
JRA	**Rausu**	**0.87**	**303**	⇓P		**Pn**	**10 23 39.0**	**+0.3**
JRA				*e*S		**Sn**	**10 23 53.4**	**+0.2**
JNK	**Nakash**	**1.04**	**277**	⇓P		**Pn**	**10 23 40.2**	**-0.2**
JNK				*e*S		**Sn**	**10 23 54.7**	**-1.6**
JAK	**Akkeshi**	**1.16**	**246**	⇓P		**Pn**	**10 23 41.5**	**-0.2**
JAK				*e*S		**Sn**	**10 23 57.7**	**-0.8**
JTKR	**Abashiri--Toko**	**1.69**	**288**	⇑P		**Pn**	**10 23 48.6**	**+0.5**
JTKR				*e*S		**Sn**	**10 24 09.8**	**-0.2**
JAR	**Ashorobuto**	**1.74**	**265**	⇓P		**Pn**	**10 23 49.1**	**+0.4**
JAR				*e*S		**Sn**	**10 24 11.0**	**0.0**
JOB	**Onbets**	**1.78**	**252**	⇓P		**Pn**	**10 23 49.6**	**+0.4**
JOB				*e*S		**Sn**	**10 24 11.3**	**-0.6**
JMP	**Maruseppu**	**2.08**	**286**	⇑P		**Pn**	**10 23 53.7**	**+0.6**
JMP				*e*S		**Sn**	**10 24 18.9**	**-0.1**
KUR	**Kuril'sk**	**2.16**	**34**	*e*P		**Pn**	**10 23 54.0**	**0.0**
KUR				AMB		AMB	10 24 02.9	
	comp=E,91nm,0.4s							
KUR				AMB		AMB	10 24 02.9	
	comp=E,66nm,0.4s							
KUR				AMB		AMB	10 24 02.9	
	comp=E,250nm,0.4s							
KUR				*e*S		**Sn**	**10 24 19.3**	**-1.2**
KUR				A		A	10 24 23.4	
	comp=E,170nm,0.4s							
KUR				A		A	10 24 23.4	
	comp=E,2μm,0.4s							
KUR	**Kuril'sk**	**2.16**	**34**	*ce*PN		**Pn**	**10 23 55.2**	**+1.2**
KUR				*i* S		**Sn**	**10 24 21.3**	**+0.8**
KUR				pmax	pmax			
	comp=Z,248nm,0.4s							
KUR				pmax	pmax			
	comp=N,91nm,0.2s							
KUR				pmax	pmax			
	comp=E,66nm,0.3s							
KUR				smax	smax			
	comp=N,748nm,0.3s							
KUR				smax	smax			
	comp=E,2μm,0.3s							
KUR				smax	smax			
	comp=N,3μm,1.0s							
KUR				smax	smax			
	comp=E,3μm,1.1s							
JCH	**Churui**	**2.21**	**248**	⇓P		**Pn**	**10 23 54.6**	**-0.1**
JCH				*e*S		**Sn**	**10 24 19.9**	**-1.8**
ERM	**Erimo**	**2.63**	**238**	*e*P		**Pn**	**10 24 01.6**	**+1.3**
ERM	**Erimo**	**2.63**	**238**	⇑PN		**Pn**	**10 24 01.6**	**+1.3**
ERM	**Erimo**	**2.63**	**238**	*e*Pn		**Pn**	**10 24 01.9**	**+1.7**
ERM				*e*Sn		**Sn**	**10 24 27.2**	**-4.5**
JKA	**Kamikawa-asahi**	**2.64**	**285**	*e*P		**Pn**	**10 24 01.7**	**+1.3**
ASAJ	**Asahikawa**	**2.65**	**285**	P		**Pn**	**10 24 01.7**	**+1.2**
	comp=E,262nm,0.3s,baz=108,slow=10.0,SNR=1714							
ASAJ				S		**Sn**	**10 24 33.1**	**+1.1**
	comp=E,37nm,0.3s,baz=339,slow=17,SNR=13							
ASAJ	**Asahikawa**	**2.65**	**285**	*e*Pn		**Pn**	**10 24 01.5**	**+1.1**
ASAJ				*e*Sn		**Sn**	**10 24 28.8**	**-3.2**
YSS	**Yuzh-Sakhalins**	**4.23**	**327**	*e*P		**Pn**	**10 24 21.8**	**+0.2**
YSS				AMB		AMB	10 24 24.9	
	comp=E,40nm,0.3s							
YSS				*e*S		**Sn**	**10 25 10.6**	**+0.8**
YSS				A		A	10 25 11.3	
	comp=E,90nm,0.7s							
YSS	**Yuzh-Sakhalins**	**4.23**	**327**	*e*PN		**Pn**	**10 24 21.8**	**+0.2**
YSS				*i* S		**Sn**	**10 25 10.6**	**+0.8**
YSS				pmax	pmax			
	comp=Z,40nm,0.3s							
YSS				smax	smax			
	comp=N,90nm,0.6s							
YSS				smax	smax			
	comp=E,90nm,0.7s							
YSS	**Yuzh-Sakhalins**	**4.23**	**327**	*e*Pn		**Pn**	**10 24 21.7**	**+0.2**
UGL	**Uglegorsk**	**6.28**	**335**	*e*P		**Pn**	**10 24 49.4**	**+0.1**
UGL				AMB		AMB	10 24 52.0	
	comp=E,20nm,0.8s							
UGL				AMB		AMB	10 24 52.0	
	comp=E,70nm,0.8s							
UGL				AMB		AMB	10 24 52.0	
	comp=E,190nm,0.8s							
TEY	**Ternei**	**7.03**	**286**	*e*P		**Pn**	**10 24 59.5**	**0.0**
TEY				AMB		AMB	10 25 00.0	
	comp=E,67nm,0.9s							
TEY				AMB		AMB	10 25 00.0	
	comp=E,53nm,0.9s							
TEY	**Ternei**	**7.03**	**286**	*e*PN		**Pn**	**10 24 59.5**	**0.0**
TEY				pmax	pmax			
	comp=E,67nm,0.9s							
TEY				pmax	pmax			
	comp=Z,53nm,0.9s							
TYV	**Tymovskoe**	**7.77**	**343**	*e*P		**Pn**	**10 25 09.2**	**-0.3**
TYV				AMB		AMB	10 25 11.4	
	comp=Z,17nm,0.4s							
TYV				*e*S		**Sn**	**10 26 35.9**	**+0.1**
TYV				A		A	10 26 38.8	
	comp=Z,8.0nm,1.0s							
TYV	**Tymovskoe**	**7.77**	**343**	*e*PN		**Pn**	**10 25 09.2**	**-0.3**
TYV				*e*S		**Sn**	**10 26 35.9**	**+0.1**
TYV				pmax	pmax			
	comp=Z,17nm,0.4s							
TYV				smax	smax			
	comp=E,8.0nm,1.2s							
MJB9	**Matsu-Tunnel**	**9.21**	**224**	*e*Pn		**Pn**	**10 25 30.0**	**+0.8**
MAJO	**Matsushiro**	**9.21**	**224**	*e*P		**Pn**	**10 25 30.7**	**+1.4**
MAJO	**Matsushiro**	**9.21**	**224**	⇓PN		**Pn**	**10 25 30.7**	**+1.4**
MAJO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MAJO	**Matsushiro**	**9.21**	**224**	*e*Pn		**Pn**	**10 25 30.0**	**+0.7**
MJAR	**Matsushiro Arr**	**9.21**	**224**	P		**Pn**	**10 25 29.4**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=26,slow=13,SNR=6.1							
GRNR	**Gornyy**	**9.85**	**321**	*e*P		**Pn**	**10 25 37.6**	**-0.3**
GRNR				AMB		AMB	10 25 40.6	
	comp=Z,38nm,0.5s							
GRNR	**Gornyy**	**9.85**	**321**	*e*PN		**Pn**	**10 25 39.8**	**+1.9**
GRNR				pmax	pmax			
	comp=Z,38nm,0.5s							
USRK	**Ussuriysk Ar.**	**10.25**	**279**	P		**Pn**	**10 25 42.5**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=84,slow=14,SNR=15							
NKL	**Nikolayevsk**	**10.34**	**341**	*e*P		**Pn**	**10 25 44.0**	**-0.5**
NKL				AMB		AMB	10 25 47.0	
	comp=Z,5.0nm,1.0s							
NKL				AMB		AMB	10 25 47.0	
	comp=Z,25nm,1.0s							
NKL	**Nikolayevsk**	**10.34**	**341**	*e*PN		**Pn**	**10 25 44.0**	**-0.5**
NKL				pmax	pmax			
	comp=E,5.0nm,1.0s							
NKL				pmax	pmax			
	comp=Z,25nm,1.0s							
KLR	**Kul'dur**	**11.49**	**305**	P		**Pn**	**10 26 01.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=111,slow=20,SNR=13							
KLR				LR		LR	10 31 05.1	
	comp=Z,4.7nm,18.8s,baz=290,slow=41							
KLR	**Kul'dur**	**11.49**	**305**	*e*P		**Pn**	**10 26 01.3**	**+1.3**
KLR	**Kul'dur**	**11.49**	**305**	⇑*i*PN		**Pn**	**10 26 01.3**	**+1.3**
MDJ	**Mudanjiang**	**11.97**	**281**	*e*Pn		**Pn**	**10 26 05.5**	**-0.9**
PETK	**Petropavlovsk-**	**12.32**	**34**	P		**Pn**	**10 26 09.6**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=173,slow=7.4,SNR=7.2							
PEA1	**Petropavlovsk-**	**12.33**	**34**	*e*Pn		**Pn**	**10 26 09.6**	**-1.6**
EKMR	**Ekimchan**	**13.00**	**322**	*e*P		**Pn**	**10 26 18.6**	**-1.3**
EKMR				AMB		AMB	10 26 20.8	
	comp=Z,11nm,1.0s							
CN2	**Changchun**	**14.99**	**278**	*e*P		**Pn**	**10 26 42.9**	**-2.7**
CN2				pmax	pmax			
	comp=Z,20nm,1.0s							
KSRS	**Korea Array**	**15.10**	**253**	P		**Pn**	**10 26 46.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=60,slow=13,SNR=8.0							
KSRS				LR		LR	10 31 17.6	
	comp=Z,28nm,20.4s,baz=32,slow=32							
KS15	**Wonju Array Si**	**15.13**	**253**	*e*Pn		**Pn**	**10 26 46.0**	**-1.5**
KSAR	**Wonju Array Be**	**15.13**	**253**	P		**Pn**	**10 26 46.1**	**-1.4**
KSAR	**Wonju Array Be**	**15.13**	**253**	P		**Pn**	**10 26 46.0**	**-1.4**
BMKR	**Bomnak**	**15.91**	**321**	*e*P		**Pn**	**10 26 56.0**	**-1.2**
BMKR				AMB		AMB	10 26 59.0	
	comp=Z,16nm,1.0s							
ZEA	**Zeya**	**16.12**	**316**	*e*P		**Pn**	**10 26 57.0**	**-2.8**
HIA	**Hailar**	**19.06**	**297**	*e*P		**P**	**10 27 31.9**	**-1.6**
HIA				pmax	pmax			
	comp=Z,15nm,0.8s							
HIA	**Hailar**	**19.06**	**297**	*e*P		**P**	**10 27 31.9**	**-1.6**
	comp=Z,15nm,0.8s							
SEY	**Seymchan**	**19.84**	**8**	P		**P**	**10 27 39.6**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=80,slow=6.1,SNR=6.5							
SEY	**Seymchan**	**19.84**	**8**	⇓*e*P		**P**	**10 27 39.2**	**-2.5**
SMY	**Shemya**	**20.73**	**54**	*e*P		**P**	**10 27 52.2**	**+0.9**
SMY				pmax	pmax			
	comp=Z,104nm,1.0s							
SMY	**Shemya**	**20.73**	**54**	*e*P		**P**	**10 27 52.2**	**+0.9**
	comp=Z,104nm,1.0s							
BJT	**Baijiatuau**	**22.57**	**272**	*e*P		**P**	**10 28 10.3**	**-0.6**
BJT				pmax	pmax			

comp=Z,20nm,0.7s
BJT Baijiatuau 22.57 272 *e*P **P 10 28 10.3 -0.6**
comp=Z,20nm,0.7s
NJ2 Nanjing 24.29 251 *e*P **P 10 28 28.3 +1.3**
NJ2 pmax pmax
comp=Z,17nm,0.5s
HHC Hu-ho-hao-te 25.66 276 *e*P **P 10 28 40.6 +1.1**
HHC S **S 10 32 58.3 -2.0**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,120nm,4.6s
BILL Bilibino 26.84 17 *e*P **P 10 28 49.1 -0.6**
BILL Bilibino 26.84 17 *e*P **P 10 28 49.1 -0.6**
BILL *e**PP **pP 10 29 12.9 +0.5**
BILL *e**SP **sP 10 29 25.2 +0.8**
BILL *e* 10 29 44.3
BILL pmax pmax
comp=Z,1.0nm,1.4s
ULN Ulaanbaatar 27.46 293 *e*P **P 10 28 56.0 +0.3**
ULN Ulaanbaatar 27.46 293 *c i*P **P 10 28 56.0 +0.3**
ULN pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 27.46 293 *e*P **P 10 28 55.8 +0.2**
comp=Z,20nm,0.9s
SONA1 Songino Array 27.90 293 *e*P **P 10 28 60.0 +0.4**
SONA0 Songino Array 27.90 293 *e*P **P 10 29 00.1 +0.5**
SONM Songino Array 27.90 293 P **P 10 29 00.1 +0.5**
comp=Z,26nm,0.8s,baz=89,slow=8.5,SNR=58
H11N2 WAKE ISLAND Hy 29.38 137 T T 11 00 15.6
baz=329,slow=75,SNR=505
H11N1 WAKE ISLAND Hy 29.39 137 T T 11 00 16.1
baz=329,slow=75,SNR=332
H11N3 WAKE ISLAND Hy 29.40 137 T T 11 00 18.0
baz=329,slow=75,SNR=361
XAN Xi'an 30.30 265 P P 10 29 26.8 +5.9
XAN pmax pmax
comp=Z,7.0nm,0.7s
H11S1 WAKE ISLAND Hy 30.33 139 T T 11 01 29.9
baz=329,slow=76,SNR=940
H11S3 WAKE ISLAND Hy 30.33 139 T T 11 01 24.6
baz=329,slow=76,SNR=378
H11S2 WAKE ISLAND Hy 30.34 139 T T 11 01 28.2
baz=329,slow=76,SNR=674
MOY Mondy 31.11 301 *e*P **P 10 29 27.8 -0.1**
KNGR Kungurtug, Tuv 33.39 300⇓ *e*P **P 10 29 47.1 -0.7**
GTA Gaotai 34.62 279 *e*P P 10 30 04.0 +5.4
GTA pmax pmax
comp=Z,3.0nm,0.7s
CD2 Chengdu 35.65 264 *e*P **P 10 30 07.0 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 39.74 257 P **P 10 30 45.1 +3.0**
KMI pmax pmax
comp=Z,9.0nm,0.6s
PPLA Purkeypile 39.86 39 *e*P **P 10 30 44.1 +1.5**
comp=Z,5.6nm,0.7s
CAST Castle Rocks 39.91 38 *e*P **P 10 30 44.4 +1.5**
comp=Z,11nm,0.6s
KDAK Kodiak Island 39.98 47 *e*P **P 10 30 43.3 -0.1**
KDAK Kodiak Island 39.98 47 *i* P **P 10 30 43.3 -0.1**
BPAW Bear Paw Mtn. 40.39 37 *e*P **P 10 30 47.8 +1.0**
comp=Z,28nm,1.8s
KTH Kantishna Hill 40.42 38 *e*P **P 10 30 48.2 +1.0**
comp=Z,11nm,0.8s
MLY Manley 40.50 36 *e*P **P 10 30 49.2 +1.4**
comp=Z,17nm,1.5s
ZAA1 Zalesovo Array 40.58 307 *e*P **P 10 30 47.4 -1.1**
ZAA1 *e*PcP **PcP 10 32 48.8 +0.3**
ZAA0 Zalesovo Array 40.58 307 *e*P **P 10 30 47.5 -1.0**
comp=Z,6.3nm,1.0s
ZALV Zalesovo Beam 40.58 307 P **P 10 30 47.4 -1.1**
comp=Z,4.3nm,0.3s,baz=90,slow=7.9,SNR=15
ZALV PcP **PcP 10 32 48.8 +0.2**
comp=Z,2.0nm,0.5s,baz=108,slow=2.8,SNR=5.8
ZALV Zalesovo Beam 40.58 307 *e*P **P 10 30 46.9 -1.5**
ZALV *e*PcP **PcP 10 32 48.8 +0.2**
SUA Susitna One 40.59 41 *e*P **P 10 30 49.0 +0.4**
comp=Z,47nm,2.0s
TRF Thorofare Moun 40.71 38 *e*P **P 10 30 50.6 +1.0**
comp=Z,18nm,1.5s
COLD Coldfoot 40.78 32 *e*P **P 10 30 50.6 +0.7**
comp=Z,5.9nm,1.0s
TOLK Toolik Lake Re 41.10 30 *e*P **P 10 30 53.0 +0.4**
comp=Z,11nm,1.6s
RC01 Rabbit Creek A 41.10 42 *e*P **P 10 30 52.8 +0.1**
comp=Z,27nm,0.3s
MCK McKinley 41.30 38 *e*P **P 10 30 54.7 +0.4**
MCK McKinley 41.30 38 *e*P **P 10 30 54.8 +0.4**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 41.30 38 *e*P **P 10 30 54.8 +0.4**
comp=Z,5.8nm,0.8s
RND Reindeer 41.36 38 *e*P **P 10 30 55.1 +0.3**
RND pmax pmax
comp=Z,7.0nm,0.6s
RND Reindeer 41.36 38 *e*P **P 10 30 55.1 +0.3**
comp=Z,6.9nm,0.6s
WMQ Urumqi 41.52 291 P **P 10 30 56.3 -0.1**
WMQ pmax pmax
comp=Z,25nm,0.7s
MDM Murphy Dome 41.57 36 *e*P **P 10 30 57.5 +1.1**
comp=Z,9.7nm,0.6s
WRH Wood River Hil 41.65 36 *e*P **P 10 30 57.9 +0.9**
comp=Z,12nm,1.3s
SML Sawmill 41.71 41 *e*P **P 10 30 58.1 +0.4**
SML Sawmill 41.71 41 *e*P **P 10 30 58.1 +0.4**
SML pmax pmax
comp=Z,14nm,0.8s
SML Sawmill 41.71 41 *e*P **P 10 30 58.1 +0.4**
comp=Z,14nm,0.8s
COLA College 41.73 36 *e*P **P 10 30 58.7 +1.0**
COLA College 41.73 36 *e*P **P 10 30 58.3 +0.6**
COLA pmax pmax
comp=Z,14nm,0.8s
COLA College 41.73 36 *e*P **P 10 30 58.3 +0.6**
comp=Z,14nm,0.8s
CCB Clear Creek Bu 41.76 36 *e*P **P 10 30 58.3 +0.4**
comp=Z,2.9nm,0.6s
DHY Denali Highway 42.05 39 *e*P **P 10 31 00.9 +0.4**
comp=Z,6.9nm,0.6s
HDA Harding Lake 42.14 37 *e*P **P 10 31 01.3 +0.2**
comp=Z,8.9nm,0.5s
IL1 Eielson Array 42.15 36 *e*P **P 10 31 01.8 +0.6**
ILAR Eielson Array 42.15 36 P **P 10 31 01.6 +0.4**
comp=Z,3.7nm,0.6s,baz=258,slow=4.8,SNR=73
ILB Eielson Array 42.15 36 *e*P **P 10 31 02.0 +0.9**
FYU Fort Yukon 42.74 33 *e*P **P 10 31 07.3 +1.4**
comp=Z,22nm,0.7s
KLU Klutina 42.89 41 *e*P **P 10 31 08.0 +0.7**
comp=Z,22nm,1.3s
RIDG Independ'e Rid 43.12 37 *e*P **P 10 31 09.2 +0.1**
comp=Z,6.5nm,0.6s
HARP HAARP 43.13 39 *e*P **P 10 31 10.4 +1.3**
comp=Z,13nm,0.9s
SCRK Sand Creek 43.47 37 *e*P **P 10 31 12.3 +0.3**
comp=Z,5.7nm,0.7s
DOT Dot Lake 43.48 37 *e*P **P 10 31 12.0 +0.1**
comp=Z,13nm,0.6s
BMRM Bremner River 43.60 41 *e*P **P 10 31 13.9 +0.9**
comp=Z,14nm,1.0s
MENT Mentasta 43.72 38 *e*P **P 10 31 15.1 +1.2**
comp=Z,4.1nm,0.6s
MK31 Makanchi Array 44.06 298 *e*P **P 10 31 17.0 +0.2**
MK31 Makanchi Array 44.06 298 *e*P **P 10 31 17.0 +0.2**
MK32 Makanchi Array 44.06 298 *e*P **P 10 31 17.0 +0.2**
MKAR Makanchi Array 44.06 298 P **P 10 31 17.0 +0.2**
comp=Z,14nm,0.7s,baz=80,slow=8.9,SNR=157
MKAR Makanchi Array 44.06 298 *e*P **P 10 31 17.0 +0.2**
MKAR pmax pmax
comp=Z,138nm,0.8s
MKAR Makanchi Array 44.06 298 *e*P **P 10 31 17.0 +0.2**
comp=Z,138nm,0.8s
MK01 Makanchi Array 44.07 297 *e*P **P 10 31 16.7 -0.2**
MAKZ Makanchi 44.26 298 *e*P **P 10 31 18.6 +0.2**
MAKZ pmax pmax
comp=Z,15nm,0.8s
MAKZ Makanchi 44.26 298 *e*P **P 10 31 18.6 +0.2**
comp=Z,15nm,0.8s
EGAK Eagle 44.59 36 *e*P **P 10 31 20.9 +0.2**
comp=Z,36nm,1.5s
KURK Kurchatov 45.08 304 *e*P **P 10 31 24.5 -0.3**
KURK Kurchatov 45.08 304 *c i*P **P 10 31 24.5 -0.3**
KURK pmax pmax
comp=Z,74nm,1.7s
KURK Kurchatov 45.08 304 *e*P **P 10 31 24.4 -0.4**
comp=Z,12nm,0.9s
KURK *e*P **P 10 31 25.3 +0.5**
KURBB Kurchatov Arra 45.16 304 P **P 10 31 25.3 -0.1**
comp=Z,5.4nm,0.4s,baz=78,slow=8.7,SNR=46
DAWY Dawson 45.46 36 *e*P **P 10 31 28.1 +0.4**
comp=Z,12nm,1.7s
INK Inuvik 47.02 30 *e*P **P 10 31 41.2 +1.5**
INK Inuvik 47.02 30 *e*P **P 10 31 40.2 +0.5**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 47.02 30 *e*P **P 10 31 40.2 +0.5**
comp=Z,5.5nm,0.8s
HYT Haines Junctio 47.02 41 *e*P **P 10 31 41.2 +1.1**
comp=Z,27nm,0.8s
BVA0 Borovoye Array 49.11 309 *e*P **P 10 31 56.1 0.0**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 49.11 309 P **P 10 31 56.1 0.0**
comp=Z,1.8nm,0.3s,baz=85,slow=9.6,SNR=15
BRVK Borovoye 49.16 309 *e*P **P 10 31 56.7 +0.2**
BRVK Borovoye 49.16 309⇓ *i*P **P 10 31 56.7 +0.2**
BRVK pmax pmax
comp=Z,29nm,1.7s
BRVK Borovoye 49.16 309 *e*P **P 10 31 56.6 +0.2**
comp=Z,5.7nm,0.8s
JIRN Jiri 50.21 272 *e*P **P 10 32 03.6 -1.6**
comp=Z,10nm,0.3s
GUN Gumba 50.30 273 *e*P **P 10 32 06.1 +0.3**
comp=Z,35nm,0.6s
KKN Kakani 50.80 273 *e*P **P 10 32 09.9 +0.4**
AAK Ala-Archa 50.81 295 P **P 10 32 09.5 +0.2**
comp=Z,2.8nm,0.4s,baz=111,slow=4.1,SNR=12
PKI Pulchoki 50.83 273 *e*P **P 10 32 10.0 +0.2**
comp=Z,5.9nm,0.5s
PKIN Phulchoki 50.84 273 *e*P **P 10 32 09.8 0.0**
comp=Z,7.3nm,0.5s
DMN Daman 51.03 273 *e*P **P 10 32 11.7 +0.5**
KSH Kashi 51.28 291 *e*P **P 10 32 17.0 +4.2**
KSH S **S 10 39 26.1 +2.3**
KSH pmax pmax
comp=Z,180nm,5.7s
KSH LR LR
comp=Z,250nm,6.5s
KSH LR LR
comp=Z,140nm,8.6s
KSH LR LR
comp=Z,130nm,7.1s
DANN Dangsing 51.59 275 *e*P **P 10 32 16.6 +1.2**
KOLN Koldanda 52.03 274 *e*P **P 10 32 19.0 +0.4**
comp=Z,3.7nm,0.3s
PYUN Piuthan 52.29 275 *e*P **P 10 32 21.2 +0.7**
comp=Z,5.2nm,0.3s
SVE Sverdlovsk 52.84 317 *e*P **P 10 32 23.2 -0.7**
SVE Sverdlovsk 52.84 317 *e*P **P 10 32 23.2 -0.7**
SVE pmax pmax
comp=Z,16nm,0.9s
KK31 Karatay Array 53.19 298 *i* P **P 10 32 26.6 -0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 53.19 298 *e*P **P 10 32 26.9 +0.1**
KKAR Karatay Array 53.19 298 *e*P **P 10 32 26.9 +0.1**
ARU Arti 54.05 317 P **P 10 32 32.4 -0.4**
comp=Z,10.0nm,0.5s,baz=48,slow=3.0,SNR=15
ARU Arti 54.05 317 *e*P **P 10 32 32.1 -0.7**
ARU Arti 54.05 317 *d i*P **P 10 32 32.1 -0.7**
ARU *PP **pP 10 32 58.7 +1.1**
ARU 10 34 30.7
ARU S **S 10 40 00.5 -0.3**
ARU SS **SKiKP 10 43 36.4 +2.6**
ARU pmax pmax
comp=Z,29nm,1.7s
ARU Arti 54.05 317 *e*P **P 10 32 32.4 -0.4**
comp=Z,13nm,0.6s
SPITS Spitsbergen Ar 54.92 349 P **P 10 32 38.1 -0.7**
comp=Z,7.9nm,1.0s,baz=31,slow=8.6,SNR=7.1
RES Resolute Bay 55.45 16 *e*P **P 10 32 42.3 -0.3**
RES pmax pmax
comp=Z,19nm,0.5s
RES Resolute Bay 55.45 16 *e*P **P 10 32 42.3 -0.3**
comp=Z,19nm,0.5s
YKW3 Yellowknife Ar 56.40 33 *e*P **P 10 32 50.1 +0.5**
comp=Z,4.7nm,0.9s
YKA Yellowknife Ar 56.44 33 P **P 10 32 50.2 +0.4**
comp=Z,3.1nm,0.8s,baz=301,slow=6.8,SNR=52
YKB5 Yellowknife Ar 56.44 33 *e*P **P 10 32 49.2 -0.6**
AB31 Akbulak array 56.67 309 *i* P **P 10 32 51.8 +0.2**
AB31 pmax pmax
comp=Z,14nm,0.3s
ABKAR Akbulak array 56.67 309 *e*P **P 10 32 51.8 +0.2**
comp=Z,281nm,0.3s
AKTO Aktyubinsk 57.16 310 P **P 10 32 54.5 -0.6**
comp=Z,3.6nm,0.6s,baz=62,slow=7.8,SNR=22
LVZ Lovozero 57.75 335 *i* P **P 10 32 57.4 -1.6**
TULEG Thule 58.22 9 *e*P **P 10 33 01.3 -0.8**
comp=Z,5.1nm,0.9s
ARA0 ARCESS Array S 59.25 339 *e*P **P 10 33 09.3 -0.1**
ARCES ARCESS Array B 59.25 339 P **P 10 33 09.3 -0.1**
comp=Z,2.7nm,0.8s,baz=46,slow=6.5,SNR=6.4
KLMR Klimovskoe 60.28 327 *e*P **P 10 33 13.6 -2.9**
KLMR *e**PP **pP 10 33 46.7 +4.9**
KLMR pmax pmax
comp=Z,12nm,1.3s
KLMR Klimovskoe 60.28 327 *e*P **P 10 33 13.6 -2.9**
KLMR AMP 10 33 23.6
comp=Z,12nm,1.3s
KLMR *e*pP **pP 10 33 46.7 +4.9**
EDM Edmonton 62.10 42 *e*P **P 10 33 29.5 +0.5**
EDM Edmonton 62.10 42 *e*P **P 10 33 29.5 +0.5**
EDM pmax pmax
comp=Z,10.0nm,0.6s
EDM Edmonton 62.10 42 *e*P **P 10 33 29.5 +0.5**
comp=Z,9.9nm,0.6s
WRAB Tennant Creek 64.01 192 *ce*P **P 10 33 45.4 +3.5**
WRAB pmax pmax
comp=Z,34nm,1.7s
WR1 Warramunga Arr 64.02 192 *e*P **P 10 33 42.0 +0.1**
WR1 *e*pP **pP 10 34 07.1 -0.4**
WRA Warramunga Ar 64.02 192 P **P 10 33 42.0 +0.1**
comp=Z,1.7nm,0.9s,baz=8.7,slow=6.5,SNR=6.2
WRA pP **pP 10 34 07.1 -0.4**
comp=Z,1.2nm,0.6s,baz=13,slow=6.9,SNR=4.4
SUMG Summit 64.21 2 *e*P **P 10 33 43.2 +0.1**
SUMG pmax pmax
comp=Z,41nm,1.5s
SUMG Summit 64.21 2 *e*P **P 10 33 43.2 +0.1**
comp=Z,41nm,1.5s
WALA Warton Lakes 64.31 46 *e*P **P 10 33 44.1 +0.4**
comp=Z,3.9nm,1.0s
FIA0 FINESS Array S 64.79 333 *e*P **P 10 33 46.5 0.0**
FIA0 FINESS Array S 64.79 333 *e*P **P 10 33 46.5 0.0**
FINES FINESS Array B 64.79 333 P **P 10 33 46.5 0.0**
comp=Z,4.0nm,0.7s,baz=40,slow=7.3,SNR=17
JTMT Jette 64.91 47 *e*P **P 10 33 48.9 +1.2**
comp=Z,12nm,1.7s
OBN Obninsk 65.10 323 *e*P **P 10 33 49.3 +0.7**
OBN Obninsk 65.10 323⇑ *e*P **P 10 33 49.0 +0.4**
OBN *e**PP **pP 10 33 13.0 -1.2**
OBN *e* 10 36 18.0
OBN *e*S S 10 42 13.1 -10
OBN pmax pmax
comp=Z,10.0nm,0.6s
FFC Flin Flon 66.36 36 *e*P **P 10 33 57.4 +0.7**
FFC Flin Flon 66.36 36 *e*P **P 10 33 57.2 +0.5**
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 66.36 36 *e*P **P 10 33 57.2 +0.5**
comp=Z,6.4nm,0.8s
VSR Storozhevoye 66.47 319⇓ *i*P **P 10 33 57.5 +0.1**
VSR pmax pmax
comp=Z,12nm,0.4s
FCC Fort Churchill 66.63 30 *e*P **P 10 33 58.3 0.0**
FCC pmax pmax
comp=Z,4.0nm,0.6s
FCC Fort Churchill 66.63 30 *e*P **P 10 33 58.3 0.0**
comp=Z,3.7nm,0.6s
VSU Vasula 66.72 330⇑ *e*P **P 10 33 59.0 +0.1**
VSU pmax pmax
comp=Z,61nm,1.6s
PAHR Pah Rah Range 66.90 57 *e*P **P 10 34 01.5 +0.9**
comp=Z,6.3nm,1.2s
LRM Limekiln Ridge 67.09 48 *e*P **P 10 34 02.3 +0.5**
YERR Yerington 67.43 57 *e*P **P 10 34 05.1 +1.0**
comp=Z,22nm,1.8s
BOZ Bozeman (W) 67.68 48 *e*P **P 10 34 06.4 +1.0**
BOZ Bozeman (W) 67.68 48 *e*P **P 10 34 06.4 +1.0**
BOZ pmax pmax
comp=Z,5.0nm,0.5s
BOZ Bozeman (W) 67.68 48 *e*P **P 10 34 06.4 +1.0**
comp=Z,4.7nm,0.5s
AS31 Alice Springs 67.74 192 *e*P **P 10 34 06.7 +0.9**
comp=Z,4.9nm,1.8s
ASAR Alice Springs 67.74 192 P **P 10 34 06.7 +0.9**
comp=Z,1.4nm,0.6s,baz=7.9,slow=5.7,SNR=29
ASAR pP **PcP 10 34 32.0 +0.2**
comp=Z,1.4nm,0.7s,baz=9.4,slow=5.6,SNR=5.6
NV01 Mina Array Sit 68.35 57 *e*P **P 10 34 10.7 +0.9**
NVAR Mina Array Bea 68.35 57 P **P 10 34 11.0 +1.2**
comp=Z,2.8nm,0.7s,baz=296,slow=6.9,SNR=16
H17A Grant Village 69.02 48 *e*P **P 10 34 14.2 +0.2**
comp=Z,5.4nm,1.1s
NCK Nalchik 69.20 311⇑ *e*P **P 10 34 15.4 +0.6**
NCK pmax pmax
comp=Z,22nm,0.2s
FXWY Fox Creek 69.27 49 *e*P **P 10 34 16.9 +1.5**
comp=Z,8.8nm,1.4s
MOOW Moose Ponds 69.35 49 *e*P **P 10 34 17.3 +1.4**
comp=Z,3.6nm,1.1s
KIV Kislovodsk 69.40 311 *e*P **P 10 34 16.4 +0.3**
KIV Kislovodsk 69.40 311 *e*P **P 10 34 16.4 +0.3**
KIV pmax pmax
comp=Z,12nm,1.0s
TPAW Teton Pass 69.41 49 *e*P **P 10 34 17.2 +0.9**
comp=Z,4.3nm,0.9s
KBZ Khabaz 69.43 311 P **P 10 34 16.8 +0.7**
comp=Z,3.8nm,0.6s,baz=53,slow=5.2,SNR=13
ZEI Tsey 69.49 310 *e*P **P 10 34 15.6 -1.2**
ZEI Tsey 69.49 310 *e*P **P 10 34 15.6 -1.2**
ZEI pmax pmax
comp=Z,2.0nm,0.3s
REDW Red Top Meadow 69.55 49 *e*P **P 10 34 18.3 +1.1**
comp=Z,7.0nm,1.3s
NB200 NORSAR Array S 69.60 338 *e*P **P 10 34 16.9 0.0**
NOA NORSAR Array B 69.60 338 P **P 10 34 16.9 0.0**
comp=Z,3.4nm,0.7s,baz=32,slow=6.6,SNR=9.2
HFS Hagfors 69.66 337 P **P 10 34 17.2 -0.1**
comp=Z,5.0nm,0.5s,baz=38,slow=7.3,SNR=18
NEY Neytrino 69.84 311⇑ *e*P **P 10 34 21.1 +2.2**
NEY pmax pmax
comp=Z,3.0nm,1.8s
BW06 Boulder Array 70.65 49 *e*P **P 10 34 24.2 +0.3**
comp=Z,2.9nm,0.9s
PD31 Pinedale Array 70.65 49 *e*P **P 10 34 24.4 +0.4**
PDAR Pinedale Array 70.65 49 P **P 10 34 24.4 +0.4**
comp=Z,2.5nm,0.8s,baz=249,slow=1.0,SNR=25
AKASG Malin Array Be 71.37 323 P **P 10 34 27.7 -0.1**
comp=Z,2.2nm,0.5s,baz=41,slow=6.5,SNR=10
AKASG pP **pP 10 34 52.7 -1.1**
comp=Z,1.1nm,0.5s,baz=41,slow=6.3,SNR=2.8
AKBB Malin Array Si 71.37 323 *e*P **P 10 34 27.6 -0.2**
AKBB pmax pmax
comp=Z,7.0nm,1.0s
AKBB Malin Array Si 71.37 323 *e*P **P 10 34 27.6 -0.2**
comp=Z,6.5nm,1.0s
KIEV Kiev 71.38 323 *e*P **P 10 34 28.6 +0.7**
KIEV Kiev 71.38 323⇑ *i*P **P 10 34 28.6 +0.7**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
ANN Anapa 71.63 315 *e*P **P 10 34 25.8 -3.7**
ANN *e**PP **pP 10 34 55.1 -0.4**
ANN *e*S **S 10 43 33.6 -6.9**
ANN pmax pmax
comp=Z,156nm,1.4s
ULM Lac du Bonnet 72.17 37 P **P 10 34 32.0 -0.6**
comp=Z,2.7nm,0.6s,baz=304,slow=7.0,SNR=7.9
P17A Butcher Ranch, 72.17 52 *e*P **P 10 34 34.0 +0.9**
comp=Z,3.2nm,0.9s
LCMT Little Creek M 72.33 56 *e*P **P 10 34 34.9 +0.9**
comp=Z,2.5nm,0.9s
SRU San Rafael Swe 72.54 53 *e*P **P 10 34 35.6 +0.3**
SRU pmax pmax
comp=Z,8.0nm,1.2s
SRU San Rafael Swe 72.54 53 *e*P **P 10 34 35.6 +0.3**
comp=Z,7.8nm,1.2s
U15A North Rim 73.29 56 *e*P **P 10 34 41.1 +1.2**
comp=Z,3.7nm,0.8s
WUAZ Wupatki 74.45 56 *e*P **P 10 34 47.5 +1.0**
STKA Stephens Creek 75.10 184 P **P 10 34 50.2 +0.5**
comp=Z,1.9nm,0.8s,baz=336,slow=10.0,SNR=4.1
STKA Stephens Creek 75.10 184 *e*P **P 10 34 50.2 +0.5**
STKA pmax pmax
comp=Z,4.0nm,1.6s
STKA Stephens Creek 75.10 184 *e*P **P 10 34 50.2 +0.5**
comp=Z,3.7nm,1.6s
BUR08 Bucovina Ar. S 75.41 323 *e*P **P 10 34 52.3 +0.6**
BUR08 *e*PcP **PcP 10 35 00.5 -4.0**
BUR04 Bucovina Ar. S 75.42 323 *e*P **P 10 34 52.4 +0.6**
ECSD EROS Data Cent 76.67 41 *e*P **P 10 34 58.8 0.0**
comp=Z,4.9nm,1.1s
BR101 Keskin Array S 77.20 313 *e*P **P 10 35 03.0 +0.9**
BR131 Keskin Array S 77.20 313 *e*P **P 10 35 02.6 +0.6**
BRTR Keskin Array B 77.20 313 P **P 10 35 03.0 +0.9**
comp=Z,1.1nm,0.7s,baz=61,slow=3.7,SNR=7.0
BR231 Keskin MP Arra 77.58 314 *e*P **P 10 35 03.6 -0.5**
ANMO Albuquerque 77.76 53⇓ *e*P **P 10 35 05.7 +0.4**
ANMO pmax pmax
comp=Z,2.0nm,1.6s
SCHQ Schefferville 78.13 19 P **P 10 35 07.0 +0.2**
comp=Z,3.5nm,0.7s,baz=333,slow=5.2,SNR=6.3
SCHQ Schefferville 78.13 19 *e*P **P 10 35 07.0 +0.2**
comp=Z,34nm,1.7s
EKA Eskdalemuir Ar 78.18 343 P **P 10 35 06.9 -0.1**
comp=Z,1.5nm,0.5s,baz=26,slow=5.0,SNR=6.7
MNTX Cornudas Mount 80.69 55 *e*P **P 10 35 22.0 +0.9**
comp=Z,2.9nm,0.8s
ASF Jabal al Asfar 80.81 306 P **P 10 35 23.4 +1.6**
comp=Z,2.6nm,0.4s,baz=204,slow=20,SNR=7.0
TX31 Lajitas Ar. Si 83.42 56 *e*P **P 10 35 36.1 +0.6**
TX31 *e*P **P 10 35 36.3 +0.8**
LTX Lajitas 83.42 56 *e*P **P 10 35 36.2 +0.7**
LTX Lajitas 83.42 56 *e*P **P 10 35 36.2 +0.7**
TXAR Lajitas Array 83.42 56 P **P 10 35 36.2 +0.8**
comp=Z,3.0nm,0.8s,baz=297,slow=3.5,SNR=30
IDI Anoyia 85.11 315 P **P 10 35 43.4 -0.5**
comp=Z,1.8nm,0.4s,baz=120,slow=8.1,SNR=4.3
IDI Anoyia 85.11 315 *e*P **P 10 35 43.4 -0.5**
comp=Z,19nm,1.5s
WHAR Wooly Hollow 85.27 44 *e*P **P 10 35 44.9 +0.3**
comp=Z,8.8nm,0.9s
TKL Tuckaleechee C 89.08 39 P **P 10 36 03.4 +0.4**
comp=Z,3.4nm,0.7s,baz=50,slow=2.4,SNR=6.2
TKL Tuckaleechee C 89.08 39 *e*P **P 10 36 03.4 +0.4**
TKL pmax pmax
comp=Z,14nm,1.4s
TKL Tuckaleechee C 89.08 39 *e*P **P 10 36 03.4 +0.4**
comp=Z,14nm,1.4s
PLCA Paso Flores 152.78 97 PKPbc **PKPbc 10 43 03.8 -0.1**
comp=Z,0.9nm,0.6s,baz=310,slow=3.4,SNR=6.7

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*ISCJB **19** 10:30:45.9±0.3,21.°59N±0.°03×143.°07E±0.°06,h311km, mb4.1/49,Error ellipse: s-maj=7.5km s-min=3.8km az=176.6*
*JMA **19** 10:30:47.9±0.5,21.°69N×143.°04E,h322km,M5.1*
*IDC **19** 10:30:48.0±1.2,21.°59N×143.°06E,h319km±12km, mb3.8/32,mb1 3.9/37,mb1mx3.7/77,mbtmp4.5/37,Error ellipse: s-maj=11.6km s-min=6.7km az=82.0*
*NEIC **19** 10:30:48.3±0.5,21.°59N×143.°06E,h323km±5km,mb4.2/19, Error ellipse: s-maj=6.4km s-min=4.1km az=79.0*
ISC 19 10:30:47.2±0.4,21.°62N±0.°05×143.°08E±0.°09,h311km, n111,σ1$38/127,mb4.1/49,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**5.06**	**351**	P	**Pn**	**10 32 07.0**	**+1.3**
JHHJ				*e*S	**S**	**10 33 08.2**	**-0.7**
CBIJ	**Chichi jima**	**5.51**	**352**	P	**Pn**	**10 32 11.4**	**+0.4**
CBIJ				*e*S	**S**	**10 33 17.5**	**-1.1**
CBIJ	**Chichi jima**	**5.51**	**352**	*e*Pn	**Pn**	**10 32 11.5**	**+0.5**
CBIJ				*e*S	**S**	**10 33 20.2**	**+1.6**
JCJ	**Chichijima**	**5.51**	**352**	P	**Pn**	**10 32 11.8**	**+0.7**
	110nm,0.3s,baz=305,slow=23,SNR=34			S	**S**	**10 33 20.2**	**+1.6**
JCJ	76nm,0.3s,baz=137,slow=23,SNR=4.5						
SARN	**Sarigan**	**5.52**	**152**	*e*Pn	**Pn**	**10 32 12.2**	**+1.0**
GUMO	**Guam**	**8.17**	**168**	P	**Pn**	**10 32 44.4**	**+1.4**
	19nm,0.3s,baz=159,slow=1.5,SNR=7.9						
GUMO	**Guam**	**8.17**	**168**	*e*Pn	**Pn**	**10 32 44.4**	**+1.4**
GUMO				*e*Pn	**P**	**10 32 45.5**	**-2.2**
JHJ	**Hachijo jima 2**	**11.82**	**346**	P	**P**	**10 33 28.1**	**-0.4**
	22nm,0.3s,baz=97,slow=22,SNR=8.2						

JHJ				S	S	10 35 33.4	-5.6	
	13nm,0.3s,baz=254,slow=7.4,SNR=2.9							
TK02	**Tokai 2**	**13.15**	**340**	P	Pn	10 33 45.1	+2.1	
BSO3	**Boso 3**	**13.33**	**351**	P	Pn	10 33 46.1	+1.0	
BSO3				eS	S	10 36 06.6	-5.2	
BSO4	**Boso 4**	**13.54**	**350**	P	Pn	10 33 48.7	+0.9	
BSO4				eS	S	10 36 12.3	-4.3	
JWZ	**Kozaga**	**13.54**	**333**	P	Pn	10 33 50.3	+2.4	
JIE	**Ise**	**13.91**	**338**	P	Pn	10 33 54.0	+1.7	
JKN2	**Miekihoku**	**13.93**	**336**	P	Pn	10 33 54.9	+2.4	
JOD2	**Odawara 2**	**14.04**	**346**	P	Pn	10 33 54.7	+0.9	
JTO	**Tosashimizu**	**14.44**	**323**	P	Pn	10 34 01.9	+3.2	
JHU	**Hanno**	**14.56**	**348**	P	P	10 33 59.2	+0.4	
INU	**Inuyama**	**14.68**	**340**	eP	Pn	10 34 01.7	+0.4	
JAG	**Ashikaga**	**15.09**	**349**	P	P	10 34 04.4	-0.2	
JAG				eS	S	10 36 43.5	-4.9	
JHO	**Hitachi**	**15.10**	**352**	P	Pn	10 34 06.1	-0.2	
MJAR	**Matsushiro Arr**	**15.46**	**345**	P	P	10 34 08.8	+0.1	
	2.5nm,0.3s,baz=172,slow=10.0,SNR=21							
MAJO	**Matsushiro**	**15.46**	**345**	eP	Pn	10 34 09.9	-0.7	
	48nm,1.6s							
MAT	**Matsushiro**	**15.46**	**345**	P	P	10 34 09.5	+0.8	
MAT				S	S	10 36 53.9	-2.0	
MJB9	**Matsu-Tunnel**	**15.47**	**345**	eP	Pn	10 34 10.0	-0.6	
	49nm,1.6s							
JNU	**Nakatsue**	**15.76**	**319**	P	Pn	10 34 13.5	-0.6	
	0.7nm,0.3s,baz=156,slow=3.5,SNR=7.1							
JNU	**Nakatsue**	**15.76**	**319**	eP	Pn	10 34 13.4	-0.6	
	21nm,1.0s							
KSRS	**Korea Array**	**20.52**	**324**	P	P	10 35 02.9	+0.3	
	11nm,0.6s,baz=146,slow=8.9,SNR=55							
KS15	**Wonju Array Si**	**20.53**	**323**	eP	P	10 35 03.4	+0.7	
KSAR	**Wonju Array Be**	**20.53**	**323**	P	P	10 35 02.9	+0.2	
KS01	**Wonju Array Si**	**20.55**	**324**	eP	P	10 35 03.1	+0.2	
ASAJ	**Asahikawa**	**22.44**	**359**	P	P	10 35 20.5	+0.3	
	2.9nm,0.5s,baz=313,slow=19.5,SNR=3.2							
USRK	**Ussuriysk Ar.**	**24.32**	**340**	P	P	10 35 38.4	+1.2	
	3.1nm,0.5s,baz=134,slow=8.1,SNR=7.0							
KLR	**Kul'dur**	**28.99**	**345**	P	P	10 36 19.5	+0.8	
	1.5nm,0.6s,baz=161,slow=8.0,SNR=60							
SBUM	**Sibu**	**35.55**	**242**	eP	P	10 37 16.4	+0.6	
	21nm,1.5s							
SONA0	**Songino Array**	**39.34**	**321**	eP	P	10 37 47.3	+0.1	
SONM	**Songino Array**	**39.34**	**321**	P	P	10 37 47.3	+0.1	
	1.0nm,0.5s,baz=126,slow=7.3,SNR=6.1							
PHIT	**Phitsanulok**	**40.39**	**271**	P	P	10 37 57.9	+1.9	
	8.6nm,0.9s							
CMAI	**Chiengmai2**	**41.11**	**276**	P	P	10 38 03.0	+1.0	
	63nm,0.6s,4μm							
CMMT	**Chiang Mai**	**41.41**	**274**	P	P	10 38 04.3	0.0	
	6.3nm,0.8s							
CM01	**Chiang Mai Arr**	**41.48**	**274**	eP	P	10 38 04.4	-0.4	
CMAR	**Chiang Mai Arr**	**41.49**	**274**	P	P	10 38 05.8	+0.9	
	4.2nm,0.6s,baz=83,slow=6.3,SNR=18							
CTA	**Charters Tower**	**41.57**	**176**	P	P	10 38 05.7	+0.3	
	6.6nm,0.5s,baz=1.9,slow=11,SNR=9.0							
SEY	**Seymchan**	**41.77**	**6**	P	P	10 38 07.4	+0.9	
	1.6nm,0.6s,baz=180,slow=4.9,SNR=8.2							
WR1	**Warramunga Arr**	**42.18**	**192**	eP	P	10 38 09.8	-0.5	
	15nm,0.6s							
WRA	**Warramunga Arr**	**42.18**	**192**	P	P	10 38 09.8	-0.5	
	6.2nm,0.5s,baz=17,slow=8.7,SNR=102							
FITZ	**Fitzroy Crossi**	**43.01**	**205**	P	P	10 38 16.9	0.0	
	3.5nm,0.6s,baz=24,slow=12							
KULM	**Kulim**	**44.16**	**255**	eP	P	10 38 26.4	+0.2	
	12nm,0.7s							
IPM	**Ipoh**	**44.18**	**253**	eP	P	10 38 26.6	+0.3	
	9.9nm,0.7s							
SURT	**Suratani**	**44.38**	**261**	P	P	10 38 29.6	+1.7	
	4.2nm,0.8s							
AS31	**Alice Springs**	**45.89**	**192**	eP	P	10 38 38.8	-0.8	
	1.9nm,0.6s							
ASAR	**Alice Springs**	**45.89**	**192**	P	P	10 38 38.8	-0.8	
	2.3nm,0.4s,baz=12,slow=6.4,SNR=66							
TIXI	**Tiksi**	**50.72**	**354**	eP	P	10 39 15.4	0.0	
	3.7nm,0.6s							
JIRN	**Jiri**	**51.69**	**289**	eP	P	10 39 21.9	-1.9	
	16nm,0.5s							
GUN	**Gumba**	**51.93**	**289**	eP	P	10 39 25.2	-0.4	
	26nm,1.0s							
PKI	**Pulchoki**	**52.39**	**289**	eP	P	10 39 27.4	-1.5	
	13nm,0.8s							
PKIN	**Phulchoki**	**52.40**	**289**	eP	P	10 39 27.3	-1.6	
	12nm,0.6s							
KKN	**Kakani**	**52.47**	**289**	eP	P	10 39 28.0	-1.4	
	8.5nm,0.5s							
DMN	**Daman**	**52.65**	**289**	eP	P	10 39 29.5	-1.2	
	12nm,0.8s							
STKA	**Stephens Creek**	**53.21**	**182**	P	P	10 39 33.4	-0.9	
	2.4nm,0.5s,baz=5.2,slow=7.7,SNR=10							
STKA	**Stephens Creek**	**53.21**	**182**	eP	P	10 39 33.4	-0.9	
	4.5nm,1.9s							
DANN	**Dangsing**	**53.74**	**290**	eP	P	10 39 39.4	+0.8	
	3.4nm,0.8s							
KOLN	**Koldanda**	**53.95**	**289**	eP	P	10 39 39.5	-0.6	
	15nm,1.0s							
ZAA0	**Zalesovo Array**	**54.21**	**322**	eP	P	10 39 41.1	-0.1	
	5.4nm,0.6s							
ZALV	**Zalesovo Beam**	**54.21**	**322**	P	P	10 39 41.3	+0.1	
	5.4nm,0.6s,baz=101,slow=7.1,SNR=17							
ZALV				PcP	PcP	10 40 40.3	-1.0	
	1.6nm,0.5s,baz=136,slow=3.6,SNR=4.6							
ZAA1	**Zalesovo Array**	**54.21**	**322**	eP	P	10 39 41.3	+0.1	
ZAA1				ePcP	PcP	10 40 40.3	-1.0	
PYUN	**Piuthan**	**54.45**	**290**	eP	P	10 39 43.8	+0.2	
	18nm,0.9s							
MK01	**Makanchi Array**	**54.67**	**313**	eP	P	10 39 45.0	+0.3	
MK31	**Makanchi Array**	**54.68**	**313**	eP	P	10 39 45.3	+0.6	
MK32	**Makanchi Array**	**54.68**	**313**	eP	P	10 39 45.2	+0.5	
MK32				ePcP	PcP	10 40 43.0	-0.3	
MKAR	**Makanchi Array**	**54.68**	**313**	P	P	10 39 45.2	+0.5	
	2.7nm,0.6s,baz=92,slow=8.8,SNR=38							
MKAR				PcP	PcP	10 40 43.0	-0.3	
	0.7nm,0.5s,baz=84,slow=5.3,SNR=5.9							
MKAR	**Makanchi Array**	**54.68**	**313**	eP	P	10 39 45.3	+0.5	
	20nm,0.6s							
MKAR				PcP	PcP	10 40 43.0	-0.3	
MAKZ	**Makanchi**	**54.90**	**313**	eP	P	10 39 46.9	+0.6	
	4.3nm,0.8s							
AFI	**Afiamalu**	**56.64**	**125**	P	P	10 39 59.5	+0.5	
	9.3nm,0.5s,baz=206,slow=3.2,SNR=4.5							
KURK	**Kurchatov**	**57.47**	**317**	eP	P	10 40 04.1	-0.1	
	5.9nm,0.6s							
KURK				eP	P	10 40 04.9	+0.7	
KURBB	**Kurchatov Arra**	**57.52**	**317**	P	P	10 40 04.9	+0.3	
	11nm,0.6s,baz=94,slow=7.6,SNR=93							
KDAK	**Kodiak Island**	**58.32**	**35**	P	P	10 40 10.6	+0.7	
	2.5nm,0.4s,baz=217,slow=5.1,SNR=13							
CAST	**Castle Rocks**	**59.66**	**28**	eP	P	10 40 20.2	+1.1	
	4.1nm,0.8s							
BPAW	**Bear Paw Mtn.**	**60.28**	**27**	eP	P	10 40 24.5	+1.2	
	4.1nm,0.5s							
IL1	**Eielson Array**	**62.15**	**27**	eP	P	10 40 35.1	-0.6	
ILAR	**Eielson Array**	**62.15**	**27**	P	P	10 40 35.1	-0.5	
	1.7nm,0.6s,baz=258,slow=5.4,SNR=39							
ILB	**Eielson Array**	**62.15**	**27**	eP	P	10 40 35.2	-0.5	
BVAR	**Borovoye Array**	**62.67**	**320**	P	P	10 40 40.0	+0.7	
	13nm,0.4s,baz=99,slow=7.5,SNR=84							
BRVK	**Borovoye**	**62.73**	**320**	eP	P	10 40 40.1	+0.4	
	12nm,0.6s							
KKAR	**Karatay Array**	**63.03**	**308**	eP	P	10 40 42.3	+0.5	
SCRK	**Sand Creek**	**63.31**	**28**	eP	P	10 40 44.2	+0.8	
	3.2nm,0.6s							
INK	**Inuvik**	**67.68**	**24**	P	P	10 41 11.2	+0.3	
	1.3nm,0.6s,baz=299,slow=5.3,SNR=11							
INK	**Inuvik**	**67.68**	**24**	eP	P	10 41 11.2	+0.3	
	10nm,1.8s							
ABKAR	**Akbulak array**	**69.54**	**316**	eP	P	10 41 22.7	0.0	
	75nm,0.6s							
RPZ	**Rata Peaks**	**69.90**	**159**	P	P	10 41 22.9	-2.0	
	5.9nm,0.9s,baz=315,slow=7.1,SNR=3.2							
AKTO	**Aktyubinsk**	**70.56**	**317**	P	P	10 41 28.5	-0.4	
	2.1nm,0.8s,baz=85,slow=12,SNR=10							
SPITS	**Spitsbergen Ar**	**75.89**	**350**	P	P	10 41 59.6	+0.2	
	14nm,1.0s,baz=19,slow=9.2,SNR=3.5							
YKA	**Yellowknife Ar**	**76.57**	**28**	P	P	10 42 03.7	+0.3	
	2.3nm,0.6s,baz=291,slow=5.8,SNR=49							
VALT	**Mount Saint He**	**77.86**	**45**	eP	P	10 42 15.1	+4.0	
ARA0	**ARCESS Array S**	**78.97**	**341**	eP	P	10 42 16.3	-0.1	
ARCES	**ARCESS Array B**	**78.97**	**341**	P	P	10 42 16.3	-0.1	
	3.8nm,0.5s,baz=78,slow=9.4,SNR=32							
LOY	**Loyalton**	**81.41**	**51**	eP	P	10 42 30.2	0.0	
KBZ	**Khabaz**	**82.36**	**314**	P	P	10 42 35.3	+0.5	
	5.0nm,0.8s,baz=84,slow=5.2,SNR=13							
FIA0	**FINESS Array S**	**83.21**	**334**	eP	P	10 42 38.0	-0.8	
FINES	**FINESS Array B**	**83.21**	**334**	P	P	10 42 38.0	-0.8	
	4.3nm,0.5s,baz=67,slow=5.3,SNR=28							
NV01	**Mina Array Sit**	**83.26**	**51**	eP	P	10 42 40.8	+0.9	
NVAR	**Mina Array Bea**	**83.26**	**51**	P	P	10 42 40.8	+0.9	
	1.3nm,0.7s,baz=274,slow=5.6,SNR=8.7							
AKASG	**Malin Array Be**	**87.52**	**324**	P	P	10 42 58.8	-1.4	
	0.3nm,0.3s,baz=52,slow=5.2,SNR=4.2							
HFS	**Hagfors**	**88.76**	**337**	P	P	10 43 04.3	-1.5	
	2.3nm,0.6s,baz=130,slow=4.5,SNR=7.7							
NB200	**NORSAR Array S**	**88.98**	**339**	eP	P	10 43 05.4	-1.5	
NOA	**NORSAR Array B**	**88.98**	**339**	P	P	10 43 05.4	-1.5	
	1.1nm,0.7s,baz=33,slow=8.1,SNR=2.9							
BR101	**Keskin Array S**	**90.33**	**313**	eP	P	10 43 12.2	-1.5	
BRTR	**Keskin Array B**	**90.33**	**313**	P	P	10 43 12.2	-1.5	
	0.8nm,0.8s,baz=115,slow=5.6,SNR=5.5							
PLCA	**Paso Flores**	**145.78**	**132**	PKPbc	**PKPab**	10 49 50.9	-0.4	
	8.4nm,0.7s,baz=269,slow=4.0,SNR=33							
PLCA	**Paso Flores**	**145.78**	**132**	ePKPdf	**PKPbc**	10 49 50.6	+0.4	
LPAZ	**La Paz**	**150.04**	**85**	PKPbc	**PKPbc**	10 50 03.6	+0.8	
	2.9nm,0.5s,baz=323,slow=2.7,SNR=22							
LPAZ	**La Paz**	**150.04**	**85**	ePKPbc	**PKPbc**	10 50 03.3	+0.6	

*ISCJB **19** 10:34:28.0±0.5, 37.13N±0.03×27.89E±0.03, h0km, Error ellipse: s-maj=5.2km s-min=3.6km az=18.9*
*ISK **19** 10:34:27.7, 37.14N×27.83E, h7km, ML2.1/8, Suspected Mining explosion.*
*CSEM **19** 10:34:28.4±0.2, 37.15N×27.86E, h5km, ML2.1, Error ellipse: s-maj=4.2km s-min=2.9km az=23.0, Suspected Mining explosion.*
*DDA **19** 10:34:28.4, 37.17N×27.90E, h7km, Ml2.7, Suspected Mining explosion.*

ISC 19 10:34:26.1±0.9, 37.06N±0.03×27.88E±0.02, h0km, n28, σ0§68/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MLSB	**Milas**	**0.25**	**342**	PG		**Pg**	**10 34 31.6**	**+0.7**
MLSB				SG		**Sg**	**10 34 34.4**	**+0.3**
MLSB	**Milas**	**0.25**	**342**	*e*Pg		**Pg**	**10 34 31.6**	**+0.7**
MLSB				*e*Sg		**Sg**	**10 34 34.4**	**+0.3**
YER	**Yerkesik**	**0.33**	**76**	PG		**Pb**	**10 34 34.8**	**-0.1**
YER				SG		**Sb**	**10 34 40.8**	**-0.1**
YER	**Yerkesik**	**0.33**	**76**	*e*Pg		**Pb**	**10 34 34.8**	**-0.1**
YER				*e*Sg		**Sb**	**10 34 40.8**	**-0.1**
BDRM	**Kayabasi**	**0.34**	**271**	*i* P		**Pb**	**10 34 35.1**	**0.0**
BDRM				*i* S		**Sb**	**10 34 42.4**	**+1.2**
BDRM	**Kayabasi**	**0.34**	**271**	P		**Pb**	**10 34 35.1**	**0.0**
BDRM				S		**Sb**	**10 34 42.4**	**+1.2**
BODT	**Bodrum**	**0.45**	**271**	PG		**Pb**	**10 34 36.3**	**-0.6**
BODT				SG		**Sb**	**10 34 43.0**	**-1.2**
BODT	**Bodrum**	**0.45**	**271**	*e*Pg		**Pb**	**10 34 36.3**	**-0.6**
BODT				*e*Sg		**Sb**	**10 34 43.0**	**-1.2**
AYDN	**Tasoluk**	**0.60**	**0**	*i* P		**Pg**	**10 34 38.2**	**+0.6**
AYDN				*i* S		**Sg**	**10 34 44.9**	**-0.5**
AYDN	**Tasoluk**	**0.60**	**0**	P		**Pg**	**10 34 38.2**	**+0.6**
AYDN				S		**Sg**	**10 34 44.9**	**-0.5**
TURN	**Turunc**	**0.61**	**107**	PG		**Pg**	**10 34 37.7**	**0.0**
TURN				SG		**Sg**	**10 34 45.2**	**-0.5**
TURN	**Turunc**	**0.61**	**107**	*i* P		**Pg**	**10 34 37.7**	**0.0**
TURN				*i* S		**Sg**	**10 34 45.2**	**-0.1**
TURN	**Turunc**	**0.61**	**107**	P		**Pg**	**10 34 37.7**	**0.0**
TURN				S		**Sg**	**10 34 45.5**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.67**	**111**	PG		**Pn**	**10 34 42.3**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.67**	**111**	*i* P		**Pn**	**10 34 42.4**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.67**	**111**	*e*Pg		**Pn**	**10 34 42.3**	**-0.4**
GCAM	**G?zelcaml?**	**0.82**	**322**	PG		**Pb**	**10 34 42.7**	**-0.5**
GCAM	**G?zelcaml?**	**0.82**	**322**	*i* P		**Pb**	**10 34 43.0**	**-0.2**
GCAM				*i* S		**Sb**	**10 34 54.6**	**-0.2**
GCAM	**G?zelcaml?**	**0.82**	**322**	*e*Pg		**Pb**	**10 34 42.7**	**-0.5**
GCAM	**G?zelcaml?**	**0.82**	**322**	P		**Pb**	**10 34 43.0**	**-0.2**
GCAM				S		**Sb**	**10 34 54.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.89**	**1**	PG		**Pg**	**10 34 43.8**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.89**	**1**	*e*Pg		**Pg**	**10 34 43.8**	**+0.7**
KULA	**Kula-Manisa**	**1.58**	**23**	PN		**Pb**	**10 34 56.3**	**+0.1**
KULA	**Kula-Manisa**	**1.58**	**23**	*e*Pn		**Pb**	**10 34 56.3**	**+0.1**
AKAS	**Kas**	**1.62**	**120**	PN		**Pg**	**10 34 58.8**	**+1.8**
AKAS	**Kas**	**1.62**	**120**	*e*Pn		**Pg**	**10 34 58.8**	**+1.8**
KORT	**Korkueli**	**1.98**	**91**	PN		**Pb**	**10 35 02.8**	**-0.3**
KORT	**Korkueli**	**1.98**	**91**	*e*Pn		**Pb**	**10 35 02.8**	**-0.3**

*NIED **19** 10:36:00, 27.70N×140.70E, h420km, Mw4.8 Best double couple: M0 1.54000×10^16 NP1:φs107.00000°, δ37.00000°, λ-128.00000°. NP2:φs331.00000°, δ61.00000°, λ-65.00000°.*
*BJI **19** 10:36:37.6, 27.29N×140.29E, h429km, mb4.8/58, mB4.7/33*
*JMA **19** 10:36:39.9±0.2, 27.65N×140.69E, h443km±4km, M4.3*
*ISCJB **19** 10:36:39.6±0.3, 27.48N±0.03×140.10E±0.03, h423km±2km, mb4.4/160, Error ellipse: s-maj=4.4km s-min=3.6km az=155.3*
*IDC **19** 10:36:41.0±0.4, 27.47N×140.05E, h426km±4km, mb4.0/45, mb1 4.1/50, mb1mx4.0/76, mbtmp4.8/50, Error ellipse: s-maj=8.4km s-min=5.9km az=90.0*
*NEIC **19** 10:36:41.4±0.3, 27.47N×140.02E, h431km±3km, mb4.5/107, Error ellipse: s-maj=3.6km s-min=2.6km az=142.0*

ISC 19 10:36:41.1±0.4, 27.53N±0.04×140.21E±0.05, h427km±3km, h427km; pP-P, n295, σ1§51/375, mb4.4/160, 4C-11D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CBIJ	**Chichi jima**	**1.81**	**103**	P		**P**	**10 37 37.2**	**-1.3**
CBIJ				eS		**S**	**10 38 22.9**	**-2.0**
CBIJ	**Chichi jima**	**1.81**	**103**	*e*P		**P**	**10 37 37.4**	**-1.1**
CBIJ				eS		**S**	**10 38 21.4**	**-3.5**
JCJ	**Chichijima**	**1.81**	**103**	P		**P**	**10 37 37.5**	**-1.0**
	506nm,0.3s,baz=348,slow=19,SNR=173							
JCJ				S		**S**	**10 38 20.9**	**-4.0**
	276nm,0.3s,baz=115,slow=20,SNR=9.2							
JHHJ	**Haha-jima-NKT**	**1.98**	**117**	P		**P**	**10 37 38.6**	**-0.8**
JHHJ				eS		**S**	**10 38 24.8**	**-1.7**
JHCJ	**Hachijojimakas**	**5.53**	**356**	P		**P**	**10 38 08.9**	**-0.6**
JHCJ				eS		**S**	**10 39 16.9**	**-5.0**
JHJ2	**Mitsune**	**5.57**	**357**	P		**P**	**10 38 10.0**	**+0.1**
JHJ2	**Mitsune**	**5.57**	**357**	*e*P		**P**	**10 38 10.2**	**+0.3**
JHJ	**Hachijo jima 2**	**5.58**	**356**	P		**P**	**10 38 10.2**	**+0.2**
	41nm,0.3s,baz=38,slow=21,SNR=14							
JHJ				S		**S**	**10 39 18.0**	**-4.8**
	230nm,0.3s,baz=262,slow=22,SNR=5.1							
TK02	**Tokai 2**	**6.73**	**342**	P		**P**	**10 38 23.2**	**+1.0**
TTO1	**TONANKAI O.B.S**	**6.75**	**335**	P		**P**	**10 38 24.9**	**+2.6**
JWZ	**Kozaga**	**7.12**	**328**	P		**P**	**10 38 28.1**	**+1.4**
BSO3	**Boso 3**	**7.25**	**2**	P		**P**	**10 38 27.9**	**+0.1**
BSO3				eS		**S**	**10 39 51.2**	**-3.7**
BSO4	**Boso 4**	**7.43**	**1**	P		**P**	**10 38 28.5**	**-1.4**
BSO4				eS		**S**	**10 39 56.4**	**-4.3**
JIE	**Ise**	**7.47**	**337**	P		**P**	**10 38 32.1**	**+1.7**
JKN2	**Miekihoku**	**7.49**	**334**	P		**P**	**10 38 31.9**	**+1.3**
JHMK	**Hamakita**	**7.56**	**345**	P		**P**	**10 38 31.4**	**+0.1**
HMMJ	**Hamamatsu 2**	**7.60**	**344**	P		**P**	**10 38 32.3**	**+0.4**
JOD2	**Odawara 2**	**7.77**	**353**	P		**P**	**10 38 32.7**	**-1.0**
JOD2				eS		**S**	**10 40 01.5**	**-4.3**
INU	**Inuyama**	**8.25**	**342**	*e*P		**P**	**10 38 39.9**	**+1.0**
JTO	**Tosashimizu**	**8.32**	**311**	P		**P**	**10 38 41.8**	**+2.1**
JTO				S		**S**	**10 40 18.9**	**+1.8**
MJAR	**Matsushiro Arr**	**9.14**	**350**	P		**P**	**10 38 47.5**	**-1.1**
	1.8nm,0.3s,baz=170,slow=10,SNR=20							
MJAR				S		**S**	**10 40 27.1**	**-6.9**
	3.8nm,0.3s,baz=140,slow=14,SNR=5.2							
MAJO	**Matsushiro**	**9.14**	**350**	*e*P		**P**	**10 38 49.1**	**+0.4**
MAJO				eS		**S**	**10 40 27.1**	**-6.9**
MAT	**Matsushiro**	**9.14**	**350**	P		**P**	**10 38 47.5**	**-1.2**
MAT				eS		**S**	**10 40 25.8**	**-8.1**
MJB9	**Matsu-Tunnel**	**9.14**	**350**	*e*P		**P**	**10 38 48.5**	**-0.3**
JHS	**Saijyo**	**9.60**	**323**	P		**P**	**10 38 55.8**	**+2.1**
JHS				eS		**S**	**10 40 44.6**	**+1.4**
JAMN	**Amaminishikomi**	**9.79**	**277**	P		**P**	**10 38 57.6**	**+1.7**
JNU	**Nakatsue**	**9.79**	**307**	P		**P**	**10 38 58.1**	**+2.1**
	13nm,0.3s,baz=7.5,slow=5.0,SNR=72							
JNU				S		**S**	**10 40 50.6**	**+3.4**
	baz=116,slow=16,SNR=3.5							
JNU	**Nakatsue**	**9.79**	**307**	*e*P		**P**	**10 38 57.8**	**+1.9**
JNU				eS		**S**	**10 40 46.5**	**-0.8**
JSJ	**Shimokoshiki**	**10.02**	**297**	P		**P**	**10 38 59.7**	**+1.3**
JOW	**Kunigami**	**10.65**	**269**	*e*P		**P**	**10 39 05.2**	**-0.1**
JTU	**Tsushima**	**11.59**	**310**	P		**P**	**10 39 17.5**	**+1.9**
JTU				eS		**S**	**10 41 25.7**	**+2.5**

JKE	**Kume jima 2**	**12.03**	**267**	P		**P**	**10 39 21.5**	**+0.9**
KSRS	**Korea Array**	**14.31**	**317**	P		**P**	**10 39 45.0**	**-0.2**
	1.4nm,0.3s,baz=128,slow=10,SNR=46							
KSRS				S		S	10 42 30.2	+13
	baz=154,slow=17,SNR=6.5							
KS15	**Wonju Array Si**	**14.33**	**317**	*e*P		**P**	**10 39 45.1**	**-0.3**
KSAR	**Wonju Array Be**	**14.33**	**317**	P		**P**	**10 39 45.0**	**-0.4**
KSAR				S		S	10 42 30.2	+12
KS01	**Wonju Array Si**	**14.35**	**317**	*e*P		**P**	**10 39 44.4**	**-1.2**
ERM	**Erimo**	**14.65**	**9**	*e*P		**P**	**10 39 50.8**	**+2.1**
ASAJ	**Asahikawa**	**16.66**	**6**	P		**P**	**10 40 11.8**	**+1.6**
	1.0nm,0.3s,baz=223,slow=12,SNR=10							
ASAJ				S		**S**	**10 43 07.1**	**+3.9**
	0.4nm,0.3s,baz=131,slow=20,SNR=2.0							
ASAJ	**Asahikawa**	**16.66**	**6**	*e*P		**P**	**10 40 11.7**	**+1.4**
	16nm,0.6s							
ASAJ				S		**S**	**10 43 07.1**	**+3.9**
NACB	**Ninganchiao**	**17.08**	**263**	*e*P		**P**	**10 40 13.2**	**-1.7**
	34nm,0.9s							
YHNB	**Yeheng**	**17.15**	**265**	*e*P		**P**	**10 40 14.9**	**-0.9**
	192nm,1.7s							
YULB	**Yu-li**	**17.56**	**261**	*e*P		**P**	**10 40 19.5**	**-0.6**
	87nm,1.5s							
SSLB	**Suanglung**	**17.75**	**262**	*e*P		**P**	**10 40 21.6**	**-0.6**
	71nm,0.8s							
USRK	**Ussuriysk Ar.**	**17.90**	**340**	P		**P**	**10 40 23.7**	**+0.4**
	4.0nm,0.3s,baz=161,slow=10,SNR=85							
USRK				S		**S**	**10 43 23.8**	**-2.8**
	0.1nm,0.3s,baz=121,slow=24,SNR=3.3							
TWG	**Pinlang**	**17.94**	**259**	*e*P		**P**	**10 40 23.2**	**-0.9**
	134nm,0.5s							
TPUB	**Ta-pu**	**18.18**	**261**	*e*P		**P**	**10 40 24.9**	**-1.6**
	191nm,1.9s							
MDJ	**Mudanjiang**	**19.05**	**336**	*e*P		**P**	**10 40 35.9**	**+1.1**
	122nm,1.5s							
NJ2	**Nanjing**	**19.06**	**289**	*e*P		**P**	**10 40 32.9**	**-2.2**
NJ2				pmax		pmax		
	comp=Z,91nm,0.9s							
YSS	**Yuzh-Sakhalins**	**19.49**	**5**	*e*P		**P**	**10 40 40.1**	**+1.2**
	41nm,0.7s							
CN2	**Changchun**	**20.13**	**328**	*e*P		**P**	**10 40 44.1**	**-0.7**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.9s							
TGY	**Tagaytay City**	**22.38**	**237**	P		**P**	**10 41 04.4**	**-1.2**
	180nm,0.4s,baz=191,slow=2.9,SNR=3.7							
KLR	**Kul'dur**	**22.63**	**345**	P		**P**	**10 41 08.4**	**+1.0**
	2.1nm,0.7s,baz=166,slow=10.0,SNR=66							
KLR				S		**S**	**10 44 44.5**	**+1.1**
	0.2nm,1.0s,baz=124,slow=6.3,SNR=4.0							
KLR				ScP		**ScP**	**10 47 41.5**	**+0.1**
	0.4nm,0.8s,baz=289,slow=0.3,SNR=7.3							
WHN	**Wuhan**	**22.79**	**284**	⇓P		**P**	**10 41 08.6**	**-0.5**
BJT	**Baijiatuan**	**23.46**	**308**	*e*P		**P**	**10 41 13.6**	**-1.4**
	34nm,1.1s							
HIA	**Hailar**	**26.82**	**330**	*e*P		**P**	**10 41 44.9**	**+0.1**
	34nm,0.9s							
ENH	**Enshi**	**26.99**	**283**	*e*P		**P**	**10 41 45.6**	**-1.0**
	96nm,1.1s							
HHC	**

	66nm,1.4s								
IPM	**Ipoh**	**43.78**	**246**	*e*P		**P**	**10 44 06.5**	**-1.0**
	64nm,1.4s								
TIXI	**Tiksi**	**44.61**	**355**	*e*P		**P**	**10 44 13.0**	**0.0**
	12nm,1.1s								
WMQ	**Urumqi**	**44.89**	**306**	P		**P**	**10 44 15.9**	**+0.2**
WMQ				PcP		**PcP**	**10 45 48.8**	**+0.1**
WMQ				PcS		**PcS**	**10 49 42.5**	**-0.6**
WMQ				pmax	pmax				
	comp=Z,94nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,410nm,5.1s								
PSI	**Prapat**	**46.46**	**245**	P		**P**	**10 44 28.2**	**-0.1**
	15nm,0.3s,baz=44,slow=4.6,SNR=15								
PSI	**Prapat**	**46.46**	**245**	*e*P		**P**	**10 44 26.7**	**-1.6**
	30nm,0.9s								
FITZ	**Fitzroy Crossi**	**47.51**	**199**	P		**P**	**10 44 35.7**	**-0.2**
	5.1nm,0.5s,baz=25,slow=13,SNR=8.8								
GAMB	**Gambell**	**47.51**	**27**	*e*P		**P**	**10 44 36.7**	**+1.3**
	7.3nm,0.6s								
WB2	**Warramunga Arr**	**47.53**	**187**	*e*P		**P**	**10 44 34.9**	**-1.3**
JIRN	**Jiri**	**47.53**	**283**	*e*P		**P**	**10 44 36.8**	**+0.2**
	359nm,0.9s								
WR1	**Warramunga Arr**	**47.53**	**187**	*e*P		**P**	**10 44 35.0**	**-1.1**
	37nm,1.4s								
WR1				*e*pP		**pP**	**10 46 00.8**	**+0.8**
WRA	**Warramunga Arr**	**47.53**	**187**	P		**P**	**10 44 35.0**	**-1.1**
	6.7nm,0.3s,baz=6.3,slow=7.8,SNR=217								
WRA				pP		**pP**	**10 46 00.8**	**+0.8**
	5.5nm,1.0s,baz=10,slow=8.3,SNR=3.0								
WRA				ScP		**ScP**	**10 49 09.7**	**-1.1**
	2.3nm,1.0s,baz=6.3,slow=4.6,SNR=4.3								
GUN	**Gumba**	**47.75**	**284**	*e*P		**P**	**10 44 38.3**	**+0.1**
	267nm,1.0s								
ZAA0	**Zalesovo Array**	**48.01**	**319**	*e*P		**P**	**10 44 38.4**	**-0.9**
	16nm,0.9s								
ZAA0				*e*PcP		**PcP**	**10 45 58.8**	**-0.7**
ZALV	**Zalesovo Beam**	**48.01**	**319**	P		**P**	**10 44 38.4**	**-0.9**
	12nm,0.8s,baz=98,slow=6.4,SNR=35								
ZALV				PcP		**PcP**	**10 45 58.6**	**-0.8**
	6.6nm,0.3s,baz=128,slow=3.7,SNR=15								
ZALV				PP		**PP**	**10 46 33.0**	**-3.1**
	2.7nm,0.6s,baz=89,slow=7.5,SNR=4.2								
ZAA1	**Zalesovo Array**	**48.01**	**319**	*e*P		**P**	**10 44 38.4**	**-0.9**
ZAA1				*e*PcP		**PcP**	**10 45 58.6**	**-0.8**
ZAA1				*e*PP		**PP**	**10 46 33.0**	**-3.1**
PKI	**Pulchoki**	**48.23**	**283**	*e*P		**P**	**10 44 41.4**	**-0.4**
	84nm,1.1s								
PKIN	**Phulchoki**	**48.24**	**283**	*e*P		**P**	**10 44 41.5**	**-0.3**
	53nm,0.8s								
KKN	**Kakani**	**48.29**	**284**	*e*P		**P**	**10 44 41.8**	**-0.3**
	106nm,1.0s								
GSI	**Gunungsitoli**	**48.43**	**245**	*e*P		**P**	**10 44 42.2**	**-0.8**
	140nm,1.3s								
DMN	**Daman**	**48.48**	**284**	*e*P		**P**	**10 44 43.4**	**-0.2**
	158nm,1.2s								
GKN	**Gorkha**	**48.80**	**284**	*e*P		**P**	**10 44 46.1**	**+0.2**
	2.1nm,0.2s								
MK01	**Makanchi Array**	**48.83**	**309**	*e*P		**P**	**10 44 45.1**	**-0.5**
MK31	**Makanchi Array**	**48.84**	**309**	*e*P		**P**	**10 44 45.3**	**-0.4**
MK32	**Makanchi Array**	**48.84**	**309**	*e*P		**P**	**10 44 45.3**	**-0.4**
MK32				*e*PcP		**PcP**	**10 46 02.5**	**-0.2**
MKAR	**Makanchi Array**	**48.84**	**309**	P		**P**	**10 44 45.3**	**-0.4**
	9.6nm,0.7s,baz=92,slow=10.0,SNR=62								
MKAR				PcP		**PcP**	**10 46 02.5**	**-0.2**
	6.3nm,0.9s,baz=75,slow=5.1,SNR=7.8								
MKAR				ScP		**ScP**	**10 49 15.4**	**-0.8**
	0.8nm,0.4s,baz=81,slow=3.5,SNR=11								
MKAR	**Makanchi Array**	**48.84**	**309**	*e*P		**P**	**10 44 45.3**	**-0.4**
	97nm,1.0s								
MKAR				PcP		**PcP**	**10 46 02.5**	**-0.2**
MAKZ	**Makanchi**	**49.05**	**309**	*e*P		**P**	**10 44 47.1**	**-0.2**
	48nm,1.4s								
DANN	**Dangsing**	**49.47**	**285**	*e*P		**P**	**10 44 51.3**	**+0.3**
	13nm,1.0s								
KOLN	**Koldanda**	**49.74**	**284**	*e*P		**P**	**10 44 52.7**	**-0.3**
	84nm,0.8s								
PYUN	**Piuthan**	**50.19**	**285**	*e*P		**P**	**10 44 56.1**	**-0.2**
	145nm,0.6s								
AS31	**Alice Springs**	**51.26**	**187**	*e*P		**P**	**10 45 02.5**	**-1.4**
	3.2nm,0.4s								
ASAR	**Alice Springs**	**51.26**	**187**	P		**P**	**10 45 02.6**	**-1.2**
	3.3nm,0.3s,baz=359,slow=4.6,SNR=144								
ASAR				PP		**PP**	**10 47 06.4**	**0.0**
	1.2nm,1.0s,baz=1.6,slow=5.0,SNR=3.8								
ASAR				ScP		**ScP**	**10 49 26.0**	**-0.8**
	0.5nm,0.6s,baz=6.6,slow=5.5,SNR=3.1								
KURK	**Kurchatov**	**51.42**	**314**	*e*P		**P**	**10 45 04.0**	**-0.7**
	89nm,1.2s								
KURK				*e*P		P	10 45 04.5	-0.2	
KURK				*e*PcP		**PcP**	**10 46 10.3**	**-1.8**
KURK				*e*pP		**pP**	**10 46 30.8**	**+0.7**
KURBB	**Kurchatov Arra**	**51.48**	**314**	P		**P**	**10 45 04.5**	**-0.6**
	31nm,0.8s,baz=93,slow=7.4,SNR=166								
KURBB				PcP		**PcP**	**10 46 10.3**	**-2.0**
	0.7nm,0.2s,baz=99,slow=3.7,SNR=4.8								
KURBB				pP		**pP**	**10 46 30.8**	**+0.2**
	2.0nm,0.8s,baz=89,slow=8.3,SNR=2.0								
KSH	**Kashi**	**53.84**	**300**	P		**P**	**10 45 25.9**	**+3.4**
KSH				pP		pP	10 46 50.8	+1.9	
KSH				S		**S**	**10 52 26.1**	**+1.9**
KSH				pmax	pmax				
	comp=Z,32nm,1.1s								
KSH				pmax	pmax				
	comp=Z,150nm,7.6s								
SVW2	**Sparrevohn**	**53.87**	**33**	*e*P		**P**	**10 45 24.0**	**+1.8**
	16nm,1.0s								
KBK	**Karagaybulak**	**54.22**	**304**	P		**P**	**10 45 25.5**	**+0.3**
	SNR=13								
CHMS	**Chumysh**	**54.33**	**305**	P		**P**	**10 45 25.7**	**-0.1**
	SNR=7.9								
AAK	**Ala-Archa**	**54.56**	**304**	P		**P**	**10 45 27.6**	**0.0**
	SNR=6.0								
AAK	**Ala-Archa**	**54.56**	**304**	*e*P		**P**	**10 45 27.2**	**-0.4**
	59nm,1.9s								
UCH	**Uchtor**	**54.59**	**304**	P		**P**	**10 45 29.1**	**+0.9**
	SNR=14								
KDAK	**Kodiak Island**	**55.07**	**37**	P		**P**	**10 45 31.5**	**+0.9**
	111nm,0.3s,baz=323,slow=5.2,SNR=151								
KDAK	**Kodiak Island**	**55.07**	**37**	*e*P		**P**	**10 45 31.5**	**+0.9**
	89nm,1.4s								
AML	**Almayashu**	**55.21**	**304**	P		**P**	**10 45 32.9**	**+0.4**
	SNR=13								
CAST	**Castle Rocks**	**55.80**	**30**	*e*P		**P**	**10 45 37.4**	**+1.7**
	22nm,1.3s								
SUA	**Susitna One**	**56.23**	**33**	*e*P		**P**	**10 45 39.6**	**+0.7**
	14nm,0.9s								
KTH	**Kantishna Hill**	**56.33**	**30**	*e*P		**P**	**10 45 40.4**	**+0.9**
	23nm,1.6s								
BPAW	**Bear Paw Mtn.**	**56.35**	**29**	*e*P		**P**	**10 45 41.1**	**+1.5**
	9.9nm,0.9s								
BVAR	**Borovoye Array**	**56.53**	**317**	P		**P**	**10 45 41.1**	**+0.1**
	26nm,0.5s,baz=91,slow=7.5,SNR=170								
MLY	**Manley**	**56.56**	**28**	*e*P		**P**	**10 45 42.2**	**+1.1**
	10.0nm,0.9s								
BRVK	**Borovoye**	**56.59**	**317**	*e*P		**P**	**10 45 40.6**	**-0.9**
	82nm,1.1s								
TRF	**Thorofare Moun**	**56.60**	**30**	*e*P		**P**	**10 45 42.5**	**+1.0**
	12nm,1.0s								
RC01	**Rabbit Creek A**	**56.70**	**33**	*e*P		**P**	**10 45 42.7**	**+0.7**
	16nm,0.9s								
PMR	**Palmer**	**57.01**	**33**	*e*P		**P**	**10 45 45.0**	**+0.8**
	17nm,0.9s								
COLD	**Coldfoot**	**57.04**	**26**	*e*P		**P**	**10 45 45.8**	**+1.5**
	8.1nm,0.9s								
MCK	**McKinley**	**57.23**	**30**	*e*P		**P**	**10 45 46.5**	**+0.9**
	30nm,0.9s								
RND	**Reindeer**	**57.24**	**30**	*e*P		**P**	**10 45 46.4**	**+0.5**
	14nm,0.7s								
HYB	**Hyderabad**	**57.36**	**274**	*i* P		**P**	**10 45 46.0**	**-1.3**
KKAR	**Karatay Array**	**57.40**	**305**	*e*P		**P**	**10 45 47.0**	**-0.2**
SML	**Sawmill**	**57.40**	**32**	*e*P		**P**	**10 45 47.9**	**+0.9**
	25nm,0.8s								
TOLK	**Toolik Lake Re**	**57.46**	**24**	*e*P		**P**	**10 45 48.4**	**+1.2**
	9.3nm,1.0s								
MDM	**Murphy Dome**	**57.62**	**29**	*e*P		**P**	**10 45 49.5**	**+1.2**
	12nm,1.1s								
WRH	**Wood River Hil**	**57.64**	**29**	*e*P		**P**	**10 45 49.1**	**+0.6**
	14nm,1.6s								
COLA	**College**	**57.77**	**29**	*e*P		**P**	**10 45 50.1**	**+0.8**
	10nm,0.8s								
CCB	**Clear Creek Bu**	**57.78**	**29**	*e*P		**P**	**10 45 50.8**	**+1.4**
	4.4nm,0.9s								
SCM	**Sheep Creek Mo**	**57.88**	**32**	*e*P		**P**	**10 45 51.4**	**+1.1**
	89nm,1.6s								
DHY	**Denali Highway**	**57.89**	**31**	*e*P		**P**	**10 45 51.5**	**+1.1**
	4.5nm,0.7s								
HDA	**Harding Lake**	**58.13**	**29**	*e*P		**P**	**10 45 52.1**	**+0.2**
	17nm,1.2s								
IL1	**Eielson Array**	**58.18**	**29**	*e*P		**P**	**10 45 51.8**	**-0.3**
ILAR	**Eielson Array**	**58.18**	**29**	P		**P**	**10 45 52.0**	**-0.1**
	7.4nm,0.9s,baz=261,slow=5.2,SNR=45								
ILAR				pP		**pP**	**10 47 19.2**	**-1.0**
	1.8nm,1.0s,baz=281,slow=6.4,SNR=3.9								
ILB	**Eielson Array**	**58.18**	**29**	*e*P		**P**	**10 45 52.3**	**+0.2**
KLU	**Klutina**	**58.55**	**33**	*e*P		**P**	**10 45 56.0**	**+1.2**
	14nm,0.7s								
PAX	**Paxson**	**58.76**	**31**	*e*P		**P**	**10 45 57.1**	**+0.9**
	11nm,1.0s								
HARP	**HAARP**	**58.91**	**32**	*e*P		**P**	**10 45 58.5**	**+1.4**
	35nm,0.6s								
FYU	**Fort Yukon**	**58.94**	**27**	*e*P		**P**	**10 45 59.3**	**+2.1**
	28nm,1.2s								
RIDG	**Independ'e Rid**	**59.05**	**30**	*e*P		**P**	**10 45 59.0**	**+0.9**
	8.7nm,0.8s								
STKA	**Stephens Creek**	**59.09**	**179**	P		**P**	**10 45 58.0**	**-0.8**
	3.0nm,0.6s,baz=339,slow=6.7,SNR=14								
BMRM	**Bremner River**	**59.20**	**33**	*e*P		**P**	**10 46 00.7**	**+1.5**
	35nm,0.8s								
DOT	**Dot Lake**	**59.39**	**30**	*e*P		**P**	**10 46 01.2**	**+0.8**
	42nm,0.9s								
SCRK	**Sand Creek**	**59.42**	**30**	*e*P		**P**	**10 46 01.5**	**+0.8**
	13nm,0.8s								
MENT	**Mentasta**	**59.56**	**31**	*e*P		**P**	**10 46 03.2**	**+1.6**
	7.9nm,0.6s								
KBL	**Kabul**	**60.25**	**296**	*e*P		**P**	**10 46 06.0**	**-1.0**
	31nm,1.0s								
EGAK	**Eagle**	**60.63**	**29**	*e*P		**P**	**10 46 09.5**	**+0.9**
	11nm,1.3s								
DAWY	**Dawson**	**61.44**	**30**	*e*P		**P**	**10 46 15.3**	**+1.3**
	8.7nm,1.4s								
HYT	**Haines Junctio**	**62.66**	**33**	*e*P		**P**	**10 46 23.5**	**+1.3**
	15nm,1.0s								
ARU	**Arti**	**63.00**	**322**	*e*P		**P**	**10 46 23.8**	**-0.5**
	45nm,1.0s								
INK	**Inuvik**	**63.37**	**25**	P		**P**	**10 46 27.1**	**+0.7**
	3.7nm,0.8s,baz=325,slow=9.2,SNR=26								
INK				pP		**pP**	**10 47 56.0**	**-0.5**
	1.8nm,1.0s,baz=243,slow=4.5,SNR=1.9								
INK				S		**S**	**10 54 23.8**	**-0.4**
	1.5nm,1.1s,baz=206,slow=15,SNR=11								
ABKAR	**Akbulak array**	**63.53**	**314**	*e*P		**P**	**10 46 27.3**	**-0.6**
	28nm,1.1s								
WHY	**Whitehorse**	**63.96**	**33**	*e*P		**P**	**10 46 32.0**	**+1.4**
	9.8nm,0.8s								
NWAO	**Narrogin (SRO)**	**63.97**	**201**	P		**P**	**10 46 30.0**	**-0.9**
	6.3nm,0.6s,baz=280,slow=6.3,SNR=7.0								
AKTO	**Aktyubinsk**	**64.49**	**315**	P		**P**	**10 46 33.1**	**-0.9**
	14nm,0.8s,baz=72,slow=12,SNR=48								
GEYT	**Alibeck**	**67.78**	**302**	P		**P**	**10 46 55.1**	**+0.1**
	2.0nm,0.3s,baz=69,slow=4.9,SNR=8.0								
SPITS	**Spitsbergen Ar**	**69.64**	**349**	P		**P**	**10 47 06.8**	**+1.3**
	2.0nm,0.4s,baz=100,slow=4.3,SNR=30								
ARA0	**ARCESS Array S**	**72.55**	**340**	*e*P		**P**	**10 47 23.1**	**+0.2**
ARCES	**ARCESS Array B**	**72.55**	**340**	P		**P**	**10 47 23.1**	**+0.2**
	8.1nm,0.5s,baz=76,slow=8.9,SNR=61								
YKW3	**Yellowknife Ar**	**72.56**	**28**	*e*P		**P**	**10 47 23.5**	**+0.6**
	5.1nm,0.9s								
YKA	**Yellowknife Ar**	**72.59**	**28**	P		**P**	**10 47 23.6**	**+0.5**
	4.9nm,0.7s,baz=296,slow=5.9,SNR=89								
YKA				pP		**pP**	**10 48 60.0**	**+3.9**
	1.4nm,0.7s,baz=295,slow=6.2,SNR=6.4								
YKB5	**Yellowknife Ar**	**72.59**	**28**	*e*P		**P**	**10 47 23.6**	**+0.5**
LLLB	**Lillooet**	**73.95**	**41**	*e*P		**P**	**10 47 32.6**	**+1.3**
	9.0nm,0.9s								
URZ	**Urewera**	**74.01**	**151**	P		**P**	**10 47 30.9**	**-0.7**
	4.1nm,0.3s,baz=277,slow=0.8,SNR=7.5								
TULEG	**Thule**	**74.63**	**7**	*e*P		**P**	**10 47 35.0**	**+0.4**
	12nm,1.2s								
OBN	**Obninsk**	**75.16**	**325**	P		**P**	**10 47 36.9**	**-1.1**
	18nm,0.4s,baz=49,slow=1.9,SNR=5.2								
OBN	**Obninsk**	**75.16**	**325**	*e*P		**P**	**10 47 37.3**	**-0.7**
	28nm,0.9s								
H04A	**Detroit Lake**	**76.21**	**47**	*e*P		**P**	**10 47 45.6**	**+1.4**
	20nm,1.1s								
RPZ	**Rata Peaks**	**76.34**	**158**	P		**P**	**10 47 46.3**	**+1.7**
	5.1nm,0.6s,baz=351,slow=15,SNR=5.7								
B08A	**Colville Reser**	**76.41**	**42**	*e*P		**P**	**10 47 46.5**	**+1.3**
	9.9nm,0.8s								
KBZ	**Khabaz**	**76.42**	**312**	P		**P**	**10 47 45.2**	**0.0**
	15nm,0.9s,baz=108,slow=2.0,SNR=30								
KBZ				pP		**pP**	**10 49 20.3**	**+0.9**
	2.3nm,0.8s,baz=153,slow=6.8,SNR=2.5								
KVAR	**Kislovodsk Arr**	**76.45**	**313**	P		**P**	**10 47 45.9**	**+0.2**
	7.9nm,0.7s,baz=7.1,slow=8.1,SNR=13								
KIV	**Kislovodsk**	**76.46**	**313**	*e*P		**P**	**10 47 45.7**	**0.0**
	36nm,1.2s								
FIA0	**FINESS Array S**	**76.77**	**333**	*e*P		**P**	**10 47 46.4**	**-0.5**
FINES	**FINESS Array B**	**76.77**	**333**	P		**P**	**10 47 46.4**	**-0.5**
	29nm,0.4s,baz=70,slow=5.0,SNR=12								
AKH	**Akhalkalaki**	**77.00**	**310**	*i*P		**P**	**10 47 49.4**	**+0.6**
AKH	**Akhalkalaki**	**77.00**	**310**	*e*P		**P**	**10 47 47.7**	**-1.1**
	17nm,1.2s								
YBH	**Yreka Blue Hor**	**77.12**	**50**	P		**P**	**10 47 51.2**	**+1.9**
	2.6nm,0.5s,baz=353,slow=4.5,SNR=11								
D08A	**Wollman Farm,**	**77.23**	**44**	*e*P		**P**	**10 47 50.6**	**+0.8**
	6.0nm,0.8s								
C09A	**Chrisman Ranch**	**77.29**	**43**	*e*P		**P**	**10 47 51.0**	**+1.0**
	8.8nm,0.9s								
PINE	**Pine Mountain**	**77.40**	**47**	*e*P		**P**	**10 47 52.7**	**+1.7**
	16nm,0.9s								
EDM	**Edmonton**	**77.51**	**36**	*e*P		**P**	**10 47 51.8**	**+0.6**
	12nm,1.1s								
NEW	**Newport**	**77.77**	**42**	*e*P		**P**	**10 47 53.9**	**+1.2**
	6.8nm,0.9s								
G08A	**Pilot Rock**	**78.00**	**45**	*e*P		**P**	**10 47 54.9**	**+0.7**
	6.3nm,1.2s								
ORV	**Oroville**	**78.89**	**51**	*e*P		**P**	**10 47 59.7**	**+0.8**
	5.5nm,0.8s								
J08A	**Circle Bar Ran**	**79.20**	**47**	*e*P		**P**	**10 48 02.1**	**+1.6**
	9.7nm,0.8s								
BMO	**Blue Mountains**	**79.25**	**45**	*e*P		**P**	**10 48 01.7**	**+0.9**
	8.6nm,1.1s								
WVOR	**Wild Horse Val**	**79.52**	**48**	*e*P		**P**	**10 48 03.3**	**+1.0**
	3.8nm,0.9s								
JTMT	**Jette**	**79.69**	**41**	*e*P		**P**	**10 48 04.3**	**+1.2**
JTMT				*e*pP		**pP**	**10 49 38.2**	**+0.1**
NACGM	**Naroch**	**80.12**	**327**	*e*		**P**	**10 48 04.0**	**-1.1**
PAHR	**Pah Rah Range**	**80.28**	**50**	*e*P		**P**	**10 48 07.2**	**+0.8**
	4.4nm,0.9s								
CMB	**Columbia Colle**	**80.36**	**52**	*e*P		**P**	**10 48 07.5**	**+0.8**
	6.6nm,1.1s								
YERR	**Yerington**	**80.72**	**51**	*e*P		**P**	**10 48 10.1**	**+1.3**
	6.1nm,0.9s								
MFID	**Camas Ranch**	**80.87**	**46**	*e*P		**P**	**10 48 10.9**	**+1.5**
	6.3nm,0.8s								
MFID				*e*pP		**pP**	**10 49 44.5**	**-0.2**
AKASG	**Malin Array Be**	**81.22**	**323**	P		**P**	**10 48 09.9**	**-1.0**
	2.4nm,0.3s,baz=46,slow=6.0,SNR=37								
AKASG				pP		**pP**	**10 49 45.1**	**-1.2**
	0.2nm,0.3s,baz=47,slow=5.4,SNR=1.6								
AKBB	**Malin Array Si**	**81.22**	**323**	*e*P		**P**	**10 48 09.9**	**-0.9**
	27nm,1.2s								
AKBB				*e*pP		**pP**	**10 49 45.1**	**-1.2**
KIEV	**Kiev**	**81.23**	**323**	*e*P		**P**	**10 48 10.0**	**-1.0**
	26nm,1.2s								
AK11	**Malin Array Si**	**81.26**	**323**	*e*P		**P**	**10 48 09.9**	**-1.2**
NV01	**Mina Array Sit**	**81.62**	**51**	*e*P		**P**	**10 48 14.7**	**+1.2**
NV01				*e*pP		**pP**	**10 49 48.8**	**-0.3**
NVAR	**Mina Array Bea**	**81.62**	**51**	P		**P**	**10 48 14.8**	**+1.3**
	4.0nm,0.8s,baz=288,slow=5.7,SNR=24								
NVAR				pP		**pP**	**10 49 49.2**	**+0.2**
	1.1nm,0.7s,baz=283,slow=4.9,SNR=4.3								
HLID	**Hailey**	**81.69**	**45**	*e*P		**P**	**10 48 15.2**	**+1.5**
HLID				*e*pP		**pP**	**10 49 52.9**	**+3.6**
LRM	**Limekiln Ridge**	**81.75**	**42**	*e*P		**P**	**10 48 15.5**	**+1.4**
LRM				*e*pP		**pP**	**10 49 50.2**	**+0.6**
DLMT	**Dillon**	**81.89**	**43**	*e*P		**P**	**10 48 16.4**	**+1.7**
	9.1nm,1.5s								
FFC	**Flin Flon**	**82.29**	**31**	*e*P		**P**	**10 48 16.8**	**+0.5**
	4.3nm,0.9s								
HFS	**Hagfors**	**82.32**	**336**	P		**P**	**10 48 15.3**	**-1.1**
	5.0nm,0.3s,baz=97,slow=3.4,SNR=27								
NC405	**NORSAR Array S**	**82.32**	**337**	*e*P		**P**	**10 48 14.4**	**-2.0**
NC204	**NORSAR Array S**	**82.53**	**338**	*e*P		**P**	**10 48 16.8**	**-0.7**
NB200	**NORSAR Array S**	**82.55**	**338**	*e*P		**P**	**10 48 16.4**	**-1.2**
NOA	**NORSAR Array B**	**82.55**	**338**	P		**P**	**10 48 16.4**	**-1.2**
	14nm,0.8s,baz=46,slow=5.0,SNR=26								
FCC	**Fort Churchill**	**82.97**	**25**	*e*P		**P**	**10 48 19.9**	**+0.2**
	6.2nm,1.3s								
SORM	**Soroca**	**83.11**	**321**	*i*P		**P**	**10 48 19.3**	**-1.3**
R11A	**Troy Canyon, C**	**83.53**	**50**	*e*P		**P**	**10 48 24.3**	**+1.1**
	5.4nm,1.1s								
R11A				*e*pP		**pP**	**10 49 58.7**	**-0.5**
H17A	**Grant Village**	**83.62**	**43**	*e*P		**P**	**10 48 25.0**	**+1.4**
	10.0nm,1.2s								
FXWY	**Fox Creek**	**83.76**	**44**	*e*P		**P**	**10 48 25.1**	**+0.8**
	13nm,1.9s								
MOOW	**Moose Ponds**	**83.87**	**44**	*e*P		**P**	**10 48 26.4**	**+1.6**
	8.0nm,1.6s								
RLMT	**Red Lodge**	**84.01**	**42**	*e*P		**P**	**10 48 26.5**	**+1.0**
	4.1nm,0.8s								
AHID	**Auburn Hatcher**	**84.18**	**45**	*e*P		**P**	**10 48 26.7**	**+0.4**
	4.9nm,0.9s								
BR101	**Keskin Array S**	**84.41**	**312**	*e*P		**P**	**10 48 26.2**	**-1.2**
BR101				*e*pP		**pP**	**10 50 02.5**	**-1.3**
BR131	**Keskin Array S**	**84.41**	**312**	*e*P		**P**	**10 48 26.5**	**-1.0**
BRTR	**Keskin Array B**	**84.41**	**312**	P		**P**	**10 48 26.2**	**-1.2**
	1.8nm,0.4s,baz=98,slow=4.0,SNR=11								
BRTR				pP		**pP**	**10 50 02.5**	**-1.3**
	1.1nm,0.8s,baz=94,slow=4.8,SNR=3.7								
DUG	**Dugway, Tooele**	**84.44**	**47**	*e*P		**P**	**10 48 28.7**	**+1.1**
	7.7nm,1.2s								
HWUT	**Hardware Ranch**	**84.50**	**46**	*e*P		**P**	**10 48 29.1**	**+1.2**
	6.6nm,1.0s								
LAO	**LASA Array**	**84.89**	**39**	*e*P		**P**	**10 48 30.6**	**+1.0**
	6.9nm,1.0s								
BR231	**Keskin MP Arra**	**84.92**	**312**	*e*P		**P**	**10 48 27.1**	**-2.8**
BR231				*e*pP		**pP**	**10 50 05.3**	**-1.1**
TESR	**Tescani**	**84.98**	**321**	*i*P		**P**	**10 48 28.5**	**-1.5**
BUR08	**Bucovina Ar. S**	**85.13**	**322**	*e*P		**P**	**10 48 30.4**	**-0.4**
PD31	**Pinedale Array**	**85.13**	**44**	*e*P		**P**	**10 48 31.5**	**+0.4**
PDAR	**Pinedale Array**	**85.13**	**44**	P		**P**	**10 48 31.6**	**+0.6**
	1.2nm,0.9s,baz=278,slow=4.3,SNR=8.3								
PDAR				pP		**pP**	**10 50 07.3**	**-0.3**
	0.5nm,0.8s,baz=323,slow=2.8,SNR=2.8								
TIRR	**Tirgusor**	**85.13**	**318**	*i*P		**P**	**10 48 29.6**	**-1.1**
BURAR	**Bucovina Array**	**85.14**	**322**	*i*P		**P**	**10 48 30.4**	**-0.4**
BUR04	**Bucovina Ar. S**	**85.14**	**322**	*e*P		**P**	**10 48 29.9**	**-0.9**
TLB	**Topalu**	**85.28**	**318**	*i*P		**P**	**10 48 30.8**	**-0.6**
ASF	**Jabal al Asfar**	**85.97**	**304**	P		**P**	**10 48 34.7**	**-0.5**
	2.4nm,0.7s,baz=162,slow=8.1,SNR=3.7								
DOPR	**Dopca**	**86.01**	**321**	*i*P		**P**	**10 48 34.6**	**-0.4**
VOIR		**86.52**	**320**	*i*P		**P**	**10 48 36.9**	**-0.6**
MMAI	**Mount Meron Ar**	**86.63**	**306**	P		**P**	**10 48 38.1**	**-0.2**
	4.7nm,0.6s,baz=56,slow=3.6,SNR=5.4								
DRGR		**87.00**	**322**	*i*P		**P**	**10 48 38.9**	**-0.8**
MORC	**Moravsky Berou**	**87.74**	**327**	*i*P		**P**	**10 48 41.5**	**-1.7**
VYHS	**Vyhne**	**87.95**	**325**	*e*P		**P**	**10 48 43.7**	**-0.4**
VRAC	**Vranov**	**88.52**	**327**	P		**P**	**10 48 46.5**	**-0.2**
	2.0nm,0.5s,baz=50,slow=7.9,SNR=4.3								
VRAC	**Vranov**	**88.52**	**327**	*i*P		**P**	**10 48 45.4**	**-1.3**
MODS	**Modra-Piesok**	**88.81**	**326**	*e*P		**P**	**10 48 46.7**	**-1.4**
VTS	**Vitosha**	**89.29**	**319**	*i*P		**P**	**10 48 50.0**	**-0.7**
VTS	**Vitosha**	**89.29**	**319**	*e*P		**P**	**10

AZAP	**Zapla**	**2.99**	**131**	*i* P	**Pn**	**10 49 34.2**	**+1.0**
AZAP				IAML		10 49 35.7	
	comp=Z,8.4nm,0.3s						
ALOL	**LOMAS DE OLMED**	**3.62**	**116**	*i* P	**Pn**	**10 49 40.5**	**-0.3**

NNC 19 11:01:05.2±9.5, 38.38N×70.21E, h0km, mb3.7, mpv3.3, 5C-2D, Error ellipse: s-maj=67.0km s-min=54.8km az=27.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.04**	**56**	⇑Pg	Pb	11 01 59.1	-1.2
	1.8nm,0.3s						
SFK				⇑Lg	Lg	11 02 46.8	
	19nm,0.6s						
MNAS	**Manas**	**4.46**	**22**	⇑Pn	Pn	11 02 17.8	+3.5
	5.2nm,0.7s						
MNAS				⇓Sn	Sn	11 03 06.8	-0.3
	7.9nm,0.8s						
KK31	**Karatay Array**	**4.73**	**3**	⇑Pg	Pb	11 02 30.9	+1.9
	1.6nm,0.5s,baz=174,slow=14,SNR=6.5						
KK31				Lg	Lg	11 03 38.9	
	10.0nm,0.7s,baz=181,slow=29,SNR=7.3						
AAK	**Ala-Archa**	**5.37**	**36**	⇓Pg	Pb	11 02 38.7	-1.3
	7.7nm,0.8s						
AAK				⇑Lg	Lg	11 03 57.1	
	14nm,1.1s						

NIED ***19*** *11:16:00, 22.50N×123.90E, h8km, Mw3.8 Best double couple: M0 5.91000×10¹⁴ NP1:φs 136.00000°, δ45.00000°, λ-43.00000°. NP2:φs 260.00000°, δ61.00000°, λ-126.00000°.*

IDC ***19*** *11:16:29.4± 1.1, 22.49N×123.93E, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.5/58, mbtmp3.5/7, ML3.6/2, MS3.1/4, Ms1 3.1/4, ms1mx2.6/37, Error ellipse: s-maj=41.3km s-min=19.5km az=81.0*

JMA ***19*** *11:16:30.9± 0.4, 22.54N×123.88E, h58km, M3.9*

ISCJB ***19*** *11:16:32.0± 1.9, 22.62N± 0.04×123.98E± 0.06, h29km± 16km, mb3.2/5, MS3.5/2, Error ellipse: s-maj=9.2km s-min=7.2km az=8.5*

ISC 19 11:16:32.8±3.1, 22.77N±0.07×124.05E±0.07, h13km±18km, n23, σ1°29/32, mb3.5/5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.30**	**350**	P	**Pn**	**11 16 56.5**	**-0.2**
HATJ				S	**Sn**	**11 17 14.4**	**+0.4**
JKRS	**Kuro-shima**	**1.47**	**359**	P	**Pn**	**11 16 59.0**	**+0.1**
JKRS				S	**Sg**	**11 17 19.6**	**-0.5**
IRIF	**Iriomote-Funau**	**1.59**	**350**	P	**Pn**	**11 17 00.8**	**+0.2**
IRIF				S	**Sn**	**11 17 21.3**	**+0.3**
JIJ	**Ishigaki jima**	**1.59**	**3**	P	**Pn**	**11 17 00.6**	**-0.1**
JIJ				S	**Sb**	**11 17 21.0**	**-1.1**
JISG	**Ishigakijimahi**	**1.83**	**8**	P	**Pn**	**11 17 03.7**	**-0.2**
JISG				S	**Sb**	**11 17 28.3**	**-0.6**
YOJ	**Yonaguni jima**	**1.94**	**331**	P	**Pn**	**11 17 05.1**	**-0.3**
YOJ				*e*S	**Sn**	**11 17 28.8**	**-0.8**
JYNG	**Yonagunijimaku**	**1.96**	**329**	P	**Pn**	**11 17 05.0**	**-0.7**
JYNG				S	**Sn**	**11 17 29.9**	**-0.2**
JTJ	**Tarama**	**1.96**	**18**	P	**Pn**	**11 17 05.8**	**+0.1**
JTJ				S	**Sb**	**11 17 31.7**	**-1.0**
JIRB	**Irabujima**	**2.30**	**26**	P	**Pn**	**11 17 10.7**	**+0.3**
JIRB				*e*S	**Sb**	**11 17 39.8**	**-2.6**
JMJ	**Miyako jima 2**	**2.34**	**29**	P	**Pn**	**11 17 11.8**	**+0.9**
JMJ				*e*S	**Sb**	**11 17 41.1**	**-2.5**
JOGS	**Gusukube**	**2.34**	**32**	P	**Pn**	**11 17 11.6**	**+0.6**
JOGS				*e*S	**Sb**	**11 17 41.5**	**-2.3**
JIKM	**Ikemajima**	**2.41**	**27**	P	**Pn**	**11 17 13.0**	**+1.0**
JIKM				S	**Sb**	**11 17 43.7**	**-2.1**
JKE	**Kume jima 2**	**4.33**	**35**	P	**Pn**	**11 17 37.7**	**-0.7**
JKE				*e*S	**Sn**	**11 18 28.1**	**-0.7**
JNU	**Nakatsue**	**11.95**	**29**	LR	LR	11 24 14.8	
	comp=Z,47nm,22.0s,baz=132,slow=38						
KSRS	**Korea Array**	**15.02**	**12**	Pn	**Pn**	**11 20 06.8**	**+2.2**
	0.3nm,0.3s,baz=193,slow=11,SNR=4.2						
KSRS				LR	LR	11 25 53.8	
	comp=Z,12nm,19.6s,baz=174,slow=37						
MJAR	**Matsushiro Arr**	**18.41**	**39**	P	**P**	**11 20 50.4**	**+2.6**
	0.2nm,0.3s,baz=224,slow=9.7,SNR=15						
KLR	**Kul'dur**	**27.11**	**11**	P	**P**	**11 22 16.0**	**+0.8**
	0.1nm,0.9s,baz=249,slow=8.6,SNR=3.3						
SONM	**Songino Array**	**28.73**	**335**	P	**P**	**11 22 30.1**	**+0.2**
	0.5nm,0.6s,baz=149,slow=8.3,SNR=4.5						
LEM	**Lembang**	**33.52**	**211**	LR	LR	11 37 01.9	
	comp=Z,116nm,21.2s,baz=232,slow=37						
MKAR	**Makanchi Array**	**41.18**	**316**	P	**P**	**11 24 17.0**	**0.0**
	0.5nm,0.7s,baz=97,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**43.62**	**166**	P	P	11 24 32.6	-4.5
	0.9nm,0.9s,baz=345,slow=8.8,SNR=4.1						
ASAR	**Alice Springs**	**47.14**	**168**	P	**P**	**11 25 03.0**	**-2.0**
	0.4nm,0.9s,baz=354,slow=9.6,SNR=4.2						
ARU	**Arti**	**57.81**	**323**	LR	LR	11 53 17.8	
	comp=Z,37nm,19.7s,baz=320,slow=38						

DDA ***19*** *11:30:32.7, 37.31N×42.23E, h6km, Ml2.4*

ISK ***19*** *11:30:32.2, 37.39N×42.27E, h2km, ML2.6/2*

CSEM ***19*** *11:30:33.5± 0.5, 37.36N×42.30E, h8km, ML2.6, Error ellipse: s-maj=11.5km s-min=6.5km az=171.0*

ISC 19 11:30:33.1±1.4, 37.37N±0.05×42.26E±0.03, h3km±10km, n17, σ1°20/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.20**	**47**	PG	**Pg**	**11 30 36.4**	**-0.6**
SIRT				SG	**Sg**	**11 30 39.8**	**+0.2**
SIRT	**Sirnak**	**0.20**	**47**	*e*Pg	**Pg**	**11 30 36.4**	**-0.6**
SIRT				*e*Sg	**Sg**	**11 30 39.8**	**+0.2**
SRTM	**Siirt_Merkez**	**0.68**	**337**	*i* P	**Pb**	**11 30 46.7**	**-1.0**
SRTM				*i* S	**Sb**	**11 30 57.2**	**-0.3**
SRTM	**Siirt_Merkez**	**0.68**	**337**	P	**Pb**	**11 30 46.7**	**-1.0**
SRTM				S	**Sb**	**11 30 57.2**	**-0.3**
BTMN	**Batman**	**0.94**	**304**	*i* P	**Pn**	**11 30 52.6**	**-0.7**
BTMN				*i* S	**Sn**	**11 31 08.2**	**+0.9**
BTMN	**Batman**	**0.94**	**304**	P	**Pn**	**11 30 52.6**	**-0.7**
BTMN				S	**Sn**	**11 31 08.2**	**+0.9**
GEVA	**Gevas**	**1.14**	**34**	*i* P	**Pn**	**11 30 56.4**	**+0.3**
GEVA				*i* S	**Sb**	**11 31 10.2**	**-0.5**
GEVA	**Gevas**	**1.14**	**34**	P	**Pn**	**11 30 56.4**	**+0.3**
GEVA				S	**Sb**	**11 31 10.2**	**-0.5**
HAKT	**HAKKARI**	**1.17**	**80**	*i* P	**Pn**	**11 30 55.6**	**-1.0**
HAKT				*i* S	**Sn**	**11 31 16.0**	**+2.8**
HAKT	**HAKKARI**	**1.17**	**80**	P	**Pn**	**11 30 55.6**	**-1.0**
MARD	**Mardin**	**1.18**	**268**	*i* P	**Pn**	**11 30 56.2**	**-0.5**
MARD				*i* S	**Sn**	**11 31 15.2**	**+1.9**
GURO	**Guroymak-BITLI**	**1.20**	**351**	PN	**Pg**	**11 30 55.5**	**-0.5**
GURO				SN	**Sn**	**11 31 12.6**	**-1.1**
GURO	**Guroymak-BITLI**	**1.20**	**351**	*e*Pn	**Pg**	**11 30 55.5**	**-0.5**
GURO				*e*Sn	**Sn**	**11 31 12.6**	**-1.1**
MAZI	**Mazidag**	**1.45**	**274**	PN	**Pg**	**11 31 00.6**	**-0.2**
MAZI				SN	**Sg**	**11 31 20.7**	**+1.1**
MAZI	**Mazidag**	**1.45**	**274**	*e*Pn	**Pg**	**11 31 00.6**	**-0.2**
MAZI				*e*Sn	**Sg**	**11 31 20.7**	**+1.1**
ADCV	**BITLIS_Adilcev**	**1.48**	**14**	*i* P	**Pg**	**11 31 01.9**	**+0.3**
ADCV				*i* S	**Sg**	**11 31 23.7**	**+2.8**
ADCV	**BITLIS_Adilcev**	**1.48**	**14**	P	**Pg**	**11 31 01.9**	**+0.3**
ADCV				S	**Sg**	**11 31 23.7**	**+2.8**

NIED ***19*** *11:31:00, 38.70N×144.60E, h5km, Mw3.8 Best double couple: M0 6.35000×10¹⁴ NP1:φs 19.00000°, δ14.00000°, λ-43.00000°. NP2:φs 151.00000°, δ81.00000°, λ-100.00000°.*

IDC ***19*** *11:31:18.1± 0.8, 38.65N×144.79E, h0km, mb3.6/8, mb1 3.9/11, mb1mx3.6/65, mbtmp3.7/11, ML3.7/3, MS2.8/3, Ms1 2.8/3, ms1mx2.3/63, Error ellipse: s-maj=33.8km s-min=16.0km az=113.0*

ISCJB ***19*** *11:31:19.6± 1.6, 38.75N±0.04×144.68E±0.04, h28km± 13km, mb3.6/8, MS2.8/1, Error ellipse: s-maj=6.2km s-min=5.7km az=145.9*

JMA ***19*** *11:31:22.1± 0.2, 38.72N×144.56E, h47km, M3.5*

ISC 19 11:31:22.2±2.5, 38.79N±0.05×144.65E±0.05, h28km±19km, n32, σ1°44/44, mb3.6/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.33**	**291**	P	**Pn**	**11 31 58.6**	**-0.1**
MIYJ				*e*S	**Sn**	**11 32 26.0**	**-0.5**
OFUJ	**Ofunato**	**2.34**	**278**	P	**Pn**	**11 31 58.7**	**-0.1**
OFUJ				*e*S	**Sn**	**11 32 25.7**	**-0.9**
JTH	**Tanohata**	**2.44**	**299**	P	**Pn**	**11 32 00.5**	**+0.2**
JTH				*e*S	**Sn**	**11 32 29.5**	**+0.3**
JMK	**Ichinoseki**	**2.68**	**275**	P	**Pn**	**11 32 03.7**	**+0.2**
JMK				*e*S	**Sn**	**11 32 34.5**	**-0.5**
JOM	**Ohasama**	**2.70**	**286**	P	**Pn**	**11 32 04.0**	**+0.3**
JOM				S	**Sn**	**11 32 35.2**	**-0.2**
JANG	**Nango**	**2.89**	**304**	P	**Pn**	**11 32 06.3**	**-0.1**
JANG				*e*S	**Sn**	**11 32 39.2**	**-1.1**
JYK	**Kaneyama**	**3.35**	**274**	P	**Pn**	**11 32 13.4**	**+0.7**
JYK				*e*S	**Sn**	**11 32 52.8**	**+1.2**
JFT	**Otama**	**3.62**	**251**	P	**Pn**	**11 32 16.5**	**0.0**
JFT				*e*S	**Sn**	**11 32 57.6**	**-0.8**
JOT	**Ohata**	**3.79**	**314**	P	**Pn**	**11 32 18.9**	**+0.2**
JOT				*e*S	**Sn**	**11 33 01.1**	**-1.2**
JCH	**Churui**	**3.95**	**346**	P	**Pn**	**11 32 19.7**	**-1.2**
JCH				*e*S	**Sn**	**11 33 04.5**	**-1.8**
JKB	**Kayabe**	**4.15**	**319**	P	**Pn**	**11 32 24.8**	**+1.1**
JKB				*e*S	**Sn**	**11 33 10.8**	**-0.4**
NEM2	**Nemuro 2**	**4.65**	**10**	P	**Pn**	**11 32 27.5**	**-3.0**
NEM2				*e*S	Sn	11 33 17.7	-5.9
BSO1	**Boso 1**	**5.07**	**217**	P	**Pn**	**11 32 33.1**	**-2.7**
BSO1				*e*S	Sn	11 33 26.6	-6.5
JTKR	**Abashiri--Toko**	**5.21**	**354**	P	**Pn**	**11 32 37.2**	**-1.0**
JTKR				*e*S	**Sn**	**11 33 34.7**	**-2.7**
JRY	**Ryogami san**	**5.34**	**241**	P	**Pn**	**11 32 38.9**	**-1.2**
JRY				*e*S	**Sn**	**11 33 37.7**	**-3.1**
ASAJ	**Asahikawa**	**5.54**	**345**	Pn	**Pn**	**11 32 42.7**	**-0.1**
	1.0nm,0.3s,baz=207,slow=7.6,SNR=7.3						
ASAJ				Sn	**Sn**	**11 33 42.6**	**-3.0**
	0.6nm,0.3s,baz=174,slow=19,SNR=2.0						
MJAR	**Matsushiro Arr**	**5.58**	**248**	Pn	**Pn**	**11 32 44.0**	**+0.6**
	3.5nm,0.3s,baz=78,slow=20,SNR=45						
MAT	**Matsushiro**	**5.58**	**248**	P	**Pn**	**11 32 43.6**	**+0.3**
MAT				S	**Sn**	**11 33 47.2**	**+0.7**
JOD2	**Odawara 2**	**5.67**	**233**	P	**Pn**	**11 32 43.2**	**-1.4**
JOD2				*e*S	Sn	11 33 42.0	-6.7
JHJ2	**Mitsune**	**6.88**	**216**	P	**Pn**	**11 32 58.5**	**-2.7**
JHJ2				*e*S	Sn	11 34 12.3	-6.3
JHJ	**Hachijo jima 2**	**6.89**	**216**	Pn	**Pn**	**11 32 58.6**	**-2.7**
	16nm,0.3s,baz=255,slow=20,SNR=4.8						
JNU	**Nakatsue**	**12.50**	**247**	LR	LR	11 39 30.6	
	comp=Z,40nm,18.4s,baz=108,slow=39						
KSRS	**Korea Array**	**13.24**	**269**	LR	LR	11 38 30.5	
	comp=Z,30nm,18.8s,baz=78,slow=32						
SEY	**Seymchan**	**24.63**	**8**	P	**P**	**11 36 42.1**	**+2.1**
	0.6nm,0.3s,baz=98,slow=19,SNR=7.0						
ILAR	**Eielson Array**	**46.64**	**33**	P	**P**	**11 39 47.9**	**+0.2**
	0.3nm,0.6s,baz=259,slow=6.5,SNR=5.4						
INK	**Inuvik**	**51.66**	**28**	P	**P**	**11 40 25.9**	**-0.1**
	0.3nm,0.4s,baz=256,slow=4.6,SNR=5.2						
AAK	**Ala-Archa**	**51.91**	**298**	LR	LR	12 05 41.4	
	comp=Z,9.4nm,21.1s,baz=180,slow=40						
WRA	**Warramunga Arr**	**59.21**	**191**	P	**P**	**11 41 19.8**	**-1.0**
	1.0nm,0.5s,baz=9.8,slow=7.0,SNR=12						
YKA	**Yellowknife Ar**	**61.00**	**31**	P	**P**	**11 41 33.1**	**+0.4**
	0.2nm,0.8s,baz=295,slow=6.1,SNR=4.4						
ASAR	**Alice Springs**	**62.93**	**191**	P	**P**	**11 41 45.9**	**-0.2**
	0.2nm,0.4s,baz=9.6,slow=7.0,SNR=6.6						
FINES	**FINESS Array B**	**68.44**	**333**	P	**P**	**11 42 22.4**	**+1.2**
	0.9nm,0.5s,baz=75,slow=2.2,SNR=3.8						
NVAR	**Mina Array Bea**	**71.89**	**55**	P	**P**	**11 42 43.6**	**+0.6**
	0.1nm,0.4s,baz=294,slow=8.8,SNR=3.1						

IDC 19 12:04:07.0±4.0, 3.58S×152.05E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.0/53, mbtmp3.1/2, Error ellipse: s-maj=188.1km s-min=46.8km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.73**	**225**	P	P	12 09 21.4	+0.4
	0.3nm,0.4s,baz=52,slow=9.9,SNR=5.3						
ASAR	**Alice Springs**	**26.58**	**220**	P	P	12 09 47.3	+0.2
	0.1nm,0.6s,baz=38,slow=11,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.21**	**290**	PKPbc	PKPbc	12 23 57.7	-1.0
	0.4nm,0.6s,baz=96,slow=2.6,SNR=2.8						

IDC ***19*** *12:05:35.8± 2.7, 35.92N×141.25E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.2/74, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=67.2km s-min=25.3km az=67.0*

ISCJB ***19*** *12:05:46.8± 1.1, 35.55N±0.06×140.2E± 0.1, h73km± 9km, mb3.4/3, Error ellipse: s-maj=18.4km s-min=7.4km az=155.5*

JMA ***19*** *12:05:47.3± 0.1, 35.64N×140.17E, h61km± 1km, M2.3*

ISC 19 12:05:47.6±1.5, 35.58N±0.07×140.2E±0.1, h63km±13km, n10, σ0°89/15, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.82**	**161**	P	**Pn**	**12 06 03.6**	**+0.4**
BSO3				X		12 06 17.1	
JOD2	**Odawara 2**	**0.95**	**251**	P	**Pn**	**12 06 05.1**	**0.0**
JOD2				S	**Sn**	**12 06 17.7**	**-0.4**
JAG	**Ashikaga**	**1.03**	**325**	P	**Pn**	**12 06 05.4**	**-0.8**
JIM2	**Oshima 3**	**1.06**	**216**	P	**Pn**	**12 06 06.3**	**-0.2**
JIM2				S	**Sn**	**12 06 20.2**	**-0.4**
MJAR	**Matsushiro Arr**	**1.86**	**302**	Pn	**Pn**	**12 06 17.6**	**+0.2**
	7.7nm,0.3s,baz=116,slow=8.3,SNR=103						
MJAR				Sn	**Sn**	**12 06 42.1**	**+2.3**
	3.2nm,0.3s,baz=359,slow=28,SNR=7.4						
MAT	**Matsushiro**	**1.87**	**302**	P	**Pn**	**12 06 17.3**	**0.0**
MAT				*e*S	**Sn**	**12 06 40.3**	**+0.4**
JHJ	**Hachijo jima 2**	**2.48**	**188**	Pn	**Pn**	**12 06 26.6**	**+1.0**
	13nm,0.3s,baz=72,slow=20,SNR=4.6						
JHJ				Sn	**Sn**	**12 06 54.9**	**+0.2**
	11nm,0.3s,baz=270,slow=20,SNR=4.1						
MKAR	**Makanchi Array**	**44.06**	**303**	P	**P**	**12 13 49.5**	**+0.3**
	0.2nm,0.6s,baz=87,slow=8.8,SNR=2.9						
KURBB	**Kurchatov Arra**	**46.13**	**309**	P	**P**	**12 14 05.6**	**+0.2**
	0.5nm,0.4s,baz=83,slow=7.5,SNR=6.4						
WRA	**Warramunga Arr**	**55.49**	**187**	P	**P**	**12 15 15.1**	**-1.0**
	0.2nm,0.3s,baz=1.6,slow=7.7,SNR=7.4						

NIED ***19*** *12:11:00, 40.80N×144.90E, h5km, Mw3.7 Best double couple: M0 4.01000×10¹⁴ NP1:φs 353.00000°, δ34.00000°, λ-73.00000°. NP2:φs 153.00000°, δ58.00000°, λ-101.00000°.*

JMA 19 12:11:06.5±0.2, 40.83N×144.93E, h63km±4km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.78**	**312**	S	Sn	12 11 57.3	+0.6
JCH	**Churui**	**2.13**	**327**	*e*S	Sn	12 12 05.2	0.0
JAK	**Akkeshi**	**2.17**	**355**	*e*S	Sn	12 12 05.4	-0.7
JNBK	**Urakawa-nobuka**	**2.18**	**312**	*e*S	Sn	12 12 08.1	+1.7
JOB	**Onbets**	**2.23**	**339**	*e*S	Sn	12 12 08.8	+1.3
NEM2	**Nemuro 2**	**2.60**	**13**	P	Pn	12 11 47.4	+1.2
NEM2				*e*S	Sn	12 12 14.8	-1.8
JAR	**Ashorobuto**	**2.61**	**341**	P	Pn	12 11 47.9	+1.6
JAR				*e*S	Sn	12 12 16.5	-0.4
JANG	**Nango**	**2.64**	**261**	*e*S	Sn	12 12 18.6	+1.0
JBT2	**Biratori 2**	**2.73**	**316**	S	Sn	12 12 22.4	+2.6
JNK	**Nakash**	**2.76**	**357**	P	Pn	12 11 48.9	+0.6
JNK				*e*S	Sn	12 12 19.2	-1.2
JFR	**Furan**	**2.91**	**324**	*e*S	Sn	12 12 24.5	+0.3
JTM	**Tenmabayashi**	**2.93**	**270**	P	Pn	12 11 52.4	+1.7
JTM				S	Sn	12 12 25.7	+1.0
JOT	**Ohata**	**2.98**	**282**	*e*S	Sn	12 12 26.0	0.0
JOM	**Ohasama**	**3.10**	**245**	P	Pn	12 11 55.1	+2.1
JOM				S	Sn	12 12 30.0	+1.2
JRA	**Rausu**	**3.11**	**3**	*e*S	Sn	12 12 27.8	-1.2
JKB	**Kayabe**	**3.12**	**291**	*e*S	Sn	12 12 29.8	+0.6
JTKR	**Abashiri--Toko**	**3.23**	**347**	P	Pn	12 11 55.7	+1.0
JTKR				S	Sn	12 12 29.0	-2.9
JEW	**Eniwo**	**3.29**	**309**	P	Pn	12 11 58.9	+3.4
JEW				S	Sn	12 12 35.2	+1.9
JMK	**Ichinoseki**	**3.42**	**238**	P	Pn	12 11 59.8	+2.5
JMK				*e*S	Sn	12 12 37.5	+1.0
JKK2	**Kamakawa 2**	**3.44**	**333**	P	Pn	12 12 00.0	+2.3

ISCJB ***19*** *12:25:59.3± 0.4, 32.77S±0.08×57.2E± 0.1, h10km, mb4.2/19, MS3.6/16, Error ellipse: s-maj=14.9km s-min=9.9km az=140.8*

IDC ***19*** *12:25:59.7± 0.6, 32.77S×57.26E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.0/60, mbtmp4.1/16, ML5.5/1, MS3.5/17, Ms1 3.5/17, ms1mx3.3/52, Error ellipse: s-maj=22.0km s-min=15.9km az=67.0*

NEIC ***19*** *12:26:01.0± 0.4, 32.70S×57.24E, h10km, mb4.7/6, Error ellipse: s-maj=15.3km s-min=9.9km az=56.0*

ISC 19 12:26:01.1±0.5, 32.69S±0.10×57.3E±0.1, h10km, n59, σ1°03/39, mb4.3/19, MS3.6/16, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**11.57**	**353**	*e*Pn	**Pn**	**12 28 44.0**	**-2.4**
ABPO	**Ambohimpanom**	**16.33**	**324**	*e*Pn	**Pn**	**12 29 50.0**	**-0.7**
	41nm,0.5s						
OPO	**Ambohidratompo**	**16.73**	**325**	Pn	**Pn**	**12 29 56.1**	**+0.3**
	18nm,0.3s,baz=116,slow=12,SNR=94						
OPO				Sn	Sn	12 32 47.0	-15
	3.6nm,0.3s,baz=252,slow=20,SNR=3.2						
OPO				LR	LR	12 34 46.8	
	comp=Z,179nm,18.8s,baz=158,slow=31						
OPO				T		12 44 38.8	
	1.2nm,0.3s,baz=208,slow=20,SNR=2.8						
BOSA	**Boshof**	**27.79**	**270**	LR	LR	12 41 18.0	
	comp=Z,66nm,18.3s,baz=108,slow=33						
H08S1	**Diego Carcia H**	**28.64**	**33**	T	T	13 01 51.5	
	baz=207,slow=76,SNR=54						
H08S2	**Diego Garcia H**	**28.65**	**33**	T	T	13 01 52.1	
	baz=207,slow=76,SNR=62						
H08S3	**Diego Garcia H**	**28.66**	**33**	T	T	13 01 52.2	
	baz=207,slow=76,SNR=49						
H08N3	**Diego Garcia H**	**29.16**	**29**	T	T	13 02 42.1	
	baz=204,slow=76,SNR=32						
H08N1	**Diego Garcia H**	**29.17**	**29**	T	T	13 02 43.1	
	baz=204,slow=76,SNR=48						
H08N2	**Diego Garcia H**	**29.18**	**29**	T	T	13 02 43.8	
	baz=204,slow=76,SNR=36						
MAW	**Mawson**	**35.10**	**176**	LR	LR	12 43 34.7	
	comp=Z,107nm,18.5s,baz=58,slow=30						
KMBO	**Kilima Mbogo**	**36.62**	**325**	LR	LR	12 46 02.2	
	comp=Z,33nm,20.8s,baz=86,slow=33						
H01W2	**Cape Leeuwin H**	**46.76**	**109**	T	T	13 24 29.5	
	baz=255,slow=75,SNR=41						
H01W3	**Cape Leeuwin H**	**46.77**	**109**	T	T	13 24 29.9	
	baz=255,slow=75,SNR=43						
H01W1	**Cape Leeuwin H**	**46.77**	**109**	T	T	13 24 30.8	
	baz=255,slow=75,SNR=28						
SNAA	**Sanae**	**49.99**	**201**	P	**P**	**12 34 53.7**	**-1.4**
	2.8nm,0.9s,baz=68,slow=6.1,SNR=3.6						
SNAA				LR	LR	12 50 49.7	
	comp=Z,83nm,20.7s,baz=184,slow=30						
SNAA	**Sanae**	**49.99**	**201**	*e*P	**P**	**12 34 53.7**	**-1.4**
	7.1nm,1.0s						
QSPA	**South Pole Qui**	**57.48**	**180**	P	**P**	**12 35 49.0**	**-1.2**
	2.7nm,0.7s,baz=280,slow=2.0,SNR=9.5						
QSPA				LR	LR	12 59 28.2	
	comp=Z,71nm,18.1s,baz=325,slow=35						
VNDA	**Vanda**	**61.41**	**166**	P	**P**	**12 36 16.8**	**-0.1**
	2.6nm,1.0s,baz=250,slow=5.1,SNR=6.2						
VNDA				LR	LR	13 00 38.8	
	comp=Z,48nm,18.6s,baz=294,slow=34						
VNDA	**Vanda**	**61.41**	**166**	*e*P	**P**	**12 36 16.6**	**-0.4**
CM01	**Chiang Mai Arr**	**64.59**	**44**	*e*P	**P**	**12 36 39.6**	**+0.8**
CM31	**Chiang Mai Arr**	**64.61**	**44**	*e*P	**P**	**12 36 39.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**64.61**	**44**	P	**P**	**12 36 40.0**	**+1.0**
	5.1nm,0.7s,baz=230,slow=6.8,SNR=27						
CMAR				LR	LR	13 02 25.7	
	comp=Z,36nm,18.0s,baz=204,slow=34						
ASAR	**Alice Springs**	**66.84**	**104**	P	**P**	**12 36 54.1**	**+0.7**
	0.7nm,0.6s,baz=238,slow=6.0,SNR=8.2						
AS31	**Alice Springs**	**66.84**	**104**	*e*P	**P**	**12 36 54.1**	**+0.7**
	5.0nm,1.8s						
WR1	**Warramunga Arr**	**68.91**	**101**	*e*P	**P**	**12 37 07.3**	**+0.7**
	47nm,1.8s						
WRA	**Warramunga Arr**	**68.91**	**101**	P	**P**	**12 37 07.3**	**+0.7**
	2.2nm,0.8s,baz=240,slow=5.3,SNR=7.4						
STKA	**Stephens Creek**	**69.30**	**115**	P	**P**	**12 37 09.8**	**+1.0**
	2.6nm,1.0s,baz=314,slow=12,SNR=2.6						
STKA	**Stephens Creek**	**69.30**	**115**	*e*P	**P**	**12 37 09.8**	**+1.0**
	1.8nm,1.1s						
TOA0	**Torodi Ar. Sit**	**69.95**	**301**	*e*P	**P**	**12 37 13.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**69.95**	**301**	P	**P**	**12 37 14.0**	**+1.1**
	0.6nm,0.7s,baz=137,slow=5.2,SNR=4.8						
TORD				LR	LR	13 06 50.6	
	comp=Z,75nm,18.4s,baz=210,slow=35						
TOA1	**Torodi Ar. Sit**	**69.96**	**301**	*e*P	**P**	**12 37 14.0**	**+1.1**
GEYT	**Alibeck**	**70.26**	**1**	P	**P**	**12 37 14.6**	**+0.2**
	1.5nm,0.5s,baz=250,slow=4.3,SNR=3.4						
DBIC	**Dimbokro**	**70.76**	**292**	P	**P**	**12 37 20.1**	**+2.1**
	1.9nm,0.7s,baz=104,slow=8.3,S

AFI	**Afiamalu**	**10.40**	**81**	LR	LR	12 46 05.3		
	comp=Z,159nm,18.7s,baz=253,slow=32							
DZM	**Mont Dzumac**	**12.29**	**238**	LR	LR	12 47 28.1		
	comp=Z,196nm,18.7s,baz=46,slow=34							
HNR	**Honiara**	**18.39**	**288**	LR	LR	12 51 09.3		
	comp=Z,81nm,18.7s,baz=188,slow=34							
RAR	**Rarotonga**	**22.07**	**108**	LR	LR	12 51 38.1		
	comp=Z,97nm,21.6s,baz=280,slow=30							
URZ	**Urewera**	**22.37**	**181**	LR	LR	12 51 54.0		
	comp=Z,70nm,21.1s,baz=33,slow=30							
PPT	**Papeete**	**31.43**	**98**	LR	LR	12 56 41.3		
	comp=Z,45nm,18.5s,baz=306,slow=31							
STKA	**Stephens Creek**	**36.44**	**237**	P	P	12 47 41.6	+0.2	
	1.5nm,0.8s,baz=90,slow=6.1,SNR=4.0							
ASAR	**Alice Springs**	**41.77**	**252**	P	P	12 48 25.9	-0.3	
	2.7nm,1.0s,baz=87,slow=7.9,SNR=10							
DAV	**Davao City (W)**	**56.34**	**290**	LR	LR	13 11 46.1		
	comp=Z,22nm,20.7s,baz=158,slow=33							
JNU	**Nakatsue**	**66.04**	**318**	LR	LR	13 16 07.7		
	comp=Z,17nm,21.6s,baz=171,slow=32							
KSRS	**Korea Array**	**70.65**	**320**	LR	LR	13 19 32.5		
	comp=Z,8.6nm,19.6s,baz=225,slow=33							
QSPA	**South Pole Qui**	**74.23**	**180**	P	P	12 52 13.5	+0.1	
	2.6nm,1.0s,baz=30,slow=8.1,SNR=3.4							
NVAR	**Mina Array Bea**	**80.61**	**46**	P	P	12 52 49.7	0.0	
	0.9nm,1.0s,baz=241,slow=9.2,SNR=3.9							
ILAR	**Eielson Array**	**84.75**	**14**	P	P	12 53 10.4	+0.1	
	0.8nm,1.0s,baz=238,slow=5.2,SNR=4.6							

*NEIC **19** 12:41:47.9±0.0, 18.°00N×59.°65W, h35km, MD4.0(TRN), After TRN.*

TRN 19 12:41:47.3, 17.°82N×59.°89W, h3km, MD3.9, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.81**	**265**	*e*P	Pb	12 42 21.3	+0.1
ANWB				*e*S	Sg	12 42 46.9	+1.2
ANWB	**Willy Bob**	**1.81**	**265**	*e*P	Pb	12 42 21.3	+0.1
ANWB				*e*S	Sg	12 42 46.9	+1.2
DEG	**La Desirade**	**1.87**	**217**	*e*P	Pb	12 42 22.6	+0.3
DEG				*e*S	Sg	12 42 48.1	+0.5
DEG	**La Desirade**	**1.87**	**217**	*e*P	Pb	12 42 22.6	+0.3
DEG				*e*S	Sg	12 42 48.1	+0.5
BPA	**Boggy Peak**	**2.03**	**248**	*e*P	Pb	12 42 25.6	+0.7
BPA	**Boggy Peak**	**2.03**	**248**	*e*P	Pb	12 42 25.6	+0.7
MGG	**Marie-Galante**	**2.34**	**216**	*e*P	Pb	12 42 29.3	-0.8
MGG				*e*S	Sb	12 42 59.3	-0.1
MGG	**Marie-Galante**	**2.34**	**216**	*e*P	Pb	12 42 29.3	-0.8
MGG				*e*S	Sb	12 42 59.3	-0.1
GDHS	**Morne Mazeau,**	**2.37**	**230**	*e*P	Pb	12 42 30.7	+0.1
GDHS				*e*S	Sb	12 43 01.8	+1.5
SSG	**Sans Toucher**	**2.43**	**225**	*e*P	Pb	12 42 31.1	-0.7
MBWH		**2.45**	**244**	*e*P	Pb	12 42 31.9	-0.1
MLYT	**Lee's Yard**	**2.46**	**244**	*e*P	Pb	12 42 32.2	0.0
MLYT				*e*S	Sb	12 43 02.9	0.0
LZG	**Guadaloupe-1**	**2.46**	**227**	*e*P	Pb	12 42 32.2	-0.1
TBG	**Guadaloupe-3**	**2.58**	**221**	*e*P	Pb	12 42 33.6	-0.7
TBG				*e*S	Sb	12 43 06.2	-0.4
MDVC	**Dominica, Viel**	**2.63**	**214**	*e*S	Sb	12 43 07.5	-0.5
MDMP	**Dominica, Moor**	**2.65**	**214**	*e*P	Pb	12 42 33.6	-1.9
MDMP				*e*S	Sb	12 43 07.0	-1.5
MDPO	**Dominica; Chan**	**2.69**	**214**	*e*P	Pn	12 42 33.8	+2.3
MDPO				*e*S	Sb	12 43 09.5	-0.1
BBL	**Barber's Block**	**2.74**	**214**	*e*P	Pb	12 42 35.0	-2.0
BBL				*e*S	Sb	12 43 09.4	-1.7
BBL	**Barber's Block**	**2.74**	**214**	*e*P	Pb	12 42 35.0	-2.0
BBL				*e*S	Sb	12 43 09.4	-1.7
MDN	**Morne-Daniel**	**2.88**	**210**	*e*P	Pb	12 42 37.3	-2.0
MDN				*e*S	Sb	12 43 13.5	-1.5
MDN	**Morne-Daniel**	**2.88**	**210**	*e*P	Pb	12 42 37.3	-2.0
MDN				*e*S	Sb	12 43 13.5	-1.5
SMRT	**St. Maarten**	**3.04**	**275**	*e*P	Pn	12 42 38.1	+1.7
SMRT				*e*S	Sn	12 43 15.3	+2.0
SMRT	**St. Maarten**	**3.04**	**275**	*e*P	Pn	12 42 38.1	+1.7
SMRT				*e*S	Sn	12 43 15.3	+2.0
CXM	**Morne La Croix**	**3.24**	**202**	*e*P	Pn	12 42 41.6	+2.4
PCM	**Pelee Case Pet**	**3.25**	**203**	*e*P	Pn	12 42 40.9	+1.7
PCM	**Pelee Case Pet**	**3.25**	**203**	*e*P	Pn	12 42 41.5	+2.3
FDF	**Fort de France**	**3.30**	**202**	*e*P	Pn	12 42 42.4	+2.4
FDF				*e*S	Sn	12 43 22.0	+2.1
FDF	**Fort de France**	**3.30**	**202**	*e*P	Pn	12 42 42.4	+2.4
FDF				*e*S	Sn	12 43 22.0	+2.1
LPMF	**Morne Lapointe**	**3.39**	**198**	*e*P	Pn	12 42 42.9	+1.7
SLB	**Belfond**	**4.12**	**196**	*e*P	Pn	12 42 53.9	+2.5
SLB				*e*S	Sn	12 43 42.7	+2.5
SLB	**Belfond**	**4.12**	**196**	*e*P	Pn	12 42 53.9	+2.5

*IDC **19** 12:44:55.9±1.7, 9.°17S×125.°02E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.3/59, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=39.3km s-min=26.2km az=76.0*
*ISCJB **19** 12:44:58.6±1.1, 9.°3S±0.°1×124.°91E±0.°07, h33km, mb3.4/1, Error ellipse: s-maj=14.5km s-min=10.5km az=7.7*
*DJA **19** 12:45:01.5±0.5, 9.°5±7.°×12.°5E±.°, h10km, M3.2/4, MLv3.2/4*

ISC 19 12:44:59.7±1.3, 9.°4S±0.°1×124.°90E±0.°09, h35km, n8, σ2s26/11, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.73**	**239**	P	**Pn**	**12 45 11.7**	**-1.9**
SOEI				S	**Sn**	**12 45 22.7**	**-0.9**
BATI	**Baumata**	**1.47**	**236**	Pn	**Pn**	**12 45 26.4**	**+2.6**
	47nm,0.3s,baz=137,slow=3.9,SNR=24						
BATI	**Baumata**	**1.47**	**236**	P	**Pn**	**12 45 26.1**	**+2.3**
MMRI	**Maumere**	**2.73**	**286**	P	**Pn**	**12 45 40.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**8.70**	**175**	Pn	**Pn**	**12 47 06.2**	**+3.1**
	0.7nm,0.3s,baz=16,slow=19,SNR=12						
FITZ				Sn	**Sn**	**12 48 38.3**	**-1.7**
	0.4nm,0.3s,baz=20,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**13.91**	**140**	Pn	**Pn**	**12 48 15.6**	**+1.2**
	0.3nm,0.3s,baz=319,slow=13,SNR=32						
WRA				Sn	**Sn**	**12 50 44.9**	**-2.9**
	0.2nm,0.3s,baz=322,slow=23,SNR=5.9						
ASAR	**Alice Springs**	**16.61**	**150**	Pn	**P**	**12 48 51.8**	**-0.5**
	0.2nm,0.3s,baz=318,slow=11,SNR=7.9						
MKAR	**Makanchi Array**	**67.58**	**330**	P	**P**	**12 55 53.7**	**+0.9**
	0.3nm,0.8s,baz=119,slow=5.1,SNR=3.0						

*IDC **19** 12:47:19.7±2.2, 40.°73N×127.°05W, h0km, mb3.1/3, mb1 3.5/6, mb1mx3.3/70, mbtmp3.2/6, ML2.9/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/14, Error ellipse: s-maj=42.1km s-min=19.6km az=35.0*
*NEIC **19** 12:47:28.2±0.0, 40.°58N×126.°26W, h5km, MD2.9(NCEDC), After NCEDC.*

ISC 19 12:47:23.6±1.7, 40.°57N±0.°06×126.°65W±0.°09, h10km, n42, σ2s13/41, mb3.2/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**2.01**	**82**	*e*Pn	**Pn**	**12 47 56.7**	**-0.7**
KHMM	**Horse Mountain**	**2.24**	**81**	*e*Pn	**Pn**	**12 47 60.0**	**-0.9**
KMRM	**Mail Ridge**	**2.27**	**98**	*e*Pn	**Pn**	**12 48 02.1**	**+0.8**
KRMB	**Red Mountain**	**2.28**	**64**	*e*Pn	**Pn**	**12 48 01.5**	**+0.1**
KBO	**Bosley Butte**	**2.45**	**47**	*e*Pn	**Pn**	**12 48 02.7**	**-1.0**
KCPM	**Cahto Peak**	**2.51**	**110**	*e*Pn	**Pn**	**12 48 05.1**	**+0.6**
L02D	**Cave Junction,**	**2.79**	**54**	P	**Pn**	**12 48 08.2**	**-0.1**
	baz=232,SNR=11						
L02D				S	**Sb**	**12 48 45.8**	**-1.8**
	baz=232						
KTRM	**Thompson Ridge**	**2.81**	**61**	*e*Pn	**Pn**	**12 48 08.9**	**+0.3**
M02C	**Callahan**	**2.99**	**73**	P	**Pn**	**12 48 11.2**	**+0.1**
	baz=254,SNR=15						
M02C				S	**Sg**	**12 48 53.6**	**-5.9**
	baz=254						
N02D	**Trinity Center**	**3.02**	**81**	P	**Pn**	**12 48 11.1**	**-0.4**
	baz=263,SNR=5.7						
N02D				S	**Sg**	**12 48 53.9**	**-6.7**
	baz=263						
WDC	**Whiskeytown Da**	**3.13**	**89**	*e*Pn	**Pn**	**12 48 14.1**	**+1.2**
HOPS	**Hopland Field**	**3.17**	**119**	*e*Pn	**Pn**	**12 48 12.9**	**-0.7**
YBH	**Yreka Blue Hor**	**3.19**	**67**	Pn	**Pn**	**12 48 14.8**	**+0.9**
	3.5nm,0.3s,baz=268,slow=9.7,SNR=62						
HUMO	**Hull Mountain**	**3.44**	**52**	*e*Pn	**Pn**	**12 48 16.5**	**-0.7**
LHEM	**Herd Peak**	**3.51**	**71**	*e*Pg	**Pg**	**12 48 33.4**	**+2.6**
LHEM				*e*Lg	Lg	12 49 23.1	
UMPQ	**Umpqua Communi**	**3.67**	**41**	*e*Sn	Sn	12 48 54.2	-10
O03D	**Paynes Creek**	**3.71**	**93**	P	**Pn**	**12 48 20.5**	**-0.5**
	baz=276,SNR=8.6						
MCCM	**Marconi Confer**	**3.79**	**128**	*e*Pn	**Pn**	**12 48 20.2**	**-1.9**
M04C	**Macdoel**	**3.83**	**70**	P	**Pn**	**12 48 24.1**	**+1.5**
	baz=252						
AFDM	**Forest Hills D**	**4.67**	**109**	*e*Pn	**Pn**	**12 48 35.7**	**+1.6**
J05D	**Fort Rock, OR**	**4.86**	**54**	P	**Pn**	**12 48 37.6**	**+0.7**
	baz=236,SNR=15						
BEKR	**Beckworth**	**4.87**	**96**	*e*Pn	**Pn**	**12 48 39.4**	**+2.5**
RDG13	**Poverty Ridge**	**4.94**	**128**	*e*Pn	**Pn**	**12 48 36.3**	**-1.6**
MOD	**Modoc Plateau**	**4.96**	**72**	*e*Pn	**Sn**	**12 48 39.4**	**+1.1**
LOY	**Loyalton**	**5.00**	**98**	*e*Sn	**Sn**	**12 49 38.0**	**+1.3**
LOY				*e*Lg	Lg	12 50 10.3	
IND	**Independence**	**5.01**	**101**	*e*Sg	**Sg**	**12 50 04.8**	**+0.3**
KBF	**Kyburz Flat**	**5.05**	**100**	*e*Sg	**Sg**	**12 50 04.5**	**-1.3**
PINE	**Pine Mountain**	**5.32**	**51**	*e*Pn	**Pn**	**12 48 44.0**	**+0.7**
CMB	**Columbia Colle**	**5.48**	**116**	*e*Pn	**Pn**	**12 48 46.3**	**+1.1**
SAO	**San Andreas Ge**	**5.57**	**131**	*e*Pn	**Pn**	**12 48 43.7**	**-2.8**
PCCM	**Crazy Canyon**	**6.21**	**134**	*e*Pn	**Pn**	**12 48 53.0**	**-2.3**
NV01	**Mina Array Sit**	**6.80**	**106**	*e*Pn	**Pn**	**12 49 03.5**	**0.0**
NVAR	**Mina Array Bea**	**6.80**	**106**	Pn	**Pn**	**12 49 06.2**	**+2.6**
	baz=277,slow=15,SNR=4.0						
PAGB	**Antelope Grade**	**6.98**	**132**	*e*Pn	**Pn**	**12 49 03.5**	**-2.5**
ISA	**Isabella, Lake**	**8.09**	**125**	*e*Pn	**Pn**	**12 49 21.3**	**+0.1**
PDAR	**Pinedale Array**	**12.97**	**75**	LR	LR	12 55 57.6	
	comp=Z,64nm,21.1s,baz=269,slow=39						
ANMO	**Albuquerque**	**16.91**	**103**	P	**Pn**	**12 51 22.0**	**+1.5**
	0.0nm,0.3s,baz=139,slow=20,SNR=3.3						
ANMO				LR	LR	12 57 57.4	
	comp=Z,59nm,21.9s,baz=197,slow=37						
LTX	**Lajitas**	**21.86**	**114**	*e*P	**P**	**12 52 19.2**	**+2.8**
TXAR	**Lajitas Array**	**21.86**	**114**	P	**P**	**12 52 19.2**	**+2.8**
	1.0nm,0.9s,baz=297,slow=8.3,SNR=6.8						
YKA	**Yellowknife Ar**	**23.12**	**14**	P	**P**	**12 52 26.7**	**-2.7**
	0.3nm,0.8s,baz=200,slow=11,SNR=4.1						
YKA				PcP	PcP	12 56 14.1	-3.7
	0.1nm,0.6s,baz=191,slow=3.0,SNR=3.7						
ILAR	**Eielson Array**	**26.92**	**341**	P	P	12 53 00.2	-4.3
	0.8nm,0.9s,baz=163,slow=6.9,SNR=6.4						
TKL	**Tuckaleechee C**	**33.84**	**84**	LR	LR	13 09 12.7	
	comp=Z,28nm,19.6s,baz=322,slow=38						

IDC 19 12:51:31.9±7.5, 5.°55S×152.°62E, h45km±66km, mb3.3/3, mb1 3.6/4, mb1mx3.3/47, mbtmp3.6/4, ML1.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/19, Error ellipse: s-maj=130.4km s-min=34.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.63**	**234**	P	Pn	12 53 07.7	+0.8
	0.9nm,0.3s,baz=207,slow=11,SNR=3.7						
PMG				S	Sn	12 54 20.8	-0.4
	3.2nm,0.3s,baz=198,slow=16,SNR=7.9						
GUMO	**Guam**	**20.52**	**338**	LR	LR	13 03 03.8	
	comp=Z,21nm,21.8s,baz=138,slow=34						
WRA	**Warramunga Arr**	**22.82**	**220**	P	P	12 56 31.2	+0.1
	0.6nm,0.5s,baz=54,slow=9.9,SNR=9.6						
ASAR	**Alice Springs**	**25.48**	**223**	P	P	12 56 56.2	+0.1
	0.7nm,0.6s,baz=61,slow=8.9,SNR=13						
ILAR	**Eielson Array**	**82.92**	**22**	P	P	13 03 51.5	-0.1
	0.4nm,0.7s,baz=244,slow=5.6,SNR=6.9						

NNC 19 12:56:07.8±5.2, 36.°84N×70.°65E, h0km, mb3.7, mpv3.4, 2C-4D, Error ellipse: s-maj=51.9km s-min=30.6km az=151.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.88**	**34**	⇓P	Pn	12 57 08.9	0.0
	1.8nm,0.2s						
SFK				⇑S	Sn	12 57 57.9	+2.6
	3.9nm,0.2s						
KK31	**Karatay Array**	**6.26**	**359**	P	Pn	12 57 42.8	+1.5
	1.0nm,0.2s,baz=172,slow=12,SNR=49						
KK31				⇓S	Sn	12 58 55.5	+2.0
	2.9nm,0.3s,baz=185,slow=24,SNR=8.8						
AAK	**Ala-Archa**	**6.50**	**26**	⇓P	Pn	12 57 43.5	-1.4
	1.2nm,0.3s						
AAK				⇓S	Sn	12 58 57.8	-2.0
	3.2nm,0.5s						
AB31	**Akbulak array**	**14.65**	**331**	P	Pn	12 59 35.1	-1.0
	0.3nm,0.5s,baz=360,slow=27,SNR=7.8						
AKTO	**Aktyubinsk**	**16.34**	**330**	⇑P	Pn	12 59 58.5	0.0
	1.0nm,0.6s						

MEX 19 13:03:19.7±0.6, 14.°79N×93.°29W, h30km±13km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.92**	**4**	*e*P	Pn	13 03 34.2	-2.3
PCIG				*e*S	Sn	13 03 45.6	-3.1
THIG		**0.99**	**83**	*i* P	Pn	13 03 34.5	-3.1
THIG				*i* S	Sn	13 03 46.8	-3.8
CCIG	**Comitan**	**1.85**	**37**	*i* P	Pn	13 03 47.3	-2.3
CCIG				*i* S	Sn	13 04 09.4	-2.7
TGIG		**1.99**	**5**	*i* P	Pn	13 03 50.3	-1.0
TGIG				*i* S	Sn	13 04 12.5	-2.7

IDC 19 13:12:49.3±6.8, 19.°12S×177.°19W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/39, mbtmp3.9/3, MS4.3/1, Ms1 4.3/1, ms1mx2.7/45, Error ellipse: s-maj=294.4km s-min=38.3km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.11**	**184**	LR	LR	13 18 24.2	
	comp=Z,2μm,21.5s,baz=226,slow=33						
WRA	**Warramunga Arr**	**45.56**	**261**	P	P	13 21 11.3	-0.1
	1.1nm,0.4s,baz=98,slow=7.0,SNR=72						
ASAR	**Alice Springs**	**45.59**	**255**	P	P	13 21 11.3	-0.2
	1.4nm,0.5s,baz=87,slow=8.8,SNR=61						
ILAR	**Eielson Array**	**86.80**	**13**	P	P	13 25 35.1	0.0
	0.3nm,0.6s,baz=214,slow=5.4,SNR=4.9						

*ISCJB **19** 13:18:58.3±0.7, 41.°44N±0.°03×16.°11E±0.°04, h45km±9km, Error ellipse: s-maj=5.3km s-min=4.7km az=23.6*
*ROM **19** 13:18:58.4±0.1, 41.°41N×16.°10E, h37km±1km, Md2.2/11, Ml2.3/7, Error ellipse: s-maj=1.9km s-min=1.5km az=72.0*
*CSEM **19** 13:18:58.8±0.1, 41.°44N×16.°09E, h40km, ML3.1/7, Error ellipse: s-maj=1.9km s-min=1.6km az=74.0*

ISC 19 13:18:58.7±1.8, 41.°44N±0.°03×16.°10E±0.°03, h36km±1km, n29, σ0s40/57, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MS1	**Monte Sant'Ang**	**0.29**	**335**	*e*Pg	**Pn**	**13 19 07.2**	**+0.4**
MS1				*e*Sg	**Sn**	**13 19 13.0**	**-0.5**
MSAG	**Monte S. Angel**	**0.30**	**332**	Pg	**Pn**	**13 19 07.4**	**+0.5**
MSAG				Sg	**Sn**	**13 19 13.2**	**-0.3**
	921nm,0.2s						
MSAG	**Monte S. Angel**	**0.30**	**332**	Pg	**Pn**	**13 19 07.4**	**+0.5**
MSAG				Sg	**Sn**	**13 19 13.2**	**-0.3**
	921nm,0.2s						
MRVN	**Minervino Murg**	**0.39**	**170**	Pg	**Pn**	**13 19 07.8**	**+0.1**
MRVN				Sg	**Sn**	**13 19 13.8**	**-0.5**
MRVN	**Minervino Murg**	**0.39**	**170**	Pg	**Pn**	**13 19 07.8**	**+0.1**
MRVN				Sg	**Sn**	**13 19 13.8**	**-0.5**
SGRT	**San Giovanni R**	**0.41**	**319**	Pg	**Pn**	**13 19 08.7**	**+0.7**
SGRT				Sg	**Sn**	**13 19 15.3**	**+0.5**
	288nm,0.1s						
SGRT	**San Giovanni R**	**0.41**	**319**	Pg	**Pn**	**13 19 08.7**	**+0.7**
SGRT				Sg	**Sn**	**13 19 15.3**	**+0.5**
	288nm,0.1s						
VULT	**Monte Vulture**	**0.61**	**217**	Pg	**Pn**	**13 19 11.0**	**-0.1**
VULT				Sg	**Sn**	**13 19 19.8**	**+0.1**
	103nm,0.3s						
VULT	**Monte Vulture**	**0.61**	**217**	Pg	**Pn**	**13 19 11.0**	**-0.1**
VULT				Sg	**Sn**	**13 19 19.8**	**+0.1**
	103nm,0.3s						
AMUR	**Altamura**	**0.66**	**145**	Pg	**Pn**	**13 19 11.9**	**+0.3**
AMUR				Sg	**Sn**	**13 19 20.6**	**-0.1**
AMUR	**Altamura**	**0.66**	**145**	Pg	**Pn**	**13 19 11.9**	**+0.3**
AMUR				Sg	**Sn**	**13 19 20.6**	**-0.1**
ACER	**Acerenza**	**0.67**	**190**	Pg	**Pn**	**13 19 11.8**	**0.0**
ACER				Sg	**Sn**	**13 19 21.3**	**+0.3**
	86nm,0.9s						
ACER	**Acerenza**	**0.67**	**190**	Pg	**Pn**	**13 19 11.8**	**0.0**
ACER				Sg	**Sn**	**13 19 21.3**	**+0.3**
	86nm,0.9s						
BAI	**Bari**	**0.68**	**120**	*e*Pg	**Pn**	**13 19 12.2**	**+0.4**
SG1	**Sgolgore (BA)**	**0.74**	**144**	*e*Pg	**Pn**	**13 19 13.1**	**+0.4**
SG1				Sg	**Sn**	**13 19 22.6**	**-0.2**
MRLC	**Muro Lucano**	**0.83**	**214**	Pg	**Pn**	**13 19 13.9**	**0.0**
MRLC				Sg	**Sn**	**13 19 24.9**	**0.0**
	101nm,1.6s						
MRLC	**Muro Lucano**	**0.83**	**214**	Pg	**Pn**	**13 19 13.9**	**0.0**
MRLC				Sg	**Sn**	**13 19 24.9**	**0.0**
	101nm,1.6s						
MCRV	**Calabrutti - M**	**0.97**	**227**	Pg	**Pn**	**13 19 16.0**	**+0.2**
MCRV				Sg	**Sn**	**13 19 28.1**	**-0.3**
MCRV	**Calabrutti - M**	**0.97**	**227**	Pg	**Pn**	**13 19 16.0**	**+0.2**
MCRV				Sg	**Sn**	**13 19 28.1**	**-0.3**
NOCI	**Noci**	**0.98**	**132**	Pg	**Pn**	**13 19 16.4**	**+0.5**
NOCI				Sg	**Sn**	**13 19 28.3**	**-0.2**
	68nm,0.1s						
NOCI	**Noci**	**0.98**	**132**	Pg	**Pn**	**13 19 16.4**	**+0.5**
NOCI				Sg	**Sn**	**13 19 28.3**	**-0.2**
	68nm,0.1s						
CDRU	**Civita di Ruta**	**1.13**	**213**	Pg	**Pn**	**13 19 17.7**	**-0.4**
CDRU				Sg	**Sn**	**13 19 32.0**	**-0.4**
	19nm,0.4s						
CDRU	**Civita di Ruta**	**1.13**	**213**	Pg	**Pn**	**13 19 17.7**	**-0.4**
CDRU				Sg	**Sn**	**13 19 32.0**	**-0.4**
	19nm,0.4s						
MASS	**Massafra**	**1.13**	**135**	*e*Pg	**Pn**	**13 19 18.6**	**+0.6**
MASS				Sg	**Sn**	**13 19 32.0**	**-0.2**
FASA	**Fasano**	**1.13**	**123**	*e*Pg	**Pn**	**13 19 18.8**	**+0.8**
FASA				Sg	**Sn**	**13 19 32.4**	**+0.1**
CMPR	**Campora**	**1.28**	**209**	Pg	**Pn**	**13 19 19.9**	**-0.2**
CMPR				Sg	**Sn**	**13 19 35.8**	**-0.2**
CMPR	**Campora**	**1.28**	**209**	Pg	**Pn**	**13 19 19.9**	**-0.2**
CMPR				Sg	**Sn**	**13 19 35.8**	**-0.2**
STON	**Ston**	**1.86**	**39**	*e*Pn	**Pn**	**13 19 27.8**	**-0.2**
STON				Sn	**Sn**	**13 19 49.1**	**-1.0**
STON	**Ston**	**1.86**	**39**	*e*Pn	**Pn**	**13 19 27.7**	**-0.2**
STON				Sn	**Sn**	**13 19 49.1**	**-1.0**

*ISK **19** 13:26:47.4, 38.°69N×43.°36E, h5km, ML2.4/3*
*ISCJB **19** 13:26:48.2±0.8, 38.°67N±0.°05×43.°45E±0.°07, h32km±6km, Error ellipse: s-maj=9.3km s-min=7.2km az=36.4*
*CSEM **19** 13:26:49.0±0.5, 38.°72N×43.°36E, h5km, ML2.8, Error ellipse: s-maj=10.8km s-min=7.3km az=152.0*
*DDA **19** 13:26:49.6, 38.°73N×43.°39E, h7km, Ml2.8*

ISC 19 13:26:47.5±1.2, 38.°66N±0.°05×43.°50E±0.°05, h30km±8km, n14, σ0s28/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.15**	**208**	*i* P	**Pn**	**13 26 53.7**	**-0.3**
TVAN				*i* S	**Sb**	**13 26 57.7**	**+0.1**
TVAN	**Van**	**0.15**	**208**	P	**Pn**	**13 26 53.7**	**-0.3**
TVAN				S	**Sb**	**13 26 57.7**	**+0.1**
VMUR	**Van-Muradiye**	**0.33**	**10**	*i* P	**Pn**	**13 26 56.3**	**-0.2**
VMUR				*i* S	**Sn**	**13 27 02.5**	**+0.2**
VMUR	**Van-Muradiye**	**0.33**	**10**	P	**Pn**	**13 26 56.3**	**-0.2**
VMUR				S	**Sn**	**13 27 02.5**	**+0.2**
CLDR	**Caldiran**	**0.58**	**34**	PG	**Pn**	**13 26 59.8**	**-0.1**
CLDR				SG	**Sn**	**13 27 08.9**	**+0.3**
CLDR	**Caldiran**	**0.58**	**34**	*e*Pg	**Pn**	**13 26 59.8**	**-0.1**
CLDR				*e*Sg	**Sn**	**13 27 08.9**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.62**	**284**	*i* P	**Pb**	**13 27 00.1**	**+0.1**
ADCV				*i* S	**Sb**	**13 27 08.0**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.62**	**284**	P	**Pb**	**13 27 00.1**	**+0.1**
ADCV				S	**Sb**	**13 27 08.0**	**-0.6**
TUTA	**Tutak**	**0.91**	**324**	*i* P	**Pn**	**13 27 04.5**	**0.0**
TUTA	**Tutak**	**0.91**	**324**	P	**Pn**	**13 27 04.4**	**0.0**
AGRB	**Hanur-Agry**	**0.99**	**337**	PG	**Pn**	**13 27 05.6**	**0.0**
AGRB				SG	**Sn**	**13 27 18.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.99**	**337**	*e*Pg	**Pn**	**13 27 05.6**	**0.0**
AGRB				*e*Sg	**Sn**	**13 27 18.8**	**+0.1**
GURO	**Guroymak-BITLI**	**1.15**	**265**	PG	**Pn**	**13 27 07.9**	**+0.2**
GURO				SG	**Sn**	**13 27 22.9**	**+0.4**
GURO	**Guroymak-BITLI**	**1.15**	**265**	*e*Pg	**Pn**	**13 27 07.9**	**+0.2**
GURO				*e*Sg	**Sn**	**13 27 22.9**	**+0.4**

*BJI **19** 13:42:27.6, 4.°83S×144.°69E, h114km, mb5.4/76, mB5.3/44*
*MOS **19** 13:42:32.5±0.9, 4.°33S×143.°87E, h101km, mb5.6/45, Error ellipse: s-maj=8.3km s-min=4.8km az=103.5*
*ISCJB **19** 13:42:34.1±0.5, 4.°37S±0.°02×143.°88E±0.°02, h118km±5km, mb5.5/242, Error ellipse: s-maj=3.6km s-min=3.2km az=149.5*
*GCMT **19** 13:42:34.7±0.1,

HNR Honiara 16.66 108 P **Pn** **13 46 21.2 -0.4**
comp=Z,32nm,0.3s,baz=257,slow=2.5,SNR=15
HNR Honiara 16.66 108 *i* P **Pn** **13 46 21.0 -0.6**
HNR Honiara 16.66 108 *e*Pn **Pn** **13 46 20.9 -0.6**
comp=Z,678nm,0.9s
LBMI Labuha 16.83 282 P **P** **13 46 25.7 +1.8**
TNTI Ternate 17.33 287 *e*P **P** **13 46 29.4 -0.1**
comp=Z,1μm,1.5s
GUMO Guam 17.92 3 P **Pn** **13 46 37.6 +0.8**
comp=Z,17nm,0.3s,baz=173,slow=11,SNR=19
GUMO LR LR 13 52 36.3
comp=Z,358nm,19.6s,baz=166,slow=34
GUMO Guam 17.92 3 *e*P **Pn** **13 46 37.2 +0.4**
comp=Z,419nm,0.8s
WRAB Tennant Creek 18.02 210 *d i*P **P** **13 46 36.7 -0.3**
WRAB pmax pmax
comp=Z,1μm,1.0s
WRAB Tennant Creek 18.02 210 *e*P **P** **13 46 37.0 0.0**
comp=Z,1μm,0.9s
WRA Warrnunga Arr 18.04 210 P **P** **13 46 37.4 +0.2**
comp=Z,62nm,0.3s,baz=31,slow=12,SNR=950
WRA S **S** **13 49 51.8 -6.6**
comp=Z,4.3nm,0.3s,baz=38,slow=23,SNR=8.7
WRA PcP **PcP** **13 51 07.5 +0.6**
comp=Z,4.6nm,0.3s,baz=2.9,slow=1.7,SNR=5.4
SANI Sanana 18.06 277 P **Pn** **13 46 38.4 -0.2**
PATS Pohnpei 18.20 52 P **Pn** **13 46 41.2 +1.0**
baz=18,SNR=23
PATS Pohnpei 18.20 52 *e*P **Pn** **13 46 40.3 +0.1**
comp=Z,4μm,2.0s
KNRA Kununurra 18.64 232 P **P** **13 46 44.2 +0.5**
baz=19,SNR=298
SOEI Soe 20.21 254 P **P** **13 47 01.7 +0.7**
SOEI Soe 20.21 254 *e*P **P** **13 47 01.8 +0.8**
comp=Z,2μm,0.9s
KMSI Cibinong 20.54 283 P **P** **13 47 04.7 +0.3**
BATI Baumata 20.90 253 P **P** **13 47 09.4 +1.1**
comp=Z,424nm,0.7s,baz=222,slow=2.6,SNR=25
BATI S **S** **13 50 54.1 -0.9**
comp=Z,57nm,0.8s,baz=110,slow=12,SNR=2.1
BATI Baumata 20.90 253 P **P** **13 47 08.8 +0.5**
SARN Sarigan 21.07 5 *e*P **P** **13 47 09.8 -0.1**
LUWI Luwuk 21.39 278 P **P** **13 47 15.3 +1.7**
LUWI Luwuk 21.39 278 *e*P **P** **13 47 15.0 +1.5**
comp=Z,654nm,1.2s
AS01 Alice Springs 21.42 206 *e*P **P** **13 47 13.8 0.0**
AS31 Alice Springs 21.44 206 *e*P **P** **13 47 14.0 0.0**
comp=Z,279nm,0.6s
ASAR Alice Springs 21.44 206 P **P** **13 47 14.2 +0.1**
comp=Z,418nm,0.7s,baz=34,slow=8.9,SNR=2068
ASAR S **S** **13 51 05.3 -0.1**
comp=Z,8.1nm,0.7s,baz=15,slow=32,SNR=2.8
ASAR LR LR 13 55 53.6
comp=Z,991nm,19.7s,baz=29,slow=37
ASAR P3KP 14 21 45.1
comp=Z,0.6nm,1.0s,baz=155,slow=2.5,SNR=5.2
DAV Davao City (W) 21.58 302 LR LR 13 56 40.8
comp=Z,247nm,18.8s,baz=136,slow=39
EIDS Eidsvold 21.93 162 P **P** **13 47 20.8 +1.7**
baz=22,SNR=225
EIDS Eidsvold 21.93 162 *e*P **P** **13 47 20.6 +1.4**
comp=Z,1μm,1.1s
MMRI Maumere 21.95 258 P **P** **13 47 18.6 -0.8**
comp=Z,409nm,0.6s,comp=Z,4μm
MMRI Maumere 21.95 258 *e*P **P** **13 47 17.8 -1.6**
comp=Z,295nm,0.7s
QLP Quilpie 22.04 179 P **P** **13 47 20.8 +0.5**
baz=22,SNR=152
RMQ Roma 22.42 169 P **P** **13 47 25.8 +1.6**
baz=23,SNR=415
FITZ Fitzroy Crossi 22.47 231 P **P** **13 47 24.0 -0.7**
comp=Z,331nm,0.6s,baz=38,slow=12,SNR=250
FITZ S **S** **13 51 25.6 +2.4**
baz=354,slow=19
EDFI Ende, Flores 22.50 258 P **P** **13 47 20.6 -4.6**
MRSI Marisa 22.50 282 P **P** **13 47 25.2 +0.1**
comp=Z,109nm,0.7s,comp=Z,1μm
APSI Ampana 22.52 278 P **P** **13 47 25.8 +0.5**
comp=Z,675nm,1.1s,comp=Z,6μm
BSSI Bau Bau, Buton 23.40 265 P **P** **13 47 34.1 +0.4**
BASI Baing, Sumba 23.86 255 P **P** **13 47 37.4 -0.4**
comp=Z,889nm,1.1s,comp=Z,15μm
WSI Waingapu 24.02 256 P **P** **13 47 38.2 -1.1**
comp=Z,1μm,0.8s,comp=Z,12μm
TTSI Tana Toraja 24.10 272 P **P** **13 47 41.4 +1.4**
MPSI Mapaga 24.47 281 P **P** **13 47 42.5 -0.9**
WBSI Waikabubak, Su 24.89 257 P **P** **13 47 44.1 -3.2**
WRKA Warakurna 25.41 215 P **P** **13 47 52.1 +0.2**
baz=26,SNR=765
RCP Roxas 26.38 307⇑ *e*P **P** **13 48 00.5 -0.2**
ARMA Armidale 26.86 165 P **P** **13 48 06.8 +1.9**
baz=27,SNR=30
ARMA Armidale 26.86 165 *e*P **P** **13 48 06.6 +1.6**
comp=Z,182nm,1.1s
CMSA Cobar Meteorol 27.03 177 P **P** **13 48 08.0 +1.8**
baz=27,SNR=94
MYLDM Lahad Datu 27.13 290 *e*P **P** **13 48 06.2 -1.2**
comp=Z,200nm,1.0s
STKA Stephens Creek 27.40 184 P **P** **13 48 10.5 +0.8**
comp=Z,110nm,0.7s,baz=353,slow=8.7,SNR=250
STKA ScP **ScP** **13 54 57.0 +1.1**
comp=Z,20nm,1.1s,baz=43,slow=5.3,SNR=4.2
STKA LR LR 14 00 47.2
comp=Z,866nm,19.4s,baz=1.2,slow=40
STKA Stephens Creek 27.40 184 *e*P **P** **13 48 10.0 +0.4**
comp=Z,27nm,0.8s
STKA ScP **ScP** **13 54 57.0 +1.1**
DZM Mont Dzumac 28.00 131 P **P** **13 48 16.4 +1.2**
comp=Z,41nm,0.9s,baz=254,slow=9.0,SNR=23
DZM LR LR 13 59 15.6
comp=Z,286nm,19.6s,baz=306,slow=36
DZM Mont Dzumac 28.00 131 *e*P **P** **13 48 15.6 +0.4**
comp=Z,81nm,0.9s
DZM *e*LR LR 13 55 25.9
comp=Z,991nm,34.1s
DZM Mont Dzumac 28.00 131 *e*P **P** **13 48 15.4 +0.3**
comp=Z,38nm,0.9s
MBWA Marble Bar 28.79 233 *e*P **P** **13 48 22.3 +0.2**
comp=Z,390nm,1.5s
BBOO Buckleboo 29.19 194 P **P** **13 48 26.2 +0.7**
baz=29,SNR=264
BBOO Buckleboo 29.19 194 *e*P **P** **13 48 26.0 +0.5**
comp=Z,489nm,0.8s
HTT Hallett 29.24 189 P **P** **13 48 27.0 +1.0**
baz=29,SNR=60
TGY Tagaytay City 29.31 309 P **P** **13 48 26.5 -0.3**
comp=Z,134nm,0.3s,baz=130,slow=24,SNR=4.1
MGCD Mangrove Creek 29.42 168 P **P** **13 48 29.8 +2.3**
baz=30,SNR=7.8
KKM Kota Kinabalu 29.56 290 *e*P **P** **13 48 28.2 -0.9**
comp=Z,42nm,1.0s
YNG Young 30.02 173 P **P** **13 48 34.8 +2.0**
baz=30,SNR=56
RIV Riverview 30.03 168 P **P** **13 48 35.1 +2.2**
baz=30
CAN Canberra 31.11 172 *e*P **P** **13 48 43.8 +1.3**
CAN pmax pmax
comp=Z,110nm,0.7s
CAN Canberra 31.11 172 *e*P **P** **13 48 43.8 +1.3**
comp=Z,110nm,0.7s
CAN *e*pP **pP** **13 49 08.2 +0.4**
CNB Canberra Magne 31.15 171 P **P** **13 48 44.8 +2.0**
baz=31,SNR=30
CBIJ Chichi jima 31.38 357 P **P** **13 48 43.9 -0.9**
JCJ Chichijima 31.38 357 P **P** **13 48 43.9 -0.9**
comp=Z,56nm,0.4s,baz=273,slow=17,SNR=5.5
ARPS Mount Arapiles 32.25 183 P **P** **13 48 54.5 +2.1**
baz=32,SNR=255
SBUM Sibu 32.41 282 *e*P **P** **13 48 54.2 0.0**
comp=Z,36nm,1.1s
STKI Sintang 32.72 277 P **P** **13 48 52.8 -4.1**
MEEK Meekatharra 32.77 225 P **P** **13 48 57.9 +0.7**
baz=33,SNR=112
MILA Mila 32.83 172 P **P** **13 48 59.4 +1.8**
baz=33,SNR=31
TOO Toolangi 33.03 178 P **P** **13 49 01.7 +2.5**
baz=33,SNR=38
KMBL Kambalda 33.88 215 P **P** **13 49 07.7 +0.9**
baz=34,SNR=196
GIRL Giralia 33.95 235 P **P** **13 49 08.9 +1.5**
baz=34,SNR=43
KSM Kuching 34.10 279 *e*P **P** **13 49 08.1 -0.7**
KSM *e*pP **pP** **13 49 33.1 -1.2**
JOW Kunigami 34.56 335 *e*P **P** **13 49 12.8 +0.2**
comp=Z,65nm,1.0s
JOW *e*pP **pP** **13 49 36.9 -1.3**
TWG Pinlang 35.10 321 *e*P **P** **13 49 16.0 -1.2**
comp=Z,112nm,0.7s
YULB Yu-li 35.38 322 *e*P **P** **13 49 19.7 0.0**
comp=Z,36nm,0.8s
TPUB Ta-pu 35.72 321 *e*P **P** **13 49 21.9 -0.8**
comp=Z,95nm,0.7s
NACB Ninganchiao 35.79 324 *e*P **P** **13 49 23.7 +0.6**
comp=Z,122nm,0.7s
SSLB Sungilung 35.88 322 *e*P **P** **13 49 23.7 -0.3**
comp=Z,36nm,0.7s
MSVF Nonsavu 35.92 114 *ce*P **P** **13 49 26.1 +1.6**
MSVF pmax pmax
comp=Z,35nm,1.2s
MSVF Nonsavu 35.92 114 *e*P **P** **13 49 24.7 +0.3**
MSVF *e*pP **pP** **13 49 52.5 +2.4**
CISI Cisompet, Garu 36.04 263 P **P** **13 49 23.9 -1.7**
CISI Cisompet, Garu 36.04 263 *e*P **P** **13 49 23.6 -2.0**
comp=Z,283nm,1.3s
MORW Morawa 36.05 224 P **P** **13 49 26.3 +0.9**
baz=36,SNR=42
LEM Lembang 36.21 265 pP pP 13 49 52.0 -0.8
comp=Z,91nm,0.8s,baz=47,slow=7.4,SNR=7.2
YHNB Yeheng 36.30 324 *e*P **P** **13 49 28.9 +1.4**
comp=Z,94nm,0.8s
TATO Taipei 36.46 324 *e*P **P** **13 49 29.6 +0.8**
comp=Z,380nm,0.8s
KLBR Kellerberrin 36.53 219 P **P** **13 49 30.0 +0.6**
baz=37,SNR=73
BLDU Ballidu 36.56 221 P **P** **13 49 30.5 +0.8**
baz=37,SNR=179
NWAO Narrogin (SRO) 37.76 218 P **P** **13 49 40.7 +1.0**
baz=38
NWAO P **P** **13 49 40.7 +1.0**
baz=38
NWAO Narrogin (SRO) 37.76 218 *e*P **P** **13 49 40.6 +0.8**
NWAO pmax pmax
comp=Z,110nm,0.8s
NWAO Narrogin (SRO) 37.76 218 *e*P **P** **13 49 40.6 +0.8**
comp=Z,109nm,0.8s
MUN Mundaring 37.77 220 P **P** **13 49 40.7 +0.8**
baz=38,SNR=28
MOO Moorlands 37.97 176 P **P** **13 49 44.3 +2.9**
baz=38,SNR=20
QZH Quanzhou 38.19 321⇑ *i*P **P** **13 49 44.6 +1.2**
QZH pP **pP** **13 50 11.5 +2.1**
QZH S **S** **13 55 29.4 +0.8**
QZH pmax pmax
comp=Z,110nm,0.7s
TAU Tasmania Unive 38.45 176 *e*P **P** **13 49 48.0 +2.6**
TAU pmax pmax
comp=Z,380nm,1.6s
TAU Tasmania Unive 38.45 176 *e*P **P** **13 49 48.0 +2.6**
comp=Z,376nm,1.6s
RKGY Rocky Gully 39.07 216 P **P** **13 49 52.5 +1.8**
baz=39,SNR=56
JNU Nakatsue 39.33 343 P **P** **13 49 53.3 +0.3**
comp=Z,45nm,0.8s,baz=139,slow=6.7,SNR=25
JNU ScP **ScP** **13 55 36.4 -1.2**
comp=Z,8.5nm,0.9s,baz=183,slow=4.2,SNR=3.7
JNU LR LR 14 04 41.6
comp=Z,116nm,21.3s,baz=132,slow=34
JNU Nakatsue 39.33 343 *e*P **P** **13 49 53.0 +0.1**
comp=Z,56nm,0.9s
JNU ScP **ScP** **13 55 36.4 -1.2**
MDSI Maura Dua 39.63 268 P **P** **13 49 54.7 -0.9**
TPRI Tanjung Pinang 39.72 277 P **P** **13 49 56.6 +0.1**
LWLI Liwa 39.73 267 P **P** **13 49 56.5 -0.2**
INU Inuyama 40.09 351 *e*P **P** **13 49 58.6 -0.5**
comp=Z,88nm,1.3s
GZH Guangzhou 40.48 314 P **P** **13 50 05.6 +3.0**
GZH pP **pP** **13 50 30.6 +1.9**
GZH sP **sP** **13 50 44.0 +2.2**
GZH S **S** **13 56 07.9 +4.9**
GZH sS **sS** **13 56 52.0 +3.7**
GZH pmax pmax
comp=Z,220nm,3.1s
H01W1 Cape Leeuwin H 40.97 218 P **P** **13 50 08.8 +2.6**
baz=67,slow=6.1,SNR=4.6
H01W3 Cape Leeuwin H 40.98 219 P **P** **13 50 08.7 +2.4**
baz=67,slow=4.0
H01W2 Cape Leeuwin H 40.99 219 P **P** **13 50 08.1 +1.7**
baz=67,slow=6.1,SNR=5.2
MJAR Matsushiro Arr 41.10 353 P **P** **13 50 06.3 -1.1**
comp=Z,48nm,1.2s,baz=185,slow=9.7,SNR=40
MJAR ScP **ScP** **13 55 44.1 -0.2**
comp=Z,0.6nm,0.4s,baz=187,slow=7.2,SNR=5.5
MJAR LR LR 14 07 05.2
comp=Z,112nm,19.2s,baz=155,slow=36
MAJO Matsushiro 41.10 353 *c i*P **P** **13 50 06.3 -1.1**
MAJO pmax pmax
comp=Z,132nm,1.5s
MAJO Matsushiro 41.10 353 *e*P **P** **13 50 06.1 -1.3**
comp=Z,153nm,1.4s
MAT Matsushiro 41.10 353 P **P** **13 50 05.7 -1.7**
MAT *e*S **S** **13 56 06.2 -5.6**
MJB9 Matsu-Tunnel 41.10 353 *e*P **P** **13 50 06.2 -1.3**
comp=Z,163nm,1.5s
SSE Sheshan 41.45 330 P **P** **13 50 11.8 +1.4**
SSE pmax pmax
comp=Z,140nm,0.8s
MASI Maura Aman, Be 41.61 270 P **P** **13 50 10.7 -1.4**
BKNI Bangkinang 43.11 275 *e*P **P** **13 50 23.5 -0.6**
comp=Z,143nm,0.9s
NJ2 Nanjing 43.41 328 *e*P **P** **13 50 27.8 +1.6**
NJ2 pmax pmax
comp=Z,72nm,0.7s
TJN Taejon 43.44 340 *c i*P **P** **13 50 26.7 +0.3**
PDSI Padang 43.55 273 P **P** **13 50 27.3 -0.4**
comp=Z,22nm,0.6s
IPM Ipoh 43.76 281 *e*P **P** **13 50 28.7 -0.7**
comp=Z,16nm,0.9s
HIZ Hauiti 44.07 145 *e*P **P** **13 50 34.7 +3.2**
comp=Z,233nm,1.2s
KSRS Korea Array 44.24 342 P **P** **13 50 33.5 +0.8**
comp=Z,80nm,1.0s,baz=159,slow=9.4,SNR=122
KSRS pP **pP** **13 50 59.0 -0.3**
comp=Z,42nm,0.9s,baz=158,slow=8.8,SNR=4.0
KSRS PcP **PcP** **13 52 16.0 +0.6**
comp=Z,8.0nm,0.8s,baz=164,slow=4.4,SNR=6.1
KSRS ScP **ScP** **13 55 57.6 +0.7**
comp=Z,2.4nm,1.0s,baz=143,slow=3.9,SNR=4.6
KSRS LR LR 14 07 44.0
comp=Z,153nm,18.6s,baz=144,slow=34
KS15 Wonju Array Si 44.25 342 *e*P **P** **13 50 33.3 +0.5**
KSAR Wonju Array Be 44.25 342 P **P** **13 50 33.6 +0.8**
KSAR *PP **pP** **13 50 59.0 -0.3**
KSAR 13 52 16.0
KSAR Wonju Array Be 44.25 342 P **P** **13 50 33.5 +0.8**
KSAR pP **pP** **13 50 59.0 -0.3**
KSAR PcP **PcP** **13 52 16.0 +0.6**
KSAR ScP **ScP** **13 55 57.6 +0.6**
KS01 Wonju Array Si 44.27 342 *e*P **P** **13 50 33.4 +0.3**
KULM Kulim 44.29 282 *e*P **P** **13 50 32.7 -0.9**
comp=Z,30nm,1.1s
MNSI Mandailing Nat 44.61 276 P **P** **13 50 35.5 -0.7**
AFI Afiamalu 44.66 105 LR LR 14 07 08.0
comp=Z,199nm,19.0s,baz=266,slow=33
INCN Inchon 44.69 340 *e*P **P** **13 50 37.1 +0.7**
comp=Z,144nm,0.9s
WHN Wuhan 44.81 323⇑ P **P** **13 50 39.4 +1.9**
WHN S **S** **13 57 13.3 +7.0**
WHN pmax pmax
comp=Z,230nm,1.2s
SKNT Sakolnakorn 44.82 299 P **P** **13 50 36.9 -0.9**
comp=Z,17nm,0.6s
URZ Urewera 45.24 143 P **P** **13 50 43.2 +2.4**
comp=Z,28nm,0.5s,baz=256,slow=3.9,SNR=16
URZ PcP **PcP** **13 52 18.4 -0.5**
comp=Z,38nm,0.9s,baz=352,slow=7.1,SNR=4.0
URZ Urewera 45.24 143 *e*P **P** **13 50 42.3 +1.6**
comp=Z,106nm,1.3s
URZ PcP **PcP** **13 52 18.4 -0.5**
THZ Tophouse 45.30 149 *e*P **P** **13 50 43.6 +2.3**
comp=Z,115nm,1.3s
SRAK Srakaew 45.41 294 P **P** **13 50 41.9 -0.5**
comp=Z,30nm,0.7s,comp=Z,398nm
BKZ Black Stump Fm 45.46 144 *e*P **P** **13 50 44.8 +2.2**
comp=Z,76nm,0.8s
PSI Prapat 45.54 278 P **P** **13 50 43.2 -0.4**
comp=Z,22nm,0.7s,baz=121,slow=4.2,SNR=23
PSI pP **pP** **13 51 08.3 -1.9**
comp=Z,52nm,0.8s,baz=176,slow=5.8,SNR=8.8
PSI Prapat 45.54 278 *e*P **P** **13 50 42.6 -1.0**
PSI *e*pP **pP** **13 51 08.4 -1.9**
DCZ Deep Cove 45.64 157 *e*P **P** **13 50 45.9 +2.2**
comp=Z,68nm,0.9s
LTZ Lake Taylor 45.74 151 *e*P **P** **13 50 45.9 +1.1**
comp=Z,105nm,1.1s
WKZ Wanaka 45.87 155 *e*P **P** **13 50 47.5 +1.9**
comp=Z,63nm,1.1s
RPZ Rata Peaks 45.88 153 P **P** **13 50 47.6 +1.9**
comp=Z,168nm,0.9s,baz=340,slow=2.5,SNR=48
RPZ Rata Peaks 45.88 153 *e*P **P** **13 50 47.2 +1.5**
comp=Z,136nm,0.8s
RPZ *e*pP **pP** **13 51 13.2 +0.8**
MLZ Mavora Lakes 45.94 156 *e*P **P** **13 50 48.0 +1.8**
comp=Z,66nm,0.8s
LBZ Lake Benmore 46.01 154 *e*P **P** **13 50 48.0 +1.2**
comp=Z,102nm,1.0s
OXZ Oxford 46.04 151 *e*P **P** **13 50 47.1 +0.1**
comp=Z,43nm,0.6s
PYZ Puysegur Point 46.05 158 *e*P **P** **13 50 48.3 +1.4**
comp=Z,109nm,0.9s
CHAI Chaiyaphum 46.15 297 P **P** **13 50 48.1 -0.1**
comp=Z,9.8nm,0.7s,comp=Z,91nm
NAYO Nakonayok 46.17 295 P P 13 50 54.5 +6.1
comp=Z,17nm,1.5s
WHZ Wether Hill Ro 46.30 157 *e*P **P** **13 50 50.4 +1.4**
comp=Z,37nm,0.8s
BFZ Birch Farm 46.33 146 *e*P **P** **13 50 50.6 +1.4**
comp=Z,178nm,0.8s
CRLZ Canterbury Las 46.51 151 *e*P **P** **13 50 51.6 +1.0**
comp=Z,105nm,1.3s
MQZ McQueen's Vall 46.62 151 *e*P **P** **13 50 53.5 +2.0**
comp=Z,107nm,1.1s
GSI Gunungsitoli 46.66 276 P **P** **13 50 50.9 -1.4**
GSI Gunungsitoli 46.66 276 *e*P **P** **13 50 50.9 -1.4**
comp=Z,46nm,0.9s
KCSI Kotacane, Aceh 46.79 279 P **P** **13 50 52.0 -1.3**
TPTI 47.33 279 P **P** **13 50 55.7 -1.8**
GYA Guiyang 47.36 312⇑ *i*P **P** **13 50 58.9 +1.3**
GYA pP pP 13 51 26.0 +1.5
GYA sP sP 13 51 39.3 +1.9
GYA PP **PP** **13 52 51.8 +1.9**
GYA ScP **ScP** **13 56 10.9 +0.6**
GYA PcS **PcS** **13 56 22.4 0.0**
GYA S **S** **13 57 47.3 +4.2**
GYA sS sS 13 58 31.0 +1.6
GYA ScS **ScS** **14 00 38.8 -1.7**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.3s
TIA Tai'an 47.57 330 P **P** **13 50 59.1 +0.1**
TIA pmax pmax
comp=Z,39nm,1.4s
ENH Enshi 47.70 319 *e*P **P** **13 51 00.4 +0.2**
comp=Z,50nm,0.6s
DL2 Dalian 47.79 336 P P 13 50 53.0 -7.6
DL2 S S 13 57 39.3 -9.2
DL2 sS sS 13 58 21.8 -13
ASAJ Asahikawa 48.33 359 *e*P **P** **13 51 05.1 +0.4**
comp=Z,23nm,0.8s
NANT Nan 48.42 300 P **P** **13 51 07.0 +1.2**
comp=Z,13nm,0.8s,comp=Z,143nm
VLA Vladivostok 48.56 348 *c i*P **P** **13 51 07.2 +0.8**
VLA pmax pmax
comp=Z,85nm,1.1s
LAMP Lampang 49.23 299 P **P** **13 51 13.7 +1.7**
comp=Z,9.3nm,0.7s,comp=Z,96nm
USRK Ussuriysk Ar. 49.58 349 P **P** **13 51 14.7 +0.5**
comp=Z,52nm,0.9s,baz=166,slow=8.3,SNR=42
USRK pP **pP** **13 51 40.9 -0.3**
comp=Z,13nm,0.6s,baz=159,slow=7.2,SNR=5.1
USRK ScP **ScP** **13 56 19.4 +0.2**
comp=Z,4.7nm,0.9s,baz=184,slow=3.8,SNR=4.7
USRK LR LR 14 09 53.7
comp=Z,143nm,20.3s,baz=149,slow=33
KMI Kunming 49.62 308 P **P** **13 51 17.1 +2.0**
KMI pP pP 13 51 43.6 +1.4
KMI sP sP 13 51 54.3 -0.8
KMI PP **PP** **13 53 12.6 +1.9**
KMI S **S** **13 58 17.8 +2.6**
KMI pmax pmax
comp=Z,23nm,1.1s
KMI pmax pmax
comp=Z,170nm,4.8s
KMI LR LR
comp=Z,170nm,24.2s
KMI LR LR
comp=Z,100nm,23.2s
KMI LR LR
comp=Z,290nm,35.8s
SNY Shenyang 49.62 340⇑ P **P** **13 51 15.1 +0.6**
SNY pmax pmax
comp=Z,84nm,0.6s
CM01 Chiang Mai Arr 49.78 299 *e*P **P** **13 51 16.8 +0.5**
CM31 Chiang Mai Arr 49.81 299 *e*P **P** **13 51 16.8 +0.3**
CMAR Chiang Mai Arr 49.81 299 P **P** **13 51 17.7 +1.3**
comp=Z,14nm,0.5s,baz=116,slow=6.2,SNR=60
CMAR PKPPKP P'P'df 14 21 57.9 -13
comp=Z,0.5nm,0.3s,baz=272,slow=3.3,SNR=4.3
CMAR PKP2ab 14 23 00.1
comp=Z,0.5nm,0.3s,baz=287,slow=5.5,SNR=4.1
CMAI Chiengmai2 50.30 300 P **P** **13 51 21.3 +1.0**
comp=Z,147nm,0.6s,comp=Z,20μm
MDJ Mudanjiang 50.48 347 P **P** **13 51 19.6 -1.4**
MDJ PcP **PcP** **13 52 36.3 -1.2**
MDJ PP **PP** **13 53 15.8 -2.1**
MDJ PcS **PcS** **13 56 33.8 -1.0**
MDJ S **S** **13 58 29.5 +3.4**
MDJ pmax pmax
comp=Z,38nm,1.1s
MDJ pmax pmax
comp=Z,340nm,4.9s
MDJ LR LR
comp=Z,170nm,4.2s
MDJ LR LR
comp=Z,800nm,4.7s
MDJ LR LR
comp=Z,420nm,5.4s
MDJ Mudanjiang 50.48 347 *e*P **P** **13 51 21.0 0.0**
comp=Z,69nm,1.4s
XAN Xi'an 50.54 322 P **P** **13 51 22.1 +0.4**
XAN pP pP 13 51 50.5 +1.6
XAN S **S** **13 58 26.8 -0.6**
XAN pmax pmax
comp=Z,79nm,0.9s
XAN LR LR
comp=Z,140nm,5.1s
XAN LR LR
comp=Z,170nm,5.1s
XAN LR LR
comp=Z,180nm,26.9s
CN2 Changchun 50.81 343 *e*P **P** **13 51 23.6 +0.1**
CN2 pmax pmax
comp=Z,50nm,1.0s
BJT Baijiatuan 51.06 333 *e*P **P** **13 51 25.6 +0.2**
BJT pmax pmax
comp=Z,310nm,1.8s
BJT Baijiatuan 51.06 333 *e*P **P** **13 51 25.6 +0.2**
comp=Z,310nm,1.8s
BJI Beijing 51.07 333 P **P** **13 51 25.8 +0.3**
BJI pmax pmax
comp=Z,85nm,0.9s
YSS Yuzh-Sakhalins 51.16 359⇑ *i*P **P** **13 51 26.2 +0.2**
YSS pmax pmax
comp=Z,50nm,1.6s
YSS Yuzh-Sakhalins 51.16 359 *e*P **P** **13 51 25.9 -0.1**
comp=Z,165nm,1.6s
CD2 Chengdu 52.00 315 P **P** **13 51 33.5 +0.8**
CD2 pP pP 13 52 00.6 +0.7
CD2 sP sP 13 52 13.6 +0.9
CD2 PP **PP** **13 53 32.8 +0.8**
CD2 PcS **PcS** **13 56 42.5 +0.5**
CD2 S **S** **13 58 48.8 +1.3**
CD2 SS **SS** **14 02 28.6 +2.4**
CD2 pmax pmax
comp=Z,160nm,0.5s
CD2 pmax pmax
comp=Z,330nm,4.7s
HHC Hu-ho-hao-te 53.91 330 *e*P **P** **13 51 47.4 +0.8**
HHC pP pP 13 52 14.5 +0.4
HHC sP sP 13 52 26.1 -0.7
HHC S **S** **13 59 13.1 -0.2**
HHC sS sS 14 00 04.8 +4.3
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,180nm,6.4s
KLR Kul'dur 54.47 350 P **P** **13 51 50.6 +0.3**
comp=Z,2.5nm,0.9s,baz=171,slow=4.6,SNR=62
KLR PcP **PcP** **13 52 50.1 -2.3**

comp=Z,2.0nm,0.9s,baz=326,slow=1.9,SNR=4.7
KLR LR LR 14 12 41.8
comp=Z,12nm,21.8s,baz=164,slow=33
BTO Baotou 54.52 329 *e*P **P 13 51 50.6 -0.4**
LZH Lanzhou 55.04 320 ⇑P **P 13 51 56.5 +1.6**
LZH pP pP 13 52 24.1 +1.6
LZH sP sP 13 52 36.6 +1.4
LZH PP **PP 13 54 02.8 +3.4**
LZH S **S 13 59 28.5 -0.2**
LZH sS sS 14 00 16.8 +0.7
LZH SS **SS 14 03 14.0 -0.3**
LZH pmax pmax
comp=Z,100nm,1.1s
LZH pmax pmax
comp=Z,280nm,4.0s
GRNR Gornyy 55.35 354 *e*P **P 13 51 57.5 +0.8**
SKR Severo-Kuril's 55.88 9⇑*i*P **P 13 52 01.5 +1.1**
RAR Rarotonga 57.06 112 LR LR 14 15 21.5
comp=Z,52nm,18.6s,baz=279,slow=34
NKL Nikolayevsk 57.42 358 *i* P **P 13 52 11.8 +0.5**
NKL *e* 13 52 40.0
NKL pmax pmax
comp=N,34nm,1.0s
NKL pmax pmax
comp=Z,170nm,1.0s
HIA Hailar 57.45 341 *e*P **P 13 52 12.0 +0.3**
HIA pmax pmax
comp=Z,160nm,1.4s
HIA Hailar 57.45 341 *e*P **P 13 52 12.0 +0.3**
comp=Z,160nm,1.4s
PEA0B Petropavlovsk- 58.48 10 *e*P **P 13 52 19.4 +0.7**
comp=Z,96nm,0.8s
PETK Petropavlovsk- 58.48 10 P **P 13 52 19.6 +0.9**
comp=Z,78nm,0.7s,baz=161,slow=7.0,SNR=91
PETK pP **pP 13 52 47.5 +0.9**
comp=Z,27nm,0.8s,baz=159,slow=5.9,SNR=3.0
PETK LR LR 14 16 56.5
comp=Z,84nm,19.6s,baz=228,slow=35
PETK Petropavlovsk- 58.48 10 P **P 13 52 19.7 +0.9**
PETK *PP **pP 13 52 47.5 +0.9**
PETK pmax pmax
comp=Z,81nm,0.7s
PETK pmax pmax
comp=Z,27nm,0.8s
PETK Petropavlovsk- 58.48 10 *e*P **P 13 52 19.0 +0.3**
PETK *e*pP **pP 13 52 46.7 +0.1**
PET Petropavlovsk 58.57 10⇑*e*P **P 13 52 20.3 +1.0**
PET pmax pmax
comp=Z,167nm,1.9s
SHL Shillong 58.60 303⇑*i*P **P 13 52 22.0 +1.7**
SHL *i* x x 13 52 50.0
GTA Gaotai 59.59 321 P **P 13 52 27.8 +1.0**
GTA pP pP 13 52 55.0 +0.3
GTA sP sP 13 53 07.1 -0.3
GTA ScP **ScP 13 57 01.9 -1.4**
GTA S **S 14 00 29.3 +1.1**
GTA pmax pmax
comp=Z,28nm,1.1s
GTA pmax pmax
comp=Z,220nm,5.7s
GTA LR LR
comp=Z,120nm,12.1s
GTA LR LR
comp=Z,150nm,11.6s
GTA LR LR
comp=Z,110nm,14.7s
ZEA Zeya 59.61 349 *e*P **P 13 52 27.0 +0.5**
ZEA pmax pmax
comp=N,79nm,1.2s
ZEA pmax pmax
comp=Z,89nm,1.2s
LSA Lhasa 60.85 308 P **P 13 52 37.3 +1.3**
LSA Lhasa 60.85 308 *e*P **P 13 52 36.0 0.0**
LSA pmax pmax
comp=Z,22nm,0.8s
LSA Lhasa 60.85 308 *e*P **P 13 52 36.0 0.0**
comp=Z,22nm,0.8s
ULN Ulaanbaatar 61.28 333*c i*P **P 13 52 39.2 +1.0**
ULN pmax pmax
comp=Z,28nm,0.7s
ULN Ulaanbaatar 61.28 333 *e*P **P 13 52 39.1 +0.9**
comp=Z,28nm,0.7s
SONM Songino Array 61.57 332 P **P 13 52 40.9 +0.9**
comp=Z,13nm,0.6s,baz=158,slow=7.3,SNR=114
SONM pP **pP 13 53 09.1 +0.9**
comp=Z,10nm,0.8s,baz=150,slow=6.5,SNR=5.2
SONM PcP **PcP 13 53 20.2 -0.5**
comp=Z,9.1nm,0.8s,baz=141,slow=5.8,SNR=6.3
SONM PKP2bc 14 21 57.7
comp=Z,2.9nm,1.0s,baz=269,slow=1.9,SNR=8.5
SONA1 Songino Array 61.57 332 *e*P **P 13 52 40.6 +0.4**
SONA1 *e*pP **pP 13 53 08.9 +0.7**
CIT Chita 61.88 339 *e*P **P 13 52 43.9 +1.9**
CIT *e* 13 53 11.2
CIT *e* 13 53 21.5
CIT *e* 13 53 24.6
CIT pmax pmax
comp=Z,137nm,1.8s
KIP Kipapa 62.37 63⇓*i*P **P 13 52 47.8 +2.0**
KIP pmax pmax
comp=Z,1μm,1.7s
KIP Kipapa 62.37 63 *e*P **P 13 52 46.6 +0.8**
comp=Z,214nm,1.0s
CLNS Chul'man 62.99 348 *e*P **P 13 52 48.1 -1.2**
CLNS pmax pmax
comp=Z,29nm,0.9s
CLNS pmax pmax
comp=N,21nm,1.4s
CLNS pmax pmax
comp=E,9.0nm,0.8s
KHLH Kahului Airpor 63.64 64 *e*P **P 13 52 55.4 +1.2**
comp=E,203nm,0.9s
MA2 Magadan 64.03 4 P **P 13 52 56.5 +0.5**
comp=E,40nm,0.7s,baz=180,slow=8.1,SNR=6.4
MA2 pP **pP 13 53 24.4 +0.2**
comp=E,14nm,0.7s,baz=178,slow=7.8,SNR=2.7
MA2 Magadan 64.03 4*c i*P **P 13 52 56.3 +0.3**
HPAH Hawaii Prepara 64.06 65 *e*P **P 13 52 56.1 -1.0**
comp=E,178nm,0.8s
JIRN Jiri 64.10 304 *e*P **P 13 52 58.4 +0.8**
comp=E,41nm,0.6s
POHA Pohakuloa 64.14 66 *e*P **P 13 52 58.0 +0.2**
comp=E,260nm,0.8s
PALK Pallekele 64.15 280*ce*P **P 13 52 58.7 +0.9**
PALK Pallekele 64.15 280 *e*P **P 13 52 57.7 -0.1**
PALK *e*pP **pP 13 53 25.6 -0.4**
GUN Gumba 64.45 304 *e*P **P 13 53 00.6 +0.8**
comp=E,95nm,0.7s
PKI Pulchoki 64.72 303 *e*P **P 13 53 01.9 +0.3**
comp=E,29nm,0.7s
PKIN Phulchoki 64.74 303 *e*P **P 13 53 02.2 +0.6**
comp=E,36nm,0.6s
ZAK Zakamensk 64.82 333 *e*P **P 13 53 01.5 +0.1**
ZAK pmax pmax
comp=Z,65nm,0.9s
KKN Kakani 64.91 303 *e*P **P 13 53 03.2 +0.6**
comp=Z,88nm,0.7s
DMN Daman 64.99 303 *e*P **P 13 53 04.0 +0.8**
comp=Z,101nm,0.8s
PVM Polavaram 65.15 291 *e*P **P 13 53 04.3 +0.2**
TLY Talaya 65.56 334 *e*P **P 13 53 07.1 +0.9**
TLY *e*S **S 14 01 39.6 -2.7**
TLY pmax pmax
comp=Z,24nm,0.8s
TLY MLR MLR
comp=Z,58nm,14.0s
IRK Irkutsk 65.69 334 *e*P **P 13 53 06.0 -0.9**
IRK pmax pmax
comp=Z,43nm,2.7s
CASY Casey 66.00 194 *e*P **P 13 53 09.5 +0.9**
comp=Z,48nm,0.9s
SKHT Srikalahasti 66.21 287 *e*P **P 13 53 10.5 -0.4**
PPT Papeete 66.28 107 LR LR 14 18 28.3
comp=Z,77nm,21.5s,baz=194,slow=32
PPT2 Papeete2 66.28 107 *e*LR LR 14 13 12.0
comp=Z,192nm,24.5s
KOLN Koldanda 66.30 303 *e*P **P 13 53 12.1 +0.5**
comp=Z,88nm,0.7s
DANN Dangsing 66.36 303 *e*P **P 13 53 12.0 -0.1**
comp=Z,4.9nm,0.8s
ADKI Addanki 66.39 289 *e*P **P 13 53 12.1 0.0**
ADKI *e*S **S 14 01 53.8 +0.3**
BOD Bodaibo 66.56 343⇓*i*P **P 13 53 12.0 -0.3**
BOD pmax pmax
comp=Z,49nm,0.9s
MOY Mondy 66.75 333 *e*P **P 13 53 15.0 +1.2**
MOY *e* 13 53 43.6
MOY pmax pmax
comp=Z,72nm,2.5s
PYUN Piuthan 66.92 303 *e*P **P 13 53 15.8 +0.3**
comp=Z,92nm,0.8s
NJS Nagarjunasagar 67.16 290 *e*P **P 13 53 16.5 -0.4**
YAK Yakutsk 67.16 353 P **P 13 53 16.6 +0.5**
comp=Z,16nm,0.6s,baz=271,slow=22,SNR=14
YAK Yakutsk 67.16 353*c i*P **P 13 53 15.9 -0.1**
YAK *e**PP **PcP 13 53 42.2 -1.0**
YAK *e* 13 53 46.0
YAK *e* 13 55 43.0
YAK *e*PPP PPP 13 57 24.1
YAK *e*S **S 14 02 00.6 -0.5**
YAK *e**SS **pS 14 02 39.6 +5.1**
YAK *e* 14 02 54.5
YAK *e*SS **SS 14 06 22.2 -0.5**
YAK pmax pmax
comp=Z,40nm,1.5s
YAK pmax pmax
comp=N,22nm,1.6s
YAK pmax pmax
comp=E,10.0nm,1.6s
YAK pmax pmax
comp=E,240nm,5.6s
YAK pmax pmax
comp=Z,220nm,5.1s
YAK pmax pmax
comp=N,154nm,4.6s
YAK smax smax
comp=E,164nm,4.6s
YAK smax smax
comp=N,202nm,4.8s
YAK Yakutsk 67.16 353 *e*P **P 13 53 15.7 -0.3**
comp=N,48nm,1.0s
SRLM Srisailam 67.45 289 *e*P **P 13 53 18.1 -0.8**
SEY Seymchan 67.47 4 P **P 13 53 18.4 +0.4**
comp=N,12nm,0.7s,baz=182,slow=7.2
SEY Seymchan 67.47 4⇑*i*P **P 13 53 18.3 +0.3**
RPR Rampur 67.67 292 *e*P **P 13 53 19.6 -0.5**
KNGR Kungurtug, Tuv 67.72 330⇓*i*P **P 13 53 20.8 +0.8**
HYB Hyderabad 68.05 291 *i* P **P 13 53 21.5 -1.1**
HYB *e*PcP **PcP 13 53 49.5 +1.5**
HYBB Hyderabad (bro 68.05 291 *e*P **P 13 53 21.6 -1.0**
SRSP Sriramsagar 68.56 292 *e*P **P 13 53 25.1 -0.7**
URV Uravakonda 68.77 288 *e*P **P 13 53 25.6 -1.5**
WMQ Urumqi 69.62 320 P **P 13 53 32.3 +0.4**
WMQ PcP **PcP 13 53 55.6 +1.5**
WMQ pP pP 13 54 00.8 +0.3
WMQ pmax pmax
comp=N,78nm,1.3s
WMQ pmax pmax
comp=N,550nm,5.3s
WMQ LR LR
comp=N,280nm,31.5s
WMQ LR LR
comp=N,180nm,34.5s
HVS Khovu-Aksy 69.97 329*c i*P **P 13 53 35.6 +1.7**
HVS pmax pmax
comp=Z,75nm,0.9s
KLRI Killari 70.00 291 *e*P **P 13 53 33.0 -1.7**
H08S2 Diego Garcia H 71.05 263 P **P 13 53 42.1 +1.4**
baz=49,slow=7.4,SNR=4.1
H08S3 Diego Garcia H 71.06 263 P **P 13 53 42.3 +1.5**
baz=49,slow=7.4,SNR=5.2
H08S1 Diego Garcia H 71.07 263 P **P 13 53 42.2 +1.3**
baz=49,slow=7.4,SNR=3.8
POO Poona 72.65 291 *e*P P 13 53 41.0 -10
ZSN Zaisan 73.04 323 *i* P **P 13 53 52.7 +0.4**
comp=Z,29nm,1.2s
VNDA Vanda 73.67 176 P **P 13 53 56.9 +1.4**
comp=Z,14nm,0.7s,baz=327,slow=6.4,SNR=36
VNDA Vanda 73.67 176 *e*P **P 13 53 56.5 +1.1**
comp=Z,15nm,0.7s
BILL Bilibino 73.98 9*c i*P **P 13 53 57.4 0.0**
BILL *e* 13 54 11.5
BILL *e* 13 56 41.4
BILL *e*PPP PPP 13 58 26.9
BILL *e*S **S 14 03 27.3 +7.2**
BILL pmax pmax
comp=Z,12nm,1.0s
MK01 Makanchi Array 74.33 321 *e*P **P 13 53 59.9 0.0**
MK31 Makanchi Array 74.35 321 *e*P **P 13 54 00.2 +0.2**
MK31 Makanchi Array 74.35 321 *e*P **P 13 54 00.2 +0.2**
MKAR Makanchi Array 74.35 321 P **P 13 54 00.5 +0.5**
comp=Z,12nm,0.6s,baz=98,slow=8.1,SNR=150
MKAR PKPPKP **P'P'df 14 21 28.6 -1.3**
comp=Z,1.0nm,1.0s,baz=274,slow=3.3,SNR=4.7
MKAR Makanchi Array 74.35 321 *e*P **P 13 54 00.3 +0.3**
comp=Z,167nm,0.8s
MKAR P'P' 14 21 28.6
MAKZ Makanchi 74.55 321 *e*P **P 13 54 01.5 +0.4**
MAKZ pmax pmax
comp=Z,46nm,1.0s
MAKZ Makanchi 74.55 321 *e*P **P 13 54 01.5 +0.4**
comp=Z,46nm,0.9s
UZB Uzynbulak 75.09 317⇑*i*P **P 13 54 05.2 +0.6**
comp=Z,257nm,1.0s
UZB *i* sP **sP 13 54 48.0 +2.1**
UZB *i* PP **PP 13 56 54.2 0.0**
TAOE Nuku Hiva Isla 75.44 98 *e*LR LR 14 17 31.6
comp=Z,128nm,22.4s
GAMB Gambell 75.64 19 *e*P **P 13 54 07.4 +0.5**
comp=Z,24nm,0.8s
KSH Kashi 76.06 312 P **P 13 54 11.8 +1.7**
KSH PcP **PcP 13 54 25.1 +3.3**
KSH pP pP 13 54 40.3 +1.1
KSH sP sP 13 54 53.3 +1.8
KSH PP **PP 13 57 03.9 +1.5**
KSH S **S 14 03 41.8 -2.7**
KSH pmax pmax
comp=Z,15nm,1.1s
KSH pmax pmax
comp=Z,140nm,6.3s
KSH LR LR
comp=Z,140nm,6.6s
KSH LR LR
comp=Z,210nm,6.2s
KSH LR LR
comp=Z,120nm,7.3s
ZAA0 Zalesovo Array 76.06 328 *e*P **P 13 54 08.8 -0.8**
comp=Z,41nm,0.6s
ZALV Zalesovo Beam 76.06 328 P **P 13 54 09.1 -0.5**
comp=Z,47nm,0.7s,baz=114,slow=5.5,SNR=188
ZALV pP **pP 13 54 37.9 -0.8**
comp=Z,46nm,0.9s,baz=107,slow=5.0,SNR=6.8
ZALV S **S 14 03 41.2 -2.5**
comp=Z,0.4nm,0.3s,baz=115,slow=7.0,SNR=4.2
ZALV PKPPKP **P'P'df 14 21 24.7 -1.6**
comp=Z,0.4nm,0.3s,baz=193,slow=4.4,SNR=2.2
ZALV Zalesovo Beam 76.06 328 *e*P **P 13 54 08.9 -0.7**
ZALV *e**PP **pP 13 54 38.5 -0.2**
ZALV S **S 14 03 41.2 -2.5**
ZALV Zalesovo Beam 76.06 328 *e*P **P 13 54 08.8 -0.7**
ZALV *e*pP **pP 13 54 38.5 -0.2**
ZALV S **S 14 03 41.2 -2.5**
ZALV P'P' 14 21 24.7
MDOK Medeo 76.45 316 *i* P **P 13 54 13.2 +0.9**
comp=Z,235nm,0.8s
CHGN Chignik 76.48 29 *e*P **P 13 54 11.7 -0.2**
comp=Z,83nm,0.9s
AAA Alma-Ata 76.56 316 *e*P **P 13 54 14.0 +1.3**
AAA *e*S **S 14 03 50.0 +0.3**
TIXI Tiksi 76.56 355 P **P 13 54 10.7 -1.3**
comp=Z,5.7nm,0.5s,baz=219,slow=2.4,SNR=20
TIXI Tiksi 76.56 355⇑*e*P **P 13 54 10.7 -1.3**
TIXI pmax pmax
comp=Z,19nm,1.4s
TIXI Tiksi 76.56 355 *e*P **P 13 54 10.3 -1.7**
comp=Z,9.4nm,0.8s
SEM Semipalatinsk 77.05 324⇑*e*P **P 13 54 15.0 -0.6**
comp=Z,160nm,0.7s
KUU Kurty 77.18 317⇑*i*P **P 13 54 16.6 +0.5**
comp=Z,168nm,1.0s
NVS Novosibirsk 77.30 329 *e*P **P 13 54 16.8 +0.3**
NVS *i* 13 54 45.8
NVS *e*S **S 14 03 58.3 +1.3**
NVS *e* 14 04 46.1
NVS pmax pmax
comp=Z,44nm,0.5s
NVS pmax pmax
comp=N,18nm,0.6s
NVS pmax pmax
comp=E,27nm,0.5s
NVS smax smax
comp=N,9.0nm,1.5s
NVS smax smax
comp=E,5.0nm,1.4s
KZA Kyzart 77.36 315 P **P 13 54 19.2 +1.5**
SNR=7.2
TKM2 Tokmak 2 77.38 316 P **P 13 54 18.3 +0.8**
SNR=6.5
BMNS Besmoynak 77.39 316 *e*P **P 13 54 17.8 +0.3**
comp=E,204nm,0.7s
KBK Karagaybulak 77.75 315 P pP 13 54 48.7 -0.1
SNR=6.4
UCH Uchtor 77.93 315 P **P 13 54 21.7 +0.8**
SNR=13
CHMS Chumysh 77.99 315 P **P 13 54 21.2 +0.5**
SNR=8.4
SFK Sufi-Kurgan 78.02 312 *i* P **P 13 54 21.1 -0.1**
SFK pmax pmax
comp=Z,23nm,1.2s
AAK Ala-Archa 78.06 315 P **P 13 54 21.9 +0.7**
comp=Z,7.4nm,0.7s,baz=134,slow=5.4,SNR=22
AAK pP **pP 13 54 50.3 -0.2**
comp=Z,28nm,1.0s,baz=86,slow=7.4,SNR=8.7
AAK Ala-Archa 78.06 315*c i*P **P 13 54 21.7 +0.4**
AAK pmax pmax
comp=Z,15nm,0.9s
AAK Ala-Archa 78.06 315 P **P 13 54 22.0 +0.7**
SNR=7.2
AAK Ala-Archa 78.06 315 *e*P **P 13 54 21.6 +0.3**
AAK *e*pP **pP 13 54 50.2 -0.2**
KURK Kurchatov 78.13 324*ce*P **P 13 54 21.2 0.0**
KURK pmax pmax
comp=Z,50nm,1.6s
KURK Kurchatov 78.13 324 *e*P **P 13 54 21.1 -0.1**
comp=Z,47nm,1.1s
KURK pP **pP 13 54 50.2 -0.3**
KURBB Kurchatov Arra 78.15 324 P **P 13 54 21.4 +0.1**
comp=Z,6.9nm,0.6s,baz=111,slow=4.9,SNR=48
KURBB pP **pP 13 54 50.2 -0.4**
comp=Z,16nm,0.9s,baz=110,slow=5.5,SNR=9.8
USP Ospenovka 78.25 316 P **P 13 54 22.8 +0.7**
SNR=11
AML Almayashu 78.48 314 P **P 13 54 24.9 +1.0**
SNR=12
EKS2 Erkin-Say 78.58 315 P **P 13 54 24.0 -0.1**
SNR=10
BTLS Baital 79.10 317 *i* P **P 13 54 27.0 +0.3**
comp=Z,215nm,0.8s
OHAK Old Harbor 79.41 29 *e*P **P 13 54 28.0 -0.1**
comp=Z,52nm,0.8s
MNAS Manas 79.43 314 *i* P **P 13 54 28.8 0.0**
MNAS pmax pmax
comp=Z,31nm,1.0s
KDAK Kodiak Island 79.99 29 P **P 13 54 31.9 +0.7**
comp=Z,71nm,1.1s,baz=236,slow=1.5,SNR=15
KDAK Kodiak Island 79.99 29 *e*P **P 13 54 30.3 -0.9**
comp=Z,68nm,1.0s
SVW2 Sparrevohn 80.11 25 *e*P **P 13 54 33.0 +1.1**
comp=Z,98nm,1.0s
KBL Kabul 80.13 306 *e*P **P 13 54 31.7 -1.1**
KBL *e**PP **pP 13 54 59.9 -2.2**
KBL Kabul 80.13 306 *e*P **P 13 54 31.6 -1.1**
KBL *e*pP **pP 13 55 00.2 -1.9**
DZA Taraz 80.37 315⇓*i*P **P 13 54 34.6 +0.9**
comp=Z,368nm,0.9s
KK31 Karatay Array 81.01 315 *i* P **P 13 54 36.8 -0.2**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 81.01 315 *e*P **P 13 54 36.8 -0.2**
KKAR Karatay Array 81.01 315 *e*P **P 13 54 36.8 -0.2**
KKAR *e*pP **pP 13 55 06.5 +0.1**
IUG Iuzhnay 81.11 314⇑*i*P **P 13 54 38.3 +0.6**
comp=Z,210nm,0.8s
OTUK Ortayu 81.17 320 P P 13 54 42.8 +5.0
OTUK pmax pmax
comp=Z,26nm,0.9s
HOM Homer 81.23 28 *e*P **P 13 54 38.0 +0.2**
comp=Z,274nm,0.8s
CHM Chimkent 81.46 314 *e*P **P 13 54 37.3 -2.2**
comp=Z,382nm,0.7s
BRZS Berezniki 81.46 322 *e*P **P 13 54 37.6 -1.7**
comp=Z,38nm,1.2s
BRLS Borolday 81.47 315 *e*P **P 13 54 40.1 +0.6**
comp=Z,11nm,0.7s
BRLK Bradley Lake 81.62 28 *e*P **P 13 54 39.4 -0.5**
comp=Z,37nm,0.9s
PPLA Purkeypile 82.36 25 *e*P **P 13 54 43.5 -0.4**
comp=Z,134nm,1.7s
SUA Susitna One 82.38 26 *e*P **P 13 54 43.0 -1.0**
comp=Z,41nm,0.8s
MAW Mawson 82.52 202 P **P 13 54 45.9 +1.5**
comp=Z,24nm,0.7s,baz=100,slow=7.6,SNR=16
MAW LR LR 14 29 04.1
comp=Z,39nm,19.6s,baz=62,slow=34
MAW Mawson 82.52 202 *e*P **P 13 54 45.2 +0.8**
MAW pmax pmax
comp=Z,6.0nm,0.8s
MAW Mawson 82.52 202 *e*P **P 13 54 45.2 +0.8**
comp=Z,6.0nm,0.8s
CAST Castle Rocks 82.63 24 *e*P **P 13 54 44.7 -0.4**
comp=Z,69nm,1.0s
CAST *e*pP **pP 13 55 14.2 -0.4**
RC01 Rabbit Creek A 82.67 27 *e*P **P 13 54 44.6 -0.7**
comp=Z,153nm,1.2s
PMR Palmer 83.14 26 *e*P **P 13 54 47.1 -0.6**
PMR *e**PP **pP 13 55 17.1 -0.1**
PMR pmax pmax
comp=Z,89nm,1.1s
PMR Palmer 83.14 26 *e*P **P 13 54 47.1 -0.6**
comp=Z,89nm,1.1s
PMR *e*pP **pP 13 55 17.1 -0.1**
KTH Kantishna Hill 83.16 24 *e*P **P 13 54 47.2 -0.7**
comp=Z,96nm,1.0s
BPAW Bear Paw Mtn. 83.36 24 *e*P **P 13 54 48.2 -0.6**
comp=Z,62nm,1.0s
TRF Thorofare Moun 83.37 24 *e*P **P 13 54 47.9 -1.2**
comp=Z,34nm,1.0s
SML Sawmill 83.57 26 *e*P **P 13 54 49.6 -0.4**
SML pmax pmax
comp=Z,152nm,1.0s
SML Sawmill 83.57 26 *e*P **P 13 54 49.6 -0.4**
comp=Z,152nm,1.0s
BVA0 Borovoye Array 83.70 324 P **P 13 54 51.0 +0.2**
BVA0 pmax pmax
comp=Z,69nm,0.8s
BVAR Borovoye Array 83.70 324 P **P 13 54 51.2 +0.3**
comp=Z,54nm,0.7s,baz=108,slow=6.8,SNR=314
BVAR S **S 14 04 58.6 -5.4**
comp=Z,1.2nm,0.8s,baz=101,slow=7.5,SNR=5.3
BRVK Borovoye 83.78 324*c i*P **P 13 54 51.4 +0.2**
BRVK pmax pmax
comp=Z,56nm,0.8s
BRVK Borovoye 83.78 324 *e*P **P 13 54 51.2 0.0**
comp=Z,76nm,1.0s
GLI Glacier Island 83.79 27 *e*P **P 13 54 50.9 -0.2**
comp=Z,72nm,0.8s
MLY Manley 83.84 23 *e*P **P 13 54 51.5 +0.2**
comp=Z,104nm,1.1s
MLY *e*pP **pP 13 55 21.0 +0.1**
RND Reindeer 83.95 25 *e*P **P 13 54 51.1 -0.8**
RND *e**PP **pP 13 55 20.6 -0.9**
RND pmax pmax
comp=Z,143nm,0.9s
RND Reindeer 83.95 25 *e*P **P 13 54 51.1 -0.8**
comp=Z,143nm,0.9s
RND *e*pP **pP 13 55 20.6 -0.9**
SCM Sheep Creek Mo 84.02 26 *e*P **P 13 54 52.5 +0.1**
SCM pmax pmax
comp=Z,133nm,1.1s
SCM Sheep Creek Mo 84.02 26 *e*P **P 13 54 52.5 +0.1**
comp=Z,133nm,1.1s
MCK McKinley 84.04 24 *e*P **P 13 54 51.5 -0.8**
MCK *e**PP **pP 13 55 21.2 -0.7**
MCK pmax pmax
comp=Z,137nm,1.0s
MCK McKinley 84.04 24 *e*P **P 13 54 51.5 -0.8**
comp=Z,137nm,1.0s
MCK *e*pP **pP 13 55 21.2 -0.7**
EYAK Cordova Ski Ar 84.30 28 *e*P **P 13 54 53.9 +0.3**
comp=Z,46nm,1.0s
DHY Denali Highway 84.45 25 *e*P **P 13 54 54.5 -0.1**
comp=Z,108nm,0.9s
DIV Divide 84.48 27 *e*P **P 13 54 54.9 +0.2**
comp=Z,108nm,0.9s
KLU Klutina 84.53 27 *e*P **P 13 54 55.2 +0.3**
comp=Z,96nm,1.1s
WRH Wood River Hil 84.67 24 *e*P **P 13 54 54.5 -0.9**
comp=Z,137nm,1.2s

RAGM	Ragged Mountai	84.75	28	eP		P		13 54 56.5	+0.5
	comp=Z,150nm,1.3s								
MDM	Murphy Dome	84.79	23	eP		P		13 54 55.1	-1.0
	comp=Z,64nm,1.6s								
CCB	Clear Creek Bu	84.84	24	eP		P		13 54 55.3	-1.0
	comp=Z,120nm,1.1s								
CCB				epP		pP		13 55 24.6	-1.3
COLA	College	84.91	23	eP		P		13 54 55.8	-0.8
COLA				pmax		pmax			
	comp=Z,69nm,1.0s								
COLA	College	84.91	23	eP		P		13 54 55.5	-1.1
	comp=Z,69nm,0.9s								
COLD	Coldfoot	84.94	21	eP		P		13 54 57.3	+0.6
	comp=Z,77nm,1.2s								
BMRM	Bremner River	84.97	28	eP		P		13 54 57.2	+0.2
	comp=Z,93nm,1.0s								
BMRM				epP		pP		13 55 27.1	+0.3
HDA	Harding Lake	85.10	24	eP		P		13 54 56.5	-1.1
	comp=Z,22nm,0.9s								
MRIV	Mauritius Mete	85.14	250	eP		P		13 54 59.4	+0.6
HARP	HAARP	85.18	26	eP		P		13 54 58.2	+0.1
	comp=Z,56nm,0.9s								
HARP				epP		pP		13 55 27.4	-0.3
PAX	Paxson	85.23	26	eP		P		13 54 58.3	-0.1
PAX				pmax		pmax			
	comp=Z,24nm,0.8s								
PAX	Paxson	85.23	26	eP		P		13 54 58.1	-0.3
	comp=Z,24nm,0.8s								
IL1	Eielson Array	85.26	24	eP		P		13 54 56.8	-1.6
IL1				epP		pP		13 55 26.5	-1.5
ILAR	Eielson Array	85.26	24	P		P		13 54 57.1	-1.3
	comp=Z,45nm,0.9s,baz=256,slow=4.6,SNR=331								
ILAR				pP		pP		13 55 26.6	-1.5
	comp=Z,30nm,0.8s,baz=257,slow=4.8,SNR=7.9								
ILAR				PKKP		PKKPbc		14 13 04.1	-2.5
	comp=Z,1.7nm,0.7s,baz=9.8,slow=0.9,SNR=20								
ILAR				PKPPKP		P'P'df		14 21 10.6	+1.5
	comp=Z,0.7nm,1.1s,baz=124,slow=0.3,SNR=4.4								
ILB	Eielson Array	85.26	24	eP		P		13 54 56.9	-1.5
ILB				epP		pP		13 55 26.4	-1.7
QSPA	South Pole Qui	85.54	180	P		P		13 55 01.0	+1.1
	comp=Z,36nm,0.6s,baz=351,slow=2.8,SNR=80								
QSPA				LR		LR		14 32 46.3	
	comp=Z,265nm,20.1s,baz=9.5,slow=35								
TOLK	Toolik Lake Re	85.73	20	P		P		13 55 01.6	+0.8
	baz=246								
TOLK	Toolik Lake Re	85.73	20	eP		P		13 55 01.5	+0.8
	comp=Z,34nm,0.9s								
RIDG	Independ'e Rid	85.75	25	eP		P		13 55 00.7	-0.2
	comp=Z,116nm,1.1s								
MENT	Mentasta	85.98	26	eP		P		13 55 01.8	-0.2
	comp=Z,42nm,0.8s								
SCRK	Sand Creek	86.18	25	eP		P		13 55 02.9	-0.2
	comp=Z,48nm,1.2s								
FYU	Fort Yukon	86.52	22	eP		P		13 55 04.8	+0.3
	comp=Z,188nm,1.4s								
EGAK	Eagle	87.59	24	eP		P		13 55 09.7	0.0
	comp=Z,70nm,1.1s								
DAWY	Dawson	88.15	25	eP		P		13 55 13.1	+0.5
	comp=Z,115nm,1.3s								
HYT	Haines Junctio	88.28	29	eP		P		13 55 13.1	-0.2
	comp=Z,82nm,1.1s								
HYT				epP		pP		13 55 43.3	+0.1
SKAG	Skagway	89.08	30	eP		P		13 55 17.4	+0.5
	comp=Z,76nm,1.3s								
BESE	Bessie Mountai	89.17	31	eP		P		13 55 17.9	+0.5
	comp=Z,77nm,1.4s								
GEYT	Alibeck	89.39	308	P		P		13 55 18.6	-0.3
	comp=Z,4.1nm,0.7s,baz=128,slow=2.4,SNR=8.7								
GEYT				pP		pP		13 55 48.1	-0.6
	comp=Z,12nm,1.0s,baz=126,slow=2.0,SNR=6.8								
GEYT				LR		LR		14 40 46.5	
	comp=Z,25nm,18.2s,baz=180,slow=39								
AB31	Akbulak array	89.39	319	*i* P		P		13 55 17.4	-1.2
AB31				pmax		pmax			
	comp=Z,4.0nm,0.5s								
ABKAR	Akbulak array	89.39	319	eP		P		13 55 17.2	-1.4
	comp=Z,88nm,0.6s								
WHY	Whitehorse	89.51	29	eP		P		13 55 19.1	+0.1
	comp=Z,18nm,0.8s								
WHY				epP		pP		13 55 48.8	-0.1
H02S1	DAWSON INLET T	89.67	37	P		P		13 55 20.3	+0.5
	SNR=6.5								
SVE	Sverdlovsk	90.00	327	eP		P		13 55 20.5	-0.7
WRAK	Wrangell Islan	90.18	34	eP		P		13 55 22.8	+0.7
	comp=Z,26nm,0.9s								
AKTO	Aktyubinsk	90.77	320	P		P		13 55 23.4	-1.6
	comp=Z,5.3nm,0.8s,baz=110,slow=5.4,SNR=16								
SYO	Syowa Base	91.00	200	⇓eP		P		13 55 25.8	+0.1
SYO	Syowa Base	91.00	200	⇓ePcP		PcP		13 55 27.3	+0.7
ARU	Arti	91.08	326	P		P		13 55 24.8	-1.5
	comp=Z,8.9nm,0.7s,baz=84,slow=1.2,SNR=17								
ARU	Arti	91.08	326	*d i* P		P		13 55 25.1	-1.2
ARU				*PP		pP		13 55 55.0	-1.2
ARU								13 59 03.5	
ARU				S		SKSac		14 05 45.4	-2.2
ARU				SS		SS		14 12 14.0	-6.8
ARU				pmax		pmax			
	comp=Z,14nm,0.7s								
ARU	Arti	91.08	326	eP		P		13 55 24.6	-1.7
	comp=Z,17nm,1.0s								
INK	Inuvik	91.32	22	P		P		13 55 26.7	-0.4
	comp=Z,20nm,1.0s,baz=254,slow=4.9,SNR=44								
INK				PP		PP		13 59 04.3	-1.6
	comp=Z,3.9nm,1.0s,baz=290,slow=9.1,SNR=3.4								
INK				S		SKSac		14 05 47.1	-1.4
	comp=Z,1.5nm,1.1s,baz=202,slow=32,SNR=18								
INK				PKKP		PKKPdf		14 12 49.5	+1.7
	comp=Z,5.8nm,0.8s,baz=42,slow=3.5,SNR=26								
INK				PKPPKP		P'P'df		14 20 59.5	+1.9
	comp=Z,1.1nm,1.0s,baz=98,slow=7.2,SNR=3.5								
INK	Inuvik	91.32	22	eP		P		13 55 26.3	-0.8
INK								13 59 04.3	
INK				S		SKSac		14 05 47.1	-1.4
INK				pmax		pmax			
	comp=Z,33nm,1.1s								
INK	Inuvik	91.32	22	eP		P		13 55 26.3	-0.8
	comp=Z,33nm,1.1s								
INK				PP		PP		13 59 04.3	-1.6
INK				S		SKSac		14 05 47.1	-1.4
INK				PKKP		PKKPdf		14 12 49.5	+1.7
INK				P'P'				14 20 59.5	
DLBC	Dease Lake	91.66	32	eP		P		13 55 29.0	-0.1
	comp=Z,19nm,1.1s								
BBB	Bella Bella	92.20	38	P		P		13 55 31.9	+0.4
	comp=Z,29nm,1.1s,baz=263,slow=2.9,SNR=3.7								
KCPM	Cahto Peak	94.71	51	eP		P		13 55 43.9	+0.3
	comp=Z,46nm,1.0s								
L02D	Cave Junction,	94.77	48	P		P		13 55 44.5	+0.8
	baz=268								
E03A	Lebam	94.91	44	eP		P		13 55 45.2	+1.0
	comp=Z,65nm,1.1s								
OPO	Ambohidratompo	94.98	251	P		P		13 55 44.8	-0.5
	comp=Z,11nm,0.9s,baz=92,slow=3.8,SNR=14								
OPO				pP		pP		13 56 14.1	-1.2
	comp=Z,9.9nm,0.9s,baz=108,slow=4.8,SNR=5.7								
G03D	McMinnville, O	95.09	45	P		P		13 55 45.1	+0.1
	baz=269								
HUMO	Hull Mountain	95.26	48	eP		P		13 55 46.8	+0.8
	comp=Z,26nm,1.0s								
F04D	Rainier, OR	95.28	44	P		P		13 55 46.3	+0.4
	baz=269								
M02C	Callahan	95.31	49	P		P		13 55 46.8	+0.6
	baz=269,SNR=6.7								
N02D	Trinity Center	95.41	49	P		P		13 55 47.6	+0.8
	baz=269,SNR=6.8								
YBH	Yreka Blue Hor	95.42	49	P		P		13 55 46.9	+0.1
	comp=Z,9.8nm,0.9s,baz=169,slow=3.0,SNR=18								
YBH	Yreka Blue Hor	95.42	49	eP		P		13 55 47.8	+1.0
YBH				pmax		pmax			
	comp=Z,12nm,0.9s								
YBH	Yreka Blue Hor	95.42	49	eP		P		13 55 47.1	+0.3
	comp=Z,12nm,0.9s								
WDC	Whiskeytown Da	95.53	50	eP		P		13 55 48.1	+0.9
WDC				pmax		pmax			
	comp=Z,43nm,1.6s								
WDC	Whiskeytown Da	95.53	50	eP		P		13 55 47.5	+0.3
	comp=Z,43nm,1.6s								
I04A	Tendick Farm,	95.68	47	P		P		13 55 48.0	+0.2
	baz=269								
H04A	Detroit Lake	95.85	46	eP		P		13 55 48.6	0.0
	comp=Z,17nm,0.9s								
J04D	Umpqua Nationa	95.89	47	P		P		13 55 48.9	-0.1
	baz=270,SNR=5.5								
B05A	Bryant	95.92	42	P		P		13 55 49.0	+0.3
	baz=270								
M04C	Macdoel	96.08	49	P		P		13 55 49.9	+0.1
	baz=270,SNR=5.2								
O03D	Paynes Creek	96.09	50	P		P		13 55 49.7	-0.1
	baz=269,SNR=8.8								
ORV	Oroville	96.31	51	eP		P		13 55 50.5	-0.3
ORV				pmax		pmax			
	comp=Z,28nm,1.6s								
ORV	Oroville	96.31	51	eP		P		13 55 50.2	-0.5
	comp=Z,28nm,1.6s								
I05D	Terrebonne, OR	96.45	46	P		P		13 55 51.6	+0.3
	baz=270,SNR=8.3								
G05D	Wamic, OR	96.46	45	P		P		13 55 51.6	+0.3
	baz=270								
J05D	Fort Rock, OR	96.53	47	P		P		13 55 52.1	+0.3
	baz=270,SNR=13								
AFDM	Forest Hills D	96.72	51	eP		P		13 55 52.3	-0.4
	comp=Z,11nm,1.0s								
PINE	Pine Mountain	96.74	47	eP		P		13 55 53.3	+0.5
	comp=Z,36nm,0.8s								
CMB	Columbia Colle	97.18	52	eP		Pdif		13 55 55.3	+0.5
CMB				pmax		pmax			
	comp=Z,27nm,1.6s								
CMB	Columbia Colle	97.18	52	eP		P		13 55 54.7	-0.1
	comp=Z,27nm,1.6s								
BEKR	Beckworth	97.20	51	eP		P		13 55 54.7	-0.3
	comp=Z,5.2nm,0.9s								
MOD	Modoc Plateau	97.22	48	eP		P		13 55 54.9	-0.1
	comp=Z,16nm,0.8s								
PAGB	Antelope Grade	97.28	55	eP		P		13 55 55.2	-0.1
	comp=Z,21nm,0.8s								
SMMC	Simmler	97.49	55	P		Pdif		13 55 56.5	+0.2
	baz=270								
PKM	Mcpherson Peak	97.64	56	P		Pdif		13 55 57.2	0.0
	baz=270								
MAK	Makhachkala	97.69	313	eP		P		13 55 56.8	-0.1
MAK				e*PP		pP		13 56 23.4	-3.5
MAK				e*SP		sP		13 56 33.5	-5.5
MAK				e				13 59 57.4	
MAK				eS		SKSac		14 06 22.9	-0.9
MAK				e*SS		S		14 07 11.4	-1.3
MAK				pmax		pmax			
	comp=Z,39nm,0.4s								
B08A	Colville Reser	97.76	42	eP		P		13 55 56.9	-0.2
	comp=Z,5.2nm,0.8s								
I07A	Izee	97.77	46	eP		P		13 55 56.8	-0.6
	comp=Z,14nm,0.9s								
WAKR	Walker	97.92	52	eP		Pdif		13 55 58.4	+0.1
	comp=Z,28nm,1.9s								
E08A	Dider Farm, El	98.02	44	eP		Pdif		13 55 58.5	+0.2
	comp=Z,6.3nm,0.6s								
YERR	Yerington	98.07	51	eP		P		13 55 58.8	-0.2
	comp=Z,8.1nm,1.1s								
D08A	Wollman Farm,	98.09	43	eP		P		13 55 58.4	-0.2
	comp=Z,6.3nm,0.8s								
G08A	Pilot Rock	98.13	45	eP		P		13 55 58.8	-0.1
	comp=Z,29nm,1.3s								
BLG	Laguna Peak, P	98.26	56	P		P		13 55 59.6	-0.1
	baz=270								
ARVC	Arvin	98.45	55	P		Pdif		13 56 00.5	0.0
	baz=271								
WVOR	Wild Horse Val	98.45	48	eP		Pdif		13 56 01.1	+0.6
WVOR				pmax		pmax			
	comp=Z,17nm,0.9s								
WVOR	Wild Horse Val	98.45	48	eP		Pdif		13 56 00.6	+0.1
	comp=Z,17nm,0.8s								
J08A	Circle Bar Ran	98.54	47	eP		Pdif		13 56 01.2	+0.3
	comp=Z,22nm,0.8s								
RYN	Ryan	98.64	52	eP		Pdif		13 56 02.2	+0.7
	comp=Z,5.5nm,1.0s								
E09A	Wood Farm, Sta	98.65	44	eP		Pdif		13 56 01.6	+0.5
	comp=Z,61nm,1.9s								
ISA	Isabella, Lake	98.73	55	P		P		13 56 01.7	-0.1
	baz=271								
ISA	Isabella, Lake	98.73	55	eP		Pdif		13 56 01.9	+0.1
ISA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
ISA	Isabella, Lake	98.73	55	eP		P		13 56 01.1	-0.7
	comp=Z,7.1nm,0.9s								
CIS	Catalina Islan	98.81	57	P		Pdif		13 56 02.3	+0.1
	baz=271								
NV01	Mina Array Sit	98.81	52	eP		P		13 56 01.9	-0.4
NVAR	Mina Array Bea	98.81	52	P		Pdif		13 56 02.5	+0.2
	comp=Z,3.7nm,0.8s,baz=253,slow=5.8,SNR=21								
NVAR				pP		pP		13 56 33.5	+1.1
	comp=Z,2.4nm,0.8s,baz=251,slow=6.8,SNR=3.9								
NVAR				PKKPbc		PKKPbc		14 12 30.8	+0.1
	comp=Z,0.9nm,0.7s,baz=135,slow=2.8,SNR=5.6								
NV11	Mina Array Sit	98.93	52	eP		P		13 56 02.5	-0.2
	comp=Z,0.4nm,1.1s								
CWC	Cottonwood Cre	99.04	54	P		Pdif		13 56 03.4	+0.1
	baz=271								
MWC	Mount Wilson	99.09	56	eP		Pdif		13 56 04.1	+0.5
MWC				pmax		pmax			
	comp=Z,15nm,1.0s								
MWC	Mount Wilson	99.09	56	eP		Pdif		13 56 03.4	-0.3
	comp=Z,15nm,1.0s								
EDW2	Edwards Air Fo	99.14	56	P		Pdif		13 56 03.8	+0.1
	baz=271								
YKA	Yellowknife Ar	99.20	27	P		Pdif		13 56 03.0	-0.1
	comp=Z,2.8nm,0.8s,baz=282,slow=4.8,SNR=49								
YKA				pP		pP		13 56 33.1	-0.1
	comp=Z,1.7nm,0.8s,baz=278,slow=4.6,SNR=4.4								
YKA				PP		PP		13 59 59.9	-7.1
	comp=Z,1.0nm,1.1s,baz=269,slow=8.5,SNR=4.5								
YKA				PKiKP		PKiKP		14 00 32.2	-0.3
	comp=Z,0.8nm,0.6s,baz=282,slow=1.4,SNR=12								
YKA				PKKPbc		PKKPbc		14 12 27.6	-2.7
	comp=Z,0.7nm,0.7s,baz=94,slow=2.7,SNR=3.8								
YKA				PKPPKP		P'P'df		14 20 41.5	-1.6
	comp=Z,0.1nm,0.2s,baz=114,slow=2.8,SNR=5.0								
YKA	Yellowknife Ar	99.20	27	*i* P		Pdif		13 56 03.0	-0.1
YKA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NEW	Newport	99.24	42	P		Pdif		13 56 05.6	+1.8
	comp=Z,7.2nm,0.9s,baz=145,slow=2.7,SNR=9.4								
NEW	Newport	99.24	42	P		Pdif		13 56 04.4	+0.6
	baz=274								
NEW	Newport	99.24	42	eP		Pdif		13 56 05.6	+1.8
NEW				pmax		pmax			
	comp=Z,5.0nm,0.8s								
F10A	Beach Ranch, E	99.31	44	ePdif		Pdif		13 56 03.9	-0.3
	comp=Z,8.2nm,0.8s								
BMO	Blue Mountains	99.32	45	eP		Pdif		13 56 04.0	-0.3
BMO				pmax		pmax			
	comp=Z,20nm,1.0s								
BMO	Blue Mountains	99.32	45	ePdif		Pdif		13 56 04.0	-0.3
	comp=Z,20nm,1.0s								
LRMC	Laurel Mtn Rad	99.38	55	P		Pdif		13 56 05.3	+0.5
	baz=271								
BFSC	Mount Baldy Ra	99.42	56	P		Pdif		13 56 05.3	+0.2
	baz=271								
MPMC	Manual Prospec	99.52	54	P		Pdif		13 56 05.7	+0.1
	baz=272,SNR=10.0								
GRAC	Grapevine Rang	99.60	53	P		Pdif		13 56 06.3	+0.7
	baz=272								
GNI	Garni	99.86	310	LR		LR		14 47 00.8	
	comp=Z,18nm,20.1s,baz=86,slow=39								
FURC	Furnace Creek,	100.02	54	P		Pdif		13 56 07.8	+0.4
	baz=272								
GSC	Goldstone, Bar	100.10	55	P		Pdif		13 56 08.3	+0.4
	baz=272								
GSC	Goldstone, Bar	100.10	55	eP		Pdif		13 56 08.4	+0.4
GSC	Goldstone, Bar	100.10	55	ePdif		Pdif		13 56 08.4	+0.4
ZEI	Tsey	100.35	313	eP		Pdif		13 56 03.7	-5.3
ZEI				pmax		pmax			
	comp=Z,1.0nm,0.6s								
PFO	Pinyon Flats O	100.44	57	P		Pdif		13 56 09.8	+0.2
	baz=272								
MFID	Camas Ranch	100.47	47	ePdif		Pdif		13 56 09.8	+0.4
HEC	Hector,Ludlow	100.50	56	P		Pdif		13 56 09.8	+0.1
	baz=272								
SHOC	Shoshone, Teco	100.51	54	P		Pdif		13 56 10.1	+0.4
	baz=272								
IKP	In-Ko-Pah, Jac	100.76	58	P		Pdif		13 56 11.6	+0.7
	baz=272								
BELC	Belle Mtn. Jos	100.81	56	P		Pdif		13 56 11.7	+0.6
	baz=272								
TUQ	Turquoise Moun	100.82	55	P		Pdif		13 56 11.5	+0.3
	baz=272								
KLMR	Klimovskoe	100.85	331	eP		Pdif		13 56 05.7	-4.8
KLMR				pmax		pmax			
	comp=Z,16nm,1.3s								
KLMR	Klimovskoe	100.85	331	eP		Pdif		13 56 05.8	-4.8
KLMR				AMP				13 56 12.7	
	comp=Z,16nm,1.3s								
KLMR				epP		pPdif		13 56 37.8	-2.7
R11A	Troy Canyon, C	100.95	52	P		Pdif		13 56 12.0	+0.2
	baz=273								
R11A	Troy Canyon, C	100.95	52	ePdif		Pdif		13 56 11.7	-0.1
SWSC	Sam W. Stewart	101.01	57	P		Pdif		13 56 12.5	+0.6
	baz=272								
KBZ	Khabaz	101.01	314	PKKPbc		PKKPbc		14 12 20.0	-4.4
	comp=Z,1.5nm,0.7s,baz=0.5,slow=0.2,SNR=6.2								
SNAA	Sanae	101.03	190	PP		PP		14 00 20.1	-0.3
	comp=Z,28nm,1.0s,baz=153,slow=11,SNR=12								
GMRC	Granite Mounta	101.06	56	P		Pdif		13 56 12.7	+0.4
	baz=272								
BC3	Big Chuckawall	101.27	57	P		Pdif		13 56 13.5	+0.3
	baz=272								
WALA	Waterton Lakes	101.29	41	ePdif		Pdif		13 56 12.0	-1.0
HLID	Hailey	101.48	47	P		Pdif		13 56 14.9	+0.9
	baz=275								
HLID	Hailey	101.48	47	ePdif		Pdif		13 56 13.7	-0.3
IRM	Iron Mountain	101.51	56	P		Pdif		13 56 14.6	+0.5
	baz=273								
GLA	Glamis	101.82	57	P		Pdif		13 56 16.1	+0.5
	baz=272								
NEE2	Needles Airpor	101.92	56	P		Pdif		13 56 16.4	+0.5
	baz=273								
Y12C	Blythe	102.04	57	P		Pdif		13 56 17.2	+0.7
	baz=273								
RES	Resolute Bay	102.18	13	PKKPbc		PKKPbc		14 12 20.0	-2.0
	comp=Z,1.8nm,0.8s,baz=104,slow=4.2,SNR=6.1								
RES	Resolute Bay	102.18	13	eP		Pdif		13 56 16.2	0.0
RES	Resolute Bay	102.18	13	ePdif		Pdif		13 56 15.1	-1.1
RES				PKKPbc		PKKPbc		14 12 20.0	-2.0
PDMCI	Parker Dam,Lak	102.33	56	P		Pdif		13 56 18.4	+0.7
	baz=273								
CCUT	Cedar City	102.76	53	ePdif		Pdif		13 56 20.6	+0.7
	comp=Z,5.4nm,1.0s								
LCMT	Little Creek M	102.89	53	ePdif		Pdif		13 56 20.6	+0.2
BOZ	Bozeman (W)	103.25	44	P		Pdif		13 56 22.5	+0.8
	baz=277								
MTPU	Mount Pierson	103.65	52	ePdif		Pdif		13 56 24.2	+0.2
HWUT	Hardware Ranch	103.77	48	ePdif		Pdif		13 56 23.9	-0.3
ARCES	ARCESS Array B	103.80	341	Pdiff		Pdif		13 56 22.7	-0.9
	comp=Z,14nm,1.0s,baz=71,slow=9.1,SNR=10.0								
ARCES				PKiKP		PKiKP		14 00 39.9	-0.9
	comp=Z,4.2nm,0.9s,baz=101,slow=2.5,SNR=7.2								
ARCES				PKKPbc		PKKPbc		14 12 13.0	-4.1
	comp=Z,4.5nm,1.0s,baz=236,slow=2.2,SNR=6.8								
REDW	Red Top Meadow	104.08	47	ePdif		Pdif		13 56 26.4	+0.7
MOOW	Moose Ponds	104.11	46	ePdif		Pdif		13 56 25.4	-0.3
EGMT	Eagleton	104.17	42	P		Pdif		13 56 28.6	+2.8
	baz=279,SNR=7.8								
WUAZ	Wupatki	104.52	55	P		Pdif		13 56 28.4	+0.8
	baz=275,SNR=5.5								
WUAZ	Wupatki	104.52	55	ePdif		Pdif		13 56 27.0	-0.7
BW06	Boulder Array	105.10	47	P		PKiKP		14 00 44.8	+0.5
	baz=278								
PD31	Pinedale Array	105.10	47	ePdif		Pdif		13 56 30.1	-0.1
PDAR	Pinedale Array	105.10	47	Pdiff		Pdif		13 56 30.5	+0.3
	comp=Z,2.0nm,0.6s,baz=226,slow=2.7,SNR=22								
PDAR				PKiKP		PKiKP		14 00 43.8	-0.5
	comp=Z,1.3nm,1.0s,baz=248,slow=1.6,SNR=3.9								
PDAR	Pinedale Array	105.10	47	ePdif		Pdif		13 56 29.7	-0.5
PDAR				PKiKP		PKiKP		14 00 43.8	-0.5
TUC	Tucson	105.27	58	P		PKiKP		14 00 45.3	+0.6
	baz=275								
W18A	Petrified Fore	105.89	55	ePdif		Pdif		13 56 34.4	+0.5
	comp=Z,11nm,1.1s								
O20A	White River Ci	106.45	50	P		PKiKP		14 00 47.4	+0.6
	baz=278								
MVCO	Mesa Verde	106.64	53	P		PKiKP		14 00 48.1	+0.8
	baz=277								
FINES	FINESS Array B	106.92	334	Pdiff		Pdif		13 56 36.2	-1.3
	comp=Z,5.7nm,0.9s,baz=67,slow=6.4,SNR=5.3								
FINES				PKiKP		PKiKP		14 00 46.1	-0.6
	comp=Z,1.7nm,0.6s,baz=92,slow=5.7,SNR=4.9								
K22A	Casper	107.33	47	P		PKiKP		14 00 49.0	+0.7
	baz=280								
121A	Cookes Peak, D	107.77	57	P		PKiKP		14 00 49.9	+0.5
	baz=276								
S22A	4UR Ranch, Cre	107.89	52	P		PKiKP		14 00 50.1	+0.4
	baz=279								
BRTR	Keskin Array B	108.38	310	PKKPbc		PKKPbc		14 12 02.1	-0.1
	comp=Z,0.9nm,0.7s,baz=222,slow=1.7,SNR=7.0								
ANMO	Albuquerque	108.58	55	PKiKP		PKiKP		14 00 51.2	+0.4
	comp=Z,1.6nm,0.8s,baz=128,slow=2.3,SNR=3.7								
ANMO	Albuquerque	108.58	55	P		PKiKP		14 00 51.3	+0.4
	baz=278								
Q24A	Divide	109.00	50	P		PKiKP		14 00 51.5	-0.3
	baz=280								
MNTX	Cornudas Mount	109.90	58	P		PKiKP		14 00 53.3	+0.1
	baz=277								
TXAR	Lajitas Array	111.66	60	Pdiff		Pdif		13 57 03.6	+4.1
	comp=Z,0.4nm,0.9s,baz=263,slow=2.0,SNR=3.5								
TXAR	

VTS	Vitosha	115.32	315	⇑	PKIKP	PKPdf	14 01 04.2	+0.8	
L35A	Bielow Farm, R	115.34	45		P	PKPdf	14 01 02.2	-1.1	
	baz=288								
E36A	McGregor	115.37	40		P	PKPdf	14 01 02.3	-0.9	
	baz=292								
BZS	Buzias	115.38	319	⇓	iP	PKPdf	14 01 03.9	+0.7	
BZS	Buzias	115.38	319	⇑	iP	PKKPbc	14 11 39.7	+0.6	
BZS	Buzias	115.38	319	⇓	PKIKP	PKPdf	14 01 03.9	+0.7	
SANT	Santorini	115.39	308	⇑	iP	PKKPab	14 11 44.5	+1.0	
F36A	Milaca	115.44	41		P	PKPdf	14 01 02.4	-1.0	
	baz=292								
D37A	Cotton	115.66	39		P	PKPdf	14 01 02.9	-0.9	
	baz=293								
I36A	Fitzsimmons Fa	115.77	43		P	PKPdf	14 01 03.1	-0.9	
	baz=290								
E37A	Wrenshall	115.90	40		P	PKPdf	14 01 03.5	-0.8	
	baz=293								
EYMN	Ely	115.92	38		P	PKPdf	14 01 03.8	-0.5	
	baz=294								
IDI	Anoyia	116.10	307		PKP	PKPdf	14 01 04.7	-0.3	
	comp=Z,6.8nm,0.7s,baz=112,slow=5.7,SNR=12								
IDI					PKKPbc	PKKPbc	14 11 37.9	+1.6	
	comp=Z,7.3nm,0.8s,baz=240,slow=2.4,SNR=8.8								
IDI					PKKP	PKKPdf	14 12 04.6	+2.9	
	comp=Z,8.0nm,0.9s,baz=333,slow=2.3,SNR=5.1								
IDI	Anoyia	116.10	307	⇓	iP	PKKPbc	14 11 37.5	+1.2	
IDI	Anoyia	116.10	307	e	PKPdf	PKPdf	14 01 03.9	-1.1	
IDI					PKKPbc	PKKPbc	14 11 37.9	+1.6	
IDI					PKKP	PKKPdf	14 12 04.6	+2.9	
C38A	Sawbill Land.	116.15	38		P	PKPdf	14 01 04.0	-0.7	
	baz=294								
SPMN	Marine on St.	116.15	41		P	PKPdf	14 01 04.1	-0.6	
	baz=292								
I37A	Lemond, Waseca	116.19	43		P	PKPdf	14 01 04.1	-0.7	
	baz=291								
MORC	Moravsky Berou	116.22	324	⇓	iP	PKPdf	14 01 05.4	+0.6	
MORC	Moravsky Berou	116.22	324	⇓	iP	PKKPbc	14 11 35.2	-1.2	
MORC	Moravsky Berou	116.22	324	e	PKIKP	PKPdf	14 01 05.4	+0.6	
MORC	Moravsky Berou	116.22	324	e	PKPdf	PKPdf	14 01 03.0	-1.8	
J37A	Redenius Farm,	116.33	43		P	PKPdf	14 01 04.5	-0.7	
	baz=290								
E38A	The Farm, Brul	116.42	39		P	PKPdf	14 01 04.7	-0.5	
	baz=294								
K37A	Belmond	116.46	44		P	PKPdf	14 01 04.8	-0.6	
	baz=290								
F38A	Pierce - Schro	116.47	40		P	PKPdf	14 01 04.9	-0.4	
	baz=293								
M37A	Trindle Farm,	116.62	46		P	PKPdf	14 01 05.0	-0.8	
	baz=289								
435B	Jarrell	116.63	58		P	PKPdf	14 01 05.3	-0.8	
	baz=282								
DPC	Dobruska-Polom	116.65	325	e	PKP	PKPdf	14 01 06.5	+0.9	
DPC	Dobruska-Polom	116.65	325	e	PKIKP	PKPdf	14 01 06.5	+0.9	
H38A	Maiden Rock	116.70	42		P	PKPdf	14 01 05.3	-0.5	
	baz=292								
N37A	Lee Faris, Mou	116.72	46		P	PKPdf	14 01 05.1	-0.9	
	baz=289								
G38A	Ridgeland	116.79	41		P	PKPdf	14 01 05.1	-0.9	
	baz=293								
C39A	Grand Marais	116.81	38		P	PKPdf	14 01 05.0	-0.9	
	baz=295								
I38A	Scanlan Farm,	116.90	42		P	PKPdf	14 01 05.2	-1.1	
	baz=292								
P37A	Lathrop	116.98	48		P	PKPdf	14 01 05.4	-1.1	
	baz=288								
DIVS	Divibare	117.01	318	e	PKPdf	PKPdf	14 01 06.4	-0.1	
F39A	Loretta	117.10	40		P	PKPdf	14 01 05.6	-1.0	
	baz=294								
Q37A	Longview Farm,	117.12	48		P	PKPdf	14 01 05.8	-1.0	
	baz=288								
E39A	Mellen	117.15	39		P	PKPdf	14 01 05.7	-0.9	
	baz=294								
L38A	Oak Wood Farm,	117.15	44		P	PKPdf	14 01 05.7	-1.0	
	baz=290								
G39A	Holcombe	117.19	41		P	PKPdf	14 01 05.8	-1.0	
	baz=293								
M38A	Pleasantville	117.23	45		P	PKPdf	14 01 06.2	-0.8	
	baz=290								
H39A	Augusta	117.35	41		P	PKPdf	14 01 05.9	-1.2	
	baz=293								
C40A	Isle Royale Na	117.36	37		P	PKPdf	14 01 06.3	-0.7	
	baz=296								
I39A	Houston	117.51	42		P	PKPdf	14 01 06.0	-1.5	
	baz=292								
E40A	Wakefield	117.53	39		P	PKPdf	14 01 06.5	-0.9	
	baz=295								
P38A	Dawn	117.57	47		P	PKPdf	14 01 06.8	-0.9	
	baz=289								
J39A	Decorah	117.58	43		P	PKPdf	14 01 06.0	-1.5	
	baz=292								
F40A	Park Falls	117.61	40		P	PKPdf	14 01 06.4	-1.2	
	baz=294								
Q38A	Cooks Store, C	117.72	48		P	PKPdf	14 01 06.6	-1.4	
	baz=288								
BRG	Berggiesshubel	117.72	327		iPKP	PKPdf	14 01 08.0	+0.3	
	comp=Z,5.3nm,0.7s								
BRG	Berggiesshubel	117.72	327		iPKIKP	PKPdf	14 01 07.9	+0.3	
BRG					pmax	pmax			
	comp=Z,5.0nm,0.7s								
R38A	Fenwick Farm,	117.74	49		P	PKPdf	14 01 06.7	-1.3	
	baz=288								
T38A	Diamond	117.78	50		P	PKPdf	14 01 07.1	-1.1	
	baz=287								
L39A	Vinton	117.82	44		P	PKPdf	14 01 07.0	-1.0	
	baz=291								
G40A	Rib Lake	117.83	40		P	PKPdf	14 01 07.1	-0.8	
	baz=294								
PRU	Pruhonice	117.83	326	e	PKP	PKPdf	14 01 08.3	+0.5	
PRU	Pruhonice	117.83	326	e	PKIKP	PKPdf	14 01 08.3	+0.5	
S38A	Stockton	117.90	50		P	PKPdf	14 01 07.3	-1.0	
	baz=287								
N39A	Derby Farms, D	117.90	46		P	PKPdf	14 01 07.2	-1.0	
	baz=290								
M39A	Webster	117.93	45		P	PKPdf	14 01 07.6	-0.7	
	baz=291								
H40A	Chili	117.96	41		P	PKPdf	14 01 07.7	-0.6	
	baz=294								
CLL	Collm	118.01	328		iPKIKP	PKPdf	14 01 08.0	-0.1	
CLL					i		14 01 40.2		
CLL					pmax	pmax			
	comp=Z,10.0nm,0.9s								
CLL	Collm	118.01	328		iPKPdf	PKPdf	14 01 08.0	-0.1	
	comp=Z,10.0nm,0.9s								
CLL					iPKPdf	pPKPdf	14 01 40.2	+0.9	
CLL					ePS	PS	14 12 10.0	-1.1	
CLL					eSS	SS	14 18 18.0	-11	
CLL					eSSS	SSS	14 23 00.0		
CONA	Conrad Observa	118.04	323		ePKIKP	PKPdf	14 01 08.3	-0.1	
	comp=Z,4.6nm,0.8s								
CONA					ePKKPab	PKKPbc	14 11 29.8	-0.2	
	comp=Z,6.7nm,1.3s								
O39A	Kirksville	118.08	46		P	PKPdf	14 01 07.8	-0.8	
	baz=290								
E41A	Kenton	118.11	39		P	PKPdf	14 01 07.9	-0.6	
	baz=296								
PDG	Podgorica	118.12	316	⇑	iP	PKKPbc	14 11 29.5	+0.2	
Q39A	Willow Grove F	118.16	48		P	PKPdf	14 01 07.8	-1.0	
	baz=289								
P39B	Salisbury	118.18	47		P	PKPdf	14 01 08.1	-0.8	
	baz=289								
K40A	Colesburg	118.20	43		P	PKPdf	14 01 07.6	-1.2	
	baz=292								
J40A	Soldiers Grove	118.21	42		P	PKPdf	14 01 07.6	-1.2	
	baz=293								
S39A	Bolivar	118.33	49		P	PKPdf	14 01 08.2	-1.0	
	baz=288								
F41A	Three Lakes	118.33	39		P	PKPdf	14 01 08.0	-0.9	
	baz=295								
R39A	Chumby, Stover	118.35	49		P	PKPdf	14 01 08.3	-0.8	
	baz=286								
L40A	Anamosa	118.38	44		P	PKPdf	14 01 08.4	-0.8	
	baz=292								
M40A	Post Highland	118.42	45		P	PKPdf	14 01 08.4	-0.8	
	baz=291								
H41A	Junction City	118.45	41		P	PKPdf	14 01 08.5	-0.7	
	baz=294								
T39A	Clever	118.49	50		P	PKPdf	14 01 08.4	-1.1	
	baz=288								
N40A	Mertquake, Sal	118.55	45		P	PKPdf	14 01 08.6	-0.9	
	baz=291								
ARSA	Arzberg	118.56	323	e	PKiKP	PKiKP	14 01 09.4	0.0	
	comp=Z,4.8nm,1.1s								
U39A	Green Forest	118.59	51		P	PKPdf	14 01 08.8	-1.0	
	baz=287								
O40A	La Belle	118.61	46		P	PKPdf	14 01 08.7	-0.9	
	baz=290								
X39A	Fountain Ranch	118.62	53		P	PKPdf	14 01 09.9	0.0	
	baz=286								
V39A	Pettigrew	118.62	51		P	PKPdf	14 01 09.0	-0.9	
	baz=287								
P40A	Paris	118.69	47		P	PKPdf	14 01 09.0	-0.8	
	baz=290								
W39A	Magazine	118.69	52		P	PKPdf	14 01 09.4	-0.6	
	baz=286								
J41A	Loganville	118.71	42		P	PKPdf	14 01 08.5	-1.3	
	baz=293								
JFWS	Jewell Farm	118.73	43		P	PKPdf	14 01 08.5	-1.3	
	baz=293								
JFWS	Jewell Farm	118.73	43	e	PKIKP	PKPdf	14 01 08.9	-0.9	
JFWS	Jewell Farm	118.73	43	e	PKPdf	PKPdf	14 01 07.9	-1.9	
E42A	Champion	118.78	38		P	PKPdf	14 01 08.8	-0.9	
	baz=297								
KHC	Kasperske Hory	118.80	325	e	PKP	PKPdf	14 01 10.0	+0.2	
KHC				e	pPKP	pPKPdf	14 01 41.6	+0.6	
KHC	Kasperske Hory	118.80	325	e	PKIKP	PKPdf	14 01 10.0	+0.2	
KHC				e			14 01 41.6		
KHC	Kasperske Hory	118.80	325	e	PKPdf	PKPdf	14 01 08.9	-0.9	
K41A	Shullsburg	118.81	43		P	PKPdf	14 01 08.8	-1.2	
	baz=293								
Q40A	Laux Farm, Aux	118.84	48		P	PKPdf	14 01 09.2	-0.9	
	baz=290								
GEC2	GERESS Array S	118.87	325	e	PKIKP	PKPdf	14 01 08.5	-1.5	
GEC2	GERESS Array S	118.87	325	e	PKPdf	PKPdf	14 01 08.4	-1.5	
GERES	GERESS Array B	118.87	325		PKP	PKPdf	14 01 10.1	0.0	
	comp=Z,5.4nm,0.8s,baz=48,slow=2.0,SNR=28								
GERES					pPKP	pPKPdf	14 01 40.3	-1.0	
	comp=Z,2.6nm,0.7s,baz=124,slow=0.5,SNR=4.4								
GERES					PKKPbc	PKKPbc	14 11 26.3	-0.8	
	comp=Z,1.4nm,0.7s,baz=199,slow=3.7,SNR=9.9								
GERES					PKKP	PKKPdf	14 11 51.8	-4.8	
	comp=Z,0.8nm,0.7s,baz=0.0,slow=1.3,SNR=5.0								
GEA0	GERESS Array S	118.88	325	e	PKPdf	PKPdf	14 01 09.0	-1.0	
L41A	Preston	118.88	44		P	PKPdf	14 01 09.4	-0.6	
	baz=292								
R40A	Maddies Statio	118.93	48		P	PKPdf	14 01 09.4	-0.9	
	baz=289								
G42A	Mountain	118.97	40		P	PKPdf	14 01 09.2	-1.0	
	baz=296								
S40A	Lebanon	118.97	49		P	PKPdf	14 01 09.5	-1.0	
	baz=288								
MOA	Molln	119.03	324		iPKiKP	PKiKP	14 01 10.2	-0.1	
	comp=Z,2.1nm,0.7s								
MOA				e	PKKPab	PKKPbc	14 11 26.1	-0.2	
	comp=Z,5.4nm,0.7s								
U40A	Yellville	119.09	51		P	PKPdf	14 01 09.6	-1.1	
	baz=288								
T40A	Mansfield	119.10	50		P	PKPdf	14 01 09.8	-0.9	
	baz=288								
M41A	Milan	119.11	45		P	PKPdf	14 01 09.4	-1.1	
	baz=292								
N41A	Harden Midland	119.13	45		P	PKPdf	14 01 09.7	-0.9	
	baz=291								
H42A	Shiocton	119.22	41		P	PKPdf	14 01 10.0	-0.7	
	baz=295								
I42A	Draeger Farm,	119.23	41		P	PKPdf	14 01 09.9	-0.8	
	baz=295								
W40A	Ferguson Farm,	119.26	52		P	PKPdf	14 01 10.3	-0.7	
	baz=287								
V40A	Witts Springs	119.27	51		P	PKPdf	14 01 10.2	-0.9	
	baz=287								
J42A	Columbus	119.33	42		P	PKPdf	14 01 10.2	-0.7	
	baz=294								
O41A	Passleys Farm,	119.33	46		P	PKPdf	14 01 10.0	-0.9	
	baz=291								
P41A	Barry, Barry	119.35	46		P	PKPdf	14 01 10.2	-0.8	
	baz=291								
E43A	Lone Tree Farm	119.37	38		P	PKPdf	14 01 10.1	-0.8	
	baz=298								
K42A	Prairie Point,	119.39	43		P	PKPdf	14 01 09.9	-1.1	
	baz=294								
Y40A	Okolona	119.42	53		P	PKPdf	14 01 10.9	-0.5	
	baz=286								
G43A	Wallace	119.44	39		P	PKPdf	14 01 10.3	-0.8	
	baz=296								
Q41A	Truxton	119.48	47		P	PKPdf	14 01 11.0	-0.3	
	baz=290								
L42A	Oliver, Polo	119.48	44		P	PKPdf	14 01 10.3	-1.0	
	baz=293								
OBKA	Obir	119.49	322	e	PKKPab	PKKPab	14 11 25.1	-0.3	
	comp=Z,6.2nm,0.7s								
F43A	Flat Rock, Esc	119.51	39		P	PKPdf	14 01 10.5	-0.6	
	baz=297								
S41A	Jilge Farms,	119.55	49		P	PKPdf	14 01 10.8	-0.8	
	baz=289								
R41A	Rosebud	119.59	48		P	PKPdf	14 01 10.9	-0.6	
	baz=290								
N42A	Yates City	119.67	45		P	PKPdf	14 01 10.6	-1.0	
	baz=292								
T41A	Mountain View	119.71	50		P	PKPdf	14 01 11.0	-0.9	
	baz=289								
H43A	Windswept, Lux	119.73	40		P	PKPdf	14 01 11.1	-0.6	
	baz=296								
I43A	Langenfeld Bro	119.74	41		P	PKPdf	14 01 10.9	-0.8	
	baz=295								
J43A	Natural Harves	119.77	42		P	PKPdf	14 01 11.1	-0.6	
	baz=295								
V41A	Mountainview	119.80	51		P	PKPdf	14 01 11.0	-1.1	
	baz=288								
U41A	Viola	119.81	50		P	PKPdf	14 01 11.0	-1.1	
	baz=288								
O42A	Bath	119.87	46		P	PKPdf	14 01 11.1	-0.9	
	baz=292								
P42A	Winchester	119.90	46		P	PKPdf	14 01 11.4	-0.7	
	baz=291								
F44A	Big Bay de Noc	119.91	38		P	PKPdf	14 01 11.3	-0.6	
	baz=298								
W41B	Gary Mavity, V	119.91	52		P	PKPdf	14 01 11.5	-0.8	
	baz=287								
KBA	Koelnbreinsper	119.95	323	e	PKPdf	PKPdf	14 01 10.8	-1.4	
	comp=Z,7.1nm,1.1s								
KBA				e	PKKPbc	PKKPbc	14 11 20.7	-2.4	
	comp=Z,3.9nm,0.7s								
MYKA	Terra Mystica	119.98	323	e	PKKPab	PKKPab	14 11 21.5	-1.7	
	comp=Z,5.8nm,0.6s								
Q42A	Golden Eagle	120.00	47		P	PKPdf	14 01 11.5	-0.8	
	baz=291								
R42A	Luebbering	120.03	48		P	PKPdf	14 01 11.7	-0.7	
	baz=290								
L43A	Garden Prairie	120.04	43		P	PKPdf	14 01 11.7	-0.7	
	baz=294								
K43A	Burlington	120.11	42		P	PKPdf	14 01 11.4	-1.0	
	baz=294								
M43A	Waltham Townsh	120.19	44		P	PKPdf	14 01 11.6	-1.0	
	baz=293								
S42A	Caledonia	120.20	48		P	PKPdf	14 01 11.8	-1.0	
	baz=290								
T42A	Van Buren	120.22	49		P	PKPdf	14 01 11.8	-1.0	
	baz=289								
N43A	Stutzman Famil	120.23	45		P	PKPdf	14 01 11.7	-1.0	
	baz=293								
HDIL	Hopedale	120.29	45		P	PKPdf	14 01 12.1	-0.7	
	baz=292								
U42A	Revenden	120.33	50		P	PKPdf	14 01 12.4	-0.6	
	baz=289								
O43A	Sugar Creek Fa	120.38	45		P	PKPdf	14 01 12.4	-0.6	
	baz=292								
V42A	Cord	120.38	51		P	PKPdf	14 01 12.3	-0.9	
	baz=288								
FVM	French Village	120.40	48	e	PKIKP	PKPdf	14 01 12.4	-0.8	
FVM	French Village	120.40	48	e	PKPdf	PKPdf	14 01 11.8	-1.4	
P43A	Skaggs, Pawnee	120.47	46		P	PKPdf	14 01 12.6	-0.7	
	baz=292								
MATE	Matera	120.57	315	⇑	iP	PKPdf	14 01 13.5	+0.2	
Q43A	New Douglas	120.60	47		P	PKPdf	14 01 12.4	-1.0	
	baz=291								
F45A	CMU Biological	120.60	38		P	PKPdf	14 01 12.5	-0.8	
	baz=298								
L44A	Lake County Fo	120.61	43		P	PKPdf	14 01 12.6	-0.8	
	baz=294								
ABTA	Abfaltersbach	120.61	323	e	PKiKP	PKPdf	14 01 13.1	-0.3	
	comp=Z,12nm,1.0s								
ABTA				e	PKKPab	PKKPab	14 11 20.1	-0.5	
	comp=Z,3.8nm,0.6s								
R43A	Red Bud	120.67	48		P	PKPdf	14 01 12.6	-1.0	
	baz=291								
S43A	Fulton Ridge,	120.81	48		P	PKPdf	14 01 12.9	-1.0	
	baz=290								
T43A	Greenville	120.81	49		P	PKPdf	14 01 12.8	-1.1	
	baz=290								
M44A	Midewin, Midew	120.84	44		P	PKPdf	14 01 13.1	-0.8	
	baz=294								
WATA	Walderalm	120.86	324		iPKiKP	PKiKP	14 01 14.3	+0.2	
	comp=Z,15nm,1.1s								
WTTA	Wattenberg	120.86	324		iPKiKP	PKPdf	14 01 14.0	0.0	
	comp=Z,11nm,0.8s								
U43A	Rector	120.96	50		P	PKPdf	14 01 13.5	-0.7	
	baz=289								
N44A	Piper City	121.01	44		P	PKPdf	14 01 13.6	-0.6	
	baz=294								
542A	Morse	121.02	57		P	PKPdf	14 01 13.8	-0.7	
	baz=284								
F46A	Macinaw City C	121.02	38		P	PKPdf	14 01 13.4	-0.7	
	baz=299								
O44A	Mansfield	121.03	45		P	PKPdf	14 01 13.8	-0.5	
	baz=293								
TIP	Timpagrande	121.09	314	⇓	iP	PKPdf	14 01 14.6	+0.1	
TIP	Timpagrande	121.09	314	⇓	iP	PKKPbc	14 11 16.7	-1.8	
TIP	Timpagrande	121.09	314	e	PKPdf	PKPdf	14 01 13.8	-0.7	
Q44A	Meyer Farm, Va	121.11	47		P	PKPdf	14 01 13.7	-0.8	
	baz=292								
MOTA	Moosalm	121.13	324		iPKiKP	PKPdf	14 01 14.1	-0.4	
	comp=Z,14nm,0.8s								
MOTA					iPKKPab	PKKPab	14 11 17.8	-0.5	
	comp=Z,4.8nm,0.6s								
P44A	Sand Creek, Wi	121.18	46		P	PKPdf	14 01 14.0	-0.6	
	baz=292								
R44A	Waltonville	121.30	47		P	PKPdf	14 01 13.9	-0.9	
	baz=291								
T44A	Benton	121.33	49		P	PKPdf	14 01 14.1	-0.9	
	baz=290								
S44A	Carbondale	121.37	48		P	PKPdf	14 01 14.3	-0.7	
	baz=291								
N45A	Kentland	121.42	44		P	PKPdf	14 01 14.5	-0.6	
	baz=294								
O45A	Potomac	121.52	45		P	PKPdf	14 01 14.8	-0.4	
	baz=294								
FETA	Feichten	121.52	324		iPKiKP	PKPdf	14 01 15.1	-0.1	
	comp=Z,12nm,0.9s								
V44A	Blytheville	121.53	50		P	PKPdf	14 01 14.5	-0.8	
	baz=289								
GLMI	Grayling	121.57	39		P	PKPdf	14 01 14.5	-0.7	
	baz=299								
543A	St. Martinvill	121.61	57		P	PKPdf	14 01 14.3	-1.4	
	baz=285								
Q45A	Warren Harvey,	121.73	46		P	PKPdf	14 01 15.2	-0.4	
	baz=292								
P45A	Graceland, Par	121.79	46		P	PKPdf	14 01 15.1	-0.6	
	baz=293								
OLIL	Olney	121.84	47	e	PKPdf	PKPdf	14 01 15.5	-0.4	
DAVA	Damuels	121.87	325		iPKiKP	PKiKP	14 01 16.0	-0.1	
	comp=Z,11nm,0.6s								
R45A	Skylar, Fairfi	121.87	47		P	PKPdf	14 01 15.5	-0.5	
	baz=292								
S45A	Carrier Mills	121.88	48		P	PKPdf	14 01 15.2	-0.8	
	baz=292								
SFIN	Lafayette	121.90	44		P	PKPdf	14 01 15.5	-0.4	
	baz=294								
SFIN	Lafayette	121.90	44	e	PKPdf	PKPdf	14 01 15.2	-0.7	
Z44A	Pea Ridge, Bel	121.90	53		P	PKPdf	14 01 15.8	-0.4	
	baz=288								
N46A	Monticello	121.94	44		P	PKPdf	14 01 15.5	-0.5	
	baz=295								
FUORN	Ofenpass-Fuorn	122.00	324	e	PKPdf	PKPdf	14 01 15.0	-1.3	
MEM	Membach	122.04	330	⇑	PKP	PKPdf	14 01 16.2	+0.3	
244A	Avery, Jackson	122.06	55		P	PKPdf	14 01 15.7	-0.8	
	baz=287								
P46A	Rosedale	122.13	45		P	PKPdf	14 01 15.7	-0.7	
	baz=294								
BFO	Black Forest	122.17	327		iPKIKP	PKPdf	14 01 17.1	+0.8	
TSUM	Tsumeb	122.23	244		PKP	PKPdf	14 01 18.6	+1.2	
	comp=Z,9.8nm,0.8s,baz=109,slow=0.8,SNR=15								
V45A	Humboldt	122.27	50		P	PKPdf	14 01 15.9	-0.9	
	baz=290								
W45A	Hickory Valley	122.29	51		P	PKPdf	14 01 15.9	-0.9	
	baz=290								
OXF	Oxford	122.33	52		P	PKPdf	14 01 16.1	-0.9	
	baz=289								
Z45A	Winona	122.47	53		P	PKPdf	14 01 16.7	-0.6	
	baz=288								
BCLA	Clavier	122.51	330	⇓	PKP	PKPdf	14 01 17.4	+0.6	
O47A	Sheridan	122.61	44		P	PKPdf	14 01 16.6	-0.8	
	baz=295								
TUE	Stuetta	122.62	324	e	PKPdf	PKPdf	14 01 16.6	-0.9	
T46A	Princeton	122.62	48		P	PKPdf	14 01 17.0	-0.4	
	baz=292								
U46A	Springville	122.65	49		P	PKPdf	14 01 16.6	-0.9	
	baz=291								
245A	Little AP, Sta	122.70	55		P	PKPdf	14 01 16.9	-0.8	
	baz=287								
445A	Amite	122.71	56		P	PKPdf	14 01 17.2	-0.6	
	baz=286								
EKA	Eskdalemuir Ar	122.76	338		PKP	PKPdf	14 01 17.1	0.0	
	comp=Z,5.6nm,0.5s,baz=36,slow=3.1,SNR=24								
EKA					pPKP	pPKPdf	14 01 48.0	-0.4	
	comp=Z,4.7nm,0.5s,baz=36,slow=3.0,SNR=6.1								
BLO	Bloomington	122.80	45	e	PKIKP	PKPdf	14 01 17.8	+0.1	
BLO	Bloomington	122.80	45	e	PKPdf	PKPdf	14 01 16.5	-1.2	
645A	Chauvin	122.83	58		P	PKPdf	14 01 17.2	-0.8	
	baz=285								
P47A	Martinsville	122.85	45		P	PKPdf	14 01 17.2	-0.6	
	baz=294								
V46A	Holladay	122.89	50		P	PKPdf	14 01 17.4	-0.5	
	baz=291								
W46A	Michie	122.92	51		P	PKPdf	14 01 17.4	-0.7	
	baz=290								
X46A	Booneville	122.96	51		P	PKPdf	14 01 17.2	-0.9	
	baz=290								
Q47A	Bedord North L	122.96	46		P	PKPdf	14 01 17.3	-0.7	
	baz=294								
Y46A	Houston	122.97	52		P	PKPdf	14 01 17.3	-0.9	
	ba

comp=Z,31nm,0.7s,baz=256,slow=2.2,SNR=94
PLCA Paso Flores 125.09 148 *e*PKIKP **PKPdf** 14 01 23.2 +1.0
PLCA Paso Flores 125.09 148 *e*PKPdf **PKPdf** 14 01 23.1 +1.0
X50A Fort Payne 125.26 50 P **PKPdf** 14 01 21.6 -1.1
baz=292
Z50A Ashland 125.48 52 P **PKPdf** 14 01 22.1 -1.0
baz=291
150A Eclectic 125.63 53 P **PKPdf** 14 01 22.8 -0.5
baz=290
250A Grady 125.65 53 P **PKPdf** 14 01 22.9 -0.5
baz=290
CPCT Cooper Cave 125.74 49 *e*PKPdf **PKPdf** 14 01 22.6 -0.9
ERPA Erie 125.84 40 P **PKPdf** 14 01 22.9 -0.6
baz=302
PLVO Plevna 125.98 35 *e*PKPdf **PKPdf** 14 01 22.8 -0.8
TZTN Tazewell 126.02 47 P **PKPdf** 14 01 23.7 -0.3
baz=295
TZTN Tazewell 126.02 47 *e*PKPdf **PKPdf** 14 01 23.3 -0.7
SSB Saint Sauveur 126.06 325 *e*PKIKP **PKPdf** 14 01 23.6 -0.2
151A Opelika 126.21 52 P **PKPdf** 14 01 24.0 -0.5
baz=291
TKL Tuckaleechee C 126.22 48 PKP **PKPdf** 14 01 24.3 -0.1
comp=Z,21nm,0.8s,baz=166,slow=4.1,SNR=27
TKL pPKP **pPKPdf** 14 01 53.9 -1.8
comp=Z,9.3nm,0.8s,baz=182,slow=1.3,SNR=4.1
TKL Tuckaleechee C 126.22 48 *e*PKIKP **PKPdf** 14 01 24.5 +0.1
TKL Tuckaleechee C 126.22 48 *e*PKPdf **PKPdf** 14 01 23.3 -1.1
TKL pPKP **pPKPdf** 14 01 53.9 -1.8
251A Midway 126.29 53 P **PKPdf** 14 01 24.2 -0.4
baz=290
M54A Oil Creek Stat 126.36 40 P **PKPdf** 14 01 23.9 -0.7
baz=302
M54A Oil Creek Stat 126.36 40 *e*PKPdf **PKPdf** 14 01 23.8 -0.7
N54A Moraine State 126.44 41 P **PKPdf** 14 01 24.1 -0.6
baz=301
N54A Moraine State 126.44 41 *e*PKPdf **PKPdf** 14 01 24.1 -0.6
451A Vernon 126.52 55 P **PKPdf** 14 01 24.5 -0.6
baz=289
MMNY Mt. Morris Dam 126.81 38 *e*PKPdf **PKPdf** 14 01 24.2 -1.1
252A Lumpkin 126.86 53 P **PKPdf** 14 01 25.3 -0.4
baz=291
452A Marianna 126.90 54 P **PKPdf** 14 01 25.6 -0.2
baz=290
BG3 Lake Jocassee 127.12 49 *e*PKPdf **PKPdf** 14 01 25.8 -0.3
MCWV Mont Chateau 127.19 42 P **PKPdf** 14 01 25.9 -0.3
baz=300
GOGA Godfrey 127.34 51 P **PKPdf** 14 01 26.0 -0.5
baz=293
GOGA Godfrey 127.34 51 *e*PKIKP **PKPdf** 14 01 25.8 -0.8
GOGA Godfrey 127.34 51 *e*PKPdf **PKPdf** 14 01 25.8 -0.8
353A Camilla 127.50 53 P **PKPdf** 14 01 26.7 -0.2
baz=291
453A Whigham 127.59 54 P **PKPdf** 14 01 27.1 0.0
baz=290
LONY Lake Ozonia 127.64 34 P **PKPdf** 14 01 26.4 -0.5
baz=309
LONY Lake Ozonia 127.64 34 *e*PKPdf **PKPdf** 14 01 26.1 -0.7
O56A Blue Knob Stat 127.72 41 P **PKPdf** 14 01 26.8 -0.4
baz=302
O56A Blue Knob Stat 127.72 41 *e*PKPdf **PKPdf** 14 01 26.6 -0.6
553A Crawfordville 127.73 55 P **PKPdf** 14 01 27.3 -0.1
baz=290
KEST Kesra 127.87 313 PKP **PKPdf** 14 01 29.0 +1.3
comp=Z,11nm,0.9s,baz=276,slow=1.1,SNR=7.3
KEST pPKP **pPKPdf** 14 01 57.7 -1.2
comp=Z,6.4nm,0.7s,baz=337,slow=4.0,SNR=3.0
HODGE **Hodges 127.94 49** *e*PKPdf **PKPdf** 14 01 27.1 -0.6
SSPA Standing Stone 127.97 40 P **PKPdf** 14 01 27.0 -0.5
baz=303
SSPA Standing Stone 127.97 40 *e*PKPdf **PKPdf** 14 01 26.9 -0.7
TIGA Tifton 127.97 53 P **PKPdf** 14 01 27.3 -0.5
baz=291
BLA Blacksburg 127.98 45 P **PKPdf** 14 01 27.4 -0.3
baz=298
BLA Blacksburg 127.98 45 *e*PKIKP **PKPdf** 14 01 27.9 +0.1
BLA Blacksburg 127.98 45 *e*PKPdf **PKPdf** 14 01 26.6 -1.2
254A Abbeville 128.03 52 P **PKPdf** 14 01 27.3 -0.6
baz=292
FRNY Flat Rock 128.06 33 *e*PKPdf **PKPdf** 14 01 26.5 -1.1
454A Quitman 128.20 54 P **PKPdf** 14 01 27.8 -0.5
baz=291
KMSC Kings Mountain 128.25 48 P **PKPdf** 14 01 27.8 -0.5
baz=296
KMSC Kings Mountain 128.25 48 *e*PKPdf **PKPdf** 14 01 28.1 -0.2
NCB Newcomb 128.25 35 *e*PKPdf **PKPdf** 14 01 27.4 -0.6
BINY Binghamton 128.28 37 P **PKPdf** 14 01 27.7 -0.4
baz=306
554A Perry 128.37 55 P **PKPdf** 14 01 28.1 -0.5
baz=290
355A Pearson 128.60 53 P **PKPdf** 14 01 28.5 -0.5
baz=292
JSC Jenkinsville 128.67 49 *e*PKIKP **PKPdf** 14 01 30.2 +1.1
JSC Jenkinsville 128.67 49 *e*PKPdf **PKPdf** 14 01 29.0 0.0
655A Horseshoe Beac 128.92 55 P **PKPdf** 14 01 29.4 -0.3
baz=290
PAGS Pennsylvania G 128.93 40 *e*PKPdf **PKPdf** 14 01 28.1 -1.3
555A McAlpin 128.94 54 P **PKPdf** 14 01 29.4 -0.3
baz=291
N59A State Game Lan 129.15 39 P **PKPdf** 14 01 29.6 -0.2
baz=305
N59A State Game Lan 129.15 39 *e*PKPdf **PKPdf** 14 01 29.6 -0.2
IP04 Greensprings 129.16 43 *e*PKPdf **PKPdf** 14 01 29.9 0.0
356A Blackshear 129.18 53 P **PKPdf** 14 01 29.8 -0.3
baz=292
IP03 Louisa 129.25 43 *e*PKPdf **PKPdf** 14 01 30.1 +0.1
MVL Millersville 129.30 40 *e*PKPdf **PKPdf** 14 01 29.9 -0.2
SPRD Spring Road, M 129.34 43 *e*PKPdf **PKPdf** 14 01 29.7 -0.6
IP01 Cuckoo 129.35 43 *e*PKPdf **PKPdf** 14 01 30.1 -0.1
LBNH Lisbon 129.35 33 P **PKPdf** 14 01 29.8 -0.3
baz=311
LBNH Lisbon 129.35 33 *e*PKIKP **PKPdf** 14 01 31.2 +1.1
LBNH Lisbon 129.35 33 *e*PKPdf **PKPdf** 14 01 30.5 +0.4
556A Lake Butler 129.44 54 P **PKPdf** 14 01 30.1 -0.6
baz=291
456A Hilliard 129.49 53 P **PKPdf** 14 01 30.1 -0.6
baz=292
656A Willston 129.56 55 P **PKPdf** 14 01 30.4 -0.5
baz=291
PQI Presque Isle 129.65 28 *e*PKPdf **PKPdf** 14 01 29.8 -0.8
ODNJ Ogdensburg 129.77 38 *e*PKPdf **PKPdf** 14 01 31.1 +0.1
PSUB Penn St. - Bra 129.91 39 *e*PKPdf **PKPdf** 14 01 30.7 -0.5
NHSC New Hope 129.98 50 P **PKPdf** 14 01 31.4 -0.2
baz=295
PKME Peaks-Kenny Pk 130.04 30 P **PKPdf** 14 01 31.1 -0.2
baz=315
757A Oxford 130.09 55 P **PKPdf** 14 01 31.3 -0.6
baz=291
PAL Palisades 130.24 37 P **PKPdf** 14 01 31.5 -0.4
baz=307
658A Bunnell 130.58 55 P **PKPdf** 14 01 32.4 -0.4
baz=292
HRV Adam Dziewonsk 130.68 34 P **PKPdf** 14 01 32.6 -0.1
baz=310
758A Lake Helen 130.79 55 P **PKPdf** 14 01 32.7 -0.5
baz=291
TRQA Tornquist 131.38 153 *e*PKPdf **PKPdf** 14 01 34.5 +0.3
AUSP Uspallata 131.73 141 *i* P **PKPdf** 14 01 36.6 +1.2
ASAL Salagasta 131.82 142 *i* P **PKPdf** 14 01 36.5 +1.2
RTCV Cerro Valdivia 132.50 142 *i* P **PKPdf** 14 01 37.2 +0.7
LCO Las Campanas 132.98 137 *e*PKPdf **PKPdf** 14 01 38.4 +0.6
AGUA GUANDACOL 134.13 139 *i* P **PKPdf** 14 01 41.5 +1.8
ESDC Sonseca Array 134.47 325 PKP **PKPdf** 14 01 40.8 +0.8
comp=Z,0.9nm,0.7s,baz=56,slow=5.6,SNR=4.3
ESDC PP **PP** 14 04 18.0 +5.1
comp=Z,1.2nm,0.8s,baz=26,slow=7.0,SNR=4.2
ESDC SKPbc **SKPbc** 14 05 00.3 +0.8
comp=Z,1.6nm,0.6s,baz=30,slow=3.1,SNR=8.8
VCA Vinchina 134.82 139 *i* P **PKPdf** 14 01 42.8 +1.7
MVO Moncorvo 135.10 329 *e*PKPdf **PKPdf** 14 01 42.3 +1.2
POLO Lamas de Olo 135.34 330 *e*PKPdf **PKPdf** 14 01 42.9 +1.3
MTE Manteigas 135.92 328 *e*PKPdf **PKPdf** 14 01 43.7 +1.0
ATAH Atahualpa 136.23 105 PKP **PKPdf** 14 01 44.5 +0.1
comp=Z,17nm,0.8s,baz=351,slow=0.4,SNR=5.9
PCBR Castelo Branco 136.29 328 *e*PKPdf **PKPdf** 14 01 44.5 +1.2
NNA Nana 136.31 112 PKP **PKPdf** 14 01 44.4 +0.3
comp=Z,15nm,0.8s,baz=296,slow=4.8,SNR=4.1
NNA Nana 136.31 112 *i* PKIKP **PKPdf** 14 01 45.5 +1.4
PBAR Barrancos 137.24 326 *e*PKPdf **PKPdf** 14 01 46.2 +1.1
OTAV Otavalo 137.46 94 *e*P PKPpre 14 01 31.7
AHML Horco Molle 138.01 139 *i* P **PKPdf** 14 01 48.3 +1.4
PNCL Nicolau / Gran 138.11 327 *e*PKPdf **PKPdf** 14 01 44.9 -1.8
MESJ Messejana 138.13 326 *e*PKPdf **PKPdf** 14 01 47.5 +0.8
CMBC Cumbal 138.16 94 *e*P PKPpre 14 01 43.9
PB01 IPOC Station P 138.60 129 *e*PKPdf **PKPdf** 14 01 48.4 +0.2
PB11 IPOC Station P 139.16 127 *e*PKPpre PKPpre 14 01 39.6

SOTA Rioblanco 139.47 92 *e*P PKPpre 14 01 42.3
HORQ Saladito 139.54 90 *e*P PKPpre 14 01 42.3
MNMC Minye Minye 139.55 126 *e*PKPpre PKPpre 14 01 41.1
MNMC *e*PKPdf **PKPdf** 14 01 50.7 +0.5
YOTC Yotoco, Valle 139.84 89 *e*P PKPpre 14 01 41.1
MARP Paez Belalcaza 140.17 91 *e*P PKPpre 14 01 44.5
HJA Humahuaca 140.33 135 *i* P PKPpre 14 01 46.2
MOTC Monteria, Cord 140.45 82 *e*P PKPpre 14 01 45.6
HELC Santa Helena 140.68 86 *e*PKPpre PKPpre 14 01 44.4
HELC Santa Helena 140.68 86 *e*P PKPpre 14 01 42.5
GUYC Guyana, Colomb 140.82 87 *e*P PKPpre 14 01 46.2
RREF El Recreo 140.86 88 *e*P PKPpre 14 01 47.2
YJA Yavi 140.91 134 *e*P PKPpre 14 01 47.6
ALOL LOMAS DE OLMED 140.91 137 *e*P PKPpre 14 01 46.6
PRAC Prado 141.28 90 *e*PKPpre PKPpre 14 01 47.6
NORC Norcasia 141.34 87 *e*P PKPpre 14 01 48.5
TOA0 Torodi Ar. Sit 141.73 286 *e*PKPpre PKPpre 14 01 47.7
TOA0 *e*PKPpre PKPpre 14 01 47.8
TORD Torodi Ar. Bea 141.73 286 PKhKP PKPpre 14 01 47.8
comp=Z,7.0nm,0.7s,baz=74,slow=3.8,SNR=31
TORD PKP **PKiKP** 14 01 56.9 +0.1
comp=Z,15nm,0.7s,baz=62,slow=2.2,SNR=24
TORD SKPbc **SKiKP** 14 05 22.7 +0.2
comp=Z,4.0nm,0.8s,baz=71,slow=3.1,SNR=4.1
TORD SKKPbc **SKKPbc** 14 13 31.9 -9.5
comp=Z,2.3nm,0.8s,baz=270,slow=4.5,SNR=5.6
PTBC PUERTO BERRIO 141.74 85 *e*P PKPpre 14 01 48.1
ROSC El Rosal 141.88 88 PKhKP PKPpre 14 01 49.7
comp=Z,10nm,0.5s,baz=91,slow=15,SNR=7.6
LPAZ La Paz 142.20 124 PKhKP PKPpre 14 01 51.4
comp=Z,42nm,0.8s,baz=262,slow=1.7,SNR=90
LPAZ La Paz 142.20 124 *i* P **PKPdf** 14 01 52.2 -3.3
BRRC Barranca, Sant 142.46 84 *e*P **PKPdf** 14 01 52.5 -2.7
VILC Villavicencio, 142.48 89 *e*P **PKPdf** 14 01 52.2 -3.3
SDDR Presa de Saban 142.71 64 *e*PKPpre PKPpre 14 01 51.5
BARC Barichara 143.00 85 *e*P PKPbc 14 01 53.1 -0.6
RUSC La Rusia 143.11 86 *e*P PKPab 14 01 52.7 0.0
CPUP Villa Florida 143.14 147 PKhKP PKPpre 14 01 52.9
comp=Z,38nm,0.8s,baz=227,slow=2.8,SNR=21
CPUP SKPbc **SKPbc** 14 05 22.9 -1.1
comp=Z,9.4nm,1.0s,baz=234,slow=1.8,SNR=3.8
CPUP Villa Florida 143.14 147 *e*PKPdf PKPbc 14 01 53.9 +0.6
CPUP SKPbc **SKPbc** 14 05 22.9 -1.1
PAMC Pamplona, Colo 143.46 84 *e*P PKPbc 14 01 55.2 0.0
URIC Uribia, Colomb 143.74 76 *e*P PKPbc 14 01 55.9 +0.6
YOPC Yopal, Colombi 143.78 87 *e*P PKPab 14 01 54.0 -0.9
SDV Santo Domingo 145.40 81 PKPbc **PKPab** 14 02 00.9 -0.1
comp=Z,46nm,0.8s,baz=273,slow=2.5,SNR=51
SDV Santo Domingo 145.40 81 *e*PKPdf **PKPdf** 14 02 00.2 -0.4
SDV Santo Domingo 145.40 81 *e*P **PKPdf** 14 02 00.4 -0.2
MPR Mayaguez 146.68 63 *e*PKPdf **PKPdf** 14 02 02.8 +0.5
KOWA Kowa 146.88 290 PKPbc **PKPbc** 14 02 03.9 -0.9
comp=Z,56nm,0.7s,baz=71,slow=2.6,SNR=171
KOWA pPKPbc pPKPbc 14 02 35.4 -0.3
comp=Z,54nm,0.8s,baz=136,slow=2.3,SNR=5.7
KOWA Kowa 146.88 290 *e*PKPbc **PKPbc** 14 02 05.1 +0.2
KOWA pPKPbc pPKPbc 14 02 35.4 -0.3
SJG San Juan 147.59 63 PKPbc **PKPdf** 14 02 04.5 +0.6
comp=Z,64nm,0.6s,baz=25,slow=12,SNR=34
SJG San Juan 147.59 63 *e*PKPbc **PKPbc** 14 02 06.1 -0.6
CBYP Canovanas 147.79 62 *e*PKPbc **PKPbc** 14 02 06.0 -1.4
HUMP Col San Antoni 147.85 63 *e*PKPdf **PKPdf** 14 02 03.2 -1.2
HUMP *e*PKPbc **PKPbc** 14 02 07.0 -0.4
SIV San Ignacio 148.01 130 PKP **PKPdf** 14 02 05.6 +0.9
comp=Z,106nm,0.5s,baz=249,slow=3.0,SNR=56
SIV PKPbc **PKiKP** 14 02 09.1 -0.6
comp=Z,106nm,0.5s,baz=256,slow=4.5,SNR=264
SIV pPKPbc **pPKPbc** 14 02 37.7 -1.2
comp=Z,72nm,0.6s,baz=257,slow=5.9,SNR=6.3
MTP Monte Pirata 148.12 62 *e*PKPdf **PKPdf** 14 02 04.4 -0.4
MTP *e*PKPbc **PKPbc** 14 02 08.3 +0.1
STVI Saint Thomas 148.56 62 *e*PKPdf **PKPdf** 14 02 04.5 -0.9
STVI *e*PKPbc **PKPbc** 14 02 08.7 -0.6
KIC Kosan Boka 148.75 275 *i* PKP1 **PKPbc** 14 02 10.5 +0.6
comp=Z,216nm,1.0s
DBIC Dimbokro 148.85 276 PKPbc **PKPbc** 14 02 10.8 +0.7
comp=Z,78nm,0.6s,baz=72,slow=2.8,SNR=111
DBIC pPKPbc **pPKPbc** 14 02 40.1 -1.1
comp=Z,67nm,0.9s,baz=66,slow=3.5,SNR=4.6
DBIC Dimbokro 148.85 276 *e*PKP2 **PKPbc** 14 02 10.7 +0.5
CDVI St. Croix 148.95 63 *e*PKPbc **PKPbc** 14 02 09.7 -0.5
TIC Toumodi 149.02 276 *i* PKP1 **PKPbc** 14 02 11.1 +0.5
LIC Lamto 149.04 275 *i* PKP1 **PKPbc** 14 02 11.2 +0.5
comp=Z,376nm,0.6s
SAML Samuel 149.88 116 *e*PKPdf **PKPdf** 14 02 07.2 -0.6
SAML *e*PKPbc **PKPbc** 14 02 13.0 +0.3
SPB Sao Paulo 150.03 159 *e*PKPbc **PKPbc** 14 02 13.6 +0.8
SMRT St. Maarten 150.32 61 *e*PKPdf **PKPdf** 14 02 07.3 -1.1
SMRT *e*PKPbc **PKPbc** 14 02 13.1 -0.6
PCRV Puerto La Cruz 151.11 77 PKPbc **PKPbc** 14 02 14.0 -1.7
comp=Z,21nm,0.9s,baz=112,slow=3.1,SNR=5.6
GDHS Morne Mazeau, 152.16 63 *e*PKPbc **PKPbc** 14 02 17.2 -0.8
BBTS Babate 158.23 299 PKPab **PKPab** 14 02 53.8 -0.1
comp=Z,14nm,0.6s,baz=113,slow=7.0,SNR=4.2
RCBR Riachuelo 169.82 181 PKPab **PKPab** 14 03 45.5 +1.0
comp=Z,5.7nm,0.7s,baz=187,slow=8.5,SNR=4.2

*IDC **19** 13:47:07.6±4.4, 12°.86N×143°.52E, h159km±17km, mb3.7/8, mb1 3.8/8, mb1mx3.5/74, mbtmp4.2/8, MS3.8/5, Ms1 3.8/5, ms1mx3.2/44, Error ellipse: s-maj=93.7km s-min=30.5km az=178.0*
ISC 19 13:47:05.9±3.8, 12°.7N±0°.7×143°.4E±0°.2, h150km, n14, σ0s84/10, mb4.2/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.69**	**57**	P		P	**Pn**	**13 47 38.3**	**+0.8**
	48nm,0.3s,baz=346,slow=1.7,SNR=53								
GUMO				S			**Sn**	**13 48 01.1**	**-0.6**
	124nm,0.3s,baz=160,slow=23,SNR=21								
PSI	**Prapat**	**45.09**	**261**	LR		LR		14 16 40.0	
	comp=Z,38nm,19.9s,baz=138,slow=39								
SONM	**Songino Array**	**46.69**	**326**	P		P		**13 55 20.5**	**+0.8**
	1.9nm,0.8s,baz=147,slow=12,SNR=3.9								
MKAR	**Makanchi Array**	**61.18**	**317**	P		P		**13 57 05.7**	**+0.9**
	4.8nm,1.0s,baz=107,slow=7.7,SNR=2.8								
KURBB	**Kurchatov Arra**	**64.42**	**320**	P		P		**13 57 25.1**	**-1.0**
	2.7nm,0.7s,baz=107,slow=6.4,SNR=4.1								
BVAR	**Borovoye Array**	**69.78**	**322**	P		P		**13 57 59.3**	**-0.6**
	2.8nm,0.5s,baz=106,slow=8.3,SNR=8.7								
ILAR	**Eielson Array**	**70.01**	**25**	P		P		**13 58 00.2**	**-0.8**
	0.3nm,0.5s,baz=246,slow=5.5,SNR=2.1								
YKA	**Yellowknife Ar**	**84.33**	**27**	P		P		**13 59 21.3**	**+0.4**
	0.2nm,0.2s,baz=296,slow=5.1,SNR=3.7								
SPITS	**Spitsbergen Ar**	**84.73**	**350**	LR		LR		14 38 32.8	
	comp=Z,33nm,18.6s,baz=5.0,slow=36								
ARCES	**ARCESS Array B**	**87.53**	**342**	P		P		**13 59 36.7**	**+0.2**
	1.7nm,0.9s,baz=65,slow=6.4,SNR=2.9								
FINES	**FINESS Array B**	**91.40**	**335**	P		P		**13 59 54.1**	**-0.6**
	2.1nm,0.8s,baz=73,slow=4.8,SNR=3.4								
PDAR	**Pinedale Array**	**93.62**	**45**	LR		LR		14 41 56.2	
	comp=Z,99nm,18.2s,baz=276,slow=35								
MMAI	**Mount Meron Ar**	**97.79**	**306**	LR		LR		14 51 39.6	
	comp=Z,16nm,18.6s,baz=130,slow=40								
ULM	**Lac du Bonnet**	**98.80**	**34**	LR		LR		14 40 39.6	
	comp=Z,148nm,21.4s,baz=258,slow=33								

*IDC **19** 13:48:56.0±0.6, 0°.37N×124°.79E, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.1/62, mbtmp4.4/14, Error ellipse: s-maj=32.4km s-min=14.3km az=74.0*
*DJA **19** 13:49:03.5±1.3, 0°N±5°×12°5E±°, h29km±13km, M4.7/6, MLv4.7/6*
*ISCJB **19** 13:49:04.0±0.3, 0°.30N±0°.05×125°.05E±0°.04, h87km, mb4.4/17, Error ellipse: s-maj=7.0km s-min=4.9km az=22.3*
*NEIC **19** 13:49:05.2±0.6, 0°.35N×125°.08E, h77km±6km, mb5.4/3, Error ellipse: s-maj=8.2km s-min=6.1km az=47.0*
ISC 19 13:49:05.9±0.5, 0°.27N±0°.06×125°.00E±0°.05, h87km, n40, σ1s93/45, mb4.3/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.07**	**286**	P		P	**Pn**	**13 49 22.3**	**-3.9**
KMSI				S			**Sn**	**13 49 35.8**	**-5.6**
TNTI	**Ternate**	**2.41**	**78**	*e*Pn		Pn		**13 49 42.0**	**-1.5**
TNTI				*e*Sn			**Sn**	**13 50 08.8**	**-3.6**
SANI	**Sanana**	**2.51**	**157**	P		Pn		**13 49 41.4**	**-3.4**
SANI				S			**Sn**	**13 50 10.4**	**-4.2**
LUWI	**Luwuk**	**2.58**	**240**	*e*Pn		Pn		**13 49 45.0**	**-0.9**
LBMI	**Labuha**	**2.66**	**110**	P		Pn		**13 49 44.9**	**-1.9**
LBMI				S			**Sn**	**13 50 16.3**	**-1.9**

MRSI Marisa 3.07 274 P **Pn** 13 49 49.6 -2.8
APSI Ampana 3.56 251 P **Pn** 13 50 00.0 +1.1
TTSI Tana Toraja 6.14 238 P **Pn** 13 50 31.2 -2.9
FAKI Fak Fak 7.91 114 *e*Pn **Pn** 13 50 55.7 -2.6
MYLDM **Lahad Datu 8.12 307** *e*Pn **Pn** 13 51 02.6 +1.4
MMRI Maumere 9.27 197 *e*Pn **Pn** 13 51 19.1 +2.3
KKM Kota Kinabalu 10.48 303 *e*Pn **Pn** 13 51 31.9 -1.6
SBUM Sibu 12.96 280 *e*Pn **Pn** 13 52 07.2 +0.3
KSM Kuching 14.74 275 *e*Pn **P** 13 52 34.6 +0.7
WRA Warramunga Arr 22.07 156 P **P** 13 53 54.2 +0.2
23nm,1.1s,baz=337,slow=10.0,SNR=5.5
WR1 Warramunga Arr 22.07 156 *e*P **P** 13 53 54.1 +0.2
148nm,1.2s
ASAR Alice Springs 25.32 161 P **P** 13 54 26.3 +1.6
7.4nm,0.6s,baz=339,slow=11,SNR=3.6
ASAR PcP **PcP** 13 57 58.3 +2.6
2.1nm,0.4s,baz=350,slow=2.3,SNR=6.5
STKA Stephens Creek 35.62 155 P **P** 13 55 57.4 +1.9
7.9nm,0.7s,baz=326,slow=13,SNR=4.0
STKA Stephens Creek 35.62 155 *e*P **P** 13 55 56.4 +0.9
3.2nm,1.0s
MAJO Matsushiro 38.11 17 *e*P **P** 13 56 16.2 -0.4
MJAR Matsushiro Arr 38.11 17 P **P** 13 56 16.2 -0.4
2.2nm,0.7s,baz=200,slow=9.9,SNR=6.0
KLR Kul'dur 49.12 6 P **P** 13 57 45.5 +0.9
0.1nm,0.5s,baz=134,slow=14,SNR=4.1
SONA0 **Songino Array 50.06 344** *e*P **P** 13 57 51.8 -0.2
SONM Songino Array 50.06 344 P **P** 13 57 51.8 -0.2
0.7nm,0.6s,baz=160,slow=7.4,SNR=5.3
MK31 Makanchi Array 59.45 327 *e*P **P** 13 58 59.5 -0.2
MK32 Makanchi Array 59.45 327 *e*P **P** 13 58 59.6 -0.2
MKAR Makanchi Array 59.45 327 P **P** 13 58 59.6 -0.2
1.2nm,0.4s,baz=125,slow=7.8,SNR=37
MKAR Makanchi Array 59.45 327 *e*P **P** 13 58 59.4 -0.4
14nm,0.4s
YAK Yakutsk 61.70 3 P **P** 13 59 16.0 +1.3
5.6nm,0.3s,baz=258,slow=2.1,SNR=5.3
YAK Yakutsk 61.70 3 *e*P **P** 13 59 13.7 -1.0
33nm,0.4s
AAK Ala-Archa 61.81 320 P **P** 13 59 16.4 +0.4
1.8nm,0.7s,baz=143,slow=5.1,SNR=4.3
KURBB **Kurchatov Arra 63.75 329** P **P** 13 59 28.0 -0.5
0.8nm,0.3s,baz=137,slow=6.6,SNR=6.1
BVAR Borovoye Array 69.30 328 P **P** 14 00 03.4 -0.5
0.8nm,0.5s,baz=132,slow=7.5,SNR=6.0
TIXI Tiksi 71.31 1 P **P** 14 00 16.2 +0.5
1.4nm,0.3s,baz=195,slow=3.5,SNR=3.3
AKTO Aktyubinsk 75.31 323 P **P** 14 00 39.8 +0.1
3.5nm,0.7s,baz=102,slow=12,SNR=5.7
OPO Ambohidratompo 78.54 251 P **P** 14 00 59.6 +0.9
6.3nm,0.7s,baz=70,slow=4.5,SNR=7.7
ARA0 ARCESS Array S 93.08 340 *e*P **P** 14 02 09.3 -0.4
ARCES **ARCESS Array B 93.08 340** P **P** 14 02 09.3 -0.4
1.4nm,0.7s,baz=78,slow=4.7,SNR=5.4
SPITS Spitsbergen Ar 93.51 349 P **P** 14 02 12.2 +0.7
15nm,1.1s,baz=53,slow=5.6,SNR=7.9
TORD Torodi Ar. Bea 122.27 286 PKP **PKPdf** 14 07 53.2 +1.3
0.5nm,0.3s,baz=89,slow=1.6,SNR=10

*ISK **19** 13:58:27.2, 38°.93N×43°.79E, h6km, ML2.9/4*
*ISCJB **19** 13:58:28.5±0.6, 38°.99N±0°.03×43°.78E±0°.05, h7km±5km, Error ellipse: s-maj=7.0km s-min=4.1km az=22.7*
*CSEM **19** 13:58:28.0±0.3, 38°.98N×43°.79E, h8km, ML2.9, Error ellipse: s-maj=7.4km s-min=4.5km az=109.0*
*DDA **19** 13:58:28.1, 38°.98N×43°.79E, h7km, Ml2.9*
ISC 19 13:58:28.4±1.0, 38°.97N±0°.02×43°.78E±0°.03, h8km±8km, n30, σ0s71/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.16**	**276**	*i* P		P	**Pg**	**13 58 31.1**	**-0.8**
VMUR	**Van-Muradiye**	**0.16**	**276**	P		Pg		**13 58 31.1**	**-0.8**
CLDR	**Caldiran**	**0.20**	**33**	PG		Pg		**13 58 32.3**	**-0.3**
CLDR				SG		Sg		**13 58 36.4**	**+0.9**
CLDR	**Caldiran**	**0.20**	**33**	*i* P		Pg		**13 58 32.2**	**-0.5**
CLDR	**Caldiran**	**0.20**	**33**	*e*Pg		Pg		**13 58 32.3**	**-0.3**
CLDR				*e*Sg		Sg		**13 58 36.4**	**+0.9**
VANB	**Van**	**0.48**	**219**	PG		Pg		**13 58 37.7**	**-0.1**
VANB				SG		Sg		**13 58 45.3**	**+1.1**
VANB	**Van**	**0.48**	**219**	*e*Pg		Pg		**13 58 37.7**	**-0.1**
VANB				*e*Sg		Sg		**13 58 45.3**	**+1.1**
TVAN	**Van**	**0.53**	**213**	*i* P		Pg		**13 58 38.8**	**+0.1**
TVAN				*i* S		Sb		**13 58 49.6**	**+1.6**
TVAN	**Van**	**0.53**	**213**	P		Pg		**13 58 38.8**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.84**	**259**	*i* P		Pg		**13 58 44.0**	**-0.5**
ADCV				*i* S		Sb		**13 58 56.7**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.84**	**259**	P		Pg		**13 58 44.0**	**-0.5**
ADCV				S		Sb		**13 58 56.7**	**-0.1**
AGRB	**Hanur-Agry**	**0.85**	**315**	PG		Pg		**13 58 44.6**	**-0.3**
AGRB				SG		Sb		**13 58 57.7**	**+0.4**
AGRB	**Hanur-Agry**	**0.85**	**315**	*e*Pg		Pg		**13 58 44.6**	**-0.3**
AGRB				*e*Sg		Sb		**13 58 57.7**	**+0.4**
TUTA	**Tutak**	**0.86**	**300**	*i* P		Pg		**13 58 44.2**	**-0.8**
TUTA	**Tutak**	**0.86**	**300**	P		Pg		**13 58 44.2**	**-0.8**
GEVA	**Gevas**	**0.87**	**221**	*i* P		Pg		**13 58 44.1**	**-0.9**
GEVA				*i* S		Sb		**13 58 58.6**	**+1.0**
GEVA	**Gevas**	**0.87**	**221**	P		Pg		**13 58 44.2**	**-0.9**
GEVA				S		Sb		**13 58 58.6**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.07**	**19**	PN		Pb		**13 58 48.6**	**-0.6**
TASB				SN		Sn		**13 59 04.7**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.07**	**19**	*e*Pn		Pb		**13 58 48.6**	**-0.6**
TASB				*e*Sn		Sn		**13 59 04.7**	**-0.2**
EATA	**Eleskirt**	**1.33**	**312**	*i* P		Pg		**13 58 55.2**	**+1.2**
EATA	**Eleskirt**	**1.33**	**312**	P		Pg		**13 58 55.2**	**+1.2**
EKAR	**Karacoban**	**1.36**	**282**	*i* P		Pn		**13 58 53.9**	**0.0**
EKAR	**Karacoban**	**1.36**	**282**	P		Pn		**13 58 53.9**	**0.0**
HAKT	**HAKKARI**	**1.42**	**182**	*i* P		Pg		**13 58 55.2**	**-0.4**
HAKT				*i* S		Sg		**13 59 14.6**	**+0.7**
HAKT	**HAKKARI**	**1.42**	**182**	P		Pg		**13 58 55.2**	**-0.4**
HAKT				S		Sg		**13 59 14.6**	**+0.7**
GURO	**Guroymak-BITLI**	**1.43**	**253**	PN		Pn		**13 58 54.3**	**-0.4**
GURO	**Guroymak-BITLI**	**1.43**	**253**	*e*Pn		Pn		**13 58 54.3**	**-0.4**
HOMI	**Horasan**	**1.80**	**307**	*i* P		Pg		**13 59 02.9**	**0.0**
SIRT	**Sirnak**	**1.81**	**216**	PN		Pn		**13 58 59.1**	**-0.8**
SIRT	**Sirnak**	**1.81**	**216**	*e*Pn		Pn		**13 58 59.1**	**-0.8**

*CSEM **19** 13:59:18.6, 39°.59N×25°

*IDC **19** 14:00:35.5±0.8, 38°.62N×144°.94E, h0km, mb3.6/12, mb1 3.8/16, mb1mx3.7/71, mbtmp3.7/16, ML3.6/4, Error ellipse: s-maj=22.4km s-min=16.0km az=126.0*
*ISCJB **19** 14:00:38.6±0.5, 38°.76N±0°.04×144°.69E±0°.05, h35km, mb3.7/12, Error ellipse: s-maj=6.4km s-min=4.6km az=150.8*
*JMA **19** 14:00:39.4±0.2, 38°.72N×144°.59E, h39km, M3.8*

ISC 19 14:00:40.6±0.8, 38.72N±0°.06×144.73E±0°.07, h35km, n36, σ2$25/43, mb3.6/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.42**	**280**	P	**Pn**	**14 01 16.4**	**-1.2**
OFUJ				*e*S	**Sn**	**14 01 44.2**	**-1.8**
MIYJ	**Miyakonagasawa**	**2.42**	**292**	P	**Pn**	**14 01 16.3**	**-1.4**
MIYJ				*e*S	**Sn**	**14 01 44.3**	**-1.8**
JTH	**Tanohata**	**2.54**	**300**	P	**Pn**	**14 01 18.2**	**-1.1**
JTH				*e*S	**Sn**	**14 01 46.8**	**-2.1**
JMK	**Ichinoseki**	**2.75**	**276**	P	**Pn**	**14 01 21.4**	**-0.8**
JMK				*e*S	**Sn**	**14 01 52.8**	**-1.4**
JOM	**Ohasama**	**2.78**	**287**	P	**Pn**	**14 01 21.8**	**-0.8**
JANG	**Nango**	**2.99**	**305**	P	**Pn**	**14 01 24.1**	**-1.4**
JYK	**Kaneyama**	**3.42**	**275**	P	**Pn**	**14 01 31.2**	**-0.2**
JYK				*e*S	**Sn**	**14 02 09.4**	**-1.4**
JFT	**Otama**	**3.67**	**252**	P	**Pn**	**14 01 34.1**	**-0.7**
JFT				S	**Sn**	**14 02 15.5**	**-1.4**
JCH	**Churui**	**4.03**	**345**	P	**Pn**	**14 01 37.8**	**-2.0**
JCH				*e*S	**Sn**	**14 02 22.4**	**-3.3**
NEM2	**Nemuro 2**	**4.71**	**9**	P	**Pn**	**14 01 45.3**	**-3.8**
NEM2				*e*S	**Sn**	**14 02 37.4**	**-5.0**
JTKR	**Abashiri--Toko**	**5.29**	**354**	P	**Pn**	**14 01 55.1**	**-1.9**
JTKR				*e*S	**Sn**	**14 02 52.6**	**-4.1**
JRY	**Ryogami san**	**5.37**	**242**	P	**Pn**	**14 01 56.6**	**-1.6**
MJAR	**Matsushiro Arr**	**5.61**	**249**	Pn	**Pn**	**14 02 01.6**	**0.0**
MJAR	3.8nm,0.3s,baz=79,slow=16,SNR=65			Sn	**Sn**	**14 03 04.6**	**-0.2**
MAT	**Matsushiro**	**5.62**	**249**	P	**Pn**	**14 02 01.5**	**-0.1**
MAT	baz=136,slow=8.3,SNR=2.4			*e*S	**Sn**	**14 03 00.5**	**-4.4**
ASAJ	**Asahikawa**	**5.63**	**344**	Pn	**Pn**	**14 02 00.6**	**-1.2**
ASAJ	1.1nm,0.3s,baz=185,slow=17,SNR=15			Sn	**Sn**	**14 03 04.6**	**-0.5**
JHJ	**Hachijo jima 2**	**6.88**	**217**	Pn	**Pn**	**14 02 16.6**	**-2.3**
JHJ	1.2nm,0.3s,baz=33,slow=12,SNR=3.8 12nm,0.3s,baz=294,slow=20,SNR=3.4			Sn	**Sn**	**14 03 29.4**	**-6.6**
USRK	**Ussuriysk Ar.**	**11.02**	**304**	Pn	**Pn**	**14 03 18.7**	**+3.1**
KSRS	**Korea Array**	**13.30**	**270**	Pn	**Pn**	**14 03 49.1**	**+2.2**
SEY	**Seymchan**	**24.69**	**8**	P	**P**	**14 05 59.2**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**26.94**	**128**	T	T	14 34 19.2	
H11N1	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	14 34 20.8	
H11N3	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	14 34 21.2	
H11S1	**WAKE ISLAND Hy**	**27.75**	**130**	T	T	14 35 25.3	
H11S3	**WAKE ISLAND Hy**	**27.75**	**130**	T	T	14 35 24.0	
H11S2	**WAKE ISLAND Hy**	**27.77**	**130**	T	T	14 35 26.3	
ZALV	**Zalesovo Beam**	**42.76**	**311**	P	**P**	**14 08 37.5**	**+3.2**
KDAK	**Kodiak Island**	**44.09**	**43**	P	**P**	**14 08 44.9**	**-0.1**
MKAR	**Makanchi Array**	**45.47**	**301**	P	**P**	**14 08 57.2**	**+1.0**
ILAR	**Eielson Array**	**46.66**	**33**	P	**P**	**14 09 05.3**	**0.0**
KURBB	**Kurchatov Arra**	**47.06**	**307**	P	**P**	**14 09 09.8**	**+1.2**
INK	**Inuvik**	**51.68**	**28**	P	**P**	**14 09 43.8**	**+0.2**
WRA	**Warramunga Arr**	**59.16**	**191**	P	**P**	**14 10 37.8**	**-0.1**
YKA	**Yellowknife Ar**	**61.02**	**31**	P	**P**	**14 10 49.0**	**-1.1**
ASAR	**Alice Springs**	**62.88**	**191**	P	**P**	**14 11 02.9**	**-0.2**
FINES	**FINESS Array B**	**68.53**	**333**	P	**P**	**14 11 39.5**	**+0.4**
PDAR	**Pinedale Array**	**74.61**	**47**	P	**P**	**14 12 16.9**	**+0.6**

0.2nm,0.6s,baz=338,slow=2.1,SNR=2.6

*ISCJB **19** 14:13:01.8±0.8, 21°.24S±0°.04×69°.0W±0°.1, h115km±9km, mb3.5/1, Error ellipse: s-maj=18.8km s-min=5.8km az=3.6*
*GUC **19** 14:13:01.9±0.6, 21°.21S×68°.94W, h106km±3km, ML3.6*
*IDC **19** 14:13:19.8±7.9, 19°.83S×68°.31W, h224km±64km, mb3.2/1, mb1 3.1/2, mb1mx2.8/39, mbtmp3.6/2, Error ellipse: s-maj=101.3km s-min=90.4km az=141.0*

ISC 19 14:13:02.4±1.1, 21°.23S±0°.04×69°.0W±0°.1, h108km±9km, n13, σ0$75/23, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.53**	**291**	⇑*i*P	**Pn**	**14 13 18.9**	**-0.5**
PB01				*i*S	**Sn**	**14 13 31.7**	**-0.4**
PB01				IAML		14 13 33.0	
	comp=N,2μm,0.3s						
PB09	**IPOC Station P**	**0.62**	**205**	⇑*i*P	**Pn**	**14 13 20.1**	**-0.1**
PB09				*i*S	**Sn**	**14 13 33.8**	**+0.3**
PB09				IAML		14 13 35.8	
	comp=N,5μm,0.3s						
PB02	**IPOC Station P**	**0.88**	**264**	⇑*i*P	**Pn**	**14 13 22.6**	**+0.3**
PB02				*i*S	**Sn**	**14 13 38.1**	**+0.7**
PB02				IAML		14 13 39.7	
	comp=E,4μm,0.3s						
PB07	**IPOC Station P**	**0.99**	**240**	⇑*i*P	**Pn**	**14 13 23.8**	**+0.2**
PB07				*i*S	**Sn**	**14 13 40.3**	**+0.8**
PB07				IAML		14 13 42.6	
	comp=E,1μm,0.7s						
PB08	**IPOC Station P**	**1.10**	**351**	⇓*i*P	**Pn**	**14 13 24.9**	**-0.1**
PB08				*i*S	**Sn**	**14 13 42.1**	**+0.2**
PB08				IAML		14 13 43.1	
	comp=E,694nm,0.7s						
PB04	**IPOC Station P**	**1.56**	**225**	*e*P	**Sn**	**14 13 30.4**	**+0.4**
PB04				*i*S	**Sn**	**14 13 51.9**	**+1.0**
PB04				IAML		14 14 01.1	
	comp=N,582nm,0.5s						
PB06	**IPOC Station P**	**1.57**	**201**	⇑*i*P	**Pn**	**14 13 30.5**	**+0.3**
PB06				*i*S	**Sn**	**14 13 52.2**	**+0.9**
PB06				IAML		14 13 56.6	
	comp=E,734nm,0.4s						
PB11	**IPOC Station P**	**1.60**	**336**	⇑*i*P	**Pn**	**14 13 30.6**	**+0.1**
PB11				*i*S	**Sn**	**14 13 52.2**	**+0.3**
PB11				IAML		14 13 56.6	
	comp=N,1μm,1.1s						
PSGC	**Pisagua**	**1.96**	**326**	⇑*i*P	**Pn**	**14 13 34.6**	**-0.3**
PSGC				*i*S	**Sn**	**14 13 59.8**	**+0.1**
MNMC	**Minye Minye**	**2.17**	**344**	⇑*i*P	**Pn**	**14 13 38.3**	**+0.4**
MNMC				*i*S	**Sn**	**14 14 05.5**	**+0.6**
MNMC				IAML		14 14 10.2	
	comp=N,259nm,0.3s						
LPAZ	**La Paz**	**4.98**	**9**	P	**Pn**	**14 14 17.6**	**+2.0**
	comp=N,1.0nm,0.3s,baz=198,slow=7.5,SNR=28						
LPAZ				S	Sn	14 15 03.5	-8.9
	comp=N,0.1nm,0.3s,baz=216,slow=8.7,SNR=1.9						
TORD	**Torodi Ar. Bea**	**77.31**	**70**	P	**P**	**14 24 44.2**	**-1.4**
	comp=N,0.4nm,0.5s,baz=249,slow=4.9,SNR=4.7						
MKAR	**Makanchi Array**	**145.44**	**36**	PKP	**PKPab**	**14 32 28.2**	**0.0**
	comp=N,0.2nm,0.6s,baz=302,slow=2.6,SNR=3.2						

*IDC **19** 14:35:34.3±0.8, 40°.72N×145°.50E, h0km, mb3.5/12, mb1 3.6/14, mb1mx3.5/64, mbtmp3.5/14, ML3.1/2, MS2.5/4, Ms1 2.5/4, ms1mx2.3/51, Error ellipse: s-maj=22.9km s-min=17.0km az=112.0*
*ISCJB **19** 14:35:36.7±1.6, 40°.93N±0°.03×145°.16E±0°.05, h29km±12km, mb3.5/12, MS3.3/1, Error ellipse: s-maj=6.5km s-min=5.3km az=10.1*
*JMA **19** 14:35:36.4±0.2, 40°.90N×145°.28E, h60km±3km, M3.7*

ISC 19 14:35:38.3±2.9, 40°.97N±0°.04×145°.18E±0°.06, h27km±21km, n40, σ1$74/35, mb3.5/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.85**	**305**	P	Pn	14 36 07.9	-0.3
JEM				*e*S	**Sn**	**14 36 29.9**	**-0.8**
JAK	**Akkeshi**	**2.06**	**350**	P	Pn	14 36 10.5	-0.6
JAK				*e*S	**Sn**	**14 36 36.2**	**+0.3**
JCH	**Churui**	**2.13**	**321**	P	Pn	14 36 12.0	-0.2
JCH				*e*S	**Sn**	**14 36 37.0**	**-0.8**
JOB	**Onbets**	**2.18**	**333**	P	Pn	14 36 12.6	-0.2
JOB				*e*S	**Sn**	**14 36 39.4**	**+0.5**
JNBK	**Urakawa-nobuka**	**2.24**	**306**	P	**Pn**	**14 36 14.3**	**+0.6**
JNBK				*e*S	**Sn**	**14 36 41.4**	**+0.9**
NEM2	**Nemuro 2**	**2.43**	**10**	P	**Pn**	**14 36 15.8**	**-0.4**
NEM2				*e*S	**Sn**	**14 36 44.3**	**-0.8**
JAR	**Ashorobuto**	**2.55**	**336**	P	Pn	14 36 17.2	-0.8
JAR				*e*S	**Sn**	**14 36 46.7**	**-1.4**
JNK	**Nakash**	**2.64**	**353**	P	Pn	14 36 18.0	-1.1
JBT2	**Biratori 2**	**2.77**	**312**	P	Pn	14 36 20.7	-0.3
JBT2				*e*S	**Sn**	**14 36 54.6**	**+1.0**
JANG	**Nango**	**2.85**	**259**	P	Pn	14 36 19.8	-2.3
JFR	**Furan**	**2.92**	**320**	P	**Pn**	**14 36 23.0**	**0.0**
JFR				*e*S	**Sn**	**14 36 55.6**	**-1.6**
JRA	**Rausu**	**2.97**	**359**	P	**Pn**	**14 36 23.0**	**-0.6**
JRA				*e*S	**Sn**	**14 36 57.0**	**-1.3**
JTKR	**Abashiri--Toko**	**3.14**	**343**	P	**Pn**	**14 36 26.5**	**+0.4**
JTKR				*e*S	**Sn**	**14 37 02.8**	**+0.1**
JOT	**Ohata**	**3.15**	**279**	P	Pn	14 36 25.3	-0.9
JOT				*e*S	Sn	14 36 59.5	-3.3
JKB	**Kayabe**	**3.25**	**288**	P	Pn	14 36 26.8	-0.8
JOM	**Ohasama**	**3.33**	**245**	P	**Pn**	**14 36 26.8**	**-1.9**
JOM				*e*S	**Sn**	**14 37 03.6**	**-3.8**
JEW	**Eniwo**	**3.35**	**305**	P	**Pn**	**14 36 29.9**	**+0.9**
JEW				*e*S	**Sn**	**14 37 08.5**	**+0.6**
ASAJ	**Asahikawa**	**3.68**	**330**	Pn	**Pn**	**14 36 35.1**	**+1.7**
ASAJ	1.2nm,0.3s,baz=163,slow=20,SNR=16			Sn	**Sn**	**14 37 17.1**	**+1.2**
MJAR	**Matsushiro Arr**	**7.02**	**233**	Pn	Pn	14 37 16.7	-2.7
MJAR	0.9nm,0.3s,baz=100,slow=19,SNR=3.1 0.3nm,0.3s,baz=39,slow=12,SNR=4.1			Sn	**Sn**	**14 38 41.0**	**+2.8**
MJAR	0.2nm,0.3s,baz=72,slow=22,SNR=3.8			LR	LR	14 39 56.3	
JHJ	comp=Z,37nm,19.4s,baz=50,slow=37 **Hachijo jima 2**	**8.94**	**211**	LR	LR	14 41 33.0	
KSRS	comp=Z,17nm,20.1s,baz=132,slow=40 **Korea Array**	**13.84**	**261**	LR	LR	14 43 25.0	
SEY	comp=Z,7.4nm,21.4s,baz=230,slow=34 **Seymchan**	**22.41**	**9**	P	**P**	**14 40 35.1**	**+0.5**
H11N2	0.3nm,0.3s,baz=163,slow=19,SNR=2.5 **WAKE ISLAND Hy**	**28.13**	**132**	T	T	15 11 04.4	
H11N1	baz=324 **WAKE ISLAND Hy**	**28.14**	**132**	T	T	15 11 00.9	
H11N3	baz=324 **WAKE ISLAND Hy**	**28.15**	**132**	T	T	15 11 00.6	
H11S1	baz=324 **WAKE ISLAND Hy**	**29.01**	**134**	T	T	15 12 05.7	
H11S3	baz=325,slow=76,SNR=4.3 **WAKE ISLAND Hy**	**29.01**	**134**	T	T	15 12 01.3	
H11S2	baz=325,slow=76,SNR=4.3 **WAKE ISLAND Hy**	**29.02**	**134**	T	T	15 12 05.6	
ZALV	baz=325,slow=76,SNR=4.1 **Zalesovo Beam**	**41.57**	**309**	P	**P**	**14 43 27.9**	**+4.5**
ILAR	0.3nm,0.3s,baz=194,slow=9.2,SNR=2.2 **Eielson Array**	**44.60**	**34**	P	**P**	**14 43 49.0**	**+1.1**
MKAR	0.5nm,0.8s,baz=265,slow=7.4,SNR=5.3 **Makanchi Array**	**44.63**	**299**	P	**P**	**14 43 52.1**	**+3.7**
KURBB	0.1nm,0.5s,baz=86,slow=7.4,SNR=2.6 **Kurchatov Arra**	**46.00**	**306**	P	**P**	**14 44 01.7**	**+2.5**
INK	0.4nm,0.6s,baz=72,slow=8.8,SNR=2.3 **Inuvik**	**49.54**	**29**	P	**P**	**14 44 26.5**	**+0.3**
BVAR	0.7nm,0.9s,baz=296,slow=7.7,SNR=2.4 **Borovoye Array**	**50.17**	**311**	P	**P**	**14 44 33.3**	**+1.9**
YKA	0.3nm,0.6s,baz=71,slow=7.5,SNR=2.8 **Yellowknife Ar**	**58.92**	**32**	P	**P**	**14 45 35.8**	**+1.1**
WRA	0.2nm,0.7s,baz=294,slow=6.0,SNR=3.3 **Warramunga Arr**	**61.43**	**192**	P	**P**	**14 45 50.9**	**-1.4**
ASAR	1.2nm,0.7s,baz=8.6,slow=6.7,SNR=7.3 **Alice Springs**	**65.16**	**191**	P	**P**	**14 46 15.8**	**-1.1**
YBH	0.4nm,0.6s,baz=10,slow=6.7,SNR=8.0 **Yreka Blue Hor**	**65.65**	**55**	LR	LR	15 08 18.1	
FINES	comp=Z,21nm,20.2s,baz=294,slow=30 **FINESS Array B**	**66.68**	**333**	P	**P**	**14 46 27.4**	**+1.0**
PDAR	3.1nm,1.0s,baz=50,slow=6.9,SNR=3.7 **Pinedale Array**	**72.83**	**48**	P	**P**	**14 47 04.9**	**0.0**

0.2nm,0.7s,baz=343,slow=1.9,SNR=2.5

*IDC **19** 14:45:51.9±2.2, 0°.58S×133°.23E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/46, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=122.6km s-min=23.7km az=72.0*
*ISCJB **19** 14:45:55.7±1.1, 0°.56S±0°.07×133°.09E±0°.06, h32km, mb3.7/3, Error ellipse: s-maj=11.9km s-min=6.8km az=34.4*
*DJA **19** 14:45:57.3±1.2, 1°S±7°×13°3E±°, h14km±12km, M4.0/3, mb4.4/1, MLv3.8/3*

ISC 19 14:45:57.7±1.2, 0°.62S±0°.10×133°.04E±0°.07, h32km, n9, σ1$09/14, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**1.44**	**128**	P	**Pn**	**14 46 22.7**	**+1.1**
RKPI				S	**Sb**	**14 46 42.8**	**+0.8**
SWI	**Sorong**	**1.80**	**262**	P	**Pn**	**14 46 26.6**	**+0.1**
SWI				S	**Sn**	**14 46 49.6**	**+1.4**
FAKI	**Fak Fak**	**2.42**	**199**	P	**Pn**	**14 46 35.3**	**+0.2**
FAKI				S	**Sn**	**14 47 04.1**	**+0.5**
KMPI	**Kaimana, Papua**	**3.09**	**168**	P	**Pn**	**14 46 45.2**	**+0.8**
KMPI				S	**Sn**	**14 47 21.3**	**+1.0**
LBMI	**Labuha**	**5.54**	**270**	P	**Pn**	**14 47 18.9**	**+0.9**
LBMI				S	**Sn**	**14 48 22.1**	**+1.4**
WRA	**Warramunga Arr**	**19.25**	**176**	P	**P**	**14 50 18.6**	**-1.0**
WRA	0.3nm,0.3s,baz=356,slow=11,SNR=16			S	Sn	14 53 43.9	-12
ASAR	0.1nm,0.3s,baz=358,slow=21,SNR=4.6 **Alice Springs**	**22.93**	**178**	P	**P**	**14 50 58.3**	**-1.0**
STKA	2.0nm,0.4s,baz=1.3,slow=9.6,SNR=80 **Stephens Creek**	**32.12**	**166**	P	**P**	**14 52 20.7**	**-1.6**
MKAR	1.1nm,0.4s,baz=358,slow=6.3,SNR=6.1 **Makanchi Array**	**64.73**	**324**	P	**P**	**14 56 32.7**	**-0.2**
	0.2nm,0.7s,baz=132,slow=6.4,SNR=2.8						

*ISCJB **19** 14:59:55.6±0.6, 39°.58N±0°.09×97°.02E±0°.06, h10km, mb3.3/7, Error ellipse: s-maj=13.7km s-min=5.6km az=18.8*
*IDC **19** 14:59:57.1±0.9, 39°.45N×97°.02E, h0km, mb3.3/7, mb1 3.5/11, mb1mx3.4/68, mbtmp3.4/11, ML3.3/4, Error ellipse: s-maj=26.4km s-min=15.5km az=47.0*
*BJI **19** 14:59:58.1, 39°.60N×96°.94E, h7km, ML3.7/9, Ms3.6/1, Ms7 3.4/1*

ISC 19 14:59:58.7±0.7, 39°.6N±0°.1×96°.90E±0°.07, h10km, n14, σ2$83/19, mb3.6/7, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**2.27**	**95**	Pg	**Pn**	**15 00 36.9**	**+0.6**
GTA				Sg	**Sb**	**15 01 06.8**	**-1.1**
GTA				*smax*	*smax*		
	comp=N,500nm,0.6s						
GTA				*smax*	*smax*		
	comp=E,380nm,0.5s						
LZH	**Lanzhou**	**6.53**	**121**	*e*Pg	**Pb**	**15 01 51.4**	**-1.1**
LZH				Sg	**Sb**	**15 03 15.3**	**+4.5**
LZH				*smax*	*smax*		
	comp=N,73nm,1.2s						
LZH				*smax*	*smax*		
	comp=E,62nm,1.3s						
LZH				LR	LR		
	comp=N,170nm,6.5s						
LZH				LR	LR		
	comp=E,210nm,5.4s						
LZH				LR	LR		
	comp=Z,200nm,7.2s						
WMQ	**Urumqi**	**8.05**	**304**	P	**Pn**	**15 01 57.8**	**+2.0**
WMQ				pP	pP	15 01 59.8	
WMQ				S	**Sn**	**15 03 29.1**	**+2.2**
WMQ				SS	**SnSn**	**15 03 43.9**	**+5.6**
WMQ				*smax*	*smax*		
	comp=N,94nm,1.1s						
WMQ				*smax*	*smax*		
	comp=E,100nm,0.9s						
SONM	**Songino Array**	**10.69**	**37**	Pn	**Pn**	**15 02 32.2**	**+0.3**
	0.6nm,0.3s,baz=223,slow=15,SNR=8.6						
SONM				Lg	Lg	15 05 31.2	
	0.3nm,0.3s,baz=216,slow=31,SNR=7.4						
MKAR	**Makanchi Array**	**12.82**	**309**	Pn	**Pn**	**15 02 59.3**	**-1.8**
	0.2nm,0.3s,baz=120,slow=14,SNR=14						
MKAR				Sn	**Sn**	**15 05 17.1**	**-6.8**
	0.1nm,0.3s,baz=115,slow=21,SNR=3.1						
MKAR				Lg	Lg	15 06 51.5	
	baz=105,slow=22,SNR=3.0						
ZALV	**Zalesovo Beam**	**16.50**	**334**	Pn	**P**	**15 03 53.7**	**+1.0**
	0.2nm,0.3s,baz=142,slow=11,SNR=10						
KURBB	**Kurchatov Arra**	**16.94**	**316**	Pn	**Pn**	**15 03 54.2**	**-1.4**
	0.1nm,0.3s,baz=122,slow=14,SNR=5.3						
CMAR	**Chiang Mai Arr**	**21.18**	**175**	P	**P**	**15 04 42.5**	**-1.7**
	0.3nm,0.6s,baz=344,slow=9.7,SNR=2.7						
BVAR	**Borovoye Array**	**22.52**	**315**	P	**P**	**15 05 00.7**	**+2.3**
	0.6nm,0.5s,baz=92,slow=8.7,SNR=4.2						
KSRS	**Korea Array**	**24.30**	**85**	P	**P**	**15 05 15.8**	**-0.5**
	1.3nm,0.6s,baz=282,slow=9.9,SNR=5.7						
KLR	**Kul'dur**	**26.46**	**57**	P	**P**	**15 05 35.9**	**+0.1**
	0.1nm,0.5s,baz=312,slow=14,SNR=3.9						
FINES	**FINESS Array B**	**47.23**	**322**	P	**P**	**15 08 32.0**	**+0.5**
	1.6nm,0.9s,baz=79,slow=4.1,SNR=4.1						
WRA	**Warramunga Arr**	**68.81**	**142**	P	**P**	**15 11 01.5**	**-1.7**
	0.5nm,0.8s,baz=351,slow=6.5,SNR=3.4						
ASAR	**Alice Springs**	**71.83**	**144**	P	**P**	**15 11 20.6**	**-1.0**
	0.5nm,0.9s,baz=340,slow=6.2,SNR=5.0						

*IDC **19** 15:26:51.1±1.7, 7°.83S×124°.14E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.5/50, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=70.6km s-min=25.6km az=71.0*
*ISCJB **19** 15:26:53.8±1.2, 8°.07S±0°.07×124°.00E±0°.07, h33km, mb3.6/1, Error ellipse: s-maj=11.4km s-min=8.5km az=34.7*
*DJA **19** 15:27:04.5±0.9, 9°S±8°×12°3E±°, h103km±13km, M3.3/6, MLv3.3/6*

ISC 19 15:26:55.4±1.5, 8°.1S±0°.1×123°.97E±0°.09, h35km, n9, σ3$63/14, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.68**	**170**	P	Pn	15 27 31.5	+9.1
MMRI	**Maumere**	**1.79**	**252**	P	**Pn**	**15 27 26.4**	**+2.6**
MMRI				S	**Sn**	**15 27 43.6**	**-1.8**
BATI	**Baumata**	**2.12**	**188**	Pn	**Pn**	**15 27 31.9**	**+3.5**
BATI	28nm,0.3s,baz=11,slow=1.6,SNR=28			Sn	**Sn**	**15 27 53.6**	**+0.1**
BATI	39nm,0.3s,baz=24,slow=20,SNR=13 **Baumata**	**2.12**	**188**	P	**Pn**	**15 27 32.6**	**+4.2**
BATI				S	**Sn**	**15 27 55.5**	**+2.0**
EDFI	**Ende, Flores**	**2.34**	**254**	P	**Pn**	**15 27 32.9**	**+1.4**
EDFI				S	**Sn**	**15 27 53.9**	**-5.2**
FITZ	**Fitzroy Crossi**	**10.08**	**171**	Pn	**Pn**	**15 29 16.6**	**-1.1**
	0.3nm,0.3s,baz=350,slow=10,SNR=13						
FITZ				Sn	Sn	15 30 56.7	-13
WRA	1.3nm,0.3s,baz=253,slow=20,SNR=7.4 **Warramunga Arr**	**15.48**	**141**	Pn	**Pn**	**15 30 32.0**	**+0.8**
	0.4nm,0.3s,baz=316,slow=15,SNR=18						
WRA				Sn	**Sn**	**15 33 15.3**	**-6.5**
	0.5nm,0.3s,baz=316,slow=30,SNR=7.2						
ASAR	**Alice Springs**	**18.18**	**150**	P	**Pn**	**15 31 07.0**	**+1.9**
	0.2nm,0.3s,baz=332,slow=13,SNR=21						
ASAR				S	**Sn**	**15 34 22.2**	**-5.0**
	0.1nm,0.3s,baz=309,slow=21,SNR=5.0						
MKAR	**Makanchi Array**	**66.01**	**330**	P	**P**	**15 37 38.6**	**+0.2**
	0.3nm,0.5s,baz=141,slow=7.6,SNR=7.2						

IDC 19 15:30:46.7±2.2, 4°.98N×122°.72E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/56, mbtmp3.6/3, Error ellipse: s-maj=315.5km s-min=26.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.28**	**156**	P	P	15 36 33.0	-0.1
	0.6nm,0.5s,baz=332,slow=10.0,SNR=4.8						
ASAR	**Alice Springs**	**30.50**	**159**	P	P	15 37 01.8	+0.1
	0.3nm,0.4s,baz=339,slow=6.9,SNR=6.1						
MKAR	**Makanchi Array**	**54.28**	**327**	P	P	15 40 14.7	-0.1
	0.2nm,0.3s,baz=114,slow=8.3,SNR=6.2						

*IDC **19** 15:33:39.0±2.2, 5°.96S×130°.90E, h0km, mb3.7/1, mb1 3.9/5, mb1mx3.5/48, mbtmp3.8/5, ML3.8/4, Error ellipse: s-maj=60.3km s-min=27.8km az=83.0*
*ISCJB **19** 15:33:49.9±0.6, 6°.48S±0°.04×130°.49E±0°.07, h90km, mb3.6/1, Error ellipse: s-maj=10.0km s-min=5.3km az=20.5*
*DJA **19** 15:34:00.9±0.7, 5°S±4°×13°1E±°, h228km±13km, M3.7/6, mb3.4/3, MLv3.9/6*

ISC 19 15:33:50.1±0.8, 6°.52S±0°.06×130°.44E±0°.07, h90km, n11, σ2$83/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.01**	**27**	P	**Pn**	**15 34 50.5**	**+1.3**
FAKI				S	**Sn**	**15 35 33.8**	**-1.3**
KMPI	**Kaimana, Papua**	**4.32**	**49**	P	**Pn**	**15 34 56.6**	**+3.2**
KMPI				S	**Sn**	**15 35 43.5**	**+0.9**
SWI	**Sorong**	**5.68**	**8**	P	**Pn**	**15 35 12.1**	**+0.1**
SWI				S	**Sn**	**15 36 10.8**	**-5.1**
RKPI	**Ransiki, Papua**	**6.22**	**37**	S	**Sn**	**15 36 27.9**	**-1.1**
SANI	**Sanana**	**6.28**	**315**	P	**Pn**	**15 35 23.3**	**+3.1**
LBMI	**Labuha**	**6.54**	**333**	P	**Pn**	**15 35 24.9**	**+1.2**
BATI	14nm,1.0s,0.1nm **Baumata**	**7.64**	**241**	Pn	**Pn**	**15 35 41.9**	**+3.2**
BATI	0.6nm,0.3s,baz=90,slow=3.0,SNR=3.7			Sn	**Sn**	**15 37 02.6**	**-1.2**
FITZ	1.6nm,0.3s,baz=69,slow=8.6,SNR=2.2 **Fitzroy Crossi**	**12.42**	**202**	Pn	**Pn**	**15 36 45.0**	**+1.4**
	0.4nm,0.3s,baz=20,slow=15,SNR=9.2						
WRA	**Warramunga Arr**	**13.87**	**165**	Pn	**Pn**	**15 37 03.6**	**+0.8**
	0.6nm,0.3s,baz=342,slow=13,SNR=14						
WRA				Sn	**Sn**	**15 39 29.8**	**-5.6**
	0.7nm,0.3s,baz=335,slow=23,SNR=9.9						
ASAR	**Alice Springs**	**17.37**	**169**	P	**P**	**15 37 49.0**	**+2.1**
	0.3nm,0.3s,baz=344,slow=13,SNR=16						
ASAR				S	**Sn**	**15 40 56.9**	**-3.2**
	0.2nm,0.3s,baz=350,slow=26,SNR=5.7						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**15 44 39.1**	**-1.0**
	0.6nm,0.6s,baz=122,slow=7.2,SNR=7.1

*BJI **19** 16:03:10.6, 10°.24S×159°.00E, h17km, mb4.6/26, mB5.0/12, Ms5.0/4, Ms7 4.7/3*
*ISCJB **19** 16:03:11.1±0.3, 9°.60S±0°.05×159°.48E±0°.04, h26km, mb4.6/43, MS3.8/24, Error ellipse: s-maj=8.2km s-min=4.6km az=153.1*
*NEIC **19** 16:03:12.7±1.1, 9°.53S×159°.48E, h27km±8km, mb4.8/19, Error ellipse: s-maj=8.8km s-min=4.7km az=133.0*
NEIC Felt at Honiara.

ISC 19 16:03:12.0±0.5, 9°.72S±0°.07×159°.66E±0°.07, h26km, n96, σ1°28/76, mb4.7/41, MS3.8/24, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.40**	**44**	Pn	**Pn**	**16 03 21.5**	**-0.7**
	4μm,0.3s,baz=212,slow=10,SNR=4116						
HNR				Sn	**Sn**	**16 03 28.7**	**-0.2**
	14μm,0.3s,baz=270,slow=20,SNR=82						
HNR	**Honiara**	**0.40**	**44**	*i* P	**Pb**	**16 03 20.5**	**-0.2**
HNR				*i* S	**Sn**	**16 03 29.5**	**+0.6**
PMG	**Port Moresby**	**12.33**	**270**	Pn	**Pn**	**16 06 06.4**	**+0.3**
	0.2nm,0.3s,baz=307,slow=20,SNR=2.1						
PMG				LR	LR	16 10 35.2	
	comp=Z,1μm,18.2s,baz=92,slow=36						
PMG	**Port Moresby**	**12.33**	**270**	Pn	P	16 06 09.4	-8.6
	22nm,1.2s						
DZM	**Mont Dzumac**	**13.90**	**153**	Pn	**P**	**16 06 33.1**	**-2.4**
	0.2nm,0.3s,baz=323,slow=20,SNR=3.0						
DZM				LR	LR	16 11 14.0	
	comp=Z,263nm,19.3s,baz=24,slow=35						
DZM	**Mont Dzumac**	**13.90**	**153**	eLR	LR	16 09 43.2	
	567nm,24.4s						
PATS	**Pohnpei**	**16.50**	**355**	*e*Pn	**P**	**16 07 00.8**	**-3.6**
	150nm,1.2s						
CTA	**Charters Tower**	**16.54**	**230**	Pn	**P**	**16 07 04.3**	**-0.5**
	0.4nm,0.3s,baz=62,slow=14,SNR=11						
CTAO	**Charters Tower**	**16.54**	**230**	*e*Pn	**P**	**16 07 05.1**	**+0.3**
	74nm,1.1s						
COEN	**Coen**	**16.67**	**254**	*e*Pn	**P**	**16 07 03.5**	**-2.8**
	161nm,1.8s						
EIDS	**Eidsvold**	**17.57**	**207**	*e*Pn	**P**	**16 07 16.5**	**+0.4**
	18nm,0.8s						
WRAB	**Tennant Creek**	**26.45**	**245**	*e*P	**P**	**16 08 46.6**	**-0.6**
	23nm,1.1s						
WB2	**Warramunga Arr**	**26.45**	**245**	*e*P	**P**	**16 08 46.2**	**-1.0**
WRA	**Warramunga Arr**	**26.46**	**245**	P	**P**	**16 08 47.0**	**-0.3**
	15nm,0.9s,baz=73,slow=11,SNR=40						
WRA				PcP	**PcP**	**16 12 13.2**	**+0.9**
	1.3nm,0.6s,baz=73,slow=3.1,SNR=6.0						
WRA				ScP	**ScP**	**16 15 52.3**	**+1.6**
	0.5nm,0.8s,baz=46,slow=4.8,SNR=3.6						
GUMO	**Guam**	**27.42**	**327**	LR	LR	16 19 16.0	
	comp=Z,46nm,21.1s,baz=148,slow=36						
STKA	**Stephens Creek**	**27.68**	**215**	P	**P**	**16 08 59.2**	**+1.1**
	6.3nm,0.7s,baz=35,slow=13,SNR=10						
STKA				LR	LR	16 20 10.4	
	comp=Z,308nm,19.4s,baz=33,slow=37						
STKA	**Stephens Creek**	**27.68**	**215**	*e*P	**P**	**16 08 59.0**	**+0.8**
	2.2nm,0.8s						
AS01	**Alice Springs**	**28.19**	**237**	*e*P	**P**	**16 09 01.7**	**-1.1**
AS31	**Alice Springs**	**28.23**	**237**	*e*P	**P**	**16 09 02.2**	**-0.9**
	3.8nm,1.3s						
ASAR	**Alice Springs**	**28.23**	**237**	P	**P**	**16 09 02.5**	**-0.7**
	4.6nm,0.8s,baz=63,slow=9.8,SNR=43						
ASAR				PcP	**PcP**	**16 12 17.3**	**+0.8**
	0.9nm,0.5s,baz=83,slow=2.4,SNR=4.9						
ASAR				ScP	**ScP**	**16 15 59.4**	**+3.4**
	0.4nm,0.7s,baz=68,slow=3.0,SNR=4.5						
ASAR				LR	LR	16 19 43.6	
	comp=Z,210nm,19.8s,baz=17,slow=35						
AFI	**Afiamalu**	**28.25**	**101**	LR	LR	16 18 35.3	
	comp=Z,402nm,18.6s,baz=276,slow=33						
H11S2	**WAKE ISLAND Hy**	**28.88**	**14**	T	T	16 37 51.4	
	baz=194,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**28.88**	**14**	T	T	16 38 05.7	
	baz=194,slow=76,SNR=89						
H11S1	**WAKE ISLAND Hy**	**28.90**	**14**	T	T	16 38 06.9	
	baz=194,slow=56,SNR=55						
H11N1	**WAKE ISLAND Hy**	**30.11**	**14**	T	T	16 39 32.0	
	baz=193,slow=75,SNR=74						
H11N3	**WAKE ISLAND Hy**	**30.11**	**14**	T	T	16 39 32.6	
	baz=193,slow=75,SNR=64						
H11N2	**WAKE ISLAND Hy**	**30.12**	**14**	T	T	16 39 33.8	
	baz=193,slow=75,SNR=87						
BBOO	**Buckleboo**	**31.66**	**220**	*e*P	**P**	**16 09 33.8**	**+0.5**
	16nm,0.8s						
FITZ	**Fitzroy Crossi**	**34.01**	**252**	P	**P**	**16 09 52.9**	**-1.2**
	7.6nm,0.8s,baz=83,slow=8.7,SNR=7.3						
BATI	**Baumata**	**35.45**	**266**	LR	LR	16 25 15.1	
	comp=Z,222nm,18.8s,baz=84,slow=38						
DAV	**Davao City (W)**	**37.83**	**295**	LR	LR	16 26 39.9	
	comp=Z,80nm,18.2s,baz=160,slow=37						
RAR	**Rarotonga**	**40.61**	**111**	LR	LR	16 25 37.0	
	comp=Z,126nm,19.7s,baz=272,slow=33						
TGY	**Tagaytay City**	**45.12**	**301**	LR	LR	16 28 00.2	
	comp=Z,157nm,20.3s,baz=170,slow=33						
NWAO	**Narrogin (SRO)**	**45.35**	**233**	LR	LR	16 32 14.6	
	comp=Z,204nm,18.3s,baz=316,slow=38						
PPT	**Papeete**	**49.82**	**105**	LR	LR	16 29 16.9	
	comp=Z,107nm,19.9s,baz=286,slow=31						
PPT2	**Papeete2**	**49.82**	**105**	eLR	LR	16 26 27.0	
	225nm,22.8s						
MJAR	**Matsushiro Arr**	**50.25**	**337**	P	**P**	**16 12 04.8**	**-1.3**
	0.7nm,0.6s,baz=169,slow=7.0,SNR=3.0						
TBI	**Tubuai**	**50.37**	**112**	eLR	LR	16 26 49.5	
	250nm,27.5s						
LEM	**Lembang**	**51.54**	**269**	P	**P**	**16 12 15.9**	**-0.6**
	26nm,0.7s,baz=319,slow=20,SNR=5.1						
LEM				LR	LR	16 36 48.2	
	comp=Z,64nm,19.1s,baz=219,slow=39						
KSRS	**Korea Array**	**55.55**	**329**	P	**P**	**16 12 45.6**	**+0.4**
	0.8nm,0.7s,baz=144,slow=7.9,SNR=2.8						
KSRS				LR	LR	16 33 05.0	
	comp=Z,25nm,21.9s,baz=132,slow=32						
KSAR	**Wonju Array Be**	**55.56**	**329**	P	**P**	**16 12 45.6**	**+0.3**
QIZ	**Qiongzhong**	**56.81**	**300**	P	**P**	**16 12 54.1**	**-0.5**
QIZ				S	**S**	**16 20 48.0**	**+1.3**
NJ2	**Nanjing**	**56.97**	**319**	*e*P	**P**	**16 12 56.1**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TAOE	**Nuku Hiva Isla**	**59.34**	**95**	eLR	LR	16 30 45.0	
	167nm,25.0s						
CN2	**Changchun**	**61.67**	**332**	*e*P	**P**	**16 13 29.3**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PETK	**Petropavlovsk-**	**62.60**	**359**	P	**P**	**16 13 33.2**	**-0.6**
	11nm,1.1s,baz=278,slow=39,SNR=3.6						
PETK				LR	LR	16 38 38.6	
	comp=Z,49nm,20.2s,baz=248,slow=34						
GSI	**Gununungsitoli**	**62.77**	**277**	*e*P	**P**	**16 13 33.3**	**-2.5**
	14nm,1.0s						
RKT	**Rikitea**	**63.65**	**111**	eLR	LR	16 32 50.4	
	139nm,26.2s						
KMI	**Kunming**	**65.36**	**303**	P	**P**	**16 13 53.0**	**+0.1**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMI				LR	LR		
	comp=N,150nm,17.3s						
KMI				LR	LR		
	comp=E,130nm,14.6s						
CM01	**Chiang Mai Arr**	**66.09**	**295**	*e*P	**P**	**16 13 56.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**66.12**	**295**	P	**P**	**16 13 57.0**	**-0.6**
	1.5nm,0.8s,baz=119,slow=4.8,SNR=10.0						
CMAR				LR	LR	16 41 25.3	
	comp=Z,23nm,21.5s,baz=150,slow=35						
HHC	**Hu-ho-hao-te**	**67.04**	**322**	*e*P	P	16 14 05.3	+2.2
HHC				sP	PcP	16 14 21.8	-10
HHC				S	**S**	**16 22 55.8**	**+0.3**
HHC				sS	sS	16 23 09.6	+0.6
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,87nm,6.2s						
CD2	**Chengdu**	**67.09**	**309**	*e*P	**P**	**16 14 03.0**	**-0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VNDA	**Vanda**	**67.79**	**179**	P	**P**	**16 14 08.1**	**+0.9**
	2.1nm,0.7s,baz=346,slow=6.5,SNR=6.1						
VNDA				LR	LR	16 38 50.7	
	comp=Z,144nm,18.2s,baz=346,slow=32						
LZH	**Lanzhou**	**69.50**	**314**	*e*P	**P**	**16 14 20.5**	**+1.7**
LZH				pP	sP	16 14 29.3	-0.8
LZH				sP	PcP	16 14 33.0	-8.9
LZH				*e*PP	**PP**	**16 16 57.0**	**+4.3**
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,93nm,5.0s						
LZH				LR	LR		
	comp=N,370nm,14.5s						
LZH				LR	LR		
	comp=E,370nm,15.0s						
LZH				LR	LR		
	comp=Z,440nm,18.3s						
ULN	**Ulaanbaatar**	**73.80**	**326**	*e*P	**P**	**16 14 44.3**	**-0.1**
	9.9nm,1.2s						
GTA	**Gaotai**	**73.89**	**316**	*e*P	**P**	**16 14 46.6**	**+1.5**
GTA				pP	pP	16 14 50.9	-2.5
GTA				sP	sP	16 14 54.3	-2.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**74.14**	**326**	P	**P**	**16 14 46.2**	**-0.1**
	0.9nm,0.6s,baz=145,slow=5.1,SNR=7.2						
SONM				LR	LR	16 44 52.4	
	comp=Z,33nm,21.2s,baz=166,slow=34						
SONA1	**Songino Array**	**74.14**	**326**	*e*P	**P**	**16 14 46.2**	**-0.2**
SVW2	**Sparrevohn**	**78.85**	**20**	*e*P	**P**	**16 15 13.8**	**+1.2**
	34nm,1.6s						
JIRN	**Jiri**	**80.14**	**300**	*e*P	P	16 15 24.5	+3.7
QSPA	**South Pole Qui**	**80.27**	**180**	P	**P**	**16 15 22.8**	**+2.3**
	1.9nm,0.9s,baz=326,slow=3.0,SNR=5.0						
PKI	**Pulchoki**	**80.78**	**300**	*e*P	**P**	**16 15 24.3**	**+0.1**
	4.1nm,0.5s						
PKIN	**Phulchoki**	**80.79**	**300**	*e*P	**P**	**16 15 24.4**	**+0.2**
	6.5nm,0.5s						
SUA	**Susitna One**	**80.81**	**22**	*e*P	**P**	**16 15 22.9**	**-0.5**
	41nm,1.7s						
RC01	**Rabbit Creek A**	**80.94**	**22**	*e*P	**P**	**16 15 24.3**	**+0.4**
KKN	**Kakani**	**80.95**	**300**	*e*P	P	16 15 27.6	+2.6
	4.2nm,0.5s						
DMN	**Daman**	**81.05**	**300**	*e*P	**P**	**16 15 25.5**	**0.0**
	32nm,1.2s						
CAST	**Castle Rocks**	**81.64**	**20**	*e*P	**P**	**16 15 27.2**	**-0.3**
	4.1nm,0.7s						
KOLN	**Kolanda**	**82.38**	**300**	*e*P	**P**	**16 15 30.5**	**-2.0**
	12nm,0.7s						
MCK	**McKinley**	**82.91**	**21**	*e*P	**P**	**16 15 34.1**	**-0.1**
	15nm,1.0s						
WRH	**Wood River Hil**	**83.67**	**20**	*e*P	**P**	**16 15 37.8**	**-0.3**
	4.1nm,0.8s						
CCB	**Clear Creek Bu**	**83.87**	**20**	*e*P	**P**	**16 15 38.4**	**-0.8**
	10nm,1.4s						
MDM	**Murphy Dome**	**83.92**	**20**	*e*P	**P**	**16 15 38.7**	**-0.8**
	19nm,1.6s						
WMQ	**Urumqi**	**83.97**	**316**	P	**P**	**16 15 41.8**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,12nm,1.5s						
WMQ				LR	LR		
	comp=Z,86nm,17.9s						
COLA	**College**	**84.00**	**20**	*e*P	**P**	**16 15 39.5**	**-0.2**
	6.8nm,0.8s						
IL1	**Eielson Array**	**84.26**	**20**	*e*P	**P**	**16 15 39.9**	**-1.2**
ILAR	**Eielson Array**	**84.26**	**20**	P	**P**	**16 15 40.8**	**-0.3**
	1.4nm,0.5s,baz=247,slow=5.1,SNR=43						
ILAR				LR	LR	16 50 51.0	
	comp=Z,24nm,19.5s,baz=31,slow=34						
ILB	**Eielson Array**	**84.26**	**20**	*e*P	**P**	**16 15 39.8**	**-1.4**
DOT	**Dot Lake**	**84.60**	**22**	*e*P	**P**	**16 15 42.8**	**-0.1**
	74nm,2.0s						
COLD	**Coldfoot**	**84.75**	**17**	*e*P	**P**	**16 15 44.4**	**+0.8**
DAWY	**Dawson**	**86.57**	**23**	*e*P	**P**	**16 15 53.2**	**+0.5**
	10nm,1.4s						
YBH	**Yreka Blue Hor**	**87.32**	**47**	LR	LR	16 46 57.8	
	comp=Z,42nm,21.5s,baz=296,slow=30						
MK01	**Makanchi Array**	**88.49**	**318**	*e*P	**P**	**16 16 01.1**	**-1.2**
MK31	**Makanchi Array**	**88.50**	**318**	*e*P	**P**	**16 16 01.5**	**-0.9**
MKAR	**Makanchi Array**	**88.50**	**318**	P	**P**	**16 16 01.1**	**-1.2**
	0.7nm,0.5s,baz=98,slow=6.2,SNR=6.9						
MKAR	**Makanchi Array**	**88.50**	**318**	*e*P	**P**	**16 16 01.4**	**-0.9**
	8.9nm,0.6s						
ZALV	**Zalesovo Beam**	**89.02**	**325**	LR	LR	16 55 09.9	
	comp=Z,19nm,21.6s,baz=64,slow=35						
NV01	**Mina Array Sit**	**89.80**	**51**	*e*P	**P**	**16 16 10.0**	**+1.1**
NVAR	**Mina Array Bea**	**89.80**	**51**	P	**P**	**16 16 10.7**	**+1.7**
	2.5nm,1.1s,baz=240,slow=6.1,SNR=7.4						
KSH	**Kashi**	**91.29**	**310**	*e*P	P	16 16 21.3	+5.6
KSH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
F10A	**Beach Ranch, E**	**92.17**	**44**	*e*P	**P**	**16 16 20.3**	**+0.7**
	6.6nm,1.1s						
LPIG	**La Paz**	**93.93**	**66**	LR	LR	16 52 56.0	
	comp=Z,87nm,18.6s,baz=224,slow=32						
YKA	**Yellowknife Ar**	**96.58**	**28**	P	**P**	**16 16 39.2**	**0.0**
	0.5nm,0.7s,baz=260,slow=4.8,SNR=13						
YKA				LR	LR	16 55 21.7	
	comp=Z,5.5nm,18.3s,slow=32						
PDAR	**Pinedale Array**	**97.09**	**48**	P	Pdif	16 16 43.5	+1.0
	0.8nm,0.9s,baz=234,slow=5.0,SNR=3.5						
BVAR	**Borovoye Array**	**97.25**	**322**	P	Pdif	16 16 41.8	-0.8
	0.6nm,0.8s,baz=90,slow=7.2,SNR=3.2						

IDC 19 16:19:07.1±27.0, 22°.43S×175°.18W, h0km, mb4.4/4, mb1 4.5/4, mb1mx3.8/45, mbtmp4.4/4, Error ellipse: s-maj=493.0km s-min=142.8km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.96**	**266**	P	P	16 26 10.8	+1.0
	7.3nm,0.4s,baz=90,slow=11,SNR=14						
STKA	**Stephens Creek**	**39.38**	**247**	P	P	16 26 39.1	+0.4
	1.2nm,0.6s,baz=85,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**46.27**	**259**	P	P	16 27 37.0	-0.8
	2.7nm,0.8s,baz=93,slow=9.6,SNR=35						
WRA	**Warramunga Arr**	**46.96**	**263**	P	P	16 27 39.4	-0.8
	3.0nm,0.6s,baz=102,slow=8.2,SNR=66						

IDC 19 16:20:16.9±61.0, 20°.71S×177°.47W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/45, mbtmp3.7/3, Error ellipse: s-maj=1121.0km s-min=177.9km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.15**	**244**	P	P	16 27 37.6	-0.6
	0.8nm,0.5s,baz=94,slow=15,SNR=2.9						
ASAR	**Alice Springs**	**44.96**	**257**	P	P	16 28 34.0	-0.2
	0.8nm,0.8s,baz=101,slow=7.0,SNR=5.5						
WRA	**Warramunga Arr**	**45.07**	**262**	P	P	16 28 35.2	+0.2
	0.2nm,0.5s,baz=95,slow=8.3,SNR=7.4						

IDC 19 16:28:08.5±56.0, 16°.20S×175°.71W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/44, mbtmp3.9/3, Error ellipse: s-maj=1059.0km s-min=180.2km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.72**	**240**	P	P	16 35 59.7	+0.3
	0.7nm,0.4s,baz=54,slow=7.4,SNR=4.8						
WRA	**Warramunga Arr**	**47.50**	**258**	P	P	16 36 45.3	-0.5
	0.5nm,0.8s,baz=94,slow=8.5,SNR=4.4						
ASAR	**Alice Springs**	**47.75**	**253**	P	P	16 36 47.7	-0.1
	2.2nm,0.5s,baz=89,slow=8.2,SNR=94						

IDC 19 16:38:42.8±5.7, 19°.11S×174°.09W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/46, mbtmp4.0/3, Error ellipse: s-maj=259.1km s-min=92.9km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.31**	**262**	P	P	16 45 57.4	+0.3
	7.3nm,1.0s,baz=72,slow=9.6,SNR=2.4						
ASAR	**Alice Springs**	**48.43**	**255**	P	P	16 47 27.5	+0.2
	1.2nm,0.7s,baz=90,slow=8.4,SNR=27						
WRA	**Warramunga Arr**	**48.45**	**260**	P	P	16 47 26.5	-1.0
	0.4nm,0.5s,baz=98,slow=6.3,SNR=14						
AKASG	**Malin Array Be**	**143.45**	**335**	PKP	PKPdf	16 58 19.3	+0.1
	0.5nm,0.5s,baz=45,slow=2.8,SNR=3.4						

*ISCJB **19** 16:45:46.3±0.3, 7°.42S±0°.03×128°.40E±0°.04, h151km, mb3.7/9, Error ellipse: s-maj=6.0km s-min=4.7km az=174.1*
*IDC **19** 16:45:46.9±4.2, 7°.33S×128°.46E, h150km±37km, mb3.6/9, mb1 3.7/11, mb1mx3.5/51, mbtmp4.1/11, Error ellipse: s-maj=52.9km s-min=13.8km az=61.0*
*DJA **19** 16:45:48.8±0.3, 7°.5±4°×12°.8E±°, h169km±11km, M4.7/11, mb4.6/11, mB5.2/4, MLv4.8/9, Mw(mB)4.5/4*
*NEIC **19** 16:45:48.6±0.5, 7°.33S×128°.40E, h163km±7km, mb4.5/6, Error ellipse: s-maj=8.0km s-min=7.0km az=57.0*

ISC 19 16:45:47.6±0.5, 7°.59S±0°.05×128°.35E±0°.05, h151km, n53, σ2°.41/60, mb3.8/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.94**	**98**	P	**Pn**	**16 46 37.9**	**+3.6**
SAUI				S	**Sn**	**16 47 14.3**	**+3.9**
SAUI	**Saumlaki**	**2.94**	**98**	*e*Pn	**Pn**	**16 46 37.7**	**+3.4**
SOEI	**Soe**	**4.58**	**242**	P	**Pn**	**16 46 58.8**	**+3.2**
SOEI	**Soe**	**4.58**	**242**	*e*Pn	**Pn**	**16 46 59.1**	**+3.5**
BATI	**Baumata**	**5.32**	**240**	P	**Pn**	**16 47 08.8**	**+3.6**
	96nm,0.3s,baz=127,slow=2.2,SNR=132						
BATI				S	**Sn**	**16 48 06.9**	**+0.9**
	58nm,0.3s,baz=74,slow=19,SNR=7.9						
BATI	**Baumata**	**5.32**	**240**	P	**Pn**	**16 47 08.5**	**+3.2**
	293nm,0.6s,3μm1.2nm						
MTN	**Manton Dam**	**5.90**	**153**	*e*Pn	**Pn**	**16 47 15.5**	**+2.6**
SANI	**Sanana**	**5.98**	**337**	P	**Pn**	**16 47 13.6**	**-0.5**
	22nm,0.9s,0.1nm						
FAKI	**Fak Fak**	**6.04**	**40**	P	**Pn**	**16 47 13.5**	**-1.4**
	64nm,0.6s,3μm0.4nm						
FAKI	**Fak Fak**	**6.04**	**40**	*e*Pn	**Pn**	**16 47 12.8**	**-2.2**
MMRI	**Maumere**	**6.14**	**260**	P	**Pn**	**16 47 18.4**	**+2.1**
	112nm,0.7s,0.5nm						
MMRI	**Maumere**	**6.14**	**260**	*e*Pn	**Pn**	**16 47 18.6**	**+2.3**
LBMI	**Labuha**	**6.95**	**353**	P	**Pn**	**16 47 28.1**	**+1.0**
	39nm,1.1s,0.1nm						
SWI	**Sorong**	**7.28**	**24**	P	**Pn**	**16 47 29.9**	**-1.5**
	108nm,0.7s,2μm0.4nm						
WSI	**Waingapu**	**8.23**	**255**	P	**Pn**	**16 47 42.8**	**-1.3**
TNTI	**Ternate**	**8.36**	**353**	*e*Pn	**Pn**	**16 47 42.9**	**-3.0**
RKPI	**Ransiki, Papua**	**8.37**	**44**	P	**Pn**	**16 47 44.8**	**-1.2**
	639nm,0.8s						
WBSI	**Waikabubak, Su**	**9.10**	**256**	P	**Pn**	**16 47 57.4**	**+1.7**
	68nm,1.0s						
PLAI	**Plampang**	**10.54**	**263**	P	**Pn**	**16 48 16.1**	**+1.3**
FITZ	**Fitzroy Crossi**	**10.78**	**194**	P	**Pn**	**16 48 18.9**	**+1.0**
	2.2nm,0.3s,baz=39,slow=12,SNR=41						
FITZ				S	**Sn**	**16 50 11.8**	**-5.3**
	1730μm,0.3s,baz=132,slow=0.0						
WRAB	**Tennant Creek**	**13.58**	**155**	*e*Pn	**Pn**	**16 48 54.0**	**-0.2**
WRA	**Warramunga Arr**	**13.59**	**155**	P	**Pn**	**16 48 54.5**	**+0.2**
	2.4nm,0.3s,baz=328,slow=14,SNR=115						
WRA				S	**Sn**	**16 51 19.2**	**-5.7**
	4.6nm,0.3s,baz=324,slow=24,SNR=9.5						
WB2	**Warramunga Arr**	**13.59**	**155**	*e*Pn	**Pn**	**16 48 52.3**	**-2.1**
JAGI	**Jajag, Banyuwa**	**14.09**	**265**	*e*Pn	**Pn**	**16 49 02.1**	**+1.4**
DAV	**Davao City (W)**	**14.82**	**349**	*e*Pn	**Pn**	**16 49 07.2**	**-2.7**
MBWA	**Marble Bar**	**15.86**	**211**	*e*Pn	**P**	**16 49 24.6**	**+1.3**
	18nm,1.2s						
COEN	**Coen**	**15.87**	**115**	*e*Pn	**Pn**	**16 49 22.8**	**0.0**
	133nm,1.8s						
AS31	**Alice Springs**	**16.85**	**162**	*e*P	**Pn**	**16 49 37.9**	**+3.2**
	23nm,0.4s						
ASAR	**Alice Springs**	**16.85**	**162**	P	**Pn**	**16 49 37.8**	**+3.0**
	8.8nm,0.3s,baz=342,slow=11,SNR=1278						
ASAR				S	**S**	**16 52 39.0**	**-3.2**
	1.3nm,0.3s,baz=322,slow=17,SNR=4.2						
AS01	**Alice Springs**	**16.87**	**162**	*e*P	**Pn**	**16 49 38.0**	**+3.1**
KSM	**Kuching**	**20.13**	**296**	*e*P	**P**	**16 50 10.7**	**+0.7**
	9.1nm,0.8s						
STKA	**Stephens Creek**	**27.14**	**155**	P	**P**	**16 51 17.9**	**+1.3**
	5.4nm,0.6s,baz=321,slow=9.3,SNR=16						
STKA	**Stephens Creek**	**27.14**	**155**	*e*P	**P**	**16 51 17.7**	**+1.1**
	1.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.88**	**312**	P	**P**	**16 52 58.0**	**-0.6**
	0.5nm,0.7s,baz=130,slow=7.4,SNR=4.1						
NJ2	**Nanjing**	**40.45**	**348**	*e*P	**P**	**16 53 09.3**	**-2.0**
KMI	**Kunming**	**40.98**	**323**	P	**P**	**16 53 19.4**	**+3.3**
LZH	**Lanzhou**	**49.18**	**334**	*e*P	**P**	**16 54 21.3**	**+0.8**
LZH				pP	pP	16 54 59.0	+4.1
LZH				sP	sP	16 55 17.3	+5.7
LZH				PP	**PP**	**16 56 18.5**	**+2.6**
HHC	**Hu-ho-hao-te**	**50.61**	**344**	*e*P	**P**	**16 54 33.1**	**+1.9**
HHC				sP	sP	16 55 29.8	+7.3
HHC				S	**S**	**17 01 38.6**	**+4.2**
SONM	**Songino Array**	**58.50**	**343**	P	**P**	**16 55 26.3**	**-1.7**
	0.6nm,0.9s,baz=165,slow=9.1,SNR=4.0						
WMQ	**Urumqi**	**63.01**	**328**	P	**P**	**16 55 58.3**	**-0.2**
MK01	**Makanchi Array**	**67.81**	**328**	*e*P	**P**	**16 56 27.7**	**-1.6**
MK31	**Makanchi Array**	**67.83**	**328**	*e*P	**P**	**16 56 27.7**	**-1.7**
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**16 56 27.9**	**-1.5**
	1.2nm,0.9s,baz=121,slow=7.3,SNR=13						
MKAR	**Makanchi Array**	**67.83**	**328**	*e*P	**P**	**16 56 27.6**	**-1.8**
	13nm,1.3s						
ZALV	**Zalesovo Beam**	**71.39**	**335**	P	**P**	**16 56 48.6**	**-2.5**
	0.5nm,0.3s,baz=139,slow=7.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**72.16**	**329**	P	**P**	**16 56 54.4**	**-1.4**
	2.2nm,0.9s,baz=127,slow=4.8,SNR=16						
BVAR	**Borovoye Array**	**77.69**	**328**	P	**P**	**16 57 25.3**	**-2.1**
	0.9nm,0.7s,baz=258,slow=40,SNR=5.7						
QSPA	**South Pole Qui**	**82.39**	**180**	P	**P**	**16 57 52.7**	**0.0**
	2.5nm,0.7s,baz=284,

ellipse: s-maj=10.2km s-min=5.5km az=55.0,Mining explosion.
*ISCJB **19** 16:55:46.2±0.4,67.59N±0.03×26.99E±0.06,h0km,Error ellipse: s-maj=4.1km s-min=3.1km az=12.3*
*HEL **19** 16:55:46.9±0.1,67.68N×27.05E,h0km,ML2.2, ML2.2(UPP), Explosion*
*NAO **19** 16:55:46.6±1.2,67.67N×26.69E, ML2.5*
*BER **19** 16:55:47.4±5.9,67.67N×27.00E,h0km±28km, ML2.5(NAO)*
*KOLA **19** 16:55:49.5,67.91N×27.06E,h0km*
*UPP **19** 16:55:49.3,67.68N×26.53E,h0km,ML2.2,Suspected Mining explosion.*

ISC 19 16:55:46.5±0.8, 67.67N±0.03×26.95E±0.02, h0km, n51, σ0.95s/79, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGF	**Sodankyl**	**0.28**	**216**	*eP*	**Pg**	**16 55 52.4**	**+0.6**
SGF				*eS*	**Sg**	**16 55 55.9**	**+0.6**
VRF	**Varrio**	**1.02**	**84**	*ePB*	**Pg**	**16 56 04.9**	**-1.1**
VRF				MSG		16 56 17.4	
	comp=Z,18nm,0.2s						
HEF	**Hetta**	**1.44**	**303**	*eP*	**Pn**	**16 56 11.5**	**-2.4**
HEF				MSG		16 56 29.3	
	comp=Z,24nm,0.2s						
HEF				*eSN*	**Sn**	**16 56 35.2**	**+1.7**
PAJU	**Pajala**	**1.62**	**248**	P	**Pn**	**16 56 16.4**	**+0.1**
PAJU				S	**Sn**	**16 56 37.8**	**0.0**
PAJU	**Pajala**	**1.62**	**248**	P	**Pn**	**16 56 16.4**	**+0.1**
PAJU				S	**Sn**	**16 56 37.8**	**0.0**
PAJU	**Pajala**	**1.62**	**248**	*eP*	**Pn**	**16 56 16.4**	**+0.1**
PAJU				*eS*	**Sn**	**16 56 37.8**	**0.0**
TOF	**Tornio**	**1.90**	**214**	MSG		16 56 44.0	
	comp=Z,30nm,0.2s						
TOF				*eSG*	**Sb**	**16 56 46.4**	**+0.2**
MASU	**Masugnsbyn**	**1.91**	**266**	P	**Pn**	**16 56 20.9**	**+0.6**
MASU				S	**Sb**	**16 56 46.8**	**+0.3**
MASU	**Masugnsbyn**	**1.91**	**266**	P	**Pn**	**16 56 20.9**	**+0.6**
MASU				S	**Sb**	**16 56 46.9**	**+0.3**
MASU	**Masugnsbyn**	**1.91**	**266**	*eP*	**Pn**	**16 56 20.9**	**+0.6**
MASU				*eS*	**Sb**	**16 56 46.9**	**+0.3**
LANU	**Lannavaara**	**1.92**	**284**	P	**Pb**	**16 56 21.6**	**-0.7**
LANU				Sg	**Sb**	**16 56 47.3**	**+0.6**
LANU	**Lannavaara**	**1.92**	**284**	P	**Pb**	**16 56 21.6**	**-0.7**
LANU	**Lannavaara**	**1.92**	**284**	*ePG*	**Pb**	**16 56 21.8**	**-0.5**
LANU				*eSG*	**Sb**	**16 56 47.3**	**+0.6**
MSF	**Maaselka**	**1.95**	**154**	Pg	**Pn**	**16 56 21.8**	**+1.0**
MSF				Sg	**Sb**	**16 56 47.3**	**-0.3**
MSF	**Maaselka**	**1.95**	**154**	*ePG*	**Pn**	**16 56 21.8**	**+1.0**
MSF				*eSG*	**Sb**	**16 56 47.3**	**-0.3**
ARA0	**ARCESS Array S**	**1.95**	**345**	Pg	**Pn**	**16 56 20.9**	**0.0**
	SNR=90						
ARA0				Lg	Lg	16 56 46.9	
ARA0	**ARCESS Array S**	**1.95**	**345**	Pg	**Pn**	**16 56 20.9**	**0.0**
	baz=163,slow=16						
ARA0				Lg	Lg	16 56 46.9	
	baz=166,slow=28						
ARA0	**ARCESS Array S**	**1.95**	**345**	Pg	**Pn**	**16 56 20.9**	**0.0**
	baz=163,slow=16						
ARA0				Lg	Lg	16 56 46.9	
	baz=166,slow=28						
KU6	**Riekki**	**2.02**	**143**	Pg	**Pn**	**16 56 22.9**	**+1.2**
KU6				Sg	**Sb**	**16 56 49.7**	**+0.1**
KU6	**Riekki**	**2.02**	**143**	*ePG*	**Pn**	**16 56 23.0**	**+1.2**
KU6				MSG		16 56 47.1	
	comp=Z,12nm,0.2s						
KU6				*eSG*	**Sb**	**16 56 49.8**	**+0.1**
ERTU	**Ertsjaerv**	**2.17**	**241**	Pb	**Pb**	**16 56 25.4**	**-1.1**
ERTU				Sg	**Sb**	**16 56 54.3**	**+0.4**
ERTU	**Ertsjaerv**	**2.17**	**241**	P	**Pb**	**16 56 25.5**	**-1.1**
ERTU	**Ertsjaerv**	**2.17**	**241**	*ePB*	**Pb**	**16 56 25.5**	**-1.1**
ERTU				*eSG*	**Sb**	**16 56 54.3**	**+0.4**
KALU	**Kalix**	**2.31**	**220**	P	**Pb**	**16 56 27.6**	**-1.3**
KALU	**Kalix**	**2.31**	**220**	Pb	**Pb**	**16 56 28.1**	**-0.8**
KALU				Sb	**Sb**	**16 56 57.4**	**-0.4**
KALU	**Kalix**	**2.31**	**220**	P	**Pb**	**16 56 27.6**	**-1.3**
KALU	**Kalix**	**2.31**	**220**	*ePB*	**Pb**	**16 56 28.1**	**-0.8**
KALU				*eSB*	**Sb**	**16 56 57.4**	**-0.4**
APA0	**Apatity Array**	**2.31**	**89**	P	**Pn**	**16 56 27.5**	**+1.7**
APA0				S	**Sn**	**16 56 56.0**	**+1.1**
APA	**Apatity**	**2.48**	**89**	P	**Pb**	**16 56 30.4**	**-1.4**
APA				S	**Sn**	**16 57 00.7**	**+1.8**
DUNU	**Dundret**	**2.52**	**260**	P	**Pn**	**16 56 29.5**	**+0.8**
DUNU	**Dundret**	**2.52**	**260**	P	**Pn**	**16 56 29.5**	**+0.8**
DUNU	**Dundret**	**2.52**	**260**	*eP*	**Pn**	**16 56 29.5**	**+0.8**
KUA	**Kurravaara**	**2.53**	**280**	P	**Pn**	**16 56 29.5**	**+0.8**
KUA	**Kurravaara**	**2.53**	**280**	P	**Pn**	**16 56 29.6**	**+0.8**
KUA	**Kurravaara**	**2.53**	**280**	*eP*	**Pn**	**16 56 29.6**	**+0.8**
OUL	**Oulu**	**2.63**	**190**	P	**Pn**	**16 56 29.8**	**-0.2**
OUL	**Oulu**	**2.63**	**190**	*eP*	**Pn**	**16 56 29.8**	**-0.2**
KIF	**Kilpisjarvi**	**2.65**	**303**	Pn	**Pn**	**16 56 31.5**	**+1.2**
	SNR=50						
KIF	**Kilpisjarvi**	**2.65**	**303**	Pb	**Pb**	**16 56 33.3**	**-1.3**
KIF	**Kilpisjarvi**	**2.65**	**303**	Pn	**Pn**	**16 56 31.6**	**+1.2**
KIF				Pg	**Pb**	**16 56 33.5**	**-1.2**
KIF				Sn	**Sn**	**16 57 03.5**	**+0.5**
KIF				Lg	Lg	16 57 07.4	
KIF	**Kilpisjarvi**	**2.65**	**303**	Pn	**Pn**	**16 56 31.6**	**+1.2**
KIF				Pg	**Pb**	**16 56 33.5**	**-1.2**
KIF				Sn	**Sn**	**16 57 03.5**	**+0.5**
KIF				Lg	Lg	16 57 07.4	
KIF	**Kilpisjarvi**	**2.65**	**303**	*ePB*	**Pb**	**16 56 33.4**	**-1.3**
KIF				MSG		16 57 04.5	
	comp=Z,8.4nm,0.2s						
RATU	**Laukkuluspa**	**2.80**	**277**	P	**Pn**	**16 56 33.6**	**+1.0**
RATU	**Laukkuluspa**	**2.80**	**277**	P	**Pn**	**16 56 33.6**	**+1.0**
RATU	**Laukkuluspa**	**2.80**	**277**	*eP*	**Pn**	**16 56 33.6**	**+1.0**
OUF	**Merijarvi**	**3.43**	**196**	P	**Pn**	**16 56 42.3**	**+1.2**
OUF	**Merijarvi**	**3.43**	**196**	*eP*	**Pn**	**16 56 42.4**	**+1.2**
UMAU	**Umeaa**	**4.59**	**217**	P	**Pn**	**16 56 58.2**	**+1.2**
UMAU				S	**Sn**	**16 57 50.7**	**-0.3**
UMAU	**Umeaa**	**4.59**	**217**	*eP*	**Pn**	**16 56 58.2**	**+1.2**
UMAU				*eS*	**Sn**	**16 57 50.7**	**-0.3**
FIA0	**FINESS Array S**	**6.26**	**184**	Pn	**Pn**	**16 57 21.1**	**+1.2**
	baz=15,slow=11						
FIA0				Sn	**Sn**	**16 58 30.4**	**-1.6**
	baz=4.5,slow=28						
FIA0				Lg	Lg	16 58 56.2	
	baz=18,slow=28						

IDC 19 17:13:22.1±2.0, 5.92S×130.66E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.3/54, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=57.3km s-min=30.1km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**8.13**	**238**	Pn	Pn	17 15 22.6	+1.0
	1.7nm,0.3s,baz=96,slow=2.0,SNR=3.2						
BATI				Sn	Sn	17 16 41.1	-13
	2.6nm,0.3s,baz=9.0,slow=19,SNR=6.1						
WRA	**Warramunga Arr**	**14.39**	**166**	Pn	Pn	17 16 47.4	+0.1
	0.1nm,0.3s,baz=344,slow=10,SNR=6.5						
WRA				Sn	Sn	17 19 16.0	-12
	0.3nm,0.3s,baz=337,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**17.92**	**170**	P	Pn	17 17 32.4	-0.6
	0.1nm,0.3s,baz=347,slow=11,SNR=13						
ASAR				S	Sn	17 20 40.0	-14
	0.0nm,0.3s,baz=331,slow=40,SNR=3.2						
MKAR	**Makanchi Array**	**67.69**	**326**	P	P	17 24 21.2	0.0
	0.3nm,0.4s,baz=119,slow=7.3,SNR=8.2						

JMA 19 17:28:34.4±0.1, 37.41N×141.79E, h42km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.73**	**267**	P	Pn	17 28 48.4	+0.1
JFK				*eS*	Sn	17 28 58.1	-0.3
ONAJ	**Iwakimizuishiy**	**0.85**	**249**	P	Pn	17 28 50.0	0.0
ONAJ				*eS*	Sn	17 29 00.9	-0.4
JMM	**Marumori**	**0.91**	**300**	P	Pn	17 28 51.0	+0.2
JMM				*eS*	Sn	17 29 02.8	+0.1
JIO	**Ouri**	**1.10**	**342**	P	Pn	17 28 53.7	+0.4
JIO				*eS*	Sn	17 29 07.0	-0.3
JFT	**Otama**	**1.16**	**276**	P	Pn	17 28 55.2	+1.0
JFT				*eS*	Sn	17 29 09.9	+1.0
JOU	**Okura**	**1.30**	**317**	P	Pn	17 28 56.9	+0.7
JOU				*eS*	Sn	17 29 13.8	+1.4
JYS	**Shirataka**	**1.59**	**301**	P	Pn	17 29 01.4	+1.4
JYS				*eS*	Sn	17 29 21.3	+1.9
JMK	**Ichinoseki**	**1.60**	**344**	P	Pn	17 29 01.2	+1.0
JFY	**Yanaizu**	**1.66**	**271**	P	Pn	17 29 02.3	+1.3
JFY				*eS*	Sn	17 29 22.6	+1.4
JYK	**Kaneyama**	**1.88**	**324**	P	Pn	17 29 05.0	+0.9
MAT	**Matsushiro**	**3.00**	**254**	P	Pn	17 29 21.5	+2.1
MAT				S	Sn	17 29 58.7	+4.6

IDC 19 17:31:10.1±2.0, 8.16S×128.29E, h0km, mb3.3/1, mb1 3.7/5, mb1mx3.4/56, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=37.6km s-min=25.5km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.01**	**246**	Pn	Pn	17 32 26.8	+0.2
	1.6nm,0.3s,baz=90,slow=2.9,SNR=3.4						
BATI				Sn	Sn	17 33 26.3	+1.0
	3.2nm,0.3s,baz=120,slow=20,SNR=4.6						
FITZ	**Fitzroy Crossi**	**10.22**	**194**	Pn	Pn	17 33 39.3	+1.1
	0.3nm,0.3s,baz=15,slow=12,SNR=4.2						
FITZ				Sn	Sn	17 35 35.7	+2.2
	0.3nm,0.3s,baz=74,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**13.10**	**154**	Pn	Pn	17 34 17.2	-0.4
	0.2nm,0.3s,baz=324,slow=13,SNR=18						
WRA				Sn	Sn	17 36 41.6	-2.6
	0.3nm,0.3s,baz=320,slow=27,SNR=9.4						
ASAR	**Alice Springs**	**16.33**	**161**	Pn	Pn	17 35 00.0	-1.1
	0.1nm,0.3s,baz=341,slow=12,SNR=11						
ASAR				Sn	Sn	17 38 03.8	+0.7
	0.1nm,0.3s,baz=336,slow=24,SNR=5.7						
MKAR	**Makanchi Array**	**68.28**	**328**	P	P	17 42 12.9	0.0
	0.3nm,0.8s,baz=136,slow=6.4,SNR=3.5						

*ISCJB **19** 17:39:49.3±0.3,29.23S±0.03×178.59W±0.08,h204km, mb4.3/23, Error ellipse: s-maj=9.8km s-min=4.1km az=13.3*
*WEL **19** 17:39:49.0,29.27S×178.29W,h208km*
*NEIC **19** 17:39:49.3±0.8,29.27S×178.29W,h208km±7km,mb4.8/15, Error ellipse: s-maj=13.0km s-min=8.0km az=122.0*
*IDC **19** 17:39:49.7±0.5,28.87S×178.30W,h203km±4km,mb4.1/15, mb1 4.1/16,mb1mx3.9/42,mbtmp4.6/16, Error ellipse: s-maj=13.7km s-min=12.4km az=170.0*

ISC 19 17:39:50.0±0.5, 29.29S±0.06×178.50W±0.10, h204km, n103, σ2.48/107, mb4.4/23, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**0.50**	**85**	P	**Pn**	**17 40 19.7**	**+2.1**
GLKZ	**Green Lake**	**0.50**	**87**	P	**Pn**	**17 40 19.0**	**+1.4**
GLKZ	**Green Lake**	**0.50**	**87**	S	**S**	**17 40 39.9**	**+1.0**
RAO	**Raoul Island**	**0.51**	**86**	P	**Pn**	**17 40 17.1**	**-0.5**
	763nm,0.3s,baz=149,slow=2.2,SNR=13						
RAO				S	**S**	**17 40 39.7**	**+0.8**
	354nm,0.3s,baz=79,slow=23,SNR=5.9						
MXZ	**Matakaoa Point**	**8.67**	**197**	S	**S**	**17 43 29.9**	**+0.6**
WMGZ	**Waiomatatini S**	**8.88**	**196**	S	**S**	**17 43 35.1**	**+0.7**
HAZ	**Te Kaha**	**8.99**	**199**	P	**Pn**	**17 41 56.4**	**+0.3**
HAZ	**Te Kaha**	**8.99**	**199**	S	**S**	**17 43 37.2**	**+0.2**
PKGZ	**Pakihiroa**	**9.04**	**198**	S	**S**	**17 43 36.5**	**-1.6**
PUZ	**Puketiti**	**9.16**	**196**	P	**Pn**	**17 41 57.2**	**-1.1**
PUZ	**Puketiti**	**9.16**	**196**	S	**S**	**17 43 40.4**	**-0.7**
RUGZ	**Raukumara Rang**	**9.22**	**199**	P	**Pn**	**17 42 01.4**	**+2.4**
TWGZ	**Tauwhareparae**	**9.33**	**197**	P	**Pn**	**17 42 00.6**	**+0.1**
CNGZ	**Carnagh Statio**	**9.57**	**196**	P	**Pn**	**17 42 03.1**	**-0.4**
MWZ	**Matawai**	**9.60**	**199**	P	**Pn**	**17 42 04.4**	**+0.4**
URZ	**Urewera**	**9.66**	**201**	P	**Pn**	**17 42 03.8**	**-0.8**
	0.3nm,0.3s,baz=210,slow=20,SNR=3.4						
URZ				S	**S**	**17 43 53.4**	**+0.5**
	13nm,0.3s,baz=315,slow=23,SNR=19						
URZ	**Urewera**	**9.66**	**201**	*e*Sn	**S**	**17 43 53.4**	**+0.5**
URZ				*e*Sn	**S**	**17 43 54.8**	**+1.9**
URZ	**Urewera**	**9.66**	**201**	P	**Pn**	**17 42 04.2**	**-0.5**
URZ	**Urewera**	**9.66**	**201**	S	**S**	**17 43 52.7**	**-0.2**
BKZ	**Black Stump Fm**	**10.68**	**201**	*e*Pn	**Pn**	**17 42 19.7**	**+1.7**
BKZ				*e*Sn	**S**	**17 44 17.2**	**-0.4**
HIZ	**Hauiti**	**10.72**	**209**	*e*Pn	**P**	**17 42 25.0**	**-0.1**
POWZ	**Post Office Ro**	**12.03**	**201**	S	**S**	**17 44 45.0**	**-3.7**
MRZ	**Mangatainoka R**	**12.33**	**202**	P	**Pn**	**17 42 37.2**	**-1.7**
MRZ	**Mangatainoka R**	**12.33**	**202**	S	**S**	**17 44 48.8**	**-7.1**
HOWZ	**Holdsworth Sta**	**12.57**	**201**	P	**Pn**	**17 42 38.7**	**-3.2**
HOWZ	**Holdsworth Sta**	**12.57**	**201**	S	S	17 44 51.0	-11
OGWZ	**Otaki Gorge**	**12.61**	**203**	P	**Pn**	**17 42 39.5**	**-2.8**
OGWZ	**Otaki Gorge**	**12.61**	**203**	S	**S**	**17 44 54.8**	**-7.6**
MSWZ	**Moikau Station**	**13.12**	**201**	P	**Pn**	**17 42 48.7**	**-0.1**
MSWZ	**Moikau Station**	**13.12**	**201**	S	**S**	**17 45 06.5**	**-8.2**
NNZ	**Nelson**	**13.61**	**207**	P	**Pn**	**17 42 55.7**	**+0.9**
NNZ	**Nelson**	**13.61**	**207**	S	**S**	**17 45 18.4**	**-7.7**
THZ	**Tophouse**	**14.27**	**207**	*e*Pn	**P**	**17 43 03.7**	**-0.8**
THZ	**Tophouse**	**14.27**	**207**	P	**Pn**	**17 43 03.4**	**+0.4**
KHZ	**Kahutara**	**14.59**	**204**	*e*Pn	**Pn**	**17 43 04.3**	**-2.6**
KHZ	**Kahutara**	**14.59**	**204**	P	**Pn**	**17 43 04.9**	**-2.0**
KHZ	**Kahutara**	**14.59**	**204**	S	S	17 45 38.5	-10
LTZ	**Lake Taylor**	**15.38**	**206**	*e*P	**P**	**17 43 17.9**	**+1.1**
	95nm,1.6s						
OXZ	**Oxford**	**15.93**	**206**	*e*P	**P**	**17 43 21.0**	**-1.8**
	83nm,1.5s						
MQZ	**McQueen's Vall**	**16.03**	**204**	*e*P	**P**	**17 43 21.5**	**-2.3**
	104nm,1.7s						
RPZ	**Rata Peaks**	**16.64**	**207**	P	**Pn**	**17 43 35.5**	**+3.7**
	0.7nm,0.3s,baz=333,slow=4.5,SNR=4.7						
RPZ				S	**S**	**17 46 25.2**	**-8.9**
	2.0nm,0.3s,baz=330,slow=22,SNR=14						
RPZ	**Rata Peaks**	**16.64**	**207**	*e*P	**P**	**17 43 30.0**	**-0.6**
	112nm,1.7s						
RPZ				S	**S**	**17 46 25.2**	**-8.9**
PPT	**Papeete**	**28.91**	**73**	P	**P**	**17 45 27.3**	**-2.9**
	20nm,0.6s,baz=66,slow=20,SNR=2.5						
CTA	**Charters Tower**	**33.21**	**278**	P	**P**	**17 46 10.2**	**+2.4**
	2.6nm,0.4s,baz=98,slow=12,SNR=5.0						
STKA	**Stephens Creek**	**34.32**	**255**	P	**P**	**17 46 19.8**	**+2.5**
	5.0nm,0.7s,baz=100,slow=11,SNR=14						
STKA	**Stephens Creek**	**34.32**	**255**	*e*P	**P**	**17 46 19.9**	**+2.5**
	1.2nm,0.8s						
AS31	**Alice Springs**	**42.75**	**266**	*e*P	**P**	**17 47 28.5**	**+1.0**
	2.9nm,1.3s						
ASAR	**Alice Springs**	**42.75**	**266**	P	**P**	**17 47 28.1**	**+0.6**
	1.6nm,0.4s,baz=101,slow=6.8,SNR=53						
ASAR				PcP	**PcP**	**17 49 15.1**	**-0.1**
	1.1nm,0.8s,baz=124,slow=3.8,SNR=3.8						
WR1	**Warramunga Arr**	**43.63**	**271**	*e*P	**P**	**17 47 35.0**	**+0.4**
	58nm,1.8s						
WR1				*e*PcP	**PcP**	**17 49 16.9**	**-1.3**
WRA	**Warramunga Arr**	**43.63**	**271**	P	**P**	**17 47 35.0**	**+0.4**
	3.9nm,0.4s,baz=110,slow=8.0,SNR=141						
WRA				PcP	**PcP**	**17 49 16.9**	**-1.3**
	1.3nm,0.9s,baz=112,slow=3.8,SNR=3.2						
VNDA	**Vanda**	**49.15**	**186**	P	**P**	**17 48 20.9**	**+4.2**
	3.9nm,0.8s,baz=360,slow=7.4,SNR=9.6						
VNDA	**Vanda**	**49.15**	**186**	*e*P	P	17 48 21.5	+4.8
	5.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.94**	**269**	P	**P**	**17 48 39.6**	**+1.3**
	1.5nm,0.3s,baz=125,slow=4.4,SNR=5.8						
FITZ	**Fitzroy Crossi**	**51.94**	**269**	*e*P	**P**	**17 48 39.6**	**+1.3**
	22nm,1.6s						
QSPA	**South Pole Qui**	**60.81**	**180**	P	**P**	**17 49 43.7**	**+3.3**
	12nm,0.8s,baz=33,slow=3.3,SNR=44						
LEM	**Lembang**	**72.65**	**272**	P	**P**	**17 50 56.3**	**+0.3**
	13nm,0.4s,baz=170,slow=4.0,SNR=4.6						
MAW	**Mawson**	**73.19**	**201**	P	**P**	**17 51 00.4**	**+2.4**
	16nm,1.1s,baz=114,slow=7.0,SNR=4.4						
MAW	**Mawson**	**73.19**	**201**	*e*P	**P**	**17 50 57.4**	**-0.7**
	7.2nm,1.2s						
SBUM	**Sibu**	**73.26**	**283**	*e*P	**P**	**17 50 56.6**	**-2.7**
	6.6nm,0.9s						
KSM	**Kuching**	**74.39**	**281**	*e*P	**P**	**17 51 05.8**	**-0.2**
	6.6nm,0.7s						
MJAR	**Matsushiro Arr**	**77.09**	**325**	P	**P**	**17 51 19.4**	**-1.2**
	2.0nm,0.7s,baz=165,slow=5.9,SNR=6.0						
MAJO	**Matsushiro**	**77.09**	**325**	*e*P	**P**	**17 51 19.4**	**-1.2**
SYO	**Syowa Base**	**78.09**	**193**	*i*P	**P**	**17 51 26.2**	**+0.4**
JNU	**Nakatsue**	**78.44**	**319**	P	**P**	**17 51 27.6**	**-0.6**
	6.7nm,0.9s,baz=326,slow=7.3,SNR=3.5						
JNU	**Nakatsue**	**78.44**	**319**	*e*P	**P**	**17 51 27.0**	**-1.3**
	63nm,2.0s						
SNAA	**Sanae**	**79.27**	**179**	P	**P**	**17 51 33.9**	**+1.6**
SNAA	**Sanae**	**79.27**	**179**	P	**P**	**17 51 33.6**	**+1.3**
	4.5nm,0.9s,baz=135,slow=5.7,SNR=5.5						
SNAA	**Sanae**	**79.27**	**179**	*e*P	**P**	**17 51 33.6**	**+1.3**
	14nm,1.4s						
VNA3	**Neumayer Olymp**	**79.43**	**176**	P	**P**	**17 51 34.7**	**+1.6**
VNA2	**Neumayer--Watz**	**79.86**	**177**	P	**P**	**17 51 37.4**	**+2.0**
	baz=183,slow=5.4						
VNA1	**Neumayer--Stat**	**80.10**	**177**	P	**P**	**17 51 38.6**	**+1.9**
KSRS	**Korea Array**	**83.23**	**320**	P	**P**	**17 51 54.6**	**+1.3**
	2.1nm,0.8s,baz=133,slow=5.3,SNR=5.5						
KSAR	**Wonju Array Be**	**83.24**	**320**	P	**P**	**17 51 54.6**	**+1.2**
IPM	**Ipoh**	**83.90**	**279**	*e*P	**P**	**17 51 57.0**	**-0.5**
	20nm,0.7s						
KULM	**Kulim**	**84.62**	**279**	*e*P	**P**	**17 52 01.1**	**0.0**
	12nm,0.9s						
PSI	**Prapat**	**84.89**	**276**	P	**P**	**17 52 01.8**	**-0.8**
	7.1nm,0.8s,baz=338,slow=5.4,SNR=6.6						
BAKC	**Calstate**	**85.22**	**45**	*e*P	**P**	**17 52 03.2**	**-0.3**
GSI	**Gunungsitoli**	**85.33**	**274**	*e*P	**P**	**17 52 05.6**	**+1.0**
	22nm,0.7s						
CCCA	**Chr Cany lake**	**86.42**	**46**	*e*P	**P**	**17 52 06.3**	**-3.1**
NVAR	**Mina Array Bea**	**87.72**	**43**	P	**P**	**17 52 14.8**	**-1.0**
	0.6nm,0.8s,baz=224,slow=10.0,SNR=2.7						
BEND	**Bend**	**89.77**	**37**	*e*P	**P**	**17 52 23.6**	**-1.6**
MK32	**Makanchi Array**	**116.73**	**311**	*e*PKPdf	**PKPdf**	**17 58 08.2**	**-1.5**
MKAR	**Makanchi Array**	**116.73**	**311**	PKP	**PKPdf**	**17 58 08.2**	**-1.5**
	0.4nm,0.6s,baz=216,slow=0.3,SNR=7.3						
ZALV	**Zalesovo Beam**	**116.92**	**319**	PKP	**PKPdf**	**17 58 08.1**	**-1.7**
	0.4nm,0.3s,baz=96,slow=2.0,SNR=2.2						
ZAA1	**Zalesovo Array**	**116.92**	**319**	*e*PKPdf	**PKPdf**	**17 58 08.2**	**-1.7**
KURK	**Kurchatov**	**119.97**	**314**	*e*PKPdf	**PKPdf**	**17 58 14.6**	**-1.2**
KURBB	**Kurchatov Arra**	**120.01**	**314**	PKP	**PKPdf**	**17 58 14.6**	**-1.3**
	0.9nm,0.5s,baz=112,slow=2.0,SNR=7.6						
BVAR	**Borovoye Array**	**125.31**	**316**	PKP	**PKPdf**	**17 58 25.2**	**-0.8**
	1.8nm,0.7s,baz=80,slow=0.9,SNR=16						
AKTO	**Aktyubinsk**	**133.03**	**313**	PKP	**PKPdf**	**17 58 39.9**	**-0.9**
	0.9nm,0.5s,baz=80,slow=3.7,SNR=5.5						
FIA0	**FINESS Array S**	**143.96**	**340**	*e*PKPdf	PKPab	17 58 57.4	-0.8
FINES	**FINESS Array B**	**143.96**	**340**	PKP	PKPab	17 58 57.4	-0.8
	4.0nm,0.7s,baz=48,slow=3.6,SNR=20						
KBZ	**Khabaz**	**144.13**	**305**	PKP	**PKPab**	**17 58 59.4**	**0.0**
	0.9nm,0.6s,baz=120,slow=3.0,SNR=4.8						
NB200	**NORSAR Array S**	**147.59**	**351**	*e*PKPbc	**PKPbc**	**17 59 08.2**	**-1.4**
NOA	**NORSAR Array B**	**147.59**	**351**	PKPbc	**PKPbc**	**17 59 08.2**	**-1.4**
	3.9nm,0.9s,baz=15,slow=4.5,SNR=4.9						
HFS	**Hagfors**	**148.08**	**348**	PKPbc	**PKPbc**	**17 59 10.0**	**-0.8**
	3.6nm,0.8s,baz=76,slow=6.1,SNR=6.2						
HFS	**Hagfors**	**148.08**	**348**	PKPbc	**PKPbc**	**17 59 10.0**	**-0.8**
AKASG	**Malin Array Be**	**150.16**	**324**	PKPbc	**PKPbc**	**17 59 14.7**	**-1.6**
	7.6nm,0.7s,baz=46,slow=3.0,SNR=36						
AKBB	**Malin Array Si**	**150.16**	**324**	*e*PKPbc	**PKPbc**	**17 59 15.5**	**-0.7**
MMAI	**Mount Meron Ar**	**150.83**	**286**	PKPbc	**PKPbc**	**17 59 19.7**	**+1.2**
	9.2nm,0.9s,baz=81,slow=8.9,SNR=7.0						
BR101	**Keskin Array S**	**151.68**	**300**	*e*PKPbc	**PKPbc**	**17 59 19.4**	**-1.0**
BRTR	**Keskin Array B**	**151.68**	**300**	PKPbc	**PKPbc**	**17 59 19.4**	**-1.0**
	2.9nm,1.1s,baz=129,slow=3.3,SNR=9.5						
TORD	**Torodi Ar. Bea**	**163.93**	**181**	PKPab	**PKPab**	**18 00 23.4**	**+0.4**
	2.8nm,0.7s,baz=172,slow=3.6,SNR=15						
TOA1	**Torodi Ar. Sit**	**163.94**	**181**	*e*PKPab	**PKPab**	**18 00 23.4**	**+0.4**

*CSEM **19** 17:42:09.9±0.1,39.47N×26.01E,h5km,ML2.8, Error ellipse: s-maj=3.2km s-min=2.2km az=89.0*
*DDA **19** 17:42:09.2,39.43N×26.09E,h7km, Ml2.9*
*ATH **19** 17:42:09.9,39.49N×26.05E,h11km±3km, ML2.4/6, Error ellipse: s-maj=3.4km s-min=1.0km az=263.0*
*ISK **19** 17:42:09.3,39.47N×25.98E,h6km,ML2.8/21*
*ISCJB **19** 17:42:09.8±0.4,39.47N±0.01×26.01E±0.03,h5km±3km, Error ellipse: s-maj=3.9km s-min=2.4km az=174.2*
*THE **19** 17:42:10.2,39.47N×26.01E,h7km±1km,ML

CHOS	**Chios island**	**1.08**	**178**	P	**Pg**	**17 42 30.0**	**-1.0**
CHOS				S	**Sb**	**17 42 45.9**	**+0.9**
CHOS	**Chios island**	**1.08**	**178**	P	**Pg**	**17 42 30.0**	**-1.0**
CHOS				S	**Sb**	**17 42 45.9**	**+0.9**
URLA	**Izmir**	**1.20**	**158**	PN	**Pg**	**17 42 32.6**	**-0.6**
URLA	**Izmir**	**1.20**	**158**	*i* P	**Pg**	**17 42 30.7**	**-2.5**
URLA				*i* S	**Sg**	**17 42 46.8**	**-1.9**
URLA	**Izmir**	**1.20**	**158**	P	**Pg**	**17 42 30.7**	**-2.5**
URLA	**Izmir**	**1.20**	**158**	*e*Pn	**Pg**	**17 42 32.6**	**-0.6**
URLA				S	**Sg**	**17 42 46.8**	**-1.9**
ERIK	**Erikli-Kesan**	**1.26**	**18**	PN	**Pn**	**17 42 33.4**	**-0.3**
ERIK	**Erikli-Kesan**	**1.26**	**18**	*e*Pn	**Pn**	**17 42 33.4**	**-0.3**
BALY	**Balya**	**1.27**	**77**	*i* P	**Pn**	**17 42 32.4**	**-1.5**
BALY				*i* S	**Sg**	**17 42 49.7**	**-1.4**
BALY	**Balya**	**1.27**	**77**	P	**Pn**	**17 42 32.3**	**-1.5**
BALY				S	**Sg**	**17 42 49.7**	**-1.4**
ENEZ	**Enez**	**1.27**	**5**	PN	**Pn**	**17 42 33.9**	**+0.1**
ENEZ	**Enez**	**1.27**	**5**	*e*Pn	**Pn**	**17 42 33.9**	**+0.1**
SKY	**Skiros Island**	**1.28**	**243**	P	**Pn**	**17 42 33.9**	**-0.1**
SKY	**Skiros Island**	**1.28**	**243**	P	**Pn**	**17 42 34.3**	**+0.3**
ZEY	**˜zmir**	**1.29**	**163**	*i* P	**Pn**	**17 42 33.0**	**-1.1**
ZEY				*i* S	**Sn**	**17 42 51.9**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.32**	**93**	*i* P	**Pn**	**17 42 34.9**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.32**	**93**	P	**Pn**	**17 42 34.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.35**	**47**	PN	**Pn**	**17 42 34.9**	**0.0**
KRBG	**Karabiga-Canak**	**1.35**	**47**	*e*Pn	**Pn**	**17 42 34.9**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**65**	PN	**Pb**	**17 42 36.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**65**	*e*Pn	**Pb**	**17 42 36.5**	**0.0**
ALN	**Alexandroupoli**	**1.43**	**1**	PN	**Pn**	**17 42 36.1**	**+0.1**
ALN	**Alexandroupoli**	**1.43**	**1**	P	**Pn**	**17 42 35.1**	**-0.8**
ALN				S	**Sb**	**17 42 54.0**	**-0.9**
ALN				AML	AML	17 42 56.3	
	comp=E,257µm,0.4s						
ALN				AML	AML	17 42 56.4	
	comp=N,183µm,0.5s						
ALN	**Alexandroupoli**	**1.43**	**1**	P	**Pn**	**17 42 35.7**	**-0.3**
ALN	**Alexandroupoli**	**1.43**	**1**	*e*Pn	**Pn**	**17 42 36.1**	**+0.1**
ALN				S	**Sb**	**17 42 54.8**	**-0.1**
ALN	**Alexandroupoli**	**1.43**	**1**	P	**Pn**	**17 42 35.7**	**-0.3**
ALN				S	**Sb**	**17 42 54.8**	**-0.1**
KESN	**Edirne-Kesan**	**1.45**	**20**	*i* P	**Pn**	**17 42 36.8**	**+0.2**
KESN				*i* S	**Sg**	**17 42 56.9**	**-0.1**
KESN	**Edirne-Kesan**	**1.45**	**20**	P	**Pn**	**17 42 36.8**	**+0.2**
KESN				S	**Sg**	**17 42 56.8**	**-0.1**
BALB	**Balikesir**	**1.45**	**83**	PN	**Pb**	**17 42 37.1**	**-0.1**
BALB	**Balikesir**	**1.45**	**83**	*e*Pn	**Pb**	**17 42 37.1**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.51**	**36**	PN	**Pn**	**17 42 37.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.51**	**36**	*e*Pn	**Pn**	**17 42 37.3**	**+0.1**
GMLD	**Gumuldur**	**1.56**	**153**	PN	**Pn**	**17 42 37.9**	**+0.2**
GMLD	**Gumuldur**	**1.56**	**153**	*e*Pn	**Pn**	**17 42 37.9**	**+0.2**
DGB	**˜zmir**	**1.57**	**154**	*i* P	**Pn**	**17 42 38.3**	**+0.4**
DGB				*i* S	**Sg**	**17 43 01.2**	**+0.5**
EDC	**Edincik**	**1.67**	**58**	PN	**Pn**	**17 42 40.0**	**+0.7**
EDC	**Edincik**	**1.67**	**58**	*e*Pn	**Pn**	**17 42 40.0**	**+0.7**
OUR	**Ouranopolis**	**1.79**	**300**	PN	**Pn**	**17 42 40.9**	**0.0**
OUR	**Ouranopolis**	**1.79**	**300**	*e*Pn	**Pn**	**17 42 40.9**	**0.0**
SMG	**Samos**	**1.87**	**160**	P	**Pb**	**17 42 45.1**	**+0.7**
SMG				S	**Sb**	**17 43 09.0**	**+1.2**
SMG	**Samos**	**1.87**	**160**	P	**Pb**	**17 42 44.7**	**+0.3**
SMG				S	**Sg**	**17 43 09.2**	**-1.2**
KCTX	**Karacabey (Bur**	**1.97**	**65**	PN	**Pn**	**17 42 44.6**	**+1.1**
KCTX	**Karacabey (Bur**	**1.97**	**65**	*e*Pn	**Pn**	**17 42 44.6**	**+1.1**
GCAM	**G?zelcaml?**	**2.01**	**151**	PN	**Pn**	**17 42 44.6**	**+0.7**
GCAM	**G?zelcaml?**	**2.01**	**151**	*e*Pn	**Pn**	**17 42 44.6**	**+0.7**
SBT3	**Marmara-Eregli**	**2.06**	**46**	PN	**Pn**	**17 42 45.9**	**+1.3**
SBT3	**Marmara-Eregli**	**2.06**	**46**	*e*Pn	**Pn**	**17 42 45.9**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.11**	**135**	PN	**Pn**	**17 42 46.7**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.11**	**135**	*e*Pn	**Pn**	**17 42 46.7**	**+1.2**
CRLT	**Corlu**	**2.12**	**38**	PN	**Pn**	**17 42 46.7**	**+1.2**
CRLT	**Corlu**	**2.12**	**38**	*e*Pn	**Pn**	**17 42 46.7**	**+1.2**
MDNY	**Mudanya-Bursa**	**2.38**	**67**	PN	**Pn**	**17 42 50.7**	**+1.6**
MDNY	**Mudanya-Bursa**	**2.38**	**67**	*e*Pn	**Pn**	**17 42 50.7**	**+1.6**
APE	**Apeiranthos**	**2.43**	**189**	PN	**Pn**	**17 42 49.2**	**-0.5**
APE	**Apeiranthos**	**2.43**	**189**	*e*Pn	**Pn**	**17 42 49.2**	**-0.5**
SLVT	**Silivri**	**2.43**	**43**	PN	**Pn**	**17 42 50.7**	**+0.9**
SLVT	**Silivri**	**2.43**	**43**	*e*Pn	**Pn**	**17 42 50.7**	**+0.9**
ARMT	**Armutlu**	**2.45**	**62**	PN	**Pn**	**17 42 51.5**	**+1.5**
ARMT	**Armutlu**	**2.45**	**62**	*e*Pn	**Pn**	**17 42 51.5**	**+1.5**
CTKS	**Kestanelik-??a**	**2.60**	**46**	PN	**Pn**	**17 42 53.8**	**+1.8**
CTKS	**Kestanelik-??a**	**2.60**	**46**	*e*Pn	**Pn**	**17 42 53.8**	**+1.8**
TVSB	**Tavsanli**	**2.67**	**89**	PN	**Pn**	**17 42 54.5**	**+1.4**
TVSB	**Tavsanli**	**2.67**	**89**	*e*Pn	**Pn**	**17 42 54.5**	**+1.4**
BGKT	**Bogazkoy**	**2.72**	**50**	PN	**Pn**	**17 42 55.3**	**+1.6**
BGKT	**Bogazkoy**	**2.72**	**50**	*e*Pn	**Pn**	**17 42 55.3**	**+1.6**
BUY	**Buyukada**	**2.75**	**59**	PN	**Pn**	**17 42 55.6**	**+1.4**
BUY	**Buyukada**	**2.75**	**59**	*e*Pn	**Pn**	**17 42 55.6**	**+1.4**

*IDC **19** 17:45:56.1±1.1,29.°30N×94.°85E,h0km,mb3.8/16, mb1 4.0/16,mb1mx3.7/70,mbtmp3.9/16,MS2.8/2, Ms1 2.8/2,ms1mx2.5/64,Error ellipse: s-maj=28.9km s-min=20.2km az=40.0*

*ISCJB **19** 17:45:60.0±0.5,29.°44N±0.°07×94.°96E±0.°07,h33km, mb4.0/19,MS2.7/2,Error ellipse: s-maj=10.9km s-min=8.3km az=28.5*

*NEIC **19** 17:46:02.2±0.4,29.°43N×94.°87E,h35km,mb4.7/5,Error ellipse: s-maj=8.2km s-min=6.1km az=213.0*

ISC 19 17:46:02.1±0.6,**29.°41N**±0.°08×**94.°85E**±0.°08,**h35**km,**n45,**
σ0**°77**/44,**mb4.1**/19,**Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.24**	**276**	*e*Pn	**Pn**	**17 46 52.5**	**+1.7**
SHL	**Shillong**	**4.65**	**215**	*e*Pn	Pn	17 47 17.0	+7.1
SHL				*e*Sn	**Sn**	**17 48 01.0**	**-1.8**
CMAR	**Chiang Mai Arr**	**11.52**	**160**	Pn	**Pn**	**17 48 46.2**	**+2.1**
	0.4nm,0.3s,baz=333,slow=8.2,SNR=5.5						
ENH	**Enshi**	**12.74**	**83**	*e*Pn	**Pn**	**17 49 00.4**	**-0.3**
MK01	**Makanchi Array**	**19.91**	**334**	*e*P	**P**	**17 50 31.0**	**+0.5**
MK31	**Makanchi Array**	**19.93**	**334**	*e*P	**P**	**17 50 31.2**	**+0.4**
MK32	**Makanchi Array**	**19.93**	**334**	*e*P	**P**	**17 50 31.1**	**+0.4**
MKAR	**Makanchi Array**	**19.93**	**334**	P	**P**	**17 50 31.1**	**+0.4**
	1.7nm,0.5s,baz=142,slow=12,SNR=36						
MKAR	**Makanchi Array**	**19.93**	**334**	*e*P	**P**	**17 50 31.2**	**+0.4**
	25nm,0.4s						
SONA0	**Songino Array**	**20.45**	**23**	*e*P	**P**	**17 50 36.9**	**+0.4**
SONM	**Songino Array**	**20.45**	**23**	P	**P**	**17 50 36.9**	**+0.4**
	0.9nm,0.7s,baz=209,slow=13,SNR=8.9						
AAK	**Ala-Archa**	**21.04**	**314**	P	**P**	**17 50 43.7**	**+0.7**
	2.2nm,0.7s,baz=147,slow=8.5,SNR=4.5						
KBL	**Kabul**	**22.46**	**290**	*e*P	**P**	**17 50 57.6**	**-0.8**
	5.7nm,0.7s						
TLY	**Talaya**	**23.20**	**14**	LR	LR	18 00 20.8	
	comp=Z,27nm,18.3s,baz=284,slow=37						
KK06	**Karatay Array**	**23.80**	**312**	*e*P	**P**	**17 51 12.2**	**+0.7**
KK05	**Karatay Array**	**23.81**	**312**	*e*P	**P**	**17 51 11.9**	**+0.2**
KK02	**Karatay Array**	**23.81**	**312**	*e*P	**P**	**17 51 12.2**	**+0.5**
KK31	**Karatay Array**	**23.81**	**312**	*e*P	**P**	**17 51 11.8**	**+0.1**
KKAR	**Karatay Array**	**23.81**	**312**	*e*P	**P**	**17 51 12.1**	**+0.4**
KK07	**Karatay Array**	**23.81**	**312**	*e*P	**P**	**17 51 12.1**	**+0.4**
KK04	**Karatay Array**	**23.82**	**312**	*e*P	**P**	**17 51 11.3**	**-0.4**
KK08	**Karatay Array**	**23.83**	**312**	*e*P	**P**	**17 51 11.8**	**-0.1**
KURBB	**Kurchatov Arra**	**24.50**	**334**	P	**P**	**17 51 16.9**	**-0.9**
	1.9nm,0.2s,baz=149,slow=10.0,SNR=13						
KURK	**Kurchatov**	**24.54**	**335**	*e*P	**P**	**17 51 16.9**	**-1.3**
ZALV	**Zalesovo Beam**	**25.59**	**346**	P	**P**	**17 51 27.7**	**0.0**
	2.0nm,0.6s,baz=161,slow=10,SNR=9.1						
ZALV				LR	LR	18 00 56.0	
	comp=Z,20nm,19.4s,baz=41,slow=35						
ZALV	**Zalesovo Beam**	**25.59**	**346**	*e*P	**P**	**17 51 27.9**	**+0.2**
ZAA1	**Zalesovo Array**	**25.59**	**346**	*e*P	**P**	**17 51 27.7**	**0.0**
BVAR	**Borovoye Array**	**25.65**	**330**	P	**P**	**17 52 04.2**	**+0.1**
	0.6nm,0.8s,baz=154,slow=11,SNR=4.0						
BRVK	**Borovoye**	**29.72**	**330**	*e*P	**P**	**17 52 05.2**	**+0.5**
	10nm,2.0s						
ABKAR	**Akbulak array**	**33.08**	**317**	*e*P	**P**	**17 52 35.2**	**+0.8**
	15nm,0.5s						
KLR	**Kul'dur**	**34.27**	**44**	P	**P**	**17 52 44.7**	**0.0**
	0.1nm,0.8s,baz=260,slow=5.5,SNR=4.0						
AKTO	**Aktyubinsk**	**34.70**	**318**	P	**P**	**17 52 48.3**	**-0.1**
	1.3nm,0.5s,baz=83,slow=9.2,SNR=6.1						
AKASG	**Malin Array Be**	**52.70**	**313**	P	**P**	**17 55 12.2**	**-0.8**
	0.7nm,0.5s,baz=79,slow=6.6,SNR=8.2						
AKBB	**Malin Array Si**	**52.70**	**313**	*e*P	**P**	**17 55 12.2**	**-0.8**
	26nm,1.8s						
FIA0	**FINESS Array S**	**54.53**	**327**	*e*P	**P**	**17 55 26.1**	**-0.2**
FINES	**FINESS Array B**	**54.53**	**327**	P	**P**	**17 55 26.1**	**-0.2**
	2.8nm,0.9s,baz=86,slow=9.8,SNR=5.9						
ARA0	**ARCESS Array S**	**55.56**	**336**	*e*P	**P**	**17 55 34.0**	**+0.5**
ARCES	**ARCESS Array B**	**55.56**	**336**	P	**P**	**17 55 34.0**	**+0.5**
	2.1nm,0.8s,baz=57,slow=4.5,SNR=5.3						
HFS	**Hagfors**	**60.65**	**325**	P	**P**	**17 56 09.4**	**+0.1**
	9.0nm,1.1s,baz=104,slow=12,SNR=5.8						
GERES	**GERESS Array B**	**62.91**	**313**	P	**P**	**17 56 25.2**	**+0.3**
	0.4nm,0.7s,baz=59,slow=6.1,SNR=2.7						
ASAR	**Alice Springs**	**64.77**	**140**	P	**P**	**17 56 36.6**	**-0.6**
	0.7nm,0.8s,baz=328,slow=6.2,SNR=5.8						
ILAR	**Eielson Array**	**74.67**	**23**	P	**P**	**17 57 37.8**	**+0.2**
	0.4nm,0.7s,baz=314,slow=5.1,SNR=4.5						
YKA	**Yellowknife Ar**	**85.42**	**13**	P	**P**	**17 58 34.0**	**-1.6**
	0.1nm,0.6s,baz=328,slow=5.0,SNR=3.2						
TOA1	**Torodi Ar. Sit**	**86.35**	**283**	*e*P	**P**	**17 58 40.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**86.35**	**283**	P	**P**	**17 58 40.1**	**-1.0**
	0.8nm,0.7s,baz=54,slow=4.6,SNR=6.1						

*IDC **19** 17:47:57.3±1.1,10.°95S×115.°65E,h0km,mb3.6/6, mb1 3.8/8,mb1mx3.6/58,mbtmp3.8/8,ML3.5/2,Error ellipse: s-maj=36.4km s-min=18.0km az=48.0*

*ISCJB **19** 17:47:58.4±0.7,11.°34S±0.°05×115.°40E±0.°05,h33km, mb3.8/5,Error ellipse: s-maj=8.0km s-min=5.2km az=42.9*

*DJA **19** 17:48:00.7±0.5,11.°5S±3.°×11.°5E±.°,h13km,M4.4/13, mB5.1/1,mb4.7/2,MLv4.3/13,Mw(mB)4.4/1*

ISC 19 17:48:00.9±0.8,**11.°28S**±0.°07×**115.°38E**±0.°05,**h35**km,**n19,**
σ2**°37**/31,**mb3.9**/5,**South of Bali**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**2.45**	**355**	P	**Pn**	**17 48 38.7**	**+0.2**
IGBI				S	**Sn**	**17 49 07.2**	**-0.1**
DNP	**Denpasar**	**2.59**	**356**	P	**Pn**	**17 48 40.2**	**-0.2**
DNP				S	**Sn**	**17 49 11.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**3.04**	**336**	P	**Pn**	**17 48 46.3**	**-0.3**
JAGI				S	**Sn**	**17 49 19.8**	**-2.0**
SRBI	**Singaraja**	**3.17**	**357**	P	**Pn**	**17 48 49.8**	**+1.4**
SRBI				S	**Sn**	**17 49 26.0**	**+0.9**
PLAI	**Plampang**	**3.39**	**44**	P	**Pn**	**17 48 51.8**	**+0.4**
PLAI				S	**Sn**	**17 49 28.6**	**-1.8**
GMJI	**Gumukmas**	**3.54**	**327**	P	**Pn**	**17 48 52.8**	**-0.7**
GMJI				S	**Sn**	**17 49 31.4**	**-2.8**
ABJI	**Asem Bagus**	**3.64**	**342**	P	**Pn**	**17 48 57.2**	**+2.4**
ABJI				S	**Sn**	**17 49 38.5**	**+2.0**
BLJI	**Banyuglugur**	**3.93**	**333**	P	**Pn**	**17 48 59.9**	**+1.1**
BLJI				S	**Sn**	**17 49 43.9**	**+0.3**
WBSI	**Waikabubak, Su**	**4.27**	**68**	P	**Pn**	**17 49 03.5**	**0.0**
WBSI				S	**Sn**	**17 49 52.5**	**+0.4**
PWJI	**Pagerwojo**	**4.78**	**312**	P	**Pn**	**17 49 09.6**	**-1.0**
PWJI				S	**Sn**	**17 50 00.3**	**-4.5**
UGM	**Wanagama**	**5.84**	**304**	P	**Pn**	**17 49 25.3**	**+0.2**
UGM				S	**Sn**	**17 50 25.0**	**-5.9**
BATI	**Baumata**	**8.21**	**83**	Pn	**Pn**	**17 49 54.8**	**-2.8**
	0.5nm,0.3s,baz=108,slow=20,SNR=2.3						
BATI				Sn	**Sn**	**17 51 23.7**	**-5.6**
	1.3nm,0.3s,baz=309,slow=0.6,SNR=2.2						
FITZ	**Fitzroy Crossi**	**12.02**	**126**	Pn	**Pn**	**17 50 47.8**	**-2.0**
	0.3nm,0.3s,baz=303,slow=6.9,SNR=8.4						
FITZ				Sn	Sn	17 52 50.8	-12
	0.6nm,0.3s,baz=173,slow=17,SNR=6.0						
WRA	**Warramunga Arr**	**20.17**	**118**	P	**P**	**17 52 32.3**	**-0.3**
	1.0nm,1.0s,baz=292,slow=11,SNR=3.7						
WRA				S	S	17 56 04.3	-13
	0.5nm,0.7s,baz=285,slow=26,SNR=5.0						
ASAR	**Alice Springs**	**21.51**	**127**	P	**P**	**17 52 48.9**	**+1.9**
	0.7nm,0.5s,baz=297,slow=10,SNR=19						
NWAO	**Narrogin (SRO)**	**21.62**	**176**	P	**P**	**17 52 52.8**	**+4.8**
	7.6nm,0.7s,baz=236,slow=14,SNR=4.7						
NWAO				S	S	17 56 32.7	-13
	7.8nm,0.9s,baz=45,slow=16,SNR=2.4						
SONM	**Songino Array**	**59.39**	**353**	P	**P**	**17 58 00.2**	**+0.3**
	0.2nm,0.4s,baz=177,slow=5.7,SNR=2.4						
MKAR	**Makanchi Array**	**64.94**	**336**	P	**P**	**17 58 38.2**	**+1.1**
	0.8nm,0.4s,baz=147,slow=7.5,SNR=20						
BVAR	**Borovoye Array**	**74.68**	**334**	P	**P**	**17 59 36.2**	**-0.6**
	0.9nm,0.6s,baz=45,slow=8.5,SNR=7.2						

*ISCJB **19** 17:48:49.0±0.4,33.°31N±0.°03×90.°94E±0.°07,h10km, mb3.5/12,MS2.8/1,Error ellipse: s-maj=8.6km s-min=4.9km az=6.2*

*IDC **19** 17:48:49.0±0.8,33.°26N×90.°84E,h0km,mb3.6/12, mb1 3.8/16,mb1mx3.6/71,mbtmp3.7/16,ML3.7/2,MS2.8/2, Ms1 2.9/2,ms1mx2.5/57,Error ellipse: s-maj=23.3km s-min=15.8km az=41.0*

*BJI **19** 17:48:51.0,33.°31N×90.°79E,h10km,mb4.2/5,mB4.2/1, Ms3.7/4,Ms7 3.6/1*

ISC 19 17:48:50.9±0.5,**33.°30N**±0.°05×**90.°86E**±0.°08,**h10**km,**n27,**
σ1**°70**/29,**mb3.6**/12,**1C, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.59**	**176**	Pn	**Pb**	**17 49 51.8**	**-3.0**
LSA				Pg	**Pg**	**17 49 59.3**	**-0.5**
LSA				Sg	**Sg**	**17 50 47.9**	**+1.5**
GUN	**Gumba**	**6.87**	**220**	*e*P	**Pn**	**17 50 36.4**	**+4.3**
	33nm,0.5s						
JIRN	**Jiri**	**6.91**	**217**	*e*P	**Pn**	**17 50 36.5**	**+3.8**
	22nm,0.4s						
KKN	**Kakani**	**7.30**	**223**	*e*P	**Pn**	**17 50 40.0**	**+2.2**
	25nm,0.5s						
PKI	**Pulchoki**	**7.40**	**221**	*e*P	**Pn**	**17 50 40.7**	**+1.5**
	36nm,0.4s						
PKIN	**Phulchoki**	**7.40**	**221**	*e*P	**Pn**	**17 50 40.9**	**+1.7**
	52nm,0.6s						
GKN	**Gorkha**	**7.52**	**227**	*e*P	**Pn**	**17 50 42.6**	**+1.8**
	3.1nm,0.3s						
DMN	**Daman**	**7.54**	**223**	*e*P	**Pn**	**17 50 42.7**	**+1.6**
	24nm,0.6s						
GTA	**Gaotai**	**9.45**	**47**	*e*P	**Pn**	**17 51 09.4**	**+2.2**
GTA				pP		17 51 15.3	
GTA				sP		17 51 17.9	
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WMQ	**Urumqi**	**10.80**	**348**	*e*P	**Pn**	**17 51 26.3**	**+0.7**
MKAR	**Makanchi Array**	**14.98**	**337**	Pn	**Pn**	**17 52 20.9**	**-1.8**
	0.2nm,0.3s,baz=148,slow=14,SNR=8.2						
CMAR	**Chiang Mai Arr**	**16.46**	**152**	Pn	**Pn**	**17 52 41.0**	**-1.0**
	0.1nm,0.3s,baz=333,slow=9.9,SNR=7.8						
CMAR				LR	LR	18 00 25.4	
	comp=Z,23nm,18.3s,baz=348,slow=42						
SONM	**Songino Array**	**18.66**	**34**	P	**P**	**17 53 09.3**	**+0.3**
	baz=213,slow=10,SNR=4.7						
KURBB	**Kurchatov Arra**	**19.55**	**336**	P	**P**	**17 53 18.3**	**-0.3**
	baz=142,slow=12,SNR=6.1						
ZALV	**Zalesovo Beam**	**21.09**	**350**	P	**P**	**17 53 34.7**	**-0.6**
	2.0nm,0.5s,baz=167,slow=11,SNR=8.4						
BVAR	**Borovoye Array**	**24.58**	**329**	P	**P**	**17 54 11.3**	**+0.3**
	0.3nm,0.4s,baz=119,slow=11,SNR=3.6						
GEYT	**Alibeck**	**26.94**	**289**	P	**P**	**17 54 33.2**	**+0.7**
	1.0nm,0.7s,baz=192,slow=13,SNR=3.7						
AKTO	**Aktyubinsk**	**29.54**	**315**	⇑S	**S**	**17 59 50.4**	**+0.3**
	0.8nm,0.6s						
KSRS	**Korea Array**	**30.37**	**72**	P	**P**	**17 55 02.7**	**-0.3**
	0.8nm,0.6s,baz=291,slow=10,SNR=4.2						
KSRS				LR	LR	18 07 24.4	
	comp=Z,21nm,18.2s,baz=160,slow=37						
KLR	**Kul'dur**	**34.14**	**50**	P	**P**	**17 55 36.9**	**+1.0**
	0.1nm,0.8s,baz=262,slow=11,SNR=3.8						
TIXI	**Tiksi**	**43.34**	**17**	P	**P**	**17 56 52.0**	**-0.8**
	0.4nm,0.4s,baz=315,slow=4.3,SNR=3.7						
BRTR	**Keskin Array B**	**45.78**	**295**	P	**P**	**17 57 12.4**	**-0.4**
	0.5nm,0.8s,baz=107,slow=4.5,SNR=3.6						
HFS	**Hagfors**	**55.52**	**324**	P	**P**	**17 58 24.8**	**-1.0**
	3.5nm,0.9s,baz=103,slow=12,SNR=2.9						
GERES	**GERESS Array B**	**57.78**	**310**	P	**P**	**17 58 41.6**	**-0.7**
	0.4nm,0.6s,baz=59,slow=6.2,SNR=2.9						
WRA	**Warramunga Arr**	**67.26**	**135**	P	**P**	**17 59 45.2**	**-0.6**
	0.6nm,0.8s,baz=327,slow=6.0,SNR=5.3						
ASAR	**Alice Springs**	**69.93**	**138**	P	**P**	**18 00 02.5**	**0.0**
	0.4nm,0.8s,baz=317,slow=5.9,SNR=4.6						
ILAR	**Eielson Array**	**72.42**	**22**	P	**P**	**18 00 16.7**	**-0.2**
	0.9nm,1.1s,baz=287,slow=4.8,SNR=4.6						

*IDC **19** 17:50:48.6±1.0,58.°82N×164.°82E,h0km,mb3.8/15, mb1 4.0/17,mb1mx3.7/79,mbtmp3.8/17,ML3.0/1,Error ellipse: s-maj=25.3km s-min=16.0km az=178.0*

*MOS **19** 17:50:49.6±1.3,58.°90N×164.°71E,h18km,mb4.4/5,Error ellipse: s-maj=21.6km s-min=11.3km az=109.4*

*NEIC **19** 17:50:50.5±0.4,58.°86N×164.°72E,h10km,mb5.1/5,Error ellipse: s-maj=12.2km s-min=6.4km az=185.0*

*ISCJB **19** 17:50:52.4±0.5,58.°9N±0.°1×164.°69E±0.°10,h33km, mb4.2/22,Error ellipse: s-maj=15.1km s-min=7.2km az=6.3*

ISC 19 17:50:54.4±0.7,**58.°9N**±0.°1×**164.°72E**±0.°08,**h35**km,**n61,**
σ0**°92**/54,**mb4.1**/23,**5C-3D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEY	**Seymchan**	**7.23**	**309**	Pn	**Pn**	**17 52 36.5**	**-0.9**
	0.3nm,0.3s,baz=127,slow=16,SNR=8.1						
SEY	**Seymchan**	**7.23**	**309**	⇓*e*PN	**Pn**	**17 52 37.1**	**-0.3**
BILL	**Bilibino**	**9.19**	**4**	*e*PN	Pn	17 53 11.3	+7.1
BILL				pmax	pmax		
	comp=Z,1.0nm,1.2s						
YAK	**Yakutsk**	**17.41**	**295**	⇑*e*P	**P**	**17 54 55.4**	**+0.3**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TIXI	**Tiksi**	**19.26**	**326**	P	**Pn**	**17 55 16.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=105,slow=13,SNR=9.0						
TIXI	**Tiksi**	**19.26**	**326**	⇓*i*P	**Pn**	**17 55 17.3**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TIXI	**Tiksi**	**19.26**	**326**	*e*P	**Pn**	**17 55 17.0**	**+0.5**
	comp=Z,3.4nm,0.8s						
ILAR	**Eielson Array**	**23.07**	**55**	P	**P**	**17 55 56.2**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=257,slow=7.0,SNR=7.0						
ILB	**Eielson Array**	**23.07**	**55**	*e*P	**P**	**17 55 56.2**	**-0.2**
ULN	**Ulaanbaatar**	**35.03**	**278**	⇓*e*P	**P**	**17 57 44.2**	**+0.7**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.9s						
SONA0	**Songino Array**	**35.38**	**278**	*e*P	**P**	**17 57 47.2**	**+0.7**
SONM	**Songino Array**	**35.38**	**278**	P	**P**	**17 57 47.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=76,slow=7.0,SNR=5.2						
YKA	**Yellowknife Ar**	**37.24**	**49**	P	**P**	**17 58 00.9**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=303,slow=8.4,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**39.16**	**177**	T	T	18 39 55.5	
	baz=358,slow=76,SNR=231						
H11N3	**WAKE ISLAND Hy**	**39.18**	**177**	T	T	18 39 56.4	
	baz=358,slow=76,SNR=171						
H11N1	**WAKE ISLAND Hy**	**39.18**	**177**	T	T	18 39 56.8	
	baz=358,slow=76,SNR=194						
H11S1	**WAKE ISLAND Hy**	**40.38**	**177**	T	T	18 41 23.0	
	baz=359						
H11S3	**WAKE ISLAND Hy**	**40.39**	**177**	T	T	18 41 25.4	
	baz=359						
H11S2	**WAKE ISLAND Hy**	**40.39**	**177**	T	T	18 41 30.0	
	baz=359						
SPITS	**Spitsbergen Ar**	**41.81**	**351**	P	**P**	**17 58 40.0**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=102,slow=3.5,SNR=9.2						
SEPW	**September Lobe**	**43.96**	**73**	*e*P	**P**	**17 58 58.2**	**+0.3**
GULW	**Guler Mountain**	**44.45**	**73**	*e*P	**P**	**17 58 59.6**	**-2.1**
KURK	**Kurchatov**	**46.

KZIL	AFYON_Kizioren	0.87	61	P	Pg	17 59 38.7	-0.5
YER	Yerkesik	0.99	226	PG	Pg	17 59 41.3	-0.2
YER				SG	Sb	17 59 55.3	-0.3
YER	Yerkesik	0.99	226	*e*Pg	Pg	17 59 41.3	-0.2
YER				*e*Sg	Sb	17 59 55.3	-0.3
AYDB	Zeytinkoy-Aydi	1.02	277	PG	Pg	17 59 41.9	-0.1
AYDB				SG	Sg	17 59 55.7	+0.5
AYDB	Zeytinkoy-Aydi	1.02	277	*e*Pg	Pg	17 59 41.9	-0.1
AYDB				*e*Sg	Sg	17 59 55.7	+0.5
TURN	Turunc	1.06	205	PN	Pn	17 59 46.9	+2.9
DALY	Dalyan (Mu¨la	1.10	202	PG	Pb	17 59 43.9	0.0
DALY				SG	Sn	17 59 59.1	-0.9
DALY	Dalyan (Mu¨la	1.10	202	*e*Pg	Pb	17 59 43.9	0.0
DALY				*e*Sg	Sn	17 59 59.1	-0.9
FETY	Fethiye	1.20	183	PN	Pn	17 59 45.9	0.0
FETY				SN	Sn	18 00 02.9	+0.3
FETY	Fethiye	1.20	183	P	Pg	17 59 44.6	-0.8
FETY	Fethiye	1.20	183	*e*Pn	Pn	17 59 45.9	0.0
FETY				*e*Sn	Sn	18 00 02.9	+0.3
ELL	Elmali	1.23	151	PN	Pn	17 59 47.5	+1.0
ELL	Elmali	1.23	151	*e*Pn	Pn	17 59 47.5	+1.0
SIMA	Simav-Kutahya	1.26	353	PN	Pn	17 59 47.2	+0.4
SIMA	Simav-Kutahya	1.26	353	*e*Pn	Pn	17 59 47.2	+0.4
GDZ	Gediz	1.28	11	*i* P	Pg	17 59 46.0	-0.9
GDZ	Gediz	1.28	11	P	Pg	17 59 46.0	-0.9
SHUT	Suhut-Afyon	1.30	56	PN	Pb	17 59 48.8	+1.3
SHUT	Suhut-Afyon	1.30	56	*e*Pn	Pb	17 59 48.8	+1.3
GCAM	G?zelcaml?	1.54	266	PN	Pn	17 59 50.9	+0.3
GCAM	G?zelcaml?	1.54	266	*e*Pn	Pn	17 59 50.9	+0.3
TVSB	Tavsanli	1.63	8	PN	Pg	17 59 53.6	-0.1
TVSB	Tavsanli	1.63	8	*e*Pn	Pg	17 59 53.6	-0.1
AKAS	Kas	1.64	168	PN	Pb	17 59 53.1	-0.1
AKAS	Kas	1.64	168	*e*Pn	Pb	17 59 53.1	-0.1
BODT	Bodrum	1.67	243	PN	Pb	17 59 53.1	-0.6
BODT	Bodrum	1.67	243	*e*Pn	Pb	17 59 53.1	-0.6

IDC ***19*** *17:59:39.4±1.0, 19°.25N×121°.33E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/69, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=50.8km s-min=20.3km az=71.0*

ISCJB ***19*** *17:59:43.9±0.9, 19°.3N±0°.1×121°.4E±0°.3, h46km, mb3.5/5, Error ellipse: s-maj=36.1km s-min=16.0km az=167.1*

ISC 19 17:59:45.6±1.1, 19°.3N±0°.2×121°.3E±0°.3, h46km, n12, σ0ˢ70/6, mb3.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	19.03	16	P	P	18 04 03.6	-0.1
	0.1nm,0.3s,baz=194,slow=11,SNR=4.4						
WRA	Warramunga Arr	40.99	161	P	P	18 07 23.4	-0.9
	0.7nm,0.9s,baz=344,slow=8.8,SNR=4.8						
MKAR	Makanchi Array	42.06	320	P	P	18 07 32.9	0.0
	0.5nm,0.6s,baz=116,slow=9.3,SNR=7.3						
H11S3	WAKE ISLAND Hy 42.84		83	T	T	18 53 22.1	
	baz=288						
H11S1	WAKE ISLAND Hy 42.85		83	T	T	18 53 23.9	
	baz=288						
H11S2	WAKE ISLAND Hy 42.86		83	T	T	18 53 26.4	
	baz=288						
H11N1	WAKE ISLAND Hy 42.86		81	T	T	18 53 23.0	
	baz=277,slow=75,SNR=8.2						
H11N2	WAKE ISLAND Hy 42.87		81	T	T	18 53 23.2	
	baz=277,slow=75,SNR=5.9						
H11N3	WAKE ISLAND Hy 42.88		81	T	T	18 53 24.5	
	baz=277,slow=75,SNR=5.0						
ASAR	Alice Springs	44.39	163	P	P	18 07 52.6	+0.8
	0.3nm,0.7s,baz=348,slow=6.9,SNR=5.0						
KURBB	Kurchatov Arra	46.03	323	P	P	18 08 04.4	-0.2
	1.1nm,0.5s,baz=119,slow=7.7,SNR=4.7						
YKA	Yellowknife Ar	87.45	23	P	P	18 12 28.2	+0.2
	0.3nm,0.7s,baz=309,slow=4.7,SNR=9.2						

DDA ***19*** *18:02:51.8, 37°.84N×29°.17E, h16km, Ml3.1*

ISCJB ***19*** *18:02:52.4±0.4, 37°.82N±0°.02×29°.16E±0°.03, h3km±4km, Error ellipse: s-maj=3.5km s-min=2.9km az=27.5*

CSEM ***19*** *18:02:52.3±0.1, 37°.80N×29°.18E, h2km, ML3.3, Error ellipse: s-maj=2.8km s-min=2.5km az=136.0*

ISK ***19*** *18:02:52.2, 37°.80N×29°.15E, h5km, ML3.3/22*

ISC 19 18:02:52.2±0.9, 37°.85N±0°.02×29°.16E±0°.02, h8km±7km, n115, σ1ˢ68/140, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.14	225	PG	Pg	18 02 55.1	-0.2
DENT				SG	Sg	18 02 57.2	-0.2
DENT	Denizli	0.14	225	*e*Pg	Pg	18 02 55.1	-0.2
DENT				*e*Sg	Sg	18 02 57.2	-0.2
TAVA	DENIZLI_Tavas	0.43	207	*i* P	Pg	18 03 00.1	-0.6
TAVA				*i* S	Sb	18 03 07.0	-1.9
TAVA	DENIZLI_Tavas	0.43	207	P	Pg	18 03 00.1	-0.6
TAVA				S	Sb	18 03 06.9	-1.9
KHL	Karahalli	0.55	31	PG	Pn	18 03 04.4	-2.0
KHL				SG	Sn	18 03 13.3	-2.6
KHL	Karahalli	0.55	31	*e*Pg	Pn	18 03 04.4	-2.0
KHL				*e*Sg	Sn	18 03 13.3	-2.6
KHAL	Karahalli	0.58	27	*i* P	Pg	18 03 03.4	0.0
KHAL				*i* S	Sb	18 03 12.9	-0.2
KHAL	Karahalli	0.58	27	P	Pg	18 03 03.4	0.0
KHAL				S	Sb	18 03 12.9	-0.2
GOLH	Golhisar	0.69	152	*i* P	Pg	18 03 04.2	-1.4
GOLH				*i* S	Sn	18 03 16.9	-2.5
GOLH	Golhisar	0.69	152	P	Pg	18 03 04.2	-1.4
GOLH				S	Sn	18 03 16.9	-2.5
BRDR	BURDUR-Merkez	0.73	102	*i* P	Pg	18 03 05.8	-0.5
BRDR				*i* S	Sn	18 03 22.6	+2.3
BRDR	BURDUR-Merkez	0.73	102	P	Pg	18 03 05.8	-0.5
KULA	Kula-Manisa	0.77	329	PG	Pn	18 03 08.1	-1.3
KULA				SG	Sn	18 03 20.1	-1.1
KULA	Kula-Manisa	0.77	329	*e*Pg	Pn	18 03 08.1	-1.3
KULA				*e*Sg	Sn	18 03 20.1	-1.1
KZIL	AFYON_Kizioren	0.87	62	*i* P	Pb	18 03 08.8	-0.9
KZIL				*i* S	Sn	18 03 27.9	+4.0
KZIL	AFYON_Kizioren	0.87	62	P	Pb	18 03 08.8	-0.9
YER	Yerkesik	1.00	224	PG	Pg	18 03 11.0	-0.4
YER				SG	Sn	18 03 25.1	-1.8
YER	Yerkesik	1.00	224	*e*Pg	Pg	18 03 11.0	-0.4
YER				*e*Sg	Sn	18 03 25.1	-1.8
AYDB	Zeytinkoy-Aydi	1.01	276	PG	Pg	18 03 11.8	+0.2
AYDB	Zeytinkoy-Aydi	1.01	276	*e*Pg	Pg	18 03 11.8	+0.2
AYDN	Tasoluk	1.03	260	*i* P	Pg	18 03 12.2	+0.1
AYDN				*i* S	Sn	18 03 29.4	+1.7
AYDN	Tasoluk	1.03	260	P	Pg	18 03 12.2	+0.1
AYDN				S	Sn	18 03 29.4	+1.7
TURN	Turunc	1.07	205	PN	Pg	18 03 17.2	+4.4
TURN	Turunc	1.07	205	*i* P	Pg	18 03 16.4	+3.6
TURN				*i* S	Sn	18 03 37.1	+8.5
TURN	Turunc	1.07	205	P	Pg	18 03 16.4	+3.6
ISP	Isparta	1.08	91	PN	Pg	18 03 12.7	-0.3
ISP	Isparta	1.08	91	*e*Pn	Pg	18 03 12.7	-0.3
DALY	Dalyan (Mu¨la	1.11	201	PG	Pg	18 03 12.8	-0.7
DALY	Dalyan (Mu¨la	1.11	201	*i* P	Pg	18 03 13.5	0.0
DALY				*i* S	Sg	18 03 31.7	+3.8
DALY	Dalyan (Mu¨la	1.11	201	*e*Pg	Pg	18 03 12.8	-0.7
DALY	Dalyan (Mu¨la	1.11	201	P	Pg	18 03 13.5	0.0
DALY				S	Sg	18 03 31.7	+3.8
BCK	Bucak	1.20	109	PN	Pg	18 03 15.8	+0.5
BCK	Bucak	1.20	109	*e*Pn	Pg	18 03 15.8	+0.5
FETY	Fethiye	1.22	183	PN	Pb	18 03 14.4	-1.1
FETY	Fethiye	1.22	183	P	Pb	18 03 14.1	-1.4
FETY	Fethiye	1.22	183	*e*Pn	Pb	18 03 14.4	-1.1
MLSB	Milas	1.23	244	PN	Pg	18 03 15.8	-0.1
MLSB	Milas	1.23	244	*e*Pn	Pg	18 03 15.8	-0.1
SIMA	Simav-Kutahya	1.24	354	PN	Pg	18 03 17.2	+1.2
SIMA	Simav-Kutahya	1.24	354	*e*Pn	Pg	18 03 17.2	+1.2
DEMI	Demirci	1.24	344	*i* P	Pg	18 03 15.9	-0.1
DEMI				*i* S	Sg	18 03 36.3	+4.2
DEMI	Demirci	1.24	344	P	Pg	18 03 15.9	-0.1
DEMI				S	Sg	18 03 36.3	+4.2
ELL	Elmali	1.25	151	PN	Pg	18 03 16.4	+0.1
ELL	Elmali	1.25	151	*e*Pn	Pg	18 03 16.4	+0.1
GDZ	Gediz	1.26	11	*i* P	Pn	18 03 15.0	-1.3
GDZ	Gediz	1.26	11	P	Pn	18 03 15.0	-1.3
KORT	Korkueli	1.27	132	PN	Pg	18 03 16.3	-0.4
KORT	Korkueli	1.27	132	*i* P	Pg	18 03 17.2	+0.5
KORT				*i* S	Sg	18 03 36.4	+3.2
KORT	Korkueli	1.27	132	*e*Pn	Pg	18 03 16.3	-0.4
KORT	Korkueli	1.27	132	P	Pg	18 03 17.2	+0.5
KORT				S	Sg	18 03 36.4	+3.2
BAGO	Egridir - ISPA	1.30	83	*i* P	Pg	18 03 16.6	-0.5
SHUT	Suhut-Afyon	1.30	57	PN	Pg	18 03 17.5	+0.3
SHUT	Suhut-Afyon	1.30	57	*e*Pn	Pg	18 03 17.5	+0.3
AKHS	Akhisar	1.47	314	*i* P	Pb	18 03 19.3	-0.5
AKHS	Akhisar	1.47	314	P	Pb	18 03 19.3	-0.5
AKS	Akhisar	1.47	314	PN	Pg	18 03 20.3	-0.2
AKS	Akhisar	1.47	314	*e*Pn	Pg	18 03 20.3	-0.2
SUTC	Sutluce-Ispart	1.51	104	PN	Pg	18 03 20.6	-0.6
SUTC	Sutluce-Ispart	1.51	104	*e*Pn	Pg	18 03 20.6	-0.6
ANTB	Antalya	1.52	128	PN	Pg	18 03 20.4	-1.0
ANTB	Antalya	1.52	128	*e*Pn	Pg	18 03 20.4	-1.0
GCAM	G?zelcaml?	1.53	265	PN	Pb	18 03 20.6	-0.3
GCAM	G?zelcaml?	1.53	265	*i* P	Pg	18 03 21.2	-0.4
GCAM	G?zelcaml?	1.53	265	*e*Pn	Pb	18 03 20.6	-0.3
GCAM	G?zelcaml?	1.53	265	P	Pg	18 03 21.2	-0.4
BDRM	Kayabasi	1.57	241	*i* P	Pb	18 03 21.3	-0.3
BDRM	Kayabasi	1.57	241	P	Pb	18 03 21.3	-0.3
TVSB	Tavsanli	1.61	8	PN	Pg	18 03 22.7	-0.5
TVSB	Tavsanli	1.61	8	*e*Pn	Pg	18 03 22.7	-0.5
BOLV	Bolvadin	1.65	58	*i* P	Pg	18 03 23.4	-0.6
BOLV	Bolvadin	1.65	58	P	Pg	18 03 23.4	-0.6
AKAS	Kas	1.66	167	PN	Pb	18 03 22.2	-0.8
AKAS	Kas	1.66	167	*i* P	Pg	18 03 22.6	-1.4
AKAS				*i* S	Sg	18 03 53.4	+8.0
AKAS	Kas	1.66	167	*e*Pn	Pb	18 03 22.2	-0.8
AKAS	Kas	1.66	167	P	Pg	18 03 22.6	-1.4
BODT	Bodrum	1.67	242	PN	Pb	18 03 22.7	-0.5
BODT	Bodrum	1.67	242	*e*Pn	Pb	18 03 22.7	-0.5
GMLD	Gumuldur	1.79	278	PN	Pb	18 03 24.9	-0.3
GMLD	Gumuldur	1.79	278	*e*Pn	Pb	18 03 24.9	-0.3
DGB	¨zmir	1.81	277	*i* P	Pb	18 03 23.8	-1.8
STEP	BALIKESIR_Sava	1.89	324	*i* P	Pb	18 03 26.1	-0.9
STEP	BALIKESIR_Sava	1.89	324	P	Pb	18 03 26.1	-0.9
DOGA	KONYA_Doganhis	2.00	82	*i* P	Pb	18 03 27.4	-1.4
DOGA				*i* S	Sg	18 04 01.8	+5.3
DOGA	KONYA_Doganhis	2.00	82	P	Pb	18 03 27.5	-1.4
BALB	Balikesir	2.05	331	PN	Pb	18 03 28.9	-0.7
BALB	Balikesir	2.05	331	*e*Pn	Pb	18 03 28.9	-0.7
URLA	Izmir	2.08	285	PN	Pb	18 03 28.9	-1.4
URLA	Izmir	2.08	285	*i* P	Pn	18 03 27.2	-0.3
URLA	Izmir	2.08	285	P	Pn	18 03 27.2	-0.3
URLA	Izmir	2.08	285	*e*Pn	Pb	18 03 28.9	-1.4
ESKT	Eskisehir	2.13	38	*i* P	Pb	18 03 29.8	-1.3
SEYT	Eskypehyr	2.13	38	P	Pb	18 03 29.8	-1.3
ZEY	¨zmir	2.13	281	*i* P	Pn	18 03 25.5	-2.6
DKL	Dikili	2.15	305	PN	Pb	18 03 30.2	-1.1
DKL	Dikili	2.15	305	*e*Pn	Pb	18 03 30.2	-1.1
KEPZ	Antalya-Kepez	2.17	115	*i* P	Pb	18 03 29.6	-2.1
KEPZ	Antalya-Kepez	2.17	115	P	Pb	18 03 29.6	-2.1
BORA	Eskisehir	2.26	26	*i* P	Pg	18 03 34.6	-1.0
BORA	Eskisehir	2.26	26	P	Pg	18 03 34.6	-1.0
KCTX	Karacabey (Bur	2.49	346	PN	Pb	18 03 35.5	-1.7
KCTX	Karacabey (Bur	2.49	346	*e*Pn	Pb	18 03 35.5	-1.7
CHOS	Chios island	2.51	283	PN	Pb	18 03 35.1	-2.4
CHOS	Chios island	2.51	283	*e*Pn	Pb	18 03 35.1	-2.4
MDNY	Mudanya-Bursa	2.52	355	PN	Pb	18 03 36.3	-1.4
MDNY	Mudanya-Bursa	2.52	355	*e*Pn	Pb	18 03 36.3	-1.4
BAYC	CANAKKALE_Bayr	2.78	314	*i* P	Pn	18 03 37.8	+0.8
BAYC	CANAKKALE_Bayr	2.78	314	P	Pn	18 03 37.8	+0.8
KARP	Karpathos	2.81	216	PN	Pn	18 03 37.9	+0.5
KARP	Karpathos	2.81	216	*e*Pn	Pn	18 03 37.9	+0.5

IDC ***19*** *18:03:07.6±1.2, 34°.91N×23°.92E, h0km, mb3.9/10, mb1 3.9/13, mb1mx3.7/60, mbtmp3.8/13, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.0/67, Error ellipse: s-maj=26.3km s-min=11.1km az=165.0*

ISCJB ***19*** *18:03:10.4±1.0, 34°.68N±0°.06×24°.07E±0°.05, h26km±4km, mb3.7/10, Error ellipse: s-maj=10.8km s-min=6.2km az=16.7*

ATH ***19*** *18:03:11.2, 34°.78N×24°.11E, h28km±1km, ML3.1/10, Error ellipse: s-maj=2.8km s-min=1.1km az=217.0*

THE ***19*** *18:03:13.5, 34°.89N×24°.19E, h0km±2km, MBL3.1/4, Error ellipse: s-maj=3.9km s-min=0.7km az=211.0*

CSEM ***19*** *18:03:13.2±0.3, 34°.86N×24°.16E, h15km, ML3.1, Error ellipse: s-maj=7.3km s-min=3.5km az=21.0*

ISC 19 18:03:12.0±0.8, 34°.85N±0°.05×24°.15E±0°.03, h26km±5km, n86, σ1ˢ41/96, mb3.8/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.05	262	P	Pb	18 03 16.4	-0.1
GVD				S	Sb	18 03 19.7	+0.1
GVD				AML	AML	18 03 20.1	
GVD				AML	AML	18 03 21.8	
	comp=E,86805μm,0.2s						
GVD	Gavdhos	0.05	262	P	Pb	18 03 16.2	-0.3
GVD				S	Sb	18 03 19.7	+0.1
TMBK	Timbaki Herakl	0.56	66	P	Pb	18 03 23.6	+0.4
TMBK	Timbaki Herakl	0.56	66	P	Pb	18 03 23.6	+0.4
VAM	Vamos	0.56	4	P	Pb	18 03 23.2	-0.1
VAM				S	Sn	18 03 33.0	+0.2
VAM				AML	AML	18 03 35.5	
	comp=N,7590μm,0.3s						
VAM				AML	AML	18 03 35.7	
	comp=E,6489μm,0.4s						
VAM	Vamos	0.56	4	P	Pb	18 03 23.6	+0.3
VAM				S	Sb	18 03 31.8	+0.8
VAM	Vamos	0.56	4	P	Pb	18 03 23.6	+0.3
VAM				S	Sb	18 03 31.8	+0.8
SIVA	Sivas	0.57	72	P	Pb	18 03 23.9	+0.5
SIVA				AML	AML	18 03 39.5	
	comp=E,11090μm,0.4s						
SIVA				AML	AML	18 03 40.6	
	comp=N,8206μm,0.5s						
SIVA	Sivas	0.57	72	P	Pb	18 03 23.9	+0.5
SIVA				S	Sb	18 03 32.0	+0.8
SIVA	Sivas	0.57	72	P	Pb	18 03 23.6	+0.2
SIVA				S	Sb	18 03 32.0	+0.8
IMMV	Iera Moni Meta	0.63	348	P	Pb	18 03 24.2	-0.2
IMMV				S	Sn	18 03 35.9	+1.5
IMMV				AML	AML	18 03 36.5	
	comp=N,7388μm,0.4s						
IMMV				AML	AML	18 03 38.0	
	comp=E,7175μm,0.4s						
IMMV	Iera Moni Meta	0.63	348	P	Pb	18 03 24.6	+0.2
IMMV				S	Sn	18 03 34.4	0.0
IMMV	Iera Moni Meta	0.63	348	P	Pb	18 03 24.6	+0.2
IMMV				S	Sn	18 03 34.4	0.0
IDI	Anoyia	0.75	54	Pg	Pb	18 03 26.2	-0.3
	comp=E,28nm,0.3s,baz=240,slow=13,SNR=213						
IDI				Lg	Lg	18 03 36.8	
	comp=E,78nm,0.3s,baz=315,slow=14,SNR=19						
IDI				LR	LR	18 04 05.8	
	comp=E,116nm,20.5s,baz=186,slow=66						
LAST	Lasithi	1.14	74	P	Pn	18 03 32.6	+0.3
LAST				AML	AML	18 04 00.3	
	comp=N,681μm,0.5s						
LAST				AML	AML	18 04 02.5	
	comp=E,698μm,0.8s						
LAST	Lasithi	1.14	74	P	Pb	18 03 33.5	+0.5
LAST				S	Sb	18 03 50.0	+2.5
LAST	Lasithi	1.14	74	P	Pb	18 03 33.5	+0.5
LAST				S	Sb	18 03 50.0	+2.5
ANKY	Antikythira Is	1.23	326	P	Pb	18 03 35.6	+1.0
ANKY	Antikythira Is	1.23	326	P	Pb	18 03 36.5	+1.9
ANKY	Antikythira Is	1.23	326	P	Pb	18 03 36.5	+1.9
NPS	Neapolis	1.27	71	P	Pb	18 03 37.2	+1.9
NPS				AML	AML	18 04 01.9	
	comp=N,575μm,0.7s						
NPS				AML	AML	18 04 02.9	
	comp=E,862μm,0.6s						
NPS	Neapolis	1.27	71	P	Pb	18 03 36.5	+1.2
NPS	Neapolis	1.27	71	P	Pb	18 03 36.5	+1.2
KYTH	Kithira	1.68	328	P	Pb	18 03 44.7	+2.5
KYTH				AML	AML	18 04 13.7	
	comp=N,521μm,0.9s						
KYTH				AML	AML	18 04 21.2	
	comp=E,543μm,0.7s						
KYTH	Kithira	1.68	328	P	Pb	18 03 43.2	+1.0
ZKR	Zakros	1.72	80	P	Pb	18 03 43.8	+0.9
ZKR				AML	AML	18 04 22.5	
	comp=N,173μm,0.5s						
ZKR				AML	AML	18 04 25.9	
	comp=E,397μm,0.6s						
ZKR	Zakros	1.72	80	P	Pb	18 03 42.9	0.0
ZKR	Zakros	1.72	80	P	Pb	18 03 44.7	+1.8
THR6	Thira Island,	1.82	34	P	Pb	18 03 44.3	-0.3
THR6	Thira Island,	1.82	34	P	Pb	18 03 44.3	-0.3
THR5	Thira Island,	1.85	32	P	Pb	18 03 44.2	-0.9
THR5	Thira Island,	1.85	32	P	Pb	18 03 44.2	-0.9
MHLO	Agia Marina, M	1.85	6	P	Pb	18 03 43.9	-1.2
MHLO	Agia Marina, M	1.85	6	P	Pb	18 03 44.1	-1.1
MHLO	Agia Marina, M	1.85	6	P	Pb	18 03 44.1	-1.1
THT1	Athinios (Pele	1.86	34	P	Pb	18 03 44.1	-1.2
THT1	Athinios (Pele	1.86	34	P	Pb	18 03 44.1	-1.2
SANT	Santorini	1.86	35	AML	AML	18 04 18.1	
	comp=N,358μm,0.4s						
SANT				AML	AML	18 04 19.2	
	comp=E,413μm,0.4s						
THR3	Thira Island,	1.86	33	P	Pb	18 03 44.4	-1.0
THR3	Thira Island,	1.86	33	P	Pb	18 03 44.4	-1.0
THR8	Santorini-Mono	1.90	34	P	Pb	18 03 44.9	-1.0
THR8	Santorini-Mono	1.90	34	P	Pb	18 03 44.9	-1.0
MHLA	Plaka, Milos I	1.91	7	P	Pb	18 03 44.9	-1.2
MHLA	Plaka, Milos I	1.91	7	P	Pb	18 03 44.9	-1.2
THR2	Thira island,	1.91	33	P	Pb	18 03 45.0	-1.2
THR2	Thira island,	1.91	33	P	Pb	18 03 45.0	-1.2
ANAF	Anafi Island	2.01	41	P	Pn	18 03 46.3	+2.1
ANAF	Anafi Island	2.01	41	P	Pn	18 03 46.3	+2.1
VLI	Veliai	2.11	333	P	Pb	18 03 50.0	+0.4
VLI				AML	AML	18 04 26.6	
	comp=N,168μm,0.6s						
VLI				AML	AML	18 04 34.9	
	comp=E,192μm,1.1s						
VLI	Veliai	2.11	333	P	Pb	18 03 48.7	-0.9
VLI	Veliai	2.11	333	P	Pb	18 03 49.0	-0.6
KARP	Karpathos	2.57	73	P	Pb	18 03 55.1	-2.2
KARP	Karpathos	2.57	73	P	Pb	18 03 55.1	-2.2
KRND	KRANIDI	2.66	343	P	Pn	18 03 56.4	-2.4
KRND	KRANIDI	2.66	343	P	Pn	18 03 55.6	+2.5
KRND	KRANIDI	2.66	343	P	Pn	18 03 55.6	+2.5
DID	Didima	2.75	345	P	Pn	18 03 55.3	+0.8
DID	Didima	2.75	345	P	Pn	18 03 56.5	+2.0
DID	Didima	2.75	345	P	Pn	18 03 56.5	+2.0
PYL	PYLOS	2.83	317	P	Pn	18 03 55.7	+0.3
PYL	PYLOS	2.83	317	P	Pn	18 03 56.5	+1.0
VLY	Voula,Athens	3.01	355	P	Pn	18 04 00.1	+2.1
VLY	Voula,Athens	3.01	355	P	Pn	18 04 00.1	+2.1
LTK	Loutraki	3.31	344	P	Pn	18 04 04.3	+2.2
LTK	Loutraki	3.31	344	P	Pn	18 04 04.3	+2.2
VILL	Villia	3.38	349	P	Pn	18 04 04.9	+1.8
VILL	Villia	3.38	349	P	Pn	18 04 04.9	+1.8
GUR	Goura	3.41	335	P	Pn	18 04 07.0	+3.4
GUR	Goura	3.41	335	P	Pn	18 04 06.3	+2.7
GUR	Goura	3.41	335	P	Pn	18 04 06.3	+2.7
DSF	Desfina	3.79	340	P	Pn	18 04 10.1	+1.3
DSF	Desfina	3.79	340	P	Pn	18 04 10.6	+1.9
MMAI	Mount Meron Ar	9.53	98	Pn	Pn	18 05 26.9	-0.7
	comp=E,0.5nm,0.3s,baz=302,slow=17,SNR=2.2						
AKASG	Malin Array Be	16.27	12	Pn	Pn	18 06 57.1	-1.5
	comp=E,0.7nm,0.3s,baz=203,slow=10,SNR=4.8						
KVAR	Kislovodsk Arr	16.95	52	LR	LR	18 15 15.4	
	comp=E,37nm,18.2s,baz=191,slow=43						
KBZ	Khabaz	16.98	53	Pn	Pn	18 07 08.5	+0.9
	comp=E,0.1nm,0.3s,baz=261,slow=10,SNR=4.3						
HFS	Hagfors	26.20	348	P	P	18 08 43.7	-0.6
	comp=E,5.2nm,1.0s,baz=152,slow=10,SNR=5.5						
FINES	FINESS Array B	26.64	2	P	P	18 08 46.1	-2.1
	comp=E,4.3nm,1.1s,baz=201,slow=5.9,SNR=3.0						
NOA	NORSAR Array B	27.50	346	P	P	18 08 54.9	-1.1
	comp=E,0.4nm,0.4s,baz=121,slow=13,SNR=5.5						
TORD	Torodi Ar. Bea	29.65	229	P	P	18 09 15.4	-0.2
	comp=E,0.3nm,0.3s,baz=36,slow=8.1,SNR=4.2						
ARCES	ARCESS Array B	34.75	1	P	P	18 09 57.8	-1.9
	comp=E,1.2nm,0.8s,baz=169,slow=9.7,SNR=3.3						
KURBB	Kurchatov Arra	41.96	51	P	P	18 11 00.5	0.0
	comp=E,0.6nm,0.3s,baz=277,slow=8.5,SNR=6.0						
MKAR	Makanchi Array	44.64	56	P	P	18 11 21.9	-0.4
	comp=E,0.7nm,0.6s,baz=272,slow=7.8,SNR=15						
ZALV	Zalesovo Beam	45.82	46	P	P	18 11 30.8	-0.7
	comp=E,2.6nm,0.4s,baz=268,slow=9.5,SNR=11						
SONM	Songino Array	60.33	50	P	P	18 13 18.8	+0.2
	comp=E,0.3

comp=Z,38nm,19.8s,baz=272,slow=35
ILB Eielson Array 71.87 25 *e*P **P 18 19 10.4 -1.4**
RIDG Independ'e Rid 72.55 27 *e*P **P 18 19 15.9 -0.1**
22nm,1.8s
DOT Dot Lake 72.88 27 *e*P **P 18 19 17.6 -0.4**
7.6nm,0.8s
MENT Mentasta 72.93 27 *e*P **P 18 19 18.7 +0.5**
18nm,0.2s
ABKAR Akbulak array 76.00 318 *e*P **P 18 19 36.3 +0.1**
12nm,0.4s
ARU Arti 76.72 325 P **P 18 19 39.4 -0.7**
0.9nm,0.4s,baz=82,slow=19,SNR=3.2
AKTO Aktyubinsk 77.20 319 LR LR 18 56 26.1
comp=Z,28nm,18.5s,baz=76,slow=38
INK Inuvik 77.56 22 P **P 18 19 44.1 -0.6**
baz=254,slow=2.7
GEYT Alibeck 77.96 307 LR LR 19 00 07.2
comp=Z,24nm,18.1s,baz=155,slow=40
YKA Yellowknife Ar 86.22 27 P **P 18 20 30.5 +0.2**
0.7nm,0.4s,baz=291,slow=5.0,SNR=22
ARA0 ARCESS Array S 88.13 342 *e*P **P 18 20 38.7 -0.8**
ARCES ARCESS Array B 88.13 342 P **P 18 20 38.7 -0.8**
2.7nm,0.9s,baz=59,slow=9.5,SNR=3.6
VPK Verdi Peak 89.18 50 *e*P **P 18 20 41.5 -3.9**
NVAR Mina Array Bea 90.75 51 P **P 18 20 53.9 +1.2**
0.7nm,0.5s,baz=267,slow=6.2,SNR=6.7
FIA0 FINESS Array S 91.73 334 *e*P **P 18 20 54.5 -1.9**
FINES FINESS Array B 91.73 334 P **P 18 20 54.5 -1.9**
0.9nm,0.5s,baz=64,slow=4.4,SNR=9.4
FINES LR LR 19 06 15.0
comp=Z,39nm,18.1s,baz=160,slow=38
EDW2 Edwards Air Fo 91.92 54 *e*P **P 18 20 56.7 -1.4**
CIAC Catalina I. Ai 91.97 56 *e*P **P 18 20 54.8 -3.4**
CIAC *e*PcP **PcP 18 21 01.0 +2.0**
CCCA Chr Cany lake 92.25 53 *e*P **P 18 20 54.7 -4.8**
BBRC Big Bear Solar 92.94 54 *e*P **P 18 21 01.6 -1.3**
DPP Dos Picos Cty 93.27 56 *e*P **P 18 21 02.6 -1.6**
PDAR Pinedale Array 95.74 44 P **P 18 21 13.5 -2.1**
0.1nm,0.4s,baz=48,slow=2.2,SNR=3.8
NOA NORSAR Array B 97.88 334 LR LR 19 06 00.9
comp=Z,19nm,22.0s,baz=25,slow=36
LPAZ La Paz 150.75 103 PKPbc **PKPbc 18 27 42.9 -0.2**
1.5nm,0.6s,baz=276,slow=1.8,SNR=6.0
LPAZ La Paz 150.75 103 *e*PKPbc **PKPbc 18 27 44.6 +1.5**

*ATA **19** 18:09:45.4±1.4,38.4°46N×42.9°96E,h7km±35km, ML3.5, MW3.6*
*ISK **19** 18:09:45.4,38.5°52N×42.9°97E,h5km, ML2.7/5*
*DDA **19** 18:09:46.6,38.4°88N×42.9°99E,h15km, Ml3.0*
*CSEM **19** 18:09:46.3±0.2,38.4°48N×43.0°4E, h10km, ML3.0, Error ellipse: s-maj=5.3km s-min=4.1km az=144.0*
ISC 19 18:09:46.2±0.9,**38.47N**±0.02×**43.00E**±0.02,**h9**km±7km, **n67,σ0970/93, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.17**	**163**	*i* P	**Pg**	**18 09 49.2**	**-0.6**
GEVA				*e*S	**Sg**	**18 09 52.6**	**+0.2**
GEVA				IAML		18 09 54.7	
	comp=Z,2μm,0.3s						
GEVA	**Gevas**	**0.17**	**163**	*i* P	**Pg**	**18 09 49.3**	**-0.6**
GEVA				*i* S	**Sg**	**18 09 52.6**	**+0.2**
GEVA	**Gevas**	**0.17**	**163**	P	**Pg**	**18 09 49.3**	**-0.6**
GEVA				S	**Sg**	**18 09 52.6**	**+0.2**
TVAN	**Van**	**0.33**	**80**	*i* P	**Pg**	**18 09 53.0**	**+0.2**
TVAN				*i* S	**Sb**	**18 09 59.4**	**-0.4**
TVAN	**Van**	**0.33**	**80**	P	**Pg**	**18 09 53.0**	**+0.2**
TVAN				S	**Sb**	**18 09 59.4**	**-0.4**
VANB	**Van**	**0.33**	**68**	PG	**Pg**	**18 09 52.7**	**-0.1**
VANB				SG	**Sg**	**18 09 57.8**	**+0.6**
VANB	**Van**	**0.33**	**68**	*e*Pg	**Pg**	**18 09 52.7**	**-0.1**
VANB				*e*Sg	**Sg**	**18 09 57.8**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.40**	**328**	*i* P	**Pg**	**18 09 54.6**	**+0.5**
ADCV				*i* S	**Sb**	**18 10 02.1**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.40**	**328**	P	**Pg**	**18 09 54.6**	**+0.5**
VMUR	**Van-Muradiye**	**0.68**	**41**	*i* P	**Pg**	**18 09 60.0**	**+0.5**
VMUR				*i* S	**Sn**	**18 10 12.2**	**-1.0**
VMUR	**Van-Muradiye**	**0.68**	**41**	P	**Pg**	**18 10 00.0**	**+0.5**
GURO	**Guroymak-BITLI**	**0.76**	**276**	PG	**Pg**	**18 10 00.4**	**-0.5**
GURO				SG	**Sg**	**18 10 10.7**	**-0.2**
GURO	**Guroymak-BITLI**	**0.76**	**276**	*e*Pg	**Pg**	**18 10 00.4**	**-0.5**
GURO				*e*Sg	**Sg**	**18 10 10.7**	**-0.2**
TUTA	**Tutak**	**0.94**	**351**	*i* P	**Pg**	**18 10 04.3**	**0.0**
TUTA				*e*S	**Sb**	**18 10 17.5**	**0.0**
TUTA				IAML		18 10 19.3	
	comp=Z,173nm,0.2s						
TUTA	**Tutak**	**0.94**	**351**	*i* P	**Pg**	**18 10 04.4**	**0.0**
TUTA				*i* S	**Sb**	**18 10 17.8**	**+0.3**
TUTA	**Tutak**	**0.94**	**351**	P	**Pg**	**18 10 04.4**	**0.0**
TUTA				S	**Sb**	**18 10 17.8**	**+0.3**
SRTM	**Siirt_Merkez**	**0.97**	**241**	*i* P	**Pb**	**18 10 05.2**	**-0.2**
SRTM				*i* S	**Sn**	**18 10 20.2**	**0.0**
SRTM	**Siirt_Merkez**	**0.97**	**241**	P	**Pb**	**18 10 05.2**	**-0.2**
SRTM				S	**Sn**	**18 10 20.2**	**0.0**
CLDR	**Caldiran**	**0.98**	**47**	PG	**Pg**	**18 10 04.4**	**-0.7**
CLDR				SG	**Sg**	**18 10 18.2**	**+0.3**
CLDR	**Caldiran**	**0.98**	**47**	*i* P	**Pg**	**18 10 04.2**	**-0.9**
CLDR				*i* S	**Sn**	**18 10 21.1**	**+0.5**
CLDR	**Caldiran**	**0.98**	**47**	P	**Pg**	**18 10 04.2**	**-0.9**
CLDR	**Caldiran**	**0.98**	**47**	*e*Pg	**Pg**	**18 10 04.4**	**-0.7**
CLDR				*e*Sg	**Sg**	**18 10 18.2**	**+0.3**
SIRT	**Sirnak**	**1.06**	**205**	PN	**Pg**	**18 10 06.8**	**+0.1**
SIRT	**Sirnak**	**1.06**	**205**	*e*Pn	**Pg**	**18 10 06.8**	**+0.1**
EKAR	**Karacoban**	**1.07**	**317**	*e*P	**Pb**	**18 10 06.8**	**-0.2**
EKAR				IAML		18 10 38.3	
	comp=Z,52nm,0.4s						
EKAR	**Karacoban**	**1.07**	**317**	*i* P	**Pb**	**18 10 06.9**	**-0.2**
EKAR	**Karacoban**	**1.07**	**317**	P	**Pb**	**18 10 06.9**	**-0.2**
HAKT	**HAKKARI**	**1.07**	**148**	*i* P	**Pg**	**18 10 05.8**	**-1.0**
HAKT	**HAKKARI**	**1.07**	**148**	P	**Pg**	**18 10 05.8**	**-1.0**
AGRB	**Hanur-Agry**	**1.10**	**360**	PG	**Pg**	**18 10 05.9**	**-1.5**
AGRB				SG	**Sg**	**18 10 21.1**	**-0.7**
AGRB	**Hanur-Agry**	**1.10**	**360**	*e*Pg	**Pg**	**18 10 05.9**	**-1.5**
AGRB				*e*Sg	**Sg**	**18 10 21.1**	**-0.7**
DYDN	**Diyadin**	**1.20**	**26**	*e*P	**Pn**	**18 10 09.8**	**+0.4**
DYDN				IAML		18 10 33.1	
	comp=Z,18nm,0.3s						
DYDN	**Diyadin**	**1.20**	**26**	*i* P	**Pn**	**18 10 10.1**	**+0.7**
DYDN	**Diyadin**	**1.20**	**26**	P	**Pn**	**18 10 10.1**	**+0.7**
YOVA	**Hakkari_Y`…kse**	**1.35**	**130**	*i* P	**Pb**	**18 10 12.1**	**+0.3**
YOVA	**Hakkari_Y`…kse**	**1.35**	**130**	P	**Pb**	**18 10 12.1**	**+0.3**
EATA	**Eleskirt**	**1.44**	**344**	*e*P	**Pg**	**18 10 13.7**	**-0.3**
EATA				*e*S	**Sg**	**18 10 34.6**	**+1.9**
EATA	**Eleskirt**	**1.44**	**344**	*i* P	**Pb**	**18 10 13.4**	**-0.1**
EATA	**Eleskirt**	**1.44**	**344**	P	**Pb**	**18 10 13.4**	**-0.1**
BTMN	**Batman**	**1.48**	**247**	*i* P	**Pg**	**18 10 14.4**	**-0.2**
BTMN				*i* S	**Sg**	**18 10 35.3**	**+1.5**
BTMN	**Batman**	**1.48**	**247**	P	**Pg**	**18 10 14.4**	**-0.2**
BTMN				S	**Sg**	**18 10 35.3**	**+1.5**
IGDI	**IGDIR**	**1.63**	**31**	*e*P	**Pg**	**18 10 17.4**	**-0.1**
HOMI	**Horasan**	**1.79**	**332**	*e*P	**Pb**	**18 10 19.4**	**+0.2**
HOMI				IAML		18 10 48.4	
	comp=Z,15nm,0.5s						
HOMI	**Horasan**	**1.79**	**332**	*i* P	**Pb**	**18 10 19.4**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.79**	**32**	PN	**Pn**	**18 10 17.5**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.79**	**32**	*e*Pn	**Pn**	**18 10 17.5**	**+0.1**
ERZM	**Erzurum**	**1.91**	**319**	*e*P	**Pb**	**18 10 20.4**	**-1.1**
ERZM				*i* Pg	**Pg**	**18 10 22.2**	**-0.7**
ERZM	**Erzurum**	**1.91**	**319**	*i* P	**Pb**	**18 10 21.2**	**-0.2**
ERZM	**Erzurum**	**1.91**	**319**	P	**Pb**	**18 10 21.2**	**-0.2**
DIGO	**Kars**	**1.96**	**8**	*e*P	**Pb**	**18 10 21.3**	**-0.9**
HANI	**Diyarbakir_Han**	**2.04**	**269**	*i* P	**Pb**	**18 10 23.5**	**0.0**
HANI	**Diyarbakir_Han**	**2.04**	**269**	P	**Pb**	**18 10 23.5**	**0.0**
MARD	**Mardin**	**2.10**	**237**	*i* P	**Pn**	**18 10 21.9**	**+0.2**
MARD				*i* S	**Sb**	**18 10 50.9**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.15**	**347**	PN	**Pn**	**18 10 21.9**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.15**	**347**	*e*Pn	**Pn**	**18 10 21.9**	**-0.5**
MAZI	**Mazidag**	**2.25**	**244**	PN	**Pn**	**18 10 24.5**	**+0.7**
MAZI	**Mazidag**	**2.25**	**244**	*e*Pn	**Pn**	**18 10 24.5**	**+0.7**
DIY	**Diyarbakir**	**2.26**	**256**	*e*Pn	**Pn**	**18 10 25.2**	**+1.4**
EAK	**Akyaka**	**2.26**	**12**	*e*P	**Pb**	**18 10 26.9**	**-0.5**
EAK	**Akyaka**	**2.26**	**12**	*i* P	**Pg**	**18 10 30.8**	**+1.2**
DYBB	**Diyarbakir**	**2.31**	**258**	PN	**Pn**	**18 10 25.2**	**+0.7**
KOPT	**Kop Dagi**	**2.48**	**309**	*e*P	**Pb**	**18 10 31.6**	**+0.4**
DDEM	**Demirkent**	**2.60**	**339**	*i* P	**Pg**	**18 10 35.3**	**-0.8**
BAYB	**BAYBURT**	**2.77**	**311**	*e*P	**Pb**	**18 10 35.6**	**-0.5**
TNCL	**Tunceli-Merkez**	**2.77**	**284**	*e*P	**Pb**	**18 10 33.8**	**-2.2**
ARTV	**Artvin**	**2.83**	**343**	*e*P	**Pb**	**18 10 38.2**	**+1.1**
KELT	**Kelkit**	**3.35**	**301**	*e*P	**Pg**	**18 10 48.6**	**-1.8**

*CSEM **19** 18:22:30.8±0.5,38.5°50N×43.6°66E,h8km, ML2.2, Error ellipse: s-maj=11.0km s-min=7.5km az=102.0*
*DDA **19** 18:22:30.2,38.5°55N×43.7°3E, h7km, Ml2.6*
*ISCJB **19** 18:22:31.2±1.0,38.5°52N±0.0°5×43.6°66E±0.0°6,h10km, Error ellipse: s-maj=8.5km s-min=5.4km az=43.4*
*ISK **19** 18:22:31.9,38.6°0N×43.5°4E,h5km, ML2.2/2*
ISC 19 18:22:31.0±1.1,**38.51N**±0.0°4×**43.68E**±0.0°4,**h10**km,**n16,** σ0997/25,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.21**	**274**	*i* P	**Pg**	**18 22 34.9**	**-0.7**
TVAN				*i* S	**Sg**	**18 22 38.7**	**0.0**
TVAN	**Van**	**0.21**	**274**	P	**Pg**	**18 22 34.9**	**-0.7**
TVAN				S	**Sg**	**18 22 38.7**	**0.0**
VANB	**Van**	**0.24**	**290**	PG	**Pg**	**18 22 34.9**	**-1.1**
VANB				SG	**Sg**	**18 22 38.2**	**-1.2**
VANB	**Van**	**0.24**	**290**	*e*Pg	**Pg**	**18 22 34.9**	**-1.1**
VANB				*e*Sg	**Sg**	**18 22 38.2**	**-1.2**
GEVA	**Gevas**	**0.52**	**248**	*i* P	**Pb**	**18 22 42.7**	**+0.2**
GEVA				*i* S	**Sb**	**18 22 51.1**	**+0.9**
GEVA	**Gevas**	**0.52**	**248**	P	**Pb**	**18 22 42.7**	**+0.2**
CLDR	**Caldiran**	**0.66**	**17**	PG	**Pb**	**18 22 44.6**	**-0.2**
CLDR				SG	**Sb**	**18 22 54.5**	**+0.4**
CLDR	**Caldiran**	**0.66**	**17**	*e*Pg	**Pb**	**18 22 44.6**	**-0.2**
CLDR				*e*Sg	**Sb**	**18 22 54.5**	**+0.4**
HAKT	**HAKKARI**	**0.95**	**178**	*i* P	**Pg**	**18 22 48.6**	**-0.9**
HAKT	**HAKKARI**	**0.95**	**178**	P	**Pg**	**18 22 48.6**	**-0.9**
TUTA	**Tutak**	**1.11**	**323**	*i* P	**Pb**	**18 22 52.0**	**-0.6**
TUTA				*i* S	**Sn**	**18 23 10.7**	**+2.3**
TUTA	**Tutak**	**1.11**	**323**	P	**Pb**	**18 22 52.0**	**-0.6**
TUTA				S	**Sn**	**18 23 10.7**	**+2.3**
AGRB	**Hanur-Agry**	**1.19**	**334**	PG	**Pn**	**18 22 53.9**	**0.0**
AGRB	**Hanur-Agry**	**1.19**	**334**	*e*Pg	**Pn**	**18 22 53.9**	**0.0**
GURO	**Guroymak-BITLI**	**1.29**	**272**	PN	**Pb**	**18 22 54.9**	**-0.6**
GURO	**Guroymak-BITLI**	**1.29**	**272**	*e*Pn	**Pb**	**18 22 54.9**	**-0.6**

IDC 19 18:28:56.9±1.2,**11.72N**×**140.15E**,**h0km**,**mb3.6/4, mb1 3.8/5,mb1mx3.4/62,mbtmp3.7/5,ML3.7/1,Error ellipse: s-maj=39.1km s-min=23.8km az=82.0,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.97**	**68**	Pn	Pn	18 30 12.9	0.0
	3.0nm,0.3s,baz=300,slow=12,SNR=4.3						
GUMO				Sn	Sn	18 31 00.5	-11
	12nm,0.3s,baz=161,slow=21,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**26.47**	**72**	T	T	19 03 20.9	
	baz=250						
H11S1	**WAKE ISLAND Hy**	**26.49**	**72**	T	T	19 03 22.6	
	baz=250						
H11S2	**WAKE ISLAND Hy**	**26.49**	**72**	T	T	19 03 22.6	
	baz=250						
WRA	**Warramunga Arr**	**31.98**	**190**	P	P	18 35 24.2	-0.8
	0.6nm,0.9s,baz=11,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**35.69**	**190**	P	P	18 35 57.8	+0.5
	0.3nm,0.7s,baz=16,slow=12,SNR=7.0						
MKAR	**Makanchi Array**	**59.69**	**318**	P	P	18 39 04.1	+0.7
	2.4nm,0.6s,baz=92,slow=8.0,SNR=9.7						
KURBB	**Kurchatov Arra**	**63.12**	**321**	P	P	18 39 25.7	-0.7
	0.4nm,0.4s,baz=112,slow=6.3,SNR=2.7						

*NIED **19** 18:31:00,25.0°00N×123.0°30E,h119km,Mw4.2 Best double couple: M0 2.62000×10^15 NP1:φs135.00000°, δ14.00000°,λ157.00000°. NP2:φs247.00000°,δ84.00000°, λ77.00000°.*
*ISCJB **19** 18:31:53.8±0.2,25.0°05N±0.0°4×123.2°4E±0.0°3, h134km±2km,mb4.1/41,Error ellipse: s-maj=7.0km s-min=4.9km az=169.8*
*MOS **19** 18:31:53.2±1.0,25.1°3N×123.2°5E,h129km,mb4.1/21, Error ellipse: s-maj=20.2km s-min=8.7km az=110.5*
*NEIC **19** 18:31:54.0±0.7,25.1°2N×123.3°5E,h124km±6km,mb4.7/12, Error ellipse: s-maj=11.2km s-min=7.2km az=73.0*
*JMA **19** 18:31:55.7±0.2,24.9°7N×123.2°7E,h124km±3km, M3.9*
*IDC **19** 18:31:56.4±0.8,25.1°0N×123.2°0E,h143km±6km,mb3.7/22, mb1 3.9/23,mb1mx3.7/66,mbtmp4.1/23,MS3.0/4, Ms1 3.0/4,ms1mx2.6/61,Error ellipse: s-maj=15.3km s-min=9.4km az=74.0*
ISC 19 18:31:55.2±0.5,**25.02N**±0.0°05×**123.26E**±0.0°04,**h135**km±4km, **n92,**σ1906/117,**mb4.1**/41,**7C-4D,Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.60**	**202**	P	**Pn**	**18 32 14.7**	**-0.8**
YOJ				*e*S	**Sn**	**18 32 29.0**	**-1.8**
YOJ	**Yonaguni jima**	**0.60**	**202**	*e*P	**Pn**	**18 32 14.5**	**-1.0**
YOJ	**Yonaguni jima**	**0.60**	**202**	*e*Pn	**Pn**	**18 32 14.5**	**-1.0**
JYNG	**Yonagunijimaku**	**0.64**	**206**	P	**Pn**	**18 32 14.9**	**-0.8**
JYNG				*e*S	**Sn**	**18 32 29.6**	**-1.6**
IRIF	**Iriomote-Funau**	**0.81**	**148**	P	**Pn**	**18 32 15.9**	**-1.1**
IRIF				S	**Sn**	**18 32 30.9**	**-2.6**
JKRS	**Kuro-shima**	**1.04**	**139**	P	**Pn**	**18 32 18.4**	**-0.6**
JKRS				S	**Sn**	**18 32 35.1**	**-1.9**
JIJ	**Ishigaki jima**	**1.04**	**129**	P	**Pn**	**18 32 18.0**	**-1.0**
JIJ				S	**Sn**	**18 32 34.3**	**-2.7**
JISG	**Ishigakijimahi**	**1.05**	**114**	P	**Pn**	**18 32 18.3**	**-0.8**
JISG				*e*S	**Sn**	**18 32 35.5**	**-1.7**
HATJ	**Hateruma jima**	**1.08**	**152**	P	**Pn**	**18 32 18.7**	**-0.7**
HATJ				S	**Sn**	**18 32 37.7**	**0.0**
JTJ	**Tarama**	**1.37**	**106**	P	**Pn**	**18 32 21.9**	**-0.3**
JTJ				*e*S	**Sn**	**18 32 41.9**	**-0.9**
TATO	**Taipei**	**1.60**	**269**	*e*Pn	**Pn**	**18 32 25.2**	**+0.4**
NACB	**Ninganchiao**	**1.73**	**241**	*e*Pn	**Pn**	**18 32 25.1**	**-1.3**
YHNB	**Yeheng**	**1.74**	**259**	*e*Pn	**Pn**	**18 32 27.1**	**+0.6**
JIRB	**Irabujima**	**1.75**	**96**	P	**Pn**	**18 32 26.3**	**-0.2**
JIRB				S	**Sn**	**18 32 50.0**	**-0.4**
JIKM	**Ikemajima**	**1.81**	**93**	P	**Pn**	**18 32 27.3**	**+0.1**
JIKM				S	**Sn**	**18 32 51.8**	**+0.1**
JMJ	**Miyako jima 2**	**1.86**	**96**	P	**Pn**	**18 32 28.1**	**+0.3**
JMJ				S	**Sn**	**18 32 52.0**	**-0.7**
JOGS	**Gusukube**	**1.97**	**97**	P	**Pn**	**18 32 29.4**	**+0.3**
JOGS				S	**Sn**	**18 32 55.3**	**+0.2**
YULB	**Yu-li**	**2.42**	**228**	*e*Pn	**Pn**	**18 32 33.5**	**-1.2**
SSLB	**Suanglung**	**2.43**	**240**	*e*Pn	**Pn**	**18 32 34.2**	**-0.2**
TPUB	**Ta-pu**	**2.95**	**235**	*e*Pn	**Pn**	**18 32 41.9**	**+0.5**
TWG	**Pinlang**	**2.97**	**223**	*e*Pn	**Pn**	**18 32 40.1**	**-1.5**
JNU	**Nakatsue**	**10.46**	**38**	P	**Pn**	**18 34 23.2**	**+1.5**
	0.3nm,0.3s,baz=176,slow=3.7,SNR=5.4						
KSRS	**Korea Array**	**13.02**	**17**	P	**P**	**18 34 57.8**	**-2.5**
	0.8nm,0.3s,baz=193,slow=12,SNR=27						
KSRS				LR	LR	18 39 58.3	
	comp=Z,35nm,18.6s,baz=230,slow=37						
DAV	**Davao City (W)**	**17.99**	**173**	LR	LR	18 41 59.5	
	comp=Z,36nm,19.0s,baz=154,slow=33						
CMAR	**Chiang Mai Arr**	**23.49**	**259**	P	**P**	**18 36 54.2**	**+1.3**
	1.3nm,0.8s,baz=60,slow=8.9,SNR=9.1						
CMAR				ScP	**ScP**	**18 44 00.2**	**-0.5**
	0.3nm,0.8s,baz=58,slow=2.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**23.49**	**259**	*ce*P	**P**	**18 36 56.2**	**+3.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TNTI	**Ternate**	**24.43**	**170**	*e*P	**P**	**18 37 02.6**	**+1.1**
	comp=Z,49nm,0.9s						
SBUM	**Sibu**	**24.84**	**207**	*e*P	**P**	**18 37 05.7**	**+0.5**
	comp=Z,9.5nm,0.7s						
KLR	**Kul'dur**	**25.06**	**13**	P	**P**	**18 37 07.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=227,slow=8.3,SNR=12						
KLR				pP	**pP**	**18 37 37.5**	**+2.0**
	comp=Z,0.1nm,0.5s,baz=181,slow=6.3,SNR=3.7						
KLR				PcP	**PcP**	**18 40 38.7**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=229,slow=9.3,SNR=3.3						
KLR	**Kul'dur**	**25.06**	**13**	*i* P	**P**	**18 37 06.2**	**-0.7**
ULN	**Ulaanbaatar**	**26.15**	**335**	*e*P	**P**	**18 37 18.4**	**+1.5**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.6s						
SONM	**Songino Array**	**26.39**	**334**	P	**P**	**18 37 19.4**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=152,slow=9.6,SNR=6.0						
SONM				pP	**pP**	**18 37 49.4**	**+1.8**
	comp=Z,3.4nm,1.0s,baz=146,slow=9.5,SNR=8.1						
SONM				ScP	**ScP**	**18 44 07.7**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=151,slow=3.3,SNR=3.3						
SONM				LR	LR	18 48 18.0	
	comp=Z,50nm,19.8s,baz=180,slow=37						
KSM	**Kuching**	**26.54**	**210**	*e*P	**P**	**18 37 21.4**	**+0.9**
	comp=Z,7.7nm,0.9s						
IPM	**Ipoh**	**29.55**	**230**	*e*P	**P**	**18 37 48.4**	**+1.0**
	comp=Z,7.7nm,0.7s						

YAK Yakutsk 37.25 5 *e*P **P 18 38 52.9 -0.5**
YAK pmax pmax
comp=Z,6.0nm,0.6s
PETK Petropavlovsk- 38.12 34 LR LR 18 54 46.1
comp=Z,44nm,19.0s,baz=105,slow=36
MTN Manton Dam 38.41 168 *e*P **P 18 39 03.6 -0.1**
comp=Z,21nm,0.6s
MK01 Makanchi Array 39.06 314 *e*P **P 18 39 08.6 -0.3**
MK31 Makanchi Array 39.08 314 *e*P **P 18 39 08.8 -0.2**
MK31 Makanchi Array 39.08 314 *e*P **P 18 39 08.8 -0.2**
MKAR Makanchi Array 39.08 314 P **P 18 39 08.7 -0.4**
comp=Z,2.9nm,0.6s,baz=99,slow=11,SNR=23
MKAR PcP **PcP 18 41 15.8 -0.4**
comp=Z,0.3nm,0.6s,baz=92,slow=4.8,SNR=4.0
MKAR ScP **ScP 18 44 52.0 0.0**
comp=Z,0.2nm,0.6s,baz=106,slow=4.3,SNR=3.4
MKAR Makanchi Array 39.08 314 *e*P **P 18 39 08.8 -0.2**
comp=Z,77nm,1.4s
ZALV Zalesovo Beam 40.59 326 P **P 18 39 20.0 -1.4**
comp=Z,1.2nm,0.5s,baz=111,slow=6.5,SNR=4.5
ZALV pP **pP 18 39 51.9 +0.5**
comp=Z,1.5nm,0.5s,baz=107,slow=7.8,SNR=3.2
ZALV Zalesovo Beam 40.59 326 *e*P **P 18 39 20.3 -1.0**
KURK Kurchatov 42.68 319 *e*P **P 18 39 37.8 -0.6**
KURK pmax pmax
comp=Z,6.0nm,1.4s
KURBB Kurchatov Arra 42.70 319 P **P 18 39 38.1 -0.6**
comp=Z,0.7nm,0.6s,baz=107,slow=7.0,SNR=5.4
KURBB PcP **PcP 18 41 27.3 -0.5**
comp=Z,0.5nm,0.3s,baz=122,slow=3.2,SNR=4.6
FITZ Fitzroy Crossi 42.93 177 P **P 18 39 40.9 +0.3**
comp=Z,9.3nm,0.7s,baz=359,slow=2.6,SNR=12
FITZ Fitzroy Crossi 42.93 177 *e*P **P 18 39 41.0 +0.3**
comp=Z,10nm,0.8s
AAK Ala-Archa 43.51 306 *e*P **P 18 39 46.0 +0.5**
AAK pmax pmax
comp=Z,9.0nm,2.4s
WRAB Tennant Creek 45.97 165 *d i*P **P 18 40 05.9 +1.0**
WRAB pmax pmax
comp=Z,37nm,1.2s
WRAB Tennant Creek 45.97 165 *e*P **P 18 40 05.9 +1.0**
comp=Z,41nm,1.2s
WRA Warramunga Ar 45.98 165 P **P 18 40 05.8 +0.8**
comp=Z,11nm,0.5s,baz=347,slow=8.9,SNR=173
WRA PcP **PcP 18 41 39.9 +0.4**
comp=Z,0.6nm,0.6s,baz=354,slow=4.0,SNR=2.6
KKAR Karatay Array 46.48 306 *e*P **P 18 40 09.2 +0.5**
KKAR Karatay Array 46.48 306 *e*P **P 18 40 09.2 +0.5**
TIXI Tiksi 46.77 2 P **P 18 40 09.0 -1.5**
comp=Z,1.6nm,0.9s,baz=153,slow=6.0,SNR=5.1
TIXI pP **pP 18 40 42.3 +1.0**
comp=Z,0.9nm,0.3s,baz=180,slow=1.0,SNR=2.6
TIXI Tiksi 46.77 2 *e*P **P 18 40 09.5 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
BVAR Borovoye Array 48.24 320 P **P 18 40 21.3 -0.9**
comp=Z,1.0nm,0.5s,baz=110,slow=9.8,SNR=9.6
BVAR PcP **PcP 18 41 46.7 -0.4**
comp=Z,0.8nm,0.6s,baz=60,slow=3.6,SNR=5.0
BVAR ScP **ScP 18 45 28.4 -0.7**
comp=Z,0.8nm,0.6s,baz=226,slow=35,SNR=5.5
BVAR Borovoye Array 48.24 320 P **P 18 40 21.3 -0.9**
BVAR 18 41 46.7
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=N,1.0nm,0.6s
BRVK Borovoye 48.31 320 *i*P **P 18 40 22.5 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
AS31 Alice Springs 49.49 167 *e*P **P 18 40 33.6 +1.6**
comp=Z,3.4nm,0.9s
ASAR Alice Springs 49.49 167 P **P 18 40 33.5 +1.5**
comp=Z,3.5nm,0.4s,baz=348,slow=8.2,SNR=51
ASAR PcP **PcP 18 41 52.4 +0.3**
comp=Z,1.1nm,0.8s,baz=311,slow=1.4,SNR=4.7
AS01 Alice Springs 49.50 167 *e*P **P 18 40 33.1 +1.0**
BILL Bilibino 50.26 19 *e*P **P 18 40 34.7 -2.6**
BILL *e* 18 41 53.7
BILL pmax pmax
comp=Z,1.0nm,1.0s
ABKAR Akbulak array 54.21 314 *e*P **P 18 41 06.7 -0.1**
comp=Z,29nm,0.6s
ARU Arti 55.58 322 *c i*P **P 18 41 16.0 -0.5**
ARU 18 42 11.8
ARU S **S 18 48 50.0 -1.5**
ARU pmax pmax
comp=Z,12nm,2.5s
GEYT Alibeck 56.01 300 P **P 18 41 19.5 -0.3**
comp=Z,1.5nm,0.7s,baz=73,slow=5.1,SNR=5.2
STKA Stephens Creek 59.23 162 P **P 18 41 43.1 +0.8**
comp=Z,3.6nm,0.5s,baz=352,slow=6.5,SNR=15
KBZ Khabaz 66.43 309 P **P 18 42 30.0 +0.1**
comp=Z,1.2nm,0.7s,baz=106,slow=5.3,SNR=6.5
KIV Kislovodsk 66.53 309 *e*P **P 18 42 30.9 +0.2**
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV Kislovodsk 66.53 309 *e*P **P 18 42

*ISK **19** 18:47:17.7, 39˚.46N×26˚.08E, h6km, ML2.6/17*
*ATH **19** 18:47:17.7, 39˚.46N×26˚.04E, h24km±2km, ML2.1/6, Error ellipse: s-maj=2.8km s-min=1.0km az=230.0*
*ISCJB **19** 18:47:17.8±0.4, 39˚.47N±0˚.01×26˚.04E±0˚.03, h4km±3km, Error ellipse: s-maj=4.2km s-min=2.5km az=176.1*
*DDA **19** 18:47:17.6, 39˚.45N×26˚.04E, h7km, Ml2.6*
*THE **19** 18:47:18.3, 39˚.48N×26˚.03E, h6km±2km, ML2.0/5, Error ellipse: s-maj=2.0km s-min=0.5km az=167.0*
*CSEM **19** 18:47:18.0±0.1, 39˚.45N×26˚.04E, h8km, ML2.6, Error ellipse: s-maj=2.8km s-min=1.7km az=89.0*

ISC 19 18:47:18.0±0.9, **39˚.45N**±0˚.01×**26˚.03E**±0˚.02, **h9**km±6km, **n85**, σ0^{s}**72**/124, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.08**	**87**	PG	**Pg**	**18 47 19.8**	**-0.4**
GPNR	**Gulpinar-Canak**	**0.08**	**87**	*e*Pg	**Pg**	**18 47 19.8**	**-0.4**
PRK	**Paraskevi**	**0.28**	**138**	P	**Pb**	**18 47 25.1**	**0.0**
PRK				S	**Sb**	**18 47 28.8**	**-1.2**
PRK				AML	AML	18 47 29.4	
	comp=E,1471μm,0.5s						
PRK				AML	AML	18 47 29.7	
	comp=N,1674μm,0.6s						
PRK	**Paraskevi**	**0.28**	**138**	P	**Pb**	**18 47 24.5**	**-0.6**
PRK				S	**Sb**	**18 47 28.7**	**-1.2**
PRK	**Paraskevi**	**0.28**	**138**	P	**Pb**	**18 47 24.5**	**-0.6**
PRK				S	**Sb**	**18 47 28.7**	**-1.2**
SIGR	**SIGRI**	**0.28**	**210**	PG	**Pg**	**18 47 24.1**	**+0.5**
SIGR				SG	**Sb**	**18 47 28.9**	**-1.0**
SIGR	**SIGRI**	**0.28**	**210**	P	**Pg**	**18 47 23.7**	**+0.1**
SIGR				S	**Sg**	**18 47 27.8**	**+0.5**
SIGR				AML	AML	18 47 29.0	
	comp=E,640μm,0.2s						
SIGR				AML	AML	18 47 29.0	
	comp=N,871μm,0.4s						
SIGR	**SIGRI**	**0.28**	**210**	P	**Pg**	**18 47 24.0**	**+0.5**
SIGR				S	**Sg**	**18 47 28.3**	**+1.0**
SIGR	**SIGRI**	**0.28**	**210**	P	**Pg**	**18 47 24.1**	**+0.5**
SIGR				S	**Sg**	**18 47 28.3**	**+1.0**
BOZC	**Bozcaada**	**0.39**	**2**	PG	**Pg**	**18 47 25.6**	**-0.1**
BOZC				SG	**Sg**	**18 47 31.4**	**+0.6**
BOZC	**Bozcaada**	**0.39**	**2**	*i* P	**Pg**	**18 47 25.7**	**-0.1**
BOZC				*i* S	**Sg**	**18 47 31.4**	**+0.6**
BOZC	**Bozcaada**	**0.39**	**2**	*e*Pg	**Pg**	**18 47 25.6**	**-0.1**
BOZC				*e*Sg	**Sg**	**18 47 31.4**	**+0.6**
EZN	**Ezine**	**0.44**	**31**	PG	**Pg**	**18 47 26.2**	**-0.3**
EZN				SG	**Sg**	**18 47 32.4**	**+0.1**
EZN	**Ezine**	**0.44**	**31**	*e*Pg	**Pg**	**18 47 26.2**	**-0.3**
EZN	**Ezine**	**0.44**	**31**	P	**Pg**	**18 47 26.5**	**0.0**
EZN				S	**Sg**	**18 47 32.2**	**-0.1**
EZN	**Ezine**	**0.44**	**31**	P	**Pg**	**18 47 26.5**	**0.0**
EZN				S	**Sg**	**18 47 32.2**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.49**	**54**	*i* P	**Pg**	**18 47 27.4**	**-0.2**
BAYC				*i* S	**Sg**	**18 47 34.4**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.49**	**54**	P	**Pg**	**18 47 27.4**	**-0.2**
BAYC				S	**Sg**	**18 47 34.4**	**+0.4**
GADA	**Gvkgeada**	**0.74**	**352**	PG	**Pb**	**18 47 32.5**	**-0.7**
GADA	**Gvkgeada**	**0.74**	**352**	P	**Pg**	**18 47 31.9**	**-0.5**
GADA	**Gvkgeada**	**0.74**	**352**	*e*Pg	**Pb**	**18 47 32.5**	**-0.7**
GADA				S	**Sb**	**18 47 42.5**	**-0.9**
GADA	**Gvkgeada**	**0.74**	**352**	P	**Pg**	**18 47 31.9**	**-0.5**
GADA				S	**Sb**	**18 47 42.5**	**-0.9**
DKL	**Dikili**	**0.78**	**119**	PG	**Pg**	**18 47 32.4**	**-0.6**
DKL	**Dikili**	**0.78**	**119**	*e*Pg	**Pg**	**18 47 32.4**	**-0.6**
CAND	**Candarli**	**0.78**	**129**	PG	**Pg**	**18 47 32.7**	**-0.3**
CAND				SG	**Sb**	**18 47 43.2**	**-0.6**
LIA	**Limnos Island**	**0.79**	**304**	P	**Pb**	**18 47 33.9**	**-0.1**
LIA				S	**Sb**	**18 47 45.2**	**+0.4**
LIA				AML	AML	18 47 46.4	
	comp=E,180μm,0.4s						
LIA				AML	AML	18 47 46.5	
	comp=N,176μm,0.3s						
LIA	**Limnos Island**	**0.79**	**304**	P	**Pb**	**18 47 33.5**	**-0.5**
LIA				S	**Sb**	**18 47 44.7**	**-0.1**
LIA	**Limnos Island**	**0.79**	**304**	P	**Pb**	**18 47 33.5**	**-0.5**
LIA				S	**Sb**	**18 47 44.7**	**-0.1**
FOCM	**Fo^ša**	**0.92**	**143**	PG	**Pg**	**18 47 35.3**	**-0.3**
FOCM	**Fo^ša**	**0.92**	**143**	*e*Pg	**Pg**	**18 47 35.3**	**-0.3**
KRBN	**Karaburun**	**0.95**	**155**	PG	**Pg**	**18 47 35.9**	**-0.3**
KRBN	**Karaburun**	**0.95**	**155**	*e*Pg	**Pg**	**18 47 35.9**	**-0.3**
PSRA	**Psara**	**0.98**	**202**	P	**Pb**	**18 47 36.9**	**-0.3**
PSRA				S	**Sn**	**18 47 52.2**	**+0.3**
PSRA	**Psara**	**0.98**	**202**	P	**Pg**	**18 47 36.7**	**-0.1**
PSRA				S	**Sn**	**18 47 51.3**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.00**	**20**	PG	**Pg**	**18 47 36.9**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.00**	**20**	*e*Pg	**Pg**	**18 47 36.9**	**-0.4**
CHOS	**Chios island**	**1.06**	**179**	PG	**Pb**	**18 47 38.8**	**+0.2**
CHOS	**Chios island**	**1.06**	**179**	P	**Pg**	**18 47 37.7**	**-0.8**
CHOS				S	**Sg**	**18 47 52.1**	**-0.1**
CHOS				AML	AML	18 47 57.5	
	comp=N,120μm,0.7s						
CHOS				AML	AML	18 48 01.2	
	comp=E,163μm,0.4s						
CHOS	**Chios island**	**1.06**	**179**	P	**Pg**	**18 47 38.1**	**-0.4**
CHOS	**Chios island**	**1.06**	**179**	*e*Pg	**Pb**	**18 47 38.8**	**+0.2**
CHOS				S	**Sb**	**18 47 52.6**	**-0.1**
CHOS	**Chios island**	**1.06**	**179**	P	**Pg**	**18 47 38.1**	**-0.4**
CHOS				S	**Sn**	**18 47 54.2**	**+0.1**
LPK	**Lapseki**	**1.08**	**31**	PG	**Pg**	**18 47 38.3**	**-0.4**
LPK	**Lapseki**	**1.08**	**31**	*e*Pg	**Pg**	**18 47 38.3**	**-0.4**
SMTH	**Samothraki Isl**	**1.09**	**339**	P	**Pg**	**18 47 38.4**	**-0.6**
SMTH				S	**Sg**	**18 47 51.3**	**-1.8**
SMTH				AML	AML	18 47 53.7	
	comp=E,210μm,0.4s						
SMTH				AML	AML	18 47 53.8	
	comp=N,144μm,0.3s						
SMTH	**Samothraki Isl**	**1.09**	**339**	P	**Pg**	**18 47 38.5**	**-0.4**
SMTH				S	**Sg**	**18 47 52.7**	**-0.4**
SMTH	**Samothraki Isl**	**1.09**	**339**	P	**Pg**	**18 47 38.5**	**-0.4**
SMTH				S	**Sg**	**18 47 52.7**	**-0.4**
URLA	**Izmir**	**1.18**	**158**	PN	**Pb**	**18 47 40.4**	**-0.1**
URLA	**Izmir**	**1.18**	**158**	*i* P	**Pg**	**18 47 38.8**	**-1.8**
URLA				*i* S	**Sg**	**18 47 55.7**	**-0.2**
URLA	**Izmir**	**1.18**	**158**	P	**Pg**	**18 47 38.8**	**-1.8**
URLA	**Izmir**	**1.18**	**158**	*e*Pn	**Pb**	**18 47 40.4**	**-0.1**
URLA				S	**Sg**	**18 47 55.7**	**-0.2**
BALY	**Balya**	**1.26**	**76**	*i* P	**Pn**	**18 47 40.9**	**-0.9**
BALY	**Balya**	**1.26**	**76**	P	**Pn**	**18 47 40.9**	**-0.9**
ZEY	**˙zmir**	**1.27**	**163**	*i* P	**Pg**	**18 47 42.6**	**+0.3**
ZEY				*i* S	**Sn**	**18 48 00.5**	**+1.5**
ERIK	**Erikli-Kesan**	**1.27**	**17**	PN	**Pg**	**18 47 42.0**	**-0.4**
ERIK	**Erikli-Kesan**	**1.27**	**17**	*e*Pn	**Pg**	**18 47 42.0**	**-0.4**
ENEZ	**Enez**	**1.29**	**4**	PN	**Pg**	**18 47 42.3**	**-0.4**
ENEZ	**Enez**	**1.29**	**4**	*e*Pn	**Pg**	**18 47 42.3**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.31**	**93**	*i* P	**Pg**	**18 47 43.4**	**+0.3**
STEP				*i* S	**Sn**	**18 48 02.2**	**+2.1**
STEP	**BALIKESIR_Sava**	**1.31**	**93**	P	**Pg**	**18 47 43.4**	**+0.3**
STEP				S	**Sn**	**18 48 02.2**	**+2.1**
KRBG	**Karabiga-Canak**	**1.35**	**46**	PN	**Pn**	**18 47 43.1**	**0.0**
KRBG	**Karabiga-Canak**	**1.35**	**46**	*e*Pn	**Pn**	**18 47 43.1**	**0.0**
BALB	**Balikesir**	**1.44**	**82**	PN	**Pn**	**18 47 44.4**	**+0.1**
BALB	**Balikesir**	**1.44**	**82**	*e*Pn	**Pn**	**18 47 44.4**	**+0.1**
ALN	**Alexandroupoli**	**1.44**	**0**	PN	**Pb**	**18 47 44.9**	**-0.2**
ALN	**Alexandroupoli**	**1.44**	**0**	P	**Pn**	**18 47 44.5**	**+0.1**
ALN				S	**Sn**	**18 48 03.1**	**-0.3**
ALN				AML	AML	18 48 04.2	
	comp=E,148μm,0.4s						
ALN				AML	AML	18 48 04.8	
	comp=N,107μm,0.6s						
ALN	**Alexandroupoli**	**1.44**	**0**	P	**Pn**	**18 47 44.4**	**+0.1**
ALN	**Alexandroupoli**	**1.44**	**0**	*e*Pn	**Pb**	**18 47 44.9**	**-0.2**
ALN				S	**Sb**	**18 48 03.5**	**0.0**
ALN	**Alexandroupoli**	**1.44**	**0**	P	**Pn**	**18 47 43.7**	**-0.6**
ALN				S	**Sn**	**18 48 02.9**	**-0.5**
KESN	**Edirne-Kesan**	**1.46**	**20**	*i* P	**Pg**	**18 47 48.4**	**+2.3**
KESN				*i* S	**Sg**	**18 48 05.3**	**+0.3**
KESN	**Edirne-Kesan**	**1.46**	**20**	P	**Pg**	**18 47 48.4**	**+2.3**
KESN				S	**Sg**	**18 48 05.3**	**+0.3**
DGB	**˙zmir**	**1.55**	**154**	*i* P	**Pg**	**18 47 47.2**	**-0.5**
EDC	**Edincik**	**1.67**	**57**	PN	**Pn**	**18 47 47.8**	**+0.4**
EDC	**Edincik**	**1.67**	**57**	*e*Pn	**Pn**	**18 47 47.8**	**+0.4**
SBT3	**Marmara-Eregli**	**2.06**	**46**	PN	**Pn**	**18 47 53.2**	**+0.5**
SBT3	**Marmara-Eregli**	**2.06**	**46**	*e*Pn	**Pn**	**18 47 53.2**	**+0.5**
ARMT	**Armutlu**	**2.44**	**62**	PN	**Pn**	**18 47 58.7**	**+0.7**
ARMT	**Armutlu**	**2.44**	**62**	*e*Pn	**Pn**	**18 47 58.7**	**+0.7**
EDRB	**Edirne**	**2.45**	**13**	PN	**Pn**	**18 47 58.9**	**+0.7**
EDRB	**Edirne**	**2.45**	**13**	*e*Pn	**Pn**	**18 47 58.9**	**+0.7**
CTKS	**Kestanelik-??a**	**2.60**	**46**	PN	**Pn**	**18 48 01.0**	**+0.8**
CTKS	**Kestanelik-??a**	**2.60**	**46**	*e*Pn	**Pn**	**18 48 01.0**	**+0.8**
BUY	**Buyukada**	**2.75**	**58**	PN	**Pn**	**18 48 02.9**	**+0.7**
BUY	**Buyukada**	**2.75**	**58**	*e*Pn	**Pn**	**18 48 02.9**	**+0.7**
KLYT	**Kilyos**	**2.92**	**51**	PN	**Pn**	**18 48 05.5**	**+0.9**
KLYT	**Kilyos**	**2.92**	**51**	*e*Pn	**Pn**	**18 48 05.5**	**+0.9**

*ISCJB **19** 18:49:21.5±0.8, 9˚.29S±0˚.06×124˚.93E±0˚.05, h10km, mb3.4/2, MS2.9/1, Error ellipse: s-maj=9.4km s-min=7.2km az=169.0*
*IDC **19** 18:49:21.7±1.4, 9˚.20S×125˚.01E, h0km, mb3.2/2, mb1 3.7/5, mb1mx3.5/49, mbtmp3.5/5, ML3.9/3, MS2.9/1, Ms1 3.1/1, ms1mx2.3/20, Error ellipse: s-maj=37.7km s-min=22.6km az=84.0*
*DJA **19** 18:49:27.2±0.5, 9˚.5S×124˚.12˚.5E±˚, h10km, M3.4/4, MLv3.4/4*

ISC 19 18:49:24.2±1.3, **9˚.36S**±0˚.09×**124˚.84E**±0˚.08, **h10**km, **n10**, σ0^{s}**69**/**11**, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.69**	**235**	P	**Pg**	**18 49 36.7**	**-0.8**
SOEI				S	**Sg**	**18 49 46.0**	**-0.5**
BATI	**Baumata**	**1.43**	**234**	Pn	**Pg**	**18 49 52.0**	**+0.3**
BATI	64nm,0.3s,baz=152,slow=4.9,SNR=54						
				Sn	**Sg**	**18 50 10.7**	**+0.4**
	43nm,0.3s,baz=53,slow=20,SNR=18						
BATI	**Baumata**	**1.43**	**234**	P	**Pb**	**18 49 51.7**	**+0.7**
BATI				S	**Sg**	**18 50 09.4**	**-0.9**
MMRI	**Maumere**	**2.67**	**285**	P	**Pn**	**18 50 08.1**	**+0.8**
MMRI				S	**Sn**	**18 50 39.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**8.72**	**175**	Pn	**Pn**	**18 51 30.6**	**+0.2**
	2.0nm,0.3s,baz=358,slow=11,SNR=25						
FITZ				Sn	Sn	18 53 02.9	-6.0
	1.3nm,0.3s,baz=91,slow=8.8,SNR=8.1						
WRA	**Warramunga Arr**	**13.96**	**140**	Pn	Pn	18 52 41.8	-0.5
	0.5nm,0.3s,baz=317,slow=12,SNR=33						
WRA				Sn	Sn	18 55 08.6	-8.9
	0.3nm,0.3s,baz=316,slow=25,SNR=4.5						
ASAR	**Alice Springs**	**16.66**	**150**	Pn	**Pn**	**18 53 17.8**	**-0.1**
	0.2nm,0.3s,baz=321,slow=12,SNR=15						
ASAR				Sn	Sn	18 56 15.2	-7.9
	0.1nm,0.3s,baz=315,slow=19,SNR=3.7						
CMAR	**Chiang Mai Arr**	**37.65**	**317**	LR	LR	19 14 47.4	
	comp=Z,16nm,18.2s,baz=145,slow=40						
SONM	**Songino Array**	**59.25**	**346**	P	P	18 59 23.9	-2.1
	0.2nm,0.6s,baz=162,slow=5.7,SNR=2.8						
MKAR	**Makanchi Array**	**67.54**	**330**	P	**P**	**19 00 20.0**	**-0.7**
	0.2nm,0.5s,baz=140,slow=5.7,SNR=3.9						

*IDC **19** 18:50:36.3±2.8, 35˚.18N×141˚.19E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/63, mbtmp3.2/3, ML2.3/1, Error ellipse: s-maj=83.2km s-min=27.4km az=64.0*
*ISCJB **19** 18:50:37.6±1.3, 35˚.36N±0˚.05×141˚.4E±0˚.1, h25km, mb3.5/3, Error ellipse: s-maj=15.8km s-min=7.3km az=173.1*
*JMA **19** 18:50:40.0±0.2, 35˚.41N×141˚.19E, h42km±2km, M2.4*

ISC 19 18:50:39.3±1.5, **35˚.36N**±0˚.06×**141˚.3E**±0˚.1, **h25**km, **n16**, σ0^{s}**87**/**11**, **mb3.8**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.50**	**313**	P	**Pb**	**18 50 49.6**	**0.0**
CHOJ				*e*S	**Sb**	**18 50 56.0**	**-0.5**
BSO1	**Boso 1**	**0.76**	**201**	P	**Pn**	**18 50 54.3**	**+0.4**
BSO3	**Boso 3**	**0.86**	**230**	P	**Pn**	**18 50 55.3**	**-0.3**
BSO4	**Boso 4**	**0.88**	**245**	P	**Pn**	**18 50 55.5**	**-0.5**
JHO	**Hitachi**	**1.38**	**335**	P	**Pn**	**18 51 02.4**	**-0.7**
JHJ	**Hachijo jima 2**	**2.57**	**210**	Sn	**Sn**	**18 51 49.5**	**-0.3**
	10nm,0.3s,baz=90,slow=20,SNR=2.4						
MJAR	**Matsushiro Arr**	**2.78**	**296**	Pn	**Pn**	**18 51 23.3**	**+1.1**
	0.5nm,0.3s,baz=120,slow=20,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**27.41**	**118**	T	T	19 25 26.1	
	baz=334						
H11N1	**WAKE ISLAND Hy**	**27.41**	**118**	T	T	19 25 26.8	
	baz=334						
H11N3	**WAKE ISLAND Hy**	**27.42**	**118**	T	T	19 25 24.7	
	baz=334						
H11S3	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	19 26 15.6	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	19 26 17.2	
	baz=310						
H11S2	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	19 26 15.8	
	baz=310						
MKAR	**Makanchi Array**	**44.95**	**304**	P	**P**	**18 58 51.5**	**-0.8**
	0.1nm,0.6s,baz=76,slow=7.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**46.98**	**309**	P	**P**	**18 59 09.8**	**+1.7**
	0.4nm,0.3s,baz=82,slow=7.6,SNR=1.9						
WRA	**Warramunga Arr**	**55.40**	**188**	P	**P**	**19 00 11.2**	**-0.3**
	1.0nm,1.1s,baz=5.6,slow=7.6,SNR=3.2						

MAN 19 18:51:01, 12˚.45N×123˚.61E, h20km, mb4.7, ML3.6, MS3.5, 5C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.09**	**174**	*i*P	Pb	18 51 05.4	+0.5
MMPH				*i* S	Sb	18 51 07.0	-0.4
RCP	**Roxas**	**1.22**	**224**	*e*P	Pn	18 51 23.1	+0.1
RCP				*e*S	Sn	18 51 40.2	+1.3
PVCP	**Virac**	**1.26**	**25**	*e*P	Pn	18 51 23.6	+0.2
OTRP	**Odiongan**	**1.56**	**267**	*e*P	Pn	18 51 27.2	-0.4
OTRP				*e*S	Sn	18 51 47.2	-0.1
OCLP	**Ormoc**	**1.69**	**145**	*e*P	Pn	18 51 29.8	+0.4
OCLP				*e*S	Sn	18 51 51.1	+0.5
GQP	**Guinayangan**	**1.84**	**322**	*i*P	Pn	18 51 32.5	+1.0
GQP				*i* S	Sn	18 51 54.6	+0.4
PLP	**Palo**	**1.84**	**133**	*e*P	Pn	18 51 31.3	-0.2
PLP				*e*S	Sn	18 51 54.4	+0.1
LLP	**Lapu-Lapu**	**2.14**	**171**	*e*P	Pn	18 51 36.5	+0.9
LLP				*e*S	Sn	18 52 03.3	+1.6
JAP	**San Jose, Anti**	**2.35**	**224**	*e*P	Pb	18 51 42.0	-0.7
SJMP	**San Jose**	**2.44**	**271**	*e*P	Pn	18 51 40.7	+1.0
MSLP	**Maasin**	**2.60**	**152**	*e*P	Pn	18 51 43.9	+1.9
MSLP				*e*S	Sb	18 52 16.1	-2.4
SNPH	**Sibulan**	**3.10**	**187**	*i* P	Pn	18 51 49.2	+0.3

*DDA **19** 19:14:58.8, 38˚.63N×37˚.42E, h7km, Md2.5*
*ISK **19** 19:14:58.6, 38˚.64N×37˚.53E, h5km, ML2.2/3*
*ISCJB **19** 19:14:59.2±0.5, 38˚.61N±0˚.03×37˚.44E±0˚.04, h7km±5km, Error ellipse: s-maj=5.8km s-min=4.7km az=43.6*
*CSEM **19** 19:14:59.1±0.3, 38˚.59N×37˚.44E, h5km, ML2.2, Error ellipse: s-maj=7.0km s-min=6.1km az=57.0*

ISC 19 19:14:59.1±0.9, **38˚.62N**±0˚.03×**37˚.45E**±0˚.03, **h6**km±6km, **n18**, σ0^{s}**60**/**34**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.05**	**153**	PG	**Pg**	**19 15 00.6**	**-0.1**
DARE				SG	**Sg**	**19 15 02.3**	**+0.5**
DARE	**Darende-Malaty**	**0.05**	**153**	*e*Pg	**Pg**	**19 15 00.6**	**-0.1**
DARE				*e*Sg	**Sg**	**19 15 02.3**	**+0.5**
CUGUR	**Gurin_S˘VAS**	**0.18**	**307**	*i* P	**Pg**	**19 15 02.4**	**-0.3**
CUGUR				*i* S	**Sg**	**19 15 04.7**	**-0.5**
CUGUR	**Gurin_S˘VAS**	**0.18**	**307**	P	**Pg**	**19 15 02.4**	**-0.3**
CUGUR				S	**Sg**	**19 15 04.7**	**-0.5**
ELBS	**KAHRAMANMARAS**	**0.39**	**221**	*i* P	**Pg**	**19 15 06.9**	**+0.3**
ELBS				*i* S	**Sg**	**19 15 12.1**	**+0.4**
ELBS	**KAHRAMANMARAS**	**0.39**	**221**	P	**Pg**	**19 15 06.9**	**+0.3**
ELBS				S	**Sg**	**19 15 12.1**	**+0.4**
HEKM	**Malatya_Hekimh**	**0.47**	**56**	*i* P	**Pg**	**19 15 08.8**	**+0.5**
HEKM				*i* S	**Sb**	**19 15 17.9**	**+0.6**
HEKM	**Malatya_Hekimh**	**0.47**	**56**	P	**Pg**	**19 15 08.8**	**+0.5**
HEKM				S	**Sb**	**19 15 17.9**	**+0.6**
AKCD	**Akcadag**	**0.49**	**131**	*i* P	**Pg**	**19 15 08.9**	**+0.3**
AKCD				*i* S	**Sb**	**19 15 17.7**	**0.0**
AKCD	**Akcadag**	**0.49**	**131**	P	**Pg**	**19 15 08.9**	**+0.3**
AKCD				S	**Sb**	**19 15 17.7**	**0.0**
CUKAN	**kangal_SIVAS**	**0.70**	**1**	*i* P	**Pn**	**19 15 14.8**	**-0.9**
CUKAN				*i* S	**Sg**	**19 15 22.2**	**+0.5**
CUKAN	**kangal_SIVAS**	**0.70**	**1**	P	**Pn**	**19 15 14.8**	**-0.9**
CUKAN				S	**Sg**	**19 15 22.2**	**+0.5**
MALT	**Malatya**	**0.82**	**111**	PG	**Pg**	**19 15 13.9**	**-1.0**
MALT				SG	**Sg**	**19 15 25.3**	**-0.3**
MALT	**Malatya**	**0.82**	**111**	*e*Pg	**Pg**	**19 15 13.9**	**-1.0**
MALT				*e*Sg	**Sg**	**19 15 25.3**	**-0.3**
SVSK	**Karacayir**	**1.34**	**345**	PN	**Pg**	**19 15 24.7**	**-0.2**
SVSK				SN	**Sn**	**19 15 43.7**	**+1.1**
SVSK	**Karacayir**	**1.34**	**345**	*e*Pn	**Pg**	**19 15 24.7**	**-0.2**
SVSK				*e*Sn	**Sn**	**19 15 43.7**	**+1.1**
PTK	**Pertek**	**1.54**	**79**	PN	**Pn**	**19 15 26.6**	**-0.7**
PTK	**Pertek**	**1.54**	**79**	*e*Pn	**Pn**	**19 15 26.6**	**-0.7**

*IDC **19** 19:19:06.2±2.8, 17˚.71S×167˚.21E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/46, mbtmp3.7/6, ML3.3/1, MS3.5/5, Ms1 3.5/5, ms1mx2.9/38, Error ellipse: s-maj=63.8km s-min=27.6km az=96.0*
*ISCJB **19** 19:19:08.0±2.1, 17˚.76S±0˚.09×167˚.1E±0˚.3, h19km, mb3.6/5, MS3.3/3, Error ellipse: s-maj=46.5km s-min=11.4km az=174.2*

ISC 19 19:19:08.9±2.5, **17˚.8S**±0˚.1×**167˚.3E**±0˚.4, **h19**km, **n10**, σ0^{s}**59**/**7**, **mb3.6**/5, **MS3.3**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.37**	**190**	Pn	**Pn**	**19 20 13.9**	**-0.5**
	1.7nm,0.3s,baz=10,slow=11,SNR=9.1						
DZM				Sn	**Sn**	**19 21 05.6**	**+0.7**
	3.5nm,0.3s,baz=326,slow=23,SNR=6.1						
HNR	**Honiara**	**10.90**	**318**	LR	LR	19 25 07.2	
	comp=Z,69nm,20.1s,baz=206,slow=33						
RAO	**Raoul Island**	**17.75**	**133**	LR	LR	19 28 34.1	
	comp=Z,1μm,20.2s,baz=137,slow=32						
STKA	**Stephens Creek**	**27.13**	**234**	P	**P**	**19 24 51.2**	**+0.2**
	0.8nm,0.5s,baz=67,slow=7.7,SNR=2.9						
WRA	**Warramunga Arr**	**31.22**	**261**	P	**P**	**19 25 27.4**	**0.0**
	0.6nm,0.9s,baz=85,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**31.71**	**254**	P	**P**	**19 25 31.1**	**-0.7**
	1.2nm,0.6s,baz=82,slow=8.5,SNR=15						
ASAR				LR	LR	19 37 18.7	
	comp=Z,44nm,20.8s,baz=88,slow=34						
GUMO	**Guam**	**38.19**	**323**	LR	LR	19 39 53.3	
	comp=Z,50nm,21.0s,baz=106,slow=33						
FITZ	**Fitzroy Crossi**	**39.55**	**263**	LR	LR	19 41 55.5	
	comp=Z,54nm,19.6s,baz=95,slow=35						
CMAR	**Chiang Mai Arr**	**76.19**	**295**	P	**P**	**19 30 56.9**	**+0.5**
	0.3nm,0.6s,baz=126,slow=4.6,SNR=3.7						
SONM	**Songino Array**	**84.92**	**324**	P	**P**	**19 31 42.8**	**0.0**
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.5						

*ISCJB **19** 19:20:18.0±0.4, 67˚.17N±0˚.02×20˚.58E±0˚.07, h0km, mb3.5/2, Error ellipse: s-maj=4.0km s-min=2.6km az=5.2*
*NAO **19** 19:20:19.5±0.9, 67˚.13N×20˚.82E, ML3.3*
*HEL **19** 19:20:19.6, 67˚.18N×20˚.63E, h0km, ML2.2, Explosion*
*IDC **19** 19:20:19.5±0.8, 67˚.18N×20˚.81E, h0km, mb3.5/2, mb1 3.4/7, mb1mx3.1/73, mbtmp3.4/7, ML2.8/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/49, Error ellipse: s-maj=13.6km s-min=5.5km az=116.0*
*UPP **19** 19:20:19.2, 67˚.15N×20˚.62E, h0km, ML1.7, Suspected Mining explosion.*
*CSEM **19** 19:20:19.6±0.2, 67˚.17N×20˚.63E, h2km, ML2.2, Error ellipse: s-maj=4.4km s-min=2.8km az=87.0, Mining explosion.*
*BER **19** 19:20:21.9±2.7, 67˚.14N×20˚.78E, h0km, ML2.8, ML3.3(NAO), Suspected explosion*

ISC 19 19:20:18.7±0.7, **67˚.16N**±0˚.02×**20˚.61E**±0˚.03, **h0**km, **n74**, σ1^{s}**35**/**117**, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.62**	**60**	P	**Pg**	**19 20 31.0**	**+0.5**
MASU				S	**Sg**	**19 20 38.9**	**+0.4**
MASU	**Masugnsbyn**	**0.62**	**60**	P	**Pg**	**19 20 31.0**	**+0.5**
MASU				S	**Sg**	**19 20 38.9**	**+0.4**
MASU	**Masugnsbyn**	**0.62**	**60**	*i* P	**Pg**	**19 20 31.0**	**+0.5**
MASU				*i* S	**Sg**	**19 20 38.9**	**+0.4**
RATU	**Laukkuluspa**	**0.77**	**330**	P	**Pg**	**19 20 34.0**	**+0.5**
RATU	**Laukkuluspa**	**0.77**	**330**	P

ARE0	**ARCESS Array S**	**3.00**	**35**	*e*P		**Pn**	**19 21 07.8**	**+0.4**
ARE0				*e*S		**Sn**	**19 21 44.0**	**0.0**
OUF	**Merijarvi**	**3.28**	**147**	P		**Pn**	**19 21 12.6**	**+1.4**
OUF	**Merijarvi**	**3.28**	**147**	*e*P		**Pn**	**19 21 12.6**	**+1.4**
	baz=327							
OUF				*e*SG		**Sg**	**19 22 01.8**	**-2.1**
UMAU	**Umeaa**	**3.29**	**179**	P		**Pn**	**19 21 13.0**	**+1.6**
UMAU				S		**Sn**	**19 21 53.0**	**+1.9**
UMAU	**Umeaa**	**3.29**	**179**	*e*P		**Pn**	**19 21 13.0**	**+1.6**
UMAU				*e*S		**Sn**	**19 21 53.0**	**+1.9**
VRF	**Varrio**	**3.52**	**76**	P		**Pn**	**19 21 15.8**	**+1.3**
VRF	**Varrio**	**3.52**	**76**	*e*P		**Pn**	**19 21 15.9**	**+1.3**
VRF				*e*SB		**Sb**	**19 22 05.5**	**+0.5**
MSF	**Maaselka**	**3.60**	**106**	P		**Pn**	**19 21 16.6**	**+0.9**
MSF	**Maaselka**	**3.60**	**106**	*e*P		**Pn**	**19 21 16.6**	**+0.9**
MSF				*e*SG		**Sb**	**19 22 09.2**	**+1.9**
KU6	**Riekki**	**3.88**	**103**	*e*P		**Pn**	**19 21 20.6**	**+1.1**
KU6				*e*S		**Sn**	**19 22 07.0**	**+1.4**
VAF	**Ylistaro**	**4.22**	**167**	P		**Pn**	**19 21 25.8**	**+1.6**
VAF				S		**Sn**	**19 22 14.9**	**+0.7**
VAF	**Ylistaro**	**4.22**	**167**	*e*P		**Pn**	**19 21 25.8**	**+1.6**
	baz=350							
VAF				*e*S		**Sn**	**19 22 14.9**	**+0.7**
FIA0	**FINESS Array S**	**6.21**	**155**	Pn		**Pn**	**19 21 52.8**	**+1.4**
	SNR=50							
FIA0				Lg		Lg	19 23 30.6	
	SNR=7.1							
FIA0	**FINESS Array S**	**6.21**	**155**	Pn		**Pn**	**19 21 52.9**	**+1.4**
	baz=347,slow=16							
FIA0				Sn		**Sn**	**19 23 00.6**	**-2.4**
	baz=343,slow=28							
FIA0				Lg		Lg	19 23 30.6	
	baz=348,slow=28							
FIA0	**FINESS Array S**	**6.21**	**155**	Pn		**Pn**	**19 21 52.9**	**+1.4**
	baz=347,slow=16							
FIA0				Sn		**Sn**	**19 23 00.6**	**-2.4**
	baz=343,slow=28							
FIA0				Lg		Lg	19 23 30.6	
	baz=348,slow=28							
FINES	**FINESS Array B**	**6.21**	**155**	Pn		**Pn**	**19 21 53.0**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=347,slow=12,SNR=16							
FINES				Sn		**Sn**	**19 23 01.7**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=342,slow=20,SNR=9.8							
FINES				Lg		Lg	19 23 33.9	
	comp=Z,2.1nm,0.3s,baz=341,slow=28,SNR=11							
FINES				LR		LR	19 24 03.0	
	comp=Z,64nm,18.4s,baz=218,slow=36							
NB2	**NORSAR Subarra**	**7.38**	**218**	Sn		**Sn**	**19 23 28.4**	**-3.7**
	baz=33,slow=28							
NB2				Lg		Lg	19 24 11.6	
	baz=31,slow=37							
NB2	**NORSAR Subarra**	**7.38**	**218**	Sn		**Sn**	**19 23 28.4**	**-3.7**
	baz=33,slow=28							
NB2				Lg		Lg	19 24 11.6	
	baz=31,slow=37							
NOA	**NORSAR Array B**	**7.38**	**218**	Pn		**Pn**	**19 22 08.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=30,slow=11,SNR=4.2							
NOA				Sn		**Sn**	**19 23 28.3**	**-3.7**
	comp=Z,0.8nm,0.3s,baz=32,slow=23,SNR=8.8							
NOA				Lg		Lg	19 24 10.5	
	comp=Z,1.5nm,0.3s,baz=38,slow=22,SNR=6.1							
NRA0	**NORESS Array S**	**7.58**	**216**	Pn		**Pn**	**19 22 10.4**	**+0.2**
	baz=18,slow=16							
NRA0				Sn		**Sn**	**19 23 32.4**	**-4.3**
	baz=33,slow=16							
NRA0				Lg		Lg	19 24 17.6	
	baz=17,slow=37							
NRA0	**NORESS Array S**	**7.58**	**216**	Pn		**Pn**	**19 22 10.4**	**+0.2**
	baz=18,slow=16							
NRA0				Sn		**Sn**	**19 23 32.4**	**-4.3**
	baz=33,slow=16							
NRA0				Lg		Lg	19 24 17.6	
	baz=17,slow=37							
HFS	**Hagfors**	**7.69**	**207**	Pn		**Pn**	**19 22 12.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=17,slow=12,SNR=6.8							
HFS				Sn		**Sn**	**19 23 37.8**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=31,slow=21,SNR=9.1							
HFS				Lg		Lg	19 24 19.5	
	comp=Z,0.8nm,0.3s,baz=29,slow=30,SNR=3.2							
HFS	**Hagfors**	**7.69**	**207**	Pn		**Pn**	**19 22 12.0**	**+0.2**
	baz=11,slow=14							
HFS				Sn		**Sn**	**19 23 37.1**	**-2.3**
	baz=27,slow=22							
HFS				Lg		Lg	19 24 19.1	
	baz=25,slow=28							
HFS	**Hagfors**	**7.69**	**207**	Pn		**Pn**	**19 22 12.0**	**+0.2**
	baz=11,slow=14							
HFS				Sn		**Sn**	**19 23 37.1**	**-2.3**
	baz=27,slow=22							
HFS				Lg		Lg	19 24 19.1	
	baz=25,slow=28							
AKASG	**Malin Array Be**	**17.06**	**161**	P		**Pn**	**19 24 18.4**	**0.0**
	comp=Z,1.4nm,0.3s,baz=346,slow=12,SNR=6.6							
AKTO	**Aktyubinsk**	**25.03**	**113**	P		**P**	**19 25 45.4**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=311,slow=7.3,SNR=4.6							
BVAR	**Borovoye Array**	**27.63**	**96**	P		**P**	**19 26 06.4**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=349,slow=5.9,SNR=2.5							

IDC 19 19:21:39.7±4.4, 18°.02S×166°.98E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/45, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=82.8km s-min=35.8km az=55.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.07**	**187**	Pn	Pn	19 22 43.3	0.0
	1.4nm,0.3s,baz=12,slow=14,SNR=4.1						
DZM				Sn	Sn	19 23 34.1	+2.4
	3.7nm,0.3s,baz=129,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**30.90**	**261**	P	P	19 27 58.9	+0.6
	0.4nm,1.0s,baz=96,slow=6.1,SNR=3.3						
ASAR	**Alice Springs**	**31.37**	**254**	P	P	19 28 01.8	-0.7
	0.7nm,0.6s,baz=80,slow=8.4,SNR=4.7						
VNDA	**Vanda**	**59.59**	**181**	P	P	19 31 44.8	0.0
	0.9nm,0.4s,baz=30,slow=7.0,SNR=3.0						

NIED ***19*** *19:22:00, 39°.10N×142°.50E, h50km, Mw3.9 Best double couple: M0 7.40000×10^14 NP1:φs 122.00000°, δ32.00000°, λ -37.00000°. NP2:φs 245.00000°, δ72.00000°, λ -116.00000°.*

JMA ***19*** *19:22:48.2±0.1, 39°.11N×142°.46E, h33km±1km, M3.9*

JMA Felt I J1.

IDC ***19*** *19:22:54.6±2.4, 39°.00N×142°.36E, h85km±21km, mb3.5/9, mb1 3.5/11, mb1mx3.3/74, mbtmp3.8/11, MS2.7/1, Ms1 2.7/1, ms1mx2.2/51, Error ellipse: s-maj=23.2km s-min=13.4km az=108.0*

ISC 19 19:22:46.4±2.7, 39°.09N±0°.05×142°.48E±0°.09, h12km±15km, n29, σ1°31/30, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.63**	**269**	P	**Pn**	**19 23 00.3**	**-0.9**
OFUJ				*e*S	**Sb**	**19 23 08.8**	**+0.7**
MIYJ	**Miyakonagasawa**	**0.70**	**314**	P	**Pb**	**19 23 01.1**	**+0.5**
MIYJ				*e*S	**Sg**	**19 23 10.1**	**+0.7**
JTH	**Tanohata**	**0.97**	**331**	P	**Pb**	**19 23 05.1**	**-0.1**
JTH				*e*S	**Sb**	**19 23 17.5**	**-0.4**
JMK	**Ichinoseki**	**0.99**	**262**	P	**Pn**	**19 23 05.7**	**-0.4**
JMK				*e*S	**Sg**	**19 23 18.2**	**-0.3**
JOM	**Ohasama**	**1.00**	**293**	P	**Pn**	**19 23 05.9**	**-0.3**
JOM				*e*S	**Sg**	**19 23 18.7**	**0.0**
JIO	**Ouri**	**1.09**	**235**	P	**Pn**	**19 23 06.6**	**-0.9**
JIO				*e*S	**Sb**	**19 23 19.5**	**-1.8**
JKZ	**Kuzumaki**	**1.26**	**315**	P	**Pn**	**19 23 09.9**	**0.0**
JKZ				*e*S	**Sb**	**19 23 25.8**	**-0.5**
JRG	**Rokugo**	**1.47**	**283**	P	**Pn**	**19 23 13.1**	**-0.5**
JANG	**Nango**	**1.48**	**330**	P	**Pn**	**19 23 12.9**	**0.0**
JOU	**Okura**	**1.59**	**243**	P	**Pn**	**19 23 14.7**	**-1.1**
MJAR	**Matsushiro Arr**	**4.23**	**234**	P	**Pn**	**19 23 54.1**	**+3.3**
	1.0nm,0.3s,baz=40,slow=11,SNR=16						
MJAR				S	**Sn**	**19 24 42.3**	**+2.2**
	0.2nm,0.3s,baz=81,slow=40,SNR=2.8						
MAT	**Matsushiro**	**4.23**	**234**	P	**Pn**	**19 23 54.1**	**+3.4**
MAT				*e*S	**Sn**	**19 24 41.5**	**+1.4**
ASAJ	**Asahikawa**	**5.02**	**1**	P	Pb	19 24 09.3	-4.9
	1.8nm,0.3s,baz=207,slow=9.0,SNR=3.1						
KSRS	**Korea Array**	**11.56**	**266**	LR	LR	19 29 36.4	
	comp=Z,39nm,18.6s,baz=45,slow=35						
SEY	**Seymchan**	**24.61**	**11**	P	**P**	**19 28 07.6**	**+1.4**
	2.3nm,0.7s,baz=186,slow=10,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**28.57**	**125**	T	T	19 59 08.0	
	baz=318,slow=75,SNR=62						
H11N1	**WAKE ISLAND Hy**	**28.58**	**126**	T	T	19 59 08.6	
	baz=318,slow=75,SNR=104						
H11N3	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	19 59 20.4	
	baz=318,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	20 00 10.8	
	baz=319,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	20 00 18.0	
	baz=319,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**29.37**	**127**	T	T	20 00 23.4	
	baz=319,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**41.18**	**311**	P	**P**	**19 30 30.6**	**+0.1**
	0.9nm,0.5s,baz=84,slow=6.0,SNR=4.3						
MKAR	**Makanchi Array**	**43.77**	**300**	P	**P**	**19 30 51.2**	**-0.5**
	0.9nm,0.8s,baz=85,slow=9.1,SNR=9.4						
KURBB	**Kurchatov Arra**	**45.43**	**307**	P	**P**	**19 31 04.2**	**-0.6**
	2.4nm,0.6s,baz=80,slow=8.4,SNR=12						
ILAR	**Eielson Array**	**47.31**	**33**	P	**P**	**19 31 19.9**	**+0.4**
	0.4nm,0.8s,baz=259,slow=6.0,SNR=4.6						
BVAR	**Borovoye Array**	**49.83**	**311**	P	**P**	**19 31 38.5**	**-0.5**
	0.8nm,0.6s,baz=71,slow=7.7,SNR=8.4						
WRA	**Warramunga Arr**	**59.22**	**189**	P	**P**	**19 32 45.9**	**-1.5**
	0.8nm,0.5s,baz=6.6,slow=7.0,SNR=8.5						
ASAR	**Alice Springs**	**62.95**	**189**	P	**P**	**19 33 11.8**	**-1.0**
	0.5nm,0.8s,baz=5.7,slow=10,SNR=4.7						
AKASG	**Malin Array Be**	**73.18**	**322**	P	**P**	**19 34 16.0**	**-0.8**
	0.3nm,0.4s,baz=44,slow=6.8,SNR=3.8						

GUC ***19*** *19:29:22.5±0.6, 22°.18S×68°.74W, h130km±5km, ML3.8*

IDC ***19*** *19:29:34.9±9.0, 21°.28S×67°.92W, h195km±62km, mb3.5/3, mb1 3.5/5, mb1mx3.2/39, mbtmp3.9/5, Error ellipse: s-maj=108.4km s-min=29.9km az=10.0*

ISC 19 19:29:20.1±1.1, 22°.32S±0°.07×68°.31W±0°.10, h104km±12km, n14, σ2s06°/23, mb3.9/3, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.00**	**301**	↑*i*P	**Pn**	**19 29 43.0**	**+2.0**
PB09				*i* S	**Sn**	**19 29 58.2**	**+1.4**
PB09				IAML		19 29 58.6	
	comp=N,10μm,0.9s						
PB06	**IPOC Station P**	**1.23**	**251**	↑*i*P	**Pn**	**19 29 45.1**	**+1.6**
PB06				*i* S	**Sn**	**19 30 02.6**	**+1.5**
PB06				IAML		19 30 03.8	
	comp=N,2μm,0.2s						
PB07	**IPOC Station P**	**1.57**	**292**	↑*i*P	**Pn**	**19 29 47.9**	**+0.3**
PB07				*i* S	**Sn**	**19 30 06.7**	**-1.8**
PB07				IAML		19 30 07.0	
	comp=N,3μm,0.3s						
PB01	**IPOC Station P**	**1.67**	**319**	↓*i*P	**Pn**	**19 29 49.2**	**+0.5**
PB01				*i* S	**Sn**	**19 30 09.5**	**-1.1**
PB01				IAML		19 30 10.2	
	comp=N,1μm,0.5s						
PB04	**IPOC Station P**	**1.70**	**269**	↑*i*P	**Pn**	**19 29 49.4**	**+0.2**
PB04				*i* S	**Sn**	**19 30 10.0**	**-1.3**
PB04				IAML		19 30 11.6	
	comp=N,1μm,0.3s						
PB02	**IPOC Station P**	**1.77**	**304**	↑*i*P	**Pn**	**19 29 50.1**	**+0.1**
PB02				*i* S	**Sn**	**19 30 10.6**	**-2.3**
PB02				IAML		19 30 10.9	
	comp=N,2μm,0.4s						
PB08	**IPOC Station P**	**2.30**	**340**	↓*i*P	**Pn**	**19 29 59.1**	**+2.0**
PB08				*i* S	**Sn**	**19 30 26.5**	**+1.1**
PB08				IAML		19 30 27.4	
	comp=E,368nm,0.7s						
PB10	**IPOC Station P**	**2.39**	**240**	↑*i*P	**Pn**	**19 29 57.7**	**-0.1**
PB10				*i* S	**Sn**	**19 30 25.1**	**-1.6**
PB11	**IPOC Station P**	**2.83**	**333**	*e*P	**Pn**	**19 30 04.0**	**+0.1**
LPAZ	**La Paz**	**6.00**	**2**	P	**Pn**	**19 30 50.1**	**+3.1**
	comp=E,0.6nm,0.3s,baz=189,slow=4.5,SNR=7.6						
SIV	**San Ignacio**	**9.29**	**49**	P	**Pn**	**19 31 31.8**	**+0.6**
	comp=E,1.4nm,0.3s,baz=250,slow=10,SNR=33						
SIV				S	**Sn**	**19 33 07.8**	**-6.2**
	comp=E,0.2nm,0.3s,baz=249,slow=18,SNR=2.3						
DBIC	**Dimbokro**	**68.44**	**73**	P	**P**	**19 40 12.6**	**+1.2**
	comp=E,2.4nm,0.9s,baz=231,slow=6.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P	**P**	**19 41 03.3**	**+0.7**
	comp=E,0.9nm,0.5s,baz=259,slow=5.5,SNR=14						
YKA	**Yellowknife Ar**	**92.14**	**340**	P	**P**	**19 42 17.2**	**0.0**
	comp=E,0.2nm,0.5s,baz=131,slow=4.5,SNR=5.9						

IDC ***19*** *19:30:03.5±2.4, 9°.12S×117°.24E, h0km, mb3.0/2, mb1 3.4/4, mb1mx3.2/55, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=99.9km s-min=27.9km az=44.0*

ISCJB ***19*** *19:30:19.2±0.8, 8°.9S±0°.1×118°.34E±0°.08, h150km, mb2.8/1, Error ellipse: s-maj=20.8km s-min=7.8km az=25.6*

DJA ***19*** *19:30:21.6±0.7, 9°.5S±6°×111°.8E±°, h113km±6km, M3.2/7, MLv3.2/7*

ISC 19 19:30:20.1±1.1, 8°.9S±0°.2×118°.30E±0°.08, h150km, n9, σ2s12/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.52**	**276**	P	**Pn**	**19 30 40.6**	**-1.0**
PLAI				S	**Sn**	**19 30 55.1**	**-2.8**
WBSI	**Waikabubak, Su**	**1.31**	**125**	P	**Pn**	**19 30 47.6**	**-0.2**
WBSI				S	**Sn**	**19 31 07.3**	**-1.7**
BASI	**Baing, Sumba**	**2.61**	**121**	P	**Pn**	**19 31 03.8**	**+1.2**
IGBI	**Denpasar**	**3.12**	**271**	P	**Pn**	**19 31 10.7**	**+1.7**
BATI	**Baumata**	**5.45**	**104**	Pn	**Pn**	**19 31 40.2**	**+0.6**
	2.6nm,0.3s,baz=291,slow=8.6,SNR=5.2						
BATI				Sn	**Sn**	**19 32 39.9**	**-1.7**
	1.8nm,0.3s,baz=127,slow=5.5,SNR=2.7						
FITZ	**Fitzroy Crossi**	**11.61**	**143**	Sn	**Sn**	**19 35 07.1**	**-2.6**
	0.2nm,0.3s,baz=206,slow=17,SNR=1.4						
WRA	**Warramunga Arr**	**19.01**	**127**	P	**Pn**	**19 34 33.3**	**+0.4**
	0.1nm,0.3s,baz=302,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**20.95**	**136**	P	**P**	**19 34 55.2**	**+3.7**
	0.3nm,0.4s,baz=310,slow=9.2,SNR=7.0						
MKAR	**Makanchi Array**	**64.04**	**333**	P	**P**	**19 40 37.4**	**-0.4**
	0.1nm,0.6s,baz=134,slow=8.3,SNR=1.7						

ATA ***19*** *19:37:58.7±1.2, 38°.74N×43°.22E, h15km±14km, ML2.7, MW2.6*

ISK ***19*** *19:37:58.8, 38°.73N×43°.13E, h5km, ML2.5/5*

ISCJB ***19*** *19:37:60.0±0.4, 38°.73N±0°.02×43°.17E±0°.03, h10km, Error ellipse: s-maj=3.4km s-min=3.2km az=20.5*

DDA ***19*** *19:37:60.0, 38°.74N×43°.21E, h7km, Ml2.8*

CSEM ***19*** *19:37:59.6±0.2, 38°.74N×43°.17E, h10km, ML2.5, Error ellipse: s-maj=4.2km s-min=3.8km az=118.0*

ISC 19 19:37:59.7±0.8, 38°.75N±0°.02×43°.18E±0°.02, h10km, n38, σ1°35/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.22**	**132**	PG	**Pg**	**19 38 05.4**	**+1.0**
VANB	**Van**	**0.22**	**132**	*e*Pg	**Pg**	**19 38 05.4**	**+1.0**
TVAN	**Van**	**0.28**	**140**	*i* P	**Pg**	**19 38 05.2**	**-0.3**
TVAN				*i* S	**Sb**	**19 38 10.3**	**-1.6**
TVAN	**Van**	**0.28**	**140**	P	**Pg**	**19 38 05.2**	**-0.3**
TVAN				S	**Sb**	**19 38 10.3**	**-1.6**
ERCV	**ERCIS-VAN**	**0.30**	**25**	PG	**Pb**	**19 38 05.9**	**-1.4**
ERCV	**ERCIS-VAN**	**0.30**	**25**	*e*Pg	**Pb**	**19 38 05.9**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.36**	**280**	*i* P	**Pb**	**19 38 07.6**	**-0.7**
ADCV				*i* S	**Sb**	**19 38 14.5**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.36**	**280**	P	**Pb**	**19 38 07.6**	**-0.7**
ADCV				S	**Sb**	**19 38 14.5**	**+0.4**
VMUR	**Van-Muradiye**	**0.39**	**52**	*i* P	**Pb**	**19 38 08.1**	**-0.8**
VMUR				*i* S	**Sb**	**19 38 15.7**	**+0.6**
VMUR	**Van-Muradiye**	**0.39**	**52**	P	**Pb**	**19 38 08.1**	**-0.8**
VMUR				S	**Sb**	**19 38 15.6**	**+0.6**
GEVA	**Gevas**	**0.44**	**192**	*e*P	**Pg**	**19 38 07.7**	**-0.8**
GEVA				*e*S	**Sb**	**19 38 15.6**	**-0.9**
GEVA				IAML		19 38 19.5	
	comp=Z,41nm,0.5s						
GEVA	**Gevas**	**0.44**	**192**	*i* P	**Pg**	**19 38 08.2**	**-0.3**
GEVA				*i* S	**Sb**	**19 38 15.9**	**-0.6**
GEVA	**Gevas**	**0.44**	**192**	P	**Pg**	**19 38 08.1**	**-0.3**
GEVA				S	**Sb**	**19 38 15.9**	**-0.6**
CLDR	**Caldiran**	**0.70**	**55**	PG	**Pb**	**19 38 13.4**	**-0.8**
CLDR				SG	**Sb**	**19 38 24.2**	**+0.2**
CLDR	**Caldiran**	**0.70**	**55**	*i* P	**Pg**	**19 38 12.2**	**-1.2**
CLDR				*i* S	**Sb**	**19 38 23.7**	**-0.3**
CLDR	**Caldiran**	**0.70**	**55**	P	**Pg**	**19 38 12.1**	**-1.2**
CLDR	**Caldiran**	**0.70**	**55**	*e*Pg	**Pb**	**19 38 13.4**	**-0.8**
CLDR				S	**Sb**	**19 38 23.7**	**-0.3**
CLDR				*e*Sg	**Sb**	**19 38 24.2**	**+0.2**
TUTA	**Tutak**	**0.71**	**337**	*i* P	**Pb**	**19 38 13.7**	**-0.7**
TUTA				*e*S	**Sb**	**19 38 24.1**	**-0.2**
TUTA	**Tutak**	**0.71**	**337**	*i* P	**Pb**	**19 38 13.7**	**-0.7**
TUTA	**Tutak**	**0.71**	**337**	P	**Pb**	**19 38 13.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.84**	**350**	PG	**Pg**	**19 38 15.5**	**-0.5**
AGRB				SG	**Sb**	**19 38 27.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.84**	**350**	*e*Pg	**Pg**	**19 38 15.5**	**-0.5**
AGRB				*e*Sg	**Sb**	**19 38 27.9**	**-0.1**
DYDN	**Diyadin**	**0.89**	**26**	*e*P	**Pg**	**19 38 16.4**	**-0.5**
GURO	**Guroymak-BITLI**	**0.92**	**258**	PG	**Pg**	**19 38 16.3**	**-1.1**
GURO				SG	**Sg**	**19 38 28.5**	**-0.9**
GURO	**Guroymak-BITLI**	**0.92**	**258**	*e*Pg	**Pg**	**19 38 16.3**	**-1.1**
GURO				*e*Sg	**Sg**	**19 38 28.5**	**-0.9**
EKAR	**Karacoban**	**1.01**	**301**	*e*P	**Pn**	**19 38 20.0**	**-0.1**
EKAR	**Karacoban**	**1.01**	**301**	*i* P	**Pn**	**19 38 19.3**	**-0.8**
EKAR				*i* S	**Sn**	**19 38 39.2**	**+4.7**
EKAR	**Karacoban**	**1.01**	**301**	P	**Pn**	**19 38 19.3**	**-0.8**
EKAR				S	**Sn**	**19 38 39.2**	**+4.7**
EATA	**Eleskirt**	**1.23**	**335**	*e*P	**Pg**	**19 38 23.1**	**-0.4**
EATA				*e*S	**Sn**	**19 38 41.7**	**+1.5**
EATA	**Eleskirt**	**1.23**	**335**	*i* P	**Pg**	**19 38 23.4**	**-0.1**
EATA				*i* S	**Sn**	**19 38 42.0**	**+1.7**
EATA	**Eleskirt**	**1.23**	**335**	P	**Pg**	**19 38 23.4**	**-0.1**
EATA				S	**Sn**	**19 38 42.0**	**+1.7**
HAKT	**HAKKARI**	**1.26**	**160**	*i* P	**Pg**	**19 38 23.1**	**-0.8**
HAKT				*i* S	**Sn**	**19 38 44.1**	**+3.4**
HAKT	**HAKKARI**	**1.26**	**160**	P	**Pg**	**19 38 23.1**	**-0.8**
HAKT				S	**Sn**	**19 38 44.1**	**+3.4**
SIRT	**Sirnak**	**1.37**	**205**	PN	**Pb**	**19 38 25.0**	**-0.5**
SIRT	**Sirnak**	**1.37**	**205**	*e*Pn	**Pb**	**19 38 25.0**	**-0.5**
HOMI	**Horasan**	**1.63**	**323**	*e*P	**Pg**	**19 38 30.3**	**-0.7**
DIGO	**Kars**	**1.67**	**5**	*e*P	**Pb**	**19 38 30.0**	**-0.7**
ERZM	**Erzurum**	**1.82**	**310**	*e*P	**Pb**	**19 38 32.5**	**-0.8**

ISCJB ***19*** *19:43:06.2±0.6, 35°.88N±0°.04×139°.55E±0°.09, h99km±4km, mb3.5/4, Error ellipse: s-maj=12.2km s-min=5.9km az=163.0*

JMA ***19*** *19:43:07.7±0.1, 35°.89N×139°.60E, h90km±1km, M2.9*

IDC ***19*** *19:43:08.5±2.8, 35°.24N×137°.76E, h50km±42km, mb3.1/4, mb1 3.4/5, mb1mx3.0/70, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=54.3km s-min=7.1km az=76.0*

ISC 19 19:43:07.2±1.0, 35°.88N±0°.05×139°.55E±0°.07, h94km±7km, n16, σ0s52/27, mb3.8/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHU	**Hanno**	**0.22**	**262**	P	**Pn**	**19 43 21.3**	**+0.6**
JHU				S	**Sn**	**19 43 31.0**	**+0.2**
JRY	**Ryogami san**	**0.54**	**284**	P	**Pn**	**19 43 23.4**	**+0.7**
JRY				S	**Sn**	**19 43 35.0**	**+0.7**
JAG	**Ashikaga**	**0.55**	**352**	P	**Pn**	**19 43 22.8**	**+0.1**
JAG				S	**Sn**	**19 43 33.7**	**-0.6**
JOD2	**Odawara 2**	**0.72**	**211**	P	**Pn**	**19 43 24.0**	**-0.3**
JOD2				S	**Sn**	**19 43 36.0**	**-1.1**
JYN	**Shimob**	**0.90**	**245**	P	**Pn**	**19 43 26.3**	**+0.1**
JYN				S	**Sn**	**19 43 40.3**	**-0.1**
JKT	**Katashina**	**0.91**	**345**	P	**Pn**	**19 43 26.2**	**-0.1**
JKT				S	**Sn**	**19 43 40.1**	**-0.5**
JIM2	**Oshima 3**	**1.17**	**185**	P	**Pn**	**19 43 29.1**	**0.0**
JIM2				S	**Sn**	**19 43 44.6**	**-1.0**
MJAR	**Matsushiro Arr**	**1.27**	**302**	P	**Pn**	**19 43 30.2**	**0.0**
	5.5nm,0.3s,baz=211,slow=6.6,SNR=60						
MJAR				S	**Sn**	**19 43 47.7**	**+0.1**
	15nm,0.3s,baz=96,slow=29,SNR=19						
MAT	**Matsushiro**	**1.27**	**302**	P	**Pn**	**19 43 30.2**	**0.0**
MAT				S	**Sn**	**19 43 47.2**	**-0.5**
MAT	**Matsushiro**	**1.27**	**302**	P	**Pn**	**19 43 30.3**	**0.0**
MAT				S	**Sn**	**19 43 47.6**	**-0.1**
BSO1	**Boso 1**	**1.70**	**136**	P	**Pn**	**19 43 35.3**	**+0.2**
JHJ	**Hachijo jima 2**	**2.77**	**176**	P	**Pn**	**19 43 50.5**	**+0.8**
	40nm,0.3s,baz=77,slow=23,SNR=8.7						
JHJ				S	**Sn**	**19 44 22.1**	**-0.1**
	20nm,0.3s,baz=246,slow=23,SNR=3.7						
MKAR	**Makanchi Array**	**43.47**	**303**	P	**P**	**19 51 00.8**	**-0.1**
	0.1nm,0.6s,baz=90,slow=9.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**45.53**	**309**	P	**P**	**19 51 17.4**	**+0.2**
	0.7nm,0.3s,baz=85,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**55.74**	**186**	P	**P**	**19 52 33.6**	**-0.6**

comp=Z,165nm,20.4s,baz=298,slow=39
RPN **Rapa Nui** 34.28 229 LR LR 20 16 00.8
comp=Z,332nm,20.4s,baz=116,slow=30
758A **Lake Helen** 34.70 360 P P 20 05 51.1 +0.8
baz=179
PLCA **Paso Flores** 35.87 167 P P 20 06 00.8 +0.4
7.6nm,1.1s,baz=3.1,slow=8.0,SNR=8.3
PLCA PcP PcP 20 08 26.3 -1.0
3.3nm,0.8s,baz=333,slow=4.5,SNR=5.0
PLCA LR LR 20 18 22.7
comp=Z,33nm,21.4s,baz=26,slow=32
PLCA **Paso Flores** 35.87 167 eP P 20 06 00.8 +0.4
13nm,1.1s
PLCA PcP PcP 20 08 26.4 -1.0
555A **McAlpin** 35.91 357 P P 20 06 01.6 +0.9
baz=176
553A **Crawfordville** 36.08 355 P P 20 06 03.5 +1.3
baz=174
455A **Stateville** 36.53 357 P P 20 06 06.6 +0.7
baz=176
452A **Marianna** 36.81 354 P P 20 06 09.1 +0.7
baz=172
150A **Eclectic** 38.64 353 P P 20 06 24.3 +0.5
baz=171
GOGA **Godfrey** 39.21 357 P P 20 06 28.4 -0.1
baz=176
Z50A **Ashland** 39.27 353 P P 20 06 29.0 -0.1
baz=172
Z49A **Columbiana** 39.28 353 P P 20 06 29.1 -0.1
baz=171
Z48A **Northport** 39.60 351 P P 20 06 31.8 -0.1
baz=169
Y50A **Piedmont** 39.87 354 P P 20 06 33.8 -0.3
baz=172
Y49A **Blount Mountai** 39.92 353 P P 20 06 34.2 -0.3
baz=171
Z45A **Winona** 39.97 349 P P 20 06 34.8 -0.2
baz=166
Y48A **Jasper** 40.08 352 P P 20 06 35.5 -0.3
baz=170
Y46A **Houston** 40.31 350 P P 20 06 38.1 +0.3
baz=167
Y45A **Yeager Farm, C** 40.42 349 P P 20 06 39.7 +1.0
baz=166
X50A **Fort Payne** 40.43 354 P P 20 06 38.5 -0.3
baz=172
JCT **Junction City** 40.48 334 P P 20 06 41.0 +1.7
baz=150
X49A **Woodville** 40.56 353 P P 20 06 39.7 -0.1
baz=171
X48A **Hartselle** 40.59 352 P P 20 06 39.9 -0.2
baz=170
KMSC **Kings Mountain** 40.86 359 P P 20 06 42.1 -0.2
baz=179
KMSC **Kings Mountain** 40.86 359 eP P 20 06 42.3 0.0
14nm,0.8s
SLBS **Sierra La Lagu** 40.87 317 eP P 20 06 44.9 +2.2
15nm,0.9s
W48A **Pulaski** 41.25 353 P P 20 06 45.4 -0.1
baz=170
LTX **Lajitas** 41.34 329 eP P 20 06 47.6 +1.2
TXAR **Lajitas Array** 41.34 329 P P 20 06 47.6 +1.2
0.9nm,0.6s,baz=150,slow=9.3,SNR=1.8
TX31 **Lajitas Ar. Si** 41.34 329 eP P 20 06 47.9 +1.4
W47A **Westpoint** 41.45 352 P P 20 06 47.0 -0.1
baz=170
TKL **Tuckaleechee C** 41.46 356 P P 20 06 47.0 -0.2
8.8nm,0.9s,baz=165,slow=9.6,SNR=4.9
TKL LR LR 20 24 04.3
comp=Z,55nm,20.2s,baz=96,slow=36
TKL **Tuckaleechee C** 41.46 356 eP P 20 06 46.6 -0.7
13nm,0.9s
V48A **Smith Brothers** 41.83 353 P P 20 06 49.9 -0.3
baz=171
V47A **Nunnelly** 42.01 352 P P 20 06 51.2 -0.5
baz=170
X39A **Fountain Ranch** 42.12 344 P P 20 06 54.2 +1.6
baz=160
W41B **Gary Mavity, V** 42.26 346 P P 20 06 54.3 +0.5
baz=163
ABTX **Abilene, Hawle** 42.29 336 P P 20 06 55.1 +1.0
baz=151,SNR=7.4
ABTX **Abilene, Hawle** 42.29 336 eP P 20 06 55.0 +1.0
28nm,0.8s
WVT **Waverly** 42.35 352 P P 20 06 53.5 -1.0
baz=169
WVT **Waverly** 42.35 352 eP P 20 06 53.4 -1.0
6.1nm,0.8s
WHAR **Wooly Hollow** 42.38 346 eP P 20 06 55.6 +0.8
6.3nm,0.7s
W40A **Ferguson Farm,** 42.48 345 P P 20 06 56.8 +1.2
baz=162
W39A **Magazine** 42.67 344 P P 20 06 58.7 +1.6
baz=160
V42A **Cord** 42.67 347 P P 20 06 57.7 +0.6
baz=164
V41A **Mountainview** 42.83 347 P P 20 06 58.9 +0.5
baz=163,SNR=11
V40A **Witts Springs** 43.00 346 P P 20 07 00.9 +1.1
baz=162
T47A **Sharon Grove** 43.09 353 P P 20 06 59.9 -0.6
baz=170
T48A **Bowling Green** 43.13 354 P P 20 07 00.2 -0.6
baz=172
U42A **Revenden** 43.17 348 P P 20 07 01.3 +0.2
baz=164,SNR=7.3
T46A **Princeton** 43.25 352 P P 20 07 01.5 -0.2
baz=169
U41A **Viola** 43.31 347 P P 20 07 02.8 +0.5
baz=164
U40A **Yellville** 43.54 346 P P 20 07 05.0 +0.9
baz=162,SNR=8.4
T43A **Greenville** 43.69 349 P P 20 07 05.3 0.0
baz=166,SNR=7.4
IP01 **Cuckoo** 43.76 3 eP P 20 07 05.1 -0.7
12nm,1.0s
T42A **Van Buren** 43.79 348 P P 20 07 06.1 0.0
baz=165,SNR=5.8
IP03 **Louisa** 43.82 3 eP P 20 07 05.8 -0.5
11nm,0.8s
SPRD **Spring Road, M** 43.83 3 eP P 20 07 05.9 -0.5
12nm,0.8s
WMOK **Wichita Mounta** 43.83 339 P P 20 07 07.1 +0.5
baz=154
WMOK **Wichita Mounta** 43.83 339 eP P 20 07 07.0 +0.5
10nm,1.1s
CVRD **Centerville Ro** 43.88 4 eP P 20 07 06.9 +0.1
16nm,0.8s
TUL1 **Leonard** 43.91 343 P P 20 07 07.8 +0.7
baz=158
TUL1 **Leonard** 43.91 343 eP P 20 07 07.5 +0.4
21nm,0.8s
PTRD **Partlow Road** 43.94 4 eP P 20 07 07.2 -0.1
17nm,0.6s
T41A **Mountain View** 43.95 347 P P 20 07 07.1 -0.3
baz=164
SPFD **Spotsylvania F** 43.96 4 eP P 20 07 07.4 0.0
15nm,0.8s
S44A **Carbondale** 44.10 350 P P 20 07 08.4 -0.1
baz=168
MNTX **Cornudas Mount** 44.11 330 P P 20 07 09.9 +1.1
baz=143,SNR=7.1
MNTX **Cornudas Mount** 44.11 330 eP P 20 07 10.0 +1.2
16nm,1.3s
T40A **Mansfield** 44.22 347 P P 20 07 10.2 +0.6
baz=163
T39A **Clever** 44.30 346 P P 20 07 10.6 +0.4
baz=162,SNR=5.5
S42A **Caledonia** 44.45 349 P P 20 07 11.5 +0.1
baz=166
S41A **Jillco Farms,** 44.47 348 P P 20 07 11.7 +0.2
baz=164,SNR=7.8
R45A **Skylar, Fairfi** 44.53 352 P P 20 07 12.2 +0.1
baz=169
T38A **Diamond** 44.54 345 P P 20 07 13.3 +1.1
baz=160
FVM **French Village** 44.59 349 eP P 20 07 12.4 -0.1
8.7nm,0.6s
R44A **Waltonville** 44.61 351 P P 20 07 12.7 0.0
baz=168
S40A **Lebanon** 44.64 347 P P 20 07 13.2 +0.3
baz=163
MSTX **Muleshoe** 44.76 334 P P 20 07 14.7 +0.7
baz=148
MSTX **Muleshoe** 44.76 334 eP P 20 07 15.5 +1.4
20nm,0.8s
R43A **Red Bud** 44.78 350 P P 20 07 14.0 0.0
baz=167
S39A **Bolivar** 44.92 346 P P 20 07 15.4 +0.3
baz=162,SNR=5.6
Q47A **Bedord North L** 44.94 354 P P 20 07 14.8 -0.5
baz=172
R42A **Luebbering** 44.94 349 P P 20 07 15.5 +0.2
baz=166
S38A **Stockton** 45.01 345 P P 20 07 16.3 +0.5
baz=161
R41A **Rosebud** 45.07 348 P P 20 07 16.7 +0.4
baz=165
AMTX **Amarillo** 45.08 336 P P 20 07 17.4 +0.8
baz=150
R40A **Maddies Statio** 45.25 347 P P 20 07 18.4 +0.6
baz=164
R39A **Chumby, Stover** 45.45 347 P P 20 07 19.7 +0.4
baz=163
Q42A **Golden Eagle** 45.51 349 P P 20 07 20.0 +0.2
baz=166
R38A **Fenwick Farm,** 45.53 346 P P 20 07 20.4 +0.4
baz=161
Q41A **Truxton** 45.68 349 P P 20 07 21.3 +0.1
baz=165
P44A **Sand Creek, Wi** 45.74 352 P P 20 07 21.2 -0.4
baz=169
Q40A **Laux Farm, Aux** 45.89 348 P P 20 07 22.8 0.0
baz=164,SNR=5.1
ACSO **Alum Creek Sta** 45.98 358 P P 20 07 23.0 -0.5
baz=177
121A **Cookes Peak, D** 46.01 328 P P 20 07 26.5 +2.3
baz=141
O56A **Blue Knob Stat** 46.03 2 P P 20 07 22.5 -1.5
baz=183
P42A **Winchester** 46.13 350 P P 20 07 24.5 -0.1
baz=166
Q39A **Willow Grove F** 46.13 347 P P 20 07 25.4 +0.7
baz=163
Q38A **Cooks Store, C** 46.20 346 P P 20 07 25.7 +0.5
baz=162,SNR=5.4
SSPA **Standing Stone** 46.43 3 eP P 20 07 23.5 -3.5
16nm,1.5s
SFIN **Lafayette** 46.44 353 P P 20 07 26.3 -0.8
baz=171
P39B **Salisbury** 46.51 347 P P 20 07 28.1 +0.5
baz=163
N54A **Moraine State** 46.68 1 P P 20 07 28.3 -0.7
baz=181
BNM **Barren Site** 46.70 330 eP P 20 07 29.4 -0.2
O41A **Passleys Farm,** 46.74 349 P P 20 07 29.3 -0.1
baz=166
P38A **Dawn** 46.81 347 P P 20 07 30.6 +0.5
baz=162
N59A **State Game Lan** 46.86 5 P P 20 07 30.2 -0.2
baz=187
N59A **State Game Lan** 46.86 5 eP P 20 07 26.5 -4.0
8.2nm,0.9s
HDIL **Hopedale** 46.90 351 P P 20 07 30.3 -0.5
baz=168
N46A **Monticello** 46.91 354 P P 20 07 30.0 -0.7
baz=172
O40A **La Belle** 46.93 348 P P 20 07 30.8 -0.1
baz=165
N45A **Kentland** 46.95 353 P P 20 07 30.5 -0.6
baz=171
N44A **Pipe City** 46.98 352 P P 20 07 30.7 -0.6
baz=170
KSU1 **Kansas State U** 47.11 343 P P 20 07 33.2 +0.8
baz=158
KSU1 **Kansas State U** 47.11 343 eP P 20 07 33.4 +0.9
17nm,0.8s
O39A **Kirksville** 47.20 348 P P 20 07 33.3 +0.3
baz=164
M54A **Oil Creek Stat** 47.23 1 P P 20 07 33.2 -0.1
baz=181
ANMO **Albuquerque** 47.26 331 P P 20 07 36.0 +2.0
7.5nm,0.6s,baz=335,slow=9.5,SNR=20
ANMO **Albuquerque** 47.26 331 P P 20 07 35.9 +2.0
baz=144
ANMO **Albuquerque** 47.26 331 eP P 20 07 36.0 +2.0
15nm,1.0s
N43A **Stutzman Famil** 47.26 351 P P 20 07 32.9 -0.6
baz=168
N42A **Yates City** 47.29 351 P P 20 07 33.5 -0.2
baz=167
N41A **Harden Midland** 47.31 350 P P 20 07 34.2 +0.3
baz=166
TUC **Tucson** 47.49 325 P P 20 07 36.5 +0.9
baz=138
TUC **Tucson** 47.49 325 eP P 20 07 37.0 +1.4
4.3nm,0.9s
N40A **Mertquake, Sal** 47.61 349 P P 20 07 36.0 -0.2
baz=165
M43A **Waltham Townsh** 47.72 352 P P 20 07 36.6 -0.4
baz=169
N39A **Derby Farms, D** 47.79 348 P P 20 07 37.7 +0.1
baz=164,SNR=5.1
ERPA **Erie** 47.83 1 P P 20 07 36.6 -1.3
baz=181
M42A **Sheffield** 47.85 351 P P 20 07 38.1 -0.1
baz=168
M41A **Milan** 47.90 350 P P 20 07 38.6 +0.1
baz=167
M40A **Post Highland** 48.10 349 P P 20 07 39.9 -0.2
baz=165
BINY **Binghamton** 48.12 5 P P 20 07 39.4 -0.7
baz=186
BINY **Binghamton** 48.12 5 eP P 20 07 38.4 -1.8
8.4nm,0.9s
O34A **Beatrice** 48.14 344 P P 20 07 40.6 +0.2
baz=158
T25A **Trinidad** 48.15 335 P P 20 07 41.3 +0.5
baz=148
T25A **Trinidad** 48.15 335 eP P 20 07 41.3 +0.5
13nm,0.9s
O33A **Hebron** 48.30 343 P P 20 07 42.1 +0.5
baz=157
M39A **Webster** 48.30 349 P P 20 07 41.8 +0.2
baz=164
L42A **Oliver, Polo** 48.38 351 P P 20 07 41.7 -0.5
baz=168
214A **Organ Pipe Nat** 48.42 323 P P 20 07 44.3 +1.6
baz=135
214A **Organ Pipe Nat** 48.42 323 eP P 20 07 44.6 +1.9
77nm,1.4s
L43A **Garden Prairie** 48.42 352 P P 20 07 41.5 -1.0
baz=169,SNR=6.5
M38A **Pleasantville** 48.45 348 P P 20 07 42.6 -0.2
baz=163
L41A **Preston** 48.58 350 P P 20 07 43.3 -0.4
baz=167
L40A **Anamosa** 48.69 350 P P 20 07 44.5 -0.1
baz=166
X18A **Snowflake** 48.70 328 eP P 20 07 44.7 -0.4
6.1nm,0.8s
N34A **Lincoln** 48.70 344 P P 20 07 44.7 0.0
baz=159
K43A **Burlington** 48.88 353 P P 20 07 45.0 -1.1
baz=170,SNR=5.1
L39A **Vinton** 48.89 349 P P 20 07 45.6 -0.5
baz=165
HRV **Adam Dziewonsk** 48.96 9 P P 20 07 45.9 -0.7
baz=192
W18A **Petrified Fore** 49.04 328 P P 20 07 49.1 +1.5
baz=140,SNR=5.4
W18A **Petrified Fore** 49.04 328 eP P 20 07 48.5 +0.8
22nm,1.0s
K41A **Shullsburg** 49.06 351 P P 20 07 46.8 -0.6
baz=167
L38A **Oak Wood Farm,** 49.09 348 P P 20 07 47.7 0.0
baz=164,SNR=8.7
SDCO **Great Sand Dun** 49.13 334 P P 20 07 49.8 +1.4
baz=146,SNR=14
SDCO **Great Sand Dun** 49.13 334 eP P 20 07 48.6 +0.3
9.6nm,0.9s
L37A **Phoenix Point,** 49.25 347 P P 20 07 48.9 +0.1
baz=163
K40A **Colesburg** 49.29 350 P P 20 07 48.5 -0.7
baz=166,SNR=6.0
M34A **Aspy Farms, Fr** 49.34 344 P P 20 07 49.5 -0.1
baz=159
JFWS **Jewell Farm** 49.36 351 P P 20 07 49.4 -0.3
baz=167
X16A **Lo Mia Camp, P** 49.42 326 eP P 20 07 52.8 +2.2
5.3nm,0.8s
K39A **Oelwein** 49.43 349 P P 20 07 49.8 -0.5
baz=165
K38A **Parkersburg** 49.54 349 P P 20 07 50.9 -0.2
baz=164
J43A **Natural Harves** 49.56 353 P P 20 07 50.6 -0.6
baz=170
113A **Mohawk Valley,** 49.56 323 eP P 20 07 53.0 +1.6
5.7nm,0.9s
J42A **Columbus** 49.59 352 P P 20 07 50.9 -0.6
baz=169
S22A **4UR Ranch, Cre** 49.72 333 P P 20 07 53.8 +0.9
baz=145
S22A **4UR Ranch, Cre** 49.72 333 eP P 20 07 54.8 +1.9
27nm,2.0s
K37A **Belmond** 49.84 348 P P 20 07 53.0 -0.4
baz=163,SNR=5.3
J39A **Decorah** 50.01 350 P P 20 07 54.1 -0.5
baz=166
I43A **Langenfeld Bro** 50.02 353 P P 20 07 54.2 -0.5
baz=170
MVCO **Mesa Verde** 50.06 331 P P 20 07 57.0 +1.6
baz=143
MVCO **Mesa Verde** 50.06 331 eP P 20 07 57.1 +1.6
8.2nm,1.0s
I42A **Draeger Farm,** 50.12 352 P P 20 07 55.2 -0.3
baz=169
J38A **Wedel Dairy, R** 50.13 349 P P 20 07 55.2 -0.4
baz=165
WUAZ **Wupatki** 50.21 327 P P 20 07 58.4 +1.9
baz=139,SNR=8.0
WUAZ **Wupatki** 50.21 327 eP P 20 07 58.5 +1.9
12nm,0.9s
J37A **Redenius Farm,** 50.34 348 P P 20 07 57.4 +0.2
baz=163
I39A **Houston** 50.48 350 P P 20 07 57.6 -0.6
baz=166,SNR=9.3
J36A **Seneca 1, Swea** 50.52 347 P P 20 07 58.4 -0.1
baz=162,SNR=6.2
H43A **Windswept, Lux** 50.55 354 P P 20 07 58.3 -0.4
baz=171
LONY **Lake Ozonia** 50.65 6 P P 20 07 58.7 -0.7
baz=188
J35A **Milford** 50.76 347 P P 20 08 00.3 0.0
baz=161
I38A **Scanlan Farm,** 50.80 349 P P 20 08 00.2 -0.5
baz=165
PV01 **Paradox Valley** 50.83 332 eP P 20 08 03.2 +2.0
J34A **George** 50.86 346 P P 20 08 01.1 0.0
baz=160
PDMCI **Parker Dam,Lak** 50.87 324 P P 20 08 02.4 +1.2
baz=135
ISCO **Idaho Springs** 50.90 335 P P 20 08 03.0 +1.1
baz=147
ISCO **Idaho Springs** 50.90 335 eP P 20 08 03.5 +1.6
7.4nm,1.0s
H41A **Junction City** 50.93 352 P P 20 08 01.3 -0.3
baz=168
SMCO **Snowmass** 50.96 334 eP P 20 08 04.3 +1.9
3.9nm,1.0s
I37A **Lemoni, Waseca** 50.98 348 P P 20 08 02.1 +0.1
baz=164
PV05 **Paradox Valley** 51.04 331 eP P 20 08 03.6 +0.7
H40A **Chili** 51.05 351 P P 20 08 02.4 -0.1
baz=168
J33A **Davis** 51.14 345 P P 20 08 03.4 +0.2
baz=159
BC3 **Big Chuckawall** 51.19 323 P P 20 08 05.5 +1.6
baz=133
PV04 **Paradox Valley** 51.20 332 eP P 20 08 05.9 +2.0
H39A **Augusta** 51.24 351 P P 20 08 03.7 -0.2
baz=166
W13A **Hualapai Mount** 51.29 325 eP P 20 08 06.7 +2.0
8.1nm,0.9s
G43A **Wallace** 51.32 354 P P 20 08 03.7 -0.8
baz=171,SNR=7.9
IRM **Iron Mountain** 51.35 323 P P 20 08 06.7 +1.7
baz=134,SNR=5.5
G42A **Mountain** 51.39 353 P P 20 08 04.5 -0.5
baz=170,SNR=7.9
H38A **Maiden Rock** 51.41 350 P P 20 08 04.7 -0.5
baz=165
ECSD **EROS Data Cent** 51.44 345 P P 20 08 05.5 +0.1
baz=160
ECSD **EROS Data Cent** 51.44 345 eP P 20 08 05.3 -0.1
4.5nm,0.7s
H36A **Jessenland, He** 51.63 348 P P 20 08 06.9 +0.1
baz=163,SNR=7.0
DPP **Dos Picos Cty** 51.66 321 eP P 20 08 10.9 +3.6
BELC **Belle Mtn. Jos** 51.76 323 P P 20 08 09.6 +1.4
baz=133
G38A **Ridgeland** 51.81 350 P P 20 08 07.6 -0.6
baz=166,SNR=8.0
G39A **Holcombe** 51.82 351 P P 20 08 07.9 -0.3
baz=167
F43A **Flat Rock, Esc** 51.84 354 P P 20 08 07.7 -0.6
baz=172
F44A **Big Bay de Noc** 51.91 355 P P 20 08 08.1 -0.8
baz=173
F41A **Three Lakes** 51.96 353 P P 20 08 09.1 -0.2
baz=169
SPMN **Marine on St.** 52.04 349 P P 20 08 09.6 -0.2
baz=165
SPMN **Marine on St.** 52.04 349 eP P 20 08 09.7 -0.2
19nm,0.8s
GMRC **Granite Mounta** 52.09 324 P P 20 08 12.1 +1.5
baz=134
KNB **Kanab** 52.10 328 eP P 20 08 12.9 +2.1
9.4nm,0.9s
H34A **Spellman Lake,** 52.12 347 P P 20 08 10.9 +0.4
baz=161
F40A **Park Falls** 52.28 352 P P 20 08 11.3 -0.3
baz=168
BBSC **Beaumont Base** 52.30 322 eP P 20 08 12.3 +0.2
O20A **White River Ci** 52.30 334 P P 20 08 12.5 +0.3
baz=144
LCMT **Little Creek M** 52.33 327 eP P 20 08 14.3 +1.9
4.3nm,0.9s
H33A **Prehn Over Nor** 52.36 346 P P 20 08 12.3 0.0
baz=160
E43A **Lone Tree Farm** 52.36 355 P P 20 08 11.7 -0.6
baz=172
H32A **Carlson Farm,** 52.37 345 P P 20 08 12.2 -0.1
baz=159
F39A **Loretta** 52.39 351 P P 20 08 12.4 0.0
baz=167
E42A **Champion** 52.51 354 P P 20 08 13.0 -0.4
baz=171
HEC **Hector,Ludlow** 52.53 323 P P 20 08 15.7 +1.9
baz=133,SNR=5.1
SRU **San Rafael Swe** 52.54 331 eP P 20 08 15.0 +1.1
17nm,1.5s
F38A **Pierce - Schro** 52.59 350 P P 20 08 13.8 -0.1
baz=166,SNR=6.6
E41A **Kenton** 52.66 353 P P 20 08 13.9 -0.5
baz=170
E40A **Wakefield** 52.76 352 P P 20 08 15.2 0.0
baz=168,SNR=8.0
F36A **Milaca** 52.78 349 P P 20 08 14.9 -0.5
baz=164,SNR=8.7
CCUT **Cedar City** 52.79 328 eP P 20 08 17.8 +1.9
10nm,1.0s
E39A **Mellen** 52.79 352 P P 20 08 15.4 -0.1
baz=168
P18A **Preston Nutter** 52.81 332 eP P 20 08 17.3 +1.2
7.1nm,1.0s
MSU **Marysvale** 52.89 329 eP P 20 08 18.2 +1.6
P17A **Butcher Ranch,** 52.93 331 eP P 20 08 18.8 +2.0
12nm,0.9s
BFSC **Mount Baldy Ra** 52.93 322 P P 20 08 18.0 +1.2
baz=132
BFSC **Mount Baldy Ra** 52.93 322 eP P 20 08 14.2 -2.7
SHPR **Sheep Range** 53.02 325 eP P 20 08 19.4 +1.9
9.0nm,1.1s
GSC **Goldstone, Bar** 53.13 323 P P 20 08 19.6 +1.3
baz=133
GSC **Goldstone, Bar** 53.13 323 eP P 20 08 20.6 +2.4
10nm,1.1s
RWWY **Rawlins** 53.14 335 eP P 20 08 18.9 +0.4
48nm,1.6s
D41A **Chassel** 53.20 353 P P 20 08 18.7 +0.3
baz=170
E37A **Wrenshall** 53.26 350 P P 20 08 19.1 +0.2
baz=165
E36A **McGregor** 53.37 349 P P 20 08 20.0 +0.3
baz=164
EDW2 **Edwards Air Fo** 53.57 322 P P 20 08 22.8 +1.4
baz=132
CCCA **Chr Cany lake** 53.62 323 eP P 20 08 23.3 +1.5
E35A **Pequot Lakes** 53.62 348 P P 20 08 21.8 +0.3
baz=163
K22A **Casper** 53.67 337 P P 20 08 23.0 +0.8
baz=147
LRMC **Laurel Mtn Rad** 53.78 323 P P 20 08 24.8 +1.7

baz=132
D37A Cotton 53.84 350 P P 20 08 23.3 +0.1
baz=165,SNR=7.7
E33A Westby DABS, E 53.91 347 P P 20 08 24.3 +0.6
baz=161
NLU North Lily Min 53.95 331 eP P 20 08 26.0 +1.7
8.3nm,1.3s
D36A Goodland 53.99 350 P P 20 08 24.7 +0.5
baz=164
RSSD Black Hills 54.02 340 P P 20 08 24.8 0.0
baz=151
MPMC Manual Prospec 54.05 323 P P 20 08 25.7 +0.5
baz=133
D35A Remer 54.06 349 P P 20 08 25.0 +0.2
baz=163
RCWM Renegade Canyo 54.07 323 eP P 20 08 23.2 -2.0
C39A Grand Marais 54.14 352 P P 20 08 24.7 -0.6
baz=168
JLU Jordanelle 54.15 331 eP P 20 08 27.3 +1.5
8.4nm,1.0s
C38A Sawbill Land. 54.20 351 P P 20 08 25.3 -0.5
baz=167
C37A Embarrass 54.35 351 P P 20 08 26.5 -0.4
baz=166,SNR=7.6
ISA Isabella, Lake 54.38 322 P P 20 08 27.9 +0.5
baz=132
EYMN Ely 54.46 351 P P 20 08 27.2 -0.5
baz=167
EYMN Ely 54.46 351 eP P 20 08 27.3 -0.3
6.3nm,0.8s
C36A Pine Crest Far 54.49 350 P P 20 08 27.9 0.0
baz=165,SNR=16
DUG Dugway, Tooele 54.49 330 P P 20 08 29.9 +1.7
baz=140,SNR=5.1
DUG Dugway, Tooele 54.49 330 eP P 20 08 30.3 +2.1
10nm,0.9s
R11A Troy Canyon, C 54.57 327 P P 20 08 30.8 +2.0
baz=136,SNR=7.3
R11A Troy Canyon, C 54.57 327 eP P 20 08 31.3 +2.4
4.1nm,0.9s
CWC Cottonwood Cre 54.66 323 P P 20 08 31.0 +1.5
baz=132
RKT Rikitea 54.72 246 eT T 21 07 08.8
C34A RKJ Ranch, Bem 54.77 348 P P 20 08 30.0 +0.1
baz=162
VES Vestal, Richgr 54.87 322 P P 20 08 32.2 +1.3
baz=131
HWUT Hardware Ranch 54.99 332 eP P 20 08 33.1 +1.2
18nm,0.8s
BW06 Boulder Array 55.02 334 P P 20 08 32.7 +0.7
baz=144
BW06 Boulder Array 55.02 334 eP P 20 08 32.8 +0.7
4.1nm,0.8s
PD31 Pinedale Array 55.02 334 eP P 20 08 32.6 +0.6
PDAR Pinedale Array 55.02 334 P P 20 08 32.7 +0.6
2.6nm,0.9s,baz=131,slow=8.1,SNR=12
B35A Bob, Littlefor 55.23 350 P P 20 08 33.3 +0.1
baz=164
B34A Aery, Baudette 55.52 349 P P 20 08 35.4 +0.2
baz=163
AGMN Agassiz Nation 55.58 348 P P 20 08 35.8 +0.1
baz=162,SNR=5.7
AGMN Agassiz Nation 55.58 348 eP P 20 08 36.2 +0.5
12nm,0.9s
HVU Hansel Valley 55.69 331 eP P 20 08 38.0 +1.1
7.0nm,1.1s
B32A Ashes, Strandq 55.82 347 P P 20 08 37.7 +0.3
baz=161
MDND Maddock 56.03 345 P P 20 08 39.1 +0.1
baz=157
REDW Red Top Meadow 56.06 334 eP P 20 08 40.6 +1.1
10nm,1.0s
NV11 Mina Array Sit 56.06 325 eP P 20 08 41.2 +1.7
0.5nm,0.9s
A33A Warroad 56.10 349 P P 20 08 39.5 +0.1
baz=162
NV01 Mina Array Sit 56.15 325 eP P 20 08 42.0 +1.7
NVAR Mina Array Bea 56.15 325 P P 20 08 42.4 +2.1
3.7nm,0.8s,baz=136,slow=7.5,SNR=7.7
A32A Rocking H Ranc 56.30 348 P P 20 08 40.8 -0.1
baz=161
MOOW Moose Ponds 56.32 334 eP P 20 08 41.9 +0.5
4.1nm,1.3s
FXWY Fox Creek 56.36 334 eP P 20 08 42.5 +0.8
2.5nm,0.9s
KVN Kaiserville 56.46 326 eP P 20 08 43.0 +0.5
6.9nm,1.1s
RLMT Red Lodge 56.83 336 P P 20 08 45.4 +0.4
baz=145
YHH Holmes Hill 57.20 335 eP P 20 08 47.8 0.0
3.3nm,1.1s
ULM Lac du Bonnet 57.44 349 P P 20 08 48.7 -0.2
5.2nm,0.8s,baz=159,slow=6.9,SNR=6.7
ULM Lac du Bonnet 57.44 349 eP P 20 08 47.9 -1.0
5.1nm,0.8s
HLID Hailey 57.83 332 P P 20 08 53.7 +1.7
baz=139,SNR=13
HLID Hailey 57.83 332 eP P 20 08 54.1 +2.0
9.1nm,0.9s
BOZ Bozeman (W) 58.18 335 P P 20 08 55.5 +1.1
baz=143,SNR=7.5
BOZ Bozeman (W) 58.18 335 eP P 20 08 55.6 +1.1
11nm,1.2s
BEKR Beckworth 58.29 325 eP P 20 08 57.5 +2.1
5.8nm,0.8s
MFID Camas Ranch 58.40 331 eP P 20 08 57.8 +1.8
19nm,0.9s
DLMT Dillon 58.41 334 eP P 20 08 57.6 +1.6
5.8nm,1.0s
ORV Oroville 58.75 324 eP P 20 09 00.6 +2.3
14nm,1.0s
TAOE Nuku Hiva Isla 58.77 263 eT T 21 11 51.6
171nm,0.3s
WVOR Wild Horse Val 59.11 328 eP P 20 09 02.1 +1.2
8.9nm,1.0s
O03D Paynes Creek 59.41 324 P P 20 09 03.6 +0.6
baz=131
MOD Modoc Plateau 59.64 327 eP P 20 09 06.3 +1.7
12nm,0.8s
J08A Circle Bar Ran 59.68 329 eP P 20 09 06.3 +1.4
3.2nm,0.8s
MSO Missoula 60.14 334 P P 20 09 08.9 +1.0
baz=141,SNR=6.1
MSO Missoula 60.14 334 eP P 20 09 09.0 +1.0
11nm,1.1s
M04C Macdoel 60.41 326 P P 20 09 10.9 +1.0
baz=131,SNR=5.9
M02C Callahan 60.73 325 P P 20 09 12.8 +0.8
baz=130
YBH Yreka Blue Hor 60.86 325 P P 20 09 13.4 +0.5
4.6nm,0.8s,baz=121,slow=12,SNR=8.4
YBH LR LR 20 34 49.3
comp=Z,53nm,18.9s,baz=140,slow=35
K04D Chiloquin, OR 60.92 326 P P 20 09 14.2 +0.8
baz=132
F10A Beach Ranch, E 60.97 332 eP P 20 09 15.3 +1.7
12nm,0.9s
J05D Fort Rock, OR 61.08 327 P P 20 09 15.1 +0.6
baz=132
PINE Pine Mountain 61.27 328 eP P 20 09 16.9 +1.1
66nm,1.9s
G08A Pilot Rock 61.30 330 eP P 20 09 17.4 +1.5
13nm,0.9s
J04D Umpqua Nationa 61.52 327 P P 20 09 18.4 +0.9
baz=132
L02D Cave Junction, 61.65 325 P P 20 09 19.1 +0.9
baz=130
I05D Terrebonne, OR 61.85 328 P P 20 09 21.4 +1.9
baz=133
G05D Wamic, OR 62.46 329 P P 20 09 24.8 +1.3
baz=133
I03D Drain, OR 62.50 327 P P 20 09 24.9 +1.1
baz=131
NEW Newport 62.62 334 P P 20 09 25.6 +0.9
baz=138
G03D McMinnville, O 63.45 328 P P 20 09 31.1 +1.0
baz=131
LTY Liberty 63.54 331 eP P 20 09 31.9 +1.1
4.3nm,0.7s
B05A Bryant 64.93 331 P P 20 09 40.2 +0.5
baz=133
FCC Fort Churchill 65.35 352 eP P 20 09 41.9 -0.3
17nm,1.5s
PPT Papeete 67.91 254 LR LR 20 31 32.5
comp=Z,97nm,20.2s,baz=180,slow=29
PPT2 Papeete2 67.91 254 eLR LR 20 30 29.7
127nm,24.8s

TBI Tubuai 67.99 247 eT T 21 23 53.4
5.2nm,0.3s
YKA Yellowknife Ar 72.95 344 P P 20 10 28.9 -0.4
1.7nm,0.7s,baz=140,slow=5.6,SNR=12
YKW3 Yellowknife Ar 73.01 344 eP P 20 10 29.1 -0.5
11nm,1.4s
DLBC Dease Lake 75.22 336 eP P 20 10 43.7 +0.9
18nm,1.3s
SFJD Kangerlussuaq 75.93 12 P P 20 10 45.9 -0.6
6.0nm,0.7s,baz=220,slow=8.7,SNR=3.5
LIC Lamto 76.70 82 ePKIKP P 20 10 51.8 -0.2
108nm,2.1s
TIC Toumodi 76.76 82 ePKIKP P 20 10 52.3 -0.1
DBIC Dimbokro 76.92 82 P P 20 10 53.0 -0.3
3.7nm,0.8s,baz=241,slow=6.2,SNR=4.8
KIC Kosan Boka 77.00 82 ePKIKP P 20 10 51.8 -1.9
33nm,1.2s
BESE Bessie Mountai 77.34 334 eP P 20 10 56.0 +1.2
11nm,0.9s
VNA3 Neumayer Olymp 78.42 162 P P 20 11 00.1 -0.5
KOWA Kowa 78.88 74 P P 20 11 04.5 +0.4
6.7nm,0.8s,baz=275,slow=4.9,SNR=23
KOWA Kowa 78.88 74 eP P 20 11 03.0 -1.1
8.0nm,0.9s
VNA2 Neumayer--Watz 79.06 161 P P 20 11 03.4 -0.6
baz=290,slow=5.4
SNAA Sanae 80.65 162 P P 20 11 12.0 -0.8
SNAA Sanae 80.65 162 P P 20 11 12.4 -0.3
8.7nm,0.8s,baz=290,slow=5.9,SNR=12
SNAA LR LR 20 46 31.0
comp=Z,36nm,18.2s,baz=13,slow=35
SNAA Sanae 80.65 162 eP P 20 11 11.9 -0.8
8.0nm,0.8s
RES Resolute Bay 80.94 356 P P 20 11 13.3 -0.7
2.3nm,0.8s,baz=191,slow=10.0,SNR=6.5
RES Resolute Bay 80.94 356 eP P 20 11 13.3 -0.7
7.3nm,1.3s
DAWY Dawson 82.16 338 eP P 20 11 21.0 +0.2
5.8nm,0.7s
INK Inuvik 82.58 343 P P 20 11 23.2 +0.4
11nm,1.0s,baz=114,slow=4.3,SNR=16
INK Inuvik 82.58 343 eP P 20 11 23.2 +0.4
13nm,0.9s
TULEG Thule 82.65 3 eP P 20 11 21.8 -1.2
6.4nm,0.9s
SUMG Summit 82.93 12 iP P 20 11 25.1 0.0
14nm,0.8s
SUMG Summit 82.93 12 eP P 20 11 24.9 -0.1
12nm,0.8s
EGAK Eagle 83.19 338 eP P 20 11 26.6 +0.5
22nm,0.8s
DOT Dot Lake 83.77 336 eP P 20 11 29.0 -0.1
15nm,0.8s
ESDC Sonseca Array 83.80 49 P P 20 11 30.4 +0.6
3.1nm,0.7s,baz=268,slow=4.7,SNR=17
ES19 SONSECA Array 83.85 49 eP P 20 11 30.4 +0.3
SCRK Sand Creek 83.89 337 eP P 20 11 29.7 -0.1
4.3nm,0.7s
RIDG Independ'e Rid 84.12 336 eP P 20 11 31.5 +0.6
8.2nm,0.8s
QSPA South Pole Qui 84.15 180 P P 20 11 30.8 -0.4
13nm,0.9s,baz=142,slow=3.6,SNR=30
TOA1 Torodi Ar. Sit 84.17 76 eP P 20 11 31.1 -1.0
TOA0 Torodi Ar. Sit 84.18 76 eP P 20 11 31.1 -1.1
TORD Torodi Ar. Bea 84.18 76 P P 20 11 31.1 -1.1
2.4nm,0.8s,baz=302,slow=6.7,SNR=16
IL1 Eielson Array 85.37 337 eP P 20 11 36.6 -0.6
ILAR Eielson Array 85.37 337 P P 20 11 37.0 -0.1
2.5nm,1.0s,baz=146,slow=3.7,SNR=8.8
ILAR PP PP 20 14 57.9 +2.5
0.7nm,0.8s,baz=119,slow=6.8,SNR=6.5
ILB Eielson Array 85.37 337 eP P 20 11 37.0 -0.1
ILB ePP PP 20 14 57.9 +2.5
MDM Murphy Dome 85.97 337 eP P 20 11 40.0 -0.1
6.3nm,0.8s
KTH Kantishna Hill 86.54 335 eP P 20 11 43.1 0.0
7.2nm,0.8s
BPAW Bear Paw Mtn. 86.76 336 eP P 20 11 43.9 -0.2
11nm,0.8s
PPLA Purkeypile 86.85 334 eP P 20 11 44.9 +0.2
15nm,0.8s
CAST Castle Rocks 86.98 335 eP P 20 11 45.0 -0.2
15nm,0.8s
MLY Manley 86.99 336 eP P 20 11 45.5 +0.3
9.1nm,0.8s
COLD Coldfoot 87.58 339 eP P 20 11 49.4 +1.5
8.4nm,0.8s
SVW2 Sparrevohn 87.83 332 eP P 20 11 49.1 -0.1
6.0nm,0.9s
TOLK Toolik Lake Re 87.88 340 P P 20 11 49.1 -0.3
baz=112
TOLK Toolik Lake Re 87.88 340 eP P 20 11 49.6 +0.2
8.8nm,1.0s
EKA Eskdalemuir Ar 87.92 34 P P 20 11 49.7 -0.1
1.4nm,0.8s,baz=264,slow=4.2,SNR=3.6
DAG Danmarks Havn 89.62 12 iP P 20 11 56.8 -0.6
6.4nm,0.8s
SYO Syowa Base 94.94 162 eP P 20 12 19.9 -2.2
URZ Urewera 95.69 231 LR LR 20 47 01.3
comp=Z,83nm,18.0s,baz=120,slow=30
NOA NORSAR Array B 96.19 29 LR LR 20 55 17.5
comp=Z,8.7nm,19.8s,baz=285,slow=35
BR101 Keskin Array S 112.59 49 ePKiKP PKiKP 20 17 36.6 -0.5
BRTR Keskin Array B 112.59 49 PKiKP PKiKP 20 17 36.6 -0.5
0.5nm,0.9s,baz=278,slow=1.9,SNR=3.1
H11N3 WAKE ISLAND Hyl 12.84 289 T T 22 20 05.5
baz=93,slow=77,SNR=13
H11N2 WAKE ISLAND Hyl 12.86 289 T T 22 20 08.2
baz=93,slow=77,SNR=14
H11N1 WAKE ISLAND Hyl 12.86 289 T T 22 20 07.3
baz=93,slow=77,SNR=11
H11S2 WAKE ISLAND Hyl 13.07 287 T T 22 20 22.7
baz=90,slow=75,SNR=31
H11S1 WAKE ISLAND Hyl 13.08 288 T T 22 20 19.6
baz=90,slow=75,SNR=29
H11S3 WAKE ISLAND Hyl 13.09 287 T T 22 20 17.9
baz=90,slow=75,SNR=26
KBZ Khabaz 118.17 43 PKP PKPdf 20 17 47.4 0.0
1.8nm,0.8s,baz=205,slow=2.8,SNR=8.2
BVAR Borovoye Array 127.51 21 PKP PKPdf 20 18 05.7 +0.6
1.0nm,0.7s,baz=224,slow=4.1,SNR=7.5
KLR Kul'dur 128.80 333 PKP PKPdf 20 18 07.3 -0.4
0.1nm,0.7s,baz=15,slow=1.9,SNR=3.6
ZAA1 Zalesovo Array 130.74 11 ePKPdf PKPdf 20 18 11.1 -0.2
ZAA0 Zalesovo Array 130.75 11 ePKPdf PKPdf 20 18 09.8 -1.4
ZALV Zalesovo Beam 130.75 11 PKP PKPdf 20 18 11.1 -0.2
1.4nm,0.4s,baz=318,slow=2.0,SNR=12
ZALV Zalesovo Beam 130.75 11 ePKPdf PKPdf 20 18 10.2 -1.0
GEYT Alibeck 131.06 43 PKP PKPdf 20 18 11.9 -0.5
1.3nm,0.5s,baz=299,slow=6.1,SNR=6.4
KURK Kurchatov 132.20 17 ePKPdf PKPdf 20 18 13.1 -1.0
KURBB Kurchatov Arra 132.26 18 PKP PKPdf 20 18 13.1 -1.1
1.6nm,0.6s,baz=324,slow=2.3,SNR=7.1
ASAR Alice Springs 135.05 228 PKhKP PKPpre 20 18 13.9
0.4nm,0.8s,baz=128,slow=2.8,SNR=4.4
ASAR PKP **PKPdf 20 18 19.5 -0.9**
1.7nm,0.8s,baz=111,slow=1.7,SNR=14
MK32 Makanchi Array 136.80 17 ePKPpre PKPpre 20 18 13.9
MK32 ePKPdf **PKPdf 20 18 21.8 -1.1**
MKAR Makanchi Array 136.80 17 PKhKP PKPpre 20 18 13.9
0.1nm,0.6s,baz=344,slow=3.0,SNR=2.9
MKAR PKP **PKPdf 20 18 21.8 -1.1**
0.8nm,0.6s,baz=307,slow=1.8,SNR=12
WR1 Warramunga Arr 136.83 233 ePKPpre PKPpre 20 18 12.2
WR1 ePKPdf **PKPdf 20 18 23.1 -0.6**
WRA Warramunga Arr 136.83 233 PKhKP PKPpre 20 18 12.2
0.6nm,1.0s,baz=126,slow=4.2,SNR=2.9
WRA PKP **PKPdf 20 18 23.1 -0.6**
1.9nm,0.7s,baz=119,slow=1.9,SNR=13
SONA0 Songino Array 137.79 353 ePKPdf PKPdf 20 18 23.9 -0.9
SONM Songino Array 137.79 353 PKP PKPdf 20 18 23.9 -0.9
1.3nm,0.8s,baz=5.4,slow=0.1,SNR=7.9
KSRS Korea Array 139.09 324 PKP PKPdf 20 18 27.8 +0.5
1.7nm,0.8s,baz=48,slow=1.9,SNR=4.8
KSAR Wonju Array Be 139.12 324 PKP PKPdf 20 18 27.8 +0.4
WMQ Urumqi 140.96 13 ePKP PKPdf 20 18 28.8 -1.9
HHC Hu-ho-hao-te 143.49 344 ePKP PKPab 20 18 31.8 +0.3
GTA Gaotai 146.67 359 ePKPbc PKPdf 20 18 40.8 -0.1
GTA pPKP sPKPab 20 19 06.8 +10
GTA sPKP 20 19 18.1
NJ2 Nanjing 148.12 327 ePKPbc PKPdf 20 18 42.9 -0.4
LZH Lanzhou 149.68 352 ePKPbc PKPdf 20 18 45.5 -0.4
LZH pPKP sPKPab 20 19 09.8 +1.0
LZH sPKP 20 19 19.6
LZH LR LR
comp=N,110nm,18.2s
LZH LR LR
comp=E,120nm,17.9s
LZH LR LR
comp=Z,150nm,20.3s
XAN Xi'an 150.59 343 PKPbc PKPbc 20 18 51.8 -0.9
CD2 Chengdu 154.77 351 PKPbc PKPdf 20 18 50.8 -2.7
GYA Guiyang 158.35 341 ePKP PKPdf 20 18 56.0 -2.4
GYA PKPab **PKPab 20 19 33.0 +0.5**
GYA PKS **PKSdf 20 22 28.9 -3.4**
GYA PP **PP 20 23 14.4 +3.2**
GYA AMB AMB
comp=Z,120nm,8.2s
CMAR Chiang Mai Arr 167.56 1 PKP PKPdf 20 19 07.0 -0.2
1.1nm,0.7s,baz=280,slow=2.2,SNR=14
CMAR PKPab **PKPab 20 20 11.7 -1.1**
2.4nm,0.8s,baz=337,slow=5.0,SNR=13

*ISCJB **19** 19:59:02.0± 1.5, 23°.14N± 0°.07× 142°.8E± 0°.3, h71km, mb3.7/6, Error ellipse: s-maj=43.5km s-min=10.3km az=178.1*
*IDC **19** 19:59:06.8± 3.3, 23°.14N× 142°.80E, h102km± 39km, mb3.3/6, mb1 3.4/9, mb1mx3.1/69, mbtmp3.6/9, Error ellipse: s-maj=75.7km s-min=18.6km az=75.0*
ISC 19 19:59:04.9±1.7, **23°.09N**± 0°.09× **142°.5E**± 0°.3, **h71**km, **n12**, σ1 **s75**/10, **mb3.8/6**, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.01**	**355**	P	**Pn**	**20 00 04.8**	**+1.0**
JCJ				S	**Sn**	**20 00 46.2**	**-3.3**
	42nm,0.3s,baz=257,slow=22,SNR=21						
MJAR	**Matsushiro Arr**	**13.93**	**345**	P	**Pn**	**20 02 21.4**	**+2.6**
	0.2nm,0.3s,baz=167,slow=13,SNR=1.5						
KSRS	**Korea Array**	**19.06**	**322**	P	**Pn**	**20 03 23.7**	**+0.8**
	baz=125,slow=12,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**22.91**	**94**	T	T	20 28 07.4	
	baz=276						
H11N2	**WAKE ISLAND Hy**	**22.91**	**94**	T	T	20 28 05.5	
	baz=276						
H11N3	**WAKE ISLAND Hy**	**22.93**	**94**	T	T	20 28 06.3	
	baz=276						
CMAR	**Chiang Mai Arr**	**40.92**	**272**	P	**P**	**20 06 40.9**	**+0.4**
	0.3nm,0.5s,baz=58,slow=8.4,SNR=3.3						
WRA	**Warramunga Arr**	**43.51**	**191**	P	**P**	**20 07 01.1**	**-0.4**
	1.2nm,0.3s,baz=7.8,slow=7.9,SNR=48						
ASAR	**Alice Springs**	**47.23**	**191**	P	**P**	**20 07 30.3**	**-0.6**
	0.2nm,0.4s,baz=4.5,slow=8.2,SNR=3.1						
MKAR	**Makanchi Array**	**53.33**	**312**	P	**P**	**20 08 16.3**	**-0.6**
	0.3nm,0.5s,baz=89,slow=8.6,SNR=6.3						
KURBB	**Kurchatov Arra**	**56.11**	**316**	P	**P**	**20 08 36.2**	**-0.6**
	0.6nm,0.4s,baz=101,slow=34,SNR=8.7						
BVAR	**Borovoye Array**	**61.24**	**319**	P	**P**	**20 09 11.6**	**-0.8**
	0.6nm,0.5s,baz=92,slow=7.0,SNR=4.9						

*ISCJB **19** 19:59:50.3± 0.4, 10°.09N± 0°.04× 85°.02W± 0°.03, h60km± 3km, mb3.9/8, Error ellipse: s-maj=8.0km s-min=3.4km az=37.8*
*IDC **19** 19:59:50.5± 1.1, 10°.26N× 84°.90W, h48km± 6km, mb3.7/8, mb1 4.1/10, mb1mx3.8/49, mbtmp4.1/10, MS3.6/2, Ms1 3.6/2, ms1mx2.8/42, Error ellipse: s-maj=39.1km s-min=17.1km az=31.0*
*CASC **19** 19:59:51.4± 1.6, 10°.09N× 85°.00W, h38km± 7km, MD3.9, ML4.3, MW5.4*
ISC 19 19:59:49.1±0.6, **10°.02N**± 0°.04× **85°.09W**± 0°.04, **h41**km± 4km, **n73**, σ1 **s95**/89, **mb3.9**/8, **16C-6D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**0.30**	**27**	LR	LR	19 59 53.5	
	comp=Z,84nm,18.3s,baz=179,slow=49						
JTS				P	**Pn**	**19 59 58.4**	**+1.0**
	6μm,0.3s,baz=265,slow=3.1,SNR=5966						
JTS				S	**Sn**	**20 00 04.5**	**+1.2**
	13μm,0.3s,baz=27,slow=22,SNR=262						
JTS	**JuntasAbangare**	**0.30**	**27**	eP	**Pn**	**19 59 58.5**	**+1.0**
JTS				eS	**Sn**	**20 00 04.3**	**+1.0**
PLVR	**Palo Verde**	**0.41**	**321**	iP	**Pn**	**20 00 00.1**	**+1.1**
PLVR				eS	**Sn**	**20 00 07.9**	**+2.0**
PACM	**Arenal**	**0.56**	**35**	eP	Pn	20 00 05.7	+5.0
AMAS	**Alto Masis**	**0.59**	**9**	iP	**Pn**	**20 00 02.1**	**+0.8**
AMAS				eS	**Sn**	**20 00 10.7**	**+0.9**
CEDE	**Laguna Cede˜–o**	**0.60**	**39**	eP	**Pn**	**20 00 02.2**	**+0.9**
FORC	**Fortuna**	**0.60**	**43**	eP	**Pn**	**20 00 02.1**	**+0.8**
SRA1	**San Ram˜‡n**	**0.60**	**84**	eP	**Pn**	**20 00 02.1**	**+0.7**
SRA1				eS	**Sn**	**20 00 10.9**	**+0.8**
ACAL	**Aguas Claras**	**0.61**	**5**	iP	**Pn**	**20 00 02.5**	**+1.1**
ACAL				eS	**Sn**	**20 00 11.6**	**+1.4**
CUI	**Cuipilapa**	**0.63**	**353**	eP	**Pn**	**20 00 03.0**	**+1.3**
CUI				eS	**Sn**	**20 00 12.7**	**+1.9**
COLC	**Colonia**	**0.65**	**350**	eP	**Pn**	**20 00 03.2**	**+1.3**
MICM	**Guayabo**	**0.68**	**351**	eP	**Pn**	**20 00 03.9**	**+1.5**
LIM1	**Limonal**	**0.69**	**347**	eP	**Pn**	**20 00 03.9**	**+1.3**
GUAB	**Guayabo de Bag**	**0.69**	**348**	eP	**Pn**	**20 00 03.8**	**+1.2**
PTEN	**Parque Tenorio**	**0.69**	**8**	eP	**Pn**	**20 00 03.6**	**+1.0**
PTEN				eS	**Sn**	**20 00 15.0**	**+2.7**
MESS	**Mesas**	**0.72**	**352**	eP	**Pn**	**20 00 04.2**	**+1.3**
NY14	**Universidad de**	**0.76**	**325**	eP	**Pn**	**20 00 05.9**	**+2.5**
GPS2	**Hotel Rinc˜‡n**	**0.77**	**340**	eP	**Pn**	**20 00 05.3**	**+1.7**
GPS3	**Bodega del ICE**	**0.78**	**339**	eP	**Pn**	**20 00 05.5**	**+1.8**
GPS1	**Guardaparques**	**0.79**	**341**	eP	**Pn**	**20 00 05.6**	**+1.7**
LAPC	**Finca la Perla**	**0.81**	**335**	eP	**Pn**	**20 00 05.9**	**+1.7**
BUEV	**Buena Vista**	**0.83**	**338**	iP	**Pn**	**20 00 06.3**	**+1.8**
GB1A	**Borinquen Arri**	**0.85**	**339**	iP	**Pn**	**20 00 06.5**	**+1.8**
GB1A				eS	**Sn**	**20 00 18.8**	**+2.8**
BUAI	**Buenos Aires**	**0.88**	**344**	iP	**Pn**	**20 00 06.8**	**+1.7**
ACLS	**Los Chiles**	**1.06**	**20**	iP	**Pn**	**20 00 09.0**	**+1.4**
LCR2	**La Lucha 2**	**1.11**	**105**	eP	**Pn**	**20 00 09.6**	**+1.2**
LCR2				eS	**Sn**	**20 00 24.5**	**+2.0**
CVTR	**Volcan Turrial**	**1.31**	**90**	eP	**Pn**	**20 00 12.8**	**+1.5**
CVTR				eS	**Sn**	**20 00 30.1**	**+2.3**
EDDO	**Dominical**	**1.43**	**122**	eP	**Pn**	**20 00 14.5**	**+1.9**
EDLM	**Las Mercedes**	**1.65**	**116**	eP	**Pn**	**20 00 18.1**	**+2.4**
EDPN	**Palmar Norte**	**1.93**	**123**	eP	**Pn**	**20 00 21.5**	**+2.1**
ACON	**Acoyapa**	**1.93**	**358**	iP	**Pn**	**20 00 20.5**	**+1.0**
ACON				eS	**Sn**	**20 00 42.8**	**+0.2**
ACON				AML	AML	20 00 44.2	
	comp=N,2μm,0.4s						
EDBA	**Buenos Aires**	**1.98**	**115**	eP	**Pn**	**20 00 21.4**	**+1.2**
MASN	**Masaya**	**2.21**	**332**	eP	**Pn**	**20 00 24.7**	**+1.3**
ESPN	**Las Esperanzas**	**2.29**	**20**	eP	**Pn**	**20 00 24.8**	**+0.3**
ESPN				eS	**Sn**	**20 00 50.7**	**-0.8**
ESPN				AML	AML	20 00 52.8	
	comp=N,5μm,0.4s						
MGAN	**Managua**	**2.40**	**332**	eP	**Pn**	**20 00 27.7**	**+1.8**
TISN	**Laguna Tiscapa**	**2.40**	**331**	eP	**Pn**	**20 00 28.0**	**+2.0**
XAVN	**Gruta Xavier**	**2.44**	**330**	eP	**Pn**	**20 00 28.5**	**+2.1**
COPN	**Copaltepe**	**2.60**	**326**	eP	**Pn**	**20 00 30.9**	**+2.2**
COPN				eS	**Sn**	**20 00 53.6**	**-5.5**
BRU2	**Volcan**	**2.66**	**117**	eP	**Pn**	**20 00 31.9**	**+2.2**
CNGN	**Cerro Negro**	**2.92**	**327**	eP	**Pn**	**20 00 35.5**	**+2.3**
TELN	**Telica**	**3.08**	**326**	eP	**Pn**	**20 00 37.9**	**+2.5**
CRIN	**San Cristobal**	**3.28**	**324**	eP	**Pn**	**20 00 40.5**	**+2.4**
ESTN	**Estel**	**3.31**	**338**	eP	**Pn**	**20 00 40.5**	**+2.0**
CNCH	**Conchagua**	**4.20**	**321**	eP	**Pn**	**20 00 54.0**	**+3.2**
LCND	**La Ca˜–ada**	**4.26**	**320**	eP	**Pn**	**20 00 54.4**	**+2.8**
TGUH	**Tegucigalpa,Un**	**4.54**	**332**	eP	**Pn**	**20 00 58.2**	**+2.8**
TGUH	**Tegucigalpa,Un**	**4.54**	**332**	eP	**Pn**	**20 00 57.1**	**+1.8**
VSM	**San Miguel**	**4.60**	**318**	eP	**Pn**	**20 01 00.1**	**+3.7**
PACA	**Pacayal**	**4.66**	**318**	eP	Pn	20 01 01.4	+4.2
ICCO	**Coco Island**	**4.86**	**204**	eP	**Pn**	**20 01 02.2**	**+2.4**
ICCO				eS	**Sn**	**20 01 51.9**	**-2.9**
BCIP	**Isla Barro Col**	**5.25**	**99**	eP	**Pn**	**20 01 06.4**	**+1.3**
BCIP	**Isla Barro Col**	**5.25**	**99**	eP	**Pn**	**20 01 05.8**	**+0.7**
AZU	**Azuero**	**5.25**	**115**	eP	Pn	20 01 10.4	+5.3
LFRS	**El Faro**	**5.28**	**313**	eP	**Pn**	**20 01 09.8**	**+4.1**
FRIJ	**El Hiral**	**5.35**	**98**	eP	**Pn**	**20 01 07.8**	**+1.3**
BOQS	**Boqueron**	**5.52**	**312**	eP	Pn	20 01 14.1	+5.1
FLAM	**Flamenco Islan**	**5.59**	**101**	eP	**Pn**	**20 01 11.9**	**+2.1**
SBLS	**San Blas**	**5.84**	**311**	eP	Pn	20 01 18.3	+4.9
ZARC	**Zaragoza, Cauc**	**10.42**	**103**	eP	**Pn**	**20 02 19.6**	**+3.5**
CMIG	**Matias Romero**	**11.83**	**307**	P	**Pn**	**20 02 38.2**	**+2.8**
	comp=N,4.4nm,0.3s,baz=128,slow=7.9,SNR=24						
CMIG				S	**Sn**	**20 04 48.2**	**+2.1**
	comp=N,0.5nm,0.3s,baz=103,slow=15,SNR=2.6						
SDV	**Santo Domingo**	**14.30**	**93**	P	**Pn**	**20 03 10.2**	**+0.9**
	comp=N,3.2nm,0.3s,baz=287,slow=11,SNR=26						
SDV				LR	LR	20 10 20.0	
	comp=N,211nm,21.9s,baz=214,slow=44						
SDV	**Santo Domingo**	**14.30**	**93**	eP	**Pn**	**20 03 10.1**	**+0.7**
ATAH	**Atahualpa**	**18.30**	**158**	LR	LR	20 10 26.9	
	comp=N,208nm,19.0s,baz=335,slow=34						
TXAR	**Lajitas Array**	**25.91**	**320**	P	**P**	**20 05 19.1**	**+1.4**

comp=N,6.7nm,0.4s,baz=140,slow=9.9,SNR=52
TXAR pP **sP** 20 05 32.0 -1.6
comp=N,7.7nm,0.6s,baz=142,slow=12,SNR=12
PDAR Pinedale Array 39.00 331 P **P** 20 07 12.0 +0.1
comp=N,0.4nm,0.4s,baz=124,slow=12,SNR=5.8
PDAR pP **sP** 20 07 25.4 -2.7
comp=N,0.6nm,0.6s,baz=132,slow=8.2,SNR=4.5
PDAR PcP **PcP** 20 09 21.7 0.0
comp=N,0.7nm,0.6s,baz=142,slow=4.6,SNR=2.6
NVAR Mina Array Basa 41.04 319 P **P** 20 07 29.4 +0.4
comp=N,1.4nm,0.4s,baz=131,slow=6.9,SNR=16
NVAR pP **sP** 20 07 43.5 -1.7
comp=N,3.4nm,0.6s,baz=128,slow=7.3,SNR=12
NVAR PcP **PcP** 20 09 29.8 +1.5
comp=N,0.7nm,0.5s,baz=133,slow=3.8,SNR=2.5
NVAR ScP **ScP** 20 13 14.8 -0.2
comp=N,0.4nm,0.6s,baz=99,slow=2.8,SNR=2.7
ULM Lac du Bonnet 41.09 349 P **P** 20 07 27.1 -1.7
comp=N,3.6nm,0.5s,baz=163,slow=9.2,SNR=8.1
YKA Yellowknife Ar 56.56 344 P **P** 20 09 25.0 -2.3
comp=N,0.4nm,0.5s,baz=141,slow=7.0,SNR=8.5
RES Resolute Bay 64.87 357 P **P** 20 10 22.0 -1.7
comp=N,0.6nm,0.5s,baz=174,slow=10,SNR=4.0
INK Inuvik 66.20 342 P **P** 20 10 32.0 -0.4
comp=N,1.1nm,0.8s,baz=102,slow=3.6,SNR=3.0
ILAR Eielson Array 69.16 336 P **P** 20 10 51.1 0.0
comp=N,0.3nm,0.6s,baz=130,slow=4.1,SNR=4.5
ASAR Alice Springs 140.44 245 PKP **PKPdf** 20 19 14.2 -0.7
comp=N,0.5nm,0.6s,baz=100,slow=2.1,SNR=4.5
WRA Warramunga Arr 140.75 251 PKP **PKPdf** 20 19 13.7 -1.8
comp=N,1.0nm,0.8s,baz=97,slow=2.6,SNR=4.5

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*ATA **19** 20:06:00.0±1.6, 38.71N×43.32E, h7km±56km, ML2.3, MW2.2*
*ISK **19** 20:06:00.3, 38.66N×43.14E, h12km, ML2.1/3*
*CSEM **19** 20:06:01.5±0.3, 38.65N×43.18E, h10km, ML2.1, Error ellipse: s-maj=6.7km s-min=5.4km az=2.0*
*DDA **19** 20:06:02.0, 38.70N×43.25E, h7km, Ml2.5*
ISC 19 20:06:02.0±0.9, **38.71N**±0.02×**43.19E**±0.02, **h11**km±7km, **n27**, σ1**s29**/50, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.19**	**125**	PG	**Pg**	**20 06 06.1**	**-0.1**
VANB				SG	**Sg**	**20 06 10.3**	**+1.1**
VANB	**Van**	**0.19**	**125**	*e*Pg	**Pg**	**20 06 06.1**	**-0.1**
VANB				*e*Sg	**Sg**	**20 06 10.3**	**+1.1**
TVAN	**Van**	**0.24**	**136**	*i* P	**Pg**	**20 06 06.4**	**-0.8**
TVAN				*i* S	**Sg**	**20 06 10.8**	**+0.1**
TVAN	**Van**	**0.24**	**136**	P	**Pg**	**20 06 06.4**	**-0.8**
TVAN				S	**Sg**	**20 06 10.8**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**286**	*i* P	**Pg**	**20 06 09.9**	**+0.3**
ADCV				*i* S	**Sb**	**20 06 17.4**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.38**	**286**	P	**Pg**	**20 06 09.9**	**+0.3**
ADCV				S	**Sb**	**20 06 17.4**	**+0.6**
GEVA	**Gevas**	**0.41**	**195**	*e*P	**Pg**	**20 06 09.2**	**-0.9**
GEVA				*e*S	**Sg**	**20 06 16.1**	**+0.6**
GEVA				IAML		20 06 19.5	
	comp=Z,17nm,0.4s						
GEVA	**Gevas**	**0.41**	**195**	*i* P	**Pg**	**20 06 09.2**	**-0.9**
GEVA				*i* S	**Sb**	**20 06 17.0**	**-0.6**
GEVA	**Gevas**	**0.41**	**195**	P	**Pg**	**20 06 09.2**	**-0.9**
GEVA				S	**Sb**	**20 06 17.0**	**-0.6**
VMUR	**Van-Muradiye**	**0.41**	**46**	*i* P	**Pb**	**20 06 10.2**	**-1.3**
VMUR				*i* S	**Sb**	**20 06 17.8**	**0.0**
VMUR	**Van-Muradiye**	**0.41**	**46**	P	**Pb**	**20 06 10.2**	**-1.3**
VMUR				S	**Sb**	**20 06 17.8**	**0.0**
CLDR	**Caldiran**	**0.72**	**52**	PG	**Pb**	**20 06 15.7**	**-1.0**
CLDR				SG	**Sn**	**20 06 27.1**	**-2.3**
CLDR	**Caldiran**	**0.72**	**52**	*e*Pg	**Pb**	**20 06 15.7**	**-1.0**
CLDR				*e*Sg	**Sn**	**20 06 27.1**	**-2.3**
TUTA	**Tutak**	**0.76**	**337**	*i* P	**Pg**	**20 06 16.1**	**-0.6**
TUTA				*e*S	**Sg**	**20 06 27.3**	**+0.7**
TUTA	**Tutak**	**0.76**	**337**	*i* P	**Pg**	**20 06 16.3**	**-0.5**
AGRB	**Hanur-Agry**	**0.88**	**350**	PG	**Pg**	**20 06 18.6**	**-0.5**
AGRB				SG	**Sb**	**20 06 31.7**	**+0.3**
AGRB	**Hanur-Agry**	**0.88**	**350**	*e*Pg	**Pg**	**20 06 18.6**	**-0.5**
AGRB				*e*Sg	**Sb**	**20 06 31.7**	**+0.3**
GURO	**Guroymak-BITLI**	**0.92**	**261**	PG	**Pg**	**20 06 17.5**	**-2.3**
GURO				SG	**Sg**	**20 06 30.0**	**-1.8**
GURO	**Guroymak-BITLI**	**0.92**	**261**	*e*Pg	**Pg**	**20 06 17.5**	**-2.3**
GURO				*e*Sg	**Sg**	**20 06 30.0**	**-1.8**
EKAR	**Karacoban**	**1.04**	**302**	*e*P	**Pg**	**20 06 22.2**	**+0.2**
EKAR				*e*S	**Sn**	**20 06 39.7**	**+2.4**
EKAR	**Karacoban**	**1.04**	**302**	*i* P	**Pn**	**20 06 23.5**	**+0.8**
EKAR	**Karacoban**	**1.04**	**302**	P	**Pn**	**20 06 23.5**	**+0.8**
HAKT	**HAKKARI**	**1.22**	**160**	*i* P	**Pn**	**20 06 27.1**	**+1.9**
HAKT				*i* S	**Sn**	**20 06 45.0**	**+3.3**
EATA	**Eleskirt**	**1.28**	**335**	*e*P	**Pn**	**20 06 25.9**	**-0.3**
EATA				*e*S	**Sn**	**20 06 44.7**	**+1.3**
EATA	**Eleskirt**	**1.28**	**335**	*i* P	**Pn**	**20 06 26.1**	**0.0**
EATA				*i* S	**Sn**	**20 06 45.6**	**+2.3**
EATA	**Eleskirt**	**1.28**	**335**	P	**Pn**	**20 06 26.1**	**0.0**
EATA				S	**Sn**	**20 06 45.7**	**+2.3**
DIGO	**Kars**	**1.71**	**5**	*e*P	**Pb**	**20 06 33.6**	**-0.1**

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*IDC **19** 20:36:19.3±0.6, 28.92N×82.36E, h0km, mb4.0/25, mb1 4.1/28, mb1mx4.0/70, mbtmp4.0/28, ML4.0/3, MS3.4/9, Ms1 3.4/9, ms1mx2.9/68, Error ellipse: s-maj=16.4km s-min=11.9km az=32.0*
*NEIC **19** 20:36:21.3±0.4, 29.02N×82.32E, h10km, mb4.3/17, Error ellipse: s-maj=8.4km s-min=5.9km az=218.0*
*DMN **19** 20:36:21.6±0.4, 28.70N×82.02E, h2km, Ml4.8/7, Error ellipse: s-maj=13.1km s-min=6.6km az=36.0*
*ISCJB **19** 20:36:22.6±0.2, 28.96N±0.03×82.24E±0.03, h33km, mb4.2/49, MS3.4/6, Error ellipse: s-maj=4.5km s-min=2.3km az=36.6*
*NDI **19** 20:36:22.0±2.1, 28.93N×82.31E, h10km, ML4.1, mb4.3(NEIC)*
*MOS **19** 20:36:22.7±1.1, 28.96N×82.37E, h35km, mb4.4/20, Error ellipse: s-maj=10.5km s-min=6.2km az=99.8*
ISC 19 20:36:23.9±0.4, **28.85N**±0.04×**82.23E**±0.04, **h35**km, **n143,** σ1**s82**/165, **mb4.0**/49, **MS3.5**/6, **9C-3D, Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**1.00**	**138**	*e*Pn	**Pn**	**20 36 41.1**	**-0.6**
PYUN	**Piuthan**	**1.00**	**138**	*e*Pg	**Pn**	**20 36 41.4**	**-0.3**
PYUN				*e*Sg	**Sn**	**20 36 55.8**	**+1.1**
	5µm,0.6s						
KOLN	**Koldanda**	**1.62**	**131**	*e*Pg	**Pn**	**20 36 52.9**	**+2.8**
KOLN				*e*Sg	**Sn**	**20 37 14.7**	**+4.8**
	3µm,0.5s						
DMN	**Daman**	**2.83**	**115**	*e*Pn	**Pn**	**20 37 08.1**	**+1.3**
DMN				*e*Sn	**Sn**	**20 37 41.1**	**+1.4**
	530nm,0.3s						
KKN	**Kakani**	**2.89**	**111**	*e*Pn	**Pn**	**20 37 08.8**	**+1.2**
KKN				*e*Sn	**Sn**	**20 37 43.1**	**+1.8**
	482nm,0.2s						
PKIN	**Phulchoki**	**3.07**	**114**	*e*Pn	**Pn**	**20 37 11.4**	**+1.2**
PKIN				*e*Sn	**Sn**	**20 37 47.4**	**+1.6**
	600nm,0.3s						
PKI	**Pulchoki**	**3.08**	**114**	*e*Pn	**Pn**	**20 37 11.5**	**+1.1**
PKI				*e*Sn	**Sn**	**20 37 47.7**	**+1.5**
	866nm,0.5s						
GUN	**Gumba**	**3.35**	**105**	*e*Pn	**Pn**	**20 37 15.6**	**+1.5**
GUN				*e*Sn	**Sn**	**20 37 55.0**	**+2.1**
	1µm,0.6s						
JIRN	**Jiri**	**3.69**	**108**	*e*Pn	**Pn**	**20 37 19.5**	**+0.7**
JIRN				*e*Sn	**Sn**	**20 38 01.7**	**+0.4**
DDI	**Dehra Dun**	**3.92**	**293**	*e*P	**Pn**	**20 37 23.8**	**+2.2**
DDI				*e*S	**Sn**	**20 38 07.0**	**+0.6**
SMLA	**Simla**	**4.94**	**299**	*e*P	**Pn**	**20 37 37.6**	**+2.0**
SMLA				*e*S	**Sn**	**20 38 31.1**	**-0.4**
BOK	**Bokaro**	**6.01**	**146**	*e*P	**Pn**	**20 37 51.2**	**+0.9**
BOK				*e*S	**Sn**	**20 38 55.7**	**-2.2**
BOK				IAML		20 39 37.4	
	comp=E,166nm,1.4s						
BOK				IAML		20 39 39.7	
	comp=N,174nm,0.2s						
DHRM	**DHARAMSHALA**	**6.13**	**305**	*e*P	**Pn**	**20 37 53.2**	**+1.0**
DHRM				*e*S	**Sn**	**20 38 58.7**	**-2.6**
BHPL	**Bhopal**	**7.06**	**219**	*e*P	**Pn**	**20 38 05.2**	**+0.5**
BHPL				*e*S	**Sn**	**20 39 22.2**	**-1.6**
LSA	**Lhasa**	**7.84**	**82**	*e*P	**Pn**	**20 38 16.3**	**+0.4**
LSA	**Lhasa**	**7.84**	**82**	*e*Pn	**Pn**	**20 38 16.3**	**+0.4**
NGP	**Nagpur**	**8.19**	**201**	*e*P	**Pn**	**20 38 21.8**	**+1.6**
NGP				*e*S	**Sn**	**20 39 50.5**	**-1.1**
CHCP	**Chirah Chowk**	**9.04**	**304**	P	**Pn**	**20 38 33.1**	**+1.1**
SHL	**Shillong**	**9.20**	**109**	*e*P	**Pn**	**20 38 32.9**	**-1.4**
SHL				*e*S	**Sn**	**20 40 09.4**	**-7.2**
SHL				IAML		20 41 20.2	
	comp=N,72nm,0.1s						
SHL				IAML		20 41 22.1	
	comp=E,81nm,0.2s						
THW	**Thamme Wali**	**9.83**	**296**	P	**Pn**	**20 38 42.8**	**0.0**
CEP	**Cherat**	**10.12**	**302**	P	**Pn**	**20 38 46.8**	**0.0**
CEP				S	**Sn**	**20 40 36.0**	**-3.1**
VIS	**Vishakhapatnam**	**11.12**	**175**	*e*P	**Pn**	**20 38 59.9**	**-0.5**
VIS				*e*S	**Sn**	**20 40 59.1**	**-4.5**
VIS				IAML		20 42 17.3	
	comp=E,29nm,1.6s						
VIS				IAML		20 42 17.5	
	comp=N,123nm,1.0s						
HYB	**Hyderabad**	**11.87**	**197**	*i* P	**Pn**	**20 39 10.0**	**-0.7**
HYB				*e*S	**Sn**	**20 41 27.0**	**+5.1**
HYB	**Hyderabad**	**11.87**	**197**	*e*P	**Pn**	**20 39 09.5**	**-1.2**
KBL	**Kabul**	**12.57**	**300**	*e*P	**Pn**	**20 39 19.5**	**-0.9**
KBL	**Kabul**	**12.57**	**300**	*e*Pn	**Pn**	**20 39 19.5**	**-0.9**
POO	**Poona**	**12.81**	**219**	*e*P	**Pn**	**20 39 25.8**	**+2.1**
POO				*e*S	**Sn**	**20 41 38.5**	**-6.6**
POO				IAML		20 43 21.6	
	comp=E,22nm,1.6s						
POO				IAML		20 43 23.5	
	comp=N,21nm,0.2s						
TARG	**Taragay, Kyrgy**	**13.35**	**346**	*e*Pn	**Pn**	**20 39 31.4**	**+0.2**
AAK	**Ala-Archa**	**15.11**	**338**	Pn	**Pn**	**20 39 53.9**	**-0.9**
	comp=N,0.5nm,0.3s,baz=137,slow=8.9,SNR=11						
AAK				Sn	**Sn**	**20 42 41.7**	**+0.5**
	comp=N,0.0nm,0.3s,baz=345,slow=18,SNR=2.9						
AAK				LR	LR	20 46 26.8	
	comp=N,195nm,18.2s,baz=142,slow=40						
AAK	**Ala-Archa**	**15.11**	**338**⇑	*e*P	**Pn**	**20 39 55.8**	**+0.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK06	**Karatay Array**	**17.06**	**330**	*e*Pn	**Pn**	**20 40 17.2**	**-2.4**
KK07	**Karatay Array**	**17.06**	**330**	*e*Pn	**Pn**	**20 40 16.7**	**-2.9**
KK02	**Karatay Array**	**17.07**	**330**	*e*Pn	**Pn**	**20 40 16.8**	**-3.0**
KK31	**Karatay Array**	**17.07**	**330**	*e*P	**Pn**	**20 40 16.5**	**-3.2**
KK31	**Karatay Array**	**17.07**	**330**	*e*Pn	**Pn**	**20 40 16.5**	**-3.2**
KKAR	**Karatay Array**	**17.07**	**330**	*e*P	**Pn**	**20 40 16.7**	**-3.0**
KKAR	**Karatay Array**	**17.07**	**330**	*e*Pn	**Pn**	**20 40 16.7**	**-3.0**
KK01	**Karatay Array**	**17.07**	**330**	*e*Pn	**Pn**	**20 40 16.8**	**-2.9**
KK03	**Karatay Array**	**17.07**	**330**	*e*Pn	**Pn**	**20 40 16.9**	**-2.9**
KK05	**Karatay Array**	**17.07**	**330**	*e*Pn	**Pn**	**20 40 16.9**	**-2.9**
KK04	**Karatay Array**	**17.08**	**330**	*e*Pn	**Pn**	**20 40 17.2**	**-2.6**
KK08	**Karatay Array**	**17.08**	**330**	*e*Pn	**Pn**	**20 40 16.9**	**-3.0**
KK09	**Karatay Array**	**17.09**	**330**	*e*Pn	**Pn**	**20 40 17.5**	**-2.5**
MK01	**Makanchi Array**	**17.89**	**0**	*e*Pn	**Pn**	**20 40 27.1**	**-2.9**
MK31	**Makanchi Array**	**17.92**	**0**	*e*P	**Pn**	**20 40 27.7**	**-2.5**
MK31	**Makanchi Array**	**17.92**	**0**	*e*Pn	**Pn**	**20 40 27.7**	**-2.5**
MK32	**Makanchi Array**	**17.92**	**0**	*e*Pn	**Pn**	**20 40 27.5**	**-2.7**
MKAR	**Makanchi Array**	**17.92**	**0**	P	**Pn**	**20 40 27.5**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=182,slow=13,SNR=24						
MKAR				LR	LR	20 48 35.9	
	comp=Z,78nm,18.6s,baz=202,slow=41						
MKAR	**Makanchi Array**	**17.92**	**0**	*e*P	**Pn**	**20 40 27.7**	**-2.5**
MKAR				pmax	pmax		
	comp=Z,27nm,0.6s						
MKAR	**Makanchi Array**	**17.92**	**0**	*e*Pn	**Pn**	**20 40 27.7**	**-2.5**
	comp=Z,27nm,0.6s						
CMAR	**Chiang Mai Arr**	**18.46**	**120**	P	**P**	**20 40 35.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=306,slow=10.0,SNR=8.2						
CMAR				LR	LR	20 48 23.1	
	comp=Z,37nm,18.5s,baz=228,slow=39						
CMAR	**Chiang Mai Arr**	**18.46**	**120**	*ce*P	**Pn**	**20 40 37.5**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PALK	**Pallekele**	**21.51**	**184**	P	**P**	**20 41 10.2**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=297,slow=4.5,SNR=2.4						
PALK	**Pallekele**	**21.51**	**184**	*e*P	**P**	**20 41 10.2**	**+0.3**
	comp=Z,6.0nm,1.1s						
KURBB	**Kurchatov Arra**	**21.93**	**354**	P	**P**	**20 41 13.3**	**-0.8**
	comp=Z,12nm,0.7s,baz=180,slow=10.0,SNR=70						
KURK	**Kurchatov**	**22.01**	**354**	*c* *i*P	**P**	**20 41 14.1**	**-0.9**
KURK				pmax	pmax		
	comp=Z,18nm,0.7s						
KURK	**Kurchatov**	**22.01**	**354**	*e*P	**P**	**20 41 13.3**	**-1.7**
GYB1	**ALIBECK ARRAY**	**22.02**	**301**	*e*P	**P**	**20 41 16.5**	**+1.3**
	comp=Z,4.7nm,0.9s						
GYB2	**ALIBECK ARRAY**	**22.02**	**301**	*e*P	**P**	**20 41 16.0**	**+0.8**
	comp=Z,5.0nm,0.7s						
GYA1	**ALIBECK ARRAY**	**22.02**	**301**	*e*P	**P**	**20 41 17.1**	**+1.8**
	comp=Z,3.6nm,0.8s						
GYA2	**ALIBECK ARRAY**	**22.02**	**301**	*e*P	**P**	**20 41 17.1**	**+1.8**
	comp=Z,6.7nm,0.9s						
GEYT	**Alibeck**	**22.02**	**301**	P	**P**	**20 41 15.6**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=119,slow=12,SNR=6.6						
GEYT				LR	LR	20 51 46.0	
	comp=Z,37nm,19.0s,baz=145,slow=42						
GYA0	**ALIBECK ARRAY**	**22.02**	**301**	*e*P	**P**	**20 41 16.3**	**+1.0**
	comp=Z,4.7nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**22.02**	**301**	*e*P	**P**	**20 41 16.2**	**+0.9**
	comp=Z,4.7nm,0.8s						
GYB3	**ALIBECK ARRAY**	**22.03**	**301**	*e*P	**P**	**20 41 16.2**	**+0.8**
	comp=Z,4.1nm,0.8s						
HVS	**Khovu-Aksy**	**23.88**	**18**⇑	*e*P	**P**	**20 41 34.9**	**+0.8**
HVS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZAA0	**Zalesovo Array**	**25.15**	**4**	*e*P	**P**	**20 41 45.0**	**-0.6**
	comp=Z,5.7nm,0.6s						
ZALV	**Zalesovo Beam**	**25.15**	**4**	P	**P**	**20 41 45.1**	**-0.5**
	comp=Z,6.3nm,0.5s,baz=189,slow=10,SNR=20						
ZALV	**Zalesovo Beam**	**25.15**	**4**	*e*P	**P**	**20 41 45.5**	**-0.1**
ZALV	**Zalesovo Beam**	**25.15**	**4**	*e*P	**P**	**20 41 45.5**	**-0.1**
ZAA1	**Zalesovo Array**	**25.16**	**4**	*e*P	**P**	**20 41 45.1**	**-0.5**
BVAR	**Borovoye Array**	**25.69**	**343**	P	**P**	**20 41 50.5**	**0.0**
	comp=Z,2.4nm,0.6s,baz=137,slow=10,SNR=19						
BRVK	**Borovoye**	**25.74**	**343**	*e*P	**P**	**20 41 51.5**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**25.74**	**343**	*e*P	**P**	**20 41 51.6**	**+0.6**
	comp=Z,4.1nm,0.6s						
NVS	**Novosibirsk**	**25.98**	**1**	*e*P	**P**	**20 41 51.9**	**-1.2**
AB07	**Akbulak array**	**26.54**	**326**	*e*P	**P**	**20 41 59.6**	**+1.4**
AB06	**Akbulak array**	**26.55**	**326**	*e*P	**P**	**20 41 59.8**	**+1.5**
AB08	**Akbulak array**	**26.55**	**326**	*e*P	**P**	**20 41 59.9**	**+1.5**
AB03	**Akbulak array**	**26.55**	**326**	*e*P	**P**	**20 41 59.8**	**+1.5**
AB01	**Akbulak array**	**26.56**	**326**	*e*P	**P**	**20 41 59.8**	**+1.4**
AB31	**Akbulak array**	**26.56**	**326**	*e*P	**P**	**20 42 00.0**	**+1.6**
AB31	**Akbulak array**	**26.56**	**326**	*e*P	**P**	**20 42 00.0**	**+1.6**
ABKAR	**Akbulak array**	**26.56**	**326**	*e*P	**P**	**20 42 00.0**	**+1.6**
	comp=Z,73nm,1.1s						
AB02	**Akbulak array**	**26.56**	**326**	*e*P	**P**	**20 41 59.8**	**+1.4**
AB04	**Akbulak array**	**26.56**	**326**	*e*P	**P**	**20 42 00.1**	**+1.7**
AB05	**Akbulak array**	**26.57**	**326**	*e*P	**P**	**20 41 60.0**	**+1.5**
AB09	**Akbulak array**	**26.57**	**326**	*e*P	**P**	**20 42 00.1**	**+1.5**
SONA0	**Songino Array**	**26.63**	**38**	*e*P	**P**	**20 41 58.3**	**-0.9**
SONM	**Songino Array**	**26.63**	**38**	P	**P**	**20 41 58.3**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=226,slow=9.7,SNR=13						
SONA1	**Songino Array**	**26.64**	**38**	*e*P	**P**	**20 42 00.2**	**+0.9**
ZAK	**Zakamensk**	**26.76**	**31**	*e*P	**P**	**20 42 00.1**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MOY	**Mondy**	**26.77**	**26**	*e*P	**P**	**20 42 00.6**	**+0.2**
ULN	**Ulaanbaatar**	**27.00**	**39**⇓	*e*P	**P**	**20 42 00.4**	**-2.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.00**	**39**	*e*P	**P**	**20 42 03.1**	**+0.5**
	comp=Z,16nm,1.7s						
AKTO	**Aktyubinsk**	**28.27**	**326**	P	**P**	**20 42 14.2**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=107,slow=12,SNR=4.3						
AKTO				LR	LR	20 54 30.8	
	comp=Z,88nm,19.9s,baz=112,slow=39						
GSI	**Gunungsitoli**	**31.06**	**149**	*e*P	**P**	**20 42 40.8**	**+2.1**
	comp=Z,38nm,1.6s						
ARU	**Arti**	**32.28**	**335**	P	**P**	**20 42 49.7**	**+0.6**
	comp=Z,4.7nm,0.5s,baz=139,slow=5.6,SNR=13						
ARU				LR	LR	20 57 45.4	
	comp=Z,20nm,21.2s,baz=286,slow=40						
ARU	**Arti**	**32.28**	**335**	*c* *i*P	**P**	**20 42 49.6**	**+0.6**
ARU						20 43 53.9	
ARU						20 45 32.3	
ARU				S	**S**	**20 48 02.7**	**+2.7**
ARU				SS	**SnSn**	**20 49 54.8**	**+1.6**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	**32.28**	**335**	*e*P	**P**	**20 42 49.5**	**+0.6**
	comp=Z,6.3nm,0.6s						
KSAR	**Wonju Array Be**	**38.87**	**65**	P	**P**	**20 43 44.8**	**-1.0**
KSAR	**Wonju Array Be**	**38.87**	**65**	P	**P**	**20 43 44.8**	**-1.0**
KSRS	**Korea Array**	**38.90**	**65**	P	**P**	**20 43 44.8**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=268,slow=9.7,SNR=6.3						
KSRS	**Korea Array**	**38.90**	**65**	P	**P**	**20 43 44.8**	**-1.3**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BR101	**Keskin Array S**	**41.14**	**298**	*e*P	**P**	**20 44 06.7**	**+1.8**
BRTR	**Keskin Array B**	**41.14**	**298**	P	**P**	**20 44 06.7**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=123,slow=10,SNR=2.7						
OBN	**Obninsk**	**41.83**	**322**⇑	*e*P	**P**	**20 44 11.7**	**+1.7**
OBN				pmax	pmax		
	comp=Z,13nm,0.5s						
USRK	**Ussuriysk Ar.**	**42.18**	**55**	P	**P**	**20 44 12.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=254,slow=10,SNR=2.4						
KLR	**Kul'dur**	**42.63**	**47**	P	**P**	**20 44 17.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=267,slow=11,SNR=4.3						
KLR	**Kul'dur**	**42.63**	**47**⇑	*i*P	**P**	**20 44 16.9**	**+0.2**
KLMR	**Klimovskoe**	**42.77**	**331**	*e*P	**P**	**20 44 16.1**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,13nm,1.3s						
KLMR	**Klimovskoe**	**42.77**	**331**	*e*P	**P**	**20 44 16.1**	**-1.5**
KLMR				AMP		20 44 19.6	
	comp=Z,13nm,1.3s						
AKASG	**Malin Array Be**	**45.08**	**314**	P	**P**	**20 44 37.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=77,slow=8.2,SNR=5.4						
AKBB	**Malin Array Si**	**45.08**	**314**	*e*P	**P**	**20 44 37.1**	**+0.8**
AKBB				pmax	pmax		
	comp=Z,29nm,1.9s						
AKBB	**Malin Array Si**	**45.08**	**314**	*e*P	**P**	**20 44 37.0**	**+0.8**
	comp=Z,28nm,1.9s						
KIEV	**Kiev**	**45.09**	**314**⇑	*e*P	**P**	**20 44 37.5**	**+1.1**
KIEV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MLR	**Muntele Rosu**	**46.86**	**307**	P	**P**	**20 44 51.8**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=104,slow=4.4,SNR=6.4						
MLR	**Muntele Rosu**	**46.86**	**307**	*e*P	**P**	**20 44 53.1**	**+2.4**
MLR				pmax	pmax		
	comp=Z,11nm,1.1s						
MLR	**Muntele Rosu**	**46.86**	**307**	*e*P	**P**	**20 44 53.1**	**+2.4**
	comp=Z,10nm,1.1s						
JHJ	**Hachijo jima 2**	**49.01**	**70**	P	**P**	**20 45 07.5**	**+0.2**
	comp=Z,144nm,0.7s,baz=53,slow=6.0,SNR=2.7						
FIA0	**FINESS Array S**	**49.02**	**328**	*e*P	**P**	**20 45 07.6**	**+0.7**
FIA0	**FINESS Array S**	**49.02**	**328**	*e*P	**P**	**20 45 07.6**	**+0.7**
FINES	**FINESS Array B**	**49.02**	**328**	P	**P**	**20 45 07.6**	**+0.7**
	comp=Z,3.3nm,0.5s,baz=110,slow=8.3,SNR=48						
FINES				LR	LR	21 07 23.9	
	comp=Z,115nm,18.4s,baz=93,slow=38						
FINES	**FINESS Array B**	**49.02**	**328**	*i* P	**P**	**20 45 07.5**	**+0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**49.81**	**51**⇓	*e*P	**P**	**20 45 10.4**	**-2.8**
YSS				pmax	pmax		
	comp=Z,61nm,2.5s						
ARA0	**ARCESS Array S**	**51.78**	**338**	*e*P	**P**	**20 45 28.6**	**+0.8**
ARCES	**ARCESS Array B**	**51.78**	**338**	P	**P**	**20 45 28.6**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=94,slow=7.8,SNR=16						
HFS	**Hagfors**	**54.81**	**325**	P	**P**	**20 45 50.9**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=96,slow=8.8,SNR=6.5						
HFS				LR	LR	21 12 58.8	
	comp=Z,40nm,18.1s,baz=70,slow=40						
GERES	**GERESS Array B**	**55.07**	**311**	P	**P**	**20 45 53.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=91,slow=6.9,SNR=3.1						
SEY	**Seymchan**	**55.73**	**31**⇑	*e*P	**P**	**20 45 56.4**	**-0.3**
NB200	**NORSAR Array S**	**56.07**	**326**	*e*P	**P**	**20 45 59.0**	**-0.1**
NOA	**NORSAR Array B**	**56.07**	**326**	P	**P**	**20 45 59.0**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=91,slow=6.8,SNR=3.2						
NOA				LR	LR	21 11 41.9	
	comp=Z,67nm,18.3s,baz=220,slow=38						
BILL	**Bilibino**	**61.38**	**25**	*e*P	**P**	**

H11S1	**WAKE ISLAND Hy**	**18.56**	**85**	T	T	21 54 37.2	
	baz=277,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**18.56**	**85**	T	T	21 54 32.3	
	baz=277,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy**	**18.75**	**81**	T	T	21 54 43.2	
	baz=268,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy**	**18.75**	**81**	T	T	21 54 38.2	
	baz=268,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**18.77**	**81**	T	T	21 54 38.2	
	baz=268,slow=75,SNR=15						
MJAR	**Matsushiro Arr**	**20.16**	**339**	P	**P**	**21 35 57.6**	**+0.3**
	0.5nm,0.6s,baz=175,slow=11,SNR=3.3						
DAV	**Davao City (W)**	**23.66**	**246**	LR	LR	21 44 30.3	
	comp=Z,66nm,21.6s,baz=42,slow=33						
KSRS	**Korea Array**	**25.76**	**323**	P	**P**	**21 36 52.6**	**-0.6**
	2.2nm,0.9s,baz=139,slow=9.7,SNR=6.1						
KSRS				LR	LR	21 46 34.7	
	comp=Z,34nm,18.4s,baz=195,slow=35						
WRA	**Warramunga Arr**	**39.70**	**199**	P	**P**	**21 38 53.8**	**-0.8**
	0.7nm,1.0s,baz=18,slow=8.7,SNR=5.8						
WRA				PcP	**PcP**	**21 41 01.1**	**+0.4**
	0.4nm,0.5s,baz=18,slow=3.6,SNR=7.0						
ASAR	**Alice Springs**	**43.33**	**198**	P	**P**	**21 39 23.7**	**-0.7**
	0.3nm,0.4s,baz=18,slow=8.2,SNR=4.6						
DZM	**Mont Dzumac**	**44.01**	**154**	LR	LR	21 57 07.9	
	comp=Z,29nm,19.9s,baz=142,slow=35						
SONM	**Songino Array**	**44.61**	**321**	P	**P**	**21 39 34.7**	**+0.1**
	0.5nm,0.6s,baz=134,slow=10,SNR=4.4						
CMAR	**Chiang Mai Arr**	**45.71**	**279**	P	**P**	**21 39 43.2**	**-0.4**
	0.6nm,0.7s,baz=52,slow=12,SNR=4.9						
CMAR				LR	LR	21 57 38.6	
	comp=Z,19nm,21.6s,baz=345,slow=34						
MKAR	**Makanchi Array**	**60.00**	**314**	P	**P**	**21 41 28.7**	**+0.1**
	0.4nm,0.5s,baz=84,slow=8.1,SNR=8.9						
URZ	**Urewera**	**62.57**	**154**	LR	LR	22 05 22.1	
	comp=Z,40nm,18.3s,baz=106,slow=32						
KURBB	**Kurchatov Arra**	**62.82**	**318**	P	**P**	**21 41 47.1**	**-0.5**
	1.1nm,0.4s,baz=94,slow=6.9,SNR=6.8						
BVAR	**Borovoye Array**	**67.95**	**321**	P	**P**	**21 42 20.9**	**+0.1**
	1.3nm,0.4s,baz=97,slow=7.4,SNR=21						
YKA	**Yellowknife Ar**	**78.00**	**28**	P	**P**	**21 43 20.0**	**+0.1**
	0.2nm,0.5s,baz=287,slow=5.7,SNR=2.7						
GEYT	**Alibeck**	**78.48**	**306**	P	**P**	**21 43 23.9**	**+0.8**
	0.3nm,0.6s,baz=48,slow=2.1,SNR=2.7						
ARCES	**ARCESS Array B**	**83.64**	**342**	P	**P**	**21 43 50.8**	**+0.8**
	0.4nm,0.4s,baz=63,slow=5.5,SNR=9.6						
FINES	**FINESS Array B**	**88.16**	**336**	P	**P**	**21 44 11.2**	**-1.1**
	1.1nm,0.4s,baz=58,slow=4.6,SNR=14						
TORD	**Torodi Ar. Bea**	**134.02**	**310**	PKP	**PKPdf**	**21 50 40.2**	**+0.4**
	0.2nm,0.5s,baz=3.3,slow=1.6,SNR=3.9						

*ISCJB **19** 21:36:01.8±0.6, 39°.95N±0°.03×42°.58E±0°.06, h10km±6km, Error ellipse: s-maj=8.1km s-min=5.0km az=7.3*
*CSEM **19** 21:36:01.1±0.3, 39°.94N×42°.56E, h12km, MD2.4, Error ellipse: s-maj=10.5km s-min=6.2km az=107.0*
*DDA **19** 21:36:01.8, 39°.97N×42°.52E, h2km, Md2.4*
*ISK **19** 21:36:01.5, 39°.97N×42°.64E, h24km, ML2.5/2*
ISC 19 21:36:01.6±0.9, **39°.94N**±0°.03×**42°.54E**±0°.04, **h10**km±6km, **n16**,σ1§**57**/25, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EATA	**Eleskirt**	**0.09**	**205**	*i*	P		**Pg**	**21 36 04.4**	**+0.1**
EATA				*i*	S		**Sg**	**21 36 06.7**	**+0.5**
EATA	**Eleskirt**	**0.09**	**205**		P		**Pg**	**21 36 04.4**	**+0.1**
EATA					S		**Sg**	**21 36 06.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.51**	**136**		PG		**Pg**	**21 36 11.7**	**+0.3**
AGRB					SG		**Sb**	**21 36 19.2**	**-1.0**
AGRB	**Hanur-Agry**	**0.51**	**136**	*e*	Pg		**Pg**	**21 36 11.7**	**+0.3**
AGRB				*e*	Sg		**Sb**	**21 36 19.2**	**-1.0**
SENK	**Senkaya-Erzuru**	**0.64**	**347**		PG		**Pb**	**21 36 14.7**	**-0.3**
SENK					SG		**Sb**	**21 36 24.2**	**+0.2**
EKAR	**Karacoban**	**0.78**	**208**	*i*	P		**Pg**	**21 36 16.6**	**0.0**
EKAR				*i*	S		**Sn**	**21 36 31.1**	**+0.4**
EKAR	**Karacoban**	**0.78**	**208**		P		**Pg**	**21 36 16.6**	**0.0**
KARS	**Kars**	**0.80**	**31**		PG		**Pg**	**21 36 16.5**	**-0.6**
KARS					SG		**Sb**	**21 36 27.4**	**-1.3**
KARS	**Kars**	**0.80**	**31**	*e*	Pg		**Pg**	**21 36 16.5**	**-0.6**
KARS				*e*	Sg		**Sb**	**21 36 27.4**	**-1.3**
EAK	**Akyaka**	**1.11**	**47**	*i*	P		**Pn**	**21 36 22.7**	**-0.6**
EAK				*i*	S		**Sn**	**21 36 44.2**	**+5.5**
EAK	**Akyaka**	**1.11**	**47**		P		**Pn**	**21 36 22.7**	**-0.6**
IGDI	**IGDIR**	**1.19**	**93**	*i*	P		**Pg**	**21 36 25.6**	**+1.2**
TASB	**TASBURUN-IGDIR**	**1.31**	**88**		PN		**Pn**	**21 36 23.5**	**-2.5**
TASB	**TASBURUN-IGDIR**	**1.31**	**88**	*e*	Pn		**Pn**	**21 36 23.5**	**-2.5**
GURO	**Guroymak-BITLI**	**1.44**	**196**		PN		**Pn**	**21 36 27.5**	**-0.4**
GURO	**Guroymak-BITLI**	**1.44**	**196**	*e*	Pn		**Pn**	**21 36 27.5**	**-0.4**

*ISCJB **19** 21:52:37.8±0.3, 24°.53S±0°.02×69°.30W±0°.03, h86km±2km, mb4.8/148, Error ellipse: s-maj=5.3km s-min=3.2km az=155.6*
*GUC **19** 21:52:39.3±0.9, 25°.01S×69°.75W, h100km±6km, ML5.0*
*NEIC **19** 21:52:39.0±0.0, 25°.01S×69°.75W, h100km, mb4.8/129, MW4.6, ML5.0(GUC), Moment Tensor Solution. s12 Moment tensor: Scale 10^16 Nm; Mrr=1.03; Mθθ 0.00; Mφφ 1.03; Mrθ -0.19; Mθφ -0.02; Mφr -0.19; Best double couple: Mo 1.10000×10^16 NP1:φs 9.00000°, δ 51.00000°, λ -77.00000°. NP2:φs 169.00000°, δ 41.00000°, λ -105.00000°. Principal axes: T 1.0500, Plg 5.0000°, Azm 90.0000°; N 0.0300, Plg 10.0000°, Azm 181.0000°; P -1.0800, Plg 79.0000°, Azm 333.0000°; After GUC.*
NEIC Felt [IV] at Calama and [III] at Antofagasta, Diego de Almagro, San Pedro de Atacama and Taltal.
*SJA **19** 21:52:39.5±0.9, 24°.65S×69°.44W, h73km±29km, ML4.5, MW4.2*
*IDC **19** 21:52:40.1±0.3, 24°.56S×69°.33W, h87km±2km, mb4.5/20, mb1 4.6/22, mb1mx4.5/38, mbtmp4.8/22, MS3.6/12, Ms1 3.6/12, ms1mx3.3/34, Error ellipse: s-maj=14.1km s-min=9.5km az=70.0*
*BJI **19** 21:52:40.5, 24°.60S×69°.20W, h73km, mB5.1/5, Ms5.2/2, Ms7 4.9/2*
ISC 19 21:52:39.6±0.3, **24°.64S**±0°.03×**69°.42W**±0°.04, **h87**km±2km, **h87**km:**pP-P**, **n688**,σ1§**31**/739, **mb4.9**/148, **5C-5D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.54**	**196**	⇑*i*	P		**Pn**	**21 52 54.6**	**-0.2**
GO02				*i*	S		**Sn**	**21 53 05.8**	**-0.2**
GO02					IAML			21 53 06.8	
	comp=E,133μm,0.4s								
PB14	**IPOC Station P**	**0.89**	**271**	*i*	P		**Pn**	**21 52 58.2**	**-0.1**
PB14					IAML			21 53 14.6	
	comp=Z,26μm,0.4s								
PB14	**IPOC Station P**	**0.89**	**271**	⇑*i*	P		**Pn**	**21 52 58.0**	**-0.2**
PB14				*i*	S		**Sn**	**21 53 11.9**	**-0.2**
PB14					IAML			21 53 16.3	
	comp=N,48μm,0.5s								
ANCH	**Antofagasta**	**1.31**	**317**	*e*	P		**Pn**	**21 53 05.4**	**+2.5**
ANCH				*i*	S		**Sn**	**21 53 24.9**	**+4.4**
PB10	**IPOC Station P**	**1.53**	**317**	*e*	Pn		**Pn**	**21 53 05.2**	**-0.4**
PB10	**IPOC Station P**	**1.53**	**317**	*i*	P		**Pn**	**21 53 05.7**	**+0.1**
PB10				*i*	S		**Sn**	**21 53 26.2**	**+1.0**
PB10					IAML			21 53 31.0	
	comp=Z,9μm,0.5s								
PB10	**IPOC Station P**	**1.53**	**317**	⇑*i*	P		**Pn**	**21 53 05.7**	**+0.1**
PB10				*i*	S		**Sn**	**21 53 26.8**	**+1.5**
PB06	**IPOC Station P**	**1.93**	**356**	⇓*i*	P		**Pn**	**21 53 11.2**	**+0.1**
PB04	**IPOC Station P**	**2.39**	**344**	*e*	Pn		**Pn**	**21 53 16.4**	**-0.8**
PB04	**IPOC Station P**	**2.39**	**344**	⇓*i*	P		**Pn**	**21 53 16.4**	**-0.8**
PB04				*i*	S		**Sn**	**21 53 50.5**	**+4.6**
PB09	**IPOC Station P**	**2.84**	**3**	⇓*i*	P		**Pn**	**21 53 23.4**	**+0.3**
PB09				*i*	S		**Sn**	**21 54 02.9**	**+6.4**
PB07	**IPOC Station P**	**2.93**	**352**	⇓*i*	P		**Pn**	**21 53 23.4**	**-1.1**
GO03	**Copiap**	**3.03**	**194**	⇑*i*	P		**Pn**	**21 53 24.7**	**-0.8**
GO03				*i*	S		**Sn**	**21 53 52.5**	**-8.4**
GO03					IAML			21 54 26.4	
	comp=N,5μm,0.9s								
FSA	**Cafayete**	**3.44**	**116**	*i*	P		**Pn**	**21 53 32.6**	**+1.4**
FSA					IAML			21 53 33.4	
	comp=Z,235nm,0.9s								
SLA	**San Lorenzo**	**3.57**	**92**	*i*	P		**Pn**	**21 53 35.4**	**+2.4**
SLA					IAML			21 53 38.2	
	comp=Z,545nm,0.5s								
PB01	**IPOC Station P**	**3.58**	**359**	*e*	Pn		**Pn**	**21 53 32.1**	**-1.0**
HJA	**Humahuaca**	**3.94**	**70**	*i*	P		**Pn**	**21 53 41.3**	**+3.0**
HJA					IAML			21 53 44.3	
	comp=Z,612nm,0.6s								
AZAP	**Zapla**	**3.99**	**85**	*i*	P		**Pn**	**21 53 40.8**	**+2.0**
AZAP					IAML			21 53 41.9	
	comp=Z,661nm,0.6s								
AZAP				*i*	S		**Sn**	**21 54 20.0**	**-4.6**
VCA	**Vinchina**	**4.22**	**165**	*i*	P		**Pn**	**21 53 44.1**	**+2.3**
VCA					IAML			21 53 48.4	
	comp=Z,611nm,0.5s								
VCA				*i*	S		**Sn**	**21 54 36.9**	**+6.9**
AHML	**Horco Molle**	**4.26**	**121**	*i*	P		**Pn**	**21 53 44.2**	**+1.9**
AHML				*e*	S		**Sn**	**21 54 30.0**	**-0.8**
AHML					IAML			21 54 30.5	
	comp=Z,106nm,0.5s								
YJA	**Yavi**	**4.35**	**56**	*i*	P		**Pn**	**21 53 46.2**	**+2.4**
PB08	**IPOC Station P**	**4.49**	**3**	⇑*i*	P		**Pn**	**21 53 44.3**	**-1.3**
PB08				*i*	S		**Sn**	**21 54 45.1**	**+8.3**
LCO	**Las Campanas**	**4.50**	**194**	*e*	Pn		**Pn**	**21 53 43.6**	**-2.1**
LCO	**Las Campanas**	**4.50**	**194**	*i*	P		**Pn**	**21 53 44.6**	**-1.0**
LCO				*i*	S		**Sn**	**21 54 43.5**	**+6.7**
ASTB	**Santa Barbara**	**4.59**	**82**	*i*	P		**Pn**	**21 53 48.3**	**+1.5**
PB11	**IPOC Station P**	**4.86**	**357**	*e*	Pn		**Pn**	**21 53 48.2**	**-2.4**
AGUA	**GUANDACOL**	**4.90**	**170**	*i*	P		**Pn**	**21 53 52.5**	**+1.6**
AGUA				*i*	S		Sn	21 54 56.5	+10
CYA	**Choya**	**4.98**	**140**	*i*	P		**Pn**	**21 53 54.3**	**+2.2**
CYA					IAML			21 54 10.4	
	comp=Z,79nm,0.6s								
CYA				*i*	S		**Sn**	**21 54 50.6**	**+2.2**
ALOL	**LOMAS DE OLMED**	**5.04**	**82**	*i*	P		**Pn**	**21 53 54.4**	**+1.6**
MNMC	**Minye Minye**	**5.49**	**358**	*e*	Pn		**Pn**	**21 53 56.3**	**-2.8**
APLL	**PUNTA DE LOS L**	**6.28**	**156**	*i*	P		**Pn**	**21 54 09.0**	**-0.7**
APLL					IAML			21 55 36.0	
	comp=Z,79nm,0.5s								
AMOG	**MOGNA**	**6.33**	**173**	*i*	P		**Pn**	**21 54 10.2**	**-0.1**
AMOG				*i*	S		**Sn**	**21 55 21.8**	**+0.6**
RTLL	**Cerro Villicun**	**6.71**	**173**	*i*	P		**Pn**	**21 54 15.1**	**-0.6**
RTLL				*i*	S		**Sn**	**21 55 34.7**	**+4.1**
RTLL					IAML			21 55 44.0	
	comp=Z,315nm,0.5s								
RTLS	**Leoncito**	**7.13**	**179**	*i*	P		**Pn**	**21 54 21.2**	**-0.3**
RTLS					IAML			21 56 42.9	
	comp=Z,301nm,0.7s								
RTCV	**Cerro Valdivia**	**7.23**	**174**	*i*	P		**Pn**	**21 54 21.9**	**-0.8**
AUSP	**Uspallata**	**7.55**	**180**	*i*	P		**Pn**	**21 54 26.2**	**-1.1**
ACAN	**Cantantal**	**7.85**	**166**	*i*	P		**Pn**	**21 54 30.4**	**-0.8**
ARE	**Arequipa**	**8.37**	**346**	*e*	P		**Pn**	**21 54 34.0**	**-4.5**
ARE				*e*	S		Sn	21 56 32.0	+21
LPAZ	**La Paz**	**8.40**	**9**	P			**Pn**	**21 54 38.8**	**-0.4**
	comp=Z,4.2nm,0.3s,baz=206,slow=5.1,SNR=67								
LPAZ	**La Paz**	**8.40**	**9**	*i*	P		**Pn**	**21 54 38.9**	**-0.4**
MRA	**San Martin**	**8.40**	**158**	*i*	P		**Pn**	**21 54 37.2**	**-1.5**
MRA					IAML			21 56 14.4	
	comp=Z,73nm,0.5s								
ROC1	**El Reale**	**8.42**	**189**	*e*	Pn		**Pn**	**21 54 35.4**	**-3.7**
ROC1	**El Roble**	**8.42**	**189**	*i*	P		**Pn**	**21 54 36.7**	**-2.3**
RFA	**San Rafael**	**10.13**	**176**	*i*	P		**Pn**	**21 54 59.4**	**-2.8**
RFA					IAML			21 56 09.7	
	comp=Z,66nm,0.7s								
GO05	**HualaæØ**	**10.56**	**191**	*e*	Pn		**Pn**	**21 55 03.4**	**-4.6**
CPUP	**Villa Florida**	**11.06**	**101**		P		**Pn**	**21 55 12.0**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=281,slow=11,SNR=13								
CPUP					LR		LR	22 00 01.3	
	comp=Z,207nm,20.2s,baz=259,slow=40								
CPUP	**Villa Florida**	**11.06**	**101**	*e*	Pn		Pn	21 55 07.8	-7.0
SIV	**San Ignacio**	**11.63**	**44**		P		Pn	21 55 17.4	-5.3
	comp=Z,4.7nm,0.3s,baz=237,slow=13,SNR=71								
SIV					S		Sn	21 57 19.0	-12
	comp=Z,1.1nm,0.3s,baz=222,slow=15,SNR=2.2								
NNA	**Nana**	**14.42**	**330**		P		**Pn**	**21 55 56.6**	**-3.0**
	baz=143,slow=20,SNR=2.2								
NNA					LR		LR	22 00 21.9	
	comp=Z,100nm,20.9s,baz=202,slow=32								
TRQA	**Tornquist**	**14.80**	**156**	*e*	Pn		**Pn**	**21 56 03.2**	**-1.1**
PLCA	**Paso Flores**	**16.07**	**183**		P		**Pn**	**21 56 18.3**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=18,slow=12,SNR=3.9								
PLCA					PcP		**PcP**	**22 01 11.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=347,slow=1.2,SNR=7.1								
PLCA					LR		LR	22 02 59.1	
	comp=Z,195nm,19.3s,baz=18,slow=38								
PLCA	**Paso Flores**	**16.07**	**183**	*e*	Pn		**Pn**	**21 56 19.4**	**-1.1**
	comp=Z,25nm,0.8s								
PLCA					PcP		**PcP**	**22 01 11.3**	**-0.3**
SAML	**Samuel**	**16.70**	**22**	*e*	Pn		**Pn**	**21 56 24.2**	**-4.2**
	comp=Z,10nm,0.9s								
SAML				*e*	S		**S**	**21 59 38.2**	**-1.3**
ATAH	**Atahualpa**	**19.41**	**332**		P		**P**	**21 56 57.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=96,slow=18,SNR=2.1								
SPB	**Sao Paulo**	**20.10**	**92**	*e*	P		**P**	**21 57 05.5**	**-1.0**
	comp=Z,24nm,0.7s								
CHRN	**Cochrane**	**22.70**	**186**	*e*	P		**P**	**21 57 33.1**	**-0.9**
	comp=Z,18nm,1.0s								
OTAV	**Otavalo**	**26.23**	**339**	*e*	P		**P**	**21 58 06.9**	**-0.3**
	comp=Z,30nm,1.4s								
EFI	**East Falkland**	**28.36**	**165**	*e*	P		**P**	**21 58 25.0**	**-0.3**
	comp=Z,80nm,1.1s								
PRAC	**Prado**	**28.68**	**349**	*e*	P		**P**	**21 58 26.5**	**-2.1**
	comp=Z,14nm,0.9s								
ROSC	**El Rosal**	**29.69**	**350**		P		**P**	**21 58 37.4**	**-0.5**
	comp=Z,7.0nm,0.5s,baz=191,slow=6.8,SNR=5.4								
ROSC					LR		LR	22 11 31.7	
	comp=Z,54nm,18.7s,baz=186,slow=38								
RUSC	**La Rusia**	**30.56**	**353**	*e*	P		**P**	**21 58 45.7**	**0.0**
	comp=Z,9.6nm,0.7s								
HELC	**Santa Helena**	**31.22**	**348**	*e*	P		**P**	**21 58 51.4**	**+0.1**
	comp=Z,84nm,0.6s								
SDV	**Santo Domingo**	**33.35**	**358**		P		**P**	**21 59 08.5**	**-1.2**
	comp=Z,2.1nm,0.4s,baz=153,slow=4.5,SNR=5.9								
SDV					LR		LR	22 14 28.8	
	comp=Z,31nm,19.1s,baz=193,slow=39								
SDV	**Santo Domingo**	**33.35**	**358**	*e*	P		**P**	**21 59 07.6**	**-2.2**
	comp=Z,7.4nm,0.9s								
TPP	**Pointe-a-Pierr**	**35.61**	**14**	*e*	P		**P**	**21 59 30.0**	**+0.9**
TPP	**Pointe-a-Pierr**	**35.61**	**14**	*e*	P		**P**	**21 59 30.3**	**+1.3**
RPN	**Rapa Nui**	**35.89**	**257**		LR		LR	22 10 17.6	
	comp=Z,139nm,19.4s,baz=251,slow=29								
TOSP	**Speyside**	**36.76**	**15**	*e*			**P**	**21 59 38.5**	**-0.3**
RCBR	**Riachuelo**	**37.20**	**65**		P		**P**	**21 59 41.3**	**-1.4**
	comp=Z,17nm,0.9s,baz=239,slow=7.8,SNR=3.4								
RCBR	**Riachuelo**	**37.20**	**65**	*e*	P		**P**	**21 59 41.8**	**-1.0**
	comp=Z,39nm,1.4s								
HOPE	**Hope Point**	**38.40**	**149**	*e*	P		**P**	**21 59 53.4**	**+1.1**
	comp=Z,65nm,0.9s								
FDF	**Fort de France**	**39.96**	**13**	*e*	P		**P**	**22 00 03.5**	**-2.2**
	comp=Z,16nm,0.5s								
FDF	**Fort de France**	**39.96**	**13**	*e*	P		**P**	**22 00 02.0**	**-3.8**
SJG	**San Juan**	**42.62**	**5**	*e*	P		**P**	**22 00 24.8**	**-2.6**
	comp=Z,28nm,0.6s								
MTP	**Monte Pirata**	**42.65**	**5**	*e*	P		**P**	**22 00 24.8**	**-2.9**
	comp=Z,100nm,1.9s								
CBYP	**Canovanas**	**42.80**	**5**	*e*	P		**P**	**22 00 26.3**	**-2.6**
	comp=Z,31nm,0.9s								
SMRT	**St. Maarten**	**42.88**	**9**	*e*	P		**P**	**22 00 26.9**	**-2.7**
MTDJ	**Mount Denham**	**43.34**	**349**	*e*	P		**P**	**22 00 33.9**	**+0.5**
	comp=Z,67nm,0.9s								
059Z	**Ave Maria**	**52.00**	**346**		P		**P**	**22 01 40.8**	**+0.8**
	baz=167								
859A	**Kempfer Cattle**	**53.55**	**347**		P		**P**	**22 01 52.3**	**+0.8**
	baz=168								
758A	**Lake Helen**	**54.49**	**347**		P		**P**	**22 01 58.1**	**-0.3**
	baz=167								
757A	**Oxford**	**54.65**	**346**		P		**P**	**22 01 58.9**	**-0.6**
	baz=166								
656A	**Willston**	**55.16**	**346**		P		**P**	**22 02 03.2**	**+0.1**
	baz=166								
655A	**Horseshoe Beac**	**55.46**	**345**		P		**P**	**22 02 05.5**	**+0.2**
	baz=165								
555A	**McAlpin**	**55.98**	**346**		P		**P**	**22 02 08.5**	**-0.5**
	baz=166								
554A	**Perry**	**56.11**	**345**		P		**P**	**22 02 09.8**	**-0.1**
	baz=165								
456A	**Hilliard**	**56.36**	**347**		P		**P**	**22 02 11.6**	**-0.1**
	baz=167								
553A	**Crawfordville**	**56.39**	**344**		P		**P**	**22 02 11.3**	**-0.6**
	baz=164								
552A	**Lynn Haven**	**56.55**	**344**		P		**P**	**22 02 11.7**	**-1.4**
	baz=163								
455A	**Stateville**	**56.59**	**346**		P		**P**	**22 02 13.0**	**-0.4**
	baz=166								
454A	**Quitman**	**56.70**	**345**		P		**P**	**22 02 13.8**	**-0.4**
	baz=165								
453A	**Whigham**	**57.00**	**345**		P		**P**	**22 02 15.9**	**-0.4**
	baz=164								
ZAIG	**Zacatecas**	**57.06**	**323**	*e*	P		**P**	**22 02 18.7**	**+1.5**
LNIG	**Linares**	**57.20**	**327**	*e*	P		**P**	**22 02 17.3**	**-0.5**
	comp=Z,15nm,1.2s								
452A	**Marianna**	**57.21**	**344**		P		**P**	**22 02 17.0**	**-0.7**
	baz=163								
VNA3	**Neumayer Olymp**	**57.27**	**161**		P		**P**	**22 02 18.1**	**+0.3**
353A	**Camilla**	**57.45**	**345**		P		**P**	**22 02 18.3**	**-1.1**
	baz=164								
351A	**Pinckard**	**57.72**	**344**		P		**P**	**22 02 20.0**	**-1.3**
	baz=163								
254A	**Abbeville**	**57.81**	**346**		P		**P**	**22 02 21.1**	**-0.9**
	baz=166								
VNA2	**Neumayer--Watz**	**57.87**	**160**		P		**P**	**22 02 22.2**	**+0.2**
	baz=290,slow=7.7								
252A	**Lumpkin**	**58.19**	**345**		P		**P**	**22 02 23.6**	**-1.0**
	baz=164								
349A	**Repton**	**58.22**	**342**		P		**P**	**22 02 23.9**	**-0.8**
	baz=162								
NHSC	**New Hope**	**58.34**	**349**		P		**P**	**22 02 24.9**	**-0.7**
	baz=169								
446A	**Poplarville**	**58.34**	**340**		P		**P**	**22 02 24.3**	**-1.3**
	baz=159								
251A	**Midway**	**58.45**	**344**		P		**P**	**22 02 25.4**	**-1.0**
	baz=163,SNR=8.4								
347A	**Saraland**	**58.65**	**341**		P		**P**	**22 02 27.1**	**-0.7**
	baz=160								
249A	**Camden**	**58.79**	**342**		P		**P**	**22 02 27.5**	**-1.2**
	baz=162								
541A	**Lake Charles**	**58.98**	**336**		P		**P**	**22 02 29.9**	**-0.2**
	baz=155								
150A	**Eclectic**	**59.09**	**344**		P		**P**	**22 02 30.1**	**-0.7**
	baz=163,SNR=7.2								
GOGA	**Godfrey**	**59.26**	**346**		P		**P**	**22 02 31.0**	**-1.0**
	baz=166								
247A	**Quitman**	**59.28**	**341**		P		**P**	**22 02 31.2**	**-1.0**
	baz=160								
344A	**Westbrook Farm**	**59.39**	**339**		P		**P**	**22 02 31.9**	**-1.0**
	baz=158								
SNAA	**Sanae**	**59.48**	**160**		P		**P**	**22 02 33.1**	**-0.1**
SNAA	**Sanae**	**59.48**	**160**		P		**P**	**22 02 33.2**	**-0.1**
	comp=Z,8.9nm,0.7s,baz=280,slow=7.2,SNR=12								
SNAA					pP		**pP**	**22 02 55.1**	**0.0**
	comp=Z,5.5nm,0.6s,baz=271,slow=10,SNR=3.9								
SNAA	**Sanae**	**59.48**	**160**	*e*	P		**P**	**22 02 32.0**	**-1.2**
	comp=Z,1μm,1.1s								
SNAA					pP		**pP**	**22 02 55.1**	**0.0**
148A	**Greensboro**	**59.54**	**342**		P		**P**	**22 02 32.3**	**-1.6**
	baz=161								
245A	**Little AP, Sta**	**59.66**	**340**		P		**P**	**22 02 34.4**	**-0.3**
	baz=159								
JSC	**Jenkinsville**	**59.67**	**349**	*e*	P		**P**	**22 02 34.2**	**-0.6**
	comp=Z,11nm,0.7s								
Z50A	**Ashland**	**59.68**	**344**		P		**P**	**22 02 33.9**	**-1.0**
	baz=163,SNR=11								
LRAL	**Lakeview Retre**	**59.75**	**343**		P		**P**	**22 02 34.3**	**-1.1**
	baz=162								
147A	**Livingston**	**59.77**	**342**		P		**P**	**22 02 34.4**	**-1.1**
	baz=161								
Z49A	**Columbiana**	**59.78**	**343**		P		**P**	**22 02 34.6**	**-1.0**
	baz=162,SNR=5.5								
HODGE	**Hodges**	**59.81**	**348**	*e*	P		**P**	**22 02 34.9**	**-0.8**
	comp=Z,8.4nm,0.7s								
342A	**Flagon Creek P**	**59.86**	**337**		P		**P**	**22 02 36.1**	**0.0**
	baz=156								
244A	**Avery, Jackson**	**59.92**	**339**		P		**P**	**22 02 35.7**	**-0.8**
	baz=158								
146A	**Union**	**59.96**	**341**		P		**P**	**22 02 36.3**	**-0.5**
	baz=160								
833A	**Chaparral WMA,**	**60.05**	**329**		P		**P**	**22 02 37.9**	**+0.3**
	baz=149								
CNNC	**Cliffs of the**	**60.09**	**352**		P		**P**	**22 02 35.9**	**-1.7**
	baz=172								
341A	**Kurthwood**	**60.12**	**337**		P		**P**	**22 02 37.2**	**-0.7**
	baz=156								
Z47A	**Carr

IP07	Quail	62.75 352	eP	P	22 02 56.3	+0.7	
IP06	Yanceyville comp=Z,27nm,0.3s	62.76 352	eP	P	22 02 56.5	+0.9	
IP01	Cuckoo comp=Z,18nm,0.9s	62.78 352	eP	P	22 02 56.5	+0.8	
V45A	Humboldt baz=160	62.84 342	P	P	22 02 54.6	-1.5	
SPRD	Spring Road, M comp=Z,13nm,0.8s	62.84 352	eP	P	22 02 56.6	+0.5	
IP03	Louisa comp=Z,21nm,0.8s	62.85 352	eP	P	22 02 56.8	+0.6	
X40A	Basin Creek Fa baz=157	62.87 338	P	P	22 02 55.6	-0.8	
WVT	Waverly baz=162	62.90 343	P	P	22 02 55.4	-1.1	
WVT	Waverly comp=Z,19nm,0.8s	62.90 343	eP	P	22 02 55.5	-1.1	
IP04	Greensprings comp=Z,14nm,1.0s	62.93 352	eP	P	22 02 57.6	+0.8	
U48A	Cassie Pea, Po baz=163,SNR=5.3	62.93 345	P	P	22 02 55.8	-1.0	
TX31	Lajitas Ar. Si	62.95 327	eP	P	22 02 58.3	+1.1	
TXAR	Lajitas Array comp=Z,2.8nm,0.6s,baz=153,slow=8.4,SNR=8.3	62.95 327	P	P	22 02 57.4	+0.2	
CBN	Corbin Frederi baz=172	62.96 353	P	P	22 02 55.6	-1.3	
U47A	Clarksville baz=162,SNR=7.0	63.05 344	P	P	22 02 56.6	-1.0	
W42A	Bald Knob baz=158	63.16 340	P	P	22 02 56.8	-1.5	
V44A	Blytheville baz=160	63.18 341	P	P	22 02 57.6	-0.8	
U46A	Springville baz=161	63.20 343	P	P	22 02 58.4	-0.2	
W41B	Gary Mavity, V baz=157,SNR=5.5	63.30 339	P	P	22 02 58.7	-0.5	
X39A	Fountain Ranch baz=155,SNR=12	63.33 337	P	P	22 02 59.7	+0.3	
V43A	Jonesboro baz=159	63.34 341	P	P	22 02 57.0	-2.4	
U45A	Rockin P Farm, baz=161	63.35 343	P	P	22 02 58.0	-1.6	
WHAR	Wooly Hollow comp=Z,13nm,1.0s	63.42 339	eP	P	22 03 00.0	0.0	
T48A	Bowling Green baz=163	63.47 345	P	P	22 02 59.1	-1.2	
U44B	Burton Farm, H baz=160	63.51 342	P	P	22 02 59.7	-0.8	
T47A	Sharon Grove baz=162,SNR=9.5	63.53 344	P	P	22 02 59.8	-0.9	
W40A	Ferguson Farm, baz=156	63.59 338	P	P	22 03 01.2	+0.1	
V42A	Cord baz=158	63.61 340	P	P	22 02 59.7	-1.5	
T46A	Princeton baz=162,SNR=7.7	63.78 344	P	P	22 03 01.4	-0.9	
ABTX	Abilene, Hawle baz=150,SNR=5.0	63.83 332	P	P	22 03 02.9	+0.1	
ABTX	Abilene, Hawle comp=Z,26nm,1.2s	63.83 332	eP	P	22 03 03.5	+0.7	
V41A	Mountainview baz=158,SNR=6.6	63.83 340	P	P	22 03 02.0	-0.8	
W39A	Magazine baz=156,SNR=8.7	63.83 338	P	P	22 03 03.1	+0.3	
U43A	Rector baz=159	63.84 341	P	P	22 03 01.7	-1.0	
S48A	Wiedeman Farm, baz=164	63.91 345	P	P	22 03 01.3	-2.0	
V40A	Witts Springs baz=157,SNR=5.1	64.06 339	P	P	22 03 03.7	-0.6	
U42A	Revenden baz=158	64.07 341	P	P	22 03 03.3	-0.9	
U41A	Viola baz=158	64.27 340	P	P	22 03 04.6	-1.0	
T44A	Benton baz=160	64.27 342	P	P	22 03 04.6	-1.0	
S46A	Don Dixon Farm baz=162	64.34 344	P	P	22 03 04.5	-1.5	
V39A	Pettigrew baz=156,SNR=13	64.37 338	P	P	22 03 06.2	-0.1	
T43A	Greenville baz=160,SNR=5.8	64.47 342	P	P	22 03 05.9	-0.9	
S45A	Carrier Mills baz=161	64.55 343	P	P	22 03 06.2	-1.2	
U40A	Yellville baz=157,SNR=9.7	64.58 339	P	P	22 03 07.1	-0.5	
R48A	Northridge Ran baz=164	64.58 346	P	P	22 03 06.2	-1.3	
MVL	Millersville comp=Z,13nm,0.9s	64.63 354	eP	P	22 03 08.6	+0.8	
R47A	Wooly Knot Far baz=163	64.63 345	P	P	22 03 06.2	-1.7	
T42A	Van Buren baz=159	64.65 341	P	P	22 03 06.9	-1.1	
MCWV	Mont Chateau baz=170	64.70 351	P	P	22 03 08.2	-0.2	
S44A	Carbondale baz=161,SNR=5.3	64.75 343	P	P	22 03 07.7	-1.0	
R46A	Gibon Southern baz=162	64.79 344	P	P	22 03 07.2	-1.7	
U39A	Green Forest baz=156,SNR=9.1	64.81 339	P	P	22 03 08.7	-0.5	
S43A	Fulton Ridge, baz=160,SNR=8.7	64.86 342	P	P	22 03 08.7	-0.7	
T41A	Mountain View baz=158	64.87 340	P	P	22 03 09.0	-0.5	
HHAR	Hobbs comp=Z,11nm,0.8s	64.87 338	eP	P	22 03 09.6	+0.1	
R45A	Skylar, Fairfi baz=162,SNR=5.3	65.06 344	P	P	22 03 09.3	-1.3	
O56A	Blue Knob Stat baz=171,SNR=6.4	65.14 352	P	P	22 03 11.5	+0.2	
O56A	Blue Knob Stat comp=Z,13nm,0.9s	65.14 352	eP	P	22 03 11.7	+0.4	
TUL1	Leonard baz=154	65.18 337	P	P	22 03 11.2	-0.3	
T40A	Mansfield baz=157,SNR=5.9	65.20 340	P	P	22 03 11.1	-0.5	
Q47A	Bedord North L baz=163	65.22 345	P	P	22 03 10.3	-1.4	
R44A	Waltonville baz=161	65.22 343	P	P	22 03 10.2	-1.5	
S42A	Caledonia baz=159	65.25 341	P	P	22 03 10.9	-1.0	
WMOK	Wichita Mounta baz=151	65.29 334	P	P	22 03 11.7	-0.6	
WMOK	Wichita Mounta comp=Z,4.2nm,1.1s	65.29 334	eP	P	22 03 11.1	-1.2	
T39A	Clever baz=157,SNR=8.5	65.36 339	P	P	22 03 12.0	-0.6	
S41A	Jillco Farms, baz=158,SNR=11	65.36 341	P	P	22 03 12.2	-0.5	
SSPA	Standing Stone baz=172	65.42 353	P	P	22 03 13.1	+0.1	
SSPA	Standing Stone comp=Z,16nm,1.2s	65.42 353	eP	P	22 03 13.3	+0.3	
PAL	Palisades baz=176	65.45 356	P	P	22 03 13.4	+0.3	
R43A	Red Bud baz=160	65.48 342	P	P	22 03 13.5	+0.1	
N59A	State Game Lan baz=174	65.49 355	P	P	22 03 13.8	+0.4	
QSPA	South Pole Qui comp=Z,8.8nm,0.5s,baz=169,slow=2.9,SNR=55	65.56 180	P	P	22 03 14.8	+1.0	
QSPA			pP	pP	22 03 37.4	+1.3	
	comp=Z,17nm,0.6s,baz=154,slow=2.5,SNR=18						
QSPA			LR	LR	22 33 01.5		
	comp=Z,91nm,18.1s,baz=54,slow=37						
Q45A	Warren Harvey, baz=162	65.59 344	P	P	22 03 12.8	-1.3	
S40A	Lebanon baz=158,SNR=9.0	65.61 340	P	P	22 03 13.9	-0.4	
T38A	Diamond baz=156,SNR=16	65.67 338	P	P	22 03 14.6	-0.1	
P47A	Martinsville baz=164	65.71 346	P	P	22 03 13.1	-1.7	
R42A	Luebbering baz=159,SNR=5.8	65.73 342	P	P	22 03 14.6	-0.4	
MNTX	Cornudas Mount baz=145,SNR=14	65.73 327	P	P	22 03 15.2	0.0	
MNTX	Cornudas Mount comp=Z,6.4nm,0.7s	65.73 327	eP	P	22 03 14.7	-0.5	
MNTX			e		22 03 33.9		
ACSO	Alum Creek Sta baz=167,SNR=5.9	65.77 349	P	P	22 03 14.2	-1.0	
ACSO	Alum Creek Sta comp=Z,27nm,1.0s	65.77 349	eP	P	22 03 13.9	-1.3	
Q44A	Meyer Farm, Va baz=161	65.82 343	P	P	22 03 13.9	-1.7	
R41A	Rosebud baz=159,SNR=9.6	65.91 341	P	P	22 03 15.6	-0.6	
S39A	Bolivar baz=157,SNR=16	65.95 339	P	P	22 03 16.2	-0.3	
N54A	Moraine State baz=170	66.00 351	P	P	22 03 16.8	0.0	
N54A	Moraine State comp=Z,18nm,1.0s	66.00 351	eP	P	22 03 17.2	+0.5	
Q43A	New Douglas baz=160	66.04 343	P	P	22 03 16.1	-0.9	
P46A	Rosedale baz=163	66.05 345	P	P	22 03 15.4	-1.6	
S38A	Stockton baz=156,SNR=16	66.08 339	P	P	22 03 17.0	-0.3	
P45A	Graceland, Par baz=162	66.09 345	P	P	22 03 15.7	-1.6	
R40A	Maddies Statio baz=158,SNR=14	66.17 340	P	P	22 03 17.4	-0.4	
Q42A	Golden Eagle baz=160	66.24 342	P	P	22 03 17.2	-1.1	
BRYW	Bryant College comp=Z,29nm,0.8s	66.25 358	eP	P	22 03 19.3	+1.0	
P44A	Sand Creek, Wi baz=161	66.25 344	P	P	22 03 16.5	-1.8	
MSTX	Muleshoe baz=148,SNR=11	66.35 330	P	P	22 03 19.4	+0.1	
MSTX	Muleshoe comp=Z,29nm,0.9s	66.35 330	eP	P	22 03 19.3	+0.1	
MSTX			e		22 03 40.8		
R39A	Chumby, Stover baz=157,SNR=5.0	66.43 340	P	P	22 03 18.9	-0.6	
Q41A	Truxton baz=159,SNR=8.8	66.48 342	P	P	22 03 19.1	-0.6	
M54A	Oil Creek Stat baz=170,SNR=8.0	66.50 352	P	P	22 03 19.5	-0.3	
M54A	Oil Creek Stat comp=Z,15nm,0.8s	66.50 352	eP	P	22 03 19.8	-0.1	
P43A	Skaggs, Pawnee baz=161	66.65 343	P	P	22 03 19.7	-1.2	
ALLY	Alegheny Colle comp=Z,22nm,0.9s	66.70 351	eP	P	22 03 20.0	-1.2	
SFIN	Lafayette baz=163	66.75 345	P	P	22 03 19.5	-2.0	
Q40A	Laux Farm, Aux baz=158	66.76 341	P	P	22 03 21.1	-0.5	
BINY	Binghamton baz=174	66.78 355	P	P	22 03 22.2	+0.5	
BINY	Binghamton comp=Z,8.3nm,0.8s	66.78 355	eP	P	22 03 22.2	+0.5	
P42A	Winchester baz=160	66.82 343	P	P	22 03 20.8	-1.1	
HRV	Adam Dziewonsk baz=176	66.84 358	P	P	22 03 22.0	0.0	
HRV	Adam Dziewonsk comp=Z,19nm,0.8s	66.84 358	eP	P	22 03 22.7	+0.7	
Q39A	Willow Grove F baz=157,SNR=7.1	67.08 340	P	P	22 03 23.3	-0.4	
P41A	Barry, Barry baz=159	67.10 342	P	P	22 03 22.9	-0.8	
ERPA	Erie baz=170	67.14 351	P	P	22 03 23.6	-0.3	
ERPA	Erie comp=Z,20nm,0.6s	67.14 351	eP	P	22 03 23.4	-0.5	
TRY	Troy comp=Z,26nm,0.8s	67.15 357	eP	P	22 03 25.3	+1.4	
N46A	Monticello baz=163	67.16 346	P	P	22 03 22.9	-1.2	
Q38A	Cooks Store, C baz=157,SNR=17	67.20 340	P	P	22 03 24.3	-0.1	
P40A	Paris baz=158,SNR=12	67.25 341	P	P	22 03 24.0	-0.7	
Q37A	Longview Farm, baz=156	67.39 339	P	P	22 03 24.9	-0.7	
P39B	Salisbury baz=158,SNR=11	67.42 341	P	P	22 03 25.1	-0.7	
HDIL	Hopedale baz=161	67.45 344	P	P	22 03 24.2	-1.7	
O41A	Passleys Farm, baz=159	67.46 342	P	P	22 03 24.6	-1.4	
MMNY	Mt. Morris Dam comp=Z,11nm,0.6s	67.49 353	eP	P	22 03 26.5	+0.4	
319A	Douglas	67.50 324	eP	P	22 03 28.8	+2.1	
121A	Cookes Peak, D baz=143,SNR=7.7	67.62 325	P	P	22 03 29.1	+1.7	
O40A	La Belle baz=158	67.74 342	P	P	22 03 26.8	-1.0	
N43A	Stutzman Famil baz=161	67.78 344	P	P	22 03 27.0	-1.0	
P38A	Dawn baz=157,SNR=7.2	67.78 340	P	P	22 03 27.5	-0.5	
N42A	Yates City baz=160	67.90 343	P	P	22 03 27.6	-1.1	
M44A	Midewin, Midew baz=162	67.93 345	P	P	22 03 27.5	-1.4	
P37A	Lathrop baz=156	68.01 339	P	P	22 03 28.6	-0.9	
M43A	Waltham Townsh baz=161	68.19 344	P	P	22 03 29.2	-1.4	
O38A	Galt baz=157	68.22 340	P	P	22 03 30.2	-0.6	
BNM	Barren Site	68.32 327	eP	P	22 03 33.5	+1.6	
KSU1	Kansas State U baz=154	68.32 338	P	P	22 03 30.9	-0.5	
N40A	Mertquake, Sal baz=159	68.37 342	P	P	22 03 30.8	-0.9	
NCB	Newcomb comp=Z,11nm,1.1s	68.42 356	eP	P	22 03 32.2	+0.3	
O37A	Wolven Farm, M baz=156	68.47 340	P	P	22 03 31.5	-0.8	
M41A	Milan baz=160	68.54 343	P	P	22 03 31.6	-1.2	
LBNH	Lisbon baz=178	68.58 358	P	P	22 03 33.7	+0.7	
N39A	Derby Farms, D baz=158,SNR=6.4	68.62 341	P	P	22 03 32.6	-0.7	
L44A	Lake County Fo baz=162	68.65 345	P	P	22 03 32.7	-0.7	
LAZ	Lazbon	68.78 327	eP	P	22 03 35.3	+0.6	
M40A	Post Highland baz=159	68.83 342	P	P	22 03 33.8	-0.8	
L43A	Garden Prairie baz=162,SNR=9.4	68.85 345	P	P	22 03 33.9	-0.8	
ANMO	Albuquerque baz=145	68.88 328	P	P	22 03 36.6	+1.4	
ANMO	Albuquerque comp=Z,9.3nm,0.8s	68.88 328	eP	P	22 03 36.0	+0.7	
L42A	Oliver, Polo baz=161	68.91 344	P	P	22 03 34.1	-0.9	
N37A	Lee Faris, Mou baz=156	69.03 340	P	P	22 03 35.3	-0.5	
TUC	Tucson baz=140	69.04 323	P	P	22 03 37.6	+1.4	
TUC	Tucson comp=Z,15nm,1.2s	69.04 323	eP	P	22 03 37.2	+1.1	
M39A	Webster baz=158	69.09 342	P	P	22 03 35.3	-0.9	
LONY	Lake Ozonia baz=175,SNR=6.7	69.09 356	P	P	22 03 36.0	-0.1	
LONY	Lake Ozonia	69.09 356	eP	P	22 03 36.2	+0.1	
LONY			e		22 03 58.4		
O35A	Humboldt baz=155	69.13 339	P	P	22 03 35.7	-0.7	
L41A	Preston baz=160	69.19 343	P	P	22 03 35.6	-1.2	
CBKS	Cedar Bluff baz=151	69.22 335	P	P	22 03 37.1	0.0	
FRNY	Flat Rock comp=Z,23nm,1.2s	69.25 357	eP	P	22 03 37.1	+0.1	
FRNY			e		22 03 59.2		
O34A	Beatrice baz=154	69.32 338	P	P	22 03 37.0	-0.6	
M38A	Pleasantville baz=157	69.33 341	P	P	22 03 36.8	-0.8	
L40A	Anamosa baz=159,SNR=7.7	69.37 343	P	P	22 03 37.1	-0.7	
O33A	Hebron baz=153	69.53 337	P	P	22 03 38.6	-0.3	
K42A	Prairie Point, baz=161,SNR=13	69.56 344	P	P	22 03 38.3	-0.7	
M37A	Trindle Farm, baz=157,SNR=10	69.57 340	P	P	22 03 39.1	-0.1	
PKME	Peaks-Kenny Pk baz=180	69.57 0	P	P	22 03 39.3	+0.3	
N35A	Tabor baz=155	69.58 339	P	P	22 03 38.6	-0.6	
K41A	Shullsburg baz=160,SNR=5.4	69.64 344	P	P	22 03 38.9	-0.6	
L39A	Vinton baz=159	69.64 342	P	P	22 03 38.1	-1.4	
PLVO	Plevna	69.70 354	eP	P	22 03 40.2	+0.4	
T25A	Trinidad baz=147,SNR=8.5	69.73 331	P	P	22 03 41.7	+1.2	
T25A	Trinidad comp=Z,41nm,1.6s	69.73 331	eP	P	22 03 41.7	+1.2	
LIC	Lamto comp=Z,48nm,1.2s	69.74 73	eP	P	22 03 39.8	-1.0	
SCIA	State Center baz=158	69.78 341	P	P	22 03 39.3	-1.1	
N34A	Lincoln baz=154,SNR=7.0	69.84 338	P	P	22 03 40.3	-0.5	
M36A	Felix, Anita baz=156	69.85 340	P	P	22 03 40.4	-0.4	
214A	Organ Pipe Nat baz=139	69.89 322	P	P	22 03 43.1	+1.7	
J43A	Natural Harves baz=162,SNR=5.2	69.91 345	P	P	22 03 40.7	-0.4	
JFWS	Jewell Farm baz=160,SNR=6.0	69.91 344	P	P	22 03 40.6	-0.5	
JFWS	Jewell Farm comp=Z,14nm,0.7s	69.91 344	eP	P	22 03 40.5	-0.6	
JFWS			e		22 04 02.7		
L38A	Oak Wood Farm, baz=158	69.92 342	P	P	22 03 40.4	-0.9	
K40A	Colesburg baz=160,SNR=8.6	69.94 343	P	P	22 03 40.6	-0.7	
TIC	Toumodi	69.95 72	eP	P	22 03 41.4	-0.7	
J42A	Columbus baz=161	70.01 345	P	P	22 03 40.7	-1.0	
KIC	Kosan Boka comp=Z,42nm,0.8s	70.05 73	eP	P	22 03 42.3	-0.4	
DBIC	Dimbokro comp=Z,12nm,0.6s,baz=214,slow=7.0,SNR=33	70.10 73	P	P	22 03 42.9	-0.1	
DBIC			pP	pP	22 04 05.8	+0.3	
	comp=Z,19nm,0.8s,baz=218,slow=6.1,SNR=9.8						
DBIC			LR	LR	22 33 05.3		
	comp=Z,26nm,20.5s,baz=178,slow=35						
M35A	Neola baz=155	70.14 339	P	P	22 03 41.7	-0.9	
J41A	Loganville baz=161	70.27 344	P	P	22 03 42.8	-0.6	
I43A	Langenfeld Bro baz=162,SNR=8.5	70.32 346	P	P	22 03 43.1	-0.6	
KLBO	Killbear Provi baz=170,SNR=13	70.35 352	P	P	22 03 43.5	-0.3	
L36A	Harm Buss Farm baz=156,SNR=6.2	70.39 340	P	P	22 03 43.8	-0.4	
M34A	Aspy Farms, Fr baz=154	70.46 339	P	P	22 03 45.0	+0.4	
J40A	Soldiers Grove baz=160	70.49 344	P	P	22 03 44.0	-0.7	
I42A	Draeger Farm, baz=162,SNR=9.9	70.50 345	P	P	22 03 44.2	-0.6	
GLMI	Grayling baz=166	70.51 349	P	P	22 03 43.8	-1.0	
KSCO	Kaye Shedlock' baz=149	70.53 333	P	P	22 03 46.1	+0.8	
W18A	Petrified Fore baz=142	70.65 326	P	P	22 03 47.3	+1.2	
L35A	Bielow Farm, R baz=155	70.68 340	P	P	22 03 45.3	-0.6	
J39A	Decorah baz=159,SNR=7.6	70.68 343	P	P	22 03 45.1	-0.8	
TRQ	Mont Tremblant	70.68 356	eP	P	22 03 46.1	+0.2	
SDCO	Great Sand Dun baz=146,SNR=13	70.72 330	P	P	22 03 47.8	+1.2	
SDCO	Great Sand Dun comp=Z,26nm,1.5s	70.72 330	eP	P	22 03 47.4	+0.8	
M33A	Taylor Creek F baz=154	70.73 338	P	P	22 03 45.7	-0.5	
H43A	Windswept, Lux baz=163	70.80 346	P	P	22 03 45.8	-0.8	
L34A	Svendsen Farm, baz=155	70.81 339	P	P	22 03 46.3	-0.4	
K36A	Gilmore City baz=156,SNR=5.1	70.82 341	P	P	22 03 46.5	-0.2	
J38A	Wedel Dairy, R baz=158	70.87 342	P	P	22 03 46.2	-0.9	
I41A	Arkdale baz=161	70.89 345	P	P	22 03 46.5	-0.7	
BGNE	Belgrade baz=153	70.91 338	P	P	22 03 47.6	+0.3	
BGNE	Belgrade comp=Z,135nm,1.0s	70.91 338	eP	P	22 03 47.5	+0.1	
I40A	Norwalk baz=160	70.92 344	P	P	22 03 46.7	-0.6	
H42A	Shiocton baz=162	71.00 346	P	P	22 03 47.0	-0.7	
I39A	Houston baz=159,SNR=5.2	71.12 343	P	P	22 03 47.9	-0.6	
J37A	Redenius Farm, baz=157	71.17 342	P	P	22 03 48.3	-0.6	
L33A	Hoskins baz=154	71.29 338	P	P	22 03 49.1	-0.5	
S22A	4UR Ranch, Cre baz=145,SNR=5.7	71.32 329	P	P	22 03 51.5	+1.3	
S22A	4UR Ranch, Cre comp=Z,3.3nm,0.8s	71.32 329	eP	P	22 03 51.9	+1.6	
H41A	Junction City baz=161	71.36 345	P	P	22 03 49.3	-0.7	
K34A	Le Mars baz=155	71.37 340	P	P	22 03 49.9	-0.2	
L32A	Elgin baz=153	71.39 338	P	P	22 03 49.9	-0.3	
F46A	Macinaw City C baz=166	71.45 349	P	P	22 03 49.7	-0.7	
I38A	Scanlan Farm, baz=159,SNR=9.9	71.50 343	P	P	22 03 50.0	-0.9	
F45A	CMU Biological baz=165,SNR=7.3	71.51 348	P	P	22 03 50.0	-0.8	
G43A	Wallace baz=163	71.53 347	P	P	22 03 50.2	-0.7	
H40A	Chili baz=160,SNR=8.4	71.55 344	P	P	22 03 50.5	-0.6	
Q24A	Divide baz=146,SNR=5.7	71.56 331	P	P	22 03 52.8	+1.1	
Q24A	Divide comp=Z,13nm,0.8s	71.56 331	eP	P	22 03 53.3	+1.6	
K33A	Hardington baz=154	71.59 339	P	P	22 03 51.0	-0.4	
G42A	Mountain baz=162,SNR=10	71.67 346	P	P	22 03 51.3	-0.6	
MVCO	Mesa Verde baz=143,SNR=11	71.68 328	P	P	22 03 53.7	+1.4	
MVCO	Mesa Verde comp=Z,14nm,0.9s	71.68 328	eP	P	22 03 52.8	+0.4	
I37A	Lemond, Waseca baz=158	71.77 342	P	P	22 03 52.1	-0.4	
WUAZ	Wupatki baz=141	71.80 325	P	P	22 03 54.5	+1.5	
J34A	George baz=155	71.87 340	P	P	22 03 52.4	-0.7	
OGNE	Ogallala baz=150	71.94 335	P	P	22 03 53.6	0.0	
F44A	Big Bay de Noc baz=161	71.96 348	P	P	22 03 52.5	-0.9	
F43A	Flat Rock, Esc baz=164,SNR=5.7	71.97 347	P	P	22 03 52.8	-0.8	
H38A	Maiden Rock baz=159	72.08 343	P	P	22 03 53.5	-0.8	
I35A	Creekview Farm baz=156	72.09 341	P	P	22 03 53.7	-0.7	
E45A	Wooded Hills, baz=165	72.09 349	P	P	22 03 53.2	-1.1	
F42A	Maple Grove Fa baz=163	72.10 346	P	P	22 03 53.9	-0.5	
G40A	Rib Lake baz=161	72.11 345	P	P	22 03 53.9	-0.6	
H37A	Dierke Farm, C baz=158	72.16 343	P	P	22 03 54.5	-0.2	
Y12C	Blythe baz=138	72.19 322	P	P	22 03 56.8	+1.7	
Y12C	Blythe comp=Z,24nm,1.3s	72.19 322	eP	P	22 03 57.4	+2.3	
J33A	Davis baz=154,SNR=5.9	72.22 339	P	P	22 03 54.9	-0.2	
F41A	Three Lakes baz=162,SNR=5.9	72.30 346	P	P	22 03 55.3	-0.2	
G39A	Holcombe baz=160,SNR=7.1	72.36 344	P	P	22 03 55.1	-0.8	
G38A	Ridgeland baz=159	72.43 344	P	P	22 03 55.4	-1.0	
H36A	Jessenland, He baz=157	72.44 342	P	P	22 03 56.2	-0.2	
PV01	Paradox Valley	72.45 329	eP	P	22 03 58.9	+1.9	
E43A	Lone Tree Farm	72.46 347	P	P	22 03 56.0	-0.4	

baz=164
ISCO **Idaho Springs** 72.46 332 P P 22 03 58.1 +1.0
baz=146,SNR=8.2
ISCO **Idaho Springs** 72.46 332 eP P 22 03 57.3 +0.3
comp=Z,5.7nm,0.8s
ECSD **EROS Data Cent** 72.48 340 P P 22 03 56.6 -0.1
baz=155,SNR=13
ECSD **EROS Data Cent** 72.48 340 eP P 22 03 56.3 -0.4
comp=Z,18nm,1.2s
SMCO **Snowmass** 72.55 330 eP P 22 03 59.3 +1.6
comp=Z,10nm,0.7s
J32A **Parkston** 72.55 339 P P 22 03 56.9 -0.2
baz=154
COWI **Conover** 72.65 346 eP P 22 03 57.2 -0.4
comp=Z,9.2nm,0.7s
BC3 **Big Chuckawall** 72.65 321 P P 22 03 58.8 +0.8
baz=137
PV05 **Paradox Valley** 72.66 328 eP P 22 03 56.4 -1.8
E42A **Champion** 72.70 347 P P 22 03 57.6 -0.3
baz=163,SNR=5.3
F40A **Park Falls** 72.70 345 P P 22 03 57.8 -0.2
baz=161,SNR=13
SPMN **Marine on St.** 72.73 343 P P 22 03 57.4 -0.6
baz=158
SPMN **Marine on St.** 72.73 343 eP P 22 03 57.9 -0.2
comp=Z,18nm,0.6s
J31A **Geddes** 72.78 338 P P 22 03 58.0 -0.5
baz=153
H35A **Sunnyside Ranc** 72.81 341 P P 22 03 58.3 -0.3
baz=156,SNR=8.1
I33A **Coleman** 72.82 340 P P 22 03 58.4 -0.3
baz=154
IRM **Iron Mountain** 72.84 322 P P 22 04 00.6 +1.6
baz=138,SNR=5.2
PV10 **Paradox Valley** 72.87 328 eP P 22 04 00.9 +1.4
F39A **Loretta** 72.89 344 P P 22 03 58.7 -0.4
baz=160,SNR=6.3
E41A **Kenton** 72.95 346 P P 22 03 59.0 -0.5
baz=162
G36A **St. Michael** 72.99 342 P P 22 03 58.9 -0.7
baz=157
PV09 **Paradox Valley** 73.01 328 eP P 22 04 02.1 +1.8
I32A **Karley and Nic** 73.01 339 P P 22 03 59.8 -0.1
baz=154
H34A **Spellman Lake,** 73.06 341 P P 22 03 59.9 -0.2
baz=156,SNR=6.7
F37A **Hinrichs Farm,** 73.14 343 P P 22 03 60.0 -0.5
baz=158
E40A **Wakefield** 73.15 345 P P 22 04 00.4 -0.2
baz=161,SNR=11
F38A **Pierce - Schro** 73.17 344 P P 22 04 00.4 -0.3
baz=159,SNR=5.8
G35A **Watkins** 73.19 342 P P 22 04 00.5 -0.4
baz=157
PFO **Pinyon Flats O** 73.20 320 P P 22 04 01.5 +0.2
baz=136
BELC **Belle Mtn. Jos** 73.21 321 P P 22 04 01.3 -0.1
baz=137
E39A **Mellen** 73.24 345 P P 22 04 00.8 -0.2
baz=160,SNR=6.7
I31A **Royce, Wessing** 73.37 339 P P 22 04 02.0 +0.1
baz=153,SNR=6.2
H33A **Prehn Over Nor** 73.37 340 P P 22 04 01.9 -0.1
baz=155,SNR=8.9
H32A **Carlson Farm,** 73.43 339 P P 22 04 02.1 -0.2
baz=154
D41A **Chassel** 73.43 346 P P 22 04 02.4 +0.2
baz=162,SNR=10
N23A **Red Feather La** 73.50 332 P P 22 04 04.1 +1.0
baz=146,SNR=6.4
N23A **Red Feather La** 73.50 332 eP P 22 04 04.7 +1.6
comp=Z,9.5nm,0.9s
F36A **Milaca** 73.51 343 P P 22 04 02.1 -0.6
baz=158,SNR=11
G34A **Benson** 73.54 341 P P 22 04 02.3 -0.5
baz=156
GMRC **Granite Mounta** 73.58 322 P P 22 04 05.4 +1.9
baz=137,SNR=9.3
PHWY **Pilot Hill** 73.63 332 eP P 22 04 05.0 +1.1
comp=Z,9.9nm,1.1s
VNDA **Vanda** 73.69 190 P P 22 04 04.7 +1.3
comp=Z,4.0nm,0.9s,baz=132,slow=4.2,SNR=16
VNDA **Vanda** 73.69 190 eP P 22 04 05.2 +1.8
comp=Z,4.1nm,0.9s
KNB **Kanab** 73.70 325 eP P 22 04 06.9 +2.6
comp=Z,36nm,1.1s
G33A **Ortonville** 73.74 340 P P 22 04 03.6 -0.5
baz=155,SNR=7.1
SYO **Syowa Base** 73.74 159 eP P 22 04 01.4 -2.4
SUSD **Miller** 73.87 338 P P 22 04 04.7 -0.2
baz=153
O20A **White River Ci** 73.90 330 P P 22 04 06.7 +1.3
baz=144,SNR=14
O20A **White River Ci** 73.90 330 eP P 22 04 06.5 +1.2
comp=Z,24nm,0.8s
LCMT **Little Creek M** 73.92 325 eP P 22 04 07.4 +1.9
comp=Z,8.8nm,0.9s
HEC **Hector,Ludlow** 74.00 321 P P 22 04 07.9 +2.0
baz=137,SNR=5.2
E36A **McGregor** 74.04 343 P P 22 04 05.4 -0.4
baz=158,SNR=5.3
MTPU **Mount Pierson** 74.15 326 eP P 22 04 09.1 +1.9
comp=Z,7.2nm,0.9s
SRU **San Rafael Swe** 74.16 328 eP P 22 04 07.9 +1.0
comp=Z,14nm,0.7s
PPT **Papeete** 74.17 258 LR LR 22 28 26.2
comp=Z,68nm,19.9s,baz=28,slow=29
TUQ **Turquoise Moun** 74.21 322 P P 22 04 09.0 +1.8
baz=137,SNR=6.0
SZCU **Shurtz Canyon** 74.28 325 eP P 22 04 10.0 +2.3
comp=Z,19nm,1.4s
F33A **5 Mile Ranch,** 74.28 341 P P 22 04 06.6 -0.6
baz=155,SNR=7.2
BFSC **Mount Baldy Ra** 74.34 320 P P 22 04 08.9 +0.9
baz=136
CCUT **Cedar City** 74.39 325 eP P 22 04 10.4 +2.1
comp=Z,24nm,0.9s
CCUT eS pP 22 04 32.7 +1.7
E35A **Pequot Lakes** 74.39 342 P P 22 04 07.3 -0.6
baz=157
D37A **Cotton** 74.42 344 P P 22 04 07.7 -0.3
baz=159,SNR=5.1
P18A **Preston Nutter** 74.43 328 eP P 22 04 10.6 +2.0
comp=Z,16nm,0.8s
C39A **Grand Marais** 74.49 346 P P 22 04 07.6 -0.8
baz=161,SNR=5.3
MSU **Marysvale** 74.51 326 eP P 22 04 10.8 +1.8
P17A **Butcher Ranch,** 74.55 328 eP P 22 04 10.8 +1.7
comp=Z,15nm,0.9s
E34A **Wadena** 74.56 342 P P 22 04 08.5 -0.4
baz=156
SHPR **Sheep Range** 74.57 323 eP P 22 04 11.3 +2.0
comp=Z,14nm,1.1s
D36A **Goodland** 74.63 343 P P 22 04 08.2 -1.0
baz=158
C38A **Sawbill Land.** 74.66 345 P P 22 04 08.4 -1.0
baz=160
KOWA **Kowa** 74.71 66 P P 22 04 10.2 -0.2
comp=Z,22nm,0.5s,baz=245,slow=7.6,SNR=99
KOWA pP pP 22 04 33.6 +0.6
comp=Z,33nm,0.7s,baz=242,slow=7.2,SNR=14
KOWA **Kowa** 74.71 66 eP P 22 04 10.3 -0.1
comp=Z,37nm,0.7s
KOWA pP pP 22 04 33.6 +0.6
E33A **Westby DABS, E** 74.80 341 P P 22 04 09.6 -0.5
baz=156,SNR=5.8
C37A **Embarrass** 74.89 344 P P 22 04 10.1 -0.7
baz=159
F31A **Hecla** 74.90 340 P P 22 04 10.6 -0.2
baz=154
EYMN **Ely** 74.93 345 P P 22 04 10.4 -0.6
baz=160
EYMN **Ely** 74.93 345 eP P 22 04 09.8 -1.2
comp=Z,10.0nm,0.6s
EDW2 **Edwards Air Fo** 74.99 320 P P 22 04 11.0 -0.6
baz=136
C36A **Pine Crest Far** 75.08 344 P P 22 04 11.6 -0.3
baz=158
LRMC **Laurel Mtn Rad** 75.23 321 P P 22 04 13.6 +0.4
baz=136
C35A **Jirik Farms, M** 75.33 343 P P 22 04 12.4 -0.8
baz=158
SCZ2 **Santa Cruz Isl** 75.34 319 P P 22 04 14.4 +0.7
baz=134
MPU **Maple Canyon** 75.40 328 eP P 22 04 16.0 +1.9
comp=Z,13nm,1.0s
E31A **Nome** 75.41 340 P P 22 04 13.4 -0.3
baz=154

RSSD **Black Hills** 75.42 335 P P 22 04 15.1 +0.9
baz=148
RSSD **Black Hills** 75.42 335 eP P 22 04 14.7 +0.6
comp=Z,10nm,0.8s
FURC **Furnace Creek,** 75.48 322 P P 22 04 16.3 +2.0
baz=137
MPMC **Manual Prospec** 75.54 322 P P 22 04 16.0 +1.1
baz=136,SNR=7.0
NLU **North Lily Min** 75.57 327 eP P 22 04 17.0 +1.9
comp=Z,24nm,1.7s
SBC **Santa Barbara** 75.70 319 P P 22 04 16.1 +0.5
baz=134
DAC **Darwin (Calif)** 75.75 322 eP P 22 04 18.1 +2.0
comp=Z,13nm,1.0s
JLU **Jordanelle** 75.77 328 eP P 22 04 17.1 +0.9
comp=Z,6.3nm,0.7s
ISA **Isabella, Lake** 75.82 321 P P 22 04 18.3 +1.9
baz=136,SNR=6.7
ISA **Isabella, Lake** 75.82 321 eP P 22 04 16.3 -0.1
comp=Z,11nm,0.9s
B35A **Bob, Littlefor** 75.87 344 P P 22 04 15.8 -0.5
baz=158,SNR=5.8
C33A **Trail** 75.87 342 P P 22 04 15.8 -0.5
baz=156
PKM **Mcpherson Peak** 76.06 319 P P 22 04 19.8 +1.9
baz=134
DUG **Dugway, Tooele** 76.11 327 P P 22 04 19.5 +1.4
baz=140
DUG **Dugway, Tooele** 76.11 327 eP P 22 04 18.6 +0.5
comp=Z,12nm,0.9s
GRAC **Grapevine Rang** 76.14 322 P P 22 04 19.8 +1.7
baz=136
CWC **Cottonwood Cre** 76.14 321 P P 22 04 20.0 +1.6
baz=136
C32A **Crookston** 76.14 342 P P 22 04 19.2 +1.4
baz=155
TCUT **Toone Canyon** 76.15 329 eP P 22 04 20.1 +1.7
comp=Z,15nm,0.8s
R11A **Troy Canyon, C** 76.15 324 P P 22 04 20.2 +1.8
baz=138,SNR=13
R11A **Troy Canyon, C** 76.15 324 eP P 22 04 19.6 +1.2
comp=Z,12nm,1.2s
VES **Vestal, Richgr** 76.30 320 P P 22 04 20.4 +1.5
baz=135,SNR=5.8
AGMN **Agassiz Nation** 76.38 342 P P 22 04 19.1 -0.1
baz=156,SNR=6.5
AGMN **Agassiz Nation** 76.38 342 eP P 22 04 18.9 -0.2
comp=Z,11nm,0.8s
AGMN e 22 04 41.4
C31A **Landman Farms,** 76.47 341 P P 22 04 19.6 -0.1
baz=154
BW06 **Boulder Array** 76.60 331 P P 22 04 20.4 -0.4
baz=144
PD31 **Pinedale Array** 76.60 331 eP P 22 04 21.5 +0.6
PDAR **Pinedale Array** 76.60 331 P P 22 04 21.3 +0.5
comp=Z,1.8nm,0.5s,baz=126,slow=7.5,SNR=18
PDAR pP pP 22 04 43.9 +0.3
comp=Z,1.3nm,0.7s,baz=46,slow=6.4,SNR=2.8
HWUT **Hardware Ranch** 76.60 329 eP P 22 04 21.1 +0.3
comp=Z,14nm,0.8s
B32A **Ashes, Strandq** 76.66 342 P P 22 04 20.8 0.0
baz=155,SNR=9.1
BGU **Big Grassy Mou** 76.78 328 eP P 22 04 23.2 +1.4
comp=Z,11nm,1.2s
SPUT **South Promonto** 76.79 328 eP P 22 04 23.5 +1.6
comp=Z,16nm,0.8s
A33A **Warroad** 76.84 343 P P 22 04 21.7 0.0
baz=156,SNR=6.6
B31A **Greenbush Farm** 77.01 341 P P 22 04 22.8 +0.1
baz=154
MDND **Maddock** 77.09 340 P P 22 04 23.7 +0.5
baz=152
A32A **Rocking H Ranc** 77.12 342 P P 22 04 24.1 +0.8
baz=155
AHID **Auburn Hatcher** 77.29 330 eP P 22 04 24.8 +0.1
comp=Z,25nm,1.0s
HVU **Hansel Valley** 77.31 328 eP P 22 04 25.0 +0.2
comp=Z,12nm,0.9s
MLAC **Mammoth, Mammo** 77.41 322 P P 22 04 26.9 +1.3
baz=136
REDW **Red Top Meadow** 77.65 330 eP P 22 04 28.0 +1.2
comp=Z,12nm,0.9s
NV01 **Mina Array Sit** 77.68 323 eP P 22 04 28.2 +1.3
NVAR **Mina Array Bea** 77.68 323 P P 22 04 28.4 +1.4
comp=Z,5.1nm,0.8s,baz=158,slow=6.2,SNR=14
NVAR pP pP 22 04 49.8 -0.1
comp=Z,1.9nm,0.8s,baz=150,slow=6.6,SNR=2.8
LOHW **Long Hollow** 77.73 331 eP P 22 04 28.5 +1.3
comp=Z,22nm,1.4s
TPAW **Teton Pass** 77.79 330 eP P 22 04 28.2 +0.6
comp=Z,14nm,0.9s
MOOW **Moose Ponds** 77.90 331 eP P 22 04 29.2 +1.1
comp=Z,3.3nm,0.8s
FXWY **Fox Creek** 77.94 330 eP P 22 04 29.5 +1.1
comp=Z,8.6nm,1.2s
IMW **Indian Meadow** 78.11 331 eP P 22 04 30.6 +1.3
comp=Z,16nm,1.3s
ULM **Lac du Bonnet** 78.16 343 P P 22 04 29.0 -0.1
comp=Z,18nm,0.6s,baz=158,slow=6.2,SNR=57
ULM pP pP 22 04 51.0 -0.9
comp=Z,6.0nm,0.6s,baz=152,slow=7.2,SNR=4.9
RLMT **Red Lodge** 78.36 332 P P 22 04 31.8 +1.2
baz=144,SNR=12
RLMT **Red Lodge** 78.36 332 eP P 22 04 31.5 +0.9
comp=Z,10nm,0.7s
WAKR **Walker** 78.36 322 eP P 22 04 32.9 +2.1
comp=Z,13nm,1.0s
LAO **LASA Array** 78.41 335 P P 22 04 31.6 +0.9
baz=147
CMB **Columbia Colle** 78.57 321 eP P 22 04 32.7 +1.0
comp=Z,21nm,1.7s
YERR **Yerington** 78.59 323 eP P 22 04 33.9 +1.9
comp=Z,12nm,0.8s
YMR **Madison River** 78.73 331 eP P 22 04 32.9 +0.3
comp=Z,21nm,0.9s
YHH **Holmes Hill** 78.77 331 eP P 22 04 34.9 +1.9
comp=Z,18nm,1.0s
TOA0 **Torodi Ar. Sit** 78.86 70 eP P 22 04 33.5 -0.3
TORD **Torodi Ar. Bea** 78.86 70 P P 22 04 33.5 -0.3
comp=Z,33nm,0.6s,baz=259,slow=5.3,SNR=466
TORD pP pP 22 04 57.0 +0.4
comp=Z,26nm,0.6s,baz=252,slow=5.3,SNR=15
TORD PKKPbc PKKPbc 22 23 27.4 +0.8
comp=Z,0.2nm,0.4s,baz=46,slow=2.8,SNR=5.7
TORD LR LR 22 37 04.4
comp=Z,37nm,21.7s,baz=170,slow=34
YHB **Horse Butte** 78.89 331 eP P 22 04 35.7 +2.1
comp=Z,13nm,0.8s
VCNR **Virginia City** 79.04 323 eP P 22 04 36.6 +2.2
comp=Z,9.8nm,1.2s
QLMT **Earthquake Lak** 79.06 331 eP P 22 04 36.7 +2.2
PAHR **Pah Rah Range** 79.18 323 eP P 22 04 37.0 +1.8
comp=Z,29nm,0.9s
SCHQ **Schefferville** 79.18 2 P P 22 04 34.7 +0.1
comp=Z,3.4nm,0.6s,baz=170,slow=11,SNR=4.2
SCHQ pP pP 22 04 57.1 -0.3
comp=Z,2.9nm,0.5s,baz=178,slow=4.0,SNR=3.3
HLID **Hailey** 79.45 328 P P 22 04 38.3 +1.8
baz=140,SNR=19
HLID **Hailey** 79.45 328 eP P 22 04 37.1 +0.5
comp=Z,22nm,1.0s
AFDM **Forest Hills D** 79.53 322 eP P 22 04 38.3 +1.4
comp=Z,14nm,1.1s
TSUM **Tsumeb** 79.60 106 eP P 22 04 38.1 +0.1
TSUM e 22 05 01.8
MCMT **McKenzie Canyo** 79.69 330 eP P 22 04 39.6 +1.6
BOZ **Bozeman (W)** 79.75 331 P P 22 04 39.0 +0.9
baz=142,SNR=7.7
BOZ **Bozeman (W)** 79.75 331 eP P 22 04 39.1 +1.0
comp=Z,20nm,1.6s
BEKR **Beckworth** 79.83 323 eP P 22 04 40.5 +1.8
comp=Z,13nm,0.9s
DLMT **Dillon** 79.99 331 eP P 22 04 40.9 +1.5
comp=Z,9.0nm,0.9s
MFID **Camas Ranch** 80.02 328 eP P 22 04 40.4 +0.9
comp=Z,32nm,1.6s
ORV **Oroville** 80.25 322 eP P 22 04 42.2 +1.5
comp=Z,26nm,1.0s
LRM **Limekiln Ridge** 80.28 331 eP P 22 04 42.4 +1.3
WVOR **Wild Horse Val** 80.72 325 eP P 22 04 44.6 +1.3
comp=Z,15nm,1.5s
O03D **Paynes Creek** 80.92 322 P P 22 04 44.5 +0.1
baz=134,SNR=11
MOD **Modoc Plateau** 81.22 324 eP P 22 04 47.1 +1.1
comp=Z,11nm,0.9s
J08A **Circle Bar Ran** 81.30 326 eP P 22 04 47.8 +1.4
MAW **Mawson** 81.47 163 P P 22 04 47.4 +0.5
comp=Z,13nm,0.5s,baz=202,slow=6.3,SNR=14

MAW LR LR 22 41 35.5
comp=Z,84nm,18.0s,baz=250,slow=36
MSO **Missoula** 81.72 331 P P 22 04 49.7 +1.2
baz=140
BMO **Blue Mountains** 81.80 328 eP P 22 04 50.2 +1.3
comp=Z,27nm,1.5s
N02D **Trinity Center** 81.89 322 P P 22 04 50.5 +1.0
baz=133
M04C **Macdoel** 81.96 323 P P 22 04 50.9 +1.0
baz=134,SNR=6.5
M02C **Callahan** 82.25 322 P P 22 04 52.7 +1.3
baz=133
I07A **Izee** 82.34 326 eP P 22 04 53.6 +1.8
BOSA **Boshof** 82.40 118 P P 22 04 52.6 -0.1
comp=Z,7.2nm,0.6s,baz=253,slow=4.5,SNR=20
BOSA pP pP 22 05 16.2 +0.5
comp=Z,9.3nm,0.7s,baz=274,slow=3.5,SNR=4.9
BOSA LR LR 22 41 02.4
comp=Z,30nm,18.5s,baz=182,slow=35
YBH **Yreka Blue Hor** 82.40 323 P P 22 04 52.2 0.0
comp=Z,5.3nm,0.7s,baz=90,slow=4.0,SNR=14
YBH **Yreka Blue Hor** 82.40 323 eP P 22 04 52.4 +0.2
comp=Z,6.1nm,0.8s
JTMT **Jette** 82.57 331 eP P 22 04 54.5 +1.5
F10A **Beach Ranch, E** 82.58 329 eP P 22 04 54.2 +1.2
J05D **Fort Rock, OR** 82.67 325 P P 22 04 54.1 +0.5
baz=134
PINE **Pine Mountain** 82.87 325 eP P 22 04 56.2 +1.5
G08A **Pilot Rock** 82.92 327 eP P 22 04 55.8 +1.0
J04D **Umpqua Nationa** 83.10 324 P P 22 04 56.0 +0.1
baz=134
L02D **Cave Junction,** 83.18 323 P P 22 04 56.6 +0.5
baz=133
WALA **Waterton Lakes** 83.41 332 eP P 22 04 57.4 +0.1
comp=Z,15nm,0.9s
WALA e 22 05 19.9
I05D **Terrebonne, OR** 83.46 325 P P 22 04 58.4 +0.9
baz=134,SNR=5.8
FFC **Flin Flon** 83.85 342 eP P 22 04 57.8 -1.4
FFC epP pP 22 05 21.3 -1.0
G05D **Wamic, OR** 84.07 326 P P 22 05 01.4 +0.7
baz=134
NEW **Newport** 84.22 330 P P 22 05 01.7 +0.4
baz=138
NEW **Newport** 84.22 330 eP P 22 05 01.6 +0.3
C09A **Chrisman Ranch** 84.41 329 eP P 22 05 03.1 +0.9
PBDV **Barranco-do-Ve** 84.45 45 eP P 22 05 04.1 +1.4
PNCL **Nicolau / Gran** 84.59 44 eP P 22 05 05.1 +1.8
comp=Z,37nm,1.7s
PCVE **Castro Verde** 84.61 44 eP P 22 05 02.6 -0.9
PVAQ **Vaqueiros** 84.68 45 eP P 22 05 05.5 +1.7
comp=Z,63nm,1.7s
PBEJ **Beja** 84.96 44 eP P 22 05 06.4 +1.2
LTY **Liberty** 85.16 328 eP P 22 05 06.6 +0.6
ALMR **Almeirim** 85.19 43 eP P 22 05 07.5 +1.2
comp=Z,71nm,1.1s
ALMR epP pP 22 05 31.3 +1.8
B08A **Colville Reser** 85.30 329 eP P 22 05 07.1 +0.4
PMTG **Montargil** 85.35 43 eP P 22 05 08.2 +1.1
PTOM **Tomar** 85.57 43 eP P 22 05 09.1 +0.9
comp=Z,45nm,1.6s
PTOM epP pP 22 05 32.9 +1.5
PBAR **Barrancos** 85.57 44 eP P 22 05 09.2 +0.9
PBAR epP pP 22 05 32.5 +1.1
FCC **Fort Churchill** 85.58 347 eP P 22 05 07.7 -0.1
comp=Z,7.3nm,0.6s
FCC e 22 05 30.7
PESTR **Estremoz** 85.63 44 eP P 22 05 09.9 +1.3
PESTR epP pP 22 05 33.0 +1.2
PCAS **Casmilo, Conde** 85.78 42 eP P 22 05 10.0 +0.8
comp=Z,58nm,1.5s
PCAS epP pP 22 05 34.1 +1.7
EDM **Edmonton** 86.40 335 eP P 22 05 11.2 -0.9
comp=Z,23nm,0.8s
B05A **Bryant** 86.55 328 P P 22 05 12.4 -0.4
baz=134
PVRL **Vila Real** 86.99 42 eP P 22 05 16.5 +1.3
comp=Z,30nm,1.3s
A04D **Lummi Island** 87.16 328 P P 22 05 15.7 0.0
baz=134
ESDC **Sonseca Array** 88.39 45 P P 22 05 22.4 +0.4
comp=Z,2.1nm,0.8s,baz=256,slow=4.1,SNR=9.6
ESDC pP pP 22 05 45.5 +0.2
comp=Z,1.6nm,0.8s,baz=245,slow=4.7,SNR=4.8
ES19 **SONSECA Array** 88.45 45 eP P 22 05 22.5 +0.3
YKA **Yellowknife Ar** 93.98 341 P P 22 05 47.2 -0.1
comp=Z,3.7nm,0.7s,baz=137,slow=4.6,SNR=97
YKA pP pP 22 06 10.1 -0.5
comp=Z,2.7nm,0.7s,baz=138,slow=4.4,SNR=10
YKA sP sP 22 06 20.0 +0.1
comp=Z,0.8nm,0.6s,baz=144,slow=4.4,SNR=3.0
YKA PKKPbc PKKPbc 22 22 53.7 +1.4
comp=Z,0.2nm,1.0s,baz=318,slow=2.4,SNR=3.8
ILAR **Eielson Array** 106.86 334 PP PP 22 11 13.4 +1.3
comp=Z,0.3nm,0.7s,baz=108,slow=5.8,SNR=3.8
TOLK **Toolik Lake Re** 109.19 338 PKiKP PKiKP 22 10 59.2 +0.5
baz=109
MMAI **Mount Meron Ar** 114.87 64 PKP PKPdf 22 11 11.2 +0.5
comp=Z,0.8nm,0.5s,baz=262,slow=1.0,SNR=1.9
BRTR **Keskin Array B** 115.00 56 PKP PKPdf 22 11 10.6 -0.2
comp=Z,0.7nm,0.8s,baz=177,slow=2.5,SNR=5.2
KLMR **Klimovskoe** 120.41 32 ePKPdf PKPdf 22 11 19.3 -1.0
KLMR AMP 22 11 31.5
comp=Z,16nm,1.5s
KBZ **Khabaz** 122.42 53 PKP PKPdf 22 11 25.0 +0.3
comp=Z,3.2nm,0.9s,baz=157,slow=2.0,SNR=12
KBZ pPKP pPKPdf 22 11 47.6 -1.4
comp=Z,0.6nm,0.7s,baz=326,slow=3.6,SNR=1.4
GNI **Garni** 123.49 57 PKP PKPdf 22 11 27.7 +0.6
comp=Z,2.6nm,0.7s,baz=333,slow=6.8,SNR=5.1
ASAR **Alice Springs** 126.92 207 PKP PKPdf 22 11 33.9 -0.2
comp=Z,8.0nm,0.5s,baz=132,slow=1.7,SNR=92
ASAR pPKP pPKPdf 22 11 57.8 -0.6
comp=Z,2.6nm,0.7s,baz=133,slow=2.1,SNR=5.2
WRA **Warramunga Arr** 130.01 210 PKP PKPdf 22 11 40.2 +0.2
comp=Z,4.5nm,0.3s,baz=153,slow=1.8,SNR=166
WRA pPKP pPKPdf 22 12 04.0 -0.4
comp=Z,3.6nm,1.0s,baz=161,slow=1.7,SNR=5.2
WRA sPKP 22 12 13.9
comp=Z,1.7nm,0.8s,baz=175,slow=1.6,SNR=2.7
AKTO **Aktyubinsk** 132.26 43 PKP PKPpre 22 11 41.2
comp=Z,0.9nm,0.6s,baz=146,slow=3.6,SNR=2.2
WSAR **Wadi Sarin** 132.74 80 PKP PKPdf 22 11 43.6 -1.4
comp=Z,12nm,1.0s,baz=293,slow=7.7,SNR=2.5
SEY **Seymchan** 132.77 335 PKP PKPdf 22 11 44.5 +0.7
comp=Z,4.4nm,0.6s,baz=68,slow=1.9,SNR=13
ABKAR **Akbulak array** 133.74 45 ePKPdf PKPdf 22 11 46.4 +0.3
GEYT **Alibeck** 133.81 60 PKP PKPdf 22 11 45.6 -1.0
comp=Z,0.8nm,0.4s,baz=162,slow=0.9,SNR=2.5
PETK **Petropavlovsk-** 134.76 322 PKP PKPdf 22 11 49.1 +1.2
comp=Z,4.6nm,0.9s,baz=59,slow=6.9,SNR=3.5
FITZ **Fitzroy Crossi** 135.05 200 PKP PKPdf 22 11 50.2 +0.7
comp=Z,5.2nm,0.6s,baz=181,slow=4.6,SNR=9.5
BVAR **Borovoye Array** 138.62 36 PKP PKPdf 22 11 54.8 -0.2
comp=Z,2.2nm,0.7s,baz=270,slow=2.9,SNR=18
KURK **Kurchatov** 144.19 35 ePKPdf PKPbc 22 12 03.8 +0.4
KURK pPKP pPKPdf 22 12 29.2 -0.2
KURBB **Kurchatov Arra** 144.19 35 PKP PKPbc 22 12 04.1 +0.7
comp=Z,7.1nm,0.8s,baz=302,slow=3.4,SNR=37
KURBB pPKP pPKPdf 22 12 29.3 -0.2
comp=Z,2.2nm,0.7s,baz=300,slow=3.4,SNR=2.8
EKS2 **Erkin-Say** 144.83 50 P PKPdf 22 12 07.3 +0.7
SNR=6.9
AML **Almayashu** 144.94 51 P PKPdf 22 12 07.7 +0.4
SNR=12
ZALV **Zalesovo Beam** 144.98 27 PKP PKPdf 22 12 06.5 +0.2
comp=Z,60nm,0.8s,baz=306,slow=4.2,SNR=175
ZALV pPKP pPKPdf 22 12 30.4 -0.3
comp=Z,8.6nm,0.6s,baz=300,slow=3.7,SNR=3.7
USP **Ospenovka** 145.13 49 P PKPbc 22 12 04.9 -1.9
SNR=7.6
AAK **Ala-Archa** 145.34 50 P PKPab 22 12 09.1 +1.2
SNR=16
AAK **Ala-Archa** 145.34 50 ePKPdf PKPab 22 12 08.6 +0.7
CHMS **Chumysh** 145.39 49 P PKPab 22 12 08.6 +0.7
SNR=14
FAKI **Fak Fak** 145.45 221 ePKPdf PKPab 22 12 08.9 +0.1
UCH **Uchtor** 145.49 51 P PKPab 22 12 09.8 +1.0
SNR=32
KBK **Karagaybulak** 145.65 50 P PKPab 22 12 10.1 +1.1
SNR=11
PALK **Pallekele** 146.61 116 PKPbc PKPbc 22 12 11.3 -0.7
comp=Z,3.1nm,0.4s,baz=5.8,slow=0.5,SNR=6.0
KSH **Kashi** 147.37 55 PKPbc PKPdf 22 12 12.3 +1.2
ASAJ **Asahikawa** 147.50 315 PKPbc PKPbc 22 12 13.8 +0.2
comp=Z,11nm,0.7s,baz=285,slow=3.8,SNR=6.1
MKAR **Makanchi Array** 148.41 38 PKP PKPdf 22 12 12.8 +0.3

	comp=Z,15nm,0.7s,baz=326,slow=1.3,SNR=96									
MKAR					PKPbc	**PKPbc**	**22 12 16.2**	**+0.2**
	comp=Z,16nm,0.8s,baz=310,slow=2.6,SNR=104									
MKAR					pPKPbc	**pPKPbc**	**22 12 41.1**	**+0.9**
	comp=Z,5.3nm,0.6s,baz=306,slow=3.6,SNR=6.7									
LEM	**Lembang**	**148.59**	**174**		PKPbc	**PKPbc**	**22 12 18.8**	**+1.2**
	comp=Z,66nm,0.7s,baz=344,slow=5.3,SNR=10									
LEM					pPKPbc	**pPKPbc**	**22 12 41.9**	**+0.2**
	comp=Z,42nm,0.6s,baz=298,slow=1.5,SNR=4.2									
HYB	**Hyderabad**	**149.31**	**97**	*i*	PKP	**PKPbc**	**22 12 18.5**	**-0.6**
KLR	**Kul'dur**	**150.39**	**331**		PKPbc	**PKPbc**	**22 12 20.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=70,slow=2.0,SNR=23									
KLR					pPKPbc	**pPKPbc**	**22 12 45.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=7.7,slow=3.3,SNR=2.9									
TLY	**Talaya**	**152.49**	**9**		PKPbc	**PKPbc**	**22 12 26.3**	**+0.8**
	comp=Z,4.7nm,0.4s,baz=330,slow=1.7,SNR=10									
WMQ	**Urumqi**	**153.25**	**39**	*e*	PKPbc	**PKPdf**	**22 12 20.5**	**+0.5**
MJAR	**Matsushiro Arr**	**153.52**	**303**		PKPbc	**PKPbc**	**22 12 28.6**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=107,slow=1.8,SNR=6.4									
MJAR					PKPab	**PKPab**	**22 12 41.8**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=106,slow=23,SNR=4.1									
USRK	**Ussuriysk Ar.**	**153.82**	**323**		PKPbc	**PKPbc**	**22 12 29.9**	**+1.3**
	comp=Z,2.2nm,0.6s,baz=81,slow=3.4,SNR=3.9									
SONM	**Songino Array**	**156.62**	**7**		PKP	**PKPdf**	**22 12 25.1**	**+0.5**
	comp=Z,2.0nm,1.1s,baz=267,slow=2.9,SNR=8.1									
SONM					PKPab	**PKPab**	**22 12 54.0**	**0.0**
	comp=Z,3.8nm,0.7s,baz=325,slow=3.9,SNR=19									
SONM					pPKPab	**pPKPab**	**22 13 17.2**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=320,slow=3.0,SNR=2.9									
KSRS	**Korea Array**	**160.45**	**315**		PKP	**PKPdf**	**22 12 28.9**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=94,slow=1.0,SNR=6.0									
KSRS					PKPab	**PKPab**	**22 13 12.1**	**+1.4**
	comp=Z,2.8nm,0.6s,baz=59,slow=4.0,SNR=7.1									
KSAR	**Wonju Array Be**	**160.48**	**315**		PKP	**PKPdf**	**22 12 28.9**	**-0.4**
KSAR					PKPab	**PKPab**	**22 13 12.1**	**+1.2**
GTA	**Gaotai**	**162.70**	**29**	*e*	PKP	**PKPdf**	**22 12 33.0**	**+1.2**
HHC	**Hu-ho-hao-te**	**163.82**	**357**	*e*	PKP	**PKPdf**	**22 12 30.8**	**-2.0**
LZH	**Lanzhou**	**167.21**	**25**	*e*	PKP	**PKPdf**	**22 12 36.0**	**+0.2**
LZH					pPKP	pPKPdf	22 13 03.5	+3.2
LZH					sPKP		22 13 05.3	
LZH					LR	LR		
	comp=Z,130nm,18.2s									
LZH					LR	LR		
	comp=Z,130nm,18.0s									
LZH					LR	LR		
	comp=Z,180nm,20.1s									
CMAR	**Chiang Mai Arr**	**167.55**	**117**		PKP	**PKPdf**	**22 12 37.0**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=283,slow=2.0,SNR=7.1									
CMAR					PKPab	**PKPab**	**22 13 42.1**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=243,slow=4.0,SNR=4.8									
CMAR					PP	**PP**	**22 17 33.7**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=227,slow=6.8,SNR=5.2									
CD2	**Chengdu**	**171.32**	**43**		PKP	**PKPdf**	**22 12 38.5**	**+0.2**
KMI	**Kunming**	**172.87**	**85**		PKP	**PKPdf**	**22 12 40.3**	**+0.9**
GYA	**Guiyang**	**176.03**	**62**	*e*	PKP	**PKPdf**	**22 12 40.1**	**-0.2**
GYA					sPKP		22 13 08.9	
GYA					PKPab	**PKPab**	**22 14 21.0**	**+0.8**
GYA					PKS	**PKSdf**	**22 16 11.8**	**-0.8**
GYA					PP	**PP**	**22 18 14.3**	**+1.1**
GYA					AMB	AMB		
	comp=Z,120nm,8.2s									

IDC 19 21:58:28.8±24.0, 18.77S×179.64W, h520km±219km, mb2.8/3, mb1 3.1/3, mb1mx2.7/45, mbtmp3.7/3, Error ellipse: s-maj=270.0km s-min=68.7km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.34**	**261**	P	P	22 05 45.5	+0.5
	0.5nm,0.3s,baz=95,slow=7.8,SNR=24						
ASAR	**Alice Springs**	**43.44**	**255**	P	P	22 05 44.9	-0.9
	1.2nm,0.8s,baz=84,slow=7.7,SNR=8.9						
ILAR	**Eielson Array**	**86.98**	**13**	P	P	22 10 18.1	0.0
	0.4nm,1.0s,baz=207,slow=3.5,SNR=1.9						
BVAR	**Borovoye Array**	**116.77**	**321**	PKP	PKPdf	22 16 13.3	-0.4
	0.3nm,0.4s,baz=118,slow=4.0,SNR=2.1						
ARCES	**ARCESS Array B**	**126.94**	**349**	PKP	PKPdf	22 16 32.1	-0.7
	2.0nm,0.8s,baz=41,slow=2.9,SNR=1.6						
AKASG	**Malin Array Be**	**140.76**	**331**	PKhKP	PKPpre	22 16 55.1	
	0.5nm,0.5s,baz=45,slow=4.2,SNR=8.6						
GERES	**GERESS Array B**	**148.11**	**343**	PKPbc	PKPbc	22 17 15.6	-0.3
	0.2nm,0.5s,baz=25,slow=3.2,SNR=1.7						

TRN 19 21:59:16.9, 10.52N×62.25W, h22km, MD3.6, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.82**	**105**	*e*P	Pb	21 59 32.4	-0.1
TPP				*e*S	Sn	21 59 45.0	+0.5
TRN	**Trinidad (W)**	**0.85**	**82**	*e*P	Pb	21 59 30.0	-3.0
TRN	**Trinidad (W)**	**0.85**	**82**	*e*P	Pb	21 59 32.4	-0.5
TRN				*e*S	Sn	21 59 45.9	+0.7
TBH	**Brigand Hill**	**1.17**	**92**	*e*P	Pn	21 59 37.4	-0.5
TBH				*e*S	Sn	21 59 54.2	+1.0
GRGR	**Grenville**	**1.70**	**20**	*e*P	Pn	21 59 45.4	+0.1
GRGR				*e*S	Sn	22 00 07.2	+0.7
TOSP	**Speyside**	**1.85**	**65**	*e*P	Pn	21 59 47.5	+0.1
TOSP				*e*S	Sn	22 00 10.3	+0.2
SVB	**Belmont**	**2.90**	**20**	*e*P	Pn	22 00 03.3	+1.4
SVB				*e*S	Sn	22 00 35.5	-0.6
SVCV	**St. Vincent, C**	**2.94**	**22**	*e*P	Pn	22 00 03.5	+1.2
SVCV				*e*S	Sn	22 00 36.4	-0.6
SVV	**Soufriere Volc**	**2.96**	**20**	*e*P	Pn	22 00 02.9	+0.3
SVV				*e*S	Sn	22 00 37.3	-0.1
SSV	**Crater Summit**	**2.97**	**20**	*e*S	Sn	22 00 36.7	-1.2
MCLT	**Moule a Chique**	**3.42**	**22**	*e*P	Pn	22 00 09.0	+0.1
MCLT				*e*S	Sn	22 00 47.5	-1.3
SLB	**Belfond**	**3.49**	**20**	*e*P	Pn	22 00 11.3	+1.4
SLB				*e*S	Sn	22 00 49.8	-0.8
FDF	**Fort de France**	**4.32**	**14**	*e*P	Pn	22 00 23.1	+1.8

IDC 19 22:01:41.5±1.1, 6.19N×124.79E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.2/63, mbtmp3.4/5, Error ellipse: s-maj=23.8km s-min=13.1km az=125.0
ISCJB 19 22:01:44.8±1.0, 6.57N±0.08×126.49E±0.10, h35km, mb3.3/5, Error ellipse: s-maj=16.2km s-min=8.3km az=141.7
MAN 19 22:01:46, 6.79N×126.48E, h35km, mb4.9, ML3.8, MS3.8
ISC 19 22:01:45.0±1.1, 6.59N±0.08×126.5E±0.1, h35km, n11, σ1s83/14, mb3.4/5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.42**	**330**	*e*P	**Pn**	**22 01 55.6**	**+1.0**
MATI				*e*S	**Sn**	**22 02 02.2**	**+1.2**
DAV	**Davao City (W)**	**1.01**	**299**	Pg	**Pn**	**22 02 04.8**	**+2.1**
	156nm,0.3s,baz=75,slow=1.7,SNR=12						
DAV				Lg	Lg	22 02 19.3	
	152nm,0.3s,baz=136,slow=7.4,SNR=57						
KCP	**Kidapawan**	**1.43**	**287**	*i*P	**Pn**	**22 02 08.8**	**+0.2**
KCP				*i*S	**Sn**	**22 02 27.6**	**+1.3**
GSPH	**General Santos**	**1.59**	**252**	*e*P	**Pn**	**22 02 10.7**	**-0.1**
BUKP	**Musuan**	**1.90**	**313**	*e*P	**Pn**	**22 02 15.5**	**+0.5**
BUKP				*e*S	**Sn**	**22 02 37.4**	**-0.3**
WRA	**Warramunga Arr**	**27.48**	**164**	P	**P**	**22 07 31.9**	**+3.7**
	0.2nm,0.8s,baz=339,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**30.93**	**167**	P	**P**	**22 07 59.6**	**+0.7**
	0.2nm,0.5s,baz=347,slow=7.6,SNR=2.0						
SONM	**Songino Array**	**44.53**	**341**	P	**P**	**22 09 53.5**	**0.0**
	0.2nm,0.4s,baz=162,slow=8.6,SNR=2.3						
MKAR	**Makanchi Array**	**55.09**	**324**	P	**P**	**22 11 10.9**	**-2.8**
	0.3nm,0.5s,baz=121,slow=7.2,SNR=13						
KURBB	**Kurchatov Arra**	**59.22**	**327**	P	**P**	**22 11 40.7**	**-2.0**
	0.2nm,0.3s,baz=131,slow=5.1,SNR=1.3						
TORD	**Torodi Ar. Bea**	**121.75**	**290**	PKP	**PKPdf**	**22 20 35.0**	**-1.4**
	0.1nm,0.5s,baz=83,slow=1.5,SNR=1.3						

NIED 19 22:06:00, 36.80N×141.20E, h20km, Mw3.8 Best double couple: M0 5.89000×10^14 NP1:φs 344.00000°, δ63.00000°, λ-161.00000°. NP2:φs 246.00000°, δ73.00000°, λ-28.00000°.
JMA 19 22:06:25.3±0.1, 36.85N×141.14E, h34km±1km, M3.9
JMA Felt II J1.
IDC 19 22:06:36.6±2.1, 36.41N×140.21E, h90km±20km, mb3.4/9, mb1 3.6/10, mb1mx3.3/65, mbtmp3.8/10, Error ellipse: s-maj=24.5km s-min=16.7km az=76.0
ISC 19 22:06:26.8±1.6, 36.80N±0.04×140.90E±0.06, h4km±10km, n24, σ2s20/25, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.31**	**345**	P	**Pg**	**22 06 33.7**	**+0.8**
ONAJ				S	**Sb**	**22 06 39.5**	**-1.1**
JHO	**Hitachi**	**0.32**	**235**	P	**Pb**	**22 06 35.8**	**+0.7**
JHO				S	**Sb**	**22 06 43.2**	**+2.5**
JFK	**Kawauchi**	**0.57**	**358**	P	**Pg**	**22 06 36.3**	**-1.4**
JFK				S	**Sg**	**22 06 43.8**	**-1.3**
JSB	**Shiboa**	**0.80**	**283**	P	**Pb**	**22 06 44.2**	**+0.8**
JSB				S	**Sn**	**22 06 57.4**	**0.0**
JYT	**Yasato**	**0.80**	**225**	P	**Pg**	**22 06 42.5**	**+0.3**
JFT	**Otama**	**0.85**	**328**	S	**Sg**	**22 06 54.8**	**+0.7**
MJAR	**Matsushiro Arr**	**2.18**	**264**	P	**Pn**	**22 07 04.2**	**+0.3**
	4.8nm,0.3s,baz=89,slow=14,SNR=30						
MJAR				S	**Sb**	**22 07 33.6**	**-0.5**
	18nm,0.3s,baz=55,slow=18,SNR=8.3						
MJAR				LR	LR	22 07 48.4	
	comp=Z,24nm,20.9s,baz=75,slow=45						
MAT	**Matsushiro**	**2.18**	**264**	P	**Pn**	**22 07 04.5**	**+0.6**
MAT				S	**Sb**	**22 07 34.1**	**-0.1**
JHJ	**Hachijo jima 2**	**3.78**	**194**	P	**Pn**	**22 07 24.8**	**-1.1**
	25nm,0.3s,baz=91,slow=22,SNR=5.6						
JHJ				S	**Sn**	**22 08 10.1**	**-0.7**
	8.9nm,0.3s,baz=65,slow=19,SNR=3.0						
SONM	**Songino Array**	**27.56**	**304**	P	**P**	**22 12 12.7**	**-2.3**
	0.6nm,0.6s,baz=121,slow=11,SNR=5.5						
H11N2	**WAKE ISLAND Hy 28.39**	**120**		T	T	22 41 49.9	
	baz=313,slow=75,SNR=128						
H11N1	**WAKE ISLAND Hy 28.39**	**120**		T	T	22 41 50.6	
	baz=313,slow=75,SNR=120						
H11N3	**WAKE ISLAND Hy 28.40**	**120**		T	T	22 41 51.2	
	baz=313,slow=75,SNR=94						
H11S1	**WAKE ISLAND Hy 29.08**	**122**		T	T	22 43 08.1	
	baz=314,slow=75,SNR=162						
H11S3	**WAKE ISLAND Hy 29.08**	**122**		T	T	22 43 08.0	
	baz=314,slow=75,SNR=94						
H11S2	**WAKE ISLAND Hy 29.10**	**122**		T	T	22 43 06.7	
	baz=314,slow=75,SNR=83						
MKAR	**Makanchi Array**	**43.89**	**302**	P	**P**	**22 14 31.3**	**-3.1**
	1.0nm,0.6s,baz=87,slow=8.2,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.82**	**308**	P	**P**	**22 14 46.9**	**-2.8**
	0.8nm,0.4s,baz=83,slow=8.0,SNR=6.6						
ILAR	**Eielson Array**	**49.91**	**32**	P	**P**	**22 15 24.1**	**+2.9**
	0.7nm,0.6s,baz=271,slow=6.6,SNR=9.5						
WRA	**Warramunga Arr**	**56.77**	**187**	P	**P**	**22 16 07.9**	**-4.2**
	1.1nm,0.7s,baz=5.7,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**60.50**	**187**	P	**P**	**22 16 34.8**	**-3.3**
	0.1nm,0.3s,baz=3.1,slow=6.8,SNR=5.8						
YKA	**Yellowknife Ar**	**64.22**	**30**	P	**P**	**22 17 06.2**	**+3.6**
	0.3nm,0.7s,baz=304,slow=7.1,SNR=3.8						
FINES	**FINESS Array B**	**68.83**	**332**	P	**P**	**22 17 32.3**	**+0.3**
	2.0nm,0.7s,baz=52,slow=9.9,SNR=5.0						
NVAR	**Mina Array Bea**	**75.46**	**53**	P	**P**	**22 18 16.0**	**+3.5**
	0.3nm,0.6s,baz=281,slow=6.3,SNR=1.8						

MAN 19 22:15:31, 10.03N×123.26E, h1km, mb4.2, ML3.0, MS2.7, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.68**	**119**	*e*P	Pb	22 15 45.0	-0.6
TBP				*i* S	Sb	22 15 56.4	+0.8
LLP	**Lapu-Lapu**	**0.75**	**67**	*e*P	Pb	22 15 46.3	-0.6
LLP				*e*S	Sb	22 15 58.1	+0.4
GUIM	**Jordan**	**0.89**	**312**	*e*P	Pg	22 15 48.6	+0.5
GUIM				*e*S	Sb	22 16 01.4	-0.2
MSLP	**Maasin**	**1.58**	**86**	*e*P	Pb	22 16 00.9	0.0
MSLP				*e*S	Sg	22 16 22.8	+1.0
RCP	**Roxas**	**1.61**	**342**	*e*P	Pg	22 16 02.0	+0.2
RCP				*e*S	Sg	22 16 26.0	+3.3

UPP 19 22:20:27.7, 67.16N×20.63E, h0km, ML1.6, Mining explosion.
ISCJB 19 22:20:27.3±0.4, 67.19N±0.02×20.66E±0.08, h0km, Error ellipse: s-maj=4.6km s-min=2.8km az=175.8
CSEM 19 22:20:28.1±0.2, 67.18N×20.65E, h2km, ML2.0, Error ellipse: s-maj=4.9km s-min=3.4km az=93.0, Mining explosion.
HEL 19 22:20:28.7±0.1, 67.18N×20.65E, h0km, ML1.9, ML1.6(UPP), Explosion
NAO 19 22:20:28.4±1.0, 67.14N×20.94E, ML2.3
BER 19 22:20:30.8±3.0, 67.12N×20.66E, h0km, ML2.4, ML2.3(NAO), Suspected explosion
ISC 19 22:20:28.7±0.8, 67.18N±0.02×20.70E±0.03, h0km, n65, σ1s20/96, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.57**	**61**	P	**Pg**	**22 20 39.2**	**-0.4**
MASU				S	**Sg**	**22 20 47.5**	**+0.4**
MASU	**Masugnsbyn**	**0.57**	**61**	P	**Pg**	**22 20 39.3**	**-0.4**
MASU				S	**Sg**	**22 20 47.5**	**+0.4**
MASU	**Masugnsbyn**	**0.57**	**61**	*i* P	**Pg**	**22 20 39.3**	**-0.4**
MASU				*i* S	**Sg**	**22 20 47.5**	**+0.4**
RATU	**Laukkuluspa**	**0.77**	**327**	P	**Pg**	**22 20 42.3**	**-1.2**
RATU	**Laukkuluspa**	**0.77**	**327**	P	**Pg**	**22 20 42.3**	**-1.2**
RATU	**Laukkuluspa**	**0.77**	**327**	*i* P	**Pg**	**22 20 42.3**	**-1.2**
KUA	**Kurravaara**	**0.79**	**350**	P	**Pg**	**22 20 42.8**	**-1.0**
KUA	**Kurravaara**	**0.79**	**350**	*i* P	**Pg**	**22 20 42.8**	**-1.0**
ERTU	**Ertsjaerv**	**0.86**	**136**	P	**Pg**	**22 20 43.9**	**-1.3**
ERTU				S	**Sg**	**22 20 56.1**	**-0.2**
ERTU	**Ertsjaerv**	**0.86**	**136**	P	**Pg**	**22 20 43.9**	**-1.3**
ERTU	**Ertsjaerv**	**0.86**	**136**	*e*P	**Pg**	**22 20 43.9**	**-1.3**
ERTU				*e*S	**Sg**	**22 20 56.2**	**-0.2**
NIKU	**Nikkaluokta**	**0.94**	**318**	P	**Pg**	**22 20 45.3**	**-1.4**
NIKU	**Nikkaluokta**	**0.94**	**318**	P	**Pg**	**22 20 45.4**	**-1.4**
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	**Pg**	**22 20 45.4**	**-1.4**
PAJU	**Pajala**	**0.96**	**98**	P	**Pg**	**22 20 45.9**	**-1.1**
PAJU	**Pajala**	**0.96**	**98**	P	**Pg**	**22 20 45.9**	**-1.1**
PAJU	**Pajala**	**0.96**	**98**	*e*P	**Pg**	**22 20 45.9**	**-1.1**
LANU	**Lannavaara**	**1.00**	**29**	P	**Pg**	**22 20 46.6**	**-1.2**
LANU				Sb	**Sg**	**22 21 00.5**	**-0.3**
LANU	**Lannavaara**	**1.00**	**29**	P	**Pg**	**22 20 46.7**	**-1.2**
LANU	**Lannavaara**	**1.00**	**29**	*e*P	**Pg**	**22 20 46.6**	**-1.2**
LANU				*e*SB	**Sg**	**22 21 00.5**	**-0.3**
HEF	**Hetta**	**1.67**	**41**	P	**Pn**	**22 20 58.2**	**-0.9**
HEF				Sg	**Sn**	**22 21 20.5**	**-0.7**
HEF	**Hetta**	**1.67**	**41**	*e*P	**Pn**	**22 20 58.2**	**-0.9**
	baz=222						
HEF				MSG		22 21 19.0	
	comp=Z,8.9nm,0.2s						
HEF				*e*SG	**Sn**	**22 21 20.5**	**-0.7**
KALU	**Kalix**	**1.70**	**140**	P	**Pn**	**22 20 59.0**	**-0.6**
KALU				Sn	**Sb**	**22 21 22.9**	**+0.2**
KALU	**Kalix**	**1.70**	**140**	P	**Pn**	**22 20 59.1**	**-0.5**
KALU	**Kalix**	**1.70**	**140**	*e*P	**Pn**	**22 20 59.0**	**-0.6**
	baz=323						
KALU				*e*SN	**Sb**	**22 21 22.9**	**+0.2**
SJUU	**Sjulsmark**	**1.72**	**167**	P	**Pn**	**22 20 59.0**	**-0.8**
SJUU	**Sjulsmark**	**1.72**	**167**	P	**Pn**	**22 20 59.0**	**-0.8**
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	**Pn**	**22 20 59.0**	**-0.8**
TOF	**Tornio**	**1.82**	**126**	P	**Pn**	**22 21 00.9**	**-0.3**
TOF				Sn	**Sn**	**22 21 25.7**	**+0.8**
TOF	**Tornio**	**1.82**	**126**	*e*P	**Pn**	**22 21 01.0**	**-0.3**
	baz=311						
TOF				MSG		22 21 23.2	
	comp=Z,10nm,0.2s						
TOF				*e*SN	**Sn**	**22 21 25.7**	**+0.8**
KIF	**Kilpisjarvi**	**1.83**	**1**	P	**Pn**	**22 21 01.6**	**+0.2**
KIF				Sg	**Sg**	**22 21 27.3**	**-0.2**
KIF	**Kilpisjarvi**	**1.83**	**1**	Pn	**Pn**	**22 21 01.7**	**+0.4**
KIF				*e*P	**Pn**	**22 21 01.8**	**+0.4**
KIF				Sn	**Sg**	**22 21 27.4**	**-0.1**
KIF	**Kilpisjarvi**	**1.83**	**1**	Pn	**Pn**	**22 21 01.7**	**+0.4**
KIF				Sn	**Sg**	**22 21 27.4**	**-0.1**
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	**Pn**	**22 21 01.6**	**+0.2**
KIF				MSG		22 21 23.9	
	comp=Z,8.8nm,0.2s						
KIF				*e*SG	**Sg**	**22 21 27.4**	**-0.2**
LILU	**Lilltraesk**	**1.94**	**191**	P	**Pn**	**22 21 02.2**	**-0.6**
LILU	**Lilltraesk**	**1.94**	**191**	P	**Pn**	**22 21 02.3**	**-0.6**
LILU	**Lilltraesk**	**1.94**	**191**	*e*P	**Pn**	**22 21 02.3**	**-0.6**
KTK1	**Kautokeino**	**2.07**	**26**	*e*P	**Pn**	**22 21 05.7**	**+1.0**
	SNR=50						
KTK1	**Kautokeino**	**2.07**	**26**	*e*P	**Pn**	**22 21 05.7**	**+1.0**
KTK1				IAML		22 21 35.8	
	comp=Z,45nm,0.5s						
SGF	**Sodankyl**	**2.27**	**81**	*e*PB	**Pn**	**22 21 08.1**	**+0.6**
SGF				*e*SG	**Sb**	**22 21 39.0**	**-0.2**
BURU	**Burvik**	**2.62**	**174**	P	**Pn**	**22 21 12.7**	**+0.4**
BURU				Sg	**Sb**	**22 21 50.9**	**+1.7**
BURU	**Burvik**	**2.62**	**174**	*e*P	**Pn**	**22 21 12.7**	**+0.4**
BURU				*e*SG	**Sb**	**22 21 50.9**	**+1.7**
MOR8	**Moi Rana**	**2.69**	**251**	*e*P	**Pn**	**22 21 12.5**	**-0.7**
	SNR=50						
MOR8	**Moi Rana**	**2.69**	**251**	*e*P	**Pn**	**22 21 12.5**	**-0.7**
ARA0	**ARCESS Array S**	**2.96**	**35**	Pn	**Pn**	**22 21 16.8**	**-0.1**
	SNR=50						
ARA0				Sn	**Sn**	**22 21 53.0**	**0.0**
	SNR=50						
ARA0	**ARCESS Array S**	**2.96**	**35**	Pn	**Pn**	**22 21 16.8**	**-0.1**
	baz=209,slow=14						
ARA0				Sn	**Sn**	**22 21 53.0**	**0.0**
	baz=212,slow=22						
ARA0	**ARCESS Array S**	**2.96**	**35**	Pn	**Pn**	**22 21 16.8**	**-0.1**
	baz=209,slow=14						
ARA0				Sn	**Sn**	**22 21 53.0**	**0.0**
	baz=212,slow=22						
ARE0	**ARCESS Array S**	**2.96**	**35**	P	Pn	**22 21 16.8**	**-0.1**
ARE0				S	**Sn**	**22 21 53.9**	**+0.8**
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*P	Pn	**22 21 16.8**	**-0.1**
	baz=216						
ARE0				*e*S	**Sn**	**22 21 53.9**	**+0.8**
OUL	**Oulu**	**2.98**	**133**	*e*PB	**Pn**	**22 21 19.1**	**+2.0**
OUL				*e*SB	**Sb**	**22 21 58.9**	**-0.6**
UMAU	**Umeaa**	**3.31**	**180**	S	**Sn**	**22 22 02.4**	**+0.7**
UMAU	**Umeaa**	**3.31**	**180**	*e*S	**Sn**	**22 22 02.4**	**+0.7**
VRF	**Varrio**	**3.48**	**76**	*e*SG	**Sb**	**22 22 14.9**	**+1.2**
MSF	**Maaselka**	**3.57**	**107**	*e*PG	**Pb**	**22 21 33.8**	**+1.2**
KU6	**Riekki**	**3.84**	**103**	P	**Pn**	**22 21 29.0**	**0.0**
KU6	**Riekki**	**3.84**	**103**	*e*P	**Pn**	**22 21 29.0**	**0.0**
KU6				*e*SG	**Sg**	**22 22 29.1**	**-3.0**
VAF	**Ylistaro**	**4.24**	**168**	P	**Pn**	**22 21 35.1**	**+0.7**
VAF	**Ylistaro**	**4.24**	**168**	*e*P	**Pn**	**22 21 35.1**	**+0.7**
VAF				*e*SG	**Sb**	**22 22 39.9**	**+4.2**
HEMU	**Hemsoen**	**4.67**	**195**	*e*SG	**Sb**	**22 22 52.5**	**+4.6**
FIA0	**FINESS Array S**	**6.21**	**155**	Pn	**Pn**	**22 22 01.6**	**+0.1**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**22 23 10.6**	**-2.6**
	baz=343,slow=28						
FIA0				Lg	Lg	22 23 40.9	
	baz=350,slow=37						
FIA0	**FINESS Array S**	**6.21**	**155**	Pn	**Pn**	**22 22 01.6**	**+0.1**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**22 23 10.6**	**-2.6**
	baz=343,slow=28						
FIA0				Lg	Lg	22 23 40.9	
	baz=350,slow=37						
NRA0	**NORESS Array S**	**7.62**	**216**	Pn	**Pn**	**22 22 19.2**	**-1.5**
	baz=28,slow=14						
NRA0	**NORESS Array S**	**7.62**	**216**	Pn	**Pn**	**22 22 19.2**	**-1.5**
	baz=28,slow=14						
HFS	**Hagfors**	**7.73**	**207**	Pn	**Pn**	**22 22 19.9**	**-2.4**
	baz=23,slow=16						
HFS	**Hagfors**	**7.73**	**207**	Pn	**Pn**	**22 22 19.9**	**-2.4**
	baz=23,slow=16						

SJA 19 22:22:21.1±1.3, 32.71S×72.65W, h4km±209km, ML3.4, MW3.8
ISCJB 19 22:22:22.7±1.2, 33.39S±0.07×72.31W±0.08, h10km, Error ellipse: s-maj=11.2km s-min=9.4km az=142.6
GUC 19 22:22:23.4±0.5, 33.34S×72.26W, h50km, ML3.5
ISC 19 22:22:21.8±1.8, 33.34S±0.07×72.28W±0.09, h10km, n17, σ1s74/22, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.12**	**71**	*i*P	**Pg**	**22 22 43.2**	**-0.2**
ROCH				*i* S	**Sn**	**22 22 59.5**	**+0.1**
ROCH				IAML		22 23 01.1	
	comp=N,3μm,0.3s						
PEL	**Peldehue**	**1.35**	**82**	*i*P	**Pg**	**22 22 47.3**	**-0.4**
PEL				*i* S	**Sg**	**22 23 05.6**	**+0.4**
PEL				IAML		22 23 08.3	
	comp=E,407nm,0.7s						
FCH	**Farellones**	**1.66**	**90**	*i*P	**Pb**	**22 22 52.4**	**-0.3**
FCH				*i* S	**Sg**	**22 23 14.4**	**-0.9**
FCH				IAML		22 23 21.4	
	comp=N,1μm,0.7s						
GO05	**HualaæØ**	**1.69**	**170**

SPN	Mys Shipunski	2.47 228	eS		Sn	22 27 25.5	-1.5
ESO	Esso	2.76 297	PN		Pn	22 27 01.7	-0.3
ESO			S		Sn	22 27 33.9	-0.2
ESO	Esso	2.76 297	eP		Pn	22 27 01.7	-0.3
ESO			eS		Sn	22 27 33.9	-0.2
SDLR	Sedlovina	2.90 241	PN		Pn	22 27 04.1	0.0
SDLR	Sedlovina	2.90 241	eP		Pn	22 27 04.1	0.0
SMAR	Somma	2.95 241	PN		Pn	22 27 04.3	-0.5
SMAR			S		Sn	22 27 38.4	-0.6
SMAR	Somma	2.95 241	eP		Pn	22 27 04.3	-0.5
SMAR			eS		Sn	22 27 38.4	-0.6
UGLR	Uglovaya	2.96 240	PN		Pn	22 27 04.9	-0.1
UGLR			S		Sn	22 27 39.7	+0.4
UGLR	Uglovaya	2.96 240	eP		Pn	22 27 04.9	-0.1
UGLR			eS		Sn	22 27 39.7	+0.4
KRX	Arik	2.97 243	PN		Pn	22 27 05.4	+0.3
KRX			S		Sn	22 27 40.6	+1.0
KRX	Arik	2.97 243	eP		Pn	22 27 05.4	+0.3
KRX			eS		Sn	22 27 40.6	+1.0
AVH	Avacha	2.98 241	PN		Pn	22 27 05.7	+0.6
AVH			S		Sn	22 27 40.4	+0.8
AVH	Avacha	2.98 241	eP		Pn	22 27 05.7	+0.6
AVH			eS		Sn	22 27 40.4	+0.8
KOK	Koryaka	3.02 242	PN		Pn	22 27 06.4	+0.7
KOK			S		Sn	22 27 41.4	+0.9
KOK	Koryaka	3.02 242	eP		Pn	22 27 06.4	+0.7
KOK			eS		Sn	22 27 41.4	+0.9
DALK	Dalny	3.10 237	PN		Pn	22 27 06.7	0.0
DALK			S		Sn	22 27 42.7	+0.2
DALK	Dalny	3.10 237	eP		Pn	22 27 06.7	0.0
DALK			eS		Sn	22 27 42.7	+0.2
PET	Petropavlovsk	3.15 238	ePN		Pn	22 27 07.8	+0.3
PET			eS		Sn	22 27 43.5	-0.3
PET			pmax	pmax			
	comp=Z,84nm,0.5s						
PET			smax	smax			
	comp=E,299nm,0.5s						
PET			smax	smax			
	comp=N,424nm,0.7s						
PET	Petropavlovsk	3.15 238	ePn		Pn	22 27 07.0	-0.5
PET			eS		Sn	22 27 40.7	-3.1
PET	Petropavlovsk	3.15 238	eP		Pn	22 27 07.7	+0.3
GNL	Ganaly	3.21 252	PN		Pn	22 27 08.7	+0.4
GNL	Ganaly	3.21 252	eP		Pn	22 27 08.7	+0.4
KRMR	Karymshinskiy	3.52 238	PN		Pn	22 27 13.6	+1.0
KRMR			S		Sn	22 27 54.7	+1.8
KRMR	Karymshinskiy	3.52 238	eP		Pn	22 27 13.6	+1.0
KRMR			eS		Sn	22 27 54.7	+1.8
PETK	Petropavlovsk-	3.59 245	Pn		Pn	22 27 14.1	+0.5
	comp=N,12nm,0.3s,baz=74,slow=19,SNR=93						
PETK			Sn		Sn	22 27 56.4	+1.7
	comp=N,2.8nm,0.3s,baz=58,slow=17,SNR=3.0						
MTVR	Mutnovka	3.71 234	PN		Pn	22 27 16.5	+1.2
MTVR	Mutnovka	3.71 234	eP		Pn	22 27 16.5	+1.2
ASAK	Asacha	3.91 234	PN		Pn	22 27 19.2	+1.3
ASAK	Asacha	3.91 234	eP		Pn	22 27 19.2	+1.3
APC	Apacha	3.97 245	PN		Pn	22 27 19.9	+1.3
APC	Apacha	3.97 245	eP		Pn	22 27 19.9	+1.3
OSSR	Ossora	4.49 360	eS		Sn	22 28 17.7	+1.1
BILL	Bilibino	13.39 5	*i* PN		P	22 29 30.6	-5.5
BILL			pmax	pmax			
	comp=Z,3.0nm,1.0s						
KUR	Kuril'sk	13.64 232	eP		P	22 29 33.1	-5.8
YAK	Yakutsk	18.77 306	eP		Pn	22 30 35.5	-0.8
YAK			pmax	pmax			
	comp=Z,12nm,0.6s						
TIXI	Tiksi	22.36 332	P		P	22 31 13.3	-0.9
	comp=Z,2.6nm,0.6s,baz=298,slow=22,SNR=8.6						
TIXI	Tiksi	22.36 332	*i* P		P	22 31 13.8	-0.4
TIXI			pmax	pmax			
	comp=Z,3.0nm,0.7s						
BPAW	Bear Paw Mtn.	24.60 49	eP		P	22 31 38.4	+2.3
	comp=Z,0.6nm,0.8s						
MJAR	Matsushiro Arr	24.98 233	P		P	22 31 41.6	+1.9
	comp=Z,0.8nm,0.7s,baz=16,slow=7.7,SNR=2.8						
ILAR	Eielson Array	26.37 48	P		P	22 31 54.0	+1.8
	comp=Z,1.7nm,0.9s,baz=260,slow=8.3,SNR=16						
H11N2	WAKE ISLAND Hy 35.10 174		T		T	23 10 33.2	
	baz=356,slow=76,SNR=19						
H11N3	WAKE ISLAND Hy 35.12 174		T		T	23 10 36.5	
	baz=356,slow=76,SNR=18						
H11N1	WAKE ISLAND Hy 35.12 174		T		T	23 10 36.9	
	baz=356,slow=76,SNR=23						
YKA	Yellowknife Ar	40.72 45	P		P	22 33 58.6	+2.2
	comp=Z,0.3nm,0.6s,baz=298,slow=8.4,SNR=4.0						
SPITS	Spitsbergen Ar	45.76 351	P		P	22 34 37.9	+1.1
	comp=Z,13nm,1.1s,baz=46,slow=10,SNR=4.8						
KURK	Kurchatov	48.34 302	P		P	22 34 57.3	+0.1
KURK			pmax	pmax			
	comp=Z,1.0nm,0.3s						
KURK	Kurchatov	48.34 302	P		P	22 34 57.3	+0.1
KURBB	Kurchatov Arra	48.44 302	P		P	22 34 57.3	-0.7
	comp=Z,0.6nm,0.3s,baz=56,slow=8.1,SNR=2.9						
MKAR	Makanchi Array	49.01 296	P		P	22 35 00.8	-1.7
	comp=Z,0.8nm,0.6s,baz=59,slow=7.8,SNR=13						
MKAR	Makanchi Array	49.01 296	eP		P	22 35 01.0	-1.5
MKAR			pmax	pmax			
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	50.72 309	P		P	22 35 13.8	-1.5
	comp=Z,0.7nm,0.6s,baz=62,slow=8.1,SNR=8.3						
BRVK	Borovoye	50.75 309	eP		P	22 35 14.7	-0.8
BRVK			pmax	pmax			
	comp=Z,1.0nm,0.7s						
ARU	Arti	53.34 318	P		P	22 35 34.5	-0.2
	comp=Z,1.6nm,0.5s,baz=321,slow=5.3,SNR=5.6						
ARU	Arti	53.34 318	eP		P	22 35 34.1	-0.7
ARU			pmax	pmax			
	comp=Z,13nm,2.6s						
ARU	Arti	53.34 318	eP		P	22 35 34.2	-0.5
	comp=Z,0.8nm,0.3s						
ABKAR	Akbulak array	58.03 311	eP		P	22 36 07.9	-0.5
	comp=Z,0.7nm,0.5s						
FINES	FINESS Array B	59.26 338	P		P	22 36 16.9	+0.2
	comp=Z,2.6nm,0.7s,baz=46,slow=5.5,SNR=7.4						
FINES	FINESS Array B	59.26 338	*i* P		P	22 36 17.8	+1.0
FINES			pmax	pmax			
	comp=Z,3.0nm,0.7s						
CMAR	Chiang Mai Arr	60.24 260	P		P	22 36 24.9	+0.8
	comp=Z,0.8nm,0.4s,baz=24,slow=6.8,SNR=4.1						
HFS	Hagfors	62.87 343	P		P	22 36 40.4	-0.9
	comp=Z,3.3nm,0.9s,baz=38,slow=7.3,SNR=2.8						
GEYT	Alibeck	67.63 304	P		P	22 37 12.6	0.0
	comp=Z,0.4nm,0.3s,baz=46,slow=4.2,SNR=2.5						
AKASG	Malin Array Be	68.05 330	P		P	22 37 15.0	+0.1
	comp=Z,1.0nm,0.4s,baz=28,slow=6.4,SNR=5.6						
KBZ	Khabaz	69.50 318	P		P	22 37 25.4	+1.4
	comp=Z,3.5nm,0.8s,baz=79,slow=4.2,SNR=16						
EKA	Eskdalemuir Ar	69.67 352	P		P	22 37 26.0	+1.1
	comp=Z,1.7nm,0.8s,baz=44,slow=8.3,SNR=3.2						
EKA	Eskdalemuir Ar	69.67 352	P		P	22 37 26.0	+1.1
EKA			pmax	pmax			
	comp=Z,1.0nm,0.6s						
ZEI	Tsey	69.90 317	eP		P	22 37 26.4	-0.4
ZEI			pmax	pmax			
	comp=Z,2.0nm,0.8s						
GERES	GERESS Array B	73.59 339	P		P	22 37 49.6	+0.9
	comp=Z,0.2nm,0.4s,baz=5.7,slow=4.9,SNR=2.7						
BRTR	Keskin Array B	76.41 322	P		P	22 38 06.2	+1.0
	comp=Z,1.1nm,0.7s,baz=63,slow=3.4,SNR=8.3						
ESDC	Sonseca Array	85.27 350	P		P	22 38 52.1	-0.2
	comp=Z,0.9nm,0.8s,baz=356,slow=5.5,SNR=4.8						

*ISCJB **19** 22:27:01.8±0.9, 40.˙88N±0.˙04×145.˙23E±0.˙08, h33km, mb3.5/4, Error ellipse: s-maj=8.7km s-min=6.2km az=15.7*
*JMA **19** 22:27:01.6±0.2, 40.˙86N×145.˙30E, h63km±3km, M3.3*
*IDC **19** 22:27:53.8±28.0, 46.˙74N×139.˙72E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/66, mbtmp3.4/4, Error ellipse: s-maj=604.3km s-min=72.5km az=153.0*

ISC 19 22:27:03.7±1.5, **40.˙82N**±0.˙07×**145.˙25E**±0.˙09, **h35**km, **n20, σ2s46/31, mb3.4/4, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.98	308	P	Pn	Sn	22 27 33.5	-1.1
JEM				eS	Sn	Sn	22 27 57.9	-0.3
JAK	Akkeshi	2.22	349	P	Pn	Sn	22 27 36.1	-1.8
JAK				eS	Sn	Sn	22 28 01.2	-2.9
JCH	Churui	2.29	322	P	Pn	Sn	22 27 37.6	-1.3
JCH				eS	Sn	Sn	22 28 02.5	-3.3
JOB	Onbets	2.34	334	eS	Sn	Sn	22 28 05.2	-1.9
JNBK	Urakawa-nobuka	2.38	309	P	Pn	Sn	22 27 39.8	-0.3
JNBK				S	Sn	Sn	22 28 06.8	-1.3
NEM2	Nemuro 2	2.57	8	P	Pn	Sn	22 27 41.3	-1.5
JAR	Ashorobuto	2.71	336	P	Pn	Sn	22 27 42.9	-1.8
JAR				eS	Sn	Sn	22 28 13.2	-3.1
JNK	Nakash	2.79	352	P	Pn	Sn	22 27 43.7	-2.2
JNK				eS	Sn	Sn	22 28 13.6	-4.7
JANG	Nango	2.88	262	P	Pn	Sn	22 27 45.3	-1.8
JANG				eS	Sn	Sn	22 28 15.4	-5.1
JBT2	Biratori 2	2.92	313	P	Pn	Sn	22 27 47.1	-0.4
JBT2				eS	Sn	Sn	22 28 21.0	-0.3
JRA	Rausu	3.12	358	P	Pn	Sn	22 27 48.6	-1.7
JOT	Ohata	3.23	281	P	Pn	Sn	22 27 51.0	-0.8
JOT				eS	Sn	Sn	22 28 25.3	-3.7
JTKR	Abashiri--Toko	3.31	343	P	Pn	Sn	22 27 52.4	-0.5
JTKR				eS	Sn	Sn	22 28 28.5	-2.4
JOM	Ohasama	3.32	247	P	Pn	Sn	22 27 52.1	-1.0
JOM				eS	Sn	Sn	22 28 27.4	-3.9
JEW	Eniwo	3.49	307	P	Pn	Sn	22 27 55.6	+0.2
JEW				eS	Sn	Sn	22 28 34.2	-1.2
JMK	Ichinoseki	3.62	240	P	Pn	Sn	22 27 55.5	-1.7
SONM	Songino Array	28.44	297	P	P	P	22 32 55.4	+0.3
	0.3nm,0.5s,baz=90,slow=7.4,SNR=3.5							
MKAR	Makanchi Array	44.75	300	P	P	P	22 35 18.1	+4.5
	0.3nm,0.5s,baz=73,slow=6.3,SNR=1.6							
BVAR	Borovoye Array B	50.31	311	P	P	P	22 35 58.3	+1.7
	0.2nm,0.4s,baz=70,slow=6.3,SNR=3.8							
FINES	FINESS Array B	66.84	333	P	P	P	22 37 59.8	+8.3
	0.8nm,0.6s,baz=40,slow=9.1,SNR=4.3							

*ROM **19** 22:40:14.1±0.4, 44.˙03N×13.˚71E, h27km±3km, Md2.2/9, Ml2.1/4, Error ellipse: s-maj=5.1km s-min=3.5km az=25.0*
*ISCJB **19** 22:40:15.1±0.5, 43.˚96N±0.˚03×13.˚64E±0.˚04, h15km, Error ellipse: s-maj=4.9km s-min=2.9km az=142.2*
*CSEM **19** 22:40:16.0±0.2, 43.˚95N×13.˚62E, h20km, ML2.9/4, Error ellipse: s-maj=5.7km s-min=3.5km az=145.0*

ISC 19 22:40:14.4±0.8, **44.˚01N**±0.˚03×**13.˚62E**±0.˚03, **h15**km, **n24, σ0s68/46, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AOI	Ancona	0.46	182	Pg	Pb	Pb	22 40 24.3	0.0
AOI				Sg	Sb	Sb	22 40 31.1	+0.2
AOI	Ancona	0.46	182	Pg	Pb	Pb	22 40 24.3	0.0
AOI				Sg	Sb	Sb	22 40 31.1	+0.2
PESA	Pesaro	0.57	263	Pg	Pn	Pn	22 40 27.6	-0.4
PESA				Sg	Sn	Sn	22 40 36.3	-0.8
	77nm,0.3s							
PESA	Pesaro	0.57	263	Pg	Pn	Pn	22 40 27.6	-0.4
PESA				Sg	Sn	Sn	22 40 36.3	-0.8
	77nm,0.3s							
FSSB	Fossombrone	0.69	243	Pg	Pb	Pb	22 40 28.3	+0.2
FSSB				Sg	Sn	Sn	22 40 39.1	-1.0
	50nm,0.1s							
FSSB	Fossombrone	0.69	243	Pg	Pb	Pb	22 40 28.3	+0.2
FSSB				Sg	Sn	Sn	22 40 39.1	-1.0
	50nm,0.1s							
MPAG	Monte Paganucc	0.73	239	Pg	Pb	Pb	22 40 29.1	+0.2
MPAG				Sg	Sb	Sb	22 40 39.8	+1.0
	116nm,2.1s							
MPAG	Monte Paganucc	0.73	239	Pg	Pb	Pb	22 40 29.1	+0.2
MPAG				Sg	Sb	Sb	22 40 39.8	+1.0
	116nm,2.1s							
PIEI	Pieia	0.92	239	Pg	Pg	Pg	22 40 32.5	+0.3
PIEI				Sg	Sn	Sn	22 40 45.6	-0.2
PIEI	Pieia	0.92	239	Pg	Pg	Pg	22 40 32.5	+0.3
PIEI				Sg	Sn	Sn	22 40 45.6	-0.2
CPGN	Carpegna, Ital	0.96	258	Pg	Pn	Pn	22 40 34.4	+0.9
CPGN	Carpegna, Ital	0.96	258	Pg	Pn	Pn	22 40 34.4	+0.9
GUMA	Gualdo di Mace	0.98	166	Pg	Pn	Pn	22 40 32.9	-0.7
GUMA				Sg	Sn	Sn	22 40 47.3	+0.1
	86nm,0.5s							
GUMA	Gualdo di Mace	0.98	166	Pg	Pn	Pn	22 40 32.9	-0.7
GUMA				Sg	Sn	Sn	22 40 47.3	+0.1
	86nm,0.5s							
NVLJ	Novalja	1.05	58	ePg	Pg	Pg	22 40 35.7	+0.9
NVLJ				Sg	Sn	Sn	22 40 50.2	+1.2
NVLJ	Novalja	1.05	58	ePg	Pg	Pg	22 40 35.6	+0.9
NVLJ				Sg	Sn	Sn	22 40 50.2	+1.2
CESI	CESI - Serrava	1.14	208	Pg	Pb	Pb	22 40 35.1	-0.6
CESI				Sg	Sn	Sn	22 40 51.0	-0.1
CESI	CESI - Serrava	1.14	208	Pg	Pb	Pb	22 40 35.1	-0.6
CESI				Sg	Sn	Sn	22 40 51.0	-0.1
NRCA	Norcia	1.23	198	Pg	Pn	Pn	22 40 36.5	-0.7
NRCA				Sg	Sg	Sg	22 40 54.4	+0.1
NRCA	Norcia	1.23	198	Pg	Pn	Pn	22 40 36.5	-0.7
NRCA				Sg	Sg	Sg	22 40 54.4	+0.1
UDBI	Udbina	1.62	71	ePn	Pb	Pb	22 40 44.2	+0.1
UDBI				Sn	Sg	Sg	22 41 06.6	-0.1
UDBI	Udbina	1.62	71	ePn	Pb	Pb	22 40 44.1	+0.1
UDBI				Sn	Sg	Sg	22 41 06.5	-0.1
OZLJ	Ozalj	2.07	39	ePn	Pb	Pb	22 40 50.9	-0.8
OZLJ				Sn	Sb	Sb	22 41 15.9	-1.3
OZLJ	Ozalj	2.07	39	ePn	Pb	Pb	22 40 50.9	-0.8
OZLJ				Sn	Sb	Sb	22 41 15.9	-1.3

*NIED **19** 23:05:00, 40.˚90N×145.˚20E, h5km, Mw3.9 Best double couple: M0 7.14000×10^14 NP1:φs 70.00000°, δ 42.00000°, λ -88.00000°. NP2:φs 246.00000°, δ 48.00000°, λ -92.00000°.*
*IDC **19** 23:05:46.4±0.7, 40.˚80N×145.˚24E, h0km, mb3.7/15, mb1 3.9/17, mb1mx3.7/72, mbtmp3.7/17, ML3.5/2, MS2.7/3, Ms1 2.7/3, ms1mx2.4/65, Error ellipse: s-maj=18.8km s-min=16.6km az=179.0*
*JMA **19** 23:05:47.9±0.2, 40.˚88N×145.˚16E, h65km±3km, M3.9*
*ISCJB **19** 23:05:49.3±0.5, 40.˚92N±0.˚03×144.˚98E±0.˚05, h33km, mb3.7/15, MS3.4/1, Error ellipse: s-maj=5.0km s-min=4.1km az=8.0*

ISC 19 23:05:50.6±0.7, **40.˚87N**±0.˚04×**145.˚07E**±0.˚06, **h35**km, **n43, σ2s05/50, mb3.8/15, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.84	309	P	Pn	Pn	23 06 18.7	-0.9
JEM				eS	Sn	Sn	23 06 39.5	-2.2
JAK	Akkeshi	2.15	353	P	Pn	Pn	23 06 22.0	-1.8
JAK				S	Sn	Sn	23 06 46.7	-2.5
JCH	Churui	2.16	324	P	Pn	Pn	23 06 22.8	-1.3
JCH				S	Sn	Sn	23 06 47.2	-2.5
JOB	Onbets	2.23	336	P	Pn	Pn	23 06 24.1	-0.9
JOB				S	Sn	Sn	23 06 50.0	-1.4
JNBK	Urakawa-nobuka	2.24	310	P	Pn	Pn	23 06 24.9	-0.2
JNBK				S	Sn	Sn	23 06 51.0	-0.5
NEM2	Nemuro 2	2.54	11	P	Pn	Pn	23 06 27.7	-1.6
NEM2				eS	Sn	Sn	23 06 56.5	-2.5
JAR	Ashorobuto	2.61	339	P	Pn	Pn	23 06 28.4	-1.9
JAR				eS	Sn	Sn	23 06 57.9	-2.9
JNK	Nakash	2.73	355	P	Pn	Pn	23 06 29.8	-2.0
JNK				eS	Sn	Sn	23 06 59.4	-4.2
JANG	Nango	2.75	261	P	Pn	Pn	23 06 30.7	-1.5
JBT2	Biratori 2	2.78	314	P	Pn	Pn	23 06 31.7	-0.9
JBT2				S	Sn	Sn	23 07 04.7	-0.2
JFR	Furan	2.94	322	P	Pn	Pn	23 06 33.8	-1.0
JFR				eS	Sn	Sn	23 07 06.2	-2.8
JRA	Rausu	3.07	1	eS	Sn	Sn	23 07 08.4	-3.5
JOT	Ohata	3.08	281	P	Pn	Pn	23 06 35.8	-0.9
JOT				eS	Sn	Sn	23 07 09.3	-3.0
JKB	Kayabe	3.21	290	P	Pn	Pn	23 06 37.4	-1.0
JKB				S	Sn	Sn	23 07 12.6	-2.7
JOM	Ohasama	3.21	246	P	Pn	Pn	23 06 37.7	-0.8
JOM				S	Sn	Sn	23 07 12.8	-2.8
JTKR	Abashiri--Toko	3.22	345	P	Pn	Pn	23 06 37.9	-0.7
JTKR				S	Sn	Sn	23 07 13.8	-1.8
JEW	Eniwo	3.35	307	P	Pn	Pn	23 06 40.9	+0.6
JEW				eS	Sn	Sn	23 07 18.9	+0.1
JMK	Ichinoseki	3.53	238	P	Pn	Pn	23 06 41.9	-0.9
JMK				eS	Sn	Sn	23 07 20.1	-3.2
ASAJ	Asahikawa	3.73	331	Pn	Pn	Pn	23 06 44.8	-0.8
	2.7nm,0.3s,baz=218,slow=18,SNR=11							
ASAJ				Sn	Sn	Sn	23 07 27.2	-1.0
	2.5nm,0.3s,baz=124,slow=32,SNR=6.2							
MJAR	Matsushiro Arr	6.89	233	Pn	Pn	Pn	23 07 28.1	-0.9
	0.6nm,0.3s,baz=32,slow=13,SNR=7.8							
JHJ	Hachijo jima 2	8.81	210	Sn	Sn	Sn	23 09 26.9	-6.6
	9.3nm,0.3s,baz=253,slow=19,SNR=2.5							
JHJ				LR	LR	LR	23 10 40.6	
	comp=Z,60nm,21.4s,baz=38,slow=33							
KLR	Kul'dur	12.58	316	Pn	Pn	Pn	23 08 47.0	+0.1
	0.0nm,0.3s,baz=110,slow=17,SNR=3.4							
KLR				LR	LR	LR	23 13 25.9	
	comp=Z,5.4nm,19.2s,baz=82,slow=36							
H11N2	WAKE ISLAND Hy 28.12 132			T	T		23 41 12.8	
	baz=324,slow=75,SNR=15							
H11N1	WAKE ISLAND Hy 28.13 132			T	T		23 41 13.6	
	baz=324,slow=75,SNR=12							
H11N3	WAKE ISLAND Hy 28.14 132			T	T		23 41 12.8	
	baz=324,slow=75,SNR=10							
SONM	Songino Array	28.29	297	P	P		23 11 44.7	+4.0
	0.8nm,0.6s,baz=96,slow=9.0,SNR=6.4							
H11S1	WAKE ISLAND Hy 29.00 134			T	T		23 42 19.6	
	baz=325,slow=76,SNR=11							
H11S3	WAKE ISLAND Hy 29.00 134			T	T		23 42 19.3	
	baz=325,slow=76,SNR=9.8							
H11S2	WAKE ISLAND Hy 29.01 134			T	T		23 42 17.6	
	baz=325,slow=76,SNR=9.5							
ZALV	Zalesovo Beam	41.57	309	P	P		23 13 37.0	+2.5
	0.9nm,0.4s,baz=81,slow=9.2,SNR=2.5							
ZALV				PcP	PcP		23 15 33.3	+2.1
	1.2nm,0.4s,baz=104,slow=3.5,SNR=4.6							
MKAR	Makanchi Array	44.61	300	P	P		23 14 00.5	+1.2
	0.4nm,0.7s,baz=90,slow=6.2,SNR=5.2							
ILAR	Eielson Array	44.73	34	P	P		23 13 59.2	-0.8
	0.5nm,0.8s,baz=258,slow=6.9,SNR=5.3							
KURBB	Kurchatov Arra	45.99	306	P	P		23 14 11.6	+1.5
	0.8nm,0.6s,baz=76,slow=8.8,SNR=3.4							
BVAR	Borovoye Array	50.17	311	P	P		23 14 43.9	+1.5
	0.2nm,0.3s,baz=91,slow=8.1,SNR=2.3							
BVAR				PcP	PcP		23 16 02.8	+1.5
	0.4nm,0.6s,baz=102,slow=4.7,SNR=2.6							
BVAR				LR	LR		23 36 10.8	
	comp=Z,36nm,19.4s,baz=238,slow=36							
YKA	Yellowknife Ar	59.06	32	P	P		23 15 47.8	+1.2
	0.2nm,0.6s,baz=298,slow=6.3,SNR=3.3							
WRA	Warramunga Arr	61.31	192	P	P		23 16 03.6	+1.1
	2.0nm,0.9s,baz=14,slow=7.1,SNR=7.9							
GEYT	Alibeck	64.48	299	P	P		23 16 26.4	+2.8
	0.8nm,0.7s,baz=64,slow=3.7,SNR=2.0							
ASAR	Alice Springs	65.04	191	P	P		23 16 27.3	+0.1
	0.6nm,0.6s,baz=12,slow=5.8,SNR=5.2							
FINES	FINESS Array B	66.73	333	P	P		23 16 40.0	+2.3
	1.9nm,0.7s,baz=35,slow=5.1,SNR=4.9							
NVAR	Mina Array Bea	70.44	56	P	P		23 17 03.4	+1.8
	0.3nm,0.6s,baz=290,slow=5.7,SNR=2.0							
KBZ	Khabaz	70.55	311	P	P		23 17 04.3	+2.5
	1.3nm,0.9s,baz=330,slow=5.4,SNR=4.2							
PDAR	Pinedale Array	72.97	48	P	P		23 17 17.7	+1.0
	0.2nm,0.5s,baz=271,slow=4.2,SNR=2.7							
TXAR	Lajitas Array	85.55	55	P	P		23 18 26.3	+0.9
	0.5nm,0.7s,baz=266,slow=3.6,SNR=2.5							

*ISCJB **19** 23:12:39.9±0.7, 32.˚10N±0.˚07×138.˚8E±0.˚1, h400km, mb2.9/4, Error ellipse: s-maj=16.8km s-min=8.3km az=11.4*
*IDC **19** 23:12:40.7±1.2, 32.˚14N×139.˚12E, h395km±64km, mb2.7/4, mb1 2.8/5, mb1mx2.6/70, mbtmp3.4/5, Error ellipse: s-maj=213.4km s-min=17.5km az=66.0*
*JMA **19** 23:12:42.1±0.3, 32.˚07N×138.˚56E, h368km, M3.6*

ISC 19 23:12:41.1±1.0, **32.˚13N**±0.˚09×**138.˚8E**±0.˚1, **h400**km, **n19, σ1s77/25, mb2.9/4, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.30	40	P	Pn	Pn	23 13 32.8	-0.5
	11nm,0.3s,baz=88,slow=21,SNR=17							
JHJ				S	S	S	23 14 08.7	-6.8
	12nm,0.3s,baz=241,slow=19,SNR=1.3							
JHJ2	Mitsune	1.31	42	P	Pn	Pn	23 13 32.6	-0.7
JHJ2				eS	S	S	23 14 11.4	-4.2
TTO2	TONANKAI O.B.S	2.17	318	P	Pn	Pn	23 13 35.6	-2.2
JIE	Ise	2.85	323	P	Pn	Pn	23 13 41.2	-1.8
BSO3	Boso 3	3.03	28	P	Pn	Pn	23 13 44.2	+0.1
BSO1	Boso 1	3.11	36	P	Pn	Pn	23 13 44.9	+0.4
BSO4	Boso 4	3.13	24	P	Pn	Pn	23 13 45.3	+0.1
JOD2	Odawara 2	3.13	5	P	Pn	Pn	23 13 45.1	+0.3
JNY	Yasuok	3.31	347	P	Pn	Pn	23 13 46.5	-0.4
JHU	Hanno	3.73	6	P	Pn	Pn	23 13 50.7	+0.1
JHU				eS	S	S	23 14 44.6	-2.4
JRY	Ryogami san	3.88	1	P	Pn	Pn	23 13 52.8	+0.8
JYT	Yasato	4.25	16	P	Pn	Pn	23 13 55.3	-0.2
JYT				S	S	S	23 14 54.0	-1.9
JAG	Ashikaga	4.32	7	P	Pn	Pn	23 13 56.3	+0.1
JAG				S	S	S	23 14 54.2	-2.9
MJAR	Matsushiro Arr	4.42	354	P	Pn	Pn	23 13 57.7	+0.5

baz=291,slow=11
ARA0 ARCESS Array S 9.54 89 Pn **Pn** 23 17 54.4 -1.4
baz=291,slow=11
ARCES ARCESS Array B 9.54 89 Pn **Pn** 23 17 54.6 -1.2
comp=Z,1.1nm,0.3s,baz=290,slow=11,SNR=28
KEV Kevo 9.92 86 *e*Pn **Pn** 23 18 00.2 -0.8
AKN Aaknes 10.14 154 Pn **Pn** 23 18 04.9 +0.8
AKN Sn **Sn** 23 19 52.2 -5.4
AKN Aaknes 10.14 154 Pn **Pn** 23 18 04.9 +0.8
AKN Sn **Sn** 23 19 52.2 -5.4
FOO Floro 10.45 160 *e*P **Pn** 23 18 09.8 +1.5
DOMB Dombas 10.58 149 *e*P **Pn** 23 18 11.6 +1.5
SUMG Summit 10.98 292 *i* P **Pn** 23 18 16.6 +0.7
SUMG Summit 10.98 292 *e*Pn **Pn** 23 18 15.3 -0.6
HYA Hoyanger 11.01 157 *e*P **Pn** 23 18 17.5 +1.6
ASK Askoy 11.56 160 *e*P **Pn** 23 18 24.7 +1.2
NC204 NORSAR Array S 11.59 146 *e*Pn **Pn** 23 18 25.8 +1.8
BER Bergen 11.67 160 *e*P **Pn** 23 18 24.1 -0.9
NC303 NORSAR Array S 11.75 145 *e*Pn **Pn** 23 18 28.1 +2.1
NB2 NORSAR Subarra 11.89 146 Pn **Pn** 23 18 29.1 +1.0
baz=338,slow=14
NB2 NORSAR Subarra 11.89 146 Pn **Pn** 23 18 29.1 +1.0
baz=338,slow=14
NOA NORSAR Array B 11.89 146 Pn **Pn** 23 18 28.6 +0.5
comp=Z,0.4nm,0.3s,baz=339,slow=12,SNR=9.5
NOA Sn **Sn** 23 20 36.7 -3.9
comp=Z,0.3nm,0.3s,baz=319,slow=19,SNR=2.7
NOA LR LR 23 22 53.7
comp=Z,462nm,20.9s,baz=340,slow=36
NC405 NORSAR Array S 11.92 144 *e*Pn **Pn** 23 18 29.0 +0.6
NRA0 NORESS Array S 12.24 146 Pn **Pn** 23 18 32.4 -0.3
baz=324,slow=12
NRA0 NORESS Array S 12.24 146 Pn **Pn** 23 18 32.4 -0.3
baz=324,slow=12
ODD1 Odda 12.28 158 *e*P **Pn** 23 18 34.2 +0.9
BLS5 Blasjo 12.74 159 *e*P **Pn** 23 18 40.5 +1.0
BLS5 *e*S **Sn** 23 20 53.3 -7.9
HFS Hagfors 13.20 142 Pn **Pn** 23 18 46.0 +0.2
comp=Z,1.0nm,0.3s,baz=340,slow=13,SNR=23
HFS Sn **Sn** 23 21 05.4 -7.1
comp=Z,0.3nm,0.3s,baz=336,slow=21,SNR=4.4
HFS LR LR 23 23 44.6
comp=Z,501nm,19.1s,baz=310,slow=37
HFS Hagfors 13.20 142 Pn **Pn** 23 18 45.7 -0.1
baz=340,slow=9.3
HFS Sn **Sn** 23 21 05.3 -7.1
baz=349,slow=22
HFS Hagfors 13.20 142 Pn **Pn** 23 18 45.7 -0.1
baz=340,slow=9.3
HFS Sn **Sn** 23 21 05.3 -7.1
baz=349,slow=22
FIA0 FINESS Array S 15.08 118 P **Pn** 23 19 10.7 -0.8
baz=331,slow=12
FIA0 FINESS Array S 15.08 118 P **Pn** 23 19 10.7 -0.8
baz=331,slow=12
FIA1 FINESS Array S 15.08 118 *e*Pn **Pn** 23 19 10.9 -0.6
FINES FINESS Array B 15.08 118 Pn **Pn** 23 19 10.8 -0.6
comp=Z,0.3nm,0.3s,baz=340,slow=11,SNR=14
FINES LR LR 23 24 27.6
comp=Z,428nm,19.5s,baz=359,slow=35
EKA Eskdalemuir Ar 16.30 181 Pn **Pn** 23 19 28.2 +0.9
baz=2.2,slow=12,SNR=4.7
SFJD Kangerlussuaq 17.18 278 P **Pn** 23 19 38.4 +0.1
comp=Z,0.4nm,0.3s,baz=198,slow=11,SNR=2.8
KLMR Klimovskoe 19.57 102 *e*Pn **P** 23 20 04.7 -1.6
KLMR AMP 23 20 07.8
comp=Z,26nm,1.2s
SUW Suwalki 20.87 134 *e*P Pn 23 20 22.1 -0.7
SUW Suwalki 20.87 134 *e*P Pn 23 20 24.2 +1.3
comp=Z,52nm,0.9s
NACGM Naroch 20.93 128 *e* **P** 23 20 22.0 +1.0
BEBN Eben Emael 21.18 165 ⇑P **P** 23 20 25.9 +2.2
HGN Heimansgroeve 21.23 165 *e*P **P** 23 20 26.2 +1.8
comp=Z,40nm,1.3s
HGN *e*L L 23 28 55.5
comp=Z,122nm,20.2s
MEM Membach 21.39 165 ⇑P **P** 23 20 28.2 +2.1
comp=Z,11nm,1.1s
CLL Collm 21.51 153 *e*P **P** 23 20 29.0 +1.7
comp=Z,6.0nm,0.9s
CLL *i* 23 20 31.4
comp=Z,21nm,1.4s
CLL *i* sP **sP** 23 20 35.3 +3.8
CLL *i* 23 20 40.7
CLL Lm MLR 23 28 00.0
comp=Z,200nm,21.4s
CLL Collm 21.51 153 *e*P **P** 23 20 31.4 +4.1
comp=Z,15nm,1.1s
BCLA Clavier 21.53 166 ⇓P **P** 23 20 29.2 +1.7
comp=Z,16nm,1.5s
DOU Dourbes 21.80 167 ⇑P **P** 23 20 35.1 +4.7
BRG Berggiesshubel 22.08 151 *e*P **P** 23 20 34.8 +1.4
comp=Z,30nm,1.7s
WLF Walferdange 22.34 165 ⇑P **P** 23 20 40.3 +4.0
NKC Novy Kostel 22.48 154 *e*P **P** 23 20 39.5 +1.7
NKC *e*pP **sP** 23 20 44.3 +2.4
KSP Ksiaz 22.49 148 *e*P **P** 23 20 40.7 +2.9
PVCC Panska Ves 22.51 151 AMS AMS 23 31 00.0
comp=Z,200nm,11.4s
UPC Upice 22.76 148 *e*P **P** 23 20 44.3 +3.6
GRFO Grafenberg 22.85 156 *e*P **P** 23 20 45.2 +3.5
comp=Z,25nm,1.3s
DPC Dobruska-Polom 22.97 148 *e*P **P** 23 20 44.2 +1.3
PRU Pruhonice 23.03 151 *e*P **P** 23 20 45.8 +2.3
PRU *e*pP **sP** 23 20 51.5 +3.9
GOPC GO Pecny, Ondr 23.14 151 *e*P **P** 23 20 48.4 +3.7
GOPC *e*pP **sP** 23 20 53.3 +4.5
KRLC Kraliky 23.31 147 *e*P **P** 23 20 52.8 +6.4
OBN Obninsk 23.41 114 P **P** 23 20 52.4 +5.1
comp=Z,7.1nm,0.4s,baz=140,slow=23,SNR=4.0
OBN LR LR 23 29 27.8
comp=Z,297nm,19.5s,baz=310,slow=35
KHC Kasperske Hory 23.72 153 *e*P **P** 23 20 54.3 +3.8
OJC Ojcow 23.72 143 *e*P P 23 20 57.8 +7.4
OJC Ojcow 23.72 143 *e*P **P** 23 20 55.2 +4.7
comp=Z,9.3nm,0.9s
MORC Moravsky Berou 23.73 146 ⇓*i*P **P** 23 20 44.5 -6.1
MORC Moravsky Berou 23.73 146 *e*P **P** 23 20 52.7 +2.1
comp=Z,12nm,1.0s
OKC Ostrava-Krasne 23.78 145 *ex* x 23 21 03.7
OKC *ex* x 23 21 08.0
BFO Black Forest 23.86 162 *e*P **P** 23 20 54.5 +2.7
comp=Z,20nm,1.2s
ECH Echery 23.87 164 *e*P **P** 23 20 53.2 +1.4
comp=Z,8.4nm,1.0s
GEC2 GERESS Array S 24.02 153 *e*P **P** 23 20 56.8 +3.4
comp=Z,28nm,2.0s
GERES GERESS Array B 24.02 153 P **P** 23 20 55.2 +1.8
comp=Z,2.1nm,0.9s,baz=350,slow=10,SNR=11
GERES LR LR 23 30 01.5
comp=Z,174nm,20.5s,baz=339,slow=36
VRAC Vranov 24.02 148 P **P** 23 20 54.7 +1.4
comp=Z,3.6nm,0.7s,baz=336,slow=10,SNR=7.1
VRAC LR LR 23 30 05.3
comp=Z,203nm,20.2s,baz=328,slow=36
VRAC Vranov 24.02 148 ⇓*i*P **P** 23 20 56.0 +2.7
GEA0 GERESS Array S 24.02 153 *e*P **P** 23 20 55.8 +2.3
RES Resolute Bay 24.42 320 P **P** 23 20 56.6 -0.1
comp=Z,0.6nm,0.8s,baz=117,slow=4.5,SNR=2.3
RES LR LR 23 30 02.9
comp=Z,245nm,20.5s,baz=108,slow=36
NIE Niedzica 24.59 142 *e*P **P** 23 21 01.9 +3.4
STHS Stebnicka Huta 24.77 141 *e*P **P** 23 21 04.9 +4.7
FRB Frobisher Bay 24.94 286 LR LR 23 30 11.6
comp=Z,130nm,19.7s,baz=208,slow=35
RETA Reutte 24.96 158 *e*P **P** 23 21 05.3 +3.3
comp=Z,7.4nm,1.1s
MODS Modra-Piesok 25.04 148 *e*P **P** 23 21 06.1 +3.5
DAVA Damuels 25.06 160 *i* pP **P** 23 21 07.7 +4.7
comp=Z,14nm,1.0s
MOA Molln 25.07 153 *e*pP **P** 23 21 07.0 +4.2
comp=Z,7.8nm,1.1s
MOTA Moosalm 25.14 158 *e*P **P** 23 21 06.9 +3.2
comp=Z,9.7nm,1.1s
VYHS Vyhne 25.20 145 *e*P **P** 23 21 06.5 +2.5
WATA Walderalm 25.21 157 *e*pP **P** 23 21 08.6 +4.3
comp=Z,5.9nm,0.9s
CONA Conrad Observa 25.24 150 *e*pP **P** 23 21 08.8 +4.4
comp=Z,8.0nm,0.9s
WTTA Wattenberg 25.29 157 *i* pP **P** 23 21 09.4 +4.3
AKASG Malin Array Be 25.37 129 P **P** 23 21 06.2 +0.7
comp=Z,4.2nm,0.8s,baz=335,slow=10.0,SNR=14
AKASG LR LR 23 30 49.8
comp=Z,249nm,19.4s,baz=345,slow=36
AKBB Malin Array Si 25.37 129 *e*P **P** 23 21 06.9 +1.4
comp=Z,12nm,1.1s
KIEV Kiev 25.37 129 *e*P **P** 23 21 05.6 +0.1
comp=Z,10.0nm,1.0s
FETA Feichten 25.42 158 *e*P **P** 23 21 11.2 +5.0
comp=Z,8.0nm,1.5s
KECS Kecovo 25.52 143 *e*P **P** 23 21 09.1 +2.2
KBA Koelnbreinsper 25.70 154 *e*P **P** 23 21 12.5 +3.8
comp=Z,7.2nm,1.1s
SENIN Lac Senin/Sane 25.72 164 *e*P **P** 23 21 13.9 +4.9
comp=Z,66nm,2.0s
FUORN Ofenpass-Fuorn 25.76 159 *e*P **P** 23 21 15.3 +5.9
comp=Z,5.7nm,0.9s
ARSA Arzberg 25.84 151 *e*pP **P** 23 21 14.4 +4.5
comp=Z,4.2nm,0.8s
BUR04 Bucovina Ar. S 27.31 137 *e*P **P** 23 21 25.4 +2.1
BURAR Bucovina Array 27.32 137 ⇓*i*P **P** 23 21 24.1 +0.8
SORM Soroca 27.54 132 ⇑*i*P **P** 23 21 26.1 +1.0
DRGR 27.57 141 ⇓*i*P **P** 23 21 28.4 +2.9
BZS Buzias 28.49 143 ⇓*i*P **P** 23 21 36.1 +2.5
ARU Arti 29.12 89 P **P** 23 21 39.8 +0.6
comp=Z,1.4nm,0.5s,baz=10,slow=3.2,SNR=4.5
ARU LR LR 23 33 02.6
comp=Z,88nm,20.2s,baz=332,slow=36
PLOR Plostina 29.30 136 ⇓*i*P **P** 23 21 43.7 +2.8
MLR Muntele Rosu 29.49 137 LR LR 23 33 43.6
comp=Z,63nm,21.9s,baz=27,slow=37
CFR Carcaliu 30.28 134 ⇑*i*P **P** 23 21 50.7 +1.3
VTS Vitosha 31.71 142 ⇑*i*P **P** 23 22 02.4 +0.1
VTS Vitosha 31.71 142 *e*P **P** 23 22 04.5 +2.3
comp=Z,4.0nm,1.1s
ESDC Sonseca Array 31.98 182 P **P** 23 22 05.5 +1.0
comp=Z,0.4nm,0.6s,baz=344,slow=9.0,SNR=2.7
ESDC LR LR 23 34 35.7
comp=Z,67nm,18.4s,baz=305,slow=36
AKTO Aktyubinsk 34.03 95 P **P** 23 22 23.7 +1.3
comp=Z,1.4nm,0.9s,baz=336,slow=9.3,SNR=4.0
AKTO LR LR 23 36 06.5
comp=Z,88nm,19.1s,baz=342,slow=36
KIV Kislovodsk 35.17 117 *e*P **P** 23 22 32.4 0.0
comp=Z,3.6nm,0.8s
KVAR Kislovodsk Arr 35.18 117 P **P** 23 22 34.9 +2.5
comp=Z,5.4nm,1.1s,baz=136,slow=5.6,SNR=4.0
KVAR LR LR 23 36 40.0
comp=Z,63nm,18.9s,baz=278,slow=36
VAE Valguarnera 35.27 156 LR LR 23 36 20.8
comp=Z,163nm,18.2s,baz=346,slow=35
KBZ Khabaz 35.44 117 P **P** 23 22 37.7 +3.2
comp=Z,2.4nm,0.8s,baz=4.2,slow=6.8,SNR=9.6
KBZ LR LR 23 35 58.2
comp=Z,68nm,20.7s,baz=2.0,slow=34
ABKAR Akbulak array 35.67 95 *e*P **P** 23 22 37.8 +1.3
comp=Z,3.9nm,1.1s
BVAR Borovoye Array 35.73 82 P **P** 23 22 38.4 +1.4
comp=Z,1.9nm,0.8s,baz=302,slow=8.5,SNR=9.3
BR231 Keskin MP Arra 36.42 131 *e*P **P** 23 22 47.3 +4.2
KEST Kesra 36.45 164 LR LR 23 37 35.7
comp=Z,125nm,19.4s,baz=296,slow=36
BR131 Keskin Array S 36.74 130 *e*P **P** 23 22 48.9 +3.0
BRTR Keskin Array B 36.74 130 P **P** 23 22 48.4 +2.5
comp=Z,1.8nm,0.8s,baz=355,slow=4.1,SNR=8.9
BRTR LR LR 23 38 47.7
comp=Z,51nm,20.4s,baz=339,slow=38
YKA Yellowknife Ar 38.34 316 P **P** 23 22 58.2 -0.8
comp=Z,1.4nm,1.0s,baz=27,slow=8.9,SNR=9.3
YKA PcP **PcP** 23 25 11.7 -0.6
comp=Z,0.4nm,0.8s,baz=31,slow=2.9,SNR=6.8
YKA LR LR 23 38 06.9
comp=Z,12nm,19.0s,baz=0.0,slow=35
GNI Garni 39.27 117 P **P** 23 23 09.4 +2.1
comp=Z,2.9nm,0.9s,baz=339,slow=17,SNR=4.0
GNI LR LR 23 39 59.6
comp=Z,92nm,18.7s,baz=322,slow=37
GNI Garni 39.27 117 *e*P **P** 23 23 09.9 +2.7
comp=Z,156nm,1.1s
KURK Kurchatov 40.29 76 P **P** 23 23 16.7 +1.3
KURBB Kurchatov Arra 40.35 76 P **P** 23 23 16.7 +0.8
comp=Z,0.3nm,0.3s,baz=332,slow=7.3,SNR=5.2
CSS Maiatis 41.20 133 *e*P **P** 23 23 25.0 +1.9
comp=Z,3.8nm,1.0s
ILAR Eielson Array 41.76 338 P **P** 23 23 28.1 +0.7
comp=Z,1.6nm,1.0s,baz=11,slow=6.7,SNR=15
ILAR LR LR 23 43 34.9
comp=Z,49nm,18.9s,baz=32,slow=40
MMAI Mount Meron Ar 43.55 131 P **P** 23 23 41.5 -0.8
comp=Z,0.4nm,0.4s,baz=321,slow=11,SNR=2.4
MMAI LR LR 23 43 43.3
comp=Z,36nm,19.7s,baz=355,slow=39
ULM Lac du Bonnet 44.34 294 P **P** 23 23 48.5 +0.2
comp=Z,2.1nm,0.8s,baz=106,slow=3.0,SNR=3.8
ULM LR LR 23 41 29.3
comp=Z,88nm,19.3s,baz=288,slow=35
ASF Jabal al Asfar 44.72 130 P **P** 23 23 53.6 +1.9
comp=Z,3.1nm,0.9s,baz=311,slow=9.5,SNR=3.7
MKAR Makanchi Array 44.90 76 P **P** 23 23 53.3 +0.4
comp=Z,0.5nm,0.8s,baz=355,slow=6.6,SNR=5.4
GEYT Aibeck 45.30 104 P **P** 23 23 56.0 -0.3
comp=Z,2.0nm,0.9s,baz=339,slow=15,SNR=3.1
TAM Tamanrasset 49.02 170 *e*P P 23 24 31.3 +5.8
comp=Z,3.0nm,1.0s
WMQ Urumqi 49.23 73 P **P** 23 24 23.1 -3.7
SONM Songino Array 50.88 55 P **P** 23 24 41.0 +1.6
comp=Z,0.7nm,1.1s,baz=338,slow=3.4,SNR=2.0
TKL Tuckaleechee C 53.85 275 LR LR 23 48 09.5
comp=Z,112nm,18.0s,baz=177,slow=36
PDAR Pinedale Array 55.04 301 P **P** 23 25 09.9 -0.3
comp=Z,0.3nm,0.8s,baz=27,slow=5.0,SNR=2.6
PDAR LR LR 23 48 17.5
comp=Z,90nm,19.6s,baz=78,slow=36
TOA0 Torodi Ar. Sit 58.45 175 *e*P **P** 23 25 35.6 +1.2
TORD Torodi Ar. Bea 58.45 175 P **P** 23 25 35.6 +1.3
comp=Z,1.8nm,0.9s,baz=352,slow=7.6,SNR=8.6
TORD LR LR 23 51 00.9
comp=Z,84nm,18.4s,baz=330,slow=36
HHC Hu-ho-hao-te 58.73 54 *e*P P 23 25 30.0 -6.3
HHC S S 23 33 30.5 -10
HHC sS pS 23 33 39.1 -5.6
HHC ScS **ScS** 23 35 20.6 -5.2
PV01 Paradox Valley 59.07 298 *e*P **P** 23 25 37.9 -1.0
MJAR Matsushiro Ert 68.68 33 P **P** 23 26 40.9 -0.9
comp=Z,0.5nm,0.5s,baz=351,slow=6.2,SNR=2.8

ISCJB ***19*** *23:21:31.6±0.2, 10.°94S±0.°03×78.°02W±0.°04, h54km, mb4.8/147, MS4.5/8, Error ellipse: s-maj=6.6km s-min=3.7km az=144.7*

IDC ***19*** *23:21:31.9±0.6, 11.°01S×78.°09W, h40km±4km, mb4.4/25, mb1 4.5/27, mb1mx4.4/40, mbtmp4.6/27, ML4.4/2, MS4.2/9, Ms1 4.2/9, ms1mx3.6/43, Error ellipse: s-maj=18.7km s-min=9.8km az=55.0*

BJI ***19*** *23:21:31.4, 11.°00S×77.°90W, h41km, mB5.2/5, Ms5.5/4, Ms7 5.2/4*

NEIC ***19*** *23:21:34.0±0.6, 11.°07S×77.°94W, h60km±5km, mb4.8/129, Error ellipse: s-maj=6.5km s-min=3.4km az=65.0*

NEIC Felt [II] at Callao, Huacho and Lima. Also felt at Barranca, Chancay, Huarmey, Pativilca and Sayan.

IGQ ***19*** *23:22:51.4±1.4, 6.°S±13.°×7.°9W±2.°9, h122km±63km, mB5.3/5, mb5.5/6, MLv5.2/3, Mw(mB)4.8/5, MwMwp5.4/1, Mwp5.6/1*

ISC 19 23:21:32.9±0.4, 11.°19S±0.°05×78.°12W±0.°08, h54km, n591,
σ1s29/597, mb4.8/146, MS4.2/8, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
NNA	**Nana**	**1.48**	**122**	P		**Pn**	**23 21 56.5**	**-0.8**
	320nm,0.3s,baz=305,slow=13,SNR=431							
NNA				S		**Sn**	**23 22 19.0**	**+3.4**
	1μm,0.3s,baz=233,slow=20,SNR=9.8							
NNA				LR		LR	23 22 43.9	
	comp=Z,4μm,18.0s,baz=275,slow=46							
ATAH	**Atahualpa**	**4.04**	**356**	P		**Pn**	**23 22 32.6**	**0.0**
	73nm,0.3s,baz=151,slow=3.6,SNR=129							
ATAH				S		**Sn**	**23 23 20.1**	**+1.3**
	73nm,0.3s,baz=287,slow=22,SNR=5.8							
ATAH				LR		LR	23 24 09.1	
	comp=Z,2μm,19.7s,baz=183,slow=41							
ARE	**Arequipa**	**8.30**	**130**	*e*P		Pn	23 23 38.0	+7.0
ARE				*e*S		Sn	23 25 27.0	+23
BPAT	**Tungurahua Vol**	**9.63**	**358**	P		**Pn**	**23 23 49.7**	**+0.3**
BMAS	**Trigal station**	**9.63**	**358**	P		**Pn**	**23 23 51.1**	**+1.9**
IGUA	**Igualata**	**9.65**	**357**	P		**Pn**	**23 23 50.9**	**+1.2**
RETU	**Refugio**	**9.68**	**358**	P		**Pn**	**23 23 54.5**	**+4.4**
BBIL	**Ulba Tungurahu**	**9.68**	**358**	P		**Pn**	**23 23 54.3**	**+4.4**
PISA	**Pisayambo**	**10.07**	**359**	P		Pn	23 24 11.2	+16
ILLI	**Illinizas Sur**	**10.42**	**357**	P		**Pn**	**23 24 02.7**	**+2.5**

BTAM Cotopaxi Volca 10.45 358 P **Pn** 23 24 01.6 +0.9
CAMI Rancho Maria 10.45 358 P Pn 23 24 10.8 +10
BNAS Cotopaxi Volca 10.46 358 P **Pn** 23 24 02.3 +1.6
BREF Cotopaxi Volca 10.46 358 P **Pn** 23 24 02.6 +1.8
BVC2 Cotopaxi Volca 10.47 358 P **Pn** 23 24 02.4 +1.5
VC1 Cotopaxi 1 10.48 358 P **Pn** 23 24 04.8 +3.8
ANTM Antisana-La Mi 10.59 359 P **Pn** 23 24 01.8 -0.7
ANTI Antisana 10.67 360 P **Pn** 23 24 05.1 +1.4
LPAZ La Paz 10.95 119 P **Pn** 23 24 07.0 -0.5
1.0nm,0.3s,baz=333,slow=10,SNR=15
LPAZ S Sn 23 26 19.8 +11
0.5nm,0.3s,baz=197,slow=20,SNR=2.7
LPAZ LR LR 23 28 51.9
comp=Z,2μm,20.8s,baz=304,slow=40
YANA Yana 11.01 358 P **Pn** 23 24 11.2 +3.0
MAG1 Magdalena 11.17 351 P **Pn** 23 24 10.6 +0.6
OTAV Otavalo 11.36 358 *e*Pn **Pn** 23 24 12.6 -0.3
OTAV *e*S **Sn** 23 26 23.9 +5.2
OTAV Otavalo 11.36 358 *e*P **Pn** 23 24 15.2 +2.3
IMBA Imbabura, San 11.39 360 P Pn 23 24 18.9 +5.5
MNMC Minye Minye 11.40 135 *e*Pn **Pn** 23 24 12.3 -1.0
PB11 IPOC Station P 11.79 137 *e*Pn **Pn** 23 24 17.1 -1.5
CMBC Cumbal 12.05 1 *e*P **Pn** 23 24 25.2 +2.7
GCUF Volcan Galeras 12.36 4 *e*P **Pn** 23 24 27.8 +1.2
PB01 IPOC Station P 12.83 141 *e*Pn **Pn** 23 24 33.8 +1.1
FLOC Florencia 12.93 11 *e*P **Pn** 23 24 30.5 -3.5
SOTA Rioblanco 13.32 7 *e*P **Pn** 23 24 39.8 0.0
PCON Cinco Dias 13.54 7 *e*P **Pn** 23 24 45.8 +2.9
BETC Betania 14.04 11 *e*P **P** 23 24 53.1 -2.3
HORQ Saladito 14.65 6 *e*P **P** 23 25 01.7 -0.8
SAML Samuel 14.88 83 *e*Pn Pn 23 24 55.2 -5.0
SAML *e*S Sn 23 27 29.3 -15
SJAC San Juan de Ar 14.96 16 *e*P **Pn** 23 24 59.0 -2.2
PRAC Prado 15.15 12 *e*Pn **Pn** 23 25 02.8 -0.9
PRAC Prado 15.15 12 *e*P **Pn** 23 25 05.0 +1.3
YOTC Yotoco, Valle 15.18 7 *e*P **Pn** 23 25 05.7 +1.6
VILC Villavicencio, 15.83 16 *e*P **Pn** 23 25 12.3 -0.1
CVER Cruz Verde, Cu 16.12 15 *e*P **Pn** 23 25 17.0 +0.5
RREF El Recreo 16.22 10 *e*P **P** 23 25 21.6 +1.4
ROSC El Rosal 16.37 14 P **P** 23 25 23.0 +1.3
1.5nm,0.3s,baz=167,slow=10,SNR=10
ROSC S **S** 23 28 32.0 +1.4
0.8nm,0.3s,baz=198,slow=20,SNR=2.6
ROSC LR LR 23 32 39.5
comp=Z,890nm,20.1s,baz=206,slow=41
ROSC El Rosal 16.37 14 *e*Pn **P** 23 25 21.3 -0.4
39nm,1.2s
ROSC S **S** 23 28 32.0 +1.4
NORC Norcasia 16.96 11 *e*P **P** 23 25 28.3 +0.5
SIV San Ignacio 17.25 108 P **Pn** 23 25 30.5 +0.4
1.9nm,0.3s,baz=293,slow=9.4,SNR=59
SIV LR LR 23 32 39.2
comp=Z,873nm,19.4s,baz=323,slow=39
HELC Santa Helena 17.46 9 *e*Pn **P** 23 25 35.1 +1.4
38nm,1.1s
RUSC La Rusia 17.70 17 *e*Pn **P** 23 25 36.6 +0.1
17nm,0.8s
RUSC La Rusia 17.70 17 *e*P **P** 23 25 38.2 +1.8
ZARC Zaragoza, Cauc 18.84 10 *e*P **P** 23 25 48.2 -0.3
LCO Las Campanas 19.04 160 *e*P **Pn** 23 25 53.3 +1.1
14nm,0.8s
SDV Santo Domingo 21.29 21 P **P** 23 26 14.2 -1.1
17nm,0.4s,baz=163,slow=12,SNR=38
SDV S **S** 23 30 11.9 +2.7
2.1nm,0.4s,baz=30,slow=18,SNR=2.3
SDV LR LR 23 36 03.5
comp=Z,787nm,19.2s,baz=212,slow=41
SDV Santo Domingo 21.29 21 *e*P **P** 23 26 13.7 -1.6
37nm,1.0s
SDV S **S** 23 30 11.9 +2.7
JTS JuntasAbangare 22.39 342 P **P** 23 26 25.8 -1.2
2.9nm,0.5s,baz=314,slow=16,SNR=1.9
JTS LR LR 23 34 02.1
comp=Z,298nm,20.6s,baz=196,slow=34
ROC1 El Roble 22.65 164 *e*P **P** 23 26 32.2 +2.4
20nm,0.8s
CPUP Villa Florida 24.73 130 P **P** 23 26 50.1 +0.7
9.4nm,0.9s,baz=315,slow=11,SNR=18
CPUP LR LR 23 38 24.5
comp=Z,292nm,20.1s,baz=320,slow=41
CPUP Villa Florida 24.73 130 *e*P **P** 23 26 49.3 0.0
19nm,1.1s
PCRV Puerto La Cruz 25.11 33 P **P** 23 26 54.1 +1.3
24nm,1.0s,baz=212,slow=5.9,SNR=7.3
PCRV LR LR 23 38 12.2
comp=Z,820nm,19.1s,baz=203,slow=40
PLCA Paso Flores 30.18 169 P **P** 23 27 39.4 +1.4
16nm,0.8s,baz=7.7,slow=10,SNR=48
PLCA PcP **PcP** 23 30 39.0 +0.8
1.9nm,0.7s,baz=336,slow=4.9,SNR=6.2
TRQA Tornquist 30.41 154 *e*P **P** 23 27 40.8 +0.7
6.3nm,0.7s
FDF Fort de France 30.76 34 *e*P **P** 23 27 40.6 -2.8
50nm,1.0s
SJG San Juan 31.42 22 *e*P **P** 23 27 48.1 -1.0
23nm,0.6s
MTP Monte Pirata 31.64 23 *e*P **P** 23 27 49.9 -1.2
22nm,0.9s
CBYP Canovanas 31.68 23 *e*P **P** 23 27 50.0 -1.5
19nm,0.6s
STVI Saint Thomas 32.10 24 *e*P **P** 23 27 53.3 -1.8
27nm,0.5s
SMRT St. Maarten 32.63 27 *e*P **P** 23 27 58.4 -1.4
62nm,0.8s
ANWB Willy Bob 32.90 30 *e*P **P** 23 28 00.3 -1.8
41nm,0.9s
RPN Rapa Nui 33.34 237 LR LR 23 37 52.3
comp=Z,390nm,19.5s,baz=96,slow=29
857A Zephyrhills 39.42 354 P **P** 23 28 56.6 -1.1
baz=173
655A Horseshoe Beac 40.77 353 P **P** 23 29 06.9 -1.9
baz=172
LNIG Linares 41.47 330 *e*P **P** 23 29 14.8 +0.1
6.1nm,0.9s
LNIG *e*PcP **PcP** 23 31 12.2 +0.4
256A Glennville 43.08 355 P **P** 23 29 26.6 -1.0
baz=174
254A Abbeville 43.17 354 P **P** 23 29 27.7 -0.8
baz=172
251A Midway 43.60 351 P **P** 23 29 30.8 -1.0
baz=169
345A Thompson Farm, 43.77 345 P **P** 23 29 32.7 -0.6
baz=163
248A Dixon Mills 44.01 348 P **P** 23 29 35.0 -0.2
baz=166
344A Westbrook Farm 44.09 344 P **P** 23 29 35.9 +0.1
baz=162
NHSC New Hope 44.09 358 P **P** 23 29 35.0 -0.8
baz=177
149A Jones 44.32 350 P **P** 23 29 36.1 -1.5
baz=168
245A Little AP, Sta 44.43 346 P **P** 23 29 36.9 -1.6
baz=163
342A Flagon Creek P 44.46 343 P **P** 23 29 37.4 -1.4
baz=160
GOGA Godfrey 44.64 354 P **P** 23 29 38.8 -1.4
baz=172
LRAL Lakeview Retre 44.78 349 P **P** 23 29 40.1 -1.2
baz=167,SNR=5.2
LRAL Lakeview Retre 44.78 349 *e*P **P** 23 29 39.9 -1.4
7.9nm,0.8s
146A Union 44.81 347 P **P** 23 29 39.6 -1.9
baz=164
Z49A Columbiana 44.86 350 P **P** 23 29 40.6 -1.3
baz=168
Z48A Northport 45.22 349 P **P** 23 29 43.4 -1.4
baz=167
JSC Jenkinsville 45.32 356 *e*P **P** 23 29 44.8 -0.8
9.7nm,1.1s
Z46A Louisville 45.33 347 P **P** 23 29 44.1 -1.5
baz=165
Y50A Piedmont 45.41 351 P **P** 23 29 44.7 -1.6
baz=169
Y49A Blount Mountai 45.49 350 P **P** 23 29 45.0 -1.9
baz=168
Z45A Winona 45.66 346 P **P** 23 29 46.8 -1.5
baz=164
Y48A Jasper 45.67 349 P **P** 23 29 46.6 -1.8
baz=167
Z44A Pea Ridge, Bel 45.75 346 P **P** 23 29 47.8 -1.2
baz=163
X50A Fort Payne 45.96 351 P **P** 23 29 49.0 -1.7
baz=170,SNR=6.7
Y46A Houston 45.97 348 P **P** 23 29 49.4 -1.3
baz=165
X49A Woodville 46.11 351 P **P** 23 29 50.1 -1.7

baz=169
X48A **Hartselle** 46.17 350 P P 23 29 50.9 -1.4
baz=168
KMSC **Kings Mountain** 46.18 356 P P 23 29 50.8 -1.5
baz=175,SNR=7.6
KMSC **Kings Mountain** 46.18 356 eP P 23 29 51.3 -1.0
16nm,0.9s
X47A **Russelville** 46.39 349 P P 23 29 52.2 -1.7
baz=166
SWET **Sewanee** 46.74 351 eP P 23 29 55.2 -1.6
2.6nm,0.8s
W48A **Pulaski** 46.83 350 P P 23 29 55.6 -1.8
baz=168,SNR=6.3
PLAL **Pickwick Lake** 46.88 349 eP P 23 29 56.5 -1.3
9.5nm,0.9s
TKL **Tuckaleechee C** 46.90 354 P P 23 29 54.9 -3.1
5.8nm,0.9s,baz=154,slow=13,SNR=7.2
TKL **Tuckaleechee C** 46.90 354 eP P 23 29 56.0 -2.0
6.9nm,0.9s
W47A **Westpoint** 47.05 349 P P 23 29 57.3 -1.9
baz=167,SNR=6.5
TX31 **Lajitas Ar. Si** 47.23 329 eP P 23 30 01.1 +0.3
TXAR **Lajitas Array** 47.23 329 P P 23 30 01.4 +0.6
2.3nm,0.5s,baz=150,slow=10,SNR=10
W45A **Hickory Valley** 47.27 348 P P 23 29 59.2 -1.6
baz=165
V48A **Smith Brothers** 47.39 350 P P 23 30 00.2 -1.6
baz=168,SNR=11
V47A **Nunnelly** 47.60 350 P P 23 30 01.4 -2.0
baz=167
UALR **University of** 47.66 344 eP P 23 30 03.7 -0.2
15nm,0.8s
V46A **Holladay** 47.68 349 P P 23 30 02.0 -2.0
baz=166
TZTN **Tazewell** 47.75 354 P P 23 30 03.0 -1.6
baz=173
V45A **Humboldt** 47.79 348 P P 23 30 03.8 -1.1
baz=165
X39A **Fountain Ranch** 47.92 342 P P 23 30 04.6 -1.3
baz=158,SNR=6.6
WVT **Waverly** 47.95 349 P P 23 30 04.0 -2.1
baz=167
WVT **Waverly** 47.95 349 eP P 23 30 04.4 -1.7
8.7nm,0.9s
W41B **Gary Mavity, V** 48.01 344 P P 23 30 05.4 -1.2
baz=161,SNR=8.5
WHAR **Wooly Hollow** 48.13 344 eP P 23 30 07.6 +0.1
21nm,1.1s
U47A **Clarksville** 48.16 350 P P 23 30 06.6 -1.1
baz=168
ABTX **Abilene, Hawle** 48.17 335 P P 23 30 07.4 -0.6
baz=151,SNR=6.2
ABTX **Abilene, Hawle** 48.17 335 eP P 23 30 08.1 +0.1
20nm,0.9s
BLA **Blacksburg** 48.19 358 P P 23 30 06.8 -1.2
baz=177
BLA **Blacksburg** 48.19 358 eP P 23 30 07.1 -0.9
8.1nm,0.9s
VWCC **Virginia Weste** 48.21 358 eP P 23 30 06.7 -1.4
W40A **Ferguson Farm,** 48.25 344 P P 23 30 08.0 -0.5
baz=160,SNR=7.6
W40A **Ferguson Farm,** 48.25 344 eP P 23 30 09.1 +0.6
26nm,0.8s
V42A **Cord** 48.39 346 P P 23 30 08.8 -0.8
baz=162
W39A **Magazine** 48.46 343 P P 23 30 09.6 -0.4
baz=159
V41A **Mountainview** 48.57 345 P P 23 30 10.1 -0.8
baz=161,SNR=25
T48A **Bowling Green** 48.67 351 P P 23 30 10.9 -0.7
baz=169
U43A **Rector** 48.70 347 P P 23 30 10.9 -1.0
baz=164
V40A **Witts Springs** 48.76 344 P P 23 30 11.9 -0.5
baz=160,SNR=15
IP05 **Hopewell Churc** 48.76 0 eP P 23 30 12.3 0.0
9.9nm,1.0s
T46A **Princeton** 48.85 350 P P 23 30 12.0 -1.0
baz=167,SNR=5.1
IP07 **Quail** 48.85 0 eP P 23 30 13.0 0.0
18nm,1.0s
IP06 **Yanceyville** 48.86 0 eP P 23 30 13.1 0.0
9.6nm,1.0s
U42A **Revenden** 48.88 346 P P 23 30 12.1 -1.2
baz=163,SNR=14
IP01 **Cuckoo** 48.89 0 eP P 23 30 13.3 +0.1
16nm,0.9s
IP03 **Louisa** 48.95 0 eP P 23 30 13.8 0.0
18nm,0.9s
SPRD **Spring Road, M** 48.95 0 eP P 23 30 13.9 +0.1
20nm,0.9s
T45A **Paducah** 48.96 349 P P 23 30 12.8 -1.1
baz=166
CVRD **Centerville Ro** 49.00 0 eP P 23 30 14.3 +0.1
25nm,1.1s
V39A **Pettigrew** 49.02 343 P P 23 30 13.3 -1.1
baz=160
U41A **Viola** 49.03 345 P P 23 30 13.3 -1.2
baz=162,SNR=6.9
S48A **Wiedeman Farm,** 49.16 352 P P 23 30 14.1 -1.3
baz=170
U40A **Yellville** 49.29 344 P P 23 30 15.5 -0.9
baz=161,SNR=30
T43A **Greenville** 49.36 347 P P 23 30 15.7 -1.3
baz=164,SNR=11
S46A **Don Dixon Farm** 49.44 350 P P 23 30 15.8 -1.7
baz=167
U39A **Green Forest** 49.48 344 P P 23 30 17.3 -0.6
baz=160,SNR=9.4
T42A **Van Buren** 49.49 346 P P 23 30 16.4 -1.6
baz=163,SNR=8.0
HHAR **Hobbs** 49.52 343 eP P 23 30 18.2 0.0
12nm,1.0s
S45A **Carrier Mills** 49.59 349 P P 23 30 17.2 -1.5
baz=166
WMOK **Wichita Mounta** 49.70 338 P P 23 30 18.6 -1.0
baz=153
WMOK **Wichita Mounta** 49.70 338 eP P 23 30 18.9 -0.7
WMOK ePcP PcP 23 31 40.4 +0.2
TUL1 **Leonard** 49.73 341 P P 23 30 19.0 -0.8
baz=157,SNR=6.2
TUL1 **Leonard** 49.73 341 eP P 23 30 19.3 -0.5
19nm,0.8s
S44A **Carbondale** 49.73 348 P P 23 30 18.4 -1.4
baz=165
SIUC **Southern Illin** 49.75 348 eP P 23 30 18.5 -1.3
19nm,0.8s
S43A **Fulton Ridge,** 49.78 348 P P 23 30 18.7 -1.4
baz=164
R47A **Wooly Knot Far** 49.85 351 P P 23 30 19.3 -1.3
baz=169
R48A **Northridge Ran** 49.86 352 P P 23 30 18.9 -1.8
baz=170
R46A **Gibon Southern** 49.92 350 P P 23 30 19.8 -1.4
baz=168
T40A **Mansfield** 49.95 345 P P 23 30 20.5 -0.9
baz=161
MNTX **Cornudas Mount** 50.01 329 P P 23 30 21.4 -0.6
baz=144
MNTX **Cornudas Mount** 50.01 329 eP P 23 30 22.2 +0.2
4.9nm,0.9s
T39A **Clever** 50.06 344 P P 23 30 21.5 -0.7
baz=160,SNR=15
S42A **Caledonia** 50.13 347 P P 23 30 20.8 -2.0
baz=164
R45A **Skylar, Fairfi** 50.13 350 P P 23 30 21.1 -1.7
baz=167
S41A **Jillco Farms,** 50.17 346 P P 23 30 21.7 -1.5
baz=162,SNR=24
R44A **Waltonville** 50.24 349 P P 23 30 22.1 -1.4
baz=166
FVM **French Village** 50.25 347 eP P 23 30 23.6 -0.2
15nm,1.1s
T38A **Diamond** 50.32 343 P P 23 30 23.7 -0.6
baz=159,SNR=8.9
SDMD **Soldier's Deli** 50.35 1 eP P 23 30 24.4 0.0
5.5nm,0.9s
S40A **Lebanon** 50.37 345 P P 23 30 23.9 -0.7
baz=161,SNR=13
R43A **Red Bud** 50.43 348 P P 23 30 23.5 -1.6
baz=165
Q47A **Bedord North L** 50.46 352 P P 23 30 23.5 -1.8
baz=169
OLIL **Olney** 50.53 350 eP P 23 30 24.7 -1.1
12nm,0.8s
R42A **Luebbering** 50.62 347 P P 23 30 25.2 -1.3
baz=164
MSTX **Muleshoe** 50.66 333 P P 23 30 26.5 -0.5
baz=148
MSTX **Muleshoe** 50.66 333 eP P 23 30 26.8 -0.2
10nm,0.8s
S39A **Bolivar** 50.67 344 P P 23 30 26.2 -0.6
baz=160,SNR=24
R41A **Rosebud** 50.77 347 P P 23 30 26.5 -1.0
baz=163,SNR=8.9
S38A **Stockton** 50.77 344 P P 23 30 26.7 -1.0
baz=160,SNR=19
Q44A **Meyer Farm, Va** 50.86 349 P P 23 30 26.7 -1.6
baz=166
MVL **Millersville** 50.95 2 eP P 23 30 28.8 -0.1
8.9nm,0.9s
R40A **Maddies Statio** 50.97 346 P P 23 30 28.0 -1.1
baz=162,SNR=19
P47A **Martinsville** 50.98 352 P P 23 30 27.5 -1.7
baz=170
Q43A **New Douglas** 51.03 348 P P 23 30 28.1 -1.4
baz=165
Q42A **Golden Eagle** 51.17 348 P P 23 30 29.6 -1.0
baz=164,SNR=6.5
R39A **Chumby, Stover** 51.18 345 P P 23 30 29.6 -1.1
baz=161,SNR=6.0
O56A **Blue Knob Stat** 51.20 360 P P 23 30 30.0 -0.8
baz=179,SNR=8.0
O56A **Blue Knob Stat** 51.20 360 eP P 23 30 30.3 -0.5
13nm,0.9s
P45A **Graceland, Par** 51.24 350 P P 23 30 29.5 -1.7
baz=168,SNR=9.0
P46A **Rosedale** 51.25 351 P P 23 30 29.4 -1.7
baz=168,SNR=10.0
P44A **Sand Creek, Wi** 51.34 350 P P 23 30 30.3 -1.5
baz=167
ACSO **Alum Creek Sta** 51.36 355 P P 23 30 30.4 -1.5
baz=174,SNR=7.2
ACSO **Alum Creek Sta** 51.36 355 eP P 23 30 30.7 -1.3
18nm,0.8s
Q41A **Truxton** 51.36 347 P P 23 30 31.0 -1.0
baz=163,SNR=5.8
SSPA **Standing Stone** 51.56 0 P P 23 30 32.5 -1.0
baz=180
SSPA **Standing Stone** 51.56 0 eP P 23 30 32.8 -0.8
14nm,1.1s
Q40A **Laux Farm, Aux** 51.59 346 P P 23 30 32.7 -1.1
baz=162
P43A **Skaggs, Pawnee** 51.67 349 P P 23 30 32.9 -1.4
baz=166,SNR=7.2
O47A **Sheridan** 51.71 352 P P 23 30 32.5 -2.1
baz=170
P42A **Winchester** 51.78 348 P P 23 30 33.6 -1.5
baz=164,SNR=6.0
319A **Douglas** 51.81 326 eP P 23 30 37.2 +1.5
Q39A **Willow Grove F** 51.86 345 P P 23 30 34.9 -0.9
baz=161
N59A **State Game Lan** 51.89 2 P P 23 30 35.5 -0.4
baz=183,SNR=6.6
N59A **State Game Lan** 51.89 2 eP P 23 30 35.8 -0.2
11nm,0.8s
121A **Cookes Peak, D** 51.90 328 P P 23 30 37.3 +0.9
baz=142,SNR=6.3
121A **Cookes Peak, D** 51.90 328 eP P 23 30 37.5 +1.1
8.6nm,0.7s
N54A **Moraine State** 51.92 358 P P 23 30 35.0 -1.2
baz=177
Q38A **Cooks Store, C** 51.94 345 P P 23 30 35.5 -0.9
baz=160,SNR=15
O45A **Potomac** 51.95 351 P P 23 30 34.5 -1.9
baz=168,SNR=8.1
SFIN **Lafayette** 51.98 351 P P 23 30 34.5 -2.1
baz=169,SNR=5.3
SFIN **Lafayette** 51.98 351 eP P 23 30 34.1 -2.5
16nm,0.8s
P41A **Barry, Barry** 52.01 347 P P 23 30 35.6 -1.3
baz=164
Q37A **Longview Farm,** 52.09 344 P P 23 30 36.5 -0.9
baz=159
P40A **Paris** 52.10 346 P P 23 30 36.5 -1.0
baz=162,SNR=8.1
P39B **Salisbury** 52.22 346 P P 23 30 37.5 -1.0
baz=162,SNR=32
O42A **Bath** 52.31 348 P P 23 30 37.7 -1.3
baz=165
O41A **Passleys Farm,** 52.40 348 P P 23 30 38.3 -1.4
baz=164,SNR=9.4
N46A **Monticello** 52.43 352 P P 23 30 38.0 -2.0
baz=169
M54A **Oil Creek Stat** 52.45 359 P P 23 30 38.8 -1.4
baz=178,SNR=9.7
M54A **Oil Creek Stat** 52.45 359 eP P 23 30 39.1 -1.1
14nm,0.8s
N45A **Kand** 52.50 351 P P 23 30 38.2 -2.2
baz=168
HDIL **Hopedale** 52.51 349 P P 23 30 38.6 -1.9
baz=166
HDIL **Hopedale** 52.51 349 eP P 23 30 39.0 -1.6
26nm,0.8s
N44A **Piper City** 52.55 350 P P 23 30 38.7 -2.1
baz=167
P38A **Dawn** 52.55 345 P P 23 30 39.4 -1.4
baz=161
O40A **La Belle** 52.62 347 P P 23 30 40.3 -1.1
baz=163,SNR=6.9
P37A **Lathrop** 52.72 344 P P 23 30 40.8 -1.3
baz=160
M46A **Old House Fiel** 52.88 352 P P 23 30 41.7 -1.6
baz=170
O39A **Kirksville** 52.90 346 P P 23 30 42.6 -0.9
baz=162,SNR=10
KSU1 **Kansas State U** 52.91 342 P P 23 30 42.4 -1.2
baz=157
KSU1 **Kansas State U** 52.91 342 eP P 23 30 43.1 -0.5
6.4nm,0.7s
N42A **Yates City** 52.92 349 P P 23 30 41.9 -1.6
baz=165,SNR=8.3
O38A **Galt** 53.00 345 P P 23 30 43.2 -1.0
baz=161
LAZ **Ladron** 53.05 330 eP P 23 30 45.9 +0.9
ERPA **Erie** 53.07 358 P P 23 30 43.1 -1.6
baz=178
ANMO **Albuquerque** 53.16 331 P P 23 30 45.5 -0.2
baz=144
ANMO **Albuquerque** 53.16 331 eP P 23 30 46.2 +0.5
6.8nm,0.9s
BINY **Binghamton** 53.16 2 P P 23 30 44.7 -0.6
baz=182,SNR=7.6
BINY **Binghamton** 53.16 2 eP P 23 30 45.0 -0.4
17nm,0.9s
O37A **Wolin Farm, M** 53.21 345 P P 23 30 44.6 -1.2
baz=160,SNR=5.1
N40A **Mertquake, Sal** 53.29 347 P P 23 30 44.6 -1.6
baz=163
M43A **Waltham Townsh** 53.31 350 P P 23 30 44.6 -1.8
baz=166
TUC **Tucson** 53.35 325 P P 23 30 47.0 -0.1
baz=139
TUC **Tucson** 53.35 325 eP P 23 30 48.1 +1.1
3.4nm,0.8s
N39A **Derby Farms, D** 53.48 346 P P 23 30 46.6 -1.1
baz=162,SNR=22
M41A **Milan** 53.54 348 P P 23 30 46.5 -1.6
baz=165
N38A **Joes South For** 53.58 346 P P 23 30 47.5 -0.9
baz=161,SNR=8.0
MMNY **Mt. Morris Dam** 53.66 0 eP P 23 30 48.1 -0.8
12nm,0.9s
CBKS **Cedar Bluff** 53.68 339 P P 23 30 48.5 -0.8
baz=153
CBKS **Cedar Bluff** 53.68 339 eP P 23 30 48.9 -0.4
21nm,0.6s
HRV **Adam Dziewonsk** 53.77 6 P P 23 30 49.5 -0.3
baz=188
M40A **Post Highland** 53.77 348 P P 23 30 48.2 -1.6
baz=163
N37A **Lee Faris, Mou** 53.79 345 P P 23 30 48.6 -1.3
baz=160
O34A **Beatrice** 53.94 342 P P 23 30 50.1 -1.0
baz=157,SNR=5.6
M39A **Webster** 53.98 347 P P 23 30 49.8 -1.6
baz=163
L42A **Oliver, Polo** 53.98 349 P P 23 30 49.7 -1.6
baz=166
L43A **Garden Prairie** 54.00 350 P P 23 30 49.5 -1.9
baz=167
N36A **Muff Farm, Cla** 54.04 344 P P 23 30 50.6 -1.2
baz=159
T25A **Trinidad** 54.05 334 P P 23 30 52.3 +0.1
baz=147,SNR=5.3
T25A **Trinidad** 54.05 334 eP P 23 30 52.8 +0.6
4.5nm,0.8s
O33A **Hebron** 54.11 342 P P 23 30 51.4 -0.9
baz=156
M38A **Pleasantville** 54.16 346 P P 23 30 51.4 -1.3
baz=162,SNR=10
MHTCO **State Highway** 54.16 334 eP P 23 30 53.6 +0.6
4.4nm,0.9s
L41A **Preston** 54.21 349 P P 23 30 51.7 -1.3
baz=165,SNR=6.5
214A **Organ Pipe Nat** 54.25 323 P P 23 30 53.6 +0.1
baz=136
N35A **Tabor** 54.26 344 P P 23 30 51.9 -1.6
baz=158
L40A **Anamosa** 54.34 348 P P 23 30 52.4 -1.6
baz=164,SNR=9.5
M37A **Trindle Farm,** 54.35 345 P P 23 30 53.0 -1.1
baz=160,SNR=5.8
K43A **Burlington** 54.44 351 P P 23 30 52.7 -1.9
baz=168
ACCN **Adirondack Com** 54.46 4 eP P 23 30 54.7 -0.1
63nm,1.9s
N34A **Lincoln** 54.48 343 P P 23 30 53.7 -1.3
baz=158
L39A **Vinton** 54.56 347 P P 23 30 54.2 -1.3
baz=163
M36A **Felix, Anita** 54.59 345 P P 23 30 54.3 -1.5
baz=160
SCIA **State Center** 54.63 346 P P 23 30 54.5 -1.6
baz=162
K42A **Prairie Point,** 54.68 350 P P 23 30 54.9 -1.5
baz=166
K41A **Shullsburg** 54.69 349 P P 23 30 55.1 -1.4
baz=165
L38A **Oak Wood Farm,** 54.79 347 P P 23 30 55.8 -1.4
baz=162,SNR=9.6
W18A **Petrified Fore** 54.93 328 P P 23 30 59.5 +0.9
baz=141,SNR=13
W18A **Petrified Fore** 54.93 328 eP P 23 30 58.9 +0.3
20nm,0.9s
K40A **Colesburg** 54.94 348 P P 23 30 56.4 -1.8
baz=164,SNR=8.3
JFWS **Jewell Farm** 54.97 349 P P 23 30 56.8 -1.8
baz=165
JFWS **Jewell Farm** 54.97 349 eP P 23 30 56.7 -1.8
9.3nm,0.6s
SDCO **Great Sand Dun** 55.03 334 P P 23 30 59.2 -0.2
baz=146,SNR=14
SDCO **Great Sand Dun** 55.03 334 eP P 23 30 59.5 +0.1
6.9nm,0.9s
J43A **Natural Harves** 55.11 351 P P 23 30 58.0 -1.5
baz=168
M34A **Aspy Farms, Fr** 55.12 343 P P 23 30 58.6 -1.0
baz=158
L36A **Harm Buss Farm** 55.16 345 P P 23 30 58.6 -1.3
baz=160
M33A **Taylor Creek F** 55.36 343 P P 23 30 60.0 -1.4
baz=157
J41A **Loganville** 55.37 349 P P 23 30 59.7 -1.6
baz=166
L35A **Bielow Farm, R** 55.40 344 P P 23 31 00.9 -0.8
baz=159
LBNH **Lisbon** 55.45 5 P P 23 31 01.8 -0.1
baz=187
L34A **Svendsen Farm,** 55.49 344 P P 23 31 01.4 -0.9
baz=158
J40A **Soldiers Grove** 55.53 349 P P 23 31 00.8 -1.8
baz=165,SNR=8.3
K37A **Belmond** 55.54 346 P P 23 31 01.1 -1.6
baz=161
I43A **Langenfeld Bro** 55.56 351 P P 23 31 01.2 -1.6
baz=168,SNR=5.2
K36A **Gilmore City** 55.62 345 P P 23 31 02.2 -0.9
baz=160,SNR=9.8
S22A **4UR Ranch, Cre** 55.62 333 P P 23 31 03.3 -0.3
baz=145
S22A **4UR Ranch, Cre** 55.62 333 eP P 23 31 04.2 +0.5
2.6nm,0.9s
LONY **Lake Ozonia** 55.64 3 P P 23 31 02.2 -1.1
baz=184
LONY **Lake Ozonia** 55.64 3 eP P 23 31 02.1 -1.1
34nm,1.9s
J39A **Decorah** 55.66 348 P P 23 31 02.3 -1.2
baz=164,SNR=6.7
I42A **Draeger Farm,** 55.69 351 P P 23 31 02.3 -1.3
baz=167,SNR=10
K35A **Storm Lake** 55.89 345 P P 23 31 04.9 -0.3
baz=159
Q24A **Divide** 55.90 335 P P 23 31 05.1 -0.6
baz=147
FRNY **Flat Rock** 55.91 4 eP P 23 31 04.2 -1.0
12nm,1.1s
L33A **Hoskins** 55.93 343 P P 23 31 04.6 -0.9
baz=157
MVCO **Mesa Verde** 55.96 331 P P 23 31 05.8 -0.2
baz=143
I40A **Norwalk** 55.99 349 P P 23 31 04.7 -1.1
baz=165
I41A **Arkdale** 56.01 350 P P 23 31 04.6 -1.3
baz=166
J37A **Redelius Farm,** 56.04 346 P P 23 31 04.7 -1.5
baz=162,SNR=5.4
GLMI **Grayling** 56.06 354 P P 23 31 04.3 -2.0
baz=172
H43A **Windswept, Lux** 56.08 352 P P 23 31 05.0 -1.4
baz=168
WUAZ **Wupatki** 56.09 327 P P 23 31 07.5 +0.6
baz=140
I39A **Houston** 56.12 348 P P 23 31 05.3 -1.5
baz=164,SNR=9.1
GLA **Glamis** 56.22 323 P P 23 31 07.1 -0.6
baz=135
H42A **Shiocton** 56.23 351 P P 23 31 06.0 -1.5
baz=168
J36A **Seneca 1, Swea** 56.24 346 P P 23 31 06.3 -1.3
baz=161,SNR=15
KLBO **Killbear Provi** 56.31 358 P P 23 31 06.0 -2.1
baz=177,SNR=8.0
BUKO **Buck Lake** 56.38 359 P P 23 31 06.7 -1.9
baz=178,SNR=8.7
I38A **Scanlan Farm,** 56.47 348 P P 23 31 07.6 -1.6
baz=163,SNR=6.7
H41A **Junction City** 56.52 350 P P 23 31 07.8 -1.8
baz=166
K32A **Verdigre** 56.59 343 P P 23 31 08.6 -1.5
baz=156
J34A **George** 56.61 344 P P 23 31 08.9 -1.3
baz=159
H40A **Chili** 56.65 350 P P 23 31 09.0 -1.5
baz=165,SNR=6.8
PV01 **Paradox Valley** 56.73 331 eP P 23 31 12.2 +0.6
PKME **Peaks-Kenny Pk** 56.75 7 P P 23 31 10.6 -0.6
baz=190
ISCO **Idaho Springs** 56.79 335 P P 23 31 11.4 -0.7
baz=147,SNR=5.4
ISCO **Idaho Springs** 56.79 335 eP P 23 31 12.0 0.0
6.0nm,0.7s
I36A **Fitzsimmons Fa** 56.82 346 P P 23 31 10.2 -1.5
baz=161
G43A **Wallace** 56.84 352 P P 23 31 10.2 -1.6
baz=169,SNR=5.4
SMCO **Snowmass** 56.86 333 eP P 23 31 12.9 +0.3
4.3nm,0.8s
H39A **Augusta** 56.87 349 P P 23 31 10.6 -1.5
baz=164
J33A **Davis** 56.91 344 P P 23 31 10.8 -1.6
baz=158
G42A **Mountain** 56.93 351 P P 23 31 10.9 -1.6
baz=168
PV05 **Paradox Valley** 56.94 331 eP P 23 31 13.9 +0.9
F45A **CMU Biological** 57.00 354 P P 23 31 11.2 -1.7
baz=171
F46A **Macinaw City C** 57.01 354 P P 23 31 11.6 -1.4
baz=172
H38A **Maiden Rock** 57.06 348 P P 23 31 12.1 -1.3
baz=163,SNR=6.3
H37A **Dierke Farm, C** 57.11 347 P P 23 31 12.3 -1.4
baz=162
IRM **Iron Mountain** 57.19 324 P P 23 31 15.0 +0.4
baz=135
ECSD **EROS Data Cent** 57.20 344 P P 23 31 13.1 -1.4
baz=158,SNR=10
ECSD **EROS Data Cent** 57.20 344 eP P 23 31 13.0 -1.4
5.5nm,0.6s
J32A **Parkston** 57.21 343 P P 23 31 12.9 -1.5
baz=157
G40A **Rib Lake** 57.24 350 P P 23 31 13.4 -1.3
baz=166
PV09 **Paradox Valley** 57.29 331 eP P 23 31 15.1 -0.5

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time	Res
H36A	Jessenland, He	57.33	347	P	P	23 31 14.0	-1.3
	baz=161,SNR=9.1						
F43A	Flat Rock, Esc	57.34	352	P	P	23 31 13.4	-1.9
	baz=169						
F44A	Big Bay de Noc	57.39	353	P	P	23 31 13.9	-1.8
	baz=170						
G39A	Holcombe	57.44	349	P	P	23 31 14.7	-1.3
	baz=165						
G38A	Ridgeland	57.45	349	P	P	23 31 14.9	-1.3
	baz=164,SNR=8.9						
F41A	Three Lakes	57.52	351	P	P	23 31 15.2	-1.5
	baz=167						
I33A	Coleman	57.54	344	P	P	23 31 15.6	-1.3
	baz=158						
H35A	Sunnyside Ranc	57.65	346	P	P	23 31 16.3	-1.3
	baz=160,SNR=10						
SPMN	Marine on St.	57.70	348	P	P	23 31 16.7	-1.2
	baz=163						
SPMN	Marine on St.	57.70	348	*e*P	P	23 31 16.1	-1.8
	18nm,0.7s						
I32A	Karley and Nic	57.70	344	P	P	23 31 16.6	-1.3
	baz=157						
E43A	Lone Tree Farm	57.85	353	P	P	23 31 17.7	-1.2
	baz=170						
H34A	Spellman Lake,	57.85	345	P	P	23 31 17.9	-1.1
	baz=159,SNR=7.3						
F40A	Park Falls	57.86	350	P	P	23 31 17.7	-1.4
	baz=166						
G36A	St. Michael	57.91	347	P	P	23 31 18.2	-1.2
	baz=162						
GMRC	Granite Mounta	57.93	324	P	P	23 31 20.5	+0.5
	baz=135						
KNB	Kanab	57.99	327	*e*P	P	23 31 22.0	+1.7
	10nm,0.9s						
F39A	Loretta	58.00	349	P	P	23 31 18.5	-1.4
	baz=165						
E42A	Champion	58.02	352	P	P	23 31 18.8	-1.4
	baz=168						
G35A	Watkins	58.06	346	P	P	23 31 19.2	-1.2
	baz=161						
H33A	Prehn Over Nor	58.11	344	P	P	23 31 19.6	-1.2
	baz=158						
H32A	Carlson Farm,	58.13	344	P	P	23 31 19.9	-1.1
	baz=157						
F37A	Hinrichs Farm,	58.14	348	P	P	23 31 19.8	-1.1
	baz=163						
O20A	White River Ci	58.20	333	P	P	23 31 21.7	-0.1
	baz=144						
O20A	White River Ci	58.20	333	*e*P	P	23 31 21.8	0.0
	9.7nm,0.8s						
LCMT	Little Creek M	58.21	327	*e*P	P	23 31 23.2	+1.4
	3.7nm,0.8s						
F38A	Pierce - Schro	58.22	349	P	P	23 31 20.7	-0.8
	baz=164,SNR=8.4						
PQI	Presque Isle	58.30	8	*e*P	P	23 31 23.0	+0.9
	15nm,0.9s						
E40A	Wakefield	58.34	350	P	P	23 31 21.1	-1.2
	baz=166						
HEC	Hector,Ludlow	58.36	323	P	P	23 31 24.0	+1.2
	baz=134						
E39A	Mellen	58.38	350	P	P	23 31 21.6	-1.1
	baz=165						
H31A	Wolsey	58.40	343	P	P	23 31 21.6	-1.3
	baz=156						
MTPU	Mount Pierson	58.43	329	*e*P	P	23 31 23.5	-0.2
	3.8nm,1.0s						
SRU	San Rafael Swe	58.44	331	*e*P	P	23 31 24.0	+0.5
	5.4nm,0.9s						
F36A	Milaca	58.46	347	P	P	23 31 22.0	-1.2
	baz=162,SNR=10						
SUSD	Miller	58.51	343	P	P	23 31 22.2	-1.4
	baz=156						
G33A	Ortonville	58.51	345	P	P	23 31 22.2	-1.4
	baz=159						
TUQ	Turquoise Moun	58.54	324	P	P	23 31 24.4	+0.2
	baz=135						
SZCU	Shurtz Canyon	58.56	328	*e*P	P	23 31 26.3	+1.9
	4.1nm,0.8s						
CCUT	Cedar City	58.67	328	*e*P	P	23 31 27.1	+1.9
	5.5nm,0.9s						
P18A	Preston Nutter	58.71	331	*e*P	P	23 31 27.1	+1.6
	4.4nm,0.9s						
D41A	Chassel	58.73	352	P	P	23 31 24.1	-1.0
	baz=168						
F34A	Alexandria	58.78	346	P	P	23 31 24.5	-1.0
	baz=160,SNR=6.4						
MSU	Marysvale	58.79	329	*e*P	P	23 31 26.9	+1.0
P17A	Butcher Ranch,	58.83	331	*e*P	P	23 31 26.9	+0.8
	9.2nm,0.9s						
SHPR	Sheep Range	58.88	325	*e*P	P	23 31 28.0	+1.5
	6.3nm,0.9s						
GSC	Goldstone, Bar	58.96	323	P	P	23 31 27.3	+0.3
	baz=134						
GSC	Goldstone, Bar	58.96	323	*e*P	P	23 31 28.0	+0.9
	5.5nm,0.8s						
TCRU	Three Creeks R	59.00	329	*e*P	P	23 31 26.8	-0.6
	5.5nm,0.8s						
E36A	McGregor	59.03	348	P	P	23 31 26.3	-0.8
	baz=162,SNR=7.7						
F33A	5 Mile Ranch,	59.08	345	P	P	23 31 26.2	-1.3
	baz=159,SNR=6.4						
E35A	Pequot Lakes	59.31	347	P	P	23 31 28.2	-0.9
	baz=161,SNR=11						
F32A	Veblen	59.32	345	P	P	23 31 27.9	-1.2
	baz=158						
EDW2	Edwards Air Fo	59.38	322	P	P	23 31 30.5	+0.7
	baz=133						
E34A	Wadena	59.44	346	P	P	23 31 29.3	-0.7
	baz=160,SNR=5.8						
D37A	Cotton	59.47	349	P	P	23 31 29.3	-0.9
	baz=164						
F31A	Hecla	59.61	344	P	P	23 31 29.8	-1.4
	baz=157						
D36A	Goodland	59.64	348	P	P	23 31 30.0	-1.3
	baz=163						
MPU	Maple Canyon	59.68	331	*e*P	P	23 31 32.4	+0.4
	9.8nm,1.3s						
C39A	Grand Marais	59.71	351	P	P	23 31 30.5	-1.3
	baz=166						
D35A	Remer	59.73	347	P	P	23 31 30.7	-1.3
	baz=162						
C38A	Sawbill Land.	59.80	350	P	P	23 31 30.9	-1.6
	baz=165						
FURC	Furnace Creek,	59.81	324	P	P	23 31 33.4	+0.7
	baz=135						
MPMC	Manual Prospec	59.89	324	P	P	23 31 33.9	+0.4
	baz=134						
C37A	Embarrass	59.98	349	P	P	23 31 32.8	-0.9
	baz=164,SNR=6.3						
JLU	Jordanelle	60.05	331	*e*P	P	23 31 35.1	+0.4
	6.8nm,0.9s						
EYMN	Ely	60.06	350	P	P	23 31 32.9	-1.4
	baz=165						
DAC	Darwin (Calif)	60.10	324	*e*P	P	23 31 36.0	+1.0
	3.6nm,0.8s						
C36A	Pine Crest Far	60.13	349	P	P	23 31 33.9	-0.8
	baz=163,SNR=7.3						
C35A	Jirik Farms, M	60.30	348	P	P	23 31 34.8	-1.1
	baz=162						
DUG	Dugway, Tooele	60.39	330	P	P	23 31 37.6	+0.8
	baz=140,SNR=11						
DUG	Dugway, Tooele	60.39	330	*e*P	P	23 31 37.6	+0.8
	10nm,0.8s						
TCUT	Toone Canyon	60.43	332	*e*P	P	23 31 37.6	+0.4
	11nm,0.8s						
R11A	Troy Canyon, C	60.45	327	P	P	23 31 37.8	+0.5
	baz=137,SNR=10						
R11A	Troy Canyon, C	60.45	327	*e*P	P	23 31 37.5	+0.2
	3.8nm,0.8s						
C34A	RKJ Ranch, Bem	60.45	347	P	P	23 31 36.2	-0.7
	baz=161						
PKM	Mcpherson Peak	60.49	321	P	P	23 31 37.9	+0.2
	baz=131						
CWC	Cottonwood Cre	60.50	323	P	P	23 31 38.2	+0.5
	baz=134						
VES	Vestal, Richgr	60.68	322	P	P	23 31 39.2	+0.5
	baz=132						
C33A	Trail	60.75	346	P	P	23 31 38.7	-0.2
	baz=160						
B35A	Bob, Littlefor	60.88	348	P	P	23 31 38.7	-1.1
	baz=162,SNR=6.5						
HWUT	Hardware Ranch	60.89	332	*e*P	P	23 31 40.3	0.0
	14nm,0.8s						
PD31	Pinedale Array	60.92	334	*e*P	P	23 31 40.1	-0.4
PDAR	Pinedale Array	60.92	334	P	P	23 31 39.7	-0.8
	2.2nm,0.7s,baz=119,slow=7.3,SNR=21						
B34A	Aery, Baudette	61.19	348	P	P	23 31 41.1	-0.9
	baz=161,SNR=11						
C31A	Landman Farms,	61.26	345	P	P	23 31 41.5	-0.8
	baz=158						
AGMN	Agassiz Nation	61.28	347	P	P	23 31 41.8	-0.7
	baz=160,SNR=15						
AGMN	Agassiz Nation	61.28	347	*e*P	P	23 31 41.8	-0.7
	25nm,0.6s						
B32A	Ashes, Strandq	61.53	346	P	P	23 31 43.5	-0.7
	baz=159,SNR=9.5						
AHID	Auburn Hatcher	61.59	333	*e*P	P	23 31 45.0	0.0
	4.3nm,0.8s						
HVU	Hansel Valley	61.59	331	*e*P	P	23 31 44.9	-0.1
	7.0nm,1.0s						
A33A	Warroad	61.78	347	P	P	23 31 45.1	-0.7
	baz=160,SNR=13						
MDND	Maddock	61.80	344	P	P	23 31 45.7	-0.4
	baz=156						
MDND	Maddock	61.80	344	*e*P	P	23 31 45.9	-0.2
	21nm,0.8s						
B31A	Greenbush Farm	61.82	345	P	P	23 31 45.6	-0.6
	baz=158						
MDPB	Devils Postpil	61.89	324	*e*P	P	23 31 48.8	+1.6
	7.1nm,0.9s						
NV11	Mina Array Sit	61.92	325	*e*P	P	23 31 48.7	+1.4
	0.4nm,0.9s						
REDW	Red Top Meadow	61.96	333	*e*P	P	23 31 47.7	+0.2
	6.9nm,0.8s						
NV01	Mina Array Sit	62.00	325	*e*P	P	23 31 48.9	+1.0
NVAR	Mina Array Bea	62.00	325	P	P	23 31 49.2	+1.3
	4.9nm,0.7s,baz=138,slow=7.0,SNR=28						
NVAR				pP	pP	23 31 59.9	-2.9
	2.9nm,0.6s,baz=131,slow=7.0,SNR=8.7						
A32A	Rocking H Ranc	62.01	346	P	P	23 31 47.2	-0.2
	baz=159						
FXWY	Fox Creek	62.26	334	*e*P	P	23 31 49.6	+0.1
	16nm,1.9s						
RYN	Ryan	62.26	325	*e*P	P	23 31 50.7	+1.2
	4.3nm,0.9s						
WAKR	Walker	62.70	324	*e*P	P	23 31 54.0	+1.5
	8.4nm,1.0s						
YERR	Yerington	62.91	325	*e*P	P	23 31 55.5	+1.5
	8.2nm,0.7s						
CMB	Columbia Colle	62.93	323	*e*P	P	23 31 55.3	+1.5
	4.7nm,1.0s						
YHH	Holmes Hill	63.10	334	*e*P	P	23 31 56.3	+1.1
	4.1nm,0.9s						
ULM	Lac du Bonnet	63.12	347	P	P	23 31 53.8	-1.0
	27nm,0.8s,baz=159,slow=6.4,SNR=58						
ULM	Lac du Bonnet	63.12	347	*e*P	P	23 31 53.9	-1.0
	25nm,0.8s						
YHB	Horse Butte	63.22	334	*e*P	P	23 31 56.9	+1.0
	5.0nm,0.7s						
VCNR	Virginia City	63.36	325	*e*P	P	23 31 58.6	+1.7
	6.3nm,0.8s						
PAHR	Pah Rah Range	63.49	325	*e*P	P	23 31 58.6	+0.9
	9.9nm,0.8s						
HLID	Hailey	63.73	331	P	P	23 31 59.3	0.0
	baz=140,SNR=8.6						
HLID	Hailey	63.73	331	*e*P	P	23 31 59.7	+0.5
	3.3nm,0.6s						
AFDM	Forest Hills D	63.88	324	*e*P	P	23 32 01.2	+1.0
	3.7nm,0.8s						
MCMT	McKenzie Canyo	64.00	333	*e*P	P	23 32 01.4	+0.4
BOZ	Bozeman (W)	64.08	334	P	P	23 32 01.4	-0.1
	baz=143						
BOZ	Bozeman (W)	64.08	334	*e*P	P	23 32 01.8	+0.4
	4.9nm,1.0s						
BEKR	Beckworth	64.15	325	*e*P	P	23 32 03.5	+1.5
	7.4nm,0.9s						
MFID	Camas Ranch	64.30	330	*e*P	P	23 32 03.7	+0.8
	9.3nm,0.9s						
ORV	Oroville	64.59	324	*e*P	P	23 32 06.2	+1.5
	19nm,0.9s						
O03D	Paynes Creek	65.25	324	P	P	23 32 09.6	+0.5
	baz=132						
MOD	Modoc Plateau	65.51	327	*e*P	P	23 32 12.0	+1.2
	11nm,0.8s						
MSO	Missoula	66.04	334	P	P	23 32 14.5	+0.4
	baz=141,SNR=5.1						
MSO	Missoula	66.04	334	*e*P	P	23 32 15.3	+1.3
	8.4nm,1.0s						
BBTS	Babate	66.21	68	P	P	23 32 15.2	-0.5
	31nm,0.9s,baz=343,slow=4.6,SNR=3.7						
N02D	Trinity Center	66.22	324	P	P	23 32 15.0	-0.3
	baz=131						
M04C	Macdoel	66.27	326	P	P	23 32 16.2	+0.5
	baz=132						
SCHQ	Schefferville	66.46	7	P	P	23 32 15.7	-0.8
	12nm,0.9s,baz=210,slow=5.4,SNR=20						
SCHQ	Schefferville	66.46	7	*e*P	P	23 32 15.6	-0.9
	10nm,0.8s						
M02C	Callahan	66.58	325	P	P	23 32 18.0	+0.4
	baz=131						
YBH	Yreka Blue Hor	66.72	325	P	P	23 32 17.5	-1.0
	2.7nm,0.7s,baz=94,slow=8.6,SNR=7.8						
F10A	Beach Ranch, E	66.87	331	*e*P	P	23 32 20.2	+0.8
	11nm,0.8s						
J05D	Fort Rock, OR	66.96	327	P	P	23 32 20.5	+0.4
	baz=133						
PINE	Pine Mountain	67.15	328	*e*P	P	23 32 22.8	+1.5
	70nm,1.9s						
G08A	Pilot Rock	67.20	330	*e*P	P	23 32 22.4	+0.9
	4.1nm,0.8s						
I05D	Terrebonne, OR	67.74	328	P	P	23 32 25.4	+0.5
	baz=133						
G05D	Wamic, OR	68.35	329	P	P	23 32 28.8	+0.1
	baz=134						
NEW	Newport	68.53	333	P	P	23 32 29.8	+0.1
	baz=138,SNR=5.2						
NEW	Newport	68.53	333	*e*P	P	23 32 29.7	+0.1
	9.3nm,0.9s						
FFC	Flin Flon	68.68	345	*e*P	P	23 32 29.8	-0.7
	3.3nm,0.8s						
EDM	Edmonton	70.86	338	*e*P	P	23 32 43.4	-0.6
	10nm,0.7s						
FCC	Fort Churchill	70.91	351	*e*P	P	23 32 43.3	-0.7
	12nm,0.9s						
LIC	Lamto	74.76	80	*e*P	P	23 33 07.9	0.0
	34nm,1.0s						
SNAA	Sanae	74.83	162	P	P	23 33 08.4	+1.1
	3.7nm,0.9s,baz=284,slow=9.5,SNR=6.1						
SNAA	Sanae	74.83	162	*e*P	P	23 33 08.5	+1.2
TIC	Toumodi	74.86	80	*e*P	P	23 33 08.7	+0.2
DBIC	Dimbokro	75.03	80	P	P	23 33 09.9	+0.5
	12nm,0.8s,baz=240,slow=5.5,SNR=17						
DBIC	Dimbokro	75.03	80	*e*P	P	23 33 08.5	-0.9
	22nm,1.1s						
KIC	Kosan Boka	75.07	80	*e*P	P	23 33 06.6	-3.1
	37nm,0.9s						
FRB	Frobisher Bay	75.07	4	P	P	23 33 07.7	-0.9
	2.6nm,0.6s,baz=26,slow=6.4,SNR=12						
KOWA	Kowa	77.74	72	P	P	23 33 24.2	-0.6
	8.6nm,0.7s,baz=252,slow=8.2,SNR=30						
KOWA				pP	pP	23 33 37.8	-2.3
	6.8nm,0.6s,baz=260,slow=4.1,SNR=8.7						
KOWA	Kowa	77.74	72	*e*P	P	23 33 25.5	+0.8
	47nm,1.7s						
KOWA				pP	pP	23 33 37.8	-2.3
YKA	Yellowknife Ar	78.72	344	P	P	23 33 28.6	-0.5
	4.0nm,0.7s,baz=141,slow=6.1,SNR=93						
YKA				pP	PcP	23 33 40.2	+2.4
	3.0nm,0.7s,baz=141,slow=6.0,SNR=12						
QSPA	South Pole Qui	78.94	180	P	P	23 33 32.5	+1.9
	5.1nm,0.8s,baz=231,slow=2.2,SNR=7.5						
DLBC	Dease Lake	81.11	335	*e*P	P	23 33 43.4	+1.1
PNCL	Nicolau / Gran	81.29	48	*e*P	P	23 33 44.4	+0.8
PBDV	Barranco-do-Ve	81.42	49	*e*P	P	23 33 43.7	-0.6
PCVE	Castro Verde	81.48	49	*e*P	P	23 33 46.3	+1.7
ALMR	Almeirim	81.64	47	*e*P	P	23 33 47.2	+1.8
PMTG	Montargil	81.86	48	*e*P	P	23 33 47.7	+1.1
PTOM	Tomar	81.93	47	*e*P	P	23 33 48.4	+1.5
PCBR	Castelo Branco	82.68	47	*e*P	P	23 33 52.1	+1.2
PVIS	Viseu	82.70	46	*e*P	P	23 33 51.1	+0.1
TOA0	Torodi Ar. Sit	82.80	75	*e*P	P	23 33 52.3	+0.3
TORD	Torodi Ar. Bea	82.80	75	P	P	23 33 52.2	+0.2
	9.0nm,0.9s,baz=261,slow=4.7,SNR=32						
TORD				pP	pP	23 34 05.5	-1.9
	5.4nm,1.0s,baz=249,slow=3.9,SNR=7.0						
MTE	Manteigas	82.84	47	*e*P	P	23 33 53.5	+1.8
POLO	Lamas de Olo	83.01	46	*e*P	P	23 33 54.1	+1.4
MVO	Moncorvo	83.48	46	*e*P	P	23 33 55.8	+0.8
PBRG	Braganca	83.91	45	*e*P	P	23 33 58.1	+0.9
ESDC	Sonseca Array	85.18	48	P	P	23 34 04.0	+0.3
	1.3nm,0.6s,baz=276,slow=5.2,SNR=9.2						
ES19	SONSECA Array	85.23	48	*e*P	P	23 34 04.7	+0.7
RES	Resolute Bay	86.34	356	P	P	23 34 07.3	-1.2
	2.0nm,0.9s,baz=164,slow=9.7,SNR=8.9						
RES	Resolute Bay	86.34	356	*e*P	P	23 34 08.8	+0.2
SUMG	Summit	87.50	11	*i* P	P	23 34 14.9	+0.2
SUMG	Summit	87.50	11	*e*P	P	23 34 14.5	-0.2
TULEG	Thule	87.74	2	*e*P	P	23 34 15.5	+0.2
DAWY	Dawson	88.04	337	*e*P	P	23 34 17.0	0.0
	5.1nm,0.8s						
INK	Inuvik	88.39	342	*e*P	P	23 34 18.3	-0.2
	8.8nm,0.8s						
TAM	Tamanrasset	88.51	67	*e*P	P	23 34 20.3	-0.1
EGAK	Eagle	89.06	338	*e*P	P	23 34 21.7	-0.1
	4.1nm,0.6s						
KLU	Klutina	89.50	334	*e*P	P	23 34 24.1	+0.1
DOT	Dot Lake	89.66	336	*e*P	P	23 34 24.4	-0.3
SCRK	Sand Creek	89.77	336	*e*P	P	23 34 25.5	+0.2
PAX	Paxson	89.93	335	*e*P	P	23 34 25.4	-0.6
RIDG	Independ'e Rid	90.01	336	*e*P	P	23 34 26.7	+0.4
SML	Sawmill	90.68	333	*e*P	P	23 34 29.3	-0.2
EKA	Eskdalemuir Ar	90.73	33	P	P	23 34 30.1	+0.3
	3.9nm,0.9s,baz=225,slow=7.0,SNR=4.6						
IL1	Eielson Array	91.25	336	*e*P	P	23 34 30.9	-1.1
ILAR	Eielson Array	91.25	336	P	P	23 34 31.4	-0.6
	1.5nm,0.7s,baz=149,slow=3.1,SNR=18						
ILAR				pP	pP	23 34 42.7	-4.9
	1.2nm,0.8s,baz=148,slow=3.9,SNR=4.9						
ILB	Eielson Array	91.25	336	*e*P	P	23 34 31.7	-0.3
CCB	Clear Creek Bu	91.57	336	*e*P	P	23 34 33.5	0.0
WRH	Wood River Hil	91.61	336	*e*P	P	23 34 33.9	+0.2
MDM	Murphy Dome	91.86	336	*e*P	P	23 34 34.8	-0.1
TRF	Thorofare Moun	92.13	335	*e*P	P	23 34 35.7	-0.6
BPAW	Bear Paw Mtn.	92.65	335	*e*P	P	23 34 37.7	-0.8
MLY	Manley	92.87	336	*e*P	P	23 34 39.4	-0.2
CAST	Castle Rocks	92.88	334	*e*P	P	23 34 39.2	-0.4
TOLK	Toolik Lake Re	93.73	340	P	P	23 34 43.4	-0.1
	baz=111						
DAG	Danmarks Havn	94.18	11	*i* P	P	23 34 44.6	-0.7
	3.6nm,1.1s						
DAG				*i*		23 35 20.4	
BOSA	Boshof	96.19	121	P	P	23 34 56.4	+0.6
	2.1nm,0.9s,baz=270,slow=6.1,SNR=2.5						
GERES	GERESS Array B	99.52	42	P	Pdif	23 35 10.8	+0.6
	0.8nm,0.9s,baz=312,slow=3.4,SNR=3.2						
H11N3	WAKE ISLAND Hy	117.06	286	T	T	01 48 20.3	
	baz=93,slow=75,SNR=21						
H11N2	WAKE ISLAND Hy	117.07	286	T	T	01 48 33.0	
	baz=93,slow=75,SNR=20						
H11N1	WAKE ISLAND Hy	117.07	286	T	T	01 48 05.3	
	baz=93,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	117.18	285	T	T	01 48 39.5	
	baz=94,slow=74,SNR=87						
H11S1	WAKE ISLAND Hy	117.19	285	T	T	01 48 42.6	
	baz=94,slow=74,SNR=165						
H11S3	WAKE ISLAND Hy	117.20	285	T	T	01 48 43.3	
	baz=94,slow=74,SNR=114						
KBZ	Khabaz	119.96	46	PKP	PKPdf	23 40 18.0	+0.4
	2.3nm,0.8s,baz=55,slow=2.1,SNR=9.2						
AKTO	Aktyubinsk	126.92	34	PKP	PKPdf	23 40 31.6	+0.9
	2.3nm,0.8s,baz=307,slow=5.1,SNR=9.0						
ABKAR	Akbulak array	128.60	34	*e*PKPdf	PKPdf	23 40 34.9	+0.9
BVAR	Borovoye Array	131.23	25	PKP	PKPdf	23 40 39.7	+0.8
	1.7nm,0.8s,baz=318,slow=1.9,SNR=14						
ASAR	Alice Springs	133.30	222	PKP	PKPdf	23 40 44.5	+0.8
	0.8nm,0.6s,baz=136,slow=2.1,SNR=7.3						
KLR	Kul'dur	134.70	333	PKP	PKPdf	23 40 45.8	+0.2
	0.1nm,0.4s,baz=72,slow=3.2,SNR=2.6						
ZALV	Zalesovo Beam	135.24	14	PKP	PKPdf	23 40 47.1	+0.7
	5.7nm,0.8s,baz=288,slow=2.2,SNR=17						
WRA	Warramunga Arr	135.52	226	PKP	PKPdf	23 40 48.6	+0.6
	2.7nm,0.8s,baz=122,slow=2.0,SNR=16						
KURK	Kurchatov	136.22	21	PKP	PKPdf	23 40 49.0	+0.7
KURBB	Kurchatov Arra	136.26	21	PKP	PKPdf	23 40 49.0	+0.6
	1.6nm,0.2s,baz=320,slow=2.4,SNR=18						
MJAR	Matsushiro Arr	138.67	314	PKP	PKPdf	23 40 53.9	+0.6
	0.7nm,0.6s,baz=53,slow=2.8,SNR=2.7						
MKAR	Makanchi Array	140.83	21	PKhKP	PKPpre	23 40 49.3	
	1.0nm,0.7s,baz=317,slow=2.7,SNR=12						
MKAR				PKP	PKPdf	23 40 56.5	-0.5
	1.7nm,0.9s,baz=322,slow=2.1,SNR=12						
SONM	Songino Array	143.28	355	PKP	PKPbc	23 40 59.1	+0.6
	5.5nm,0.8s,baz=16,slow=1.8,SNR=39						
KSH	Kashi	143.61	35	PKP	PKPdf	23 41 01.5	-0.7
KSRS	Korea Array	144.92	323	PKP	PKPdf	23 41 04.2	-0.1
	10nm,0.9s,baz=54,slow=4.0,SNR=17						
KSAR	Wonju Array Be	144.95	323	PKP	PKPdf	23 41 04.2	-0.2
WMQ	Urumqi	145.25	18	*e*PKPbc	PKPdf	23 41 04.8	-0.1
WMQ				pPKP	pPKPab	23 41 19.1	-1.4
WMQ				sPKP		23 41 23.5	
WMQ				LR	LR		
	comp=Z,1μm,21.3s						
BJT	Baijiatuau	148.62	339	*e*PKPbc	PKPbc	23 41 14.0	-0.3
HHC	Hu-ho-hao-te	149.25	346	*e*PKPbc	PKPdf	23 41 13.5	+1.8
HHC				PP	PP	23 44 47.8	+1.0
HHC				SKKS		23 51 36.8	
HHC				AMB	AMB		
	comp=Z,120nm,9.5s						
HHC				LR	LR		
	comp=N,270nm,20.2s						
HHC				LR	LR		
	comp=E,170nm,19.6s						
HHC				LR	LR		
	comp=Z,240nm,19.6s						
NJ2	Nanjing	153.99	326	*e*PKPbc	PKPdf	23 41 18.0	-1.0
LZH	Lanzhou	155.15	356	*e*PKPbc	PKPdf	23 41 22.0	+1.3
LZH				pPKP	pPKPdf	23 41 37.5	+0.6
LZH				LR	LR		
	comp=N,120nm,18.1s						
LZH				LR	LR		
	comp=E,130nm,18.0s						
LZH				LR	LR		
	comp=Z,180nm,20.2s						
PYUN	Piuthan	155.58	44	*e*P	PKPab	23 41 48.1	+0.5
	32nm,0.7s						
KOLN	Koldanda	156.20	44	*e*P	PKPab	23 41 50.4	+0.1
	18nm,1.1s						
KKN	Kakani	157.30	41	*e*P	PKPab	23 41 56.3	+1.3
	6.3nm,0.7s						
DMN	Daman	157.31	42	*e*P	PKPab	23 41 55.4	+0.3
	8.1nm,0.7s						
PKI	Pulchoki	157.53	41	*e*P	PKPab	23 41 56.3	+0.1
	9.1nm,0.9s						
GUN	Gumba	157.60	40	*e*P	PKPab	23 41 57.2	+0.8
	11nm,0.5s						
JIRN	Jiri	157.97	40	*e*P	PKPab	23 41 59.5	+1.4
	6.1nm,0.6s						
CD2	Chengdu	160.30	355	PKP	PKPdf	23 41 26.0	-1.1
GYA	Guiyang	164.15	344	*e*PKP	PKPdf	23 41 30.0	-1.2
GYA				PKS	PKSdf	23 45 01.4	-3.0
GYA				PP	PP	23 46 11.8	+2.6
GYA				AMB	AMB		
	comp=Z,120nm,8.4s						
CMAR	Chiang Mai Arr	172.24	21	PKPab	PKPab	23 42 58.5	-1.9
	1.0nm,0.4s,baz=327,slow=5.7,SNR=5.2						

*ISCJB **19** 23:23:06.9±0.7, 47°.5S±0°.1×32°.4E±0°.3, h10km, mb4.1/9, MS3.5/3, Error ellipse: s-maj=26.9km s-min=12.0km az=159.5*

*IDC **19** 23:23:07.0±1.3, 47°.52S×32°.56E, h0km, mb4.0/4, mb1 4.0/6, mb1mx3.7/45, mbtmp3.9/6, ML3.5/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/46, Error ellipse: s-maj=50.2km s-min=24.2km az=67.0*

*NEIC **19** 23:23:08.7±0.5, 47°.49S×32°.50E, h10km, mb4.4/8, Error ellipse: s-maj=21.7km s-min=9.7km az=69.0*

ISC 19 23:23:08.7±0.9**, 47°.5S**±0°.1×**32°.5E**±0°.2**, h10km, n23, σ0ˢ.55**/13**, mb4.2**/9**, MS3.4**/3**, 1C-1D, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUR	Sutherland	17.53	325	P	Pn	23 27 13.0	-0.3
	0.1nm,0.3s,baz=156,slow=11,SNR=9.1						
SUR				S	Sn	23 30 12.7	-16
	0.0nm,0.3s,baz=156,slow=6.6,SNR=3.1						
SUR				LR	LR	23 32 29.2	
	comp=Z,15nm,18.1s,baz=158,slow=32						
SUR	Sutherland	17.53	325	*e*Pn	Pn	23 27 13.0	-0.3
	37nm,1.4s						
SUR				*e*Sn	Sn	23 30 12.7	-16
BOSA	Boshof	19.69	341	P	P	23 27 38.4	+0.3
	0.3nm,0.3s,baz=158,slow=13,SNR=6.3						
BOSA				S	S	23 30 59.7	-21
	0.1nm,0.3s,baz=286,slow=16,SNR=1.8						
BOSA				LR	LR	23 33 58.0	
	comp=Z,111nm,18.9s,baz=200,slow=33						
BOSA	Boshof	19.69	341	*e*P	P	23 27 37.6	-0.5
	34nm,1.4s						
BOSA				*e*S	S	23 30 59.7	-21

SYO	**Syowa Base**	**21.85**	**173**	‖	*e*P	P	23 28 10.8	+10	
SYO	**Syowa Base**	**21.85**	**173**	‖	*i*P	P	23 28 12.0	+11	
MAW	**Mawson**	**25.43**	**153**		LR	LR	23 36 54.0		
	comp=Z,103nm,18.7s,baz=250,slow=33								
SNAA	**Sanae**	**29.26**	**202**		LR	LR	23 38 28.0		
	comp=Z,89nm,21.4s,baz=4.0,slow=32								
SNAA	**Sanae**	**29.26**	**202**		*e*P	**P**	**23 29 10.2**	**-0.4**	
	9.7nm,1.3s								
TSUM	**Tsumeb**	**30.75**	**332**		*e*P	**P**	**23 29 24.6**	**+0.4**	
	9.3nm,0.9s								
QSPA	**South Pole Qui**	**42.71**	**180**		P	**P**	**23 31 05.5**	**0.0**	
	4.5nm,0.9s,baz=260,slow=5.3,SNR=8.9								
KMBO	**Kilima Mbogo**	**46.39**	**7**		LR	LR	23 50 15.9		
	comp=Z,69nm,18.2s,baz=95,slow=35								
VNDA	**Vanda**	**51.39**	**168**		P	**P**	**23 32 12.3**	**-0.6**	
	2.4nm,0.9s,baz=249,slow=8.0,SNR=7.5								
VNDA	**Vanda**	**51.39**	**168**		*e*P	**P**	**23 32 14.2**	**+1.3**	
	3.7nm,1.0s								
H10S2	**ASCENSION HYDR**	**55.30**	**298**		T	T	00 32 24.4		
	baz=143,slow=75,SNR=112								
H10S3	**ASCENSION HYDR**	**55.31**	**298**		T	T	00 32 28.6		
	baz=143,slow=75,SNR=116								
H10S1	**ASCENSION HYDR**	**55.31**	**298**		T	T	00 32 23.9		
	baz=143,slow=75,SNR=77								
CPUP	**Villa Florida**	**70.96**	**252**		P	**P**	**23 34 26.5**	**+0.1**	
	0.5nm,0.5s,baz=162,slow=4.7,SNR=1.4								
CPUP	**Villa Florida**	**70.96**	**252**		*e*P	**P**	**23 34 26.5**	**+0.1**	
	4.7nm,1.4s								
ASAR	**Alice Springs**	**80.19**	**114**		P	**P**	**23 35 19.1**	**-0.2**	
	0.4nm,0.8s,baz=224,slow=3.7,SNR=2.0								
AS31	**Alice Springs**	**80.19**	**114**		*e*P	**P**	**23 35 19.1**	**-0.3**	
	1.0nm,0.9s								
WR1	**Warramunga Arr**	**83.21**	**112**		*e*P	P	23 35 39.7	+4.4	
	9.7nm,1.3s								
WRA	**Warramunga Arr**	**83.21**	**112**		P	P	23 35 39.7	+4.4	
	0.7nm,0.9s,baz=214,slow=3.9,SNR=3.4								

ISCJB ***19*** *23:25:25.9±1.2,30.1°N±0.2×138.9°E±0.3,h421km,mb3.5/6, Error ellipse: s-maj=33.5km s-min=20.7km az=2.1*

IDC ***19*** *23:25:29.1±2.9,30.16°N×138.99E,h440km±35km,mb3.2/6, mb1 3.2/7,mb1mx2.8/64,mbtmp3.9/7,Error ellipse: s-maj=35.9km s-min=24.3km az=77.0*

ISC 19 23:25:27.8±1.4,30.1°N±0.2°×138.9°E±0.3,h421km,n7, σ1§15/7,mb3.5/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MJAR	**Matsushiro Arr**	**6.48**	**355**	P		**P**	**23 27 07.4**		**+1.4**
	0.4nm,0.3s,baz=170,slow=11,SNR=4.6								
PETK	**Petropavlovsk-**	**26.81**	**25**	P		**P**	**23 30 30.4**		**-1.4**
	13nm,1.1s,baz=185,slow=7.2,SNR=3.6								
MKAR	**Makanchi Array**	**46.38**	**308**	P		**P**	**23 33 13.6**		**-0.7**
	0.2nm,0.4s,baz=87,slow=9.2,SNR=8.6								
KURBB	**Kurchatov Arra**	**48.91**	**313**	P		**P**	**23 33 32.6**		**-0.7**
	1.0nm,0.2s,baz=92,slow=7.4,SNR=2.2								
WRA	**Warramunga Arr**	**49.91**	**186**	P		**P**	**23 33 41.5**		**+0.4**
	0.4nm,0.9s,baz=1.9,slow=7.7,SNR=1.6								
BVAR	**Borovoye Array**	**53.91**	**316**	P		**P**	**23 34 09.6**		**-0.2**
	0.7nm,0.4s,baz=97,slow=7.3,SNR=11								
FINES	**FINESS Array B**	**74.01**	**333**	P		**P**	**23 36 18.7**		**+0.1**
	5.2nm,1.1s,baz=44,slow=8.2,SNR=2.5								

IDC 19 23:25:43.1±3.3,30.47°N×140.33E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.4/62,mbtmp3.8/5,Error ellipse: s-maj=136.4km s-min=33.2km az=72.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MKAR	**Makanchi Array**	**47.11**	**307**	P		P	23 34 16.5		-0.3
	0.4nm,0.9s,baz=92,slow=9.6,SNR=4.4								
KURBB	**Kurchatov Arra**	**49.55**	**312**	P		P	23 34 35.6		+0.1
	0.3nm,0.3s,baz=97,slow=7.8,SNR=1.8								
WRA	**Warramunga Arr**	**50.45**	**187**	P		P	23 34 42.6		-0.1
	0.7nm,1.0s,baz=4.3,slow=8.2,SNR=1.9								
BVAR	**Borovoye Array**	**54.48**	**316**	P		P	23 35 12.4		+0.1
	0.6nm,0.4s,baz=92,slow=7.4,SNR=6.5								
FINES	**FINESS Array B**	**74.21**	**333**	P		P	23 37 21.3		-0.2
	2.2nm,1.0s,baz=66,slow=6.7,SNR=1.4								

IDC ***19*** *23:35:00.5±0.5,40.78°N×144.88E,h0km,mb4.4/33, mb1 4.6/38,mb1mx4.4/69,mbtmp4.4/38,ML3.6/5,MS3.9/8, Ms1 3.9/8,ms1mx3.4/70,Error ellipse: s-maj=13.3km s-min=12.3km az=146.0*

NIED ***19*** *23:35:00,40.80°N×145.00°E,h11km,Mw4.6 Best double couple: M0 7.90000×10^15 NP1:φs 183.00000°,δ35.00000°, λ-107.00000°. NP2:φs 24.00000°,δ57.00000°, λ-78.00000°.*

ISCJB ***19*** *23:35:01.5±0.9,40.81°N±0.02°×144.80E±0.03,h12km±5km, mb4.7/149,MS4.1/14,Error ellipse: s-maj=3.8km s-min=3.2km az=155.5*

JMA ***19*** *23:35:02.7±0.2,40.80°N×145.00E,h56km±4km,M4.6*

JMA Felt I J1.

NEIC ***19*** *23:35:03.2±1.5,40.80°N×144.81E,h14km±9km,mb4.8/76, Error ellipse: s-maj=4.5km s-min=3.1km az=146.0*

NEIC Recorded [1 JMA] in Aomori.

BJI ***19*** *23:35:03.5,41.04N×144.75E,h21km,mb4.6/38,mB5.0/26, Ms4.3/27,Ms7 4.0/27*

MOS ***19*** *23:35:04.4±1.0,40.83N×144.83E,h33km,mb5.0/56, MS4.1/5,Error ellipse: s-maj=7.9km s-min=4.3km az=101.2*

ISC 19 23:35:03.8±0.7,40.84N±0.04°×144.90E±0.04,h20km±2km, n354,σ1§44/385,mb4.8/152,MS4.2/16,25C-14D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
ERM	**Erimo**	**1.76**	**312**	*d*	*i*P	**Pn**	**23 35 32.3**		**-1.0**
ERM					pmax	pmax			
	comp=Z,282nm,0.7s								
ERM	**Erimo**	**1.76**	**312**		*e*Pn	**Pn**	**23 35 32.2**		**-1.0**
ERM					*e*S	**Sn**	**23 35 53.6**		**-1.6**
JEM	**Erimo**	**1.76**	**312**		P	**Pn**	**23 35 32.5**		**-0.8**
JEM					*e*S	**Sn**	**23 35 53.0**		**-2.1**
JCH	**Churui**	**2.12**	**328**		P	**Pn**	**23 35 37.3**		**-0.8**
JCH					*e*S	**Sn**	**23 36 02.3**		**-1.6**
JAK	**Akkeshi**	**2.16**	**356**		P	**Pn**	**23 35 38.6**		**-0.2**
JAK					*e*S	**Sn**	**23 36 04.1**		**-0.9**
JNBK	**Urakawa-nobuka**	**2.16**	**312**		P	**Pn**	**23 35 39.1**		**+0.3**
JNBK					*e*S	**Sn**	**23 36 05.4**		**+0.4**
JOB	**Onbets**	**2.21**	**339**		P	**Pn**	**23 35 39.3**		**-0.2**
JOB					S	**Sn**	**23 36 05.6**		**-0.6**
JAR	**Ashorobuto**	**2.60**	**341**		S	**Sn**	**23 36 13.4**		**-2.4**
NEM2	**Nemuro 2**	**2.60**	**14**		*e*S	**Sn**	**23 36 13.2**		**-2.6**
JBT2	**Biratori 2**	**2.71**	**316**		S	**Sn**	**23 36 19.7**		**+1.1**
JNK	**Nakash**	**2.75**	**357**		*e*S	**Sn**	**23 36 16.8**		**-2.7**
JTM	**Tenmabayashi**	**2.91**	**270**		P	**Pn**	**23 35 48.2**		**-0.8**
JTM					*e*S	**Sn**	**23 36 20.2**		**-3.3**
JOT	**Ohata**	**2.96**	**282**		P	**Pn**	**23 35 48.7**		**-1.1**
JOT					S	**Sn**	**23 36 21.5**		**-3.2**
JOM	**Ohasama**	**3.08**	**245**		P	**Pn**	**23 35 50.4**		**-1.0**
JOM					*e*S	**Sn**	**23 36 23.7**		**-4.0**
JKB	**Kayabe**	**3.10**	**291**		P	**Pn**	**23 35 51.1**		**-0.5**
JTKR	**Abashiri--Toko**	**3.22**	**347**		P	**Pn**	**23 35 53.0**		**-0.2**
JTKR					S	**Sn**	**23 36 29.2**		**-1.8**
JEW	**Eniwo**	**3.27**	**309**		P	**Pn**	**23 35 54.4**		**+0.5**
JEW					S	**Sn**	**23 36 31.4**		**-0.8**
YUK	**Yuzh-Kuril'sk**	**3.27**	**12**		*e*P	**Pn**	**23 35 52.7**		**-1.3**
YUK					*e*S	**Sn**	**23 36 29.0**		**-3.4**
SHO	**Shikotan**	**3.35**	**25**		*e*P	**Pn**	**23 35 53.2**		**-1.9**
SHO					*e*S	**Sn**	**23 36 29.6**		**-4.7**
JMK	**Ichinoseki**	**3.40**	**238**		P	**Pn**	**23 35 54.6**		**-1.2**
JMK					*e*S	**Sn**	**23 36 31.2**		**-4.4**
JKK2	**Kamakawa 2**	**3.43**	**333**		P	**Pn**	**23 35 56.1**		**-0.1**
JKK2					S	**Sn**	**23 36 37.7**		**+1.4**
ASAJ	**Asahikawa**	**3.69**	**333**		Pn	**Pn**	**23 36 00.5**		**+0.7**
	comp=Z,13nm,0.3s,baz=207,slow=17,SNR=24								
ASAJ					Sn	**Sn**	**23 36 42.2**		**-0.6**
	comp=Z,13nm,0.3s,baz=159,slow=27,SNR=3.7								
ASAJ	**Asahikawa**	**3.69**	**333**		*e*Pn	**Pn**	**23 35 59.7**		**-0.1**
ASAJ					*e*S	Sn	23 36 31.3		-11
KUR	**Kuril'sk**	**4.90**	**25**	*c*	*e*P	**Pn**	**23 36 16.4**		**0.0**
KUR				*i*	S	**Sn**	**23 37 08.5**		**-4.0**
KUR					pmax	pmax			
	comp=E,77nm,0.3s								
KUR					pmax	pmax			
	comp=Z,289nm,0.3s								
KUR					smax	smax			
	comp=E,1μm,0.6s								
KUR					smax	smax			
	comp=N,93nm,0.4s								
KUR					smax	smax			
	comp=N,2μm,0.8s								
KUR					smax	smax			
	comp=E,2μm,0.6s								
YSS	**Yuzh-Sakhalins**	**6.31**	**346**		*e*P	**Pn**	**23 36 36.5**		**+0.8**
YSS					*e*S	**Sn**	**23 37 44.7**		**-2.5**
YSS					pmax	pmax			
	comp=Z,40nm,0.3s								
YSS					MLR	MLR			
	comp=Z,480nm,15.0s								
YSS	**Yuzh-Sakhalins**	**6.31**	**346**		*e*Pn	**Pn**	**23 36 36.3**		**+0.6**
MJAR	**Matsushiro Arr**	**6.77**	**233**		Pn	**Pn**	**23 36 41.1**		**-1.0**
	comp=Z,1.4nm,0.3s,baz=35,slow=10,SNR=8.1								
MJAR					Sn	**Sn**	**23 37 59.5**		**+0.9**
	baz=93,slow=18,SNR=2.9								
MJAR					LR	LR	23 39 50.4		
	comp=Z,561nm,19.7s,baz=50,slow=43								
MAJO	**Matsushiro**	**6.77**	**233**	‖	*e*P	**Pn**	**23 36 41.4**		**-0.7**
MAJO					pmax	pmax			
	comp=Z,14nm,0.6s								
MAJO	**Matsushiro**	**6.77**	**233**		*e*Pn	**Pn**	**23 36 41.2**		**-0.9**
MAT	**Matsushiro**	**6.77**	**233**		P	**Pn**	**23 36 41.7**		**-0.4**
MAT					S	**Sn**	**23 37 55.8**		**-2.8**
MJB9	**Matsu-Tunnel**	**6.77**	**233**		*e*Pn	**Pn**	**23 36 41.9**		**-0.2**
INU	**Inuyama**	**8.28**	**231**		*e*Pn	**Pn**	**23 37 02.7**		**-0.2**
JHJ2	**Mitsune**	**8.72**	**209**		*e*Pn	**Pn**	**23 37 08.5**		**-0.3**
JHJ	**Hachijo jima 2**	**8.72**	**210**		Sn	Sn	23 38 36.6		-10
	comp=Z,22nm,0.3s,baz=240,slow=20,SNR=4.9								
USRK	**Ussuriysk Ar.**	**10.11**	**294**		Pn	**Pn**	**23 37 29.1**		**+1.3**
	comp=Z,0.8nm,0.3s,baz=107,slow=13,SNR=30								
USRK					LR	LR	23 41 16.2		
	comp=Z,521nm,19.9s,baz=158,slow=37								
MDJ	**Mudanjiang**	**11.88**	**294**		*e*Pn	**Pn**	**23 37 52.0**		**-0.1**
	comp=Z,14nm,1.0s								
KLR	**Kul'dur**	**12.51**	**316**		Pn	**Pn**	**23 37 59.5**		**-1.2**
	comp=Z,0.0nm,0.3s,baz=124,slow=14,SNR=15								
KLR					LR	LR	23 42 46.3		
	comp=Z,32nm,20.2s,baz=92,slow=37								
KLR	**Kul'dur**	**12.51**	**316**	‖	*e*P	**Pn**	**23 38 00.5**		**-0.2**
NKL	**Nikolayevsk**	**12.65**	**348**		*e*P	**Pn**	**23 38 03.0**		**+0.5**
NKL					pmax	pmax			
	comp=N,17nm,0.9s								
NKL					pmax	pmax			
	comp=Z,21nm,0.9s								
JNU	**Nakatsue**	**13.59**	**240**		Pn	**Pn**	**23 38 13.2**		**-2.3**
	comp=Z,0.2nm,0.3s,baz=25,slow=17,SNR=2.3								
JNU					LR	LR	23 43 42.4		
	comp=Z,439nm,19.9s,baz=68,slow=38								
KSRS	**Korea Array**	**13.61**	**261**		LR	LR	23 43 12.5		
	comp=Z,421nm,18.3s,baz=58,slow=36								
CN2	**Changchun**	**14.69**	**288**		*e*P	**Pn**	**23 38 28.9**		**-1.6**
CN2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
CN2					pmax	pmax			
	comp=Z,200nm,3.0s								
CN2					LR	LR			
	comp=Z,200nm,14.0s								
CN2					LR	LR			
	comp=Z,600nm,14.0s								
CN2					LR	LR			
	comp=Z,600nm,18.0s								
PETK	**Petropavlovsk-**	**15.03**	**31**		Pn	**Pn**	**23 38 34.7**		**-0.4**
	comp=Z,0.2nm,0.3s,baz=188,slow=7.1,SNR=3.3								
PETK					LR	LR	23 44 18.3		
	comp=Z,342nm,19.6s,baz=210,slow=37								
ZEA	**Zeya**	**17.54**	**323**		*e*P	**Pn**	**23 39 07.2**		**+0.2**
ZEA					pmax	pmax			
	comp=N,43nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,43nm,1.2s								
ZEA					MLR	MLR			
	comp=N,800nm,16.0s								
ZEA					MLR	MLR			
	comp=Z,1μm,16.0s								
TIA	**Tai'an**	**22.18**	**267**		P	P	23 39 48.1		-11
SEY	**Seymchan**	**22.57**	**9**		P	**P**	**23 40 01.7**		**-1.0**
	comp=Z,6.5nm,0.5s,baz=180,slow=8.5,SNR=27								
SEY	**Seymchan**	**22.57**	**9**	⇑	*e*P	**P**	**23 40 02.1**		**-0.6**
NJ2	**Nanjing**	**22.65**	**256**		*e*P	**P**	**23 40 05.0**		**+1.3**
NJ2					pmax	pmax			
	comp=Z,12nm,0.5s								
YAK	**Yakutsk**	**23.13**	**342**		*e*P	**P**	**23 40 05.0**		**-3.4**
YAK					*e**PP	**sP**	**23 40 18.7**		**+2.1**
YAK					*e*S	**S**	**23 44 09.3**		**-9.2**
YAK					pmax	pmax			
	comp=Z,21nm,0.9s								
YAK					pmax	pmax			
	comp=E,3.0nm,0.8s								
YAK					pmax	pmax			
	comp=N,4.0nm,0.9s								
YAK					smax	smax			
	comp=E,138nm,2.0s								
YAK					smax	smax			
	comp=N,135nm,1.9s								
HHC	**Hu-ho-hao-te**	**25.14**	**281**		*e*P	**P**	**23 40 27.4**		**-0.3**
HHC					pP	sP	23 40 35.1		-0.9
HHC					S	**S**	**23 44 46.6**		**-5.0**
HHC					pmax	pmax			
	comp=N,10.0nm,0.9s								
HHC					pmax	pmax			
	comp=N,190nm,6.2s								
HHC					LR	LR			
	comp=N,190nm,14.1s								
HHC					LR	LR			
	comp=N,290nm,15.9s								
HHC					LR	LR			
	comp=N,290nm,15.1s								
BOD	**Bodaibo**	**26.01**	**321**		*e*P	**P**	**23 40 34.6**		**-0.7**
BOD					pmax	pmax			
	comp=Z,16nm,1.3s								
WHN	**Wuhan**	**26.73**	**257**	⇑	P	**P**	**23 40 45.1**		**+3.1**
WHN					S	**S**	**23 45 16.4**		**-0.3**
WHN					LR	LR			
	comp=Z,1μm,19.1s								
GUMO	**Guam**	**27.14**	**180**		P	**P**	**23 40 45.7**		**-0.1**
	comp=Z,62nm,0.9s,baz=14,slow=8.3,SNR=3.6								
ULN	**Ulaanbaatar**	**27.75**	**297**	‖	*e*P	**P**	**23 40 51.7**		**+0.5**
ULN					pmax	pmax			
	comp=Z,11nm,0.9s								
ULN	**Ulaanbaatar**	**27.75**	**297**		*e*P	**P**	**23 40 52.7**		**+1.5**
	comp=Z,53nm,1.7s								
SONA1	**Songino Array**	**28.18**	**297**		*e*P	**P**	**23 40 55.4**		**+0.3**
SONM	**Songino Array**	**28.19**	**297**		P	**P**	**23 40 55.8**		**+0.7**
	comp=Z,6.6nm,0.8s,baz=81,slow=7.7,SNR=30								
SONM					LR	LR	23 53 21.4		
	comp=Z,360nm,18.1s,baz=82,slow=39								
H11N2	**WAKE ISLAND Hy**	**28.20**	**132**		T	T	00 10 29.1		
	baz=324,slow=75,SNR=3.9								
H11N1	**WAKE ISLAND Hy**	**28.21**	**132**		T	T	00 10 28.6		
	baz=324,slow=75,SNR=3.1								
H11N3	**WAKE ISLAND Hy**	**28.21**	**132**		T	T	00 10 30.3		
	baz=324,slow=75,SNR=8.1								
H11S1	**WAKE ISLAND Hy**	**29.07**	**134**		T	T	00 11 33.2		
	baz=325,slow=76,SNR=5.5								
H11S3	**WAKE ISLAND Hy**	**29.07**	**134**		T	T	00 11 32.8		
	baz=325,slow=76,SNR=6.1								
H11S2	**WAKE ISLAND Hy**	**29.09**	**134**		T	T	00 11 33.8		
	baz=325,slow=76,SNR=7.0								
XAN	**Xi'an**	**29.22**	**268**		P	P	23 41 10.0		+5.7
XAN					pmax	pmax			
	comp=Z,3.0nm,0.6s								
XAN					LR	LR			
	comp=Z,86nm,9.6s								
XAN					LR	LR			
	comp=Z,160nm,11.0s								
XAN					LR	LR			
	comp=Z,210nm,13.9s								
BILL	**Bilibino**	**29.62**	**16**	*d*	*i*P	**P**	**23 41 07.2**		**-0.2**
BILL					*i*		23 41 13.3		
BILL					*i*		23 41 20.6		
BILL					*i*		23 42 02.3		
BILL					*i*		23 44 11.5		
BILL					pmax	pmax			
	comp=Z,12nm,1.0s								
BILL					MLR	MLR			
	comp=Z,160nm,18.0s								
TLY	**Talaya**	**30.13**	**305**		*e*P	**P**	**23 41 14.2**		**+2.0**
TLY					*e*		23 42 17.6		
TLY					pmax	pmax			
	comp=Z,4.0nm,0.5s								
TLY					MLR	MLR			
	comp=Z,306nm,19.0s								
ZAK	**Zakamensk**	**30.29**	**303**		*e*P	**P**	**23 41 13.8**		**+0.1**
ZAK					*e*		23 42 25.4		
ZAK					pmax	pmax			
	comp=Z,7.0nm,1.3s								
MOY	**Mondy**	**31.78**	**305**		*e*P	**P**	**23 41 28.1**		**+1.3**
MOY					pmax	pmax			
	comp=Z,32nm,2.1s								
TIXI	**Tiksi**	**31.91**	**350**		P	**P**	**23 41 27.9**		**+0.3**
	comp=Z,1.6nm,0.3s,baz=131,slow=6.0,SNR=5.4								
TIXI	**Tiksi**	**31.91**	**350**	‖	*e*P	**P**	**23 41 27.3**		**-0.3**
TIXI					pmax	pmax			
	comp=Z,5.0nm,1.2s								
TIXI	**Tiksi**	**31.91**	**350**		*e*P	**P**	**23 41 26.4**		**-1.2**
	comp=Z,4.7nm,1.0s								
LZH	**Lanzhou**	**32.28**	**275**		*e*P	**P**	**23 41 32.3**		**+0.8**
LZH					pP	sP	23 41 40.8		+0.9
LZH					sP	pP	23 41 44.5		+7.1
LZH					*e*PP	**PnPn**	**23 42 39.0**		**+1.1**
LZH					pmax	pmax			
	comp=Z,23nm,1.2s								
LZH					pmax	pmax			
	comp=Z,91nm,5.4s								
LZH					LR	LR			
	comp=Z,370nm,12.9s								
LZH					LR	LR			
	comp=Z,380nm,13.2s								
LZH					LR	LR			
	comp=Z,430nm,15.8s								
CD2	**Chengdu**	**34.51**	**267**		P	**P**	**23 41 49.8**		**-1.0**
CD2					pP	sP	23 41 58.1		-1.1
CD2					sP	pP	23 42 01.8		+5.0
CD2					S	**S**	**23 47 16.4**		**-2.1**
CD2					sS	sS	23 47 30.8		+2.4
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CD2					pmax	pmax			
	comp=Z,120nm,5.2s								
CD2					LR	LR			
	comp=Z,900nm,10.3s								
CD2					LR	LR			
	comp=Z,330nm,16.6s								
CD2					LR	LR			
	comp=Z,240nm,16.2s								
GYA	**Guiyang**	**34.62**	**258**		*e*P	**P**	**23 41 50.6**		**-1.3**
GYA					pmax	pmax			
	comp=Z,10.0nm,0.8s								
QIZ	**Qiongzhong**	**37.00**	**245**		P	**P**	**23 42 12.5**		**+0.4**
QIZ					S	**S**	**23 48 01.6**		**+4.9**
QIZ					LR	LR			
	comp=Z,160nm,17.2s								
QIZ					LR	LR			
	comp=Z,170nm,16.7s								
KMI	**Kunming**	**38.29**	**259**		P	**P**	**23 42 25.8**		**+2.5**
KMI					sP	sP	23 42 36.1		+4.3
KMI					pmax	pmax			
	comp=Z,9.0nm,0.9s								
KMI					pmax	pmax			
	comp=Z,150nm,4.2s								
KMI					LR	LR			
	comp=Z,300nm,16.4s								
KMI					LR	LR			
	comp=Z,300nm,18.5s								
KMI					LR	LR			
	comp=Z,420nm,15.3s								
SVW2	**Sparrevohn**	**40.86**	**40**		*e*P	**P**	**23 42 45.8**		**+1.8**
	comp=Z,11nm,1.0s								
ZAA0	**Zalesovo Array**	**41.49**	**309**		*e*P	**P**	**23 42 49.9**		**+0.7**
	comp=Z,37nm,1.8s								
ZALV	**Zalesovo Beam**	**41.49**	**309**		P	**P**	**23 42 49.3**		**0.0**
	comp=Z,3.3nm,0.7s,baz=95,slow=6.9,SNR=9.4								
ZALV					PcP	**PcP**	**23 44 46.8**		**+0.2**
	comp=Z,3.7nm,0.8s,baz=65,slow=3.0,SNR=5.2								
WMQ	**Urumqi**	**41.68**	**294**		P	**P**	**23 42 54.4**		**+3.3**
WMQ					pmax	pmax			
	comp=Z,50nm,0.7s								
WMQ					pmax	pmax			
	comp=Z,140nm,4.1s								
WMQ					LR	LR			
	comp=Z,250nm,17.1s								
WMQ					LR	LR			
	comp=Z,200nm,21.3s								
WMQ					LR	LR			
	comp=Z,290nm,22.1s								
NVS	**Novosibirsk**	**42.30**	**311**		*i*P	**P**	**23 42 56.8**		**+0.9**
KDAK	**Kodiak Island**	**42.47**	**45**		P	**P**	**23 42 57.7**		**+0.5**
	comp=Z,18nm,0.9s,baz=336,slow=1.0,SNR=5.7								
PPLA	**Purkeypile**	**42.50**	**37**		*e*P	**P**	**23 42 58.6**		**+1.0**
	comp=Z,17nm,1.2s								
CAST	**Castle Rocks**	**42.55**	**36**		*e*P	**P**	**23 42 57.0**		**-1.0**
	comp=Z,14nm,1.0s								
BPAW	**Bear Paw Mtn.**	**43.05**	**35**		*e*P	**P**	**23 43 03.1**		**+1.2**
	comp=Z,11nm,1.2s								
KTH	**Kantishna Hill**	**43.08**	**36**		*e*P	**P**	**23 43 03.4**		**+1.2**
	comp=Z,25nm,1.1s								
MLY	**Manley**	**43.18**	**34**		*e*P	**P**	**23 43 05.0**		**+2.0**
	comp=Z,13nm,1.0s								
SUA	**Susitna One**	**43.19**	**39**		*e*P	**P**	**23 43 04.1**		**+0.9**
	comp=Z,8.6nm,0.9s								
TRF	**Thorofare Moun**	**43.36**	**36**		*e*P	**P**	**23 43 06.1**		**+1.4**
	comp=Z,9.7nm,1.1s								
COLD	**Coldfoot**	**43.50**	**31**		*e*P	**P**	**23 43 06.8**		**+1.2**
	comp=Z,4.9nm,0.6s								
RC01	**Rabbit Creek A**	**43.70**	**40**		*e*P	**P**	**23 43 07.5**		**+0.4**
	comp=Z,13nm,0.9s								
TOLK	**Toolik Lake Re**	**43.84**	**29**		*e*P	**P**	**23 43 10.1**		**+1.8**
	comp=Z,20nm,1.0s								
PMR	**Palmer**	**43.96**	**39**		*e*P	**P**	**23 43 09.9**		**+0.7**
PMR					pmax	pmax			
	comp=Z,11nm,1.0s								
PMR	**Palmer**	**43.96**	**39**		*e*P	**P**	**23 43 09.9**		**+0.7**
	comp=Z,11nm,1.0s								
MCK	**McKinley**	**43.96**	**36**		*e*P	**P**	**23 43 10.3**		**+1.0**
MCK

	comp=Z,6.4nm,0.7s,baz=76,slow=8.7,SNR=18						
DOT	**Dot Lake**	**46.13**	**36**	*e*P	**P**	**23 43 26.6**	**+0.1**
	comp=Z,38nm,1.6s						
SCRK	**Sand Creek**	**46.14**	**35**	*e*P	**P**	**23 43 27.3**	**+0.6**
	comp=Z,11nm,1.0s						
BMRM	**Bremner River**	**46.19**	**40**	*e*P	**P**	**23 43 28.7**	**+1.6**
	comp=Z,16nm,1.0s						
MENT	**Mentasta**	**46.36**	**37**	*e*P	**P**	**23 43 30.0**	**+1.7**
	comp=Z,78nm,0.2s						
EGAK	**Eagle**	**47.27**	**34**	*e*P	**P**	**23 43 35.9**	**+0.5**
	comp=Z,20nm,1.3s						
JIRN	**Jiri**	**49.44**	**274**	*e*P	**P**	**23 43 57.6**	**+4.6**
	comp=Z,14nm,0.8s						
GUN	**Gumba**	**49.54**	**274**	*e*P	P	23 43 58.6	+4.8
	comp=Z,33nm,0.7s						
HYT	**Haines Junctio**	**49.63**	**39**	*e*P	**P**	**23 43 55.2**	**+1.5**
	comp=Z,34nm,0.9s						
INK	**Inuvik**	**49.76**	**29**	LR	LR	00 06 41.4	
	comp=Z,76nm,18.4s,baz=310,slow=38						
INK	**Inuvik**	**49.76**	**29**	*e*P	**P**	**23 43 55.7**	**+1.3**
INK				pmax	pmax		
	comp=Z,11nm,0.8s						
INK	**Inuvik**	**49.76**	**29**	*e*P	**P**	**23 43 55.7**	**+1.3**
	comp=Z,11nm,0.8s						
KKN	**Kakani**	**50.06**	**274**	*e*P	P	23 44 02.6	+5.0
	comp=Z,5.1nm,0.4s						
PKI	**Pulchoki**	**50.07**	**274**	*e*P	**P**	**23 44 02.2**	**+4.4**
	comp=Z,6.5nm,0.7s						
PKIN	**Phulchoki**	**50.08**	**274**	*e*P	**P**	**23 44 02.4**	**+4.6**
	comp=Z,6.6nm,0.5s						
BVAR	**Borovoye Array**	**50.10**	**311**	P	**P**	**23 43 57.6**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=75,slow=9.8,SNR=24						
BVAR				PcP	**PcP**	**23 45 16.8**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=56,slow=5.4,SNR=3.2						
BRVK	**Borovoye**	**50.15**	**311⇑**	*i*P	**P**	**23 43 58.0**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BRVK	**Borovoye**	**50.15**	**311**	*e*P	**P**	**23 43 57.6**	**0.0**
	comp=Z,7.3nm,0.9s						
DMN	**Daman**	**50.28**	**274**	*e*P	**P**	**23 44 03.5**	**+4.2**
	comp=Z,9.6nm,0.7s						
DANN	**Dangsing**	**50.91**	**276**	*e*P	P	23 44 10.5	+6.4
	comp=Z,2.1nm,0.8s						
WHY	**Whitehorse**	**50.92**	**39**	*e*P	**P**	**23 44 04.5**	**+1.0**
	comp=Z,5.5nm,0.9s						
KOLN	**Koldanda**	**51.34**	**275**	*e*P	P	23 44 12.8	+5.6
	comp=Z,11nm,0.9s						
KSH	**Kashi**	**51.40**	**293**	*e*P	**P**	**23 44 09.6**	**+2.1**
KSH				S	**S**	**23 51 24.9**	**-1.3**
KSH				pmax	pmax		
	comp=Z,120nm,6.0s						
KSH				LR	LR		
	comp=Z,250nm,9.2s						
KSH				LR	LR		
	comp=Z,120nm,10.2s						
KSH				LR	LR		
	comp=Z,280nm,6.1s						
KKAR	**Karatay Array**	**53.63**	**299**	*e*P	**P**	**23 44 23.8**	**0.0**
KKAR	**Karatay Array**	**53.63**	**299**	*e*P	**P**	**23 44 23.8**	**0.0**
SVE	**Sverdlovsk**	**54.14**	**318⇑**	*e*P	**P**	**23 44 28.7**	**+1.4**
SVE				pmax	pmax		
	comp=Z,18nm,1.3s						
SOKR	**Solikamsk**	**55.00**	**322**	*e*P	**P**	**23 44 30.1**	**-3.3**
SOKR				pmax	pmax		
	comp=Z,18nm,1.4s						
ARU	**Arti**	**55.35**	**318**	*d* *i*P	**P**	**23 44 36.3**	**+0.3**
ARU						23 45 33.4	
ARU				S	**S**	**23 52 21.2**	**+2.2**
ARU						23 54 25.2	
ARU				SS	**SS**	**23 56 07.5**	**+4.5**
ARU				pmax	pmax		
	comp=Z,19nm,1.2s						
ARU				MLR	MLR		
	comp=Z,329nm,17.0s						
ARU	**Arti**	**55.35**	**318**	*e*P	**P**	**23 44 36.1**	**+0.1**
	comp=Z,48nm,1.7s						
AB31	**Akbulak array**	**57.60**	**309**	*i* P	**P**	**23 44 52.1**	**-0.1**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ABKAR	**Akbulak array**	**57.60**	**309**	*e*P	**P**	**23 44 52.2**	**0.0**
	comp=Z,49nm,0.7s						
AKTO	**Aktyubinsk**	**58.19**	**311**	P	**P**	**23 44 56.2**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=72,slow=12,SNR=10						
RES	**Resolute Bay**	**58.23**	**16**	P	**P**	**23 44 56.5**	**+0.3**
	comp=Z,21nm,0.8s,baz=311,slow=7.4,SNR=70						
RES	**Resolute Bay**	**58.23**	**16**	*e*P	**P**	**23 44 56.5**	**+0.3**
RES				pmax	pmax		
	comp=Z,25nm,0.8s						
RES	**Resolute Bay**	**58.23**	**16**	*e*P	**P**	**23 44 56.5**	**+0.3**
	comp=Z,25nm,0.8s						
KBL	**Kabul**	**58.62**	**290**	*e*P	**P**	**23 44 59.5**	**-0.3**
KBL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBL	**Kabul**	**58.62**	**290**	*e*P	**P**	**23 44 59.5**	**-0.3**
	comp=Z,4.9nm,1.0s						
YKW3	**Yellowknife Ar**	**59.11**	**32**	*e*P	**P**	**23 45 03.1**	**+0.6**
	comp=Z,7.5nm,1.1s						
YKA	**Yellowknife Ar**	**59.15**	**32**	P	**P**	**23 45 03.2**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=300,slow=6.5,SNR=29						
YKA				PcP	**PcP**	**23 45 50.3**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=300,slow=4.7,SNR=5.5						
TMCR	**Tamitsa**	**60.72**	**331**	*e*P	**P**	**23 45 13.9**	**+0.4**
TMCR				pmax	pmax		
	comp=Z,13nm,0.6s						
TULEG	**Thule**	**60.96**	**9**	*e*P	**P**	**23 45 14.7**	**-0.3**
	comp=Z,10nm,0.8s						
WRAB	**Tennant Creek**	**61.25**	**191**	*e*P	**P**	**23 45 16.7**	**-0.9**
WRAB	**Tennant Creek**	**61.25**	**191**	*e*P	**P**	**23 45 16.7**	**-0.9**
WRA	**Warramunga Arr**	**61.26**	**191**	P	**P**	**23 45 16.4**	**-1.3**
	comp=Z,8.6nm,0.9s,baz=8.2,slow=6.8,SNR=20						
WRA	**Warramunga Arr**	**61.26**	**191**	*i* P	**P**	**23 45 16.3**	**-1.4**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARCES	**ARCESS Array B**	**61.39**	**340**	P	**P**	**23 45 18.6**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=35,slow=11,SNR=3.6						
KLMR	**Klimovskoe**	**62.00**	**328**	*e*P	**P**	**23 45 21.6**	**-0.6**
KLMR				*e*S	**S**	**23 53 44.8**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,17nm,1.3s						
KLMR	**Klimovskoe**	**62.00**	**328**	*e*P	**P**	**23 45 21.6**	**-0.6**
KLMR				AMP		23 45 29.0	
	comp=Z,17nm,1.3s						
KLMR				*e*S	**S**	**23 53 44.8**	**-0.5**
KLMR				*e*S	**S**	**23 53 44.8**	**-0.5**
DAG	**Danmarks Havn**	**62.21**	**356**	*i* P	**P**	**23 45 22.7**	**-0.7**
	comp=Z,7.8nm,0.9s						
DAG	**Danmarks Havn**	**62.21**	**356**	*i* P	**P**	**23 45 22.7**	**-0.7**
DAG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GEYT	**Alibeck**	**64.38**	**299**	P	**P**	**23 45 38.1**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=0.0,slow=3.4,SNR=8.9						
EDM	**Edmonton**	**64.69**	**41**	*e*P	**P**	**23 45 40.9**	**+0.7**
EDM				pmax	pmax		
	comp=Z,14nm,1.1s						
EDM	**Edmonton**	**64.69**	**41**	*e*P	**P**	**23 45 40.9**	**+0.7**
	comp=Z,14nm,1.1s						
AS01	**Alice Springs**	**64.97**	**191**	*e*P	**P**	**23 45 41.5**	**-0.8**
ASAR	**Alice Springs**	**64.98**	**191**	P	**P**	**23 45 42.2**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=12,slow=5.5,SNR=6.4						
VRH	**Novokhopyorsk**	**66.58**	**318**	*e*P	**P**	**23 45 51.7**	**-0.7**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
OBN	**Obninsk**	**66.67**	**324⇑**	*e*P	**P**	**23 45 53.3**	**+0.4**
OBN				*e*		23 48 22.6	
OBN				*e*S	S	23 54 30.9	-12
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,174nm,16.0s						
FINES	**FINESS Array B**	**66.70**	**333**	P	**P**	**23 45 52.9**	**-0.1**
	comp=Z,7.3nm,0.6s,baz=46,slow=7.5,SNR=33						
SUMG	**Summit**	**66.86**	**1**	*i* P	**P**	**23 45 54.4**	**+0.1**
	comp=Z,11nm,0.9s						
SUMG	**Summit**	**66.86**	**1**	*e*P	**P**	**23 45 54.4**	**+0.1**
SUMG				pmax	pmax		
	comp=Z,34nm,1.5s						
SUMG	**Summit**	**66.86**	**1**	*e*P	**P**	**23 45 54.4**	**+0.1**
	comp=Z,34nm,1.5s						
LPSR	**Galich'ya Gora**	**67.12**	**320**	*e*P	**P**	**23 45 56.2**	**+0.4**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VSR	**Storozhevoye**	**67.85**	**319**	*e*P	**P**	**23 46 00.5**	**0.0**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAK	**Makhachkala**	**68.25**	**308**	*e*P	**P**	**23 46 02.6**	**-0.5**
MAK				*e*		23 48 35.9	
MAK				*e*S	**S**	**23 55 02.2**	**-0.3**
MAK				pmax	pmax		
	comp=Z,39nm,1.5s						
BEKR	**Beckworth**	**68.43**	**56**	*e*P	**P**	**23 46 05.5**	**+1.0**
	comp=Z,3.3nm,1.0s						
FFC	**Flin Flon**	**69.04**	**35**	*e*P	**P**	**23 46 07.9**	**+0.1**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FFC	**Flin Flon**	**69.04**	**35**	*e*P	**P**	**23 46 07.8**	**+0.1**
	comp=Z,4.1nm,0.9s						
FCC	**Fort Churchill**	**69.38**	**29**	*e*P	**P**	**23 46 10.3**	**+0.5**
FCC				pmax	pmax		
	comp=Z,11nm,1.2s						
FCC	**Fort Churchill**	**69.38**	**29**	*e*P	**P**	**23 46 10.3**	**+0.5**
	comp=Z,11nm,1.2s						
GOF	**Gofitskoye**	**69.57**	**312⇑**	*e*P	**P**	**23 46 12.1**	**+0.8**
GOF				pmax	pmax		
	comp=Z,45nm,1.3s						
BOZ	**Bozeman (W)**	**70.14**	**47**	*e*P	**P**	**23 46 16.0**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOZ	**Bozeman (W)**	**70.14**	**47**	*e*P	**P**	**23 46 16.0**	**+1.0**
	comp=Z,2.8nm,0.7s						
NCK	**Nalchik**	**70.21**	**311⇓**	*e*P	**P**	**23 46 14.6**	**-0.7**
NCK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KIV	**Kislovodsk**	**70.45**	**311**	*e*P	**P**	**23 46 17.5**	**+0.6**
KIV				pmax	pmax		
	comp=Z,29nm,1.1s						
KIV	**Kislovodsk**	**70.45**	**311**	*e*P	**P**	**23 46 18.0**	**+1.1**
	comp=Z,19nm,0.8s						
ZEI	**Tsey**	**70.47**	**310**	*e*P	**P**	**23 46 14.8**	**-2.3**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBZ	**Khabaz**	**70.47**	**311**	P	**P**	**23 46 17.7**	**+0.9**
	comp=Z,7.1nm,0.8s,baz=78,slow=4.7,SNR=24						
NV01	**Mina Array Sit**	**70.57**	**56**	*e*P	**P**	**23 46 18.1**	**+0.3**
NVAR	**Mina Array Bea**	**70.57**	**56**	P	**P**	**23 46 18.6**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=284,slow=7.2,SNR=10						
TBLG	**Delisi**	**70.62**	**309**	*e*P	**P**	**23 46 19.8**	**+1.9**
TBLG	**Delisi**	**70.62**	**309**	*e*P	**P**	**23 46 19.8**	**+1.9**
NEY	**Neytrino**	**70.87**	**311⇑**	*e*P	**P**	**23 46 19.1**	**-0.4**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKH	**Akhalkalaki**	**71.56**	**309**	*e*P	**P**	**23 46 24.3**	**+0.5**
AKH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKH	**Akhalkalaki**	**71.56**	**309**	*e*P	**P**	**23 46 24.2**	**+0.5**
	comp=Z,5.2nm,0.9s						
GNI	**Garni**	**71.59**	**307⇑**	*e*P	**P**	**23 46 23.7**	**-0.2**
GNI				pmax	pmax		
	comp=Z,39nm,1.6s						
GNI	**Garni**	**71.59**	**307**	*e*P	**P**	**23 46 24.5**	**+0.5**
	comp=Z,23nm,1.6s						
NOA	**NORSAR Array B**	**71.70**	**338**	P	**P**	**23 46 23.7**	**-0.4**
	comp=Z,6.3nm,0.7s,baz=36,slow=6.0,SNR=17						
HFS	**Hagfors**	**71.71**	**337**	P	**P**	**23 46 24.1**	**0.0**
	comp=Z,6.4nm,0.6s,baz=76,slow=6.4,SNR=18						
SFJD	**Kangerlussuaq**	**71.84**	**6**	P	**P**	**23 46 23.9**	**-0.8**
	comp=Z,6.6nm,0.8s,baz=82,slow=7.1,SNR=3.1						
R11A	**Troy Canyon, C**	**72.31**	**54**	*e*P	**P**	**23 46 29.4**	**+1.1**
	comp=Z,2.5nm,1.0s						
AKASG	**Malin Array Be**	**72.92**	**323**	P	**P**	**23 46 31.0**	**-0.4**
	comp=Z,8.9nm,0.7s,baz=44,slow=6.6,SNR=36						
AKBB	**Malin Array Si**	**72.92**	**323**	*e*P	**P**	**23 46 32.2**	**+0.7**
AKBB				pmax	pmax		
	comp=Z,14nm,0.9s						
AKBB	**Malin Array Si**	**72.92**	**323**	*e*P	**P**	**23 46 32.2**	**+0.7**
	comp=Z,14nm,0.9s						
KIEV	**Kiev**	**72.94**	**323⇑**	*i*P	**P**	**23 46 31.5**	**0.0**
KIEV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIEV	**Kiev**	**72.94**	**323**	*e*P	**P**	**23 46 31.9**	**+0.3**
	comp=Z,14nm,0.9s						
AK11	**Malin Array Si**	**72.97**	**323**	*e*P	**P**	**23 46 32.1**	**+0.4**
PDAR	**Pinedale Array**	**73.08**	**48**	P	**P**	**23 46 33.2**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=257,slow=2.3,SNR=13						
PDAR				PP	**PP**	**23 49 17.1**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=350,slow=4.6,SNR=2.3						
PDAR	**Pinedale Array**	**73.08**	**48**	*e*P	**P**	**23 46 32.4**	**-0.4**
PDAR				PP	**PP**	**23 49 17.1**	**+1.9**
SRU	**San Rafael Swe**	**74.89**	**51**	*e*P	**P**	**23 46 44.4**	**+1.0**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SRU	**San Rafael Swe**	**74.89**	**51**	*e*P	**P**	**23 46 44.4**	**+1.0**
	comp=Z,4.9nm,0.8s						
SORM	**Soroca**	**75.14**	**322⇓**	*i*P	**P**	**23 46 44.2**	**-0.2**
RSSD	**Black Hills**	**75.19**	**44**	*e*P	**P**	**23 46 45.0**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RSSD	**Black Hills**	**75.19**	**44**	*e*P	**P**	**23 46 45.0**	**-0.2**
	comp=Z,1.5nm,0.6s						
U15A	**North Rim**	**75.55**	**54**	*e*P	**P**	**23 46 49.0**	**+1.6**
	comp=Z,16nm,1.5s						
LVV	**L'vov**	**75.87**	**325**	*e*P	**P**	**23 46 50.4**	**+1.8**
GKP	**Gorka Klasztor**	**75.97**	**331**	*e*P	**P**	**23 46 50.4**	**+1.2**
GKP	**Gorka Klasztor**	**75.97**	**331**	*e*P	**P**	**23 46 50.4**	**+1.2**
PV10	**Paradox Valley**	**76.25**	**51**	*e*P	**P**	**23 46 53.3**	**+2.0**
N23A	**Red Feather La**	**76.34**	**47**	*e*P	**P**	**23 46 53.8**	**+1.9**
	comp=Z,5.3nm,0.9s						
KWP	**Kalwaria Pacla**	**76.58**	**326**	*e*P	**P**	**23 46 54.4**	**+1.7**
KWP	**Kalwaria Pacla**	**76.58**	**326**	*e*P	**P**	**23 46 54.4**	**+1.7**
BUR08	**Bucovina Ar. S**	**76.96**	**323**	*e*P	**P**	**23 46 55.6**	**+0.7**
BUR04	**Bucovina Ar. S**	**76.97**	**323**	*e*P	**P**	**23 46 55.2**	**+0.2**
BURAR	**Bucovina Array**	**76.97**	**323⇑**	*i*P	**P**	**23 46 55.5**	**+0.4**
TESR	**Tescani**	**77.11**	**321⇑**	*i*P	**P**	**23 46 56.2**	**+0.5**
OJC	**Ojcow**	**77.35**	**327**	*e*P	**P**	**23 46 57.9**	**+0.9**
OJC	**Ojcow**	**77.35**	**327**	*e*P	**P**	**23 46 57.9**	**+0.9**
OJC	**Ojcow**	**77.35**	**327**	*e*P	**P**	**23 46 58.4**	**+1.4**
	comp=Z,27nm,1.2s						
CFR	**Carcaliu**	**77.36**	**320⇓**	*i*P	**P**	**23 46 57.2**	**+0.1**
STHS	**Stebnicka Huta**	**77.37**	**326**	*e*P	**P**	**23 46 58.3**	**+1.1**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STHS	**Stebnicka Huta**	**77.37**	**326**	*e*P	**P**	**23 46 58.3**	**+1.1**
UZH	**Uzhgorod**	**77.52**	**325**	*e*P	**P**	**23 46 57.2**	**-0.7**
UZH				*e*		23 47 04.8	
UZH				*e*		23 47 10.2	
VRI	**Vrincioaia**	**77.55**	**321⇓**	*i*P	**P**	**23 46 59.4**	**+1.2**
TIRR	**Tirgusor**	**77.74**	**319⇓**	*i*P	**P**	**23 47 00.8**	**+1.5**
NIE	**Niedzica**	**77.77**	**327**	*e*P	**P**	**23 47 00.7**	**+1.3**
NIE	**Niedzica**	**77.77**	**327**	*e*P	**P**	**23 47 00.7**	**+1.3**
TLB	**Topalu**	**77.83**	**319⇓**	*i*P	**P**	**23 47 00.9**	**+1.1**
DOPR	**Dopca**	**78.11**	**322⇑**	*i*P	**P**	**23 47 03.1**	**+1.8**
MLR	**Muntele Rosu**	**78.19**	**321**	P	**P**	**23 47 02.3**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=61,slow=2.3,SNR=3.9						
MLR	**Muntele Rosu**	**78.19**	**321⇑**	*i*P	**P**	**23 47 04.2**	**+2.2**
MLR	**Muntele Rosu**	**78.19**	**321**	*e*P	**P**	**23 47 02.9**	**+0.9**
	comp=Z,6.6nm,1.0s						
KSP	**Ksiaz**	**78.25**	**330**	*e*P	**P**	**23 47 03.1**	**+1.1**
KSP	**Ksiaz**	**78.25**	**330**	*e*P	**P**	**23 47 03.1**	**+1.1**
LANS	**Liptovska Anna**	**78.32**	**327**	*e*P	**P**	**23 47 04.0**	**+1.5**
LANS	**Liptovska Anna**	**78.32**	**327**	*e*P	**P**	**23 47 04.0**	**+1.5**
BR131	**Keskin Array S**	**78.32**	**313**	*e*P	**P**	**23 47 04.0**	**+1.2**
BRTR	**Keskin Array B**	**78.32**	**313**	P	**P**	**23 47 02.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=85,slow=4.7,SNR=10.0						
CJR	**Cluj-Napoca**	**78.38**	**323⇑**	*i*P	**P**	**23 47 04.5**	**+1.6**
KECS	**Kecovo**	**78.41**	**326**	*e*P	**P**	**23 47 03.3**	**+0.4**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KECS	**Kecovo**	**78.41**	**326**	*e*P	**P**	**23 47 03.3**	**+0.4**
MORC	**Moravsky Berou**	**78.61**	**328⇑**	*i*P	**P**	**23 47 05.5**	**+1.4**
MORC	**Moravsky Berou**	**78.61**	**328**	*e*P	**P**	**23 47 04.5**	**+0.4**
MORC				pmax	pmax		
	comp=Z,58nm,1.1s						
MORC	**Moravsky Berou**	**78.61**	**328**	*e*P	**P**	**23 47 04.5**	**+0.4**
	comp=Z,58nm,1.1s						
UPC	**Upice**	**78.63**	**330**	*e*P	**P**	**23 47 04.9**	**+0.8**
UPC	**Upice**	**78.63**	**330**	*e*P	**P**	**23 47 04.9**	**+0.8**
DPC	**Dobruska-Polom**	**78.64**	**329**	*e*P	**P**	**23 47 05.2**	**+1.0**
DPC				*e*pP	**sP**	**23 47 10.1**	**-2.9**
DPC	**Dobruska-Polom**	**78.64**	**329**	*e*P	**P**	**23 47 05.2**	**+1.0**
DPC				*e*		23 47 10.1	
VOIR		**78.66**	**321⇑**	*i*P	**P**	**23 47 06.3**	**+1.8**
ANTO	**Ankara**	**78.69**	**313**	*e*P	**P**	**23 47 05.0**	**+0.3**
ANTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ANTO	**Ankara**	**78.69**	**313**	*e*P	**P**	**23 47 05.0**	**+0.3**
	comp=Z,9.2nm,0.8s						
BR231	**Keskin MP Arra**	**78.72**	**313**	*e*P	**P**	**23 47 03.5**	**-1.4**
DRGR		**78.72**	**324⇓**	*i*P	**P**	**23 47 05.2**	**+0.4**
VYHS	**Vyhne**	**79.09**	**327**	*e*P	**P**	**23 47 07.4**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,83nm,3.0s						
VYHS	**Vyhne**	**79.09**	**327**	*e*P	**P**	**23 47 07.4**	**+0.7**
CLL	**Collm**	**79.10**	**332**	*e*P	**P**	**23 47 06.8**	**+0.1**
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLL	**Collm**	**79.10**	**332**	*i* P	**P**	**23 47 06.8**	**+0.1**
	comp=Z,11nm,0.9s						
CLL				*e*PP	**PP**	**23 50 07.0**	**+1.8**
CLL	**Collm**	**79.10**	**332**	*e*P	**P**	**23 47 06.8**	**+0.1**
	comp=Z,10nm,0.9s						
BRG	**Berggiesshubel**	**79.11**	**331**	*i* P	**P**	**23 47 07.5**	**+0.7**
	comp=Z,7.9nm,1.1s						
BRG	**Berggiesshubel**	**79.11**	**331**	*i* P	**P**	**23 47 07.4**	**+0.7**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PVCC	**Panska Ves**	**79.16**	**330**	*e*P	**P**	**23 47 08.3**	**+1.3**
PVCC	**Panska Ves**	**79.16**	**330**	*e*P	**P**	**23 47 08.3**	**+1.3**
ECSD	**EROS Data Cent**	**79.25**	**40**	*e*P	**P**	**23 47 07.8**	**+0.1**
	comp=Z,4.2nm,1.0s						
VRAC	**Vranov**	**79.36**	**328**	LR	LR	00 25 00.2	
	comp=Z,156nm,18.7s,baz=20,slow=38						
VRAC	**Vranov**	**79.36**	**328⇑**	*i*P	**P**	**23 47 09.7**	**+1.6**
GOPC	**GO Pecny, Ondr**	**79.58**	**330**	*e*P	**P**	**23 47 10.1**	**+0.8**
GOPC	**GO Pecny, Ondr**	**79.58**	**330**	*e*P	**P**	**23 47 10.1**	**+0.8**
PRU	**Pruhonice**	**79.61**	**330**	*e*P	**P**	**23 47 10.1**	**+0.6**
PRU	**Pruhonice**	**79.61**	**330**	*e*P	**P**	**23 47 10.1**	**+0.6**
MODS	**Modra-Piesok**	**79.83**	**328**	*e*P	**P**	**23 47 11.2**	**+0.5**
MODS	**Modra-Piesok**	**79.83**	**328**	*e*P	**P**	**23 47 11.2**	**+0.5**
ANMO	**Albuquerque**	**80.08**	**52**	P	**P**	**23 47 13.8**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=124,slow=4.7,SNR=5.4						
ANMO	**Albuquerque**	**80.08**	**52⇓**	*i*P	**P**	**23 47 14.6**	**+2.0**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ANMO	**Albuquerque**	**80.08**	**52**	*e*P	**P**	**23 47 14.2**	**+1.6**
	comp=Z,17nm,1.8s						
BZS	**Buzias**	**80.11**	**323⇓**	*i*P	**P**	**23 47 12.4**	**+0.1**
EKA	**Eskdalemuir Ar**	**80.41**	**342**	P	**P**	**23 47 13.6**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=29,slow=5.5,SNR=7.5						
KHC	**Kasperske Hory**	**80.67**	**330**	*e*P	**P**	**23 47 15.9**	**+0.6**
KHC				*e*pP	**sP**	**23 47 21.7**	**-2.4**
KHC	**Kasperske Hory**	**80.67**	**330**	*e*P	**P**	**23 47 15.4**	**+0.1**
KHC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KHC	**Kasperske Hory**	**80.67**	**330**	*e*P	**P**	**23 47 15.4**	**+0.1**
	comp=Z,3.5nm,0.8s						
CONA	**Conrad Observa**	**80.75**	**328**	*e*pP	**P**	**23 47 17.0**	**+1.2**
	comp=Z,13nm,1.3s,SNR=6.5						
GEC2	**GERESS Array S**	**80.86**	**330**	*e*P	**P**	**23 47 17.1**	**+0.7**
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GEC2	**GERESS Array S**	**80.86**	**330**	*e*P	**P**	**23 47 17.1**	**+0.7**
	comp=Z,4.1nm,0.9s						
GERES	**GERESS Array B**	**80.86**	**330**	P	**P**	**23 47 16.4**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=42,slow=6.1,SNR=14						
GEA0	**GERESS Array S**	**80.86**	**330**	*e*P	**P**	**23 47 16.1**	**-0.3**
SCHQ	**Schefferville**	**80.91**	**18**	P	**P**	**23 47 16.6**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=357,slow=6.6,SNR=4.1						
GRFO	**Grafenberg**	**81.08**	**332**	*e*P	**P**	**23 47 18.2**	**+0.8**
GRFO				pmax	pmax		
	comp=Z,16nm,1.0s						
GRFO	**Grafenberg**	**81.08**	**332**	*e*P	**P**	**23 47 18.1**	**+0.8**
	comp=Z,16nm,1.0s						
ARSA	**Arzberg**	**81.44**	**328**	*e*P	**P**	**23 47 20.1**	**+0.7**
	comp=Z,5.9nm,1.1s						
MOA	**Molln**	**81.45**	**329**	*e*P	**P**	**23 47 20.2**	**+0.7**
	comp=Z,9.3nm,1.9s						
VTS	**Vitosha**	**81.67**	**321⇑**	*i*P	**P**	**23 47 21.0**	**+0.1**
VTS	**Vitosha**	**81.67**	**321**	*e*P	**P**	**23 47 20.6**	**-0.2**
VTS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VTS	**Vitosha**	**81.67**	**321**	*e*P	**P**	**23 47 20.6**	**-0.2**
	comp=Z,8.9nm,1.0s						
MMAI	**Mount Meron Ar**	**81.93**	**307**	P	**P**	**23 47 23.7**	**+1.4**
	comp=Z,4.9nm,0.9s,baz=35,slow=5.3,SNR=4.4						
DIVS	**Divibare**	**82.02**	**323**	*e*P	**P**	**23 47 23.5**	**+0.9**
	comp=Z,5.7nm,1.0s						
MEM	**Membach**	**82.08**	**335**	⇓P	**P**	**23 47 21.1**	**-1.6**
PERS	**Pernice**	**82.10**	**328**	*i* P	**P**	**23 47 23.6**	**+0.7**
SOKA	**Soboth**	**82.10**	**328**	*e*P	**P**	**23 47 23.4**	**+0.5**
	comp=Z,14nm,1.0s,SNR=9.4						
KBA	**Koelnbreinsper**	**82.44**	**329**	*e*P	**P**	**23 47 25.6**	**+0.8**
	comp=Z,11nm,0.9s						
BCLA	**Clavier**	**82.47**	**335**	⇑P	**P**	**23 47 24.2**	**-0.5**
LEGS	**Legarje**	**82.57**	**327**	*i* P	**P**	**23 47 25.8**	**+0.5**
MYKA	**Terra Mystica**	**82.69**	**329**	*e*P	**P**	**23 47 26.0**	**0.0**
	comp=Z,6.1nm,0.9s						
WATA	**Walderalm**	**82.91**	**330**	*i* P	**P**	**23 47 28.0**	**+0.7**
	comp=Z,27nm,1.6s,SNR=5.5						
WTTA	**Wattenberg**	**82.95**	**330**	*e*P	**P**	**23 47 28.1**	**+0.7**
	comp=Z,4.7nm,0.8s						
DOU	**Dourbes**	**82.97**	**336**	⇑P	**P**	**23 47 27.2**	**-0.1**
ABTA	**Abfaltersbach**	**83.04**	**329**	*e*P	**P**	**23 47 27.4**	**-0.5**
	comp=Z,7.4nm,1.3s						
MOTA	**Moosalm**	**83.08**	**330**	*e*P	**P**	**23 47 28.6**	**+0.4**
	comp=Z,10nm,0.9s,SNR=6.2						
RETA	**Reutte**	**83.09**	**331**	*e*P	**P**	**23 47 28.7**	**+0.6**
	comp=Z,11nm,0.9s,SNR=6.9						
JAVS	**Javornik**	**83.13**	**328**	*i* P	**P**	**23 47 28.0**	**-0.3**
BFO	**Black Forest**	**83.26**	**332**	*e*P	**P**	**23 47 29.0**	**+0.1**
BFO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BFO	**Black Forest**	**83.26**	**332**	*e*P	**P**	**23 47 29.0**	**+0.1**
	comp=Z,7.8nm,1.1s						
FETA	**Feichten**	**83.49**	**330**	*e*P	**P**	**23 47 30.5**	**+0.2**
	comp=Z,8.1nm,1.1s						
DAVA	**Damuels**	**83.58**	**331**	*e*PcP	**P**	**23 47 31.6**	**+0.8**
	comp=Z,9.9nm,0.9s						
PDG	**Podgorica**	**83.66**	**323⇑**	*i*P	**P**	**23 47 31.7**	**+0.7**
TTG	**Podgorica**	**83.66**	**323**	*e*P	**P**	**23 47 31.9**	**+0.9**
TTG				pmax	pmax		
	comp=Z,18nm,1.0s						
TTG	**Podgorica**	**83.66**	**323**	*e*P	**P**	**23 47 31.9**	**+0.9**
	comp=Z,18nm,1.0s						
ECH	**Echery**	**83.76**	**333**	*e*P	**P**	**23 47 32.2**	**+0.8**
ECH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ECH	**Echery**	**83.76**	**333**	*e*P	**P**	**23 47 32.2**	**+0.8**
	comp=Z,9.3nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**84.00**	**330**	*e*P	**P**	**23 47 33.8**	**+0.8**
	comp=Z,18nm,1.0s						
WMOK	**Wichita Mounta**	**84.69**	**48**	*e*P	**P**	**23 47 37.1**	**+0.6**
WMOK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
WMOK	**Wichita Mounta**	**84.69**	**48**	*e*P	**P**	**23 47 37.1**	**+0.6**
	comp=Z,8.2nm,1.4s						
SENIN	**Lac Senin/Sane**	**85.30**	**332**	*e*P	**P**	**23 47 40.5**	**+1.0**
	comp=Z,8.6nm,1.0s						
TX31	**Lajitas Ar. Si**	**85.67**	**55**	*e*P	**P**	**23 47 42.3**	**+0.8**
TXAR	**Lajitas Array**	**85.67**	**55**	P	**P**	**23 47 42.0**	**+0.5**
	comp=Z,4.8nm,1.0s,baz=278,slow=3.7,SNR=15						
ABTX	**Abilene, Hawle**	**85.74**	**50**	*e*P	**P**	**23 47 42.7**	**+0.9**
	comp=Z,12nm,1.3s						
HPIG		**86.09**	**58**	*e*P	**P**	**23 47 43.9**	**+0.1**
	comp=Z,30nm,0.5s						
IDI	**Anoyia**	**86.32**	**315**	P	**P**	**23 47 43.5**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=0.0,slow=8.1,SNR=4.0						
SSPA	**Standing Stone**	**90.07**	**31**	*e*P	**P**	**23 48 03.4**	**+1.2**
	comp=Z,11nm,1.1s						
N59A	**State Game Lan**	**90.64**	**30**	*e*P	**P**	**23 48 06.2**	**+1.2**
	comp=Z,9.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**116.40**	**319**	PKP	**PKPdf**	**23 53 44.9**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=52,slow=1.7,SNR=3.3						
TORD				PP	**PP**	**23 54 48.5**	**-3.6**
	comp=Z,0.9nm,1.0s,baz=19,slow=9.2,SNR=4.0						
DBIC	**Dimbokro**	**125.17**	**322**	PKP	**PKPdf**	**23 54 02.4**	**-1.1**
	comp=Z,5.0nm,1.2s,baz=297,slow=4.5,SNR=3.2						
SNAA	**Sanae**	**145.18**	**197**	PKPbc	**PKPbc**	**23 54 37.2**	**-1.3**
	comp=Z,9.2nm,1.1s,baz=124,slow=4.0,SNR=5.2						

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*IDC **19** 23:46:30.6±0.3, 14.°69S×175.°66W, h0km, mb4.8/38, mb1 4.9/38, mb1mx4.8/49, mbtmp4.8/38, MS5.1/38, Ms1 5.1/38, ms1mx5.1/43, Error ellipse: s-maj=13.2km s-min=11.0km az=129.0*

*ISCJB **19** 23:46:33.2±2.3, 14.°69S±0.°03×175.°54W±0.°03, h15km±14km, mb5.3/302, MS5.5/509, Error ellipse: s-maj=5.7km s-min=4.1km az=149.0*

*BJI **19** 23:46:33.1, 14.°20S×175.°40W, h12km, mb5.1/27, mB5.6/39, Ms5.4/48, Ms7 5.2/46*

*MOS **19** 23:46:34.9±1.2, 14.°64S×175.°67W, h33km, mb5.6/66, MS5.4/71, Error ellipse: s-maj=8.6km s-min=6.2km az=50.5*

*NEIC **19** 23:46:35.4±2.1, 14.°62S×175.°70W, h28km±14km, mb5.5/252, MS5.5/299, MW5.7, MW5.9, Error ellipse:*

s-maj=5.4km s-min=3.4km az=137.0,Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.25; $M_{\theta\theta}$1.83; $M_{\phi\phi}$-0.58; $M_{r\theta}$0.55; $M_{\theta\phi}$4.54; $M_{r\phi}$0.95; Best double couple: $M_0$5.00000×10^{17} NP1:ϕ_s98.00000°, δ78.00000°, λ0.00000°. NP2:ϕ_s8.00000°, δ90.00000°, λ168.00000°. Principal axes: T 5.4800, Plg9.0000°, Azm322.0000°; N -1.3400, Plg78.0000°, Azm188.0000°; P -4.1400, Plg9.0000°, Azm53.0000°;

NEIC Felt at Apia.

GCMT ***19*** *23:46:35.4±0.1, 14.°61S×175.°42W, h19km, MW5.8/141, Moment Tensor Solution. s117,c232; s141,c387; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.30±.05; $M_{\theta\theta}$0.03±.05; $M_{\phi\phi}$0.27±.05; $M_{r\theta}$-0.26±.10; $M_{\theta\phi}$5.38±.04; $M_{r\phi}$1.28±.10; Best double couple: $M_0$5.54200×10^{17} NP1:ϕ_s180.00000°, δ87.00000°, λ-166.00000°. NP2:ϕ_s89.00000°, δ76.00000°, λ-3.00000°. Principal axes: T 5.6250, Plg7.0000°, Azm314.0000°; N -0.1660, Plg76.0000°, Azm193.0000°; P -5.4590, Plg12.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 19 23:46:33.3±0.5, 14.°65S±0.°04×175.°37W±0.°04, h17km±2km, h17km:pP-P, n1322, σ1§53/1071, mb5.5/300, MS5.5/512, 35C-24D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**3.56**	**79**	Pn		**Pn**	**23 47 24.4**	**-3.5**
	2μm,0.3s,baz=231,slow=5.0,SNR=490							
AFI				Sn		**Sn**	**23 48 04.6**	**-5.1**
	557nm,0.3s,baz=257,slow=19,SNR=2.8							
AFI				LR		LR	23 48 42.3	
	comp=Z,46μm,19.3s,baz=253,slow=34							
AFI	**Afiamalu**	**3.56**	**79**	*e*P		**Pn**	**23 47 24.6**	**-3.4**
AFI	**Afiamalu**	**3.56**	**79**	*e*Pn		**Pn**	**23 47 24.6**	**-3.4**
AFI				*e*Sg		**Sn**	**23 48 06.4**	**-3.3**
NIUE	**Niue**	**6.82**	**131**	P		**Pn**	**23 48 10.9**	**-1.8**
	baz=6.9,SNR=56							
MSVF	**Nonsavu**	**7.03**	**243**	*e*P		**Pn**	**23 48 14.0**	**-1.6**
MSVF				*e*			23 49 28.7	
MSVF	**Nonsavu**	**7.03**	**243**	*e*Pn		**Pn**	**23 48 14.0**	**-1.6**
MSVF				*e*Sn		**Sn**	**23 49 28.7**	**-6.5**
FUNA	**Funafuti**	**8.08**	**318**	*e*Pn		**Pn**	**23 48 26.0**	**-4.0**
FUNA				*e*Sn		Sn	23 49 48.7	-12
KNTN	**Kanton**	**12.34**	**17**	*e*Pn		**Pn**	**23 49 23.9**	**-4.5**
KNTN				*e*Sn		Sn	23 51 36.7	-8.9
RAO	**Raoul Island**	**14.72**	**189**	LR		LR	23 54 27.8	
	comp=Z,13μm,19.1s,baz=3.5,slow=33							
RAR	**Rarotonga**	**16.21**	**116**	Pn		**Pn**	**23 50 18.1**	**-2.4**
	5.3nm,0.3s,baz=258,slow=7.2,SNR=10							
RAR				LR		LR	23 55 16.1	
	comp=Z,5μm,18.4s,baz=293,slow=32							
RAR	**Rarotonga**	**16.21**	**116**	*e*P		**Pn**	**23 50 19.4**	**-1.0**
RAR				pmax		pmax		
	comp=Z,883nm,1.8s							
RAR	**Rarotonga**	**16.21**	**116**	*e*Pn		**Pn**	**23 50 19.4**	**-1.0**
	comp=Z,883nm,1.8s							
RAR				*e*Sn		**Sn**	**23 53 15.9**	**-4.1**
DZM	**Mont Dzumac**	**18.76**	**244**	P		**Pn**	**23 50 52.1**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=70,slow=18,SNR=18							
DZM				LR		LR	23 56 51.8	
	comp=Z,8μm,19.4s,baz=72,slow=34							
DZM	**Mont Dzumac**	**18.76**	**244**	*e*P		**Pn**	**23 50 52.1**	**-0.2**
	comp=Z,520nm,1.3s							
DZM	**Mont Dzumac**	**18.76**	**244**	*e*P		**Pn**	**23 50 52.9**	**+0.5**
	comp=Z,412nm,1.5s							
TARA	**Tarawa**	**19.68**	**323**	*e*P		**P**	**23 51 01.5**	**-0.3**
	comp=Z,154nm,1.0s							
NFK	**Norfolk Island**	**21.06**	**224**	P		**P**	**23 51 18.4**	**+1.6**
	baz=21							
OUZ	**Omahuta**	**22.76**	**204**	*e*P		**P**	**23 51 34.4**	**-0.5**
	comp=Z,50nm,0.9s							
OUZ				LR		LR		
	comp=Z,10μm,21.0s							
MXZ	**Matakaoa Point**	**23.50**	**193**	PFAKE			23 51 50.0	+7.5
MXZ				LR		LR		
	comp=Z,16μm,21.0s							
XMAS	**Kiritimati**	**24.29**	**48**	*e*P		**P**	**23 51 52.2**	**+2.1**
	comp=Z,215nm,0.8s							
XMAS				LR		LR		
	comp=Z,12μm,20.0s							
URZ	**Urewera**	**24.44**	**194**	P		**P**	**23 51 48.6**	**-2.7**
	comp=Z,10nm,0.6s,baz=34,slow=7.3,SNR=4.7							
URZ				LR		LR	00 00 17.4	
	comp=Z,8μm,18.5s,baz=24,slow=34							
URZ	**Urewera**	**24.44**	**194**	*e*P		**P**	**23 51 51.7**	**+0.4**
HNR	**Honiara**	**24.68**	**279**	P		**P**	**23 51 56.6**	**+2.9**
	comp=Z,31nm,0.3s,baz=224,slow=7.5,SNR=5.0							
HNR	**Honiara**	**24.68**	**279**	*e*P		**P**	**23 51 55.0**	**+1.3**
HNR				pmax		pmax		
	comp=Z,306nm,1.6s							
HNR				MLR		MLR		
	comp=Z,3μm,19.0s							
HNR	**Honiara**	**24.68**	**279**	*e*P		**P**	**23 51 55.0**	**+1.3**
	comp=Z,306nm,1.6s							
HNR				LR		LR		
	comp=Z,3μm,19.0s							
PPT	**Papeete**	**24.95**	**100**	P		**P**	**23 51 58.7**	**+2.6**
	comp=Z,34nm,0.7s,baz=89,slow=17,SNR=2.7							
PPT				LR		LR	23 59 16.2	
	comp=Z,2μm,19.6s,baz=270,slow=30							
PAE	**Paea**	**24.95**	**100**	*e*P		**P**	**23 51 57.2**	**+1.1**
	comp=Z,15nm,0.9s							
PAE	**Paea**	**24.95**	**100**	*e*T		T	00 17 30.9	
	comp=Z,22nm,0.2s							
PPT2	**Papeete2**	**24.95**	**100**	*e*P		**P**	**23 51 56.7**	**+0.5**
	comp=Z,163nm,1.3s							
PPT2				*e*S		**S**	**23 56 16.6**	**-2.7**
	comp=Z,2μm,28.5s							
PPT2				*e*LQ		LQ	23 56 57.6	
	comp=Z,38μm,26.0s							
PPT2				*e*LR		LR	23 58 03.9	
	comp=Z,3μm,26.0s							
PPT2	**Papeete2**	**24.95**	**100**	*e*T		T	00 17 31.1	
	comp=Z,26nm,0.2s							
PPTF	**Pamatai, Papee**	**24.96**	**100**	*e*P		**P**	**23 51 58.5**	**+2.2**
	comp=Z,401nm,1.5s							
TIAR	**Tiarei**	**25.16**	**100**	*e*P		**P**	**23 51 59.0**	**+0.9**
	comp=Z,41nm,1.2s							
TVO	**Taravao**	**25.27**	**101**	*e*P		**P**	**23 51 59.8**	**+0.8**
	comp=Z,52nm,1.1s							
TVO	**Taravao**	**25.27**	**101**	*e*T		T	00 17 53.4	
	comp=Z,11nm,0.3s							
HIZ	**Hauiti**	**25.29**	**198**	PFAKE			23 52 10.0	+11
HIZ				LR		LR		
	comp=Z,5μm,22.0s							
BKZ	**Black Stump Fm**	**25.45**	**195**	*e*P		**P**	**23 52 00.1**	**-0.4**
	comp=Z,219nm,1.6s							
BKZ				LR		LR		
	comp=Z,8μm,19.0s							
TBI	**Tubuai**	**25.95**	**113**	*e*S		**S**	**23 56 33.7**	**-1.3**
	comp=Z,1μm,27.5s							
TBI				*e*LQ		LQ	23 57 24.5	
	comp=Z,29μm,26.5s							
TBI				*e*LR		LR	23 58 37.0	
	comp=Z,9μm,26.0s							
TBI	**Tubuai**	**25.95**	**113**	*e*T		T	00 18 47.8	
	comp=Z,50nm,0.2s							
PMOR	**Pomariorio Ree**	**26.56**	**94**	*e*P		**P**	**23 52 12.0**	**+1.3**
	comp=Z,484nm,1.4s							
PMOR	**Pomariorio Ree**	**26.56**	**94**	*e*T		T	00 19 38.7	
	comp=Z,29nm,0.2s							
VAH	**Vaihoa**	**26.81**	**95**	*e*P		**P**	**23 52 13.9**	**+1.0**
	comp=Z,327nm,1.3s							
VAH	**Vaihoa**	**26.81**	**95**	*e*T		T	00 19 57.7	
	comp=Z,27nm,0.2s							
BFZ	**Birch Farm**	**26.95**	**194**	*e*P		**P**	**23 52 15.3**	**+1.3**
	comp=Z,519nm,1.8s							
BFZ				LR		LR		
	comp=Z,7μm,18.0s							
SNZO	**South Karori**	**27.93**	**196**	PFAKE			23 52 30.0	+7.3
SNZO				LR		LR		
	comp=Z,7μm,22.0s							
THZ	**Tophouse**	**28.86**	**198**	*e*P		**P**	**23 52 31.3**	**+0.1**
	comp=Z,176nm,1.7s							
THZ				*e*PP		**PP**	**23 53 33.8**	**-2.6**
THZ				LR		LR		
	comp=Z,10μm,21.0s							
KHZ	**Kahutara**	**29.28**	**197**	*e*P		**P**	**23 52 34.9**	**+0.1**
	comp=Z,116nm,1.4s							
KHZ				LR		LR		
	comp=Z,8μm,20.0s							
LTZ	**Lake Taylor**	**29.99**	**198**	*e*P		**P**	**23 52 41.8**	**+0.7**
	comp=Z,72nm,1.3s							
LTZ				LR		LR		
	comp=Z,10μm,22.0s							
OXZ	**Oxford**	**30.55**	**198**	*e*P		**P**	**23 52 47.6**	**+1.6**
	comp=Z,61nm,1.1s							
OXZ				LR		LR		
	comp=Z,9μm,18.0s							
CRLZ	**Canterbury Las**	**30.61**	**197**	PFAKE			23 53 00.0	+14
CRLZ				LR		LR		
	comp=Z,9μm,22.0s							
MQZ	**McQueen's Vall**	**30.72**	**197**	PFAKE			23 53 00.0	+13
MQZ				LR		LR		
	comp=Z,8μm,22.0s							
RPZ	**Rata Peaks**	**31.21**	**199**	P		**P**	**23 52 51.6**	**-0.3**
	comp=Z,7.0nm,1.0s,baz=60,slow=14,SNR=2.2							
RPZ	**Rata Peaks**	**31.21**	**199**	*e*P		**P**	**23 52 51.6**	**-0.3**
RPZ				LR		LR		
	comp=Z,8μm,20.0s							
FOZ	**Fox Glacier**	**31.46**	**201**	*e*P		**P**	**23 52 54.4**	**+0.4**
	comp=Z,221nm,1.8s							
FOZ				LR		LR		
	comp=Z,8μm,20.0s							
LBZ	**Lake Benmore**	**32.09**	**200**	*e*P		**P**	**23 52 58.4**	**-1.2**
	comp=Z,25nm,1.2s							
LBZ				LR		LR		
	comp=Z,8μm,20.0s							
ODZ	**Otahua Downs**	**32.53**	**199**	PFAKE			23 53 20.0	+17
ODZ				LR		LR		
	comp=Z,10μm,19.0s							
WKZ	**Wanaka**	**32.87**	**201**	PFAKE			23 53 20.0	+14
WKZ				LR		LR		
	comp=Z,5μm,18.0s							
EIDS	**Eidsvold**	**33.19**	**246**	PFAKE			23 53 20.0	+11
EIDS				LR		LR		
	comp=Z,7μm,22.0s							
RABL	**Rabaul**	**33.62**	**285**	PFAKE			23 53 20.0	+6.7
RABL				LR		LR		
	comp=Z,2μm,20.0s							
MLZ	**Mavora Lakes**	**33.65**	**201**	*e*P		**P**	**23 53 14.1**	**+0.9**
	comp=Z,30nm,0.8s							
MLZ				LR		LR		
	comp=Z,5μm,19.0s							
PATS	**Pohnpei**	**33.72**	**308**	PFAKE			23 53 20.0	+5.9
PATS				LR		LR		
	comp=Z,7μm,20.0s							
DCZ	**Deep Cove**	**34.08**	**202**	*e*P		**P**	**23 53 16.3**	**-0.6**
	comp=Z,84nm,0.9s							
DCZ				LR		LR		
	comp=Z,4μm,19.0s							
ARMA	**Armidale**	**34.12**	**237**	*e*P		**P**	**23 53 17.0**	**-0.7**
	comp=Z,21nm,0.6s							
ARMA				LR		LR		
	comp=Z,4μm,18.0s							
WHZ	**Wether Hill Ro**	**34.17**	**201**	*e*P		**P**	**23 53 16.4**	**-1.3**
	comp=Z,121nm,0.7s							
WHZ				LR		LR		
	comp=Z,5μm,20.0s							
PYZ	**Puysegur Point**	**34.85**	**202**	PFAKE			23 53 40.0	+16
PYZ				LR		LR		
	comp=Z,4μm,20.0s							
TAOE	**Nuku Hiva Isla**	**34.93**	**85**	*e*LR		LR	00 02 38.6	
	comp=Z,11μm,25.4s							
TAOE	**Nuku Hiva Isla**	**34.93**	**85**	*e*T		T	00 30 07.2	
	comp=Z,113nm,0.3s							
TAOE				*e*T		T	00 30 07.8	
	comp=Z,371nm,0.3s							
RMQ	**Roma**	**35.47**	**245**	P		**P**	**23 53 31.7**	**+2.4**
	baz=36							
CTA	**Charters Tower**	**36.97**	**256**	P		**P**	**23 53 39.0**	**-3.1**
	comp=Z,25nm,0.8s,baz=98,slow=8.9,SNR=6.7							
CTAO	**Charters Tower**	**36.97**	**256**	*e*P		**P**	**23 53 38.9**	**-3.2**
CTAO				pmax		pmax		
	comp=Z,34nm,0.8s							
CTAO				MLR		MLR		
	comp=Z,2μm,19.0s							
CTAO	**Charters Tower**	**36.97**	**256**	*e*P		**P**	**23 53 38.9**	**-3.2**
	comp=Z,34nm,0.8s							
CTAO				LR		LR		
	comp=Z,2μm,19.0s							
PMG	**Port Moresby**	**36.98**	**274**	P		**P**	**23 53 40.4**	**-1.8**
	comp=Z,17nm,0.8s,baz=156,slow=20,SNR=2.3							
PMG	**Port Moresby**	**36.98**	**274**	*e*P		**P**	**23 53 41.1**	**-1.1**
	comp=Z,36nm,1.1s							
PMG				LR		LR		
	comp=Z,3μm,22.0s							
H11S2	**WAKE ISLAND Hy**	**37.37**	**331**	T		T	00 33 33.4	
	baz=150							
H11S3	**WAKE ISLAND Hy**	**37.38**	**331**	T		T	00 33 34.5	
	baz=150							
H11S1	**WAKE ISLAND Hy**	**37.38**	**331**	T		T	00 33 34.9	
	baz=150							
CAN	**Canberra**	**38.00**	**231**	*e*P		**P**	**23 53 50.4**	**-0.4**
CAN				pmax		pmax		
	comp=Z,27nm,0.9s							
CAN				MLR		MLR		
	comp=Z,3μm,19.0s							
CAN	**Canberra**	**38.00**	**231**	*e*P		**P**	**23 53 50.4**	**-0.4**
	comp=Z,27nm,0.9s							
CAN				LR		LR		
	comp=Z,3μm,19.0s							
YNG	**Young**	**38.07**	**233**	P		**P**	**23 53 51.5**	**+0.2**
	baz=38							
H11N3	**WAKE ISLAND Hy**	**38.34**	**332**	T		T	00 34 43.9	
	baz=151,slow=76,SNR=563							
H11N1	**WAKE ISLAND Hy**	**38.35**	**332**	T		T	00 34 44.5	
	baz=151,slow=76,SNR=3058							
H11N2	**WAKE ISLAND Hy**	**38.36**	**332**	T		T	00 34 46.0	
	baz=151,slow=76,SNR=738							
MILA	**Mila**	**38.61**	**228**	P		**P**	**23 53 57.7**	**+1.8**
	baz=39							
MTSU	**Mount Surprise**	**38.78**	**259**	P		**P**	**23 53 56.1**	**-1.4**
	baz=39,SNR=9.6							
MANU	**Manus Island**	**38.85**	**285**	PFAKE			23 54 10.0	+12
MANU				LR		LR		
	comp=Z,2μm,18.0s							
RKT	**Rikitea**	**39.04**	**109**	*e*P		**P**	**23 54 00.8**	**+1.3**
	comp=Z,167nm,1.4s							
RKT				*e*LQ		LQ	00 03 02.7	
	comp=Z,5μm,25.5s							
RKT				*e*LR		LR	00 04 29.7	
	comp=Z,3μm,29.2s							
RKT	**Rikitea**	**39.04**	**109**	*e*T		T	00 35 12.0	
	comp=Z,46nm,0.3s							
KHLU	**Kahalu'u**	**39.05**	**30**	PFAKE			23 54 10.0	+10
KHLU				LR		LR		
	comp=Z,4μm,22.0s							
UWE	**Uwekahuna**	**39.20**	**31**	PFAKE			23 54 10.0	+9.0
UWE				LR		LR		
	comp=Z,5μm,20.0s							
HULD	**Heiheiahulu Di**	**39.35**	**31**	*e*P		**P**	**23 54 03.2**	**+1.0**
	comp=Z,387nm,1.2s							
POHA	**Pohakuloa**	**39.37**	**30**	PFAKE			23 54 20.0	+17
POHA				LR		LR		
	comp=Z,4μm,20.0s							
HPAH	**Hawaii Prepara**	**39.52**	**30**	PFAKE			23 54 20.0	+16
HPAH				LR		LR		
	comp=Z,3μm,20.0s							
HON	**Honolulu**	**39.61**	**26**	PFAKE			23 54 20.0	+16
HON				LR		LR		
	comp=Z,7μm,22.0s							
KIP	**Kipapa**	**39.69**	**26**	⇑*e*P		**P**	**23 54 07.4**	**+2.5**
KIP	**Kipapa**	**39.69**	**26**	*e*P		**P**	**23 54 05.0**	**+0.2**
	comp=Z,278nm,1.3s							
KIP				LR		LR		
	comp=Z,7μm,18.0s							
OPA	**Opana**	**39.92**	**26**	PFAKE			23 54 20.0	+13
OPA				LR		LR		
	comp=Z,6μm,20.0s							
COEN	**Coen**	**40.14**	**266**	P		**P**	**23 54 10.3**	**+1.4**
	baz=40							
COEN	**Coen**	**40.14**	**266**	PFAKE			23 54 20.0	+11
COEN				LR		LR		
	comp=Z,2μm,21.0s							
MOO	**Moorlands**	**42.45**	**222**	P		**P**	**23 54 29.6**	**+2.1**
	baz=43							
TAU	**Tasmania Unive**	**42.60**	**221**	PFAKE			23 54 40.0	+11
TAU				LR		LR		
	comp=Z,5μm,20.0s							
STKA	**Stephens Creek**	**42.78**	**239**	P		**P**	**23 54 28.5**	**-1.8**
	comp=Z,11nm,0.8s,baz=62,slow=7.3,SNR=6.4							
STKA				LR		LR	00 11 31.2	
	comp=Z,2μm,19.2s,baz=70,slow=35							
STKA	**Stephens Creek**	**42.78**	**239**	*e*P		**P**	**23 54 27.4**	**-2.9**
STKA				pmax		pmax		
	comp=Z,13nm,1.4s							
STKA	**Stephens Creek**	**42.78**	**239**	*e*P		**P**	**23 54 27.4**	**-2.9**
	comp=Z,13nm,1.4s							
ARPS	**Mount Arapiles**	**43.94**	**232**	P		**P**	**23 54 39.0**	**-0.6**
	baz=44							
MCQ	**Macquarie Isla**	**44.52**	**201**	P		**P**	**23 54 46.4**	**+2.5**
	baz=45							
BBOO	**Buckleboo**	**47.56**	**239**	P		**P**	**23 55 07.6**	**-0.6**
	baz=48,SNR=5.7							
BBOO	**Buckleboo**	**47.56**	**239**	*e*P		**P**	**23 55 05.4**	**-2.9**
	comp=Z,21nm,0.8s							
BBOO				LR		LR		
	comp=Z,4μm,18.0s							
WC3	**Warramunga Arr**	**48.13**	**256**	*e*P		**P**	**23 55 09.6**	**-3.4**
	comp=Z,39nm,1.3s							
WRAB	**Tennant Creek**	**48.16**	**256**	*ce*P		**P**	**23 55 10.5**	**-2.6**
WRAB				pmax		pmax		
	comp=Z,25nm,1.6s							
WRAB	**Tennant Creek**	**48.16**	**256**	*e*P		**P**	**23 55 10.7**	**-2.5**
	comp=Z,124nm,1.9s							
WRAB				LR		LR		
	comp=Z,2μm,20.0s							
WR1	**Warramunga Arr**	**48.17**	**256**	*e*P		**P**	**23 55 08.9**	**-4.3**
	comp=Z,85nm,1.5s							
WRA	**Warramunga Arr**	**48.17**	**256**	P		**P**	**23 55 08.9**	**-4.3**
	comp=Z,14nm,1.0s,baz=89,slow=7.8,SNR=24							
WRA				LR		LR	00 13 12.5	
	comp=Z,2μm,20.3s,baz=85,slow=34							
WRA	**Warramunga Arr**	**48.17**	**256**	*i* P		**P**	**23 55 10.1**	**-3.1**
WRA				pmax		pmax		
	comp=Z,14nm,1.0s							
GUMO	**Guam**	**48.33**	**304**	LR		LR	00 12 21.3	
	comp=Z,1μm,20.4s,baz=113,slow=32							
AS01	**Alice Springs**	**48.50**	**251**	*e*P		**P**	**23 55 12.3**	**-3.5**
AS31	**Alice Springs**	**48.54**	**251**	*e*P		**P**	**23 55 13.3**	**-2.8**
	comp=Z,16nm,0.7s							
ASAR	**Alice Springs**	**48.54**	**251**	P		**P**	**23 55 12.8**	**-3.3**
	comp=Z,21nm,0.9s,baz=85,slow=8.0,SNR=58							
ASAR				LR		LR	00 15 32.4	
	comp=Z,2μm,19.9s,baz=88,slow=36							
MTN	**Manton Dam**	**51.90**	**265**	P		**P**	**23 55 40.3**	**-1.3**
	baz=52							
MTN	**Manton Dam**	**51.90**	**265**	*e*P		**P**	**23 55 39.1**	**-2.5**
	comp=Z,49nm,1.0s							
MTN				LR		LR		
	comp=Z,1μm,21.0s							
FAKI	**Fak Fak**	**52.93**	**278**	PFAKE			23 56 00.0	+11
FAKI				LR		LR		
	comp=Z,2μm,22.0s							
CBIJ	**Chichi jima**	**58.47**	**315**	PFAKE			23 56 40.0	+11
CBIJ				LR		LR		
	comp=Z,4μm,20.0s							
TNTI	**Ternate**	**58.67**	**280**	PFAKE			23 56 40.0	+10
TNTI				LR		LR		
	comp=Z,900nm,19.0s							
BATI	**Baumata**	**59.56**	**267**	LR		LR	00 20 40.2	
	comp=Z,1μm,20.4s,baz=130,slow=35							
MBWA	**Marble Bar**	**61.74**	**254**	*e*P		**P**	**23 56 50.8**	**-0.6**
	comp=Z,53nm,1.4s							
MBWA				LR		LR		
	comp=Z,2μm,19.0s							
RPN	**Rapa Nui**	**62.33**	**113**	LR		LR	00 19 59.6	
	comp=Z,796nm,18.4s,baz=275,slow=32							
MEEK	**Meekatharra**	**62.34**	**247**	P		**P**	**23 56 56.3**	**+0.9**
	baz=62							
DAV	**Davao City (W)**	**62.40**	**286**	LR		LR	00 22 35.6	
	comp=Z,1μm,18.5s,baz=104,slow=35							
NWAO	**Narrogin (SRO)**	**63.33**	**240**	PFAKE			23 57 10.0	+8.1
NWAO				LR		LR		
	comp=Z,3μm,21.0s							
BLDU	**Ballidu**	**63.83**	**243**	P		**P**	**23 57 06.8**	**+1.5**
	baz=64							
SBA	**Scott Base**	**63.85**	**184**	*e*P		**P**	**23 57 06.7**	**+2.2**
SBA				pmax		pmax		
	comp=Z,76nm,0.9s							
SBA	**Scott Base**	**63.85**	**184**	*e*P		**P**	**23 57 06.7**	**+2.2**
	comp=Z,76nm,0.9s							
VNDA	**Vanda**	**63.93**	**185**	P		**P**	**23 57 06.1**	**+1.0**
	comp=Z,16nm,1.0s,baz=4.6,slow=6.5,SNR=15							
VNDA				LR		LR	00 19 23.0	
	comp=Z,967nm,21.7s,baz=28,slow=31							
VNDA	**Vanda**	**63.93**	**185**	*e*P		**P**	**23 57 06.5**	**+1.4**
VNDA				pmax		pmax		
	comp=Z,36nm,0.9s							
VNDA	**Vanda**	**63.93**	**185**	*e*P		**P**	**23 57 06.5**	**+1.4**
	comp=Z,36nm,0.9s							
VNDA				*e*PP		**PP**	**23 59 21.5**	**-4.0**
JHJ	**Hachijo jima 2**	**63.94**	**319**	LR		LR	00 25 28.2	
	comp=Z,540nm,18.1s,baz=126,slow=37							
INU	**Inuyama**	**67.13**	**319**	PFAKE			23 57 40.0	+14
INU				LR		LR		
	comp=Z,700nm,20.0s							
MJAR	**Matsushiro Arr**	**67.15**	**321**	P		**P**	**23 57 25.8**	**-0.7**
	comp=Z,5.9nm,1.1s,baz=162,slow=6.8,SNR=8.2							
MJAR				LR		LR	00 21 15.8	
	comp=Z,2μm,22.0s,baz=165,slow=31							
MAJO	**Matsushiro**	**67.15**	**321**	⇑*e*P		**P**	**23 57 28.8**	**+2.3**
MAJO				pmax		pmax		
	comp=Z,18nm,1.0s							
MAJO	**Matsushiro**	**67.15**	**321**	*e*P		**P**	**23 57 25.8**	**-0.7**
MJB9	**Matsu-Tunnel**	**67.15**	**321**	PFAKE			23 57 40.0	+14
MJB9				LR		LR		
	comp=Z,2μm,21.0s							
ERM	**Erimo**	**68.11**	**328**	PFAKE			23 57 40.0	+7.7
ERM				LR		LR		
	comp=Z,3μm,22.0s							
YUK	**Yuzh-Kuril'sk**	**68.27**	**331**	*e*P		**P**	**23 57 30.7**	**-2.6**
YUK				*e*			23 57 59.4	
YUK				*e*			00 00 01.4	
YUK				*e*PPP		PPP	00 01 41.9	
YUK				*e*S		**S**	**00 06 34.7**	**+1.4**
YUK				*e*			00 07 27.8	
YUK				*e*SS		**SS**	**00 10 57.4**	**+0.4**
MYLDM	**Lahad Datu**	**68.43**	**282**	*e*P		**P**	**23 57 33.4**	**-1.6**
	comp=Z,46nm,1.2s							
JOW	**Kunigami**	**68.51**	**307**	PFAKE			23 57 50.0	+15
JOW				LR		LR		
	comp=Z,3μm,22.0s							
TGY	**Tagaytay City**	**69.18**	**291**	LR		LR	00 22 58.2	
	comp=Z,2μm,21.9s,baz=105,slow=32							
JNU	**Nakatsue**	**69.90**	**314**	P		**P**	**23 57 43.7**	**-0.1**
	comp=Z,8.5nm,0.9s,baz=172,slow=5.2,SNR=3.5							
JNU				LR		LR	00 22 08.3	
	comp=Z,2μm,21.9s,baz=127,slow=31							
JNU	**Nakatsue**	**69.90**	**314**	*e*P		**P**	**23 57 42.0**	**-1.8**
	comp=Z,54nm,1.1s							
ASAJ	**Asahikawa**	**69.91**	**329**	P		**P**	**23 57 42.7**	**-0.8**
	comp=Z,7.4nm,0.8s,baz=279,slow=16,SNR=3.1							
ASAJ				LR		LR	00 23 43.0	
	comp=Z,5.

CHGN LR LR
comp=Z,1µm,21.0s
PKM Mcpherson Peak 72.12 45 P **P 23 57 59.4 +1.9**
baz=237
PMPB Monarch Peak 72.19 44 *e*P **P 23 57 57.0 -0.7**
comp=Z,104nm,1.1s
PMPB *e*PP **PP 00 00 33.6 -4.7**
PMPB LR LR
comp=Z,2µm,21.0s
BLG Laguna Peak, P 72.22 46 P **P 23 57 59.6 +1.8**
baz=238
SMMC Simmler 72.23 45 P **P 23 57 59.7 +1.9**
baz=237
RDG13 Poverty Ridge 72.25 42 *e*P **P 23 57 57.0 -1.1**
comp=Z,147nm,1.4s
RDG13 LR LR
comp=Z,2µm,18.0s
PAGB Antelope Grade 72.29 44 *e*P **P 23 57 59.9 +1.7**
comp=Z,85nm,1.3s
PAGB LR LR
comp=Z,2µm,22.0s
CIS Catalina Islan 72.31 47 P **P 23 58 00.2 +1.8**
baz=238
HOPS Hopland Field 72.31 40 *e*P **P 23 57 58.1 -0.1**
comp=Z,87nm,1.2s
HOPS LR LR
comp=Z,3µm,21.0s
GDXM Geysers 72.38 41 *e*P **P 23 57 58.3 -0.4**
comp=Z,56nm,1.5s
GDXM LR LR
comp=Z,3µm,21.0s
KCPM Cahto Peak 72.41 39 *e*P **P 23 57 59.7 +0.7**
comp=Z,91nm,1.4s
KCPM LR LR
comp=Z,4µm,20.0s
TWG Pinlang 72.50 300 PFAKE 23 58 10.0 +10
TWG LR LR
comp=Z,4µm,22.0s
YULB Yu-li 72.55 301 PFAKE 23 58 10.0 +10
YULB LR LR
comp=Z,800nm,21.0s
FMP Fort Macarthur 72.56 47 P **P 23 58 01.6 +1.8**
baz=238
NACB Ninganchiao 72.63 301 PFAKE 23 58 10.0 +10
NACB LR LR
comp=Z,1µm,19.0s
KMRM Mail Ridge 72.66 39 *e*P **P 23 58 02.0 +1.7**
comp=Z,86nm,1.1s
KMRM LR LR
comp=Z,4µm,19.0s
OSI Osito Audit: C 72.73 46 P **P 23 58 02.7 +1.8**
baz=238
OSI Osito Audit: C 72.73 46 PFAKE 23 58 10.0 +9.1
OSI LR LR
comp=Z,3µm,20.0s
JCC Jacoby Creek, 72.83 38 PFAKE 23 58 10.0 +8.8
JCC LR LR
comp=Z,4µm,20.0s
PASC Pasadena Art C 72.88 47 *e*P **P 23 58 00.9 -0.8**
comp=Z,50nm,1.2s
PASC *e*PP **PP 00 00 37.3 -6.9**
PASC LR LR
comp=Z,3µm,21.0s
ARVC Arvin 72.93 46 P **P 23 58 03.7 +1.7**
baz=238
109C Camp Elliot, M 72.99 48 P **P 23 58 04.3 +1.9**
baz=240
CPE Camp Elliot 72.99 48 *e*P **P 23 58 03.3 +0.9**
comp=Z,76nm,1.4s
CPE LR LR
comp=Z,3µm,20.0s
MWC Mount Wilson 73.00 47 *e*P **P 23 58 03.5 +0.9**
MWC pmax pmax
comp=Z,66nm,1.3s
MWC MLR MLR
comp=Z,3µm,21.0s
MWC Mount Wilson 73.00 47 *e*P **P 23 58 03.5 +0.9**
comp=Z,66nm,1.3s
MWC *e*PP PP 00 00 34.1 -11
MWC LR LR
comp=Z,3µm,21.0s
SSLB Suanglung 73.00 301 PFAKE 23 58 10.0 +7.3
SSLB LR LR
comp=Z,900nm,22.0s
YHNB Yeheng 73.02 302 PFAKE 23 58 10.0 +7.2
YHNB LR LR
comp=Z,1µm,20.0s
KHMM Horse Mountain 73.04 38 *e*P **P 23 58 02.4 -0.3**
comp=Z,160nm,2.0s
KHMM LR LR
comp=Z,4µm,20.0s
TATO Taipei 73.06 302 PFAKE 23 58 10.0 +7.0
TATO LR LR
comp=Z,2µm,20.0s
TPUB Ta-pu 73.07 300 PFAKE 23 58 10.0 +6.9
TPUB LR LR
comp=Z,1µm,22.0s
VES Vestal, Richgr 73.14 45 P **P 23 58 04.8 +1.6**
baz=237,SNR=14
BAR Barrett 73.20 49 *e*P **P 23 58 04.3 +0.6**
comp=Z,50nm,1.4s
BFSC Mount Baldy Ra 73.29 47 P **P 23 58 05.9 +1.6**
baz=239
MURC Murrieta 73.29 48 P **P 23 58 05.2 +1.0**
baz=239
KRMB Red Mountain 73.33 38 *e*P **P 23 58 06.5 +2.2**
comp=Z,199nm,1.9s
KRMB LR LR
comp=Z,3µm,20.0s
EDW2 Edwards Air Fo 73.39 46 P **P 23 58 06.2 +1.4**
baz=238,SNR=11
ISA Isabella, Lake 73.46 45 P **P 23 58 07.0 +1.8**
baz=238,SNR=13
ISA Isabella, Lake 73.46 45 *e*P **P 23 58 07.5 +2.3**
ISA *e* 00 00 49.5
ISA pmax pmax
comp=Z,142nm,1.6s
ISA MLR MLR
comp=Z,2µm,20.0s
ISA Isabella, Lake 73.46 45 *e*P **P 23 58 07.5 +2.3**
comp=Z,142nm,1.6s
ISA *e*PP **PP 00 00 49.5 +0.2**
ISA LR LR
comp=Z,2µm,20.0s
CMB Columbia Colle 73.48 42 *e*P **P 23 58 07.2 +2.0**
CMB pmax pmax
comp=Z,46nm,1.1s
CMB MLR MLR
comp=Z,1µm,18.0s
CMB Columbia Colle 73.48 42 *e*P **P 23 58 07.2 +2.0**
comp=Z,46nm,1.1s
CMB *e*PP **PP 00 00 45.1 -4.2**
CMB LR LR
comp=Z,1µm,18.0s
MONP2 Monument Peak 73.49 49 P **P 23 58 07.4 +1.8**
baz=240,SNR=7.9
KBO Bosley Butte 73.57 37 PFAKE 23 58 20.0 +14
KBO LR LR
comp=Z,4µm,19.0s
WDC Whiskeytown Da 73.58 39 *e*P **P 23 58 06.1 +0.4**
WDC pmax pmax
comp=Z,95nm,1.6s
WDC MLR MLR
comp=Z,3µm,20.0s
WDC Whiskeytown Da 73.58 39 *e*P **P 23 58 06.1 +0.4**
comp=Z,95nm,1.6s
WDC LR LR
comp=Z,3µm,20.0s
IKP In-Ko-Pah, Jac 73.59 49 P **P 23 58 07.7 +1.6**
baz=240,SNR=6.5
AFDM Forest Hills D 73.62 41 *e*P **P 23 58 06.4 +0.3**
comp=Z,73nm,1.5s
AFDM *e*PP **PP 00 00 52.0 +1.5**
AFDM LR LR
comp=Z,1µm,22.0s
ORV Oroville 73.63 41 *e*P **P 23 58 07.7 +1.7**
ORV *e* 00 00 50.8
ORV pmax pmax
comp=Z,70nm,1.5s
ORV MLR MLR
comp=Z,2µm,22.0s
ORV Oroville 73.63 41 *e*P **P 23 58 07.7 +1.7**
comp=Z,70nm,1.5s
ORV *e*PP **PP 00 00 50.8 +0.3**
ORV LR LR
comp=Z,2µm,22.0s
SBUM Sibu 73.64 277 *e*P **P 23 58 05.7 -0.9**
comp=Z,6.6nm,0.9s
SBUM LR LR
comp=Z,400nm,20.0s
N02D Trinity Center 73.72 39 P **P 23 58 08.5 +1.8**
baz=234
BBRC Big Bear Solar 73.82 47 P **P 23 58 09.1 +1.5**
baz=239
PFO Pinyon Flats O 73.82 48 P **P 23 58 09.0 +1.6**
baz=240
PFO Pinyon Flats O 73.82 48 *e*P **P 23 58 08.7 +1.2**
PFO pmax pmax
comp=Z,55nm,1.3s
PFO MLR MLR
comp=Z,4µm,20.0s
PFO Pinyon Flats O 73.82 48 *e*P **P 23 58 08.7 +1.2**
comp=Z,54nm,1.3s
PFO LR LR
comp=Z,4µm,20.0s
XPFO Piæon Flat 73.82 48 *e*P **P 23 58 10.1 +2.6**
comp=Z,58nm,1.3s
XPFO LR LR
comp=Z,4µm,20.0s
O03D Paynes Creek 73.87 40 P **P 23 58 09.1 +1.6**
baz=234,SNR=20
M02C Callahan 73.88 38 P **P 23 58 09.1 +1.5**
baz=233
L02D Cave Junction, 73.90 37 P **P 23 58 09.2 +1.6**
baz=232
LRMC Laurel Mtn Rad 73.92 46 P **P 23 58 09.4 +1.4**
baz=238
OHAK Old Harbor 73.92 12 *e*P **P 23 58 08.4 +1.1**
comp=Z,38nm,1.0s
OHAK LR LR
comp=Z,2µm,20.0s
SWSC Sam W. Stewart 73.97 49 P **P 23 58 09.8 +1.6**
baz=240
SRIG Santa Rosalia 74.07 56 PFAKE 23 58 20.0 +11
SRIG LR LR
comp=Z,4µm,19.0s
RRX Edison Barstow 74.08 47 P **P 23 58 10.6 +1.8**
baz=239
MDPB Devils Postpil 74.12 43 *e*P **P 23 58 11.5 +2.2**
comp=Z,50nm,1.2s
MDPB *e*PP **PP 00 00 55.2 +0.2**
MDPB LR LR
comp=Z,2µm,22.0s
CWC Cottonwood Cre 74.15 45 P **P 23 58 11.1 +1.7**
baz=238
YBH Yreka Blue Hor 74.17 38 P **P 23 58 10.5 +1.2**
comp=Z,18nm,1.0s,baz=109,slow=1.5,SNR=14
YBH LR LR 00 23 44.1
comp=Z,3µm,20.7s,baz=230,slow=30
YBH Yreka Blue Hor 74.17 38 *e*P **P 23 58 11.9 +2.6**
comp=Z,161nm,1.8s
MLAC Mammoth, Mammo 74.28 43 P **P 23 58 11.9 +1.8**
baz=237
LPIG La Paz 74.28 59 LR LR 00 22 26.8
comp=Z,2µm,20.8s,baz=234,slow=29
KSRS Korea Array 74.30 316 P **P 23 58 08.8 -1.1**
comp=Z,3.1nm,0.8s,baz=111,slow=7.0,SNR=8.0
KSRS LR LR 00 27 46.1
comp=Z,1µm,19.4s,baz=133,slow=33
KSRS Korea Array 74.30 316 P **P 23 58 08.8 -1.1**
KSRS pmax pmax
comp=Z,6.0nm,1.1s
KS15 Wonju Array Si 74.32 316 *e*P **P 23 58 08.8 -1.3**
KSAR Wonju Array Be 74.32 316 P **P 23 58 08.8 -1.3**
KSAR Wonju Array Be 74.32 316 P **P 23 58 08.8 -1.3**
KS01 Wonju Array Si 74.33 316 *e*P **P 23 58 10.4 +0.3**
BELC Belle Mtn. Jos 74.35 48 P **P 23 58 11.9 +1.4**
baz=240,SNR=14
MPMC Manual Prospec 74.35 45 P **P 23 58 12.2 +1.6**
baz=238,SNR=38
WAKR Walker 74.36 42 *e*P **P 23 58 12.9 +2.3**
comp=Z,119nm,1.4s
WAKR LR LR
comp=Z,2µm,22.0s
TIN Tinemaha, Big 74.37 44 P **P 23 58 12.4 +1.8**
baz=238
DAC Darwin (Calif) 74.39 45 *e*P **P 23 58 11.9 +1.1**
DAC *e* 00 00 56.3
DAC pmax pmax
comp=Z,44nm,1.3s
DAC MLR MLR
comp=Z,3µm,21.0s
DAC Darwin (Calif) 74.39 45 *e*P **P 23 58 11.9 +1.1**
comp=Z,44nm,1.3s
DAC *e*PP **PP 00 00 56.3 -1.1**
DAC LR LR
comp=Z,3µm,21.0s
SLBS Sierra La Lagu 74.42 60 PFAKE 23 58 20.0 +8.9
SLBS LR LR
comp=Z,3µm,21.0s
GSC Goldstone, Bar 74.44 46 P **P 23 58 12.4 +1.5**
baz=239
GSC Goldstone, Bar 74.44 46 *e*P **P 23 58 12.0 +1.0**
GSC *e* 00 00 58.2
GSC pmax pmax
comp=Z,63nm,1.3s
GSC MLR MLR
comp=Z,2µm,20.0s
GSC Goldstone, Bar 74.44 46 *e*P **P 23 58 12.0 +1.0**
comp=Z,63nm,1.3s
GSC *e*PP **PP 00 00 58.2 +0.6**
GSC LR LR
comp=Z,2µm,20.0s
HEC Hector,Ludlow 74.53 47 P **P 23 58 13.1 +1.6**
baz=240
BEKR Beckworth 74.53 41 *e*P **P 23 58 13.5 +1.9**
comp=Z,132nm,1.9s
BEKR LR LR
comp=Z,2µm,22.0s
HUMO Hull Mountain 74.55 37 *e*P **P 23 58 11.7 +0.3**
comp=Z,62nm,1.3s
HUMO LR LR
comp=Z,3µm,20.0s
BC3 Big Chuckawall 74.57 48 P **P 23 58 13.4 +1.6**
baz=240,SNR=12
KDAK Kodiak Island 74.58 12 P **P 23 58 12.4 +1.2**
comp=Z,12nm,0.8s,baz=266,slow=9.1,SNR=5.9
KDAK Kodiak Island 74.58 12 *e*P **P 23 58 11.8 +0.7**
KDAK pmax pmax
comp=Z,162nm,1.6s
KDAK Kodiak Island 74.58 12 *e*P **P 23 58 11.8 +0.7**
comp=Z,162nm,1.6s
VCNR Virginia City 74.66 42 *e*P **P 23 58 12.4 +0.1**
comp=Z,48nm,1.3s
VCNR *e*PP **PP 00 00 57.6 -2.0**
VCNR LR LR
comp=Z,2µm,22.0s
M04C Macdoel 74.72 39 P **P 23 58 14.1 +1.6**
baz=234,SNR=8.7
GLA Glamis 74.73 49 P **P 23 58 14.1 +1.5**
baz=241,SNR=12
GLA Glamis 74.73 49 *e*P **P 23 58 14.9 +2.2**
GLA pmax pmax
comp=Z,115nm,1.4s
GLA MLR MLR
comp=Z,2µm,20.0s
GLA Glamis 74.73 49 *e*P **P 23 58 14.9 +2.2**
comp=Z,115nm,1.4s
GLA LR LR
comp=Z,2µm,20.0s
YERR Yerington 74.75 42 *e*P **P 23 58 14.9 +2.0**
comp=Z,62nm,1.2s
YERR LR LR
comp=Z,1µm,21.0s
GRAC Grapevine Rang 74.93 45 P **P 23 58 15.6 +1.9**
baz=238
GMRC Granite Mounta 74.98 47 P **P 23 58 15.8 +1.6**
baz=240,SNR=17
FURC Furnace Creek, 75.00 45 P **P 23 58 15.8 +1.8**
baz=239
RYN Ryan 75.03 43 *e*P **P 23 58 15.6 +1.1**
comp=Z,86nm,1.4s
RYN *e*PP **PP 00 01 02.3 -0.3**
RYN LR LR
comp=Z,2µm,22.0s
IRM Iron Mountain 75.04 48 P **P 23 58 16.0 +1.6**
baz=240,SNR=29
PAHR Pah Rah Range 75.06 41 *e*P **P 23 58 16.6 +2.1**
comp=Z,119nm,1.6s
PAHR *e*PP **PP 00 01 01.8 -1.1**
PAHR LR LR
comp=Z,1µm,21.0s
NV01 Mina Array Sit 75.06 43 *e*P **P 23 58 15.3 +0.6**
NV01 *e*PP **PP 00 01 03.2 +0.2**
NVAR Mina Array Bea 75.06 43 P **P 23 58 16.5 +1.8**
comp=Z,11nm,0.9s,baz=230,slow=8.4,SNR=28
NVAR LR LR 00 23 24.1
comp=Z,1µm,22.0s,baz=98,slow=29
SHOC Shoshone, Teco 75.11 46 P **P 23 58 16.5 +1.7**
baz=239
TUQ Turquoise Moun 75.12 47 P **P 23 58 16.2 +1.2**
baz=240
NV11 Mina Array Sit 75.16 43 *e*P **P 23 58 17.2 +2.0**
comp=Z,8.6nm,1.4s
NV11 *e*PP **PP 00 01 03.2 -0.5**
NV11 LR LR
comp=Z,100nm,22.0s
INCN Inchon 75.18 316 PFAKE 23 58 30.0 +15
INCN LR LR
comp=Z,1µm,20.0s
KSM Kuching 75.22 275 *e*P **P 23 58 15.4 -0.5**
comp=Z,24nm,1.2s
KSM LR LR
comp=Z,400nm,21.0s
K04D Chiloquin, OR 75.27 38 P **P 23 58 17.5 +1.8**
baz=234
Y12C Blythe 75.29 49 P **P 23 58 17.7 +1.9**
baz=241,SNR=10
Y12C Blythe 75.29 49 *e*P **P 23 58 18.2 +2.4**
comp=Z,59nm,1.1s
Y12C LR LR
comp=Z,3µm,20.0s
113A Mohawk Valley, 75.38 50 *e*P **P 23 58 16.5 +0.2**
comp=Z,94nm,1.4s
113A LR LR
comp=Z,3µm,19.0s
QSPA South Pole Qui 75.39 180 P **P 23 58 16.3 +0.2**
comp=Z,9.8nm,0.8s,baz=40,slow=5.2,SNR=22
QSPA LR LR 00 27 21.2
comp=Z,1µm,19.7s,baz=36,slow=32
QSPA South Pole Qui 75.39 180 *e*P **P 23 58 16.3 +0.2**
QSPA LR LR
comp=Z,1µm,20.0s
J04D Umpqua Nationa 75.43 37 P **P 23 58 18.5 +1.8**
baz=233
QZH Quanzhou 75.44 301 *e*P **P 23 58 20.5 +3.7**
QZH LR LR
comp=Z,480nm,19.3s
QZH LR LR
comp=Z,550nm,22.2s
QZH LR LR
comp=Z,2µm,32.3s
LDFC Landfair 75.52 47 PFAKE 23 58 30.0 +13
LDFC LR LR
comp=Z,4µm,20.0s
KVN Kaiserville 75.53 43 *e*P **P 23 58 18.9 +1.6**
KVN *e* 00 01 06.1
KVN pmax pmax
comp=Z,41nm,1.2s
KVN MLR MLR
comp=Z,1µm,22.0s
KVN Kaiserville 75.53 43 *e*P **P 23 58 18.9 +1.6**
comp=Z,41nm,1.2s
KVN *e*PP **PP 00 01 06.1 -0.8**
KVN LR LR
comp=Z,1µm,22.0s
COR Corvallis 75.56 36 PFAKE 23 58 30.0 +13
COR LR LR
comp=Z,4µm,21.0s
USRK Ussuriysk Ar. 75.65 324 P **P 23 58 17.3 -0.3**
comp=Z,2.9nm,0.7s,baz=93,slow=3.8,SNR=5.7
USRK LR LR 00 25 20.9
comp=Z,3µm,22.0s,baz=117,slow=31
214A Organ Pipe Nat 75.71 51 P **P 23 58 20.2 +1.9**
baz=242,SNR=8.0
NEE2 Needles Airpor 75.72 48 P **P 23 58 20.0 +1.8**
baz=241
MOD Modoc Plateau 75.73 39 *e*P **P 23 58 20.0 +1.6**
comp=Z,59nm,1.3s
MOD LR LR
comp=Z,3µm,20.0s
LEM Lembang 75.78 267 P **P 23 58 19.9 +0.6**
comp=Z,9.1nm,0.4s,baz=139,slow=20,SNR=3.9
LEM LR LR 00 31 41.0
comp=Z,780nm,19.7s,baz=172,slow=36
HSIG 75.83 55 *e*P **P 23 58 17.9 -1.1**
HSIG LR LR
comp=Z,3µm,22.0s
PDMCI Parker Dam,Lak 75.84 48 P **P 23 58 20.3 +1.3**
baz=241,SNR=22
G03D McMinnville, O 75.97 35 P **P 23 58 21.3 +1.8**
baz=232
J05D Fort Rock, OR 75.97 38 P **P 23 58 21.4 +1.7**
baz=234
SSE Sheshan 75.99 308 P **P 23 58 23.3 +3.4**
SSE pmax pmax
comp=Z,32nm,0.7s
SSE pmax pmax
comp=Z,180nm,4.1s
SSE LR LR
comp=Z,390nm,21.1s
SSE LR LR
comp=Z,500nm,21.4s
SHPR Sheep Range 76.20 46 *e*P **P 23 58 22.9 +1.7**
comp=Z,60nm,1.4s
SHPR *e*PP **PP 00 01 08.3 -4.3**
SHPR LR LR
comp=Z,2µm,20.0s
F03A Seaside 76.25 34 PFAKE 23 58 30.0 +9.0
F03A LR LR
comp=Z,3µm,20.0s
H04A Detroit Lake 76.25 36 *e*P **P 23 58 22.4 +1.2**
comp=Z,53nm,1.1s
H04A LR LR
comp=Z,4µm,21.0s
W13A Hualapai Mount 76.41 48 *e*P **P 23 58 24.6 +2.2**
comp=Z,48nm,1.4s
W13A LR LR
comp=Z,4µm,20.0s
PINE Pine Mountain 76.44 37 *e*P **P 23 58 24.1 +1.7**
comp=Z,111nm,1.2s
PINE LR LR
comp=Z,3µm,20.0s
Y14A Wickenburg 76.49 49 *e*P **P 23 58 25.1 +2.4**
comp=Z,193nm,1.1s
Y14A *e*PP **PP 00 01 12.3 -2.7**
Y14A LR LR
comp=Z,11µm,20.0s
I05D Terrebonne, OR 76.53 37 P **P 23 58 24.3 +1.6**
baz=234
E03A Lebam 76.63 34 *e*P **P 23 58 25.7 +2.6**
comp=Z,61nm,1.0s
E03A LR LR
comp=Z,3µm,20.0s
F04D Rainier, OR 76.64 35 P **P 23 58 25.0 +1.7**
baz=232
BRLK Bradley Lake 76.76 12 *e*P **P 23 58 25.2 +1.5**
comp=Z,54nm,1.1s
BRLK LR LR
comp=Z,2µm,21.0s
R11A Troy Canyon, C 76.84 44 P **P 23 58 25.8 +1.0**
baz=239,SNR=18
R11A Troy Canyon, C 76.84 44 *e*PP PP 00 01 13.6 -4.4
R11A LR LR
comp=Z,2µm,22.0s
DIB Dawson Inlet, 76.95 25 PFAKE 23 58 40.0 +15
DIB LR LR
comp=Z,2µm,22.0s
H02S1 DAWSON INLET T 76.95 25 T T 01 23 16.9
SNR=44
NLWA Neilton Lookou 77.00 33 PFAKE 23 58 40.0 +15
NLWA LR LR
comp=Z,3µm,19.0s
WVOR Wild Horse Val 77.05 39 *e*P **P 23 58 27.2 +1.4**
WVOR pmax pmax
comp=Z,45nm,1.2s
WVOR MLR MLR
comp=Z,3µm,22.0s
WVOR Wild Horse Val 77.05 39 *e*P **P 23 58 27.2 +1.4**
comp=Z,45nm,1.2s
WVOR LR LR
comp=Z,3µm,22.0s
G05D Wamic, OR 77.08 36 P **P 23 58 27.1 +1.4**
baz=234
SVW2 Sparrevohn 77.13 10 *e*P **P 23 58 26.1 +0.5**
comp=Z,32nm,1.4s
MDJ Mudanjiang 77.28 323 P **P 23 58 28.3 +1.5**
MDJ pP pP 23 58 31.4 -0.9
MDJ sP sP 23 58 33.3 -1.0
MDJ pmax pmax
comp=Z,560nm,4.1s

MDJ LR LR
comp=Z,1µm,19.9s
MDJ LR LR
comp=Z,2µm,19.9s
MDJ LR LR
comp=Z,4µm,25.5s
MDJ Mudanjiang 77.28 323 PFAKE 23 58 40.0 +13
MDJ LR LR
comp=Z,3µm,21.0s
TUC Tucson 77.40 52 P **P 23 58 29.8 +1.8**
baz=244
TUC Tucson 77.40 52 *e*P **P 23 58 30.7 +2.7**
TUC pmax pmax
comp=Z,123nm,1.5s
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 77.40 52 *e*P **P 23 58 30.7 +2.7**
comp=Z,123nm,1.5s
TUC LR LR
comp=Z,3µm,20.0s
I07A Izee 77.45 38 *e*P **P 23 58 29.0 +0.9**
comp=Z,36nm,1.3s
I07A *e*PP **PP 00 01 23.1 +0.1**
I07A *e*PKiKP PKiKP 00 03 59.9 -8.6
I07A LR LR
comp=Z,2µm,20.0s
G06A Carlson Farm, 77.47 36 *e*P **P 23 58 29.5 +1.5**
comp=Z,104nm,1.5s
G06A LR LR
comp=Z,3µm,20.0s
MID Middleton Isla 77.49 15 PFAKE 23 58 40.0 +12
MID LR LR
comp=Z,2µm,20.0s
GRNR Gornyy 77.56 331 *e*P **P 23 58 28.8 +0.5**
GRNR pmax pmax
comp=Z,50nm,1.0s
J08A Circle Bar Ran 77.66 39 *e*P **P 23 58 31.1 +1.9**
comp=Z,65nm,1.2s
J08A *e*PP **PP 00 01 24.6 -0.1**
J08A LR LR
comp=Z,3µm,19.0s
LON Longmire 77.71 34 *e*P **P 23 58 29.1 -0.2**
LON pmax pmax
comp=Z,58nm,1.6s
LON MLR MLR
comp=Z,2µm,20.0s
LON Longmire 77.71 34 *e*P **P 23 58 29.1 -0.2**
comp=Z,58nm,1.6s
LON LR LR
comp=Z,2µm,20.0s
LCMT Little Creek M 77.78 46 *e*P **P 23 58 30.0 -0.1**
comp=Z,28nm,1.3s
LCMT LR LR
comp=Z,3µm,20.0s
X16A Lo Mia Camp, P 77.86 49 *e*P **P 23 58 33.4 +2.8**
comp=Z,77nm,1.1s
X16A LR LR
comp=Z,3µm,20.0s
D05A Enumclaw 77.88 34 *e*P **P 23 58 32.2 +2.1**
comp=Z,184nm,1.4s
D05A LR LR
comp=Z,2µm,20.0s
CCUT Cedar City 77.96 46 *e*P **P 23 58 33.6 +2.4**
comp=Z,30nm,1.3s
CCUT LR LR
comp=Z,2µm,20.0s
PGC Sidney 78.01 32 PFAKE 23 58 40.0 +9.2
PGC LR LR
comp=Z,3µm,20.0s
KNB Kanab 78.08 47 *e*P **P 23 58 32.6 +0.8**
KNB pmax pmax
comp=Z,187nm,2.0s
KNB MLR MLR
comp=Z,2µm,20.0s
KNB Kanab 78.08 47 *e*P **P 23 58 32.6 +0.8**
comp=Z,187nm,2.0s
KNB *e*PP **PP 00 01 22.3 -6.2**
KNB LR LR
comp=Z,2µm,20.0s
BBB Bella Bella 78.09 28 P **P 23 58 32.5 +1.4**
comp=Z,19nm,1.0s,baz=307,slow=5.1,SNR=2.0
BBB Bella Bella 78.09 28 P **P 23 58 32.5 +1.4**
BBB LR LR
comp=Z,3µm,22.0s
319A Douglas 78.15 53 *e*P **P 23 58 34.3 +2.1**
comp=Z,110nm,1.1s
319A LR LR
comp=Z,4µm,20.0s
SZCU Shurtz Canyon 78.17 46 *e*P **P 23 58 33.9 +1.5**
comp=Z,34nm,1.3s
SZCU LR LR
comp=Z,2µm,20.0s
U15A North Rim 78.18 47 *e*P **P 23 58 34.6 +2.2**
comp=Z,48nm,1.2s
U15A LR LR
comp=Z,3µm,20.0s
NJ2 Nanjing 78.20 308 *e*P **P 23 58 32.9 +0.6**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 LR LR
comp=Z,1µm,19.5s
NJ2 LR LR
comp=Z,1µm,22.2s
NJ2 LR LR
comp=Z,2µm,22.2s
RC01 Rabbit Creek A 78.20 12 *e*P **P 23 58 32.3 +0.7**
comp=Z,110nm,1.4s
GAMB Gambell 78.23 2 *e*P **P 23 58 32.9 +1.2**
comp=Z,53nm,1.5s
GAMB LR LR
comp=Z,800nm,19.0s
F07A Phinny Hill Vi 78.25 36 *e*P **P 23 58 32.4 +0.1**
comp=Z,64nm,1.4s
F07A LR LR
comp=Z,4µm,20.0s
SUA Susitna One 78.34 12 *e*P **P 23 58 32.8 +0.2**
comp=Z,35nm,1.0s
SUA LR LR
comp=Z,2µm,21.0s
CRAG Craig 78.38 23 PFAKE 23 58 50.0 +17
CRAG LR LR
comp=Z,3µm,22.0s
WUAZ Wupatki 78.41 48 P **P 23 58 35.3 +1.7**
baz=243
WUAZ Wupatki 78.41 48 *e*P **P 23 58 35.5 +1.8**
comp=Z,64nm,1.2s
WUAZ *e*PP **PP 00 01 29.6 -1.6**
WUAZ LR LR
comp=Z,2µm,21.0s
G08A Pilot Rock 78.46 37 *e*P **P 23 58 34.9 +1.3**
comp=Z,79nm,1.3s
G08A LR LR
comp=Z,3µm,20.0s
B05A Bryant 78.48 33 P **P 23 58 34.9 +1.5**
baz=233
GLI Glacier Island 78.59 14 PFAKE 23 58 50.0 +16
GLI LR LR
comp=Z,2µm,20.0s
LTY Liberty 78.64 35 *e*P **P 23 58 35.2 +0.8**
comp=Z,46nm,1.4s
LTY LR LR
comp=Z,1µm,19.0s
PKCU Pink Cliffs 78.64 46 *e*P **P 23 58 37.8 +2.8**
comp=Z,55nm,1.3s
PKCU LR LR
comp=Z,3µm,20.0s
RAGM Ragged Mountai 78.74 15 PFAKE 23 58 50.0 +15
RAGM LR LR
comp=Z,2µm,20.0s
HAWA Hanford 78.77 36 *e*P **P 23 58 36.2 +1.1**
comp=Z,66nm,1.3s
PMR Palmer 78.78 12 *e*P **P 23 58 35.8 +1.0**
PMR pmax pmax
comp=Z,56nm,1.3s
PMR Palmer 78.78 12 *e*P **P 23 58 35.8 +1.0**
comp=Z,56nm,1.3s
SIT Sitka 78.79 21 PFAKE 23 58 50.0 +15
SIT LR LR
comp=Z,3µm,20.0s
KLR Kul'dur 78.86 328 P **P 23 58 36.0 +0.4**
comp=Z,0.3nm,0.9s,baz=132,slow=5.8,SNR=5.7
KLR Kul'dur 78.86 328‖ *e*P **P 23 58 36.2 +0.7**
MA2 Magadan 78.89 343 P **P 23 58 36.7 +1.3**
comp=Z,7.0nm,0.4s,baz=153,slow=13,SNR=3.2
B06A Marblemount 78.95 33 *e*P **P 23 58 35.7 -0.3**
comp=Z,34nm,1.1s
B06A LR LR
comp=Z,3µm,20.0s
X18A Snowflake 79.01 50 *e*P **P 23 58 39.6 +2.6**
comp=Z,66nm,1.3s
X18A LR LR
comp=Z,2µm,20.0s
MTPU Mount Pierson 79.02 46 *e*P **P 23 58 38.5 +1.4**
comp=Z,88nm,1.9s
MTPU *e*PP **PP 00 01 36.1 -0.4**
MTPU LR LR
comp=Z,3µm,20.0s
E08A Dider Farm, El 79.09 36 *e*P **P 23 58 38.7 +1.9**
comp=Z,122nm,1.5s
E08A LR LR
comp=Z,3µm,19.0s
TCRU Three Creeks R 79.11 45 *e*P **P 23 58 39.5 +2.0**
comp=Z,38nm,1.3s
TCRU LR LR
comp=Z,3µm,22.0s
DIV Divide 79.12 14 *e*P **P 23 58 36.3 -0.5**
comp=Z,36nm,1.0s
DIV LR LR
comp=Z,2µm,21.0s
SML Sawmill 79.15 13 *e*P **P 23 58 38.1 +1.2**
SML pmax pmax
comp=Z,29nm,1.1s
SML Sawmill 79.15 13 *e*P **P 23 58 38.1 +1.2**
comp=Z,29nm,1.1s
BMO Blue Mountains 79.19 38 *e*P **P 23 58 38.7 +1.1**
BMO pmax pmax
comp=Z,72nm,1.5s
BMO MLR MLR
comp=Z,3µm,19.0s
BMO Blue Mountains 79.19 38 *e*P **P 23 58 38.7 +1.1**
comp=Z,72nm,1.5s
BMO LR LR
comp=Z,3µm,19.0s
MSU Marysvale 79.25 45 *e*P **P 23 58 40.5 +2.3**
MSU *e* 00 01 39.2
MSU Marysvale 79.25 45 *e*P **P 23 58 40.5 +2.3**
MSU *e*PP **PP 00 01 39.2 +1.0**
HPIG 79.25 58 *e*P **P 23 58 40.7 +2.2**
comp=Z,50nm,0.6s
HPIG LR LR
comp=Z,2µm,19.0s
BMRM Bremner River 79.26 15 *e*P **P 23 58 38.0 +0.5**
comp=Z,77nm,1.2s
BMRM LR LR
comp=Z,2µm,21.0s
CN2 Changchun 79.30 321 *e*P **P 23 58 37.9 -0.1**
CN2 LR LR
comp=Z,800nm,25.0s
CN2 LR LR
comp=Z,1µm,25.0s
CN2 LR LR
comp=Z,1µm,23.0s
DL2 Dalian 79.30 315 P P 23 58 48.8 +11
MFID Camas Ranch 79.31 40 *e*P **P 23 58 39.8 +1.4**
comp=Z,35nm,1.3s
MFID LR LR
comp=Z,2µm,20.0s
YKU2 Yakutat 79.36 18 PFAKE 23 58 50.0 +12
YKU2 LR LR
comp=Z,2µm,19.0s
WRAK Wrangell Islan 79.38 23 PFAKE 23 58 50.0 +12
WRAK LR LR
comp=Z,3µm,21.0s
SCM Sheep Creek Mo 79.39 13 *e*P **P 23 58 39.2 +0.9**
SCM pmax pmax
comp=Z,42nm,0.9s
SCM Sheep Creek Mo 79.39 13 *e*P **P 23 58 39.2 +0.9**
comp=Z,42nm,0.9s
KLU Klutina 79.41 14 *e*P **P 23 58 39.8 +1.4**
comp=Z,28nm,1.1s
KLU LR LR
comp=Z,2µm,21.0s
W18A Petrified Fore 79.43 49 P **P 23 58 40.9 +1.7**
baz=244
W18A Petrified Fore 79.43 49 *e*P **P 23 58 41.5 +2.3**
comp=Z,78nm,1.4s
W18A *e*PP **PP 00 01 39.6 -0.1**
W18A LR LR
comp=Z,2µm,20.0s
D08A Wollman Farm, 79.49 35 *e*P **P 23 58 39.5 +0.4**
comp=Z,66nm,1.2s
D08A LR LR
comp=Z,3µm,21.0s
DUG Dugway, Tooele 79.62 44 P **P 23 58 41.4 +1.3**
baz=241
DUG Dugway, Tooele 79.62 44 *e*P **P 23 58 41.8 +1.7**
DUG pmax pmax
comp=Z,36nm,1.1s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway, Tooele 79.62 44 *e*P **P 23 58 41.8 +1.7**
comp=Z,36nm,1.1s
DUG LR LR
comp=Z,1µm,20.0s
E09A Wood Farm, Sta 79.62 36 *e*P **P 23 58 41.2 +1.5**
comp=Z,55nm,1.3s
E09A LR LR
comp=Z,3µm,19.0s
121A Cookes Peak, D 79.79 53 P **P 23 58 43.5 +2.3**
baz=246
BGU Big Grassy Mou 79.83 43 *e*P **P 23 58 41.6 +0.4**
comp=Z,20nm,1.2s
BGU LR LR
comp=Z,1µm,19.0s
F10A Beach Ranch, E 79.85 37 *e*P **P 23 58 41.2 0.0**
comp=Z,38nm,1.0s
F10A *e*PP **PP 00 01 40.9 -2.0**
F10A LR LR
comp=Z,3µm,22.0s
CAST Castle Rocks 79.89 10 *e*P **P 23 58 40.3 -0.6**
comp=Z,23nm,1.3s
NLU North Lily Min 80.00 44 *e*P **P 23 58 42.4 +0.1**
comp=Z,16nm,1.2s
B08A Colville Reser 80.01 34 *e*P **P 23 58 42.1 +0.2**
comp=Z,80nm,1.5s
B08A LR LR
comp=Z,1µm,18.0s
LLLB Lillooet 80.02 31 *e*P **P 23 58 42.0 +0.1**
comp=Z,65nm,1.4s
LLLB LR LR
comp=Z,3µm,22.0s
BESE Bessie Mountai 80.13 20 *e*P **P 23 58 43.0 +0.7**
comp=Z,94nm,1.5s
BESE LR LR
comp=Z,3µm,20.0s
KTH Kantishna Hill 80.22 11 *e*P **P 23 58 42.1 -0.6**
comp=Z,80nm,1.5s
TRF Thorofare Moun 80.25 11 *e*P **P 23 58 43.1 +0.1**
comp=Z,46nm,1.0s
TRF LR LR
comp=Z,2µm,21.0s
HLID Hailey 80.27 40 P **P 23 58 45.4 +1.8**
baz=239
HLID Hailey 80.27 40 *e*P **P 23 58 45.8 +2.2**
comp=Z,82nm,1.4s
HLID LR LR
comp=Z,2µm,22.0s
C09A Chrisman Ranch 80.28 35 *e*P **P 23 58 44.8 +1.5**
comp=Z,81nm,1.4s
C09A LR LR
comp=Z,2µm,22.0s
TMUT Trail Mountain 80.28 45 *e*P **P 23 58 45.1 +1.2**
comp=Z,35nm,1.0s
TMUT LR LR
comp=Z,2µm,20.0s
MPU Maple Canyon 80.33 44 *e*P **P 23 58 44.6 +0.6**
comp=Z,20nm,1.1s
MPU *e*PP **PP 00 01 48.4 +1.3**
MPU LR LR
comp=Z,2µm,20.0s
ZAIG Zacatecas 80.36 63 *e*P **P 23 58 46.7 +2.1**
ZAIG LR LR
comp=Z,3µm,20.0s
HARP HAARP 80.38 14 *e*P **P 23 58 45.0 +1.4**
comp=Z,45nm,1.1s
HARP LR LR
comp=Z,1µm,22.0s
SPUT South Promonto 80.41 43 *e*P **P 23 58 45.8 +1.5**
comp=Z,48nm,1.2s
SPUT LR LR
comp=Z,1µm,21.0s
HVU Hansel Valley 80.42 42 *e*P **P 23 58 46.4 +2.0**
HVU pmax pmax
comp=Z,41nm,1.1s
HVU MLR MLR
comp=Z,1µm,20.0s
HVU Hansel Valley 80.42 42 *e*P **P 23 58 46.4 +2.0**
comp=Z,41nm,1.1s
HVU LR LR
comp=Z,1µm,20.0s
EPT El Paso 80.47 54 *e*P **P 23 58 47.9 +3.1**
comp=Z,75nm,1.4s
EPT LR LR
comp=Z,3µm,21.0s
RND Reindeer 80.48 12 *e*P **P 23 58 45.2 +1.1**
RND pmax pmax
comp=Z,119nm,1.5s
RND MLR MLR
comp=Z,2µm,21.0s
RND Reindeer 80.48 12 *e*P **P 23 58 45.2 +1.1**
comp=Z,119nm,1.5s
RND LR LR
comp=Z,2µm,21.0s
DHY Denali Highway 80.48 13 *e*P **P 23 58 46.0 +1.7**
comp=Z,47nm,1.5s
MOIG Morelia 80.53 67 PFAKE 23 59 00.0 +14
MOIG LR LR
comp=Z,3µm,19.0s
CTU Camp Tracy 80.57 44 *e*P **P 23 58 46.6 +1.3**
comp=Z,32nm,1.2s
CTU LR LR
comp=Z,1µm,22.0s
MTUT Morton Thiokol 80.60 43 *e*P **P 23 58 46.8 +1.4**
SKAG Skagway 80.66 19 *e*P **P 23 58 46.6 +1.6**
comp=Z,57nm,1.2s
SKAG LR LR
comp=Z,2µm,20.0s
SRU San Rafael Swe 80.67 46 *e*P **P 23 58 46.4 +0.6**
SRU pmax pmax
comp=Z,40nm,1.5s
SRU MLR MLR
comp=Z,3µm,21.0s
SRU San Rafael Swe 80.67 46 *e*P **P 23 58 46.4 +0.6**
comp=Z,40nm,1.5s
SRU LR LR
comp=Z,3µm,21.0s
P17A Butcher Ranch, 80.68 45 *e*P **P 23 58 47.4 +1.5**
comp=Z,29nm,1.2s
P17A LR LR
comp=Z,3µm,20.0s
BPAW Bear Paw Mtn. 80.71 11 *e*P **P 23 58 45.5 +0.2**
comp=Z,12nm,1.1s
JLU Jordanelle 80.73 44 *e*P **P 23 58 48.0 +1.8**
comp=Z,50nm,1.4s
JLU LR LR
comp=Z,2µm,22.0s
MCK McKinley 80.76 12 *e*P **P 23 58 45.9 +0.4**
MCK pmax pmax
comp=Z,43nm,1.0s
MCK MLR MLR
comp=Z,2µm,20.0s
MCK McKinley 80.76 12 *e*P **P 23 58 45.9 +0.4**
comp=Z,43nm,1.0s
MCK *e*PP PP 00 01 40.4 -10
MCK LR LR
comp=Z,2µm,20.0s
PAX Paxson 80.80 13 *e*P **P 23 58 46.3 +0.4**
PAX pmax pmax
comp=Z,34nm,1.4s
PAX Paxson 80.80 13 *e*P **P 23 58 46.3 +0.4**
comp=Z,34nm,1.4s
QIZ Qiongzhong 80.86 292 P **P 23 58 47.8 +0.8**
QIZ pmax pmax
comp=Z,280nm,4.7s
QIZ LR LR
comp=Z,680nm,25.5s
QIZ LR LR
comp=Z,1µm,25.5s
QIZ Qiongzhong 80.86 292 PFAKE 23 59 00.0 +13
QIZ LR LR
comp=Z,700nm,21.0s
TCUT Toone Canyon 81.00 43 *e*P **P 23 58 49.7 +2.0**
comp=Z,195nm,1.4s
TCUT LR LR
comp=Z,2µm,22.0s
LAZ Ladron 81.06 51 *e*P **P 23 58 50.7 +2.6**
HYT Haines Junctio 81.06 18 *e*P **P 23 58 48.5 +1.1**
comp=Z,47nm,1.2s
HYT LR LR
comp=Z,1µm,19.0s
Y22D IRIS PASSCAL I 81.08 51 P **P 23 58 50.1 +2.0**
baz=246
Y22D IRIS PASSCAL I 81.08 51 *e*P **P 23 58 50.9 +2.7**
comp=Z,192nm,1.4s
Y22D LR LR
comp=Z,2µm,20.0s
Y22E IRIS PASSCAL I 81.08 51 P **P 23 58 50.1 +2.0**
baz=246
P18A Preston Nutter 81.09 45 *e*P **P 23 58 48.7 +0.4**
comp=Z,11nm,1.0s
P18A LR LR
comp=Z,3µm,20.0s
HWUT Hardware Ranch 81.13 43 *e*P **P 23 58 49.6 +1.4**
comp=Z,93nm,1.8s
HWUT LR LR
comp=Z,1µm,21.0s
MENT Mentasta 81.18 14 *e*P **P 23 58 48.7 +0.8**
comp=Z,34nm,1.2s
MENT LR LR
comp=Z,2µm,20.0s
NEW Newport 81.18 35 P **P 23 58 47.5 -0.7**
comp=Z,2.5nm,0.7s,baz=183,slow=2.0,SNR=6.5
NEW Newport 81.18 35 P **P 23 58 50.5 +2.4**
baz=237
NEW Newport 81.18 35 P **P 23 58 47.5 -0.7**
NEW pmax pmax
comp=Z,12nm,1.1s
NEW Newport 81.18 35 *e*P **P 23 58 49.1 +0.9**
comp=Z,48nm,1.5s
NEW LR LR
comp=Z,2µm,22.0s
PV05 Paradox Valley 81.20 47 *e*P **P 23 58 51.2 +2.5**
MVCO Mesa Verde 81.25 48 P **P 23 58 50.7 +1.7**
baz=244
MVCO Mesa Verde 81.25 48 *e*P **P 23 58 49.3 +0.3**
comp=Z,62nm,1.8s
MVCO LR LR
comp=Z,3µm,20.0s
SEY Seymchan 81.31 346 P **P 23 58 48.3 -0.2**
comp=Z,8.6nm,1.0s,baz=132,slow=5.5,SNR=15
SEY Seymchan 81.31 346‖ *i*P **P 23 58 48.7 +0.2**
MNTX Cornudas Mount 81.32 54 P **P 23 58 50.7 +1.4**
baz=247
MNTX Cornudas Mount 81.32 54 *e*P **P 23 58 51.7 +2.5**
comp=Z,59nm,1.2s
MNTX LR LR
comp=Z,2µm,20.0s
BNM Barren Site 81.34 51 *e*P **P 23 58 52.0 +2.4**
PV10 Paradox Valley 81.37 47 *e*P **P 23 58 51.4 +1.7**
LPM Los Pinos Moun 81.40 51 *e*P **P 23 58 52.2 +2.4**
JRQG Juriquilla Cam 81.53 66 *e*P **P 23 58 52.7 +1.9**
comp=Z,128nm,1.2s
JRQG LR LR
comp=Z,4µm,22.0s
WRH Wood River Hil 81.59 12 *e*P **P 23 58 50.2 +0.3**
comp=Z,101nm,1.3s
WRH LR LR
comp=Z,2µm,21.0s
PV01 Paradox Valley 81.60 47 *e*P **P 23 58 52.8 +1.9**
MLY Manley 81.61 10 *e*P **P 23 58 50.4 +0.3**
comp=Z,41nm,1.4s
MLY LR LR
comp=Z,800nm,19.0s
RIDG Independ'e Rid 81.62 13 *e*P **P 23 58 51.0 +0.9**
comp=Z,33nm,1.1s
RIDG LR LR
comp=Z,2µm,22.0s
DOT Dot Lake 81.71 14 *e*P **P 23 58 51.2 +0.6**
comp=Z,100nm,1.2s
DLBC Dease Lake 81.71 22 *e*P **P 23 58 52.3 +1.5**
comp=Z,22nm,1.2s
DLBC LR LR
comp=Z,4µm,22.0s
WHY Whitehorse 81.73 19 *e*P **P 23 58 52.5 +1.6**
comp=Z,30nm,1.1s
WHY LR LR
comp=Z,3µm,20.0s
TX31 Lajitas Ar. Si 81.79 57 *e*P **P 23 58 53.1 +1.2**
TX31 *e*PP **PP 00 02 00.8 +1.5**
LTX Lajitas 81.79 57 *e*P **P 23 58 54.4 +2.5**
LTX Lajitas 81.79 57 *e*P **P 23 58 54.4 +2.5**

TXAR	**Lajitas Array**	**81.79**	**57**	P		**P**		**23 58 54.4**	**+2.5**
	comp=Z,18nm,1.0s,baz=227,slow=5.0,SNR=42								
TXAR				LR		LR		00 27 57.1	
	comp=Z,3μm,19.9s,baz=0.0,slow=30								
ANMO	**Albuquerque**	**81.79**	**51**	P		**P**		**23 58 53.4**	**+1.4**
	comp=Z,14nm,1.1s,baz=57,slow=5.6,SNR=24								
ANMO	**Albuquerque**	**81.79**	**51**	P		**P**		**23 58 53.3**	**+1.4**
	baz=246								
ANMO	**Albuquerque**	**81.79**	**51**	*e*P		**P**		**23 58 54.1**	**+2.2**
	comp=Z,73nm,1.4s								
ANMO				LR		LR			
	comp=Z,3μm,19.0s								
CCB	**Clear Creek Bu**	**81.80**	**12**	*e*P		**P**		**23 58 51.2**	**+0.2**
	comp=Z,58nn,1.3s								
CCB				LR		LR			
	comp=Z,2μm,21.0s								
MCMT	**McKenzie Canyo**	**81.88**	**40**	*e*P		**P**		**23 58 54.2**	**+2.0**
AHID	**Auburn Hatcher**	**81.98**	**42**	*e*P		**P**		**23 58 54.5**	**+1.7**
	comp=Z,84nm,1.5s								
AHID				LR		LR			
	comp=Z,1μm,20.0s								
COLA	**College**	**82.00**	**11**	*e*P		**P**		**23 58 52.8**	**+0.8**
COLA				pmax		pmax			
	comp=Z,51nm,0.9s								
COLA				MLR		MLR			
	comp=Z,2μm,21.0s								
COLA	**College**	**82.00**	**11**	*e*P		**P**		**23 58 52.8**	**+0.8**
	comp=Z,51nm,0.9s								
COLA				LR		LR			
	comp=Z,2μm,21.0s								
MDM	**Murphy Dome**	**82.00**	**11**	*e*P		**P**		**23 58 52.8**	**+0.7**
	comp=Z,87nm,1.5s								
MDM				LR		LR			
	comp=Z,2μm,20.0s								
SCRK	**Sand Creek**	**82.01**	**13**	*e*P		**P**		**23 58 53.2**	**+0.8**
	comp=Z,27nn,1.0s								
SCRK				LR		LR			
	comp=Z,2μm,21.0s								
IL1	**Eielson Array**	**82.09**	**12**	*e*P		**P**		**23 58 52.6**	**+0.1**
ILAR	**Eielson Array**	**82.09**	**12**	P		**P**		**23 58 52.6**	**+0.1**
	comp=Z,4.2nn,0.9s,baz=219,slow=5.7,SNR=25								
ILAR				PP		**PP**		**00 02 01.4**	**+0.5**
	comp=Z,1.3nn,0.9s,baz=216,slow=8.7,SNR=3.2								
ILAR				LR		LR		00 28 07.4	
	comp=Z,928nn,21.5s,baz=212,slow=30								
ILB	**Eielson Array**	**82.09**	**12**	*e*P		**P**		**23 58 53.0**	**+0.5**
UNM	**Universidad Na**	**82.22**	**68**	PFAKE				23 59 10.0	+15
UNM				LR		LR			
	comp=Z,4μm,20.0s								
MSO	**Missoula**	**82.23**	**37**	P		**P**		**23 58 54.6**	**+0.7**
	baz=239								
MSO	**Missoula**	**82.23**	**37**	*e*P		**P**		**23 58 54.6**	**+0.7**
	comp=Z,93nm,1.4s								
MSO				LR		LR			
	comp=Z,3μm,20.0s								
DLMT	**Dillon**	**82.30**	**39**	*e*P		**P**		**23 58 56.3**	**+2.0**
	comp=Z,101nm,1.3s								
TPAW	**Teton Pass**	**82.42**	**41**	*e*P		**P**		**23 58 56.4**	**+1.3**
	comp=Z,99nm,1.3s								
TPAW				LR		LR			
	comp=Z,1μm,20.0s								
REDW	**Red Top Meadow**	**82.43**	**42**	*e*P		**P**		**23 58 56.9**	**+1.8**
	comp=Z,153nn,1.5s								
REDW				LR		LR			
	comp=Z,1μm,22.0s								
FXWY	**Fox Creek**	**82.45**	**41**	*e*P		**P**		**23 58 57.1**	**+1.9**
	comp=Z,61nn,1.4s								
JTMT	**Jette**	**82.51**	**37**	*e*P		**P**		**23 58 55.8**	**+0.4**
	comp=Z,23nn,1.1s								
JTMT				LR		LR			
	comp=Z,2μm,22.0s								
SNOW	**Snow King Moun**	**82.54**	**42**	*e*P		**P**		**23 58 57.9**	**+2.2**
	comp=Z,80nn,1.2s								
SNOW				LR		LR			
	comp=Z,1μm,22.0s								
MCID	**Moose Creek**	**82.61**	**41**	*e*P		**P**		**23 58 58.5**	**+2.5**
LRM	**Limekiln Ridge**	**82.62**	**39**	*e*P		**P**		**23 58 57.6**	**+1.6**
IMW	**Indian Meadow**	**82.62**	**41**	*e*P		**P**		**23 58 57.7**	**+1.5**
	comp=Z,53nn,1.1s								
IMW				*e*PP		**PP**		**00 02 04.9**	**-1.3**
IMW				LR		LR			
	comp=Z,1μm,18.0s								
S22A	**4UR Ranch, Cre**	**82.67**	**48**	P		**P**		**23 58 58.4**	**+1.8**
	baz=245								
S22A	**4UR Ranch, Cre**	**82.67**	**48**	*e*P		**P**		**23 58 58.9**	**+2.3**
	comp=Z,105nn,1.6s								
S22A				LR		LR			
	comp=Z,4μm,20.0s								
MOOW	**Moose Ponds**	**82.68**	**41**	*e*P		**P**		**23 58 57.8**	**+1.4**
	comp=Z,59nn,1.5s								
MOOW				LR		LR			
	comp=Z,1μm,19.0s								
O20A	**White River Ci**	**82.70**	**45**	P		**P**		**23 58 57.7**	**+1.1**
	baz=244								
O20A	**White River Ci**	**82.70**	**45**	*e*P		**P**		**23 58 58.1**	**+1.5**
	comp=Z,76nn,1.4s								
O20A				LR		LR			
	comp=Z,3μm,21.0s								
LOHW	**Long Hollow**	**82.70**	**41**	*e*P		**P**		**23 58 58.3**	**+1.8**
	comp=Z,70nn,1.4s								
QLMT	**Earthquake Lak**	**82.76**	**40**	*e*P		**P**		**23 58 59.2**	**+2.4**
YHB	**Horse Butte**	**82.87**	**40**	*e*P		**P**		**23 59 00.0**	**+2.7**
	comp=Z,123nn,1.2s								
YHB				LR		LR			
	comp=Z,2μm,22.0s								
YPP	**Pitchstone Pla**	**82.89**	**41**	*e*P		**P**		**23 59 00.6**	**+3.0**
	comp=Z,85nn,1.7s								
YPP				LR		LR			
	comp=Z,1μm,18.0s								
YFT	**Old Faithful**	**82.95**	**41**	*e*P		**P**		**23 59 00.1**	**+2.2**
	comp=Z,46nn,1.1s								
YFT				LR		LR			
	comp=Z,1μm,19.0s								
YMR	**Madison River**	**82.97**	**40**	*e*P		**P**		**23 59 00.0**	**+2.1**
	comp=Z,116nn,1.2s								
YMR				LR		LR			
	comp=Z,1μm,22.0s								
BW06	**Boulder Array**	**82.99**	**43**	P		**P**		**23 58 58.8**	**+0.7**
	baz=243								
BW06	**Boulder Array**	**82.99**	**43**	*e*P		**P**		**23 58 59.4**	**+1.3**
	comp=Z,65nn,1.4s								
BW06				LR		LR			
	comp=Z,1μm,22.0s								
PD31	**Pinedale Array**	**82.99**	**43**	*e*P		**P**		**23 58 59.4**	**+1.3**
PD31				*e*PP		**PP**		**00 02 08.4**	**-0.7**
PDAR	**Pinedale Array**	**82.99**	**43**	P		**P**		**23 58 58.3**	**+0.2**
	comp=Z,10nn,0.9s,baz=216,slow=3.2,SNR=40								
PDAR				PP		**PP**		**00 02 08.4**	**-0.7**
	comp=Z,0.7nn,0.9s,baz=258,slow=4.2,SNR=2.2								
PDAR				LR		LR		00 28 15.3	
	comp=Z,925nn,21.9s,baz=242,slow=30								
BOZ	**Bozeman (W)**	**83.01**	**39**	P		**P**		**23 58 59.0**	**+1.0**
	baz=241								
BOZ	**Bozeman (W)**	**83.01**	**39**	*e*P		**P**		**23 58 59.9**	**+1.9**
BOZ				pmax		pmax			
	comp=Z,62nn,1.3s								
BOZ				MLR		MLR			
	comp=Z,3μm,19.0s								
BOZ	**Bozeman (W)**	**83.01**	**39**	*e*P		**P**		**23 58 59.9**	**+1.9**
	comp=Z,62nn,1.3s								
BOZ				LR		LR			
	comp=Z,3μm,19.0s								
H17A	**Grant Village**	**83.09**	**41**	P		**P**		**23 59 00.7**	**+2.1**
	baz=242								
H17A	**Grant Village**	**83.09**	**41**	*e*P		**P**		**23 59 01.3**	**+2.7**
	comp=Z,39nn,1.1s								
H17A				LR		LR			
	comp=Z,2μm,21.0s								
YHH	**Holmes Hill**	**83.10**	**40**	*e*P		**P**		**23 59 00.6**	**+1.9**
	comp=Z,44nn,1.2s								
YHH				LR		LR			
	comp=Z,2μm,22.0s								
SMCO	**Snowmass**	**83.17**	**47**	*e*P		**P**		**23 59 00.9**	**+1.6**
	comp=Z,91nn,1.5s								
SMCO				LR		LR			
	comp=Z,2μm,20.0s								
YNR	**Norris Junctio**	**83.18**	**40**	*e*P		**P**		**23 59 01.2**	**+2.2**
	comp=Z,97nn,1.4s								
YNR				LR		LR			
	comp=Z,1μm,22.0s								
DAWY	**Dawson**	**83.18**	**15**	*e*P		**P**		**23 58 59.0**	**+0.7**
	comp=Z,30nn,1.1s								
DAWY				LR		LR			
	comp=Z,2μm,19.0s								
LKWY	**Lake**	**83.28**	**41**	PFAKE				23 59 10.0	+10
LKWY				LR		LR			
	comp=Z,800nn,18.0s								
EGAK	**Eagle**	**83.34**	**14**	*e*P		**P**		**23 59 00.0**	**+1.0**
	comp=Z,29nn,1.1s								
EGAK				LR		LR			
	comp=Z,2μm,21.0s								
WALA	**Waterton Lakes**	**83.40**	**36**	*e*P		**P**		**23 59 01.2**	**+1.4**
	comp=Z,30nn,1.1s								
WALA				LR		LR			
	comp=Z,3μm,22.0s								
HRY	**Holter Researc**	**83.43**	**38**	*e*P		**P**		**23 59 01.9**	**+1.8**
BILL	**Bilibino**	**83.53**	**353**	*i* P		**P**		**23 58 59.4**	**-0.5**
BILL				*i*				23 59 06.2	
BILL				*i*				23 59 12.4	
BILL				*i* S		**S**		**00 09 13.4**	**-7.3**
BILL				pmax		pmax			
	comp=Z,8.0nn,1.2s								
BJT	**Baijiatuau**	**83.57**	**314**	*e*P		**P**		**23 59 00.5**	**-0.3**
BJT				pmax		pmax			
	comp=Z,31nn,1.1s								
BJT				MLR		MLR			
	comp=Z,1μm,21.0s								
BJT	**Baijiatuau**	**83.57**	**314**	*e*P		**P**		**23 59 00.5**	**-0.3**
	comp=Z,31nn,1.1s								
BJT				LR		LR			
	comp=Z,1μm,21.0s								
BJI	**Beijing**	**83.58**	**314**	P		**P**		**23 59 01.3**	**+0.5**
BJI				pmax		pmax			
	comp=Z,19nn,1.1s								
BJI				LR		LR			
	comp=Z,1μm,20.8s								
BJI				LR		LR			
	comp=Z,1μm,21.3s								
BJI				LR		LR			
	comp=Z,2μm,25.6s								
SDCO	**Great Sand Dun**	**83.63**	**48**	P		**P**		**23 59 02.7**	**+1.1**
	baz=246								
SDCO	**Great Sand Dun**	**83.63**	**48**	*e*P		**P**		**23 59 03.2**	**+1.6**
	comp=Z,17nn,1.0s								
SDCO				*e*PP		**PP**		**00 02 14.7**	**+0.2**
SDCO				LR		LR			
	comp=Z,2μm,21.0s								
COLD	**Coldfoot**	**83.71**	**10**	*e*P		**P**		**23 59 02.5**	**+1.6**
	comp=Z,40nn,1.1s								
COLD				LR		LR			
	comp=Z,799nn,21.0s								
LNIG	**Linares**	**83.75**	**62**	*e*P		**P**		**23 59 03.3**	**+1.2**
	comp=Z,37nn,0.9s								
LNIG				LR		LR			
	comp=Z,3μm,21.0s								
ZEA	**Zeya**	**83.81**	**330**	*e*P		**P**		**23 59 02.7**	**+1.0**
ZEA				*i*				00 10 17.0	
ZEA				pmax		pmax			
	comp=N,24nn,1.6s								
ZEA				pmax		pmax			
	comp=Z,36nn,1.2s								
MHTCO	**State Highway**	**83.98**	**49**	*e*P		**P**		**23 59 03.8**	**+0.5**
	comp=Z,24nn,1.4s								
FYU	**Fort Yukon**	**84.00**	**12**	PFAKE				23 59 10.0	+7.6
FYU				LR		LR			
	comp=Z,2μm,21.0s								
RWWY	**Rawlins**	**84.08**	**44**	*e*P		**P**		**23 59 04.0**	**+0.2**
	comp=Z,79nn,1.4s								
RWWY				LR		LR			
	comp=Z,3μm,21.0s								
T25A	**Trinidad**	**84.19**	**49**	P		**P**		**23 59 05.5**	**+1.2**
	baz=247								
T25A	**Trinidad**	**84.19**	**49**	*e*P		**P**		**23 59 05.8**	**+1.5**
	comp=Z,89nn,2.0s								
T25A				LR		LR			
	comp=Z,1μm,22.0s								
MSTX	**Muleshoe**	**84.21**	**53**	P		**P**		**23 59 05.4**	**+1.0**
	baz=248								
MSTX	**Muleshoe**	**84.21**	**53**	*e*P		**P**		**23 59 06.1**	**+1.7**
	comp=Z,117nn,1.3s								
MSTX				LR		LR			
	comp=Z,4μm,20.0s								
RLMT	**Red Lodge**	**84.25**	**41**	P		**P**		**23 59 05.6**	**+1.1**
	baz=243								
RLMT	**Red Lodge**	**84.25**	**41**	*e*P		**P**		**23 59 06.7**	**+2.2**
	comp=Z,66nn,1.3s								
RLMT				LR		LR			
	comp=Z,2μm,22.0s								
GCMT	**Greycliff**	**84.31**	**40**	*e*P		**P**		**23 59 06.8**	**+2.1**
Q24A	**Divide**	**84.38**	**47**	P		**P**		**23 59 06.6**	**+1.2**
	baz=246								
Q24A	**Divide**	**84.38**	**47**	*e*P		**P**		**23 59 06.8**	**+1.4**
	comp=Z,46nn,1.3s								
Q24A				LR		LR			
	comp=Z,3μm,20.0s								
ISCO	**Idaho Springs**	**84.39**	**47**	P		**P**		**23 59 06.5**	**+1.1**
	baz=246								
ISCO	**Idaho Springs**	**84.39**	**47**	*e*P		**P**		**23 59 07.3**	**+1.9**
ISCO				pmax		pmax			
	comp=Z,64nn,1.8s								
ISCO				MLR		MLR			
	comp=Z,2μm,19.0s								
ISCO	**Idaho Springs**	**84.39**	**47**	*e*P		**P**		**23 59 07.2**	**+1.9**
	comp=Z,64nn,1.8s								
ISCO				LR		LR			
	comp=Z,2μm,19.0s								
N23A	**Red Feather La**	**84.61**	**45**	P		**P**		**23 59 07.6**	**+1.2**
	baz=246								
N23A	**Red Feather La**	**84.61**	**45**	*e*P		**P**		**23 59 08.5**	**+2.0**
	comp=Z,202nn,2.0s								
N23A				LR		LR			
	comp=Z,2μm,20.0s								
LVIG	**Laguna Verde**	**84.81**	**68**	PFAKE				23 59 20.0	+12
LVIG				LR		LR			
	comp=Z,2μm,20.0s								
ENH	**Enshi**	**84.91**	**303**	*e*P		**P**		**23 59 06.0**	**-1.9**
	comp=Z,68nn,1.8s								
ENH				LR		LR			
	comp=Z,700nn,20.0s								
833A	**Chaparral WMA,**	**84.94**	**59**	P		**P**		**23 59 09.4**	**+1.4**
	baz=251								
K22A	**Casper**	**84.95**	**44**	P		**P**		**23 59 08.7**	**+0.7**
	baz=245								
K22A	**Casper**	**84.95**	**44**	*e*P		**P**		**23 59 09.6**	**+1.6**
	comp=Z,77nn,1.6s								
K22A				*e*PP		**PP**		**00 02 27.5**	**+2.4**
K22A				LR		LR			
	comp=Z,1μm,18.0s								
IPM	**Ipoh**	**84.95**	**276**	*e*P		**P**		**23 59 06.9**	**-1.6**
	comp=Z,29nn,1.2s								
TOLK	**Toolik Lake Re**	**85.10**	**9**	P		**P**		**23 59 10.3**	**+2.3**
	baz=205								
TOLK	**Toolik Lake Re**	**85.10**	**9**	*e*P		**P**		**23 59 09.0**	**+1.0**
	comp=Z,34nn,0.4s								
TOLK				LR		LR			
	comp=Z,1μm,19.0s								
PHWY	**Pilot Hill**	**85.11**	**45**	*e*P		**P**		**23 59 09.8**	**+0.8**
	comp=Z,88nn,2.0s								
PHWY				*e*PP		**PP**		**00 02 23.7**	**-2.8**
PHWY				LR		LR			
	comp=Z,2μm,21.0s								
EGMT	**Eagleton**	**85.30**	**38**	P		**P**		**23 59 10.1**	**+0.6**
	baz=242								
EGMT	**Eagleton**	**85.30**	**38**	PFAKE				23 59 20.0	+11
EGMT				LR		LR			
	comp=Z,2μm,20.0s								
JCT	**Junction City**	**85.33**	**57**	P		**P**		**23 59 10.3**	**+0.3**
	baz=250								
JCT	**Junction City**	**85.33**	**57**	*e*P		**P**		**23 59 11.4**	**+1.4**
JCT				pmax		pmax			
	comp=Z,53nn,1.4s								
JCT				MLR		MLR			
	comp=Z,2μm,20.0s								
JCT	**Junction City**	**85.33**	**57**	*e*P		**P**		**23 59 11.4**	**+1.4**
	comp=Z,53nn,1.4s								
JCT				LR		LR			
	comp=Z,2μm,20.0s								
AMTX	**Amarillo**	**85.39**	**52**	P		**P**		**23 59 11.3**	**+1.0**
	baz=249								
AMTX	**Amarillo**	**85.39**	**52**	*e*P		**P**		**23 59 10.9**	**+0.7**
	comp=Z,43nn,1.3s								
AMTX				*e*PP		**PP**		**00 02 27.4**	**-1.3**
AMTX				LR		LR			
	comp=Z,3μm,20.0s								
HIA	**Hailar**	**85.46**	**323**	*e*P		**P**		**23 59 10.2**	**0.0**
HIA				pmax		pmax			
	comp=Z,14nn,1.0s								
HIA				MLR		MLR			
	comp=Z,2μm,20.0s								
HIA	**Hailar**	**85.46**	**323**	*e*P		**P**		**23 59 10.2**	**0.0**
	comp=Z,14nn,1.0s								
HIA				LR		LR			
	comp=Z,2μm,20.0s								
SKNT	**Sakolnakorn**	**85.55**	**289**	P		**P**		**23 59 10.9**	**-0.4**
	comp=Z,9.3nn,0.9s								
PMSA	**Palmer Station**	**85.63**	**156**	PFAKE				23 59 20.0	+9.2
PMSA				LR		LR			
	comp=Z,199nn,21.0s								
EDM	**Edmonton**	**85.86**	**32**	*e*P		**P**		**23 59 12.9**	**+0.8**
EDM	**Edmonton**	**85.86**	**32**	PFAKE				23 59 20.0	+7.9
EDM				LR		LR			
	comp=Z,2μm,21.0s								
GYA	**Guiyang**	**86.01**	**298**	*i*P		**P**		**23 59 16.3**	**+2.7**
GYA				pmax		pmax			
	comp=Z,20nn,1.0s								
GYA				pmax		pmax			
	comp=Z,140nn,6.2s								
GYA				LR		LR			
	comp=Z,880nn,20.6s								
GYA				LR		LR			
	comp=Z,740nn,21.0s								
GYA				LR		LR			
	comp=Z,760nn,21.2s								
SKLT	**Songkhla**	**86.04**	**278**	P		**P**		**23 59 18.4**	**+4.6**
	comp=Z,23nn,1.3s,comp=Z,632nn								
ABTX	**Abilene, Hawle**	**86.19**	**55**	P		**P**		**23 59 14.7**	**+0.5**
	baz=250								
ABTX	**Abilene, Hawle**	**86.19**	**55**	*e*P		**P**		**23 59 15.7**	**+1.5**
	comp=Z,195nn,1.2s								
ABTX				LR		LR			
	comp=Z,4μm,21.0s								
KSCO	**Kaye Shedlock'**	**86.21**	**48**	P		**P**		**23 59 14.5**	**+0.2**
	baz=248								
KSCO	**Kaye Shedlock'**	**86.21**	**48**	PFAKE				23 59 30.0	+16
KSCO				LR		LR			
	comp=Z,3μm,21.0s								
PSI	**Prapat**	**86.55**	**274**	P		**P**		**23 59 13.3**	**-3.2**
	comp=Z,2.2nn,0.4s,baz=149,slow=12,SNR=2.1								
PSI	**Prapat**	**86.55**	**274**	*e*P		**P**		**23 59 16.7**	**+0.2**
	comp=Z,16nn,1.0s								
LAO	**LASA Array**	**86.85**	**40**	P		**P**		**23 59 17.6**	**+0.4**
	baz=245								
LAO	**LASA Array**	**86.85**	**40**	PFAKE				23 59 30.0	+13
LAO				LR		LR			
	comp=Z,2μm,18.0s								
TRTT	**Trang**	**87.10**	**279**	P		**P**		**23 59 22.3**	**+3.3**
	comp=Z,17nn,1.1s,comp=Z,240nn								
HHC	**Hu-ho-hao-te**	**87.12**	**313**	*e*P		**P**		**23 59 20.3**	**+1.6**
HHC				sP		sP		23 59 27.8	+1.6
HHC				pmax		pmax			
	comp=Z,29nn,1.1s								
HHC				pmax		pmax			
	comp=Z,410nn,5.0s								
HHC				LR		LR			
	comp=Z,460nn,19.0s								
HHC				LR		LR			
	comp=Z,580nn,20.8s								
HHC				LR		LR			
	comp=Z,840nn,20.6s								
RSSD	**Black Hills**	**87.20**	**43**	*e*P		**P**		**23 59 20.0**	**+0.8**
RSSD				pmax		pmax			
	comp=Z,20nn,1.1s								
RSSD				MLR		MLR			
	comp=Z,2μm,20.0s								
RSSD	**Black Hills**	**87.20**	**43**	*e*P		**P**		**23 59 20.0**	**+0.8**
	comp=Z,20nn,1.1s								
RSSD				LR		LR			
	comp=Z,2μm,20.0s								
435B	**Jarrell**	**87.23**	**57**	P		**P**		**23 59 19.3**	**0.0**
	baz=251								
OGNE	**Ogallala**	**87.35**	**47**	P		**P**		**23 59 19.8**	**0.0**
	baz=248								
OGNE	**Ogallala**	**87.35**	**47**	PFAKE				23 59 30.0	+10
OGNE				LR		LR			
	comp=Z,2μm,22.0s								
WMOK	**Wichita Mounta**	**87.57**	**53**	P		**P**		**23 59 21.1**	**+0.2**
	baz=251								
WMOK	**Wichita Mounta**	**87.57**	**53**	PFAKE				23 59 30.0	+9.1
WMOK				LR		LR			
	comp=Z,3μm,20.0s								
YAK	**Yakutsk**	**87.68**	**337**	PFAKE				23 59 30.0	+9.3
YAK				LR		LR			
	comp=Z,900nn,22.0s								
WHTX	**Lake Whitney,**	**87.72**	**56**	P		**P**		**23 59 22.0**	**+0.3**
	baz=251								
WHTX	**Lake Whitney,**	**87.72**	**56**	PFAKE				23 59 30.0	+8.3
WHTX				LR		LR			
	comp=Z,4μm,20.0s								
MAW	**Mawson**	**87.89**	**199**	P		**P**		**23 59 22.0**	**+0.2**
	comp=Z,6.3nn,0.8s,baz=63,slow=4.5,SNR=3.1								
MAW				LR		LR		00 37 05.1	
	comp=Z,2μm,18.3s,baz=116,slow=35								
MAW	**Mawson**	**87.89**	**199**	P		**P**		**23 59 22.0**	**+0.2**
MAW				pmax		pmax			
	comp=Z,6.0nn,0.8s								
MAW				MLR		MLR			
	comp=Z,2μm,18.3s								
MAW	**Mawson**	**87.89**	**199**	*e*P		**P**		**23 59 23.4**	**+1.7**
	comp=Z,7.4nn,1.2s								
INK	**Inuvik**	**88.01**	**14**	P		**P**		**23 59 21.8**	**-0.3**
	comp=Z,1.1nn,0.8s,baz=227,slow=4.6,SNR=4.1								
INK				PP		**PP**		**00 02 47.5**	**-1.3**
	comp=Z,3.0nn,1.1s,baz=243,slow=6.7,SNR=3.1								
INK	**Inuvik**	**88.01**	**14**	*e*P		**P**		**23 59 21.6**	**-0.5**
INK				*e*				00 02 47.6	
INK				pmax		pmax			
	comp=Z,28nn,1.7s								
INK				MLR		MLR			
	comp=Z,1μm,22.0s								
INK	**Inuvik**	**88.01**	**14**	*e*P		**P**		**23 59 21.6**	**-0.5**
	comp=Z,28nn,1.7s								
INK				*e*PP		**PP**		**00 02 47.5**	**-1.3**
INK				LR		LR			
	comp=Z,1μm,22.0s								
BTO	**Baotou**	**88.13**	**313**	*e*P		**P**		**23 59 20.3**	**-3.2**
CBKS	**Cedar Bluff**	**88.24**	**49**	P		**P**		**23 59 24.5**	**+0.5**
	baz=250								
CBKS	**Cedar Bluff**	**88.24**	**49**	PFAKE				23 59 40.0	+16
CBKS				LR		LR			
	comp=Z,2μm,20.0s								
KMI	**Kunming**	**88.99**	**296**	P		**P**		**23 59 29.0**	**+0.9**
KMI				pP		pP		23 59 33.6	0.0
KMI				pmax		pmax			
	comp=Z,390nn,6.0s								
KMI				LR		LR			
	comp=Z,580nn,22.9s								
KMI				LR		LR			
	comp=Z,470nn,30.5s								
KMI				LR		LR			
	comp=Z,2μm,37.1s								
NANT	**Nan**	**89.06**	**290**	P		P		23 59 33.7	+5.5
	comp=Z,3.9nn,0.9s,comp=Z,138nn								
SNET	**Serv Nac Est T**	**89.76**	**76**	PFAKE				23 59 40.0	+8.3
SNET				LR		LR			
	comp=Z,2μm,18.0s								
CD2	**Chengdu**	**89.80**	**302**	P		**P**		**23 59 32.0**	**+0.5**
CD2				pP		pP		23 59 36.3	-0.8
CD2				pmax		pmax			
	comp=Z,20nn,0.5s								
CD2				pmax		pmax			
	comp=Z,220nn,5.0s								
CD2				LR		LR			
	comp=Z,1μm,17.2s								
CD2				LR		LR			
	comp=Z,1μm,20.0s								
CD2				LR		LR			
	comp=Z,1μm,18.4s								
NATX	**Nacogdoches**	**89.92**	**57**	P		**P**		**23 59 32.6**	**+0.7**
	baz=253								
NATX	**Nacogdoches**	**89.92**	**57**	PFAKE				23 59 40.0	+8.0

comp=Z,2µm,19.0s
TUL1 Leonard 90.26 53 P P 23 59 34.2 +0.7
baz=252
TUL1 Leonard 90.26 53 PFAKE 23 59 50.0 +16
TUL1 LR LR
comp=Z,3µm,20.0s
J31A Geddes 90.47 45 P P 23 59 34.7 +0.4
baz=250
CM01 Chiang Mai Arr 90.55 289 eP P 23 59 35.9 +0.7
CMAR Chiang Mai Arr 90.57 289 P P 23 59 36.0 +0.6
comp=Z,3.9nm,1.0s,baz=96,slow=2.8,SNR=12
CMAR PKKPbc PKKPbc 00 17 12.2 +10
comp=Z,1.0nm,0.3s,baz=282,slow=4.5,SNR=5.4
CMAR LR LR 00 35 05.5
comp=Z,672nm,21.8s,baz=100,slow=32
CMAR Chiang Mai Arr 90.57 289 P P 23 59 36.0 +0.6
KSU1 Kansas State U 90.63 50 PFAKE 23 59 50.0 +15
KSU1 LR LR
comp=Z,2µm,20.0s
CHTO Chiang Mai 90.66 289 eP P 23 59 36.1 +0.3
CHTO pmax pmax
comp=Z,15nm,1.3s
CHTO MLR MLR
comp=Z,800nm,21.0s
CHTO Chiang Mai 90.66 289 eP P 23 59 36.1 +0.3
comp=Z,15nm,1.3s
CHTO LR LR
comp=Z,800nm,21.0s
O34A Beatrice 90.91 49 P P 23 59 37.4 +0.9
baz=252
341A Kurthwood 91.01 58 P P 23 59 37.9 +0.8
baz=254
140A Cam and Jess, 91.05 57 P P 23 59 38.2 +0.9
baz=254
MYIG MØrida 91.17 69 PFAKE 23 59 50.0 +12
MYIG LR LR
comp=Z,1µm,22.0s
LZH Lanzhou 91.25 307 eP P 23 59 41.8 +3.5
LZH pP sP 23 59 46.3 +0.4
LZH sP pP 23 59 48.3 +4.4
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,150nm,8.1s
LZH LR LR
comp=Z,760nm,16.8s
LZH LR LR
comp=Z,550nm,15.6s
LZH LR LR
comp=Z,830nm,17.8s
N34A Lincoln 91.26 48 P P 23 59 39.3 +1.3
baz=252
Z40A Long Farm, Mag 91.37 56 P P 23 59 40.1 +1.4
baz=254
M34A Aspy Farms, Fr 91.41 47 P P 23 59 39.8 +1.0
baz=252
241A Mo Tay, Goldon 91.41 57 P P 23 59 39.8 +0.9
baz=254
PLCA Paso Flores 91.42 133 P P 23 59 38.2 -0.8
comp=Z,1.9nm,0.9s,baz=264,slow=8.4,SNR=3.1
PLCA LR LR 00 31 39.4
comp=Z,2µm,21.5s,baz=266,slow=30
MDND Maddock 91.46 41 P P 23 59 38.9 +0.1
baz=250
MDND Maddock 91.46 41 eP P 23 59 40.6 +1.8
comp=Z,62nm,1.3s
MDND LR LR
comp=Z,2µm,18.0s
141A Papa Simpson, 91.58 57 P P 23 59 40.6 +0.9
baz=254
W39A Magazine 91.62 54 P P 23 59 41.7 +1.8
baz=253
F31A Hecla 91.66 43 P P 23 59 40.5 +0.7
baz=251
Y40A Okolona 91.68 55 P P 23 59 41.6 +1.4
baz=254
TGUH Tegucigalpa,Un 91.69 76 eP P 23 59 42.6 +2.1
comp=Z,56nm,1.1s
TGUH LR LR
comp=Z,1µm,18.0s
J33A Davis 91.71 46 P P 23 59 40.3 +0.2
baz=252
WLAR White Oak Lake 91.72 56 eP P 23 59 43.0 +2.7
comp=Z,56nm,1.1s
WLAR LR LR
comp=Z,4µm,19.0s
T38A Diamond 91.75 52 P P 23 59 42.0 +1.6
baz=253
H32A Carlson Farm, 91.76 44 P P 23 59 42.0 +1.6
baz=251
HHAR Hobbs 91.81 53 PFAKE 23 59 50.0 +9.3
HHAR LR LR
comp=Z,2µm,20.0s
Z41A Richland Creek 91.85 56 P P 23 59 41.8 +0.9
baz=254
V39A Pettigrew 91.91 54 P P 23 59 41.8 +0.6
baz=254
M35A Neola 92.03 48 P P 23 59 42.8 +1.1
baz=252
242A Grayson 92.05 58 P P 23 59 42.8 +0.9
baz=254
I33A Coleman 92.05 45 P P 23 59 43.4 +1.7
baz=252
ECSD EROS Data Cent 92.08 45 eP P 23 59 42.3 +0.5
comp=Z,23nm,1.4s
ECSD LR LR
comp=Z,3µm,22.0s
E31A Nome 92.13 42 P P 23 59 42.8 +0.8
baz=251
X40A Basin Creek Fa 92.17 55 P P 23 59 43.0 +0.7
baz=254
Q37A Longview Farm, 92.17 50 P P 23 59 43.0 +0.7
baz=253
Y41A Eaglette Beard 92.17 56 P P 23 59 43.0 +0.5
baz=254
W40A Ferguson Farm, 92.18 54 P P 23 59 43.0 +0.6
baz=254
W40A Ferguson Farm, 92.18 54 PFAKE 00 00 00.0 +18
W40A LR LR
comp=Z,4µm,21.0s
U39A Green Forest 92.19 53 P P 23 59 42.8 +0.3
baz=254
S38A Stockton 92.22 52 P P 23 59 43.6 +1.1
baz=254
H33A Prehn Over Nor 92.29 44 P P 23 59 43.2 +0.4
baz=252
TEIG Tepich 92.31 70 PFAKE 00 00 00.0 +17
TEIG LR LR
comp=Z,1µm,22.0s
L35A Bielow Farm, R 92.33 47 P P 23 59 44.5 +1.5
baz=253
142A Monroe 92.35 57 P P 23 59 44.5 +1.3
baz=254
N36A Muff Farm, Cla 92.36 49 P P 23 59 44.5 +1.4
baz=253
J34A George 92.40 46 P P 23 59 44.0 +0.8
baz=252
X41A Kaden, Bauxite 92.42 55 P P 23 59 44.7 +1.2
baz=254
P37A Lathrop 92.45 50 P P 23 59 44.8 +1.2
baz=253
T39A Clever 92.45 52 P P 23 59 44.3 +0.7
baz=254
FFC Flin Flon 92.53 34 eP P 23 59 43.7 +0.1
FFC pmax pmax
comp=Z,30nm,1.5s
FFC MLR MLR
comp=Z,2µm,20.0s
FFC Flin Flon 92.53 34 eP P 23 59 43.7 +0.1
comp=Z,30nm,1.5s
FFC ePP PP 00 03 16.3 -8.9
FFC LR LR
comp=Z,2µm,20.0s
V40A Witts Springs 92.54 54 P P 23 59 45.4 +1.2
baz=254
Z42A Norrel Spur, H 92.54 56 P P 23 59 44.9 +0.8
baz=254
243A Waterproof 92.55 58 P P 23 59 44.3 +0.1
baz=255
ULN Ulaanbaatar 92.61 319‖ eP P 23 59 43.7 -0.6
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 92.61 319 eP P 23 59 43.1 -1.2
comp=Z,7.7nm,1.0s
ULN LR LR
comp=Z,900nm,21.0s
C31A Landman Farms, 92.63 41 P P 23 59 44.3 +0.1
baz=251
UALR University of 92.63 55 PFAKE 00 00 00.0 +15
UALR LR LR
comp=Z,3µm,22.0s
G33A Ortonville 92.66 44 P P 23 59 45.3 +0.9
baz=252
U40A Yellville 92.67 53 P P 23 59 45.1 +0.4
baz=254
S39A Bolivar 92.68 52 P P 23 59 44.9 +0.2
baz=254
I34A Hadley 92.69 45 P P 23 59 43.9 -0.7
baz=252
K35A Storm Lake 92.73 47 P P 23 59 44.8 0.0
baz=253
O37A Wolven Farm, M 92.77 49 P P 23 59 44.0 -1.0
baz=253
Q38A Cooks Store, C 92.81 51 P P 23 59 44.2 -1.0
baz=254
W41B Gary Mavity, V 92.82 55 P P 23 59 45.2 -0.1
baz=254
WHAR Wooly Hollow 92.82 54 eP P 23 59 46.7 +1.3
comp=Z,49nm,1.3s
WHAR LR LR
comp=Z,4µm,21.0s
Y42A Garnett, Star 92.82 56 P P 23 59 44.8 -0.6
baz=254
CCAR Cane Creek 92.86 56 PFAKE 00 00 00.0 +14
CCAR LR LR
comp=Z,4µm,19.0s
B31A Greenbush Farm 92.88 41 P P 23 59 45.7 +0.3
baz=252
N37A Lee Faris, Mou 92.89 49 P P 23 59 46.3 +0.7
baz=253
H34A Spellman Lake, 92.94 45 P P 23 59 45.5 -0.2
baz=253
J35A Milford 92.94 46 P P 23 59 45.5 -0.3
baz=253
SYO Syowa Base 92.95 192‖ eP P 23 59 46.6 +1.3
SYO Syowa Base 92.95 192‖ epP pP 23 59 51.0 +0.1
F33A 5 Mile Ranch, 92.95 43 P P 23 59 45.8 0.0
baz=252
L36A Harm Buss Farm 92.95 47 P P 23 59 45.1 -0.8
baz=253
JTS JuntasAbangare 92.95 80 P P 23 59 48.5 +2.0
comp=Z,19nm,0.8s,baz=308,slow=2.9,SNR=11
JTS LR LR 00 32 27.3
comp=Z,2µm,19.4s,baz=354,slow=30
SONA1 Songino Array 93.02 319 eP P 23 59 42.8 -3.4
SONA0 Songino Array 93.02 319 eP P 23 59 45.8 -0.4
SONM Songino Array 93.02 319 P P 23 59 45.8 -0.4
comp=Z,1.3nm,0.9s,baz=95,slow=1.7,SNR=5.4
SONM LR LR 00 36 42.1
comp=Z,998nm,21.7s,baz=112,slow=32
344A Westbrook Farm 93.05 58 P P 23 59 45.8 -0.7
baz=255
V41A Mountainview 93.06 54 P P 23 59 46.6 +0.1
baz=254
P38A Dawn 93.07 50 P P 23 59 46.6 +0.2
baz=254
R39A Chumby, Stover 93.07 51 P P 23 59 47.1 +0.6
baz=254
X42A Stuttgart 93.14 55 P P 23 59 47.0 +0.1
baz=255
T40A Mansfield 93.14 53 P P 23 59 47.0 +0.1
baz=254
M37A Trindle Farm, 93.19 48 P P 23 59 47.1 +0.2
baz=254
G34A Benson 93.21 44 P P 23 59 47.4 +0.5
baz=253
244A Avery, Jackson 93.24 58 P P 23 59 48.2 +0.8
baz=255
O38A Galt 93.25 49 P P 23 59 47.4 +0.2
baz=254
K36A Gilmore City 93.26 47 P P 23 59 48.2 +0.9
baz=253
S40A Lebanon 93.28 52 P P 23 59 48.6 +1.1
baz=254
Q39A Willow Grove F 93.32 51 P P 23 59 48.5 +0.9
baz=254
A31A Linda, St. Vin 93.33 40 P P 23 59 46.5 -0.9
baz=252
U41A Viola 93.39 53 P P 23 59 48.6 +0.6
baz=255
W42A Bald Knob 93.42 55 P P 23 59 49.0 +0.8
baz=255
VBMS Vicksburg 93.42 58 PFAKE 00 00 00.0 +12
VBMS LR LR
comp=Z,1µm,20.0s
Y43A Makayla and Ka 93.53 56 P P 23 59 49.2 +0.5
baz=255
J36A Seneca 1, Swea 93.54 46 P P 23 59 48.8 +0.2
baz=254
B32A Ashes, Strandq 93.58 41 P P 23 59 49.3 +0.7
baz=252
H35A Sunnyside Ranc 93.59 45 P P 23 59 48.9 +0.1
baz=253
P39B Salisbury 93.61 50 P P 23 59 48.7 -0.2
baz=254
144A Alexander Plac 93.61 57 P P 23 59 49.1 0.0
baz=255
N38A Joes South For 93.61 49 P P 23 59 49.3 +0.4
baz=254
F34A Alexandria 93.63 44 P P 23 59 48.9 0.0
baz=253
D33A AnnSam, Waubun 93.64 42 P P 23 59 49.7 +0.7
baz=253
R40A Maddies Statio 93.65 52 P P 23 59 49.5 +0.4
baz=254
V42A Cord 93.66 54 P P 23 59 49.5 +0.3
baz=255
T41A Mountain View 93.70 53 P P 23 59 49.8 +0.4
baz=255
SNAA Sanae 93.74 178 P P 23 59 49.2 +0.1
comp=Z,2.7nm,1.0s,baz=261,slow=19,SNR=1.9
SNAA LR LR 00 36 13.1
comp=Z,1µm,21.6s,baz=184,slow=32
SNAA Sanae 93.74 178‖ eP P 23 59 51.7 +2.6
SNAA Sanae 93.74 178 eP P 23 59 51.5 +2.4
comp=Z,64nm,1.8s
A32A Rocking H Ranc 93.77 40 P P 23 59 49.5 +0.1
baz=252
Z44A Pea Ridge, Bel 93.77 57 P P 23 59 49.6 -0.2
baz=255
TIXI Tiksi 93.78 345 P P 23 59 46.8 -2.2
comp=Z,1.7nm,0.4s,baz=327,slow=9.1,SNR=5.7
TIXI Tiksi 93.78 345‖ eP P 23 59 50.6 +1.7
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 93.78 345 eP P 23 59 51.0 +2.1
comp=Z,44nm,2.0s
M38A Pleasantville 93.81 48 P P 23 59 49.9 +0.1
baz=254
S41A Jilco Farms, 93.86 52 P P 23 59 50.2 +0.1
baz=255
K37A Belmond 93.87 47 P P 23 59 49.7 -0.4
baz=254
C33A Trail 93.87 42 P P 23 59 50.0 0.0
baz=253
245A Little AP, Sta 93.89 58 P P 23 59 50.2 -0.2
baz=255
E34A Wadena 93.90 43 P P 23 59 49.4 -0.7
baz=253
U42A Revenden 93.92 54 P P 23 59 50.8 +0.3
baz=255
SCIA State Center 93.93 48 P P 23 59 50.6 +0.2
baz=254
SCIA State Center 93.93 48 PFAKE 00 00 00.0 +10
SCIA LR LR
comp=Z,3µm,20.0s
I36A Fitzsimmons Fa 93.96 46 P P 23 59 50.3 -0.1
baz=254
O39A Kirksville 93.97 50 P P 23 59 51.0 +0.4
baz=254
AGMN Agassiz Nation 93.98 41 P P 23 59 51.2 +0.8
baz=253
AGMN Agassiz Nation 93.98 41 eP P 23 59 51.4 +1.0
comp=Z,23nm,1.3s
AGMN LR LR
comp=Z,2µm,20.0s
G35A Watkins 93.98 44 P P 23 59 51.1 +0.6
baz=254
Q40A Laux Farm, Aux 93.98 51 P P 23 59 51.1 +0.4
baz=255
446A Poplarville 94.01 59 P P 23 59 50.6 -0.3
baz=256
346A Big Creek Wild 94.08 59 P P 23 59 51.4 +0.2
baz=256
J37A Redenius Farm, 94.08 46 P P 23 59 51.5 +0.5
baz=254
F35A Swanville 94.10 44 P P 23 59 51.1 0.0
baz=254
P40A Paris 94.14 50 P P 23 59 51.4 +0.1
baz=255
B33A Robert and Kas 94.14 41 P P 23 59 51.5 +0.3
baz=253
N39A Derby Farms, D 94.17 49 P P 23 59 51.7 +0.2
baz=254
L38A Oak Wood Farm, 94.18 48 P P 23 59 51.7 +0.2
baz=254
T42A Van Buren 94.21 53 P P 23 59 51.9 +0.1
baz=255
X44A Crenshaw 94.31 56 P P 23 59 52.3 +0.1
baz=255
V43A Jonesboro 94.32 54 P P 23 59 52.6 +0.4
baz=255
R41A Rosebud 94.32 52 P P 23 59 52.4 +0.1
baz=255
I37A Lemond, Waseca 94.39 46 P P 23 59 53.4 +0.9
baz=254
Z45A Winona 94.39 57 P P 23 59 52.6 -0.1
baz=256
C34A RKJ Ranch, Bem 94.40 42 P P 23 59 52.3 -0.1
baz=253
E35A Pequot Lakes 94.42 43 P P 23 59 53.2 +0.7
baz=254
O40A La Belle 94.43 50 P P 23 59 53.7 +1.0
baz=255
K38A Parkersburg 94.45 47 P P 23 59 53.7 +0.9
baz=254
A33A Warroad 94.47 41 P P 23 59 53.7 +1.0
baz=253
G36A St. Michael 94.48 45 P P 23 59 53.8 +1.0
baz=254
ULM Lac du Bonnet 94.55 39 P P 23 59 52.8 -0.2
comp=Z,5.9nm,1.1s,baz=241,slow=9.4,SNR=3.0
ULM PP PP 00 03 42.3 +1.2
comp=Z,4.7nm,1.2s,baz=241,slow=7.4,SNR=3.5
ULM LR LR 00 36 20.8
comp=Z,3µm,20.5s,baz=263,slow=32
ULM Lac du Bonnet 94.55 39 eP P 23 59 55.0 +2.0
comp=Z,52nm,1.8s
ULM PP PP 00 03 42.3 +1.2
M39A Webster 94.57 48 P P 23 59 54.2 +0.9
baz=255
Q41A Truxton 94.60 51 P P 23 59 53.9 +0.4
baz=255
S42A Caledonia 94.63 52 P P 23 59 53.7 0.0
baz=255
MET Memphis--Engin 94.63 55 PFAKE 00 00 10.0 +16
MET LR LR
comp=Z,2µm,20.0s
Y45A Yeager Farm, C 94.63 56 P P 23 59 54.3 +0.6
baz=256
NVL N'lazarevskaya 94.65 182 eP P 23 59 53.3 +0.1
NVL pmax pmax
comp=Z,46nm,2.2s
NVL MLR MLR
comp=Z,2µm,25.0s
PBMO Poplar Bluff 94.66 53 eP P 23 59 54.3 +0.4
comp=Z,40nm,1.4s
PBMO LR LR
comp=Z,2µm,22.0s
PBA Port Blair 94.68 281 eP P 23 59 52.9 -1.5
146A Union 94.72 58 P P 23 59 55.0 +0.8
baz=256
R42A Luebbering 94.76 52 P P 23 59 55.4 +1.1
baz=255
D35A Remer 94.80 43 P P 23 59 55.2 +1.0
baz=254
B34A Aery, Baudette 94.81 41 P P 23 59 54.9 +0.6
baz=254
F36A Milaca 94.81 44 P P 23 59 54.7 +0.4
baz=254
N40A Mertquake, Sal 94.84 49 P P 23 59 55.1 +0.5
baz=255
T43A Greenville 94.85 53 P P 23 59 55.0 +0.3
baz=256
L39A Vinton 94.86 48 P P 23 59 55.7 +1.0
baz=255
DGPR DIGLIPUR 94.87 282 eP P 23 59 54.0 -1.3
H37A Dierke Farm, C 94.87 45 P P 23 59 55.2 +0.6
baz=255
X45A UU Field Stati 94.89 56 P P 23 59 55.4 +0.4
baz=256
OXF Oxford 94.90 56 P P 23 59 55.5 +0.6
baz=256
OXF Oxford 94.90 56 eP P 23 59 56.7 +1.7
OXF pmax pmax
comp=Z,97nm,1.3s
OXF MLR MLR
comp=Z,2µm,20.0s
OXF Oxford 94.90 56 eP P 23 59 56.7 +1.7
comp=Z,97nm,1.3s
OXF LR LR
comp=Z,2µm,20.0s
P41A Barry, Barry 94.92 50 P P 23 59 55.3 +0.4
baz=255
Z46A Louisville 94.95 57 P P 23 59 55.0 -0.2
baz=256
FVM French Village 94.97 52 eP P 23 59 56.4 +1.2
FVM pmax pmax
comp=Z,41nm,1.1s
FVM MLR MLR
comp=Z,3µm,20.0s
FVM French Village 94.97 52 eP P 23 59 56.4 +1.2
comp=Z,41nm,1.1s
FVM LR LR
comp=Z,3µm,20.0s
C35A Jirik Farms, M 95.02 42 P P 23 59 55.7 +0.5
baz=254
M40A Post Highland 95.03 49 P P 23 59 55.9 +0.5
baz=255
Q42A Golden Eagle 95.12 51 P P 23 59 57.0 +1.1
baz=256
SPMN Marine on St. 95.12 45 P P 23 59 56.8 +1.1
baz=255
SPMN Marine on St. 95.12 45 eP P 23 59 56.5 +0.7
comp=Z,18nm,1.1s
SPMN LR LR
comp=Z,2µm,21.0s
I38A Scanlan Farm, 95.14 46 P P 23 59 56.5 +0.7
baz=255
S43A Fulton Ridge, 95.14 53 P P 23 59 56.4 +0.4
baz=256
PVMO Portageville 95.14 54 PFAKE 00 00 10.0 +14
PVMO LR LR
comp=Z,3µm,22.0s
O41A Passleys Farm, 95.16 50 P P 23 59 56.2 +0.2
baz=256
E36A McGregor 95.17 43 P P 23 59 56.9 +1.0
baz=254
Y46A Houston 95.19 56 P P 23 59 57.3 +1.0
baz=256
GTA Gaotai 95.23 309 eP P 23 59 59.3 +2.7
GTA pmax pmax
comp=Z,150nm,6.2s
GTA LR LR
comp=Z,580nm,19.2s
GTA LR LR
comp=Z,1µm,23.0s
GTA LR LR
comp=Z,2µm,24.5s
W45A Hickory Valley 95.24 55 P P 23 59 57.0 +0.5
baz=256
SLM Saint Louis 95.28 52 eP P 00 00 00.2 +3.6
SLM pmax pmax
comp=Z,57nm,1.4s
SLM MLR MLR
comp=Z,2µm,20.0s
SLM Saint Louis 95.28 52 eP P 00 00 00.2 +3.6
comp=Z,57nm,1.4s
SLM LR LR
comp=Z,2µm,20.0s
448A Bay Minette 95.30 60 P P 23 59 57.5 +0.6
baz=256
N41A Harden Midland 95.33 49 P P 23 59 57.2 +0.4
baz=256
H38A Maiden Rock 95.33 45 P P 23 59 56.9 +0.2
baz=255
B35A Bob, Littlefor 95.36 42 P P 23 59 57.9 +1.1
baz=254
F37A Hinrichs Farm, 95.38 44 P P 23 59 58.1 +1.2
baz=255
147A Livingston 95.38 58 P P 23 59 57.6 +0.4
baz=256
J39A Decorah 95.39 47 P P 23 59 57.2 +0.2
baz=255

T44A	**Benton**	**95.39**	**53**	P	**P**	**23 59 58.2**	**+1.1**
	baz=256							
D36A	**Goodland**	**95.41**	**43**	P	**P**	**23 59 57.2**	**+0.2**
	baz=255							
L40A	**Anamosa**	**95.41**	**48**	P	**P**	**23 59 57.9**	**+0.8**
	baz=256							
R43A	**Red Bud**	**95.42**	**52**	P	**P**	**23 59 57.7**	**+0.5**
	baz=256							
P42A	**Winchester**	**95.43**	**51**	P	**P**	**23 59 57.8**	**+0.5**
	baz=256							
V45A	**Humboldt**	**95.56**	**55**	P	**P**	**23 59 58.2**	**+0.3**
	baz=256							
X46A	**Booneville**	**95.57**	**56**	P	**P**	**23 59 58.7**	**+0.6**
	baz=256							
K40A	**Colesburg**	**95.63**	**47**	P	**P**	**23 59 59.1**	**+1.0**
	baz=256							
I39A	**Houston**	**95.65**	**46**	P	**P**	**23 59 58.2**	**0.0**
	baz=255							
Z47A	**Carrollton**	**95.67**	**57**	P	**P**	**23 59 59.5**	**+1.0**
	baz=256							
248A	**Dixon Mills**	**95.68**	**58**	P	**P**	**23 59 59.0**	**+0.5**
	baz=256							
M41A	**Milan**	**95.73**	**49**	P	**P**	**23 59 59.0**	**+0.4**
	baz=256							
ZAK	**Zakamensk**	**95.73**	**320**	*e*P	**P**	**00 00 00.4**	**+1.9**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.9s							
G38A	**Ridgeland**	**95.76**	**45**	P	**P**	**23 59 59.2**	**+0.5**
	baz=255							
Q43A	**New Douglas**	**95.76**	**51**	P	**P**	**23 59 59.3**	**+0.5**
	baz=256							
C36A	**Pine Crest Far**	**95.77**	**42**	P	**P**	**23 59 59.4**	**+0.7**
	baz=255							
O42A	**Bath**	**95.78**	**50**	P	**P**	**23 59 59.5**	**+0.6**
	baz=256							
S44A	**Carbondale**	**95.80**	**53**	P	**P**	**23 59 59.3**	**+0.3**
	baz=256							
SIUC	**Southern Illin**	**95.83**	**53**	*e*P	**P**	**00 00 00.2**	**+1.1**
SIUC	comp=Z,24nm,1.2s							
SIUC				*e*PP	**PP**	**00 03 48.0**	**-3.3**
				LR	LR			
	comp=Z,2μm,20.0s							
TLY	**Talaya**	**95.87**	**322**	*e*P	**P**	**00 00 00.7**	**+1.7**
TLY				*e*PS	**PS**	**00 12 45.3**	**+8.0**
TLY				pmax	pmax			
	comp=Z,6.0nm,1.1s							
TLY				MLR	MLR			
	comp=Z,649nm,20.0s							
TLY	**Talaya**	**95.87**	**322**	PFAKE		00 00 10.0	+11
TLY				LR	LR			
	comp=Z,1μm,20.0s							
W46A	**Michie**	**95.87**	**55**	P	**P**	**23 59 59.9**	**+0.5**
	baz=256							
D37A	**Cotton**	**95.89**	**43**	P	**P**	**23 59 59.8**	**+0.6**
	baz=255							
L41A	**Preston**	**95.93**	**48**	P	**P**	**00 00 00.0**	**+0.5**
	baz=256							
F38A	**Pierce - Schro**	**95.94**	**44**	P	**P**	**00 00 00.0**	**+0.6**
	baz=255							
N42A	**Yates City**	**95.97**	**50**	P	**P**	**00 00 00.2**	**+0.5**
	baz=256							
H39A	**Augusta**	**96.03**	**46**	P	**P**	**00 00 00.5**	**+0.6**
	baz=256							
BRAL	**Brewton**	**96.03**	**59**	PFAKE		00 00 10.0	+10
BRAL				LR	LR			
	comp=Z,1μm,20.0s							
P43A	**Skaggs, Pawnee**	**96.06**	**51**	P	**P**	**00 00 00.4**	**+0.2**
	baz=256							
R44A	**Waltonville**	**96.06**	**52**	P	**P**	**00 00 00.5**	**+0.3**
	baz=256							
PLAL	**Pickwick Lake**	**96.08**	**56**	*e*P	**P**	**00 00 02.1**	**+1.7**
	comp=Z,35nm,1.4s							
PLAL				LR	LR			
	comp=Z,2μm,20.0s							
J40A	**Soldiers Grove**	**96.08**	**47**	P	**P**	**00 00 00.6**	**+0.4**
	baz=256							
X47A	**Russelville**	**96.15**	**56**	P	**P**	**00 00 00.5**	**-0.1**
	baz=257							
249A	**Camden**	**96.16**	**59**	P	**P**	**00 00 01.2**	**+0.5**
	baz=257							
C37A	**Embarrass**	**96.19**	**42**	P	**P**	**00 00 01.1**	**+0.5**
	baz=255							
K41A	**Shullsburg**	**96.20**	**48**	P	**P**	**00 00 00.7**	**0.0**
	baz=256							
V46A	**Holladay**	**96.24**	**55**	P	**P**	**00 00 01.4**	**+0.4**
	baz=257							
G39A	**Holcombe**	**96.25**	**45**	P	**P**	**00 00 01.7**	**+0.8**
	baz=256							
Q44A	**Meyer Farm, Va**	**96.27**	**52**	P	**P**	**00 00 01.8**	**+0.7**
	baz=256							
I40A	**Norwalk**	**96.29**	**46**	P	**P**	**00 00 01.7**	**+0.6**
	baz=256							
S45A	**Carrier Mills**	**96.31**	**53**	P	**P**	**00 00 01.1**	**-0.2**
	baz=257							
JFWS	**Jewell Farm**	**96.32**	**47**	*e*P	**P**	**00 00 01.7**	**+0.5**
JFWS				*e*		00 03 52.0		
JFWS				pmax	pmax			
	comp=Z,50nm,1.5s							
JFWS				MLR	MLR			
	comp=Z,3μm,20.0s							
JFWS	**Jewell Farm**	**96.32**	**47**	*e*P	**P**	**00 00 01.7**	**+0.5**
	comp=Z,50nm,1.5s							
JFWS				*e*PP	**PP**	**00 03 52.0**	**-3.1**
JFWS				LR	LR			
	comp=Z,3μm,20.0s							
E38A	**The Farm, Brul**	**96.32**	**44**	P	**P**	**00 00 01.1**	**-0.1**
	baz=256							
HDIL	**Hopedale**	**96.45**	**50**	PFAKE		00 00 10.0	+8.1
HDIL				LR	LR			
	comp=Z,2μm,20.0s							
LRAL	**Lakeview Retre**	**96.50**	**58**	PFAKE		00 00 10.0	+7.7
LRAL				LR	LR			
	comp=Z,1μm,20.0s							
L42A	**Oliver, Polo**	**96.52**	**48**	P	**P**	**00 00 03.2**	**+1.1**
	baz=256							
W47A	**Westpoint**	**96.53**	**55**	P	**P**	**00 00 03.5**	**+1.1**
	baz=257							
WVT	**Waverly**	**96.54**	**54**	P	**P**	**00 00 03.2**	**+0.7**
	baz=257							
WVT	**Waverly**	**96.54**	**54**	*e*P	**P**	**00 00 03.7**	**+1.3**
WVT				pmax	pmax			
	comp=Z,27nm,1.4s							
WVT				MLR	MLR			
	comp=Z,2μm,20.0s							
WVT	**Waverly**	**96.54**	**54**	*e*P	**P**	**00 00 03.7**	**+1.3**
	comp=Z,27nm,1.4s							
WVT				LR	LR			
	comp=Z,2μm,20.0s							
Y48A	**Jasper**	**96.56**	**57**	P	**P**	**00 00 03.3**	**+0.7**
	baz=257							
149A	**Jones**	**96.57**	**58**	P	**P**	**00 00 03.0**	**+0.3**
	baz=257							
F39A	**Loretta**	**96.58**	**44**	P	**P**	**00 00 03.4**	**+1.0**
	baz=256							
J41A	**Loganville**	**96.59**	**47**	P	**P**	**00 00 02.9**	**+0.4**
	baz=256							
N43A	**Stutzman Famil**	**96.63**	**50**	P	**P**	**00 00 03.8**	**+1.1**
	baz=257							
H40A	**Chili**	**96.63**	**46**	P	**P**	**00 00 03.7**	**+1.1**
	baz=256							
R45A	**Skylar, Fairfi**	**96.68**	**52**	P	**P**	**00 00 04.7**	**+1.7**
	baz=257							
EYMN	**Ely**	**96.70**	**42**	P	**P**	**00 00 04.0**	**+1.1**
	baz=256							
EYMN	**Ely**	**96.70**	**42**	PFAKE		00 00 20.0	+17
EYMN				LR	LR			
	comp=Z,2μm,20.0s							
P44A	**Sand Creek, Wi**	**96.70**	**51**	P	**P**	**00 00 04.8**	**+1.7**
	baz=257							
T46A	**Princeton**	**96.70**	**54**	P	**P**	**00 00 04.2**	**+1.1**
	baz=257							
V47A	**Nunnelly**	**96.72**	**55**	P	**P**	**00 00 04.6**	**+1.3**
	baz=257							
OTAV	**Otavalo**	**96.76**	**92**	PFAKE		00 00 20.0	+15
OTAV				LR	LR			
	comp=Z,800nm,20.0s							
X48A	**Hartselle**	**96.78**	**56**	P	**P**	**00 00 03.7**	**+0.2**
	baz=257							
I41A	**Arkdale**	**96.86**	**46**	P	**P**	**00 00 04.0**	**+0.3**
	baz=257							
M43A	**Waltham Townsh**	**96.90**	**49**	P	**P**	**00 00 05.0**	**+1.1**
	baz=257							
G40A	**Rib Lake**	**96.91**	**45**	P	**P**	**00 00 04.7**	**+0.7**
	baz=256							
Q45A	**Warren Harvey,**	**96.92**	**52**	P	**P**	**00 00 04.3**	**+0.2**
	baz=257							
Z49A	**Columbiana**	**96.92**	**58**	P	**P**	**00 00 04.3**	**+0.1**
	baz=257							
OLIL	**Olney**	**96.92**	**52**	PFAKE		00 00 20.0	+16
OLIL				LR	LR			
	comp=Z,3μm,20.0s							
K42A	**Prairie Point,**	**96.93**	**48**	P	**P**	**00 00 04.0**	**0.0**
	baz=257							
W48A	**Pulaski**	**97.03**	**56**	P	Pdif	00 00 05.0	+0.2
	baz=257							
U47A	**Clarksville**	**97.04**	**54**	P	Pdif	00 00 05.1	+0.4
	baz=257							
USIN	**University of**	**97.08**	**53**	PFAKE		00 00 20.0	+15
USIN				LR	LR			
	comp=Z,2μm,22.0s							
F40A	**Park Falls**	**97.12**	**45**	P	Pdif	00 00 05.7	+0.7
	baz=257							
H41A	**Junction City**	**97.14**	**46**	P	Pdif	00 00 05.2	+0.2
	baz=257							
Y49A	**Blount Mountai**	**97.16**	**57**	P	**P**	**00 00 05.4**	**+0.1**
	baz=257							
150A	**Eclectic**	**97.21**	**58**	P	Pdif	00 00 05.9	+0.3
	baz=257							
J42A	**Columbus**	**97.21**	**47**	P	Pdif	00 00 05.9	+0.5
	baz=257							
L43A	**Garden Prairie**	**97.23**	**48**	P	Pdif	00 00 05.6	+0.2
	baz=257							
V48A	**Smith Brothers**	**97.25**	**55**	P	Pdif	00 00 07.1	+1.4
	baz=257							
T47A	**Sharon Grove**	**97.30**	**54**	P	Pdif	00 00 06.8	+0.9
	baz=257							
N44A	**Piper City**	**97.36**	**50**	P	Pdif	00 00 07.2	+1.1
	baz=257							
P45A	**Graceland, Par**	**97.37**	**51**	P	Pdif	00 00 06.8	+0.7
	baz=257							
X49A	**Woodville**	**97.38**	**56**	P	Pdif	00 00 06.5	+0.2
	baz=258							
E40A	**Wakefield**	**97.39**	**44**	P	Pdif	00 00 06.5	+0.4
	baz=257							
Z50A	**Ashland**	**97.43**	**58**	P	Pdif	00 00 07.2	+0.6
	baz=258							
I42A	**Draeger Farm,**	**97.49**	**47**	P	Pdif	00 00 07.2	+0.6
	baz=257							
452A	**Marianna**	**97.52**	**60**	P	**P**	**00 00 07.0**	**+0.1**
	baz=258							
O45A	**Potomac**	**97.55**	**50**	P	Pdif	00 00 07.1	+0.2
	baz=258							
C39A	**Grand Marais**	**97.56**	**43**	P	Pdif	00 00 08.2	+1.4
	baz=257							
M44A	**Midewin, Midew**	**97.56**	**49**	P	Pdif	00 00 07.9	+0.9
	baz=257							
BCIP	**Isla Barro Col**	**97.58**	**83**	PFAKE		00 00 20.0	+12
BCIP				LR	LR			
	comp=Z,700nm,22.0s							
G41A	**Antigo**	**97.60**	**45**	P	Pdif	00 00 07.9	+0.8
	baz=257							
K43A	**Burlington**	**97.64**	**48**	P	Pdif	00 00 08.3	+1.0
	baz=257							
U48A	**Cassie Pea, Po**	**97.64**	**54**	P	Pdif	00 00 08.7	+1.2
	baz=258							
Y50A	**Piedmont**	**97.72**	**57**	P	Pdif	00 00 08.3	+0.4
	baz=258							
J43A	**Natural Harves**	**97.73**	**47**	P	Pdif	00 00 07.9	+0.2
	baz=258							
F41A	**Three Lakes**	**97.77**	**45**	P	Pdif	00 00 09.6	+1.7
	baz=257							
P46A	**Rosedale**	**97.80**	**51**	P	Pdif	00 00 08.6	+0.6
	baz=258							
COWI	**Conover**	**97.83**	**44**	*e*P	Pdif	00 00 09.8	+1.6
	comp=Z,9.0nm,0.9s							
COWI				LR	LR			
	comp=Z,2μm,19.0s							
N45A	**Kentland**	**97.83**	**50**	P	Pdif	00 00 09.9	+1.7
	baz=258							
H42A	**Shiocton**	**97.90**	**46**	P	Pdif	00 00 09.4	+1.0
	baz=258							
X50A	**Fort Payne**	**97.91**	**57**	P	Pdif	00 00 09.2	+0.4
	baz=258							
FCC	**Fort Churchill**	**97.93**	**31**	*e*P	Pdif	00 00 09.0	+0.8
FCC				pmax	pmax			
	comp=Z,35nm,1.8s							
FCC				MLR	MLR			
	comp=Z,2μm,20.0s							
FCC	**Fort Churchill**	**97.93**	**31**	*e*P	Pdif	00 00 09.0	+0.8
	comp=Z,35nm,1.8s							
FCC				LR	LR			
	comp=Z,2μm,20.0s							
E41A	**Kenton**	**98.03**	**44**	P	Pdif	00 00 09.6	+0.6
	baz=258							
I43A	**Langenfeld Bro**	**98.03**	**47**	P	Pdif	00 00 09.2	+0.2
	baz=258							
R47A	**Wooly Knot Far**	**98.03**	**53**	P	Pdif	00 00 09.3	+0.1
	baz=258							
SFIN	**Lafayette**	**98.04**	**50**	P	**P**	**00 00 09.1**	**0.0**
	baz=258							
SFIN	**Lafyette**	**98.04**	**50**	*e*P	Pdif	00 00 09.8	+0.6
	comp=Z,11nm,0.9s							
SFIN				LR	LR			
	comp=Z,2μm,19.0s							
G42A	**Mountain**	**98.13**	**45**	P	**P**	**00 00 09.5**	**+0.1**
	baz=258							
BLO	**Bloomington**	**98.22**	**52**	PFAKE		00 00 20.0	+10
BLO				LR	LR			
	comp=Z,4μm,20.0s							
Q47A	**Bedord North L**	**98.24**	**52**	P	Pdif	00 00 10.6	+0.5
	baz=258							
N46A	**Monticello**	**98.42**	**50**	P	Pdif	00 00 11.0	+0.2
	baz=258							
353A	**Camilla**	**98.44**	**60**	P	Pdif	00 00 11.7	+0.6
	baz=258							
F42A	**Maple Grove Fa**	**98.44**	**45**	P	Pdif	00 00 11.0	+0.2
	baz=258							
SHL	**Shillong**	**98.61**	**294**	*e*P	**P**	**00 00 08.9**	**-3.3**
SHL				IAMs_20	IAMs_20	00 34 05.3		
	comp=Z,2μm,32.1s							
554A	**Perry**	**98.63**	**61**	P	Pdif	00 00 12.2	+0.3
	baz=258							
G43A	**Wallace**	**98.64**	**46**	P	Pdif	00 00 12.3	+0.6
	baz=258							
O47A	**Sheridan**	**98.70**	**51**	P	Pdif	00 00 13.4	+1.3
	baz=258							
E42A	**Champion**	**98.73**	**44**	P	Pdif	00 00 12.7	+0.6
	baz=258							
454A	**Quitman**	**98.80**	**61**	P	Pdif	00 00 13.2	+0.4
	baz=258							
M46A	**Old House Fiel**	**98.81**	**50**	P	**P**	**00 00 12.3**	**-0.2**
	baz=258							
TIGA	**Tifton**	**98.98**	**60**	PFAKE		00 00 30.0	+16
TIGA				LR	LR			
	comp=Z,899nm,20.0s							
F43A	**Flat Rock, Esc**	**99.11**	**45**	P	**Pdif**	**00 00 14.6**	**+0.8**
	baz=259							
957A	**Wimauma**	**99.38**	**64**	P	**Pdif**	**00 00 16.5**	**+1.1**
	baz=258							
GOGA	**Godfrey**	**99.47**	**58**	PFAKE		00 00 30.0	+14
GOGA				LR	LR			
	comp=Z,2μm,22.0s							
F44A	**Big Bay de Noc**	**99.65**	**45**	P	**Pdif**	**00 00 17.7**	**+1.5**
	baz=259							
TKL	**Tuckaleechee C**	**99.66**	**56**	LR	LR	00 39 29.3		
	comp=Z,2μm,19.4s,baz=255,slow=32							
TZTN	**Tazewell**	**100.01**	**55**	PFAKE		00 00 30.0	+12
TZTN				LR	LR			
	comp=Z,3μm,20.0s							
LSA	**Lhasa**	**100.08**	**298**	PFAKE		00 00 30.0	+11
LSA				LR	LR			
	comp=Z,500nm,21.0s							
DWPF	**Disney Wildern**	**100.17**	**64**	PFAKE		00 00 30.0	+11
DWPF				LR	LR			
	comp=Z,700nm,20.0s							
BG3	**Lake Jocassee**	**100.21**	**56**	PFAKE		00 00 30.0	+11
BG3				LR	LR			
	comp=Z,2μm,20.0s							
F45A	**CNU Biological**	**100.22**	**45**	P	**Pdif**	**00 00 19.5**	**+0.8**
	baz=260							
E45A	**Wooded Hills,**	**100.58**	**45**	P	**Pdif**	**00 00 21.3**	**+1.1**
	baz=260							
HODGE	**Hodges**	**100.62**	**57**	PFAKE		00 00 30.0	+9.3
HODGE				LR	LR			
	comp=Z,2μm,20.0s							
GLMI	**Grayling**	**100.70**	**46**	PFAKE		00 00 30.0	+9.1
GLMI				LR	LR			
	comp=Z,2μm,22.0s							
AAM	**Ann Arbor**	**100.95**	**49**	PFAKE		00 00 30.0	+8.0
AAM				LR	LR			
	comp=Z,2μm,19.0s							
PRAC	**Prado**	**101.07**	**89**	PFAKE		00 00 40.0	+17
PRAC				LR	LR			
	comp=Z,1μm,22.0s							
PAULI	**Pauline**	**101.08**	**57**	PFAKE		00 00 40.0	+17
PAULI				LR	LR			
	comp=Z,2μm,21.0s							
ACSO	**Alum Creek Sta**	**101.10**	**51**	PFAKE		00 00 40.0	+17
ACSO				LR	LR			
	comp=Z,4μm,20.0s							
257A	**Skidaway Islan**	**101.23**	**60**	P	**Pdif**	**00 00 24.3**	**+0.8**
	baz=260							
JSC	**Jenkinsville**	**101.44**	**57**	PFAKE		00 00 40.0	+16
JSC				LR	LR			
	comp=Z,2μm,20.0s							
RES	**Resolute Bay**	**101.52**	**16**	PFAKE		00 00 40.0	+16
RES				LR	LR			
	comp=Z,2μm,19.0s							
KMSC	**Kings Mountain**	**101.53**	**57**	PFAKE		00 00 40.0	+15
KMSC				LR	LR			
	comp=Z,2μm,21.0s							
ROSC	**El Rosal**	**101.88**	**88**	PFAKE		00 00 40.0	+13
ROSC				LR	LR			
	comp=Z,900nm,21.0s							
NHSC	**New Hope**	**102.13**	**59**	PFAKE		00 00 40.0	+13
NHSC				LR	LR			
	comp=Z,2μm,19.0s							
BLA	**Blacksburg**	**102.59**	**55**	PFAKE		00 00 40.0	+10
BLA				LR	LR			
	comp=Z,2μm,20.0s							
NCAT	**North Carolina**	**102.94**	**56**	PFAKE		00 00 40.0	+9.0
NCAT				LR	LR			
	comp=Z,2μm,20.0s							
MCWV	**Mont Chateau**	**103.40**	**52**	PFAKE		00 00 50.0	+17
MCWV				LR	LR			
	comp=Z,2μm,20.0s							
ALLY	**Alegheny Colle**	**103.44**	**50**	PFAKE		00 00 50.0	+17
ALLY				LR	LR			
	comp=Z,2μm,22.0s							
N54A	**Moraine State**	**103.47**	**51**	PFAKE		00 00 50.0	+17
N54A				LR	LR			
	comp=Z,4μm,20.0s							
ERPA	**Erie**	**103.62**	**50**	PFAKE		00 00 50.0	+16
ERPA				LR	LR			
	comp=Z,2μm,22.0s							
BOK	**Bokaro**	**103.63**	**291**	*e*P	**Pdif**	**00 00 31.8**	**-2.5**
BOK				IAMs_20	IAMs_20	00 37 09.3		
	comp=Z,2μm,31.0s							
M54A	**Oil Creek Stat**	**103.78**	**50**	PFAKE		00 00 50.0	+15
M54A				LR	LR			
	comp=Z,2μm,19.0s							
GTBY	**Guantanamo Bay**	**104.32**	**73**	PFAKE		00 00 50.0	+12
GTBY				LR	LR			
	comp=Z,1μm,20.0s							
CNNC	**Cliffs of the**	**104.33**	**57**	PFAKE		00 00 50.0	+13
CNNC				LR	LR			
	comp=Z,2μm,21.0s							
O56A	**Blue Knob Stat**	**104.45**	**52**	P	**Pdif**	**00 00 40.0**	**+2.2**
	baz=263							
O56A	**Blue Knob Stat**	**104.45**	**52**	PFAKE		00 00 50.0	+12
O56A				LR	LR			
	comp=Z,2μm,20.0s							
IP04	**Greensprings**	**104.54**	**54**	PFAKE		00 00 50.0	+12
IP04				LR	LR			
	comp=Z,3μm,20.0s							
SSPA	**Standing Stone**	**105.01**	**51**	PFAKE		00 05 10.0		
SSPA				LR	LR			
	comp=Z,3μm,20.0s							
CBN	**Corbin Frederi**	**105.12**	**54**	PFAKE		00 05 10.0		
CBN				LR	LR			
	comp=Z,3μm,21.0s							
MMNY	**Mt. Morris Dam**	**105.22**	**49**	PFAKE		00 05 10.0		
MMNY				LR	LR			
	comp=Z,2μm,20.0s							
PALK	**Pallekele**	**105.23**	**274**	PFAKE		00 00 50.0	+8.2
PALK				LR	LR			
	comp=Z,700nm,21.0s							
SDMD	**Soldier's Deli**	**105.67**	**53**	PFAKE		00 05 10.0		
SDMD				LR	LR			
	comp=Z,1μm,20.0s							
PAGS	**Pennsylvania G**	**105.85**	**52**	PFAKE		00 05 10.0		
PAGS				LR	LR			
	comp=Z,2μm,20.0s							
SDV	**Santo Domingo**	**106.37**	**85**	PFAKE		00 05 10.0		
SDV				LR	LR			
	comp=Z,700nm,21.0s							
BINY	**Binghamton**	**106.58**	**50**	PFAKE		00 05 10.0		
BINY				LR	LR			
	comp=Z,2μm,19.0s							
N59A	**State Game Lan**	**106.64**	**51**	PFAKE		00 05 10.0		
N59A				LR	LR			
	comp=Z,2μm,20.0s							
PSUB	**Penn St. - Bra**	**106.79**	**52**	PFAKE		00 05 10.0		
PSUB				LR	LR			
	comp=Z,2μm,21.0s							
LUPA	**Lehigh Univers**	**106.91**	**52**	PFAKE		00 05 10.0		
LUPA				LR	LR			
	comp=Z,200nm,20.0s							
ZAA0	**Zalesovo Array**	**107.47**	**322**	PFAKE		00 05 10.0		
ZAA0				LR	LR			
	comp=Z,1μm,22.0s							
ZAA1	**Zalesovo Array**	**107.47**	**322**	*e*Pdif	**Pdif**	**00 00 51.1**	**+0.4**
ZALV	**Zalesovo Beam**	**107.47**	**322**	Pdiff	**Pdif**	**00 00 51.1**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=100,slow=6.0,SNR=2.8							
BRNJ	**Basking Ridge**	**107.53**	**52**	PFAKE		00 05 10.0		
BRNJ				LR	LR			
	comp=Z,2μm,20.0s							
ODNJ	**Ogdensburg**	**107.53**	**51**	PFAKE		00 05 10.0		
ODNJ				LR	LR			
	comp=Z,3μm,20.0s							
SDDR	**Presa de Saban**	**107.70**	**74**	PFAKE		00 05 10.0		
SDDR				LR	LR			
	comp=Z,2μm,20.0s							
LONY	**Lake Ozonia**	**107.78**	**47**	PFAKE		00 05 10.0		
LONY				LR	LR			
	comp=Z,2μm,19.0s							
NCB	**Newcomb**	**108.00**	**48**	PFAKE		00 05 10.0		
NCB				LR	LR			
	comp=Z,1μm,20.0s							
PAL	**Palisades**	**108.05**	**51**	PFAKE		00 05 10.0		
PAL				LR	LR			
	comp=Z,2μm,20.0s							
GRTK	**Grand Turk**	**108.26**	**72**	PFAKE		00 05 10.0		
GRTK				LR	LR			
	comp=Z,1μm,19.0s							
ACCN	**Adirondack Com**	**108.37**	**49**	PFAKE		00 05 10.0		
ACCN				LR	LR			
	comp=Z,2μm,22.0s							
FRNY	**Flat Rock**	**108.49**	**47**	PFAKE		00 05 10.0		
FRNY				LR	LR			
	comp=Z,2μm,19.0s							
YLE	**Yale**	**108.80**	**51**	PFAKE		00 05 10.0		
YLE				LR	LR			
	comp=Z,3μm,20.0s							
SDD	**Santo Domingo**	**108.90**	**75**	PFAKE		00 05 20.0		
SDD				LR	LR			
	comp=Z,500nm,21.0s							
MK32	**Makanchi Array**	**108.95**	**315**	*e*Pdif	**Pdif**	**00 00 58.1**	**+0.6**
MK32				*e*PKiKP	**PKiKP**	**00 05 00.8**	**-1.3**
MK32				*e*PKKPbc	**PKKPbc**	**00 16 10.6**	**-0.6**
MK32				*e*PKKPab	**PKKPab**	**00 16 22.9**	**+1.3**
MKAR	**Makanchi Array**	**108.95**	**315**	Pdiff	**Pdif**	**00 00 58.1**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=72,slow=4.7,SNR=2.6							
MKAR				PKiKP	**PKiKP**	**00 05 00.8**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=62,slow=2.6,SNR=5.7							
MKAR				PKKPbc	**PKKPbc**	**00 16 10.6**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=256,slow=4.3,SNR=4.5							
MKAR				PKKPab	**PKKPab**	**00 16 22.9**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=282,slow=2.2,SNR=3.6							
HYB	**Hyderabad**	**109.31**	**284**	*e*P	**Pdif**	**00 00 57.4**	**-2.4**
NGP	**Nagpur**	**109.44**	**288**	*ex*	**Pdif**	**00 00 54.1**	**-6.2**
LBNH	**Lisbon**	**109.66**	**48**	PFAKE		00 05 20.0		
LBNH				LR	LR			
	comp=Z,2μm,20.0s							
HRV	**Adam Dziewonsk**	**109.88**	**50**	PFAKE		00 05 20.0		
HRV				LR	LR			
	comp=Z,3μm,22.0s							
BHPL	**Bhopal**	**111.22**	**290**	*e*P	**PKiKP**	**00 05 05.7**	**-1.4**
KURK	**Kurchatov**	**111.33**	**319**	*i* PKiKP	**PKiKP**	**00 05 05.4**	**-1.0**
KURK

AGP Aguadilla 111.49 76 PFAKE 00 05 20.0
AGP LR LR
comp=Z,1µm,19.0s
PKME Peaks-Kenny Pk 111.55 47 PFAKE 00 05 20.0
PKME LR LR
comp=Z,2µm,20.0s
SMLA Simla 112.23 298 *e*P **PKiKP 00 05 07.8 -0.9**
SJG San Juan 112.38 76 PFAKE 00 05 20.0
SJG LR LR
comp=Z,700nm,21.0s
HMDM Hanimaadhoo 112.39 271 PFAKE 00 05 20.0
HMDM LR LR
comp=Z,20µm,21.0s
SCHQ Schefferville 112.52 36 PFAKE 00 05 20.0
SCHQ LR LR
comp=Z,1µm,20.0s
HUMP Col San Antoni 112.66 76 PFAKE 00 05 20.0
HUMP LR LR
comp=Z,1µm,20.0s
DHRM DHARAMSHALA 113.04 299 *e*P **PKiKP 00 05 09.5 -1.1**
GOA Goa 113.46 281 *e*P **PKiKP 00 05 09.6 -1.9**
STVI Saint Thomas 113.54 76 PFAKE 00 05 20.0
STVI LR LR
comp=Z,1µm,22.0s
POO Poona 113.90 284 *e*P **PKiKP 00 05 12.1 -0.3**
ABVI Anegada Island 114.17 76 PFAKE 00 05 30.0 +17
ABVI LR LR
comp=Z,2µm,21.0s
AAK Ala-Archa 114.55 310 PFAKE 00 05 20.0 +6.9
AAK LR LR
comp=Z,900nm,20.0s
BBSR BB Station 115.03 61 PFAKE 00 05 30.0 +16
BBSR LR LR
comp=Z,800nm,18.0s
SABA Saba 115.04 77 PFAKE 00 05 30.0 +16
SABA LR LR
comp=Z,1µm,19.0s
SEUS St. Eustatius 115.27 77 PFAKE 00 05 30.0 +15
SEUS LR LR
comp=Z,800nm,21.0s
BVAR Borovoye Array 116.12 322 PKP **PKPdf 00 05 14.7 -0.9**
comp=Z,1.6nm,0.9s,baz=62,slow=3.4,SNR=7.8
BRVK Borovoye 116.18 322 *i*PKIKP **PKPdf 00 06 10.0 +0.4**
BRVK Borovoye 116.18 322 PFAKE 00 05 30.0 +14
BRVK LR LR
comp=Z,1µm,20.0s
GDHS Morne Mazeau, 116.25 79 PFAKE 00 05 30.0 +13
GDHS LR LR
comp=Z,1µm,20.0s
ANWB Willy Bob 116.43 77 PFAKE 00 05 30.0 +13
ANWB LR LR
comp=Z,700nm,21.0s
SPB Sao Paulo 116.48 126 PFAKE 00 05 30.0 +13
SPB LR LR
comp=Z,1µm,19.0s
FDF Fort de France 116.60 81 PFAKE 00 05 30.0 +12
FDF LR LR
comp=Z,600nm,19.0s
KBL Kabul 119.14 302 *e*PKIKP **PKPdf 00 05 22.3 +0.1**
KBL MLR MLR
comp=Z,400nm,21.0s
KBL Kabul 119.14 302 *e*PKPdf **PKPdf 00 05 22.3 +0.1**
KBL LR LR
comp=Z,400nm,21.0s
ARU Arti 121.70 328 *i* PKIKP **PKPdf 00 05 24.9 -1.3**
ARU 00 06 55.1
ARU 00 12 36.6
ARU SS SS 00 23 25.3 -9.0
ARU MLR MLR
comp=Z,2µm,21.0s
ARU Arti 121.70 328 PFAKE 00 05 40.0 +14
ARU LR LR
comp=Z,2µm,20.0s
ABKAR Akbulak array 123.42 320 *e*PKPdf **PKPdf 00 05 29.4 -0.3**
ARA0 ARCESS Array S 123.59 351 *e*PKPdf **PKPdf 00 05 27.7 -1.8**
ARCES ARCESS Array B 123.59 351 PKP **PKPdf 00 05 27.7 -1.8**
comp=Z,2.5nm,0.8s,baz=2.9,slow=1.8,SNR=4.4
APA Apatity 123.89 347 *i*PKIKP PKPpre 00 05 22.1
APA pmax pmax
comp=Z,4.0nm,1.0s
APA MLR MLR
comp=Z,1µm,19.0s
AKTO Aktyubinsk 124.22 322 PKP **PKPdf 00 05 29.8 -1.4**
comp=Z,1.7nm,0.9s,baz=108,slow=3.2,SNR=4.3
ABPO Ambohimpanom 126.35 233 PFAKE 00 05 50.0 +14
ABPO LR LR
comp=Z,1µm,22.0s
KLMR Klimovskoe 127.43 339 *e*PKIKP **PKPdf 00 05 37.1 +0.1**
KLMR *e* 00 07 33.9
KLMR pmax pmax
comp=Z,26nm,1.5s
KLMR Klimovskoe 127.43 339 *e*PKPdf **PKPdf 00 05 37.2 +0.2**
KLMR AMP 00 05 48.2
comp=Z,26nm,1.5s
KLMR *e*PP **PP 00 07 34.0 -2.8**
GEYT Alibeck 127.53 307 PKP **PKPdf 00 05 36.2 -1.8**
comp=Z,1.5nm,0.7s,baz=157,slow=1.1,SNR=5.4
UOSS Minazif 130.65 290 PFAKE 00 06 00.0 +16
UOSS LR LR
comp=Z,400nm,22.0s
FIA0 FINESS Array S 130.79 347 *e*PKIKP **PKPdf 00 05 44.2 +0.9**
FIA0 FINESS Array S 130.79 347 *e*PKPdf **PKPdf 00 05 44.2 +0.9**
FINES FINESS Array B 130.79 347 PKP **PKPdf 00 05 44.2 +0.9**
comp=Z,1.7nm,0.8s,baz=20,slow=4.4,SNR=3.2
VSU Vasula 133.25 344 *e*PKIKP **PKPdf 00 05 49.7 +1.6**
MAK Makhachkala 133.74 316 *e*P **Pdif 00 02 50.2 +2.4**
MAK *i* 00 05 46.8
MAK *e* 00 08 13.4
MAK *e* 00 12 59.0
MAK *e*SS SS 00 25 58.6 -5.9
MAK *e*SSS SSS 00 30 56.7
MAK pmax pmax
comp=Z,51nm,1.6s
VSR Storozhevoye 134.17 330 *e*PKIKP **PKPdf 00 05 54.2 +4.1**
RCBR Riachuelo 134.96 114 PFAKE 00 06 10.0 +17
RCBR LR LR
comp=Z,198µm,18.0s
KBZ Khabaz 136.38 319 PKP **PKPdf 00 05 53.2 -1.2**
comp=Z,0.9nm,1.0s,baz=135,slow=10.0,SNR=2.8
KIV Kislovodsk 136.40 320 *i* PKIKP **PKPdf 00 05 56.0 +1.4**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,735nm,23.0s
KIV Kislovodsk 136.40 320 PFAKE 00 06 10.0 +15
KIV LR LR
comp=Z,700nm,20.0s
GNI Garni 136.78 314 PKP **PKPdf 00 05 53.7 -1.9**
comp=Z,0.6nm,0.6s,baz=135,slow=14,SNR=1.8
GNI Garni 136.78 314 *e*PKIKP **PKPdf 00 05 56.7 +1.2**
GNI Garni 136.78 314 PFAKE 00 06 10.0 +14
GNI LR LR
comp=Z,500nm,20.0s
SOC Sochi 138.43 321 *i* PKHKP PKPpre 00 05 49.7
SOC *e*SS SS 00 26 49.8 -11
SOC MLR MLR
comp=Z,832nm,19.0s
AKASG Malin Array Be 138.90 336 PKhKP PKPpre 00 05 55.2
AKASG pmax pmax
comp=Z,0.3nm,0.4s,baz=32,slow=3.6,SNR=2.8
AKASG PKP **PKPdf 00 05 59.7 +0.9**
comp=Z,0.7nm,0.5s,baz=25,slow=2.2,SNR=5.3
AKBB Malin Array Si 138.90 336 PFAKE 00 06 10.0 +11
AKBB LR LR
comp=Z,900nm,20.0s
KIEV Kiev 138.91 336 *i*PKIKP **PKPdf 00 06 02.5 +3.6**
KIEV Kiev 138.91 336 PFAKE 00 06 10.0 +11
KIEV LR LR
comp=Z,900nm,20.0s
AK11 Malin Array Si 138.94 336 *e*PKPdf **PKPdf 00 05 59.6 +0.6**
EKA Eskdalemuir Ar 138.95 7 PKP **PKPdf 00 05 57.0 -1.8**
comp=Z,1.3nm,0.7s,baz=333,slow=2.7,SNR=3.0
SORM Soroca 141.28 334 *i*P **PKPdf 00 06 05.4 +2.2**
SORM Soroca 141.28 334 *i*PKIKP **PKPdf 00 06 05.4 +2.2**
DAMY Dhamar 141.56 275 PFAKE 00 06 20.0 +15
DAMY LR LR
comp=Z,600nm,19.0s
LSZ Lusaka 142.23 219 PFAKE 00 06 20.0 +14
LSZ LR LR
comp=Z,700nm,21.0s
ATD Arta Tunnel 142.68 270 PFAKE 00 06 20.0 +13
ATD LR LR
comp=Z,500nm,20.0s
CLL Collm 142.82 351 *e*PKIKP **PKPdf 00 06 03.0 -2.9**
CLL *i* 00 06 11.3
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL MLR MLR
comp=Z,600nm,18.0s
CLL Collm 142.82 351 *e*PKPpre PKPpre 00 06 03.0
comp=Z,5.0nm,0.8s
CLL *i* PKPdf **PKPdf 00 06 05.2 -0.7**
comp=Z,9.0nm,0.9s
CLL *i* PKiKP **PKiKP 00 06 08.3 -0.8**
comp=Z,9.0nm,1.0s
CLL *i* 00 06 11.3
CLL *e*SS SS 00 27 48.0 -2.0
CLL *e*SSS SSS 00 33 15.0
CLL LmH 01 13 00.0
comp=N,500nm,19.3s
CLL LmH 01 13 00.0
comp=E,600nm,20.9s
CLL LmV 01 19 00.0
comp=Z,600nm,18.0s
CLL Collm 142.82 351 *e*PKPpre PKPpre 00 06 03.0
CLL LR LR
comp=Z,700nm,18.0s
BUR04 Bucovina Ar. S 142.95 337 *e*PKPdf **PKPdf 00 06 04.4 -2.0**
BURAR Bucovina Array 142.95 337 *i*P **PKPdf 00 06 04.2 -2.2**
BURAR Bucovina Array 142.95 337 *i*PKIKP **PKPdf 00 06 04.2 -2.2**
NIE Niedzica 143.03 343 *e*PKP **PKPdf 00 06 07.9 +1.5**
NIE Niedzica 143.03 343 *e*PKIKP **PKPdf 00 06 07.9 +1.5**
UPC Upice 143.06 348 *e*PKP **PKPdf 00 06 05.6 -0.8**
UPC *e*SS SS 00 27 56.5 +3.5
UPC AMS AMS 01 14 40.0
comp=Z,800nm,17.2s
UPC Upice 143.06 348 *e*PKIKP **PKPdf 00 06 05.6 -0.8**
UPC *e*SS SS 00 27 56.5 +3.5
UPC MLR MLR
comp=Z,800nm,17.2s
BRG Berggiesshubel 143.09 350 *e*PKP PKPbc 00 06 03.1 -0.1
comp=Z,4.4nm,0.9s
BRG *e* 00 06 10.3
comp=Z,7.8nm,0.9s
BRG Berggiesshubel 143.09 350 *e*PKIKP PKPbc 00 06 03.2 0.0
BRG *e* 00 06 10.3
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG MLR MLR
comp=Z,718nm,16.8s
BRG MLR MLR
comp=N,685nm,17.5s
BRG MLR MLR
comp=E,425nm,17.5s
UZH Uzhgorod 143.12 340 *e*PKIKP **PKPdf 00 06 05.2 -1.3**
UZH *e* 00 06 10.8
UZH *e* 00 06 17.8
DPC Dobruska-Polom 143.15 347 *e*PKP PKPbc 00 06 03.8 +0.3
DPC *e*SS SS 00 27 54.4 +0.3
DPC AMS AMS 01 07 20.0
comp=E,1µm,19.2s
DPC Dobruska-Polom 143.15 347 *e*PKIKP PKPbc 00 06 03.8 +0.3
DPC *e*SS SS 00 27 54.4 +0.3
DPC MLR MLR
comp=Z,1µm,19.2s
OKC Ostrava-Krasne 143.21 345 *e*PKP PKPbc 00 06 05.1 +1.5
OKC *e*SS SS 00 27 59.1 +4.3
OKC AMS AMS 01 09 00.0
comp=Z,800nm,26.0s
OKC Ostrava-Krasne 143.21 345 *e*PKIKP PKPbc 00 06 05.1 +1.5
OKC *e*SS SS 00 27 59.1 +4.3
OKC MLR MLR
comp=Z,800nm,26.0s
TESR Tescani 143.27 334 *i*P PKPab 00 06 01.8 -0.9
KRLC Kraliky 143.31 347 *e*PKP PKPbc 00 06 04.0 +0.1
KRLC *ex* x 00 06 12.0
KRLC Kraliky 143.31 347 *e*PKIKP PKPbc 00 06 04.0 +0.1
KRLC *e* 00 06 12.0
PVCC Panska Ves 143.32 349 *e*PKP **PKPdf 00 06 07.7 +0.9**
PVCC AMS AMS 01 08 10.0
comp=Z,800nm,17.6s
PVCC Panska Ves 143.32 349 *e*PKIKP **PKPdf 00 06 07.7 +0.9**
PVCC MLR MLR
comp=Z,800nm,17.6s
TLCR 143.33 331 *i*P **PKPdf 00 06 06.6 -0.4**
TLCR 143.33 331 *i*PKIKP **PKPdf 00 06 06.6 -0.4**
MORC Moravsky Berou 143.41 346 *i*P PKPbc 00 06 04.8 +0.6
MORC Moravsky Berou 143.41 346 *i*PKIKP PKPbc 00 06 04.8 +0.6
MORC Moravsky Berou 143.41 346 *e*PKPpre PKPbc 00 06 04.6 +0.3
MORC LR LR
comp=Z,4µm,22.0s
ILGA Ilgaz 143.52 322 *e*PKPdf **PKPdf 00 06 07.1 -0.7**
ILGA LR LR
comp=Z,500nm,21.0s
PRU Pruhonice 143.84 349 *e*PKP PKPbc 00 06 05.8 +0.4
PRU *ex* x 00 06 08.4
PRU *ep*PKP sPKPdf 00 06 14.8 -0.6
PRU *e*SS SS 00 28 00.7 -1.2
PRU AMS AMS 01 12 20.0
comp=Z,1µm,22.7s
PRU Pruhonice 143.84 349 *e*PKIKP PKPbc 00 06 05.8 +0.4
PRU *e* 00 06 14.8
PRU *e*SS SS 00 28 00.7 -1.2
PRU MLR MLR
comp=Z,1µm,22.7s
GOPC GO Pecny, Ondr 143.87 349 *e*PKP **PKPdf 00 06 07.5 -0.3**
GOPC *ep*PKP **sPKPdf 00 06 15.1 -0.4**
GOPC *ex* x 00 27 52.3
GOPC AMS AMS 01 12 30.0
comp=Z,1µm,17.6s
GOPC GO Pecny, Ondr 143.87 349 *e*PKIKP **PKPdf 00 06 07.5 -0.3**
GOPC *e* 00 06 15.1
GOPC MLR MLR
comp=Z,1µm,17.6s
UCC Uccle 143.94 0 *e*PKIKP **PKPdf 00 06 07.4 -0.5**
UCC MLR MLR
comp=Z,2µm,21.0s
UCC Uccle 143.94 0 *e*PKPdf **PKPdf 00 06 07.4 -0.5**
UCC LR LR
comp=Z,2µm,21.0s
NKC Novy Kostel 143.94 351 *e*SS SS 00 28 00.8 -2.3
NKC AMS AMS 01 21 20.0
comp=Z,800nm,18.4s
TSUM Tsumeb 144.03 201 *e*PKPdf PKPbc 00 06 07.5 +0.5
TSUM LR LR
comp=Z,700nm,20.0s
TIRR Tirgusor 144.06 331 *e*PKIKP **PKPdf 00 06 07.8 -0.5**
TIRR MLR MLR
comp=Z,1µm,20.0s
TIRR Tirgusor 144.06 331 *e*PKPdf **PKPdf 00 06 07.8 -0.5**
TIRR LR LR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 144.11 247 PKP **PKPab 00 06 07.2 0.0**
comp=Z,13nm,1.0s,baz=64,slow=3.5,SNR=20
KMBO Kilima Mbogo 144.11 247 *e*PKPdf PKPbc 00 06 07.4 -0.2
KMBO LR LR
comp=Z,500nm,22.0s
MEM Membach 144.12 359 *i*PKP PKPbc 00 06 06.4 +0.2
TLB Topalu 144.14 331 *i*P **PKPab 00 06 06.0 0.0**
TLB Topalu 144.14 331 *i*PKIKP **PKPab 00 06 06.0 0.0**
SNF Seneffe 144.23 0 *i*PKP **PKPdf 00 06 09.3 +0.9**
BCLA Clavier 144.32 359 *i*PKP PKPbc 00 06 07.0 +0.1
BR101 Keskin Array S 144.37 320 *e*PKPdf **PKPab 00 06 07.3 0.0**
BR131 Keskin Array S 144.37 320 *e*PKPdf PKPbc 00 06 07.5 0.0
BRTR Keskin Array B 144.37 320 PKP **PKPab 00 06 07.3 0.0**
comp=Z,36nm,0.9s,baz=88,slow=1.9,SNR=94
MLR Muntele Rosu 144.38 334 *e*PKIKP PKPbc 00 06 07.5 +0.1
MLR MLR
comp=Z,1µm,22.0s
MLR Muntele Rosu 144.38 334 *e*PKPdf PKPbc 00 06 07.5 +0.1
MLR LR LR
comp=Z,1µm,22.0s
NAI Nairobi 144.44 246 *e*PKIKP PKPbc 00 06 09.1 +0.5
NAI MLR MLR
comp=Z,400nm,20.0s
NAI Nairobi 144.44 246 *e*PKPdf PKPbc 00 06 09.1 +0.5
NAI LR LR
comp=Z,400nm,20.0s
PSZ Piszkesteto 144.49 342 *i*P PKPbc 00 06 07.8 +0.2
PSZ Piszkesteto 144.49 342 *i*PKIKP PKPbc 00 06 07.8 +0.2
PSZ Piszkesteto 144.49 342 *e*PKKPdf **PKPab 00 06 07.6 +0.2**
PSZ Piszkesteto 144.49 342 *e*PKPdf PKPbc 00 06 07.6 0.0
PSZ LR LR
comp=Z,1µm,22.0s
DRGR 144.57 338 *i*P **PKPab 00 06 07.2 -0.5**
DRGR 144.57 338 *i*PKIKP **PKPab 00 06 07.2 -0.5**
GRFO Grafenberg 144.64 353 *e*PKIKP **PKPdf 00 06 09.1 -0.1**
GRFO MLR MLR
comp=Z,700nm,20.0s
GRFO Grafenberg 144.64 353 *e*PKPdf **PKPdf 00 06 09.1 -0.1**
GRFO LR LR
comp=Z,700nm,20.0s
DOU Dourbes 144.65 0 ⇓PKP PKPbc 00 06 08.2 +0.3
SECR 144.69 333 ⇓*i*P **PKPdf 00 06 09.0 -0.4**
VOIR 144.80 335 ⇑*i*P **PKPdf 00 06 09.6 -0.1**
VOIR 144.80 335 ⇑PKIKP **PKPdf 00 06 09.6 -0.1**
ANTO Ankara 144.80 321 *e*PKIKP PKPbc 00 06 09.1 +0.2
ANTO MLR MLR
comp=Z,400nm,21.0s
ANTO Ankara 144.80 321 *e*PKPdf PKPbc 00 06 09.1 +0.2
ANTO LR LR
comp=Z,400nm,21.0s
BR231 Keskin MP Arra 144.83 321 *e*PKPdf **PKPdf 00 06 09.8 -0.2**
KHC Kasperske Hory 144.84 350 *e*PKP PKPbc 00 06 09.0 +0.4
KHC *ex* x 00 06 11.8
KHC *ep*PKP pPKPdf 00 06 16.0 +0.7
KHC AMS AMS 01 13 00.0
comp=Z,1µm,22.1s
KHC Kasperske Hory 144.84 350 *e*PKIKP PKPbc 00 06 09.0 +0.4
KHC *e* 00 06 16.0
KHC MLR MLR
comp=Z,1µm,22.1s
KHC Kasperske Hory 144.84 350 *e*PKPdf PKPbc 00 06 08.8 +0.2
KHC LR LR
comp=Z,400nm,22.0s
WLF Walferdange 145.06 358 ⇑PKP **PKPab 00 06 09.5 +0.3**
WLF Walferdange 145.06 358 *e*PKIKP **PKPab 00 06 09.6 +0.3**
WLF MLR MLR
comp=Z,2µm,21.0s
WLF Walferdange 145.06 358 *e*PKPbc **PKPab 00 06 09.6 +0.3**
WLF LR LR
comp=Z,2µm,21.0s
GEC2 GERESS Array S 145.09 350 *e*PKIKP **PKPbc 00 06 08.8 -0.7**
GEC2 MLR MLR
comp=Z,900nm,21.0s
GEC2 GERESS Array S 145.09 350 *e*PKPbc **PKPbc 00 06 08.8 -0.7**
GEC2 LR LR
comp=Z,900nm,21.0s
GERES GERESS Array B 145.09 350 PKPbc **PKPbc 00 06 09.2 -0.3**
comp=Z,12nm,0.8s,baz=27,slow=3.3,SNR=56
GEA0 GERESS Array S 145.10 350 *e*PKPbc **PKPbc 00 06 09.1 -0.4**
BUD Budapest 145.14 343 *e*PKKPdf **PKPbc 00 06 09.7 +0.1**
DEV Deva 145.27 337 ⇓*i*P **PKPab 00 06 10.2 0.0**
DEV Deva 145.27 337 ⇓PKIKP **PKPab 00 06 10.2 0.0**
SGRR Singureni 145.37 333 ⇑*i*P **PKPbc 00 06 08.4 -2.0**
SIRR Siria 145.39 339 ⇑*i*P **PKPab 00 06 10.8 +0.2**
CSKK Cs˘˙kako 145.46 344 *e*PKKPdf **PKPdf 00 06 10.2 -0.5**
CONA Conrad Observa 145.53 347 *i* PKPdf **PKPab 00 06 11.7 +0.5**
comp=Z,59nm,1.1s,SNR=26
SOP Sopron 145.60 346 *e*PKKPbc **PKPab 00 06 12.1 +0.8**
STU Stuttgart 145.76 355 *e*PKP2 **PKPdf 00 06 11.4 +0.2**
STU MLR MLR
comp=Z,1µm,20.0s
STU Stuttgart 145.76 355 *e*PKPdf **PKPdf 00 06 11.3 +0.2**
STU LR LR
comp=Z,1µm,20.0s
ASF Jabal al Asfar 145.81 306 PKPbc **PKPab 00 06 12.8 +0.1**
comp=Z,2.9nm,0.9s,baz=107,slow=4.6,SNR=6.1
MOA Molln 145.94 348 *e*PKPab **PKPab 00 06 12.6 0.0**
comp=Z,81nm,1.3s,SNR=23
BZS Buzias 145.96 339 ⇓*i*P **PKPdf 00 06 11.4 -0.2**
BZS Buzias 145.96 339 ⇓PKP2 **PKPdf 00 06 11.4 -0.2**
ZIMR 146.09 333 ⇓*i*P **PKPab 00 06 13.7 +0.5**
ZIMR 146.09 333 PKP2 **PKPab 00 06 13.7 +0.5**
SZH Strazhica 146.13 332 P **PKPdf 00 06 10.3 -1.6**
FURI Furi 146.21 264 *e*PKPdf **PKPab 00 06 14.8 -0.2**
FURI LR LR
comp=Z,500nm,20.0s
ARSA Arzberg 146.25 347 *e*PKPab **PKPbc 00 06 13.5 +0.4**
comp=Z,26nm,0.9s,SNR=13
BFO Black Forest 146.28 356 *e*PKP2 **PKPbc 00 06 13.5 +0.3**
BFO MLR MLR
comp=Z,900nm,20.0s
BFO Black Forest 146.28 356 *e*PKPdf **PKPbc 00 06 13.5 +0.3**
BFO LR LR
comp=Z,900nm,20.0s
MORH M˝±r¡gy, Hung 146.40 342 *e*PKKPbc **PKPdf 00 06 12.5 +0.2**
ECH Echery 146.46 357 *e*PKP2 **PKPbc 00 06 13.9 +0.2**
ECH MLR MLR
comp=Z,1µm,19.0s
ECH Echery 146.46 357 *e*PKPdf **PKPbc 00 06 13.9 +0.2**
ECH LR LR
comp=Z,1µm,19.0s
MMAI Mount Meron Ar 146.62 309 PKPbc **PKPbc 00 06 14.8 +0.1**
comp=Z,21nm,1.0s,baz=55,slow=5.5,SNR=14
BEHE Becsehely 146.68 345 *e*PKKPbc **PKPab 00 06 16.3 +0.8**
KBA Koelnbreinsper 146.86 349 *e*PKPab **PKPbc 00 06 15.0 -0.1**
comp=Z,42nm,1.1s,SNR=12
RETA Reutte 146.86 352 *e*PKPab **PKPbc 00 06 15.6 +0.6**
comp=Z,33nm,1.1s
WATA Walderalm 146.90 351 *e*PKiKP **PKPab 00 06 16.9 +0.5**
comp=Z,38nm,1.1s,SNR=6.1
SOKA Soboth 146.90 347 *e*PKPab **PKPbc 00 06 15.1 0.0**
comp=Z,31nm,1.3s,SNR=9.5
MOTA Moosalm 146.96 352 *e*PKPab **PKPbc 00 06 15.3 0.0**
comp=Z,22nm,1.0s,SNR=9.2
WTTA Wattenberg 146.96 351 *e*PKiKP **PKPab 00 06 17.4 +0.7**
comp=Z,31nm,0.9s,SNR=9.1
MPEP Malo Peshtene 147.03 334 P **PKPdf 00 06 14.5 +1.0**
DAVA Damuels 147.16 353 *i* PKPab **PKPbc 00 06 15.9 0.0**
comp=Z,42nm,0.9s,SNR=10
OBKA Obir 147.16 347 *e*PKPab **PKPbc 00 06 16.7 +0.8**
comp=Z,20nm,0.8s,SNR=8.8
CSS Mathiatis 147.21 313 *e*PKPdf **PKPdf 00 06 14.8 +0.8**
CSS LR LR
comp=Z,100nm,21.0s
MYKA Terra Mystica 147.23 348 *e*PKPbc **PKPbc 00 06 15.4 -0.6**
comp=Z,30nm,0.8s,SNR=14
FETA Feichten 147.32 352 *e*PKPab **PKPbc 00 06 16.3 -0.1**
comp=Z,46nm,1.3s,SNR=10
ABTA Abfaltersbach 147.32 350 *e*PKPbc **PKPbc 00 06 15.5 -0.8**
comp=Z,36nm,1.0s,SNR=12
ISP Isparta 147.46 320 PFAKE 00 06 30.0 +11
ISP LR LR
comp=Z,600nm,22.0s
KDZ Kurdzhali 147.62 330 P **PKPdf 00 06 15.4 +0.9**
FUORN Ofenpass-Fuorn 147.78 353 *e*PKPbc **PKPbc 00 06 18.6 +0.8**
FUORN LR LR
comp=Z,1µm,20.0s
DIVS Divibare 147.85 339 *e*PKPbc **PKPbc 00 06 17.8 -0.1**
DIVS LR LR
comp=Z,600nm,22.0s
VTS Vitosha 147.88 334 ⇑*i*P **PKPbc 00 06 17.3 -0.8**
VTS Vitosha 147.88 334 ⇑PKP2 **PKPbc 00 06 17.3 -0.8**
VTS Vitosha 147.88 334 *e*PKPbc **PKPbc 00 06 18.2 +0.2**
VTS LR LR
comp=Z,1µm,21.0s
VTS Vitosha 147.88 334 P **PKPab 00 06 19.5 -1.0**
RDO Rodhopi 147.95 329 P **PKPbc 00 06 18.2 +0.2**
TUE Stuetta 148.03 354 *e*PKPbc **PKPbc 00 06 19.3 +1.0**
TUE LR LR
comp=Z,1µm,20.0s
TRI Trieste 148.09 348 *e*PKP2 **PKPab 00 06 20.4 -0.6**
TRI MLR MLR
comp=Z,1µm,21.0s
TRI Trieste 148.09 348 *e*PKPbc **PKPab 00 06 20.4 -0.6**
TRI LR LR
comp=Z,1µm,21.0s
BLY Banja Luka 148.16 343 ⇑*i*P **PKPbc 00 06 19.1 +0.6**
BLY Banja Luka 148.16 343 *e*PKPbc **PKPbc 00 06 18.6 +0.1**
BLY LR LR
comp=Z,900nm,21.0s
SENIN Lac Senin/Sane 148.30 356 *e*PKPbc **PKPab 00 06 21.1 -1.0**
SENIN LR LR
comp=Z,2µm,20.0s
MMB Musomiste 148.46 332 P **PKPbc 00 06 20.1 +0.6**
KKB Krupnik 148.52 333 P **PKPbc 00 06 20.5 +0.9**
EZN Ezine 148.53 327 P **PKPbc 00 06 18.9 -0.7**
NVR Nevrokopi 148.59 332 P **PKPbc 00 06 19.6 -0.2**
FETY Fethiye 149.09 320 P **PKPdf 00 06 18.2 +1.1**
KNT Kendrikon 149.18 332 P **PKPbc 00 06 21.3 0.0**
YER Yerkesik 149.27 321 P **PKPdf 00 06 18.2 +0.8**
OUR Ouranopolis 149.33 330 P **PKPbc 00 06 21.3 -0.3**
SSB Saint Sauveur 149.47 0 *e*PKP2 **PKPbc 00 06 22.9 +1.0**
SSB MLR MLR
comp=Z,1µm,20.0s
SSB Saint Sauveur 149.47 0 *e*PKPbc **PKPbc 00 06 22.9 +1.0**
SSB LR LR
comp=Z,1µm,20.0s
PDG Podgorica 149.57 338 ⇓*i*P **PKPbc 00 06 22.1 -0.1**
TTG Podgorica 149.57 338 *e*PKP2 **PKPbc 00 06 22.2 0.0**
TTG MLR MLR

comp=Z,900nm,22.0s
TTG Podgorica 149.57 338 *e*PKPbc **PKPbc 00 06 22.2 0.0**
TTG LR LR
comp=Z,900nm,22.0s
BNI Bardonecchia 149.64 357 *e*PKP2 **PKPbc 00 06 23.3 +0.8**
BNI MLR MLR
comp=Z,2µm,21.0s
BNI Bardonecchia 149.64 357 *e*PKPbc **PKPbc 00 06 23.3 +0.8**
BNI LR LR
comp=Z,2µm,21.0s
CHOS Chios island 149.71 325 P **PKPbc 00 06 22.0 -0.8**
ARG Arkhangelos 149.96 320 P **PKPbc 00 06 24.2 +0.9**
MBAR Mbarara 150.05 242 *e*PKP2 **PKPbc 00 06 23.8 -0.7**
MBAR Mbarara 150.05 242 *e*PKPbc **PKPbc 00 06 23.8 -0.7**
FNA Florina 150.15 334 P **PKPbc 00 06 22.7 -1.0**
VLC Villacollemand 150.18 352 PFAKE 00 06 30.0 +0.4
VLC LR LR
comp=Z,2µm,21.0s
TIR Tirane 150.29 336 ⇓ *i*P **PKPbc 00 06 23.8 -0.2**
TIR Tirane 150.29 336 ⇓ PKIKP **PKPbc 00 06 23.8 -0.2**
TIR Tirane 150.29 336 *e*PKPbc **PKPbc 00 06 23.2 -0.8**
TIR LR LR
comp=Z,2µm,22.0s
XOR Xorichti 150.46 330 P **PKPbc 00 06 23.8 -0.7**
PGAV Gavieira, Arco 150.58 20 eLR LR 00 56 53.4
comp=Z,1µm,18.0s
PENT Pentalofos 150.74 334 P **PKPbc 00 06 25.5 +0.3**
PCAB Cabril 150.89 20 *e*PKPbc **PKPbc 00 06 26.3 +0.9**
APE Apeiranthos 150.93 324 ⇓ *i*P **PKPbc 00 06 25.6 -0.1**
APE Apeiranthos 150.93 324 ⇓ PKIKP **PKPbc 00 06 25.6 -0.1**
KARP Karpathos 150.99 320 *e*PKPbc **PKPbc 00 06 25.1 -0.8**
KARP LR LR
comp=Z,200nm,22.0s
AGG Agios Georgios 151.15 331 *e*PKIKP **PKPdf 00 06 18.1 -2.2**
AGG *e* 00 06 25.1
AGG MLR MLR
comp=Z,2µm,20.0s
AGG Agios Georgios 151.15 331 *e*PKPdf **PKPdf 00 06 18.1 -2.2**
AGG *e*PKPbc **pPKPdf 00 06 25.1 -0.9**
AGG LR LR
comp=Z,2µm,20.0s
PBRG Braganca 151.20 18 *e*PKPbc **PKPbc 00 06 29.0 +2.8**
PBRG Braganca 151.20 18 eLR LR 00 57 25.7
POLO Lamas de Olo 151.27 20 *e*PKPbc **PKPbc 00 06 24.6 -1.8**
POLO Lamas de Olo 151.27 20 *e*PKPbc **PKPbc 00 06 27.4 +1.0**
POLO Lamas de Olo 151.27 20 eLR LR 00 57 01.6
VLY Voula,Athens 151.31 327 P **PKPdf 00 06 22.6 +2.1**
AQU L'Aquila 151.37 346 *e*PKIKP **PKPdf 00 06 19.5 -1.0**
AQU *e* 00 06 28.8
AQU MLR MLR
comp=Z,2µm,20.0s
AQU L'Aquila 151.37 346 *e*PKPdf **PKPdf 00 06 19.5 -1.0**
AQU *e*PKPbc **sPKPdf 00 06 28.8 +0.7**
AQU LR LR
comp=Z,2µm,20.0s
PVRL Vila Real 151.38 20 *e*PKPbc **PKPbc 00 06 29.5 +2.9**
SANT Santorini 151.46 323 ⇑ *i*P **PKPdf 00 06 23.3 +2.5**
SANT Santorini 151.46 323 *e*PKPdf **PKPdf 00 06 18.8 -2.0**
SANT *e*PKPbc **pPKPdf 00 06 26.0 -0.6**
SANT LR LR
comp=Z,500nm,21.0s
MVO Moncorvo 151.70 19 *e*PKPbc **PKPbc 00 06 28.5 +1.1**
MVO Moncorvo 151.70 19 *e*SS SS 00 29 47.6 +17
MVO Moncorvo 151.70 19 eLQ LQ 00 49 19.9
MVO eLR LR 00 57 23.9
comp=Z,1µm,18.0s
KALE Kalithea 151.74 330 P **PKPbc 00 06 27.4 -0.1**
EFP Efpalio 151.82 330 P **PKPbc 00 06 28.5 +0.9**
PVIS Viseu 151.82 20 *e*PKPbc **PKPbc 00 06 28.6 +0.9**
DID Didima 151.87 327 P **PKPbc 00 06 25.8 -2.0**
GUR Goura 151.99 329 P **PKPbc 00 06 25.2 -3.0**
KRND KRANIDI 152.00 327 P **PKPdf 00 06 20.7 -0.8**
PDO Prodromos 152.02 332 P **PKPbc 00 06 27.7 -0.4**
MATE Matera 152.03 340 ⇑ *i*P **PKPab 00 06 36.3 -1.0**
NPS Neapolis 152.13 321 P **PKPbc 00 06 27.8 -0.7**
PCAS Casmilo, Conde 152.20 22 *e*PKPbc **PKPbc 00 06 31.5 +3.0**
PCAS Casmilo, Conde 152.20 22 eLR LR 00 57 24.7
MTE Manteigas 152.22 20 *e*PKPbc **PKPbc 00 06 31.1 +2.5**
MTE Manteigas 152.22 20 *e*SS SS 00 29 47.2 +10
MTE Manteigas 152.22 20 eLQ LQ 00 48 45.5
MTE eLR LR 00 57 46.7
comp=Z,966nm,20.0s
MTE Manteigas 152.22 20 *e*PKPdf **PKPdf 00 06 22.0 +0.1**
MTE *e*PKPbc **sPKPdf 00 06 29.2 -0.4**
MTE LR LR
comp=Z,1µm,21.0s
IDI Anoyia 152.54 322 PKP **PKPdf 00 06 23.0 +0.5**
comp=Z,5.0nm,0.8s,baz=194,slow=4.2,SNR=5.3
IDI PKPbc **sPKPdf 00 06 30.0 -0.2**
comp=Z,6.2nm,0.8s,baz=135,slow=1.4,SNR=5.8
IDI Anoyia 152.54 322 *e*PKPdf **PKPdf 00 06 23.0 +0.5**
IDI *e*PKPbc **sPKPdf 00 06 31.6 +1.4**
IDI LR LR
comp=Z,400nm,22.0s
PTOM Tomar 152.62 22 *e*PKPbc **PKPbc 00 06 29.0 -0.4**
PCBR Castelo Branco 152.75 21 *e*PKPbc **PKPbc 00 06 31.3 +1.6**
PMAFR Mafra 152.86 24 eLR LR 00 57 37.3
CUC Castrocucco 152.91 341 PFAKE 00 06 30.0 -0.1
CUC LR LR
comp=Z,1µm,21.0s
ALMR Almeirim 152.96 23 *e*PKPbc **PKPbc 00 06 33.2 +3.0**
PMST Lisbon--Monsan 153.09 24 *e*PKPab **PKPab 00 06 43.9 +2.1**
PMOZ Porto Moniz, M 153.14 44 eLR LR 00 58 29.8
comp=Z,492nm,24.0s
PMTG Montargil 153.17 23 eLR LR 00 57 50.4
TIP Timpagrande 153.33 339 ⇑ *i*P **PKPbc 00 06 30.4 -0.7**
TIP Timpagrande 153.33 339 *e*PKPdf **PKPdf 00 06 23.7 +0.2**
TIP *e*PKPbc **sPKPdf 00 06 30.9 -0.4**
TIP *e*PKPab **sPKPbc 00 06 40.8 +2.0**
TIP LR LR
comp=Z,2µm,21.0s
PESTR Estremoz 153.58 22 eLR LR 00 58 02.5
PESTR Estremoz 153.58 22 PFAKE 00 06 40.0 -3.9
PESTR LR LR
comp=Z,600nm,21.0s
PNCL Nicolau / Gran 153.88 24 *e*PKPbc **PKPbc 00 06 32.1 -0.1**
PNCL Nicolau / Gran 153.88 24 eLR LR 00 58 10.9
ES19 SONSECA Array 153.94 15 *e*PKPbc **PKPbc 00 06 33.5 +1.2**
ESDC Sonseca Array 153.95 15 PKP **PKPdf 00 06 25.7 +1.3**
comp=Z,0.3nm,0.6s,baz=337,slow=2.8,SNR=4.4
ESDC PKPbc **PKPbc 00 06 32.5 +0.1**
comp=Z,1.7nm,0.8s,baz=341,slow=3.2,SNR=7.2
ESLA Sonseca Array 153.95 15 PFAKE 00 06 40.0 -5.5
ESLA LR LR
comp=Z,900nm,18.0s
PAB San Pablo 153.97 16 PFAKE 00 06 40.0 -5.6
PAB LR LR
comp=Z,1µm,18.0s
PBEJ Beja 154.22 23 *e*PKPbc **PKPbc 00 06 32.4 -0.5**
PBAR Barrancos 154.39 22 eLQ LQ 00 49 38.9
CEL Celeste 154.46 339 PFAKE 00 06 40.0 +6.5
CEL LR LR
comp=Z,1µm,22.0s
PCVE Castro Verde 154.49 24 *e*PKPbc **PKPbc 00 06 35.4 +1.9**
PCVE Castro Verde 154.49 24 eLR LR 00 58 44.7
MORF Marmelete 154.53 25 eLR LR 00 58 31.8
PFVI Vila Bisbo 154.60 26 eLR LR 00 57 58.6
PFVI Vila Bisbo 154.60 26 PFAKE 00 06 40.0 +6.2
PFVI LR LR
comp=Z,2µm,20.0s
PVAQ Vaqueiros 154.82 24 *e*SS SS 00 30 25.7 +21
PVAQ Vaqueiros 154.82 24 eLQ LQ 00 56 12.2
PVAQ eLR LR 00 58 04.6
comp=Z,2µm,20.0s
PBDV Barranco-do-Ve 154.87 24 *e*SS SS 00 30 12.2 +6.4
PBDV Barranco-do-Ve 154.87 24 eLQ LQ 00 50 21.9
PBDV eLR LR 00 58 40.3
VSL Villasalto 154.90 351 PFAKE 00 06 40.0 +5.6
VSL LR LR
comp=Z,2µm,20.0s
CLTB Caltabellotta 155.92 343 PFAKE 00 06 40.0 +13
CLTB LR LR
comp=Z,2µm,20.0s
SFS San Fernando 156.21 22 PFAKE 00 06 40.0 +13
SFS LR LR
comp=Z,900nm,20.0s
CART Cartagena 156.61 11 PFAKE 00 06 40.0 +12
CART LR LR
comp=Z,900nm,20.0s
WDD Wied Dalam 157.11 339 PFAKE 00 06 40.0 +11
WDD LR LR
comp=Z,1µm,20.0s
RTC Rabat Centre 158.12 26 PFAKE 00 06 40.0 +10
RTC LR LR
comp=Z,6µm,22.0s
KEST Kesra 158.58 349 PKPab **PKPab 00 07 06.0 +0.5**
comp=Z,9.3nm,0.9s,baz=332,slow=3.9,SNR=6.2
KEST Kesra 158.58 349 PKPab **PKPab 00 07 06.0 +0.5**
KEST LR LR
comp=Z,2µm,20.0s
LIC Lamto 167.35 130 *e*PKIKP **PKPdf 00 06 40.6 +1.0**
comp=Z,79nm,1.4s
LIC Lamto 167.35 130 *e*P **PKPab 00 07 46.3 +1.8**
comp=Z,50nm,1.0s
TIC Toumodi 167.63 129 *e*PKIKP **PKPdf 00 06 40.6 +0.8**
TIC Toumodi 167.63 129 *e*P **PKPab 00 07 47.7 +1.9**
KIC Kosan Boka 167.65 131 *e*PKIKP **PKPdf 00 06 40.9 +1.1**
comp=Z,48nm,1.1s
KIC Kosan Boka 167.65 131 *e*P **PKPab 00 07 47.8 +2.0**
comp=Z,48nm,1.1s
DBIC Dimbokro 167.77 129 PKP **PKPdf 00 06 40.4 +0.5**
comp=Z,3.6nm,0.9s,baz=118,slow=10,SNR=3.6
DBIC PKPab **PKPab 00 07 47.7 +1.4**
comp=Z,10nm,1.1s,baz=204,slow=5.0,SNR=4.8
KOWA Kowa 171.63 90 PKP **PKPdf 00 06 40.2 -1.9**
comp=Z,2.3nm,0.9s,baz=282,slow=4.7,SNR=5.7
KOWA PKPab **PKPab 00 08 04.2 +0.5**
comp=Z,2.2nm,0.7s,baz=260,slow=6.7,SNR=4.6
KOWA Kowa 171.63 90 *e*PKPdf **PKPdf 00 06 44.2 +2.1**
KOWA *e*PKPab **PKPab 00 08 04.2 +0.5**
TOA0 Torodi Ar. Sit 176.78 117 *e*PKPdf **PKPdf 00 06 44.2 +0.4**
TOA1 Torodi Ar. Sit 176.78 117 *e*PKPdf **PKPdf 00 06 42.7 -1.1**
TOA1 *e*PKPab **PKPab 00 08 28.8 +2.3**
TOA1 *e*PP **PP 00 12 20.6 +1.1**
TORD Torodi Ar. Bea 176.78 117 PKP **PKPdf 00 06 42.7 -1.1**
comp=Z,1.4nm,1.0s,baz=329,slow=2.1,SNR=5.6
TORD PKPab **PKPab 00 08 28.8 +2.3**
comp=Z,3.3nm,0.9s,baz=276,slow=3.1,SNR=8.3
TORD PP **PP 00 12 20.6 +1.1**
comp=Z,1.6nm,1.2s,baz=256,slow=5.8,SNR=3.7

*CSEM **20** 00:13:42.9±0.2, 67.°16N×20.°71E, h2km, ML1.5, Error ellipse: s-maj=6.2km s-min=3.4km az=56.0, Mining explosion.*
*HEL **20** 00:13:43.8±0.0, 67.°18N×20.°66E, h0km, ML2.1, ML1.5(UPP), Explosion*
UPP 20 00:13:43.3, 67.°19N×20.°66E, h0km, ML1.5, Suspected Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**208**	P	Pg	00 13 45.0	+0.3
DUNU	**Dundret**	**0.07**	**208**	*i* P	Pg	00 13 45.0	+0.3
DUNU				*i* S	Sg	00 13 46.0	+0.3
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	00 13 54.5	0.0
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P	Pg	00 13 54.5	0.0
RATU	**Laukkuluspa**	**0.76**	**328**	P	Pg	00 13 57.6	-0.2
RATU	**Laukkuluspa**	**0.76**	**328**	*i* P	Pg	00 13 57.6	-0.2
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	00 13 57.8	-0.4
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	00 13 57.8	-0.5
ERTU	**Ertsjaerv**	**0.88**	**136**	P	Pg	00 13 59.1	-1.0
ERTU				S	Sg	00 14 10.3	-1.1
ERTU	**Ertsjaerv**	**0.88**	**136**	*e*P	Pg	00 13 59.1	-0.9
ERTU				*e*S	Sg	00 14 10.3	-1.1
NIKU	**Nikkaluokta**	**0.93**	**318**	P	Pg	00 14 00.6	-0.4
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	00 14 00.6	-0.5
PAJU	**Pajala**	**0.97**	**99**	P	Pg	00 14 01.4	-0.5
PAJU	**Pajala**	**0.97**	**99**	*e*P	Pg	00 14 01.4	-0.5
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	00 14 02.0	-0.5
LANU				S	Sg	00 14 15.9	+0.4
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	00 14 02.1	-0.5
LANU				*e*S	Sg	00 14 15.9	+0.4
HEF	**Hetta**	**1.68**	**42**	P	Pn	00 14 13.8	0.0
HEF				S	Sn	00 14 34.9	-1.1
	9.6nm,0.3s						
HEF	**Hetta**	**1.68**	**42**	*e*P	Pn	00 14 13.8	0.0
HEF				*e*S	Sn	00 14 34.9	-1.1
HEF				MSG		00 14 40.6	
	comp=Z,9.6nm,0.3s						
KALU	**Kalix**	**1.72**	**140**	P	Pn	00 14 14.1	-0.2
KALU				S	Sn	00 14 35.2	-1.7
KALU	**Kalix**	**1.72**	**140**	*e*P	Pn	00 14 14.2	-0.2
KALU				*e*S	Sn	00 14 35.3	-1.6
KIF	**Kilpisjarvi**	**1.83**	**2**	P	Pb	00 14 17.4	-0.1
KIF				Sg	Sg	00 14 42.8	+0.9
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pb	00 14 17.5	0.0
KIF				*e*SG	Sg	00 14 42.9	+1.0
TOF	**Tornio**	**1.84**	**126**	Pg	Pn	00 14 16.7	+0.7
TOF				S	Sn	00 14 37.9	-2.0
	comp=Z,20nm,0.3s						
TOF	**Tornio**	**1.84**	**126**	*e*PG	Pn	00 14 16.7	+0.7
TOF				*e*S	Sn	00 14 37.9	-2.0
TOF				MSG		00 14 42.9	
	comp=Z,20nm,0.3s						
SGF	**Sodankyl**	**2.29**	**81**	Pb	Pb	00 14 24.0	-1.4
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pb	00 14 24.0	-1.4

*CSEM **20** 00:14:38.4, 67.°18N×20.°65E, h0km, ML2.2, Suspected Mining explosion. After UPP*
UPP 20 00:14:38.4, 67.°18N×20.°65E, h0km, ML2.2, Suspected Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DUNU	**Dundret**	**0.06**	**208**	P	Pg	00 14 39.8	+0.2
DUNU				S	Sg	00 14 41.0	+0.6
DUNU	**Dundret**	**0.06**	**208**	P	Pg	00 14 39.9	+0.2
DUNU				S	Sg	00 14 41.0	+0.6
MASU	**Masugnsbyn**	**0.59**	**61**	P	Pg	00 14 49.6	-0.2
MASU	**Masugnsbyn**	**0.59**	**61**	P	Pg	00 14 49.6	-0.1
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	00 14 52.8	-0.2
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	00 14 52.8	-0.2
KUA	**Kurravaara**	**0.79**	**352**	P	Pg	00 14 53.2	-0.3
KUA	**Kurravaara**	**0.79**	**352**	P	Pg	00 14 53.1	-0.3

*IDC **20** 00:21:43.0±1.8, 28.°97S×177.°94W, h53km±12km, mb3.7/4, mb1 3.9/4, mb1mx3.6/35, mbtmp4.0/4, MS4.0/1, Ms1 4.0/1, ms1mx3.2/38, Error ellipse: s-maj=36.9km s-min=27.6km az=35.0*
ISC 20 00:21:40.7±1.5, 28.°7S±0.°1×177.°9W±0.°2, h35km, n10, σ1f53/9, mb4.1/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
RAO	**Raoul Island**	**0.56**	**178**	P	**Pn**	**00 21 52.8**	**+0.5**
	566nm,0.3s,baz=99,slow=4.5,SNR=17						
RAO				S	**Sn**	**00 22 01.7**	**+1.2**
	3µm,0.3s,baz=107,slow=19,SNR=36						
CTA	**Charters Tower**	**33.61**	**277**	LR	LR	00 41 01.0	
	comp=Z,265nm,20.7s,slow=34						
STKA	**Stephens Creek**	**34.95**	**255**	P	**P**	**00 28 29.2**	**-0.2**
	1.5nm,0.6s,baz=102,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**43.28**	**265**	P	**P**	**00 29 38.8**	**-0.5**
	0.6nm,0.5s,baz=106,slow=7.4,SNR=6.8						
WRA	**Warramunga Arr**	**44.11**	**270**	P	**P**	**00 29 46.8**	**+0.9**
	2.8nm,0.8s,baz=110,slow=8.1,SNR=29						
QSPA	**South Pole Qui**	**61.42**	**180**	P	**P**	**00 31 51.0**	**-2.3**
	1.2nm,0.6s,baz=8.3,slow=1.9,SNR=4.6						
ARCES	**ARCESS Array B**	**136.93**	**348**	PKP	**PKPdf**	**00 41 00.9**	**+2.0**
	2.6nm,0.9s,baz=352,slow=1.8,SNR=3.4						
FINES	**FINESS Array B**	**143.55**	**341**	PKP	PKPbc	00 41 10.4	+2.0
	2.6nm,0.4s,baz=63,slow=3.6,SNR=41						
HFS	**Hagfors**	**147.58**	**349**	PKPbc	**PKPbc**	**00 41 21.5**	**+0.8**
	1.3nm,0.7s,baz=32,slow=4.2,SNR=7.0						
TORD	**Torodi Ar. Bea**	**164.53**	**179**	PKPab	**PKPab**	**00 42 35.0**	**-1.2**
	0.3nm,0.6s,baz=170,slow=4.3,SNR=6.3						

*CSEM **20** 00:28:15.2, 67.°82N×20.°21E, h0km, ML1.8, Mining explosion. After UPP*
*UPP **20** 00:28:15.2, 67.°82N×20.°21E, h0km, ML1.8, Mining explosion.*
HEL 20 00:28:03.9±0.5, 67.°15N×20.°42E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.74**	**335**	P	Pb	00 28 19.8	+0.1
RATU	**Laukkuluspa**	**0.74**	**335**	P	Pb	00 28 19.8	+0.1
KUA	**Kurravaara**	**0.81**	**358**	P	Pg	00 28 18.1	-1.2
KUA				S	Sg	00 28 20.0	-10
KUA	**Kurravaara**	**0.81**	**358**	P	Pg	00 28 18.1	-1.2
KUA				S	Sg	00 28 20.1	-10
NIKU	**Nikkaluokta**	**0.89**	**324**	P	Pn	00 28 23.7	0.0
NIKU	**Nikkaluokta**	**0.89**	**324**	P	Pn	00 28 23.7	0.0
LANU	**Lannavaara**	**1.08**	**33**	P	Pn	00 28 28.5	+2.2
LANU	**Lannavaara**	**1.08**	**33**	P	Pn	00 28 28.5	+2.2
LANU	**Lannavaara**	**1.08**	**33**	PG	Pg	00 28 22.6	-2.0
	baz=223						
KALU	**Kalix**	**1.75**	**136**	SG	Sb	00 28 59.5	+0.2
HEF	**Hetta**	**1.76**	**43**	MSG		00 28 56.5	
	comp=Z,2.9nm,0.2s						
HEF				SN	Sn	00 28 59.1	+0.4
KIF	**Kilpisjarvi**	**1.87**	**4**	PG	Pb	00 28 38.3	-0.5
KIF				MSG		00 29 00.7	
	comp=Z,7.3nm,0.2s						
TOF	**Tornio**	**1.90**	**123**	PB	Pn	00 28 37.2	-0.2
TOF				MSG		00 29 00.4	
	comp=Z,2.0nm,0.2s						
TOF				SG	Sn	00 29 02.5	+0.5
SGF	**Sodankyl**	**2.39**	**80**	SB	Sn	00 29 15.4	+1.3
ARE0	**ARCESS Array S**	**3.05**	**36**	PG	Pb	00 29 00.4	+1.5
	baz=227						
ARE0				SG	Sb	00 29 37.1	+0.5
VAF	**Ylistaro**	**4.24**	**166**	PN	Pn	00 29 12.3	+2.7

*CSEM **20** 00:28:25.7±0.1, 67.°82N×20.°23E, h0km±2km, ML1.4, Error ellipse: s-maj=3.6km s-min=3.3km az=149.0, Mining explosion.*
UPP 20 00:28:25.8, 67.°83N×20.°21E, h0km, ML1.4, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	00 28 28.7	+0.3
KUA				S	Sg	00 28 30.7	+0.6
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	00 28 29.2	+0.8
KUA				S	Sg	00 28 31.2	+1.1
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 28 30.3	+0.1
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 28 30.9	+0.7
NIKU	**Nikkaluokta**	**0.45**	**275**	P	Pg	00 28 34.4	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 28 38.6	-0.7
LANU	**Lannavaara**	**0.71**	**71**	SB	Pg	00 28 38.5	-0.8
DUNU	**Dundret**	**0.72**	**169**	P	Pg	00 28 39.5	-0.1
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	00 28 40.7	0.0
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pb	00 28 49.2	-0.2
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pb	00 28 49.2	-0.2
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	Pn	00 28 55.8	0.0
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	Pn	00 28 55.8	0.0

*IDC **20** 00:39:23.0±0.7, 37.°81N×29.°17E, h0km, mb3.8/15, mb1 3.9/24, mb1mx3.7/72, mbtmp3.8/24, ML3.2/8, MS2.6/1, Ms1 2.6/1, ms1mx2.4/66, Error ellipse: s-maj=14.0km s-min=11.8km az=3.0*
*DDA **20** 00:39:24.2, 37.°84N×29.°15E, h22km, Ml3.9*
*MOS **20** 00:39:24.1±1.7, 37.°76N×29.°21E, h13km, mb4.1/11, Error ellipse: s-maj=9.8km s-min=6.0km az=69.2*
*ISK **20** 00:39:24.8, 37.°83N×29.°12E, h6km, ML3.7/29*
*CSEM **20** 00:39:24.9±0.1, 37.°84N×29.°16E, h2km, mb4.0/11, Error ellipse: s-maj=2.7km s-min=2.4km az=134.0*
*ISCJB **20** 00:39:24.5±0.4, 37.°86N±0.°02×29.°18E±0.°02, h6km±3km, mb3.7/20, Error ellipse: s-maj=2.9km s-min=2.4km az=139.5*
*THE **20** 00:39:26.0, 37.°90N×29.°16E, h0km±1km, ML3.7/5, Error ellipse: s-maj=3.1km s-min=0.8km az=72.0*
ISC 20 00:39:26.1±0.7, 37.°82N±0.°02×29.°16E±0.°02, h12km±4km, n256, σ1f31/283, mb3.8/20, 15C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DENT	**Denizli**	**0.12**	**237**	PG	**Pg**	**00 39 27.8**	**-1.5**
DENT	**Denizli**	**0.12**	**237**	*e*Pg	**Pg**	**00 39 27.8**	**-1.5**
TAVA	**DENIZLI_Tavas**	**0.41**	**209**	*i* P	**Pg**	**00 39 33.0**	**-1.2**
TAVA				*i* S	**Sg**	**00 39 39.1**	**-0.5**
TAVA	**DENIZLI_Tavas**	**0.41**	**209**	P	**Pg**	**00 39 33.0**	**-1.2**
TAVA				S	**Sg**	**00 39 39.1**	**-0.5**
KHL	**Karahalli**	**0.58**	**29**	PG	**Pg**	**00 39 36.6**	**-0.8**
KHL	**Karahalli**	**0.58**	**29**	*e*Pg	**Pg**	**00 39 36.6**	**-0.8**
KHAL	**Karahalli**	**0.61**	**25**	*i* P	**Pg**	**00 39 36.0**	**-2.0**
KHAL	**Karahalli**	**0.61**	**25**	P	**Pg**	**00 39 36.0**	**-2.0**
GOLH	**Golhisar**	**0.66**	**151**	*i* P	**Pg**	**00 39 36.7**	**-2.3**
GOLH	**Golhisar**	**0.66**	**151**	P	**Pg**	**00 39 36.7**	**-2.3**
BRDR	**BURDUR-Merkez**	**0.72**	**100**	*i* P	**Pg**	**00 39 38.7**	**-1.4**
BRDR	**BURDUR-Merkez**	**0.72**	**100**	P	**Pg**	**00 39 38.7**	**-1.4**
KULA	**Kula-Manisa**	**0.80**	**330**	PG	**Pg**	**00 39 40.5**	**-1.1**
KULA				SG	**Sg**	**00 39 51.3**	**-0.8**
KULA	**Kula-Manisa**	**0.80**	**330**	*e*Pg	**Pg**	**00 39 40.5**	**-1.1**
KULA				*e*Sg	**Sg**	**00 39 51.3**	**-0.8**
KZIL	**AFYON_Kizioren**	**0.89**	**60**	*i* P	**Pg**	**00 39 41.5**	**-1.7**
KZIL	**AFYON_Kizioren**	**0.89**	**60**	P	**Pg**	**00 39 41.5**	**-1.7**
YER	**Yerkesik**	**0.98**	**226**	PG	**Pg**	**00 39 43.3**	**-1.7**
YER	**Yerkesik**	**0.98**	**226**	*e*Pg	**Pg**	**00 39 43.3**	**-1.7**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**278**	PG	**Pg**	**00 39 43.9**	**-1.8**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**278**	*e*Pg	**Pg**	**00 39 43.9**	**-1.8**
AYDN	**Tasoluk**	**1.03**	**261**	*i* P	**Pb**	**00 39 44.5**	**-1.4**
AYDN	**Tasoluk**	**1.03**	**261**	P	**Pb**	**00 39 44.5**	**-1.4**
TURN	**Turunc**	**1.05**	**205**	PN	**Pn**	**00 39 49.5**	**+2.9**
TURN	**Turunc**	**1.05**	**205**	*i* P	**Pn**	**00 39 48.6**	**+2.0**
TURN	**Turunc**	**1.05**	**205**	P	**Pn**	**00 39 48.6**	**+2.0**
DALY	**Dalyan (Mu˘la**	**1.08**	**202**	PG	**Pb**	**00 39 45.9**	**-0.8**
DALY	**Dalyan (Mu˘la**	**1.08**	**202**	*i* P	**Pb**	**00 39 45.8**	**-0.9**
DALY				*i* S	**Sn**	**00 40 05.9**	**+4.0**
DALY	**Dalyan (Mu˘la**	**1.08**	**202**	*e*Pg	**Pb**	**00 39 45.9**	**-0.8**
FETY	**Fethiye**	**1.19**	**183**	PN	**Pn**	**00 39 47.8**	**-0.7**
FETY	**Fethiye**	**1.19**	**183**	P	**Pn**	**00 39 47.0**	**-1.5**
FETY	**Fethiye**	**1.19**	**183**	*e*Pn	**Pn**	**00 39 47.8**	**-0.7**
BCK	**Bucak**	**1.19**	**107**	PN	**Pb**	**00 39 48.6**	**0.0**
BCK	**Bucak**	**1.19**	**107**	*e*Pn	**Pb**	**00 39 48.6**	**0.0**
MLSB	**Milas**	**1.22**	**245**	PN	**Pn**	**00 39 47.9**	**-1.1**
MLSB	**Milas**	**1.22**	**245**	*e*Pn	**Pn**	**00 39 47.9**	**-1.1**
ELL	**Elmali**	**1.22**	**151**	PN	**Pb**	**00 39 49.2**	**0.0**
ELL	**Elmali**	**1.22**	**151**	*e*Pn	**Pb**	**00 39 49.2**	**0.0**
KORT	**Korkueli**	**1.25**	**131**	PN	**Pg**	**00 39 50.0**	**-0.1**
KORT	**Korkueli**	**1.25**	**131**	*i* P	**Pb**	**00 39 49.6**	**-0.1**
KORT	**Korkueli**	**1.25**	**131**	P	**Pb**	**00 39 49.6**	**-0.1**
KORT	**Korkueli**	**1.25**	**131**	*e*Pn	**Pg**	**00 39 50.0**	**-0.1**
SIMA	**Simav-Kutahya**	**1.27**	**354**	PN	**Pn**	**00 39 48.9**	**-0.8**
SIMA	**Simav-Kutahya**	**1.27**	**354**	*e*Pn	**Pn**	**00 39 48.9**	**-0.8**
DEMI	**Demirci**	**1.27**	**344**	*i* P	**Pn**	**00 39 48.3**	**-1.4**
DEMI	**Demirci**	**1.27**	**344**	P	**Pn**	**00 39 48.3**	**-1.4**
GDZ	**Gediz**	**1.29**	**11**	*i* P	**Pn**	**00 39 47.4**	**-2.7**
GDZ	**Gediz**	**1.29**	**11**	P	**Pn**	**00 39 47.4**	**-2.7**
BAGO	**Egridir - ISPA**	**1.30**	**82**	*i* P	**Pn**	**00 39 48.6**	**-1.5**
SHUT	**Suhut-Afyon**	**1.31**	**56**	PN	**Pb**	**00 39 50.7**	**-0.1**

ARG				S		Sb	00 40 22.6	+1.0	
DGB	**˙zmir**	**1.82**	**278**	*i* P		**Pn**	00 39 56.1	-1.1	
DST	**Dursunbey**	**1.83**	**347**	PN		**Pn**	00 39 57.2	-0.2	
DST	**Dursunbey**	**1.83**	**347**	*e*Pn		**Pn**	00 39 57.2	-0.2	
SMG	**Samos**	**1.85**	**267**	P		**Pn**	00 39 56.4	-1.2	
SMG				S		Sb	00 40 22.0	-0.9	
SMG	**Samos**	**1.85**	**267**	P		**Pn**	00 39 56.4	-1.2	
SMG				S		Sb	00 40 22.0	-0.9	
STEP	**BALIKESIR_Sava**	**1.92**	**324**	*i* P		**Pn**	00 39 57.8	-0.9	
STEP	**BALIKESIR_Sava**	**1.92**	**324**	P		**Pn**	00 39 57.8	-0.9	
DOGA	**KONYA_Doganhis**	**2.00**	**81**	*i* P		**Pn**	00 39 59.9	+0.1	
DOGA	**KONYA_Doganhis**	**2.00**	**81**	P		**Pn**	00 39 59.9	+0.1	
NISR	**Nisiros**	**2.02**	**234**	P		**Pn**	00 39 59.8	-0.2	
NISR				S		Sb	00 40 28.2	+0.3	
NISR	**Nisiros**	**2.02**	**234**	P		**Pn**	00 39 59.8	-0.2	
NISR				S		Sb	00 40 28.2	+0.3	
BALB	**Balikesir**	**2.08**	**331**	PN		**Pn**	00 40 01.4	+0.7	
BALB	**Balikesir**	**2.08**	**331**	*e*Pn		**Pn**	00 40 01.4	+0.7	
URLA	**Izmir**	**2.10**	**286**	PN		**Pn**	00 40 00.9	-0.2	
URLA	**Izmir**	**2.10**	**286**	*i* P		**Pn**	00 39 59.1	-2.0	
URLA	**Izmir**	**2.10**	**286**	P		**Pn**	00 39 59.1	-2.0	
URLA	**Izmir**	**2.10**	**286**	*e*Pn		**Pn**	00 40 00.9	-0.2	
FOCM	**Fo˙şa**	**2.11**	**296**	PN		**Pn**	00 40 01.6	+0.4	
FOCM	**Fo˙şa**	**2.11**	**296**	*e*Pn		**Pn**	00 40 01.6	+0.4	
ZEY	**˙zmir**	**2.14**	**282**	*i* P		**Pn**	00 40 00.6	-1.0	
KEPZ	**Antalya-Kepez**	**2.15**	**115**	*i* P		**Pn**	00 40 01.9	+0.1	
KEPZ	**Antalya-Kepez**	**2.15**	**115**	P		**Pn**	00 40 01.9	+0.1	
ESKT	**Eskisehir**	**2.15**	**37**	PN		**Pn**	00 40 02.1	+0.2	
ESKT	**Eskisehir**	**2.15**	**37**	*i* P		**Pn**	00 40 01.4	-0.5	
ESKT	**Eskisehir**	**2.15**	**37**	*e*Pn		**Pn**	00 40 02.1	+0.2	
SEYT	**Eskypehyr**	**2.15**	**37**	P		**Pn**	00 40 01.4	-0.5	
DKL	**Dikili**	**2.17**	**306**	PN		**Pn**	00 40 01.9	-0.1	
DKL	**Dikili**	**2.17**	**306**	*e*Pn		**Pn**	00 40 01.9	-0.1	
CAND	**Candarli**	**2.17**	**302**	PN		**Pn**	00 40 02.1	0.0	
KRBN	**Karaburun**	**2.20**	**291**	PN		**Pn**	00 40 02.1	-0.3	
KRBN	**Karaburun**	**2.20**	**291**	*e*Pn		**Pn**	00 40 02.1	-0.3	
ORLT	**Orhaneli**	**2.23**	**355**	PN		**Pn**	00 40 03.1	+0.2	
ORLT	**Orhaneli**	**2.23**	**355**	*e*Pn		**Pn**	00 40 03.1	+0.2	
BALY	**Balya**	**2.27**	**328**	*i* P		**Pn**	00 40 02.2	-1.2	
BALY	**Balya**	**2.27**	**328**	P		**Pn**	00 40 02.2	-1.2	
KDHN	**Kadinhani**	**2.43**	**72**	*i* P		**Pn**	00 40 05.7	0.0	
KDHN	**Kadinhani**	**2.43**	**72**	P		**Pn**	00 40 05.7	0.0	
CAVI	**Cavuskoy**	**2.44**	**12**	PN		**Pn**	00 40 06.1	+0.4	
CAVI	**Cavuskoy**	**2.44**	**12**	*e*Pn		**Pn**	00 40 06.1	+0.4	
SVRH	**Sivrihisar-ESK**	**2.46**	**48**	PN		**Pn**	00 40 06.8	+0.7	
SVRH	**Sivrihisar-ESK**	**2.46**	**48**	*e*Pn		**Pn**	00 40 06.8	+0.7	
GONE	**Gonen-Balikesi**	**2.50**	**333**	PN		**Pn**	00 40 07.1	+0.5	
GONE	**Gonen-Balikesi**	**2.50**	**333**	*e*Pn		**Pn**	00 40 07.1	+0.5	
CHOS	**Chios island**	**2.52**	**284**	PN		**Pn**	00 40 07.4	+0.5	
CHOS	**Chios island**	**2.52**	**284**	P		**Pn**	00 40 06.5	-0.4	
CHOS	**Chios island**	**2.52**	**284**	*e*Pn		**Pn**	00 40 07.4	+0.5	
CHOS				S		Sn	00 40 38.9	+1.4	
CHOS	**Chios island**	**2.52**	**284**	P		**Pn**	00 40 06.5	-0.4	
CHOS				S		Sn	00 40 38.9	+1.4	
KCTX	**Karacabey (Bur**	**2.52**	**346**	PN		**Pn**	00 40 07.5	+0.6	
KCTX	**Karacabey (Bur**	**2.52**	**346**	*e*Pn		**Pn**	00 40 07.5	+0.6	
MDNY	**Mudanya-Bursa**	**2.55**	**355**	PN		**Pn**	00 40 08.3	+1.0	
MDNY	**Mudanya-Bursa**	**2.55**	**355**	*e*Pn		**Pn**	00 40 08.3	+1.0	
GEMT	**Gemlik**	**2.61**	**0**	PN		**Pn**	00 40 08.9	+0.8	
GEMT	**Gemlik**	**2.61**	**0**	*e*Pn		**Pn**	00 40 08.9	+0.8	
PRK	**Paraskevi**	**2.68**	**303**	P		**Pn**	00 40 08.2	-0.8	
PRK				S		Sn	00 40 42.1	+0.7	
PRK	**Paraskevi**	**2.68**	**303**	P		**Pn**	00 40 08.2	-0.8	
PRK				S		Sn	00 40 42.1	+0.7	
KARP	**Karpathos**	**2.78**	**216**	PN		**Pn**	00 40 11.1	+0.6	
KARP	**Karpathos**	**2.78**	**216**	P		**Pn**	00 40 11.1	+0.6	
KARP	**Karpathos**	**2.78**	**216**	P		**Pn**	00 40 11.1	+0.6	
SIGR	**SIGRI**	**2.94**	**299**	P		**Pn**	00 40 11.9	-0.8	
SIGR	**SIGRI**	**2.94**	**299**	P		**Pn**	00 40 11.9	-0.8	
APE	**Apeiranthos**	**2.99**	**257**⇑	*i*P		**Pn**	00 40 13.4	+0.1	
APE	**Apeiranthos**	**2.99**	**257**	*ce*P		**Pn**	00 40 13.6	+0.3	
APE	**Apeiranthos**	**2.99**	**257**	*e*P		**Pn**	00 40 13.6	+0.3	
APE	**Apeiranthos**	**2.99**	**257**	P		**Pn**	00 40 13.7	+0.4	
SANT	**Santorini**	**3.30**	**245**⇑	*i*P		**Pn**	00 40 20.5	+2.9	
SANT	**Santorini**	**3.30**	**245**⇑	*i*P		**Pn**	00 40 20.5	+2.9	
THR3	**Thira Island,**	**3.32**	**246**	P		**Pn**	00 40 19.0	+1.1	
THR3	**Thira Island,**	**3.32**	**246**	P		**Pn**	00 40 19.0	+1.1	
ZKR	**Zakros**	**3.60**	**222**	P		**Pn**	00 40 22.8	+1.1	
ZKR	**Zakros**	**3.60**	**222**	P		**Pn**	00 40 22.8	+1.1	
ENEZ	**Enez**	**3.73**	**322**	P		**Pn**	00 40 23.3	-0.2	
ENEZ	**Enez**	**3.73**	**322**	P		**Pn**	00 40 23.3	-0.2	
LIA	**Limnos Island**	**3.74**	**305**	P		**Pn**	00 40 23.0	-0.6	
LIA	**Limnos Island**	**3.74**	**305**	P		**Pn**	00 40 23.0	-0.6	
NPS	**Neapolis**	**3.83**	**229**	P		**Pn**	00 40 25.5	+0.6	
NPS	**Neapolis**	**3.83**	**229**	P		**Pn**	00 40 25.5	+0.6	
SMTH	**Samothraki Isl**	**3.87**	**314**	P		**Pn**	00 40 24.9	-0.5	
SMTH	**Samothraki Isl**	**3.87**	**314**	P		**Pn**	00 40 24.9	-0.5	
ALN	**Alexandroupoli**	**3.91**	**323**	*e*Pn		**Pn**	00 40 25.4	-0.5	
ALN	**Alexandroupoli**	**3.91**	**323**	P		**Pn**	00 40 25.4	-0.5	
ALN	**Alexandroupoli**	**3.91**	**323**	P		**Pn**	00 40 25.4	-0.5	
BRTR	**Keskin Array B**	**3.98**	**60**	Pn		**Pn**	00 40 27.1	0.0	
	1.2nm,0.3s,baz=238,slow=14,SNR=44								
BRTR				Sn		**Sn**	00 41 14.0	+0.3	
	1.3nm,0.3s,baz=240,slow=23,SNR=3.5								
LAST	**Lasithi**	**3.98**	**229**	P		**Pn**	00 40 28.0	+1.0	
LAST	**Lasithi**	**3.98**	**229**	P		**Pn**	00 40 28.0	+1.0	
IDI	**Anoyia**	**4.27**	**235**	Pn		**Pn**	00 40 30.9	-0.1	
	2.0nm,0.3s,baz=51,slow=13,SNR=23								
IDI				Sn		**Sn**	00 41 23.5	+2.8	
	1.1nm,0.3s,baz=252,slow=20,SNR=2.7								
IDI	**Anoyia**	**4.27**	**235**⇑	*i*P		**Pn**	00 40 33.0	+2.0	
IDI	**Anoyia**	**4.27**	**235**⇑	*i*P		**Pn**	00 40 33.0	+2.0	
RDO	**Rodhopi**	**4.35**	**321**	P		**Pn**	00 40 31.3	-0.7	
RDO	**Rodhopi**	**4.35**	**321**	P		**Pn**	00 40 31.3	-0.7	
SIVA	**Sivas**	**4.49**	**233**	P		**Pn**	00 40 35.2	+1.3	
SIVA	**Sivas**	**4.49**	**233**	P		**Pn**	00 40 35.2	+1.3	
NEO	**Neokhori**	**4.89**	**290**	P		**Pn**	00 40 39.3	-0.1	
NEO	**Neokhori**	**4.89**	**290**	P		**Pn**	00 40 39.3	-0.1	
NVR	**Nevrokopi**	**5.40**	**312**	P		**Pn**	00 40 46.2	-0.3	
NVR	**Nevrokopi**	**5.40**	**312**	P		**Pn**	00 40 46.2	-0.3	
KNT	**Kendrikon**	**5.88**	**306**	P		**Pn**	00 40 53.3	+0.2	
KNT	**Kendrikon**	**5.88**	**306**	P		**Pn**	00 40 53.3	+0.2	
VTS	**Vitosha**	**6.59**	**318**⇑	*i*P		**Pn**	00 41 04.5	+1.5	
TIRR	**Tirgusor**	**6.66**	**355**⇓	*i*P		**Pn**	00 41 03.3	-0.3	
TLB	**Topalu**	**6.81**	**353**⇓	*i*P		**Pn**	00 41 06.9	+1.1	
SGRR	**Singureni**	**6.83**	**340**⇓	*i*P		Pb	00 41 18.2	-6.6	
MMAI	**Mount Meron Ar**	**6.99**	**131**	Pn		**Pn**	00 41 07.0	-1.4	
	6.7nm,0.3s,baz=319,slow=12,SNR=72								
MMAI				Sn		**Sn**	00 42 25.5	-2.4	
	1.3nm,0.3s,baz=309,slow=23,SNR=3.5								
CFR	**Carcaliu**	**7.39**	**354**⇑	*i*P		**Pn**	00 41 13.4	-0.3	
SEV	**Sevastopol'**	**7.53**	**25**	*e*P		**Pn**	00 41 14.0	-1.6	
SEV				*e*S		**Sn**	00 42 35.2	-5.6	
SEV				smax		smax			
	comp=E,6.0nm,0.4s								
SEV				smax		smax			
	comp=N,4.0nm,0.4s								
SEV	**Sevastopol'**	**7.53**	**25**	*e*P		**Pn**	00 41 14.0	-1.6	
MLR	**Muntele Rosu**	**8.03**	**344**	Pn		**Pn**	00 41 23.4	+0.7	
	comp=N,0.1nm,0.3s,baz=176,slow=14,SNR=2.8								
MLR				LR		LR	00 44 29.0		
	comp=N,46nm,20.7s,baz=69,slow=38								
MLR	**Muntele Rosu**	**8.03**	**344**⇓	*i*P		**Pn**	00 41 23.6	+0.9	
VOIR		**8.21**	**339**⇓	*i*P		**Pn**	00 41 24.7	-0.4	
VOIR		**8.21**	**339**⇓	*i*P		**Pn**	00 41 24.7	-0.4	
VRI	**Vrincioaia**	**8.24**	**348**⇑	*i*P		**Pn**	00 41 25.9	+0.4	
VRI	**Vrincioaia**	**8.24**	**348**⇑	*i*P		**Pn**	00 41 25.9	+0.4	
ASF	**Jabal al Asfar**	**8.48**	**129**	Pn		**Pn**	00 41 27.6	-1.3	
	comp=N,0.2nm,0.3s,baz=247,slow=4.9,SNR=6.0								
ASF				Sn		**Sn**	00 43 04.8	+0.2	
	baz=293,slow=15,SNR=1.9								
DOPR	**Dopca**	**8.61**	**342**⇑	*i*P		**Pn**	00 41 31.3	+0.8	
DOPR	**Dopca**	**8.61**	**342**⇑	*i*P		**Pn**	00 41 31.3	+0.8	
ANN	**Anapa**	**9.34**	**39**	*e*P		**Pn**	00 41 40.2	-0.3	
ANN				*e*S		**Sn**	00 43 27.3	+1.9	
ANN				pmax		pmax			
	comp=Z,72nm,1.3s								
ANN	**Anapa**	**9.34**	**39**	*e*P		**Pn**	00 41 40.2	-0.3	
	comp=Z,72nm,1.3s								
ANN				*e*S		**Sn**	00 43 27.3	+1.9	
EIL	**Elat**	**9.45**	**148**	Pn		**Pn**	00 41 39.9	-2.1	
	comp=Z,0.5nm,0.3s,baz=345,slow=16,SNR=5.0								
EIL				Sn		**Sn**	00 43 28.1	-0.1	
	comp=Z,0.4nm,0.3s,baz=90,slow=20,SNR=3.4								
BZS	**Buzias**	**9.61**	**326**⇓	*i*P		**Pn**	00 41 45.0	+0.8	
BZS	**Buzias**	**9.61**	**326**⇓	*i*P		**Pn**	00 41 45.0	+0.8	
DRGR		**10.15**	**334**⇓	*i*P		**Pn**	00 41 55.7	+4.0	
BURAR	**Bucovina Array**	**10.21**	**345**⇓	*i*P		**Pn**	00 41 53.3	+0.8	
BURAR	**Bucovina Array**	**10.21**	**345**⇓	*i*P		**Pn**	00 41 53.3	+0.8	
SORM	**Soroca**	**10.33**	**357**⇓	*i*P		**Pn**	00 41 54.5	+0.5	
SORM	**Soroca**	**10.33**	**357**⇓	*i*P		**Pn**	00 41 54.5	+0.5	
NEY	**Neytrino**	**11.65**	**58**⇑	*e*P		**Pn**	00 42 15.8	+3.5	
KIV	**Kislovodsk**	**11.92**	**55**	*e*P		**Pn**	00 42 17.6	+1.7	
KIV				pmax		pmax			
	comp=Z,12nm,1.1s								
KIV	**Kislovodsk**	**11.92**	**55**	*e*P		**Pn**	00 42 17.6	+1.7	
	comp=Z,12nm,1.1s								
KVAR	**Kislovodsk Arr**	**11.93**	**55**	Pn		**Pn**	00 42 17.6	+1.6	
	baz=215,slow=1.5,SNR=5.9								
KBZ	**Khabaz**	**11.96**	**56**	Pn		**Pn**	00 42 18.9	+2.5	
	comp=Z,0.0nm,0.3s,baz=256,slow=6.6,SNR=4.9								
ZEI	**Tsey**	**12.29**	**62**	*e*P		**Pn**	00 42 23.6	+2.5	
ZEI				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ZEI	**Tsey**	**12.29**	**62**	*e*P		**Pn**	00 42 23.6	+2.5	
	comp=Z,2.0nm,0.9s								
NCK	**Nalchik**	**12.33**	**58**⇑	*e*P		**Pn**	00 42 22.0	+0.5	
NCK	**Nalchik**	**12.33**	**58**	*e*P		**Pn**	00 42 22.0	+0.5	
AKASG	**Malin Array Be**	**12.88**	**0**	Pn		**Pn**	00 42 27.8	-1.0	
	comp=Z,0.3nm,0.3s,baz=182,slow=12,SNR=3.3								
VSR	**Storozhevoye**	**15.15**	**25**	*e*P		**Pn**	00 43 00.4	+0.6	
VSR				pmax		pmax			
	comp=Z,10.0nm,1.2s								
GERES	**GERESS Array B**	**15.71**	**319**	Pn		**P**	00 43 10.5	-0.8	
	comp=Z,0.1nm,0.3s,baz=137,slow=11,SNR=13								
KHC	**Kasperske Hory**	**15.96**	**320**	*e*P		**P**	00 43 14.2	+0.3	
KHC				*ep*P		**sP**	00 43 20.9	+2.0	
KHC	**Kasperske Hory**	**15.96**	**320**	*e*P		**P**	00 43 14.2	+0.3	
KHC	**Kasperske Hory**	**15.96**	**320**	*e*P		**P**	00 43 14.2	+0.3	
WTTA	**Wattenberg**	**15.97**	**312**	P		**P**	00 43 14.0	-0.2	
	comp=Z,13nm,1.7s								
WTTA	**Wattenberg**	**15.97**	**312**	*e*P		**P**	00 43 14.0	-0.2	
	comp=Z,13nm,1.7s								
WATA	**Walderalm**	**16.04**	**312**	*ep*P		**P**	00 43 18.0	+3.1	
	comp=Z,5.9nm,0.9s								
VRH	**Novokhopyorsk**	**16.07**	**30**	*e*P		**P**	00 43 17.6	+2.5	
VRH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VRH	**Novokhopyorsk**	**16.07**	**30**	*e*P		**P**	00 43 17.6	+2.5	
	comp=Z,10.0nm,0.8s								
LPSR	**Galich'ya Gora**	**16.28**	**22**	*e*P		**Pn**	00 43 14.2	-0.2	
LPSR				pmax		pmax			
	comp=Z,10.0nm,1.1s								
MOTA	**Moosalm**	**16.32**	**311**	*e*P		**P**	00 43 20.3	+2.2	
	comp=Z,1.7nm,0.7s								
FETA	**Feichten**	**16.39**	**310**	P		**P**	00 43 19.7	+0.8	
	comp=Z,11nm,1.2s								
FETA	**Feichten**	**16.39**	**310**	*ep*P		**P**	00 43 19.7	+0.8	
	comp=Z,11nm,1.2s								
OBN	**Obninsk**	**18.02**	**14**	*i* P		**P**	00 43 39.1	+2.5	
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
GEYT	**Alibeck**	**22.82**	**81**	P		**P**	00 44 28.8	-0.1	
	comp=Z,1.7nm,0.8s,baz=289,slow=9.2,SNR=5.5								
FINES	**FINESS Array B**	**23.73**	**356**	P		**P**	00 44 36.8	-0.9	
	comp=Z,7.7nm,1.1s,baz=138,slow=13,SNR=3.0								
KLMR	**Klimovskoe**	**23.96**	**13**	*e*P		**P**	00 44 40.4	+0.5	
KLMR				*e*			00 45 11.8		
KLMR				pmax		pmax			
	comp=Z,12nm,1.5s								
KLMR	**Klimovskoe**	**23.96**	**13**	*e*P		**P**	00 44 40.5	+0.5	
KLMR				AMP			00 44 46.3		
	comp=Z,13nm,1.5s								
KLMR				*e*PP		**PnPn**	00 45 11.8	+3.4	
AKTK	**Aktyubinsk**	**24.08**	**49**	P		**P**	00 44 39.6	-1.6	
	comp=Z,2.0nm,0.9s								
AKTO	**Aktyubinsk**	**24.08**	**49**	P		**P**	00 44 39.5	-1.6	
	comp=Z,2.0nm,0.9s,baz=223,slow=9.4,SNR=4.3								
HFS	**Hagfors**	**24.41**	**341**	P		**P**	00 44 43.1	-1.0	
	comp=Z,4.4nm,0.8s,baz=145,slow=5.4,SNR=3.6								
ESDC	**Sonseca Array**	**25.82**	**284**	P		**P**	00 44 55.6	-1.7	
	comp=Z,0.6nm,0.8s,baz=74,slow=9.1,SNR=3.8								
NOA	**NORSAR Array B**	**25.83**	**340**	P		**P**	00 44 55.5	-1.5	
	comp=Z,1.5nm,0.9s,baz=136,slow=9.6,SNR=3.0								
ARU	**Arti**	**27.00**	**37**	P		**P**	00 45 06.3	-1.3	
	comp=Z,1.9nm,0.5s,baz=263,slow=8.1,SNR=5.9								
ARU	**Arti**	**27.00**	**37**	*d* iP		**P**	00 45 08.8	+1.2	
ARU							00 45 52.0		
ARU				S		**S**	00 49 48.4	+3.8	
ARU				SS		**SnSn**	00 50 54.6	+4.3	
ARU				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BRVK	**Borovoye**	**32.12**	**48**⇓	*e*P		**P**	00 45 52.6	-0.5	
BRVK				pmax		pmax			
	comp=Z,16nm,4.0s								
AAK	**Ala-Archa**	**34.62**	**67**⇑	*e*P		**P**	00 46 17.0	+1.8	
AAK				pmax		pmax			
	comp=Z,4.0nm,1.6s								
AAK	**Ala-Archa**	**34.62**	**67**	*e*P		**P**	00 46 17.0	+1.8	
	comp=Z,4.0nm,1.6s								
TORD	**Torodi Ar. Bea**	**34.67**	**232**	P		**P**	00 46 14.5	-1.1	
	comp=Z,0.9nm,0.7s,baz=36,slow=8.7,SNR=10.0								
KURBB	**Kurchatov Arra**	**36.95**	**54**	P		**P**	00 46 34.3	-0.6	
	comp=Z,0.9nm,0.6s,baz=276,slow=8.7,SNR=5.8								
KURK	**Kurchatov**	**37.00**	**53**	P		**P**	00 46 34.3	-1.0	
KURK				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**39.63**	**60**	P		**P**	00 46 57.4	-0.1	
	comp=Z,1.5nm,1.0s,baz=277,slow=7.5,SNR=10								
ZALV	**Zalesovo Beam**	**40.83**	**48**	P		**P**	00 47 06.4	-0.9	
	comp=Z,0.4nm,0.3s,baz=264,slow=10.0,SNR=2.9								
SONM	**Songino Array**	**55.31**	**53**	P		**P**	00 48 57.3	-2.2	
	comp=Z,0.2nm,0.5s,baz=284,slow=5.8,SNR=3.0								
CMAR	**Chiang Mai Arr**	**63.13**	**87**	P		**P**	00 49 51.6	-2.3	
	comp=Z,0.4nm,0.3s,baz=321,slow=7.0,SNR=3.7								
SCHQ	**Schefferville**	**63.24**	**320**	P		**P**	00 49 52.8	-1.4	
	comp=Z,2.3nm,0.9s,baz=66,slow=12,SNR=3.4								
BILL	**Bilibino**	**69.66**	**16**	*i* P		**P**	00 50 35.9	+0.9	
BILL				*i*			00 51 02.9		
BILL				pmax		pmax			
	comp=Z,2.0nm,1.2s								
YKA	**Yellowknife Ar**	**75.86**	**344**	P		**P**	00 51 10.2	-1.7	
	comp=Z,0.1nm,0.4s,baz=41,slow=5.7,SNR=2.7								

*IDC **20** 00:51:07.2±1.4, 37.49N×144.58E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.4/64, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=30.4km s-min=28.1km az=124.0*
*ISCJB **20** 00:51:10.5±0.8, 37.75N±0.05×144.37E±0.06, h33km, mb3.7/4, Error ellipse: s-maj=7.1km s-min=6.2km az=38.1*
*JMA **20** 00:51:11.9±0.2, 37.76N×144.25E, h41km, M3.6*

ISC 20 00:51:12.3±1.2, 37.78N±0.06×144.41E±0.08, h35km, n20, σ1ş75/31, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.51**	**286**	P		**Pn**		00 51 50.0	-0.5
JIO				S		**Sn**		00 52 18.5	-1.3
OFUJ	**Ofunato**	**2.51**	**302**	P		**Pn**		00 51 50.2	-0.4
OFUJ				*e*S		**Sn**		00 52 19.0	-1.0
MIYJ	**Miyakonagasawa**	**2.71**	**312**	P		**Pn**		00 51 52.7	-0.6
MIYJ				*e*S		**Sn**		00 52 23.6	-1.2
JMK	**Ichinoseki**	**2.77**	**296**	P		**Pn**		00 51 54.0	-0.1
JMK				S		**Sn**		00 52 25.2	-1.1
JOM	**Ohasama**	**2.97**	**306**	P		**Pn**		00 51 57.5	+0.6
JOM				*e*S		**Sn**		00 52 31.4	+0.1
JFT	**Otama**	**3.24**	**267**	P		**Pn**		00 52 00.9	+0.2
JFT				S		**Sn**		00 52 36.7	-1.4
JYK	**Kaneyama**	**3.38**	**291**	P		**Pn**		00 52 02.9	+0.3
JYK				*e*S		**Sn**		00 52 40.9	-0.5
JANG	**Nango**	**3.43**	**320**	*e*S		**Sn**		00 52 41.2	-1.5
BSO1	**Boso 1**	**4.18**	**223**	*e*S		**Sn**		00 52 58.2	-2.1
JRY	**Ryogami san**	**4.75**	**250**	P		**Pn**		00 52 20.1	-1.4
JRY				S		**Sn**		00 53 11.0	-4.4
JKB	**Kayabe**	**4.85**	**329**	P		**Pn**		00 52 24.6	+1.8
JCH	**Churui**	**4.89**	**351**	P		**Pn**		00 52 23.4	+0.1
MJAR	**Matsushiro Arr**	**5.11**	**258**	Pn		**Pn**		00 52 26.2	-0.1
	1.6nm,0.3s,baz=87,slow=14,SNR=12								
MJAR				Sn		**Sn**		00 53 24.8	+0.8
	0.8nm,0.3s,baz=326,slow=22,SNR=4.4								
MAT	**Matsushiro**	**5.11**	**258**	P		**Pn**		00 52 26.9	+0.6
MAT				S		**Sn**		00 53 24.7	+0.6
NEM2	**Nemuro 2**	**5.67**	**10**	P		**Pn**		00 52 31.3	-2.6
JTKR	**Abashiri--Toko**	**6.19**	**357**	P		**Pn**		00 52 40.6	-0.6
JTKR				*e*S		**Sn**		00 53 46.2	-4.5
MKAR	**Makanchi Array**	**45.74**	**302**	P		**P**		00 59 33.4	+3.3
	0.5nm,0.9s,baz=76,slow=10,SNR=3.7								
KURBB	**Kurchatov Arra**	**47.42**	**308**	P		**P**		00 59 44.6	+1.5
	0.7nm,0.6s,baz=83,slow=8.0,SNR=4.3								
ILAR	**Eielson Array**	**47.58**	**33**	P		**P**		00 59 45.2	+1.1
	0.5nm,1.0s,baz=254,slow=6.6,SNR=4.3								
WRA	**Warramunga Arr**	**58.19**	**191**	P		**P**		01 01 01.1	-1.7
	1.6nm,0.6s,baz=12,slow=7.4,SNR=16								

IDC 20 00:59:59.8±4.5, 30.20S×138.61E, h0km, mb1 3.0/3, mb1mx3.0/39, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=146.7km s-min=18.0km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.06**	**124**	Pn		Pn	Pn	01 00 48.7	-0.7
	0.2nm,0.3s,baz=305,slow=13,SNR=2.8								
STKA				Sn		Sn	Sn	01 01 27.5	+0.8
	0.6nm,0.3s,baz=265,slow=15,SNR=3.7								
STKA				Lg		Lg	Lg	01 01 37.7	
	0.9nm,0.3s,baz=11,slow=23,SNR=4.2								
ASAR	**Alice Springs**	**7.75**	**326**	Pn		Pn	Pn	01 01 54.9	+1.1
	0.4nm,0.3s,baz=155,slow=13,SNR=5.1								
WRA	**Warramunga Arr**	**10.92**	**338**	Pn		Pn	Pn	01 02 36.6	-0.8
	0.1nm,0.3s,baz=156,slow=13,SNR=5.0								

SJA 20 01:16:15.7±0.9, 30.80S×69.74W, h127km±9km, ML3.0, MW3.5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**1.07**	**159**	*e*P		Pn	Pn	01 16 40.0	+0.7
RTLS				IAML				01 16 40.3	

VLI	**Veliai**	**1.69**	**331**	P	**Pn**	**01 47 10.5 +1.1**
THR8	**Santorini-Mono**	**1.70**	**46**	P	**Pn**	**01 47 10.7 +1.1**
THR8	**Santorini-Mono**	**1.70**	**46**	P	**Pn**	**01 47 10.9 +1.4**
THR8	**Santorini-Mono**	**1.70**	**46**	P	**Pn**	**01 47 11.0 +1.4**
THR2	**Thira island,**	**1.70**	**45**	P	**Pn**	**01 47 11.0 +1.3**
THR2	**Thira island,**	**1.70**	**45**	P	**Pn**	**01 47 10.9 +1.3**
THR2	**Thira island,**	**1.70**	**45**	P	**Pn**	**01 47 10.9 +1.3**
ANAF	**Anafi Island**	**1.85**	**53**	P	**Pn**	**01 47 12.9 +1.2**
ANAF	**Anafi Island**	**1.85**	**53**	P	**Pn**	**01 47 13.1 +1.4**
ZKR	**Zakros**	**1.86**	**93**	PN	**Pn**	**01 47 14.4 +2.6**
ZKR	**Zakros**	**1.86**	**93**	P	**Pn**	**01 47 14.8 +3.0**
ZKR	**Zakros**	**1.86**	**93**	P	**Pn**	**01 47 14.0 +2.2**
ZKR	**Zakros**	**1.86**	**93**	*e*Pn	**Pn**	**01 47 14.4 +2.6**
ZKR	**Zakros**	**1.86**	**93**	P	**Pn**	**01 47 14.2 +2.4**
DYR	**Agios Nikonas**	**2.00**	**320**	P	**Pn**	**01 47 14.7 +0.9**
DYR	**Agios Nikonas**	**2.00**	**320**	P	**Pn**	**01 47 15.2 +1.4**
APE	**Apeiranthos**	**2.23**	**35**	PN	**Pn**	**01 47 16.4 -0.4**
APE	**Apeiranthos**	**2.23**	**35**	*e*Pn	**Pn**	**01 47 16.4 -0.4**
APE	**Apeiranthos**	**2.23**	**35**	P	**Pn**	**01 47 17.5 +0.7**
APE	**Apeiranthos**	**2.23**	**35**	P	**Pn**	**01 47 17.5 +0.7**
KRND	**KRANIDI**	**2.23**	**343**	P	**Pn**	**01 47 17.7 +0.8**
KRND	**KRANIDI**	**2.23**	**343**	P	**Pn**	**01 47 17.7 +0.8**
VLX	**Vlachokerasia**	**2.47**	**330**	P	**Pn**	**01 47 22.6 +2.4**
VLX	**Vlachokerasia**	**2.47**	**330**	P	**Pn**	**01 47 22.0 +1.7**
VLX	**Vlachokerasia**	**2.47**	**330**	P	**Pn**	**01 47 22.0 +1.7**
VLY	**Voula,Athens**	**2.61**	**357**	P	**Pn**	**01 47 22.8 +0.8**
VLY	**Voula,Athens**	**2.61**	**357**	P	**Pn**	**01 47 22.8 +0.8**
KARP	**Karpathos**	**2.64**	**82**	PN	**Pn**	**01 47 24.8 +2.3**
KARP	**Karpathos**	**2.64**	**82**	P	**Pn**	**01 47 23.4 +0.9**
KARP	**Karpathos**	**2.64**	**82**	P	**Pn**	**01 47 24.0 +1.5**
KARP	**Karpathos**	**2.64**	**82**	*e*Pn	**Pn**	**01 47 24.8 +2.3**
KARP	**Karpathos**	**2.64**	**82**	P	**Pn**	**01 47 24.0 +1.5**
TRIP	**Tripoli**	**2.65**	**330**	P	**Pn**	**01 47 26.2 +3.5**
TRIP	**Tripoli**	**2.65**	**330**	P	**Pn**	**01 47 25.5 +2.8**
PTL	**Penteli**	**2.80**	**359**	P	**Pn**	**01 47 25.7 +1.0**
PTL	**Penteli**	**2.80**	**359**	P	**Pn**	**01 47 25.7 +1.0**
KARY	**Karystos**	**2.81**	**8**	P	**Pn**	**01 47 25.9 +1.1**
KARY	**Karystos**	**2.81**	**8**	P	**Pn**	**01 47 25.9 +1.1**
LTK	**Loutraki**	**2.89**	**344**	P	**Pn**	**01 47 26.9 +1.1**
LTK	**Loutraki**	**2.89**	**344**	P	**Pn**	**01 47 26.9 +1.1**
AMT	**Artemida-Makis**	**2.92**	**322**	P	**Pn**	**01 47 27.3 +1.1**
AMT	**Artemida-Makis**	**2.92**	**322**	P	**Pn**	**01 47 27.3 +1.1**
VILL	**Villia**	**2.96**	**350**	P	**Pn**	**01 47 27.8 +0.9**
VILL	**Villia**	**2.96**	**350**	P	**Pn**	**01 47 27.8 +0.9**
THAL	**Thalero**	**2.98**	**340**	P	**Pn**	**01 47 28.5 +1.5**
THAL	**Thalero**	**2.98**	**340**	P	**Pn**	**01 47 28.5 +1.5**
GUR	**Goura**	**2.98**	**335**	P	**Pn**	**01 47 28.8 +1.5**
GUR	**Goura**	**2.98**	**335**	P	**Pn**	**01 47 28.8 +1.5**
KLV	**Kalavryta, Ach**	**3.15**	**333**	P	**Pn**	**01 47 30.8 +1.3**
KLV	**Kalavryta, Ach**	**3.15**	**333**	P	**Pn**	**01 47 30.8 +1.3**
EREA	**Eretria**	**3.17**	**360**	P	**Pn**	**01 47 31.0 +1.2**
EREA	**Eretria**	**3.17**	**360**	P	**Pn**	**01 47 31.0 +1.2**
DRO	**Drossia**	**3.25**	**327**	P	**Pn**	**01 47 32.2 +1.4**
DRO	**Drossia**	**3.25**	**327**	P	**Pn**	**01 47 32.2 +1.4**
BODT	**Bodrum**	**3.27**	**55**	PN	**Pn**	**01 47 31.1 0.0**
BODT	**Bodrum**	**3.27**	**55**	*e*Pn	**Pn**	**01 47 31.1 0.0**
BDRM	**Kayabasi**	**3.36**	**56**	*i* P	**Pn**	**01 47 34.2 +1.8**
BDRM				*i* S	**Sn**	**01 48 14.0 +2.9**
BDRM	**Kayabasi**	**3.36**	**56**	P	**Pn**	**01 47 34.2 +1.8**
BDRM				S	**Sn**	**01 48 14.0 +2.9**
DSF	**Desfina**	**3.36**	**341**	P	**Pn**	**01 47 33.7 +1.3**
DSF	**Desfina**	**3.36**	**341**	P	**Pn**	**01 47 33.7 +1.3**
LKR	**Lokris**	**3.49**	**348**	P	**Pn**	**01 47 34.8 +0.8**
LKR	**Lokris**	**3.49**	**348**	P	**Pn**	**01 47 34.8 +0.8**
ARG	**Arkhangelos**	**3.54**	**73**	P	**Pn**	**01 47 35.5 +0.8**
ARG	**Arkhangelos**	**3.54**	**73**	P	**Pn**	**01 47 36.2 +1.5**
ARG	**Arkhangelos**	**3.54**	**73**	P	**Pn**	**01 47 36.1 +1.4**
CHOS	**Chios island**	**3.56**	**28**	PN	**Pn**	**01 47 35.2 0.0**
CHOS	**Chios island**	**3.56**	**28**	*e*Pn	**Pn**	**01 47 35.2 0.0**
CHOS	**Chios island**	**3.56**	**28**	P	**Pn**	**01 47 35.9 +0.7**
CHOS	**Chios island**	**3.56**	**28**	P	**Pn**	**01 47 35.9 +0.7**
GCAM	**G?zelcaml?**	**3.61**	**46**	PN	**Pn**	**01 47 36.1 +0.4**
GCAM	**G?zelcaml?**	**3.61**	**46**	*i* P	**Pn**	**01 47 37.4 +1.7**
GCAM	**G?zelcaml?**	**3.61**	**46**	*e*Pn	**Pn**	**01 47 36.1 +0.4**
GCAM	**G?zelcaml?**	**3.61**	**46**	P	**Pn**	**01 47 37.4 +1.7**
ZEY	**˙zmir**	**3.63**	**34**	*i* P	**Pn**	**01 47 36.1 +0.2**
SMIA	**Simia**	**3.68**	**351**	P	**Pn**	**01 47 38.0 +1.3**
SMIA	**Simia**	**3.68**	**351**	P	**Pn**	**01 47 38.0 +1.3**
URLA	**Izmir**	**3.77**	**34**	PN	**Pn**	**01 47 37.7 -0.2**
URLA	**Izmir**	**3.77**	**34**	*i* P	**Pn**	**01 47 38.1 +0.2**
URLA	**Izmir**	**3.77**	**34**	*e*Pn	**Pn**	**01 47 37.7 -0.2**
URLA	**Izmir**	**3.77**	**34**	P	**Pn**	**01 47 38.1 +0.2**
YER	**Yerkesik**	**3.98**	**60**	PN	**Pn**	**01 47 41.6 +0.7**
YER	**Yerkesik**	**3.98**	**60**	*e*Pn	**Pn**	**01 47 41.6 +0.7**
AYDN	**Tasoluk**	**3.98**	**52**	*i* P	**Pn**	**01 47 43.5 +2.6**
AYDN	**Tasoluk**	**3.98**	**52**	P	**Pn**	**01 47 43.5 +2.6**
AGG	**Agios Georgios**	**3.99**	**342**	P	**Pn**	**01 47 42.3 +1.3**
AGG	**Agios Georgios**	**3.99**	**342**	P	**Pn**	**01 47 42.3 +1.3**
NEO	**Neokhori**	**4.10**	**352**	P	**Pn**	**01 47 43.5 +1.0**
NEO	**Neokhori**	**4.10**	**352**	P	**Pn**	**01 47 43.5 +1.0**
TURN	**Turunc**	**4.11**	**65**	PN	**Pn**	**01 47 39.5 -3.0**
TURN	**Turunc**	**4.11**	**65**	*i* P	**Pn**	**01 47 40.2 -2.3**
TURN				*i* S	Sn	01 48 21.0 -8.3
TURN	**Turunc**	**4.11**	**65**	*e*Pn	**Pn**	**01 47 39.5 -3.0**
TURN	**Turunc**	**4.11**	**65**	P	**Pn**	**01 47 40.2 -2.3**
DALY	**Dalyan (Mu˘la**	**4.12**	**66**	PN	**Pn**	**01 47 44.3 +1.5**
DALY	**Dalyan (Mu˘la**	**4.12**	**66**	*i* P	**Pn**	**01 47 44.8 +2.0**
DALY				*i* S	**Sn**	**01 48 28.9 -0.8**
DALY	**Dalyan (Mu˘la**	**4.12**	**66**	*e*Pn	**Pn**	**01 47 44.3 +1.5**
DALY	**Dalyan (Mu˘la**	**4.12**	**66**	P	**Pn**	**01 47 44.8 +2.0**
DALY				S	**Sn**	**01 48 28.9 -0.8**
SIGR	**SIGRI**	**4.25**	**20**	PN	**Pn**	**01 47 44.6 +0.2**
SIGR	**SIGRI**	**4.25**	**20**	*e*Pn	**Pn**	**01 47 44.6 +0.2**
FETY	**Fethiye**	**4.39**	**70**	PN	**Pn**	**01 47 47.9 +1.4**
FETY	**Fethiye**	**4.39**	**70**	P	**Pn**	**01 47 46.9 +0.4**
FETY	**Fethiye**	**4.39**	**70**	*e*Pn	**Pn**	**01 47 47.9 +1.4**
DKL	**Dikili**	**4.49**	**31**	PN	**Pn**	**01 47 48.4 +0.6**
DKL	**Dikili**	**4.49**	**31**	*e*Pn	**Pn**	**01 47 48.4 +0.6**
AKAS	**Kas**	**4.71**	**76**	PN	**Pn**	**01 47 52.9 +2.0**
AKAS	**Kas**	**4.71**	**76**	*i* P	**Pn**	**01 47 50.9 -0.1**
AKAS				*i* S	**Sn**	**01 48 41.3 -3.0**
AKAS	**Kas**	**4.71**	**76**	P	**Pn**	**01 47 50.8 -0.1**
AKAS	**Kas**	**4.71**	**76**	*e*Pn	**Pn**	**01 47 52.9 +2.0**
AKAS				S	**Sn**	**01 48 41.3 -3.0**
GOLH	**Golhisar**	**4.95**	**65**	*i* P	**Pn**	**01 47 55.1 +0.8**
GOLH	**Golhisar**	**4.95**	**65**	P	**Pn**	**01 47 55.1 +0.8**
ELL	**Elmali**	**5.06**	**71**	PN	**Pn**	**01 47 57.0 +1.2**
ELL	**Elmali**	**5.06**	**71**	*e*Pn	**Pn**	**01 47 57.0 +1.2**
KORT	**Korkueli**	**5.47**	**69**	PN	**Pn**	**01 48 03.1 +1.7**
KORT	**Korkueli**	**5.47**	**69**	*i* P	**Pn**	**01 48 03.2 +1.8**
KORT				*i* S	**Sn**	**01 49 01.6 +4.4**
KORT	**Korkueli**	**5.47**	**69**	*e*Pn	**Pn**	**01 48 03.1 +1.7**
KEPZ	**Antalya-Kepez**	**6.42**	**73**	*i* P	**Pn**	**01 48 15.8 +1.5**
KEPZ	**Antalya-Kepez**	**6.42**	**73**	P	**Pn**	**01 48 15.8 +1.5**
KDHN	**Kadinhani**	**7.32**	**61**	*i* P	**Pn**	**01 48 27.4 +0.7**
KDHN	**Kadinhani**	**7.32**	**61**	P	**Pn**	**01 48 27.4 +0.7**
VAE	**Valguarnera**	**8.01**	**289**	S	**Sn**	**01 50 03.0 -2.4**
	comp=E,0.7nm,0.3s,baz=101,slow=19,SNR=3.6					
BRTR	**Keskin Array B**	**8.91**	**57**	P	**Pn**	**01 48 48.1 -0.3**
	comp=E,0.1nm,0.3s,baz=228,slow=15,SNR=4.6					
STON	**Ston**	**9.03**	**329**	*e*Pn	Pn	01 48 45.3 -4.8
STON				Sn	Sn	01 50 17.5 -13
MMAI	**Mount Meron Ar**	**9.75**	**100**	P	Pn	01 48 56.6 -3.4
	comp=E,1.7nm,0.3s,baz=279,slow=12,SNR=9.6					
MMAI				S	Sn	01 50 37.9 -10
	comp=E,0.8nm,0.3s,baz=297,slow=21,SNR=2.8					
EIL	**Elat**	**10.82**	**118**	P	Pn	01 49 11.2 -3.4
	comp=E,0.7nm,0.3s,baz=331,slow=4.1,SNR=15					
EIL				S	Sn	01 51 04.5 -10
	comp=E,0.5nm,0.3s,baz=74,slow=17,SNR=3.6					
UDBI	**Udbina**	**11.20**	**328**	*e*Pn	**Pn**	**01 49 17.4 -2.3**
UDBI				Sn	Sn	01 51 11.5 -12
NVLJ	**Novalja**	**11.62**	**326**	*i* Pn	**Pn**	**01 49 23.6 -1.8**
NVLJ				Sn	Sn	01 51 22.4 -11
GERES	**GERESS Array B**	**15.56**	**334**	P	**Pn**	**01 50 20.4 +2.0**
	comp=E,0.2nm,0.3s,baz=137,slow=12,SNR=12					
AKASG	**Malin Array Be**	**15.92**	**12**	P	**Pn**	**01 50 23.0 +0.1**
	comp=E,0.9nm,0.3s,baz=199,slow=9.8,SNR=4.5					
KBZ	**Khabaz**	**16.88**	**54**	P	**Pn**	**01 50 34.7 -0.3**
	comp=E,0.1nm,0.3s,baz=247,slow=9.8,SNR=6.9					
HFS	**Hagfors**	**25.78**	**348**	P	**P**	**01 52 06.9 -1.5**
	comp=E,3.2nm,0.7s,baz=157,slow=12,SNR=5.2					
FINES	**FINESS Array B**	**26.26**	**2**	P	**P**	**01 52 10.3 -2.3**
	comp=E,8.2nm,1.1s,baz=172,slow=11,SNR=4.4					
NOA	**NORSAR Array B**	**27.08**	**346**	P	**P**	**01 52 17.9 -2.2**
	comp=E,0.8nm,0.8s,baz=159,slow=10,SNR=4.5					
TORD	**Torodi Ar. Bea**	**29.80**	**228**	P	**P**	**01 52 45.1 +0.4**
	comp=E,0.4nm,0.5s,baz=30,slow=8.4,SNR=7.2					
MKAR	**Makanchi Array**	**44.56**	**56**	P	**P**	**01 54 47.1 -2.2**
	comp=E,0.2nm,0.4s,baz=267,slow=9.2,SNR=9.2					

DJA 20 01:49:38.4±0.7, 8˚S±4˚ × 10˚8E±˚, h16km±4km, M3.8/10, MLv3.8/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.66**	**44**	P	Pb	01 49 51.7	+0.1
CMJI				S	Sb	01 50 01.1	+0.5
CISI	**Cisompet, Garu**	**0.72**	**347**	P	Pg	01 49 52.2	-0.3
CISI				S	Sb	01 50 02.7	+0.4
LEM	**Lembang**	**1.47**	**346**	P	Pn	01 50 04.5	+0.1
LEM				S	Sg	01 50 25.8	-0.1
SKJI	**Sukabumi**	**1.88**	**311**	P	Pb	01 50 11.7	-0.7
SKJI				S	Sn	01 50 30.2	-3.2
UGM	**Wanagama**	**2.54**	**82**	P	Pn	01 50 18.6	-0.4
UGM				S	Sn	01 50 49.1	-0.6
SMRI	**Semarang**	**2.72**	**64**	P	Pn	01 50 23.1	+1.6
CGJI	**Cibinong**	**2.80**	**306**	P	Pn	01 50 20.6	-1.9
PCJI	**Pacitan**	**3.17**	**89**	P	Pn	01 50 27.5	-0.1
PWJI	**Pagerwojo**	**3.79**	**87**	P	Pn	01 50 35.6	-0.6

SJA 20 01:50:30.6±0.5, 28˚.37S × 71˚.03W, h38km, ML3.1, MW3.3
GUC 20 01:50:32.4±0.6, 28˚.47S × 70˚.43W, h52km±196km, ML3.1
ISC 20 01:50:30.7±1.4, 28˚.42S±0˚.05 × 70˚.71W±0˚.07, h10km, n8, σ1s32/16, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.59**	**180**	*e*P	**Pn**	**01 50 46.7**	**+1.2**
LCO				*e*S	**Sn**	**01 50 56.7**	**+1.3**
LCO				IAML		01 50 57.6	
	comp=E,1μm,0.3s						
GO03	**Copiap**	**0.92**	**27**	*e*P	**Pn**	**01 50 50.0**	**+0.2**
GO03				*e*S	**Sn**	**01 51 03.0**	**0.0**
TLL	**Tololo Astrono**	**1.75**	**183**	*e*P	**Pb**	**01 51 02.4**	**-0.7**
TLL				*e*S	**Sb**	**01 51 25.1**	**-0.1**
TLL				IAML		01 51 31.6	
	comp=N,388nm,0.1s						
GO04	**Tololo Observa**	**1.75**	**183**	*e*P	**Pb**	**01 51 02.4**	**-0.8**
GO04				*e*S	**Sb**	**01 51 25.6**	**+0.2**
AGUA	**GUANDACOL**	**2.22**	**119**	*e*P	**Pb**	**01 51 11.3**	**+0.3**
AGUA				*e*S	**Sg**	**01 51 41.1**	**-0.8**
VCA	**Vinchina**	**2.22**	**99**	*e*P	**Pb**	**01 51 11.4**	**+0.3**
VCA				*e*S	**Sg**	**01 51 41.2**	**-1.0**
VCA				IAML		01 51 51.1	
	comp=Z,60nm,0.3s						
AMOG	**MOGNA**	**3.17**	**143**	*e*P	**Pb**	**01 51 23.4**	**-3.7**
AMOG				*e*S	**Sb**	**01 52 07.1**	**+1.2**
CYA	**Choya**	**4.32**	**92**	*e*P	**Pn**	**01 51 37.6**	**+1.1**
CYA				IAML		01 51 39.8	
	comp=Z,30nm,0.4s						
CYA				*e*S	**Sn**	**01 52 27.3**	**+0.3**

CSEM 20 01:51:38.5, 38˚.90N × 20˚.52E, h28km, ML1.7/4, After ATH
ATH 20 01:51:38.5, 38˚.90N × 20˚.52E, h28km±2km, ML1.7/4, Error ellipse: s-maj=2.8km s-min=1.0km az=236.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.16**	**135**	P	Pb	01 51 44.2	+0.2
LKD2				S	Sb	01 51 47.7	-0.1
LKD2				AML	AML	01 51 48.3	
	comp=E,716μm,0.2s						
LKD2				AML	AML	01 51 48.3	
	comp=N,577μm,0.1s						
LKD2	**Lefkada island**	**0.16**	**135**	P	Pb	01 51 44.0	-0.1
LKD2				S	Sb	01 51 48.0	+0.1
LKD2				AML	AML	01 51 48.2	
	comp=E,716μm,0.2s						
LKD2				AML	AML	01 51 48.4	
	comp=N,577μm,0.1s						
LKD2	**Lefkada island**	**0.16**	**135**	P	Pb	01 51 44.1	+0.1
LKD2				S	Sb	01 51 47.9	+0.1
MGNA	**Meganis˛„**	**0.32**	**139**	P	Pb	01 51 46.4	+0.3
MGNA				S	Sb	01 51 51.8	+0.6
MGNA	**Meganis˛„**	**0.32**	**139**	P	Pb	01 51 46.3	+0.2
MGNA				AML	AML	01 51 52.2	
	comp=E,290μm,0.2s						
MGNA				S	Sn	01 51 52.2	-0.9
MGNA				AML	AML	01 51 52.5	
	comp=N,202μm,0.3s						
MGNA	**Meganis˛„**	**0.32**	**139**	P	Pb	01 51 46.3	+0.2
MGNA				S	Sb	01 51 51.9	+0.7
PDO	**Prodromos**	**0.60**	**120**	P	Pn	01 51 51.0	-0.1
PDO				AML	AML	01 52 00.7	
	comp=N,284μm,0.2s						
PDO				S	Sn	01 52 00.8	+0.8
PDO				AML	AML	01 52 02.0	
	comp=E,213μm,0.3s						
PDO	**Prodromos**	**0.60**	**120**	P	Pn	01 51 50.9	-0.3
PDO				S	Sb	01 51 58.6	0.0
PDO				AML	AML	01 52 00.8	
	comp=N,284μm,0.2s						
PDO				AML	AML	01 52 02.1	
	comp=E,213μm,0.3s						
PDO	**Prodromos**	**0.60**	**120**	P	Pn	01 51 50.9	-0.3
PDO				S	Sn	01 52 00.2	+0.2
IGT	**Igoumenitsa**	**0.65**	**347**	P	Pb	01 51 51.3	0.0
IGT				S	Sn	01 52 01.7	+0.5
IGT				AML	AML	01 52 03.0	
	comp=N,50μm,0.2s						
IGT				AML	AML	01 52 03.6	
	comp=E,76μm,0.4s						
IGT	**Igoumenitsa**	**0.65**	**347**	P	Pb	01 51 50.8	-0.5
IGT				S	Sn	01 52 01.9	+0.7
IGT				AML	AML	01 52 03.0	
	comp=N,50μm,0.2s						
IGT				AML	AML	01 52 03.6	
	comp=E,76μm,0.4s						
IGT	**Igoumenitsa**	**0.65**	**347**	P	Pb	01 51 51.4	+0.1
IGT				S	Sn	01 52 01.4	+0.2
VLS	**Valsamata**	**0.72**	**175**	P	Pb	01 51 50.9	-1.7
VLS	**Valsamata**	**0.72**	**175**	P	Pn	01 51 54.5	+1.7
VLS	**Valsamata**	**0.72**	**175**	P	Pb	01 51 51.9	-0.7
SGD	**Sagiada**	**0.74**	**343**	P	Pn	01 51 53.1	0.0
SGD	**Sagiada**	**0.74**	**343**	P	Pn	01 51 53.2	0.0
JAN	**Janina**	**0.80**	**19**	P	Pn	01 51 54.5	+0.5
JAN	**Janina**	**0.80**	**19**	P	Pn	01 51 54.6	+0.7
JAN				S	Sb	01 52 03.5	-0.8
JAN				AML	AML	01 52 07.9	
	comp=E,150μm,0.8s						
JAN				AML	AML	01 52 09.4	
	comp=N,88μm,0.3s						
JAN	**Janina**	**0.80**	**19**	P	Pn	01 51 54.3	+0.4
KFL	**Anninata**	**0.82**	**165**	P	Pn	01 51 56.1	+2.0
KFL	**Anninata**	**0.82**	**165**	P	Pn	01 51 56.2	+2.1
KFL				S	Sn	01 52 08.3	+2.7
KFL	**Anninata**	**0.82**	**165**	P	Pn	01 51 55.3	+1.2
PVO	**Paravola**	**0.84**	**109**	P	Pn	01 51 54.0	+0.4
PVO				S	Sn	01 52 07.7	+1.9
PVO				AML	AML	01 52 09.9	
	comp=N,62μm,0.3s						
PVO				AML	AML	01 52 10.4	
	comp=E,82μm,0.4s						
PVO	**Paravola**	**0.84**	**109**	P	Pb	01 51 54.5	0.0
PVO				S	Sn	01 52 07.3	+1.5
KEK	**Kerkira**	**0.98**	**326**	P	Pb	01 51 58.5	+1.6
KEK	**Kerkira**	**0.98**	**326**	P	Pb	01 51 58.9	+2.0
KEK	**Kerkira**	**0.98**	**326**	P	Pb	01 51 58.0	+1.0
EVR	**Evrytania**	**1.01**	**89**	P	Pn	01 51 56.1	-0.7
EVR	**Evrytania**	**1.01**	**89**	P	Pn	01 51 56.4	-0.5
EVR	**Evrytania**	**1.01**	**89**	P	Pn	01 51 57.1	+0.2
DRO	**Drossia**	**1.33**	**135**	P	Pb	01 52 03.6	+0.8
DRO	**Drossia**	**1.33**	**135**	P	Pb	01 52 03.4	+0.6
THL	**Klokotos Trika**	**1.34**	**60**	P	Pb	01 52 04.9	+2.0
THL				S	Sb	01 52 21.7	+2.0

ISCJB 20 02:01:22.8±0.7, 13˚.68N±0˚.07 × 120˚.6E±0˚.2, h150km, mb3.1/4, Error ellipse: s-maj=21.7km s-min=8.4km az=166.7
IDC 20 02:01:23.8±3.3, 13˚.92N × 121˚.14E, h153km±8km, mb3.0/4, mb1 3.1/4, mb1mx2.8/60, mbtmp3.4/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/13, Error ellipse: s-maj=407.3km s-min=17.2km az=63.0
MAN 20 02:01:24, 13˚.67N × 120˚.30E, h141km, mb3.8, ML2.5, MS2.0
ISC 20 02:01:24.0±1.0, 13˚.66N±0˚.07 × 120˚.4E±0˚.1, h150km, n11, σ1s36/13, mb3.3/4, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**291**	*e*P	**Pn**	**02 01 44.5**	**+0.2**
LUBP				*e*S	**Sn**	**02 01 58.8**	**-0.8**
TGY	**Tagaytay City**	**0.65**	**48**	P	**Pn**	**02 01 45.2**	**-1.1**
	325nm,0.3s,baz=170,slow=6.1,SNR=15						
SJMP	**San Jose**	**1.37**	**151**	*e*P	**Pn**	**02 01 51.7**	**-0.5**
SJMP				*e*S	**Sn**	**02 02 11.6**	**-2.2**
BOAC	**Boac**	**1.38**	**98**	*e*P	**Pn**	**02 01 55.0**	**+2.6**
BUSP	**Coron**	**1.67**	**188**	*e*P	**Pn**	**02 01 56.7**	**+1.2**
BUSP				*e*S	**Sn**	**02 02 19.8**	**+0.3**
BOLP	**Bolinao**	**2.75**	**349**	*e*P	**Pn**	**02 02 08.6**	**+0.3**
BATI	**Baumata**	**23.93**	**172**	LR	LR	02 16 49.2	
	comp=Z,104nm,20.1s,baz=272,slow=38						
WRA	**Warramunga Arr**	**36.09**	**157**	P	**P**	**02 08 10.3**	**-1.2**
	0.3nm,0.5s,baz=337,slow=9.4,SNR=6.0						
ASAR	**Alice Springs**	**39.37**	**160**	P	**P**	**02 08 39.0**	**-0.1**
	0.2nm,0.3s,baz=346,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**45.91**	**324**	P	**P**	**02 09 32.8**	**+1.1**
	0.1nm,0.3s,baz=125,slow=9.0,SNR=5.4						
KURBB	**Kurchatov Arra**	**50.08**	**326**	P	**P**	**02 10 03.9**	**+0.3**
	0.3nm,0.4s,baz=136,slow=7.3,SNR=2.5						

ISCJB 20 02:17:46.2±0.2, 38˚.42N±0˚.01 × 118˚.55W±0˚.02, h10km, mb3.1/2, Error ellipse: s-maj=2.5km s-min=1.8km az=163.6
NEIC 20 02:17:46.1±0.0, 38˚.42N × 118˚.72W, h3km, mb3.6/1, ML3.5(REN), MW3.7(SLM), After REN.
NEIC Felt [III] at Hawthorne.
IDC 20 02:17:46.1±1.1, 38˚.42N × 118˚.76W, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/58, mbtmp3.4/5, ML3.6/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/30, Error ellipse: s-maj=11.9km s-min=6.6km az=22.0
ISC 20 02:17:46.7±0.6, 38˚.44N±0˚.02 × 118˚.70W±0˚.02, h10km, n150, σ1s82/162, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NV01	**Mina Array Sit**	**0.31**	**91**	*e*Pg	**Pn**	**02 17 59.6**	**+2.0**
NVAR	**Mina Array Bea**	**0.31**	**91**	Pg	**Pg**	**02 17 52.4**	**-0.7**
	baz=262,slow=20,SNR=7409						
NVAR				Lg	Lg	02 17 57.6	
	baz=283,slow=33,SNR=96						
NVAR				LR	LR	02 18 22.8	
	comp=Z,1μm,18.2s,baz=350,slow=77						
WAKR	**Walker**	**0.58**	**277**	*e*Pg	**Pg**	**02 17 57.5**	**-0.6**
YERR	**Yerington**	**0.69**	**323**	*e*Pg	**Pg**	**02 17 59.7**	**-0.4**
YERR				*e*Sg	**Sg**	**02 18 08.5**	**-0.8**
MLAC	**Mammoth, Mammo**	**0.81**	**188**	P	**Pg**	**02 18 01.2**	**-1.2**
	baz=6.9						
MLAC				S	**Sg**	**02 18 10.7**	**-2.2**
	baz=6.9						
MLAC	**Mammoth, Mammo**	**0.81**	**188**	*e*Pn	Pn	02 18 12.8	+8.3
GNO	**Genoa**	**1.03**	**299**	*e*Pg	**Pb**	**02 18 05.8**	**-0.9**
VCNR	**Virginia City**	**1.13**	**320**	*e*Pg	**Pg**	**02 18 07.7**	**-0.8**
VCNR				*e*Sn	**Sn**	**02 18 24.1**	**-0.6**
EMB	**Emerald Bay**	**1.22**	**297**	*e*Pg	**Pn**	**02 18 09.3**	**-0.8**
MMIM	**Miami Mountain**	**1.31**	**219**	*e*Pg	**Pn**	**02 18 10.5**	**-0.6**
PAHR	**Pah Rah Range**	**1.38**	**338**	*e*Pg	**Pb**	**02 18 12.1**	**-0.6**
PAHR				*e*Sg	**Sg**	**02 18 30.5**	**-0.6**
CMB	**Columbia Colle**	**1.39**	**254**	*e*Pg	**Pn**	**02 18 11.5**	**-0.7**
CMB				*e*Sg	**Sg**	**02 18 30.5**	**-0.8**
MBUM	**Mount Bullion**	**1.39**	**232**	*e*

	baz=0.1								
LRRC	**Littlerock Res**	**3.94**	**172**	*e*Pn	**Pb**	**02 18 53.4**	**-2.8**
N02D	**Trinity Center** baz=128	**4.00**	**311**	P	**Pn**	**02 18 49.7**	**+1.6**
N02D				Sb	**Sg**	**02 19 53.0**	**-2.0**
	baz=128						
WVOR	**Wild Horse Val**	**4.00**	**1**	*e*Pn	**Pn**	**02 18 49.3**	**+1.2**
SBC	**Santa Barbara** baz=11	**4.07**	**192**	Sg	**Sg**	**02 19 58.0**	**+0.7**
HEC	**Hector,Ludlow** baz=333	**4.07**	**151**	Sg	**Sg**	**02 19 57.8**	**+0.3**
M04C	**Macdoel** baz=144,SNR=11	**4.12**	**325**	P	**Pn**	**02 18 52.3**	**+2.5**
M04C				Sb	**Sg**	**02 19 57.8**	**-1.2**
	baz=144						
MWC	**Mount Wilson**	**4.24**	**173**	Pn	**Pn**	**02 18 50.6**	**-0.9**
PASC	**Pasadena Art C**	**4.28**	**174**	*e*Pg	**Pg**	**02 19 08.0**	**-0.7**
M02C	**Callahan** baz=132	**4.35**	**314**	P	**Pn**	**02 18 55.7**	**+2.8**
M02C				Sb	**Sg**	**02 20 03.9**	**-2.5**
	baz=132						
GMRC	**Granite Mounta** baz=327	**4.39**	**145**	P	**Pn**	**02 18 53.6**	**0.0**
PSRC	**Puddingstone R**	**4.39**	**170**	*e*Sn	**Sb**	**02 19 54.4**	**-2.7**
YBH	**Yreka Blue Hor** 0.8nm,0.3s,baz=138,slow=7.0,SNR=11	**4.50**	**318**	Pn	**Pn**	**02 18 57.2**	**+2.1**
YBH				LR	LR	02 20 57.6	
	comp=Z,263nm,20.9s,baz=135,slow=43						
YBH	**Yreka Blue Hor**	**4.50**	**318**	*e*Pn	Pb	02 18 59.7	-6.2
SZCU	**Shurtz Canyon**	**4.51**	**99**	*e*Pn	**Pb**	**02 19 03.8**	**-2.3**
KHMM	**Horse Mountain**	**4.58**	**304**	*e*Pg	**Pg**	**02 19 15.6**	**+1.1**
K04D	**Chiloquin, OR** baz=150	**4.79**	**332**	P	**Pn**	**02 19 02.4**	**+3.4**
KNB	**Kanab**	**4.87**	**105**	*e*Pn	Pn	02 19 05.0	+4.8
DUG	**Dugway, Tooele** baz=251	**4.89**	**67**	P	**Pn**	**02 19 02.2**	**+1.7**
DUG	**Dugway, Tooele**	**4.89**	**67**	*e*Pn	**Pn**	**02 19 01.6**	**+1.1**
J08A	**Circle Bar Ran**	**4.92**	**2**	*e*Pn	**Pn**	**02 19 04.7**	**+3.8**
BELC	**Belle Mtn. Jos** baz=334	**4.94**	**153**	P	**Pn**	**02 19 01.2**	**+0.2**
BGU	**Big Grassy Mou**	**5.03**	**59**	*e*Pn	**Pn**	**02 19 03.6**	**+1.2**
W13A	**Hualapai Mount**	**5.10**	**129**	*e*Pg	**Pg**	**02 19 22.0**	**-2.5**
MSU	**Marysvale**	**5.12**	**87**	*e*Pn	**Pn**	**02 19 05.0**	**+1.3**
PFO	**Pinyon Flats O**	**5.14**	**159**	*e*Pg	**Pg**	**02 19 22.1**	**-3.2**
IRM	**Iron Mountain** baz=327	**5.14**	**145**	Pg	**Pg**	**02 19 23.1**	**-2.2**
MTPU	**Mount Pierson**	**5.15**	**92**	*e*Pg	**Pb**	**02 19 20.6**	**+3.6**
XPFO	**Piæon Flat**	**5.15**	**159**	*e*Pg	**Pg**	**02 19 22.1**	**-3.2**
PKCU	**Pink Cliffs**	**5.15**	**99**	*e*Pg	**Pg**	**02 19 23.8**	**-1.6**
J05D	**Fort Rock, OR** baz=158,SNR=15	**5.21**	**339**	P	Pn	02 19 08.9	+4.1
L02D	**Cave Junction,** baz=134	**5.28**	**316**	P	**Pn**	**02 19 09.6**	**+4.0**
HUMO	**Hull Mountain**	**5.28**	**323**	*e*Pn	**Pn**	**02 19 06.5**	**+0.8**
NLU	**North Lily Min**	**5.37**	**72**	*e*Pg	**Pg**	**02 19 29.5**	**0.0**
MFID	**Camas Ranch**	**5.43**	**23**	*e*Pn	**Pn**	**02 19 08.9**	**+1.0**
U15A	**North Rim**	**5.48**	**109**	*e*Pn	Pn	02 19 13.9	+5.2
PINE	**Pine Mountain**	**5.61**	**343**	*e*Pn	Pn	02 19 15.4	+5.0
PINE				*e*Pg	**Pb**	**02 19 22.6**	**-2.3**
HVU	**Hansel Valley**	**5.64**	**52**	*e*Pn	**Pn**	**02 19 11.8**	**+1.1**
I07A	**Izee**	**5.67**	**354**	*e*Pg	**Pg**	**02 19 35.5**	**+0.1**
MPU	**Maple Canyon**	**5.71**	**72**	*e*Pn	**Pn**	**02 19 11.3**	**-0.4**
Y12C	**Blythe** baz=325	**5.77**	**143**	Pg	**Pg**	**02 19 34.7**	**-2.5**
Y12C	**Blythe**	**5.77**	**143**	*e*Pg	**Pg**	**02 19 35.3**	**-1.9**
CTU	**Camp Tracy**	**5.83**	**65**	*e*Pg	**Pg**	**02 19 39.9**	**+1.6**
CTU				*e*Sg	**Sg**	**02 20 48.3**	**-5.5**
MONP2	**Monument Peak** baz=342	**5.83**	**161**	Pg	**Pg**	**02 19 35.7**	**-2.8**
TMUT	**Trail Mountain**	**5.91**	**79**	*e*Pn	**Pn**	**02 19 15.6**	**+1.0**
JLU	**Jordanelle**	**6.01**	**67**	*e*Pg	**Pg**	**02 19 41.6**	**-0.2**
JLU				*e*Sg	**Sg**	**02 20 55.3**	**-4.3**
HLID	**Hailey**	**6.06**	**31**	*e*Pn	**Pn**	**02 19 17.8**	**+1.2**
ERPC	**Ernies Place**	**6.20**	**156**	*e*Pn	Pb	02 19 27.6	-7.1
I05D	**Terrebonne, OR** baz=161,SNR=9.0	**6.22**	**342**	P	Pn	02 19 23.3	+4.6
TCUT	**Toone Canyon**	**6.22**	**62**	*e*Pn	**Pn**	**02 19 18.9**	**+0.1**
GLA	**Glamis**	**6.23**	**148**	*e*Pg	**Pg**	**02 19 46.8**	**+0.8**
P17A	**Butcher Ranch,**	**6.29**	**78**	*e*Pg	**Pg**	**02 19 45.3**	**-1.9**
FRIS	**Frissel Point**	**6.31**	**337**	*e*Pn	Pn	02 19 24.1	+4.1
HWUT	**Hardware Ranch**	**6.33**	**58**	*e*Pn	**Pn**	**02 19 19.7**	**-0.5**
SRU	**San Rafael Swe**	**6.43**	**81**	*e*Pn	**Pn**	**02 19 22.0**	**+0.4**
Y14A	**Wickenburg**	**6.43**	**133**	*e*Pg	**Pg**	**02 19 45.9**	**-3.9**
BMO	**Blue Mountains**	**6.50**	**9**	*e*Pn	**Pn**	**02 19 21.1**	**-1.3**
WUAZ	**Wupatki**	**6.55**	**114**	*e*Pn	**Pn**	**02 19 23.2**	**-0.1**
P18A	**Preston Nutter**	**6.69**	**77**	*e*Pg	**Pg**	**02 19 56.7**	**+1.9**
H04A	**Detroit Lake**	**6.77**	**338**	*e*Pn	Pn	02 19 32.2	+6.1
G08A	**Pilot Rock**	**6.85**	**358**	*e*Pn	Pn	02 19 34.4	+7.1
113A	**Mohawk Valley,**	**6.94**	**143**	*e*Pg	**Pg**	**02 19 58.0**	**-1.5**
113A				*e*Lg	Lg	02 21 38.7	
X16A	**Lo Mia Camp, P**	**7.09**	**122**	*e*Pg	**Pg**	**02 20 01.8**	**-0.8**
PV09	**Paradox Valley**	**7.51**	**87**	*e*Pg	**Pg**	**02 20 07.1**	**-3.4**
PV10	**Paradox Valley**	**7.59**	**87**	*e*Pg	**Pg**	**02 20 11.2**	**-0.8**
F10A	**Beach Ranch, E**	**7.61**	**8**	*e*Pn	Pn	02 19 43.8	+6.1
REDW	**Red Top Meadow**	**7.72**	**48**	*e*Pg	**Pg**	**02 20 10.3**	**-4.1**
REDW				*e*Sg	**Sg**	**02 21 55.8**	**+1.5**
TPAW	**Teton Pass**	**7.74**	**47**	*e*Pg	**Pg**	**02 20 10.3**	**-4.5**
TPAW				*e*Sg	**Sg**	**02 21 52.2**	**-2.8**
IMW	**Indian Meadow**	**8.00**	**45**	*e*Pg	**Pg**	**02 20 19.7**	**-3.7**
X18A	**Snowflake**	**8.05**	**116**	*e*Pg	**Pg**	**02 20 17.9**	**-3.0**
E09A	**Wood Farm, Sta**	**8.09**	**3**	*e*Pn	Pn	02 19 51.2	+7.1
MVCO	**Mesa Verde**	**8.17**	**95**	*e*Pg	**Pg**	**02 20 21.3**	**-1.8**
MVCO				*e*Sg	**Sg**	**02 22 08.6**	**-0.2**
PD31	**Pinedale Array**	**8.19**	**55**	*e*Pn	Pn	02 19 50.6	+4.8
PD31				*e*Lg	Lg	02 22 04.4	
PDAR	**Pinedale Array** 0.2nm,0.3s,baz=228,slow=14,SNR=9.6	**8.19**	**55**	Pn	**Pn**	**02 19 47.9**	**+2.1**
PDAR				Lg	Lg	02 22 04.4	
	0.4nm,0.3s,baz=226,slow=28,SNR=8.7						
PDAR	**Pinedale Array**	**8.19**	**55**	*e*Pn	**Pn**	**02 19 49.7**	**+3.9**
PDAR				Lg	Lg	02 22 04.4	
DLMT	**Dillon**	**8.28**	**31**	*e*Pg	Pg	02 20 18.0	-7.2
YPP	**Pitchstone Pla**	**8.32**	**43**	*e*Pg	**Pg**	**02 20 26.2**	**+0.3**
D08A	**Wollman Farm,**	**8.62**	**359**	*e*Pn	Pn	02 19 57.5	+6.0
LTY	**Liberty**	**8.94**	**351**	*e*Pn	Pn	02 20 02.2	+6.3
C09A	**Chrisman Ranch**	**9.37**	**2**	*e*Pn	Pn	02 20 07.5	+5.7
ANMO	**Albuquerque** 0.0nm,0.3s,baz=24,slow=18,SNR=3.4	**10.43**	**106**	Lg	Lg	02 23 14.5	
TXAR	**Lajitas Array** comp=Z,145nm,18.8s,baz=0.0,slow=40	**15.42**	**122**	LR	LR	02 28 07.3	
FFC	**Flin Flon** 2.5nm,0.8s	**19.86**	**29**	*e*P	**Pn**	**02 22 19.9**	**+0.6**
ULM	**Lac du Bonnet** 2.5nm,0.9s,baz=225,slow=8.8,SNR=5.0	**20.06**	**47**	P	Pn	02 22 20.5	-1.3
YKA	**Yellowknife Ar** 0.4nm,0.8s,baz=184,slow=9.8,SNR=16	**24.22**	**5**	P	**P**	**02 23 04.4**	**+1.2**
YKB5	**Yellowknife Ar**	**24.22**	**5**	*e*P	**P**	**02 23 04.4**	**+1.1**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=160,slow=6.9,SNR=5.5	**31.13**	**337**	P	**P**	**02 24 07.2**	**+2.1**
ILB	**Eielson Array**	**31.13**	**337**	*e*P	**P**	**02 24 07.2**	**+2.1**

ISCJB ***20*** *02:38:14.7±0.4, 67°.19N±0°.02×20°.67E±0°.08, h0km, Error ellipse: s-maj=4.7km s-min=3.1km az=176.0*
UPP ***20*** *02:38:15.4, 67°.18N×20°.66E, h0km, ML1.6, Suspected Mining explosion.*
CSEM ***20*** *02:38:15.6±0.2, 67°.19N×20°.74E, h2km, ML1.6, Error ellipse: s-maj=6.4km s-min=4.0km az=66.0, Mining explosion.*
HEL ***20*** *02:38:16.1±0.1, 67°.18N×20°.66E, h0km, ML1.9, ML1.6(UPP), Explosion*
IDC ***20*** *02:38:16.2±0.9, 67°.14N×20°.85E, h0km, mb1 3.1/4, mb1mx2.9/66, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=14.7km s-min=7.7km az=118.0*

ISC 20 02:38:15.3±0.7, 67°.17N±0°.02×20.72E±0°.02, h0km, n56, σ1$26/79, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**230**		P	**Pg**		**02 38 17.0**	**+0.3**
DUNU					S	**Sg**		**02 38 18.2**	**+0.5**
DUNU	**Dundret**	**0.08**	**230**		P	**Pg**		**02 38 17.1**	**+0.3**
DUNU					S	**Sg**		**02 38 18.3**	**+0.5**
DUNU	**Dundret**	**0.08**	**230**	*i*	P	**Pg**		**02 38 17.1**	**+0.3**
DUNU				*i*	S	**Sg**		**02 38 18.3**	**+0.5**
MASU	**Masugnsbyn**	**0.57**	**59**		P	**Pg**		**02 38 26.6**	**+0.5**
MASU	**Masugnsbyn**	**0.57**	**59**		P	**Pg**		**02 38 26.7**	**+0.5**
MASU	**Masugnsbyn**	**0.57**	**59**	*i*	P	**Pg**		**02 38 26.7**	**+0.5**
RATU	**Laukkuluspa**	**0.79**	**327**		P	**Pg**		**02 38 29.7**	**-0.6**
RATU	**Laukkuluspa**	**0.79**	**327**		P	**Pg**		**02 38 29.7**	**-0.6**
RATU	**Laukkuluspa**	**0.79**	**327**	*i*	P	**Pg**		**02 38 29.7**	**-0.6**
KUA	**Kurravaara**	**0.80**	**350**		P	**Pg**		**02 38 30.1**	**-0.5**
KUA	**Kurravaara**	**0.80**	**350**	*i*	P	**Pg**		**02 38 30.1**	**-0.5**
ERTU	**Ertsjaerv**	**0.85**	**136**		P	**Pg**		**02 38 31.3**	**-0.2**
ERTU					Sb	**Sb**		**02 38 44.7**	**-0.1**
ERTU	**Ertsjaerv**	**0.85**	**136**		P	**Pg**		**02 38 31.3**	**-0.2**
ERTU	**Ertsjaerv**	**0.85**	**136**	*e*	P	**Pg**		**02 38 31.3**	**-0.2**
ERTU				*e*	Sb	**Sb**		**02 38 44.7**	**-0.1**
PAJU	**Pajala**	**0.95**	**98**		P	**Pg**		**02 38 33.3**	**0.0**
PAJU	**Pajala**	**0.95**	**98**		P	**Pg**		**02 38 33.4**	**0.0**
PAJU	**Pajala**	**0.95**	**98**	*e*	P	**Pg**		**02 38 33.4**	**0.0**
NIKU	**Nikkaluokta**	**0.95**	**318**		P	**Pg**		**02 38 32.7**	**-0.8**
NIKU	**Nikkaluokta**	**0.95**	**318**		P	**Pg**		**02 38 32.7**	**-0.8**
NIKU	**Nikkaluokta**	**0.95**	**318**	*e*	P	**Pg**		**02 38 32.7**	**-0.8**
LANU	**Lannavaara**	**1.01**	**28**		P	**Pg**		**02 38 34.1**	**-0.4**
LANU	**Lannavaara**	**1.01**	**28**		P	**Pg**		**02 38 34.2**	**-0.4**
LANU	**Lannavaara**	**1.01**	**28**	*e*	P	**Pg**		**02 38 34.2**	**-0.4**
HEF	**Hetta**	**1.67**	**41**		P	**Pn**		**02 38 45.9**	**+0.2**
HEF					Sg	**Sb**		**02 39 08.0**	**-0.4**
HEF	**Hetta**	**1.67**	**41**	*e*	P	**Pn**		**02 38 45.9**	**+0.2**
HEF					MSG			02 39 06.3	
HEF	comp=Z,7.0nm,0.2s			*e*	SG	**Sb**		**02 39 08.1**	**-0.4**
KALU	**Kalix**	**1.69**	**140**		P	**Pn**		**02 38 46.2**	**+0.3**
KALU					Sn	**Sb**		**02 39 09.6**	**+0.7**
KALU	**Kalix**	**1.69**	**140**	*e*	P	**Pn**		**02 38 46.2**	**+0.3**
KALU				*e*	SN	**Sb**		**02 39 09.7**	**+0.7**
TOF	**Tornio**	**1.81**	**126**		Pn	**Pn**		**02 38 48.6**	**+1.0**
TOF					Sn	**Sg**		**02 39 13.6**	**+0.3**
TOF	**Tornio**	**1.81**	**126**	*e*	PN	**Pn**		**02 38 48.6**	**+1.0**
TOF					MSG			02 39 10.7	
TOF	comp=Z,9.8nm,0.2s			*e*	SN	**Sg**		**02 39 13.6**	**+0.3**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*	P	**Pb**		**02 38 49.5**	**-0.3**
KIF	**Kilpisjarvi**	**1.84**	**1**		Pg	**Pg**		**02 38 49.9**	**-0.6**
KIF					Sg	**Sg**		**02 39 15.4**	**+1.0**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*	P	**Pb**		**02 38 49.5**	**-0.3**
KIF	**Kilpisjarvi** baz=178	**1.84**	**1**	*e*	PG	**Pg**		**02 38 49.9**	**-0.6**
KIF					MSG			02 39 12.3	
KIF	comp=Z,11nm,0.2s			*e*	SG	**Sg**		**02 39 15.4**	**+1.0**
KTK1	**Kautokeino**	**2.08**	**26**	*e*	P	**Pb**		**02 38 53.1**	**-0.7**
KTK1	**Kautokeino**	**2.08**	**26**	*e*	P	**Pb**		**02 38 53.1**	**-0.7**
SGF	**Sodankyl**	**2.27**	**80**		Pb	**Pb**		**02 38 56.1**	**-0.9**
SGF					Sg	**Sb**		**02 39 26.1**	**+0.6**
SGF	**Sodankyl**	**2.27**	**80**	*e*	PB	**Pb**		**02 38 56.2**	**-0.9**
SGF				*e*	SG	**Sb**		**02 39 26.1**	**+0.6**
BURU	**Burvik**	**2.61**	**174**		P	**Pn**		**02 38 59.9**	**+1.2**
BURU					Sg	**Sg**		**02 39 38.0**	**-1.1**
BURU	**Burvik**	**2.61**	**174**	*e*	P	**Pn**		**02 38 59.9**	**+1.2**
BURU				*e*	SG	**Sg**		**02 39 38.0**	**-1.1**
ARCES	**ARCESS Array B** comp=Z,0.5nm,0.3s,baz=214,slow=13,SNR=9.5	**2.96**	**35**	Pn		**Pn**		**02 39 04.8**	**+1.2**
ARCES				Sn		**Sn**		**02 39 41.2**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=214,slow=24,SNR=7.6								
ARE0	**ARCESS Array S**	**2.96**	**35**	P		**Pn**		**02 39 04.3**	**+0.8**
ARE0				Sg		**Sb**		**02 39 47.0**	**+1.4**
ARE0	**ARCESS Array S** baz=215	**2.96**	**35**	*e*	P	**Pn**		**02 39 04.3**	**+0.8**
ARE0				*e*	SG	**Sb**		**02 39 47.0**	**+1.4**
OUL	**Oulu**	**2.97**	**132**		Sb	**Sb**		**02 39 46.1**	**+0.4**
OUL	**Oulu**	**2.97**	**132**	*e*	SB	**Sb**		**02 39 46.1**	**+0.4**
VRF	**Varrio**	**3.47**	**76**		Sg	**Sb**		**02 40 02.6**	**+2.4**
VRF	**Varrio**	**3.47**	**76**	*e*	SG	**Sb**		**02 40 02.6**	**+2.4**
MSF	**Maaselka**	**3.56**	**107**	*e*	SG	**Sb**		**02 40 05.9**	**+3.2**
KU6	**Riekki**	**3.83**	**103**		Sg	**Sg**		**02 40 17.3**	**-1.0**
KU6	**Riekki**	**3.83**	**103**	*e*	SG	**Sg**		**02 40 17.4**	**-1.0**
VAF	**Ylistaro**	**4.23**	**168**		P	**Pn**		**02 39 22.5**	**+1.7**
VAF	**Ylistaro**	**4.23**	**168**	*e*	P	**Pn**		**02 39 22.6**	**+1.7**
HEMU	**Hemsoen**	**4.66**	**195**	*e*	SG	**Sb**		**02 40 39.8**	**+5.6**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=4.8	**6.20**	**155**	Pn		**Pn**		**02 39 48.5**	**+0.6**
FINES				Sn		**Sn**		**02 40 58.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=340,slow=20,SNR=7.2								
FINES				Lg		Lg		02 41 30.5	
	comp=Z,0.6nm,0.3s,baz=342,slow=27,SNR=5.5								
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=42,slow=16,SNR=2.4	**7.42**	**218**	Pn		**Pn**		**02 40 04.4**	**-0.3**
NOA				Sn		**Sn**		**02 41 25.8**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=32,slow=23,SNR=5.0								
NOA				Lg		Lg		02 42 09.6	
	comp=Z,0.5nm,0.3s,baz=35,slow=22,SNR=5.6								
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=4.5	**7.72**	**207**	Pn		**Pn**		**02 40 07.7**	**-1.1**
HFS				Sn		**Sn**		**02 41 33.2**	**-3.6**
	comp=Z,0.5nm,0.3s,baz=33,slow=23,SNR=9.1								

NNC 20 02:56:33.1±2.0, 38°.69N×70°.55E, h34km±22km, mb3.7, mpv3.2, 8C-2D, Error ellipse: s-maj=24.8km s-min=8.1km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 11nm,0.4s	**1.35**	**275**		Pn		Pn	02 56 55.0	-0.7
DZET					Lg		Lg	02 57 18.3	
	153nm,0.8s								
SFK	**Sufi-Kurgan** 4.6nm,0.3s	**2.64**	**59**	⇑	Pn		Pn	02 57 14.5	+0.9
SFK				⇓	Lg		Lg	02 57 54.5	
	23nm,0.5s								
MNAS	**Manas** 1.8nm,0.4s	**4.07**	**21**	⇑	Pn		Pn	02 57 34.2	+1.1
MNAS				⇑	Lg		Lg	02 58 41.1	
	5.2nm,0.5s								
KK31	**Karatay Array** 0.6nm,0.3s,baz=183,slow=13,SNR=20	**4.41**	**360**	⇑	Pn		Pn	02 57 38.0	+0.4
KK31				⇑	Lg		Lg	02 58 50.6	
	2.4nm,0.5s,baz=175,slow=31,SNR=5.1								
AAK	**Ala-Archa** 4.1nm,0.9s	**4.95**	**36**	⇑	Pn		Pn	02 57 45.8	+0.6
AAK				⇑	Lg		Lg	02 59 12.3	
	3.4nm,0.7s								
AB31	**Akbulak array** 0.2nm,0.3s,baz=155,slow=12,SNR=10	**13.02**	**328**	⇓	P		Pn	02 59 32.8	-2.7
AB31				⇑	S		Sn	03 02 01.7	+2.7
	0.7nm,0.7s								

IDC ***20*** *02:58:48.5±1.2, 3°.30S×135°.73E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.8/47, mbtmp4.2/4, MS3.6/2, Ms1 3.6/2, ms1mx2.7/40, Error ellipse: s-maj=57.2km s-min=26.9km az=93.0*
ISCJB ***20*** *02:58:52.8±0.8, 3°.60S±0°.07×135°.29E±0°.08, h22km, mb4.1/2, MS3.6/1, Error ellipse: s-maj=12.9km s-min=8.1km az=142.8*
DJA ***20*** *02:58:56.2±0.7, 4°S±12°×13°5E±°, h86km±43km, M4.5/6, mb4.5/1, MLv4.4/6*

ISC 20 02:58:52.6±0.9, 3°.62S±0°.09×135°.35E±0°.10, h22km, n11, σ1$94/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.40**	**331**		P		**Pn**	**02 59 32.1**	**+1.5**
RKPI					S		**Sn**	**02 59 59.9**	**+0.5**
FAKI	**Fak Fak**	**3.17**	**283**		P		**Pn**	**02 59 42.7**	**+1.4**
GENI	**Genyem**	**4.92**	**78**		P		**Pn**	**03 00 08.3**	**+3.1**
SWI	**Sorong**	**4.92**	**304**		P		**Pn**	**03 00 06.3**	**+1.0**
SWI					S		**Sn**	**03 01 01.5**	**-0.1**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=0.8,slow=13,SNR=18	**16.26**	**183**		Pn		**Pn**	**03 02 37.9**	**-1.9**
WRA					LR		LR	03 09 28.1	
	comp=Z,126nm,19.0s,baz=135,slow=38								
FITZ	**Fitzroy Crossi** baz=90,slow=10	**17.25**	**213**		P		**P**	**03 02 55.1**	**+1.3**
ASAR	**Alice Springs** 15nm,0.7s,baz=7.8,slow=11,SNR=91	**19.98**	**184**		P		**Pn**	**03 03 26.8**	**+1.3**
LEM	**Lembang** comp=Z,139nm,18.0s,baz=220,slow=39	**27.80**	**262**		LR		LR	03 17 08.1	
MKAR	**Makanchi Array** 1.3nm,0.8s,baz=111,slow=8.2,SNR=12	**68.50**	**324**		P		**P**	**03 09 52.9**	**-0.4**
ILAR	**Eielson Array** 0.5nm,0.4s,baz=260,slow=4.3,SNR=14	**88.05**	**25**		P		**P**	**03 11 37.6**	**-3.4**
CPUP	**Villa Florida** 0.7nm,0.6s,baz=189,slow=2.4,SNR=5.8	**147.80**	**158**		PKPbc		**PKPbc**	**03 18 36.6**	**0.0**

ISCJB ***20*** *03:21:18.5±0.8, 71°.73N±0°.09×2°.5W±0°.3, h10km, mb3.4/5, MS3.0/4, Error ellipse: s-maj=17.0km s-min=10.0km az=148.3*

IDC ***20*** *03:21:19.9±1.2, 71°.65N×2°.43W, h0km, mb3.4/5, mb1 3.7/10, mb1mx3.4/65, mbtmp3.6/10, ML3.3/5, MS3.0/6, Ms1 3.0/6, ms1mx2.7/46, Error ellipse: s-maj=25.7km s-min=19.7km az=52.0*

ISC 20 03:21:20.6±0.9, 71°.7N±0°.1×2°.7W±0°.1, h10km, n15, σ1$26/11, mb3.5/5, MS3.0/4, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAG	**Danmarks Havn**	**6.65**	**327**	*i*	P		**Pn**	**03 22 56.9**	**-1.2**
DAG				*e*	S		Sn	03 23 57.0	-17
SPITS	**Spitsbergen Ar** baz=213,slow=10,SNR=29	**8.11**	**29**		Pn		**Pn**	**03 23 19.0**	**+0.8**
ARCES	**ARCESS Array B** 0.3nm,0.3s,baz=288,slow=11,SNR=11	**9.57**	**90**		Pn		**Pn**	**03 23 36.8**	**-1.5**
NOA	**NORSAR Array B** 0.2nm,0.3s,baz=348,slow=15,SNR=3.3	**12.04**	**146**		Pn		**Pn**	**03 24 12.3**	**+0.2**
NOA					LR		LR	03 28 35.7	
	comp=Z,50nm,20.2s,baz=345,slow=36								
HFS	**Hagfors** 0.8nm,0.3s,baz=340,slow=12,SNR=26	**13.34**	**142**		Pn		**Pn**	**03 24 29.1**	**-0.7**
HFS					LR		LR	03 28 34.4	
	comp=Z,59nm,19.3s,baz=306,slow=33								
FINES	**FINESS Array B** 0.1nm,0.3s,baz=325,slow=9.6,SNR=5.8	**15.19**	**118**		Pn		**Pn**	**03 24 52.4**	**-2.5**
VRAC	**Vranov** comp=Z,53nm,18.2s,baz=336,slow=36	**24.17**	**148**		LR		LR	03 35 37.0	
KBZ	**Khabaz** comp=Z,37nm,20.6s,baz=92,slow=34	**35.55**	**117**		LR		LR	03 41 23.0	
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=309,slow=6.9,SNR=4.5	**36.87**	**130**		P		**P**	**03 28 29.1**	**+0.2**
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=27,slow=8.5,SNR=3.9	**38.20**	**316**		P		**P**	**03 28 40.7**	**+0.9**
KURBB	**Kurchatov Arra** 0.4nm,0.2s,baz=331,slow=7.2,SNR=3.9	**40.35**	**76**		P		**P**	**03 28 58.4**	**+0.5**
ILAR	**Eielson Array** comp=Z,17nm,18.6s,baz=306,slow=40	**41.61**	**338**		LR		LR	03 49 05.5	
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=328,slow=5.1,SNR=3.2	**44.90**	**76**		P		**P**	**03 29 34.8**	**-0.1**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=357,slow=7.4,SNR=4.3	**58.60**	**175**		P		**P**	**03 31 18.1**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,5.2nm,19.1s,baz=190,slow=41	**76.23**	**73**		LR		LR	04 13 06.2	

ISCJB ***20*** *03:25:22.4±0.8, 26°.17S±0°.05×132°.33E±0°.09, h10km, mb3.3/1, Error ellipse: s-maj=11.4km s-min=7.0km az=164.9*
AUST ***20*** *03:25:22.9±0.0, 26°.14S×132°.29E, h10km, Error ellipse: s-maj=0.1km s-min=0.1km az=259.0*
IDC ***20*** *03:25:22.8±1.6, 26°.20S×132°.07E, h0km, mb3.3/1, mb1 3.7/5, mb1mx3.5/45, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=27.7km s-min=22.0km az=118.0*

ISC 20 03:25:23.7±0.9, 26°.20S±0°.06×132°.25E±0°.07, h10km, n11, σ2$48/17, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 2.9nm,0.3s,baz=215,slow=12,SNR=146	**2.94**	**31**		Pn		**Pn**	**03 26 12.1**	**+1.6**
ASAR					Pg		**Pg**	**03 26 19.9**	**0.0**
	8.1nm,0.3s,baz=212,slow=15,SNR=71								
ASAR					Sn		**Sn**	**03 26 48.2**	**+2.4**
	7.7nm,0.3s,baz=221,slow=21,SNR=13								
ASAR					Lg		Lg	03 26 55.0	
	22nm,0.3s,baz=216,slow=27,SNR=20								
WRKA	**Warakurna** baz=3.8	**3.75**	**287**		P		**Pn**	**03 26 22.0**	**+0.3**
WC3	**Warramunga Arr** baz=6.5	**6

VANB	**Van**	**0.19**	**129**	*e*Pg	**Pg**	**03 52 30.8**	**+0.7**
TVAN	**Van**	**0.24**	**139**	*i* P	**Pg**	**03 52 30.7**	**-0.5**
TVAN				*i* S	**Sg**	**03 52 34.3**	**-0.3**
TVAN	**Van**	**0.24**	**139**	P	**Pg**	**03 52 30.7**	**-0.5**
TVAN				S	**Sg**	**03 52 34.3**	**-0.3**
ERCV	**ERCIS-VAN**	**0.33**	**19**	PG	**Pg**	**03 52 32.4**	**-0.3**
ERCV	**ERCIS-VAN**	**0.33**	**19**	*e*Pg	**Pg**	**03 52 32.4**	**-0.3**
GEVA	**Gevas**	**0.41**	**196**	*i* P	**Pg**	**03 52 33.7**	**-0.6**
GEVA				*i* S	**Sb**	**03 52 41.3**	**-0.8**
GEVA	**Gevas**	**0.41**	**196**	P	**Pg**	**03 52 33.7**	**-0.6**
GEVA				S	**Sb**	**03 52 41.3**	**-0.8**
CLDR	**Caldiran**	**0.70**	**52**	PG	**Pg**	**03 52 38.8**	**-1.0**
CLDR				SG	**Sb**	**03 52 49.8**	**-0.7**
CLDR	**Caldiran**	**0.70**	**52**	*i* P	**Pg**	**03 52 38.7**	**-1.0**
CLDR				*i* S	**Sg**	**03 52 49.5**	**+0.4**
CLDR	**Caldiran**	**0.70**	**52**	*e*Pg	**Pg**	**03 52 38.8**	**-1.0**
CLDR				S	**Sg**	**03 52 49.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.88**	**349**	PG	**Pg**	**03 52 42.6**	**-0.5**
AGRB	**Hanur-Agry**	**0.88**	**349**	*e*Pg	**Pg**	**03 52 42.6**	**-0.5**
GURO	**Guroymak-BITLI**	**0.93**	**260**	PG	**Pg**	**03 52 43.6**	**-0.5**
GURO	**Guroymak-BITLI**	**0.93**	**260**	*e*Pg	**Pg**	**03 52 43.6**	**-0.5**
SRTM	**Siirt_Merkez**	**1.24**	**235**	*i* P	**Pn**	**03 52 49.9**	**+0.3**
SRTM				*i* S	**Sn**	**03 53 07.3**	**+0.9**
SRTM	**Siirt_Merkez**	**1.24**	**235**	P	**Pn**	**03 52 49.9**	**+0.3**
EATA	**Eleskirt**	**1.27**	**335**	*i* P	**Pg**	**03 52 50.2**	**-0.4**
EATA				*i* S	**Sn**	**03 53 08.8**	**+1.2**
EATA	**Eleskirt**	**1.27**	**335**	P	**Pg**	**03 52 50.2**	**-0.4**
EATA				S	**Sn**	**03 53 08.8**	**+1.2**
SIRT	**Sirnak**	**1.35**	**207**	PN	**Pn**	**03 52 51.3**	**+0.2**
SIRT	**Sirnak**	**1.35**	**207**	*e*Pn	**Pn**	**03 52 51.3**	**+0.2**

IDC 20 03:56:04.1±2.0, 6°37.5×129°96.E, h0km, mb3.5/1, mb1 4.2/4, mb1mx3.6/54, mbtmp4.0/4, ML4.0/3, MS3.7/1, Ms1 3.7/1, ms1mx2.5/27, Error ellipse: s-maj=53.7km s-min=30.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.30**	**238**	Pn	Pn	03 57 53.6	+1.4
	10nm,0.3s,baz=141,slow=6.5,SNR=5.7						
BATI				Sn	Sn	03 59 01.0	-15
	10nm,0.3s,baz=331,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**14.15**	**163**	Pn	Pn	03 59 25.8	-0.1
	0.3nm,0.3s,baz=339,slow=10,SNR=30						
WRA				Sn	Sn	04 01 49.6	-14
	1.4nm,0.3s,baz=331,slow=22,SNR=9.9						
ASAR	**Alice Springs**	**17.61**	**168**	P	Pn	04 00 10.3	-0.8
	1.0nm,0.3s,baz=343,slow=10,SNR=71						
ASAR				S	Sn	04 03 12.7	-15
	0.4nm,0.3s,baz=338,slow=25,SNR=5.6						
PSI	**Prapat**	**32.30**	**285**	LR	LR	04 16 27.4	
	comp=Z,132nm,18.1s,baz=178,slow=38						
MKAR	**Makanchi Array**	**67.68**	**327**	P	P	04 07 03.1	-0.1
	0.3nm,0.5s,baz=120,slow=7.6,SNR=8.8						

*JMA **20** 04:01:10.9±0.3, 35°.67N×142°.60E, h75km, M3.1*
*IDC **20** 04:01:10.1±2.3, 35°.32N×142°.56E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/67, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=46.6km s-min=25.8km az=81.0*
*ISCJB **20** 04:01:11.3±1.4, 35°.67N±0°.04×142°.6E±0°.1, h56km, mb3.6/4, Error ellipse: s-maj=15.6km s-min=6.0km az=5.5*
ISC 20 04:01:15.0±1.4, 35°.64N±0°.05×142°.5E±0°.1, h56km, n15, σ2§69/19, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.35**	**273**	P	**Pn**	**04 01 35.6**	**-1.9**
BSO1	**Boso 1**	**1.60**	**232**	P	**Pn**	**04 01 38.3**	**-2.1**
BSO1				S	**Sn**	**04 01 59.5**	**-0.2**
JHO	**Hitachi**	**1.85**	**302**	P	**Pn**	**04 01 41.4**	**-2.9**
JFT	**Otama**	**2.56**	**318**	P	**Pn**	**04 01 52.3**	**-1.8**
JFT				S	**Sn**	**04 02 21.6**	**-2.6**
JAG	**Ashikaga**	**2.60**	**288**	P	**Pn**	**04 01 52.7**	**-1.9**
JRY	**Ryogami san**	**2.96**	**278**	P	**Pn**	**04 01 58.5**	**-1.0**
JYN	**Shimodo**	**3.24**	**269**	P	**Pn**	**04 02 02.5**	**-0.9**
JHJ2	**Mitsune**	**3.37**	**222**	P	**Pn**	**04 02 03.1**	**-2.0**
JHJ2				S	**Sn**	**04 02 42.0**	**-1.8**
JHJ	**Hachijo jima 2**	**3.38**	**223**	Pn	**Pn**	**04 02 02.5**	**-2.7**
	6.0nm,0.3s,baz=318,slow=21,SNR=8.2						
JHJ				Sn	**Sn**	**04 02 39.5**	**-4.7**
	54nm,0.3s,baz=79,slow=18,SNR=12						
JMK	**Ichinoseki**	**3.46**	**343**	P	**Pn**	**04 02 03.4**	**-3.0**
JMK				S	**Sn**	**04 02 42.8**	**-3.3**
MJAR	**Matsushiro Arr**	**3.60**	**286**	Pn	**Pn**	**04 02 07.8**	**-0.6**
	1.4nm,0.3s,baz=106,slow=8.6,SNR=17						
SONM	**Songino Array**	**29.31**	**306**	P	**P**	**04 07 14.3**	**+2.1**
	0.6nm,0.5s,baz=115,slow=8.6,SNR=5.7						
MKAR	**Makanchi Array**	**45.62**	**303**	P	**P**	**04 09 34.4**	**+4.7**
	0.4nm,0.6s,baz=86,slow=11,SNR=4.9						
KURBB	**Kurchatov Arra**	**47.56**	**309**	P	P	04 09 50.0	+5.2
	0.6nm,0.5s,baz=82,slow=8.0,SNR=2.9						
WRA	**Warramunga Arr**	**55.82**	**189**	P	**P**	**04 10 46.5**	**-0.1**
	0.3nm,0.8s,baz=8.2,slow=7.6,SNR=4.8						

*IDC **20** 04:39:01.6±5.0, 15°.50N×97°.92W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/43, mbtmp3.5/7, ML3.6/2, MS3.0/3, Ms1 3.1/3, ms1mx2.6/31, Error ellipse: s-maj=85.8km s-min=22.0km az=172.0*
*ISCJB **20** 04:39:08.0±0.9, 16°.26N±0°.05×98°.00W±0°.04, h19km±5km, mb3.5/4, MS2.9/1, Error ellipse: s-maj=8.5km s-min=5.0km az=23.1*
*MEX **20** 04:39:10.2±0.4, 16°.27N×98°.00W, h4km±3km, MD4.2*
ISC 20 04:39:06.7±1.5, 16°.19N±0°.07×97°.96W±0°.04, h7km±10km, n21, σ1§47/34, mb3.6/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**322**	*e*P	**Pb**	**04 39 13.1**	**-0.5**
PNIG				*e*S	**Sg**	**04 39 15.7**	**+0.5**
VHO	**Vista Hermosa**	**1.47**	**53**	*e*P	**Pn**	**04 39 33.8**	**0.0**
VHO				*i* S	**Sb**	**04 39 51.7**	**-1.8**
TLIG	**Tlapa**	**1.48**	**337**	*e*P	**Pn**	**04 39 32.6**	**-1.4**
TLIG				*e*S	**Sn**	**04 39 50.1**	**-3.4**
HUIG	**Huatulco**	**1.83**	**103**	*e*P	**Pb**	**04 39 39.8**	**-0.9**
HUIG				*e*S	**Sb**	**04 40 02.8**	**-1.0**
ACX	**Acapulco**	**1.94**	**291**	*i* P	**Pg**	**04 39 43.5**	**-0.4**
ACX				*e*S	**Sb**	**04 40 07.9**	**+1.1**
TPIG	**Tehuac#an**	**2.29**	**14**	*e*P	**Pn**	**04 39 44.9**	**-0.2**
TPIG				*e*S	**Sn**	**04 40 11.7**	**-1.9**
CAIG	**El Cayaco**	**2.37**	**291**	*e*P	**Pn**	**04 39 45.5**	**-0.5**
CAIG				*i* S	**Sn**	**04 40 13.7**	**-1.6**
PLIG	**Platanillo**	**2.63**	**326**	*e*P	**Pn**	**04 39 49.7**	**-0.1**
PLIG				*e*S	**Sn**	**04 40 19.9**	**-2.2**
YAIG	**Yautepec**	**2.86**	**339**	*e*P	**Pn**	**04 39 53.5**	**+0.6**
YAIG				*e*S	**Sn**	**04 40 25.4**	**-2.2**
PPM	**Popocatepetl**	**2.93**	**348**	*e*P	**Pn**	**04 39 54.6**	**+0.4**
PPM				*e*S	**Sn**	**04 40 28.0**	**-1.9**
ARIG	**Puente Sto Nin**	**3.08**	**313**	*e*P	**Pn**	**04 39 55.6**	**-0.3**
ARIG				*e*S	**Sn**	**04 40 31.4**	**-1.6**
CMIG	**Matias Romero**	**3.08**	**73**	Pn	**Pn**	**04 39 55.9**	**0.0**
	5.8nm,0.3s,baz=258,slow=11,SNR=90						
CMIG				LR	LR	04 40 31.5	
	comp=Z,52nm,20.6s,baz=185,slow=27						
CMIG				Lg	Lg	04 40 46.4	
	30nm,0.3s,baz=312,slow=12,SNR=4.1						
UNM	**Universidad Na**	**3.33**	**340**	*i* P	**Pn**	**04 40 00.3**	**+0.8**
UNM				*i* S	**Sn**	**04 40 38.2**	**-1.2**
LVIG	**Laguna Verde**	**3.81**	**23**	*e*P	**Pn**	**04 40 08.1**	**+2.3**
LVIG				*i* S	**Sn**	**04 40 51.5**	**+0.6**
MOIG	**Morelia**	**4.63**	**319**	*i* P	**Pn**	**04 40 17.2**	**-0.1**
MOIG				*i* S	**Sn**	**04 41 11.1**	**-0.5**
TXAR	**Lajitas Array**	**14.09**	**339**	Pn	**P**	**04 42 35.1**	**+0.3**
	0.1nm,0.3s,baz=164,slow=14,SNR=2.7						
TXAR				LR	LR	04 48 22.3	
	comp=Z,196nm,18.3s,baz=0.0,slow=38						
ANMO	**Albuquerque**	**20.17**	**339**	P	Pn	04 43 43.9	0.0
	1.5nm,0.9s,baz=42,slow=7.4,SNR=4.8						
ANMO				LR	LR	04 52 16.4	
	comp=Z,63nm,20.9s,baz=338,slow=38						
PDAR	**Pinedale Array**	**28.28**	**342**	P	**P**	**04 45 04.5**	**+3.4**
	0.3nm,0.6s,baz=159,slow=8.9,SNR=3.7						
NVAR	**Mina Array Bea**	**28.46**	**325**	P	**P**	**04 45 04.0**	**+1.3**
	1.3nm,1.0s,baz=155,slow=10,SNR=6.4						
YKA	**Yellowknife Ar**	**47.71**	**350**	P	**P**	**04 47 43.6**	**-0.2**
	0.4nm,0.8s,baz=155,slow=7.4,SNR=5.6						
ILAR	**Eielson Array**	**58.60**	**338**	P	**P**	**04 49 04.4**	**+0.3**
	0.8nm,1.0s,baz=145,slow=3.3,SNR=4.2						

*CRAAG **20** 04:40:55.3, 35°.68N×6°.27E, Ml3.0*
*CSEM **20** 04:40:57.0±0.2, 36°.83N×5°.19E, h10km, ML3.0, Error ellipse: s-maj=5.8km s-min=4.4km az=53.0*
*LDG **20** 04:40:57.7±0.1, 36°.80N×5°.19E, h2km, Ml2.9/5, Error ellipse: s-maj=3.6km s-min=3.0km az=84.0*
ISC 20 04:40:48.1±0.9, 37°.51N±0°.03×5°.22E±0°.03, h10km, n42, σ1§74/46, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**1.09**	**151**	P	**Pn**	**04 41 09.3**	**+0.1**
DFRA	**Djebel Bou Aff**	**1.09**	**151**	P	**Pb**	**04 41 09.3**	**+0.1**
SET	**Setif**	**1.31**	**174**	P	**Pn**	**04 41 11.0**	**-1.6**
SET	**Setif**	**1.31**	**174**	P	**Pn**	**04 41 11.0**	**-1.6**
CAEH	**'Ain El Ouahch**	**1.49**	**119**	P	Pg	04 41 22.1	+5.4
CAEH	**'Ain El Ouahch**	**1.49**	**119**	P	Pg	04 41 22.1	+5.4
CKHR	**Kef el Ahmar**	**1.50**	**171**	P	**Pn**	**04 41 12.6**	**-2.7**
CKHR	**Kef el Ahmar**	**1.50**	**171**	P	**Pn**	**04 41 12.6**	**-2.7**
ABMS	**Boumerdes**	**1.58**	**242**	P	**Pg**	**04 41 22.4**	**+4.0**
ABMS	**Boumerdes**	**1.58**	**242**	P	**Pg**	**04 41 22.4**	**+4.0**
CASM	**Ain Smara**	**1.61**	**140**	P	**Pg**	**04 41 19.3**	**+0.3**
CASM	**Ain Smara**	**1.61**	**140**	P	**Pg**	**04 41 19.3**	**+0.3**
CKFL	**Kef-Lekhel**	**1.63**	**132**	P	**Pg**	**04 41 21.9**	**+2.5**
CKFL	**Kef-Lekhel**	**1.63**	**132**	P	**Pg**	**04 41 21.9**	**+2.5**
CTEI	**Djebel Teioual**	**1.73**	**146**	P	**Pg**	**04 41 21.4**	**+0.1**
CTEI	**Djebel Teioual**	**1.73**	**146**	P	**Pg**	**04 41 21.4**	**+0.1**
AKET	**Djebel Ketaf**	**1.81**	**217**	P	**Pn**	**04 41 21.0**	**-0.4**
AKET	**Djebel Ketaf**	**1.81**	**217**	P	**Pb**	**04 41 21.0**	**-0.4**
ADJB	**Djebel Djouab**	**1.96**	**227**	P	**Pg**	**04 41 25.0**	**-0.7**
ADJB	**Djebel Djouab**	**1.96**	**227**	P	**Pg**	**04 41 25.0**	**-0.7**
CMAH	**Djebel Manchou**	**1.97**	**116**	P	**Pg**	**04 41 27.3**	**+1.4**
CMAH	**Djebel Manchou**	**1.97**	**116**	P	**Pg**	**04 41 27.3**	**+1.4**
PGF	**Pioggiola**	**5.81**	**29**	*e*Pn	**Pb**	**04 42 32.0**	**+2.4**
PGF				*e*Sn	**Sb**	**04 43 41.1**	**+1.7**
	1.2nm,0.2s						
PGF	**Pioggiola**	**5.81**	**29**	*e*Pn	**Pb**	**04 42 32.0**	**+2.4**
PGF				*e*Sn	**Sb**	**04 43 41.1**	**+1.7**
	0.6nm,0.2s						
LMR	**La Mourre**	**5.91**	**9**	*e*Pn	**Pb**	**04 42 33.3**	**+2.2**
LMR	**La Mourre**	**5.91**	**9**	*e*P	**Pg**	**04 42 38.5**	**-2.7**
LMR				*e*Sn	**Sb**	**04 43 43.2**	**+1.3**
	0.5nm,0.2s						
LMR	**La Mourre**	**5.91**	**9**	*e*Pn	**Pb**	**04 42 33.3**	**+2.2**
LMR	**La Mourre**	**5.91**	**9**	*e*P	**Pg**	**04 42 38.5**	**-2.7**
LMR				*e*Sn	**Sb**	**04 43 43.2**	**+1.3**
	0.2nm,0.2s						
FRF	**La Foret Royal**	**6.15**	**10**	*e*Pn	**Pb**	**04 42 36.7**	**+1.5**
FRF				*e*Sn	**Sb**	**04 43 49.1**	**+0.3**
	0.8nm,0.2s						
FRF	**La Foret Royal**	**6.15**	**10**	*e*Pn	**Pb**	**04 42 36.7**	**+1.5**
FRF				*e*Sn	**Sb**	**04 43 49.1**	**+0.3**
	0.4nm,0.2s						
MTLF	**Montolieu**	**6.26**	**340**	*e*Pn	**Pb**	**04 42 37.3**	**+0.1**
MTLF	**Montolieu**	**6.26**	**340**	*e*Pn	**Pb**	**04 42 37.3**	**+0.1**
SMRF	**Simiane la Rot**	**6.47**	**2**	*e*Pn	**Pb**	**04 42 41.4**	**+0.6**
SMRF	**Simiane la Rot**	**6.47**	**2**	*e*Pn	**Pb**	**04 42 41.4**	**+0.6**
SBF	**Sospel**	**6.57**	**14**	*e*Sn	**Sb**	**04 44 00.0**	**-1.1**
	1.4nm,0.3s						
SBF	**Sospel**	**6.57**	**14**	*e*Sn	**Sb**	**04 44 00.0**	**-1.1**
	0.7nm,0.3s						
LASF	**Ste Croix**	**6.64**	**351**	*e*Pn	**Pb**	**04 42 44.0**	**+0.3**
LASF	**Ste Croix**	**6.64**	**351**	*e*Pn	**Pb**	**04 42 44.0**	**+0.3**
EPF	**Esparros**	**6.66**	**327**	*e*Pn	**Pb**	**04 42 44.4**	**+0.4**
EPF	**Esparros**	**6.66**	**327**	*e*Pn	**Pb**	**04 42 44.4**	**+0.4**
ETSF	**Etsaut**	**6.97**	**322**	*e*P	**Pb**	**04 42 51.3**	**+2.0**
ETSF	**Etsaut**	**6.97**	**322**	*e*P	**Pb**	**04 42 51.3**	**+2.0**

*CSEM **20** 05:13:00.9±0.1, 44°.52N×6°.68E, h10km, ML2.3/12, Error ellipse: s-maj=2.0km s-min=1.7km az=65.0*
*ISCJB **20** 05:13:00.5±0.3, 44°.50N±0°.01×6°.67E±0°.02, h7km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=145.2*
*STR **20** 05:13:01.7±0.3, 44°.53N±0°.01×6°.66E±0°.02, h5km, MLv2.2/10*
*LDG **20** 05:13:01.0±0.1, 44°.50N×6°.67E, h2km, Md2.5/1, Ml2.4/12, Error ellipse: s-maj=1.2km s-min=1.0km az=54.0*
*ROM **20** 05:13:01.0±0.2, 44°.51N×6°.72E, h10km, Md2.0/5, Ml1.5/4, Error ellipse: s-maj=3.0km s-min=1.2km az=58.0*
*GEN **20** 05:13:01.0, 44°.49N×6°.66E, h3km, ML1.6*
ISC 20 05:13:01.2±0.8, 44°.50N±0°.01×6°.67E±0°.02, h15km±6km, n65, σ1§18/109, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.23**	**18**	*e*Pg	**Pg**	**05 13 05.9**	**-0.6**
MBDF				*e*Sg	**Sg**	**05 13 09.3**	**-0.8**
	79nm,0.4s						
MBDF	**Montbardon**	**0.23**	**18**	*e*Pg	**Pg**	**05 13 05.9**	**-0.6**
MBDF				*e*Sg	**Sg**	**05 13 09.3**	**-0.8**
	39nm,0.4s						
PZZ	**Stroppo**	**0.32**	**89**	P	**Pg**	**05 13 07.5**	**-0.4**
PZZ				S	**Sg**	**05 13 12.0**	**-0.4**
PZZ	**Stroppo**	**0.32**	**89**	Pg	**Pg**	**05 13 07.5**	**-0.4**
PZZ				Sg	**Sg**	**05 13 12.0**	**-0.4**
OG22	**Abries**	**0.37**	**31**	Pg	**Pg**	**05 13 08.3**	**-0.6**
OG22				Sg	**Sg**	**05 13 13.7**	**-0.4**
OG22	**Abries**	**0.37**	**31**	Pg	**Pg**	**05 13 08.3**	**-0.6**
DOI	**San Damiano**	**0.41**	**90**	Pg	**Pg**	**05 13 09.1**	**-0.4**
DOI				Sg	**Sg**	**05 13 15.1**	**-0.1**
	51nm,0.2s						
DOI	**San Damiano**	**0.41**	**90**	Pg	**Pg**	**05 13 09.1**	**-0.4**
DOI				Sg	**Sg**	**05 13 15.1**	**-0.1**
	51nm,0.2s						
RRL	**Rocca Remolon**	**0.42**	**11**	P	**Pg**	**05 13 09.5**	**-0.3**
RRL				S	**Sg**	**05 13 15.7**	**0.0**
RRL	**Rocca Remolon**	**0.42**	**11**	Pg	**Pg**	**05 13 09.5**	**-0.3**
RRL				Sg	**Sg**	**05 13 15.9**	**+0.2**
	30nm,0.6s						
OG25	**Le Caire**	**0.45**	**253**	Pg	**Pg**	**05 13 10.0**	**-0.1**
OG25				Sg	**Sg**	**05 13 15.9**	**-0.4**
OG25	**Le Caire**	**0.45**	**253**	Pg	**Pg**	**05 13 10.1**	**-0.1**
STV	**Sant Anna di V**	**0.54**	**119**	P	**Pg**	**05 13 11.4**	**-0.4**
STV				S	**Sg**	**05 13 18.3**	**-0.6**
STV	**Sant Anna di V**	**0.54**	**119**	Pg	**Pg**	**05 13 11.4**	**-0.4**
STV				Sg	**Sg**	**05 13 18.3**	**-0.6**
	29nm,0.2s						
BHB	**Bricherasio**	**0.54**	**51**	P	**Pg**	**05 13 11.6**	**-0.3**
BHB				S	**Sg**	**05 13 18.6**	**-0.5**
ENR	**Entracque**	**0.60**	**117**	Pg	**Pg**	**05 13 12.7**	**-0.4**
ENR				S	**Sg**	**05 13 20.4**	**-0.7**
ENR	**Entracque**	**0.60**	**117**	Pg	**Pg**	**05 13 12.7**	**-0.4**
ENR				Sg	**Sg**	**05 13 20.4**	**-0.7**
	29nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.70**	**307**	*e*Pg	**Pg**	**05 13 14.3**	**-0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**05 13 23.8**	**-0.4**
	24nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.70**	**307**	*e*Pg	**Pg**	**05 13 14.3**	**-0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**05 13 23.8**	**-0.4**
	12nm,0.2s,SNR=1.0						
RSP	**Reno Superiore**	**0.77**	**33**	P	**Pg**	**05 13 15.9**	**-0.3**
RSP				S	**Sg**	**05 13 26.5**	**+0.1**
GDM	**Grand'Maison**	**0.80**	**331**	Pg	**Pb**	**05 13 17.4**	**+0.5**
GDM				Sg	**Sg**	**05 13 26.9**	**-0.6**
GDM	**Grand'Maison**	**0.80**	**331**	Pg	**Pb**	**05 13 17.4**	**+0.5**
SBF	**Sospel**	**0.84**	**139**	*e*Pg	**Pg**	**05 13 17.1**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**05 13 27.7**	**-0.9**
	28nm,0.3s,SNR=1.0						
SBF	**Sospel**	**0.84**	**139**	*e*Pg	**Pg**	**05 13 17.1**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**05 13 27.7**	**-0.9**
	14nm,0.3s,SNR=1.0						
GBOS	**Grotte di Boss**	**0.88**	**107**	P	**Pg**	**05 13 17.6**	**-0.6**
GBOS				S	**Sg**	**05 13 28.9**	**-0.8**
FRF	**La Foret Royal**	**0.94**	**181**	*e*Pg	**Pg**	**05 13 18.9**	**-0.5**
	SNR=1.0						
FRF	**La Foret Royal**	**0.94**	**181**	*e*P	**Pb**	**05 13 20.4**	**+1.2**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**05 13 31.7**	**-0.1**
	46nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**0.94**	**181**	*e*Pg	**Pg**	**05 13 18.9**	**-0.5**
	SNR=1.0						
FRF	**La Foret Royal**	**0.94**	**181**	*e*P	**Pb**	**05 13 20.4**	**+1.2**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**05 13 31.7**	**-0.1**
	23nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.95**	**237**	*e*Pn	**Pg**	**05 13 19.3**	**-0.2**
SMRF	**Simiane la Rot**	**0.95**	**237**	*e*P	**Pn**	**05 13 20.7**	**+0.7**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**05 13 32.1**	**+0.1**
	8.6nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.95**	**237**	*e*Pn	**Pg**	**05 13 19.3**	**-0.2**
SMRF	**Simiane la Rot**	**0.95**	**237**	*e*P	**Pn**	**05 13 20.7**	**+0.7**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**05 13 32.1**	**+0.1**
	4.3nm,0.3s,SNR=1.0						
GRN	**Grenoble**	**0.99**	**319**	Pn	**Pn**	**05 13 21.5**	**+0.9**
GRN				Sg	**Sg**	**05 13 33.3**	**0.0**
GRN	**Grenoble**	**0.99**	**319**	Pn	**Pn**	**05 13 21.5**	**+0.9**
NEGI	**Seborga**	**0.99**	**131**	P	**Pg**	**05 13 20.0**	**-0.3**
NEGI				S	**Sg**	**05 13 32.5**	**-0.8**
LPG	**La Plagne**	**0.99**	**3**	*e*Pg	**Pg**	**05 13 20.0**	**-0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**05 13 32.9**	**-0.7**
	8.4nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**0.99**	**3**	*e*Pg	**Pg**	**05 13 20.0**	**-0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**05 13 32.9**	**-0.7**
	4.2nm,0.2s,SNR=1.0						
LSD	**Lago del Serru**	**1.01**	**19**	P	**Pg**	**05 13 20.2**	**-0.6**
LSD				S	**Sg**	**05 13 33.5**	**-0.5**
LPL	**La Plagne**	**1.01**	**2**	*e*Pg	**Pg**	**05 13 20.2**	**-0.6**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**05 13 33.0**	**-1.1**
	6.9nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.01**	**2**	*e*Pg	**Pg**	**05 13 20.2**	**-0.6**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**05 13 33.0**	**-1.1**
	3.5nm,0.3s,SNR=1.0						
IMI	**Imperia**	**1.06**	**124**	P	**Pg**	**05 13 21.0**	**-0.6**
IMI				S	**Sg**	**05 13 34.2**	**-1.3**
RORO	**Rocca Rossa**	**1.07**	**111**	P	**Pg**	**05 13 21.0**	**-0.9**
RORO				S	**Sg**	**05 13 34.6**	**-1.3**
LMR	**La Mourre**	**1.18**	**186**	*e*Pg	**Pg**	**05 13 23.3**	**-0.5**
LMR	**La Mourre**	**1.18**	**186**	*e*P	**Pn**	**05 13 24.0**	**+1.0**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**05 13 36.8**	**-2.4**
	27nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.18**	**186**	*e*Pg	**Pg**	**05 13 23.3**	**-0.5**
LMR	**La Mourre**	**1.18**	**186**	*e*P	**Pn**	**05 13 24.0**	**+1.0**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**05 13 36.8**	**-2.4**
	14nm,0.2s,SNR=1.0						
LEPF	**PUYLOUBIER**	**1.21**	**216**	Pg	**Pn**	**05 13 24.6**	**+1.2**
LEPF				Sg	**Sn**	**05 13 42.3**	**+2.8**
LEPF	**PUYLOUBIER**	**1.21**	**216**	Pg	**Pn**	**05 13 24.7**	**+1.2**
VIVF	**Saint-Julien-l**	**1.47**	**285**	*e*P	**Pn**	**05 13 26.2**	**-0.9**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.47**	**285**	*e*Pg	**Pb**	**05 13 28.5**	**+0.3**
	SNR=1.0						
VIVF				*e*Sg	**Sn**	**05 13 47.9**	**+1.8**
	8.8nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.47**	**285**	*e*P	**Pn**	**05 13 26.2**	**-0.9**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.47**	**285**	*e*Pg	**Pb**	**05 13 28.5**	**+0.3**
	SNR=1.0						
VIVF				*e*Sg	**Sn**	**05 13 47.9**	**+1.8**
	4.4nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.07**	**259**	*e*Sn	**Sn**	**05 13 58.2**	**-2.6**
	1.7nm,0.3s						
CABF	**La Chapelle**	**2.15**	**349**	*e*Pg	**Pb**	**05 13 40.3**	**+0.5**
	SNR=1.0						
CABF				*e*Sg	**Sb**	**05 14 08.1**	**+1.9**
	7.4nm,0.7s,SNR=1.0						
CABF	**La Chapelle**	**2.15**	**349**	*e*Pg	**Pb**	**05 13 40.3**	**+0.5**
	SNR=1.0						
CABF				*e*Sg	**Sb**	**05 14 08.1**	**+1.9

PAJU	**Pajala**	**1.01**	**96**	*e*P		**Pg**	05 26 48.6	**-0.7**
LANU	**Lannavaara**	**1.05**	**31**	P		**Pg**	05 26 49.3	**-0.8**
LANU	**Lannavaara**	**1.05**	**31**	P		**Pg**	05 26 49.0	**-1.2**
LANU	**Lannavaara**	**1.05**	**31**	*e*P		**Pg**	05 26 49.4	**-0.8**
KALU	**Kalix**	**1.72**	**138**	P		**Pn**	05 27 01.3	**+0.3**
KALU				Sn		**Sg**	05 27 26.4	**+1.3**
KALU	**Kalix**	**1.72**	**138**	*e*P		**Pn**	05 27 01.4	**+0.3**
KALU				*e*SN		**Sg**	05 27 26.4	**+1.3**
HEF	**Hetta**	**1.73**	**42**	P		**Pn**	05 27 00.6	**-0.6**
HEF	**Hetta**	**1.73**	**42**	*e*P		**Pn**	05 27 00.6	**-0.6**
	baz=221							
HEF				MSG			05 27 20.1	
	comp=Z,13nm,0.2s							
TOF	**Tornio**	**1.85**	**124**	P		**Pn**	05 27 03.3	**+0.4**
TOF	**Tornio**	**1.85**	**124**	*e*P		**Pn**	05 27 03.4	**+0.4**
TOF				MSG			05 27 24.5	
	comp=Z,19nm,0.2s							
KIF	**Kilpisjarvi**	**1.86**	**3**	Pg		**Pb**	05 27 04.7	**0.0**
KIF				Sn		**Sg**	05 27 30.1	**+0.4**
	SNR=50							
KIF	**Kilpisjarvi**	**1.86**	**3**	Pn		**Pb**	05 27 04.8	**0.0**
KIF				Sn		**Sg**	05 27 30.1	**+0.4**
KIF	**Kilpisjarvi**	**1.86**	**3**	Pn		**Pb**	05 27 04.8	**0.0**
KIF				Sn		**Sg**	05 27 30.1	**+0.4**
KIF	**Kilpisjarvi**	**1.86**	**3**	*e*PG		**Pb**	05 27 04.7	**0.0**
	baz=184							
KIF				MSG			05 27 27.1	
	comp=Z,17nm,0.2s							
KIF				*e*SG		**Sg**	05 27 30.4	**+0.7**
KTK1	**Kautokeino**	**2.12**	**27**	*e*P		**Pb**	05 27 08.0	**-1.2**
	SNR=50							
KTK1	**Kautokeino**	**2.12**	**27**	*e*P		**Pb**	05 27 08.0	**-1.2**
KTK1				IAML			05 27 38.0	
	comp=Z,29nm,0.4s							
SGF	**Sodankyl**	**2.34**	**80**	Pb		**Pn**	05 27 10.9	**+1.4**
SGF	**Sodankyl**	**2.34**	**80**	*e*PB		**Pn**	05 27 11.0	**+1.4**
BURU	**Burvik**	**2.60**	**172**	P		**Pn**	05 27 14.8	**+1.6**
BURU				Sg		**Sg**	05 27 53.2	**-0.3**
BURU	**Burvik**	**2.60**	**172**	*e*P		**Pn**	05 27 14.9	**+1.6**
BURU				*e*SG		**Sg**	05 27 53.2	**-0.3**
OUL	**Oulu**	**3.01**	**131**	P		**Pn**	05 27 20.5	**+1.8**
OUL				Sb		**Sb**	05 28 01.3	**-0.2**
OUL	**Oulu**	**3.01**	**131**	*e*P		**Pn**	05 27 20.5	**+1.8**
OUL				*e*SB		**Sb**	05 28 01.4	**-0.2**
ARA0	**ARCESS Array S**	**3.02**	**35**	Pn		**Pn**	05 27 19.1	**+0.2**
	SNR=50							
ARA0				Sn		**Sn**	05 27 56.3	**+0.6**
	SNR=50							
ARA0	**ARCESS Array S**	**3.02**	**35**	Pn		**Pn**	05 27 19.1	**+0.2**
	baz=209,slow=16							
ARA0				Sn		**Sn**	05 27 56.3	**+0.6**
ARA0	**ARCESS Array S**	**3.02**	**35**	Pn		**Pn**	05 27 19.1	**+0.2**
	baz=209,slow=16							
ARA0				Sn		**Sn**	05 27 56.3	**+0.6**
ARCES	**ARCESS Array B**	**3.02**	**35**	Pn		**Pn**	05 27 19.4	**+0.5**
	comp=Z,0.8nm,0.3s,baz=220,slow=12,SNR=23							
ARCES				Sn		**Sn**	05 27 55.1	**-0.6**
	comp=Z,1.5nm,0.3s,baz=219,slow=28,SNR=8.2							
ARE0	**ARCESS Array S**	**3.02**	**35**	P		**Pn**	05 27 18.8	**-0.1**
ARE0	**ARCESS Array S**	**3.02**	**35**	*e*P		**Pn**	05 27 18.8	**-0.1**
	baz=219							
UMAU	**Umeaa**	**3.29**	**179**	*e*P		**Pn**	05 27 23.7	**+1.2**
VRF	**Varrio**	**3.54**	**76**	P		**Pn**	05 27 26.1	**0.0**
VRF	**Varrio**	**3.54**	**76**	*e*P		**Pn**	05 27 26.1	**0.0**
VRF				*e*SG		**Sb**	05 28 17.4	**+0.5**
MSF	**Maaselka**	**3.62**	**106**	Pg		**Pb**	05 27 35.3	**+0.6**
MSF				Sg		**Sb**	05 28 22.1	**+3.0**
MSF	**Maaselka**	**3.62**	**106**	*e*PG		**Pb**	05 27 35.4	**+0.6**
MSF				*e*SG		**Sb**	05 28 22.1	**+3.0**
KU6	**Riekki**	**3.90**	**103**	P		**Pn**	05 27 31.1	**+0.1**
KU6	**Riekki**	**3.90**	**103**	*e*P		**Pn**	05 27 31.2	**+0.1**
VAF	**Ylistaro**	**4.23**	**167**	P		**Pn**	05 27 37.3	**+1.8**
VAF	**Ylistaro**	**4.23**	**167**	*e*P		**Pn**	05 27 37.3	**+1.8**
FIA0	**FINESS Array S**	**6.21**	**155**	Pn		**Pn**	05 28 03.9	**+1.1**
	baz=348,slow=16							
FIA0				Sn		**Sn**	05 29 13.7	**-0.7**
	baz=344,slow=28							
FIA0				Lg		Lg	05 29 47.4	
	baz=350,slow=28							
FIA0	**FINESS Array S**	**6.21**	**155**	Pn		**Pn**	05 28 03.9	**+1.1**
	baz=348,slow=16							
FIA0				Sn		**Sn**	05 29 13.7	**-0.7**
	baz=344,slow=28							
FIA0				Lg		Lg	05 29 47.4	
	baz=350,slow=28							
FINES	**FINESS Array B**	**6.21**	**155**	Pn		**Pn**	05 28 03.9	**+1.1**
	comp=Z,0.2nm,0.3s,baz=344,slow=15,SNR=5.3							
FINES				Sn		**Sn**	05 29 14.6	**+0.2**
	comp=Z,0.7nm,0.3s,baz=347,slow=23,SNR=7.7							
FINES				Lg		Lg	05 29 46.8	
	comp=Z,1.1nm,0.3s,baz=348,slow=27,SNR=6.1							
NB2	**NORSAR Subarra**	**7.37**	**218**	Pn		**Pn**	05 28 19.1	**+0.5**
	SNR=50							
NB2	**NORSAR Subarra**	**7.37**	**218**	Pn		**Pn**	05 28 19.1	**+0.5**
NB2	**NORSAR Subarra**	**7.37**	**218**	Pn		**Pn**	05 28 19.1	**+0.5**
NOA	**NORSAR Array B**	**7.37**	**218**	Pn		**Pn**	05 28 18.9	**+0.3**
	comp=Z,0.2nm,0.3s,baz=25,slow=12,SNR=2.8							
NOA				Lg		Lg	05 30 24.1	
	comp=Z,0.7nm,0.3s,baz=39,slow=23,SNR=4.4							
NRA0	**NORESS Array S**	**7.56**	**216**	Pn		**Pn**	05 28 19.7	**-1.5**
	baz=60,slow=16							
NRA0				Sn		**Sn**	05 29 44.5	**-3.0**
	baz=41,slow=22							
NRA0	**NORESS Array S**	**7.56**	**216**	Pn		**Pn**	05 28 19.7	**-1.5**
	baz=60,slow=16							
NRA0				Sn		**Sn**	05 29 44.5	**-3.0**
	baz=41,slow=22							
HFS	**Hagfors**	**7.67**	**207**	Pn		**Pn**	05 28 22.1	**-0.7**
	comp=Z,0.1nm,0.3s,baz=21,slow=11,SNR=5.8							
HFS				Sn		**Sn**	05 29 48.3	**-2.1**
	comp=Z,0.5nm,0.3s,baz=29,slow=22,SNR=8.0							
HFS				Lg		Lg	05 30 34.4	
	comp=Z,0.3nm,0.3s,baz=31,slow=29,SNR=3.7							
HFS	**Hagfors**	**7.67**	**207**	Pn		**Pn**	05 28 22.8	**0.0**
	SNR=50							
HFS				Sn		**Sn**	05 29 48.2	**-2.1**
	SNR=50							
HFS				Lg		Lg	05 30 35.6	
	SNR=47							
HFS	**Hagfors**	**7.67**	**207**	Pn		**Pn**	05 28 22.8	**0.0**
	baz=12,slow=14							
HFS				Sn		**Sn**	05 29 48.2	**-2.1**
	baz=29,slow=28							
HFS				Lg		Lg	05 30 35.6	
	baz=32,slow=28							
HFS	**Hagfors**	**7.67**	**207**	Pn		**Pn**	05 28 22.8	**0.0**
	baz=12,slow=14							
HFS				Sn		**Sn**	05 29 48.2	**-2.1**
	baz=29,slow=28							
HFS				Lg		Lg	05 30 35.6	
	baz=32,slow=28							

DDA ***20*** *05:32:19.9,39˚.95N×39˚.14E,h7km,Ml2.6*
CSEM ***20*** *05:32:19.9±0.1,39˚.98N×39˚.14E,h5km,ML2.6,Error ellipse: s-maj=3.4km s-min=2.6km az=137.0*
ISK ***20*** *05:32:19.7,39˚.99N×39˚.17E,h8km,ML2.4/6*
ISCJB ***20*** *05:32:20.3±0.6,39˚.98N±0˚.03×39˚.16E±0˚.04,h9km±6km, Error ellipse: s-maj=5.9km s-min=4.8km az=160.0*

ISC 20 05:32:20.5±0.9,39˚.97N±0˚.02×39˚.14E±0˚.02,h14km±7km, n31,σ0°86/48,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KELT	**Kelkit**	**0.20**	**26**	*i* P		**Pg**	05 32 25.3	**+0.1**
KELT				*i* S		**Sg**	05 32 28.8	**+0.5**
KELT	**Kelkit**	**0.20**	**26**	P		**Pg**	05 32 25.3	**+0.1**
KELT				S		**Sg**	05 32 28.8	**+0.5**
ILIC	**ilic-Erzincan**	**0.68**	**221**	PG		**Pb**	05 32 33.8	**-0.4**
SUSE	**Susehri**	**0.76**	**289**	*i* P		**Pg**	05 32 34.3	**-1.0**
SUSE				*i* S		**Sb**	05 32 45.1	**-0.7**
SUSE	**Susehri**	**0.76**	**289**	P		**Pg**	05 32 34.3	**-1.0**
SUSE				S		**Sb**	05 32 45.2	**-0.7**
KEMA	**Kemaliye**	**0.86**	**216**	*i* P		**Pg**	05 32 36.1	**-1.1**
KEMA				*i* S		**Sg**	05 32 47.0	**-1.5**
KEMA	**Kemaliye**	**0.86**	**216**	P		**Pg**	05 32 36.1	**-1.1**
KEMA				S		**Sg**	05 32 47.0	**-1.5**
BAYT	**Ayd¯–ntepe-Bay**	**0.88**	**61**	PG		**Pg**	05 32 36.6	**-0.9**
BAYT				SG		**Sg**	05 32 48.5	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**0.88**	**61**	*e*Pg		**Pg**	05 32 36.6	**-0.9**
BAYT				*e*Sg		**Sg**	05 32 48.5	**-0.5**
BAYB	**BAYBURT**	**0.90**	**71**	*i* P		**Pg**	05 32 37.1	**-0.9**
BAYB				*i* S		**Sb**	05 32 49.7	**-0.4**
BAYB	**BAYBURT**	**0.90**	**71**	P		**Pg**	05 32 37.1	**-0.9**
BAYB				S		**Sb**	05 32 49.7	**-0.4**
TNCL	**Tunceli-Merkez**	**0.91**	**160**	*i* P		**Pg**	05 32 37.5	**-0.6**
TNCL				*i* S		**Sg**	05 32 49.8	**-0.2**
TNCL	**Tunceli-Merkez**	**0.91**	**160**	P		**Pg**	05 32 37.5	**-0.6**
TNCL				S		**Sg**	05 32 49.8	**-0.2**
ESPY	**Espiye-Giresun**	**1.00**	**342**	PG		**Pg**	05 32 38.9	**-0.9**
ESPY	**Espiye-Giresun**	**1.00**	**342**	*e*Pg		**Pg**	05 32 38.9	**-0.9**
CUZAR	**Zara_SIVAS**	**1.06**	**266**	*i* P		**Pg**	05 32 40.0	**-0.9**
CUZAR				*i* S		**Sn**	05 32 57.1	**+1.4**
CUZAR	**Zara_SIVAS**	**1.06**	**266**	P		**Pg**	05 32 40.0	**-0.9**
PTK	**Pertek**	**1.09**	**170**	PN		**Pb**	05 32 41.3	**0.0**
KTUT	**Trabzon**	**1.12**	**25**	PN		**Pb**	05 32 41.4	**-0.3**
KTUT	**Trabzon**	**1.12**	**25**	*e*Pn		**Pb**	05 32 41.4	**-0.3**
HEKM	**Malatya_Hekimh**	**1.42**	**220**	*i* P		**Pb**	05 32 47.1	**+0.1**
HEKM				*i* S		**Sg**	05 33 08.3	**+1.9**
HEKM	**Malatya_Hekimh**	**1.42**	**220**	P		**Pb**	05 32 47.1	**+0.1**
ELZG	**Elazig**	**1.48**	**185**	*i* P		**Pn**	05 32 47.4	**+0.6**
ELZG				*i* S		**Sg**	05 33 07.6	**-0.5**
ELZG	**Elazig**	**1.48**	**185**	P		**Pn**	05 32 47.4	**+0.6**
ELZG				S		**Sg**	05 33 07.6	**-0.5**
SVSK	**Karacayir**	**1.65**	**269**	PN		**Pn**	05 32 49.9	**+0.9**
SVSK	**Karacayir**	**1.65**	**269**	*e*Pn		**Pn**	05 32 49.9	**+0.9**
MALT	**Malatya**	**1.75**	**199**	PN		**Pn**	05 32 51.5	**+1.0**
MALT	**Malatya**	**1.75**	**199**	*e*Pn		**Pn**	05 32 51.5	**+1.0**
DARE	**Darende-Malaty**	**1.90**	**223**	PN		**Pn**	05 32 53.8	**+1.2**
DARE	**Darende-Malaty**	**1.90**	**223**	*e*Pn		**Pn**	05 32 53.8	**+1.2**
AKCD	**Akcadag**	**1.92**	**210**	*i* P		**Pg**	05 32 58.0	**+0.6**
AKCD				*i* S		**Sg**	05 33 21.9	**-0.5**

ISCJB ***20*** *05:33:07.2±0.4,67˚.15N±0˚.02×20˚.50E±0˚.08,h0km, Error ellipse: s-maj=4.7km s-min=3.3km az=1.3*
UPP ***20*** *05:33:08.4,67˚.16N×20˚.62E,h0km,ML2.4, Suspected Mining explosion.*
HEL ***20*** *05:33:09.3±0.1,67˚.18N×20˚.64E,h0km,ML2.0, ML2.4(UPP), Explosion*
CSEM ***20*** *05:33:09.1±0.3,67˚.20N×20˚.73E,h2km,ML2.0, Error ellipse: s-maj=7.1km s-min=4.4km az=68.0, Mining explosion.*
IDC ***20*** *05:33:09.8±0.9,67˚.08N×21˚.08E,h0km,mb1 3.0/4, mb1mx2.9/68, mbtmp3.0/4,ML2.5/4, Error ellipse: s-maj=15.2km s-min=7.6km az=118.0*

ISC 20 05:33:08.2±0.8,67˚.15N±0˚.02×20˚.60E±0˚.03,h0km,n51, σ0°96/72,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.62**	**60**	P		**Pg**	05 33 20.1	**0.0**
MASU				S		**Sg**	05 33 28.2	**+0.1**
MASU	**Masugnsbyn**	**0.62**	**60**	P		**Pg**	05 33 20.1	**0.0**
MASU				S		**Sg**	05 33 28.2	**+0.1**
MASU	**Masugnsbyn**	**0.62**	**60**	*i* P		**Pg**	05 33 20.1	**0.0**
MASU				*i* S		**Sg**	05 33 28.2	**+0.1**
RATU	**Laukkuluspa**	**0.78**	**330**	P		**Pg**	05 33 23.0	**-0.1**
RATU	**Laukkuluspa**	**0.78**	**330**	P		**Pg**	05 33 23.1	**-0.1**
RATU	**Laukkuluspa**	**0.78**	**330**	*i* P		**Pg**	05 33 23.1	**-0.1**
KUA	**Kurravaara**	**0.81**	**353**	P		**Pg**	05 33 23.4	**-0.4**
KUA	**Kurravaara**	**0.81**	**353**	P		**Pg**	05 33 23.4	**-0.4**
KUA	**Kurravaara**	**0.81**	**353**	*i* P		**Pg**	05 33 23.4	**-0.4**
ERTU	**Ertsjaerv**	**0.87**	**133**	P		**Pg**	05 33 24.7	**-0.1**
ERTU				Sb		**Sg**	05 33 36.8	**+0.8**
ERTU	**Ertsjaerv**	**0.87**	**133**	P		**Pg**	05 33 24.7	**-0.1**
ERTU	**Ertsjaerv**	**0.87**	**133**	*e*P		**Pg**	05 33 24.6	**-0.2**
ERTU				*e*SB		**Sg**	05 33 36.9	**+0.8**
NIKU	**Nikkaluokta**	**0.94**	**321**	P		**Pg**	05 33 26.0	**-0.2**
NIKU	**Nikkaluokta**	**0.94**	**321**	P		**Pg**	05 33 26.0	**-0.2**
NIKU	**Nikkaluokta**	**0.94**	**321**	*e*P		**Pg**	05 33 26.0	**-0.2**
PAJU	**Pajala**	**0.99**	**96**	P		**Pg**	05 33 26.8	**-0.3**
PAJU	**Pajala**	**0.99**	**96**	P		**Pg**	05 33 26.8	**-0.3**
PAJU	**Pajala**	**0.99**	**96**	*e*P		**Pg**	05 33 26.8	**-0.3**
LANU	**Lannavaara**	**1.05**	**30**	P		**Pg**	05 33 27.6	**-0.6**
LANU	**Lannavaara**	**1.05**	**30**	P		**Pg**	05 33 27.3	**-0.9**
LANU	**Lannavaara**	**1.05**	**30**	*e*P		**Pg**	05 33 27.6	**-0.6**
SJUU	**Sjulsmark**	**1.70**	**166**	P		**Pb**	05 33 39.7	**-0.6**
SJUU	**Sjulsmark**	**1.70**	**166**	P		**Pb**	05 33 39.7	**-0.6**
SJUU	**Sjulsmark**	**1.70**	**166**	*e*P		**Pb**	05 33 39.7	**-0.6**
KALU	**Kalix**	**1.70**	**138**	P		**Pb**	05 33 39.9	**-0.4**
KALU	**Kalix**	**1.70**	**138**	Pn		**Pb**	05 33 40.3	**0.0**
KALU				Sn		**Sg**	05 34 03.1	**+0.3**
KALU	**Kalix**	**1.70**	**138**	P		**Pb**	05 33 39.9	**-0.4**
KALU	**Kalix**	**1.70**	**138**	*e*PN		**Pb**	05 33 40.3	**0.0**
KALU				*e*SN		**Sg**	05 34 03.2	**+0.3**
HEF	**Hetta**	**1.72**	**41**	P		**Pn**	05 33 39.1	**-0.2**
HEF				Sn		**Sn**	05 34 01.8	**-0.1**
HEF	**Hetta**	**1.72**	**41**	*e*P		**Pn**	05 33 39.2	**-0.2**
	baz=224							
HEF				MSG			05 33 59.1	
	comp=Z,9.9nm,0.2s							
HEF				*e*SN		**Sn**	05 34 01.8	**-0.1**
TOF	**Tornio**	**1.83**	**124**	P		**Pb**	05 33 41.7	**-0.8**
TOF				Sn		**Sg**	05 34 06.9	**-0.1**
TOF	**Tornio**	**1.83**	**124**	*e*P		**Pb**	05 33 41.7	**-0.8**
TOF				MSG			05 34 03.5	
	comp=Z,10.0nm,0.2s							
TOF				*e*SN		**Sg**	05 34 06.9	**-0.1**
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*P		**Pb**	05 33 42.5	**-0.6**
KIF				Sg		**Sg**	05 34 07.9	**-0.1**
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*P		**Pb**	05 33 42.5	**-0.6**
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*PN		**Pb**	05 33 42.7	**-0.4**
KIF				MSG			05 34 05.3	
	comp=Z,13nm,0.2s							
KIF				*e*SG		**Sg**	05 34 07.9	**-0.1**
KTK1	**Kautokeino**	**2.12**	**27**	*e*P		**Pb**	05 33 46.1	**-1.2**
KTK1	**Kautokeino**	**2.12**	**27**	*e*P		**Pb**	05 33 46.1	**-1.2**
SGF	**Sodankyl**	**2.32**	**80**	Pg		**Pb**	05 33 50.5	**-0.3**
SGF	**Sodankyl**	**2.32**	**80**	*e*PG		**Pb**	05 33 50.5	**-0.3**
SGF				*e*SB		**Sb**	05 34 18.9	**-1.0**
BURU	**Burvik**	**2.60**	**173**	P		**Pn**	05 33 53.1	**+1.8**
BURU	**Burvik**	**2.60**	**173**	*e*P		**Pn**	05 33 53.2	**+1.8**
BURU				*e*SG		**Sg**	05 34 30.7	**-0.8**
ARCES	**ARCESS Array B**	**3.01**	**35**	Pn		**Pn**	05 33 57.9	**+0.9**
	comp=Z,0.9nm,0.3s,baz=211,slow=14,SNR=9.4							
ARCES				Sn		**Sn**	05 34 34.9	**+1.2**
	comp=Z,2.0nm,0.3s,baz=212,slow=23,SNR=8.0							
VRF	**Varrio**	**3.52**	**76**	P		**Pn**	05 34 04.5	**+0.5**
VRF	**Varrio**	**3.52**	**76**	*e*P		**Pn**	05 34 04.6	**+0.5**
VRF				*e*SG		**Sb**	05 34 55.5	**+1.0**
MSF	**Maaselka**	**3.60**	**106**	*e*SG		**Sb**	05 34 58.5	**+1.8**
KU6	**Riekki**	**3.88**	**103**	*e*SG		**Sg**	05 35 10.4	**-2.1**
VAF	**Ylistaro**	**4.22**	**167**	P		**Pn**	05 34 16.4	**+2.8**
VAF	**Ylistaro**	**4.22**	**167**	*e*P		**Pn**	05 34 16.4	**+2.8**
	baz=351							
VAF				*e*SG		**Sg**	05 35 21.4	**-2.1**
FINES	**FINESS Array B**	**6.20**	**155**	Pn		**Pn**	05 34 41.7	**+0.9**
	comp=Z,0.1nm,0.3s,baz=343,slow=19,SNR=3.6							
FINES				Sn		**Sn**	05 35 49.4	**-2.9**
	comp=Z,0.4nm,0.3s,baz=350,slow=22,SNR=4.3							
FINES				Lg		Lg	05 36 21.7	
	comp=Z,0.8nm,0.3s,baz=343,slow=28,SNR=6.4							
NOA	**NORSAR Array B**	**7.38**	**218**	Pn		**Pn**	05 34 57.9	**+0.9**
	comp=Z,0.1nm,0.3s,baz=36,slow=23,SNR=2.3							
NOA				Sn		**Sn**	05 36 20.9	**-0.4**
	comp=Z,0.4nm,0.3s,baz=32,slow=23,SNR=4.7							
NOA				Lg		Lg	05 37 02.0	
	comp=Z,0.6nm,0.3s,baz=41,slow=24,SNR=5.2							
HFS	**Hagfors**	**7.68**	**207**	Pn		**Pn**	05 35 00.8	**-0.3**
	comp=Z,0.2nm,0.3s,baz=17,slow=15,SNR=4.8							
HFS				Sn		**Sn**	05 36 27.0	**-1.7**
	comp=Z,0.5nm,0.3s,baz=28,slow=20,SNR=6.7							
HFS				Lg		Lg	05 37 10.2	
	comp=Z,0.3nm,0.3s,baz=19,slow=27,SNR=3.5							

MOS ***20*** *05:38:53.5±1.5,37˚.88N×42˚.83E,h10km,mb4.1/5, Error ellipse: s-maj=32.3km s-min=11.8km az=79.6*
DDA ***20*** *05:39:00.6,38˚.87N×43˚.53E,h5km,Ml3.9*
ISK ***20*** *05:39:00.2,38˚.87N×43˚.59E,h5km,ML3.7/7*
CSEM ***20*** *05:39:01.9±0.1,38˚.90N×43˚.54E,h2km,mb3.9/4, Error ellipse: s-maj=3.2km s-min=2.4km az=157.0*

ISC 20 05:39:02.0±1.1,38.88N±0˚.02×43.55E±0˚.02,h3km±8km, n134,σ1°63/167,mb3.9/4,15C-19D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERCV	**ERCIS-VAN**	**0.22**	**310**	PG		**Pg**	05 39 05.9	**-0.3**
ERCV				SG		**Sg**	05 39 10.8	**+1.7**
ERCV	**ERCIS-VAN**	**0.22**	**310**	*e*Pg		**Pg**	05 39 05.9	**-0.3**
ERCV				*e*Sg		**Sg**	05 39 10.8	**+1.7**
VANB	**Van**	**0.31**	**204**	PG		**Pb**	05 39 09.3	**-0.9**
VANB	**Van**	**0.31**	**204**	*e*Pg		**Pb**	05 39 09.3	**-0.9**
TVAN	**Van**	**0.37**	**198**	*i* P		**Pg**	05 39 09.1	**0.0**
TVAN	**Van**	**0.37**	**198**	P		**Pg**	05 39 09.1	**0.0**
CLDR	**Caldiran**	**0.39**	**47**	PG		**Pg**	05 39 08.3	**-1.2**
CLDR				SG		**Sg**	05 39 15.1	**+0.5**
CLDR	**Caldiran**	**0.39**	**47**	*i* P		**Pg**	05 39 08.3	**-1.2**
CLDR				*i* S		**Sb**	05 39 15.8	**-2.3**
CLDR	**Caldiran**	**0.39**	**47**	P		**Pg**	05 39 08.3	**-1.2**
CLDR				*e*Sg		**Sg**	05 39 15.1	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.65**	**264**	*i* P		**Pg**	05 39 14.1	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.65**	**264**	P		**Pg**	05 39 14.1	**-0.3**
DYDN	**Diyadin**	**0.67**	**9**	*i* P		**Pg**	05 39 14.2	**-0.7**
DYDN	**Diyadin**	**0.67**	**9**	P		**Pg**	05 39 14.2	**-0.7**
GEVA	**Gevas**	**0.69**	**214**	*i* P		**Pg**	05 39 13.8	**-1.2**
GEVA	**Gevas**	**0.69**	**214**	P		**Pg**	05 39 13.9	**-1.2**
TUTA	**Tutak**	**0.77**	**313**	*i* P		**Pg**	05 39 15.7	**-1.1**
TUTA				*i* S		**Sb**	05 39 27.2	**-2.1**
TUTA	**Tutak**	**0.77**	**313**	P		**Pg**	05 39 15.7	**-1.1**
TUTA				S		**Sb**	05 39 27.2	**-2.1**
AGRB	**Hanur-Agry**	**0.82**	**328**	PG		**Pg**	05 39 16.9	**-0.8**
AGRB	**Hanur-Agry**	**0.82**	**328**	*e*Pg		**Pg**	05 39 16.9	**-0.8**
IGDI	**IGDIR**	**1.07**	**22**	*i* P		**Pg**	05 39 21.8	**-0.7**
EKAR	**Karacoban**	**1.22**	**288**	*i* P		**Pb**	05 39 23.7	**-2.1**
EKAR	**Karacoban**	**1.22**	**288**	P		**Pb**	05 39 23.7	**-2.1**
TASB	**TASBURUN-IGDIR**	**1.23**	**26**	PN		**Pb**	05 39 24.9	**-0.9**
TASB	**TASBURUN-IGDIR**	**1.23**	**26**	*e*Pn		**Pb**	05 39 24.9	**-0.9**
GURO	**Guroymak-BITLI**	**1.23**	**255**	PN		**Pb**	05 39 25.4	**-0.6**
GURO	**Guroymak-BITLI**	**1.23**	**255**	*e*Pn		**Pb**	05 39 25.4	**-0.6**
EATA	**Eleskirt**	**1.28**	**320**	*i* P		**Pn**	05 39 25.0	**-2.1**
EATA				*i* S		**Sn**	05 39 44.3	**-0.6**
EATA	**Eleskirt**	**1.28**	**320**	P		**Pn**	05 39 25.0	**-2.1**
EATA				S		**Sn**	05 39 44.3	**-0.6**
HYR	**Heyderabad**	**1.31**	**50**	P		**Pn**	05 39 26.1	**-1.2**
	SNR=99							
HYR				⇓S		**Sn**	05 39 43.8	**-1.6**
HAKT	**HAKKARI**	**1.32**	**175**	*i* P		**Pn**	05 39 25.2	**-2.4**
HAKT				*i* S		**Sg**	05 39 48.1	**+3.6**
HAKT	**HAKKARI**	**1.32**	**175**	P		**Pn**	05 39 25.2	**-2.4**
HAKT				S		**Sg**	05 39 48.1	**+3.6**
YOVA	**Hakkari_Y¯…kse**	**1.42**	**155**	*i* P		**Pn**	05 39 27.4	**-1.4**
YOVA				*i* S		**Sg**	05 39 49.0	**+1.6**
YOVA	**Hakkari_Y¯…kse**	**1.42**	**155**	P		**Pn**	05 39 27.4	**-1.4**
YOVA				S		**Sg**	05 39 49.0	**+1.6**
DIGO	**Kars**	**1.54**	**355**	*i* P		**Pb**	05 39 30.0	**-1.3**
DIGO	**Kars**	**1.54**	**355**	P		**Pb**	05 39 30.0	**-1.3**
NAX	**Nakhchivan**	**1.54**	**78**	⇑P		**Pb**	05 39 30.7	**

NEY	**Neytrino**	**4.41**	**352**	*i*	P		**Pn**	05 40 10.0	0.0
QSAR	**Qusar**	**4.47**	**52**	⇑	P		**Pn**	05 40 10.0	-0.6
	SNR=4.5								
GBS	**Qobustan**	**4.48**	**67**	⇑	P		**Pn**	05 40 10.9	+0.1
QUBA	**Quba, Azerbaij**	**4.53**	**55**	⇑	P		**Pn**	05 40 11.2	-0.2
	SNR=4.3								
ATGJ	**Altiaghaj**	**4.59**	**63**	⇑	P		**Pn**	05 40 12.1	-0.3
	SNR=3.9								
GROC	**Groznyy**	**4.64**	**21**		P		**Pb**	05 40 26.3	+2.3
GROC					*e*S		**Sg**	05 41 32.1	+1.1
GROC					pmax	pmax			
	comp=Z,25nm,0.2s								
GROC					smax	smax			
	comp=E,33nm,0.4s								
GROC					smax	smax			
	comp=E,33nm,0.4s								
SIZA	**Siyzn**	**4.66**	**60**	⇓	P		**Pn**	05 40 13.4	+0.1
	SNR=3.1								
KIV	**Kislovodsk**	**5.11**	**353**	*e*	P		**Pn**	05 40 18.6	-0.9
KIV					pmax	pmax			
	comp=Z,6.0nm,1.1s								
KIV					MLR	MLR			
	comp=Z,15nm,7.0s								
KIV	**Kislovodsk**	**5.11**	**353**	*e*	P		**Pn**	05 40 18.6	-0.9
	comp=Z,15nm,7.0s								
APE	**Apeiranthos**	**14.33**	**268**	*e*	P		**Pn**	05 42 25.4	-0.4
KIEV	**Kiev**	**15.56**	**324**	*e*	P		**Pn**	05 42 41.9	-0.3
OBN	**Obninsk**	**16.91**	**346**	*e*	P		**P**	05 42 59.2	-2.3
OBN					pmax	pmax			
	comp=Z,8.0nm,0.8s								
ARU	**Arti**	**20.18**	**25**	*d*	*i*	P	Pn	05 43 42.5	+3.2
ARU								05 44 00.8	
ARU					S		Sn	05 47 35.2	+8.5
ARU					SS		**SnSn**	**05 47 52.6**	**+11**
ARU					pmax	pmax			
	comp=Z,24nm,2.5s								
KLMR	**Klimovskoe**	**22.14**	**355**	*e*	P		**P**	05 43 59.6	+1.0
KLMR					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KLMR	**Klimovskoe**	**22.14**	**355**	*e*	P		**P**	05 43 59.7	+1.1
KLMR					AMP			05 44 03.4	
	comp=Z,10.0nm,1.1s								
KLNR	**Kaliningrad**	**22.27**	**323**	⇑	*i*	P	**P**	05 44 00.1	+0.1
VSU	**Vasula**	**22.40**	**336**	⇑	*i*	P	**P**	05 44 01.1	-0.3
BRVK	**Borovoye**	**23.20**	**44**	*i*	P		**P**	05 44 09.8	0.0
BRVK					pmax	pmax			
	comp=Z,1.0nm,0.6s								
AAK	**Ala-Archa**	**23.67**	**71**	*e*	P		**P**	05 44 15.6	+0.8
AAK					pmax	pmax			
	comp=Z,5.0nm,1.4s								
AAK	**Ala-Archa**	**23.67**	**71**	*e*	P		**P**	05 44 15.6	+0.8
	comp=Z,5.0nm,1.4s								
KURK	**Kurchatov**	**27.30**	**53**	⇑	*i*	P	**P**	05 44 48.6	+1.0
KURK					pmax	pmax			
	comp=Z,3.0nm,1.2s								

BJI **20** *05:44:17.6,36°.57N±70°.67E,H185km,mb4.4/14,mB4.7/9*
NEIC **20** *05:44:18.9±0.5,36°.43N±70°.95E,H172km±4km,mb4.5/31, Error ellipse: s-maj=5.0km s-min=2.9km az=156.0*
MOS **20** *05:44:18.6±1.0,36°.47N±71°.03E,H177km,mb4.4/24, Error ellipse: s-maj=7.9km s-min=4.9km az=90.7*
ISCJB **20** *05:44:19.8±0.2,36°.56N±0°.02×70°.92E±0°.03,h190km±2km, mb4.3/62, Error ellipse: s-maj=3.4km s-min=3.3km az=163.8*
IDC **20** *05:44:21.5±0.7,36°.46N×70°.98E,h197km±6km,mb3.9/28, mb1 4.0/33,mb1mx3.8/69,mbtmp4.5/33,MS4.1/2, Ms1 4.1/2,ms1mx2.6/63, Error ellipse: s-maj=9.5km s-min=9.2km az=145.0*
NNC **20** *05:44:23.9±1.9,36°.87N×70°.78E,h199km±12km,mb3.9, mpv5.0, Error ellipse: s-maj=19.8km s-min=8.1km az=162.0*
ISC 20 05:44:21.3±0.4,36°.54N±0°.04×70°.96E±0°.04,h194km±4km, h194km:pP-P,n242,σ1ᵎ53/283,mb4.5/62,32C-25D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.54**	**219**	*e*	PN	**Pn**	**05 45 05.6**	**+0.1**
KBL				*e*			05 45 38.1	
KBL	**Kabul**	**2.54**	**219**	*e*	Pn	**Pn**	**05 45 05.6**	**+0.1**
KBL				*e*	Sn	**Sn**	**05 45 38.1**	**-1.7**
DZET	**Dzherino**	**2.82**	**324**		P	**Pn**	**05 45 08.0**	**-0.6**
	612nm,0.4s							
DZET					S	**Sn**	**05 45 42.3**	**-3.4**
	2µm,0.5s							
CEP	**Cherat**	**2.82**	**164**		P	**Pn**	**05 45 09.5**	**+0.7**
CEP					S	**Sn**	**05 45 45.0**	**-0.7**
CHCP	**Chirah Chowk**	**3.44**	**146**	⇓	P	**Pn**	**05 45 16.8**	**+0.7**
THW	**Thamme Wali**	**3.79**	**170**	⇓	P	**Pn**	**05 45 20.7**	**+0.3**
SFK	**Sufi-Kurgan**	**4.00**	**29**	⇑	P	**Pn**	**05 45 23.3**	**+0.2**
	60nm,0.3s							
SFK				⇓	S	**Sn**	**05 46 09.8**	**-1.8**
	494nm,0.4s							
SARP	**Sargodha**	**4.82**	**162**	⇓	P	**Pn**	**05 45 32.8**	**-0.6**
KSH	**Kashi**	**4.95**	**52**		P	**Pn**	**05 45 31.3**	**-3.7**
KSH					S	Sn	05 46 21.3	-12
AML	**Almayashu**	**5.97**	**20**		P	**Pn**	**05 45 47.8**	**-0.6**
	SNR=656							
MNAS	**Manas**	**6.06**	**11**	⇓	P	**Pn**	**05 45 48.8**	**-0.4**
	103nm,0.5s							
MNAS				⇓	S	**Sn**	**05 46 54.4**	**-4.5**
	545nm,0.8s							
NRN	**Naryn**	**6.27**	**37**		PN	**Pn**	**05 45 50.4**	**-1.8**
UCH	**Uchtor**	**6.31**	**25**		P	**Pn**	**05 45 52.5**	**-0.4**
	SNR=69							
KZA	**Kyzart**	**6.45**	**30**		P	**Pn**	**05 45 53.6**	**-1.0**
	SNR=42							
EKS2	**Erkin-Say**	**6.49**	**19**		P	**Pn**	**05 45 54.6**	**-0.2**
	SNR=266							
KK07	**Karatay Array**	**6.55**	**357**	*e*	Pn	**Pn**	**05 45 54.9**	**-0.6**
KK06	**Karatay Array**	**6.55**	**357**	*e*	Pn	**Pn**	**05 45 54.9**	**-0.7**
KK02	**Karatay Array**	**6.56**	**357**	*e*	Pn	**Pn**	**05 45 55.1**	**-0.6**
KK03	**Karatay Array**	**6.56**	**357**	*e*	Pn	**Pn**	**05 45 55.0**	**-0.7**
KK31	**Karatay Array**	**6.56**	**357**	⇑	P	**Pn**	**05 45 55.0**	**-0.7**
	59nm,0.5s,baz=181,slow=13,SNR=1032							
KK31				⇑	S	**Sn**	**05 47 04.1**	**-6.4**
	82nm,0.5s,baz=181,slow=20,SNR=12							
KK31	**Karatay Array**	**6.56**	**357**	*ce*	PN	**Pn**	**05 45 55.0**	**-0.7**
KK31					pmax	pmax		
	comp=Z,59nm,0.4s							
KK31	**Karatay Array**	**6.56**	**357**	*e*	Pn	**Pn**	**05 45 55.1**	**-0.7**
KKAR	**Karatay Array**	**6.56**	**357**	*e*	PN	**Pn**	**05 45 55.2**	**-0.5**
KKAR	**Karatay Array**	**6.56**	**357**	*e*	Pn	**Pn**	**05 45 55.2**	**-0.5**
KK01	**Karatay Array**	**6.56**	**357**	*e*	Pn	**Pn**	**05 45 55.1**	**-0.6**
KK08	**Karatay Array**	**6.56**	**357**	*e*	Pn	**Pn**	**05 45 55.0**	**-0.7**
KK04	**Karatay Array**	**6.57**	**357**	*e*	Pn	**Pn**	**05 45 55.2**	**-0.6**
KK05	**Karatay Array**	**6.58**	**357**	*e*	Pn	**Pn**	**05 45 55.4**	**-0.5**
AAK	**Ala-Archa**	**6.67**	**23**		P	**Pn**	**05 45 56.8**	**-0.5**
	comp=Z,29nm,0.3s,baz=167,slow=6.0,SNR=348							
AAK					S	**Sn**	**05 47 10.9**	**-2.4**
	comp=Z,9.9nm,0.3s,baz=111,slow=16,SNR=12							
AAK	**Ala-Archa**	**6.67**	**23**	⇑	P	**Pn**	**05 45 57.2**	**-0.1**
	comp=Z,43nm,0.4s							
AAK				⇑	S	**Sn**	**05 47 12.0**	**-1.4**
	comp=Z,114nm,0.8s							
AAK	**Ala-Archa**	**6.67**	**23**	*d*	*i*PN	**Pn**	**05 45 57.1**	**-0.1**
AAK					pmax	pmax		
	comp=Z,43nm,0.4s							
AAK	**Ala-Archa**	**6.67**	**23**		P	**Pn**	**05 45 57.2**	**-0.1**
	SNR=102							
AAK	**Ala-Archa**	**6.67**	**23**	*e*	Pn	**Pn**	**05 45 56.8**	**-0.5**
AAK				*e*	Pn	Pn	05 45 57.1	-0.2
AAK				*e*	Sn	**Sn**	**05 47 10.9**	**-2.4**
KBK	**Karagaybulak**	**6.84**	**26**		P	**Pn**	**05 45 59.6**	**+0.1**
	SNR=69							
FRU1	**Bishkek**	**6.87**	**23**		PN	**Pn**	**05 46 00.1**	**+0.3**
FRU	**Bishkek**	**6.89**	**23**	⇓	*i*PN	**Pn**	**05 45 59.8**	**-0.2**
FRU					*i* S	**Sn**	**05 47 17.0**	**-1.2**
FRU					pmax	pmax		
	comp=Z,100nm,1.4s							
FRU					smax	smax		
	comp=E,340nm,1.6s							
ULHL	**Ulahol**	**7.01**	**34**		P	**Pn**	**05 46 01.4**	**-0.4**
	SNR=27							
CHMS	**Chumysh**	**7.08**	**23**		P	**Pn**	**05 46 01.9**	**-0.5**
	SNR=58							
USP	**Ospenovka**	**7.25**	**21**		P	**Pn**	**05 46 03.7**	**-1.0**
	SNR=70							
TKM2	**Tokmak 2**	**7.30**	**28**	⇑	P	**Pn**	**05 46 05.1**	**-0.5**
	comp=E,167nm,0.6s							
TKM2				⇓	S	**Sn**	**05 47 23.8**	**-4.6**
	comp=E,16nm,0.7s							
TKM2	**Tokmak 2**	**7.30**	**28**		P	**Pn**	**05 46 05.4**	**-0.2**
	SNR=129							
MDOK	**Medeo**	**8.10**	**33**	⇑	P	**Pn**	**05 46 15.8**	**-0.1**
	comp=E,32nm,0.5s							
MDOK				⇓	S	**Sn**	**05 47 47.6**	**+0.5**
	comp=E,14nm,0.6s							
GYB1	**ALIBECK ARRAY**	**10.32**	**281**	*e*	Pn	**Pn**	**05 46 42.5**	**-2.4**
GYB2	**ALIBECK ARRAY**	**10.32**	**282**	*e*	Pn	**Pn**	**05 46 43.1**	**-1.8**
GYA2	**ALIBECK ARRAY**	**10.33**	**282**	*e*	Pn	**Pn**	**05 46 43.1**	**-1.8**
GEYT	**Alibeck**	**10.33**	**282**		P	**Pn**	**05 46 42.3**	**-2.6**
	comp=E,3.1nm,0.3s,baz=112,slow=11,SNR=16							
GEYT					S	**Sn**	**05 48 37.5**	**-2.6**
	comp=E,6.4nm,0.3s,baz=288,slow=20,SNR=8.4							
GYA0	**ALIBECK ARRAY**	**10.33**	**282**	*e*	Pn	**Pn**	**05 46 42.5**	**-2.4**
GYA0B	**ALIBECK ARRAY**	**10.33**	**282**	*e*	Pn	**Pn**	**05 46 42.7**	**-2.2**
GYA1	**ALIBECK ARRAY**	**10.33**	**282**	*e*	Pn	**Pn**	**05 46 42.8**	**-2.1**
GYB3	**ALIBECK ARRAY**	**10.33**	**282**	*e*	Pn	**Pn**	**05 46 43.1**	**-1.9**
GYB5	**ALIBECK ARRAY**	**10.34**	**281**	*e*	Pn	**Pn**	**05 46 43.0**	**-2.0**
GYB4	**ALIBECK ARRAY**	**10.35**	**282**	*e*	Pn	**Pn**	**05 46 43.0**	**-2.2**
MAKZ	**Makanchi**	**13.14**	**35**	⇓	P	**Pn**	**05 47 19.4**	**-1.2**
	comp=E,10nm,0.6s							
MAKZ	**Makanchi**	**13.14**	**35**	*e*	P	**Pn**	**05 47 19.8**	**-0.8**
MAKZ				*e*	S	**S**	**05 49 47.8**	**-0.3**
MAKZ	**Makanchi**	**13.14**	**35**	*e*	Pn	**Pn**	**05 47 19.8**	**-0.8**
MAKZ				*e*	S	**S**	**05 49 47.8**	**-0.3**
PYUN	**Piuthan**	**13.20**	**126**	*e*	P	**Pn**	**05 47 19.3**	**-2.4**
	comp=E,94nm,0.6s							
MK01	**Makanchi Array**	**13.26**	**36**	*e*	Pn	**Pn**	**05 47 21.8**	**-0.4**
MK31	**Makanchi Array**	**13.28**	**36**	*e*	P	**Pn**	**05 47 21.3**	**-1.0**
MK31	**Makanchi Array**	**13.28**	**36**	*e*	Pn	**Pn**	**05 47 21.3**	**-1.0**
MK32	**Makanchi Array**	**13.28**	**36**	*e*	Pn	**Pn**	**05 47 21.5**	**-0.8**
MKAR	**Makanchi Array**	**13.28**	**36**		P	**Pn**	**05 47 21.5**	**-0.8**
	comp=E,0.5nm,0.3s,baz=215,slow=10,SNR=22							
MKAR	**Makanchi Array**	**13.28**	**36**	*ce*	P	**Pn**	**05 47 22.2**	**-0.1**
MKAR					pmax	pmax		
	comp=Z,5.0nm,0.7s							
MKAR	**Makanchi Array**	**13.28**	**36**	*e*	Pn	**Pn**	**05 47 21.3**	**-1.0**
DANN	**Dangsing**	**13.54**	**123**	*e*	P	**Pn**	**05 47 24.9**	**-1.2**
	comp=Z,12nm,1.1s							
KOLN	**Koldanda**	**13.82**	**126**	*e*	P	**Pn**	**05 47 27.7**	**-1.7**
	comp=Z,18nm,0.3s							
GKN	**Gorkha**	**14.36**	**122**	*e*	P	**Pn**	**05 47 35.6**	**-0.5**
	comp=Z,7.7nm,0.2s							
WMQ	**Urumqi**	**14.70**	**55**		P	**Pn**	**05 47 39.5**	**-0.6**
DMN	**Daman**	**14.93**	**123**	*e*	P	**Pn**	**05 47 42.3**	**-0.9**
	comp=Z,96nm,0.7s							
KKN	**Kakani**	**14.93**	**122**	*e*	P	**Pn**	**05 47 42.4**	**-0.8**
	comp=Z,58nm,0.5s							
AB07	**Akbulak array**	**15.01**	**331**	*e*	Pn	**Pn**	**05 47 42.6**	**-1.2**
AB08	**Akbulak array**	**15.02**	**331**	*e*	Pn	**Pn**	**05 47 42.6**	**-1.3**
AB06	**Akbulak array**	**15.02**	**331**	*e*	Pn	**Pn**	**05 47 42.8**	**-1.1**
AB03	**Akbulak array**	**15.03**	**331**	*e*	Pn	**Pn**	**05 47 42.5**	**-1.4**
AB01	**Akbulak array**	**15.03**	**331**	*e*	Pn	**Pn**	**05 47 42.5**	**-1.4**
AB31	**Akbulak array**	**15.03**	**331**		P	**Pn**	**05 47 42.7**	**-1.2**
	comp=Z,23nm,0.6s,baz=144,slow=12,SNR=410							
AB31					S	**S**	**05 50 24.0**	**-7.2**
	comp=Z,5.4nm,0.5s,baz=154,slow=24,SNR=5.4							
AB31	**Akbulak array**	**15.03**	**331**	*ce*	P	**Pn**	**05 47 42.7**	**-1.2**
AB31					pmax	pmax		
	comp=Z,23nm,0.6s							
AB31	**Akbulak array**	**15.03**	**331**	*e*	Pn	**Pn**	**05 47 42.8**	**-1.1**
ABKAR	**Akbulak array**	**15.03**	**331**	*e*	Pn	**Pn**	**05 47 42.5**	**-1.5**
	comp=Z,313nm,0.6s							
AB02	**Akbulak array**	**15.03**	**331**	*e*	Pn	**Pn**	**05 47 42.6**	**-1.4**
AB04	**Akbulak array**	**15.03**	**331**	*e*	Pn	**Pn**	**05 47 42.7**	**-1.3**
AB05	**Akbulak array**	**15.04**	**331**	*e*	Pn	**Pn**	**05 47 42.7**	**-1.4**
AB09	**Akbulak array**	**15.04**	**331**	*e*	Pn	**Pn**	**05 47 42.8**	**-1.4**
KURBB	**Kurchatov Arra**	**15.09**	**19**		P	**Pn**	**05 47 42.6**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=211,slow=11,SNR=17							
KURBB					S	**Sn**	**05 50 33.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=198,slow=30,SNR=4.3							
PKIN	**Phulchoki**	**15.14**	**122**	*e*	P	**P**	**05 47 46.3**	**-0.2**
	comp=Z,91nm,0.6s							
PKIN				*e*	S		05 50 22.9	-12
PKI	**Pulchoki**	**15.16**	**122**	*e*	P	**Pn**	**05 47 46.2**	**+0.1**
	comp=Z,78nm,0.6s							
KURK	**Kurchatov**	**15.20**	**19**	⇑	P	**Pn**	**05 47 44.3**	**-1.7**
	comp=Z,8.3nm,1.0s							
KURK	**Kurchatov**	**15.20**	**19**	⇓	*i*P	**Pn**	**05 47 44.9**	**-1.1**
KURK					pmax	pmax		
	comp=Z,28nm,1.0s							
KURK	**Kurchatov**	**15.20**	**19**	*e*	Pn	**Pn**	**05 47 42.6**	**-3.4**
KURK				*e*	Pn	**Pn**	**05 47 44.3**	**-1.7**
KURK				*e*	S	**S**	**05 50 33.5**	**-1.6**
GUN	**Gumba**	**15.27**	**120**	*e*	P	**P**	**05 47 48.0**	**+0.1**
	comp=Z,36nm,0.5s							
JIRN	**Jiri**	**15.64**	**120**	*e*	P	**P**	**05 47 52.4**	**+0.3**
	comp=Z,159nm,0.4s							
BVA0	**Borovoye Array**	**16.49**	**359**	⇓	P	**P**	**05 48 00.9**	**+0.2**
	comp=Z,11nm,0.7s							
BVA0	**Borovoye Array**	**16.49**	**359**		P	**P**	**05 48 00.9**	**+0.2**
BVA0					pmax	pmax		
	comp=Z,11nm,0.7s							
BVAR	**Borovoye Array**	**16.49**	**359**		P	**P**	**05 48 00.4**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=163,slow=10,SNR=46							
BVAR					S	**S**	**05 51 01.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=170,slow=18,SNR=3.7							
BRVK	**Borovoye**	**16.52**	**359**	⇓	P	**P**	**05 48 00.6**	**-0.5**
	comp=Z,16nm,0.7s							
BRVK	**Borovoye**	**16.52**	**359**	⇑	*i*P	**P**	**05 48 01.4**	**+0.3**
BRVK					pmax	pmax		
	comp=Z,73nm,1.2s							
BRVK	**Borovoye**	**16.52**	**359**	*e*	P	**P**	**05 48 00.6**	**-0.5**
	comp=Z,20nm,0.8s							
AKTO	**Aktyubinsk**	**16.73**	**330**		P	**Pn**	**05 48 04.7**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=142,slow=11,SNR=106							
AKTO					S	**S**	**05 51 08.2**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=352,slow=15,SNR=4.2							
AKTO	**Aktyubinsk**	**16.73**	**330**	⇑	P	**Pn**	**05 48 04.1**	**-0.3**
	comp=Z,30nm,0.7s							
AKTO				⇑	S	**S**	**05 51 08.2**	**+0.2**
	comp=Z,20nm,1.2s							
ZAA0	**Zalesovo Array**	**19.89**	**25**	*e*	P	**P**	**05 48 37.6**	**-0.1**
	comp=Z,8.6nm,0.6s							
ZALV	**Zalesovo Beam**	**19.89**	**25**		P	**P**	**05 48 38.2**	**+0.5**
	comp=Z,2.7nm,0.3s,baz=223,slow=11,SNR=27							
ZALV	**Zalesovo Beam**	**19.89**	**25**	*e*	P	**P**	**05 48 37.8**	**+0.1**
ZAA1	**Zalesovo Array**	**19.89**	**25**	*e*	P	**P**	**05 48 38.2**	**+0.5**
NVS	**Novosibirsk**	**20.15**	**21**	⇑	*i*P	**P**	**05 48 41.4**	**+0.9**
NVS					*i* S	**S**	**05 52 15.7**	**0.0**
HYB	**Hyderabad**	**20.20**	**159**	*i*	P	Pn	05 48 43.5	-2.5
HYB					*e*S	**S**	**05 52 17.0**	**-0.4**
GROC	**Groznyy**	**20.38**	**297**	*e*	P	**P**	**05 48 42.8**	**-0.2**
GROC					pmax	pmax		
	comp=Z,6.0nm,0.3s							
GNI	**Garni**	**20.85**	**288**		P	**P**	**05 48 47.2**	**-1.0**
	comp=Z,9.8nm,1.0s,baz=162,slow=3.2,SNR=6.8							
GNI	**Garni**	**20.85**	**288**	⇓	*i*P	**P**	**05 48 50.2**	**+2.0**
GNI					pmax	pmax		
	comp=Z,33nm,1.0s							
TBLG	**Delisi**	**20.95**	**292**	*e*	P	**P**	**05 48 50.9**	**+1.8**
TBLG					pmax	pmax		
	comp=Z,12nm,0.7s							
TBLG	**Delisi**	**20.95**	**292**	*e*	P	**P**	**05 48 50.9**	**+1.8**
	comp=Z,12nm,0.7s							
SHL	**Shillong**	**20.96**	**116**	*e*	P	Pn	05 48 54.0	-1.7
SHL				*e*	S	**S**	**05 52 34.0**	**+2.1**
ARU	**Arti**	**21.58**	**341**		P	**P**	**05 48 55.7**	**+0.2**
	comp=Z,5.2nm,0.2s,baz=144,slow=5.4,SNR=5.0							
ARU	**Arti**	**21.58**	**341**	*d*	*i*P	**P**	**05 48 56.3**	**+0.8**
ARU					*PP	**pP**	**05 49 27.0**	**-1.6**
ARU							05 49 32.6	
ARU					S	**S**	**05 52 45.9**	**+4.5**
ARU					SS	**SnSn**	**05 53 36.7**	**+8.3**
ARU					pmax	pmax		
	comp=Z,12nm,1.2s							
ARU	**Arti**	**21.58**	**341**	*e*	P	**P**	**05 48 56.0**	**+0.5**
	comp=Z,8.4nm,0.7s							
AKH	**Akhalkalaki**	**21.85**	**291**	*e*	P	**P**	**05 48 58.8**	**+0.1**
AKH					pmax	pmax		
	comp=Z,20nm,1.3s							
AKH	**Akhalkalaki**	**21.85**	**291**	*e*	P	**P**	**05 48 58.8**	**+0.1**
	comp=Z,20nm,1.3s							
KBZ	**Khabaz**	**22.55**	**297**		P	**P**	**05 49 04.9**	**0.0**
	comp=Z,2.1nm,0.6s,baz=97,slow=8.2,SNR=7.8							
GOF	**Gofitskoye**	**22.69**	**301**	⇑	*e*P	**P**	**05 49 09.1**	**+2.9**
GOF					pmax	pmax		
	comp=Z,54nm,1.3s							
KIV	**Kislovodsk**	**22.74**	**298**	*e*	P	**P**	**05 49 06.3**	**-0.5**
KIV				*e*	*SP	PP	05 50 02.1	-0.6
KIV				*e*	S	**S**	**05 53 02.7**	**+2.2**
KIV					pmax	pmax		
	comp=Z,5.0nm,1.0s							
GTA	**Gaotai**	**22.89**	**74**	*e*	P	**P**	**05 49 10.4**	**+2.2**
GTA					pmax	pmax		
	comp=Z,5.0nm,1.0s							
KNGR	**Kungurtug, Tuv**	**23.67**	**45**	⇑	*e*P	**P**	**05 49 16.4**	**+1.3**
CD2	**Chengdu**	**27.77**	**92**	*e*	P	**P**	**05 49 51.0**	**-1.1**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CD2					pmax	pmax		
	comp=Z,120nm,5.0s							
SONA0	**Songino Array**	**28.34**	**55**	*e*	P	**P**	**05 49 58.6**	**+1.5**
SONM	**Songino Array**	**28.34**	**55**		P	**P**	**05 49 58.6**	**+1.5**
	comp=Z,2.2nm,0.8s,baz=253,slow=9.7,SNR=11							
SONA1	**Songino Array**	**28.35**	**55**	*e*	P	**P**	**05 49 57.2**	**0.0**
ULN	**Ulaanbaatar**	**28.78**	**55**	⇓	*i*P	**P**	**05 50 01.7**	**+0.6**
ULN					pmax	pmax		
	comp=Z,6.0nm,2.5s							
BR101	**Keskin Array S**	**29.39**	**288**	*e*	P	**P**	**05 50 07.2**	**+0.7**
BR131	**Keskin Array S**	**29.39**	**288**	*e*	P	**P**	**05 50 07.2**	**+0.7**
BRTR	**Keskin Array B**	**29.39**	**288**		P	**P**	**05 50 07.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=104,slow=8.1,SNR=8.4							
BRTR	**Keskin Array B**	**29.39**	**288**	*ce*	P	**P**	**05 50 08.6**	**+2.1**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.51**	**119**		P	**P**	**05 50 14.6**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=293,slow=8.6,SNR=5.3							
XAN	**Xi'an**	**30.96**	**83**		P	**P**	**05 50 21.6**	**+1.3**
XAN					pmax	pmax		
	comp=Z,10.0nm,0.9s							
KLMR	**Klimovskoe**	**31.43**	**331**	*e*	P	**P**	**05 50 21.2**	**-2.7**
KLMR					pmax	pmax		
	comp=Z,7.0nm,0.8s							
KLMR	**Klimovskoe**	**31.43**	**331**	*e*	P	**P**	**05 50 21.2**	**-2.7**
KLMR					AMP		05 50 25.2	
	comp=Z,7.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**31.78**	**70**	*e*	P	**P**	**05 50 26.8**	**-0.7**
HHC					pP	pP	05 51 06.3	-1.0
HHC					sP	sP	05 51 28.1	-1.6
HHC					PP	**PnPn**	**05 51 39.4**	**-0.9**
HHC					S	**S**	**05 55 20.4**	**-2.7**
HHC					sS	sS	05 56 30.0	-3.9
HHC					ScS	**ScS**	**06 00 35.3**	**-2.0**
HHC					pmax	pmax		
	comp=Z,32nm,1.1s							
HHC					pmax	pmax		
	comp=Z,130nm,5.5s							
AKASG	**Malin Array Be**	**32.89**	**309**		P	**P**	**05 50 36.8**	**0.0**
	comp=Z,7.8nm,0.6s,baz=80,slow=7.2,SNR=36							
AKASG	**Malin Array Be**	**32.89**	**309**	*ce*	P	**P**	**05 50 37.7**	**+0.9**
AKASG					pmax	pmax		
	comp=Z,8.0nm,0.6s							
AKBB	**Malin Array Si**	**32.89**	**309**	*e*	P	**P**	**05 50 37.6**	**+0.7**
AKBB					pmax	pmax		
	comp=Z,7.0nm,0.6s							
AKBB	**Malin Array Si**	**32.89**	**309**	*e*	P	**P**	**05 50 37.5**	**+0.7**
	comp=Z,7.4nm,0.6s							
KIEV	**Kiev**	**32.90**	**309**	⇓	*i*P	**P**	**05 50 37.3**	**+0.4**
KIEV					pmax	pmax		
	comp=Z,5.0nm,0.8s							
KIEV	**Kiev**	**32.90**	**309**	*e*	P	**P**	**05 50 37.5**	**+0.6**
	comp=Z,7.2nm,0.6s							
AK11	**Malin Array Si**	**32.92**	**309**	*e*	P	**P**	**05 50 37.5**	**+0.4**
SORM	**Soroca**	**33.15**	**304**	⇑	*i*P	**P**	**05 50 40.2**	**+1.1**
SORM	**Soroca**	**33.15**	**304**	⇑	P	**P**	**05 50 40.2**	**+1.1**
TMCR	**Tamitsa**	**33.99**	**335**	*e*	P	**P**	**05 50 47.4**	**+1.2**
TMCR					pmax	pmax		
	comp=Z,6.0nm,0.4s							
PLOR	**Plostina**	**34.23**	**300**	⇑	*i*P	**P**	**05 50 51.1**	**+2.6**
PLOR	**Plostina**	**34.23**	**300**	⇑	P	**P**	**05 50 51.1**	**+2.6**
MLR	**Muntele Ros

BILL	**Bilibino**	**58.58**	**26**	*i* P		**P**		**05 53 56.7**	**-0.5**
BILL				pmax	pmax				
	comp=Z,5.0nm,1.2s								
LSZ	**Lusaka**	**65.46**	**226**	*e*P		**P**		**05 54 43.8**	**0.0**
LSZ				pmax	pmax				
	comp=Z,6.0nm,0.6s								
LSZ	**Lusaka**	**65.46**	**226**	*e*P		**P**		**05 54 43.8**	**0.0**
	comp=Z,5.5nm,0.6s								
TOA1	**Torodi Ar. Sit**	**65.68**	**269**	*e*P		**P**		**05 54 43.6**	**-1.7**
TOA0	**Torodi Ar. Sit**	**65.68**	**269**	*e*P		**P**		**05 54 43.5**	**-1.8**
TOA0				*e*P		**P**		**05 54 43.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**65.68**	**269**	P		**P**		**05 54 43.6**	**-1.7**
	comp=Z,2.7nm,0.4s,baz=52,slow=6.1,SNR=45								
MATP	**Matopo**	**69.42**	**223**	P		**P**		**05 55 08.7**	**+0.1**
	comp=Z,10nm,0.4s,baz=22,slow=7.3,SNR=48								
KOWA	**Kowa**	**69.53**	**273**	P		**P**		**05 55 08.3**	**-1.1**
	comp=Z,4.3nm,0.6s,baz=34,slow=7.4,SNR=22								
KOWA	**Kowa**	**69.53**	**273**	*e*P		**P**		**05 55 08.2**	**-1.1**
	comp=Z,33nm,1.9s								
TOLK	**Toolik Lake Re**	**70.89**	**15**	*e*P		**P**		**05 55 17.7**	**+0.9**
	comp=Z,10nm,0.7s								
COLD	**Coldfoot**	**71.94**	**16**	*e*P		**P**		**05 55 24.0**	**+1.0**
	comp=Z,8.6nm,1.1s								
INK	**Inuvik**	**73.87**	**9**	*e*P		**P**		**05 55 35.1**	**+0.9**
INK				pmax	pmax				
	comp=Z,8.0nm,0.8s								
INK	**Inuvik**	**73.87**	**9**	*e*P		**P**		**05 55 35.1**	**+0.9**
	comp=Z,8.1nm,0.8s								
MDM	**Murphy Dome**	**74.29**	**16**	*e*P		**P**		**05 55 37.7**	**+0.8**
	comp=Z,5.7nm,0.9s								
BPAW	**Bear Paw Mtn.**	**74.36**	**18**	*e*P		**P**		**05 55 37.6**	**+0.3**
	comp=Z,4.6nm,1.0s								
COLA	**College**	**74.45**	**16**	*e*P		**P**		**05 55 38.7**	**+1.0**
COLA				pmax	pmax				
	comp=Z,9.0nm,0.8s								
COLA	**College**	**74.45**	**16**	*e*P		**P**		**05 55 38.7**	**+1.0**
	comp=Z,9.3nm,0.8s								
CCB	**Clear Creek Bu**	**74.65**	**16**	*e*P		**P**		**05 55 39.0**	**+0.1**
	comp=Z,20nm,1.9s								
CAST	**Castle Rocks**	**74.65**	**19**	*e*P		**P**		**05 55 39.9**	**+0.9**
	comp=Z,13nm,1.0s								
IL1	**Eielson Array**	**74.75**	**16**	*e*P		**P**		**05 55 39.2**	**-0.2**
ILAR	**Eielson Array**	**74.75**	**16**	P		**P**		**05 55 39.5**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=314,slow=4.8,SNR=23								
ILB	**Eielson Array**	**74.75**	**16**	*e*P		**P**		**05 55 39.7**	**+0.3**
KTH	**Kantishna Hill**	**74.83**	**18**	*e*P		**P**		**05 55 40.8**	**+0.7**
	comp=Z,20nm,1.5s								
TSUM	**Tsumeb**	**74.92**	**232**	P		**P**		**05 55 41.2**	**0.0**
	comp=Z,4.8nm,0.9s,baz=30,slow=5.2,SNR=6.8								
TSUM	**Tsumeb**	**74.92**	**232**	*e*P		**P**		**05 55 41.2**	**0.0**
TSUM				*e*P		**P**		**05 55 41.3**	**+0.1**
SCRK	**Sand Creek**	**76.06**	**15**	*e*P		**P**		**05 55 47.9**	**+0.8**
	comp=Z,14nm,1.5s								
DHY	**Denali Highway**	**76.10**	**17**	*e*P		**P**		**05 55 47.5**	**+0.2**
	comp=Z,4.7nm,0.6s								
PAX	**Paxson**	**76.63**	**16**	*e*P		**P**		**05 55 50.7**	**+0.4**
PAX				pmax	pmax				
	comp=Z,4.0nm,0.7s								
PAX	**Paxson**	**76.63**	**16**	*e*P		**P**		**05 55 50.7**	**+0.4**
	comp=Z,3.9nm,0.7s								
DAWY	**Dawson**	**76.89**	**13**	*e*P		**P**		**05 55 51.9**	**+0.2**
	comp=Z,2.9nm,0.8s								
HARP	**HAARP**	**77.19**	**16**	*e*P		**P**		**05 55 54.5**	**+1.2**
	comp=Z,16nm,0.8s								
BOSA	**Boshof**	**77.76**	**220**	P		**P**		**05 55 57.0**	**0.0**
	comp=Z,4.5nm,0.5s,baz=7.5,slow=3.8,SNR=12								
YKW3	**Yellowknife Ar**	**81.14**	**3**	*e*P		**P**		**05 56 15.3**	**+0.7**
	comp=Z,12nm,1.4s								
YKA	**Yellowknife A.**	**81.20**	**3**	P		**P**		**05 56 15.7**	**+0.7**
	comp=Z,3.7nm,0.4s,baz=351,slow=5.4,SNR=151								
YKA				pP		**pP**		**05 57 03.4**	**+1.4**
YKA				PKKPbc		**PKKPbc**		**06 14 46.5**	**-2.7**
	comp=Z,1.3nm,0.8s,baz=348,slow=5.4,SNR=4.4								
	comp=Z,0.1nm,0.5s,baz=165,slow=2.3,SNR=5.6								
WR1	**Warramunga Arr**	**82.04**	**122**	*e*P		**P**		**05 56 19.2**	**-0.8**
	comp=Z,15nm,1.0s								
WRA	**Warramunga Arr**	**82.04**	**122**	P		**P**		**05 56 19.2**	**-0.8**
	comp=Z,4.9nm,0.5s,baz=324,slow=4.9,SNR=115								
WRA				PKKPbc		**PKKPbc**		**06 14 49.3**	**+1.8**
	comp=Z,0.6nm,1.1s,baz=126,slow=1.6,SNR=4.9								
WRAB	**Tennant Creek**	**82.04**	**122**	*i*P		**P**		**05 56 20.0**	**0.0**
WRAB				pmax	pmax				
	comp=Z,51nm,2.5s								
AS31	**Alice Springs**	**84.31**	**125**	*e*P		**P**		**05 56 30.7**	**-0.8**
	comp=Z,2.7nm,0.6s								
ASAR	**Alice Springs**	**84.31**	**125**	P		**P**		**05 56 30.8**	**-0.8**
	comp=Z,6.9nm,0.6s,baz=311,slow=4.9,SNR=89								
AS01	**Alice Springs**	**84.34**	**125**	*e*P		**P**		**05 56 30.7**	**-1.0**
FFC	**Flin Flon**	**88.89**	**356**	*e*P		**P**		**05 56 54.9**	**+1.6**
ULM	**Lac du Bonnet**	**92.80**	**352**	P		**P**		**05 57 11.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=345,slow=3.2,SNR=5.0								
QSPA	**South Pole Qui**	**126.34**	**180**	PKP		**PKPdf**		**06 02 59.2**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=307,slow=2.6,SNR=3.6								
CPUP	**Villa Florida**	**135.18**	**268**	PKP		**PKPdf**		**06 03 17.1**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=72,slow=10,SNR=4.2								
PLCA	**Paso Flores**	**149.81**	**250**	PKPbc		**PKPbc**		**06 03 48.4**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=44,slow=3.2,SNR=6.2								

*ISCJB **20** 05:44:37.1±0.7, 2°.5N±0°.1×31°.0W±0°.1, h10km, mb3.7/9, MS3.7/25, Error ellipse: s-maj=24.6km s-min=12.0km az=138.1*

*IDC **20** 05:44:37.4±0.9, 2°.69N×31°.11W, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.7/63, mbtmp3.9/10, MS3.7/26, Ms1 3.7/26, ms1mx3.5/53, Error ellipse: s-maj=31.2km s-min=17.0km az=145.0*

ISC 20 05:44:38.4±0.8, 2°.5N±0°.1×31°.1W±0°.2, h10km, n38, σ2°.30/11, mb3.8/9, MS3.8/25, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.56**	**210**	Pn	**Pn**	**05 46 58.1**	**+1.9**
	baz=360,slow=1.5,SNR=9.2						
RCBR				Sn	**Sn**	**05 48 39.1**	**-4.7**
	7.2nm,0.3s,baz=329,slow=0.3,SNR=2.5						
BBTS	**Babate**	**18.78**	**49**	LR	LR	05 54 18.2	
	comp=Z,186nm,20.8s,baz=184,slow=31						
H10N3	**ASCENSION HYDR**	**19.48**	**122**	T	T	06 09 37.1	
	baz=302,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**19.48**	**122**	T	T	06 09 27.3	
	baz=302,slow=75,SNR=18						
H10N1	**ASCENSION HYDR**	**19.50**	**122**	T	T	06 09 34.1	
	baz=302,slow=75,SNR=23						
H10S3	**ASCENSION HYDR**	**19.94**	**125**	T	T	06 10 04.5	
	baz=305,slow=75,SNR=53						
H10S1	**ASCENSION HYDR**	**19.95**	**125**	T	T	06 10 05.0	
	baz=305,slow=75,SNR=61						
H10S2	**ASCENSION HYDR**	**19.96**	**125**	T	T	06 10 03.3	
	baz=305,slow=75,SNR=64						
DBIC	**Dimbokro**	**26.48**	**80**	LR	LR	05 58 55.4	
	comp=Z,315nm,18.2s,baz=250,slow=32						
KOWA	**Kowa**	**29.27**	**64**	P	**P**	**05 50 40.7**	**-0.4**
	2.5nm,1.0s,baz=238,slow=8.1,SNR=3.0						
KOWA				LR	LR	06 00 39.6	
	comp=Z,234nm,21.5s,baz=232,slow=33						
H05S1	**Guadeloupe/Mar**	**31.66**	**294**	T	T	06 24 02.6	
	SNR=9.2						
H05N1	**Guadeloupe/Mar**	**32.52**	**297**	T	T	06 24 52.8	
TORD	**Torodi Ar. Bea**	**34.12**	**70**	P	**P**	**05 51 23.5**	**-0.3**
	1.2nm,0.7s,baz=258,slow=8.4,SNR=7.0						
TORD				LR	LR	06 03 17.6	
	comp=Z,155nm,19.2s,baz=250,slow=33						
CPUP	**Villa Florida**	**38.26**	**220**	P	**P**	**05 52 01.2**	**+2.1**
	1.1nm,0.9s,baz=74,slow=7.4,SNR=2.2						
CPUP				LR	LR	06 07 26.2	
	comp=Z,114nm,18.5s,baz=50,slow=36						
SDV	**Santo Domingo**	**39.82**	**281**	P	**P**	**05 52 12.2**	**-0.3**
	1.6nm,0.7s,baz=101,slow=18,SNR=2.2						
SDV				LR	LR	06 08 12.4	
	comp=Z,61nm,20.7s,baz=67,slow=36						
LPAZ	**La Paz**	**41.07**	**242**	P	**P**	**05 52 23.8**	**+0.4**
	0.7nm,1.0s,baz=55,slow=9.8,SNR=3.0						
LPAZ				LR	LR	06 09 09.1	
	comp=Z,279nm,19.5s,baz=63,slow=36						
H09N1	**TRISTAN DA CUN**	**43.06**	**158**	T	T	06 39 15.5	
	SNR=40						
ROSC	**El Rosal**	**43.19**	**274**	LR	LR	06 09 46.2	
	comp=Z,142nm,20.4s,baz=82,slow=35						
ESDC	**Sonseca Array**	**44.47**	**30**	P	**P**	**05 52 49.5**	**-0.5**
	0.1nm,0.3s,baz=249,slow=7.6,SNR=2.5						
KEST	**Kesra**	**49.93**	**44**	LR	LR	06 16 04.4	
	comp=Z,152nm,18.1s,baz=216,slow=38						
TSUM	**Tsumeb**	**52.46**	**116**	LR	LR	06 11 45.2	
	comp=Z,113nm,18.7s,baz=330,slow=31						
JTS	**JuntasAbangare**	**54.01**	**281**	LR	LR	06 16 58.5	
	comp=Z,30nm,21.8s,baz=163,slow=36						

PLCA	**Paso Flores**	**56.07**	**216**	LR		LR		06 17 59.5		
	comp=Z,88nm,18.5s,baz=84,slow=36									
TKL	**Tuckaleechee C**	**58.78**	**311**	LR		LR		06 15 10.9		
	comp=Z,88nm,20.7s,baz=94,slow=31									
SCHQ	**Schefferville**	**59.71**	**337**	P		**P**		**05 54 40.4**	**-2.7**
	2.0nm,0.8s,baz=119,slow=10,SNR=3.7									
SCHQ				LR		LR		06 16 17.3		
	comp=Z,43nm,21.5s,baz=352,slow=32									
GERES	**GERESS Array B**	**59.95**	**33**	LR		LR		06 17 41.9		
	comp=Z,26nm,21.0s,baz=280,slow=33									
IDI	**Anoyia**	**61.18**	**51**	LR		LR		06 24 31.8		
	comp=Z,19nm,18.1s,baz=163,slow=39									
BOSA	**Boshof**	**62.22**	**124**	LR		LR		06 18 04.0		
	comp=Z,62nm,18.3s,baz=211,slow=32									
MATP	**Matopo**	**62.66**	**114**	LR		LR		06 17 41.2		
	comp=Z,116nm,19.6s,baz=262,slow=32									
SFJD	**Kangerlussuaq**	**65.81**	**352**	LR		LR		06 19 38.3		
	comp=Z,43nm,18.3s,baz=206,slow=32									
NOA	**NORSAR Array B**	**66.59**	**21**	LR		LR		06 20 10.2		
	comp=Z,14nm,21.5s,baz=240,slow=32									
KMBO	**Kilima Mbogo**	**68.43**	**92**	LR		LR		06 22 05.4		
	comp=Z,65nm,19.7s,baz=86,slow=33									
BRTR	**Keskin Array B**	**69.12**	**48**	LR		LR		06 25 27.4		
	comp=Z,28nm,22.0s,baz=314,slow=36									
ULM	**Lac du Bonnet**	**72.16**	**322**	LR		LR		06 22 02.3		
	comp=Z,60nm,21.7s,baz=340,slow=31									
PDAR	**Pinedale Array**	**79.84**	**313**	LR		LR		06 26 44.9		
	comp=Z,36nm,21.7s,baz=104,slow=32									
RPN	**Rapa Nui**	**80.68**	**242**	LR		LR		06 29 55.2		
	comp=Z,53nm,18.8s,baz=122,slow=34									
YKA	**Yellowknife Ar**	**84.80**	**332**	P		**P**		**05 57 13.1**	**+0.2**
	0.6nm,0.8s,baz=92,slow=4.9,SNR=7.3									
NVAR	**Mina Array Bea**	**86.27**	**308**	P		**P**		**05 57 23.0**	**+1.9**
	0.6nm,0.9s,baz=88,slow=4.9,SNR=3.9									
NVAR				LR		LR		06 31 03.9		
	comp=Z,40nm,21.3s,baz=267,slow=32									

*ISCJB **20** 05:56:16.8±0.5, 67°.22N±0°.02×20°.77E±0°.08, h0km, Error ellipse: s-maj=4.7km s-min=3.5km az=168.1*

*CSEM **20** 05:56:17.3±0.3, 67°.19N×20°.75E, h2km, ML1.8, Error ellipse: s-maj=7.5km s-min=4.6km az=61.0, Mining explosion.*

*HEL **20** 05:56:17.9±0.1, 67°.17N×20°.67E, h0km, ML1.8, ML2.2(UPP), Explosion*

*UPP **20** 05:56:17.3, 67°.18N×20°.66E, h0km, ML2.2, Suspected Mining explosion.*

ISC 20 05:56:17.3±0.8, 67°.18N±0°.02×20°.71E±0°.02, h0km, n38, σ0s94/52, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**227**	P	**Pg**	**05 56 18.8**	**0.0**
DUNU				S	**Sg**	**05 56 20.0**	**+0.2**
DUNU	**Dundret**	**0.08**	**227**	P	**Pg**	**05 56 18.9**	**0.0**
DUNU				S	**Sg**	**05 56 20.1**	**+0.2**
DUNU	**Dundret**	**0.08**	**227**	*i* P	**Pg**	**05 56 18.9**	**0.0**
DUNU				*i* S	**Sg**	**05 56 20.1**	**+0.2**
MASU	**Masugnsbyn**	**0.57**	**60**	P	**Pg**	**05 56 28.3**	**+0.4**
MASU	**Masugnsbyn**	**0.57**	**60**	P	**Pg**	**05 56 28.7**	**+0.4**
MASU	**Masugnsbyn**	**0.57**	**60**	*i* P	**Pg**	**05 56 28.7**	**+0.4**
RATU	**Laukkuluspa**	**0.78**	**327**	P	**Pg**	**05 56 31.7**	**-0.6**
RATU	**Laukkuluspa**	**0.78**	**327**	P	**Pg**	**05 56 31.7**	**-0.6**
RATU	**Laukkuluspa**	**0.78**	**327**	*i* P	**Pg**	**05 56 31.7**	**-0.6**
KUA	**Kurravaara**	**0.80**	**350**	P	**Pg**	**05 56 32.1**	**-0.5**
KUA	**Kurravaara**	**0.80**	**350**	P	**Pg**	**05 56 32.1**	**-0.5**
KUA	**Kurravaara**	**0.80**	**350**	*i* P	**Pg**	**05 56 32.1**	**-0.5**
ERTU	**Ertsjaerv**	**0.85**	**136**	P	**Pg**	**05 56 33.2**	**-0.5**
ERTU				S	**Sg**	**05 56 45.4**	**+0.7**
ERTU	**Ertsjaerv**	**0.85**	**136**	P	**Pg**	**05 56 33.2**	**-0.5**
ERTU				S	**Sg**	**05 56 45.4**	**+0.7**
ERTU	**Ertsjaerv**	**0.85**	**136**	*e*P	**Pg**	**05 56 33.2**	**-0.5**
ERTU				*e*SB	**Sg**	**05 56 45.5**	**+0.8**
NIKU	**Nikkaluokta**	**0.95**	**318**	P	**Pg**	**05 56 35.0**	**-0.5**
NIKU	**Nikkaluokta**	**0.95**	**318**	P	**Pg**	**05 56 35.0**	**-0.5**
NIKU	**Nikkaluokta**	**0.95**	**318**	*e*P	**Pg**	**05 56 35.0**	**-0.5**
PAJU	**Pajala**	**0.95**	**98**	P	**Pg**	**05 56 35.1**	**-0.4**
PAJU	**Pajala**	**0.95**	**98**	P	**Pg**	**05 56 35.1**	**-0.4**
PAJU	**Pajala**	**0.95**	**98**	*e*P	**Pg**	**05 56 35.1**	**-0.4**
HEF	**Hetta**	**1.67**	**41**	Pg	**Pn**	**05 56 48.0**	**+0.2**
HEF				Sg	**Sn**	**05 57 09.8**	**-0.1**
HEF	**Hetta**	**1.67**	**41**	*e*PG	**Pn**	**05 56 48.1**	**+0.2**
	baz=219						
HEF				MSG		05 57 07.5	
	comp=Z,5.1nm,0.2s						
HEF				*e*SG	**Sn**	**05 57 09.8**	**-0.1**
KALU	**Kalix**	**1.69**	**140**	Pn	**Pn**	**05 56 48.6**	**+0.5**
KALU				Sn	**Sg**	**05 57 11.8**	**+0.2**
KALU	**Kalix**	**1.69**	**140**	*e*PN	**Pn**	**05 56 48.6**	**+0.5**
KALU				*e*SN	**Sg**	**05 57 11.8**	**+0.2**
TOF	**Tornio**	**1.81**	**126**	Pn	**Pn**	**05 56 50.4**	**+0.7**
TOF	**Tornio**	**1.81**	**126**	*e*Pn	**Pn**	**05 56 50.5**	**+0.8**
	baz=305						
TOF				MSG		05 57 12.2	
	comp=Z,4.8nm,0.2s						
TOF				*e*SN	**Sg**	**05 57 15.7**	**+0.2**
KIF	**Kilpisjarvi**	**1.84**	**1**	Pn	**Pb**	**05 56 51.1**	**-0.7**
KIF				Sg	**Sg**	**05 57 16.9**	**+0.6**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*PN	**Pb**	**05 56 51.1**	**-0.7**
	baz=176						
KIF				MSG		05 57 13.5	
	comp=Z,8.1nm,0.2s						
KIF				*e*SG	**Sg**	**05 57 16.9**	**+0.6**
SGF	**Sodankyl**	**2.27**	**81**	*e*PB	**Pb**	**05 56 58.0**	**-1.1**
	baz=270						
SGF				*e*SG	**Sb**	**05 57 27.9**	**+0.2**
BURU	**Burvik**	**2.62**	**174**	P	**Pn**	**05 57 01.8**	**+1.0**
BURU	**Burvik**	**2.62**	**174**	*e*P	**Pn**	**05 57 01.8**	**+1.0**
VRF	**Varrio**	**3.47**	**76**	*e*SG	**Sb**	**05 58 04.3**	**+2.0**
MSF	**Maaselka**	**3.56**	**107**	*e*SG	**Sb**	**05 58 07.0**	**+2.2**
KU6	**Riekki**	**3.84**	**103**	Sg	**Sg**	**05 58 18.4**	**-2.1**
KU6	**Riekki**	**3.84**	**103**	*e*SG	**Sg**	**05 58 18.4**	**-2.1**
VAF	**Ylistaro**	**4.23**	**168**	Sg	**Sg**	**05 58 30.5**	**-2.6**
VAF	**Ylistaro**	**4.23**	**168**	*e*SG	**Sg**	**05 58 30.6**	**-2.6**

*NIED **20** 05:57:00, 40°.80N×145°.10E, h5km, Mw4.4 Best double couple: M0 5.12000×10^15 NP1:ϕs177.00000°, δ33.00000°, λ-96.00000°. NP2:ϕs4.00000°, δ57.00000°, λ-86.00000°.*

*ISCJB **20** 05:57:49.7±0.9, 40°.84N±0°.02×144°.81E±0°.03, h9km±6km, mb4.6/110, MS3.8/26, Error ellipse: s-maj=3.9km s-min=3.4km az=164.8*

*IDC **20** 05:57:49.3±0.5, 40°.78N×144°.94E, h0km, mb4.5/28, mb1 4.6/34, mb1mx4.4/70, mbtmp4.4/34, ML3.5/6, MS3.6/23, Ms1 3.6/23, ms1mx3.4/59, Error ellipse: s-maj=14.1km s-min=13.5km az=81.0*

*JMA **20** 05:57:50.3±0.2, 40°.81N×145°.08E, h66km±3km, M4.5*

*NEIC **20** 05:57:50.9±0.2, 40°.74N×144°.85E, h10km, mb4.8/60, Error ellipse: s-maj=4.4km s-min=2.7km az=149.0*

*BJI **20** 05:57:52.1, 41°.03N×144°.90E, h29km, mb4.7/46, mB5.0/33, Ms4.4/16, Ms7 4.1/14*

*MOS **20** 05:57:53.4±1.1, 40°.86N×144°.80E, h37km, mb5.0/41, Error ellipse: s-maj=8.1km s-min=4.7km az=105.2*

ISC 20 05:57:51.1±0.7, 40°.79N±0°.04×144°.97E±0°.04, h14km±3km, n306, σ1s71/327, mb4.7/122, MS3.8/26, 23C-11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.84**	**313**	*e*P	**Pn**	**05 58 21.1**	**-1.1**
ERM				*e*		05 58 40.6	
ERM	**Erimo**	**1.84**	**313**	*e*Pn	**Pn**	**05 58 21.1**	**-1.1**
ERM				*e*Sn	**Sn**	**05 58 40.6**	**-4.6**
JEM	**Erimo**	**1.84**	**313**	P	**Pn**	**05 58 21.0**	**-1.2**
JEM				*e*S	**Sn**	**05 58 42.7**	**-2.5**
JCH	**Churui**	**2.19**	**327**	P	**Pn**	**05 58 25.6**	**-1.4**
JCH				*e*S	**Sn**	**05 58 49.9**	**-4.0**
JAK	**Akkeshi**	**2.22**	**355**	P	**Pn**	**05 58 25.2**	**-2.2**
JNBK	**Urakawa-nobuka**	**2.24**	**313**	P	**Pn**	**05 58 27.1**	**-0.6**
JNBK				*e*S	**Sn**	**05 58 53.1**	**-2.0**
JOB	**Onbets**	**2.28**	**338**	P	**Pn**	**05 58 27.2**	**-1.1**
JOB				*e*S	**Sn**	**05 58 53.8**	**-2.4**
NEM2	**Nemuro 2**	**2.64**	**12**	P	**Pn**	**05 58 30.8**	**-2.4**
NEM2				*e*S	**Sn**	**05 58 59.8**	**-5.2**
JAR	**Ashorobuto**	**2.66**	**341**	P	**Pn**	**05 58 31.4**	**-2.2**
JAR				*e*S	**Sn**	**05 59 01.6**	**-4.1**
JANG	**Nango**	**2.67**	**262**	P	**Pn**	**05 58 32.2**	**-1.4**
JANG				*e*S	**Sn**	**05 59 01.1**	**-4.6**
JBT2	**Biratori 2**	**2.79**	**316**	P	**Pn**	**05 58 35.3**	**0.0**
JBT2				*e*S	**Sn**	**05 59 07.4**	**-1.3**

JNK	**Nakash**	**2.80**	**356**	P		**Pn**		**05 58 32.8**	**-2.7**
JNK				*e*S		**Sn**		**05 59 03.1**	**-6.0**
JFR	**Furan**	**2.96**	**324**	P		**Pn**		**05 58 36.5**	**-1.2**
JOT	**Ohata**	**3.03**	**283**	P		**Pn**		**05 58 37.7**	**-0.8**
JOT				*e*S		**Sn**		**05 59 10.7**	**-3.9**
JOM	**Ohasama**	**3.11**	**246**	P		**Pn**		**05 58 39.1**	**-0.6**
JOM				*e*S		**Sn**		**05 59 13.6**	**-3.1**
JKB	**Kayabe**	**3.17**	**292**	P		**Pn**		**05 58 39.3**	**-1.1**
JTKR	**Abashiri--Toko**	**3.28**	**346**	P		**Pn**		**05 58 41.0**	**-1.0**
JTKR				*e*S		**Sn**		**05 59 17.6**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**3.31**	**11**	*e*P		**Pn**		**05 58 41.7**	**-0.8**
YUK				*e*S		**Sn**		**05 59 16.7**	**-4.9**
YUK				pmax	pmax					
	comp=Z,120nm,0.2s									
YUK				pmax	pmax					
	comp=N,335nm,0.4s									
YUK				pmax	pmax					
	comp=E,194nm,0.3s									
JEW	**Eniwo**	**3.34**	**309**	P		**Pn**		**05 58 43.0**	**+0.2**
JEW				*e*S		**Sn**		**05 59 20.7**	**-1.6**
SHO	**Shikotan**	**3.38**	**23**	*e*P		**Pn**		**05 58 40.9**	**-2.4**
SHO				*e*S		**Sn**		**05 59 16.8**	**-6.4**
SHO				pmax	pmax					
	comp=Z,53nm,0.2s									
SHO				pmax	pmax					
	comp=E,44nm,0.3s									
SHO				pmax	pmax					
	comp=N,68nm,0.5s									
JMK	**Ichinoseki**	**3.42**	**239**	P		**Pn**		**05 58 43.3**	**-0.7**
JMK				*e*S		**Sn**		**05 59 20.5**	**-3.8**
JKK2	**Kamakawa 2**	**3.50**	**333**	P		**Pn**		**05 58 44.3**	**-0.8**
ASAJ	**Asahikawa**	**3.76**	**333**	Pn		**Pn**		**05 58 48.4**	**-0.3**
	comp=N,7.7nm,0.3s,baz=192,slow=12,SNR=20									
ASAJ				Sn		**Sn**		**05 59 29.7**	**-3.1**
	comp=N,7.2nm,0.3s,baz=96,slow=28,SNR=6.0									
KUR	**Kuril'sk**	**4.92**	**25**	*e*P		**Pn**		**05 59 03.9**	**-0.7**
KUR				*e*S		**Sn**		**05 59 56.0**	**-5.4**
KUR				pmax	pmax					
	comp=Z,68nm,0.5s									
KUR				pmax	pmax					
	comp=E,33nm,0.3s									
KUR				pmax	pmax					
	comp=N,27nm,0.4s									
YSS	**Yuzh-Sakhalins**	**6.37**	**346**	*e*P		**Pn**		**05 59 27.2**	**+2.7**
YSS				*e*S		**Sn**		**06 00 38.2**	**+1.2**
YSS				pmax	pmax					
	comp=Z,20nm,1.2s									
YSS				MLR	MLR					
	comp=Z,400nm,12.0s									
YSS	**Yuzh-Sakhalins**	**6.37**	**346**	*e*Pn		**Pn**		**05 59 23.4**	**-1.1**
MJAR	**Matsushiro Arr**	**6.78**	**233**	Pn		**Pn**		**05 59 30.1**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=43,slow=11,SNR=22									
MJAR				LR		LR		06 02 17.7		
	comp=Z,369nm,21.0s,baz=50,slow=40									
MJB9	**Matsu-Tunnel**	**6.78**	**234**	*e*Pn		**Pn**		**05 59 27.0**	**-3.1**
MAJO	**Matsushiro**	**6.78**	**233**	*e*P		**Pn**		**05 59 27.1**	**-3.1**
MAJO	**Matsushiro**	**6.78**	**233**	*e*Pn		**Pn**		**05 59 27.1**	**-3.1**
MAT	**Matsushiro**	**6.78**	**233**	P		Pn		05 59 24.5	-5.7
TEY	**Ternei**	**7.47**	**307**	*i* P		**Pn**		**05 59 39.0**	**-0.5**
INU	**Inuyama**	**8.29**	**232**	*e*Pn		**Pn**		**05 59 47.0**	**-3.9**
JHJ	**Hachijo jima 2**	**8.71**	**210**	Sn		**Sn**		**06 01 26.6**	**-7.9**
	comp=Z,36nm,0.3s,baz=55,slow=23,SNR=8.2									
USRK	**Ussuriysk Ar.**	**10.18**	**294**	Pn		**Pn**		**06 00 17.1**	**+0.4**
	comp=Z,0.9nm,0.3s

ULN	**Ulaanbaatar**	**27.82**	**298**	⇓*iP*		**P**		**06 03 40.7**	**+0.8**
ULN					pmax	pmax				
	comp=Z,20nm,1.1s									
ULN	**Ulaanbaatar**	**27.82**	**298**	*e*P		**P**		**06 03 40.1**	**+0.1**
	comp=Z,22nm,1.1s									
H11N2	**WAKE ISLAND Hy**	**28.12**	**132**	T		T		06 34 20.7		
	SNR=26									
H11N1	**WAKE ISLAND Hy**	**28.13**	**132**	T		T		06 33 13.9		
	baz=323,slow=74,SNR=21									
H11N3	**WAKE ISLAND Hy**	**28.14**	**132**	T		T		06 33 20.8		
	baz=190,slow=74,SNR=28									
SONA1	**Songino Array**	**28.26**	**297**	*e*P		**P**		**06 03 43.9**	**0.0**	
SONA0	**Songino Array**	**28.26**	**297**	*e*P		**P**		**06 03 44.3**	**+0.5**	
SONM	**Songino Array**	**28.26**	**297**	P		**P**		**06 03 44.3**	**+0.5**	
	comp=Z,8.0nm,0.8s,baz=70,slow=8.7,SNR=22									
SONM					LR	LR		06 16 04.4		
	comp=Z,261nm,18.0s,baz=88,slow=39									
H11S1	**WAKE ISLAND Hy**	**29.00**	**134**	T		T		06 34 18.9		
	baz=325,slow=76,SNR=22									
H11S3	**WAKE ISLAND Hy**	**29.00**	**134**	T		T		06 34 24.0		
	baz=325,slow=76,SNR=20									
H11S2	**WAKE ISLAND Hy**	**29.01**	**134**	T		T		06 34 29.3		
	baz=325,slow=76,SNR=21									
XAN	**Xi'an**	**29.27**	**268**	P		**P**		**06 03 54.3**	**+1.5**	
XAN				pP		sP		06 04 03.4	+4.6	
XAN					pmax	pmax				
	comp=Z,8.0nm,0.7s									
BILL	**Bilibino**	**29.65**	**16**	*i* P		**P**		**06 03 54.5**	**-1.3**	
BILL					pmax	pmax				
	comp=Z,8.0nm,1.3s									
TLY	**Talaya**	**30.21**	**305**	LR		LR		06 17 18.0		
	comp=Z,169nm,19.9s,baz=74,slow=39									
TLY	**Talaya**	**30.21**	**305**	*e*P		**P**		**06 04 01.7**	**+0.8**	
TLY					pmax	pmax				
	comp=Z,4.0nm,0.6s									
TLY					MLR	MLR				
	comp=Z,112nm,13.0s									
TLY	**Talaya**	**30.21**	**305**	*e*P		**P**		**06 04 00.8**	**-0.1**	
	comp=Z,5.4nm,0.7s									
ZAK	**Zakamensk**	**30.36**	**303**	*e*P		**P**		**06 04 01.9**	**-0.5**	
ZAK					pmax	pmax				
	comp=Z,6.0nm,1.3s									
TIXI	**Tiksi**	**31.98**	**350**	P		**P**		**06 04 16.1**	**-0.2**	
	comp=Z,1.8nm,0.3s,baz=319,slow=9.8,SNR=6.0									
TIXI	**Tiksi**	**31.98**	**350**	⇑*iP*		**P**		**06 04 15.9**	**-0.3**	
TIXI					pmax	pmax				
	comp=Z,12nm,2.5s									
TIXI	**Tiksi**	**31.98**	**350**	*e*P		**P**		**06 04 15.8**	**-0.4**	
	comp=Z,3.3nm,0.5s									
TIXI				*e*P		**P**		**06 04 16.1**	**-0.2**	
LZH	**Lanzhou**	**32.34**	**275**	*e*P		**P**		**06 04 19.8**	**-0.3**	
LZH				pP		sP		06 04 28.5	+2.4	
LZH				sP		pP		06 04 32.3	+8.0	
LZH				*e*PP		**PnPn**		**06 05 27.0**	**+0.4**	
LZH					pmax	pmax				
	comp=Z,25nm,1.3s									
LZH					pmax	pmax				
	comp=Z,82nm,5.2s									
LZH					LR	LR				
	comp=Z,310nm,13.0s									
LZH					LR	LR				
	comp=Z,320nm,13.2s									
LZH					LR	LR				
	comp=Z,380nm,16.5s									
KNGR	**Kungurtug, Tuv**	**34.04**	**303**	⇑*iP*		**P**		**06 04 35.6**	**+0.9**	
GTA	**Gaotai**	**34.28**	**283**	*e*P		**P**		**06 04 37.5**	**+0.6**	
GTA				pP		sP		06 04 44.8	+1.9	
GTA				sP		pP		06 04 48.4	+7.2	
GTA				S		**S**		**06 10 02.4**	**-1.3**	
GTA				sS		sS		06 10 16.4	+5.7	
GTA				SS		**SnSn**		**06 12 09.8**	**-2.9**	
GTA					pmax	pmax				
	comp=Z,14nm,1.0s									
GTA					pmax	pmax				
	comp=Z,59nm,6.7s									
GTA					LR	LR				
	comp=Z,190nm,16.4s									
GTA					LR	LR				
	comp=Z,400nm,17.1s									
GTA					LR	LR				
	comp=Z,220nm,15.7s									
CD2	**Chengdu**	**34.56**	**267**	*e*P		**P**		**06 04 38.0**	**-1.3**	
CD2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
CD2					pmax	pmax				
	comp=Z,120nm,5.0s									
KMI	**Kunming**	**38.34**	**259**	P		**P**		**06 05 12.8**	**+1.0**	
KMI				pP		pP		06 05 16.9	+0.8	
KMI					pmax	pmax				
	comp=Z,13nm,1.0s									
KMI					pmax	pmax				
	comp=Z,81nm,3.7s									
KMI					LR	LR				
	comp=Z,220nm,17.8s									
KMI					LR	LR				
	comp=Z,98nm,14.2s									
KMI					LR	LR				
	comp=Z,170nm,21.8s									
SVW2	**Sparrevohn**	**40.86**	**40**	*e*P		**P**		**06 05 33.5**	**+1.4**	
	comp=Z,9.5nm,1.0s									
ZAA0	**Zalesovo Array**	**41.56**	**309**	*e*P		**P**		**06 05 38.4**	**+0.4**	
	comp=Z,37nm,1.1s									
ZAA1	**Zalesovo Array**	**41.56**	**309**	*e*P		**P**		**06 05 38.3**	**+0.3**	
ZALV	**Zalesovo Beam**	**41.56**	**309**	P		**P**		**06 05 38.3**	**+0.3**	
	comp=Z,7.1nm,0.8s,baz=87,slow=7.4,SNR=19									
ZALV					LR	LR		06 24 08.9		
	comp=Z,134nm,19.2s,baz=72,slow=38									
ZALV	**Zalesovo Beam**	**41.56**	**309**	*e*P		**P**		**06 05 37.7**	**-0.3**	
ZALV	**Zalesovo Beam**	**41.56**	**309**	*e*P		**P**		**06 05 37.7**	**-0.3**	
WMQ	**Urumqi**	**41.75**	**294**	P		**P**		**06 05 40.5**	**+0.7**	
WMQ				pP		sP		06 05 54.1	+8.3	
WMQ				PP		**PnPn**		**06 07 20.1**	**-1.0**	
WMQ					pmax	pmax				
	comp=Z,21nm,1.1s									
WMQ					pmax	pmax				
	comp=Z,130nm,3.7s									
WMQ					LR	LR				
	comp=Z,180nm,21.3s									
WMQ					LR	LR				
	comp=Z,380nm,21.3s									
WMQ					LR	LR				
	comp=Z,150nm,18.7s									
NVS	**Novosibirsk**	**42.37**	**311**	*e*P		**P**		**06 05 43.4**	**-1.2**	
PPLA	**Purkeypile**	**42.51**	**37**	*e*P		**P**		**06 05 47.9**	**+2.1**	
	comp=Z,49nm,1.7s									
CAST	**Castle Rocks**	**42.56**	**36**	*e*P		**P**		**06 05 48.2**	**+2.1**	
	comp=Z,6.7nm,0.9s									
KTH	**Kantishna Hill**	**43.09**	**36**	*e*P		**P**		**06 05 52.5**	**+2.1**	
	comp=Z,15nm,1.0s									
MLY	**Manley**	**43.20**	**34**	*e*P		**P**		**06 05 53.1**	**+1.8**	
	comp=Z,7.4nm,1.0s									
SUA	**Susitna One**	**43.20**	**39**	*e*P		**P**		**06 05 52.3**	**+0.9**	
	comp=Z,11nm,1.1s									
TRF	**Thorofare Moun**	**43.37**	**36**	*e*P		**P**		**06 05 54.6**	**+1.8**	
	comp=Z,14nm,1.4s									
COLD	**Coldfoot**	**43.52**	**31**	*e*P		**P**		**06 05 55.1**	**+1.3**	
	comp=Z,5.5nm,1.2s									
RC01	**Rabbit Creek A**	**43.70**	**40**	*e*P		**P**		**06 05 56.3**	**+1.0**	
	comp=Z,18nm,1.1s									
TOLK	**Toolik Lake Re**	**43.86**	**29**	*e*P		**P**		**06 05 58.3**	**+1.7**	
	comp=Z,11nm,1.0s									
PMR	**Palmer**	**43.96**	**39**	*e*P		**P**		**06 05 58.3**	**+0.9**	
PMR					pmax	pmax				
	comp=Z,7.0nm,1.0s									
PMR	**Palmer**	**43.96**	**39**	*e*P		**P**		**06 05 58.2**	**+0.9**	
	comp=Z,6.9nm,1.0s									
MCK	**McKinley**	**43.97**	**36**	*e*P		**P**		**06 05 58.8**	**+1.4**	
MCK					pmax	pmax				
	comp=Z,9.0nm,1.1s									
MCK	**McKinley**	**43.97**	**36**	*e*P		**P**		**06 05 58.8**	**+1.4**	
	comp=Z,9.3nm,1.1s									
RND	**Reindeer**	**44.02**	**36**	*e*P		**P**		**06 05 59.0**	**+1.1**	
RND					pmax	pmax				
	comp=Z,15nm,1.2s									
RND	**Reindeer**	**44.02**	**36**	*e*P		**P**		**06 05 59.0**	**+1.1**	
	comp=Z,15nm,1.2s									
MDM	**Murphy Dome**	**44.26**	**34**	*e*P		**P**		**06 06 01.0**	**+1.2**	
	comp=Z,15nm,1.2s									
WRH	**Wood River Hil**	**44.33**	**35**	*e*P		**P**		**06 06 01.6**	**+1.4**	
	comp=Z,17nm,1.6s									
SML	**Sawmill**	**44.33**	**39**	*e*P		**P**		**06 06 01.8**	**+1.4**	
SML					pmax	pmax				
	comp=Z,22nm,1.1s									
SML	**Sawmill**	**44.33**	**39**	*e*P		**P**		**06 06 01.8**	**+1.4**	
	comp=Z,22nm,1.1s									
COLA	**College**	**44.42**	**34**	*e*P		**P**		**06 06 02.8**	**+1.8**	
COLA					pmax	pmax				
	comp=Z,7.0nm,0.9s									
COLA	**College**	**44.42**	**34**	*e*P		**P**		**06 06 02.8**	**+1.8**	
	comp=Z,7.2nm,0.9s									
MK32	**Makanchi Array**	**44.58**	**300**	*e*P		**P**		**06 06 02.8**	**+0.2**	
MKAR	**Makanchi Array**	**44.58**	**300**	P		**P**		**06 06 02.8**	**+0.2**	
	comp=Z,5.3nm,0.7s,baz=92,slow=9.2,SNR=20									
MKAR					LR	LR		06 26 01.6		
	comp=Z,125nm,19.9s,baz=82,slow=38									
DHY	**Denali Highway**	**44.70**	**37**	*e*P		**P**		**06 06 04.6**	**+1.2**	
	comp=Z,12nm,0.3s									
SCM	**Sheep Creek Mo**	**44.80**	**39**	*e*P		**P**		**06 06 05.4**	**+1.2**	
SCM					pmax	pmax				
	comp=Z,15nm,0.8s									
SCM	**Sheep Creek Mo**	**44.80**	**39**	*e*P		**P**		**06 06 05.4**	**+1.2**	
	comp=Z,15nm,0.8s									
IL1	**Eielson Array**	**44.84**	**34**	*e*P		**P**		**06 06 04.9**	**+0.5**	
ILAR	**Eielson Array**	**44.84**	**34**	P		**P**		**06 06 05.3**	**+0.9**	
	comp=Z,3.4nm,0.9s,baz=266,slow=6.5,SNR=30									
ILB	**Eielson Array**	**44.84**	**34**	*e*P		**P**		**06 06 04.8**	**+0.5**	
CHTO	**Chiang Mai**	**44.93**	**255**	*e*P		**P**		**06 06 05.3**	**-0.4**	
CHTO					pmax	pmax				
	comp=Z,4.0nm,0.8s									
CHTO	**Chiang Mai**	**44.93**	**255**	*e*P		**P**		**06 06 05.3**	**-0.4**	
	comp=Z,4.3nm,0.8s									
CMAR	**Chiang Mai Arr**	**45.16**	**254**	LR		LR		06 25 09.5		
	comp=Z,48nm,18.3s,baz=73,slow=36									
KLU	**Klutina**	**45.50**	**39**	*e*P		**P**		**06 06 11.2**	**+1.4**	
	comp=Z,16nm,1.1s									
KURK	**Kurchatov**	**45.90**	**306**	*ce*P		**P**		**06 06 12.8**	**-0.1**	
KURK					pmax	pmax				
	comp=Z,21nm,1.0s									
KURK	**Kurchatov**	**45.90**	**306**	*e*P		**P**		**06 06 13.0**	**+0.1**	
	comp=Z,20nm,0.8s									
KURK				*e*P		**pP**		**06 06 13.7**	**-3.6**	
KURBB	**Kurchatov Arra**	**45.98**	**306**	P		**P**		**06 06 13.7**	**+0.1**	
	comp=Z,21nm,0.7s,baz=78,slow=9.1,SNR=43									
SCRK	**Sand Creek**	**46.15**	**35**	*e*P		**P**		**06 06 15.9**	**+1.0**	
	comp=Z,9.9nm,1.2s									
BMRM	**Bremner River**	**46.20**	**40**	*e*P		**P**		**06 06 16.8**	**+1.6**	
	comp=Z,10.0nm,0.9s									
MENT	**Mentasta**	**46.37**	**37**	*e*P		**P**		**06 06 18.3**	**+1.8**	
	comp=Z,11nm,1.1s									
EGAK	**Eagle**	**47.28**	**34**	*e*P		**P**		**06 06 24.7**	**+1.1**	
	comp=Z,9.9nm,1.3s									
INK	**Inuvik**	**49.78**	**29**	*e*P		**P**		**06 06 44.3**	**+1.6**	
INK					pmax	pmax				
	comp=Z,6.0nm,0.6s									
INK	**Inuvik**	**49.78**	**29**	*e*P		**P**		**06 06 44.3**	**+1.6**	
	comp=Z,6.1nm,0.6s									
BVAR	**Borovoye Array**	**50.17**	**311**	P		**P**		**06 06 46.5**	**+0.6**	
	comp=Z,6.6nm,0.5s,baz=79,slow=9.5,SNR=44									
BVAR					LR	LR		06 29 44.4		
	comp=Z,138nm,18.2s,baz=68,slow=38									
BRVK	**Borovoye**	**50.22**	**311**	*ce*P		**P**		**06 06 46.7**	**+0.4**	
BRVK					pmax	pmax				
	comp=Z,10.0nm,0.8s									
BRVK	**Borovoye**	**50.22**	**311**	*e*P		**P**		**06 06 46.4**	**+0.1**	
	comp=Z,9.5nm,0.8s									
AAK	**Ala-Archa**	**51.22**	**297**	LR		LR		06 30 33.7		
	comp=Z,87nm,19.7s,baz=99,slow=38									
AAK	**Ala-Archa**	**51.22**	**297**	⇑*iP*		**P**		**06 06 54.4**	**+0.2**	
AAK					pmax	pmax				
	comp=Z,2.0nm,1.1s									
KKAR	**Karatay Array**	**53.70**	**299**	*e*P		**P**		**06 07 12.3**	**-0.1**	
KKAR	**Karatay Array**	**53.70**	**299**	*e*P		**P**		**06 07 12.3**	**-0.1**	
ARU	**Arti**	**55.43**	**318**	P		**P**		**06 07 25.1**	**+0.3**	
	comp=Z,6.8nm,0.7s,baz=50,slow=3.9,SNR=12									
ARU					LR	LR		06 34 15.8		
	comp=Z,91nm,18.4s,baz=84,slow=40									
ARU	**Arti**	**55.43**	**318**	*e*P		**P**		**06 07 25.0**	**+0.3**	
	comp=Z,12nm,0.9s									
ABKAR	**Akbulak array**	**57.68**	**309**	*e*P		**P**		**06 07 41.3**	**+0.4**	
	comp=Z,95nm,0.6s									
AKTO	**Aktyubinsk**	**58.26**	**311**	P		**P**		**06 07 45.1**	**+0.2**	
	comp=Z,5.2nm,0.7s,baz=72,slow=13,SNR=16									
RES	**Resolute Bay**	**58.26**	**16**	*e*P		**P**		**06 07 45.1**	**+0.6**	
RES					pmax	pmax				
	comp=Z,15nm,0.9s									
RES	**Resolute Bay**	**58.26**	**16**	*e*P		**P**		**06 07 45.1**	**+0.6**	
	comp=Z,15nm,0.9s									
KBL	**Kabul**	**58.69**	**290**	*e*P		**P**		**06 07 47.7**	**-0.8**	
KBL					pmax	pmax				
	comp=Z,11nm,1.1s									
KBL	**Kabul**	**58.69**	**290**	*e*P		**P**		**06 07 47.7**	**-0.8**	
	comp=Z,11nm,1.1s									
YKA	**Yellowknife Ar**	**59.17**	**32**	P		**P**		**06 07 51.6**	**+0.6**	
	comp=Z,1.3nm,0.6s,baz=300,slow=6.5,SNR=37									
TMCR	**Tamitsa**	**60.79**	**331**	*e*P		**P**		**06 08 02.2**	**+0.1**	
TMCR					pmax	pmax				
	comp=Z,7.0nm,0.6s									
TULEG	**Thule**	**61.00**	**9**	*e*P		**P**		**06 08 03.5**	**+0.1**	
	comp=Z,6.5nm,0.7s									
WRAB	**Tennant Creek**	**61.21**	**191**	*c iP*		**P**		**06 08 05.9**	**+0.4**	
WRAB					pmax	pmax				
	comp=Z,21nm,1.0s									
WRAB	**Tennant Creek**	**61.21**	**191**	*e*P		**P**		**06 08 05.8**	**+0.4**	
	comp=Z,21nm,0.9s									
WR1	**Warramunga Arr**	**61.22**	**191**	*e*P		**P**		**06 08 05.5**	**0.0**	
	comp=Z,26nm,1.0s									
WRA	**Warramunga Arr**	**61.22**	**191**	P		**P**		**06 08 05.5**	**0.0**	
	comp=Z,15nm,0.8s,baz=11,slow=7.1,SNR=62									
ARA0	**ARCESS Array S**	**61.46**	**340**	*e*P		**P**		**06 08 07.3**	**+0.6**	
ARCES	**ARCESS Array B**	**61.46**	**340**	P		**P**		**06 08 07.3**	**+0.6**	
	comp=Z,3.1nm,0.9s,baz=26,slow=9.0,SNR=3.5									
KLMR	**Klimovskoe**	**62.07**	**328**	*e*P		**P**		**06 08 09.8**	**-1.0**	
KLMR					pmax	pmax				
	comp=Z,13nm,1.3s									
KLMR	**Klimovskoe**	**62.07**	**328**	*e*P		**P**		**06 08 09.8**	**-1.0**	
KLMR					AMP			06 08 11.9		
	comp=Z,13nm,1.3s									
DAG	**Danmarks Havn**	**62.26**	**356**	*i* P		**P**		**06 08 11.9**	**0.0**	
	comp=Z,4.2nm,0.8s									
DAG	**Danmarks Havn**	**62.26**	**356**	*i* P		**P**		**06 08 11.9**	**0.0**	
DAG					pmax	pmax				
	comp=Z,4.0nm,0.8s									
GEYT	**Alibeck**	**64.45**	**299**	P		**P**		**06 08 27.7**	**+0.6**	
	comp=Z,4.8nm,0.9s,baz=60,slow=3.6,SNR=7.3									
AS01	**Alice Springs**	**64.93**	**191**	*e*P		**P**		**06 08 30.6**	**+0.5**	
ASAR	**Alice Springs**	**64.94**	**191**	P		**P**		**06 08 31.1**	**+0.9**	
	comp=Z,2.6nm,0.7s,baz=11,slow=5.6,SNR=15									
PALK	**Pallekele**	**65.87**	**258**	LR		LR		06 40 00.1		
	comp=Z,34nm,19.1s,baz=116,slow=38									
PALK	**Pallekele**	**65.87**	**258**	*e*P		**P**		**06 08 36.0**	**-0.5**	
PALK					pmax	pmax				
	comp=Z,10.0nm,1.3s									
PALK	**Pallekele**	**65.87**	**258**	*e*P		**P**		**06 08 36.0**	**-0.5**	
	comp=Z,10nm,1.3s									
OBN	**Obninsk**	**66.74**	**324**	LR		LR		06 39 57.0		
	comp=Z,42nm,21.4s,baz=244,slow=38									
FIA0	**FINESS Array S**	**66.77**	**333**	*e*P		**P**		**06 08 41.9**	**+0.3**	
FIA0	**FINESS Array S**	**66.77**	**333**	*e*P		**P**		**06 08 41.9**	**+0.3**	
FINES	**FINESS Array B**	**66.77**	**333**	P		**P**		**06 08 41.9**	**+0.3**	
	comp=Z,7.1nm,0.5s,baz=50,slow=6.8,SNR=40									
FINES					LR	LR		06 40 43.9		
	comp=Z,52nm,20.0s,baz=171,slow=39									
SUMG	**Summit**	**66.91**	**1**	*i* P		**P**		**06 08 43.8**	**+1.0**	
SUMG	**Summit**	**66.91**	**1**	*i* P		**P**		**06 08 43.8**	**+1.0**	
LPSR	**Galich'ya Gora**	**67.19**	**321**	*e*P		**P**		**06 08 43.7**	**-0.7**	
LPSR					pmax	pmax				
	comp=Z,20nm,0.8s									
VSR	**Storozhevoye**	**67.92**	**319**	*e*P		**P**		**06 08 47.6**	**-1.5**	
VSR					pmax	pmax				
	comp=Z,10.0nm,0.5s									
BEKR	**Beckworth**	**68.41**	**56**	*e*P		**P**		**06 08 53.8**	**+1.2**	
	comp=Z,6.0nm,1.4s									
CHMT	**Chamberlain Mo**	**68.44**	**46**	*e*P		P		06 08 57.6	+4.9	
FFC	**Flin Flon**	**69.05**	**35**	*e*P		**P**		**06 08 57.7**	**+1.7**	
HRY	**Holter Researc**	**69.34**	**46**	*e*P		**P**		**06 08 59.5**	**+1.3**	
FCC	**Fort Churchill**	**69.40**	**29**	*e*P		**P**		**06 08 58.3**	**+0.2**	
FCC					pmax	pmax				
	comp=Z,18nm,1.8s									
FCC	**Fort Churchill**	**69.40**	**29**	*e*P		**P**		**06 08 58.3**	**+0.2**	
	comp=Z,18nm,1.8s									
LRM	**Limekiln Ridge**	**69.54**	**47**	*e*P		**P**		**06 08 59.3**	**-0.3**	
	comp=Z,2.4nm,1.0s									
BOZ	**Bozeman (W)**	**70.13**	**47**	*e*P		**P**		**06 09 04.3**	**+1.2**	
BOZ					pmax	pmax				
	comp=Z,9.0nm,1.0s									
BOZ	**Bozeman (W)**	**70.13**	**47**	*e*P		**P**		**06 09 04.2**	**+1.2**	
	comp=Z,9.3nm,1.0s									
KIV	**Kislovodsk**	**70.53**	**312**	*e*P		**P**		**06 09 07.2**	**+1.7**	
KIV					pmax	pmax				
	comp=Z,38nm,1.1s									
KIV	**Kislovodsk**	**70.53**	**312**	*e*P		**P**		**06 09 06.5**	**+1.0**	
	comp=Z,30nm,0.9s									
ZEI	**Tsey**	**70.54**	**310**	*e*P		**P**		**06 09 05.3**	**-0.4**	
ZEI					pmax	pmax				
	comp=Z,5.0nm,0.5s									
KBZ	**Khabaz**	**70.55**	**311**	P		**P**		**06 09 06.4**	**+1.0**	
	comp=Z,13nm,0.8s,baz=64,slow=3.7,SNR=42									
NV01	**Mina Array Sit**	**70.55**	**56**	*e*P		**P**		**06 09 07.0**	**+1.2**	
NVAR	**Mina Array Bea**	**70.55**	**56**	P		**P**		**06 09 07.0**	**+1.2**	
	comp=Z,0.7nm,0.6s,baz=281,slow=7.2,SNR=7.4									
NEY	**Neytrino**	**70.94**	**311**	⇑*iP*		**P**		**06 09 09.4**	**+1.3**	
NEY					pmax	pmax				
	comp=Z,1.0nm,1.0s									
AKH	**Akhalkalaki**	**71.63**	**309**	⇑*iP*		**P**		**06 09 13.4**	**+1.1**	
GNI	**Garni**	**71.67**	**307**	⇑*iP*		**P**		**06 09 12.7**	**+0.2**	
GNI					pmax	pmax				
	comp=Z,18nm,1.0s									
NB2	**NORSAR Subarra**	**71.77**	**338**	P		**P**		**06 09 12.7**	**0.0**	
	comp=Z,4.4nm,0.6s,baz=35,slow=6.2									
NB200	**NORSAR Array S**	**71.77**	**338**	*e*P		**P**		**06 09 12.6**	**0.0**	
NOA	**NORSAR Array B**	**71.77**	**338**	P		**P**		**06 09 12.6**	**0.0**	
	comp=Z,4.6nm,0.7s,baz=37,slow=6.1,SNR=13									
NOA					LR	LR		06 45 01.2		
	comp=Z,31nm,18.7s,baz=25,slow=40									
HFS	**Hagfors**	**71.78**	**337**	P		**P**		**06 09 12.7**	**+0.1**	
	comp=Z,5.6nm,0.6s,baz=52,slow=7.5,SNR=18									
NBO02	**NORSAR Array S**	**71.86**	**338**	*e*P		**P**		**06 09 13.3**	**+0.2**	
STKA	**Stephens Creek**	**72.37**	**183**	P		**P**		**06 09 16.6**	**+0.3**	
	comp=Z,1.8nm,0.7s,baz=300,slow=8.8,SNR=2.8									
AKASG	**Malin Array Be**	**73.00**	**323**	P		**P**		**06 09 20.2**	**+0.1**	
	comp=Z,9.8nm,0.7s,baz=42,slow=6.2,SNR=32									
AKBB	**Malin Array Si**	**73.00**	**323**	*e*P		**P**		**06 09 19.9**	**-0.1**	
AKBB					pmax	pmax				
	comp=Z,11nm,0.8s									
AKBB	**Malin Array Si**	**73.00**	**323**	*e*P		**P**		**06 09 19.9**	**-0.1**	
	comp=Z,11nm,0.8s									
KIEV	**Kiev**	**73.01**	**323**	⇑*iP*		**P**		**06 09 20.5**	**+0.4**	
KIEV					pmax	pmax				
	comp=Z,11nm,0.9s									
KIEV	**Kiev**	**73.01**	**323**	*e*P		**P**		**06 09 19.4**	**-0.8**	
	comp=Z,10nm,0.8s									
AK11	**Malin Array Si**	**73.04**	**323**	*e*P		**P**		**06 09 20.2**	**-0.1**	
PD31	**Pinedale Array**	**73.08**	**48**	*e*P		**P**		**06 09 21.9**	**+0.9**	
PDAR	**Pinedale Array**	**73.08**	**48**	P		**P**		**06 09 21.8**	**+0.8**	
	comp=Z,1.0nm,0.6s,baz=245,slow=1.9,SNR=17									
PDAR	**Pinedale Array**	**73.08**	**48**	*e*P		**P**		**06 09 21.4**	**+0.4**	
SIM	**Simferopol'**	**74.56**	**316**	⇑*e*P		**P**		**06 09 30.3**	**+0.9**	
SIM					pmax	pmax				
	comp=Z,12nm,1.0s									
LCMT	**Little Creek M**	**74.58**	**54**	*e*P		**P**		**06 09 31.2**	**+1.5**	
	comp=Z,5.0nm,1.3s									
SRU	**San Rafael Swe**	**74.88**	**51**	*e*P		**P**		**06 09 32.6**	**+1.1**	
SRU					pmax	pmax				
	comp=Z,5.0nm,0.8s									
SRU	**San Rafael Swe**	**74.88**	**51**	*e*P		**P**		**06 09 32.6**	**+1.1**	
	comp=Z,4.8nm,0.8s									
SORM	**Soroca**	**75.21**	**322**	⇓*iP*		**P**		**06 09 33.3**	**+0.3**	
PV10	**Paradox Valley**	**76.23**	**51**	*e*P		**P**		**06 09 41.3**	**+1.8**	
KWP	**Kalwaria Pacla**	**76.66**	**326**	*e*P		**P**		**06 09 42.8**	**+1.5**	
KWP					pmax	pmax				
	comp=Z,309nm,0.4s									
KWP	**Kalwaria Pacla**	**76.66**	**326**	*e*P		**P**		**06 09 42.8**	**+1.5**	
	comp=Z,309nm,0.4s									
BUR08	**Bucovina Ar. S**	**77.03**	**323**	*e*P		**P**		**06 09 44.5**	**+1.0**	
BUR04	**Bucovina Ar. S**	**77.04**	**323**	*e*P		**P**		**06 09 44.4**	**+0.7**	
BURAR	**Bucovina Array**	**77.05**	**323**	⇓*iP*		**P**		**06 09 44.5**	**+0.9**	
OJC	**Oj

MMAI					LR	LR	06 50 13.7		
	comp=Z,44nm,19.8s,baz=95,slow=38								
DIVS	**Divibare**	**82.09**	**323**	*e*P		**P**	**06 10 11.3**	**+0.2**
	comp=Z,4.7nm,0.9s								
SOKA	**Soboth**	**82.17**	**328**	*i* pP		**P**	**06 10 12.5**	**+1.1**
	comp=Z,23nm,1.9s								
OBKA	**Obir**	**82.50**	**328**	*i* pP		**P**	**06 10 13.9**	**+0.7**
	comp=Z,5.9nm,0.9s								
KBA	**Koelnbreinsper**	**82.51**	**329**	*e*pP		**P**	**06 10 14.7**	**+1.3**
	comp=Z,8.8nm,1.0s								
BCLA	**Clavier**	**82.54**	**335**	⇑P		**P**	**06 10 13.5**	**+0.3**
MYKA	**Terra Mystica**	**82.77**	**329**	*e*P		**P**	**06 10 14.8**	**+0.2**
	comp=Z,5.6nm,0.9s								
WATA	**Walderalm**	**82.98**	**330**	*i* pP		**P**	**06 10 16.8**	**+1.0**
	comp=Z,4.9nm,0.7s								
WTTA	**Wattenberg**	**83.02**	**330**	*i* pP		**P**	**06 10 17.2**	**+1.2**
	comp=Z,5.5nm,0.7s								
MOTA	**Moosalm**	**83.15**	**330**	*e*pP		**P**	**06 10 17.5**	**+0.8**
	comp=Z,8.9nm,0.9s								
RETA	**Reutte**	**83.16**	**331**	*i* pP		**P**	**06 10 17.7**	**+1.0**
	comp=Z,7.4nm,0.8s								
FETA	**Feichten**	**83.56**	**330**	*e*pP		**P**	**06 10 19.8**	**+1.0**
	comp=Z,4.2nm,0.8s								
DAVA	**Damuels**	**83.66**	**331**	*i* pP		**P**	**06 10 20.2**	**+0.9**
	comp=Z,6.7nm,0.7s								
PDG	**Podgorica**	**83.73**	**323**	⇓*i*P		**P**	**06 10 20.0**	**+0.5**
TTG	**Podgorica**	**83.73**	**323**	*e*P		**P**	**06 10 20.2**	**+0.7**
TTG					pmax	pmax			
	comp=Z,17nm,0.9s								
TTG	**Podgorica**	**83.73**	**323**	*e*P		**P**	**06 10 20.2**	**+0.7**
	comp=Z,17nm,0.9s								
PPT	**Papeete**	**83.93**	**119**	LR		LR	06 41 01.6		
	comp=Z,82nm,21.9s,baz=294,slow=31								
FUORN	**Ofenpass-Fuorn**	**84.07**	**330**	*e*P		**P**	**06 10 21.7**	**+0.1**
	comp=Z,17nm,1.0s								
TX31	**Lajitas Ar. Si**	**85.66**	**55**	*e*P		**P**	**06 10 30.6**	**+0.9**
TX31				*e*P		**P**	**06 10 31.0**	**+1.3**
LTX	**Lajitas**	**85.66**	**55**	*e*P		**P**	**06 10 30.6**	**+1.0**
LTX	**Lajitas**	**85.66**	**55**	*e*P		**P**	**06 10 30.6**	**+1.0**
TXAR	**Lajitas Array**	**85.66**	**55**	P		**P**	**06 10 30.6**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=305,slow=4.4,SNR=9.3								
TKL	**Tuckaleechee C**	**91.72**	**38**	LR		LR	06 55 46.7		
	comp=Z,18nm,19.6s,baz=335,slow=38								
TOA1	**Torodi Ar. Sit**	**116.47**	**319**	*e*PKPdf		**PKPdf**	**06 16 34.2**	**-0.7**
TOA1				*e*PP		PP	06 17 32.7	-7.9	
TORD	**Torodi Ar. Bea**	**116.47**	**319**	PKP		**PKPdf**	**06 16 34.2**	**-0.7**
	comp=Z,0.6nm,1.1s,baz=359,slow=2.0,SNR=4.4								
TORD				PP		PP	06 17 32.7	-8.0	
	comp=Z,0.7nm,0.8s,baz=30,slow=8.9,SNR=4.8								
SNAA	**Sanae**	**145.15**	**197**	PKPbc		**PKPbc**	**06 17 25.6**	**-0.9**	
	comp=Z,6.0nm,0.8s,baz=194,slow=7.7,SNR=8.2								
SNAA	**Sanae**	**145.15**	**197**	*e*PKPbc		**PKPab**	**06 17 26.6**	**0.0**	

*IDC **20** 06:00:09.3±5.7,58.°13S×26.°65W,h112km±51km,mb3.7/5, mb1 3.8/6,mb1mx3.4/33,mbtmp4.0/6,Error ellipse: s-maj=33.2km s-min=17.8km az=48.0*
*ISCJB **20** 06:00:11.9±0.9,58.°2S±0.°1×26.°9W±0.°4,h150km,mb3.8/5, Error ellipse: s-maj=31.9km s-min=7.6km az=150.3*
ISC 20 06:00:13.2±0.8,58.°3S±0.°1×26.°8W±0.°2,h150km,n16, σ1⁰46/17,mb3.8/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
VNA1	**Neumayer--Stat**	**14.65**	**155**	P		**P**	06 03 40.2	+5.1
VNA1				S		**Sn**	**06 06 14.0**	**-1.3**
VNA3	**Neumayer Olymp**	**14.82**	**158**	P		P	06 03 41.9	+4.8
VNA3				S		**Sn**	**06 06 16.9**	**-2.3**
VNA2	**Neumayer--Watz**	**15.05**	**155**	P		**P**	**06 03 43.1**	**+3.5**
	baz=313,slow=15							
SNAA	**Sanae**	**16.62**	**153**	P		Pn	06 04 06.4	+9.2
SNAA				S		**Sn**	**06 07 02.5**	**0.0**
SNAA	**Sanae**	**16.62**	**153**	P		**Pn**	**06 03 57.3**	**+0.1**
	0.2nm,0.3s,baz=301,slow=10,SNR=4.9							
SNAA				S		**S**	**06 06 59.2**	**-2.4**
	0.2nm,0.3s,baz=295,slow=19,SNR=5.3							
QSPA	**South Pole Qui**	**31.97**	**180**	P		**P**	**06 06 26.4**	**+1.7**
	1.3nm,0.5s,baz=205,slow=0.9,SNR=13							
PLCA	**Paso Flores**	**32.68**	**283**	P		**P**	**06 06 30.8**	**-0.2**
	1.4nm,0.8s,baz=168,slow=7.6,SNR=4.8							
CPUP	**Villa Florida**	**38.48**	**313**	P		**P**	**06 07 19.4**	**-1.1**
	0.6nm,0.5s,baz=157,slow=13,SNR=2.7							
LPAZ	**La Paz**	**51.87**	**306**	P		**P**	**06 09 06.6**	**-0.2**
	1.1nm,0.5s,baz=178,slow=5.4,SNR=7.1							
TORD	**Torodi Ar. Bea**	**74.89**	**29**	P		**P**	**06 11 37.1**	**-0.1**
	1.5nm,0.3s,baz=196,slow=6.2,SNR=11							
FINES	**FINESS Array B**	**126.24**	**28**	PKP		**PKPdf**	**06 18 56.0**	**-0.2**
	1.5nm,0.5s,baz=151,slow=3.2,SNR=10							
ARCES	**ARCESS Array B**	**132.92**	**22**	PKP		**PKPdf**	**06 19 08.8**	**+0.1**
	1.2nm,0.6s,baz=214,slow=1.6,SNR=9.7							
YKA	**Yellowknife Ar**	**137.96**	**316**	PKP		**PKPdf**	**06 19 17.8**	**-0.5**
	0.4nm,0.6s,baz=128,slow=2.3,SNR=15							
INK	**Inuvik**	**147.65**	**318**	PKPbc		**PKPbc**	**06 19 38.1**	**-0.1**
	0.6nm,0.5s,baz=30,slow=2.1,SNR=7.7							
SONM	**Songino Array**	**150.56**	**90**	PKPbc		**PKPbc**	**06 19 46.3**	**+0.1**
	2.0nm,0.6s,baz=225,slow=3.3,SNR=17							
ILAR	**Eielson Array**	**151.73**	**308**	PKPbc		**PKPbc**	**06 19 48.3**	**0.0**
	0.5nm,0.4s,baz=144,slow=6.1,SNR=14							

*ISCJB **20** 06:07:06.6±0.4,39.°54N±0.°03×30.°45E±0.°04,h10km, Error ellipse: s-maj=4.6km s-min=3.8km az=170.5*
*DDA **20** 06:07:06.3,39.°56N×30.°40E,h7km,Ml2.5*
*CSEM **20** 06:07:06.3±0.2,39.°54N×30.°45E,h2km,ML2.4, Error ellipse: s-maj=3.6km s-min=3.1km az=57.0*
*ISK **20** 06:07:06.1,39.°52N×30.°45E,h6km,ML2.4/8*
ISC 20 06:07:05.9±0.8,39.°54N±0.°02×30.°43E±0.°03,h10km,n34, σ0⁰51/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ESKT	**Eskisehir**	**0.33**	**93**	PG		**Pg**	**06 07 12.2**	**-0.3**
ESKT				SG		**Sg**	**06 07 17.3**	**+0.3**
ESKT	**Eskisehir**	**0.33**	**93**	*i* P		**Pg**	**06 07 11.7**	**-0.9**
ESKT				*i* S		**Sg**	**06 07 16.7**	**-0.3**
ESKT	**Eskisehir**	**0.33**	**93**	*e*Pg		**Pg**	**06 07 12.2**	**-0.3**
ESKT				*e*Sg		**Sg**	**06 07 17.3**	**+0.3**
SEYT	**Eskypehyr**	**0.33**	**93**	P		**Pg**	**06 07 11.7**	**-0.8**
SEYT				S		**Sg**	**06 07 16.7**	**-0.3**
BORA	**Eskisehir**	**0.34**	**4**	*i* P		**Pg**	**06 07 12.1**	**-0.7**
BORA				*i* S		**Sg**	**06 07 16.5**	**-0.8**
BORA	**Eskisehir**	**0.34**	**4**	P		**Pg**	**06 07 12.1**	**-0.7**
BORA				S		**Sg**	**06 07 16.5**	**-0.8**
TVSB	**Tavsanli**	**0.75**	**264**	PG		**Pb**	**06 07 20.9**	**-0.2**
TVSB	**Tavsanli**	**0.75**	**264**	*e*Pg		**Pb**	**06 07 20.9**	**-0.2**
CAVI	**Cavuskoy**	**0.80**	**326**	PG		**Pb**	**06 07 22.3**	**+0.3**
CAVI	**Cavuskoy**	**0.80**	**326**	*e*Pg		**Pb**	**06 07 22.3**	**+0.3**
SVRH	**Sivrihisar-ESK**	**0.85**	**96**	PG		**Pg**	**06 07 22.6**	**+0.2**
SVRH	**Sivrihisar-ESK**	**0.85**	**96**	*e*Pg		**Pg**	**06 07 22.6**	**+0.2**
GDZ	**Gediz**	**0.86**	**239**	*i* P		**Pg**	**06 07 22.5**	**0.0**
GDZ				*i* S		**Sb**	**06 07 35.2**	**+0.6**
GDZ	**Gediz**	**0.86**	**239**	P		**Pg**	**06 07 22.5**	**0.0**
GDZ				S		**Sb**	**06 07 35.2**	**+0.6**
GULT	**Gulveren**	**0.90**	**4**	PG		**Pn**	**06 07 24.4**	**-0.3**
GULT	**Gulveren**	**0.90**	**4**	*e*Pg		**Pn**	**06 07 24.4**	**-0.3**
BOLV	**Bolvadin**	**0.92**	**153**	*i* P		**Pn**	**06 07 24.9**	**-0.1**
BOLV				*i* S		**Sn**	**06 07 38.0**	**-0.3**
BOLV	**Bolvadin**	**0.92**	**153**	P		**Pn**	**06 07 24.9**	**-0.1**
BOLV				S		**Sn**	**06 07 38.0**	**-0.3**
GEYV	**SAKARYA_Geyve**	**0.95**	**354**	*i* P		**Pg**	**06 07 24.1**	**-0.1**
GEYV				*i* S		**Sn**	**06 07 38.0**	**-0.9**
GEYV	**SAKARYA_Geyve**	**0.95**	**354**	P		**Pg**	**06 07 24.1**	**-0.1**
GEYV				S		**Sn**	**06 07 38.0**	**-0.9**
SHUT	**Suhut-Afyon**	**0.99**	**174**	PG		**Pb**	**06 07 25.3**	**+0.1**
SHUT	**Suhut-Afyon**	**0.99**	**174**	*e*Pg		**Pb**	**06 07 25.3**	**+0.1**
MDUB	**Mudurnu**	**1.10**	**32**	PN		**Pn**	**06 07 27.9**	**+0.3**
MDUB	**Mudurnu**	**1.10**	**32**	*e*Pn		**Pn**	**06 07 27.9**	**+0.3**
SAHE	**Sakarya_HENDEK**	**1.35**	**14**	*i* P		**Pg**	**06 07 32.5**	**+0.6**
SAHE				*i* S		**Sg**	**06 07 50.5**	**+1.0**
SAHE	**Sakarya_HENDEK**	**1.35**	**14**	P		**Pg**	**06 07 32.5**	**+0.6**
SAHE				S		**Sg**	**06 07 50.5**	**+1.0**
HRT	**Hereke**	**1.41**	**336**	PN		**Pg**	**06 07 33.2**	**+0.3**
HRT	**Hereke**	**1.41**	**336**	*e*Pn		**Pg**	**06 07 33.2**	**+0.3**
ARMT	**Armutlu**	**1.58**	**311**	PN		**Pg**	**06 07 35.7**	**-0.5**
ARMT	**Armutlu**	**1.58**	**311**	*e*Pn		**Pg**	**06 07 35.7**	**-0.5**
BUY	**Buyukada**	**1.65**	**323**	PN		**Pb**	**06 07 36.6**	**+0.2**
BUY	**Buyukada**	**1.65**	**323**	*e*Pn		**Pb**	**06 07 36.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.75**	**295**	PN		**Pb**	**06 07 38.5**	**+0.4**
KCTX	**Karacabey (Bur**	**1.75**	**295**	*e*Pn		**Pb**	**06 07 38.5**	**+0.4**

*NNC **20** 06:18:16.8±1.0,44.°78N×80.°68E,h0km,mb2.8,mpv2.4, Error ellipse: s-maj=90.6km s-min=4.9km az=118.0*
*SOME **20** 06:18:16.8,44.°82N×80.°67E,h15km*
*ISCJB **20** 06:18:17.9±0.7,44.°68N±0.°05×80.°97E±0.°09,h10km, Error ellipse: s-maj=10.4km s-min=4.5km az=34.1*
ISC 20 06:18:14.5±1.1,44.°80N±0.°04×80.°81E±0.°06,h10km,n14, σ1⁰14/27,2C-4D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KAPS	**Kapalarasan**	**1.14**	**296**	*e*P		**Pn**	**06 18 36.5**	**0.0**
	7.6nm,0.1s							
KAPS				*e*S		**Sb**	**06 18 50.3**	**-0.9**
	14nm,0.2s							
KTMS	**Ketmen**	**1.40**	**194**	*e*P		**Pg**	**06 18 40.8**	**-0.4**
	5.6nm,0.2s							
KTMS				*e*S		**Sb**	**06 18 58.2**	**-0.4**
	45nm,0.2s							
PDGK	**Podgornoye**	**1.75**	**213**	⇓P		**Pg**	**06 18 47.7**	**-0.4**
	5.8nm,0.5s							
PDGK				⇑S		**Sg**	**06 19 10.0**	**-0.8**
	10.0nm,0.3s							
MNBS	**Baschi**	**1.87**	**248**	*e*P		**Pb**	**06 18 48.9**	**+0.1**
	25nm,0.2s							
MNBS				*e*S		**Sb**	**06 19 12.5**	**+0.2**
	27nm,0.2s							
KPKS	**Kokpek**	**2.03**	**230**	*e*P		**Pg**	**06 18 52.7**	**-0.7**
	12nm,0.1s							
KPKS				*e*S		**Sg**	**06 19 18.3**	**-1.5**
	47nm,0.3s							
UZB	**Uzynbulak**	**2.10**	**219**	*e*P		**Pb**	**06 18 53.4**	**+0.7**
	3.3nm,0.1s							
UZB				*e*S		**Sb**	**06 19 20.1**	**+1.2**
	16nm,0.2s							
MAKZ	**Makanchi**	**2.17**	**22**	⇑Pn		**Pg**	**06 18 55.5**	**-0.4**
	0.9nm,0.6s							
MAKZ				⇓Sn		**Sg**	**06 19 24.0**	**0.0**
	4.9nm,0.3s							
ARXS	**Arharly**	**2.22**	**256**	*e*P		**Pb**	**06 18 55.4**	**+0.8**
	12nm,0.3s							
ARXS				*e*S		**Sb**	**06 19 23.3**	**+1.2**
	15nm,0.4s							
MK31	**Makanchi Array**	**2.24**	**27**	⇓Pn		**Pg**	**06 18 56.5**	**-0.9**
	0.5nm,0.3s,baz=208,slow=12,SNR=53							
MK31				⇓Lg		Lg	06 19 26.6		
	3.0nm,0.3s,baz=210,slow=29,SNR=24							
KURS	**Kuram**	**2.31**	**236**	*e*P		**Pg**	**06 18 57.7**	**-1.1**
	2.1nm,0.5s							
KURS				*e*S		**Sb**	**06 19 26.6**	**+1.7**
	5.2nm,0.5s							
SATY	**Saty**	**2.46**	**226**	*e*P		**Pg**	**06 19 00.3**	**-1.3**
	13nm,0.1s							
SATY				*e*S		**Sg**	**06 19 31.8**	**-1.8**
	85nm,0.2s							
CHKK	**Chushkaly**	**2.90**	**252**	*e*P		**Pb**	**06 19 07.0**	**+0.7**
	3.1nm,0.1s							
CHKK				*e*S		**Sb**	**06 19 42.7**	**+0.8**
	16nm,0.3s							
MDOK	**Medeo**	**3.17**	**240**	*e*P		**Pb**	**06 19 12.0**	**+1.0**
	3.7nm,0.6s							
MDOK				*e*S		**Sb**	**06 19 51.8**	**+2.0**
	5.8nm,0.7s							
MTBS	**Maitube**	**3.58**	**244**	*e*P		**Pb**	**06 19 18.8**	**+0.9**
	3.3nm,0.3s							
MTBS				*e*S		**Sb**	**06 20 03.8**	**+2.4**
	9.5nm,0.3s							

DJA 20 06:21:40.9±0.4,9.°S±5.°×11.°8E±.°,h101km±5km,M3.6/9, MLv3.6/9,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PLAI	**Plampang**	**0.56**	**258**	P		Pn	06 21 58.9	+1.7
PLAI				S		Sn	06 22 11.9	+2.4
WBSI	**Waikabubak, Su**	**1.40**	**132**	P		Pn	06 22 06.0	0.0
WBSI				S		Sn	06 22 25.5	+0.4
BASI	**Baing, Sumba**	**2.68**	**124**	P		Pn	06 22 23.0	+0.6
SRBI	**Singaraja**	**3.15**	**281**	P		Pn	06 22 28.9	+0.3
IGBI	**Denpasar**	**3.15**	**268**	P		Pn	06 22 28.8	+0.1
IGBI				S		Sn	06 23 05.9	+0.3
EDFI	**Ende, Flores**	**3.32**	**91**	P		Pn	06 22 30.8	-0.3
JAGI	**Jajag, Banyuwa**	**4.14**	**273**	P		Pn	06 22 42.1	+0.1

*IDC **20** 06:24:44.1±0.8,39.°76N×75.°81E,h0km,mb3.8/12, mb1 3.9/18,mb1mx3.7/74,mbtmp3.8/18,ML3.1/5,MS3.7/3, Ms1 3.7/3,ms1mx2.8/62,Error ellipse: s-maj=16.8km s-min=13.0km az=68.0*
*NNC **20** 06:24:44.9±2.4,39.°57N×75.°98E,h0km,mb4.4,mpv4.0, Error ellipse: s-maj=20.2km s-min=10.1km az=152.0*
*NEIC **20** 06:24:45.5±0.8,39.°70N×75.°81E,h10km,mb4.0/1,Error ellipse: s-maj=12.0km s-min=7.2km az=184.0*
*MOS **20** 06:24:47.0±1.8,39.°82N×75.°85E,h29km,mb4.2/2,Error ellipse: s-maj=12.1km s-min=6.1km az=101.4*
*SOME **20** 06:24:48.0,40.°13N×75.°75E,h0km*
*KRNET **20** 06:24:48.3±0.1,40.°09N×75.°79E,mb4.2*
*BJI **20** 06:24:48.3,40.°16N×75.°74E,h9km,ML3.5/5*
ISC 20 06:24:45.8±1.3,39.°91N±0.°04×75.°84E±0.°03,h5km±8km, n139,σ2⁰02/180,mb3.8/12,MS3.5/3,48C-18D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KSH	**Kashi**	**0.40**	**165**	Pg	Pn	06 25 06.3		+7.9
KSH				Sg	Sb	06 25 20.3		+18
KSH				smax	smax			
	comp=N,4μm,0.9s							
KSH				smax	smax			
	comp=E,4μm,0.5s							
NRN	**Naryn**	**1.53**	**5**	⇑*i*P		**Pn**	**06 25 13.8**	**-0.3**
	baz=6.0							
NRN				⇑*i*S		**Sn**	**06 25 32.7**	**-1.8**
	baz=6.0							
SFK	**Sufi-Kurgan**	**1.80**	**274**	⇑Pn		**Pg**	**06 25 21.3**	**+1.1**
	124nm,0.4s							
SFK				⇓Sn		**Sg**	**06 25 46.8**	**+3.2**
	537nm,0.5s							
SFK	**Sufi-Kurgan**	**1.80**	**274**	PN		**Pg**	**06 25 21.3**	**+1.1**
SFK							06 25 46.7	
SFK				pmax	pmax			
	comp=Z,124nm,0.4s							
SFK				smax	smax			
	comp=N,537nm,0.5s							
SFK	**Sufi-Kurgan**	**1.80**	**274**	⇑*i*P		**Pg**	**06 25 21.3**	**+1.1**
	baz=69							
SFK				⇑*i*S		**Sg**	**06 25 45.1**	**+1.5**
	baz=69							
KZA	**Kyzart**	**2.21**	**349**	P		**Pb**	**06 25 26.3**	**-0.3**
	SNR=254							
KZA	**Kyzart**	**2.21**	**349**	⇑*i*P		**Pb**	**06 25 26.2**	**-0.3**
	baz=49							
KZA				⇑*i*S		**Sn**	**06 25 52.3**	**+0.8**
	baz=49							
TARG	**Taragay, Kyrgy**	**2.35**	**39**	*e*Pn		**Pb**	**06 25 29.0**	**+0.1**
TARG	**Taragay, Kyrgy**	**2.35**	**39**	⇑*i*P		**Pb**	**06 25 29.7**	**+0.8**
	baz=42							
TARG				⇑*i*S		**Sg**	**06 26 00.2**	**-1.2**
	baz=42							
ULHL	**Ulahol**	**2.35**	**7**	P		**Pb**	**06 25 29.0**	**+0.2**
	SNR=91							
ULHL	**Ulahol**	**2.35**	**7**	⇑*i*P		**Pb**	**06 25 28.9**	**+0.1**
	baz=9.0							
ULHL				⇑*i*S		**Sb**	**06 25 57.3**	**-1.0**
	baz=9.0							
KDJ	**Kajisay**	**2.44**	**24**	*e*Pn		**Pb**	**06 25 30.5**	**+0.3**
KDJ	**Kajisay**	**2.44**	**24**	⇓*i*P		**Pb**	**06 25 29.9**	**-0.4**
	baz=27							
KDJ				⇓*i*S		**Sb**	**06 26 00.6**	**-0.1**
	baz=27							
UCH	**Uchtor**	**2.52**	**337**	P		**Pb**	**06 25 30.8**	**-1.1**
	SNR=249							
UCH	**Uchtor**	**2.52**	**337**	⇑*i*P		**Pb**	**06 25 30.7**	**-1.1**
	baz=36							
UCH				⇑*i*S		**Sn**	**06 26 00.2**	**+0.9**
	baz=36							
BOOM	**Boomskoye usch**	**2.58**	**2**	⇑*i*P		**Pn**	**06 25 30.7**	**+2.3**
	baz=3.0							
BOOM				⇑*i*S		**Sn**	**06 26 01.6**	**+1.4**
	baz=3.0							
ARSB	**Arslanbob**	**2.59**	**304**	⇑*i*P		**Pb**	**06 25 31.9**	**-1.0**
	baz=1.0							
ARSB				⇑*i*S		**Sb**	**06 26 05.0**	**-0.1**
	baz=1.0							
AML	**Almayashu**	**2.75**	**325**	P		**Pn**	**06 25 34.0**	**+3.0**
	SNR=94							
AML	**Almayashu**	**2.75**	**325**	⇑*i*P		**Pn**	**06 25 33.6**	**+2.7**
	baz=23							
AML				⇑*i*S		**Sn**	**06 26 06.6**	**+1.9**
	baz=23							
KBK	**Karagaybulak**	**2.83**	**347**	P		**Pb**	**06 25 35.3**	**-1.6**
	SNR=125							
KBK	**Karagaybulak**	**2.83**	**347**	⇓*i*P		**Pn**	**06 25 34.8**	**+3.0**
	baz=46							
KBK				⇓*i*S		**Sn**	**06 26 07.5**	**+1.2**
	baz=46							
AAK	**Ala-Archa**	**2.91**	**340**	Pn		**Pb**	**06 25 36.6**	**-1.7**
	comp=N,39nm,0.3s,baz=140,slow=7.3,SNR=271							
AAK				Sn		**Sn**	**06 26 12.4**	**+4.1**
	comp=N,37nm,0.3s,baz=333,slow=20,SNR=18							
AAK	**Ala-Archa**	**2.91**	**340**	⇓Pn		**Pn**	**06 25 36.0**	**+3.1**
	comp=N,118nm,0.8s							
AAK				⇑Sn		**Sb**	**06 26 16.0**	**+1.8**
	comp=N,440nm,0.8s							
AAK	**Ala-Archa**	**2.91**	**340**	*c*PN		**Pb**	**06 25 36.5**	**-1.7**
AAK				*i* S		**Sb**	**06 26 16.5**	**+2.3**
AAK	**Ala-Archa**	**2.91**	**340**	P		**Pb**	**06 25 36.6**	**-1.7**
	SNR=53							
AAK	**Ala-Archa**	**2.91**	**340**	⇑*i*P		**Pb**	**06 25 36.5**	**-1.7**
	baz=39							
AAK				⇑*i*S		**Sn**	**06 26 09.5**	**+1.2**
	baz=39							
TKM2	**Tokmak 2**	**3.02**	**357**	⇑Pn		**Pb**	**06 25 38.3**	**-1.8**
	comp=N,80nm,0.6s							
TKM2				⇑Sn		**Sb**	**06 26 18.6**	**+1.3**
	comp=N,214nm,0.6s							
TKM2	**Tokmak 2**	**3.02**	**357**	*i* PN		**Pb**	**06 25 38.3**	**-1.8**
TKM2				pmax	pmax			
	comp=Z,80nm,0.6s							
TKM2	**Tokmak 2**	**3.02**	**357**	P		**Pb**	**06 25 38.2**	**-1.8**
	SNR=63							
TKM2	**Tokmak 2**	**3.02**	**357**	⇑*i*P		**Pb**	**06 25 38.1**	**-2.0**
	baz=57							
TKM2				⇑*e*S		**Sn**	**06 26 12.4**	**+1.4**
	baz=57							
TOKL	**Toktogul**	**3.03**	**313**	⇓*i*P		**Pn**	**06 25 37.9**	**+3.4**
	baz=11							
TOKL				⇓*i*S		**Sn**	**06 26 13.4**	**+2.2**
	baz=11							
FRU1	**Bishkek**	**3.04**	**343**	⇑*i*P		**Pn**	**06 25 37.3**	**+2.7**
	baz=43							
FRU1				⇑*i*S		**Sn**	**06 26 12.4**	**+1.0**
	baz=43							
FRU	**Bishkek**	**3.06**	**343**	⇑*i*PN		**Pb**	**06 25 38.8**	**-2.0**
FRU				*e*S		**Sb**	**06 26 18.0**	**-0.5**
FRU				*i*			06 26 22.0	
FRU				pmax	pmax			
	comp=Z,230nm,1.8s							
FRU				smax	smax			
	comp=N,910nm,1.8s							
KST	**Kastek**	**3.13**	**2**	*e*P		**Pb**	**06 25 43.2**	**+1.2**
	comp=N,11nm,0.6s							
KST				*e*S		**Sb**	**06 26 22.5**	**+1.9**
	comp=N,171nm,0.5s							
EKS2	**Erkin-Say**	**3.16**	**331**	P		**Pn**	**06 25 40.0**	**+3.7**
	SNR=25							
EKS2	**Erkin-Say**	**3.16**	**331**	⇓*i*P		**Pn**	**06 25 39.8**	**+3.5**
	baz=30							
EKS2				⇓*i*S		**Sn**	**06 26 16.0**	**+1.6**
	baz=30							
IZV	**Izvestkoviy**	**3.18**	**10**	*e*P		**Pb**	**06 25 43.9**	**+1.0**
	comp=N,98nm,0.6s							
IZV				*e*S		**Sb**	**06 26 23.3**	**+1.4**
	comp=N,223nm,0.7s							
CHMS	**Chumysh**	**3.19**	**346**	P		**Pn**	**06 25 40.1**	**+3.4**
	SNR=17							
CHMS	**Chumysh**	**3.19**	**346**	⇑*i*P		**Pn**	**06 25 40.0**	**+3.4**
	baz=45							
CHMS				⇑*i*S		**Sn**	**06 26 16.3**	**+1.1**
	baz=45							
TNSS	**Tian-Shan**	**3.23**	**15**	*e*P		**Pb**	**06 25 45.2**	**+1.2**
	comp=N,88nm,0.6s							
TNSS				*e*S		**Sb**	**06 26 25.5**	**+1.7**
	comp=N,218nm,0.8s							
MTBS	**Maitube**	**3.25**	**8**	*e*P		**Pb**	**06 25 45.2**	**+1.3**
	comp=N,45nm,0.5s							
MTBS				*e*S		**Sb**	**06 26 25.7**	**+1.8**
	comp=N,84nm,0.5s							
DGS	**Degeres**	**3.33**	**359**	*e*P		**Pb**	**06 25 45.7**	**+0.3**
	comp=N,71nm,0.5s							
DGS				*e*S		**Sb**	**06 26 26.9**	**+0.6**
	comp=N,199nm,0.4s							
MDOK	**Medeo**	**3.38**	**15**	⇓Pn		**Pn**	**06 25 42.1**	**+2.8**
	comp=N,41nm,0.5s							
MDOK				⇓Sn		**Sb**	**06 26 30.4**	**+2.7**
	comp=N,

	comp=N,33nm,0.5s										
ARXS					*e*S		**Sb**	**06 27 05.7**	**+4.4**		
	comp=N,55nm,0.5s										
MNBS	**Baschi**	**4.58**	**24**	*e*P			**Pb**	**06 26 07.8**	**+1.0**		
	comp=N,30nm,0.6s										
MNBS					*e*S		**Sb**	**06 27 04.7**	**+2.4**		
	comp=N,71nm,0.6s										
KTMS	**Ketmen**	**4.89**	**42**	*e*P			**Pg**	**06 26 17.8**	**-1.6**		
	comp=N,4.8nm,0.4s										
KTMS					*e*S		**Sg**	**06 27 21.9**	**-0.8**		
	comp=N,29nm,0.6s										
IUG	**luzhnay**	**4.93**	**299**	*e*P			**Pg**	**06 26 17.8**	**-2.4**		
	comp=N,22nm,0.4s										
IUG					*e*S		**Sg**	**06 27 21.6**	**-2.5**		
	comp=N,74nm,0.6s										
KK06	**Karatay Array**	**5.10**	**310**	*e*Pn			**Pn**	**06 26 05.8**	**+2.9**		
KK07	**Karatay Array**	**5.12**	**310**	*e*Pn			**Pn**	**06 26 05.7**	**+2.6**		
KK02	**Karatay Array**	**5.12**	**310**	*e*Pn			**Pn**	**06 26 05.8**	**+2.7**		
KK31	**Karatay Array**	**5.12**	**310**	Pn			**Pn**	**06 26 04.6**	**+1.5**		
	comp=N,1.5nm,0.4s,baz=134,slow=12,SNR=26										
KK31				⇑Pg			**Pb**	**06 26 20.5**	**+4.7**		
	comp=N,2.3nm,0.3s,baz=132,slow=16,SNR=8.4										
KK31				⇓Sn			**Sb**	**06 27 13.6**	**-4.0**		
	comp=N,34nm,0.6s,baz=134,slow=29,SNR=11										
KK31	**Karatay Array**	**5.12**	**310**	PN			**Pn**	**06 26 04.6**	**+1.5**		
KK31				*e*				06 26 19.7			
KK31								06 27 24.4			
KK31					pmax		pmax				
	comp=Z,2.0nm,0.4s										
KK31					pmax		pmax				
	comp=Z,2.0nm,0.3s										
KK31					pmax		pmax				
	comp=N,34nm,0.6s										
KK31	**Karatay Array**	**5.12**	**310**	*e*Pn			**Pn**	**06 26 05.6**	**+2.5**		
KKAR	**Karatay Array**	**5.12**	**310**	*e*PN			**Pn**	**06 26 05.7**	**+2.6**		
KKAR	**Karatay Array**	**5.12**	**310**	*e*Pn			**Pn**	**06 26 05.7**	**+2.6**		
KK05	**Karatay Array**	**5.12**	**311**	*e*Pn			**Pn**	**06 26 05.7**	**+2.6**		
KK01	**Karatay Array**	**5.12**	**310**	*e*Pn			**Pn**	**06 26 05.5**	**+2.4**		
KK03	**Karatay Array**	**5.12**	**310**	*e*Pn			**Pn**	**06 26 05.9**	**+2.7**		
KK04	**Karatay Array**	**5.12**	**310**	*e*Pn			**Pn**	**06 26 05.7**	**+2.5**		
KK08	**Karatay Array**	**5.13**	**310**	*e*Pn			**Pn**	**06 26 05.9**	**+2.6**		
KK09	**Karatay Array**	**5.14**	**310**	*e*Pn			**Pn**	**06 26 05.8**	**+2.4**		
BRLS	**Borolday**	**5.48**	**307**	*e*P			Pb	06 26 27.0	+5.0		
	comp=N,0.8nm,0.2s										
BRLS					*e*S		**Sg**	**06 27 37.3**	**-4.5**		
	comp=N,7.2nm,0.7s										
MAKZ	**Makanchi**	**8.22**	**31**	⇑Pg			**Pg**	**06 27 21.0**	**-2.1**		
	comp=N,5.7nm,1.1s										
MAKZ				⇑Lg			Lg	06 29 14.3			
	comp=N,5.1nm,0.9s										
MK01	**Makanchi Array**	**8.32**	**32**	*e*Pn			**Pn**	**06 26 49.4**	**+2.4**		
MK31	**Makanchi Array**	**8.33**	**32**	⇓Pn			**Pn**	**06 26 50.1**	**+2.8**		
	comp=N,0.4nm,0.4s,baz=205,slow=11,SNR=16										
MK31				⇑Lg			Lg	06 29 15.7			
	comp=N,0.2nm,0.3s,baz=198,slow=14,SNR=3.2										
MK31	**Makanchi Array**	**8.33**	**32**	*e*P			**Pn**	**06 26 50.0**	**+2.8**		
MK31	**Makanchi Array**	**8.33**	**32**	*e*Pn			**Pn**	**06 26 50.0**	**+2.8**		
MK32	**Makanchi Array**	**8.33**	**32**	*e*Pn			**Pn**	**06 26 50.0**	**+2.8**		
MKAR	**Makanchi Array**	**8.33**	**32**	Pn			**Pn**	**06 26 50.0**	**+2.8**		
	comp=N,0.3nm,0.3s,baz=213,slow=14,SNR=23										
MKAR					Lg		Lg	06 29 10.9			
	comp=N,0.2nm,0.3s,baz=209,slow=29,SNR=3.5										
OTUK	**Ortayu**	**8.71**	**344**	⇑Lg			Lg	06 29 29.8			
	comp=N,52nm,0.9s										
WMQ	**Urumqi**	**9.67**	**62**	*e*P			**Pn**	**06 27 07.4**	**+1.8**		
KURBB	**Kurchatov Arra**	**10.88**	**9**	Pn			**Pn**	**06 27 22.8**	**+0.7**		
	comp=N,0.2nm,0.3s,baz=23,slow=2.7,SNR=8.6										
KURBB					Lg		Lg	06 30 25.2			
	comp=N,0.1nm,0.3s,baz=199,slow=28,SNR=9.3										
KURK	**Kurchatov**	**10.98**	**9**	⇓Lg			Lg	06 30 42.2			
	comp=N,19nm,1.0s										
KURK	**Kurchatov**	**10.98**	**9**	*e*P			**Pn**	**06 27 22.8**	**-0.7**		
KURK	**Kurchatov**	**10.98**	**9**	*e*Pn			**Pn**	**06 27 22.8**	**-0.7**		
PYUN	**Piuthan**	**13.18**	**151**	*e*P			**Pn**	**06 27 53.9**	**+0.1**		
	comp=N,11nm,0.3s										
BVA0	**Borovoye Array**	**13.64**	**346**	*e*P			**Pn**	**06 27 58.7**	**-1.1**		
BVA0					pmax		pmax				
	comp=Z,5.0nm,0.7s										
BVAR	**Borovoye Array**	**13.64**	**346**	Pn			**Pn**	**06 27 58.8**	**-0.9**		
	comp=Z,0.1nm,0.3s,baz=157,slow=12,SNR=10										
BVAR					Lg		Lg	06 31 53.8			
	comp=Z,0.2nm,0.3s,baz=156,slow=27,SNR=8.1										
KOLN	**Koldanda**	**13.71**	**150**	*e*P			**Pn**	**06 28 00.5**	**-0.5**		
	comp=Z,12nm,0.5s										
DMN	**Daman**	**14.47**	**145**	*e*P			**Pn**	**06 28 09.7**	**-1.9**		
GUN	**Gumba**	**14.57**	**142**	*e*P			**Pn**	**06 28 11.7**	**-1.2**		
	comp=Z,8.9nm,0.4s										
PKIN	**Phulchoki**	**14.63**	**144**	*e*P			**Pn**	**06 28 12.9**	**-0.8**		
	comp=Z,11nm,0.5s										
AB07	**Akbulak array**	**14.64**	**315**	*e*Pn			**Pn**	**06 28 12.6**	**-0.8**		
PKI	**Pulchoki**	**14.64**	**144**	*e*P			**Pn**	**06 28 12.3**	**-1.6**		
	comp=Z,7.4nm,0.4s										
AB06	**Akbulak array**	**14.65**	**315**	*e*Pn			**Pn**	**06 28 13.0**	**-0.6**		
AB03	**Akbulak array**	**14.66**	**315**	*e*Pn			**Pn**	**06 28 12.9**	**-0.8**		
AB08	**Akbulak array**	**14.66**	**315**	*e*Pn			**Pn**	**06 28 13.2**	**-0.5**		
AB01	**Akbulak array**	**14.66**	**315**	*e*Pn			**Pn**	**06 28 12.7**	**-1.0**		
AB31	**Akbulak array**	**14.66**	**315**	*i* P			**Pn**	**06 28 12.6**	**-1.1**		
AB31					pmax		pmax				
	comp=Z,1.0nm,0.6s										
ABKAR	**Akbulak array**	**14.66**	**315**	*e*Pn			**Pn**	**06 28 13.1**	**-0.6**		
AB02	**Akbulak array**	**14.66**	**315**	*e*Pn			**Pn**	**06 28 13.1**	**-0.6**		
AB04	**Akbulak array**	**14.66**	**315**	*e*Pn			**Pn**	**06 28 13.3**	**-0.5**		
AB09	**Akbulak array**	**14.68**	**315**	*e*Pn			**Pn**	**06 28 13.4**	**-0.6**		
JIRN	**Jiri**	**14.93**	**142**	*e*P			**Pn**	**06 28 16.7**	**-1.1**		
	comp=Z,26nm,0.5s										
ZALV	**Zalesovo Beam**	**15.31**	**20**	Pn			**Pn**	**06 28 24.0**	**+1.6**		
	comp=Z,0.1nm,0.3s,baz=227,slow=17,SNR=2.7										
ZAA1	**Zalesovo Array**	**15.31**	**20**	*e*Pn			**Pn**	**06 28 24.0**	**+1.6**		
AKTO	**Aktyubinsk**	**16.35**	**316**	Pn			**Pn**	**06 28 34.2**	**-1.7**		
	comp=Z,0.1nm,0.3s,baz=104,slow=17,SNR=2.5										
ARU	**Arti**	**20.05**	**331**	P			Pn	06 29 21.5	+0.1		
	comp=Z,3.7nm,0.2s,baz=117,slow=4.2,SNR=3.6										
ARU	**Arti**	**20.05**	**331**	*d* iP			Pn	06 29 22.7	+1.4		
ARU								06 29 39.5			
ARU					SS		Sn	06 33 33.3	+26		
ARU					pmax		pmax				
	comp=Z,7.0nm,1.7s										
ARU	**Arti**	**20.05**	**331**	*e*P			Pn	06 29 21.5	+0.1		
	comp=Z,12nm,1.4s										
SONA0	**Songino Array**	**23.29**	**60**	*e*P			**P**	**06 29 53.7**	**-0.8**		
SONM	**Songino Array**	**23.29**	**60**	P			**P**	**06 29 53.7**	**-0.8**		
	comp=Z,0.3nm,0.8s,baz=238,slow=8.2,SNR=2.4										
BR101	**Keskin Array S**	**32.20**	**284**	*e*P			**P**	**06 31 13.7**	**-1.2**		
BRTR	**Keskin Array B**	**32.20**	**284**	P			**P**	**06 31 13.7**	**-1.2**		
	comp=Z,0.4nm,0.5s,baz=128,slow=9.6,SNR=3.5										
FIA0	**FINESS Array S**	**36.95**	**322**	*e*P			**P**	**06 31 54.8**	**-0.7**		
FIA0	**FINESS Array S**	**36.95**	**322**	*e*P			**P**	**06 31 54.8**	**-0.7**		
FINES	**FINESS Array B**	**36.95**	**322**	P			**P**	**06 31 54.8**	**-0.7**		
	comp=Z,1.4nm,0.5s,baz=116,slow=8.9,SNR=8.6										
FINES	**FINESS Array B**	**36.95**	**322**	*e*P			**P**	**06 31 54.1**	**-1.4**		
FINES					pmax		pmax				
	comp=Z,1.0nm,0.5s										
ARA0	**ARCESS Array S**	**39.57**	**335**	*e*P			**P**	**06 32 16.6**	**-0.8**		
ARCES	**ARCESS Array B**	**39.57**	**335**	P			**P**	**06 32 16.6**	**-0.8**		
	comp=Z,2.4nm,1.0s,baz=112,slow=9.3,SNR=5.4										
TIXI	**Tiksi**	**41.18**	**23**	P			**P**	**06 32 30.6**	**-0.2**		
	comp=Z,2.1nm,0.5s,baz=229,slow=4.1,SNR=4.5										
NB200	**NORSAR Array S**	**44.06**	**321**	*e*P			**P**	**06 32 54.0**	**-0.3**		
NOA	**NORSAR Array B**	**44.06**	**321**	P			**P**	**06 32 54.0**	**-0.3**		
	comp=Z,1.1nm,0.7s,baz=90,slow=8.0,SNR=2.9										
KEST	**Kesra**	**51.60**	**288**	LR			LR	06 59 02.2			
	comp=Z,47nm,20.6s,baz=260,slow=40										
TOA1	**Torodi Ar. Sit**	**69.56**	**270**	*e*P			**P**	**06 35 55.2**	**-0.8**		
TORD	**Torodi Ar. Bea**	**69.56**	**270**	P			**P**	**06 35 55.2**	**-0.8**		
	comp=Z,0.5nm,0.5s,baz=45,slow=5.5,SNR=7.8										
INK	**Inuvik**	**69.88**	**11**	P			**P**	**06 35 56.5**	**-0.6**		
	comp=Z,1.0nm,0.9s,baz=338,slow=7.3,SNR=3.9										
ILAR	**Eielson Array**	**70.42**	**18**	LR			LR	07 14 19.0			
	comp=Z,30nm,19.3s,baz=85,slow=42										
YKA	**Yellowknife Ar**	**77.60**	**5**	P			**P**	**06 36 41.7**	**-0.8**		
	comp=Z,0.3nm,0.6s,baz=347,slow=5.7,SNR=14										
WR1	**Warramunga Arr**	**80.71**	**126**	*e*P			**P**	**06 36 59.1**	**-1.0**		
	comp=Z,42nm,1.7s										
WRA	**Warramunga Arr**	**80.71**	**126**	P			**P**	**06 36 59.1**	**-1.0**		
	comp=Z,0.5nm,0.9s,baz=321,slow=5.4,SNR=2.7										
WRA					LR		LR	07 16 49.3			
	comp=Z,139nm,20.7s,baz=295,slow=39										
ASAR	**Alice Springs**	**83.22**	**128**	P			**P**	**06 37 12.3**	**-1.0**		
	comp=Z,0.4nm,0.7s,baz=344,slow=6.2,SNR=3.1										

IDC 20 06:25:47.1±2.1, 7.55S×130.75E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/55, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=77.6km s-min=25.8km az=77.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.61**	**205**	Pn	Pn	06 28 33.9	-0.2
	baz=81,slow=18						
FITZ				Sn	Sn	06 30 35.6	-9.0
	0.3nm,0.3s,baz=322,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**12.80**	**165**	Pn	Pn	06 28 50.7	+0.2
	0.3nm,0.3s,baz=349,slow=13,SNR=15						
WRA				Sn	Sn	06 31 12.2	-1.7
	0.3nm,0.3s,baz=341,slow=19,SNR=5.9						
ASAR	**Alice Springs**	**16.31**	**170**	Pn	Pn	06 29 39.0	+1.3
	0.2nm,0.3s,baz=342,slow=8.5,SNR=6.1						
MKAR	**Makanchi Array**	**69.09**	**327**	P	P	06 36 55.0	0.0
	0.5nm,0.6s,baz=119,slow=8.4,SNR=3.8						

*IDC **20** 06:53:28.7±0.9, 7.01N×127.16E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/60, mbtmp3.8/9, Error ellipse: s-maj=26.6km s-min=18.5km az=57.0*
*ISCJB **20** 06:53:34.8±0.7, 6.85N±0.08×127.09E±0.07, h60km, mb3.8/9, Error ellipse: s-maj=11.6km s-min=8.6km az=26.4*

ISC 20 06:53:36.8±1.0, 6.86N±0.09×127.01E±0.09, h60km, n12, σ1s07/15, mb3.9/9, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.43**	**279**	Pn	**Pn**	**06 53 58.6**	**-1.9**
	155nm,0.3s,baz=238,slow=4.5,SNR=7.0						
DAV				Sn	**Sn**	**06 54 20.1**	**+1.7**
	183nm,0.3s,baz=244,slow=24,SNR=12						
DAV				LR	LR	06 54 47.7	
	comp=Z,532nm,18.3s,baz=158,slow=50						
BIPH	**Bislig**	**1.46**	**334**	⇓*e*P	**Pn**	**06 54 01.4**	**+0.4**
BIPH				*e*S	**Sn**	**06 54 19.0**	**-0.2**
KCP	**Kidapawan**	**1.91**	**275**	⇓*e*P	**Pn**	**06 54 07.8**	**+0.7**
KCP				*i* S	**Sn**	**06 54 30.1**	**0.0**
WRA	**Warramunga Arr**	**27.59**	**165**	P	**P**	**06 59 18.6**	**0.0**
	0.2nm,0.4s,baz=340,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**31.08**	**168**	P	**P**	**06 59 49.9**	**+0.4**
	0.2nm,0.3s,baz=347,slow=7.2,SNR=6.2						
MKAR	**Makanchi Array**	**55.18**	**324**	P	**P**	**07 03 03.8**	**+0.4**
	0.7nm,0.4s,baz=109,slow=7.3,SNR=19						
ZALV	**Zalesovo Beam**	**57.96**	**332**	P	**P**	**07 03 20.7**	**-2.3**
	0.8nm,0.3s,baz=140,slow=11,SNR=3.2						
KURBB	**Kurchatov Arra**	**59.29**	**326**	P	**P**	**07 03 32.3**	**+0.1**
	0.4nm,0.4s,baz=126,slow=6.0,SNR=4.1						
BVAR	**Borovoye Array**	**64.88**	**326**	P	**P**	**07 04 08.8**	**-0.9**
	0.8nm,0.6s,baz=132,slow=10,SNR=5.4						
AKTO	**Aktyubinsk**	**71.41**	**321**	P	**P**	**07 04 50.5**	**-0.1**
	1.4nm,0.6s,baz=97,slow=8.1,SNR=1.9						
ILAR	**Eielson Array**	**82.18**	**26**	P	**P**	**07 05 51.4**	**+0.4**
	0.3nm,0.6s,baz=244,slow=5.0,SNR=1.7						
ARCES	**ARCESS Array B**	**87.63**	**340**	P	**P**	**07 06 18.4**	**+0.1**
	1.5nm,0.9s,baz=88,slow=8.2,SNR=2.6						

IDC 20 06:57:09.2±6.8, 6.61S×147.29E, h70km±65km, mb3.4/2, mb1 3.6/4, mb1mx3.2/45, mbtmp3.6/4, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=67.4km s-min=45.3km az=124.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.79**	**183**	P	Pn	06 57 49.7	-1.8
	12nm,0.3s,baz=6.7,slow=5.7,SNR=12						
PMG				S	Sn	06 58 25.4	+1.4
	15nm,0.3s,baz=37,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**18.28**	**222**	P	P	07 01 16.2	-1.2
	0.3nm,0.3s,baz=51,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**21.29**	**216**	P	P	07 01 49.8	-0.4
	0.9nm,0.5s,baz=51,slow=8.4,SNR=14						
FITZ	**Fitzroy Crossi**	**24.00**	**240**	P	P	07 02 17.3	-0.3
	1.3nm,0.4s,baz=73,slow=11,SNR=2.3						
DZM	**Mont Dzumac**	**24.05**	**132**	LR	LR	07 09 21.1	
	comp=Z,81nm,20.1s,baz=230,slow=30						
TORD	**Torodi Ar. Bea**	**145.52**	**284**	PKPbc	PKPdf	07 16 40.4	+0.1
	0.5nm,0.4s,baz=79,slow=4.5,SNR=12						

*IDC **20** 07:01:24.8±0.6, 3.40S×123.37E, h0km, mb4.2/19, mb1 4.3/21, mb1mx4.2/57, mbtmp4.2/21, ML4.1/2, MS3.6/11, Ms1 3.6/11, ms1mx3.3/50, Error ellipse: s-maj=25.2km s-min=12.7km az=67.0*
*ISCJB **20** 07:01:27.7±0.2, 3.50S±0.02×123.28E±0.04, h33km, mb4.3/27, MS3.6/10, Error ellipse: s-maj=5.3km s-min=3.5km az=170.7*
*DJA **20** 07:01:28.3±0.8, 4.5±2.2×12.3E±, h25km±8km, M4.8/19, mb5.1/8, mB5.2/7, MLv4.7/19, Mw(mB)4.7/7*
*NEIC **20** 07:01:30.9±0.8, 3.48S×123.39E, h44km±8km, mb4.6/11, Error ellipse: s-maj=11.5km s-min=5.4km az=67.0*

ISC 20 07:01:30.2±0.4, 3.50S±0.04×123.27E±0.06, h35km, n88, σ1s72/83, mb4.4/27, MS3.5/10, 2C, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**0.79**	**235**	P	**Pn**	**07 01 43.7**	**-1.2**
BBSI	**Bau Bau**	**2.10**	**199**	P	**Pn**	**07 02 02.4**	**-0.5**
BBSI				S	**Sn**	**07 02 27.9**	**+0.2**
LUWI	**Luwuk**	**2.49**	**348**	P	**Pn**	**07 02 07.3**	**-0.9**
LUWI				S	**Sn**	**07 02 37.3**	**-0.1**
LUWI	**Luwuk**	**2.49**	**348**	*e*Pn	**Pn**	**07 02 07.5**	**-0.8**
LUWI				*e*Sn	**Sn**	**07 02 36.9**	**-0.5**
APSI	**Ampana**	**3.04**	**328**	P	**Pn**	**07 02 14.6**	**-1.2**
SANI	**Sanana**	**3.07**	**62**	P	**Pn**	**07 02 14.7**	**-1.6**
BNSI	**Bone**	**3.28**	**254**	P	**Pn**	**07 02 17.2**	**-1.9**
TTSI	**Tana Toraja**	**3.47**	**277**	P	**Pn**	**07 02 20.4**	**-1.4**
BKSI	**Bulukumba**	**3.62**	**240**	P	**Pn**	**07 02 22.2**	**-1.6**
BSSI	**Bau Bau, Buton**	**3.82**	**226**	P	**Pn**	**07 02 24.1**	**-2.4**
KMSI	**Cibinong**	**4.11**	**10**	P	**Pn**	**07 02 30.1**	**-0.4**
MRSI	**Marisa**	**4.16**	**341**	P	**Pn**	**07 02 30.3**	**-1.0**
MPSI	**Mapaga**	**5.08**	**318**	P	**Pn**	**07 02 42.6**	**-1.3**
EDFI	**Ende, Flores**	**5.45**	**197**	P	**Pn**	**07 02 45.6**	**-3.5**
MSAI	**Masohi**	**5.65**	**89**	P	**Pn**	**07 02 52.1**	**+0.3**
TNTI	**Ternate**	**5.89**	**44**	*e*Pn	**Pn**	**07 02 55.2**	**+0.1**
SOEI	**Soe**	**6.30**	**171**	P	**Pn**	**07 03 00.6**	**-0.1**
SOEI	**Soe**	**6.30**	**171**	*e*Pn	**Pn**	**07 03 01.2**	**+0.5**
BATI	**Baumata**	**6.68**	**177**	Pn	**Pn**	**07 03 06.4**	**+0.5**
	12nm,0.3s,baz=1.7,slow=3.0,SNR=8.0						
BATI	**Baumata**	**6.68**	**177**	P	**Pn**	**07 03 05.8**	**-0.1**
SWI	**Sorong**	**8.40**	**72**	P	**Pn**	**07 03 29.8**	**+0.2**
FAKI	**Fak Fak**	**8.98**	**87**	P	**Pn**	**07 03 37.5**	**-0.1**
FAKI	**Fak Fak**	**8.98**	**87**	*e*Pn	**Pn**	**07 03 37.1**	**-0.5**
MYLDM	**Lahad Datu**	**9.85**	**331**	*e*Pn	**Pn**	**07 03 53.9**	**+4.5**
MTN	**Manton Dam**	**12.11**	**141**	*e*Pn	**Pn**	**07 04 19.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**14.70**	**171**	Pn	Pn	07 04 49.1	-6.6
	0.3nm,0.3s,baz=15,slow=20,SNR=8.4						
LEM	**Lembang**	**15.93**	**257**	LR	LR	07 11 41.8	
	comp=Z,171nm,19.2s,baz=226,slow=38						
WRAB	**Tennant Creek**	**19.59**	**147**	*e*P	**P**	**07 05 55.1**	**-0.4**
	14nm,0.8s						
WRA	**Warramunga Arr**	**19.59**	**147**	P	**P**	**07 05 53.1**	**-2.4**
	0.4nm,0.3s,baz=318,slow=13,SNR=48						
WB2	**Warramunga Arr**	**19.60**	**147**	*e*P	**P**	**07 05 55.7**	**+0.1**
COEN	**Coen**	**22.23**	**119**	*e*P	**P**	**07 06 23.1**	**-1.0**
	21nm,0.9s						
AS31	**Alice Springs**	**22.53**	**154**	*e*P	**P**	**07 06 26.9**	**-0.4**
	16nm,1.3s						
ASAR	**Alice Springs**	**22.53**	**154**	P	**P**	**07 06 26.4**	**-0.9**
	17nm,0.9s,baz=337,slow=14,SNR=25						
AS01	**Alice Springs**	**22.55**	**154**	*e*P	**P**	**07 06 27.4**	**-0.1**
PMG	**Port Moresby**	**24.44**	**105**	P	**P**	**07 06 45.4**	**-0.6**
	16nm,0.8s,baz=346,slow=17,SNR=4.0						
NWAO	**Narrogin (SRO)**	**29.82**	**190**	LR	LR	07 19 21.8	
	comp=Z,108nm,21.5s,baz=283,slow=36						
CM01	**Chiang Mai Arr**	**32.37**	**313**	*e*P	**P**	**07 07 56.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**32.41**	**313**	P	**P**	**07 07 56.0**	**-1.0**
	1.7nm,0.4s,baz=142,slow=7.0,SNR=9.4						
CMAR				LR	LR	07 22 49.3	
	comp=Z,134nm,19.1s,baz=154,slow=40						
CHTO	**Chiang Mai**	**32.63**	**314**	*e*P	**P**	**07 07 59.0**	**0.0**
	9.0nm,1.1s						
STKA	**Stephens Creek**	**33.07**	**151**	P	**P**	**07 08 01.9**	**-0.9**
	4.8nm,0.8s,baz=314,slow=5.2,SNR=5.2						
STKA	**Stephens Creek**	**33.07**	**151**	*e*P	**P**	**07 08 01.3**	**-1.4**
	2.3nm,1.0s						
KMI	**Kunming**	**34.74**	**326**	P	**P**	**07 08 17.8**	**+0.3**
NJ2	**Nanjing**	**35.60**	**354**	*e*P	**P**	**07 08 24.6**	**+0.1**
JNU	**Nakatsue**	**37.12**	**11**	LR	LR	07 22 48.6	
	comp=Z,57nm,21.9s,baz=124,slow=35						
CD2	**Chengdu**	**38.95**	**333**	*e*P	**P**	**07 08 54.0**	**+0.9**
KSAR	**Wonju Array Be**	**40.95**	**6**	P	**P**	**07 09 07.8**	**-1.8**
KSRS	**Korea Array**	**40.97**	**6**	P	**P**	**07 09 07.8**	**-1.9**
	1.3nm,0.7s,baz=181,slow=10,SNR=7.0						
MJAR	**Matsushiro Arr**	**42.20**	**18**	P	**P**	**07 09 17.6**	**-2.3**
	1.8nm,0.9s,baz=201,slow=8.2,SNR=4.0						
LZH	**Lanzhou**	**43.37**	**337**	*e*P	**P**	**07 09 25.5**	**-3.9**
LZH				pP	pP	07 09 37.0	-2.8
LZH				sP	sP	07 09 41.6	-2.4
LZH				*e*PP	**PP**	**07 11 08.8**	**-1.9**
BJI	**Beijing**	**43.81**	**352**	⇑*e*P	**P**	**07 09 34.3**	**+1.6**
HHC	**Hu-ho-hao-te**	**45.41**	**348**	*e*P	**P**	**07 09 48.5**	**+2.8**
HHC				pP	sP	07 10 00.9	+0.7
HHC				sP	pP	07 10 06.3	+10
HHC				PP	**PP**	**07 11 36.0**	**+3.6**
HHC				S	**S**	**07 16 27.0**	**+2.3**
HHC				sS	sS	07 16 46.8	+5.0
HHC				ScS	**ScS**	**07 19 38.5**	**-1.2**
HHC				SS	**SS**	**07 19 40.8**	**-8.0**
DZM	**Mont Dzumac**	**45.75**	**118**	*e*LR	LR	07 08 51.3	
	158nm,25.6s						
GTA	**Gaotai**	**47.85**	**335**	*e*P	**P**	**07 10 08.6**	**+3.8**
GTA				pP	pP	07 10 12.8	-2.4
GTA				sP	sP	07 10 16.0	-3.4
USRK	**Ussuriysk Ar.**	**48.12**	**8**	P	**P**	**07 10 06.3**	**-0.3**
	4.0nm,0.6s,baz=193,slow=9.3,SNR=5.2						
HIA	**Hailar**	**52.64**	**357**	*e*P	**P**	**07 10 41.2**	**+0.4**
	10nm,0.9s						
SONM	**Songino Array**	**53.22**	**346**	P	**P**	**07 10 44.5**	**-0.7**
	0.5nm,0.5s,baz=173,slow=7.9,SNR=5.5						
SONA1	**Songino Array**	**53.23**	**346**	*e*P	**P**	**07 10 44.4**	**-0.9**
WMQ	**Urumqi**	**56.92**	**330**	P	**P**	**07 11 13.9**	**+2.0**
MK01	**Makanchi Array**	**61.70**	**329**	*e*P	**P**	**07 11 44.6**	**-0.3**
MK31	**Makanchi Array**	**61.72**	**329**	*e*P	**P**	**07 11 44.7**	**-0.3**
MKAR	**Makanchi Array**	**61.72**	**329**	P	**P**	**07 11 44.4**	**-0.7**
	1.4nm,0.8s,baz=128,slow=7.9,SNR=8.3						
MKAR	**Makanchi Array**	**61.72**	**329**	*e*P	**P**	**07 11 44.6**	**-0.4**
	9.8nm,0.8s						
ZAA0	**Zalesovo Array**	**65.59**	**336**	*e*P	**P**	**07 12 09.2**	**-1.1**
	5.5nm,0.9s						
ZALV	**Zalesovo Beam**	**65.59**	**336**	P	**P**	**07 12 09.3**	**-1.1**
	3.7nm,0.8s,baz=116,slow=3.4,SNR=

SRTM				S		Sg	07 14 45.9	+0.1
SIRT	Sirnak	1.42	212	PN		Pn	07 14 27.1	-0.2
SIRT	Sirnak	1.42	212	*e*Pn		Pn	07 14 27.1	-0.2

ISCJB ***20*** *07:18:28.8±0.4, 6.°05S±0.°04×128.°80E±0.°04, h300km, mb3.9/8, Error ellipse: s-maj=6.4km s-min=4.9km az=32.8*
IDC ***20*** *07:18:32.5±1.6, 6.°23S×128.°58E, h336km±15km, mb3.5/8, mb1 3.8/13, mb1mx3.4/62, mbtmp4.4/13, Error ellipse: s-maj=18.4km s-min=8.7km az=63.0*
DJA ***20*** *07:18:33.6±0.5, 6.°5S±2.°12*′*8E±.°, h187km±11km, M4.8/6, mB4.7/2, mb4.5/4, MLv4.9/6, Mw(mB)3.9/2*
ISC 20 07:18:29.2±0.5, **6.°08S**±0.°05×**128.°77E**±0.°06, **h300**km, **n25,** σ1§**94**/34, **mb4.0**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**2.44**	**347**	P	Pn	07 19 12.5	-7.3
MSAI	**Masohi**	**2.72**	**3**	P	Pn	07 19 09.7	-13
SAUI	**Saumlaki**	**3.15**	**127**	P	**Pn**	**07 19 27.7**	**+1.2**
SAUI				S	**S**	**07 20 12.9**	**+0.7**
FAKI	**Fak Fak**	**4.68**	**48**	P	**Pn**	**07 19 44.7**	**+1.6**
FAKI				S	**S**	**07 20 40.5**	**-2.0**
SWI	**Sorong**	**5.75**	**26**	P	**Pn**	**07 19 56.6**	**+1.0**
SWI				S	**S**	**07 21 02.7**	**-2.4**
SOEI	**Soe**	**5.76**	**230**	P	**Pn**	**07 19 58.1**	**+2.2**
	72nm,0.6s,2μm1.0nm						
SOEI				S	**S**	**07 21 01.7**	**-3.9**
	72nm,0.6s,2μm1.0nm						
BATI	**Baumata**	**6.51**	**231**	P	**Pn**	**07 20 06.7**	**+2.0**
	31nm,0.3s,baz=62,slow=4.6,SNR=13						
BATI				S	**S**	**07 21 21.6**	**-0.2**
	14nm,0.3s,baz=127,slow=20,SNR=13						
BATI	**Baumata**	**6.51**	**231**	P	**Pn**	**07 20 06.9**	**+2.2**
	50nm,0.4s,789nm0.3nm						
BATI				S	**S**	**07 21 20.1**	**-1.7**
	50nm,0.4s,789nm0.3nm						
PLAI	**Plampang**	**11.23**	**255**	P	**P**	**07 21 05.7**	**+1.0**
PLAI				S	**S**	**07 23 07.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.33**	**194**	P	**P**	**07 21 17.6**	**+0.7**
	0.9nm,0.3s,baz=40,slow=12,SNR=9.0						
FITZ				S	**S**	**07 23 32.2**	**-0.7**
	baz=270,slow=20						
WRA	**Warramunga Arr**	**14.81**	**159**	P	**P**	**07 21 44.8**	**+0.5**
	3.9nm,0.3s,baz=341,slow=12,SNR=204						
WRA				S	**S**	**07 24 21.8**	**-4.5**
	0.7nm,0.3s,baz=337,slow=21,SNR=8.7						
ASAR	**Alice Springs**	**18.18**	**165**	P	**P**	**07 22 21.6**	**+0.7**
	7.2nm,0.3s,baz=346,slow=11,SNR=336						
ASAR				S	**S**	**07 25 30.6**	**-2.6**
	1.0nm,0.3s,baz=345,slow=20,SNR=54						
ASAR				ScP	**ScP**	**07 29 42.0**	**-3.9**
	0.1nm,0.3s,baz=348,slow=2.2,SNR=7.4						
PMG	**Port Moresby**	**18.52**	**101**	P	**P**	**07 22 27.7**	**+3.0**
	0.9nm,0.3s,baz=259,slow=16,SNR=3.3						
CTA	**Charters Tower**	**21.97**	**131**	P	**P**	**07 22 59.8**	**+0.7**
	8.3nm,0.8s,baz=313,slow=12,SNR=6.6						
STKA	**Stephens Creek**	**28.33**	**157**	P	**P**	**07 23 56.2**	**+0.1**
	8.4nm,0.8s,baz=321,slow=8.3,SNR=12						
CMAR	**Chiang Mai Arr**	**38.20**	**310**	P	**P**	**07 25 21.1**	**+0.1**
	7.1nm,0.6s,baz=139,slow=7.3,SNR=22						
SONM	**Songino Array**	**57.19**	**342**	P	**P**	**07 27 45.9**	**+0.3**
	0.2nm,0.4s,baz=160,slow=5.0,SNR=3.3						
MKAR	**Makanchi Array**	**66.79**	**327**	P	**P**	**07 28 48.3**	**-0.7**
	0.9nm,0.3s,baz=114,slow=8.2,SNR=26						
KURBB	**Kurchatov Arra**	**71.09**	**329**	P	**P**	**07 29 14.5**	**-0.6**
	0.8nm,0.4s,baz=134,slow=5.4,SNR=4.6						
VNDA	**Vanda**	**73.51**	**173**	P	**P**	**07 29 27.8**	**-1.2**
	1.0nm,0.6s,baz=317,slow=8.5,SNR=5.0						
QSPA	**South Pole Qui**	**83.89**	**180**	P	**P**	**07 30 23.9**	**-1.7**
	1.7nm,0.6s,baz=292,slow=1.9,SNR=7.9						
TXAR	**Lajitas Array**	**125.50**	**58**	PKP		**PKPdf**	**07 36 54.3**	**-1.4**
	0.1nm,0.5s,baz=90,slow=0.9,SNR=3.1						
JTS	**JuntasAbangare**	**146.38**	**81**	PKPbc		**PKPdf**	**07 37 35.7**	**+1.4**
	3.3nm,0.7s,baz=0.0,slow=20,SNR=3.6						
CPUP	**Villa Florida**	**147.25**	**170**	PKPbc		**PKPdf**	**07 37 37.5**	**+2.0**
	2.8nm,0.8s,baz=101,slow=5.5,SNR=7.1						
LPAZ	**La Paz**	**152.19**	**143**	PKPbc		**PKPbc**	**07 37 50.5**	**-0.7**
	0.7nm,0.5s,baz=85,slow=2.0,SNR=4.4							

DDA ***20*** *07:19:22.0, 37.°84N×29.°16E, h11km, MI3.0*
ISCJB ***20*** *07:19:22.5±0.6, 37.°83N±0.°03×29.°16E±0.°05, h12km±5km, Error ellipse: s-maj=6.7km s-min=4.7km az=7.9*
CSEM ***20*** *07:19:22.3±0.2, 37.°82N×29.°19E, h10km, ML2.2, Error ellipse: s-maj=3.9km s-min=3.0km az=113.0*
ISK ***20*** *07:19:22.3, 37.°82N×29.°17E, h11km, ML2.2/6*
ISC 20 07:19:22.7±0.9, **37.°83N**±0.°03×**29.°16E**±0.°03, **h12**km±6km, **n25,** σ0§**78**/40, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.13**	**234**	PG	**Pg**	**07 19 25.9**	**-0.1**
DENT				SG	**Sg**	**07 19 28.5**	**+0.2**
DENT	**Denizli**	**0.13**	**234**	*e*Pg	**Pg**	**07 19 25.9**	**-0.1**
DENT				*e*Sg	**Sg**	**07 19 28.5**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.41**	**209**	*i* P	**Pg**	**07 19 30.6**	**-0.3**
TAVA				*i* S	**Sb**	**07 19 37.5**	**-0.7**
TAVA	**DENIZLI_Tavas**	**0.41**	**209**	P	**Pg**	**07 19 30.6**	**-0.3**
TAVA				S	**Sb**	**07 19 37.5**	**-0.7**
KHAL	**Karahalli**	**0.60**	**26**	*i* P	**Pg**	**07 19 33.4**	**-1.0**
KHAL				*i* S	**Sg**	**07 19 41.8**	**-0.6**
KHAL	**Karahalli**	**0.60**	**26**	P	**Pg**	**07 19 33.4**	**-1.0**
KHAL				S	**Sg**	**07 19 41.8**	**-0.6**
GOLH	**Golhisar**	**0.67**	**152**	*i* P	**Pg**	**07 19 34.4**	**-1.3**
GOLH				*i* S	**Sb**	**07 19 45.3**	**-0.4**
GOLH	**Golhisar**	**0.67**	**152**	P	**Pg**	**07 19 34.4**	**-1.3**
GOLH				S	**Sb**	**07 19 45.3**	**-0.4**
KULA	**Kula-Manisa**	**0.79**	**330**	PG	**Pb**	**07 19 38.4**	**0.0**
KULA				SG	**Sb**	**07 19 49.9**	**+0.8**
KULA	**Kula-Manisa**	**0.79**	**330**	*e*Pg	**Pb**	**07 19 38.4**	**0.0**
KULA				*e*Sg	**Sb**	**07 19 49.9**	**+0.8**
KZIL	**AFYON_Kizioren**	**0.88**	**61**	*i* P	**Pg**	**07 19 39.0**	**-0.8**
KZIL				*i* S	**Sn**	**07 19 54.4**	**+0.5**
KZIL	**AFYON_Kizioren**	**0.88**	**61**	P	**Pg**	**07 19 39.0**	**-0.8**
KZIL				S	**Sn**	**07 19 54.4**	**+0.5**
YER	**Yerkesik**	**0.98**	**226**	PG	**Pg**	**07 19 41.3**	**-0.4**
YER	**Yerkesik**	**0.98**	**226**	*e*Pg	**Pg**	**07 19 41.3**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**277**	PG	**Pb**	**07 19 42.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**277**	*e*Pg	**Pb**	**07 19 42.1**	**-0.1**
AYDN	**Tasoluk**	**1.03**	**261**	*i* P	**Pg**	**07 19 42.1**	**-0.5**
AYDN				*i* S	**Sg**	**07 19 55.3**	**-0.7**
AYDN	**Tasoluk**	**1.03**	**261**	P	**Pg**	**07 19 42.1**	**-0.5**
AYDN				S	**Sg**	**07 19 55.3**	**-0.7**
DALY	**Dalyan (Mu¨la**	**1.09**	**202**	PN	**Pg**	**07 19 43.3**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.09**	**202**	*e*Pn	**Pg**	**07 19 43.3**	**-0.3**
FETY	**Fethiye**	**1.19**	**183**	PN	**Pg**	**07 19 45.9**	**+0.3**
FETY	**Fethiye**	**1.19**	**183**	*e*Pn	**Pg**	**07 19 45.9**	**+0.3**
BAGO	**Egridir - ISPA**	**1.30**	**82**	*i* P	**Pg**	**07 19 47.1**	**-0.6**
BAGO				*i* S	**Sg**	**07 20 07.3**	**+2.8**
TVSB	**Tavsanli**	**1.64**	**8**	PN	**Pn**	**07 19 51.8**	**+0.4**
TVSB	**Tavsanli**	**1.64**	**8**	*e*Pn	**Pn**	**07 19 51.8**	**+0.4**

JMA ***20*** *07:24:16.8±0.2, 35.°64N×141.°70E, h52km±3km, M2.7*
IDC ***20*** *07:24:18.6±1.3, 35.°48N×140.°82E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/74, mbtmp3.6/5, ML3.0/2, MS3.5/3, Ms1 3.5/3, ms1mx2.6/61, Error ellipse: s-maj=31.5km s-min=20.6km az=89.0*
ISC 20 07:24:18.4±1.9, **35.°52N**±0.°06×**141.°5E**±0.°1, **h25**km, **n16,** σ1§**07**/15, **mb3.5**/4, **MS3.6**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.55**	**289**	P	**Pn**	**07 24 30.6**	**-0.1**
CHOJ				*e*S	**Sn**	**07 24 40.0**	**+0.9**
BSO1	**Boso 1**	**0.96**	**207**	P	**Pn**	**07 24 36.7**	**+0.8**
BSO3	**Boso 3**	**1.08**	**229**	P	**Pb**	**07 24 38.9**	**+0.6**
JAG	**Ashikaga**	**1.89**	**299**	P	**Pn**	**07 24 48.8**	**-0.3**
JOD2	**Odawara 2**	**1.99**	**263**	P	**Pn**	**07 24 51.3**	**+0.8**
JOD2				*e*S	**Sb**	**07 25 16.9**	**-1.3**
JRY	**Ryogami san**	**2.17**	**284**	P	**Pn**	**07 24 54.3**	**+1.3**
JKT	**Katashina**	**2.21**	**305**	P	**Pn**	**07 24 53.5**	**0.0**
JKT				S	**Sn**	**07 25 20.9**	**+0.8**
JHJ	**Hachijo jima 2**	**2.79**	**211**	Pn	**Pn**	**07 25 00.3**	**-1.1**
	24nm,0.3s,baz=76,slow=22,SNR=5.7						
JHJ				Sn	**Sn**	**07 25 33.7**	**-0.5**
	10nm,0.3s,baz=60,slow=16,SNR=3.5						
MJAR	**Matsushiro Arr**	**2.86**	**292**	Pn	**Pn**	**07 25 00.2**	**-2.2**
	1.0nm,0.3s,baz=100,slow=9.3,SNR=8.4						
PETK	**Petropavlovsk-**	**20.97**	**28**	LR	LR	07 38 40.7	
	comp=Z,49nm,19.3s,baz=231,slow=40						
MKAR	**Makanchi Array**	**44.99**	**303**	P	**P**	**07 32 31.1**	**-0.5**
	0.2nm,0.6s,baz=80,slow=7.3,SNR=3.1						
KURBB	**Kurchatov Arra**	**47.00**	**309**	P	**P**	**07 32 47.8**	**+0.5**
	0.8nm,0.2s,baz=77,slow=8.1,SNR=3.1						
ILAR	**Eielson Array**	**50.74**	**32**	P	P	07 33 22.5	+6.7
	0.3nm,0.8s,baz=266,slow=6.9,SNR=3.7						
AAK	**Ala-Archa**	**51.28**	**299**	LR	LR	07 56 09.1	
	comp=Z,59nm,18.9s,baz=150,slow=38						
WRA	**Warramunga Arr**	**55.57**	**188**	P	P	07 33 55.1	+3.2
	0.3nm,0.4s,baz=1.3,slow=7.8,SNR=2.6						
GERES	**GERESS Array B**	**84.03**	**328**	LR	LR	08 18 52.6	
	comp=Z,45nm,19.4s,baz=58,slow=39						

ISCJB ***20*** *07:25:32.2±0.3, 45.°09S±0.°04×167.°60E±0.°05, h135km±3km, mb4.5/19, Error ellipse: s-maj=7.5km s-min=3.8km az=138.0*
WEL ***20*** *07:25:32.4, 45.°3S±3.°×16.°7E±.°, h126km±4km*
NEIC ***20*** *07:25:33.0±0.0, 45.°12S×167.°27E, h121km, mb4.7/14, After WEL.*
IDC ***20*** *07:25:33.5±1.7, 44.°94S×167.°54E, h133km±15km, mb4.2/11, mb1 4.3/13, mb1mx4.1/38, mbtmp4.6/13, MS3.2/2, Ms1 3.2/2, ms1mx2.8/33, Error ellipse: s-maj=17.4km s-min=12.8km az=45.0*
ISC 20 07:25:33.0±0.5, **45.°09S**±0.°05×**167.°54E**±0.°05, **h129**km±4km, **n207,** σ1§**42**/225, **mb4.5**/19, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.46**	**217**	*e*Pn	**Pn**	**07 25 49.9**	**-1.7**
DCZ				*e*Sn	**Sn**	**07 26 02.9**	**-2.9**
DCZ	**Deep Cove**	**0.46**	**217**	P	**Pn**	**07 25 49.9**	**-1.7**
DCZ	**Deep Cove**	**0.46**	**217**	S	**Sn**	**07 26 02.2**	**-3.6**
MLZ	**Mavora Lakes**	**0.49**	**124**	*e*Pn	**Pn**	**07 25 52.0**	**+0.1**
MLZ				*e*Sn	**Sn**	**07 26 05.9**	**-0.2**
MLZ	**Mavora Lakes**	**0.49**	**124**	P	**Pn**	**07 25 52.0**	**+0.1**
MLZ	**Mavora Lakes**	**0.49**	**124**	S	**Sn**	**07 26 06.6**	**+0.4**
WHZ	**Wether Hill Ro**	**0.85**	**161**	*e*Pn	**Pn**	**07 25 54.1**	**-0.2**
WHZ				*e*Sn	**Sn**	**07 26 09.3**	**-1.3**
WHZ	**Wether Hill Ro**	**0.85**	**161**	P	**Pn**	**07 25 54.2**	**-0.2**
WHZ	**Wether Hill Ro**	**0.85**	**161**	S	**Sn**	**07 26 09.9**	**-0.7**
WKZ	**Wanaka**	**1.08**	**76**	*e*Pn	**Pn**	**07 25 58.1**	**+1.6**
WKZ				*e*Sn	**Sn**	**07 26 16.5**	**+2.1**
WKZ	**Wanaka**	**1.08**	**76**	P	**Pn**	**07 25 58.1**	**+1.6**
WKZ	**Wanaka**	**1.08**	**76**	S	**Sn**	**07 26 16.1**	**+1.6**
PYZ	**Puysegur Point**	**1.23**	**209**	*e*Pn	**Pn**	**07 25 56.0**	**-2.1**
PYZ				*e*Sn	**Sn**	**07 26 13.6**	**-3.5**
PYZ	**Puysegur Point**	**1.23**	**209**	P	**Pn**	**07 25 56.1**	**-1.9**
EAZ	**Earnscleugh**	**1.25**	**97**	S	**Sn**	**07 26 18.7**	**+1.1**
EAZ	**Earnscleugh**	**1.25**	**97**	P	**Pn**	**07 25 59.7**	**+1.4**
JCZ	**Jackson Bay**	**1.35**	**41**	P	**Pn**	**07 26 00.2**	**+0.7**
JCZ	**Jackson Bay**	**1.35**	**41**	S	**Sn**	**07 26 20.0**	**+0.5**
TUZ	**Tuapeka**	**1.70**	**121**	P	**Pn**	**07 26 04.3**	**+1.1**
TUZ	**Tuapeka**	**1.70**	**121**	S	**Sn**	**07 26 25.9**	**-0.4**
APZ	**The Paps**	**1.77**	**170**	P	**Pn**	**07 26 03.4**	**-0.7**
SYZ	**Scrubby Hill**	**1.82**	**143**	P	**Pn**	**07 26 05.1**	**+0.4**
LBZ	**Lake Benmore**	**2.01**	**70**	*e*Pn	**Pn**	**07 26 07.6**	**+0.6**
LBZ				*e*Sn	**Sn**	**07 26 32.6**	**-0.4**
LBZ	**Lake Benmore**	**2.01**	**70**	P	**Pn**	**07 26 07.5**	**+0.5**
LBZ	**Lake Benmore**	**2.01**	**70**	S	**Sn**	**07 26 33.1**	**+0.1**
ODZ	**Otahua Downs**	**2.20**	**90**	*e*Pn	**Pn**	**07 26 10.2**	**+0.9**
ODZ				*e*Sn	**Sn**	**07 26 37.0**	**-0.1**
ODZ	**Otahua Downs**	**2.20**	**90**	P	**Pn**	**07 26 10.1**	**+0.8**
ODZ	**Otahua Downs**	**2.20**	**90**	S	**Sn**	**07 26 37.6**	**+0.5**
FOZ	**Fox Glacier**	**2.26**	**47**	*e*Pn	**Pn**	**07 26 10.3**	**+0.2**
FOZ				*e*Sn	**Sn**	**07 26 39.4**	**+1.0**
FOZ	**Fox Glacier**	**2.26**	**47**	P	**Pn**	**07 26 10.0**	**0.0**
FOZ	**Fox Glacier**	**2.26**	**47**	S	**Sn**	**07 26 38.8**	**+0.4**
HHSZ	**Highcliff Hill**	**2.29**	**111**	P	**Pn**	**07 26 11.6**	**+1.2**
RPZ	**Rata Peaks**	**2.87**	**62**	P	**Pn**	**07 26 17.7**	**-0.1**
	266nm,0.3s,baz=212,slow=4.6,SNR=483						
RPZ				S	**Sn**	**07 26 52.3**	**-0.1**
	789nm,0.3s,baz=57,slow=19,SNR=4.9						
RPZ	**Rata Peaks**	**2.87**	**62**	*e*Pn	**Pn**	**07 26 17.8**	**-0.1**
RPZ				*e*Sn	**Sn**	**07 26 53.8**	**+1.4**
RPZ	**Rata Peaks**	**2.87**	**62**	P	**Pn**	**07 26 17.8**	**-0.1**
RPZ	**Rata Peaks**	**2.87**	**62**	S	**Sn**	**07 26 52.4**	**0.0**
WVZ	**Waitaha Valley**	**3.06**	**50**	S	**Sn**	**07 26 19.7**	**-0.6**
WVZ	**Waitaha Valley**	**3.06**	**50**	S	**Sn**	**07 26 55.9**	**-0.9**
INZ	**Inchbonnie**	**3.68**	**51**	P	**Pn**	**07 26 28.0**	**-0.4**
OXZ	**Oxford**	**3.68**	**63**	*e*Pn	**Pn**	**07 26 29.3**	**+0.8**
OXZ				*e*Sn	**Sn**	**07 27 11.8**	**+0.4**
OXZ	**Oxford**	**3.68**	**63**	P	**Pn**	**07 26 27.5**	**-1.0**
EYCZ	**Eyrewell**	**3.84**	**66**	P	**Pn**	**07 26 31.2**	**+0.7**
MQZ	**McQueen's Vall**	**3.92**	**71**	*e*Pn	**Pn**	**07 26 31.7**	**+0.1**
MQZ				*e*Sn	**Sn**	**07 27 14.6**	**-2.3**
MQZ	**McQueen's Vall**	**3.92**	**71**	P	**Pn**	**07 26 31.5**	**0.0**
CRLZ	**Canterbury Las**	**3.95**	**69**	*e*Pn	**Pn**	**07 26 33.6**	**+1.7**
CRLZ				*e*Sn	**Sn**	**07 27 16.6**	**-1.1**
CRLZ	**Canterbury Las**	**3.95**	**69**	P	**Pn**	**07 26 32.6**	**+0.6**
LTZ	**Lake Taylor**	**4.12**	**58**	*e*Pn	**Pn**	**07 26 35.9**	**+1.5**
LTZ				*e*Sn	**Sn**	**07 27 24.1**	**+2.2**
LTZ	**Lake Taylor**	**4.12**	**58**	P	**Pn**	**07 26 33.6**	**-0.8**
DSZ	**Denniston Nort**	**4.56**	**44**	P	**Pn**	**07 26 36.0**	**-0.7**
KHZ	**Kahutara**	**5.10**	**60**	*e*Pn	**Pn**	**07 26 47.2**	**-0.1**
KHZ				*e*Sn	**Sn**	**07 27 45.5**	**+0.3**
KHZ	**Kahutara**	**5.10**	**60**	P	**Pn**	**07 26 46.8**	**-0.5**
THZ	**Tophouse**	**5.13**	**51**	*e*Pn	**Pn**	**07 26 47.3**	**-0.5**
THZ	**Tophouse**	**5.13**	**51**	P	**Pn**	**07 26 46.6**	**-1.3**
QRZ	**Quartz Range**	**5.62**	**42**	P	**Pn**	**07 26 53.8**	**-0.5**
BSWZ	**Blackbirch Sta**	**5.72**	**56**	P	**Pn**	**07 26 54.5**	**-1.1**
NNZ	**Nelson**	**5.76**	**50**	P	**Pn**	**07 26 55.0**	**-1.2**
CMWZ	**Cape Campbell**	**5.90**	**58**	P	**Pn**	**07 27 00.1**	**+2.1**
TUWZ	**Tuamarina**	**5.94**	**54**	P	**Pn**	**07 26 58.0**	**-0.6**
TCW	**Tory Channel**	**6.27**	**54**	P	**Pn**	**07 27 03.4**	**+0.3**
DUWZ	**D'Urville Isla**	**6.35**	**50**	P	**Pn**	**07 27 05.8**	**+1.6**
SNZO	**South Karori**	**6.46**	**57**	*e*Pn	**Pn**	**07 27 05.8**	**+0.3**
SNZO				*e*Sn	**Sn**	**07 28 16.1**	**-1.7**
BHW	**Baring Head**	**6.50**	**58**	P	**Pn**	**07 27 06.1**	**0.0**
PLWZ	**Palliser**	**6.63**	**61**	P	**Pn**	**07 27 08.4**	**+0.3**
MSWZ	**Moikau Station**	**6.72**	**60**	P	**Pn**	**07 27 07.5**	**-1.7**
CAW	**Cannon Point**	**6.79**	**57**	P	**Pn**	**07 27 10.1**	**-2.1**
PAWZ	**Pawaki Farm**	**6.85**	**50**	P	**Pn**	**07 27 10.3**	**-0.6**
KIW	**Kapiti Island**	**6.86**	**54**	P	**Pn**	**07 27 09.3**	**-1.7**
TRWZ	**Traveller**	**7.00**	**61**	P	**Pn**	**07 27 13.1**	**+0.2**
MTW	**Mount Morrison**	**7.03**	**59**	P	**Pn**	**07 27 11.2**	**-2.1**
OGWZ	**Otaki Gorge**	**7.04**	**55**	P	**Pn**	**07 27 12.2**	**-1.2**
HOWZ	**Holdsworth Sta**	**7.19**	**57**	P	**Pn**	**07 27 13.9**	**-1.6**
NMEZ	**Namu Road**	**7.37**	**42**	P	**Pn**	**07 27 19.3**	**+1.5**
MRZ	**Mangatainoka R**	**7.38**	**56**	P	**Pn**	**07 27 15.9**	**-2.1**
PREZ	**Palmer Road**	**7.56**	**43**	P	**Pn**	**07 27 20.8**	**+0.4**
LREZ	**Lake Rotokare**	**7.58**	**44**	P	**Pn**	**07 27 21.6**	**+0.8**
POWZ	**Post Office Ro**	**7.66**	**55**	P	**Pn**	**07 27 22.0**	**+0.2**
WAZ	**Wanganui**	**7.66**	**48**	P	**Pn**	**07 27 22.6**	**+0.7**
PRWZ	**Pori Road**	**7.68**	**57**	P	**Pn**	**07 27 21.0**	**-1.1**
BFZ	**Birch Farm**	**7.76**	**58**	*e*Pn	**Pn**	**07 27 21.9**	**-1.3**
BFZ	**Birch Farm**	**7.76**	**58**	P	**Pn**	**07 27 21.8**	**-1.4**
DVHZ	**Dannevirke**	**7.95**	**56**	P	**Pn**	**07 27 23.8**	**-2.0**
TSZ	**Takapari Road**	**7.99**	**54**	P	**Pn**	**07 27 25.5**	**-0.8**
VRZ	**Vera Road**	**8.02**	**44**	P	**Pn**	**07 27 25.9**	**-0.8**
MOVZ	**Moawhango**	**8.33**	**50**	P	**Pn**	**07 27 29.1**	**-1.8**
WHVZ	**Whangaehu Hut**	**8.33**	**49**	P	**Pn**	**07 27 33.0**	**+2.0**
FWVZ	**Far West T-bar**	**8.33**	**48**	P	**Pn**	**07 27 30.2**	**-0.8**
BHHZ	**Black Hill Sta**	**8.44**	**51**	P	**Pn**	**07 27 31.3**	**-1.1**
KRHZ	**Kereru**	**8.50**	**53**	P	**Pn**	**07 27 32.9**	**-0.3**
PXZ	**Pawanui**	**8.54**	**57**	P	**Pn**	**07 27 31.7**	**-1.9**
HIZ	**Hauiti**	**8.54**	**42**	*e*Pn	**Pn**	**07 27 32.9**	**-0.9**
HIZ	**Hauiti**	**8.54**	**42**	P	**Pn**	**07 27 32.5**	**-1.2**
KWHZ	**Kaweka Forest**	**8.68**	**52**	P	**Pn**	**07 27 35.9**	**+0.2**
KAHZ	**Kahuranaki**	**8.70**	**56**	P	**Pn**	**07 27 34.7**	**-1.1**
MCHZ	**McNeill Hill**	**8.82**	**53**	P	**Pn**	**07 27 37.9**	**+0.4**
WATZ	**Wairara**	**8.83**	**47**	P	**Pn**	**07 27 41.4**	**+3.8**
BKZ	**Black Stump Fm**	**8.90**	**51**	*e*Pn	**Pn**	**07 27 37.3**	**-1.3**
BKZ	**Black Stump Fm**	**8.90**	**51**	P	**Pn**	**07 27 37.4**	**-1.2**
TLZ	**Tolley Road**	**9.02**	**44**	P	**Pn**	**07 27 39.3**	**-0.8**
NMHZ	**Naumai**	**9.12**	**52**	P	**Pn**	**07 27 41.4**	**-0.2**
ALRZ	**Allen Road**	**9.26**	**48**	P	**Pn**	**07 27 43.4**	**+0.1**
MTHZ	**Maungataniwha**	**9.31**	**51**	P	**Pn**	**07 27 44.1**	**-0.1**
PRRZ	**Plateau Road**	**9.33**	**48**	P	**Pn**	**07 27 44.3**	**+0.1**
WHHZ	**Waihua**	**9.38**	**54**	P	**Pn**	**07 27 44.6**	**-0.3**
RAHZ	**Arahi**	**9.41**	**52**	P	**Pn**	**07 27 45.4**	**0.0**
TOZ	**Tahuroa Road**	**9.47**	**42**	P	**Pn**	**07 27 45.0**	**-1.3**
MUGZ	**Murupara**	**9.54**	**49**	P	**Pn**	**07 27 46.7**	**-0.5**
OMRZ	**Omania**	**9.61**	**46**	P	**Pn**	**07 27 49.1**	**+1.0**
SNGZ	**Shannon Statio**	**9.64**	**53**	P	**Pn**	**07 27 47.3**	**-1.2**
AWAZ	**Awhitu Peninsu**	**9.64**	**36**	P	**Pn**	**07 27 48.7**	**+0.2**
MHGZ	**Mahia Peninsul**	**9.72**	**56**	P	**Pn**	**07 27 48.3**	**-1.2**
WTAZ	**Waiatarua**	**9.73**	**35**	P	**Pn**	**07 27 50.5**	**+0.9**
WTAZ	**Waiatarua**	**9.73**	**35**	P	**Pn**	**07 27 50.5**	**+0.9**
MKAZ	**Moumakai**	**9.83**	**38**	P	**Pn**	**07 27 51.2**	**+0.2**
ETAZ	**East Tamaki Re**	**9.86**	**37**	P	**Pn**	**07 27 51.8**	**+0.5**
RVAZ	**Riverhead Bore**	**9.87**	**35**	P	**Pn**	**07 27 53.3**	**+1.8**
URZ	**Urewera**	**9.89**	**50**	P	**Pn**	**07 27 49.7**	**-2.1**
	9.8nm,0.3s,baz=246,slow=8.7,SNR=43						
URZ				S	**Sn**	**07 29 33.8**	**-7.1**
	9.4nm,0.3s,baz=100,slow=20,SNR=7.5						
URZ	**Urewera**	**9.89**	**50**	*e*Pn	**Pn**	**07 27 50.2**	**-1.5**
URZ				*e*Sn	**Sn**	**07 29 33.5**	**-7.4**
RIGZ	**Rimuhau**	**9.93**	**54**	P	**Pn**	**07 27 50.9**	**-1.5**
WIAZ	**Waiheke Island**	**10.08**	**37**	P	**Pn**	**07 27 54.8**	**+0.4**
CNGZ	**Carnarvon Statio**	**10.34**	**54**	P	**Pn**	**07 27 57.0**	**-0.9**
KUZ	**Kuaotunu**	**10.38**	**39**	P	**Pn**	**07 27 58.2**	**-0.2**
TWGZ	**Tauwhareparae**	**10.42**	**52**	P	**Pn**	**07 27 58.0**	**-1.1**
WCZ	**Waipu Caves**	**10.50**	**32**	P	**Pn**	**07 28 02.0**	**+1.9**
WCZ	**Waipu Caves**	**10.50**	**32**	P	**Pn**	**07 28 02.0**	**+1.9**
OUZ	**Omahuta**	**10.89**	**27**	*e*Pn	**Pn**	**07 28 06.6**	**+1.4**
OUZ	**Omahuta**	**10.89**	**27**	P	**Pn**	**07 28 08.4**	**+3.1**
OUZ	**Omahuta**	**10.89**	**27**	P	**Pn**	**07 28 08.9**	**+3.7**
LHI	**Lord Howe Isla**	**15.09**	**331**	*e*P	**P**	**07 29 03.7**	**+2.1**
	378nm,1.7s						
CAN	**Canberra**	**17.17**	**298**	*e*P	**Pn**	**07 29 27.7**	**+2.7**
	19nm,1.1s						
ARMA	**Armidale**	**19.26**	**314**	*e*P	**Pn**	**07 29 49.9**	**0.0**
	32nm,1.4s						
DZM	**Mont Dzumac**	**22.98**	**357**	P	**P**	**07 30 26.3**	**-0.3**
	9.5nm,0.8s,baz=199,slow=15,SN

FIA1	**FINESS Array S**	**152.29 320**	*e*PKPbc	**PKPbc**	**07 45 11.7**	**-0.7**
FIA1			*e*PKPab	**PKPab**	**07 45 21.8**	**-1.1**
FINES	**FINESS Array B**	**152.29 320**	PKPbc	**PKPbc**	**07 45 11.7**	**-0.7**
	comp=Z,9.8nm,0.7s,baz=85,slow=3.0,SNR=24					
FINES			PKPab	**PKPab**	**07 45 21.9**	**-1.0**
	comp=Z,6.4nm,0.6s,baz=74,slow=4.9,SNR=10.0					
HFS	**Hagfors**	**158.33 323**	PKPbc	**PKPbc**	**07 45 47.2**	**-1.7**
	comp=Z,1.5nm,0.5s,baz=100,slow=6.0,SNR=7.1					
GERES	**GERESS Array B**	**161.79 291**	PKPab	**PKPab**	**07 46 03.5**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=207,slow=0.3,SNR=5.6					

IDC 20 07:26:01.6±3.8, 53.77N×88.29E, h0km, mb1 2.9/3, mb1mx2.8/72, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=38.6km s-min=20.6km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.06**	**276**	*i*		07 39 35.2	
	baz=92,slow=341,SNR=0.6						
ZALV	**Zalesovo Beam**	**2.06**	**276**	Pn	Pn	07 26 38.6	+1.2
	1.9nm,0.3s,baz=101,slow=14,SNR=20						
ZALV				Lg	Lg	07 27 06.6	
	2.8nm,0.3s,baz=93,slow=25,SNR=13						
KURBB	**Kurchatov Arra**	**6.78**	**246**	Pn	Pn	07 27 42.5	+0.3
	0.3nm,0.3s,baz=64,slow=15,SNR=5.6						
MKAR	**Makanchi Array**	**7.97**	**211**	Pn	Pn	07 27 59.5	+0.8
	0.1nm,0.3s,baz=27,slow=14,SNR=5.1						

*NIED **20** 07:27:00, 40.80N×145.00E, h5km, Mw4.0 Best double couple: M0 1.03000×10^15 NP1:φs37.00000°, δ34.00000°, λ-104.00000°. NP2:φs233.00000°, δ58.00000°, λ-81.00000°.*
*IDC **20** 07:27:45.0±0.8, 40.77N×144.96E, h0km, mb3.9/20, mb1 4.1/22, mb1mx4.0/71, mbtmp3.9/22, ML3.0/3, MS3.4/2, Ms1 3.4/2, ms1mx2.6/66, Error ellipse: s-maj=20.7km s-min=16.0km az=165.0*
*JMA **20** 07:27:46.6±0.2, 40.81N×144.99E, h68km±3km, M3.6*
*ISCJB **20** 07:27:48.5±0.4, 40.81N±0.03×144.77E±0.04, h33km, mb4.2/27, MS3.4/2, Error ellipse: s-maj=4.6km s-min=4.0km az=24.4*
*NEIC **20** 07:27:50.5±0.3, 40.78N×144.86E, h35km, mb4.8/9, Error ellipse: s-maj=8.6km s-min=5.8km az=134.0*

ISC 20 07:27:50.1±0.6, 40.79N±0.05×144.85E±0.06, h35km, n70, σ1s69/69, mb4.2/27, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.77**	**314**	*e*Pn	**Pn**	**07 28 17.0**	**-1.1**
ERM				*e*Sn	**Sn**	**07 28 40.2**	**+0.9**
JEM	**Erimo**	**1.77**	**314**	P	**Pn**	**07 28 16.5**	**-1.6**
JEM				*e*S	**Sn**	**07 28 37.2**	**-2.1**
JCH	**Churui**	**2.13**	**329**	P	**Pn**	**07 28 21.4**	**-1.8**
JCH				*e*S	**Sn**	**07 28 45.7**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.17**	**314**	P	**Pn**	**07 28 23.1**	**-0.5**
JNBK				*e*S	**Sn**	**07 28 48.9**	**-0.3**
JOB	**Onbets**	**2.24**	**341**	P	**Pn**	**07 28 22.8**	**-1.9**
JOB				*e*S	**Sn**	**07 28 49.2**	**-1.9**
JANG	**Nango**	**2.58**	**262**	P	**Pn**	**07 28 27.7**	**-1.6**
JANG				*e*S	**Sn**	**07 28 57.2**	**-2.2**
JAR	**Ashorobuto**	**2.63**	**342**	P	**Pn**	**07 28 27.9**	**-2.1**
NEM2	**Nemuro 2**	**2.65**	**14**	P	**Pn**	**07 28 27.1**	**-3.2**
JNK	**Nakash**	**2.79**	**358**	*e*S	**Sn**	**07 29 00.7**	**-4.0**
JOT	**Ohata**	**2.93**	**283**	P	**Pn**	**07 28 33.2**	**-1.0**
JOT				*e*S	**Sn**	**07 29 06.1**	**-2.1**
JOM	**Ohasama**	**3.03**	**245**	P	**Pn**	**07 28 34.6**	**-0.9**
JOM				*e*S	**Sn**	**07 29 08.6**	**-2.0**
JTKR	**Abashiri--Toko**	**3.25**	**348**	P	**Pn**	**07 28 37.3**	**-1.2**
JTKR				*e*S	**Sn**	**07 29 14.1**	**-1.9**
JEW	**Eniwo**	**3.26**	**310**	*e*S	**Sn**	**07 29 15.4**	**-0.9**
JMK	**Ichinoseki**	**3.34**	**238**	P	**Pn**	**07 28 38.7**	**-1.1**
JMK				*e*S	**Sn**	**07 29 16.5**	**-1.8**
ASAJ	**Asahikawa**	**3.72**	**334**	Pn	**Pn**	**07 28 43.8**	**-1.2**
	1.4nm,0.3s,baz=192,slow=22,SNR=7.0						
ASAJ				Sn	**Sn**	**07 29 25.8**	**-1.7**
	1.0nm,0.3s,baz=107,slow=19,SNR=4.6						
ASAJ	**Asahikawa**	**3.72**	**334**	*e*Pn	**Pn**	**07 28 44.9**	**0.0**
ASAJ				*e*Sn	**Sn**	**07 29 25.8**	**-1.7**
MJAR	**Matsushiro Arr**	**6.71**	**233**	Pn	**Pn**	**07 29 25.7**	**-0.4**
	0.4nm,0.3s,baz=42,slow=11,SNR=6.4						
MAJO	**Matsushiro**	**6.71**	**233**	*e*Pn	**Pn**	**07 29 25.8**	**-0.3**
MJB9	**Matsu-Tunnel**	**6.71**	**233**	*e*Pn	**Pn**	**07 29 25.8**	**-0.3**
JHJ	**Hachijo jima 2**	**8.66**	**209**	Sn	**Sn**	**07 31 20.8**	**-8.5**
	8.2nm,0.3s,baz=90,slow=20,SNR=2.1						
USRK	**Ussuriysk Ar.**	**10.09**	**294**	Pn	**Pn**	**07 30 10.9**	**-1.5**
	0.2nm,0.3s,baz=97,slow=12,SNR=3.7						
SEY	**Seymchan**	**222**		P	**P**	**07 32 46.1**	**-1.5**
	1.7nm,0.8s,baz=212,slow=11,SNR=5.2						
TPUB	**Ta-pu**	**26.80**	**237**	*e*P	**P**	**07 33 28.5**	**+1.6**
	188nm,1.8s						
SONA0	**Songino Array**	**28.18**	**297**	*e*P	**P**	**07 33 40.0**	**+0.8**
SONM	**Songino Array**	**28.18**	**297**	P	**P**	**07 33 40.0**	**+0.8**
	0.5nm,0.5s,baz=87,slow=6.6,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**28.20**	**132**	T	T	08 03 12.8	
	baz=324,slow=76,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**28.21**	**132**	T	T	08 03 11.8	
	baz=324,slow=76,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**28.21**	**132**	T	T	08 03 13.0	
	baz=324,slow=76,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**29.07**	**133**	T	T	08 04 13.8	
	baz=325,slow=76,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**29.07**	**133**	T	T	08 04 14.6	
	baz=325,slow=76,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**29.08**	**133**	T	T	08 04 21.7	
	baz=325,slow=76,SNR=6.8						
TLY	**Talaya**	**30.13**	**305**	LR	LR	07 46 07.9	
	comp=Z,56nm,20.4s,baz=78,slow=36						
ZAA1	**Zalesovo Array**	**41.49**	**309**	*e*P	**P**	**07 35 34.0**	**+0.6**
ZALV	**Zalesovo Beam**	**41.49**	**309**	P	**P**	**07 35 34.0**	**+0.6**
	1.3nm,0.7s,baz=90,slow=5.8,SNR=3.9						
TOLK	**Toolik Lake Re**	**43.90**	**29**	*e*P	**P**	**07 35 52.9**	**0.0**
	24nm,2.0s						
IL1	**Eielson Array**	**44.88**	**34**	*e*P	**P**	**07 36 01.3**	**+0.6**
ILAR	**Eielson Array**	**44.88**	**34**	P	**P**	**07 36 01.4**	**+0.6**
	1.5nm,1.0s,baz=261,slow=6.5,SNR=9.6						
ILB	**Eielson Array**	**44.88**	**34**	*e*P	**P**	**07 36 00.2**	**-0.5**
KURK	**Kurchatov**	**45.82**	**306**	*e*P	**P**	**07 36 09.2**	**+1.0**
	3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.90**	**306**	P	**P**	**07 36 09.6**	**+0.6**
	2.1nm,0.6s,baz=77,slow=8.7,SNR=6.8						
SCRK	**Sand Creek**	**46.20**	**35**	*e*P	**P**	**07 36 12.2**	**+0.9**
	4.7nm,1.2s						
INK	**Inuvik**	**49.81**	**29**	P	**P**	**07 36 38.2**	**-0.7**
	2.0nm,0.8s,baz=302,slow=5.3,SNR=6.4						
INK	**Inuvik**	**49.81**	**29**	*e*P	P	07 36 40.4	+1.4
	2.9nm,1.0s						
BVAR	**Borovoye Array**	**50.10**	**311**	P	**P**	**07 36 42.5**	**+1.2**
	1.4nm,0.6s,baz=66,slow=7.9,SNR=9.2						
ARU	**Arti**	**55.36**	**318**	LR	LR	08 03 28.9	
	comp=Z,42nm,18.8s,baz=128,slow=39						
ABKAR	**Akbulak array**	**57.60**	**309**	*e*P	**P**	**07 37 37.3**	**+1.1**
	14nm,0.6s						
RES	**Resolute Bay**	**58.28**	**16**	P	**P**	**07 37 41.1**	**+0.6**
	3.8nm,0.8s,baz=319,slow=6.8,SNR=18						
RES	**Resolute Bay**	**58.28**	**16**	*e*P	**P**	**07 37 41.3**	**+0.8**
	4.2nm,0.8s						
YKA	**Yellowknife Ar**	**59.21**	**32**	P	**P**	**07 37 47.6**	**+0.4**
	0.4nm,0.8s,baz=301,slow=6.6,SNR=7.5						
WR1	**Warramunga Array**	**61.21**	**191**	*e*P	**P**	**07 38 01.0**	**-0.3**
	35nm,1.8s						
WRA	**Warramunga Arr**	**61.21**	**191**	P	**P**	**07 38 01.0**	**-0.3**
	2.9nm,0.9s,baz=8.0,slow=7.0,SNR=10						
FIA1	**FINESS Array S**	**66.72**	**333**	*e*P	**P**	**07 38 38.0**	**+0.8**
	90nm,1.9s						
FIA0	**FINESS Array S**	**66.72**	**333**	*e*P	**P**	**07 38 37.2**	**0.0**
FINES	**FINESS Array B**	**66.72**	**333**	P	**P**	**07 38 37.2**	**0.0**
	1.5nm,0.6s,baz=53,slow=9.8,SNR=6.8						
KBZ	**Khabaz**	**70.47**	**311**	P	P	07 39 02.7	+1.9
	2.8nm,0.8s,baz=49,slow=5.2,SNR=7.8						
NVAR	**Mina Array Bea**	**70.62**	**56**	P	**P**	**07 39 02.9**	**+0.8**
	0.3nm,0.6s,baz=268,slow=2.5,SNR=3.2						
NB200	**NORSAR Array S**	**71.73**	**338**	*e*P	**P**	**07 39 08.6**	**+0.4**
NOA	**NORSAR Array B**	**71.73**	**338**	P	**P**	**07 39 08.6**	**+0.4**
	1.3nm,0.7s,baz=38,slow=5.8,SNR=3.3						
HFS	**Hagfors**	**71.74**	**337**	P	**P**	**07 39 08.7**	**+0.4**
	2.5nm,0.8s,baz=128,slow=11,SNR=3.6						
AKASG	**Malin Array Be**	**72.94**	**323**	P	**P**	**07 39 15.8**	**+0.3**
	1.5nm,0.5s,baz=41,slow=6.1,SNR=11						
PDAR	**Pinedale Array**	**73.14**	**48**	P	**P**	**07 39 16.4**	**-0.8**
	0.2nm,0.5s,baz=1.9,slow=2.7,SNR=3.5						
PDAR	**Pinedale Array**	**73.14**	**48**	*e*P	**P**	**07 39 17.7**	**+0.5**
BUR08	**Bucovina Ar. S**	**76.97**	**323**	*e*P	**P**	**07 39 40.4**	**+1.3**
BUR04	**Bucovina Ar. S**	**76.98**	**323**	*e*P	P	07 39 40.8	+1.7
BR101	**Keskin Array S**	**78.32**	**313**	*e*P	P	07 39 49.4	+2.6
BRTR	**Keskin Array B**	**78.32**	**313**	P	P	07 39 49.4	+2.6
	0.6nm,0.7s,baz=43,slow=2.4,SNR=3.8						
GERES	**GERESS Array B**	**80.88**	**330**	P	**P**	**07 40 00.6**	**+0.2**
	0.3nm,0.3s,baz=20,slow=3.1,SNR=2.8						
LTX	**Lajitas**	**85.73**	**55**	*e*P	**P**	**07 40 25.9**	**+0.2**
TXAR	**Lajitas Array**	**85.73**	**55**	P	**P**	**07 40 25.9**	**+0.2**
	0.9nm,1.1s,baz=316,slow=5.2,SNR=3.5						
SNAA	**Sanae**	**145.12**	**197**	*e*PKPbc	**PKPdf**	**07 47 23.3**	**+0.8**

*BUC **20** 07:33:20.1±0.6, 44.86N×22.38E, h0km±4km, MD2.6/3, Error ellipse: s-maj=6.2km s-min=3.3km az=37.0*
*CSEM **20** 07:33:21.4±0.2, 44.87N×22.38E, h2km, ML1.7, Error ellipse: s-maj=3.9km s-min=2.7km az=98.0*
*BEO **20** 07:33:21.7±0.4, 44.87N×22.44E, h0km, M1.7/9*

ISC 20 07:33:21.3±1.1, 44.86N±0.02×22.37E±0.03, h4km±10km, n50, σ0s72/71, 3C-12D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJES	**Djerdap**	**0.22**	**152**	*e*Pg	**Pg**	**07 33 25.8**	**+0.3**
SRE	**Strehaia**	**0.62**	**108**	⇓*i*P	**Pg**	**07 33 32.9**	**-0.3**
SRE	**Strehaia**	**0.62**	**108**	⇓*i*P	**Pg**	**07 33 32.9**	**-0.3**
SRE	**Strehaia**	**0.62**	**108**	⇓*i*P	**Pg**	**07 33 32.9**	**-0.3**
KUBS	**Kucevo**	**0.67**	**228**	*e*Pg	**Pg**	**07 33 33.3**	**-0.8**
KUBS				*e*Sg	**Sb**	**07 33 45.1**	**-0.1**
KUBS	**Kucevo**	**0.67**	**228**	*e*Pg	**Pg**	**07 33 33.3**	**-0.8**
KUBS				*e*Sg	**Sb**	**07 33 45.1**	**-0.1**
BZS	**Buzias**	**0.93**	**325**	*e*Pg	**Pg**	**07 33 38.6**	**-0.4**
BZS				*e*Sg	**Sg**	**07 33 50.5**	**-0.5**
BZS	**Buzias**	**0.93**	**325**	⇑*i*P	**Pg**	**07 33 38.8**	**-0.2**
BZS	**Buzias**	**0.93**	**325**	⇑*i*P	**Pg**	**07 33 38.8**	**-0.2**
BZS				*i* S	**Sg**	**07 33 50.8**	**-0.2**
BZS	**Buzias**	**0.93**	**325**	*e*Pg	**Pg**	**07 33 38.6**	**-0.4**
BZS	**Buzias**	**0.93**	**325**	⇑*i*P	**Pg**	**07 33 38.8**	**-0.2**
BZS				*e*Sg	**Sg**	**07 33 50.5**	**-0.5**
BANR	**Banloc**	**1.02**	**301**	S	**Sg**	**07 33 54.3**	**+0.3**
BANR	**Banloc**	**1.02**	**301**	*i* S	**Sg**	**07 33 54.3**	**+0.3**
BANR	**Banloc**	**1.02**	**301**	S	**Sg**	**07 33 54.3**	**+0.3**
ZAGS	**Zajecar**	**1.05**	**186**	*e*Pg	**Pg**	**07 33 40.8**	**-0.6**
ZAGS				*e*Sg	**Sg**	**07 33 55.0**	**-0.1**
ZAGS	**Zajecar**	**1.05**	**186**	*e*Pg	**Pg**	**07 33 40.8**	**-0.6**
ZAGS				*e*Sg	**Sg**	**07 33 55.0**	**-0.1**
DEV	**Deva**	**1.09**	**20**	⇓*i*P	**Pg**	**07 33 42.2**	**+0.1**
DEV	**Deva**	**1.09**	**20**	⇓*i*P	**Pg**	**07 33 42.2**	**+0.1**
DEV				*i* S	**Sb**	**07 33 58.3**	**+1.0**
DEV	**Deva**	**1.09**	**20**	⇓*i*P	**Pg**	**07 33 42.2**	**+0.1**
DEV				S	**Sb**	**07 33 58.3**	**+1.0**
BOVS	**Bovan**	**1.32**	**202**	*e*Pg	**Pg**	**07 33 46.3**	**-0.2**
BOVS				*e*Sg	**Sb**	**07 34 04.5**	**+0.7**
BOVS	**Bovan**	**1.32**	**202**	*e*Pg	**Pg**	**07 33 46.3**	**-0.2**
BOVS				*e*Sg	**Sb**	**07 34 04.5**	**+0.7**
SIRR	**Siria**	**1.49**	**341**	⇓*i*P	**Pn**	**07 33 48.7**	**-0.2**
SIRR	**Siria**	**1.49**	**341**	⇓*i*P	**Pn**	**07 33 48.7**	**-0.2**
SIRR				*i* S	**Sg**	**07 34 08.0**	**-1.2**
SIRR	**Siria**	**1.49**	**341**	⇓*i*P	**Pn**	**07 33 48.7**	**-0.2**
SIRR				S	**Sg**	**07 34 08.0**	**-1.2**
GRUS	**Gruza**	**1.54**	**231**	*e*Pg	**Pg**	**07 33 51.4**	**+0.7**
GRUS				*e*Sg	**Sg**	**07 34 11.1**	**+0.5**
GRUS	**Gruza**	**1.54**	**231**	*e*Pg	**Pg**	**07 33 51.4**	**+0.7**
GRUS				*e*Sg	**Sg**	**07 34 11.1**	**+0.5**
TRUS	**Trudelj**	**1.54**	**246**	*e*Pg	**Pg**	**07 33 51.1**	**+0.3**
TRUS				*e*Sg	**Sg**	**07 34 11.4**	**+0.6**
TRUS	**Trudelj**	**1.54**	**246**	*e*Pg	**Pg**	**07 33 51.1**	**+0.3**
TRUS				*e*Sg	**Sg**	**07 34 11.4**	**+0.6**
ZAPS	**Zavoj**	**1.60**	**173**	*e*Pn	**Pn**	**07 33 51.2**	**+0.8**
ZAPS				*e*Sn	**Sn**	**07 34 11.8**	**+0.3**
DIVS	**Divibare**	**1.87**	**247**	*e*Pn	**Pb**	**07 33 56.1**	**+0.1**
DIVS				*e*Sn	**Sg**	**07 34 21.6**	**+0.4**
DIVS	**Divibare**	**1.87**	**247**	*e*Pn	**Pb**	**07 33 56.1**	**+0.1**
SELS	**Selova**	**1.87**	**209**	*e*Pn	**Pn**	**07 33 54.7**	**+0.5**
DRGR		**1.95**	**7**	*e*Pn	**Pn**	**07 33 55.6**	**+0.4**
DRGR		**1.95**	**7**	⇓*i*P	**Pn**	**07 33 54.9**	**-0.3**
DRGR		**1.95**	**7**	⇓*i*P	**Pn**	**07 33 54.9**	**-0.3**
DRGR				*i* S	**Sn**	**07 34 20.3**	**+0.1**
DRGR		**1.95**	**7**	⇓*i*P	**Pn**	**07 33 54.9**	**-0.3**
DRGR		**1.95**	**7**	*e*Pn	**Pn**	**07 33 55.6**	**+0.4**
DRGR				S	**Sn**	**07 34 20.3**	**+0.1**
VOIR		**1.98**	**72**	S	**Sn**	**07 34 21.7**	**+0.7**
VOIR		**1.98**	**72**	*i* S	**Sn**	**07 34 21.7**	**+0.7**
VOIR		**1.98**	**72**	S	**Sn**	**07 34 21.7**	**+0.7**
CJR	**Cluj-Napoca**	**2.04**	**24**	S	**Sn**	**07 34 22.0**	**-0.5**
CJR	**Cluj-Napoca**	**2.04**	**24**	*i* S	**Sn**	**07 34 22.0**	**-0.5**
CJR	**Cluj-Napoca**	**2.04**	**24**	S	**Sn**	**07 34 22.0**	**-0.5**
BARS	**Barje**	**2.08**	**191**	*e*Pn	**Pb**	**07 33 59.4**	**-0.2**
BARS	**Barje**	**2.08**	**191**	*e*Pn	**Pb**	**07 33 59.4**	**-0.2**
VTS	**Vitosha**	**2.35**	**165**	S	**Sn**	**07 34 27.2**	**-3.0**
VTS	**Vitosha**	**2.35**	**165**	*i* S	**Sn**	**07 34 27.2**	**-3.0**
MLR	**Muntele Rosu**	**2.60**	**75**	S	**Sn**	**07 34 36.5**	**0.0**
MLR	**Muntele Rosu**	**2.60**	**75**	*i* S	**Sn**	**07 34 36.5**	**0.0**
MLR	**Muntele Rosu**	**2.60**	**75**	S	**Sn**	**07 34 36.5**	**0.0**

*IDC **20** 07:34:01.1±1.3, 42.34N×86.88E, h0km, mb3.3/2, mb1 3.7/7, mb1mx3.4/76, mbtmp3.6/7, ML3.4/5, MS3.3/1, Ms1 3.5/1, ms1mx2.4/45, Error ellipse: s-maj=30.4km s-min=18.3km az=38.0*
*ISCJB **20** 07:34:02.6±0.7, 42.50N±0.07×86.91E±0.08, h20km, mb4.0/5, MS3.2/1, Error ellipse: s-maj=10.9km s-min=7.0km az=31.7*
*MOS **20** 07:34:02.6±1.4, 42.46N×86.79E, h25km, mb4.2/4, Error ellipse: s-maj=17.9km s-min=12.9km az=108.3*
*BJI **20** 07:34:04.6, 42.32N×86.58E, h5km, mb3.8/2, ML3.5/10*
*NNC **20** 07:34:08.1±2.5, 42.68N×86.46E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=19.8km s-min=14.0km az=103.0*

ISC 20 07:34:04.1±0.9, 42.37N±0.07×86.81E±0.06, h20km, n22, σ2s19/31, mb3.8/5, 9C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.58**	**24**	Pg	**Pb**	**07 34 34.5**	**+1.7**
WMQ				Sg	**Sb**	**07 34 55.8**	**+3.4**
WMQ				smax	smax		
	comp=N,1μm,0.3s						
WMQ				smax	smax		
	comp=E,2μm,0.5s						
PDGK	**Podgornoye**	**5.47**	**283**	⇓Pn	**Pn**	**07 35 26.6**	**+2.1**
	3.3nm,0.5s						
PDGK				⇓Lg	Lg	07 36 50.1	
	45nm,0.5s						
MK31	**Makanchi Array**	**5.47**	**325**	⇓Pn	**Pn**	**07 35 25.5**	**+1.0**
	2.0nm,0.4s,baz=144,slow=13,SNR=83						
MK31				⇑Sn	**Sn**	**07 36 27.8**	**+0.9**
	4.5nm,0.6s,baz=142,slow=26,SNR=4.1						
MK31				⇑Lg	Lg	07 36 48.6	
	3.6nm,0.3s,baz=143,slow=29,SNR=5.8						
MKAR	**Makanchi Array**	**5.47**	**325**	Pn	**Pn**	**07 35 25.5**	**+1.0**
	2.0nm,0.3s,baz=147,slow=14,SNR=79						
MKAR				Sn	**Sn**	**07 36 26.1**	**-0.8**
	4.0nm,0.3s,baz=137,slow=24,SNR=7.2						
MKAR				Lg	Lg	07 36 49.7	
	7.5nm,0.3s,baz=141,slow=30,SNR=8.9						
MAKZ	**Makanchi**	**5.62**	**324**	⇓Pn	**Pn**	**07 35 27.2**	**+0.7**
	1.6nm,0.4s						
MAKZ				⇑Sn	**Sn**	**07 36 29.7**	**-0.7**
	6.6nm,0.6s						
MAKZ				⇑Lg	Lg	07 36 52.5	
	16nm,0.6s						
MDOK	**Medeo**	**7.23**	**280**	⇑Pn	**Pn**	**07 35 51.8**	**+3.0**
	2.9nm,0.6s						
MDOK				⇑Lg	Lg	07 37 45.7	
	27nm,1.0s						
AAK	**Ala-Archa**	**9.11**	**276**	Pn	**Pn**	**07 36 17.2**	**+2.7**
	0.4nm,0.3s,baz=90,slow=6.6,SNR=4.4						
AAK				Lg	Lg	07 38 49.7	
	0.4nm,0.3s,baz=299,slow=21,SNR=3.9						
AAK	**Ala-Archa**	**9.11**	**276**	⇑P	**Pn**	**07 36 15.3**	**+0.8**
KURBB	**Kurchatov Arra**	**10.03**	**328**	Pn	**Pn**	**07 36 26.5**	**-0.4**
	0.2nm,0.3s,baz=132,slow=14,SNR=4.5						
KURBB				Lg	Lg	07 39 13.7	
	0.1nm,0.3s,baz=146,slow=30,SNR=4.0						
KURK	**Kurchatov**	**10.07**	**329**	⇑Pn	**Pn**	**07 36 26.8**	**-0.6**
	2.5nm,0.7s						
KURK				⇓Sn	**Sn**	**07 38 15.4**	**-4.2**
	2.6nm,0.7s						
KURK				⇑Lg	Lg	07 39 11.8	
	9.9nm,0.8s						
KURK	**Kurchatov**	**10.07**	**329**	*i* P	**Pn**	**07 36 27.8**	**+0.4**
KNGR	**Kungurtug, Tuv**	**11.04**	**38**	⇓*i*P	**Pn**	**07 36 39.4**	**-1.6**
ZALV	**Zalesovo Beam**	**11.66**	**354**	Pn	**Pn**	**07 36 48.8**	**-0.4**
	1.7nm,0.3s,baz=176,slow=14,SNR=15						
ZALV				Sn	**Sn**	**07 38 53.4**	**-5.2**
	0.7nm,0.3s,baz=172,slow=25,SNR=4.3						
SONM	**Songino Array**	**14.85**	**62**	Pn	**Pn**	**07 37 33.9**	**+0.9**
	0.1nm,0.3s,baz=255,slow=12,SNR=3.5						
ARU	**Arti**	**22.93**	**318**	*d*P	**P**	**07 39 06.1**	**-0.6**
ARU						07 39 28.5	
ARU				S	**S**	**07 43 17.3**	**+1.8**
ARU				SS	**SnSn**	**07 43 48.3**	**+1.0**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**25.98**	**153**	LR	LR	07 50 43.1	
	comp=Z,62nm,18.0s,baz=196,slow=39						
KIV	**Kislovodsk**	**31.94**	**288**	*e*P	**P**	**07 40 28.8**	**+0.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ANN	**Anapa**	**35.41**	**291**	*e*P	**P**	**07 40 56.2**	**-2.3**
ANN				*e*		07 42 16.6	
ANN				*e*S	**S**	**07 46 28.5**	**-3.6**
ANN				*e*SS	**SnSn**	**07 48 55.8**	**+4.4**
ANN				pmax	pmax		
	comp=Z,173nm,1.8s						
MJA0	**Matsu Arr-Jizo**	**39.64**	**81**	*e*P	**P**	**07 41 33.2**	**-1.3**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA	**Yellowknife Ar**	**74.07**	**10**	P	**P**	**07 45 38.3**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=341,slow=5.6,SNR=5.5						
YKA	**Yellowknife Ar**	**74.07**	**10**	*e*P	**P**	**07 45 39.1**	**+0.9**
WRA	**Warramunga Arr**	**75.93**	**134**	P	**P**	**07 45 49.2**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=338,slow=6.5,SNR=3.8						

IDC 20 07:37:15.8±9.3, 21.76N×143.17E, h490km±116km, mb2.6/5, mb1 2.9/5, mb1mx2.5/66, mbtmp3.5/5, Error ellipse: s-maj=37.0km s-min=20.7km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAK	**Yakutsk**	**41.30**	**350**	P	P	07 44 17.4	+0.1
	20nm,0.4s,baz=134,slow=0.7,SNR=5.2						
WRA	**Warramunga Arr**	**42.34**	**192**	P	P	07 44 25.9	-0.2
	0.5nm,0.8s,baz=12,slow=8.6,SNR=7.2						
MKAR	**Makanchi Array**	**54.65**	**313**	P	P	07 45 57.7	+0.1
	0.2nm,0.5s,baz=84,slow=7.7,SNR=3.0						
BVAR	**Borovoye Array**	**62.62**	**319**	P	P	07 46 51.2	-0.1
	0.3nm,0.4s,baz=105,slow=8.0,SNR=3.5						
YKA	**Yellowknife Ar**	**76.40**	**28**	P	P	07 48 13.1	-0.7
	0.2nm,0.4s,baz=292,slow=5.7,SNR=7.5						
NVAR	**Mina Array Bea**	**83.11**	**51**	P	P	07 48 51.1	+1.2
	0.3nm,0.6s,baz=281,slow=5.3,SNR=4.6						

*NIED **20** 07:40:00, 37.50N×141.60E, h62km, Mw3.9 Best double couple: M0 9.14000×10^14 NP1:φs26.00000°, δ26.00000°, λ-127.00000°. NP2:φs247.00000°, δ70.00000°, λ-74.00000°.*
*JMA **20** 07:40:11.5±0.1, 37.45N×141.58E, h43km±2km, M3.6*
*IDC **20** 07:40:14.3±2.2, 38.22N×140.66E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/63, mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=45.9km s-min=25.7km az=80.0*

ISC 20 07:40:10.6±1.8, 37.44N±0.06×141.7E±0.1, h40km±12km, n17, σ1s40/25, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.66**	**264**	P	**Pn**	**07 40 23.3**	**-0.2**
J

0.6nm,0.4s,baz=131,slow=8.1,SNR=11
ZALV Zalesovo Beam 71.26 335 P P 08 08 27.2 0.0
0.6nm,0.3s,baz=137,slow=8.9,SNR=2.7
KURBB Kurchatov Arra 71.98 329 P P 08 08 31.6 0.0
0.6nm,0.6s,baz=131,slow=5.3,SNR=3.2

DJA 20 08:01:56.5±0.8, 4°S±3°×12°3E±°, h16km±7km, M3.8/8, mb4.2/1, MLv3.6/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**0.70**	**240**	P	Pb	08 02 11.0	+0.6
KDI				S	Sb	08 02 20.4	+0.5
BBSI	**Bau Bau**	**1.99**	**199**	P	Pn	08 02 29.8	+0.3
LUWI	**Luwuk**	**2.58**	**350**	P	Pn	08 02 38.1	+0.4
LUWI				S	Sn	08 03 08.2	-0.6
APSI	**Ampana**	**3.10**	**329**	P	Pn	08 02 45.6	+0.8
APSI				S	Sn	08 03 23.0	+1.4
SANI	**Sanana**	**3.16**	**61**	P	Pn	08 02 45.1	-0.5
SANI				S	Sn	08 03 23.6	+0.7
BNSI	**Bone**	**3.22**	**256**	P	Pn	08 02 46.4	0.0

*CSEM **20** 08:16:40.9±0.3, 38°45N×43°65E, h10km, ML2.6, Error ellipse: s-maj=7.2km s-min=5.3km az=111.0*
*ISCJB **20** 08:16:41.2±0.9, 38°48N±0°04×43°71E±0°06, h0km±8km, Error ellipse: s-maj=7.5km s-min=5.8km az=17.4*
*DDA **20** 08:16:41.0, 38°46N×43°70E, h7km, Ml2.7*
*ISK **20** 08:16:43.5, 38°64N×43°43E, h4km, ML2.6/4*
ISC 20 08:16:41.4±1.1, 38°48N±0°03×43°67E±0°04, h11km±7km, n21, σ0°84/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.21**	**284**	*i* P	**Pg**	**08 16 45.8**	**-0.1**
TVAN				*i* S	**Sg**	**08 16 50.1**	**+1.0**
TVAN	**Van**	**0.21**	**284**	P	**Pg**	**08 16 45.8**	**-0.1**
TVAN				S	**Sg**	**08 16 50.1**	**+1.0**
VANB	**Van**	**0.25**	**298**	PG	**Pg**	**08 16 46.0**	**-0.5**
VANB				SG	**Sg**	**08 16 49.9**	**-0.1**
VANB	**Van**	**0.25**	**298**	*e*Pg	**Pg**	**08 16 46.0**	**-0.5**
VANB				*e*Sg	**Sg**	**08 16 49.9**	**-0.1**
GEVA	**Gevas**	**0.51**	**251**	*i* P	**Pb**	**08 16 51.4**	**-1.0**
GEVA				*i* S	**Sb**	**08 17 00.8**	**+0.9**
GEVA	**Gevas**	**0.51**	**251**	P	**Pb**	**08 16 51.4**	**-1.0**
GEVA				S	**Sb**	**08 17 00.8**	**+0.9**
CLDR	**Caldiran**	**0.69**	**16**	PG	**Pb**	**08 16 56.1**	**+0.5**
CLDR				SG	**Sb**	**08 17 06.0**	**+0.7**
CLDR	**Caldiran**	**0.69**	**16**	*i* P	**Pg**	**08 16 54.8**	**0.0**
CLDR				*i* S	**Sb**	**08 17 05.6**	**+0.3**
CLDR	**Caldiran**	**0.69**	**16**	P	**Pg**	**08 16 54.8**	**0.0**
CLDR	**Caldiran**	**0.69**	**16**	*e*Pg	**Pb**	**08 16 56.1**	**+0.5**
CLDR				S	**Sb**	**08 17 05.6**	**+0.3**
CLDR				*e*Sg	**Sb**	**08 17 06.0**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.81**	**294**	*i* P	**Pg**	**08 16 56.5**	**-0.6**
ADCV				*i* S	**Sb**	**08 17 09.6**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.81**	**294**	P	**Pg**	**08 16 56.5**	**-0.6**
ADCV				S	**Sb**	**08 17 09.6**	**+0.9**
HAKT	**HAKKARI**	**0.92**	**178**	*i* P	**Pg**	**08 16 58.5**	**-0.6**
HAKT				*i* S	**Sn**	**08 17 13.4**	**-0.5**
HAKT	**HAKKARI**	**0.92**	**178**	P	**Pg**	**08 16 58.5**	**-0.6**
HAKT				S	**Sn**	**08 17 13.4**	**-0.5**
TUTA	**Tutak**	**1.14**	**324**	*i* P	**Pg**	**08 17 03.1**	**-0.2**
TUTA				*i* S	**Sn**	**08 17 20.0**	**+0.7**
TUTA	**Tutak**	**1.14**	**324**	P	**Pg**	**08 17 03.1**	**-0.2**
TUTA				S	**Sn**	**08 17 20.0**	**+0.7**
AGRB	**Hanur-Agry**	**1.22**	**334**	PG	**Pg**	**08 17 03.4**	**-1.4**
AGRB	**Hanur-Agry**	**1.22**	**334**	*e*Pg	**Pg**	**08 17 03.4**	**-1.4**
GURO	**Guroymak-BITLI**	**1.29**	**274**	PN	**Pn**	**08 17 04.8**	**-0.7**
GURO	**Guroymak-BITLI**	**1.29**	**274**	*e*Pn	**Pn**	**08 17 04.8**	**-0.7**
SIRT	**Sirnak**	**1.38**	**225**	PN	**Pg**	**08 17 10.3**	**+2.5**

*STR **20** 08:19:20.7±0.6, 45°16N±0°04×4°14E±0°02, h5km, MLv1.9/6*
*CSEM **20** 08:19:21.0±0.2, 45°20N×4°12E, h5km, ML1.7/6, Error ellipse: s-maj=3.4km s-min=2.7km az=69.0*
LDG 20 08:19:21.6±0.1, 45°20N×4°16E, h2km, Md1.9/1, Ml1.8/6, Error ellipse: s-maj=1.6km s-min=1.3km az=71.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSB	**Saint Sauveur**	**0.28**	**74**	Pg	Pg	08 19 27.2	+0.1
SSB				Sg	Sg	08 19 31.5	+0.8
VIVF	**Saint-Julien-l**	**0.51**	**133**	*e*Pg	Pg	08 19 31.5	+0.2
VIVF				*e*Sg	Sg	08 19 37.5	-0.3
	2.8nm,0.2s						
VIVF	**Saint-Julien-l**	**0.51**	**133**	*e*Pg	Pg	08 19 31.5	+0.2
VIVF				*e*Sg	Sg	08 19 37.5	-0.3
	1.4nm,0.2s						
PLDF	**La Plantade**	**0.85**	**334**	Pg	Pg	08 19 37.3	-0.7
PLDF				Sg	Sg	08 19 49.6	+0.6
PLDF	**La Plantade**	**0.85**	**334**	Pg	Pg	08 19 37.3	-0.6
PYM	**Petit Puy Mans**	**0.97**	**305**	Pg	Pg	08 19 38.7	-1.6
PYM				Sg	Sg	08 19 53.7	+0.8
PYM	**Petit Puy Mans**	**0.97**	**305**	Pg	Pg	08 19 38.8	-1.5
LASF	**Ste Croix**	**1.15**	**191**	*e*Pg	Pg	08 19 43.1	-0.5
LASF				*e*Sg	Sg	08 19 58.6	+0.2
	3.7nm,0.3s						
LASF	**Ste Croix**	**1.15**	**191**	*e*Pg	Pg	08 19 43.1	-0.5
LASF				*e*Sg	Sg	08 19 58.6	+0.2
	1.9nm,0.3s						
SMF	**Signal de Mont**	**1.46**	**351**	*e*Pg	Pn	08 19 49.0	0.0
SMF				*e*Sg	Sg	08 20 08.0	-0.5
	2.3nm,0.3s						
SMF	**Signal de Mont**	**1.46**	**351**	*e*Pg	Pn	08 19 49.0	0.0
SMF				*e*Sg	Sg	08 20 08.0	-0.5
	1.1nm,0.3s						
CAF	**Calviac**	**1.51**	**260**	*e*Pg	Pn	08 19 49.9	+0.2
CAF				*e*Sg	Sb	08 20 09.5	-0.4
	1.3nm,0.2s						
CAF	**Calviac**	**1.51**	**260**	*e*Pg	Pn	08 19 49.9	+0.2
CAF				*e*Sg	Sb	08 20 09.5	-0.4
	0.6nm,0.2s						
AVF	**Avril sur Loir**	**1.68**	**341**	*e*Pg	Pb	08 19 52.8	-0.5
AVF				*e*Sg	Sn	08 20 14.5	+0.3
	1.6nm,0.3s						
AVF	**Avril sur Loir**	**1.68**	**341**	*e*Pg	Pb	08 19 52.8	-0.5
AVF				*e*Sg	Sn	08 20 14.5	+0.3
	0.8nm,0.3s						
MTLF	**Montolieu**	**2.32**	**217**	*e*Pn	Pn	08 19 58.7	-2.2
MTLF				*e*Sg	Sb	08 20 34.7	+1.3
	0.6nm,0.3s						
MTLF	**Montolieu**	**2.32**	**217**	*e*Pn	Pn	08 19 58.7	-2.2
MTLF				*e*Sg	Sb	08 20 34.7	+1.3
	0.3nm,0.3s						

*IDC **20** 08:26:29.9±0.7, 52°38N×175°73E, h0km, mb3.8/20, mb1 4.0/22, mb1mx3.8/79, mbtmp3.9/22, ML3.6/2, MS3.1/5, Ms1 3.2/5, ms1mx2.6/70, Error ellipse: s-maj=21.7km s-min=13.4km az=169.0*
*ISCJB **20** 08:26:33.3±0.5, 52°42N±0°09×175°63E±0°06, h35km, mb3.9/24, MS3.0/4, Error ellipse: s-maj=13.2km s-min=4.6km az=7.1*
*NEIC **20** 08:26:33.0±0.0, 52°09N×175°39E, h24km, mb4.2/7, ML3.9(AEIC), After AEIC.*
ISC 20 08:26:35.3±0.7, 52°5N±0°1×175°54E±0°04, h35km, n45, σ1°20/41, mb4.0/24, MS3.0/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.92**	**288**	P	**Pn**	**08 26 49.7**	**-2.1**
SMY				S	**Sn**	**08 27 03.5**	**-0.2**
TAPA	**Tanaga Point A**	**4.14**	**96**	P	**Pn**	**08 27 35.3**	**-0.8**
TAPA				S	**Sn**	**08 28 22.5**	**-0.8**
KICM	**Kanaga Island**	**4.50**	**94**	P	**Pn**	**08 27 40.6**	**-0.3**
ADAG	**Mount Adagdak**	**4.85**	**92**	P	**Pn**	**08 27 45.9**	**+0.2**
ETKA	**Kagalaska Isla**	**4.99**	**94**	P	**Pn**	**08 27 47.5**	**-0.1**
KOWE	**Korovin West**	**6.25**	**87**	P	**Pn**	**08 28 02.3**	**-2.7**
KOFP	**Korovin Flat P**	**6.35**	**87**	P	**Pn**	**08 28 04.7**	**-1.6**
PETK	**Petropavlovsk-**	**10.83**	**281**	Pn	**Pn**	**08 29 08.0**	**+0.3**
	0.4nm,0.3s,baz=95,slow=16,SNR=6.7						
PETK				Sn	**Sn**	**08 31 04.4**	**-3.2**
	0.2nm,0.3s,baz=145,slow=20,SNR=2.9						
KDAK	**Kodiak Island**	**18.88**	**61**	P	**P**	**08 30 51.2**	**-1.0**
	0.9nm,0.3s,baz=271,slow=4.8,SNR=15						
KDAK				LR	LR	08 38 49.5	
	comp=Z,71nm,18.1s,baz=284,slow=39						
KTH	**Kantishna Hill**	**20.68**	**44**	*e*P	**P**	**08 31 12.6**	**+0.6**
	20nm,1.2s						
BPAW	**Bear Paw Mtn.**	**20.82**	**43**	*e*P	**P**	**08 31 14.1**	**+0.7**
	1.2nm,0.7s						
TRF	**Thorofare Moun**	**20.93**	**45**	*e*P	**P**	**08 31 15.2**	**+0.5**
	12nm,0.9s						
SML	**Sawmill**	**21.45**	**50**	*e*P	**P**	**08 31 20.3**	**+0.1**
	1.4nm,0.7s						
MCK	**McKinley**	**21.58**	**45**	*e*P	**P**	**08 31 21.9**	**+0.2**
	7.4nm,0.9s						
ILAR	**Eielson Array**	**22.71**	**43**	P	**P**	**08 31 32.5**	**-1.1**
	1.2nm,0.6s,baz=242,slow=8.2,SNR=22						
ILAR				LR	LR	08 41 58.7	
	comp=Z,44nm,18.2s,baz=300,slow=41						
EGAK	**Eagle**	**25.12**	**44**	*e*P	**P**	**08 31 55.9**	**-0.6**
	8.7nm,0.9s						
DAWY	**Dawson**	**25.79**	**46**	*e*P	**P**	**08 32 02.9**	**+0.2**
	6.5nm,0.8s						
TIXI	**Tiksi**	**27.98**	**331**	LR	LR	08 42 41.7	
	comp=Z,49nm,18.3s,baz=206,slow=35						
INK	**Inuvik**	**28.65**	**37**	P	**P**	**08 32 28.6**	**+0.5**
	1.2nm,0.7s,baz=246,slow=7.7,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**33.34**	**195**	T	T	09 08 08.2	
	baz=9.7,slow=76,SNR=74						
H11N3	**WAKE ISLAND Hy**	**33.36**	**195**	T	T	09 08 18.1	
	baz=9.7,slow=76,SNR=90						
H11N1	**WAKE ISLAND Hy**	**33.36**	**195**	T	T	09 08 19.5	
	baz=9.7,slow=76,SNR=80						
H11S1	**WAKE ISLAND Hy**	**34.58**	**195**	T	T	09 09 49.6	
	baz=9.4,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**34.59**	**195**	T	T	09 09 49.4	
	baz=9.4,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**34.59**	**195**	T	T	09 09 59.7	
	baz=9.4,slow=76,SNR=34						
YKA	**Yellowknife Ar**	**37.03**	**46**	P	**P**	**08 33 41.3**	**+0.1**
	0.2nm,0.6s,baz=285,slow=8.1,SNR=7.6						
SONM	**Songino Array**	**43.01**	**293**	P	**P**	**08 34 32.2**	**+1.0**
	0.8nm,0.6s,baz=60,slow=8.1,SNR=5.4						
NVAR	**Mina Array Bea**	**46.85**	**80**	P	**P**	**08 35 01.4**	**-0.6**
	0.1nm,0.3s,baz=301,slow=7.2,SNR=2.5						
SPITS	**Spitsbergen Ar**	**49.01**	**354**	P	**P**	**08 35 17.8**	**-0.1**
	7.1nm,0.9s,baz=356,slow=10,SNR=7.1						
PDAR	**Pinedale Array**	**49.27**	**70**	P	**P**	**08 35 19.4**	**-1.2**
	0.3nm,0.7s,baz=265,slow=5.4,SNR=3.2						
KURK	**Kurchatov**	**55.70**	**310**	P	**P**	**08 36 09.0**	**+1.2**
KURBB	**Kurchatov Arra**	**55.80**	**310**	P	**P**	**08 36 09.0**	**+0.5**
	3.3nm,0.9s,baz=49,slow=7.0,SNR=9.7						
ARCES	**ARCESS Array B**	**56.37**	**348**	P	**P**	**08 36 11.9**	**-0.4**
	2.0nm,0.8s,baz=36,slow=9.4,SNR=4.1						
MKAR	**Makanchi Array**	**56.58**	**305**	P	**P**	**08 36 13.4**	**-0.7**
	0.5nm,0.5s,baz=58,slow=6.1,SNR=8.9						
MKAR				LR	LR	09 00 10.1	
	comp=Z,33nm,19.0s,baz=313,slow=36						
BVAR	**Borovoye Array**	**57.75**	**316**	P	**P**	**08 36 23.5**	**+1.2**
	1.7nm,0.6s,baz=54,slow=7.5,SNR=7.7						
SCHQ	**Schefferville**	**61.26**	**36**	P	**P**	**08 36 44.6**	**-1.8**
	3.6nm,0.9s,baz=235,slow=12,SNR=3.6						
TXAR	**Lajitas Array**	**61.90**	**78**	P	**P**	**08 36 49.9**	**-1.4**
	0.2nm,0.3s,baz=308,slow=4.4,SNR=3.1						
AKTO	**Aktyubinsk**	**64.72**	**321**	P	**P**	**08 37 10.7**	**+1.2**
	2.3nm,0.8s,baz=23,slow=7.2,SNR=8.3						
NOA	**NORSAR Array B**	**66.17**	**352**	P	**P**	**08 37 18.3**	**-0.4**
	1.2nm,0.8s,baz=2.1,slow=2.7,SNR=3.4						
CMAR	**Chiang Mai Arr**	**67.45**	**271**	P	**P**	**08 37 28.6**	**+1.2**
	1.0nm,0.4s,baz=26,slow=7.4,SNR=3.7						
CMAR				LR	LR	09 07 41.9	
	comp=Z,4.3nm,20.5s,baz=355,slow=37						
AKASG	**Malin Array Be**	**73.35**	**338**	P	**P**	**08 38 04.3**	**+1.3**
	0.8nm,0.5s,baz=23,slow=6.2,SNR=3.3						
CLL	**Collm**	**75.57**	**349**	*e*P	**P**	**08 38 18.0**	**+2.1**
WRA	**Warramunga Arr**	**80.50**	**219**	P	**P**	**08 38 43.4**	**-0.2**
	0.8nm,0.5s,baz=32,slow=6.1,SNR=10						
BRTR	**Keskin Array B**	**82.42**	**331**	P	**P**	**08 38 55.8**	**+2.0**
	0.5nm,0.7s,baz=53,slow=4.8,SNR=3.6						
ASAR	**Alice Springs**	**84.05**	**218**	P	**P**	**08 39 02.2**	**+0.1**
	0.3nm,0.8s,baz=20,slow=5.4,SNR=2.7						

*ISCJB **20** 08:34:00.0±0.6, 40°92N±0°04×145°12E±0°06, h10km, mb3.6/8, Error ellipse: s-maj=6.9km s-min=5.5km az=3.0*
*IDC **20** 08:34:00.1±1.1, 40°75N×145°11E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/65, mbtmp3.5/9, ML3.1/2, Error ellipse: s-maj=28.6km s-min=21.7km az=118.0*
*JMA **20** 08:34:01.7±0.2, 40°88N×145°25E, h65km±3km, M3.7*
ISC 20 08:34:01.0±0.9, 40°88N±0°05×145°12E±0°07, h10km, n27, σ1°80/35, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.87**	**308**	P	**Pn**	**08 34 33.3**	**+0.3**
JEM				*e*S	**Sn**	**08 34 54.7**	**-1.9**
JAK	**Akkeshi**	**2.14**	**352**	P	**Pn**	**08 34 36.0**	**-0.7**
JAK				*e*S	**Sn**	**08 35 00.3**	**-3.1**
JCH	**Churui**	**2.18**	**323**	P	**Pn**	**08 34 37.4**	**+0.1**
JCH				*e*S	**Sn**	**08 35 02.6**	**-1.7**
JOB	**Onbets**	**2.24**	**335**	P	**Pn**	**08 34 38.3**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.27**	**309**	P	**Pb**	**08 34 39.8**	**-2.1**
JNBK				*e*S	**Sn**	**08 35 06.0**	**-0.4**
NEM2	**Nemuro 2**	**2.53**	**10**	P	**Pn**	**08 34 41.1**	**-1.0**
NEM2				*e*S	**Sn**	**08 35 09.7**	**-3.2**
JAR	**Ashorobuto**	**2.62**	**338**	P	**Pn**	**08 34 42.6**	**-0.7**
JNK	**Nakash**	**2.72**	**354**	P	**Pn**	**08 34 43.6**	**-1.2**
JNK				*e*S	**Sn**	**08 35 13.3**	**-4.4**
JANG	**Nango**	**2.79**	**261**	P	**Pn**	**08 34 44.9**	**-0.8**
JBT2	**Biratori 2**	**2.80**	**314**	P	**Pn**	**08 34 46.2**	**+0.3**
JFR	**Furan**	**2.96**	**321**	*e*S	**Sn**	**08 35 20.9**	**-2.8**
JRA	**Rausu**	**3.06**	**360**	P	**Pn**	**08 34 48.4**	**-0.9**
JOT	**Ohata**	**3.12**	**281**	P	**Pn**	**08 34 50.6**	**+0.4**
JTKR	**Abashiri--Toko**	**3.22**	**344**	P	**Pn**	**08 34 51.9**	**+0.3**
JTKR				*e*S	**Sn**	**08 35 28.1**	**-1.9**
JOM	**Ohasama**	**3.25**	**246**	P	**Pn**	**08 34 51.8**	**-0.3**
JEW	**Eniwo**	**3.37**	**307**	*e*S	**Sn**	**08 35 34.0**	**+0.2**
JMK	**Ichinoseki**	**3.56**	**239**	P	**Pn**	**08 34 55.8**	**-0.5**
JMK				*e*S	**Sn**	**08 35 34.1**	**-4.4**
ASAJ	**Asahikawa**	**3.74**	**331**	Pn	**Pn**	**08 34 60.0**	**+1.3**
	0.9nm,0.3s,baz=197,slow=17,SNR=15						
ASAJ				Sn	**Sn**	**08 35 43.9**	**+1.1**
	1.8nm,0.3s,baz=64,slow=33,SNR=6.4						
MJAR	**Matsushiro Arr**	**6.92**	**234**	Pn	**Pn**	**08 35 41.9**	**-0.6**
	0.5nm,0.3s,baz=38,slow=12,SNR=5.8						
SONM	**Songino Array**	**28.32**	**297**	P	P	08 39 59.2	+4.4
	0.6nm,0.7s,baz=78,slow=7.5,SNR=4.8						
ILAR	**Eielson Array**	**44.70**	**34**	P	**P**	**08 42 15.4**	**+1.7**
	0.6nm,0.8s,baz=262,slow=5.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**46.02**	**306**	P	**P**	**08 42 25.8**	**+1.4**
	0.8nm,0.8s,baz=77,slow=8.6,SNR=2.3						
INK	**Inuvik**	**49.64**	**29**	P	**P**	**08 42 54.6**	**+2.5**
	0.8nm,0.6s,baz=309,slow=5.1,SNR=6.4						
BVAR	**Borovoye Array**	**50.20**	**311**	P	**P**	**08 42 57.8**	**+1.2**
	0.3nm,0.4s,baz=69,slow=7.9,SNR=2.9						
YKA	**Yellowknife Ar**	**59.03**	**32**	P	**P**	**08 44 01.1**	**+0.5**
	0.1nm,0.6s,baz=302,slow=6.5,SNR=6.1						
WRA	**Warramunga Arr**	**61.33**	**192**	P	**P**	**08 44 16.6**	**-0.3**
	1.3nm,1.2s,baz=12,slow=6.4,SNR=3.4						
FINES	**FINESS Array B**	**66.75**	**333**	P	**P**	**08 44 53.0**	**+1.0**
	1.7nm,0.9s,baz=66,slow=3.4,SNR=3.3						

IDC 20 08:42:09.8±44.0, 15°17S×172°06W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/45, mbtmp4.0/3, Error ellipse: s-maj=855.6km s-min=185.9km az=78.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.27**	**240**	P	P	08 50 29.1	-0.3
	1.3nm,0.6s,baz=91,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**51.16**	**256**	P	P	08 51 15.1	0.0
	0.5nm,0.7s,baz=92,slow=7.7,SNR=6.8						
ASAR	**Alice Springs**	**51.41**	**252**	P	P	08 51 16.9	-0.1
	4.2nm,0.6s,baz=88,slow=8.1,SNR=56						

IDC 20 08:51:19.1±20.0, 26°94S×71°09E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/63, mbtmp3.5/3, Error ellipse: s-maj=678.3km s-min=42.7km az=49.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**56.37**	**102**	P	P	09 01 02.0	-0.5
	0.4nm,0.7s,baz=254,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**57.94**	**98**	P	P	09 01 13.9	+0.3
	0.5nm,0.7s,baz=252,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**74.08**	**8**	P	P	09 02 56.8	0.0
	0.4nm,0.7s,baz=183,slow=5.5,SNR=4.6						

*ISCJB **20** 08:52:07.0±0.4, 67°13N±0°02×20°69E±0°07, h0km, Error ellipse: s-maj=3.9km s-min=3.1km az=162.6*
*CSEM **20** 08:52:07.9±0.3, 67°14N×20°67E, h2km, ML2.1, Error ellipse: s-maj=6.6km s-min=4.8km az=70.0, Mining explosion.*
*UPP **20** 08:52:07.7, 67°18N×20°57E, h0km, ML2.5, Suspected Mining explosion.*
*NAO **20** 08:52:08.5±1.0, 67°15N×20°86E, ML2.5*
*HEL **20** 08:52:08.1±0.1, 67°16N×20°58E, h0km, ML2.1, ML2.5(UPP), Explosion*
*BER **20** 08:52:12.2±3.8, 67°14N×21°00E, h0km, ML2.2, ML2.5(NAO), Suspected explosion*
ISC 20 08:52:07.0±0.7, 67°15N±0°02×20°55E±0°02, h0km, n62, σ0°93/85, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.03**	**169**	P	**Pg**	**08 52 09.1**	**+1.5**
DUNU	**Dundret**	**0.03**	**169**	P	**Pg**	**08 52 09.1**	**+1.5**
DUNU	**Dundret**	**0.03**	**169**	*i* P	**Pg**	**08 52 09.1**	**+1.5**
MASU	**Masugnsbyn**	**0.64**	**61**	P	**Pg**	**08 52 19.7**	**+0.5**
MASU				S	**Sg**	**08 52 27.6**	**+0.1**
MASU	**Masugnsbyn**	**0.64**	**61**	P	**Pg**	**08 52 19.7**	**+0.5**
MASU				S	**Sg**	**08 52 27.6**	**+0.1**
MASU	**Masugnsbyn**	**0.64**	**61**	*i* P	**Pg**	**08 52 19.7**	**+0.5**
MASU				*i* S	**Sg**	**08 52 27.6**	**+0.1**
RATU	**Laukkuluspa**	**0.77**	**332**	P	**Pg**	**08 52 21.8**	**0.0**
RATU	**Laukkuluspa**	**0.77**	**332**	P	**Pg**	**08 52 21.8**	**0.0**
RATU	**Laukkuluspa**	**0.77**	**332**	*i* P	**Pg**	**08 52 21.8**	**0.0**
KUA	**Kurravaara**	**0.81**	**354**	P	**Pg**	**08 52 22.5**	**-0.1**
KUA	**Kurravaara**	**0.81**	**354**	P	**Pg**	**08 52 22.4**	**-0.1**
KUA	**Kurravaara**	**0.81**	**354**	*i* P	**Pg**	**08 52 22.4**	**-0.1**
ERTU	**Ertsjaerv**	**0.88**	**132**	P	**Pg**	**08 52 23.5**	**-0.4**
ERTU				S	**Sg**	**08 52 35.9**	**+0.7**
ERTU	**Ertsjaerv**	**0.88**	**132**	P	**Pg**	**08 52 23.5**	**-0.4**
ERTU	**Ertsjaerv**	**0.88**	**132**	*e*P	**Pg**	**08 52 23.5**	**-0.4**
ERTU				*e*S	**Sg**	**08 52 36.0**	**+0.7**
NIKU	**Nikkaluokta**	**0.93**	**322**	P	**Pg**	**08 52 25.0**	**+0.2**
NIKU	**Nikkaluokta**	**0.93**	**322**	P	**Pg**	**08 52 25.0**	**+0.2**
NIKU	**Nikkaluokta**	**0.93**	**322**	*e*P	**Pg**	**08 52 25.0**	**+0.2**
LANU	**Lannavaara**	**1.06**	**31**	P	**Pg**	**08 52 26.3**	**-1.0**
LANU				Sb	**Sb**	**08 52 41.9**	**-0.6**
LANU	**Lannavaara**	**1.06**	**31**	P	**Pg**	**08 52 26.3**	**-1.0**
LANU	**Lannavaara**	**1.06**	**31**	*e*P	**Pg**	**08 52 26.2**	**-1.0**
LANU				*e*SB	**Sb**	**08 52 42.0**	**-0.6**
HEF	**Hetta**	**1.73**	**42**	*e*P	**Pn**	**08 52 38.4**	**+0.1**
	SNR=50						
HEF				Sg	**Sn**	**08 53 00.7**	**-0.3**
HEF				*e*S	**Sn**	**08 53 01.1**	**+0.1**
	SNR=50						
HEF	**Hetta**	**1.73**	**42**	*e*P	**Pn**	**08 52 38.4**	**+0.1**
HEF				*e*S	**Sn**	**08 53 01.1**	**+0.1**
HEF	**Hetta**	**1.73**	**42**	*e*P	**Pn**	**08 52 38.4**	**+0.1**
	baz=225						
HEF				MSG		08 52 59.1	
	comp=Z,12nm,0.2s						
HEF				*e*SG	**Sn**	**08 53 00.7**	**-0.3**
TOF	**Tornio**	**1.85**	**124**	Pn	**Pn**	**08 52 40.9**	**+1.0**
TOF				Sg	**Sb**	**08 53 05.9**	**+0.6**
TOF	**Tornio**	**1.85**	**124**	*e*PN	**Pn**	**08 52 40.9**	**+1.0**
TOF				MSG		08 53 02.5	
	comp=Z,12nm,0.2s						
TOF				*e*SG	**Sb**	**08 53 05.9**	**+0.6**
KIF	**Kilpisjarvi**	**1.86**	**3**	Pn	**Pb**	**08 52 41.6**	**-0.3**
KIF				Sg	**Sg**	**08 53 08.0**	**+1.2**
KIF	**Kilpisjarvi**	**1.86**	**3**	*e*P	**Pb**	**08 52 41.9**	**0.0**
KIF				Pn	**Pb**	**08 52 42.0**	**+0.1**
KIF				Lg	Lg	08 53 08.2	
KIF				*e*S	**Sg**	**08 53 08.8**	**+2.0**
KIF	**Kilpisjarvi**	**1.86**	**3**	Pn	**Pb**	**08 52 42.0**	**+0.1**
KIF				Lg	Lg	08 53 08.2	
KIF	**Kilpisjarvi**	**1.86**	**3**	*e*PN	**Pb**	**08 52 41.6**	**-0.3**
KIF				MSG		08 53 04.1	
	comp=Z,16nm,0.2s						
KIF				*e*SG	**Sg**	**08 53 08.0**	**+1.2**
KTK1	**Kautokeino**	**2.12**	**27**	*e*P	**Pb**	**08 52 45.1**	**-1.2**
	SNR=50						
KTK1				*e*S	**Sb**	**08 53 12.9**	**-0.3**
	SNR=50						
KTK1	**Kautokeino**	**2.12**	**27**	*e*P	**Pb**	**08 52 45.1**	**-1.2**
KTK1				*e*S	**Sb**	**08 53 12.9**	**-0.3**
KTK1				IAML		08 53 15.6	
	comp=Z,25nm,0.5s						
STEI	**Steigen**

PYZ	**Puysegur Point**	**0.56**	**85**	P*	Pb	09 08 40.4	+0.1
PYZ				S*	Sb	09 08 48.1	-0.1
PYZ	**Puysegur Point**	**0.56**	**85**	P	Pb	09 08 40.4	+0.2
PYZ	**Puysegur Point**	**0.56**	**85**	S	Sb	09 08 48.3	+0.1
DCZ	**Deep Cove**	**1.17**	**50**	P*	Pb	09 08 48.7	-1.8
DCZ				S*	Sb	09 09 04.2	-1.4
DCZ	**Deep Cove**	**1.17**	**50**	P	Pb	09 08 48.9	-1.6
DCZ	**Deep Cove**	**1.17**	**50**	S	Sb	09 09 04.0	-1.6
WHZ	**Wether Hill Ro**	**1.48**	**78**	Pn	Pn	09 08 54.4	-0.4
WHZ	**Wether Hill Ro**	**1.48**	**78**	P	Pn	09 08 54.6	-0.3
WHZ	**Wether Hill Ro**	**1.48**	**78**	S	Sn	09 09 14.2	+0.1
APZ	**The Paps**	**1.58**	**114**	Pn	Pn	09 08 55.6	-0.8
APZ	**The Paps**	**1.58**	**114**	P	Pn	09 08 55.6	-0.8
MLZ	**Mavora Lakes**	**1.78**	**62**	Pn	Pn	09 08 59.9	+0.7
MLZ	**Mavora Lakes**	**1.78**	**62**	P	Pn	09 09 00.0	+0.9
MLZ	**Mavora Lakes**	**1.78**	**62**	S	Sb	09 09 24.4	+1.0
SYZ	**Scrubby Hill**	**2.28**	**99**	Pn	Pn	09 09 05.8	-0.1
SYZ	**Scrubby Hill**	**2.28**	**99**	P	Pn	09 09 05.9	0.0
EAZ	**Earnscleugh**	**2.60**	**69**	Pn	Pn	09 09 11.4	+1.1
EAZ	**Earnscleugh**	**2.60**	**69**	P	Pn	09 09 11.5	+1.2
EAZ	**Earnscleugh**	**2.60**	**69**	S	Sn	09 09 42.7	+1.0
WKZ	**Wanaka**	**2.61**	**59**	Pn	Pn	09 09 11.7	+1.2
WKZ	**Wanaka**	**2.61**	**59**	P	Pn	09 09 12.3	+1.8
TUZ	**Tuapeka**	**2.62**	**86**	Pn	Pn	09 09 11.0	+0.3
TUZ	**Tuapeka**	**2.62**	**86**	P	Pn	09 09 11.1	+0.5
TUZ	**Tuapeka**	**2.62**	**86**	S	Sn	09 09 43.2	+0.8
JCZ	**Jackson Bay**	**2.97**	**45**	Pn	Pn	09 09 16.4	+0.9
JCZ	**Jackson Bay**	**2.97**	**45**	P	Pn	09 09 16.2	+0.7
HHSZ	**Highcliff Hill**	**3.30**	**86**	P	Pn	09 09 20.5	+0.5
ODZ	**Otahua Downs**	**3.54**	**72**	Pn	Pn	09 09 22.3	-0.9
ODZ	**Otahua Downs**	**3.54**	**72**	P	Pn	09 09 22.5	-0.8
ODZ	**Otahua Downs**	**3.54**	**72**	P	Pn	09 09 22.5	-0.8
LBZ	**Lake Benmore**	**3.55**	**60**	Pn	Pn	09 09 23.5	+0.1
LBZ	**Lake Benmore**	**3.55**	**60**	P	Pn	09 09 23.5	+0.1
FOZ	**Fox Glacier**	**3.88**	**48**	Pn	Pn	09 09 27.7	-0.1
FOZ	**Fox Glacier**	**3.88**	**48**	P	Pn	09 09 27.8	0.0
RPZ	**Rata Peaks**	**4.44**	**58**	Pn	Pn	09 09 34.8	-0.9
RPZ	**Rata Peaks**	**4.44**	**58**	P	Pn	09 09 34.9	-0.7
WVZ	**Waitaha Valley**	**4.68**	**50**	Pn	Pn	09 09 38.4	-0.4
WVZ	**Waitaha Valley**	**4.68**	**50**	P	Pn	09 09 39.4	+0.5
OXZ	**Oxford**	**5.25**	**59**	Pn	Pn	09 09 45.1	-1.6
OXZ	**Oxford**	**5.25**	**59**	P	Pn	09 09 45.4	-1.3
INZ	**Inchbonnie**	**5.29**	**51**	P	Pn	09 09 46.9	-0.4
MQZ	**McQueen's Vall**	**5.42**	**65**	Pn	Pn	09 09 47.8	-1.3
MQZ	**McQueen's Vall**	**5.42**	**65**	P	Pn	09 09 48.3	-0.8
LTZ	**Lake Taylor**	**5.72**	**55**	P	Pn	09 09 54.9	+1.7
DSZ	**Denniston Nort**	**6.18**	**46**	P	Pn	09 09 59.8	+0.2
KHZ	**Kahutara**	**6.68**	**58**	P	Pn	09 10 05.3	-1.0
THZ	**Tophouse**	**6.74**	**51**	P	Pn	09 10 06.8	-0.5
QRZ	**Quartz Range**	**7.24**	**44**	P	Pn	09 10 14.0	0.0
NNZ	**Nelson**	**7.38**	**50**	P	Pn	09 10 17.3	+1.3

*IDC **20** 09:15:24.3±1.5, 19°.41S×173°.67W, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/45, mbtmp4.1/6, MS3.5/4, Ms1 3.5/4, ms1mx3.0/38, Error ellipse: s-maj=61.3km s-min=24.8km az=132.0*

*NEIC **20** 09:15:25.8±0.6, 19°.35S×173°.70W, h10km, mb4.6/5, Error ellipse: s-maj=23.1km s-min=7.9km az=129.0*

ISC 20 09:15:27.0±1.6, 19°.5S±0°.2×173°.4W±0°.3, h25km, n20, σ1s51/18, mb4.4/11, MS3.5/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.77**	**15**	Pn	Pn	09 16 46.8	-4.4
	2.7nm,0.3s,baz=128,slow=19,SNR=7.0						
AFI				Sn	Sn	09 17 48.1	-8.6
	1.6nm,0.3s,baz=342,slow=20,SNR=2.4						
AFI	**Afiamalu**	**5.77**	**15**	*e*Pn	**Pn**	**09 16 49.8**	**-1.4**
AFI				*e*Sn	**Sn**	**09 17 57.6**	**+0.9**
DZM	**Mont Dzumac**	**19.05**	**259**	P	**Pn**	**09 19 50.7**	**+2.1**
	0.9nm,0.3s,baz=95,slow=19,SNR=6.6						
DZM				LR	LR	09 25 57.6	
	comp=Z,116nm,19.7s,baz=122,slow=34						
URZ	**Urewera**	**20.44**	**202**	P	Pn	09 20 02.9	-1.8
	3.6nm,0.3s,baz=127,slow=19,SNR=6.5						
PPT	**Papeete**	**22.63**	**89**	LR	LR	09 27 32.8	
	comp=Z,112nm,18.7s,baz=296,slow=32						
STKA	**Stephens Creek**	**42.14**	**244**	P	**P**	**09 23 16.8**	**-0.8**
	2.6nm,0.9s,baz=55,slow=12,SNR=3.6						
STKA				LR	LR	09 39 26.8	
	comp=Z,57nm,19.0s,baz=27,slow=34						
AS01	**Alice Springs**	**48.95**	**255**	*e*P	**P**	**09 24 10.6**	**-1.0**
AS31	**Alice Springs**	**48.99**	**255**	*e*P	**P**	**09 24 11.2**	**-0.8**
	2.7nm,1.2s						
ASAR	**Alice Springs**	**48.99**	**255**	P	**P**	**09 24 10.9**	**-1.0**
	8.2nm,1.0s,baz=98,slow=7.8,SNR=43						
ASAR				LR	LR	09 44 31.6	
	comp=Z,73nm,18.2s,baz=164,slow=36						
WB2	**Warramunga Arr**	**49.05**	**260**	*e*P	**P**	**09 24 11.1**	**-1.4**
WRAB	**Tennant Creek**	**49.05**	**260**	*e*P	**P**	**09 24 10.8**	**-1.6**
	1.9nm,0.5s						
WR1	**Warramunga Arr**	**49.06**	**260**	*e*P	**P**	**09 24 11.1**	**-1.4**
	45nm,1.8s						
WRA	**Warramunga Arr**	**49.06**	**260**	P	**P**	**09 24 11.1**	**-1.4**
	1.6nm,0.4s,baz=96,slow=7.7,SNR=60						
MCK	**McKinley**	**85.13**	**11**	*e*P	**P**	**09 27 57.8**	**-2.7**
	5.2nm,0.9s						
WRH	**Wood River Hil**	**85.96**	**11**	*e*P	**P**	**09 28 05.5**	**+0.9**
	6.1nm,1.0s						
CCB	**Clear Creek Bu**	**86.17**	**11**	*e*P	**P**	**09 28 06.3**	**+0.8**
	5.5nm,1.0s						
ILAR	**Eielson Array**	**86.45**	**11**	P	**P**	**09 28 07.9**	**+0.9**
	0.8nm,0.7s,baz=225,slow=5.8,SNR=17						
YKA	**Yellowknife Ar**	**93.83**	**23**	P	**P**	**09 28 42.6**	**+1.0**
	0.2nm,0.8s,baz=244,slow=4.5,SNR=5.9						
BR101	**Keskin Array S**	**149.26**	**317**	*e*PKPbc	**PKPbc**	**09 35 15.4**	**+1.5**
BRTR	**Keskin Array B**	**149.26**	**317**	PKPbc	**PKPbc**	**09 35 15.4**	**+1.5**
	1.5nm,0.8s,baz=140,slow=2.7,SNR=7.6						

MEX 20 09:21:53.5±0.3, 13°.79N×91°.89W, h15km, MD4.1, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.17**	**342**	*i* P	Pn	09 22 11.4	-4.0
THIG				*i* S	Sb	09 22 25.2	-5.3
PCIG		**2.30**	**326**	*e*P	Pn	09 22 27.9	-3.0
PCIG				*i* S	Sn	09 22 54.7	-4.2
CCIG	**Comitan**	**2.49**	**355**	*e*P	Pn	09 22 30.9	-2.8
CCIG				*i* S	Sn	09 23 00.1	-3.8
TGIG		**3.20**	**338**	*e*P	Pn	09 22 40.5	-2.9
TGIG				*i* S	Sn	09 23 17.8	-3.6

*ISCJB **20** 09:28:35.2±0.5, 44°.40N±0°.02×124°.66W±0°.05, h10km, mb3.2/1, MS3.1/1, Error ellipse: s-maj=5.7km s-min=3.2km az=8.0*

*PNSN **20** 09:28:37.4, 44°.38N×124°.46W, h33km, MD3.7, Fault plane solution: NP1:φ≈5.00000°, δ≈50.00000°, λ≈100.00000°.*

*NEIC **20** 09:28:37.4±0.0, 44°.38N×124°.46W, h33km, ML3.7(SEA), After SEA.*

NEIC Felt at Albany, Depoe Bay, Florence, Mapleton, McMinnville, Oregon City, Umpqua, Waldport, Westlake and Yachats.

*IDC **20** 09:28:38.1±2.6, 44°.39N×124°.05W, h0km, mb3.1/1, mb1 3.5/6, mb1mx3.3/66, mbtmp3.1/6, ML2.8/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/17, Error ellipse: s-maj=40.0km s-min=13.7km az=99.0*

ISC 20 09:28:36.6±1.1, 44°.41N±0°.03×124°.49W±0°.06, h10km, n67, σ1s78/75, Near coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COR	**Corvallis**	**0.87**	**78**	*e*Pg	**Pn**	**09 28 53.7**	**-1.1**
COR				*e*Sn	**Sn**	**09 29 07.1**	**-0.5**
G03D	**McMinnville, O**	**1.19**	**47**	P	**Pg**	**09 28 58.8**	**-0.7**
	baz=226,SNR=161						
G03D				S	**Sn**	**09 29 15.2**	**-0.3**
	baz=226						
HSO	**Harness Mounta**	**1.34**	**131**	*e*Pn	**Pb**	**09 29 01.1**	**-0.8**
KEBM	**Edson Butte**	**1.54**	**176**	*e*Pn	**Pn**	**09 29 01.8**	**-2.4**
DBO	**Dodson Butte**	**1.57**	**145**	*e*Pn	**Pb**	**09 29 05.4**	**-0.5**
G04A	**Mulino**	**1.64**	**60**	*e*Pn	**Pb**	**09 29 06.5**	**-0.5**
IRO	**Indian Ridge**	**1.66**	**103**	*e*Pn	**Pb**	**09 29 06.6**	**-0.8**
H04A	**Detroit Lake**	**1.67**	**80**	*e*Pn	**Pb**	**09 29 06.3**	**-1.2**
H04A				*e*Sn	**Sg**	**09 29 29.2**	**-1.1**
PRLK	**Prince Lake**	**1.82**	**95**	*e*Pn	**Pb**	**09 29 09.8**	**-0.3**
B023	**Clatskanie**	**1.97**	**30**	*e*Pn	**Pb**	**09 29 11.3**	**-1.3**
J04D	**Umpqua Nationa**	**2.08**	**123**	Pb	**Pb**	**09 29 14.2**	**-0.4**
	baz=305						
J04D				Sb	**Sg**	**09 29 42.9**	**-0.6**
	baz=305						
TDH	**Tom, Dick, Har**	**2.11**	**64**	*e*Pn	**Pb**	**09 29 13.4**	**-1.7**
HUMO	**Hull Mountain**	**2.12**	**148**	*e*Pn	**Pn**	**09 29 12.3**	**+0.2**
KBO	**Bosley Butte**	**2.20**	**175**	*e*Pn	**Pn**	**09 29 12.0**	**-1.3**
KBO				*e*Sn	**Sn**	**09 29 38.0**	**-2.6**
E03A	**Lebam**	**2.24**	**17**	*e*Pn	**Pn**	**09 29 12.3**	**-1.4**
E03A				*e*Sn	**Sn**	**09 29 41.8**	**+0.5**
I05D	**Terrebonne, OR**	**2.26**	**91**	Pb	**Pb**	**09 29 16.6**	**-1.0**
	baz=272						
I05D				Sb	**Sg**	**09 29 47.6**	**-1.7**
	baz=272						
L02D	**Cave Junction,**	**2.34**	**164**	P	**Pn**	**09 29 14.5**	**-0.6**
	baz=345,SNR=53						
L02D				Sb	**Sg**	**09 29 51.4**	**-0.3**
	baz=345						
G05D	**Wamic, OR**	**2.41**	**69**	Pb	**Pb**	**09 29 19.4**	**-0.6**
	baz=250,SNR=102						
J05D	**Fort Rock, OR**	**2.61**	**114**	Pb	**Pb**	**09 29 23.0**	**-0.5**
	baz=296						
J05D				Sb	**Sg**	**09 29 58.3**	**-2.1**
	baz=296						
PINE	**Pine Mountain**	**2.63**	**102**	*e*Pn	**Pn**	**09 29 20.1**	**+0.8**
K04D	**Chiloquin, OR**	**2.67**	**131**	Pb	**Pb**	**09 29 24.3**	**-0.3**
	baz=313						
G06A	**Carlson Farm,**	**2.87**	**72**	*e*Pn	**Pb**	**09 29 24.6**	**-3.3**
YBH	**Yreka Blue Hor**	**2.97**	**153**	Pn	**Pn**	**09 29 25.5**	**+1.5**
	0.6nm,0.3s,baz=347,slow=11,SNR=23						
YBH				Sn	**Sg**	**09 30 09.0**	**-3.1**
	1.4nm,0.3s,baz=162,slow=19,SNR=3.4						
LON	**Longmire**	**3.00**	**38**	*e*Pn	**Pn**	**09 29 25.2**	**+0.8**
NLWA	**Neilton Lookou**	**3.02**	**8**	*e*Pn	**Pn**	**09 29 24.3**	**-0.2**
M04C	**Macdoel**	**3.26**	**143**	Pb	**Pb**	**09 29 34.7**	**0.0**
	baz=325						
D05A	**Enumclaw**	**3.29**	**31**	*e*Pn	**Pn**	**09 29 30.0**	**+1.9**
F07A	**Phinny Hill Vi**	**3.55**	**64**	*e*Pn	**Pb**	**09 29 35.4**	**-4.2**
KHMM	**Horse Mountain**	**3.57**	**171**	*e*Pn	**Pn**	**09 29 32.1**	**-0.2**
I07A	**Izee**	**3.60**	**93**	*e*Pn	**Pb**	**09 29 38.6**	**-1.8**
N02D	**Trinity Center**	**3.67**	**158**	P	**Pn**	**09 29 33.9**	**+0.3**
	baz=340,SNR=15						
LTY	**Liberty**	**3.91**	**42**	*e*Pn	**Pn**	**09 29 38.7**	**+2.0**
MOD	**Modoc Plateau**	**3.96**	**128**	*e*Pn	**Pn**	**09 29 40.3**	**+2.8**
HAWA	**Hanford**	**4.02**	**59**	*e*Pn	**Pn**	**09 29 39.5**	**+1.3**
G08A	**Pilot Rock**	**4.03**	**75**	*e*Pn	**Pn**	**09 29 39.8**	**+1.3**
WDC	**Whiskeytown Da**	**4.09**	**159**	*e*Pn	**Pn**	**09 29 41.1**	**+2.0**
C06D	**Leavenworth**	**4.31**	**34**	Pb	**Pb**	**09 29 51.3**	**-1.2**
	baz=216						
J08A	**Circle Bar Ran**	**4.47**	**101**	*e*Pn	**Pn**	**09 29 45.0**	**+0.5**
O03D	**Paynes Creek**	**4.57**	**153**	P	**Pn**	**09 29 45.6**	**-0.2**
	baz=335						
WVOR	**Wild Horse Val**	**4.70**	**113**	*e*Pn	Pn	09 29 52.6	+4.9
D08A	**Wollman Farm,**	**4.71**	**54**	*e*Pn	**Pn**	**09 29 49.2**	**+1.4**
E09A	**Wood Farm, Sta**	**4.94**	**63**	*e*Pn	**Pn**	**09 29 54.0**	**+3.3**
BMO	**Blue Mountains**	**5.15**	**83**	*e*Pn	**Pn**	**09 29 57.6**	**+3.8**
B08A	**Colville Reser**	**5.32**	**40**	*e*Pn	**Pn**	**09 29 57.5**	**+1.4**
ORV	**Oroville**	**5.33**	**154**	*e*Pn	**Pn**	**09 29 57.2**	**+0.9**
F10A	**Beach Ranch, E**	**5.37**	**70**	*e*Pn	**Pn**	**09 29 58.8**	**+2.0**
VPK	**Verdi Peak**	**5.94**	**145**	*e*Pn	**Pn**	**09 30 01.0**	**-3.9**
AFDM	**Forest Hills D**	**6.06**	**153**	*e*Pn	**Pn**	**09 30 04.8**	**-1.4**
VCNR	**Virginia City**	**6.25**	**143**	*e*Pn	**Pn**	**09 30 09.2**	**+0.1**
NEW	**Newport**	**6.39**	**50**	Pn	**Pn**	**09 30 13.2**	**+2.4**
	0.2nm,0.3s,baz=252,slow=6.4,SNR=1.9						
NEW				Lg	Lg	09 32 03.5	
	0.2nm,0.3s,baz=345,slow=20,SNR=2.7						
YERR	**Yerington**	**6.69**	**142**	*e*Pn	**Pn**	**09 30 18.1**	**+3.0**
RDG13	**Poverty Ridge**	**7.27**	**162**	*e*Pn	**Pn**	**09 30 24.2**	**+1.2**
RYN	**Ryan**	**7.30**	**140**	*e*Pn	**Pn**	**09 30 24.0**	**+0.5**
NVAR	**Mina Array Bea**	**7.57**	**140**	Pn	**Pn**	**09 30 31.1**	**+3.9**
	baz=311,slow=13,SNR=7.2						
MSO	**Missoula**	**7.78**	**68**	*e*Pn	Pn	09 30 36.5	+6.5
DLMT	**Dillon**	**8.50**	**79**	*e*Pn	**Pn**	**09 30 40.2**	**+0.3**
LRM	**Limekiln Ridge**	**8.63**	**76**	*e*Pn	**Pn**	**09 30 44.6**	**+2.9**
YHB	**Horse Butte**	**9.50**	**83**	*e*Pn	**Pn**	**09 30 55.5**	**+1.9**
YMC	**Maple Creek**	**9.63**	**83**	*e*Pn	Pn	09 31 04.4	+8.9
YMR	**Madison River**	**9.66**	**84**	*e*Pn	**Pn**	**09 30 57.1**	**+1.2**
YHH	**Holmes Hill**	**9.74**	**83**	*e*Pn	**Pn**	**09 31 00.1**	**+3.1**
YHH				*e*Sn	**Sn**	**09 32 49.0**	**+2.4**
GMU	**Granite Mounta**	**10.15**	**108**	*e*Pn	**Pn**	**09 31 03.5**	**+1.0**
PDAR	**Pinedale Array**	**10.96**	**93**	Pn	**Pn**	**09 31 15.2**	**+1.6**
	0.0nm,0.3s,baz=279,slow=12,SNR=3.0						
YKA	**Yellowknife Ar**	**19.01**	**14**	P	**Pn**	**09 32 59.6**	**+0.7**
	0.0nm,0.3s,baz=197,slow=12,SNR=6.9						
YKB5	**Yellowknife Ar**	**19.01**	**14**	*e*P	**Pn**	**09 32 59.6**	**+0.7**
LTX	**Lajitas**	**22.36**	**125**	*e*P	**P**	**09 33 36.6**	**+1.8**
TXAR	**Lajitas Array**	**22.36**	**125**	P	**P**	**09 33 36.6**	**+1.8**
	0.6nm,0.6s,baz=316,slow=9.0,SNR=4.4						
TXAR				LR	LR	09 42 34.1	
	comp=Z,64nm,19.3s,baz=0.0,slow=38						

WEL 20 09:50:55.2±1.3, 46°.S±9°.×16°.6E±°, h12km, ML4.3/17, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.58**	**79**	P	Pb	09 51 07.5	+0.2
PYZ	**Puysegur Point**	**0.58**	**79**	S	Sb	09 51 15.4	-0.1
DCZ	**Deep Cove**	**1.22**	**49**	P	Pn	09 51 16.0	-2.0
DCZ	**Deep Cove**	**1.22**	**49**	S	Sb	09 51 31.2	-2.5
WHZ	**Wether Hill Ro**	**1.50**	**76**	P	Pn	09 51 21.7	-0.3
WHZ	**Wether Hill Ro**	**1.50**	**76**	S	Sn	09 51 41.7	+0.2
APZ	**The Paps**	**1.57**	**111**	P	Pn	09 51 22.6	-0.3
APZ	**The Paps**	**1.57**	**111**	S	Sn	09 51 42.4	-0.9
MLZ	**Mavora Lakes**	**1.82**	**61**	P	Pn	09 51 27.2	+0.8
MLZ	**Mavora Lakes**	**1.82**	**61**	S	Sb	09 51 52.1	+0.8
SYZ	**Scrubby Hill**	**2.28**	**98**	P	Pn	09 51 32.9	+0.2
EAZ	**Earnscleugh**	**2.63**	**68**	P	Pn	09 51 38.6	+1.1
TUZ	**Tuapeka**	**2.64**	**84**	P	Pn	09 51 38.2	+0.6
TUZ	**Tuapeka**	**2.64**	**84**	S	Sn	09 52 11.5	+1.9
WKZ	**Wanaka**	**2.65**	**58**	P	Pn	09 51 39.2	+1.4
JCZ	**Jackson Bay**	**3.02**	**44**	P	Pn	09 51 43.3	+0.3
HHSZ	**Highcliff Hill**	**3.32**	**85**	P	Pn	09 51 47.6	+0.6
ODZ	**Otahua Downs**	**3.57**	**72**	P	Pn	09 51 49.6	-0.8
LBZ	**Lake Benmore**	**3.59**	**60**	P	Pn	09 51 50.5	-0.2
FOZ	**Fox Glacier**	**3.93**	**47**	P	Pn	09 51 54.9	-0.3
RPZ	**Rata Peaks**	**4.49**	**57**	P	Pn	09 52 02.0	-0.9
WVZ	**Waitaha Valley**	**4.73**	**49**	P	Pn	09 52 06.1	-0.2
OXZ	**Oxford**	**5.29**	**58**	P	Pn	09 52 12.5	-1.6
INZ	**Inchbonnie**	**5.34**	**50**	P	Pn	09 52 14.1	-0.7
MQZ	**McQueen's Vall**	**5.46**	**64**	P	Pn	09 52 15.2	-1.1
LTZ	**Lake Taylor**	**5.76**	**55**	P	Pn	09 52 17.8	+1.3
DSZ	**Dennison Nort**	**6.24**	**46**	P	Pn	09 52 26.9	-0.2
THZ	**Tophouse**	**6.79**	**51**	P	Pn	09 52 34.5	-0.2
QRZ	**Quartz Range**	**7.29**	**44**	P	Pn	09 52 41.0	-0.4
NNZ	**Nelson**	**7.43**	**50**	P	Pn	09 52 44.7	+1.4

IDC 20 09:58:06.4±2.1, 16°.66S×176°.39E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/45, mbtmp3.9/4, Error ellipse: s-maj=133.9km s-min=27.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.99**	**259**	P	P	10 05 42.7	-0.4
	0.4nm,0.8s,baz=83,slow=8.0,SNR=9.2						
ASAR	**Alice Springs**	**40.37**	**253**	P	P	10 05 46.5	+0.1
	4.2nm,0.3s,baz=84,slow=8.6,SNR=149						
ILAR	**Eielson Array**	**85.88**	**15**	P	P	10 10 47.8	+0.1
	0.9nm,1.0s,baz=202,slow=4.5,SNR=4.7						
TXAR	**Lajitas Array**	**89.58**	**59**	P	P	10 11 06.3	-0.1
	0.3nm,0.6s,baz=237,slow=5.0,SNR=2.8						

*ISCJB **20** 09:59:58.7±0.5, 37°.21N±0°.04×28°.21E±0°.04, h0km, Error ellipse: s-maj=6.8km s-min=3.9km az=36.5*

*DDA **20** 09:59:58.7, 37°.22N×28°.19E, h7km, Ml2.7, Suspected Mining explosion.*

*ISK **20** 09:59:58.8, 37°.15N×28°.15E, h3km, MD2.5/3*

*CSEM **20** 09:59:59.2±0.1, 37°.20N×28°.21E, h1km, MD2.5, Error ellipse: s-maj=5.2km s-min=2.4km az=36.0, Suspected Mining explosion.*

ISC 20 09:59:58.8±1.0, 37°.21N±0°.03×28°.20E±0°.03, h0km, n29, σ0s55/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.10**	**138**	PG	**Pg**	**10 00 01.5**	**+0.8**
YER	**Yerkesik**	**0.10**	**138**	*e*Pg	**Pg**	**10 00 01.5**	**+0.8**
MLSB	**Milas**	**0.35**	**285**	PG	**Pg**	**10 00 06.0**	**+0.5**
MLSB	**Milas**	**0.35**	**285**	*e*Pg	**Pg**	**10 00 06.0**	**+0.5**
TURN	**Turunc**	**0.47**	**136**	PG	**Pg**	**10 00 06.9**	**-0.8**
TURN				SG	**Sg**	**10 00 12.9**	**-0.9**
TURN	**Turunc**	**0.47**	**136**	*i* P	**Pg**	**10 00 07.6**	**-0.1**
TURN				*i* S	**Sg**	**10 00 14.2**	**+0.4**
TURN	**Turunc**	**0.47**	**136**	*e*Pg	**Pg**	**10 00 06.9**	**-0.8**
TURN	**Turunc**	**0.47**	**136**	P	**Pg**	**10 00 07.6**	**-0.1**
TURN				*e*Sg	**Sg**	**10 00 12.9**	**-0.9**
TURN				S	**Sg**	**10 00 14.2**	**+0.4**
AYDN	**Tasoluk**	**0.52**	**331**	*i* P	**Pg**	**10 00 08.8**	**0.0**
AYDN				*i* S	**Sg**	**10 00 15.3**	**-0.3**
AYDN	**Tasoluk**	**0.52**	**331**	P	**Pg**	**10 00 08.8**	**0.0**
AYDN				S	**Sg**	**10 00 15.3**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.53**	**137**	PG	**Pg**	**10 00 09.5**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.53**	**137**	*i* P	**Pg**	**10 00 09.9**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.53**	**137**	*e*Pg	**Pg**	**10 00 09.5**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.53**	**137**	P	**Pg**	**10 00 09.9**	**+0.9**
BDRM	**Kayabasi**	**0.62**	**257**	*i* P	**Pb**	**10 00 11.8**	**-0.8**
BDRM				*i* S	**Sg**	**10 00 19.7**	**+0.9**
BDRM	**Kayabasi**	**0.62**	**257**	P	**Pb**	**10 00 11.8**	**-0.8**
BDRM				S	**Sg**	**10 00 19.7**	**+0.9**
TAVA	**DENIZLI_Tavas**	**0.62**	**65**	*i* P	**Pg**	**10 00 11.1**	**+0.3**
TAVA	**DENIZLI_Tavas**	**0.62**	**65**	P	**Pg**	**10 00 11.1**	**+0.3**
BODT	**Bodrum**	**0.72**	**259**	PG	**Pg**	**10 00 12.6**	**-0.1**
BODT	**Bodrum**	**0.72**	**259**	*e*Pg	**Pg**	**10 00 12.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**342**	PG	**Pb**	**10 00 15.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**342**	*e*Pg	**Pb**	**10 00 15.3**	**0.0**
FETY	**Fethiye**	**0.91**	**129**	PG	**Pb**	**10 00 17.2**	**-0.3**
FETY	**Fethiye**	**0.91**	**129**	P	**Pg**	**10 00 16.6**	**+0.3**
FETY	**Fethiye**	**0.91**	**129**	*e*Pg	**Pb**	**10 00 17.2**	**-0.3**
GCAM	**G?zelcaml?**	**0.91**	**303**	PG	**Pb**	**10 00 17.7**	**+0.2**
GCAM	**G?zelcaml?**	**0.91**	**303**	*i* P	**Pg**	**10 00 16.3**	**0.0**
GCAM	**G?zelcaml?**	**0.91**	**303**	P	**Pg**	**10 00 16.3**	**0.0**
GCAM	**G?zelcaml?**	**0.91**	**303**	*e*Pg	**Pb**	**10 00 17.7**	**+0.2**

IDC 20 10:03:08.8±1.7, 5°.05S×152°.20E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/54, mbtmp3.7/5, ML1.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/48, Error ellipse: s-maj=130.5km s-min=20.7km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.61**	**229**	Pn	Pn	10 04 47.7	+0.4
	0.4nm,0.3s,baz=352,slow=18,SNR=1.7						
PMG				Sn	Sn	10 06 01.9	-1.6
	2.2nm,0.3s,baz=130,slow=17,SNR=6.2						
DZM	**Mont Dzumac**	**21.83**	**142**	LR	LR	10 14 49.0	
	comp=Z,54nm,21.0s,baz=80,slow=32						
WRA	**Warramunga Arr**	**22.83**	**228**	P	P	10 08 12.9	-0.8
	0.4nm,0.4s,baz=53,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**25.56**	**222**	P	P	10 08 40.5	+0.8
	1.4nm,0.8s,baz=59,slow=9.6,SNR=9.5						
ILAR	**Eielson Array**	**82.61**	**22**	P	P

IPM	**Ipoh**	**9.13**	**123**	*e*Pn	**Pn**	**10 20 58.0**	**-3.0**			
GSI	**Gunungsitoli**	**9.18**	**152**	P	**Pn**	**10 21 01.5**	**-0.2**			
GSI	**Gunungsitoli**	**9.18**	**152**	*e*Pn	**Pn**	**10 21 02.7**	**+1.0**			
SRAK	**Srakaew**	**9.64**	**61**	P	Pn	10 21 16.3	+8.3			
PHIT	**Phitsanulok**	**10.29**	**41**	P	**Pn**	**10 21 18.5**	**+1.6**			
	66nm,0.7s,550nm									
CM01	**Chiang Mai Arr**	**10.41**	**31**	*e*Pn	**Pn**	**10 21 19.6**	**+1.1**			
CM31	**Chiang Mai Arr**	**10.44**	**31**	*e*Pn	**Pn**	**10 21 18.7**	**-0.2**			
CMAR	**Chiang Mai Arr**	**10.44**	**31**	P	**Pn**	**10 21 21.4**	**+2.6**			
	1.4nm,0.3s,baz=218,slow=14,SNR=83									
CMAR				LR	LR	10 25 32.4				
	comp=Z,254nm,20.7s,baz=216,slow=39									
CHAI	**Chaiyaphum**	**10.58**	**52**	P	**Pn**	**10 21 21.6**	**+0.8**			
	8.7nm,0.6s,101nm									
MNSI	**Mandailing Nat**	**10.66**	**144**	P	**Pn**	**10 21 21.8**	**-0.1**			
CHTO	**Chiang Mai**	**10.74**	**30**	P	**Pn**	**10 21 25.7**	**+2.7**			
	60nm,0.8s									
CHTO	**Chiang Mai**	**10.74**	**30**	*e*Pn	**Pn**	**10 21 23.5**	**+0.5**			
CMMT	**Chiang Mai**	**10.74**	**30**	P	**Pn**	**10 21 24.6**	**+1.6**			
	16nm,0.8s									
LAMP	**Lampang**	**10.86**	**34**	P	**Pn**	**10 21 27.1**	**+2.5**			
	6.8nm,0.7s,81nm									
CMAI	**Chiengmai2**	**11.75**	**27**	P	**Pn**	**10 21 39.9**	**+2.9**			
	130nm,2.1s									
PDSI	**Padang**	**12.56**	**145**	P	**Pn**	**10 21 48.5**	**+0.6**			
	9.1nm,0.5s									
PDSI				S	**Pn**	**10 21 48.7**	**+0.8**			
	9.1nm,0.5s									
PALK	**Pallekele**	**12.68**	**261**	P	**Pn**	**10 21 51.4**	**+1.9**			
	1.1nm,0.3s,baz=116,slow=12,SNR=5.9									
PALK				S	Sn	10 23 58.8	-11			
	2.3nm,0.3s,baz=116,slow=16,SNR=5.6									
PALK				LR	LR	10 26 07.6				
	comp=Z,203nm,21.1s,baz=116,slow=34									
PALK				T	T	10 33 17.9				
	0.8nm,0.3s,baz=300,slow=1.5,SNR=4.2									
PALK	**Pallekele**	**12.68**	**261**	*e*Pn	**Pn**	**10 21 51.1**	**+1.5**			
PALK				*e*Sn	**Sn**	**10 24 06.2**	**-3.3**			
VIS	**Vishakhapatnam**	**12.68**	**311**	*e*P	**Pn**	**10 21 47.9**	**-1.7**			
VIS				*e*S	Sn	10 23 59.9	-10			
VIS				*i* S	**Sn**	**10 24 03.6**	**-5.8**			
MYKOM	**Kota Tinggi**	**12.98**	**126**	*e*Pn	**Pn**	**10 21 52.7**	**-0.9**			
MDRS	**Chennai**	**13.30**	**287**	*e*P	**Pn**	**10 21 58.4**	**+0.4**			
MDRS				IAmb	IAmb	10 22 00.0				
	comp=Z,108nm,0.7s									
PVM	**Polavaram**	**13.73**	**305**	*e*P	**Pn**	**10 22 03.0**	**-0.9**			
PVM				*e*S	Sn	10 24 26.1	-8.9			
SKHT	**Srikalahasti**	**13.98**	**289**	*e*P	**Pn**	**10 22 06.6**	**-0.6**			
SKHT				*e*S	Sn	10 24 31.6	-9.4			
ADKI	**Addanki**	**14.47**	**297**	*e*P	**Pn**	**10 22 11.9**	**-1.9**			
ADKI				*e*S	Sn	10 24 43.2	-10			
NJS	**Nagarjunasagar**	**15.34**	**299**	*e*P	**Pn**	**10 22 24.4**	**-0.8**			
NJS				*e*S	**Sn**	**10 25 06.9**	**-7.3**			
SRLM	**Srisailam**	**15.52**	**296**	*e*P	**Pn**	**10 22 27.3**	**-0.3**			
SRLM				*e*S	**Sn**	**10 25 09.9**	**-8.6**			
BOK	**Bokaro**	**15.89**	**334**	*e*P	**Pn**	**10 22 31.9**	**-0.4**			
BOK				IAmb	IAmb	10 22 38.3				
	comp=Z,85nm,0.8s									
SHL	**Shillong**	**16.03**	**355**	*e*P	**Pn**	**10 22 34.5**	**+0.2**			
SHL				IAmb	IAmb	10 22 36.4				
	comp=Z,21nm,0.6s									
SHL				*ex*	**Sn**	**10 25 25.0**	**-6.2**			
HYB	**Hyderabad**	**16.36**	**300**	*i* P	**P**	**10 22 42.0**	**+1.4**			
HYB				*e*S	**Sn**	**10 25 39.5**	**+0.4**			
HYB	**Hyderabad**	**16.36**	**300**	*e*P	**Pn**	**10 22 38.2**	**-0.2**			
HYB				IAmb	IAmb	10 22 43.2				
	comp=Z,56nm,0.3s									
HYBB	**Hyderabad (bro**	**16.37**	**300**	*e*P	**Pn**	**10 22 39.0**	**+0.6**			
HYBB				*e*S	**Sn**	**10 25 40.1**	**+1.0**			
URV	**Uravakonda**	**16.60**	**291**	*e*P	**P**	**10 22 44.2**	**+1.0**			
URV				*e*S	**Sn**	**10 25 34.8**	**-10**			
SRSP	**Sriramsagar**	**17.27**	**304**	*e*P	**P**	**10 22 51.2**	**+0.6**			
SRSP				*e*S	Sn	10 25 48.9	-12			
KMI	**Kunming**	**17.93**	**29**	P	**P**	**10 23 01.3**	**+3.2**			
KMI				pP	pP	10 23 10.8	+1.7			
KMI				S	**S**	**10 26 20.4**	**-1.4**			
KMI				sS	sS	10 26 39.6	+0.2			
KMI				pmax	pmax					
	comp=Z,11nm,0.8s									
KMI				pmax	pmax					
	comp=Z,130nm,3.7s									
KMI				LR	LR					
	comp=Z,230nm,17.5s									
KMI				LR	LR					
	comp=Z,200nm,17.5s									
KLRI	**Killari**	**18.32**	**299**	*e*P	**Pn**	**10 23 03.1**	**+0.4**			
KLRI				*e*S	**Sn**	**10 26 17.9**	**-8.6**			
QIZ	**Qiongzhong**	**18.59**	**58**	P	**P**	**10 23 05.0**	**-0.1**			
QIZ				S	**Sn**	**10 26 33.0**	**+0.1**			
QIZ				LR	LR					
	comp=Z,350nm,15.7s									
QIZ				LR	LR					
	comp=Z,200nm,16.2s									
SBUM	**Sibu**	**20.05**	**109**	*e*P	**P**	**10 23 20.8**	**-0.4**			
	comp=Z,13nm,1.1s									
LSA	**Lhasa**	**20.20**	**355**	*e*P	**P**	**10 23 22.9**	**-0.2**			
	comp=Z,28nm,0.8s									
BHPL	**Bhopal**	**20.44**	**314**	*e*P	**P**	**10 23 26.5**	**+1.1**			
BHPL				IAmb	IAmb	10 23 27.6				
	comp=Z,38nm,0.5s									
GYA	**Guiyang**	**21.07**	**35**⇑	*i*P	**P**	**10 23 32.5**	**+0.3**			
GYA				pP	sP	10 23 47.4	-2.1			
GYA				sP	pP	10 23 54.3	+11			
GYA				PP	**PnPn**	**10 23 59.8**	**+7.0**			
GYA				S	**S**	**10 27 21.0**	**-3.4**			
GYA				PcP	**PcP**	**10 27 38.9**	**+1.3**			
GYA				SS	**SnSn**	**10 27 56.0**	**+7.5**			
GYA				pmax	pmax					
	comp=Z,20nm,0.8s									
GYA				pmax	pmax					
	comp=Z,120nm,4.8s									
GYA				LR	LR					
	comp=Z,680nm,15.6s									
GYA				LR	LR					
	comp=Z,540nm,16.0s									
GYA				LR	LR					
	comp=Z,560nm,16.2s									
LEM	**Lembang**	**21.59**	**138**	LR	LR	10 33 32.7				
	comp=Z,327nm,18.9s,baz=222,slow=41									
CD2	**Chengdu**	**23.41**	**23**	*e*P	**P**	**10 23 56.6**	**-0.1**			
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
CD2				pmax	pmax					
	comp=Z,120nm,4.8s									
ENH	**Enshi**	**25.59**	**34**	*e*P	**P**	**10 24 15.8**	**-0.8**			
	comp=Z,20nm,0.6s									
SMLA	**Simla**	**26.25**	**327**	*e*P	**P**	**10 24 23.5**	**+1.1**			
SMLA				IAmb	IAmb	10 24 28.8				
	comp=Z,82nm,0.2s									
H08S3	**Diego Garcia H**	**26.84**	**231**	T	T	10 51 32.9				
	baz=51,slow=76,SNR=34									
H08S2	**Diego Garcia H**	**26.84**	**231**	T	T	10 51 34.7				
	baz=51,slow=76,SNR=36									
H08S1	**Diego Garcia H**	**26.86**	**231**	T	T	10 51 28.0				
	baz=51,slow=76,SNR=25									
TGY	**Tagaytay City**	**27.41**	**78**	LR	LR	10 34 35.8				
	comp=Z,171nm,21.6s,baz=256,slow=35									
LZH	**Lanzhou**	**28.14**	**18**	*e*P	**P**	**10 24 43.3**	**+3.6**			
LZH				pP	sP	10 24 56.9	-0.9			
LZH				sP	pP	10 25 03.3	+11			
LZH				*e*PP	**PnPn**	**10 25 35.8**	**+6.5**			
LZH				pmax	pmax					
	comp=Z,23nm,1.2s									
LZH				pmax	pmax					
	comp=Z,76nm,5.0s									
LZH				LR	LR					
	comp=Z,360nm,12.7s									
LZH				LR	LR					
	comp=Z,360nm,13.0s									
LZH				LR	LR					
	comp=Z,430nm,16.3s									
XAN	**Xi'an**	**28.31**	**28**	P	**P**	**10 24 39.4**	**-1.7**			
XAN				pP	pP	10 24 52.8	-0.7			
XAN				sP	sP	10 24 59.6	+0.4			
XAN				pmax	pmax					
	comp=Z,7.0nm,0.8s									
XAN				pmax	pmax					
	comp=Z,120nm,5.7s									
XAN				LR	LR					
	comp=Z,200nm,18.2s									
XAN				LR	LR					
	comp=Z,170nm,17.3s									
XAN				LR	LR					
	comp=Z,210nm,19.2s									
GTA	**Gaotai**	**30.34**	**10**	*e*P	**P**	**10 24 59.3**	**+0.2**			
GTA				pP	pP	10 25 10.5	-1.1			
GTA				sP	sP	10 25 16.6	-0.7			
GTA				S	**S**	**10 29 55.8**	**-0.5**			
GTA				SS	**ScP**	**10 31 39.5**	**+2.4**			
GTA				pmax	pmax					
	comp=Z,8.0nm,1.1s									
GTA				pmax	pmax					
	comp=Z,110nm,6.2s									
GTA				LR	LR					
	comp=Z,210nm,15.0s									
GTA				LR	LR					
	comp=Z,250nm,15.2s									
GTA				LR	LR					
	comp=Z,90nm,12.6s									
DAV	**Davao City (W)**	**32.01**	**92**	LR	LR	10 40 06.9				
	comp=Z,73nm,18.8s,baz=338,slow=40									
NJ2	**Nanjing**	**32.60**	**43**	*e*P	**P**	**10 25 18.5**	**-0.4**			
NJ2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
KBL	**Kabul**	**33.40**	**322**	*e*P	**P**	**10 25 27.0**	**+0.9**			
	comp=Z,16nm,0.8s									
KSH	**Kashi**	**33.66**	**335**	P	**P**	**10 25 27.9**	**-0.4**			
KSH				pP	sP	10 25 45.3	-1.2			
KSH				S	**S**	**10 30 45.8**	**-2.3**			
KSH				pmax	pmax					
	comp=Z,20nm,0.7s									
KSH				LR	LR					
	comp=Z,86nm,4.3s									
KSH				LR	LR					
	comp=Z,130nm,4.7s									
WMQ	**Urumqi**	**34.54**	**353**	P	**P**	**10 25 36.8**	**+1.1**			
WMQ				pP	pP	10 25 49.4	+1.1			
WMQ				pmax	pmax					
	comp=Z,22nm,0.7s									
WMQ				pmax	pmax					
	comp=Z,160nm,3.9s									
WMQ				LR	LR					
	comp=Z,99nm,24.3s									
WMQ				LR	LR					
	comp=Z,340nm,27.1s									
TARG	**Taragay, Kyrgy**	**34.89**	**340**	*e*P	**P**	**10 25 39.7**	**+0.5**			
	comp=Z,19nm,0.7s									
HHC	**Hu-ho-hao-te**	**35.16**	**24**	*e*P	**P**	**10 25 42.3**	**+1.2**			
HHC				pP	sP	10 25 57.4	-2.0			
HHC				sP	pP	10 26 04.6	+11			
HHC				PP	**PP**	**10 27 02.8**	**+1.2**			
HHC				S	**S**	**10 31 10.5**	**-0.5**			
HHC				sS	sS	10 31 36.3	+4.1			
HHC				SS	**SnSn**	**10 33 29.8**	**-1.5**			
HHC				pmax	pmax					
	comp=Z,16nm,1.1s									
HHC				pmax	pmax					
	comp=Z,120nm,5.2s									
HHC				LR	LR					
	comp=Z,110nm,12.6s									
HHC				LR	LR					
	comp=Z,130nm,12.6s									
HHC				LR	LR					
	comp=Z,85nm,11.8s									
KDJ	**Kajisay**	**35.46**	**339**	*e*P	**P**	**10 25 44.7**	**+0.9**			
	comp=Z,24nm,0.9s									
WSAR	**Wadi Sarin**	**35.86**	**297**	LR	LR	10 40 02.2				
	comp=Z,60nm,20.4s,baz=138,slow=35									
KZA	**Kyzart**	**36.13**	**337**	P	**P**	**10 25 50.6**	**+0.8**			
	SNR=8.3									
UCH	**Uchtor**	**36.55**	**336**	P	**P**	**10 25 54.5**	**+1.1**			
	SNR=12									
BJI	**Beijing**	**36.59**	**30**⇑	*e*P	**P**	**10 25 53.8**	**+0.6**			
BJI				pmax	pmax					
	comp=Z,10.0nm,0.7s									
TKM2	**Tokmak 2**	**36.72**	**338**	P	**P**	**10 25 55.2**	**+0.5**			
	SNR=16									
KBK	**Karagaybulak**	**36.74**	**337**	P	**P**	**10 25 56.4**	**+1.6**			
	SNR=27									
AML	**Almayashu**	**36.80**	**335**	P	**P**	**10 25 56.9**	**+1.4**			
	SNR=50									
AAK	**Ala-Archa**	**36.90**	**337**	P	**P**	**10 25 57.5**	**+1.4**			
	comp=Z,14nm,0.9s,baz=136,slow=5.5,SNR=38									
AAK				LR	LR	10 42 23.1				
	comp=Z,188nm,21.6s,baz=146,slow=38									
AAK	**Ala-Archa**	**36.90**	**337**	P	**P**	**10 25 57.5**	**+1.4**			
	SNR=17									
AAK	**Ala-Archa**	**36.90**	**337**	*e*P	**P**	**10 25 57.4**	**+1.3**			
	comp=Z,15nm,0.8s									
CHMS	**Chumysh**	**37.11**	**337**	*e*P	**P**	**10 25 58.5**	**+0.8**			
	SNR=9.5									
EKS2	**Erkin-Say**	**37.20**	**336**	P	**P**	**10 26 00.2**	**+1.6**			
	SNR=28									
USP	**Ospenovka**	**37.43**	**337**	P	**P**	**10 26 01.4**	**+0.9**			
	SNR=27									
MK01	**Makanchi Array**	**38.31**	**348**	*e*P	**P**	**10 26 07.2**	**-0.6**			
MK31	**Makanchi Array**	**38.33**	**348**	*e*P	**P**	**10 26 07.7**	**-0.3**			
MK32	**Makanchi Array**	**38.33**	**348**	*e*P	**P**	**10 26 07.6**	**-0.4**			
MK32				*e*PcP	**PcP**	**10 28 21.2**	**+0.2**			
MKAR	**Makanchi Array**	**38.33**	**348**	P	**P**	**10 26 07.6**	**-0.3**			
	comp=Z,9.2nm,0.7s,baz=168,slow=8.0,SNR=86									
MKAR				PcP	**PcP**	**10 28 21.2**	**+0.2**			
	comp=Z,0.8nm,0.7s,baz=193,slow=2.2,SNR=3.9									
MKAR				LR	LR	10 45 39.2				
	comp=Z,71nm,19.4s,baz=177,slow=42									
MKAR	**Makanchi Array**	**38.33**	**348**	*e*P	**P**	**10 26 07.7**	**-0.3**			
	comp=Z,48nm,0.6s									
MAKZ	**Makanchi**	**38.41**	**347**	*e*P	**P**	**10 26 08.1**	**-0.6**			
	comp=Z,9.5nm,0.6s									
KKAR	**Karatay Array**	**38.95**	**333**	*e*P	**P**	**10 26 14.6**	**+1.3**			
SONA0	**Songino Array**	**39.77**	**14**	*e*P	**P**	**10 26 19.9**	**-0.2**			
SONA0				*e*PcP	**PcP**	**10 28 26.3**	**+0.5**			
SONM	**Songino Array**	**39.77**	**14**	P	**P**	**10 26 19.9**	**-0.2**			
	comp=Z,2.7nm,0.7s,baz=195,slow=11,SNR=17									
SONM				PcP	**PcP**	**10 28 26.3**	**+0.5**			
	comp=Z,0.8nm,0.6s,baz=203,slow=3.7,SNR=3.4									
SONM				LR	LR	10 44 05.3				
	comp=Z,101nm,19.7s,baz=206,slow=38									
SONA1	**Songino Array**	**39.78**	**14**	*e*P	**P**	**10 26 19.8**	**-0.4**			
KSRS	**Korea Array**	**41.80**	**43**	P	**P**	**10 26 36.4**	**-0.4**			
	comp=Z,0.8nm,0.6s,baz=250,slow=8.3,SNR=4.0									
KSRS				LR	LR	10 44 54.5				
	comp=Z,34nm,20.7s,baz=235,slow=38									
JNU	**Nakatsue**	**41.80**	**50**	LR	LR	10 46 41.5				
	comp=Z,49nm,18.0s,baz=144,slow=40									
GEYT	**Alibeck**	**42.45**	**318**	P	**P**	**10 26 44.6**	**+2.3**			
	comp=Z,56nm,0.8s,baz=145,slow=8.2,SNR=86									
GEYT				LR	LR	10 46 08.5				
	comp=Z,99nm,19.9s,baz=125,slow=38									
KURBB	**Kurchatov Arra**	**42.78**	**346**	P	**P**	**10 26 44.5**	**-0.1**			
	comp=Z,8.1nm,0.7s,baz=167,slow=7.6,SNR=49									
KURBB				PcP	**PcP**	**10 28 36.0**	**+0.7**			
	comp=Z,1.0nm,0.5s,baz=163,slow=3.0,SNR=5.2									
KURK	**Kurchatov**	**42.84**	**346**	*e*P	**P**	**10 26 45.1**	**0.0**			
KURK				*e*PcP	**PcP**	**10 28 36.0**	**+0.5**			
ZAA0	**Zalesovo Array**	**44.85**	**353**	*e*P	**P**	**10 27 00.8**	**-0.4**			
	comp=Z,7.4nm,0.6s									
ZALV	**Zalesovo Beam**	**44.85**	**353**	P	**P**	**10 27 00.8**	**-0.3**			
	comp=Z,6.6nm,0.5s,baz=176,slow=9.0,SNR=23									
ZALV				LR	LR	10 50 06.7				
	comp=Z,48nm,18.0s,baz=24,slow=42									
ZALV	**Zalesovo Beam**	**44.85**	**353**	*e*P	**P**	**10 27 00.4**	**-0.7**			
ZAA1	**Zalesovo Array**	**44.85**	**353**	*e*P	**P**	**10 27 00.8**	**-0.4**			
BVAR	**Borovoye Array**	**47.20**	**341**	P	**P**	**10 27 19.2**	**-0.5**			
	comp=Z,6.5nm,0.7s,baz=134,slow=8.5,SNR=37									
BRVK	**Borovoye**	**47.26**	**341**	*e*P	**P**	**10 27 19.8**	**-0.3**			
	comp=Z,6.5nm,0.6s									
NWAO	**Narrogin (SRO)**	**47.96**	**153**	P	**P**	**10 27 24.6**	**-1.2**			
	comp=Z,13nm,1.0s,baz=243,slow=4.5,SNR=3.0									
ABKAR	**Akbulak array**	**48.42**	**331**	*e*P	**P**	**10 27 29.9**	**+0.7**			
	comp=Z,95nm,0.6s									
MJAR	**Matsushiro Arr**	**48.70**	**49**	PcP	**PcP**	**10 28 56.7**	**+0.4**			
	comp=Z,1.7nm,0.8s,baz=244,slow=4.8,SNR=7.1									
MJAR				LR	LR	10 50 37.6				
	comp=Z,36nm,18.2s,baz=270,slow=39									
WRA	**Warramunga Arr**	**49.87**	**126**	P	**P**	**10 27 38.9**	**-1.9**			
	comp=Z,1.5nm,0.4s,baz=301,slow=10.0,SNR=39									
WRA				PcP	**PcP**	**10 29 00.7**	**-0.1**			
	comp=Z,0.6nm,0.5s,baz=307,slow=3.1,SNR=5.3									
WRA				ScP	**ScP**	**10 32 51.0**	**-1.8**			
	comp=Z,1.2nm,0.8s,baz=317,slow=3.8,SNR=6.6									
WR1	**Warramunga Arr**	**49.87**	**126**	*e*P	**P**	**10 27 38.9**	**-1.9**			
	comp=Z,46nm,1.8s									
WR1				*e*PcP	**PcP**	**10 29 00.7**	**-0.1**			
AKTO	**Aktyubinsk**	**50.14**	**331**	P	**P**	**10 27 42.3**	**0.0**			
	comp=Z,4.4nm,0.5s,baz=123,slow=9.0,SNR=20									
AKTO				PcP	**PcP**	**10 29 02.0**	**+0.8**			
	comp=Z,2.0nm,0.5s,baz=207,slow=6.8,SNR=2.0									
AKTO				LR	LR	10 51 06.9				
	comp=Z,40nm,21.1s,baz=124,slow=39									
ASAR	**Alice Springs**	**51.58**	**130**	P	**P**	**10 27 51.1**	**-2.5**			
	comp=Z,1.2nm,0.6s,baz=305,slow=7.1,SNR=20									
ASAR				PcP	**PcP**	**10 29 06.7**	**-0.4**			
	comp=Z,1.2nm,0.7s,baz=313,slow=4.1,SNR=5.2									
ASAR				ScP	**ScP**	**10 32 58.5**	**-1.5**			
	comp=Z,0.9nm,0.8s,baz=308,slow=4.6,SNR=5.0									
AS31	**Alice Springs**	**51.58**	**130**	*e*P	**P**	**10 27 51.9**	**-1.7**			
	comp=Z,5.2nm,1.7s									
GNI	**Garni**	**52.73**	**314**	LR	LR	10 52 58.6				
	comp=Z,44nm,19.4s,baz=96,slow=39									
ARU	**Arti**	**54.08**	**337**	P	**P**	**10 28 11.5**	**0.0**			
	comp=Z,4.2nm,0.3s,baz=129,slow=5.7,SNR=8.9									
ARU	**Arti**	**54.08**	**337**	*e*P	**P**	**10 28 11.2**	**-0.3**			
	comp=Z,7.7nm,0.5s									
KBZ	**Khabaz**	**55.35**	**317**	P	**P**	**10 28 21.2**	**+0.4**			
	comp=Z,6.2nm,0.9s,baz=163,slow=4.6,SNR=18									
KBZ				LR	LR	10 55 08.5				
	comp=Z,32nm,20.3s,baz=64,slow=39									
ASF	**Jabal al Asfar**	**56.66**	**302**	P	**P**	**10 28 31.2**	**+0.6**			
	comp=Z,3.6nm,0.9s,baz=160,slow=8.1,SNR=3.4									
KMBO	**Kilima Mbogo**	**56.81**	**262**	P	**P**	**10 28 33.4**	**+1.2**			
	comp=Z,0.9nm,0.3s,baz=45,slow=19,SNR=4.9									
MMAI	**Mount Meron Ar**	**58.05**	**303**	LR	LR	10 56 50.1				
	comp=Z,49nm,18.8s,baz=50,slow=39									
YAK	**Yakutsk**	**58.72**	**19**	P	**P**	**10 28 41.8**	**-2.6**			
	comp=Z,9.9nm,0.4s,baz=240,slow=1.3,SNR=4.0									
YAK	**Yakutsk**	**58.72**	**19**	*e*P	**P**	**10 28 42.2**	**-2.2**			
	comp=Z,16nm,0.5s									
BR101	**Keskin Array S**	**60.76**	**310**	*e*P	**P**	**10 28 58.5**	**-0.6**			
BR131	**Keskin Array S**	**60.76**	**310**	*e*P	**P**	**10 28 58.3**	**-0.8**			
BRTR	**Keskin Array B**	**60.76**	**310**	P	**P**	**10 28 58.5**	**-0.6**			
	comp=Z,5.7nm,0.7s,baz=123,slow=7.2,SNR=35									
BRTR				LR	LR	10 58 10.8				
	comp=Z,20nm,20.2s,baz=107,slow=39									
STKA	**Stephens Creek**	**61.81**	**134**	P	**P**	**10 29 06.7**	**+0.6**			
	comp=Z,2.5nm,0.9s,baz=312,slow=6.7,SNR=5.6									
KLMR	**Klimovskoe**	**64.64**	**334**	*e*P	**P**	**10 29 21.4**	**-2.9**			
KLMR				AMP		10 29 24.0				
	comp=Z,14nm,1.5s									
TIXI	**Tiksi**	**65.81**	**12**	P	**P**	**10 29 30.8**	**-0.9**			
	comp=Z,15nm,0.6s,baz=207,slow=4.4,SNR=51									
TIXI	**Tiksi**	**65.81**	**12**	*e*P	**P**	**10 29 30.9**	**-0.7**			
CFR	**Carcaliu**	**65.87**	**315**⇓	*i*P	**P**	**10 29 32.3**	**-0.3**			
AKASG	**Malin Array Be**	**66.38**	**321**	P	**P**	**10 29 34.5**	**-1.2**			
	comp=Z,1.1nm,0.6s,baz=89,slow=4.7,SNR=13									
AKASG				LR	LR	11 02 01.6				
	comp=Z,35nm,19.3s,baz=55,slow=39									
AKBB	**Malin Array Si**	**66.38**	**321**	*e*P	**P**	**10 29 34.5**	**-1.3**			
	comp=Z,14nm,0.4s									
VRI	**Vrincioaia**	**66.97**	**316**⇓	*i*P	**P**	**10 29 40.1**	**+0.4**			
IDI	**Anoyia**	**66.98**	**304**	P	**P**	**10 29 40.1**	**+0.1**			
	comp=Z,2.8nm,0.6s,baz=69,slow=5.9,SNR=4.4									
IDI	**Anoyia**	**66.98**	**304**	*e*P	**P**	**10 29 40.1**	**+0.1**			
	comp=Z,13nm,1.4s									
PLOR	**Plostina**	**67.02**	**316**⇓	*i*P	**P**	**10 29 40.8**	**+0.8**			
VTS	**Vitosha**	**69.00**	**312**⇑	*i*P	**P**	**10 29 49.8**	**-2.8**			
DRGR		**69.86**	**316**⇓	*i*P	**P**	**10 29 57.2**	**-0.6**			
FIA0	**FINESS Array S**	**70.90**	**332**	*e*P	**P**	**10 30 03.1**	**-0.5**			
FINES	**FINESS Array B**	**70.90**	**332**	P	**P**	**10 30 03.1**	**-0.5**			
	comp=Z,2.0nm,0.7s,baz=98,slow=7.9,SNR=7.4									
CRVS	**Cervenica-Dubn**	**70.98**	**318**	*e*P	**P**	**10 30 04.6**	**+0.1**			
STHS	**Stebnicka Huta**	**71.19**	**319**	*e*P	**P**	**10 30 06.1**	**+0.4**			
KECS	**Kecovo**	**71.57**	**318**	*e*P	**P**	**10 30 08.2**	**+0.2**			
VYHS	**Vyhne**	**72.66**	**318**	*e*P	**P**	**10 30 14.3**	**-0.3**			
ARA0	**ARCESS Array S**	**73.47**	**340**	*e*P	**P**	**10 30 19.0**	**0.0**			
ARCES	**ARCESS Array B**	**73.47**	**340**	P	**P**	**10 30 19.0**	**0.0**			
	comp=Z,2.1nm,0.6s,baz=96,slow=6.4,SNR=21

JANG	**Nango**	**2.71**	**261**	P	**Pn**	**10 47 19.1**	**-1.4**
JANG				S	**Sn**	**10 47 48.3**	**-3.7**
JNK	**Nakash**	**2.72**	**356**	P	**Pn**	**10 47 18.8**	**-1.8**
JNK				*e*S	**Sn**	**10 47 49.8**	**-2.5**
JBT2	**Biratori 2**	**2.75**	**315**	P	**Pn**	**10 47 20.9**	**-0.1**
JBT2				S	**Sn**	**10 47 53.0**	**+0.1**
JFR	**Furan**	**2.91**	**323**	P	**Pn**	**10 47 22.4**	**-0.9**
JFR				*e*S	**Sn**	**10 47 54.2**	**-2.9**
JTM	**Tenmabayashi**	**2.99**	**270**	S	**Sn**	**10 47 56.7**	**-2.3**
JOT	**Ohata**	**3.04**	**281**	P	**Pn**	**10 47 24.2**	**-0.8**
JOT				*e*S	**Sn**	**10 47 57.1**	**-3.0**
ASAJ	**Asahikawa**	**3.70**	**332**	Pn	**Pn**	**10 47 34.1**	**0.0**
	0.8nm,0.3s,baz=187,slow=19,SNR=10						
ASAJ				Sn	**Sn**	**10 48 16.6**	**+0.1**
	0.8nm,0.3s,baz=292,slow=19,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**28.16**	**132**	T	T	11 22 03.1	
	baz=324,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**28.17**	**132**	T	T	11 22 03.9	
	baz=324						
H11N3	**WAKE ISLAND Hy**	**28.18**	**132**	T	T	11 22 04.3	
	baz=324						
SONM	**Songino Array**	**28.25**	**297**	P	**P**	**10 52 31.4**	**+2.2**
	0.6nm,0.8s,baz=93,slow=7.2,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**29.03**	**134**	T	T	11 23 05.1	
	baz=325,slow=76,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**29.04**	**134**	T	T	11 23 05.5	
	baz=325,slow=76,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**29.05**	**134**	T	T	11 23 07.4	
	baz=325,slow=76,SNR=5.2						
KURBB	**Kurchatov Arra**	**45.95**	**306**	P	**P**	**10 55 00.3**	**+1.6**
	0.5nm,0.7s,baz=73,slow=9.0,SNR=4.7						
YKA	**Yellowknife Ar**	**59.08**	**32**	P	P	10 56 38.0	+2.4
	0.2nm,0.6s,baz=301,slow=6.5,SNR=5.2						
WRA	**Warramunga Arr**	**61.31**	**191**	P	**P**	**10 56 52.0**	**+0.6**
	0.7nm,0.9s,baz=9.4,slow=7.0,SNR=4.9						
PDAR	**Pinedale Array**	**73.00**	**48**	P	P	10 58 08.0	+2.2
	0.2nm,0.6s,baz=242,slow=1.9,SNR=3.0						
TXAR	**Lajitas Array**	**85.59**	**55**	P	P	10 59 16.9	+2.5
	0.3nm,0.6s,baz=268,slow=3.3,SNR=3.6						

NNC ***20*** *10:55:57.4±1.9,36˚.82N×70˚.73E,h185km±13km,mb2.7, mpv3.6,Error ellipse: s-maj=17.3km s-min=8.4km az=166.0*

ISC 20 10:55:57.6±2.9,36˚.8N±0˚.2×70˚.72E±0˚.07,h150km,n13, σ1♀99/21,11C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.47**	**323**	⇓P	**Pn**	**10 56 39.8**	**+1.3**
	13nm,0.4s						
DZET				⇑S	**Sn**	**10 57 14.5**	**+4.5**
	161nm,0.5s						
SFK	**Sufi-Kurgan**	**3.85**	**34**	⇓P	**Pn**	**10 56 57.0**	**+1.0**
	12nm,0.3s						
SFK				⇑S	**Sn**	**10 57 44.1**	**+2.6**
	31nm,0.4s						
AML	**Almayashu**	**5.76**	**23**	P	**Pn**	**10 57 22.3**	**+0.9**
	SNR=85						
MNAS	**Manas**	**5.81**	**13**	⇑P	**Pn**	**10 57 23.1**	**+1.4**
	5.1nm,0.6s						
MNAS				⇓S	**Sn**	**10 58 29.8**	**+2.2**
	15nm,0.6s						
UCH	**Uchtor**	**6.13**	**27**	P	**Pn**	**10 57 26.9**	**+0.6**
	SNR=9.8						
KK31	**Karatay Array**	**6.26**	**359**	P	**Pn**	**10 57 28.6**	**+0.9**
	1.5nm,0.3s,baz=199,slow=16,SNR=34						
KK31				⇓S	**Sn**	**10 58 39.7**	**+1.5**
	5.4nm,0.4s,baz=187,slow=21,SNR=14						
EKS2	**Erkin-Say**	**6.27**	**21**	P	**Pn**	**10 57 29.2**	**+1.2**
	SNR=16						
KZA	**Kyzart**	**6.30**	**32**	P	**Pn**	**10 57 27.8**	**-0.7**
	SNR=5.2						
AAK	**Ala-Archa**	**6.48**	**25**	⇑P	**Pn**	**10 57 31.2**	**+0.4**
	2.5nm,0.5s						
AAK				⇑S	**Sn**	**10 58 45.4**	**+1.7**
	13nm,0.8s						
AAK	**Ala-Archa**	**6.48**	**25**	P	**Pn**	**10 57 31.8**	**+1.0**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.14**	**30**	⇑P	**Pn**	**10 57 39.3**	**-0.3**
	1.8nm,0.5s						
TKM2				⇑S	**Sn**	**10 59 00.1**	**+0.5**
	3.3nm,0.8s						
AB31	**Akbulak array**	**14.68**	**331**	⇑P	**Pn**	**10 59 16.2**	**-1.6**
	2.2nm,0.8s,baz=145,slow=13,SNR=21						
AB31				⇑S	**Sn**	**11 01 56.1**	**-4.5**
	1.3nm,0.7s,baz=154,slow=23,SNR=5.2						
AKTO	**Aktyubinsk**	**16.38**	**330**	⇑P	**Pn**	**10 59 37.5**	**-1.2**
	2.9nm,0.6s						
AKTO				⇑S	**S**	**11 02 40.0**	**-0.5**
	1.6nm,1.0s						

BJI ***20*** *10:55:58.0,55˚.00N×162˚.70E,h10km,mb4.6/38,mB5.0/31, Ms5.0/31,Ms7 4.8/28*

IDC ***20*** *10:55:58.7±0.5,54˚.91N×162˚.66E,h0km,mb4.7/42, mb1 4.8/46,mb1mx4.7/80,mbtmp4.7/46,ML4.1/5,MS4.1/44, Ms1 4.1/44,ms1mx4.0/63,Error ellipse: s-maj=12.8km s-min=9.1km az=163.0*

KRSC ***20*** *10:55:60.0±1.1,54˚.71N×163˚.06E,h44km±14km,ML5.4*

ISCJB ***20*** *10:56:00.1±0.1,54˚.91N±0˚.02×162˚.81E±0˚.02,h20km, mb4.8/270,MS4.4/60,Error ellipse: s-maj=3.3km s-min=1.4km az=152.7*

GCMT ***20*** *10:56:02.8±0.3,54˚.75N×163˚.16E,h20km±1km,MW4.9/76, Moment Tensor Solution. s33,c40; s76,c115; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.38±.15; Mθθ0.22±.10; Mϕϕ-2.61±.10; Mrθ1.06±.23; Mϕθ-0.80±.06; Mϕr0.51±.16; Best double couple: M₀2.87700×10¹⁶ NP1:ϕs34.00000°,δ57.00000°,λ.114.00000°. NP2: ϕs175.00000°,δ40.00000°,λ.58.00000°. Principal axes: T 2.8190, Plg68.0000°, Azm355.0000°; N 0.1080, Plg20.0000°, Azm200.0000°; P -2.9340, Plg9.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***20*** *10:56:02.8±1.2,54˚.94N×162˚.65E,h26km±9km,mb4.9/182 Error ellipse: s-maj=4.6km s-min=2.1km az=165.0*

MOS ***20*** *10:56:03.1±1.0,54˚.82N×162˚.83E,h46km,mb5.1/69, MS4.5/18,Error ellipse: s-maj=5.5km s-min=3.5km az=82.5*

ISC 20 10:56:02.8±0.5,54˚.91N±0˚.04×162˚.80E±0˚.03,h27km±3km, n901,σ1♀21/955,mb4.9/274,MS4.4/60,30C-10D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.30**	**0**	PN	**Pn**	**10 56 25.8**	**+0.6**
KBTR	**Krutoberegovo**	**1.30**	**0**	*e*P	**Pn**	**10 56 25.8**	**+0.6**
KZV	**Kizimen**	**1.46**	**279**	PN	**Pb**	**10 56 28.0**	**+0.5**
KZV				S	**Sb**	**10 56 49.3**	**+1.7**
KZV	**Kizimen**	**1.46**	**279**	*e*P	**Pn**	**10 56 28.0**	**+0.5**
KZV				*e*S	**Sb**	**10 56 49.3**	**+1.7**
TUMR	**Tumrok**	**1.57**	**285**	PN	**Pb**	**10 56 30.4**	**-0.9**
TUMR	**Tumrok**	**1.57**	**285**	*e*P	**Pb**	**10 56 30.4**	**-0.9**
BZMR	**Bezymyannaya**	**1.67**	**309**	PN	**Pb**	**10 56 32.5**	**-0.5**
BZMR	**Bezymyannaya**	**1.67**	**309**	*e*P	**Pb**	**10 56 32.5**	**-0.5**
LGNR	**Loginova**	**1.68**	**315**	PN	**Pb**	**10 56 33.6**	**+0.4**
LGNR	**Loginova**	**1.68**	**315**	*e*P	**Pb**	**10 56 33.6**	**+0.4**
BZWR	**Bezymyannyi-We**	**1.69**	**310**	PN	**Pb**	**10 56 32.9**	**-0.4**
BZWR	**Bezymyannyi-We**	**1.69**	**310**	*e*P	**Pb**	**10 56 32.9**	**-0.4**
KMNR	**Kamenistaya**	**1.69**	**301**	PN	**Pb**	**10 56 32.9**	**-0.4**
KMNR	**Kamenistaya**	**1.69**	**301**	*e*P	**Pb**	**10 56 32.9**	**-0.4**
KPT	**Kopyto**	**1.81**	**307**	PN	**Pb**	**10 56 35.6**	**+0.3**
KPT	**Kopyto**	**1.81**	**307**	*e*P	**Pb**	**10 56 35.6**	**+0.3**
SMKR	**Semkarok**	**1.84**	**336**	PN	**Pb**	**10 56 34.6**	**-1.2**
SMKR	**Semkarok**	**1.84**	**336**	*e*P	**Pb**	**10 56 34.6**	**-1.2**
BKI	**Bering**	**1.85**	**79**	PN	**Pn**	**10 56 30.0**	**-2.6**
BKI				S	**Sn**	**10 56 52.6**	**-2.5**
BKI	**Bering**	**1.85**	**79**	*e*P	**Pn**	**10 56 30.0**	**-2.6**
BKI				*e*S	**Sn**	**10 56 52.6**	**-2.5**
KLY	**Klyuchi**	**1.86**	**320**	PN	**Pn**	**10 56 34.1**	**+1.2**
KLY	**Klyuchi**	**1.86**	**320**	*e*P	**Pn**	**10 56 34.1**	**+1.2**
BDR	**Baidarnaya**	**1.89**	**332**	PN	**Pb**	**10 56 35.8**	**-0.9**
BDR	**Baidarnaya**	**1.89**	**332**	*i* P	**Pb**	**10 56 35.8**	**-0.9**
SRKR	**Sorokina**	**1.98**	**333**	PN	**Pb**	**10 56 36.9**	**-1.2**
SRKR	**Sorokina**	**1.98**	**333**	*e*P	**Pb**	**10 56 36.9**	**-1.2**
KOZ	**Kozyrevsk**	**2.03**	**306**	PN	**Pb**	**10 56 37.9**	**-1.0**
KOZ	**Kozyrevsk**	**2.03**	**306**	*e*P	**Pb**	**10 56 37.9**	**-1.0**
KII	**Karymskiy**	**2.14**	**247**	PN	**Pn**	**10 56 36.6**	**-0.2**
KII				S	**Sn**	**10 57 02.3**	**-0.3**
KII	**Karymskiy**	**2.14**	**247**	*e*P	**Pn**	**10 56 36.6**	**-0.2**
KII				*e*S	**Sn**	**10 57 02.3**	**-0.3**
SPN	**Mys Shipunski**	**2.45**	**223**	PN	**Pn**	**10 56 39.1**	**-1.8**
SPN				S	**Sn**	**10 57 07.0**	**-2.9**
SPN	**Mys Shipunski**	**2.45**	**223**	*i* P	**Pn**	**10 56 39.1**	**-1.8**
SPN				*e*S	**Sn**	**10 57 07.0**	**-2.9**
ESO	**Esso**	**2.55**	**295**	PN	**Pn**	**10 56 44.8**	**+2.4**
ESO				S	**Sb**	**10 57 18.5**	**-0.3**
ESO	**Esso**	**2.55**	**295**	*e*P	**Pn**	**10 56 44.8**	**+2.4**
ESO				*e*S	**Sb**	**10 57 18.5**	**-0.3**
NLC	**Nalytchevo**	**2.68**	**231**	PN	**Pn**	**10 56 42.9**	**-1.2**
NLC				S	**Sn**	**10 57 13.8**	**-1.9**
NLC	**Nalytchevo**	**2.68**	**231**	*e*P	**Pn**	**10 56 42.9**	**-1.2**
NLC				*e*S	**Sn**	**10 57 13.8**	**-1.9**
SDLR	**Sedlovina**	**2.83**	**236**	PN	**Pn**	**10 56 46.2**	**-0.1**
SDLR				S	**Sn**	**10 57 18.5**	**-1.0**
SDLR	**Sedlovina**	**2.83**	**236**	*e*P	**Pn**	**10 56 46.2**	**-0.1**
SDLR				*e*S	**Sn**	**10 57 18.5**	**-1.0**
SMAR	**Somma**	**2.88**	**237**	PN	**Pn**	**10 56 47.0**	**0.0**
SMAR				S	**Sn**	**10 57 20.5**	**-0.3**
SMAR	**Somma**	**2.88**	**237**	*e*P	**Pn**	**10 56 47.0**	**0.0**
SMAR				*e*S	**Sn**	**10 57 20.5**	**-0.3**
KRX	**Arik**	**2.90**	**239**	PN	**Pn**	**10 56 47.9**	**+0.7**
KRX				S	**Sn**	**10 57 22.7**	**+1.5**
KRX	**Arik**	**2.90**	**239**	*e*P	**Pn**	**10 56 47.9**	**+0.7**
KRX				*e*S	**Sn**	**10 57 22.7**	**+1.5**
UGLR	**Uglovaya**	**2.90**	**236**	PN	**Pn**	**10 56 47.4**	**+0.2**
UGLR	**Uglovaya**	**2.90**	**236**	*e*P	**Pn**	**10 56 47.4**	**+0.2**
AVH	**Avacha**	**2.91**	**237**	PN	**Pn**	**10 56 48.1**	**+0.8**
AVH				S	**Sn**	**10 57 20.2**	**-1.2**
AVH	**Avacha**	**2.91**	**237**	*e*P	**Pn**	**10 56 48.1**	**+0.8**
AVH				*e*S	**Sn**	**10 57 20.2**	**-1.2**
KOK	**Koryaka**	**2.94**	**238**	PN	**Pn**	**10 56 48.3**	**+0.5**
KOK	**Koryaka**	**2.94**	**238**	*e*P	**Pn**	**10 56 48.3**	**+0.5**
DALK	**Dalny**	**3.04**	**233**	PN	**Pn**	**10 56 48.9**	**-0.2**
DALK				S	**Sn**	**10 57 24.4**	**-0.2**
DALK	**Dalny**	**3.04**	**233**	*e*P	**Pn**	**10 56 48.9**	**-0.2**
DALK				*e*S	**Sn**	**10 57 24.4**	**-0.2**
INSR	**Institute**	**3.09**	**235**	PN	**Pn**	**10 56 48.8**	**-1.0**
INSR				S	**Sn**	**10 57 25.4**	**-0.4**
INSR	**Institute**	**3.09**	**235**	*e*P	**Pn**	**10 56 48.8**	**-1.0**
INSR				*e*S	**Sn**	**10 57 25.4**	**-0.4**
PET	**Petropavlovsk**	**3.10**	**234**	*e*PN	**Pn**	**10 56 49.7**	**-0.1**
PET				*e*S	**Sn**	**10 57 26.5**	**+0.6**
PET				pmax	pmax		
	comp=E,1μm,0.7s						
PET				smax	smax		
	comp=E,4μm,0.7s						
PET				smax	smax		
	comp=N,5μm,0.7s						
PET				MLR	MLR		
	comp=Z,10μm,10.0s						
PET				MLR	MLR		
	comp=Z,6μm,14.0s						
PET	**Petropavlovsk**	**3.10**	**234**	*e*Pn	**Pn**	**10 56 49.5**	**-0.3**
PET				*e*Sn	**Sn**	**10 57 24.8**	**-1.0**
GNL	**Ganaly**	**3.10**	**249**	PN	**Pn**	**10 56 51.5**	**+1.5**
GNL				S	**Sn**	**10 57 28.2**	**+2.1**
GNL	**Ganaly**	**3.10**	**249**	*e*P	**Pn**	**10 56 51.5**	**+1.5**
GNL				*e*S	**Sn**	**10 57 28.2**	**+2.1**
KRMR	**Karymshinskiy**	**3.46**	**235**	PN	**Pn**	**10 56 55.7**	**+0.8**
KRMR				S	**Sn**	**10 57 36.7**	**+1.8**
KRMR	**Karymshinskiy**	**3.46**	**235**	*e*P	**Pn**	**10 56 55.7**	**+0.8**
KRMR				*e*S	**Sn**	**10 57 36.7**	**+1.8**
PEA1	**Petropavlovsk-**	**3.51**	**241**	*e*Pn	**Pn**	**10 56 55.6**	**+0.1**
PEA1				*e*Sn	**Sn**	**10 57 40.1**	**+4.0**
PETK	**Petropavlovsk-**	**3.51**	**241**	Pn	**Pn**	**10 56 55.6**	**+0.1**
	comp=Z,43nm,0.3s,baz=71,slow=18,SNR=276						
PETK				Sn	**Sn**	**10 57 40.1**	**+4.0**
	comp=Z,29nm,0.3s,baz=82,slow=23,SNR=5.0						
RUS	**Russkaya**	**3.56**	**228**	PN	**Pn**	**10 56 56.0**	**-0.2**
RUS				S	**Sn**	**10 57 37.0**	**-0.3**
RUS	**Russkaya**	**3.56**	**228**	*e*P	**Pn**	**10 56 56.0**	**-0.2**
RUS				*e*S	**Sn**	**10 57 37.0**	**-0.3**
MTVR	**Mutnovka**	**3.67**	**230**	PN	**Pn**	**10 56 59.0**	**+1.2**
MTVR				S	**Sn**	**10 57 40.7**	**+0.5**
MTVR	**Mutnovka**	**3.67**	**230**	*e*P	**Pn**	**10 56 59.0**	**+1.2**
MTVR				*e*S	**Sn**	**10 57 40.7**	**+0.5**
ASAK	**Asacha**	**3.86**	**231**	PN	**Pn**	**10 57 01.5**	**+1.1**
ASAK	**Asacha**	**3.86**	**231**	*e*P	**Pn**	**10 57 01.5**	**+1.1**
APC	**Apacha**	**3.88**	**242**	PN	**Pn**	**10 57 01.9**	**+1.2**
APC				S	**Sn**	**10 57 48.5**	**+3.2**
APC	**Apacha**	**3.88**	**242**	*e*P	**Pn**	**10 57 01.9**	**+1.2**
APC				*e*S	**Sn**	**10 57 48.5**	**+3.2**
KDTR	**Khodutka, Kamc**	**4.20**	**224**	*e*P	**Pn**	**10 57 05.2**	**+0.2**
KDTR				*e*S	**Sn**	**10 57 52.5**	**-0.6**
OSSR	**Ossora**	**4.36**	**2**	PN	**Pn**	**10 57 08.8**	**+1.7**
OSSR	**Ossora**	**4.36**	**2**	*e*P	**Pn**	**10 57 08.8**	**+1.7**
MIPR	**Malaya Ipel'ka**	**4.46**	**236**	PN	**Pn**	**10 57 09.6**	**+1.0**
MIPR	**Malaya Ipel'ka**	**4.46**	**236**	*e*P	**Pn**	**10 57 09.6**	**+1.0**
PALN	**Palana**	**4.47**	**341**	PN	Pb	10 57 15.0	-5.5
PALN				S	**Sb**	**10 58 08.8**	**-5.0**
PALN	**Palana**	**4.47**	**341**	*e*P	Pb	10 57 15.0	-5.5
PALN				*e*S	**Sb**	**10 58 08.8**	**-5.0**
PAU	**Pauzhetka**	**4.99**	**229**	PN	**Pn**	**10 57 17.3**	**+1.5**
PAU				S	**Sn**	**10 58 12.3**	**-0.2**
PAU	**Pauzhetka**	**4.99**	**229**	*e*P	**Pn**	**10 57 17.3**	**+1.5**
PAU				*e*S	**Sn**	**10 58 12.3**	**-0.2**
TILK	**Tilichiki**	**5.83**	**17**	PN	**Pn**	**10 57 29.4**	**+2.0**
TILK	**Tilichiki**	**5.83**	**17**	*e*P	**Pn**	**10 57 29.4**	**+2.0**
SKR	**Severo-Kuril's**	**5.86**	**227**	*e*PN	Pn	10 57 35.6	+7.8
SKR				pmax	pmax		
	comp=Z,1μm,1.4s						
SKR				pmax	pmax		
	comp=Z,615nm,0.8s						
SKR				MLR	MLR		
	comp=Z,1μm,12.0s						
SKR	**Severo-Kuril's**	**5.86**	**227**	*e*P	**Pn**	**10 57 30.2**	**+2.4**
SKR				*e*S	**Sn**	**10 58 34.5**	**+0.5**
KMSK	**Kamenskaya**	**7.78**	**12**	PN	**Pn**	**10 57 56.7**	**+2.6**
KMSK	**Kamenskaya**	**7.78**	**12**	*e*P	**Pn**	**10 57 56.7**	**+2.6**
KMSK				*e*S	**Sn**	**10 59 23.5**	**+2.3**
MA2	**Magadan**	**8.03**	**311**	Pn	**Pn**	**10 57 58.5**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=154,slow=7.2,SNR=8.6						
MA2				LR	LR	11 01 31.5	
	comp=Z,2μm,18.2s,baz=126,slow=42						
OKH	**Okha**	**11.71**	**271**	*e*PN	**Pn**	**10 58 52.0**	**+4.2**
OKH				pmax	pmax		
	comp=Z,200nm,11.0s						
TYV	**Tymovskoe**	**12.81**	**260**	*e*PN	**Pn**	**10 59 06.2**	**+3.2**
TYV				*e*		11 01 31.2	
TYV				pmax	pmax		
	comp=Z,53nm,1.1s						
TYV				pmax	pmax		
	comp=Z,400nm,3.0s						
TYV				MLR	MLR		
	comp=Z,3μm,13.0s						
NKL	**Nikolayevsk**	**13.11**	**271**	*e*PN	Pn	10 59 12.0	+4.9
NKL				*e*		11 01 48.0	
NKL				pmax	pmax		
	comp=N,24nm,1.1s						
NKL				pmax	pmax		
	comp=E,41nm,1.1s						
NKL				pmax	pmax		
	comp=Z,82nm,1.1s						
NKL				pmax	pmax		
	comp=E,600nm,6.0s						
NKL				pmax	pmax		
	comp=Z,500nm,6.0s						
NKL				MLR	MLR		
	comp=N,1μm,15.0s						
NKL				MLR	MLR		
	comp=E,2μm,15.0s						
NKL				MLR	MLR		
	comp=Z,3μm,15.0s						
BILL	**Bilibino**	**13.28**	**6**	*c i*PN	**Pn**	**10 59 13.6**	**+4.4**
BILL				pmax	pmax		
	comp=Z,49nm,0.9s						
BILL				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**14.90**	**246**	*e*P	**P**	**10 59 36.7**	**-0.1**
YSS				*e*S	**S**	**11 02 25.4**	**-7.5**
YSS				pmax	pmax		
	comp=Z,60nm,1.2s						
YSS				pmax	pmax		
	comp=N,40nm,0.8s						
YSS				pmax	pmax		
	comp=E,50nm,1.0s						
YSS				smax	smax		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,3μm,13.0s						
YSS				MLR	MLR		
	comp=N,2μm,11.0s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**14.90**	**246**	*e*Pn	**Pn**	**10 59 29.5**	**-1.9**
YSS				*e*Sn	**Sn**	**11 02 12.9**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**15.44**	**232**	*e*P	**P**	**10 59 41.3**	**-1.5**
YUK				*e*S	**Sn**	**11 02 32.1**	**+3.6**
YUK				MLR	MLR		
	comp=E,1μm,15.0s						
YUK				MLR	MLR		
	comp=Z,645nm,15.0s						
YUK				MLR	MLR		
	comp=N,867nm,18.0s						
GAMB	**Gambell**	**15.64**	**45**	*e*Pn	**Pn**	**10 59 42.4**	**+1.5**
	comp=N,18nm,0.8s						
GAMB				*e*Sn	**Sn**	**11 02 39.4**	**+6.3**
GRNR	**Gornyy**	**16.43**	**266**	*e*P	**P**	**10 59 55.8**	**+2.1**
GRNR				pmax	pmax		
	comp=Z,52nm,1.0s						
ASAJ	**Asahikawa**	**16.93**	**239**	Pn	**Pn**	**10 59 57.1**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=70,slow=12,SNR=16						
ASAJ	**Asahikawa**	**16.93**	**239**	*e*Pn	**Pn**	**10 59 57.8**	**+0.3**
	comp=Z,82nm,1.0s						
AKUT	**Akutan**	**18.18**	**79**	*e*Pn	**P**	**11 00 13.9**	**+0.8**
	comp=Z,283nm,1.2s						
AKUT				*e*Sn	**Sn**	**11 03 34.8**	**-0.1**
ERM	**Erimo**	**18.25**	**233**	*e*P	**P**	**11 00 16.7**	**+2.8**
ERM				pmax	pmax		
	comp=Z,71nm,0.8s						
ERM	**Erimo**	**18.25**	**233**	*e*Pn	**Pn**	**11 00 13.9**	**0.0**
	comp=Z,61nm,0.7s						
ERM				*e*Sn	**Sn**	**11 03 35.0**	**-1.7**
YAK	**Yakutsk**	**18.56**	**306**	P	**P**	**11 00 17.3**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=36,slow=1.4,SNR=15						
YAK				LR	LR	11 07 54.0	
	comp=Z,1μm,19.5s,baz=91,slow=39						
YAK	**Yakutsk**	**18.56**	**306**	*e*P	**P**	**11 00 16.3**	**-0.9**
YAK				*e*S	**Sn**	**11 03 40.1**	**-3.8**
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,14nm,1.0s						
YAK				pmax	pmax		
	comp=Z,41nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,19nm,0.9s						
YAK				smax	smax		
	comp=E,174nm,5.1s						
YAK				smax	smax		
	comp=N,92nm,3.3s						
YAK				MLR	MLR		
	comp=Z,2μm,14.0s						
YAK				MLR	MLR		
	comp=E,2μm,16.0s						
YAK				MLR	MLR		
	comp=N,2μm,16.0s						
YAK	**Yakutsk**	**18.56**	**306**	*e*P	**P**	**11 00 17.0**	**-0.1**
	comp=N,56nm,0.6s						
YAK				*e*Sn	**Sn**	**11 03 43.8**	**0.0**
TEY	**Ternei**	**19.42**	**250**	*i* P	**P**	**11 00 27.5**	**+0.8**
TEY				pmax	pmax		
	comp=E,52nm,0.8s						
TEY				pmax	pmax		
	comp=N,21nm,0.7s						
TEY				pmax	pmax		
	comp=Z,57nm,0.7s						
TEY				MLR	MLR		
	comp=N,2μm,14.0s						
TEY				MLR	MLR		
	comp=E,1μm,14.0s						
TEY				MLR	MLR		
	comp=Z,2μm,14.0s						
KLR	**Kul'dur**	**19.81**	**266**	P	**P**	**11 00 31.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=79,slow=8.1,SNR=11						
KLR				LR	LR	11 09 00.5	
	comp=Z,78nm,18.1s,baz=68,slow=40						
KLR	**Kul'dur**	**19.81**	**266**	*i* P	**P**	**11 00 30.5**	**-0.5**
ZEA	**Zeya**	**20.64**	**281**	*i* P	**P**	**11 00 41.0**	**+1.1**
ZEA				*e*S	Sn	11 04 43.0	+8.9
ZEA				*i*		11 04 59.0	
ZEA				pmax	pmax		
	comp=E,21nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,50nm,1.2s						
ZEA				MLR	MLR		
	comp=E,1μm,13.0s						
ZEA				MLR	MLR		
	comp=Z,3μm,13.0s						
ZEA				MLR	MLR		
	comp=N,1μm,12.0s						
CLNS	**Chul'man**	**21.18**	**291**	*e*P	**P**	**11 00 49.6**	**+3.8**
CLNS				*e*		11 01 07.7	
CLNS				*e*S	**S**	**11 04 40.7**	**+1.0**
CLNS				*e*		11 04 55.2	
CLNS				*e*SS	**SnSn**	**11 05 03.7**	**+1.8**
CLNS				pmax	pmax		
	comp=Z,38nm,0.8s						
CLNS				pmax	pmax		
	comp=E,33nm,0.9s						
CLNS				pmax	pmax		
	comp=N,23nm,0.8s						
CLNS				pmax	pmax		
	comp=E,37nm,0.9s						
CLNS				pmax	pmax		
	comp=N,24nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,26nm,1.0s						
CLNS				smax	smax		
	comp=N,11nm,1.1s						
CLNS				smax	smax		
	comp=E,8.0nm,1.1s						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,14.0s						
CLNS				MLR	MLR		
	comp=N,411nm,13.0s						
CHGN	**Chignik**	**21.76**	**70**	*e*P	**P**	**11 00 52.7**	**+0.8**
	comp=N,136nm,1.0s						
TIXI	**Tiksi**

comp=Z,32nm,0.8s
SUA Susitna One 24.88 56 *e*P **P 11 01 22.7 -0.3**
comp=Z,69nm,0.9s
MJB9 Matsu-Tunnel 24.93 233 *e*P **P 11 01 23.2 -0.3**
comp=Z,59nm,0.8s
MAJO Matsushiro 24.93 233⇑ *i*P **P**
MAJO pmax pmax **11 01 23.3 -0.2**
comp=Z,24nm,0.9s
MAJO Matsushiro 24.93 233 *e*P **P 11 01 23.2 -0.2**
comp=Z,58nm,0.8s
MAT Matsushiro 24.93 233 P **P 11 01 23.2 -0.3**
MAT S **S 11 05 53.2 +8.1**
MJAR Matsushiro Arr 24.93 233 P **P 11 01 23.3 -0.2**
comp=Z,5.3nm,0.7s,baz=219,slow=9.8,SNR=24
MJAR LR LR 11 11 49.4
comp=Z,383nm,21.6s,baz=45,slow=38
TRF Thorofare Moun 24.96 51 *e*P **P 11 01 23.9 +0.2**
comp=Z,72nm,0.8s
BRLK Bradley Lake 25.04 60 *e*P **P 11 01 23.6 -0.8**
comp=Z,26nm,1.0s
COLD Coldfoot 25.13 42 *e*P **P 11 01 25.4 +0.3**
comp=Z,71nm,0.8s
RC01 Rabbit Creek A 25.41 57 *e*P **P 11 01 27.1 -0.6**
comp=Z,52nm,1.8s
TOLK Toolik Lake Re 25.55 39 P **P 11 01 29.4 +0.5**
baz=262,SNR=87
TOLK Toolik Lake Re 25.55 39 *e*P **P 11 01 29.6 +0.7**
comp=Z,78nm,0.8s
MCK McKinley 25.55 50 *e*P **P 11 01 29.1 +0.2**
MCK pmax pmax
comp=Z,26nm,0.8s
MCK McKinley 25.55 50 *e*P **P 11 01 29.1 +0.2**
comp=Z,26nm,0.8s
RND Reindeer 25.60 51 *e*P **P 11 01 29.3 -0.2**
RND pmax pmax
comp=Z,35nm,0.8s
RND Reindeer 25.60 51 *e*P **P 11 01 29.3 -0.2**
comp=Z,35nm,0.8s
PMR Palmer 25.64 55 *e*P **P 11 01 29.3 -0.4**
PMR pmax pmax
comp=Z,10.0nm,0.8s
PMR Palmer 25.64 55 *e*P **P 11 01 29.2 -0.4**
comp=Z,10nm,0.8s
GHO Glory Hole Cre 25.71 55 *e*P **P 11 01 30.5 0.0**
comp=Z,20nm,1.0s
MDM Murphy Dome 25.82 47 *e*P **P 11 01 31.6 +0.2**
comp=Z,14nm,0.9s
WRH Wood River Hil 25.89 49 *e*P **P 11 01 32.5 +0.5**
comp=Z,64nm,0.8s
COLA College 25.99 48 *e*P **P 11 01 33.5 +0.7**
COLA pmax pmax
comp=Z,36nm,0.9s
COLA College 25.99 48 *e*P **P 11 01 33.5 +0.7**
comp=Z,36nm,0.9s
SML Sawmill 25.99 55 *e*P **P 11 01 32.8 -0.1**
SML pmax pmax
comp=Z,50nm,0.8s
SML Sawmill 25.99 55 *e*P **P 11 01 32.8 -0.1**
comp=Z,50nm,0.8s
CCB Clear Creek Bu 26.01 48 *e*P **P 11 01 33.2 +0.1**
comp=Z,34nm,1.0s
DHY Denali Highway 26.30 52 *e*P **P 11 01 35.6 -0.3**
comp=Z,25nm,1.0s
HDA Harding Lake 26.39 49 *e*P **P 11 01 36.1 -0.4**
comp=Z,23nm,0.7s
IL1 Eielson Array 26.40 48 *e*P **P 11 01 36.5 -0.1**
ILAR Eielson Array 26.40 48 P **P 11 01 36.6 0.0**
comp=Z,29nm,0.8s,baz=264,slow=8.5,SNR=242
ILAR LR LR 11 13 44.8
comp=Z,158nm,18.6s,baz=276,slow=40
ILB Eielson Array 26.40 48 *e*P **P 11 01 35.9 -0.7**
CN2 Changchun 26.43 261 *e*P **P 11 01 37.9 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
INU Inuyama 26.45 233 *e*P **P 11 01 34.9 -2.4**
comp=Z,73nm,1.4s
SCM Sheep Creek Mo 26.46 55 *e*P **P 11 01 37.5 +0.2**
SCM pmax pmax
comp=Z,58nm,0.8s
SCM Sheep Creek Mo 26.46 55 *e*P **P 11 01 37.5 +0.2**
comp=Z,58nm,0.8s
GLI Glacier Island 26.71 57 *e*P **P 11 01 40.6 +1.1**
comp=Z,19nm,0.7s
HIA Hailar 26.72 276 *e*P **P 11 01 39.6 0.0**
HIA pmax pmax
comp=Z,7.0nm,0.7s
HIA Hailar 26.72 276 *e*P **P 11 01 39.6 0.0**
comp=Z,7.2nm,0.7s
BOD Bodaibo 26.72 296 *e*P **P 11 01 37.2 -2.3**
BOD pmax pmax
comp=Z,14nm,1.0s
FYU Fort Yukon 27.05 44 *e*P **P 11 01 43.6 +1.2**
comp=Z,29nm,0.8s
JHJ Hachijo jima 2 27.13 226 LR LR 11 12 50.9
comp=Z,154nm,21.4s,baz=72,slow=37
PAX Paxson 27.17 52 *e*P **P 11 01 43.9 +0.2**
PAX pmax pmax
comp=Z,13nm,0.9s
PAX Paxson 27.17 52 *e*P **P 11 01 43.9 +0.2**
comp=Z,14nm,0.9s
KLU Klutina 27.17 55 *e*P **P 11 01 43.9 +0.3**
comp=Z,25nm,1.0s
DIV Divide 27.31 56 *e*P **P 11 01 44.7 -0.2**
comp=Z,19nm,0.8s
RIDG Independ'e Rid 27.37 50 *e*P **P 11 01 44.7 -0.7**
comp=Z,23nm,0.9s
HARP HAARP 27.39 53 *e*P **P 11 01 45.9 +0.4**
comp=Z,23nm,0.7s
EYAK Cordova Ski Ar 27.43 57 *e*P **P 11 01 46.0 +0.2**
comp=Z,15nm,0.9s
SCRK Sand Creek 27.72 49 *e*P **P 11 01 47.6 -1.0**
comp=Z,27nm,0.9s
DOT Dot Lake 27.72 50 *e*P **P 11 01 48.3 -0.2**
comp=Z,37nm,0.8s
BMRM Bremner River 27.89 56 *e*P **P 11 01 50.1 0.0**
comp=Z,27nm,0.9s
MENT Mentasta 27.97 52 *e*P **P 11 01 51.0 +0.3**
comp=Z,10nm,0.8s
RAGM Ragged Mountai 27.98 57 *e*P **P 11 01 51.5 +0.7**
comp=Z,25nm,0.9s
EGAK Eagle 28.85 47 *e*P **P 11 01 58.0 -0.5**
comp=Z,26nm,0.8s
KS01 Wonju Array Si 29.38 248 *e*P **P 11 02 04.5 +1.0**
KSRS Korea Array 29.38 248 P **P 11 02 02.7 -0.7**
comp=Z,1.0nm,0.6s,baz=40,slow=9.7,SNR=5.8
KS15 Wonju Array Si 29.41 248 *e*P **P 11 02 02.6 -1.1**
KSAR Wonju Array Be 29.41 248 P **P 11 02 02.7 -1.0**
KSAR Wonju Array Be 29.41 248 P **P 11 02 02.7 -1.0**
DAWY Dawson 29.71 49 *e*P **P 11 02 06.5 +0.3**
comp=Z,9.7nm,0.8s
JNU Nakatsue 31.21 239 P **P 11 02 19.1 -0.6**
comp=Z,5.3nm,0.6s,baz=341,slow=6.3,SNR=7.5
JNU Nakatsue 31.21 239 *e*P **P 11 02 19.4 -0.3**
comp=Z,79nm,1.7s
HYT Haines Junctio 31.30 55 *e*P **P 11 02 20.3 0.0**
comp=Z,19nm,0.8s
INK Inuvik 31.45 40 P **P 11 02 22.1 +0.7**
comp=Z,6.9nm,0.7s,baz=286,slow=7.4,SNR=39
INK Inuvik 31.45 40 *e*P **P 11 02 22.4 +1.0**
comp=Z,22nm,1.4s
WHY Whitehorse 32.58 54 *e*P **P 11 02 33.2 +1.7**
comp=Z,15nm,0.8s
SKAG Skagway 32.76 56 *e*P **P 11 02 34.4 +1.4**
comp=Z,14nm,0.8s
BJI Beijing 34.15 264⇑ *e*P **P 11 02 41.9 -3.4**
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI LR LR
comp=Z,2μm,14.8s
BJI LR LR
comp=Z,2μm,16.7s
BJI LR LR
comp=Z,2μm,17.1s
TLY Talaya 34.59 290 LR LR 11 17 44.4
comp=Z,781nm,19.2s,baz=88,slow=38
TLY Talaya 34.59 290 *e*P **P 11 02 46.5 -2.6**
TLY *e* 11 04 21.2
TLY *e*S **S 11 08 20.4 +4.0**
TLY *e*SS **SnSn 11 10 26.5 -2.4**
TLY MLR MLR
comp=Z,941nm,16.0s
SONA1 Songino Array 35.05 282 *e*P **P 11 02 52.5 -0.6**
SONA0 Songino Array 35.06 282 *e*P **P 11 02 53.0 -0.3**
SONA0 *e*PcP **PcP 11 05 25.4 +0.8**
SONM Songino Array 35.06 282 P **P 11 02 53.0 -0.3**
comp=Z,1.2nm,0.6s,baz=60,slow=7.9,SNR=6.3
SONM PcP **PcP 11 05 25.4 +0.8**
comp=Z,1.9nm,0.8s,baz=120,slow=2.0,SNR=3.5
SONM LR LR 11 17 31.0
comp=Z,175nm,19.3s,baz=53,slow=37
SONM Songino Array 35.06 282 P **P 11 02 53.0 -0.3**
H11N2 WAKE ISLAND Hy 35.26 173 T T 11 40 16.4
baz=355,slow=76,SNR=153
H11N3 WAKE ISLAND Hy 35.27 173 T T 11 40 14.4
baz=355,slow=76,SNR=136
H11N1 WAKE ISLAND Hy 35.27 173 T T 11 40 12.7
baz=355,slow=76,SNR=113
ZAK Zakamensk 35.44 288 *e*P P 11 02 51.0 -5.5
DLBC Dease Lake 35.69 56 *e*P **P 11 03 00.9 +2.4**
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 36.27 269 *e*P **P 11 03 03.3 -0.4**
HHC pP pP 11 03 07.3 -4.4
HHC sP sP 11 03 10.4 -4.6
HHC PP **PnPn 11 04 25.6 -0.1**
HHC S **S 11 08 41.6 -0.9**
HHC sS pS 11 08 49.0 -2.6
HHC SS **SnSn 11 11 04.6 -5.4**
HHC ScS **ScS 11 13 17.3 -1.2**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.6s
HHC LR LR
comp=Z,870nm,18.0s
HHC LR LR
comp=Z,820nm,14.1s
HHC LR LR
comp=Z,1μm,13.3s
H11S1 WAKE ISLAND Hy 36.46 174 T T 11 42 05.7
baz=37,slow=74,SNR=9.4
H11S3 WAKE ISLAND Hy 36.47 174 T T 11 42 01.3
baz=37,slow=74,SNR=5.3
H11S2 WAKE ISLAND Hy 36.48 174 T T 11 41 50.9
baz=37,slow=74,SNR=8.9
NJ2 Nanjing 38.35 252 *e*P **P 11 03 22.6 +1.4**
NJ2 pmax pmax
comp=Z,16nm,0.5s
YKW3 Yellowknife Ar 40.70 45 *e*P **P 11 03 41.1 +0.6**
comp=Z,7.9nm,0.8s
YKA Yellowknife Ar 40.74 45 P **P 11 03 41.7 +0.9**
comp=Z,7.0nm,0.7s,baz=299,slow=8.2,SNR=120
YKA PcP **PcP 11 05 42.0 +0.5**
comp=Z,1.1nm,0.7s,baz=312,slow=3.7,SNR=4.7
YKA S **S 11 09 46.0 -3.2**
comp=Z,0.0nm,0.5s,baz=290,slow=14,SNR=2.5
YKB5 Yellowknife Ar 40.74 45 *e*P **P 11 03 40.8 0.0**
YKB5 *e*PcP **PcP 11 05 42.0 +0.5**
RES Resolute Bay 41.03 23 *e*P **P 11 03 44.1 +1.1**
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 41.03 23 *e*P **P 11 03 44.1 +1.1**
comp=Z,8.0nm,0.8s
ZAA1 Zalesovo Array 43.15 302 *e*P **P 11 03 58.0 -2.5**
ZAA1 *e*PcP **PcP 11 05 49.9 +0.2**
ZALV Zalesovo Beam 43.15 302 P **P 11 03 58.0 -2.6**
comp=Z,0.9nm,0.4s,baz=23,slow=8.0,SNR=4.1
ZALV PcP **PcP 11 05 49.9 +0.2**
comp=Z,0.9nm,0.3s,baz=66,slow=4.9,SNR=3.1
ZALV LR LR 11 23 27.8
comp=Z,832nm,18.5s,baz=91,slow=38
NVS Novosibirsk 43.41 304⇑ *i*P **P 11 04 01.1 -1.6**
NVS pmax pmax
comp=N,3.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,0.6s
NVS pmax pmax
comp=Z,7.0nm,0.6s
LLLB Lillooet 43.74 63 *e*P **P 11 04 06.7 +1.2**
comp=Z,14nm,1.0s
LZH Lanzhou 43.95 270 *e*P **P 11 04 05.5 -1.9**
LZH pP pP 11 04 08.8 -6.8
LZH *e*PP **PP 11 05 49.1 -0.7**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,75nm,5.9s
LZH LR LR
comp=Z,320nm,13.5s
LZH LR LR
comp=Z,350nm,13.8s
LZH LR LR
comp=Z,410nm,17.0s
GTA Gaotai 43.99 276 *e*P **P 11 04 06.0 -1.7**
GTA pP pP 11 04 10.4 -5.5
GTA sP sP 11 04 13.6 -5.5
GTA S **S 11 10 34.4 -3.5**
GTA SS SS 11 13 43.8 -11
GTA pmax pmax
comp=Z,7.0nm,0.7s
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=Z,920nm,12.8s
GTA LR LR
comp=Z,1μm,14.0s
GTA LR LR
comp=Z,2μm,12.6s
KIP Kipapa 44.48 123⇑ *i*P **P 11 04 11.3 -0.3**
TULEG Thule 44.79 15 *e*P **P 11 04 12.8 -0.6**
comp=Z,34nm,1.7s
SPITS Spitsbergen Ar 45.60 351 P **P 11 04 20.4 +0.5**
comp=Z,7.4nm,0.6s,baz=57,slow=10,SNR=15
EDM Edmonton 46.41 56 *e*P **P 11 04 27.1 +0.5**
EDM pmax pmax
comp=Z,29nm,1.1s
EDM Edmonton 46.41 56 *e*P **P 11 04 27.1 +0.5**
comp=Z,29nm,1.1s
CD2 Chengdu 47.73 265 *e*P **P 11 04 36.0 -1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
WMQ Urumqi 47.88 289 P **P 11 04 37.1 -1.1**
WMQ pP pP 11 04 44.1 -2.3
WMQ PcP **PcP 11 06 11.0 +4.6**
WMQ pmax pmax
comp=Z,37nm,0.7s
WMQ pmax pmax
comp=Z,280nm,5.1s
WMQ LR LR
comp=Z,1μm,13.7s
WMQ LR LR
comp=Z,2μm,14.3s
WMQ LR LR
comp=Z,1μm,16.5s
KULLO Kullorsuaq 48.06 13 *i*P **P 11 04 39.6 +0.5**
comp=Z,30nm,0.8s
KULLO Kullorsuaq 48.06 13 *i*P **P 11 04 39.6 +0.5**
KULLO pmax pmax
comp=Z,30nm,0.8s
KURK Kurchatov 48.13 302⇑ *i*P **P 11 04 38.1 -1.9**
KURK pmax pmax
comp=Z,22nm,0.5s
KURK Kurchatov 48.13 302 *e*P **P 11 04 37.3 -2.7**
comp=Z,8.7nm,0.6s
KURK *e*PcP **PcP 11 06 07.1 0.0**
KURK *e*S **S 11 11 36.5 -0.3**
KURBB Kurchatov Arra 48.24 302 P **P 11 04 38.8 -2.0**
comp=Z,4.6nm,0.6s,baz=58,slow=7.7,SNR=34
KURBB PcP **PcP 11 06 07.1 -0.4**
comp=Z,2.1nm,0.8s,baz=44,slow=3.3,SNR=3.1
KURBB S **S 11 11 36.5 -1.7**
comp=Z,0.3nm,0.6s,baz=50,slow=13,SNR=3.9
DAG Danmarks Havn 48.58 0 *i*P **P 11 04 43.1 0.0**
comp=Z,19nm,0.7s
DAG Danmarks Havn 48.58 0 *i*P **P 11 04 43.1 0.0**
DAG pmax pmax
comp=Z,19nm,0.7s
MK31 Makanchi Array 48.81 296 *i*P **P 11 04 43.0 -2.3**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 48.81 296 *e*P **P 11 04 42.6 -2.7**
MK32 Makanchi Array 48.81 296 *e*P **P 11 04 43.4 -1.9**
MK32 *e*S **S 11 11 42.2 -4.3**
MKAR Makanchi Array 48.81 296 P **P 11 04 43.4 -1.9**
comp=Z,6.4nm,0.6s,baz=57,slow=6.8,SNR=78
MKAR S **S 11 11 42.2 -4.3**
comp=Z,0.2nm,0.7s,baz=34,slow=5.4,SNR=3.1
MKAR LR LR 11 26 05.7
comp=Z,366nm,20.7s,baz=40,slow=37
MKAR Makanchi Array 48.81 296 *e*P **P 11 04 42.5 -2.7**
comp=Z,50nm,0.6s
MK01 Makanchi Array 48.82 296 *e*P **P 11 04 42.4 -3.0**
YBH Yreka Blue Hor 48.93 73 LR LR 11 22 20.1
comp=Z,113nm,21.4s,baz=318,slow=32
MAKZ Makanchi 48.96 296 *e*P **P 11 04 44.3 -2.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
MAKZ Makanchi 48.96 296 *e*P **P 11 04 44.3 -2.1**
comp=Z,5.7nm,0.6s
JTMT Jette 49.42 62 *e*P **P 11 04 50.6 +0.5**
comp=Z,12nm,0.9s
O03D Paynes Creek 50.41 74 P **P 11 04 58.3 +0.7**
baz=314
BVA0 Borovoye Array 50.51 309 *i*P **P 11 04 56.0 -2.1**
BVA0 pmax pmax
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 50.51 309 P **P 11 04 56.5 -1.6**
comp=Z,5.2nm,0.6s,baz=62,slow=7.7,SNR=30
BVAR LR LR 11 29 32.2
comp=Z,507nm,18.3s,baz=51,slow=40
BRVK Borovoye 50.54 309⇓ *i*P **P 11 04 57.0 -1.3**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 50.54 309 *e*P **P 11 04 56.8 -1.5**
comp=Z,6.9nm,0.6s
FCC Fort Churchill 51.06 41 *e*P **P 11 05 02.8 +0.7**
FCC pmax pmax
comp=Z,8.0nm,0.8s
FCC Fort Churchill 51.06 41 *e*P **P 11 05 02.8 +0.7**
comp=Z,8.3nm,0.8s
BEKR Beckworth 51.50 73 *e*P **P 11 05 06.8 +0.8**
comp=Z,10nm,1.4s
EGMT Eagleton 51.51 59 P **P 11 05 05.9 +0.1**
baz=313
SUMG Summit 51.95 8 *i*P **P 11 05 09.4 +0.3**
comp=Z,27nm,1.3s
SUMG Summit 51.95 8 *e*P **P 11 05 09.2 +0.1**
SUMG pmax pmax
comp=Z,32nm,1.3s
SUMG Summit 51.95 8 *e*P **P 11 05 09.2 +0.1**
comp=Z,32nm,1.3s
ARA0 ARCESS Array S 52.05 342 *e*P **P 11 05 07.9 -1.5**
ARCES ARCESS Array B 52.05 342 P **P 11 05 07.9 -1.5**
comp=Z,5.4nm,0.8s,baz=33,slow=9.1,SNR=9.2
TGY Tagaytay City 52.05 235 LR LR 11 29 03.0
comp=Z,77nm,19.8s,baz=259,slow=38
MCMT McKenzie Canyo 52.12 64 *e*P **P 11 05 10.5 -0.1**
comp=Z,0.9nm,0.9s
HLID Hailey 52.17 66 P **P 11 05 11.4 +0.5**
baz=314
VCNR Virginia City 52.29 73 *e*P **P 11 05 13.2 +1.3**
comp=Z,29nm,1.9s
KMI Kunming 52.70 261 P **P 11 05 17.8 +2.7**
KMI pP sP 11 05 26.8 +0.2
KMI S **S 11 12 43.8 +2.5**
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,58nm,4.4s
KMI LR LR
comp=Z,730nm,19.8s
KMI LR LR
comp=Z,480nm,20.3s
KMI LR LR
comp=Z,650nm,16.2s
YERR Yerington 52.74 73 *e*P **P 11 05 16.2 +1.0**
comp=Z,11nm,1.4s
WAKR Walker 52.97 74 *e*P **P 11 05 17.9 +1.0**
comp=Z,11nm,1.3s
YHB Horse Butte 53.02 63 *e*P **P 11 05 18.3 +1.1**
comp=Z,5.7nm,0.7s
ARU Arti 53.14 318 P **P 11 05 16.6 -1.0**
comp=Z,15nm,0.5s,baz=35,slow=4.5,SNR=22
ARU Arti 53.14 318 *c i*P **P 11 05 16.8 -0.8**
ARU 11 06 21.2
ARU S **S 11 12 45.5 -0.5**
ARU SS **SS 11 16 20.9 -3.9**
ARU pmax pmax
comp=Z,14nm,0.6s
ARU MLR MLR
comp=Z,396nm,16.0s
ARU Arti 53.14 318 *e*P **P 11 05 17.4 -0.2**
comp=Z,16nm,0.6s
YHH Holmes Hill 53.17 63 *e*P **P 11 05 19.7 +1.3**
comp=Z,10nm,1.3s
YMR Madison River 53.20 63 *e*P **P 11 05 19.9 +1.3**
comp=Z,6.1nm,0.8s
RYN Ryan 53.39 73 *e*P **P 11 05 21.2 +1.3**
comp=Z,4.5nm,0.9s
YFT Old Faithful 53.41 63 *e*P **P 11 05 22.6 +2.5**
comp=Z,30nm,1.7s
QIZ Qiongzhong 53.58 250 P **P 11 05 22.1 +0.7**
QIZ S **S 11 12 57.5 +4.6**
QIZ LR LR
comp=Z,260nm,15.7s
QIZ LR LR
comp=Z,410nm,15.7s
QIZ LR LR
comp=Z,400nm,14.7s
H17A Grant Village 53.59 63 P **P 11 05 23.6 +2.2**
baz=314,SNR=5.4
H17A Grant Village 53.59 63 *e*P **P 11 05 23.9 +2.5**
comp=Z,6.0nm,0.8s
NV01 Mina Array Sit 53.65 73 *e*P **P 11 05 22.6 +0.6**
NVAR Mina Array Bea 53.65 73 P **P 11 05 23.3 +1.3**
comp=Z,2.8nm,0.7s,baz=298,slow=7.2,SNR=33
YMS Mount Sheridan 53.70 63 *e*P P 11 05 27.7 +5.3
NV11 Mina Array Sit 53.73 73 *e*P **P 11 05 23.8 +1.4**
comp=Z,0.4nm,0.9s
IMW Indian Meadow 53.75 63 *e*P **P 11 05 24.2 +1.5**
comp=Z,6.9nm,1.0s
RLMT Red Lodge 53.75 61 P **P 11 05 23.5 +0.9**
baz=314
RLMT Red Lodge 53.75 61 *e*P **P 11 05 23.7 +1.2**
comp=Z,13nm,1.0s
TMCR Tamitsa 53.87 334 *e*P **P 11 05 21.5 -1.4**
TMCR pmax pmax
comp=Z,14nm,0.6s
FXWY Fox Creek 53.88 64 *e*P **P 11 05 24.8 +1.1**
comp=Z,7.1nm,1.3s
MOOW Moose Ponds 53.95 63 *e*P **P 11 05 23.8 -0.3**
comp=Z,5.3nm,1.2s
TPAW Teton Pass 54.03 64 *e*P **P 11 05 25.1 +0.4**
comp=Z,5.8nm,0.9s
SNOW Snow King Moun 54.15 64 *e*P **P 11 05 27.0 +1.4**
comp=Z,15nm,1.6s
LAO LASA Array 54.17 58 P **P 11 05 26.6 +1.1**
baz=315,SNR=5.2
LAO LASA Array 54.17 58 *e*P **P 11 05 26.7 +1.3**
comp=Z,20nm,1.1s
HVU Hansel Valley 54.27 66 *e*P **P 11 05 25.7 -0.7**
HVU pmax pmax
comp=Z,8.0nm,1.4s
HVU Hansel Valley 54.27 66 *e*P **P 11 05 25.7 -0.7**
comp=Z,8.0nm,1.4s
SMMC Simmler 54.94 77 P **P 11 05 32.5 +1.4**
baz=317
VES Vestal, Richgr 55.07 76 P **P 11 05 32.5 +0.5**
baz=317
CWC Cottonwood Cre 55.20 75 P **P 11 05 34.0 +0.9**
baz=316
R11A Troy Canyon, C 55.20 71 P **P 11 05 33.8 +0.7**
baz=316
R11A Troy Canyon, C 55.20 71 *e*P **P 11 05 33.3 +0.1**
comp=Z,4.3nm,1.1s
BW06 Boulder Array 55.26 64 P **P 11 05 34.6 +1.0**
baz=316
BW06 Boulder Array 55.26 64 *e*P **P 11 05 34.6 +1.0**
comp=Z,7.2nm,1.0s
PD31 Pinedale Array 55.26 64 *e*P **P 11 05 34.5 +0.9**
PDAR Pinedale Array 55.26 64 P **P 11 05 34.5 +0.9**
comp=Z,3.5nm,0.8s,baz=323,slow=3.0,SNR=36
PDAR Pinedale Array 55.26 64 *e*P **P 11 05 34.3 +0.7**
PKM Mcpherson Peak 55.35 77 P **P 11 05 35.6 +1.3**
baz=317
DUG Dugway, Tooele 55.38 68 P **P 11 05 35.5 +1.1**
baz=316,SNR=9.6
DUG Dugway, Tooele 55.38 68 *e*P **P 11 05 35.6 +1.2**
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG Dugway, Tooele 55.38 68 *e*P **P 11 05 35.6 +1.2**
comp=Z,7.9nm,0.9s
TCUT Toone Canyon 55.47 66 *e*P **P 11 05 36.4 +1.3**
comp=Z,29nm,1.6s
ISA Isabella, Lake 55.54 76 P **P 11 05 36.0 +0.5**
baz=317
AAK Ala-Archa 55.70 297 P **P 11 05 35.4 -1.3**
comp=Z,2.7nm,0.6s,baz=140,slow=5.9,SNR=11
AAK Ala-Archa 55.70 297⇑ *i*P **P 11 05 36.1 -0.6**

AAK e*SP sP 11 05 49.3 +1.1
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 55.70 297 eP P 11 05 35.7 -1.0
ARVC Arvin 55.73 76 P P 11 05 37.7 +0.9
baz=317
JLU Jordanelle 55.81 67 eP P 11 05 39.0 +1.4
comp=Z,5.4nm,1.0s
FURC Furnace Creek, 55.85 74 P P 11 05 38.2 +0.6
baz=317,SNR=7.2
NLU North Lily Min 55.95 68 eP P 11 05 39.9 +1.4
comp=Z,7.1nm,0.8s
LRMC Laurel Mtn Rad 56.12 75 P P 11 05 40.3 +0.6
baz=317
KLMR Klimovskoe 56.17 330 eP P 11 05 36.6 -2.9
KLMR pmax pmax
comp=Z,15nm,0.8s
KLMR Klimovskoe 56.17 330 eP P 11 05 36.7 -2.8
KLMR AMP 11 05 40.3
comp=Z,15nm,0.8s
KLMR LQ LQ 11 28 10.6
KLMR LQ LQ 11 28 10.6
KLMR LR LR 11 31 06.1
DAV Davao City (W) 56.21 226 LR LR 11 29 55.0
comp=Z,44nm,20.6s,baz=9.5,slow=36
EDW2 Edwards Air Fo 56.38 76 P P 11 05 42.0 +0.5
baz=317
ULM Lac du Bonnet 56.41 49 P P 11 05 41.8 +0.3
comp=Z,5.7nm,0.7s,baz=310,slow=7.5,SNR=18
ULM Lac du Bonnet 56.41 49 eP P 11 05 42.1 +0.7
comp=Z,10nm,1.0s
GSC Goldstone, Bar 56.73 75 P P 11 05 45.0 +0.9
baz=317
GSC Goldstone, Bar 56.73 75 eP P 11 05 45.2 +1.2
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC Goldstone, Bar 56.73 75 eP P 11 05 45.2 +1.2
comp=Z,7.2nm,0.9s
TMUT Trail Mountain 56.88 68 eP P 11 05 46.8 +1.5
comp=Z,7.5nm,0.9s
K22A Casper 56.90 62 P P 11 05 45.6 +0.3
baz=317
K22A Casper 56.90 62 eP P 11 05 46.5 +1.3
comp=Z,12nm,1.0s
B31A Greenbush Farm 56.97 52 P P 11 05 46.1 +0.7
baz=317
CCUT Cedar City 56.99 70 eP P 11 05 47.4 +1.3
comp=Z,7.2nm,1.2s
P17A Butcher Ranch, 57.01 67 eP P 11 05 48.0 +2.0
comp=Z,5.8nm,0.9s
BFSC Mount Baldy Ra 57.04 76 P P 11 05 46.9 +0.7
baz=318
RSSD Black Hills 57.08 59 P P 11 05 47.2 +0.6
baz=317
RSSD Black Hills 57.08 59 eP P 11 05 47.4 +0.8
RSSD pmax pmax
comp=Z,14nm,1.0s
RSSD Black Hills 57.08 59 eP P 11 05 47.4 +0.8
comp=Z,14nm,1.0s
A32A Rocking H Ranc 57.12 51 P P 11 05 47.2 +0.7
baz=318,SNR=6.0
TUQ Turquoise Moun 57.13 74 P P 11 05 47.8 +0.9
baz=317
P18A Preston Nutter 57.16 67 eP P 11 05 49.1 +1.8
comp=Z,15nm,1.3s
KSH Kashi 57.17 293 eP P 11 05 52.4 +5.2
KSH sP sP 11 05 57.9 -0.8
KSH PP **PP 11 08 00.3 +6.4**
KSH S **S 11 13 44.1 +3.3**
KSH ScS **ScS 11 15 36.3 +1.8**
KSH pmax pmax
comp=Z,4.0nm,0.5s
KSH pmax pmax
comp=Z,66nm,4.0s
KSH LR LR
comp=Z,480nm,10.8s
KSH LR LR
comp=Z,690nm,15.8s
KSH LR LR
comp=Z,810nm,14.8s
HEC Hector,Ludlow 57.34 75 P P 11 05 49.1 +0.7
baz=318
SRU San Rafael Swe 57.38 67 eP P 11 05 50.0 +1.2
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael Swe 57.38 67 eP P 11 05 50.0 +1.2
comp=Z,11nm,0.9s
KKAR Karatay Array 57.39 300 eP P 11 05 47.6 -0.9
KKAR Karatay Array 57.39 300 eP P 11 05 47.6 -0.9
C31A Landman Farms, 57.39 52 P P 11 05 48.9 +0.4
baz=318
LCMT Little Creek M 57.45 71 eP P 11 05 50.6 +1.5
comp=Z,4.1nm,0.9s
B32A Ashes, Strandq 57.49 51 P P 11 05 49.7 +0.6
baz=318
A33A Warroad 57.60 50 P P 11 05 50.6 +0.7
baz=318,SNR=8.8
GMRC Granite Mounta 57.75 74 P P 11 05 52.1 +0.8
baz=318
AKTO Aktyubinsk 57.76 313 P P 11 05 50.0 -1.0
comp=Z,4.4nm,0.7s,baz=60,slow=7.9,SNR=16
AKTO LR LR 11 33 23.8
comp=Z,253nm,18.3s,baz=30,slow=39
AKTO Aktyubinsk 57.76 313 P P 11 05 50.0 -1.0
MURC Murrieta 57.77 76 P P 11 05 52.2 +0.9
baz=318
AB31 Akbulak array 57.82 311 *i* P P 11 05 50.0 -1.4
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 57.82 311 eP P 11 05 50.4 -1.0
comp=Z,123nm,0.5s
O20A White River Ci 57.84 65 P P 11 05 52.5 +0.5
baz=317,SNR=6.6
O20A White River Ci 57.84 65 eP P 11 05 52.9 +1.0
comp=Z,14nm,1.0s
AGMN Agassiz Nation 57.86 51 P P 11 05 52.2 +0.5
baz=318,SNR=6.4
AGMN Agassiz Nation 57.86 51 eP P 11 05 52.4 +0.7
comp=Z,7.3nm,0.8s
B33A Robert and Kas 58.00 51 P P 11 05 52.4 -0.3
baz=318,SNR=5.5
BELC Belle Mtn. Jos 58.14 75 P P 11 05 54.4 +0.4
baz=318
PFO Pinyon Flats O 58.17 76 P P 11 05 54.8 +0.5
baz=318
B34A Aery, Baudette 58.26 50 P P 11 05 54.7 +0.2
baz=319
C33A Trail 58.30 51 P P 11 05 54.9 +0.1
baz=318
SKNT Sakolnakorn 58.47 254 P P 11 05 55.4 -0.9
comp=Z,12nm,0.7s
N23A Red Feather La 58.48 63 P P 11 05 56.5 0.0
baz=318,SNR=9.8
N23A Red Feather La 58.48 63 eP P 11 05 57.3 +0.8
comp=Z,13nm,0.9s
IRM Iron Mountain 58.50 74 P P 11 05 57.3 +0.9
baz=318
W13A Hualapai Mount 58.50 73 eP P 11 05 57.8 +1.1
comp=Z,2.6nm,0.8s
F31A Hecla 58.58 54 P P 11 05 57.0 +0.2
baz=318
BC3 Big Chuckawall 58.70 75 P P 11 05 58.5 +0.6
baz=318
PV10 Paradox Valley 58.71 67 eP P 11 05 59.9 +1.8
MONP2 Monument Peak 58.72 76 P P 11 05 58.9 +0.6
baz=318
D33A AnnSam, Waubun 58.73 52 P P 11 05 58.3 +0.4
baz=319
B35A Bob, Littlefor 58.76 49 P P 11 05 58.2 +0.2
baz=319
PV04 Paradox Valley 58.77 67 eP P 11 05 59.2 +0.7
C34A RKJ Ranch, Bem 58.77 51 P P 11 05 58.4 +0.3
baz=319
PV05 Paradox Valley 58.90 67 eP P 11 06 00.8 +1.4
PDMCI Parker Dam,Lak 58.95 74 P P 11 06 00.4 +0.9
baz=318
FIA1 FINESS Array S 59.07 337 eP P 11 05 59.7 -0.2
FIA0 FINESS Array S 59.07 337 eP P 11 05 59.9 0.0
FIA0 FINESS Array S 59.07 337 eP P 11 05 59.9 0.0
FINES FINESS Array B 59.07 337 P P 11 05 59.9 0.0
comp=Z,28nm,0.7s,baz=38,slow=9.6,SNR=77
FINES LR LR 11 33 43.8
comp=Z,185nm,21.9s,baz=12,slow=38
G31A Conde 59.08 54 P P 11 06 00.8 +0.5
baz=318
IKP In-Ko-Pah, Jac 59.08 76 P P 11 06 01.2 +0.7
baz=318
F32A Veblen 59.10 53 P P 11 06 00.9 +0.5
baz=319
PV01 Paradox Valley 59.14 67 eP P 11 06 02.0 +1.0
E33A Westby DABS, E 59.14 52 P P 11 06 01.2 +0.5
baz=319,SNR=8.9
Y12C Blythe 59.15 74 P P 11 06 01.3 +0.5
baz=318
C35A Jirik Farms, M 59.15 50 P P 11 06 00.9 +0.2
baz=319
SMCO Snowmass 59.21 65 eP P 11 06 02.9 +1.2
comp=Z,7.1nm,1.1s
ISCO Idaho Springs 59.45 63 P P 11 06 03.5 +0.2
baz=318,SNR=7.1
ISCO Idaho Springs 59.45 63 eP P 11 06 05.0 +1.7
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO Idaho Springs 59.45 63 eP P 11 06 05.0 +1.7
comp=Z,8.1nm,1.0s
GLA Glamis 59.50 75 P P 11 06 04.2 +0.8
baz=319
F33A 5 Mile Ranch, 59.51 53 P P 11 06 03.6 +0.4
baz=319
E34A Wadena 59.51 52 P P 11 06 04.0 +0.8
baz=319
WUAZ Wupatki 59.57 71 P P 11 06 04.5 +0.5
baz=318
D35A Remer 59.58 51 P P 11 06 04.1 +0.4
baz=320
C36A Pine Crest Far 59.61 49 P P 11 06 04.2 +0.4
baz=320
KHON Khomkaen 59.63 254 P P 11 06 05.0 +0.7
comp=Z,16nm,0.7s,comp=Z,960nm
TAPN Taplejung 59.65 275 eP P 11 06 03.3 -1.5
comp=Z,28nm,1.0s
LAMP Lampang 59.66 259 P P 11 06 05.4 +0.8
comp=Z,5.4nm,0.7s
CMMT Chiang Mai 59.82 260 P P 11 06 05.4 -0.3
comp=Z,8.5nm,1.2s
CHTO Chiang Mai 59.82 260 P P 11 06 06.5 +0.8
comp=Z,47nm,0.9s
CHTO Chiang Mai 59.82 260 eP P 11 06 04.9 -0.8
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 59.82 260 eP P 11 06 04.9 -0.8
comp=Z,6.6nm,0.9s
E35A Pequot Lakes 59.82 51 P P 11 06 05.8 +0.4
baz=320
MVCO Mesa Verde 59.86 67 P P 11 06 06.5 +0.4
baz=318
D36A Goodland 59.91 50 P P 11 06 06.0 +0.1
baz=320
C37A Embarrass 59.91 49 P P 11 06 06.1 +0.1
baz=320
G33A Ortonville 59.93 53 P P 11 06 06.4 +0.3
baz=319,SNR=5.3
H32A Carlson Farm, 59.98 55 P P 11 06 06.6 +0.1
baz=319,SNR=6.7
EYMN Ely 60.05 48 P P 11 06 06.9 0.0
baz=320
EYMN Ely 60.05 48 eP P 11 06 07.4 +0.5
comp=Z,8.9nm,0.8s
CMAR Chiang Mai Arr 60.11 259 P P 11 06 07.7 0.0
comp=Z,3.8nm,0.6s,baz=27,slow=6.6,SNR=21
CMAR LR LR 11 35 23.9
comp=Z,225nm,18.6s,baz=57,slow=39
CM01 Chiang Mai Arr 60.13 259 eP P 11 06 07.1 -0.7
H33A Prehn Over Nor 60.17 54 P P 11 06 08.1 +0.3
baz=319
D37A Cotton 60.24 49 P P 11 06 08.6 +0.3
baz=320
G34A Benson 60.26 53 P P 11 06 08.6 +0.2
baz=320
J31A Geddes 60.28 56 P P 11 06 08.8 +0.2
baz=319
GUN Gumba 60.28 277 eP P 11 06 08.0 -1.2
comp=Z,15nm,0.5s
F35A Swanville 60.28 52 P P 11 06 08.9 +0.4
baz=320
JIRN Jiri 60.29 277 eP P 11 06 07.6 -1.7
comp=Z,71nm,1.1s
Q24A Divide 60.32 64 P P 11 06 10.1 +0.8
baz=319
C38A Sawbill Land. 60.32 48 P P 11 06 09.0 +0.2
baz=320
S22A 4UR Ranch, Cre 60.35 66 P P 11 06 10.4 +0.9
baz=319
S22A 4UR Ranch, Cre 60.35 66 eP P 11 06 11.3 +1.8
comp=Z,12nm,1.3s
X16A Lo Mia Camp, P 60.35 72 eP P 11 06 11.0 +1.6
comp=Z,2.8nm,0.8s
E36A McGregor 60.37 50 P P 11 06 09.3 +0.2
baz=320,SNR=6.9
CHAI Chaiyaphum 60.45 255 P P 11 06 10.0 0.0
comp=Z,11nm,0.7s,comp=Z,112nm
BORG Borgarnes 60.63 2 LR LR 11 31 35.3
comp=Z,64nm,21.0s,baz=48,slow=35
H34A Spellman Lake, 60.63 53 P P 11 06 11.1 +0.1
baz=320
J32A Parkston 60.64 56 P P 11 06 11.0 0.0
baz=319
KKN Kakani 60.71 277 eP P 11 06 10.8 -1.2
comp=Z,7.6nm,0.4s
F36A Milaca 60.75 51 P P 11 06 12.0 +0.2
baz=320
G35A Watkins 60.81 52 P P 11 06 12.2 +0.1
baz=320
PKI Pulchoki 60.81 277 eP P 11 06 10.9 -1.9
comp=Z,12nm,0.6s
DMN Daman 60.95 277 eP P 11 06 12.3 -1.4
ECSD EROS Data Cent 60.95 55 P P 11 06 12.9 -0.3
baz=320,SNR=8.6
ECSD EROS Data Cent 60.95 55 eP P 11 06 13.2 +0.1
comp=Z,5.2nm,0.8s
SDCO Great Sand Dun 61.04 65 P P 11 06 14.7 +0.5
baz=319
SDCO Great Sand Dun 61.04 65 eP P 11 06 15.5 +1.3
comp=Z,9.1nm,1.4s
H35A Sunnyside Ranc 61.05 53 P P 11 06 14.0 +0.3
baz=320,SNR=11
E38A The Farm, Brul 61.05 49 P P 11 06 13.7 -0.1
baz=321
X18A Snowflake 61.08 70 eP P 11 06 16.0 +1.6
comp=Z,7.3nm,1.0s
J33A Davis 61.10 55 P P 11 06 14.4 +0.2
baz=320
K32A Verdigre 61.12 56 P P 11 06 14.2 -0.1
baz=320
DANN Dangsing 61.16 279 eP P 11 06 15.0 -0.1
F37A Hinrichs Farm, 61.26 51 P P 11 06 15.4 +0.3
baz=321
F38A Pierce - Schro 61.41 50 P P 11 06 16.8 +0.6
baz=321,SNR=13
214A Organ Pipe Nat 61.44 74 P P 11 06 17.5 +0.8
baz=319
H36A Jessenland, He 61.55 52 P P 11 06 17.2 0.0
baz=320,SNR=7.5
SPMN Marine on St. 61.56 51 P P 11 06 17.5 +0.3
baz=321
SPMN Marine on St. 61.56 51 eP P 11 06 18.1 +0.8
comp=Z,8.3nm,0.8s
KSCO Kaye Shedlock' 61.58 62 P P 11 06 17.9 +0.3
baz=319
VSU Vasula 61.58 336 ⇑*i* P P 11 06 17.7 +0.6
VSU pmax pmax
comp=Z,70nm,0.8s
L32A Elgin 61.60 57 P P 11 06 17.9 +0.3
baz=320
J34A George 61.60 55 P P 11 06 17.7 +0.1
baz=320
I35A Creekview Farm 61.62 53 P P 11 06 17.9 +0.2
baz=320
K33A Hardington 61.63 56 P P 11 06 17.9 +0.1
baz=320
E39A Mellen 61.66 49 P P 11 06 17.8 -0.1
baz=321
KOLN Koldanda 61.69 279 eP P 11 06 16.0 -2.6
comp=Z,11nm,0.5s
PYUN Piuthan 61.79 279 eP P 11 06 17.8 -1.4
comp=Z,37nm,0.8s
OBN Obninsk 61.83 328 *i* P P 11 06 19.1 +0.3
OBN pmax pmax
comp=Z,18nm,0.9s
OBN MLR MLR
comp=Z,286nm,15.0s
F39A Loretta 61.87 49 P P 11 06 19.5 +0.2
baz=321
J35A Milford 61.89 54 P P 11 06 19.6 +0.1
baz=320
E40A Wakefield 61.90 48 P P 11 06 19.6 +0.1
baz=322,SNR=8.7
MHTCO State Highway 61.93 65 eP P 11 06 19.4 -0.7
comp=Z,19nm,1.3s
I36A Fitzsimmons Fa 61.94 53 P P 11 06 19.9 +0.1
baz=321
SRAK Srakaew 61.95 254 P P 11 06 18.6 -1.6
comp=Z,80nm,0.8s,comp=Z,668nm
BGNE Belgrade 61.99 57 P P 11 06 20.6 +0.4
baz=320
BGNE Belgrade 61.99 57 eP P 11 06 20.9 +0.7
comp=Z,36nm,0.9s
K34A Le Mars 62.00 55 P P 11 06 20.6 +0.4
baz=320,SNR=7.1
H37A Dierke Farm, C 62.01 52 P P 11 06 20.5 +0.3
baz=321
G38A Ridgeland 62.03 51 P P 11 06 20.2 -0.2
baz=321,SNR=6.1
F40A Park Falls 62.21 49 P P 11 06 21.6 -0.1
baz=322
NB2 NORSAR Subarra 62.23 345 P P 11 06 20.9 -0.6
comp=Z,5.1nm,0.7s,baz=18,slow=6.9
NB200 NORSAR Array S 62.23 345 eP P 11 06 21.2 -0.3
NOA NORSAR Array B 62.23 345 P P 11 06 21.2 -0.3
comp=Z,7.2nm,0.7s,baz=19,slow=6.8,SNR=17
I37A Lemond, Waseca 62.23 52 P P 11 06 22.2 +0.5
baz=321,SNR=12
G39A Holcombe 62.24 50 P P 11 06 21.7 -0.1
baz=321
E41A Kenton 62.28 48 P P 11 06 22.0 -0.1
baz=322
TUC Tucson 62.30 73 P P 11 06 22.9 +0.5
baz=320
J36A Seneca 1, Swea 62.33 53 P P 11 06 22.5 +0.1
baz=321
K35A Storm Lake 62.38 54 P P 11 06 22.6 -0.1
baz=321
L34A Svendsen Farm, 62.41 56 P P 11 06 23.4 +0.4
baz=320
ANMO Albuquerque 62.65 68 P P 11 06 25.1 +0.2
baz=320
ANMO Albuquerque 62.65 68 ⇓*i* P P 11 06 26.5 +1.6
ANMO e*PP sP 11 06 37.0 +0.4
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO Albuquerque 62.65 68 eP P 11 06 25.9 +1.0
comp=Z,3.6nm,0.9s
M34A Aspy Farms, Fr 62.67 56 P P 11 06 25.1 +0.4
baz=320
G40A Rib Lake 62.69 49 P P 11 06 24.5 -0.3
baz=322
HFS Hagfors 62.69 343 P P 11 06 24.0 -0.5
comp=Z,6.7nm,0.6s,baz=38,slow=7.3,SNR=16
HFS LR LR 11 34 15.5
comp=Z,148nm,21.0s,baz=17,slow=37
I38A Scanlan Farm, 62.70 52 P P 11 06 24.9 +0.1
baz=321,SNR=5.4
L35A Bielow Farm, R 62.70 55 P P 11 06 24.8 -0.1
baz=321
LAZ Ladron 62.70 69 eP P 11 06 26.2 +0.9
comp=Z,3.5nm,1.0s
J37A Redenius Farm, 62.70 53 P P 11 06 25.0 +0.1
baz=321
E42A Champion 62.76 47 P P 11 06 25.0 -0.2
baz=322
F41A Three Lakes 62.80 48 P P 11 06 25.2 -0.3
baz=322
K36A Gilmore City 62.81 54 P P 11 06 25.5 -0.1
baz=321,SNR=5.9
N33A J Bar K, Exete 62.84 57 P P 11 06 25.9 0.0
baz=320
K37A Belmond 63.09 53 P P 11 06 27.6 +0.1
baz=321
H40A Chili 63.11 50 P P 11 06 27.7 +0.1
baz=322
L36A Harm Buss Farm 63.12 55 P P 11 06 28.0 +0.3
baz=321
M35A Neola 63.13 56 P P 11 06 27.9 +0.2
baz=321
CBKS Cedar Bluff 63.19 60 P P 11 06 28.2 0.0
baz=320
J38A Wedel Dairy, R 63.19 52 P P 11 06 28.1 -0.1
baz=321
I39A Houston 63.20 51 P P 11 06 28.0 -0.2
baz=322
LPSR Galich'ya Gora 63.22 325 eP P 11 06 27.6 -0.5
LPSR pmax pmax
comp=Z,40nm,0.7s
N34A Lincoln 63.22 57 P P 11 06 28.2 -0.2
baz=321
SCHQ Schefferville 63.29 30 P P 11 06 28.2 -0.4
comp=Z,6.1nm,0.7s,baz=351,slow=7.6,SNR=7.4
SCHQ LR LR 11 36 56.7
comp=Z,114nm,18.0s,baz=8.0,slow=39
SCHQ Schefferville 63.29 30 eP P 11 06 29.0 +0.4
comp=Z,8.9nm,0.8s
SRDT SRDT 63.31 256 P P 11 06 29.1 -0.1
comp=Z,15nm,1.2s
H41A Junction City 63.44 50 P P 11 06 29.6 -0.1
baz=322
VRH Novokhopyorsk 63.45 323 eP P 11 06 28.5 -1.2
VRH pmax pmax
comp=Z,20nm,0.6s
G42A Mountain 63.48 48 P P 11 06 30.1 0.0
baz=322
J39A Decorah 63.53 52 P P 11 06 29.8 -0.6
baz=322,SNR=6.3
L37A Phoenix Point, 63.53 54 P P 11 06 30.4 0.0
baz=321
F43A Flat Rock, Esc 63.55 47 P P 11 06 30.1 -0.4
baz=323
M36A Felix, Anita 63.56 55 P P 11 06 30.7 +0.1
baz=321
K38A Parkersburg 63.58 53 P P 11 06 30.8 0.0
baz=322
I40A Norwalk 63.58 51 P P 11 06 30.7 0.0
baz=322
N35A Tabor 63.62 56 P P 11 06 31.2 +0.2
baz=321
O34A Beatrice 63.64 57 P P 11 06 30.9 -0.3
baz=321,SNR=8.9
G43A Wallace 63.79 48 P P 11 06 32.0 0.0
baz=323
319A Douglas 63.84 72 eP P 11 06 34.0 +1.3
comp=Z,9.7nm,1.0s
J40A Soldiers Grove 63.92 51 P P 11 06 32.6 -0.4
baz=322
K39A Oelwein 63.94 52 P P 11 06 33.0 -0.1
baz=322
M37A Trindle Farm, 63.95 55 P P 11 06 33.1 -0.1
baz=321
SCIA State Center 63.95 54 P P 11 06 33.4 +0.2
baz=322,SNR=9.8
SCIA State Center 63.95 54 eP P 11 06 33.9 +0.7
comp=Z,27nm,0.8s
N36A Muff Farm, Cla 63.98 56 P P 11 06 33.6 +0.2
baz=321
IZAR Zarasai 64.13 334 eP P 11 06 34.4 +0.3
IZAR IAmb IAmb 11 06 35.4
comp=Z,11nm,0.6s
HNR Honiara 64.14 183 LR LR 11 29 46.1
comp=Z,242nm,21.6s,baz=12,slow=32
PHET Kaeng Krachan 64.19 255 P P 11 06 35.8 +0.7
comp=Z,10nm,0.7s,comp=Z,183nm
J41A Loganville 64.27 51 P P 11 06 34.9 -0.4
baz=322
K40A Colesburg 64.28 52 P P 11 06 35.0 -0.3
baz=322
ISAL Salakas 64.32 334 eP P 11 06 35.6 +0.3
ISAL IAmb IAmb 11 06 36.8
comp=Z,6.8nm,0.9s
I42A Draeger Farm, 64.34 50 P P 11 06 35.5 -0.2
baz=323
M38A Pleasantville 64.34 54 P P 11 06 35.9 +0.1
baz=322,SNR=6.1
L39A Vinton 64.34 53 P P 11 06 35.7 0.0
baz=322
F45A CMU Biological 64.36 46 P P 11 06 35.6 -0.2
baz=324
H43A Windswept, Lux 64.38 48 P P 11 06 35.8 -0.2
baz=323
N37A Lee Faris, Mou 64.38 55 P P 11 06 36.2 +0.1
baz=322,SNR=13
IDID Didziasalis 64.40 334 eP P 11 06 36.1 +0.2
IDID IAmb IAmb 11 06 37.2
comp=Z,11nm,0.8s
IIGN Ignalina 64.50 334 IAmb IAmb 11 06 37.0
comp=Z,15nm,0.7s

I43A **Langenfeld Bro** 64.68 49 P P 11 06 37.6 -0.3
baz=323
J42A **Columbus** 64.70 50 P P 11 06 37.7 -0.4
baz=323
K41A **Shullsburg** 64.74 51 P P 11 06 37.9 -0.5
baz=322
L40A **Anamosa** 64.75 52 P P 11 06 37.9 -0.5
baz=322
M39A **Webster** 64.77 53 P P 11 06 38.6 +0.1
baz=322
N38A **Joes South For** 64.81 55 P P 11 06 38.7 -0.2
baz=322
O37A **Wolven Farm, M** 64.87 56 P P 11 06 39.2 0.0
baz=322
J43A **Natural Harves** 64.96 50 P P 11 06 39.7 -0.1
baz=323
K42A **Prairie Point,** 65.03 51 P P 11 06 39.7 -0.5
baz=323,SNR=5.2
L41A **Preston** 65.07 52 P P 11 06 40.0 -0.4
baz=323
N39A **Derby Farms, D** 65.09 54 P P 11 06 40.8 +0.1
baz=322
M40A **Post Highland** 65.13 53 P P 11 06 40.7 -0.2
baz=322
AMTX **Amarillo** 65.22 64 P P 11 06 41.5 -0.1
baz=321
O38A **Galt** 65.23 55 P P 11 06 41.5 -0.1
baz=322
P37A **Lathrop** 65.23 56 P P 11 06 41.7 +0.1
baz=322
MSTX **Muleshoe** 65.35 66 P P 11 06 42.9 +0.3
baz=321
MSTX **Muleshoe** 65.35 66 *eP* P 11 06 43.4 +0.9
comp=Z,9.1nm,0.9s
GLMI **Grayling** 65.43 46 P P 11 06 42.7 -0.1
baz=324
L42A **Oliver, Polo** 65.50 51 P P 11 06 42.8 -0.4
baz=323
N40A **Mertquake, Sal** 65.51 53 P P 11 06 43.3 -0.1
baz=322
K43A **Burlington** 65.54 50 P P 11 06 43.0 -0.5
baz=323
O39A **Kirksville** 65.56 54 P P 11 06 43.6 -0.1
baz=322
P38A **Dawn** 65.59 56 P P 11 06 44.0 +0.1
baz=322,SNR=8.1
M41A **Milan** 65.60 52 P P 11 06 43.6 -0.4
baz=323,SNR=6.0
MNTX **Cornudas Mount** 65.71 69 P P 11 06 45.6 +0.8
baz=321,SNR=5.2
MNTX **Cornudas Mount** 65.71 69 *eP* P 11 06 46.2 +1.4
comp=Z,6.0nm,0.9s
Q37A **Longview Farm,** 65.74 57 P P 11 06 44.6 -0.3
baz=322
GDL2 **Guadalupe Moun** 65.87 68 *eP* P 11 06 43.8 -2.2
comp=Z,27nm,0.6s
O40A **La Belle** 65.98 54 P P 11 06 46.5 +0.1
baz=323,SNR=11
N41A **Harden Midland** 65.99 53 P P 11 06 46.4 -0.1
baz=323,SNR=5.5
P39B **Salisbury** 66.07 55 P P 11 06 46.8 -0.1
baz=322
Q38A **Cooks Store, C** 66.07 56 P P 11 06 46.6 -0.4
baz=322,SNR=9.2
N42A **Yates City** 66.27 52 P P 11 06 47.9 -0.3
baz=323
M43A **Waltham Townsh** 66.27 51 P P 11 06 47.8 -0.4
baz=323
Q39A **Willow Grove F** 66.31 56 P P 11 06 48.5 0.0
baz=322,SNR=20
SBUM **Sibu** 66.36 237 *eP* P 11 06 50.5 +1.4
comp=Z,29nm,1.1s
P40A **Paris** 66.37 55 P P 11 06 48.9 0.0
baz=323,SNR=8.2
O41A **Passleys Farm,** 66.45 53 P P 11 06 49.3 -0.1
baz=323,SNR=8.2
R38A **Fenwick Farm,** 66.55 57 P P 11 06 49.4 -0.6
baz=322
N43A **Stutzman Famil** 66.57 52 P P 11 06 49.8 -0.4
baz=323
P41A **Barry, Barry** 66.72 54 P P 11 06 51.2 +0.1
baz=323,SNR=5.4
M44A **Midewin, Midew** 66.72 51 P P 11 06 50.7 -0.4
baz=324
O42A **Bath** 66.75 53 P P 11 06 51.1 -0.2
baz=323
Q40A **Laux Farm, Aux** 66.78 55 P P 11 06 51.3 -0.2
baz=323
HDIL **Hopedale** 66.83 52 P P 11 06 51.6 -0.2
baz=324,SNR=6.0
HDIL **Hopedale** 66.83 52 *eP* P 11 06 51.8 0.0
comp=Z,26nm,0.7s
WMOK **Wichita Mounta** 66.83 62 P P 11 06 49.4 +0.3
baz=322,SNR=11
WMOK **Wichita Mounta** 66.83 62 *eP* P 11 06 52.5 +0.5
WMOK pmax pmax
comp=Z,13nm,0.8s
WMOK **Wichita Mounta** 66.83 62 *eP* P 11 06 52.5 +0.5
comp=Z,13nm,0.8s
R39A **Chumby, Stover** 66.86 56 P P 11 06 51.5 -0.6
baz=323,SNR=12
S38A **Stockton** 66.98 57 P P 11 06 52.1 -0.7
baz=323
P42A **Winchester** 67.12 53 P P 11 06 53.4 -0.3
baz=323
N44A **Piper City** 67.16 51 P P 11 06 53.6 -0.4
baz=324
Q41A **Truxton** 67.21 54 P P 11 06 54.3 0.0
baz=323,SNR=9.8
S39A **Bolivar** 67.22 57 P P 11 06 53.3 -1.0
baz=323,SNR=5.8
R40A **Maddies Statio** 67.25 56 P P 11 06 54.1 -0.5
baz=323,SNR=16
T38A **Diamond** 67.27 58 P P 11 06 54.1 -0.6
baz=323
TUL1 **Leonard** 67.42 60 P P 11 06 55.4 -0.3
baz=322
TUL1 **Leonard** 67.42 60 *eP* P 11 06 55.7 +0.1
comp=Z,8.8nm,0.8s
GEYT **Alibeck** 67.42 304 P P 11 06 55.5 -0.2
comp=Z,4.0nm,0.6s,baz=1.9,slow=4.5,SNR=7.8
GEYT LR LR 11 39 18.3
comp=Z,533nm,19.0s,baz=55,slow=39
P43A **Skaggs, Pawnee** 67.46 53 P P 11 06 55.5 -0.3
baz=324
O44A **Mansfield** 67.53 52 P P 11 06 56.0 -0.2
baz=324
Q42A **Golden Eagle** 67.57 54 P P 11 06 56.4 -0.2
baz=323,SNR=7.1
R41A **Rosebud** 67.66 55 P P 11 06 56.8 -0.4
baz=323,SNR=15
S40A **Lebanon** 67.69 56 P P 11 06 56.6 -0.7
baz=323,SNR=5.5
T39A **Clever** 67.72 57 P P 11 06 56.9 -0.7
baz=323,SNR=6.4
AKASG **Malin Array Be** 67.86 330 P P 11 06 57.5 -0.6
comp=Z,16nm,0.6s,baz=28,slow=6.4,SNR=46
AKASG LR LR 11 40 39.1
comp=Z,353nm,18.9s,baz=15,slow=40
AKBB **Malin Array Si** 67.86 330 *eP* P 11 06 57.6 -0.5
AKBB pmax pmax
comp=Z,21nm,0.8s
AKBB **Malin Array Si** 67.86 330 *eP* P 11 06 57.6 -0.5
comp=Z,21nm,0.8s
KIEV **Kiev** 67.87 330 *d iP* P 11 06 57.6 -0.6
KIEV pmax pmax
comp=Z,18nm,0.9s
KIEV **Kiev** 67.87 330 *eP* P 11 06 57.5 -0.6
comp=Z,21nm,0.8s
AK11 **Malin Array Si** 67.89 330 *eP* P 11 06 57.5 -0.8
Q43A **New Douglas** 67.94 53 P P 11 06 58.5 -0.3
baz=324
R42A **Luebbering** 67.95 55 P P 11 06 58.9 0.0
baz=324,SNR=13
SFIN **Lafayette** 67.96 51 P P 11 06 58.5 -0.5
baz=324
P44A **Sand Creek, Wi** 68.01 52 P P 11 06 58.6 -0.7
baz=324
T40A **Mansfield** 68.03 56 P P 11 06 59.0 -0.5
baz=323,SNR=5.8
HHAR **Hobbs** 68.04 58 *eP* P 11 06 59.4 -0.2
comp=Z,10nm,0.8s
ABTX **Abilene, Hawle** 68.04 64 P P 11 06 59.9 +0.3
baz=322,SNR=5.2
ABTX **Abilene, Hawle** 68.04 64 *eP* P 11 07 00.1 +0.5
comp=Z,7.0nm,0.8s
S41A **Jillco Farms,** 68.06 56 P P 11 06 59.4 -0.3
baz=323,SNR=12

MAK **Makhachkala** 68.08 314 *eP* P 11 06 58.9 -0.8
MAK *e* 11 09 33.6
MAK *eS* **S** 11 15 59.8 +2.5
MAK pmax pmax
comp=Z,39nm,0.5s
GOF **Gofitskoye** 68.11 318⇑ *eP* P 11 06 59.9 0.0
GOF pmax pmax
comp=Z,54nm,0.6s
KSM **Kuching** 68.14 239 *eP* P 11 07 01.2 +0.8
comp=Z,33nm,1.2s
U39A **Green Forest** 68.18 58 P P 11 07 00.0 -0.4
baz=323,SNR=29
Q44A **Meyer Farm, Va** 68.28 53 P P 11 07 00.8 -0.2
baz=324
TRTT **Trang** 68.33 252 P P 11 07 12.5 +11
P45A **Graceland, Par** 68.36 52 P P 11 07 01.0 -0.5
baz=324
R43A **Red Bud** 68.36 54 P P 11 07 01.2 -0.3
baz=324,SNR=5.2
S42A **Caledonia** 68.36 55 P P 11 07 01.4 -0.1
baz=324,SNR=9.2
FVM **French Village** 68.36 54 *eP* P 11 07 01.7 +0.1
FVM pmax pmax
comp=Z,13nm,0.7s
FVM **French Village** 68.36 54 *eP* P 11 07 01.7 +0.1
comp=Z,13nm,0.7s
SKLT **Songkhla** 68.37 251 P P 11 07 03.7 +1.9
comp=Z,20nm,1.2s
TX31 **Lajitas Ar. Si** 68.48 70 *eP* P 11 07 03.4 +0.8
LTX **Lajitas** 68.48 70 *eP* P 11 07 03.3 +0.8
LTX **Lajitas** 68.48 70 *eP* P 11 07 03.3 +0.8
TXAR **Lajitas Array** 68.48 70 P P 11 07 03.3 +0.8
comp=Z,7.7nm,0.7s,baz=295,slow=4.1,SNR=74
T41A **Mountain View** 68.48 56 P P 11 07 01.7 -0.6
baz=323,SNR=9.1
O47A **Sheridan** 68.49 50 P P 11 07 01.4 -0.9
baz=325
U40A **Yellville** 68.51 57 P P 11 07 01.8 -0.7
baz=323,SNR=9.0
P46A **Rosedale** 68.53 51 P P 11 07 02.0 -0.5
baz=324,SNR=5.3
V39A **Pettigrew** 68.53 58 P P 11 07 02.1 -0.6
baz=323,SNR=21
Q45A **Warren Harvey,** 68.68 52 P P 11 07 03.2 -0.4
baz=324
R44A **Waltonville** 68.78 53 P P 11 07 03.7 -0.4
baz=324,SNR=8.8
T42A **Van Buren** 68.81 56 P P 11 07 03.6 -0.7
baz=324,SNR=6.6
S43A **Fulton Ridge,** 68.86 55 P P 11 07 04.5 -0.1
baz=324
LPIG **La Paz** 68.89 78 LR LR 11 35 35.8
comp=Z,31nm,18.1s,baz=294,slow=34
V40A **Witts Springs** 68.96 58 P P 11 07 04.8 -0.5
baz=323,SNR=10
U41A **Viola** 68.97 57 P P 11 07 04.9 -0.4
baz=324,SNR=5.8
W39A **Magazine** 68.98 59 P P 11 07 05.0 -0.4
baz=323
BEL **Belsk** 69.03 336 *eP* P 11 07 06.5 +1.0
BEL **Belsk** 69.03 336 *eP* P 11 07 06.5 +1.0
P47A **Martinsville** 69.06 51 P P 11 07 05.4 -0.5
baz=325
S44A **Carbondale** 69.15 54 P P 11 07 06.2 -0.3
baz=324,SNR=7.2
SIUC **Southern Illin** 69.15 54 *eP* P 11 07 06.7 +0.3
comp=Z,14nm,0.8s
T43A **Greenville** 69.15 55 P P 11 07 06.2 -0.3
baz=324
KVAR **Kislovodsk Arr** 69.18 318 P P 11 07 06.8 +0.2
comp=Z,14nm,0.6s,baz=305,slow=0.7,SNR=10
KIV **Kislovodsk** 69.18 318 *eP* P 11 07 06.8 +0.1
KIV pmax pmax
comp=Z,19nm,1.0s
KIV **Kislovodsk** 69.18 318 *eP* P 11 07 07.0 +0.3
comp=Z,22nm,0.8s
KBZ **Khabaz** 69.29 318 P P 11 07 07.7 +0.5
comp=Z,28nm,0.8s,baz=69,slow=3.2,SNR=95
KBZ LR LR 11 43 00.4
comp=Z,280nm,18.2s,baz=20,slow=41
U42A **Revenden** 69.29 56 P P 11 07 06.5 -0.8
baz=324
V41A **Mountainview** 69.30 57 P P 11 07 06.5 -1.0
baz=324,SNR=11
W40A **Ferguson Farm,** 69.33 58 P P 11 07 07.5 -0.1
baz=323
W40A **Ferguson Farm,** 69.33 58 *eP* P 11 07 07.9 +0.3
comp=Z,15nm,0.8s
X39A **Fountain Ranch** 69.36 59 P P 11 07 07.7 -0.1
baz=323,SNR=7.8
Q47A **Bedord North L** 69.43 51 P P 11 07 08.1 -0.1
baz=325
S45A **Carrier Mills** 69.47 53 P P 11 07 08.2 -0.3
baz=324
T44A **Benton** 69.48 54 P P 11 07 08.5 0.0
baz=324
EKA **Eskdalemuir Ar** 69.52 351 P P 11 07 08.8 +0.4
comp=Z,9.2nm,0.7s,baz=18,slow=5.0,SNR=24
WHAR **Wooly Hollow** 69.63 57 *eP* P 11 07 09.5 0.0
comp=Z,7.4nm,0.8s
JCT **Junction City** 69.64 66 P P 11 07 09.7 -0.1
baz=323,SNR=7.4
JCT **Junction City** 69.64 66 *eP* P 11 07 09.6 -0.1
JCT pmax pmax
comp=Z,10.0nm,0.8s
JCT **Junction City** 69.64 66 *eP* P 11 07 09.6 -0.1
comp=Z,10nm,0.8s
V42A **Cord** 69.66 57 P P 11 07 09.5 -0.1
baz=324
U43A **Rector** 69.67 55 P P 11 07 09.3 -0.4
baz=324
ZEI **Tsey** 69.69 317 *eP* P 11 07 07.6 -2.4
ZEI pmax pmax
comp=Z,20nm,0.8s
W41B **Gary Mavity, V** 69.75 58 P P 11 07 10.0 -0.2
baz=324,SNR=5.9
NEY **Neytrino** 69.76 318⇓ *iP* P 11 07 11.5 +1.1
NEY pmax pmax
comp=Z,1.0nm,0.6s
S46A **Don Dixon Farm** 69.87 53 P P 11 07 10.2 -0.7
baz=325
ACSO **Alum Creek Sta** 69.88 48 P P 11 07 10.7 -0.3
baz=326
R47A **Wooly Knot Far** 69.91 52 P P 11 07 10.9 -0.2
baz=325
X40A **Basin Creek Fa** 70.01 58 P P 11 07 11.6 -0.2
baz=324
M54A **Oil Creek Stat** 70.21 45 P P 11 07 12.3 -0.6
baz=327
M54A **Oil Creek Stat** 70.21 45 *eP* P 11 07 12.7 -0.2
comp=Z,12nm,1.1s
TBLG **Delisi** 70.24 315 *eP* P 11 07 13.7 +0.5
TBLG pmax pmax
comp=Z,52nm,0.7s
TBLG **Delisi** 70.24 315 *eP* P 11 07 13.7 +0.5
comp=Z,52nm,0.7s
T46A **Princeton** 70.31 53 P P 11 07 13.4 -0.2
baz=325,SNR=6.4
ANN **Anapa** 70.41 322 *i* P P 11 07 12.0 -2.0
ANN *eS* **S** 11 16 21.6 -3.0
ANN pmax pmax
comp=Z,170nm,1.9s
SORM **Soroca** 70.41 329⇓ *iP* P 11 07 13.4 -0.6
KWP **Kalwaria Pacla** 70.60 334 *eP* P 11 07 16.0 +0.8
KWP **Kalwaria Pacla** 70.60 334 *eP* P 11 07 15.8 +0.6
KWP **Kalwaria Pacla** 70.60 334 *eP* P 11 07 15.8 +0.6
comp=Z,624nm,0.5s
S48A **Wiedeman Farm,** 70.65 52 P P 11 07 15.4 -0.2
baz=325
T47A **Sharon Grove** 70.72 53 P P 11 07 16.2 +0.1
baz=325,SNR=6.4
OJC **Ojcow** 70.77 336 *eP* P 11 07 16.8 +0.6
OJC **Ojcow** 70.77 336 *eP* P 11 07 16.7 +0.5
OJC pmax pmax
comp=Z,19nm,0.8s
OJC **Ojcow** 70.77 336 *eP* P 11 07 16.7 +0.5
comp=Z,19nm,0.8s
LBNH **Lisbon** 70.86 38 P P 11 07 16.9 +0.1
baz=330
T48A **Bowling Green** 70.94 52 P P 11 07 17.3 -0.1
baz=325
KSP **Ksiaz** 70.97 338 *eP* P 11 07 18.0 +0.6
KSP **Ksiaz** 70.97 338 *eP* P 11 07 18.0 +0.6
AKH **Akhalkalaki** 71.02 316⇑ *iP* P 11 07 18.9 +0.8
AKH **Akhalkalaki** 71.02 316 *eP* P 11 07 19.1 +1.1
AKH pmax pmax
comp=Z,16nm,0.7s

AKH **Akhalkalaki** 71.02 316 *eP* P 11 07 19.1 +1.1
comp=Z,16nm,0.7s
U47A **Clarksville** 71.08 53 P P 11 07 18.2 -0.1
baz=325
WVT **Waverly** 71.08 54 P P 11 07 18.5 +0.2
baz=325
WVT **Waverly** 71.08 54 *eP* P 11 07 18.7 +0.4
WVT pmax pmax
comp=Z,9.0nm,0.6s
WVT **Waverly** 71.08 54 *eP* P 11 07 18.7 +0.4
comp=Z,8.6nm,0.6s
STHS **Stebnicka Huta** 71.16 335 *eP* P 11 07 19.9 +1.3
STHS pmax pmax
comp=Z,15nm,0.7s
STHS **Stebnicka Huta** 71.16 335 *eP* P 11 07 19.9 +1.3
CLL **Collm** 71.20 341⇑ *iP* P 11 07 18.8 0.0
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL **Collm** 71.20 341⇑ *iP* P 11 07 18.8 0.0
comp=Z,10.0nm,0.9s
CLL *epP* **pP** 11 07 26.0 -1.3
CLL *i* sP **sP** 11 07 29.9 -0.6
CLL LmH 11 42 00.0
comp=N,200nm,20.3s
CLL LmH 11 42 00.0
comp=E,100nm,20.0s
V46A **Holladay** 71.22 54 P P 11 07 19.1 0.0
baz=325,SNR=6.8
NATX **Nacogdoches** 71.28 61 P P 11 07 19.7 +0.1
baz=324
UPC **Upice** 71.35 338 *eP* P 11 07 20.5 +0.8
UPC AMS AMS 11 43 20.0
comp=E,400nm,17.1s
UPC **Upice** 71.35 338 *eP* P 11 07 20.5 +0.8
UPC MLR MLR
comp=Z,400nm,17.1s
U48A **Cassie Pea, Po** 71.37 53 P P 11 07 19.9 -0.1
baz=325
NIE **Niedzica** 71.39 335 *eP* P 11 07 20.9 +0.9
NIE **Niedzica** 71.39 335 *eP* P 11 07 20.9 +0.9
BRG **Berggiesshubel** 71.43 340 *i* P P 11 07 20.5 +0.3
comp=Z,10nm,0.9s
BRG **Berggiesshubel** 71.43 340 *i* P P 11 07 20.5 +0.3
BRG pmax pmax
comp=Z,10.0nm,0.9s
V47A **Nunnelly** 71.47 54 P P 11 07 20.7 0.0
baz=325
OKC **Ostrava-Krasne** 71.51 337 *eP* P 11 07 20.3 -0.4
OKC AMS AMS 11 42 50.0
comp=Z,400nm,16.0s
OKC **Ostrava-Krasne** 71.51 337 *eP* P 11 07 20.3 -0.4
OKC MLR MLR
comp=Z,400nm,16.0s
833A **Chaparral WMA,** 71.56 67 P P 11 07 21.7 +0.4
baz=323
GNI **Garni** 71.57 315 P P 11 07 22.4 +1.0
comp=Z,19nm,0.7s,baz=338,slow=2.9,SNR=14
GNI LR LR 11 42 09.6
comp=Z,255nm,18.9s,baz=20,slow=39
GNI **Garni** 71.57 315 *c iP* P 11 07 22.5 +1.1
GNI pmax pmax
comp=Z,76nm,0.9s
GNI **Garni** 71.57 315 *eP* P 11 07 22.8 +1.4
KRLC **Kraliky** 71.59 338 *eP* P 11 07 22.0 +0.8
KRLC **Kraliky** 71.59 338 *eP* P 11 07 22.0 +0.8
PVCC **Panska Ves** 71.63 339 AMS AMS 11 43 50.0
comp=Z,400nm,15.9s
OXF **Oxford** 71.65 56 P P 11 07 21.7 0.0
baz=325
OXF **Oxford** 71.65 56 *eP* P 11 07 22.2 +0.4
OXF pmax pmax
comp=Z,10.0nm,0.8s
OXF **Oxford** 71.65 56 *eP* P 11 07 22.2 +0.4
comp=Z,10nm,0.8s
SSPA **Standing Stone** 71.67 44 P P 11 07 21.4 -0.4
baz=328
MORC **Moravsky Berou** 71.70 337⇑ *iP* P 11 07 22.6 +0.8
MORC **Moravsky Berou** 71.70 337 *eP* P 11 07 22.7 +0.8
MORC **Moravsky Berou** 71.70 337 *eP* P 11 07 22.7 +0.8
comp=Z,174nm,0.6s
O56A **Blue Knob Stat** 71.70 45 P P 11 07 21.6 -0.5
baz=328
BUR08 **Bucovina Ar. S** 71.75 331 *eP* P 11 07 22.5 +0.2
BUR04 **Bucovina Ar. S** 71.77 331 *eP* P 11 07 22.4 -0.1
LANS **Liptovska Anna** 71.84 336 *eP* P 11 07 24.3 +1.6
LANS **Liptovska Anna** 71.84 336 *eP* P 11 07 24.3 +1.6
AFI **Afiamalu** 71.85 154 LR LR 11 31 06.3
comp=Z,106nm,21.9s,baz=343,slow=29
V48A **Smith Brothers** 71.87 53 P P 11 07 22.8 -0.3
baz=326,SNR=5.6
PLAL **Pickwick Lake** 71.90 55 *eP* P 11 07 23.4 +0.1
comp=Z,14nm,0.8s
W47A **Westpoint** 71.91 54 P P 11 07 23.2 -0.1
baz=325
Y45A **Yeager Farm, C** 72.11 56 P P 11 07 24.7 +0.2
baz=325
PRU **Pruhonice** 72.15 339 *eP* P 11 07 25.1 +0.6
PRU AMS AMS 11 44 10.0
comp=Z,400nm,16.5s
PRU **Pruhonice** 72.15 339 *eP* P 11 07 25.1 +0.6
PRU MLR MLR
comp=Z,400nm,16.5s
GOPC **GO Pecny, Ondr** 72.17 339 *eP* P 11 07 25.4 +0.7
GOPC *ePCP* **PcP** 11 07 43.2 +0.4
GOPC AMS AMS 11 44 00.0
comp=Z,400nm,19.1s
GOPC **GO Pecny, Ondr** 72.17 339 *eP* P 11 07 25.4 +0.7
GOPC *e* 11 07 43.2
GOPC MLR MLR
comp=Z,400nm,19.1s
KECS **Kecovo** 72.22 335 *eP* P 11 07 25.9 +1.0
KECS pmax pmax
comp=Z,4.0nm,0.7s
KECS **Kecovo** 72.22 335 *eP* P 11 07 25.9 +1.0
N59A **State Game Lan** 72.27 43 P P 11 07 24.9 -0.6
baz=329
W48A **Pulaski** 72.31 54 P P 11 07 25.5 -0.2
baz=326,SNR=9.2
NKC **Novy Kostel** 72.33 341 *eP* P 11 07 26.4 +0.8
NKC **Novy Kostel** 72.33 341 *eP* P 11 07 26.4 +0.8
VRAC **Vranov** 72.35 338⇑ *iP* P 11 07 26.7 +0.9
X47A **Russelville** 72.39 55 P P 11 07 25.9 -0.2
baz=325
Y46A **Houston** 72.43 56 P P 11 07 26.5 0.0
baz=325,SNR=9.9
Z45A **Winona** 72.44 57 P P 11 07 26.7 +0.2
baz=325
ARCR **ARCALIA** 72.50 332⇑ *iP* P 11 07 27.5 +0.8
VYHS **Vyhne** 72.61 336 *eP* P 11 07 28.1 +0.8
VYHS pmax pmax
comp=Z,5.0nm,0.8s
VYHS **Vyhne** 72.61 336 *eP* P 11 07 28.1 +0.8
HYB **Hyderabad** 72.66 276 *i* P P 11 07 26.0 -2.0
TZTN **Tazewell** 72.69 51 P P 11 07 28.1 +0.1
baz=327
TZTN **Tazewell** 72.69 51 *eP* P 11 07 28.1 +0.1
comp=Z,8.8nm,0.9s
SWET **Sewanee** 72.71 53 *eP* P 11 07 27.8 -0.3
comp=Z,4.4nm,0.7s
X48A **Hartselle** 72.82 54 P P 11 07 28.3 -0.4
baz=326
PSZ **Piszkesteto** 72.89 335⇓ *iP* P 11 07 29.7 +0.7
PSZ **Piszkesteto** 72.89 335 *eP* P 11 07 30.1 +1.0
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ **Piszkesteto** 72.89 335 *eP* P 11 07 30.1 +1.0
comp=Z,12nm,1.0s
Y47A **UCPARC, Winfie** 72.89 55 P P 11 07 29.0 -0.2
baz=325
PSI **Prapat** 72.93 250 *eP* P 11 07 30.8 +1.0
PSI pmax pmax
comp=Z,8.0nm,0.6s
PSI **Prapat** 72.93 250 *eP* P 11 07 30.8 +1.0
comp=Z,7.8nm,0.6s
ODBI **Odobesti** 72.93 329⇑ *iP* P 11 07 31.2 +2.0
VRI **Vrincioaia** 72.94 330⇓ *iP* P 11 07 29.0 -0.3
244A **Avery, Jackson** 73.04 58 P P 11 07 30.1 0.0
baz=325
MEM **Membach** 73.08 345 ⇑P P 11 07 30.0 0.0
comp=Z,14nm,0.7s
MODS **Modra-Piesok** 73.08 337 *eP* P 11 07 29.5 -0.6
MODS **Modra-Piesok** 73.08 337 *eP* P 11 07 29.5 -0.6
GRFO **Grafenberg** 73.08 341 *eP* P 11 07 29.3 -0.8
GRFO pmax pmax
comp=Z,16nm,0.6s
GRFO **Grafenberg** 73.08 341 *eP* P 11 07 29.3 -0.8

	comp=Z,16nm,0.6s						
X49A	**Woodville**	**73.11**	**54**	P		**P**	**11 07 30.5 0.0**
	baz=326,SNR=9.4						
CFR	**Carcaliu**	**73.14**	**328**⇑	*iP*		**P**	**11 07 30.1 -0.3**
KHC	**Kasperske Hory**	**73.16**	**339**	*eP*		**P**	**11 07 31.5 +0.9**
KHC				*ep*	P	**pP**	**11 07 37.0 -2.2**
KHC				*es*	P	**PcP**	**11 07 45.0 -2.1**
KHC				AMS		AMS	11 44 50.0
	comp=Z,500nm,14.5s						
KHC	**Kasperske Hory**	**73.16**	**339**	*eP*		**P**	**11 07 31.5 +0.9**
KHC				*e*			11 07 45.0
KHC				MLR		MLR	
	comp=Z,500nm,14.5s						
KHC	**Kasperske Hory**	**73.16**	**339**	*eP*		**P**	**11 07 31.2 +0.6**
	comp=Z,4.9nm,1.2s						
Y48A	**Jasper**	**73.20**	**55**	P		**P**	**11 07 30.5 -0.5**
	baz=326						
DOPR	**Dopca**	**73.23**	**330**⇓	*iP*		**P**	**11 07 31.9 +0.9**
TKL	**Tuckaleechee C**	**73.33**	**51**	LR		LR	11 40 06.3
	comp=Z,102nm,19.9s,baz=338,slow=36						
Z47A	**Carrollton**	**73.36**	**56**	P		**P**	**11 07 32.0 0.0**
	baz=326,SNR=6.9						
GEC2	**GERESS Array S**	**73.41**	**339**	*eP*		**P**	**11 07 32.8 +0.7**
GEC2				pmax		pmax	
	comp=Z,6.0nm,0.6s						
GEC2	**GERESS Array S**	**73.41**	**339**	*eP*		**P**	**11 07 32.8 +0.7**
	comp=Z,5.5nm,0.6s						
GERES	**GERESS Array B**	**73.41**	**339**	P		**P**	**11 07 32.5 +0.3**
	comp=Z,4.0nm,0.7s,baz=35,slow=4.9,SNR=30						
GERES				LR		LR	11 45 14.7
	comp=Z,397nm,18.1s,baz=28,slow=40						
GEA0	**GERESS Array S**	**73.42**	**339**	*eP*		**P**	**11 07 32.5 +0.3**
Z48A	**Northport**	**73.46**	**55**	P		**P**	**11 07 32.1 -0.4**
	baz=326						
X50A	**Fort Payne**	**73.47**	**53**	P		**P**	**11 07 32.3 -0.3**
	baz=326,SNR=7.3						
344A	**Westbrook Farm**	**73.50**	**59**	P		**P**	**11 07 33.2 +0.4**
	baz=325						
BLA	**Blacksburg**	**73.50**	**48**	P		**P**	**11 07 32.3 -0.5**
	baz=328						
Y49A	**Blount Mountai**	**73.61**	**54**	P		**P**	**11 07 33.2 -0.2**
	baz=326						
147A	**Livingston**	**73.70**	**56**	P		**P**	**11 07 34.1 +0.1**
	baz=326						
TLB	**Topalu**	**73.70**	**328**⇑	*iP*		**P**	**11 07 34.2 +0.4**
TIRR	**Tirgusor**	**73.71**	**328**⇑	*iP*		**P**	**11 07 33.8 0.0**
VOIR		**73.81**	**330**⇑	*iP*		**P**	**11 07 34.9 +0.4**
CONA	**Conrad Observa**	**73.82**	**338**	*i P*		**P**	**11 07 35.6 +1.0**
	comp=Z,6.8nm,0.7s						
IP03	**Louisa**	**73.84**	**46**	*eP*		**P**	**11 07 35.4 +0.7**
	comp=Z,10nm,1.0s						
CVRD	**Centerville Ro**	**73.88**	**46**	*eP*		**P**	**11 07 35.5 +0.6**
	comp=Z,12nm,0.5s						
Y50A	**Piedmont**	**73.90**	**54**	P		**P**	**11 07 35.0 -0.1**
	baz=326,SNR=6.1						
IP07	**Quail**	**73.92**	**46**	*eP*		**P**	**11 07 35.9 +0.8**
	comp=Z,10nm,0.8s						
SIRR	**Siria**	**73.97**	**333**⇓	*iP*		**P**	**11 07 36.0 +0.6**
LRAL	**Lakeview Retre**	**74.01**	**55**	P		**P**	**11 07 35.2 -0.6**
	baz=326						
LRAL	**Lakeview Retre**	**74.01**	**55**	*eP*		**P**	**11 07 35.1 -0.6**
	comp=Z,5.7nm,0.8s						
247A	**Quitman**	**74.04**	**57**	P		**P**	**11 07 35.8 -0.1**
	baz=326						
Z49A	**Columbiana**	**74.10**	**55**	P		**P**	**11 07 35.9 -0.4**
	baz=326,SNR=5.0						
MOA	**Molln**	**74.24**	**339**	*eP*		**P**	**11 07 37.6 +0.7**
	comp=Z,3.0nm,0.6s						
ZAIG	**Zacatecas**	**74.27**	**73**	*eP*		**P**	**11 07 39.0 +1.2**
	comp=Z,4.4nm,0.8s						
Z50A	**Ashland**	**74.33**	**54**	P		**P**	**11 07 37.4 -0.3**
	baz=326,SNR=8.3						
POO	**Poona**	**74.46**	**280**	*eP*		P	11 07 29.0 -10
149A	**Jones**	**74.47**	**55**	P		**P**	**11 07 38.6 +0.1**
	baz=326						
ARSA	**Arzberg**	**74.53**	**338**	*i P*		**P**	**11 07 39.8 +1.1**
	comp=Z,3.5nm,0.6s						
BZS	**Buzias**	**74.59**	**333**⇑	*iP*		**P**	**11 07 39.0 +0.1**
NCAT	**North Carolina**	**74.74**	**48**	*eP*		**P**	**11 07 40.5 +0.5**
	comp=Z,5.7nm,0.8s						
150A	**Eclectic**	**74.82**	**55**	P		**P**	**11 07 40.1 -0.4**
	baz=326						
KMSC	**Kings Mountain**	**74.85**	**50**	P		**P**	**11 07 40.5 -0.1**
	baz=328						
BFO	**Black Forest**	**74.91**	**343**	*i P*		**P**	**11 07 41.4 +0.6**
ILGA	**Ilgaz**	**75.00**	**323**	*eP*		**P**	**11 07 42.7 +1.0**
	comp=Z,30nm,0.8s						
KBA	**Koelnbreinsper**	**75.16**	**339**	*i P*		**P**	**11 07 43.9 +1.4**
	comp=Z,19nm,0.8s,SNR=7.6						
ECH	**Echery**	**75.22**	**343**	*eP*		**P**	**11 07 43.0 +0.4**
ECH				pmax		pmax	
	comp=Z,8.0nm,0.9s						
ECH	**Echery**	**75.22**	**343**	*eP*		**P**	**11 07 43.0 +0.4**
	comp=Z,7.8nm,0.9s						
WATA	**Walderalm**	**75.27**	**340**	*eP*		**P**	**11 07 43.9 +0.8**
	comp=Z,9.1nm,1.0s						
RETA	**Reutte**	**75.28**	**341**	*i P*		**P**	**11 07 43.4 +0.4**
	comp=Z,5.6nm,0.7s						
WTTA	**Wattenberg**	**75.33**	**340**	*i P*		**P**	**11 07 44.4 +0.9**
	comp=Z,6.5nm,0.6s						
MOTA	**Moosalm**	**75.36**	**341**	*i P*		**P**	**11 07 44.2 +0.6**
	comp=Z,8.4nm,0.7s,SNR=5.8						
OBKA	**Obir**	**75.45**	**338**	*i P*		**P**	**11 07 44.9 +0.9**
	comp=Z,12nm,0.7s						
MYKA	**Terra Mystica**	**75.53**	**339**	*i P*		**P**	**11 07 46.2 +1.7**
	comp=Z,4.9nm,0.8s						
251A	**Midway**	**75.54**	**54**	P		**P**	**11 07 44.4 -0.2**
	baz=327						
ABTA	**Abfaltersbach**	**75.65**	**339**	*i P*		**P**	**11 07 45.8 +0.6**
	comp=Z,12nm,0.9s,SNR=5.2						
FETA	**Feichten**	**75.74**	**341**	*i P*		**P**	**11 07 46.6 +0.9**
	comp=Z,10.0nm,0.8s						
252A	**Lumpkin**	**75.93**	**54**	P		**P**	**11 07 46.5 -0.4**
	baz=327						
351A	**Pinckard**	**76.12**	**55**	P		**P**	**11 07 47.9 -0.1**
	baz=327						
253A	**Americus**	**76.16**	**54**	P		**P**	**11 07 48.1 -0.1**
	baz=327						
BR101	**Keskin Array S**	**76.21**	**322**	*eP*		**P**	**11 07 48.5 0.0**
BR131	**Keskin Array S**	**76.21**	**322**	*eP*		**P**	**11 07 48.6 +0.1**
BRTR	**Keskin Array B**	**76.21**	**322**	P		**P**	**11 07 48.5 0.0**
	comp=Z,9.6nm,0.6s,baz=63,slow=3.5,SNR=61						
BRTR				LR		LR	11 47 13.6
	comp=Z,139nm,18.0s,baz=4.0,slow=40						
FUORN	**Ofenpass-Fuorn**	**76.21**	**341**	*eP*		**P**	**11 07 49.4 +0.8**
	comp=Z,7.5nm,0.8s						
352A	**Blakely**	**76.27**	**54**	P		**P**	**11 07 48.8 0.0**
	baz=327						
BR231	**Keskin MP Arra**	**76.41**	**323**	*eP*		**P**	**11 07 49.0 -0.6**
DIVS	**Divibare**	**76.42**	**333**	*eP*		**P**	**11 07 49.2 -0.4**
	comp=Z,8.3nm,0.7s						
TUE	**Stuetta**	**76.53**	**341**	*eP*		**P**	**11 07 51.1 +0.8**
	comp=Z,8.4nm,0.8s						
DZM	**Mont Dzumac**	**76.73**	**177**	LR		LR	11 36 59.6
	comp=Z,129nm,19.9s,baz=322,slow=32						
DZM	**Mont Dzumac**	**76.73**	**177**	*eLR*		LR	11 31 25.5
	comp=Z,110nm,20.9s						
TIGA	**Tifton**	**76.93**	**54**	P		**P**	**11 07 52.6 0.0**
	baz=327						
VTS	**Vitosha**	**76.95**	**331**⇑	*iP*		**P**	**11 07 52.4 -0.3**
VTS	**Vitosha**	**76.95**	**331**	*eP*		**P**	**11 07 52.4 -0.3**
VTS				pmax		pmax	
	comp=Z,8.0nm,0.6s						
VTS	**Vitosha**	**76.95**	**331**	*eP*		**P**	**11 07 52.4 -0.3**
	comp=Z,8.0nm,0.6s						
NVLJ	**Novalja**	**77.22**	**337**	P		**P**	**11 07 52.3 -1.6**
ALN	**Alexandroupoli**	**77.67**	**328**	*eP*		**P**	**11 07 56.5 0.0**
ALN				pmax		pmax	
	comp=Z,6.0nm,1.1s						
ALN	**Alexandroupoli**	**77.67**	**328**	*eP*		**P**	**11 07 56.5 0.0**
	comp=Z,6.3nm,1.1s						
455A	**Stateville**	**77.78**	**53**	P		**P**	**11 07 57.4 +0.1**
	baz=328						
STON	**Ston**	**78.16**	**335**	P		**P**	**11 07 56.7 -2.5**
PDG	**Podgorica**	**78.17**	**333**⇑	*iP*		**P**	**11 07 59.0 -0.3**
TTG	**Podgorica**	**78.17**	**333**	*eP*		**P**	**11 07 59.5 +0.2**
TTG				pmax		pmax	
	comp=Z,17nm,0.7s						
TTG	**Podgorica**	**78.17**	**333**	*eP*		**P**	**11 07 59.5 +0.2**
	comp=Z,17nm,0.7s						
WR1	**Warramunga Arr**	**78.42**	**207**	*eP*		**P**	**11 07 59.7 -1.1**
	comp=Z,31nm,1.6s						
WRA	**Warramunga Arr**	**78.42**	**207**	P		**P**	**11 07 59.7 -1.1**
	comp=Z,2.0nm,0.7s,baz=21,slow=6.0,SNR=17						
WRA				LR		LR	11 45 20.9
	comp=Z,33nm,18.8s,baz=35,slow=38						
WRA	**Warramunga Arr**	**78.42**	**207**	*i P*		**P**	**11 08 00.4 -0.4**
WRA				pmax		pmax	
	comp=Z,2.0nm,0.7s						
VLC	**Villacollemand**	**78.56**	**340**	*eP*		**P**	**11 08 02.1 +0.6**
	comp=Z,17nm,0.8s						
WSAR	**Wadi Sarin**	**79.03**	**295**	P		**P**	**11 08 03.2 -1.2**
	comp=Z,11nm,1.0s,baz=198,slow=3.2,SNR=3.6						
WSAR				LR		LR	11 47 19.7
	comp=Z,166nm,18.1s,baz=80,slow=39						
FNA	**Florina**	**79.14**	**331**	*eP*		**P**	**11 08 04.8 +0.1**
FNA				pmax		pmax	
	comp=Z,6.0nm,0.8s						
FNA	**Florina**	**79.14**	**331**	*eP*		**P**	**11 08 04.8 +0.1**
	comp=Z,5.8nm,0.8s						
TAOE	**Nuku Hiva Isla**	**79.31**	**122**	*e*LR		LR	11 32 45.9
	comp=Z,132nm,30.7s						
PALK	**Pallekele**	**79.55**	**268**	P		**P**	**11 08 07.3 0.0**
	comp=Z,5.3nm,0.7s,baz=293,slow=3.6,SNR=6.5						
PALK				LR		LR	11 50 52.9
	comp=Z,59nm,18.1s,baz=121,slow=42						
PALK	**Pallekele**	**79.55**	**268**	*eP*		**P**	**11 08 07.3 0.0**
PALK				pmax		pmax	
	comp=Z,9.0nm,0.8s						
PALK	**Pallekele**	**79.55**	**268**	*eP*		**P**	**11 08 07.3 0.0**
	comp=Z,9.5nm,0.8s						
CSS	**Mathiatis**	**80.55**	**320**	*eP*		**P**	**11 08 12.5 +0.1**
	comp=Z,4.4nm,0.8s						
MMAI	**Mount Meron Ar**	**81.49**	**318**	P		**P**	**11 08 18.0 +0.5**
	comp=Z,8.7nm,0.7s,baz=27,slow=5.6,SNR=6.6						
MMAI				LR		LR	11 50 41.7
	comp=Z,129nm,18.3s,baz=40,slow=40						
ASF	**Jabal al Asfar**	**81.64**	**316**	P		**P**	**11 08 19.0 +0.7**
	comp=Z,9.9nm,0.8s,baz=343,slow=3.0,SNR=15						
ASF				LR		LR	11 50 41.6
	comp=Z,280nm,18.9s,baz=257,slow=40						
TIP	**Timpagrande**	**81.87**	**334**⇑	*iP*		**P**	**11 08 19.9 +0.5**
TIP	**Timpagrande**	**81.87**	**334**	*eP*		**P**	**11 08 19.9 +0.5**
	comp=Z,23nm,1.4s						
AS01	**Alice Springs**	**82.07**	**207**	*eP*		**P**	**11 08 20.3 -0.2**
AS31	**Alice Springs**	**82.09**	**207**	*eP*		**P**	**11 08 19.9 -0.6**
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**82.09**	**207**	P		**P**	**11 08 20.4 -0.1**
	comp=Z,1.6nm,0.6s,baz=16,slow=6.0,SNR=27						
RAR	**Rarotonga**	**82.29**	**145**	LR		LR	11 36 29.7
	comp=Z,82nm,22.0s,baz=298,slow=30						
PPT	**Papeete**	**82.74**	**135**	LR		LR	11 35 39.5
	comp=Z,91nm,21.6s,baz=350,slow=29						
PPT2	**Papeete2**	**82.76**	**135**	*e*LR		LR	11 34 19.7
	comp=Z,109nm,25.2s						
VAE	**Valguarnera**	**84.06**	**335**	LR		LR	11 51 40.4
	comp=Z,125nm,18.6s,baz=341,slow=40						
ES19	**SONSECA Array**	**85.07**	**350**	*eP*		**P**	**11 08 36.7 +0.8**
ESDC	**Sonseca Array**	**85.11**	**350**	P		**P**	**11 08 37.0 +0.9**
	comp=Z,10nm,0.7s,baz=2.3,slow=4.7,SNR=46						
ESLA	**Sonseca Array**	**85.11**	**350**	*eP*		**P**	**11 08 37.2 +1.1**
	comp=Z,21nm,1.0s						
KEST	**Kesra**	**86.88**	**339**	LR		LR	11 52 28.6
	comp=Z,104nm,19.6s,baz=280,slow=39						
JTS	**JuntasAbangare**	**94.03**	**66**	LR		LR	11 55 18.7
	comp=Z,32nm,18.3s,baz=16,slow=38						
ATD	**Arta Tunnel**	**96.92**	**301**	LR		LR	11 58 53.6
	comp=Z,359nm,18.5s,baz=39,slow=39						
TOA1	**Torodi Ar. Sit**	**110.34**	**340**	*e*PP		PP	11 15 02.6 -3.8
TORD	**Torodi Ar. Bea**	**110.35**	**340**	PP		PP	11 15 02.6 -3.8
	comp=Z,1.0nm,0.7s,baz=4.5,slow=6.0,SNR=5.8						
PLCA	**Paso Flores**	**142.43**	**90**	PKhKP		PKPpre	11 15 29.4
	comp=Z,1.7nm,0.8s,baz=323,slow=3.6,SNR=4.2						
QSPA	**South Pole Qui**	**144.66**	**180**	PKP		**PKPab**	**11 15 32.9 -1.2**
	comp=Z,11nm,0.7s,baz=180,slow=0.2,SNR=39						

IDC 20 11:01:38.1±3.7, 20°38S×168°81E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/44, mbtmp3.9/3, ML3.4/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/35, Error ellipse: s-maj=166.3km s-min=26.5km az=138.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.78**	**232**	Pn	Pn	11 02 23.4	-0.6
	6.8nm,0.3s,baz=112,slow=11,SNR=88						
DZM				Sn	Sn	11 02 58.2	-0.1
	8.8nm,0.3s,baz=65,slow=22,SNR=4.8						
AFI	**Afiamalu**	**19.63**	**74**	LR	LR	11 11 53.0	
	comp=Z,104nm,19.2s,baz=164,slow=31						
RPZ	**Rata Peaks**	**23.35**	**176**	LR	LR	11 13 38.4	
	comp=Z,63nm,19.1s,baz=324,slow=31						
STKA	**Stephens Creek**	**26.91**	**239**	LR	LR	11 17 36.7	
	comp=Z,98nm,18.4s,baz=30,slow=36						
ASAR	**Alice Springs**	**32.48**	**258**	P	P	11 08 10.6	0.0
	2.3nm,0.8s,baz=78,slow=9.0,SNR=19						
ASAR				LR	LR	11 20 40.3	
	comp=Z,119nm,18.6s,baz=96,slow=35						
FITZ	**Fitzroy Crossi**	**40.74**	**266**	LR	LR	11 25 36.4	
	comp=Z,105nm,19.5s,slow=35						
VNDA	**Vanda**	**57.29**	**182**	LR	LR	11 32 06.2	
	comp=Z,64nm,18.8s,baz=264,slow=32						
ILAR	**Eielson Array**	**91.43**	**17**	P	P	11 14 44.5	-1.3
	0.4nm,0.9s,baz=202,slow=6.8,SNR=3.2						
GERES	**GERESS Array B**	**145.29**	**331**	PKPbc	PKPdf	11 21 18.9	+0.9
	0.5nm,0.3s,baz=58,slow=8.0,SNR=3.9						

JMA 20 11:19:26.1±0.2, 40°88N×145°23E, h67km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.93**	**307**	P	Pn	11 19 57.8	+1.1
JEM				S	Sn	11 20 19.3	-0.6
JAK	**Akkeshi**	**2.15**	**350**	P	Pn	11 20 00.3	+0.6
JAK				*e*S	Sn	11 20 25.3	0.0
JCH	**Churui**	**2.23**	**322**	P	Pn	11 20 01.5	+0.8
JCH				S	Sn	11 20 26.2	-1.0
JOB	**Onbets**	**2.27**	**333**	P	Pn	11 20 03.2	+1.8
JOB				*e*S	Sn	11 20 28.9	+0.6
JNBK	**Urakawa-nobuka**	**2.33**	**308**	P	Pn	11 20 03.7	+1.6
JNBK				*e*S	Sn	11 20 30.0	+0.4
NEM2	**Nemuro 2**	**2.51**	**9**	P	Pn	11 20 05.9	+1.3
NEM2				*e*S	Sn	11 20 34.1	0.0
JAR	**Ashorobuto**	**2.65**	**336**	P	Pn	11 20 07.1	+0.7
JAR				S	Sn	11 20 37.9	+0.5
JNK	**Nakash**	**2.73**	**352**	S	Sn	11 20 37.7	-1.7
JBT2	**Biratori 2**	**2.86**	**312**	P	Pn	11 20 10.9	+1.6
JBT2				S	Sn	11 20 44.2	+1.6
JANG	**Nango**	**2.87**	**261**	P	Pn	11 20 09.2	-0.3
JANG				S	Sn	11 20 39.9	-3.0
JRA	**Rausu**	**3.06**	**359**	S	Sn	11 20 47.0	-0.4
JOT	**Ohata**	**3.20**	**280**	P	Pn	11 20 14.5	+0.6
JOT				*e*S	Sn	11 20 48.3	-2.5
JTKR	**Abashiri--Toko**	**3.24**	**343**	P	Pn	11 20 16.6	+2.1
JTKR				*e*S	Sn	11 20 52.2	+0.4
JOM	**Ohasama**	**3.33**	**246**	P	Pn	11 20 16.3	+0.6
JEW	**Eniwo**	**3.44**	**306**	P	Pn	11 20 19.5	+2.3
JEW				S	Sn	11 20 57.2	+0.5
JMK	**Ichinoseki**	**3.64**	**239**	P	Pn	11 20 20.5	+0.6
JMK				*e*S	Sn	11 20 58.7	-2.9

DJA 20 11:21:01.6±0.5, 2°N×5°×12°2E±°, h56km±13km, M3.5/6, mb3.6/1, MLv3.5/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.37**	**201**	P	Pn	11 21 24.7	+0.2
MRSI				S	Sn	11 21 43.1	+1.4
KMSI	**Cibinong**	**1.95**	**127**	P	Pn	11 21 32.4	0.0
APSI	**Ampana**	**2.77**	**196**	P	Pn	11 21 43.2	-0.4
LUWI	**Luwuk**	**2.81**	**173**	P	Pn	11 21 44.2	0.0
MPSI	**Mapaga**	**2.90**	**241**	P	Pn	11 21 45.3	-0.1
SGSI	**Sangihe**	**3.63**	**58**	P	Pn	11 21 55.6	+0.2

JMA 20 12:05:43.3±0.4, 40°90N×145°22E, h68km±5km, M2.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**2.21**	**322**	P	Pn	12 06 18.7	+1.1
JCH				*e*S	Sn	12 06 43.4	-0.5
JOB	**Onbets**	**2.25**	**333**	*e*S	Sn	12 06 45.8	+0.8
JNBK	**Urakawa-nobuka**	**2.31**	**307**	P	Pn	12 06 21.0	+2.0
JNBK				*e*S	Sn	12 06 47.6	+1.2
NEM2	**Nemuro 2**	**2.49**	**9**	P	Pn	12 06 22.5	+1.0
NEM2				*e*S	Sn	12 06 50.8	-0.1
JAR	**Ashorobuto**	**2.63**	**336**	P	Pn	12 06 24.0	+0.6
JAR				*e*S	Sn	12 06 53.1	-1.0
JNK	**Nakash**	**2.71**	**352**	*e*S	Sn	12 06 54.5	-1.6
JBT2	**Biratori 2**	**2.84**	**312**	*e*S	Sn	12 07 00.7	+1.3
JANG	**Nango**	**2.87**	**261**	P	Pn	12 06 26.6	-0.1
JANG				*e*S	Sn	12 06 58.1	-1.9
JFR	**Furan**	**2.99**	**320**	*e*S	Sn	12 07 02.7	-0.3
JTM	**Tenmabayashi**	**3.15**	**269**	P	Pn	12 06 31.6	+1.1
JTM				*e*S	Sn	12 07 05.0	-1.9
JOT	**Ohata**	**3.19**	**280**	*e*S	Sn	12 07 06.1	-1.7
JTKR	**Abashiri--Toko**	**3.22**	**343**	*e*S	Sn	12 07 09.4	+0.9
JOM	**Ohasama**	**3.33**	**246**	P	Pn	12 06 33.7	+0.8
JOM				*e*S	Sn	12 07 09.1	-2.2
JMK	**Ichinoseki**	**3.64**	**239**	P	Pn	12 06 37.8	+0.6
JMK				*e*S	Sn	12 07 16.2	-2.7

JMA 20 12:07:22.3, 36°34N×137°98E, h10km±1km, M0.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.12**	**55**	P	Pg	12 07 25.2	0.0
JNG				S	Sg	12 07 27.2	-0.1
MAT	**Matsushiro**	**0.27**	**42**	P	Pg	12 07 27.7	-0.2
MAT				S	Sg	12 07 31.5	-0.1
MAT	**Matsushiro**	**0.27**	**42**	P	Pg	12 07 27.7	-0.2
MAT				S	Sg	12 07 31.5	-0.1

*ISCJB **20** 12:09:06.3±0.8, 51°54N±0°04×15°98E±0°04, h0km, Error ellipse: s-maj=5.5km s-min=3.0km az=21.7*
*PRU **20** 12:09:07.9, 51°58N×15°98E, h0km*
*CSEM **20** 12:09:08.0±0.4, 51°56N×15°93E, h2km, ML3.0/10, Error ellipse: s-maj=6.0km s-min=3.8km az=22.0, Suspected Mining induced.*
*VIE **20** 12:09:10.1±0.8, 51°37N×16°00E, h0km, mb2.2/3, ML2.5/5, Error ellipse: s-maj=7.2km s-min=5.3km az=42.0, Suspected Mining induced.*

ISC 20 12:09:08.2±1.3, 51°55N±0°06×15°95E±0°03, h0km, n30, σ0s75/50, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**163**	*e*Pg	**Pg**	**12 09 22.3**	**-0.1**
KSP				*e*		12 09 24.2	
KSP				*i* Sg	**Sg**	**12 09 32.6**	**+0.6**
UPC	**Upice**	**1.05**	**178**	*e*PG	**Pg**	**12 09 27.9**	**-0.3**
UPC				*e*SG	**Sg**	**12 09 42.6**	**+0.8**
	comp=Z,33nm,0.3s						
UPC	**Upice**	**1.05**	**178**	Pg	**Pg**	**12 09 27.9**	**-0.3**
UPC				Sg	**Sg**	**12 09 42.6**	**+0.8**
	33nm,0.3s						
DPC	**Dobruska-Polom**	**1.23**	**169**	*e*PG	**Pg**	**12 09 31.2**	**-0.5**
DPC				*e*SG	**Sg**	**12 09 47.1**	**-0.5**
	comp=Z,20nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**169**	Pg	**Pg**	**12 09 31.2**	**-0.5**
DPC				Sg	**Sg**	**12 09 47.1**	**-0.5**
	20nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**221**	*e*PG	**Pg**	**12 09 34.0**	**+0.1**
PVCC				*e*SG	**Sb**	**12 09 52.5**	**+0.5**
	comp=Z,66nm,0.2s						
BRG	**Berggiesshubel**	**1.43**	**242**	PG	**Pb**	**12 09 35.8**	**0.0**
BRG				SG	**Sn**	**12 09 55.4**	**+0.5**
	41nm,0.5s						
KRLC	**Kraliky**	**1.57**	**160**	*e*PG	**Pn**	**12 09 37.0**	**-0.4**
KRLC				*e*SG	**Sg**	**12 09 58.6**	**0.0**
	comp=Z,7.4nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.80**	**205**	*e*PG	**Pb**	**12 09 41.2**	**-0.8**
GOPC				*e*SG	**Sg**	**12 10 06.2**	**+0.3**
	comp=Z,7.7nm,0.2s						
PRU	**Pruhonice**	**1.80**	**210**	*e*PG	**Pb**	**12 09 41.6**	**-0.5**
PRU				*e*SG	**Sb**	**12 10 05.6**	**+0.4**
	comp=Z,18nm,0.4s						
CLL	**Collm**	**1.86**	**264**	*i* Pn	**Pn**	**12 09 39.9**	**-1.4**
CLL				*e*Pg	**Pb**	**12 09 43.0**	**0.0**
CLL				*i*		12 09 47.0	
CLL				*i* Sg	**Sg**	**12 10 08.1**	**+0.2**
	comp=Z,12nm,0.8s						
OKC	**Ostrava-Krasne**	**2.21**	**140**	*e*PG	**Pg**	**12 09 49.6**	**-1.0**
OKC				*e*SG	**Sg**	**12 10 17.9**	**-1.4**
VRAC	**Vranov**	**2.29**	**169**	*e*Sg	**Sg**	**12 10 21.8**	**+0.3**
KRUC	**Moravsky**	**2.51**	**173**	*e*Sg	**Sg**	**12 10 28.7**	**-0.1**
NKC	**Novy Kostel**	**2.58**	**241**	*e*PN	**Pn**	**12 09 51.1**	**-0.1**
NKC				*e*PG	**Pb**	**12 09 56.1**	**+0.8**
NKC				*e*SG	**Sg**	**12 10 32.0**	**+1.0**
	comp=Z,15nm,0.4s						
NKC	**Novy Kostel**	**2.58**	**241**	Pn	**Pn**	**12 09 51.1**	**-0.1**
KHC	**Kasperske Hory**	**2.86**	**213**	*e*PG	**Pb**	**12 10 00.4**	**+0.3**
KHC				*e*SG	**Sg**	**12 10 39.8**	**-0.2**
	comp=Z,5.0nm,0.3s						
JAVC	**Velka Javorina**	**2.92**	**157**	*e*Pn	**Pn**	**12 09 55.8**	**0.0**
LANS	**Liptovska Anna**	**3.30**	**135**	*e*Sg	**Sg**	**12 10 53.6**	**-0.4**
LANS	**Liptovska Anna**	**3.30**	**135**	*e*SG	**Sg**	**12 10 53.6**	**-0.4**
**MOD

	1.4nm,0.7s								
SFK				⇓Lg		Lg		12 12 11.1	
	3.8nm,0.4s								
SFK	**Sufi-Kurgan**	**2.27**	**120**	⇑*i*P		**Pg**	**12 11 40.4**	**+0.2**	
	baz=24								
SFK				⇑*i*S		**Sg**	**12 12 09.5**	**-0.2**	
	baz=24								
AML	**Almayashu**	**2.28**	**64**	⇑*i*P		**Pb**	**12 11 38.6**	**+0.9**	
	baz=65								
AML				⇑*i*S		**Sb**	**12 12 07.0**	**+1.2**	
	baz=65								
MRKS	**Merke**	**2.32**	**47**	*e*P		**Pg**	**12 11 40.7**	**-0.4**	
	3.6nm,0.3s								
MRKS				*e*S		**Sg**	**12 12 11.2**	**0.0**	
	8.8nm,0.3s								
EKS2	**Erkin-Say**	**2.59**	**54**	⇑*e*P		**Pb**	**12 11 43.1**	**+0.2**	
	baz=54								
EKS2				⇑*i*S		**Sb**	**12 12 14.2**	**-0.4**	
	baz=54								
UCH	**Uchtor**	**2.88**	**67**	⇑*e*P		**Pb**	**12 11 47.7**	**-0.3**	
	baz=68								
UCH				⇑*e*S		**Sb**	**12 12 21.3**	**-1.9**	
	baz=68								
AAK	**Ala-Archa**	**3.03**	**60**	Pg		**Pb**	**12 11 50.8**	**+0.4**	
	2.0nm,0.4s								
AAK				Lg		Lg	12 12 32.2		
	1.6nm,0.5s								
AAK	**Ala-Archa**	**3.03**	**60**	⇑*i*P		**Pb**	**12 11 49.9**	**-0.5**	
	baz=60								
AAK				⇑*i*S		**Sb**	**12 12 24.8**	**-2.5**	
	baz=60								
KZA	**Kyzart**	**3.36**	**73**	⇓*e*P		**Pb**	**12 11 54.2**	**-1.9**	
	baz=74								
KZA				⇓*e*S		**Sb**	**12 12 33.3**	**-3.6**	
	baz=74								
TKM2	**Tokmak 2**	**3.88**	**62**	⇑Pg		**Pb**	**12 12 06.9**	**+1.9**	
	0.8nm,0.4s								
TKM2				⇑Lg		Lg	12 12 59.7		
	1.1nm,0.5s								

*IDC **20** 12:34:05.4±0.5,9.°30S×120.°54E,h0km,mb4.4/18, mb1 4.4/20,mb1mx4.2/62,mbtmp4.4/20,ML4.1/2,MS3.1/4, Ms1 3.1/4,ms1mx2.7/52,Error ellipse: s-maj=28.1km s-min=12.1km az=74.0*

*NEIC **20** 12:34:07.5±2.8,9.°39S×120.°53E,h15km±18km,mb4.8/14, Error ellipse: s-maj=8.7km s-min=5.9km az=59.0*

NEIC Felt at Waingapu.

*ISCJB **20** 12:34:08.5±0.2,9.°48S±0.°03×120.°50E±0.°02,h33km, mb4.6/33,Error ellipse: s-maj=4.2km s-min=3.2km az=6.7*

*BJI **20** 12:34:09.8,9.°40S×120.°50E,h35km,mb4.7/22,mB5.0/13, Ms4.6/4,Ms7 4.3/1*

*DJA **20** 12:34:10.3±0.3,10.°S±3.°×12.°1E±.°,h29km±4km,M4.8/3, MLv4.8/3*

ISC 20 12:34:09.7±1.2,9.°52S±0.°03×120.°55E±0.°03,h28km±8km, n96,σ1§94/107,mb4.7/33,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WSI	**Waingapu**	**0.29**	**239**	P		**Pn**	**12 34 18.1**	**+0.1**
WSI				S		**Sn**	**12 34 24.2**	**+0.8**
BASI	**Baing, Sumba**	**0.70**	**177**	P		**Pb**	**12 34 23.3**	**0.0**
BASI				S		**Sn**	**12 34 33.2**	**-0.3**
WBSI	**Waikabubak, Su**	**1.14**	**264**	P		**Pn**	**12 34 29.7**	**-0.2**
WBSI				S		**Sb**	**12 34 45.3**	**-0.1**
EDFI	**Ende, Flores**	**1.36**	**56**	P		**Pn**	**12 34 32.7**	**-0.3**
EDFI				S		**Sb**	**12 34 51.4**	**-0.4**
MMRI	**Maumere**	**1.89**	**62**	P		**Pn**	**12 34 40.4**	**+0.3**
MMRI				S		**Sn**	**12 35 01.9**	**-1.1**
MMRI	**Maumere**	**1.89**	**62**	*e*Pn		**Pn**	**12 34 40.3**	**+0.3**
MMRI				*e*Sn		**Sn**	**12 35 02.7**	**-0.3**
PLAI	**Plampang**	**2.82**	**284**	P		**Pn**	**12 34 53.5**	**+0.6**
PLAI				S		**Sn**	**12 35 25.6**	**-0.3**
BATI	**Baumata**	**3.15**	**103**	Pn		**Pn**	**12 35 00.1**	**+2.7**
	42nm,0.3s,baz=324,slow=2.3,SNR=63							
BATI				Sn		**Sn**	**12 35 37.7**	**+3.6**
	46nm,0.3s,baz=328,slow=19,SNR=6.3							
BATI	**Baumata**	**3.15**	**103**	P		**Pn**	**12 35 00.2**	**+2.8**
BATI				S		**Sn**	**12 35 34.4**	**+0.3**
SOEI	**Soe**	**3.68**	**94**	P		**Pn**	**12 35 07.9**	**+3.1**
SOEI				S		**Sn**	**12 35 47.5**	**+0.2**
SOEI	**Soe**	**3.68**	**94**	*e*Pn		**Pn**	**12 35 07.7**	**+2.9**
KAPI	**Kappang**	**4.54**	**350**	*e*Sn		**Sn**	**12 36 04.2**	**-4.4**
BNSI	**Bone**	**5.10**	**355**	P		**Pn**	**12 35 28.1**	**+3.8**
IGBI	**Denpasar**	**5.38**	**277**	P		**Pn**	**12 35 29.7**	**+1.6**
JAGI	**Jajag, Banyuwa**	**6.40**	**279**	*e*Pn		**Pn**	**12 35 43.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**9.86**	**150**	Pn		**Pn**	**12 36 29.6**	**0.0**
	1.0nm,0.3s,baz=342,slow=9.4,SNR=17							
FITZ				Sn		**Sn**	**12 38 12.8**	**-6.6**
	2.5nm,0.3s,baz=184,slow=19,SNR=5.1							
FITZ				LR		LR	12 40 37.2	
	comp=Z,59nm,21.0s,baz=326,slow=39							
FITZ	**Fitzroy Crossi**	**9.86**	**150**	*e*Pn		**Pn**	**12 36 29.1**	**-0.5**
MTN	**Manton Dam**	**10.90**	**109**	*e*Pn		**Pn**	**12 36 41.8**	**-2.1**
MBWA	**Marble Bar**	**11.60**	**184**	*e*Pn		**Pn**	**12 36 53.4**	**-0.1**
MBWA				*e*Sn		**Sn**	**12 39 02.7**	**+0.6**
FAKI	**Fak Fak**	**13.35**	**61**	*e*Pn		**Pn**	**12 37 20.5**	**+3.1**
XMIS	**Christmas Isla**	**14.70**	**265**	*e*Pn		Pn	12 37 30.7	-5.2
XMIS				*e*Sn		**Sn**	**12 40 15.8**	**-2.1**
MYLDM	**Lahad Datu**	**14.74**	**352**	*e*Pn		**Pn**	**12 37 33.5**	**-3.0**
WRA	**Warramunga Arr**	**16.88**	**129**	Pn		**Pn**	**12 38 01.4**	**-2.7**
	0.5nm,0.3s,baz=279,slow=13,SNR=27							
WRA				Sn		Sn	12 40 56.4	-14
	0.8nm,0.3s,baz=301,slow=22,SNR=6.1							
WRA				LR		LR	12 46 06.1	
	comp=Z,103nm,19.3s,baz=355,slow=42							
WR1	**Warramunga Arr**	**16.88**	**129**	*e*Pn		**Pn**	**12 38 01.4**	**-2.7**
	13nm,0.9s							
WRAB	**Tennant Creek**	**16.88**	**129**	*e*Pn		**Pn**	**12 38 02.0**	**-2.1**
	13nm,0.7s							
AS31	**Alice Springs**	**19.00**	**139**	*e*P		**Pn**	**12 38 30.8**	**+0.6**
	3.3nm,0.5s							
ASAR	**Alice Springs**	**19.00**	**139**	P		**Pn**	**12 38 30.8**	**+0.6**
	0.8nm,0.3s,baz=330,slow=14,SNR=34							
ASAR				S		**Sn**	**12 41 52.8**	**-9.4**
	0.2nm,0.3s,baz=312,slow=24,SNR=4.7							
AS01	**Alice Springs**	**19.03**	**139**	*e*P		**Pn**	**12 38 31.3**	**+0.8**
COEN	**Coen**	**22.59**	**103**	*e*P		**P**	**12 39 08.6**	**+0.4**
	55nm,1.4s							
NWAO	**Narrogin (SRO)**	**23.50**	**187**	P		**P**	**12 39 17.2**	**-0.1**
	6.2nm,0.6s,baz=251,slow=10,SNR=7.1							
NWAO				LR		LR	12 48 23.5	
	comp=Z,84nm,18.1s,baz=243,slow=36							
NWAO	**Narrogin (SRO)**	**23.50**	**187**	*e*P		**P**	**12 39 17.2**	**-0.1**
	230nm,2.0s							
PSI	**Prapat**	**24.78**	**299**	*e*P		**P**	**12 39 27.4**	**-2.1**
	13nm,1.1s							
GSI	**Gunungsitoli**	**25.28**	**294**	*e*P		**P**	**12 39 31.3**	**-2.6**
	50nm,1.9s							
PMG	**Port Moresby**	**26.25**	**92**	LR		LR	12 52 17.6	
	comp=Z,30nm,18.1s,baz=248,slow=42							
PMG	**Port Moresby**	**26.25**	**92**	*e*P		**P**	**12 39 41.7**	**-1.0**
	16nm,0.9s							
CTAO	**Charters Tower**	**26.94**	**116**	*e*P		**P**	**12 39 49.8**	**+0.8**
	156nm,1.8s							
BBOO	**Buckleboo**	**27.25**	**151**	*e*P		**P**	**12 39 52.1**	**+0.5**
	45nm,1.3s							
LHMI	**Lhok Sumawe**	**27.71**	**301**	*e*P		**P**	**12 39 54.5**	**-1.3**
	164nm,1.0s							
STKA	**Stephens Creek**	**29.59**	**142**	P		**P**	**12 40 13.6**	**+1.1**
	2.2nm,0.5s,baz=315,slow=9.0,SNR=7.5							
STKA	**Stephens Creek**	**29.59**	**142**	*e*P		**P**	**12 40 13.4**	**+1.0**
	10nm,2.0s							
CM01	**Chiang Mai Arr**	**34.99**	**322**	*e*P		**P**	**12 41 00.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**35.03**	**322**	P		**P**	**12 40 59.8**	**-0.5**
	1.2nm,0.6s,baz=150,slow=7.3,SNR=6.8							
CMAR				PcP		**PcP**	**12 43 30.6**	**-1.5**
	0.4nm,0.4s,baz=164,slow=4.0,SNR=4.7							
NJ2	**Nanjing**	**41.37**	**358**	*e*P		**P**	**12 41 54.4**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
CD2	**Chengdu**	**43.31**	**339**	*e*P		**P**	**12 42 10.0**	**+0.7**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
XAN	**Xi'an**	**44.70**	**346**	P		**P**	**12 42 20.0**	**-0.4**
XAN				pP		pP	12 42 29.4	+0.4
XAN				pmax		pmax		
	comp=Z,8.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,120nm,4.9s							
H08S2	**Diego Garcia H**	**47.52**	**268**	T		T	13 33 12.0	
	baz=96,slow=76,SNR=8.6							
H08S3	**Diego Garcia H**	**47.53**	**268**	T		T	13 33 13.1	
	baz=96,slow=76,SNR=8.8							
H08S1	**Diego Garcia H**	**47.54**	**268**	T		T	13 33 14.5	
	baz=96,slow=76,SNR=6.6							
LZH	**Lanzhou**	**48.01**	**342**	*e*P		P	12 42 51.5	+4.9
LZH				pmax		pmax		
	comp=Z,22nm,1.2s							
LZH				pmax		pmax		
	comp=Z,71nm,6.0s							
LZH				LR		LR		
	comp=N,250nm,14.0s							
LZH				LR		LR		
	comp=E,280nm,14.3s							
LZH				LR		LR		
	comp=Z,330nm,18.0s							
BJI	**Beijing**	**49.47**	**356**	P		**P**	**12 42 59.5**	**+2.1**
BJI				pmax		pmax		
	comp=Z,8.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**50.80**	**351**	*e*P		**P**	**12 43 10.8**	**+3.1**
HHC				pP		sP	12 43 20.8	+1.1
HHC				sP		pP	12 43 24.6	+8.3
HHC				PP		**PP**	**12 45 07.9**	**+3.7**
HHC				S		**S**	**12 50 23.6**	**+1.8**
HHC				sS		sS	12 50 40.3	+4.2
HHC				SS		**SS**	**12 53 56.3**	**-0.7**
HHC				pmax		pmax		
	comp=Z,13nm,1.1s							
HHC				pmax		pmax		
	comp=Z,61nm,5.4s							
HHC				LR		LR		
	comp=N,130nm,13.5s							
HHC				LR		LR		
	comp=E,150nm,14.1s							
GTA	**Gaotai**	**52.35**	**340**	*e*P		**P**	**12 43 19.3**	**0.0**
GTA				pP		pP	12 43 26.4	-1.6
GTA				sP		sP	12 43 30.3	-1.1
GTA	**Gaotai**	**52.35**	**340**	*e*P		**P**	**12 43 19.4**	**+0.1**
GTA				pP		pP	12 43 26.4	-1.6
GTA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
SONA0	**Songino Array**	**58.47**	**349**	*e*P		**P**	**12 44 02.6**	**-0.6**
SONM	**Songino Array**	**58.47**	**349**	P		**P**	**12 44 02.6**	**-0.6**
	1.0nm,0.6s,baz=172,slow=8.7,SNR=4.2							
SONA1	**Songino Array**	**58.48**	**349**	*e*P		**P**	**12 44 02.0**	**-1.3**
WMQ	**Urumqi**	**60.89**	**333**	P		**P**	**12 44 19.4**	**-0.5**
WMQ				pP		pP	12 44 30.0	+1.3
WMQ				pmax		pmax		
	comp=Z,12nm,1.1s							
MK01	**Makanchi Array**	**65.60**	**332**	*e*P		**P**	**12 44 49.4**	**-1.6**
MK31	**Makanchi Array**	**65.62**	**332**	*e*P		**P**	**12 44 50.7**	**-0.4**
MK32	**Makanchi Array**	**65.62**	**332**	*e*P		**P**	**12 44 49.7**	**-1.4**
MKAR	**Makanchi Array**	**65.62**	**332**	P		**P**	**12 44 49.7**	**-1.4**
	2.6nm,0.6s,baz=139,slow=7.6,SNR=40							
MKAR	**Makanchi Array**	**65.62**	**332**	*e*P		**P**	**12 44 50.7**	**-0.4**
	24nm,0.8s							
AAK	**Ala-Archa**	**66.78**	**325**	P		**P**	**12 44 58.2**	**-0.6**
	1.0nm,0.4s,baz=97,slow=4.6,SNR=5.2							
PETK	**Petropavlovsk-**	**69.95**	**23**	P		**P**	**12 45 16.4**	**-1.8**
	4.0nm,0.9s,baz=222,slow=3.5,SNR=4.5							
PEA1	**Petropavlovsk-**	**69.95**	**23**	*e*P		**P**	**12 45 16.4**	**-1.8**
ZALV	**Zalesovo Beam**	**70.07**	**338**	P		**P**	**12 45 16.6**	**-2.4**
	5.4nm,0.5s,baz=174,slow=3.7,SNR=7.5							
ZAA1	**Zalesovo Array**	**70.08**	**338**	*e*P		**P**	**12 45 16.6**	**-2.4**
KURBB	**Kurchatov Arra**	**70.11**	**333**	P		**P**	**12 45 17.7**	**-1.6**
	1.4nm,0.6s,baz=139,slow=5.7,SNR=13							
KURK	**Kurchatov**	**70.14**	**333**	*e*P		**P**	**12 45 18.9**	**-0.6**
KURK	**Kurchatov**	**70.14**	**333**	*e*Pn		**P**	**12 45 18.8**	**-0.6**
VNDA	**Vanda**	**71.24**	**171**	P		**P**	**12 45 27.2**	**+1.4**
	0.9nm,0.5s,baz=308,slow=7.4,SNR=7.1							
VNDA	**Vanda**	**71.24**	**171**	*e*P		**P**	**12 45 28.1**	**+2.2**
YAK	**Yakutsk**	**71.68**	**5**	P		**P**	**12 45 26.8**	**-1.8**
	5.8nm,0.5s,baz=20,slow=2.1,SNR=4.0							
YAK	**Yakutsk**	**71.68**	**5**	*e*P		**P**	**12 45 26.8**	**-1.8**
	9.6nm,0.6s							
MA2	**Magadan**	**73.00**	**16**	P		**P**	**12 45 35.8**	**-0.8**
	5.6nm,0.8s,baz=167,slow=15,SNR=4.6							
SEY	**Seymchan**	**76.28**	**14**	P		**P**	**12 45 54.8**	**-0.7**
	3.4nm,0.4s,baz=230,slow=5.6,SNR=39							
QSPA	**South Pole Qui**	**80.48**	**180**	P		**P**	**12 46 19.9**	**+1.0**
	3.6nm,0.7s,baz=262,slow=2.1,SNR=21							
AKTO	**Aktyubinsk**	**80.52**	**325**	P		**P**	**12 46 18.7**	**-0.5**
	1.4nm,0.6s,baz=81,slow=16,SNR=6.5							
KBZ	**Khabaz**	**87.72**	**315**	P		**P**	**12 46 55.7**	**-0.3**
	2.2nm,0.9s,baz=128,slow=5.6,SNR=6.3							
BOSA	**Boshof**	**90.09**	**241**	P		**P**	**12 47 08.5**	**+0.8**
	1.4nm,0.7s,baz=129,slow=9.1,SNR=3.1							
SNAA	**Sanae**	**90.91**	**195**	P		**P**	**12 47 12.3**	**+1.7**
	2.4nm,0.7s,baz=162,slow=9.6,SNR=6.6							
SNAA	**Sanae**	**90.91**	**195**	*e*P		**P**	**12 47 11.8**	**+1.2**
	32nm,2.0s							
YKA	**Yellowknife Ar**	**114.03**	**25**	PKiKP		PKPdf	12 52 44.8	-1.0
	0.2nm,0.5s,baz=309,slow=1.8,SNR=7.0							
YKB5	**Yellowknife Ar**	**114.03**	**25**	*e*PKiKP		PKPdf	12 52 44.7	-1.1
TOA0	**Torodi Ar. Sit**	**120.05**	**280**	*e*PKPdf		**PKPdf**	**12 52 58.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**120.05**	**280**	PKP		**PKPdf**	**12 52 58.7**	**0.0**
	1.3nm,0.7s,baz=41,slow=1.5,SNR=8.4							
TOA1	**Torodi Ar. Sit**	**120.06**	**280**	*e*PKPdf		**PKPdf**	**12 52 58.7**	**-0.1**
NV01	**Mina Array Sit**	**120.16**	**51**	*e*PKPdf		**PKPdf**	**12 52 58.5**	**-0.2**
NVAR	**Mina Array Bea**	**120.16**	**51**	PKP		**PKPdf**	**12 52 58.7**	**0.0**
	0.1nm,0.3s,baz=297,slow=4.0,SNR=2.5							
CCCA	**Chr Cany lake**	**121.50**	**54**	*e*PKPdf		**PKPdf**	**12 53 00.9**	**-0.2**
DBIC	**Dimbokro**	**125.91**	**271**	PKP		**PKPdf**	**12 53 11.4**	**+1.4**
	0.8nm,0.4s,baz=180,slow=3.0,SNR=2.9							
DBIC	**Dimbokro**	**125.91**	**271**	*e*PKPdf		**PKPdf**	**12 53 11.3**	**+1.2**
TKL	**Tuckaleechee C**	**145.83**	**37**	PKPbc		**PKPbc**	**12 53 47.0**	**+0.2**
	3.0nm,0.5s,baz=130,slow=5.4,SNR=5.8							
TKL	**Tuckaleechee C**	**145.83**	**37**	*e*PKPdf		**PKPbc**	**12 53 46.8**	**0.0**
LPAZ	**La Paz**	**152.96**	**161**	PKPbc		**PKPbc**	**12 54 08.0**	**+1.8**
	1.0nm,0.6s,baz=185,slow=5.8,SNR=2.8							
LPAZ				PKPab		**PKPab**	**12 54 19.5**	**+2.3**
	2.5nm,0.6s,baz=214,slow=3.4,SNR=9.8							
SIV	**San Ignacio**	**154.60**	**176**	PKPab		**PKPab**	**12 54 25.5**	**+2.1**
	1.7nm,0.8s,baz=238,slow=9.5,SNR=5.1							

*BJI **20** 12:37:32.3,33.°33N×90.°64E,h11km,mb4.2/5,Ms3.6/2*

*ISCJB **20** 12:37:33.8±0.6,33.°39N±0.°05×91.°04E±0.°09,h10km, mb3.4/3,MS3.2/5,Error ellipse: s-maj=11.0km s-min=6.7km az=10.9*

*IDC **20** 12:37:34.6±2.4,33.°34N×91.°08E,h0km,mb3.5/3, mb1 3.5/7,mb1mx3.3/79,mbtmp3.5/7,ML3.2/4,MS3.1/7, Ms1 3.2/7,ms1mx2.8/59,Error ellipse: s-maj=85.7km s-min=34.0km az=63.0*

ISC 20 12:37:35.2±0.8,33.°34N±0.°06×91.°1E±0.°1,h10km,n24, σ1§49/21,mb3.6/3,MS3.2/5,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**3.62**	**179**	Pg		**Pb**	**12 38 37.8**	**-1.9**
LSA				Sg		**Sg**	**12 39 31.4**	**-0.3**
GUN	**Gumba**	**7.00**	**221**	*e*P		**Pn**	**12 39 19.6**	**+1.4**
	26nm,0.7s							
JIRN	**Jiri**	**7.04**	**218**	*e*P		**Pn**	**12 39 20.9**	**+2.2**
	12nm,0.3s							
ODAN	**Odare**	**7.19**	**207**	*e*P		**Pn**	**12 39 22.1**	**+1.5**
	13nm,0.6s							
KKN	**Kakani**	**7.43**	**223**	*e*P		**Pn**	**12 39 25.7**	**+1.7**
	16nm,0.5s							
RAMN	**Ramite**	**7.44**	**212**	*e*P		**Pn**	**12 39 25.5**	**+1.5**
PKI	**Pulchoki**	**7.53**	**222**	*e*P		**Pn**	**12 39 26.3**	**+0.9**
	24nm,0.5s							
PKIN	**Phulchoki**	**7.53**	**222**	*e*P		**Pn**	**12 39 27.4**	**+2.1**
	32nm,0.7s							
DMN	**Daman**	**7.67**	**223**	*e*P		**Pn**	**12 39 28.7**	**+1.4**
	20nm,0.6s							
KOLN	**Kendia**	**8.48**	**231**	*e*P		**Pn**	**12 39 39.6**	**+1.2**
	8.1nm,0.6s							
PYUN	**Piuthan**	**8.68**	**235**	*e*P		**Pn**	**12 39 41.2**	**+0.2**
WMQ	**Urumqi**	**10.79**	**347**	*e*P		**Pn**	**12 40 08.1**	**-1.7**
CD2	**Chengdu**	**11.04**	**99**	*e*P		**Pn**	**12 40 15.0**	**+1.7**
MKAR	**Makanchi Array**	**15.01**	**336**	Pn		**Pn**	**12 41 06.5**	**-0.8**
	0.1nm,0.3s,baz=145,slow=15,SNR=6.8							
AAK	**Ala-Archa**	**15.99**	**310**	Pn		**Pn**	**12 41 20.4**	**0.0**
	0.1nm,0.3s,baz=356,slow=19,SNR=2.1							
AAK				LR		LR	12 48 19.7	
	comp=Z,72nm,21.2s,baz=116,slow=40							
CMAR	**Chiang Mai Arr**	**16.42**	**153**	Pn		**P**	**12 41 26.8**	**-1.9**
	0.1nm,0.3s,baz=332,slow=12,SNR=8.2							
CMAR				LR		LR	12 47 56.3	
	comp=Z,18nm,20.3s,baz=320,slow=38							
KURBB	**Kurchatov Arra**	**19.57**	**336**	P		**Pn**	**12 42 03.5**	**-0.9**
	0.0nm,0.3s,baz=145,slow=12,SNR=7.8							
ZALV	**Zalesovo Beam**	**21.08**	**350**	P		**P**	**12 42 20.3**	**+0.8**
	0.9nm,0.3s,baz=156,slow=11,SNR=3.6							
BVAR	**Borovoye Array**	**24.62**	**329**	P		**P**	**12 42 56.9**	**+1.3**
	0.2nm,0.3s,baz=144,slow=5.4,SNR=2.6							
AKTO	**Aktyubinsk**	**29.62**	**315**	P		**P**	**12 43 41.0**	**+0.5**
	0.6nm,0.5s,baz=59,slow=8.1,SNR=3.6							
AKTO				LR		LR	12 57 43.7	
	comp=Z,32nm,18.2s,baz=102,slow=41							
JNU	**Nakatsue**	**33.18**	**79**	LR		LR	12 59 14.1	
	comp=Z,35nm,19.5s,baz=130,slow=39							
DAV	**Davao City (W)**	**41.29**	**122**	LR		LR	13 03 36.8	
	comp=Z,34nm,20.4s,baz=264,slow=38							
NOA	**NORSAR Array B**	**56.65**	**325**	LR		LR	13 13 34.3	
	comp=Z,27nm,19.6s,baz=80,slow=38							
GERES	**GERESS Array B**	**57.88**	**310**	LR		LR	13 18 29.8	
	comp=Z,32nm,18.1s,baz=58,slow=42							

*IDC **20** 12:40:47.2±1.6,36.°80N×140.°86E,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.4/75,mbtmp3.6/2,ML2.2/1,MS3.9/1, Ms1 3.9/1,ms1mx2.6/50,Error ellipse: s-maj=46.9km s-min=31.2km az=137.0*

*ISCJB **20** 12:40:49.8±1.2,36.°68N±0.°06×141.°17E±0.°10,h35km, mb3.7/2,MS3.9/1,Error ellipse: s-maj=10.9km s-min=8.9km az=177.3*

*JMA **20** 12:40:49.8±0.2,36.°78N×141.°32E,h40km±3km,M3.1*

ISC 20 12:40:52.1±1.4,36.°75N±0.°08×141.°0E±0.°1,h35km,n15, σ2§57/12,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.39**	**249**	*e*S		**Sn**	**12 41 11.3**	**+3.8**
ONAJ	**Iwakimizuishiy**	**0.39**	**333**	P		**Pn**	**12 41 00.7**	**-0.6**
ONAJ				*e*S		**Sn**	**12 41 08.5**	**+0.9**
JFK	**Kawauchi**	**0.62**	**349**	P		**Pn**	**12 41 03.0**	**-1.5**
JFK				S		**Sn**	**12 41 12.6**	**-0.7**
JFT	**Otama**	**0.94**	**325**	*e*S		**Sn**	**12 41 24.0**	**+3.0**
MJAR	**Matsushiro Arr**	**2.27**	**265**	Pn		**Pn**	**12 41 23.8**	**-3.3**
	0.8nm,0.3s,baz=91,slow=14,SNR=8.5							
MJAR				Sn		**Sn**	**12 41 57.2**	**+3.3**
	2.3nm,0.3s,baz=94,slow=15,SNR=5.4							
MAT	**Matsushiro**	**2.27**	**266**	P		**Pn**	**12 41 24.7**	**-2.4**
MAT				*e*S		**Sn**	**12 41 52.1**	**-1.8**
H11N2	**WAKE ISLAND Hy**	**28.28**	**120**	T		T	13 15 56.8	
	baz=313,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**28.29**	**120**	T		T	13 15 57.9	
	baz=313,slow=75,SNR=40							
H11N3	**WAKE ISLAND Hy**	**28.30**	**120**	T		T	13 15 56.3	
	baz=313,slow=75,SNR=9.9							
H11S1	**WAKE ISLAND Hy**	**28.98**	**122**	T		T	13 16 44.3	
	baz=312,slow=74,SNR=12							
H11S3	**WAKE ISLAND Hy**	**28.98**	**122**	T		T	13 16 46.6	
	baz=312,slow=74,SNR=15							
H11S2	**WAKE ISLAND Hy**	**28.99**	**122**	T		T	13 16 48.4	
	baz=312							
BATI	**Baumata**	**49.48**	**203**	LR		LR	13 12 45.3	
	comp=Z,106nm,18.5s,baz=346,slow=39							
ILAR	**Eielson Array**	**49.90**	**32**	P		**P**	**12 49 42.2**	**+0.4**
	0.5nm,0.9s,baz=276,slow=5.9,SNR=4.1							
WRA	**Warramunga Arr**	**56.74**	**188**	P		**P**	**12 50 33.0**	**+0.6**
	0.5nm,0.5s,baz=6.6,slow=7.7,SNR=5.6							

*ISCJB **20** 12:41:20.0±0.3,29.°64N±0.°04×141.°0E±0.°1,h100km, mb3.9/13,Error ellipse: s-maj=16.2km s-min=3.5km az=164.7*

*JMA **20** 12:41:20.8±0.1,29.°80N×141.°67E,h94km,M4.2*

*IDC **20** 12:41:21.3±1.3,29.°53N×140.°90E,h98km±14km,mb3.6/13, mb1 3.7/16,mb1mx3.4/75,mbtmp4.0/16,Error ellipse: s-maj=27.1km s-min=11.0km az=73.0*

ISC 20 12:41:21.2±0.7,29.°70N±0.°05×141.°2E±0.°1,h100km,n32, σ1§42/40,mb3.9/13,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.75**	**160**	P		**Pn**	**12 42 03.7**	**+0.1**
CBIJ				*e*S		**Sn**	**12 42 35.7**	**-0.5**
JCJ	**Chichijima**	**2.75**	**160**	P		**Pn**	**12 42 03.8**	**+0.1**
	72nm,0.3s

CERR				*e*			12 43 40.5	
CERR				*e*			12 44 19.3	
CERR	**Cheremushki**	**3.06**	**294**	*i* Pn	**Pn**		**12 43 34.8**	**+0.8**
CERR				*e*Pg	**Pb**		**12 43 40.5**	**+0.4**
CERR				*e*Sg	**Sb**		**12 44 19.3**	**+1.8**
MOY	**Mondy**	**3.09**	**89**	*e*PN	**Pb**		**12 43 38.7**	**-2.1**
MOY				*e*			12 44 19.0	
MOY				pmax	pmax			
	comp=Z,87nm,0.6s							
MOY				smax	smax			
	comp=N,513nm,1.0s							
MINR	**Mina**	**3.39**	**342**	PN	**Pn**		**12 43 40.7**	**+2.1**
VEH	**Verkhnyaya Baz**	**3.82**	**296**	PN	**Pn**		**12 43 45.3**	**+0.7**
ARS	**Arshan**	**3.98**	**84**	*e*PN	**Pb**		**12 43 56.2**	**+0.4**
ARS				*e*			12 44 47.0	
ARS				pmax	pmax			
	comp=Z,94nm,0.5s							
ARS				smax	smax			
	comp=E,968nm,0.7s							
TLY	**Talaya**	**4.74**	**87**	Pg	**Pb**		**12 44 08.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=279,slow=11,SNR=19							
TLY				Lg	Lg		12 45 09.9	
	comp=E,0.3nm,0.3s,baz=90,slow=17,SNR=17							
TLY				LR	LR		12 45 55.8	
	comp=E,68nm,18.9s,baz=190,slow=41							
TLY	**Talaya**	**4.74**	**87**	*e*PN	**Pb**		**12 44 07.5**	**-1.3**
TLY				*e*			12 44 09.5	
TLY				*e*			12 45 09.6	
TLY				pmax	pmax			
	comp=Z,16nm,0.5s							
TLY				smax	smax			
	comp=N,94nm,0.7s							
TLY	**Talaya**	**4.74**	**87**	*e*Pn	**Pn**		**12 43 56.0**	**-1.1**
TLY				*e*Sg	**Sb**		**12 45 09.7**	**+3.9**
LUZB	**Luzhba, Kemero**	**4.76**	**297**	PN	**Pn**		**12 43 58.5**	**+1.1**
ZAK	**Zakamensk**	**4.76**	**103**	*e*PN	**Pb**		**12 44 08.5**	**-0.8**
ZAK				*e*			12 45 12.5	
ZAK				pmax	pmax			
	comp=Z,37nm,0.5s							
ZAK				smax	smax			
	comp=N,300nm,1.2s							
CUR	**Chagan-Uzun**	**5.12**	**255**	PN	**Pn**		**12 44 04.2**	**+1.8**
TASR	**Tashtagol**	**5.12**	**285**	*e*PN	**Pn**		**12 44 03.6**	**+1.3**
TASR				*e*			12 44 17.2	
TASR				*e*			12 45 20.0	
TASR	**Tashtagol**	**5.12**	**285**	*e*Pn	**Pn**		**12 44 03.6**	**+1.3**
TASR				*e*Pg	**Pb**		**12 44 17.2**	**+2.0**
TASR				*e*Sg	**Sb**		**12 45 21.0**	**+4.3**
IRK	**Irkutsk**	**5.13**	**81**	*e*PN	**Pb**		**12 44 14.3**	**-1.1**
IRK				*e*			12 45 20.0	
IRK				pmax	pmax			
	comp=Z,83nm,0.1s							
IRK				smax	smax			
	comp=Z,822nm,1.6s							
ULGR	**Ulagan, Altay**	**5.19**	**261**	PN	**Pn**		**12 44 05.0**	**+1.6**
ARTR	**Artybash**	**5.43**	**274**	*e*PN	**Pn**		**12 44 08.2**	**+1.5**
ARTR				*e*			12 44 22.4	
ARTR				*e*			12 45 32.0	
ARTR	**Artybash**	**5.43**	**274**	*e*Pn	**Pn**		**12 44 08.2**	**+1.5**
ARTR				*e*Pg	**Pb**		**12 44 22.4**	**+1.8**
ARTR				*e*Sg	**Sb**		**12 45 32.0**	**+6.2**
AKAR	**Aktash**	**5.48**	**259**	*e*PN	**Pn**		**12 44 08.8**	**+1.3**
AKAR				*e*			12 44 28.0	
AKAR				*e*			12 45 31.0	
AKAR	**Aktash**	**5.48**	**259**	*e*Pn	**Pn**		**12 44 08.8**	**+1.3**
AKAR				*e*Pg	**Pg**		**12 44 28.0**	**-2.6**
AKAR				*e*Sg	**Sb**		**12 45 31.9**	**+4.6**
CHBI	**Chibit, Altay**	**5.56**	**259**	PN	**Pn**		**12 44 10.3**	**+1.9**
BRCR	**Berchikul'**	**6.04**	**314**	PN	Pb		12 44 24.2	-6.8
ELT	**Eltsovka**	**6.18**	**288**	*e*PN	**Pn**		**12 44 18.1**	**+1.2**
ELT				*e*			12 45 52.7	
ELT	**Eltsovka**	**6.18**	**288**	*e*Pn	**Pn**		**12 44 18.1**	**+1.2**
ELT				*e*Pg	**Pb**		**12 44 33.6**	**+0.3**
ELT				*e*Sg	**Sb**		**12 45 52.7**	**+5.5**
TRG	**Tyrgan**	**6.43**	**76**	*e*PN	**Pn**		**12 44 17.5**	**-2.9**
TRG				*e*			12 46 00.8	
TRG				pmax	pmax			
	comp=Z,12nm,0.8s							
TRG				smax	smax			
	comp=N,214nm,1.3s							
UKR	**Ust'-Kan**	**7.09**	**268**	*e*PN	**Pn**		**12 44 31.9**	**+2.3**
UKR				*e*			12 44 52.0	
UKR	**Ust'-Kan**	**7.09**	**268**	*e*Pn	**Pn**		**12 44 31.9**	**+2.3**
UKR				*e*Pg	**Pb**		**12 44 53.0**	**+4.0**
UKR				*e*Sg	**Sg**		**12 46 25.9**	**-7.3**
ZAA0	**Zalesovo Array**	**7.15**	**293**	*e*Pn	**Pn**		**12 44 31.7**	**+1.5**
ZALV	**Zalesovo Beam**	**7.15**	**293**	Pn	**Pn**		**12 44 28.0**	**-2.3**
	comp=N,0.5nm,0.3s,baz=126,slow=14,SNR=3.0							
ZALV				Lg	Lg		12 46 24.7	
	comp=N,3.2nm,0.3s,baz=110,slow=26,SNR=10.0							
ZALV	**Zalesovo Beam**	**7.15**	**293**	*e*PN	**Pn**		**12 44 32.6**	**+2.4**
ZALV							12 46 24.7	
ZALV	**Zalesovo Beam**	**7.15**	**293**	*e*Pn	**Pn**		**12 44 32.6**	**+2.4**
ZALV				*e*Sn	**Sn**		**12 45 46.5**	**-5.0**
ZALV				Lg	Lg		12 46 24.7	
ZAA1	**Zalesovo Array**	**7.16**	**293**	*e*Pn	**Pn**		**12 44 28.0**	**-2.3**
ZAA1				*e*Lg	Lg		12 46 24.7	
OGRR	**Ongureny**	**7.30**	**70**	*e*P	**Pn**		**12 44 32.7**	**+0.4**
OGRR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
SONM	**Songino Array**	**7.75**	**116**	Pg	Pg		12 45 05.6	-8.3
	comp=Z,0.7nm,0.3s,baz=306,slow=18,SNR=8.0							
SONM				Lg	Lg		12 46 48.4	
	comp=Z,2.9nm,0.3s,baz=302,slow=31,SNR=20							
NVS	**Novosibirsk**	**8.29**	**297**	*e*P	**Pn**		**12 44 45.4**	**-0.3**
NVS	**Novosibirsk**	**8.29**	**297**	*e*Pn	**Pn**		**12 44 45.4**	**-0.3**
NVS				*e*Pg	**Pb**		**12 45 10.0**	**+0.9**
NVS				*e*Sg	Sg		12 47 00.7	-11
MK31	**Makanchi Array**	**10.23**	**247**	*e*P	**Pn**		**12 45 12.0**	**-0.5**
MK31	**Makanchi Array**	**10.23**	**247**	*e*Pn	**Pn**		**12 45 12.0**	**-0.5**
MK32	**Makanchi Array**	**10.23**	**247**	*e*Pn	**Pn**		**12 45 13.8**	**+1.3**
MKAR	**Makanchi Array**	**10.23**	**247**	Pn	**Pn**		**12 45 13.8**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=49,slow=16,SNR=6.7							
MKAR				Pg			12 45 54.2	
	comp=Z,0.4nm,0.3s,baz=56,slow=16,SNR=4.4							
MKAR	**Makanchi Array**	**10.23**	**247**	*i* P	**Pn**		**12 45 16.3**	**+3.8**
MKAR	**Makanchi Array**	**10.23**	**247**	*e*Pn	**Pn**		**12 45 12.0**	**-0.5**
MKAR				Pg			12 45 54.1	
MAKZ	**Makanchi**	**10.40**	**247**	*e*P	**Pn**		**12 45 17.6**	**+2.8**
MAKZ	**Makanchi**	**10.40**	**247**	*e*Pn	**Pn**		**12 45 15.3**	**+0.5**
KURK	**Kurchatov**	**10.97**	**272**	P	**Pn**		**12 45 24.9**	**+2.4**
KURBB	**Kurchatov Arra**	**11.04**	**271**	Pn	**Pn**		**12 45 24.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=74,slow=14,SNR=8.3							
BOD	**Bodaibo**	**12.04**	**52**	*e*P	**Pn**		**12 45 35.0**	**-2.1**
BVAR	**Borovoye Array**	**15.69**	**285**	Pn	**P**		**12 46 29.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=72,slow=14,SNR=5.8							
AAK	**Ala-Archa**	**17.16**	**247**	⇑*i* P	**Pn**		**12 46 45.1**	**-0.5**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
YAK	**Yakutsk**	**20.85**	**47**	LR	LR		12 55 37.2	
	comp=Z,48nm,18.3s,baz=328,slow=37							
ARU	**Arti**	**22.29**	**297**	*c i* P	**P**		**12 47 44.9**	**+2.1**
ARU							12 48 06.3	
ARU				SS	Sn		12 52 21.4	+22
ARU				pmax	pmax			
	comp=Z,9.0nm,1.7s							
AB05	**Akbulak array**	**22.94**	**278**	*e*P	**P**		**12 47 50.3**	**+0.6**
AB07	**Akbulak array**	**22.94**	**278**	*e*P	**P**		**12 47 50.3**	**+0.6**
AB02	**Akbulak array**	**22.94**	**278**	*e*P	**P**		**12 47 50.4**	**+0.7**
AB01	**Akbulak array**	**22.95**	**278**	*e*P	**P**		**12 47 50.5**	**+0.7**
AB31	**Akbulak array**	**22.95**	**278**	*e*P	**P**		**12 47 50.6**	**+0.8**
AB31	**Akbulak array**	**22.95**	**278**	*e*P	**P**		**12 47 50.6**	**+0.8**
ABKAR	**Akbulak array**	**22.95**	**278**	*e*P	**P**		**12 47 50.6**	**+0.8**
	comp=Z,14nm,0.9s							
AB03	**Akbulak array**	**22.95**	**278**	*e*P	**P**		**12 47 50.5**	**+0.7**
AB04	**Akbulak array**	**22.95**	**278**	*e*P	**P**		**12 47 50.4**	**+0.6**
AB09	**Akbulak array**	**22.96**	**278**	*e*P	**P**		**12 47 50.6**	**+0.7**
AB08	**Akbulak array**	**22.96**	**278**	*e*P	**P**		**12 47 50.5**	**+0.5**
ENH	**Enshi**	**23.62**	**150**	*e*P	**P**		**12 47 60.0**	**+3.2**
	comp=Z,13nm,1.4s							
AKTO	**Aktyubinsk**	**23.74**	**282**	P	**P**		**12 47 57.9**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=85,slow=13,SNR=11							
TIXI	**Tiksi**	**24.76**	**24**	P	**P**		**12 48 06.3**	**-0.7**
	comp=Z,6.9nm,0.9s,baz=256,slow=7.5,SNR=12							
TIXI	**Tiksi**	**24.76**	**24**	⇓*i* P	**P**		**12 48 07.4**	**+0.5**
TIXI				*i* *PP	**sP**		**12 48 10.0**	**-1.3**
TIXI				*i* *SP	**pP**		**12 48 11.0**	**+1.0**
TIXI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
TIXI	**Tiksi**	**24.76**	**24**	*e*P	**P**		**12 48 07.5**	**+0.5**
FIA0	**FINESS Array S**	**37.91**	**313**	*e*P	**P**		**12 50 02.7**	**+0.1**
FIA0	**FINESS Array S**	**37.91**	**313**	*e*P	**P**		**12 50 02.6**	**+0.1**
FINES	**FINESS Array B**	**37.91**	**313**	P	**P**		**12 50 02.6**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=69,slow=10,SNR=3.9							
FINES	**FINESS Array B**	**37.91**	**313**	*e*P	**P**		**12 50 03.9**	**+1.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BR101	**Keskin Array S**	**43.88**	**280**	*e*P	**P**		**12 50 53.4**	**+1.1**
BRTR	**Keskin Array B**	**43.88**	**280**	P	**P**		**12 50 53.4**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=90,slow=6.8,SNR=5.0							
BR231	**Keskin MP Arra**	**44.34**	**280**	*e*P	**P**		**12 50 54.0**	**-1.9**
NB200	**NORSAR Array S**	**44.67**	**316**	*e*P	**P**		**12 50 57.5**	**-0.6**
NOA	**NORSAR Array B**	**44.67**	**316**	P	**P**		**12 50 57.5**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=61,slow=7.9,SNR=3.6							
NOA	**NORSAR Array B**	**44.67**	**316**	*e*P	**P**		**12 50 58.5**	**+0.4**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TOA1	**Torodi Ar. Sit**	**82.46**	**282**	*e*P	**P**		**12 55 07.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**82.46**	**282**	P	**P**		**12 55 07.7**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=25,slow=5.8,SNR=2.9							
CHNC	**Chino**	**89.68**	**27**	*e*P	**P**		**12 55 43.5**	**-0.3**

ISCJB ***20*** *12:48:42.4±0.6, 6.78S±0.09×150.15E±0.10, h43km, mb4.1/4, MS3.0/1, Error ellipse: s-maj=16.9km s-min=7.9km az=39.3*
NEIC ***20*** *12:48:44.8±0.8, 6.75S×150.15E, h52km±7km, mb4.0/4, Error ellipse: s-maj=12.4km s-min=6.0km az=125.0*
IDC ***20*** *12:48:45.6±7.1, 6.71S×149.99E, h47km±54km, mb3.8/4, mb1 4.1/5, mb1mx3.4/49, mbtmp4.1/5, ML2.4/1, MS3.1/1, Ms1 3.0/1, ms1mx2.4/39, Error ellipse: s-maj=56.7km s-min=47.4km az=106.0*

ISC 20 12:48:43.9±0.8, 6.74S±0.09×150.1E±0.1, h43km, n21, σ1s07/23, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.23**	**39**	*e*Pn	**Pn**		**12 49 33.9**	**+1.7**
PMG	**Port Moresby**	**3.97**	**228**	P	**Pn**		**12 49 43.4**	**+1.1**
	20nm,0.3s,baz=67,slow=4.0,SNR=30							
PMG				S	**Sn**		**12 50 27.4**	**-0.3**
	26nm,0.3s,baz=208,slow=23,SNR=12							
PMG	**Port Moresby**	**3.97**	**228**	*e*Pn	**Pn**		**12 49 42.9**	**+0.6**
PMG				*e*Sn	**Sn**		**12 50 28.8**	**+1.1**
MANU	**Manus Island**	**5.42**	**329**	*e*Pn	**Pn**		**12 50 02.9**	**+0.7**
WRAB	**Tennant Creek**	**20.18**	**228**	*e*P	**P**		**12 53 15.2**	**+0.2**
	8.9nm,0.8s							
WB2	**Warramunga Arr**	**20.18**	**228**	*e*P	**P**		**12 53 15.6**	**+0.5**
WR1	**Warramunga Arr**	**20.19**	**228**	*e*P	**P**		**12 53 15.3**	**+0.1**
	9.5nm,1.0s							
WRA	**Warramunga Arr**	**20.19**	**228**	P	**P**		**12 53 15.3**	**+0.1**
	7.8nm,0.8s,baz=52,slow=11,SNR=44							
ASAR	**Alice Springs**	**22.95**	**221**	P	**P**		**12 53 45.6**	**+0.9**
	1.9nm,0.8s,baz=56,slow=9.7,SNR=11							
LHI	**Lord Howe Isla**	**26.03**	**162**	*e*P	**P**		**12 54 12.4**	**-0.7**
	61nm,0.9s							
STKA	**Stephens Creek**	**26.26**	**197**	P	**P**		**12 54 15.6**	**+0.4**
	4.8nm,1.0s,baz=359,slow=12,SNR=5.1							
STKA				LR	LR		13 04 19.7	
	comp=Z,39nm,18.5s,baz=31,slow=36							
STKA	**Stephens Creek**	**26.26**	**197**	*e*P	**P**		**12 54 15.5**	**+0.4**
	0.9nm,0.9s							
FITZ	**Fitzroy Crossi**	**26.42**	**242**	P	**P**		**12 54 17.8**	**+1.0**
	4.5nm,1.0s,baz=64,slow=14,SNR=5.0							
FITZ	**Fitzroy Crossi**	**26.42**	**242**	*e*P	**P**		**12 54 17.0**	**+0.2**
	3.4nm,0.8s							
KTRM	**Thompson Ridge**	**91.84**	**48**	*e*P	**P**		**13 01 47.2**	**-0.6**
CNIC	**Niles Canyon**	**92.39**	**53**	*e*P	**P**		**13 01 49.7**	**-0.6**
ITM	**Ithomi**	**124.11**	**311**	*e*PKPdf	**PKPdf**		**13 07 34.7**	**-3.6**
TOA0	**Torodi Ar. Sit**	**148.30**	**284**	*e*PKPbc	**PKPbc**		**13 08 26.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**148.30**	**284**	PKPbc	**PKPbc**		**13 08 26.7**	**+0.2**
	0.7nm,0.5s,baz=53,slow=3.0,SNR=5.7							
TOA1	**Torodi Ar. Sit**	**148.30**	**284**	*e*PKPbc	**PKPbc**		**13 08 26.7**	**+0.2**
KOWA	**Kowa**	**153.48**	**289**	PKPbc	**PKPbc**		**13 08 39.2**	**+0.4**
	0.7nm,0.3s,baz=76,slow=3.2,SNR=4.0							

NNC 20 12:52:50.1±3.5, 37.84N×71.43E, h0km, mb3.8, mpv3.4, 8C-2D, Error ellipse: s-maj=26.7km s-min=22.8km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.71**	**36**	⇑P		Pn	12 53 34.9	-0.2
	4.3nm,0.3s							
SFK				⇑S		Sn	12 54 10.5	+1.8
	18nm,0.3s							
MNAS	**Manas**	**4.72**	**10**	⇑P		Pn	12 54 03.2	+0.6
	2.3nm,0.4s							
MNAS				⇑S		Sn	12 54 57.4	-0.7
	1.9nm,0.4s							
KK31	**Karatay Array**	**5.31**	**353**	⇑P		Pn	12 54 12.1	+1.5
	3.0nm,0.3s,baz=177,slow=13,SNR=54							
KK31				⇓S		Sn	12 55 14.7	+2.2
	0.4nm,0.3s,baz=168,slow=20,SNR=11							
AAK	**Ala-Archa**	**5.34**	**25**	⇑P		Pn	12 54 10.5	-0.7
	3.4nm,0.3s							
AAK				⇓S		Sn	12 55 13.1	-0.4
	2.9nm,0.5s							
TKM2	**Tokmak 2**	**5.99**	**31**	⇑P		Pn	12 54 18.7	-1.5
	0.5nm,0.3s							
TKM2				⇑S		Sn	12 55 33.4	+3.7
	0.5nm,0.5s							

IDC ***20*** *12:56:40.0±1.7, 4.32N×77.33W, h0km, mb3.1/1, mb1 3.4/2, mb1mx3.2/40, mbtmp3.2/2, ML2.0/1, Error ellipse: s-maj=57.6km s-min=39.6km az=176.0*
ISCJB ***20*** *12:56:46.1±1.1, 4.33N±0.04×76.91W±0.05, h18km±9km, mb3.0/1, Error ellipse: s-maj=9.5km s-min=6.5km az=25.0*
RSNC ***20*** *12:56:46.8±1.5, 4.33N×76.89W, h13km±8km, ML3.0*

ISC 20 12:56:42.3±1.5, 4.33N±0.05×76.96W±0.05, h16km±11km, n15, σ0s90/21, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.70**	**119**	⇓*i* P		**Pn**	**12 56 59.0**	**+1.3**
YOTC				*e*S		**Sn**	**12 57 07.8**	**-0.5**
YOTC				*i*			12 57 08.1	
	comp=Z,4μm,0.2s							
PLMC	**San Jos°° del**	**0.88**	**50**	*e*P		**Pn**	**12 57 01.5**	**+1.4**
PLMC				*e*S		**Sn**	**12 57 12.6**	**-0.1**
HORQ	**Saladito**	**0.91**	**158**	*i* P		**Pn**	**12 57 02.5**	**+1.8**
HORQ				*e*S		**Sn**	**12 57 13.8**	**+0.2**
HORQ				*i*			12 57 14.5	
	comp=Z,620nm,0.1s							
TOLC	**Tolima**	**1.65**	**81**	*e*P		**Pb**	**12 57 13.2**	**+0.6**
RREF	**El Recreo**	**1.70**	**71**	*e*P		**Pb**	**12 57 14.6**	**+0.9**
RREF				*i*			12 57 36.1	
	comp=Z,231nm,0.4s							
MARP	**Paez Belalcaza**	**1.79**	**146**	*e*P		**Pg**	**12 57 16.8**	**0.0**
MARP				*e*S		**Sb**	**12 57 37.5**	**+0.4**
MARP				*i*			12 57 41.8	
	comp=Z,78nm,0.5s							
GRGC	**Isla de Gorgon**	**1.79**	**222**	*e*P		**Pg**	**12 57 16.5**	**-0.2**
GRGC				*e*S		**Sg**	**12 57 39.5**	**-0.5**
GRGC				*i*			12 57 40.9	
	comp=Z,17nm,0.3s							
PCON	**Cinco Dias**	**2.07**	**164**	*e*P		**Pg**	**12 57 21.2**	**-0.9**
PCON				*i*			12 57 47.4	
	comp=Z,95nm,0.5s							
PRAC	**Prado**	**2.16**	**106**	*e*P		**Pb**	**12 57 20.4**	**-0.7**
SOTA	**Rioblanco**	**2.21**	**171**	*e*P		**Pb**	**12 57 23.3**	**+1.0**
SOTA				*i*			12 57 54.6	
	comp=Z,109nm,0.4s							
BETC	**Betania**	**2.23**	**137**	*e*P		**Pb**	**12 57 22.2**	**-0.2**
BETC				*e*S		**Sb**	**12 57 49.0**	**-0.8**
ROSC	**El Rosal**	**2.68**	**79**	Pn		**Pb**	**12 57 30.0**	**-0.2**
	comp=Z,3.6nm,0.3s,baz=270,slow=20,SNR=5.2							
YKA	**Yellowknife Ar**	**64.34**	**342**	P		**P**	**13 07 16.6**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=136,slow=6.1,SNR=5.2							
ASAR	**Alice Springs**	**144.57**	**234**	PKP		**PKPab**	**13 16 16.6**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=120,slow=4.1,SNR=12							
WRA	**Warramunga Arr**	**145.80**	**240**	PKPbc		**PKPbc**	**13 16 20.9**	**-0.8**
	comp=Z,0.9nm,1.1s,baz=112,slow=2.5,SNR=2.9							

ATH 20 13:07:27.9, 36.35N×22.80E, h11km±6km, ML2.0/8, Error ellipse: s-maj=6.1km s-min=0.9km az=80.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.21**	**113**	P		Pg	13 07 32.1	-0.4
KYTH						AML	AML	13 07 35.7
	comp=N,4620μm,0.5s							
KYTH				S		Sg	13 07 36.0	+0.4
	comp=E,2578μm,0.3s							
KYTH	**Kithira**	**0.21**	**113**	P		Pg	13 07 32.1	-0.4
KYTH				S		Sg	13 07 35.1	-0.5
KYTH						AML	AML	13 07 35.7
	comp=N,4620μm,0.5s							
KYTH						AML	AML	13 07 37.5
	comp=E,2578μm,0.3s							
VLI	**Velíai**	**0.38**	**16**	P		Pg	13 07 34.8	-0.8
VLI				S		Sg	13 07 40.9	+0.2
VLI						AML	AML	13 07 44.6
	comp=N,399μm,0.4s							
VLI						AML	AML	13 07 45.1
	comp=E,327μm,0.5s							
VLI	**Velíai**	**0.38**	**16**	P		Pg	13 07 35.3	-0.3
VLI				S		Sg	13 07 40.4	-0.3
VLI						AML	AML	13 07 44.6
	comp=N,399μm,0.4s							
VLI						AML	AML	13 07 45.1
	comp=E,327μm,0.5s							
VLI	**Velíai**	**0.38**	**16**	P		Pg	13 07 35.3	-0.3
VLI				S		Sg	13 07 40.5	-0.2
MNVA	**Monemvasia**	**0.39**	**29**	P		Pg	13 07 35.5	-0.1
MNVA				S		Sg	13 07 40.4	-0.4
MNVA	**Monemvasia**	**0.39**	**29**	P		Pg	13 07 35.9	+0.3
MNVA	**Monemvasia**	**0.39**	**29**	P		Pg	13 07 35.6	0.0
DYR	**Agios Nikonas**	**0.56**	**317**	P		Pg	13 07 38.9	+0.1
DYR						AML	AML	13 07 49.0
	comp=E,132μm,0.5s							
DYR						AML	AML	13 07 50.0
	comp=N,139μm,0.4s							
DYR	**Agios Nikonas**	**0.56**	**317**	P		Pg	13 07 38.6	-0.3
DYR						AML	AML	13 07 49.0
	comp=E,132μm,0.5s							
DYR						AML	AML	13 07 50.0
	comp=N,139μm,0.4s							
DYR	**Agios Nikonas**	**0.56**	**317**	P		Pg	13 07 39.0	+0.1
ANKY	**Antikythira Is**	**0.63**	**140**	P		Pg	13 07 39.8	-0.3
ANKY						AML	AML	13 07 50.3
	comp=N,515μm,0.4s							
ANKY						AML	AML	13 07 54.8
	comp=E,615μm,0.6s							
ANKY	**Antikythira Is**	**0.63**	**140**	P		Pg	13 07 39.9	-0.2
ANKY				S		Sg	13 07 48.6	+0.1
ANKY						AML	AML	13 07 50.3
	comp=N,515μm,0.4s							
ANKY						AML	AML	13 07 52.4
	comp=E,374μm,0.3s							
ANKY	**Antikythira Is**	**0.63**	**140**	P		Pg	13 07 40.0	-0.2
ANKY				S		Sg	13 07 48.7	+0.3
PYL	**PYLOS**	**1.01**	**303**	P		Pg	13 07 47.0	-0.5
PYL						AML	AML	13 08 11.3
	comp=N,71μm,0.8s							
PYL						AML	AML	13 08 12.5
	comp=E,146μm,0.7s							
PYL	**PYLOS**	**1.01**	**303**	P		Pn	13 07 48.6	+0.6
PYL				S		Sn	13 08 02.3	0.0
PYL						AML	AML	13 08 11.3
	comp=N,71μm,0.8s							
PYL						AML	AML	13 08 12.5
	comp=E,146μm,0.7s							
PYL	**PYLOS**	**1.01**	**303**	P		Pn	13 07 48.4	+0.3
PYL				S		Sn	13 08 02.4	+0.1
KRND	**KRANIDI**	**1.07**	**15**	P		Pb	13 07 48.4	0.0
KRND				S		Sn	13 08 03.8	+0.1
KRND						AML	AML	13 08 07.3
	comp=E,109μm,0.4s							
KRND						AML	AML	13 08 12.3
	comp=N,114μm,0.6s							
ITM	**Ithomi**	**1.09**	**320**	P		Pb	13 07 48.5	-0.3
ITM						AML	AML	13 08 14.9
	comp=N,135μm,0.4s							
ITM						AML	AML	13 08 14.9
	comp=E,163μm,0.7s							
ITM	**Ithomi**	**1.09**	**320**	P		Pb	13 07 48.8	0.0
DID	**Didima**	**1.20**	**17**	P		Pg	13 07 51.1	0.0
DID				S		Sg	13 08 06.7	-0.1
DID						AML	AML	13 08 10.5
	comp=E,98μm,0.3s							
DID						AML	AML	13 08 14.6
	comp=N,79μm,0.4s							
IMMV	**Iera Moni Meta**	**1.30**	**133**	P		Pn	13 07 52.1	0.0
IMMV				S		Sg	13 08 10.7	+0.8
IMMV						AML	AML	13 08 14.2
	comp=N,225μm,0.6s							
IMMV						AML	AML	13 08 20.0
	comp=E,234μm,0.4s							
IMMV	**Iera Moni Meta**	**1.30**	**133**	P		Pb	13 07 52.5	+0.1
IMMV				S		Sg	13 08 10.4	+0.5
IMMV						AML	AML	13 08 13.2
	comp=E,135μm,0.5s							
IM

*IDC **20** 13:19:24.1±0.6,60.64S×26.20W,h0km,mb4.5/10, mb1 4.6/10,mb1mx4.3/35,mbtmp4.5/10,MS3.5/11, Ms1 3.5/11,ms1mx3.3/29,Error ellipse: s-maj=25.0km s-min=18.1km az=75.0*

*NEIC **20** 13:19:25.8±0.4,60.64S×26.08W,h10km,mb4.9/1,Error ellipse: s-maj=15.7km s-min=12.5km az=56.0*

ISC 20 13:19:28.4±0.6,60.6S±0.1×26.3W±0.2,h28km,n42, σ1§25/28,mb4.6/13,MS3.5/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
VNA1	**Neumayer--Stat**	**12.45**	**151**	P		Pn		13 22 16.7	-6.6
VNA1				S		Sn		13 24 23.7	-17
VNA3	**Neumayer Olymp**	**12.57**	**155**	P		Pn		13 22 17.8	-7.3
VNA3				S		Sn		13 24 25.8	-18
VNA2	**Neumayer--Watz**	**12.84**	**151**	P		Pn		13 22 21.5	-7.4
	baz=308,slow=16								
VNA2				S		Sn		13 24 31.8	-19
SNAA	**Sanae**	**14.44**	**150**	P		Pn		13 22 43.5	-7.2
SNAA				S		Sn		13 25 11.0	-19
SNAA	**Sanae**	**14.44**	**150**	Pn		Pn		13 22 43.5	-7.2
	13nm,0.3s,baz=314,slow=16,SNR=125								
SNAA				Sn		Sn		13 25 11.5	-18
	1.3nm,0.3s,baz=317,slow=19,SNR=4.9								
SNAA				LR		LR		13 27 01.8	
	comp=Z,266nm,19.3s,baz=4.0,slow=32								
EFI	**East Falkland**	**19.66**	**283**	*e*P		**Pn**		**13 23 56.7**	**+0.5**
QSPA	**South Pole Qui**	**29.62**	**180**	P		**P**		**13 25 30.2**	**-0.8**
	7.5nm,1.0s,baz=194,slow=2.8,SNR=16								
QSPA				LR		LR		13 37 22.7	
	comp=Z,134nm,18.1s,baz=211,slow=36								
PLCA	**Paso Flores**	**33.51**	**286**	P		**P**		**13 26 05.0**	**-0.2**
	1.4nm,0.5s,baz=154,slow=12,SNR=6.0								
PLCA				LR		LR		13 39 16.6	
	comp=Z,92nm,18.0s,baz=162,slow=36								
CPUP	**Villa Florida**	**40.27**	**314**	P		**P**		**13 27 02.3**	**-0.5**
	12nm,0.5s,baz=158,slow=7.2,SNR=32								
CPUP				LR		LR		13 42 24.9	
	comp=Z,46nm,21.1s,baz=168,slow=34								
VNDA	**Vanda**	**42.02**	**183**	P		**P**		**13 27 17.4**	**+0.8**
	2.0nm,0.8s,baz=187,slow=7.8,SNR=7.1								
VNDA				LR		LR		13 45 02.6	
	comp=Z,81nm,18.4s,baz=252,slow=37								
BOSA	**Boshof**	**46.83**	**71**	LR		LR		13 42 55.8	
	comp=Z,32nm,19.9s,baz=200,slow=30								
H10S2	**ASCENSION HYDR**	**52.28**	**15**	T		T		14 25 20.6	
	baz=187,slow=75,SNR=5.6								
H10S3	**ASCENSION HYDR**	**52.28**	**15**	T		T		14 25 18.8	
	baz=187,slow=75,SNR=6.1								
H10S1	**ASCENSION HYDR**	**52.29**	**15**	T		T		14 25 24.8	
	baz=187,slow=75,SNR=4.2								
H10N1	**ASCENSION HYDR**	**53.40**	**15**	T		T		14 26 58.3	
	baz=191								
H10N3	**ASCENSION HYDR**	**53.40**	**15**	T		T		14 26 45.3	
	baz=191,slow=74,SNR=5.6								
H10N2	**ASCENSION HYDR**	**53.41**	**15**	T		T		14 27 04.4	
	baz=191,slow=74,SNR=4.5								
LPAZ	**La Paz**	**53.47**	**307**	P		**P**		**13 28 47.0**	**+0.4**
	4.6nm,0.5s,baz=118,slow=8.3,SNR=15								
LPAZ				LR		LR		13 51 51.0	
	comp=Z,25nm,21.9s,baz=154,slow=36								
MATP	**Matopo**	**55.35**	**69**	LR		LR		13 47 23.8	
	comp=Z,35nm,19.2s,baz=194,slow=30								
SAML	**Samuel**	**58.40**	**316**	P		**P**		**13 29 17.8**	**-3.4**
	13nm,1.2s								
ATAH	**Atahualpa**	**65.93**	**301**	LR		LR		13 58 19.2	
	comp=Z,44nm,18.8s,baz=166,slow=35								
LIC	**Lamto**	**68.70**	**23**	*e*P		**P**		**13 30 28.9**	**-0.3**
	26nm,1.1s								
KIC	**Kosan Boka**	**68.88**	**23**	*e*P		**P**		**13 30 30.2**	**-0.1**
	48nm,1.5s								
TIC	**Toumodi**	**69.11**	**23**	*e*P		**P**		**13 30 31.4**	**-0.3**
DBIC	**Dimbokro**	**69.16**	**23**	P		**P**		**13 30 31.9**	**-0.1**
	4.5nm,0.8s,baz=176,slow=7.1,SNR=6.2								
ROSC	**El Rosal**	**75.19**	**310**	LR		LR		14 04 15.7	
	comp=Z,24nm,21.6s,baz=249,slow=36								
TORD	**Torodi Ar. Bea**	**76.84**	**28**	P		**P**		**13 31 17.6**	**+0.2**
	5.9nm,0.5s,baz=205,slow=6.4,SNR=45								
KOWA	**Kowa**	**76.95**	**22**	P		**P**		**13 31 18.9**	**+0.9**
	4.1nm,0.8s,baz=202,slow=4.7,SNR=6.2								
SDV	**Santo Domingo**	**77.59**	**315**	P		**P**		**13 31 21.7**	**-0.2**
	2.3nm,0.4s,baz=278,slow=7.1,SNR=3.6								
SDV				LR		LR		14 04 56.2	
	comp=Z,66nm,21.7s,baz=236,slow=35								
ASAR	**Alice Springs**	**94.48**	**162**	P		**P**		**13 32 44.1**	**-1.8**
	0.9nm,0.6s,baz=184,slow=4.2,SNR=12								
PDAR	**Pinedale Array**	**123.10**	**299**	PKP		**PKPdf**		**13 38 24.7**	**+3.2**
	0.3nm,0.6s,baz=144,slow=5.5,SNR=3.4								
FINES	**FINESS Array B**	**128.18**	**29**	PKP		**PKPdf**		**13 38 29.9**	**-0.3**
	0.8nm,0.6s,baz=193,slow=5.7,SNR=4.1								
MKAR	**Makanchi Array**	**137.73**	**7**	PKP		**PKPdf**		**13 38 49.9**	**+1.1**
	0.3nm,0.8s,baz=249,slow=3.4,SNR=3.6								
YKA	**Yellowknife Ar**	**139.80**	**314**	PKP		**PKPdf**		**13 38 52.6**	**+0.6**
	1.3nm,0.8s,baz=128,slow=2.1,SNR=18								
YKA				PP		**PP**		**13 41 49.5**	**+0.2**
	0.4nm,1.0s,baz=122,slow=6.9,SNR=4.3								
INK	**Inuvik**	**149.53**	**316**	PKPbc		**PKPbc**		**13 39 14.0**	**+0.8**
	6.5nm,0.8s,baz=89,slow=2.1,SNR=34								
INK	**Inuvik**	**149.53**	**316**	*e*PKPbc		**PKPbc**		**13 39 13.3**	**+0.1**
DAWY	**Dawson**	**150.05**	**306**	*e*PKPbc		**PKPbc**		**13 39 14.9**	**+0.3**
SONM	**Songino Array**	**150.23**	**94**	PKPbc		**PKPbc**		**13 39 14.9**	**-0.8**
	2.4nm,0.9s,baz=217,slow=3.7,SNR=7.0								
KDAK	**Kodiak Island**	**153.00**	**288**	PKPbc		**PKPbc**		**13 39 22.7**	**+1.1**
	10.0nm,0.9s,baz=153,slow=6.8,SNR=7.0								
ILAR	**Eielson Array**	**153.33**	**305**	PKPbc		**PKPbc**		**13 39 23.5**	**+1.4**
	2.5nm,0.8s,baz=344,slow=0.7,SNR=27								
MCK	**McKinley**	**153.83**	**302**	*e*PKPbc		**PKPbc**		**13 39 24.8**	**+1.6**
BPAW	**Bear Paw Mtn.**	**154.81**	**302**	*e*PKPbc		**PKPbc**		**13 39 26.6**	**+1.3**

*IDC **20** 13:22:09.9±1.9,9.23S×120.12E,h0km,mb3.1/1, mb1 3.4/4,mb1mx3.1/66,mbtmp3.2/4,ML3.2/3,MS3.4/2, Ms1 3.4/2,ms1mx2.6/17,Error ellipse: s-maj=169.0km s-min=24.7km az=54.0*

*ISCJB **20** 13:22:17.9±0.9,9.5S±0.2×120.21E±0.1,h89km±7km, mb3.0/1,Error ellipse: s-maj=32.1km s-min=8.9km az=25.4*

*DJA **20** 13:22:20.0±0.8,10°S±4°×120°E±°,h65km±8km,M3.1/6, MLv3.1/6*

ISC 20 13:22:18.7±1.0,9.4S±0.1×120.23E±0.06,h78km±10km, n11,σ0§97/12,Sumba region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
WSI	**Waingapu**	**0.26**	**165**	P		**Pn**		**13 22 30.9**	**+0.3**
WSI				S		**Sn**		**13 22 40.0**	**+0.7**
WBSI	**Waikabubak, Su**	**0.86**	**255**	P		**Pn**		**13 22 35.9**	**-0.1**
WBSI				S		**Sn**		**13 22 48.5**	**-0.4**
BASI	**Baing, Sumba**	**0.87**	**157**	P		**Pn**		**13 22 36.6**	**+0.4**
EDFI	**Ende, Flores**	**1.59**	**65**	P		**Sn**		**13 23 05.0**	**-0.3**
PLAI	**Plampang**	**2.49**	**283**	P		**Pn**		**13 22 57.3**	**+0.1**
PLAI				S		**Sn**		**13 23 27.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**10.10**	**149**	Pn		**Pn**		**13 24 39.4**	**-1.6**
	0.2nm,0.3s,baz=339,slow=8.6,SNR=2.9								
FITZ				Sn		Sn		13 26 21.6	-11
	0.4nm,0.3s,baz=185,slow=21,SNR=9.6								
WRA	**Warramunga Arr**	**17.18**	**129**	P		**Pn**		**13 26 13.2**	**-0.8**
	0.1nm,0.3s,baz=301,slow=13,SNR=6.0								
ASAR	**Alice Springs**	**19.28**	**139**	P		**P**		**13 26 39.1**	**+1.7**
	0.1nm,0.3s,baz=316,slow=9.1,SNR=12								
CTA	**Charters Tower**	**27.27**	**116**	LR		LR		13 40 13.8	
	comp=Z,239nm,19.5s,baz=234,slow=40								
GUMO	**Guam**	**33.47**	**47**	LR		LR		13 45 33.0	
	comp=Z,15nm,18.1s,baz=135,slow=42								
MKAR	**Makanchi Array**	**65.38**	**332**	P		**P**		**13 32 52.9**	**-0.1**
	0.1nm,0.4s,baz=132,slow=8.7,SNR=2.7								

*NIED **20** 13:30:00,28.20N×142.60E,h47km,Mw4.1 Best double couple: Mo1.71000×10¹⁵ NP1:φ₀14.00000°,δ15.00000°, λ-86.00000°. NP2:φ₀189.00000°,δ75.00000°, λ-91.00000°.*

*IDC **20** 13:30:44.9±0.6,28.28N×141.77E,h0km,mb4.1/20, mb1 4.2/21,mb1mx4.1/65,mbtmp4.1/21,ML3.6/1,MS3.1/3, Ms1 3.1/3,ms1mx2.6/53,Error ellipse: s-maj=20.4km s-min=14.0km az=75.0*

*NEIC **20** 13:30:47.1±2.5,28.27N×141.76E,h14km±16km,mb4.5/4, Error ellipse: s-maj=10.2km s-min=5.5km az=76.0*

*ISCJB **20** 13:30:48.4±0.3,28.26N±0.05×141.7E±0.1,h36km, mb4.1/24,MS3.6/1,Error ellipse: s-maj=15.8km s-min=5.2km az=160.4*

ISC 20 13:30:50.2±0.5,28.25N±0.07×141.8E±0.1,h36km,n42, σ0§77/36,mb4.2/24,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CBIJ	**Chichi jima**	**1.21**	**162**	*e*Pn		**Pn**		**13 31 10.2**	**-0.4**
CBIJ				Sn		**Sn**		**13 31 24.2**	**-1.6**
JCJ	**Chichijima**	**1.21**	**162**	Pn		**Pn**		**13 31 10.5**	**-0.1**
	88nm,0.3s,baz=289,slow=23,SNR=35								
JCJ				Sn		**Sn**		**13 31 24.2**	**-1.6**
	701nm,0.3s,baz=217,slow=20,SNR=33								
JHJ2	**Mitsune**	**5.12**	**341**	P		**Pn**		**13 32 02.6**	**-1.8**
MJAR	**Matsushiro Arr**	**8.79**	**341**	Pn		**Pn**		**13 32 53.7**	**-1.1**
	0.7nm,0.3s,baz=163,slow=12,SNR=9.1								
JNU	**Nakatsue**	**10.55**	**300**	LR		LR		13 37 19.0	
	comp=Z,59nm,18.1s,baz=121,slow=37								
KSRS	**Korea Array**	**14.80**	**312**	LR		LR		13 39 20.2	
	comp=Z,36nm,21.5s,baz=127,slow=35								
KLR	**Kul'dur**	**22.32**	**343**	P		**P**		**13 35 44.2**	**-0.2**
	0.2nm,0.7s,baz=151,slow=5.8,SNR=9.8								
H11N2	**WAKE ISLAND Hy**	**24.45**	**105**	T		T		14 01 04.4	
	baz=296,slow=75,SNR=34								
H11N1	**WAKE ISLAND Hy**	**24.45**	**105**	T		T		14 01 01.0	
	baz=296,slow=75,SNR=20								
H11N3	**WAKE ISLAND Hy**	**24.46**	**105**	T		T		14 01 05.9	
	baz=296,slow=75,SNR=36								
H11S3	**WAKE ISLAND Hy**	**24.81**	**108**	T		T		14 01 36.5	
	baz=297,slow=74,SNR=32								
H11S1	**WAKE ISLAND Hy**	**24.82**	**108**	T		T		14 01 34.7	
	baz=297,slow=74,SNR=17								
H11S2	**WAKE ISLAND Hy**	**24.83**	**108**	T		T		14 01 34.6	
	baz=297,slow=74,SNR=19								
SEY	**Seychelles**	**35.37**	**8**	P		**P**		**13 37 42.7**	**+0.7**
	1.5nm,0.6s,baz=140,slow=8.1,SNR=8.4								
ZALV	**Zalesovo Beam**	**48.37**	**318**	PcP		**PcP**		**13 40 54.7**	**+0.3**
	1.1nm,0.5s,baz=134,slow=4.1,SNR=4.3								
WRAB	**Tennant Creek**	**48.44**	**189**	*e*P		**P**		**13 39 29.2**	**+0.1**
	4.3nm,0.6s								
WRA	**Warramunga Arr**	**48.45**	**189**	P		**P**		**13 39 29.5**	**+0.3**
	5.5nm,0.6s,baz=11,slow=8.4,SNR=36								
MKAR	**Makanchi Array**	**49.45**	**309**	P		**P**		**13 39 36.8**	**0.0**
	0.3nm,0.4s,baz=85,slow=11,SNR=7.9								
MKAR				PcP		**PcP**		**13 40 59.4**	**+0.9**
	1.4nm,0.6s,baz=80,slow=11,SNR=15								
KURK	**Kurchatov**	**51.91**	**314**	*e*P		**P**		**13 39 55.2**	**+0.1**
KURBB	**Kurchatov Arra**	**51.97**	**314**	P		**P**		**13 39 55.0**	**-0.6**
	1.1nm,0.5s,baz=91,slow=7.9,SNR=15								
ASAR	**Alice Springs**	**52.17**	**189**	P		**P**		**13 39 56.4**	**-1.0**
	0.2nm,0.3s,baz=13,slow=8.8,SNR=4.9								
KDAK	**Kodiak Island**	**53.67**	**37**	P		**P**		**13 40 07.7**	**-0.3**
	6.4nm,0.9s,baz=263,slow=16,SNR=3.6								
ILAR	**Eielson Array**	**56.88**	**29**	P		**P**		**13 40 30.8**	**-0.3**
	0.5nm,0.7s,baz=262,slow=6.3,SNR=4.1								
BVAR	**Borovoye Array**	**56.94**	**317**	P		**P**		**13 40 31.7**	**0.0**
	2.4nm,0.4s,baz=94,slow=7.0,SNR=17								
KKAR	**Karatay Array**	**58.11**	**305**	*e*P		**P**		**13 40 40.2**	**+0.1**
	1.2nm,0.5s								
ARU	**Arti**	**63.28**	**322**	P		**P**		**13 41 16.1**	**+1.1**
	4.2nm,0.5s,baz=88,slow=3.9,SNR=11								
ARU	**Arti**	**63.28**	**322**	*e*P		**P**		**13 41 15.4**	**+0.3**
	6.7nm,0.8s								
ABKAR	**Akbulak array**	**64.02**	**314**	*e*P		**P**		**13 41 20.3**	**+0.3**
	1.6nm,0.6s								
AKTO	**Aktyubinsk**	**64.94**	**315**	P		**P**		**13 41 26.7**	**+0.6**
	3.0nm,0.6s,baz=79,slow=13,SNR=11								
YKA	**Yellowknife Ar**	**71.31**	**28**	P		**P**		**13 42 05.3**	**-0.4**
	0.6nm,0.6s,baz=296,slow=6.3,SNR=9.9								
ARCES	**ARCESS Array B**	**72.33**	**341**	P		**P**		**13 42 11.6**	**-0.2**
	2.1nm,0.8s,baz=52,slow=5.8,SNR=3.6								
FINES	**FINESS Array B**	**76.57**	**334**	P		**P**		**13 42 38.1**	**+0.6**
	1.5nm,0.4s,baz=71,slow=4.5,SNR=17								
KBZ	**Khabaz**	**76.95**	**313**	P		**P**		**13 42 40.5**	**+1.5**
	1.2nm,0.7s,baz=39,slow=5.2,SNR=4.6								
KVAR	**Kislovodsk Arr**	**76.98**	**313**	LR		LR		14 18 21.7	
	comp=Z,27nm,18.9s,baz=174,slow=37								
NVAR	**Mina Array Bea**	**80.10**	**52**	P		**P**		**13 42 57.2**	**+0.4**
	0.6nm,0.7s,baz=295,slow=5.5,SNR=5.4								
AKASG	**Malin Array Be**	**81.47**	**324**	P		**P**		**13 43 02.6**	**-0.9**
	0.8nm,0.3s,baz=52,slow=5.7,SNR=3.6								
HFS	**Hagfors**	**82.22**	**337**	P		**P**		**13 43 06.6**	**-0.8**
	1.7nm,0.6s,baz=11,slow=1.5,SNR=6.5								
NB2	**NORSAR Subarra**	**82.40**	**338**	P		**P**		**13 43 08.1**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=42,slow=5.1								
NOA	**NORSAR Array B**	**82.40**	**338**	P		**P**		**13 43 08.4**	**0.0**
	comp=Z,1.3nm,0.6s,baz=48,slow=4.7,SNR=4.1								
PDAR	**Pinedale Array**	**83.66**	**45**	P		**P**		**13 43 15.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=289,slow=8.5,SNR=3.0								
TXAR	**Lajitas Array**	**95.21**	**53**	P		**P**		**13 44 11.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=323,slow=3.1,SNR=3.5								
TORD	**Torodi Ar. Bea**	**123.54**	**311**	PKP		**PKPdf**		**13 49 44.8**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=41,slow=1.5,SNR=7.4								

*IDC **20** 13:36:41.6±0.7,17.69S×167.40E,h0km,mb4.4/12, mb1 4.6/14,mb1mx4.3/41,mbtmp4.5/14,ML5.1/2,MS3.3/12, Ms1 3.3/12,ms1mx3.1/43,Error ellipse: s-maj=22.2km s-min=18.4km az=102.0*

*ISCJB **20** 13:36:43.1±0.6,17.67S±0.08×167.3E±0.1,h19km, mb4.4/13,MS3.4/10,Error ellipse: s-maj=14.5km s-min=10.6km az=12.0*

*NEIC **20** 13:36:47.0±0.5,17.71S×167.33E,h35km,mb4.9/3,Error ellipse: s-maj=12.7km s-min=9.8km az=110.0*

ISC 20 13:36:44.6±0.6,17.78S±0.06×167.3E±0.1,h19km,n42, σ1§19/34,mb4.6/12,MS3.4/10,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DZM	**Mont Dzumac**	**4.34**	**191**	Pn		**Pn**		**13 37 49.8**	**+0.1**
	31nm,0.3s,baz=356,slow=9.1,SNR=234								
DZM				Sn		**Sn**		**13 38 37.4**	**-2.5**
	30nm,0.3s,baz=326,slow=23,SNR=18								
DZM				LR		LR		13 38 44.4	
	comp=Z,92nm,20.9s,baz=334,slow=28								
DZM	**Mont Dzumac**	**4.34**	**191**	*e*Pn		**Pn**		**13 37 50.1**	**+0.4**
	95nm,0.3s								
DZM				*e*Sn		**Sn**		**13 38 37.0**	**-2.9**
	222nm,0.3s								
DZM	**Mont Dzumac**	**4.34**	**191**	*e*Pn		**Pn**		**13 37 49.6**	**-0.1**
DZM				*e*Sn		**Sn**		**13 38 38.2**	**-1.7**
HNR	**Honiara**	**10.96**	**318**	Pn		**Pn**		**13 39 19.8**	**-0.7**
	36nm,0.3s,baz=141,slow=9.1,SNR=18								
HNR				LR		LR		13 43 35.4	
	comp=Z,86nm,18.9s,baz=46,slow=38								
HNR	**Honiara**	**10.96**	**318**	*e*P		**Pn**		**13 39 19.0**	**-1.5**
HNR	**Honiara**	**10.96**	**318**	*e*Pn		**Pn**		**13 39 19.5**	**-1.0**
	108nm,0.6s								
EIDS	**Eidsvold**	**16.87**	**241**	*e*Pn		**Pn**		**13 40 40.0**	**+0.2**
ARMA	**Armidale**	**19.03**	**226**	*e*P		**Pn**		**13 41 08.8**	**+2.3**
CTA	**Charters Tower**	**20.05**	**260**	P		Pn		13 41 19.0	+0.3
	8.0nm,1.0s,baz=98,slow=16,SNR=3.8								
CTAO	**Charters Tower**	**20.05**	**260**	*e*Pn		Pn		13 41 19.2	+0.5
	64nm,0.9s								
AFI	**Afiamalu**	**20.47**	**82**	LR		LR		13 47 56.3	
	comp=Z,72nm,19.9s,baz=262,slow=33								
PMG	**Port Moresby**	**21.27**	**290**	LR		LR		13 48 47.0	
	comp=Z,94nm,19.3s,baz=105,slow=34								
RPZ	**Rata Peaks**	**26.04**	**174**	P		**P**		**13 42 18.0**	**+1.3**
	14nm,0.8s,baz=318,slow=5.7,SNR=5.5								
RPZ				LR		LR		13 51 37.1	
	comp=Z,155nm,19.8s,baz=2.0,slow=34								
STKA	**Stephens Creek**	**27.15**	**234**	P		**P**		**13 42 28.3**	**+1.5**
	16nm,0.6s,baz=76,slow=12,SNR=18								
RAR	**Rarotonga**	**31.18**	**102**	LR		LR		13 53 49.8	
	comp=Z,27nm,21.0s,baz=246,slow=33								
WRA	**Warramunga Arr**	**31.25**	**261**	P		**P**		**13 43 02.7**	**-0.7**
	2.0nm,0.8s,baz=92,slow=9.3,SNR=9.4								
WRA				LR		LR		13 55 46.2	
	comp=Z,82nm,18.4s,baz=215,slow=36								
ASAR	**Alice Springs**	**31.75**	**254**	P		**P**		**13 43 07.5**	**-0.3**
	4.5nm,0.4s,baz=81,slow=8.3,SNR=72								
ASAR				LR		LR		13 55 02.8	
	comp=Z,149nm,19.9s,baz=88,slow=35								
GUMO	**Guam**	**38.24**	**323**	LR		LR		13 59 51.1	
	comp=Z,25nm,19.2s,baz=141,slow=36								
TBI	**Tubuai**	**40.73**	**105**	*e*LR		LR		13 55 52.8	
	210nm,33.0s								
PPT2	**Papeete2**	**41.00**	**97**	*e*LR		LR		13 56 12.2	
	92nm,28.8s								
PPT	**Papeete**	**41.00**	**97**	LR		LR		13 57 51.1	
	comp=Z,202nm,19.9s,baz=255,slow=31								
QSPA	**South Pole Qui**	**72.26**	**180**	P		**P**		**13 48 09.6**	**+1.1**
	8.7nm,0.9s,baz=25,slow=2.2,SNR=19								
CMAR	**Chiang Mai Arr**	**76.24**	**295**	P		**P**		**13 48 34.2**	**+1.9**
	2.6nm,0.8s,baz=127,slow=4.4,SNR=15								
YAK	**Yakutsk**	**84.95**	**343**	*e*P		**P**		**13 49 17.9**	**-0.2**
	7.2nm,0.8s								
SONM	**Songino Array**	**84.97**	**324**	P		**P**		**13 49 18.8**	**+0.1**
	1.2nm,0.8s,baz=123,slow=5.5,SNR=5.8								
SONM				LR		LR		14 24 34.3	
	comp=Z,18nm,20.3s,baz=152,slow=34								
COLA	**College**	**89.20**	**18**	P		**P**		**13 49 37.1**	**-1.4**
	2.9nm,0.8s								
NVAR	**Mina Array Bea**	**89.22**	**49**	P		**P**		**13 49 39.8**	**+0.2**
	1.2nm,1.0s,baz=224,slow=6.3,SNR=4.6								
ILAR	**Eielson Array**	**89.40**	**18**	P		**P**		**13 49 37.9**	**-1.7**
	1.0nm,0.8s,baz=242,slow=5.0,SNR=12								
SNAA	**Sanae**	**90.52**	**183**	P		**P**		**13 49 45.3**	**+0.3**
	3.6nm,0.8s,baz=174,slow=12,SNR=4.6								
MKAR	**Makanchi Array**	**99.43**	**316**	P		**Pdif**		**13 50 25.8**	**-0.2**
	0.4nm,0.9s,baz=83,slow=6.2,SNR=2.7								
ZALV	**Zalesovo Beam**	**99.86**	**323**	LR		LR		14 36 32.6	
	comp=Z,11nm,18.6s,baz=56,slow=36								
YKA	**Yellowknife Ar**	**100.22**	**27**	P		**Pdif**		**13 50 28.3**	**-0.8**
	0.1nm,0.6s,baz=267,slow=5.1,SNR=4.7								
ARCES	**ARCESS Array B**	**123.20**	**345**	PKP		**PKPdf**		**13 55 39.1**	**-0.4**
	1.0nm,0.7s,baz=83,slow=3.8,SNR=3.7								
KBA	**Koelnbreinsper**	**143.78**	**330**	*i* PKPdf		PKPbc		13 56 16.3	-0.1
	4.4nm,1.1s								
ABTA	**Abfaltersbach**	**144.42**	**330**	*e*PKPdf		**PKPab**		**13 56 17.7**	**-0.3**
	6.7nm,1.0s								
MOTA	**Moosalm**	**144.63**	**332**	*e*PKPdf		**PKPdf**		**13 56 19.4**	**-0.8**
	3.8nm,0.6s								
FETA	**Feichten**	**145.05**	**332**	*e*PKPdf		**PKPdf**		**13 56 21.1**	**+0.2**
	14nm,0.8s								
DAVA	**Damuels**	**145.22**	**333**	*e*PKPdf		**PKPdf**		**13 56 21.6**	**+0.4**
	9.4nm,0.6s								
TIP	**Timpagrande**	**146.71**	**316**	*e*PKPbc		**PKPab**		**13 56 26.1**	**-0.7**
BNI	**Bardonecchia**	**148.35**	**333**	*e*PKPbc		**PKPbc**		**13 56 30.6**	**+0.6**
ESDC	**Sonseca Array**	**156.91**	**343**	PKPab		**PKPab**		**13 57 09.4**	**+0.4**
	0.1nm,0.3s,baz=354,slow=5.8,SNR=4.8								
TORD	**Torodi Ar. Bea**	**165.40**	**254**	PKP		**PKPdf**		**13 56 48.5**	**-0.2**
	1.6nm,0.9s,baz=134,slow=1.0,SNR=5.8								

*ISCJB **20** 14:15:03.2±0.2,7.01S±0.03×129.31E±0.03,h150km, mb4.3/22,Error ellipse: s-maj=4.8km s-min=4.2km az=154.9*

*IDC **20** 14:15:06.6±1.9,6.96S×129.24E,h164km±17km,mb3.9/15, mb1 4.0/18,mb1mx3.8/55,mbtmp4.5/18,MS3.2/2, Ms1 3.2/2,ms1mx2.6/46,Error ellipse: s-maj=19.0km s-min=10.0km az=54.0*

*NEIC **20** 14:15:06.0±0.6,6.96S×129.31E,h160km±6km,mb4.6/14, Error ellipse: s-maj=7.4km s-min=5.1km az=219.0*

*DJA **20** 14:15:06.7±0.5,7°S±2°×129°E±°,h152km±11km,M4.9/9, mb5.1/7,mB5.2/7,MLv5.0/9,Mw(mB)4.6/7*

ISC 20 14:15:05.0±0.4,7.09S±0.04×129.31E±0.04,h150km,n84, σ1§88/93,mb4.3/22,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SAUI	**Saumlaki**	**2.17**	**114**	P		**Pn**		**14 15 46.0**	**+3.9**
SAUI				S		**Sn**		**14 16 15.0**	**+4.4**
SAUI	**Saumlaki**	**2.17**	**114**	*e*Pn		**Pn**		**14 15 45.5**	**+3.4**
AAI	**Ambon**	**3.56**	**342**	P		**Pn**		**14 16 01.7**	**+2.1**
MSAI	**Mas

	12nm,0.6s							
RAMN	**Ramite**	**53.44**	**311**	*e*P	**P**	**14 24 09.7**	**-0.4**
JIRN	**Jiri**	**54.13**	**312**	*e*P	**P**	**14 24 14.4**	**-0.8**
	7.0nm,0.3s							
GUN	**Gumba**	**54.49**	**312**	*e*P	**P**	**14 24 17.1**	**-0.8**
	16nm,0.5s							
PKI	**Pulchoki**	**54.66**	**311**	*e*P	**P**	**14 24 18.0**	**-1.1**
	12nm,0.6s							
PKIN	**Phulchoki**	**54.67**	**311**	*e*P	**P**	**14 24 18.9**	**-0.2**
	7.6nm,0.5s							
KKN	**Kakani**	**54.88**	**311**	*e*P	**P**	**14 24 19.5**	**-1.0**
	8.8nm,0.5s							
DMN	**Daman**	**54.91**	**311**	*e*P	**P**	**14 24 19.9**	**-0.9**
GKN	**Gorkha**	**55.47**	**311**	*e*P	**P**	**14 24 23.9**	**-0.7**
	4.9nm,0.2s							
KOLN	**Koldanda**	**56.13**	**310**	*e*P	**P**	**14 24 28.6**	**-0.8**
	19nm,0.6s							
PYUN	**Piuthan**	**56.76**	**310**	*e*P	**P**	**14 24 33.3**	**-0.6**
	24nm,0.7s							
SONM	**Songino Array**	**58.31**	**342**	P	**P**	**14 24 43.6**	**-0.6**
	0.6nm,0.5s,baz=147,slow=6.8,SNR=4.5							
WMQ	**Urumqi**	**63.10**	**327**	P	**P**	**14 25 16.1**	**-0.5**
MK01	**Makanchi Array**	**67.91**	**327**	*e*P	**P**	**14 25 46.5**	**-0.9**
MK31	**Makanchi Array**	**67.92**	**327**	*e*P	**P**	**14 25 46.4**	**-1.1**
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**14 25 46.9**	**-0.7**
	1.9nm,0.4s,baz=115,slow=8.5,SNR=46							
MKAR	**Makanchi Array**	**67.92**	**327**	*e*P	**P**	**14 25 46.4**	**-1.2**
	20nm,0.4s							
MAKZ	**Makanchi**	**68.10**	**327**	*e*P	**P**	**14 25 47.5**	**-1.1**
	1.7nm,0.7s							
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**14 26 07.0**	**-1.4**
	1.1nm,0.4s,baz=132,slow=6.9,SNR=4.6							
SEY	**Seymchan**	**72.02**	**11**	P	**P**	**14 26 11.4**	**-0.7**
	0.8nm,0.5s,baz=236,slow=7.1,SNR=8.7							
KURBB	**Kurchatov Arra**	**72.23**	**329**	P	**P**	**14 26 12.8**	**-0.8**
	2.3nm,0.5s,baz=130,slow=5.1,SNR=18							
KURK	**Kurchatov**	**72.24**	**329**	*e*P	**P**	**14 26 12.7**	**-1.0**
	17nm,1.9s							
WSAR	**Wadi Sarin**	**75.29**	**296**	P	**P**	**14 26 31.4**	**-0.7**
	9.3nm,1.0s,baz=132,slow=9.2,SNR=3.5							
BVAR	**Borovoye Array**	**77.77**	**328**	P	**P**	**14 26 44.4**	**-1.0**
	0.6nm,0.5s,baz=138,slow=9.3,SNR=5.1							
NRIK	**Noril'sk**	**81.48**	**346**	LR	LR	15 07 47.3		
	comp=Z,508nm,18.2s,baz=242,slow=39							
ABKAR	**Akbulak array**	**82.15**	**322**	*e*P	**P**	**14 27 07.8**	**-1.2**
	16nm,0.4s							
QSPA	**South Pole Qui**	**82.89**	**180**	P	**P**	**14 27 12.6**	**-0.1**
	1.1nm,0.7s,baz=315,slow=5.7,SNR=3.5							
AKTO	**Aktyubinsk**	**83.72**	**322**	P	**P**	**14 27 16.2**	**-0.9**
	0.9nm,0.4s,baz=86,slow=7.7,SNR=6.1							
ARCES	**ARCESS Array B**	**101.42**	**340**	P	**Pdif**	**14 28 36.6**	**-2.4**
	3.0nm,0.9s,baz=64,slow=5.5,SNR=5.6							
YKA	**Yellowknife Ar**	**108.14**	**26**	PKKPbc	PKKPbc	14 44 26.4	-3.1	
	0.2nm,0.5s,baz=103,slow=2.9,SNR=5.1							
TORD	**Torodi Ar. Bea**	**128.15**	**281**	PKP	**PKPdf**	**14 33 53.8**	**-0.7**
	0.6nm,0.7s,baz=67,slow=1.3,SNR=3.8							
PLCA	**Paso Flores**	**129.02**	**161**	PKP	**PKPdf**	**14 33 56.0**	**+0.4**
	0.6nm,0.5s,baz=268,slow=5.9,SNR=3.3							
CPUP	**Villa Florida**	**146.16**	**169**	PKPbc	**PKPdf**	**14 34 28.6**	**+1.4**
	2.0nm,0.6s,baz=215,slow=5.4,SNR=4.3							
LPAZ	**La Paz**	**151.06**	**144**	PKPbc	**PKPbc**	**14 34 41.9**	**-0.2**
	0.6nm,0.4s,baz=273,slow=3.7,SNR=2.7							

*IDC **20** 14:18:03.1±1.1,60.70N×150.77W,h0km,mb3.4/5, mb1 3.6/8,mb1mx3.4/71,mbtmp3.4/8,ML3.0/3,MS3.0/3, Ms1 3.0/3,ms1mx2.5/46, Error ellipse: s-maj=23.6km s-min=14.1km az=104.0*

*NEIC **20** 14:18:09.4±0.0,60.43N×150.79W,h44km,ML3.5(AEIC), After AEIC.*

NEIC Felt [III] at Soldotna and [II] at Sterling. Also felt at Cooper Landing.

ISC 20 14:18:05.4±1.2,**60.40N**±0.03×**150.76W**±0.03,**h14**km±9km, **n74**,σ1ˢ**32**/87,**mb3.3**/5,**Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SLKM	**Skilak Lake**	**0.29**	**68**	P		**Pn**	**14 18 17.3**	**+2.0**
BRLK	**Bradley Lake**	**0.64**	**186**	P		**Pn**	**14 18 22.1**	**+1.9**
BRLK				S		**Sn**	**14 18 32.4**	**+2.3**
FIB	**Fire Island**	**0.82**	**20**	P		**Pn**	**14 18 24.0**	**+1.5**
FIB				S		**Sn**	**14 18 36.3**	**+1.8**
RC01	**Rabbit Creek A**	**0.85**	**36**	P		**Pn**	**14 18 23.7**	**+0.6**
RC01				S		**Sn**	**14 18 35.8**	**+0.5**
HOM	**Homer**	**0.87**	**211**	P		**Pn**	**14 18 25.2**	**+2.0**
HOM				S		**Sn**	**14 18 38.3**	**+2.7**
DFR	**Drift River**	**0.97**	**282**	P		**Pn**	**14 18 25.3**	**+0.6**
DFR				S		**Sn**	**14 18 38.5**	**0.0**
RSO	**Redoubt South**	**0.99**	**274**	*e*Pn		**Pn**	**14 18 25.9**	**+0.8**
RSO				*e*Sn		**Sn**	**14 18 39.1**	**+0.1**
RDJH	**Redoubt Jeurge**	**1.03**	**282**	P		**Pn**	**14 18 26.3**	**+0.7**
RDJH				S		**Sn**	**14 18 40.1**	**+0.2**
RDWB	**Redoubt West**	**1.04**	**276**	P		**Pn**	**14 18 26.4**	**+0.7**
RDWB				S		**Sn**	**14 18 40.2**	**+0.2**
SUA	**Susitna One**	**1.07**	**0**	P		**Pn**	**14 18 26.6**	**+0.5**
SUA				S		**Sg**	**14 18 40.3**	**+0.4**
SPCP	**Crater Peak Br**	**1.10**	**322**	P		**Pg**	**14 18 27.3**	**+0.6**
CKL	**Chakachamna La**	**1.11**	**317**	P		**Pg**	**14 18 27.1**	**+0.2**
BGL	**Barrier Glacie**	**1.18**	**318**	P		**Pg**	**14 18 28.2**	**+0.1**
STLK	**Strandline Lak**	**1.22**	**335**	P		**Pg**	**14 18 29.0**	**+0.2**
ILW	**Iliamna West**	**1.23**	**255**	P		**Pg**	**14 18 29.5**	**+0.3**
ILS	**Iliamna Low So**	**1.24**	**250**	P		**Pg**	**14 18 29.7**	**+0.5**
SPWE	**Spurr West**	**1.24**	**316**	P		**Pg**	**14 18 29.1**	**-0.2**
PMR	**Palmer**	**1.44**	**33**	P		**Pb**	**14 18 32.2**	**+0.3**
KNK	**Knik Glacier**	**1.52**	**47**	P		**Pb**	**14 18 33.4**	**+0.1**
KNK				S		**Sb**	**14 18 52.6**	**+0.2**
SKT	**Skwentna**	**1.63**	**347**	P		**Pb**	**14 18 34.9**	**-0.3**
SKT				S		**Sb**	**14 18 56.1**	**+0.4**
GHO	**Glory Hole Cre**	**1.64**	**32**	P		**Pb**	**14 18 35.1**	**-0.4**
AUNW	**Augustine NWes**	**1.71**	**234**	P		**Pb**	**14 18 37.2**	**+0.6**
AUW	**Augustine West**	**1.71**	**234**	P		**Pb**	**14 18 37.1**	**+0.5**
AUI	**Augustine Isla**	**1.72**	**233**	P		**Pb**	**14 18 37.1**	**+0.4**
AUI				S		**Sg**	**14 18 59.5**	**-1.1**
SML	**Sawmill**	**1.84**	**39**	P		**Pb**	**14 18 38.0**	**-0.9**
GLI	**Glacier Island**	**1.87**	**73**	P		**Pn**	**14 18 37.1**	**+0.1**
CDD	**Cape Douglas**	**2.08**	**226**	P		**Pb**	**14 18 42.6**	**-0.3**
JPK	**Jack Peak**	**2.15**	**70**	P		**Pn**	**14 18 41.5**	**+0.6**
SCM	**Sheep Creek Mo**	**2.20**	**48**	P		**Pn**	**14 18 43.1**	**+1.5**
VMT	**TAPS TI Valdez**	**2.26**	**70**	P		**Pn**	**14 18 43.4**	**+1.0**
SVW2	**Sparrevohn**	**2.47**	**289**	P		**Pn**	**14 18 45.8**	**+0.6**
SVW2				S		**Sn**	**14 19 15.2**	**+0.1**
EYAK	**Cordova Ski Ar**	**2.49**	**84**	P		**Pn**	**14 18 45.5**	**+0.1**
DIV	**Divide**	**2.55**	**71**	*e*Pn		**Pn**	**14 18 46.8**	**+0.4**
KAPH	**Katmai Pasha**	**2.57**	**227**	P		**Pb**	**14 18 50.1**	**-1.2**
PPLA	**Purkeypile**	**2.60**	**345**	P		**Pn**	**14 18 48.2**	**+1.1**
KLU	**Klutina**	**2.60**	**63**	P		**Pn**	**14 18 48.1**	**+1.0**
KLU				S		**Sn**	**14 19 17.4**	**-1.2**
KARR	**Katmai Rainbow**	**2.77**	**228**	P		**Pb**	**14 18 52.6**	**-2.1**
KDAK	**Kodiak Island**	**2.79**	**201**	Pn		**Pn**	**14 18 50.7**	**+1.1**
	5.7nm,0.3s,baz=38,slow=14,SNR=183							
KDAK				Sn		**Sn**	**14 19 21.8**	**-1.1**
	18nm,0.3s,baz=27,slow=13,SNR=4.8							
KDAK				Lg		Lg	14 19 32.5	
	31nm,0.3s,baz=288,slow=20,SNR=8.8							
KDAK				LR		LR	14 19 36.6	
	comp=Z,53nm,20.4s,baz=19,slow=30							
PS12	**TAPS Pump St12**	**2.94**	**66**	P		**Pn**	**14 18 52.8**	**+1.1**
RAGM	**Ragged Mountai**	**3.02**	**88**	P		**Pn**	**14 18 52.8**	**-0.1**
PS11	**TAPS Pump St11**	**3.06**	**54**	P		**Pn**	**14 18 55.5**	**+2.2**
TRF	**Thorofare Moun**	**3.07**	**4**	*e*Pn		**Pn**	**14 18 56.0**	**+2.4**
BMRM	**Bremner River**	**3.08**	**77**	P		**Pn**	**14 18 53.8**	**+0.1**
CAST	**Castle Rocks**	**3.09**	**349**	P		**Pn**	**14 18 54.6**	**+0.8**
KTH	**Kantishna Hill**	**3.17**	**359**	*e*Pn		**Pn**	**14 18 57.1**	**+2.2**
HARP	**HAARP**	**3.36**	**51**	P		**Pn**	**14 18 59.8**	**+2.3**
OHAK	**Old Harbor**	**3.45**	**204**	*e*Pn		**Pn**	**14 18 59.3**	**+0.7**
MCK	**McKinley**	**3.45**	**14**	*e*Pn		**Pn**	**14 19 01.1**	**+2.3**
TT01	**Tatalina**	**3.55**	**317**	P		**Pn**	**14 19 01.1**	**+1.0**
PAX	**Paxson**	**3.61**	**42**	*e*Pn		**Pn**	**14 19 02.5**	**+1.6**
BPAW	**Bear Paw Mtn.**	**3.72**	**358**	P		**Pn**	**14 19 02.9**	**+0.6**
KHIT	**Khitrov Hills**	**3.72**	**86**	P		**Pn**	**14 19 01.8**	**-0.7**
ISLE	**Juniper Island**	**4.17**	**84**	P		**Pn**	**14 19 08.3**	**-0.4**
WRH	**Wood River Hil**	**4.27**	**16**	P		**Pn**	**14 19 11.8**	**+1.9**
CCB	**Clear Creek Bu**	**4.48**	**17**	P		**Pn**	**14 19 14.4**	**+1.7**
PS08	**TAPS Pump Stn8**	**4.54**	**22**	P		**Pn**	**14 19 15.8**	**+2.1**
MLY	**Manley**	**4.65**	**0**	P		**Pn**	**14 19 17.0**	**+1.8**
COLA	**College**	**4.69**	**15**	*e*Pn		**Pn**	**14 19 16.2**	**+0.6**
MDM	**Murphy Dome**	**4.72**	**13**	P		**Pn**	**14 19 17.9**	**+1.8**
ILAR	**Eielson Array**	**4.74**	**21**	Pg		**Pn**	**14 19 18.1**	**+1.8**
	1.4nm,0.3s,baz=207,slow=14,SNR=37							
ILAR				Lg		Lg	14 20 17.8	
	4.5nm,0.3s,baz=212,slow=23,SNR=6.6							
ILB	**Eielson Array**	**4.74**	**21**	P		**Pn**	**14 19 18.2**	**+1.8**
IM3	**Indian Mountai**	**5.77**	**348**	P		**Pn**	**14 19 30.8**	**+0.3**
EGAK	**Eagle**	**6.24**	**41**	*e*Pn		**Pn**	**14 19 38.3**	**+1.4**
	12nm,0.6s							
COLD	**Coldfoot**	**6.86**	**2**	*e*Pn		**Pn**	**14 19 47.1**	**+1.6**
	6.7nm,0.6s							
BM3	**Burnt Mountain**	**7.55**	**18**	P		**Pn**	**14 19 56.2**	**+1.2**
INK	**Inuvik**	**10.85**	**36**	Pn		**Pn**	**14 20 36.2**	**-3.9**
	0.0nm,0.3s,baz=241,slow=13,SNR=2.5							
YKA	**Yellowknife Ar**	**17.27**	**67**	P		**Pn**	**14 22 04.9**	**-0.8**
	0.1nm,0.3s,baz=280,slow=9.4,SNR=7.5							
RES	**Resolute Bay**	**24.37**	**32**	P		**P**	**14 23 19.6**	**-2.9**
	0.7nm,0.8s,baz=252,slow=9.6,SNR=3.0							
NVAR	**Mina Array Bea**	**29.96**	**122**	P		**P**	**14 24 14.4**	**+1.1**
	0.4nm,0.6s,baz=309,slow=9.1,SNR=4.4							
PDAR	**Pinedale Array**	**30.42**	**107**	P		**P**	**14 24 18.1**	**+0.8**
	0.4nm,0.8s,baz=329,slow=6.8,SNR=2.9							
YAK	**Yakutsk**	**36.10**	**308**	LR		LR	14 40 29.2	
	comp=Z,46nm,18.3s,baz=83,slow=38							
SFJD	**Kangerlussuaq**	**40.19**	**37**	LR		LR	14 44 25.1	
	comp=Z,40nm,18.0s,baz=322,slow=40							
TXAR	**Lajitas Array**	**44.09**	**113**	P		**P**	**14 26 13.8**	**+0.8**
	0.2nm,0.5s,baz=318,slow=4.9,SNR=3.1							
SONM	**Songino Array**	**55.45**	**307**	P		**P**	**14 27 38.0**	**-1.3**
	0.3nm,0.4s,baz=48,slow=5.4,SNR=3.5							

*ISCJB **20** 14:20:55.9±0.6,38.49N±0.02×25.56E±0.03,h4km±4km, Error ellipse: s-maj=3.5km s-min=2.9km az=3.2*

*DDA **20** 14:20:55.9,38.53N×25.57E,h7km,Ml3.5*

*ISK **20** 14:20:56.4,38.52N×25.57E,h14km, ML2.9/16*

*CSEM **20** 14:20:56.6±0.1,38.49N×25.57E,h10km, ML2.6, Error ellipse: s-maj=1.9km s-min=1.7km az=121.0*

*ATH **20** 14:20:56.2,38.49N×25.58E,h27km±1km, ML2.6/6, Error ellipse: s-maj=1.4km s-min=0.8km az=88.0*

*THE **20** 14:20:57.0,38.50N×25.57E,h11km±1km, ML2.5/7, Error ellipse: s-maj=1.3km s-min=0.5km az=66.0*

ISC 20 14:20:56.5±1.0,**38.49N**±0.02×**25.57E**±0.02,**h10**km±9km, **n95**,σ0ˢ**54**/138,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOS	**Chios island**	**0.39**	**105**	PG		**Pb**	**14 21 04.9**	**-0.6**
CHOS				SG		**Sb**	**14 21 11.6**	**0.0**
CHOS	**Chios island**	**0.39**	**105**	P		**Pb**	**14 21 05.1**	**-0.4**
CHOS				S		**Sg**	**14 21 09.7**	**+0.3**
CHOS				AML		AML	14 21 10.8	
	comp=N,1596μm,0.2s							
CHOS				AML		AML	14 21 11.5	
	comp=E,1890μm,0.2s							
CHOS	**Chios island**	**0.39**	**105**	P		**Pb**	**14 21 04.9**	**-0.6**
CHOS				S		**Sg**	**14 21 10.4**	**+1.0**
CHOS				*e*Sg		**Sb**	**14 21 11.6**	**0.0**
CHOS	**Chios island**	**0.39**	**105**	P		**Pb**	**14 21 04.9**	**-0.6**
CHOS				S		**Sb**	**14 21 10.7**	**-0.9**
CESE	**ˇe˘me**	**0.59**	**105**	PG		**Pg**	**14 21 08.3**	**+0.4**
CESE	**ˇe˘me**	**0.59**	**105**	*e*Pg		**Pg**	**14 21 08.3**	**+0.4**
SIGR	**SIGRI**	**0.76**	**17**	PG		**Pb**	**14 21 11.8**	**+0.1**
SIGR				SG		**Sb**	**14 21 21.7**	**-0.3**
SIGR	**SIGRI**	**0.76**	**17**	P		**Pg**	**14 21 10.8**	**-0.3**
SIGR				S		**Sg**	**14 21 21.3**	**+0.3**
SIGR	**SIGRI**	**0.76**	**17**	P		**Pg**	**14 21 11.0**	**-0.1**
SIGR	**SIGRI**	**0.76**	**17**	*e*Pg		**Pb**	**14 21 11.8**	**+0.1**
SIGR				S		**Sb**	**14 21 21.6**	**-0.4**
SIGR	**SIGRI**	**0.76**	**17**	P		**Pg**	**14 21 11.0**	**-0.1**
SIGR				S		**Sb**	**14 21 22.0**	**0.0**
ZEY	**ˇzmir**	**0.77**	**108**	*i* P		**Pb**	**14 21 12.1**	**+0.2**
ZEY				*i* S		**Sg**	**14 21 21.3**	**-0.2**
KRBN	**Karaburun**	**0.78**	**82**	PG		**Pb**	**14 21 11.9**	**-0.1**
KRBN				SG		**Sb**	**14 21 22.5**	**-0.1**
KRBN	**Karaburun**	**0.78**	**82**	*e*Pg		**Pb**	**14 21 11.9**	**-0.1**
KRBN				*e*Sg		**Sb**	**14 21 22.5**	**-0.1**
URLA	**Izmir**	**0.81**	**99**	PG		**Pg**	**14 21 11.8**	**-0.3**
URLA	**Izmir**	**0.81**	**99**	*i* P		**Pg**	**14 21 11.7**	**-0.5**
URLA				*i* S		**Sg**	**14 21 21.3**	**-1.5**
URLA	**Izmir**	**0.81**	**99**	*e*Pg		**Pg**	**14 21 11.8**	**-0.3**
URLA				S		**Sg**	**14 21 21.3**	**-1.5**
SKY	**Skiros Island**	**0.89**	**296**	P		**Pg**	**14 21 13.5**	**-0.1**
SKY				S		**Sb**	**14 21 25.7**	**-0.3**
SKY	**Skiros Island**	**0.89**	**296**	P		**Pg**	**14 21 13.6**	**-0.1**
SKY				S		**Sb**	**14 21 26.0**	**+0.1**
FOCM	**Foˇşa**	**0.93**	**76**	PG		**Pb**	**14 21 14.6**	**-0.1**
FOCM	**Foˇşa**	**0.93**	**76**	*e*Pg		**Pb**	**14 21 14.6**	**-0.1**
PRK	**Paraskevi**	**0.93**	**35**	P		**Pg**	**14 21 14.3**	**-0.1**
PRK				S		**Sn**	**14 21 28.2**	**-0.7**
PRK				AML		AML	14 21 30.9	
	comp=E,1235μm,0.4s							
PRK				AML		AML	14 21 32.4	
	comp=N,823μm,0.5s							
PRK	**Paraskevi**	**0.93**	**35**	P		**Pg**	**14 21 14.2**	**-0.3**
PRK				S		**Sb**	**14 21 27.8**	**+0.7**
PRK	**Paraskevi**	**0.93**	**35**	P		**Pg**	**14 21 14.1**	**-0.4**
PRK				S		**Sn**	**14 21 28.3**	**-0.7**
TNSA	**Tinos**	**1.00**	**199**	P		**Pn**	**14 21 16.2**	**-0.3**
TNSA				S		**Sg**	**14 21 28.7**	**0.0**
TNSA	**Tinos**	**1.00**	**199**	P		**Pb**	**14 21 15.9**	**+0.1**
TNSA				S		**Sb**	**14 21 29.2**	**+0.2**
KARY	**Karystos**	**1.00**	**243**	P		**Pn**	**14 21 16.4**	**-0.2**
KARY				S		**Sb**	**14 21 29.5**	**+0.3**
KARY				AML		AML	14 21 30.2	
	comp=E,607μm,0.3s							
KARY				AML		AML	14 21 31.8	
	comp=N,651μm,0.2s							
KARY	**Karystos**	**1.00**	**243**	P		**Pb**	**14 21 15.9**	**0.0**
KARY				S		**Sb**	**14 21 29.6**	**+0.5**
KARY	**Karystos**	**1.00**	**243**	P		**Pb**	**14 21 15.9**	**0.0**
KARY				S		**Sn**	**14 21 30.1**	**-0.6**
GPNR	**Gulpinar-Canak**	**1.06**	**24**	PG		**Pb**	**14 21 16.5**	**-0.4**
GPNR	**Gulpinar-Canak**	**1.06**	**24**	*e*Pg		**Pb**	**14 21 16.5**	**-0.4**
CAND	**Candarli**	**1.07**	**64**	PG		**Pn**	**14 21 17.9**	**+0.5**
DGB	**ˇzmir**	**1.12**	**112**	*i* P		**Pn**	**14 21 18.1**	**0.0**
DGB				*i* S		**Sn**	**14 21 33.8**	**+0.3**
EFSA	**Agios Efstrati**	**1.15**	**337**	P		**Pg**	**14 21 19.3**	**+0.8**
EFSA				S		**Sn**	**14 21 35.2**	**+1.0**
EFSA	**Agios Efstrati**	**1.15**	**337**	P		**Pg**	**14 21 18.7**	**+0.2**
EFSA				S		**Sn**	**14 21 34.6**	**+0.4**
DKL	**Dikili**	**1.19**	**60**	PN		**Pg**	**14 21 19.8**	**+0.4**
DKL	**Dikili**	**1.19**	**60**	*e*Pn		**Pg**	**14 21 19.8**	**+0.4**
AYVA	**Ayvalik**	**1.20**	**46**	*i* P		**Pb**	**14 21 19.1**	**-0.1**
AYVA				*i* S		**Sg**	**14 21 35.0**	**0.0**
AYVA	**Ayvalik**	**1.20**	**46**	P		**Pb**	**14 21 19.1**	**-0.1**
AYVA				S		**Sg**	**14 21 35.0**	**0.0**
SMG	**Samos**	**1.26**	**128**	P		**Pn**	**14 21 20.0**	**-0.1**
SMG				S		**Sg**	**14 21 38.1**	**+0.9**
SMG				AML		AML	14 21 40.4	
	comp=E,338μm,0.3s							
SMG				AML		AML	14 21 44.5	
	comp=N,359μm,0.4s							
SMG	**Samos**	**1.26**	**128**	P		**Pn**	**14 21 20.0**	**-0.1**
SMG				S		**Sn**	**14 21 37.1**	**-0.1**
SMG	**Samos**	**1.26**	**128**	P		**Pn**	**14 21 19.9**	**-0.2**
SMG				S		**Sn**	**14 21 37.1**	**-0.1**
EREA	**Eretria**	**1.29**	**268**	P		**Pn**	**14 21 20.6**	**0.0**
EREA	**Eretria**	**1.29**	**268**	P		**Pn**	**14 21 20.5**	**0.0**
BOZC	**Bozcaada**	**1.40**	**15**	PN		**Pn**	**14 21 21.5**	**-0.6**
BOZC	**Bozcaada**	**1.40**	**15**	*i* P		**Pn**	**14 21 21.4**	**-0.6**
BOZC				*i* S		**Sg**	**14 21 42.0**	**+0.4**
BOZC	**Bozcaada**	**1.40**	**15**	*e*Pn		**Pn**	**14 21 21.5**	**-0.6**
APE	**Apeiranthos**	**1.42**	**181**	PN		**Pb**	**14 21 22.8**	**-0.2**
APE	**Apeiranthos**	**1.42**	**181**	P		**Pn**	**14 21 21.3**	**-1.0**
APE	**Apeiranthos**	**1.42**	**181**	P		**Pn**	**14 21 21.9**	**-0.4**
APE	**Apeiranthos**	**1.42**	**181**	*e*Pn		**Pb**	**14 21 22.8**	**-0.2**
APE				S		**Sn**	**14 21 40.7**	**-0.3**
APE	**Apeiranthos**	**1.42**	**181**	P		**Pn**	**14 21 21.9**	**-0.4**
APE				S		**Sn**	**14 21 40.7**	**-0.3**
LIA	**Limnos Island**	**1.44**	**348**	P		**Pn**	**14 21 21.9**	**-0.6**
LIA				S		**Sn**	**14 21 41.1**	**-0.4**
LIA				AML		AML	14 21 47.3	
	comp=E,266μm,0.5s							
LIA				AML		AML	14 21 47.7	
	comp=N,256μm,0.4s							
LIA	**Limnos Island**	**1.44**	**348**	P		**Pn**	**14 21 22.3**	**-0.3**
LIA				S		**Sb**	**14 21 41.5**	**-0.3**
LIA	**Limnos Island**	**1.44**	**348**	P		**Pn**	**14 21 21.5**	**-1.1**
LIA				S		**Sb**	**14 21 41.5**	**-0.3**
EZN	**Ezine**	**1.46**	**23**	PN		**Pn**	**14 21 23.0**	**+0.2**
EZN	**Ezine**	**1.46**	**23**	*e*Pn		**Pn**	**14 21 23.0**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.46**	**31**	*i* P		**Pn**	**14 21 22.1**	**-0.8**
BAYC				*i* S		**Sg**	**14 21 43.3**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.46**	**31**	P		**Pn**	**14 21 22.1**	**-0.8**
BAYC				S		**Sg**	**14 21 43.3**	**-0.3**
GCAM	**G?zelcaml?**	**1.53**	**120**	PN		**Pb**	**14 21 24.4**	**-0.4**
GCAM	**G?zelcaml?**	**1.53**	**120**	*e*Pn		**Pb**	**14 21 24.4**	**-0.4**
VLY	**Voula,Athens**	**1.54**	**246**	P		**Pn**	**14 21 23.6**	**-0.3**
VLY	**Voula,Athens**	**1.54**	**246**	P		**Pn**	**14 21 23.8**	**-0.1**
VLY	**Voula,Athens**	**1.54**	**246**	P		**Pn**	**14 21 23.6**	**-0.3**
SERI	**Serifos**	**1.58**	**213**	P		**Pn**	**14 21 23.7**	**-0.8**
SERI	**Serifos**	**1.58**	**213**	P		**Pn**	**14 21 24.1**	**-0.4**
GADA	**Gvkgeada**	**1.72**	**8**	PN		**Pn**	**14 21 26.0**	**-0.3**
GADA	**Gvkgeada**	**1.72**	**8**	P		**Pn**	**14 21 26.1**	**-0.3**
GADA	**Gvkgeada**	**1.72**	**8**	P		**Pn**	**14 21 26.1**	**-0.3**
IOSP	**Ios island**	**1.77**	**187**	P		**Pb**	**14 21 29.0**	**0.0**
IOSP	**Ios island**	**1.77**	**187**	P		**Pb**	**14 21 28.2**	**-0.9**
SKIA	**Skiathos**	**1.78**	**293**	P		**Pn**	**14 21 27.8**	**+0.6**
SKIA	**Skiathos**	**1.78**	**293**	P		**Pn**	**14 21 27.6**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.89**	**61**	*i* P		**Pg**	**14 21 34.8**	**+2.0**
STEP				*i* S		**Sg**	**14 21 58.9**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**1.90**	**106**	PN		**Pn**	**14 21 29.8**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.90**	**106**	*e*Pn		**Pn**	**14 21 29.8**	**+0.8**
MHLA	**Plaka, Milos I**	**1.96**	**208**	P		**Pn**	**14 21 29.9**	**+0.1**
MHLA				S		**Sn**	**14 21 54.9**	**+0.5**
MHLA				AML		AML	14 22 01.4	
	comp=N,490μm,0.6s							
MHLA				AML		AML	14 22 07.4	
	comp=E,436μm,0.8s							
MHLA	**Plaka, Milos I**	**1.96**	**208**	P		**Pn**	**14 21 29.9**	**+0.1**
MHLA				S		**Sn**	**14 21 54.8**	**+0.4**
SMTH	**Samothraki Isl**	**1.98**	**359**	P		**Pn**	**14 21 28.8**	**-1.2**
SMTH	**Samothraki Isl**	**1.98**	**359**	P		**Pn**	**14 21 29.5**	**-0.5**
SMTH	**Samothraki Isl**	**1.98**	**359**	P		**Pn**	**14 21 28.9**	**-1.2**
GELI	**Tayfur-Gelibol**	**2.03**	**20**	PN		**Pn**	**14 21 30.1**	**-0.6**
GELI	**Tayfur-Gelibol**	**2.03**	**20**	*e*Pn		**Pn**	**14 21 30.1**	**-0.6**
LPK	**Lapseki**	**2.10**	**26**	PN		**Pn**	**14 21 31.2**	**-0.4**
LPK	**Lapseki**	**2.10**	**26**	*e*Pn		**Pn**	**14 21 31.2**	**-0.4**
ERIK	**Erikli-Kesan**	**2.30**	**18**	PN		**Pn**	**14 21 35.3**	**+1.0**
ERIK	**Erikli-Kesan**	**2.30**	**18**	*e*Pn		**Pn**	**14 21 35.3**	**+1.0**
KRBG	**Karabiga-Canak**	**2.33**	**34**	PN

1.6nm,1.0s,baz=180,slow=17,SNR=4.0
PDAR Pinedale Array 82.85 42 P **P 14 43 35.1 +0.8**
0.3nm,0.6s,baz=206,slow=6.0,SNR=3.4
ILAR Eielson Array 82.94 11 P **P 14 43 35.2 +1.2**
0.3nm,0.6s,baz=226,slow=6.6,SNR=4.1
BRTR Keskin Array B 146.23 320 PKPbc **PKPab 14 50 50.5 -0.2**
1.4nm,0.8s,baz=78,slow=2.6,SNR=6.4

NIED ***20*** *14:31:00,36.70N×141.70E,h5km,Mw3.5 Best double couple: M₀2.23000×10¹⁴ NP1:φs333.00000°,δ23.00000°, λ-157.00000°. NP2:φs222.00000°,δ81.00000°, λ-69.00000°.*
IDC ***20*** *14:31:49.4±1.6,36.65N×141.73E,h0km,mb3.4/5, mb1 3.5/8,mb1mx3.4/67,mbtmp3.5/8,ML3.3/3,Error ellipse: s-maj=42.0km s-min=19.6km az=74.0*
JMA ***20*** *14:31:51.2±0.2,36.67N×141.74E,h33km±3km,M3.5*
ISC 20 14:31:50.8±2.0,36.70N±0.05×141.72E±0.08,h13km±11km, n24,σ1s14/26,mb3.5/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.84**	**299**	P	**Pg**	**14 32 07.2**	**0.0**
JHO	**Hitachi**	**0.93**	**265**	P	**Pg**	**14 32 08.0**	**-0.8**
JHO				S	**Sb**	**14 32 20.8**	**-0.3**
JFK	**Kawauchi**	**0.95**	**315**	P	**Pg**	**14 32 08.8**	**-0.4**
JFK				S	**Sg**	**14 32 21.9**	**+0.2**
JFT	**Otama**	**1.38**	**307**	P	**Pn**	**14 32 16.0**	**+0.2**
JMM	**Marumori**	**1.38**	**328**	P	**Pn**	**14 32 15.0**	**-0.8**
JMM				eS	**Sn**	**14 32 32.3**	**-1.6**
JFY	**Yanaizu**	**1.76**	**294**	P	**Pn**	**14 32 22.0**	**+1.0**
JIO	**Ouri**	**1.78**	**350**	P	**Pn**	**14 32 20.4**	**-0.8**
JIO				S	**Sn**	**14 32 41.5**	**-2.2**
JAG	**Ashikaga**	**1.85**	**262**	P	**Pn**	**14 32 21.7**	**-0.5**
JAG				S	**Sn**	**14 32 43.6**	**-1.8**
JOU	**Okura**	**1.87**	**333**	P	**Pn**	**14 32 23.1**	**+0.6**
MJAR	**Matsushiro Arr**	**2.83**	**268**	Pn	**Pn**	**14 32 36.2**	**+0.5**
	4.4nm,0.3s,baz=85,slow=15,SNR=7.7						
MJAR				Sn	**Sn**	**14 33 08.9**	**-0.8**
	2.3nm,0.3s,baz=77,slow=22,SNR=3.6						
MAT	**Matsushiro**	**2.83**	**268**	P	**Pn**	**14 32 37.0**	**+1.2**
MAT				S	**Sn**	**14 33 08.7**	**-1.1**
JHJ	**Hachijo jima 2**	**3.91**	**205**	Pn	**Pn**	**14 32 51.3**	**+0.8**
	24nm,0.3s,baz=100,slow=13,SNR=5.4						
JHJ				Sn	**Sn**	**14 33 34.9**	**-1.4**
	4.3nm,0.3s,baz=77,slow=19,SNR=2.5						
ASAJ	**Asahikawa**	**7.44**	**5**	Pn	**Pn**	**14 33 41.5**	**+2.4**
	0.3nm,0.3s,baz=162,slow=20,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**27.76**	**121**	T	T	15 06 44.2	
	baz=313,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**27.77**	**121**	T	T	15 06 48.5	
	baz=313,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**27.78**	**121**	T	T	15 06 39.7	
	baz=313,slow=75,SNR=22						
SONM	**Songino Array**	**28.18**	**304**	P	**P**	**14 37 44.2**	**+1.2**
	0.3nm,0.5s,baz=103,slow=7.7,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	15 07 32.9	
	baz=315,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	15 07 39.3	
	baz=315,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.48**	**123**	T	T	15 07 38.2	
	baz=315,slow=76,SNR=7.9						
MKAR	**Makanchi Array**	**44.51**	**302**	P	**P**	**14 40 02.1**	**+0.2**
	0.2nm,0.7s,baz=85,slow=9.6,SNR=2.4						
KURBB	**Kurchatov Area**	**46.41**	**308**	P	**P**	**14 40 17.3**	**+0.5**
	0.5nm,0.4s,baz=82,slow=8.0,SNR=6.5						
WRA	**Warramunga Arr**	**56.76**	**188**	P	**P**	**14 41 34.5**	**0.0**
	0.3nm,0.6s,baz=4.8,slow=7.3,SNR=3.8						
ASAR	**Alice Springs**	**60.49**	**188**	P	**P**	**14 42 00.7**	**+0.3**
	0.5nm,0.9s,baz=2.5,slow=6.5,SNR=2.9						

BER ***20*** *14:59:38.6±1.1,69.52N×31.32E,h0km,ML1.4,Suspected explosion*
KOLA ***20*** *14:59:41.7,67.81N×26.90E,h0km*
CSEM ***20*** *14:59:42.3±1.3,69.49N×30.18E,h2km,ML1.4,Error ellipse: s-maj=29.9km s-min=9.7km az=75.0,Mining explosion.*
ISCJB ***20*** *14:59:43.3±1.0,69.44N±0.07×29.8E±0.2,h0km,Error ellipse: s-maj=12.0km s-min=5.1km az=35.3*
UPP ***20*** *14:59:43.4,69.60N×29.78E,h0km,ML1.7,Suspected Mining explosion.*
ISC 20 14:59:42.6±1.3,69.49N±0.07×30.09E±0.07,h0km,n28, σ0s72/34,Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE0	**ARCESS Array S**	**1.62**	**274**	*e*P	**Pn**	**15 00 11.3**	**-1.1**
	SNR=50						
ARE0	**ARCESS Array S**	**1.62**	**274**	*e*P	**Pn**	**15 00 11.3**	**-1.1**
APA0	**Apatity Array**	**2.17**	**149**	P	**Pn**	**15 00 20.7**	**+0.8**
APA0				S	**Sb**	**15 00 49.9**	**-0.2**
APA	**Apatity**	**2.28**	**146**	P	**Pb**	**15 00 23.1**	**-1.5**
APA				S	**Sb**	**15 00 53.8**	**+0.5**
HAMF	**Hammerfest**	**2.48**	**301**	*e*P	**Pn**	**15 00 24.6**	**+0.3**
	SNR=50						
HAMF				*e*S	**Sn**	**15 00 56.5**	**+1.3**
	SNR=50						
HAMF	**Hammerfest**	**2.48**	**301**	*e*P	**Pn**	**15 00 24.6**	**+0.3**
HAMF				eS	**Sn**	**15 00 56.5**	**+1.3**
HAMF				IAML		15 00 57.9	
	comp=Z,4.4nm,0.3s						
KTK1	**Kautokeino**	**2.49**	**262**	*e*P	**Pn**	**15 00 24.6**	**+0.3**
	SNR=50						
KTK1	**Kautokeino**	**2.49**	**262**	*e*P	**Pn**	**15 00 24.6**	**+0.3**
KTK1				IAML		15 01 00.1	
	comp=Z,3.0nm,0.2s						
HEF	**Hetta**	**2.56**	**248**	*e*P	**Pn**	**15 00 25.7**	**+0.3**
	SNR=50						
HEF	**Hetta**	**2.56**	**248**	*e*P	**Pn**	**15 00 25.7**	**+0.3**
LANU	**Lannavaara**	**3.28**	**248**	P	**Pn**	**15 00 35.0**	**-0.3**
LANU	**Lannavaara**	**3.28**	**248**	P	**Pn**	**15 00 35.0**	**-0.3**
KIF	**Kilpisjarvi**	**3.34**	**266**	*e*P	**Pn**	**15 00 36.1**	**0.0**
	SNR=50						
KIF	**Kilpisjarvi**	**3.34**	**266**	*e*P	**Pn**	**15 00 36.1**	**0.0**
PAJU	**Pajala**	**3.59**	**230**	P	**Pn**	**15 00 39.8**	**+0.4**
PAJU				S	**Sn**	**15 01 23.6**	**+1.1**
PAJU	**Pajala**	**3.59**	**230**	P	**Pn**	**15 00 39.8**	**+0.4**
PAJU				S	**Sn**	**15 01 23.6**	**+1.1**
MASU	**Masugnsbyn**	**3.61**	**239**	P	**Pn**	**15 00 39.5**	**-0.3**
MASU	**Masugnsbyn**	**3.61**	**239**	P	**Pn**	**15 00 39.5**	**-0.3**
ERTU	**Ertsjaerv**	**4.18**	**229**	P	**Pn**	**15 00 47.8**	**+0.2**
ERTU	**Ertsjaerv**	**4.18**	**229**	P	**Pn**	**15 00 47.8**	**+0.2**
RATU	**Laukkuluspa**	**4.19**	**251**	P	**Pn**	**15 00 47.3**	**-0.3**
RATU	**Laukkuluspa**	**4.19**	**251**	P	**Pn**	**15 00 47.3**	**-0.3**
NIKU	**Nikkaluokta**	**4.35**	**253**	P	**Pn**	**15 00 49.6**	**-0.3**
NIKU	**Nikkaluokta**	**4.35**	**253**	P	**Pn**	**15 00 49.6**	**-0.3**
KALU	**Kalix**	**4.46**	**218**	P	**Pn**	**15 00 52.5**	**+1.2**
SJUU	**Sjulsmark**	**5.15**	**223**	P	**Pn**	**15 01 00.7**	**-0.2**
SJUU	**Sjulsmark**	**5.15**	**223**	P	**Pn**	**15 01 00.7**	**-0.2**
LILU	**Lilltraesk**	**5.78**	**228**	P	**Pn**	**15 01 08.1**	**-1.3**

ISCJB ***20*** *15:05:57.8±0.2,19.71S±0.03×169.25E±0.04,h100km, mb4.8/63,Error ellipse: s-maj=5.3km s-min=3.5km az=148.2*
WEL ***20*** *15:05:58.0,19.68S×169.33E,h101km*
NEIC ***20*** *15:05:58.6±0.2,19.68S×169.33E,mb5.0/29,Error ellipse: s-maj=6.4km s-min=6.1km az=107.0*
MOS ***20*** *15:05:58.1±1.2,19.80S×169.31E,h106km,mb4.7/13, Error ellipse: s-maj=11.4km s-min=9.6km az=9.7*
IDC ***20*** *15:05:59.1±0.8,19.76S×169.31E,h104km±6km,mb4.5/21, mb1 4.5/24,mb1mx4.4/41,mbtmp4.8/24,MS3.3/10, Ms1 3.3/10,ms1mx3.0/37,Error ellipse: s-maj=12.7km s-min=11.5km az=129.0*
BJI ***20*** *15:06:00.4,19.80S×169.30E,h124km,mb4.6/25, mB5.0/14*
ISC 20 15:05:58.9±0.3,19.78S±0.05×169.25E±0.05,h100km, n249,σ1s33/251,mb4.8/63,5C-7D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.47**	**228**	P	**Pn**	**15 06 51.5**	**+0.4**
	122nm,0.3s,baz=81,slow=9.2,SNR=1048						
DZM				S	**Sn**	**15 07 30.2**	**-1.2**
	469nm,0.3s,baz=25,slow=17,SNR=9.5						
DZM				LR	LR	15 08 10.0	
	comp=Z,783nm,19.9s,baz=66,slow=37						
DZM	**Mont Dzumac**	**3.47**	**228**	*e*Pn	**Pn**	**15 06 51.4**	**+0.4**
	586nm,0.2s						
DZM				*e*Sn	**Sn**	**15 07 28.7**	**-2.7**
	2μm,0.3s						
MSVF	**Nonsavu**	**8.59**	**78**	*i*P	**Pn**	**15 08 04.0**	**+3.5**
MSVF	**Nonsavu**	**8.59**	**78**	*e*Pn	**Pn**	**15 08 03.8**	**+3.3**
NFK	**Norfolk Island**	**9.30**	**187**	P	**Pn**	**15 08 11.8**	**+1.7**
	baz=9.5,SNR=4.5						
HNR	**Honiara**	**13.66**	**318**	P	**Pn**	**15 09 11.2**	**+2.7**
	13nm,0.3s,baz=175,slow=2.8,SNR=13						
HNR				S	**Sn**	**15 11 36.8**	**-2.2**
	2.5nm,0.3s,baz=208,slow=15,SNR=1.8						
HNR	**Honiara**	**13.66**	**318**	*e*P	**P**	**15 09 12.0**	**-1.9**
HNR	**Honiara**	**13.66**	**318**	*e*Pn	**P**	**15 09 11.8**	**-2.1**
HNR				S	**Sn**	**15 11 36.8**	**-2.2**
OUZ	**Omahuta**	**15.85**	**167**	*e*Pn	**P**	**15 09 37.7**	**-0.4**
	52nm,0.8s						
EIDS	**Eidsvold**	**17.67**	**248**	P	**Pn**	**15 10 01.1**	**+2.4**
	baz=18,SNR=20						
EIDS	**Eidsvold**	**17.67**	**248**	*e*P	**Pn**	**15 10 01.1**	**+2.4**
	30nm,0.7s						
AFI	**Afiamalu**	**19.07**	**75**	P	**P**	**15 10 14.2**	**+0.5**
	3.6nm,0.3s,baz=217,slow=3.3,SNR=5.7						
AFI				LR	LR	15 16 49.9	
	comp=Z,62nm,19.1s,baz=210,slow=34						
OPRZ	**Ohinepanea**	**19.09**	**162**	P	**Pn**	**15 10 15.3**	**-0.2**
ARMA	**Armidale**	**19.12**	**233**	P	**Pn**	**15 10 16.6**	**+0.4**
	baz=19,SNR=39						
ARMA	**Armidale**	**19.12**	**233**	*e*P	**Pn**	**15 10 17.1**	**+0.9**
	79nm,0.8s						
OMRZ	**Omania**	**19.28**	**163**	P	**Pn**	**15 10 17.9**	**+0.1**
HIZ	**Hauiti**	**19.29**	**167**	*e*P	**Pn**	**15 10 18.3**	**+0.4**
	190nm,1.3s						
HAZ	**Te Kaha**	**19.39**	**159**	P	**Pn**	**15 10 18.9**	**-0.2**
MXZ	**Matakaoa Point**	**19.40**	**158**	*e*P	**P**	**15 10 15.8**	**-1.2**
	231nm,1.2s						
HRRZ	**Handcock Road**	**19.52**	**163**	P	**Pn**	**15 10 22.8**	**+2.2**
RRRZ	**Republican Roa**	**19.54**	**163**	P	**Pn**	**15 10 22.0**	**+1.2**
RUGZ	**Raukumara Rang**	**19.55**	**160**	P	**P**	**15 10 20.3**	**+1.5**
PKGZ	**Pakihiroa**	**19.61**	**159**	P	**Pn**	**15 10 21.7**	**-0.1**
URZ	**Urewera**	**19.64**	**161**	P	**P**	**15 10 20.7**	**+1.1**
	5.9nm,0.3s,baz=333,slow=2.2,SNR=62						
URZ	**Urewera**	**19.64**	**161**	*e*P	**P**	**15 10 20.8**	**+1.1**
	76nm,0.7s						
URZ	**Urewera**	**19.64**	**161**	P	**P**	**15 10 21.2**	**+1.5**
PRRZ	**Plateau Road**	**19.66**	**163**	P	**Pn**	**15 10 22.7**	**+0.5**
WMGZ	**Waiomatatini S**	**19.67**	**158**	P	**Pn**	**15 10 21.6**	**-0.7**
ALRZ	**Allen Road**	**19.70**	**163**	P	**Pn**	**15 10 23.5**	**+0.8**
MUGZ	**Murupara**	**19.74**	**162**	P	**Pn**	**15 10 22.8**	**-0.4**
MWZ	**Matawai**	**19.84**	**160**	P	**Pn**	**15 10 23.7**	**-0.6**
PUZ	**Puketiti**	**19.84**	**159**	P	**P**	**15 10 23.0**	**+1.2**
TWGZ	**Tauwhareparae**	**19.84**	**159**	P	**Pn**	**15 10 24.0**	**-0.3**
RTZ	**Ruatahuna**	**19.93**	**162**	P	**P**	**15 10 24.2**	**+1.4**
RAGZ	**Rawiri**	**19.95**	**161**	P	**Pn**	**15 10 25.3**	**-0.3**
RMQ	**Roma**	**19.98**	**247**	P	**Pn**	**15 10 26.0**	**-0.1**
	baz=20,SNR=30						
TKGZ	**Te Karaka**	**20.04**	**160**	P	**P**	**15 10 25.4**	**+1.5**
SNGZ	**Sharnon Statio**	**20.19**	**161**	P	Pn	**15 10 27.5**	**-0.9**
CNGZ	**Carnagh Statio**	**20.19**	**159**	P	**P**	**15 10 26.9**	**+1.3**
RAHZ	**Arahi**	**20.24**	**162**	P	Pn	**15 10 28.1**	**-0.9**
RIGZ	**Rimuhau**	**20.25**	**160**	P	**P**	**15 10 27.6**	**+1.3**
BKZ	**Black Stump Fm**	**20.31**	**164**	*e*P	**P**	**15 10 28.1**	**+1.2**
	64nm,0.7s						
BKZ	**Black Stump Fm**	**20.31**	**164**	P	**P**	**15 10 28.3**	**+1.3**
BKZ	**Black Stump Fm**	**20.31**	**164**	S	Sn	**15 14 16.1**	**-2.7**
NMHZ	**Naumai**	**20.33**	**163**	P	Pn	**15 10 29.4**	**-0.7**
BHHZ	**Black Hill Sta**	**20.50**	**165**	P	**P**	**15 10 30.7**	**+1.6**
KWHZ	**Kaweka Forest**	**20.53**	**164**	P	**P**	**15 10 31.3**	**+1.9**
MCHZ	**McNeill Hill**	**20.62**	**163**	P	**P**	**15 10 32.0**	**+1.7**
KRHZ	**Kereru**	**20.73**	**164**	P	**P**	**15 10 32.8**	**+1.5**
MGCD	**Mangrove Creek**	**20.99**	**227**	P	Pn	**15 10 36.7**	**-1.1**
	baz=21,SNR=6.5						
TSZ	**Takapari Road**	**21.02**	**166**	P	**P**	**15 10 36.5**	**+2.0**
PXZ	**Pawanui**	**21.22**	**164**	P	**P**	**15 10 36.7**	**+0.1**
RIV	**Riverview**	**21.32**	**225**	P	**P**	**15 10 40.5**	**+2.8**
	baz=22,SNR=4.2						
CTA	**Charters Tower**	**21.61**	**265**	P	**P**	**15 10 42.3**	**+1.2**
	58nm,0.7s,baz=90,slow=12,SNR=73						
CTA	**Charters Tower**	**21.61**	**265**	P	**P**	**15 10 42.5**	**+1.4**
	baz=22						
CTAO	**Charters Tower**	**21.61**	**265**	*e*P	**P**	**15 10 43.5**	**+2.4**
CTAO				pmax	pmax		
	comp=Z,56nm,0.6s						
CTAO	**Charters Tower**	**21.61**	**265**	*e*P	**P**	**15 10 43.5**	**+2.4**
	comp=Z,56nm,0.6s						
LTZ	**Lake Taylor**	**23.07**	**174**	*e*P	**P**	**15 10 55.6**	**-0.3**
	comp=Z,39nm,0.9s						
CNB	**Canberra Magne**	**23.39**	**224**	P	**P**	**15 11 00.4**	**+1.4**
	baz=24,SNR=73						
YNG	**Young**	**23.47**	**228**	P	**P**	**15 11 01.2**	**+1.5**
	baz=24,SNR=15						
OXZ	**Oxford**	**23.59**	**175**	*e*P	**P**	**15 11 00.7**	**+0.1**
	comp=Z,25nm,0.8s						
MTSU	**Mount Surprise**	**23.63**	**270**	P	**P**	**15 11 02.8**	**+1.6**
	baz=24,SNR=31						
CAN	**Canberra**	**23.63**	**225**	P	**P**	**15 11 02.6**	**+1.4**
	baz=24						
CAN	**Canberra**	**23.63**	**225**	*e*P	**P**	**15 11 02.2**	**+1.1**
CAN				pmax	pmax		
	comp=Z,82nm,0.8s						
CAN	**Canberra**	**23.63**	**225**	*e*P	**P**	**15 11 02.2**	**+1.1**
	comp=Z,82nm,0.8s						
PMG	**Port Moresby**	**23.70**	**293**	P	**P**	**15 11 02.4**	**+0.6**
	comp=Z,110nm,0.8s,baz=97,slow=5.7,SNR=40						
PMG				LR	LR	15 19 17.5	
	comp=Z,48nm,19.3s,baz=124,slow=34						
RPZ	**Rata Peaks**	**23.91**	**177**	P	**P**	**15 11 04.2**	**+0.7**
	comp=Z,12nm,0.8s,baz=21,slow=2.5,SNR=6.0						
QLP	**Quilpie**	**23.94**	**249**	P	**P**	**15 11 04.3**	**+0.3**
	baz=24,SNR=72						
CMSA	**Cobar Meteorol**	**24.19**	**236**	P	**P**	**15 11 06.7**	**+0.6**
	baz=24,SNR=106						
MILA	**Mila**	**24.58**	**221**	P	**P**	**15 11 11.0**	**+1.3**
	baz=25,SNR=9.1						
COEN	**Coen**	**25.59**	**279**	P	**P**	**15 11 20.6**	**+1.6**
	baz=26,SNR=11						
COEN	**Coen**	**25.59**	**279**	*e*P	**P**	**15 11 20.4**	**+1.4**
	comp=Z,94nm,1.4s						
TOO	**Toolangi**	**27.24**	**224**	P	**P**	**15 11 34.5**	**+0.9**
	baz=28,SNR=7.0						
STKA	**Stephens Creek**	**27.57**	**239**	P	**P**	**15 11 37.3**	**+0.7**
	comp=Z,16nm,0.6s,baz=74,slow=10.0,SNR=49						
STKA				LR	LR	15 21 55.7	
	comp=Z,65nm,18.8s,baz=29,slow=35						
STKA	**Stephens Creek**	**27.57**	**239**	*e*P	**P**	**15 11 37.3**	**+0.7**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**27.57**	**239**	*e*P	**P**	**15 11 37.3**	**+0.7**
	comp=Z,4.0nm,0.8s						
QIS	**Mount Isa**	**27.82**	**263**	P	**P**	**15 11 39.5**	**+0.5**
	baz=28,SNR=8.3						
RAR	**Rarotonga**	**29.04**	**98**	LR	LR	15 22 33.7	
	comp=Z,30nm,20.3s,baz=248,slow=34						
ARPS	**Mount Arapiles**	**29.33**	**229**	P	**P**	**15 11 53.1**	**+0.9**
	baz=30,SNR=7.6						
HTT	**Hallett**	**30.20**	**237**	P	**P**	**15 12 00.5**	**+0.5**
	baz=30,SNR=3.9						
BBOO	**Buckleboo**	**32.32**	**240**	P	**P**	**15 12 18.9**	**+0.4**
	baz=32,SNR=18						
WRAB	**Tennant Creek**	**32.79**	**264**	*d*P	**P**	**15 12 22.0**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,24nm,1.1s						
WRAB	**Tennant Creek**	**32.79**	**264**	*e*P	**P**	**15 12 21.9**	**-1.0**
	comp=Z,57nm,1.3s						
WRA	**Warramunga Arr**	**32.80**	**264**	P	**P**	**15 12 21.9**	**-1.1**
	comp=Z,20nm,0.4s,baz=90,slow=8.5,SNR=266						
WRA				PcP	**PcP**	**15 15 05.3**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=94,slow=3.0,SNR=3.5						
WRA				ScP	**ScP**	**15 18 41.1**	**0.0**
	comp=Z,1.3nm,0.9s,baz=90,slow=4.2,SNR=4.7						
WRA				LR	LR	15 26 02.8	
	comp=Z,86nm,19.8s,baz=55,slow=37						
AS01	**Alice Springs**	**32.96**	**257**	*e*P	**P**	**15 12 23.7**	**-0.7**
AS31	**Alice Springs**	**33.01**	**257**	*e*P	**P**	**15 12 24.5**	**-0.2**
	comp=Z,51nm,0.6s						
ASAR	**Alice Springs**	**33.01**	**257**	P	**P**	**15 12 24.5**	**-0.3**
	comp=Z,108nm,0.6s,baz=86,slow=9.0,SNR=1873						
ASAR				ScP	**ScP**	**15 18 40.9**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=116,slow=3.6,SNR=4.1						
ASAR				LR	LR	15 24 42.1	
	comp=Z,131nm,18.9s,baz=95,slow=34						
GENI	**Genyem**	**33.14**	**297**	P	**P**	**15 12 27.4**	**+1.5**
WRKA	**Warakurna**	**38.11**	**254**	P	**P**	**15 13 08.3**	**-0.2**
	baz=38,SNR=27						
TBI	**Tubuai**	**38.48**	**103**	*e*LR	LR	15 23 52.2	
	comp=Z,166nm,37.8s						
KNRA	**Kununurra**	**38.71**	**269**	P	**P**	**15 13 13.2**	**-0.3**
	baz=39,SNR=12						
PPT2	**Papeete2**	**39.00**	**94**	*e*LR	LR	15 24 03.6	
	comp=Z,266nm,35.2s						
FAKI	**Fak Fak**	**39.81**	**290**	P	**P**	**15 13 22.7**	**0.0**
FAKI	**Fak Fak**	**39.81**	**290**	*e*P	**P**	**15 13 22.2**	**-0.5**
	comp=Z,58nm,0.8s						
GUMO	**Guam**	**40.93**	**322**	LR	LR	15 28 24.8	
	comp=Z,48nm,19.4s,baz=134,slow=33						
FITZ	**Fitzroy Crossi**	**41.20**	**265**	P	**P**	**15 13 34.6**	**+0.5**
	comp=Z,42nm,0.6s,baz=113,slow=8.6,SNR=86						
FITZ	**Fitzroy Crossi**	**41.20**	**265**	P	**P**	**15 13 34.5**	**+0.5**
	baz=41						
SWI	**Sorong**	**41.65**	**292**	P	**P**	**15 13 38.6**	**+0.8**
	comp=Z,88nm,0.7s,comp=Z,1μm						
KMBL	**Kambalda**	**43.95**	**245**	P	**P**	**15 13 55.9**	**-0.4**
	baz=44,SNR=10						
SANI	**Sanana**	**45.78**	**287**	P	**P**	**15 14 11.8**	**+0.9**
	comp=Z,30nm,1.1s						
MBWA	**Marble Bar**	**46.26**	**259**	*e*P	**P**	**15 14 14.7**	**+0.1**
	comp=Z,44nm,0.5s						
MEEK	**Meekatharra**	**46.79**	**252**	P	**P**	**15 14 18.3**	**-0.4**
	baz=47,SNR=30						
KLBR	**Kellerberrin**	**47.49**	**245**	P	**P**	**15 14 23.5**	**-0.6**
	baz=48,SNR=7.6						
NWAO	**Narrogin (SRO)**	**47.97**	**243**	P	**P**	**15 14 27.0**	**-0.8**
	comp=Z,27nm,0.8s,baz=312,slow=7.1,SNR=12						
NWAO	**Narrogin (SRO)**	**47.97**	**243**	P	**P**	**15 14 27.3**	**-0.5**
	baz=48,SNR=8.4						
NWAO				P	**P**	**15 14 27.3**	**-0.5**
	baz=48,SNR=8.4						
RKGY	**Rocky Gully**	**48.28**	**241**	P	**P**	**15 14 30.0**	**0.0**
	baz=48,SNR=9.5						
BLDU	**Ballidu**	**48.37**	**246**	P	**P**	**15 14 30.3**	**-0.6**
	baz=48,SNR=9.5						
APSI	**Ampana**	**50.19**	**286**	P	**P**	**15 14 44.9**	**0.0**
VNDA	**Vanda**	**57.89**	**182**	P	**P**	**15 15 40.3**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=351,slow=8.5,SNR=6.4						
KKM	**Kota Kinabalu**	**58.13**	**291**	*e*P	**P**	**15 15 42.2**	**-0.4**
	comp=Z,49nm,1.7s						
LEM	**Lembang**	**61.05**	**273**	P	**P**	**15 16 03.6**	**+0.7**
	comp=Z,29nm,0.8s,baz=110,slow=6.0,SNR=4.1						
KSM	**Kuching**	**61.50**	**283**	*e*P	**P**	**15 16 05.2**	**-0.5**
	comp=Z,13nm,0.7s						
MJAR	**Matsushiro Arr**	**63.23**	**332**	P	**P**	**15 16 16.1**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=168,slow=5.6,SNR=3.5						
MAJO	**Matsushiro**	**63.23**	**332**	*i*P	**P**	**15 16 16.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
JNU	**Nakatsue**	**64.11**	**325**	P	**P**	**15 16 21.9**	**-0.7**
	comp=Z,5.0nm,0.9s,baz=150,slow=9.3,SNR=3.4						
JNU				LR	LR	15 42 34.5	
	comp=Z,9.0nm,18.6s,baz=174,slow=34						
ASAJ	**Asahikawa**	**68.11**	**340**	P	**P**	**15 16 49.0**	**+1.1**
	comp=Z,8.7nm,0.9s,baz=239,slow=5.9,SNR=6.8						
QSPA	**South Pole Qui**	**70.28**	**180**	P	**P**	**15 17 01.1**	**-0.2**
	comp=Z,16nm,0.8s,baz=24,slow=3.1,SNR=42						
NJ2	**Nanjing**	**70.60**	**316**	*e*P	**P**	**15 17 02.5**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
IPM	**Ipoh**	**71.20**	**282**	*e*P	**P**	**15 17 07.3**	**-0.4**
	comp=Z,13nm,0.9s						
PSI	**Prapat**	**72.52**	**280**	*e*P	**P**	**15 17 13.9**	**-1.8**
PSI				pmax	pmax		
	comp=Z,13nm,0.9s						
PSI	**Prapat**	**72.52**	**280**	*e*P	**P**	**15 17 13.9**	**-1.8**
	comp=Z,13nm,0.9s						
GSI	**Gunungsitoli**	**73.23**	**278**	*e*P	**P**	**15 17 20.1**	**+0.4**
	comp=Z,24nm,0.9s						
PETK	**Petropavlovsk-**	**73.27**	**353**	P	**P**	**15 17 19.0**	**0.0**
	comp=Z,3.6nm,0.7s,baz=92,slow=5.8,SNR=5.4						
SKNT	**Sakolnakorn**	**73.77**	**295**	P	**P**	**15 17 22.2**	**-0.6**
	comp=Z,9.2nm,0.8s						
CN2	**Changchun**	**74.92**	**329**	*e*P	**P**	**15 17 32.4**	**+3.5**
CN2				*e*pP	sP	15 18 06.0	+0.7
CN2				*e*S	**S**	**15 26 59.4**	**+1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
GYA	**Guiyang**	**76.13**	**305**	*e*P	**P**	**15 17 37.4**	**+1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**76.36**	**336**	*i*P	**P**	**15 17

RVR	**Riverside**	**87.90**	**53**	*e*P		**P**	**15 18 37.2**	**-0.4**
CAST	**Castle Rocks**	**88.26**	**16**	*e*P		**P**	**15 18 36.1**	**-2.5**
	comp=Z,4.4nm,0.9s							
SNAA	**Sanae**	**88.62**	**182**	P		**P**	**15 18 39.5**	**-0.9**
SNAA	**Sanae**	**88.62**	**182**	P		**P**	**15 18 39.2**	**-1.3**
	comp=Z,7.9nm,0.7s,baz=135,slow=5.7,SNR=23							
SNAA	**Sanae**	**88.62**	**182**	⇓*i*P		**P**	**15 18 39.6**	**-0.9**
SNAA				pmax	pmax			
	comp=Z,399nm,0.9s							
SNAA	**Sanae**	**88.62**	**182**	*e*P		**P**	**15 18 39.0**	**-1.5**
	comp=Z,9.0nm,0.7s							
NV01	**Mina Array Sit**	**89.15**	**48**	*e*P		**P**	**15 18 42.6**	**-1.1**
NVAR	**Mina Array Bea**	**89.15**	**48**	P		**P**	**15 18 43.2**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=231,slow=7.8,SNR=9.1							
NVAR				pP		**pP**	**15 19 10.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=240,slow=7.2,SNR=2.5							
VNA3	**Neumayer Olymp**	**89.21**	**180**	P		**P**	**15 18 41.9**	**-1.3**
VNA2	**Neumayer--Watz**	**89.51**	**181**	P		**P**	**15 18 43.9**	**-0.6**
	baz=183,slow=4.0							
WRH	**Wood River Hil**	**90.18**	**17**	*e*P		**P**	**15 18 45.5**	**-2.0**
	comp=Z,25nm,2.0s							
ILAR	**Eielson Array**	**90.74**	**17**	P		**P**	**15 18 48.0**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=233,slow=4.9,SNR=26							
ILB	**Eielson Array**	**90.74**	**17**	*e*P		**P**	**15 18 47.9**	**-2.2**
TLY	**Talaya**	**91.21**	**325**	⇓*e*P		**P**	**15 18 53.6**	**+0.9**
TLY				pmax	pmax			
	comp=Z,1.0nm,0.9s							
EGAK	**Eagle**	**92.43**	**19**	*e*P		**P**	**15 18 56.7**	**-1.2**
	comp=Z,20nm,1.8s							
TXAR	**Lajitas Array**	**97.02**	**61**	LR		LR	15 57 02.4	
	comp=Z,14nm,18.1s,baz=0.0,slow=32							
WMQ	**Urumqi**	**97.58**	**314**	P		**P**	**15 19 22.4**	**+0.3**
PLCA	**Paso Flores**	**98.13**	**138**	P		**P**	**15 19 24.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=294,slow=10.0,SNR=3.0							
YKA	**Yellowknife Ar**	**101.14**	**27**	P		**Pdif**	**15 19 36.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=256,slow=4.8,SNR=15							
YKA				PKiKP		**PKiKP**	**15 23 59.5**	**-2.2**
	comp=Z,0.1nm,0.6s,baz=249,slow=1.6,SNR=3.9							
MKAR	**Makanchi Array**	**102.12**	**315**	P		**Pdif**	**15 19 42.5**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=93,slow=6.5,SNR=5.2							
MKAR				pP		**pPdif**	**15 20 09.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=92,slow=3.8,SNR=2.4							
MKAR				PP		**PP**	**15 23 56.1**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=133,slow=7.1,SNR=5.2							
MKAR				PKKPbc		**PKKPbc**	**15 35 43.0**	**-3.8**
	comp=Z,0.2nm,0.5s,baz=272,slow=3.2,SNR=4.2							
BVAR	**Borovoye Array**	**110.83**	**320**	PKiKP		**PKiKP**	**15 24 18.7**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=129,slow=2.6,SNR=3.2							
CPUP	**Villa Florida**	**115.63**	**134**	PKP		**PKPdf**	**15 24 28.9**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=275,slow=4.8,SNR=3.0							
ARU	**Arti**	**117.68**	**324**	*i* PKIKP		**PKPdf**	**15 24 32.0**	**-1.0**
ARU							15 31 31.7	
ARU	**Arti**	**117.68**	**324**	*e*PKPdf		**PKPdf**	**15 24 31.9**	**-1.0**
GEYT	**Alibeck**	**118.32**	**303**	PKP		**PKPdf**	**15 24 34.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=131,slow=3.7,SNR=3.2							
AKTO	**Aktyubinsk**	**118.47**	**317**	PKP		**PKPdf**	**15 24 33.5**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=139,slow=3.4,SNR=4.9							
SPITS	**Spitsbergen Ar**	**120.13**	**354**	PKP		**PKPdf**	**15 24 35.6**	**-1.6**
	comp=Z,4.0nm,0.6s,baz=347,slow=2.7,SNR=9.3							
PAGS	**Pennsylvania G**	**120.67**	**54**	*e*PKPdf		**PKPdf**	**15 24 38.8**	**-0.4**
ARCES	**ARCESS Array B**	**125.59**	**345**	PKP		**PKPdf**	**15 24 46.8**	**-1.1**
	comp=Z,5.0nm,0.5s,baz=71,slow=1.9,SNR=76							
ARCES	**ARCESS Array B**	**125.59**	**345**	*e*PKiKP		**PKPdf**	**15 24 46.9**	**-1.0**
ARCES				pmax	pmax			
	comp=Z,5.0nm,0.5s							
KLMR	**Klimovskoe**	**126.01**	**332**	*e*PKiKP		**PKPdf**	**15 24 46.1**	**-2.8**
KLMR				pmax	pmax			
	comp=Z,10.0nm,1.5s							
KLMR	**Klimovskoe**	**126.01**	**332**	*e*PKPdf		**PKPdf**	**15 24 46.2**	**-2.7**
KLMR				AMP			15 24 58.3	
	comp=Z,10.0nm,1.5s							
FINES	**FINESS Array B**	**131.09**	**338**	PKhKP		PKPpre	15 24 55.7	
	comp=Z,1.7nm,0.7s,baz=29,slow=3.2,SNR=11							
FINES				PKP		**PKPdf**	**15 24 58.1**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=359,slow=3.6,SNR=11							
FINES				SKPbc		**SKPbc**	**15 28 12.1**	**-2.1**
	comp=Z,2.2nm,0.7s,baz=79,slow=4.1,SNR=5.2							
AKASG	**Malin Array Be**	**135.93**	**324**	PKP		**PKPdf**	**15 25 06.9**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=52,slow=2.0,SNR=4.9							
AKASG	**Malin Array Be**	**135.93**	**324**	*e*PKiKP		**PKPdf**	**15 25 07.3**	**-0.6**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NB2	**NORSAR Subarra**	**135.97**	**345**	PKPdf		**PKPdf**	**15 25 07.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**135.97**	**345**	PKP		**PKPdf**	**15 25 07.5**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=33,slow=2.0,SNR=5.8							
NOA	**NORSAR Array B**	**135.97**	**345**	*e*PKiKP		**PKPdf**	**15 25 07.9**	**+0.1**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AK11	**Malin Array Si**	**135.97**	**324**	*e*PKPdf		**PKPdf**	**15 25 07.1**	**-0.9**
HFS	**Hagfors**	**136.08**	**343**	PKP		**PKPdf**	**15 25 07.7**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=97,slow=1.6,SNR=6.3							
KWP	**Kalwaria Pacla**	**140.03**	**326**	*e*PKHKP	PKPpre		15 25 07.6	
KWP	**Kalwaria Pacla**	**140.03**	**326**	*e*PKPpre	PKPpre		15 25 07.6	
BRG	**Berggiesshubel**	**143.35**	**334**	*i* PKP	PKPab		15 25 18.2	+0.6
	comp=Z,4.9nm,0.8s							
BRG	**Berggiesshubel**	**143.35**	**334**	*i* PKIKP	PKPab		15 25 18.2	+0.6
BRG				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CLL	**Collm**	**143.41**	**335**	*e*PKiKP	PKPbc		15 25 19.0	0.0
CLL	**Collm**	**143.41**	**335**	*e*PKPdf	PKPbc		15 25 19.0	0.0
CLL				*e*PKiKP		**PKiKP**	**15 25 24.0**	**-0.9**
EKA	**Eskdalemuir Ar**	**144.04**	**353**	PKP		**PKPab**	**15 25 19.4**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=357,slow=3.3,SNR=7.5							
NKC	**Novy Kostel**	**144.46**	**334**	*e*PKP		**PKPab**	**15 25 22.1**	**+0.2**
NKC	**Novy Kostel**	**144.46**	**334**	*e*PKiKP		**PKPab**	**15 25 22.1**	**+0.2**
CONA	**Conrad Observa**	**144.60**	**329**	*e*PKPdf	PKPbc		15 25 23.7	+0.8
	comp=Z,6.8nm,0.7s,SNR=6.9							
DIVS	**Divibare**	**144.73**	**320**	*e*PKPbc		**PKPab**	**15 25 23.6**	**+0.3**
KHC	**Kasperske Hory**	**144.81**	**332**	*e*PKP		**PKPab**	**15 25 23.3**	**0.0**
KHC	**Kasperske Hory**	**144.81**	**332**	*e*PKiKP		**PKPab**	**15 25 23.3**	**0.0**
KHC	**Kasperske Hory**	**144.81**	**332**	*e*PKPbc		**PKPab**	**15 25 23.3**	**0.0**
GEC2	**GERESS Array S**	**144.97**	**332**	*e*PKiKP	PKPbc		15 25 23.9	-0.1
GEC2	**GERESS Array S**	**144.97**	**332**	*e*PKPbc	PKPbc		15 25 23.9	-0.1
GERES	**GERESS Array B**	**144.97**	**332**	PKP	PKPbc		15 25 23.8	-0.1
	comp=Z,8.5nm,0.6s,baz=35,slow=4.6,SNR=66							
GEA0	**GERESS Array S**	**144.97**	**332**	*e*PKPbc	PKPbc		15 25 23.6	-0.4
IDI	**Anoyia**	**145.04**	**304**	*e*PKPbc	PKPbc		**15 25 23.9**	**-0.7**
ARSA	**Arzberg**	**145.24**	**328**	*e*PKPdf	**PKPdf**		**15 25 25.4**	**+0.5**
	comp=Z,7.7nm,0.9s							
MOA	**Molln**	**145.43**	**330**	*i* PKPab	**PKPdf**		**15 25 25.2**	**0.0**
	comp=Z,16nm,0.7s,SNR=8.4							
PERS	**Pernice**	**145.86**	**328**	*i* PKPdf	**PKPdf**		**15 25 26.4**	**+0.4**
SOKA	**Soboth**	**145.87**	**328**	*i* PKPab	**PKPdf**		**15 25 26.2**	**+0.1**
	comp=Z,4.2nm,0.6s							
BLY	**Banja Luka**	**145.98**	**323**	*e*PKPdf	**PKPdf**		**15 25 27.0**	**+0.8**
TTG	**Podgorica**	**146.09**	**318**	*e*PKP2	**PKPdf**		**15 25 27.3**	**+0.9**
TTG	**Podgorica**	**146.09**	**318**	*e*PKPdf	**PKPdf**		**15 25 27.3**	**+0.9**
OBKA	**Obir**	**146.23**	**328**	*e*PKPab	**PKPbc**		**15 25 28.5**	**+0.6**
	comp=Z,3.8nm,0.9s							
KBA	**Koelnbreinsper**	**146.42**	**330**	*i* PKPab	**PKPdf**		**15 25 28.0**	**+0.9**
	comp=Z,4.8nm,0.6s							
MEM	**Membach**	**146.49**	**341**	⇑PKP	**PKPdf**		**15 25 27.2**	**+0.3**
BOJS	**Bojanci**	**146.55**	**326**	*i* PKPdf	**PKPdf**		**15 25 28.0**	**+0.9**
VISS	**Visnje**	**146.56**	**327**	*i* PKPbc	**PKPbc**		**15 25 28.7**	**-0.1**
MYKA	**Terra Mystica**	**146.59**	**329**	*i* PKPab	**PKPdf**		**15 25 28.4**	**+1.1**
	comp=Z,5.7nm,0.5s							
JAVS	**Javornik**	**146.90**	**328**	*i* PKPdf	**PKPdf**		**15 25 29.1**	**+1.3**
WATA	**Walderalm**	**147.04**	**332**	*i* PKPab	**PKPbc**		**15 25 30.1**	**-0.2**
	comp=Z,7.8nm,0.5s							
ABTA	**Abfaltersbach**	**147.05**	**330**	*e*PKPbc	**PKPdf**		**15 25 29.1**	**+1.1**
	comp=Z,7.8nm,0.6s							
WTTA	**Wattenberg**	**147.07**	**331**	*e*PKPbc	**PKPdf**		**15 25 29.6**	**+1.4**
	comp=Z,6.2nm,0.7s							
MOTA	**Moosalm**	**147.25**	**332**	*e*PKPbc	**PKPbc**		**15 25 30.2**	**-0.7**
	comp=Z,9.4nm,0.7s,SNR=6.6							
WLF	**Walferdange**	**147.26**	**340**	⇑PKP	**PKPbc**		**15 25 30.4**	**-0.2**
WLF	**Walferdange**	**147.26**	**340**	*e*PKP2	**PKPbc**		**15 25 30.4**	**-0.2**
WLF	**Walferdange**	**147.26**	**340**	*e*PKPbc	**PKPbc**		**15 25 30.4**	**-0.2**
RETA	**Reutte**	**147.29**	**333**	*i* PKPbc	**PKPbc**		**15 25 30.3**	**-0.6**
	comp=Z,5.2nm,0.6s							
DOU	**Dourbes**	**147.37**	**342**	⇑PKP	**PKPbc**		**15 25 30.4**	**-0.5**
BFO	**Black Forest**	**147.61**	**336**	*e*PKP2	**PKPbc**		**15 25 31.1**	**-0.6**
BFO	**Black Forest**	**147.61**	**336**	*e*PKPbc	**PKPbc**		**15 25 31.1**	**-0.6**
FETA	**Feichten**	**147.66**	**332**	*e*PKPbc	**PKPbc**		**15 25 31.6**	**-0.5**
	comp=Z,12nm,0.7s,SNR=7.8							
DAVA	**Damuels**	**147.82**	**333**	*i* PKPbc	**PKPbc**		**15 25 31.8**	**-0.6**
	comp=Z,9.1nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**148.17**	**332**	*e*PKPbc	**PKPbc**		**15 25 33.4**	**-0.1**
TUE	**Stuetta**	**148.69**	**333**	*e*PKPbc	**PKPbc**		**15 25 34.8**	**0.0**
TIP	**Timpagrande**	**149.41**	**315**	*e*PKPbc	**PKPbc**		**15 25 37.0**	**+0.3**
CUC	**Castrocucco**	**149.59**	**317**	*e*PKPbc	**PKPbc**		**15 25 35.6**	**-1.4**
BNI	**Bardonecchia**	**150.94**	**334**	*e*PKiKP	**PKPbc**		**15 25 40.2**	**-0.1**
BNI	**Bardonecchia**	**150.94**	**334**	*e*PKPbc	**PKPbc**		**15 25 40.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**166.36**	**243**	PKP		**PKPdf**	**15 25 51.2**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=63,slow=0.3,SNR=2.8							
TORD				PKPab		**PKPab**	**15 26 54.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=108,slow=3.3,SNR=6.0							

*ISN **20** 15:11:36.0±1.4, 36.49N×41.27E, h4km±8km, ML4.1*
*CSEM **20** 15:11:41.7±0.3, 36.20N×41.29E, h5km, ML3.8, Error ellipse: s-maj=6.9km s-min=5.0km az=44.0*
*DDA **20** 15:11:43.5, 36.41N×41.19E, h7km, Ml4.2*
*ISK **20** 15:11:43.9, 36.45N×41.23E, h8km, ML3.8/13*
ISC 20 15:11:44.5±1.7, 36.46N±0.06×41.27E±0.03, h0km±12km, n54, σ1s12/68, Iraq

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
MARD	**Mardin**	**0.94**	**335**	*i* P		**Pg**	**15 12 02.3**	**-0.3**
MARD				*i* S		**Sb**	**15 12 16.1**	**-0.7**
MAZI	**Mazidag**	**1.20**	**327**	PN		**Pg**	**15 12 07.0**	**-0.5**
MAZI				SN		**Sb**	**15 12 23.7**	**-0.5**
MAZI	**Mazidag**	**1.20**	**327**	*e*Pn		**Pg**	**15 12 07.0**	**-0.5**
SIRT	**Sirnak**	**1.40**	**42**	PN		**Pn**	**15 12 10.4**	**-1.0**
SIRT				SN		**Sb**	**15 12 29.7**	**-0.3**
SIRT	**Sirnak**	**1.40**	**42**	*e*Pn		**Pn**	**15 12 10.4**	**-1.0**
SIRT				*e*Sn		**Sb**	**15 12 29.7**	**-0.3**
BTMN	**Batman**	**1.43**	**360**	*i* P		**Pn**	**15 12 11.5**	**-0.3**
BTMN				*i* S		**Sn**	**15 12 32.0**	**+0.6**
BTMN	**Batman**	**1.43**	**360**	P		**Pn**	**15 12 11.5**	**-0.3**
BTMN				S		**Sn**	**15 12 32.0**	**+0.6**
DIY	**Diyarbakir**	**1.66**	**330**	*e*Pn		**Pn**	**15 12 15.9**	**-0.1**
DIYA	**Diyarbakir**	**1.73**	**328**	*i* P		**Pn**	**15 12 15.5**	**-0.4**
DIYA				*i* S		**Sg**	**15 12 40.1**	**+0.1**
DIYA	**Diyarbakir**	**1.73**	**328**	P		**Pn**	**15 12 15.5**	**-0.4**
DIYA				S		**Sg**	**15 12 40.2**	**+0.1**
DYBB	**Diyarbakir**	**1.75**	**329**	PN		**Pn**	**15 12 15.9**	**-0.2**
GURO	**Guroymak-BITLI**	**2.17**	**16**	PN		**Pn**	**15 12 21.4**	**-0.7**
GURO	**Guroymak-BITLI**	**2.17**	**16**	*e*Pn		**Pn**	**15 12 21.4**	**-0.7**
URFA	**Urfa**	**2.19**	**297**	PN		**Pn**	**15 12 20.6**	**-1.7**
URFA	**Urfa**	**2.19**	**297**	*e*Pn		**Pn**	**15 12 20.6**	**-1.7**
HAKT	**HAKKARI**	**2.24**	**60**	*i* P		**Pn**	**15 12 22.8**	**-0.3**
HAKT				*i* S		**Sb**	**15 12 53.7**	**-0.6**
HAKT	**HAKKARI**	**2.24**	**60**	P		**Pn**	**15 12 22.8**	**-0.3**
HAKT				S		**Sb**	**15 12 53.7**	**-0.6**
GEVA	**Gevas**	**2.33**	**37**	*i* P		**Pn**	**15 12 24.6**	**+0.3**
GEVA				*i* S		**Sg**	**15 12 59.0**	**-0.6**
GEVA	**Gevas**	**2.33**	**37**	P		**Pn**	**15 12 24.6**	**+0.3**
ADCV	**BITLIS_Adilcev**	**2.62**	**26**	*i* P		**Pn**	**15 12 29.1**	**+0.9**
ADCV				*i* S		**Sg**	**15 13 07.1**	**-1.6**
ADCV	**BITLIS_Adilcev**	**2.62**	**26**	P		**Pn**	**15 12 29.1**	**+0.9**
TVAN	**Van**	**2.67**	**39**	*i* P		**Pg**	**15 12 35.2**	**-0.6**
VANB	**Van**	**2.72**	**38**	PN		**Pn**	**15 12 28.6**	**-0.9**
VANB	**Van**	**2.72**	**38**	*e*Pn		**Pn**	**15 12 28.6**	**-0.9**
ELZG	**Elazig**	**2.73**	**319**	*i* P		**Pn**	**15 12 29.8**	**0.0**
ELZG				*i* S		**Sg**	**15 13 10.7**	**-1.6**
ELZG	**Elazig**	**2.73**	**319**	P		**Pn**	**15 12 29.8**	**0.0**
PTK	**Pertek**	**2.85**	**329**	PN		**Pn**	**15 12 30.9**	**-0.5**
PTK	**Pertek**	**2.85**	**329**	*e*Pn		**Pn**	**15 12 30.9**	**-0.5**
EKAR	**Karacoban**	**2.86**	**12**	*i* P		**Pn**	**15 12 31.8**	**+0.2**
EKAR				*i* S		**Sg**	**15 13 22.2**	**+5.7**
EKAR	**Karacoban**	**2.86**	**12**	P		**Pn**	**15 12 31.8**	**+0.2**
MALT	**Malatya**	**2.93**	**310**	PN		**Pn**	**15 12 31.7**	**-0.7**
MALT	**Malatya**	**2.93**	**310**	*e*Pn		**Pn**	**15 12 31.7**	**-0.7**
TNCL	**Tunceli-Merkez**	**2.98**	**333**	*i* P		**Pn**	**15 12 33.2**	**0.0**
TNCL				*i* S		**Sg**	**15 13 21.4**	**+0.9**
TNCL	**Tunceli-Merkez**	**2.98**	**333**	P		**Pn**	**15 12 33.2**	**0.0**
ECAT	**Cat-ERZURUM**	**3.15**	**356**	*i* P		**Pg**	**15 12 45.7**	**+0.7**
ECAT				*i* S		**Sg**	**15 13 27.2**	**+1.4**
TUTA	**Tutak**	**3.18**	**22**	*i* P		**Pn**	**15 12 33.1**	**-2.9**
TUTA	**Tutak**	**3.18**	**22**	P		**Pn**	**15 12 33.1**	**-2.9**
AGRB	**Hanur-Agry**	**3.40**	**23**	PN		**Pn**	**15 12 39.8**	**+0.9**
AGRB	**Hanur-Agry**	**3.40**	**23**	*e*Pn		**Pn**	**15 12 39.8**	**+0.9**
CLDR	**Caldiran**	**3.40**	**37**	PN		**Pn**	**15 12 39.5**	**+0.5**
CLDR	**Caldiran**	**3.40**	**37**	*i* P		**Pb**	**15 12 45.4**	**-0.4**
CLDR	**Caldiran**	**3.40**	**37**	*e*Pn		**Pn**	**15 12 39.5**	**+0.5**
RTB	**Rutbah**	**3.51**	**193**	*e*Pn		Pn	15 12 33.0	-7.3
	SNR=3.0							
RTB				*i* Sn		Sn	15 13 13.0	-10
	SNR=3.0							
ILIC	**ilic-Erzincan**	**3.67**	**325**	PN		**Pn**	**15 12 42.9**	**+0.2**
ILIC	**ilic-Erzincan**	**3.67**	**325**	*e*Pn		**Pn**	**15 12 42.9**	**+0.2**
DARE	**Darende-Malaty**	**3.68**	**306**	PN		**Pn**	**15 12 42.7**	**0.0**
DARE	**Darende-Malaty**	**3.68**	**306**	*e*Pn		**Pn**	**15 12 42.7**	**0.0**
BAYT	**Ayd¨--ntepe-Bay**	**4.03**	**348**	PN		**Pn**	**15 12 48.0**	**+0.4**
BAYT	**Ayd¨--ntepe-Bay**	**4.03**	**348**	*e*Pn		**Pn**	**15 12 48.0**	**+0.4**
SENK	**Senkaya-Erzuru**	**4.18**	**11**	PN		**Pn**	**15 12 49.9**	**+0.1**
SENK	**Senkaya-Erzuru**	**4.18**	**11**	*e*Pn		**Pn**	**15 12 49.9**	**+0.1**
HWQ	**Hawqa**	**4.86**	**245**	*e*P		**Pn**	**15 13 00.2**	**+1.1**
SHBL	**Chebaa**	**5.50**	**237**	*e*P		**Pn**	**15 13 08.9**	**+1.1**
NSR	**Nassriya**	**6.78**	**142**	*e*Pn		Pn	15 13 19.0	-6.2
	SNR=3.0							
NSR				*i* Sn		Sn	15 14 33.0	-10
	SNR=3.0							

*ISCJB **20** 15:21:24.0±0.5, 67.20N±0.03×20.6E±0.1, h0km, Error ellipse: s-maj=5.9km s-min=3.7km az=175.2*
*CSEM **20** 15:21:24.3±0.2, 67.17N×20.68E, h0km±3km, ML1.3, Error ellipse: s-maj=7.0km s-min=4.8km az=55.0, Mining explosion.*
*HEL **20** 15:21:24.7, 67.18N×20.60E, h0km, ML1.3, Explosion*
*UPP **20** 15:21:24.4, 67.17N×20.66E, h0km, ML2.2, Suspected Mining explosion.*
ISC 20 15:21:24.8±0.8, 67.17N±0.02×20.68E±0.03, h0km, n31, σ0s67/43, Sweden

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**219**	P		**Pg**	**15 21 25.8**	**-0.2**
DUNU				S		**Sg**	**15 21 27.0**	**+0.1**
DUNU	**Dundret**	**0.07**	**219**	P		**Pg**	**15 21 25.9**	**-0.2**
DUNU				S		**Sg**	**15 21 27.0**	**+0.1**
DUNU	**Dundret**	**0.07**	**219**	*i* P		**Pg**	**15 21 25.9**	**-0.2**
DUNU				*i* S		**Sg**	**15 21 27.0**	**+0.1**
MASU	**Masugnsbyn**	**0.58**	**60**	P		**Pg**	**15 21 35.7**	**-0.2**
MASU	**Masugnsbyn**	**0.58**	**60**	P		**Pg**	**15 21 35.8**	**-0.2**
MASU	**Masugnsbyn**	**0.58**	**60**	*i* P		**Pg**	**15 21 35.8**	**-0.2**
RATU	**Laukkuluspa**	**0.78**	**328**	P		**Pg**	**15 21 38.6**	**-1.0**
RATU	**Laukkuluspa**	**0.78**	**328**	P		**Pg**	**15 21 38.6**	**-1.0**
RATU	**Laukkuluspa**	**0.78**	**328**	*i* P		**Pg**	**15 21 38.6**	**-1.0**
ERTU	**Ertsjaerv**	**0.86**	**136**	P		**Pg**	**15 21 40.3**	**-1.0**
ERTU					Sb	**Sg**	**15 21 52.6**	**+0.2**
ERTU	**Ertsjaerv**	**0.86**	**136**	P		**Pg**	**15 21 40.2**	**-1.0**
ERTU	**Ertsjaerv**	**0.86**	**136**	*e*P		**Pg**	**15 21 40.3**	**-1.0**
	baz=313							
ERTU				*e*SB		**Sg**	**15 21 52.6**	**+0.2**
NIKU	**Nikkaluokta**	**0.94**	**319**	P		**Pg**	**15 21 42.5**	**-0.3**
NIKU	**Nikkaluokta**	**0.94**	**319**	P		**Pg**	**15 21 42.5**	**-0.3**
NIKU	**Nikkaluokta**	**0.94**	**319**	*e*P		**Pg**	**15 21 42.5**	**-0.3**
PAJU	**Pajala**	**0.96**	**98**	P		**Pg**	**15 21 42.5**	**-0.7**
PAJU	**Pajala**	**0.96**	**98**	P		**Pg**	**15 21 42.5**	**-0.7**
PAJU	**Pajala**	**0.96**	**98**	*e*P		**Pg**	**15 21 42.5**	**-0.7**
LANU	**Lannavaara**	**1.01**	**29**	Pn		**Pn**	**15 21 45.6**	**-0.6**
LANU	**Lannavaara**	**1.01**	**29**	*e*Pn		**Pn**	**15 21 45.7**	**-0.6**
	baz=219							
HEF	**Hetta**	**1.68**	**41**	P		**Pn**	**15 21 54.8**	**-0.6**
HEF					Sn	**Sb**	**15 22 18.1**	**-0.1**
HEF	**Hetta**	**1.68**	**41**	*e*P		**Pn**	**15 21 54.8**	**-0.6**
	baz=228							
HEF				MSG			15 22 15.2	
	comp=Z,1.2nm,0.2s							
HEF				*e*SN		**Sb**	**15 22 18.1**	**-0.1**
KALU	**Kalix**	**1.70**	**140**	*e*SN		**Sg**	**15 22 20.0**	**+0.7**
TOF	**Tornio**	**1.82**	**125**	Pn		**Pn**	**15 21 57.6**	**+0.3**
TOF	**Tornio**	**1.82**	**125**	*e*Pn		**Pn**	**15 21 57.7**	**+0.3**
	baz=321							
TOF				MSG			15 22 19.9	
	comp=Z,2.5nm,0.2s							
TOF				*e*SN		**Sg**	**15 22 22.8**	**-0.4**
KIF	**Kilpisjarvi**	**1.84**	**1**	Pg		**Pb**	**15 21 58.7**	**-0.5**
KIF				Sg		**Sg**	**15 22 24.3**	**+0.5**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*PG		**Pb**	**15 21 58.7**	**-0.5**
	baz=169							
KIF				MSG			15 22 20.4	
	comp=Z,1.7nm,0.2s							
KIF				*e*SG		**Sg**	**15 22 24.3**	**+0.5**
SGF	**Sodankyl**	**2.28**	**81**	Sg		**Sb**	**15 22 36.2**	**+0.7**
SGF	**Sodankyl**	**2.28**	**81**	*e*SG		**Sb**	**15 22 36.2**	**+0.7**
ARE0	**ARCESS Array S**	**2.97**	**35**	P		**Pn**	**15 22 14.5**	**+1.4**
ARE0				S		**Sn**	**15 22 50.2**	**+0.8**
ARE0	**ARCESS Array S**	**2.97**	**35**	*e*P		**Pn**	**15 22 14.5**	**+1.4**
	baz=217							
ARE0				*e*S		**Sn**	**15 22 50.2**	**+0.8**

*NIED **20** 15:22:00, 36.90N×143.80E, h8km, Mw3.8 Best double couple: M0 5.32000×10^14 NP1:φ=58.00000°, δ=40.00000°, λ=-92.00000°. NP2:φ=241.00000°, δ=50.00000°, λ=-88.00000°.*
*IDC **20** 15:22:42.2±0.8, 36.58N×144.17E, h0km, mb3.7/15, mb1 3.9/18, mb1mx3.8/66, mbtmp3.7/18, ML3.3/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/58, Error ellipse: s-maj=20.3km s-min=17.9km az=122.0*
*ISCJB **20** 15:22:46.7±0.5, 36.83N±0.05×143.79E±0.05, h33km, mb3.6/16, MS3.1/1, Error ellipse: s-maj=7.2km s-min=5.3km az=178.2*
*JMA **20** 15:22:46.9±0.3, 36.87N×143.80E, h51km, M3.8*
ISC 20 15:22:47.8±0.7, 36.79N±0.06×143.91E±0.07, h35km, n40, σ2s07/42, mb3.7/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.49**	**284**	P		**Pn**	**15 23 24.7**	**-1.2**
JFK				S		**Sn**	**15 23 52.5**	**-2.6**
ONAJ	**Iwakimizuishiy**	**2.51**	**278**	P		**Pn**	**15 23 25.4**	**-0.7**
ONAJ				S		**Sn**	**15 23 53.3**	**-2.2**
JHO	**Hitachi**	**2.69**	**267**	P		**Pn**	**15 23 27.

CLCH				*i* S		**Sn**	15 34 57.4	-0.1
ACAN	**Cantantal**	**2.21**	**110**	*e*P		**Pn**	15 34 34.6	-0.4
AGUA	**GUANDACOL**	**2.27**	**26**	*e*P		**Pn**	15 34 36.5	+0.6
LMEL	**Las Melosas**	**2.35**	**192**	⇓*i*P		**Pn**	15 34 36.8	-0.3
LMEL				*i* S		**Sn**	15 35 09.7	+4.0
LMEL				IAML			15 35 16.5	
	comp=N,64nm,0.2s							
APLL	**PUNTA DE LOS L**	**2.90**	**68**	*e*P		**Pn**	15 34 42.8	-1.4
VCA	**Vinchina**	**3.06**	**24**	*e*P		**Pn**	15 34 46.4	+0.1
VCA				IAML			15 35 27.4	
	comp=Z,27nm,0.7s							
MRA	**San Martin**	**3.44**	**106**	IAML			15 35 32.0	
	comp=Z,13nm,0.3s							

CSEM ***20*** *15:45:51.6, 12.30N×43.48E, h20km, ML4.4, After DHMR*
DHMR ***20*** *15:45:51.6±1.8, 12.30N×43.48E, h20km± 18km, ML4.4*
ISCJB ***20*** *15:45:53.6±1.4, 12.30N±0.05×43.59E±0.06, h10km±12km, Error ellipse: s-maj=11.3km s-min=5.4km az=43.2*
ARO ***20*** *15:45:56.6, 12.1N×43.6E±0.9, h13km± 1km, MM.1*
ISC 20 15:45:52.7±2.0, 12.26N±0.07×43.61E±0.05, h3km±18km, n20, σ0.73/31, 4C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBO	**Obock**	**0.41**	**228**	*e*P	**Pb**	**15 46 03.5**	**+0.9**
MCAD	**Moucha**	**0.65**	**216**	*e*P	**Pb**	**15 46 07.4**	**+0.7**
TDD	**Tadjoura Ara**	**0.82**	**236**	*e*P	**Pb**	**15 46 10.0**	**+0.4**
ATA	**Atar**	**0.89**	**206**	*e*P	**Pb**	**15 46 11.0**	**+0.2**
ATD	**Arta Tunnel**	**1.04**	**226**	*e*P	**Pb**	**15 46 13.4**	**+0.1**
ATD	**Arta Tunnel**	**1.04**	**226**	*e*P	**Pb**	**15 46 13.3**	**-0.1**
ATD				*e*S	**Sb**	**15 46 27.1**	**-0.4**
SGH	**Sud-Ghoubbet**	**1.26**	**229**	*e*P	**Pg**	**15 46 16.7**	**-0.1**
LDLD	**Lac de Lave**	**1.28**	**238**	*e*P	**Pg**	**15 46 17.2**	**0.0**
MAOD	**Malaho**	**1.36**	**263**	*e*P	**Pn**	**15 46 18.6**	**0.0**
ADEN	**Aden**	**1.44**	**69**	*i* P	**Pn**	**15 46 18.5**	**-1.2**
ADEN				*i* S	**Sb**	**15 46 39.4**	**+0.5**
ADEN				AML	AML	15 46 45.8	
	comp=E,6μm,0.6s						
ADEN	**Aden**	**1.44**	**69**	*i* P	**Pn**	**15 46 18.5**	**-1.2**
ADEN				*i* S	**Sb**	**15 46 39.4**	**+0.5**
	comp=E,3μm,0.6s						
UDYN	**Al 'Udayn**	**1.73**	**12**	⇑*i*P	**Pn**	**15 46 22.5**	**-1.3**
UDYN				*i* S	**Sn**	**15 46 45.6**	**-0.9**
UDYN	**Al 'Udayn**	**1.73**	**12**	⇑*i*P	**Pn**	**15 46 22.5**	**-1.3**
UDYN				*i* S	**Sn**	**15 46 45.6**	**-0.9**
DHBB	**Dhamar BB**	**2.42**	**18**	*i* P	**Pn**	**15 46 33.1**	**-0.3**
DHBB				*i* S	**Sn**	**15 47 05.0**	**+1.3**
DHBB	**Dhamar BB**	**2.42**	**18**	*i* P	**Pn**	**15 46 33.1**	**-0.3**
DHBB				*i* S	**Sn**	**15 47 05.0**	**+1.3**
BDHA	**Al Bayda'**	**2.56**	**48**	*i* P	**Pn**	**15 46 35.3**	**0.0**
BDHA				*i* S	**Sb**	**15 47 11.9**	**+0.5**
BDHA				AML	AML	15 47 17.6	
	comp=N,3μm,0.4s						
BDHA	**Al Bayda'**	**2.56**	**48**	*i* P	**Pn**	**15 46 35.3**	**0.0**
BDHA				*i* S	**Sb**	**15 47 11.9**	**+0.5**
	comp=N,1μm,0.4s						
HAJJ	**Hajjah**	**3.42**	**360**	⇑*i*P	**Pn**	**15 46 46.8**	**-0.3**
HAJJ				*i* S	**Sn**	**15 47 28.1**	**-0.1**
HAJJ	**Hajjah**	**3.42**	**360**	⇑*i*P	**Pn**	**15 46 46.8**	**-0.3**
HAJJ				*i* S	**Sn**	**15 47 28.1**	**-0.1**

ISCJB ***20*** *15:58:50.2±0.8, 16.1S±0.2×176.6W±0.1, h350km, mb3.9/5, Error ellipse: s-maj=27.8km s-min=11.1km az=153.0*
IDC ***20*** *15:58:52.6±1.5, 16.15S×176.28W, h372km±22km, mb3.6/5, mb1 3.7/6, mb1mx3.2/48, mbtmp4.3/6, Error ellipse: s-maj=33.9km s-min=16.2km az=126.0*
ISC 20 15:58:51.0±0.9, 16.1S±0.2×176.5W±0.1, h350km, n8, σ1.9/07/9, mb4.1/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.07**	**66**	P	**Pn**	**16 00 12.1**	**+0.5**
	4.0nm,0.3s,baz=247,slow=15,SNR=5.8						
AFI				S	**S**	**16 01 17.4**	**+0.7**
	2.5nm,0.3s,baz=252,slow=20,SNR=3.2						
URZ	**Urewera**	**22.82**	**193**	P	**P**	**16 03 23.8**	**-0.8**
	11nm,0.9s,baz=32,slow=19,SNR=9.0						
WRA	**Warramunga Arr**	**46.75**	**258**	P	**P**	**16 06 47.6**	**+0.8**
	1.4nm,0.5s,baz=90,slow=7.2,SNR=40						
ASAR	**Alice Springs**	**47.03**	**252**	P	**P**	**16 06 50.4**	**+1.4**
	7.2nm,0.6s,baz=89,slow=7.7,SNR=272						
PETK	**Petropavlovsk-**	**72.37**	**344**	P	**P**	**16 09 39.6**	**+0.3**
	6.3nm,1.0s,baz=131,slow=9.2,SNR=3.8						
ILAR	**Eielson Array**	**83.69**	**12**	P	**P**	**16 10 39.3**	**-1.5**
	0.3nm,0.5s,baz=210,slow=5.6,SNR=4.8						
ARCES	**ARCESS Array B**	**124.79**	**351**	PKP	**PKPdf**	**16 17 08.8**	**-0.2**
	0.4nm,0.6s,baz=15,slow=3.7,SNR=6.1						
BRTR	**Keskin Array B**	**144.68**	**318**	PKP	**PKPdf**	**16 17 46.4**	**-0.6**
	0.4nm,0.3s,baz=90,slow=2.9,SNR=4.6						

ISCJB ***20*** *15:59:58.9±1.6, 16.5S±0.3×69.5W±0.1, h200km, mb3.7/3, Error ellipse: s-maj=36.8km s-min=14.6km az=160.6*
IDC ***20*** *16:00:01.9±2.5, 16.61S×69.21W, h203km±8km, mb3.4/3, mb1 3.4/4, mb1mx3.0/49, mbtmp3.8/4, Error ellipse: s-maj=65.8km s-min=28.8km az=130.0*
ISC 20 16:00:01.2±1.5, 16.6S±0.3×69.3W±0.1, h200km, n6, σ0.5/75/8, mb3.6/3, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.19**	**77**	P	**Pn**	**16 00 33.3**	**+0.2**
	36nm,0.3s,baz=273,slow=7.1,SNR=547						
LPAZ				S	**Sn**	**16 00 57.7**	**+0.1**
	7.1nm,0.3s,baz=147,slow=23,SNR=18						
SIV	**San Ignacio**	**7.96**	**87**	P	**Pn**	**16 01 53.2**	**-0.8**
	0.4nm,0.3s,baz=284,slow=13,SNR=6.1						
SIV				S	**Sn**	**16 03 24.8**	**+1.0**
	0.1nm,0.3s,baz=342,slow=20,SNR=2.3						
PLCA	**Paso Flores**	**24.10**	**182**	P	**P**	**16 04 58.5**	**-0.1**
	1.2nm,0.8s,baz=0.0,slow=11,SNR=2.9						
DBIC	**Dimbokro**	**67.81**	**75**	P	**P**	**16 10 38.2**	**+0.1**
	3.0nm,0.8s,baz=278,slow=5.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.14**	**72**	P	**P**	**16 11 27.1**	**-0.6**
	0.7nm,0.6s,baz=261,slow=5.7,SNR=4.1						
WRA	**Warramunga Arr**	**136.90**	**214**	PKP	**PKPdf**	**16 19 01.8**	**+0.8**
	0.8nm,1.0s,baz=153,slow=1.9,SNR=7.3						

PPT 20 16:14:42.4±0.2, 21.93S×131.44W, h10km, MI3.7/10, Error ellipse: s-maj=7.5km s-min=4.1km az=177.0, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**3.48**	**249**	*e*Pn	Pn	16 15 31.1	-5.5
	4.3nm,0.1s						
RKT				*e*Sn	Sn	16 16 09.3	-8.5
	17nm,0.1s						

ISCJB ***20*** *16:34:53.9±0.4, 67.18N±0.02×20.51E±0.09, h0km, Error ellipse: s-maj=4.9km s-min=3.3km az=11.2*
IDC ***20*** *16:34:55.6±0.8, 67.16N×21.12E, h0km, mb1 3.2/6, mb1mx3.0/65, mbtmp3.3/6, ML2.3/4, Error ellipse: s-maj=15.2km s-min=7.4km az=105.0*
UPP ***20*** *16:34:55.6, 67.16N×20.62E, h0km, ML1.8, Suspected Mining explosion.*
CSEM ***20*** *16:34:55.7±0.2, 67.19N×20.63E, h2km, ML1.9, Error ellipse: s-maj=6.4km s-min=4.6km az=87.0, Mining explosion.*
NAO ***20*** *16:34:56.1±0.9, 67.11N×20.84E, ML2.5*
HEL ***20*** *16:34:56.5±0.1, 67.18N×20.67E, h0km, ML1.9, ML1.8(UPP), Explosion*
BER ***20*** *16:34:58.0±3.8, 67.11N×20.75E, h0km, ML2.6, ML2.5(NAO), Suspected explosion*
ISC 20 16:34:54.9±0.7, 67.15N±0.02×20.57E±0.03, h0km, n63, σ1.9/39/90, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.64**	**60**	P	**Pg**	**16 35 07.2**	**+0.1**
MASU				S	**Sg**	**16 35 15.3**	**0.0**
MASU	**Masugnsbyn**	**0.64**	**60**	P	**Pg**	**16 35 07.2**	**+0.1**
MASU				S	**Sg**	**16 35 15.3**	**0.0**
MASU	**Masugnsbyn**	**0.64**	**60**	*i* P	**Pg**	**16 35 07.2**	**+0.1**
MASU				*i* S	**Sg**	**16 35 15.3**	**0.0**
RATU	**Laukkuluspa**	**0.77**	**331**	P	**Pg**	**16 35 10.2**	**+0.5**
RATU	**Laukkuluspa**	**0.77**	**331**	*i* P	**Pg**	**16 35 10.2**	**+0.5**
KUA	**Kurravaara**	**0.81**	**354**	P	**Pg**	**16 35 10.7**	**+0.3**
KUA	**Kurravaara**	**0.81**	**354**	P	**Pg**	**16 35 10.7**	**+0.3**
KUA	**Kurravaara**	**0.81**	**354**	*i* P	**Pg**	**16 35 10.7**	**+0.3**
ERTU	**Ertsjaerv**	**0.88**	**132**	P	**Pg**	**16 35 11.9**	**+0.2**
ERTU	**Ertsjaerv**	**0.88**	**132**	P	**Pg**	**16 35 11.8**	**+0.2**
ERTU	**Ertsjaerv**	**0.88**	**132**	*e*P	**Pg**	**16 35 11.8**	**+0.2**
NIKU	**Nikkaluokta**	**0.93**	**321**	P	**Pg**	**16 35 13.5**	**+0.8**
NIKU	**Nikkaluokta**	**0.93**	**321**	P	**Pg**	**16 35 13.6**	**+0.8**
NIKU	**Nikkaluokta**	**0.93**	**321**	*e*P	**Pg**	**16 35 13.6**	**+0.8**
HARU	**Harads**	**1.00**	**171**	P	**Pg**	**16 35 13.9**	**-0.2**
HARU	**Harads**	**1.00**	**171**	P	**Pg**	**16 35 13.9**	**-0.2**
HARU	**Harads**	**1.00**	**171**	*e*P	**Pg**	**16 35 13.9**	**-0.2**
PAJU	**Pajala**	**1.00**	**96**	P	**Pg**	**16 35 14.2**	**+0.1**
PAJU	**Pajala**	**1.00**	**96**	P	**Pg**	**16 35 14.2**	**+0.1**
PAJU	**Pajala**	**1.00**	**96**	*e*P	**Pg**	**16 35 14.2**	**+0.1**
LANU	**Lannavaara**	**1.05**	**30**	*e*P	**Pg**	**16 35 11.6**	**-3.4**
KALU	**Kalix**	**1.71**	**138**	P	**Pb**	**16 35 26.8**	**-0.4**
KALU				Sn	**Sg**	**16 35 49.9**	**+0.1**
	15nm,0.2s						
KALU	**Kalix**	**1.71**	**138**	*e*P	**Pb**	**16 35 26.9**	**-0.4**
KALU				*e*SN	**Sg**	**16 35 49.9**	**+0.1**
HEF	**Hetta**	**1.73**	**42**	MSG		16 35 41.8	
	comp=Z,7.3nm,0.2s						
HEF				*e*S	**Sn**	**16 35 47.4**	**-1.5**
TOF	**Tornio**	**1.84**	**124**	MSG		16 35 51.1	
	comp=Z,15nm,0.2s						
TOF				*e*SN	**Sg**	**16 35 53.9**	**-0.3**
KIF	**Kilpisjarvi**	**1.86**	**3**	*e*P	**Pn**	**16 35 26.6**	**-1.4**
	SNR=50						
KIF	**Kilpisjarvi**	**1.86**	**3**	Pn	**Pg**	**16 35 30.8**	**+0.2**
	SNR=50						
KIF				S	**Sn**	**16 35 51.8**	**-0.4**
KIF	**Kilpisjarvi**	**1.86**	**3**	*e*P	**Pn**	**16 35 26.6**	**-1.4**
KIF				Pn	**Pg**	**16 35 30.8**	**+0.2**
KIF				Sn	**Sg**	**16 35 56.0**	**+1.3**
KIF	**Kilpisjarvi**	**1.86**	**3**	*e*P	**Pn**	**16 35 26.3**	**-1.7**
KIF				MSG		16 35 47.2	
	comp=Z,4.8nm,0.2s						
KIF				*e*S	**Sn**	**16 35 51.8**	**-0.4**
KTK1	**Kautokeino**	**2.12**	**27**	*e*P	**Pn**	**16 35 29.4**	**-2.2**
	SNR=50						
KTK1	**Kautokeino**	**2.12**	**27**	*e*P	**Pn**	**16 35 29.4**	**-2.2**
KTK1				IAML		16 36 02.7	
	comp=Z,74nm,0.8s						
SGF	**Sodankyl**	**2.33**	**80**	P	**Pn**	**16 35 33.8**	**-0.6**
SGF				S	**Sn**	**16 36 04.6**	**+0.9**
SGF	**Sodankyl**	**2.33**	**80**	*e*P	**Pn**	**16 35 33.8**	**-0.6**
SGF				*e*S	**Sn**	**16 36 04.6**	**+0.9**
BURU	**Burvik**	**2.60**	**172**	P	**Pn**	**16 35 40.4**	**+2.3**
BURU	**Burvik**	**2.60**	**172**	*e*P	**Pn**	**16 35 40.4**	**+2.3**
ARA0	**ARCESS Array S**	**3.01**	**35**	Pn	**Pn**	**16 35 45.0**	**+1.1**
	SNR=50						
ARA0				Sn	**Sn**	**16 36 20.9**	**+0.3**
	SNR=50						
ARA0	**ARCESS Array S**	**3.01**	**35**	Pn	**Pn**	**16 35 45.0**	**+1.1**
	baz=212,slow=16						
ARA0				Sn	**Sn**	**16 36 20.9**	**+0.3**
	baz=215,slow=22						
ARCES	**ARCESS Array B**	**3.01**	**35**	Pn	**Pn**	**16 35 41.5**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=216,slow=14,SNR=13						
ARCES				Sn	**Sn**	**16 36 19.9**	**-0.7**
	comp=Z,2.5nm,0.3s,baz=218,slow=22,SNR=11						
OUF	**Merijarvi**	**3.28**	**147**	*e*PG	**Pb**	**16 35 54.5**	**+0.6**
	baz=332						
UMAU	**Umeaa**	**3.28**	**179**	P	**Pn**	**16 35 50.0**	**+2.5**
UMAU				Sg	**Sg**	**16 36 41.2**	**+1.0**
UMAU	**Umeaa**	**3.28**	**179**	*e*P	**Pn**	**16 35 50.0**	**+2.5**
	baz=360						
UMAU				*e*SG	**Sg**	**16 36 41.2**	**+1.0**
VRF	**Varrio**	**3.54**	**76**	P	**Pn**	**16 35 51.4**	**+0.4**
VRF	**Varrio**	**3.54**	**76**	*e*P	**Pn**	**16 35 51.4**	**+0.4**
	baz=262						
MSF	**Maaselka**	**3.61**	**106**	*e*PG	**Pb**	**16 36 01.1**	**+1.5**
MSF				*e*SG	**Sb**	**16 36 46.5**	**+2.6**
KU6	**Riekki**	**3.89**	**103**	P	**Pn**	**16 35 56.7**	**+0.9**
KU6	**Riekki**	**3.89**	**103**	*e*P	**Pn**	**16 35 56.7**	**+0.9**
VAF	**Ylistaro**	**4.22**	**167**	*e*P	**Pn**	**16 36 03.0**	**+2.6**
VAF				*e*SG	**Sg**	**16 37 08.1**	**-2.2**
FIA0	**FINESS Array S**	**6.21**	**155**	Pn	**Pn**	**16 36 29.2**	**+1.5**
	baz=337,slow=14						
FIA0				Sn	**Sn**	**16 37 36.2**	**-3.0**
	baz=345,slow=22						
FIA0				Lg	Lg	16 38 07.2	
	baz=341,slow=28						
FIA0	**FINESS Array S**	**6.21**	**155**	Pn	**Pn**	**16 36 29.2**	**+1.5**
	baz=337,slow=14						
FIA0				Sn	**Sn**	**16 37 36.2**	**-3.0**
	baz=345,slow=22						
FIA0				Lg	Lg	16 38 07.2	
	baz=341,slow=28						
FINES	**FINESS Array B**	**6.21**	**155**	Pn	**Pn**	**16 36 28.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=339,slow=14,SNR=4.7						
FINES				Sn	**Sn**	**16 37 36.5**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=342,slow=24,SNR=5.8						
FINES				Lg	Lg	16 38 08.4	
	comp=Z,0.7nm,0.3s,baz=348,slow=28,SNR=6.7						
NB2	**NORSAR Subarra**	**7.37**	**218**	Pn	**Pn**	**16 36 45.1**	**+1.5**
NB2	**NORSAR Subarra**	**7.37**	**218**	Pn	**Pn**	**16 36 45.1**	**+1.5**
NOA	**NORSAR Array B**	**7.37**	**218**	Pn	**Pn**	**16 36 44.5**	**+0.9**
	baz=25,slow=12,SNR=2.7						
NOA				Lg	Lg	16 38 45.8	
	comp=Z,0.7nm,0.3s,baz=53,slow=24,SNR=5.2						
NRA0	**NORESS Array S**	**7.56**	**216**	Pn	**Pn**	**16 36 47.0**	**+0.8**
	baz=33,slow=16						
NRA0				Sn	**Sn**	**16 38 10.8**	**-1.7**
	baz=22,slow=28						
NRA0	**NORESS Array S**	**7.56**	**216**	Pn	**Pn**	**16 36 47.0**	**+0.8**
	baz=33,slow=16						
NRA0				Sn	**Sn**	**16 38 10.8**	**-1.7**
	baz=22,slow=28						
HFS	**Hagfors**	**7.67**	**207**	Pn	**Pn**	**16 36 48.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=6.2						
HFS				Sn	**Sn**	**16 38 12.1**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=42,slow=24,SNR=4.4						
HFS				Lg	Lg	16 38 53.7	
	comp=Z,0.3nm,0.3s,baz=25,slow=31,SNR=3.2						
HFS	**Hagfors**	**7.67**	**207**	Pn	**Pn**	**16 36 48.2**	**+0.4**
	SNR=50						
HFS				Lg	Lg	16 38 53.5	
	SNR=6.8						
HFS	**Hagfors**	**7.67**	**207**	Pn	**Pn**	**16 36 48.2**	**+0.4**
	baz=16,slow=14						
HFS				Sn	**Sn**	**16 38 12.6**	**-2.7**
	baz=35,slow=28						
HFS				Lg	Lg	16 38 53.5	
	baz=34,slow=28						
HFS	**Hagfors**	**7.67**	**207**	Pn	**Pn**	**16 36 48.2**	**+0.4**
	baz=16,slow=14						
HFS				Sn	**Sn**	**16 38 12.6**	**-2.7**
	baz=35,slow=28						
HFS				Lg	Lg	16 38 53.5	
	baz=34,slow=28						
SPITS	**Spitsbergen Ar**	**11.15**	**356**	Pn	**Pn**	**16 37 35.0**	**-0.3**
	baz=174,slow=17,SNR=2.4						
AKASG	**Malin Array Be**	**17.06**	**161**	P	**P**	**16 38 55.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=351,slow=12,SNR=2.2						

NIED ***20*** *16:53:00, 35.80N×141.10E, h41km, Mw4.5 Best double couple: M0 5.43000×10^15 NP1:ϕs 266.00000°, δ10.00000°, λ152.00000°. NP2:ϕs 23.00000°, δ85.00000°, λ81.00000°.*
BJI ***20*** *16:53:33.8, 35.74N×141.31E, h41km, mb4.5/34, mB4.9/17, Ms4.0/9, Ms7 3.8/7*
ISCJB ***20*** *16:53:34.9±0.3, 35.69N±0.03×141.23E±0.04, h33km, mb4.4/52, MS3.6/21, Error ellipse: s-maj=4.7km s-min=3.7km az=37.2*
MOS ***20*** *16:53:34.7±1.1, 35.76N×141.13E, h26km, mb4.8/23, Error ellipse: s-maj=8.4km s-min=5.2km az=101.8*
JMA ***20*** *16:53:37.2±0.1, 35.74N×141.01E, h36km±1km, M3.8*
JMA Felt I J1.
NEIC ***20*** *16:53:38.0±0.7, 35.71N×141.08E, h41km±6km, mb4.6/15, Error ellipse: s-maj=8.0km s-min=6.5km az=124.0*
NEIC Recorded [1 JMA] in Chiba and Ibaraki.
IDC ***20*** *16:53:40.0±1.5, 35.60N×140.97E, h57km±14km, mb3.9/26, mb1 4.0/30, mb1mx3.9/69, mbtmp4.2/30, MS3.6/22, Ms1 3.6/22, ms1mx3.4/58, Error ellipse: s-maj=13.4km s-min=7.6km az=74.0*

ISC 20 16:53:36.3±0.4, 35.66N±0.04×141.24E±0.05, h33km, n171, σ1.9/95/170, mb4.4/52, MS3.6/22, 11C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.31**	**278**	⇓P	**Pb**	**16 53 43.4**	**-0.8**
CHOJ				*e*S	**Sb**	**16 53 47.9**	**-1.7**
JCN	**Nagara**	**0.88**	**254**	⇓P	**Pn**	**16 53 52.1**	**-0.2**
BSO4	**Boso 4**	**1.00**	**228**	P	**Pn**	**16 53 54.2**	**+0.4**
JYT	**Yasato**	**1.02**	**304**	⇓P	**Pn**	**16 53 52.3**	**-2.0**
BSO1	**Boso 1**	**1.03**	**192**	P	**Pb**	**16 53 55.2**	**0.0**
BSO3	**Boso 3**	**1.04**	**215**	⇑P	**Pn**	**16 53 54.5**	**+0.1**
JHO	**Hitachi**	**1.09**	**330**	⇓P	**Pn**	**16 53 54.2**	**-1.1**
MJA0	**Matsu Arr-Jizo**	**2.58**	**291**	*e*P	**Pn**	**16 54 15.9**	**+0.1**
MJA0				pmax	pmax		
	comp=Z,17nm,0.3s						
MJAR	**Matsushiro Arr**	**2.61**	**291**	P	**Pn**	**16 54 15.9**	**-0.2**
	comp=Z,17nm,0.3s,baz=95,slow=13,SNR=92						
MJAR				S	**Sn**	**16 54 47.0**	**+0.3**
	comp=Z,11nm,0.3s,baz=130,slow=15,SNR=4.7						
MAJO	**Matsushiro**	**2.61**	**291**	*e*P	**Pn**	**16 54 16.3**	**+0.2**
MAJO	**Matsushiro**	**2.61**	**291**	*e*Pn	**Pn**	**16 54 16.1**	**-0.1**
MAT	**Matsushiro**	**2.61**	**291**	P	**Pn**	**16 54 16.5**	**+0.4**
MAT				*e*S	**Sn**	**16 54 46.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.61**	**291**	*e*Pn	**Pn**	**16 54 16.0**	**-0.2**
JHJ2	**Mitsune**	**2.80**	**205**	*e*Pn	**Pn**	**16 54 19.7**	**+0.9**
JHJ	**Hachijo jima 2**	**2.81**	**206**	P	**Pn**	**16 54 19.6**	**+0.8**
	comp=Z,39nm,0.3s,baz=342,slow=20,SNR=17						
JHJ				S	**Sn**	**16 54 51.4**	**-0.1**
	comp=Z,125nm,0.3s,baz=82,slow=23,SNR=12						
INU	**Inuyama**	**3.46**	**266**	*e*Pn	**Pn**	**16 54 28.3**	**+0.5**
ERM	**Erimo**	**6.52**	**13**	*e*P	**Pn**	**16 55 10.2**	**+0.4**
ERM	**Erimo**	**6.52**	**13**	*e*Pn	**Pn**	**16 55 10.2**	**+0.4**
ASAJ	**Asahikawa**	**8.51**	**7**	P	**Pn**	**16 55 35.5**	**-1.6**
	comp=Z,2.3nm,0.3s,baz=214,slow=13,SNR=14						
ASAJ				S	**Sn**	**16 57 07.9**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=306,slow=19,SNR=1.8						
ASAJ	**Asahikawa**	**8.51**	**7**	*e*Pn	**Pn**	**16 55 36.1**	**-1.0**
ASAJ				S	**Sn**	**16 57 07.9**	**-4.0**
CBIJ	**Chichi jima**	**8.58**	**174**	*e*Pn	**Pn**	**16 55 38.4**	**+0.3**
CBIJ				S	**Sn**	**16 57 05.5**	**-8.2**
JCJ	**Chichijima**	**8.58**	**174**	P	**Pn**	**16 55 37.8**	**-0.3**
	comp=Z,30nm,0.3s,baz=102,slow=23,SNR=13						
JCJ				S	**Sn**	**16 57 05.5**	**-8.3**
	comp=Z,5.6nm,0.3s,baz=295,slow=19,SNR=2.4						
GLVR	**Golovnino**	**8.71**	**21**	*e*P	**Pn**	**16 55 42.7**	**+2.8**
GLVR				*e*S	**Sn**	**16 57 12.0**	**-4.9**
JNU	**Nakatsue**	**8.93**	**256**	LR	LR	16 59 27.8	
	comp=Z,766nm,19.2s,baz=91,slow=40						
JNU	**Nakatsue**	**8.93**	**256**	*e*Pn	**Pn**	**16 55 45.1**	**+2.1**
GRPR	**Tuman**	**9.02**	**21**	⇑*i*P	**Pn**	**16 55 44.7**	**+0.6**
GRPR				*i* S	**Sn**	**16 57 17.5**	**-7.0**
LAGR	**Lagunnoye**	**9.08**	**21**	*e*P	**Pn**	**16 55 46.5**	**+1.6**
LAGR				*e*S	**Sn**	**16 57 20.1**	**-5.9**
YUK	**Yuzh-Kuril'sk**	**9.09**	**22**	P	**Pn**	**16 55 47.5**	**+2.5**
YUK				*i* S	**Sn**	**16 57 21.6**	**-4.4**
YUK				pmax	pmax		
	comp=Z,29nm,0.1s						
YUK				pmax	pmax		
	comp=E,63nm,0.3s						
YUK				pmax	pmax		
	comp=N,41nm,0.4s						
SHO	**Shikotan**	**9.26**	**26**	P	**Pn**	**16 55 48.0**	**+0.7**
KSRS	**Korea Array**	**10.86**	**283**	P	**Pn**	**16 56 11.0**	**+1.6**
	comp=N,0.1nm,0.3s,baz=96,slow=14,SNR=7.3						
KSRS	**Korea Array**	**10.86**	**283**	P	**Pn**	**16 56 11.0**	**+1.6**
KS01	**Wonju Array Si**	**10.89**	**284**	*e*Pn	**Pn**	**16 56 11.8**	**+2.1**
KSAR	**Wonju Array Be**	**10.89**	**283**	P	**Pn**	**16 56 11.0**	**+1.2**
KSAR	**Wonju Array Be**	**10.89**	**283**	P	**Pn**	**16 56 11.0**	**+1.2**
USRK	**Ussuriysk Ar.**	**11.09**	**323**	P	**Pn**	**16 56 14.2**	**+1.7**
	comp=N,0.2nm,0.3s,baz=141,slow=15,SNR=8.2						
YSS	**Yuzh-Sakhalins**	**11.34**	**5**	⇓*i*P	**Pn**	**16 56 15.0**	**-0.9**
YSS				pmax	pmax		
	comp=N,20nm,0.8s						
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,180nm,14.0s						
YSS				MLR	MLR		
	comp=E,180nm,14.0s						
YSS	**Yuzh-Sakhalins**	**11.34**	**5**	*e*Pn	**Pn**	**16 56 15.2**	**-0.7**
CN2	**Changchun**	**14.60**	**309**	*e*P	**Pn**	**16 57 03.1**	**+2.7**
CN2				pmax	pmax		
	comp=E,10.0nm,0.6s						
TYV	**Tymovskoe**	**15.23**	**3**	*e*P	Pn	16 56 55.5	-13
TYV				pmax	pmax		
	comp=Z,4.0nm,2.0s						
KLR	**Kul'dur**	**15.24**	**336**	LR	LR	17 02 41.2	
	comp=Z,24nm,20.3s,baz=146,slow=36						
KLR	**Kul'dur**	**15.24**	**336**	⇑*e*P	**Pn**	**16 57 06.5**	**-2.4**
NJ2	**Nanjing**	**18

BILL *i* 17 01 47.6
BILL *i* 17 02 52.9
BILL pmax pmax
comp=Z,2.0nm,1.2s
TIXI Tiksi 36.63 353 P **P** **17 00 39.6 +0.4**
comp=Z,2.3nm,0.8s,baz=148,slow=6.0,SNR=13
TIXI Tiksi 36.63 353⇑ *iP* **P** **17 00 40.6 +1.5**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 36.63 353 *eP* **P** **17 00 39.5 +0.3**
comp=Z,3.0nm,0.8s
CM31 Chiang Mai Arr 41.03 257 *eP* **P** **17 01 16.5 -0.1**
CMAR Chiang Mai Arr 41.03 257 P **P** **17 01 16.3 -0.3**
comp=Z,0.6nm,0.4s,baz=73,slow=1.9,SNR=11
CMAR LR LR 17 18 50.8
comp=Z,104nm,18.3s,baz=67,slow=37
CMAR Chiang Mai Arr 41.03 257*c eP* **P** **17 01 17.7 +1.1**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CM01 Chiang Mai Arr 41.04 257 *eP* **P** **17 01 16.9 +0.3**
WMQ Urumqi 41.35 298 P **P** **17 01 19.3 +0.3**
WMQ pP pP 17 01 29.8 +1.0
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ LR LR
comp=Z,64nm,23.5s
WMQ LR LR
comp=Z,150nm,28.7s
WMQ LR LR
comp=Z,150nm,20.1s
LSA Lhasa 42.21 277 *eP* **P** **17 01 26.6 -0.1**
LSA pmax pmax
comp=Z,5.0nm,1.0s
LSA Lhasa 42.21 277 *eP* **P** **17 01 26.6 -0.1**
comp=Z,5.3nm,1.0s
ZAA0 Zalesovo Array 42.75 313 *eP* **P** **17 01 29.3 -0.9**
comp=Z,5.8nm,0.8s
ZALV Zalesovo Beam 42.75 313 P **P** **17 01 30.3 +0.1**
comp=Z,4.8nm,0.7s,baz=92,slow=6.5,SNR=25
ZALV LR LR 17 19 00.6
comp=Z,42nm,20.6s,baz=72,slow=36
ZALV Zalesovo Beam 42.75 313 *eP* **P** **17 01 29.2 -1.0**
ZALV Zalesovo Beam 42.75 313 *eP* **P** **17 01 29.2 -1.0**
NVS Novosibirsk 43.70 315⇓ *iP* **P** **17 01 38.0 +0.2**
NVS pmax pmax
comp=Z,9.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
MK01 Makanchi Array 44.74 303 *eP* **P** **17 01 45.6 -0.8**
MK31 Makanchi Array 44.74 303 *eP* **P** **17 01 45.8 -0.6**
MK31 Makanchi Array 44.74 303 *eP* **P** **17 01 45.8 -0.6**
MKAR Makanchi Array 44.74 303 P **P** **17 01 46.3 -0.1**
comp=E,7.1nm,0.8s,baz=92,slow=9.5,SNR=71
MKAR LR LR 17 20 57.2
comp=E,57nm,20.2s,baz=68,slow=37
MKAR Makanchi Array 44.74 303 *eP* **P** **17 01 45.7 -0.7**
comp=E,45nm,0.8s
MAKZ Makanchi 44.95 303 *eP* **P** **17 01 47.7 -0.4**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 44.95 303 *eP* **P** **17 01 47.7 -0.4**
comp=Z,7.7nm,0.9s
TAPN Taplejung 45.91 275 *eP* **P** **17 01 58.0 +1.8**
ODAN Odare 46.37 275 *eP* **P** **17 01 58.8 -1.0**
KURK Kurchatov 46.68 309*c iP* **P** **17 02 01.2 -0.4**
KURK pmax pmax
comp=Z,93nm,1.2s
KURK Kurchatov 46.68 309 *eP* **P** **17 02 00.4 -1.1**
comp=Z,19nm,0.9s
KURBB Kurchatov Arra 46.74 309 P **P** **17 02 01.8 -0.3**
comp=Z,10nm,0.9s,baz=82,slow=7.8,SNR=64
RAMN Ramite 46.98 275 *eP* **P** **17 02 03.4 -1.1**
comp=Z,26nm,1.0s
JIRN Jiri 47.02 276 *eP* **P** **17 02 05.6 +0.6**
comp=Z,19nm,0.9s
GUN Gumba 47.17 277 *eP* **P** **17 02 07.2 +1.1**
PKI Pulchoki 47.68 277 *eP* **P** **17 02 10.3 +0.2**
PKIN Phulchoki 47.69 277 *eP* **P** **17 02 10.5 +0.4**
comp=Z,5.5nm,0.7s
KKN Kakani 47.70 277 *eP* **P** **17 02 10.5 +0.4**
comp=Z,7.9nm,0.8s
DMN Daman 47.91 277 *eP* **P** **17 02 11.8 0.0**
comp=Z,8.0nm,0.9s
DANN Dangsing 48.70 278 *eP* **P** **17 02 17.7 -0.2**
comp=Z,3.1nm,0.9s
KOLN Koldanda 49.06 278 *eP* **P** **17 02 19.6 -1.0**
PYUN Piuthan 49.42 278 *eP* **P** **17 02 22.9 -0.5**
comp=Z,6.1nm,0.3s
ILAR Eielson Array 50.73 32 P **P** **17 02 35.1 +2.6**
comp=Z,0.7nm,0.7s,baz=268,slow=6.9,SNR=11
ILAR Eielson Array 50.73 32 *eP* **P** **17 02 35.3 +2.8**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
AAK Ala-Archa 51.03 299 LR LR 17 25 16.5
comp=Z,137nm,19.4s,baz=66,slow=37
AAK Ala-Archa 51.03 299*c iP* **P** **17 02 34.9 -0.4**
AAK pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 51.40 313 P **P** **17 02 37.8 +0.1**
comp=Z,3.4nm,0.9s,baz=80,slow=7.9,SNR=15
BRVK Borovoye 51.46 313⇑ *iP* **P** **17 02 38.8 +0.7**
BRVK pmax pmax
comp=Z,19nm,1.2s
BRVK Borovoye 51.46 313 *eP* **P** **17 02 38.3 +0.2**
comp=Z,5.0nm,0.8s
KKAR Karatay Array 53.70 301 *eP* **P** **17 02 53.3 -1.6**
KKAR Karatay Array 53.70 301 *eP* **P** **17 02 53.3 -1.6**
INK Inuvik 55.67 27 P **P** **17 03 11.0 +2.3**
comp=Z,0.6nm,0.4s,baz=262,slow=3.7,SNR=5.6
WRA Warramunga Arr 55.68 188 P **P** **17 03 09.7 +0.3**
comp=Z,0.9nm,0.4s,baz=5.0,slow=8.3,SNR=18
SVE Sverdlovsk 56.09 319⇓ *eP* **P** **17 03 12.2 +0.3**
SVE pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 57.30 319 LR LR 17 30 45.6
comp=Z,49nm,18.1s,baz=87,slow=39
ARU Arti 57.30 319*c iP* **P** **17 03 20.4 -0.1**
ARU 17 05 24.9
ARU S **S** **17 11 13.7 -0.6**
ARU SS **SS** **17 14 58.8 -4.5**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 57.30 319 *eP* **P** **17 03 19.9 -0.7**
comp=Z,14nm,1.0s
HYB Hyderabad 58.03 269 *iP* **P** **17 03 25.5 -0.8**
ABKAR Akbulak array 58.72 311 *eP* **P** **17 03 29.9 -0.7**
comp=Z,22nm,0.8s
ASAR Alice Springs 59.41 188 P **P** **17 03 36.6 +1.0**
comp=Z,0.4nm,0.4s,baz=360,slow=5.4,SNR=16
AKTO Aktyubinsk 59.49 313 LR LR 17 30 21.7
comp=Z,39nm,18.6s,baz=65,slow=37
SPITS Spitsbergen Ar 61.84 349 LR LR 17 32 08.7
comp=Z,40nm,18.7s,baz=345,slow=37
DZM Mont Dzumac 62.18 153 LR LR 17 30 52.9
comp=Z,27nm,19.1s,baz=246,slow=36
TMCR Tamitsa 63.88 332 *eP* **P** **17 04 05.8 +0.6**
TMCR pmax pmax
comp=Z,11nm,1.0s
RES Resolute Bay 63.96 14 *eP* **P** **17 04 06.6 +1.0**
RES pmax pmax
comp=Z,15nm,1.8s
RES Resolute Bay 63.96 14 *eP* **P** **17 04 06.6 +1.0**
comp=Z,15nm,1.8s
GEYT Alibeck 64.38 299 P **P** **17 04 08.8 -0.2**
comp=Z,0.7nm,0.4s,baz=245,slow=3.1,SNR=3.7
GEYT LR LR 17 33 00.9
comp=Z,37nm,19.2s,baz=15,slow=37
KLMR Klimovskoe 64.84 328 *eP* **P** **17 04 08.9 -2.6**
KLMR pmax pmax
comp=Z,10.0nm,1.5s
KLMR Klimovskoe 64.84 328 *eP* **P** **17 04 09.0 -2.6**
KLMR AMP 17 04 11.8
comp=Z,10.0nm,1.5s
YKA Yellowknife Ar 65.06 30 P **P** **17 04 15.4 +2.4**
comp=Z,0.2nm,0.5s,baz=302,slow=6.3,SNR=7.0
ARCES ARCESS Array B 65.23 340 P **P** **17 04 14.6 +0.6**
comp=Z,3.3nm,1.0s,baz=40,slow=7.9,SNR=3.7
ARCES ARCESS Array B 65.23 340 *eP* **P** **17 04 15.5 +1.5**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
AFI Afiamalu 66.37 129 LR LR 17 28 35.6
comp=Z,41nm,19.4s,baz=280,slow=32
FINES FINESS Array B 69.96 332 P **P** **17 04 44.2 +0.2**
comp=Z,3.6nm,0.7s,baz=70,slow=8.1,SNR=11
FINES LR LR 17 37 44.2
comp=Z,52nm,18.0s,baz=54,slow=38
FINES FINESS Array B 69.96 332 *eP* **P** **17 04 44.4 +0.4**
FINES pmax pmax
comp=Z,4.0nm,0.7s
ZEI Tsey 71.56 310 *eP* **P** **17 04 53.0 -1.3**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 71.69 311 P **P** **17 04 55.7 +0.9**
comp=Z,4.1nm,0.9s,baz=25,slow=2.2,SNR=13
KIV Kislovodsk 71.70 311 *eP* **P** **17 04 55.8 +0.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s
GNI Garni 72.42 307 LR LR 17 38 57.5
comp=Z,54nm,18.8s,baz=54,slow=38
RAO Raoul Island 75.16 144 P **P** **17 05 18.1 +2.9**
comp=Z,555nm,0.4s,baz=36,slow=19,SNR=4.5
HFS Hagfors 75.28 336 P **P** **17 05 16.3 +0.7**
comp=Z,2.5nm,0.7s,baz=45,slow=6.3,SNR=6.7
HFS LR LR 17 40 37.9
comp=Z,86nm,20.1s,baz=34,slow=37
AKASG Malin Array Be 75.30 322 P **P** **17 05 16.1 +0.2**
comp=Z,3.1nm,0.7s,baz=47,slow=6.0,SNR=16
AKASG LR LR 17 40 57.8
comp=Z,102nm,19.1s,baz=15,slow=38
AKASG Malin Array Be 75.30 322 *eP* **P** **17 05 16.0 +0.2**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 75.30 322 *eP* **P** **17 05 15.9 0.0**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 75.30 322 *eP* **P** **17 05 15.9 0.0**
comp=Z,5.5nm,0.8s
KIEV Kiev 75.31 322 *eP* **P** **17 05 15.8 -0.1**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 75.31 322 *eP* **P** **17 05 15.8 -0.1**
comp=Z,5.5nm,0.8s
NB2 NORSAR Subarra 75.40 337 P **P** **17 05 17.1 +0.8**
comp=Z,4.3nm,0.7s,baz=40,slow=5.9
NOA NORSAR Array B 75.40 337 P **P** **17 05 17.2 +0.8**
comp=Z,3.6nm,0.7s,baz=39,slow=5.8,SNR=13
NOA LR LR 17 41 23.6
comp=Z,68nm,19.9s,baz=50,slow=38
NVAR Mina Array Bea 75.92 53 P **P** **17 05 23.4 +3.4**
comp=Z,0.7nm,0.9s,baz=274,slow=5.2,SNR=4.6
PDAR Pinedale Array 78.73 45 P **P** **17 05 38.3 +2.7**
comp=Z,0.6nm,0.4s,baz=319,slow=2.6,SNR=3.6
BUR04 Bucovina Ar. S 79.30 322 *eP* **P** **17 05 38.9 +0.4**
BR131 Keskin Array S 79.66 312 *eP* **P** **17 05 40.3 -0.3**
BRTR Keskin Array B 79.66 312 P **P** **17 05 40.7 0.0**
comp=Z,1.8nm,0.9s,baz=107,slow=6.8,SNR=8.0
BRTR LR LR 17 45 25.1
comp=Z,26nm,18.2s,baz=84,slow=39
BR231 Keskin MP Arra 80.11 312 *eP* **P** **17 05 41.8 -1.3**
MLR Muntele Rosu 80.34 320 LR LR 17 43 15.2
comp=Z,19nm,18.8s,baz=46,slow=37
DREC Desert Rsrch C 81.08 56 *eP* **P** **17 05 47.2 -1.0**
DPC Dobruska-Polom 81.55 328 *eP* **P** **17 05 51.9 +1.4**
DPC Dobruska-Polom 81.55 328 *eP* **P** **17 05 51.9 +1.4**
VYHS Vyhne 81.77 325 *eP* **P** **17 05 53.3 +1.6**
VYHS Vyhne 81.77 325 *eP* **P** **17 05 53.3 +1.6**
CLL Collm 82.22 330 *iP* **P** **17 05 54.4 +0.5**
CLL *i* 17 06 09.6
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 82.22 330 *iP* **P** **17 05 54.4 +0.5**
comp=Z,7.0nm,0.8s
CLL *i* sP **sP** **17 06 09.6 +1.5**
PRU Pruhonice 82.58 329 *eP* **P** **17 05 57.1 +1.3**
PRU Pruhonice 82.58 329 *eP* **P** **17 05 57.1 +1.3**
KHC Kasperske Hory 83.64 328 *eP* **P** **17 06 02.4 +1.0**
KHC *e*PCP **pP** **17 06 08.6 -3.2**
KHC Kasperske Hory 83.64 328 *eP* **P** **17 06 02.4 +1.0**
KHC *e* 17 06 08.6
GERES GERESS Array B 83.80 328 P **P** **17 06 02.9 +0.6**
comp=Z,1.2nm,0.7s,baz=33,slow=5.1,SNR=9.3
GEA0 GERESS Array S 83.81 328 *eP* **P** **17 06 02.0 -0.3**
BFO Black Forest 86.43 331 *eP* **P** **17 06 15.1 -0.3**
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 86.43 331 *eP* **P** **17 06 15.1 -0.3**
comp=Z,7.4nm,0.9s
LPAZ La Paz 147.49 61 PKPbc **PKPbc** **17 13 18.8 +0.6**
comp=Z,1.8nm,0.9s,baz=320,slow=5.3,SNR=5.5

JMA 20 16:56:40.5, 35.70N×140.99E, h38km±1km, M2.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.11**	**271**	P		Pn	Pb	16 56 46.8	-5.7
CHOJ				S		Sn	Sb	16 56 51.1	-13
JYT	**Yasato**	**0.83**	**309**	P		Pn	Pb	16 56 55.7	0.0
JYT				eS		Sn	Sb	16 57 00.8	0.0
JHO	**Hitachi**	**0.97**	**340**	P		Pn	Pb	16 56 57.7	+0.1

*ISCJB **20** 16:57:34.6±0.9, 36°53N±0°06×142°00E±0°09, h18km, mb3.5/5, Error ellipse: s-maj=10.3km s-min=7.6km az=157.0*
*JMA **20** 16:57:34.5±0.3, 36°52N×141°91E, h10km±4km, M3.6*
*IDC **20** 16:57:34.2±1.9, 36°58N×141°90E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.4/72, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=44.3km s-min=22.2km az=80.0*
ISC 20 16:57:36.9±1.4, 36°56N±0°07×141°8E±0°1, h18km, n16, σ0s73/18, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.99**	**303**	*e*S		**Sb**		**16 58 08.9**	**+0.5**
JHO	**Hitachi**	**1.02**	**273**	P		**Pb**		**16 57 54.5**	**-1.5**
JFT	**Otama**	**1.54**	**309**	P		**Pn**		**16 58 03.7**	**+0.3**
JFT				*e*S		**Sb**		**16 58 24.3**	**+0.4**
JMM	**Marumori**	**1.55**	**328**	P		**Pn**		**16 58 02.9**	**-0.7**
JFY	**Yanaizu**	**1.91**	**297**	P		**Pn**		**16 58 09.1**	**+0.6**
JFY				*e*S		**Sb**		**16 58 34.3**	**-0.3**
JAG	**Ashikaga**	**1.92**	**267**	P		**Pn**		**16 58 08.6**	**-0.1**
JIO	**Ouri**	**1.93**	**349**	*e*S		**Sn**		**16 58 33.4**	**+0.7**
MJAR	**Matsushiro Arr**	**2.92**	**271**	Pn		**Pn**		**16 58 22.9**	**+0.4**
	16nm,0.3s,baz=90,slow=8.7,SNR=43								
MAT	**Matsushiro**	**2.92**	**271**	P		**Pn**		**16 58 23.5**	**+1.0**
JHJ	**Hachijo jima 2**	**3.82**	**207**	Pn		**Pn**		**16 58 36.0**	**+1.1**
	6.9nm,0.3s,baz=54,slow=19,SNR=3.1								
ASAJ	**Asahikawa**	**7.57**	**4**	Pn		**Pn**		**16 59 27.0**	**+0.7**
	0.3nm,0.3s,baz=164,slow=20,SNR=3.1								
SONM	**Songino Array**	**28.33**	**305**	P		**P**		**17 03 30.1**	**+0.4**
	0.4nm,0.6s,baz=101,slow=7.5,SNR=3.7								
ZALV	**Zalesovo Beam**	**42.48**	**313**	P		**P**		**17 05 30.4**	**-0.3**
	0.4nm,0.3s,baz=100,slow=7.9,SNR=3.0								
MKAR	**Makanchi Array**	**44.66**	**303**	P		**P**		**17 05 48.1**	**-0.4**
	0.2nm,0.7s,baz=87,slow=8.8,SNR=2.8								
KURBB	**Kurchatov Arra**	**46.56**	**308**	P		**P**		**17 06 03.9**	**+0.6**
	0.5nm,0.5s,baz=80,slow=7.7,SNR=4.8								
WRA	**Warramunga Arr**	**56.64**	**188**	P		**P**		**17 07 19.0**	**0.0**
	0.6nm,0.8s,baz=6.3,slow=7.2,SNR=5.9								

*NIED **20** 16:58:00, 35°80N×141°10E, h41km, Mw4.1 Best double couple: Mo1.85000×10^15 NP1:φ=271.00000°, δ7.00000°, λ154.00000°. NP2:φ=27.00000°, δ87.00000°, λ84.00000°.*
*ISCJB **20** 16:58:22.3±0.4, 35°67N±0°04×141°13E±0°05, h33km, mb4.0/24, MS3.1/1, Error ellipse: s-maj=6.3km s-min=5.0km az=167.7*
*NEIC **20** 16:58:23.8±1.9, 35°69N×140°95E, h29km±14km, mb4.5/5, Error ellipse: s-maj=9.4km s-min=6.9km az=95.0*
*JMA **20** 16:58:24.3±0.1, 35°74N×141°02E, h35km±1km, M3.6*
JMA Felt I J1.
*IDC **20** 16:58:25.4±1.8, 35°60N×140°85E, h41km±17km, mb3.8/21, mb1 3.9/25, mb1mx3.7/73, mbtmp4.0/25, ML2.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/65, Error ellipse: s-maj=17.5km s-min=10.5km az=88.0*
ISC 20 16:58:23.7±0.5, 35°64N±0°04×141°09E±0°06, h33km, n56, σ1s80/55, mb4.1/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.20**	**289**	P		**Pb**		**16 58 30.4**	**+0.1**
CHOJ				S		**Sb**		**16 58 34.8**	**+0.1**
JCN	**Nagara**	**0.76**	**253**	P		**Pb**		**16 58 39.1**	**+0.6**
JYT	**Yasato**	**0.93**	**309**	P		**Pn**		**16 58 39.4**	**-1.1**
JYT				*e*S		**Sb**		**16 58 50.4**	**-3.2**
BSO3	**Boso 3**	**0.96**	**210**	P		**Pb**		**16 58 42.3**	**+0.6**
BSO1	**Boso 1**	**0.99**	**185**	P		**Pb**		**16 58 42.5**	**+0.5**
JHO	**Hitachi**	**1.06**	**337**	P		**Pn**		**16 58 41.2**	**-1.1**
MJAR	**Matsushiro Arr**	**2.50**	**292**	P		**Pn**		**16 59 01.5**	**-0.6**
	11nm,0.3s,baz=94,slow=14,SNR=12								
MAJO	**Matsushiro**	**2.50**	**292**	*e*P		**Pn**		**16 59 02.1**	**0.0**
MAT	**Matsushiro**	**2.50**	**292**	P		**Pn**		**16 59 03.2**	**+1.1**
MAT				S		**Sn**		**16 59 30.5**	**-1.0**
JHJ2	**Mitsune**	**2.73**	**203**	*e*Pn		**Pn**		**16 59 07.5**	**+2.3**
JHJ	**Hachijo jima 2**	**2.73**	**204**	P		**Pn**		**16 59 06.5**	**+1.1**
	11nm,0.3s,baz=75,slow=20,SNR=4.4								
JHJ				S		**Sn**		**16 59 35.8**	**-1.4**
	44nm,0.3s,baz=270,slow=20,SNR=5.8								
ERM	**Erimo**	**6.57**	**14**	*e*Pn		**Pn**		**16 59 57.4**	**-0.6**
ASAJ	**Asahikawa**	**8.55**	**7**	P		**Pn**		**17 00 23.1**	**-2.0**
	2.0nm,0.3s,baz=204,slow=12,SNR=11								
ASAJ				S		**Sn**		**17 01 55.8**	**-4.6**
	0.1nm,0.3s,baz=49,slow=19,SNR=2.6								
CBIJ	**Chichi jima**	**8.57**	**173**	*e*Pn		**Pn**		**17 00 25.4**	**-0.1**
CBIJ				S		**Sn**		**17 01 54.8**	**-6.2**
JCJ	**Chichijima**	**8.57**	**173**	P		**Pn**		**17 00 25.4**	**-0.1**
	9.8nm,0.3s,baz=289,slow=18,SNR=3.6								
JCJ				S		**Sn**		**17 01 54.8**	**-6.2**
	3.6nm,0.3s,baz=287,slow=19,SNR=3.2								
KSRS	**Korea Array**	**10.75**	**284**	P		Pn		17 00 58.8	+3.5
	baz=89,slow=14,SNR=4.5								
KSAR	**Wonju Array Be**	**10.78**	**283**	P		**Pn**		**17 00 58.8**	**+3.1**
USRK	**Ussuriysk Ar.**	**11.04**	**324**	P		**Pn**		**17 01 00.8**	**+1.6**
	0.2nm,0.3s,baz=143,slow=14,SNR=5.2								
PETK	**Petropavlovsk-**	**21.03**	**29**	P		**P**		**17 03 07.5**	**+3.0**
	1.8nm,0.7s,baz=215,slow=17,SNR=2.7								
MA2	**Magadan**	**24.77**	**12**	P		**P**		**17 03 43.8**	**+1.6**
	2.6nm,0.5s,baz=223,slow=10,SNR=4.8								
YAK	**Yakutsk**	**27.38**	**348**	P		**P**		**17 04 05.6**	**0.0**
	6.1nm,0.4s,baz=103,slow=1.8,SNR=4.7								
YAK	**Yakutsk**	**27.38**	**348**	*e*P		**P**		**17 04 05.4**	**-0.3**
	3.9nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**27.69**	**118**	T		T		17 33 14.5	
	baz=311,slow=75,SNR=11								
H11N1	**WAKE ISLAND Hy**	**27.70**	**118**	T		T		17 33 09.6	
	baz=311,slow=75,SNR=9.9								
H11N3	**WAKE ISLAND Hy**	**27.71**	**118**	T		T		17 33 12.2	
	baz=311,slow=75,SNR=12								
H11S3	**WAKE ISLAND Hy**	**28.35**	**120**	T		T		17 34 03.2	
	baz=312,slow=75,SNR=19								
H11S1	**WAKE ISLAND Hy**	**28.35**	**120**	T		T		17 34 03.2	
	baz=312,slow=75,SNR=26								
H11S2	**WAKE ISLAND Hy**	**28.37**	**120**	T		T		17 34 04.4	
	baz=312,slow=75,SNR=25								
SONM	**Songino Array**	**28.37**	**306**	P		**P**		**17 04 13.7**	**-1.2**
	0.9nm,0.6s,baz=110,slow=9.1,SNR=5.5								
TLY	**Talaya**	**31.07**	**313**	LR		LR		17 18 10.0	
	comp=Z,35nm,18.1s,baz=110,slow=38								
TIXI	**Tiksi**	**36.64**	**354**	P		**P**		**17 05 26.4**	**-0.2**
	baz=141,slow=5.4								
ZALV	**Zalesovo Beam**	**42.67**	**314**	P		**P**		**17 06 16.8**	**-0.2**
	3.5nm,0.7s,baz=91,slow=6.4,SNR=12								
MKAR	**Makanchi Array**	**44.65**	**303**	P		**P**		**17 06 32.9**	**-0.3**
	3.8nm,0.8s,baz=92,slow=9.3,SNR=27								
KURK	**Kurchatov**	**46.60**	**309**	*e*P		**P**		**17 06 47.7**	**-0.7**
	48nm,0.8s								
KURBB	**Kurchatov Arra**	**46.66**	**309**	P		**P**		**17 06 48.3**	**-0.6**
	2.8nm,0.5s,baz=82,slow=7.7,SNR=16								
ILAR	**Eielson Array**	**50.81**	**32**	P		**P**		**17 07 21.9**	**+1.3**
	0.6nm,0.8s,baz=263,slow=6.2,SNR=5.2								
BVAR	**Borovoye Array**	**51.32**	**313**	P		**P**		**17 07 24.7**	**0.0**
	1.0nm,0.5s,baz=87,slow=7.5,SNR=8.6								
BRVK	**Borovoye**	**51.38**	**313**	*e*P		**P**		**17 07 23.9**	**-1.1**
	7.5nm,0.8s								
WRA	**Warramunga Arr**	**55.65**	**188**	P		**P**		**17 07 56.4**	**-0.2**
	0.8nm,0.4s,baz=5.1,slow=8.3,SNR=6.0								
ARU	**Arti**	**57.24**	**319**	*e*P		**P**		**17 08 07.1**	**-0.5**
	6.0nm,1.0s								
ABKAR	**Akbulak array**	**58.64**	**311**	*e*P		**P**		**17 08 16.2**	**-1.3**
	0.7nm,0.5s								
ASAR	**Alice Springs**	**59.37**	**188**	P		**P**		**17 08 23.7**	**+0.9**
	0.4nm,0.6s,baz=12,slow=9.5,SNR=2.5								
RES	**Resolute Bay**	**64.02**	**14**	P		**P**		**17 08 54.3**	**+0.9**
	0.9nm,0.7s,baz=357,slow=5.0,SNR=5.5								
YKA	**Yellowknife Ar**	**65.15**	**30**	P		**P**		**17 09 02.1**	**+1.1**
	0.1nm,0.4s,baz=303,slow=6.6,SNR=3.1								
FINES	**FINESS Array B**	**69.92**	**332**	P		**P**		**17 09 30.9**	**-0.2**
	1.9nm,0.7s,baz=71,slow=8.3,SNR=5.6								
KBZ	**Khabaz**	**71.61**	**311**	P		**P**		**17 09 42.3**	**+0.5**
	1.8nm,0.9s,baz=26,slow=4.8,SNR=6.2								
AKASG	**Malin Array Be**	**75.24**	**322**	P		**P**		**17 10 02.5**	**-0.5**
	1.6nm,0.7s,baz=46,slow=6.3,SNR=9.6								
HFS	**Hagfors**	**75.25**	**336**	P		**P**		**17 10 03.5**	**+0.6**
	2.3nm,0.8s,baz=11,slow=2.9,SNR=4.3								
NB2	**NORSAR Subarra**	**75.37**	**337**	P		**P**		**17 10 03.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=41,slow=5.9								
NOA	**NORSAR Array B**	**75.37**	**337**	P		**P**		**17 10 03.8**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=40,slow=5.7,SNR=6.3								
NVAR	**Mina Array Bea**	**76.04**	**53**	P		**P**		**17 10 10.2**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=311,slow=5.9,SNR=3.6								
BRTR	**Keskin Array B**	**79.58**	**312**	P		**P**		**17 10 28.4**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=125,slow=11,SNR=4.0								
CLL	**Collm**	**82.17**	**330**	*e*P		**P**		**17 10 41.0**	**-0.1**
GERES	**GERESS Array B**	**83.76**	**328**	P		**P**		**17 10 49.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=35,slow=4.9,SNR=4.1								
LPAZ	**La Paz**	**147.61**	**61**	PKPbc		**PKPbc**		**17 18 06.9**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=208,slow=2.5,SNR=5.9								
SIV	**San Ignacio**	**152.18**	**51**	PKPbc		**PKPbc**		**17 18 17.5**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=261,slow=5.0,SNR=5.4								

*ISCJB **20** 16:59:35.1±0.7, 37°47S±0°04×179°14E±0°06, h31km, mb4.2/8, MS3.5/4, Error ellipse: s-maj=7.0km s-min=5.1km az=173.1*
*WEL **20** 16:59:38.5, 38°S±6°×17°9E±°, h52km±5km, ML4.7/40*
*NEIC **20** 16:59:40.2±0.0, 37°47S×178°79E, h33km, mb4.2/1, ML4.6(WEL), After WEL.*
*IDC **20** 16:59:42.5±2.7, 37°29S×178°52E, h62km±21km, mb3.9/6, mb1 4.1/6, mb1mx3.8/38, mbtmp4.2/6, MS3.7/6, Ms1 3.7/6, ms1mx3.3/32, Error ellipse: s-maj=26.6km s-min=15.9km az=5.0*
ISC 20 16:59:37.8±0.7, 37°51S±0°04×178°93E±0°06, h31km, n217, σ1s48/211, mb4.2/8, MS3.6/4, 1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.50**	**264**	Pn		**Pb**		**16 59 48.0**	**-0.2**
MXZ				S		**Sb**		**16 59 54.6**	**-0.7**
MXZ	**Matakaoa Point**	**0.50**	**264**	P		**Pb**		**16 59 48.0**	**-0.2**
MXZ	**Matakaoa Point**	**0.50**	**264**	S		**Sb**		**16 59 54.9**	**-0.5**
WMGZ	**Waiomatatini S**	**0.51**	**233**	Pn		**Pn**		**16 59 49.8**	**+0.9**
WMGZ				S		**Sn**		**16 59 57.7**	**+1.0**
WMGZ	**Waiomatatini S**	**0.51**	**233**	P		**Pn**		**16 59 49.9**	**+0.9**
WMGZ	**Waiomatatini S**	**0.51**	**233**	S		**Sn**		**16 59 58.0**	**+1.4**
PUZ	**Puketiti**	**0.77**	**223**	Pn		**Pb**		**16 59 53.4**	**+0.6**
PUZ	**Puketiti**	**0.77**	**223**	P		**Pb**		**16 59 53.6**	**+0.8**
PUZ	**Puketiti**	**0.77**	**223**	S		**Sn**		**17 00 04.3**	**+1.1**
PKGZ	**Pakihiroa**	**0.77**	**241**	P		**Pb**		**16 59 53.0**	**+0.2**
PKGZ	**Pakihiroa**	**0.77**	**241**	S		**Sn**		**17 00 03.6**	**+0.3**
HAZ	**Te Kaha**	**0.94**	**255**	P		**Pb**		**16 59 55.6**	**0.0**
HAZ

KNZ	Kokohu	1.80 213	P	Pn	17 00 07.1	+0.4
MHGZ	Mahia Peninsul	1.83 206	Pn	Pn	17 00 08.1	+1.0
MHGZ	Mahia Peninsul	1.83 206	P	Pn	17 00 08.1	+1.0
EDRZ	Edgecumbe	1.83 250	Pn	Pn	17 00 08.0	+0.7
EDRZ	Edgecumbe	1.83 250	P	Pn	17 00 08.1	+0.8
MARZ	Manawahe	1.85 254	Pn	Pn	17 00 07.8	+0.4
MARZ	Manawahe	1.85 254	P	Pn	17 00 07.8	+0.4
RTZ	Ruatahuna	1.89 234	P	Pn	17 00 09.1	+1.0
OPRZ	Ohinepanea	1.91 259	Pn	Pn	17 00 08.3	+0.1
OPRZ	Ohinepanea	1.91 259	P	Pn	17 00 08.4	+0.1
MUGZ	Murupara	1.96 240	P	Pn	17 00 09.6	+0.7
RAHZ	Arahi	2.02 225	P	Pn	17 00 10.5	+0.8
MKRZ	Makatiti	2.05 251	P	Pn	17 00 11.6	+1.4
MKRZ	Makatiti	2.05 251	P	Pn	17 00 11.6	+1.4
TARZ	Mount Tarawera	2.05 249	Pn	Pn	17 00 11.1	+0.9
TARZ	Mount Tarawera	2.05 249	P	Pn	17 00 11.2	+0.9
WHHZ	Waihua	2.06 220	P	Pn	17 00 11.0	+0.8
LIRZ	Lichensteins R	2.08 256	P	Pn	17 00 11.5	+1.0
RRRZ	Republican Roa	2.08 246	Pn	Pn	17 00 11.6	+1.1
RRRZ	Republican Roa	2.08 246	P	Pn	17 00 11.4	+0.9
OMRZ	Omania	2.11 253	Pn	Pn	17 00 11.8	+0.8
OMRZ	Omania	2.11 253	P	Pn	17 00 11.8	+0.8
MTHZ	Maungataniwha	2.12 230	P	Pn	17 00 12.4	+1.2
TGRZ	Tauranga	2.13 263	Pn	Pn	17 00 11.3	+0.2
TGRZ	Tauranga	2.13 263	P	Pn	17 00 11.4	+0.2
HLRZ	Highlands Stat	2.17 249	P	Pn	17 00 12.9	+1.1
KARZ	Kaharoa	2.19 256	Pn	Pn	17 00 12.5	+0.5
KARZ	Kaharoa	2.19 256	P	Pn	17 00 12.6	+0.5
PRRZ	Plateau Road	2.23 243	Pn	Pn	17 00 13.2	+0.6
PRRZ	Plateau Road	2.23 243	P	Pn	17 00 13.5	+0.9
NGRZ	Ngongotaha	2.25 254	P	Pn	17 00 14.2	+1.2
UTU	Utuhina	2.27 252	Pn	Pn	17 00 14.5	+1.4
UTU	Utuhina	2.27 252	P	Pn	17 00 14.8	+1.7
HRRZ	Handcock Road	2.27 246	Pn	Pn	17 00 13.8	+0.7
HRRZ	Handcock Road	2.27 246	P	Pn	17 00 14.0	+0.8
HSRZ	Hossack Road	2.27 249	P	Pn	17 00 14.7	+1.5
ALRZ	Allen Road	2.29 242	Pn	Pn	17 00 14.2	+0.7
ALRZ	Allen Road	2.29 242	P	Pn	17 00 14.3	+0.7
NMHZ	Naumai	2.30 226	Pn	Pn	17 00 14.5	+0.9
NMHZ	Naumai	2.30 226	P	Pn	17 00 14.6	+0.9
ARHZ	Aropaoanui	2.32 220	Pn	Pn	17 00 14.5	+0.7
ARHZ	Aropaoanui	2.32 220	P	Pn	17 00 14.6	+0.8
MRHZ	Matea Rd	2.38 236	P	Pn	17 00 15.6	+0.9
GRRZ	Galatos Road	2.38 249	P	Pn	17 00 16.0	+1.3
KMRZ	Kaimai	2.39 261	P	Pn	17 00 15.3	+0.4
WPRZ	Whakapapatarin	2.41 244	Pn	Pn	17 00 15.8	+0.8
WPRZ	Whakapapatarin	2.41 244	P	Pn	17 00 16.0	+0.9
WPRZ	Whakapapatarin	2.41 244	P	Pn	17 00 16.0	+0.9
BKZ	Black Stump Fm	2.53 228	||Pn	Pn	17 00 17.3	+0.6
BKZ	Black Stump Fm	2.53 228	P	Pn	17 00 17.4	+0.6
CKHZ	Cape Kidnapper	2.59 213	Pn	Pn	17 00 17.6	0.0
CKHZ	Cape Kidnapper	2.59 213	P	Pn	17 00 17.4	-0.2
MCHZ	McNeill Hill	2.61 222	Pn	Pn	17 00 18.3	+0.4
MCHZ	McNeill Hill	2.61 222	P	Pn	17 00 18.2	+0.4
WHTZ	Whakaora	2.61 243	P	Pn	17 00 19.6	+1.6
HATZ	Hinemaiaia	2.62 237	P	Pn	17 00 18.7	+0.7
KUTZ	Kaahu Road	2.64 247	Pn	Pn	17 00 18.8	+0.5
KUTZ	Kaahu Road	2.64 247	P	Pn	17 00 19.0	+0.7
KUZ	Kuaotunu	2.67 286	Pn	Pn	17 00 17.8	-0.9
KUZ	Kuaotunu	2.67 286	P	Pn	17 00 17.9	-0.9
TOZ	Tahuroa Road	2.73 264	Pn	Pn	17 00 19.6	+0.1
TOZ	Tahuroa Road	2.73 264	P	Pn	17 00 19.6	+0.1
KWHZ	Kaweka Forest	2.74 225	P	Pn	17 00 19.8	+0.1
KAHZ	Kahuranaki	2.79 215	Pn	Pn	17 00 19.9	-0.4
KAHZ	Kahuranaki	2.79 215	P	Pn	17 00 20.0	-0.3
WATZ	Wairara	2.79 244	Pn	Pn	17 00 21.1	+0.8
WATZ	Wairara	2.79 244	P	Pn	17 00 21.1	+0.8
TLZ	Tolley Road	2.80 252	Pn	Pn	17 00 21.1	+0.5
TLZ	Tolley Road	2.80 252	P	Pn	17 00 21.3	+0.8
RITZ	Rihia Road	2.83 238	Pn	Pn	17 00 21.8	+0.9
RITZ	Rihia Road	2.83 238	P	Pn	17 00 21.7	+0.9
RATZ	Rangitukua	2.83 240	Pn	Pn	17 00 21.9	+1.0
RATZ	Rangitukua	2.83 240	P	Pn	17 00 22.0	+1.1
KRHZ	Kereru	2.92 222	P	Pn	17 00 21.7	-0.5
KATZ	Kakaramea	2.94 239	P	Pn	17 00 22.5	+0.1
PXZ	Pawanui	2.99 212	Pn	Pn	17 00 22.1	-1.0
PXZ	Pawanui	2.99 212	P	Pn	17 00 22.0	-1.0
BHHZ	Black Hill Sta	2.99 228	Pn	Pn	17 00 23.2	0.0
BHHZ	Black Hill Sta	2.99 228	P	Pn	17 00 23.3	+0.2
KRVZ	Karewarewa	3.03 238	P	Pn	17 00 24.7	+0.9
MKAZ	Moumakai	3.03 277	Pn	Pn	17 00 23.6	+0.1
MKAZ	Moumakai	3.03 277	P	Pn	17 00 23.7	+0.1
OTVZ	Oturere	3.05 236	Pn	Pn	17 00 24.3	+0.3
GRZ	Great Barrier	3.05 293	P	Pn	17 00 24.5	+0.6
NGZ	Ngauruhoe	3.10 237	Pn	Pn	17 00 25.3	+0.3
NGZ	Ngauruhoe	3.10 237	P	Pn	17 00 25.4	+0.3
TUVZ	Tukino	3.11 235	Pn	Pn	17 00 25.3	+0.4
TUVZ	Tukino	3.11 235	P	Pn	17 00 25.5	+0.6
WIAZ	Waiheke Island	3.12 282	P	Pn	17 00 25.5	+0.7
MOVZ	Moawhango	3.13 232	Pn	Pn	17 00 24.9	-0.2
MOVZ	Moawhango	3.13 232	P	Pn	17 00 24.9	-0.2
COVZ	Chateau Observ	3.15 237	P	Pn	17 00 25.9	+0.5
TWVZ	Taurewa	3.16 239	P	Pn	17 00 26.5	+1.0
WHVZ	Whangaehu Hut	3.17 235	Pn	Pn	17 00 25.8	+0.1
WHVZ	Whangaehu Hut	3.17 235	P	Pn	17 00 26.1	+0.5
FWVZ	Far West T-bar	3.17 236	P	Pn	17 00 26.1	+0.4
DRZ	Dome Shelter	3.18 235	P	Pn	17 00 26.6	+0.7
WNVZ	Wahianoa	3.18 234	Pn	Pn	17 00 26.0	+0.2
WPHZ	Waipukurau	3.21 217	Pn	Pn	17 00 25.2	-0.9
WPHZ	Waipukurau	3.21 217	P	Pn	17 00 25.4	-0.6
ETAZ	East Tamaki Re	3.24 279	Pn	Pn	17 00 27.1	+0.6
ETAZ	East Tamaki Re	3.24 279	P	Pn	17 00 27.2	+0.7
KBAZ	Karaka Road Bo	3.25 276	P	Pn	17 00 28.2	+1.7
PRHZ	Porangahau	3.28 212	Pn	Pn	17 00 25.6	-1.5
PRHZ	Porangahau	3.28 212	P	Pn	17 00 25.8	-1.3
MTVZ	Mangateitei	3.30 234	Pn	Pn	17 00 27.7	+0.4
MTVZ	Mangateitei	3.30 234	P	Pn	17 00 27.8	+0.4
HIZ	Hauiti	3.37 251	P	Pn	17 00 29.5	+1.3
ABAZ	Army Bay	3.40 284	P	Pn	17 00 29.9	+1.2
EPAZ	Eden Park BICE	3.40 279	P	Pn	17 00 30.4	+1.7
HBAZ	Herne Bay Bore	3.42 280	Pn	Pn	17 00 30.2	+1.3
HBAZ	Herne Bay Bore	3.42 280	P	Pn	17 00 30.3	+1.4
TSZ	Takapari Road	3.44 221	Pn	Pn	17 00 27.8	-1.5
TSZ	Takapari Road	3.44 221	P	Pn	17 00 27.9	-1.5
AWAZ	Awhitu Peninsu	3.45 276	P	Pn	17 00 30.6	+1.3
ANWZ	Angora Road	3.51 212	P	Pn	17 00 28.8	-1.4
DVHZ	Dannevirke	3.52 217	P	Pn	17 00 28.7	-1.6
WTAZ	Waiatarua	3.52 278	P	Pn	17 00 32.0	+1.6
RVAZ	Riverhead Bore	3.55 281	Pn	Pn	17 00 31.4	+0.7
RVAZ	Riverhead Bore	3.55 281	P	Pn	17 00 31.5	+0.7
VRZ	Vera Road	3.65 243	Pn	Pn	17 00 33.2	+1.1
VRZ	Vera Road	3.65 243	P	Pn	17 00 33.3	+1.1
POWZ	Post Office Ro	3.79 220	Pn	Pn	17 00 32.4	-1.6
POWZ	Post Office Ro	3.79 220	P	Pn	17 00 32.4	-1.6
BFZ	Birch Farm	3.79 213	Pn	Pn	17 00 32.1	-2.0
PRWZ	Pori Road	3.81 216	Pn	Pn	17 00 33.3	-1.1
WAZ	Wanganui	3.81 233	P	Pn	17 00 34.9	+0.5
WCZ	Waipu Caves	4.00 292	Pn	Pn	17 00 37.2	+0.2
TIWZ	Tintock	4.03 215	Pn	Pn	17 00 35.5	-1.9
TIWZ	Tintock	4.03 215	P	Pn	17 00 35.6	-1.8
MRZ	Mangatainoka R	4.08 219	Pn	Pn	17 00 35.7	-2.4
PREZ	Palmer Road	4.17 243	Pn	Pn	17 00 41.4	+2.1
TMWZ	Te Maipa	4.29 212	Pn	Pn	17 00 38.3	-2.8
HOWZ	Holdsworth Sta	4.30 217	Pn	Pn	17 00 38.4	-2.7
OGWZ	Otaki Gorge	4.41 220	Pn	Pn	17 00 40.1	-2.5
MTW	Mount Morrison	4.51 215	Pn	Pn	17 00 40.9	-3.1
KIW	Kapiti Island	4.58 222	Pn	Pn	17 00 42.2	-2.6
TRWZ	Traveller	4.62 212	Pn	Pn	17 00 42.2	-3.3
PAWZ	Paruwai Farm	4.72 214	Pn	Pn	17 00 43.5	-3.4
OUZ	Omahuta	4.87 296	Pn	Pn	17 00 49.7	+0.8
NNZ	Nelson	5.67 228	Pn	Pn	17 00 57.0	-2.9
QRZ	Quartz Range	5.97 234	Pn	Pn	17 01 01.1	-3.0
THZ	Tophouse	6.29 226	Pn	Pn	17 01 05.5	-3.1
DSZ	Denniston Nort	6.94 230	Pn	Pn	17 01 10.3	-6.9
LTZ	Lake Taylor	7.33 222	Pn	Pn	17 01 18.0	-4.7
CRLZ	Canterbury Las	7.73 216	Pn	Pn	17 01 25.5	-2.6
MQZ	McQueen's Vall	7.81 216	Pn	Pn	17 01 24.1	-5.1
OXZ	Oxford	7.83 220	Pn	Pn	17 01 24.7	-4.8
WVZ	Waitaha Valley	8.37 226	Pn	Pn	17 01 33.1	-3.8
RPZ	Rata Peaks	8.62 222	P	Pn	17 01 37.4	-2.9
	3.6nm,0.3s,baz=295,slow=2.0,SNR=23					
RPZ			S	Sn	17 03 05.3	-11
	8.2nm,0.3s,baz=35,slow=21,SNR=13					
RPZ			LR	LR	17 05 49.5	
	comp=Z,987nm,19.4s,baz=46,slow=43					
FOZ	Fox Glacier	9.18 226	Pn	Pn	17 01 44.2	-3.8
LBZ	Lake Benmore	9.53 221	Pn	Pn	17 01 48.4	-4.5
ODZ	Otahua Downs	9.77 217	Pn	Pn	17 01 52.1	-3.9
JCZ	Jackson Bay	10.10 226	Pn	Pn	17 01 55.6	-5.1

DZM	Mont Dzumac	18.79 321		LR	LR	17 09 46.7
	comp=Z,353nm,21.4s,baz=156,slow=33					
DZM	Mont Dzumac	18.79 321		eLR	LR	17 08 56.4
	550nm,23.6s					
RAR	Rarotonga	24.58	55	LR	LR	17 12 44.9
	comp=Z,70nm,21.7s,baz=252,slow=32					
TBI	Tubuai	30.53	71	eLR	LR	17 13 45.2
	189nm,28.0s					
TBI	Tubuai	30.53	71	eT	T	17 37 11.6
	13nm,0.3s					
STKA	Stephens Creek	31.07 269		P	P	17 05 53.8	+0.7
	3.2nm,0.6s,baz=114,slow=11,SNR=8.1					
STKA				LR	LR	17 18 12.8
	comp=Z,113nm,19.0s,baz=53,slow=36					
PPT2	Papeete2	34.02	63	eLR	LR	17 15 31.0
	202nm,26.0s					
PMG	Port Moresby	40.04 306		LR	LR	17 23 34.1
	comp=Z,104nm,18.2s,baz=118,slow=36					
ASAR	Alice Springs	40.77 277		P	P	17 07 15.2	-1.0
	7.3nm,0.7s,baz=123,slow=8.3,SNR=153					
ASAR				S	S	17 13 18.2	-6.9
	0.3nm,0.7s,baz=124,slow=14,SNR=5.5					
ASAR				LR	LR	17 23 34.2
	comp=Z,104nm,19.4s,baz=114,slow=35					
WRAB	Tennant Creek	42.41 282		eP	P	17 07 28.7	-1.0
	3.6nm,0.7s					
WRA	Warramunga Arr	42.41 282		P	P	17 07 28.5	-1.1
	1.8nm,0.5s,baz=120,slow=7.9,SNR=43					
QSPA	South Pole Qui	52.62 180		P	P	17 08 52.5	+4.0
	0.9nm,0.6s,baz=161,slow=0.8,SNR=3.4					
MBWA	Marble Bar	53.30 270		eP	P	17 08 51.6	-2.4
	17nm,0.6s					
PLCA	Paso Flores	79.50 134		P	P	17 11 45.0	+3.5
	1.4nm,0.9s,baz=225,slow=8.6,SNR=3.6					
CMAR	Chiang Mai Arr	93.41 291		P	P	17 12 50.6	+0.3
	0.3nm,0.5s,baz=134,slow=2.6,SNR=3.5					
YKA	Yellowknife Ar	112.93	28	PKiKP	PKiKP	17 18 12.1	+1.5
	0.2nm,0.4s,baz=256,slow=1.4,SNR=5.5					
MKAR	Makanchi Array	120.25 308		PKP	PKPdf	17 18 24.7	-0.6
	0.1nm,0.5s,baz=78,slow=2.1,SNR=3.1					
KURK	Kurchatov	123.95 311		PKP	PKPdf	17 18 31.1	-1.1
KURBB	Kurchatov Arra	123.97 311		PKP	PKPdf	17 18 31.1	-1.1
	0.3nm,0.5s,baz=115,slow=1.9,SNR=4.2					
BVAR	Borovoye Array	129.49 312		PKP	PKPdf	17 18 42.0	-0.8
	0.4nm,0.6s,baz=183,slow=2.5,SNR=3.2					
ARCES	ARCESS Array B	144.86 344		PKP	PKPdf	17 19 10.0	-0.6
	1.8nm,0.6s,baz=39,slow=3.3,SNR=12					
KBZ	Khabaz	146.36 295		PKPbc	PKPdf	17 19 13.9	+0.1
	0.4nm,0.6s,baz=135,slow=4.3,SNR=2.5					
DBIC	Dimbokro	149.11 173		PKPbc	PKPbc	17 19 23.9	+0.4
	2.8nm,0.6s,baz=166,slow=3.3,SNR=6.7					
FINES	FINESS Array B	150.66 333		PKPbc	PKPbc	17 19 25.1	-0.7
	1.4nm,0.7s,baz=42,slow=5.9,SNR=6.2					
BRTR	Keskin Array B	152.89 286		PKPbc	PKPbc	17 19 31.1	-0.6
	0.4nm,0.6s,baz=170,slow=3.1,SNR=3.7					
AKASG	Malin Array Be	154.76 311		PKPbc	PKPbc	17 19 34.5	-0.8
	0.1nm,0.4s,baz=59,slow=2.7,SNR=2.4					
TORD	Torodi Ar. Bea	155.61 187		PKPbc	PKPbc	17 19 41.6
	0.4nm,0.7s,baz=238,slow=1.8,SNR=3.3					
TORD				PKPab	PKPab	17 19 55.9	+1.1
	1.0nm,0.8s,baz=165,slow=2.2,SNR=5.0					

*ISCJB **20** 17:52:59.3±0.4, 67.19N±0.02×20.57E±0.08, h0km, Error ellipse: s-maj=4.3km s-min=2.9km az=4.5*
*IDC **20** 17:52:59.4±0.8, 67.24N×21.02E, h0km, mb1 3.3/6, mb1mx3.0/90, mbtmp3.3/6, ML2.6/5, Error ellipse: s-maj=16.0km s-min=8.2km az=99.0*
*HEL **20** 17:53:00.5, 67.16N×20.58E, h0km, ML2.3, Explosion*
*CSEM **20** 17:53:00.7±0.2, 67.20N×20.64E, h2km, ML2.3, Error ellipse: s-maj=4.4km s-min=3.1km az=90.0, Mining explosion.*
*NAO **20** 17:53:00.7±0.9, 67.13N×20.67E, ML3.1*
*UPP **20** 17:53:00.1, 67.15N×20.59E, h0km, ML1.9, Suspected Mining explosion.*
*BER **20** 17:53:03.7±3.0, 67.12N×20.64E, h0km, ML3.1(NAO), Suspected explosion.*

ISC 20 17:52:60.0±0.7, 67.17N±0.02×20.62E±0.03, h0km, n78, σ1§75/119, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.61	61	P		Pg	17 53 12.2	+0.6
MASU				S		Sg	17 53 19.6	+0.1
MASU	Masugnsbyn	0.61	61	P		Pg	17 53 12.2	+0.6
MASU				S		Sg	17 53 19.6	+0.1
MASU	Masugnsbyn	0.61	61	*i* P		Pg	17 53 12.2	+0.6
MASU				*i* S		Sg	17 53 19.6	+0.1
RATU	Laukkuluspa	0.77	329	P		Pg	17 53 14.7	0.0
RATU	Laukkuluspa	0.77	329	P		Pg	17 53 14.7	0.0
RATU	Laukkuluspa	0.77	329	*i* P		Pg	17 53 14.7	0.0
KUA	Kurravaara	0.80	352	P		Pg	17 53 15.3	+0.1
KUA	Kurravaara	0.80	352	P		Pg	17 53 15.3	+0.1
KUA	Kurravaara	0.80	352	*i* P		Pg	17 53 15.3	+0.1
ERTU	Ertsjaerv	0.88	134	P		Pg	17 53 16.2	-0.6
ERTU				S		Sg	17 53 28.5	+0.4
ERTU	Ertsjaerv	0.88	134	P		Pg	17 53 16.2	-0.6
ERTU	Ertsjaerv	0.88	134	*e*P		Pg	17 53 16.1	-0.7
ERTU				*e*S		Sg	17 53 28.5	+0.4
NIKU	Nikkaluokta	0.93	320	P		Pg	17 53 18.0	+0.3
NIKU	Nikkaluokta	0.93	320	P		Pg	17 53 18.1	+0.3
NIKU	Nikkaluokta	0.93	320	*e*P		Pg	17 53 18.1	+0.3
PAJU	Pajala	0.99	97	P		Pg	17 53 18.5	-0.4
PAJU	Pajala	0.99	97	P		Pg	17 53 18.5	-0.4
PAJU	Pajala	0.99	97	*e*P		Pg	17 53 18.5	-0.4
LANU	Lannavaara	1.03	30	P		Pg	17 53 19.4	-0.3
LANU				Sb		Sg	17 53 33.4	+0.5
LANU	Lannavaara	1.03	30	P		Pg	17 53 19.4	-0.3
LANU	Lannavaara	1.03	30	*e*P		Pg	17 53 19.3	-0.3
	baz=211							
LANU				*e*SB		Sg	17 53 33.5	+0.5
HEF	Hetta	1.70	42	Pg		Pn	17 53 31.4	+0.6
HEF				Sg		Sn	17 53 53.1	-0.2
HEF	Hetta	1.70	42	*e*PG		Pn	17 53 31.4	+0.6
	baz=221							
HEF				MSG			17 53 51.8	
	comp=Z,18nm,0.2s							
HEF				*e*SG		Sn	17 53 53.1	-0.2
KALU	Kalix	1.71	139	P		Pn	17 53 31.4	+0.3
KALU				Sn		Sb	17 53 55.5	+1.2
KALU	Kalix	1.71	139	P		Pn	17 53 31.3	+0.3
KALU	Kalix	1.71	139	*e*P		Pn	17 53 31.4	+0.3
KALU				*e*SN		Sb	17 53 55.5	+1.2
SJUU	Sjulsmark	1.72	166	P		Pn	17 53 31.1	0.0
SJUU	Sjulsmark	1.72	166	P		Pn	17 53 31.1	0.0
SJUU	Sjulsmark	1.72	166	*e*P		Pn	17 53 31.1	0.0
TOF	Tornio	1.84	125	P		Pn	17 53 33.7	+1.0
TOF				Sn		Sb	17 53 58.6	+0.6
TOF	Tornio	1.84	125	*e*P		Pn	17 53 33.8	+1.0
TOF				MSG			17 53 55.4	
	comp=Z,26nm,0.2s							
TOF				*e*SN		Sb	17 53 58.6	+0.6
KIF	Kilpisjarvi	1.84	2	Pn		Pb	17 53 34.3	-0.2
	SNR=50							
KIF	Kilpisjarvi	1.84	2	Pg		Pb	17 53 34.6	+0.1
KIF				Sg		Sg	17 54 00.7	+1.6
KIF				Sn		Sg	17 54 01.1	+1.9
	SNR=50							
KIF	Kilpisjarvi	1.84	2	Pn		Pb	17 53 34.3	-0.2
KIF				Sn		Sg	17 54 01.1	+1.9
KIF	Kilpisjarvi	1.84	2	Pn		Pb	17 53 34.3	-0.2
KIF				Sn		Sg	17 54 01.1	+1.9
KIF	Kilpisjarvi	1.84	2	*e*PG		Pb	17 53 34.6	+0.1
	baz=180							
KIF				MSG			17 53 57.0	
	comp=Z,31nm,0.2s							
KIF				*e*SG		Sg	17 54 00.7	+1.6
LILU	Lilltraesk	1.92	190	P		Pn	17 53 34.8	+1.0
LILU	Lilltraesk	1.92	190	P		Pn	17 53 34.8	+1.0
LILU	Lilltraesk	1.92	190	*e*P		Pn	17 53 34.8	+1.0
SGF	Sodankyl	2.31	80	*e*PB		Pn	17 53 41.3	+2.1
	baz=262							
SGF				*e*SG		Sb	17 54 11.4	0.0
BURU	Burvik	2.62	173	P		Pn	17 53 44.8	+1.4
BURU	Burvik	2.62	173	*e*P		Pn	17 53 44.9	+1.4
	baz=356							
BURU				*e*SG		Sb	17 54 22.8	+2.5
ARA0	ARCESS Array S	2.99	35	Pn		Pn	17 53 49.6	+1.1
	SNR=50							
ARA0				Sn		Sn	17 54 25.4	+0.3
	SNR=50							
ARA0	ARCESS Array S	2.99	35	Pn		Pn	17 53 49.6	+1.1
	baz=213,slow=14							
ARA0				Sn		Sn	17 54 25.4	+0.3
	baz=212,slow=22							
ARA0	ARCESS Array S	2.99	35	Pn		Pn	17 53 49.6	+1.1
	baz=213,slow=14							
ARA0				Sn		Sn	17 54 25.4	+0.3
	baz=212,slow=22							
ARCES	ARCESS Array B	2.99	35	Pn		Pn	17 53 46.3	-2.3
	comp=Z,0.9nm,0.3s,baz=213,slow=14,SNR=16							
ARCES				Sn		Sn	17 54 24.5	-0.5
	comp=Z,2.0nm,0.3s,baz=211,slow=21,SNR=9.7							
ARCES	ARCESS Array B	2.99	35	Pn		Pn	17 53 51.6	+3.0
ARCES				Sn		Sn	17 54 27.1	+2.1
OUF	Merijarvi	3.29 147		*e*SG		Sb	17 54 43.7	+4.1
UMAU	Umeaa	3.30 180		P		Pn	17 53 54.4	+1.6
UMAU	Umeaa	3.30 180		*e*P		Pn	17 53 54.5	+1.6
VRF	Varrio	3.51	76	P		Pn	17 53 56.8	+1.1
VRF	Varrio	3.51	76	*e*P		Pn	17 53 56.8	+1.1
	baz=261							
MSF	Maaselka	3.60 107		P		Pn	17 53 58.0	+1.1
MSF	Maaselka	3.60 107		*e*P		Pn	17 53 58.0	+1.1
KU6	Riekki	3.87 103		P		Pn	17 54 01.8	+1.1
KU6				S		Sn	17 54 49.5	+2.7
KU6	Riekki	3.87 103		*e*P		Pn	17 54 01.8	+1.1
KU6				*e*S		Sn	17 54 49.5	+2.7
VAF	Ylistaro	4.24 167		P		Pn	17 54 07.7	+2.1
VAF	Ylistaro	4.24 167		*e*P		Pn	17 54 07.7	+2.1
VAF				*e*SG		Sb	17 55 12.4	+5.6
HEMU	Hemsoen	4.64 195		S		Sn	17 55 07.9	+2.1
HEMU	Hemsoen	4.64 195		*e*S		Sn	17 55 07.9	+2.1
FIA0	FINESS Array S	6.22 155		Pn		Pn	17 54 34.7	+1.8
	SNR=50							
FIA0				Lg		Lg	17 56 14.1	
	SNR=6.9							
FIA0	FINESS Array S	6.22 155		Pn		Pn	17 54 34.6	+1.8
	baz=342,slow=16							
FIA0				Sn		Sn	17 55 42.4	-2.1
	baz=342,slow=28							
FIA0				Lg		Lg	17 56 14.1	
	baz=340,slow=37							
FIA0	FINESS Array S	6.22 155		Pn		Pn	17 54 34.6	+1.8
	baz=342,slow=16							
FIA0				Sn		Sn	17 55 42.4	-2.1
	baz=342,slow=28							
FIA0				Lg		Lg	17 56 14.1	
	baz=340,slow=37							
FINES	FINESS Array B	6.22 155		Pn		Pn	17 54 33.7	+0.8
	comp=Z,0.3nm,0.3s,baz=346,slow=13,SNR=8.9							
FINES				Sn		Sn	17 55 42.4	-2.1
	comp=Z,1.0nm,0.3s,baz=346,slow=19,SNR=9.8							
FINES				Lg		Lg	17 56 13.7	
	comp=Z,1.2nm,0.3s,baz=341,slow=28,SNR=9.8							
FINES	FINESS Array B	6.22 155		Pn		Pn	17 54 33.6	+0.7
FINES				Sn		Sn	17 55 43.9	-0.7
NB2	NORSAR Subarra	7.40 218		Pn		Pn	17 54 50.3	+1.2
	SNR=50							
NB2				Lg		Lg	17 56 52.2	
	SNR=3.3							
NB2	NORSAR Subarra	7.40 218		Pn		Pn	17 54 50.3	+1.2
NB2				Sn		Sn	17 56 10.4	-3.2
	baz=37,slow=28							
NB2				Lg		Lg	17 56 52.2	
	baz=35,slow=37							
NB2	NORSAR Subarra	7.40 218		Pn		Pn	17 54 50.3	+1.2
NB2				Sn		Sn	17 56 10.4	-3.2
	baz=37,slow=28							
NB2				Lg		Lg	17 56 52.2	
	baz=35,slow=37							
NOA	NORSAR Array B	7.40 218		Pn		Pn	17 54 50.5	+1.4
	baz=26,slow=11,SNR=3.5							
NOA				Sn		Sn	17 56 07.0	-6.

Solution. s33 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.19; $M_{\theta\theta}$0.41; $M_{\phi\phi}$0.78; $M_{r\theta}$-0.90; $M_{r\phi}$-0.54; $M_{\theta\phi}$1.38: Best double couple: M_{o}2.00000×10^{18} NP1:ϕ_s146.00000°, δ72.00000°,λ-88.00000°. NP2:ϕ_s323.00000°,δ18.00000°, λ-93.00000°. Principal axes: T 2.0100, Plg27.0000°, Azm235.0000°; N 0.0300, Plg1.0000°, Azm326.0000°; P -2.0400, Plg62.0000°, Azm58.0000°;

DJA ***20*** *17:56:20.5±0.3, 4°S±2°×14°E±°, h75km±3km, M6.2/108, mb6.1/108, mB6.4/98, MLv6.9/5, Mw(mB)6.2/98, Mwp6.0/26*

ISC 20 17:56:19.1±0.3, 3.83S±0.02×140.26E±0.03, h69km±2km, h69km:pP-P,n1043,σ1s59/1223,mb6.1/362,38C-62D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.24**	**356**	P		**Pn**	**17 56 41.6**	**+1.0**
JAY	**Jayapura**	**1.38**	**19**	P		**Pn**	**17 56 41.7**	**-0.8**
	8μm,0.3s,baz=189,slow=12							
JAY				S		**Sn**	**17 56 57.7**	**-2.4**
	11μm,0.3s,baz=68,slow=19,SNR=24							
JAY				LR		LR	17 57 20.5	
	comp=Z,440μm,21.5s,baz=253,slow=46							
JAY	**Jayapura**	**1.38**	**19**	P		**Pn**	**17 56 42.5**	**0.0**
MMPI	**Merauke**	**4.61**	**179**	P		**Pn**	**17 57 28.8**	**+2.6**
RKPI	**Ransiki, Papua**	**6.50**	**291**	P		Pn	17 57 58.3	+6.1
	3μm,0.8s,27μm24nm							
KMPI	**Kaimana, Papua**	**6.55**	**271**	P		**Pn**	**17 57 55.3**	**+2.5**
KMPI				S		**Sn**	**17 59 08.3**	**+2.2**
MANU	**Manus Island**	**7.31**	**76**	*e*Pn		**Pn**	**17 58 05.5**	**+2.2**
FAKI	**Fak Fak**	**8.05**	**276**	P		**Pn**	**17 58 15.2**	**+1.8**
	2μm,1.2s,31μm78μm							
FAKI	**Fak Fak**	**8.05**	**276**	*e*Pn		**Pn**	**17 58 13.0**	**-0.4**
PMG	**Port Moresby**	**8.81**	**129**	P		**Pn**	**17 58 24.0**	**+0.3**
	39nm,0.3s,baz=337,slow=5.1,SNR=56							
PMG				S		**Sn**	**18 00 01.6**	**+0.2**
	32nm,0.3s,baz=348,slow=20,SNR=3.2							
PMG	**Port Moresby**	**8.81**	**129**	*e*Pn		**Pn**	**17 58 23.0**	**-0.7**
PMG				*e*Sn		**Sn**	**18 00 01.6**	**+0.2**
SWI	**Sorong**	**9.47**	**288**	P		**Pn**	**17 58 34.3**	**+1.6**
	2μm,0.7s,17μm							
SAUI	**Saumlaki**	**9.82**	**245**	P		**Pn**	**17 58 38.8**	**+1.2**
	10μm,1.2s,115μm86μm							
SAUI	**Saumlaki**	**9.82**	**245**	*e*Pn		**Pn**	**17 58 39.0**	**+1.4**
BNDI	**Bandanaira**	**10.35**	**266**	P		**Pn**	**17 58 46.9**	**+2.0**
	5μm,1.4s,96μm							
COEN	**Coen**	**10.46**	**164**	P		**Pn**	**17 58 45.9**	**-0.4**
	baz=10,SNR=253							
COEN	**Coen**	**10.46**	**164**	*e*Pn		**Pn**	**17 58 46.1**	**-0.3**
MSAI	**Masohi**	**11.32**	**272**	P		**Pn**	**17 58 59.6**	**+1.5**
	249nm,0.9s,3μm48μm							
RABL	**Rabaul**	**11.88**	**92**	*e*Pn		**Pn**	**17 59 05.7**	**0.0**
AAI	**Ambon**	**12.04**	**270**	P		**Pn**	**17 59 08.6**	**+0.7**
	1μm,0.7s,18μm44μm							
PALU	**Palau**	**12.52**	**333**	P		**Pn**	**17 59 17.6**	**+3.2**
	baz=13,SNR=98							
I39PW	**PALAU INFRASON**	**12.65**	**333**	P		**Pn**	**17 59 20.0**	**+3.8**
	baz=150,slow=17,SNR=0.6							
MTN	**Manton Dam**	**12.71**	**225**	*e*Pn		**Pn**	**17 59 14.9**	**-2.2**
LBMI	**Labuha**	**13.14**	**284**	P		**Pn**	**17 59 24.4**	**+1.5**
	2μm,1.2s,21μm							
TNTI	**Ternate**	**13.68**	**289**	*e*Pn		**Pn**	**17 59 30.9**	**+0.9**
SANI	**Sanana**	**14.37**	**277**	P		**Pn**	**17 59 38.5**	**-0.6**
	626nm,1.0s,9μm29μm							
MTSU	**Mount Surprise**	**14.76**	**165**	P		**Pn**	**17 59 45.6**	**+1.5**
	baz=15,SNR=91							
SGSI	**Sangihe**	**16.51**	**297**	P		**P**	**18 00 08.3**	**+0.4**
	864nm,0.8s,16μm							
KMSI	**Cibinong**	**16.85**	**285**	P		**P**	**18 00 12.1**	**+0.4**
	3μm,0.9s,30μm							
SOEI	**Soe**	**16.93**	**249**	P		**P**	**18 00 12.6**	**-0.1**
	11μm,0.8s,91μm49μm							
SOEI	**Soe**	**16.93**	**249**	*e*Pn		**Pn**	**18 00 11.1**	**-0.6**
	8μm,0.8s							
WRAB	**Tennant Creek**	**17.01**	**199**	*d i*P		**Pn**	**18 00 11.7**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,3μm,0.8s							
WRAB	**Tennant Creek**	**17.01**	**199**	*e*Pn		**Pn**	**18 00 09.2**	**-3.4**
	comp=Z,3μm,0.7s							
I07AU	**WARRAMUNGA INF**	**17.02**	**199**	P		**Pn**	**18 00 13.0**	**+0.3**
	baz=26,slow=24,SNR=0.6							
I07AU				*i*			19 36 40.0	
	baz=22,slow=320,SNR=0.5							
WB2	**Warramunga Arr**	**17.02**	**199**	*e*Pn		**Pn**	**18 00 08.4**	**-4.3**
WR1	**Warramunga Arr**	**17.02**	**199**	*e*Pn		**Pn**	**18 00 11.5**	**-1.3**
	comp=Z,3μm,0.8s							
WR1				*e*Sn		**Sn**	**18 03 11.9**	**-10**
WR1				*e*			18 07 18.2	
WRA	**Warramunga Arr**	**17.02**	**199**	P		**Pn**	**18 00 11.5**	**-1.3**
	comp=Z,49nm,0.3s,baz=12,slow=13,SNR=716							
WRA				S		**Sn**	**18 03 12.0**	**-10**
	comp=Z,38nm,0.3s,baz=17,slow=22,SNR=6.1							
WRA				LR		LR	18 07 18.2	
	comp=Z,89μm,19.6s,baz=25,slow=39							
CTA	**Charters Tower**	**17.18**	**161**	P		**P**	**18 00 15.9**	**+0.7**
	comp=Z,4.2nm,0.3s,baz=337,slow=12,SNR=35							
CTA				S		**Sn**	**18 03 25.7**	**+0.4**
	comp=Z,4.3nm,0.3s,baz=268,slow=18,SNR=2.2							
CTA				LR		LR	18 07 08.2	
	comp=Z,28μm,19.6s,baz=346,slow=38							
CTA	**Charters Tower**	**17.18**	**161**	*e*P		**P**	**18 00 16.0**	**+0.7**
CTAO	**Charters Tower**	**17.18**	**161**	*e*P		**Pn**	**18 00 14.9**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,350nm,0.9s							
CTAO	**Charters Tower**	**17.18**	**161**	*e*Pn		**Pn**	**18 00 14.9**	**+0.2**
	comp=Z,350nm,0.9s							
MATI	**Mati**	**17.61**	**307**	*e*P		**P**	**18 00 21.3**	**+1.2**
BATI	**Baumata**	**17.64**	**248**	P		**P**	**18 00 21.2**	**+0.7**
	comp=Z,161nm,0.3s,baz=145,slow=3.0,SNR=252							
BATI				S		**Sn**	**18 03 31.8**	**-4.8**
	comp=Z,6.8nm,0.3s,baz=66,slow=20,SNR=6.3							
BATI	**Baumata**	**17.64**	**248**	P		**Pn**	**18 00 20.4**	**0.0**
	comp=Z,1μm,0.8s,comp=Z,22μmcomp=Z,23μm							
LUWI	**Luwuk**	**17.69**	**279**	P		**P**	**18 00 21.8**	**+0.8**
	comp=Z,2μm,1.9s,comp=Z,33μmcomp=Z,39μm							
LUWI	**Luwuk**	**17.69**	**279**	*e*Pn		**Pn**	**18 00 20.7**	**-0.3**
	comp=Z,2μm,1.0s							
BBSI	**Bau Bau**	**17.71**	**264**	P		**Pn**	**18 00 21.5**	**+0.3**
	comp=Z,295nm,1.4s,comp=Z,12μm							
GUMO	**Guam**	**17.90**	**15**	P		**Pn**	**18 00 23.7**	**+0.2**
	comp=Z,18nm,0.3s,baz=185,slow=4.9,SNR=31							
GUMO				S		**Sn**	**18 03 39.7**	**-3.0**
	comp=Z,3.0nm,0.3s,baz=319,slow=20,SNR=2.1							
GUMO				LR		LR	18 07 04.3	
	comp=Z,17μm,18.6s,baz=227,slow=36							
DAV	**Davao City (W)**	**18.22**	**306**	P		**Pn**	**18 00 28.7**	**+1.3**
	comp=Z,45nm,0.3s,baz=73,slow=3.5,SNR=12							
DAV				S		**S**	**18 03 52.0**	**+0.7**
	comp=Z,39nm,0.3s,baz=73,slow=20,SNR=1.8							
DAV				LR		LR	18 08 09.0	
	comp=Z,6μm,18.6s,baz=125,slow=39							
DAV	**Davao City (W)**	**18.22**	**306**	↑*e*P		**Pn**	**18 00 28.1**	**+0.6**
DAV	**Davao City (W)**	**18.22**	**306**	*e*P		**Pn**	**18 00 28.0**	**+0.6**
	comp=Z,607nm,0.6s							
DAV				*e*S		**S**	**18 03 52.0**	**+0.7**
DAV				*e*			18 08 09.0	
DAV	**Davao City (W)**	**18.22**	**306**	Pn		**Pn**	**18 00 30.3**	**+2.8**
	SNR=12							
DAV	**Davao City (W)**	**18.22**	**306**	P		**Pn**	**18 00 30.3**	**+2.8**
	SNR=12							
BIPH	**Bislig**	**18.30**	**311**	‖*e*P		**Pn**	**18 00 29.8**	**+1.5**
MMRI	**Maumere**	**18.54**	**254**	P		**Pn**	**18 00 32.6**	**+1.3**
	comp=Z,1μm,0.9s,comp=Z,20μmcomp=Z,50μm							
MMRI	**Maumere**	**18.54**	**254**	*e*P		**P**	**18 00 29.6**	**-0.7**
	comp=Z,1μm,0.7s							
KCP	**Kidapawan**	**18.58**	**305**	‖*e*P		**Pn**	**18 00 33.2**	**+1.4**
MRSI	**Marisa**	**18.80**	**283**	P		**Pn**	**18 00 34.8**	**+0.4**
	comp=Z,630nm,0.7s,comp=Z,11μmcomp=Z,17μm							
APSI	**Ampana**	**18.82**	**278**	P		**Pn**	**18 00 35.9**	**+1.3**
	comp=Z,2μm,1.2s,comp=Z,44μmcomp=Z,40μm							
EDFI	**Ende, Flores**	**19.09**	**254**	P		**P**	**18 00 35.9**	**-0.6**
	comp=Z,730nm,0.9s,comp=Z,11μm							
BUKP	**Musuan**	**19.11**	**308**	*e*P		**Pn**	**18 00 37.7**	**-0.5**
BUTP	**Butuan**	**19.36**	**311**	*e*P		**Pn**	**18 00 40.9**	**-0.1**
CTBH	**Cotabato--PC H**	**19.39**	**304**	‖*i*P		**Pn**	**18 00 41.7**	**+0.3**
BSSI	**Bau Bau, Buton**	**19.83**	**263**	P		**Pn**	**18 00 46.1**	**-0.5**
	comp=Z,3μm,1.7s,comp=Z,54μm							
SCPH	**Surigao**	**19.99**	**313**	‖*e*P		**Pn**	**18 00 47.7**	**-0.7**
BNSI	**Bone**	**20.11**	**268**	P		Pn	18 00 50.2	+0.3
	comp=Z,2μm,0.9s,comp=Z,19μmcomp=Z,37μm							
FITZ	**Fitzroy Crossi**	**20.15**	**224**	P		**P**	**18 00 48.2**	**+0.4**
	comp=Z,605nm,0.8s,baz=46,slow=10,SNR=185							
FITZ				S		S	18 04 16.8	-14
	comp=Z,105nm,0.5s,baz=151,slow=18,SNR=1.8							
FITZ				LR		LR	18 09 50.2	
	comp=Z,55μm,19.8s,baz=35,slow=40							
FITZ	**Fitzroy Crossi**	**20.15**	**224**	P		**P**	**18 00 47.3**	**-0.6**
	baz=20,SNR=618							
FITZ	**Fitzroy Crossi**	**20.15**	**224**	*e*P		**P**	**18 00 47.6**	**-0.2**
	comp=Z,1μm,0.8s							
FITZ				*e*S		S	18 04 16.8	-14
FITZ				*e*			18 09 50.2	
HNR	**Honiara**	**20.32**	**107**	P		**P**	**18 00 49.3**	**-0.5**
	comp=Z,4μm,0.7s,baz=216,slow=3.3,SNR=182							
HNR				S		**S**	**18 04 27.2**	**-6.7**
	comp=Z,66nm,0.7s,baz=331,slow=19,SNR=1.7							
HNR	**Honiara**	**20.32**	**107**	*e*P		**P**	**18 00 48.0**	**-1.8**
HNR	**Honiara**	**20.32**	**107**	*e*P		**P**	**18 00 48.1**	**-1.6**
	comp=Z,4μm,0.8s							
HNR				*e*S		**S**	**18 04 27.2**	**-6.7**
TTSI	**Tana Toraja**	**20.42**	**272**	P		Pn	18 00 54.0	+0.5
	comp=Z,2μm,1.2s,comp=Z,29μmcomp=Z,34μm							
PAGZ	**Pagadian**	**20.45**	**305**	*e*P		Pn	18 00 53.1	-0.8
KAPI	**Kappang**	**20.48**	**266**	P		Pn	18 00 54.4	+0.1
	SNR=21							
KAPI	**Kappang**	**20.48**	**266**	P		Pn	18 00 54.4	+0.1
	SNR=21							
BASI	**Baing, Sumba**	**20.53**	**251**	P		**P**	**18 00 52.9**	**+0.9**
	comp=Z,6μm,0.8s,comp=Z,51μm							
AS01	**Alice Springs**	**20.64**	**197**	*e*P		**P**	**18 00 52.1**	**-1.0**
WSI	**Waingapu**	**20.65**	**253**	P		**P**	**18 00 53.6**	**+0.3**
	comp=Z,5μm,0.6s,comp=Z,44μmcomp=Z,40μm							
AS31	**Alice Springs**	**20.65**	**197**	*e*P		**P**	**18 00 52.4**	**-0.9**
	comp=Z,848nm,0.6s							
AS31				*e*S		**S**	**18 04 34.9**	**-5.4**
ASAR	**Alice Springs**	**20.65**	**197**	P		**P**	**18 00 53.0**	**-0.3**
	comp=Z,2μm,0.9s,baz=26,slow=11,SNR=377							
ASAR				S		**S**	**18 04 30.5**	**-10**
	comp=Z,88nm,0.9s,baz=0.3,slow=18,SNR=2.9							
ASAR				LR		LR	18 09 32.2	
	comp=Z,64μm,21.3s,baz=23,slow=38							
MSLP	**Maasin**	**20.69**	**312**	*e*P		**P**	**18 00 54.2**	**+0.5**
MPSI	**Mapaga**	**20.77**	**281**	P		Pn	18 00 56.3	-1.3
	comp=Z,510nm,0.8s,comp=Z,11μm							
PATS	**Pohnpei**	**20.90**	**60**	P		**P**	**18 00 56.6**	**+0.5**
	baz=21,SNR=31							
PATS	**Pohnpei**	**20.90**	**60**	*e*P		**P**	**18 00 55.5**	**-0.5**
	comp=Z,2μm,0.9s							
SARN	**Sarigan**	**21.12**	**15**	*e*P		**P**	**18 00 57.8**	**-0.5**
PLP	**Palo**	**21.29**	**315**	‖*e*P		**P**	**18 00 60.0**	**-0.2**
SNPH	**Sibulan**	**21.43**	**308**	*e*P		**P**	**18 01 03.8**	**+2.1**
LLP	**Lapu-Lapu**	**21.47**	**311**	*e*P		**P**	**18 01 01.2**	**-0.9**
OCLP	**Ormoc**	**21.48**	**314**	*e*P		**P**	**18 01 03.0**	**+0.8**
WBSI	**Waikabubak, Su**	**21.51**	**253**	P		**P**	**18 01 00.5**	**-2.1**
	comp=Z,2μm,0.8s,comp=Z,15μm							
CNP	**Catarman**	**22.45**	**317**	*e*P		**P**	**18 01 12.2**	**-0.4**
GUIM	**Jordan**	**22.71**	**309**	*e*P		**P**	**18 01 16.4**	**+0.9**
SGKI	**Sangatta, Kali**	**22.88**	**278**	P		**P**	**18 01 20.6**	**+3.4**
	comp=Z,851nm,1.0s,comp=Z,15μmcomp=Z,16μm							
PLAI	**Plampang**	**22.89**	**256**	P		**P**	**18 01 14.5**	**-2.7**
	comp=Z,828nm,0.9s,comp=Z,9μmcomp=Z,31μm							
QLP	**Quilpie**	**22.94**	**171**	P		**P**	**18 01 16.6**	**-1.0**
	baz=23,SNR=33							
RCP	**Roxas**	**23.18**	**311**	‖*e*P		**P**	**18 01 21.1**	**+0.9**
SMKI	**Samarinda**	**23.28**	**278**	P		**P**	**18 01 23.7**	**+2.6**
	comp=Z,1μm,0.9s,comp=Z,22μmcomp=Z,27μm							
JAP	**San Jose, Anti**	**23.29**	**309**	‖*e*P		**P**	**18 01 21.4**	**+0.3**
BKB	**Balikpapan**	**23.48**	**276**	P		**P**	**18 01 25.8**	**+2.9**
	comp=Z,1μm,0.9s,comp=Z,27μmcomp=Z,48μm							
MYLDM	**Lahad Datu**	**23.51**	**292**	‖P		**P**	**18 01 28.6**	**+5.4**
MYLDM	**Lahad Datu**	**23.51**	**292**	*e*P		**P**	**18 01 25.4**	**+2.2**
	comp=Z,2μm,1.1s							
PVCP	**Virac**	**23.57**	**318**	*e*P		**P**	**18 01 23.1**	**-0.5**
TSM	**Tawau**	**23.78**	**290**	↑P		**P**	**18 01 29.3**	**+3.6**
EIDS	**Eidsvold**	**23.80**	**155**	P		**P**	**18 01 26.0**	**+0.3**
	baz=24,SNR=96							
EIDS	**Eidsvold**	**23.80**	**155**	*e*P		**P**	**18 01 25.3**	**-0.4**
	comp=Z,521nm,0.8s							
RMQ	**Roma**	**23.95**	**161**	P		**P**	**18 01 27.0**	**0.0**
	baz=24,SNR=21							
WRKA	**Warakurna**	**24.02**	**208**	P		**P**	**18 01 26.5**	**-1.2**
	baz=24,SNR=726							
KBKI	**Kotabaru**	**24.05**	**270**	P		**P**	**18 01 28.9**	**+0.8**
	comp=Z,419nm,0.8s,comp=Z,9μmcomp=Z,23μm							
OTRP	**Odiongan**	**24.24**	**312**	*e*P		**P**	**18 01 30.6**	**+0.9**
AUQP	**San Andres**	**24.40**	**315**	*e*P		**P**	**18 01 33.3**	**+2.1**
SDKM	**Sandakan**	**24.89**	**292**	‖P		**P**	**18 01 38.6**	**+2.9**
GQP	**Guinayangan**	**24.96**	**315**	↑*e*P		**P**	**18 01 36.7**	**+0.4**
SJMP	**San Jose**	**24.98**	**311**	*e*P		**P**	**18 01 38.0**	**+1.5**
BQAC	**Boac**	**25.09**	**314**	*e*P		**P**	**18 01 37.8**	**+0.4**
SRBI	**Singaraja**	**25.26**	**259**	P		**P**	**18 01 38.1**	**-1.0**
	comp=Z,211nm,1.0s,comp=Z,5μmcomp=Z,14μm							
DNP	**Denpasar**	**25.36**	**258**	P		**P**	**18 01 39.5**	**-0.4**
	comp=Z,805nm,1.1s,comp=Z,13μm							
PPR	**Puerto Princes**	**25.36**	**302**	↑*e*P		**P**	**18 01 42.5**	**+2.6**
BUSP	**Coron**	**25.41**	**309**	*e*P		**P**	**18 01 41.3**	**+0.9**
IGBI	**Denpasar**	**25.44**	**258**	P		**P**	**18 01 39.5**	**-1.2**
	comp=Z,1μm,0.8s,comp=Z,16μmcomp=Z,27μm							
MTKI	**Muara Teweh, K**	**25.50**	**276**	P		**P**	**18 01 42.0**	**+0.7**
	comp=Z,208nm,0.8s,comp=Z,6μm							
ENPP	**El Nido**	**25.56**	**306**	*e*P		**P**	**18 01 42.4**	**+0.7**
BATP	**Bataraza**	**25.67**	**299**	*e*P		**P**	**18 01 44.1**	**+1.4**
LQP	**Lukban**	**25.74**	**314**	‖*e*P		**P**	**18 01 45.2**	**+1.6**
POLP	**Polilio Island**	**25.88**	**316**	*e*P		**P**	**18 01 48.4**	**+3.8**
KKM	**Kota Kinabalu**	**25.94**	**292**	‖P		**P**	**18 01 47.7**	**+2.3**
KKM	**Kota Kinabalu**	**25.94**	**292**	*e*P		**P**	**18 01 45.9**	**+0.6**
	comp=Z,648nm,1.1s							
TGY	**Tagaytay City**	**26.17**	**313**	P		**P**	**18 01 47.4**	**0.0**
	comp=Z,782nm,0.8s,baz=186,slow=1.3,SNR=31							
ABJI	**Asem Bagus**	**26.19**	**260**	P		**P**	**18 01 48.1**	**+0.6**
	comp=Z,152nm,1.3s,comp=Z,6μm							
JAGI	**Jajag, Banyuwa**	**26.36**	**259**	P		**P**	**18 01 46.2**	**-2.8**
	comp=Z,186nm,0.7s,comp=Z,5μmcomp=Z,19μm							
JAGI	**Jajag, Banyuwa**	**26.36**	**259**	*e*P		**P**	**18 01 46.2**	**-2.8**
	comp=Z,508nm,1.2s							
MBWA	**Marble Bar**	**26.36**	**227**	*e*P		**P**	**18 01 48.3**	**-0.7**
	comp=Z,914nm,1.0s							
MBWA	**Marble Bar**	**26.36**	**227**	P		**P**	**18 01 48.5**	**-0.5**
	SNR=22							
KMMI	**Kalianget**	**26.37**	**262**	P		**P**	**18 01 49.8**	**+0.7**
	comp=Z,575nm,0.8s,comp=Z,14μmcomp=Z,34μm							
BLJI	**Banyuglugur**	**26.81**	**260**	P		**P**	**18 01 51.6**	**-1.5**
	comp=Z,178nm,0.7s,comp=Z,7μm							
BALP	**Baler**	**26.84**	**317**	*e*P		**P**	**18 01 52.8**	**-0.5**
GMJI	**Gumukmas**	**27.02**	**259**	P		**P**	**18 01 54.7**	**-0.3**
	comp=Z,131nm,0.8s,comp=Z,5μm							
PCPH	**Palayan**	**27.04**	**316**	↑*e*P		**P**	**18 01 54.7**	**-0.4**
CAUP	**Cauayan**	**27.53**	**319**	*e*P		**P**	**18 01 59.4**	**-0.1**
BWJI	**Bawean**	**27.58**	**265**	P		**P**	**18 02 01.2**	**+1.2**
GRJI	**Gresik**	**27.83**	**262**	P		**P**	**18 02 02.2**	**0.0**
	comp=Z,206nm,1.0s,comp=Z,3μm							
STKA	**Stephens Creek**	**27.93**	**178**	P		**P**	**18 02 02.1**	**-0.7**
	comp=Z,22nm,0.6s,baz=342,slow=8.7,SNR=30							
STKA				LR		LR	18 14 26.0	
	comp=Z,44μm,19.4s,baz=346,slow=39							
STKA	**Stephens Creek**	**27.93**	**178**	*e*P		**P**	**18 02 02.4**	**-0.4**
STKA				pmax		pmax		
	comp=Z,62nm,0.9s							
STKA	**Stephens Creek**	**27.93**	**178**	*e*P		**P**	**18 02 02.4**	**-0.4**
	comp=Z,62nm,0.9s							
SCZP	**Santa Cruz**	**28.02**	**315**	*e*P		**P**	**18 02 02.4**	**-1.5**
CMSA	**Cobar Meteorol**	**28.03**	**170**	P		**P**	**18 02 04.4**	**+0.6**
	baz=28,SNR=17							
TBJI	**Tambak Boyo**	**28.44**	**263**	P		**P**	**18 02 09.8**	**+2.1**
ARMA	**Armidale**	**28.54**	**159**	P		**P**	**18 02 09.1**	**+0.6**
	baz=29,SNR=18							
ARMA	**Armidale**	**28.54**	**159**	*e*P		**P**	**18 02 09.1**	**+0.6**
	comp=Z,116nm,0.9s							
PBKI	**Pangkalan Bun**	**28.57**	**271**	P		**P**	**18 02 10.3**	**+1.5**
	comp=Z,538nm,1.1s,comp=Z,6μmcomp=Z,14μm							
APYP	**Conner**	**28.58**	**320**	*e*P		**P**	**18 02 06.8**	**-2.0**
PWJI	**Pagerwojo**	**28.60**	**260**	P		**P**	**18 02 07.6**	**-1.5**
	comp=Z,116nm,1.2s,comp=Z,4μm							
SBUM	**Sibu**	**28.71**	**282**	*e*P		**P**	**18 02 12.2**	**+2.1**
	comp=Z,275nm,1.4s							
STKI	**Sintang**	**29.02**	**277**	P		**P**	**18 02 14.7**	**+1.8**
	comp=Z,113nm,1.1s							
BBOO	**Buckleboo**	**29.09**	**187**	P		**P**	**18 02 14.1**	**+0.8**
	baz=29,SNR=26							
BBOO	**Buckleboo**	**29.09**	**187**	*e*P		**P**	**18 02 13.2**	**-0.1**
	comp=Z,351nm,0.8s							
PCJI	**Pacitan**	**29.24**	**260**	P		**P**	**18 02 12.3**	**-2.5**
	comp=Z,162nm,1.2s							
HTT	**Hallett**	**29.47**	**182**	P		**P**	**18 02 17.8**	**+1.1**
	baz=30,SNR=18							
UGM	**Wanagama**	**29.85**	**261**	P		**P**	**18 02 21.8**	**+1.6**
SMRI	**Semarang**	**29.85**	**263**	P		**P**	**18 02 18.6**	**-1.6**
	comp=Z,334nm,1.1s							
SMRI	**Semarang**	**29.85**	**263**	*e*P		**P**	**18 02 19.5**	**-0.7**
	comp=Z,266nm,1.0s							
KSM	**Kuching**	**30.40**	**279**	*e*P		**P**	**18 02 25.1**	**0.0**
	comp=Z,807nm,1.6s							
MEEK	**Meekatharra**	**30.72**	**220**	P		**P**	**18 02 27.2**	**-0.5**
	baz=31,SNR=32							
JCJ	**Chichijima**	**30.80**	**3**	P		**P**	**18 02 27.7**	**-0.7**
	comp=Z,261nm,0.6s,baz=267,slow=9.1,SNR=11							
JCJ				S		**S**	**18 07 19.4**	**-7.6**
	comp=Z,60nm,0.9s,baz=135,slow=20,SNR=2.2							
CBIJ	**Chichi jima**	**30.80**	**3**	*e*P		**P**	**18 02 26.5**	**-1.9**
	comp=Z,272nm,0.7s							
CBIJ				S		**S**	**18 07 19.4**	**-7.6**
DZM	**Mont Dzumac**	**31.20**	**128**	P		**P**	**18 02 32.2**	**+0.1**
	comp=Z,106nm,0.9s,baz=20,slow=9.8,SNR=34							
DZM				PcP		**PcP**	**18 05 27.7**	**+2.1**
	comp=Z,32nm,0.8s,baz=230,slow=9.2,SNR=4.2							
DZM	**Mont Dzumac**	**31.20**	**128**	*e*P		**P**	**18 02 31.4**	**-0.7**
	comp=Z,286nm,1.0s							
DZM				*e*LR		LR	18 10 52.9	
	comp=Z,29μm,29.8s							
DZM	**Mont Dzumac**	**31.20**	**128**	*e*P		**P**	**18 02 31.3**	**-0.8**
	comp=Z,144nm,0.9s							
DZM				PcP		**PcP**	**18 05 27.7**	**+2.1**
YNG	**Young**	**31.24**	**167**	P		**P**	**18 02 33.0**	**+0.7**
	baz=31,SNR=32							
GIRL	**Giralia**	**31.38**	**231**	P		**P**	**18 02 34.6**	**+1.0**
	baz=31,SNR=35							
CMJI	**Cimerak**	**31.89**	**261**	P		**P**	**18 02 34.4**	**-3.7**
	comp=Z,160nm,1.0s							
JCJI	**Jatiwangi**	**31.97**	**264**	P		**P**	**18 02 40.4**	**+1.6**
	comp=Z,255nm,1.4s,comp=Z,8μm							
CAN	**Canberra**	**32.36**	**167**	*e*P		**P**	**18 02 42.6**	**+0.5**
CAN				pmax		pmax		
	comp=Z,160nm,1.1s							
CAN	**Canberra**	**32.36**	**167**	*e*P		**P**	**18 02 42.6**	**+0.5**
	comp=Z,160nm,1.1s							
KMBL	**Kambalda**	**32.40**	**210**	P		**P**	**18 02 41.6**	**-0.8**
	baz=32,SNR=35							
CNB	**Canberra Magne**	**32.44**	**166**	P		**P**	**18 02 43.8**	**+1.0**
	baz=32,SNR=10							
TWG	**Pinlang**	**32.45**	**326**	*e*P		**P**	**18 02 40.6**	**-2.3**
	comp=Z,297nm,1.3s							
CISI	**Cisompet, Garu**	**32.49**	**262**	P		**P**	**18 02 41.3**	**-2.2**
	comp=Z,305nm,0.9s,comp=Z,4μm							
CISI	**Cisompet, Garu**	**32.49**	**262**	*e*P		**P**	**18 02 41.8**	**-1.7**
	comp=Z,295nm,0.8s							
JOW	**Kunigami**	**32.62**	**340**	*e*P		**P**	**18 02 45.2**	**+0.9**
	comp=Z,370nm,1.5s							
LEM	**Lembang**	**32.63**

QIZ PcP **PcP** **18 05 45.0 +1.1**
QIZ S **S** **18 09 13.6 +1.7**
QIZ pmax pmax
comp=Z,190nm,1.2s
QIZ **Qiongzhong** **37.58 308** *eP* **P** **18 03 26.9 -0.2**
comp=Z,202nm,1.0s
JNU **Nakatsue** **37.81 347** P **P** **18 03 29.0 +0.1**
comp=Z,254nm,0.9s,baz=148,slow=3.7,SNR=76
JNU PcP **PcP** **18 05 44.9 +0.5**
comp=Z,70nm,0.9s,baz=140,slow=3.4,SNR=3.0
JNU S **S** **18 09 15.3 +0.2**
comp=Z,13nm,1.1s,baz=72,slow=20,SNR=4.1
JNU **Nakatsue** **37.81 347** *eP* **P** **18 03 29.1 +0.1**
comp=Z,414nm,1.0s
JNU PcP **PcP** **18 05 44.9 +0.5**
JNU S **S** **18 09 15.3 +0.2**
MASI **Maura Aman, Be** **37.96 270** P **P** **18 03 30.4 -0.1**
comp=Z,816nm,0.8s,comp=Z,12µm
RGRI **Rengat** **38.05 274** P **P** **18 03 32.9 +1.6**
comp=Z,552nm,0.4s,comp=Z,81µm
KTGM **Kuala Trenggan** **38.19 284** ⇑P **P** **18 03 35.0 +2.7**
MOO **Moorlands** **38.94 172** P **P** **18 03 40.9 +2.6**
baz=39,SNR=4.8
FUNA **Funafuti** **38.97 99** *eP* **P** **18 03 38.8 -0.1**
comp=Z,523nm,0.8s
INU **Inuyama** **39.09 356** *eP* **P** **18 03 39.6 0.0**
comp=Z,557nm,1.8s
SSE **Sheshan** **39.21 334** P **P** **18 03 41.9 +1.2**
SSE S **S** **18 09 37.0 +0.9**
SSE pmax pmax
comp=Z,260nm,1.3s
SSE pmax pmax
comp=Z,1µm,5.2s
FRIM **Kepong** **39.25 280** ⇓P **P** **18 03 44.0 +2.8**
BKNI **Bangkinang** **39.41 275** P **P** **18 03 44.1 +1.4**
comp=Z,2µm,1.1s,comp=Z,12µm
BKNI **Bangkinang** **39.41 275** *eP* **P** **18 03 43.3 +0.6**
comp=Z,1µm,0.9s
TAU **Tasmania Unive** **39.41 172** *eP* **P** **18 03 42.3 +0.1**
TAU pmax pmax
comp=Z,235nm,1.3s
TAU **Tasmania Unive** **39.41 172** *eP* **P** **18 03 42.3 +0.1**
comp=Z,235nm,1.3s
MSVF **Nonsavu** **39.50 113***d iP* **P** **18 03 44.7 +1.3**
MSVF **Nonsavu** **39.50 113** *eP* **P** **18 03 44.2 +0.8**
comp=Z,943nm,1.0s
PDSI **Padang** **39.87 273** P **P** **18 03 45.7 -0.8**
comp=Z,204nm,0.7s,comp=Z,8µm
IPM **Ipoh** **40.06 282** ⇓P **P** **18 03 50.1 +2.0**
IPM **Ipoh** **40.06 282** *eP* **P** **18 03 49.3 +1.2**
comp=Z,180nm,0.8s
MJAR **Matsushiro Arr** **40.21 357** P **P** **18 03 48.2 -0.7**
comp=Z,46nm,0.8s,baz=178,slow=9.9,SNR=112
MJAR PcP **PcP** **18 05 52.2 +0.4**
comp=Z,27nm,0.9s,baz=174,slow=3.4,SNR=6.0
MJAR ScP **ScP** **18 09 36.3 +1.1**
comp=Z,5.6nm,1.1s,baz=171,slow=8.6,SNR=3.4
MJAR S **S** **18 09 49.0 -2.0**
comp=Z,0.7nm,0.5s,baz=189,slow=7.1,SNR=2.5
MAJO **Matsushiro** **40.21 357** *eP* **P** **18 03 48.7 -0.2**
MAJO *e* 18 05 52.2
MAJO *e*S **S** **18 09 49.0 -2.0**
MAJO pmax pmax
comp=Z,98nm,0.7s
MAJO **Matsushiro** **40.21 357** *eP* **P** **18 03 48.7 -0.2**
comp=Z,98nm,0.7s
MAJO *e*PcP **PcP** **18 05 52.2 +0.4**
MAJO *e*ScP **ScP** **18 09 36.3 +1.1**
MAJO *e*S **S** **18 09 49.0 -2.0**
MAT **Matsushiro** **40.21 357** P **P** **18 03 47.9 -1.0**
MAT S **S** **18 09 47.8 -3.2**
MJB9 **Matsu-Tunnel** **40.22 357** *eP* **P** **18 03 47.9 -1.1**
comp=Z,101nm,0.7s
KULM **Kulim** **40.59 283** *eP* **P** **18 03 52.8 +0.4**
comp=Z,125nm,1.0s
MNSI **Mandailing Nat** **40.92 276** P **P** **18 03 55.0 -0.1**
comp=Z,391nm,0.8s,comp=Z,6µm
SKLT **Songkhla** **41.05 285** P **P** **18 03 56.5 +0.4**
comp=Z,296nm,1.9s,comp=Z,4µm
NJ2 **Nanjing** **41.08 332** *eP* **P** **18 03 57.6 +1.5**
NJ2 pP **pP** **18 04 11.6 -1.6**
NJ2 sP **sP** **18 04 18.0 -3.2**
NJ2 PP **PnPn** **18 05 39.3 +2.2**
NJ2 S **S** **18 10 06.4 +2.4**
NJ2 sS **sS** **18 10 34.6 +1.5**
NJ2 pmax pmax
comp=Z,250nm,1.2s
NJ2 pmax pmax
comp=Z,3µm,3.5s
NJ2 LR LR
comp=Z,19µm,13.0s
NJ2 LR LR
comp=Z,40µm,17.3s
NJ2 LR LR
comp=Z,32µm,16.3s
SISI **Saibi** **41.20 272** P **P** **18 03 56.5 -0.9**
comp=Z,500nm,1.3s,comp=Z,6µm
SKNT **Sakolnakorn** **41.37 301** P **P** **18 03 58.3 -0.4**
comp=Z,108nm,1.7s,comp=Z,2µm
TJN **Taejon** **41.78 344***d iP* **P** **18 04 03.0 +1.2**
PSI **Prapat** **41.84 278** *eP* **P** **18 04 03.0 +0.2**
PSI *e*S **S** **18 10 11.6 -4.4**
PSI pmax pmax
comp=Z,675nm,0.9s
PSI **Prapat** **41.84 278** *eP* **P** **18 04 03.0 +0.2**
comp=Z,675nm,0.9s
PSI *e*S **S** **18 10 11.6 -4.4**
SRAK **Srakaew** **41.85 296** P **P** **18 03 59.0 -3.7**
KHON **Khomkaen** **42.09 299** P **P** **18 04 05.8 +1.2**
comp=Z,46nm,1.2s,comp=Z,599nm
TRTT **Trang** **42.10 286** P **P** **18 04 05.1 +0.3**
comp=Z,79nm,1.0s,comp=Z,1µm
WHN **Wuhan** **42.21 326**⇓*iP* **P** **18 04 07.3 +1.9**
WHN sP **sP** **18 04 28.0 -2.5**
WHN S **S** **18 10 24.3 +3.6**
WHN pmax pmax
comp=Z,110nm,0.8s
TSI **Tuntungan** **42.30 279** P **P** **18 04 07.3 +0.9**
comp=Z,540nm,0.8s,comp=Z,7µm
NAYO **Nakonayok** **42.61 296** P **P** **18 04 10.1 +1.2**
comp=Z,76nm,1.8s,comp=Z,5µm
CHAI **Chaiyaphum** **42.64 298** P **P** **18 04 09.6 +0.5**
comp=Z,52nm,0.9s,comp=Z,472nm
KS15 **Wonju Array Si** **42.65 345** *eP* **P** **18 04 09.7 +0.9**
KS15 *e*S **S** **18 10 27.5 +0.5**
KSAR **Wonju Array Be** **42.65 345** P **P** **18 04 09.8 +0.9**
KSAR 18 06 01.3
KSAR S **S** **18 10 27.5 +0.5**
KSAR **Wonju Array Be** **42.65 345** P **P** **18 04 09.8 +0.9**
KSAR PcP **PcP** **18 06 01.3 +1.5**
KSAR S **S** **18 10 27.5 +0.5**
KSRS **Korea Array** **42.65 345** P **P** **18 04 09.8 +1.0**
comp=Z,79nm,0.6s,baz=162,slow=9.1,SNR=248
KSRS PcP **PcP** **18 06 01.3 +1.5**
comp=Z,43nm,0.9s,baz=168,slow=3.7,SNR=11
KSRS S **S** **18 10 27.5 +0.5**
comp=Z,1.5nm,1.0s,baz=39,slow=16,SNR=2.5
KSRS **Korea Array** **42.65 345** P **P** **18 04 09.8 +1.0**
KSRS 18 06 01.3
KSRS S **S** **18 10 27.5 +0.5**
KSRS pmax pmax
comp=Z,81nm,0.6s
KSRS pmax pmax
comp=Z,43nm,0.9s
KSRS smax smax
comp=N,2.0nm,1.0s
KS01 **Wonju Array Si** **42.68 345** *eP* **P** **18 04 09.4 +0.3**
GSI **Gunungsitoli** **42.97 276** P **P** **18 04 11.2 -0.6**
comp=N,453nm,1.0s,comp=N,6µm
GSI **Gunungsitoli** **42.97 276** *eP* **P** **18 04 11.6 -0.2**
comp=N,1µm,1.7s
INCN **Inchon** **43.02 344** *eP* **P** **18 04 12.3 +0.4**
comp=N,442nm,0.9s
INCN **Inchon** **43.02 344** P **P** **18 04 13.2 +1.4**
SNR=20
INCN **Inchon** **43.02 344** P **P** **18 04 13.2 +1.4**
SNR=20
KCSI **Kotacane, Aceh** **43.09 279** P **P** **18 04 11.8 -1.0**
comp=N,518nm,0.8s,comp=N,6µm
SURT **Suratani** **43.25 287** P **P** **18 04 14.4 +0.3**
comp=N,35nm,1.1s,comp=N,996nm
PKDT **Phuket** **43.42 286** P **P** **18 04 16.1 +0.7**
comp=N,70nm,0.8s,comp=N,1µm
TPTI **43.63 279** P **P** **18 04 17.3 +0.2**
comp=N,427nm,0.7s,comp=N,7µm
PHET **Kaeng Krachan** **43.65 293** P **P** **18 04 18.9 +1.6**
comp=N,68nm,0.8s,comp=N,487nm
COCO **West Island** **43.74 256** *eP* **P** **18 04 19.5 +1.5**
COCO pmax pmax
comp=Z,336nm,0.6s
COCO **West Island** **43.74 256** *eP* **P** **18 04 19.5 +1.5**
comp=Z,336nm,0.6s
OUZ **Omahuta** **43.89 140** *eP* **P** **18 04 20.3 +1.4**
comp=Z,165nm,0.9s
LHMI **Lhok Sumawe** **44.19 281** P **P** **18 04 21.5 -0.2**
comp=Z,873nm,0.8s,comp=Z,9µm
LHMI **Lhok Sumawe** **44.19 281** *eP* **P** **18 04 21.5 -0.2**
comp=Z,713nm,0.9s
GYA **Guiyang** **44.31 315**⇓*iP* **P** **18 04 23.8 +1.3**
GYA pP pP 18 04 41.3 +1.5
GYA sP sP 18 04 49.0 +1.3
GYA PcP **PP** **18 06 07.4 +0.3**
GYA PP **PcP** **18 06 11.9 +6.1**
GYA ScP **ScP** **18 09 52.0 0.0**
GYA S **S** **18 10 47.4 -4.5**
GYA sS sS 18 11 23.0 +1.8
GYA SS **SS** **18 14 05.5 -7.3**
GYA ScS **ScS** **18 14 15.3 +0.5**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,870nm,9.9s
GYA LR LR
comp=Z,52µm,21.1s
GYA LR LR
comp=Z,23µm,20.0s
GYA LR LR
comp=Z,44µm,18.9s
PHIT **Phitsanulok** **44.54 299** P **P** **18 04 25.5 +1.1**
comp=Z,62nm,1.1s,comp=Z,732nm
MLSI **Meulaboh, Aceh** **44.55 280** P **P** **18 04 24.5 -0.1**
comp=Z,858nm,1.2s,comp=Z,10µm
SRDT **SRDT** **44.61 295** P **P** **18 04 25.4 +0.5**
comp=Z,128nm,1.4s,comp=Z,2µm
ENH **Enshi** **44.90 321** *eP* **P** **18 04 26.6 -0.5**
comp=Z,113nm,0.9s
NANT **Nan** **44.98 301** P **P** **18 04 28.9 +1.1**
comp=Z,55nm,0.9s,comp=Z,540nm
TIA **Tai'an** **45.33 333** P **P** **18 04 30.8 +0.4**
TIA S **S** **18 11 05.9 -0.3**
TIA SS **ScS** **18 14 22.4 +1.7**
TIA pmax pmax
comp=Z,110nm,1.4s
TIA pmax pmax
comp=Z,2µm,9.8s
TIA LR LR
comp=Z,13µm,21.3s
TIA LR LR
comp=Z,12µm,17.0s
TIA LR LR
comp=Z,53µm,21.3s
ERM **Erimo** **45.71 3***c iP* **P** **18 04 34.3 +1.1**
ERM pmax pmax
comp=Z,54nm,1.0s
ERM **Erimo** **45.71 3** *eP* **P** **18 04 32.7 -0.5**
comp=Z,178nm,1.2s
LAMP **Lampang** **45.77 300** P **P** **18 04 35.6 +1.5**
comp=Z,50nm,0.9s,comp=Z,447nm
DL2 **Dalian** **45.88 340** P **P** **18 04 35.1 +0.5**
DL2 sP **sP** **18 05 00.1 +0.2**
DL2 PcP **PcP** **18 06 11.9 +1.1**
DL2 PcS **PcS** **18 10 05.5 +0.4**
DL2 S **S** **18 11 15.8 +1.9**
DL2 pmax pmax
comp=Z,260nm,0.8s
DL2 pmax pmax
comp=Z,2µm,6.9s
DL2 LR LR
comp=Z,16µm,17.7s
DL2 LR LR
comp=Z,16µm,17.5s
DL2 LR LR
comp=Z,42µm,18.2s
CM01 **Chiang Mai Arr** **46.31 300** *eP* **P** **18 04 38.6 +0.2**
CM31 **Chiang Mai Arr** **46.34 300** *eP* **P** **18 04 37.8 -0.8**
CM31 *e*ScP **ScP** **18 10 02.9 +2.5**
CM31 *e*S **S** **18 11 21.1 -0.1**
CM31 *e*P'P'df P'P'df 18 35 56.9 -7.8
CM31 *e*P'P'ab **P'P'ab** **18 37 04.0 -0.3**
CMAR **Chiang Mai Arr** **46.34 300** P **P** **18 04 39.6 +1.0**
comp=Z,59nm,0.8s,baz=121,slow=6.2,SNR=329
CMAR ScP **ScP** **18 10 02.9 +2.5**
comp=Z,9.3nm,1.1s,baz=109,slow=2.7,SNR=4.6
CMAR S **S** **18 11 21.1 -0.1**
comp=Z,1.0nm,0.7s,baz=145,slow=3.3,SNR=2.5
CMAR PKPPKP P'P'df 18 35 56.9 -7.8
comp=Z,3.0nm,0.9s,baz=304,slow=2.6,SNR=5.2
CMAR PKP2ab 18 37 04.0
comp=Z,3.0nm,1.0s,baz=277,slow=5.5,SNR=4.9
KMI **Kunming** **46.42 310** P **P** **18 04 40.9 +1.5**
KMI pP pP 18 04 59.4 +2.6
KMI sP sP 18 05 05.6 +0.9
KMI PP **PP** **18 06 29.5 -0.1**
KMI S **S** **18 11 23.3 +0.7**
KMI sS sS 18 11 52.1 -0.1
KMI pmax pmax
comp=Z,98nm,1.4s
KMI pmax pmax
comp=Z,550nm,3.3s
KMI LR LR
comp=Z,3µm,23.1s
KMI LR LR
comp=Z,2µm,27.2s
CMMT **Chiang Mai** **46.48 300** P **P** **18 04 39.2 -0.5**
comp=Z,139nm,1.2s,comp=Z,2µm
CHTO **Chiang Mai** **46.48 300** P **P** **18 04 40.3 +0.6**
comp=Z,614nm,1.4s,comp=Z,8µm
CHTO **Chiang Mai** **46.48 300** *eP* **P** **18 04 40.0 +0.3**
CHTO pmax pmax
comp=Z,97nm,0.9s
CHTO **Chiang Mai** **46.48 300** *eP* **P** **18 04 40.0 +0.3**
comp=Z,97nm,0.9s
CHTO **Chiang Mai** **46.48 300** P **P** **18 04 40.6 +0.9**
SNR=51
CHTO **Chiang Mai** **46.48 300** P **P** **18 04 40.6 +0.9**
SNR=51
HIZ **Hauiti** **46.72 142** *eP* **P** **18 04 42.4 +1.1**
comp=Z,242nm,1.0s
CMAI **Chiengmai2** **46.87 302** P **P** **18 04 44.1 +1.2**
comp=Z,920nm,1.6s,comp=Z,78µm
VLA **Vladivostok** **47.35 352***d iP* **P** **18 04 47.4 +1.4**
VLA pmax pmax
comp=Z,288nm,1.2s
FOZ **Fox Glacier** **47.40 151** *eP* **P** **18 04 47.3 +0.8**
comp=Z,109nm,1.0s
DCZ **Deep Cove** **47.67 154** *eP* **P** **18 04 49.3 +0.8**
comp=Z,198nm,0.9s
THZ **Tophouse** **47.73 147** *eP* **P** **18 04 49.8 +0.7**
comp=Z,85nm,0.9s
ASAJ **Asahikawa** **47.78 2** P **P** **18 04 50.4 +1.1**
comp=Z,73nm,0.8s,baz=226,slow=12,SNR=36
ASAJ **Asahikawa** **47.78 2** *eP* **P** **18 04 50.1 +0.7**
comp=Z,77nm,0.8s
XAN **Xi'an** **47.88 324** P **P** **18 04 50.6 +0.2**
XAN pP pP 18 05 06.4 -1.5
XAN sP sP 18 05 14.4 -1.4
XAN PcP **PcP** **18 06 20.1 +2.0**
XAN PcS **PcS** **18 10 16.1 +2.2**
XAN S **S** **18 11 40.5 -2.3**
XAN sS sS 18 12 11.8 -0.6
XAN ScS **ScS** **18 14 35.3 -2.3**
XAN SS **SS** **18 15 03.0 -9.4**
XAN pmax pmax
comp=Z,140nm,2.0s
XAN pmax pmax
comp=Z,2µm,4.1s
XAN LR LR
comp=Z,2µm,16.3s
XAN LR LR
comp=Z,5µm,19.2s
XAN LR LR
comp=Z,6µm,19.2s
SNY **Shenyang** **47.92 343** ⇑P **P** **18 04 51.3 +0.9**
SNY S **S** **18 11 45.3 +2.5**
SNY pmax pmax
comp=Z,260nm,0.7s
SNY pmax pmax
comp=Z,3µm,4.5s
SNY LR LR
comp=Z,13µm,18.2s
SNY LR LR
comp=Z,7µm,11.6s
SNY LR LR
comp=Z,34µm,21.8s
KNTN **Kanton** **47.95 90** *eP* **P** **18 04 51.1 -0.1**
comp=Z,1µm,1.6s
URZ **Urewera** **47.97 141** P **P** **18 04 52.1 +1.2**
comp=Z,74nm,0.9s,baz=313,slow=1.0,SNR=23
URZ **Urewera** **47.97 141** *eP* **P** **18 04 51.4 +0.5**
comp=Z,121nm,0.9s
WKZ **Wanaka** **48.00 153** *eP* **P** **18 04 51.8 +0.6**
comp=Z,243nm,1.3s
MLZ **Mavora Lakes** **48.01 154** *eP* **P** **18 04 51.5 +0.2**
comp=Z,181nm,0.9s
PYZ **Puysegur Point** **48.03 155** *eP* **P** **18 04 52.2 +0.9**
comp=Z,261nm,1.1s
LTZ **Lake Taylor** **48.10 148** *eP* **P** **18 04 51.4 -0.6**
comp=Z,125nm,1.0s
BKZ **Black Stump Fm** **48.13 142** *eP* **P** **18 04 52.8 +0.5**
comp=Z,160nm,0.9s
RPZ **Rata Peaks** **48.15 150** P **P** **18 04 52.8 +0.5**
comp=Z,370nm,0.8s,baz=309,slow=1.4,SNR=25
RPZ **Rata Peaks** **48.15 150** *eP* **P** **18 04 52.7 +0.4**
comp=Z,376nm,0.9s
LBZ **Lake Benmore** **48.21 151** *eP* **P** **18 04 52.7 -0.1**
comp=Z,200nm,1.2s
MXZ **Matakaoa Point** **48.34 139** *eP* **P** **18 04 54.5 +0.7**
comp=Z,264nm,1.2s
AFI **Afiamalu** **48.34 105** P **P** **18 04 56.1 +1.8**
comp=Z,1µm,0.9s,baz=273,slow=18,SNR=77
AFI **Afiamalu** **48.34 105** *eP* **P** **18 04 54.5 +0.2**
comp=Z,2µm,1.0s
WHZ **Wether Hill Ro** **48.35 154** *eP* **P** **18 04 53.9 +0.1**
comp=Z,195nm,1.2s
OXZ **Oxford** **48.36 149** *eP* **P** **18 04 53.8 -0.1**
comp=Z,78nm,1.0s
USRK **Ussuriysk Ar.** **48.39 352** P **P** **18 04 55.1 +1.1**
comp=Z,79nm,0.8s,baz=165,slow=7.9,SNR=94
USRK S **S** **18 11 50.2 +0.8**
comp=Z,1.3nm,0.6s,baz=102,slow=13,SNR=3.4
SNZO **South Karori** **48.43 145** *eP* **P** **18 04 54.0 -0.5**
comp=Z,343nm,1.1s
KHZ **Kahutara** **48.52 147** *eP* **P** **18 04 54.7 -0.4**
comp=Z,82nm,0.7s
TIY **Taiyuan** **48.75 330** *eP* **P** **18 04 58.1 +1.0**
TIY pP **pP** **18 05 11.0 -3.6**
TIY sP **sP** **18 05 25.6 +3.1**
TIY PP **PP** **18 06 54.3 +3.4**
TIY S **S** **18 11 52.1 -2.9**
TIY pmax pmax
comp=Z,34nm,0.5s
TIY pmax pmax
comp=Z,1µm,6.5s
TIY LR LR
comp=Z,2µm,14.0s
TIY LR LR
comp=Z,1µm,10.7s
TIY LR LR
comp=Z,5µm,16.4s
TEY **Ternei** **48.76 357** *eP* **P** **18 04 58.0 +1.1**
TEY pmax pmax
comp=N,1µm,3.0s
TEY pmax pmax
comp=Z,2µm,4.0s
TEY pmax pmax
comp=Z,32nm,0.7s
CRLZ **Canterbury Las** **48.84 149** *eP* **P** **18 04 58.1 +0.5**
comp=Z,374nm,1.5s
BFZ **Birch Farm** **48.92 144** *eP* **P** **18 04 58.7 +0.4**
comp=Z,176nm,0.9s
ODZ **Otahua Downs** **48.92 152** *eP* **P** **18 04 58.2 0.0**
comp=Z,95nm,1.3s
BJT **Baijiatuau** **48.93 335** *eP* **P** **18 04 58.3 0.0**
BJT pmax pmax
comp=Z,225nm,0.9s
BJT **Baijiatuau** **48.93 335** *eP* **P** **18 04 58.3 0.0**
comp=Z,225nm,0.9s
BJI **Beijing** **48.95 335**⇓*iP* **P** **18 04 58.9 +0.5**
BJI pP **pP** **18 05 15.5 -0.4**
BJI sP **sP** **18 05 23.1 -0.7**
BJI S **S** **18 11 58.0 +0.6**
BJI sS **sS** **18 12 23.5 -3.7**
BJI ScS **ScS** **18 14 44.6 +0.3**
BJI pmax pmax
comp=Z,320nm,1.1s
BJI pmax pmax
comp=Z,4µm,5.4s
BJI LR LR
comp=Z,5µm,23.7s
BJI LR LR
comp=Z,4µm,27.5s
MQZ **McQueen's Vall** **48.95 149** *eP* **P** **18 04 58.8 +0.4**
comp=Z,606nm,1.9s
CD2 **Chengdu** **49.05 317**⇓*iP* **P** **18 05 00.4 +0.9**
CD2 pP pP 18 05 17.4 +0.4
CD2 sP sP 18 05 25.3 +0.4
CD2 PcS **PcS** **18 10 19.4 +0.4**
CD2 S **S** **18 11 58.6 -0.8**
CD2 pmax pmax
comp=Z,250nm,0.9s
CD2 pmax pmax
comp=Z,4µm,6.3s
CD2 LR LR
comp=Z,4µm,20.6s
CD2 LR LR
comp=Z,5µm,20.6s
CD2 LR LR
comp=Z,7µm,14.0s
MDJ **Mudanjiang** **49.17 350** P **P** **18 04 59.3 -0.8**
MDJ pP pP 18 05 16.3 -1.3
MDJ sP sP 18 05 23.1 -2.4
MDJ PP **PP** **18 06 53.0 -1.5**
MDJ S **S** **18 11 59.1 -1.4**
MDJ sS sS 18 12 28.5 -1.7
MDJ ScS **ScS** **18 14 44.9 -0.7**
MDJ SS **SS** **18 15 32.3 -0.5**
MDJ pmax pmax
comp=Z,210nm,0.9s
MDJ pmax pmax
comp=Z,3µm,3.7s
MDJ LR LR
comp=Z,69µm,20.7s
MDJ LR LR
comp=Z,73µm,22.3s
MDJ LR LR
comp=Z,76µm,23.9s
MDJ **Mudanjiang** **49.17 350** *eP* **P** **18 05 00.4 +0.3**
comp=Z,153nm,0.8s
CN2 **Changchun** **49.26 346**⇓*iP* **P** **18 05 01.3 +0.6**
CN2 *e*sP sP 18 05 24.8 -1.3
CN2 *e*S **S** **18 12 02.8 +1.1**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,99µm,17.0s
CN2 LR LR
comp=Z,26µm,17.0s
CN2 LR LR
comp=Z,55µm,19.0s
KUR **Kuril'sk** **49.32 7***d iP* **P** **18 05 02.0 +0.9**
KUR S **S** **18 12 02.5 +0.1**
KUR pmax pmax
comp=Z,126nm,0.6s
KUR pmax pmax
comp=Z,3µm,8.6s
KUR MLR MLR
comp=Z,22µm,18.0s
PBA **Port Blair** **49.70 289** *eP* P 18 05 02.2 -2.4
DGPR **DIGLIPUR** **49.94 291** *eP* **P** **18 05 05.0 -1.3**
YSS **Yuzh-Sakhalins** **50.62 2**k *iP* **P** **18 05 10.9 -0.1**
YSS *e*PP **pP** **18 05 27.9 -0.7**
YSS *e* 18 06 27.3
YSS *e* 18 07 10.0
YSS *e*PPP PPP 18 08 11.0
YSS *e*S **S** **18 12 17.6 -2.9**
YSS *e* 18 12 40.6
YSS pmax pmax
comp=Z,160nm,0.9s
YSS pmax pmax
comp=N,80nm,0.8s
YSS pmax pmax
comp=Z,790nm,3.8s
YSS smax smax
comp=E,2µm,6.0s
YSS **Yuzh-Sakhalins** **50.62 2** *eP* **P** **18 05 11.1 +0.2**
comp=E,145nm,0.6s

NIUE	**Niue**	**50.91**	**111**	P		**P**	**18 05 13.7**	**0.0**
	baz=51,SNR=8.0								
HHC	**Hu-ho-hao-te**	**51.63**	**332**	*e*P		**P**	**18 05 20.3**	**+1.4**
HHC				pP		pP	18 05 35.9	-0.6
HHC				sP		sP	18 05 42.9	-1.5
HHC				PP		**PP**	**18 07 19.3**	**+2.2**
HHC				S		**S**	**18 12 38.4**	**+3.4**
HHC				sS		sS	18 13 03.3	-1.7
HHC				ScS		**ScS**	**18 15 01.6**	**-1.3**
HHC				SS		**SS**	**18 16 11.6**	**-0.7**
HHC				pmax	pmax				
	comp=E,140nm,1.2s								
HHC				pmax	pmax				
	comp=E,910nm,5.1s								
HHC				LR	LR				
	comp=E,23μm,18.6s								
HHC				LR	LR				
	comp=E,14μm,18.2s								
HHC				LR	LR				
	comp=E,11μm,16.3s								
MIDW	**Midway**	**51.73**	**49**	*e*P		**P**	**18 05 19.9**	**+0.2**
	comp=E,2μm,1.8s								
BTO	**Baotou**	**52.18**	**331**	*e*P		**P**	**18 05 22.3**	**-0.6**
BTO				pmax	pmax				
	comp=E,36nm,1.6s								
LZH	**Lanzhou**	**52.31**	**323**	⇓P		**P**	**18 05 25.5**	**+1.5**
LZH				pP		pP	18 05 43.3	+1.6
LZH				sP		sP	18 05 51.6	+2.0
LZH				PP		**PP**	**18 07 26.0**	**+2.7**
LZH				S		**S**	**18 12 45.5**	**+1.0**
LZH				sS		sS	18 13 15.0	+0.4
LZH				SS		**SS**	**18 16 24.0**	**+0.8**
LZH				pmax	pmax				
	comp=E,290nm,1.1s								
LZH				pmax	pmax				
	comp=E,3μm,5.7s								
LZH				LR	LR				
	comp=E,40μm,17.0s								
LZH				LR	LR				
	comp=E,34μm,15.5s								
LZH				LR	LR				
	comp=E,90μm,19.2s								
MCQ	**Macquarie Isla**	**52.75**	**166**	P		**P**	**18 05 29.0**	**+2.3**
	baz=53,SNR=3.7								
MCQ	**Macquarie Isla**	**52.75**	**166**	*e*P		**P**	**18 05 28.0**	**+1.2**
MCQ				pmax	pmax				
	comp=E,244nm,1.0s								
MCQ	**Macquarie Isla**	**52.75**	**166**	*e*P		**P**	**18 05 28.0**	**+1.2**
	comp=E,244nm,1.0s								
KLR	**Kul'dur**	**53.36**	**353**	P		**P**	**18 05 32.8**	**+1.4**
	comp=E,12nm,0.8s,baz=184,slow=3.8,SNR=324								
KLR				S		**S**	**18 12 58.9**	**+0.8**
	comp=E,0.2nm,0.9s,baz=253,slow=19,SNR=5.6								
KLR				PKPPKP		**P'P'df**	**18 35 54.4**	**+2.4**
	comp=E,0.3nm,1.0s,baz=69,slow=5.0,SNR=2.5								
KLR	**Kul'dur**	**53.36**	**353**	*d i*P		**P**	**18 05 32.2**	**+0.8**
JOHN	**Johnston Islan**	**53.64**	**66**	*e*P		**P**	**18 05 31.6**	**-2.4**
	comp=E,335nm,0.9s								
GRNR	**Gornyy**	**54.49**	**357**	⇓*i*P		**P**	**18 05 40.0**	**+0.4**
GRNR				pmax	pmax				
	comp=N,96nm,1.0s								
GRNR				pmax	pmax				
	comp=E,120nm,1.0s								
TYV	**Tymovskoe**	**54.52**	**2**	*e*P		**P**	**18 05 40.4**	**+0.7**
TYV				*e*S		**S**	**18 13 16.4**	**+2.8**
TYV				pmax	pmax				
	comp=Z,125nm,2.2s								
TYV				pmax	pmax				
	comp=Z,4μm,4.8s								
TYV				smax	smax				
	comp=E,4μm,8.4s								
TYV				smax	smax				
	comp=E,20nm,2.8s								
SHL	**Shillong**	**55.24**	**305**	⇓*i*P		**P**	**18 05 46.0**	**+0.3**
SHL				IAmb	IAmb		18 05 48.0		
	comp=Z,167nm,1.2s								
SHL				*i* S		**S**	**18 13 24.0**	**-0.6**
HIA	**Hailar**	**55.81**	**344**	*e*P		**P**	**18 05 49.3**	**+0.2**
HIA				pmax	pmax				
	comp=Z,222nm,1.0s								
HIA	**Hailar**	**55.81**	**344**	*e*P		**P**	**18 05 49.3**	**+0.2**
	comp=Z,222nm,1.0s								
SKR	**Severo-Kuril's**	**55.99**	**12**	*e*P		**P**	**18 05 51.1**	**+0.8**
SKR				pmax	pmax				
	comp=Z,3μm,5.2s								
SKR				pmax	pmax				
	comp=Z,466nm,1.1s								
NKL	**Nikolayevsk**	**56.77**	**0**	*i* P		**P**	**18 05 57.0**	**+1.2**
NKL				pmax	pmax				
	comp=N,64nm,1.0s								
NKL				pmax	pmax				
	comp=Z,210nm,1.0s								
NKL				pmax	pmax				
	comp=N,2μm,13.0s								
NKL				pmax	pmax				
	comp=Z,3μm,13.0s								
GTA	**Gaotai**	**56.89**	**323**	⇓P		**P**	**18 05 58.0**	**+0.9**
GTA				pP		pP	18 06 14.3	-0.8
GTA				sP		sP	18 06 21.6	-1.2
GTA				S		**S**	**18 13 44.3**	**-1.6**
GTA				sS		pS	18 14 10.6	+4.5
GTA				SS		**SS**	**18 17 31.3**	**-4.1**
GTA				pmax	pmax				
	comp=Z,140nm,1.1s								
GTA				pmax	pmax				
	comp=Z,1μm,5.9s								
GTA				LR	LR				
	comp=Z,26μm,18.1s								
GTA				LR	LR				
	comp=Z,12μm,18.5s								
GTA				LR	LR				
	comp=Z,28μm,19.5s								
LSA	**Lhasa**	**57.62**	**309**	P		**P**	**18 06 04.6**	**+1.7**
LSA	**Lhasa**	**57.62**	**309**	*e*P		**P**	**18 06 04.2**	**+1.3**
LSA				pmax	pmax				
	comp=Z,493nm,1.9s								
LSA	**Lhasa**	**57.62**	**309**	*e*P		**P**	**18 06 04.2**	**+1.3**
	comp=Z,493nm,1.9s								
LSA	**Lhasa**	**57.62**	**309**	P		**P**	**18 06 03.6**	**+0.7**
ZEA	**Zeya**	**58.39**	**351**	*de*P		**P**	**18 06 08.3**	**+1.1**
ZEA				pmax	pmax				
	comp=N,270nm,1.4s								
ZEA				pmax	pmax				
	comp=Z,470nm,1.4s								
ZEA				pmax	pmax				
	comp=Z,2μm,7.0s								
ZEA				pmax	pmax				
	comp=N,1μm,6.0s								
ZEA				pmax	pmax				
	comp=Z,3μm,7.0s								
ZEA				pmax	pmax				
	comp=N,2μm,6.0s								
ZEA				pmax	pmax				
	comp=Z,2μm,10.0s								
ZEA				pmax	pmax				
	comp=N,800nm,8.0s								
ZEA				MLR	MLR				
	comp=Z,280μm,16.0s								
PEA0B	**Petropavlovsk-**	**58.60**	**12**	*e*P		**P**	**18 06 09.6**	**+0.9**
	comp=Z,230nm,1.0s								
PETK	**Petropavlovsk-**	**58.60**	**12**	P		**P**	**18 06 09.4**	**+0.7**
	comp=Z,132nm,0.8s,baz=176,slow=5.9,SNR=93								
PETK	**Petropavlovsk-**	**58.60**	**12**	P		**P**	**18 06 09.5**	**+0.7**
PETK				pmax	pmax				
	comp=Z,134nm,0.8s								
PETK	**Petropavlovsk-**	**58.60**	**12**	*e*P		**P**	**18 06 09.3**	**+0.6**
PEA1	**Petropavlovsk-**	**58.61**	**12**	*e*P		**P**	**18 06 09.4**	**+0.7**
PET	**Petropavlovsk**	**58.73**	**13**	*κ i*P		**P**	**18 06 10.1**	**+0.5**
PET				*e*			18 06 58.4		
PET				*e*			18 08 28.9		
PET				*e*S		**S**	**18 14 09.0**	**-0.2**
PET				pmax	pmax				
	comp=Z,167nm,0.9s								
PET				pmax	pmax				
	comp=Z,2μm,5.4s								
PET				pmax	pmax				
	comp=Z,3μm,14.4s								
PET	**Petropavlovsk**	**58.73**	**13**	*e*P		**P**	**18 06 09.8**	**+0.3**
	comp=Z,131nm,0.9s								
TAPN	**Taplejung**	**59.38**	**305**	*e*P		**P**	**18 06 15.9**	**+0.9**
SONA0	**Songino Array**	**59.40**	**334**	*e*P		**P**	**18 06 15.4**	**+1.0**
SONA0				*e*S		**S**	**18 14 19.1**	**+0.8**
SONA0				⇑*e*			18 35 55.2		
SONM	**Songino Array**	**59.40**	**334**	P		**P**	**18 06 15.4**	**+1.0**
	comp=Z,30nm,0.8s,baz=154,slow=8.2,SNR=168								
SONM				S		**S**	**18 14 19.1**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=22,slow=1.6,SNR=2.4								
SONM				PKP2bc			18 35 55.2		
	comp=Z,25nm,0.9s,baz=305,slow=2.1,SNR=24								
SONA1	**Songino Array**	**59.40**	**334**	*e*P		**P**	**18 06 15.1**	**+0.5**
ODAN	**Odare**	**59.46**	**304**	*e*P		**P**	**18 06 16.5**	**+1.0**
	comp=Z,328nm,1.0s								
BOK	**Bokaro**	**59.62**	**300**	*e*P		**P**	**18 06 15.6**	**-0.8**
VIS	**Vishakhapatnam**	**60.08**	**293**	*i* P		**P**	**18 06 20.2**	**+0.6**
VIS				IAmb	IAmb		18 06 21.4		
	comp=Z,162nm,1.2s								
VIS				*i* S		**S**	**18 14 28.7**	**+0.9**
CIT	**Chita**	**60.09**	**341**	*e*P		**P**	**18 06 20.8**	**+1.7**
CIT				*e*			18 07 09.9		
CIT				*e*S		**S**	**18 14 30.6**	**+3.6**
CIT				pmax	pmax				
	comp=Z,1μm,1.9s								
RAMN	**Ramite**	**60.15**	**304**	*e*P		**P**	**18 06 21.4**	**+1.2**
	comp=Z,626nm,1.4s								
PALK	**Pallekele**	**60.45**	**281**	P		**P**	**18 06 24.1**	**+1.9**
	comp=Z,48nm,1.0s,baz=115,slow=6.2,SNR=31								
PALK				PKP2bc			18 35 52.3		
	comp=Z,18nm,1.1s,baz=294,slow=1.9,SNR=3.9								
PALK	**Pallekele**	**60.45**	**281**	*e*P		**P**	**18 06 23.4**	**+1.1**
	comp=Z,74nm,1.0s								
PALK				⇑*e*			18 35 52.2		
PALK	**Pallekele**	**60.45**	**281**	P		**P**	**18 06 23.9**	**+1.7**
	SNR=17								
PALK	**Pallekele**	**60.45**	**281**	P		**P**	**18 06 23.9**	**+1.7**
	SNR=17								
PALK	**Pallekele**	**60.45**	**281**	*i* P		**P**	**18 06 23.5**	**+1.2**
	SNR=16								
RAR	**Rarotonga**	**60.67**	**112**	P		**P**	**18 06 24.6**	**+1.1**
	comp=Z,148nm,0.9s,baz=243,slow=9.0,SNR=15								
RAR	**Rarotonga**	**60.67**	**112**	*e*P		**P**	**18 06 24.1**	**+0.6**
	comp=Z,430nm,1.1s								
JIRN	**Jiri**	**60.75**	**305**	*e*P		**P**	**18 06 25.4**	**+1.0**
GUN	**Gumba**	**61.10**	**305**	*e*P		**P**	**18 06 28.0**	**+1.2**
	comp=Z,928nm,1.5s								
PKI	**Pulchoki**	**61.36**	**304**	*e*P		**P**	**18 06 29.4**	**+0.9**
	comp=Z,316nm,1.4s								
PKIN	**Phulchoki**	**61.37**	**304**	*e*P		**P**	**18 06 29.6**	**+1.1**
KKN	**Kakani**	**61.55**	**304**	*e*P		**P**	**18 06 30.7**	**+1.1**
	comp=Z,536nm,1.4s								
DMN	**Daman**	**61.62**	**304**	*e*P		**P**	**18 06 31.3**	**+1.1**
	comp=Z,717nm,1.4s								
CLNS	**Chul'man**	**61.75**	**350**	*e*P		**P**	**18 06 31.2**	**+1.0**
CLNS				*e**PP		**pP**	**18 06 44.9**	**-3.4**
CLNS				*e*			18 07 12.0		
CLNS				*e*			18 08 44.5		
CLNS				*e*S		**S**	**18 14 49.7**	**+1.8**
CLNS				*e*			18 16 21.6		
CLNS				*e*SS		**SS**	**18 18 48.1**	**-2.8**
CLNS				pmax	pmax				
	comp=Z,152nm,1.2s								
CLNS				pmax	pmax				
	comp=N,71nm,1.0s								
CLNS				pmax	pmax				
	comp=E,31nm,0.9s								
CLNS				pmax	pmax				
	comp=Z,34nm,1.2s								
CLNS				pmax	pmax				
	comp=N,58nm,1.1s								
CLNS				pmax	pmax				
	comp=E,39nm,1.1s								
CLNS				smax	smax				
	comp=N,478nm,11.0s								
CLNS				smax	smax				
	comp=E,2μm,11.3s								
CLNS				MLR	MLR				
	comp=Z,10μm,13.0s								
CLNS				MLR	MLR				
	comp=N,52μm,15.0s								
CLNS				MLR	MLR				
	comp=E,25μm,18.0s								
MDRS	**Chennai**	**61.90**	**287**	*e*P		**P**	**18 06 32.1**	**+0.1**
MDRS				IAmb	IAmb		18 06 33.5		
	comp=Z,223nm,1.8s								
GKN	**Gorkha**	**62.15**	**304**	*e*P		**P**	**18 06 35.6**	**+1.9**
XMAS	**Kiritimati**	**62.53**	**86**	*e*P		**P**	**18 06 36.7**	**+0.5**
	comp=Z,384nm,1.3s								
ZAK	**Zakamensk**	**62.66**	**334**	*e*P		**P**	**18 06 37.1**	**+0.6**
ZAK				*e*			18 14 59.5		
ZAK				pmax	pmax				
	comp=Z,307nm,1.3s								
ZAK				pmax	pmax				
	comp=Z,140nm,1.4s								
KOLN	**Koldanda**	**62.93**	**304**	*e*P		**P**	**18 06 40.0**	**+1.1**
	comp=Z,728nm,1.4s								
DANN	**Dangsing**	**63.00**	**304**	*e*P		**P**	**18 06 41.2**	**+1.7**
SMY	**Shemya**	**63.17**	**22**	*e*P		**P**	**18 06 40.4**	**+0.7**
SMY				pmax	pmax				
	comp=Z,652nm,1.0s								
SMY	**Shemya**	**63.17**	**22**	*e*P		**P**	**18 06 40.4**	**+0.7**
	comp=Z,652nm,1.0s								
TLY	**Talaya**	**63.47**	**335**	P		**P**	**18 06 44.0**	**+2.2**
	comp=Z,117nm,0.8s,baz=181,slow=8.5,SNR=91								
TLY				PKP2bc			18 35 43.8		
	comp=Z,16nm,0.9s,baz=239,slow=1.4,SNR=6.2								
TLY	**Talaya**	**63.47**	**335**	*d i*P		**P**	**18 06 42.4**	**+0.6**
TLY				*e*S		**S**	**18 15 13.4**	**+3.8**
TLY				pmax	pmax				
	comp=Z,292nm,1.1s								
TLY	**Talaya**	**63.47**	**335**	*e*P		**P**	**18 06 42.8**	**+1.0**
	comp=Z,215nm,0.9s								
TLY				⇑*e*			18 35 43.8		
TLY	**Talaya**	**63.47**	**335**	P		**P**	**18 06 43.4**	**+1.7**
	SNR=89								
TLY	**Talaya**	**63.47**	**335**	P		**P**	**18 06 43.4**	**+1.7**
	SNR=89								
PYUN	**Piuthan**	**63.55**	**304**	*e*P		**P**	**18 06 43.8**	**+0.8**
	comp=Z,1μm,1.2s								
IRK	**Irkutsk**	**63.64**	**336**	⇓*i*P		**P**	**18 06 43.4**	**+0.6**
IRK				*e*S		**S**	**18 15 14.3**	**+2.7**
IRK				pmax	pmax				
	comp=Z,519nm,2.6s								
MA2	**Magadan**	**63.76**	**6**	P		**P**	**18 06 44.6**	**+1.1**
	comp=Z,136nm,0.8s,baz=179,slow=6.1,SNR=234								
MA2				PKPPKP		**P'P'df**	**18 35 41.2**	**+5.2**
	comp=Z,2.4nm,0.5s,baz=45,slow=5.7,SNR=6.8								
MA2	**Magadan**	**63.76**	**6**	*ce*P		**P**	**18 06 44.0**	**+0.5**
SRLM	**Srisailam**	**63.82**	**290**	*e*P		**P**	**18 06 45.0**	**+0.3**
SRLM				IAmb	IAmb		18 06 46.2		
	comp=Z,51nm,0.8s								
SRLM				*e*S		**S**	**18 15 14.9**	**-0.2**
KEKH	**Kekaha**	**64.03**	**63**	*e*P		**P**	**18 06 47.1**	**+1.1**
	comp=Z,352nm,1.0s								
RPR	**Rampur**	**64.07**	**293**	*e*P		**P**	**18 06 46.7**	**+0.4**
RPR				IAmb	IAmb		18 06 48.2		
	comp=Z,193nm,1.6s								
RPR				*e*S		**S**	**18 15 18.9**	**+0.8**
TRD	**Trivandrum**	**64.30**	**281**	*e*P		**P**	**18 06 47.4**	**-0.5**
HYB	**Hyderabad**	**64.42**	**291**	*i* P		**P**	**18 06 48.0**	**-0.7**
	comp=Z,73nm,0.8s								
HYB				*e*S		**S**	**18 15 28.0**	**+5.4**
HYB				*e*ScS		**SKSac**	**18 16 32.0**	**-5.4**
HYB	**Hyderabad**	**64.42**	**291**	*e*P		**P**	**18 06 46.6**	**-2.1**
HYB				IAmb	IAmb		18 06 48.9		
	comp=Z,3μm,4.5s								
HYBB	**Hyderabad (bro**	**64.42**	**291**	*e*P		**P**	**18 06 48.8**	**+0.1**
HYBB				IAmb	IAmb		18 06 50.1		
	comp=Z,40nm,0.7s								
HYBB				*e*S		**S**	**18 15 21.9**	**-0.7**
MOY	**Mondy**	**64.59**	**334**	*e*P		**P**	**18 06 50.6**	**+1.4**
MOY				pmax	pmax				
	comp=Z,641nm,2.4s								
NGP	**Nagpur**	**64.87**	**295**	*e*P		**P**	**18 06 51.4**	**-0.1**
NGP				IAmb	IAmb		18 06 53.4		
SRSP	**Sriramsagar**	**64.97**	**293**	*e*P		**P**	**18 06 52.1**	**0.0**
SRSP				IAmb	IAmb		18 06 53.7		
	comp=Z,192nm,1.5s								
SRSP				*e*S		**S**	**18 15 28.7**	**-0.5**
BOD	**Bodaibo**	**64.99**	**345**	*e*P		**P**	**18 06 51.9**	**+0.4**
BOD				pmax	pmax				
	comp=Z,416nm,1.5s								
HON	**Honolulu**	**65.39**	**65**	*e*P		**P**	**18 06 56.2**	**+1.4**
HON	**Honolulu**	**65.39**	**65**	*e*P		**P**	**18 06 56.2**	**+1.4**
KIP	**Kipapa**	**65.40**	**64**	*e*P		**P**	**18 06 56.2**	**+1.3**
KIP				pmax	pmax				
	comp=Z,876nm,0.9s								
KIP	**Kipapa**	**65.40**	**64**	*e*P		**P**	**18 06 56.1**	**+1.3**
	comp=Z,876nm,0.9s								
KNGR	**Kungurtug, Tuv**	**65.43**	**332**	*i* P		**P**	**18 06 56.3**	**+1.6**
OPA	**Opana**	**65.47**	**64**	*e*P		**P**	**18 06 56.8**	**+1.4**
OPA				pmax	pmax				
	comp=Z,584nm,1.1s								
OPA	**Opana**	**65.47**	**64**	*e*P		**P**	**18 06 56.8**	**+1.4**
	comp=Z,584nm,1.1s								
CASY	**Casey**	**65.72**	**193**	*e*P		**P**	**18 06 56.3**	**+0.2**
	comp=Z,256nm,1.1s								
YAK	**Yakutsk**	**66.18**	**355**	P		**P**	**18 06 59.4**	**+0.3**
	comp=Z,157nm,0.7s,baz=17,slow=1.6,SNR=168								
YAK				S		**S**	**18 15 44.9**	**+2.5**
	comp=Z,3.7nm,0.3s,baz=251,slow=23,SNR=24								
YAK				PKPPKP		**P'P'df**	**18 35 33.4**	**+1.4**
	comp=Z,2.7nm,0.3s,baz=302,slow=1.3,SNR=5.2								
YAK	**Yakutsk**	**66.18**	**355**	*d i*P		**P**	**18 06 59.6**	**+0.5**
YAK				*e*			18 07 27.8		
YAK				*e*			18 09 28.0		
YAK				*e*S		**S**	**18 15 44.2**	**+1.8**
YAK				*e**SS		**sS**	**18 16 18.1**	**+4.7**
YAK				*e*			18 16 46.6		
YAK				pmax	pmax				
	comp=Z,249nm,1.0s								
YAK				pmax	pmax				
	comp=N,103nm,1.2s								
YAK				pmax	pmax				
	comp=E,13nm,1.1s								
YAK				pmax	pmax				
	comp=Z,300nm,2.0s								
YAK				pmax	pmax				
	comp=N,246nm,1.9s								
YAK				pmax	pmax				
	comp=E,224nm,2.0s								
YAK				smax	smax				
	comp=E,2μm,2.3s								
YAK				smax	smax				
	comp=N,321nm,1.8s								
YAK				MLR	MLR				
	comp=Z,41μm,24.0s								
YAK				MLR	MLR				
	comp=N,36μm,20.0s								
YAK				MLR	MLR				
	comp=E,37μm,21.0s								
YAK	**Yakutsk**	**66.18**	**355**	*e*P		**P**	**18 06 59.2**	**+0.1**
	comp=E,2μm,1.8s								
YAK				*e*S		**S**	**18 15 43.3**	**+0.9**
YAK				P'P'			18 35 33.4		
KLRI	**Killari**	**66.38**	**291**	*e*P		**P**	**18 07 01.2**	**-0.2**
KLRI				IAmb	IAmb		18 07 02.0		
	comp=Z,42nm,0.9s								
KLRI				*e*S		**S**	**18 15 45.4**	**-1.2**
KHLH	**Kahului Airpor**	**66.70**	**65**	*e*P		**P**	**18 07 04.4**	**+1.2**
	comp=Z,955nm,1.0s								
HLK	**Haleakala**	**66.83**	**66**	*e*P		**P**	**18 07 04.7**	**+0.2**
	comp=Z,702nm,1.1s								
WMQ	**Urumqi**	**66.85**	**321**	P		**P**	**18 07 04.8**	**+0.9**
WMQ				pP		pP	18 07 18.5	-3.7
WMQ				sP		sP	18 07 30.5	+0.6
WMQ				ScP			18 11 27.1		
WMQ				S		**S**	**18 15 49.5**	**-1.9**
WMQ				SS		**SS**	**18 20 05.8**	**-5.1**
WMQ				pmax	pmax				
	comp=Z,330nm,0.9s								
WMQ				pmax	pmax				
	comp=Z,2μm,5.7s								
WMQ				LR	LR				
	comp=Z,41μm,13.3s								
BHPL	**Bhopal**	**66.86**	**297**	*e*P		**P**	**18 07 03.8**	**-0.5**
BHPL				IAmb	IAmb		18 07 05.6		
	comp=Z,944nm,2.7s								
KHLU	**Kahalu'u**	**66.89**	**67**	*e*P		**P**	**18 07 05.0**	**+0.4**
	comp=Z,776nm,1.0s								
HUH	**Hualalai**	**66.96**	**67**	*e*P		**P**	**18 07 05.4**	**+0.1**
MWH	**Moku'aweowe**	**67.13**	**67**	*e*P		**P**	**18 07 07.2**	**+0.5**
HPAH	**Hawaii Prepara**	**67.17**	**67**	*e*P		**P**	**18 07 06.7**	**+0.3**
	comp=Z,477nm,1.0s								
MLOA	**Mauna Loa Obse**	**67.17**	**67**	*e*P		**P**	**18 07 07.2**	**+0.4**
	comp=Z,596nm,1.0s								
SEY	**Seymchan**	**67.22**	**6**	P		**P**	**18 07 06.4**	**+0.7**
	comp=Z,67nm,0.9s,baz=182,slow=5.1,SNR=260								
AIN	**Ainahou**	**67.24**	**67**	*e*P		**P**	**18 07 07.5**	**+0.6**
POHA	**Pohakuloa**	**67.25**	**67**	*e*P		**P**	**18 07 08.0**	**+0.9**
	comp=Z,799nm,0.9s								
HMH	**Humu'ula Sheep**	**67.27**	**67**	*e*P		**P**	**18 07 08.5**	**+1.3**
MLH	**Mauna Loa**	**67.33**	**67**	*e*P		**P**	**18 07 09.1**	**+1.5**
MLH	**Mauna Loa**	**67.33**	**67**	*e*P		**P**	**18 07 09.1**	**+1.5**
WRMHI	**West Rim**	**67.39**	**67**	*e*P		**P**	**18 07 08.2**	**+0.4**
SDHHI	**Sand Hill**	**67.39**	**67**	*e*P		**P**	**18 07 07.6**	**-0.3**
UWE	**Uwekahuna**	**67.40**	**67**	*e*P		**P**	**18 07 08.1**	**+0.1**
	comp=Z,933nm,1.4s								
OBL	**Observatory Le**	**67.41**	**67**	*e*P		**P**	**18 07 07.4**	**-0.5**
NPH	**North Pit**	**67.41**	**67**	*e*P		**P**	**18 07 07.0**	**-0.9**
NPH				pmax	pmax				
	comp=Z,2μm,2.0s								
NPH	**North Pit**	**67.41**	**67**	*e*P		**P**	**18 07 07.0**	**-0.9**
	comp=Z,2μm,2.0s								
RIM	**Rim**	**67.41**	**67**	*e*P		**P**	**18 07 06.0**	**-2.0**
UWB	**Uwekahuna B**	**67.41**	**67**	*e*P		**P**	**18 07 06.8**	**-1.2**
KKO	**Keanakako'i**	**67.42**	**67**	*e*P		**P**	**18 07 07.0**	**-1.1**
SBLHI	**Steaming Bluff**	**67.42**	**67**	*e*P		**P**	**18 07 07.2**	**-0.8**
BYL	**Byron's Ledge**	**67.43**	**67**	*e*P		**P**	**18 07 07.0**	**-1.1**
PUH	**Pauahi**	**67.46**	**67**	*e*P		**P**	**18 07 08.7**	**+0.4**
DGAR	**Diego Garcia**	**67.53**	**264**	⇑*i*P		**P**	**18 07 08.0**	**-0.6**
DGAR	**Diego Garcia**	**67.53**	**264**	*e*P		**P**	**18 07 09.6**	**+1.0**
	comp=Z,2μm,1.3s								
DGAR	**Diego Garcia**	**67.53**	**264**	P		**P**	**18 07 11.1**	**+2.5**
	SNR=5.2								
DGAR	**Diego Garcia**	**67.53**	**264**	P		**P**	**18 07 11.1**	**+2.5**
	SNR=5.2								
STCH	**Steam Cracks**	**67.55**	**67**	*e*P		**P**	**18 07 09.8**	**+1.0**
NPOC	**North of Pu'u**	**67.56**	**67**	*e*P		**P**	**18 07 09.7**	**+0.9**
JCUZ	**Jacuzzi**	**67.57**	**67**	*e*P		**P**	**18 07 09.9**	**+1.0**
HVS	**Khovu-Aksy**	**67.62**	**330**	*i* P		**P**	**18 07 09.9**	**+1.3**
HVS				pmax	pmax				
	comp=Z,355nm,1.0s								
HULD	**Heiheiahulu Di**	**67.69**	**67**	*e*P		**P**	**18 07 09.9**	**+0.3**
DDI	**Dehra Dun**	**68.35**	**305**	*e*P		**P**	**18 07 12.9**	**-0.7**
DDI				IAmb	IAmb		18 07 15.9		
	comp=Z,2μm,2.4s								
DDI	**Dehra Dun**	**68.35**	**305**	*e*P		**P**	**18 07 14.0**	**+0.4**
GOA	**Goa**	**68.47**	**288**	*e*P		**P**	**18 07 14.4**	**-0.2**
H08N1	**Diego Garcia H**	**68.98**	**265**	P		**P**	**18 07 16.7**	**-0.6**
H08N2	**Diego Garcia H**	**69.00**	**265**	P		**P**	**18 07 16.8**	**-0.6**
H08N3	**Diego Garcia H**	**69.00**	**265**	P		**P**	**18 07

comp=Z,506nm,1.1s
MAKZ Makanchi 71.82 322 *e*P **P 18 07 34.8 +0.3**
MAKZ eS **S 18 16 46.3 -3.4**
MAKZ pmax pmax
comp=Z,271nm,0.9s
MAKZ Makanchi 71.82 322 *e*P **P 18 07 34.8 +0.3**
comp=Z,271nm,0.9s
MAKZ eS **S** 18 16 46.3 -3.4
UZB Uzynbulak 72.18 318⇓*i*P **P 18 07 37.9 +1.0**
comp=Z,2µm,1.2s
UZB *i* S **S 18 16 56.0 +1.8**
TARG Taragay, Kyrgy 72.46 316 *e*P **P 18 07 39.6 +0.7**
comp=Z,100nm,0.9s
UNV Unalaska Valle 72.52 30 *e*P **P 18 07 38.5 +0.1**
comp=Z,638nm,1.5s
KPKS Kokpek 72.53 318 *i* P **P 18 07 40.5 +1.6**
comp=Z,283nm,1.5s
KPKS *i* S **S 18 16 59.9 +1.8**
SATY Saty 72.56 317⇓*i*P **P 18 07 40.3 +1.2**
comp=Z,4µm,1.2s
SATY *i* S **S 18 17 00.6 +2.1**
KSH Kashi 72.98 313 P **P 18 07 44.0 +2.3**
KSH pmax pmax
comp=Z,180nm,1.1s
KSH pmax pmax
comp=Z,1µm,4.0s
AKUT Akutan 73.04 30 *e*P **P 18 07 41.5 0.0**
comp=Z,1µm,1.6s
KDJ Kajisay 73.05 316 *e*P **P 18 07 43.0 +1.0**
comp=Z,156nm,0.8s
TDK Taldyqorghan 73.32 319 *i* P **P 18 07 44.6 +1.2**
comp=Z,5µm,1.1s
TDK *i* S **SKiKP 18 17 09.0 +0.4**
MDOK Medeo 73.52 317 *i* P **P 18 07 46.1 +1.3**
comp=Z,2µm,0.9s
MDOK *i* S **S 18 17 11.8 +2.3**
AAA Alma-Ata 73.62 317 *e*P **P 18 07 46.5 +1.2**
AAA eS **S 18 17 12.4 +1.9**
AAA pmax pmax
comp=Z,1µm,5.0s
AAA smax smax
comp=N,2µm,14.0s
AAA Alma-Ata 73.62 317 *i* P **P 18 07 46.8 +1.5**
comp=N,1µm,1.1s
AAA *i* S **S 18 17 12.9 +2.4**
ZAA0 Zalesovo Array 73.68 330 *e*P **P 18 07 44.2 -1.1**
comp=N,122nm,0.9s
ZALV Zalesovo Beam 73.68 330 P **P 18 07 44.9 -0.4**
comp=N,72nm,0.7s,baz=111,slow=5.7,SNR=343
ZALV S **SKiKP 18 17 08.5 -0.3**
comp=N,5.9nm,1.1s,baz=142,slow=7.5,SNR=4.6
ZALV PKPPKP **P'P'df 18 35 18.6 -1.5**
comp=N,3.8nm,0.9s,baz=285,slow=2.3,SNR=4.2
ZALV Zalesovo Beam 73.68 330 *e*P **P 18 07 44.2 -1.1**
ZALV eS **SKiKP 18 17 05.7 -3.1**
ZALV Zalesovo Beam 73.68 330 *e*P **P 18 07 44.2 -1.1**
ZALV eS **SKiKP 18 17 05.7 -3.1**
ZALV P'P' 18 35 18.6
ZAA1 Zalesovo Array 73.68 330 *e*P **P 18 07 44.9 -0.4**
ZAA1 eS **SKiKP 18 17 08.5 -0.3**
ZAA1 *e*P'P'df **P'P'df 18 35 18.6 -1.5**
ULHL Ulahol 73.74 316 P **P 18 07 48.1 +1.9**
SNR=5.8
BHJ Bhuj 73.82 295 *e*P **P 18 07 47.2 +0.5**
BHJ lAmb lAmb 18 07 50.9
comp=Z,8µm,3.6s
BILL Bilibino 73.99 10*d i*P **P 18 07 46.7 -0.1**
BILL *i* 18 07 53.2
BILL *i* 18 08 01.1
BILL *i* 18 10 30.1
BILL pmax pmax
comp=Z,61nm,1.0s
KUU Kurty 74.26 318⇓*i*P **P 18 07 49.8 +0.9**
comp=Z,1µm,1.1s
KUU *i* S **S 18 17 19.2 +1.6**
KZA Kyzart 74.37 316 P **P 18 07 52.0 +1.8**
SNR=319
TKM2 Tokmak 2 74.42 316 P **P 18 07 51.3 +1.1**
SNR=164
BMNS Besmoynak 74.44 317⇓*i*P **P 18 07 51.1 +1.0**
comp=Z,2µm,1.1s
BMNS *i* S **S 18 17 21.6 +1.8**
SEM Semipalatinsk 74.45 325⇓*i*P **P 18 07 49.8 -0.4**
comp=Z,1µm,1.4s
SEM *i* S **S 18 17 17.5 -2.3**
VNDA Vanda 74.53 175 P **P 18 07 50.1 +0.2**
comp=Z,37nm,0.8s,baz=20,slow=1.4,SNR=12
VNDA SKKP 18 30 32.6
comp=Z,1.0nm,0.3s,baz=10,slow=3.7,SNR=8.8
VNDA Vanda 74.53 175 *e*P **P 18 07 49.7 -0.1**
VNDA *e*PcP **P 18 07 50.1 +0.2**
VNDA SKKP 18 30 32.6
FALS False Pass 74.59 30 *e*P **P 18 07 51.1 +0.5**
comp=Z,368nm,1.0s
KBK Karagaybulak 74.78 316 P **P 18 07 53.3 +1.1**
SNR=103
NVS Novosibirsk 74.93 330⇓*i*P **P 18 07 53.9 +1.4**
NVS *i* S **S 18 17 20.0 -4.5**
NVS pmax pmax
comp=Z,448nm,1.4s
NVS pmax pmax
comp=N,126nm,1.5s
NVS pmax pmax
comp=E,210nm,1.3s
NVS pmax pmax
comp=Z,153nm,2.0s
NVS pmax pmax
comp=N,58nm,1.8s
NVS pmax pmax
comp=E,115nm,2.1s
NVS smax smax
comp=N,28nm,1.3s
NVS smax smax
comp=E,70nm,1.8s
UCH Uchtor 74.94 315 P **P 18 07 54.9 +1.4**
SNR=187
CHMS Chumysh 75.03 316 P **P 18 07 54.0 +0.6**
SNR=79
FRU Bishkek 75.07 316⇓*i*P **P 18 07 54.0 +0.3**
FRU *e* 18 08 07.0
FRU eS **S 18 17 28.0 +1.4**
FRU pmax pmax
comp=Z,260nm,2.1s
AAK Ala-Archa 75.09 316 P **P 18 07 55.1 +1.2**
comp=Z,56nm,1.1s,baz=134,slow=6.7,SNR=135
AAK Ala-Archa 75.09 316 P **P 18 07 55.2 +1.2**
SNR=64
AAK Ala-Archa 75.09 316 *e*P **P 18 07 54.9 +1.0**
comp=Z,168nm,1.4s
AAK Ala-Archa 75.09 316 P **P 18 07 55.3 +1.4**
SNR=40
AAK Ala-Archa 75.09 316 P **P 18 07 55.3 +1.4**
SNR=40
AAK Ala-Archa 75.09 316 *i* P **P 18 07 54.7 +0.8**
SNR=94
SBA Scott Base 75.28 174 *e*P **P 18 07 55.7 +1.5**
SBA pmax pmax
comp=Z,233nm,1.6s
SBA Scott Base 75.28 174 *e*P **P 18 07 55.7 +1.5**
comp=Z,233nm,1.6s
USP Ospenovka 75.30 316 P **P 18 07 56.1 +1.1**
SNR=131
AML Almayashu 75.48 315 P **P 18 07 57.9 +1.4**
SNR=204
KURK Kurchatov 75.52 325*d i*P **P 18 07 56.4 +0.4**
KURK pmax pmax
comp=Z,201nm,1.0s
KURK Kurchatov 75.52 325 *e*P **P 18 07 56.2 +0.2**
comp=Z,226nm,0.9s
KURK Kurchatov 75.52 325 P **P 18 07 56.8 +0.8**
SNR=98
KURK Kurchatov 75.52 325 P **P 18 07 56.8 +0.8**
SNR=98
KURBB Kurchatov Arra 75.53 325 P **P 18 07 56.9 +0.9**
comp=Z,106nm,0.8s,baz=114,slow=4.2,SNR=630
EKS2 Erkin-Say 75.59 316 P **P 18 07 58.1 +1.4**
SNR=80
TIXI Tiksi 75.71 356 P **P 18 07 56.0 -0.6**
comp=Z,74nm,0.7s,baz=186,slow=4.2,SNR=194
TIXI Tiksi 75.71 356*d i*P **P 18 07 55.9 -0.7**
TIXI pmax pmax
comp=Z,99nm,0.8s
TIXI Tiksi 75.71 356 *e*P **P 18 07 55.6 -1.0**
comp=Z,82nm,0.7s
BTLS Baital 76.20 318⇓*i*P **P 18 08 00.9 +0.8**
comp=Z,2µm,0.9s
BTLS *i* S **S 18 17 39.4 +0.4**
GAMB Gambell 76.30 20 *e*P **P 18 08 00.6 +0.4**
comp=Z,145nm,1.1s
SDPT Sand Point 76.30 30 *e*P **P 18 08 00.5 +0.2**
comp=Z,2µm,1.5s
KBL Kabul 76.84 307 *e*P **P 18 08 04.0 -0.2**
KBL pmax pmax
comp=Z,73nm,0.8s
KBL Kabul 76.84 307 *e*P **P 18 08 04.0 -0.2**
comp=Z,73nm,0.8s
DZA Taraz 77.38 315⇓*e*P **P 18 08 07.8 +1.1**
comp=Z,2µm,1.0s
DZA eS **S 18 17 52.8 +0.8**
CHGN Chignik 77.78 30 *e*P **P 18 08 08.6 +0.1**
comp=Z,213nm,1.0s
KK31 Karatay Array 78.01 315*ce*P **P 18 08 10.8 +0.5**
KK31 pmax pmax
comp=Z,74nm,0.8s
KKAR Karatay Array 78.01 315 *e*P **P 18 08 10.1 -0.2**
KKAR Karatay Array 78.01 315 *e*P **P 18 08 10.1 -0.2**
IUG Iuzhnay 78.08 314⇓*i*P **P 18 08 11.8 +1.0**
comp=Z,2µm,0.9s
IUG *i* S **S 18 18 01.6 +1.9**
CHM Chimkent 78.43 314⇓*i*P **P 18 08 13.8 +1.2**
comp=Z,3µm,1.0s
CHM *i* S **S 18 18 05.4 +2.1**
BRLS Borolday 78.47 315⇓*i*P **P 18 08 14.0 +1.2**
comp=Z,53nm,1.0s
BRLS eS **S 18 18 06.0 +2.4**
BRZS Berezniki 78.76 323 *i* P **P 18 08 15.5 +1.3**
comp=Z,180nm,0.9s
BRZS *i* S **S 18 18 06.6 +0.1**
TAOE Nuku Hiva Isla 79.14 98 *e*P **P 18 08 16.1 -1.0**
comp=Z,424nm,1.6s
OHAK Old Harbor 80.73 30 *e*P **P 18 08 25.0 +0.3**
comp=Z,1µm,1.6s
BVA0 Borovoye Array 81.11 325 *i* P **P 18 08 27.4 +0.5**
BVA0 pmax pmax
comp=Z,304nm,0.8s
BVAR Borovoye Array 81.11 325 P **P 18 08 27.2 +0.4**
comp=Z,237nm,0.7s,baz=112,slow=7.1,SNR=1034
BVAR PKKPbc **PKKPbc 18 27 05.2 -0.2**
comp=Z,2.8nm,0.7s,baz=289,slow=4.4,SNR=8.0
BVAR PKPPKP **P'P'df 18 35 11.0 +3.9**
comp=Z,2.1nm,0.8s,baz=264,slow=2.8,SNR=4.1
SVW2 Sparrevohn 81.18 26 *e*P **P 18 08 27.6 +0.5**
comp=Z,382nm,1.4s
BRVK Borovoye 81.19 325 *e*P **P 18 08 27.7 +0.5**
BRVK pmax pmax
comp=Z,305nm,0.8s
BRVK Borovoye 81.19 325 *e*P **P 18 08 27.7 +0.5**
comp=Z,305nm,0.8s
BRVK Borovoye 81.19 325 P **P 18 08 28.3 +1.1**
SNR=119
BRVK Borovoye 81.19 325 P **P 18 08 28.3 +1.1**
SNR=119
NRIK Noril'sk 81.23 343 P **P 18 08 28.1 +0.9**
comp=Z,143nm,1.0s,baz=149,slow=1.5
KDAK Kodiak Island 81.29 30 P **P 18 08 27.9 +0.3**
comp=Z,182nm,0.9s,baz=205,slow=2.2,SNR=94
KDAK Kodiak Island 81.29 30*ce*P **P 18 08 27.6 0.0**
KDAK Kodiak Island 81.29 30 *e*P **P 18 08 27.8 +0.2**
comp=Z,812nm,1.6s
MAW Mawson 81.67 202 P **P 18 08 30.5 +1.0**
comp=Z,75nm,1.0s,baz=71,slow=7.2,SNR=13
MAW Mawson 81.67 202 *e*P **P 18 08 30.7 +1.2**
MAW pmax pmax
comp=Z,30nm,1.1s
MAW Mawson 81.67 202 *e*P **P 18 08 30.7 +1.2**
comp=Z,30nm,1.1s
MRIV Mauritius Mete 81.90 250 *e*P **P 18 08 32.2 +0.5**
HOM Homer 82.43 28 *e*P **P 18 08 31.6 -2.0**
comp=Z,621nm,1.2s
BRLK Bradley Lake 82.82 28 *e*P **P 18 08 35.2 -0.5**
comp=Z,166nm,1.2s
PPLA Purkeypile 83.37 25 *e*P **P 18 08 38.0 -0.6**
comp=Z,723nm,1.8s
SUA Susitna One 83.48 27 *e*P **P 18 08 38.0 -1.1**
comp=Z,502nm,1.9s
RER Riviere de l'E 83.52 249 *e*P **P 18 08 40.1 -0.1**
comp=Z,235nm,0.8s
CAST Castle Rocks 83.61 25 *e*P **P 18 08 38.7 -1.0**
comp=Z,124nm,1.0s
RKT Rikitea 83.70 113 *e*P **P 18 08 42.0 +1.0**
comp=Z,152nm,1.0s
RC01 Rabbit Creek A 83.81 27 *e*P **P 18 08 40.3 -0.5**
comp=Z,808nm,1.7s
WSAR Wadi Sarin 83.83 294 P **P 18 08 43.0 +1.4**
comp=Z,609nm,1.1s,baz=131,slow=4.3,SNR=18
KTH Kantishna Hill 84.14 25 *e*P **P 18 08 41.1 -1.3**
comp=Z,259nm,1.2s
PMR Palmer 84.25 27 *e*P **P 18 08 42.5 -0.4**
PMR pmax pmax
comp=Z,205nm,1.0s
PMR Palmer 84.25 27 *e*P **P 18 08 42.5 -0.4**
comp=Z,205nm,1.0s
BPAW Bear Paw Mtn. 84.31 24 *e*P **P 18 08 41.8 -1.4**
comp=Z,275nm,1.7s
BIDO Bidbid 84.32 294 PcP **P 18 08 46.0 +1.8**
SNR=31
BIDO Bidbid 84.32 294 P **P 18 08 46.0 +1.8**
SNR=31
SMDO Samad 84.34 294 PcP **P 18 08 49.0 +4.6**
SNR=10.0
SMDO Samad 84.34 294 P **P 18 08 49.0 +4.6**
SNR=10.0
TRF Thorofare Moun 84.37 25 *e*P **P 18 08 43.1 -0.6**
comp=Z,123nm,1.1s
SML Sawmill 84.68 27 *e*P **P 18 08 44.8 -0.4**
SML pmax pmax
comp=Z,427nm,1.1s
SML Sawmill 84.68 27 *e*P **P 18 08 44.8 -0.4**
comp=Z,427nm,1.1s
MLY Manley 84.74 23 *e*P **P 18 08 45.2 -0.2**
comp=Z,152nm,1.1s
MID Middleton Isla 84.91 29 *e*P **P 18 08 45.5 -0.8**
MID pmax pmax
comp=Z,377nm,1.2s
MID Middleton Isla 84.91 29 *e*P **P 18 08 45.5 -0.8**
comp=Z,377nm,1.2s
RND Reindeer 84.97 25 *e*P **P 18 08 45.2 -1.4**
RND pmax pmax
comp=Z,254nm,0.9s
RND Reindeer 84.97 25 *e*P **P 18 08 45.1 -1.4**
comp=Z,254nm,0.9s
GLI Glacier Island 84.97 28 *e*P **P 18 08 46.0 -0.6**
comp=Z,166nm,0.8s
MCK McKinley 85.04 25 *e*P **P 18 08 45.5 -1.4**
MCK pmax pmax
comp=Z,610nm,1.6s
MCK McKinley 85.04 25 *e*P **P 18 08 45.5 -1.4**
comp=Z,610nm,1.6s
HOQ Hoqain 85.07 294 PcP **P 18 08 51.0 +3.0**
SNR=19
HOQ Hoqain 85.07 294 P **P 18 08 51.0 +3.0**
SNR=19
BSY Bisya 85.08 293 PcP P 18 08 58.0 +10
SNR=9.8
SCM Sheep Creek Mo 85.14 27 *e*P **P 18 08 46.9 -0.7**
SCM pmax pmax
comp=Z,254nm,0.9s
SCM Sheep Creek Mo 85.14 27 *e*P **P 18 08 46.9 -0.7**
comp=Z,254nm,0.9s
FID Port Fidalgo 85.22 28 *e*P **P 18 08 47.5 -0.4**
comp=Z,750nm,1.9s
DHY Denali Highway 85.50 26 *e*P **P 18 08 48.6 -0.8**
comp=Z,224nm,0.9s
EYAK Cordova Ski Ar 85.51 28 *e*P **P 18 08 49.8 +0.5**
comp=Z,283nm,1.7s
WRH Wood River Hil 85.62 24 *e*P **P 18 08 49.1 -0.6**
comp=Z,204nm,1.2s
DIV Divide 85.66 28 *e*P **P 18 08 50.1 0.0**
comp=Z,246nm,0.8s
KLU Klutina 85.69 28 *e*P **P 18 08 50.0 -0.3**
comp=Z,122nm,0.9s
COLD Coldfoot 85.72 21 *e*P **P 18 08 50.4 +0.2**
comp=Z,107nm,1.0s
MDM Murphy Dome 85.72 24 *e*P **P 18 08 49.3 -1.0**
comp=Z,49nm,0.9s
ARQ Araqi 85.77 294 PcP **P 18 08 55.2 +3.8**
SNR=13
ARQ Araqi 85.77 294 P **P 18 08 55.2 +3.8**
SNR=13
CCB Clear Creek Bu 85.80 24 *e*P **P 18 08 48.8 -1.8**
comp=Z,850nm,1.9s
SOHO SOHO 85.84 294 *i* P **P 18 08 53.0 +1.3**
SNR=18
COLA College 85.85 24 *e*P **P 18 08 49.7 -1.1**
COLA pmax pmax
comp=Z,85nm,0.9s
COLA College 85.85 24 *e*P **P 18 08 49.7 -1.1**
comp=Z,85nm,0.9s
RAGM Ragged Mountai 85.98 29 *e*P **P 18 08 51.3 -0.4**
comp=Z,494nm,1.5s
HDA Harding Lake 86.08 25 *e*P **P 18 08 50.6 -1.5**
comp=Z,70nm,0.9s
SHAO Shalim 86.08 288 PcP **P 18 08 55.7 +2.6**
SNR=5.5
SHAO Shalim 86.08 288 P **P 18 08 55.7 +2.6**
SNR=5.5
SHAO Shalim 86.08 288 *i* P **P 18 08 53.9 +0.9**
SNR=6.6
QSPA South Pole Qui 86.12 180 P **P 18 08 52.5 +0.1**
comp=Z,184nm,0.7s,baz=335,slow=3.0,SNR=168
GEYT Alibeck 86.15 308 P **P 18 08 54.4 +1.4**
comp=Z,74nm,0.8s,baz=132,slow=2.2,SNR=191
BMRM Bremner River 86.16 28 *e*P **P 18 08 52.0 -0.5**
comp=Z,442nm,1.5s
MDH Madha 86.17 296 P **P 18 08 52.3 -1.0**
ILAR Eielson Array 86.21 24 P **P 18 08 50.9 -1.8**
comp=Z,48nm,0.6s,baz=260,slow=4.5,SNR=509
ILB Eielson Array 86.21 24 *e*P **P 18 08 50.7 -2.0**
IL1 Eielson Array 86.21 24 *e*P **P 18 08 49.9 -2.8**
UOSS Minazif 86.22 295 *e*P **P 18 08 53.2 -0.4**
comp=Z,177nm,1.3s
UOSS Minazif 86.22 295 *i* P **P 18 08 53.4 -0.2**
SNR=9.0
BANOM Banah 86.24 296 PcP **P 18 08 55.8 +2.1**
SNR=12
BANOM Banah 86.24 296 P **P 18 08 55.8 +2.1**
SNR=12
BANOM Banah 86.24 296 *i* P **P 18 08 54.3 +0.6**
SNR=13
HATD Hatta, Dubai 86.27 295 PcP **P 18 08 56.0 +2.1**
SNR=9.1
HATD Hatta, Dubai 86.27 295 P **P 18 08 56.0 +2.1**
SNR=9.1
HATD Hatta, Dubai 86.27 295 *i* P **P 18 08 54.5 +0.7**
SNR=10
HARP HAARP 86.29 27 *e*P **P 18 08 52.6 -0.5**
comp=Z,195nm,1.0s
PAX Paxson 86.30 26 *e*P **P 18 08 52.5 -0.8**
PAX pmax pmax
comp=Z,445nm,1.8s
PAX Paxson 86.30 26 *e*P **P 18 08 52.5 -0.8**
comp=Z,445nm,1.8s
MSFE Esma-Masafi 86.30 296 *i* P **P 18 08 55.0 +0.9**
SNR=19
ASHO Ashiyiah 86.33 295 PcP **P 18 08 56.7 +2.5**
SNR=10
ASHO Ashiyiah 86.33 295 P **P 18 08 56.7 +2.5**
SNR=10
ASHO Ashiyiah 86.33 295 *i* P **P 18 08 54.7 +0.5**
SNR=11
SHME Shamm 86.39 296 *i* P **P 18 08 55.4 +0.9**
SNR=10
TOLK Toolik Lake Re 86.43 20 P **P 18 08 54.7 +1.0**
baz=250
TOLK Toolik Lake Re 86.43 20 *e*P **P 18 08 54.2 +0.4**
comp=Z,589nm,1.3s
ALNE Al Ain 86.54 294 *i* P **P 18 08 55.9 +0.7**
SNR=19
AB31 Akbulak array 86.57 320*ce*P **P 18 08 54.1 -0.7**
AB31 pmax pmax
comp=Z,32nm,0.6s
AB31 Akbulak array 86.57 320 *e*P **P 18 08 53.9 -0.9**
ABKAR Akbulak array 86.57 320 *e*P **P 18 08 53.6 -1.2**
comp=Z,386nm,0.6s
NAZ Nazwa, Dubai 86.72 295 PcP **P 18 08 58.0 +1.9**
SNR=7.8
NAZ Nazwa, Dubai 86.72 295 P **P 18 08 58.0 +1.9**
SNR=7.8
NAZ Nazwa, Dubai 86.72 295 *i* P **P 18 08 56.7 +0.7**
SNR=10.0
RIDG Independ'e Rid 86.78 25 *e*P **P 18 08 55.2 -0.4**
comp=Z,476nm,1.4s
MENT Mentasta 87.06 26 *e*P **P 18 08 56.9 -0.1**
comp=Z,326nm,1.5s
DOT Dot Lake 87.09 26 *e*P **P 18 08 56.4 -0.6**
comp=Z,805nm,1.2s
SCRK Sand Creek 87.21 25 *e*P **P 18 08 57.1 -0.6**
comp=Z,121nm,1.2s
AJN Ajban 87.28 295 P **P 18 08 59.0 +0.2**
FYU Fort Yukon 87.38 23 *e*P **P 18 08 58.8 +0.5**
comp=Z,2µm,1.7s
SVE Sverdlovsk 87.52 327*c i*P **P 18 08 58.7 -0.5**
SVE eS **SKSac 18 19 16.7 -4.2**
SVE pmax pmax
comp=Z,190nm,1.2s
AKTO Aktyubinsk 87.99 321 P **P 18 09 00.6 -1.0**
comp=Z,20nm,0.6s,baz=97,slow=6.1,SNR=66
YKU2 Yakutat 88.24 30 *e*P **P 18 09 02.8 +0.3**
comp=Z,3µm,1.9s
ARU Arti 88.58 327 P **P 18 09 03.3 -0.9**
comp=Z,118nm,0.6s,baz=106,slow=2.0,SNR=264
ARU PKKPbc **PKKPbc 18 26 47.9 0.0**
comp=Z,9.8nm,0.7s,baz=250,slow=2.5,SNR=12
ARU Arti 88.58 327*d i*P **P 18 09 03.2 -1.0**
ARU *PP **pP 18 09 19.9 -3.4**
ARU 18 12 32.4
ARU PPP PPP 18 14 26.7
ARU S **SKSac 18 19 26.6 -0.6**
ARU pmax pmax
comp=Z,365nm,1.2s
ARU Arti 88.58 327 *e*P **P 18 09 03.1 -1.2**
comp=Z,210nm,0.8s
ARU PKKPbc **PKKPbc 18 26 47.9 0.0**
EGAK Eagle 88.59 25 *e*P **P 18 09 03.7 -0.4**
comp=Z,322nm,1.2s
DAWY Dawson 89.20 26 *e*P **P 18 09 07.0 -0.1**
comp=Z,187nm,1.0s
HYT Haines Junctio 89.53 29 *e*P **P 18 09 07.9 -0.9**
comp=Z,3µm,2.0s
SOKR Solikamsk 89.97 330*d i*P **P 18 09 07.3 -3.3**
SOKR 18 12 47.7
SOKR SS SS 18 26 05.8 +8.8
SOKR pmax pmax
comp=Z,228nm,1.5s
SOKR MLR MLR
comp=Z,338µm,28.0s
SIT Sitka 90.14 33 *e*P **P 18 09 11.4 -0.1**
SIT pmax pmax
comp=Z,141nm,1.2s
SIT Sitka 90.14 33 *e*P **P 18 09 11.4 -0.1**
comp=Z,141nm,1.2s
SYO Syowa Base 90.27 201⇓*e*P **P 18 09 10.6 -1.3**
SYO Syowa Base 90.27 201⇓*i*PcP **P 18 09 12.4 +0.5**
SYO Syowa Base 90.27 201⇓*i*pP pP 18 09 29.6 -1.4
SYO Syowa Base 90.27 201⇓*i*sP sP 18 09 35.4 -3.1
SKAG Skagway 90.43 31 *e*P **P 18 09 12.7 0.0**
comp=Z,374nm,1.4s
WHY Whitehorse 90.79 29 *e*P **P 18 09 14.4 -0.2**
comp=Z,640nm,1.8s
H02S1 DAWSON INLET T 91.40 37 P **P 18 09 18.0 +0.6**
SNR=4.2
ABPO Ambohimpanom 91.63 251 *e*P **P 18 09 18.0 -1.5**
ABPO pmax pmax
comp=Z,16nm,1.1s
ABPO Ambohimpanom 91.63 251 *e*P **P 18 09 18.0 -1.5**
comp=Z,16nm,1.1s
OPO Ambohidratompo 91.70 251 P **P 18 09 20.0 +0.1**
comp=Z,12nm,0.9s,baz=84,slow=4.6,SNR=15
INK Inuvik 92.13 22 P **P 18 09 19.7 -0.8**
comp=Z,34nm,1.1s,baz=279,slow=5.4,SNR=38
INK Inuvik 92.13 22 *e*P **P 18 09 19.1 -1.3**
comp=Z,1µm,1.4s
DLBC Dease Lake 93.08 32 *e*P **P 18 09 25.0 -0.2**
comp=Z,925nm,1.3s
AKT Akhty 94.41 311 *e*P **P 18 09 30.5 -1.3**
AKT *e* 18 13 19.6
AKT pmax pmax
comp=Z,22nm,0.7s
MAK Makhachkala 94.61 313 *e*P **P 18 09 35.9 +3.4**
MAK *e* 18 13 24.8
MAK *e*PPP PPP 18 15 21.8
MAK *e* 18 20 05.7
MAK pmax pmax
comp=Z,66nm,1.2s
GROC Groznyy 95.86 313 *e*P **P 18 09 36.4 -1.8**
GROC *e*PP **pP 18 09 53.7 -3.7**
GROC eS **SKSac 18 20 06.0 -2.6**
GROC pmax pmax
comp=Z,54nm,1.5s

TBLG	**Delisi**	**96.66**	**311**	*e*P		**P**		**18 09 41.2**	**-0.7**
TBLG				pmax		pmax			
	comp=Z,33nm,0.7s								
TBLG	**Delisi**	**96.66**	**311**	*e*P		**P**		**18 09 41.2**	**-0.7**
	comp=Z,33nm,0.7s								
GNI	**Garni**	**96.67**	**310**	P		**P**		**18 09 41.8**	**-0.4**
	comp=Z,7.3nm,0.7s,baz=148,slow=5.0,SNR=5.9								
GNI	**Garni**	**96.67**	**310**	⇑*i* P		**P**		**18 09 42.8**	**+0.6**
GNI				pmax		pmax			
	comp=Z,45nm,1.6s								
GNI	**Garni**	**96.67**	**310**	PcP		**P**		**18 09 42.8**	**+0.6**
	SNR=5.1								
GNI	**Garni**	**96.67**	**310**	P		**P**		**18 09 42.8**	**+0.6**
	SNR=5.1								
GNI	**Garni**	**96.67**	**310**	P		**P**		**18 09 41.9**	**-0.4**
ZEI	**Tsey**	**97.26**	**312**	*e*P		**P**		**18 09 42.0**	**-2.8**
ZEI				pmax		pmax			
	comp=Z,18nm,0.8s								
AKH	**Akhalkalaki**	**97.60**	**311**	*e*P		**P**		**18 09 46.1**	**-0.3**
AKH				pmax		pmax			
	comp=Z,36nm,0.8s								
AKH	**Akhalkalaki**	**97.60**	**311**	*e*P		**P**		**18 09 46.1**	**-0.3**
	comp=Z,36nm,0.8s								
GOF	**Gofitskoye**	**97.80**	**315**	⇑*e*P		**P**		**18 09 46.1**	**-0.9**
GOF				pmax		pmax			
	comp=Z,51nm,1.7s								
LLLB	**Lillooet**	**97.94**	**40**	*e*P		**P**		**18 09 47.3**	**-0.2**
	comp=Z,645nm,1.1s								
KBZ	**Khabaz**	**97.96**	**313**	P		**P**		**18 09 46.8**	**-0.9**
	comp=Z,5.8nm,0.7s,baz=114,slow=6.5,SNR=24								
KVAR	**Kislovodsk Arr**	**98.10**	**314**	P		**P**		**18 09 47.4**	**-1.1**
	comp=Z,5.0nm,0.8s,baz=180,slow=7.0,SNR=8.3								
KIV	**Kislovodsk**	**98.10**	**314**	*e*P		**P**		**18 09 47.5**	**-1.0**
KIV				*e*				18 13 47.6	
KIV				pmax		pmax			
	comp=Z,11nm,1.1s								
KIV				pmax		pmax			
	comp=Z,52nm,3.3s								
KIV	**Kislovodsk**	**98.10**	**314**	*e*P		**P**		**18 09 46.9**	**-1.6**
	comp=Z,17nm,1.0s								
KIV	**Kislovodsk**	**98.10**	**314**	PcP		Pdif		18 09 49.3	+0.8
	SNR=5.6								
KIV	**Kislovodsk**	**98.10**	**314**	P		Pdif		18 09 49.3	+0.8
	SNR=5.6								
KIV	**Kislovodsk**	**98.10**	**314**	P		**P**		**18 09 46.8**	**-1.6**
NEY	**Neytrino**	**98.11**	**313**	⇑*e*P		Pdif		18 09 48.7	+0.1
NEY				pmax		pmax			
	comp=Z,5.0nm,0.8s								
LHEM	**Herd Peak**	**98.15**	**49**	*e*P		Pdif		18 09 50.5	+1.5
LMPM	**Military Pass**	**98.20**	**49**	*e*P		Pdif		18 09 50.5	+1.4
NVL	**N'lazarevskaya**	**98.21**	**195**	*e*P		Pdif		18 09 50.3	+2.0
NVL				*e*PS		**S**		**18 21 13.7**	**+3.8**
NVL				*e*SS		SS		18 28 06.6	+13
NVL				pmax		pmax			
	comp=Z,48nm,2.1s								
NVL				MLR		MLR			
	comp=Z,157μm,23.0s								
B06A	**Marblemount**	**98.33**	**42**	*e*P		**P**		**18 09 48.4**	**-0.8**
	comp=Z,336nm,1.0s								
VRH	**Novokhopyorsk**	**98.33**	**321**	*e*P		**P**		**18 09 48.0**	**-1.1**
VRH				pmax		pmax			
	comp=Z,120nm,0.8s								
LGMM	**Garner Mountai**	**98.44**	**49**	*e*P		Pdif		18 09 50.8	+0.6
KLMR	**Klimovskoe**	**98.57**	**331**	*e*P		Pdif		18 09 45.0	-5.0
KLMR				*e*				18 13 50.9	
KLMR				*e*S		**SKSac**		**18 20 16.8**	**-5.0**
KLMR				pmax		pmax			
	comp=Z,48nm,0.7s								
KLMR	**Klimovskoe**	**98.57**	**331**	*e*P		P		18 09 45.0	-5.0
KLMR				AMP				18 09 49.8	
	comp=Z,48nm,0.7s								
KLMR				*e*PP		**PP**		**18 13 50.9**	**-0.3**
KLMR				*e*S		**SKSac**		**18 20 16.8**	**-5.0**
KLMR				*e*S		**SKSac**		**18 20 16.8**	**-5.0**
TMCR	**Tamitsa**	**98.76**	**334**	*e*P		**P**		**18 09 48.1**	**-2.7**
TMCR				pmax		pmax			
	comp=Z,130nm,0.8s								
TRW	**Toppenish Ridg**	**99.11**	**44**	*e*P		**Pdif**		**18 09 55.8**	**+2.9**
LVZ	**Lovozero**	**99.39**	**338**	*c i*P		**Pdif**		**18 09 53.3**	**-0.3**
LVZ				pmax		pmax			
	comp=Z,70nm,1.0s								
LVZ	**Lovozero**	**99.39**	**338**	*e*P		**Pdif**		**18 09 52.3**	**-1.2**
	comp=Z,84nm,1.0s								
VORR	**Voronezh**	**99.85**	**322**	P		**Pdif**		**18 09 55.0**	**-0.9**
VORR				pmax		pmax			
	comp=Z,250nm,1.4s								
LPSR	**Galich'ya Gora**	**99.92**	**323**	*e*P		**Pdif**		**18 09 55.7**	**-0.5**
LPSR				pmax		pmax			
	comp=Z,90nm,0.8s								
APA	**Apatity**	**99.93**	**338**	⇓*i* P		**Pdif**		**18 09 54.1**	**-1.8**
APA				*i*				18 14 04.0	
APA				pmax		pmax			
	comp=Z,66nm,0.8s								
VSR	**Storozhevoye**	**99.93**	**321**	*e*P		**Pdif**		**18 09 55.1**	**-1.2**
VSR				pmax		pmax			
	comp=Z,60nm,1.0s								
MOS	**Moscow**	**100.27**	**326**	*e*P		**Pdif**		**18 09 55.4**	**-2.3**
MOS				*e*				18 14 01.9	
MOS				pmax		pmax			
	comp=Z,96nm,1.0s								
SOC	**Sochi**	**100.27**	**313**	*e*P		**Pdif**		**18 09 55.6**	**-2.4**
SOC				*e*				18 14 03.1	
YKW3	**Yellowknife Ar**	**100.34**	**27**	*e*Pdif		**Pdif**		**18 09 57.2**	**-0.7**
SPA0	**Spitsbergen Ar**	**100.35**	**350**	*e*Pdif		**Pdif**		**18 09 57.6**	**-0.1**
SPITS	**Spitsbergen Ar**	**100.35**	**350**	P		**Pdif**		**18 09 57.4**	**-0.3**
	comp=Z,20nm,0.9s,baz=132,slow=11,SNR=7.5								
YKA	**Yellowknife Ar**	**100.36**	**27**	P		**Pdif**		**18 09 57.1**	**-0.8**
	comp=Z,6.1nm,0.7s,baz=284,slow=4.7,SNR=108								
YKA				PKKPbc		**PKKPbc**		**18 26 15.4**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=104,slow=2.7,SNR=6.9								
YKB5	**Yellowknife Ar**	**100.36**	**27**	*e*Pdif		**Pdif**		**18 09 56.2**	**-1.7**
SNAA	**Sanae**	**100.92**	**191**	Pdiff		**Pdif**		**18 10 02.1**	**+1.7**
SNAA	**Sanae**	**100.92**	**191**	P		**PKKPbc**		**18 26 12.2**	**-3.2**
SNAA	**Sanae**	**100.92**	**191**	*e*P		**Pdif**		**18 10 01.5**	**+1.1**
SNAA	**Sanae**	**100.92**	**191**	*e*Pdif		**Pdif**		**18 10 01.5**	**+1.1**
OBN	**Obninsk**	**100.96**	**325**	P		**Pdif**		**18 09 59.6**	**-1.1**
	comp=Z,18nm,0.4s,baz=36,slow=2.8,SNR=17								
OBN	**Obninsk**	**100.96**	**325**	*d i*P		**Pdif**		**18 09 59.5**	**-1.2**
OBN				*i*				18 14 08.8	
OBN				pmax		pmax			
	comp=Z,57nm,1.1s								
KEV	**Kevo**	**101.50**	**341**	*e*P		**Pdif**		**18 10 01.7**	**-1.2**
KEV	**Kevo**	**101.50**	**341**	*e*Pdif		**Pdif**		**18 10 01.7**	**-1.2**
ANN	**Anapa**	**101.79**	**315**	*i* P		**Pdif**		**18 10 03.7**	**-1.0**
ANN				*e*				18 14 13.9	
ARA0	**ARCESS Array S**	**102.07**	**341**	*e*Pdif		**Pdif**		**18 10 05.3**	**-0.1**
ARA0				*e*PKiKP		**PKiKP**		**18 14 28.7**	**+1.2**
ARCES	**ARCESS Array B**	**102.07**	**341**	P		**Pdif**		**18 10 05.3**	**-0.1**
	comp=Z,64nm,0.7s,baz=69,slow=6.6,SNR=162								
ARCES				PKiKP		**PKiKP**		**18 14 28.7**	**+1.2**
	comp=Z,8.9nm,0.9s,baz=100,slow=1.0,SNR=4.7								
ARCES	**ARCESS Array B**	**102.07**	**341**	*e*P		**Pdif**		**18 10 05.2**	**-0.3**
VNA2	**Neumayer--Watz**	**102.38**	**190**	Pdiff		**Pdif**		**18 10 07.1**	**+0.2**
	baz=147,slow=3.6								
VNA2	**Neumayer--Watz**	**102.38**	**190**	P		**PKKPbc**		**18 26 08.8**	**-2.3**
	baz=332,slow=7.0								
RES	**Resolute Bay**	**102.44**	**13**	*e*P		**Pdif**		**18 10 06.2**	**-0.8**
RES	**Resolute Bay**	**102.44**	**13**	*e*Pdif		**Pdif**		**18 10 06.2**	**-0.8**
VNA3	**Neumayer Olymp**	**102.50**	**190**	Pdiff		**Pdif**		**18 10 06.9**	**-0.5**
VNA3	**Neumayer Olymp**	**102.50**	**190**	P		**PKKPbc**		**18 26 07.5**	**-3.2**
VNA1	**Neumayer--Stat**	**102.77**	**190**	P		**PKKPbc**		**18 26 07.1**	**-2.8**
KMBO	**Kilima Mbogo**	**102.90**	**268**	P		**Pdif**		**18 10 12.2**	**+1.5**
	comp=Z,2.2nm,0.7s,baz=74,slow=4.8,SNR=11								
KMBO				PKiKP		**PKiKP**		**18 14 32.7**	**+1.8**
	comp=Z,5.9nm,1.0s,baz=51,slow=2.0,SNR=5.0								
KMBO	**Kilima Mbogo**	**102.90**	**268**	*e*P		**Pdif**		**18 10 12.9**	**+2.2**
KMBO				*e*				18 14 31.7	
KMBO	**Kilima Mbogo**	**102.90**	**268**	*e*Pdif		**Pdif**		**18 10 12.9**	**+2.2**
KMBO				*e*PP		**PKiKP**		**18 14 31.7**	**+0.8**
KMBO	**Kilima Mbogo**	**102.90**	**268**	P		**Pdif**		**18 10 13.3**	**+2.6**
	SNR=7.1								
PFO	**Pinyon Flats O**	**103.17**	**57**	PKiKP		**PKiKP**		**18 14 27.5**	**-3.3**
	baz=274								
SIM	**Simferopol'**	**104.11**	**315**	⇓*e*P		**Pdif**		**18 10 15.0**	**-0.1**
SIM				pmax		pmax			
	comp=Z,12nm,1.0s								
SIM				pmax		pmax			
	comp=Z,800nm,13.1s								
FIA1	**FINESS Array S**	**104.75**	**333**	*e*Pdif		**Pdif**		**18 10 16.2**	**-1.3**
FIA0	**FINESS Array S**	**104.75**	**333**	*e*P		**Pdif**		**18 10 17.2**	**-0.3**
FIA0				*i*				18 14 33.7	
FIA0	**FINESS Array S**	**104.75**	**333**	*e*Pdif		**Pdif**		**18 10 17.2**	**-0.3**
FIA0				*e*PKiKP		**PKiKP**		**18 14 33.7**	**+1.1**
FINES	**FINESS Array B**	**104.75**	**333**	Pdiff		**Pdif**		**18 10 17.2**	**-0.3**
	comp=Z,11nm,0.6s,baz=72,slow=6.2,SNR=39								
FINES				PKiKP		**PKiKP**		**18 14 33.7**	**+1.1**
	comp=Z,9.0nm,0.8s,baz=96,slow=4.2,SNR=4.9								
BR101	**Keskin Array S**	**105.21**	**310**	*e*Pdif		**Pdif**		**18 10 19.3**	**-1.0**
BR131	**Keskin Array S**	**105.21**	**310**	*e*Pdif		**Pdif**		**18 10 18.5**	**-1.8**
BRTR	**Keskin Array B**	**105.21**	**310**	Pdiff		**Pdif**		**18 10 19.3**	**-1.0**
	comp=Z,3.6nm,0.7s,baz=118,slow=4.3,SNR=26								
TULEG	**Thule**	**105.60**	**7**	*e*Pdif		**Pdif**		**18 10 20.1**	**-0.9**
CSS	**Mathiatis**	**106.06**	**305**	*e*Pdif		**Pdif**		**18 10 22.8**	**-1.2**
AKASG	**Malin Array Be**	**106.20**	**322**	Pdiff		**Pdif**		**18 10 23.7**	**-0.5**
	comp=Z,6.7nm,0.8s,baz=60,slow=4.7,SNR=29								
AKASG				PKiKP		**PKiKP**		**18 14 36.0**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=75,slow=2.1,SNR=10.0								
AKASG				PKKPbc		**PKKPbc**		**18 25 58.3**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=268,slow=3.5,SNR=9.5								
AKBB	**Malin Array Si**	**106.20**	**322**	*e*P		**Pdif**		**18 10 23.2**	**-1.0**
AKBB	**Malin Array Si**	**106.20**	**322**	*e*Pdif		**Pdif**		**18 10 23.2**	**-1.0**
KIEV	**Kiev**	**106.21**	**322**	*e*P		**Pdif**		**18 10 23.3**	**-1.0**
KIEV	**Kiev**	**106.21**	**322**	*e*Pdif		**Pdif**		**18 10 23.3**	**-1.0**
KIEV	**Kiev**	**106.21**	**322**	*i* P		**Pdif**		**18 10 23.0**	**-1.3**
	SNR=8.0								
AK11	**Malin Array Si**	**106.24**	**322**	*e*Pdif		**Pdif**		**18 10 23.6**	**-0.7**
IDID	**Didziasalis**	**106.39**	**327**	*e*P		**Pdif**		**18 10 25.2**	**+0.3**
IDID				IAmb		IAmb		18 10 26.1	
	comp=Z,19nm,0.8s								
NACGM	**Naroch**	**106.49**	**326**	*e*		**Pdif**		**18 10 24.0**	**-1.4**
IZAR	**Zarasai**	**106.52**	**327**	*e*P		**Pdif**		**18 10 25.8**	**+0.3**
IZAR				IAmb		IAmb		18 10 26.7	
	comp=Z,19nm,0.8s								
ISAL	**Salakas**	**106.64**	**327**	*e*P		**Pdif**		**18 10 26.4**	**+0.3**
ISAL				IAmb		IAmb		18 10 27.1	
	comp=Z,12nm,0.9s								
IIGN	**Ignalina**	**106.66**	**327**	*e*P		**Pdif**		**18 10 26.4**	**+0.2**
IIGN				IAmb		IAmb		18 10 27.3	
	comp=Z,13nm,0.8s								
RLMT	**Red Lodge**	**107.09**	**44**	PKiKP		**PKiKP**		**18 14 37.1**	**-0.7**
	baz=282								
KIS	**Kishinev**	**107.34**	**318**	*e*PKP		PKiKP		18 14 30.0	-7.8
KIS	**Kishinev**	**107.34**	**318**	*i* PS		PS		18 23 41.0	-39
PSN	**Preselentsi**	**108.53**	**315**	*e*P		**PP**		**18 15 08.0**	**+2.0**
SUW	**Suwalki**	**108.77**	**326**	*e*Pdiff		**Pdif**		**18 10 35.8**	**+0.3**
SUW	**Suwalki**	**108.77**	**326**	*e*P		**Pdif**		**18 10 35.8**	**+0.3**
SUW	**Suwalki**	**108.77**	**326**	*e*Pdif		**Pdif**		**18 10 34.8**	**-0.7**
BUR04	**Bucovina Ar. S**	**109.56**	**319**	*e*Pdif		**Pdif**		**18 10 39.8**	**+0.5**
BUR08	**Bucovina Ar. S**	**109.56**	**319**	*e*Pdif		**Pdif**		**18 10 39.3**	**-0.1**
MLR	**Muntele Rosu**	**109.65**	**317**	PKiKP		**PKiKP**		**18 14 43.1**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=94,slow=5.7,SNR=3.2								
MLR	**Muntele Rosu**	**109.65**	**317**	*e*PKiKP		**PKiKP**		**18 14 43.5**	**+1.1**
LSZ	**Lusaka**	**110.15**	**252**	PKiKP		**PKiKP**		**18 14 45.0**	**+0.8**
	comp=Z,10nm,0.9s,baz=46,slow=1.4,SNR=7.6								
LSZ	**Lusaka**	**110.15**	**252**	*e*Pdif		**Pdif**		**18 10 40.9**	**-1.8**
LSZ				*e*PKiKP		**PKiKP**		**18 14 46.6**	**+2.4**
S22A	**4UR Ranch, Cre**	**110.39**	**51**	PKiKP		**PKiKP**		**18 14 44.7**	**+0.4**
	baz=281								
LBTB	**Lobatse**	**110.48**	**242**	PKiKP		**PKiKP**		**18 14 45.0**	**+0.5**
	comp=Z,5.8nm,0.9s,baz=149,slow=3.6,SNR=5.7								
LBTB	**Lobatse**	**110.48**	**242**	*e*PKiKP		**PKiKP**		**18 14 45.5**	**+1.0**
KWP	**Kalwaria Pacla**	**110.52**	**322**	*e*Pdiff		**Pdif**		**18 10 44.5**	**+1.0**
KWP	**Kalwaria Pacla**	**110.52**	**322**	*e*P		**Pdif**		**18 10 44.5**	**+1.0**
HFS	**Hagfors**	**110.80**	**335**	Pdiff		**Pdif**		**18 10 44.2**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=35,slow=5.4,SNR=8.3								
HFS				PKiKP		**PKiKP**		**18 14 43.8**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=104,slow=1.8,SNR=3.9								
BEL	**Belsk**	**110.90**	**325**	*e*Pdiff		**Pdif**		**18 10 47.0**	**+1.9**
BEL	**Belsk**	**110.90**	**325**	*e*P		**Pdif**		**18 10 47.0**	**+1.9**
UZH	**Uzhgorod**	**111.11**	**321**	*e*P		**Pdif**		**18 10 45.1**	**-1.0**
NB2	**NORSAR Subarra**	**111.34**	**336**	P		**Pdif**		**18 10 46.5**	**-0.4**
	comp=Z,21nm,1.4s,baz=65,slow=5.3								
NB2	**NORSAR Subarra**	**111.34**	**336**	PKPdif		**PKiKP**		**18 14 45.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=44,slow=1.9								
NB2	**NORSAR Subarra**	**111.34**	**336**	P		**Pdif**		**18 10 46.5**	**-0.4**
	baz=65,slow=5.3								
NB200	**NORSAR Array S**	**111.34**	**336**	*e*Pdif		**Pdif**		**18 10 46.0**	**-0.9**
NB200				*e*PKiKP		**PKiKP**		**18 14 45.3**	**+0.3**
NB200				*e*PKKPbc		**PKKPbc**		**18 25 42.4**	**-0.7**
NOA	**NORSAR Array B**	**111.34**	**336**	Pdiff		**Pdif**		**18 10 46.0**	**-0.9**
	comp=Z,5.7nm,1.0s,baz=58,slow=4.8,SNR=6.3								
NOA				PKiKP		**PKiKP**		**18 14 45.3**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=57,slow=1.9,SNR=5.9								
NOA				PKKPbc		**PKKPbc**		**18 25 42.4**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=254,slow=1.9,SNR=3.8								
SDCO	**Great Sand Dun**	**111.42**	**51**	PKiKP		**PKiKP**		**18 14 44.2**	**-2.0**
	baz=282								
STHS	**Stebnicka Huta**	**111.49**	**322**	*e*P		**Pdif**		**18 10 49.9**	**+2.1**
STHS	**Stebnicka Huta**	**111.49**	**322**	*e*PDIFF		**Pdif**		**18 10 49.9**	**+2.1**
STHS				*e*				18 14 47.7	
CRVS	**Cervenica-Dubn**	**111.54**	**322**	*e*P		**Pdif**		**18 10 49.1**	**+1.1**
CRVS	**Cervenica-Dubn**	**111.54**	**322**	*e*PDIFF		**Pdif**		**18 10 49.1**	**+1.1**
CRVS				*e*				18 14 46.8	
NIE	**Niedzica**	**112.07**	**322**	*e*PKP		**PKiKP**		**18 14 48.7**	**+2.0**
NIE	**Niedzica**	**112.07**	**322**	*e*PKiKP		**PKiKP**		**18 14 48.7**	**+2.0**
OJC	**Ojcow**	**112.08**	**323**	*e*PKP		**PKiKP**		**18 14 47.7**	**+1.0**
OJC	**Ojcow**	**112.08**	**323**	*e*PKiKP		**PKiKP**		**18 14 47.7**	**+1.0**
MMB	**Musomiste**	**112.23**	**314**	*e*P		**PKiKP**		**18 14 48.3**	**+0.5**
KECS	**Kecovo**	**112.29**	**321**	*e*P		**Pdif**		**18 10 52.9**	**+1.5**
KECS	**Kecovo**	**112.29**	**321**	*e*PDIFF		**Pdif**		**18 10 52.9**	**+1.5**
VTS	**Vitosha**	**112.33**	**315**	*e*P		**PKiKP**		**18 14 48.4**	**+0.8**
LANS	**Liptovska Anna**	**112.67**	**322**	*e*		**PKiKP**		**18 14 50.3**	**+2.4**
IDI	**Anoyia**	**112.83**	**307**	PKiKP		**PKiKP**		**18 14 49.3**	**+0.6**
	comp=Z,8.3nm,0.6s,baz=32,slow=5.8,SNR=11								
IDI				PKKPbc		**PKKPbc**		**18 25 37.1**	**-0.2**
	comp=Z,26nm,0.9s,baz=316,slow=3.0,SNR=8.9								
IDI				PKKPab		**PKKPab**		**18 25 46.7**	**+2.1**
	comp=Z,26nm,0.9s,baz=301,slow=5.5,SNR=7.7								
IDI	**Anoyia**	**112.83**	**307**	*e*PKiKP		**PKiKP**		**18 14 49.5**	**+0.8**
IDI				*e*PKKPbc		**PKKPbc**		**18 25 46.2**	**+2.9**
IDI				*e*PKKPab		**PKKPab**		**18 25 46.7**	**+2.1**
OKC	**Ostrava-Krasne**	**113.21**	**323**	⇑*e*PKP		**PKiKP**		**18 14 50.1**	**+1.3**
OKC	**Ostrava-Krasne**	**113.21**	**323**	*e*PKiKP		**PKiKP**		**18 14 50.1**	**+1.3**
VYHS	**Vyhne**	**113.31**	**322**	*e*P		**Pdif**		**18 10 57.1**	**+1.2**
VYHS	**Vyhne**	**113.31**	**322**	*e*PDIFF		**Pdif**		**18 10 57.1**	**+1.2**
VYHS				*e*				18 14 49.8	
KSP	**Ksiaz**	**113.88**	**325**	*e*PKP		**PKiKP**		**18 14 51.5**	**+1.4**
KSP	**Ksiaz**	**113.88**	**325**	*e*PKiKP		**PKiKP**		**18 14 51.5**	**+1.4**
KRLC	**Kraliky**	**113.92**	**324**	⇑*e*PKP		**PKiKP**		**18 14 51.5**	**+1.2**
KRLC				*ex*		x		18 15 13.0	
KRLC	**Kraliky**	**113.92**	**324**	*e*PKiKP		**PKiKP**		**18 14 51.5**	**+1.2**
DPC	**Dobruska-Polom**	**114.07**	**324**	*e*PDIFF		**Pdif**		**18 11 00.5**	**+1.2**
DPC				*e*PKP		**PKiKP**		**18 14 51.9**	**+1.4**
DPC				*ex*		x		18 15 00.8	
DPC	**Dobruska-Polom**	**114.07**	**324**	*e*P		**Pdif**		**18 11 00.5**	**+1.2**
DPC				*e*				18 14 51.9	
DPC				*e*				18 15 00.8	
KRUS	**Krusevo**	**114.08**	**314**	*i* P		PKPdf		18 14 56.7	0.0
UPC	**Upice**	**114.19**	**325**	⇑*e*PDIFF		**Pdif**		**18 11 01.0**	**+1.2**
UPC				*e*PKP		**PKiKP**		**18 14 51.3**	**+0.6**
UPC	**Upice**	**114.19**	**325**	*e*P		**Pdif**		**18 11 01.0**	**+1.2**
UPC				*e*				18 14 51.3	
MODS	**Modra-Piesok**	**114.31**	**322**	*e*		PKPdf		18 14 51.1	+0.1
VRAC	**Vranov**	**114.35**	**323**	PKP		PKPdf		18 14 51.8	+0.7
	comp=Z,5.2nm,0.7s,baz=226,slow=2.3,SNR=7.0								
OHR	**Ohrid**	**114.48**	**314**	*e*P		PKPdf		18 14 52.4	+0.7
LTX	**Lajitas**	**114.53**	**60**	*e*PKKPbc		PKKPbc		18 25 32.9	+1.5
TXAR	**Lajitas Array**	**114.53**	**60**	PKKPbc		PKKPbc		18 25 32.9	+1.5
	comp=Z,2.4nm,0.7s,baz=99,slow=6.0,SNR=5.2								
PVCC	**Panska Ves**	**115.00**	**325**	⇑*e*PKP		**PKPdf**		**18 14 53.4**	**+1.1**
PVCC	**Panska Ves**	**115.00**	**325**	*e*PKiKP		**PKPdf**		**18 14 53.4**	**+1.1**
SOP	**Sopron**	**115.03**	**322**	⇑*e*PP		PP		18 16 04.7	+12
GOPC	**GO Pecny, Ondr**	**115.15**	**324**	*e*PDIFF		**Pdif**		**18 11 05.6**	**+1.5**
GOPC				*e*PKP		**PKPdf**		**18 14 53.6**	**+1.0**
GOPC				*ex*		x		18 15 04.4	
GOPC	**GO Pecny, Ondr**	**115.15**	**324**	*e*P		**Pdif**		**18 11 05.6**	**+1.5**
GOPC				*e*				18 14 53.6	
GOPC				*e*				18 15 04.4	
BRG	**Berggiesshubel**	**115.20**	**326**	*e*P		**Pdif**		**18 11 05.3**	**+1.1**
	comp=Z,4.7nm,0.9s								
BRG				*e*				18 11 47.8	
	comp=Z,12nm,1.3s								
BRG				*i*				18 14 53.6	
	comp=Z,19nm,0.8s								
BRG	**Berggiesshubel**	**115.20**	**326**	*e*P		**Pdif**		**18 11 05.3**	**+1.1**
BRG				*i*				18 14 53.6	
BRG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BRG				pmax		pmax			
	comp=Z,12nm,1.3s								
BRG				pmax		pmax			
	comp=Z,19nm,0.8s								
PRU	**Pruhonice**	**115.26**	**325**	⇑*e*PDIFF		**Pdif**		**18 11 05.9**	**+1.4**
PRU				*e*PKP		**PKPdf**		**18 14 53.7**	**+0.9**
PRU				*ex*		x		18 15 01.8	
PRU				*ex*		x		18 15 15.0	
PRU	**Pruhonice**	**115.26**	**325**	*e*P		**Pdif**		**18 11 05.9**	**+1.4**
PRU				*e*				18 14 53.7	
PRU				*e*				18 15 01.8	
CONA	**Conrad Observa**	**115.36**	**322**	*e*PKiKP		**PKPdf**		**18 14 54.0**	**+0.9**
	comp=Z,8.4nm,0.7s,SNR=7.5								
CLL	**Collm**	**115.52**	**326**	*e*PKiKP		**PKPdf**		**18 14 52.9**	**-0.3**
CLL	**Collm**	**115.52**	**326**	*e*Pdif		**Pdif**		**18 11 06.0**	**+0.3**
	comp=Z,24nm,1.7s								
CLL				*i* PKiKP		**PKPdf**		**18 14 53.8**	**+0.6**
	comp=Z,20nm,0.8s								
CLL				*e*				18 15 24.0	
CLL	**Collm**	**115.52**	**326**	*e*PKPdf		**PKPdf**		**18 14 52.9**	**-0.3**
BLY	**Banja Luka**	**115.76**	**318**	*e*PKPdf		**PKPdf**		**18 14 54.4**	**+0.5**
ARSA	**Arzberg**	**115.85**	**322**	*e*PKiKP		**PKPdf**		**18 14 54.6**	**+0.5**
	comp=Z,5.1nm,0.8s								
KHC	**Kasperske Hory**	**116.21**	**324**	⇑*e*PDIFF		**Pdif**		**18 11 10.1**	**+1.3**
KHC				*e*PKP		**PKiKP**		**18 14 55.7**	**+1.0**
KHC				*es*PKP				18 15 20.0	
KHC	**Kasperske Hory**	**116.21**	**324**	*e*PKiKP		**PKPdf**		**18 14 55.4**	**+0.7**
KHC	**Kasperske Hory**	**116.21**	**324**	*e*PKPdf		**PKPdf**		**18 14 55.4**	**+0.7**
GEC2	**GERESS Array S**	**116.26**	**324**	*e*P		**Pdif**		**18 11 10.5**	**+1.3**
GEC2				*e*				18 14 55.1	
GEC2	**GERESS Array S**	**116.26**	**324**	*e*Pdif		**Pdif**		**18 11 10.5**	**+1.3**

KOWA	**Kowa**	**143.24**	**289**	PKhKP	PKPpre	18 15 42.7			
	comp=Z,29nm,0.7s,baz=26,slow=2.5,SNR=48								
PCON	**Cinco Dias**	**143.37**	**91**	*e*P	**PKPdf**	**18 15 46.3**	**-1.2**		
YOTC	**Yotoco, Valle**	**143.48**	**88**	*e*P	PKPbc	18 15 44.0	-0.5		
PLMC	**San Jos¨ del**	**143.55**	**87**	*e*P	PKPab	18 15 44.1	+0.4		
MARP	**Paez Belalcaza**	**143.83**	**90**	*e*P	PKPab	18 15 44.0	-1.1		
MOTC	**Monteria, Cord**	**143.97**	**80**	*e*P	PKPbc	18 15 46.2	+0.4		
MOTC				*e*P	**PKPdf**	**18 15 47.0**	**-0.8**		
FLOC	**Florencia**	**144.06**	**93**	*e*P	PKPbc	18 15 46.5	+0.4		
HELC	**Santa Helena**	**144.27**	**85**	*e*PKPdf	PKPbc	18 15 47.7	+0.5		
HELC	**Santa Helena**	**144.27**	**85**	*e*P	PKPbc	18 15 47.3	+0.1		
BETC	**Betania**	**144.34**	**91**	*e*P	**PKPdf**	**18 15 47.9**	**-0.7**		
GUYC	**Guyana, Colomb**	**144.43**	**86**	*e*P	PKPbc	18 15 48.4	+0.5		
RREF	**El Recreo**	**144.48**	**87**	*e*P	PKPbc	18 15 48.6	+0.4		
TOLC	**Tolima**	**144.51**	**87**	*e*P	**PKPab**	**18 15 47.2**	**-0.5**		
GRTK	**Grand Turk**	**144.82**	**57**	*e*PKPdf	**PKPdf**	**18 15 48.7**	**-0.3**		
PRAC	**Prado**	**144.93**	**89**	*e*PKPbc	**PKPdf**	**18 15 49.4**	**-0.2**		
PRAC	**Prado**	**144.93**	**89**	*e*P	PKPbc	18 15 49.0	+0.1		
NORC	**Norcasia**	**144.95**	**86**	*e*P	**PKPab**	**18 15 49.2**	**+0.3**		
NORC				*e*P	**PKPdf**	**18 15 49.7**	**+0.1**		
KIC	**Kosan Boka**	**145.06**	**276**	*e*PKP1	**PKPab**	**18 15 49.4**	**+0.1**		
	comp=Z,1µm,1.3s								
DBIC	**Dimbokro**	**145.16**	**276**	PKPbc	**PKPdf**	**18 15 50.1**	**+0.2**		
	comp=Z,175nm,0.9s,baz=75,slow=3.2,SNR=88								
TIC	**Toumodi**	**145.32**	**276**	*e*PKP1	**PKPbc**	**18 15 50.1**	**0.0**		
PTBC	**PUERTO BERRIO**	**145.32**	**84**	*e*P	**PKPbc**	**18 15 49.0**	**-1.1**		
LIC	**Lamto**	**145.35**	**275**	*e*PKP1	**PKPbc**	**18 15 50.1**	**0.0**		
	comp=Z,2µm,1.7s								
ROSC	**El Rosal**	**145.50**	**87**	PKPbc	**PKPab**	**18 15 51.6**	**+0.2**		
	comp=Z,162nm,0.8s,baz=112,slow=11,SNR=23								
ROSC	**El Rosal**	**145.50**	**87**	*e*PKPdf	**PKPab**	**18 15 51.9**	**+0.4**		
ROSC	**El Rosal**	**145.50**	**87**	*e*P	**PKPab**	**18 15 52.0**	**+0.5**		
CPUP	**Villa Florida**	**145.51**	**151**	PKPbc	**PKPab**	**18 15 51.6**	**+1.1**		
	comp=Z,141nm,0.9s,baz=215,slow=2.6,SNR=14								
CPUP	**Villa Florida**	**145.51**	**151**	*e*PKP2	**PKPab**	**18 15 51.3**	**+0.8**		
CPUP	**Villa Florida**	**145.51**	**151**	*e*PKPdf	**PKPab**	**18 15 51.3**	**+0.8**		
LPAZ	**La Paz**	**145.53**	**126**	PKPbc	**PKPab**	**18 15 52.9**	**+1.2**		
	comp=Z,634nm,1.0s,baz=269,slow=1.4,SNR=57								
LPAZ	**La Paz**	**145.53**	**126**	*e*PKP2	**PKPab**	**18 15 53.2**	**+1.5**		
LPAZ	**La Paz**	**145.53**	**126**	*e*PKPdf	**PKPab**	**18 15 53.2**	**+1.5**		
CTAB	**Cerro Tablazo,**	**145.62**	**87**	*e*P	**PKPab**	**18 15 52.2**	**+0.3**		
CVER	**Cruz Verde, Cu**	**145.75**	**88**	*e*P	**PKPab**	**18 15 52.6**	**+0.2**		
CTAU	**Tausa, Cundina**	**145.78**	**86**	*e*P	**PKPab**	**18 15 53.4**	**+0.8**		
SJAC	**San Juan de Ar**	**145.85**	**90**	*e*P	**PKPbc**	**18 15 52.0**	**+0.1**		
CODC	**Agust¨n Codaz**	**146.01**	**78**	*e*P	**PKPab**	**18 15 52.7**	**-0.1**		
BRRC	**Barranca, Sant**	**146.03**	**83**	*e*P	**PKPdf**	**18 15 51.8**	**+0.4**		
CHIC	**Chingaza**	**146.09**	**87**	*e*P	**PKPbc**	**18 15 52.6**	**-0.3**		
VILC	**Villavicencio,**	**146.12**	**88**	*e*P	**PKPbc**	**18 15 52.6**	**-0.2**		
OCAC	**Ocana**	**146.33**	**81**	*e*P	**PKPab**	**18 15 54.5**	**+0.3**		
BARC	**Barichara**	**146.59**	**84**	*e*P	**PKPdf**	**18 15 53.0**	**+0.4**		
RUSC	**La Rusia**	**146.72**	**85**	*e*PKPdf	**PKPdf**	**18 15 53.1**	**0.0**		
RUSC	**La Rusia**	**146.72**	**85**	*e*P	**PKPbc**	**18 15 54.8**	**-0.1**		
PAMC	**Pamplona, Colo**	**147.02**	**82**	*e*P	**PKPbc**	**18 15 55.0**	**-0.8**		
YOPC	**Yopal, Colombi**	**147.39**	**82**	*e*P	**PKPbc**	**18 15 56.3**	**0.0**		
SDV	**Santo Domingo**	**148.90**	**79**	PKP	**PKPdf**	**18 15 56.9**	**+0.5**		
	comp=Z,493nm,0.8s,baz=285,slow=1.5,SNR=6.7								
SDV				PKPbc	**PKiKP**	**18 16 01.1**	**-0.7**		
	comp=Z,493nm,0.8s,baz=273,slow=4.9,SNR=70								
SDV	**Santo Domingo**	**148.90**	**79**	*e*PKPdf	**PKPdf**	**18 15 55.6**	**-0.7**		
SDV				*e*PKPbc	**PKiKP**	**18 16 01.0**	**-0.7**		
AGP	**Aguadilla**	**149.53**	**60**	*e*PKPbc	**PKPbc**	**18 16 01.1**	**-0.5**		
SJG	**San Juan**	**150.51**	**59**	PKP	**PKPdf**	**18 15 59.1**	**+0.6**		
	comp=Z,274nm,0.8s,baz=3.5,slow=19,SNR=5.2								
SJG				PKPbc	**PKPbc**	**18 16 04.1**	**+0.2**		
	comp=Z,274nm,0.8s,baz=319,slow=2.9,SNR=36								
SJG	**San Juan**	**150.51**	**59**	*e*PKIKP	**PKPdf**	**18 15 58.1**	**-0.4**		
SJG				*e*		18 15 59.1			
SJG				*e*		18 16 04.3			
SJG	**San Juan**	**150.51**	**59**	*e*PKPdf	**PKPdf**	**18 15 58.1**	**-0.4**		
SJG				*e*PKPdf	**PKPdf**	**18 15 59.1**	**+0.6**		
SJG				*e*PKPbc	**PKiKP**	**18 16 04.3**	**-0.4**		
SJG	**San Juan**	**150.51**	**59**	*e*P	**PKPbc**	**18 16 03.8**	**-0.1**		
CBYP	**Canovanas**	**150.69**	**59**	*e*PKPdf	**PKPdf**	**18 15 56.1**	**-2.8**		
CBYP				*e*PKPbc	**PKPbc**	**18 16 03.6**	**-0.8**		
HUMP	**Col San Antoni**	**150.75**	**59**	*e*PKPdf	**PKPdf**	**18 15 59.3**	**+0.4**		
HUMP				*e*PKPbc	**PKPbc**	**18 16 04.8**	**+0.3**		
MTP	**Monte Pirata**	**151.03**	**59**	*e*PKPdf	**PKPdf**	**18 15 59.4**	**+0.1**		
MTP				*e*PKPbc	**PKiKP**	**18 16 05.5**	**-0.2**		
SIV	**San Ignacio**	**151.13**	**134**	PKPbc	**PKPbc**	**18 16 06.3**	**+0.8**		
	comp=Z,270nm,0.7s,baz=240,slow=2.7,SNR=62								
STVI	**Saint Thomas**	**151.42**	**58**	*e*PKPdf	**PKPdf**	**18 15 59.9**	**0.0**		
STVI				*e*PKPbc	**PKPbc**	**18 16 05.8**	**-0.2**		
CDVI	**St. Croix**	**151.85**	**59**	*e*PKPdf	**PKPdf**	**18 16 01.0**	**+0.4**		
CDVI				*e*PKPbc	**PKPbc**	**18 16 06.8**	**-0.2**		
SMRT	**St. Maarten**	**153.14**	**57**	*e*PKPdf	**PKPdf**	**18 16 02.4**	**-0.1**		
SMRT				*e*PKPbc	**PKPbc**	**18 16 09.4**	**-0.5**		
SMRT				*e*PKPab	**PKPab**	**18 16 20.5**	**-1.2**		
PCRV	**Puerto La Cruz**	**154.51**	**74**	PKPab	**PKPab**	**18 16 26.4**	**-1.3**		
	comp=Z,53nm,0.9s,baz=52,slow=18,SNR=5.4								
SVB	**Belmont**	**156.77**	**65**	*e*PKPdf	**PKPdf**	**18 16 06.2**	**-1.4**		
SVB				*e*PKPbc	**PKPab**	**18 16 35.4**	**-1.9**		

CASC ***20*** *18:02:21.0±3.2, 18°.70N×99°.78W, h4km±39km, mb7.2, mb6.6(NEIC)*

NEIC ***20*** *18:02:47.4±0.1, 16°.49N×98°.23W, h20km, mb6.6/298, ME7.7, MS7.6/148, MW7.3, MW7.4, MW7.4, MW7.4(MEX), Error ellipse: s-maj=2.5km s-min=1.7km az=207.0, Moment Tensor Solution. s54 Moment tensor: Scale 10¹⁹Nm; Mrr 3.72; Mθθ -1.41; Mφφ -2.30; Mrθ 7.29; Mrφ 3.34; Mθφ -3.86; Best double couple: M₀ 9.50000×10¹⁹ NP1: φs 119.00000°, δ 77.00000°, λ 77.00000°. NP2: φs 345.00000°, δ 18.00000°, λ 134.00000°. Principal axes: T 9.0300, Plg56.0000°, Azm13.0000°; N 0.8300, Plg13.0000°, Azm122.0000°; P -9.8600, Plg31.0000°, Azm220.0000°; Broadband fault plane solution: P waves. NP1:φs 300.00000°, δ 12.00000°, λ 90.00000°. NP2: φs 120.00000°, δ 78.00000°, λ 90.00000°. Principal axes: T Plg57.0000°, Azm30.0000°; N Plg0.0000°, Azm0.0000°; P Plg33.0000°, Azm210.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least two people killed in Guerrero, 11 people injured in Oaxaca and two injured at Mexico. At least 800 houses collapsed at Igualapa, Guerrero. Felt [VIII] at Pinotepa Nacional; [VI] at Acatzingo, Chilpancingo and Nezahualcoyotl; [V] at Acapulco, Coatzacoalcos, Mexico, Minatitlan, Ometpec, Tehuacan and Tlaxcala. Felt widely in central and southern Mexico as far as Campeche, Ciudad Madero, Puerto Vallarta and San Luis Potosi. Felt [III] at Antigua Guatemala and Guatemala, Guatemala. Felt in much of western Guatemala. A seiche was observed in a swimming pool at Santa Fe, New Mexico, USA.

GCMT ***20*** *18:02:47.5±0.1, 16°.60N×98°.39W, h15km, MW7.5/144, Moment Tensor Solution. s144,c396; s141,c708; Duration: 13s2 Moment tensor: Scale 10²⁰Nm; Mrr 0.68±.00; Mθθ -0.56±.00; Mφφ -0.11±.00; Mrθ 1.74±.06; Mθφ 0.24±.00; Mθr -0.66±.03; Best double couple: M₀ 1.97900×10²⁰ NP1:φs 111.00000°, δ 80.00000°, λ 89.00000°. NP2:φs 296.00000°, δ 10.00000°, λ 95.00000°. Principal axes: T 1.9840, Plg55.0000°, Azm20.0000°; N -0.0110, Plg1.0000°, Azm111.0000°; P -1.9740, Plg35.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.*

MOS ***20*** *18:02:47.8±0.9, 16°.54N×98°.25W, h33km, mb6.7/94, MS7.7/96 Error ellipse: s-maj=7.8km s-min=4.2km az=107.2 Broadband fault plane solution: P waves. NP1:φs 128.00000°, δ 84.00000°, λ 81.00000°. NP2: φs 4.00000°, δ 11.00000°, λ 146.00000°. Principal axes: T Plg50.0000°, Azm27.0000°; N Plg9.0000°, Azm129.0000°; P Plg38.0000°, Azm226.0000°;*

IDC ***20*** *18:02:48.3±1.0, 16°.52N×98°.35W, h26km±6km, mb5.3/52, mb1 5.3/57, mb1mx5.3/59, mbtmp5.5/57, ML4.8/4, MS7.5/47, Ms1 7.5/47, ms1mx7.4/52 Error ellipse: s-maj=7.7km s-min=5.0km az=55.0*

ISCJB ***20*** *18:02:48.2±0.4, 16°.71N±0°.01×98°.21W±0°.01, h27km±2km, mb6.4/546, MS7.6/255, Error ellipse: s-maj=2.2km s-min=1.4km az=35.9*

NEIC ***20*** *18:02:48.0±0.0, 16°.46N×97°.87W, h15km, Moment Tensor Solution. s59 Moment tensor: Scale 10²⁰Nm; Mrr 0.64; Mθθ -0.53; Mφφ -0.11; Mrθ 1.08; Mφθ 0.20; Mrr -0.73; Best double couple: M₀ 1.40000×10²⁰ NP1:φs 123.00000°, δ 77.00000°, λ 95.00000°. NP2:φs 283.00000°, δ 13.00000°, λ 71.00000°. Principal axes: T 1.4700, Plg57.0000°, Azm38.0000°; N -0.0500, Plg4.0000°; Azm301.0000°; P -1.4200, Plg32.0000°, Azm209.0000°;*

MEX ***20*** *18:02:49.3±0.6, 16°.43N×98°.39W, h4km±5km, MD7.4*

BJI ***20*** *18:02:49.8, 16°.85N×98°.10W, h25km, mB7.7/29, Ms7.7/70, Ms7 7.7/66*

NEIC ***20*** *18:03:14.0±0.0, 16°.82N×97°.99W, h21km, Moment Tensor Solution. s142 Moment tensor: Scale 10²⁰Nm; Mrr 0.70; Mθθ -0.56; Mφφ -0.15; Mrθ 1.39; Mφθ 0.25; Mrr -0.88; Best double couple: M₀ 1.80000×10²⁰ NP1:φs 289.00000°, δ 12.00000°, λ 78.00000°. NP2:φs 122.00000°, δ 79.00000°, λ 92.00000°. Principal axes: T 1.8000, Plg56.0000°, Azm35.0000°; N -0.0400, Plg2.0000°, Azm301.0000°; P -1.7600, Plg34.0000°, Azm210.0000°;*

ISC 20 18:02:47.6±0.4, 16°.47N±0°.02×98°.37W±0°.02, h19km±1km, h20km:pP-P,n2472,σ2s28/2877,mb6.5/556,MS7.6/293, 155C-66D,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PNIG	**Pinotepa**	**0.25**	**109**	*e*P	**Pg**	**18 02 53.6**	**+0.2**
PNIG				*i* S	**Sg**	18 02 58.6	+1.2
TLIG	**Tlapa**	**1.10**	**350**	*e*P	**Pb**	**18 03 07.7**	**-0.4**
TLIG				*i* S	**Sn**	**18 03 22.6**	**-0.2**
TLIG	**Tlapa**	**1.10**	**350**	*e*P	**Pb**	**18 03 07.7**	**-0.4**
TLIG				*i* S	**Sn**	**18 03 22.4**	**-0.4**
VHO	**Vista Hermosa**	**1.68**	**69**	*e*P	**Pn**	**18 03 16.8**	**+0.7**
VHO				*i* S	**Sn**	**18 03 37.2**	**0.0**
VHO	**Vista Hermosa**	**1.68**	**69**	*e*P	**Pn**	**18 03 16.8**	**+0.7**
VHO				*i* S	**Sn**	**18 03 37.2**	**0.0**
CAIG	**El Cayaco**	**1.91**	**288**	*e*P	**Pn**	**18 03 19.3**	**+0.3**
CAIG				*i* S	**Sn**	**18 03 41.9**	**-0.6**
CAIG	**El Cayaco**	**1.91**	**288**	*e*P	**Pn**	**18 03 19.3**	**+0.3**
CAIG				*i* S	**Sn**	**18 03 41.9**	**-0.6**
TPIG	**Tehuac#an**	**2.16**	**26**	*e*P	**Pn**	**18 03 24.2**	**+1.4**
TPIG				*i* S	**Sn**	**18 03 50.0**	**+0.9**
TPIG	**Tehuac#an**	**2.16**	**26**	*e*P	**Pn**	**18 03 24.2**	**+1.4**
TPIG				*i* S	**Sn**	**18 03 50.0**	**+0.9**
PLIG	**Platanillo**	**2.19**	**331**	*e*P	**Pn**	**18 03 23.0**	**-0.1**
PLIG	**Platanillo**	**2.19**	**331**	*e*P	**Pn**	**18 03 24.8**	**+1.7**
PLIG				*i* S	**Sb**	**18 03 51.7**	**-1.9**
HUIG	**Huatulco**	**2.28**	**108**	*e*P	**Pn**	**18 03 24.6**	**+0.4**
HUIG				*i* S	**Sn**	**18 03 52.5**	**+0.6**
HUIG	**Huatulco**	**2.28**	**108**	*e*P	**Pn**	**18 03 24.6**	**+0.4**
HUIG				*i* S	**Sn**	**18 03 52.5**	**+0.6**
YAIG	**Yautepec**	**2.47**	**344**	*e*P	**Pn**	**18 03 27.7**	**+0.7**
YAIG				*i* S	**Sn**	**18 03 57.6**	**+1.0**
YAIG	**Yautepec**	**2.47**	**344**	*e*P	**Pn**	**18 03 27.7**	**+0.7**
YAIG				*i* S	**Sn**	**18 03 57.6**	**+1.0**
PPM	**Popocatepetl**	**2.59**	**355**	*e*P	**Pn**	**18 03 30.8**	**+1.8**
PPM				*i* S	**Sn**	**18 04 01.9**	**+1.7**
PPM	**Popocatepetl**	**2.59**	**355**	*e*P	**Pn**	**18 03 30.8**	**+1.8**
PPM				*i* S	**Sn**	**18 04 01.9**	**+1.7**
PPM	**Popocatepetl**	**2.59**	**355**	*e*P	**Pn**	**18 03 30.8**	**+1.8**
PPM				*i* S	**Sn**	**18 04 01.9**	**+1.7**
ARIG	**Puente Sto Nin**	**2.61**	**314**	*e*P	**Pn**	**18 03 29.9**	**+1.1**
ARIG				*i* S	**Sn**	**18 04 00.3**	**+0.4**
MAVM	**Malinalco, Edo**	**2.69**	**337**	*e*P	**Pn**	**18 03 31.7**	**+1.6**
VCVM	**Valle de Chalc**	**2.86**	**349**	*e*P	**Pn**	**18 03 34.2**	**+1.7**
UNM	**Universidad Na**	**2.94**	**345**	*e*P	**Pn**	**18 03 35.3**	**+1.7**
UNM				*i* S	**Sn**	**18 04 10.8**	**+2.3**
UNM	**Universidad Na**	**2.94**	**345**	*e*P	**Pn**	**18 03 33.9**	**+0.3**
UNM				*i* S	**Sn**	**18 04 10.8**	**+2.3**
UNM	**Universidad Na**	**2.94**	**345**	*e*Pn	**Pn**	**18 03 33.9**	**+0.3**
UNM				*i* S	**Sn**	**18 04 10.8**	**+2.3**
ZIIG	**Zihuatanejo**	**3.17**	**291**	*e*P	**Pn**	**18 03 36.9**	**+0.4**
ZIIG				*i* S	**Sn**	**18 04 14.1**	**+0.3**
ZIIG	**Zihuatanejo**	**3.17**	**291**	*e*P	**Pn**	**18 03 36.9**	**+0.4**
ZIIG				*i* S	**Sn**	**18 04 14.1**	**+0.3**
CMIG	**Matias Romero**	**3.40**	**79**	Pn	**Pn**	**18 03 38.8**	**-0.8**
	294nm,0.3s,baz=239,slow=12,SNR=192						
CMIG				Lg	Lg	18 04 31.2	
	5µm,0.3s,baz=236,slow=15,SNR=3.6						
CMIG				LR	LR	18 05 16.9	
	comp=Z,19637µm,18.7s,baz=224,slow=44						
LVIG	**Laguna Verde**	**3.73**	**30**	*e*P	**Pn**	**18 03 43.2**	**-1.0**
LVIG	**Laguna Verde**	**3.73**	**30**	*e*Pn	**Pn**	**18 03 41.8**	**-2.4**
DEIG	**Demacu**	**3.86**	**351**	*e*P	**Pb**	**18 03 52.1**	**-3.2**
DEIG				*i* S	**Sn**	**18 04 32.8**	**+1.7**
DEIG	**Demacu**	**3.86**	**351**	*e*P	**Pb**	**18 03 52.1**	**-3.2**
DEIG				*i* S	**Sn**	**18 04 32.8**	**+1.7**
TUIG	**Tuzandepetl**	**4.08**	**67**	*i* P	**Pn**	**18 03 52.8**	**+3.9**
TUIG				*i* S	**Sn**	**18 04 39.6**	**+3.4**
TUIG	**Tuzandepetl**	**4.08**	**67**	*i* P	**Pn**	**18 03 52.8**	**+3.9**
TUIG				*i* S	**Sn**	**18 04 39.6**	**+3.4**
MOIG	**Morelia**	**4.17**	**320**	*e*P	**Pn**	**18 03 52.1**	**+1.7**
MOIG				*i* S	**Sn**	**18 04 41.0**	**+2.3**
MOIG	**Morelia**	**4.17**	**320**	*e*Pn	**Pn**	**18 03 50.2**	**-0.2**
MOIG				*i* S	**Sn**	**18 04 41.0**	**+2.3**
JRQG	**Juriquilla Cam**	**4.65**	**335**	*e*P	**Pn**	**18 03 59.8**	**+2.8**
JRQG				*i* S	**Sn**	**18 04 51.0**	**+0.5**
JRQG	**Juriquilla Cam**	**4.65**	**335**	*e*Pn	**Pn**	**18 03 56.6**	**-0.4**
JRQG				*i* S	**Sn**	**18 04 51.0**	**+0.5**
PCIG		**5.01**	**98**	*e*P	**Pn**	**18 04 03.0**	**+1.2**
PCIG		**5.01**	**98**	*e*P	**Pn**	**18 04 03.0**	**+1.2**
TGIG		**5.04**	**86**	*e*P	**Pn**	**18 04 03.3**	**+1.1**
TGIG				*i* S	**Sn**	**18 05 01.3**	**+1.3**
TGIG		**5.04**	**86**	*e*P	**Pn**	**18 04 03.3**	**+1.1**
TGIG				*i* S	**Sn**	**18 05 01.3**	**+1.3**
MMIG	**Aquila**	**5.08**	**292**	*e*P	**Pn**	**18 04 03.5**	**+0.7**
MMIG				*i* S	**Sn**	**18 05 01.9**	**+0.9**
MMIG	**Aquila**	**5.08**	**292**	*e*P	**Pn**	**18 04 03.5**	**+0.7**
MMIG				*i* S	**Sn**	**18 05 01.9**	**+0.9**
IGIG	**Irapuato, Guan**	**5.10**	**327**	*e*P	**Pn**	**18 04 05.6**	**+2.4**
IGIG				*i* S	**Sn**	**18 05 03.9**	**+2.3**
EZ5V		**5.81**	**302**	*e*P	**Pn**	**18 04 14.6**	**+1.6**
EZ5V				*i* S	**Sn**	**18 05 20.9**	**+1.6**
CCIG	**Comitan**	**5.99**	**91**	*e*P	**Pn**	**18 04 16.7**	**+1.3**
CCIG				*e*S	**Sn**	**18 05 25.5**	**+2.0**
CCIG	**Comitan**	**5.99**	**91**	*e*P	**Pn**	**18 04 16.7**	**+1.3**
CCIG				*e*S	**Sn**	**18 05 25.5**	**+2.0**
THIG		**6.08**	**104**	*e*P	**Pn**	**18 04 18.0**	**+1.5**
THIG				*e*S	**Sn**	**18 05 26.6**	**+1.0**
THIG		**6.08**	**104**	*e*P	**Pn**	**18 04 18.0**	**+1.5**
THIG				*i* S	**Sn**	**18 05 26.6**	**+1.0**
CJM	**Chamela**	**7.03**	**296**	*e*P	**Pn**	**18 04 31.3**	**+1.8**
CJM				*e*S	**Sn**	**18 05 51.4**	**+2.5**
CJM	**Chamela**	**7.03**	**296**	*e*P	**Pn**	**18 04 31.3**	**+1.8**
CJM				*e*S	**Sn**	**18 05 51.4**	**+2.5**
ZAIG	**Zacatecas**	**7.41**	**328**	*e*P	**Pn**	**18 04 36.9**	**+1.9**
ZAIG				*i* S	**Sn**	**18 06 02.0**	**+3.3**
ZAIG	**Zacatecas**	**7.41**	**328**	*e*Pn	**Pn**	**18 04 36.2**	**+1.2**
ZAIG				*i* S	**Sn**	**18 06 02.0**	**+3.3**
IXG	**Ixpaco**	**7.97**	**106**	*e*P	**Pn**	**18 04 45.2**	**+2.5**
LNIG	**Linares**	**8.45**	**353**	*e*P	**Pn**	**18 04 52.9**	**+3.9**
LNIG	**Linares**	**8.45**	**353**	*e*Pn	**Pn**	**18 04 48.4**	**-0.6**
MTO3	**Montecristo**	**8.93**	**102**	*e*P	**Pn**	**18 04 59.4**	**+3.6**
MTO3				*e*S	**Sn**	**18 07 01.9**	**+26**
COLS	**Colinas**	**9.20**	**106**	*e*P	**Pn**	**18 05 03.4**	**+4.0**
SNET	**Serv Nac Est T**	**9.25**	**106**	*e*Pn	**Pn**	**18 05 01.3**	**+1.1**
SNET	**Serv Nac Est T**	**9.25**	**106**	*e*P	**Pn**	**18 05 05.1**	**+5.0**
OPAM	**San Salvador**	**9.27**	**106**	*e*S	Sn	18 07 11.8	+28
MYIG	**MØrida**	**9.31**	**60**	*e*Pn	**Pn**	**18 04 59.4**	**-1.5**
MYIG				*i* S	**Sn**	**18 06 49.8**	**+4.6**
LOMA	**San Marcos**	**9.31**	**106**	*e*P	Pn	18 05 06.0	+5.1
LOMA				*e*S	Sn	18 07 08.8	+24
LFU	**La Fuente**	**9.34**	**106**	*e*P	**Pn**	**18 05 04.7**	**+3.3**
MAIG	**Mazatlaan**	**10.10**	**313**	*e*P	**Pn**	**18 05 14.7**	**+3.1**
MAIG				*i* S	**Sn**	**18 07 07.0**	**+2.6**
MAIG	**Mazatlaan**	**10.10**	**313**	*e*P	**Pn**	**18 05 14.7**	**+3.1**
MAIG				*i* S	**Sn**	**18 07 07.0**	**+2.6**
PACA	**Pacayal**	**10.16**	**106**	*e*P	Pn	18 05 17.6	+5.0
CAHU	**Cacacuatique**	**10.17**	**104**	*e*P	**Pn**	**18 05 15.1**	**+2.3**
TEIG	**Tepich**	**10.28**	**67**	Pn	**Pn**	**18 05 11.9**	**-2.3**
	0.0nm,0.3s,baz=270,slow=20,SNR=14						
TEIG				Sn	**Sn**	**18 07 05.1**	**-3.9**
	0.2nm,0.3s,baz=270,slow=20,SNR=7.6						
TEIG	**Tepich**	**10.28**	**67**	*e*Pn	Pn	18 05 08.7	-5.5
TEIG				*e*Sn	**Sn**	**18 07 04.3**	**-4.7**
TEIG				*e*		18 07 04.6	
LCND	**La Ca¯–ada**	**10.61**	**106**	*e*P	**Pn**	**18 05 20.6**	**+1.9**
CNCH	**Conchagua**	**10.67**	**106**	*e*P	**Pn**	**18 05 21.7**	**+2.1**
TGUH	**Tegucigalpa,Un**	**10.97**	**101**	*e*Pn	**Pn**	**18 05 24.3**	**+0.7**
KVTX	**Kingsville**	**11.03**	**2**	*e*Pn	**Pn**	**18 05 26.6**	**+2.3**
CRIN	**San Cristobal**	**11.58**	**107**	*i* P	**Pn**	**18 05 34.2**	**+2.2**
CRIN				AMb	AMB	18 06 27.9	
	comp=Z,6µm,1.6s						
833A	**Chaparral WMA,**	**11.83**	**356**	P	**Pn**	**18 05 34.7**	**-0.7**
	baz=175,SNR=171						
CNGN	**Cerro Negro**	**11.97**	**108**	*i* P	**Pn**	**18 05 40.1**	**+2.8**
CNGN				AML	AML	18 10 10.7	
	comp=E,131nm,0.4s						
ESTN	**Estel**	**12.08**	**105**	*i* P	**Pn**	**18 05 41.5**	**+2.6**
ESTN				AML	AML	18 09 36.2	
	comp=N,276nm,1.1s						
MOMN	**Momotombo**	**12.15**	**108**	*e*P	**Pn**	**18 05 41.7**	**+1.9**
COPN	**Copaltepe**	**12.18**	**109**	*e*P	**Pn**	**18 05 42.1**	**+1.8**
H06E1	**SOCORRO T-PHASE**	**12.19**	**283**	T	T	18 17 53.9	
	SNR=1748						
H06S1	**SOCORRO T**	**12.21**	**282**	T	T	18 17 56.9	
	SNR=419						
H06S		**12.21**	**282**	*i* P	**Pn**	**18 05 43.2**	**+2.6**
H06N1	**SOCORRO T-PHASE**	**12.26**	**283**	T	T	18 17 56.2	
	SNR=27						
HPIG		**12.42**	**328**	*e*P	**Pn**	**18 05 46.7**	**+3.1**
HPIG				*i* S	**Sn**	**18 08 03.5**	**+1.9**
HPIG		**12.42**	**328**	*e*Pn	**Pn**	**18 05 44.5**	**+0.9**
HPIG				*i* S	**Sn**	**18 08 03.5**	**+1.9**
XAVN	**Gruta Xavier**	**12.44**	**109**	*e*P	**Pn**	**18 05 49.4**	**+5.7**
MGAN	**Managua**	**12.51**	**109**	*i* P	**Pn**	**18 05 47.2**	**+2.5**
MGAN				*e*S	Sn	18 08 32.3	+29
MATN	**Matagalpa**	**12.54**	**105**	*i* P	**Pn**	**18 05 48.0**	**+2.7**
MASN	**Masaya**	**12.65**	**109**	*i* P	**Pn**	**18 05 49.7**	**+3.0**
MASN				AML	AML	18 10 52.3	
	comp=Z,259nm,0.7s						
SLBS	**Sierra La Lagu**	**13.02**	**305**	*e*Pn	**Pn**	**18 05 52.8**	**+1.0**
LPIG	**La Paz**	**13.52**	**306**	Pn	**Pn**	**18 05 58.3**	**-0.1**
	baz=113,slow=15,SNR=5.4						
LPIG				Sn	**Sn**	**18 08 28.9**	**+0.6**
	comp=Z,15nm,0.3s,baz=306,slow=19,SNR=1.7						
LPIG				LR	LR	18 10 57.1	
	comp=Z,1799µm,18.1s,baz=126,slow=36						
LPIG	**La Paz**	**13.52**	**306**	*e*P	**Pn**	**18 05 59.8**	**+1.3**
ACON	**Acoyapa**	**13.55**	**108**	*i* P	**Pn**	**18 06 01.8**	**+2.9**
ACON				AML	AML	18 10 36.8	
	comp=N,63nm,1.0s						
TXAR	**Lajitas Array**	**13.70**	**340**	Pn	**Pn**	**18 06 02.4**	**+1.4**
	comp=N,0.5nm,0.3s,baz=158,slow=14,SNR=51						
TXAR				Lg	Lg	18 10 00.7	
	baz=133,slow=20,SNR=3.1						
TXAR				LR	LR	18 12 10.0	
	comp=N,5073µm,19.8s,baz=0.0,slow=41						
LTX	**Lajitas**	**13.70**	**340**	*e*P	**Pn**	**18 06 02.4**	**+1.4**
LTX	**Lajitas**	**13.70**	**340**	*e*Pn	**Pn**	**18 06 02.4

447A	Lucedale baz=214	16.79	30	P		Pn	18 06 38.2	-3.5
141A	Papa Simpson, baz=198	16.81	16	P		Pn	18 06 39.6	-2.3
346A	Big Creek Wild baz=210	16.92	27	P		Pn	18 06 40.6	-2.7
EPT	El Paso comp=N,3µm,1.4s	16.93	336	*e*Pn		Pn	18 06 43.1	-0.5
244A	Avery, Jackson baz=206	17.00	23	P		Pn	18 06 42.0	-2.3
HSIG		17.03	319	*e*P		P	18 06 46.8	+0.4
HSIG		17.03	319	*e*Pn		Pn	18 06 45.5	+0.8
142A	Monroe baz=201,SNR=52	17.03	19	P		Pn	18 06 42.0	-2.8
BRU2	Volcan	17.09	115	*e*P		Pn	18 06 46.0	+0.3
CPRX	Cap Rock	17.22	344	*e*Pn		Pn	18 06 47.2	0.0
VBMS	Vicksburg baz=206,SNR=25	17.22	23	P		Pn	18 06 44.3	-2.8
VBMS	Vicksburg comp=N,9µm,1.3s	17.22	23	*e*Pn		Pn	18 06 44.0	-3.1
448A	Bay Minette baz=216	17.30	32	P		Pn	18 06 45.1	-2.9
245A	Little AP, Sta baz=208	17.30	25	P		Pn	18 06 45.4	-2.7
Z40A	Long Farm, Mag baz=196,SNR=163	17.30	14	P		Pn	18 06 45.9	-2.2
143A	Socs Landing, baz=202	17.35	20	P		Pn	18 06 46.1	-2.6
347A	Saraland baz=213	17.35	29	P		Pn	18 06 45.7	-3.0
Z41A	Richland Creek baz=198,SNR=120	17.45	16	P		Pn	18 06 47.3	-2.7
449A	Pace baz=218,SNR=15	17.49	34	P		Pn	18 06 47.3	-3.2
246A	Jackson Lee, B baz=210,SNR=16	17.60	27	P		Pn	18 06 49.4	-2.5
144A	Alexander Plac baz=206,SNR=24	17.62	23	P		Pn	18 06 49.8	-2.3
348A	Jackson baz=215,SNR=44	17.66	31	P		Pn	18 06 49.8	-2.8
Z42A	Norrel Spur, H baz=200,SNR=42	17.70	18	P		Pn	18 06 50.9	-2.2
WLAR	White Oak Lake comp=N,5µm,1.0s	17.78	14	*e*Pn		Pn	18 06 52.1	-2.0
145A	Houston Renfro baz=207,SNR=28	17.79	24	P		Pn	18 06 51.7	-2.4
319A	Douglas comp=N,4µm,1.3s	17.86	328	*e*Pn		Pn	18 06 55.2	0.0
247A	Quitman baz=212,SNR=167	17.86	28	P		Pn	18 06 52.5	-2.6
Z43A	Armstrong Fami baz=202,SNR=18	17.86	20	P		Pn	18 06 52.7	-2.4
MSTX	Muleshoe baz=166,SNR=410	17.87	348	P		Pn	18 06 54.4	-0.9
MSTX	Muleshoe comp=N,5µm,1.3s	17.87	348	*e*Pn		Pn	18 06 54.2	-1.1
450A	Crestview baz=219	17.87	35	P		Pn	18 06 52.3	-2.9
BRAL	Brewton baz=217,SNR=25	17.90	33	P		Pn	18 06 52.7	-2.9
BRAL	Brewton comp=N,8µm,1.3s	17.90	33	*e*Pn		Pn	18 06 52.2	-3.4
349A	Repton baz=217	17.97	33	P		Pn	18 06 53.5	-2.9
CBCY	The Bluff, Cay comp=N,10µm,1.2s	17.99	77	*e*Pn		Pn	18 06 54.1	-2.5
Y40A	Okolona baz=196,SNR=67	18.05	14	P		Pn	18 06 55.5	-1.9
Y41A	Eaglette Beard baz=198,SNR=74	18.09	16	P		Pn	18 06 55.9	-2.0
552A	Lynn Haven baz=224	18.12	39	P		Pn	18 06 55.3	-2.9
121A	Cookes Peak, D baz=149,SNR=278	18.12	334	P		P	18 06 59.2	+0.5
146A	Union baz=209,SNR=39	18.17	26	P		Pn	18 06 56.6	-2.3
WMOK	Wichita Mounta baz=178,SNR=139	18.19	359	P		Pn	18 06 57.9	-1.3
WMOK	Wichita Mounta	18.19	359	*e*P		Pn	18 06 56.2	-2.9
WMOK	Wichita Mounta	18.19	359	*e*Pn		Pn	18 06 56.2	-2.9
451A	Vernon baz=222,SNR=10	18.20	37	P		Pn	18 06 56.6	-2.6
Z44A	Pea Ridge, Bel baz=205	18.20	22	P		Pn	18 06 57.0	-2.2
Y42A	Garnett, Star baz=200,SNR=54	18.28	18	P		Pn	18 06 58.2	-1.9
248A	Dixon Mills baz=214,SNR=82	18.30	30	P		Pn	18 06 58.1	-2.3
CCAR	Cane Creek comp=N,7µm,1.3s	18.36	18	*e*Pn		P	18 06 59.3	-1.8
X39A	Fountain Ranch baz=193,SNR=343	18.36	11	P		P	18 06 59.5	-1.6
350A	Dozier baz=219	18.48	34	P		P	18 07 00.3	-2.2
249A	Camden baz=216,SNR=49	18.51	31	P		P	18 07 00.6	-2.2
147A	Livingston baz=212	18.54	28	P		P	18 07 01.2	-1.9
059Z	Ave Maria baz=241	18.55	55	P		P	18 07 00.8	-2.4
Z45A	Winona baz=207,SNR=82	18.56	23	P		P	18 07 01.7	-1.6
AMTX	Amarillo baz=170	18.57	351	P		P	18 07 03.1	-0.5
AMTX	Amarillo comp=N,3µm,1.0s	18.57	351	*e*P		P	18 07 03.0	-0.5
Y43A	Makayla and Ka baz=202	18.61	20	P		P	18 07 02.2	-1.6
X40A	Basin Creek Fa baz=196,SNR=199	18.61	14	P		P	18 07 02.5	-1.4
058A	Arcadia baz=239	18.62	53	P		P	18 07 01.1	-3.0
957A	Wimauma baz=236,SNR=13	18.62	51	P		P	18 07 01.5	-2.6
553A	Crawfordville baz=226	18.69	41	P		P	18 07 02.5	-2.2
Z46A	Louisville baz=209,SNR=102	18.70	25	P		P	18 07 03.6	-1.3
452A	Marianna baz=223,SNR=17	18.70	38	P		P	18 07 02.7	-2.2
X41A	Kaden, Bauxite baz=197,SNR=73	18.70	15	P		P	18 07 03.4	-1.4
351A	Pinckard baz=221	18.77	36	P		P	18 07 03.7	-2.0
148A	Greensboro baz=213,SNR=46	18.84	29	P		P	18 07 04.8	-1.6
Y44A	Strider, Charl baz=204,SNR=37	18.90	21	P		P	18 07 05.6	-1.4
958A	Wauchula baz=237	18.94	51	P		P	18 07 04.9	-2.6
250A	Grady baz=218	18.95	33	P		P	18 07 05.4	-2.2
250A	 baz=218			S		Sn	18 10 39.2	-0.9
857A	Zephyrhills baz=235	18.96	49	P		P	18 07 05.0	-2.8
X42A	Stuttgart baz=200,SNR=26	18.99	17	P		P	18 07 07.0	-1.1
655A	Horseshoe Beac baz=230	19.00	44	P		P	18 07 05.6	-2.6
UALR	University of comp=N,5µm,1.3s	19.01	15	*e*P		P	18 07 07.2	-1.1
Y45A	Yeager Farm, C baz=206,SNR=74	19.05	23	P		P	18 07 08.0	-0.8
Z47A	Carrollton baz=211	19.07	27	P		P	18 07 07.9	-1.1
059A	Moore Haven baz=240	19.09	54	P		P	18 07 07.1	-2.0
554A	Perry baz=228,SNR=18	19.09	42	P		P	18 07 07.1	-2.0
W39A	Magazine baz=193,SNR=443	19.09	12	P		P	18 07 09.0	-0.2
BNM	Barren Site	19.10	339	*e*P		Pn	18 07 10.2	-0.3
Y22D	IRIS PASSCAL I baz=154	19.14	338	P		Pn	18 07 10.7	-0.1
Y22D	IRIS PASSCAL I comp=N,5µm,1.3s	19.14	338	*e*P		Pn	18 07 11.1	+0.3
Y22E	IRIS PASSCAL I baz=154	19.14	338	P		Pn	18 07 11.0	+0.2
149A	Jones baz=215	19.18	31	P		P	18 07 08.9	-1.2
X43A	Marvell baz=202	19.18	19	P		P	18 07 09.9	-0.3
453A	Whigham baz=225,SNR=43	19.22	39	P		P	18 07 08.9	-1.6
W40A	Ferguson Farm, baz=195,SNR=178	19.23	13	P		P	18 07 10.3	-0.4
W40A	Ferguson Farm, comp=N,6µm,1.1s	19.23	13	*e*P		P	18 07 10.0	-0.7
LENM	Lemitar	19.24	338	*e*P		Pn	18 07 11.8	-0.2
LPM	Los Pinos Moun	19.25	339	*e*P		P	18 07 11.4	+0.2
352A	Blakely baz=222	19.31	37	P		P	18 07 10.0	-1.6
Y46A	Houston baz=208,SNR=204	19.34	25	P		P	18 07 11.1	-0.7
TUC	Tucson baz=141	19.37	327	P		Pn	18 07 13.3	-0.2
TUC	Tucson	19.37	327	*e*P		Pn	18 07 13.3	-0.2
TUC	Tucson	19.37	327	*e*P		Pn	18 07 13.3	-0.2
656A	Willston baz=232	19.40	46	P		P	18 07 10.8	-1.8
X44A	Crenshaw baz=204,SNR=32	19.41	21	P		P	18 07 11.8	-0.8
W41B	Gary Mavity, V baz=198,SNR=123	19.41	15	P		P	18 07 11.9	-0.8
LRAL	Lakeview Retre baz=214,SNR=122	19.43	30	P		P	18 07 11.8	-1.0
LRAL	Lakeview Retre comp=N,3µm,1.1s	19.43	30	*e*P		P	18 07 12.0	-0.9
Z48A	Northport baz=212	19.45	28	P		P	18 07 12.2	-0.9
DWPF	Disney Wildern baz=237	19.46	51	P		P	18 07 11.5	-1.7
DWPF	Disney Wildern comp=N,3µm,1.0s	19.46	51	*e*P		P	18 07 10.8	-2.4
BCIP	Isla Barro Col comp=N,4µm,1.5s	19.46	110	*e*P		P	18 07 13.5	+0.1
BCIP	Isla Barro Col comp=Z,19µm,1.7s	19.46	110	AMb		AMB	18 07 24.0	
BCIP	Isla Barro Col	19.46	110	*e*P		Pn	18 07 14.9	+0.2
757A	Oxford baz=234	19.47	48	P		P	18 07 11.4	-2.0
TUL1	Leonard baz=187,SNR=374	19.50	6	P		P	18 07 12.9	-0.7
TUL1	Leonard comp=Z,5µm,1.1s	19.50	6	*e*P		P	18 07 12.6	-1.0
251A	Midway baz=220	19.50	35	P		P	18 07 12.3	-1.3
WHAR	Wooly Hollow comp=Z,6µm,1.5s	19.51	15	*e*P		P	18 07 12.7	-1.1
LAZ	Ladron	19.51	338	*e*P		P	18 07 13.7	-0.3
454A	Quitman baz=226	19.55	41	P		P	18 07 12.9	-1.3
858A	St. Cloud baz=237,SNR=22	19.57	50	P		P	18 07 12.5	-1.9
959A	Okeechobee baz=239	19.57	53	P		P	18 07 12.7	-1.7
150A	Eclectic baz=217	19.57	33	P		P	18 07 13.5	-0.9
555A	McAlpin baz=229	19.58	43	P		P	18 07 13.3	-1.3
X45A	UM Field Stati baz=206,SNR=73	19.61	23	P		P	18 07 14.0	-0.8
353A	Camilla baz=224,SNR=71	19.63	39	P		P	18 07 13.8	-1.3
MBJ	Montego Bay	19.66	81	*i* P		Pn	18 07 16.8	-0.3
AZU	Azuero	19.67	114	⇑*i*P		Pn	18 07 18.7	+1.6
OXF	Oxford baz=206,SNR=116	19.68	22	P		P	18 07 14.7	-0.9
OXF	Oxford comp=Z,8µm,1.1s	19.68	22	*e*P		P	18 07 14.2	-1.4
OXF				pmax		pmax		
OXF	Oxford comp=Z,8µm,1.1s	19.68	22	*e*P		P	18 07 14.2	-1.4
W42A	Bald Knob baz=199,SNR=24	19.70	17	P		P	18 07 15.4	-0.3
060A	Indiantown baz=241	19.73	55	P		P	18 07 14.6	-1.6
V39A	Pettigrew baz=193,SNR=1000	19.74	11	P		P	18 07 15.9	-0.4
W43A	Forest City baz=202,SNR=27	19.77	19	P		P	18 07 15.7	-0.8
ANMO	Albuquerque comp=Z,4.9nm,0.3s,baz=333,slow=12,SNR=198	19.77	340	P		Pn	18 07 17.7	-0.7
ANMO				S		S	18 10 56.8	-2.2
ANMO	comp=Z,0.4nm,0.3s,baz=341,slow=18,SNR=1.3			LR		LR	18 15 36.6	
ANMO	Albuquerque comp=Z,4015µm,19.0s,baz=341,slow=39	19.77	340	P		Pn	18 07 17.6	-0.8
ANMO	Albuquerque baz=156	19.77	340	*c* *i*P		Pn	18 07 17.9	-0.5
ANMO				MLR		MLR		
ANMO	Albuquerque	19.77	340	*e*P		P	18 07 17.2	+0.4
ANMO				S		S	18 10 56.8	-2.2
Y47A	UCPARC, Winfie baz=211	19.77	27	P		P	18 07 16.1	-0.5
Z49A	Columbiana baz=215	19.79	31	P		P	18 07 16.7	0.0
252A	Lumpkin baz=222	19.80	36	P		P	18 07 16.0	-0.9
MCJ	Malvern	19.81	83	⇑*i*P		P	18 07 17.6	+0.3
MCJ				*i* P		pP	18 07 21.8	-0.9
UPA	Univ. de Panam	19.81	110	⇑*i*P		Pn	18 07 18.2	-0.6
859A	Kempfer Cattle baz=238,SNR=17	19.83	51	P		P	18 07 15.9	-1.4
151A	Opelika baz=219	19.88	34	P		P	18 07 17.1	-0.7
V40A	Witts Springs baz=195,SNR=811	19.88	13	P		P	18 07 17.3	-0.5
556A	Lake Butler baz=230	19.88	45	P		P	18 07 16.2	-1.6
455A	Stateville baz=228	19.95	42	P		P	18 07 17.3	-1.3
MTDJ	Mount Denham comp=Z,6µm,1.3s	19.96	82	*e*P		P	18 07 18.4	-0.6
MTDJ	Mount Denham	19.96	82	*e*P		P	18 07 19.6	+0.7
657A	Interlachen baz=232	19.99	46	P		P	18 07 17.3	-1.8
V41A	Mountainview baz=197,SNR=457	20.02	15	P		P	18 07 18.7	-0.6
X46A	Booneville baz=208,SNR=191	20.03	24	P		P	18 07 18.9	-0.5
MET	Memphis--Engin comp=Z,14µm,1.8s	20.05	21	*e*P		P	18 07 18.2	-1.3
TIGA	Tifton baz=225	20.07	39	P		P	18 07 19.1	-0.9
TIGA	Tifton comp=Z,5µm,1.0s	20.07	39	*e*P		P	18 07 18.5	-1.4
Y48A	Jasper baz=212	20.08	28	P		P	18 07 19.4	-0.6
758A	Lake Helen baz=235	20.10	49	P		P	18 07 18.6	-1.7
W44A	Shelby Farms P baz=204	20.10	21	P		P	18 07 19.2	-0.9
HHAR	Hobbs comp=Z,5µm,1.5s	20.12	10	*e*P		P	18 07 19.2	-1.2
Z50A	Ashland baz=216	20.14	32	P		P	18 07 20.5	-0.1
253A	Americus baz=223	20.20	37	P		P	18 07 20.2	-1.1
BBJ	Bamboo Saint A	20.22	82	⇓*i*P		P	18 07 22.5	+0.8
V42A	Cord baz=199,SNR=203	20.23	17	P		P	18 07 20.8	-0.9
214A	Organ Pipe Nat baz=136	20.24	322	P		Pn	18 07 22.9	-0.9
X47A	Russelville baz=210	20.29	26	P		P	18 07 21.4	-0.9
U39A	Green Forest baz=193,SNR=478	20.30	11	P		P	18 07 21.6	-0.8
PCJ	Portland Cotta	20.31	83	⇓*i*P		P	18 07 22.4	-0.2
658A	Bunnell baz=234	20.32	48	P		P	18 07 20.7	-1.9
W45A	Hickory Valley baz=206,SNR=50	20.34	22	P		P	18 07 21.8	-1.0
557A	Orange Park baz=232,SNR=16	20.35	46	P		P	18 07 21.0	-1.9
Y49A	Blount Mountai baz=214	20.38	30	P		P	18 07 23.0	-0.3
U40A	Yellville baz=195,SNR=377	20.40	13	P		P	18 07 23.1	-0.4
V43A	Jonesboro baz=202,SNR=12	20.46	18	P		P	18 07 23.2	-0.9
355A	Pearson baz=227	20.47	41	P		P	18 07 22.4	-1.8
X48A	Hartselle baz=212	20.59	27	P		P	18 07 24.7	-0.8
456A	Hilliard baz=230,SNR=14	20.59	44	P		P	18 07 24.1	-1.4
MAPC	Malpelo	20.61	125	*e*P		P	18 07 26.7	+0.8
U41A	Viola baz=197,SNR=443	20.61	15	P		P	18 07 25.1	-0.5
PLAL	Pickwick Lake comp=Z,15µm,1.6s	20.61	25	*e*P		P	18 07 24.6	-1.1
254A	Abbeville baz=225	20.61	39	P		P	18 07 24.5	-1.3
W46A	Michie baz=208,SNR=32	20.62	24	P		P	18 07 24.8	-1.0
STH	Stony Hill	20.65	82	⇑*i*P		P	18 07 26.0	-0.3
V44A	Blytheville baz=203,SNR=22	20.70	20	P		P	18 07 25.9	-0.8
HOJ	Hope	20.70	83	*i* P		Pn	18 07 30.7	+1.4
Y50A	Piedmont baz=216	20.74	31	P		P	18 07 26.5	-0.6
X18A	Snowflake comp=Z,4µm,1.3s	20.77	332	*e*P		Pn	18 07 29.3	-0.8
U42A	Revenden baz=199,SNR=404	20.79	16	P		P	18 07 26.8	-0.8
T38A	Diamond baz=191,SNR=196	20.80	9	P		P	18 07 26.9	-0.8
153A	Fort Valley baz=222	20.80	37	P		P	18 07 27.1	-0.7
457A	Yulee baz=231,SNR=15	20.84	45	P		P	18 07 26.2	-2.0
356A	Blackshear baz=228	20.91	42	P		P	18 07 27.5	-1.5
T39A	Clever baz=193,SNR=133	20.94	11	P		P	18 07 28.5	-0.8
V45A	Humboldt baz=206,SNR=62	20.94	22	P		P	18 07 28.4	-0.9
X49A	Woodville baz=214	20.96	29	P		P	18 07 28.8	-0.8
W47A	Westpoint baz=210	21.04	25	P		P	18 07 29.2	-1.1
U43A	Rector baz=201,SNR=21	21.04	18	P		P	18 07 29.3	-1.0
W18A	Petrified Fore baz=148,SNR=122	21.17	333	P		P	18 07 33.4	+1.4
W18A	Petrified Fore comp=Z,2µm,1.3s	21.17	333	*e*P		P	18 07 33.3	+1.3
154A	Montrose baz=224	21.19	38	P		P	18 07 31.0	-1.1
W48A	Pulaski baz=211	21.22	27	P		P	18 07 31.5	-0.8
T40A	Mansfield baz=195,SNR=458	21.24	13	P		P	18 07 31.8	-0.7
X50A	Fort Payne baz=215	21.24	30	P		P	18 07 31.7	-0.8
T25A	Trinidad baz=164,SNR=542	21.27	347	P		P	18 07 33.8	+0.7
T25A	Trinidad comp=Z,5µm,1.3s	21.27	347	*e*P		P	18 07 33.5	+0.4
SPIG	San Pedro Mart	21.29	316	*e*P		P	18 07 34.8	+1.3
SPIG	San Pedro Mart	21.29	316	*e*P		P	18 07 34.8	+1.3
PVMO	Portageville comp=Z,6µm,1.1s	21.30	20	*e*P		P	18 07 31.8	-1.4
T41A	Mountain View baz=197,SNR=515	21.31	15	P		P	18 07 32.8	-0.5
V46A	Holladay baz=208	21.31	23	P		P	18 07 32.0	-1.3
MHTCO	State Highway comp=Z,3µm,1.3s	21.32	346	*e*P		P	18 07 33.6	0.0
U44B	Burton Farm, H baz=204	21.35	20	P		P	18 07 32.6	-1.0
X16A	Lo Mia Camp, P comp=Z,2µm,0.9s	21.38	329	*e*P		P	18 07 35.5	+1.3
113A	Mohawk Valley, comp=Z,3µm,1.5s	21.38	322	*e*P		P	18 07 35.0	+0.9
U44A	Portageville baz=203,SNR=22	21.39	19	P		P	18 07 33.0	-1.1
357A	Townsend baz=229	21.39	43	P		P	18 07 32.9	-1.3
PBMO	Poplar Bluff comp=Z,12µm,1.8s	21.42	18	*e*P		P	18 07 33.1	-1.3
S38A	Stockton baz=191,SNR=754	21.44	10	P		P	18 07 33.3	-1.4
T42A	Van Buren baz=199	21.47	16	P		P	18 07 34.0	-0.9
256A	Glennville baz=228	21.50	41	P		P	18 07 33.5	-1.8
UTMT	University of comp=Z,34µm,1.5s	21.52	21	*e*P		P	18 07 34.4	-1.1
U45A	Rockin P Farm, baz=205,SNR=110	21.56	22	P		P	18 07 34.5	-1.5
V47A	Nunnelly baz=209	21.57	25	P		P	18 07 34.8	-1.2
GOGA	Godfrey baz=222	21.57	36	P		P	18 07 35.0	-1.0
GOGA	Godfrey	21.57	36	*e*P		P	18 07 34.7	-1.4
GOGA				pmax		pmax		
GOGA	comp=Z,2µm,0.9s			MLR		MLR		
GOGA	comp=Z,1660µm,22.0s	21.57	36	*e*P		P	18 07 34.6	-1.4
GOGA	comp=Z,2µm,0.9s			LR		LR		
GOGA	comp=Z,1660µm,22.0s							
S39A	Bolivar baz=193,SNR=484	21.60	11	P		P	18 07 35.2	-1.2
S40A	Lebanon baz=195,SNR=281	21.67	13	P		P	18 07 36.2	-0.9
WVT	Waverly baz=208	21.71	24	P		P	18 07 36.2	-1.3
WVT	Waverly	21.71	24	*e*P		P	18 07 35.9	-1.6
WVT				pmax		pmax		
WVT	comp=Z,10µm,1.9s	21.71	24	*e*P		P	18 07 35.9	-1.6
T43A	comp=Z,21µm,1.9s Greenville baz=201	21.74	18	P		P	18 07 36.7	-1.1
V48A	Smith Brothers baz=211	21.78	26	P		P	18 07 37.4	-0.9
U46A	Springville baz=207,SNR=55	21.78	23	P		P	18 07 37.0	-1.3
Y14A	Wickenburg comp=Z,13µm,1.3s	21.81	326	*e*P		P	18 07 39.7	+1.0
S41A	Jilco Farms, baz=197,SNR=145	21.83	14	P		P	18 07 38.0	-0.8
CAPC	Capurgana	21.93	108	*e*P		P	18 07 42.3	+2.2
T44A	Benton baz=203,SNR=69	21.95	19	P		P	18 07 39.1	-1.1
R38A	Fenwick Farm, baz=191	21.98	9	P		P	18 07 39.1	-1.4
257A	Skidaway Islan baz=229	22.05	42	P		P	18 07 39.7	-1.5
SDCO	Great Sand Dun baz=161,SNR=210	22.10	345	P		P	18 07 42.6	+0.5
SDCO	Great Sand Dun comp=Z,2µm,1.4s	22.10	345	*e*P		P	18 07 42.1	0.0
SDCO	comp=Z,956µm,19.0s			LR		LR		
U47A	Clarksville baz=209	22.19	24	P		P	18 07 41.2	-1.6
T45A	Paducah baz=205,SNR=48	22.20	21	P		P	18 07 41.6	-1.3
GLA	Glamis baz=134	22.21	321	P		P	18 07 43.6	+0.5
GLA	Glamis	22.21	321	*e*P		P	18 07 43.8	+0.7
GLA				pmax		pmax		
GLA	comp=Z,9µm,2.0s	22.21	321	*e*P		P	18 07 43.8	+0.7
WUAZ	comp=Z,9µm,2.0s Wupatki baz=145,SNR=618	22.24	331	P		P	18 07 44.9	+1.5
WUAZ	Wupatki	22.24	331	*e*P		P	18 07 44.8	+1.4
WUAZ	comp=Z,6µm,1.4s			LR		LR		
WUAZ	comp=Z,3845µm,19.0s							
S42A	Caledonia baz=199,SNR=450	22.24	16	P		P	18 07 41.9	-1.4
S43A	Fulton Ridge, baz=201,SNR=50	22.26	18	P		P	18 07 42.2	-1.2
R39A	Chumby, Stover baz=193,SNR=621	22.26	11	P		P	18 07 42.1	-1.3
CBKS	Cedar Bluff baz=176,SNR=59	22.29	357	P		P	18 07 43.0	-0.8
CBKS	Cedar Bluff	22.29	357	*e*P		P	18 07 42.5	-1.3
CBKS				pmax		pmax		
CBKS	comp=Z,3µm,1.1s			MLR		MLR		
CBKS	comp=Z,1656µm,22.0s	22.29	357	*e*P		P	18 07 42.5	-1.3
CBKS	Cedar Bluff comp=Z,3µm,1.1s			LR		LR		
CBKS	comp=Z,1656µm,22.0s							
GTBY	Guantanamo Bay comp=Z,6µm,1.1s	22.36	78	*e*P		P	18 07 43.7	-0.9
GTBY				LR		LR		
GTBY	comp=Z,1104µm,20.0s	22.36	78	*e*P		P	18 07 42.9	-1.7
R40A	Guantanamo Bay Maddies Statio baz=195,SNR=218	22.39	13	P		P	18 07 43.6	-1.2
S22A	4UR Ranch, Cre	22.47	342	P		P	18 07 46.1	+0.1

baz=158,SNR=115
S22A 4UR Ranch, Cre 22.47 342 eP P 18 07 46.5 +0.5
comp=Z,6µm,1.8s
T46A Princeton 22.49 22 P P 18 07 45.6 -0.3
baz=207
MVCO Mesa Verde 22.52 338 P P 18 07 46.8 +0.3
baz=154,SNR=199
MVCO Mesa Verde 22.52 338 eP P 18 07 46.6 +0.1
comp=Z,8µm,1.4s
MVCO LR LR
comp=Z,5213µm,22.0s
Y12C Blythe 22.53 323 P P 18 07 47.1 +0.7
baz=136
Y12C Blythe 22.53 323 eP P 18 07 46.9 +0.6
comp=Z,1µm,1.4s
FVM French Village 22.54 17 eP P 18 07 44.1 -2.4
FVM pmax pmax
comp=Z,3µm,1.4s
FVM French Village 22.54 17 eP P 18 07 44.1 -2.4
comp=Z,3µm,1.4s
U48A Cassie Pea, Po 22.55 26 P P 18 07 45.5 -1.1
baz=210
Q37A Longview Farm, 22.58 8 P P 18 07 44.8 -2.1
baz=189,SNR=77
R41A Rosebud 22.59 14 P P 18 07 45.6 -1.4
baz=197,SNR=88
KSU1 Kansas State U 22.60 4 P P 18 07 45.9 -1.1
baz=184,SNR=74
KSU1 Kansas State U 22.60 4 eP P 18 07 45.4 -1.6
comp=Z,2µm,1.1s
KSU1 LR LR
comp=Z,1909µm,19.0s
S44A Carbondale 22.62 19 P P 18 07 45.7 -1.5
baz=203,SNR=95
SIUC Southern Illin 22.65 19 eP P 18 07 45.5 -2.1
comp=Z,6µm,1.3s
PDMCI Parker Dam,Lak 22.71 324 P P 18 07 48.9 +0.6
baz=137
R42A Luebbering 22.72 16 P P 18 07 46.7 -1.7
baz=199
T47A Sharon Grove 22.74 24 P P 18 07 47.0 -1.6
baz=209
SWSC Sam W. Stewart 22.74 319 P P 18 07 49.4 +0.8
baz=132
IKP In-Ko-Pah, Jac 22.74 318 P P 18 07 49.5 +0.7
baz=131
KSCO Kaye Shedlock' 22.76 351 P P 18 07 48.9 0.0
baz=169,SNR=122
KSCO Kaye Shedlock' 22.76 351 eP P 18 07 48.5 -0.4
comp=Z,6µm,1.4s
Q38A Cooks Store, C 22.79 10 P P 18 07 47.6 -1.4
baz=192,SNR=70
S45A Carrier Mills 22.82 20 P P 18 07 48.0 -1.4
baz=204
HODGE Hodges 22.85 36 eP P 18 07 47.7 -2.1
comp=Z,2µm,1.1s
SOLC Bahia Solano 22.91 114 eP P 18 07 54.7 +4.1
R43A Red Bud 22.95 17 P P 18 07 49.3 -1.5
baz=201,SNR=98
TJIG Tijuana 22.97 317 i P P 18 07 59.3 +8.3
Q39A Willow Grove F 22.98 11 P P 18 07 49.5 -1.5
baz=193,SNR=188
BC3 Big Chuckawall 23.01 321 P P 18 07 52.1 +0.6
baz=134
BG3 Lake Jocassee 23.04 34 eP P 18 07 50.6 -1.1
comp=Z,1µm,1.0s
MONP2 Monument Peak 23.10 318 P P 18 07 53.4 +0.8
baz=131
Q40A Laux Farm, Aux 23.11 13 P P 18 07 50.9 -1.4
baz=195,SNR=91
TKL Tuckaleechee C 23.12 32 P P 18 07 51.1 -1.4
comp=Z,84nm,0.7s,baz=216,slow=9.1,SNR=65
TKL S S 18 12 00.7 -2.3
comp=Z,146nm,1.0s,baz=188,slow=19,SNR=1.8
TKL LR LR 18 17 41.3
comp=Z,305µm,22.0s,baz=222,slow=39
TKL Tuckaleechee C 23.12 32 eP P 18 07 50.8 -1.7
comp=Z,8µm,1.5s
TKL S S 18 12 00.7 -2.3
BAR Barrett 23.12 318 eP P 18 07 53.0 +0.3
S46A Don Dixon Farm 23.13 22 P P 18 07 51.1 -1.4
baz=206,SNR=69
T48A Bowling Green 23.13 25 P P 18 07 51.2 -1.4
baz=210
W13A Hualapai Mount 23.16 326 eP P 18 07 53.8 +0.5
comp=Z,2µm,1.8s
IRM Iron Mountain 23.18 323 P P 18 07 54.1 +0.9
baz=135
IRM Iron Mountain 23.18 323 eP P 18 07 54.1 +0.9
R44A Waltonville 23.18 19 P P 18 07 51.5 -1.6
baz=203,SNR=456
Q24A Divide 23.18 346 P P 18 07 53.3 -0.1
baz=163,SNR=502
Q24A Divide 23.18 346 eP P 18 07 53.2 -0.3
comp=Z,5µm,1.5s
RGRS Roger Stewart 23.19 42 eP P 18 07 53.2 0.0
comp=Z,18µm,1.0s
SLM Saint Louis 23.20 16 eP P 18 07 51.4 -1.9
SLM pmax pmax
comp=Z,8µm,1.7s
SLM Saint Louis 23.20 16 eP P 18 07 51.4 -1.9
comp=Z,8µm,1.7s
Q41A Truxton 23.25 14 P P 18 07 52.1 -1.7
baz=197
P37A Lathrop 23.30 8 P P 18 07 52.8 -1.5
baz=189,SNR=96
CSU Charleston Sou 23.32 42 eP P 18 07 52.9 -1.6
NEE2 Needles Airpor 23.32 324 P P 18 07 55.2 +0.6
baz=137
NHSC New Hope 23.33 41 P P 18 07 53.6 -1.0
baz=229
NHSC New Hope 23.33 41 eP P 18 07 53.1 -1.6
comp=Z,13µm,1.1s
NHSC LR LR
comp=Z,1242µm,21.0s
BORC Borrego Spring 23.34 319 eP P 18 07 55.5 +0.7
EML El Monte Cty P 23.37 318 eP P 18 07 59.8 +4.7
PV01 Paradox Valley 23.37 339 eP P 18 07 55.6 +0.2
Q42A Golden Eagle 23.39 16 P P 18 07 53.6 -1.5
baz=199,SNR=108
USIN University of 23.39 22 eP P 18 07 53.5 -1.7
comp=Z,18µm,1.4s
U15A North Rim 23.41 331 eP P 18 07 56.8 +1.1
comp=Z,9µm,1.6s
MOTC Monteria, Cord 23.42 106 eP P 18 07 54.9 -0.8
P39B Salisbury 23.45 11 P P 18 07 54.1 -1.7
baz=193
P38A Dawn 23.45 9 P P 18 07 54.0 -1.8
baz=191,SNR=47
JSC Jenkinsville 23.46 38 eP P 18 07 54.9 -1.1
JSC pmax pmax
comp=Z,3µm,1.3s
JSC Jenkinsville 23.46 38 eP P 18 07 54.9 -1.1
comp=Z,3µm,1.3s
R45A Skylar, Fairfi 23.48 20 P P 18 07 54.7 -1.4
baz=205,SNR=136
DPP Dos Picos Cty 23.50 318 eP P 18 07 57.6 +1.2
PV05 Paradox Valley 23.50 338 eP P 18 07 56.7 +0.1
O33A Hebron 23.53 2 P P 18 07 55.5 -1.1
baz=182,SNR=185
PAULI Pauline 23.53 36 eP P 18 07 55.4 -1.2
comp=Z,593nm,0.9s
109C Camp Elliot, M 23.54 317 P P 18 07 57.1 +0.4
baz=129
CPE Camp Elliot 23.54 317 eP P 18 07 57.1 +0.4
comp=Z,2µm,1.5s
BELC Belle Mtn. Jos 23.58 321 P P 18 07 57.9 +0.6
baz=133
BELC Belle Mtn. Jos 23.58 321 eP P 18 07 58.2 +0.9
XPFO Piæon Flat 23.59 320 eP P 18 07 58.0 +0.6
comp=Z,3µm,2.0s
PFO Pinyon Flats O 23.60 320 P P 18 07 58.1 +0.6
baz=132
PFO Pinyon Flats O 23.60 320 eP P 18 07 58.1 +0.6
PFO pmax pmax
comp=Z,3µm,2.0s
PFO MLR MLR
comp=Z,1170µm,19.0s
PFO Pinyon Flats O 23.60 320 eP P 18 07 58.0 +0.6
comp=Z,3µm,2.0s
PFO LR LR
comp=Z,1170µm,19.0s
FRD Ford Ranch, An 23.61 319 eP P 18 07 58.6 +1.1
DBBC Dabeiba 23.62 111 eP P 18 08 01.1 +3.3
P40A Paris 23.63 12 P P 18 07 55.8 -1.7
baz=195,SNR=330
Q43A New Douglas 23.64 17 P P 18 07 56.2 -1.5
baz=201
SNDA J Saunders Pla 23.65 319 eP P 18 07 59.1 +1.1
DANC Danby, Needles 23.66 323 eP P 18 07 59.1 +1.2
O34A Beatrice 23.67 3 P P 18 07 56.9 -1.1
baz=184
R46A Gibson Southern 23.67 22 P P 18 07 56.6 -1.3
baz=206
PLM Palomar 23.68 319 eP P 18 07 59.1 +0.7
PLM Palomar 23.68 319 eP P 18 07 59.0 +0.7
TPC Twentynine Pal 23.68 321 eP P 18 07 58.8 +0.7
S48A Wiedeman Farm, 23.73 25 P P 18 07 57.3 -1.3
baz=210
CRY Cary Ranch 23.74 319 eP P 18 08 00.0 +1.2
PV10 Paradox Valley 23.75 339 eP P 18 07 58.2 -0.8
Q44A Meyer Farm, Va 23.80 18 P P 18 07 57.9 -1.3
baz=202
O35A Humboldt 23.80 5 P P 18 07 57.8 -1.4
baz=186,SNR=121
LDFC Landfair 23.82 324 eP P 18 08 01.1 +1.5
comp=Z,4µm,1.4s
LDFC eSn Sn 18 12 39.5 +2.4
SMCO Snowmass 23.84 343 eP P 18 08 00.2 +0.2
comp=Z,5µm,1.4s
PV09 Paradox Valley 23.89 339 eP P 18 08 00.7 +0.3
O37A Wolven Farm, M 23.89 8 P P 18 07 58.2 -1.8
baz=190
GMRC Granite Mounta 23.92 323 P P 18 08 01.5 +0.9
baz=135
TZTN Tazewell 23.93 31 P P 18 08 00.0 -0.5
baz=217
TZTN Tazewell 23.93 31 eP P 18 07 59.6 -0.9
comp=Z,16µm,1.8s
OLIL Olney 23.94 20 eP P 18 07 59.1 -1.4
comp=Z,7µm,1.4s
O38A Galt 23.95 9 P P 18 07 58.9 -1.7
baz=191
GRGC Isla de Gorgon 23.95 122 eP P 18 08 01.7 +0.8
DGR Domenigoni Val 23.96 319 eP P 18 08 01.7 +0.8
P41A Barry, Barry 23.98 14 P P 18 07 59.3 -1.6
baz=197
HMTC Hemet 24.00 319 eP P 18 08 02.1 +0.9
KMSC Kings Mountain 24.03 36 P P 18 08 00.8 -0.6
baz=223
KMSC Kings Mountain 24.03 36 eP P 18 08 00.7 -0.8
comp=Z,2µm,1.1s
MURC Murrieta 24.05 319 P P 18 08 02.4 +0.7
baz=130
Q45A Warren Harvey, 24.06 20 P P 18 08 00.4 -1.3
baz=204
P42A Winchester 24.07 15 P P 18 08 01.0 -0.7
baz=199
MALC Bahia Malaga 24.08 119 eP P 18 08 04.7 +2.6
ISCO Idaho Springs 24.08 346 P P 18 08 02.8 +0.5
baz=162,SNR=383
ISCO Idaho Springs 24.08 346 eP P 18 08 02.5 +0.2
ISCO pmax pmax
comp=Z,9µm,1.7s
ISCO MLR MLR
comp=Z,638µm,21.0s
ISCO Idaho Springs 24.08 346 eP P 18 08 02.5 +0.2
comp=Z,9µm,1.7s
ISCO LR LR
comp=Z,638µm,21.0s
R47A Wooly Knot Far 24.10 23 P P 18 08 01.7 -0.4
baz=208
KNB Kanab 24.13 331 eP P 18 08 02.9 +0.3
KNB pmax pmax
comp=Z,9µm,1.7s
KNB Kanab 24.13 331 eP P 18 08 02.9 +0.3
comp=Z,9µm,1.7s
WCI Wyandotte Cave 24.14 24 P P 18 08 01.7 -0.7
baz=209
WCI Wyandotte Cave 24.14 24 eP P 18 08 01.2 -1.1
WCI pmax pmax
comp=Z,10µm,2.0s
WCI Wyandotte Cave 24.14 24 eP P 18 08 01.2 -1.1
comp=Z,29µm,2.0s
N33A J Bar K, Exete 24.19 2 P P 18 08 02.3 -0.6
baz=182,SNR=82
TUMC Tumaco 24.20 125 eP P 18 08 04.8 +1.6
comp=Z,6µm,1.8s
TUMC Tumaco 24.20 125 eP P 18 08 06.1 +2.9
O39A Kirksville 24.23 11 P P 18 08 01.9 -1.4
baz=193
O40A La Belle 24.23 12 P P 18 08 01.8 -1.4
baz=195
PKCU Pink Cliffs 24.25 332 eP P 18 08 05.0 +1.1
comp=Z,11µm,1.9s
BBRC Big Bear Solar 24.32 320 P P 18 08 05.2 +0.8
baz=132
BBRC Big Bear Solar 24.32 320 ePcP PcP 18 11 43.4 -0.6
LCMT Little Creek M 24.33 330 eP P 18 08 04.8 +0.5
comp=Z,2µm,1.7s
N34A Lincoln 24.33 3 P P 18 08 03.7 -0.5
baz=184
P43A Skaggs, Pawnee 24.34 17 P P 18 08 03.4 -0.8
baz=201
HEC Hector,Ludlow 24.35 322 P P 18 08 05.6 +1.1
baz=134
HEC Hector,Ludlow 24.35 322 eP P 18 08 05.6 +1.1
N35A Tabor 24.42 5 P P 18 08 04.3 -0.6
baz=186
N36A Muff Farm, Cla 24.43 6 P P 18 08 04.1 -1.0
baz=188
P44A Sand Creek, Wi 24.44 18 P P 18 08 04.3 -0.8
baz=203
O41A Passleys Farm, 24.44 14 P P 18 08 04.0 -1.1
baz=197
Q46A CEJHS Indians, 24.45 21 P P 18 08 04.4 -0.8
baz=206,SNR=29
R48A Northridge Ran 24.45 24 P P 18 08 04.6 -0.6
baz=210
N37A Lee Faris, Mou 24.47 8 P P 18 08 04.4 -1.0
baz=189
PLMC San Jos¨ del 24.52 116 eP P 18 08 08.4 +2.1
TUQ Turquoise Moun 24.54 324 P P 18 08 07.1 +0.9
baz=136
SCI2 San Clemente I 24.54 316 P P 18 08 06.8 +0.6
baz=127
HELC Santa Helena 24.59 112 eP P 18 08 08.0 +0.9
comp=Z,7µm,1.6s
HELC Santa Helena 24.59 112 eP P 18 08 09.1 +1.9
OGNE Ogallala 24.59 353 P P 18 08 07.2 +0.6
baz=171,SNR=199
OGNE Ogallala 24.59 353 eP P 18 08 07.0 +0.4
comp=Z,14µm,1.8s
OGNE LR LR
comp=Z,1044µm,22.0s
N38A Joes South For 24.64 9 P P 18 08 06.3 -0.7
baz=192
ZARC Zaragoza, Cauc 24.64 108 eP P 18 08 06.1 -1.2
LGNH LÒogne 24.65 81 eP P 18 08 08.4 +1.1
BREC Barre Substati 24.68 318 eP P 18 08 06.9 -0.5
MTPU Mount Pierson 24.69 333 eP P 18 08 08.7 +0.8
comp=Z,5µm,1.2s
Q47A Bedord North L 24.70 23 P P 18 08 07.2 -0.4
baz=208
O42A Bath 24.71 15 P P 18 08 06.5 -1.0
baz=199
CIAC Catalina I. Ai 24.71 317 eP P 18 08 09.1 +1.4
CIS Catalina Islan 24.71 317 P P 18 08 08.1 +0.4
baz=128
SZCU Shurtz Canyon 24.73 331 eP P 18 08 08.7 +0.7
comp=Z,7µm,2.0s
BFSC Mount Baldy Ra 24.76 319 P P 18 08 08.7 +0.5
baz=131
P45A Graceland, Par 24.77 20 P P 18 08 07.4 -0.7
baz=205,SNR=42
RRX Edison Barstow 24.77 321 P P 18 08 09.2 +0.9
baz=133,SNR=8.2
CCUT Cedar City 24.82 331 eP P 18 08 09.8 +1.0
comp=Z,944nm,1.4s
FMP Fort Macarthur 24.83 317 P P 18 08 09.3 +0.6
baz=129
N39A Derby Farms, D 24.84 11 P P 18 08 08.2 -0.6
baz=193
BGNE Belgrade 24.85 0 P P 18 08 08.8 0.0
baz=180,SNR=33
BGNE Belgrade 24.85 0 eP P 18 08 08.8 0.0
comp=Z,3µm,1.1s
BLO Bloomington 24.88 22 eP P 18 08 08.7 -0.4
BLO pmax pmax
comp=Z,10µm,1.7s
BLO Bloomington 24.88 22 eP P 18 08 08.7 -0.4
comp=Z,13µm,1.7s
SHPR Sheep Range 24.90 326 eP P 18 08 10.0 +0.4
comp=Z,2µm,1.7s
SRU San Rafael Swe 24.93 337 eP P 18 08 09.4 -0.4
SRU pmax pmax
comp=Z,5µm,1.5s
SRU San Rafael Swe 24.93 337 eP P 18 08 09.4 -0.4
comp=Z,5µm,1.5s
YOTC Yotoco, Valle 24.94 117 eP P 18 08 11.5 +1.5
GSC Goldstone, Bar 24.95 322 P P 18 08 10.7 +0.8
baz=134
GSC Goldstone, Bar 24.95 322 eP P 18 08 10.8 +0.8
GSC pmax pmax
comp=Z,1µm,1.4s
GSC Goldstone, Bar 24.95 322 eP P 18 08 10.8 +0.8
comp=Z,1µm,1.4s
HORQ Saladito 24.96 119 eP P 18 08 13.0 +2.5
HORQ eP P 18 08 13.0 +2.5
M34A Aspy Farms, Fr 24.99 3 P P 18 08 10.1 0.0
baz=184,SNR=123
O43A Sugar Creek Fa 25.00 17 P P 18 08 09.5 -0.6
baz=201,SNR=49
MWC Mount Wilson 25.00 319 eP P 18 08 10.8 +0.3
MWC pmax pmax
comp=Z,6µm,2.0s
MWC Mount Wilson 25.00 319 eP P 18 08 10.8 +0.3
comp=Z,6µm,2.0s
N41A Harden Midland 25.01 14 P P 18 08 09.6 -0.7
baz=197
M35A Neola 25.01 5 P P 18 08 09.9 -0.4
baz=186,SNR=150
N40A Mertquake, Sal 25.02 12 P P 18 08 09.5 -0.9
baz=195
P46A Rosedale 25.03 21 P P 18 08 10.2 -0.3
baz=206
M33A Taylor Creek F 25.03 2 P P 18 08 10.3 -0.2
baz=182,SNR=116
PASC Pasadena Art C 25.05 318 eP P 18 08 11.4 +0.7
comp=Z,2µm,1.9s
CHFC Chilao Flat St 25.05 319 eP P 18 08 11.7 +0.7
BLKC Black Mountain 25.05 321 eP P 18 08 12.2 +1.3
SHOC Shoshone, Teco 25.07 324 P P 18 08 11.5 +0.6
baz=136
MSU Marysvale 25.08 334 eP P 18 08 11.8 +0.6
MSU Marysvale 25.08 334 eP P 18 08 11.8 +0.6
M36A Felix, Anita 25.08 6 P P 18 08 10.3 -0.7
baz=188
O20A White River Ci 25.09 342 P P 18 08 12.2 +0.9
baz=157,SNR=341
O20A White River Ci 25.09 342 eP P 18 08 12.0 +0.7
comp=Z,4µm,1.2s
CODC Agust¨›n Codaz 25.11 102 eP P 18 08 11.7 +0.3
O44A Mansfield 25.12 18 P P 18 08 10.7 -0.5
baz=202
M37A Trindle Farm, 25.12 8 P P 18 08 11.1 -0.2
baz=189,SNR=266
GUYC Guyana, Colomb 25.15 114 eP P 18 08 14.9 +2.6
DECC Green Verdugo 25.19 318 P P 18 08 12.9 +0.8
baz=130
N23A Red Feather La 25.20 346 P P 18 08 13.1 +0.7
baz=162
N23A Red Feather La 25.20 346 eP P 18 08 12.9 +0.6
comp=Z,3µm,1.4s
P47A Martinsville 25.25 22 P P 18 08 11.8 -0.6
baz=208
HDIL Hopedale 25.25 16 P P 18 08 12.1 -0.4
baz=200,SNR=38
HDIL Hopedale 25.25 16 eP P 18 08 11.8 -0.8
comp=Z,9µm,1.4s
HDIL LR LR
comp=Z,1637µm,19.0s
M38A Pleasantville 25.25 9 P P 18 08 11.8 -0.7
baz=191
TCRU Three Creeks R 25.28 333 eP P 18 08 13.8 +0.7
comp=Z,2µm,1.4s
P18A Preston Nutter 25.29 338 eP P 18 08 13.7 +0.4
comp=Z,4µm,1.2s
N42A Yates City 25.32 15 P P 18 08 12.6 -0.4
baz=199
P17A Butcher Ranch, 25.33 337 eP P 18 08 13.8 +0.3
comp=Z,5µm,1.7s
RREF El Recreo 25.34 114 eP P 18 08 15.2 +0.9
TMUT Trail Mountain 25.36 336 eP P 18 08 14.5 +0.7
comp=Z,2µm,1.4s
SNCC San Nicolas Is 25.36 315 P P 18 08 13.5 -0.1
baz=126,SNR=11
SNCC San Nicolas Is 25.36 315 eP P 18 08 14.0 +0.4
comp=Z,3µm,2.0s
EDW2 Edwards Air Fo 25.39 320 P P 18 08 14.3 +0.5
baz=131
PTBC PUERTO BERRIO, 25.40 110 eP P 18 08 15.9 +1.9
OTAV Otavalo 25.41 127 eP P 18 08 15.6 +0.8
comp=Z,677nm,1.2s
OTAV LR LR
comp=Z,589µm,20.0s
OTAV Otavalo 25.41 127 eP P 18 08 16.4 +1.7
O45A Potomac 25.43 19 P P 18 08 14.0 -0.2
baz=204
POPC Popayan, Colom 25.44 121 eP P 18 08 15.6 +0.9
FOXC Fox Airport 25.45 319 eP P 18 08 16.0 +1.6
L32A Elgin 25.45 1 P P 18 08 14.1 -0.2
baz=180
NORC Norcasia 25.45 113 eP P 18 08 16.0 +1.4
CMBC Cumbal 25.45 125 eP P 18 08 18.3 +3.2
L34A Svendsen Farm, 25.46 3 P P 18 08 13.9 -0.5
baz=184
M39A Webster 25.49 11 P P 18 08 13.9 -0.7
baz=194
PHWY Pilot Hill 25.49 348 eP P 18 08 15.3 +0.4
comp=Z,4µm,1.8s
TOLC Tolima 25.52 115 eP P 18 08 21.9 +6.4
M40A Post Highland 25.54 12 P P 18 08 14.4 -0.7
baz=195
BLG Laguna Peak, P 25.57 317 P P 18 08 16.3 +0.8
baz=128
LRMC Laurel Mtn Rad 25.60 321 P P 18 08 16.5 +0.7
baz=133
L33A Hoskins 25.62 2 P P 18 08 15.7 -0.2
baz=182,SNR=73
N43A Stutzman Famil 25.65 16 P P 18 08 15.7 -0.3
baz=200
GCUF Volcan Galeras 25.66 124 eP P 18 08 19.9 +2.9
L35A Bielow Farm, R 25.67 5 P P 18 08 15.6 -0.6
baz=186
OSI Osito Audit: C 25.67 319 P P 18 08 17.0 +0.6
baz=130
OSI Osito Audit: C 25.67 319 eP P 18 08 17.2 +0.8
comp=Z,1µm,1.3s
CPAS1 Pasto 25.70 124 eP P 18 08 23.2 +5.9
M41A Milan 25.72 14 P P 18 08 16.1 -0.6
baz=197
SOTA Rioblanco 25.72 121 eP P 18 08 19.3 +1.8
SCIA State Center 25.73 9 P P 18 08 16.3 -0.5
baz=191
SCIA State Center 25.73 9 eP P 18 08 16.0 -0.8
comp=Z,2µm,0.8s
SCIA LR LR
comp=Z,1472µm,20.0s
L36A Harm Buss Farm 25.74 6 P P 18 08 16.3 -0.6
baz=188,SNR=69
SFIN Lafayette 25.75 20 P P 18 08 16.8 -0.2
baz=205
SFIN Lafayette 25.75 20 eP P 18 08 16.4 -0.6
comp=Z,7µm,1.8s
OCAC Ocana 25.78 105 eP P 18 08 20.3 +2.6
PCON Cinco Dias 25.79 121 eP P 18 08 20.2 +2.0
FURC Furnace Creek, 25.81 324 P P 18 08 18.4 +0.9
baz=136
N44A Piper City 25.81 18 P P 18 08 17.0 -0.5
baz=203
BRRC Barranca, Sant 25.84 108 eP P 18 08 19.5 +1.4
L37A Phoenix Point, 25.87 8 P P 18 08 17.5 -0.6
baz=190
MARP Paez Belalcaza 25.87 119 eP P 18 08 12.0 -6.7
MPMC Manual Prospec 25.88 323 P P 18 08 19.1 +0.6
baz=134
SCZ2 Santa Cruz Isl 25.88 316 P P 18 08 18.7 +0.4
baz=127,SNR=12
SDDR Presa de Saban 25.91 80 eP P 18 08 19.4 +0.6
comp=Z,21µm,2.0s
SDDR LR LR
comp=Z,1288µm,21.0s
O47A Sheridan 25.94 22 P P 18 08 18.0 -0.8
baz=207
M42A Sheffield 25.98 15 P P 18 08 18.6 -0.5
baz=199
L38A Oak Wood Farm, 26.00 9 P P 18 08 18.5 -0.8
baz=192
URIC Uribia, Colomb 26.01 97 eP P 18 08 20.8 +1.2
N45A Kentland 26.04 19 P P 18 08 19.4 -0.3

baz=204
BLA Blacksburg 26.05 34 P **P 18 08 19.3 -0.5**
baz=222
BLA Blacksburg 26.05 34 *e*P **P 18 08 19.4 -0.4**
BLA pmax pmax
comp=Z,10µm,1.8s
BLA MLR MLR
comp=Z,603µm,22.0s
BLA Blacksburg 26.05 34 *e*P **P 18 08 19.4 -0.4**
comp=Z,13µm,1.8s
BLA LR LR
comp=Z,603µm,22.0s
K31A O'Neill 26.06 359 P **P 18 08 20.0 +0.1**
baz=179,SNR=68
ARVC Arvin 26.07 319 P **P 18 08 20.6 +0.6**
baz=130
K33A Hardington 26.07 2 P **P 18 08 19.7 -0.2**
baz=183,SNR=92
DAC Darwin (Calif) 26.09 323 *e*P **P 18 08 20.7 +0.3**
DAC pmax pmax
comp=Z,895nm,1.4s
DAC Darwin (Calif) 26.09 323 *e*P **P 18 08 20.7 +0.3**
comp=Z,895nm,1.4s
K32A Verdigre 26.10 1 P **P 18 08 20.0 -0.2**
baz=181,SNR=30
L39A Vinton 26.14 11 P **P 18 08 19.6 -0.9**
baz=194
MPU Maple Canyon 26.14 336 *e*P **P 18 08 21.4 +0.6**
comp=Z,876nm,1.1s
CNNC Cliffs of the 26.15 41 P **P 18 08 19.8 -0.9**
baz=229
CNNC Cliffs of the 26.15 41 *e*P **P 18 08 19.8 -0.9**
comp=Z,2µm,0.9s
CNNC LR LR
comp=Z,1168µm,21.0s
M43A Waltham Townsh 26.17 16 P **P 18 08 20.4 -0.3**
baz=200
ISA Isabella, Lake 26.20 321 P **P 18 08 22.2 +1.0**
baz=132
ISA Isabella, Lake 26.20 321 *e*P **P 18 08 22.0 +0.8**
ISA pmax pmax
comp=Z,1µm,1.6s
ISA Isabella, Lake 26.20 321 *e*P **P 18 08 22.0 +0.8**
comp=Z,1µm,1.6s
K34A Le Mars 26.20 4 P **P 18 08 20.4 -0.6**
baz=185,SNR=96
SBC Santa Barbara 26.20 317 P **P 18 08 22.0 +0.8**
baz=128
SBC Santa Barbara 26.20 317 *e*P **P 18 08 22.4 +1.2**
GRTK Grand Turk 26.22 75 *e*P **P 18 08 22.1 +0.7**
comp=Z,9µm,1.5s
GRTK LR LR
comp=Z,2368µm,20.0s
L40A Anamosa 26.23 12 P **P 18 08 20.4 -1.0**
baz=195
RWWY Rawlins 26.26 345 *e*P **P 18 08 21.6 -0.3**
comp=Z,6µm,1.5s
NLU North Lily Min 26.26 336 *e*P **P 18 08 22.8 +0.9**
comp=Z,5µm,1.8s
ROSC El Rosal 26.27 113 P **P 18 08 23.9 +1.4**
comp=Z,7.0nm,0.4s,baz=319,slow=11,SNR=19
ROSC S **S 18 12 55.6 +1.1**
comp=Z,21nm,0.8s,baz=226,slow=13,SNR=1.7
ROSC El Rosal 26.27 113 *e*P **P 18 08 25.0 +2.6**
comp=Z,3µm,1.5s
ROSC S **S 18 12 55.6 +1.1**
ROSC El Rosal 26.27 113 *e*P **P 18 08 26.0 +3.5**
K36A Gilmore City 26.29 7 P **P 18 08 20.8 -1.1**
baz=188,SNR=42
CTAB Cerro Tablazo, 26.29 113 *e*P **P 18 08 26.3 +3.6**
K35A Storm Lake 26.30 5 P **P 18 08 21.5 -0.5**
baz=186
VWCC Virginia Weste 26.31 35 *e*P **P 18 08 21.2 -0.9**
PRAC Prado 26.32 116 *e*P **P 18 08 23.1 +0.6**
comp=Z,2µm,1.3s
PRAC Prado 26.32 116 *e*P **P 18 08 24.9 +2.4**
N46A Monticello 26.34 20 P **P 18 08 21.9 -0.5**
baz=206
M44A Midewin, Midew 26.38 18 P **P 18 08 22.2 -0.5**
baz=202
BETC Betania 26.39 119 *e*P **P 18 08 28.6 +5.5**
L41A Preston 26.40 13 P **P 18 08 22.0 -0.9**
baz=197
GRAC Grapevine Rang 26.47 324 P **P 18 08 24.9 +1.3**
baz=135
CWC Cottonwood Cre 26.49 322 P **P 18 08 24.6 +0.7**
baz=133
K37A Belmond 26.52 8 P **P 18 08 22.9 -1.1**
baz=190
L42A Oliver, Polo 26.52 15 P **P 18 08 23.2 -0.8**
baz=199
K38A Parkersburg 26.52 9 P **P 18 08 23.0 -1.0**
baz=192
R11A Troy Canyon, C 26.53 329 P **P 18 08 25.2 +0.9**
baz=140
R11A Troy Canyon, C 26.53 329 *e*P **P 18 08 24.6 +0.3**
comp=Z,1µm,1.5s
BARC Barichara 26.53 109 *e*P **P 18 08 25.5 +0.9**
PKM Mcpherson Peak 26.54 318 P **P 18 08 25.1 +0.6**
baz=128
JLU Jordanelle 26.58 337 *e*P **P 18 08 25.1 +0.3**
comp=Z,798nm,1.3s
M45A Boilermakers S 26.62 19 P **P 18 08 24.7 -0.1**
baz=204
CVER Cruz Verde, Cu 26.64 114 *e*P P 18 08 33.3 +7.5
PAMC Pamplona, Colo 26.68 107 *e*P **P 18 08 27.2 +1.0**
VES Vestal, Richgr 26.69 320 P **P 18 08 26.6 +1.1**
baz=131
K39A Oelwein 26.73 11 P **P 18 08 24.7 -1.1**
baz=194
J31A Geddes 26.73 359 P **P 18 08 25.5 -0.4**
baz=179,SNR=34
DUG Dugway, Tooele 26.76 335 P **P 18 08 27.4 +1.0**
baz=148
DUG Dugway, Tooele 26.76 335 *e*P **P 18 08 27.1 +0.8**
DUG pmax pmax
comp=Z,3µm,1.8s
DUG MLR MLR
comp=Z,2034µm,20.0s
DUG Dugway, Tooele 26.76 335 *e*P **P 18 08 27.1 +0.8**
comp=Z,3µm,1.8s
DUG LR LR
comp=Z,2034µm,20.0s
CTU Camp Tracy 26.77 337 *e*P **P 18 08 26.7 +0.2**
comp=Z,890nm,1.2s
J33A Davis 26.78 2 P **P 18 08 25.7 -0.6**
baz=183,SNR=46
J34A George 26.80 4 P **P 18 08 25.9 -0.6**
baz=185
J32A Parkston 26.81 1 P **P 18 08 26.2 -0.4**
baz=181,SNR=28
K40A Colesburg 26.86 12 P **P 18 08 26.1 -0.9**
baz=195
CHIC Chingaza 26.89 113 *e*P **P 18 08 30.0 +2.0**
RUSC La Rusia 26.91 110 *e*P **P 18 08 28.7 +0.4**
comp=Z,2µm,1.6s
RUSC La Rusia 26.91 110 *e*P **P 18 08 29.7 +1.5**
L43A Garden Prairie 26.92 16 P **P 18 08 27.0 -0.6**
baz=200
SMMC Simmler 26.92 318 P **P 18 08 28.5 +0.8**
baz=128
M46A Old House Fiel 26.92 20 P **P 18 08 27.2 -0.4**
baz=206
J35A Milford 26.94 5 P **P 18 08 26.6 -1.1**
baz=186
K41A Shullsburg 26.95 13 P **P 18 08 26.9 -0.9**
baz=197
J36A Seneca 1, Swea 26.99 6 P **P 18 08 27.3 -0.9**
baz=188
TIN Tinemaha, Big 27.00 323 P **P 18 08 29.5 +1.0**
baz=134
K22A Casper 27.01 347 P **P 18 08 29.0 +0.5**
baz=162,SNR=107
K22A Casper 27.01 347 *e*P **P 18 08 28.9 +0.3**
comp=Z,5µm,1.4s
TCUT Toone Canyon 27.02 338 *e*P **P 18 08 29.6 +0.8**
comp=Z,5µm,1.5s
J37A Redenius Farm, 27.06 8 P **P 18 08 27.9 -1.0**
baz=190
RCTC Rector, Farmer 27.09 321 P **P 18 08 30.1 +0.9**
baz=131
L44A Lake County Fo 27.14 17 P **P 18 08 29.5 -0.1**
baz=202
VILC Villavicencio, 27.16 114 *e*P **P 18 08 36.2 +6.0**
ACSO Alum Creek Sta 27.19 26 P **P 18 08 29.4 -0.6**
baz=214
ACSO Alum Creek Sta 27.19 26 *e*P **P 18 08 29.2 -0.8**
comp=Z,4µm,1.1s
ACSO LR LR
comp=Z,751µm,20.0s
SDD Santo Domingo 27.20 82 *e*P **P 18 08 31.1 +0.8**
comp=Z,13µm,1.5s
ECSD EROS Data Cent 27.21 3 P **P 18 08 29.6 -0.6**
baz=183
ECSD EROS Data Cent 27.21 3 *e*P **P 18 08 29.4 -0.8**
comp=Z,1µm,1.2s
ECSD LR LR
comp=Z,1536µm,21.0s
J38A Wedel Dairy, R 27.23 9 P **P 18 08 29.1 -1.2**
baz=192
JFWS Jewell Farm 27.25 13 P **P 18 08 29.8 -0.7**
baz=197
JFWS Jewell Farm 27.25 13 *e*P **P 18 08 29.6 -1.0**
JFWS MLR MLR
comp=Z,1118µm,21.0s
JFWS Jewell Farm 27.25 13 *e*P **P 18 08 29.6 -1.0**
JFWS LR LR
comp=Z,1118µm,21.0s
K42A Prairie Point, 27.33 15 P **P 18 08 30.7 -0.6**
baz=199
PAGB Antelope Grade 27.34 319 *e*P **P 18 08 32.3 +0.8**
comp=Z,2µm,1.9s
SJAC San Juan de Ar 27.35 116 *e*P **P 18 08 32.5 +0.6**
J39A Decorah 27.37 11 P **P 18 08 30.2 -1.4**
baz=194
I35A Creekview Farm 27.45 5 P **P 18 08 31.5 -0.8**
baz=187
BGU Big Grassy Mou 27.47 335 *e*P **P 18 08 33.4 +0.7**
comp=Z,2µm,1.5s
I31A Royce, Wessing 27.47 360 P **P 18 08 31.9 -0.6**
baz=179
I32A Karley and Nic 27.48 1 P **P 18 08 31.8 -0.7**
baz=182,SNR=25
HWUT Hardware Ranch 27.51 338 *e*P **P 18 08 33.5 +0.5**
comp=Z,3µm,2.0s
HWUT LR LR
comp=Z,540µm,22.0s
I33A Coleman 27.52 2 P **P 18 08 32.2 -0.8**
baz=183,SNR=16
K43A Burlington 27.52 16 P **P 18 08 32.5 -0.5**
baz=201
I34A Hadley 27.56 4 P **P 18 08 32.6 -0.7**
baz=185
SPUT South Promonto 27.57 337 *e*P **P 18 08 34.0 +0.4**
comp=Z,555nm,1.2s
J40A Soldiers Grove 27.61 12 P **P 18 08 32.9 -0.9**
baz=196
HONU Honeyville 27.64 338 *e*P **P 18 08 35.2 +1.0**
I36A Fitzsimmons Fa 27.70 7 P **P 18 08 33.5 -1.1**
baz=189
YOPC Yopal, Colombi 27.73 111 *e*P **P 18 08 35.6 +0.3**
J41A Loganville 27.73 13 P **P 18 08 34.2 -0.6**
baz=197
MLAC Mammoth, Mammo 27.75 323 P **P 18 08 36.4 +1.1**
baz=134
MLAC Mammoth, Mammo 27.75 323 *e*P **P 18 08 37.0 +1.7**
I37A Lemond, Waseca 27.77 8 P **P 18 08 34.1 -1.2**
baz=190
IP07 Quail 27.87 36 *e*P **P 18 08 35.5 -0.7**
comp=Z,1µm,1.1s
SUSD Miller 27.89 359 P **P 18 08 35.9 -0.4**
baz=178,SNR=8.1
MDPB Devils Postpil 27.89 323 *e*P **P 18 08 37.5 +0.9**
J42A Columbus 27.89 15 P **P 18 08 35.7 -0.6**
baz=199
BW06 Boulder Array 27.90 342 P **P 18 08 36.9 +0.3**
baz=156
BW06 Boulder Array 27.90 342 *e*P **P 18 08 36.0 -0.6**
comp=Z,4µm,1.6s
BW06 LR LR
comp=Z,2736µm,21.0s
PD31 Pinedale Array 27.90 342 *e*P **P 18 08 36.7 +0.1**
PDAR Pinedale Array 27.90 342 P **P 18 08 36.8 +0.1**
comp=Z,40nm,0.7s,baz=133,slow=10,SNR=158
PDAR S **S 18 13 19.9 +0.4**
comp=Z,13nm,1.0s,baz=162,slow=12,SNR=2.1
PDAR LR LR 18 20 46.8
comp=Z,2082µm,21.7s,baz=170,slow=39
PDAR Pinedale Array 27.90 342 *e*P **P 18 08 35.9 -0.7**
PDAR S **S 18 13 19.9 +0.4**
I39A Houston 27.91 11 P **P 18 08 35.4 -1.0**
baz=194
IP06 Yanceyville 27.91 36 *e*P **P 18 08 35.8 -0.7**
comp=Z,592nm,1.2s
URVA University of 27.92 37 *e*P **P 18 08 35.4 -1.2**
H31A Wolsey 27.92 360 P **P 18 08 35.7 -0.8**
baz=180
MTUT Morton Thiokol 27.92 337 *e*P **P 18 08 37.2 +0.5**
NV11 Mina Array Sit 27.93 325 *e*P **P 18 08 37.9 +1.0**
comp=Z,199nm,1.9s
I38A Scanlan Farm, 27.95 9 P **P 18 08 35.7 -1.1**
baz=192
H32A Carlson Farm, 27.95 1 P **P 18 08 36.2 -0.7**
baz=182
IP03 Louisa 27.95 36 *e*P **P 18 08 36.3 -0.6**
comp=Z,811nm,1.1s
IP04 Greensprings 27.96 36 *e*P **P 18 08 36.3 -0.6**
comp=Z,2µm,1.5s
IP01 Cuckoo 27.97 36 *e*P **P 18 08 36.3 -0.7**
comp=Z,1µm,1.3s
IP05 Hopewell Churc 27.97 36 *e*P **P 18 08 36.4 -0.6**
comp=Z,7µm,2.0s
RSSD Black Hills 27.98 351 P **P 18 08 37.9 +0.7**
baz=168
RSSD Black Hills 27.98 351 *e*P **P 18 08 37.6 +0.3**
RSSD pmax pmax
comp=Z,2µm,1.9s
RSSD Black Hills 27.98 351 *e*P **P 18 08 37.6 +0.3**
comp=Z,2µm,1.9s
PMPB Monarch Peak 28.00 319 *e*P **P 18 08 37.9 +0.5**
comp=Z,4µm,1.9s
NV01 Mina Array Sit 28.01 325 *e*P **P 18 08 38.1 +0.5**
NVAR Mina Array Bea 28.01 325 P **P 18 08 38.8 +1.2**
comp=Z,176nm,1.0s,baz=151,slow=9.7,SNR=236
NVAR S **S 18 13 21.9 +0.6**
comp=Z,22nm,1.1s,baz=124,slow=5.8,SNR=2.0
NVAR LR LR 18 20 18.0
comp=Z,1157µm,19.4s,baz=226,slow=38
SPRD Spring Road, M 28.03 36 *e*P **P 18 08 36.7 -0.8**
comp=Z,1µm,1.3s
SDV Santo Domingo 28.07 102 P **P 18 08 39.0 +0.6**
comp=Z,97nm,0.8s,baz=285,slow=6.6,SNR=49
SDV S **S 18 13 23.1 +0.6**
comp=Z,34nm,0.9s,baz=90,slow=20,SNR=1.7
SDV LR LR 18 22 16.4
comp=Z,526µm,18.3s,baz=120,slow=42
SDV Santo Domingo 28.07 102 *e*P **P 18 08 38.4 +0.1**
comp=Z,924nm,0.9s
SDV *e*S **S 18 13 23.1 +0.6**
SDV Santo Domingo 28.07 102 *e*P **P 18 08 40.1 +1.7**
HVU Hansel Valley 28.10 337 *e*P **P 18 08 39.0 +0.7**
HVU pmax pmax
comp=Z,578nm,1.1s
HVU Hansel Valley 28.10 337 *e*P **P 18 08 39.0 +0.7**
comp=Z,578nm,1.1s
CVRD Centerville Ro 28.10 36 *e*P **P 18 08 37.1 -1.1**
comp=Z,2µm,1.4s
I40A Norwalk 28.11 12 P **P 18 08 37.5 -0.8**
baz=196
J43A Natural Harves 28.13 16 P **P 18 08 37.9 -0.4**
baz=200
H33A Prehn Over Nor 28.15 2 P **P 18 08 37.9 -0.7**
baz=183,SNR=85
MCWV Mont Chateau 28.18 31 P **P 18 08 38.8 -0.1**
baz=220
MCWV Mont Chateau 28.18 31 *e*P **P 18 08 38.5 -0.4**
comp=Z,2µm,1.1s
H34A Spellman Lake, 28.19 4 P **P 18 08 38.1 -0.8**
baz=185
PTRD Partlow Road 28.24 36 *e*P **P 18 08 38.8 -0.6**
comp=Z,944nm,1.3s
H36A Jesseland, He 28.27 7 P **P 18 08 38.7 -0.9**
baz=189
RYN Ryan 28.27 325 *e*P **P 18 08 41.0 +1.1**
comp=Z,1µm,1.5s
H35A Sunnyside Ranc 28.30 5 P **P 18 08 38.7 -1.2**
baz=187
SPFD Spotsylvania F 28.31 36 *e*P **P 18 08 39.7 -0.4**
comp=Z,2µm,1.5s
KVN Kaiserville 28.35 326 *e*P **P 18 08 41.7 +1.0**
KVN pmax pmax
comp=Z,1µm,1.8s
KVN Kaiserville 28.35 326 *e*P **P 18 08 41.7 +1.0**
comp=Z,1µm,1.8s
AHID Auburn Hatcher 28.38 340 *e*P **P 18 08 41.0 +0.1**
comp=Z,4µm,1.7s
AHID LR LR
comp=Z,4117µm,19.0s
H37A Dierke Farm, C 28.40 8 P **P 18 08 39.8 -1.0**
baz=191
I41A Arkdale 28.43 13 P **P 18 08 40.3 -0.7**
baz=197
CBN Corbin Frederi 28.45 36 P **P 18 08 40.6 -0.6**
baz=226
CBN Corbin Frederi 28.45 36 *e*P **P 18 08 40.7 -0.6**
comp=Z,1µm,1.1s
CBN LR LR
comp=Z,748µm,22.0s
I42A Draeger Farm, 28.48 14 P **P 18 08 40.9 -0.6**
baz=199
H38A Maiden Rock 28.58 9 P **P 18 08 41.7 -0.7**
baz=192
G31A Conde 28.66 0 P **P 18 08 41.8 -1.4**
baz=180
AAM Ann Arbor 28.67 23 P **P 18 08 42.4 -0.8**
baz=210,SNR=42
AAM Ann Arbor 28.67 23 *e*P **P 18 08 42.2 -1.0**
AAM pmax pmax
comp=Z,2µm,1.1s
AAM MLR MLR
comp=Z,773µm,20.0s
AAM Ann Arbor 28.67 23 *e*P **P 18 08 42.2 -1.0**
comp=Z,2µm,1.1s
AAM LR LR
comp=Z,773µm,20.0s
I43A Langenfeld Bro 28.67 16 P **P 18 08 42.8 -0.3**
baz=200
G33A Ortonville 28.68 3 P **P 18 08 42.3 -1.0**
baz=184
WAKR Walker 28.69 324 *e*P **P 18 08 45.1 +1.4**
comp=Z,581nm,1.4s
G32A Webster 28.70 1 P **P 18 08 42.6 -0.9**
baz=182
SAO San Andreas Ge 28.75 319 *e*P **P 18 08 44.0 0.0**
SAO pmax pmax
comp=Z,532nm,1.6s
SAO San Andreas Ge 28.75 319 *e*P **P 18 08 44.0 0.0**
comp=Z,532nm,1.6s
H39A Augusta 28.75 11 P **P 18 08 43.3 -0.5**
baz=194
G34A Benson 28.77 4 P **P 18 08 43.0 -1.1**
baz=185
REDW Red Top Meadow 28.83 341 *e*P **P 18 08 45.4 +0.4**
comp=Z,8µm,1.9s
G35A Watkins 28.84 6 P **P 18 08 43.5 -1.3**
baz=187,SNR=25
H40A Chili 28.86 12 P **P 18 08 44.2 -0.7**
baz=196
SNOW Snow King Moun 28.89 341 *e*P **P 18 08 45.9 +0.4**
comp=Z,4µm,1.5s
CMB Columbia Colle 28.92 322 *e*P **P 18 08 45.6 +0.1**
CMB pmax pmax
comp=Z,207nm,1.1s
CMB Columbia Colle 28.92 322 *e*P **P 18 08 45.6 +0.1**
comp=Z,207nm,1.1s
YERR Yerington 28.92 325 *e*P **P 18 08 46.8 +1.1**
comp=Z,1µm,1.8s
G36A St. Michael 28.93 7 P **P 18 08 44.6 -0.9**
baz=189
TPAW Teton Pass 28.98 341 *e*P **P 18 08 46.0 -0.2**
comp=Z,5µm,1.8s
LOHW Long Hollow 28.98 341 *e*P **P 18 08 46.5 +0.2**
comp=Z,4µm,1.5s
H41A Junction City 29.00 13 P **P 18 08 45.6 -0.5**
baz=197
SPMN Marine on St. 29.04 8 P **P 18 08 45.7 -0.8**
baz=191
SPMN Marine on St. 29.04 8 *e*P **P 18 08 45.4 -1.1**
comp=Z,1µm,1.1s
N54A Moraine State 29.12 29 P **P 18 08 46.8 -0.5**
baz=218
N54A Moraine State 29.12 29 *e*P **P 18 08 46.6 -0.6**
comp=Z,2µm,1.2s
G38A Ridgeland 29.13 9 P **P 18 08 46.5 -0.8**
baz=193
FXWY Fox Creek 29.14 341 *e*P **P 18 08 47.9 +0.2**
comp=Z,3µm,1.9s
MOOW Moose Ponds 29.15 341 *e*P **P 18 08 47.9 +0.1**
comp=Z,2µm,1.7s
H42A Shiocton 29.16 15 P **P 18 08 47.0 -0.5**
baz=199,SNR=26
MHC Mount Hamilton 29.23 320 *e*P **P 18 08 49.3 +0.9**
MHC Mount Hamilton 29.23 320 *e*P **P 18 08 49.3 +0.9**
O56A Blue Knob Stat 29.29 32 P **P 18 08 48.4 -0.4**
baz=221
O56A Blue Knob Stat 29.29 32 *e*P **P 18 08 48.0 -0.8**
comp=Z,1µm,1.1s
F31A Hecla 29.30 0 P **P 18 08 47.5 -1.3**
baz=180
H43A Windswept, Lux 29.31 16 P **P 18 08 48.3 -0.5**
baz=201
F32A Veblen 29.33 2 P **P 18 08 47.7 -1.3**
baz=182
F33A 5 Mile Ranch, 29.33 3 P **P 18 08 47.8 -1.3**
baz=184
IMW Indian Meadow 29.34 341 *e*P **P 18 08 49.8 +0.2**
comp=Z,1µm,1.5s
RDG13 Poverty Ridge 29.34 320 *e*P **P 18 08 49.9 +0.5**
comp=Z,534nm,1.4s
F34A Alexandria 29.35 4 P **P 18 08 48.0 -1.3**
baz=186,SNR=31
G39A Holcombe 29.36 10 P **P 18 08 48.5 -0.8**
baz=194
VCNR Virginia City 29.36 325 *e*P **P 18 08 50.9 +1.2**
comp=Z,366nm,1.2s
F35A Swanville 29.47 5 P **P 18 08 49.4 -0.9**
baz=187,SNR=36
PAHR Pah Rah Range 29.51 326 *e*P **P 18 08 51.8 +0.9**
comp=Z,838nm,1.5s
G40A Rib Lake 29.52 12 P **P 18 08 50.1 -0.7**
baz=196
F37A Hinrichs Farm, 29.56 8 P **P 18 08 50.2 -0.8**
baz=191
F36A Milaca 29.58 7 P **P 18 08 50.3 -1.0**
baz=189
SDMD Soldier's Deli 29.58 35 *e*P **P 18 08 50.6 -0.8**
comp=Z,342nm,1.3s
ALLY Alegheny Colle 29.59 28 *e*P **P 18 08 50.2 -1.2**
comp=Z,2µm,1.3s
YPP Pitchstone Pla 29.64 342 *e*P **P 18 08 52.8 +0.6**
comp=Z,861nm,1.5s
G41A Antigo 29.67 13 P **P 18 08 51.5 -0.6**
baz=198
H17A Grant Village 29.69 342 P **P 18 08 53.3 +0.8**
baz=156,SNR=83
H17A Grant Village 29.69 342 *e*P **P 18 08 52.7 +0.2**
comp=Z,2µm,1.7s
M54A Oil Creek Stat 29.70 29 P **P 18 08 51.9 -0.5**
baz=218
M54A Oil Creek Stat 29.70 29 *e*P **P 18 08 51.5 -1.0**
comp=Z,5µm,1.6s
LKWY Lake 29.79 343 *e*P **P 18 08 54.9 +1.5**
LKWY pmax pmax
comp=Z,835nm,1.6s
LKWY MLR MLR
comp=Z,2269µm,22.0s
LKWY Lake 29.79 343 *e*P **P 18 08 54.9 +1.5**
comp=Z,835nm,1.6s
LKWY LR LR
comp=Z,2269µm,22.0s
YFT Old Faithful 29.81 342 *e*P **P 18 08 55.1 +1.4**
comp=Z,1µm,1.6s
AGP Aguadilla 29.84 82 *e*P **P 18 08 53.5 -0.3**
comp=Z,5µm,1.7s
MPR Mayaguez 29.84 82 *e*P **P 18 08 52.7 -1.1**
comp=Z,332nm,1.1s
AFDM Forest Hills D 29.87 323 *e*P **P 18 08 54.6 +0.6**
comp=Z,343nm,1.6s
G42A Mountain 29.87 14 P **P 18 08 52.9 -0.9**
baz=199
F38A Pierce - Schro 29.89 9 P **P 18 08 53.1 -1.0**
baz=192
SSPA Standing Stone 29.91 32 P **P 18 08 53.9 -0.3**
baz=222
SSPA Standing Stone 29.91 32 *e*P **P 18 08 53.7 -0.5**
comp=Z,5µm,2.0s
RLMT Red Lodge 30.00 344 P **P 18 08 55.6 +0.3**
baz=158,SNR=71
RLMT Red Lodge 30.00 344 *e*P **P 18 08 55.5 +0.2**
comp=Z,3µm,1.3s
RLMT LR LR
comp=Z,623µm,22.0s
E31A Nome 30.00 1 P **P 18 08 54.1 -0.9**

baz=181,SNR=6.1
E33A Westby DABS, E 30.01 3 P P 18 08 53.2 -1.9
baz=184,SNR=19
F39A Loretta 30.01 10 P P 18 08 54.0 -1.1
baz=194
YNR Norris Junctio 30.01 342 eP P 18 08 55.5 +0.2
comp=Z,2µm,1.7s
YPM Purple Mountai 30.01 342 eP P 18 08 57.0 +1.5
ERPA Erie 30.03 28 P P 18 08 54.3 -1.1
baz=217
ERPA Erie 30.03 28 eP P 18 08 54.3 -1.1
comp=Z,1µm,1.1s
YMR Madison River 30.05 342 eP P 18 08 56.9 +1.2
comp=Z,3µm,1.9s
E32A Braaten, Kindr 30.05 2 P P 18 08 54.2 -1.2
baz=182
G43A Wallace 30.07 15 P P 18 08 54.7 -0.9
baz=200
E34A Wadena 30.07 4 P P 18 08 54.7 -0.9
baz=186
YHH Holmes Hill 30.12 342 eP P 18 08 57.2 +0.7
comp=Z,854nm,1.5s
BEKR Beckworth 30.16 325 eP P 18 08 57.2 +0.5
comp=Z,513nm,1.2s
F40A Park Falls 30.16 11 P P 18 08 55.8 -0.6
baz=196
E35A Pequot Lakes 30.18 5 P P 18 08 56.0 -0.5
baz=187
F41A Three Lakes 30.19 13 P P 18 08 55.9 -0.8
baz=198
YHB Horse Butte 30.19 342 eP P 18 08 57.1 +0.1
comp=Z,712nm,1.5s
HLID Hailey 30.25 336 P P 18 08 58.1 +0.6
baz=148
HLID Hailey 30.25 336 eP P 18 08 58.0 +0.5
comp=Z,303nm,1.1s
HLID LR LR
comp=Z,1537µm,22.0s
E36A McGregor 30.26 7 P P 18 08 56.5 -0.8
baz=190
MVL Millersville 30.26 35 eP P 18 08 56.7 -0.7
comp=Z,860nm,1.4s
QLMT Earthquake Lak 30.34 341 eP P 18 08 58.8 +0.6
E37A Wrenshall 30.41 8 P P 18 08 57.7 -0.9
baz=191
F42A Maple Grove Fa 30.43 14 P P 18 08 57.8 -1.0
baz=199,SNR=48
D31A Mcclaflin, Tow 30.49 1 P P 18 08 58.3 -1.0
baz=181
MCCM Marconi Confer 30.50 320 eP P 18 08 59.6 +0.2
comp=Z,393nm,1.2s
E39A Mellen 30.52 11 P P 18 08 58.9 -0.7
baz=195
COWI Conover 30.53 13 eP P 18 08 58.9 -0.8
comp=Z,2µm,1.4s
COWI LR LR
comp=Z,927µm,20.0s
GLMI Grayling 30.55 19 P P 18 08 59.2 -0.7
baz=206,SNR=39
GLMI Grayling 30.55 19 eP P 18 08 59.0 -0.9
comp=Z,2µm,0.9s
GLMI LR LR
comp=Z,1639µm,19.0s
E38A The Farm, Brul 30.57 9 P P 18 08 59.1 -1.0
baz=193
ORV Oroville 30.58 323 eP P 18 09 00.8 +0.5
ORV pmax pmax
comp=Z,379nm,1.4s
ORV Oroville 30.58 323 eP P 18 09 00.8 +0.5
comp=Z,379nm,1.4s
D32A Dogwood Acres, 30.59 2 P P 18 08 59.0 -1.2
baz=182,SNR=16
D34A Park Rapids 30.64 4 P P 18 08 59.9 -0.7
baz=186
D33A AnnSam, Waubun 30.65 3 P P 18 08 59.4 -1.3
baz=184
ATAH Atahualpa 30.67 138 P P 18 09 02.9 +1.2
comp=Z,30nm,0.9s,baz=332,slow=8.8,SNR=8.2
ATAH S S 18 14 05.3 +1.5
comp=Z,16nm,0.9s,baz=176,slow=19,SNR=2.4
ATAH LR LR 18 19 14.5
comp=Z,1023µm,18.4s,baz=327,slow=32
MFID Camas Ranch 30.69 335 eP P 18 09 01.7 +0.4
comp=Z,846nm,1.4s
E40A Wakefield 30.70 12 P P 18 09 00.6 -0.6
baz=196
GCMT Greycliff 30.72 344 eP P 18 09 01.3 -0.3
D35A Remer 30.73 6 P P 18 09 00.5 -1.0
baz=188
F43A Flat Rock, Esc 30.73 15 P P 18 09 00.3 -1.1
baz=201
SJG San Juan 30.79 82 P P 18 09 01.6 -0.6
comp=Z,254nm,0.9s,baz=273,slow=9.1,SNR=32
SJG S S 18 14 03.8 -1.0
comp=Z,24nm,0.2s,baz=246,slow=16,SNR=3.7
SJG LR LR 18 23 07.2
comp=Z,1083µm,20.9s,baz=284,slow=40
SJG San Juan 30.79 82 P P 18 09 01.6 -0.6
SJG S S 18 14 03.8 -1.0
SJG pmax pmax
comp=Z,254nm,0.9s
SJG smax smax
comp=N,24nm,0.2s
SJG MLR MLR
comp=Z,83µm,21.0s
SJG San Juan 30.79 82 eP P 18 09 00.2 -2.0
comp=Z,3µm,1.4s
SJG LR LR
comp=Z,1138µm,21.0s
SJG San Juan 30.79 82 eP P 18 09 00.7 -1.5
MCMT McKenzie Canyo 30.79 340 eP P 18 09 02.7 +0.5
LAO LASA Array 30.83 349 P P 18 09 02.3 0.0
baz=165,SNR=17
LAO LASA Array 30.83 349 eP P 18 09 02.1 -0.2
comp=Z,3µm,1.7s
LAO LR LR
comp=Z,1422µm,19.0s
GDXM Geysers 30.86 321 eP P 18 09 03.8 +1.0
comp=Z,832nm,1.7s
E41A Kenton 30.91 13 P P 18 09 02.0 -1.1
baz=198
D36A Goodland 30.92 7 P P 18 09 02.0 -1.1
baz=190
D37A Cotton 30.99 8 P P 18 09 02.8 -0.9
baz=191
F45A CMU Biological 31.05 18 P P 18 09 03.6 -0.7
baz=204
CBYP Canovanas 31.06 82 eP P 18 09 03.6 -1.1
comp=Z,3µm,1.4s
F44A Big Bay de Noc 31.06 16 P P 18 09 03.5 -0.8
baz=202
HUMP Col San Antoni 31.07 82 eP P 18 09 03.8 -1.0
comp=Z,2µm,1.3s
BOZ Bozeman (W) 31.09 342 P P 18 09 05.6 +0.8
baz=155
BOZ Bozeman (W) 31.09 342 eP P 18 09 05.8 +1.0
BOZ pmax pmax
comp=Z,2µm,1.5s
BOZ MLR MLR
comp=Z,3237µm,19.0s
BOZ Bozeman (W) 31.09 342 eP P 18 09 05.8 +1.0
comp=Z,2µm,1.5s
BOZ LR LR
comp=Z,3237µm,19.0s
E42A Champion 31.11 14 P P 18 09 04.0 -0.9
baz=199
HOPS Hopland Field 31.14 321 eP P 18 09 06.4 +1.3
comp=Z,379nm,1.2s
WVOR Wild Horse Val 31.15 330 eP P 18 09 05.7 +0.3
WVOR pmax pmax
comp=Z,1µm,1.4s
WVOR MLR MLR
comp=Z,4749µm,19.0s
WVOR Wild Horse Val 31.15 330 eP P 18 09 05.7 +0.3
comp=Z,1µm,1.4s
WVOR LR LR
comp=Z,4749µm,19.0s
DLMT Dillon 31.18 340 eP P 18 09 06.8 +1.2
comp=Z,4µm,1.5s
LUPA Lehigh Univers 31.22 35 eP P 18 09 05.4 -0.4
comp=Z,73nm,1.2s
C34A RKJ Ranch, Bem 31.22 5 P P 18 09 04.5 -1.3
baz=186
N59A State Game Lan 31.22 34 P P 18 09 05.4 -0.5
baz=225
N59A State Game Lan 31.22 34 eP P 18 09 05.5 -0.4
comp=Z,728nm,1.3s
C31A Landman Farms, 31.24 1 P P 18 09 05.0 -0.9
baz=181
O03D Paynes Creek 31.25 324 P P 18 09 06.1 -0.2
baz=132
O03D Paynes Creek 31.25 324 eP P 18 09 06.6 +0.4
C33A Trail 31.27 3 P P 18 09 04.7 -1.5
baz=184
E43A Lone Tree Farm 31.29 15 P P 18 09 05.3 -1.0
baz=201
C32A Crookston 31.30 2 P P 18 09 05.3 -1.2
baz=183
MDND Maddock 31.30 358 P P 18 09 06.3 -0.1
baz=178,SNR=30
MDND Maddock 31.30 358 eP P 18 09 06.2 -0.3
comp=Z,4µm,1.3s
C35A Jirik Farms, M 31.35 6 P P 18 09 05.8 -1.1
baz=188
F46A Macinaw City C 31.36 18 P P 18 09 06.4 -0.5
baz=205
MTP Monte Pirata 31.36 82 eP P 18 09 06.2 -1.0
comp=Z,4µm,1.1s
LCCM Lewis and Clar 31.38 342 eP P 18 09 08.6 +1.2
MMNY Mt. Morris Dam 31.48 30 eP P 18 09 06.4 -1.6
comp=Z,1µm,1.0s
C36A Pine Crest Far 31.53 7 P P 18 09 07.6 -0.9
baz=190
LRM Limekiln Ridge 31.54 341 eP P 18 09 09.0 +0.1
D41A Chassel 31.56 13 P P 18 09 08.3 -0.5
baz=198
MOD Modoc Plateau 31.58 328 eP P 18 09 09.1 -0.1
comp=Z,467nm,1.1s
C37A Embarrass 31.58 8 P P 18 09 07.7 -1.2
baz=191
C38A Sawbill Land. 31.70 9 P P 18 09 08.7 -1.3
baz=193
BRNJ Basking Ridge 31.72 36 eP P 18 09 09.9 -0.4
comp=Z,1µm,1.3s
E45A Wooded Hills, 31.76 17 P P 18 09 09.8 -0.7
baz=204,SNR=38
E44A Grand Marais A 31.79 16 P P 18 09 10.3 -0.5
baz=203,SNR=41
J08A Circle Bar Ran 31.79 332 eP P 18 09 11.7 +0.7
comp=Z,779nm,0.9s
B33A Robert and Kas 31.79 4 P P 18 09 09.9 -0.9
baz=185
AGMN Agassiz Nation 31.80 3 P P 18 09 10.2 -0.7
baz=184
AGMN Agassiz Nation 31.80 3 eP P 18 09 09.7 -1.2
comp=Z,668nm,0.8s
AGMN LR LR
comp=Z,1111µm,20.0s
WDC Whiskeytown Da 31.86 324 eP P 18 09 09.9 -1.6
WDC pmax pmax
comp=Z,96nm,1.1s
WDC Whiskeytown Da 31.86 324 eP P 18 09 09.9 -1.6
comp=Z,96nm,1.1s
B31A Greenbush Farm 31.87 1 P P 18 09 10.8 -0.7
baz=181
B32A Ashes, Strandq 31.87 2 P P 18 09 10.7 -0.7
baz=183
KCPM Cahto Peak 31.89 322 eP P 18 09 13.2 +1.4
comp=Z,613nm,1.3s
EYMN Ely 31.89 9 P P 18 09 10.5 -1.1
baz=192
EYMN Ely 31.89 9 eP P 18 09 10.3 -1.4
comp=Z,2µm,1.6s
EYMN LR LR
comp=Z,1160µm,19.0s
STVI Saint Thomas 31.91 82 eP P 18 09 11.1 -1.1
comp=Z,801nm,1.0s
ODNJ Ogdensburg 31.97 35 eP P 18 09 11.2 -1.2
comp=Z,541nm,1.1s
C39A Grand Marais 31.99 11 P P 18 09 11.3 -1.1
baz=195
BINY Binghamton 32.02 32 P P 18 09 12.4 -0.5
baz=223
BINY Binghamton 32.02 32 eP P 18 09 12.4 -0.5
comp=Z,932nm,1.0s
BINY LR LR
comp=Z,770µm,22.0s
B35A Bob, Littlefor 32.03 6 P P 18 09 11.7 -1.1
baz=188
B34A Aery, Baudette 32.07 5 P P 18 09 12.4 -0.8
baz=186
CDVI St. Croix 32.12 83 eP P 18 09 12.4 -1.5
comp=Z,2µm,1.2s
CPNY Central Park 32.14 36 eP P 18 09 12.7 -1.2
comp=Z,859nm,1.4s
HRY Holter Researc 32.16 342 eP P 18 09 14.5 +0.3
N02D Trinity Center 32.22 324 P P 18 09 14.0 -0.7
baz=132
C40A Isle Royale Na 32.26 12 P P 18 09 13.4 -1.5
baz=196
M04C Mandel 32.30 326 P P 18 09 15.9 +0.5
baz=134
KMRM Mail Ridge 32.30 322 eP P 18 09 16.3 +0.8
comp=Z,705nm,1.3s
PAL Palisades 32.31 36 P P 18 09 14.6 -0.7
baz=228
PAL Palisades 32.31 36 eP P 18 09 14.3 -1.1
PAL pmax pmax
comp=Z,592nm,1.0s
PAL Palisades 32.31 36 eP P 18 09 14.2 -1.1
comp=Z,592nm,1.0s
A31A Linda, St. Vin 32.39 1 P P 18 09 15.2 -0.7
baz=182,SNR=5.4
A32A Rocking H Ranc 32.39 2 P P 18 09 15.1 -0.9
baz=183
A33A Warroad 32.47 4 P P 18 09 15.9 -0.8
baz=185
BMO Blue Mountains 32.48 335 eP P 18 09 16.1 -0.8
BMO pmax pmax
comp=Z,360nm,1.2s
BMO MLR MLR
comp=Z,1455µm,20.0s
BMO Blue Mountains 32.48 335 eP P 18 09 16.1 -0.8
comp=Z,360nm,1.2s
BMO LR LR
comp=Z,1455µm,20.0s
ABVI Anegada Island 32.49 81 eP P 18 09 16.3 -1.0
comp=Z,6µm,1.5s
M02C Callahan 32.58 325 P P 18 09 17.6 -0.3
baz=132
YBH Yreka Blue Hor 32.73 325 P P 18 09 17.7 -1.5
comp=Z,34nm,0.9s,baz=140,slow=4.3,SNR=18
YBH S S 18 14 35.0 0.0
comp=Z,5.6nm,1.0s,baz=156,slow=19,SNR=2.2
YBH LR LR 18 24 51.2
comp=Z,766µm,18.8s,baz=160,slow=40
YBH Yreka Blue Hor 32.73 325 eP P 18 09 18.2 -1.0
YBH S S 18 14 35.0 0.0
YBH pmax pmax
comp=Z,264nm,1.6s
YBH Yreka Blue Hor 32.73 325 eP P 18 09 18.2 -1.0
comp=Z,264nm,1.6s
YBH S S 18 14 35.0 0.0
KHMM Horse Mountain 32.74 323 eP P 18 09 19.8 +0.4
comp=Z,757nm,1.5s
I07A Izee 32.83 331 eP P 18 09 20.1 0.0
comp=Z,315nm,1.0s
EGMT Eagleton 32.83 346 PFAKE 18 09 30.0 +10
EGMT LR LR
comp=Z,841µm,19.0s
K04D Chiloquin, OR 32.84 327 P P 18 09 20.5 +0.3
baz=135
JCC Jacoby Creek, 32.87 323 eP P 18 09 21.2 +0.9
comp=Z,1µm,1.4s
MSO Missoula 32.91 340 P P 18 09 21.1 +0.3
baz=152
MSO Missoula 32.91 340 eP P 18 09 20.9 +0.1
comp=Z,738nm,1.3s
J05D Fort Rock, OR 33.06 329 P P 18 09 22.7 +0.5
baz=137
YLE Yale 33.06 36 eP P 18 09 21.0 -1.0
comp=Z,933nm,1.0s
PINE Pine Mountain 33.28 330 eP P 18 09 24.4 +0.3
comp=Z,431nm,1.4s
F10A Beach Ranch, E 33.36 336 eP P 18 09 24.8 +0.1
comp=Z,1µm,1.1s
PCRV Puerto La Cruz 33.38 97 P P 18 09 24.6 -0.6
comp=Z,26nm,0.9s,baz=307,slow=8.6,SNR=15
PCRV S S 18 14 44.4 -1.2
comp=Z,9.3nm,0.9s,baz=52,slow=7.0,SNR=1.6
PCRV LR LR 18 23 47.6
comp=Z,325µm,21.6s,baz=280,slow=38
HUMO Hull Mountain 33.47 326 eP P 18 09 25.9 +0.4
comp=Z,149nm,1.3s
J04D Umpqua Nationa 33.47 328 P P 18 09 25.9 +0.1
baz=135
L02D Cave Junction, 33.51 325 P P 18 09 26.3 +0.4
baz=132
G08A Pilot Rock 33.53 333 eP P 18 09 25.6 -0.5
comp=Z,583nm,1.1s
SABA Saba 33.58 83 eP P 18 09 25.4 -1.4
comp=Z,6µm,1.6s
SABA Saba 33.58 83 eP P 18 09 25.3 -1.4
SABA Saba 33.58 83 e 18 10 34.4
TRY Troy 33.61 34 eP P 18 09 26.4 -0.4
comp=Z,963nm,1.4s
PLVO Plevna 33.64 28 eP P 18 09 25.6 -1.4
comp=Z,752nm,1.3s
SMRT St. Maarten 33.71 82 eP P 18 09 26.2 -1.7
comp=Z,3µm,1.5s
SMRT St. Maarten 33.71 82 eP P 18 09 26.1 -1.9
SMRT St. Maarten 33.71 82 e S 18 14 53.0 +2.5
ULM Lac du Bonnet 33.75 3 P P 18 09 26.6 -1.3
comp=Z,65nm,0.8s,baz=187,slow=8.8,SNR=35
ULM PP PnPn 18 10 40.9 +0.6
comp=Z,129nm,1.0s,baz=197,slow=11,SNR=2.0
ULM S S 18 14 39.1 -11
comp=Z,69nm,1.1s,baz=11,slow=10,SNR=1.7
ULM LR LR 18 24 25.6
comp=Z,1063µm,18.7s,baz=192,slow=38
ULM Lac du Bonnet 33.75 3 P P 18 09 26.6 -1.3
ULM 18 10 40.9
ULM S S 18 14 39.2 -11
ULM pmax pmax
comp=Z,65nm,0.8s
ULM pmax pmax
comp=Z,129nm,1.0s
ULM smax smax
comp=N,69nm,1.1s
ULM MLR MLR
comp=Z,63µm,18.7s
ULM Lac du Bonnet 33.75 3 eP P 18 09 26.3 -1.6
comp=Z,1µm,1.4s
ULM PP PnPn 18 10 40.9 +0.6
ULM S S 18 14 39.1 -11
JTMT Jette 33.83 341 eP P 18 09 28.7 -0.1
comp=Z,2µm,1.6s
SEUS St. Eustatius 33.83 83 eP P 18 09 27.8 -1.2
comp=Z,12µm,1.6s
SEUS St. Eustatius 33.83 83 eP P 18 09 29.7 +0.7
SEUS St. Eustatius 33.83 83 e S 18 14 55.7 +3.3
I05D Terrebonne, OR 33.88 330 P P 18 09 29.4 +0.2
baz=138,SNR=44
KBO Bosley Butte 33.89 324 eP P 18 09 30.5 +1.2
comp=Z,1µm,1.2s
I04A Tendick Farm, 34.02 328 P P 18 09 30.4 +0.1
baz=136
QUA2 Belchertown 34.03 36 eP P 18 09 29.4 -1.0
comp=Z,760nm,1.1s
ACCN Adirondack Com 34.07 33 eP P 18 09 29.6 -1.1
comp=Z,2µm,1.8s
IRO Indian Ridge 34.09 329 eP P 18 09 31.3 +0.2
E09A Wood Farm, Sta 34.17 335 eP P 18 09 31.0 -0.6
comp=Z,274nm,0.9s
NCB Newcomb 34.20 32 eP P 18 09 30.8 -1.1
comp=Z,1µm,1.6s
G06A Carlson Farm, 34.23 332 eP P 18 09 32.4 +0.2
comp=Z,459nm,1.3s
BRYW Bryant College 34.25 37 eP P 18 09 31.4 -1.0
comp=Z,1µm,1.5s
BBSR BB Station 34.33 56 eP P 18 09 32.6 -0.4
comp=Z,2µm,1.3s
BBSR LR LR
comp=Z,1516µm,20.0s
KEBM Edson Butte 34.39 325 eP P 18 09 34.6 +1.0
comp=Z,2µm,1.1s
F07A Phinny Hill Vi 34.42 333 eP P 18 09 33.9 +0.1
comp=Z,564nm,1.3s
I03D Drain, OR 34.43 327 P P 18 09 34.2 +0.4
baz=134
ALVY Alvey 34.47 328 ePcP PcP 18 12 11.2 +2.0
LONY Lake Ozonia 34.49 31 P P 18 09 33.6 -0.8
baz=223
LONY Lake Ozonia 34.49 31 eP P 18 09 33.0 -1.3
comp=Z,571nm,1.0s
LONY LR LR
comp=Z,583µm,20.0s
E08A Dider Farm, El 34.52 334 eP P 18 09 33.5 -1.1
comp=Z,226nm,1.1s
G05D Wamic, OR 34.55 331 P P 18 09 35.7 +0.8
baz=139
H04A Detroit Lake 34.55 329 eP P 18 09 34.9 -0.1
comp=Z,1µm,1.0s
HRV Adam Dziewonsk 34.62 36 P P 18 09 34.9 -0.6
baz=229
HRV Adam Dziewonsk 34.62 36 eP P 18 09 34.4 -1.1
HRV pmax pmax
comp=Z,599nm,1.0s
HRV Adam Dziewonsk 34.62 36 eP P 18 09 34.4 -1.1
comp=Z,599nm,1.0s
HAWA Hanford 34.64 334 PFAKE 18 09 50.0 +14
HAWA LR LR
comp=Z,1597µm,19.0s
MLYT Lee's Yard 34.64 84 eP P 18 09 37.2 +1.1
MLYT Lee's Yard 34.64 84 e S 18 15 19.6 +15
WES Weston 34.67 36 eP P 18 09 35.1 -0.9
WES pmax pmax
comp=Z,586nm,1.3s
WES Weston 34.67 36 eP P 18 09 35.1 -0.9
comp=Z,586nm,1.3s
BCX Boston College 34.73 37 eP P 18 09 35.3 -1.1
comp=Z,879nm,1.4s
HOOD Mount Hood Mea 34.76 331 eP P 18 09 37.9 +1.0
WALA Waterton Lakes 34.88 342 eP P 18 09 38.0 +0.1
comp=Z,2µm,1.6s
E07A Sunnyside 34.91 334 eP P 18 09 37.4 -0.6
comp=Z,711nm,1.5s
D08A Wollman Farm, 34.92 335 eP P 18 09 37.7 -0.4
comp=Z,829nm,1.6s
ANWB Willy Bob 34.96 83 eP P 18 09 35.6 -3.2
comp=Z,3µm,1.5s
ANWB LR LR
comp=Z,574µm,20.0s
ANWB Willy Bob 34.96 83 eP P 18 09 35.8 -2.9
ANWB Willy Bob 34.96 83 e S 18 15 06.3 -3.4
HNH Hanover 35.02 34 eP P 18 09 38.3 -0.6
comp=Z,2µm,2.0s
COR Corvallis 35.03 328 eP P 18 09 39.7 +0.7
COR pmax pmax
comp=Z,650nm,1.1s
COR Corvallis 35.03 328 eP P 18 09 39.7 +0.7
comp=Z,650nm,1.1s
G04A Mulino 35.07 330 eP P 18 09 39.8 +0.4
GDHS Morne Mazeau, 35.09 85 eP P 18 09 38.5 -1.5
comp=Z,4µm,1.4s
FRNY Flat Rock 35.13 31 eP P 18 09 39.0 -0.9
comp=Z,2µm,1.8s
GULW Guler Mountain 35.19 331 ePcP PcP 18 12 10.5 -0.9
FFD Franklin Falls 35.20 35 eP P 18 09 39.9 -0.6
comp=Z,461nm,1.0s
VT1 Waterbury 35.20 33 eP P 18 09 39.2 -1.3
comp=Z,806nm,1.7s
NEW Newport 35.24 338 P P 18 09 39.7 -1.2
comp=Z,71nm,0.9s,baz=150,slow=10.0,SNR=32
NEW PP PnPn 18 10 59.8 +0.8
comp=Z,104nm,1.1s,baz=15,slow=17,SNR=1.9
NEW S S 18 15 16.0 +2.5
comp=Z,18nm,1.1s,baz=252,slow=19,SNR=1.7
NEW LR LR 18 24 00.3
comp=Z,740µm,20.5s,baz=160,slow=36
NEW Newport 35.24 338 P P 18 09 40.9 +0.1
baz=148
NEW Newport 35.24 338 eP P 18 09 40.7 -0.1
NEW 18 10 59.8
NEW S S 18 15 16.0 +2.5
NEW pmax pmax
comp=Z,435nm,1.4s
NEW Newport 35.24 338 eP P 18 09 40.7 -0.1
comp=Z,435nm,1.4s
NEW PP PnPn 18 10 59.8 +0.8
NEW S S 18 15 16.0 +2.5
TBG Guadaloupe-3 35.25 86 eP P 18 09 39.6 -1.7
C09A Chrisman Ranch 35.28 337 eP P 18 09 41.3 +0.2
comp=Z,671nm,1.1s
NNA Nana 35.40 142 P P 18 09 44.2 +1.6
comp=Z,26nm,0.9s,baz=316,slow=13,SNR=4.8
NNA S S 18 15 16.2 -0.3
comp=Z,4.0nm,0.3s,baz=359,slow=7.0,SNR=1.7
NNA LR LR 18 21 29.1
comp=Z,778µm,19.9s,baz=334,slow=32
BBL Barber's Block 35.45 86 eP P 18 09 41.2 -1.9
G03D McMinnville, O 35.46 329 P P 18 09 43.1 +0.4
baz=136,SNR=19

MDPO Dominica; Chan 35.47 86 eP P 18 09 41.4 -1.7
EBG Ellensburg 35.49 334 eP P 18 09 44.1 +1.1
MDMP Dominica, Moor 35.50 86 eP P 18 09 34.6 -8.8
MDVC Dominica, Viel 35.50 86 eP P 18 09 47.1 +3.7
MGG Marie-Galante 35.55 86 eP P 18 09 42.4 -1.5
LBNH Lisbon 35.57 33 P P 18 09 43.2 -0.5
baz=227
LBNH Lisbon 35.57 33 eP P 18 09 43.0 -0.7
LBNH pmax pmax
comp=Z,2µm,1.6s
LBNH Lisbon 35.57 33 eP P 18 09 43.0 -0.7
comp=Z,2µm,1.6s
TRQ Mont Tremblant 35.68 29 eP P 18 09 43.5 -1.2
DLPL La Plaine 35.69 87 eP P 18 09 43.6 -1.5
DLPL La Plaine 35.69 87 e S 18 15 35.5 +14
DEG La Desirade 35.76 85 eP P 18 09 43.0 -2.7
H05N1 Guadeloupe/Mar 35.76 85 P P 18 09 43.1 -2.6
SNR=91
GRGR Grenville 35.80 92 eP P 18 09 44.9 -1.1
comp=Z,10µm,1.8s
GRGR LR LR
comp=Z,512µm,20.0s
GRGR Grenville 35.80 92 eP P 18 09 45.0 -1.1
GRGR Grenville 35.80 92 e S 18 15 26.2 +3.4
LTY Liberty 35.81 334 eP P 18 09 46.1 +0.3
comp=Z,2µm,1.7s
FDF Fort de France 35.86 88 eP P 18 09 44.9 -1.7
FDF pmax pmax
comp=Z,782nm,0.9s
FDF MLR MLR
comp=Z,670µm,19.0s
FDF Fort de France 35.86 88 eP P 18 09 44.9 -1.7
comp=Z,782nm,0.9s
FDF LR LR
comp=Z,670µm,19.0s
FDF Fort de France 35.86 88 eP P 18 09 40.7 -5.8
FDF Fort de France 35.86 88 e S 18 15 24.9 +1.2
LON Longmire 35.91 332 eP P 18 09 46.9 +0.3
comp=Z,327nm,0.9s
F04D Rainier, OR 35.97 330 P P 18 09 47.7 +0.6
baz=137,SNR=8.6
SVB Belmont 35.98 90 eP P 18 09 45.5 -2.1
comp=Z,3µm,1.7s
SVB Belmont 35.98 90 eP P 18 09 46.5 -1.1
SVB Belmont 35.98 90 e S 18 15 24.9 -0.7
SVV Soufriere Volc 36.01 90 eP P 18 09 47.8 0.0
SSV Crater Summit 36.03 90 eP P 18 09 47.8 -0.3
SVCV St. Vincent, C 36.09 90 eP P 18 09 50.1 +1.6
SVCV St. Vincent, C 36.09 90 e S 18 15 33.0 +5.9
F03A Seaside 36.12 330 eP P 18 09 49.1 +0.8
comp=Z,820nm,1.0s
B08A Colville Reser 36.14 336 eP P 18 09 48.6 0.0
comp=Z,658nm,1.3s
H05S1 Guadeloupe/Mar 36.20 88 P P 18 09 48.6 -0.8
SNR=93
MCLT Moule a Chique 36.21 89 eP P 18 09 43.4 -6.1
MCLT Moule a Chique 36.21 89 e S 18 15 23.6 -5.4
D05A Enumclaw 36.32 333 eP P 18 09 49.4 -0.7
comp=Z,3µm,1.7s
TRN Trinidad (W) 36.36 94 eP P 18 09 56.5 +5.7
TPP Pointe-a-Pierr 36.39 95 eP P 18 09 54.3 +3.2
C06D Leavenworth 36.42 334 P P 18 09 50.9 -0.1
baz=142
E03A Lebam 36.57 330 eP P 18 09 52.4 +0.3
comp=Z,2µm,1.1s
TBH Brigand Hill 36.72 95 eP P 18 09 51.5 -2.4
MARYW Marymoor Park 36.74 333 eP P 18 09 56.5 +2.9
KDKW Coast Env Seat 36.79 333 eP P 18 09 51.1 -2.9
BOT Bacolet 36.90 93 eP P 18 09 46.0 -9.4
GNW Green Mountain 36.98 332 eP P 18 09 55.6 0.0
WVL Waterville 37.00 35 eP P 18 09 55.4 -0.5
comp=Z,592nm,1.2s
BEVT Boeing Everett 37.01 333 eP P 18 09 55.0 -0.8
PNT Penticton 37.03 337 eP P 18 09 56.9 +0.7
PNT Penticton 37.03 337 eP P 18 09 56.9 +0.7
TOSP Speyside 37.05 93 eP P 18 09 48.7 -8.0
TOSP Speyside 37.05 93 e S 18 15 48.8 +7.0
B06A Marblemount 37.13 334 eP P 18 09 56.9 0.0
comp=Z,336nm,1.0s
B05A Bryant 37.20 334 P P 18 09 58.1 +0.6
baz=140
NLWA Neilton Lookou 37.33 331 eP P 18 09 59.5 +0.7
comp=Z,2µm,1.4s
NLWA LR LR
comp=Z,1278µm,19.0s
BBGH Gun Hill 37.63 90 eP P 18 10 01.2 -0.4
comp=Z,3µm,1.5s
BBGH LR LR
comp=Z,1170µm,20.0s
BBGH Gun Hill 37.63 90 eP P 18 09 59.2 -2.4
BBGH Gun Hill 37.63 90 e S 18 16 00.8 +10
PKME Peaks-Kenny Pk 37.65 34 P P 18 10 01.1 -0.3
baz=230
PKME Peaks-Kenny Pk 37.65 34 eP P 18 10 00.3 -1.1
comp=Z,1µm,1.6s
PKME LR LR
comp=Z,552µm,21.0s
BBSP Saint Philip 37.73 90 eP P 18 09 54.9 -7.6
A04D Lummi Island 37.80 334 P P 18 10 03.2 +0.6
baz=140
PGC Sidney 38.07 333 eP P 18 10 05.8 +0.9
comp=Z,759nm,1.1s
FFC Flin Flon 38.28 357 eP P 18 10 06.0 -0.6
FFC pmax pmax
comp=Z,1µm,1.1s
FFC MLR MLR
comp=Z,701µm,20.0s
FFC Flin Flon 38.28 357 eP P 18 10 06.0 -0.6
comp=Z,1µm,1.1s
FFC LR LR
comp=Z,701µm,20.0s
EMMW East Machias 38.32 36 eP P 18 10 06.5 -0.5
comp=Z,945nm,1.4s
EDM Edmonton 38.51 346 eP P 18 10 08.0 -0.6
EDM pmax pmax
comp=Z,2µm,1.3s
EDM Edmonton 38.51 346 eP P 18 10 08.0 -0.6
comp=Z,2µm,1.3s
LLLB Lillooet 38.94 336 eP P 18 10 12.5 +0.3
comp=Z,645nm,1.1s
PQI Presque Isle 39.24 33 eP P 18 10 13.9 -0.8
comp=Z,1µm,1.4s
FCC Fort Churchill 42.34 3 eP P 18 10 39.8 -0.3
FCC pmax pmax
comp=Z,2µm,1.8s
FCC Fort Churchill 42.34 3 eP P 18 10 39.8 -0.3
comp=Z,2µm,1.8s
BBB Bella Bella 42.70 333 P P 18 10 42.4 -0.7
comp=Z,30nm,0.8s,baz=144,slow=14,SNR=2.1
BBB Bella Bella 42.70 333 eP P 18 10 43.7 +0.6
comp=Z,1µm,1.7s
SAML Samuel 43.01 123 eP P 18 10 43.6 -2.6
comp=Z,529nm,1.4s
SAML LR LR
comp=Z,286µm,20.0s
LPAZ La Paz 44.15 136 P P 18 10 54.8 -1.3
comp=Z,7.8nm,0.9s,baz=342,slow=11,SNR=11
LPAZ S S 18 17 28.3 -0.5
comp=Z,41nm,0.9s,baz=36,slow=19,SNR=1.0
LPAZ ScS ScS 18 20 54.4 -0.4
comp=Z,11nm,1.1s,baz=297,slow=4.5,SNR=1.8
LPAZ LR LR 18 27 37.0
comp=Z,391µm,19.0s,baz=316,slow=34
LPAZ La Paz 44.15 136 eP P 18 10 54.2 -1.8
LPAZ S S 18 17 28.3 -0.5
LPAZ ScS ScS 18 20 54.4 -0.4
PB12 IPOC Station P 44.47 140 i P P 18 11 02.9 +5.0
PB12 IPOC Station P 44.47 140 ǁ iP P 18 11 03.8 +5.9
RPN Rapa Nui 44.63 194 P P 18 10 58.4 -0.6
comp=Z,90nm,0.7s,baz=18,slow=3.3,SNR=3.8
RPN S S 18 17 34.2 0.0
comp=Z,28nm,0.3s,baz=48,slow=18,SNR=1.7
RPN Rapa Nui 44.63 194 eP P 18 10 59.3 +0.4
RPN eS S 18 17 34.2 0.0
RPN pmax pmax
comp=Z,5µm,1.6s
RPN MLR MLR
comp=Z,119µm,22.0s
RPN Rapa Nui 44.63 194 eP P 18 10 59.3 +0.4
comp=Z,5µm,1.6s
RPN eS S 18 17 34.2 0.0
RPN LR LR
comp=Z,119µm,22.0s
MNMC Minye Minye 45.31 140 eP P 18 11 05.6 +0.8
comp=Z,577nm,1.1s
MNMC Minye Minye 45.31 140 i P P 18 11 10.6 +5.7
MNMC Minye Minye 45.31 140 ǁ iP P 18 11 07.1 +2.3
MNMC i P P 18 11 10.1 +5.3
H02S1 DAWSON INLET T 45.33 332 P P 18 11 04.5 +0.2
DIB Dawson Inlet, 45.33 332 eP P 18 11 05.4 +1.2
comp=Z,791nm,1.4s
SCHQ Schefferville 45.33 25 P P 18 11 03.7 -0.6
comp=Z,322nm,0.8s,baz=232,slow=6.6,SNR=58
SCHQ S S 18 17 43.8 -0.2
comp=Z,34nm,1.1s,baz=54,slow=19,SNR=1.8
SCHQ LR LR 18 32 47.8
comp=Z,441µm,20.5s,baz=225,slow=40
SCHQ Schefferville 45.33 25 eP P 18 11 03.5 -0.8
comp=Z,1µm,1.1s
SCHQ eS S 18 17 43.8 -0.2
PSGC Pisagua 45.34 141 i P P 18 11 09.3 +4.4
PSGC Pisagua 45.34 141 ǁ iP P 18 11 11.0 +6.1
PB11 IPOC Station P 45.75 141 eP P 18 11 09.5 +1.3
comp=Z,453nm,0.9s
PB11 IPOC Station P 45.75 141 i P P 18 11 13.8 +5.6
PB11 IPOC Station P 45.75 141 ǁ iP P 18 11 12.7 +4.5
PB08 IPOC Station P 46.34 141 i P P 18 11 17.6 +4.5
PB08 IPOC Station P 46.34 141 ǁ iP P 18 11 19.8 +6.7
PB02 IPOC Station P 46.80 142 i P P 18 11 21.4 +5.0
PB02 IPOC Station P 46.80 142 ǁ iP P 18 11 20.5 +4.2
PB01 IPOC Station P 46.83 142 eP P 18 11 17.5 +0.9
comp=Z,512nm,1.4s
PB01 IPOC Station P 46.83 142 i P P 18 11 21.4 +4.8
PB01 IPOC Station P 46.83 142 ǁ iP P 18 11 22.9 +6.3
CRAG Craig 47.11 334 eP P 18 11 18.7 +0.5
comp=Z,848nm,1.3s
PB07 IPOC Station P 47.12 143 i P P 18 11 22.7 +3.7
PB07 IPOC Station P 47.12 143 ǁ iP P 18 11 24.1 +5.2
YKA Yellowknife Ar 47.37 350 P P 18 11 19.1 -1.0
comp=Z,114nm,0.9s,baz=157,slow=7.1,SNR=59
YKA LR LR 18 32 54.3
comp=Z,128µm,18.3s,baz=180,slow=38
YKB5 Yellowknife Ar 47.37 350 eP P 18 11 19.1 -1.0
YKW3 Yellowknife Ar 47.43 350 eP P 18 11 19.6 -1.1
comp=Z,431nm,1.1s
WRAK Wrangell Islan 47.43 335 PFAKE 18 11 30.0 +9.3
WRAK LR LR
comp=Z,676µm,21.0s
PB04 IPOC Station P 47.45 144 eP P 18 11 22.2 +0.8
comp=Z,675nm,1.4s
PB04 IPOC Station P 47.45 144 ǁ iP P 18 11 25.6 +4.1
PB09 IPOC Station P 47.55 142 i P P 18 11 29.1 +6.8
PB09 IPOC Station P 47.55 142 eP P 18 11 28.0 +5.7
DLBC Dease Lake 47.99 338 eP P 18 11 25.8 +0.6
comp=Z,925nm,1.3s
PB06 IPOC Station P 48.07 143 i P P 18 11 29.1 +2.8
PB06 IPOC Station P 48.07 143 ǁ iP P 18 11 28.8 +2.5
PB10 IPOC Station P 48.15 145 eP P 18 11 27.9 +1.1
comp=Z,403nm,1.5s
PB10 IPOC Station P 48.15 145 eP P 18 11 26.4 -0.4
PB10 IPOC Station P 48.15 145 ǁ iP P 18 11 33.8 +7.1
TAOE Nuku Hiva Isla 48.40 242 eP P 18 11 33.9 +5.0
comp=Z,576nm,1.4s
TAOE eS S 18 18 32.5 +3.6
comp=Z,430µm,25.4s
TAOE eLR LR 18 25 06.0
comp=Z,1253µm,25.8s
TAOE Nuku Hiva Isla 48.40 242 eT T 19 02 46.2
comp=Z,485nm,0.2s
TAOE Nuku Hiva Isla 48.40 242 eP P 18 11 30.6 +1.7
comp=Z,874nm,1.8s
SIV San Ignacio 48.93 129 P P 18 11 31.4 -1.5
comp=Z,15nm,0.9s,baz=309,slow=10,SNR=62
SIV S S 18 18 35.9 -0.3
comp=Z,13nm,0.9s,baz=235,slow=9.6,SNR=1.8
SIV LR LR 18 31 38.0
comp=Z,644µm,18.6s,baz=342,slow=35
SIT Sitka 49.08 334 eP P 18 11 33.9 +0.4
SIT pmax pmax
comp=Z,141nm,1.2s
SIT Sitka 49.08 334 eP P 18 11 33.9 +0.4
comp=Z,141nm,1.2s
PB14 IPOC Station P 49.12 146 eP P 18 11 37.1 +2.5
PB14 IPOC Station P 49.12 146 ǁ iP P 18 11 41.3 +6.7
BESE Bessie Mountai 49.90 336 eP P 18 11 40.1 +0.4
comp=Z,227nm,1.2s
YJA Yavi 50.11 139 eP P 18 11 40.9 -1.3
YJA IAMs_20 IAMs_20 18 31 20.4
comp=Z,333µm,20.8s
SKAG Skagway 50.67 337 eP P 18 11 46.0 +0.5
comp=Z,374nm,1.4s
HJA Humahuaca 50.93 140 eP P 18 11 48.3 -0.1
WHY Whitehorse 51.31 338 eP P 18 11 51.2 +0.7
comp=Z,411nm,1.4s
FRB Frobisher Bay 51.49 16 P P 18 11 50.4 -1.2
comp=Z,35nm,0.8s,baz=218,slow=10,SNR=34
FRB PP PP 18 13 49.7 +0.9
comp=Z,75nm,0.9s,baz=200,slow=12,SNR=1.5
FRB S S 18 19 11.9 +1.3
comp=Z,8.4nm,0.4s,baz=278,slow=14,SNR=7.6
AZAP Zapla 51.89 140 eP P 18 11 54.2 -1.2
ASTB Santa Barbara 52.07 140 eP P 18 11 55.7 -0.9
ALOL LOMAS DE OLMED 52.27 139 eP P 18 11 56.6 -1.3
HYT Haines Junctio 52.39 337 eP P 18 11 58.4 -0.1
comp=Z,3µm,2.0s
YKU2 Yakutat 52.41 335 eP P 18 11 59.6 +1.1
comp=Z,3µm,1.8s
LCO Las Campanas 52.53 149 eP P 18 12 00.3 +0.2
comp=Z,291nm,1.3s
LCO LR LR
comp=Z,557µm,21.0s
LCO Las Campanas 52.53 149 eP P 18 12 00.6 +0.5
LCO Las Campanas 52.53 149 i P P 18 12 05.8 +5.6
FSA Cafayete 52.77 143 eP P 18 11 59.7 -2.1
RKT Rikitea 53.20 223 eP P 18 12 10.3 +5.5
comp=Z,622nm,1.3s
RKT eS S 18 19 38.5 +3.5
comp=Z,546µm,27.8s
RKT eLQ LQ 18 25 22.4
comp=Z,156µm,30.8s
RKT eLR LR 18 27 36.6
comp=Z,1239µm,26.8s
RKT Rikitea 53.20 223 eT T 19 08 43.5
comp=Z,280nm,0.3s
TLL Tololo Astrono 53.44 150 i P P 18 12 11.0 +4.2
GO04 Tololo Observa 53.45 150 eP P 18 12 09.2 +2.3
GO04 Tololo Observa 53.45 150 ǁ iP P 18 12 10.8 +4.0
VCA Vinchina 53.58 147 eP P 18 12 12.3 +4.5
AHML Horco Molle 53.65 143 eP P 18 12 07.9 -0.3
AHML Horco Molle 53.65 143 i P P 18 12 14.0 +5.8
HULD Heiheiahulu Di 53.73 282 eP P 18 12 10.6 +1.6
comp=Z,1µm,1.5s
JCUZ Jacuzzi 53.85 282 eP P 18 12 13.5 +3.6
comp=Z,401nm,1.0s
NPOC North of Pu'u 53.86 282 eP P 18 12 13.8 +3.8
comp=Z,428nm,0.9s
STCH Steam Cracks 53.88 282 eP P 18 12 11.3 +1.3
comp=Z,492nm,1.0s
PUH Pauahi 53.96 282 eP P 18 12 12.9 +2.2
comp=Z,704nm,1.0s
HATHI Halema'uma'u T 54.00 282 eP P 18 12 13.6 +2.6
comp=Z,974nm,1.0s
BYL Byron's Ledge 54.00 282 eP P 18 12 13.5 +2.4
comp=Z,2µm,1.3s
SBLHI Steaming Bluff 54.01 282 eP P 18 12 13.9 +2.8
comp=Z,1µm,1.5s
KKO Keanakako'i 54.01 282 eP P 18 12 13.6 +2.6
comp=Z,1µm,1.1s
RIM Rim 54.02 282 eP P 18 12 14.1 +3.0
comp=Z,1µm,1.0s
UWB Uwekahuna B 54.02 282 eP P 18 12 12.9 +1.8
comp=Z,1µm,1.2s
NPH North Pit 54.02 282 eP P 18 12 14.0 +2.8
NPH pmax pmax
comp=Z,2µm,1.6s
NPH North Pit 54.02 282 eP P 18 12 14.0 +2.8
comp=Z,2µm,1.6s
OBL Observatory Le 54.02 282 eP P 18 12 12.4 +1.2
comp=Z,2µm,1.3s
UWE Uwekahuna 54.03 282 eP P 18 12 12.9 +1.6
comp=Z,2µm,1.6s
AGUA GUANDACOL 54.03 148 eP P 18 12 12.9 +1.9
SDHHI Sand Hill 54.03 282 eP P 18 12 12.9 +1.6
comp=Z,708nm,1.0s
WRMHI West Rim 54.04 282 eP P 18 12 12.8 +1.5
comp=Z,672nm,0.9s
HLP Hilina Pali 54.06 282 eP P 18 12 13.1 +1.7
comp=Z,1µm,1.2s
MLH Mauna Loa 54.11 282 eP P 18 12 11.8 -0.2
MLH pmax pmax
comp=Z,1µm,1.2s
MLH Mauna Loa 54.11 282 eP P 18 12 11.8 -0.2
comp=Z,1µm,1.2s
HMH Humu'ula Sheep 54.19 283 eP P 18 12 12.4 -0.2
comp=Z,2µm,1.5s
AIN Ainahou 54.19 282 eP P 18 12 12.4 -0.1
comp=Z,1µm,1.0s
POHA Pohakuloa 54.22 283 eP P 18 12 11.8 -1.0
comp=Z,854nm,1.2s
POHA LR LR
comp=Z,311µm,20.0s
MLOA Mauna Loa Obse 54.28 282 eP P 18 12 14.2 +0.7
comp=Z,1µm,1.3s
MWH Moku'aweowe 54.31 282 eP P 18 12 13.8 +0.1
comp=Z,710nm,1.1s
HPAH Hawaii Prepara 54.34 283 eP P 18 12 13.2 -0.2
comp=Z,1µm,1.5s
KHU Kahuku 54.35 282 eP P 18 12 14.4 +0.7
KHU pmax pmax
comp=Z,1µm,1.7s
KHU Kahuku 54.35 282 eP P 18 12 14.4 +0.7
comp=Z,1µm,1.7s
HUH Hualalai 54.51 283 eP P 18 12 16.6 +1.7
comp=Z,2µm,1.9s
KHLU Kahalu'u 54.57 283 eP P 18 12 16.7 +1.5
comp=Z,616nm,1.1s
CYA Choya 54.65 144 eP P 18 12 16.9 +1.5
KKH Kailua Kona 54.68 283 eP P 18 12 17.9 +2.1
KKH Kailua Kona 54.68 283 eP P 18 12 17.9 +2.1
HLK Haleakala 54.78 284 eP P 18 12 17.8 +1.0
comp=Z,757nm,1.5s
KHLH Kahului Airpor 54.93 284 eP P 18 12 18.0 +0.4
comp=Z,2µm,1.9s
RAGM Ragged Mountai 54.98 334 eP P 18 12 17.6 +0.1
comp=Z,570nm,1.4s
DAWY Dawson 55.15 339 eP P 18 12 17.9 -0.7
comp=Z,412nm,1.6s
AMOG MOGNA 55.20 149 eP P 18 12 21.3 +1.9
MID Middleton Isla 55.21 332 eP P 18 12 20.3 +1.3
MID pmax pmax
comp=Z,1µm,1.8s
MID Middleton Isla 55.21 332 eP P 18 12 20.3 +1.3
comp=Z,1µm,1.8s
BMRM Bremner River 55.27 335 eP P 18 12 20.5 +1.0
comp=Z,2µm,1.5s
RTLS Leoncito 55.51 150 eP P 18 12 21.6 -0.3
EYAK Cordova Ski Ar 55.52 334 eP P 18 12 22.0 +0.8
comp=Z,697nm,1.3s
RTLL Cerro Villicun 55.53 149 eP P 18 12 23.1 +1.4
RTLL Cerro Villicun 55.53 149 i P P 18 12 26.1 +4.4
ZON Zonda 55.60 149 eP P 18 12 26.1 +3.8
SJA San Juan 55.65 149 eP P 18 12 27.3 +4.7
ROC1 El Roble 55.69 152 eP P 18 12 24.3 +1.2
comp=Z,106nm,0.9s
APLL PUNTA DE LOS L 55.78 147 eP P 18 12 24.0 +0.4
AUSP Uspallata 55.82 150 eP P 18 12 24.6 +0.5
DIV Divide 55.84 334 eP P 18 12 23.3 -0.3
comp=Z,1µm,1.7s
RTCV Cerro Valdivia 55.93 149 eP P 18 12 25.0 +0.4
FID Port Fidalgo 55.94 334 eP P 18 12 23.2 -1.0
comp=Z,2µm,1.6s
PEL Peldehue 55.98 152 ǁ iP P 18 12 26.3 +1.4
MENT Mentasta 56.01 337 eP P 18 12 24.3 -0.5
comp=Z,608nm,1.5s
KLU Klutina 56.09 335 eP P 18 12 24.7 -0.7
comp=Z,1µm,1.8s
EGAK Eagle 56.20 339 eP P 18 12 24.3 -1.7
comp=Z,347nm,1.0s
EGAK LR LR
comp=Z,1417µm,19.0s
RCDM Rinconada Maip 56.22 152 eP P 18 12 28.2 +1.6
GLI Glacier Island 56.26 334 eP P 18 12 25.4 -1.2
comp=Z,843nm,1.5s
HARP HAARP 56.27 336 eP P 18 12 25.7 -0.9
comp=Z,2µm,1.6s
FCH Farellones 56.31 152 i P P 18 12 30.9 +3.3
FCH Farellones 56.31 152 eP P 18 12 30.7 +3.1
OPA Opana 56.32 285 eP P 18 12 28.3 +0.7
OPA pmax pmax
comp=Z,342nm,1.1s
OPA Opana 56.32 285 eP P 18 12 28.3 +0.7
comp=Z,342nm,1.1s
HON Honolulu 56.35 285 eP P 18 12 27.6 -0.2
HON Honolulu 56.35 285 eP P 18 12 27.6 -0.2
KIP Kipapa 56.35 285 ǁ iP P 18 12 28.0 +0.2
KIP pmax pmax
comp=Z,4µm,1.2s
KIP MLR MLR
comp=Z,615µm,17.0s
KIP Kipapa 56.35 285 eP P 18 12 27.4 -0.4
comp=Z,812nm,1.2s
KIP LR LR
comp=Z,270µm,21.0s
ASAL Salagasta 56.38 150 eP P 18 12 28.2 +0.4
INK Inuvik 56.41 345 P P 18 12 26.9 -0.6
comp=Z,134nm,0.9s,baz=132,slow=7.2,SNR=27
INK PP PP 18 14 33.9 +0.9
comp=Z,108nm,1.0s,baz=128,slow=19,SNR=1.7
INK LR LR 18 40 49.8
comp=Z,889µm,18.4s,baz=153,slow=40
INK Inuvik 56.41 345 eP P 18 12 26.7 -0.7
comp=Z,1µm,1.4s
INK PP PP 18 14 33.9 +0.9
DOT Dot Lake 56.54 337 eP P 18 12 28.9 +0.4
comp=Z,2µm,1.3s
PAX Paxson 56.70 336 eP P 18 12 29.5 -0.2
PAX pmax pmax
comp=Z,387nm,1.2s
PAX Paxson 56.70 336 eP P 18 12 29.5 -0.2
comp=Z,387nm,1.2s
SCRK Sand Creek 56.70 338 eP P 18 12 28.6 -1.3
comp=Z,910nm,1.6s
AAGR Agrelo 56.79 150 eP P 18 12 31.4 +0.6
SCM Sheep Creek Mo 56.84 335 eP P 18 12 31.4 +0.6
SCM pmax pmax
comp=Z,2µm,1.8s
SCM Sheep Creek Mo 56.84 335 eP P 18 12 31.4 +0.6
comp=Z,2µm,1.8s
RIDG Independ'e Rid 56.88 337 eP P 18 12 31.1 0.0
comp=Z,982nm,1.2s
GO05 HualaæØ 57.03 154 eP P 18 12 33.4 +1.0
comp=Z,618nm,1.4s
GO05 HualaæØ 57.03 154 eP P 18 12 34.8 +2.5
GO05 HualaæØ 57.03 154 ǁ iP P 18 12 35.1 +2.8
IVI Ivigtut 57.05 26 eP P 18 12 30.9 -1.2
comp=Z,471nm,1.0s
SML Sawmill 57.24 334 eP P 18 12 33.5 0.0
SML pmax pmax
comp=Z,1µm,1.5s
SML Sawmill 57.24 334 eP P 18 12 33.5 0.0
comp=Z,1µm,1.5s
BRLK Bradley Lake 57.41 332 eP P 18 12 34.4 -0.4
comp=Z,705nm,1.3s
KDAK Kodiak Island 57.42 329 P P 18 12 34.6 -0.1
comp=Z,28nm,0.8s,baz=108,slow=6.4,SNR=6.3
KDAK S S 18 20 28.4 -2.2
comp=Z,19nm,1.2s,baz=183,slow=15,SNR=23
KDAK LR LR 18 37 37.8
comp=Z,727µm,19.4s,baz=118,slow=36
KDAK Kodiak Island 57.42 329 i P P 18 12 35.0 +0.3
KDAK Kodiak Island 57.42 329 eP P 18 12 32.9 -1.8
KDAK S S 18 20 28.4 -2.2
PMR Palmer 57.47 334 eP P 18 12 35.0 0.0
PMR pmax pmax
comp=Z,313nm,1.1s
PMR Palmer 57.47 334 eP P 18 12 35.0 0.0
comp=Z,313nm,1.1s
DHY Denali Highway 57.49 336 eP P 18 12 34.4 -1.0
comp=Z,311nm,1.4s
RC01 Rabbit Creek A 57.49 333 eP P 18 12 34.4 -0.8
comp=Z,463nm,1.2s
OHAK Old Harbor 57.56 328 eP P 18 12 35.9 +0.1
comp=Z,587nm,1.2s
COCH Cobquecura 57.65 156 eP P 18 12 36.8 +0.3
COCH Cobquecura 57.65 156 ǁ iP P 18 12 39.8 +3.2
HOM Homer 57.72 331 eP P 18 12 36.5 -0.3
comp=Z,665nm,1.1s
MRA San Martin 57.80 147 eP P 18 12 37.6 -0.3
KEKH Kekaha 57.86 286 eP P 18 12 39.5 +1.0
comp=Z,1µm,1.6s
VAH Vaihoa 57.94 240 eP P 18 12 44.2 +5.2
comp=Z,280nm,1.2s
HDA Harding Lake 58.03 337 eP P 18 12 38.7 -0.3
comp=Z,408nm,1.1s
PMOR Pomariorio Ree 58.04 240 eP P 18 12 45.0 +5.3
comp=Z,374nm,1.2s
PMOR Pomariorio Ree 58.04 240 eT T 19 14 48.5
comp=Z,55nm,0.2s

SUA Susitna One 58.10 333 *e*P **P 18 12 39.4 -0.3**
comp=Z,566nm,1.0s
IL1 Eielson Array 58.20 338 *e*P **P 18 12 39.3 -0.8**
ILAR Eielson Array 58.20 338 P **P 18 12 39.9 -0.3**
comp=Z,100nm,1.0s,baz=141,slow=4.9,SNR=29
ILAR S **S 18 20 40.7 0.0**
comp=Z,1.3nm,0.9s,baz=110,slow=7.8,SNR=2.1
ILAR LR LR 18 40 29.7
comp=Z,1079μm,20.6s,baz=132,slow=39
ILAR PKPPKP **P'P'df 18 42 17.1 -7.7**
comp=Z,1.6nm,1.2s,baz=276,slow=3.0,SNR=4.2
ILB Eielson Array 58.20 338 *e*P **P 18 12 39.5 -0.7**
NRS Narsarsuaq 58.21 27⇑*i*P **P 18 12 42.0 +1.7**
NRS Narsarsuaq 58.21 27⇑*i*P **P 18 12 42.0 +1.7**
NRS MLR MLR
comp=Z,320μm,17.0s
NRS Narsarsuaq 58.21 27 *e*P **P 18 12 39.4 -0.9**
comp=Z,995nm,1.3s
RND Reindeer 58.23 336 *e*P **P 18 12 39.6 -1.0**
RND pmax pmax
comp=Z,2μm,1.6s
RND Reindeer 58.23 336 *e*P **P 18 12 39.6 -1.0**
comp=Z,2μm,1.6s
RES Resolute Bay 58.25 1 P **P 18 12 39.5 -0.9**
comp=Z,24nm,0.7s,baz=196,slow=11,SNR=45
RES PP **PP 18 14 51.2 +1.9**
comp=Z,88nm,1.2s,baz=167,slow=4.7,SNR=2.8
RES S **S 18 20 39.5 -1.6**
comp=Z,10nm,0.9s,baz=116,slow=16,SNR=2.6
RES Resolute Bay 58.25 1 *e*P **P 18 12 39.1 -1.2**
comp=Z,1μm,2.0s
RES PP **PP 18 14 51.2 +1.9**
RES S **S 18 20 39.5 -1.6**
CPUP Villa Florida 58.32 136 P **P 18 12 39.7 -1.8**
comp=Z,13nm,0.9s,baz=323,slow=9.6,SNR=29
CPUP S **S 18 20 42.1 -1.2**
comp=Z,5.7nm,0.9s,baz=79,slow=19,SNR=1.8
CPUP LR LR 18 37 32.1
comp=Z,209μm,21.9s,baz=333,slow=36
CPUP PKPPKP **P'P'df 18 42 22.7 +3.6**
comp=Z,4.4nm,1.2s,baz=121,slow=6.1,SNR=3.3
CPUP Villa Florida 58.32 136 *e*P **P 18 12 39.1 -2.5**
CPUP S **S 18 20 42.1 -1.2**
CPUP pmax pmax
comp=Z,636nm,1.8s
CPUP Villa Florida 58.32 136 *e*P **P 18 12 39.1 -2.5**
comp=Z,636nm,1.8s
CPUP S **S 18 20 42.1 -1.2**
CPUP ⇑*e* 18 42 17.1
CPUP P'P' 18 42 22.7
CPUP Villa Florida 58.32 136 *e*P **P 18 12 39.5 -2.1**
CCHI Chillan 58.34 155 *i*P **P 18 12 41.8 +0.3**
CCHI Chillan 58.34 155 *e*P **P 18 12 37.7 -3.8**
RFA San Rafael 58.35 151 *e*P **P 18 12 42.4 +0.7**
MCK McKinley 58.43 336 *e*P **P 18 12 40.6 -1.2**
MCK pmax pmax
comp=Z,1μm,1.4s
MCK McKinley 58.43 336 *e*P **P 18 12 40.6 -1.2**
comp=Z,1μm,1.4s
CCB Clear Creek Bu 58.47 337 *e*P **P 18 12 40.7 -1.3**
comp=Z,953nm,2.0s
WRH Wood River Hil 58.48 337 *e*P **P 18 12 41.1 -1.0**
comp=Z,336nm,1.2s
SPU Mount Spurr 58.54 333 *e*P **P 18 12 42.2 -0.5**
RSO Redoubt South 58.56 332 *e*P **P 18 12 41.9 -1.1**
COLA College 58.60 338 *e*P **P 18 12 42.0 -1.0**
COLA pmax pmax
comp=Z,362nm,1.0s
COLA MLR MLR
comp=Z,1196μm,19.0s
COLA College 58.60 338 *e*P **P 18 12 42.0 -1.0**
comp=Z,362nm,1.0s
COLA LR LR
comp=Z,1196μm,19.0s
FYU Fort Yukon 58.62 340 *e*P **P 18 12 43.6 +0.6**
comp=Z,744nm,1.3s
MDM Murphy Dome 58.78 338 *e*P **P 18 12 43.5 -0.8**
comp=Z,1μm,1.8s
TRF Thorofare Moun 58.82 336 *e*P **P 18 12 44.7 0.0**
comp=Z,5μm,2.0s
KTH Kantishna Hill 59.12 336 *e*P **P 18 12 46.0 -0.7**
comp=Z,684nm,1.3s
SFJD Kangerlussuaq 59.16 20 P **P 18 12 45.8 -1.0**
comp=Z,65nm,0.9s,baz=224,slow=8.7,SNR=18
SFJD PP **PP 18 14 58.6 +1.2**
comp=Z,78nm,1.1s,baz=240,slow=11,SNR=1.9
SFJD S **S 18 20 51.4 -1.6**
comp=Z,12nm,0.9s,baz=141,slow=18,SNR=2.0
SFJD LR LR 18 43 06.8
comp=Z,491μm,18.2s,baz=236,slow=41
SFJD Kangerlussuaq 59.16 20 *i*P **P 18 12 46.9 +0.1**
SFJD Kangerlussuaq 59.16 20 *e*P **P 18 12 45.2 -1.5**
comp=Z,1μm,1.5s
PPLA Purkeypile 59.34 335 *e*P **P 18 12 48.2 -0.1**
comp=Z,2μm,1.6s
BPAW Bear Paw Mtn. 59.40 336 *e*P **P 18 12 47.5 -1.1**
comp=Z,1μm,1.8s
CAST Castle Rocks 59.53 335 *e*P **P 18 12 48.3 -1.2**
comp=Z,507nm,1.1s
MLY Manley 59.75 337 *e*P **P 18 12 50.1 -0.8**
comp=Z,790nm,1.2s
XMAS Kiritimati 59.82 263 *e*P **P 18 12 52.9 +0.6**
comp=Z,256nm,1.0s
CANA Caviahue 59.85 155 *e*P **P 18 12 51.3 -0.9**
CHGN Chignik 59.93 326 *e*P **P 18 12 51.1 -1.1**
comp=Z,520nm,1.3s
SVW2 Sparrevohn 60.08 332 *e*P **P 18 12 51.8 -1.5**
comp=Z,271nm,1.0s
ILULI Ilulissat 60.28 18 *i*P **P 18 12 55.4 +0.9**
comp=Z,3μm,2.3s
ILULI Ilulissat 60.28 18 *i*P **P 18 12 55.4 +0.9**
ILULI pmax pmax
comp=Z,3μm,2.3s
ILULI MLR MLR
comp=Z,520μm,18.0s
ILULI Ilulissat 60.28 18 *e*P **P 18 12 53.6 -0.9**
comp=Z,475nm,1.4s
TIAR Tiarei 60.54 238 *e*P P 18 13 01.9 +4.8
comp=Z,83nm,0.9s
TVO Taravao 60.58 238 *e*P P 18 13 02.3 +4.9
comp=Z,67nm,1.0s
COLD Coldfoot 60.63 339 *e*P **P 18 12 56.2 -0.8**
comp=Z,722nm,1.6s
PPT Papeete 60.73 238 P **P 18 12 58.0 -0.4**
comp=Z,26nm,0.8s,baz=131,slow=19,SNR=2.1
PPT Papeete 60.73 238 *e*P **P 18 12 58.0 -0.4**
PPTF Pamatai, Papee 60.73 238 *e*P **P 18 12 57.9 -0.5**
comp=Z,637nm,1.5s
PPT2 Papeete2 60.74 238 *e*P P 18 13 03.4 +4.9
comp=Z,138nm,1.2s
PPT2 *e*S **S 18 21 18.0 +3.0**
comp=Z,911μm,28.0s
PPT2 *e*SS **SS 18 25 19.6 +5.4**
comp=Z,154μm,27.5s
PPT2 *e*LQ LQ 18 28 28.2
comp=Z,850μm,35.0s
PPT2 *e*LR LR 18 30 50.0
comp=Z,853μm,26.2s
PAE Paea 60.78 238 *e*P P 18 13 03.7 +5.0
comp=Z,31nm,1.0s
SDPT Sand Point 60.81 325 *e*P **P 18 12 56.8 -1.5**
comp=Z,2μm,1.8s
TOLK Toolik Lake Re 61.15 341 P **P 18 13 00.8 +0.2**
baz=121,SNR=13
TOLK Toolik Lake Re 61.15 341 *e*P **P 18 12 59.7 -0.9**
comp=Z,528nm,1.3s
GO06 Curarrehue 61.16 156⇓*i*P **P 18 13 03.9 +2.9**
TULEG Thule 61.99 8 *e*P **P 18 13 05.1 -0.9**
comp=Z,881nm,1.4s
H07S1 FLORES T-PHASE 62.18 54 P **P 18 13 09.3 +1.3**
H07S1 FLORES T-PHASE 62.18 54 *e*P **P 18 13 06.7 -1.2**
KULLO Kullorsuaq 62.30 11 *i*P **P 18 13 07.6 -0.5**
KULLO Kullorsuaq 62.30 11 *i*P **P 18 13 07.6 -0.5**
KULLO MLR MLR
comp=Z,590μm,19.0s
FALS False Pass 62.35 324 *e*P **P 18 13 07.1 -1.7**
comp=Z,821nm,1.1s
PLCA Paso Flores 62.51 156 P **P 18 13 09.1 -0.9**
comp=Z,89nm,1.1s,baz=5.1,slow=9.3,SNR=20
PLCA S **S 18 21 36.3 -0.2**
comp=Z,4.5nm,1.1s,baz=138,slow=19,SNR=1.6
PLCA LR LR 18 35 23.1
comp=Z,448μm,18.7s,baz=360,slow=31
PLCA PKP2bc 18 42 23.3
comp=Z,1.3nm,0.8s,baz=214,slow=1.7,SNR=2.9
PLCA Paso Flores 62.51 156 *e*P **P 18 13 09.5 -0.5**
PLCA S **S 18 21 36.3 -0.2**
PLCA pmax pmax
comp=Z,565nm,1.3s
PLCA Paso Flores 62.51 156 *e*P **P 18 13 09.5 -0.5**
comp=Z,565nm,1.3s
PLCA S **S 18 21 36.3 -0.2**
PLCA ⇑*e* 18 42 06.5
PLCA ⇑*e* 18 42 23.3
PLCA Paso Flores 62.51 156 *e*P **P 18 13 09.1 -0.9**
ANGG Ammassalik, Gr 63.18 24 *e*P **P 18 13 13.1 -1.0**
comp=Z,1μm,1.4s
GO07 Milladeo Hill, 63.49 160⇓*i*P **P 18 13 20.4 +4.1**
AKUT Akutan 63.59 323 *e*P **P 18 13 15.8 -1.1**
comp=Z,316nm,1.0s
TBI Tubuai 63.72 233 *e*S **S 18 21 55.2 +3.1**
comp=Z,453μm,34.2s
TBI *e*SS **SS 18 25 59.2 -1.3**
comp=Z,122μm,35.0s
TBI *e*LQ LQ 18 29 41.0
comp=Z,442μm,32.8s
TBI *e*LR LR 18 32 24.7
comp=Z,834μm,27.2s
TBI Tubuai 63.72 233 *e*T T 19 21 54.8
comp=Z,286nm,0.2s
SPB Sao Paulo 63.73 127 *e*P **P 18 13 16.3 -2.0**
comp=Z,209nm,1.2s
SPB LR LR
comp=Z,452μm,20.0s
UNV Unalaska Valle 63.98 322 *e*P **P 18 13 18.3 -1.2**
comp=Z,2μm,1.7s
PCED Cedros 64.13 55 *e*P **P 18 13 19.9 -1.0**
comp=Z,965nm,1.5s
PCAN Candelaria 64.30 55 *e*P **P 18 13 21.1 -0.9**
comp=Z,924nm,1.4s
PICO Pico 64.35 55 *e*P **P 18 13 20.7 -1.7**
comp=Z,1μm,1.4s
ROSA Rosais 64.49 55 *e*P **P 18 13 22.0 -1.2**
comp=Z,1μm,1.9s
ROSA Rosais 64.49 55 *e*P **P 18 13 21.4 -1.9**
comp=Z,657nm,1.1s
PMAN Manadas 64.61 55 *e*P **P 18 13 22.6 -1.4**
comp=Z,635nm,1.4s
PGRA Graciosa 64.69 54 *e*P **P 18 13 23.2 -1.3**
comp=Z,2μm,1.3s
ADH Angra Heroismo 65.28 55 *e*P **P 18 13 27.2 -1.1**
comp=Z,786nm,1.6s
SUMG Summit 65.57 17 *i*P **P 18 13 30.4 +0.3**
SUMG Summit 65.57 17 *i*P **P 18 13 30.4 +0.3**
SUMG MLR MLR
comp=Z,390μm,22.0s
SUMG Summit 65.57 17 *e*P **P 18 13 27.8 -2.3**
comp=Z,741nm,1.2s
RCBR Riachuelo 65.62 104 P **P 18 13 30.9 -0.1**
comp=Z,100nm,0.9s,baz=280,slow=5.3,SNR=10
RCBR S **S 18 22 18.4 +2.3**
comp=Z,13nm,0.8s,baz=178,slow=12,SNR=3.3
RCBR Riachuelo 65.62 104 *e*P **P 18 13 28.5 -2.4**
comp=Z,674nm,1.3s
RCBR LR LR
comp=Z,302μm,20.0s
COYC Coyhaique 66.19 160⇓*i*P **P 18 13 37.9 +3.9**
PSET Sete Cidades 66.50 56 *e*P **P 18 13 35.1 -1.2**
comp=Z,2μm,1.3s
PDA Ponta Delgada 66.55 56 *e*P **P 18 13 35.5 -1.1**
comp=Z,40nm,0.4s
CMLA Cha da Macela 66.66 56 *e*P **P 18 13 36.2 -1.1**
comp=Z,2μm,1.3s
CMLA Cha da Macela 66.66 56 *e*P **P 18 13 37.1 -0.2**
CMLA pmax pmax
comp=Z,2μm,1.4s
CMLA MLR MLR
comp=Z,408μm,20.0s
CMLA Cha da Macela 66.66 56 *e*P **P 18 13 37.1 -0.2**
comp=Z,2μm,1.4s
CMLA LR LR
comp=Z,408μm,20.0s
PCALD Caldeiras da R 66.69 56 *e*P **P 18 13 36.4 -1.1**
comp=Z,2μm,1.5s
BART Pico Bartolome 66.94 56 *e*P **P 18 13 37.9 -1.3**
comp=Z,2μm,1.1s
PSMA Santa Maria 67.02 56 *e*P **P 18 13 38.4 -1.2**
comp=Z,1μm,1.7s
PSMN Pico do Norte, 67.07 56 *e*P **P 18 13 38.4 -1.5**
comp=Z,1μm,1.6s
CHRN Cochrane 67.52 161 *e*P **P 18 13 41.3 -1.0**
comp=Z,78nm,1.3s
JOHN Johnston Islan 67.82 282 PFAKE
JOHN LR LR 18 14 00.0 +15
comp=Z,17μm,22.0s
GAMB Gambell 67.99 333 *e*P **P 18 13 44.3 -0.9**
comp=Z,904nm,1.8s
BORG Borgarnes 69.70 26 P **P 18 13 56.7 +0.8**
comp=Z,58nm,1.0s,baz=350,slow=3.9,SNR=5.7
BORG S **S 18 23 05.9 +2.5**
comp=Z,32nm,1.1s,baz=254,slow=16,SNR=1.9
BORG LR LR 18 46 26.1
comp=Z,182μm,18.6s,baz=282,slow=38
BORG Borgarnes 69.70 26 *e*P **P 18 13 55.4 -0.4**
comp=Z,717nm,1.3s
BORG S **S 18 23 05.9 +2.5**
SCO Scoresbysund 70.05 20 *i*P **P 18 13 58.1 +0.2**
SCO Scoresbysund 70.05 20 *i*P **P 18 13 58.1 +0.2**
SCO MLR MLR
comp=Z,490μm,18.0s
SCO Scoresbysund 70.05 20 *e*P **P 18 13 56.9 -0.9**
comp=Z,1μm,2.0s
RAR Rarotonga 70.91 240 P **P 18 14 04.7 +0.8**
comp=Z,32nm,1.0s,baz=135,slow=19,SNR=2.3
RAR S **S 18 23 21.2 +2.4**
comp=Z,20nm,0.9s,baz=87,slow=19,SNR=2.5
RAR LR LR 18 38 07.6
comp=Z,173μm,18.0s,baz=49,slow=30
RAR Rarotonga 70.91 240 *e*P **P 18 14 05.2 +1.3**
RAR S **S 18 23 21.2 +2.4**
RAR pmax pmax
comp=Z,921nm,2.0s
RAR Rarotonga 70.91 240 *e*P **P 18 14 05.2 +1.3**
comp=Z,921nm,2.0s
RAR S **S 18 23 21.2 +2.4**
GO09 Cerro Castillo 71.20 163 *e*P **P 18 14 05.9 +0.9**
comp=Z,1μm,1.7s
GO09 Cerro Castillo 71.20 163 *e*P **P 18 14 07.5 +2.5**
GO09 Cerro Castillo 71.20 163⇓*i*P **P 18 14 07.5 +2.5**
SACV Santiago Islan 71.57 79 *e*P **P 18 14 06.1 -2.0**
comp=Z,2μm,2.0s
SACV LR LR
comp=Z,153μm,20.0s
DAG Danmarks Havn 71.72 14⇑*i*P **P 18 14 07.0 -0.9**
DAG *e* 18 16 54.7
DAG Danmarks Havn 71.72 14⇑*i*P **P 18 14 07.0 -0.9**
DAG *e* 18 16 54.7
DAG MLR MLR
comp=Z,580μm,20.0s
MIDW Midway 72.90 295 *e*P **P 18 14 14.3 -1.5**
comp=Z,464nm,1.1s
MIDW LR LR
comp=Z,166μm,20.0s
PMOZ Porto Moniz, M 73.98 60⇑*e*P **P 18 14 22.9 +0.6**
comp=Z,611nm,1.8s
PMOZ *e*S S 18 24 13.2 +19
PMOZ *e*SS **SS 18 28 43.4 +4.9**
PMOZ *e*LQ LQ 18 33 42.8
PMOZ *e*LR LR 18 36 49.0
comp=Z,556μm,22.0s
PMAR Madeira 74.23 60 *e*P **P 18 14 25.7 +1.8**
comp=Z,714nm,1.3s
FUL Funchal 74.26 60 *e*P P 18 14 29.6 +5.8
comp=Z,708nm,1.9s
JMIC Jan Mayen 74.51 20 P **P 18 14 25.1 +0.5**
comp=Z,44nm,0.3s,baz=172,slow=9.2,SNR=2.0
JMIC PP **PP 18 17 11.3 +0.5**
comp=Z,52nm,0.4s,baz=195,slow=20,SNR=1.8
JMIC S **S 18 24 00.2 +1.7**
comp=Z,85nm,0.5s,baz=106,slow=20,SNR=2.3
JMIC Jan Mayen 74.51 20 *e*P **P 18 14 25.6 +1.1**
PMPS Porto Santo 74.66 60 *e*P **P 18 14 27.5 +1.4**
comp=Z,1μm,1.7s
KNTN Kanton 74.87 262 *e*P **P 18 14 27.6 -0.1**
comp=Z,478nm,1.4s
VAL Valentia 76.07 40 *e*P **P 18 14 33.2 -0.6**
VAL *e*S **S 18 24 18.5 +2.2**
EFI East Falkland 76.40 156⇑*e*P **P 18 14 39.7 +4.2**
EFI pmax pmax
comp=Z,981nm,3.9s
EFI East Falkland 76.40 156 *e*P **P 18 14 36.2 +0.7**
comp=Z,409nm,1.6s
EFI LR LR
comp=Z,396μm,19.0s
BILL Bilibino 76.86 337*c i*P **P 18 14 37.6 -0.4**
BILL *i* 18 17 31.3
BILL *i*S **S 18 24 19.1 -5.3**
BILL pmax pmax
comp=Z,410nm,1.1s
BILL pmax pmax
comp=Z,13μm,3.3s
BILL MLR MLR
comp=Z,751μm,20.0s
IDGL Inch Island, C 77.16 36 *e*P **P 18 14 38.0 -2.0**
KPL Plockton 77.75 34 *e*P **P 18 14 42.9 -0.3**
KPL *e* 18 17 39.7
KPL IAMs_20 IAMs_20 18 48 33.3
comp=Z,447μm,20.3s
KBS Kingsbay 77.75 11 *e*P **P 18 14 41.2 -1.7**
KBS pmax pmax
comp=Z,1μm,1.5s
KBS MLR MLR
comp=Z,512μm,22.0s
KBS Kingsbay 77.75 11 *e*P **P 18 14 41.1 -1.7**
comp=Z,1μm,1.5s
KBS LR LR
comp=Z,512μm,22.0s
KBS Kingsbay 77.75 11 *e*P **P 18 14 45.0 +2.1**
KBS *e*S **S 18 24 34.8 +0.9**
KBS IVMs_BB IVMs_BB 18 50 19.4
comp=Z,168μm,19.3s
RSC Scourie 77.81 33 *e*P **P 18 14 44.0 +0.6**
KAC Achnashellach 77.91 33 *e*P **P 18 14 44.6 +0.5**
CLGH Cloghs, Cushen 77.95 36 *e*P **P 18 14 41.6 -2.8**
CLGH IAMs_20 IAMs_20 18 47 10.1
comp=Z,453μm,22.2s
DSB Dublin 78.16 38 *e*P **P 18 14 43.8 -1.7**
comp=Z,247nm,1.2s
BBTS Babate 78.30 78 P **P 18 14 47.1 +0.1**
comp=Z,107nm,1.1s,baz=326,slow=1.4,SNR=10
BBTS PP **PP 18 17 45.6 +1.5**
comp=Z,72nm,1.1s,baz=270,slow=8.0,SNR=2.1
BBTS S **S 18 24 42.1 +0.3**
comp=Z,12nm,0.5s,baz=34,slow=8.8,SNR=2.3
BBTS LR LR 18 47 15.3
comp=Z,452μm,19.2s,baz=289,slow=34
BIGH Upper Bighouse 78.42 32 *e*P **P 18 14 46.4 -0.5**
BIGH IAMs_20 IAMs_20 18 48 05.2
comp=Z,1030μm,21.8s
AFI Afiamalu 78.54 252 P **P 18 14 48.2 -0.2**
comp=Z,21nm,0.8s,baz=93,slow=12,SNR=1.9
AFI PP **PP 18 17 50.3 +4.0**
comp=Z,8.5nm,0.3s,baz=38,slow=19,SNR=2.5
AFI S **S 18 24 43.3 -1.1**
comp=Z,10nm,0.6s,baz=123,slow=6.7,SNR=1.7
AFI LR LR 18 42 48.9
comp=Z,167μm,18.5s,baz=60,slow=31
AFI Afiamalu 78.54 252 *e*P **P 18 14 46.3 -2.0**
AFI *e*PcP **P 18 14 47.8 -0.6**
AFI PP **PP 18 17 50.3 +4.0**
AFI S **S 18 24 43.3 -1.1**
EAB Aberfoyle 78.70 35 *e*P **P 18 14 47.9 -0.6**
PGBU Glenifferbraes 78.70 35⇑*e*P **P 18 14 48.0 -0.5**
PGBU *e* 18 17 49.1
PGBU IAMs_20 IAMs_20 18 48 10.7
comp=Z,390μm,20.4s
SPA0 Spitsbergen Ar 78.87 11 *e*P **P 18 14 47.6 -1.5**
SPA0 Spitsbergen Ar 78.87 11 *e*P **P 18 14 49.5 +0.4**
SPA0 *e*S **S 18 24 44.0 -2.0**
SPITS Spitsbergen Ar 78.87 11 P **P 18 14 48.8 -0.3**
comp=Z,32nm,0.8s,baz=308,slow=7.1,SNR=12
SPITS LR LR 18 52 14.2
comp=Z,312μm,21.6s,baz=335,slow=38
MCD Coleburn Disti 78.97 33⇑*e*P **P 18 14 49.7 -0.2**
IOMK Kirk Michael 79.00 37 *e*P **P 18 14 50.1 -0.1**
IOMK IAMs_20 IAMs_20 18 47 27.7
comp=Z,359μm,22.6s
PMAFR Mafra 79.14 53⇑*e*P **P 18 14 51.4 +0.1**
comp=Z,725nm,1.7s
PMAFR Mafra 79.14 53 *e*S **S 18 24 52.8 +2.6**
PMAFR *e*SS SS 18 30 08.9 +13
PMAFR *e*LQ LQ 18 35 48.2
PMAFR *e*LR LR 18 39 21.3
comp=Z,298μm,20.0s
MME1 Meikle Cairn 79.18 33⇑*e*P **P 18 14 50.2 -0.9**
PTO Porto 79.19 50 *e*P **P 18 14 51.5 +0.1**
comp=Z,520nm,1.5s
WPS Cemaes, Angles 79.23 37⇑*e*P **P 18 14 50.8 -0.6**
WPS IAMs_20 IAMs_20 18 52 16.9
comp=Z,462μm,18.2s
HSPB Hornsund (broa 79.25 12 *e*P **P 18 14 52.6 +1.5**
HSPB *e* 18 17 50.0
HSPB *e*S **SKSac 18 25 05.4 -0.5**
HSPB Hornsund (broa 79.25 12 *e*P **P 18 14 51.5 +0.4**
HSPB IVMs_BB IVMs_BB 18 53 47.9
comp=Z,120μm,20.5s
PGAV Gavieira, Arco 79.25 49⇑*e*P **P 18 14 51.5 -0.5**
comp=Z,437nm,1.5s
PGAV *e*S **S 18 24 46.6 -4.8**
PGAV *e*SS **SS 18 30 01.6 +3.8**
PGAV *e*LR LR 18 39 23.9
comp=Z,213μm,20.0s
PMST Lisbon--Monsan 79.26 53⇑*e*P **P 18 14 52.0 +0.1**
comp=Z,620nm,1.4s
LIS Lisbon 79.29 53 *e*P **P 18 14 51.9 -0.2**
LIS *e*S **S 18 24 50.4 -1.3**
LIS AMS AMS 18 47 14.3
comp=Z,321μm,18.0s
LIS Lisbon 79.29 53⇑*e*P **P 18 14 51.9 -0.2**
comp=Z,900nm,1.7s
LIS Lisbon 79.29 53 *e*P **P 18 14 51.9 -0.2**
LIS *e*S **S 18 24 50.4 -1.3**
EDU Dundee 79.33 34 *e*P **P 18 14 49.3 -2.7**
EDIN Edinburgh 79.39 35 *e*P **P 18 14 51.5 -0.7**
EDI *e* 18 17 55.0
EDI IAMs_20 IAMs_20 18 48 21.6
comp=Z,393μm,20.7s
LRW Lerwick 79.40 30 *e*P **P 18 14 51.1 -1.1**
LRW IAMs_20 IAMs_20 18 50 48.2
comp=Z,373μm,20.0s
PCAB Cabril 79.48 50 *e*P **P 18 14 52.6 -0.5**
comp=Z,453nm,1.3s
PCAS Casmilo, Conde 79.50 51⇑*e*P **P 18 14 53.0 -0.2**
comp=Z,1μm,1.6s
PCAS Casmilo, Conde 79.50 51 *e*PP PP 18 17 53.3 -0.2
PCAS *e*S **S 18 25 02.3 +8.4**
PCAS Casmilo, Conde 79.50 51 *e*LR LR 18 39 26.2
comp=Z,283μm,22.0s
CCA1 Carnmenellis 79.51 41 *e*P **P 18 14 52.0 -1.1**
CCA1 IAMs_20 IAMs_20 18 56 28.6
comp=Z,302μm,16.7s
ESK Eskdalemuir 79.52 35 *e*P **P 18 14 52.3 -0.7**
ESK pmax pmax
comp=Z,419nm,1.3s
ESK MLR MLR
comp=Z,371μm,21.0s
ESK Eskdalemuir 79.52 35 *e*P **P 18 14 52.3 -0.7**
comp=Z,419nm,1.3s
ESK LR LR
comp=Z,371μm,21.0s
ESK Eskdalemuir 79.52 35 *e*P **P 18 14 51.6 -1.4**
ESK IAMs_20 IAMs_20 18 47 05.8
comp=Z,373μm,21.7s
DRUM Mains of Drumt 79.53 34 *e*P **P 18 14 52.4 -0.6**
DRUM IAMs_20 IAMs_20 18 49 25.6
comp=Z,616μm,20.5s
EKA Eskdalemuir Ar 79.54 35 P **P 18 14 52.5 -0.6**
comp=Z,37nm,0.9s,baz=284,slow=4.0,SNR=31
EKA PP **PP 18 17 54.0 +0.6**
comp=Z,15nm,0.9s,baz=299,slow=4.8,SNR=2.4
EKA LR LR 18 48 50.8
comp=Z,309μm,21.2s,baz=290,slow=35
BHH Howats Hill 79.57 36⇑*e*P **P 18 14 52.8 -0.5**
SLPK Sellapark 79.57 36 *e*P **P 18 14 54.5 +1.2**
ECK Cauldkaine Hil 79.60 36⇑*e*P **P 18 14 52.7 -0.7**
ALMR Almeirim 79.63 52 *e*P **P 18 14 53.6 -0.3**
ALMR *e*PP **PP 18 17 53.4 -1.3**
ALMR *e*S **S 18 24 54.2 -1.2**
ALMR AMS AMS 18 48 41.1
comp=Z,333μm,18.6s
ALMR Almeirim 79.63 52⇑*e*P **P 18 14 53.7 -0.3**
comp=Z,1μm,1.6s
ALMR Almeirim 79.63 52 *e*P **P 18 14 53.6 -0.3**
ALMR *e* 18 17 53.4
ALMR *e*S **S 18 24 54.2 -1.2**
PTOM Tomar 79.66 52 *e*P **P 18 14 55.4 +1.3**
comp=Z,561nm,1.4s
ESY Stoneypath 79.70 35⇑*e*P **P 18 14 53.6 -0.4**
POLO Lamas de Olo 79.73 50⇑*e*P **P 18 14 54.0 -0.6**

comp=Z,200nm,2.5s
POLO Lamas de Olo 79.73 50 *e*S S 18 25 07.6 +11
POLO *e*SS **SS** **18 30 15.3 +10**
POLO *e*LR LR 18 39 34.4
comp=Z,152µm,18.0s
KESW Keswick, Cumbr 79.75 36 *e*P **P** **18 14 53.9 -0.4**
KESW IAMs_20 IAMs_20 18 48 13.7
comp=Z,390µm,21.9s
LPW Lampeter 79.78 39 *e*P **P** **18 14 52.4 -2.1**
LPW *e* 18 17 54.0
LPW IAMs_20 IAMs_20 18 49 05.8
comp=Z,405µm,21.6s
HTL Hartland 79.78 40 *e*P **P** **18 14 53.5 -1.1**
HTL IAMs_20 IAMs_20 18 49 46.6
comp=Z,325µm,20.5s
PVIS Viseu 79.80 51 *e*P **P** **18 14 54.3 -0.6**
comp=Z,344nm,1.4s
PVRL Vila Real 79.81 50 *e*P **P** **18 14 54.0 -0.9**
comp=Z,425nm,1.6s
PTEO Sao Teotonio 79.88 54 *e*P **P** **18 14 55.2 -0.1**
comp=Z,738nm,1.9s
PFVI Vila Bisbo 79.89 54⇑ *e*P **P** **18 14 55.6 +0.2**
comp=Z,898nm,1.9s
PFVI Vila Bisbo 79.89 54 *e*S **S** **18 24 59.2 +1.1**
PFVI *e*SS **SS** **18 30 11.7 +4.3**
PFVI *e*LQ LQ 18 34 45.7
PFVI *e*LR LR 18 40 01.3
comp=Z,453µm,20.0s
PFVI Vila Bisbo 79.89 54 *e*P **P** **18 14 54.0 -1.4**
comp=Z,710nm,1.2s
PNCL Nicolau / Gran 79.90 53⇑ *e*P **P** **18 14 55.2 -0.2**
comp=Z,438nm,2.3s
PNCL Nicolau / Gran 79.90 53 *e*S **S** **18 25 01.1 +2.9**
PNCL Nicolau / Gran 79.90 53 *e*LR LR 18 39 17.0
comp=Z,371µm,20.0s
PMTG Montargil 79.92 52⇑ *e*P **P** **18 14 55.1 -0.4**
comp=Z,654nm,1.6s
PMTG Montargil 79.92 52 *e*SS SS 18 30 08.3 +0.6
PMTG *e*LQ LQ 18 36 14.5
PMTG *e*LR LR 18 39 35.4
comp=Z,280µm,24.0s
MORF Marmelete 79.99 54 *e*P **P** **18 14 55.7 -0.3**
MORF *e*PP **PP** **18 17 56.4 -1.3**
MORF *e*S **S** **18 24 58.0 -1.3**
MORF AMS AMS 18 47 20.7
comp=Z,484µm,23.6s
MORF Marmelete 79.99 54⇑ *e*P **P** **18 14 56.1 +0.1**
comp=Z,579nm,1.7s
MORF Marmelete 79.99 54 *e*S **S** **18 25 02.4 +3.1**
MORF *e*SS SS 18 29 54.6 -14
MORF Marmelete 79.99 54 *e*LR LR 18 40 05.3
comp=Z,486µm,20.0s
MORF Marmelete 79.99 54 *e*P **P** **18 14 55.7 -0.3**
MORF *e* 18 17 56.4
MORF *e*S **S** **18 24 58.0 -1.3**
FOEL Foel Wylfa 80.11 38 *e*P **P** **18 14 52.9 -3.3**
FOEL IAMs_20 IAMs_20 18 52 52.4
comp=Z,357µm,18.0s
MTE Manteigas 80.13 51⇑ *e*P **P** **18 14 56.2 -0.5**
comp=Z,539nm,2.1s
MTE Manteigas 80.13 51 *e*S **S** **18 25 05.5 +4.8**
MTE Manteigas 80.13 51 *e*LR LR 18 39 44.5
comp=Z,376µm,20.0s
MTE Manteigas 80.13 51 *e*P **P** **18 14 55.3 -1.5**
comp=Z,267nm,0.9s
MTE LR LR
comp=Z,397µm,20.0s
MESJ Messejana 80.20 53 *e*P **P** **18 14 56.7 -0.3**
MESJ *e*S **S** **18 25 00.2 -1.2**
MESJ AMS AMS 18 47 37.4
comp=Z,347µm,15.4s
MESJ Messejana 80.20 53 *e*P **P** **18 14 56.7 -0.3**
MESJ Messejana 80.20 53 *e*S **S** **18 25 00.2 -1.2**
MESJ A A 18 47 37.4
comp=Z,347µm,15.4s
MESJ Messejana 80.20 53 *e*P **P** **18 14 56.0 -1.1**
MESJ *e*S **S** **18 25 00.2 -1.2**
DYA Yadsworthy 80.26 40 *e*P **P** **18 14 55.6 -1.5**
DYA IAMs_20 IAMs_20 18 49 35.9
comp=Z,301µm,21.0s
PCBR Castelo Branco 80.31 51 *e*P **P** **18 14 57.1 -0.5**
comp=Z,714nm,1.7s
EDMD Edmundbyers 80.33 36 *e*P **P** **18 14 56.2 -1.2**
EDMD *e* 18 18 02.2
EDMD IAMs_20 IAMs_20 18 48 42.7
comp=Z,355µm,21.6s
MVO Moncorvo 80.34 50⇑ *e*P **P** **18 14 57.2 -0.6**
comp=Z,523nm,1.9s
MVO *e*S S 18 24 50.3 -13
MVO Moncorvo 80.34 50 *e*LR LR 18 39 53.0
comp=Z,276µm,18.0s
HLM1 Long Mynd 80.39 38 *e*P **P** **18 14 57.2 -0.6**
HLM1 *e* 18 18 01.9
HLM1 IAMs_20 IAMs_20 18 53 11.7
comp=Z,276µm,17.8s
PCVE Castro Verde 80.39 54⇑ *e*P **P** **18 14 58.1 0.0**
comp=Z,650nm,1.7s
PCVE Castro Verde 80.39 54 *e*S **S** **18 25 10.2 +6.8**
PCVE Castro Verde 80.39 54 *e*LR LR 18 40 02.8
comp=Z,407µm,20.0s
PBRG Braganca 80.40 49⇑ *e*P **P** **18 14 57.8 -0.3**
comp=Z,442nm,1.8s
PBRG Braganca 80.40 49 *e*S **S** **18 25 10.8 +7.4**
PBRG *e*SS **SS** **18 30 23.2 +8.4**
PBRG *e*LR LR 18 39 57.5
comp=Z,237µm,20.0s
PBEJ Beja 80.43 53⇑ *e*P **P** **18 14 58.0 -0.3**
comp=Z,684nm,1.7s
MCH1 Michaelchurch 80.45 39 *e*P **P** **18 14 57.7 -0.4**
MCH1 *e* 18 18 02.8
MCH1 IAMs_20 IAMs_20 18 49 25.9
comp=Z,388µm,22.3s
PESTR Estremoz 80.45 52⇑ *e*P **P** **18 14 57.9 -0.5**
comp=Z,598nm,1.8s
PESTR Estremoz 80.45 52 *e*S **S** **18 25 01.0 -3.0**
PESTR Estremoz 80.45 52 *e*LR LR 18 39 39.9
comp=Z,286µm,18.0s
PESTR Estremoz 80.45 52 *e*P **P** **18 14 56.9 -1.6**
comp=Z,393nm,1.4s
PMRV Marv??o 80.47 52⇑ *e*P **P** **18 14 57.9 -0.6**
comp=Z,742nm,1.6s
PMRV Marv??o 80.47 52 *e*PP PP 18 18 03.0 +1.4
PMRV *e*S **S** **18 25 06.0 +1.8**
PMRV Marv??o 80.47 52 *e*LR LR 18 40 12.0
comp=Z,418µm,20.0s
PBDV Barranco-do-Ve 80.56 54⇑ *e*P **P** **18 14 59.4 +0.3**
comp=Z,908nm,1.6s
PBDV Barranco-do-Ve 80.56 54 *e*S S 18 25 16.2 +11
PBDV Barranco-do-Ve 80.56 54 *e*LR LR 18 40 16.6
comp=Z,461µm,20.0s
MONM Monmouth 80.60 39 *e*P **P** **18 14 58.3 -0.6**
MONM *e* 18 18 03.8
MONM IAMs_20 IAMs_20 18 49 31.2
comp=Z,403µm,21.9s
STNC Stoke 80.64 37 *e*P **P** **18 14 57.0 -2.0**
STNC *e* 18 18 04.5
STNC IAMs_20 IAMs_20 18 53 18.2
comp=Z,401µm,18.2s
HGH Gray Hill 80.65 39⇑ *e*P **P** **18 14 58.4 -0.8**
PVAQ Vaqueiros 80.69 54⇑ *e*P **P** **18 14 59.7 0.0**
comp=Z,591nm,1.6s
PVAQ Vaqueiros 80.69 54 *e*PP PP 18 18 03.5 +0.1
PVAQ *e*S **S** **18 25 12.3 +5.8**
PVAQ Vaqueiros 80.69 54 *e*LR LR 18 40 21.5
comp=Z,436µm,18.0s
HPK Haverah Park 80.75 36 *e*P **P** **18 14 59.5 -0.2**
HPK *e* 18 18 04.3
HPK IAMs_20 IAMs_20 18 48 30.9
comp=Z,317µm,23.5s
OLDB Oldbury-Upon-S 80.80 39 *e*P **P** **18 14 59.4 -0.5**
OLDB *e* 18 18 05.2
LBWR Ladybower, Pea 80.84 37 *e*P **P** **18 14 58.8 -1.3**
LBWR *e* 18 18 04.3
LBWR IAMs_20 IAMs_20 18 53 22.9
comp=Z,395µm,18.2s
BATH Bath 80.99 39 *e*P **P** **18 14 58.3 -2.6**
BATH *e* 18 18 07.7
BATH IAMs_20 IAMs_20 18 49 30.0
comp=Z,509µm,20.5s
STRD Stroud 81.00 39 *e*P **P** **18 14 58.1 -2.9**
STRD *e* 18 18 05.4
STRD IAMs_20 IAMs_20 18 49 43.5
comp=Z,477µm,21.0s
PBAR Barrancos 81.03 53⇑ *e*P **P** **18 15 01.1 -0.4**
comp=Z,1µm,1.6s
PBAR Barrancos 81.03 53 *e*PP PP 18 18 15.1 +8.9
PBAR *e*S **S** **18 25 12.2 +2.1**
PBAR Barrancos 81.03 53 *e*LR LR 18 40 16.6
comp=Z,708µm,20.0s
BJO Bjornoya 81.25 14 *e*P **P** **18 15 02.2 +0.3**
BJO *e*PP **PP** **18 18 08.1 +1.0**
BJO IVMs_BB IVMs_BB 18 52 29.7
comp=Z,154µm,21.2s
CWF Charnwood Fore 81.26 38 *e*P **P** **18 15 00.9 -1.5**
CWF *e* 18 18 06.1
CWF IAMs_20 IAMs_20 18 53 46.2
comp=Z,441µm,18.2s
SWN1 Swindon 81.29 39 *e*P **P** **18 14 58.2 -4.4**
SWN1 *e* 18 18 08.4
SWN1 IAMs_20 IAMs_20 18 49 41.2
comp=Z,472µm,20.5s
HOPEN Hopen 81.37 11 *e*P **P** **18 15 02.7 +0.2**
HOPEN *e*PP **PP** **18 18 07.5 -0.5**
LMK Market Rasen 81.63 37 *e*P **P** **18 15 03.1 -1.2**
LMK *e* 18 18 08.4
LMK IAMs_20 IAMs_20 18 56 39.0
comp=Z,273µm,17.1s
WOL Wolverton 81.69 39 *e*P **P** **18 15 04.1 -0.6**
WOL *e* 18 18 10.5
WOL IAMs_20 IAMs_20 18 49 53.0
comp=Z,524µm,21.0s
FOO Floro 81.89 28 *e*P **P** **18 15 05.7 +0.2**
FOO *e*PP **PP** **18 18 12.7 +0.1**
FOO *e*S **S** **18 25 20.8 +2.8**
FOO IVMs_BB IVMs_BB 18 49 20.2
comp=Z,65µm,23.6s
SUE Sulen 81.94 29 *e*P **P** **18 15 07.0 +1.2**
SUE IVMs_BB IVMs_BB 18 50 27.2
comp=Z,76µm,22.6s
SFS San Fernando 82.09 54 *e*P **P** **18 15 04.4 -2.7**
SFS pmax pmax
comp=Z,421nm,1.1s
SFS San Fernando 82.09 54 *e*P **P** **18 15 04.4 -2.7**
comp=Z,421nm,1.1s
RTC Rabat Centre 82.20 57 *e*P **P** **18 15 05.9 -1.8**
comp=Z,814nm,0.9s
RTC LR LR
comp=Z,1429µm,21.0s
ASK Askoy 82.33 29 *e*P **P** **18 15 11.6 +3.7**
ASK IVMs_BB IVMs_BB 18 56 41.7
comp=Z,72µm,17.8s
WACR West Acre 82.39 37 *e*P **P** **18 15 07.7 -0.6**
WACR *e* 18 18 16.0
WACR IAMs_20 IAMs_20 18 54 21.4
comp=Z,396µm,18.4s
BER Bergen 82.43 29 *e*P **P** **18 15 09.2 +0.8**
BER IVMs_BB IVMs_BB 18 49 52.4
comp=Z,97µm,20.7s
AKN Aaknes 82.55 27 *e*P **P** **18 15 08.6 -0.5**
AKN IVMs_BB IVMs_BB 18 50 31.8
comp=Z,71µm,24.0s
HYA Hoyanger 82.55 28 *e*P **P** **18 15 09.5 +0.5**
MOL Molde 82.65 27 *e*P **P** **18 15 11.1 +1.6**
MOL *e*PP **PP** **18 18 20.3 +1.5**
MOL *e*S **S** **18 25 26.3 +0.5**
MOL IVMs_BB IVMs_BB 18 55 19.5
comp=Z,88µm,15.8s
LOF Lofoten 82.69 21 *e*P **P** **18 15 09.9 +0.2**
LOF *e*S **S** **18 25 25.7 -0.4**
LOF IVMs_BB IVMs_BB 18 49 25.8
comp=Z,105µm,26.4s
PAB San Pablo 82.72 51 *e*P **P** **18 15 08.5 -2.0**
PAB pmax pmax
comp=Z,1µm,1.7s
PAB MLR MLR
comp=Z,389µm,20.0s
PAB San Pablo 82.72 51 *e*P **P** **18 15 08.5 -2.0**
comp=Z,1µm,1.7s
PAB LR LR
comp=Z,389µm,20.0s
HMNX Herstmonceux 82.76 39 *e*P **P** **18 15 09.8 -0.5**
HMNX IAMs_20 IAMs_20 18 51 50.2
comp=Z,598µm,20.8s
KMY Karmoy 82.79 30 *e*P **P** **18 15 10.5 +0.2**
KMY IVMs_BB IVMs_BB 18 52 25.5
comp=Z,125µm,20.5s
ESDC Sonseca Array 82.97 51 P **P** **18 15 11.4 -0.4**
comp=Z,29nm,0.9s,baz=297,slow=4.3,SNR=43
ESDC S **S** **18 25 27.6 -2.5**
comp=Z,0.1nm,0.3s,baz=70,slow=1.5,SNR=2.6
ESDC LR LR 18 49 42.1
comp=Z,244µm,19.5s,baz=275,slow=34
ESLA Sonseca Array 82.97 51 *e*P **P** **18 15 10.3 -1.4**
comp=Z,520nm,1.5s
ES19 SONSECA Array 83.02 51 *e*P **P** **18 15 10.8 -1.2**
STAV Stavanger 83.11 30 *e*P **P** **18 15 12.8 +0.9**
STAV *e*PP **PP** **18 18 21.2 -1.4**
STAV *e*S **S** **18 25 30.1 -0.4**
STAV IVMs_BB IVMs_BB 18 53 32.6
comp=Z,125µm,19.4s
ELSH Elham, Standar 83.16 39 *e*P **P** **18 15 10.7 -1.7**
ELSH IAMs_20 IAMs_20 18 50 58.5
comp=Z,545µm,20.8s
ODD1 Odda 83.20 29 *e*P **P** **18 15 13.6 +1.1**
ODD1 IVMs_BB IVMs_BB 18 50 14.6
comp=Z,113µm,22.2s
KONS Konsvik 83.27 22 *e*P **P** **18 15 13.5 +0.9**
BLS5 Blasjo 83.30 30 *e*P **P** **18 15 13.2 +0.2**
BLS5 *e*PP **PP** **18 18 23.6 -0.7**
BLS5 IVMs_BB IVMs_BB 18 52 44.0
comp=Z,117µm,18.6s
STOK Stokkvaagen 83.30 22 *e*P **P** **18 15 13.3 +0.5**
STEI Steigen 83.36 20 *e*P **P** **18 15 13.3 +0.2**
STEI *e*PP **PP** **18 18 24.1 -0.3**
DOMB Dombas 83.51 27 *e*P **P** **18 15 14.5 +0.4**
DOMB *e*S **S** **18 25 34.0 -0.7**
DOMB IVMs_BB IVMs_BB 18 49 14.2
comp=Z,62µm,21.3s
TBLU Trondheim 83.53 26 *e*P **P** **18 15 14.3 +0.2**
NSS Namsos 83.69 24 *e*P **P** **18 15 15.4 +0.6**
TRO Tromso 83.69 18 *e*P **P** **18 15 15.4 +0.7**
TRO *e*PP **PP** **18 18 26.8 -0.3**
MOR8 Moi Rana 83.89 22 *e*P **P** **18 15 17.2 +1.3**
MOR8 IVMs_BB IVMs_BB 18 53 03.2
comp=Z,97µm,21.2s
SEY Seymchan 83.92 334 P **P** **18 15 16.1 0.0**
comp=Z,44nm,0.6s,baz=89,slow=3.9,SNR=37
SEY PKKPbc **PKKPbc** **18 33 32.9 -0.3**
comp=Z,5.1nm,0.8s,baz=203,slow=17,SNR=11
SEY LR LR 18 55 41.9
comp=Z,446µm,19.8s,baz=58,slow=38
SEY Seymchan 83.92 334⇑ *i*P **P** **18 15 16.2 +0.1**
SNART Snartemo 84.06 31 *e*P **P** **18 15 17.5 +0.7**
SNART *e*PP **PP** **18 18 31.0 +0.6**
SNART IVMs_BB IVMs_BB 18 52 60.0
comp=Z,90µm,19.2s
HAMF Hammerfest 84.50 16 *e*P **P** **18 15 19.3 +0.4**
HAMF *e*PP **PP** **18 18 33.7 0.0**
HAMF IVMs_BB IVMs_BB 18 51 43.0
comp=Z,91µm,24.6s
NC204 NORSAR Array S 84.56 27 *e*P **P** **18 15 17.1 -2.3**
PET Petropavlovsk 84.58 324*c i*P **P** **18 15 20.2 +0.6**
PET *e* 18 18 39.3
PET *e*S **S** **18 25 45.0 -0.6**
PET *e*SS **SS** **18 31 10.6 -5.5**
PET pmax pmax
comp=Z,92µm,13.6s
PET pmax pmax
comp=Z,425nm,1.6s
PET pmax pmax
comp=Z,97µm,15.2s
PET smax smax
comp=E,130µm,16.1s
PET smax smax
comp=N,356µm,19.5s
PET smax smax
comp=E,112µm,12.5s
PET smax smax
comp=N,247µm,16.6s
PET MLR MLR
comp=Z,200µm,20.0s
PET MLR MLR
comp=Z,162µm,19.0s
PET Petropavlovsk 84.58 324 *e*P **P** **18 15 18.7 -0.9**
comp=Z,945nm,1.6s
PET LR LR
comp=Z,178µm,19.0s
NBO00 NORSAR Array S 84.67 28 *e*P **P** **18 15 17.9 -2.0**
NBO02 NORSAR Array S 84.69 27 *e*P **P** **18 15 17.2 -2.8**
KONO Kongsberg 84.69 29⇓ *i*P **P** **18 15 20.4 +0.4**
KONO pmax pmax
comp=Z,428nm,1.2s
KONO MLR MLR
comp=Z,266µm,19.0s
KONO Kongsberg 84.69 29 *e*P **P** **18 15 18.1 -2.0**
comp=Z,1µm,1.5s
KONO Kongsberg 84.69 29 *e*P **P** **18 15 21.1 +1.0**
KONO *e*PP **PP** **18 18 34.7 -0.9**
KONO IVMs_BB IVMs_BB 18 51 23.6
comp=Z,80µm,22.1s
HOMB Homborsund 84.72 31 *e*P **P** **18 15 20.8 +0.6**
HOMB IVMs_BB IVMs_BB 18 53 20.8
comp=Z,161µm,20.3s
NAO01 NORSAR Array S 84.79 28 *e*P **P** **18 15 18.7 -1.9**
NC303 NORSAR Array S 84.84 27 *e*P **P** **18 15 19.1 -1.7**
NB2 NORSAR Subarra 84.86 27 P **P** **18 15 21.1 +0.2**
comp=Z,8µm,3.3s,baz=295,slow=5.3
NB2 NORSAR Subarra 84.86 27 P **P** **18 15 21.1 +0.2**
baz=295,slow=5.3
NB200 NORSAR Array S 84.86 27 *e*P **P** **18 15 21.1 +0.2**
NB200 *e*PP **PP** **18 18 34.4 -2.6**
NOA NORSAR Array B 84.86 27 P **P** **18 15 21.1 +0.2**
comp=Z,25nm,0.9s,baz=299,slow=5.0,SNR=14
NOA PP **PP** **18 18 34.4 -2.6**
comp=Z,9.4nm,1.1s,baz=292,slow=5.0,SNR=2.3
NOA LR LR 18 52 46.6
comp=Z,130µm,22.0s,baz=290,slow=35
NB201 NORSAR Array S 84.89 27 *e*P **P** **18 15 19.6 -1.5**
NC405 NORSAR Array S 85.05 27 *e*P **P** **18 15 19.0 -2.8**
PEA1 Petropavlovsk- 85.09 324 *e*P **P** **18 15 22.1 -0.1**
PEA1 *e*SKSac **SKSac** **18 25 44.2 -1.8**
PEA0B Petropavlovsk- 85.09 324 *e*P **P** **18 15 21.8 -0.4**
comp=Z,1µm,1.5s
PETK Petropavlovsk- 85.09 324 P **P** **18 15 22.1 -0.1**
comp=Z,48nm,1.0s,baz=68,slow=9.4,SNR=26
PETK S **SKSac** **18 25 44.2 -1.8**
comp=Z,4.6nm,0.9s,baz=129,slow=14,SNR=2.2
PETK Petropavlovsk- 85.09 324 *e*P **P** **18 15 21.5 -0.7**
PETK S **SKSac** **18 25 44.2 -1.8**
OSL Oslo 85.10 29 *e*P **P** **18 15 22.2 +0.1**
OSL *e*PP **PP** **18 18 38.3 -0.5**
OSL IVMs_BB IVMs_BB 18 52 22.2
comp=Z,69µm,21.8s
PMSA Palmer Station 85.13 166 PFAKE 18 15 30.0 +8.1
PMSA LR LR
comp=Z,147µm,20.0s
NC602 NORSAR Array S 85.13 28 *e*P **P** **18 15 20.8 -1.4**
NC602 NORSAR Array S 85.13 28 *e*P **P** **18 15 22.5 +0.3**
UCC Uccle 85.20 38 *e*P **P** **18 15 20.8 -2.0**
UCC pmax pmax
comp=Z,563nm,1.4s
UCC Uccle 85.20 38 *e*P **P** **18 15 20.8 -2.0**
comp=Z,563nm,1.4s
FUNA Funafuti 85.21 260 PFAKE 18 15 40.0 +17
FUNA LR LR
comp=Z,155µm,20.0s
SNF Seneffe 85.26 39⇑ P **P** **18 15 23.7 +0.6**
comp=Z,519nm,2.9s
KTK1 Kautokeino 85.31 18 *e*P **P** **18 15 22.0 -1.0**
KTK1 *e*PP **PP** **18 18 39.9 -0.4**
KTK1 IVMs_BB IVMs_BB 19 00 16.0
comp=Z,73µm,18.7s
DOU Dourbes 85.59 39⇑ P **P** **18 15 24.2 -0.5**
comp=Z,439nm,2.8s
ARA0 ARCESS Array S 85.66 17 *e*P **P** **18 15 23.6 -1.1**
ARA0 *e*PP **PP** **18 18 42.6 -0.6**
ARA0 *e*SKSac **SKSac** **18 25 49.4 +0.4**
ARCES ARCESS Array B 85.66 17 P **P** **18 15 23.6 -1.1**
comp=Z,72nm,0.8s,baz=299,slow=5.0,SNR=32
ARCES PP **PP** **18 18 42.6 -0.6**
comp=Z,41nm,0.9s,baz=293,slow=4.7,SNR=4.3
ARCES S **SKSac** **18 25 49.4 +0.4**
comp=Z,1.7nm,0.9s,baz=29,slow=11,SNR=3.3
ARCES LR LR 18 58 14.7
comp=Z,126µm,18.5s,baz=314,slow=39
ARCES ARCESS Array B 85.66 17 *e*P **P** **18 15 23.1 -1.6**
ARCES PP **PP** **18 18 42.6 -0.6**
ARCES S **SKSac** **18 25 49.4 +0.4**
ARE0 ARCESS Array S 85.66 17 *e*P **P** **18 15 23.5 -1.2**
comp=Z,579nm,1.3s
ARE0 ARCESS Array S 85.66 17 *e*P **P** **18 15 24.6 -0.2**
ARE0 *e*PP **PP** **18 18 44.4 +1.3**
MUD Monsted U'grnd 85.77 32⇑ *i*P **P** **18 15 26.9 +1.5**
MUD Monsted U'grnd 85.77 32⇑ *i*P **P** **18 15 26.9 +1.5**
CART Cartagena 85.79 52 *e*P **P** **18 15 25.1 -0.9**
comp=Z,468nm,1.6s
BCLA Clavier 85.90 39⇑ P **P** **18 15 25.7 -0.5**
comp=Z,511nm,2.7s
KEV Kevo 85.94 17 *e*P **P** **18 15 25.3 -0.7**
KEV pmax pmax
comp=Z,402nm,1.2s
KEV MLR MLR
comp=Z,283µm,20.0s
KEV Kevo 85.94 17 *e*P **P** **18 15 25.3 -0.7**
comp=Z,402nm,1.2s
KEV LR LR
comp=Z,283µm,20.0s
BEBN Eben Emael 85.98 38⇑ P **P** **18 15 26.7 0.0**
BEBN PP **PP** **18 18 48.0 +1.6**
MA2 Magadan 86.06 332 P **P** **18 15 26.8 -0.1**
comp=Z,42nm,0.9s,baz=71,slow=5.2,SNR=15
MA2 PP **PP** **18 18 43.9 -2.7**
comp=Z,21nm,1.1s,baz=82,slow=12,SNR=1.3
MA2 Magadan 86.06 332⇓ *i*P **P** **18 15 26.3 -0.6**
HGN Heimansgroeve 86.15 38 *e*P **P** **18 15 27.2 -0.3**
comp=Z,5µm,2.5s
HGN *e*PP **PP** **18 18 52.2 +4.6**
HGN *e*S **S** **18 26 05.8 +4.6**
HGN *e*PKKP 18 31 26.4
WTSB Winterswijk 86.21 37 *e*P **P** **18 15 27.5 -0.2**
comp=Z,14µm,3.5s
MEM Membach 86.25 38⇑ P **P** **18 15 26.5 -1.5**
comp=Z,291nm,2.8s
HFS Hagfors 86.35 28 P **P** **18 15 27.5 -0.8**
comp=Z,36nm,0.8s,baz=232,slow=1.6,SNR=16
HFS PP **PP** **18 18 46.1 -2.9**
comp=Z,19nm,1.1s,baz=352,slow=2.9,SNR=1.9
HFS LR LR 18 54 51.2
comp=Z,161µm,21.1s,baz=280,slow=36
TIXI Tiksi 86.50 347 P **P** **18 15 27.7 -1.1**
comp=Z,61nm,1.0s,baz=33,slow=5.5,SNR=16
TIXI PP **PP** **18 18 47.5 -2.5**
comp=Z,22nm,1.0s,baz=30,slow=6.8,SNR=1.8
TIXI S **SKSac** **18 25 53.1 -1.0**
comp=Z,1.0nm,0.8s,baz=232,slow=17,SNR=1.5
TIXI LR LR 19 00 08.8
comp=Z,179µm,18.2s,baz=66,slow=40
TIXI Tiksi 86.50 347*c i*P **P** **18 15 27.6 -1.2**
TIXI pmax pmax
comp=Z,328nm,1.4s
ASCN Ascension 86.53 99 *e*P **P** **18 15 28.9 -1.2**
comp=Z,654nm,0.8s
ASCN LR LR
comp=Z,119µm,21.0s
WLF Walferdange 86.68 39⇓ P **P** **18 15 30.0 -0.2**
comp=Z,389nm,2.6s
WLF Walferdange 86.68 39 *e*P **P** **18 15 29.4 -0.8**
WLF pmax pmax
comp=Z,315nm,1.2s
WLF MLR MLR
comp=Z,500µm,21.0s
WLF Walferdange 86.68 39 *e*P **P** **18 15 29.4 -0.8**
comp=Z,314nm,1.2s
WLF LR LR
comp=Z,500µm,21.0s
USTO Oran 86.69 54 P P 18 15 36.0 +5.5
SKR Severo-Kuril's 86.89 322*c i*P **P** **18 15 33.1 +2.0**
SKR *e* 18 19 01.4
SKR *e*S **S** **18 26 07.4 -1.0**
SKR *e*SS **SS** **18 31 45.1 -5.0**
SKR pmax pmax
comp=Z,280nm,1.5s
SKR pmax pmax
comp=Z,61µm,13.6s
SKR pmax pmax
comp=Z,67µm,14.7s
SKR pmax pmax
comp=Z,36µm,14.6s
SKR pmax pmax
comp=Z,39µm,13.3s
SKR smax smax
comp=E,51µm,15.8s
SKR smax smax
comp=N,182µm,19.3s
SKR MLR MLR
comp=Z,80µm,22.0s

ODJA Bouhanifia 87.13 54 P **P** 18 15 29.0 -3.7
SSB Saint Sauveur 87.24 44 *e*P **P** 18 15 32.3 -0.7
SSB pmax pmax
comp=Z,322nm,1.5s
SSB MLR MLR
comp=Z,247μm,21.0s
SSB Saint Sauveur 87.24 44 *e*P **P** 18 15 32.3 -0.7
comp=Z,322nm,1.5s
SSB LR LR
comp=Z,247μm,21.0s
OKGL Djebel Kef Gue 87.52 53 P **P** 18 15 34.0 -0.6
COP Copenhagen 87.75 32⇑ *i*P **P** 18 15 36.8 +1.7
COP Copenhagen 87.75 32⇑ *i*P **P** 18 15 36.8 +1.7
COP MLR MLR
comp=Z,150μm,18.0s
ECH Echery 87.84 40 *e*P **P** 18 15 33.8 -2.0
ECH pmax pmax
comp=Z,313nm,1.3s
ECH MLR MLR
comp=Z,516μm,21.0s
ECH Echery 87.84 40 *e*P **P** 18 15 33.8 -2.0
comp=Z,314nm,1.3s
ECH LR LR
comp=Z,516μm,21.0s
HOPE Hope Point 87.89 149 *e*P **P** 18 15 34.5 -1.1
comp=Z,2μm,1.9s
HOPE LR LR
comp=Z,120μm,20.0s
EANR 'Ain N'Sour 87.90 53 P **P** 18 15 37.0 +0.6
ECHA Ech Chlef 88.04 53 P P 18 15 43.0 +6.0
EBNR Beni Rached 88.12 53 P **P** 18 15 42.0 +4.5
ETRT Tiaret 88.23 54 P **P** 18 15 35.0 -3.1
TARA Tarawa 88.38 271 PFAKE 18 15 50.0 +11
TARA LR LR
comp=Z,10μm,19.0s
BFO Black Forest 88.52 40 *e*P **P** 18 15 37.3 -1.8
BFO pmax pmax
comp=Z,267nm,1.5s
BFO MLR MLR
comp=Z,516μm,20.0s
BFO Black Forest 88.52 40 *e*P **P** 18 15 37.3 -1.8
comp=Z,267nm,1.5s
BFO LR LR
comp=Z,516μm,20.0s
SENIN Lac Senin/Sane 88.63 42 *e*P **P** 18 15 39.3 -0.6
comp=Z,884nm,1.8s
RGN Rugen 88.71 33 *e*P **P** 18 15 39.3 -0.4
comp=Z,666nm,1.6s
BNI Bardonecchia 88.73 43 *e*P **P** 18 15 35.8 -4.4
BNI pmax pmax
comp=Z,475nm,1.5s
BNI MLR MLR
comp=Z,349μm,20.0s
BNI Bardonecchia 88.73 43 *e*P **P** 18 15 35.8 -4.4
comp=Z,475nm,1.5s
BNI LR LR
comp=Z,349μm,20.0s
STU Stuttgart 88.87 39 *e*P **P** 18 15 39.2 -1.5
STU pmax pmax
comp=Z,488nm,1.6s
STU Stuttgart 88.87 39 *e*P **P** 18 15 39.2 -1.5
comp=Z,488nm,1.6s
MSVF Nonsavu 89.03 251⇓ *i*P **P** 18 15 43.2 +1.2
MSVF pmax pmax
comp=Z,191nm,1.1s
MSVF MLR MLR
comp=Z,95μm,15.0s
MSVF Nonsavu 89.03 251 *e*P **P** 18 15 42.5 +0.4
comp=Z,447nm,1.5s
MSVF LR LR
comp=Z,211μm,20.0s
ABA Alger-Bouzarea 89.09 52 P P 18 15 48.0 +6.0
RAO Raoul Island 89.14 239 P **P** 18 15 41.9 -0.3
comp=Z,244nm,0.4s,baz=246,slow=20,SNR=2.1
RAO PP **PP** 18 19 11.4 -1.3
comp=Z,353nm,0.5s,baz=52,slow=20,SNR=2.4
RAO Raoul Island 89.14 239 *e*P **P** 18 15 41.9 -0.3
RAO *e* 18 19 11.4
RAO MLR MLR
comp=Z,113μm,20.0s
RAO Raoul Island 89.14 239 *e*P **P** 18 15 41.9 -0.3
RAO *e*PP **PP** 18 19 11.4 -1.3
RAO LR LR
comp=Z,113μm,20.0s
APA Apatity 89.14 17⇓ *i*P **P** 18 15 44.7 +3.2
APA *i* S **S** 18 26 26.0 -3.3
APA *i* PS **PnS** 18 27 34.0 -0.8
APA *i* SS **SS** 18 32 25.0 +3.0
APA pmax pmax
comp=Z,49nm,1.2s
WAKE Wake Island 89.20 290 PFAKE 18 15 50.0 +7.2
WAKE LR LR
comp=Z,257μm,20.0s
LVZ Lovozero 89.25 16*d* *i*P **P** 18 15 42.7 +0.6
LVZ pmax pmax
comp=Z,166nm,1.3s
LVZ MLR MLR
comp=Z,204μm,20.0s
LVZ Lovozero 89.25 16 *e*P **P** 18 15 42.1 0.0
comp=Z,606nm,1.6s
LVZ LR LR
comp=Z,207μm,20.0s
BSD Bornholm Skovb 89.27 32 *i* P **P** 18 15 41.6 -0.7
BSD Bornholm Skovb 89.27 32 *i* P **P** 18 15 41.6 -0.7
BSD pmax pmax
comp=Z,260μm,19.0s
GRFO Grafenberg 89.69 38 *e*P **P** 18 15 43.9 -0.6
GRFO pmax pmax
comp=Z,322nm,1.5s
GRFO Grafenberg 89.69 38 *e*P **P** 18 15 43.9 -0.6
comp=Z,322nm,1.5s
MON Monaco 89.72 44 *e*P **P** 18 15 45.0 +0.2
DAVA Damuels 89.89 40 *e*PcP **P** 18 15 45.6 -0.1
comp=Z,162nm,1.3s,SNR=7.4
DAVA *e*PKKPdf **PKKPdf** 18 33 13.2 -0.5
comp=Z,14nm,1.1s
TUE Stuetta 89.89 41 *e*P **P** 18 15 45.9 +0.1
comp=Z,384nm,1.6s
TUE LR LR
comp=Z,370μm,21.0s
CLL Collm 90.00 36 *e*P **P** 18 15 47.0 +1.1
CLL *e* 18 19 18.0
CLL *e* 18 26 29.0
CLL pmax pmax
comp=Z,295nm,1.7s
CLL pmax pmax
comp=Z,3μm,3.5s
CLL MLR MLR
comp=Z,196μm,21.4s
CLL Collm 90.00 36 *e*P **P** 18 15 47.0 +1.1
CLL *e*Pmax 18 15 48.0
CLL *e*Plp 18 15 49.0
comp=Z,89μm,20.4s
CLL ⇓*i*Pmax 18 15 51.4
comp=Z,295nm,1.7s
CLL *e*PP **PP** 18 19 18.0 -0.5
comp=Z,3μm,3.5s
CLL *e*PPlp 18 19 26.0
comp=Z,97μm,19.3s
CLL *e*PPmax 18 19 31.0
CLL *e*PPP PPP 18 21 18.0
CLL *e*PPPP 18 22 42.0
CLL *e* 18 25 42.0
CLL *e*SKKSac **S** **18 26 29.0 -8.9**
CLL *e* 18 27 06.0
CLL *i* 18 27 13.0
CLL *e*(PS) 18 27 53.0
CLL *e*PPS PPS 18 28 11.0
CLL *e*SS SS 18 32 48.0 +13
CLL *e*PKKPbc **PKKPbc** **18 33 19.0 +0.7**
CLL *e*SSS SSS 18 36 18.0
CLL *e*PKPPKPd **P'P'df** **18 41 29.0 -0.2**
CLL *e* 18 41 50.0
comp=Z,1μm,4.5s
CLL *e*Lmax 18 52 31.0
CLL LmV 18 55 00.0
comp=Z,196μm,21.4s
CLL Collm 90.00 36 *e*P **P** 18 15 44.5 -1.4
comp=Z,239nm,1.7s
KOWA Kowa 90.02 75 S **SKSac** **18 26 19.5 +2.3**
comp=Z,2.5nm,0.6s,baz=301,slow=14,SNR=2.3
KOWA LR LR 18 52 11.0
comp=Z,340μm,21.9s,baz=284,slow=33
KOWA Kowa 90.02 75 *e*P **P** 18 15 43.6 -3.1
comp=Z,870nm,1.3s
KOWA *e*SKSac **SKSac** **18 26 19.5 +2.3**

NKC Novy Kostel 90.17 37 *e*P **P** 18 15 46.4 -0.3
NKC *e*PP **PP** 18 19 20.6 +0.7
NKC *e*SKS **SKSac** 18 26 15.3 -1.7
NKC *e*SP **SPn** 18 27 42.8 -2.0
NKC AMS AMS 18 59 10.0
comp=Z,447μm,18.9s
NKC Novy Kostel 90.17 37 *e*P **P** 18 15 46.4 -0.3
NKC *e* 18 19 20.6
NKC *e* 18 26 15.3
NKC *e*PS **SPn** 18 27 42.8 -2.0
NKC MLR MLR
comp=Z,447μm,18.9s
RETA Reutte 90.35 40 *e*PcP **P** 18 15 47.4 -0.4
comp=Z,126nm,1.4s,SNR=7.2
RETA *e*PKKPdf **PKKPdf** 18 33 12.0 -0.8
comp=Z,9.4nm,1.5s
FUORN Ofenpass-Fuorn 90.41 41 *e*P **P** 18 15 47.1 -1.2
comp=Z,197nm,1.1s
FETA Feichten 90.53 40 *e*pP **pP** 18 15 54.6 -0.6
comp=Z,77nm,1.1s,SNR=5.2
FETA *e*P'P'df **P'P'df** 18 41 26.5 -2.0
comp=Z,19nm,2.2s
MOTA Moosalm 90.62 40 *e*PKKPbc PKKPbc 18 33 15.9 -0.9
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 90.73 36 *i* P **P** 18 15 48.8 -0.5
comp=Z,26nm,0.9s
BRG *i* 18 15 55.1
comp=Z,456nm,1.9s
BRG *i* 18 16 04.4
comp=Z,76nm,1.0s
BRG *i* 18 16 21.1
comp=Z,143nm,1.3s
BRG PP **PP** 18 19 30.0 +5.7
comp=Z,1μm,3.1s
BRG SKS **SKSac** 18 26 20.0 -0.1
BRG PS **PnS** 18 28 09.0 +15
BRG SS SS 18 33 01.0 +15
BRG PKKP PKKPbc 18 33 25.8 +9.4
comp=Z,24nm,1.6s
BRG PKPPKP **P'P'df** **18 41 33.9 +6.0**
comp=Z,694nm,3.9s
BRG Berggiesshubel 90.73 36 *i* P **P** 18 15 48.8 -0.5
BRG *i* 18 15 55.2
BRG *i* 18 16 04.4
BRG 18 19 30.0
BRG 18 26 20.0
BRG pmax pmax
comp=Z,26nm,1.0s
BRG pmax pmax
comp=Z,1μm,3.1s
BRG MLR MLR
comp=Z,382μm,24.5s
BRG MLR MLR
comp=N,152μm,23.1s
BRG MLR MLR
comp=E,219μm,23.1s
FIA0 FINESS Array S 90.78 23 *e*P **P** 18 15 48.2 -1.1
FIA0 *e* 18 19 25.2
FIA0 *e* 18 26 19.9
FIA0 FINESS Array S 90.78 23 *e*P **P** 18 15 48.2 -1.1
FIA0 *e*PP **PP** 18 19 25.2 +0.9
FIA0 *e*SKSac **SKSac** 18 26 19.9 -0.1
FIA0 *e*PKKPdf **PKKPbc** 18 33 16.1 -0.5
FINES FINESS Array B 90.78 23 P **P** 18 15 48.2 -1.1
comp=E,39nm,0.8s,baz=318,slow=2.6,SNR=22
FINES PP **PP** 18 19 25.2 +0.9
comp=E,30nm,0.9s,baz=299,slow=6.2,SNR=2.3
FINES S **SKSac** 18 26 19.9 -0.1
comp=E,2.5nm,0.9s,baz=74,slow=5.9,SNR=2.5
FINES PKKPbc **PKKPbc** 18 33 16.1 -0.5
comp=E,3.4nm,0.8s,baz=120,slow=5.0,SNR=6.2
FINES LR LR 18 57 42.2
comp=E,512μm,21.6s,baz=308,slow=36
FIA1 FINESS Array S 90.78 23 *e*P **P** 18 15 47.2 -2.1
comp=E,429nm,1.4s
WATA Walderalm 90.92 40 *e*PcP **P** 18 15 49.6 -0.8
comp=E,91nm,1.3s,SNR=6.5
WTTA Wattenberg 90.99 40 *e*PcP **P** 18 15 51.1 +0.3
comp=E,77nm,1.8s,SNR=5.8
WTTA PKKPdf **PKKPdf** 18 33 10.4 -1.4
comp=E,14nm,1.4s
SET Setif 91.09 52 P P 18 15 58.0 +6.6
CKHR Kef el Ahmar 91.24 52 P P 18 15 57.3 +5.1
PVCC Panska Ves 91.24 36 *e*P **P** 18 15 51.1 -0.6
PVCC *e*pP **pP** 18 15 57.7 -0.5
PVCC *e*PP **PP** 18 19 33.5 +5.1
PVCC *e*SKS **SKSac** 18 26 21.5 -1.6
PVCC *e*SP **SP** 18 27 52.3 -4.5
PVCC AMS AMS 19 03 30.0
comp=E,345μm,17.3s
PVCC Panska Ves 91.24 36 *e*P **P** 18 15 51.1 -0.6
PVCC *e* 18 15 57.7
PVCC *e* 18 19 33.5
PVCC *e* 18 26 21.5
PVCC *e*PS **SP** 18 27 52.3 -4.5
PVCC MLR MLR
comp=Z,345μm,17.3s
DFRA Djebel Bou Aff 91.32 51 P **P** 18 15 54.3 +1.8
KHC Kasperske Hory 91.32 38 *e*P **P** 18 15 53.6 +1.4
KHC *e*pP **pP** 18 15 57.9 -0.7
KHC *e*PP **PP** 18 19 34.7 +5.6
KHC *e*SKS **SKSac** 18 26 25.7 +2.0
KHC *e*SP **SP** 18 27 54.9 -2.9
KHC AMS AMS 18 57 00.0
comp=Z,543μm,19.8s
KHC Kasperske Hory 91.32 38 *e*P **P** 18 15 53.6 +1.4
KHC *e* 18 19 34.7
KHC *e* 18 26 25.7
KHC *e*PS **SP** 18 27 54.9 -2.9
KHC MLR MLR
comp=Z,543μm,19.8s
KHC Kasperske Hory 91.32 38 *e*P **P** 18 15 50.7 -1.5
comp=Z,87nm,1.7s
GKP Gorka Klasztor 91.36 33 *e*P **P** 18 15 53.6 +1.4
GKP *e*PP **PP** 18 19 33.7 +4.5
GKP *e*S **SKKSac** 18 26 37.0 -2.1
GKP *e*PS **PnS** 18 28 06.8 +5.5
GKP *e*SS **SS** 18 32 47.7 -7.0
GKP LMZ LR 18 57 03.0
comp=Z,522μm,21.4s
GKP Gorka Klasztor 91.36 33 *e*P **P** 18 15 53.6 +1.4
GKP *e* 18 19 33.7
GKP *e*S **SKKSac** 18 26 37.0 -2.1
GKP *e*PS **PnS** 18 28 06.9 +5.5
GKP *e*SS **SS** 18 32 47.7 -7.0
GKP MLR MLR
comp=Z,522μm,21.4s
PRU Pruhonice 91.48 36 *e*P **P** 18 15 52.2 -0.6
PRU *e*PP **PP** 18 19 35.8 +5.5
PRU *e*SKS **SKSac** 18 26 25.4 +1.0
PRU *e*SP **SP** 18 27 56.2 -3.3
PRU AMS AMS 18 59 40.0
comp=Z,374μm,18.7s
PRU Pruhonice 91.48 36 *e*P **P** 18 15 52.2 -0.6
PRU *e* 18 19 35.8
PRU *e* 18 26 25.4
PRU *e*PS **SP** 18 27 56.2 -3.3
PRU MLR MLR
comp=Z,374μm,18.7s
DBIC Dimbokro 91.48 83 PP PP 18 19 32.2 +0.7
comp=Z,32nm,1.1s,baz=267,slow=11,SNR=2.8
DBIC LR LR 18 51 49.1
comp=Z,154μm,22.0s,baz=268,slow=32
VLC Villacollemand 91.51 43 PFAKE 18 16 00.0 +6.9
VLC LR LR
comp=Z,226μm,20.0s
GERES GERESS Array B 91.52 38 P **P** 18 15 51.5 -1.6
comp=Z,7.1nm,0.8s,baz=319,slow=3.9,SNR=8.2
GERES PP **PP** 18 19 33.1 +2.4
comp=Z,4.2nm,1.0s,baz=298,slow=14,SNR=3.0
GERES PKKPbc **PKKPbc** 18 33 14.1 -0.4
comp=Z,1.4nm,0.8s,baz=92,slow=4.0,SNR=6.5
GERES PKPPKP P'P'df 18 41 34.6 +8.1
comp=Z,0.3nm,0.4s,baz=112,slow=1.1,SNR=5.7
GERES LR LR 18 59 34.6
comp=Z,392μm,18.3s,baz=286,slow=37
GOPC GO Pecny, Ondr 91.66 36 *e*P **P** 18 15 51.5 -2.2
GOPC *e*pP **pP** 18 15 59.4 -0.8
GOPC *e*PP **PP** 18 19 30.5 -1.2
GOPC *e*SKS **SKSac** 18 26 27.8 +2.3
GOPC AMS AMS 18 59 50.0
comp=Z,419μm,19.1s
GOPC GO Pecny, Ondr 91.66 36 *e*P **P** 18 15 51.5 -2.2
GOPC *e* 18 15 59.4
GOPC *e* 18 19 30.5
GOPC *e* 18 26 27.8
GOPC MLR MLR
comp=Z,419μm,19.1s
ABTA Abfaltersbach 91.75 40 *e*PcP **P** 18 15 54.1 -0.2
comp=Z,159nm,1.3s,SNR=7.9
ABTA *e*P'P'df **P'P'df** 18 41 18.8 -7.3
comp=Z,6.4nm,1.4s
CASM Ain Smara 91.89 51 P **P** 18 15 56.9 +1.8
CTEI Djebel Teioual 91.90 52 P **P** 18 15 56.7 +1.5
CAEH 'Ain El Ouahch 91.96 51 P **P** 18 15 59.8 +4.5
CKFL Kef-Lekhel 92.01 51 P **P** 18 15 55.5 -0.2
KSP Ksiaz 92.06 35 *e*P **P** 18 15 55.2 -0.3
KSP *e*PP **PP** 18 19 38.9 +4.1
KSP *e*S **SKSac** 18 26 36.6 +8.9
KSP *e*PS PnS 18 28 20.4 +11
KSP *e*SS **SS** 18 33 13.1 +8.2
KSP LMZ LR 18 54 20.0
comp=Z,374μm,23.3s
KSP Ksiaz 92.06 35 *e*P **P** 18 15 55.2 -0.3
KSP *e* 18 19 38.9
KSP *e*SS SS 18 33 13.1 +8.2
KSP MLR MLR
comp=Z,374μm,23.3s
UPC Upice 92.06 36 *e*P **P** 18 15 54.9 -0.6
UPC *e*pP **pP** 18 16 01.3 -0.7
UPC *e*PP **PP** 18 19 35.2 +0.4
UPC *e*SKS **SKSac** 18 26 30.6 +2.9
UPC *e*SP **SP** 18 28 00.6 -5.3
UPC AMS AMS 19 02 30.0
comp=Z,306μm,18.4s
UPC Upice 92.06 36 *e*P **P** 18 15 54.9 -0.6
UPC *e* 18 16 01.3
UPC *e* 18 19 35.2
UPC *e*PS **SP** 18 28 00.6 -5.3
UPC MLR MLR
comp=Z,306μm,18.4s
KBA Koelnbreinsper 92.11 39 *e*PcP **P** 18 15 55.7 -0.3
comp=Z,78nm,1.4s,SNR=15
KLNR Kaliningrad 92.17 31*c* *i*P **P** 18 15 55.7 -0.1
KLNR pmax pmax
comp=Z,491nm,1.9s
KLNR MLR MLR
comp=Z,318μm,21.0s
DPC Dobruska-Polom 92.31 36 *e*P **P** 18 15 55.2 -1.5
DPC *e*pP **pP** 18 16 02.6 -0.6
DPC *e*PP **PP** 18 19 39.7 +2.8
DPC *e*SKS **SKSac** 18 26 33.3 +4.1
DPC *e*SP **SP** 18 28 03.7 -5.0
DPC *e*PKKP **PKKPbc** 18 33 16.2 +3.7
DPC AMS AMS 18 53 40.0
comp=Z,359μm,23.4s
DPC Dobruska-Polom 92.31 36 *e*P **P** 18 15 55.2 -1.5
DPC *e* 18 16 02.6
DPC *e* 18 19 39.7
DPC *e*PS **SP** 18 28 03.7 -5.0
DPC *e* 18 33 16.2
DPC MLR MLR
comp=Z,359μm,23.4s
MOA Molln 92.32 38 *e*P **P** 18 15 54.1 -2.7
comp=Z,114nm,1.5s,SNR=9.9
MOA PKKPdf **PKKPdf** 18 33 06.6 -2.7
comp=Z,15nm,2.2s
MOA *e*P'P'df **P'P'df** 18 41 21.0 -4.0
comp=Z,6.4nm,1.3s
CMAH Djebel Manchou 92.44 51 P **P** 18 15 56.3 -1.3
MYKA Terra Mystica 92.50 40 *e*PcP **P** 18 15 57.9 +0.2
comp=Z,98nm,1.6s,SNR=8.6
MYKA *e*P'P'df **P'P'df** 18 41 24.6 0.0
comp=Z,11nm,1.3s
ABSA Djebel Ababsia 92.62 51 P **P** 18 15 57.8 -0.7
KRLC Kraliky 92.71 36 *e*P **P** 18 15 58.8 +0.3
KRLC *e*pP **pP** 18 16 04.7 -0.3
KRLC *e*PP **PP** 18 19 39.1 -0.9
KRLC *e*SKS **SKSac** 18 26 36.3 +4.9
KRLC *e*SP **SP** 18 28 08.7 -4.4
KRLC AMS AMS 18 57 30.0
comp=Z,81μm,19.7s
KRLC Kraliky 92.71 36 *e*P **P** 18 15 58.8 +0.3
KRLC *e* 18 16 04.7
KRLC *e* 18 19 39.1
KRLC *e*PS **SP** 18 28 08.7 -4.4
KRLC MLR MLR
comp=Z,81μm,19.7s
VSL Villasalto 92.74 48 *e*P **P** 18 15 56.5 -2.4
comp=Z,624nm,1.6s
VSL LR LR
comp=Z,186μm,20.0s
VSU Vasula 92.88 26*c* *i*P **P** 18 15 59.6 +0.5
VSU pmax pmax
comp=Z,654nm,1.9s
VSU MLR MLR
comp=Z,481μm,19.0s
TMCR Tamitsa 92.93 18 *e*P **P** 18 15 57.4 -1.8
TMCR pmax pmax
comp=Z,118nm,1.4s
VRAC Vranov 92.98 36 P **P** 18 15 59.0 -0.8
comp=Z,9.2nm,0.9s,baz=320,slow=4.0,SNR=5.1
VRAC PP **PP** 18 19 44.1 +2.0
comp=Z,24nm,1.1s,baz=298,slow=10,SNR=7.1
VRAC Vranov 92.98 36⇓ *i*P **P** 18 15 55.8 -4.0
VRAC Vranov 92.98 36⇓ P **P** 18 15 55.9 -3.9
TRI Trieste 92.99 41 *e*P **P** 18 15 58.4 -1.5
TRI pmax pmax
comp=Z,313nm,1.4s
TRI Trieste 92.99 41 *e*P **P** 18 15 58.4 -1.5
comp=Z,313nm,1.4s
YAK Yakutsk 93.09 339 P **P** 18 15 59.6 -0.4
comp=Z,78nm,0.8s,baz=95,slow=0.5,SNR=15
YAK PP **PP** 18 19 41.8 -0.6
comp=Z,5.9nm,0.4s,baz=342,slow=3.2,SNR=2.5
YAK LR LR 19 02 52.6
comp=Z,391μm,18.8s,baz=90,slow=39
YAK Yakutsk 93.09 339 *e*P **P** 18 15 58.5 -1.4
YAK *e**PP **sP** 18 16 12.7 +4.0
YAK *i* 18 19 40.7
YAK *e*PPP PPP 18 21 46.1
YAK *e*S **SKSac** 18 26 29.0 -3.9
YAK *e*SSS SSS 18 36 56.7
YAK pmax pmax
comp=Z,121nm,0.8s
YAK pmax pmax
comp=E,40nm,1.5s
YAK pmax pmax
comp=N,12nm,1.6s
YAK pmax pmax
comp=Z,81μm,15.3s
YAK pmax pmax
comp=E,25μm,13.1s
YAK pmax pmax
comp=N,38μm,14.7s
YAK smax smax
comp=E,21μm,9.6s
YAK MLR MLR
comp=Z,401μm,19.0s
YAK MLR MLR
comp=E,279μm,22.0s
YAK MLR MLR
comp=N,934μm,26.0s
YAK Yakutsk 93.09 339 *e*P **P** 18 15 58.6 -1.3
comp=N,209nm,1.0s
YAK PP **PP** 18 19 41.8 -0.6
JAVS Javornik 93.10 40 *e*P **P** 18 16 01.8 +1.3
JAVS *e*PP **PP** 18 19 42.0 -1.2
JAVS *e*SKSac **SKSac** 18 26 38.9 +5.0
JAVS *i* S **ScS** 18 27 11.9 +3.7
JAVS *e* 18 27 42.6
OBKA Obir 93.11 40 *e*PcP **P** 18 15 59.8 -0.8
comp=N,114nm,1.4s,SNR=7.2
OBKA *e*P'P'df **P'P'df** 18 41 24.4 +0.9
comp=N,9.9nm,1.7s
CONA Conrad Observa 93.23 38 *e*P **P** 18 15 58.6 -2.4
comp=N,146nm,1.8s,SNR=7.4
CONA *e*P'P'df **P'P'df** 18 41 22.4 -0.9
comp=N,4.5nm,1.2s
MORC Moravsky Berou 93.28 36⇑ *i*P **P** 18 15 59.8 -1.4
MORC Moravsky Berou 93.28 36⇑ P **P** 18 15 59.9 -1.3
MORC Moravsky Berou 93.28 36 *e*P **P** 18 16 00.4 -0.8
comp=N,1μm,1.7s
SOKA Soboth 93.33 39 *e*PcP **P** 18 16 00.0 -1.5
comp=N,95nm,1.3s,SNR=8.5
SOKA *e*P'P'df **P'P'df** 18 41 23.2 +0.1
comp=N,9.1nm,1.2s
ARSA Arzberg 93.35 39 *e*P **P** 18 15 59.7 -1.9
comp=N,72nm,1.8s,SNR=6.8

ARSA ePKKPbc **PKKPdf** **18 33 07.0 -0.4**
comp=N,16nm,1.6s
ARSA P'P'df **P'P'df** **18 41 19.9 -3.0**
comp=N,8.2nm,1.4s
PERS Pernice 93.40 39 eP **P** **18 16 00.5 -1.3**
PERS i PP **PP** **18 19 45.3 -0.2**
PERS eSKSac **SKSac** **18 26 37.0 +1.6**
PERS e 18 27 39.7
PUL Pulkovo 93.46 23 eP **P** **18 16 02.8 +1.1**
PUL pmax pmax
comp=Z,197nm,1.2s
PUL MLR MLR
comp=Z,451µm,22.0s
RAC Raciborz 93.49 35 eP **P** **18 16 02.0 -0.1**
RAC e 18 19 45.4
RAC e 18 26 35.1
RAC MLR MLR
comp=Z,300µm,19.5s
OKC Ostrava-Krasne 93.59 35 eP **P** **18 16 02.6 +0.1**
OKC ePP **PP** **18 19 48.0 +1.2**
OKC eSKS **SKSac** **18 26 40.8 +4.6**
OKC eSS **SS** **18 33 30.1 +3.2**
OKC AMS AMS 19 03 10.0
comp=Z,250µm,18.0s
OKC Ostrava-Krasne 93.59 35 eP **P** **18 16 02.6 +0.1**
OKC e 18 19 48.0
OKC eSS SS 18 33 30.1 +3.2
OKC MLR MLR
comp=Z,250µm,18.0s
VISS Visnje 93.62 40 eP **P** **18 16 04.5 +1.7**
VISS ePP **PP** **18 19 44.6 -2.6**
VISS eSKSac **SKSac** **18 26 40.8 +4.2**
VISS e 18 27 40.4
VISS e 18 28 37.5
ZST Bratislava 93.82 37 eP **P** **18 16 02.6 -1.0**
ZST e 18 16 09.4
ZST e 18 19 44.9
ZST eS **SKSac** **18 26 33.7 -3.8**
ZST e 18 28 24.1
ZST MLR MLR
comp=Z,168µm,20.7s
ZST Bratislava 93.82 37 eP **P** **18 16 02.6 -1.0**
ZST e 18 16 09.4
ZST ePP **PP** **18 19 44.8 -3.9**
ZST eS **SKSac** **18 26 33.7 -3.8**
ZST e 18 28 24.1
ZST eL L 18 57 15.2
MODS Modra-Piesok 93.83 37 eP **P** **18 16 02.6 -1.1**
MODS e 18 16 08.8
MODS e 18 19 44.1
MODS eS **SKSac** **18 26 39.0 +1.3**
MODS Modra-Piesok 93.83 37 eP **P** **18 16 02.6 -1.1**
MODS e 18 16 08.8
MODS ePP **PP** **18 19 44.1 -4.7**
MODS eS **SKSac** **18 26 39.0 +1.3**
MODS e 18 28 38.1
SUW Suwalki 93.94 30 eP **P** **18 16 04.2 +0.2**
SUW ePP **PP** **18 19 53.3 +3.9**
SUW eS **SKSac** **18 26 46.5 +8.6**
SUW ePS **PS** **18 28 37.8 +8.4**
SUW eSS **SS** **18 33 27.5 -4.2**
SUW LMZ LR 18 55 01.6
comp=Z,322µm,24.6s
SUW Suwalki 93.94 30 eP **P** **18 16 04.2 +0.2**
SUW e 18 19 53.3
SUW ePS **PS** **18 28 37.8 +8.4**
SUW eSS SS 18 33 27.5 -4.2
SUW MLR MLR
comp=Z,322µm,24.6s
SUW Suwalki 93.94 30 eP **P** **18 16 01.5 -2.6**
comp=Z,336nm,1.5s
BEL Belsk 93.96 33 eP **P** **18 16 03.6 -0.6**
BEL ePP **PP** **18 19 54.4 +4.8**
BEL eS **SKKSac** **18 26 52.2 -6.3**
BEL ePS **PS** **18 28 40.4 +11**
BEL eSS **SS** **18 33 33.1 +1.1**
BEL LMZ LR 18 58 36.2
comp=Z,546µm,21.5s
BEL Belsk 93.96 33 eP **P** **18 16 03.6 -0.6**
BEL e 18 19 54.4
BEL eSS SS 18 33 33.2 +1.2
BEL MLR MLR
comp=Z,546µm,21.5s
BOJS Bojanci 94.01 40 eP **P** **18 16 06.2 +1.7**
BOJS ePP **PP** **18 19 46.1 -4.1**
BOJS eSKSac **SKSac** **18 26 42.7 +4.0**
BOJS e 18 27 51.2
KEST Kesra 94.23 51 P **P** **18 16 05.3 -0.6**
comp=Z,59nm,1.0s,baz=312,slow=4.0,SNR=7.6
KEST PP **PP** **18 19 48.4 -4.0**
comp=Z,19nm,1.1s,baz=232,slow=8.8,SNR=2.6
KEST LR LR 18 56 05.1
comp=Z,266µm,19.9s,baz=260,slow=34
KEST Kesra 94.23 51 eP **P** **18 16 05.0 -0.9**
comp=Z,183nm,1.1s
KEST ePP PP 18 19 44.2 -8.2
KUR Kuril'sk 94.23 320*d* iP P 18 16 12.8 +7.2
KUR i 18 19 59.9
KUR ePPP PPP 18 21 54.8
KUR i SS SS 18 33 48.4 +12
KUR pmax pmax
comp=Z,23µm,13.7s
KUR MLR MLR
comp=Z,87µm,19.0s
KUR MLR MLR
comp=N,68µm,20.0s
KUR MLR MLR
comp=E,42µm,16.0s
AQU L'Aquila 94.28 44 PFAKE 18 16 20.0 +14
AQU LR LR
comp=Z,323µm,22.0s
OJC Ojcow 94.30 35 eP **P** **18 16 07.1 +1.3**
OJC ePP **PP** **18 19 56.5 +4.2**
OJC ePPP PPP 18 22 01.4
OJC ePPPP 18 23 46.0
OJC eS SKKSac 18 26 50.1 -11
OJC ePS **PS** **18 28 45.1 +12**
OJC eSS **SS** **18 33 32.4 -4.7**
OJC eSSS SSS 18 37 42.6
OJC LMZ LR 18 56 57.7
comp=Z,448µm,22.2s
OJC Ojcow 94.30 35 eP **P** **18 16 07.1 +1.3**
OJC e 18 19 56.5
OJC ePPP PPP 18 22 01.4
OJC eSS SS 18 33 32.4 -4.6
OJC MLR MLR
comp=Z,448µm,22.2s
OJC Ojcow 94.30 35 eP **P** **18 16 03.4 -2.5**
comp=Z,460nm,2.0s
NRIK Noril'sk 94.31 358 LR LR 19 01 52.8
comp=Z,94µm,19.8s,baz=63,slow=38
TYV Tymovskoe 94.39 326 eP **P** **18 16 01.9 -4.3**
TYV eS **S** **18 27 08.9 -8.3**
TYV pmax pmax
comp=Z,22µm,8.0s
TYV pmax pmax
comp=Z,140nm,1.6s
BEHE Becsehely 94.48 39⇑ ePP **P** **18 16 08.3 +1.6**
VYHS Vyhne 94.67 36 eP **P** **18 16 07.8 +0.2**
VYHS e 18 28 36.4
VYHS pmax pmax
comp=Z,514nm,2.7s
VYHS MLR MLR
comp=Z,150µm,22.5s
VYHS Vyhne 94.67 36 eP **P** **18 16 07.8 +0.2**
VYHS ePP **PP** **18 19 55.4 +0.1**
VYHS eS SKKSac 18 26 53.0 -11
VYHS e 18 28 36.4
VYHS eL L 18 56 54.6
LANS Liptovska Anna 94.68 36 eP **P** **18 16 08.7 +1.1**
LANS e 18 19 54.5
LANS Liptovska Anna 94.68 36 eP **P** **18 16 08.7 +1.1**
LANS ePP **PP** **18 19 54.5 -0.9**
SRO Srobarova 94.72 37 e P 18 16 13.8 +6.1
SRO ePP **PP** **18 19 58.5 +2.9**
CSKK Cs˙‡kako 94.92 38⇑ ePP **P** **18 16 12.0 +3.3**
NIE Niedzica 95.00 35 eP **P** **18 16 11.3 +2.2**
NIE ePP **PP** **18 20 02.4 +4.5**
NIE ePPP PPP 18 22 07.9
NIE eS SKKSac 18 26 54.0 -12
NIE ePS **PS** **18 28 46.4 +5.1**
NIE eSS SS 18 34 04.0 +17
NIE eSSS SSS 18 37 57.5
NIE LMZ LR 18 56 12.5
comp=Z,132µm,23.1s
NIE Niedzica 95.00 35 eP **P** **18 16 11.3 +2.2**
NIE e 18 20 02.4
NIE ePPP PPP 18 22 07.9
NIE ePS **PS** **18 28 46.4 +5.1**
NIE MLR MLR
comp=Z,132µm,23.1s
NACGM Naroch 95.10 28 eP **P** **18 16 05.0 -4.4**
NACGM eP **PcP** **18 16 07.0 -2.7**
NACGM ePP **PP** **18 19 56.0 -2.4**
NACGM ePPP PPP 18 21 54.0
NACGM eSKS **SKSac** **18 26 38.0 -6.1**
NACGM ePS **PS** **18 28 46.0 +3.9**
NACGM eSS SS 18 33 14.0 -34
NACGM eSSS SSS 18 37 42.0
NACGM eLQ LQ 18 48 46.0
NACGM eLR LR 18 54 40.0
BUD Budapest 95.30 37⇑ ePP **P** **18 16 11.9 +1.5**
STHS Stebnicka Huta 95.52 35 eP **P** **18 16 12.8 +1.4**
STHS pmax pmax
comp=Z,48nm,1.3s
STHS Stebnicka Huta 95.52 35 eP **P** **18 16 12.8 +1.4**
STHS ePP **PP** **18 20 03.2 +1.3**
PSZ Piszkesteto 95.57 37⇓ iP **P** **18 16 10.5 -1.3**
PSZ Piszkesteto 95.57 37 eP **P** **18 16 10.5 -1.3**
PSZ pmax pmax
comp=Z,232nm,1.5s
PSZ MLR MLR
comp=Z,351µm,20.0s
PSZ Piszkesteto 95.57 37⇑ eP **P** **18 16 14.4 +2.6**
PSZ Piszkesteto 95.57 37 eP **P** **18 16 10.5 -1.3**
comp=Z,232nm,1.5s
PSZ LR LR
comp=Z,351µm,20.0s
BLY Banja Luka 95.58 40⇓ iP **P** **18 16 10.5 -1.3**
KECS Kecovo 95.61 36 eP **P** **18 16 12.5 +0.7**
KECS pmax pmax
comp=Z,38nm,1.4s
KECS Kecovo 95.61 36 eP **P** **18 16 12.5 +0.7**
KECS ePP **PP** **18 20 04.6 +2.1**
TOA1 Torodi Ar. Sit 95.71 75 eP **P** **18 16 11.7 -1.3**
TOA1 ePP **PP** **18 20 03.1 -1.5**
TOA1 ePKKPbc **PKKPbc** **18 33 02.0 -0.5**
TOA1 eP'P'df **P'P'df** **18 41 16.9 -1.6**
TORD Torodi Ar. Bea 95.72 75 P **P** **18 16 11.7 -1.3**
comp=Z,12nm,0.8s,baz=314,slow=0.4,SNR=5.9
TORD PP **PP** **18 20 03.1 -1.5**
comp=Z,16nm,1.0s,baz=298,slow=2.9,SNR=3.6
TORD PKKPbc **PKKPbc** **18 33 02.0 -0.5**
comp=Z,1.1nm,0.7s,baz=111,slow=3.0,SNR=3.1
TORD PKPPKP **P'P'df** **18 41 16.9 -1.6**
comp=Z,1.1nm,1.0s,baz=95,slow=1.7,SNR=3.1
TORD LR LR 18 55 32.7
comp=Z,564µm,21.9s,baz=300,slow=33
MORH M˙‡r˙igy, Hung 95.73 38⇑ ePP **P** **18 16 12.7 +0.3**
URZ Urewera 95.83 232 PP PP 18 20 05.4 +0.1
comp=Z,20nm,1.2s,baz=99,slow=16,SNR=2.3
MICGM Minsk 95.86 28⇑ eP **P** **18 16 14.0 +1.2**
MICGM ⇑ eP **P** **18 16 14.0 +1.2**
MICGM PM 18 16 20.0
comp=Z,1.2nm,2.5s
MICGM PM 18 16 20.0
comp=Z,55nm,14.0s
MICGM PM 18 16 22.0
comp=E,14nm,16.0s
MICGM PM 18 16 24.0
comp=Z,82nm,24.0s
MICGM ePP **PP** **18 20 05.0 +0.8**
MICGM PPM 18 20 16.0
comp=Z,178nm,16.0s
MICGM ePsP 18 20 38.0
MICGM ePPP PPP 18 22 20.0
MICGM eSKS **SKSac** **18 26 45.0 -3.1**
MICGM eS **S** **18 27 28.0 -1.8**
MICGM ePS **PS** **18 28 52.0 +1.7**
MICGM eSS SS 18 34 20.0 +21
MICGM eSSS SSS 18 38 04.0
MICGM eLQ LQ 18 50 50.0
MICGM LQM 18 53 28.0
comp=E,86nm,26.0s
MICGM eLR LR 18 55 30.0
MICGM LRM MLR 18 59 20.0
comp=Z,223nm,22.0s
MICGM LRM MLR 18 59 22.0
comp=N,46nm,20.0s
MICGM LRM MLR 18 59 24.0
comp=E,124nm,20.0s
MNK Minsk 95.86 28*c* eP **P** **18 16 14.0 +1.2**
MNK e 18 20 05.0
MNK e 18 26 45.0
MNK eS **S** **18 27 28.0 -1.8**
MNK ePS **PS** **18 28 52.0 +1.7**
MNK pmax pmax
comp=Z,55µm,14.0s
MNK pmax pmax
comp=Z,1µm,2.5s
MNK pmax pmax
comp=E,14µm,16.0s
MNK pmax pmax
comp=Z,82µm,24.0s
MNK pmax pmax
comp=Z,178µm,16.0s
MNK MLR MLR
comp=Z,223µm,22.0s
MNK MLR MLR
comp=N,46µm,20.0s
MNK MLR MLR
comp=E,124µm,20.0s
KLMR Klimovskoe 95.89 19 eP **P** **18 16 11.2 -1.6**
KLMR e 18 20 07.9
KLMR eS **SKSac** **18 26 46.4 -1.7**
KLMR eSS **SS** **18 34 04.0 +5.2**
KLMR pmax pmax
comp=Z,332nm,1.5s
KLMR MLR MLR
comp=Z,26µm,17.0s
KLMR Klimovskoe 95.89 19 eP **P** **18 16 11.3 -1.6**
KLMR AMP 18 16 18.6
comp=Z,332nm,1.5s
KLMR ePP **PP** **18 20 08.0 +3.7**
KLMR eS **SKSac** **18 26 46.4 -1.7**
KLMR eS **SKSac** **18 26 46.4 -1.7**
KLMR eSS **SS** **18 34 04.1 +5.2**
KLMR eSS **SS** **18 34 04.1 +5.2**
KLMR LQ LQ 18 50 13.2
KLMR LQ LQ 18 50 13.2
KLMR LR LR 18 55 09.0
KLMR AMP 19 06 54.8
comp=Z,26µm,17.1s
CRVS Cervenica-Dubn 95.92 35 eP **P** **18 16 13.9 +0.6**
CRVS e 18 20 06.4
CRVS eS **SKSac** **18 26 49.5 +0.7**
CRVS e 18 28 50.4
CRVS Cervenica-Dubn 95.92 35 eP **P** **18 16 13.9 +0.6**
CRVS ePP **PP** **18 20 06.4 +1.4**
CRVS eS **SKSac** **18 26 49.5 +0.7**
CRVS e 18 28 50.4
TAM Tamanrasset 95.97 64 eP **P** **18 16 12.7 -1.5**
TAM pmax pmax
comp=Z,494nm,1.9s
TAM MLR MLR
comp=Z,615µm,22.0s
TAM Tamanrasset 95.97 64 eP **P** **18 16 12.7 -1.5**
comp=Z,494nm,1.9s
TAM LR LR
comp=Z,615µm,22.0s
YUK Yuzh-Kuril'sk 96.06 319*c* iP **P** **18 16 18.0 +4.0**
YUK i 18 20 09.5
YUK i PPP PPP 18 22 18.7
YUK i SS SS 18 34 15.4 +13
KWP Kalwaria Pacla 96.20 34 eP **P** **18 16 12.8 -1.7**
KWP ePP **PP** **18 20 11.8 +4.7**
KWP ePPP PPP 18 22 13.7
KWP ePPPP 18 24 04.8
KWP eS **SKSac** **18 26 51.8 +1.6**
KWP eP **PS** **18 29 00.3 +6.0**
KWP eSS **SS** **18 34 04.0 +0.1**
KWP eSSS SSS 18 38 23.9
KWP LMZ LR 18 58 31.3
comp=Z,357µm,22.4s
KWP Kalwaria Pacla 96.20 34 eP **P** **18 16 12.8 -1.7**
KWP e 18 20 11.8
KWP ePPP PPP 18 22 13.7
KWP eS **SKSac** **18 26 51.8 +1.6**
KWP eP **PS** **18 29 00.3 +6.0**
KWP eSS **SS** **18 34 04.0 +0.1**
KWP MLR MLR
comp=Z,357µm,22.4s
KWP Kalwaria Pacla 96.20 34 eP **P** **18 16 13.1 -1.4**
comp=Z,4µm,1.5s
CLTB Caltabellotta 96.27 48 PFAKE 18 16 30.0 +15
CLTB LR LR
comp=Z,155µm,20.0s
YSS Yuzh-Sakhalins 96.44 323⇑ iP **P** **18 16 17.5 +1.9**
YSS e*SP **sP** **18 16 26.5 +2.1**
YSS i 18 20 15.4
YSS ePPP PPP 18 22 14.0
YSS eS **S** **18 27 33.5 -1.7**
YSS eSS **SS** **18 34 06.2 -1.2**
YSS pmax pmax
comp=Z,70nm,3.6s
YSS pmax pmax
comp=Z,22µm,15.7s
YSS pmax pmax
comp=N,4µm,14.0s
YSS MLR MLR
comp=N,113µm,19.0s
YSS MLR MLR
comp=Z,178µm,19.0s
YSS MLR MLR
comp=E,183µm,18.0s
YSS Yuzh-Sakhalins 96.44 323 eP **P** **18 16 15.7 +0.1**
comp=E,108nm,1.1s
YSS LR LR
comp=Z,233µm,19.0s
UZH Uzhgorod 96.53 35 eP **P** **18 16 14.9 -1.1**
UZH e 18 16 29.7
UZH e 18 20 05.1
UZH e 18 22 14.7
UZH e 18 26 48.5
UZH i 18 27 22.7
UZH eSS SS 18 34 14.0 +5.3
UZH MLR MLR
comp=Z,121µm,16.0s
LVV L'vov 96.79 33 eP **P** **18 16 17.0 -0.2**
LVV e 18 20 10.8
LVV ePPP PPP 18 22 15.2
LVV eS S 18 27 29.1 -9.1
LVV ePS **PS** **18 28 54.4 -6.4**
LVV MLR MLR
comp=E,231µm,21.0s
LVV MLR MLR
comp=Z,172µm,21.0s
LVV MLR MLR
comp=N,91µm,22.0s
SHEL Horse Pasture 96.85 105 PFAKE 18 16 30.0 +12
SHEL LR LR
comp=Z,76µm,22.0s
TRPA Tarpa 96.95 35⇑ eP **P** **18 16 19.4 +1.5**
CUC Castrocucco 96.98 45 eP **P** **18 16 16.4 -2.0**
comp=Z,84nm,1.1s
CUC LR LR
comp=Z,102µm,19.0s
VAE Valguarnera 97.17 48 P **P** **18 16 17.9 -1.3**
comp=Z,4.2nm,0.3s,baz=12,slow=14,SNR=2.2
VAE PP **PP** **18 20 18.7 +3.6**
comp=Z,16nm,0.9s,baz=352,slow=2.3,SNR=3.0
VAE LR LR 18 59 13.6
comp=Z,164µm,18.6s,baz=339,slow=35
MATE Matera 97.27 44⇓ iP **P** **18 16 18.2 -1.3**
HCY Herceg Novi 97.55 42⇑ iP Pdif 18 16 22.0 +1.2
PLE Pljevlja 97.67 41 eP Pdif 18 16 22.6 +1.1
GRNR Gornyy 97.67 328 eP **P** **18 16 20.0 -1.2**
GRNR i 18 20 17.6
GRNR pmax pmax
comp=Z,42nm,1.0s
NKME Niksic 97.68 41⇑ iP Pdif 18 16 21.7 +0.2
NKY Niksic 97.68 41⇑ iP Pdif 18 16 22.1 +0.5
CEME Cevo 97.77 42⇑ iP Pdif 18 16 23.2 +1.3
DRGR 97.79 36⇑ iP Pdif 18 16 22.3 +0.4
DRGR 97.79 36⇑ P Pdif 18 16 22.3 +0.4
CEL Celeste 97.85 46 PFAKE 18 16 30.0 +7.7
CEL LR LR
comp=Z,110µm,22.0s
BUM Brajici-Budva 97.88 42⇑ iP Pdif 18 16 23.5 +1.1
WDD Wied Dalam 97.99 49 PFAKE 18 16 30.0 +7.1
WDD LR LR
comp=Z,270µm,20.0s
KOME Kolasin 97.99 41⇑ iP Pdif 18 16 24.0 +1.1
TIP Timpagrande 98.01 45⇑ iP **P** **18 16 22.5 -0.5**
TIP Timpagrande 98.01 45 eP **P** **18 16 19.4 -3.6**
TIP LR LR
comp=Z,201µm,21.0s
TIP Timpagrande 98.01 45 P **P** **18 16 19.4 -3.6**
ASAJ Asahikawa 98.04 321 P **P** **18 16 21.0 -1.9**
comp=Z,5.0nm,0.8s,baz=288,slow=19,SNR=2.3
ASAJ Asahikawa 98.04 321 eP **P** **18 16 21.2 -1.8**
comp=Z,20nm,0.7s
TTG Podgorica 98.04 41⇑ iP Pdif 18 16 24.0 +1.0
TTG Podgorica 98.04 41 eP Pdif 18 16 26.7 +3.7
TTG Podgorica 98.04 41 eP Pdif 18 16 26.7 +3.7
DRME Dracevica, Mon 98.12 42⇑ iP Pdif 18 16 23.7 +0.3
IVA Berane 98.22 41 eP Pdif 18 16 25.0 +1.1
ULC Ulcinj 98.28 42⇑ iP Pdif 18 16 25.6 +1.5
CJR Cluj-Napoca 98.34 36⇓ iP **P** **18 16 21.1 -3.2**
CJR Cluj-Napoca 98.34 36 ⇓ P **P** **18 16 21.1 -3.2**
PVY Plav 98.40 41 eP Pdif 18 16 25.6 +0.8
DEV Deva 98.41 37⇑ iP Pdif 18 16 25.4 +0.8
DEV Deva 98.41 37⇑ P Pdif 18 16 25.4 +0.8
SNZO South Karori 98.43 230 PFAKE 18 16 40.0 +15
SNZO LR LR
comp=Z,120µm,19.0s
ERM Erimo 98.80 318*d* iP Pdif 18 16 26.8 +0.4
ERM pmax pmax
comp=Z,80nm,1.0s
ERM Erimo 98.80 318 PFAKE 18 16 40.0 +14
ERM LR LR
comp=Z,195µm,22.0s
AK11 Malin Array Si 98.89 31 eP **P** **18 16 24.1 -2.5**
KIEV Kiev 98.90 31*c* iP **P** **18 16 25.4 -1.2**
KIEV pmax pmax
comp=Z,143nm,2.4s
KIEV MLR MLR
comp=Z,226µm,21.0s
KIEV Kiev 98.90 31 PFAKE 18 16 40.0 +13
KIEV LR LR
comp=Z,238µm,22.0s
KIEV Kiev 98.90 31 *i* P **P** **18 16 26.0 -0.6**
SNR=8.5
AKASG Malin Array Be 98.90 31 P **P** **18 16 24.6 -2.1**
comp=Z,3.4nm,0.7s,baz=291,slow=3.4,SNR=13
AKASG PP **PP** **18 20 30.1 +2.4**
comp=Z,14nm,1.0s,baz=309,slow=5.1,SNR=5.7
AKASG PKKPbc **PKKPbc** **18 32 54.6 -0.3**
comp=Z,1.5nm,0.7s,baz=94,slow=2.8,SNR=7.2
AKASG LR LR 19 00 53.4
comp=Z,167µm,21.5s,baz=295,slow=35
AKBB Malin Array Si 98.90 31 eP **P** **18 16 24.0 -2.6**
AKBB e 18 20 27.6
AKBB pmax pmax
comp=Z,203nm,1.9s
AKBB Malin Array Si 98.90 31 eP **P** **18 16 24.0 -2.6**
comp=Z,203nm,1.9s
AKBB ePP **PP** **18 20 27.6 -0.1**
TIR Tirane 98.99 42⇓ iP **P** **18 16 26.6 -0.7**
TIR Tirane 98.99 42 ⇓ P **P** **18 16 26.6 -0.7**
TIR Tirane 98.99 42 PFAKE 18 16 40.0 +13
TIR LR LR
comp=Z,212µm,20.0s
MOS Moscow 99.08 23*c* iP **Pdif** **18 16 27.5 +0.2**
MOS i 18 20 29.2
MOS ePPP PPP 18 22 40.0
MOS eS **SKSac** **18 27 03.2 -1.4**
MOS ePS **PS** **18 29 29.9 +4.6**
MOS eSS **SS** **18 34 47.5 +3.5**
MOS eSSS SSS 18 38 32.9
MOS pmax pmax
comp=Z,345nm,1.8s
MOS pmax pmax
comp=N,95nm,1.0s
OBN Obninsk 99.13 24 P **Pdif** **18 16 25.8 -1.7**
comp=N,8.9nm,0.4s,baz=309,slow=4.3,SNR=3.2
OBN PP **PP** **18 20 30.1 +0.9**
comp=N,91nm,1.1s,baz=322,slow=16,SNR=3.6
OBN Obninsk 99.13 24*c* iP **Pdif** **18 16 30.5 +3.0**
OBN i 18 20 29.4

OBN *i* PS **PS** **18 29 27.0 +1.2**
OBN *i* SS SS 18 34 48.5 +3.9
OBN pmax pmax
comp=Z,137nm,1.7s
OBN MLR MLR
comp=Z,409µm,21.0s
OBN Obninsk 99.13 24 *e*P **Pdif** **18 16 26.3 -1.3**
comp=Z,952nm,2.0s
OBN *e*PP **PP** **18 20 29.9 +0.7**
OBN LR LR
comp=Z,379µm,20.0s
LOT Lotru 99.16 37⇑ *i*P **Pdif** **18 16 24.9 -3.2**
LOT Lotru 99.16 37⇓ *i*P **PP** **18 20 36.7 +6.7**
SRE Strehaia 99.27 38⇑ *i*P **Pdif** **18 16 34.7 +6.3**
SRE Strehaia 99.27 38⇓ *i*P **PP** **18 20 38.1 +7.3**
SRE Strehaia 99.27 38 ⇑P **Pdif** **18 16 34.7 +6.3**
SKO Skopje 99.67 41 P **Pdif** **18 16 36.7 +6.4**
SKO Skopje 99.67 41 P **Pdif** **18 16 36.7 +6.4**
SKO Skopje 99.67 41 P **Pdif** **18 16 36.7 +6.4**
SKO Skopje 99.67 41 P **PP** **18 20 36.9 +3.0**
ARR Arges 99.70 37⇓ *i*P **Pdif** **18 16 29.2 -1.2**
ARR Arges 99.70 37⇑ *i*P **PP** **18 20 28.9 -5.2**
DOPR Dopca 99.78 36⇑ *i*P **Pdif** **18 16 30.2 -0.5**
DOPR Dopca 99.78 36⇑ *i*P **PP** **18 20 39.7 +5.1**
KEK Kerkira 99.79 44 P **Pdif** **18 16 29.7 -1.2**
KEK Kerkira 99.79 44 P **Pdif** **18 16 29.7 -1.2**
KEK Kerkira 99.79 44 P **PP** **18 20 39.3 +4.4**
CRAR CRAIOVA 99.81 38⇑ *i*P **PKiKP** **18 20 55.0 -4.2**
VOIR 99.90 37⇑ *i*P **Pdif** **18 16 29.9 -1.4**
VOIR 99.90 37⇑ *i*P **PP** **18 20 41.7 +6.1**
VOIR 99.90 37 ⇑P **Pdif** **18 16 29.9 -1.4**
SORM Soroca 100.08 33⇓ *i*P **Pdif** **18 16 33.1 +1.2**
SORM Soroca 100.08 33⇑ *i*P **PP** **18 20 41.0 +4.3**
SORM Soroca 100.08 33 ⇓P **Pdif** **18 16 33.1 +1.2**
SGD Sagiada 100.13 44 P **Pdif** **18 16 34.4 +2.0**
SGD Sagiada 100.13 44 P **PP** **18 20 42.2 +4.7**
TESR Tescani 100.16 35⇑ *i*P **PP** **18 20 33.0 -4.5**
IGT Igoumenitsa 100.23 44 *e*P **Pdif** **18 16 32.9 0.0**
IGT Igoumenitsa 100.23 44 *e*Pdif **Pdif** **18 16 32.9 0.0**
IGT Igoumenitsa 100.23 44 P **Pdif** **18 16 32.9 0.0**
IGT Igoumenitsa 100.23 44 P **PP** **18 20 42.5 +4.2**
NEST Nestorio 100.24 43 P **Pdif** **18 16 33.8 +0.8**
NEST Nestorio 100.24 43 P **PP** **18 20 43.1 +4.6**
FNA Florina 100.26 42 P **Pdif** **18 16 32.8 -0.2**
FNA Florina 100.26 42 P **PP** **18 20 45.3 +6.8**
MLR Muntele Rosu 100.38 36 P **Pdif** **18 16 31.8 -1.7**
comp=Z,1.4nm,0.8s,baz=314,slow=8.4,SNR=1.9
MLR PP **PP** **18 20 37.3 -2.0**
comp=Z,6.2nm,1.2s,baz=332,slow=4.8,SNR=3.6
MLR PS **PS** **18 29 35.9 -4.1**
comp=Z,0.5nm,0.7s,baz=60,slow=20,SNR=1.9
MLR PKKP **PKKPdf** **18 32 55.5 +0.5**
comp=Z,2.2nm,1.2s,baz=135,slow=19,SNR=3.3
MLR Muntele Rosu 100.38 36 *e*Pdif **Pdif** **18 16 31.2 -2.3**
MLR *e*PP **PP** **18 20 36.6 -2.7**
MLR PS **PS** **18 29 35.9 -4.1**
MLR PKKP **PKKPdf** **18 32 55.5 +0.5**
HUMR Humele 100.39 37⇑ *i*P **Pdif** **18 16 34.2 +0.8**
HUMR Humele 100.39 37⇑ *i*P **PP** **18 20 44.5 +5.3**
PENT Pentalofos 100.42 43 P **Pdif** **18 16 33.4 -0.4**
PENT Pentalofos 100.42 43 P **PP** **18 20 45.1 +5.3**
VTS Vitosha 100.43 40⇑ *i*P **Pdif** **18 16 31.8 -2.0**
VTS Vitosha 100.43 40⇑ *i*P **PKiKP** **18 20 56.9 -3.7**
VTS Vitosha 100.43 40 ⇑P **Pdif** **18 16 31.8 -2.0**
VTS Vitosha 100.43 40 P **PP** **18 20 46.1 +6.3**
JAN Janina 100.51 43 P **Pdif** **18 16 36.7 +2.6**
JAN Janina 100.51 43 P **PP** **18 20 45.8 +5.4**
PLOR Plostina 100.56 36⇑ *i*P **Pdif** **18 16 34.5 +0.3**
PLOR Plostina 100.56 36⇑ *i*P **PP** **18 20 34.4 -6.2**
PLOR Plostina 100.56 36 ⇑P **Pdif** **18 16 34.5 +0.3**
VRI Vrincioaia 100.59 36⇓ *i*P **Pdif** **18 16 33.0 -1.3**
VRI Vrincioaia 100.59 36⇑ *i*P **PP** **18 20 35.7 -5.1**
VRI Vrincioaia 100.59 36 ⇓P **Pdif** **18 16 33.0 -1.3**
DZM Mont Dzumac 100.70 250 PP PP 18 20 42.0 -1.1
comp=Z,2.2nm,0.7s,baz=102,slow=16,SNR=1.8
DZM Mont Dzumac 100.70 250 *e*PP PP 18 20 44.5 +1.4
comp=Z,28µm,27.0s
DZM *e*SKSac **SKSac** **18 27 14.0 0.0**
comp=Z,185µm,27.1s
DZM Mont Dzumac 100.70 250 *e*PS PS 18 29 48.5 +3.7
comp=Z,145µm,27.2s
DZM *e*SS SS 18 35 12.7 +2.7
comp=Z,393µm,27.9s
DZM Mont Dzumac 100.70 250 *e*LQ LQ 18 45 23.2
comp=Z,208µm,42.1s
DZM *e*LR LR 18 49 39.0
comp=Z,429µm,27.3s
VAY Valandovo 100.73 41 P **PP** **18 20 47.6 +5.6**
KZN Kozani 100.77 42 P **Pdif** **18 16 33.3 -2.0**
KZN Kozani 100.77 42 P **PP** **18 20 44.6 +2.2**
LKD2 Lefkada island 100.84 44 P **Pdif** **18 16 35.1 -0.5**
LKD2 Lefkada island 100.84 44 P **PP** **18 20 44.8 +1.9**
ISR Istrita 100.94 36⇓ *i*P **Pdif** **18 16 36.9 +1.0**
ISR Istrita 100.94 36 ⇓P **Pdif** **18 16 36.9 +1.0**
DSL Palaion Diasel 100.95 44 *e*Pdif **Pdif** **18 16 35.6 -0.5**
DSL Palaion Diasel 100.95 44 P **Pdif** **18 16 35.6 -0.5**
DSL Palaion Diasel 100.95 44 P **PP** **18 20 50.7 +6.9**
PETR Petresti 100.96 35⇓ *i*P **Pdif** **18 16 37.8 +1.9**
PETR Petresti 100.96 35⇑ *i*P **PP** **18 20 49.0 +5.5**
KLR Kul'dur 100.98 329 P **PP** **18 16 34.5 -1.5**
comp=Z,0.1nm,0.8s,baz=343,slow=14,SNR=3.2
KLR PP **PP** **18 20 42.6 -0.9**
comp=Z,0.4nm,1.0s,baz=62,slow=8.2,SNR=2.3
KLR Kul'dur 100.98 329*c i*P **Pdif** **18 16 35.6 -0.3**
KNT Kendrikon 101.02 41 P **PP** **18 20 44.7 +0.5**
SULR 101.04 37⇑ *i*P **Pdif** **18 16 40.9 +4.6**
SULR 101.04 37⇓ *i*P **PP** **18 20 50.1 +6.0**
KIS Kishinev 101.04 34 *i* P **Pdif** **18 16 33.0 -3.2**
comp=Z,2µm,4.0s
KIS Kishinev 101.04 34 *i* PP PP 18 20 35.0 -9.0
KIS Kishinev 101.04 34α *i*P **Pdif** **18 16 33.0 -3.2**
KIS *i* PPP PPP 18 22 52.0
KIS *i* 18 27 08.0
KIS *e*S **SKKSac** **18 27 58.0 +7.8**
KIS *i* PS **PS** **18 29 41.0 -5.6**
KIS *i* PPS PPS 18 30 31.0
KIS pmax pmax
comp=Z,2µm,4.0s
KIS pmax pmax
comp=N,6µm,16.0s
KIS pmax pmax
comp=E,6µm,16.0s
KIS pmax pmax
comp=Z,22µm,16.0s
KIS pmax pmax
comp=Z,31µm,20.0s
KIS MLR MLR
comp=N,80µm,17.0s
KIS MLR MLR
comp=E,140µm,17.0s
KIS MLR MLR
comp=Z,262µm,17.0s
KIS Kishinev 101.04 34 *i* SKS **SKSac** **18 27 08.0 -6.6**
KIS *e*S **SKKSac** **18 27 58.0 +7.8**
comp=Z,22µm,18.0s
LEOM Leova 101.06 34⇓ *i*P **Pdif** **18 16 34.0 -2.3**
LEOM Leova 101.06 34⇓ *i*P **PP** **18 20 48.5 +4.3**
LEOM Leova 101.06 34 ⇓P **Pdif** **18 16 34.0 -2.3**
VLS Valsamata 101.11 45 P **Pdif** **18 16 34.9 -1.9**
VLS Valsamata 101.11 45 P **Pdif** **18 16 34.9 -1.9**
VLS Valsamata 101.11 45 P **Pdif** **18 16 34.9 -1.9**
VLS Valsamata 101.11 45 P **PP** **18 20 46.3 +1.3**
BOD Bodaibo 101.28 343 *e*P **Pdif** **18 16 40.2 +3.1**
BOD pmax pmax
comp=Z,46nm,1.8s
PDO Prodromos 101.29 44 P **Pdif** **18 16 35.4 -2.1**
PDO Prodromos 101.29 44 P **PP** **18 20 48.1 +1.8**
THL Klokotos Trika 101.32 43 P **Pdif** **18 16 36.7 -1.0**
THL Klokotos Trika 101.32 43 P **PP** **18 20 50.9 +4.4**
LIT Litokhoron 101.34 42 *e*P **Pdif** **18 16 38.0 +0.2**
LIT Litokhoron 101.34 42 *e*Pdif **Pdif** **18 16 38.0 +0.2**
LIT Litokhoron 101.34 42 P **Pdif** **18 16 38.0 +0.2**
LIT Litokhoron 101.34 42 P **PP** **18 20 49.1 +2.4**
THE Thessaloniki 101.36 42 P **PP** **18 20 49.1 +2.4**
HORT Hortiatis 101.46 42 P **PP** **18 20 49.8 +2.2**
SRS Serrai 101.48 41 P **PP** **18 20 53.9 +6.2**
PVO Paravola 101.50 44 P **PP** **18 20 52.7 +4.8**
NVR Nevrokopi 101.52 41 P **PP** **18 20 50.7 +2.7**
EVR Evrytania 101.53 43 P **Pdif** **18 16 41.1 +2.3**
EVR Evrytania 101.53 43 P **PP** **18 20 54.0 +5.7**
SOKR Solikamsk 101.55 13 *c*P **Pdif** **18 16 34.6 -3.6**
SOKR SP SP 18 29 43.3 -5.0
SOKR *e* 18 30 37.4
SOKR SS **SS** **18 35 27.6 +10**
RPZ Rata Peaks 101.60 228 PP PP 18 20 49.3 +0.1
comp=Z,5.7nm,0.6s,baz=11,slow=17,SNR=2.0
VTN Vitineika 101.64 45 P **Pdif** **18 16 44.2 +5.1**
VTN Vitineika 101.64 45 P PP 18 20 57.4 +8.4
AMRR Amara 101.69 36⇓ *i*P **Pdif** **18 16 43.8 +4.6**
AMRR Amara 101.69 36⇑ *i*P **PP** **18 20 44.8 -4.3**
AMRR Amara 101.69 36 ⇓P **Pdif** **18 16 43.8 +4.6**
RLS Riolos of Patr 101.76 44 P **Pdif** **18 16 46.3 +6.7**
RLS Riolos of Patr 101.76 44 P **PP** **18 20 56.1 +6.3**
ANX Ano Chora 101.78 44 P **Pdif** **18 16 40.8 +0.7**
ANX Ano Chora 101.78 44 P **PP** **18 20 48.9 -1.2**
CFR Carcaliu 101.80 36⇓ *i*P **Pdif** **18 16 37.1 -2.5**
CFR Carcaliu 101.80 36⇓ *i*P **PKiKP** **18 21 02.0 -0.8**
CFR Carcaliu 101.80 36 ⇓P **Pdif** **18 16 37.1 -2.5**
PLG Polygyros 101.81 42 P PKiKP 18 20 52.2 -11
AGG Agios Georgios 101.82 43 *e*P **Pdif** **18 16 40.7 +0.7**
AGG Agios Georgios 101.82 43 *e*Pdif **Pdif** **18 16 40.7 +0.7**
AGG Agios Georgios 101.82 43 P **Pdif** **18 16 40.7 +0.7**
AGG Agios Georgios 101.82 43 P **PP** **18 20 51.9 +1.6**
EFP Efpalio 101.86 44 P **Pdif** **18 16 46.2 +6.1**
EFP Efpalio 101.86 44 P **PP** **18 20 56.6 +6.0**
LPSR Galich'ya Gora 101.93 25 *e*P **Pdif** **18 16 40.0 -0.1**
LPSR *e* 18 20 47.9
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR MLR MLR
comp=Z,199µm,18.0s
SERG Sergoula 101.97 44 P **Pdif** **18 16 40.3 -0.3**
SERG Sergoula 101.97 44 P **PP** **18 20 53.8 +2.4**
DRO Drossia 101.98 44 P **Pdif** **18 16 41.4 +0.7**
DRO Drossia 101.98 44 P **PP** **18 20 53.1 +1.6**
FYTO Fytoko, Volos 102.01 43 P **Pdif** **18 16 46.0 +5.3**
FYTO Fytoko, Volos 102.01 43 P **PP** **18 20 56.8 +5.1**
KALE Kalithea 102.03 44 *e*Pdif **Pdif** **18 16 40.3 -0.7**
KALE Kalithea 102.03 44 P **Pdif** **18 16 40.3 -0.7**
KALE Kalithea 102.03 44 P **PP** **18 20 54.3 +2.3**
TLB Topalu 102.11 36⇑ *i*P **Pdif** **18 16 39.0 -2.0**
TLB Topalu 102.11 36⇑ *i*P **PP** **18 20 47.7 -4.5**
TLB Topalu 102.11 36 ⇑P **PP** **18 16 39.0 -2.0**
OUR Ouranopolis 102.17 41 P **PP** **18 20 53.5 +0.7**
AMT Artemida-Makis 102.20 45 P **Pdif** **18 16 41.6 -0.1**
AMT Artemida-Makis 102.20 45 P **PP** **18 20 57.3 +4.1**
PAIG Paliouri 102.20 42 P **PP** **18 20 53.5 +0.4**
KLV Kalavryta, Ach 102.22 44 *e*Pdif **Pdif** **18 16 41.6 -0.2**
KLV Kalavryta, Ach 102.22 44 P **Pdif** **18 16 41.6 -0.2**
KLV Kalavryta, Ach 102.22 44 P **PP** **18 20 55.5 +2.1**
NEO Neokhori 102.25 43 P **PP** **18 20 54.5 +1.0**
DSF Desfina 102.28 44 *e*Pdif **Pdif** **18 16 42.1 +0.1**
DSF Desfina 102.28 44 P **Pdif** **18 16 42.1 +0.1**
DSF Desfina 102.28 44 P **PP** **18 20 52.6 -1.2**
TIRR Tirgusor 102.40 36⇑ *i*P **Pdif** **18 16 41.2 -1.1**
TIRR Tirgusor 102.40 36 ⇑P **Pdif** **18 16 41.2 -1.1**
GUR Goura 102.41 44 *e*Pdif **Pdif** **18 16 44.0 +1.3**
GUR Goura 102.41 44 P **Pdif** **18 16 44.0 +1.3**
GUR Goura 102.41 44 P **PP** **18 20 56.3 +1.4**
LKR Lokris 102.46 43 P **PP** **18 20 55.3 +0.2**
SMIA Simia 102.47 43 P PP 18 21 10.1 +15
ITM Ithomi 102.53 45 P **Pdif** **18 16 42.7 -0.4**
ITM Ithomi 102.53 45 P **PP** **18 20 56.4 +0.7**
PYL PYLOS 102.56 45 *e*Pdif **Pdif** **18 16 41.4 -1.8**
PYL PYLOS 102.56 45 P **Pdif** **18 16 41.4 -1.8**
PYL PYLOS 102.56 45 P **PP** **18 20 56.1 +0.2**
THAL Thalero 102.57 44 P **PP** **18 21 01.1 +5.2**
RDO Rodhopi 102.68 40 P **PP** **18 20 56.8 +0.2**
VLX Vlachokerasia 102.74 45 P **PP** **18 21 03.5 +6.2**
VORR Voronezh 102.74 26 P **Pdif** **18 16 44.0 +0.3**
VORR pmax pmax
comp=Z,500nm,2.2s
LTK Loutraki 102.78 44 P **PP** **18 20 56.8 -0.7**
LOUT Loutraki 102.80 44 P **PP** **18 20 56.0 -1.7**
VILL Villia 102.93 43 P **PP** **18 21 04.7 +6.0**
SMTH Samothraki Isl 103.06 41 P **PP** **18 20 55.3 -4.2**
VSR Storozhevoye 103.06 26 *e*P **Pdif** **18 16 44.3 -0.9**
VSR *e* 18 20 56.4
VSR *e*PS **PS** **18 30 09.2 +1.3**
VSR *e*SS SS 18 35 43.1 +3.7
VSR pmax pmax
comp=Z,60nm,1.1s
ALN Alexandroupoli 103.14 40 P **PP** **18 20 57.3 -2.7**
LIA Limnos Island 103.17 41 P **PP** **18 20 58.2 -2.1**
EREA Eretria 103.20 43 P **PP** **18 21 05.8 +5.1**
DID Didima 103.24 44 P **PP** **18 20 58.7 -2.3**
KRND KRANIDI 103.25 44 P **PP** **18 20 59.3 -1.7**
ENEZ Enez 103.30 40 P **PP** **18 21 07.1 +5.9**
ATH Athens Observa 103.30 43 P **PP** **18 21 01.2 -0.2**
SKY Skiros Island 103.35 42 P **PP** **18 21 03.3 +1.6**
PTL Penteli 103.36 43 P **PP** **18 21 00.7 -1.2**
VLY Voula,Athens 103.42 44 P **PP** **18 21 00.2 -2.1**
GADA Gvkgeada 103.45 41 P **PP** **18 20 57.0 -5.4**
VLI Veliai 103.46 45 P **PP** **18 21 01.0 -1.7**
HNR Honiara 103.74 264 *e*PP PP 18 21 05.4 -0.5
HNR LR LR
comp=Z,74µm,19.0s
KARY Karystos 103.75 43 P **PP** **18 21 10.9 +6.2**
EZN Ezine 103.93 41 P **PP** **18 21 11.0 +5.0**
SIGR SIGRI 103.99 41 P **PP** **18 21 05.0 -1.5**
VRH Novokhopyorsk 104.12 25 *e*P **Pdif** **18 16 50.1 +0.3**
VRH *e* 18 21 06.9
VRH *e*PS **PS** **18 30 17.8 -1.1**
VRH pmax pmax
comp=Z,40nm,0.9s
VRH MLR MLR
comp=Z,193µm,25.0s
USRK Ussuriysk Ar. 104.15 325 Pdiff **Pdif** **18 16 47.8 -2.4**
comp=Z,2.2nm,0.8s,baz=41,slow=4.6,SNR=3.1
USRK PP **PP** **18 21 07.3 -0.1**
comp=Z,1.4nm,0.7s,baz=99,slow=8.9,SNR=2.1
ANKY Antikythira Is 104.17 45 P **PP** **18 21 07.2 -0.7**
PRK Paraskevi 104.24 41 P **PP** **18 21 05.2 -3.1**
MHLO Agia Marina, M 104.47 44 P **PP** **18 21 14.2 +4.1**
CHOS Chios island 104.59 42 P **PP** **18 21 09.8 -1.3**
ARU Arti 104.84 13 Pdiff **Pdif** **18 16 51.2 -1.7**
comp=Z,2.9nm,0.7s,baz=315,slow=7.1,SNR=3.3
ARU PP **PP** **18 21 13.1 +1.1**
comp=Z,12nm,0.9s,baz=321,slow=3.9,SNR=3.6
ARU Arti 104.84 13*c i*P **Pdif** **18 16 51.8 -1.1**
ARU S **SKSac** **18 27 28.8 -3.2**
ARU SP **SP** **18 30 15.9 -7.2**
ARU PS **PS** **18 30 26.2 0.0**
ARU pmax pmax
comp=Z,33nm,2.5s
ARU MLR MLR
comp=Z,336µm,20.0s
ARU Arti 104.84 13 *e*Pdif **Pdif** **18 16 50.8 -2.1**
ARU *e*PP **PP** **18 21 13.4 +1.5**
ARU LR LR
comp=Z,338µm,19.0s
IMMV Iera Moni Meta 104.85 46 P **PP** **18 21 11.8 -1.2**
MJAR Matsushiro Arr 104.98 316 PP PP 18 21 13.9 -0.1
comp=Z,1.6nm,0.9s,baz=30,slow=7.7,SNR=4.0
MAJO Matsushiro 104.98 316 *e*PP PP 18 21 13.9 -0.1
MAJO LR LR
comp=Z,94µm,20.0s
APE Apeiranthos 105.00 43⇑ *i*P **Pdif** **18 16 53.9 -0.3**
APE Apeiranthos 105.00 43⇓ *i*P **PP** **18 21 10.4 -3.7**
APE Apeiranthos 105.00 43 ⇑P **Pdif** **18 16 53.9 -0.3**
APE Apeiranthos 105.00 43 P **PP** **18 21 10.3 -3.8**
MDJ Mudanjiang 105.16 327 Pdif **Pdif** **18 16 57.0 +2.3**
MDJ LR LR
comp=Z,147µm,17.5s
MDJ LR LR
comp=Z,151µm,21.6s
MDJ LR LR
comp=Z,194µm,26.1s
MDJ Mudanjiang 105.16 327 PFAKE 18 21 20.0
MDJ LR LR
comp=Z,199µm,22.0s
SIM Simferopol' 105.17 33*c e*P **Pdif** **18 16 54.5 -0.2**
SIM *e* 18 21 14.0
SIM *e*PPP PPP 18 23 35.0
SIM *e*PS **PS** **18 30 32.0 +1.7**
SIM *e*PS PS 18 31 22.0 +52
SIM *e*SS SS 18 36 07.0 -1.8
SIM pmax pmax
comp=Z,73µm,14.3s
GVD Gavdhos 105.26 46 P **PP** **18 21 17.2 +1.1**
SANT Santorini 105.35 44⇓ *i*P **Pdif** **18 16 54.3 -1.4**
SANT Santorini 105.35 44⇑ *i*P PP 18 21 29.4 +13
SANT Santorini 105.35 44 PFAKE 18 21 20.0
SANT LR LR
comp=Z,154µm,22.0s
SMG Samos 105.49 42 P **PP** **18 21 17.0 -0.7**
IDI Anoyia 105.57 45 Pdiff **Pdif** **18 16 54.3 -2.4**
comp=Z,3.8nm,0.7s,baz=307,slow=5.7,SNR=2.0
IDI PP **PP** **18 21 18.8 +0.4**
comp=Z,8.3nm,0.8s,baz=308,slow=9.8,SNR=4.1
IDI Anoyia 105.57 45⇑ *i*P **Pdif** **18 16 57.1 +0.3**
IDI Anoyia 105.57 45⇓ *i*P **PP** **18 21 16.8 -1.6**
IDI Anoyia 105.57 45 *e*Pdif **Pdif** **18 16 54.8 -2.0**
IDI *e*PP **PP** **18 21 17.8 -0.6**
SIVA Sivas 105.66 46 P **PP** **18 21 18.3 -0.7**
SIVA Sivas 105.66 46 P **PP** **18 21 18.3 -0.7**
LAST Lasithi 106.04 45 P **PP** **18 21 19.0 -2.9**
LAST Lasithi 106.04 45 P **PP** **18 21 19.0 -2.9**
NPS Neapolis 106.07 45 P **PP** **18 21 20.6 -1.5**
BODT Bodrum 106.17 43 P **PP** **18 21 21.8 -0.9**
HIA Hailar 106.35 335 PFAKE 18 21 20.0
HIA LR LR
comp=Z,270µm,22.0s
CIT Chita 106.36 340 *e*P **Pdif** **18 17 03.5 +3.6**
QSPA South Pole Qui 106.40 180 Pdiff **Pdif** **18 17 01.1 +1.4**
comp=Z,3.4nm,1.0s,baz=119,slow=4.2,SNR=2.9
QSPA PP **PP** **18 21 24.7 +0.4**
comp=Z,4.7nm,0.9s,baz=93,slow=14,SNR=2.6
ZKR Zakros 106.57 45 P **PP** **18 21 25.9 +0.2**
YER Yerkesik 106.76 42 P **PP** **18 21 26.4 -0.7**
KARP Karpathos 106.95 44 P **PP** **18 21 27.2 -1.3**
ANN Anapa 106.97 31*c i*P **Pdif** **18 17 00.8 -1.8**
SBA Scott Base 107.02 193 PFAKE 18 21 20.0
SBA LR LR
comp=Z,133µm,21.0s
ARG Arkhangelos 107.20 43 P **PP** **18 21 32.1 +1.9**
SNAA Sanae 107.25 161 Pdiff **Pdif** **18 17 04.4 +1.1**
comp=Z,4.3nm,1.1s,baz=329,slow=14,SNR=1.5
SNAA PP **PP** **18 21 30.2 -0.3**
comp=Z,5.2nm,1.0s,baz=282,slow=16,SNR=3.2
ISP Isparta 107.75 40⇑ *i*P **Pdif** **18 17 04.1 -2.4**
ISP Isparta 107.75 40⇓ *i*P **PP** **18 21 33.0 -1.4**
ISP Isparta 107.75 40 ⇑P **Pdif** **18 17 04.1 -2.4**
ISP Isparta 107.75 40 PFAKE 18 21 30.0
ISP LR LR
comp=Z,152µm,21.0s
ISP Isparta 107.75 40 P **PP** **18 21 34.1 -0.3**
ANTO Ankara 107.82 37 PFAKE 18 21 30.0
ANTO LR LR
comp=Z,282µm,21.0s
CN2 Changchun 107.87 328 Pdif **Pdif** **18 17 11.4 +4.7**
CN2 *e*PP **PP** **18 21 42.3 +7.5**
CN2 *e*SS SS 18 36 50.8 +5.4
CN2 AMB AMB
comp=Z,16µm,12.0s
CN2 LR LR
comp=Z,11µm,22.0s
CN2 LR LR
comp=Z,38µm,22.0s
CN2 LR LR
comp=Z,85µm,23.0s
VNDA Vanda 108.09 193 PP PP 18 21 40.1 +3.8
comp=Z,2.3nm,0.3s,baz=83,slow=6.5,SNR=26
VNDA PKKP **PKKPdf** **18 32 42.7 +0.1**
comp=Z,7.2nm,1.2s,baz=278,slow=5.0,SNR=4.3
VNDA Vanda 108.09 193 *e*P **Pdif** **18 17 07.3 +0.5**
VNDA 18 21 40.1
VNDA Vanda 108.09 193 *e*Pdif **Pdif** **18 17 07.3 +0.5**
VNDA PP **PP** **18 21 40.1 +3.8**
VNDA PKKP **PKKPdf** **18 32 42.7 +0.1**
BR101 Keskin Array S 108.41 37 *e*PKiKP **PKiKP** **18 21 13.3 -2.1**
BR101 *e*PP **PP** **18 21 36.9 -2.2**
BR101 *e*PKKPbc **PKKPbc** **18 32 29.8 +3.3**
BR101 *e*PKKPab **PKKPab** **18 32 40.5 -0.3**
BRTR Keskin Array B 108.41 37 PKiKP **PKiKP** **18 21 13.3 -2.1**
comp=Z,3.6nm,1.0s,baz=328,slow=5.2,SNR=3.2
BRTR PP **PP** **18 21 36.9 -2.2**
comp=Z,6.2nm,1.1s,baz=252,slow=1.7,SNR=3.8
BRTR PKKPbc **PKKPbc** **18 32 29.8 +3.3**
comp=Z,11nm,1.2s,baz=123,slow=4.3,SNR=6.0
BRTR PKKP **PKKPab** **18 32 40.5 -0.3**
comp=Z,6.3nm,1.1s,baz=150,slow=5.7,SNR=6.7
IRK Irkutsk 108.80 346 *e*P **Pdif** **18 17 11.8 +1.1**
IRK *e* 18 21 44.6
IRK pmax pmax
comp=Z,123nm,2.7s
SOC Sochi 108.98 31*c i*P **Pdif** **18 17 12.3 +0.7**
SOC *i* 18 21 42.3
SOC *e*PPP PPP 18 24 01.6
SOC *i* PS **PS** **18 31 10.9 +1.5**
SOC *e*SS SS 18 37 02.6 +2.3
SOC pmax pmax
comp=Z,7.0nm,0.4s
SOC MLR MLR
comp=Z,240µm,21.0s
TLY Talaya 109.47 346 Pdiff **Pdif** **18 17 15.2 +1.5**
comp=Z,1.3nm,0.5s,baz=17,slow=20,SNR=1.4
TLY Talaya 109.47 346*c i*P **Pdif** **18 17 10.6 -3.1**
TLY *e*PPP PPP 18 24 09.7
TLY *e*PS **PS** **18 31 17.4 +3.4**
TLY *e*SS SS 18 36 59.9 -6.3
TLY pmax pmax
comp=Z,32nm,2.5s
TLY Talaya 109.47 346 *e*Pdif **Pdif** **18 17 15.2 +1.5**
TLY LR LR
comp=Z,237µm,21.0s
ZAA1 Zalesovo Array 109.81 358 *e*Pdif **Pdif** **18 17 15.9 +0.8**
ZAA1 *e*PKiKP **PKiKP** **18 21 18.0 +0.6**
ZAA1 *e*PP **PP** **18 21 45.4 -2.9**
ZALV Zalesovo Beam 109.81 358 Pdiff **Pdif** **18 17 15.9 +0.8**
comp=Z,3.8nm,1.0s,baz=344,slow=1.1,SNR=3.8
ZALV PKiKP **PKiKP** **18 21 18.0 +0.6**
comp=Z,9.6nm,1.1s,baz=20,slow=4.6,SNR=4.8
ZALV PP **PP** **18 21 45.4 -2.9**
comp=Z,14nm,0.9s,baz=347,slow=3.4,SNR=7.0
BRVK Borovoye 110.07 7 PFAKE 18 21 30.0
BRVK LR LR
comp=Z,195µm,20.0s
BVAR Borovoye Array 110.11 7 Pdiff **Pdif** **18 17 15.9 -0.6**
comp=Z,1.9nm,1.1s,baz=77,slow=7.6,SNR=2.7
BVAR PP **PP** **18 21 50.5 0.0**
comp=Z,16nm,0.9s,baz=323,slow=1.0,SNR=4.6
BVAR PKKP **PKKPdf** **18 32 36.7 -0.2**
comp=Z,2.0nm,0.9s,baz=236,slow=1.6,SNR=4.0
KIV Kislovodsk 110.12 29 *i*P **Pdif** **18 17 16.4 -0.5**
KIV *i* 18 21 18.0
KIV *e* 18 21 50.6
KIV *e*PPP PPP 18 24 10.0
KIV *e* **SKSac** **18 27 56.0 +0.3**
KIV *e*PS **PS** **18 31 21.1 +0.1**
KIV *e*SS **SS** **18 37 16.2 +0.4**
KIV *e*SSS SSS 18 41 19.5
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,242µm,21.0s
KIV Kislovodsk 110.12 29 *e*Pdif **Pdif** **18 17 15.8 -1.1**
KIV *e*PP **PP** **18 21 52.3 +1.1**
KIV LR LR
comp=Z,252µm,21.0s
KVAR Kislovodsk Arr 110.12 29 Pdiff **Pdif** **18 17 16.0 -0.9**
comp=Z,2.1nm,0.4s,baz=243,slow=2.3,SNR=2.9
KVAR PP **PP** **18 21 51.0 -0.2**
comp=Z,12nm,1.1s,baz=293,slow=7.7,SNR=3.8
AKTO Aktyubinsk 110.21 16 Pdiff **Pdif** **18 17 16.5 -0.5**
comp=Z,1.4nm,0.6s,baz=320,slow=4.7,SNR=2.6
AKTO PP **PP** **18 21 49.3 -2.1**
comp=Z,20nm,1.1s,baz=1.3,slow=7.8,SNR=3.9
SNY Shenyang 110.25 328 Pdif **Pdif** **18 17 23.4 +6.1**
SNY PP **PP** **18 21 55.8 +3.8**
SNY AMB AMB
comp=Z,40µm,15.7s
SNY LR LR
comp=Z,74µm,17.1s
SNY LR LR
comp=Z,239µm,20.6s
KBZ Khabaz 110.39 29 PP PP 18 21 53.5 +0.5
comp=Z,13nm,1.0s,baz=326,slow=9.2,SNR=6.2
KBZ PKKPab **PKKPab** **18 32 32.6 +0.7**
comp=Z,7.9nm,0.9s,baz=167,slow=4.1,SNR=9.2
GUMO Guam 110.75 292 PP PP 18 21 56.6 -0.4
comp=Z,52nm,0.8s,baz=306,slow=19,SNR=2.4
GUMO Guam 110.75 292 *e*PP PP 18 21 56.6 -0.4
GUMO LR LR
comp=Z,141µm,22.0s
KSRS Korea Array 110.91 322 Pdiff **Pdif** **18 17 24.7 +4.4**
comp=Z,0.5nm,0.6s,baz=82,slow=21,SNR=2.8

KSRS PKiKP **PKiKP** **18 21 18.8 -1.1**
comp=Z,7.8nm,1.0s,baz=3.7,slow=1.7,SNR=6.9
KSRS PP **PP** **18 21 57.2 +0.2**
comp=Z,5.2nm,1.1s,baz=46,slow=7.0,SNR=2.9
KSRS PKKP **PKKPdf** **18 32 35.2 -0.1**
comp=Z,2.8nm,0.8s,baz=255,slow=4.4,SNR=5.3
KS15 Wonju Array Si 110.94 322 *e*Pdif **Pdif** **18 17 21.4 +0.9**
KS15 *e*PKiKP **PKiKP** **18 21 18.8 -1.2**
KS15 *e*PP **PP** **18 21 59.0 +1.8**
KSAR Wonju Array Be 110.94 322 P **Pdif** **18 17 24.7 +4.2**
KSAR *i* 18 21 18.8
KSAR 18 21 57.3
KSAR 18 32 35.2
KSAR Wonju Array Be 110.94 322 Pdif **Pdif** **18 17 24.7 +4.2**
KSAR PKiKP **PKiKP** **18 21 18.8 -1.2**
KSAR PP **PP** **18 21 57.2 0.0**
KSAR PKKP **PKKPdf** **18 32 35.2 0.0**
CSS Mathiatis 111.31 41 PFAKE 18 21 30.0
CSS LR LR
comp=Z,34μm,22.0s
ZEI Tsey 111.58 29 *i* PKiKP **PKiKP** **18 21 25.6 +4.2**
ZEI pmax pmax
comp=Z,23nm,1.6s
INCN Inchon 111.65 323 PFAKE 18 21 30.0
INCN LR LR
comp=Z,171μm,19.0s
JNU Nakatsue 111.86 317 PP PP 18 22 04.2 +0.1
comp=Z,7.8nm,1.0s,baz=127,slow=4.3,SNR=3.6
JNU Nakatsue 111.86 317 *e*PP PP 18 22 04.5 +0.3
SONA0 Songino Array 112.25 342 *e*Pdif **Pdif** **18 17 26.7 +0.4**
SONA0 *e*PKiKP **PKiKP** **18 21 22.3 0.0**
SONA0 *e*PP **PP** **18 22 04.4 -1.9**
SONA0 *e*PKKPbc **PKKPbc** **18 32 12.8 -1.5**
SONA0 *e*PKKPab **PKKPab** **18 32 23.1 -0.8**
SONM Songino Array 112.25 342 Pdiff **Pdif** **18 17 26.7 +0.4**
comp=Z,0.9nm,0.9s,baz=143,slow=5.2,SNR=2.1
SONM PKiKP **PKiKP** **18 21 22.3 0.0**
comp=Z,5.5nm,1.1s,baz=346,slow=0.8,SNR=4.8
SONM PP **PP** **18 22 04.4 -1.9**
comp=Z,10nm,1.1s,baz=104,slow=1.1,SNR=4.8
SONM PKKPbc **PKKPbc** **18 32 12.8 -1.5**
comp=Z,2.0nm,0.9s,baz=203,slow=2.5,SNR=3.9
SONM PKKPab **PKKPab** **18 32 23.1 -0.8**
comp=Z,3.6nm,1.0s,baz=190,slow=3.3,SNR=4.6
AKH Akhalkalaki 112.45 30 ⇑*i*P **Pdif** **18 17 39.7 +12**
AKH Akhalkalaki 112.45 30 ⇓*i*P **PP** **18 22 08.2 +0.1**
KURK Kurchatov 113.05 2 *e*PKiKP **PKiKP** **18 21 25.4 +1.8**
KURK *e*PKKPab **PKKPab** **18 32 18.6 -1.7**
KURK LR LR
comp=Z,670μm,22.0s
MAK Makhachkala 113.06 27 *e*P **Pdif** **18 17 28.6 -1.2**
MAK *i* 18 21 20.2
MAK *e* 18 22 10.1
MAK *e*PS **PS** **18 31 49.6 +1.8**
MAK *e*SS SS 18 38 03.5 +9.0
MAK *e*SSS SSS 18 42 06.8
MAK pmax pmax
comp=Z,68nm,1.1s
MAK pmax pmax
comp=Z,5μm,11.3s
MAK MLR MLR
comp=Z,336μm,22.0s
KURBB Kurchatov Arra 113.14 2 PKiKP **PKiKP** **18 21 25.4 +1.6**
comp=Z,14nm,1.2s,baz=2.6,slow=1.7,SNR=7.7
KURBB PP **PP** **18 22 12.0 -0.2**
comp=Z,26nm,1.0s,baz=353,slow=5.6,SNR=7.0
KURBB PKKPab **PKKPab** **18 32 18.6 -1.3**
comp=Z,6.7nm,1.2s,baz=188,slow=2.9,SNR=4.6
BRZS Berezniki 113.37 6 *i* PKiKP **PKiKP** **18 21 28.7 +4.4**
BRZS *i* PP **PP** **18 22 18.1 +4.2**
BRZS *i* PS **PS** **18 31 54.0 +3.6**
SEM Semipalatinsk 113.40 1 *i* Pdif **Pdif** **18 17 35.4 +3.9**
SEM *i* PKiKP **PKiKP** **18 21 29.4 +4.8**
SEM *i* PP **PP** **18 22 18.6 +4.3**
SEM *i* PS **PS** **18 31 52.8 +1.7**
SEM *i* SS SS 18 38 05.2 +6.4
DL2 Dalian 113.40 327 Pdif **Pdif** **18 17 47.8 +16**
DL2 PP **PP** **18 22 16.8 +2.1**
DL2 Dalian 113.40 327 SS SS 18 38 10.5 +11
MMAI Mount Meron Ar 113.88 42 PP PP 18 22 21.4 +2.8
comp=Z,11nm,1.1s,baz=230,slow=3.6,SNR=4.5
MMAI PKKPab **PKKPab** **18 32 13.7 -2.7**
comp=Z,5.6nm,0.9s,baz=93,slow=6.7,SNR=4.3
MMAI PKKP **PKKPdf** **18 32 28.9 -1.0**
comp=Z,15nm,1.1s,baz=131,slow=4.0,SNR=5.3
GNI Garni 114.03 30 PP **PP** **18 22 19.4 +0.1**
comp=Z,11nm,0.7s,baz=277,slow=3.7,SNR=3.2
GNI Garni 114.03 30 *e*PP **PP** **18 22 19.4 +0.1**
GNI LR LR
comp=Z,245μm,21.0s
AKT Akhty 114.36 27 *i* P **Pdif** **18 17 34.9 -0.9**
BJI Beijing 115.22 331 Pdif **Pdif** **18 17 38.5 -1.0**
BJI PKP **PKiKP** **18 21 24.3 -3.8**
BJI PP **PP** **18 22 28.6 +1.2**
BJI SS SS 18 38 26.4 +3.2
BJT Baijiatuau 115.24 331 PFAKE 18 21 40.0 +12
BJT LR LR
comp=Z,333μm,22.0s
ASF Jabal al Asfar 115.39 41 PKP **PKPdf** **18 21 27.9 -0.8**
comp=Z,2.3nm,0.8s,baz=305,slow=0.8,SNR=2.7
ASF PP **PP** **18 22 28.6 -0.6**
comp=Z,11nm,1.2s,baz=286,slow=7.6,SNR=5.5
ASF PKKPab **PKKPab** **18 32 10.0 +0.3**
comp=Z,4.0nm,1.0s,baz=71,slow=8.0,SNR=3.5
PMG Port Moresby 115.97 267 PFAKE 18 21 40.0 +10
PMG LR LR
comp=Z,133μm,19.0s
ZSN Zaisan 116.31 358 *i* Pdif **Pdif** **18 17 48.3 +4.1**
ZSN ⇓*i*PKP pPKPdf 18 21 34.9 -1.8
ZSN *i* PP **PP** **18 22 40.0 +5.4**
ZSN *i* PS **PKKPdf** **18 32 21.3 -4.0**
HHC Hu-ho-hao-te 116.56 335 *e*PKP **PKPdf** **18 21 35.8 +5.0**
HHC PP **PP** **18 22 43.0 +6.1**
HHC Hu-ho-hao-te 116.56 335 SS SS 18 38 47.3 +6.5
HHC Hu-ho-hao-te 116.56 335 *e*PKP **PKPdf** **18 21 33.4 +2.6**
HHC PP **PP** **18 22 42.8 +5.9**
HHC SKS **SKSdf** **18 28 44.5 +2.3**
HHC SKKS **SKKSac** **18 29 36.4 -1.9**
HHC SS **SS** **18 38 43.6 +2.8**
HHC AMB AMB
comp=Z,71μm,15.2s
HHC LR LR
comp=Z,173μm,23.0s
HHC LR LR
comp=Z,169μm,25.0s
MAKZ Makanchi 117.01 360 *e*PKIKP **PKPdf** **18 21 29.1 -2.3**
MAKZ *e* 18 22 40.5
MAKZ Makanchi 117.01 360 *e*PKPdf **PKPdf** **18 21 29.1 -2.3**
MAKZ *e*PP **PP** **18 22 40.5 +0.9**
MK32 Makanchi Array 117.03 359 *e*PKPdf **PKPdf** **18 21 29.3 -2.1**
MK32 *e*PKKPbc **PKKPab** **18 32 03.0 +0.2**
MKAR Makanchi Array 117.03 359 PKP **PKPdf** **18 21 29.3 -2.1**
comp=Z,2.1nm,0.6s,baz=340,slow=1.9,SNR=7.9
MKAR PKKPab **PKKPab** **18 32 03.0 +0.2**
comp=Z,2.4nm,0.9s,baz=178,slow=2.9,SNR=6.7
CAN Canberra 117.65 238 PFAKE 18 21 40.0 +7.1
CAN LR LR
comp=Z,91μm,20.0s
TIA Tai'an 117.78 328 PKP **PKPdf** **18 21 37.3 +4.2**
TIA PP **PP** **18 22 48.6 +3.2**
TIA AMB AMB
comp=Z,44μm,15.0s
TIA LR LR
comp=Z,97μm,20.8s
TIA LR LR
comp=Z,71μm,22.7s
BTLS Baital 118.39 6 *i* Pdif **Pdif** **18 17 57.6 +4.1**
BTLS *i* PKP **pPKPdf** **18 21 39.2 -1.6**
BTLS *i* PP **PP** **18 22 54.9 +5.7**
BTLS *i* SKS **SKSdf** **18 28 51.2 +5.9**
BTLS *i* PS **PS** **18 32 40.2 +4.0**
BTLS LR LR 19 14 39.3
comp=Z,68μm,22.8s
TDK Taldyqorghan 118.75 3 *i* Pdif **Pdif** **18 17 59.3 +4.2**
TDK *i* PKP **pPKPdf** **18 21 39.6 -1.9**
TDK *i* PP **PP** **18 22 56.3 +4.7**
TDK *i* PS **PS** **18 32 43.7 +4.2**
TDK *i* SS SS 18 39 15.9 +7.5
TAU Tasmania Unive 118.78 230 PFAKE 18 21 50.0 +15
TAU LR LR
comp=Z,78μm,21.0s
TIY Taiyuan 118.81 332 *e*Pdif **Pdif** **18 18 04.6 +9.0**
TIY PKPbc **sPKPdf** **18 21 42.8 -1.3**
TIY PP **PP** **18 22 59.5 +6.9**
TIY Taiyuan 118.81 332 SS SS 18 39 16.0 +5.9
CTAO Charters Tower 118.86 256 PFAKE 18 21 50.0 +14
CTAO LR LR
comp=Z,185μm,21.0s
TSUM Tsumeb 119.27 103 PKP **PKPdf** **18 21 34.5 -2.0**
comp=Z,1.9nm,0.8s,baz=166,slow=4.2,SNR=2.7
TSUM PP **PP** **18 22 58.5 +0.9**
comp=Z,9.7nm,1.0s,baz=277,slow=12,SNR=2.1
TSUM Tsumeb 119.27 103 *e*PKPdf **PKPdf** **18 21 34.5 -2.0**
TSUM *e*PP **PP** **18 22 58.5 +0.9**
TSUM LR LR
comp=Z,132μm,22.0s
SSE Sheshan 119.32 321 PKP **PKPdf** **18 21 36.8 +0.6**
SSE PP **PP** **18 22 59.4 +3.0**
SSE SS SS 18 39 20.3 +3.0
SSE AMB AMB
comp=Z,5μm,10.3s
KUU Kurty 119.73 4 *i* Pdif **Pdif** **18 18 02.6 +3.1**
KUU *i* PKP **pPKPdf** **18 21 40.5 -2.9**
KUU *i* SKS **SKSdf** **18 28 52.7 +4.7**
KUU *i* PS **PS** **18 32 51.1 +2.8**
KUU LR LR 19 15 18.1
comp=Z,59μm,21.4s
WMQ Urumqi 119.75 355 P **PKPdf** **18 21 42.3 +5.5**
WMQ Urumqi 119.75 355 PKP **PKPdf** **18 21 36.3 -0.5**
WMQ PP **PP** **18 23 04.8 +6.3**
WMQ SKS **SKSdf** **18 28 47.1 -1.0**
WMQ SS **SS** **18 39 23.8 +2.5**
WMQ AMB AMB
comp=Z,102μm,11.8s
WMQ LR LR
comp=Z,87μm,21.7s
WMQ LR LR
comp=Z,110μm,25.5s
BRLS Borolday 119.81 10 *i* Pdif **Pdif** **18 18 04.7 +4.8**
BRLS *i* PKP **pPKPdf** **18 21 42.3 -1.3**
BRLS *i* PP **PP** **18 23 04.3 +5.4**
BRLS *i* SKS **SKSdf** **18 28 54.3 +6.1**
BRLS *i* PS **PS** **18 32 54.8 +5.8**
NJ2 Nanjing 120.00 324 *e*PKP **PKPdf** **18 21 40.8 +3.3**
NJ2 PP **PP** **18 23 03.9 +3.0**
NJ2 SKS **SKSdf** **18 28 49.4 +0.5**
NJ2 SS **SKKSdf** **18 39 31.9 +2.9**
NJ2 AMB AMB
comp=Z,21μm,11.4s
NJ2 LR LR
comp=Z,129μm,19.0s
NJ2 LR LR
comp=Z,151μm,21.1s
DZA Taraz 120.17 9 *e*Pdif **Pdif** **18 18 04.4 +2.9**
DZA *e*PKP **pPKPdf** **18 21 42.0 -2.2**
DZA *i* PP **PP** **18 23 05.2 +3.7**
DZA LR LR 19 16 21.1
comp=Z,56μm,18.3s
KPKS Kokpek 120.30 2 *i* Pdif **Pdif** **18 18 05.7 +3.5**
KPKS *i* PKP **pPKPdf** **18 21 42.1 -2.5**
KPKS *i* PS **PS** **18 32 57.1 +3.6**
AAA Alma-Ata 120.46 4 *e*PKIKP **PKPdf** **18 21 42.5 +4.3**
AAA pmax pmax
comp=Z,2μm,6.2s
AAA Alma-Ata 120.46 4 *e*Pdif **Pdif** **18 18 06.2 +3.4**
AAA *e*PKP **pPKPdf** **18 21 42.2 -2.6**
AAA *i* PS **PS** **18 32 58.1 +3.3**
AAA *i* PS **PS** **18 32 58.1 +3.3**
AAA LR LR 19 16 22.6
comp=Z,43μm,17.6s
CHM Chimkent 120.46 10 *i* Pdif **Pdif** **18 18 06.3 +3.5**
CHM *i* PKP **pPKPdf** **18 21 42.6 -2.2**
CHM *i* PS **PS** **18 32 57.4 +2.5**
CHM LR LR 19 18 07.4
comp=Z,81μm,18.3s
BMNS Besmoynak 120.46 5 *i* Pdif **Pdif** **18 18 08.0 +5.0**
BMNS *i* PKP **pPKPdf** **18 21 44.1 -0.9**
BMNS *i* PP **PP** **18 23 10.2 +6.7**
BMNS *i* PS **PS** **18 32 59.8 +4.7**
BMNS LR LR 19 16 08.9
comp=Z,49μm,17.6s
MDOK Medeo 120.51 4 *i* Pdif **Pdif** **18 18 05.2 +2.1**
MDOK *i* PKP **PKiKP** **18 21 41.5 +3.0**
MDOK *i* PP **PP** **18 23 06.5 +2.6**
MDOK *i* PPP PPP 18 25 40.4
MDOK *i* PS **PS** **18 32 57.2 +1.7**
MDOK *i* SS SS 18 39 36.0 +4.6
MDOK LR LR 19 13 52.7
comp=Z,118μm,19.1s
UZB Uzynbulak 120.63 2 *i* Pdif **Pdif** **18 18 07.2 +3.5**
UZB *i* PKP **pPKPdf** **18 21 43.0 -2.3**
UZB *i* PS **PS** **18 32 59.9 +3.4**
UZB *i* SS SS 18 39 39.3 +6.4
FRU Bishkek 120.64 6 *e*PKIKP **PKPdf** **18 21 39.0 +0.5**
FRU *i* PPP PPP 18 25 43.0
FRU *i* PS **PS** **18 32 55.0 -1.4**
FRU pmax pmax
comp=Z,1μm,4.0s
FRU MLR MLR
comp=Z,330μm,20.0s
SATY Saty 120.69 3 *e*Pdif **Pdif** **18 18 07.5 +3.5**
SATY *e*PKP **pPKPdf** **18 21 42.9 -2.5**
SATY *i* PP **PP** **18 23 09.9 +4.8**
IUG Iuzhnay 120.70 10 *i* Pdif **Pdif** **18 18 07.9 +3.9**
IUG *i* PKP **pPKPdf** **18 21 43.7 -1.7**
IUG *i* PS **PS** **18 33 00.5 +3.4**
IUG LR LR 19 15 42.5
comp=Z,51μm,17.6s
AAK Ala-Archa 120.82 6 PKP **PKPdf** **18 21 37.9 -1.2**
comp=Z,3.8nm,0.9s,baz=157,slow=2.5,SNR=5.3
AAK PP **PP** **18 23 08.7 +2.7**
comp=Z,13nm,1.1s,baz=340,slow=8.0,SNR=4.0
AAK Ala-Archa 120.82 6 *e*PKIKP **PKPdf** **18 21 37.5 -1.5**
AAK *e* 18 23 08.7
AAK Ala-Archa 120.82 6 *e*PKPdf **PKPdf** **18 21 37.5 -1.5**
AAK *e*PKPdf **PKPdf** **18 21 37.9 -1.2**
AAK *e*PP **PP** **18 23 01.6 -4.4**
AAK *e*PP PP 18 23 08.7 +2.7
AAK LR LR
comp=Z,370μm,22.0s
AAK Ala-Archa 120.82 6 pPKiKP **PKPdf** **18 21 44.2 +5.1**
SNR=8.4
AAK Ala-Archa 120.82 6 P **PKPdf** **18 21 44.2 +5.1**
SNR=8.4
AAK Ala-Archa 120.82 6 *i* P **PKPdf** **18 21 37.1 -1.9**
SNR=6.2
SYO Syowa Base 121.31 164 ⇓*e*X **Pdif** **18 18 00.0 -5.7**
SYO Syowa Base 121.31 164 ⇓*e*PKPdf **PKPdf** **18 21 40.0 +1.2**
GEYT Alibeck 121.55 22 PKP **PKPdf** **18 21 39.4 -1.1**
comp=Z,9.1nm,0.7s,baz=298,slow=3.2,SNR=21
GEYT PP **PP** **18 23 11.2 +0.1**
comp=Z,16nm,1.1s,baz=318,slow=4.1,SNR=3.6
GEYT PKKPbc **PKKPbc** **18 31 40.6 -0.5**
comp=Z,0.9nm,0.6s,baz=228,slow=1.8,SNR=3.6
GTA Gaotai 121.87 343 *e*PKP **PKPdf** **18 21 39.8 -1.3**
GTA PP **PP** **18 23 15.4 +2.1**
GTA SKKS 18 30 07.0
GTA SS **SS** **18 39 48.0 -1.0**
GTA AMB AMB
comp=Z,13μm,8.8s
GTA LR LR
comp=Z,170μm,22.3s
GTA LR LR
comp=Z,201μm,21.4s
TARG Taragay, Kyrgy 121.98 3 *e*PKPdf **PKPdf** **18 21 40.7 -0.9**
TARG *e*PP PP 18 23 05.7 -8.6
SUR Sutherland 123.09 118 PKP **PKPdf** **18 21 42.6 -1.1**
comp=Z,1.1nm,0.8s,baz=229,slow=2.5,SNR=7.3
SUR PP **PP** **18 23 24.8 +1.4**
comp=Z,1.6nm,1.0s,baz=280,slow=11,SNR=3.7
SUR Sutherland 123.09 118 *e*PKPdf **PKPdf** **18 21 42.0 -1.7**
SUR *e*PP **PP** **18 23 19.8 -3.7**
SUR PP PP 18 23 24.8 +1.4
SUR LR LR
comp=Z,292μm,20.0s
TATO Taipei 123.38 316 PFAKE 18 22 00.0 +16
TATO LR LR
comp=Z,99μm,19.0s
XAN Xi'an 123.44 333 PKP **PKPdf** **18 21 42.6 -1.6**
XAN SKS **SKSdf** **18 28 52.4 -3.1**
XAN SKKS **SKKSac** **18 30 18.8 -4.7**
XAN SS **SS** **18 40 09.6 +0.3**
XAN AMB AMB
comp=Z,69μm,15.2s
XAN LR LR
comp=Z,194μm,24.0s
XAN LR LR
comp=Z,213μm,27.5s
WHN Wuhan 123.64 326 PKP **PKPdf** **18 21 44.8 +0.3**
WHN PP **PP** **18 23 31.4 +5.8**
WHN SS SS 18 40 14.8 +2.7
WHN LR LR
comp=Z,83μm,13.1s
WHN LR LR
comp=Z,225μm,18.0s
WHN LR LR
comp=Z,373μm,21.2s
YHNB Yeheng 123.66 316 PFAKE 18 22 00.0 +15
YHNB LR LR
comp=Z,128μm,19.0s
LZH Lanzhou 123.66 338 Pdif **Pdif** **18 18 18.5 +1.2**
LZH PKP **PKPdf** **18 21 44.3 -0.4**
LZH sPKP 18 21 53.0
LZH PP **PP** **18 23 30.0 +4.4**
LZH SS SS 18 40 12.0 0.0
LZH AMB AMB
comp=Z,69μm,10.0s
LZH LR LR
comp=Z,170μm,18.2s
LZH LR LR
comp=Z,277μm,20.3s
STKA Stephens Creek 123.83 242 PKP **PKPdf** **18 21 43.5 -1.3**
comp=Z,16nm,1.0s,baz=59,slow=3.3,SNR=6.2
STKA PP **PP** **18 23 28.9 +0.8**
comp=Z,13nm,0.9s,baz=169,slow=10,SNR=1.5
KSH Kashi 124.05 5 PKP **PKPdf** **18 21 52.1 +6.8**
KSH sPKP 18 22 00.9
KSH PP PP 18 23 38.0 +10
KSH SKS **SKSdf** **18 28 57.6 +1.0**
KSH SKKS **SKKSac** **18 30 25.8 -1.5**
KSH AMB AMB
comp=Z,60μm,11.3s
KSH LR LR
comp=Z,18μm,11.6s
KSH LR LR
comp=Z,21μm,12.3s
KSH LR LR
comp=Z,25μm,12.1s
SSLB Suanglung 124.53 315 *e*PKPdf **PKPdf** **18 21 45.5 -1.0**
SSLB *e*PP **PP** **18 23 31.6 -0.5**
QZH Quanzhou 125.29 318 ⇓*i*PKP **PKPdf** **18 21 52.0 +4.2**
QZH LR LR
comp=Z,85μm,18.6s
QZH LR LR
comp=Z,104μm,20.1s
ENH Enshi 126.33 330 PFAKE 18 22 00.0 +10
ENH LR LR
comp=Z,133μm,19.0s
CASY Casey 126.69 194 PFAKE 18 22 00.0 +11
CASY LR LR
comp=Z,18μm,22.0s
ITZ Itezhi-Tezhi 126.71 98 *i* P **PKPdf** **18 21 55.0 +4.2**
BOSA Boshof 126.97 114 *i* P **PKPdf** **18 21 52.3 +1.2**
BOSA Boshof 126.97 114 *i* P PKPpre 18 21 42.5
BOSA Boshof 126.97 114 PKP **PKPdf** **18 21 50.1 -1.0**
comp=Z,16nm,0.9s,baz=290,slow=3.4,SNR=13
BOSA PP **PP** **18 23 49.9 +0.5**
comp=Z,19nm,1.1s,baz=251,slow=7.1,SNR=1.4
BOSA Boshof 126.97 114 *e*PKIKP **PKPdf** **18 21 48.9 -2.2**
BOSA *e* 18 23 46.2
BOSA Boshof 126.97 114 *e*PKPdf **PKPdf** **18 21 48.9 -2.2**
BOSA *e*PKPdf **PKPdf** **18 21 50.1 -1.0**
BOSA *e*PP **PP** **18 23 46.2 -3.2**
BOSA Boshof 126.97 114 *i* P9 18 21 42.5
LBTB Lobatse 127.22 109 *e*PKIKP **PKPdf** **18 21 50.2 -1.4**
LBTB *e* 18 23 47.4
LBTB Lobatse 127.22 109 *e*PKPdf **PKPdf** **18 21 50.2 -1.4**
LBTB *e*PP **PP** **18 23 47.4 -3.7**
MBAR Mbarara 127.45 78 PKP **PKPdf** **18 21 51.3 -1.2**
comp=Z,3.9nm,0.7s,baz=28,slow=0.4,SNR=6.3
MBAR PP **PP** **18 23 52.8 0.0**
comp=Z,14nm,1.1s,baz=303,slow=10,SNR=6.0
MBAR Mbarara 127.45 78 *e*PKIKP **PKPdf** **18 21 50.3 -2.2**
MBAR 18 23 52.8
MBAR Mbarara 127.45 78 *e*PKPdf **PKPdf** **18 21 50.3 -2.2**
MBAR *e*PP **PP** **18 23 45.3 -7.5**
MBAR PP PP 18 23 52.8 0.0
MBAR LR LR
comp=Z,938nm,21.0s
MAW Mawson 127.48 171 PKP **PKPdf** **18 21 49.4 -1.3**
comp=Z,16nm,1.0s,baz=180,slow=6.1,SNR=3.0
MAW Mawson 127.48 171 *e*PKIKP **PKPdf** **18 21 49.1 -1.5**
MAW *e* 18 23 53.7
MAW Mawson 127.48 171 *e*PKPdf **PKPdf** **18 21 49.1 -1.5**
MAW *e*PP **PP** **18 23 53.7 +3.0**
KBL Kabul 127.88 13 *e*PKPpre PKPpre 18 21 41.2
KBL *e*PKPdf **PKPdf** **18 21 50.6 -2.3**
KBL *e*PP **PP** **18 23 52.9 -0.6**
CD2 Chengdu 128.31 336 PKP **PKPdf** **18 21 52.5 -1.1**
CD2 sPKP 18 22 00.8
CD2 SKS **SKSdf** **18 29 03.3 -1.4**
CD2 SKKS **SKKSac** **18 30 50.5 -3.9**
CD2 SS **SS** **18 41 09.3 -0.9**
CD2 AMB AMB
comp=Z,115μm,11.8s
CD2 LR LR
comp=Z,222μm,19.6s
CD2 LR LR
comp=Z,267μm,19.6s
CD2 LR LR
comp=Z,213μm,16.7s
LSZ Lusaka 128.71 97 PKP **PKPdf** **18 21 53.0 -1.7**
comp=Z,8.6nm,0.9s,baz=274,slow=2.4,SNR=9.0
LSZ PP **PP** **18 24 00.9 -0.3**
comp=Z,7.6nm,1.0s,baz=286,slow=6.0,SNR=1.5
LSZ Lusaka 128.71 97 *e*PKIKP **PKPdf** **18 21 52.8 -1.9**
LSZ *e* 18 23 58.7
LSZ MLR MLR
comp=Z,132μm,20.0s
LSZ Lusaka 128.71 97 *e*PKPdf **PKPdf** **18 21 52.8 -1.9**
LSZ *e* 18 23 58.3
LSZ *e*PP **PP** **18 23 58.7 -2.4**
LSZ LR LR
comp=Z,132μm,20.0s
LSZ Lusaka 128.71 97 pPKiKP **PKPdf** **18 22 01.2 +6.5**
SNR=13
LSZ Lusaka 128.71 97 P **PKPdf** **18 22 01.2 +6.5**
SNR=13
GZH Guangzhou 129.92 321 PKP **PKPdf** **18 22 02.4 +5.7**
GZH PP **PP** **18 24 14.6 +7.2**
GZH SS SS 18 41 27.5 -3.4
GZH LR LR
comp=Z,72μm,20.6s
WRAB Tennant Creek 129.96 258 *e*PKIKP **PKPdf** **18 21 54.9 -2.0**
WRAB *e* 18 24 10.1
WRAB MLR MLR
comp=Z,120μm,20.0s
WRAB Tennant Creek 129.96 258 *e*PKPdf **PKPdf** **18 21 54.9 -2.0**
WRAB *e*PP **PP** **18 24 10.1 +0.9**
WRAB LR LR
comp=Z,120μm,20.0s
WR1 Warramunga Arr 129.97 258 *e*PKPdf **PKPdf** **18 21 55.8 -1.1**
WR1 *e*PP **PP** **18 24 09.4 +0.2**
WRA Warramunga Arr 129.97 258 PKP **PKPdf** **18 21 55.8 -1.1**
comp=Z,16nm,0.9s,baz=80,slow=2.1,SNR=21
WRA PP **PP** **18 24 09.4 +0.2**
comp=Z,8.7nm,0.9s,baz=50,slow=1.3,SNR=2.2
HKC Hong Kong Obse 129.99 319 ⇑P **PP** **18 24 11.0 +3.0**
DESE Dese 130.23 59 *e*P **Pdif** **18 18 56.0 +8.9**
DESE *i* S **SKiKP** **18 25 34.7 +0.8**
DESE Dese 130.23 59 *e*P **Pdif** **18 18 54.0 +6.9**
DESE *i* S **PP** **18 24 09.7 -1.0**
DESE Dese 130.23 59 *e*P **Pdif** **18 18 56.0 +8.9**
DESE *i* S **PP** **18 24 07.7 -2.9**
DESE Dese 130.23 59 *e*P9 **Pdif** **18 18 56.0 +8.9**
MCO Taipa Grande 130.51 320 P PKPdf 18 22 14.0 +16
FURI Furi 130.59 62 *i* P **PKPdf** **18 22 04.3 +5.6**
AAE Adis Abeba 130.59 62 *e*P **Pdif** **18 18 53.8 +5.1**
AAE *e*S **PP** **18 24 09.8 -3.4**
AAE Adis Abeba 130.59 62 *e*P **Pdif** **18 18 53.8 +5.1**
AAE *e*S **PP** **18 24 09.8 -3.4**
AAE Adis Abeba 130.59 62 *e*P **Pdif** **18 18 53.8 +5.1**
AAE *e*S **PP** **18 24 07.8 -5.4**
AAE Adis Abeba 130.59 62 *e*P9 **Pdif** **18 18 53.8 +5.1**
AAE *e*S9 **PP** **18 24 09.8 -3.4**
AS31 Alice Springs 130.60 253 *e*PKPpre PKPpre 18 21 45.4
AS31 *e*PKPdf **PKPdf** **18 21 57.1 -0.9**
AS31 *e*PP **PP** **18 24 11.6 -1.7**
ASAR Alice Springs 130.60 253 PKhKP PKPpre 18 21 46.1
comp=Z,2.1nm,0.8s,baz=90,slow=3.8,SNR=6.0
ASAR PKP **PKPdf** **18 21 57.0 -1.0**
comp=Z,14nm,1.0s,baz=89,slow=1.6,SNR=9.0

DAV Davao City (W) 130.63 295 PFAKE 18 22 10.0 +12
DAV LR LR
comp=Z,76μm,22.0s
TGY Tagaytay City 130.70 306 PKP PKPdf 18 21 57.4 -1.1
comp=Z,52nm,0.3s,baz=140,slow=7.9,SNR=2.0
RCP Roxas 130.71 302⇓ eP PKPdf 18 22 03.3 +4.9
GYA Guiyang 130.88 330 Pdif Pdif 18 18 48.9 -0.7
GYA PKP PKiKP 18 21 59.3 -0.2
GYA PP PP 18 24 16.3 +2.8
GYA PKS PKSdf 18 25 33.0 -2.4
GYA SKKS 18 31 06.8
GYA SS SS 18 41 42.0 -0.3
GYA LR LR
comp=Z,63μm,21.0s
GYA LR LR
comp=Z,183μm,19.9s
SHME Shamm 131.00 31 iP PKPdf 18 21 59.8 +1.0
SNR=12
ANKE Ethiopia-Afar 131.12 61 eP Pdif 18 18 57.5 +6.3
ANKE iS PP 18 24 20.5 +3.9
ANKE Ethiopia-Afar 131.12 61 eP Pdif 18 18 57.5 +6.3
ANKE iS PP 18 24 20.5 +3.9
ANKE Ethiopia-Afar 131.12 61 eP Pdif 18 18 57.5 +6.3
ANKE iS PP 18 24 20.5 +3.9
ANKE Ethiopia-Afar 131.12 61 eP9 Pdif 18 18 57.5 +6.3
ANKE iS9 PP 18 24 20.5 +3.9
BANOM Banah 131.18 31 iP PKPdf 18 21 57.9 -1.3
SNR=9.2
DHRM DHARAMSHALA 131.29 6 eP PKPdf 18 21 57.2 -2.2
MSFE Esma-Masafi 131.58 31 iP PKPdf 18 21 58.8 -1.1
SNR=12
AJN Ajban 131.63 33 iP PKPdf 18 22 00.2 +0.2
SNR=5.6
NAZ Nazwa, Dubai 131.63 32 pPKiKP PKPdf 18 22 07.0 +7.0
SNR=8.1
NAZ Nazwa, Dubai 131.63 32 P PKPdf 18 22 07.0 +7.0
SNR=8.1
NAZ Nazwa, Dubai 131.63 32 iP PKPdf 18 21 56.9 -3.1
SNR=7.6
MDH Madha 131.70 31 iP PKPdf 18 21 59.4 -0.7
SNR=9.3
UOSS Minazif 131.94 32 ePKPdf PKPdf 18 21 57.3 -3.2
UOSS Minazif 131.94 32 iP PKPdf 18 21 59.6 -0.9
SNR=8.9
HATD Hatta, Dubai 132.01 32 pPKiKP PKPdf 18 22 08.0 +7.3
SNR=11
HATD Hatta, Dubai 132.01 32 P PKPdf 18 22 08.0 +7.3
SNR=11
HATD Hatta, Dubai 132.01 32 iP PKPdf 18 21 59.3 -1.4
SNR=5.9
MTN Manton Dam 132.06 267 ePKPdf PKPdf 18 21 59.1 -1.9
MTN ePP PP 18 24 23.1 +0.3
ASHO Ashiyiah 132.09 32 pPKiKP PKPdf 18 22 07.2 +6.3
SNR=8.9
ASHO Ashiyiah 132.09 32 P PKPdf 18 22 07.2 +6.3
SNR=8.9
ASHO Ashiyiah 132.09 32 iP PKPdf 18 21 59.0 -1.8
SNR=8.9
ALNE Al Ain 132.45 33 iP PKPdf 18 22 00.6 -0.9
SNR=8.2
SMLA Simla 132.48 5 eP PKPdf 18 22 00.0 -1.4
ATD Arta Tunnel 132.61 57 PKP PKPdf 18 22 01.1 -1.0
comp=Z,5.2nm,0.6s,baz=270,slow=20,SNR=2.6
ATD PP PP 18 24 26.0 +0.4
comp=Z,2.7nm,0.3s,baz=276,slow=4.2,SNR=1.7
SOHO SOHO 132.78 32 iP PKPdf 18 22 01.3 -0.9
SNR=17
LSA Lhasa 133.19 349 PKP PKPdf 18 22 01.3 -2.1
LSA PP PP 18 24 30.3 +2.0
LSA PKS PKSdf 18 25 34.0 -6.3
LSA AMB AMB
comp=Z,97μm,17.7s
LSA LR LR
comp=Z,45μm,40.8s
LSA LR LR
comp=Z,76μm,30.6s
LSA LR LR
comp=Z,174μm,27.2s
LSA Lhasa 133.19 349 ePKIKP PKPdf 18 22 00.3 -3.1
LSA e 18 24 29.3
LSA MLR MLR
comp=Z,148μm,21.0s
LSA Lhasa 133.19 349 ePKPdf PKPdf 18 22 00.2 -3.1
LSA ePP PP 18 24 29.2 +1.0
LSA LR LR
comp=Z,148μm,21.0s
DDI Dehra Dun 133.35 4 eP PKPdf 18 22 00.9 -2.2
KMBO Kilima Mbogo 133.72 75 PKhKP PKPpre 18 21 56.8
comp=Z,0.6nm,0.3s,baz=280,slow=6.1,SNR=2.9
KMBO PKP PKPdf 18 22 04.0 -0.5
comp=Z,2.8nm,0.7s,baz=338,slow=3.3,SNR=9.6
KMBO PP PP 18 24 34.3 +0.8
comp=Z,1.6nm,0.9s,baz=279,slow=7.1,SNR=3.3
KMBO Kilima Mbogo 133.72 75 ePKPpre PKPpre 18 22 00.7
KMBO ePKPdf PKPdf 18 22 01.1 -3.4
KMBO ePP PP 18 24 32.5 -1.1
KMBO e 18 24 33.2
KMBO LR LR
comp=Z,480μm,20.0s
KMBO Kilima Mbogo 133.72 75 PKiKP PKiKP 18 22 06.1 +0.4
SNR=30
KMBO Kilima Mbogo 133.72 75 P PKiKP 18 22 06.1 +0.4
SNR=30
KMBO Kilima Mbogo 133.72 75 iP PKPdf 18 22 05.3 +0.9
SNR=34
KMI Kunming 133.82 333 PKP PKPdf 18 22 05.4 +1.0
KMI sPKP 18 22 13.3
KMI PP PP 18 24 39.0 +6.6
KMI PKS PKSdf 18 25 39.0 -2.1
KMI SKKS 18 31 28.0
KMI SS SS 18 42 14.8 -3.4
KMI AMB AMB
comp=Z,55μm,17.9s
KMI LR LR
comp=Z,80μm,28.9s
KMI LR LR
comp=Z,128μm,23.5s
BIDO Bidbid 134.09 31 pPKiKP PKPdf 18 22 12.0 +7.4
SNR=12
BIDO Bidbid 134.09 31 P PKPdf 18 22 12.0 +7.4
SNR=12
WSAR Wadi Sarin 134.57 30 PKP PKPdf 18 22 05.0 -0.6
comp=Z,8.4nm,0.7s,baz=313,slow=5.2,SNR=6.5
WSAR PP PP 18 24 38.2 +1.1
comp=Z,14nm,1.1s,baz=285,slow=4.7,SNR=1.9
QIZ Qiongzhong 135.11 321 PKP PKPdf 18 22 12.5 +5.9
QIZ PP PP 18 24 40.3 -0.5
QIZ LR LR
comp=Z,63μm,20.6s
QIZ LR LR
comp=Z,109μm,16.7s
QIZ Qiongzhong 135.11 321 PFAKE 18 22 20.0 +13
QIZ LR LR
comp=Z,106μm,19.0s
PYUN Piuthan 135.67 358 eP PKPpre 18 21 52.7
GUN Gumba 135.69 355 eP PKPpre 18 21 52.7
comp=Z,17nm,0.8s
KKN Kakani 135.86 355 eP PKPpre 18 21 51.5
comp=Z,46nm,0.8s
JIRN Jiri 135.91 354 eP PKPpre 18 21 52.7
KOLN Koldanda 135.98 357 eP PKPpre 18 21 53.0
TAPN Taplejung 136.04 352 eP PKPpre 18 21 52.7
comp=Z,14nm,0.7s
DMN Daman 136.05 356 eP PKPpre 18 21 51.8
PKIN Phulchoki 136.06 355 eP PKPpre 18 21 52.5
PKI Pulchoki 136.06 355 eP PKPpre 18 21 52.6
comp=Z,53nm,1.4s
ODAN Odare 136.56 353 eP PKPpre 18 21 54.6
RAMN Ramite 136.57 354 eP PKPpre 18 21 53.1
comp=Z,17nm,0.7s
SHL Shillong 137.04 346 eP PKPdf 18 22 08.3 -2.0
SHAO Shalim 137.21 38 P PKPdf 18 22 10.0 -0.6
MYLDM Lahad Datu 137.66 297 ePKPdf PKPdf 18 22 09.6 -1.9
FITZ Fitzroy Crossi 138.02 261 PKhKP PKPpre 18 22 06.3
comp=Z,4.9nm,0.8s,baz=270,slow=19,SNR=4.5
FITZ PP PP 18 25 00.3 -0.1
comp=Z,6.5nm,0.9s,baz=113,slow=18,SNR=1.8
BATI Baumata 138.69 273 PKhKP PKPpre 18 22 07.8
comp=Z,7.9nm,0.3s,baz=209,slow=13,SNR=9.9
BHJ Bhuj 138.82 17 eP PKPdf 18 22 11.6 -1.8
KKM Kota Kinabalu 139.12 300 PFAKE 18 22 30.0 +16
KKM LR LR
comp=Z,76μm,21.0s
BOK Bokaro 139.76 354 eP PKPdf 18 22 11.3 -3.8
BOK IAMs_20 IAMs_20 19 23 30.9
comp=Z,159μm,38.6s
CMAI Chiengmai2 139.98 334 P PKPdf 18 22 13.7 -2.1
comp=Z,6μm,1.2s,comp=Z,207μm
CMAI Chiengmai2 139.98 334 P PKPdf 18 22 13.7 -2.1
comp=Z,6μm,1.2s
BHPL Bhopal 140.31 6 eP PKPdf 18 22 12.6 -3.6
KAPI Kappang 140.94 283 PFAKE 18 22 30.0 +13
KAPI LR LR
comp=Z,49μm,22.0s
KAPI Kappang 140.94 283 pPKiKP PKPdf 18 22 31.1 +14
SNR=5.5
KAPI Kappang 140.94 283 P PKPdf 18 22 31.1 +14
SNR=5.5
LAMP Lampang 140.97 332 P PKPdf 18 22 16.0 -1.4
comp=Z,14nm,1.4s,comp=Z,234nm
LAMP Lampang 140.97 332 P PKPdf 18 22 16.0 -1.4
CMMT Chiang Mai 141.01 333 P PKPdf 18 22 15.0 -2.5
comp=Z,360nm,3.5s,comp=Z,19μm
CMMT Chiang Mai 141.01 333 P PKPdf 18 22 15.0 -2.5
comp=Z,360nm,3.5s
CHTO Chiang Mai 141.02 333 P PKPdf 18 22 16.1 -1.4
comp=Z,819nm,1.1s,comp=Z,85μm
CHTO Chiang Mai 141.02 333 ePKHKP PKPpre 18 22 09.7
CHTO e 18 22 15.7
CHTO MLR MLR
comp=Z,130μm,20.0s
CHTO Chiang Mai 141.02 333 ePKPpre PKPpre 18 22 09.7
CHTO ePKPdf PKPdf 18 22 15.7 -1.8
CHTO LR LR
comp=Z,130μm,20.0s
CHTO Chiang Mai 141.02 333 PKPdf PKPdf 18 22 16.2 -1.3
SNR=42
CM31 Chiang Mai Arr 141.33 333 ePKPpre PKPpre 18 22 08.7
CM31 ePKPdf PKPdf 18 22 16.4 -1.6
CM31 ePP PP 18 25 14.7 -4.3
CMAR Chiang Mai Arr 141.33 333 PKhKP PKPpre 18 22 10.3
comp=Z,4.7nm,0.9s,baz=354,slow=3.2,SNR=17
CMAR PKP PKPdf 18 22 17.9 -0.2
comp=Z,12nm,0.8s,baz=341,slow=2.4,SNR=25
CMAR PP PP 18 25 19.8 +0.8
comp=Z,12nm,1.1s,baz=13,slow=5.6,SNR=3.0
CM01 Chiang Mai Arr 141.36 333 ePKPpre PKPpre 18 22 09.6
CM01 ePKPdf PKPdf 18 22 17.7 -0.4
NGP Nagpur 142.53 4 eP PKPdf 18 22 18.3 -1.9
NGP IAmb IAmb 18 22 29.3
comp=Z,3μm,3.1s
MBWA Marble Bar 143.69 257 ePKPdf PKPbc 18 22 19.9 +0.2
MBWA LR LR
comp=Z,104μm,19.0s
NAYO Nakonayok 143.75 326 P PKPbc 18 22 19.5 -0.4
NAYO Nakonayok 143.75 326 P PKPbc 18 22 19.5 -0.4
NWAO Narrogin (SRO) 143.96 236 PKP PKPdf 18 22 22.4 +0.1
comp=Z,53nm,1.1s,baz=341,slow=4.9,SNR=5.7
NWAO PP PP 18 25 36.4 +0.3
comp=Z,8.7nm,1.0s,baz=0.3,slow=11,SNR=1.7
NWAO Narrogin (SRO) 143.96 236 ePKIKP PKPdf 18 22 22.4 +0.1
NWAO e 18 25 36.4
NWAO MLR MLR
comp=Z,86μm,19.0s
NWAO Narrogin (SRO) 143.96 236 ePKPdf PKPdf 18 22 22.4 +0.1
NWAO ePP PP 18 25 36.4 +0.3
NWAO LR LR
comp=Z,86μm,19.0s
POO Poona 144.38 13 eP PKPab 18 22 20.0 -1.5
SRSP Sriramsagar 144.67 5 ePdif 18 19 46.6
SRSP ePKPab PKPab 18 22 20.4 -2.2
SRSP ePP PP 18 25 38.1 -0.6
SRSP IVMs_BB IVMs_BB 19 39 59.0
comp=Z,57μm,17.8s
RPR Rampur 144.81 4 ePdif 18 19 49.0
RPR ePKPbc PKPab 18 22 20.9 -2.1
RPR ePP PP 18 25 38.4 -1.1
RPR IVMs_BB IVMs_BB 19 30 07.6
comp=Z,62μm,24.3s
SRDT SRDT 144.84 330 P PKPab 18 22 21.2 -2.0
comp=Z,669nm,1.6s,comp=Z,90μm
SRDT SRDT 144.84 330 P PKPab 18 22 21.2 -2.0
comp=Z,669nm,1.6s
KLRI Killari 145.32 8 ePKPbc PKPbc 18 22 22.6 -2.3
KLRI ePP PP 18 25 42.2 -0.4
KLRI IVMs_BB IVMs_BB 19 28 09.0
comp=Z,66μm,25.9s
PHET Kaeng Krachan 145.81 328 P PKPdf 18 22 25.7 -0.3
comp=Z,120nm,1.1s,comp=Z,2μm
PHET Kaeng Krachan 145.81 328 P PKPdf 18 22 25.7 -0.3
PAF Port-aux-Franc 145.92 167 PFAKE 18 22 40.0 +14
PAF LR LR
comp=Z,134μm,21.0s
VIS Vishakhapatnam 145.98 357 iP PKPdf 18 22 24.2 -2.0
VIS ix x 18 25 58.9
HYBB Hyderabad (bro 146.19 5 ePKPbc PKPdf 18 22 25.4 -1.3
HYBB ePP PP 18 25 48.1 +0.3
HYBB IVMs_BB IVMs_BB 19 35 37.3
comp=Z,41μm,21.6s
HYB Hyderabad 146.19 5 iPKP PKPdf 18 22 23.5 -3.1
HYB Hyderabad 146.19 5 eP PKPdf 18 22 25.2 -1.4
PVM Polavaram 146.49 0 ePKPbc PKPdf 18 22 26.1 -0.9
PVM ePP PP 18 25 49.1 -0.4
PVM IVMs_BB IVMs_BB 19 35 29.9
comp=Z,50μm,19.5s
KSM Kuching 146.54 300 ePKPdf PKPdf 18 22 26.2 -1.0
KSM LR LR
comp=Z,72μm,22.0s
NJS Nagarjunasagar 147.10 4 ePKPbc PKPdf 18 22 28.2 +0.1
NJS ePP PP 18 25 53.0 -0.1
NJS IVMs_BB IVMs_BB 19 35 51.3
comp=Z,55μm,21.0s
OPO Ambohidratompo 147.12 99 PKPbc PKPbc 18 22 30.6 +0.1
comp=Z,74nm,1.0s,baz=248,slow=2.6,SNR=47
ABPO Ambohimpanom 147.17 100 ePKIKP PKPdf 18 22 27.3 -1.1
ABPO MLR MLR
comp=Z,76μm,20.0s
ABPO Ambohimpanom 147.17 100 ePKPdf PKPdf 18 22 27.3 -1.1
ABPO LR LR
comp=Z,76μm,20.0s
JAGI Jajag, Banyuwa 147.30 280 ePKPdf PKPdf 18 22 26.5 -2.0
GOA Goa 147.32 14 eP PKPdf 18 22 27.7 -0.8
GOA IAMs_20 IAMs_20 19 24 04.5
comp=Z,145μm,27.1s
SRLM Srisailam 147.52 5 ePKPbc PKPdf 18 22 29.2 +0.4
SRLM ePP PP 18 25 55.2 -0.4
SRLM IVMs_BB IVMs_BB 19 35 53.5
comp=Z,76μm,21.0s
ADKI Addanki 147.84 3 ePKPbc PKPdf 18 22 30.2 +0.9
ADKI ePP PP 18 25 58.5 +1.1
ADKI IVMs_BB IVMs_BB 19 31 47.8
comp=Z,49μm,24.6s
URV Uravakonda 148.48 8 ePKPbc PKPdf 18 22 31.4 +1.0
URV ePP PP 18 26 02.3 +1.1
URV IVMs_BB IVMs_BB 19 36 10.9
comp=Z,46μm,20.2s
DGPR DIGLIPUR 148.49 339 eP PKPdf 18 22 30.6 +0.1
DGPR IAMs_20 IAMs_20 19 27 58.2
comp=Z,107μm,22.2s
SKLT Songkhla 149.92 320 P PKPdf 18 22 34.4 +1.6
comp=Z,516nm,1.9s
SKLT Songkhla 149.92 320 P PKPdf 18 22 34.4 +1.6
comp=Z,516nm,1.9s,comp=Z,89μm
SKHT Srikalahasti 149.92 4 ePKPbc PKPbc 18 22 35.8 -1.7
SKHT ePP PP 18 26 11.2 +1.6
SKHT IVMs_BB IVMs_BB 19 37 29.4
comp=Z,53μm,21.4s
TRTT Trang 149.95 322 P PKPdf 18 22 33.8 +0.9
comp=Z,206nm,1.7s
TRTT Trang 149.95 322 P PKPdf 18 22 33.8 +0.9
comp=Z,206nm,1.7s,comp=Z,19μm
PBA Port Blair 149.97 338 eP PKPdf 18 22 30.9 -1.9
SMRI Semarang 150.32 285 ePKPdf PKPdf 18 22 34.5 +1.0
MDRS Chennai 150.62 3 eP PKPdf 18 22 32.2 -1.6
PKDT Phuket 150.69 324 P PKPbc 18 22 37.2 -2.3
KULM Kulim 151.34 317 ePKPdf PKPdf 18 22 33.8 -1.3
KULM ePKPbc PKPbc 18 22 39.7 -1.3
KULM LR LR
comp=Z,125μm,20.0s
MYKOM Kota Tinggi 151.53 308 ePKPdf PKPdf 18 22 33.4 -1.9
MYKOM ePKPbc PKPbc 18 22 40.5 -1.0
LEM Lembang 152.84 288 PKPbc PKPbc 18 22 42.0 -2.6
comp=Z,81nm,1.0s,baz=133,slow=3.8,SNR=9.0
PSI Prapat 154.33 317 ePKIKP PKPdf 18 22 36.4 -3.2
PSI e 18 22 43.2
PSI Prapat 154.33 317 ePKPdf PKPdf 18 22 36.4 -3.2
PSI ePKPbc PKPbc 18 22 43.2 -4.6
TRD Trivandrum 154.75 11 eP PKPdf 18 22 38.0 -2.0
RER Riviere de l'E 155.07 105 PFAKE 18 22 50.0 +10
RER LR LR
comp=Z,226μm,21.0s
GSI Gunungsitoli 156.34 317 ePKPdf PKPdf 18 22 40.2 -2.0
PALK Pallekele 156.39 2 PKP PKPdf 18 22 42.2 -0.1
comp=Z,31nm,1.3s,baz=301,slow=1.4,SNR=4.9
PALK PP PP 18 26 46.6 +0.4
comp=Z,6.2nm,0.9s,baz=296,slow=6.4,SNR=2.1
PALK Pallekele 156.39 2 ePKIKP PKPpre 18 22 38.0
PALK e 18 22 46.9
PALK e 18 26 47.0
PALK Pallekele 156.39 2 ePKPdf PKPpre 18 22 38.0
PALK ePKPdif pPKPdf 18 22 46.9 -2.0
PALK ePP PP 18 26 47.0 +0.8
PALK Pallekele 156.39 2 pPKPdf pPKPdf 18 22 47.6 -1.4
SNR=13
PALK Pallekele 156.39 2 P pPKPdf 18 22 47.6 -1.4
SNR=13
COCO West Island 164.67 284 PFAKE 18 23 00.0 +8.9
COCO LR LR
comp=Z,113μm,22.0s
DGAR Diego Garcia 167.29 46 PFAKE 18 23 00.0 +6.7
DGAR LR LR
comp=Z,105μm,21.0s

JMA 20 18:03:33.9±0.2, 40.̊95N×145.̊06E, h65km±2km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	1.78	307	P	Pn	18 04 02.6	+0.1
JEM				eS	Sn	18 04 23.8	-0.3
JAK	Akkeshi	2.06	353	P	Pn	18 04 06.9	+0.7
JCH	Churui	2.09	323	P	Pn	18 04 07.7	+1.0
JCH				eS	Sn	18 04 31.6	0.0
JOB	Onbets	2.15	335	P	Pn	18 04 08.8	+1.3
JOB				eS	Sn	18 04 33.8	+0.6
NEM2	Nemuro 2	2.47	12	P	Pn	18 04 12.4	+0.7
NEM2				eS	Sn	18 04 40.6	-0.1
JAR	Ashorobuto	2.53	338	P	Pn	18 04 13.2	+0.5
JAR				eS	Sn	18 04 42.4	0.0
JNK	Nakash	2.65	355	P	Pn	18 04 14.6	+0.4
JNK				eS	Sn	18 04 44.5	-0.6
JANG	Nango	2.76	259	P	Pn	18 04 15.8	+0.1
JANG				eS	Sn	18 04 45.3	-2.6
JFR	Furan	2.88	321	P	Pn	18 04 18.6	+1.3
JTM	Tenmabayashi	3.03	268	P	Pn	18 04 20.5	+1.1
JTM				eS	Sn	18 04 53.2	-1.3
JOT	Ohata	3.06	279	P	Pn	18 04 20.7	+0.9
JOT				eS	Sn	18 04 54.4	-0.8
JTKR	Abashiri--Toko	3.14	345	P	Pn	18 04 22.6	+1.7
JKB	Kayabe	3.17	289	P	Pn	18 04 22.5	+1.2
JOM	Ohasama	3.24	244	P	Pn	18 04 23.4	+1.1
JOM				eS	Sn	18 04 58.0	-1.7

CSEM 20 18:13:54.2, 38.̊32N×22.̊02E, h10km, ML1.6/8, After ATH
ATH 20 18:13:54.1, 38.̊32N×22.̊02E, h10km±2km, ML1.6/8, Error ellipse: s-maj=2.2km s-min=0.8km az=31.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRIZ	Trizonia	0.06	42	P	Pg	18 13 56.0	-0.2
TRIZ				S	Sg	18 13 57.4	-0.4
TRIZ	Trizonia	0.06	42	P	Pg	18 13 56.1	-0.1
TRIZ				S	Sg	18 13 57.6	-0.2
SERG	Sergoula	0.10	17	P	Pg	18 13 56.7	-0.1
SERG				S	Sg	18 13 58.8	+0.2
SERG				AML	AML	18 13 59.1	
	comp=E,1048μm,0.3s						
SERG				AML	AML	18 14 01.2	
	comp=N,814μm,0.1s						
SERG	Sergoula	0.10	17	P	Pg	18 13 56.7	0.0
SERG				S	Sg	18 13 58.7	+0.1
KALE	Kalithea	0.12	53	P	Pg	18 13 57.3	+0.3
KALE				S	Sg	18 13 59.4	+0.3
KALE				AML	AML	18 14 00.5	
	comp=N,1512μm,0.2s						
KALE				AML	AML	18 14 01.4	
	comp=E,811μm,0.2s						
KALE	Kalithea	0.12	53	P	Pg	18 13 57.2	+0.1
KALE				S	Sg	18 13 59.2	+0.1
EFP	Efpalio	0.14	320	P	Pg	18 13 57.0	-0.3
EFP				S	Sg	18 13 59.8	+0.3
EFP				AML	AML	18 14 00.1	
	comp=E,1452μm,0.4s						
EFP				AML	AML	18 14 00.7	
	comp=N,981μm,0.2s						
EFP	Efpalio	0.14	320	P	Pg	18 13 57.2	-0.1
EFP				S	Sg	18 13 59.8	+0.2
UPR	University Cam	0.19	259	P	Pg	18 13 58.5	+0.4
UPR				S	Sg	18 14 00.7	-0.1
UPR	University Cam	0.19	259	P	Pg	18 13 58.4	+0.3
UPR				S	Sg	18 14 00.9	0.0
ANX	Ano Chora	0.28	344	P	Pg	18 13 59.9	0.0
ANX				S	Sg	18 14 04.4	+0.6
ANX				AML	AML	18 14 05.3	
	comp=N,589μm,0.2s						
ANX				AML	AML	18 14 05.4	
	comp=E,855μm,0.2s						
ANX	Ano Chora	0.28	344	P	Pg	18 13 59.9	0.0
ANX				S	Sg	18 14 04.2	+0.4
KLV	Kalavryta, Ach	0.29	160	P	Pg	18 13 60.0	-0.1
KLV				S	Sg	18 14 04.9	+0.8
KLV	Kalavryta, Ach	0.29	160	P	Pg	18 14 00.0	-0.1
KLV				S	Sg	18 14 04.6	+0.5
DSF	Desfina	0.41	77	P	Pg	18 14 02.5	+0.3
DSF				S	Sg	18 14 08.3	+0.7
DSF				AML	AML	18 14 10.4	
	comp=E,117μm,0.1s						
DSF				AML	AML	18 14 10.9	
	comp=N,300μm,0.2s						
DSF	Desfina	0.41	77	P	Pg	18 14 02.3	+0.1
DSF				S	Sg	18 14 08.1	+0.5
DRO	Drossia	0.44	214	P	Pg	18 14 02.5	-0.3
DRO				S	Sg	18 14 09.0	+0.3
DRO				AML	AML	18 14 10.6	
	comp=N,254μm,0.2s						
DRO				AML	AML	18 14 10.7	
	comp=E,224μm,0.2s						
DRO	Drossia	0.44	214	P	Pg	18 14 02.6	-0.2
DRO				S	Sg	18 14 09.0	+0.4
GUR	Goura	0.46	146	P	Pg	18 14 02.6	-0.5
GUR				AML	AML	18 14 11.6	
	comp=N,78μm,0.3s						
GUR				AML	AML	18 14 14.3	
	comp=E,74μm,0.2s						
GUR	Goura	0.46	146	P	Pg	18 14 02.8	-0.4
RLS	Riolos of Patr	0.51	239	P	Pb	18 14 04.7	-0.5
RLS	Riolos of Patr	0.51	239	P	Pg	18 14 04.4	+0.3
EVR	Evrytania	0.62	344	P	Pg	18 14 06.0	-0.2
EVR				AML	AML	18 14 16.8	
	comp=E,87μm,0.2s						
EVR				AML	AML	18 14 19.0	
	comp=N,70μm,0.2s						
EVR	Evrytania	0.62	344	P	Pg	18 14 06.0	-0.2
PDO	Prodromos	0.71	293	P	Pb	18 14 08.4	-0.2
PDO	Prodromos	0.71	293	P	Pg	18 14 08.1	+0.2
AGG	Agios Georgios	0.74	19	P	Pg	18 14 07.3	-1.1
AGG	Agios Georgios	0.74	19	P	Pg	18 14 07.8	-0.7
KFL	Anninata	0.99	258	P	Pg	18 14 12.5	-0.8
KFL	Anninata	0.99	258	P	Pg	18 14 12.7	-0.6

ISCJB 20 18:14:41.7±0.8, 15.̊79N±0.̊09×97.̊61W±0.̊08, h20km, mb4.6/18, Error ellipse: s-maj=13.3km s-min=10.5km az=16.0
NEIC 20 18:14:44.6±1.2, 16.̊05N×97.̊79W, h10km, mb4.9/15, Error ellipse: s-maj=19.4km s-min=10.8km az=178.0
IDC 20 18:14:46.9±2.4, 16.̊51N×97.̊95W, h0km, mb4.3/5, mb1 4.6/7, mb1mx4.2/53, mbtmp4.3/7, ML3.9/2, Error ellipse: s-maj=57.9km s-min=24.6km az=24.0
ISC 20 18:14:47.5±1.1, 16.̊3N±0.̊1×97.̊81W±0.̊06, h20km, n77, σ1§51/76, mb4.7/18, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	2.90	75	Pn	Pb	18 15 36.5	-2.2
	13nm,0.3s,baz=268,slow=12,SNR=5.4						
CMIG				Sn	Sb	18 16 14.2	+0.4
	80nm,0.3s,baz=295,slow=11,SNR=5.6						
CMIG				Lg	Lg	18 16 28.0	
	417nm,0.3s,baz=304,slow=6.7,SNR=16						

UNM	**Universidad Na**	3.25	337	*e*Pn		**Pb**	18 15 42.2	-2.6
UNM				*e*Sn		**Sb**	18 16 26.1	+2.0
LVIG	**Laguna Verde**	3.62	21	*e*Pn		**Pn**	18 15 44.0	+1.4
LVIG				*e*Sg		Sb	18 16 44.5	+10
MOIG	**Morelia**	4.63	316	*e*Pn		Pb	18 16 02.1	-6.1
JRQG	**Juriquilla Cam**	5.02	330	*e*Pn		Pb	18 16 09.1	-5.8
ZAIG	**Zacatecas**	7.82	326	*e*Pn		**Pn**	18 16 43.8	+3.3
LNIG	**Linares**	8.66	350	*e*Pn		**Pn**	18 16 53.2	+1.4
SLBS	**Sierra La Lagu**	13.54	305	*e*Pn		**Pn**	18 17 58.1	-0.6
WHTX	**Lake Whitney,**	15.59	1	*e*Pn		**P**	18 18 29.6	-0.7
ABTX	**Abilene, Hawle**	16.31	354	*e*Pn		**P**	18 18 39.5	+1.2
MNTX	**Cornudas Mount**	16.78	337	*e*Pn		**P**	18 18 43.6	+0.1
319A	**Douglas**	18.26	327	*e*P		**P**	18 19 01.4	+1.3
AMTX	**Amarillo**	18.80	350	*e*P		**Pn**	18 19 06.9	+0.4
BNM	**Barren Site**	19.44	338	*e*P		**Pn**	18 19 14.0	-0.3
TUL1	**Leonard** 21nm,0.8s	19.58	5	*e*P		**P**	18 19 14.0	-0.4
ANMO	**Albuquerque** 0.4nm,0.3s,baz=324,slow=14,SNR=2.0	20.09	339	P		**Pn**	18 19 20.0	-2.0
ANMO	**Albuquerque**	20.09	339	*e*P		**Pn**	18 19 21.2	-0.8
GOGA	**Godfrey** 47nm,1.3s	21.37	35	*e*P		**P**	18 19 33.6	-0.2
T25A	**Trinidad**	21.53	346	*e*P		**P**	18 19 36.6	+0.8
WVT	**Waverly**	21.63	22	*e*P		**P**	18 19 36.2	-0.3
X16A	**Lo Mia Camp, P**	21.78	328	*e*P		**P**	18 19 40.3	+2.0
113A	**Mohawk Valley,**	21.83	321	*e*P		**P**	18 19 40.0	+1.3
Y14A	**Wickenburg**	22.23	351	*e*P		**P**	18 19 44.7	+1.5
SDCO	**Great Sand Dun**	22.39	344	*e*P		**P**	18 19 46.5	+1.5
CCM	**Cathedral Cave**	22.40	14	*e*P		**P**	18 19 45.6	+0.8
FVM	**French Village** 65nm,1.3s	22.53	15	*e*P		**P**	18 19 49.4	+3.2
WUAZ	**Wupatki**	22.62	330	*e*P		**P**	18 19 49.1	+1.7
HODGE	**Hodges** 17nm,1.1s	22.65	35	*e*P		**P**	18 19 48.1	+0.6
GLA	**Glamis**	22.66	320	*e*P		**P**	18 19 49.7	+2.0
S22A	**4UR Ranch, Cre**	22.77	341	*e*P		**P**	18 19 49.6	+0.6
MVCO	**Mesa Verde**	22.85	338	*e*P		**P**	18 19 50.7	+0.9
TKL	**Tuckaleechee C**	22.96	30	*e*P		**P**	18 19 47.6	-3.1
W13A	**Hualapai Mount**	23.58	325	*e*P		**P**	18 19 58.8	+1.6
U15A	**North Rim**	23.80	335	*e*P		**P**	18 20 00.7	+1.4
KMSC	**Kings Mountain** 40nm,1.1s	23.84	35	*e*P		**P**	18 19 58.3	-1.2
LDFC	**Landfair**	24.25	324	*e*PcP		**PcP**	18 23 44.2	+0.6
ISCO	**Idaho Springs** 127nm,1.4s	24.35	345	*e*P		**P**	18 20 05.7	+1.2
MTPU	**Mount Pierson**	25.06	332	*e*P		**P**	18 20 13.2	+2.2
BREC	**Barre Substati**	25.15	318	*e*P		**P**	18 20 08.6	-2.9
BFSC	**Mount Baldy Ra**	25.22	319	*e*P		**P**	18 20 15.1	+2.8
BFSC				*es*P		**pP**	18 20 18.5	+0.1
SRU	**San Rafael Swe**	25.28	336	*e*P		**P**	18 20 13.8	+1.0
MSU	**Marysvale**	25.45	333	*e*P		**P**	18 20 16.5	+2.1
TMUT	**Trail Mountain**	25.70	336	*e*P		**P**	18 20 18.5	+1.7
SCIA	**State Center**	25.79	8	*e*P		**P**	18 20 17.3	0.0
PD31	**Pinedale Array**	28.20	342	*e*P		**P**	18 20 41.1	+1.9
PDAR	**Pinedale Array** 4.2nm,1.0s,baz=126,slow=9.1,SNR=3.5	28.20	342	P		**P**	18 20 40.7	+1.5
NV01	**Mina Array Sit**	28.43	325	*e*P		**P**	18 20 41.5	+0.2
NVAR	**Mina Array Bea** 6.7nm,0.9s,baz=139,slow=8.4,SNR=3.5	28.43	325	P		**P**	18 20 42.1	+0.8
LOHW	**Long Hollow**	29.29	341	*e*P		**P**	18 20 49.1	+0.3
TPAW	**Teton Pass**	29.29	340	*e*P		**P**	18 20 49.7	+0.8
JECB	**Eureka Canyon**	29.61	319	*e*P		**P**	18 20 47.4	-4.1
DLMT	**Dillon**	31.50	340	*e*P		**P**	18 21 10.2	+2.0
ULM	**Lac du Bonnet**	33.87	2	*e*P		**P**	18 21 28.2	-0.6
BBOR	**Butler Butte**	33.93	326	*e*P		**P**	18 21 27.1	-2.5
H04A	**Detroit Lake**	34.94	329	*e*P		**P**	18 21 37.8	-0.4
WAH2	**Wahluke Slope**	35.31	334	*e*P		P	18 21 46.2	+5.0
WAH2				*e*PcP		**PcP**	18 24 11.1	-0.3
LON	**Longmire**	36.29	332	*e*P		**P**	18 21 49.4	-0.4
MARYW	**Marymoor Park**	37.12	333	*e*P		**P**	18 21 54.5	-2.1
KDKW	**Coast Env Seat**	37.16	332	*e*P		P	18 22 02.3	+5.3
YKA	**Yellowknife Ar** 1.0nm,0.7s,baz=155,slow=7.6,SNR=3.3	47.60	350	P		**P**	18 23 21.9	+0.1
INK	**Inuvik** 6.1nm,1.0s,baz=149,slow=5.9,SNR=4.5	56.68	345	P		**P**	18 24 29.6	+0.3
INK	**Inuvik** 15nm,1.3s	56.68	345	*e*P		**P**	18 24 30.0	+0.8
RIDG	**Independ'e Rid** 19nm,1.2s	57.22	337	*e*P		**P**	18 24 34.5	+1.3
SUA	**Susitna One** 28nm,1.0s	58.46	333	*e*P		**P**	18 24 42.9	+0.8
IL1	**Eielson Array**	58.53	338	*e*P		**P**	18 24 43.6	+1.3
ILAR	**Eielson Array** 5.4nm,1.1s,baz=126,slow=4.2,SNR=7.2	58.53	338	P		**P**	18 24 43.5	+1.2
ILB	**Eielson Array**	58.53	338	*e*P		**P**	18 24 42.0	-0.3
TRF	**Thorofare Moun** 17nm,0.8s	59.17	335	*e*P		**P**	18 24 48.0	+1.0
KTH	**Kantishna Hill** 12nm,1.0s	59.47	335	*e*P		**P**	18 24 49.0	+0.1
PPLA	**Purkeypile** 0.8nm,0.5s	59.70	334	*e*P		**P**	18 24 50.8	+0.2
BPAW	**Bear Paw Mtn.** 1.0nm,0.9s	59.75	336	*e*P		**P**	18 24 51.0	+0.2
CAST	**Castle Rocks** 4.7nm,0.9s	59.88	335	*e*P		**P**	18 24 51.2	-0.6
SVW2	**Sparrevohn** 15nm,1.1s	60.46	332	*e*P		**P**	18 24 56.0	+0.3
TOLK	**Toolik Lake Re**	61.46	341	*e*P		**P**	18 25 03.1	+0.6
GAMB	**Gambell**	68.36	333	*e*P		**P**	18 25 48.2	+0.9
SYO	**Syowa Base**	121.02	163	*e*Pdiff		Pdif	18 29 47.0	-17
OPO	**Ambohidratompo** 5.5nm,0.8s,baz=87,slow=3.7,SNR=6.3	146.56	99	PKPbc		**PKPab**	18 34 31.0	+1.3

*IDC **20** 18:16:26.9±7.3, 15°.98N×98°.30W, h0km, mb4.0/5, mb1 4.4/6, mb1mx4.0/53, mbtmp4.1/6, Error ellipse: s-maj=150.8km s-min=39.3km az=14.0*
*ISCJB **20** 18:16:27.8±1.8, 16°.0N±0°.2×98°.06W±0°.06, h20km, mb4.6/15, Error ellipse: s-maj=31.9km s-min=8.4km az=0.7*
*NEIC **20** 18:16:31.0±1.3, 16°.30N×98°.07W, h10km, mb4.9/12, Error ellipse: s-maj=26.6km s-min=11.4km az=193.0*
ISC 20 18:16:33.5±1.9, **16°.5N**±0°.3×**98°.09W**±0°.10, **h20**km, **n57**, σ1°**88**/58, **mb4.7**/15, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero** baz=243,slow=14,SNR=1.0	3.13	79	Pn	**Pn**	18 17 22.7	+1.0
CMIG				Sn	**Sn**	18 17 57.6	-0.9
	26nm,0.3s,baz=244,slow=18,SNR=1.8						
LPM	**Los Pinos Moun**	19.31	338	*e*P	**Pn**	18 21 00.6	+1.9
ANMO	**Albuquerque** 6.7nm,0.9s,baz=319,slow=11,SNR=2.5	19.83	339	P	**Pn**	18 21 04.7	-0.2
ANMO	**Albuquerque**	19.83	339	*e*P	**Pn**	18 21 04.5	-0.3
T25A	**Trinidad**	21.29	346	*e*P	**P**	18 21 21.0	+1.9
MHTCO	**State Highway**	21.35	345	*e*P	**P**	18 21 23.2	+3.5
GOGA	**Godfrey**	21.38	35	*e*P	**P**	18 21 18.4	-1.4
X16A	**Lo Mia Camp, P**	21.48	329	*e*P	**P**	18 21 23.2	+2.1
WVT	**Waverly**	21.57	23	*e*P	**P**	18 21 23.4	+1.6
SDCO	**Great Sand Dun**	22.14	344	*e*P	**P**	18 21 28.0	-0.3
WUAZ	**Wupatki**	22.33	330	*e*P	**P**	18 21 31.9	+1.7
KSU1	**Kansas State U**	22.54	3	*e*P	**P**	18 21 28.7	-3.6
MVCO	**Mesa Verde** 5.4nm,0.6s	22.58	338	*e*P	**P**	18 21 35.5	+2.5
WESC	**Westside Schoo**	22.72	319	*e*P	**P**	18 21 37.5	+3.3
U15A	**North Rim**	23.50	330	*e*P	**P**	18 21 44.2	+1.7
PV05	**Paradox Valley**	23.57	338	*e*P	**P**	18 21 44.9	+1.9
DNR	**Dunn Ranch,Anz**	23.82	319	*e*P	**P**	18 21 40.7	-4.6
DNR				*e*Sn	Sn	18 26 37.2	+14
DNR	**Dunn Ranch,Anz**	23.82	319	*e*P	Sn	18 26 24.4	+1.5
DNR				*es*P	Sn	18 26 37.2	+14
ISCO	**Idaho Springs** 13nm,0.7s	24.11	346	*e*P	**P**	18 21 49.5	+1.2
KNB	**Kanab**	24.23	330	*e*P	**P**	18 21 51.9	+2.6
MTPU	**Mount Pierson**	24.77	333	*e*P	**P**	18 21 56.8	+2.4
BREC	**Barre Substati**	24.83	318	*e*P	**P**	18 21 54.3	-0.2
VTV	**Victorville**	24.91	320	*e*P	**P**	18 22 00.6	+5.3
MSU	**Marysvale**	25.16	333	*e*P	**P**	18 21 57.6	-0.2
N23A	**Red Feather La**	25.23	346	*e*P	**P**	18 22 00.3	+1.9
P18A	**Preston Nutter**	25.35	338	*e*P	**P**	18 21 59.0	-0.6
TMUT	**Trail Mountain**	25.43	336	*e*P	**P**	18 22 00.5	+0.3
BLCC	**Black Canyon**	25.55	318	*e*P	**P**	18 21 57.0	-4.1
CCCA	**Chr Cany lake**	25.57	321	*e*P	**P**	18 22 03.7	+2.4
ALPC	**Antelope**	25.59	319	*e*P	**P**	18 21 58.8	-2.8
ALPC				*es*S	**S**	18 26 27.0	-1.6
ALPC				*e*		18 26 34.4	
GRTK	**Grand Turk**	25.95	75	*e*P	**P**	18 22 05.5	+0.7
BAKC	**Calstate**	26.52	319	*e*P	**P**	18 22 10.2	+0.4
GATR	**Gnd/Air Tx Cnt**	26.94	316	*e*P	**P**	18 22 15.1	+1.4
PTAM	**Tassajara Cree**	27.58	317	*e*P	**P**	18 22 18.4	-1.1
PDAR	**Pinedale Array**	27.94	342	P	**P**	18 22 23.7	+0.9
	1.4nm,0.7s,baz=142,slow=10,SNR=2.9						
REDW	**Red Top Meadow**	28.88	341	*e*P	**P**	18 22 31.1	-0.1
LOY	**Loyalton**	30.06	324	*e*PcP	**PcP**	18 25 44.4	+1.1
CSPM	**San Pablo Ridg**	30.17	320	*e*P	**P**	18 22 39.0	-3.3
MCMT	**McKenzie Canyo**	30.84	339	*e*P	**P**	18 22 48.4	-0.1
SVTR	**Two Rivers Sch**	36.55	333	*e*P	**P**	18 23 39.1	+1.3
KDKW	**Coast Env Seat**	36.87	332	*e*P	**P**	18 23 40.5	0.0
FFC	**Flin Flon**	38.26	356	*e*P	**P**	18 23 51.1	-1.0
EDM	**Edmonton** 5.2nm,0.6s	38.54	345	*e*P	**P**	18 23 54.7	+0.1
LLLB	**Lillooet**	39.01	336	*e*P	**P**	18 23 58.6	0.0
FCC	**Fort Churchill** 98nm,1.4s	42.29	3	*e*P	**P**	18 24 25.6	+0.1
YKA	**Yellowknife Ar** 1.0nm,0.8s,baz=155,slow=7.4,SNR=3.1	47.38	350	P	**P**	18 25 04.9	-1.0
HYT	**Haines Junctio** 13nm,1.3s	52.45	337	*e*P	**P**	18 25 45.6	+0.8
INK	**Inuvik** 3.1nm,0.7s,baz=108,slow=3.2,SNR=3.9	56.44	345	P	**P**	18 26 13.2	-0.3
INK	**Inuvik** 68nm,1.8s	56.44	345	*e*P	**P**	18 26 12.6	-0.8
SCRK	**Sand Creek** 29nm,1.8s	56.77	338	*e*P	**P**	18 26 16.7	+0.6
RIDG	**Independ'e Rid** 24nm,1.5s	56.95	337	*e*P	**P**	18 26 17.0	-0.2
IL1	**Eielson Array**	58.26	338	*e*P	**P**	18 26 26.6	+0.2
ILAR	**Eielson Array** 0.8nm,0.8s,baz=146,slow=4.8,SNR=4.9	58.26	338	P	**P**	18 26 26.2	-0.2
TRF	**Thorofare Moun** 7.8nm,0.8s	58.90	336	*e*P	**P**	18 26 31.1	0.0
CAST	**Castle Rocks** 9.2nm,1.4s	59.60	335	*e*P	**P**	18 26 34.8	-1.0
TOLK	**Toolik Lake Re** 49nm,1.8s	61.20	341	*e*P	**P**	18 26 45.9	-0.8
SUMG	**Summit** 31nm,1.8s	65.45	17	*e*P	**P**	18 27 15.0	-0.2

JMA 20 18:17:45.9±0.2, **40°.87N**×**145°.23E**, **h65**km±3km, **M4.0, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	1.93	307	P	Pn	18 18 17.3	+0.8
JEM				*e*S	Sn	18 18 38.9	-0.9
JAK	**Akkeshi**	2.16	350	P	Pn	18 18 20.4	+0.8
JAK				*e*S	Sn	18 18 45.4	+0.1
JCH	**Churui**	2.23	322	P	Pn	18 18 21.4	+0.8
JCH				*e*S	Sn	18 18 46.2	-0.9
JOB	**Onbets**	2.28	333	P	Pn	18 18 22.7	+1.5
JOB				*e*S	Sn	18 18 49.0	+0.7
JNBK	**Urakawa-nobuka**	2.33	308	P	Pn	18 18 23.5	+1.6
JNBK				*e*S	Sn	18 18 50.0	+0.5
NEM2	**Nemuro 2**	2.52	9	P	Pn	18 18 25.6	+1.1
NEM2				*e*S	Sn	18 18 53.7	-0.4
JAR	**Ashorobuto**	2.66	336	P	Pn	18 18 27.0	+0.7
JAR				*e*S	Sn	18 18 56.9	-0.5
JNK	**Nakash**	2.74	352	P	Pn	18 18 28.2	+0.7
JNK				*e*S	Sn	18 18 58.5	-0.9
JBT2	**Biratori 2**	2.87	313	P	Pn	18 18 31.5	+2.3
JBT2				*e*S	Sn	18 19 04.7	+2.2
JANG	**Nango**	2.87	261	P	Pn	18 18 29.2	-0.1
JANG				*e*S	Sn	18 18 59.3	-3.3
JFR	**Furan**	3.02	320	P	Pn	18 18 32.5	+1.2
JFR				*e*S	Sn	18 19 04.9	-1.4
JRA	**Rausu**	3.07	359	P	Pn	18 18 33.2	+1.3
JRA				*e*S	Sn	18 19 06.4	-1.0
JOT	**Ohata**	3.20	281	P	Pn	18 18 34.5	+0.8
JTKR	**Abashiri--Toko**	3.25	343	P	Pn	18 18 36.4	+2.0
JTKR				*e*S	Sn	18 19 12.6	+0.8
JKB	**Kayabe**	3.32	289	P	Pn	18 18 35.9	+0.6
JKB				*e*S	Sn	18 19 12.5	-1.0
JOM	**Ohasama**	3.32	246	P	Pn	18 18 36.0	+0.6
JOM				*e*S	Sn	18 19 11.2	-2.5
JEW	**Eniwo**	3.44	306	P	Pn	18 18 39.4	+2.4
JEW				*e*S	Sn	18 19 16.9	+0.3
JKK2	**Kamakawa 2**	3.52	329	P	Pn	18 18 41.5	+3.4
JMK	**Ichinoseki**	3.63	239	P	Pn	18 18 40.3	+0.7
JMK				*e*S	Sn	18 19 18.1	-3.1

*IDC **20** 18:19:20.8±5.9, 16°.81N×98°.11W, h0km, mb4.2/5, mb1 4.5/7, mb1mx4.0/56, mbtmp4.2/7, ML3.3/2, Error ellipse: s-maj=130.5km s-min=26.5km az=17.0*
ISC 20 18:19:23.5±4.6, **16°.5N**±0°.6×**98°.2W**±0°.2, **h35**km, **n7**, σ0°**79**/8, **mb4.0**/5, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero** 2.4nm,0.3s,baz=270,slow=14,SNR=4.1	3.26	79	Pn	**Pn**	18 20 11.6	-0.6
CMIG				Sn	**Sn**	18 20 50.6	+0.8
	48nm,0.3s,baz=252,slow=18,SNR=2.6						
CMIG				Lg	Lg	18 21 04.8	
	396nm,0.3s,baz=232,slow=9.0,SNR=12						
ANMO	**Albuquerque** 0.1nm,0.3s,baz=139,slow=19,SNR=2.5	19.82	340	P	**P**	18 23 51.0	-0.4
PDAR	**Pinedale Array** 3.2nm,1.0s,baz=157,slow=9.5,SNR=4.1	27.95	342	P	**P**	18 25 11.0	+0.1
NVAR	**Mina Array Bea** 3.3nm,0.9s,baz=146,slow=9.8,SNR=5.6	28.10	325	P	**P**	18 25 13.4	+1.1
YKA	**Yellowknife Ar** 1.3nm,0.7s,baz=156,slow=7.4,SNR=3.5	47.40	350	P	**P**	18 27 53.6	-0.5
INK	**Inuvik** 4.8nm,0.8s,baz=132,slow=5.1,SNR=4.6	56.45	345	P	**P**	18 29 01.1	-0.3
ILAR	**Eielson Array** 1.4nm,0.9s,baz=138,slow=5.3,SNR=4.9	58.26	338	P	**P**	18 29 14.8	+0.6

*IDC **20** 18:21:12.3±7.6, 16°.96N×96°.18W, h0km, mb4.0/5, mb1 4.3/6, mb1mx3.9/58, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=264.2km s-min=95.5km az=49.0*
*NEIC **20** 18:21:22.6±1.3, 17°.83N×97°.20W, h10km, mb4.6/2, Error ellipse: s-maj=18.2km s-min=13.8km az=143.0*
ISC 20 18:21:21.8±2.7, **17°.7N**±0°.2×**97°.1W**±0°.2, **h10**km, **n30**, σ1°**99**/29, **mb3.9**/4, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVIG	**Laguna Verde**	2.09	19	*e*Sn	**Sn**	18 22 22.0	-1.0
UNM	**Universidad Na**	2.51	310	*e*Pn	Pn	18 21 56.7	-6.3
UNM				*e*		18 22 51.7	
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=164,slow=11,SNR=2.5	13.01	334	Pn	Pn	18 24 36.7	+10
ANMO	**Albuquerque** 5.7nm,0.6s,baz=319,slow=11,SNR=5.3	19.06	336	P	**Pn**	18 25 47.7	+2.4
ANMO	**Albuquerque** 7.5nm,0.8s	19.06	336	*e*P	**Pn**	18 25 48.0	+2.7
WESC	**Westside Schoo**	22.46	315	*e*P	**P**	18 26 23.4	+2.2
DNR	**Dunn Ranch,Anz**	23.55	316	*e*S	**S**	18 30 43.4	-3.5
DNR				*e*Sn	Sn	18 31 02.1	-4.8
BBSC	**Beaumont Base**	24.00	316	*e*Sn	Sn	18 31 15.2	-2.2
LRRC	**Littlerock Res**	25.05	316	*e*P	**P**	18 26 50.4	+4.0
FOXC	**Fox Airport**	25.32	316	*e*P	**P**	18 26 50.1	+1.2
ALPC	**Antelope**	25.33	316	*e*P	**P**	18 26 47.0	-2.0
ALPC				*es*P	**sP**	18 26 53.7	+0.4
WASM	**Alta Sierra Ca**	26.13	318	*e*P	**P**	18 26 52.7	-3.7
WASM				*es*P	**sP**	18 27 00.8	0.0
WASM				*e*S	**S**	18 31 27.3	-1.0
SBC	**Santa Barbara**	26.14	314	*e*P	**P**	18 26 52.0	-4.3
PD31	**Pinedale Array**	27.10	340	*e*P	**P**	18 27 07.0	+1.9
PDAR	**Pinedale Array** 1.0nm,0.6s,baz=137,slow=11,SNR=2.6	27.10	340	P	**P**	18 27 06.5	+1.4
PDAR	**Pinedale Array**	27.10	340	P	**P**	18 27 06.5	+1.4
PTAM	**Tassajara Cree**	27.35	315	*e*P	**P**	18 27 06.1	-1.1
PTAM	**Tassajara Cree**	27.35	315	*e*S	**P**	18 27 06.1	-1.1
HCOM	**Coos Cob Canyo**	28.86	316	*e*P	**P**	18 27 21.0	+0.4
EMB	**Emerald Bay**	29.12	321	*e*P	**P**	18 27 24.2	+1.0
LOY	**Loyalton**	29.64	322	*e*P	**P**	18 27 26.4	-1.4
LHEM	**Herd Peak**	32.07	323	*e*P	**P**	18 27 54.8	+5.6
YKA	**Yellowknife Ar** 1.0nm,0.7s,baz=155,slow=7.3,SNR=3.2	46.35	349	P	**P**	18 29 48.0	+0.1
YKA	**Yellowknife Ar**	46.35	349	P	**P**	18 29 48.0	+0.1
INK	**Inuvik** 4.2nm,0.9s,baz=126,slow=4.8,SNR=3.7	55.51	344	P	**P**	18 30 55.7	-1.1
INK	**Inuvik** 51nm,1.8s	55.51	344	*e*P	**P**	18 30 56.2	-0.6
IL1	**Eielson Array**	57.49	337	*e*P	**P**	18 31 10.3	-0.7
ILAR	**Eielson Array** 0.9nm,0.8s,baz=128,slow=5.8,SNR=3.2	57.49	337	P	**P**	18 31 10.1	-0.9
ILAR	**Eielson Array**	57.49	337	P	**P**	18 31 10.1	-0.9
ILB	**Eielson Array**	57.49	337	*e*P	**P**	18 31 10.5	-0.5

CASC 20 18:21:22.9±0.6, **13°.22N**×**89°.64W**, **h20**km±999km, **MD3.1, mb4.6**/NEIC), **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	0.62	2	*e*P	Pb	18 21 35.0	-0.2
SBLS				*e*S	Sb	18 21 44.5	+0.9
BOQS	**Boqueron**	0.62	34	*e*P	Pb	18 21 35.3	0.0
BOQS				*e*S	Sb	18 21 44.5	+0.8
LOMA	**San Marcos**	0.63	46	*e*P	Pb	18 21 35.2	0.0
LOMA				*e*S	Sn	18 21 44.9	-1.3
LOMA				IAML		18 21 47.3	
SNJE	**San Jose**	0.65	3	*e*P	Pb	18 21 35.4	-0.3
LFRS	**El Faro**	0.69	54	*e*P	Pb	18 21 36.1	-0.3
LFRS				*e*S	Sb	18 21 45.8	+0.2
LFU	**La Fuente**	0.74	44	*e*P	Pb	18 21 36.4	-0.7
LBRS	**Las Brisas**	0.78	48	*e*P	Pb	18 21 37.1	-0.7
LBRS				*e*S	Sb	18 21 48.9	+0.9
PAVA	**Las Pavas**	0.84	54	*e*P	Pb	18 21 38.8	-0.1

*IDC **20** 18:22:30.6±0.5, 16°.18N×98°.28W, h0km, mb4.7/32, mb1 4.8/35, mb1mx4.7/57, mbtmp4.7/35, ML4.1/3, Error ellipse: s-maj=18.6km s-min=11.3km az=55.0*
*ISCJB **20** 18:22:31.7±0.2, 16°.34N±0°.03×98°.14W±0°.02, h10km, mb5.1/203, MS5.2/1, Error ellipse: s-maj=4.0km s-min=2.6km az=17.8*
*NEIC **20** 18:22:33.1±0.2, 16°.29N×98°.17W, h10km, mb5.3/193, Error ellipse: s-maj=4.6km s-min=2.6km az=212.0*
*MOS **20** 18:22:34.6±0.9, 16°.30N×98°.13W, h33km, mb5.5/37, Error ellipse: s-maj=9.6km s-min=4.7km az=101.0*
*BJI **20** 18:22:35.5, 16°.30N×98°.10W, h25km, mB5.4/1, Ms5.5/1, Ms7 5.2/1*
ISC 20 18:22:32.5±0.4, **16°.30N**±0°.05×**98°.33W**±0°.05, **h10**km, **n760**, σ1°**33**/767, **mb5.3**/202, **5C-3D**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNM	**Universidad Na**	3.12	345	*e*P	**Pb**	18 23 27.2	-1.0
UNM	**Universidad Na**	3.12	345	*e*Pn	**Pb**	18 23 27.2	-1.0
UNM				*e*Lg	Lg	18 24 15.4	
CMIG	**Matias Romero** 82nm,0.3s,baz=255,slow=16,SNR=3.1	3.39	76	Pn	**Pn**	18 23 25.7	+0.2
CMIG				Sn	**Sn**	18 24 05.8	-0.1
	201nm,0.3s,baz=315,slow=7.1,SNR=3.9						
CMIG				Lg	Lg	18 24 21.1	
	2µm,0.3s,baz=349,slow=20,SNR=7.3						
LVIG	**Laguna Verde**	3.86	28	*e*Pg	**Pb**	18 23 43.1	+2.4
LVIG				*e*Lg	Lg	18 24 35.2	
MOIG	**Morelia**	4.32	321	*e*Pn	**Pn**	18 23 34.1	-4.4
MOIG				*e*Lg	Lg	18 24 49.6	
JRQG	**Juriquilla Cam**	4.82	336	*e*Pn	**Pn**	18 23 47.2	+1.8
JRQG				*e*Lg	Lg	18 25 06.4	
ZAIG	**Zacatecas**	7.57	329	*e*Pn	**Pn**	18 24 22.3	-1.0
ZAIG				*e*Lg	Lg	18 26 27.5	
LNIG	**Linares**	8.62	353	*e*Pn	**Pn**	18 24 39.3	+1.9
LNIG				*e*Sn	**Sn**	18 26 10.0	-4.7
LNIG				*e*Lg	Lg	18 26 56.9	
SNET	**Serv Nac Est T**	9.16	105	*e*Pn	**Pn**	18 24 45.7	+0.8
SNET				*e*Sn	Sn	18 26 17.7	-11
MYIG	**MØrida**	9.37	59	*e*Pn	**Pn**	18 24 48.7	+1.1

comp=Z,58nm,1.1s
248A **Dixon Mills** 18.43 30 P Pn 18 26 49.1 +0.9
baz=213
CCAR **Cane Creek** 18.51 17 eP P 18 26 48.7 -0.2
comp=Z,423nm,1.4s
X39A **Fountain Ranch** 18.52 11 P Pn 18 26 50.1 +0.8
baz=192
249A **Camden** 18.64 31 P Pn 18 26 51.4 +0.8
baz=215
147A **Livingston** 18.68 27 P Pn 18 26 51.8 +0.7
baz=211
AMTX **Amarillo** 18.75 351 P Pn 18 26 52.3 +0.2
baz=170
AMTX **Amarillo** 18.75 351 eP P 18 26 51.7 0.0
comp=Z,193nm,1.2s
X40A **Basin Creek Fa** 18.77 14 P Pn 18 26 53.4 +1.1
baz=196
X41A **Kaden, Bauxite** 18.86 15 P Pn 18 26 53.4 +0.1
baz=197
UALR **University of** 19.16 15 eP P 18 26 55.6 -0.6
comp=Z,107nm,1.2s
Y45A **Yeager Farm, C** 19.20 23 P Pn 18 26 57.5 +0.1
baz=206
Z47A **Carrollton** 19.21 27 P P 18 26 55.6 -1.0
baz=211
W39A **Magazine** 19.25 11 P Pn 18 26 58.3 +0.3
baz=193
BNM **Barren Site** 19.28 339 eP Pn 18 27 00.5 +1.9
149A **Jones** 19.30 31 P Pn 18 26 58.4 -0.3
baz=215
BCIP **Isla Barro Col** 19.37 109 eP P 18 26 58.0 -0.5
comp=Z,230nm,1.5s
W40A **Ferguson Farm,** 19.39 13 P P 18 26 59.2 +0.6
baz=195,SNR=5.6
W40A **Ferguson Farm,** 19.39 13 eP Pn 18 27 03.2 +3.4
comp=Z,415nm,1.4s
LPM **Los Pinos Moun** 19.43 339 eP Pn 18 27 02.8 +2.4
Y46A **Houston** 19.48 24 P P 18 26 59.6 +0.1
baz=208,SNR=7.2
TUC **Tucson** 19.54 327 P Pn 18 27 02.1 +0.5
baz=142
TUC **Tucson** 19.54 327 eP Pn 18 27 02.9 +1.3
TUC pmax pmax
comp=Z,83nm,1.8s
TUC **Tucson** 19.54 327 eP Pn 18 27 02.9 +1.3
comp=Z,83nm,1.8s
LRAL **Lakeview Retre** 19.56 30 P P 18 27 00.4 -0.1
baz=214
LRAL **Lakeview Retre** 19.56 30 eP P 18 27 00.2 -0.3
comp=Z,125nm,1.4s
Z48A **Northport** 19.59 28 P P 18 27 00.6 -0.2
baz=212
251A **Midway** 19.62 34 P Pn 18 27 02.1 -0.4
baz=219
TUL1 **Leonard** 19.66 6 P P 18 27 01.9 +0.3
baz=187,SNR=8.3
TUL1 **Leonard** 19.66 6 eP P 18 27 00.6 -1.0
comp=Z,528nm,1.5s
WHAR **Wooly Hollow** 19.67 15 eP P 18 27 01.8 +0.2
comp=Z,360nm,1.7s
555A **McAlpin** 19.68 43 P P 18 27 01.8 0.0
baz=229
LAZ **Ladron** 19.69 338 eP P 18 27 01.7 -0.4
150A **Eclectic** 19.70 32 P P 18 27 02.2 +0.2
baz=217
353A **Camilla** 19.74 38 P P 18 27 02.7 +0.2
baz=223
OXF **Oxford** 19.82 22 P Pn 18 27 04.2 -0.7
baz=206
OXF **Oxford** 19.82 22 eP Pn 18 27 04.3 -0.7
OXF pmax pmax
comp=Z,204nm,1.0s
OXF **Oxford** 19.82 22 eP Pn 18 27 04.3 -0.6
comp=Z,204nm,1.0s
V39A **Pettigrew** 19.90 11 P P 18 27 05.0 +0.7
baz=193,SNR=11
Y47A **UCPARC, Winfie** 19.91 26 P P 18 27 04.5 +0.3
baz=210
Z49A **Columbiana** 19.91 30 P P 18 27 05.1 +0.7
baz=215
252A **Lumpkin** 19.92 36 P P 18 27 04.3 -0.1
baz=221
ANMO **Albuquerque** 19.95 340 P Pn 18 27 06.8 +0.2
comp=Z,30nm,0.8s,baz=329,slow=12,SNR=13
ANMO **Albuquerque** 19.95 340 P Pn 18 27 06.8 +0.2
baz=156
ANMO **Albuquerque** 19.95 340 *d i* P Pn 18 27 06.7 +0.2
ANMO pmax pmax
comp=Z,48nm,1.0s
ANMO **Albuquerque** 19.95 340 eP Pn 18 27 06.0 -0.5
comp=Z,334nm,1.8s
MTDJ **Mount Denham** 19.95 81 eP P 18 27 04.3 -0.7
comp=Z,259nm,0.9s
556A **Lake Butler** 19.98 44 P Pn 18 27 06.2 -0.5
baz=230
151A **Opelika** 20.00 34 P P 18 27 05.2 -0.1
baz=219
V40A **Witts Springs** 20.04 13 P P 18 27 06.6 +0.9
baz=195
455A **Stateville** 20.05 42 P P 18 27 06.1 +0.3
baz=227
V41A **Mountainview** 20.17 15 P P 18 27 07.6 +0.5
baz=197
X46A **Booneville** 20.17 24 P P 18 27 07.3 +0.2
baz=208,SNR=7.8
TIGA **Tifton** 20.18 39 eP Pn 18 27 09.5 +0.3
comp=Z,756nm,1.9s
Z50A **Ashland** 20.26 31 P P 18 27 08.0 -0.2
baz=216
HHAR **Hobbs** 20.28 10 eP P 18 27 08.6 +0.2
comp=Z,197nm,1.4s
V42A **Cord** 20.39 16 P P 18 27 09.3 -0.2
baz=199
214A **Organ Pipe Nat** 20.40 322 P Pn 18 27 12.5 +0.7
baz=136
X47A **Russelville** 20.43 25 P P 18 27 09.2 -0.7
baz=210
U39A **Green Forest** 20.46 11 P P 18 27 10.9 +0.6
baz=193
Y49A **Blount Mountai** 20.51 29 P P 18 27 11.2 +0.3
baz=214
U40A **Yellville** 20.56 13 P P 18 27 11.7 +0.3
baz=195,SNR=10.0
254A **Abbeville** 20.72 39 P P 18 27 13.9 +0.8
baz=224
X48A **Hartselle** 20.72 27 P P 18 27 12.9 -0.2
baz=212
PLAL **Pickwick Lake** 20.75 24 eP P 18 27 11.6 -1.8
comp=Z,218nm,1.3s
U41A **Viola** 20.76 15 P P 18 27 13.2 -0.3
baz=197
X18A **Snowflake** 20.94 332 eP P 18 27 17.0 +1.3
comp=Z,144nm,1.4s
U42A **Revenden** 20.94 16 P P 18 27 15.7 +0.3
baz=199,SNR=6.6
T38A **Diamond** 20.96 9 P P 18 27 16.1 +0.4
baz=190,SNR=9.1
X49A **Woodville** 21.09 28 P P 18 27 17.6 +0.4
baz=213
T39A **Clever** 21.10 11 P P 18 27 17.7 +0.5
baz=193,SNR=8.0
W47A **Westpoint** 21.17 25 P P 18 27 17.1 -0.9
baz=209
U43A **Rector** 21.19 18 P P 18 27 18.8 +0.6
baz=201,SNR=5.4
W18A **Petrified Fore** 21.34 334 P P 18 27 21.2 +1.2
baz=148,SNR=7.1
W18A **Petrified Fore** 21.34 334 eP P 18 27 21.7 +1.7
comp=Z,472nm,1.9s
W48A **Pulaski** 21.35 26 P P 18 27 20.6 +0.7
baz=211
T40A **Mansfield** 21.40 13 P P 18 27 20.9 +0.5
baz=195,SNR=13
T25A **Trinidad** 21.45 347 P P 18 27 22.6 +1.4
baz=164,SNR=10
T25A **Trinidad** 21.45 347 eP P 18 27 22.9 +1.8
comp=Z,891nm,1.8s
V46A **Holladay** 21.45 23 P P 18 27 21.1 +0.1
baz=207,SNR=6.4
T41A **Mountain View** 21.46 14 P P 18 27 21.9 +0.7
baz=197
357A **Townsend** 21.49 43 P P 18 27 21.3 -0.2
baz=229
MHTCO **State Highway** 21.50 346 eP P 18 27 23.5 +1.8
comp=Z,225nm,1.4s
113A **Mohawk Valley,** 21.54 322 eP P 18 27 24.2 +2.2
comp=Z,39nm,0.9s
X16A **Lo Mia Camp, P** 21.55 329 eP P 18 27 24.1 +1.8
comp=Z,130nm,0.9s
PBMO **Poplar Bluff** 21.57 17 eP P 18 27 24.8 +2.6
comp=Z,156nm,0.8s
S38A **Stockton** 21.60 10 P P 18 27 22.8 +0.2
baz=191,SNR=6.7
T42A **Van Buren** 21.62 16 P P 18 27 23.3 +0.5
baz=199,SNR=8.2
UTMT **Unisity of** 21.66 21 eP P 18 27 24.8 +1.5
comp=Z,484nm,1.1s
GOGA **Godfrey** 21.68 35 P P 18 27 22.8 -0.7
baz=221
GOGA **Godfrey** 21.68 35 eP P 18 27 22.9 -0.6
GOGA pmax pmax
comp=Z,116nm,1.4s
GOGA **Godfrey** 21.68 35 eP P 18 27 22.9 -0.6
comp=Z,116nm,1.4s
U45A **Rockin P Farm,** 21.70 21 P P 18 27 23.8 +0.1
baz=205,SNR=5.1
V47A **Nunnelly** 21.70 24 P P 18 27 23.6 -0.1
baz=209,SNR=5.4
S39A **Bolivar** 21.76 11 P P 18 27 24.8 +0.5
baz=193,SNR=6.5
S40A **Lebanon** 21.83 13 P P 18 27 25.7 +0.6
baz=195,SNR=13
WVT **Waverly** 21.85 23 P P 18 27 25.0 -0.2
baz=208
WVT **Waverly** 21.85 23 eP P 18 27 24.9 -0.3
WVT pmax pmax
comp=Z,144nm,0.8s
WVT **Waverly** 21.85 23 eP P 18 27 24.9 -0.3
comp=Z,144nm,0.8s
T43A **Greenville** 21.89 17 P P 18 27 25.6 -0.1
baz=201,SNR=6.9
V48A **Smith Brothers** 21.91 26 P P 18 27 25.4 -0.5
baz=210
U46A **Springville** 21.92 22 P P 18 27 25.2 -0.8
baz=206
Y14A **Wickenburg** 21.98 326 eP P 18 27 28.9 +2.2
comp=Z,479nm,1.3s
S41A **Jillco Farms,** 21.99 14 P P 18 27 27.1 +0.3
baz=197
T44A **Benton** 22.10 19 P P 18 27 29.4 +1.4
baz=202
R38A **Fenwick Farm,** 22.15 9 P P 18 27 28.7 +0.3
baz=191
257A **Skidaway Islan** 22.15 42 P P 18 27 28.3 -0.2
baz=229
SDCO **Great Sand Dun** 22.28 345 P P 18 27 31.8 +1.5
baz=161
SDCO **Great Sand Dun** 22.28 345 eP P 18 27 31.6 +1.4
comp=Z,103nm,1.4s
U47A **Clarksville** 22.33 24 P P 18 27 29.9 -0.5
baz=208,SNR=5.3
GTBY **Guantanamo Bay** 22.35 77 eP P 18 27 30.7 -0.1
comp=Z,816nm,1.5s
GLA **Glamis** 22.37 321 P P 18 27 32.3 +1.3
baz=134
GLA **Glamis** 22.37 321 eP P 18 27 33.8 +2.8
GLA pmax pmax
comp=Z,73nm,1.2s
GLA **Glamis** 22.37 321 eP P 18 27 33.8 +2.8
comp=Z,73nm,1.2s
S42A **Caledonia** 22.40 16 P P 18 27 31.0 -0.2
baz=199
WUAZ **Wupatki** 22.41 331 P P 18 27 32.3 +0.9
baz=145,SNR=11
WUAZ **Wupatki** 22.41 331 eP P 18 27 34.0 +2.5
comp=Z,114nm,1.1s
R39A **Chumby, Stover** 22.42 11 P P 18 27 31.6 +0.3
baz=193,SNR=6.8
CBKS **Cedar Bluff** 22.46 357 P P 18 27 33.0 +1.2
baz=176
CBKS **Cedar Bluff** 22.46 357 eP P 18 27 33.9 +2.0
CBKS pmax pmax
comp=Z,241nm,1.5s
CBKS **Cedar Bluff** 22.46 357 eP P 18 27 33.9 +2.0
comp=Z,241nm,1.5s
R40A **Maddies Statio** 22.55 13 P P 18 27 33.1 +0.4
baz=195,SNR=16
BTCC **Brunts Corner** 22.59 321 eP P 18 27 39.8 +6.6
BTCC ePcP PcP 18 31 26.9 +0.4
BTCC eS S 18 31 44.6 +3.9
T46A **Princeton** 22.63 22 P P 18 27 33.9 +0.2
baz=206,SNR=5.5
S22A **4UR Ranch, Cre** 22.64 342 P P 18 27 34.7 +0.6
baz=158,SNR=7.9
S22A **4UR Ranch, Cre** 22.64 342 eP P 18 27 35.5 +1.4
comp=Z,103nm,1.3s
Y12C **Blythe** 22.69 323 P P 18 27 36.0 +1.8
baz=136
Y12C **Blythe** 22.69 323 eP P 18 27 37.1 +2.9
comp=Z,51nm,1.6s
MVCO **Mesa Verde** 22.69 339 P P 18 27 35.7 +1.2
baz=154,SNR=7.2
MVCO **Mesa Verde** 22.69 339 eP P 18 27 36.0 +1.5
comp=Z,440nm,1.6s
U48A **Cassie Pea, Po** 22.69 25 P P 18 27 33.9 -0.4
baz=210,SNR=6.0
FVM **French Village** 22.70 16 eP P 18 27 30.5 -3.8
FVM pmax pmax
comp=Z,122nm,1.4s
FVM **French Village** 22.70 16 eP P 18 27 30.5 -3.8
comp=Z,122nm,1.4s
WESC **Westside Schoo** 22.73 319 eP P 18 27 43.2 +8.5
WESC eS S 18 31 40.0 -3.4
WESC eSn Sn 18 32 21.6 +24
Q37A **Longview Farm,** 22.75 8 P P 18 27 35.7 +0.9
baz=189,SNR=8.0
R41A **Rosebud** 22.75 14 P P 18 27 35.5 +0.6
baz=197,SNR=6.6
KSU1 **Kansas State U** 22.77 3 P P 18 27 35.9 +0.8
baz=184
KSU1 **Kansas State U** 22.77 3 eP P 18 27 35.2 +0.1
comp=Z,188nm,1.8s
S44A **Carbondale** 22.77 19 P P 18 27 35.2 +0.2
baz=203,SNR=6.8
SIUC **Southern Illin** 22.80 19 eP P 18 27 33.0 -2.3
comp=Z,383nm,1.5s
PDMCI **Parker Dam,Lak** 22.87 325 P P 18 27 37.8 +1.6
baz=138
R42A **Luebbering** 22.88 15 P P 18 27 37.1 +0.9
baz=198
T47A **Sharon Grove** 22.88 24 P P 18 27 36.6 +0.3
baz=208,SNR=9.2
IKP **In-Ko-Pah, Jac** 22.90 319 P P 18 27 37.6 +1.0
baz=131
SWSC **Sam W. Stewart** 22.90 320 P P 18 27 37.8 +1.4
baz=132
KSCO **Kaye Shedlock'** 22.94 351 P P 18 27 37.7 +0.7
baz=169,SNR=9.6
KSCO **Kaye Shedlock'** 22.94 351 eP P 18 27 37.7 +0.7
comp=Z,181nm,0.9s
Q38A **Cooks Store, C** 22.95 9 P P 18 27 37.2 +0.3
baz=191
HODGE **Hodges** 22.96 36 eP P 18 27 36.7 -0.5
comp=Z,48nm,0.9s
S45A **Carrier Mills** 22.97 20 P P 18 27 37.6 +0.5
baz=204,SNR=8.0
R43A **Red Bud** 23.11 17 P P 18 27 39.2 +0.6
baz=200,SNR=6.3
Q39A **Willow Grove F** 23.14 11 P P 18 27 38.8 -0.1
baz=193,SNR=5.6
BG3 **Lake Jocassee** 23.16 34 eP P 18 27 38.8 -0.4
comp=Z,97nm,1.4s
BC3 **Big Chuckawall** 23.17 321 P P 18 27 41.1 +1.7
baz=134
TKL **Tuckaleechee C** 23.25 31 P P 18 27 41.3 +1.2
comp=Z,17nm,0.6s,baz=193,slow=10,SNR=4.8
TKL **Tuckaleechee C** 23.25 31 eP P 18 27 40.3 +0.2
TKL pmax pmax
comp=Z,75nm,1.1s
TKL **Tuckaleechee C** 23.25 31 eP P 18 27 40.3 +0.2
comp=Z,75nm,1.1s
MONP2 **Monument Peak** 23.25 319 P P 18 27 42.0 +1.6
baz=131
Q40A **Laux Farm, Aux** 23.26 12 P P 18 27 40.7 +0.5
baz=195
T48A **Bowling Green** 23.27 25 P P 18 27 40.0 -0.2
baz=210,SNR=8.8
BAR **Barrett** 23.28 318 eP P 18 27 43.1 +2.7
RGRS **Roger Stewart** 23.29 41 eP P 18 27 40.0 -0.4
comp=Z,875nm,0.3s
R44A **Waltonville** 23.33 19 P P 18 27 41.2 +0.4
baz=202,SNR=7.9
W13A **Hualapai Mount** 23.33 326 eP P 18 27 44.5 +3.4
comp=Z,14nm,1.4s
IRM **Iron Mountain** 23.34 323 P P 18 27 42.7 +1.6
baz=135
Q24A **Divide** 23.36 346 P P 18 27 43.5 +2.0
baz=163
Q24A **Divide** 23.36 346 eP P 18 27 43.3 +1.8
comp=Z,73nm,1.1s
SLM **Saint Louis** 23.36 16 eP P 18 27 41.6 +0.5
SLM pmax pmax
comp=Z,90nm,1.0s
SLM **Saint Louis** 23.36 16 eP P 18 27 41.6 +0.5
comp=Z,90nm,1.0s
Q41A **Truxton** 23.41 14 P P 18 27 41.6 -0.1
baz=197,SNR=9.7
CSU **Charleston Sou** 23.42 41 eP P 18 27 41.7 -0.1
NHSC **New Hope** 23.43 41 P P 18 27 41.8 -0.1
baz=228,SNR=6.9
NHSC **New Hope** 23.43 41 eP P 18 27 42.2 +0.3
comp=Z,443nm,1.1s
P37A **Lathrop** 23.46 8 P P 18 27 42.1 -0.1
baz=189,SNR=5.3
USIN **University of** 23.54 21 eP P 18 27 43.1 +0.2
comp=Z,354nm,1.0s
Q42A **Golden Eagle** 23.54 15 P P 18 27 43.1 +0.1
baz=199,SNR=7.7
PV01 **Paradox Valley** 23.55 339 eP P 18 27 45.6 +2.3
JSC **Jenkinsville** 23.57 37 eP P 18 27 41.7 -1.6
JSC pmax pmax
comp=Z,71nm,1.3s
JSC **Jenkinsville** 23.57 37 eP P 18 27 41.7 -1.6
comp=Z,71nm,1.3s
U15A **North Rim** 23.58 331 eP P 18 27 45.2 +1.5
comp=Z,103nm,1.3s
P39B **Salisbury** 23.61 11 P P 18 27 44.1 +0.5
baz=193,SNR=9.9
P38A **Dawn** 23.61 9 P P 18 27 44.4 +0.8
baz=191,SNR=8.6
R45A **Skylar, Fairfi** 23.62 20 P P 18 27 43.6 -0.2
baz=204
PAULI **Pauline** 23.65 36 eP P 18 27 44.8 +0.7
comp=Z,58nm,1.2s
PV05 **Paradox Valley** 23.68 338 eP P 18 27 46.0 +1.4
CPE **Camp Elliot** 23.69 318 eP P 18 27 46.5 +2.0
comp=Z,136nm,1.9s
O33A **Hebron** 23.70 1 P P 18 27 45.0 +0.5
baz=181
BELC **Belle Mtn. Jos** 23.73 321 P P 18 27 46.1 +1.1
baz=134
XPFO **Piæon Flat** 23.75 320 eP P 18 27 46.9 +1.7
comp=Z,6.9nm,1.2s
PFO **Pinyon Flats O** 23.75 320 P P 18 27 46.5 +1.3
baz=132
PFO **Pinyon Flats O** 23.75 320 eP P 18 27 46.5 +1.3
PFO pmax pmax
comp=Z,6.0nm,1.2s
PFO **Pinyon Flats O** 23.75 320 eP P 18 27 46.5 +1.3
comp=Z,6.5nm,1.2s
P40A **Paris** 23.79 12 P P 18 27 46.0 +0.7
baz=195,SNR=12
Q43A **New Douglas** 23.79 17 P P 18 27 45.4 0.0
baz=200
R46A **Gibon Southern** 23.81 21 P P 18 27 46.1 +0.5
baz=206
DNR **Dunn Ranch,Anz** 23.83 320 eP P 18 27 44.3 -1.7
DNR ePcP PcP 18 31 28.3 -1.0
O34A **Beatrice** 23.84 3 P P 18 27 47.0 +1.1
baz=184,SNR=13
PV10 **Paradox Valley** 23.92 339 eP P 18 27 46.9 -0.1
Q44A **Meyer Farm, Va** 23.95 18 P P 18 27 47.3 +0.4
baz=202,SNR=5.1
O35A **Humbolt** 23.97 5 P P 18 27 48.0 +0.8
baz=185,SNR=5.4
LDFC **Landfair** 23.98 324 eP P 18 27 50.6 +3.2
comp=Z,192nm,1.8s
SMCO **Snowmass** 24.02 343 eP P 18 27 49.7 +1.7
comp=Z,444nm,1.8s
O37A **Wolven Farm, M** 24.06 8 P P 18 27 47.9 0.0
baz=190,SNR=7.9
TZTN **Tazewell** 24.06 30 P P 18 27 48.4 +0.4
baz=216
TZTN **Tazewell** 24.06 30 eP P 18 27 48.2 +0.2
comp=Z,579nm,1.9s
PV09 **Paradox Valley** 24.07 339 eP P 18 27 50.1 +1.7
TUMC **Tumaco** 24.07 125 eP P 18 27 49.7 +1.4
comp=Z,123nm,0.9s
GMRC **Granite Mounta** 24.08 323 P P 18 27 50.2 +1.8
baz=135
OLIL **Olney** 24.09 20 eP P 18 27 47.3 -0.8
comp=Z,146nm,1.1s
O38A **Galt** 24.11 9 P P 18 27 49.1 +0.8
baz=191,SNR=13
P41A **Barry, Barry** 24.14 14 P P 18 27 48.2 -0.4
baz=197
KMSC **Kings Mountain** 24.15 36 P P 18 27 48.9 0.0
baz=223
KMSC **Kings Mountain** 24.15 36 eP P 18 27 49.4 +0.6
comp=Z,121nm,1.3s
MURC **Murrieta** 24.21 319 P P 18 27 51.9 +2.5
baz=131
Q45A **Warren Harvey,** 24.21 20 P P 18 27 50.0 +0.6
baz=204
P42A **Winchester** 24.23 15 P P 18 27 50.0 +0.6
baz=198,SNR=9.4
ISCO **Idaho Springs** 24.26 346 P P 18 27 51.6 +1.5
baz=162,SNR=13
ISCO **Idaho Springs** 24.26 346 eP P 18 27 51.4 +1.2
ISCO pmax pmax
comp=Z,435nm,1.7s
ISCO **Idaho Springs** 24.26 346 eP P 18 27 51.4 +1.2
comp=Z,435nm,1.7s
WCI **Wyandotte Cave** 24.28 24 P P 18 27 50.4 +0.5
baz=209
WCI **Wyandotte Cave** 24.28 24 eP P 18 27 49.9 0.0
WCI pmax pmax
comp=Z,176nm,1.0s
WCI **Wyandotte Cave** 24.28 24 eP P 18 27 49.9 0.0
comp=Z,176nm,1.0s
KNB **Kanab** 24.30 331 eP P 18 27 51.2 +0.7
KNB pmax pmax
comp=Z,192nm,1.6s
KNB **Kanab** 24.30 331 eP P 18 27 51.1 +0.7
comp=Z,192nm,1.6s
N33A **J Bar K, Exete** 24.36 2 P P 18 27 51.7 +0.9
baz=182
O40A **La Belle** 24.39 12 P P 18 27 51.5 +0.5
baz=195,SNR=15
O39A **Kirksville** 24.39 11 P P 18 27 51.4 +0.4
baz=193,SNR=11
HELC **Santa Helena** 24.49 112 eP P 18 27 53.0 +0.5
comp=Z,183nm,1.4s
P43A **Skaggs, Pawnee** 24.49 17 P P 18 27 52.2 +0.3
baz=200
LCMT **Little Creek M** 24.50 330 eP P 18 27 53.1 +0.9
comp=Z,64nm,1.1s
N34A **Lincoln** 24.50 3 P P 18 27 52.4 +0.4
baz=184,SNR=7.0
HEC **Hector,Ludlow** 24.51 322 P P 18 27 54.0 +1.8
baz=134
N35A **Tabor** 24.59 5 P P 18 27 53.0 +0.2
baz=186,SNR=5.8
R48A **Northridge Ran** 24.59 24 P P 18 27 53.1 +0.3
baz=209,SNR=9.8
P44A **Sand Creek, Wi** 24.59 18 P P 18 27 53.5 +0.7
baz=202
O41A **Passleys Farm,** 24.60 14 P P 18 27 53.0 +0.1
baz=197,SNR=10
N36A **Muff Farm, Cla** 24.60 6 P P 18 27 53.3 +0.4
baz=187
N37A **Lee Faris, Mou** 24.63 8 P P 18 27 53.3 +0.2
baz=189
TUQ **Turquoise Moun** 24.70 324 P P 18 27 55.2 +1.1
baz=136,SNR=12
OGNE **Ogallala** 24.77 353 P P 18 27 54.5 0.0
baz=171,SNR=7.8
OGNE **Ogallala** 24.77 353 eP P 18 27 55.0 +0.5
comp=Z,348nm,1.3s
N38A **Joes South For** 24.80 9 P P 18 27 55.2 +0.5
baz=191,SNR=15
Q47A **Bedord North L** 24.85 23 P P 18 27 55.5 +0.4
baz=208,SNR=5.3
MTPU **Mount Pierson** 24.86 333 eP P 18 27 57.7 +2.0
comp=Z,83nm,0.9s
CIS **Catalina Islan** 24.87 317 P P 18 27 57.3 +1.9
baz=128
SZCU **Shurtz Canyon** 24.90 331 eP P 18 27 58.5 +2.7
comp=Z,40nm,0.5s
BFSC **Mount Baldy Ra** 24.91 319 P P 18 27 57.7 +1.8
baz=131
P45A **Graceland, Par** 24.92 20 P P 18 27 56.4 +0.7
baz=204
CCUT **Cedar City** 24.99 331 eP P 18 27 58.9 +2.2

N39A	**Derby Farms, D**	25.00	10	P		P	18 27 56.4	-0.1		
	baz=193,SNR=9.6									
BLO	**Bloomington**	25.02	22	eP		P	18 27 57.0	+0.3		
BLO				pmax		pmax				
	comp=Z,203nm,1.5s									
BLO	**Bloomington**	25.02	22	eP		P	18 27 57.0	+0.3		
	comp=Z,203nm,1.5s									
BGNE	**Belgrade**	25.02	0	eP		P	18 27 57.9	+1.1		
	comp=Z,794nm,1.9s									
SHPR	**Sheep Range**	25.07	327	eP		P	18 27 59.5	+2.2		
	comp=Z,12nm,1.1s									
SRU	**San Rafael Swe**	25.11	337	eP		P	18 27 59.1	+1.4		
SRU				pmax		pmax				
	comp=Z,70nm,1.2s									
SRU	**San Rafael Swe**	25.11	337	eP		P	18 27 59.1	+1.4		
	comp=Z,70nm,1.2s									
GSC	**Goldstone, Bar**	25.11	322	P		P	18 27 58.9	+1.2		
	baz=134									
GSC	**Goldstone, Bar**	25.11	322	eP		P	18 28 00.2	+2.5		
GSC				pmax		pmax				
	comp=Z,170nm,1.8s									
GSC	**Goldstone, Bar**	25.11	322	eP		P	18 28 00.2	+2.5		
	comp=Z,170nm,1.8s									
MWC	**Mount Wilson**	25.16	319	eP		P	18 28 00.6	+2.4		
MWC	**Mount Wilson**	25.16	319	eP		P	18 28 00.6	+2.4		
M34A	**Aspy Farms, Fr**	25.16	3	P		P	18 27 58.9	+0.9		
	baz=184									
N41A	**Harden Midland**	25.17	13	P		P	18 27 58.1	+0.1		
	baz=197,SNR=7.0									
P46A	**Rosedale**	25.18	20	P		P	18 27 58.3	+0.2		
	baz=205									
M35A	**Neola**	25.18	5	P		P	18 27 59.0	+0.9		
	baz=186									
N40A	**Mertquake, Sal**	25.18	12	P		P	18 27 58.3	+0.2		
	baz=195,SNR=8.4									
PASC	**Pasadena Art C**	25.20	319	eP		P	18 28 00.9	+2.5		
	comp=Z,40nm,1.3s									
M33A	**Taylor Creek F**	25.20	2	P		P	18 27 59.5	+1.2		
	baz=182									
M36A	**Felix, Anita**	25.25	6	P		P	18 27 59.2	+0.5		
	baz=188,SNR=5.8									
MSU	**Marysvale**	25.25	334	eP		P	18 28 00.8	+1.7		
MSU	**Marysvale**	25.25	334	eP		P	18 28 00.8	+1.7		
O20A	**White River Ci**	25.27	342	P		P	18 27 59.8	+0.6		
	baz=157,SNR=5.7									
O20A	**White River Ci**	25.27	342	eP		P	18 28 00.2	+1.1		
	comp=Z,438nm,1.8s									
O44A	**Mansfield**	25.27	18	P		P	18 27 59.7	+0.8		
	baz=202									
OTAV	**Otavalo**	25.28	127	eP		P	18 28 01.0	+1.2		
	comp=Z,50nm,1.1s									
M37A	**Trindle Farm,**	25.29	8	P		P	18 27 59.4	+0.4		
	baz=189,SNR=6.5									
DECC	**Green Verdugo**	25.35	319	P		P	18 28 02.3	+2.5		
	baz=130									
N23A	**Red Feather La**	25.38	346	P		P	18 28 00.8	+0.6		
	baz=162,SNR=7.7									
N23A	**Red Feather La**	25.38	346	eP		P	18 28 01.1	+0.8		
	comp=Z,80nm,0.9s									
P47A	**Martinsville**	25.39	22	P		P	18 28 00.0	0.0		
	baz=208									
HDIL	**Hopedale**	25.41	16	P		P	18 28 00.6	+0.4		
	baz=200									
HDIL	**Hopedale**	25.41	16	eP		P	18 28 00.4	+0.3		
	comp=Z,328nm,1.5s									
M38A	**Pleasantville**	25.42	9	P		P	18 28 00.8	+0.5		
	baz=191,SNR=14									
TCRU	**Three Creeks R**	25.45	334	eP		P	18 28 02.5	+1.6		
	comp=Z,72nm,1.3s									
P18A	**Preston Nutter**	25.46	338	eP		P	18 28 02.7	+1.6		
	comp=Z,67nm,0.9s									
N42A	**Yates City**	25.48	15	P		P	18 28 01.3	+0.5		
	baz=198,SNR=7.7									
SNCC	**San Nicolas Is**	25.51	315	eP		P	18 28 03.4	+2.2		
	comp=Z,49nm,1.0s									
TMUT	**Trail Mountain**	25.53	336	eP		P	18 28 02.9	+1.2		
	comp=Z,229nm,1.9s									
EDW2	**Edwards Air Fo**	25.54	320	P		P	18 28 03.0	+1.4		
	baz=131									
O45A	**Potomac**	25.58	19	P		P	18 28 02.3	+0.5		
	baz=204,SNR=7.6									
L34A	**Svendsen Farm,**	25.63	3	P		P	18 28 02.8	+0.5		
	baz=184									
M39A	**Webster**	25.65	11	P		P	18 28 03.1	+0.8		
	baz=193,SNR=11									
PHWY	**Pilot Hill**	25.66	348	eP		P	18 28 04.6	+1.8		
	comp=Z,18nm,1.2s									
M40A	**Post Highland**	25.70	12	P		P	18 28 03.3	+0.5		
	baz=195,SNR=8.1									
BLG	**Laguna Peak, P**	25.73	317	P		P	18 28 03.2	0.0		
	baz=128									
LRMC	**Laurel Mtn Rad**	25.76	322	P		P	18 28 05.8	+2.2		
	baz=133									
L33A	**Hoskins**	25.79	2	P		P	18 28 04.5	+0.8		
	baz=182									
N43A	**Stutzman Famil**	25.80	16	P		P	18 28 03.8	0.0		
	baz=200,SNR=8.7									
OSI	**Osito Audit: C**	25.83	319	eP		P	18 28 06.4	+2.3		
	comp=Z,88nm,1.5s									
L35A	**Bielow Farm, R**	25.84	5	P		P	18 28 04.8	+0.7		
	baz=186									
M41A	**Milan**	25.88	14	P		P	18 28 04.7	+0.3		
	baz=197,SNR=5.8									
SCIA	**State Center**	25.90	9	P		P	18 28 04.9	+0.3		
	baz=191,SNR=13									
SCIA	**State Center**	25.90	9	eP		P	18 28 04.8	+0.2		
	comp=Z,224nm,0.8s									
SDDR	**Presa de Saban**	25.90	80	eP		P	18 28 04.8	-0.1		
	comp=Z,837nm,2.0s									
SFIN	**Lafayette**	25.90	20	P		P	18 28 04.7	+0.1		
	baz=205									
SFIN	**Lafayette**	25.90	20	eP		P	18 28 04.4	-0.2		
	comp=Z,337nm,1.6s									
L36A	**Harm Buss Farm**	25.91	6	P		P	18 28 04.9	+0.3		
	baz=188									
N44A	**Piper City**	25.96	18	P		P	18 28 05.4	+0.2		
	baz=202,SNR=5.7									
FURC	**Furnace Creek,**	25.97	324	P		P	18 28 06.9	+1.6		
	baz=136									
L37A	**Phoenix Point,**	26.04	8	P		P	18 28 06.3	+0.4		
	baz=190,SNR=6.0									
MPMC	**Manual Prospec**	26.04	323	P		P	18 28 08.1	+1.9		
	baz=134									
O47A	**Sheridan**	26.09	22	P		P	18 28 06.3	0.0		
	baz=207									
M42A	**Sheffield**	26.14	15	P		P	18 28 07.0	+0.2		
	baz=199,SNR=6.5									
L38A	**Oak Wood Farm,**	26.16	9	P		P	18 28 07.3	+0.2		
	baz=191,SNR=5.7									
ROSC	**El Rosal**	26.17	113	P		P	18 28 10.2	+2.4		
	comp=Z,5.5nm,0.3s,baz=170,slow=18,SNR=2.9									
ROSC	**El Rosal**	26.17	113	eP		P	18 28 08.1	+0.3		
	comp=Z,107nm,1.6s									
BLA	**Blacksburg**	26.17	34	eP		P	18 28 07.2	0.0		
BLA				pmax		pmax				
	comp=Z,171nm,1.4s									
BLA	**Blacksburg**	26.17	34	eP		P	18 28 07.2	0.0		
	comp=Z,171nm,1.4s									
N45A	**Kentland**	26.19	19	P		P	18 28 08.0	+0.7		
	baz=204									
PRAC	**Prado**	26.21	116	eP		P	18 28 08.3	+0.5		
	comp=Z,54nm,1.2s									
ARVC	**Arvin**	26.22	319	P		P	18 28 08.5	+0.9		
	baz=130									
GRTK	**Grand Turk**	26.23	74	eP		P	18 28 07.9	+0.1		
	comp=Z,233nm,1.0s									
K33A	**Hardington**	26.24	2	P		P	18 28 08.9	+1.2		
	baz=182									
DAC	**Darwin (Calif)**	26.25	323	eP		P	18 28 10.3	+2.2		
DAC	**Darwin (Calif)**	26.25	323	eP		P	18 28 10.3	+2.2		
CNNC	**Cliffs of the**	26.26	40	P		P	18 28 08.3	+0.3		
	baz=229									
CNNC	**Cliffs of the**	26.26	40	eP		P	18 28 08.0	+0.1		
	comp=Z,109nm,1.0s									
K32A	**Verdigre**	26.27	1	P		P	18 28 09.0	+1.0		
	baz=180									
L39A	**Vinton**	26.30	11	P		P	18 28 08.4	+0.1		
	baz=193									
MPU	**Maple Canyon**	26.32	337	eP		P	18 28 10.0	+1.3		
	comp=Z,149nm,1.9s									
M43A	**Waltham Townsh**	26.32	16	P		P	18 28 08.9	+0.5		
	baz=200,SNR=5.4									
ISA	**Isabella, Lake**	26.36	321	P		P	18 28 11.0	+2.1		
	baz=132									
ISA	**Isabella, Lake**	26.36	321	eP		P	18 28 11.1	+2.1		
ISA	**Isabella, Lake**	26.36	321	eP		P	18 28 11.1	+2.1		
K34A	**Le Mars**	26.37	4	P		P	18 28 09.6	+0.7		
	baz=184									
L40A	**Anamosa**	26.39	12	P		P	18 28 09.3	+0.2		
	baz=195,SNR=6.3									
VWCC	**Virginia Weste**	26.43	34	eP		P	18 28 09.2	-0.4		
RWWY	**Rawlins**	26.43	345	eP		P	18 28 11.3	+1.5		
	comp=Z,134nm,1.3s									
NLU	**North Lily Min**	26.43	336	eP		P	18 28 11.6	+1.8		
	comp=Z,38nm,1.3s									
K36A	**Gilmore City**	26.46	6	P		P	18 28 10.2	+0.5		
	baz=188									
K35A	**Storm Lake**	26.47	5	P		P	18 28 10.4	+0.6		
	baz=186,SNR=6.6									
N46A	**Monticello**	26.48	20	P		P	18 28 10.4	+0.5		
	baz=205									
M44A	**Midewin, Midew**	26.53	18	P		P	18 28 10.8	+0.4		
	baz=202,SNR=7.6									
L41A	**Preston**	26.55	13	P		P	18 28 10.8	+0.3		
	baz=197,SNR=10.0									
GRAC	**Grapevine Rang**	26.63	324	P		P	18 28 13.7	+2.3		
	baz=136									
CWC	**Cottonwood Cre**	26.65	323	P		P	18 28 14.2	+2.6		
	baz=134									
L42A	**Oliver, Polo**	26.68	14	P		P	18 28 12.0	+0.3		
	baz=198,SNR=11									
K37A	**Belmond**	26.68	8	P		P	18 28 12.1	+0.4		
	baz=190,SNR=14									
K38A	**Parkersburg**	26.69	9	P		P	18 28 11.3	-0.4		
	baz=192									
R11A	**Troy Canyon, C**	26.69	329	P		P	18 28 14.6	+2.6		
	baz=140									
R11A	**Troy Canyon, C**	26.69	329	eP		P	18 28 14.4	+2.3		
PKM	**Mcpherson Peak**	26.70	318	P		P	18 28 14.5	+2.3		
	baz=128									
JLU	**Jordanelle**	26.76	337	eP		P	18 28 15.0	+2.3		
	comp=Z,53nm,1.5s									
RUSC	**La Rusia**	26.81	110	eP		P	18 28 14.8	+1.1		
	comp=Z,30nm,1.1s									
VES	**Vestal, Richgr**	26.85	320	P		P	18 28 14.5	+1.2		
	baz=131,SNR=6.8									
K39A	**Oelwein**	26.89	11	P		P	18 28 13.5	-0.1		
	baz=193,SNR=7.8									
J31A	**Geddes**	26.91	359	P		P	18 28 14.8	+1.0		
	baz=179									
DUG	**Dugway, Tooele**	26.94	335	P		P	18 28 15.6	+1.3		
	baz=148									
DUG	**Dugway, Tooele**	26.94	335	eP		P	18 28 15.5	+1.3		
DUG				pmax		pmax				
	comp=Z,35nm,1.2s									
DUG	**Dugway, Tooele**	26.94	335	eP		P	18 28 15.5	+1.3		
	comp=Z,35nm,1.2s									
CTU	**Camp Tracy**	26.95	337	eP		P	18 28 15.8	+1.4		
	comp=Z,55nm,1.9s									
J33A	**Davis**	26.95	2	P		P	18 28 15.1	+1.0		
	baz=182									
J34A	**George**	26.97	4	P		P	18 28 15.3	+0.9		
	baz=185									
J32A	**Parkston**	26.99	1	P		P	18 28 15.3	+0.8		
	baz=181									
K40A	**Colesburg**	27.02	12	P		P	18 28 14.9	+0.2		
	baz=195,SNR=7.9									
M46A	**Old House Fiel**	27.07	20	P		P	18 28 15.1	-0.2		
	baz=206									
L43A	**Garden Prairie**	27.08	16	P		P	18 28 15.7	+0.4		
	baz=200									
K41A	**Shullsburg**	27.11	13	P		P	18 28 15.6	+0.1		
	baz=197,SNR=5.8									
J35A	**Milford**	27.11	5	P		P	18 28 15.2	-0.3		
	baz=186									
J36A	**Seneca 1, Swea**	27.15	6	P		P	18 28 16.3	+0.3		
	baz=188,SNR=12									
TIN	**Tinemaha, Big**	27.16	323	P		P	18 28 18.6	+2.4		
	baz=134									
K22A	**Casper**	27.18	347	P		P	18 28 17.7	+1.3		
	baz=162									
K22A	**Casper**	27.18	347	eP		P	18 28 16.9	+0.5		
	comp=Z,157nm,1.5s									
SDD	**Santo Domingo**	27.19	81	eP		P	18 28 17.0	+0.5		
	comp=Z,297nm,1.2s									
TCUT	**Toone Canyon**	27.20	338	eP		P	18 28 18.3	+1.7		
	comp=Z,76nm,1.2s									
J37A	**Redenius Farm,**	27.23	8	P		P	18 28 17.1	+0.4		
	baz=190									
L44A	**Lake County Fo**	27.30	17	P		P	18 28 18.0	+0.8		
	baz=202									
ACSO	**Alum Creek Sta**	27.32	26	P		P	18 28 17.5	0.0		
	baz=213									
ACSO	**Alum Creek Sta**	27.32	26	eP		P	18 28 16.4	-1.1		
	comp=Z,208nm,1.6s									
ECSD	**EROS Data Cent**	27.38	3	P		P	18 28 17.9	-0.1		
	baz=183									
ECSD	**EROS Data Cent**	27.38	3	eP		P	18 28 18.6	+0.6		
	comp=Z,29nm,1.1s									
J38A	**Wedel Dairy, R**	27.39	9	P		P	18 28 17.6	-0.4		
	baz=192									
JFWS	**Jewell Farm**	27.41	13	P		P	18 28 17.9	-0.3		
	baz=197									
JFWS	**Jewell Farm**	27.41	13	eP		P	18 28 17.9	-0.3		
JFWS				pmax		pmax				
	comp=Z,115nm,1.5s									
JFWS	**Jewell Farm**	27.41	13	eP		P	18 28 17.9	-0.3		
	comp=Z,115nm,1.5s									
K42A	**Prairie Point,**	27.49	14	P		P	18 28 18.4	-0.6		
	baz=199									
PAGB	**Antelope Grade**	27.50	319	eP		P	18 28 22.5	+3.3		
	comp=Z,116nm,1.7s									
J39A	**Decorah**	27.53	10	P		P	18 28 19.3	-0.1		
	baz=194									
I35A	**Creekview Farm**	27.61	5	P		P	18 28 20.2	+0.1		
	baz=187,SNR=6.7									
BGU	**Big Grassy Mou**	27.64	336	eP		P	18 28 22.7	+2.1		
	comp=Z,44nm,1.4s									
K43A	**Burlington**	27.67	16	P		P	18 28 20.6	0.0		
	baz=201									
HWUT	**Hardware Ranch**	27.68	338	eP		P	18 28 22.7	+1.7		
I34A	**Hadley**	27.73	4	P		P	18 28 21.4	+0.3		
	baz=185									
SPUT	**South Promonto**	27.75	337	eP		P	18 28 23.3	+1.8		
J40A	**Soldiers Grove**	27.77	12	P		P	18 28 22.0	+0.5		
	baz=195									
I36A	**Fitzsimmons Fa**	27.87	7	P		P	18 28 22.2	-0.2		
	baz=188									
J41A	**Loganville**	27.89	13	P		P	18 28 22.4	-0.1		
	baz=197									
I37A	**Lemond, Waseca**	27.94	8	P		P	18 28 22.0	-1.0		
	baz=190									
SDV	**Santo Domingo**	27.99	102	P		P	18 28 24.4	+0.4		
	comp=Z,24nm,0.8s,baz=293,slow=4.4,SNR=7.2									
SDV	**Santo Domingo**	27.99	102	eP		P	18 28 24.0	0.0		
	comp=Z,41nm,0.9s									
IP07	**Quail**	27.99	36	eP		P	18 28 23.3	-0.2		
	comp=Z,148nm,1.6s									
IP06	**Yanceyville**	28.03	36	eP		P	18 28 22.8	-1.0		
	comp=Z,175nm,1.9s									
URVA	**University of**	28.03	37	eP		P	18 28 24.0	+0.2		
MDPB	**Devils Postpil**	28.05	323	eP		P	18 28 26.0	+1.6		
J42A	**Columbus**	28.05	14	P		P	18 28 23.6	-0.4		
	baz=199									
I39A	**Houston**	28.07	10	P		P	18 28 24.3	+0.1		
	baz=194									
BW06	**Boulder Array**	28.07	342	P		P	18 28 25.9	+1.5		
	baz=156									
BW06	**Boulder Array**	28.07	342	eP		P	18 28 26.0	+1.5		
	comp=Z,56nm,1.6s									
PD31	**Pinedale Array**	28.07	342	eP		P	18 28 25.3	+0.8		
PDAR	**Pinedale Array**	28.07	342	P		P	18 28 26.1	+1.6		
	comp=Z,6.1nm,0.7s,baz=133,slow=11,SNR=11									
PDAR				PcP		PcP	18 31 38.3	-0.7		
	comp=Z,1.0nm,0.7s,baz=152,slow=4.0,SNR=2.4									
PDAR	**Pinedale Array**	28.07	342	eP		P	18 28 25.2	+0.7		
PDAR				PcP		PcP	18 31 38.3	-0.7		
IP04	**Greensprings**	28.08	35	eP		P	18 28 23.1	-1.2		
	comp=Z,133nm,1.3s									
IP01	**Cuckoo**	28.08	36	eP		P	18 28 23.7	-0.6		
	comp=Z,349nm,1.8s									
NV11	**Mina Array Sit**	28.10	326	eP		P	18 28 26.4	+1.7		
I38A	**Scanlan Farm,**	28.12	9	P		P	18 28 24.5	0.0		
	baz=192,SNR=6.5									
H32A	**Carlson Farm,**	28.12	1	P		P	18 28 25.4	+0.8		
	baz=182									
RSSD	**Black Hills**	28.15	351	P		P	18 28 26.9	+1.8		
	baz=168									
RSSD	**Black Hills**	28.15	351	eP		P	18 28 26.4	+1.3		
RSSD				pmax		pmax				
	comp=Z,7.0nm,0.9s									
RSSD	**Black Hills**	28.15	351	eP		P	18 28 26.4	+1.3		
	comp=Z,7.4nm,0.9s									
PMPB	**Monarch Peak**	28.15	319	eP		P	18 28 26.9	+1.9		
	comp=Z,65nm,1.5s									
NV01	**Mina Array Sit**	28.18	325	eP		P	18 28 26.8	+1.4		
NVAR	**Mina Array Bea**	28.18	325	P		P	18 28 27.3	+1.9		
	comp=Z,8.3nm,0.9s,baz=152,slow=9.6,SNR=8.7									
NVAR				PcP		PcP	18 31 39.3	0.0		
	comp=Z,1.1nm,0.9s,baz=113,slow=2.3,SNR=2.4									
CVRD	**Centerville Ro**	28.22	36	eP		P	18 28 25.7	+0.1		
	comp=Z,41nm,1.1s									
I40A	**Norwalk**	28.27	12	P		P	18 28 26.3	+0.3		
	baz=195									
HVU	**Hansel Valley**	28.27	337	eP		P	18 28 27.9	+1.7		
HVU				pmax		pmax				
	comp=Z,9.0nm,0.9s									
HVU	**Hansel Valley**	28.27	337	eP		P	18 28 27.9	+1.7		
	comp=Z,9.4nm,0.9s									
J43A	**Natural Harves**	28.28	15	P		P	18 28 26.3	+0.2		
	baz=200									
MCWV	**Mont Chateau**	28.31	31	eP		P	18 28 25.1	-1.2		
H33A	**Prehn Over Nor**	28.32	2	P		P	18 28 26.6	+0.1		
	baz=183									
LRC	**Lone Oak Road**	28.32	319	eP		P	18 28 28.6	+2.1		
H34A	**Spellman Lake,**	28.36	4	P		P	18 28 27.1	+0.3		
	baz=185									
H36A	**Jessenland, He**	28.43	7	P		P	18 28 27.2	-0.1		
	baz=189									
RYN	**Ryan**	28.44	325	eP		P	18 28 29.3	+1.6		
H35A	**Sunnyside Ranc**	28.46	5	P		P	18 28 27.3	-0.3		
	baz=187									
AHID	**Auburn Hatcher**	28.55	340	eP		P	18 28 29.8	+1.1		
H37A	**Dierke Farm, C**	28.56	8	P		P	18 28 29.4	+0.8		
	baz=191									
I42A	**Draeger Farm,**	28.64	14	P		P	18 28 29.3	0.0		
	baz=199									
H38A	**Maiden Rock**	28.74	9	P		P	18 28 30.5	+0.4		
	baz=192									
AAM	**Ann Arbor**	28.81	23	eP		P	18 28 30.8	0.0		
AAM				pmax		pmax				
	comp=Z,50nm,1.0s									
AAM	**Ann Arbor**	28.81	23	eP		P	18 28 30.8	0.0		
	comp=Z,50nm,1.0s									
I43A	**Langenfeld Bro**	28.82	15	P		P	18 28 30.9	0.0		
	baz=200									
G33A	**Ortonville**	28.85	3	P		P	18 28 30.8	-0.3		
	baz=183									
WAKR	**Walker**	28.86	324	eP		P	18 28 32.6	+1.2		
G32A	**Webster**	28.88	1	P		P	18 28 30.9	-0.5		
	baz=181									
H39A	**Augusta**	28.91	10	P		P	18 28 31.4	-0.3		
	baz=194									
G34A	**Benson**	28.94	4	P		P	18 28 31.4	-0.5		
	baz=185									
REDW	**Red Top Meadow**	29.01	341	eP		P	18 28 33.9	+1.1		
	comp=Z,57nm,1.4s									
G35A	**Watkins**	29.01	6	P		P	18 28 32.8	+0.3		
	baz=187									
H40A	**Chili**	29.02	12	P		P	18 28 32.7	+0.1		
	baz=196									
SNOW	**Snow King Moun**	29.07	341	eP		P	18 28 35.2	+1.8		
	comp=Z,89nm,1.9s									
CMB	**Columbia Colle**	29.08	322	eP		P	18 28 35.0	+1.7		
CMB	**Columbia Colle**	29.08	322	eP		P	18 28 35.0	+1.7		
YERR	**Yerington**	29.08	325	eP		P	18 28 34.9	+1.4		
TPAW	**Teton Pass**	29.15	341	eP		P	18 28 34.6	+0.5		
	comp=Z,2.2nm,0.6s									
LOHW	**Long Hollow**	29.16	342	eP		P	18 28 36.1	+2.0		
	comp=Z,276nm,1.9s									
H41A	**Junction City**	29.16	13	P		P	18 28 34.4	+0.5		
	baz=197									
SPMN	**Marine on St.**	29.21	8	P		P	18 28 33.9	-0.4		
	baz=191									
SPMN	**Marine on St.**	29.21	8	eP		P	18 28 33.8	-0.4		
	comp=Z,67nm,1.4s									
N54A	**Moraine State**	29.25	29	eP		P	18 28 34.7	0.0		
	comp=Z,295nm,1.9s									
G38A	**Ridgeland**	29.29	9	P		P	18 28 35.0	0.0		
	baz=192									
FXWY	**Fox Creek**	29.31	341	eP		P	18 28 37.8	+2.3		
	comp=Z,6.0nm,0.9s									
MOOW	**Moose Ponds**	29.32	341	eP		P	18 28 37.5	+1.9		
	comp=Z,83nm,2.0s									
O56A	**Blue Knob Stat**	29.41	32	eP		P	18 28 36.1	-0.1		
H43A	**Windswept, Lux**	29.47	15	P		P	18 28 36.6	0.0		
	baz=201									
F31A	**Hecla**	29.47	0	P		P	18 28 36.6	0.0		
	baz=180									
F33A	**5 Mile Ranch,**	29.50	3	P		P	18 28 36.6	-0.3		
	baz=184									
RDG13	**Poverty Ridge**	29.50	320	eP		P	18 28 39.0	+2.0		
	comp=Z,63nm,1.8s									
G39A	**Holcombe**	29.52	10	P		P	18 28 36.6	-0.5		
	baz=194									
IMW	**Indian Meadow**	29.52	341	eP		P	18 28 38.8	+1.4		
	comp=Z,39nm,1.4s									
VCNR	**Virginia City**	29.53	325	eP		P	18 28 39.8	+2.4		
	comp=Z,23nm,1.3s									
F35A	**Swanville**	29.64	5	P		P	18 28 39.2	+1.1		
	baz=187									
RUBR	**Rubicon Trail**	29.64	324	eP		P	18 28 41.2	+2.8		
	comp=Z,260n

baz=189
D37A Cotton 31.16 8 P P 18 28 51.5 0.0
baz=191
F45A CMU Biological 31.20 17 P P 18 28 51.8 -0.1
baz=204
F44A Big Bay de Noc 31.22 16 P P 18 28 51.9 -0.1
baz=202,SNR=5.2
E42A Champion 31.27 14 P P 18 28 51.9 -0.6
baz=199
WVOR Wild Horse Val 31.32 330 eP P 18 28 54.9 +1.8
WVOR pmax pmax
comp=Z,42nm,1.4s
WVOR Wild Horse Val 31.32 330 eP P 18 28 54.9 +1.8
comp=Z,42nm,1.4s
MTP Monte Pirata 31.34 82 eP P 18 28 52.8 -0.7
comp=Z,351nm,1.6s
DLMT Dillon 31.36 340 eP P 18 28 55.8 +2.4
comp=Z,65nm,1.4s
C34A RKJ Ranch, Bem 31.39 4 P P 18 28 53.2 -0.3
baz=186
C31A Landman Farms, 31.41 1 P P 18 28 53.7 0.0
baz=181
C33A Trail 31.44 3 P P 18 28 53.9 -0.1
baz=184
E43A Lone Tree Farm 31.44 15 P P 18 28 53.8 -0.2
baz=201
MDND Maddock 31.48 358 P P 18 28 55.0 +0.7
baz=177,SNR=6.0
F46A Macinaw City C 31.51 18 P P 18 28 54.9 +0.3
baz=205
C35A Jirik Farms, M 31.52 6 P P 18 28 53.9 -0.8
baz=188
C36A Pine Crest Far 31.70 7 P P 18 28 56.5 +0.2
baz=190
D41A Chassel 31.72 13 P P 18 28 57.2 +0.7
baz=198
C37A Embarrass 31.75 8 P P 18 28 57.5 +0.8
baz=191
C38A Sawbill Land. 31.87 9 P P 18 28 57.5 -0.3
baz=193
STVI Saint Thomas 31.90 81 eP P 18 28 57.4 -1.0
comp=Z,67nm,1.0s
J08A Circle Bar Ran 31.96 332 eP P 18 29 00.5 +1.8
comp=Z,31nm,0.9s
B33A Robert and Kas 31.96 3 P P 18 28 58.5 -0.1
baz=185
AGMN Agassiz Nation 31.97 3 P P 18 28 59.1 +0.5
baz=184,SNR=6.3
AGMN Agassiz Nation 31.97 3 eP P 18 28 58.8 +0.2
comp=Z,15nm,0.8s
B32A Ashes, Strandq 32.04 2 P P 18 28 59.4 +0.2
baz=183
EYMN Ely 32.06 9 P P 18 28 59.4 0.0
baz=192
C39A Grand Marais 32.15 10 P P 18 29 00.3 +0.1
baz=195
BINY Binghamton 32.15 32 P P 18 29 00.0 -0.3
baz=223
B35A Bob, Littlefor 32.20 6 P P 18 29 00.2 -0.4
baz=188
B34A Aery, Baudette 32.24 5 P P 18 29 01.5 +0.5
baz=186
F10A Beach Ranch, E 33.54 336 eP P 18 29 13.4 +0.9
comp=Z,19nm,1.0s
ULM Lac du Bonnet 33.92 3 P P 18 29 15.7 0.0
comp=Z,22nm,1.0s,baz=172,slow=13,SNR=7.0
LONY Lake Ozonia 34.61 30 P P 18 29 21.7 0.0
baz=223
H04A Detroit Lake 34.72 330 eP P 18 29 24.6 +1.9
comp=Z,66nm,1.8s
G05D Wamic, OR 34.72 331 P P 18 29 24.8 +2.2
baz=139
HRV Adam Dziewonsk 34.74 36 P P 18 29 23.0 +0.2
baz=229
GULW Guler Mountain 35.36 332 eP P 18 29 30.7 +2.4
NEW Newport 35.41 338 P P 18 29 30.0 +1.3
baz=148
C09A Chrisman Ranch 35.45 337 eP P 18 29 31.3 +2.4
comp=Z,14nm,1.1s
FDF Fort de France 35.83 87 eP P 18 29 31.9 -0.7
FDF pmax pmax
comp=Z,82nm,0.9s
FDF Fort de France 35.83 87 eP P 18 29 31.9 -0.7
comp=Z,82nm,0.9s
KDKW Coast Env Seat 36.96 333 ePcP PcP 18 32 04.2 +1.2
FFC Flin Flon 38.45 357 eP P 18 29 54.6 +0.3
FFC pmax pmax
comp=Z,21nm,0.8s
FFC Flin Flon 38.45 357 eP P 18 29 54.6 +0.3
comp=Z,21nm,0.8s
EDM Edmonton 38.69 346 eP P 18 29 57.0 +0.6
EDM pmax pmax
comp=Z,258nm,1.5s
EDM Edmonton 38.69 346 eP P 18 29 57.0 +0.6
comp=Z,258nm,1.5s
LLLB Lillooet 39.12 336 eP P 18 30 01.1 +1.0
comp=Z,2.2nm,0.8s
SAML Samuel 42.89 123 eP P 18 30 29.2 -2.3
comp=Z,6.0nm,1.0s
LPAZ La Paz 44.00 136 P P 18 30 39.9 -1.2
comp=Z,4.6nm,1.0s,baz=323,slow=8.0,SNR=4.3
LPAZ La Paz 44.00 136 eP P 18 30 39.6 -1.5
LPAZ La Paz 44.00 136 eP P 18 30 39.6 -1.5
SCHQ Schefferville 45.47 25 P P 18 30 51.9 +0.1
comp=Z,37nm,0.8s,baz=228,slow=6.1,SNR=13
SCHQ Schefferville 45.47 25 eP P 18 30 51.4 -0.3
comp=Z,123nm,1.5s
YKA Yellowknife Ar 47.54 350 P P 18 31 07.7 -0.1
comp=Z,6.7nm,0.9s,baz=157,slow=7.5,SNR=11
YKA PcP PcP 18 32 37.8 +0.1
comp=Z,1.5nm,0.9s,baz=157,slow=3.5,SNR=2.1
SIV San Ignacio 48.79 129 P P 18 31 16.9 -1.2
comp=Z,3.4nm,0.7s,baz=313,slow=9.0,SNR=7.6
HYT Haines Junctio 52.56 337 eP P 18 31 47.5 +1.3
comp=Z,99nm,2.0s
BMRM Bremner River 55.44 335 eP P 18 32 08.8 +1.7
comp=Z,83nm,1.5s
DIV Divide 56.01 334 eP P 18 32 13.2 +2.0
comp=Z,46nm,1.2s
FID Port Fidalgo 56.11 334 eP P 18 32 14.6 +2.7
comp=Z,114nm,1.6s
KLU Klutina 56.26 335 eP P 18 32 14.3 +1.3
comp=Z,42nm,1.2s
EGAK Eagle 56.37 340 eP P 18 32 14.5 +0.8
comp=Z,21nm,0.9s
HARP HAARP 56.44 336 eP P 18 32 16.5 +2.3
comp=Z,208nm,1.7s
INK Inuvik 56.58 345 P P 18 32 15.8 +0.7
comp=Z,16nm,0.8s,baz=128,slow=6.9,SNR=16
INK Inuvik 56.58 345 eP P 18 32 15.7 +0.7
INK pmax pmax
comp=Z,57nm,1.5s
INK Inuvik 56.58 345 eP P 18 32 15.7 +0.6
comp=Z,57nm,1.5s
DOT Dot Lake 56.72 338 eP P 18 32 17.8 +1.6
comp=Z,114nm,1.2s
PAX Paxson 56.87 336 eP P 18 32 18.3 +1.0
PAX pmax pmax
comp=Z,113nm,1.9s
PAX Paxson 56.87 336 eP P 18 32 18.3 +1.0
comp=Z,113nm,1.9s
SCRK Sand Creek 56.88 338 eP P 18 32 18.8 +1.4
comp=Z,102nm,1.7s
RIDG Independ'e Rid 57.06 337 eP P 18 32 20.2 +1.6
comp=Z,55nm,1.0s
SML Sawmill 57.41 334 eP P 18 32 22.2 +1.1
SML pmax pmax
comp=Z,48nm,1.3s
SML Sawmill 57.41 334 eP P 18 32 22.2 +1.1
comp=Z,48nm,1.3s
BRLK Bradley Lake 57.59 332 eP P 18 32 23.3 +1.0
comp=Z,132nm,1.9s
RC01 Rabbit Creek A 57.66 333 eP P 18 32 23.6 +0.7
comp=Z,20nm,1.1s
CPUP Villa Florida 58.17 136 P P 18 32 25.4 -1.5
comp=Z,4.2nm,0.8s,baz=318,slow=7.4,SNR=7.7
CPUP Villa Florida 58.17 136 eP P 18 32 25.4 -1.5
CPUP pmax pmax
comp=Z,21nm,1.6s
CPUP Villa Florida 58.17 136 eP P 18 32 25.4 -1.5
comp=Z,20nm,1.6s
SUA Susitna One 58.27 333 eP P 18 32 28.1 +0.9
comp=Z,41nm,0.9s
IL1 Eielson Array 58.37 338 eP P 18 32 28.1 +0.3
ILAR Eielson Array 58.37 338 P P 18 32 28.8 +1.0
comp=Z,6.7nm,0.8s,baz=136,slow=5.2,SNR=23
ILB Eielson Array 58.37 338 eP P 18 32 28.7 +1.0
RND Reindeer 58.41 336 eP P 18 32 28.8 +0.7
RND pmax pmax
comp=Z,111nm,1.4s
RND Reindeer 58.41 336 eP P 18 32 28.8 +0.7
comp=Z,111nm,1.4s
RES Resolute Bay 58.42 1 P P 18 32 27.6 -0.3
comp=Z,5.2nm,0.8s,baz=202,slow=11,SNR=5.6
RES Resolute Bay 58.42 1 eP P 18 32 27.8 -0.1
RES pmax pmax
comp=Z,203nm,1.9s
RES Resolute Bay 58.42 1 eP P 18 32 27.8 -0.1
comp=Z,203nm,1.9s
MCK McKinley 58.60 336 eP P 18 32 30.5 +1.1
MCK pmax pmax
comp=Z,27nm,1.0s
MCK McKinley 58.60 336 eP P 18 32 30.5 +1.1
comp=Z,28nm,1.0s
CCB Clear Creek Bu 58.64 337 eP P 18 32 29.5 -0.1
comp=Z,6.3nm,0.8s
WRH Wood River Hil 58.66 337 eP P 18 32 30.1 +0.3
comp=Z,29nm,1.3s
COLA College 58.78 338 eP P 18 32 31.4 +0.9
COLA pmax pmax
comp=Z,24nm,0.8s
COLA College 58.78 338 eP P 18 32 31.4 +0.9
comp=Z,24nm,0.8s
MDM Murphy Dome 58.96 338 eP P 18 32 32.5 +0.7
comp=Z,28nm,1.5s
TRF Thorofare Moun 58.99 336 eP P 18 32 33.5 +1.2
comp=Z,68nm,1.0s
KTH Kantishna Hill 59.30 336 eP P 18 32 35.0 +0.7
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 59.30 20 P P 18 32 34.5 +0.3
comp=Z,18nm,0.8s,baz=230,slow=3.5,SNR=6.7
PPLA Purkeypile 59.51 335 eP P 18 32 36.0 +0.1
comp=Z,116nm,1.6s
BPAW Bear Paw Mtn. 59.57 336 eP P 18 32 36.7 +0.6
comp=Z,106nm,1.0s
CAST Castle Rocks 59.70 335 eP P 18 32 37.2 +0.2
comp=Z,42nm,0.9s
MLY Manley 59.92 337 eP P 18 32 39.2 +0.7
comp=Z,44nm,1.1s
SVW2 Sparrevohn 60.25 332 eP P 18 32 40.8 -0.1
comp=Z,16nm,0.9s
COLD Coldfoot 60.81 339 eP P 18 32 45.8 +1.2
comp=Z,48nm,1.5s
TOLK Toolik Lake Re 61.33 341 P P 18 32 48.8 +0.7
baz=121
TOLK Toolik Lake Re 61.33 341 eP P 18 32 49.0 +0.9
comp=Z,24nm,1.1s
PLCA Paso Flores 62.33 156 P P 18 32 54.5 -0.7
comp=Z,7.4nm,0.9s,baz=355,slow=8.7,SNR=11
PLCA Paso Flores 62.33 156 eP P 18 32 54.8 -0.4
PLCA pmax pmax
comp=Z,28nm,1.3s
PLCA Paso Flores 62.33 156 eP P 18 32 54.8 -0.4
comp=Z,28nm,1.3s
SUMG Summit 65.72 17 eP P 18 33 17.4 -0.1
SUMG pmax pmax
comp=Z,37nm,1.0s
SUMG Summit 65.72 17 eP P 18 33 17.4 -0.1
comp=Z,37nm,1.0s
GAMB Gambell 68.16 333 eP P 18 33 33.4 +0.8
comp=Z,12nm,1.0s
BILL Bilibino 77.03 337 *i* P P 18 34 24.2 -1.2
BILL *i* 18 34 30.3
BILL *i* 18 34 40.9
BILL pmax pmax
comp=Z,11nm,1.1s
SPITS Spitsbergen Ar 79.03 11 P P 18 34 37.5 +1.1
comp=Z,6.1nm,0.8s,baz=259,slow=6.6,SNR=3.0
EKA Eskdalemuir Ar 79.66 35 P P 18 34 40.2 0.0
comp=Z,6.2nm,0.8s,baz=302,slow=4.8,SNR=8.5
ESDC Sonseca Array 83.05 51 P P 18 34 59.0 +0.5
comp=Z,3.1nm,0.8s,baz=295,slow=4.7,SNR=8.2
ES19 SONSECA Array 83.09 51 eP P 18 34 57.9 -1.0
SEY Seymchan 84.09 334 P P 18 35 04.1 +0.7
comp=Z,2.4nm,0.6s,baz=87,slow=4.4,SNR=5.7
SEY Seymchan 84.09 334⇑ eP P 18 35 04.3 +0.9
SEY *i* 18 35 09.6
KONO Kongsberg 84.83 29⇑ *i* P P 18 35 08.6 +1.5
KONO pmax pmax
comp=Z,52nm,1.4s
NBO02 NORSAR Array S 84.83 27 eP P 18 35 08.3 +1.2
NB2 NORSAR Subarra 84.99 27 P P 18 35 08.7 +0.7
comp=Z,2.2nm,0.7s,baz=298,slow=5.1
NB200 NORSAR Array S 84.99 27 eP P 18 35 08.5 +0.5
NOA NORSAR Array B 84.99 27 P P 18 35 08.5 +0.5
comp=Z,4.2nm,0.8s,baz=303,slow=5.0,SNR=7.8
NOA NORSAR Array B 84.99 27 eP P 18 35 09.0 +1.0
NOA pmax pmax
comp=Z,4.0nm,0.8s
PEA1 Petropavlovsk- 85.25 324 eP P 18 35 10.5 +1.1
PETK Petropavlovsk- 85.25 324 P P 18 35 10.5 +1.1
comp=Z,6.2nm,0.9s,baz=70,slow=12,SNR=3.2
DOU Dourbes 85.69 39 ⇑P P 18 35 11.2 -0.5
ARA0 ARCESS Array S 85.81 17 eP P 18 35 11.7 -0.3
ARCES ARCESS Array B 85.81 17 P P 18 35 11.7 -0.3
comp=Z,7.4nm,0.8s,baz=308,slow=4.5,SNR=9.6
ARCES ARCESS Array B 85.81 17 eP P 18 35 11.5 -0.4
ARCES ARCESS Array B 85.81 17 eP P 18 35 11.5 -0.4
BCLA Clavier 86.01 39 ⇓P P 18 35 13.5 +0.2
comp=Z,22nm,2.6s
MA2 Magadan 86.23 332 ⇓eP P 18 35 15.2 +1.0
MEM Membach 86.36 38 ⇑P P 18 35 14.9 -0.1
HFS Hagfors 86.49 28 P P 18 35 15.0 -0.4
comp=Z,3.3nm,0.8s,baz=240,slow=5.0,SNR=3.6
TIXI Tiksi 86.68 347 P P 18 35 16.1 0.0
comp=Z,4.6nm,0.9s,baz=17,slow=5.0,SNR=4.1
TIXI Tiksi 86.68 347⇑ *i* P P 18 35 16.0 -0.1
TIXI pmax pmax
comp=Z,21nm,1.4s
KOWA Kowa 90.03 75 P P 18 35 32.9 -0.3
comp=Z,4.0nm,0.7s,baz=297,slow=5.4,SNR=5.2
CLL Collm 90.12 36 eP P 18 35 33.0 +0.1
CLL Collm 90.12 36 eP P 18 35 33.0 +0.1
BRG Berggiesshubel 90.85 36 eP P 18 35 42.2 +5.9
comp=Z,58nm,2.0s
BRG Berggiesshubel 90.85 36 eP P 18 35 42.2 +5.9
BRG pmax pmax
comp=Z,58nm,2.0s
FIA0 FINESS Array S 90.92 23 eP P 18 35 35.7 -0.7
FIA0 FINESS Array S 90.92 23 eP P 18 35 35.7 -0.7
FINES FINESS Array B 90.92 23 P P 18 35 35.7 -0.7
comp=Z,2.7nm,0.9s,baz=51,slow=6.1,SNR=4.0
TIC Toumodi 91.32 83 ePKIKP P 18 35 43.7 +4.5
LIC Lamto 91.43 83 ePKIKP P 18 35 44.1 +4.4
comp=Z,100nm,1.4s
GERES GERESS Array B 91.64 38 P P 18 35 39.6 -0.5
comp=Z,0.9nm,0.8s,baz=327,slow=1.6,SNR=3.6
KIC Kosan Boka 91.66 83 ePKIKP P 18 35 44.1 +3.3
comp=Z,54nm,1.3s
YAK Yakutsk 93.26 339 P P 18 35 47.5 +0.4
comp=Z,11nm,0.6s,baz=86,slow=2.0,SNR=6.0
YAK Yakutsk 93.26 339 eP P 18 35 47.0 -0.2
YAK pmax pmax
comp=Z,23nm,0.8s
YAK Yakutsk 93.26 339 eP P 18 35 47.0 -0.2
comp=Z,23nm,0.8s
TOA1 Torodi Ar. Sit 95.72 75 eP P 18 35 58.1 -1.3
TORD Torodi Ar. Bea 95.73 75 P P 18 35 58.1 -1.3
comp=Z,1.5nm,0.9s,baz=279,slow=3.8,SNR=2.5
KLMR Klimovskoe 96.04 19 eP P 18 36 01.7 +1.8
KLMR pmax pmax
comp=Z,19nm,1.3s
KLMR Klimovskoe 96.04 19 eP P 18 36 01.7 +1.8
KLMR AMP 18 36 11.6
comp=Z,19nm,1.3s
AKASG Malin Array Be 99.03 31 P Pdif 18 36 11.6 -2.0
comp=Z,0.1nm,0.3s,baz=296,slow=3.0,SNR=3.2
AKBB Malin Array Si 99.03 31 eP Pdif 18 36 11.2 -2.4
AKBB Malin Array Si 99.03 31 eP Pdif 18 36 11.2 -2.4
KIV Kislovodsk 110.25 29 ePKIKP PKiKP 18 41 08.5 +3.4
KIV pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 110.28 7 PP PP 18 41 38.6 +0.5
comp=Z,0.9nm,0.8s,baz=335,slow=6.4,SNR=4.0
BJI Beijing 115.39 331 PKP PKPdf 18 41 16.5 +1.6
HHC Hu-ho-hao-te 116.73 335 ePKP PKPdf 18 41 14.1 -3.5
HHC PP PP 18 42 26.6 +2.2
HHC SKS SKSdf 18 48 21.3 -8.8
MK32 Makanchi Array 117.20 360 ePKPdf PKPdf 18 41 16.4 -1.9
MKAR Makanchi Array 117.20 360 PKP PKPdf 18 41 16.4 -1.9
comp=Z,0.2nm,0.5s,baz=34,slow=2.0,SNR=3.9
WMQ Urumqi 119.92 355 ePKP PKPdf 18 41 23.6 0.0
NJ2 Nanjing 120.16 324 ePKP PKPdf 18 41 26.3 +2.0
GEYT Alibeck 121.69 22 PKP PKPdf 18 41 27.1 -0.1
comp=Z,1.5nm,0.8s,baz=238,slow=5.1,SNR=5.1
XAN Xi'an 123.61 333 PKP PKPdf 18 41 36.1 +5.2
STKA Stephens Creek 123.78 242 PKP PKPdf 18 41 30.6 -0.5
comp=Z,4.2nm,0.8s,baz=36,slow=4.2,SNR=5.3
STKA Stephens Creek 123.78 242 ePKIKP PKPdf 18 41 30.3 -0.9
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 123.78 242 ePKPdf PKPdf 18 41 30.1 -1.0
LZH Lanzhou 123.83 338 ePKP PKPdf 18 41 32.6 +1.1
LZH sPKP 18 41 40.5
LZH LR LR
comp=Z,420nm,18.5s
LZH LR LR
comp=Z,390nm,18.0s
LZH LR LR
comp=Z,500nm,20.2s
BOSA Boshof 126.86 114 PKP PKPdf 18 41 36.3 -1.0
comp=Z,5.1nm,0.9s,baz=281,slow=3.9,SNR=4.5
CD2 Chengdu 128.48 336 PKP PKPdf 18 41 39.0 -1.4
WR1 Warramunga Arr 129.97 257 ePKPdf PKPdf 18 41 42.9 -0.4
WRA Warramunga Arr 129.97 257 PKP PKPdf 18 41 42.9 -0.5
comp=Z,4.6nm,0.9s,baz=85,slow=2.5,SNR=21
AS01 Alice Springs 130.54 253 ePKPdf PKPdf 18 41 42.5 -1.8
AS31 Alice Springs 130.59 253 ePKPdf PKPdf 18 41 42.5 -2.0
ASAR Alice Springs 130.59 253 PKP PKPdf 18 41 42.8 -1.7
comp=Z,2.3nm,0.8s,baz=85,slow=2.4,SNR=14
GYA Guiyang 131.04 330 ePdif Pdif 18 38 36.0 -0.7
GYA PKP PKPdf 18 41 45.0 -0.4
GYA PP PP 18 44 05.6 +4.6
GYA AMB AMB
comp=Z,140nm,7.8s
KMI Kunming 133.99 333 PKP PKPdf 18 41 47.9 -3.3
CMAR Chiang Mai Arr 141.50 333 PKP PKPdf 18 42 03.5 -1.4
comp=Z,0.4nm,0.7s,baz=7.6,slow=2.8,SNR=4.8
HYB Hyderabad 146.35 5 *i* PKP PKPdf 18 42 13.0 -0.4
KSM Kuching 146.66 299 ePKPdf PKPbc 18 42 15.0 -0.6
OPO Ambohidratompo 147.05 99 PKPbc PKPbc 18 42 17.2 +0.5
comp=Z,13nm,0.8s,baz=224,slow=2.4,SNR=16
ABPO Ambohimpanom 147.10 100 ePKP2 PKPbc 18 42 17.0 +0.2
ABPO Ambohimpanom 147.10 100 ePKPbc PKPbc 18 42 17.0 +0.2

ISCJB ***20*** *18:35:35.9±0.2, 16°.35N±0°.03×98°.14W±0°.02, h10km, mb5.0/163, Error ellipse: s-maj=3.8km s-min=2.9km az=18.0*

NEIC ***20*** *18:35:37.0±0.2, 16°.23N×98°.22W, h10km, mb5.1/156, MD5.3(MEX), Error ellipse: s-maj=4.8km s-min=3.3km az=33.0*

MEX ***20*** *18:35:38.8±0.5, 16°.18N×98°.54W, h13km±8km, MD5.3*

BJI ***20*** *18:35:39.5, 16°.50N×98°.10W, h17km, mB5.4/1, Ms5.4/1, Ms7 5.1/1*

IDC ***20*** *18:35:40.0±4.2, 16°.32N×98°.30W, h29km±28km, mb4.4/27, mb1 4.5/31, mb1mx4.4/50, mbtmp4.6/31, ML4.0/3, Error ellipse: s-maj=20.3km s-min=10.4km az=47.0*

MOS ***20*** *18:35:39.4±1.1, 16°.36N×98°.19W, h33km, mb5.3/43, Error ellipse: s-maj=10.1km s-min=4.7km az=105.0*

ISC 20 18:35:37.8±0.6, 16°.32N±0°.04×98°.42W±0°.03, h15km±3km, n673, σ1§51/692, mb5.1/163, 5C-6D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.25**	**354**	*eP*	**Pn**	**18 36 00.0**	**-0.8**
TLIG				*eS*	**Sb**	**18 36 16.4**	**-0.6**
TLIG	**Tlapa**	**1.25**	**354**	*eP*	**Pn**	**18 36 00.0**	**-0.8**
TLIG				*eS*	**Sb**	**18 36 15.4**	**-1.6**
ACX	**Acapulco**	**1.48**	**292**	*eP*	**Pb**	**18 36 04.3**	**-0.8**
ACX				*i* S	**Sn**	**18 36 21.4**	**-1.7**
VHO	**Vista Hermosa**	**1.78**	**65**	*eP*	**Pn**	**18 36 07.9**	**-0.4**
VHO				*i* S	**Sb**	**18 36 32.3**	**-0.2**
VHO	**Vista Hermosa**	**1.78**	**65**	*eP*	**Pn**	**18 36 07.9**	**-0.4**
VHO				*i* S	**Sb**	**18 36 32.3**	**-0.2**
CAIG	**El Cayaco**	**1.91**	**293**	*eP*	**Pn**	**18 36 07.4**	**-2.4**
CAIG				*i* S	**Sn**	**18 36 29.3**	**-4.3**
CAIG	**El Cayaco**	**1.91**	**293**	*eP*	**Pn**	**18 36 07.4**	**-2.4**
CAIG				*i* S	**Sn**	**18 36 28.1**	**-5.5**
HUIG	**Huatulco**	**2.29**	**103**	*i* P	**Pn**	**18 36 14.5**	**-0.5**
HUIG				*i* S	**Sn**	**18 36 41.5**	**-1.5**
HUIG	**Huatulco**	**2.29**	**103**	*i* P	**Pn**	**18 36 14.5**	**-0.5**
HUIG				*i* S	**Sn**	**18 36 42.1**	**-0.9**
PLIG	**Platanillo**	**2.31**	**334**	*eP*	**Pn**	**18 36 15.4**	**+0.1**
PLIG				*i* S	**Sn**	**18 36 42.8**	**-0.7**
TPIG	**Tehuac#an**	**2.32**	**26**	*eP*	**Pn**	**18 36 16.3**	**+0.6**
TPIG				*i* S	**Sn**	**18 36 45.6**	**+1.6**
TPIG	**Tehuac#an**	**2.32**	**26**	*eP*	**Pn**	**18 36 16.3**	**+0.6**
TPIG				*i* S	**Sb**	**18 36 47.2**	**-0.9**
YAIG	**Yautepec**	**2.60**	**346**	*eP*	**Pn**	**18 36 19.8**	**+0.2**
YAIG				*i* S	**Sn**	**18 36 50.6**	**-0.4**
YAIG	**Yautepec**	**2.60**	**346**	*eP*	**Pb**	**18 36 22.2**	**-2.1**
YAIG				*i* S	**Sn**	**18 36 52.9**	**+2.0**
PPM	**Popocatepetl**	**2.74**	**356**	*eP*	**Pn**	**18 36 22.4**	**+0.7**
PPM				*i* S	**Sn**	**18 36 55.3**	**+0.5**
MAVM	**Malinalco, Edo**	**2.82**	**339**	*eP*	**Pn**	**18 36 22.9**	**+0.4**
MAVM				*i* S	**Sn**	**18 36 56.5**	**+0.2**
UNM	**Universidad Na**	**3.08**	**347**	*eP*	**Pn**	**18 36 26.2**	**+0.1**
UNM				*i* S	**Sn**	**18 37 04.1**	**+1.2**
UNM	**Universidad Na**	**3.08**	**347**	*eP*	**Pb**	**18 36 29.2**	**-3.3**
UNM	**Universidad Na**	**3.08**	**347**	*ePn*	**Pb**	**18 36 29.1**	**-3.3**
UNM				eLg	Lg	18 37 18.3	
CMIG	**Matias Romero**	**3.48**	**77**	Pn	**Pn**	**18 36 30.5**	**-0.9**
	13nm,0.3s,baz=246,slow=13,SNR=18						
CMIG				Sn	**Sn**	**18 37 11.1**	**-1.2**
	136nm,0.3s,baz=267,slow=14,SNR=4.7						
CMIG				Lg	Lg	18 37 26.1	
	799nm,0.3s,baz=167,slow=21,SNR=4.6						
LVIG	**Laguna Verde**	**3.89**	**29**	*ePn*	**Pn**	**18 36 34.9**	**-2.1**
LVIG				eLg	Lg	18 37 37.7	
TUIG	**Tuzandepetl**	**4.19**	**65**	*eP*	**Pn**	**18 36 41.1**	**0.0**
TUIG				*i* S	**Sn**	**18 37 31.9**	**+2.1**
MOIG	**Morelia**	**4.25**	**322**	*ePn*	**Pn**	**18 36 46.1**	**+3.9**
MOIG				eLg	Lg	18 37 47.3	
JRQG	**Juriquilla Cam**	**4.77**	**337**	*ePn*	**Pn**	18 36 54.4	+5.1
JRQG				eLg	Lg	18 38 02.9	
PCIG		**5.04**	**96**	*eP*	**Pn**	**18 36 53.2**	**+0.4**
PCIG				*i* S	**Sn**	**18 37 51.7**	**+0.8**
ZAIG	**Zacatecas**	**7.51**	**329**	*ePn*	**Pn**	**18 37 30.2**	**+3.1**
TEIG	**Tepich**	**10.39**	**67**	*ePn*	**Pn**	**18 38 05.7**	**-0.7**
833A	**Chaparral WMA,**	**11.98**	**356**	P	**Pn**	**18 38 28.7**	**+0.6**
	baz=175,SNR=6.8						
H06E1	**SOCORRO T-PHAS**	**12.17**	**283**	T	T	18 50 40.4	
	SNR=40						
H06S1	**SOCORRO T**	**12.20**	**283**	T	T	18 50 48.6	
	SNR=31						
SLBS	**Sierra La Lagu**	**13.07**	**306**	*ePn*	**Pn**	**18 38 46.5**	**+3.4**
LPIG	**La Paz**	**13.57**	**307**	Pn	**Pn**	**18 38 52.5**	**+2.6**
	14nm,0.3s,baz=179,slow=2.1,SNR=3.0						
LTX	**Lajitas**	**13.82**	**340**	*eP*	**Pn**	**18 38 55.7**	**+2.3**
LTX	**Lajitas**	**13.82**	**340**	*ePn*	**Pn**	**18 38 55.7**	**+2.3**
TX31	**Lajitas Ar. Si**	**13.82**	**340**	*ePn*	**Pn**	**18 38 54.7**	**+1.3**
TXAR	**Lajitas Array**	**13.82**	**340**	Pn	**Pn**	**18 38 55.7**	**+2.3**
	0.1nm,0.3s,baz=165,slow=10,SNR=10						
TXAR				Lg	Lg	18 42 56.6	
	0.1nm,0.3s,baz=155,slow=30,SNR=3.5						
JCT	**Junction City**	**14.15**	**355**	P	**Pn**	**18 38 59.1**	**+1.3**
	baz=174						
JCT	**Junction City**	**14.15**	**355**	*eP*	**Pn**	**18 39 00.6**	**+2.8**
JCT	**Junction City**	**14.15**	**355**	*ePn*	**Pn**	**18 39 00.6**	**+2.8**
JTS	**JuntasAbangare**	**14.41**	**113**	Pn	**Pn**	**18 39 03.0**	**+1.6**
	3.5nm,0.3s,baz=57,slow=7.0,SNR=12						
JTS	**JuntasAbangare**	**14.41**	**113**	*eP*	**Pn**	**18 39 03.0**	**+1.6**
435B	**Jarrell**	**14.42**	**3**	P	**Pn**	**18 39 02.8**	**+1.4**
	baz=182						
WHTX	**Lake Whitney,**	**15.63**	**3**	P	**Pn**	**18 39 18.5**	**+0.9**
	baz=183,SNR=24						
WHTX	**Lake Whitney,**	**15.63**	**3**	*ePn*	**P**	**18 39 20.0**	**-1.7**
	183nm,1.1s						
NATX	**Nacogdoches**	**15.75**	**12**	P	**Pn**	**18 39 20.2**	**+1.1**
	baz=193						
NATX	**Nacogdoches**	**15.75**	**12**	*ePn*	**P**	**18 39 21.1**	**-2.0**
	217nm,1.3s						
ABTX	**Abilene, Hawle**	**16.27**	**356**	P	**P**	**18 39 28.0**	**-0.8**
	baz=175,SNR=25						
ABTX	**Abilene, Hawle**	**16.27**	**356**	*ePn*	**P**	**18 39 28.9**	**0.0**
	313nm,1.4s						
MNTX	**Cornudas Mount**	**16.57**	**339**	P	**P**	**18 39 30.9**	**-1.3**
	baz=156,SNR=8.1						
MNTX	**Cornudas Mount**	**16.57**	**339**	*ePn*	**Pn**	**18 39 30.5**	**+0.8**
	42nm,1.1s						
GDL2	**Guadalupe Moun**	**16.71**	**342**	*eSn*	**S**	**18 42 44.6**	**-3.4**
140A	**Cam and Jess,**	**16.84**	**14**	P	**P**	**18 39 34.0**	**-1.0**
	baz=196,SNR=15						
141A	**Papa Simpson,**	**16.97**	**16**	P	**Pn**	**18 39 35.0**	**+0.3**

baz=198
HSIG 17.11 320 *e*Pn P 18 39 38.9 +0.7
79nm,1.2s
244A Avery, Jackson 17.16 23 P Pn 18 39 36.4 -0.7
baz=205
Z40A Long Farm, Mag 17.47 14 P P 18 39 42.0 -0.1
baz=196,SNR=13
Z41A Richland Creek 17.61 16 P P 18 39 44.0 +0.3
baz=197,SNR=5.8
Z42A Norrel Spur, H 17.87 18 P P 18 39 46.1 -0.3
baz=200
WLAR White Oak Lake 17.95 15 *e*Pn P 18 39 47.8 +0.5
69nm,0.8s
319A Douglas 17.96 328 *e*Pn P 18 39 49.1 +1.4
120nm,1.1s
MSTX Muleshoe 18.01 348 P P 18 39 48.5 +0.3
baz=166
MSTX Muleshoe 18.01 348 *e*Pn Pn 18 39 47.1 -0.6
148nm,1.3s
247A Quitman 18.02 28 P Pn 18 39 47.4 -0.4
baz=211
Y40A Okolona 18.22 14 P P 18 39 50.2 -0.1
baz=195,SNR=7.1
121A Cookes Peak, D 18.24 334 P P 18 39 52.6 +1.9
baz=150
Y41A Eaglette Beard 18.25 16 P Pn 18 39 50.4 -0.2
baz=197
WMOK Wichita Mounta 18.35 359 P P 18 39 52.1 +0.3
baz=178
WMOK Wichita Mounta 18.35 359 *e*P P 18 39 52.1 +0.3
WMOK pmax pmax
comp=Z,138nm,1.8s
WMOK Wichita Mounta 18.35 359 *e*P P 18 39 52.1 +0.3
comp=Z,138nm,1.8s
X39A Fountain Ranch 18.52 11 P Pn 18 39 53.8 -0.1
baz=192
249A Camden 18.67 31 P P 18 39 55.1 -0.2
baz=215
AMTX Amarillo 18.72 352 P Pn 18 39 56.9 +0.5
baz=170
AMTX Amarillo 18.72 352 *e*P Pn 18 39 56.5 +0.2
comp=Z,90nm,1.1s
X40A Basin Creek Fa 18.78 14 P Pn 18 39 57.0 +0.1
baz=196,SNR=5.4
UALR University of 19.17 15 *e*P P 18 40 01.1 +0.3
comp=Z,81nm,1.1s
Y45A Yeager Farm, C 19.22 23 P Pn 18 40 01.9 -0.4
baz=206
W39A Magazine 19.25 12 P Pn 18 40 02.7 0.0
baz=193,SNR=10
149A Jones 19.33 31 P P 18 40 02.5 -0.1
baz=215
W40A Ferguson Farm, 19.40 13 P Pn 18 40 04.0 -0.4
baz=195
W40A Ferguson Farm, 19.40 13 *e*P P 18 40 03.7 +0.4
comp=Z,125nm,1.3s
BCIP Isla Barro Col 19.46 109 *e*P P 18 40 03.5 -0.6
comp=Z,149nm,1.5s
TUC Tucson 19.48 327 P Pn 18 40 07.1 +1.6
baz=142
TUC Tucson 19.48 327 *e*P Pn 18 40 07.5 +2.0
TUC pmax pmax
comp=Z,38nm,1.1s
TUC Tucson 19.48 327 *e*P Pn 18 40 07.5 +2.0
comp=Z,38nm,1.1s
Y46A Houston 19.50 24 P P 18 40 04.5 +0.2
baz=208,SNR=9.7
W41B Gary Mavity, V 19.57 15 P P 18 40 05.2 0.0
baz=197
LRAL Lakeview Retre 19.59 30 P P 18 40 04.9 -0.5
baz=214
LRAL Lakeview Retre 19.59 30 *e*P P 18 40 05.6 +0.2
comp=Z,45nm,1.2s
Z48A Northport 19.61 28 P P 18 40 05.3 -0.4
baz=212,SNR=7.5
TUL1 Leonard 19.65 6 P P 18 40 05.6 -0.5
baz=187,SNR=14
TUL1 Leonard 19.65 6 *e*P P 18 40 05.3 -0.8
comp=Z,321nm,1.6s
WHAR Wooly Hollow 19.68 15 *e*P P 18 40 06.3 0.0
comp=Z,308nm,1.9s
150A Eclectic 19.73 32 P P 18 40 06.5 -0.4
baz=217
OXF Oxford 19.84 22 P Pn 18 40 09.0 -0.7
baz=206
ANMO Albuquerque 19.90 340 P Pn 18 40 10.8 +0.2
comp=Z,0.7nm,0.3s,baz=335,slow=11,SNR=16
ANMO Lg Lg 18 46 11.4
comp=Z,0.0nm,0.3s,baz=240,slow=20,SNR=2.4
ANMO Albuquerque 19.90 340 P Pn 18 40 10.8 +0.2
baz=156
ANMO Albuquerque 19.90 340 *ce*P Pn 18 40 10.7 +0.1
ANMO pmax pmax
comp=Z,116nm,1.7s
ANMO Albuquerque 19.90 340 *e*P Pn 18 40 10.3 -0.3
comp=Z,50nm,1.0s
ANMO Lg Lg 18 46 11.4
V39A Pettigrew 19.90 11 P P 18 40 08.8 -0.1
baz=193,SNR=46
Y47A UCPARC, Winfie 19.93 27 P P 18 40 08.4 -0.7
baz=210
Z49A Columbiana 19.95 30 P P 18 40 08.9 -0.4
baz=215
556A Lake Butler 20.02 44 P P 18 40 09.5 -0.7
baz=230
151A Opelika 20.03 34 P P 18 40 09.7 -0.6
baz=219
MTDJ Mount Denham 20.04 82 *e*P P 18 40 09.3 -1.2
comp=Z,105nm,1.0s
V40A Witts Springs 20.04 13 P P 18 40 10.1 -0.3
baz=195,SNR=29
V41A Mountainview 20.18 15 P P 18 40 11.5 -0.3
baz=197,SNR=22
X46A Booneville 20.20 24 P P 18 40 11.3 -0.7
baz=208,SNR=5.6
Y48A Jasper 20.24 28 P P 18 40 11.6 -0.9
baz=212
HHAR Hobbs 20.28 10 *e*P P 18 40 12.5 -0.4
comp=Z,70nm,1.2s
Z50A Ashland 20.29 32 P P 18 40 12.7 -0.4
baz=216,SNR=12
214A Organ Pipe Nat 20.33 323 P Pn 18 40 16.8 +1.2
baz=136,SNR=10.0
V42A Cord 20.40 17 P P 18 40 13.7 -0.5
baz=199,SNR=7.0
X47A Russelville 20.45 26 P P 18 40 14.6 -0.3
baz=210,SNR=5.7
U39A Green Forest 20.46 11 P P 18 40 14.3 -0.6
baz=193,SNR=20
W45A Hickory Valley 20.50 22 P P 18 40 15.3 0.0
baz=205
Y49A Blount Mountai 20.54 30 P P 18 40 15.0 -0.8
baz=214,SNR=8.7
U40A Yellville 20.56 13 P P 18 40 15.7 -0.3
baz=195,SNR=36
X48A Hartselle 20.75 27 P P 18 40 17.0 -1.0
baz=212,SNR=11
254A Abbeville 20.76 39 P P 18 40 17.3 -0.8
baz=224
U41A Viola 20.77 15 P P 18 40 17.8 -0.4
baz=197,SNR=16
PLAL Pickwick Lake 20.77 25 *e*P P 18 40 17.0 -1.2
comp=Z,68nm,0.9s
X18A Snowflake 20.88 332 *e*P Pn 18 40 21.8 -0.4
comp=Z,101nm,1.3s
Y50A Piedmont 20.90 31 P P 18 40 19.4 -0.2
baz=216
U42A Revenden 20.95 16 P P 18 40 19.4 -0.8
baz=199,SNR=13
T38A Diamond 20.96 9 P P 18 40 19.5 -0.7
baz=190,SNR=20
T39A Clever 21.10 11 P P 18 40 21.7 -0.1
baz=193,SNR=20
X49A Woodville 21.12 29 P P 18 40 21.0 -1.0
baz=213,SNR=7.1
W47A Westpoint 21.20 25 P P 18 40 21.9 -1.0
baz=209,SNR=11
W18A Petrified Fore 21.29 334 P P 18 40 26.4 +2.4
baz=148,SNR=13
W18A Petrified Fore 21.29 334 *e*P P 18 40 26.2 +2.2
comp=Z,66nm,1.2s
W48A Pulaski 21.38 27 P P 18 40 23.8 -1.0
baz=211,SNR=16
T40A Mansfield 21.40 13 P P 18 40 24.6 -0.4
baz=195,SNR=9.5
X50A Fort Payne 21.40 30 P P 18 40 24.1 -1.0
baz=215
T25A Trinidad 21.41 347 P P 18 40 28.3 +2.9
baz=164,SNR=33
T25A Trinidad 21.41 347 *e*P P 18 40 28.2 +2.9
comp=Z,101nm,0.9s
MHTCO State Highway 21.46 346 *e*P P 18 40 28.5 +2.6
comp=Z,101nm,1.4s
V46A Holladay 21.47 23 P P 18 40 24.5 -1.3
baz=207,SNR=29
T41A Mountain View 21.47 15 P P 18 40 25.2 -0.6
baz=197,SNR=28
113A Mohawk Valley, 21.48 322 *e*P P 18 40 28.7 +2.9
comp=Z,126nm,1.6s
X16A Lo Mia Camp, P 21.48 329 *e*P P 18 40 28.4 +2.3
comp=Z,71nm,0.9s
PBMO Poplar Bluff 21.58 18 *e*P P 18 40 26.6 -0.3
comp=Z,68nm,0.6s
S38A Stockton 21.60 10 P P 18 40 26.8 -0.4
baz=191,SNR=8.5
T42A Van Buren 21.63 16 P P 18 40 27.1 -0.3
baz=199,SNR=12
U45A Rockin P Farm, 21.72 21 P P 18 40 30.0 +1.5
baz=205
GOGA Godfrey 21.72 36 P P 18 40 27.3 -1.2
baz=221,SNR=14
GOGA Godfrey 21.72 36 *e*P P 18 40 27.3 -1.2
GOGA pmax pmax
comp=Z,32nm,0.8s
GOGA Godfrey 21.72 36 *e*P P 18 40 27.2 -1.2
comp=Z,32nm,0.8s
V47A Nunnelly 21.73 25 P P 18 40 27.3 -1.2
baz=209,SNR=10
S39A Bolivar 21.76 11 P P 18 40 28.5 -0.3
baz=193,SNR=14
S40A Lebanon 21.83 13 P P 18 40 29.1 -0.5
baz=195,SNR=12
WVT Waverly 21.87 24 P P 18 40 28.8 -1.2
baz=208
WVT Waverly 21.87 24 *e*P P 18 40 28.0 -2.0
WVT pmax pmax
comp=Z,65nm,0.8s
WVT Waverly 21.87 24 *e*P P 18 40 28.0 -2.0
comp=Z,65nm,0.8s
T43A Greenville 21.90 18 P P 18 40 29.4 -1.0
baz=201,SNR=15
Y14A Wickenburg 21.91 326 *e*P P 18 40 32.1 +1.5
comp=Z,398nm,1.1s
V48A Smith Brothers 21.94 26 P P 18 40 29.3 -1.5
baz=210,SNR=8.0
S41A Jillco Farms, 21.99 14 P P 18 40 30.4 -1.0
baz=197,SNR=22
T44A Benton 22.12 19 P P 18 40 33.5 +0.8
baz=202
R38A Fenwick Farm, 22.14 9 P P 18 40 31.6 -1.4
baz=191,SNR=5.2
SDCO Great Sand Dun 22.24 345 P P 18 40 35.6 +1.3
baz=161
SDCO Great Sand Dun 22.24 345 *e*P P 18 40 36.7 +2.4
comp=Z,34nm,1.1s
GLA Glamis 22.30 321 P P 18 40 38.2 +3.4
baz=134
GLA Glamis 22.30 321 *e*P P 18 40 37.6 +2.8
GLA pmax pmax
comp=Z,211nm,1.9s
GLA Glamis 22.30 321 *e*P P 18 40 37.6 +2.8
comp=Z,211nm,1.9s
WUAZ Wupatki 22.35 331 P P 18 40 38.1 +2.7
baz=145,SNR=12
WUAZ Wupatki 22.35 331 *e*P P 18 40 36.0 +0.6
comp=Z,430nm,2.0s
U47A Clarksville 22.35 24 P P 18 40 33.6 -1.6
baz=208,SNR=15
S42A Caledonia 22.40 16 P P 18 40 35.6 -0.2
baz=199,SNR=22
R39A Chumby, Stover 22.42 11 P P 18 40 35.4 -0.6
baz=193,SNR=16
S43A Fulton Ridge, 22.42 18 P P 18 40 35.6 -0.4
baz=201
CBKS Cedar Bluff 22.44 357 P P 18 40 37.7 +1.5
baz=176
CBKS Cedar Bluff 22.44 357 *e*P P 18 40 38.0 +1.8
CBKS pmax pmax
comp=Z,96nm,1.0s
CBKS Cedar Bluff 22.44 357 *e*P P 18 40 38.0 +1.8
comp=Z,96nm,1.0s
BTCC Brits Corner 22.51 321 *e*P P 18 40 33.7 -3.3
R40A Maddies Statio 22.55 13 P P 18 40 37.8 +0.5
baz=195,SNR=41
S22A 4UR Ranch, Cre 22.60 342 P P 18 40 39.6 +1.4
baz=158
S22A 4UR Ranch, Cre 22.60 342 *e*P P 18 40 41.1 +2.9
comp=Z,171nm,1.9s
Y12C Blythe 22.62 323 P P 18 40 40.5 +2.4
baz=136
Y12C Blythe 22.62 323 *e*P P 18 40 40.8 +2.6
comp=Z,36nm,1.0s
MVCO Mesa Verde 22.64 339 P P 18 40 40.3 +1.7
baz=154,SNR=16
MVCO Mesa Verde 22.64 339 *e*P P 18 40 39.5 +0.9
comp=Z,194nm,1.5s
T46A Princeton 22.65 22 P P 18 40 37.7 -0.8
baz=206,SNR=14
WESC Westside Schoo 22.66 319 *e*P P 18 40 35.1 -3.4
WESC *e*PcP PcP 18 44 29.8 -1.2
WESC *e*Sn Sn 18 45 24.3 +24
FVM French Village 22.70 17 *e*P P 18 40 39.7 +0.7
FVM pmax pmax
comp=Z,28nm,0.9s
FVM French Village 22.70 17 *e*P P 18 40 39.7 +0.7
comp=Z,28nm,0.9s
U48A Cassie Pea, Po 22.71 25 P P 18 40 37.8 -1.3
baz=210,SNR=16
Q37A Longview Farm, 22.74 8 P P 18 40 39.3 0.0
baz=189
KSU1 Kansas State U 22.75 4 P P 18 40 39.7 +0.2
baz=184
KSU1 Kansas State U 22.75 4 *e*P P 18 40 40.4 +0.9
comp=Z,50nm,1.0s
R41A Rosebud 22.76 14 P P 18 40 38.9 -0.6
baz=197,SNR=22
S44A Carbondale 22.78 19 P P 18 40 38.3 -1.5
baz=203,SNR=10
PDMCI Parker Dam,Lak 22.81 325 P P 18 40 43.1 +3.0
baz=138,SNR=7.6
SIUC Southern Illin 22.81 19 *e*P P 18 40 40.3 +0.2
comp=Z,57nm,0.8s
IKP In-Ko-Pah, Jac 22.82 319 P P 18 40 43.5 +3.1
baz=131,SNR=7.0
SWSC Sam W. Stewart 22.82 320 P P 18 40 42.6 +2.3
baz=132,SNR=6.9
R42A Luebbering 22.89 16 P P 18 40 40.0 -0.8
baz=198
T47A Sharon Grove 22.90 24 P P 18 40 41.6 +0.6
baz=208,SNR=19
KSCO Kaye Shedlock' 22.91 352 P P 18 40 40.8 -0.5
baz=169
KSCO Kaye Shedlock' 22.91 352 *e*P P 18 40 40.5 -0.8
comp=Z,112nm,1.3s
Q38A Cooks Store, C 22.95 10 P P 18 40 41.2 -0.3
baz=191,SNR=9.3
S45A Carrier Mills 22.98 20 P P 18 40 41.3 -0.6
baz=204,SNR=12
HODGE Hodges 23.00 36 *e*P P 18 40 40.0 -2.1
comp=Z,23nm,1.0s
BC3 Big Chuckawall 23.10 321 P P 18 40 45.7 +2.4
baz=134
R43A Red Bud 23.11 17 P P 18 40 43.6 +0.4
baz=201,SNR=13
MONP2 Monument Peak 23.18 319 P P 18 40 46.9 +2.7
baz=131,SNR=11
BG3 Lake Jocassee 23.20 34 *e*P P 18 40 43.8 -0.4
comp=Z,32nm,0.9s
BAR Barrett 23.20 318 *e*P P 18 40 47.8 +3.6
comp=Z,39nm,1.1s
W13A Hualapai Mount 23.27 326 *e*P P 18 40 48.5 +3.4
comp=Z,28nm,1.0s
Q40A Laux Farm, Aux 23.27 13 P P 18 40 44.9 +0.1
baz=195
IRM Iron Mountain 23.27 323 P P 18 40 47.8 +2.9
baz=136,SNR=36
TKL Tuckaleechee C 23.28 31 P P 18 40 43.0 -1.9
comp=Z,15nm,0.9s,baz=199,slow=13,SNR=8.6
TKL Tuckaleechee C 23.28 31 *e*P P 18 40 43.8 -1.1
TKL pmax pmax
comp=Z,56nm,1.2s
TKL Tuckaleechee C 23.28 31 *e*P P 18 40 43.8 -1.1
comp=Z,56nm,1.2s
S46A Don Dixon Farm 23.29 22 P P 18 40 44.9 -0.1
baz=206
T48A Bowling Green 23.29 25 P P 18 40 43.8 -1.2
baz=210,SNR=15
Q24A Divide 23.32 347 P P 18 40 47.4 +1.7
baz=163
Q24A Divide 23.32 347 *e*P P 18 40 48.1 +2.4
comp=Z,49nm,1.5s
R44A Waltonville 23.34 19 P P 18 40 44.9 -0.6
baz=202,SNR=11
Q41A Truxton 23.41 14 P P 18 40 45.0 -1.2
baz=197,SNR=16
P37A Lathrop 23.46 8 P P 18 40 46.0 -0.7
baz=189
NHSC New Hope 23.48 41 P P 18 40 46.7 -0.2
baz=228,SNR=6.0
NHSC New Hope 23.48 41 *e*P P 18 40 46.4 -0.5
comp=Z,487nm,1.6s
PV01 Paradox Valley 23.50 340 *e*P P 18 40 48.9 +1.6
U15A North Rim 23.52 331 *e*P P 18 40 49.8 +2.1
comp=Z,105nm,1.1s
Q42A Golden Eagle 23.55 16 P P 18 40 47.1 -0.5
baz=199,SNR=7.9
USIN University of 23.56 22 *e*P P 18 40 47.2 -0.4
comp=Z,158nm,1.0s
DPP Dos Picos Cty 23.58 318 *e*P P 18 40 45.8 -2.2
P39B Salisbury 23.61 11 P P 18 40 47.8 -0.4
baz=193,SNR=16
P38A Dawn 23.61 9 P P 18 40 47.9 -0.2
baz=191
JSC Jenkinsville 23.61 38 *e*P P 18 40 47.5 -0.8
JSC pmax pmax
comp=Z,154nm,2.0s
JSC Jenkinsville 23.61 38 *e*P P 18 40 47.5 -0.8
comp=Z,154nm,2.0s
PV05 Paradox Valley 23.63 339 *e*P P 18 40 49.0 +0.3
R45A Skylar, Fairfi 23.64 20 P P 18 40 48.1 -0.3
baz=204,SNR=6.8
BELC Belle Mtn. Jos 23.66 321 P P 18 40 51.0 +2.0
baz=134,SNR=12
XPFO Piæon Flat 23.68 320 *e*P P 18 40 51.9 +2.8
comp=Z,109nm,1.7s
PFO Pinyon Flats O 23.68 320 P P 18 40 51.4 +2.4
baz=132
PFO Pinyon Flats O 23.68 320 *e*P P 18 40 51.3 +2.2
PFO pmax pmax
comp=Z,94nm,1.6s
PFO Pinyon Flats O 23.68 320 *e*P P 18 40 51.3 +2.2
comp=Z,94nm,1.6s
O33A Hebron 23.68 2 P P 18 40 48.9 0.0
baz=182
P40A Paris 23.79 12 P P 18 40 49.4 -0.5
baz=195,SNR=30
Q43A New Douglas 23.80 17 P P 18 40 49.2 -0.8
baz=201
O34A Beatrice 23.83 3 P P 18 40 50.4 +0.1
baz=184,SNR=21
R46A Gibson Southern 23.83 22 P P 18 40 49.7 -0.6
baz=206
PV10 Paradox Valley 23.88 339 *e*P P 18 40 51.3 +0.3
S48A Wiedeman Farm, 23.90 25 P P 18 40 50.1 -0.8
baz=210,SNR=8.3
LDFC Landfair 23.92 324 *e*P P 18 40 54.0 +2.7
comp=Z,60nm,1.0s
Q44A Meyer Farm, Va 23.96 18 P P 18 40 50.9 -0.6
baz=202,SNR=12
SMCO Snowmass 23.97 343 *e*P P 18 40 53.0 +0.8
comp=Z,96nm,1.3s
GMRC Granite Mounta 24.02 323 P P 18 40 54.6 +2.4
baz=136,SNR=7.3
PV09 Paradox Valley 24.02 339 *e*P P 18 40 54.1 +1.7
O37A Wolven Farm, M 24.05 8 P P 18 40 51.4 -1.0
baz=190,SNR=6.1
TZTN Tazewell 24.09 30 P P 18 40 52.2 -0.6
baz=216,SNR=8.2
TZTN Tazewell 24.09 30 *e*P P 18 40 52.3 -0.6
comp=Z,172nm,1.7s
TZTN *e*S S 18 45 04.0 -5.9
OLIL Olney 24.10 20 *e*P P 18 40 52.0 -0.8
comp=Z,58nm,1.0s
O38A Galt 24.11 9 P P 18 40 52.4 -0.4
baz=191,SNR=8.0
MURC Murrieta 24.13 319 P P 18 40 55.7 +2.4
baz=131
P41A Barry, Barry 24.14 14 P P 18 40 52.4 -0.8
baz=197
KMSC Kings Mountain 24.19 36 P P 18 40 52.8 -0.9
baz=223,SNR=6.4
KMSC Kings Mountain 24.19 36 *e*P P 18 40 52.5 -1.2
comp=Z,144nm,1.8s
ISCO Idaho Springs 24.22 346 P P 18 40 55.8 +1.5
baz=163,SNR=25
ISCO Idaho Springs 24.22 346 *e*P P 18 40 55.3 +1.0
ISCO pmax pmax
comp=Z,107nm,1.4s
ISCO Idaho Springs 24.22 346 *e*P P 18 40 55.3 +1.0
comp=Z,107nm,1.4s
Q45A Warren Harvey, 24.23 20 P P 18 40 53.0 -1.0
baz=204,SNR=8.4
P42A Winchester 24.23 15 P P 18 40 53.9 -0.2
baz=199
KNB Kanab 24.24 331 *e*P P 18 40 56.3 +1.9
KNB pmax pmax
comp=Z,132nm,1.4s
KNB Kanab 24.24 331 *e*P P 18 40 56.3 +1.9
comp=Z,132nm,1.4s
WCI Wyandotte Cave 24.30 24 P P 18 40 54.6 -0.1
baz=209
WCI Wyandotte Cave 24.30 24 *e*P P 18 40 54.5 -0.1
WCI pmax pmax
comp=Z,146nm,1.2s
WCI Wyandotte Cave 24.30 24 *e*P P 18 40 54.5 -0.2
comp=Z,146nm,1.2s
N33A J Bar K, Exete 24.35 2 P P 18 40 56.0 +0.9
baz=182
PKCU Pink Cliffs 24.36 332 *e*P P 18 40 58.4 +2.7
comp=Z,102nm,1.3s
O39A Kirksville 24.39 11 P P 18 40 55.6 +0.1
baz=193,SNR=9.4
O40A La Belle 24.39 12 P P 18 40 55.3 -0.2
baz=195,SNR=35
HEC Hector,Ludlow 24.44 322 P P 18 40 58.7 +2.5
baz=134,SNR=7.7
N34A Lincoln 24.49 4 P P 18 40 56.8 +0.4
baz=184
N35A Tabor 24.57 5 P P 18 40 57.5 +0.3
baz=186
N36A Muff Farm, Cla 24.59 6 P P 18 40 57.5 +0.2
baz=188
O41A Passleys Farm, 24.60 14 P P 18 40 57.1 -0.3
baz=197,SNR=21
P44A Sand Creek, Wi 24.60 18 P P 18 40 57.5 +0.1
baz=202,SNR=5.6
R48A Northridge Ran 24.61 24 P P 18 40 56.9 -0.6
baz=210,SNR=7.3
N37A Lee Faris, Mou 24.63 8 P P 18 40 58.3 +0.6
baz=189
TUQ Turquoise Moun 24.63 324 P P 18 41 00.6 +2.6
baz=136,SNR=36
OGNE Ogallala 24.74 353 P P 18 40 60.0 +1.2
baz=171,SNR=8.0
OGNE Ogallala 24.74 353 *e*P P 18 40 59.8 +1.1
comp=Z,288nm,1.4s
N38A Joes South For 24.80 9 P P 18 40 59.5 +0.3
baz=191,SNR=10
MTPU Mount Pierson 24.80 333 *e*P P 18 41 01.0 +1.3
comp=Z,94nm,1.0s
SZCU Shurtz Canyon 24.84 331 *e*P P 18 41 02.7 +2.9
comp=Z,57nm,0.4s
Q47A Bedord North L 24.86 23 P P 18 40 59.5 -0.3
baz=208,SNR=7.3
CCUT Cedar City 24.93 331 *e*P P 18 41 03.0 +2.4
comp=Z,21nm,1.1s
P45A Graceland, Par 24.93 20 P P 18 41 00.2 -0.2
baz=204
FLSC Flash Two Peak 24.95 322 *e*P P 18 40 57.3 -3.5
RPV Rancho Palos V 25.00 318 *e*P P 18 41 03.8 +2.7
N39A Derby Farms, D 25.00 11 P P 18 41 01.0 0.0
baz=193,SNR=28
SHPR Sheep Range 25.00 327 *e*P P 18 41 03.6 +2.3
comp=Z,82nm,1.8s
GSC Goldstone, Bar 25.05 322 P P 18 41 04.2 +2.6
baz=134,SNR=6.1
SRU San Rafael Swe 25.06 337 *e*P P 18 41 04.2 +2.4
SRU pmax pmax
comp=Z,62nm,1.1s
SRU San Rafael Swe 25.06 337 *e*P P 18 41 04.2 +2.4
comp=Z,62nm,1.1s
MWC Mount Wilson 25.08 319 *e*P P 18 41 05.2 +3.2
MWC pmax pmax
comp=Z,150nm,1.8s

MWC	Mount Wilson	25.08	319	*e*P		P		18 41 05.2	+3.2			
	comp=Z,150nm,1.8s											
M34A	Aspy Farms, Fr	25.15	3	P		P		18 41 03.3	+1.0			
	baz=184											
M35A	Neola	25.17	5	P		P		18 41 03.5	+0.9			
	baz=186											
N41A	Harden Midland	25.17	14	P		P		18 41 02.4	-0.2			
	baz=197,SNR=8.1											
N40A	Mertquake, Sal	25.19	12	P		P		18 41 02.7	+0.1			
	baz=195											
M33A	Taylor Creek F	25.19	2	P		P		18 41 03.8	+1.0			
	baz=182											
P46A	Rosedale	25.19	21	P		P		18 41 03.1	+0.4			
	baz=205											
MSU	Marysvale	25.20	334	*e*P		P		18 41 05.9	+2.8			
MSU	Marysvale	25.20	334	*e*P		P		18 41 05.9	+2.8			
O20A	White River Ci	25.22	342	P		P		18 41 06.0	+2.7			
	baz=157,SNR=12											
O20A	White River Ci	25.22	342	*e*P		P		18 41 05.7	+2.5			
	comp=Z,51nm,1.0s											
M36A	Felix, Anita	25.24	6	P		P		18 41 03.4	+0.2			
	baz=188											
SBI	Santa Barbara	25.24	316	*e*PcP		PcP		18 44 33.9	-2.7			
O44A	Mansfield	25.28	18	P		P		18 41 03.6	+0.1			
	baz=202											
M37A	Trindle Farm,	25.28	8	P		P		18 41 04.1	+0.6			
	baz=189,SNR=13											
N23A	Red Feather La	25.34	347	P		P		18 41 05.8	+1.4			
	baz=163											
N23A	Red Feather La	25.34	347	*e*P		P		18 41 05.9	+1.5			
	comp=Z,61nm,1.3s											
OTAV	Otavalo	25.36	127	*e*P		P		18 41 03.9	-1.2			
	comp=Z,46nm,1.5s											
P47A	Martinsville	25.41	22	P		P		18 41 04.6	-0.1			
	baz=208											
P18A	Preston Nutter	25.41	338	*e*P		P		18 41 07.4	+2.2			
	comp=Z,83nm,1.0s											
M38A	Pleasantville	25.42	9	P		P		18 41 05.0	+0.3			
	baz=191,SNR=28											
P17A	Butcher Ranch,	25.46	337	*e*P		P		18 41 06.6	+1.2			
	comp=Z,35nm,1.0s											
EDW2	Edwards Air Fo	25.47	320	P		P		18 41 07.2	+1.8			
	baz=132											
TMUT	Trail Mountain	25.48	336	*e*P		P		18 41 06.8	+1.1			
	comp=Z,59nm,1.0s											
N42A	Yates City	25.48	15	P		P		18 41 05.4	0.0			
	baz=198,SNR=7.7											
ALPC	Antelope	25.54	319	*e*PcP		PcP		18 44 38.3	+0.9			
O45A	Potomac	25.59	19	P		P		18 41 06.6	+0.2			
	baz=204,SNR=6.6											
PHWY	Pilot Hill	25.63	348	*e*P		P		18 41 07.5	+0.5			
	comp=Z,36nm,1.2s											
M39A	Webster	25.65	11	P		P		18 41 06.7	-0.1			
	baz=193,SNR=10											
BLG	Laguna Peak, P	25.65	317	P		P		18 41 10.1	+3.0			
	baz=128,SNR=7.5											
LRMC	Laurel Mtn Rad	25.69	322	P		P		18 41 09.5	+2.0			
	baz=133											
M40A	Post Highland	25.70	12	P		P		18 41 07.1	-0.3			
	baz=195,SNR=6.2											
N43A	Stutzman Famil	25.81	16	P		P		18 41 08.5	+0.1			
	baz=200,SNR=7.6											
M41A	Milan	25.88	14	P		P		18 41 08.7	-0.3			
	baz=197											
SCIA	State Center	25.89	9	P		P		18 41 09.2	+0.1			
	baz=191,SNR=14											
SCIA	State Center	25.89	9	*e*P		P		18 41 09.1	+0.1			
	comp=Z,70nm,0.7s											
L36A	Harm Buss Farm	25.90	6	P		P		18 41 09.2	+0.1			
	baz=188,SNR=6.3											
FURC	Furnace Creek,	25.90	324	P		P		18 41 11.2	+1.9			
	baz=136											
SFIN	Lafayette	25.91	20	P		P		18 41 08.8	-0.5			
	baz=205											
SFIN	Lafayette	25.91	20	*e*P		P		18 41 08.4	-0.9			
	comp=Z,46nm,1.0s											
N44A	Piper City	25.97	18	P		P		18 41 09.7	-0.1			
	baz=202,SNR=6.9											
MPMC	Manual Prospec	25.97	323	P		P		18 41 12.5	+2.3			
	baz=134											
SDDR	Presa de Saban	25.98	80	*e*P		P		18 41 10.7	+0.4			
	comp=Z,40nm,1.0s											
L37A	Phoenix Point,	26.03	8	P		P		18 41 10.2	-0.1			
	baz=190,SNR=14											
O47A	Sheridan	26.10	22	P		P		18 41 09.9	-1.1			
	baz=207											
ARVC	Arvin	26.15	320	P		P		18 41 14.1	+2.6			
	baz=130											
L38A	Oak Wood Farm,	26.16	9	P		P		18 41 11.5	-0.1			
	baz=192,SNR=15											
DAC	Darwin (Calif)	26.18	323	*e*P		P		18 41 13.3	+1.2			
DAC				pmax		pmax						
	comp=Z,35nm,1.3s											
DAC	Darwin (Calif)	26.18	323	*e*P		P		18 41 13.3	+1.2			
	comp=Z,35nm,1.3s											
BLA	Blacksburg	26.20	34	P		P		18 41 10.5	-1.6			
	baz=222											
BLA	Blacksburg	26.20	34	*e*P		P		18 41 11.0	-1.1			
BLA				pmax		pmax						
	comp=Z,31nm,0.8s											
BLA	Blacksburg	26.20	34	*e*P		P		18 41 11.0	-1.1			
	comp=Z,30nm,0.8s											
N45A	Kentland	26.21	19	P		P		18 41 11.9	-0.1			
	baz=204											
K33A	Hardington	26.23	2	P		P		18 41 13.8	+1.7			
	baz=183											
WHFM	Hanning Flat	26.23	321	*e*P		P		18 41 08.5	-3.8			
ROSC	El Rosal	26.26	113	P		P		18 41 14.8	+1.7			
	comp=Z,5.2nm,0.5s,baz=319,slow=19,SNR=3.2											
ROSC	El Rosal	26.26	113	*e*P		P		18 41 12.6	-0.5			
	comp=Z,31nm,1.1s											
MPU	Maple Canyon	26.26	337	*e*P		P		18 41 14.1	+1.4			
	comp=Z,28nm,1.0s											
ISA	Isabella, Lake	26.29	321	P		P		18 41 15.0	+2.1			
	baz=132											
ISA	Isabella, Lake	26.29	321	*e*P		P		18 41 14.8	+2.0			
ISA				pmax		pmax						
	comp=Z,58nm,1.5s											
ISA	Isabella, Lake	26.29	321	*e*P		P		18 41 14.8	+2.0			
	comp=Z,58nm,1.5s											
L39A	Vinton	26.30	11	P		P		18 41 12.4	-0.4			
	baz=194,SNR=18											
M43A	Waltham Townsh	26.33	16	P		P		18 41 13.0	0.0			
	baz=200											
K34A	Le Mars	26.36	4	P		P		18 41 13.9	+0.6			
	baz=185											
NLU	North Lily Min	26.38	336	*e*P		P		18 41 15.1	+1.2			
	comp=Z,143nm,1.6s											
L40A	Anamosa	26.39	12	P		P		18 41 13.2	-0.4			
	baz=195,SNR=16											
RWWY	Rawlins	26.39	345	*e*P		P		18 41 14.3	+0.4			
	comp=Z,138nm,1.4s											
K36A	Gilmore City	26.45	7	P		P		18 41 13.6	-0.6			
	baz=188											
K35A	Storm Lake	26.46	5	P		P		18 41 14.1	-0.1			
	baz=186											
N46A	Monticello	26.50	20	P		P		18 41 14.8	+0.2			
	baz=205											
M44A	Midewin, Midew	26.54	18	P		P		18 41 14.5	-0.5			
	baz=202,SNR=8.1											
L41A	Preston	26.56	13	P		P		18 41 14.0	-1.1			
	baz=197,SNR=11											
CWC	Cottonwood Cre	26.58	323	P		P		18 41 17.2	+1.6			
	baz=134											
PKM	Mcpherson Peak	26.62	318	P		P		18 41 16.8	+0.7			
	baz=128											
R11A	Troy Canyon, C	26.63	329	P		P		18 41 17.7	+1.6			
	baz=141											
R11A	Troy Canyon, C	26.63	329	*e*P		P		18 41 16.6	+0.5			
	comp=Z,24nm,1.3s											
K37A	Belmond	26.68	8	P		P		18 41 15.6	-0.6			
	baz=190											
L42A	Oliver, Polo	26.68	15	P		P		18 41 15.3	-0.9			
	baz=198,SNR=21											
K38A	Parkersburg	26.68	9	P		P		18 41 16.0	-0.2			
	baz=192											
JLU	Jordanelle	26.71	338	*e*P		P		18 41 17.4	+0.6			
	comp=Z,13nm,1.0s											
DUG	Dugway, Tooele	26.88	335	P		P		18 41 17.8	-0.5			
	baz=148											
DUG	Dugway, Tooele	26.88	335	*e*P		P		18 41 17.6	-0.6			
DUG				pmax		pmax						
	comp=Z,115nm,2.0s											
DUG	Dugway, Tooele	26.88	335	*e*P		P		18 41 17.6	-0.6			
	comp=Z,115nm,2.0s											
J31A	Geddes	26.89	359	P		P		18 41 18.5	+0.4			
	baz=179											
K39A	Oelwein	26.89	11	P		P		18 41 16.9	-1.2			
	baz=194,SNR=10											
CTU	Camp Tracy	26.90	337	*e*P		P		18 41 17.8	-0.6			
	comp=Z,38nm,1.4s											
RUSC	La Rusia	26.90	110	*e*P		P		18 41 16.6	-2.4			
	comp=Z,19nm,1.1s											
J33A	Davis	26.94	2	P		P		18 41 18.2	-0.4			
	baz=183											
J34A	George	26.96	4	P		P		18 41 18.8	0.0			
	baz=185											
K40A	Colesburg	27.02	12	P		P		18 41 18.9	-0.4			
	baz=195,SNR=13											
L43A	Garden Prairie	27.09	16	P		P		18 41 19.2	-0.6			
	baz=200											
TIN	Tinemaha, Big	27.09	323	P		P		18 41 21.8	+1.7			
	baz=134											
J35A	Milford	27.10	5	P		P		18 41 19.5	-0.5			
	baz=186											
K41A	Shullsburg	27.11	13	P		P		18 41 19.3	-0.8			
	baz=197											
K22A	Casper	27.15	347	P		P		18 41 21.4	+0.8			
	baz=162											
K22A	Casper	27.15	347	*e*P		P		18 41 20.9	+0.3			
	comp=Z,66nm,1.3s											
J36A	Seneca 1, Swea	27.15	7	P		P		18 41 19.9	-0.5			
	baz=188											
J37A	Redenius Farm,	27.22	8	P		P		18 41 20.4	-0.7			
	baz=190,SNR=8.0											
L44A	Lake County Fo	27.31	17	P		P		18 41 21.1	-0.8			
	baz=202											
ACSO	Alum Creek Sta	27.35	26	P		P		18 41 21.8	-0.4			
	baz=213,SNR=12											
ACSO	Alum Creek Sta	27.35	26	*e*P		P		18 41 21.2	-1.1			
	comp=Z,85nm,1.1s											
J38A	Wedel Dairy, R	27.39	9	P		P		18 41 22.3	-0.3			
	baz=192,SNR=16											
JFWS	Jewell Farm	27.41	13	P		P		18 41 22.6	-0.2			
	baz=197,SNR=6.2											
JFWS	Jewell Farm	27.41	13	*e*P		P		18 41 21.2	-1.6			
JFWS				pmax		pmax						
	comp=Z,140nm,1.8s											
JFWS	Jewell Farm	27.41	13	*e*P		P		18 41 21.2	-1.6			
	comp=Z,140nm,1.8s											
PAGB	Antelope Grade	27.43	319	*e*P		P		18 41 24.4	+1.3			
	comp=Z,106nm,1.7s											
K42A	Prairie Point,	27.49	15	P		P		18 41 23.2	-0.3			
	baz=199											
J39A	Decorah	27.53	11	P		P		18 41 23.4	-0.5			
	baz=194											
BGU	Big Grassy Mou	27.59	336	*e*P		P		18 41 26.4	+1.8			
	comp=Z,34nm,1.4s											
I35A	Creekview Farm	27.61	5	P		P		18 41 24.6	0.0			
	baz=187,SNR=7.6											
HWUT	Hardware Ranch	27.63	338	*e*P		P		18 41 26.0	+1.0			
	comp=Z,24nm,1.1s											
K43A	Burington	27.68	16	P		P		18 41 25.1	-0.1			
	baz=201											
SPUT	South Promonto	27.69	337	*e*P		P		18 41 27.6	+2.1			
	comp=Z,18nm,1.1s											
I36A	Fitzsimmons Fa	27.86	7	P		P		18 41 26.5	-0.4			
	baz=189											
J41A	Loganville	27.89	13	P		P		18 41 26.6	-0.5			
	baz=197,SNR=8.9											
I37A	Lemond, Waseca	27.93	8	P		P		18 41 26.8	-0.6			
	baz=190											
MDPB	Devils Postpil	27.98	323	*e*P		P		18 41 29.6	+1.3			
	comp=Z,17nm,1.0s											
MDPB				*e*				18 46 16.9				
MDPB				*e*PgS		PgS		18 46 19.4	-13			
BW06	Boulder Array	28.03	342	P		P		18 41 29.4	+0.8			
	baz=156											
BW06	Boulder Array	28.03	342	*e*P		P		18 41 29.7	+1.1			
	comp=Z,138nm,1.9s											
NV11	Mina Array Sit	28.03	326	*e*P		P		18 41 30.7	+2.1			
	comp=Z,2.3nm,1.1s											
PD31	Pinedale Array	28.03	342	*e*P		P		18 41 29.1	+0.5			
PDAR	Pinedale Array	28.03	342	P		P		18 41 29.8	+1.2			
	comp=Z,5.4nm,0.9s,baz=138,slow=9.3,SNR=16											
PDAR				PcP		PcP		18 44 41.6	-1.7			
	comp=Z,2.1nm,1.0s,baz=145,slow=3.3,SNR=3.3											
PDAR	Pinedale Array	28.03	342	*e*P		P		18 41 29.4	+0.8			
PDAR				PcP		PcP		18 44 41.6	-1.7			
J42A	Columbus	28.05	15	P		P		18 41 27.7	-0.8			
	baz=199,SNR=8.8											
I39A	Hon	28.07	11	P		P		18 41 28.2	-0.4			
	baz=194,SNR=8.7											
PMPB	Monarch Peak	28.08	319	*e*P		P		18 41 31.8	+2.9			
	comp=Z,105nm,1.6s											
SDV	Santo Domingo	28.08	102	P		P		18 41 29.8	+0.5			
	comp=Z,8.3nm,0.6s,baz=288,slow=5.4,SNR=14											
SDV	Santo Domingo	28.08	102	*e*P		P		18 41 27.1	-2.2			
	comp=Z,29nm,1.1s											
NV01	Mina Array Sit	28.11	325	*e*P		P		18 41 31.4	+2.0			
NVAR	Mina Array Bea	28.11	325	P		P		18 41 31.4	+2.0			
	comp=Z,5.2nm,0.9s,baz=154,slow=11,SNR=10											
NVAR				PcP		PcP		18 44 43.4	-0.1			
	comp=Z,3.6nm,1.0s,baz=161,slow=3.5,SNR=3.7											
H32A	Carlson Farm,	28.11	1	P		P		18 41 29.3	+0.3			
	baz=182											
I38A	Scanlan Farm,	28.11	9	P		P		18 41 28.5	-0.6			
	baz=192,SNR=11											
IP05	Hopewell Churc	28.12	36	*e*P		P		18 41 29.1	-0.1			
	comp=Z,206nm,0.1s											
HVU	Hansel Valley	28.22	337	*e*P		P		18 41 31.9	+1.6			
HVU				pmax		pmax						
	comp=Z,14nm,1.0s											
HVU	Hansel Valley	28.22	337	*e*P		P		18 41 31.9	+1.6			
	comp=Z,14nm,1.0s											
I40A	Norwalk	28.27	12	P		P		18 41 29.3	-1.2			
	baz=196											
J43A	Natural Harves	28.29	16	P		P		18 41 30.2	-0.5			
	baz=200											
H33A	Prehn Over Nor	28.31	3	P		P		18 41 30.0	-0.8			
	baz=183											
MCWV	Mont Chateau	28.34	31	*e*P		P		18 41 31.0	-0.2			
	comp=Z,27nm,0.9s											
H34A	Spellman Lake,	28.35	4	P		P		18 41 30.5	-0.6			
	baz=185											
RYN	Ryan	28.37	325	*e*P		P		18 41 33.8	+2.2			
	comp=Z,18nm,1.2s											
H36A	Jessenland, He	28.43	7	P		P		18 41 31.3	-0.6			
	baz=189											
AHID	Aurn Hatcher	28.50	340	*e*P		P		18 41 34.5	+1.7			
	comp=Z,44nm,1.5s											
H37A	Dierke Farm, C	28.56	8	P		P		18 41 32.7	-0.3			
	baz=191											
I42A	Draeger Farm,	28.65	14	P		P		18 41 33.0	-0.8			
	baz=199											
BCGM	Cienega Road	28.73	319	*e*PcP		PcP		18 44 47.8	+2.9			
H38A	Maiden Rock	28.74	9	P		P		18 41 34.0	-0.7			
	baz=192											
WAKR	Walker	28.79	324	*e*P		P		18 41 37.8	+2.4			
	comp=Z,74nm,1.8s											
I43A	Langenfeld Bro	28.83	16	P		P		18 41 33.7	-1.7			
	baz=200											
G33A	Ortonville	28.84	3	P		P		18 41 34.1	-1.4			
	baz=184											
G34A	Benson	28.93	4	P		P		18 41 36.3	0.0			
	baz=185											
REDW	Red Top Meadow	28.96	341	*e*P		P		18 41 37.6	+0.7			
	comp=Z,124nm,1.8s											
G35A	Watkins	29.00	6	P		P		18 41 36.5	-0.5			
	baz=187											
CMB	Columbia Colle	29.01	322	*e*P		P		18 41 38.5	+1.3			
CMB				pmax		pmax						
	comp=Z,16nm,1.4s											
CMB	Columbia Colle	29.01	322	*e*P		P		18 41 38.5	+1.3			
	comp=Z,16nm,1.4s											
H40A	Chili	29.02	12	P		P		18 41 36.8	-0.3			
	baz=196,SNR=8.9											
G36A	St. Michael	29.09	7	P		P		18 41 37.9	+0.2			
	baz=189											
TPAW	Teton Pass	29.11	341	*e*P		P		18 41 40.0	+1.7			
	comp=Z,33nm,1.1s											
LOHW	Long Hollow	29.11	342	*e*P		P		18 41 39.6	+1.4			
	comp=Z,129nm,1.9s											
H41A	Junction City	29.17	13	P		P		18 41 38.2	-0.2			
	baz=197,SNR=8.0											
SPMN	Marine on St.	29.20	8	P		P		18 41 38.4	-0.4			
	baz=191,SNR=7.9											
SPMN	Marine on St.	29.20	8	*e*P		P		18 41 37.6	-1.1			
	comp=Z,24nm,0.7s											
MOOW	Moose Ponds	29.28	342	*e*P		P		18 41 41.0	+1.3			
	comp=Z,24nm,1.2s											
N54A	Moraine State	29.28	29	P		P		18 41 37.7	-1.8			
	baz=218											
G38A	Ridgeland	29.29	10	P		P		18 41 39.2	-0.3			
	baz=192											
G39A	Holcombe	29.52	10	P		P		18 41 40.8	-0.7			
	baz=194											
RUBR	Rubicon Trail	29.57	324	*e*P		P		18 41 44.7	+2.3			
	comp=Z,85nm,1.3s											
CVLM	Vallecito	29.61	320	*e*PcP		PcP		18 44 47.8	+0.7			
G40A	Rib Lake	29.68	12	P		P		18 41 42.3	-0.7			
	baz=196											
CNIC	Niles Canyon	29.68	320	*e*PcP		PcP		18 44 47.0	-0.3			
CNIC				*e*S		S		18 46 42.1	+3.7			
F36A	Milaca	29.74	7	P		P		18 41 43.0	-0.4			
	baz=189											
G41A	Antigo	29.84	13	P		P		18 41 43.1	-1.3			
	baz=198											
M54A	Oil Creek Stat	29.86	29	*e*P		P		18 41 43.6	-1.0			
	comp=Z,151nm,1.9s											
G42A	Mountain	30.04	14	P		P		18 41 45.5	-0.6			
	baz=199											
F38A	Pierce - Schro	30.05	9	P		P		18 41 46.0	-0.2			
	baz=192											
RLMT	Red Lodge	30.13	345	P		P		18 41 48.4	+1.2			
	baz=159											
RLMT	Red Lodge	30.13	345	*e*P		P		18 41 48.9	+1.7			
	comp=Z,16nm,0.9s											
F39A	Loretta	30.17	10	P		P		18 41 46.8	-0.5			
	baz=194											
E34A	Wadena	30.23	4	P		P		18 41 48.1	+0.3			
	baz=186											
G43A	Wallace	30.23	15	P		P		18 41 46.7	-1.2			
	baz=200											
BEKR	Beckworth	30.25	325	*e*P		P		18 41 50.6	+2.2			
	comp=Z,13nm,0.9s											
F40A	Park Falls	30.32	12	P		P		18 41 48.3	-0.3			
	baz=196,SNR=17											
E35A	Pequot Lakes	30.34	5	P		P		18 41 48.8	0.0			
	baz=187											
F41A	Three Lakes	30.35	13	P		P		18 41 48.4	-0.6			
	baz=197											
E36A	McGregor	30.42	7	P		P		18 41 49.0	-0.5			
	baz=189											
ATAH	Atahualpa	30.59	138	P		P		18 41 51.7	-0.1			
	comp=Z,5.0nm,0.7s,baz=4.3,slow=6.5,SNR=3.7											
ORV	Oroville	30.68	324	*e*P		P		18 41 53.9	+2.0			
ORV				pmax		pmax						
	comp=Z,24nm,1.3s											
ORV	Oroville	30.68	324	*e*P		P		18 41 53.9	+2.0			
	comp=Z,24nm,1.3s											
E39A	Mellen	30.68	11	P		P		18 41 51.4	-0.4			
	baz=194											
COWI	Conover	30.69	13	*e*P		P		18 41 51.7	-0.2			
	comp=Z,34nm,1.3s											
E38A	The Farm, Brul	30.74	9	P		P		18 41 51.2	-1.1			
	baz=192											
MFID	Camas Ranch	30.81	335	*e*P		P		18 41 55.2	+2.1			
	comp=Z,63nm,1.6s											
D33A	AnnSam, Waubun	30.81	3	P		P		18 41 52.1	-0.8			
	baz=184											
E40A	Wakefield	30.87	12	P		P		18 41 52.5	-1.0			
	baz=196,SNR=11											
D35A	Remer	30.89	6	P		P		18 41 53.2	-0.4			
	baz=188											
F43A	Flat Rock, Esc	30.90	15	P		P		18 41 53.1	-0.6			
	baz=201,SNR=8.5											
E41A	Kenton	31.07	13	P		P		18 41 54.7	-0.6			
	baz=197											
D36A	Goodland	31.08	7	P		P		18 41 54.8	-0.5			
	baz=189,SNR=5.3											
D37A	Cotton	31.15	8	P		P		18 41 55.2	-0.7			
	baz=191											
F45A	CMU Biological	31.21	18	P		P		18 41 55.4	-1.1			
	baz=204											
F44A	Big Bay de Noc	31.22	16	P		P		18 41 56.0	-0.6			
	baz=202,SNR=6.2											
WVOR	Wild Horse Val	31.26	330	*e*P		P		18 41 58.3	+1.2			
WVOR				pmax		pmax						
	comp=Z,68nm,1.6s											
WVOR	Wild Horse Val	31.26	330	*e*P		P		18 41 58.3	+1.2			
	comp=Z,68nm,1.6s											
E42A	Champion	31.27	14	P		P		18 41 56.6	-0.5			
	baz=199											
DLMT	Dillon	31.31	341	*e*P		P		18 41 59.3	+1.8			
	comp=Z,56nm,1.4s											
C34A	RKJ Ranch, Bem	31.38	5	P		P		18 41 57.3	-0.7			
	baz=186											
MTP	Monte Pirata	31.43	82	*e*P		P		18 41 56.0	-2.7			
	comp=Z,86nm,0.4s											
E43A	Lone Tree Farm	31.45	15	P		P		18 41 58.0	-0.5			
	baz=201											
MDND	Maddock	31.46	358	P		P		18 41 58.9	+0.2

	comp=Z,25nm,0.9s								
YKA	**Yellowknife Ar**	47.51	350	P		P	18 44 12.2	+0.1	
	comp=Z,5.2nm,1.0s,baz=157,slow=7.4,SNR=21								
DLBC	**Dease Lake**	48.12	338	*e*P		P	18 44 19.1	+2.2	
	comp=Z,65nm,1.5s								
TAOE	**Nuku Hiva Isla**	48.28	242	*e*T		T	19 35 35.0		
	comp=Z,96nm,0.3s								
HYT	**Haines Junctio**	52.51	337	*e*P		P	18 44 52.2	+1.9	
	comp=Z,137nm,1.9s								
RKT	**Rikitea**	53.05	223	*e*T		T	19 41 33.2		
	comp=Z,61nm,0.3s								
KKO	**Keanakako'i**	53.99	282	*e*P		P	18 45 03.1	+1.3	
UWB	**Uwekahuna B**	54.00	282	*e*P		P	18 45 04.7	+2.9	
NPH	**North Pit**	54.00	282	*e*P		P	18 45 04.5	+2.6	
NPH	**North Pit**	54.00	282	*e*P		P	18 45 04.5	+2.6	
HMH	**Humu'ula Sheep**	54.17	283	*e*P		P	18 45 04.4	+1.0	
POHA	**Pohakuloa**	54.20	283	*e*P		P	18 45 04.8	+1.4	
	comp=Z,158nm,1.0s								
KLU	**Klutina**	56.20	335	*e*P		P	18 45 19.0	+1.9	
	comp=Z,40nm,1.3s								
KIP	**Kipapa**	56.34	285	⇓*i*P		P	18 45 20.8	+2.2	
KIP				pmax	pmax				
	comp=Z,537nm,1.0s								
INK	**Inuvik**	56.54	345	P		P	18 45 19.9	+0.6	
	comp=Z,111nm,0.9s,baz=129,slow=7.8,SNR=11								
INK	**Inuvik**	56.54	345	*e*P		P	18 45 19.6	+0.3	
INK				pmax	pmax				
	comp=Z,10.0nm,0.9s								
INK	**Inuvik**	56.54	345	*e*P		P	18 45 19.6	+0.3	
	comp=Z,9.5nm,0.9s								
RIDG	**Independ'e Rid**	57.01	337	*e*P		P	18 45 24.2	+1.5	
	comp=Z,42nm,1.1s								
SML	**Sawmill**	57.36	334	*e*P		P	18 45 26.2	+1.0	
SML				pmax	pmax				
	comp=Z,51nm,1.4s								
SML	**Sawmill**	57.36	334	*e*P		P	18 45 26.2	+1.0	
	comp=Z,51nm,1.4s								
PMOR	**Pomariorio Ree**	57.92	240	*e*P		P	18 45 36.5	+6.8	
	comp=Z,108nm,1.2s								
PMOR	**Pomariorio Ree**	57.92	240	*e*T		T	19 47 51.7		
	comp=Z,6.9nm,0.2s								
SUA	**Susitna One**	58.21	333	*e*P		P	18 45 32.7	+1.4	
	comp=Z,30nm,1.0s								
CPUP	**Villa Florida**	58.25	136	P		P	18 45 30.7	-1.1	
	comp=Z,3.8nm,0.8s,baz=333,slow=8.1,SNR=4.0								
CPUP	**Villa Florida**	58.25	136	*e*P		P	18 45 30.3	-1.6	
CPUP				pmax	pmax				
	comp=Z,44nm,1.6s								
CPUP	**Villa Florida**	58.25	136	*e*P		P	18 45 30.3	-1.6	
	comp=Z,44nm,1.6s								
IL1	**Eielson Array**	58.32	338	*e*P		P	18 45 32.1	+0.2	
ILAR	**Eielson Array**	58.32	338	P		P	18 45 32.1	+0.3	
	comp=Z,8.5nm,1.0s,baz=143,slow=4.2,SNR=29								
ILAR	**Eielson Array**	58.32	338	*e*P		P	18 45 33.0	+1.1	
ILAR				pmax	pmax				
	comp=Z,9.0nm,1.0s								
ILB	**Eielson Array**	58.32	338	*e*P		P	18 45 32.3	+0.5	
RND	**Reindeer**	58.35	336	*e*P		P	18 45 33.3	+1.1	
RND				pmax	pmax				
	comp=Z,49nm,1.2s								
RND	**Reindeer**	58.35	336	*e*P		P	18 45 33.3	+1.1	
	comp=Z,49nm,1.2s								
TRF	**Thorofare Moun**	58.94	336	*e*P		P	18 45 37.3	+0.8	
	comp=Z,44nm,1.0s								
BPAW	**Bear Paw Mtn.**	59.52	336	*e*P		P	18 45 40.6	+0.3	
	comp=Z,25nm,1.3s								
CAST	**Castle Rocks**	59.65	335	*e*P		P	18 45 41.4	+0.2	
	comp=Z,35nm,1.1s								
TOLK	**Toolik Lake Re**	61.28	341	P		P	18 45 53.2	+0.9	
	baz=121								
PLCA	**Paso Flores**	62.38	156	P		P	18 45 60.0	-0.1	
	comp=Z,7.7nm,0.9s,baz=345,slow=7.1,SNR=9.3								
PLCA	**Paso Flores**	62.38	156	*e*P		P	18 46 00.7	+0.7	
PLCA				pmax	pmax				
	comp=Z,8.0nm,0.9s								
PLCA	**Paso Flores**	62.38	156	*e*P		P	18 46 00.1	+0.1	
	comp=Z,80nm,1.7s								
TBI	**Tubuai**	63.58	233	*e*T		T	19 54 44.3		
	comp=Z,46nm,0.2s								
SUMG	**Summit**	65.73	17	*i* P		P	18 46 22.3	+0.3	
SUMG	**Summit**	65.73	17	*i* P		P	18 46 22.3	+0.3	
DAG	**Danmarks Havn**	71.88	14	*i* P		P	18 46 59.5	-0.2	
DAG	**Danmarks Havn**	71.88	14	*i* P		P	18 46 59.5	-0.2	
BILL	**Bilibino**	76.98	337	*i* P		P	18 47 27.5	-2.1	
BILL				*i*			18 47 35.4		
BILL				*i*			18 47 43.7		
BILL				pmax	pmax				
	comp=Z,23nm,1.2s								
EKA	**Eskdalemuir Ar**	79.70	35	P		P	18 47 44.8	0.0	
	comp=Z,5.1nm,1.0s,baz=285,slow=4.2,SNR=4.1								
ESDC	**Sonseca Array**	83.11	51	P		P	18 48 03.0	-0.4	
	comp=Z,1.6nm,0.8s,baz=299,slow=3.1,SNR=5.7								
ES19	**SONSECA Array**	83.15	51	*e*P		P	18 48 03.1	-0.5	
SEY	**Seymchan**	84.04	334	⇑*i*P		P	18 48 08.8	+1.3	
KONO	**Kongsberg**	84.85	29	⇓*i*P		P	18 48 14.0	+2.3	
KONO				pmax	pmax				
	comp=Z,32nm,1.2s								
NBO02	**NORSAR Array S**	84.85	27	*e*P		P	18 48 11.9	+0.2	
NB2	**NORSAR Subarra**	85.02	27	P		P	18 48 13.2	+0.6	
	comp=Z,1.1nm,0.6s,baz=297,slow=5.1								
NB200	**NORSAR Array S**	85.02	27	*e*P		P	18 48 13.6	+1.0	
NOA	**NORSAR Array B**	85.02	27	P		P	18 48 13.6	+1.0	
	comp=Z,4.2nm,1.0s,baz=292,slow=4.8,SNR=5.4								
PEA1	**Petropavlovsk-**	85.19	324	*e*P		P	18 48 14.6	+1.0	
PETK	**Petropavlovsk-**	85.19	324	P		P	18 48 14.6	+1.0	
	comp=Z,11nm,1.0s,baz=89,slow=9.2,SNR=4.9								
ARA0	**ARCESS Array S**	85.82	17	*e*P		P	18 48 16.2	-0.2	
ARCES	**ARCESS Array B**	85.82	17	P		P	18 48 16.2	-0.2	
	comp=Z,7.4nm,0.9s,baz=292,slow=3.4,SNR=13								
ARCES	**ARCESS Array B**	85.82	17	*e*P		P	18 48 16.1	-0.3	
ARCES				pmax	pmax				
	comp=Z,7.0nm,0.9s								
BCLA	**Clavier**	86.05	39	⇓P		P	18 48 18.2	+0.3	
	comp=Z,26nm,2.7s								
MA2	**Magadan**	86.17	332	⇓*i*P		P	18 48 19.4	+1.1	
TIXI	**Tiksi**	86.64	347	P		P	18 48 19.9	-0.5	
	comp=Z,15nm,1.2s,baz=61,slow=7.7,SNR=22								
TIXI	**Tiksi**	86.64	347	*c i*P		P	18 48 20.4	0.0	
TIXI				pmax	pmax				
	comp=Z,26nm,1.2s								
TIXI	**Tiksi**	86.64	347	*e*P		P	18 48 20.1	-0.2	
	comp=Z,37nm,1.4s								
MSVF	**Nonsavu**	88.93	251	⇓⇓*e*P		P	18 48 34.6	+2.2	
MSVF				*i* *PP		sP	18 48 41.5	+2.2	
MSVF				pmax	pmax				
	comp=Z,25nm,1.0s								
KOWA	**Kowa**	90.11	75	P		P	18 48 37.4	-0.7	
	comp=Z,2.4nm,0.7s,baz=288,slow=5.6,SNR=6.5								
KOWA	**Kowa**	90.11	75	*e*P		P	18 48 37.3	-0.7	
	comp=Z,17nm,1.5s								
CLL	**Collm**	90.16	36	*e*P		P	18 48 36.0	-1.5	
CLL	**Collm**	90.16	36	*e*P		P	18 48 36.0	-1.5	
BRG	**Berggiesshubel**	90.89	36	*e*P		P	18 48 40.7	-0.2	
	comp=Z,19nm,2.0s								
BRG	**Berggiesshubel**	90.89	36	*e*P		P	18 48 40.7	-0.2	
BRG				pmax	pmax				
	comp=Z,19nm,2.0s								
FIA0	**FINESS Array S**	90.94	23	*e*P		P	18 48 40.2	-0.7	
FIA0	**FINESS Array S**	90.94	23	*e*P		P	18 48 40.2	-0.7	
FINES	**FINESS Array B**	90.94	23	P		P	18 48 40.2	-0.7	
	comp=Z,4.2nm,1.0s,baz=321,slow=1.8,SNR=6.5								
DBIC	**Dimbokro**	91.55	83	P		P	18 48 44.1	-0.6	
	comp=Z,4.4nm,0.9s,baz=321,slow=4.8,SNR=3.9								
DBIC	**Dimbokro**	91.55	83	*e*P		P	18 48 44.0	-0.7	
DBIC				pmax	pmax				
	comp=Z,47nm,1.9s								
DBIC	**Dimbokro**	91.55	83	*e*P		P	18 48 44.0	-0.7	
	comp=Z,47nm,1.9s								
GERES	**GERESS Array B**	91.68	38	P		P	18 48 44.2	-0.5	
	comp=Z,0.4nm,0.8s,baz=280,slow=2.7,SNR=4.4								
GERES	**GERESS Array B**	91.68	38	*e*P		P	18 48 45.4	+0.6	
GEA0	**GERESS Array S**	91.68	38	*e*P		P	18 48 43.8	-1.0	
YAK	**Yakutsk**	93.21	339	P		P	18 48 51.7	+0.3	
	comp=Z,3.6nm,0.3s,baz=64,slow=0.9,SNR=9.7								
YAK	**Yakutsk**	93.21	339	*e*P		P	18 48 50.3	-1.1	
YAK				pmax	pmax				
	comp=Z,19nm,1.2s								
YAK				pmax	pmax				
	comp=N,2.0nm,1.4s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.4s								
YAK	**Yakutsk**	93.21	339	*e*P		P	18 48 51.3	-0.1	
	comp=E,19nm,0.9s								
TOA1	**Torodi Ar. Sit**	95.80	75	*e*P		P	18 49 02.9	-1.4	
TORD	**Torodi Ar. Bea**	95.81	75	P		P	18 49 02.9	-1.4	
	comp=E,1.1nm,0.9s,baz=292,slow=3.1,SNR=2.9								
KLMR	**Klimovskoe**	96.06	19	*e*P		P	18 49 02.3	-2.1	
KLMR				pmax	pmax				
	comp=Z,15nm,1.3s								
KLMR	**Klimovskoe**	96.06	19	*e*P		P	18 49 02.3	-2.1	
KLMR				AMP			18 49 04.4		
	comp=Z,15nm,1.3s								
YSS	**Yuzh-Sakhalins**	96.53	323	⇑*e*P		P	18 49 08.5	+1.6	
YSS				pmax	pmax				
	comp=Z,15nm,1.2s								
OBN	**Obninsk**	99.29	24	*e*P		Pdif	18 49 18.6	-0.5	
OBN				pmax	pmax				
	comp=Z,9.0nm,1.5s								
KIV	**Kislovodsk**	110.28	29	*e*PKIKP		PKiKP	18 54 09.8	+0.2	
KIV				pmax	pmax				
	comp=Z,5.0nm,1.0s								
BJI	**Beijing**	115.33	331	PKP		PKPdf	18 54 23.3	+4.1	
HHC	**Hu-ho-hao-te**	116.68	335	*e*PKP		PKPdf	18 54 20.4	-1.5	
MK32	**Makanchi Array**	117.18	359	*e*PKPdf		PKPdf	18 54 21.4	-1.2	
MKAR	**Makanchi Array**	117.18	359	PKP		PKPdf	18 54 21.4	-1.2	
	comp=Z,0.2nm,0.5s,baz=30,slow=1.2,SNR=4.9								
WMQ	**Urumqi**	119.89	355	*e*PKP		PKPdf	18 54 30.5	+2.5	
NJ2	**Nanjing**	120.09	324	*e*PKP		PKPdf	18 54 31.3	+2.7	
SYO	**Syowa Base**	121.17	164	⇓*e*Pdiff		Pdif	18 50 55.0	-1.0	
GEYT	**Alibeck**	121.71	22	PKP		PKPdf	18 54 31.6	0.0	
	comp=Z,1.6nm,0.6s,baz=274,slow=4.2,SNR=5.1								
GTA	**Gaotai**	122.00	343	*e*PKP		PKPdf	18 54 23.6	-8.7	
XAN	**Xi'an**	123.55	333	PKP		PKPdf	18 54 35.1	-0.2	
XAN				sPKP			18 54 40.4		
STKA	**Stephens Creek**	123.71	242	PKP		PKPdf	18 54 34.2	-1.3	
	comp=Z,4.6nm,0.9s,baz=133,slow=2.5,SNR=3.8								
STKA	**Stephens Creek**	123.71	242	*e*PKIKP		PKPdf	18 54 35.0	-0.5	
STKA	**Stephens Creek**	123.71	242	*e*PKPdf		PKPdf	18 54 35.0	-0.5	
LZH	**Lanzhou**	123.78	338	*e*PKP		PKPdf	18 54 39.5	+3.7	
LZH				sPKP			18 54 44.1		
LZH				LR	LR				
	comp=Z,270nm,18.3s								
LZH				LR	LR				
	comp=Z,250nm,18.0s								
LZH				LR	LR				
	comp=Z,370nm,20.1s								
ENH	**Enshi**	126.44	330	*e*PKPdf		PKPdf	18 54 40.4	-0.5	
BOSA	**Boshof**	126.95	114	PKP		PKPdf	18 54 40.4	-1.6	
	comp=Z,7.9nm,1.1s,baz=319,slow=3.4,SNR=5.2								
CD2	**Chengdu**	128.43	336	PKP		PKPdf	18 54 46.0	+1.3	
WRAB	**Tennant Creek**	129.88	257	*c i*PKIKP		PKPdf	18 54 48.4	+0.8	
WRAB				pmax	pmax				
	comp=Z,32nm,1.0s								
WR1	**Warramunga Arr**	129.89	257	*e*PKPdf		PKPdf	18 54 47.5	-0.1	
WRA	**Warramunga Arr**	129.89	257	PKP		PKPdf	18 54 47.5	-0.1	
	comp=Z,8.6nm,1.0s,baz=84,slow=1.6,SNR=24								
WRA	**Warramunga Arr**	129.89	257	*e*PKIKP		PKPdf	18 54 47.8	+0.2	
WRA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
WRA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
AS01	**Alice Springs**	130.46	253	*e*PKPdf		PKPdf	18 54 48.2	-0.5	
AS31	**Alice Springs**	130.50	253	*e*PKPdf		PKPdf	18 54 46.1	-2.6	
ASAR	**Alice Springs**	130.51	253	PKP		PKPdf	18 54 48.3	-0.4	
	comp=Z,4.6nm,1.0s,baz=100,slow=2.0,SNR=16								
ASAR	**Alice Springs**	130.51	253	*e*PKIKP		PKPdf	18 54 48.7	0.0	
ASAR				pmax	pmax				
	comp=Z,5.0nm,1.0s								
GYA	**Guiyang**	130.98	330	*e*Pdif		Pdif	18 51 42.0	+1.1	
GYA				PKP		PKiKP	18 54 51.4	+0.7	
GYA				PP		PP	18 57 11.8	+6.8	
GYA				AMB	AMB				
	comp=Z,120nm,7.8s								
LSA	**Lhasa**	133.33	349	*e*PKHKP	PKPpre		18 54 40.5		
LSA				*e*			18 54 54.3		
LSA	**Lhasa**	133.33	349	*e*PKPpre	PKPpre		18 54 40.5		
LSA				*e*PKPdf	PKPdf		18 54 54.2	-0.3	
CM31	**Chiang Mai Arr**	141.45	333	*e*PKPpre	PKPpre		18 55 01.4		
CM31				*e*PKPdf	PKiKP		18 55 11.1	-0.8	
CMAR	**Chiang Mai Arr**	141.45	333	PKhKP	PKPpre		18 55 00.6		
	comp=Z,0.4nm,0.6s,baz=359,slow=2.0,SNR=4.2								
CMAR				PKP		PKPdf	18 55 10.3	+1.1	
	comp=Z,1.6nm,0.9s,baz=352,slow=1.5,SNR=7.9								
CM01	**Chiang Mai Arr**	141.47	333	*e*PKPpre	PKPpre		18 55 01.0		
SBUM	**Sibu**	144.44	299	*e*PKPdf		PKPab	18 55 11.7	-1.1	
HYB	**Hyderabad**	146.35	5	*i* PKP		PKPdf	18 55 17.0	-0.8	
KSM	**Kuching**	146.57	299	*e*PKPdf		PKPbc	18 55 19.6	-0.1	
OPO	**Ambohidratompo**	147.14	99	PKPbc		PKPbc	18 55 21.4	0.0	
	comp=Z,14nm,0.8s,baz=289,slow=2.5,SNR=15								
KULM	**Kulim**	151.42	317	*e*PKPbc		PKPbc	18 55 32.1	0.0	
IPM	**Ipoh**	151.77	315	*e*PKPbc		PKPbc	18 55 32.6	-0.4	
IPM				*e*PKPab		sPKPbc	18 55 39.1	-0.8	

ISCJB ***20*** *18:41:35.9±1.2, 4.°28N±0.°08×95.°59E±0.°09, h31km, mb3.2/3, Error ellipse: s-maj=12.2km s-min=10.8km az=7.7*

IDC ***20*** *18:41:35.6±6.2, 4.°70N×96.°49E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.1/59, mbtmp3.3/3, Error ellipse: s-maj=322.6km s-min=29.7km az=57.0*

DJA ***20*** *18:41:36.4±2.1, 4.°N±7.°×97.°6E±1.°0, h32km±21km, M3.6/5, MLv3.6/5*

ISC 20 18:41:37.7±1.5, **4.°34N**±0.°07×**95.°8E**±0.°1, **h31**km, **n8, σ2.°14/12, mb3.1/3, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	0.65	96	P	Pn	18 41 53.6	+2.8
MLSI				S	Sn	18 42 04.2	+4.2
LHMI	**Lhok Sumawe**	1.48	53	P	Pn	18 42 01.3	-0.9
LHMI				S	Sb	18 42 23.0	0.0
TPTI		1.78	127	P	Pn	18 42 07.1	+0.7
TPTI				S	Sn	18 42 26.4	-1.5
KCSI	**Kotacane, Aceh**	2.17	112	P	Pb	18 42 14.5	-1.8
KCSI				S	Sn	18 42 35.3	-2.3
GSI	**Gunungsitoli**	3.52	149	P	Pn	18 42 31.7	+1.4
MKAR	**Makanchi Array**	43.87	347	P	P	18 49 42.3	+1.0
	0.1nm,0.4s,baz=164,slow=8.2,SNR=4.5						
WRA	**Warramunga Arr**	44.94	124	P	P	18 49 49.5	-0.7
	0.8nm,0.6s,baz=303,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	46.45	129	P	P	18 50 01.6	-0.6
	0.1nm,0.4s,baz=303,slow=7.6,SNR=4.1						

MEX ***20*** *19:02:38.8±0.6, 15.°90N×98.°72W, h4km±8km, MD5.2*

IDC ***20*** *19:02:39.0±0.5, 16.°22N×98.°48W, h0km, mb4.8/28, mb1 4.9/33, mb1mx4.8/47, mbtmp4.8/33, ML4.3/4, Error ellipse: s-maj=16.0km s-min=10.0km az=51.0*

NEIC ***20*** *19:02:38.9±0.0, 15.°90N×98.°72W, h4km, mb5.2/298, MD5.2(MEX), After MEX.*

MOS ***20*** *19:02:42.1±0.9, 16.°27N×98.°35W, h28km, mb5.4/71, Error ellipse: s-maj=7.5km s-min=3.9km az=99.5*

ISCJB ***20*** *19:02:43.5±0.6, 16.°31N±0.°02×98.°36W±0.°02, h36km±4km, mb5.1/350, MS5.0/1, Error ellipse: s-maj=4.2km s-min=2.5km az=22.9*

BJI ***20*** *19:02:44.2, 16.°40N×98.°30W, h26km, mB5.3/1, Ms5.3/1, Ms7 5.0/1*

ISC 20 19:02:41.5±0.8, **16.°17N**±0.°04×**98.°54W**±0.°03, **h16**km±4km, **n1043, σ1.°17/1064, mb5.2/350, 8C-6D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	1.39	359	*e*P	Pn	19 03 05.1	-1.2
TLIG				*i* S	Sg	19 03 25.7	-0.6
TLIG	**Tlapa**	1.39	359	*e*P	Pn	19 03 05.2	-1.1
TLIG				*i* S	Sg	19 03 25.7	-0.6
CAIG	**El Cayaco**	1.87	298	*e*P	Pn	19 03 09.0	-3.9
CAIG				*i* S	Sn	19 03 30.8	-5.3
CAIG	**El Cayaco**	1.87	298	*e*P	Pn	19 03 09.0	-3.9
CAIG				*i* S	Sn	19 03 30.8	-5.3
VHO	**Vista Hermosa**	1.95	62	*e*P	Pn	19 03 13.1	-1.1
VHO				*i* S	Sb	19 03 40.8	-0.2
VHO	**Vista Hermosa**	1.95	62	*e*P	Pn	19 03 13.1	-1.1
VHO				*i* S	Sb	19 03 40.8	-0.2
HUIG	**Huatulco**	2.38	99	*e*P	Pn	19 03 17.7	-2.1
HUIG				*i* S	Sn	19 03 47.4	-1.3
HUIG	**Huatulco**	2.38	99	*e*P	Pn	19 03 17.7	-2.1
HUIG				*i* S	Sn	19 03 45.3	-3.4
TPIG	**Tehuac#an**	2.51	27	*e*P	Pn	19 03 21.6	-0.2
TPIG				*i* S	Sb	19 03 55.9	-1.1
TPIG	**Tehuac#an**	2.51	27	*e*P	Pn	19 03 21.6	-0.2
TPIG				*i* S	Sb	19 03 56.5	-0.5
YAIG	**Yautepec**	2.72	350	*e*P	Pn	19 03 24.9	+0.1
YAIG				*i* S	Sn	19 03 59.2	+1.8
YAIG	**Yautepec**	2.72	350	*e*P	Pn	19 03 24.9	+0.1
YAIG				*i* S	Sn	19 03 59.2	+1.8
UNM	**Universidad Na**	3.20	349	*e*P	Pb	19 03 36.5	-1.7
UNM	**Universidad Na**	3.20	349	*e*Pn	Pb	19 03 36.5	-1.7
CMIG	**Matias Romero**	3.63	75	Pn	Pn	19 03 35.2	-1.8
	38nm,0.3s,baz=241,slow=11,SNR=54						
CMIG				Sn	Sn	19 04 19.8	+0.3
	124nm,0.3s,baz=9.5,slow=22,SNR=8.3						
CMIG				Lg	Lg	19 04 31.9	
	90nm,0.3s,baz=15,slow=3.9,SNR=5.9						
LVIG	**Laguna Verde**	4.07	29	*e*Pn	Pn	19 03 41.7	-1.4
MOIG	**Morelia**	4.30	325	*e*Pn	Pn	19 03 47.8	+1.3
JRQG	**Juriquilla Cam**	4.86	338	*e*Pn	Pn	19 03 54.3	+0.1
ZAIG	**Zacatecas**	7.58	331	*e*Pn	Pn	19 04 31.6	0.0
LNIG	**Linares**	8.73	354	*e*P	Pn	19 04 32.6	-15
MYIG	**MÒrida**	9.61	59	*e*Pn	Pn	19 04 59.2	-0.1
TEIG	**Tepich**	10.56	66	*e*Pn	Pn	19 05 08.7	-3.5
TGUH	**Tegucigalpa,Un**	11.08	99	*e*Pn	Pn	19 05 16.7	-2.8
833A	**Chaparral WMA,**	12.12	356	P	Pn	19 05 33.4	-0.2
	baz=177,SNR=6.0						
HPIG		12.59	329	*e*Pn	Pn	19 05 38.3	-2.0
SLBS	**Sierra La Lagu**	13.06	307	*e*Pn	Pn	19 05 48.6	+2.0
LPIG	**La Paz**	13.57	307	Pn	Pn	19 05 53.9	+0.5
	31nm,0.3s,baz=201,slow=2.1,SNR=4.3						
LTX	**Lajitas**	13.92	341	*e*P	Pn	19 06 00.3	+2.0
LTX	**Lajitas**	13.92	341	*e*Pn	Pn	19 06 00.3	+2.0
TXAR	**Lajitas Array**	13.92	341	Pn	Pn	19 06 00.3	+2.0
	0.2nm,0.3s,baz=163,slow=14,SNR=33						
TXAR				Lg	Lg	19 10 01.3	
	0.2nm,0.3s,baz=147,slow=32,SNR=3.2						
TX31	**Lajitas Ar. Si**	13.93	341	*e*Pn	Pn	19 05 59.3	+1.0
JCT	**Junction City**	14.29	356	P	Pn	19 06 03.4	+0.2
	baz=176,SNR=9.1						
JCT	**Junction City**	14.29	356	*e*P	Pn	19 06 03.5	+0.2
JCT	**Junction City**	14.29	356	*e*Pn	Pn	19 06 03.5	+0.2
JTS	**JuntasAbangare**	14.46	112	Pn	Pn	19 06 06.0	+0.3
	2.5nm,0.3s,baz=353,slow=10,SNR=13						
JTS	**JuntasAbangare**	14.46	112	*e*P	Pn	19 06 06.0	+0.3
435B	**Jarrell**	14.57	3	P	Pn	19 06 07.3	+0.2
	baz=184,SNR=6.5						
HDC	**Heredia**	15.33	112	*e*Pn	P	19 06 19.9	-2.3
	1µm,1.7s						
WHTX	**Lake Whitney,**	15.78	3	P	Pn	19 06 23.1	0.0
	baz=184,SNR=77						
WHTX	**Lake Whitney,**	15.78	3	*e*Pn	Pn	19 06 22.7	-0.4
	211nm,0.8s						
341A	**Kurthwood**	15.87	17	P	P	19 06 27.6	-0.4
	baz=199						
NATX	**Nacogdoches**	15.92	12	P	Pn	19 06 24.1	-0.8
	baz=194,SNR=11						
NATX	**Nacogdoches**	15.92	12	*e*Pn	Pn	19 06 23.8	-1.1
	144nm,0.9s						
342A	**Flagon Creek P**	16.16	19	P	Pn	19 06 28.6	+0.5
	baz=202,SNR=6.1						
ABTX	**Abilene, Hawle**	16.41	357	P	P	19 06 32.7	-1.3
	baz=177,SNR=44						
ABTX	**Abilene, Hawle**	16.41	357	*e*Pn	Pn	19 06 29.5	-1.7
	229nm,0.8s						
WBCY	**West Bay, Gran**	16.64	76	*e*Pn	Pn	19 06 32.7	-1.4
	259nm,1.0s						
MNTX	**Cornudas Mount**	16.67	339	P	Pn	19 06 35.3	+0.9
	baz=157,SNR=25						
MNTX	**Cornudas Mount**	16.67	339	*e*Pn	Pn	19 06 34.3	-0.2
	41nm,0.9s						
CLNB	**Carlsbad**	16.74	344	*e*Pn	P	19 06 38.0	+0.3
GDL2	**Guadalupe Moun**	16.81	343	*e*Pn	Pn	19 06 36.1	-0.4
SRIG	**Santa Rosalia**	16.86	313	*e*Pn	P	19 06 38.6	-0.4
	59nm,1.1s						
140A	**Cam and Jess,**	17.01	14

	comp=Z,134nm,0.8s									
Y46A	**Houston**	19.68	25	P		P		19 07 10.0	+0.1	
	baz=209,SNR=19									
LAZ	**Ladron**	19.73	339	*e*P		P		19 07 11.0	+0.2	
W41B	**Gary Mavity, V**	19.75	15	P		P		19 07 11.1	+0.4	
	baz=198,SNR=22									
X44A	**Crenshaw**	19.75	21	P		P		19 07 10.7	0.0	
	baz=205									
LRAL	**Lakeview Retre**	19.77	30	P		P		19 07 11.1	+0.1	
	baz=214,SNR=8.2									
LRAL	**Lakeview Retre**	19.77	30	*e*P		P		19 07 10.7	-0.3	
	comp=Z,50nm,1.1s									
DWPF	**Disney Wildern**	19.78	50	*e*P		P		19 07 10.3	-0.8	
	comp=Z,100nm,1.2s									
Z48A	**Northport**	19.80	28	P		P		19 07 11.1	-0.2	
	baz=213,SNR=21									
TUL1	**Leonard**	19.81	7	P		P		19 07 10.8	-0.6	
	baz=188,SNR=34									
TUL1	**Leonard**	19.81	7	*e*P		P		19 07 10.3	-1.1	
	comp=Z,112nm,0.8s									
WHAR	**Wooly Hollow**	19.85	15	*e*P		P		19 07 11.1	-0.7	
	comp=Z,101nm,0.9s									
454A	**Quitman**	19.89	41	P		P		19 07 11.8	-0.5	
	baz=226									
150A	**Eclectic**	19.91	32	P		P		19 07 12.3	-0.2	
	baz=218,SNR=9.8									
555A	**McAlpin**	19.92	43	P		P		19 07 12.2	-0.4	
	baz=229									
X45A	**UM Field Stati**	19.95	23	P		P		19 07 12.7	-0.2	
	baz=207,SNR=5.8									
353A	**Camilla**	19.97	38	P		P		19 07 13.0	-0.1	
	baz=224									
ANMO	**Albuquerque**	20.00	341	P		Pn		19 07 14.7	-0.8	
	comp=Z,1.2nm,0.3s,baz=335,slow=12,SNR=102									
ANMO	**Albuquerque**	20.00	341	P		Pn		19 07 15.6	+0.2	
	baz=158									
ANMO	**Albuquerque**	20.00	341	⇑*i*P		P		19 07 14.3	+0.6	
ANMO				pmax		pmax				
	comp=Z,64nm,1.0s									
ANMO	**Albuquerque**	20.00	341	*e*P		Pn		19 07 14.6	-0.8	
	comp=Z,62nm,0.9s									
OXF	**Oxford**	20.02	23	P		P		19 07 13.6	-0.1	
	baz=206,SNR=8.2									
OXF	**Oxford**	20.02	23	*e*P		P		19 07 13.6	-0.1	
OXF				pmax		pmax				
	comp=Z,151nm,0.9s									
OXF	**Oxford**	20.02	23	*e*P		P		19 07 13.6	-0.1	
	comp=Z,151nm,0.9s									
V39A	**Pettigrew**	20.07	12	P		P		19 07 14.4	+0.1	
	baz=194,SNR=206									
Y47A	**UCPARC, Winfie**	20.11	27	P		P		19 07 14.2	-0.5	
	baz=211,SNR=23									
Z49A	**Columbiana**	20.13	30	P		P		19 07 14.5	-0.4	
	baz=215,SNR=11									
MTDJ	**Mount Denham**	20.17	81	*e*P		P		19 07 15.2	-0.4	
	comp=Z,109nm,1.0s									
MTDJ	**Mount Denham**	20.17	81	*e*P		P		19 07 16.2	+0.6	
V40A	**Witts Springs**	20.21	14	P		P		19 07 16.0	+0.2	
	baz=196,SNR=108									
556A	**Lake Butler**	20.21	44	P		P		19 07 14.6	-1.2	
	baz=230,SNR=9.2									
151A	**Opelika**	20.22	34	P		P		19 07 15.4	-0.5	
	baz=219,SNR=6.4									
455A	**Stateville**	20.29	42	P		P		19 07 15.5	-1.1	
	baz=228									
V41A	**Mountainview**	20.35	15	P		P		19 07 16.8	-0.5	
	baz=198,SNR=50									
214A	**Organ Pipe Nat**	20.38	323	P		Pn		19 07 19.3	-0.4	
	baz=138,SNR=23									
X46A	**Booneville**	20.38	24	P		P		19 07 17.3	-0.3	
	baz=208,SNR=16									
MET	**Memphis--Engin**	20.39	21	*e*P		P		19 07 16.8	-0.8	
	comp=Z,164nm,0.6s									
TIGA	**Tifton**	20.41	39	*e*P		P		19 07 17.4	-0.6	
	comp=Z,292nm,1.9s									
Y48A	**Jasper**	20.42	28	P		P		19 07 17.9	-0.2	
	baz=213,SNR=21									
HHAR	**Hobbs**	20.45	11	*e*P		P		19 07 17.2	-1.1	
	comp=Z,90nm,0.9s									
Z50A	**Ashland**	20.48	32	P		P		19 07 18.5	-0.2	
	baz=217,SNR=32									
V42A	**Cord**	20.57	17	P		P		19 07 18.9	-0.7	
	baz=200,SNR=24									
U39A	**Green Forest**	20.63	12	P		P		19 07 19.9	-0.4	
	baz=194,SNR=113									
X47A	**Russelville**	20.64	26	P		P		19 07 19.9	-0.4	
	baz=210,SNR=22									
658A	**Bunnell**	20.65	47	P		P		19 07 19.7	-0.8	
	baz=234									
W45A	**Hickory Valley**	20.68	22	P		P		19 07 20.1	-0.8	
	baz=206,SNR=8.2									
Y49A	**Blount Mountai**	20.73	30	P		P		19 07 21.4	0.0	
	baz=215,SNR=31									
U40A	**Yellville**	20.73	13	P		P		19 07 21.1	-0.4	
	baz=196,SNR=198									
X48A	**Hartselle**	20.93	27	P		P		19 07 22.7	-0.8	
	baz=212,SNR=36									
U41A	**Viola**	20.94	15	P		P		19 07 23.3	-0.3	
	baz=198,SNR=28									
254A	**Abbeville**	20.95	39	P		P		19 07 22.5	-1.3	
	baz=225									
PLAL	**Pickwick Lake**	20.95	25	*e*P		P		19 07 23.0	-0.8	
	comp=Z,136nm,1.1s									
X18A	**Snowflake**	20.96	333	*e*P		Pn		19 07 26.0	-0.6	
	comp=Z,121nm,1.3s									
W46A	**Michie**	20.96	24	P		P		19 07 23.4	-0.5	
	baz=208,SNR=7.1									
Y50A	**Piedmont**	21.08	31	P		P		19 07 24.5	-0.7	
	baz=216									
T38A	**Diamond**	21.12	9	P		P		19 07 24.9	-0.7	
	baz=192,SNR=52									
U42A	**Revenden**	21.12	17	P		P		19 07 24.9	-0.7	
	baz=200,SNR=70									
T39A	**Clever**	21.27	11	P		P		19 07 27.4	+0.2	
	baz=194,SNR=12									
V45A	**Humboldt**	21.29	22	P		P		19 07 27.3	-0.1	
	baz=206									
X49A	**Woodville**	21.31	29	P		P		19 07 26.9	-0.7	
	baz=214,SNR=48									
W18A	**Petrified Fore**	21.37	334	P		P		19 07 30.2	+1.7	
	baz=150,SNR=12									
W18A	**Petrified Fore**	21.37	334	*e*P		P		19 07 30.0	+1.6	
	comp=Z,88nm,1.0s									
W47A	**Westpoint**	21.38	25	P		P		19 07 27.5	-0.9	
	baz=210,SNR=34									
U43A	**Rector**	21.38	18	P		P		19 07 31.1	+2.7	
	baz=202,SNR=17									
113A	**Mohawk Valley,**	21.52	323	*e*P		P		19 07 31.6	+1.7	
	comp=Z,265nm,1.9s									
T25A	**Trinidad**	21.52	347	P		P		19 07 32.3	+2.1	
	baz=165,SNR=71									
T25A	**Trinidad**	21.52	347	*e*P		P		19 07 31.2	+1.0	
	comp=Z,166nm,1.0s									
X16A	**Lo Mia Camp, P**	21.55	330	*e*P		P		19 07 31.6	+1.2	
	comp=Z,108nm,0.9s									
W48A	**Pulaski**	21.56	27	P		P		19 07 29.5	-0.8	
	baz=212,SNR=35									
T40A	**Mansfield**	21.57	13	P		P		19 07 30.1	-0.3	
	baz=196,SNR=51									
MHTCO	**State Highway**	21.57	347	*e*P		P		19 07 31.9	+1.2	
	comp=Z,52nm,0.9s									
X50A	**Fort Payne**	21.58	30	P		P		19 07 30.4	-0.2	
	baz=216,SNR=18									
PVMO	**Portageville**	21.64	20	*e*P		P		19 07 30.9	-0.3	
	comp=Z,297nm,0.4s									
T41A	**Mountain View**	21.64	15	P		P		19 07 30.6	-0.6	
	baz=198,SNR=49									
V46A	**Holladay**	21.65	23	P		P		19 07 30.4	-0.9	
	baz=208,SNR=86									
PBMO	**Poplar Bluff**	21.75	18	*e*P		P		19 07 30.5	-1.8	
	comp=Z,237nm,0.8s									
S38A	**Stockton**	21.77	10	P		P		19 07 31.7	-0.8	
	baz=192,SNR=91									
T42A	**Van Buren**	21.80	16	P		P		19 07 32.5	-0.4	
	baz=200,SNR=84									
UTMT	**University of**	21.86	21	*e*P		P		19 07 33.3	-0.2	
	comp=Z,1um,1.8s									
U45A	**Rockin P Farm,**	21.90	22	P		P		19 07 33.9	-0.1	
	baz=206									
GOGA	**Godfrey**	21.91	36	P		P		19 07 33.0	-1.1	
	baz=222,SNR=16									
GOGA	**Godfrey**	21.91	36	*e*P		P		19 07 32.7	-1.4	
GOGA				pmax		pmax				
	comp=Z,50nm,0.8s									
GOGA	**Godfrey**	21.91	36	*e*P		P		19 07 32.7	-1.4	
	comp=Z,50nm,0.8s									
V47A	**Nunnelly**	21.91	25	P		P		19 07 33.2	-0.8	
	baz=210,SNR=65									
S39A	**Bolivar**	21.93	11	P		P		19 07 33.8	-0.5	
	baz=194,SNR=91									
Y14A	**Wickenburg**	21.97	326	*e*P		P		19 07 35.9	+1.1	
	comp=Z,580nm,1.3s									
S40A	**Lebanon**	22.00	13	P		P		19 07 35.0	-0.1	
	baz=196,SNR=86									
WVT	**Waverly**	22.05	24	P		P		19 07 35.3	-0.3	
	baz=208									
WVT	**Waverly**	22.05	24	*e*P		P		19 07 34.1	-1.5	
WVT				pmax		pmax				
	comp=Z,186nm,0.9s									
WVT	**Waverly**	22.05	24	*e*P		P		19 07 34.1	-1.5	
	comp=Z,186nm,0.9s									
T43A	**Greenville**	22.08	18	P		P		19 07 35.0	-0.8	
	baz=202,SNR=72									
V48A	**Smith Brothers**	22.12	26	P		P		19 07 35.3	-1.0	
	baz=211,SNR=26									
U46A	**Springville**	22.12	23	P		P		19 07 36.1	-0.2	
	baz=207,SNR=12									
S41A	**Jillco Farms,**	22.16	14	P		P		19 07 36.4	-0.4	
	baz=198,SNR=116									
T44A	**Benton**	22.29	19	P		P		19 07 37.6	-0.5	
	baz=203,SNR=11									
R38A	**Fenwick Farm,**	22.31	10	P		P		19 07 37.0	-1.4	
	baz=192,SNR=30									
GLA	**Glamis**	22.35	322	P		P		19 07 40.3	+1.5	
	baz=136									
GLA	**Glamis**	22.35	322	*e*P		P		19 07 40.1	+1.2	
GLA				pmax		pmax				
	comp=Z,130nm,1.4s									
GLA	**Glamis**	22.35	322	*e*P		P		19 07 40.1	+1.2	
	comp=Z,130nm,1.4s									
SDCO	**Great Sand Dun**	22.35	345	P		P		19 07 40.0	+0.9	
	baz=163,SNR=54									
SDCO	**Great Sand Dun**	22.35	345	*e*P		P		19 07 39.7	+0.6	
	comp=Z,40nm,0.8s									
WUAZ	**Wupatki**	22.42	332	P		P		19 07 41.8	+2.1	
	baz=147,SNR=118									
WUAZ	**Wupatki**	22.42	332	*e*P		P		19 07 41.1	+1.4	
	comp=Z,214nm,0.9s									
U47A	**Clarksville**	22.53	24	P		P		19 07 39.3	-1.4	
	baz=209,SNR=59									
T45A	**Paducah**	22.55	21	P		P		19 07 40.6	-0.2	
	baz=206,SNR=5.7									
BTCC	**Brunts Corner**	22.55	321	*e*Sn		Sn		19 12 10.1	+8.9	
S42A	**Caledonia**	22.58	16	P		P		19 07 40.9	-0.3	
	baz=200,SNR=137									
CBKS	**Cedar Bluff**	22.58	358	P		P		19 07 40.8	-0.5	
	baz=178,SNR=17									
CBKS	**Cedar Bluff**	22.58	358	*e*P		P		19 07 40.5	-0.8	
CBKS				pmax		pmax				
	comp=Z,75nm,0.9s									
CBKS	**Cedar Bluff**	22.58	358	*e*P		P		19 07 40.5	-0.8	
	comp=Z,75nm,0.9s									
GTBY	**Guantanamo Bay**	22.59	77	*e*P		P		19 07 40.8	-0.7	
	comp=Z,371nm,1.4s									
GTBY	**Guantanamo Bay**	22.59	77	*e*P		P		19 07 40.6	-0.8	
R39A	**Chumby, Stover**	22.59	11	P		P		19 07 39.8	-1.4	
	baz=194,SNR=69									
S43A	**Fulton Ridge,**	22.59	18	P		P		19 07 40.2	-1.2	
	baz=202,SNR=14									
Y12C	**Blythe**	22.67	323	P		P		19 07 43.3	+1.0	
	baz=138									
Y12C	**Blythe**	22.67	323	*e*P		P		19 07 43.2	+1.0	
	comp=Z,44nm,1.1s									
S22A	**4UR Ranch, Cre**	22.70	343	P		P		19 07 44.1	+1.2	
	baz=160,SNR=55									
S22A	**4UR Ranch, Cre**	22.70	343	*e*P		P		19 07 43.4	+0.5	
	comp=Z,41nm,0.8s									
R40A	**Maddies Statio**	22.72	13	P		P		19 07 42.5	-0.2	
	baz=196,SNR=224									
CCM	**Cathedral Cave**	22.73	15	*e*P		P		19 07 41.9	-0.9	
CCM				pmax		pmax				
	comp=Z,100nm,0.9s									
CCM	**Cathedral Cave**	22.73	15	*e*P		P		19 07 41.9	-0.9	
	comp=Z,100nm,0.9s									
MVCO	**Mesa Verde**	22.74	339	P		P		19 07 44.2	+1.0	
	baz=155,SNR=55									
MVCO	**Mesa Verde**	22.74	339	*e*P		P		19 07 43.4	+0.2	
	comp=Z,142nm,0.8s									
T46A	**Princeton**	22.83	22	P		P		19 07 43.3	-0.6	
	baz=207,SNR=31									
IKP	**In-Ko-Pah, Jac**	22.86	319	P		P		19 07 45.7	+1.4	
	baz=133									
PDMCI	**Parker Dam,Lak**	22.86	325	P		P		19 07 45.6	+1.4	
	baz=139,SNR=31									
SWSC	**Sam W. Stewart**	22.86	320	P		P		19 07 45.4	+1.1	
	baz=134,SNR=7.2									
FVM	**French Village**	22.88	17	*e*P		P		19 07 43.9	-0.5	
FVM				pmax		pmax				
	comp=Z,95nm,1.0s									
FVM	**French Village**	22.88	17	*e*P		P		19 07 43.9	-0.5	
	comp=Z,95nm,1.0s									
U48A	**Cassie Pea, Po**	22.90	26	P		P		19 07 43.4	-1.2	
	baz=211,SNR=51									
Q37A	**Longview Farm,**	22.90	8	P		P		19 07 44.2	-0.5	
	baz=190,SNR=14									
KSU1	**Kansas State U**	22.91	4	P		P		19 07 44.4	-0.3	
	baz=185									
KSU1	**Kansas State U**	22.91	4	*e*P		P		19 07 43.2	-1.4	
	comp=Z,45nm,0.8s									
R41A	**Rosebud**	22.93	15	P		P		19 07 43.8	-1.1	
	baz=198,SNR=56									
S44A	**Carbondale**	22.96	19	P		P		19 07 44.6	-0.6	
	baz=204,SNR=40									
SIUC	**Southern Illin**	22.99	19	*e*P		P		19 07 45.5	0.0	
	comp=Z,180nm,0.8s									
KSCO	**Kaye Shedlock'**	23.04	352	P		P		19 07 46.7	+0.5	
	baz=170,SNR=28									
KSCO	**Kaye Shedlock'**	23.04	352	*e*P		P		19 07 46.6	+0.5	
	comp=Z,190nm,0.8s									
R42A	**Luebbering**	23.06	16	P		P		19 07 45.2	-1.1	
	baz=200,SNR=19									
T47A	**Sharon Grove**	23.08	24	P		P		19 07 46.2	-0.3	
	baz=209,SNR=74									
Q38A	**Cooks Store, C**	23.11	10	P		P		19 07 45.3	-1.5	
	baz=192,SNR=38									
BC3	**Big Chuckawall**	23.14	322	P		P		19 07 48.6	+1.3	
	baz=136,SNR=20									
S45A	**Carrier Mills**	23.16	20	P		P		19 07 46.8	-0.5	
	baz=205,SNR=35									
HODGE	**Hodges**	23.19	36	*e*P		P		19 07 46.0	-1.6	
	comp=Z,52nm,0.9s									
MONP2	**Monument Peak**	23.21	319	P		P		19 07 49.6	+1.4	
	baz=132,SNR=8.7									
BAR	**Barrett**	23.23	318	*e*P		P		19 07 50.0	+1.8	
	comp=Z,36nm,1.3s									
R43A	**Red Bud**	23.29	17	P		P		19 07 48.6	0.0	
	baz=202,SNR=48									
Q39A	**Willow Grove F**	23.31	11	P		P		19 07 48.5	-0.3	
	baz=194									
IRM	**Iron Mountain**	23.32	323	P		P		19 07 50.5	+1.5	
	baz=137,SNR=61									
W13A	**Hualapai Mount**	23.32	327	*e*P		P		19 07 50.4	+1.1	
	comp=Z,110nm,1.7s									
BG3	**Lake Jocassee**	23.39	34	*e*P		P		19 07 46.1	-3.5	
	comp=Z,37nm,0.9s									
Q40A	**Laux Farm, Aux**	23.43	13	P		P		19 07 49.6	-0.4	
	baz=196,SNR=17									
Q24A	**Divide**	23.44	347	P		P		19 07 50.9	+0.5	
	baz=164,SNR=8.1									
Q24A	**Divide**	23.44	347	*e*P		P		19 07 50.1	-0.3	
	comp=Z,30nm,0.8s									
TKL	**Tuckaleechee C**	23.46	31	P		P		19 07 49.8	-0.5	
	comp=Z,26nm,0.8s,baz=202,slow=15,SNR=12									
TKL	**Tuckaleechee C**	23.46	31	*e*P		P		19 07 48.4	-2.0	
TKL				pmax		pmax				
	comp=Z,161nm,1.8s									
TKL	**Tuckaleechee C**	23.46	31	*e*P		P		19 07 48.4	-2.0	
	comp=Z,161nm,1.8s									
NEE2	**Needles Airpor**	23.47	325	P		P		19 07 51.8	+1.4	
	baz=139									
S46A	**Don Dixon Farm**	23.47	22	P		P		19 07 49.9	-0.5	
	baz=207									
T48A	**Bowling Green**	23.47	25	P		P		19 07 49.7	-0.7	
	baz=210,SNR=57									
MOTC	**Monteria, Cord**	23.50	105	*e*P		P		19 07 51.0	+0.1	
R44A	**Waltonville**	23.52	19	P		P		19 07 51.0	+0.1	
	baz=203,SNR=44									
RGRS	**Roger Stewart**	23.52	42	*e*P		P		19 07 49.9	-1.0	
	comp=Z,564nm,0.6s									
SLM	**Saint Louis**	23.54	16	*e*P		P		19 07 49.8	-1.3	
SLM				pmax		pmax				
	comp=Z,77nm,0.8s									
SLM	**Saint Louis**	23.54	16	*e*P		P		19 07 49.8	-1.3	
	comp=Z,77nm,0.8s									
Q41A	**Truxton**	23.59	14	P		P		19 07 50.8	-0.7	
	baz=198,SNR=54									
U15A	**North Rim**	23.59	331	*e*P		P		19 07 53.4	+1.4	
	comp=Z,64nm,1.0s									
PV01	**Paradox Valley**	23.60	340	*e*P		P		19 07 52.6	+0.7	
DPP	**Dos Picos Cty**	23.61	319	*e*P		P		19 07 57.6	+5.7	
DPP				*e*PcP		PcP		19 11 40.2	+3.5	
DPP				*e*S		Sn		19 12 19.8	-6.9	
P37A	**Lathrop**	23.62	8	P		P		19 07 50.5	-1.3	
	baz=190,SNR=20									
109C	**Camp Elliot, M**	23.65	318	P		P		19 07 53.9	+1.7	
	baz=131									
CPE	**Camp Elliot**	23.65	318	*e*P		P		19 07 52.9	+0.8	
	comp=Z,185nm,1.9s									
CSU	**Charleston Sou**	23.65	42	*e*P		P		19 07 52.3	+0.1	
NHSC	**New Hope**	23.66	41	P		P		19 07 52.7	+0.4	
	baz=229,SNR=6.7									
NHSC	**New Hope**	23.66	41	*e*P		P		19 07 51.6	-0.7	
	comp=Z,292nm,1.1s									
BELC	**Belle Mtn. Jos**	23.71	322	P		P		19 07 54.3	+1.4	
	baz=135,SNR=18									
XPFO	**Pigeon Flat**	23.72	320	*e*P		P		19 07 54.0	+1.0	
	comp=Z,142nm,1.9s									
PFO	**Pinyon Flats O**	23.72	320	P		P		19 07 54.3	+1.3	
	baz=134,SNR=8.0									
PFO	**Pinyon Flats O**	23.72	320	*e*P		P		19 07 54.0	+1.0	
PFO				pmax		pmax				
	comp=Z,124nm,1.9s									
PFO	**Pinyon Flats O**	23.72	320	*e*P		P		19 07 54.0	+1.0	
	comp=Z,124nm,1.9s									
Q42A	**Golden Eagle**	23.72	16	P		P		19 07 53.0	+0.2	
	baz=200,SNR=6.4									
PV05	**Paradox Valley**	23.72	339	*e*P		P		19 07 53.8	+0.7	
USIN	**University of**	23.73	22	*e*P		P		19 07 53.4	+0.4	
	comp=Z,288nm,1.1s									
PV15	**Paradox Valley**	23.75	340	*e*P		P		19 07 53.2	-0.2	
P38A	**Dawn**	23.77	10	P		P		19 07 52.1	-1.2	
	baz=192,SNR=65									
P39B	**Salisbury**	23.78	11	P		P		19 07 53.2	-0.2	
	baz=194,SNR=50									
JSC	**Jenkinsville**	23.80	38	*e*P		P		19 07 52.7	-0.9	
JSC				pmax		pmax				
	comp=Z,229nm,1.9s									
JSC	**Jenkinsville**	23.80	38	*e*P		P		19 07 52.7	-0.9	
	comp=Z,229nm,1.9s									
R45A	**Skylar, Fairfi**	23.82	20	P		P		19 07 53.6	-0.1	
	baz=205,SNR=15									
O33A	**Hebron**	23.83	2	P		P		19 07 54.4	+0.4	
	baz=183									
PAULI	**Pauline**	23.87	36	*e*P		P		19 07 52.4	-1.9	
	comp=Z,12nm,0.8s									
GRGC	**Isla de Gorgon**	23.94	121	*e*P		P		19 07 56.8	+1.7	
P40A	**Paris**	23.96	12	P		P		19 07 54.7	-0.4	
	baz=196,SNR=25									
LDFC	**Landfair**	23.97	325	*e*P		P		19 07 57.3	+1.9	
	comp=Z,91nm,0.9s									
PV10	**Paradox Valley**	23.97	339	*e*P		P		19 07 55.1	-0.4	
Q43A	**New Douglas**	23.98	17	P		P		19 07 54.7	-0.6	
	baz=201,SNR=15									
O34A	**Beatrice**	23.98	3	P		P		19 07 55.8	+0.5	
	baz=185,SNR=30									
R46A	**Gibon Southern**	24.01	22	P		P		19 07 55.7	+0.1	
	baz=207,SNR=14									
GMRC	**Granite Mounta**	24.07	324	P		P		19 07 57.9	+1.6	
	baz=137,SNR=20									
S48A	**Wiedeman Farm,**	24.08	25	P		P		19 07 55.6	-0.6	
	baz=211,SNR=16									
SMCO	**Snowmass**	24.08	344	*e*P		P		19 07 57.0	+0.3	
	comp=Z,82nm,1.1s									
PV09	**Paradox Valley**	24.11	339	*e*P		P		19 07 57.2	+0.3	
O35A	**Humboldt**	24.12	5	P		P		19 07 56.5	-0.1	
	baz=186,SNR=15									
Q44A	**Meyer Farm, Va**	24.14	18	P		P		19 07 56.0	-0.8	
	baz=203,SNR=12									
MURC	**Murrieta**	24.17	319	P		P		19 07 58.7	+1.5	
	baz=132,SNR=7.6									
TUMC	**Tumaco**	24.17	124	*e*P		P		19 07 58.8	+1.5	
	comp=Z,148nm,0.9s									
O37A	**Wolven Farm, M**	24.21	8	P		P		19 07 57.0	-0.4	
	baz=191,SNR=13									
BBSC	**Beaumont Base**	24.25	320	*e*P		P		19 07 57.2	-0.7	
BBSC				*e*Sn		S		19 12 29.2	+13	
O38A	**Galt**	24.27	9	P		P		19 07 57.9	-0.1	
	baz=192,SNR=30									
TZTN	**Tazewell**	24.27	30	P		P		19 07 57.7	-0.3	
	baz=217,SNR=16									
TZTN	**Tazewell**	24.27	30	*e*P		P		19 07 57.6	-0.5	
	comp=Z,118nm,0.7s									
OLIL	**Olney**	24.28	20	*e*P		P		19 07 57.7	-0.4	
	comp=Z,133nm,1.0s									
P41A	**Barry, Barry**	24.31	14	P		P		19 07 57.9	-0.5	
	baz=198,SNR=9.2									
KNB	**Kanab**	24.32	331	*e*P		P		19 07 59.5	+0.8

SZCU Shurtz Canyon 24.91 332 eP P 19 08 05.2 +1.2
comp=Z,44nm,1.2s
N38A Joes South For 24.96 10 P P 19 08 04.4 +0.2
baz=192,SNR=35
HORQ Saladito 24.97 118 eP P 19 08 12.6 +7.7
CCUT Cedar City 25.00 331 eP P 19 08 06.2 +1.3
comp=Z,23nm,1.0s
Q47A Bedord North L 25.05 23 P P 19 08 05.2 +0.2
baz=208,SNR=37
SHPR Sheep Range 25.06 327 eP P 19 08 06.3 +0.9
comp=Z,38nm,1.1s
GSC Goldstone, Bar 25.09 323 P P 19 08 06.9 +1.3
baz=136,SNR=13
GSC Goldstone, Bar 25.09 323 eP P 19 08 06.5 +0.9
GSC pmax pmax
comp=Z,55nm,1.3s
GSC Goldstone, Bar 25.09 323 eP P 19 08 06.5 +0.9
comp=Z,55nm,1.3s
P45A Graceland, Par 25.11 20 P P 19 08 05.8 +0.2
baz=205,SNR=18
MWC Mount Wilson 25.12 319 eP P 19 08 06.5 +0.6
MWC pmax pmax
comp=Z,47nm,1.2s
MWC Mount Wilson 25.12 319 eP P 19 08 06.5 +0.6
comp=Z,47nm,1.2s
SRU San Rafael Swe 25.15 338 eP P 19 08 07.0 +0.8
SRU pmax pmax
comp=Z,64nm,0.9s
SRU San Rafael Swe 25.15 338 eP P 19 08 07.0 +0.8
comp=Z,64nm,0.9s
BGNE Belgrade 25.15 1 eP P 19 08 05.8 -0.2
comp=Z,73nm,0.8s
PASC Pasadena Art C 25.16 319 eP P 19 08 06.7 +0.5
comp=Z,55nm,1.4s
N39A Derby Farms, D 25.17 11 P P 19 08 06.1 0.0
baz=194,SNR=49
GUYC Guyana, Colomb 25.18 113 eP P 19 08 06.3 -0.8
BLO Bloomington 25.22 22 eP P 19 08 06.1 -0.5
BLO pmax pmax
comp=Z,120nm,0.8s
BLO Bloomington 25.22 22 eP P 19 08 06.1 -0.5
comp=Z,120nm,0.8s
SBI Santa Barbara 25.27 317 eP P 19 08 04.5 -2.6
MSU Marysvale 25.28 334 eP P 19 08 08.5 +1.1
MSU Marysvale 25.28 334 eP P 19 08 08.5 +1.1
M34A Aspy Farms, Fr 25.30 3 P P 19 08 07.9 +0.6
baz=185,SNR=15
O20A White River Ci 25.33 342 P P 19 08 09.2 +1.4
baz=158,SNR=48
O20A White River Ci 25.33 342 eP P 19 08 08.5 +0.7
comp=Z,86nm,0.9s
M35A Neola 25.33 5 P P 19 08 08.0 +0.4
baz=187,SNR=32
M33A Taylor Creek F 25.34 2 P P 19 08 08.7 +1.0
baz=183,SNR=7.4
N41A Harden Midland 25.34 14 P P 19 08 07.7 +0.1
baz=198,SNR=15
N40A Mertquake, Sal 25.35 12 P P 19 08 07.8 0.0
baz=196,SNR=18
OTAV Otavalo 25.37 127 eP P 19 08 10.0 +1.3
comp=Z,104nm,1.8s
OTAV Otavalo 25.37 127 eP P 19 08 10.2 +1.5
CJV Casa Juvan 25.37 320 ePcP PcP 19 11 43.0 +2.3
P46A Rosedale 25.37 21 P P 19 08 08.3 +0.3
baz=206,SNR=12
CMBC Cumbal 25.42 125 eP P 19 08 13.6 +4.4
M37A Trindle Farm, 25.44 8 P P 19 08 08.9 +0.4
baz=190,SNR=14
PT2 Point Dume 25.45 318 eP P 19 08 14.6 +5.9
O44A Mansfield 25.45 18 P P 19 08 08.7 0.0
baz=203,SNR=5.7
N23A Red Feather La 25.46 347 P P 19 08 10.5 +1.4
baz=164,SNR=41
N23A Red Feather La 25.46 347 eP P 19 08 09.8 +0.7
comp=Z,74nm,0.9s
SNCC San Nicolas Is 25.46 316 eP P 19 08 11.1 +2.2
comp=Z,258nm,1.9s
TCRU Three Creeks R 25.47 334 eP P 19 08 10.3 +1.1
comp=Z,27nm,0.9s
NORC Norcasia 25.49 112 eP P 19 08 10.2 +0.8
P18A Preston Nutter 25.51 339 eP P 19 08 10.3 +0.7
comp=Z,55nm,0.9s
EDW2 Edwards Air Fo 25.51 321 P P 19 08 10.3 +0.9
baz=133,SNR=18
P17A Butcher Ranch, 25.55 338 eP P 19 08 10.5 +0.8
comp=Z,38nm,0.9s
TMUT Trail Mountain 25.57 337 eP P 19 08 11.3 +1.2
comp=Z,77nm,1.3s
M38A Pleasantville 25.58 9 P P 19 08 09.9 +0.1
baz=192,SNR=71
P47A Martinsville 25.59 22 P P 19 08 10.7 +0.7
baz=208,SNR=7.2
HDIL Hopedale 25.59 16 P P 19 08 10.5 +0.6
baz=201,SNR=9.1
HDIL Hopedale 25.59 16 eP P 19 08 10.1 +0.2
comp=Z,148nm,0.8s
N42A Yates City 25.66 15 P P 19 08 10.2 -0.3
baz=199,SNR=16
BLG Laguna Peak, P 25.68 318 P P 19 08 12.9 +2.0
baz=130
LRMC Laurel Mtn Rad 25.73 322 P P 19 08 12.9 +1.5
baz=134,SNR=19
PHWY Pilot Hill 25.75 348 eP P 19 08 12.3 +0.6
comp=Z,48nm,0.8s
O45A Potomac 25.77 19 P P 19 08 12.4 +0.8
baz=205,SNR=17
L34A Svendsen Farm, 25.77 4 P P 19 08 12.3 +0.6
baz=185
OSI Osito Audit: C 25.79 319 eP P 19 08 13.0 +1.1
comp=Z,156nm,1.8s
M39A Webster 25.81 11 P P 19 08 12.2 +0.3
baz=194,SNR=72
M40A Post Highland 25.87 12 P P 19 08 12.5 0.0
baz=196,SNR=22
FURC Furnace Creek, 25.95 325 P P 19 08 14.9 +1.6
baz=137,SNR=6.5
L35A Bielow Farm, R 25.98 5 P P 19 08 13.7 +0.2
baz=187
N43A Stutzman Famil 25.98 16 P P 19 08 13.8 +0.3
baz=201,SNR=12
MPMC Manual Prospec 26.02 323 P P 19 08 15.5 +1.4
baz=136,SNR=25
M41A Milan 26.05 14 P P 19 08 13.9 -0.2
baz=198,SNR=7.0
SCIA State Center 26.05 9 P P 19 08 15.0 +0.8
baz=192,SNR=43
SCIA State Center 26.05 9 eP P 19 08 13.8 -0.3
comp=Z,286nm,0.8s
SFIN Lafayette 26.09 20 P P 19 08 14.7 +0.2
baz=206,SNR=21
SFIN Lafayette 26.09 20 eP P 19 08 13.9 -0.6
comp=Z,84nm,0.8s
SDDR Presa de Saban 26.12 80 eP P 19 08 15.2 +0.1
comp=Z,54nm,1.0s
N44A Piper City 26.14 18 P P 19 08 15.0 0.0
baz=203,SNR=9.7
ARVC Arvin 26.19 320 P P 19 08 17.2 +1.7
baz=132
L37A Phoenix Point, 26.19 8 P P 19 08 15.7 +0.4
baz=191,SNR=29
DAC Darwin (Calif) 26.23 323 eP P 19 08 17.1 +1.0
DAC pmax pmax
comp=Z,15nm,0.9s
DAC Darwin (Calif) 26.23 323 eP P 19 08 17.1 +1.0
comp=Z,14nm,0.9s
O47A Sheridan 26.28 22 P P 19 08 16.3 0.0
baz=208,SNR=5.2
ROSC El Rosal 26.31 113 P P 19 08 16.8 +1.5
comp=Z,4.6nm,0.4s,baz=339,slow=14,SNR=2.8
ROSC El Rosal 26.31 113 eP P 19 08 18.4 +1.2
comp=Z,163nm,2.0s
M42A Sheffield 26.31 15 P P 19 08 16.3 -0.2
baz=200,SNR=6.1
L38A Oak Wood Farm, 26.32 9 P P 19 08 16.8 +0.2
baz=192,SNR=93
ISA Isabella, Lake 26.33 321 P P 19 08 18.5 +1.7
baz=133,SNR=20
ISA Isabella, Lake 26.33 321 eP P 19 08 18.3 +1.5
ISA pmax pmax
comp=Z,52nm,1.3s
ISA Isabella, Lake 26.33 321 eP P 19 08 18.3 +1.5
comp=Z,52nm,1.3s
PRAC Prado 26.34 116 eP P 19 08 18.7 +1.6
comp=Z,44nm,1.2s
MPU Maple Canyon 26.35 337 eP P 19 08 18.4 +1.3
comp=Z,36nm,1.0s
K31A O'Neill 26.36 360 P P 19 08 18.3 +1.3
baz=180,SNR=5.3

K33A Hardington 26.38 3 P P 19 08 17.4 +0.3
baz=184
N45A Kentland 26.38 19 P P 19 08 17.4 +0.2
baz=204,SNR=14
BLA Blacksburg 26.39 34 P P 19 08 16.3 -1.0
baz=222,SNR=5.3
BLA Blacksburg 26.39 34 eP P 19 08 15.8 -1.5
BLA pmax pmax
comp=Z,46nm,0.8s
BLA Blacksburg 26.39 34 eP P 19 08 15.8 -1.5
comp=Z,46nm,0.8s
K32A Verdigre 26.41 1 P P 19 08 18.0 +0.7
baz=182,SNR=10.0
GRTK Grand Turk 26.46 74 eP P 19 08 18.2 +0.2
comp=Z,866nm,1.9s
L39A Vinton 26.47 11 P P 19 08 17.7 -0.2
baz=194,SNR=14
NLU North Lily Min 26.47 336 eP P 19 08 19.3 +1.1
comp=Z,44nm,1.0s
CNNC Cliffs of the 26.49 40 eP P 19 08 16.9 -1.2
comp=Z,74nm,0.8s
BAKC Calstate 26.50 320 ePcP PcP 19 11 46.5 +3.4
M43A Waltham Townsh 26.50 16 P P 19 08 18.1 -0.1
baz=201,SNR=12
RWWY Rawlins 26.51 345 eP P 19 08 18.9 +0.4
comp=Z,62nm,0.9s
K34A Le Mars 26.51 4 P P 19 08 18.7 +0.4
baz=186
L40A Anamosa 26.56 12 P P 19 08 18.8 +0.1
baz=196,SNR=40
BARC Barichara 26.59 108 eP P 19 08 21.9 +2.3
K36A Gilmore City 26.61 7 P P 19 08 19.2 0.0
baz=189,SNR=11
K35A Storm Lake 26.61 5 P P 19 08 19.3 +0.1
baz=187,SNR=11
CWC Cottonwood Cre 26.63 323 P P 19 08 20.8 +1.2
baz=135
PKM Mcpherson Peak 26.65 318 P P 19 08 20.9 +1.0
baz=130,SNR=8.3
VWCC Virginia Weste 26.66 34 eP P 19 08 19.4 -0.3
N46A Monticello 26.68 20 P P 19 08 19.3 -0.5
baz=206
R11A Troy Canyon, C 26.70 329 P P 19 08 21.7 +1.5
baz=142,SNR=29
R11A Troy Canyon, C 26.70 329 eP P 19 08 20.8 +0.5
comp=Z,13nm,0.8s
M44A Midewin, Midew 26.72 18 P P 19 08 20.3 +0.2
baz=203,SNR=14
L41A Preston 26.73 13 P P 19 08 20.4 +0.2
baz=198,SNR=40
PAMC Pamplona, Colo 26.75 106 eP P 19 08 21.7 +0.4
JLU Jordanelle 26.80 338 eP P 19 08 21.7 +0.5
comp=Z,28nm,1.4s
VES Vestal, Richgr 26.82 321 P P 19 08 23.1 +2.0
baz=132
K37A Belmond 26.84 8 P P 19 08 20.9 -0.4
baz=191,SNR=37
K38A Parkersburg 26.85 9 P P 19 08 21.0 -0.3
baz=193,SNR=7.8
L42A Oliver, Polo 26.85 15 P P 19 08 21.5 +0.2
baz=199,SNR=25
CHIC Chingaza 26.92 113 eP P 19 08 25.4 +2.6
RUSC La Rusia 26.96 109 eP P 19 08 24.0 +0.8
comp=Z,82nm,2.0s
DUG Dugway, Tooele 26.97 335 P P 19 08 24.5 +1.9
baz=149,SNR=16
DUG Dugway, Tooele 26.97 335 eP P 19 08 23.4 +0.8
DUG pmax pmax
comp=Z,20nm,0.9s
DUG Dugway, Tooele 26.97 335 eP P 19 08 23.4 +0.8
comp=Z,20nm,0.9s
CTU Camp Tracy 26.99 337 eP P 19 08 23.6 +0.8
comp=Z,28nm,0.9s
J31A Geddes 27.03 360 P P 19 08 23.6 +0.6
baz=180,SNR=8.9
SMMC Simmler 27.04 319 P P 19 08 25.1 +1.9
baz=130,SNR=5.5
K39A Oelwein 27.05 11 P P 19 08 22.7 -0.4
baz=194,SNR=16
J33A Davis 27.09 3 P P 19 08 24.0 +0.4
baz=184
J34A George 27.11 4 P P 19 08 23.9 +0.1
baz=186
TIN Tinemaha, Big 27.14 324 P P 19 08 25.8 +1.6
baz=198,SNR=6.7
K40A Galesburg 27.19 12 P P 19 08 24.2 -0.2
baz=196,SNR=29
TCUT Toone Canyon 27.24 338 eP P 19 08 25.9 +0.8
comp=Z,70nm,0.9s
J35A Milford 27.25 5 P P 19 08 25.1 +0.1
baz=187
L43A Garden Prairie 27.26 16 P P 19 08 25.0 0.0
baz=201,SNR=8.0
K22A Casper 27.26 347 P P 19 08 23.4 -1.8
baz=164,SNR=6.6
K22A Casper 27.26 347 eP P 19 08 25.4 +0.1
comp=Z,30nm,0.8s
M46A Old House Fiel 27.26 20 P P 19 08 24.9 -0.1
baz=206
K41A Shullsburg 27.28 13 P P 19 08 25.5 +0.3
baz=198,SNR=22
J36A Seneca 1, Swea 27.31 7 P P 19 08 25.1 -0.3
baz=189,SNR=18
J37A Redenius Farm, 27.38 8 P P 19 08 25.4 -0.7
baz=191,SNR=13
PAGB Antelope Grade 27.46 319 eP P 19 08 27.5 +0.5
comp=Z,82nm,1.6s
L44A Lake County Fo 27.48 17 P P 19 08 26.7 -0.3
baz=203
ECSD EROS Data Cent 27.52 3 P P 19 08 27.5 +0.2
baz=184,SNR=31
ECSD EROS Data Cent 27.52 3 eP P 19 08 26.9 -0.4
comp=Z,49nm,1.1s
ACSO Alum Creek Sta 27.53 26 P P 19 08 27.3 -0.2
baz=214,SNR=14
ACSO Alum Creek Sta 27.53 26 eP P 19 08 26.7 -0.8
comp=Z,74nm,1.1s
J38A Wedel Dairy, R 27.55 10 P P 19 08 26.9 -0.8
baz=193,SNR=22
JFWS Jewell Farm 27.58 13 P P 19 08 28.4 +0.4
baz=198,SNR=20
JFWS Jewell Farm 27.58 13 eP P 19 08 27.0 -0.9
JFWS pmax pmax
comp=Z,63nm,0.8s
JFWS Jewell Farm 27.58 13 eP P 19 08 27.0 -0.9
comp=Z,63nm,0.8s
K42A Prairie Point, 27.66 15 P P 19 08 28.4 -0.2
baz=199,SNR=6.2
BGU Big Grassy Mou 27.68 336 eP P 19 08 29.8 +0.8
comp=Z,37nm,1.2s
J39A Decorah 27.70 11 P P 19 08 28.4 -0.6
baz=194,SNR=14
HWUT Hardware Ranch 27.73 339 eP P 19 08 30.5 +1.1
comp=Z,18nm,0.8s
I35A Creekview Farm 27.76 6 P P 19 08 29.5 0.0
baz=188
I32A Karley and Nic 27.78 2 P P 19 08 29.7 0.0
baz=183
SPUT South Promonto 27.78 337 eP P 19 08 31.0 +1.1
comp=Z,30nm,1.1s
I33A Coleman 27.83 3 P P 19 08 29.5 -0.6
baz=184
K43A Burlington 27.85 16 P P 19 08 30.3 0.0
baz=202,SNR=6.3
MLAC Mammoth, Mammo 27.89 324 P P 19 08 32.7 +1.7
baz=135
J40A Soldiers Grove 27.94 12 P P 19 08 30.9 -0.2
baz=196
MDPB Devils Postpil 28.03 324 eP P 19 08 33.3 +1.0
comp=Z,28nm,1.1s
MDPB ePcP PcP 19 11 49.6 +2.5
MDPB esS S 19 13 13.2 -3.2
MDPB e 19 13 18.0
J41A Loganville 28.07 13 P P 19 08 32.2 0.0
baz=198,SNR=26
NV11 Mina Array Sit 28.09 326 eP P 19 08 34.4 +1.7
comp=Z,6.6nm,1.5s
I37A Lemond, Waseca 28.10 8 P P 19 08 31.8 -0.7
baz=191,SNR=6.3
PMPB Monarch Peak 28.12 319 eP P 19 08 34.4 +1.6
comp=Z,147nm,1.8s
BW06 Boulder Array 28.14 343 P P 19 08 34.0 +0.9
baz=158,SNR=25
BW06 Boulder Array 28.14 343 eP P 19 08 33.5 +0.4
comp=Z,32nm,0.9s
PD31 Pinedale Array 28.14 343 eP P 19 08 33.6 +0.5
PDAR Pinedale Array 28.14 343 P P 19 08 34.1 +1.0
comp=Z,22nm,0.8s,baz=141,slow=7.5,SNR=87

PDAR Pinedale Array 28.14 343 eP P 19 08 33.2 +0.1
NV01 Mina Array Sit 28.16 326 eP P 19 08 34.6 +1.1
NVAR Mina Array Bea 28.16 326 P P 19 08 34.5 +1.0
comp=Z,19nm,0.8s,baz=154,slow=9.7,SNR=118
NVAR PcP PcP 19 11 47.4 +0.2
comp=Z,2.1nm,0.8s,baz=154,slow=2.9,SNR=6.2
SDV Santo Domingo 28.17 102 P P 19 08 34.1 +0.5
comp=Z,26nm,0.8s,baz=305,slow=4.7,SNR=35
SDV Santo Domingo 28.17 102 eP P 19 08 34.5 +0.9
comp=Z,28nm,0.8s
IP07 Quail 28.22 36 eP P 19 08 31.5 -2.1
comp=Z,24nm,1.1s
J42A Columbus 28.23 15 P P 19 08 33.2 -0.4
baz=200,SNR=11
I39A Houston 28.23 11 P P 19 08 33.8 0.0
baz=195,SNR=14
RSSD Black Hills 28.25 352 P P 19 08 35.0 +0.9
baz=169
RSSD Black Hills 28.25 352 eP P 19 08 34.7 +0.6
RSSD pmax pmax
comp=Z,37nm,1.1s
RSSD Black Hills 28.25 352 eP P 19 08 34.7 +0.6
comp=Z,38nm,1.1s
IP06 Yanceyville 28.25 36 eP P 19 08 32.9 -1.0
comp=Z,43nm,1.8s
URVA University of 28.26 37 eP P 19 08 33.2 -0.8
H32A Carlson Farm, 28.26 2 P P 19 08 34.3 +0.3
baz=183,SNR=16
I38A Scanlan Farm, 28.28 9 P P 19 08 33.8 -0.3
baz=193,SNR=19
IP03 Louisa 28.30 36 eP P 19 08 33.7 -0.6
comp=Z,15nm,1.1s
IP04 Greensprings 28.30 36 eP P 19 08 33.8 -0.6
comp=Z,18nm,1.0s
IP01 Cuckoo 28.31 36 eP P 19 08 34.0 -0.5
comp=Z,59nm,1.7s
IP05 Hopewell Churc 28.31 36 eP P 19 08 33.6 -0.9
comp=Z,20nm,1.1s
HVU Hansel Valley 28.31 337 eP P 19 08 35.7 +1.0
HVU pmax pmax
comp=Z,30nm,0.9s
HVU Hansel Valley 28.31 337 eP P 19 08 35.7 +1.0
comp=Z,30nm,0.9s
SPRD Spring Road, M 28.37 36 eP P 19 08 33.9 -1.2
comp=Z,10.0nm,0.8s
RYN Ryan 28.43 326 eP P 19 08 37.3 +1.6
comp=Z,49nm,1.5s
I40A Norwalk 28.44 12 P P 19 08 36.0 +0.4
baz=196
CVRD Centerville Ro 28.45 36 eP P 19 08 34.9 -0.8
comp=Z,22nm,1.4s
H33A Prehn Over Nor 28.46 3 P P 19 08 35.6 -0.2
baz=184,SNR=20
J43A Natural Harves 28.46 16 P P 19 08 35.5 -0.2
baz=201
H34A Spellman Lake, 28.50 4 P P 19 08 35.6 -0.6
baz=186,SNR=5.3
KVN Kaiserville 28.51 327 eP P 19 08 37.7 +1.2
KVN pmax pmax
comp=Z,22nm,1.0s
KVN Kaiserville 28.51 327 eP P 19 08 37.7 +1.2
comp=Z,22nm,1.0s
MCWV Mont Chateau 28.53 31 P P 19 08 35.8 -0.6
baz=220
MCWV Mont Chateau 28.53 31 eP P 19 08 36.1 -0.3
comp=Z,38nm,0.9s
H36A Jessenland, He 28.59 7 P P 19 08 36.8 0.0
baz=190,SNR=12
PTRD Partlow Road 28.59 36 eP P 19 08 34.8 -2.1
comp=Z,252nm,0.2s
AHID Auburn Hatcher 28.60 340 eP P 19 08 37.9 +0.6
comp=Z,16nm,0.8s
H35A Sunnyside Ranc 28.61 6 P P 19 08 36.9 -0.1
baz=188
H37A Dierke Farm, C 28.72 8 P P 19 08 38.1 0.0
baz=192
I41A Arkdale 28.76 13 P P 19 08 38.4 0.0
baz=198
CBN Corbin Frederi 28.79 36 eP P 19 08 37.9 -0.8
comp=Z,72nm,0.4s
I42A Draeger Farm, 28.82 15 P P 19 08 38.6 -0.3
baz=200,SNR=11
WAKR Walker 28.84 325 eP P 19 08 41.2 +1.7
comp=Z,29nm,1.3s
SAO San Andreas Ge 28.86 320 eP P 19 08 41.6 +2.2
SAO pmax pmax
comp=Z,22nm,1.3s
SAO San Andreas Ge 28.86 320 eP P 19 08 41.6 +2.2
comp=Z,22nm,1.3s
H38A Maiden Rock 28.90 9 P P 19 08 39.8 +0.1
baz=193,SNR=9.9
G33A Ortonville 28.99 3 P P 19 08 40.3 -0.2
baz=184,SNR=14
I43A Langenfeld Bro 29.00 16 P P 19 08 40.7 +0.2
baz=201,SNR=11
AAM Ann Arbor 29.01 23 eP P 19 08 40.2 -0.4
AAM pmax pmax
comp=Z,49nm,0.8s
AAM Ann Arbor 29.01 23 eP P 19 08 40.2 -0.4
comp=Z,49nm,0.8s
G32A Webster 29.01 2 P P 19 08 40.6 0.0
baz=182,SNR=9.2
CMB Columbia Colle 29.06 323 eP P 19 08 41.7 +0.5
CMB pmax pmax
comp=Z,29nm,1.6s
CMB Columbia Colle 29.06 323 eP P 19 08 41.7 +0.5
comp=Z,29nm,1.6s
REDW Red Top Meadow 29.06 341 eP P 19 08 41.9 +0.5
comp=Z,34nm,1.0s
YERR Yerington 29.07 325 eP P 19 08 42.4 +0.9
comp=Z,25nm,1.2s
H39A Augusta 29.07 11 P P 19 08 40.8 -0.4
baz=195
G34A Benson 29.09 4 P P 19 08 40.9 -0.3
baz=186
SNOW Snow King Moun 29.12 342 eP P 19 08 42.3 +0.4
comp=Z,46nm,1.0s
G35A Watkins 29.16 6 P P 19 08 41.6 -0.4
baz=188
H40A Chili 29.19 12 P P 19 08 41.9 -0.3
baz=196,SNR=12
TPAW Teton Pass 29.21 341 eP P 19 08 43.1 +0.4
comp=Z,30nm,1.0s
LOHW Long Hollow 29.22 342 eP P 19 08 43.0 +0.3
comp=Z,29nm,1.0s
H41A Junction City 29.34 13 P P 19 08 43.3 -0.2
baz=198,SNR=11
SPMN Marine on St. 29.36 8 P P 19 08 43.3 -0.4
baz=192,SNR=16
SPMN Marine on St. 29.36 8 eP P 19 08 42.8 -0.9
comp=Z,44nm,0.7s
FXWY Fox Creek 29.37 341 eP P 19 08 44.5 +0.4
comp=Z,19nm,1.0s
MOOW Moose Ponds 29.38 342 eP P 19 08 44.8 +0.5
comp=Z,13nm,0.8s
G38A Ridgeland 29.45 10 P P 19 08 43.8 -0.7
baz=193,SNR=7.3
N54A Moraine State 29.46 29 eP P 19 08 43.3 -1.4
comp=Z,104nm,1.8s
RDG13 Poverty Ridge 29.47 320 eP P 19 08 46.1 +1.2
comp=Z,118nm,2.0s
H42A Shiocton 29.49 15 P P 19 08 44.7 -0.2
baz=200
VCNR Virginia City 29.52 325 eP P 19 08 47.1 +1.7
comp=Z,18nm,1.0s
IMW Indian Meadow 29.57 342 eP P 19 08 46.6 +0.6
comp=Z,13nm,0.8s
F31A Hecla 29.60 0 P P 19 08 45.7 -0.2
baz=181,SNR=8.0
RUBR Rubicon Trail 29.62 325 eP P 19 08 48.5 +2.1
comp=Z,7nm,1.1s
O56A Blue Knob Stat 29.63 32 P P 19 08 45.2 -1.0
baz=222
O56A Blue Knob Stat 29.63 32 eP P 19 08 45.3 -0.9
comp=Z,22nm,1.0s
F33A 5 Mile Ranch, 29.64 3 P P 19 08 45.4 -0.7
baz=185,SNR=6.9
H43A Windswept, Lux 29.65 16 P P 19 08 45.8 -0.4
baz=201
F34A Alexandria 29.66 5 P P 19 08 45.9 -0.5
baz=187
PAHR Pah Rah Range 29.67 326 eP P 19 08 48.1 +1.4
comp=Z,83nm,1.9s
G39A Holcombe 29.68 11 P P 19 08 46.2 -0.4
baz=195,SNR=14
CNIC Niles Canyon 29.72 320 ePcP PcP 19 11 51.8 +0.8
G40A Rib Lake 29.85 12 P P 19 08 47.5 -0.6
baz=196,SNR=7.5

YPP **Pitchstone Pla** 29.88 342 *e*P P 19 08 48.9 +0.2
comp=Z,13nm,1.3s
F37A **Hinrichs Farm,** 29.88 8 P P 19 08 48.1 -0.2
baz=192
F36A **Milaca** 29.90 7 P P 19 08 48.1 -0.4
baz=190,SNR=17
H17A **Grant Village** 29.92 343 *e*P P 19 08 49.2 +0.2
comp=Z,79nm,1.9s
SDMD **Soldier's Deli** 29.93 35 *e*P P 19 08 47.8 -1.0
comp=Z,33nm,1.7s
ALLY **Alegheny Colle** 29.93 28 *e*P P 19 08 47.0 -1.9
comp=Z,30nm,0.9s
G41A **Antigo** 30.00 13 P P 19 08 49.3 -0.1
baz=198
AFDM **Forest Hills D** 30.01 324 *e*P P 19 08 50.6 +1.0
comp=Z,8.7nm,1.0s
M54A **Oil Creek Stat** 30.05 29 P P 19 08 49.5 -0.3
baz=218,SNR=6.7
M54A **Oil Creek Stat** 30.05 29 *e*P P 19 08 49.0 -0.8
comp=Z,27nm,0.8s
YFT **Old Faithful** 30.05 342 *e*P P 19 08 51.8 +1.7
comp=Z,78nm,1.9s
LOY **Loyalton** 30.09 325 *e*P P 19 08 52.9 +2.4
G42A **Mountain** 30.21 14 P P 19 08 50.7 -0.5
baz=200,SNR=9.6
F38A **Pierce - Schro** 30.22 9 P P 19 08 50.9 -0.4
baz=193
RLMT **Red Lodge** 30.24 345 P P 19 08 52.8 +1.0
baz=160,SNR=17
RLMT **Red Lodge** 30.24 345 *e*P P 19 08 52.2 +0.5
comp=Z,36nm,0.9s
YNR **Norris Junctio** 30.25 343 *e*P P 19 08 52.8 +0.9
comp=Z,81nm,2.0s
SSPA **Standing Stone** 30.25 32 P P 19 08 51.0 -0.6
baz=222
SSPA **Standing Stone** 30.25 32 *e*P P 19 08 50.9 -0.7
comp=Z,18nm,1.0s
YMR **Madison River** 30.29 342 *e*P P 19 08 53.3 +1.1
comp=Z,56nm,1.5s
E31A **Nome** 30.30 1 P P 19 08 51.8 -0.2
baz=182
BEKR **Beckworth** 30.31 325 *e*P P 19 08 53.9 +1.5
comp=Z,18nm,0.9s
F39A **Loretta** 30.34 11 P P 19 08 52.0 -0.4
baz=195,SNR=9.0
YHH **Holmes Hill** 30.36 343 *e*P P 19 08 54.3 +1.4
comp=Z,11nm,1.0s
ERPA **Erie** 30.38 28 *e*P P 19 08 51.5 -1.2
comp=Z,19nm,0.8s
G43A **Wallace** 30.40 15 P P 19 08 52.4 -0.5
baz=201
YHB **Horse Butte** 30.43 342 *e*P P 19 08 53.3 -0.1
comp=Z,31nm,1.6s
HLID **Hailey** 30.46 337 P P 19 08 54.9 +1.2
baz=149,SNR=14
HLID **Hailey** 30.46 337 *e*P P 19 08 54.1 +0.4
comp=Z,14nm,0.9s
F40A **Park Falls** 30.49 12 P P 19 08 53.6 -0.1
baz=196,SNR=17
E35A **Pequot Lakes** 30.49 6 P P 19 08 53.9 +0.1
baz=188,SNR=10
F41A **Three Lakes** 30.52 13 P P 19 08 53.8 -0.3
baz=198
ATAH **Atahualpa** 30.56 138 P P 19 08 56.9 +1.8
comp=Z,9.8nm,0.7s,baz=105,slow=19,SNR=3.0
QLMT **Earthquake Lak** 30.57 342 *e*P P 19 08 56.2 +1.5
E36A **McGregor** 30.58 7 P P 19 08 53.8 -0.6
baz=190,SNR=7.6
MVL **Millersville** 30.61 35 *e*P P 19 08 54.3 -0.5
comp=Z,12nm,1.0s
ORV **Oroville** 30.73 324 *e*P P 19 08 57.2 +1.3
ORV pmax pmax
comp=Z,27nm,1.4s
ORV **Oroville** 30.73 324 *e*P P 19 08 57.2 +1.3
comp=Z,27nm,1.4s
MAC **Mark West Spri** 30.78 321 *e*PcP PcP 19 11 57.4 +3.8
D31A **Mcclaflin, Tow** 30.80 1 P P 19 08 56.0 -0.4
baz=182
E39A **Mellen** 30.85 11 P P 19 08 56.5 -0.4
baz=195,SNR=11
COWI **Conover** 30.86 13 *e*P P 19 08 56.2 -0.8
comp=Z,24nm,0.8s
GLMI **Grayling** 30.89 19 P P 19 08 56.4 -0.8
baz=207
GLMI **Grayling** 30.89 19 *e*P P 19 08 56.6 -0.7
comp=Z,84nm,0.8s
MFID **Camas Ranch** 30.89 335 *e*P P 19 08 58.0 +0.5
comp=Z,26nm,1.0s
E38A **The Farm, Brul** 30.90 9 P P 19 08 56.5 -0.8
baz=193,SNR=11
D32A **Dogwood Acres,** 30.90 2 P P 19 08 57.2 -0.1
baz=183
D33A **AnnSam, Waubun** 30.96 4 P P 19 08 57.5 -0.4
baz=185,SNR=7.8
GCMT **Greycliff** 30.97 345 *e*P P 19 08 58.7 +0.5
GDXM **Geysers** 30.99 321 *e*P P 19 08 59.6 +1.3
comp=Z,12nm,1.1s
SJG **San Juan** 30.99 82 *e*P P 19 08 57.3 -1.1
SJG pmax pmax
comp=Z,48nm,1.3s
SJG **San Juan** 30.99 82 *e*P P 19 08 57.3 -1.1
comp=Z,48nm,1.3s
MCMT **McKenzie Canyo** 31.01 340 *e*P P 19 08 59.2 +0.6
E40A **Wakefield** 31.03 12 P P 19 08 58.1 -0.4
baz=196,SNR=31
D35A **Remer** 31.05 6 P P 19 08 58.1 -0.5
baz=189,SNR=5.3
F43A **Flat Rock, Esc** 31.07 15 P P 19 08 58.3 -0.5
baz=202,SNR=11
LAO **LASA Array** 31.09 350 *e*P P 19 09 00.3 +1.2
comp=Z,193nm,2.0s
D36A **Goodland** 31.24 7 P P 19 09 00.1 -0.2
baz=190
E41A **Kenton** 31.24 13 P P 19 09 00.1 -0.2
baz=198
CBYP **Canovanas** 31.27 81 *e*P P 19 09 00.4 -0.5
comp=Z,103nm,1.6s
HOPS **Hopland Field** 31.27 321 *e*P P 19 09 01.8 +1.0
comp=Z,83nm,1.5s
HUMP **Col San Antoni** 31.28 82 *e*P P 19 08 59.7 -1.3
comp=Z,43nm,1.2s
D37A **Cotton** 31.31 8 P P 19 09 00.6 -0.3
baz=192,SNR=13
BOZ **Bozeman (W)** 31.32 342 *e*P P 19 09 03.3 +2.0
BOZ pmax pmax
comp=Z,17nm,0.8s
BOZ **Bozeman (W)** 31.32 342 *e*P P 19 09 03.2 +2.0
comp=Z,17nm,0.8s
WVOR **Wild Horse Val** 31.33 331 *e*P P 19 09 02.2 +0.8
WVOR pmax pmax
comp=Z,67nm,1.5s
WVOR **Wild Horse Val** 31.33 331 *e*P P 19 09 02.2 +0.8
comp=Z,67nm,1.5s
F45A **CMU Biological** 31.39 18 P P 19 09 01.1 -0.5
baz=205
F44A **Big Bay de Noc** 31.40 16 P P 19 09 01.2 -0.5
baz=203,SNR=12
O03D **Paynes Creek** 31.40 325 P P 19 09 02.4 +0.5
baz=134
DLMT **Dillon** 31.41 341 *e*P P 19 09 03.4 +1.4
comp=Z,37nm,1.0s
E42A **Champion** 31.45 14 P P 19 09 01.6 -0.5
baz=200,SNR=7.2
C34A **RKJ Ranch, Bem** 31.53 5 P P 19 09 02.3 -0.6
baz=187,SNR=8.4
C31A **Landman Farms,** 31.54 1 P P 19 09 03.0 0.0
baz=182,SNR=18
LUPA **Lehigh Univers** 31.56 35 *e*P P 19 09 02.5 -0.7
comp=Z,5.7nm,1.9s
MTP **Monte Pirata** 31.56 82 *e*P P 19 09 02.2 -1.3
comp=Z,266nm,1.7s
N59A **State Game Lan** 31.57 34 P P 19 09 02.2 -1.1
baz=225
N59A **State Game Lan** 31.57 34 *e*P P 19 09 01.9 -1.4
comp=Z,22nm,1.5s
C33A **Trail** 31.58 4 P P 19 09 02.6 -0.8
baz=185,SNR=6.3
MDND **Maddock** 31.60 359 P P 19 09 04.1 +0.6
baz=178,SNR=9.9
MDND **Maddock** 31.60 359 *e*P P 19 09 03.9 +0.4
comp=Z,221nm,0.8s
E43A **Lone Tree Farm** 31.62 15 P P 19 09 03.1 -0.5
baz=202,SNR=9.3
C35A **Jirik Farms, M** 31.67 6 P P 19 09 03.6 -0.5
baz=189,SNR=10
F46A **Macinaw City C** 31.69 19 P P 19 09 04.5 +0.2
baz=206
MOD **Modoc Plateau** 31.75 328 *e*P P 19 09 05.9 +0.8
comp=Z,38nm,1.2s
LRM **Limekiln Ridge** 31.77 341 *e*P P 19 09 06.6 +1.2
MMNY **Mt. Morris Dam** 31.82 30 *e*P P 19 09 05.0 -0.4
comp=Z,28nm,0.8s
C36A **Pine Crest Far** 31.85 7 P P 19 09 05.4 -0.3
baz=191,SNR=11
D41A **Chassel** 31.89 13 P P 19 09 06.2 +0.1
baz=198,SNR=8.9
C37A **Embarrass** 31.90 8 P P 19 09 05.5 -0.7
baz=192,SNR=7.1
J08A **Circle Bar Ran** 31.98 332 *e*P P 19 09 08.3 +1.3
comp=Z,32nm,0.9s
C38A **Sawbill Land.** 32.03 9 P P 19 09 06.0 -1.2
baz=193,SNR=7.4
BRNJ **Basking Ridge** 32.07 36 *e*P P 19 09 07.2 -0.4
comp=Z,23nm,0.9s
B33A **Robert and Kas** 32.11 4 P P 19 09 07.9 -0.1
baz=186,SNR=11
AGMN **Agassiz Nation** 32.12 3 P P 19 09 08.0 -0.1
baz=185,SNR=70
AGMN **Agassiz Nation** 32.12 3 *e*P P 19 09 07.9 -0.1
comp=Z,100nm,0.8s
STVI **Saint Thomas** 32.12 81 *e*P P 19 09 07.5 -0.9
comp=Z,64nm,1.2s
B31A **Greenbush Farm** 32.17 1 P P 19 09 08.8 +0.3
baz=182,SNR=6.7
B32A **Ashes, Strandq** 32.18 3 P P 19 09 08.4 -0.1
baz=184,SNR=42
EYMN **Ely** 32.22 9 P P 19 09 08.1 -0.8
baz=193,SNR=7.3
EYMN **Ely** 32.22 9 *e*P P 19 09 07.9 -1.0
comp=Z,15nm,0.8s
C39A **Grand Marais** 32.31 11 P P 19 09 09.6 -0.2
baz=195,SNR=5.7
ODNJ **Ogdensburg** 32.32 35 *e*P P 19 09 09.4 -0.4
comp=Z,11nm,1.0s
B35A **Bob, Littlefor** 32.34 6 P P 19 09 09.5 -0.5
baz=189,SNR=14
BINY **Binghamton** 32.37 32 P P 19 09 09.9 -0.4
baz=223,SNR=8.5
BINY **Binghamton** 32.37 32 *e*P P 19 09 10.2 -0.1
comp=Z,28nm,0.9s
B34A **Aery, Baudette** 32.39 5 P P 19 09 10.2 -0.2
baz=187,SNR=13
HRY **Holter Researc** 32.40 343 *e*P P 19 09 12.0 +1.3
KMRM **Mail Ridge** 32.44 323 *e*P P 19 09 13.2 +2.1
comp=Z,34nm,0.9s
M04C **Macdoel** 32.45 327 P P 19 09 12.2 +1.0
baz=136,SNR=6.6
PAL **Palisades** 32.65 36 P P 19 09 12.2 -0.6
baz=228
PAL **Palisades** 32.65 36 *e*P P 19 09 12.4 -0.4
PAL pmax pmax
comp=Z,21nm,0.9s
PAL **Palisades** 32.65 36 *e*P P 19 09 12.4 -0.4
comp=Z,21nm,0.9s
BMO **Blue Mountains** 32.68 335 *e*P P 19 09 13.1 0.0
BMO pmax pmax
comp=Z,14nm,0.9s
BMO **Blue Mountains** 32.68 335 *e*P P 19 09 13.1 0.0
comp=Z,14nm,0.9s
A32A **Rocking H Ranc** 32.70 3 P P 19 09 12.9 -0.3
baz=184,SNR=9.5
M02C **Callahan** 32.73 325 P P 19 09 13.7 0.0
baz=134
A33A **Warroad** 32.78 4 P P 19 09 13.5 -0.3
baz=186,SNR=15
KHMM **Horse Mountain** 32.88 324 *e*P P 19 09 16.8 +1.8
comp=Z,96nm,1.5s
YBH **Yreka Blue Hor** 32.89 326 P P 19 09 13.5 -1.5
comp=Z,5.5nm,0.8s,baz=103,slow=7.0,SNR=9.2
YBH **Yreka Blue Hor** 32.89 326 *e*P P 19 09 14.5 -0.5
YBH pmax pmax
comp=Z,43nm,1.9s
YBH **Yreka Blue Hor** 32.89 326 *e*P P 19 09 14.5 -0.5
comp=Z,43nm,1.9s
KLBO **Killbear Provi** 32.92 24 P P 19 09 14.2 -0.8
baz=214,SNR=9.6
I07A **Izee** 33.01 332 *e*P P 19 09 16.5 +0.5
comp=Z,27nm,1.6s
JCC **Jacoby Creek,** 33.01 323 *e*P P 19 09 18.0 +2.1
comp=Z,226nm,1.6s
EGMT **Eagleton** 33.08 346 *e*P P 19 09 17.0 +0.5
comp=Z,174nm,2.0s
MSO **Missoula** 33.14 341 P P 19 09 17.8 +0.7
baz=153,SNR=7.3
MSO **Missoula** 33.14 341 *e*P P 19 09 17.7 +0.5
comp=Z,16nm,1.0s
BUKO **Buck Lake** 33.32 25 P P 19 09 17.4 -1.1
baz=215,SNR=21
DELO **Deloro Mine** 33.33 28 P P 19 09 18.1 -0.6
baz=219,SNR=10
YLE **Yale** 33.41 36 *e*P P 19 09 17.9 -1.5
comp=Z,23nm,0.6s
F10A **Beach Ranch, E** 33.57 336 *e*P P 19 09 21.6 +0.7
comp=Z,64nm,0.9s
J04D **Umpqua Nationa** 33.63 328 P P 19 09 22.2 +0.6
baz=137
L02D **Cave Junction,** 33.66 325 P P 19 09 22.5 +0.9
baz=133
BBOR **Butler Butte** 33.67 327 *e*P P 19 09 21.9 0.0
BBOR *e*S S 19 14 43.0 -1.5
G08A **Pilot Rock** 33.72 334 *e*P P 19 09 22.6 +0.4
comp=Z,21nm,1.0s
TRY **Troy** 33.96 34 *e*P P 19 09 24.0 -0.1
comp=Z,11nm,0.9s
PLVO **Plevna** 33.98 28 *e*P P 19 09 23.3 -1.1
comp=Z,65nm,1.9s
SEUS **St. Eustatius** 34.03 83 *e*P P 19 09 23.0 -2.1
comp=Z,431nm,1.5s
I05D **Terrebonne, OR** 34.06 330 P P 19 09 26.1 +1.0
baz=139
JTMT **Jette** 34.06 341 *e*P P 19 09 26.5 +1.3
comp=Z,20nm,1.1s
ULM **Lac du Bonnet** 34.06 3 P P 19 09 24.2 -0.7
comp=Z,20nm,0.8s,baz=183,slow=8.7,SNR=50
ULM **Lac du Bonnet** 34.06 3 *e*P P 19 09 23.9 -1.0
ULM pmax pmax
comp=Z,22nm,0.8s
ULM **Lac du Bonnet** 34.06 3 *e*P P 19 09 23.9 -1.0
comp=Z,22nm,0.8s
QUA2 **Bethtown** 34.37 35 *e*P P 19 09 26.6 -1.1
comp=Z,15nm,0.9s
E09A **Wood Farm, Sta** 34.38 336 *e*P P 19 09 27.0 -0.8
comp=Z,17nm,0.8s
ACCN **Adirondack Com** 34.41 33 *e*P P 19 09 26.6 -1.5
comp=Z,37nm,1.7s
NCB **Newcomb** 34.54 32 *e*P P 19 09 29.0 -0.2
comp=Z,23nm,1.4s
KEBM **Edson Butte** 34.55 326 *e*P P 19 09 29.9 +0.6
comp=Z,398nm,1.7s
BRYW **Bryant College** 34.59 37 *e*P P 19 09 27.9 -1.8
comp=Z,15nm,1.2s
F07A **Phinny Hill Vi** 34.62 333 *e*P P 19 09 29.8 0.0
comp=Z,79nm,1.9s
BBSR **BB Station** 34.63 56 *e*P P 19 09 30.0 -0.1
comp=Z,50nm,1.3s
H04A **Detroit Lake** 34.72 330 *e*P P 19 09 31.1 +0.2
comp=Z,78nm,1.4s
G05D **Wamic, OR** 34.73 331 P P 19 09 32.6 +1.7
baz=140
LONY **Lake Ozonia** 34.83 31 P P 19 09 31.5 -0.2
baz=223
LONY **Lake Ozonia** 34.83 31 *e*P P 19 09 31.1 -0.6
comp=Z,12nm,0.9s
HRV **Adam Dziewonsk** 34.96 36 P P 19 09 32.5 -0.4
baz=229
HRV **Adam Dziewonsk** 34.96 36 *e*P P 19 09 32.2 -0.7
HRV pmax pmax
comp=Z,14nm,1.0s
HRV **Adam Dziewonsk** 34.96 36 *e*P P 19 09 32.2 -0.7
comp=Z,14nm,1.0s
WES **Weston** 35.02 36 *e*P P 19 09 32.4 -0.9
WES pmax pmax
comp=Z,12nm,1.0s
WES **Weston** 35.02 36 *e*P P 19 09 32.4 -0.9
comp=Z,12nm,1.0s
BCX **Boston College** 35.07 36 *e*P P 19 09 33.1 -0.7
comp=Z,27nm,0.4s
WALA **Waterton Lakes** 35.12 342 *e*P P 19 09 35.0 +0.7
comp=Z,30nm,1.3s
COR **Corvallis** 35.20 329 *e*P P 19 09 36.1 +1.2
COR pmax pmax
comp=Z,177nm,1.5s
COR **Corvallis** 35.20 329 *e*P P 19 09 36.1 +1.2
comp=Z,177nm,1.5s
GDHS **Morne Mazeau,** 35.28 85 *e*P P 19 09 35.7 -0.3
comp=Z,344nm,1.9s
HNH **Hanover** 35.36 34 *e*P P 19 09 35.4 -0.9
comp=Z,90nm,2.0s
NEW **Newport** 35.46 338 P P 19 09 38.0 +0.9
baz=149,SNR=5.2
NEW **Newport** 35.46 338 *e*P P 19 09 37.6 +0.4
NEW pmax pmax
comp=Z,9.0nm,0.9s
NEW **Newport** 35.46 338 *e*P P 19 09 37.6 +0.4
comp=Z,9.0nm,0.9s
FRNY **Flat Rock** 35.48 31 *e*P P 19 09 36.7 -0.6
comp=Z,38nm,1.4s
C09A **Chrisman Ranch** 35.49 337 *e*P P 19 09 37.9 +0.5
comp=Z,21nm,0.8s
FFD **Franklin Falls** 35.54 35 *e*P P 19 09 38.4 +0.6
comp=Z,95nm,1.9s
VT1 **Waterbury** 35.54 32 *e*P P 19 09 37.4 -0.4
comp=Z,8.2nm,0.8s
G03D **McMinnville, O** 35.63 330 P P 19 09 39.0 +0.4
baz=137
LBNH **Lisbon** 35.91 33 P P 19 09 40.7 -0.3
baz=227
LBNH **Lisbon** 35.91 33 *e*P P 19 09 40.5 -0.5
LBNH pmax pmax
comp=Z,84nm,1.9s
LBNH **Lisbon** 35.91 33 *e*P P 19 09 40.5 -0.5
comp=Z,84nm,1.9s
LTY **Liberty** 36.00 334 *e*P P 19 09 42.3 +0.4
comp=Z,54nm,1.4s
TRQ **Mont Tremblant** 36.03 29 *e*P P 19 09 39.8 -2.2
FDF **Fort de France** 36.04 87 *e*P P 19 09 41.3 -1.2
FDF pmax pmax
comp=Z,164nm,1.4s
FDF **Fort de France** 36.04 87 *e*P P 19 09 41.2 -1.2
comp=Z,164nm,1.4s
LON **Longmire** 36.10 333 *e*P P 19 09 44.5 +1.8
LON pmax pmax
comp=Z,98nm,1.8s
LON **Longmire** 36.10 333 *e*P P 19 09 44.5 +1.8
comp=Z,98nm,1.8s
SVB **Belmont** 36.15 90 *e*P P 19 09 42.2 -1.2
comp=Z,78nm,1.0s
B08A **Colville Reser** 36.35 336 *e*P P 19 09 45.2 +0.4
comp=Z,18nm,1.0s
SVTR **Two Rivers Sch** 36.66 333 *e*P P 19 09 47.8 +0.4
B06A **Marblemount** 37.34 335 *e*P P 19 09 52.5 -0.5
comp=Z,16nm,0.7s
WVL **Waterville** 37.35 35 *e*P P 19 09 51.9 -1.3
comp=Z,111nm,1.3s
PKME **Peaks-Kenny Pk** 38.00 34 P P 19 09 58.9 +0.2
baz=230
PKME **Peaks-Kenny Pk** 38.00 34 *e*P P 19 09 58.4 -0.3
comp=Z,78nm,1.9s
A04D **Lummi Island** 38.00 334 P P 19 10 01.2 +2.5
baz=141
FFC **Flin Flon** 38.57 357 *e*P P 19 10 02.8 -0.6
FFC pmax pmax
comp=Z,23nm,0.8s
FFC **Flin Flon** 38.57 357 *e*P P 19 10 02.8 -0.6
comp=Z,23nm,0.8s
EMMW **East Machias** 38.66 36 *e*P P 19 10 01.4 -2.9
comp=Z,20nm,0.9s
EDM **Edmonton** 38.76 346 *e*P P 19 10 04.9 -0.2
EDM pmax pmax
comp=Z,66nm,0.8s
EDM **Edmonton** 38.76 346 *e*P P 19 10 04.9 -0.2
comp=Z,66nm,0.8s
LLLB **Lillooet** 39.15 336 *e*P P 19 10 09.1 +0.7
comp=Z,30nm,1.0s
PQI **Presque Isle** 39.58 33 *e*P P 19 10 11.7 -0.3
comp=Z,27nm,1.1s
FCC **Fort Churchill** 42.65 3 *e*P P 19 10 36.9 -0.2
FCC pmax pmax
comp=Z,134nm,1.9s
FCC **Fort Churchill** 42.65 3 *e*P P 19 10 36.9 -0.2
comp=Z,134nm,1.9s
SAML **Samuel** 42.99 123 *e*P P 19 10 37.8 -2.7
comp=Z,11nm,0.9s
LPAZ **La Paz** 44.05 136 P P 19 10 50.4 +0.8
comp=Z,5.4nm,0.7s,baz=331,slow=7.2,SNR=15
LPAZ **La Paz** 44.05 136 *e*P P 19 10 48.8 -0.8
LPAZ pmax pmax
comp=Z,38nm,1.8s
LPAZ **La Paz** 44.05 136 *e*P P 19 10 48.8 -0.8
comp=Z,38nm,1.8s
MNMC **Minye Minye** 45.18 140 *e*P P 19 10 58.4 +0.2
comp=Z,45nm,1.3s
PB11 **IPOC Station P** 45.62 140 *e*P P 19 11 03.1 +1.5
comp=Z,32nm,1.1s
SCHQ **Schefferville** 45.68 25 P P 19 11 00.9 -0.6
comp=Z,56nm,0.8s,baz=226,slow=6.0,SNR=58
SCHQ **Schefferville** 45.68 25 *e*P P 19 11 00.6 -0.8
comp=Z,53nm,0.8s
PB01 **IPOC Station P** 46.70 141 *e*P P 19 11 09.0 -0.9
comp=Z,15nm,1.0s
PB04 **IPOC Station P** 47.30 143 *e*P P 19 11 13.7 -1.1
comp=Z,64nm,1.4s
YKA **Yellowknife Ar** 47.63 350 P P 19 11 16.5 -0.1
comp=Z,13nm,0.8s,baz=159,slow=7.3,SNR=95
YKA PP PP 19 13 09.0 +0.8
comp=Z,4.5nm,1.0s,baz=153,slow=9.4,SNR=6.2
YKW3 **Yellowknife Ar** 47.70 350 *e*P P 19 11 16.6 -0.5
comp=Z,15nm,0.9s
DLBC **Dease Lake** 48.21 338 *e*P P 19 11 23.4 +2.1
comp=Z,28nm,0.9s
SIV **San Ignacio** 48.87 129 P P 19 11 25.7 -1.2
comp=Z,6.7nm,0.7s
BESE **Bessie Mountai** 50.10 336 *e*P P 19 11 34.5 -1.2
comp=Z,28nm,1.2s
SKAG **Skagway** 50.88 337 *e*P P 19 11 42.9 +1.4
comp=Z,35nm,1.4s
WHY **Whitehorse** 51.53 338 *e*P P 19 11 47.6 +1.1
comp=Z,15nm,1.2s
LCO **Las Campanas** 52.36 149 *e*P P 19 11 56.1 +2.8
comp=Z,59nm,1.8s
HYT **Haines Junctio** 52.60 337 *e*P P 19 11 55.3 +0.8
comp=Z,95nm,1.7s
HMH **Humu'ula Sheep** 54.09 283 *e*P P 19 12 06.9 +0.6
comp=Z,99nm,0.9s
AIN **Ainahou** 54.09 282 *e*P P 19 12 08.0 +1.8
comp=Z,142nm,0.8s
POHA **Pohakuloa** 54.12 283 *e*P P 19 12 09.0 +2.5
comp=Z,93nm,0.8s
MWH **Moku'aweowe** 54.21 283 *e*P P 19 12 07.4 -0.1
comp=Z,130nm,1.1s
HPAH **Hawaii Prepara** 54.25 283 *e*P P 19 12 10.4 +3.2
comp=Z,119nm,1.0s
BALM **Baldy** 54.59 336 *e*P P 19 12 10.3 +1.2
BALM pmax pmax
comp=Z,22nm,1.2s
BALM **Baldy** 54.59 336 *e*P P 19 12 10.3 +1.2
comp=Z,22nm,1.2s
DAWY **Dawson** 55.37 340 *e*P P 19 12 15.0 +0.3
comp=Z,15nm,1.1s
BMRM **Bremner River** 55.47 335 *e*P P 19 12 16.6 +1.3
comp=Z,40nm,1.2s
ROC1 **El Roble** 55.50 152 *e*P P 19 12 17.3 +1.1
comp=Z,22nm,1.3s
EYAK **Cordova Ski Ar** 55.72 334 *e*P P 19 12 18.6 +1.5
comp=Z,126nm,2.0s
DIV **Divide** 56.03 335 *e*P P 19 12 20.9 +1.5
comp=Z,26nm,1.0s
MENT **Mentasta** 56.22 337 *e*P P 19 12 21.0 +0.3
comp=Z,16nm,1.1s
HON **Honolulu** 56.27 285 *e*P P 19 12 23.1 +1.5
HON **Honolulu** 56.27 285 *e*P P 19 12 23.1 +1.5
KIP **Kipapa** 56.27 285 ⇑ *i*P P 19 12 24.1 +2.5
KIP pmax pmax
comp=Z,213nm,0.9s
KIP **Kipapa** 56.27 285 *e*P P 19 12 24.3 +2.7
comp=Z,367nm,1.8s
KLU **Klutina** 56.29 335 *e*P P 19 12 22.5 +1.2
comp=Z,22nm,0.9s
EGAK **Eagle** 56.42 340 *e*P P 19 12 21.8 -0.2
comp=Z,23nm,0.9s
HARP **HAARP** 56.48 336 *e*P P 19 12 23.5 +1.0
comp=Z,42nm,0.8s
INK **Inuvik** 56.66 345 *e*P P 19 12 23.3 -0.3
INK pmax pmax
comp=Z,24nm,0.8s
INK **Inuvik** 56.66 345 *e*P P 19 12 23.3 -0.3
comp=Z,24nm,0.8s
DOT **Dot Lake** 56.76 338 *e*P P 19 12 25.4 +0.9
comp=Z,69nm,0.9s
PAX **Paxson** 56.91 337 *e*P P 19 12 26.4 +0.8
PAX pmax pmax
comp=Z,20nm,0.9s
PAX **Paxson** 56.91 337 *e*P P 19 12 26.4 +0.8
comp=Z,20nm,0.9s

SCRK	**Sand Creek**	56.92	338	*e*P		P		19 12 26.5	+0.7
	comp=Z,19nm,0.9s									
SCM	**Sheep Creek Mo**	57.04	335	*e*P		P		19 12 28.5	+1.9
SCM					pmax	pmax				
	comp=Z,25nm,1.1s									
SCM	**Sheep Creek Mo**	57.04	335	*e*P		P		19 12 28.5	+1.9
	comp=Z,25nm,1.1s									
RIDG	**Independ'e Rid**	57.10	337	*e*P		P		19 12 27.9	+0.9
	comp=Z,54nm,1.0s									
IVI	**Ivigtut**	57.39	26	*e*P		P		19 12 29.8	+0.8
	comp=Z,147nm,1.6s									
SML	**Sawmill**	57.44	335	*e*P		P		19 12 29.5	+0.1
SML					pmax	pmax				
	comp=Z,32nm,1.1s									
SML	**Sawmill**	57.44	335	*e*P		P		19 12 29.4	+0.1
	comp=Z,32nm,1.1s									
BRLK	**Bradley Lake**	57.60	332	*e*P		P		19 12 31.0	+0.5
	comp=Z,40nm,1.0s									
PMR	**Palmer**	57.67	334	*e*P		P		19 12 31.0	+0.1
PMR					pmax	pmax				
	comp=Z,23nm,0.8s									
PMR	**Palmer**	57.67	334	*e*P		P		19 12 30.9	+0.1
	comp=Z,23nm,0.8s									
RC01	**Rabbit Creek A**	57.69	333	*e*P		P		19 12 31.5	+0.4
	comp=Z,25nm,0.9s									
DHY	**Denali Highway**	57.70	336	*e*P		P		19 12 32.0	+0.7
	comp=Z,34nm,1.6s									
CPUP	**Villa Florida**	58.22	136	P		P		19 12 35.3	0.0
	comp=Z,5.0nm,0.8s,baz=330,slow=8.4,SNR=10.0									
CPUP	**Villa Florida**	58.22	136	*e*P		P		19 12 35.8	+0.5
CPUP					pmax	pmax				
	comp=Z,9.0nm,1.0s									
CPUP	**Villa Florida**	58.22	136	*e*P		P		19 12 35.8	+0.5
	comp=Z,8.9nm,1.0s									
HDA	**Harding Lake**	58.24	338	*e*P		P		19 12 35.1	+0.2
	comp=Z,23nm,0.8s									
SUA	**Susitna One**	58.29	334	*e*P		P		19 12 36.3	+0.8
	comp=Z,58nm,0.8s									
IL1	**Eielson Array**	58.41	338	*e*P		P		19 12 36.3	+0.2
ILAR	**Eielson Array**	58.41	338	P		P		19 12 36.7	+0.6
	comp=Z,13nm,0.9s,baz=135,slow=5.0,SNR=92									
ILB	**Eielson Array**	58.41	338	*e*P		P		19 12 36.2	+0.1
RND	**Reindeer**	58.44	336	*e*P		P		19 12 36.9	+0.5
RND					pmax	pmax				
	comp=Z,43nm,1.0s									
RND	**Reindeer**	58.44	336	*e*P		P		19 12 36.9	+0.5
	comp=Z,43nm,1.0s									
RES	**Resolute Bay**	58.55	1	*e*P		P		19 12 35.7	-1.2
RES					pmax	pmax				
	comp=Z,11nm,0.9s									
RES	**Resolute Bay**	58.55	1	*e*P		P		19 12 35.7	-1.2
	comp=Z,11nm,0.9s									
NRS	**Narsarsuaq**	58.56	27	*i* P		P		19 12 37.0	-0.1
	comp=Z,26nm,1.0s									
NRS	**Narsarsuaq**	58.56	27	*e*P		P		19 12 36.6	-0.5
NRS					pmax	pmax				
	comp=Z,76nm,1.3s									
NRS	**Narsarsuaq**	58.56	27	*e*P		P		19 12 36.6	-0.5
	comp=Z,76nm,1.3s									
MCK	**McKinley**	58.64	336	*e*P		P		19 12 38.5	+0.8
MCK					pmax	pmax				
	comp=Z,32nm,0.8s									
MCK	**McKinley**	58.64	336	*e*P		P		19 12 38.5	+0.8
	comp=Z,32nm,0.8s									
CCB	**Clear Creek Bu**	58.68	338	*e*P		P		19 12 37.5	-0.4
	comp=Z,13nm,0.9s									
WRH	**Wood River Hil**	58.69	337	*e*P		P		19 12 37.9	-0.1
	comp=Z,20nm,1.0s									
COLA	**College**	58.82	338	*e*P		P		19 12 38.6	-0.2
COLA					pmax	pmax				
	comp=Z,25nm,0.8s									
COLA	**College**	58.82	338	*e*P		P		19 12 38.6	-0.2
	comp=Z,25nm,0.8s									
FYU	**Fort Yukon**	58.85	340	*e*P		P		19 12 39.5	+0.5
	comp=Z,48nm,1.4s									
MDM	**Murphy Dome**	59.00	338	*e*P		P		19 12 40.1	-0.1
	comp=Z,13nm,0.9s									
TRF	**Thorofare Moun**	59.03	336	*e*P		P		19 12 41.1	+0.5
	comp=Z,73nm,0.9s									
KTH	**Kantishna Hill**	59.33	336	*e*P		P		19 12 42.2	-0.4
	comp=Z,28nm,0.8s									
SFJD	**Kangerlussuaq**	59.50	20	P		P		19 12 43.6	+0.1
	comp=Z,37nm,0.8s,baz=239,slow=5.1,SNR=20									
SFJD	**Kangerlussuaq**	59.50	20	*i* P		P		19 12 44.0	+0.5
	comp=Z,37nm,0.8s									
PPLA	**Purkeypile**	59.54	335	*e*P		P		19 12 44.2	+0.1
	comp=Z,175nm,1.9s									
BPAW	**Bear Paw Mtn.**	59.61	336	*e*P		P		19 12 44.3	-0.2
	comp=Z,21nm,1.0s									
CAST	**Castle Rocks**	59.73	335	*e*P		P		19 12 45.0	-0.3
	comp=Z,33nm,0.9s									
MLY	**Manley**	59.96	337	*e*P		P		19 12 47.2	+0.3
	comp=Z,33nm,1.1s									
SVW2	**Sparrevohn**	60.27	332	*e*P		P		19 12 49.0	0.0
	comp=Z,24nm,0.8s									
ILULI	**Ilulisat**	60.62	18	*i* P		P		19 12 51.4	+0.2
	comp=Z,25nm,1.0s									
ILULI	**Ilulissat**	60.62	18	*e*P		P		19 12 51.2	0.0
ILULI					pmax	pmax				
	comp=Z,29nm,1.0s									
ILULI	**Ilulissat**	60.62	18	*e*P		P		19 12 51.2	0.0
	comp=Z,29nm,1.0s									
COLD	**Coldfoot**	60.86	340	*e*P		P		19 12 53.4	+0.5
	comp=Z,9.9nm,0.8s									
TOLK	**Toolik Lake Re**	61.38	341	P		P		19 12 57.1	+0.6
	baz=122,SNR=12									
TOLK	**Toolik Lake Re**	61.38	341	*e*P		P		19 12 56.6	+0.1
	comp=Z,16nm,0.9s									
PLCA	**Paso Flores**	62.30	156	P		P		19 13 02.1	-0.9
	comp=Z,4.2nm,0.8s,baz=2.0,slow=7.8,SNR=6.2									
PLCA	**Paso Flores**	62.30	156	*e*P		P		19 13 02.8	-0.2
PLCA					pmax	pmax				
	comp=Z,4.0nm,0.9s									
PLCA	**Paso Flores**	62.30	156	*e*P		P		19 13 03.9	+0.9
	comp=Z,20nm,1.3s									
TULEG	**Thule**	62.32	8	*e*P		P		19 13 02.3	-0.3
	comp=Z,54nm,1.7s									
KULLO	**Kullorsuaq**	62.63	11	*i* P		P		19 13 05.3	+0.6
	comp=Z,18nm,0.9s									
KULLO	**Kullorsuaq**	62.63	11	*i* P		P		19 13 05.3	+0.6
KULLO					pmax	pmax				
	comp=Z,18nm,0.9s									
UNV	**Unalaska Valle**	64.11	322	*e*P		P		19 13 15.0	+0.2
	comp=Z,73nm,1.1s									
RCBR	**Riachuelo**	65.70	104	*e*P		P		19 13 25.7	-0.3
	comp=Z,23nm,1.0s									
SUMG	**Summit**	65.90	17	*i* P		P		19 13 27.3	+0.6
	comp=Z,34nm,0.8s									
SUMG	**Summit**	65.90	17	*e*P		P		19 13 26.5	-0.2
SUMG					pmax	pmax				
	comp=Z,41nm,0.9s									
SUMG	**Summit**	65.90	17	*e*P		P		19 13 26.5	-0.2
	comp=Z,41nm,0.9s									
GAMB	**Gambell**	68.18	333	*e*P		P		19 13 41.1	+0.3
	comp=Z,38nm,1.7s									
SCO	**Scoresbysund**	70.39	20	*i* P		P		19 13 57.0	+2.6
SCO	**Scoresbysund**	70.39	20	*e*P		P		19 13 56.2	+1.8
SCO					pmax	pmax				
	comp=Z,89nm,1.9s									
SCO	**Scoresbysund**	70.39	20	*e*P		P		19 13 56.2	+1.8
	comp=Z,89nm,1.9s									
DAG	**Danmarks Havn**	72.05	14	*i* P		P		19 14 03.8	-0.5
DAG	**Danmarks Havn**	72.05	14	*i* P		P		19 14 03.8	-0.5
PMOZ	**Porto Moniz, M**	74.27	60	*e*P		P		19 14 20.4	+1.9
BILL	**Bilibino**	77.07	337	*i* P		P		19 14 32.7	-0.9
BILL				*i*				19 14 37.8		
BILL					pmax	pmax				
	comp=Z,11nm,0.9s									
SPITS	**Spitsbergen Ar**	79.20	11	P		P		19 14 45.6	+0.2
	comp=Z,7.0nm,0.8s,baz=187,slow=5.8,SNR=3.5									
PCAB	**Cabril**	79.81	50	*e*P		P		19 14 49.9	+0.6
PCAS	**Casmilo, Conde**	79.81	51	*e*P		P		19 14 49.9	+0.5
ESK	**Eskdalemuir**	79.86	35	*e*P		P		19 14 49.9	+0.6
ESK					pmax	pmax				
	comp=Z,76nm,1.6s									
ESK	**Eskdalemuir**	79.86	35	*e*P		P		19 14 49.9	+0.6
	comp=Z,76nm,1.6s									
EKA	**Eskdalemuir Ar**	79.89	35	P		P		19 14 49.1	-0.3
	comp=Z,5.9nm,0.8s,baz=285,slow=5.5,SNR=12									
ALMR	**Almeirim**	79.95	52	*e*P		P		19 14 50.3	+0.2
ALMR					AMb	AMB		19 14 52.8		
	comp=Z,71nm,1.0s									
ALMR	**Almeirim**	79.95	52	*e*P		P		19 14 51.0	+0.9
ALMR	**Almeirim**	79.95	52	*e*P		P		19 14 50.3	+0.2
PTOM	**Tomar**	79.98	52	*e*P		P		19 14 50.9	+0.7
POLO	**Lamas de Olo**	80.05	50	*e*P		P		19 14 50.9	+0.1
PVIS	**Viseu**	80.12	50	*e*P		P		19 14 51.0	-0.1
	comp=Z,22nm,1.3s									
PVRL	**Vila Real**	80.13	50	*e*P		P		19 14 50.9	-0.2
PFVI	**Vila Bisbo**	80.20	54	*e*P		P		19 14 52.7	+1.2
PNCL	**Nicolau / Gran**	80.22	53	*e*P		P		19 14 52.3	+0.7
PMTG	**Montargil**	80.24	52	*e*P		P		19 14 51.2	-0.5
	comp=Z,42nm,1.6s									
MORF	**Marmelete**	80.30	54	*e*P		P		19 14 53.2	+1.1
MTE	**Manteigas**	80.45	51	*e*P		P		19 14 52.9	0.0
	comp=Z,37nm,1.3s									
MTE	**Manteigas**	80.45	51	*e*P		P		19 14 52.2	-0.6
	comp=Z,40nm,1.4s									
PCBR	**Castelo Branco**	80.63	51	*e*P		P		19 14 53.6	-0.1
	comp=Z,38nm,1.9s									
MVO	**Moncorvo**	80.66	50	*e*P		P		19 14 54.2	+0.2
	comp=Z,32nm,2.0s									
PCVE	**Castro Verde**	80.70	54	*e*P		P		19 14 55.3	+1.1
PBRG	**Braganca**	80.72	49	*e*P		P		19 14 55.3	+1.0
PBEJ	**Beja**	80.75	53	*e*P		P		19 14 54.8	+0.4
	comp=Z,34nm,1.5s									
PMRV	**Marv??o**	80.79	52	*e*P		P		19 14 54.7	+0.1
PBDV	**Barranco-do-Ve**	80.88	54	*e*P		P		19 14 54.2	-1.0
PVAQ	**Vaqueiros**	81.00	54	*e*P		P		19 14 55.7	-0.1
PBAR	**Barrancos**	81.35	53	*e*P		P		19 14 57.9	+0.3
PAB	**San Pablo**	83.04	51	*e*P		P		19 15 06.6	0.0
PAB					pmax	pmax				
	comp=Z,12nm,0.9s									
PAB	**San Pablo**	83.04	51	*e*P		P		19 15 06.6	0.0
	comp=Z,12nm,0.9s									
ESDC	**Sonseca Array**	83.29	51	P		P		19 15 07.7	-0.2
	comp=Z,3.6nm,0.8s,baz=298,slow=4.6,SNR=16									
ES19	**SONSECA Array**	83.33	51	*e*P		P		19 15 07.1	-1.0
SEY	**Seymchan**	84.12	334	⇓*i*P		P		19 15 12.5	+1.0
NBO00	**NORSAR Array S**	85.01	27	*e*P		P		19 15 17.5	+1.4
NBO02	**NORSAR Array S**	85.04	27	*e*P		P		19 15 16.6	+0.3
NB2	**NORSAR Subarra**	85.20	27	P		P		19 15 17.4	+0.3
	comp=Z,3.2nm,0.8s,baz=299,slow=5.1									
NB200	**NORSAR Array S**	85.20	27	*e*P		P		19 15 17.4	+0.3
NOA	**NORSAR Array B**	85.20	27	P		P		19 15 17.4	+0.3
	comp=Z,4.4nm,0.8s,baz=301,slow=5.0,SNR=13									
NB201	**NORSAR Array S**	85.23	27	*e*P		P		19 15 17.1	-0.1
PEA1	**Petropavlovsk-**	85.23	324	*e*P		P		19 15 16.7	-0.6
PETK	**Petropavlovsk-**	85.24	324	P		P		19 15 16.7	-0.7
	comp=Z,3.0nm,0.8s,baz=280,slow=41,SNR=2.5									
NC602	**NORSAR Array S**	85.47	28	*e*P		P		19 15 21.0	+2.6
UCC	**Uccle**	85.54	38	*e*P		P		19 15 18.8	-0.1
UCC					pmax	pmax				
	comp=Z,64nm,1.7s									
UCC	**Uccle**	85.54	38	*e*P		P		19 15 18.8	-0.1
	comp=Z,64nm,1.7s									
DOU	**Dourbes**	85.92	39	⇓P		P		19 15 22.0	+1.1
	comp=Z,15nm,2.1s									
ARA0	**ARCESS Array S**	85.99	17	*e*P		P		19 15 18.9	-2.0
ARCES	**ARCESS Array B**	85.99	17	P		P		19 15 18.9	-2.0
	comp=Z,5.5nm,0.8s,baz=318,slow=5.2,SNR=9.8									
ARCES	**ARCESS Array B**	85.99	17	*e*P		P		19 15 19.1	-1.7
ARCES	**ARCESS Array B**	85.99	17	*e*P		P		19 15 19.1	-1.7
BCLA	**Clavier**	86.24	38	⇓P		P		19 15 22.7	+0.3
	comp=Z,27nm,2.5s									
MA2	**Magadan**	86.25	332	⇓*i*P		P		19 15 23.1	+0.8
MEM	**Membach**	86.59	38	⇑P		P		19 15 22.1	-2.0
HFS	**Hagfors**	86.70	28	P		P		19 15 22.4	-2.0
	comp=Z,4.4nm,0.8s,baz=206,slow=29,SNR=4.9									
TIXI	**Tiksi**	86.76	346	⇓*i*P		P		19 15 24.1	-0.4
TIXI				*e*				19 18 50.0		
TIXI					pmax	pmax				
	comp=Z,39nm,2.5s									
TIXI	**Tiksi**	86.76	346	*e*P		P		19 15 24.2	-0.4
	comp=Z,60nm,1.8s									
WLF	**Walferdange**	87.02	39	*e*P		P		19 15 23.8	-2.4
WLF					pmax	pmax				
	comp=Z,14nm,1.1s									
WLF	**Walferdange**	87.02	39	*e*P		P		19 15 23.8	-2.4
	comp=Z,14nm,1.1s									
MSVF	**Nonsavu**	88.78	251	⇑*i*P		P		19 15 37.5	+2.2
MSVF				*i* *SP		sP		19 15 43.5	+1.1
MSVF					pmax	pmax				
	comp=Z,25nm,0.9s									
MSVF	**Nonsavu**	88.78	251	*e*P		P		19 15 37.4	+2.2
	comp=Z,22nm,0.8s									
GRFO	**Grafenberg**	90.03	38	*e*P		P		19 15 40.0	-0.5
GRFO					pmax	pmax				
	comp=Z,39nm,1.9s									
GRFO	**Grafenberg**	90.03	38	*e*P		P		19 15 40.0	-0.5
	comp=Z,39nm,1.9s									
KOWA	**Kowa**	90.26	75	P		P		19 15 40.9	-1.4
	comp=Z,3.5nm,0.8s,baz=242,slow=3.9,SNR=12									
BRG	**Berggiesshubel**	91.07	36	*e*P		P		19 15 44.6	-0.7
	comp=Z,4.6nm,1.1s									
BRG	**Berggiesshubel**	91.07	36	*e*P		P		19 15 44.6	-0.7
BRG					pmax	pmax				
	comp=Z,5.0nm,1.1s									
FIA0	**FINESS Array S**	91.12	23	*e*P		P		19 15 43.8	-1.5
FIA0	**FINESS Array S**	91.12	23	*e*P		P		19 15 43.8	-1.5
FINES	**FINESS Array B**	91.12	23	P		P		19 15 43.8	-1.5
	comp=Z,2.6nm,0.8s,baz=316,slow=5.3,SNR=6.9									
DBIC	**Dimbokro**	91.69	83	P		P		19 15 47.2	-1.7
	comp=Z,4.2nm,0.9s,baz=212,slow=3.3,SNR=5.4									
DBIC	**Dimbokro**	91.69	83	*e*P		P		19 15 46.7	-2.2
DBIC					pmax	pmax				
	comp=Z,52nm,1.8s									
DBIC	**Dimbokro**	91.69	83	*e*P		P		19 15 46.7	-2.2
	comp=Z,52nm,1.8s									
GERES	**GERESS Array B**	91.86	38	P		P		19 15 48.0	-1.2
	comp=Z,0.7nm,0.7s,baz=347,slow=5.5,SNR=6.5									
GERES	**GERESS Array B**	91.86	38	P		P		19 15 48.0	-1.2
YAK	**Yakutsk**	93.31	339	⇑*i*P		P		19 15 56.0	+0.6
YAK					pmax	pmax				
	comp=Z,17nm,0.8s									
YAK	**Yakutsk**	93.31	339	*e*P		P		19 15 55.1	-0.3
	comp=Z,20nm,0.8s									
TOA1	**Torodi Ar. Sit**	95.95	75	*e*P		P		19 16 06.9	-1.6
TOA1				*e*PKKPdf		PKKPdf		19 32 59.3	+2.1
TORD	**Torodi Ar. Bea**	95.96	75	P		P		19 16 06.9	-1.7
	comp=Z,1.7nm,0.8s,baz=302,slow=3.5,SNR=3.6									
TORD				PKKP		PKKPdf		19 32 59.3	+2.1
	comp=Z,1.1nm,0.8s,baz=95,slow=2.4,SNR=5.4									
KLMR	**Klimovskoe**	96.23	19	*e*P		P		19 16 06.4	-2.4
KLMR					pmax	pmax				
	comp=Z,13nm,1.5s									
KLMR	**Klimovskoe**	96.23	19	*e*P		P		19 16 06.5	-2.4
KLMR					AMP			19 16 12.0		
	comp=Z,13nm,1.5s									
KIEV	**Kiev**	99.24	31	⇓*i*P		Pdif		19 16 22.0	-0.6
KIEV				*i* *SP		pP		19 16 27.8	-0.1
KIEV					pmax	pmax				
	comp=Z,2.0nm,1.0s									
HHC	**Hu-ho-hao-te**	116.76	335	*e*PKP		PKPdf		19 21 24.4	-1.3
MK32	**Makanchi Array**	117.33	359	*e*PKPdf		PKPdf		19 21 24.5	-2.0
MK32				*e*PKKPbc		PKKPbc		19 31 49.9	-1.4
MKAR	**Makanchi Array**	117.33	359	PKP		PKPdf		19 21 24.5	-2.0
	comp=Z,0.5nm,0.8s,baz=48,slow=1.8,SNR=4.3									
MKAR				PKKPbc		PKKPbc		19 31 49.9	-1.4
	comp=Z,0.5nm,0.9s,baz=121,slow=5.6,SNR=2.7									
WMQ	**Urumqi**	120.03	355	*e*PKP		PKPdf		19 21 32.1	+0.3
NJ2	**Nanjing**	120.14	323	*e*PKP		PKPdf		19 21 34.0	+1.8
SYO	**Syowa Base**	121.07	164	⇑*ep*Pdiff		pPdif		19 18 10.8	+6.4
AAK	**Ala-Archa**	121.14	6	PKP		PKPdf		19 21 33.9	-0.2
	comp=Z,0.5nm,0.4s,baz=70,slow=5.1,SNR=5.1									
GEYT	**Alibeck**	121.89	22	PKP		PKPdf		19 21 35.1	-0.4
	comp=Z,2.1nm,0.8s,baz=288,slow=1.4,SNR=5.9									
GTA	**Gaotai**	122.11	343	*e*PKP		PKPdf		19 21 54.0	+18
STKA	**Stephens Creek**	123.54	242	PKP		PKPdf		19 21 40.2	+1.5
	comp=Z,5.8nm,0.8s,baz=76,slow=3.0,SNR=8.2									
STKA	**Stephens Creek**	123.54	242	*e*PKIKP		PKPdf		19 21 40.1	+1.4
STKA	**Stephens Creek**	123.54	242	*e*PKPdf		PKPdf		19 21 40.0	+1.4
XAN	**Xi'an**	123.63	333	PKP		PKPdf		19 21 41.3	+2.3
XAN				sPKP				19 21 48.6		
LZH	**Lanzhou**	123.88	338	*e*PKP		PKPdf		19 21 39.6	0.0
LZH				sPKP				19 21 51.0		
LZH				LR		LR				
	comp=Z,260nm,18.2s									
LZH				LR		LR				
	comp=Z,240nm,18.0s									
LZH				LR		LR				
	comp=Z,360nm,20.1s									
ENH	**Enshi**	126.51	330	*e*PKPdf		PKPdf		19 21 42.7	-1.9
BOSA	**Boshof**	127.00	114	PKP		PKPdf		19 21 45.1	-0.5
	comp=Z,4.3nm,1.0s,baz=304,slow=7.3,SNR=2.3									
CD2	**Chengdu**	128.51	335	PKP		PKPdf		19 21 47.8	-0.6
SCPH	**Surigao**	129.36	298	⇑*e*P		PKPdf		19 21 54.3	+3.9
WRAB	**Tennant Creek**	129.73	257	⇑*i*PKIKP		PKPdf		19 21 51.7	+0.8
WRAB				*i*				19 21 55.1		
WRAB					pmax	pmax				
	comp=Z,78nm,2.5s									
WR1	**Warramunga Arr**	129.75	257	*e*PKPdf		PKPdf		19 21 51.8	+0.9
WRA	**Warramunga Arr**	129.75	257	PKP		PKPdf		19 21 51.8	+0.9
	comp=Z,7.1nm,0.8s,baz=85,slow=1.8,SNR=31									
AS01	**Alice Springs**	130.31	253	*e*PKPdf		PKPdf		19 21 50.4	-1.5
AS31	**Alice Springs**	130.35	253	*e*PKPdf		PKPdf		19 21 50.6	-1.4
ASAR	**Alice Springs**	130.35	253	PKP		PKPdf		19 21 50.9	-1.1
	comp=Z,1.9nm,0.9s,baz=112,slow=1.7,SNR=6.8									
ASAR	**Alice Springs**	130.35	253	*e*PKIKP		PKPdf		19 21 49.7	-2.3
ASAR					pmax	pmax				
	comp=Z,2.0nm,0.9s									
GYA	**Guiyang**	131.05	330	*e*Pdif		Pdif		19 18 44.3	-0.5
GYA				PKP		PKPdf		19 21 53.4	0.0
GYA				PP		PP		19 24 13.0	+3.9
GYA				AMB		AMB				
	comp=Z,120nm,7.8s									
LSA	**Lhasa**	133.45	348	*e*PKIKP		PKPdf		19 21 55.5	-2.9
LSA	**Lhasa**	133.45	348	*e*PKPdf		PKPdf		19 21 55.5	-2.9
CMMT	**Chiang Mai**	141.21	333	P		PKPdf		19 22 16.2	+3.9
	comp=Z,232nm,3.9s									
CHTO	**Chiang Mai**	141.21	333	P		PKPdf		19 22 17.2	+4.9
	comp=Z,2µm,1.2s									
CM31	**Chiang Mai Arr**	141.52	333	*e*PKPpre		PKPpre		19 22 06.4		
CM31				*e*PKPdf		PKPdf		19 22 11.4	-1.5
CMAR	**Chiang Mai Arr**	141.52	333	PKhKP		PKPdf		19 22 07.0		
	comp=Z,0.5nm,0.6s,baz=3.7,slow=2.6,SNR=4.1									
CMAR				PKP		PKPdf		19 22 12.1	-0.8
	comp=Z,2.3nm,0.8s,baz=329,slow=2.4,SNR=16									
CM01	**Chiang Mai Arr**	141.55	333	*e*PKPpre		PKPpre		19 22 06.8		
CM01				*e*PKPdf		PKPdf		19 22 12.0	-0.9
PHIT	**Phitsanulok**	141.94	330	P		PKPdf		19 22 17.1	+3.5
SRDT	**SRDT**	145.01	329	P		PKPdf		19 22 20.4	+1.3
	comp=Z,200nm,1.3s									
PHET	**Kaeng Krachan**	145.97	327	P		PKPab		19 22 28.3	+6.4
HYB	**Hyderabad**	146.50	5	*i* PKP		PKPdf		19 22 21.0	-0.6
KSM	**Kuching**	146.54	299	*e*PKPdf		PKPdf		19 22 20.9	-0.8
KSM				*e*PKPbc		PKiKP		19 22 25.6	-0.5
OPO	**Ambohidratompo**	147.24	99	PKPbc		PKPbc		19 22 25.3	+0.1
	comp=Z,16nm,0.8s,baz=249,slow=2.3,SNR=16									
SKLT	**Songkhla**	150.04	319	P		PKPbc		19 22 31.1	-1.3
	comp=Z,293nm,0.8s									
TRTT	**Trang**	150.09	322	P		PKPbc		19 22 34.2	+1.7
	comp=Z,107nm,1.7s									
KULM	**Kulim**	151.44	317	*e*PKPbc		PKPbc		19 22 34.4	-1.3
IPM	**Ipoh**	151.79	315	*e*PKPbc		PKPbc		19 22 35.5	-1.1

*IDC **20** 19:07:18.9±2.3, 16.°85N×98.°33W, h0km, mb4.0/6, mb1 4.3/8, mb1mx3.9/51, mbtmp4.1/8, ML4.5/2, Error ellipse: s-maj=54.8km s-min=15.8km az=20.0*
*NEIC **20** 19:07:19.0±1.0, 16.°34N×98.°34W, h13km±3km, mb4.5/42, Error ellipse: s-maj=16.5km s-min=8.0km az=197.0*
ISC 20 19:07:20.5±0.9, 16.°39N±0.°10×98.°32W±0.°07, h28km, n77, σ2s 09/80, mb4.4/47, Near coast of Guerrero

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

IP05	Hopewell Churc	28.00	36	*e*P		P	19 13 11.2	+2.2	
	128nm,0.1s								
IP01	Cuckoo	28.00	36	*e*P		P	19 13 09.9	+0.9	
	21nm,1.5s								
NV01	Mina Array Sit	28.11	325	*e*P		P	19 13 10.9	+0.7	
NVAR	Mina Array Bea	28.11	325	P		P	19 13 09.3	-0.9	
	2.5nm,0.9s,baz=122,slow=8.6,SNR=3.8								
LOHW	Long Hollow	29.07	341	*e*P		P	19 13 21.0	+2.2	
	29nm,1.9s								
JPC	Peters Creek,	29.63	319	*e*P		P	19 13 19.7	-3.9	
JPC				*e*S		S	19 18 23.7	+6.3	
BABR	Babbit Peak	29.93	325	*e*PcP		PcP	19 16 26.3	-2.6	
LCCM	Lewis and Clar	31.47	342	*e*sP		sP	19 13 46.8	-4.8	
AGMN	Agassiz Nation	31.88	3	*e*P		P	19 13 42.9	-0.4	
	16nm,1.8s								
J08A	Circle Bar Ran	31.89	332	*e*P		P	19 13 44.1	+0.6	
	5.5nm,0.8s								
CDVI	St. Croix	32.08	83	*e*P		P	19 13 45.2	-0.1	
BBOR	Butler Butte	33.61	327	*e*P		P	19 14 03.8	+5.1	
SVTR	Two Rivers Sch	36.56	333	*e*P		P	19 14 22.0	-1.8	
SVTR				*e*S		S	19 20 08.9	+4.3	
WVL	Waterville	37.04	35	*e*sP		sP	19 14 34.4	-5.3	
BEVT	Boeing Everett	37.10	333	*e*P		P	19 14 24.7	-3.7	
BEVT				*e*sP		pP	19 14 31.6	-5.1	
YKA	Yellowknife Ar	47.45	350	P		P	19 15 51.3	-1.1	
	0.9nm,0.7s,baz=156,slow=7.6,SNR=4.9								
INK	Inuvik	56.50	345	P		P	19 16 59.2	-0.5	
	1.0nm,0.7s,baz=126,slow=5.9,SNR=4.4								
INK	Inuvik	56.50	345	*e*P		P	19 16 59.6	-0.1	
	19nm,1.8s								
IL1	Eielson Array	58.29	338	*e*P		P	19 17 11.9	-0.6	
ILAR	Eielson Array	58.29	338	P		P	19 17 12.1	-0.4	
	0.8nm,0.9s,baz=137,slow=6.8,SNR=5.5								

IDC 20 19:10:22.2±8.2, 18°37N×108°96W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/54, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=149.2km s-min=73.6km az=150.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	11.94	23	Pn	Pn	19 13 16.3	+2.4
	0.2nm,0.3s,baz=203,slow=14,SNR=3.9						
NVAR	Mina Array Bea	21.59	340	P	P	19 15 13.6	-0.3
	0.7nm,0.6s,baz=159,slow=10,SNR=3.7						
YKA	Yellowknife Ar	44.26	356	P	P	19 18 32.0	-1.2
	0.2nm,0.6s,baz=170,slow=7.3,SNR=2.6						
INK	Inuvik	52.27	349	P	P	19 19 34.6	-0.4
	1.4nm,0.9s,baz=146,slow=3.6,SNR=3.4						
ILAR	Eielson Array	52.84	341	P	P	19 19 40.2	+0.9
	0.9nm,0.7s,baz=147,slow=7.2,SNR=7.8						

*IDC **20** 19:15:16.8±3.5, 15°50N×98°55W, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.8/54, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=69.5km s-min=21.2km az=176.0*
*NEIC **20** 19:15:18.2±1.3, 15°48N×98°49W, h10km, mb4.4/45, Error ellipse: s-maj=21.9km s-min=7.7km az=177.0*
ISC 20 19:15:21.8±1.5, 15°8N±0°2×98°46W±0°08, h17km, n189, σ1s38/189, mb4.4/43, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNM	Universidad Na	3.57	349	*e*Pn	Pn	19 16 20.2	+3.4
CMIG	Matias Romero	3.67	69	Pn	Pn	19 16 18.9	+1.1
	12nm,0.3s,baz=55,slow=19,SNR=7.5						
CMIG				Sn	Sn	19 17 02.9	+2.3
	19nm,0.3s,baz=196,slow=12,SNR=3.8						
CMIG				Lg	Lg	19 17 19.5	
	35nm,0.3s,baz=305,slow=16,SNR=4.6						
WHTX	Lake Whitney,	16.14	3	P	Pn	19 19 04.6	-3.3
	baz=184						
WHTX	Lake Whitney,	16.14	3	*e*Pn	P	19 19 10.2	-0.9
	18nm,0.9s						
ABTX	Abilene, Hawle	16.78	357	P	Pn	19 19 16.7	+0.6
	baz=176						
MNTX	Cornudas Mount	17.04	339	P	Pn	19 19 17.3	-2.0
	baz=157						
Z40A	Long Farm, Mag	17.98	14	P	Pn	19 19 30.0	-1.0
	baz=196						
319A	Douglas	18.38	329	*e*P	P	19 19 34.3	-1.7
	8.8nm,1.0s						
247A	Quitman	18.50	27	P	P	19 19 36.0	-1.2
	baz=211						
MSTX	Muleshoe	18.50	349	P	P	19 19 35.4	-2.0
	baz=167						
121A	Cookes Peak, D	18.68	335	P	Pn	19 19 39.3	-0.5
	baz=152						
249A	Camden	19.13	31	P	P	19 19 42.8	-1.3
	baz=215						
AMTX	Amarillo	19.22	352	*e*P	P	19 19 43.4	-1.8
	9.8nm,1.1s						
BNM	Barren Site	19.70	340	*e*P	P	19 19 49.9	-0.7
W39A	Magazine	19.76	11	P	P	19 19 49.1	-1.9
	baz=193						
TUC	Tucson	19.89	328	*e*P	Pn	19 19 54.6	+0.4
	2.7nm,1.1s						
Y46A	Houston	19.98	24	P	P	19 19 52.1	-1.3
	baz=208						
LRAL	Lakeview Retre	20.06	29	P	P	19 19 52.9	-1.3
	baz=213						
W41B	Gary Mavity, V	20.08	15	P	P	19 19 53.9	-0.5
	baz=197						
WHAR	Wooly Hollow	20.18	15	*e*P	Pn	19 19 56.9	-0.6
	18nm,1.3s						
OXF	Oxford	20.33	22	*e*P	P	19 19 55.6	-1.6
	150nm,1.3s						
ANMO	Albuquerque	20.37	341	P	P	19 19 58.1	+0.2
	2.6nm,0.8s,baz=341,slow=12,SNR=5.5						
ANMO	Albuquerque	20.37	341	P	P	19 19 56.6	-1.2
	baz=158						
ANMO	Albuquerque	20.37	341	*e*P	P	19 19 58.3	+0.5
	13nm,1.5s						
Y47A	UCPARC, Winfie	20.41	26	P	P	19 19 57.5	-0.6
	baz=210						
Z49A	Columbiana	20.41	30	P	P	19 19 57.1	-1.0
	baz=214						
V39A	Pettigrew	20.41	11	P	P	19 19 56.6	-1.6
	baz=193						
V40A	Witts Springs	20.55	13	P	P	19 19 58.0	-1.6
	baz=195,SNR=5.4						
X46A	Booneville	20.68	24	P	P	19 20 00.0	-1.0
	baz=208						
V41A	Mountainview	20.68	15	P	P	19 20 00.2	-0.8
	baz=197						
Y48A	Jasper	20.71	27	P	P	19 20 00.3	-1.1
	baz=212						
Z50A	Ashland	20.75	31	P	P	19 20 01.5	-0.3
	baz=216						
HHAR	Hobbs	20.79	10	*e*P	P	19 20 03.2	+0.9
	7.8nm,1.0s						
V42A	Cord	20.90	16	P	P	19 20 02.1	-1.3
	baz=199						
X47A	Russelville	20.94	25	P	P	19 20 02.9	-0.9
	baz=209						
U39A	Green Forest	20.97	11	P	P	19 20 03.3	-0.9
	baz=193						
U40A	Yellville	21.07	13	P	P	19 20 04.3	-1.0
	baz=195,SNR=6.9						
X48A	Hartselle	21.22	27	P	P	19 20 04.3	-2.6
	baz=211						
W46A	Michie	21.27	23	P	P	19 20 06.4	-1.0
	baz=207						
U42A	Revenden	21.45	16	P	P	19 20 06.6	-2.8
	baz=199						
T38A	Diamond	21.47	9	P	P	19 20 04.1	-5.5
	baz=191						
T39A	Clever	21.61	11	P	P	19 20 08.1	-3.0
	baz=193						
W48A	Pulaski	21.86	26	P	P	19 20 12.0	-1.7
	baz=211						
113A	Mohawk Valley,	21.86	323	*e*P	P	19 20 12.8	-0.9
	4.4nm,0.8s						
X50A	Fort Payne	21.86	29	P	P	19 20 12.6	-1.2
	baz=214						
T25A	Trinidad	21.90	347	P	P	19 20 13.4	-0.9
	baz=165,SNR=6.4						
T25A	Trinidad	21.90	347	*e*P	P	19 20 15.2	+0.9
	33nm,1.6s						
T40A	Mansfield	21.91	13	P	P	19 20 13.6	-0.6
	baz=195,SNR=6.0						
X16A	Lo Mia Camp, P	21.91	330	*e*P	P	19 20 12.3	-2.2
	13nm,1.1s						
MHTCO	State Highway	21.95	347	*e*P	P	19 20 15.1	+0.2
	20nm,1.8s						
V46A	Holladay	21.96	23	P	P	19 20 14.0	-0.8
	baz=207,SNR=7.0						
T41A	Mountain View	21.98	14	P	P	19 20 13.3	-1.6
	baz=197						
PBMO	Poplar Bluff	22.08	17	*e*P	P	19 20 15.9	-0.1
	18nm,0.8s						
S38A	Stockton	22.11	10	P	P	19 20 14.6	-1.8
	baz=192						
T42A	Van Buren	22.13	16	P	P	19 20 16.4	-0.2
	baz=199,SNR=6.8						
GOGA	Godfrey	22.16	35	P	P	19 20 15.8	-1.2
	baz=221						
V47A	Nunnelly	22.21	24	P	P	19 20 16.6	-0.9
	baz=208						
S39A	Bolivar	22.27	11	P	P	19 20 18.1	0.0
	baz=193,SNR=7.0						
Y14A	Wickenburg	22.32	327	*e*P	P	19 20 19.7	+1.0
	31nm,1.1s						
S40A	Lebanon	22.34	13	P	P	19 20 17.5	-1.4
	baz=195						
WVT	Waverly	22.36	23	P	P	19 20 18.7	-0.3
	baz=208						
WVT	Waverly	22.36	23	*e*P	P	19 20 20.2	+1.1
	17nm,0.9s						
T43A	Greenville	22.40	17	P	P	19 20 18.7	-0.9
	baz=201						
V48A	Smith Brothers	22.42	25	P	P	19 20 18.6	-1.1
	baz=210						
S41A	Jillco Farms,	22.50	14	P	P	19 20 19.3	-1.3
	baz=197						
T44A	Benton	22.61	19	P	P	19 20 21.3	-0.5
	baz=202						
GLA	Glamis	22.68	322	P	P	19 20 21.9	-0.7
	baz=136						
GLA	Glamis	22.68	322	*e*P	P	19 20 22.5	-0.1
	7.7nm,0.7s						
SDCO	Great Sand Dun	22.73	345	P	P	19 20 22.4	-0.9
	baz=163						
SDCO	Great Sand Dun	22.73	345	*e*P	P	19 20 24.0	+0.7
	9.9nm,1.6s						
WUAZ	Wupatki	22.78	332	P	P	19 20 23.0	-0.7
	baz=147,SNR=7.2						
WUAZ	Wupatki	22.78	332	*e*P	P	19 20 24.8	+1.1
	14nm,0.9s						
U47A	Clarksville	22.84	24	P	P	19 20 23.3	-0.8
	baz=208						
BTCC	Brunts Corner	22.89	321	*e*P	P	19 20 28.8	+4.1
S42A	Caledonia	22.91	16	P	P	19 20 25.6	+0.7
	baz=199,SNR=5.1						
R39A	Chumby, Stover	22.93	11	P	P	19 20 23.7	-1.3
	baz=193						
Y12C	Blythe	23.01	324	P	P	19 20 24.4	-1.5
	baz=138						
WESC	Westside Schoo	23.02	320	*e*Sn	Sn	19 25 09.8	+17
R40A	Maddies Static	23.06	13	P	P	19 20 26.8	+0.4
	baz=195,SNR=7.7						
CCM	Cathedral Cave	23.07	15	*e*P	P	19 20 26.3	-0.2
	33nm,1.8s						
S22A	4UR Ranch, Cre	23.08	343	P	P	19 20 26.2	-0.8
	baz=159						
S22A	4UR Ranch, Cre	23.08	343	*e*P	P	19 20 27.0	+0.1
	5.7nm,1.0s						
U48A	Cassie Pea, Po	23.20	25	P	P	19 20 27.5	-0.4
	baz=210						
FVM	Fenton Village	23.21	16	*e*P	P	19 20 27.7	-0.3
	20nm,1.4s						
R41A	Rosebud	23.26	14	P	P	19 20 28.0	-0.5
	baz=197						
S44A	Carbondale	23.28	19	P	P	19 20 28.6	0.0
	baz=203						
SIUC	Southern Illin	23.31	19	*e*P	P	19 20 28.4	-0.5
	26nm,1.1s						
T47A	Sharon Grove	23.39	23	P	P	19 20 30.1	+0.3
	baz=208,SNR=5.2						
KSCO	Kaye Shedlock'	23.41	352	P	P	19 20 29.4	-0.7
	baz=170						
KSCO	Kaye Shedlock'	23.41	352	*e*P	P	19 20 29.1	-1.0
	23nm,1.0s						
HODGE	Hodges	23.44	36	*e*P	P	19 20 29.6	-0.7
	23nm,1.7s						
Q38A	Cooks Store, C	23.46	10	P	P	19 20 30.8	+0.4
	baz=192						
S45A	Carrier Mills	23.48	20	P	P	19 20 30.8	+0.2
	baz=204						
BC3	Big Chuckawall	23.48	322	P	P	19 20 31.3	+0.4
	baz=136						
R43A	Red Bud	23.62	17	P	P	19 20 32.2	+0.2
	baz=201						
BG3	Lake Jocassee	23.65	33	*e*P	P	19 20 32.3	0.0
	32nm,1.9s						
IRM	Iron Mountain	23.66	324	P	P	19 20 32.2	-0.3
	baz=137						
TKL	Tuckaleechee C	23.74	31	P	P	19 20 33.5	+0.3
	1.0nm,0.3s,baz=229,slow=7.6,SNR=3.5						
TKL	Tuckaleechee C	23.74	31	*e*P	P	19 20 34.7	+1.5
	16nm,1.4s						
T48A	Bowling Green	23.77	24	P	P	19 20 32.3	-1.2
	baz=210						
R44A	Waltonville	23.84	19	P	P	19 20 32.8	-1.4
	baz=203						
Q41A	Truxton	23.92	14	P	P	19 20 34.1	-0.8
	baz=197						
DPP	Dos Picos Cty	23.94	319	*e*PcP	PcP	19 24 18.5	+1.0
DPP				*e*S	S	19 24 53.4	+2.2
P37A	Lathrop	23.97	8	P	P	19 20 34.1	-1.3
	baz=190						
BELC	Belle Mtn. Jos	24.04	322	P	P	19 20 36.0	-0.3
	baz=135						
USIN	University of	24.05	21	*e*P	P	19 20 36.2	+0.1
	32nm,0.4s						
Q42A	Golden Eagle	24.05	15	P	P	19 20 35.2	-0.9
	baz=199						
R45A	Skylar, Fairfi	24.14	20	P	P	19 20 36.8	-0.1
	baz=204						
P40A	Paris	24.30	12	P	P	19 20 37.7	-0.7
	baz=195						
Q43A	New Douglas	24.30	17	P	P	19 20 37.3	-1.1
	baz=201						
LDFC	Landfair	24.31	325	*e*P	P	19 20 38.8	0.0
	15nm,1.4s						
R46A	Gibson Southern	24.32	21	P	P	19 20 38.9	+0.2
	baz=206						
O34A	Beatrice	24.34	3	P	P	19 20 37.9	-0.9
	baz=184						
S48A	Wiedeman Farm,	24.38	24	P	P	19 20 39.5	+0.3
	baz=210						
GMRC	Granite Mounta	24.41	324	P	P	19 20 39.4	-0.2
	baz=137						
SMCO	Snowmass	24.45	344	*e*P	P	19 20 41.2	+0.9
	40nm,1.8s						
Q44A	Meyer Farm, Va	24.46	18	P	P	19 20 41.2	+1.3
	baz=202						
TZTN	Tazewell	24.55	30	P	P	19 20 40.1	-0.6
	baz=216						
TZTN	Tazewell	24.55	30	*e*P	P	19 20 42.1	+1.3
	19nm,1.3s						
OLIL	Olney	24.59	20	*e*P	P	19 20 42.1	+1.0
	19nm,1.1s						
O38A	Galt	24.62	9	P	P	19 20 40.9	-0.4
	baz=192						
KMSC	Kings Mountain	24.63	35	P	P	19 20 41.7	+0.3
	baz=222						
P41A	Barry, Barry	24.65	14	P	P	19 20 41.0	-0.6
	baz=197						
KNB	Kanab	24.68	332	*e*P	P	19 20 43.7	+1.6
	15nm,1.5s						
ISCO	Idaho Springs	24.71	347	P	P	19 20 42.4	-0.2
	baz=164						
ISCO	Idaho Springs	24.71	347	*e*P	P	19 20 42.6	0.0
	11nm,1.3s						
LCMT	Little Creek M	24.87	331	*e*P	P	19 20 44.6	+0.8
	12nm,1.7s						
O39A	Kirksville	24.90	11	P	P	19 20 42.3	-1.6
	baz=194						
N34A	Lincoln	25.00	4	P	P	19 20 44.0	-0.8
	baz=184						
TUQ	Turquoise Moun	25.03	325	P	P	19 20 43.2	-2.0
	baz=138						
CHNC	Chino	25.06	320	*e*P	P	19 20 50.1	+4.7
CHNC				*e*PcP	PcP	19 24 21.4	+1.5
R48A	Northridge Ran	25.09	24	P	P	19 20 44.8	-0.8
	baz=209						
P44A	Sand Creek, Wi	25.10	18	P	P	19 20 45.3	-0.4
	baz=203						
O41A	Passleys Farm,	25.11	14	P	P	19 20 45.8	+0.1
	baz=197						
N37A	Lee Faris, Mou	25.14	8	P	P	19 20 45.0	-1.0
	baz=190						
OGNE	Ogallala	25.24	354	P	P	19 20 47.9	+0.8
	baz=172						
OGNE	Ogallala	25.24	354	*e*P	P	19 20 47.8	+0.8
	29nm,1.0s						
MTPU	Mount Pierson	25.25	334	*e*P	P	19 20 48.0	+0.6
	8.1nm,1.2s						
FMP	Fort Macarthur	25.26	319	*e*P	P	19 20 43.1	-4.0
N38A	Joes South For	25.31	9	P	P	19 20 46.6	-1.0
	baz=192						
Q47A	Bedord North L	25.35	22	P	P	19 20 48.9	+1.0
	baz=208						
P45A	Graceland, Par	25.43	20	P	P	19 20 48.6	0.0
	baz=204						
N39A	Derby Farms, D	25.52	11	P	P	19 20 48.8	-0.6
	baz=193						
SRU	San Rafael Swe	25.52	338	*e*P	P	19 20 51.3	+1.6
	9.0nm,1.1s						
SHOC	Shoshone, Teco	25.56	325	P	P	19 20 48.4	-1.6
	baz=138						
SBI	Santa Barbara	25.59	317	*e*P	P	19 20 49.4	-0.8
LRRC	Littlerock Res	25.63	320	*e*P	P	19 20 50.0	-0.5
LRRC				*e*S	S	19 25 17.1	-0.9
MSU	Marysvale	25.64	335	*e*P	P	19 20 52.0	+1.2
M34A	Aspy Farms, Fr	25.66	3	P	P	19 20 50.3	-0.5
	baz=184						
M35A	Neola	25.69	5	P	P	19 20 50.8	-0.2
	baz=186						
P46A	Rosedale	25.69	20	P	P	19 20 51.6	+0.6
	baz=205						
O20A	White River Ci	25.70	343	P	P	19 20 51.7	+0.4
	baz=158						
O20A	White River Ci	25.70	343	*e*P	P	19 20 53.0	+1.7
	10nm,1.0s						
O44A	Mansfield	25.78	18	P	P	19 20 49.3	-2.5
	baz=202						
N23A	Red Feather La	25.83	347	P	P	19 20 49.6	-3.1
	baz=164						
N23A	Red Feather La	25.83	347	*e*P	P	19 20 53.3	+0.7
	8.0nm,1.1s						
P18A	Preston Nutter	25.88	339	*e*P	P	19 20 55.0	+1.9
	11nm,1.1s						
ALPC	Antelope	25.90	320	*e*P	P	19 20 50.1	-3.0
P17A	Butcher Ranch,	25.92	338	*e*P	P	19 20 54.7	+1.4
	5.8nm,1.3s						
M38A	Pleasantville	25.93	9	P	P	19 20 52.8	-0.3
	baz=192						
PHWY	Pilot Hill	26.12	348	*e*P	P	19 20 55.9	+0.6
	20nm,1.5s						
M39A	Webster	26.16	11	P	P	19 20 54.9	-0.3
	baz=194						
M40A	Post Highland	26.21	12	P	P	19 20 54.9	-0.9
	baz=195						
N43A	Stutzman Famil	26.31	16	P	P	19 20 55.6	-1.0
	baz=200						
SCIA	State Center	26.41	9	P	P	19 20 57.4	0.0
	baz=191						
SCIA	State Center	26.41	9	*e*P	P	19 20 57.1	-0.4
	22nm,0.9s						
L36A	Harm Buss Farm	26.41	6	P	P	19 20 56.8	-0.7
	baz=188						
L37A	Phoenix Point,	26.54	8	P	P	19 20 56.9	-1.9
	baz=190						
L38A	Oak Wood Farm,	26.67	9	P	P	19 20 59.9	0.0
	baz=192						
WASM	Alta Sierra Ca	26.76	322	*e*P	P	19 21 06.2	+5.2
K37A	Belmond	27.19	8	P	P	19 21 03.9	-0.6
	baz=190						
J36A	Seneca 1, Swea	27.66	6	P	P	19 21 06.9	-1.8
	baz=188						
L44A	Lake County Fo	27.81	17	P	P	19 21 11.0	+0.9
	baz=202						
ECSD	EROS Data Cent	27.89	3	*e*P	P	19 21 10.9	+0.2
	6.6nm,1.4s						
MLAC	Mammoth, Mammo	28.23	324	*e*P	P	19 21 19.1	+4.8
PD31	Pinedale Array	28.51	343	*e*P	P	19 21 16.7	+0.1
PDAR	Pinedale Array	28.51	343	P	P	19 21 17.0	+0.4
	1.6nm,0.9s,baz=134,slow=8.6,SNR=8.6						
PDAR	Pinedale Array	28.51	343	*e*P	P	19 21 16.4	-0.2
CVLM	Vallecito	29.98	321	*e*P	P	19 21 23.7	-5.8
ULM	Lac du Bonnet	34.42	3	P	P	19 22 07.2	-1.1
	2.0nm,0.7s,baz=180,slow=8.7,SNR=3.9						
YKA	Yellowknife Ar	48.01	350	P	P	19 23 59.3	-0.4
	0.7nm,0.9s,baz=160,slow=7.3,SNR=6.6						
YKB5	Yellowknife Ar	48.01	350	*e*P	P	19 23 59.1	-0.6
INK	Inuvik	57.03	345	P	P	19 25 06.0	-0.4
	1.5nm,0.8s,baz=160,slow=6.5,SNR=4.6						
INK	Inuvik	57.03	345	*e*P	P	19 25 06.2	-0.2
	16nm,1.7s						
ILAR	Eielson Array	58.78	338	P	P	19 25 17.8	-1.0
	1.3nm,0.9s,baz=143,slow=4.9,SNR=7.9						
ILB	Eielson Array	58.78	338	*e*P	P	19 25 18.4	-0.4
RES	Resolute Bay	58.92	1	P	P	19 25 20.2	+0.6
	0.6nm,0.5s,baz=114,slow=14,SNR=2.9						
NB200	NORSAR Array S	85.49	27	*e*P	P	19 27 57.6	-1.1
NOA	NORSAR Array B	85.49	27	P	P	19 27 57.6	-1.1
	1.8nm,1.0s,baz=303,slow=5.0,SNR=3.9						

JMA 20 19:19:17.4±0.2, 37°62N×143°83E, h51km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.13	294	P	Pn	19 19 51.6	+1.1
JIO				S	Sn	19 20 17.1	+1.4
OFUJ	Ofunato	2.24	311	P	Pn	19 19 52.8	+0.8
JMK	Ichinoseki	2.45	304	P	Pn	19 19 56.1	+1.3
JMK				S	Sn	19 20 25.2	+1.7
JOM	Ohasama	2.72	314	P	Pn	19 20 00.0	+1.4
JOM				S	Sn	19 20 31.7	+1.5
JFT	Otama	2.78	269	*e*S	Sn	19 20 33.1	+1.4
JYK	Kaneyama	3.02	296	P	Pn	19 20 04.8	+2.0
JANG	Nango	3.29	327	P	Pn	19 20 08.1	+1.7
JANG				*e*S	Sn	19 20 44.2	0.0
JAG	Ashikaga	3.70	253	P	Pn	19 20 13.1	+1.1
JAG				S	Sn	19 20 55.3	+0.9
JRY	Ryogami san	4.27	249	P	Pn	19 20 20.8	+1.0
JRY				*e*S	Sn	19 21 06.3	-2.0

*ISCJB **20** 19:19:48.9±0.3, 16°06N±0°04×98°38W±0°02, h10km, mb4.6/186, Error ellipse: s-maj=5.2km s-min=2.8km az=11.1*
*NEIC **20** 19:19:51.0±0.3, 16°13N×98°34W, h10km, mb4.7/204, MD5.1(MEX), Error ellipse: s-maj=5.1km s-min=2.8km az=23.0*
*IDC **20** 19:19:51.9±0.7, 16°41N×98°43W, h0km, mb4.3/15, mb1 4.5/19, mb1mx4.2/49, mbtmp4.3/19, ML4.1/4, Error ellipse: s-maj=19.1km s-min=11.3km az=49.0*
*MEX **20** 19:19:52.2±0.4, 15°91N×98°49W, h7km±6km, MD5.1*
ISC 20 19:19:52.6±1.2, 16°17N±0°05×98°42W±0°04, h17km±7km, n506, σ1s06/515, mb4.7/186, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	Tlapa	1.39	354	*e*P	Pn	19 20 17.7	+0.3
TLIG				*i* S	Sg	19 20 38.3	+0.6
TLIG	Tlapa	1.39	354	*e*P	Pn	19 20 17.7	+0.3
TLIG				*i* S	Sg	19 20 38.3	+0.6
VHO	Vista Hermosa	1.85	61	*i* P	Pn	19 20 24.4	+0.7
VHO				*i* S	Sb	19 20 48.8	-0.2
VHO	Vista Hermosa	1.85	61	*i* P	Pn	19 20 24.4	+0.7
VHO				*i* S	Sb	19 20 48.8	-0.2
CAIG	El Cayaco	1.98	297	*i* P	Pn	19 20 24.2	-1.1
CAIG				*e*S	Sn	19 20 48.5	-1.2
CAIG	El Cayaco	1.98	297	*i* P	Pn	19 20 24.2	-1.1
CAIG				*e*S	Sn	19 20 48.5	-1.2
HUIG	Huatulco	2.26	100	*i* P	Pn	19 20 27.7	-1.4
HUIG				*i* S	Sn	19 20 54.3	-2.3

95nm,0.3s,baz=262,slow=12,SNR=7.1
JRQG Juriquilla Cam 4.91 337 ePn Pn 19 21 11.6 +5.8
ZAIG Zacatecas 7.64 330 ePn Pn 19 21 44.7 +1.2
TX31 Lajitas Ar. Si 13.97 341 ePn Pn 19 23 10.6 +0.7
TXAR Lajitas Array 13.97 341 Pn Pn 19 23 10.7 +0.8
0.1nm,0.3s,baz=145,slow=18,SNR=8.2
TXAR Lg Lg 19 27 07.2
0.1nm,0.3s,baz=150,slow=22,SNR=2.9
JCT Junction City 14.30 355 P Pn 19 23 14.8 +0.3
baz=174
JCT Junction City 14.30 355 ePn Pn 19 23 15.1 +0.6
JTS JuntasAbangare 14.35 112 Pn P 19 23 19.3 -2.8
1.1nm,0.3s,baz=17,slow=4.9,SNR=4.9
541A Lake Charles 14.64 18 P Pn 19 23 21.1 +2.2
baz=200
HDC Heredia 15.22 112 ePn Pn 19 23 28.7 +1.8
63nm,0.5s
WHTX Lake Whitney, 15.78 3 P P 19 23 38.0 +0.2
baz=183,SNR=12
WHTX Lake Whitney, 15.78 3 ePn Pn 19 23 35.5 +1.5
57nm,0.9s
NATX Nacogdoches 15.89 12 P Pn 19 23 35.7 +0.2
baz=193
NATX Nacogdoches 15.89 12 ePn Pn 19 23 35.9 +0.3
35nm,0.8s
ABTX Abilene, Hawle 16.42 356 P P 19 23 45.8 +0.8
baz=176,SNR=12
ABTX Abilene, Hawle 16.42 356 ePn P 19 23 45.3 +0.2
43nm,0.9s
WBCY West Bay, Gran 16.52 76 ePn Pn 19 23 43.1 -0.5
258nm,1.1s
MNTX Cornudas Mount 16.71 339 P Pn 19 23 46.3 +0.3
baz=156
MNTX Cornudas Mount 16.71 339 ePn Pn 19 23 46.0 0.0
19nm,1.3s
GDL2 Guadalupe Moun 16.85 342 ePn Pn 19 23 47.5 -0.3
140A Cam and Jess, 16.98 14 P Pn 19 23 48.9 -0.4
baz=196
EPT El Paso 17.19 336 ePn Pn 19 23 51.0 -1.1
122nm,1.9s
VBMS Vicksburg 17.52 23 ePn Pn 19 23 55.1 -0.9
85nm,0.3s
Z40A Long Farm, Mag 17.61 14 P Pn 19 23 57.2 0.0
baz=196
449A Pace 17.77 33 P P 19 24 01.9 +1.9
baz=217
319A Douglas 18.09 329 ePn P 19 24 03.9 +0.3
42nm,1.1s
CBCY The Bluff, Cay 18.10 76 ePn Pn 19 23 59.5 -3.8
94nm,0.9s
247A Quitman 18.15 28 P P 19 24 06.0 +1.8
baz=211
MSTX Muleshoe 18.16 348 P Pn 19 24 04.0 -0.1
baz=166
MSTX Muleshoe 18.16 348 ePn Pn 19 24 02.2 -1.9
34nm,1.1s
349A Repton 18.25 32 P P 19 24 07.8 +2.5
baz=216
121A Cookes Peak, D 18.38 334 P Pn 19 24 07.6 +0.8
baz=150,SNR=6.4
WMOK Wichita Mounta 18.50 359 P P 19 24 07.2 -0.8
baz=179
WMOK Wichita Mounta 18.50 359 eP P 19 24 06.3 -1.6
25nm,1.7s
X39A Fountain Ranch 18.67 11 P P 19 24 09.9 +0.1
baz=193
147A Livingston 18.83 27 P Pn 19 24 13.4 +1.3
baz=211
AMTX Amarillo 18.87 352 P P 19 24 12.0 -0.1
baz=170
AMTX Amarillo 18.87 352 eP P 19 24 10.6 -1.5
33nm,1.1s
452A Marianna 18.97 37 P Pn 19 24 16.7 +2.9
baz=222
148A Greensboro 19.13 29 P Pn 19 24 17.2 +1.5
baz=213
UALR University of 19.31 15 eP P 19 24 16.0 -0.9
26nm,1.2s
Y45A Yeager Farm, C 19.35 23 P Pn 19 24 19.0 +0.6
baz=206
BNM Barren Site 19.37 339 eP P 19 24 17.4 -0.3
W39A Magazine 19.40 11 P Pn 19 24 19.3 +0.3
baz=193,SNR=10
Y22D IRIS PASSCAL I 19.40 338 eP Pn 19 24 21.1 +1.9
64nm,0.4s
BCIP Isla Barro Col 19.41 109 eP P 19 24 15.1 -2.9
35nm,1.0s
149A Jones 19.46 31 P Pn 19 24 20.1 +0.4
baz=215
W40A Ferguson Farm, 19.54 13 P Pn 19 24 20.1 -0.6
baz=195,SNR=7.0
W40A Ferguson Farm, 19.54 13 eP P 19 24 19.5 +0.1
39nm,0.9s
TUC Tucson 19.60 327 P Pn 19 24 21.8 +0.2
baz=142
TUC Tucson 19.60 327 eP P 19 24 20.5 +0.4
9.5nm,1.1s
Y46A Houston 19.63 24 P P 19 24 21.1 +0.7
baz=208,SNR=8.2
W41B Gary Mavity, V 19.72 15 P P 19 24 21.0 -0.2
baz=198
LRAL Lakeview Retre 19.72 30 P Pn 19 24 22.3 -0.5
baz=214,SNR=5.8
LRAL Lakeview Retre 19.72 30 eP P 19 24 21.8 +0.5
25nm,1.2s
Z48A Northport 19.74 28 P Pn 19 24 22.5 -0.6
baz=212,SNR=9.4
LAZ Ladron 19.78 338 eP P 19 24 21.2 -1.0
TUL1 Leonard 19.80 6 P P 19 24 21.6 -0.6
baz=187,SNR=5.2
TUL1 Leonard 19.80 6 eP P 19 24 20.4 -1.8
42nm,1.3s
WHAR Wooly Hollow 19.82 15 eP P 19 24 22.4 +0.1
25nm,0.9s
OXF Oxford 19.98 22 eP P 19 24 23.3 -0.8
46nm,0.8s
ANMO Albuquerque 20.04 340 P P 19 24 25.2 +0.2
0.5nm,0.3s,baz=333,slow=12,SNR=17
ANMO Albuquerque 20.04 340 P P 19 24 25.9 +0.9
baz=157
ANMO Albuquerque 20.04 340 eP P 19 24 25.6 +0.6
13nm,0.8s
V39A Pettigrew 20.05 11 P P 19 24 25.0 0.0
baz=193,SNR=19
MTDJ Mount Denham 20.05 81 eP P 19 24 24.5 -0.7
61nm,1.2s
Y47A UCPARC, Winfie 20.06 26 P P 19 24 25.9 +0.8
baz=211
Z49A Columbiana 20.07 30 P Pn 19 24 26.4 -0.5
baz=215,SNR=7.2
252A Lumpkin 20.07 36 P Pn 19 24 27.3 +0.3
baz=221
556A Lake Butler 20.13 44 P Pn 19 24 30.9 +3.2
baz=230
151A Opelika 20.15 34 P Pn 19 24 27.8 -0.2
baz=219
V40A Witts Springs 20.18 13 P P 19 24 26.6 +0.2
baz=195,SNR=18
V41A Mountainview 20.32 15 P P 19 24 27.4 -0.5
baz=197,SNR=14
X46A Booneville 20.33 24 P Pn 19 24 29.1 -1.0
baz=208
TIGA Tifton 20.34 39 eP P 19 24 26.5 -1.6
37nm,1.1s
Y48A Jasper 20.37 28 P P 19 24 28.7 +0.3
baz=212,SNR=6.9
Z50A Ashland 20.42 31 P P 19 24 29.8 +0.9
baz=216,SNR=6.5
HHAR Hobbs 20.43 10 eP P 19 24 27.6 -1.5
26nm,1.1s
214A Organ Pipe Nat 20.45 323 P Pn 19 24 30.6 -0.9
baz=137,SNR=6.9
V42A Cord 20.54 16 P P 19 24 30.5 +0.3
baz=199
X47A Russelville 20.59 25 P P 19 24 31.5 +0.7
baz=210
U39A Green Forest 20.61 11 P P 19 24 30.4 -0.6
baz=193,SNR=13
Y49A Blount Mountai 20.67 29 P P 19 24 32.0 +0.3
baz=214,SNR=6.2
U40A Yellville 20.71 13 P P 19 24 32.1 0.0
baz=195,SNR=20
X48A Hartselle 20.88 27 P P 19 24 33.8 -0.1
baz=212,SNR=7.5
PLAL Pickwick Lake 20.90 24 eP P 19 24 32.5 -1.6
39nm,1.0s
PLAL eS S 19 28 25.0 -1.6
U41A Viola 20.91 15 P P 19 24 33.7 -0.5
baz=197
X18A Snowflake 21.01 333 eP P 19 24 36.3 +0.7
18nm,0.8s
U42A Revenden 21.09 16 P P 19 24 36.0 -0.2
baz=199,SNR=17
T38A Diamond 21.10 9 P P 19 24 36.0 -0.4
baz=191,SNR=8.1
T39A Clever 21.25 11 P P 19 24 37.5 -0.4
baz=193,SNR=11
X49A Woodville 21.25 29 P P 19 24 38.5 +0.6
baz=213,SNR=10
W47A Westpoint 21.33 25 P P 19 24 39.3 +0.5
baz=209,SNR=7.7
W18A Petrified Fore 21.42 334 P P 19 24 41.2 +1.2
baz=149,SNR=6.2
W18A Petrified Fore 21.42 334 eP P 19 24 40.5 +0.5
28nm,1.3s
W48A Pulaski 21.51 26 P P 19 24 40.6 -0.1
baz=211,SNR=12
X50A Fort Payne 21.52 30 P P 19 24 41.6 +0.7
baz=215
T40A Mansfield 21.54 13 P P 19 24 41.1 +0.1
baz=195,SNR=13
T25A Trinidad 21.55 347 P P 19 24 42.7 +1.3
baz=164,SNR=19
T25A Trinidad 21.55 347 eP P 19 24 42.1 +0.7
76nm,1.4s
113A Mohawk Valley, 21.60 323 eP P 19 24 41.4 -0.2
20nm,1.3s
MHTCO State Highway 21.61 346 eP P 19 24 42.4 +0.4
14nm,1.0s
V46A Holladay 21.61 23 P P 19 24 41.3 -0.4
baz=208,SNR=18
T41A Mountain View 21.61 15 P P 19 24 41.7 -0.1
baz=197,SNR=12
X16A Lo Mia Camp, P 21.61 330 eP P 19 24 42.1 +0.1
33nm,0.9s
PBMO Poplar Bluff 21.72 18 eP P 19 24 45.1 +2.2
58nm,0.9s
S38A Stockton 21.75 10 P P 19 24 42.8 -0.5
baz=192,SNR=9.3
T42A Van Buren 21.77 16 P P 19 24 43.4 -0.1
baz=199,SNR=15
UTMT University of 21.82 21 eP P 19 24 44.7 +0.7
150nm,0.8s
GOGA Godfrey 21.84 35 P P 19 24 45.0 +0.8
baz=221
GOGA Godfrey 21.84 35 eP P 19 24 43.9 -0.4
28nm,1.4s
V47A Nunnelly 21.86 24 P P 19 24 44.1 -0.3
baz=209,SNR=7.1
S39A Bolivar 21.91 11 P P 19 24 44.6 -0.3
baz=193,SNR=14
S40A Lebanon 21.98 13 P P 19 24 45.9 +0.2
baz=195,SNR=18
WVT Waverly 22.00 23 P P 19 24 46.3 +0.3
baz=208
WVT Waverly 22.00 23 eP P 19 24 45.9 -0.1
48nm,0.9s
Y14A Wickenburg 22.04 326 eP P 19 24 46.3 -0.1
97nm,1.0s
T43A Greenville 22.04 18 P P 19 24 46.4 0.0
baz=201,SNR=12
V48A Smith Brothers 22.07 26 P P 19 24 46.7 0.0
baz=211,SNR=6.1
S41A Jillco Farms, 22.14 14 P P 19 24 47.5 +0.1
baz=197,SNR=17
R38A Fenwick Farm, 22.29 9 P P 19 24 48.2 -0.9
baz=191
SDCO Great Sand Dun 22.39 345 P P 19 24 50.7 +0.3
baz=162,SNR=9.1
SDCO Great Sand Dun 22.39 345 eP P 19 24 50.0 -0.5
13nm,1.1s
GLA Glamis 22.42 322 P P 19 24 52.1 +1.5
baz=135
GLA Glamis 22.42 322 eP P 19 24 51.2 +0.6
27nm,1.1s
WUAZ Wupatki 22.48 331 P P 19 24 52.7 +1.4
baz=146,SNR=28
WUAZ Wupatki 22.48 331 eP P 19 24 51.8 +0.5
38nm,0.9s
U47A Clarksville 22.49 24 P P 19 24 52.1 +0.9
baz=209,SNR=8.7
S42A Caledonia 22.55 16 P P 19 24 51.9 +0.1
baz=199,SNR=18
R39A Chumby, Stover 22.56 11 P P 19 24 51.0 -1.0
baz=193,SNR=15
CBKS Cedar Bluff 22.59 357 eP P 19 24 52.5 +0.2
28nm,1.1s
BTCC Brunts Corner 22.63 321 ePcP PcP 19 28 42.3 -3.2
R40A Mades Statio 22.69 13 P P 19 24 54.1 +0.7
baz=195,SNR=35
S22A 4UR Ranch, Cre 22.74 343 P P 19 24 54.6 +0.4
baz=159,SNR=6.7
S22A 4UR Ranch, Cre 22.74 343 eP P 19 24 54.6 +0.4
9.8nm,0.7s
Y12C Blythe 22.74 323 P P 19 24 55.9 +1.9
baz=136
Y12C Blythe 22.74 323 eP P 19 24 53.4 -0.6
14nm,1.2s
MVCO Mesa Verde 22.78 339 P P 19 24 55.1 +0.6
baz=154,SNR=13
MVCO Mesa Verde 22.78 339 eP P 19 24 54.5 -0.1
43nm,1.0s
T46A Princeton 22.79 22 P P 19 24 54.5 +0.1
baz=207,SNR=8.6
FVM French Village 22.85 16 eP P 19 24 54.7 -0.3
34nm,1.1s
U48A Cassie Pea, Po 22.85 25 P P 19 24 55.6 +0.6
baz=210,SNR=12
R41A Rosebud 22.90 14 P P 19 24 55.8 +0.3
baz=197,SNR=11
KSU1 Kansas State U 22.90 4 eP P 19 24 53.9 -1.7
9.8nm,0.6s
S44A Carbondale 22.92 19 P P 19 24 56.7 +1.0
baz=203,SNR=8.5
PDMCI Parker Dam,Lak 22.93 325 P P 19 24 56.9 +1.0
baz=138,SNR=8.0
SIUC Southern Illin 22.95 19 eP P 19 24 55.1 -1.0
50nm,0.9s
R42A Luebbering 23.03 15 P P 19 24 57.0 +0.1
baz=199,SNR=5.2
T47A Sharon Grove 23.04 24 P P 19 24 58.1 +1.2
baz=208,SNR=18
KSCO Kaye Shedlock' 23.05 352 eP P 19 24 57.5 +0.3
67nm,1.1s
Q38A Cooks Store, C 23.09 10 P P 19 24 57.2 -0.3
baz=192
S45A Carrier Mills 23.12 20 P P 19 24 58.6 +0.8
baz=204,SNR=5.7
HODGE Hodges 23.12 36 eP P 19 24 56.8 -1.0
18nm,1.0s
BC3 Big Chuckawall 23.22 322 P P 19 24 60.0 +1.0
baz=134,SNR=6.6
R43A Red Bud 23.26 17 P P 19 24 59.9 +0.7
baz=201,SNR=9.6
Q39A Wilow Grove F 23.29 11 P P 19 24 58.9 -0.6
baz=193
MONP2 Monument Peak 23.30 319 P P 19 25 00.9 +1.0
baz=131
BG3 Lake Jocassee 23.32 34 eP P 19 24 59.0 -0.9
19nm,1.1s
W13A Hualapai Mount 23.39 327 eP P 19 25 02.4 +1.6
13nm,1.1s
IRM Iron Mountain 23.39 323 P P 19 25 01.9 +1.3
baz=136,SNR=9.9
TKL Tuckaleechee C 23.40 31 P P 19 25 00.0 -0.7
5.0nm,0.8s,baz=204,slow=8.2,SNR=5.4
TKL Tuckaleechee C 23.40 31 eP P 19 25 00.1 -0.5
8.1nm,0.9s
Q40A Laux Farm, Aux 23.41 13 P P 19 25 00.5 -0.2
baz=195
T48A Bowling Green 23.42 25 P P 19 25 01.3 +0.5
baz=210,SNR=10
Q24A Divide 23.46 347 P P 19 25 00.6 -1.0
baz=164
Q24A Divide 23.46 347 eP P 19 25 03.5 +1.9
12nm,1.0s
R44A Waltonville 23.48 19 P P 19 25 01.9 +0.5
baz=203,SNR=7.3
SLM Saint Louis 23.51 16 eP P 19 25 01.9 +0.2
30nm,0.8s
Q41A Truxton 23.56 14 P P 19 25 02.4 +0.3
baz=197,SNR=15
CSU Charleston Sou 23.57 41 eP P 19 25 02.6 +0.2
NHSC New Hope 23.59 41 P P 19 25 05.0 +2.5
baz=228
NHSC New Hope 23.59 41 eP P 19 25 02.3 -0.2
112nm,1.3s
P37A Lathrop 23.60 8 P P 19 25 01.5 -1.1
baz=190
PV01 Paradox Valley 23.64 340 eP P 19 25 03.4 +0.1
U15A North Rim 23.65 331 eP P 19 25 04.2 +0.8
43nm,1.5s
Q42A Golden Eagle 23.69 15 P P 19 25 03.9 +0.5
baz=199,SNR=5.6
USIN University of 23.69 22 eP P 19 25 03.8 +0.3
89nm,1.0s
DPP Dos Picos Cty 23.70 318 eSn P 19 24 59.6 -4.0
CPE Camp Elliot 23.73 318 eP P 19 25 04.7 +0.8
29nm,1.2s
JSC Jenkinsville 23.73 37 eP P 19 25 03.1 -0.8
22nm,1.4s
P39B Salisbury 23.75 11 P P 19 25 03.9 -0.2
baz=193,SNR=7.1
P38A Dawn 23.76 9 P P 19 25 03.6 -0.5
baz=192,SNR=10.0
PV05 Paradox Valley 23.77 339 eP P 19 25 04.9 +0.4
R45A Skylar, Fairfi 23.78 20 P P 19 25 04.6 +0.3
baz=204
BELC Belle Mtn. Jos 23.78 322 P P 19 25 05.7 +1.1
baz=134
XPFO Piæon Flat 23.80 320 eP P 19 25 05.4 +0.7
13nm,1.2s
PFO Pinyon Flats O 23.80 320 P P 19 25 06.4 +1.6
baz=132
PFO Pinyon Flats O 23.80 320 eP P 19 25 05.5 +0.8
12nm,1.2s
PAULI Pauline 23.80 36 eP P 19 25 03.2 -1.4
26nm,1.7s
O33A Hebron 23.83 2 P P 19 25 03.5 -1.3
baz=182
P40A Paris 23.93 12 P P 19 25 05.3 -0.4
baz=195,SNR=18
Q43A New Douglas 23.94 17 P P 19 25 05.4 -0.4
baz=201
R46A Gibon Southern 23.97 22 P P 19 25 06.6 +0.5
baz=206
O34A Beatrice 23.98 3 P P 19 25 06.5 +0.3
baz=184,SNR=5.6
PV10 Paradox Valley 24.02 339 eP P 19 25 06.7 -0.2
S48A Wiedeman Farm, 24.03 25 P P 19 25 07.1 +0.5
baz=210
LDFC Landfair 24.04 325 eP P 19 25 08.8 +1.8
28nm,1.1s
Q44A Meyer Farm, Va 24.10 18 P P 19 25 07.4 +0.1
baz=202,SNR=5.4
SMCO Snowmass 24.12 344 eP P 19 25 08.6 +0.7
36nm,1.2s
GMRC Granite Mounta 24.14 323 P P 19 25 08.5 +0.6
baz=136,SNR=7.2
PV09 Paradox Valley 24.16 339 eP P 19 25 08.8 +0.6
O37A Wolven Farm, M 24.20 8 P P 19 25 07.7 -0.5
baz=190
TZTN Tazewell 24.21 30 P P 19 25 09.2 +0.7
baz=217,SNR=5.9
TZTN Tazewell 24.21 30 eP P 19 25 07.9 -0.6
34nm,1.3s
OLIL Olney 24.24 20 eP P 19 25 08.5 -0.1
41nm,1.1s
MURC Murrieta 24.25 319 P P 19 25 10.7 +1.9
baz=131
O38A Galt 24.25 9 P P 19 25 08.7 0.0
baz=191,SNR=7.2
KMSC Kings Mountain 24.31 36 eP P 19 25 08.2 -1.1
25nm,1.4s
Q45A Warren Harvey, 24.36 20 P P 19 25 10.0 +0.2
baz=204
ISCO Idaho Springs 24.37 346 P P 19 25 10.6 +0.4
baz=163,SNR=16
ISCO Idaho Springs 24.37 346 eP P 19 25 10.4 +0.3
65nm,1.6s
P42A Winchester 24.37 15 P P 19 25 09.8 0.0
baz=199
KNB Kanab 24.38 331 eP P 19 25 11.0 +0.9
22nm,1.2s
R47A Wooly Knot Far 24.40 23 P P 19 25 10.9 +0.8
baz=208
WCI Wyandotte Cave 24.43 24 P P 19 25 11.1 +0.7
baz=209
WCI Wyandotte Cave 24.43 24 eP P 19 25 10.6 +0.2
79nm,1.4s
PKCU Pink Cliffs 24.50 333 eP P 19 25 11.5 +0.1
26nm,1.4s
N33A J Bar K, Exete 24.50 2 P P 19 25 10.3 -0.7
baz=182
HELC Santa Helena 24.52 111 eP P 19 25 10.5 -1.3
64nm,1.7s
BBRC Big Bear Solar 24.52 321 eP P 19 25 12.6 +1.1
BBRC eS S 19 29 36.1 +4.6
O39A Kirksville 24.54 11 P P 19 25 11.4 0.0
baz=193,SNR=6.2
O40A La Belle 24.54 12 P P 19 25 11.5 +0.2
baz=195,SNR=7.5
HEC Hector,Ludlow 24.56 322 P P 19 25 12.9 +1.1
baz=135
LCMT Little Creek M 24.57 330 eP P 19 25 12.2 +0.3
18nm,1.7s
N35A Tabor 24.72 5 P P 19 25 12.8 -0.2
baz=186
N36A Muff Farm, Cla 24.74 6 P P 19 25 12.9 -0.2
baz=188
R48A Northridge Ran 24.74 24 P P 19 25 13.8 +0.6
baz=210
O41A Passleys Farm, 24.75 14 P P 19 25 13.4 +0.1
baz=197,SNR=5.7
TUQ Turquoise Moun 24.76 324 P P 19 25 15.0 +1.5
baz=136,SNR=12
N37A Lee Faris, Mou 24.77 8 P P 19 25 13.2 -0.3
baz=190
OGNE Ogallala 24.89 353 P P 19 25 16.2 +1.6
baz=172,SNR=16
OGNE Ogallala 24.89 353 eP P 19 25 15.6 +1.0
101nm,1.1s
MTPU Mount Pierson 24.94 334 eP P 19 25 16.2 +0.8
56nm,1.5s
N38A Joes South For 24.95 9 P P 19 25 15.4 +0.4
baz=192,SNR=5.5
SZCU Shurtz Canyon 24.97 332 eP P 19 25 16.2 +0.6
15nm,1.3s
Q47A Bedord North L 25.00 23 P P 19 25 16.4 +0.9
baz=208,SNR=5.1
CCUT Cedar City 25.06 331 eP P 19 25 16.9 +0.5
14nm,1.7s
P45A Graceland, Par 25.07 20 P P 19 25 16.9 +0.7
baz=205
SHPR Sheep Range 25.13 327 eP P 19 25 16.8 -0.2
13nm,1.1s
N39A Derby Farms, D 25.15 11 P P 19 25 17.2 +0.3
baz=193,SNR=12
BGNE Belgrade 25.15 0 eP P 19 25 16.6 -0.3
29nm,0.6s
GSC Goldstone, Bar 25.17 323 P P 19 25 18.9 +1.7
baz=135
GSC Goldstone, Bar 25.17 323 eP P 19 25 17.8 +0.6
15nm,1.3s
BLO Bloomington 25.17 22 eP P 19 25 17.3 +0.2
34nm,0.8s
SRU San Rafael Swe 25.20 337 eP P 19 25 17.8 +0.3
24nm,1.1s
MWC Mount Wilson 25.20 319 eP P 19 25 16.6 -1.0
47nm,1.9s
PASC Pasadena Art C 25.24 319 eP P 19 25 17.2 -0.6
11nm,0.8s
OTAV Otavalo 25.27 127 eP P 19 25 17.4 -1.3
7.8nm,1.1s
N41A Harden Midland 25.32 14 P P 19 25 18.7 +0.4
baz=197
M35A Neola 25.32 5 P P 19 25 18.6 +0.2
baz=186
N40A Mertquake, Sal 25.33 12 P P 19 25 18.8 +0.3
baz=195
MSU Marysvale 25.33 334 eP P 19 25 20.2 +1.4
P46A Rosedale 25.33 21 P P 19 25 19.2 +0.7
baz=206
O20A White River Ci 25.36 342 P P 19 25 20.5 +1.4
baz=157,SNR=10
O20A White River Ci 25.36 342 eP P 19 25 19.9 +0.8
30nm,1.0s
M36A Felix, Anita 25.39 6 P P 19 25 19.2 +0.1
baz=188
M37A Trindle Farm, 25.43 8 P P 19 25 19.5 +0.2
baz=190
N23A Red Feather La 25.49 347 P P 19 25 20.9 +0.6
baz=163,SNR=10
N23A Red Feather La 25.49 347 eP P 19 25 20.4 +0.1

	22nm,0.9s								
TCRU	Three Creeks R	25.53	334	eP	P	P	19 25 21.0	+0.4	
	17nm,0.3s								
P47A	Martinsville	25.54	22	P	P	P	19 25 21.4	+1.0	
	baz=208								
SNCC	San Nicolas Is	25.55	316	eP	P	P	19 25 21.9	+1.4	
	42nm,0.8s								
P18A	Preston Nutter	25.55	338	eP	P	P	19 25 21.3	+0.4	
	41nm,1.2s								
HDIL	Hopedale	25.56	16	P	P	P	19 25 21.0	+0.5	
	baz=200								
HDIL	Hopedale	25.56	16	eP	P	P	19 25 20.6	+0.1	
	37nm,0.8s								
M38A	Pleasantville	25.56	9	P	P	P	19 25 20.5	0.0	
	baz=192,SNR=18								
EDW2	Edwards Air Fo	25.59	320	P	P	P	19 25 22.2	+1.1	
	baz=132								
P17A	Butcher Ranch,	25.59	338	eP	P	P	19 25 21.4	+0.3	
	32nm,1.5s								
TMUT	Trail Mountain	25.62	337	eP	P	P	19 25 21.8	+0.3	
	12nm,1.0s								
N42A	Yates City	25.62	15	P	P	P	19 25 21.4	+0.3	
	baz=199								
O45A	Potomac	25.73	19	P	P	P	19 25 22.0	-0.2	
	baz=204								
BLG	Laguna Peak, P	25.77	318	P	P	P	19 25 24.3	+1.7	
	baz=129								
PHWY	Pilot Hill	25.77	348	eP	P	P	19 25 23.9	+1.0	
	14nm,0.9s								
M39A	Webster	25.79	11	P	P	P	19 25 23.2	+0.5	
	baz=194,SNR=6.6								
LRMC	Laurel Mtn Rad	25.81	322	P	P	P	19 25 24.0	+0.9	
	baz=133								
M40A	Post Highland	25.85	12	P	P	P	19 25 22.5	-0.7	
	baz=195								
OSI	Osito Audit: C	25.87	319	eP	P	P	19 25 22.9	-0.7	
	17nm,1.0s								
N43A	Stutzman Famil	25.95	16	P	P	P	19 25 24.9	+0.8	
	baz=200,SNR=5.3								
SCIA	State Center	26.04	9	P	P	P	19 25 25.4	+0.4	
	baz=191,SNR=11								
SCIA	State Center	26.04	9	eP	P	P	19 25 25.0	+0.1	
	55nm,0.8s								
SFIN	Lafayette	26.05	20	eP	P	P	19 25 23.4	-1.6	
	34nm,1.2s								
MPMC	Manual Prospec	26.09	323	P	P	P	19 25 26.8	+1.1	
	baz=134								
N44A	Piper City	26.11	18	P	P	P	19 25 25.1	-0.5	
	baz=203								
ROSC	El Rosal	26.19	113	P	P	P	19 25 29.7	+2.7	
	5.5nm,0.2s,baz=47,slow=10,SNR=1.9								
ROSC	El Rosal	26.19	113	eP	P	P	19 25 25.6	-1.5	
	36nm,1.7s								
PRAC	Prado	26.23	116	eP	P	P	19 25 25.8	-1.2	
	15nm,1.2s								
O47A	Sheridan	26.24	22	P	P	P	19 25 27.2	+0.4	
	baz=207								
DAC	Darwin (Calif)	26.31	323	eP	P	P	19 25 27.5	-0.1	
	10nm,1.4s								
L38A	Oak Wood Farm,	26.31	9	P	P	P	19 25 27.7	+0.4	
	baz=192,SNR=17								
BLA	Blacksburg	26.32	34	eP	P	P	19 25 25.9	-1.7	
	18nm,0.9s								
N45A	Kentland	26.35	19	P	P	P	19 25 28.5	+0.8	
	baz=204								
MPU	Maple Canyon	26.40	337	eP	P	P	19 25 27.0	-1.5	
	13nm,1.2s								
ISA	Isabella, Lake	26.40	321	P	P	P	19 25 30.8	+2.4	
	baz=132								
ISA	Isabella, Lake	26.40	321	eP	P	P	19 25 28.7	+0.3	
	9.6nm,1.1s								
CNNC	Cliffs of the	26.41	40	eP	P	P	19 25 26.8	-1.6	
	47nm,0.4s								
L39A	Vinton	26.45	11	P	P	P	19 25 28.7	+0.1	
	baz=194,SNR=5.9								
M43A	Waltham Townsh	26.47	16	P	P	P	19 25 29.2	+0.4	
	baz=200								
NLU	North Lily Min	26.52	336	eP	P	P	19 25 30.1	+0.6	
	21nm,1.4s								
L40A	Anamosa	26.54	12	P	P	P	19 25 29.5	0.0	
	baz=195,SNR=6.1								
RWWY	Rawlins	26.54	345	eP	P	P	19 25 28.9	-0.9	
	81nm,1.8s								
K35A	Storm Lake	26.61	5	P	P	P	19 25 30.1	0.0	
	baz=187								
N46A	Monticello	26.64	20	P	P	P	19 25 31.2	+0.9	
	baz=205								
M44A	Midewin, Midew	26.68	18	P	P	P	19 25 30.9	+0.2	
	baz=202								
L41A	Preston	26.70	13	P	P	P	19 25 31.4	+0.5	
	baz=197,SNR=8.6								
HEB	Heber	26.72	338	eP	P	P	19 25 34.4	+3.1	
R11A	Troy Canyon, C	26.76	329	P	P	P	19 25 32.4	+0.7	
	baz=141								
R11A	Troy Canyon, C	26.76	329	eP	P	P	19 25 32.5	+0.7	
	6.6nm,1.1s								
K37A	Belmond	26.82	8	P	P	P	19 25 31.5	-0.5	
	baz=190,SNR=9.4								
L42A	Oliver, Polo	26.83	15	P	P	P	19 25 32.0	0.0	
	baz=199,SNR=5.4								
JLU	Jordanelle	26.85	338	eP	P	P	19 25 32.3	-0.2	
	21nm,1.5s								
RUSC	La Rusia	26.85	110	eP	P	P	19 25 31.9	-1.2	
	20nm,1.9s								
VES	Vestal, Richgr	26.89	321	P	P	P	19 25 33.9	+1.2	
	baz=132								
DUG	Dugway, Tooele	27.02	335	P	P	P	19 25 34.4	+0.4	
	baz=148								
DUG	Dugway, Tooele	27.02	335	eP	P	P	19 25 34.0	0.0	
	12nm,1.2s								
K39A	Oelwein	27.03	11	P	P	P	19 25 33.3	-0.6	
	baz=194								
CTU	Camp Tracy	27.04	337	eP	P	P	19 25 34.1	-0.1	
	7.4nm,1.0s								
L43A	Garden Prairie	27.23	16	P	P	P	19 25 35.4	-0.3	
	baz=200								
K41A	Shullsburg	27.25	13	P	P	P	19 25 35.4	-0.4	
	baz=197								
TCUT	Toone Canyon	27.28	338	eP	P	P	19 25 36.0	-0.5	
	28nm,1.0s								
K22A	Casper	27.29	347	eP	P	P	19 25 36.5	+0.1	
	13nm,0.9s								
J36A	Seneca 1, Swea	27.29	6	P	P	P	19 25 36.1	-0.2	
	baz=188,SNR=6.0								
J37A	Redenius Farm,	27.37	8	P	P	P	19 25 36.2	-0.7	
	baz=190								
ACSO	Alum Creek Sta	27.48	26	P	P	P	19 25 38.4	+0.4	
	baz=213								
ACSO	Alum Creek Sta	27.48	26	eP	P	P	19 25 36.6	-1.4	
	93nm,2.0s								
ECSD	EROS Data Cent	27.52	3	P	P	P	19 25 37.8	-0.5	
	baz=184,SNR=6.0								
ECSD	EROS Data Cent	27.52	3	eP	P	P	19 25 37.4	-0.9	
	7.3nm,1.0s								
J38A	Wedel Dairy, R	27.53	9	P	P	P	19 25 37.5	-0.8	
	baz=192								
PAGB	Antelope Grade	27.54	319	eP	P	P	19 25 37.3	-1.3	
	48nm,1.9s								
JFWS	Jewell Farm	27.56	13	P	P	P	19 25 38.3	-0.3	
	baz=197								
JFWS	Jewell Farm	27.56	13	eP	P	P	19 25 38.3	-0.3	
	15nm,0.9s								
K42A	Prairie Point,	27.64	14	P	P	P	19 25 38.8	-0.5	
	baz=199								
BGU	Big Grassy Mou	27.73	336	eP	P	P	19 25 40.8	+0.5	
	12nm,1.3s								
HWUT	Hardware Ranch	27.77	339	eP	P	P	19 25 40.9	+0.1	
	9.4nm,1.1s								
SPUT	South Promonto	27.83	337	eP	P	P	19 25 42.1	+0.9	
	7.8nm,1.0s								
J41A	Loganville	28.04	13	P	P	P	19 25 42.8	-0.1	
	baz=197								
SDV	Santo Domingo	28.05	102	P	P	P	19 25 45.4	+1.9	
	2.5nm,0.7s,baz=341,slow=7.2,SNR=4.6								
SDV	Santo Domingo	28.05	102	eP	P	P	19 25 42.9	-0.6	
	6.6nm,1.0s								
I37A	Lemond, Waseca	28.08	8	P	P	P	19 25 42.6	-0.7	
	baz=190								
MDPB	Devils Postpil	28.10	324	eP	P	P	19 25 44.1	+0.2	
	5.6nm,1.1s								
IP07	Quail	28.15	36	eP	P	P	19 25 42.8	-1.1	
	17nm,1.3s								
NV11	Mina Array Sit	28.16	326	eP	P	P	19 25 44.8	+0.6	
	1.0nm,1.2s								
BW06	Boulder Array	28.17	342	P	P	P	19 25 44.7	+0.3	
	baz=157,SNR=7.5								
BW06	Boulder Array	28.17	342	eP	P	P	19 25 44.5	+0.1	
	9.3nm,1.0s								
PD31	Pinedale Array	28.17	342	eP	P	P	19 25 44.4	0.0	
PDAR	Pinedale Array	28.17	342	P	P	P	19 25 45.1	+0.8	
	4.5nm,0.9s,baz=134,slow=8.5,SNR=19								
PDAR	Pinedale Array	28.17	342	eP	P	P	19 25 43.7	-0.7	
IP06	Yanceyville	28.18	36	eP	P	P	19 25 42.2	-2.1	
	4.8nm,1.0s								
URVA	University of	28.19	37	eP	P	P	19 25 43.3	-1.0	
PMPB	Monarch Peak	28.20	319	eP	P	P	19 25 44.2	-0.3	
	24nm,1.3s								
J42A	Columbus	28.20	14	P	P	P	19 25 44.4	+0.1	
	baz=199								
I39A	Houston	28.21	11	P	P	P	19 25 44.2	-0.2	
	baz=194								
IP03	Louisa	28.23	36	eP	P	P	19 25 43.9	-0.7	
	20nm,1.6s								
IP04	Greensprings	28.23	35	eP	P	P	19 25 42.8	-1.9	
	27nm,1.9s								
NV01	Mina Array Sit	28.23	326	eP	P	P	19 25 45.3	+0.4	
NVAR	Mina Array Bea	28.23	326	P	P	P	19 25 46.2	+1.3	
	3.6nm,0.9s,baz=156,slow=9.8,SNR=12								
IP05	Hopewell Churc	28.24	36	eP	P	P	19 25 42.9	-1.8	
	43nm,1.9s								
H32A	Carlson Farm,	28.26	1	P	P	P	19 25 44.3	-0.5	
	baz=182								
I38A	Scanlan Farm,	28.26	9	P	P	P	19 25 44.5	-0.4	
	baz=192								
RSSD	Black Hills	28.27	351	eP	P	P	19 25 44.6	-0.6	
	26nm,1.8s								
SPRD	Spring Road, M	28.30	36	eP	P	P	19 25 44.3	-1.0	
	5.2nm,1.0s								
HVU	Hansel Valley	28.36	337	eP	P	P	19 25 46.2	+0.2	
	11nm,1.0s								
H33A	Prehn Over Nor	28.46	3	P	P	P	19 25 46.5	-0.1	
	baz=183								
MCWV	Mont Chateau	28.47	31	P	P	P	19 25 49.0	+2.2	
	baz=220								
MCWV	Mont Chateau	28.47	31	eP	P	P	19 25 45.4	-1.3	
	8.5nm,0.7s								
RYN	Ryan	28.50	326	eP	P	P	19 25 46.3	-0.9	
	10nm,1.3s								
H36A	Jessenland, He	28.57	7	P	P	P	19 25 47.9	+0.2	
	baz=189								
KVN	Kaiserville	28.58	327	eP	P	P	19 25 47.5	-0.5	
	6.8nm,1.1s								
H35A	Sunnyside Ranc	28.60	5	P	P	P	19 25 48.2	+0.3	
	baz=187								
AHID	Auburn Hatcher	28.64	340	eP	P	P	19 25 48.4	-0.2	
	8.5nm,1.1s								
I42A	Draeger Farm,	28.79	14	P	P	P	19 25 49.8	+0.2	
	baz=199								
H38A	Maiden Rock	28.89	9	P	P	P	19 25 50.2	-0.3	
	baz=192								
WAKR	Walker	28.91	324	eP	P	P	19 25 50.9	-0.1	
	23nm,2.0s								
SAO	San Andreas Ge	28.95	320	eP	P	P	19 25 51.6	+0.6	
	5.1nm,0.9s								
AAM	Ann Arbor	28.96	23	eP	P	P	19 25 50.0	-1.1	
	33nm,0.3s								
G33A	Ortonville	28.98	3	P	P	P	19 25 51.1	-0.2	
	baz=184								
G32A	Webster	29.01	1	P	P	P	19 25 51.3	-0.2	
	baz=182								
REDW	Red Top Meadow	29.10	341	eP	P	P	19 25 52.4	-0.2	
	52nm,1.8s								
CMB	Columbia Colle	29.13	323	eP	P	P	19 25 52.0	-0.7	
	3.2nm,1.0s								
YERR	Yerington	29.14	325	eP	P	P	19 25 51.8	-1.2	
	14nm,1.5s								
H40A	Chili	29.16	12	P	P	P	19 25 52.9	0.0	
	baz=196								
SNOW	Snow King Moun	29.16	341	eP	P	P	19 25 53.0	-0.3	
	24nm,1.3s								
TPAW	Teton Pass	29.25	341	eP	P	P	19 25 52.2	-1.8	
	24nm,1.5s								
LOHW	Long Hollow	29.25	342	eP	P	P	19 25 52.8	-1.2	
	13nm,1.3s								
H41A	Junction City	29.31	13	P	P	P	19 25 54.3	+0.1	
	baz=197								
SPMN	Marine on St.	29.35	8	P	P	P	19 25 54.4	-0.2	
	baz=191								
SPMN	Marine on St.	29.35	8	eP	P	P	19 25 53.2	-1.3	
	18nm,1.3s								
FXWY	Fox Creek	29.41	341	eP	P	P	19 25 55.5	+0.2	
	6.0nm,1.3s								
N54A	Moraine State	29.41	29	eP	P	P	19 25 55.2	+0.1	
	28nm,1.5s								
MOOW	Moose Ponds	29.42	342	eP	P	P	19 25 55.9	+0.5	
	5.9nm,1.1s								
RDG13	Poverty Ridge	29.55	320	eP	P	P	19 25 56.5	0.0	
	52nm,2.0s								
VCNR	Virginia City	29.59	325	eP	P	P	19 25 54.8	-2.2	
	16nm,1.4s								
IMW	Indian Meadow	29.61	342	eP	P	P	19 25 55.6	-1.7	
	6.5nm,1.2s								
G39A	Holcombe	29.66	10	P	P	P	19 25 57.2	-0.1	
	baz=194								
RUBR	Rubicon Trail	29.70	324	eP	P	P	19 25 56.2	-1.8	
	19nm,0.8s								
PAHR	Pah Rah Range	29.74	326	eP	P	P	19 25 58.2	-0.1	
	17nm,1.8s								
SDMD	Soldier's Deli	29.86	35	eP	P	P	19 25 56.9	-2.2	
	4.1nm,1.0s								
F36A	Milaca	29.89	7	P	P	P	19 25 58.7	-0.6	
	baz=189								
MPR	Mayaguez	29.93	82	eP	P	P	19 25 57.4	-2.6	
	17nm,0.7s								
H17A	Grant Village	29.96	342	eP	P	P	19 25 59.9	-0.4	
	7.5nm,1.4s								
AFDM	Forest Hills D	30.09	323	eP	P	P	19 26 01.7	+0.5	
	15nm,1.9s								
SSPA	Standing Stone	30.19	32	eP	P	P	19 25 59.8	-2.3	
	7.2nm,1.1s								
F38A	Pierce - Schro	30.20	9	P	P	P	19 26 01.6	-0.5	
	baz=192								
RLMT	Red Lodge	30.28	345	P	P	P	19 26 03.5	+0.5	
	baz=159								
RLMT	Red Lodge	30.28	345	eP	P	P	19 26 03.7	+0.7	
	15nm,1.2s								
YNR	Norris Junctio	30.28	343	eP	P	P	19 26 04.7	+1.6	
	4.3nm,0.8s								
ERPA	Erie	30.32	28	eP	P	P	19 26 02.5	-0.7	
	8.1nm,0.6s								
YMR	Madison River	30.32	342	eP	P	P	19 26 04.2	+0.7	
	8.4nm,0.8s								
BEKR	Beckworth	30.38	325	eP	P	P	19 26 04.0	0.0	
	4.4nm,1.0s								
YHH	Holmes Hill	30.40	342	eP	P	P	19 26 03.5	-0.7	
	6.5nm,1.3s								
F40A	Park Falls	30.46	11	P	P	P	19 26 04.0	-0.4	
	baz=196								
HLID	Hailey	30.51	337	P	P	P	19 26 05.5	+0.4	
	baz=148								
HLID	Hailey	30.51	337	eP	P	P	19 26 05.3	+0.3	
	5.6nm,1.0s								
MVL	Millersville	30.54	35	eP	P	P	19 26 04.6	-0.5	
	16nm,1.5s								
QLMT	Earthquake Lak	30.61	342	eP	P	P	19 26 04.5	-1.4	
ORV	Oroville	30.80	324	eP	P	P	19 26 07.7	+0.2	
	8.2nm,1.4s								
E39A	Mellen	30.83	11	P	P	P	19 26 07.1	-0.5	
	baz=195								
COWI	Conover	30.84	13	eP	P	P	19 26 07.5	-0.2	
	6.4nm,0.8s								
MFID	Camas Ranch	30.94	335	eP	P	P	19 26 08.5	-0.3	
	33nm,1.7s								
GCMT	Greycliff	31.00	345	eP	P	P	19 26 07.8	-1.5	
E40A	Wakefield	31.01	11	P	P	P	19 26 08.7	-0.6	
	baz=196,SNR=5.7								
MCMT	McKenzie Canyo	31.06	340	eP	P	P	19 26 10.4	+0.4	
LAO	LASA Array	31.12	350	eP	P	P	19 26 11.4	+1.2	
	21nm,1.0s								
HUMP	Col San Antoni	31.16	82	eP	P	P	19 26 10.1	-0.7	
	22nm,1.1s								
E41A	Kenton	31.22	13	P	P	P	19 26 10.7	-0.3	
	baz=198								
D37A	Cotton	31.30	8	P	P	P	19 26 11.3	-0.4	
	baz=191								
F44A	Big Bay de Noc	31.37	16	P	P	P	19 26 12.4	0.0	
	baz=202								
WVOR	Wild Horse Val	31.39	331	eP	P	P	19 26 12.7	-0.1	
	14nm,1.3s								
MTP	Monte Pirata	31.44	82	eP	P	P	19 26 11.2	-2.1	
	35nm,1.1s								
DLMT	Dillon	31.45	341	eP	P	P	19 26 14.9	+1.7	
	18nm,1.1s								
N59A	State Game Lan	31.50	34	eP	P	P	19 26 13.3	-0.3	
	17nm,1.5s								
C31A	Landman Farms,	31.54	1	P	P	P	19 26 13.6	-0.3	
	baz=181								
E43A	Lone Tree Farm	31.59	15	P	P	P	19 26 14.2	-0.1	
	baz=201								
MDND	Maddock	31.61	358	P	P	P	19 26 14.1	-0.4	
	baz=178								
C35A	Jirik Farms, M	31.66	6	P	P	P	19 26 14.3	-0.6	
	baz=188								
MOD	Modoc Plateau	31.81	328	eP	P	P	19 26 15.4	-1.2	
	28nm,1.7s								
LRM	Limekiln Ridge	31.82	341	eP	P	P	19 26 16.7	+0.1	
LRM				esP		pP	19 26 22.4	+0.5	
C36A	Pine Crest Far	31.84	7	P	P	P	19 26 16.0	-0.4	
	baz=190								
D41A	Chassel	31.87	13	P	P	P	19 26 16.9	+0.1	
	baz=198								
C37A	Embarrass	31.89	8	P	P	P	19 26 16.5	-0.4	
	baz=191								
C38A	Sawbill Land.	32.01	9	P	P	P	19 26 17.4	-0.6	
	baz=193								
J08A	Circle Bar Ran	32.04	332	eP	P	P	19 26 19.4	+1.0	
	22nm,1.4s								
B33A	Robert and Kas	32.10	4	P	P	P	19 26 18.7	-0.1	
	baz=185								
AGMN	Agassiz Nation	32.11	3	P	P	P	19 26 18.8	0.0	
	baz=184,SNR=9.0								
AGMN	Agassiz Nation	32.11	3	eP	P	P	19 26 18.4	-0.5	
	17nm,0.8s								
B32A	Ashes, Strandq	32.18	2	P	P	P	19 26 19.2	-0.2	
	baz=183,SNR=6.4								
C39A	Grand Marais	32.29	10	P	P	P	19 26 20.1	-0.4	
	baz=195								
B35A	Bob, Littlefor	32.33	6	P	P	P	19 26 20.3	-0.5	
	baz=188								
B34A	Aery, Baudette	32.38	5	P	P	P	19 26 21.0	-0.2	
	baz=187								
BMO	Blue Mountains	32.73	335	eP	P	P	19 26 22.9	-1.6	
	32nm,2.0s								
EGMT	Eagleton	33.11	346	eP	P	P	19 26 27.4	-0.3	
	27nm,1.4s								
F10A	Beach Ranch, E	33.62	336	eP	P	P	19 26 32.4	+0.2	
	16nm,1.1s								
ULM	Lac du Bonnet	34.06	3	P	P	P	19 26 33.8	-2.0	
	4.1nm,0.8s,baz=180,slow=11,SNR=7.6								
ULM	Lac du Bonnet	34.06	3	eP	P	P	19 26 34.6	-1.3	
	23nm,1.5s								
E09A	Wood Farm, Sta	34.43	336	eP	P	P	19 26 37.4	-1.7	
	42nm,1.8s								
WALA	Waterton Lakes	35.16	342	eP	P	P	19 26 46.3	+0.8	
	35nm,2.0s								
HNH	Hanover	35.29	34	eP	P	P	19 26 46.6	0.0	
	45nm,1.8s								
C09A	Chrisman Ranch	35.54	337	eP	P	P	19 26 49.5	+0.8	
	8.9nm,0.8s								
PKME	Peaks-Kenny Pk	37.93	34	P	P	P	19 27 09.7	+0.6	
	baz=229								
A04D	Lummi Island	38.06	334	P	P	P	19 27 09.7	-0.4	
	baz=140								
FFC	Flin Flon	38.58	357	eP	P	P	19 27 13.9	-0.4	
	14nm,1.1s								
EDM	Edmonton	38.79	346	eP	P	P	19 27 15.8	-0.5	
	22nm,0.9s								
FCC	Fort Churchill	42.65	3	eP	P	P	19 27 47.6	-0.3	
	25nm,1.8s								
SAML	Samuel	42.89	123	eP	P	P	19 27 47.5	-2.9	
	4.6nm,1.1s								
LPAZ	La Paz	43.97	136	P	P	P	19 28 04.4	+4.5	
	1.7nm,0.9s,baz=336,slow=11,SNR=4.3								
PB11	IPOC Station P	45.54	141	eP	P	P	19 28 12.5	+0.6	
	30nm,1.1s								
SCHQ	Schefferville	45.63	25	P	P	P	19 28 12.7	+0.7	
	9.2nm,0.8s,baz=232,slow=6.0,SNR=5.3								
SCHQ	Schefferville	45.63	25	eP	P	P	19 28 12.0	0.0	
	1.0nm,1.5s								
YKA	Yellowknife Ar	47.66	350	P	P	P	19 28 27.4	-0.3	
	1.7nm,0.8s,baz=158,slow=7.4,SNR=20								
YKW3	Yellowknife Ar	47.72	350	eP	P	P	19 28 27.5	-0.7	
	9.5nm,1.4s								
SIV	San Ignacio	48.78	129	P	P	P	19 28 39.8	+2.8	
	1.3nm,0.8s,baz=312,slow=9.6,SNR=7.0								
EGAK	Eagle	56.47	340	eP	P	P	19 29 33.5	+0.2	
	6.5nm,0.9s								
INK	Inuvik	56.69	345	P	P	P	19 29 35.3	+0.6	
	4.9nm,1.0s,baz=127,slow=8.8,SNR=13								
INK	Inuvik	56.69	345	eP	P	P	19 29 34.5	-0.3	
	17nm,1.6s								
SCRK	Sand Creek	56.97	338	eP	P	P	19 29 37.6	+0.6	
	8.3nm,1.1s								
RIDG	Independ'e Rid	57.15	337	eP	P	P	19 29 39.3	+1.1	
	17nm,1.1s								
CPUP	Villa Florida	58.14	136	P	P	P	19 29 48.8	+3.2	
	2.7nm,0.9s,baz=345,slow=6.8,SNR=5.5								
IL1	Eielson Array	58.46	338	eP	P	P	19 29 47.2	-0.2	
ILAR	Eielson Array	58.46	338	P	P	P	19 29 47.7	+0.4	
	4.0nm,1.0s,baz=142,slow=4.5,SNR=22								
ILB	Eielson Array	58.46	338	eP	P	P	19 29 46.9	-0.4	
RND	Reindeer	58.49	336	eP	P	P	19 29 48.1	+0.4	
	26nm,1.3s								
RES	Resolute Bay	58.55	1	P	P	P	19 29 47.0	-0.8	
	1.8nm,0.9s,baz=201,slow=8.4,SNR=5.9								
RES	Resolute Bay	58.55	1	eP	P	P	19 29 47.6	-0.2	
	15nm,1.8s								
TRF	Thorofare Moun	59.08	336	eP	P	P	19 29 52.4	+0.6	
	20nm,1.0s								
CAST	Castle Rocks	59.78	335	eP	P	P	19 29 56.0	-0.6	
	8.6nm,1.0s								
COLD	Coldfoot	60.90	340	eP	P	P	19 30 04.0	-0.1	
	14nm,1.5s								
TOLK	Toolik Lake Re	61.43	341	P	P	P	19 30 07.8	+0.1	
	baz=122								
PLCA	Paso Flores	62.25	156	P	P	P	19 30 17.5	+3.9	
	1.9nm,0.8s,baz=346,slow=7.4,SNR=4.7								
LZH	Lanzhou	123.92	338	ePKP	PKPdf		19 38 52.3	+1.8	
LZH				pPKP	pPKPdf		19 38 56.8	+0.4	
LZH				sPKP			19 38 58.3		
CD2	Chengdu	128.56	335	PKP	PKPdf		19 38 57.0	-2.4	
WRA	Warramunga Arr	129.86	257	PKP	PKPdf		19 39 03.6	+1.6	
	1.6nm,0.9s,baz=88,slow=1.6,SNR=6.8								
ASAR	Alice Springs	130.47	253	PKP	PKPdf		19 39 05.9	+2.7	
	0.8nm,0.9s,baz

ILAR	**Eielson Array**	**58.72**	**338**	P	P	19	40	24.4	-0.2
	0.9nm,1.0s,baz=142,slow=7.2,SNR=6.1								

*ISCJB **20** 19:32:16.4±0.2, 1°.64S±0°.03×77°.58W±0°.04, h181km, mb4.3/28, Error ellipse: s-maj=5.2km s-min=3.8km az=177.8*
*NEIC **20** 19:32:17.7±0.5, 1°.60S×77°.59W, h182km±5km, mb4.5/26, ML4.0(IGQ), Error ellipse: s-maj=8.3km s-min=4.5km az=72.0*
*IDC **20** 19:32:18.1±1.6, 1°.59S×77°.54W, h186km±15km, mb3.8/15, mb1 3.9/21, mb1mx3.8/47, mbtmp4.4/21, Error ellipse: s-maj=16.2km s-min=9.7km az=67.0*
*IGQ **20** 19:32:18.2±0.9, 2°.5S×77°.8W±°, h179km±4km, MLv4.0, MLv4.0/4*

ISC 20 19:32:17.0±0.4, **1°.68S**±0°.05×**77°.67W**±0°.08, **h181**km, **n127**, σ1§**30**/132, **mb4.3**/28, **Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BULB	**Ulba Tungurahu**	**0.78**	**288**	P	**Pn**	**19**	**32**	**43.6**	**-0.2**
BULB				S	**Sn**	**19**	**33**	**03.5**	**-0.9**
BPAT	**Tungurahua Vol**	**0.79**	**283**	P	**Pn**	**19**	**32**	**43.8**	**-0.2**
BPAT				S	**Sn**	**19**	**33**	**03.6**	**-1.0**
BRUN	**Tungurahua Vol**	**0.79**	**289**	P	**Pn**	**19**	**32**	**43.7**	**-0.1**
BRUN				S	**Sn**	**19**	**33**	**04.1**	**-0.3**
RETU	**Refugio**	**0.81**	**286**	P	**Pn**	**19**	**32**	**44.3**	**+0.2**
BMAS	**Trigal station**	**0.83**	**282**	P	**Pn**	**19**	**32**	**43.7**	**-0.4**
BMAS				S	**Sn**	**19**	**33**	**04.2**	**-0.8**
JUI6	**Juive**	**0.84**	**288**	P	**Pn**	**19**	**32**	**43.7**	**-0.4**
BBIL	**Ulba Tungurahu**	**0.85**	**286**	P	**Pn**	**19**	**32**	**44.0**	**-0.2**
BIL2	**Estacion Bilba**	**0.86**	**285**	P	**Pn**	**19**	**32**	**44.4**	**+0.2**
RIOE1	**Riobamba**	**0.96**	**266**	P	**Pn**	**19**	**32**	**44.8**	**-0.1**
IGUA	**Igualata**	**0.99**	**281**	P	**Pn**	**19**	**32**	**44.9**	**-0.5**
COV1	**Cotopaxi Volc**	**1.22**	**326**	P	**Pn**	**19**	**32**	**47.8**	**+0.4**
BMOR	**Cotopaxi Volca**	**1.23**	**320**	P	**Pn**	**19**	**32**	**47.3**	**0.0**
BTAM	**Cotopaxi Volca**	**1.24**	**324**	P	**Pn**	**19**	**32**	**47.2**	**-0.2**
BVC2	**Cotopaxi Volca**	**1.26**	**324**	P	**Pn**	**19**	**32**	**47.5**	**-0.1**
ANTM	**Antisana-La Mi**	**1.27**	**334**	P	**Pn**	**19**	**32**	**47.5**	**-0.1**
BREF	**Cotopaxi Volca**	**1.27**	**322**	P	**Pn**	**19**	**32**	**47.7**	**0.0**
VC1	**Cotopaxi 1**	**1.27**	**325**	P	**Pn**	**19**	**32**	**47.6**	**0.0**
BNAS	**Cotopaxi Volca**	**1.29**	**321**	P	**Pn**	**19**	**32**	**48.0**	**+0.3**
CAMI	**Rancho Maria**	**1.30**	**320**	P	**Pn**	**19**	**32**	**48.2**	**+0.4**
NAS2	**Nasa**	**1.30**	**322**	P	**Pn**	**19**	**32**	**48.3**	**+0.4**
ANTI	**Antisana**	**1.32**	**338**	P	**Pn**	**19**	**32**	**48.0**	**-0.1**
ILLI	**Illinizas Sur**	**1.43**	**312**	P	**Pn**	**19**	**32**	**48.8**	**-0.2**
TERV	**Terraza Guagua**	**1.77**	**328**	P	**Pn**	**19**	**32**	**52.0**	**-0.3**
PINO	**Pino**	**1.78**	**328**	P	**Pn**	**19**	**32**	**52.2**	**-0.3**
YANA	**Yana**	**1.80**	**330**	P	**Pn**	**19**	**32**	**52.2**	**-0.3**
IMBA	**Imbabura, San**	**2.02**	**345**	P	**Pn**	**19**	**32**	**55.7**	**+0.9**
OTAV	**Otavalo**	**2.06**	**338**	*e*Pn	**Pn**	**19**	**32**	**54.5**	**-0.9**
OTAV	**Otavalo**	**2.06**	**338**	*e*P	**Pn**	**19**	**32**	**54.7**	**-0.6**
YAHU	**Yahuarcocha**	**2.08**	**349**	P	**Pn**	**19**	**32**	**55.6**	**+0.2**
COTA	**Cotacachi**	**2.11**	**341**	P	**Pn**	**19**	**32**	**56.1**	**+0.1**
URCU	**Urcuqui**	**2.19**	**344**	P	**Pn**	**19**	**32**	**56.7**	**+0.1**
AGUAY	**Guayaquil**	**2.31**	**261**	P	**Pn**	**19**	**32**	**54.5**	**-3.1**
CMBC	**Cumbal**	**2.61**	**357**	*e*P	**Pn**	**19**	**33**	**02.1**	**+0.5**
MAG1	**Magdalena**	**2.65**	**307**	P	**Pn**	**19**	**33**	**00.0**	**-1.5**
ISPT	**Isla de la Pla**	**3.43**	**277**	P	**Pn**	**19**	**33**	**08.0**	**-3.0**
TUMC	**Tumaco**	**3.64**	**343**	*e*Pn	**Pn**	**19**	**33**	**11.6**	**-2.0**
SOTA	**Rioblanco**	**3.94**	**16**	*e*P	**Pn**	**19**	**33**	**18.5**	**+0.6**
PCON	**Cinco Dias**	**4.18**	**18**	*e*P	**Pn**	**19**	**33**	**20.3**	**-0.7**
POPC	**Popayan, Colom**	**4.31**	**13**	*e*P	**Pn**	**19**	**33**	**22.1**	**-0.2**
GRGC	**Isla de Gorgon**	**4.68**	**354**	*e*P	**Pn**	**19**	**33**	**26.2**	**-0.7**
MARP	**Paez Belalcaza**	**4.81**	**21**	*e*P	**Pn**	**19**	**33**	**30.3**	**+1.5**
HORQ	**Saladito**	**5.24**	**11**	*e*P	**Pn**	**19**	**33**	**32.2**	**-2.2**
ATAH	**Atahualpa**	**5.46**	**188**	P	**Pn**	**19**	**33**	**38.3**	**+0.8**
	25nm,0.3s,baz=15,slow=9.2,SNR=83								
ATAH				S	**Sn**	**19**	**34**	**39.8**	**-0.9**
	36nm,0.3s,baz=137,slow=22,SNR=15								
MALC	**Bahia Malaga**	**5.67**	**3**	*e*P	**Pn**	**19**	**33**	**38.5**	**-1.3**
YOTC	**Yotoco, Valle**	**5.78**	**13**	*e*P	**Pn**	**19**	**33**	**37.6**	**-3.8**
PRAC	**Prado**	**6.04**	**27**	*e*Pn	**Pn**	**19**	**33**	**43.7**	**-0.9**
PRAC	**Prado**	**6.04**	**27**	*e*P	**Pn**	**19**	**33**	**41.2**	**-3.4**
SJAC	**San Juan de Ar**	**6.17**	**37**	*e*P	**Pn**	**19**	**33**	**46.5**	**+0.2**
RREF	**El Recreo**	**6.94**	**20**	*e*P	**Pn**	**19**	**33**	**57.6**	**+0.6**
ROSC	**El Rosal**	**7.29**	**27**	P	**Pn**	**19**	**34**	**01.4**	**0.0**
	1.9nm,0.3s,baz=156,slow=20,SNR=2.9								
ROSC	**El Rosal**	**7.29**	**27**	*e*Pn	**Pn**	**19**	**34**	**02.8**	**+1.4**
NORC	**Norcasia**	**7.72**	**21**	*e*P	**Pn**	**19**	**34**	**04.5**	**-2.2**
HELC	**Santa Helena**	**8.11**	**15**	*e*Pn	**Pn**	**19**	**34**	**12.6**	**+0.4**
PTBC	**PUERTO BERRIO,**	**8.77**	**21**	*e*P	**Pn**	**19**	**34**	**20.0**	**-0.6**
RUSC	**La Rusia**	**8.81**	**31**	*e*Pn	**Pn**	**19**	**34**	**21.7**	**+0.3**
RUSC	**La Rusia**	**8.81**	**31**	*e*P	**Pn**	**19**	**34**	**18.5**	**-2.9**
ZARC	**Zaragoza, Cauc**	**9.54**	**17**	*e*P	**Pn**	**19**	**34**	**28.6**	**-2.0**
PAMC	**Pamplona, Colo**	**10.24**	**29**	*e*P	**Pn**	**19**	**34**	**36.9**	**-3.3**
NNA	**Nana**	**10.27**	**175**	P	**Pn**	**19**	**34**	**41.3**	**+1.2**
	baz=338,slow=16,SNR=0.9								
NNA				S	**Sn**	**19**	**36**	**28.3**	**-6.2**
	4.0nm,0.3s,baz=281,slow=19,SNR=5.3								
MOTC	**Monteria, Cord**	**10.58**	**11**	*e*P	**Pn**	**19**	**34**	**42.8**	**-1.4**
BCIP	**Isla Barro Col**	**10.99**	**349**	*e*Pn	**Pn**	**19**	**34**	**50.7**	**+1.2**
SDV	**Santo Domingo**	**12.62**	**34**	P	**Pn**	**19**	**35**	**09.7**	**-0.9**
	3.4nm,0.3s,baz=225,slow=11,SNR=22								
SDV	**Santo Domingo**	**12.62**	**34**	*e*Pn	**Pn**	**19**	**35**	**09.4**	**-1.2**
SDV	**Santo Domingo**	**12.62**	**34**	*e*P	**Pn**	**19**	**35**	**07.3**	**-3.4**
SAML	**Samuel**	**16.12**	**117**	*e*P	**Pn**	**19**	**35**	**52.6**	**-1.2**
	12nm,0.7s								
LPAZ	**La Paz**	**17.29**	**148**	P	**Pn**	**19**	**36**	**09.6**	**+1.2**
	1.2nm,0.3s,baz=315,slow=8.0,SNR=14								
LPAZ	**La Paz**	**17.29**	**148**	*e*P	**Pn**	**19**	**36**	**08.9**	**+0.5**
	8.1nm,1.0s								
PCRV	**Puerto La Cruz**	**17.52**	**47**	P	**Pn**	**19**	**36**	**09.8**	**-0.8**
	3.5nm,0.3s,baz=245,slow=2.2,SNR=8.9								
MNMC	**Minye Minye**	**19.06**	**156**	*e*P	**Pn**	**19**	**36**	**27.8**	**-1.1**
	38nm,1.0s								
PB11	**IPOC Station P**	**19.60**	**157**	*e*P	**Pn**	**19**	**36**	**34.5**	**-0.7**
	20nm,0.8s								
MTDJ	**Mount Denham**	**19.78**	**0**	*e*P	P	**19**	**36**	**34.1**	**+0.5**
	31nm,0.9s								
PB01	**IPOC Station P**	**20.83**	**158**	*e*P	Pn	19	36	47.6	-2.6
	41nm,1.6s								
SIV	**San Ignacio**	**21.67**	**132**	P	**P**	**19**	**36**	**54.6**	**+1.0**
	2.0nm,0.5s,baz=317,slow=11,SNR=12								
CPUP	**Villa Florida**	**31.35**	**143**	P	**P**	**19**	**38**	**20.9**	**+0.2**
	0.8nm,0.6s,baz=347,slow=3.1,SNR=3.9								
CPUP	**Villa Florida**	**31.35**	**143**	*e*P	**P**	**19**	**38**	**21.2**	**+0.5**
	18nm,1.9s								
ROC1	**El Roble**	**31.75**	**169**	*e*P	**P**	**19**	**38**	**26.5**	**+2.1**
	18nm,0.6s								
BLA	**Blacksburg**	**38.78**	**356**	*e*P	**P**	**19**	**39**	**22.7**	**-1.4**
	13nm,0.8s								
PLCA	**Paso Flores**	**39.40**	**171**	P	**P**	**19**	**39**	**30.8**	**+1.5**
	6.1nm,0.9s,baz=5.9,slow=9.6,SNR=9.5								
PLCA	**Paso Flores**	**39.40**	**171**	*e*P	**P**	**19**	**39**	**30.6**	**+1.3**
	24nm,1.4s								
LTX	**Lajitas**	**39.62**	**323**	*e*P	**P**	**19**	**39**	**32.9**	**+1.6**
TXAR	**Lajitas Array**	**39.62**	**323**	P	**P**	**19**	**39**	**32.9**	**+1.6**
	1.2nm,0.6s,baz=146,slow=9.8,SNR=2.6								
TX31	**Lajitas Ar. Si**	**39.62**	**323**	*e*P	**P**	**19**	**39**	**32.6**	**+1.3**
SLBS	**Sierra La Lagu**	**40.26**	**311**	*e*P	**P**	**19**	**39**	**38.8**	**+2.2**
	51nm,1.6s								
USIN	**University of**	**40.52**	**348**	*e*P	**P**	**19**	**39**	**39.1**	**+0.7**
	50nm,0.3s								
319A	**Douglas**	**44.52**	**320**	*e*P	**P**	**19**	**40**	**12.7**	**+1.8**
	38nm,1.8s								
ANMO	**Albuquerque**	**45.33**	**326**	P	**P**	**19**	**40**	**18.8**	**+1.5**
	6.4nm,0.6s,baz=343,slow=8.7,SNR=7.6								
ANMO	**Albuquerque**	**45.33**	**326**	*e*P	**P**	**19**	**40**	**18.6**	**+1.2**
	7.1nm,0.7s								
NCB	**Newcomb**	**45.55**	**3**	*e*P	**P**	**19**	**40**	**18.9**	**+0.2**
	5.2nm,1.1s								
SDCO	**Great Sand Dun**	**46.93**	**330**	*e*P	**P**	**19**	**40**	**31.3**	**+1.4**
	5.1nm,0.9s								
DPP	**Dos Picos Cty**	**50.62**	**317**	*e*P	**P**	**19**	**40**	**58.4**	**+0.6**
RPV	**Rancho Palos V**	**52.05**	**316**	*e*P	**P**	**19**	**41**	**08.7**	**+0.3**
MWC	**Mount Wilson**	**52.09**	**317**	*e*P	**P**	**19**	**41**	**07.4**	**-1.4**
PD31	**Pinedale Array**	**52.75**	**331**	*e*P	**P**	**19**	**41**	**13.9**	**+0.3**
PDAR	**Pinedale Array**	**52.75**	**331**	P	**P**	**19**	**41**	**13.2**	**-0.5**
	1.0nm,0.7s,baz=147,slow=11,SNR=2.4								
HWUT	**Hardware Ranch**	**52.92**	**328**	*e*P	**P**	**19**	**41**	**15.4**	**+0.6**
	15nm,1.6s								
R11A	**Troy Canyon, C**	**52.99**	**323**	*e*P	**P**	**19**	**41**	**16.8**	**+1.4**
	17nm,2.0s								
SPUT	**South Promonto**	**53.18**	**328**	*e*P	**P**	**19**	**41**	**17.7**	**+1.0**
	6.6nm,0.9s								
ULM	**Lac du Bonnet**	**54.04**	**346**	P	**P**	**19**	**41**	**21.3**	**-1.2**
	1.7nm,0.6s,baz=161,slow=11,SNR=4.5								
NV01	**Mina Array Sit**	**54.71**	**321**	*e*P	**P**	**19**	**41**	**28.4**	**+0.5**
NVAR	**Mina Array Bea**	**54.71**	**321**	P	**P**	**19**	**41**	**29.2**	**+1.2**
	1.1nm,0.5s,baz=134,slow=7.5,SNR=5.6								
MDPB	**Devils Postpil**	**54.73**	**320**	*e*P	**P**	**19**	**41**	**28.6**	**+0.5**
	37nm,1.4s								
KVN	**Kaiserville**	**54.96**	**322**	*e*P	**P**	**19**	**41**	**30.3**	**+0.6**
	8.7nm,1.4s								
GCMT	**Greycliff**	**55.09**	**333**	*e*P	**P**	**19**	**41**	**31.1**	**+0.6**
YKA	**Yellowknife Ar**	**69.81**	**343**	P	**P**	**19**	**43**	**06.8**	**-0.7**
	1.0nm,0.7s,baz=146,slow=6.6,SNR=3.9								
DBIC	**Dimbokro**	**73.14**	**83**	P	**P**	**19**	**43**	**28.2**	**-0.2**
	2.6nm,0.4s,baz=258,slow=5.3,SNR=11								
DBIC	**Dimbokro**	**73.14**	**83**	*e*P	**P**	**19**	**43**	**27.8**	**-0.6**
	28nm,1.5s								
KOWA	**Kowa**	**74.62**	**75**	P	**P**	**19**	**43**	**36.5**	**-0.4**
	8.8nm,0.6s,baz=263,slow=8.6,SNR=22								
KOWA	**Kowa**	**74.62**	**75**	*e*P	**P**	**19**	**43**	**36.1**	**-0.9**
	8.8nm,0.8s								
SUMG	**Summit**	**78.14**	**11**	*e*P	**P**	**19**	**43**	**55.6**	**-0.5**
	6.3nm,0.7s								
TOA1	**Torodi Ar. Sit**	**80.03**	**76**	*e*P	**P**	**19**	**44**	**06.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**80.03**	**76**	P	**P**	**19**	**44**	**06.2**	**-0.9**
	1.2nm,0.3s,baz=283,slow=5.9,SNR=48								
ILAR	**Eielson Array**	**82.78**	**336**	P	**P**	**19**	**44**	**20.4**	**-0.1**
	1.9nm,0.8s,baz=110,slow=3.9,SNR=7.3								
ILB	**Eielson Array**	**82.78**	**336**	*e*P	**P**	**19**	**44**	**20.6**	**+0.1**
SNAA	**Sanae**	**83.66**	**162**	P	**P**	**19**	**44**	**25.8**	**+0.8**
	2.2nm,0.7s,baz=221,slow=9.3,SNR=5.2								
SNAA	**Sanae**	**83.66**	**162**	*e*P	**P**	**19**	**44**	**25.6**	**+0.6**
	6.0nm,0.8s								
QSPA	**South Pole Qui**	**88.38**	**180**	P	**P**	**19**	**44**	**49.5**	**+1.2**
	5.0nm,0.7s,baz=142,slow=2.7,SNR=15								
QSPA	**South Pole Qui**	**88.38**	**180**	*e*P	**P**	**19**	**44**	**49.5**	**+1.2**
	7.3nm,1.0s								
ZAA1	**Zalesovo Array**	**125.94**	**13**	*e*PKPdf	**PKPdf**	**19**	**50**	**57.0**	**-0.4**
ZALV	**Zalesovo Beam**	**125.94**	**13**	PKP	**PKPdf**	**19**	**50**	**57.0**	**-0.4**
	0.7nm,0.4s,baz=246,slow=1.6,SNR=5.3								
KLR	**Kul'dur**	**126.36**	**336**	PKP	**PKPdf**	**19**	**50**	**57.6**	**-0.7**
	0.1nm,0.4s,baz=116,slow=0.2,SNR=4.4								
KURK	**Kurchatov**	**127.18**	**19**	*e*PKPdf	**PKPdf**	**19**	**51**	**00.5**	**+0.6**
KURBB	**Kurchatov Arra**	**127.23**	**19**	PKP	**PKPdf**	**19**	**51**	**00.5**	**+0.5**
	0.6nm,0.5s,baz=320,slow=2.4,SNR=12								
MK32	**Makanchi Array**	**131.79**	**18**	*e*PKPdf	**PKPdf**	**19**	**51**	**08.7**	**-0.1**
MKAR	**Makanchi Array**	**131.79**	**18**	PKP	**PKPdf**	**19**	**51**	**08.7**	**-0.1**
	0.3nm,0.4s,baz=313,slow=2.6,SNR=14								
ASAR	**Alice Springs**	**140.28**	**229**	PKhKP	PKPpre	19	51	18.3	
	0.4nm,0.4s,baz=129,slow=3.9,SNR=6.8								
ASAR				PKP	**PKiKP**	**19**	**51**	**27.4**	**-0.4**
	0.8nm,0.5s,baz=104,slow=1.8,SNR=6.0								
WR1	**Warramunga Arr**	**141.96**	**234**	*e*PKPpre	PKPpre	19	51	23.1	
WR1				*e*PKPdf	**PKiKP**	**19**	**51**	**31.0**	**-0.3**
WRA	**Warramunga Arr**	**141.96**	**234**	PKhKP	PKPpre	19	51	23.1	
	1.7nm,0.7s,baz=124,slow=3.1,SNR=13								
WRA				PKP	**PKiKP**	**19**	**51**	**31.0**	**-0.3**
	0.7nm,0.4s,baz=110,slow=2.6,SNR=19								

*IDC **20** 19:33:00.1±2.2, 1°.92N×98°.36W, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.8/47, mbtmp3.6/9, Error ellipse: s-maj=42.5km s-min=26.8km az=4.0*
*MEX **20** 19:33:06.5±0.4, 16°.23N×98°.32W, h5km, MD3.4*

ISC 20 19:33:02.9±1.6, **16°.32N**±0°.08×**98°.31W**±0°.04, **h6**km±10km, **n18**, σ1§**57**/25, **mb3.6**/6, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
TLIG	**Tlapa**	**1.27**	**349**	*e*P	**Pn**	**19**	**33**	**27.9**	**+0.7**
TLIG				*e*S	**Sn**	**19**	**33**	**45.6**	**+0.9**
ACX	**Acapulco**	**1.59**	**291**	*e*P	**Pg**	**19**	**33**	**34.7**	**+1.3**
ACX				*i* S	**Sg**	**19**	**33**	**54.3**	**+0.3**
VHO	**Vista Hermosa**	**1.69**	**63**	*e*P	**Pb**	**19**	**33**	**34.1**	**-0.4**
VHO				*i* S	**Sg**	**19**	**33**	**56.1**	**-1.0**
CAIG	**El Cayaco**	**2.02**	**291**	*e*P	**Pn**	**19**	**33**	**38.3**	**+0.8**
CAIG				*e*S	**Sn**	**19**	**34**	**02.7**	**-0.3**
HUIG	**Huatulco**	**2.18**	**104**	*e*P	**Pn**	**19**	**33**	**40.0**	**+0.3**
HUIG				*i* S	**Sn**	**19**	**34**	**06.3**	**-0.8**
PLIG	**Platanillo**	**2.36**	**331**	*e*P	**Pb**	**19**	**33**	**44.3**	**-1.6**
PLIG				*i* S	**Sn**	**19**	**34**	**12.5**	**+0.8**
YAIG	**Yautepec**	**2.63**	**344**	*e*P	**Pb**	**19**	**33**	**48.3**	**-2.3**
ARIG	**Puente Sto Nin**	**2.76**	**315**	*i* P	**Pn**	**19**	**33**	**48.8**	**+1.0**
CMIG	**Matias Romero**	**3.37**	**76**	Pn	**Pn**	**19**	**33**	**56.0**	**-0.1**
	baz=209,slow=19,SNR=0.9								
CMIG				Sn	**Sn**	**19**	**34**	**39.6**	**+3.2**
	8.4nm,0.3s,baz=234,slow=19,SNR=3.3								
TXAR	**Lajitas Array**	**13.87**	**340**	Pn	**P**	**19**	**36**	**25.0**	**-3.6**
	baz=157,slow=12,SNR=1.7								
ANMO	**Albuquerque**	**19.94**	**340**	P	**Pn**	**19**	**37**	**38.5**	**+1.0**
	1.7nm,0.8s,baz=337,slow=12,SNR=3.9								
TKL	**Tuckaleechee C**	**23.22**	**31**	P	**P**	**19**	**38**	**12.8**	**+2.0**
	3.5nm,0.8s,baz=54,slow=19,SNR=3.6								
PDAR	**Pinedale Array**	**28.07**	**342**	P	**P**	**19**	**38**	**56.7**	**+1.3**
	0.6nm,0.6s,baz=134,slow=11,SNR=4.6								
NVAR	**Mina Array Bea**	**28.18**	**325**	P	**P**	**19**	**38**	**56.8**	**+0.3**
	0.2nm,0.5s,baz=129,slow=9.0,SNR=2.5								
YKA	**Yellowknife Ar**	**47.53**	**350**	P	**P**	**19**	**41**	**38.8**	**0.0**
	0.4nm,0.8s,baz=157,slow=7.3,SNR=3.7								
INK	**Inuvik**	**56.58**	**345**	P	**P**	**19**	**42**	**47.0**	**+1.0**
	1.3nm,0.8s,baz=119,slow=8.1,SNR=4.6								
ILAR	**Eielson Array**	**58.37**	**338**	P	**P**	**19**	**42**	**59.5**	**+0.8**
	0.5nm,0.9s,baz=139,slow=5.2,SNR=5.0								
ASAR	**Alice Springs**	**130.61**	**253**	PKP	**PKPdf**	**19**	**52**	**13.4**	**-2.2**
	0.7nm,0.9s,baz=123,slow=3.4,SNR=2.7								

*IDC **20** 19:34:03.0±0.9, 15°.83N×98°.49W, h0km, mb4.1/11, mb1 4.4/13, mb1mx4.1/47, mbtmp4.2/13, ML4.5/1, Error ellipse: s-maj=20.7km s-min=14.3km az=46.0*
*ISCJB **20** 19:34:08.7±1.5, 16°.34N±0°.04×98°.12W±0°.03, h23km±10km, mb4.7/159, Error ellipse: s-maj=7.6km s-min=4.1km az=20.2*
*NEIC **20** 19:34:08.4±1.0, 16°.32N×98°.13W, h12km±5km, mb4.8/173, MD5.2(MEX), Error ellipse: s-maj=7.4km s-min=3.8km az=207.0*
*MEX **20** 19:34:10.4±0.9, 16°.22N×98°.68W, h6km±11km, MD5.2*

ISC 20 19:34:08.4±0.8, **16°.23N**±0°.05×**98°.33W**±0°.04, **h18**km±3km, **n351**, σ1§**65**/364, **mb4.8**/160, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
TLIG	**Tlapa**	**1.35**	**350**	*e*P	**Pn**	**19**	**34**	**31.1**	**-1.3**
TLIG				*e*S	**Sb**	**19**	**34**	**48.6**	**-1.6**
TLIG	**Tlapa**	**1.35**	**350**	*e*P	**Pn**	**19**	**34**	**31.1**	**-1.3**
TLIG				*e*S	**Sb**	**19**	**34**	**48.6**	**-1.6**
VHO	**Vista Hermosa**	**1.74**	**61**	*i* P	**Pg**	**19**	**34**	**42.8**	**+0.8**
VHO				*i* S	**Sg**	**19**	**35**	**07.1**	**+2.4**
VHO	**Vista Hermosa**	**1.74**	**61**	*i* P	**Pg**	**19**	**34**	**42.8**	**+0.8**
VHO				*i* S	**Sg**	**19**	**35**	**07.1**	**+2.4**
CAIG	**El Cayaco**	**2.03**	**294**	*i* P	Pn	19	34	38.0	-3.7
CAIG				*i* S	Sn	19	34	58.5	-8.2
CAIG	**El Cayaco**	**2.03**	**294**	*i* P	Pn	19	34	38.0	-3.7
CAIG				*i* S	Sn	19	34	58.5	-8.2
HUIG	**Huatulco**	**2.18**	**102**	*i* P	**Pb**	**19**	**34**	**48.5**	**+1.1**
HUIG				*i* S	**Sg**	**19**	**35**	**18.2**	**-0.4**
HUIG	**Huatulco**	**2.18**	**102**	*i* P	**Pb**	**19**	**34**	**48.5**	**+1.1**
HUIG				*i* S	**Sg**	**19**	**35**	**18.2**	**-0.4**
TPIG	**Tehuac#an**	**2.37**	**23**	*i* P	**Pb**	**19**	**34**	**49.3**	**-1.3**
TPIG				*i* S	**Sb**	**19**	**35**	**19.7**	**+0.1**
TPIG	**Tehuac#an**	**2.37**	**23**	*i* P	**Pb**	**19**	**34**	**49.3**	**-1.3**
TPIG				*i* S	**Sb**	**19**	**35**	**19.7**	**+0.1**
PLIG	**Platanillo**	**2.43**	**333**	*i* P	**Pn**	**19**	**34**	**46.5**	**-0.8**
PLIG				*e*S	**Sn**	**19**	**35**	**14.0**	**-2.6**
PLIG	**Platanillo**	**2.43**	**333**	*i* P	**Pn**	**19**	**34**	**46.5**	**-0.8**
PLIG				*e*S	**Sn**	**19**	**35**	**14.0**	**-2.6**
YAIG	**Yautepec**	**2.71**	**345**	*i* P	**Pn**	**19**	**34**	**51.3**	**0.0**
YAIG				*e*S	**Sn**	**19**	**35**	**23.0**	**-0.7**
YAIG	**Yautepec**	**2.71**	**345**	*i* P	**Pn**	**19**	**34**	**51.3**	**0.0**
YAIG				*e*S	**Sn**	**19**	**35**	**23.0**	**-0.7**
ARIG	**Puente Sto Nin**	**2.81**	**317**	*e*P	**Pn**	**19**	**34**	**50.8**	**-1.7**
ARIG				*i* S	**Sn**	**19**	**35**	**21.1**	**-4.9**
ARIG	**Puente Sto Nin**	**2.81**	**317**	*e*P	**Pn**	**19**	**34**	**50.8**	**-1.7**
ARIG				*i* S	**Sn**	**19**	**35**	**21.1**	**-4.9**
CMIG	**Matias Romero**	**3.41**	**75**	Pn	**Pn**	**19**	**35**	**00.7**	**0.0**
	37nm,0.3s,baz=356,slow=4.2,SNR=8.8								
CMIG				Sn	**Sb**	**19**	**35**	**46.6**	**-2.8**
	34nm,0.3s,baz=244,slow=16,SNR=2.4								
CMIG				Lg	Lg	19	36	00.8	
	407nm,0.3s,baz=203,slow=5.5,SNR=9.2								
JRQG	**Juriquilla Cam**	**4.88**	**336**	*e*Pn	**Pn**	**19**	**35**	**25.1**	**+3.9**
JRQG				*e*Pg	**Pb**	**19**	**35**	**36.9**	**+3.3**
JRQG				*e*Sg	**Sg**	**19**	**36**	**40.9**	**-4.4**
ZAIG	**Zacatecas**	**7.64**	**329**	*e*Pn	**Pn**	**19**	**36**	**03.1**	**+4.0**
ZAIG				*e*Sg	**Sb**	**19**	**37**	**56.2**	**+4.9**
TGUH	**Tegucigalpa,Un**	**10.89**	**100**	*e*Pn	**Pn**	**19**	**36**	**40.5**	**-2.9**
SLBS	**Sierra La Lagu**	**13.20**	**306**	*e*Pn	**Pn**	**19**	**37**	**15.5**	**+0.4**
LTX	**Lajitas**	**13.94**	**340**	*e*Pn	**Pn**	**19**	**37**	**27.4**	**+2.2**
TXAR	**Lajitas Array**	**13.94**	**340**	Pn	**Pn**	**19**	**37**	**27.4**	**+2.2**
	baz=157,slow=16,SNR=6.0								
TXAR				Lg	Lg	19	41	36.4	
	0.1nm,0.3s,baz=158,slow=27,SNR=4.6								
TX31	**Lajitas Ar. Si**	**13.94**	**340**	*e*Pn	**Pn**	**19**	**37**	**24.8**	**-0.4**
JCT	**Junction City**	**14.25**	**355**	*e*Pn	**Pn**	**19**	**37**	**28.1**	**-1.3**
JTS	**JuntasAbangare**	**14.29**	**113**	Pn	**Pn**	**19**	**37**	**29.2**	**-0.7**
	0.3nm,0.3s,baz=0.0,slow=20,SNR=1.4								
HDC	**Heredia**	**15.16**	**112**	*e*Pn	**Pn**	**19**	**37**	**44.3**	**+2.5**
	128nm,1.1s								
WHTX	**Lake Whitney,**	**15.71**	**3**	*e*Pn	**Pn**	**19**	**37**	**48.2**	**-0.7**
	44nm,1.2s								
NATX	**Nacogdoches**	**15.82**	**12**	*e*Pn	**Pn**	**19**	**37**	**50.5**	**+0.2**
	32nm,1.0s								
ABTX	**Abilene, Hawle**	**16.37**	**356**	P	**P**	**

	baz=136									
Y12C	Blythe	22.75	323	eP	P	19 39 10.7	+1.0			
	84nm,1.6s									
U48A	Cassie Pea, Po	22.75	25	P	P	19 39 09.8	+0.1			
	baz=210									
MVCO	Mesa Verde	22.76	339	P	P	19 39 11.2	+1.2			
	baz=154,SNR=14									
MVCO	Mesa Verde	22.76	339	eP	P	19 39 09.8	-0.2			
	188nm,1.6s									
FVM	French Village	22.76	16	eP	P	19 39 08.4	-1.4			
	44nm,1.8s									
S44A	Carbondale	22.83	19	P	P	19 39 10.9	+0.4			
	baz=202									
KSU1	Kansas State U	22.84	3	eP	P	19 39 09.5	-1.1			
	14nm,0.6s									
SIUC	Southern Illin	22.86	19	eP	P	19 39 10.1	-0.8			
	19nm,0.8s									
PDMCI	Parker Dam,Lak	22.93	325	P	P	19 39 13.8	+2.2			
	baz=137									
T47A	Sharon Grove	22.95	24	P	P	19 39 12.1	+0.4			
	baz=208									
IKP	In-Ko-Pah, Jac	22.95	319	P	P	19 39 13.3	+1.4			
	baz=131,SNR=6.9									
SWSC	Sam W. Stewart	22.95	320	P	P	19 39 13.5	+1.7			
	baz=132,SNR=5.5									
KSCO	Kaye Shedlock'	23.01	351	P	P	19 39 13.6	+1.1			
	baz=169									
KSCO	Kaye Shedlock'	23.01	351	eP	P	19 39 12.6	+0.1			
	41nm,1.1s									
Q38A	Cooks Store, C	23.02	9	P	P	19 39 12.9	+0.5			
	baz=191									
HODGE	Hodges	23.02	36	eP	P	19 39 11.7	-0.8			
	17nm,1.3s									
Q39A	Willow Grove F	23.21	11	P	P	19 39 16.3	+2.0			
	baz=193									
BG3	Lake Jocassee	23.22	34	eP	P	19 39 13.8	-0.7			
	19nm,1.2s									
BC3	Big Chuckawall	23.23	321	P	P	19 39 17.8	+3.0			
	baz=134,SNR=8.8									
TKL	Tuckaleechee C	23.30	31	P	P	19 39 16.3	+0.9			
	3.0nm,0.8s,baz=16,slow=18,SNR=2.6									
TKL	Tuckaleechee C	23.30	31	eP	P	19 39 15.4	0.0			
	16nm,1.1s									
MONP2	Monument Peak	23.31	319	P	P	19 39 17.5	+1.8			
	baz=131									
W13A	Hualapai Mount	23.39	326	eP	P	19 39 17.3	+0.8			
	54nm,1.5s									
IRM	Iron Mountain	23.40	323	P	P	19 39 19.7	+3.4			
	baz=135,SNR=19									
Q24A	Divide	23.43	347	P	P	19 39 17.1	+0.2			
	baz=163									
Q24A	Divide	23.43	347	eP	P	19 39 16.1	-0.8			
	75nm,1.9s									
Q41A	Truxton	23.48	14	P	P	19 39 17.2	+0.2			
	baz=197									
NHSC	New Hope	23.48	41	eP	P	19 39 15.5	-1.6			
EML	El Monte Cty P	23.58	318	eSn	Sn	19 43 52.8	+0.5			
USIN	University of	23.61	21	eP	P	19 39 16.9	-1.4			
	50nm,0.3s									
Q42A	Golden Eagle	23.61	15	P	P	19 39 18.1	-0.2			
	baz=198									
PV01	Paradox Valley	23.61	340	eP	P	19 39 18.4	-0.2			
JSC	Jenkinsville	23.63	37	eP	P	19 39 16.3	-2.2			
	12nm,1.2s									
U15A	North Rim	23.64	331	eP	P	19 39 19.9	+0.9			
	38nm,1.3s									
P39B	Salisbury	23.68	11	P	P	19 39 18.1	-0.9			
	baz=193									
P38A	Dawn	23.68	9	P	P	19 39 18.2	-0.9			
	baz=191									
DPP	Dos Picos Cty	23.71	318	eP	P	19 39 24.2	+4.8			
DPP				ePcP	PcP	19 43 04.1	+0.6			
HWB	Hans Werner Br	23.74	318	eSn	Sn	19 44 02.7	+6.5			
CPE	Camp Elliot	23.74	318	eP	P	19 39 22.5	+2.8			
	24nm,1.3s									
PV05	Paradox Valley	23.75	339	eP	P	19 39 20.6	+0.7			
BELC	Belle Mtn. Jos	23.79	321	P	P	19 39 22.4	+2.1			
	baz=133,SNR=16									
XPFO	Piæon Flat	23.81	320	eP	P	19 39 22.3	+1.8			
	126nm,1.9s									
PFO	Pinyon Flats O	23.81	320	P	P	19 39 21.6	+1.1			
	baz=132									
PFO	Pinyon Flats O	23.81	320	eP	P	19 39 21.3	+0.9			
	110nm,1.9s									
O34A	Beatrice	23.91	3	P	P	19 39 20.2	-1.0			
	baz=183									
PV10	Paradox Valley	23.99	339	eP	P	19 39 22.2	-0.1			
LDFC	Landfair	24.04	324	eP	P	19 39 23.6	+1.0			
	213nm,1.9s									
LDFC				esP	sP	19 39 30.2	-0.2			
SMCO	Snowmass	24.09	343	eP	P	19 39 23.1	-0.2			
	59nm,1.4s									
TZTN	Tazewell	24.12	30	eP	P	19 39 21.2	-2.0			
	37nm,1.4s									
PV09	Paradox Valley	24.13	339	eP	P	19 39 22.7	-1.0			
GMRC	Granite Mounta	24.14	323	P	P	19 39 25.8	+2.2			
	baz=135,SNR=13									
OLIL	Olney	24.15	20	eP	P	19 39 21.2	-2.2			
	17nm,0.9s									
O38A	Galt	24.18	9	P	P	19 39 23.9	+0.2			
	baz=191									
KMSC	Kings Mountain	24.21	36	eP	P	19 39 22.7	-1.3			
	44nm,1.8s									
MURC	Murrieta	24.26	319	P	P	19 39 25.7	+1.1			
	baz=130									
P42A	Winchester	24.29	15	P	P	19 39 25.2	+0.4			
	baz=198									
R47A	Wooly Knot Far	24.31	23	P	P	19 39 25.3	+0.4			
	baz=208									
ISCO	Idaho Springs	24.33	346	P	P	19 39 26.1	+0.6			
	baz=162,SNR=8.1									
ISCO	Idaho Springs	24.33	346	eP	P	19 39 25.5	0.0			
	102nm,1.9s									
WCI	Wyandotte Cave	24.34	23	eP	P	19 39 23.5	-1.7			
	14nm,0.8s									
KNB	Kanab	24.37	331	eP	P	19 39 28.3	+2.6			
	132nm,1.9s									
N33A	J Bar K, Exete	24.43	2	P	P	19 39 27.3	+1.2			
	baz=182									
HELC	Santa Helena	24.46	111	eP	P	19 39 26.4	-0.5			
	23nm,1.2s									
O40A	La Belle	24.46	12	P	P	19 39 26.2	-0.1			
	baz=195									
PKCU	Pink Cliffs	24.48	332	eP	P	19 39 27.1	+0.1			
	89nm,1.7s									
LCMT	Little Creek M	24.56	330	eP	P	19 39 28.1	+0.7			
	13nm,1.3s									
O41A	Passleys Farm,	24.67	14	P	P	19 39 27.6	-0.5			
	baz=197									
TUQ	Turquoise Moun	24.76	324	P	P	19 39 30.8	+1.6			
	baz=136									
OGNE	Ogallala	24.84	353	P	P	19 39 30.1	+0.3			
	baz=171									
OGNE	Ogallala	24.84	353	eP	P	19 39 30.0	+0.3			
	186nm,1.8s									
N38A	Joes South For	24.87	9	P	P	19 39 30.2	+0.2			
	baz=191									
MTPU	Mount Pierson	24.93	333	eP	P	19 39 31.6	+0.6			
	96nm,1.5s									
SZCU	Shurtz Canyon	24.96	331	eP	P	19 39 32.2	+1.1			
	51nm,1.7s									
CCUT	Cedar City	25.05	331	eP	P	19 39 35.1	+3.1			
	26nm,1.8s									
N39A	Derby Farms, D	25.07	10	P	P	19 39 32.0	+0.2			
	baz=193									
BLO	Bloomington	25.09	22	eP	P	19 39 32.1	+0.1			
	12nm,0.6s									
SHPR	Sheep Range	25.13	327	eP	P	19 39 33.5	+0.9			
	39nm,1.5s									
GSC	Goldstone, Bar	25.17	322	P	P	19 39 35.6	+2.7			
	baz=134,SNR=6.5									
GSC	Goldstone, Bar	25.17	322	eP	P	19 39 35.3	+2.4			
	108nm,1.8s									
SRU	San Rafael Swe	25.18	337	eP	P	19 39 34.0	+1.0			
	63nm,1.4s									
MWC	Mount Wilson	25.21	319	eP	P	19 39 36.2	+2.8			
	69nm,1.6s									
OTAV	Otavalo	25.23	127	eP	P	19 39 33.1	-1.0			
	49nm,1.9s									
PASC	Pasadena Art C	25.26	319	eP	P	19 39 36.9	+3.3			
	63nm,1.8s									
PASC				eS	S	19 44 01.3	+2.8			
BLKC	Black Mountain	25.27	322	eP	P	19 39 32.5	-1.2			
MSU	Marysvale	25.32	334	eP	P	19 39 36.8	+2.5			
O20A	White River Ci	25.34	342	P	P	19 39 35.5	+1.1			
	baz=157									
O20A	White River Ci	25.34	342	eP	P	19 39 35.5	+1.1			
	76nm,1.6s									
N23A	Red Feather La	25.45	346	P	P	19 39 35.5	-0.1			
	baz=162									
N23A	Red Feather La	25.45	346	eP	P	19 39 35.7	+0.2			
	49nm,1.6s									
M38A	Pleasantville	25.49	9	P	P	19 39 35.4	-0.1			
	baz=191									
TCRU	Three Creeks R	25.51	334	eP	P	19 39 37.6	+1.4			
	25nm,1.5s									
P18A	Preston Nutter	25.53	338	eP	P	19 39 38.1	+1.7			
	62nm,1.3s									
P17A	Butcher Ranch,	25.57	337	eP	P	19 39 39.3	+2.7			
	22nm,1.1s									
TMUT	Trail Mountain	25.60	336	eP	P	19 39 38.2	+1.3			
	81nm,0.4s									
EDW2	Edwards Air Fo	25.60	320	P	P	19 39 38.3	+1.5			
	baz=131,SNR=7.1									
PHWY	Pilot Hill	25.73	348	eP	P	19 39 38.4	+0.2			
	14nm,1.4s									
BLG	Laguna Peak, P	25.78	318	P	P	19 39 41.0	+2.6			
	baz=128									
LRMC	Laurel Mtn Rad	25.81	322	P	P	19 39 41.6	+2.8			
	baz=133,SNR=11									
OSI	Osito Audit: C	25.88	319	eP	P	19 39 43.2	+3.9			
	194nm,2.0s									
SDDR	Presa de Saban	25.91	80	eP	P	19 39 39.7	0.0			
	45nm,1.4s									
SCIA	State Center	25.97	9	eP	P	19 39 39.0	-0.9			
	19nm,1.0s									
SFIN	Lafayette	25.97	20	eP	P	19 39 41.3	+1.4			
	9.5nm,0.7s									
MPMC	Manual Prospec	26.10	323	P	P	19 39 43.6	+2.1			
	baz=134,SNR=9.2									
ROSC	El Rosal	26.14	113	eP	P	19 39 42.9	+0.8			
	12nm,1.1s									
PRAC	Prado	26.18	116	eP	P	19 39 43.0	+0.8			
	11nm,0.8s									
BLA	Blacksburg	26.23	34	eP	P	19 39 43.6	+1.2			
	13nm,0.8s									
L38A	Oak Wood Farm,	26.23	9	P	P	19 39 42.6	+0.3			
	baz=191									
DAC	Darwin (Calif)	26.31	323	eP	P	19 39 46.2	+2.8			
	37nm,1.6s									
MPU	Maple Canyon	26.38	337	eP	P	19 39 43.5	-0.5			
	16nm,1.2s									
ISA	Isabella, Lake	26.41	321	P	P	19 39 46.9	+2.7			
	baz=132,SNR=7.0									
ISA	Isabella, Lake	26.41	321	eP	P	19 39 46.8	+2.7			
	80nm,1.8s									
NLU	North Lily Min	26.50	336	eP	P	19 39 47.6	+2.6			
	52nm,1.6s									
RWWY	Rawlins	26.50	345	eP	P	19 39 46.3	+1.2			
	62nm,1.5s									
BAKC	Calstate	26.59	320	ePcP	PcP	19 43 07.5	-2.3			
L41A	Preston	26.62	13	P	P	19 39 45.6	-0.3			
	baz=197									
CWC	Cottonwood Cre	26.71	323	P	P	19 39 48.1	+1.2			
	baz=133									
R11A	Troy Canyon, C	26.76	329	P	P	19 39 50.0	+2.7			
	baz=140,SNR=13									
R11A	Troy Canyon, C	26.76	329	eP	P	19 39 50.9	+3.5			
	24nm,1.4s									
RUSC	La Rusia	26.78	110	eP	P	19 39 47.8	-0.3			
	17nm,1.8s									
JLU	Joanelle	26.82	337	eP	P	19 39 49.8	+1.8			
	34nm,2.0s									
VES	Vestal, Richgr	26.90	320	P	P	19 39 51.5	+3.0			
	baz=131,SNR=9.2									
DUG	Dugway, Tooele	27.00	335	eP	P	19 39 49.8	+0.3			
	46nm,1.8s									
CTU	Camp Tracy	27.02	337	eP	P	19 39 50.7	+1.1			
	9.7nm,1.2s									
CARC	Carrizo Plain	27.03	319	ePcP	PcP	19 43 11.3	+0.4			
K40A	Colesburg	27.09	12	P	P	19 39 49.3	-0.8			
	baz=195									
TCUT	Toone Canyon	27.26	338	eP	P	19 39 53.4	+1.5			
	131nm,1.9s									
J37A	Redenius Farm,	27.30	8	P	P	19 39 51.0	-0.9			
	baz=190									
ACSO	Alum Creek Sta	27.39	26	eP	P	19 39 54.0	+1.2			
	18nm,1.1s									
ECSD	EROS Data Cent	27.45	3	eP	P	19 39 53.9	+0.5			
	15nm,1.3s									
JFWS	Jewell Farm	27.48	13	eP	P	19 39 53.3	-0.3			
	69nm,1.9s									
PAGB	Antelope Grade	27.56	319	eP	P	19 39 56.3	+1.9			
	78nm,1.8s									
BGU	Big Grassy Mou	27.71	336	eP	P	19 39 57.1	+1.3			
	43nm,1.7s									
HWUT	Hardware Ranch	27.75	338	eP	P	19 39 57.7	+1.5			
	7.7nm,0.9s									
SDV	Santo Domingo	27.97	102	P	P	19 39 57.3	-1.2			
	2.2nm,0.6s,baz=205,slow=17,SNR=2.0									
SDV	Santo Domingo	27.97	102	eP	P	19 39 56.3	-2.2			
	7.8nm,0.7s									
IP07	Quail	28.05	36	eP	P	19 39 57.3	-1.4			
	17nm,1.3s									
URVA	University of	28.09	37	eP	P	19 39 58.9	-0.1			
MDPB	Devils Postpil	28.11	323	eP	P	19 39 59.0	-0.6			
IP05	Hopewell Churc	28.14	36	eP	P	19 40 00.1	+0.6			
	11nm,1.1s									
BW06	Boulder Array	28.14	342	P	P	19 40 02.0	+2.2			
	baz=156,SNR=7.2									
BW06	Boulder Array	28.14	342	eP	P	19 40 01.3	+1.6			
	38nm,1.5s									
PD31	Pinedale Array	28.14	342	eP	P	19 40 01.9	+2.1			
PDAR	Pinedale Array	28.14	342	P	P	19 40 01.4	+1.7			
	4.0nm,0.9s,baz=137,slow=9.3,SNR=11									
PDAR	Pinedale Array	28.14	342	eP	P	19 40 02.0	+2.2			
NV11	Mina Array Sit	28.16	326	eP	P	19 40 03.0	+3.1			
	3.0nm,1.5s									
PMPB	Monarch Peak	28.21	319	eP	P	19 40 00.9	+0.7			
	84nm,1.8s									
RSSD	Black Hills	28.22	351	eP	P	19 39 59.8	-0.6			
	22nm,1.6s									
NV01	Mina Array Sit	28.23	325	eP	P	19 40 00.8	+0.2			
NVAR	Mina Array Bea	28.23	325	P	P	19 40 01.0	+0.4			
	10nm,1.1s,baz=144,slow=6.4,SNR=18									
HVU	Hansel Valley	28.34	337	eP	P	19 40 02.9	+1.4			
	54nm,2.0s									
RYN	Ryan	28.50	325	eP	P	19 40 05.0	+2.1			
	25nm,1.6s									
KVN	Kissimmee	28.58	327	eP	P	19 40 06.2	+2.6			
	34nm,1.6s									
AHID	Auburn Hatcher	28.62	340	eP	P	19 40 05.5	+1.5			
	33nm,1.8s									
AAM	Ann Arbor	28.87	23	eP	P	19 40 07.0	+1.1			
	14nm,0.8s									
WAKR	Walker	28.91	324	eP	P	19 40 09.6	+2.9			
	28nm,1.5s									
SAO	San Andreas Ge	28.96	319	eP	P	19 40 07.6	+0.8			
	15nm,1.6s									
REDW	Red Top Meadow	29.08	341	eP	P	19 40 08.3	+0.2			
	35nm,1.6s									
SNOW	Snow King Moun	29.14	341	eP	P	19 40 10.2	+1.6			
	16nm,0.4s									
CMB	Columbia Colle	29.14	322	eP	P	19 40 08.7	+0.2			
	13nm,1.4s									
YERR	Yerington	29.14	325	eP	P	19 40 09.6	+0.9			
	20nm,1.4s									
TPAW	Teton Pass	29.22	341	eP	P	19 40 10.2	+0.8			
	54nm,2.0s									
LOHW	Long Hollow	29.23	342	eP	P	19 40 09.4	0.0			
	29nm,1.5s									
SPMN	Marine on St.	29.28	8	eP	P	19 40 07.8	-1.7			
	7.7nm,1.0s									
N54A	Moraine State	29.31	29	eP	P	19 40 09.3	-0.6			
	58nm,2.0s									
FXWY	Fox Creek	29.38	341	eP	P	19 40 10.9	+0.1			
	5.2nm,1.0s									
MOOW	Moose Ponds	29.39	341	eP	P	19 40 11.3	+0.4			
	8.7nm,1.4s									
O56A	Blue Knob Stat	29.47	32	eP	P	19 40 10.6	-0.8			
	14nm,1.3s									
RDG13	Poverty Ridge	29.56	320	eP	P	19 40 13.2	+0.9			
	27nm,1.4s									
IMW	Indian Meadow	29.59	341	eP	P	19 40 13.3	+0.6			
	35nm,2.0s									
VCNR	Virginia City	29.59	325	eP	P	19 40 12.5	-0.2			
	30nm,1.6s									
RUBR	Rubicon Trail	29.70	324	eP	P	19 40 15.8	+2.1			
	153nm,1.9s									
PAHR	Pah Rah Range	29.74	326	eP	P	19 40 16.1	+2.2			
	15nm,1.5s									
SDMD	Soldier's Deli	29.76	35	eP	P	19 40 12.0	-1.9			
	6.6nm,1.2s									
ALLY	Alegheny Colle	29.79	28	eP	P	19 40 13.8	-0.3			
	12nm,0.6s									
MPR	Mayaguez	29.84	82	eP	P	19 40 13.2	-1.6			
	37nm,1.2s									
H17A	Grant Village	29.93	342	eP	P	19 40 15.6	-0.1			
	9.3nm,1.1s									
BABR	Babbit Peak	30.05	325	eP	P	19 40 13.8	-3.1			
BABR				ePcP	PcP	19 43 20.5	+1.8			
AFDM	Forest Hills D	30.09	323	eP	P	19 40 18.4	+1.5			
	8.9nm,1.4s									
RLMT	Red Lodge	30.24	345	P	P	19 40 21.4	+3.0			
	baz=158									
RLMT	Red Lodge	30.24	345	eP	P	19 40 18.9	+0.6			
	32nm,1.5s									
YNR	Norris Junctio	30.25	342	eP	P	19 40 21.4	+2.9			
	15nm,1.6s									
YMR	Madison River	30.30	342	eP	P	19 40 22.3	+3.5			
	25nm,1.6s									
YHH	Holmes Hill	30.37	342	eP	P	19 40 22.8	+3.2			
	22nm,1.9s									
BEKR	Beckworth	30.38	325	eP	P	19 40 21.8	+2.1			
	12nm,1.3s									
YHB	Horse Butte	30.44	342	eP	P	19 40 24.0	+3.9			
	4.1nm,0.9s									
MVL	Millersville	30.44	35	eP	P	19 40 17.1	-2.8			
	11nm,1.3s									
HLID	Hailey	30.49	337	P	P	19 40 22.3	+1.8			
	baz=148									
HLID	Hailey	30.49	337	eP	P	19 40 21.6	+1.0			
	17nm,1.8s									
QLMT	Earthquake Lak	30.58	342	eP	P	19 40 22.2	+0.8			
E39A	Mellen	30.75	11	P	P	19 40 24.1	+1.5			
	baz=194									
COWI	Conover	30.76	13	eP	P	19 40 21.6	-1.1			
	9.3nm,1.1s									
ORV	Oroville	30.80	324	eP	P	19 40 26.1	+2.9			
	29nm,1.5s									
MFID	Camas Ranch	30.93	335	eP	P	19 40 26.8	+2.5			
	21nm,1.4s									
GCMT	Greycliff	30.97	344	eP	P	19 40 25.0	+0.3			
MCMT	McKenzie Canyo	31.03	340	eP	P	19 40 26.5	+1.1			
BOZ	Bozeman (W)	31.34	342	eP	P	19 40 29.6	+1.7			
	10nm,0.7s									
MTP	Monte Pirata	31.35	82	eP	P	19 40 27.8	-0.4			
	20nm,0.8s									
WVOR	Wild Horse Val	31.39	330	eP	P	19 40 30.6	+2.2			
	29nm,1.4s									
DLMT	Dillon	31.42	341	eP	P	19 40 30.2	+1.5			
	18nm,1.3s									
LRM	Limekiln Ridge	31.79	341	eP	P	19 40 32.0	0.0			
MOD	Modoc Plateau	31.81	328	eP	P	19 40 34.0	+1.8			
	45nm,1.6s									
C37A	Embarrass	31.82	8	P	P	19 40 33.9	+1.9			
	baz=191									
BRNJ	Basking Ridge	31.90	35	eP	P	19 40 31.4	-1.3			
	29nm,1.4s									
J08A	Circle Bar Ran	32.03	332	eP	P	19 40 36.2	+2.2			
	29nm,1.3s									
EYMN	Ely	32.13	9	P	P	19 40 35.8	+1.1			
	baz=192									
EYMN	Ely	32.13	9	eP	P	19 40 35.1	+0.4			
	12nm,1.4s									
B35A	Bob, Littlefor	32.27	6	P	P	19 40 38.3	+2.4			
	baz=188									
M04C	Macdoel	32.52	326	P	P	19 40 41.3	+2.9			
	baz=134									
BMO	Blue Mountains	32.71	335	eP	P	19 40 41.6	+1.6			
	35nm,1.9s									
MSO	Missoula	33.16	340	P	P	19 40 46.8	+3.0			
	baz=152									
KTRM	Thompson Ridge	33.44	325	eP	P	19 40 51.9	+5.4			
F10A	Beach Ranch, E	33.60	336	eP	P	19 40 49.8	+2.1			
	45nm,1.5s									
G08A	Pilot Rock	33.76	333	eP	P	19 40 49.4	+0.3			
	12nm,1.1s									
ULM	Lac du Bonnet	33.99	3	P	P	19 40 52.5	+1.6			
	1.4nm,0.4s,baz=186,slow=11,SNR=4.0									
ULM	Lac du Bonnet	33.99	3	eP	P	19 40 49.9	-1.1			
	11nm,1.3s									
ACCN	Adirondack Com	34.25	33	eP	P	19 40 51.2	-2.0			
	34nm,1.8s									
F07A	Phinny Hill Vi	34.66	333	eP	P	19 40 57.5	+0.7			
	18nm,1.1s									
GULW	Guler Mountain	35.42	332	epP	pP	19 41 07.7	-1.4			
GULW				ePcP	PcP	19 43 34.1	+1.0			
C09A	Chrisman Ranch	35.52	337	eP	P	19 41 05.6	+1.4			
	13nm,0.9s									
LTY	Liberty	36.04	334	eP	P	19 41 11.6	+2.8			
	72nm,1.6s									
BEVT	Boeing Everett	37.24	333	eP	P	19 41 17.6	-1.3			
B05A	Bryant	37.43	334	P	P	19 41 23.2	+2.7			
	baz=140									
FFC	Flin Flon	38.52	357	eP	P	19 41 31.4	+1.8			
	12nm,1.0s									
EDM	Edmonton	38.76	346	eP	P	19 41 31.0	-0.6			
	12nm,0.6s									
FCC	Fort Churchill	42.58	3	eP	P	19 42 03.2	+0.2			
	23nm,1.2s									
YKA	Yellowknife Ar	47.61	350	P	P	19 42 42.2	-0.8			
	1.6nm,0.7s,baz=158,slow=7.2,SNR=10									
YKB5	Yellowknife Ar	47.61	350	eP	P	19 42 42.9	-0.1			
HYT	Haines Junctio	52.63	337	eP	P	19 43 24.2	+2.9			
	37nm,1.6s									
INK	Inuvik	56.65	345	P	P	19 43 49.6	-0.5			
	2.4nm,0.8s,baz=133,slow=7.4,SNR=4.6									
INK	Inuvik	56.65	345	eP	P	19 43 51.7	+1.6			
	13nm,1.4s									
CPUP	Villa Florida	58.12	136	P	P	19 43 56.4	-4.8			
	1.0nm,0.8s,baz=253,slow=20,SNR=3.0									
CPUP	Villa Florida	58.12	136	eP	P	19 43 57.3	-3.8			
	16nm,1.8s									
I

MYLDM	Lahad Datu	3.27	10	⇓P		Pn	19 44 21.4	+2.4
MYLDM	Lahad Datu	3.27	10	*e*Pn		Pn	19 44 19.0	0.0
BKB	Balikpapan	3.34	198	P		Pn	19 44 16.1	-3.9
BKB				S		Sn	19 45 12.0	+14
SDKM	Sandakan	3.74	349	⇓P		Pn	19 44 25.4	-0.2
MTKI	Muara Teweh, K	4.16	226	P		Pn	19 44 30.3	-1.0
MRSI	Marisa	4.29	110	P		Pn	19 44 31.0	-2.1
MRSI				S		Sn	19 45 19.8	-2.1
KKM	Kota Kinabalu	4.41	338	⇓P		Pn	19 44 34.0	-0.8
KKM	Kota Kinabalu	4.41	338	*e*Pn		Pn	19 44 33.3	-1.5
APSI	Ampana	4.70	127	P		Pn	19 44 36.3	-2.4
TTSI	Tana Toraja 126nm,0.6s,0.7nm	5.31	159	P		Pn	19 44 43.7	-3.4
KBKI	Kotabaru	5.49	198	P		Pn	19 44 49.9	+0.3
LUWI	Luwuk 243nm,0.9s,2.4nm	5.70	121	P		Pn	19 44 50.1	-2.3
LUWI	Luwuk	5.70	121	*e*Pn		Pn	19 44 52.3	-0.2
SBUM	Sibu	5.71	275	⇓P		Pn	19 44 52.8	+0.3
SBUM	Sibu	5.71	275	*e*Pn		Pn	19 44 52.3	-0.2
SBUM				*e*Sn		Sn	19 45 55.5	-1.4
KMSI	Cibinong 93nm,0.9s,1.2nm	6.22	103	P		Pn	19 44 58.0	-1.7
BNSI	Bone	6.67	161	P		Pn	19 45 04.3	-1.6
KAPI	Kappang	7.15	165	*e*Pn		Pn	19 45 14.6	+2.1
KSM	Kuching	7.61	267	*e*Pn		Pn	19 45 18.9	+0.1
TNTI	Ternate	9.53	97	*e*Pn		Pn	19 45 43.6	-1.4
SOEI	Soe	13.24	152	*e*Pn		Pn	19 46 37.0	+1.0
CISI	Cisompet, Garu	13.80	227	*e*Pn		Pn	19 46 43.5	-0.1
MYKOM	Kota Tinggi	14.05	270	*e*Pn		Pn	19 46 47.4	+0.4
FAKI	Fak Fak 21nm,1.0s	15.13	109	*e*Pn		Pn	19 47 00.3	-1.3
BKNI	Bangkinang 94nm,1.2s	16.94	265	*e*Pn		Pn	19 47 25.1	+0.3
IPM	Ipoh	17.04	279	⇓P		P	19 47 27.1	-0.4
IPM	Ipoh 62nm,1.5s	17.04	279	*e*Pn		Pn	19 47 26.0	0.0
KULM	Kulim 24nm,1.2s	17.54	281	*e*Pn		Pn	19 47 32.1	0.0
SKLT	Songkhla 2µm,3.1s	17.99	287	P		P	19 47 38.7	+0.7
PSI	Prapat 42nm,1.5s	18.98	273	*e*P		P	19 47 49.0	-0.1
TRTT	Trang 410nm,1.9s	19.06	289	P		Pn	19 47 51.9	+1.1
MTN	Manton Dam 71nm,1.4s	19.70	139	*e*P		Pn	19 47 58.6	+0.2
SURT	Suratani 514nm,1.9s	20.25	291	P		P	19 48 03.5	+0.7
SKNT	Sakolnakorn 161nm,0.9s	20.26	318	P		P	19 48 02.1	-0.8
GSI	Gunungsitoli 149nm,1.6s	20.33	269	*e*P		P	19 48 03.6	-0.1
NAYO	Nakonayok	20.48	308	P		P	19 48 06.2	+0.9
TWG	Pinlang 309nm,1.7s	20.98	8	*e*P		P	19 48 08.2	-2.4
LHMI	Lhok Sumawe 114nm,1.0s	21.17	279	*e*P		P	19 48 12.9	+0.2
FITZ	Fitzroy Crossi 2.7nm,0.8s,baz=1.7,slow=13,SNR=3.8	21.32	159	P		P	19 48 12.6	-1.7
FITZ	Fitzroy Crossi	21.32	159	*e*P		P	19 48 14.7	+0.4
TPUB	Ta-pu 142nm,1.8s	21.39	7	*e*P		P	19 48 14.8	-0.2
CM01	Chiang Mai Arr	24.77	313	*e*P		P	19 48 46.6	-2.3
CM31	Chiang Mai Arr	24.80	313	*e*P		P	19 48 46.1	-3.2
CMAR	Chiang Mai Arr 0.1nm,0.4s,baz=153,slow=8.0,SNR=3.1	24.80	313	P		P	19 48 46.7	-2.5
CHTO	Chiang Mai 5.7nm,1.6s	25.03	313	*e*P		P	19 48 48.8	-2.5
WR1	Warramunga Arr 19nm,1.3s	27.08	144	*e*P		P	19 49 09.8	0.0
WRA	Warramunga Arr 6.0nm,0.9s,baz=333,slow=9.4,SNR=19	27.08	144	P		P	19 49 09.8	0.0
KMI	Kunming KMI	27.30	329	P pmax	pmax	P	19 49 11.6	-0.4
GUMO	comp=Z,7.0nm,0.9s Guam 272nm,1.3s	29.07	65	*e*P		P	19 49 28.3	+0.7
ENH	Enshi 12nm,1.3s	29.28	345	*e*P		P	19 49 28.8	-0.6
AS31	Alice Springs 1.6nm,1.1s	29.84	149	*e*P		P	19 49 37.1	+2.7
ASAR	Alice Springs 1.3nm,0.7s,baz=322,slow=8.1,SNR=13 ASAR	29.84	149	P PcP		PcP	19 52 38.5	+1.2
AS01	1.2nm,0.5s,baz=330,slow=2.6,SNR=11 Alice Springs	29.86	149	*e*P		P	19 49 36.4	+1.7
NJ2	Nanjing NJ2	29.96	2	*e*P pmax	pmax	P	19 49 35.0	-0.3
ANA2	comp=Z,7.0nm,0.7s Anatahan	30.89	61	*e*P		P	19 49 44.3	+0.6
CD2	Chengdu CD2	31.77	336	*e*P pmax	pmax	P	19 49 52.0	+0.6
NWAO	comp=Z,10.0nm,0.5s Narrogin (SRO) 97nm,1.6s	34.69	181	*e*P		P	19 50 19.5	+2.7
INCN	Inchon 119nm,1.9s	36.27	12	*e*P		P	19 50 30.4	+0.1
LZH	Lanzhou LZH	36.38	341	*e*P pP		P pP	19 50 32.5 19 50 38.0	+1.0 -3.7
LZH				sP		sP	19 50 40.6	-5.3
LZH	comp=Z,23nm,1.0s			pmax	pmax			
LZH	comp=Z,78nm,4.9s			pmax	pmax			
LZH	comp=N,380nm,13.2s			LR	LR			
LZH	comp=E,350nm,13.5s			LR	LR			
LZH	comp=Z,440nm,16.7s			LR	LR			
KS15	Wonju Array Si	36.50	13	*e*P		P	19 50 33.8	+1.6
JHJ2	Mitsune 1µm,1.4s	37.20	31	*e*P		P	19 50 37.3	-0.9
LSA	Lhasa 15nm,1.8s	37.53	320	*e*P		P	19 50 42.2	+0.5
INU	Inuyama 116nm,2.0s	37.68	26	*e*P		P	19 50 41.4	-0.9
BJT	Baijiatuan 8.6nm,0.5s	37.93	358	*e*P		P	19 50 44.4	+0.1
ODAN	Odare	38.34	313	*e*P		P	19 50 49.0	+0.7
TAPN	Taplejung	38.40	314	*e*P		P	19 50 49.7	+0.8
BBOO	Buckleboo 126nm,1.8s	38.59	155	*e*P		P	19 50 53.7	+3.6
RAMN	Ramite	38.98	312	*e*P		P	19 50 54.8	+1.1
HHC	Hu-ho-hao-te	39.15	352	*e*P		P	19 50 57.3	+2.6
JIRN	Jiri	39.68	313	*e*P		P	19 51 00.4	+0.8
GUN	Gumba	40.04	313	*e*P		P	19 51 03.5	+0.8
PKI	Pulchoki	40.20	312	*e*P		P	19 51 04.0	0.0
KKN	Kakani	40.42	313	*e*P		P	19 51 06.1	+0.5
DMN	Daman	40.45	312	*e*P		P	19 51 06.2	+0.3
STKA	Stephens Creek 10nm,0.7s,baz=316,slow=8.4,SNR=13	40.45	148	P		P	19 51 05.9	+0.3
STKA	Stephens Creek 3.8nm,0.9s	40.45	148	*e*P		P	19 51 06.5	+0.9
PATS	Pohnpei 280nm,1.3s	40.56	82	*e*P		P	19 51 06.2	-0.5
GKN	Gorkha 34nm,1.2s	41.01	312	*e*P		P	19 51 11.4	+1.0
KOLN	Koldanda 25nm,1.2s	41.66	311	*e*P		P	19 51 16.1	+0.3
DANN	Dangsing 2.9nm,1.0s	41.84	312	*e*P		P	19 51 18.2	+0.7
CN2	Changchun CN2	42.21	8	*e*P pmax	pmax	P	19 51 22.6	+2.8
PYUN	comp=Z,10.0nm,0.6s Piuthan 58nm,1.1s	42.29	311	*e*P		P	19 51 21.6	+0.6
HNR	Honiara 96nm,1.3s	43.38	106	*e*P		P	19 51 31.2	+1.5
MDJ	Mudanjiang 34nm,1.8s	43.73	12	*e*P		P	19 51 31.6	-0.5
SONA0	Songino Array	46.79	349	*e*P		P	19 51 55.7	-0.8
SONM	Songino Array 1.0nm,0.8s,baz=158,slow=8.4,SNR=6.1	46.79	349	P		P	19 51 55.7	-0.8
SONA1	Songino Array	46.80	349	*e*P		P	19 51 55.0	-1.6
CAN	Canberra 17nm,0.8s	47.12	145	*e*P		P	19 52 01.5	+2.3
WMQ	Urumqi WMQ	49.58	331	P pP		P pP	19 52 19.5 19 52 24.8	+1.5 -3.7
WMQ	comp=Z,30nm,0.7s			pmax	pmax			
KDJ	Kajisay 6.7nm,0.9s	54.13	323	*e*P		P	19 52 52.8	+0.6
MK01	Makanchi Array	54.34	330	*e*P		P	19 52 52.8	-0.6
MK31	Makanchi Array	54.36	331	*e*P		P	19 52 53.1	-0.4
MK32	Makanchi Array	54.36	331	*e*P		P	19 52 53.0	-0.5
MKAR	Makanchi Array 0.4nm,0.4s,baz=130,slow=8.5,SNR=8.3	54.36	331	P		P	19 52 53.0	-0.5
MKAR	Makanchi Array 9.7nm,1.0s	54.36	331	*e*P		P	19 52 53.2	-0.3
MAKZ	Makanchi 12nm,1.8s	54.52	330	*e*P		P	19 52 54.0	-0.7
KBL	Kabul 7.9nm,0.8s	55.82	311	*e*P		P	19 53 04.2	-0.4
AAK	Ala-Archa 7.6nm,1.5s	56.05	322	*e*P		P	19 53 05.6	-0.4
ZAA0	Zalesovo Array 13nm,1.5s	58.52	338	*e*P		P	19 53 22.3	-0.7
ZALV	Zalesovo Beam 1.4nm,0.7s,baz=127,slow=3.9,SNR=6.7	58.52	338	P		P	19 53 22.5	-0.5
ZALV	Zalesovo Beam	58.52	338	*e*P		P	19 53 21.9	-1.1
ZAA1	Zalesovo Array	58.53	338	*e*P		P	19 53 22.5	-0.5
KK31	Karatay Array	58.77	321	*e*P		P	19 53 22.3	-2.7
KKAR	Karatay Array	58.77	321	*e*P		P	19 53 23.5	-1.5
KURBB	Kurchatov Arra 3.6nm,1.1s,baz=137,slow=6.3,SNR=15	58.80	332	P		P	19 53 24.6	-0.4
KURK	Kurchatov	58.82	332	*e*P		P	19 53 24.6	-0.5
YAK	Yakutsk 5.9nm,0.5s	60.59	6	*e*P		P	19 53 36.6	-0.5
PETK	Petropavlovsk- 2.4nm,0.8s,baz=170,slow=8.8,SNR=2.5	60.67	26	P		P	19 53 38.9	+1.0
PEA1	Petropavlovsk-	60.67	26	*e*P		P	19 53 38.9	+1.0
BVAR	Borovoye Array 3.2nm,0.8s,baz=128,slow=9.3,SNR=19	64.24	330	P		P	19 54 02.0	+0.3
BVAR	Borovoye Array	64.24	330	P		P	19 54 02.0	+0.3
PYZ	Puysegur Point 534nm,1.8s	64.31	145	*e*P		P	19 54 03.2	+0.9
BRVK	Borovoye 10nm,1.1s	64.31	330	*e*P		P	19 54 01.9	-0.3
GEYT	Alibeck 5.1nm,1.0s,baz=144,slow=3.3,SNR=13	65.27	311	P		P	19 54 09.3	+0.5
RPZ	Rata Peaks 94nm,1.6s	65.70	140	*e*P		P	19 54 12.3	+0.8
AB31	Akbulak array	68.11	323	*e*P		P	19 54 25.7	-0.9
ABKAR	Akbulak array 63nm,1.7s	68.11	323	*e*P		P	19 54 26.3	-0.3
AKTO	Aktyubinsk 1.3nm,0.6s,baz=135,slow=7.2,SNR=5.3	69.72	324	P		P	19 54 35.9	-0.7
ARU	Arti 7.4nm,1.1s	71.87	330	*e*P		P	19 54 48.9	-0.7
AKH	Akhalkalaki 8.5nm,1.3s	77.04	312	*e*P		P	19 55 21.8	+1.6
KBZ	Khabaz 1.1nm,0.9s,baz=249,slow=2.8,SNR=4.4	77.84	314	P		P	19 55 23.1	-1.2
KIP	Kipapa 145nm,1.4s	83.78	69	*e*P		P	19 55 54.9	-1.7
BR101	Keskin Array S	84.35	310	*e*P		P	19 55 58.2	-1.1
BR131	Keskin Array S	84.35	310	*e*P		P	19 55 57.5	-1.8
BRTR	Keskin Array B 1.6nm,0.9s,baz=115,slow=5.6,SNR=7.6	84.35	310	P		P	19 55 58.2	-1.1
ANTO	Ankara 16nm,1.4s	85.01	310	*e*P		P	19 56 01.4	-1.2
BR231	Keskin MP Arra	85.02	310	*e*P		P	19 55 59.5	-3.1
MWC	Mount Wilson	116.40	50	*e*PKPdf		PKPdf	20 02 10.6	-0.6

*ISCJB **20** 19:53:35.8±0.7, 24°.39N±0°.09×122°.73E±0°.02, h78km±7km, Error ellipse: s-maj=15.8km s-min=3.4km az=4.7*
*JMA **20** 19:53:35.7±0.1, 24°.36N×122°.71E, h79km±1km, M2.3*
*TAP **20** 19:53:36.7, 24°.33N×122°.69E, h67km±1km, ML3.0, D*

ISC 20 19:53:36.1±1.5, 24°.4N±0°.1×122°.73E±0°.03, h78km±11km, n18, σ0s65/34, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.21	77	P	P		Pn	19 53 47.5	-0.1
JYNG				S	S		Sn	19 53 56.2	0.0
YOJ	Yonaguni jima	0.27	78	P	P		Pn	19 53 47.8	-0.1
YOJ				S	*e*S		Sn	19 53 56.5	-0.2
EOS1	EOS1 baz=293	0.56	285	*e*P	P		Pn	19 53 50.4	+0.2
EOS1				S	*e*S		Sn	19 54 01.3	+0.7
TWC	Suao baz=290	0.82	284	P	P		Pn	19 53 52.9	0.0
TWC				S	S		Sn	19 54 05.2	-0.3
ENA	Nanau baz=276	0.90	272	P	P		Pn	19 53 54.0	+0.2
ENA				S	*e*S		Sn	19 54 06.6	-0.4
IRIF	Iriomote-Funau	0.92	94	P	P		Pn	19 53 54.0	0.0
IRIF				S	S		Sn	19 54 07.8	+0.4
TIPB	Shuangxi baz=309	0.99	305	*e*P	P		Pn	19 53 54.2	-0.8
TIPB				S	*e*S		Sn	19 54 08.2	-0.9
TWE	Neicheng baz=293	1.01	288	P	P		Pn	19 53 55.6	+0.4
TWE				S	*e*S		Sn	19 54 09.6	+0.2
HATJ	Hateruma jima baz=292	1.04	109	P	P		Pn	19 53 55.8	+0.3
HATJ				S	S		Sn	19 54 10.3	+0.2
TWD	Chiawan baz=256	1.08	253	*e*S	*e*S		Sn	19 54 10.0	-0.9
ENTT	Nioudou baz=287	1.08	283	*e*P	P		Pn	19 53 56.7	+0.7
ENTT				S	*e*S		Sn	19 54 11.7	+0.8
NWLT	Wulai baz=292	1.17	289	*e*S	*e*S		Sn	19 54 14.7	+1.7
JKRS	Kuro-shima	1.18	98	P	P		Pn	19 53 57.4	+0.2
JKRS				S	*e*S		Sn	19 54 14.2	+1.1
NNS	Nan Shan baz=275	1.23	272	*e*P	P		Pn	19 53 58.4	+0.3
NNS				S	*e*S		Sn	19 54 13.9	-0.6
JIJ	Ishigaki jima	1.29	92	P	P		Pn	19 53 58.4	-0.2
JIJ				S	*e*S		Sn	19 54 14.5	-1.1
WHF	Hehuan Shan baz=261	1.36	259	*e*P	P		Pn	19 53 60.0	+0.1
WHF				S	*e*S		Sn	19 54 16.4	-1.4
JISG	Ishigakijimahi	1.46	83	P	P		Pn	19 54 00.5	-0.2
JISG				S	*e*S		Sn	19 54 19.0	-0.3
JTJ	Tarama	1.82	82	P	P		Pn	19 54 05.6	+0.2
JTJ				S	*e*S		Sn	19 54 27.9	+0.1

*TIF **20** 20:03:11.7, 43°.69N×45°.56E, h17km±2km*
*ISCJB **20** 20:03:14.2±0.6, 43°.68N±0°.03×45°.61E±0°.02, h17km±4km, Error ellipse: s-maj=5.4km s-min=2.8km az=15.4*
*CSEM **20** 20:03:14.7±0.3, 43°.63N×45°.58E, h20km, mb4.1/1, Error ellipse: s-maj=5.8km s-min=3.4km az=12.0*
*MOS **20** 20:03:14.8±1.0, 43°.57N×45°.51E, h19km, mb4.1/1, Error ellipse: s-maj=6.8km s-min=5.3km az=119.5*

ISC 20 20:03:14.7±1.0, 43°.61N±0°.03×45°.59E±0°.02, h26km±10km, n78, σ1s48/131, 15C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GROC	Groznyy	0.44	159	⇓*i*PG			Pb	20 03 22.6	-1.3
GROC				*e*S			Sb	20 03 30.6	+0.5
GROC	Groznyy	0.44	159	*i* Pg			Pb	20 03 22.6	-1.3
GROC				*e*Sg			Sb	20 03 30.6	+0.5
TRKR	Terskaya	0.63	281	⇓*i*PG			Pb	20 03 26.4	-0.7
TRKR				*i* S			Sn	20 03 36.8	-0.4
TRKR	Terskaya	0.63	281	*i* Pg			Pb	20 03 26.4	-0.7
TRKR				*i* Sg			Sn	20 03 36.8	-0.4
KMGR	Komgaron	0.76	224	⇑*i*PG			Pb	20 03 28.8	-0.6
KMGR				*e*S			Sn	20 03 41.3	+0.7
KMGR	Komgaron	0.76	224	*i* Pg			Pb	20 03 28.8	-0.6
KMGR				*e*Sg			Sn	20 03 41.3	+0.7
DVE	Vedeno	0.76	149	⇑*i*PG			Pb	20 03 27.9	-1.5
DVE				*e*S			Sb	20 03 38.5	-1.0
DVE	Vedeno	0.76	149	*i* Pg			Pb	20 03 27.9	-1.5
DVE				*e*Sg			Sb	20 03 38.5	-1.0
VLKR	Vladikavkaz	0.87	230	*e*PG			Pn	20 03 31.5	+0.1
VLKR				*e*S			Sn	20 03 44.4	+1.2
VLKR	Vladikavkaz	0.87	230	*e*Pg			Pn	20 03 31.5	+0.1
VLKR				*e*Sg			Sn	20 03 44.4	+1.2
PRTR	Priterechnaya	0.96	279	⇑*i*PG			Pn	20 03 32.3	-0.2
PRTR				*e*S			Sn	20 03 46.8	+1.6
PRTR	Priterechnaya	0.96	279	*i* Pg			Pn	20 03 32.3	-0.2
PRTR				*e*Sg			Sn	20 03 46.8	+1.6
ARNR	Ardon	1.04	246	⇑*i*PG			Pn	20 03 34.0	+0.3
ARNR				*e*S			Sn	20 03 49.9	+2.5
ARNR	Ardon	1.04	246	*i* Pg			Pn	20 03 34.0	+0.3
ARNR				*e*Sg			Sn	20 03 49.9	+2.5
BTLR	Botlikh	1.05	154	⇑*i*PG			Pn	20 03 32.7	-1.2
BTLR				*i*				20 03 47.0	
BTLR				pmax	pmax				
BTLR	comp=Z,89nm,0.6s			smax	smax				
BTLR	comp=N,432nm,0.4s	1.05	154	*i* Pg			Pn	20 03 32.7	-1.2
BTLR	Botlikh comp=N,89nm,0.6s			*i* Sg			Sb	20 03 47.0	-0.8
DBC	comp=N,432nm,0.4s Dubki	1.08	123	⇓*i*PG			Pn	20 03 34.0	-0.3
DBC				*i* S			Sn	20 03 49.3	+0.8
DBC				pmax	pmax				
DBC	comp=Z,52nm,0.2s Dubki	1.08	123	*i* Pg			Pn	20 03 34.0	-0.3
DBC	comp=Z,52nm,0.2s			*i* Sg			Sn	20 03 49.3	+0.8
STDR	Stavd-Durt	1.13	258	⇑*i*PG			Pb	20 03 35.3	-0.4
STDR				*e*S			Sn	20 03 53.3	+3.6
STDR	Stavd-Durt	1.13	258	*i* Pg			Pb	20 03 35.3	-0.4
LACR	Lac	1.23	231	⇓*i*PG			Pn	20 03 35.8	-0.5
LACR				*e*S			Sb	20 03 52.7	0.0
LACR	Lac	1.23	231	*i* Pg			Pn	20 03 35.8	-0.5
LACR				*e*Sg			Sb	20 03 52.7	0.0
KRNR	Karanay	1.24	129	⇑*i*PG			Pn	20 03 37.0	+0.4
KRNR				*e*S			Sb	20 03 56.8	+3.5
KRNR	comp=Z,78nm,0.2s			pmax	pmax				
KRNR	Karanay comp=Z,78nm,0.2s	1.24	129	*i* Pg			Pn	20 03 37.0	+0.4
UNCR	Uncukul	1.26	135	*e*PG			Pn	20 03 37.3	+0.6
UNCR				*e*S			Sn	20 03 53.7	+0.9
UNCR	comp=Z,143nm,0.2s			pmax	pmax				
UNCR	Uncukul comp=Z,143nm,0.2s	1.26	135	*e*Pg			Pn	20 03 37.3	+0.6
UNCR				*e*Sg			Sn	20 03 53.7	+0.9
LSNR	Lesken	1.32	256	*e*PG			Pb	20 03 38.3	-0.6
LSNR				*e*S			Sb	20 03 57.5	+2.0
LSNR	Lesken	1.32	256	*e*Pg			Pb	20 03 38.3	-0.6
LSNR				*e*Sg			Sb	20 03 57.5	+2.0
XNZR	Khunzakh	1.35	142	⇓*i*PG			Pn	20 03 38.8	+0.8
XNZR				*e*				20 03 57.1	
XNZR	Khunzakh	1.35	142	*i* Pg			Pn	20 03 38.8	+0.8
XNZR				*e*Sg			Sb	20 03 57.1	+0.8
BUJR	Buynaksk	1.36	125	*e*PG			Pb	20 03 40.2	+0.6
BUJR				*e*S			Sb	20 04 00.0	+3.4
BUJR	comp=Z,95nm,0.2s			pmax	pmax				
BUJR	Buynaksk comp=Z,95nm,0.2s	1.36	125	*e*Pg			Pb	20 03 40.2	+0.6
GUDG	Gudauri	1.40	216	P			Pn	20 03 38.8	0.0
GUDG				S			Sn	20 03 56.5	-0.1
GUDG	Gudauri	1.40	216	P			Pn	20 03 38.8	0.0
GUDG				S			Sn	20 03 57.0	+0.4
ARKR	Arakani	1.44	134	*e*PG			Pb	20 03 41.0	0.0
ARKR				*e*S			Sb	20 04 03.0	+4.1
ARKR	comp=Z,60nm,0.2s			pmax	pmax				
ARKR	Arakani comp=Z,60nm,0.2s	1.44	134	*e*Pg			Pb	20 03 41.0	0.0
NCK	Nalchik	1.45	266	⇑*i*PG			Pb	20 03 40.4	-0.7
NCK				*e*S			Sb	20 04 00.7	+1.6
NCK	Nalchik	1.45	266	*i* Pg			Pb	20 03 40.4	-0.7
NCK				*e*Sg			Sb	20 04 00.7	+1.6
ZEI	Tsey	1.48	237	⇑*i*PG			Pn	20 03 39.3	-0.6
ZEI				*e*S			Sn	20 03 59.1	+0.6
MAK	Makhachkala	1.54	114	*e*PG			Pb	20 03 43.1	+0.5
MAK				*e*				20 04 05.9	
MAK				pmax	pmax				
MAK	comp=Z,39nm,0.3s			smax	smax				
MAK	comp=N,563nm,0.3s			smax	smax				
MAK	comp=N,494nm,0.4s	1.54	114	*e*Pg			Pb	20 03 43.1	+0.5
GNBR	Makhachkala comp=N,39nm,0.3s Gunib	1.59	140	*i* PG			Pb	20 03 43.0	-0.4
GNBR				*i*				20 04 04.6	
GNBR				pmax	pmax				
GNBR	comp=E,137nm,0.8s			smax	smax				
GNBR	comp=E,371nm,0.8s								
GNBR	Gunib	1.59	140	*i* Pg			Pb	20 03 43.0	-0.4
GNBR				*i* Sg			Sb	20 04 04.6	+1.6
DIGR	Digorskoe uzhe	1.63	245	*e*PG			Pn	20 03 41.5	-0.4
DIGR				*e*S			Sn	20 04 03.0	+0.9
DIGR	Digorskoe uzhe	1.63	245	*e*Pg			Pn	20 03 41.5	-0.4
DIGR				*e*Sg			Sn	20 04 03.0	+0.9
DUS	Dusheti	1.65	203	P			Pn	20 03 43.3	+1.2
DUS				S			Sb	20 04 06.6	+1.6
DUS	Dusheti	1.65	203	*e*PG			Pn	20 03 43.3	+1.2
DUS				*e*S			Sb	20 04 06.6	+1.6
DUS	Dusheti	1.65	203	*e*Pg			Pn	20 03 43.3	+1.2
DUS				S			Sb	20 04 06.6	+1.6
KMKR	Kumukh	1.85	143	*e*PN			Pb	20 03 47.0	-1.0
KMKR				*e*S			Sb	20 04 12.5	+1.7
KMKR	comp=Z,35nm,0.2s			pmax	pmax				
KMKR	Kumukh comp=Z,35nm,0.2s	1.85	143	*e*Pn			Pb	20 03 47.0	-1.0
ONI	Oni	1.86	238	P			Pn	20 03 46.1	+1.0
ONI				S			Sb	20 04 10.9	-0.2
ONI	Oni	1.86	238	*e*PN			Pn	20 03 46.0	+1.0
ONI				*e*S			Sb	20 04 10.9	-0.2
TBLG	Delisi	1.98	199	P			Pn	20 03 47.5	+0.8
TBLG				S			Sb	20 04 15.2	+0.8
TBLG	Delisi	1.98	199	*e*PN			Pn	20 03 47.4	+0.8
TBLG				*e*S			Sb	20 04 15.1	+0.8
TBLG	Delisi	1.98	199	P			Pn	20 03 47.1	+0.5
TBLG	Delisi	1.98	199	*e*Pn			Pn	20 03 47.4	+0.8
TBLG				S			Sb	20 04 14.1	-0.2
TBLG				*e*Sg			Sb	20 04 15.1	+0.8
BTNK	Botanikuri	2.01	197	P			Pn	20 03 48.1	+1.1
BTNK				S			Sb	20 04 15.9	+0.6
BTNK	Botanikuri	2.01	197	P			Pn	20 03 48.1	+1.1
BTNK				S			Sb	20 04 15.0	-0.2
URKR	Urkarakh	2.09	133	*i* PN			Pn	20 03 50.0	+1.8
URKR	Urkarakh	2.09	133	*i* Pn			Pn	20 03 50.0	+1.8
NEY	Neytrino NEY	2.12	261	*e*PN			Pn	20 03 49.5	+0.9
NEY	comp=Z,347nm,0.6s			pmax	pmax				
NEY	Neytrino comp=Z,347nm,0.6s	2.12	261	*e*Pn			Pn	20 03 49.5	+0.9
KIV	Kislovod

AKTO ⇓Sn **Sn** 20 07 43.5 -6.0
comp=E,1.7nm,0.8s
AKTO Aktyubinsk 10.88 47 Pn **Pn** 20 05 50.8 +2.1
comp=E,2.3nm,1.1s
AB31 Akbulak array 11.40 55 Pn **Pn** 20 05 55.2 -0.5
comp=E,0.3nm,0.5s,baz=241,slow=11,SNR=12
AB31 ⇑Sn **Sn** 20 07 55.7 -6.4
comp=E,0.9nm,0.4s,baz=246,slow=24
AB31 Akbulak array 11.40 55 Pn **Pn** 20 05 55.2 -0.5
comp=E,0.3nm,0.5s,baz=241,SNR=12

*IDC **20** 20:13:37.9±6.2, 16°.27N×98°.63W, h0km, mb3.2/3, mb1 3.7/4, mb1mx3.5/46, mbtmp3.4/4, ML4.0/1, Error ellipse: s-maj=135.2km s-min=29.3km az=10.0*
*NEIC **20** 20:13:42.9±0.8, 16°.88N×98°.46W, h10km, mb4.4/5, Error ellipse: s-maj=26.4km s-min=11.8km az=221.0*
*ISCJB **20** 20:13:44.4±1.1, 16°.7N±0°.2×98°.54W±0°.07, h39km, mb3.9/8, Error ellipse: s-maj=23.2km s-min=7.8km az=16.9*
ISC 20 20:13:46.2±1.1, 16°.9N±0°.2×98°.57W±0°.09, h39km, n27, σ2s29/31, mb4.0/7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**3.54**	**86**	Pn	**Pn**	**20 14 37.2**	**-1.5**
	12nm,0.3s,baz=255,slow=15,SNR=10						
CMIG				Sn	**Sn**	**20 15 19.8**	**+0.5**
	9.0nm,0.3s,baz=232,slow=19,SNR=3.6						
CMIG	**Matias Romero**	**3.54**	**86**	*e*Pn	**Pn**	20 14 37.2	-1.5
CMIG				*e*Sn	**Sn**	**20 15 19.8**	**+0.5**
JRQG	**Juriquilla Cam**	**4.21**	**335**	*e*Pn	**Pn**	20 14 46.3	-1.8
TX31	**Lajitas Ar. Si**	**13.26**	**340**	*e*Pn	**Pn**	20 16 49.1	-2.9
T25A	**Trinidad**	**20.84**	**347**	*e*P	**P**	20 18 26.1	+1.3
	4.2nm,0.9s						
HWB	**Hans Werner Br**	**23.11**	**318**	*e*PcP	**PcP**	20 22 36.9	0.0
DANC	**Danby, Needles**	**23.23**	**323**	*e*P	**P**	20 18 47.8	-2.2
DANC				*e*sP	**pP**	20 18 56.2	-4.0
TPC	**Twentynine Pal**	**23.25**	**321**	*e*PcP	**PcP**	20 22 39.3	+2.1
GMRC	**Granite Mounta**	**23.49**	**323**	*e*P	**P**	20 18 54.3	+1.6
MTPU	**Mount Pierson**	**24.25**	**333**	*e*P	**P**	20 19 04.6	+4.6
	44nm,1.0s						
SRU	**San Rafael Swe**	**24.50**	**337**	*e*P	**P**	20 19 05.0	+2.9
	4.7nm,1.0s						
MWC	**Mount Wilson**	**24.58**	**318**	*e*P	**P**	20 19 04.4	+1.6
PASC	**Pasadena Art C**	**24.63**	**318**	*e*P	**P**	20 19 05.5	+2.5
MSU	**Marysvale**	**24.64**	**334**	*e*P	**P**	20 19 07.7	+4.2
WASM	**Alta Sierra Ca**	**25.87**	**320**	*e*PcP	**PcP**	20 22 44.6	+1.5
MDPB	**Devils Postpil**	**27.46**	**323**	*e*P	**P**	20 19 28.8	-0.1
NV01	**Mina Array Sit**	**27.58**	**325**	*e*P	**P**	20 19 31.5	+1.5
NVAR	**Mina Array Bea**	**27.58**	**325**	P	**P**	20 19 31.6	+1.7
	0.1nm,0.3s,baz=136,slow=10,SNR=3.4						
NVAR	**Mina Array Bea**	**27.58**	**325**	P	**P**	20 19 31.6	+1.7
VCNR	**Virginia City**	**28.93**	**325**	*e*P	**P**	20 19 44.3	+2.3
	5.4nm,0.6s						
SVTR	**Two Rivers Sch**	**36.03**	**333**	*e*P	**P**	20 20 44.1	+0.4
SVTR				*e*S	**S**	20 26 24.3	+4.4
LPAZ	**La Paz**	**44.57**	**136**	*e*P	**P**	20 21 54.0	-1.4
	10nm,1.0s						
YKA	**Yellowknife Ar**	**46.95**	**350**	P	**P**	20 22 14.2	+1.3
	0.3nm,0.8s,baz=158,slow=7.3,SNR=4.7						
YKA	**Yellowknife Ar**	**46.95**	**350**	P	**P**	20 22 14.2	+1.3
ILAR	**Eielson Array**	**57.76**	**338**	P	**P**	20 23 33.8	+0.7
	0.2nm,0.8s,baz=137,slow=7.0,SNR=3.1						
ILAR	**Eielson Array**	**57.76**	**338**	P	**P**	20 23 33.8	+0.7
ILB	**Eielson Array**	**57.76**	**338**	*e*P	**P**	20 23 34.7	+1.7

*IDC **20** 20:14:35.3±0.6, 16°.30N×98°.14W, h0km, mb4.6/22, mb1 4.8/26, mb1mx4.6/50, mbtmp4.6/26, ML4.3/4, Error ellipse: s-maj=16.5km s-min=10.7km az=48.0*
*ISCJB **20** 20:14:38.8±1.1, 16°.53N±0°.03×97°.95W±0°.02, h26km±7km, mb5.0/255, Error ellipse: s-maj=5.1km s-min=2.9km az=15.6*
*BJI **20** 20:14:38.0, 16°.40N×98°.10W, h13km, mB5.4/1, Ms5.2/1, Ms7 4.9/1*
*NEIC **20** 20:14:40.0±1.2, 16°.48N×97°.99W, h25km±8km, mb5.1/266, MD5.2(MEX), Error ellipse: s-maj=5.1km s-min=2.6km az=205.0*
NEIC Felt at Acatzingo, Huixquilucan and Mexico.
*MEX **20** 20:14:40.7±0.9, 16°.36N×98°.29W, h6km±10km, MD5.2*
ISC 20 20:14:36.6±1.2, 16°.39N±0°.04×98°.19W±0°.03, h7km±7km, n716, σ1s24/728, mb5.1/253, 3C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.22**	**343**	*e*P	**Pg**	**20 14 59.8**	**-0.2**
TLIG				*i* S	**Sg**	**20 15 15.8**	**0.0**
TLIG	**Tlapa**	**1.22**	**343**	*e*P	**Pg**	20 14 59.8	-0.2
TLIG				*i* S	**Sg**	**20 15 15.8**	**0.0**
VHO	**Vista Hermosa**	**1.55**	**64**	*e*P	**Pg**	20 15 06.4	0.0
VHO				*e*S	**Sg**	**20 15 27.3**	**+0.8**
VHO	**Vista Hermosa**	**1.55**	**64**	*e*P	**Pg**	20 15 06.4	0.0
VHO				*e*S	**Sg**	**20 15 27.3**	**+0.8**
HUIG	**Huatulco**	**2.09**	**107**	*e*P	**Pb**	**20 15 15.1**	**+0.2**
HUIG				*i* S	**Sb**	**20 15 40.1**	**-1.0**
HUIG	**Huatulco**	**2.09**	**107**	*e*P	**Pb**	**20 15 15.6**	**+0.7**
HUIG				*i* S	**Sb**	**20 15 41.8**	**+0.7**
CAIG	**El Cayaco**	**2.10**	**288**	*e*P	**Pn**	**20 15 12.7**	**+0.6**
CAIG				*e*S	**Sn**	**20 15 36.3**	**-2.2**
CAIG	**El Cayaco**	**2.10**	**288**	*e*P	**Pn**	**20 15 12.7**	**+0.6**
CAIG				*e*S	**Sn**	**20 15 37.3**	**-1.2**
TPIG	**Tehuac#an**	**2.16**	**21**	*e*P	**Pb**	**20 15 15.7**	**-0.6**
TPIG				*e*S	**Sb**	**20 15 42.0**	**-1.3**
TPIG	**Tehuac#an**	**2.16**	**21**	*e*P	**Pb**	**20 15 15.7**	**-0.6**
TPIG				*i* S	**Sb**	**20 15 43.5**	**+0.2**
PLIG	**Platanillo**	**2.35**	**328**	*e*P	**Pn**	**20 15 17.2**	**+1.4**
PLIG				*i* S	**Sn**	**20 15 44.7**	**-0.3**
PLIG	**Platanillo**	**2.35**	**328**	*e*P	**Pn**	**20 15 17.2**	**+1.4**
PLIG				*i* S	**Sn**	**20 15 45.5**	**+0.6**
YAIG	**Yautepec**	**2.59**	**341**	*e*P	**Pn**	**20 15 21.3**	**+2.1**
YAIG				*e*S	**Sn**	**20 15 51.7**	**+0.7**
YAIG	**Yautepec**	**2.59**	**341**	*e*P	**Pb**	**20 15 21.8**	**-1.7**
YAIG				*e*S	**Sb**	**20 15 55.6**	**-0.2**
ARIG	**Puente Sto Nin**	**2.79**	**313**	*e*P	**Pn**	**20 15 22.9**	**+1.2**
ARIG				*i* S	**Sn**	**20 15 54.7**	**-1.0**
ARIG	**Puente Sto Nin**	**2.79**	**313**	*e*P	**Pn**	**20 15 23.8**	**+2.1**
ARIG				*e*S	**Sb**	**20 15 59.0**	**-2.3**
CMIG	**Matias Romero**	**3.24**	**77**	Pn	**Pn**	**20 15 28.7**	**+0.8**
	61nm,0.3s,baz=248,slow=4.6,SNR=15						
CMIG				Sn	**Sn**	**20 16 08.2**	**+1.4**
	320nm,0.3s,baz=261,slow=5.5,SNR=5.5						
CMIG				Lg	Lg	20 16 18.0	
	312nm,0.3s,baz=254,slow=15,SNR=5.1						
JRQG	**Juriquilla Cam**	**4.79**	**334**	*e*Pn	**Pn**	**20 15 51.6**	**+2.1**
ZAIG	**Zacatecas**	**7.57**	**328**	*e*Pn	**Pn**	**20 16 26.7**	**-1.0**
MYIG	**MØrida**	**9.20**	**59**	*e*Pn	**Pn**	**20 16 46.7**	**-3.1**
TEIG	**Tepich**	**10.15**	**66**	*e*Pn	**Pn**	**20 17 01.0**	**-1.9**
TGUH	**Tegucigalpa,Un**	**10.79**	**101**	*e*Pn	**Pn**	**20 17 12.9**	**+1.4**
833A	**Chaparral WMA,**	**11.93**	**355**	P	**Pn**	**20 17 28.6**	**+1.5**
	baz=173,SNR=14						
SLBS	**Sierra La Lagu**	**13.21**	**305**	*e*Pn	**Pn**	20 17 47.5	+2.7
LPIG	**La Paz**	**13.71**	**306**	Pn	**Pn**	**20 17 54.2**	**+2.7**
	7.6nm,0.3s,baz=45,slow=4.3,SNR=2.2						
LTX	**Lajitas**	**13.83**	**340**	*e*Pn	**Pn**	20 17 54.4	+1.2
TX31	**Lajitas Ar. Si**	**13.83**	**340**	*e*Pn	**Pn**	20 17 53.4	+0.2
TXAR	**Lajitas Array**	**13.83**	**340**	Pn	**Pn**	20 17 54.4	+1.2
	0.0nm,0.3s,baz=164,slow=13,SNR=10.0						
TXAR				Lg	Lg	20 21 57.9	
	0.2nm,0.3s,baz=146,slow=26,SNR=4.1						
JCT	**Junction City**	**14.10**	**354**	P	**Pn**	**20 17 57.8**	**+0.9**
	baz=173,SNR=8.9						
JCT	**Junction City**	**14.10**	**354**	*e*Pn	**Pn**	20 17 58.0	+1.1
JTS	**JuntasAbangare**	**14.23**	**114**	Pn	**Pn**	**20 17 58.7**	**0.0**
	4.6nm,0.3s,baz=324,slow=8.9,SNR=16						
HDC	**Heredia**	**15.10**	**113**	*e*Pn	**Pn**	20 18 11.3	+0.7
WHTX	**Lake Whitney,**	**15.54**	**2**	P	**Pn**	**20 18 15.7**	**-0.6**
	baz=182,SNR=17						
WHTX	**Lake Whitney,**	**15.54**	**2**	*e*Pn	**Pn**	20 18 16.9	+0.6
	228nm,1.3s						
NATX	**Nacogdoches**	**15.63**	**11**	*e*Pn	**Pn**	20 18 14.5	-3.0
	146nm,1.0s						
240A	**Hunter Patters**	**16.09**	**14**	P	**Pn**	**20 18 22.5**	**-0.8**
	baz=195						
ABTX	**Abilene, Hawle**	**16.21**	**356**	P	**Pn**	**20 18 25.9**	**+0.9**
	baz=174,SNR=25						
ABTX	**Abilene, Hawle**	**16.21**	**356**	*e*Pn	**Pn**	20 18 24.2	-0.7
	245nm,1.3s						
446A	**Poplarville**	**16.44**	**28**	P	**Pn**	**20 18 26.4**	**-1.5**
	baz=211						
MNTX	**Cornudas Mount**	**16.58**	**338**	P	**Pn**	**20 18 30.8**	**+1.0**
	baz=154,SNR=7.5						
MNTX	**Cornudas Mount**	**16.58**	**338**	*e*Pn	**Pn**	**20 18 29.3**	**-0.4**
	49nm,1.4s						
GDL2	**Guadalupe Moun**	**16.71**	**342**	*e*Pn	**P**	**20 18 32.6**	**-1.1**
140A	**Cam and Jess,**	**16.71**	**14**	P	**Pn**	**20 18 31.7**	**+0.5**
	baz=195,SNR=10						
EPT	**El Paso**	**17.08**	**335**	*e*Pn	**Pn**	**20 18 35.5**	**-0.5**
	48nm,1.3s						
VBMS	**Vicksburg**	**17.23**	**22**	*e*Pn	**Pn**	**20 18 35.9**	**-1.8**
	74nm,0.8s						
Z40A	**Long Farm, Mag**	**17.34**	**14**	P	**P**	**20 18 40.4**	**-0.2**
	baz=195,SNR=6.9						
CPRX	**Cap Rock**	**17.34**	**344**	*e*Pn	**P**	**20 18 41.9**	**+1.1**
	11nm,0.7s						
143A	**Socs Landing,**	**17.36**	**19**	P	**Pn**	**20 18 39.4**	**0.0**
	baz=202						
Z42A	**Norrel Spur, H**	**17.73**	**17**	P	**Pn**	**20 18 43.0**	**-1.0**
	baz=199						
WLAR	**White Oak Lake**	**17.82**	**14**	*e*Pn	**Pn**	**20 18 43.0**	**-2.1**
	80nm,1.0s						
CBCY	**The Bluff, Cay**	**17.84**	**76**	*e*Pn	**Pn**	**20 18 43.4**	**-2.0**
	98nm,0.9s						
MSTX	**Muleshoe**	**17.98**	**348**	P	**Pn**	**20 18 47.2**	**0.0**
	baz=165,SNR=27						
MSTX	**Muleshoe**	**17.98**	**348**	*e*Pn	**Pn**	**20 18 46.6**	**-0.7**
	92nm,1.0s						
319A	**Douglas**	**18.02**	**328**	*e*Pn	**P**	**20 18 49.4**	**+1.2**
	98nm,0.9s						
Y40A	**Okona**	**18.09**	**13**	P	**Pn**	**20 18 48.4**	**-0.1**
	baz=195,SNR=9.1						
121A	**Cookes Peak, D**	**18.27**	**333**	P	**P**	**20 18 52.3**	**+1.2**
	baz=149,SNR=21						
WMOK	**Wichita Mounta**	**18.28**	**358**	P	**Pn**	**20 18 50.2**	**-0.6**
	baz=178,SNR=30						
WMOK	**Wichita Mounta**	**18.28**	**358**	*e*Pn	**Pn**	**20 18 49.9**	**-0.9**
	25nm,0.9s						
CCAR	**Cane Creek**	**18.38**	**17**	*e*Pn	**Pn**	**20 18 50.6**	**-1.4**
	63nm,0.7s						
X39A	**Fountain Ranch**	**18.41**	**11**	P	**Pn**	**20 18 52.2**	**-0.2**
	baz=192,SNR=11						
X40A	**Basin Creek Fa**	**18.65**	**14**	P	**P**	**20 18 54.6**	**-0.4**
	baz=196,SNR=6.9						
AMTX	**Amarillo**	**18.68**	**351**	P	**Pn**	**20 18 55.6**	**-0.1**
	baz=169						
AMTX	**Amarillo**	**18.68**	**351**	*e*P	**P**	**20 18 54.8**	**-0.7**
	109nm,1.0s						
UALR	**University of**	**19.04**	**15**	*e*P	**P**	**20 18 58.7**	**-0.6**
	66nm,1.2s						
Y45A	**Yeager Farm, C**	**19.06**	**23**	P	**P**	**20 18 59.0**	**-0.5**
	baz=206,SNR=5.8						
W39A	**Magazine**	**19.14**	**11**	P	**P**	**20 19 00.5**	**+0.2**
	baz=192,SNR=22						
149A	**Jones**	**19.16**	**31**	P	**P**	**20 19 00.5**	**-0.1**
	baz=215						
BNM	**Barren Site**	**19.24**	**338**	*e*P	**Pn**	**20 19 02.7**	**-0.1**
BCIP	**Isla Barro Col**	**19.27**	**110**	*e*P	**P**	**20 19 02.2**	**+0.2**
	171nm,1.4s						
W40A	**Ferguson Farm,**	**19.27**	**13**	P	**Pn**	**20 19 02.8**	**-0.1**
	baz=194						
W40A	**Ferguson Farm,**	**19.27**	**13**	*e*P	**P**	**20 19 01.9**	**0.0**
	52nm,0.9s						
Y22D	**IRIS PASSCAL I**	**19.28**	**338**	*e*P	**Pn**	**20 19 06.3**	**+3.2**
	131nm,0.9s						
Y46A	**Houston**	**19.34**	**24**	P	**P**	**20 19 02.4**	**-0.1**
	baz=208,SNR=8.3						
DWPF	**Disney Wildern**	**19.38**	**50**	*e*P	**P**	**20 19 02.4**	**-0.7**
	292nm,1.8s						
LPM	**Los Pinos Moun**	**19.39**	**339**	*e*P	**P**	**20 19 02.7**	**-0.7**
757A	**Oxford**	**19.39**	**47**	P	**P**	**20 19 02.5**	**-0.7**
	baz=233						
LRAL	**Lakeview Retre**	**19.41**	**29**	P	**P**	**20 19 03.4**	**0.0**
	baz=214						
LRAL	**Lakeview Retre**	**19.41**	**29**	*e*P	**P**	**20 19 03.4**	**0.0**
	20nm,0.9s						
LRAL				*e*Sn	Sn	20 22 30.4	-12
W41B	**Gary Mavity, V**	**19.44**	**15**	P	**P**	**20 19 04.0**	**+0.2**
	baz=197						
Z48A	**Northport**	**19.44**	**28**	P	**P**	**20 19 03.6**	**-0.1**
	baz=212,SNR=7.2						
251A	**Midway**	**19.47**	**34**	P	**P**	**20 19 04.5**	**+0.5**
	baz=219						
TUC	**Tucson**	**19.54**	**326**	P	**Pn**	**20 19 06.0**	**-0.1**
	baz=141						
TUC	**Tucson**	**19.54**	**326**	*e*P	**Pn**	**20 19 06.5**	**+0.4**
	28nm,0.9s						
WHAR	**Wooly Hollow**	**19.55**	**15**	*e*P	**P**	**20 19 04.5**	**-0.3**
	104nm,1.5s						
150A	**Eclectic**	**19.55**	**32**	P	**P**	**20 19 04.9**	**+0.1**
	baz=217						
TUL1	**Leonard**	**19.56**	**6**	P	**P**	**20 19 04.6**	**-0.3**
	baz=186,SNR=21						
TUL1	**Leonard**	**19.56**	**6**	*e*P	**P**	**20 19 03.3**	**-1.7**
	86nm,1.0s						
353A	**Camilla**	**19.59**	**38**	P	**P**	**20 19 05.7**	**+0.4**
	baz=223						
X45A	**UM Field Stati**	**19.62**	**22**	P	**P**	**20 19 06.1**	**+0.5**
	baz=205						
LAZ	**Ladron**	**19.65**	**338**	*e*P	**P**	**20 19 05.5**	**-0.7**
OXF	**Oxford**	**19.69**	**22**	P	**P**	**20 19 06.9**	**+0.5**
	baz=205						
OXF	**Oxford**	**19.69**	**22**	*e*P	**P**	**20 19 03.7**	**-2.7**
	126nm,1.0s						
252A	**Lumpkin**	**19.76**	**36**	P	**Pn**	**20 19 09.0**	**+0.3**
	baz=221,SNR=7.8						
Y47A	**UCPARC, Winfie**	**19.76**	**26**	P	**Pn**	**20 19 07.9**	**-0.8**
	baz=210						
Z49A	**Columbiana**	**19.77**	**30**	P	**P**	**20 19 07.7**	**+0.4**
	baz=214						
V39A	**Pettigrew**	**19.79**	**11**	P	**P**	**20 19 07.9**	**+0.3**
	baz=192,SNR=46						
MTDJ	**Mount Denham**	**19.80**	**82**	*e*P	**P**	**20 19 07.8**	**-0.1**
	228nm,1.4s						
556A	**Lake Butler**	**19.82**	**44**	P	**P**	**20 19 08.0**	**+0.2**
	baz=230						
151A	**Opelika**	**19.84**	**34**	P	**P**	**20 19 07.9**	**-0.3**
	baz=218						
ANMO	**Albuquerque**	**19.91**	**340**	P	**Pn**	**20 19 10.5**	**-0.1**
	22nm,1.0s,baz=339,slow=12,SNR=25						
ANMO	**Albuquerque**	**19.91**	**340**	P	**Pn**	**20 19 10.1**	**-0.5**
	baz=156						
ANMO	**Albuquerque**	**19.91**	**340**	*e*P	**Pn**	**20 19 09.9**	**-0.7**
	56nm,1.1s						
V40A	**Witts Springs**	**19.92**	**13**	P	**P**	**20 19 09.0**	**+0.1**
	baz=195,SNR=38						
657A	**Interlachen**	**19.92**	**46**	P	**P**	**20 19 08.0**	**-1.0**
	baz=232						
TIGA	**Tifton**	**20.03**	**39**	*e*P	**P**	**20 19 09.7**	**-0.5**
	77nm,0.6s						
X46A	**Booneville**	**20.04**	**24**	P	**P**	**20 19 10.4**	**+0.2**
	baz=207						
V41A	**Mountainview**	**20.05**	**14**	P	**P**	**20 19 10.1**	**-0.2**
	baz=197,SNR=21						
Y48A	**Jasper**	**20.07**	**28**	P	**P**	**20 19 09.4**	**-1.2**
	baz=212						
Z50A	**Ashland**	**20.11**	**31**	P	**P**	**20 19 10.4**	**-0.7**
	baz=216,SNR=7.6						
HHAR	**Hobbs**	**20.17**	**10**	*e*P	**P**	**20 19 10.8**	**-0.9**
	28nm,0.9s						
V42A	**Cord**	**20.26**	**16**	P	**P**	**20 19 12.5**	**-0.1**
	baz=199,SNR=15						
X47A	**Russelville**	**20.29**	**25**	P	**P**	**20 19 12.7**	**-0.3**
	baz=209,SNR=11						
U39A	**Green Forest**	**20.34**	**11**	P	**P**	**20 19 13.2**	**-0.4**
	baz=192,SNR=32						
214A	**Organ Pipe Nat**	**20.41**	**322**	P	**P**	**20 19 15.1**	**+0.7**
	baz=136,SNR=27						
U40A	**Yellville**	**20.44**	**12**	P	**P**	**20 19 14.5**	**-0.2**
	baz=194,SNR=55						
254A	**Abbeville**	**20.57**	**38**	P	**P**	**20 19 15.1**	**-0.9**
	baz=224						
X48A	**Hartselle**	**20.58**	**27**	P	**P**	**20 19 15.6**	**-0.6**
	baz=211						
PLAL	**Pickwick Lake**	**20.61**	**24**	*e*P	**P**	**20 19 15.1**	**-1.3**
	72nm,1.0s						
U41A	**Viola**	**20.64**	**14**	P	**P**	**20 19 15.9**	**-0.9**
	baz=197,SNR=7.0						
U42A	**Revenden**	**20.82**	**16**	P	**P**	**20 19 18.2**	**-0.4**
	baz=198,SNR=24						
T38A	**Diamond**	**20.85**	**9**	P	**P**	**20 19 19.1**	**0.0**
	baz=190,SNR=30						
X18A	**Snowflake**	**20.92**	**332**	*e*P	Pn	20 19 21.9	-0.6
	118nm,1.2s						
X49A	**Woodville**	**20.95**	**28**	P	**P**	**20 19 19.2**	**-0.9**
	baz=213						
T39A	**Clever**	**20.99**	**11**	P	**P**	**20 19 20.3**	**-0.2**
	baz=192,SNR=20						
W47A	**Westpoint**	**21.03**	**25**	P	**P**	**20 19 20.5**	**-0.6**
	baz=209,SNR=6.0						
W48A	**Pulaski**	**21.21**	**26**	P	**P**	**20 19 22.7**	**-0.3**
	baz=211,SNR=22						
X50A	**Fort Payne**	**21.22**	**30**	P	**P**	**20 19 22.8**	**-0.4**
	baz=215						
T40A	**Mansfield**	**21.28**	**13**	P	**P**	**20 19 23.6**	**-0.1**
	baz=195,SNR=11						
V46A	**Holladay**	**21.31**	**23**	P	**P**	**20 19 23.1**	**-0.9**
	baz=207,SNR=24						
W18A	**Petrified Fore**	**21.32**	**333**	P	**P**	**20 19 26.3**	**+2.0**
	baz=148,SNR=22						
W18A	**Petrified Fore**	**21.32**	**333**	*e*P	**P**	**20 19 25.8**	**+1.5**
	104nm,1.3s						
PVMO	**Portageville**	**21.32**	**19**	*e*P	**P**	**20 19 23.8**	**-0.3**
	273nm,0.6s						
T41A	**Mountain View**	**21.34**	**14**	P	**P**	**20 19 24.1**	**-0.3**
	baz=197,SNR=22						
T25A	**Trinidad**	**21.39**	**346**	P	**P**	**20 19 26.2**	**+1.1**
	baz=163,SNR=34						
T25A	**Trinidad**	**21.39**	**346**	*e*P	**P**	**20 19 25.9**	**+0.8**
	100nm,0.9s						
PBMO	**Poplar Bluff**	**21.44**	**17**	*e*P	**P**	**20 19 24.5**	**-0.9**
	56nm,0.9s						
MHTCO	**State Highway**	**21.44**	**346**	*e*P	**P**	**20 19 26.5**	**+0.8**
	81nm,1.2s						
256A	**Glennville**	**21.45**	**41**	P	**P**	**20 19 25.0**	**-0.5**
	baz=227						
S38A	**Stockton**	**21.49**	**9**	P	**P**	**20 19 25.7**	**-0.3**
	baz=191,SNR=20						
T42A	**Van Buren**	**21.50**	**16**	P	**P**	**20 19 25.6**	**-0.4**
	baz=198,SNR=27						
UTMT	**University of**	**21.53**	**21**	*e*P	**P**	**20 19 25.9**	**-0.4**
	167nm,0.9s						
GOGA	**Godfrey**	**21.53**	**35**	P	**P**	**20 19 25.9**	**-0.4**
	baz=221,SNR=14						
GOGA	**Godfrey**	**21.53**	**35**	*e*P	**P**	**20 19 24.6**	**-1.8**
	30nm,0.7s						
X16A	**Lo Mia Camp, P**	**21.54**	**329**	*e*P	**P**	**20 19 28.7**	**+2.1**
	141nm,1.5s						
113A	**Mohawk Valley,**	**21.55**	**322**	*e*P	**P**	**20 19 28.5**	**+1.8**
	58nm,0.8s						
V47A	**Nunnelly**	**21.57**	**24**	P	**P**	**20 19 26.1**	**-0.6**
	baz=208,SNR=17						
S39A	**Bolivar**	**21.65**	**11**	P	**P**	**20 19 27.3**	**-0.3**
	baz=192,SNR=27						
WVT	**Waverly**	**21.71**	**23**	P	**P**	**20 19 27.1**	**-1.2**
	baz=207						
WVT	**Waverly**	**21.71**	**23**	*e*P	**P**	**20 19 26.8**	**-1.5**
	48nm,0.9s						
S40A	**Lebanon**	**21.71**	**12**	P	**P**	**20 19 28.2**	**-0.1**
	baz=194,SNR=31						
T43A	**Greenville**	**21.76**	**17**	P	**P**	**20 19 28.3**	**-0.5**
	baz=200,SNR=18						
V48A	**Smith Brothers**	**21.77**	**26**	P	**P**	**20 19 28.2**	**-0.8**
	baz=210,SNR=11						
S41A	**Jillco Farms,**	**21.87**	**14**	P	**P**	**20 19 29.6**	**-0.4**
	baz=196,SNR=46						
Y14A	**Wickenburg**	**21.98**	**325**	*e*P	**P**	**20 19 33.0**	**+1.7**
	440nm,1.0s						
R38A	**Fenwick Farm,**	**22.04**	**9**	P	**P**	**20 19 31.3**	**-0.5**
	baz=190,SNR=14						
U47A	**Clarksville**	**22.19**	**24**	P	**P**	**20 19 32.6**	**-0.8**
	baz=208,SNR=8.5						
GTBY	**Guantanamo Bay**	**22.20**	**77**	*e*P	**P**	**20 19 33.8**	**+0.1**
	182nm,1.2s						
SDCO	**Great Sand Dun**	**22.23**	**345**	P	**P**	**20 19 35.2**	**+1.0**
	baz=161,SNR=52						
SDCO	**Great Sand Dun**	**22.23**	**345**	*e*P	**P**	**20 19 35.1**	**+0.9**
	28nm,0.9s						
S42A	**Caledonia**	**22.27**	**16**	P	**P**	**20 19 34.3**	**0.0**
	baz=198,SNR=73						
R39A	**Chumby, Stover**	**22.30**	**11**	P	**P**	**20 19 33.8**	**-0.8**
	baz=193,SNR=31						
CBKS	**Cedar Bluff**	**22.38**	**357**	*e*P	**P**	**20 19 34.5**	**-1.0**
GLA	**Glamis**	**22.39**	**321**	P	**P**	**20 19 36.2**	**+0.5**
	baz=133						
GLA	**Glamis**	**22.39**	**321**	*e*P	**P**	**20 19 37.6**	**+2.0**
	104nm,1.1s						
WUAZ	**Wupatki**	**22.39**	**331**	P	**P**	**20 19 38.0**	**+2.2**
	baz=144,SNR=90						
WUAZ	**Wupatki**	**22.39**	**331**	*e*P	**P**	**20 19 37.4**	**+1.6**
	215nm,1.3s						
R40A	**Maddies Statio**	**22.43**	**12**	P	**P**	**20 19 36.0**	**+0.1**
	baz=194,SNR=38						
T46A	**Princeton**	**22.50**	**22**	P	**P**	**20 19 36.5**	**-0.3**
	baz=206,SNR=13						
U48A	**Cassie Pea, Po**	**22.55**	**25**	P	**P**	**20 19 36.9**	**-0.4**
	baz=210,SNR=14						
FVM	**French Village**	**22.57**	**16**	*e*P	**P**	**20 19 35.3**	**-2.3**
	25nm,0.7s						
S22A	**4UR Ranch, Cre**	**22.60**	**342**	P	**P**	**20 19 39.5**	**+1.3**
	baz=158,SNR=13						
S22A	**4UR Ranch, Cre**	**22.60**	**342**	*e*P	**P**	**20 19 38.1**	**-0.1**
	35nm,0

baz=162
Q24A Divide 23.30 346 eP P 20 19 46.5 +1.1
53nm,1.0s
W13A Hualapai Mount 23.33 326 eP P 20 19 47.7 +2.0
47nm,1.1s
IRM Iron Mountain 23.35 322 P P 20 19 47.3 +1.6
baz=135,SNR=34
P37A Lathrop 23.35 7 P P 20 19 45.3 -0.3
baz=189,SNR=7.6
USIN University of 23.40 21 eP P 20 19 45.4 -0.7
120nm,1.0s
Q42A Golden Eagle 23.42 15 P P 20 19 46.4 +0.1
baz=198
JSC Jenkinsville 23.42 37 eP P 20 19 44.6 -1.8
28nm,0.9s
PAULI Pauline 23.49 36 eP P 20 19 45.1 -2.0
7.0nm,0.8s
R45A Skylar, Fairfi 23.49 20 P P 20 19 47.4 +0.3
baz=204
P39B Salisbury 23.49 11 P P 20 19 46.5 -0.5
baz=193,SNR=14
P38A Dawn 23.50 9 P P 20 19 46.7 -0.4
baz=191,SNR=11
PV01 Paradox Valley 23.51 339 eP P 20 19 48.4 +0.9
BORC Borrego Spring 23.52 319 eSn Sn 20 24 24.1 +2.9
EML El Monte Cty P 23.55 318 eP P 20 19 49.0 +1.3
EML ePcP PcP 20 23 32.6 -0.6
U15A North Rim 23.56 331 eP P 20 19 49.7 +1.6
126nm,1.1s
O33A Hebron 23.60 1 P P 20 19 48.3 +0.2
baz=181,SNR=11
PV05 Paradox Valley 23.64 338 eP P 20 19 49.0 +0.2
Q43A New Douglas 23.66 17 P P 20 19 48.2 -0.5
baz=200
P40A Paris 23.67 12 P P 20 19 48.8 +0.1
baz=194,SNR=27
R46A Gibon Southern 23.68 21 P P 20 19 48.7 -0.1
baz=206
HWB Hans Werner Br 23.71 318 ePcP PcP 20 23 31.9 -1.6
CPE Camp Elliot 23.71 317 eP P 20 19 51.2 +1.9
25nm,1.0s
S48A Wiedeman Farm, 23.73 24 P P 20 19 48.9 -0.5
baz=210
O34A Beatrice 23.74 3 P P 20 19 50.0 +0.6
baz=183,SNR=30
BELC Belle Mtn. Jos 23.75 321 P P 20 19 50.6 +0.8
baz=133,SNR=10
XPFO Pigeon Flat 23.77 320 eP P 20 19 50.8 +0.8
37nm,1.1s
PFO Pinyon Flats O 23.77 320 P P 20 19 51.1 +1.2
baz=131,SNR=6.6
PFO Pinyon Flats O 23.77 320 eP P 20 19 50.9 +1.0
38nm,1.2s
Q44A Meyer Farm, Va 23.82 18 P P 20 19 49.8 -0.4
baz=202
SNDA J Saunders Pla 23.83 319 eP P 20 19 48.4 -2.2
SNDA eSn Sn 20 24 21.1 -7.7
O35A Humboldt 23.87 4 P P 20 19 51.0 +0.3
baz=185
PV10 Paradox Valley 23.89 339 eP P 20 19 51.1 -0.1
TZTN Tazewell 23.91 30 P P 20 19 50.8 -0.3
baz=216,SNR=12
TZTN Tazewell 23.91 30 eP P 20 19 49.2 -2.0
73nm,1.3s
O37A Wolven Farm, M 23.95 8 P P 20 19 51.2 -0.3
baz=189,SNR=6.5
OLIL Olney 23.95 20 eP P 20 19 50.8 -0.7
60nm,1.1s
SMCO Snowmass 23.97 343 eP P 20 19 53.7 +1.6
93nm,1.1s
LDFC Landfair 23.99 324 eP P 20 19 55.0 +3.0
97nm,1.2s
KMSC Kings Mountain 24.00 36 P P 20 19 51.4 -0.5
baz=223
KMSC Kings Mountain 24.00 36 eP P 20 19 49.4 -2.6
22nm,0.7s
O38A Galt 24.00 9 P P 20 19 51.7 -0.2
baz=191
P41A Barry, Barry 24.02 14 P P 20 19 51.2 -0.9
baz=196
PV09 Paradox Valley 24.03 339 eP P 20 19 53.1 +0.5
Q45A Warren Harvey, 24.08 19 P P 20 19 52.6 -0.1
baz=204,SNR=5.4
GMRC Granite Mounta 24.09 323 P P 20 19 54.1 +1.1
baz=135,SNR=12
WCI Wyandotte Cave 24.14 23 P P 20 19 53.0 -0.2
baz=208
WCI Wyandotte Cave 24.14 23 eP P 20 19 51.8 -1.4
100nm,1.2s
ISCO Idaho Springs 24.20 346 P P 20 19 55.2 +1.0
baz=162,SNR=17
ISCO Idaho Springs 24.20 346 eP P 20 19 54.8 +0.6
64nm,0.9s
N33A J Bar K, Exete 24.27 1 P P 20 19 54.5 0.0
baz=181
O40A La Belle 24.27 12 P P 20 19 54.1 -0.3
baz=194,SNR=15
O39A Kirksville 24.28 11 P P 20 19 54.4 -0.1
baz=193
KNB Kanab 24.29 331 eP P 20 19 56.6 +1.7
137nm,1.2s
P43A Skaggs, Pawnee 24.37 16 P P 20 19 54.5 -0.8
baz=200
HELC Santa Helena 24.39 112 eP P 20 19 56.1 -0.2
144nm,1.7s
PKCU Pink Cliffs 24.40 332 eP P 20 19 58.0 +1.9
64nm,1.1s
N34A Lincoln 24.40 3 P P 20 19 55.1 -0.6
baz=183
R48A Northridge Ran 24.45 24 P P 20 19 55.6 -0.5
baz=209
P44A Sand Creek, Wi 24.46 18 P P 20 19 55.3 -0.9
baz=202,SNR=6.2
O41A Passleys Farm, 24.48 14 P P 20 19 55.6 -0.8
baz=197,SNR=18
N35A Tabor 24.48 5 P P 20 19 56.5 +0.2
baz=185
LCMT Little Creek M 24.49 330 eP P 20 19 58.4 +1.8
33nm,1.2s
N36A Muff Farm, Cla 24.50 6 P P 20 19 56.7 +0.2
baz=187
HEC Hector Ludlow 24.52 322 P P 20 19 58.8 +1.9
baz=134,SNR=31
N37A Lee Faris, Mou 24.52 7 P P 20 19 57.3 +0.6
baz=189
MMU Miners Mountai 24.59 335 eP P 20 19 59.1 +1.4
N38A Joes South For 24.69 9 P P 20 19 58.6 +0.4
baz=191,SNR=31
OGNE Ogallala 24.69 353 P P 20 19 59.6 +1.2
baz=171,SNR=15
OGNE Ogallala 24.69 353 eP P 20 19 59.3 +0.9
206nm,1.3s
TUQ Turquoise Moun 24.71 323 P P 20 20 00.8 +2.2
baz=135,SNR=40
Q47A Bedord North L 24.71 22 P P 20 19 58.3 -0.1
baz=208,SNR=6.6
P45A Graceland, Par 24.79 20 P P 20 20 00.1 +1.0
baz=204
MTPU Mount Pierson 24.84 333 eP P 20 20 01.5 +1.4
186nm,1.0s
BREC Barre Substati 24.86 318 eP P 20 19 56.8 -3.0
BREC eS S 20 24 21.4 -1.8
SZCU Shurtz Canyon 24.88 331 eP P 20 20 03.2 +2.9
47nm,1.3s
BLO Bloomington 24.88 22 eP P 20 19 58.9 -1.1
102nm,1.6s
N39A Derby Farms, D 24.89 10 P P 20 20 00.5 +0.5
baz=193,SNR=31
CIS Catalina Islan 24.89 317 P P 20 20 03.5 +3.3
baz=128,SNR=5.7
BGNE Belgrade 24.93 0 eP P 20 20 01.5 +1.0
41nm,0.7s
BFSC Mount Baldy Ra 24.93 319 P P 20 20 01.8 +1.2
baz=130,SNR=14
BFSC Mount Baldy Ra 24.93 319 eP P 20 19 59.4 -1.3
VTV Victorville 24.94 320 ePcP PcP 20 23 36.3 0.0
CCUT Cedar City 24.97 330 eP P 20 20 03.6 +2.5
28nm,1.2s
P46A Rosedale 25.05 20 P P 20 20 01.8 +0.4
baz=205,SNR=5.2
M34A Aspy Farms, Fr 25.06 3 P P 20 20 01.6 -0.1
baz=183
N40A Mertquake, Sal 25.07 12 P P 20 20 01.2 -0.5
baz=195,SNR=8.0
SHPR Sheep Range 25.07 326 eP P 20 20 04.0 +2.1
55nm,1.3s
SRU San Rafael Swe 25.08 337 eP P 20 20 03.4 +1.4
65nm,0.9s

M35A Neola 25.08 4 P P 20 20 01.9 +0.2
baz=185,SNR=6.6
GSC Goldstone, Bar 25.12 322 P P 20 20 04.2 +1.9
baz=133,SNR=13
GSC Goldstone, Bar 25.12 322 eP P 20 20 04.3 +1.9
66nm,1.3s
M36A Felix, Anita 25.14 6 P P 20 20 02.4 +0.1
baz=187
MWC Mount Wilson 25.18 319 eP P 20 20 06.2 +3.3
84nm,1.4s
M37A Trindle Farm, 25.18 7 P P 20 20 03.0 +0.3
baz=189,SNR=11
O20A White River Ci 25.22 342 P P 20 20 04.1 +0.8
baz=156,SNR=16
O20A White River Ci 25.22 342 eP P 20 20 04.9 +1.6
68nm,0.9s
PASC Pasadena Art C 25.22 318 eP P 20 20 04.8 +1.6
38nm,1.3s
PASC eS S 20 24 31.6 +2.6
OTAV Otavalo 25.23 128 eP P 20 20 04.5 +0.6
108nm,1.7s
MSU Marysvale 25.23 334 eP P 20 20 05.3 +1.9
P47A Martinsville 25.25 22 P P 20 20 03.7 +0.4
baz=207
HDIL Hopedale 25.28 16 P P 20 20 03.8 +0.2
baz=200
HDIL Hopedale 25.28 16 eP P 20 20 03.8 +0.2
454nm,0.9s
M38A Pleasantville 25.31 9 P P 20 20 03.9 +0.1
baz=191,SNR=30
N23A Red Feather La 25.32 346 P P 20 20 05.7 +1.5
baz=162,SNR=8.5
N23A Red Feather La 25.32 346 eP P 20 20 05.2 +0.9
56nm,1.1s
N42A Yates City 25.35 15 P P 20 20 04.0 -0.2
baz=198
TCRU The Creeks R 25.43 333 eP P 20 20 07.6 +2.4
49nm,1.2s
P18A Preston Nutter 25.43 338 eP P 20 20 07.3 +2.0
110nm,0.9s
DBD Des Bee Dove 25.47 336 ePcP PcP 20 23 35.4 -2.2
P17A Butcher Ranch, 25.47 337 eP P 20 20 06.8 +1.3
53nm,1.0s
IR2C Iron Canyon 25.50 318 ePcP PcP 20 23 39.3 +1.9
TMUT Trail Mountain 25.50 336 eP P 20 20 07.1 +1.1
194nm,1.9s
M39A Webster 25.53 11 P P 20 20 06.0 +0.2
baz=193,SNR=13
L34A Svendsen Farm, 25.53 3 P P 20 20 06.6 +0.7
baz=184
SNCC San Nicolas Is 25.54 315 eP P 20 20 08.2 +2.1
97nm,1.3s
EDW2 Edwards Air Fo 25.56 320 P P 20 20 08.6 +2.3
baz=131,SNR=24
M40A Post Highland 25.58 12 P P 20 20 06.2 -0.1
baz=194,SNR=6.9
PHWY Pilot Hill 25.60 347 eP P 20 20 07.7 +0.8
42nm,0.9s
ALPC Antelope 25.62 319 ePcP PcP 20 23 38.3 +0.5
N43A Stutzman Famil 25.68 16 P P 20 20 07.4 +0.3
baz=200,SNR=13
L33A Hoskins 25.70 2 P P 20 20 08.0 +0.6
baz=182
L35A Bielow Farm, R 25.73 5 P P 20 20 08.2 +0.5
baz=185
SDDR Presa de Saban 25.75 80 eP P 20 20 09.7 +1.6
87nm,1.2s
BLG Laguna Peak, P 25.75 317 P P 20 20 09.0 +1.0
baz=128,SNR=9.6
M41A Milan 25.75 13 P P 20 20 08.0 +0.1
baz=197
LRMC Laurel Mtn Rad 25.77 321 P P 20 20 10.3 +2.0
baz=132,SNR=20
SFIN Lafayette 25.77 20 P P 20 20 08.4 +0.4
baz=205,SNR=5.8
SFIN Lafayette 25.77 20 eP P 20 20 07.5 -0.6
39nm,1.0s
SCIA State Center 25.78 9 P P 20 20 08.4 +0.2
baz=191,SNR=18
SCIA State Center 25.78 9 eP P 20 20 08.0 -0.2
136nm,1.1s
BTPC Burnt Peak 25.80 319 eP P 20 20 08.3 -0.2
N44A Piper City 25.83 18 P P 20 20 08.4 -0.2
baz=202,SNR=5.7
OSI Osito Audit: C 25.85 318 eP P 20 20 12.3 +3.4
54nm,1.1s
L37A Phoenix Point, 25.93 8 P P 20 20 09.5 0.0
baz=189,SNR=8.8
O47A Sheridan 25.95 21 P P 20 20 09.3 -0.4
baz=207
M42A Sheffield 26.01 15 P P 20 20 10.0 -0.2
baz=198
BLA Blacksburg 26.02 34 eP P 20 20 07.0 -3.4
27nm,0.8s
MPMC Manual Prospec 26.05 322 P P 20 20 12.2 +1.3
baz=133,SNR=39
L38A Oak Wood Farm, 26.05 9 P P 20 20 10.6 0.0
baz=191,SNR=21
N45A Kentland 26.06 19 P P 20 20 10.9 +0.2
baz=203,SNR=5.2
ROSC El Rosal 26.08 113 P P 20 20 12.0 +0.4
4.3nm,0.3s,baz=176,slow=18,SNR=7.6
ROSC El Rosal 26.08 113 eP P 20 20 09.3 -2.2
57nm,1.4s
CNNC Cliffs of the 26.10 40 eP P 20 20 11.3 +0.2
58nm,0.6s
PRAC Prado 26.13 116 eP P 20 20 11.6 0.0
53nm,1.6s
L39A Vinton 26.19 10 P P 20 20 11.3 -0.5
baz=193,SNR=18
M43A Waltham Townsh 26.20 16 P P 20 20 11.0 -0.9
baz=200,SNR=6.3
DAC Darwin (Calif) 26.26 323 eP P 20 20 13.7 +1.0
26nm,1.0s
L40A Anamosa 26.27 12 P P 20 20 11.9 -0.7
baz=195,SNR=22
VWCC Virginia Weste 26.28 34 eP P 20 20 13.2 +0.4
MPU Maple Canyon 26.29 336 eP P 20 20 14.4 +1.4
41nm,1.1s
N46A Monticello 26.35 20 P P 20 20 13.1 -0.2
baz=205,SNR=6.2
K36A Gilmore City 26.35 6 P P 20 20 12.6 -0.7
baz=188
K35A Storm Lake 26.36 5 P P 20 20 13.1 -0.3
baz=186,SNR=7.5
ISA Isabella, Lake 26.37 321 P P 20 20 13.4 -0.3
baz=131,SNR=16
ISA Isabella, Lake 26.37 321 eP P 20 20 16.0 +2.4
32nm,1.1s
RWWY Rawlins 26.38 345 eP P 20 20 09.7 -4.2
109nm,1.1s
M44A Midewin, Midew 26.40 17 P P 20 20 12.8 -0.9
baz=202
NLU North Lily Min 26.41 335 eP P 20 20 15.5 +1.4
66nm,1.1s
L41A Preston 26.43 13 P P 20 20 13.4 -0.6
baz=196,SNR=14
BAKC Calstate 26.55 319 ePcP PcP 20 23 39.7 -0.1
L42A Oliver, Polo 26.55 14 P P 20 20 14.8 -0.3
baz=198,SNR=12
K37A Belmond 26.57 8 P P 20 20 14.7 -0.6
baz=189,SNR=46
K38A Parkersburg 26.57 9 P P 20 20 14.6 -0.7
baz=191
R11A Troy Canyon, C 26.68 328 P P 20 20 16.9 +0.3
baz=140,SNR=20
R11A Troy Canyon, C 26.68 328 eP P 20 20 18.7 +2.1
26nm,1.1s
RUSC La Rusia 26.71 110 eP P 20 20 18.6 +1.2
34nm,1.4s
PKM Mcpherson Peak 26.72 318 P P 20 20 18.7 +1.8
baz=128,SNR=7.5
JLU Jordanelle 26.73 337 eP P 20 20 18.0 +1.0
20nm,1.2s
FIGC Figueroa Mtn. 26.73 317 eP P 20 20 19.2 +2.2
K39A Oelwein 26.77 10 P P 20 20 16.4 -0.7
baz=193,SNR=16
J31A Geddes 26.82 359 P P 20 20 17.9 +0.5
baz=178
J33A Davis 26.86 2 P P 20 20 18.0 +0.1
baz=182
VES Vestal, Richgr 26.86 320 P P 20 20 19.4 +1.4
baz=130,SNR=18
J34A George 26.87 4 P P 20 20 18.1 +0.1
baz=184
K40A Colesburg 26.91 12 P P 20 20 18.6 +0.3
baz=195
DUG Dugway, Tooele 26.91 335 P P 20 20 19.5 +1.0
baz=147,SNR=22
DUG Dugway, Tooele 26.91 335 eP P 20 20 20.3 +1.8
33nm,1.0s
CTU Camp Tracy 26.92 337 eP P 20 20 18.3 -0.4
18nm,0.9s
L43A Garden Prairie 26.95 16 P P 20 20 18.8 0.0
baz=200
K41A Shullsburg 26.98 13 P P 20 20 18.9 -0.1
baz=196,SNR=7.4
J35A Milford 27.00 5 P P 20 20 18.8 -0.4
baz=186
SDD Santo Domingo 27.04 81 eP P 20 20 20.5 +0.7
265nm,1.3s
J36A Seneca 1, Swea 27.05 6 P P 20 20 19.2 -0.4
baz=188,SNR=18
J37A Redenius Farm, 27.12 7 P P 20 20 19.8 -0.4
baz=189,SNR=16
K22A Casper 27.13 346 P P 20 20 21.3 +0.8
baz=162,SNR=10.0
K22A Casper 27.13 346 eP P 20 20 21.5 +1.0
115nm,1.1s
TCUT Toone Canyon 27.16 338 eP P 20 20 20.6 -0.4
112nm,1.1s
TIN Tinemaha, Big 27.17 323 P P 20 20 23.0 +2.1
baz=134,SNR=7.1
L44A Lake County Fo 27.17 17 P P 20 20 21.3 +0.6
baz=202
ACSO Alum Creek Sta 27.18 26 P P 20 20 20.7 -0.1
baz=213,SNR=7.8
ACSO Alum Creek Sta 27.18 26 eP P 20 20 19.8 -1.0
38nm,0.8s
J38A Wedel Dairy, R 27.28 9 P P 20 20 21.1 -0.5
baz=192,SNR=23
ECSD EROS Data Cent 27.29 2 P P 20 20 21.2 -0.5
baz=183
ECSD EROS Data Cent 27.29 2 eP P 20 20 21.2 -0.5
16nm,1.0s
JFWS Jewell Farm 27.29 13 P P 20 20 21.2 -0.6
baz=196,SNR=9.5
JFWS Jewell Farm 27.29 13 eP P 20 20 20.6 -1.1
43nm,0.9s
K42A Prairie Point, 27.36 14 P P 20 20 21.0 -1.5
baz=198
J39A Decorah 27.42 10 P P 20 20 22.1 -0.8
baz=193
I35A Creekview Farm 27.51 5 P P 20 20 23.2 -0.5
baz=186
PAGB Antelope Grade 27.52 319 eP P 20 20 26.1 +2.2
78nm,1.5s
K43A Burlington 27.55 16 P P 20 20 23.5 -0.6
baz=200
BGU Big Grassy Mou 27.61 335 eP P 20 20 26.5 +1.6
55nm,1.3s
HWUT Hardware Ranch 27.64 338 eP P 20 20 26.1 +0.9
26nm,1.2s
J40A Soldiers Grove 27.65 12 P P 20 20 24.7 -0.3
baz=195
SPUT South Promonto 27.71 336 eP P 20 20 27.2 +1.4
27nm,1.1s
I36A Fitzsimmons Fa 27.77 6 P P 20 20 25.6 -0.4
baz=188
J41A Loganville 27.77 13 P P 20 20 25.8 -0.3
baz=197,SNR=12
I37A Lemond, Waseca 27.83 7 P P 20 20 26.3 -0.3
baz=190
IP07 Quail 27.84 36 eP P 20 20 25.7 -1.0
7.7nm,0.8s
IP06 Yanceyville 27.87 36 eP P 20 20 24.7 -2.4
11nm,1.4s
URVA University of 27.88 37 eP P 20 20 26.0 -1.0
SDV Santo Domingo 27.88 102 P P 20 20 28.2 +0.7
11nm,0.6s,baz=292,slow=10.0,SNR=16
SDV Santo Domingo 27.88 102 eP P 20 20 27.4 -0.1
33nm,1.1s
IP03 Louisa 27.92 36 eP P 20 20 26.3 -1.1
10nm,1.0s
IP04 Greensprings 27.92 35 eP P 20 20 27.5 +0.1
18nm,1.1s
J42A Columbus 27.93 14 P P 20 20 27.1 -0.4
baz=198
IP05 Hopewell Churc 27.93 36 eP P 20 20 25.8 -1.7
31nm,1.2s
I39A Houston 27.95 10 P P 20 20 27.2 -0.5
baz=193
SPRD Spring Road, M 28.00 36 eP P 20 20 26.7 -1.4
13nm,0.9s
I38A Scanlan Farm, 28.00 9 P P 20 20 27.6 -0.5
baz=192,SNR=18
BW06 Boulder Array 28.03 342 P P 20 20 28.9 +0.3
baz=156,SNR=14
BW06 Boulder Array 28.03 342 eP P 20 20 28.7 0.0
63nm,1.2s
PD31 Pinedale Array 28.03 342 eP P 20 20 28.3 -0.4
PDAR Pinedale Array 28.03 342 P P 20 20 29.5 +0.9
12nm,0.9s,baz=140,slow=9.5,SNR=24
PDAR Pinedale Array 28.03 342 eP P 20 20 28.8 +0.2
H32A Carlson Farm, 28.03 1 P P 20 20 27.9 -0.5
baz=181
MDPB Devils Postpil 28.06 323 eP P 20 20 30.1 +1.1
CVRD Centerville Ro 28.07 36 eP P 20 20 27.7 -1.0
52nm,1.5s
RSSD Black Hills 28.08 351 eP P 20 20 29.5 +0.4
13nm,0.9s
NV11 Mina Array Sit 28.10 325 eP P 20 20 30.9 +1.7
3.4nm,1.0s
I40A Norwalk 28.15 12 P P 20 20 29.4 0.0
baz=195
J43A Natural Harves 28.16 15 P P 20 20 28.8 -0.7
baz=200
MCWV Mont Chateau 28.16 31 eP P 20 20 28.0 -1.6
18nm,0.8s
PMPB Monarch Peak 28.17 319 eP P 20 20 32.8 +3.0
58nm,1.3s
NV01 Mina Array Sit 28.18 325 eP P 20 20 31.0 +1.0
NVAR Mina Array Bea 28.18 325 P P 20 20 32.5 +2.5
27nm,0.9s,baz=148,slow=7.5,SNR=25
HVU Hansel Valley 28.24 337 eP P 20 20 31.2 +0.8
35nm,1.0s
H34A Spellman Lake, 28.26 4 P P 20 20 30.2 -0.2
baz=184
SPFD Spotsylvania F 28.27 36 eP P 20 20 30.1 -0.4
10nm,0.8s
H36A Jessenland, He 28.33 6 P P 20 20 30.8 -0.2
baz=188
H35A Sunnyside Ranc 28.36 5 P P 20 20 30.5 -0.8
baz=186
CBN Corbin Frederi 28.41 36 eP P 20 20 30.1 -1.7
26nm,0.4s
RYN Ryan 28.44 325 eP P 20 20 34.5 +2.2
32nm,1.2s
H37A Dierke Farm, C 28.45 8 P P 20 20 31.7 -0.4
baz=190
I41A Arkdale 28.47 13 P P 20 20 31.9 -0.3
baz=196
AHID Auburn Hatcher 28.51 340 eP P 20 20 32.5 -0.4
28nm,1.2s
KVN Kaiserville 28.51 326 eP P 20 20 34.6 +1.6
22nm,1.0s
I42A Draeger Farm, 28.52 14 P P 20 20 32.0 -0.7
baz=198
H38A Maiden Rock 28.63 9 P P 20 20 33.1 -0.6
baz=192
AAM Ann Arbor 28.67 23 eP P 20 20 35.2 +1.1
24nm,0.8s
I43A Langenfeld Bro 28.70 15 P P 20 20 34.1 -0.2
baz=200
G33A Ortonville 28.75 3 P P 20 20 34.3 -0.5
baz=183
G32A Webster 28.78 1 P P 20 20 34.6 -0.5
baz=181
H39A Augusta 28.80 10 P P 20 20 35.0 -0.2
baz=193,SNR=10
G34A Benson 28.84 4 P P 20 20 34.4 -1.1
baz=185
WAKR Walker 28.86 324 eP P 20 20 38.9 +2.8
22nm,1.2s
H40A Chili 28.90 12 P P 20 20 35.9 -0.3
baz=195,SNR=18
SAO San Andreas Ge 28.92 319 eP P 20 20 38.6 +2.2
27nm,1.4s
REDW Red Top Meadow 28.96 341 eP P 20 20 37.4 +0.4
99nm,1.4s
SNOW Snow King Moun 29.02 341 eP P 20 20 38.8 +1.3
51nm,1.0s
H41A Junction City 29.04 13 P P 20 20 37.2 -0.2
baz=197
YERR Yerington 29.09 325 eP P 20 20 39.8 +1.7
20nm,1.1s

CMB **Columbia Colle** 29.09 322 *e*P P 20 20 39.6 +1.7
19nm,1.2s
SPMN **Marine on St.** 29.10 8 P P 20 20 37.2 -0.7
baz=190,SNR=12
SPMN **Marine on St.** 29.10 8 *e*P P 20 20 36.8 -1.0
40nm,0.9s
N54A **Moraine State** 29.11 29 *e*P P 20 20 38.9 +0.9
90nm,1.9s
TPAW **Teton Pass** 29.11 341 *e*P P 20 20 39.9 +1.5
57nm,1.1s
LOHW **Long Hollow** 29.11 341 *e*P P 20 20 39.6 +1.3
51nm,1.2s
G38A **Ridgeland** 29.18 9 P P 20 20 37.5 -1.0
baz=192
O56A **Blue Knob Stat** 29.26 32 *e*P P 20 20 39.3 -0.2
11nm,0.9s
FXWY **Fox Creek** 29.27 341 *e*P P 20 20 40.9 +1.2
31nm,1.4s
MOOW **Moose Ponds** 29.28 341 *e*P P 20 20 41.0 +1.2
16nm,0.9s
F33A **5 Mile Ranch,** 29.40 3 P P 20 20 39.8 -0.8
baz=183
G39A **Holcombe** 29.40 10 P P 20 20 40.0 -0.5
baz=193,SNR=14
IMW **Indian Meadow** 29.48 341 *e*P P 20 20 42.4 +0.8
19nm,1.1s
RDG13 **Poverty Ridge** 29.52 320 *e*P P 20 20 44.3 +2.5
24nm,1.3s
VCNR **Virginia City** 29.53 325 *e*P P 20 20 43.7 +1.7
23nm,1.3s
G40A **Rib Lake** 29.56 11 P P 20 20 41.2 -0.8
baz=195,SNR=22
ALLY **Alegheny Colle** 29.58 28 *e*P P 20 20 42.9 +0.7
22nm,0.6s
F37A **Hinrichs Farm,** 29.61 8 P P 20 20 41.7 -0.7
baz=190
F36A **Milaca** 29.64 7 P P 20 20 41.6 -1.0
baz=189,SNR=13
RUBR **Rubicon Trail** 29.64 324 *e*P P 20 20 44.5 +1.4
103nm,1.2s
PAHR **Pah Rah Range** 29.68 326 *e*P P 20 20 44.4 +1.2
20nm,1.3s
M54A **Oil Creek Stat** 29.69 29 *e*P P 20 20 43.7 +0.5
18nm,0.8s
JFP **Foothills Park** 29.75 319 *e*P P 20 20 42.8 -1.0
H17A **Grant Village** 29.82 342 *e*P P 20 20 45.1 +0.6
59nm,1.8s
SSPA **Standing Stone** 29.88 32 P P 20 20 43.2 -1.6
baz=222
SSPA **Standing Stone** 29.88 32 *e*P P 20 20 45.0 +0.1
18nm,1.3s
G42A **Mountain** 29.91 14 P P 20 20 44.8 -0.2
baz=199
F38A **Pierce - Schro** 29.95 9 P P 20 20 45.4 0.0
baz=192,SNR=6.2
AFDM **Forest Hills D** 30.04 323 *e*P P 20 20 48.1 +1.8
12nm,1.1s
F39A **Loretta** 30.06 10 P P 20 20 45.6 -0.8
baz=194
E33A **Westby DABS, E** 30.08 3 P P 20 20 46.2 -0.3
baz=184
G43A **Wallace** 30.10 15 P P 20 20 45.7 -1.0
baz=200
RLMT **Red Lodge** 30.12 344 P P 20 20 48.6 +1.4
baz=158,SNR=18
RLMT **Red Lodge** 30.12 344 *e*P P 20 20 48.5 +1.3
46nm,1.0s
YNR **Norris Junctio** 30.14 342 *e*P P 20 20 47.3 -0.1
31nm,1.4s
YMR **Madison River** 30.18 342 *e*P P 20 20 47.8 +0.1
33nm,1.1s
F40A **Park Falls** 30.20 11 P P 20 20 47.7 0.0
baz=195,SNR=39
MVL **Millersville** 30.23 35 *e*P P 20 20 48.3 +0.4
7.7nm,1.1s
F41A **Three Lakes** 30.23 13 P P 20 20 47.5 -0.4
baz=197
E35A **Pequot Lakes** 30.24 5 P P 20 20 47.9 -0.1
baz=187,SNR=13
YHH **Holmes Hill** 30.25 342 *e*P P 20 20 49.8 +1.4
24nm,1.2s
E36A **McGregor** 30.32 7 P P 20 20 48.1 -0.5
baz=189
BEKR **Beckworth** 30.32 325 *e*P P 20 20 49.5 +0.5
26nm,1.0s
YHB **Horse Butte** 30.32 341 *e*P P 20 20 49.4 +0.4
9.2nm,0.9s
HLID **Hailey** 30.39 336 P P 20 20 47.9 -1.7
baz=148,SNR=6.7
HLID **Hailey** 30.39 336 *e*P P 20 20 50.8 +1.2
10nm,0.9s
QLMT **Earthquake Lak** 30.47 341 *e*P P 20 20 51.2 +0.9
GLMI **Grayling** 30.57 19 *e*P P 20 20 50.8 -0.1
50nm,0.8s
E39A **Mellen** 30.57 10 P P 20 20 50.7 -0.1
baz=194,SNR=23
COWI **Conover** 30.57 12 *e*P P 20 20 50.2 -0.7
16nm,0.9s
D31A **Mcclaflin, Tow** 30.57 1 P P 20 20 50.6 -0.3
baz=180
SJG **San Juan** 30.62 82 P P 20 20 50.2 -1.4
18nm,0.7s,baz=257,slow=5.6,SNR=4.7
E38A **The Farm, Brul** 30.63 9 P P 20 20 50.6 -0.7
baz=192,SNR=8.6
D33A **AnnSam, Waubun** 30.72 3 P P 20 20 51.1 -1.1
baz=184
E40A **Wakefield** 30.75 11 P P 20 20 52.6 +0.1
baz=195,SNR=28
ORV **Oroville** 30.75 323 *e*P P 20 20 54.4 +1.9
26nm,1.2s
D35A **Remer** 30.79 6 P P 20 20 52.7 -0.1
baz=187,SNR=8.1
MFID **Camas Ranch** 30.84 334 *e*P P 20 20 54.8 +1.4
35nm,1.3s
GCMT **Greycliff** 30.85 344 *e*P P 20 20 53.2 -0.3
CBYP **Canovanas** 30.90 82 *e*P P 20 20 54.0 -0.2
24nm,0.8s
HUMP **Col San Antoni** 30.91 82 *e*P P 20 20 53.4 -0.8
36nm,1.2s
MCMT **McKenzie Canyo** 30.92 339 *e*P P 20 20 55.1 +0.8
LAO **LASA Array** 30.94 349 *e*P P 20 20 54.4 +0.2
73nm,1.4s
E41A **Kenton** 30.95 12 P P 20 20 52.7 -1.6
baz=197
D36A **Goodland** 30.98 7 P P 20 20 53.5 -1.0
baz=189
GDXM **Geysers** 31.03 321 *e*P P 20 20 58.8 +3.7
20nm,1.2s
D37A **Cotton** 31.05 8 P P 20 20 54.2 -0.9
baz=190
F45A **CMU Biological** 31.07 17 P P 20 20 54.3 -1.0
baz=204
F44A **Big Bay de Noc** 31.09 16 P P 20 20 54.4 -1.0
baz=202
E42A **Champion** 31.15 14 P P 20 20 54.4 -1.6
baz=199
LUPA **Lehigh Univers** 31.18 35 *e*P P 20 20 57.0 +0.6
3.0nm,1.6s
N59A **State Game Lan** 31.19 34 P P 20 20 54.6 -1.9
baz=225
N59A **State Game Lan** 31.19 34 *e*P P 20 20 56.0 -0.5
16nm,1.6s
MTP **Monte Pirata** 31.19 82 *e*P P 20 20 56.6 -0.1
111nm,1.2s
BOZ **Bozeman (W)** 31.22 342 P P 20 20 58.2 +1.4
baz=154,SNR=6.5
BOZ **Bozeman (W)** 31.22 342 *e*P P 20 20 59.2 +2.3
25nm,1.0s
C34A **RKJ Ranch, Bem** 31.29 4 P P 20 20 56.2 -1.0
baz=186
WVOR **Wild Horse Val** 31.31 330 *e*P P 20 20 58.7 +1.1
36nm,1.1s
DLMT **Dillon** 31.31 340 *e*P P 20 20 59.2 +1.6
62nm,1.1s
E43A **Lone Tree Farm** 31.32 15 P P 20 20 57.1 -0.3
baz=201,SNR=6.9
C35A **Jirik Farms, M** 31.41 5 P P 20 20 57.5 -0.8
baz=187,SNR=8.9
MMNY **Mt. Morris Dam** 31.46 29 *e*P P 20 20 57.6 -1.1
27nm,1.1s
C36A **Pine Crest Far** 31.59 7 P P 20 20 59.4 -0.5
baz=190,SNR=12
D41A **Chassel** 31.60 13 P P 20 20 58.7 -1.3
baz=197
C37A **Embarrass** 31.64 8 P P 20 20 59.3 -1.0
baz=191
LRM **Limekiln Ridge** 31.68 341 *e*P P 20 21 02.2 +1.3
BRNJ **Basking Ridge** 31.69 35 *e*P P 20 21 06.3 +5.5
24nm,0.9s
MOD **Modoc Plateau** 31.74 328 *e*P P 20 21 02.8 +1.4
32nm,0.9s
C38A **Sawbill Land.** 31.75 9 P P 20 20 21 00.1 -1.2
baz=192
B33A **Robert and Kas** 31.86 3 P P 20 20 21 01.1 -1.1
baz=184
AGMN **Agassiz Nation** 31.88 3 P P 20 20 21 01.9 -0.4
baz=184,SNR=11
AGMN **Agassiz Nation** 31.88 3 *e*P P 20 20 21 01.8 -0.6
31nm,0.8s
B32A **Ashes, Strandq** 31.94 2 P P 20 20 21 02.8 -0.2
baz=183,SNR=11
EYMN **Ely** 31.95 9 P P 20 20 21 02.5 -0.5
baz=192,SNR=9.3
EYMN **Ely** 31.95 9 *e*P P 20 20 21 02.7 -0.3
13nm,0.9s
J08A **Circle Bar Ran** 31.95 331 *e*P P 20 20 21 04.8 +1.6
67nm,0.9s
BINY **Binghamton** 32.00 32 P P 20 20 21 02.3 -1.2
baz=223
C39A **Grand Marais** 32.03 10 P P 20 20 21 03.0 -0.8
baz=194
KCPM **Cahto Peak** 32.06 321 *e*P P 20 20 21 06.2 +2.0
79nm,1.2s
B35A **Bob, Littlefor** 32.09 6 P P 20 20 21 03.9 -0.4
baz=188,SNR=12
PAL **Palisades** 32.27 36 *e*P P 20 21 11.2 +5.3
21nm,1.0s
HRY **Holter Researc** 32.29 342 *e*P P 20 21 07.3 +1.1
M04C **Macdoel** 32.46 326 P P 20 21 08.8 +1.0
baz=134,SNR=6.8
KMRM **Mail Ridge** 32.47 322 *e*P P 20 20 21 09.0 +1.2
64nm,1.2s
BMO **Blue Mountains** 32.62 334 *e*P P 20 20 21 09.5 +0.4
17nm,1.1s
KHMM **Horse Mountain** 32.91 323 *e*P P 20 20 21 12.5 +0.8
41nm,1.0s
I07A **Izee** 32.98 331 *e*P P 20 21 13.3 +1.0
10nm,0.8s
MSO **Missoula** 33.05 340 P P 20 20 21 13.8 +1.0
baz=151
MSO **Missoula** 33.05 340 *e*P P 20 20 21 13.4 +0.6
36nm,1.4s
F10A **Beach Ranch, E** 33.51 336 *e*P P 20 20 21 17.7 +0.9
67nm,1.2s
ULM **Lac du Bonnet** 33.82 3 P P 20 20 21 18.9 -0.5
13nm,1.0s,baz=185,slow=9.4,SNR=15
ULM **Lac du Bonnet** 33.82 3 *e*P P 20 20 21 18.3 -1.1
64nm,1.6s
JTMT **Jette** 33.97 340 *e*P P 20 20 21 20.8 0.0
36nm,1.2s
QUA2 **Belchertown** 33.99 35 *e*P P 20 20 21 18.1 -2.8
9.2nm,0.8s
LONY **Lake Ozonia** 34.47 30 P P 20 20 21 25.7 +0.6
baz=222
LONY **Lake Ozonia** 34.47 30 *e*P P 20 20 21 25.0 -0.1
17nm,1.1s
KEBM **Edson Butte** 34.56 325 *e*P P 20 20 21 26.5 +0.6
169nm,1.1s
HRV **Adam Dziewonsk** 34.58 36 *e*P P 20 20 21 23.8 -2.3
23nm,1.3s
H04A **Detroit Lake** 34.70 329 *e*P P 20 20 21 27.6 +0.4
96nm,1.1s
WALA **Waterton Lakes** 35.01 342 *e*P P 20 20 21 29.8 0.0
100nm,1.9s
NEW **Newport** 35.38 338 P P 20 20 21 34.4 +1.5
baz=147,SNR=5.3
NEW **Newport** 35.38 338 *e*P P 20 20 21 33.4 +0.5
18nm,1.1s
C09A **Chrisman Ranch** 35.42 336 *e*P P 20 20 21 37.0 +3.8
33nm,1.0s
LBNH **Lisbon** 35.54 33 P P 20 20 21 35.1 +0.8
baz=227
TRQ **Mont Tremblant** 35.67 29 *e*P P 20 21 33.5 -1.9
LTY **Liberty** 35.96 334 *e*P P 20 21 39.7 +1.8
79nm,1.4s
PANH **Panhandle Gap,** 36.07 332 *e*P P 20 21 38.5 -0.6
B08A **Colville Reser** 36.29 336 *e*P P 20 21 41.7 +1.0
36nm,1.3s
D05A **Enumclaw** 36.48 332 *e*P P 20 21 42.3 0.0
82nm,0.9s
KDKW **Deschutes Env Seat** 36.94 333 *e*P P 20 21 43.8 -2.4
FFC **Flin Flon** 38.37 356 *e*P P 20 21 58.4 +0.2
47nm,1.0s
EDM **Edmonton** 38.63 345 *e*P P 20 22 00.8 +0.2
68nm,0.9s
LLLB **Lillooet** 39.09 336 *e*P P 20 22 05.5 +1.1
37nm,1.1s
FCC **Fort Churchill** 42.41 3 *e*P P 20 22 31.4 -0.2
21nm,1.0s
SAML **Samuel** 42.82 124 *e*P P 20 22 33.2 -2.4
13nm,1.1s
LPAZ **La Paz** 43.97 136 P P 20 22 44.9 -0.6
7.0nm,1.0s,baz=348,slow=9.6,SNR=8.7
LPAZ **La Paz** 43.97 136 *e*P P 20 22 45.0 -0.5
10nm,1.0s
MNMC **Minye Minye** 45.13 140 *e*P P 20 22 53.0 -1.4
56nm,1.3s
MNMC *e*S S 20 29 35.0 +0.5
SCHQ **Schefferville** 45.33 25 P P 20 22 55.1 -0.1
13nm,1.0s,baz=222,slow=6.6,SNR=6.2
SCHQ **Schefferville** 45.33 25 *e*P P 20 22 54.3 -0.9
28nm,1.3s
YKA **Yellowknife Ar** 47.48 350 P P 20 23 12.2 +0.4
6.5nm,0.9s,baz=157,slow=7.2,SNR=33
YKA PP PP 20 25 07.1 +3.9
3.5nm,0.9s,baz=156,slow=9.1,SNR=3.8
YKW3 **Yellowknife Ar** 47.54 350 *e*P P 20 23 11.7 -0.7
19nm,1.0s
DLBC **Lease Lake** 48.13 338 *e*P P 20 23 18.7 +1.6
30nm,1.1s
TAOE **Nuku Hiva Isla** 48.51 242 *e*T T 21 14 41.8
107nm,0.2s
WHY **Whitehorse** 51.45 338 *e*P P 20 23 49.0 +6.5
30nm,1.4s
HYT **Haines Junctio** 52.53 337 *e*P P 20 23 50.9 +0.4
65nm,1.3s
RKT **Rikitea** 53.26 223 *e*T T 21 20 44.9
104nm,0.2s
BMRM **Bremner River** 55.41 335 *e*P P 20 24 18.4 +7.0
54nm,1.3s
DIV **Divide** 55.98 334 *e*P P 20 24 22.2 +6.7
38nm,1.4s
MENT **Mentasta** 56.15 337 *e*P P 20 24 17.8 +1.1
50nm,1.4s
KLU **Klutina** 56.23 335 *e*P P 20 24 18.7 +1.4
40nm,1.2s
EGAK **Eagle** 56.33 339 *e*P P 20 24 19.1 +1.2
20nm,0.9s
HARP **HAARP** 56.41 336 *e*P P 20 24 20.7 +2.2
60nm,1.2s
INK **Inuvik** 56.53 345 P P 20 24 19.5 +0.3
10.0nm,0.8s,baz=132,slow=8.2,SNR=30
INK **Inuvik** 56.53 345 *e*P P 20 24 19.7 +0.4
21nm,0.9s
DOT **Dot Lake** 56.69 337 *e*P P 20 24 22.5 +2.0
89nm,1.1s
PAX **Paxson** 56.84 336 *e*P P 20 24 23.4 +1.7
33nm,1.2s
SCRK **Sand Creek** 56.84 338 *e*P P 20 24 23.6 +1.9
36nm,1.2s
RIDG **Independ'e Rid** 57.02 337 *e*P P 20 24 23.7 +0.8
74nm,1.1s
SML **Sawmill** 57.39 334 *e*P P 20 24 26.8 +1.3
38nm,1.2s
BRLK **Bradley Lake** 57.57 332 *e*P P 20 24 28.8 +1.9
PMR **Palmer** 57.62 334 *e*P P 20 24 28.5 +1.4
30nm,1.2s
DHY **Denali Highway** 57.63 336 *e*P P 20 24 27.6 +0.2
15nm,1.2s
CPUP **Villa Florida** 58.15 136 P P 20 24 29.0 -2.2
7.8nm,0.9s,baz=327,slow=7.3,SNR=15
CPUP **Villa Florida** 58.15 136 *e*P P 20 24 29.6 -1.7
12nm,1.1s
PMOR **Pomariorio Ree** 58.15 240 *e*P P 20 24 35.6 +4.1
88nm,1.4s
PMOR **Pomariorio Ree** 58.15 240 *e*T T 21 26 44.8
18nm,0.2s
HDA **Harding Lake** 58.17 337 *e*P P 20 24 30.9 0.0
19nm,1.0s
SUA **Susitna One** 58.25 333 *e*P P 20 24 32.4 +0.7
43nm,1.0s
RES **Resolute Bay** 58.33 1 P P 20 24 32.4 +0.6
2.0nm,0.6s,baz=188,slow=9.6,SNR=12
RES **Resolute Bay** 58.33 1 *e*P P 20 24 31.2 -0.6
20nm,1.7s
IL1 **Eielson Array** 58.34 338 *e*P P 20 24 31.8 -0.3
ILAR **Eielson Array** 58.34 338 P P 20 24 33.3 +1.2
17nm,1.3s,baz=142,slow=4.9,SNR=28
ILB **Eielson Array** 58.34 338 *e*P P 20 24 33.1 +1.0
RND **Reindeer** 58.38 336 *e*P P 20 24 33.9 +1.4
86nm,1.2s
MCK **McKinley** 58.57 336 *e*P P 20 24 34.4 +0.6
34nm,1.1s
CCB **Clear Creek Bu** 58.61 337 *e*P P 20 24 34.3 +0.4
7.2nm,1.0s
WRH **Wood River Hil** 58.62 337 *e*P P 20 24 34.3 +0.2
14nm,1.0s
COLA **College** 58.74 338 *e*P P 20 24 35.3 +0.4
22nm,1.1s
MDM **Murphy Dome** 58.92 338 *e*P P 20 24 37.2 +1.0
13nm,1.1s
TRF **Thorofare Moun** 58.97 336 *e*P P 20 24 37.2 +0.4
77nm,1.1s
KTH **Kantishna Hill** 59.27 336 *e*P P 20 24 39.6 +1.0
27nm,1.1s
PPLA **Purkeypile** 59.49 335 *e*P P 20 24 41.1 +0.8
58nm,1.3s
BPAW **Bear Paw Mtn.** 59.55 336 *e*P P 20 24 40.8 +0.2
34nm,1.3s
CAST **Castle Rocks** 59.67 335 *e*P P 20 24 41.7 +0.3
51nm,1.2s
MLY **Manley** 59.89 337 *e*P P 20 24 43.5 +0.6
45nm,1.2s
CHGN **Chignik** 60.10 326 *e*P P 20 24 42.8 -1.6
128nm,1.0s
SVW2 **Sparrevohn** 60.23 332 *e*P P 20 24 45.4 +0.1
28nm,1.0s
COLD **Coldfoot** 60.77 339 *e*P P 20 24 50.9 +2.1
25nm,1.3s
TOLK **Toolik Lake Re** 61.29 341 P P 20 24 53.3 +0.9
baz=121,SNR=6.0
TOLK **Toolik Lake Re** 61.29 341 *e*P P 20 24 52.6 +0.2
31nm,1.4s
PLCA **Paso Flores** 62.36 157 P P 20 24 59.6 -0.4
15nm,0.9s,baz=1.2,slow=8.3,SNR=20
PLCA **Paso Flores** 62.36 157 *e*P P 20 24 59.7 -0.4
26nm,1.0s
TBI **Tubuai** 63.81 233 *e*T T 21 33 51.0
120nm,0.2s
SUMG **Summit** 65.59 17 *i*P P 20 25 21.5 +0.2
23nm,0.9s
SUMG **Summit** 65.59 17 *e*P P 20 25 20.6 -0.7
25nm,1.0s
GAMB **Gambell** 68.14 333 *e*P P 20 25 38.2 +1.1
36nm,1.7s
DAG **Danmarks Havn** 71.75 14 *i*P P 20 25 58.7 -0.4
13nm,0.9s
ESDC **Sonseca Array** 82.89 51 P P 20 27 02.5 +0.1
0.9nm,0.7s,baz=285,slow=4.9,SNR=4.2
ES19 **SONSECA Array** 82.93 51 *e*P P 20 27 01.9 -0.6
NBO02 **NORSAR Array S** 84.68 28 *e*P P 20 27 11.8 +0.8
DOU **Dourbes** 85.54 39 ⇑P P 20 27 15.1 -0.4
ARA0 **ARCESS Array S** 85.68 17 *e*P P 20 27 16.8 +0.9
ARCES **ARCESS Array B** 85.68 17 P P 20 27 16.8 +0.9
14nm,1.2s,baz=308,slow=4.5,SNR=6.5
BCLA **Clavier** 85.85 39 ⇑P P 20 27 18.1 +1.1
MEM **Membach** 86.20 38 ⇑P P 20 27 18.7 -0.1
TIXI **Tiksi** 86.62 347 *e*P P 20 27 17.9 -2.5
26nm,1.3s
RAO **Raoul Island** 89.25 239 *e*P P 20 27 35.7 +2.0
2µm,0.5s
CLL **Collm** 89.97 36 *e*P P 20 27 35.0 -1.8
BRG **Berggiesshubel** 90.69 36 *e*P P 20 27 45.4 +5.2
14nm,1.7s
FIA0 **FINESS Array S** 90.78 23 *e*P P 20 27 39.7 -0.6
FINES **FINESS Array B** 90.78 23 P P 20 27 39.7 -0.6
4.8nm,1.1s,baz=309,slow=6.6,SNR=3.8
GERES **GERESS Array B** 91.48 38 P P 20 27 43.8 -0.3
0.2nm,0.6s,baz=340,slow=5.3,SNR=2.2
TOA1 **Torodi Ar. Sit** 95.57 75 *e*P P 20 28 01.9 -1.4
TORD **Torodi Ar. Bea** 95.57 75 P P 20 28 02.0 -1.4
0.5nm,0.8s,baz=311,slow=3.7,SNR=3.4
KLMR **Klimovskoe** 95.91 19 *e*P P 20 28 01.5 -2.5
KLMR AMP 20 28 14.6
comp=Z,19nm,1.4s
KLMR *e*PP PP 20 31 53.7 -1.6
AKASG **Malin Array Be** 98.88 31 P Pdif 20 28 18.3 +0.7
comp=Z,0.2nm,0.2s,baz=318,slow=2.8,SNR=4.0
AKBB **Malin Array Si** 98.88 31 *e*P Pdif 20 28 17.7 +0.1
comp=Z,12nm,1.8s
KURK **Kurchatov** 113.12 2 *e*PP PP 20 34 05.2 +2.2
KURBB **Kurchatov Arra** 113.22 2 PP PP 20 34 05.2 +1.5
comp=Z,1.3nm,1.0s,baz=357,slow=6.5,SNR=6.1
BJI **Beijing** 115.38 331 PKP **PKPdf** 20 33 18.8 -0.7
HHC **Hu-ho-hao-te** 116.71 335 *e*PKP **PKPdf** 20 33 24.8 +2.6
HHC PP **PP** 20 34 35.8 +7.0
HHC SKS **SKSdf** 20 40 35.8 +0.7
HHC SKKS **SKKSac** 20 41 28.9 -2.9
HHC SS **SS** 20 50 37.3 +2.3
WMQ **Urumqi** 119.84 355 *e*PKP **PKPdf** 20 33 27.9 -0.2
NJ2 **Nanjing** 120.16 324 *e*PKP **PKPdf** 20 33 29.4 +0.5
GEYT **Alibeck** 121.56 22 PKP **PKPdf** 20 33 30.5 -1.0
comp=Z,1.3nm,0.7s,baz=263,slow=7.3,SNR=4.3
GTA **Gaotai** 122.00 344 *e*PKP **PKPdf** 20 33 36.9 +4.5
XAN **Xi'an** 123.59 333 PKP **PKPdf** 20 33 32.9 -2.6
XAN sPKP 20 33 38.5
LZH **Lanzhou** 123.80 339 *e*PKP **PKPdf** 20 33 37.1 +1.1
LZH sPKP 20 33 41.8
LZH LR LR
comp=Z,170nm,18.0s
LZH LR LR
comp=Z,160nm,18.1s
LZH LR LR
comp=Z,280nm,20.2s
STKA **Stephens Creek** 123.94 242 PKP **PKPdf** 20 33 35.3 -0.8
comp=Z,7.3nm,0.8s,baz=37,slow=3.6,SNR=7.3
STKA **Stephens Creek** 123.94 242 *e*PKPdf **PKPdf** 20 33 34.4 -1.7
BOSA **Boshof** 126.78 114 PKP **PKPdf** 20 33 40.0 -1.8
comp=Z,6.2nm,0.9s,baz=310,slow=2.7,SNR=7.4
CD2 **Chengdu** 128.45 336 PKP **PKPdf** 20 33 44.5 -0.4
WR1 **Warramunga Arr** 130.13 258 *e*PKPdf **PKPdf** 20 33 47.1 -1.1
WRA **Warramunga Arr** 130.13 258 PKP **PKPdf** 20 33 47.1 -1.1
comp=Z,5.5nm,1.0s,baz=76,slow=1.5,SNR=17
AS01 **Alice Springs** 130.70 253 *e*PKPdf **PKPdf** 20 33 47.4 -1.9
AS31 **Alice Springs** 130.74 253 *e*PKPdf **PKPdf** 20 33 47.8 -1.6
ASAR **Alice Springs** 130.74 253 PKP **PKPdf** 20 33 49.1 -0.3
comp=Z,2.9nm,0.9s,baz=110,slow=1.7,SNR=17
GYA **Guiyang** 131.03 330 *e*Pdif **Pdif** 20 30 40.0 -1.3
GYA PKP **PKPdf** 20 33 49.6 -0.4
GYA PP **PP** 20 36 08.9 +3.4
GYA AMB AMB
comp=Z,120nm,7.8s
CMAR **Chiang Mai Arr** 141.48 333 PKhKP PKPpre 20 34 06.0
comp=Z,2.5nm,0.9s,baz=334,slow=1.9,SNR=12
HYB **Hyderabad** 146.25 6 *i*P **PKPdf** 20 34 16.5 -1.3
KSM **Kuching** 146.73 300 *e*PKPdf **PKPdf** 20 34 18.8 +0.1
OPO **Ambohidratompo** 146.93 99 PKPbc **PKPbc** 20 34 20.9 -0.1
comp=Z,21nm,0.9s,baz=262,slow=3.2,SNR=16
ABPO **Ambohimpanom** 146.98 100 *e*PKPdf **PKPbc** 20 34 20.8 -0.3

ISCJB ***20*** *20:23:01.1±0.9, 19°.18N±0°.05×145°.8E±0°.2, h109km, mb3.7/12, Error ellipse: s-maj=31.4km s-min=6.8km az=174.9*
IDC ***20*** *20:23:05.7±2.6, 19°.13N×145°.84E, h141km±23km, mb3.4/12, mb1 3.5/15, mb1mx3.4/65, mbtmp3.9/15, Error ellipse: s-maj=35.0km s-min=12.1km az=86.0*
ISC 20 20:23:02.8±1.1, 19°.19N±0°.07×145°.9E±0°.3, h109km, n15,
σ1s28/17, mb3.8/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.66**	**191**	P	**Pn**	**20 24 26.9**	**+2.3**
	8.9nm,0.3s,baz=358,slow=23,SNR=6.1						
GUMO				S	**Sn**	**20 25 28.0**	**-0.3**
	1.9nm,0.3s,baz=18,slow=20,SNR=3.2						
JCJ	**Chichijima**	**8.59**	**337**	P	**Pn**	**20 25 06.8**	**+2.6**
	4.0nm,0.3s,baz=348,slow=18,SNR=3.8						
JCJ				S	**Sn**	**20 26 38.4**	**-1.1**
	4.9nm,0.3s,baz=240,slow=20,SNR=2.6						
MJAR	**Matsushiro Arr**	**18.57**	**340**	P	**Pn**	**20 27 13.7**	**+0.9**
	0.3nm,0.3s,baz=160,slow=10,SNR=5.8						
KSRS	**Korea Array**	**24.06**	**323**	P	**P**	**20 28 06.7**	**-1.1**
	1.2nm,0.7s,baz=139,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**40.52**	**197**	P	**P**	**20 30 30.1**	**-1.2**
	0.6nm,0.3s,baz=13,slow=8.3,SNR=21						
FITZ	**Fitzroy Crossi**	**42.08**	**209**	P	**P**	**20 30 43.1**	**-1.0**
	1.2nm,0.6s,baz=27,slow=11,SNR=5.4						
SONM	**Songino Array**	**42.90**	**321**	P	**P**	**20 30 51.0**	**+0.3**
	0.4nm,0.4s,baz=123,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**44.18**	**196**	P	**P**	**20 31 00.0**	**-1.0**

0.4nm,0.7s,baz=3.7,slow=7.7,SNR=5.4
ZALV Zalesovo Beam 57.76 322 P **P 20 32 41.3 -1.0**
0.3nm,0.3s,baz=99,slow=8.9,SNR=2.9
MKAR Makanchi Array 58.28 314 P **P 20 32 45.6 -0.5**
0.2nm,0.5s,baz=86,slow=10,SNR=6.1
KURBB Kurchatov Arra 61.10 318 P **P 20 33 04.8 -0.6**
0.4nm,0.4s,baz=92,slow=7.4,SNR=8.7
BVAR Borovoye Array 66.24 320 P **P 20 33 38.9 -0.1**
0.8nm,0.4s,baz=102,slow=7.8,SNR=15
YKA Yellowknife Ar 77.46 28 P **P 20 34 45.7 -0.1**
0.2nm,0.6s,baz=283,slow=5.6,SNR=3.4
ARCES ARCESS Array B 82.10 342 P **P 20 35 10.8 0.0**
1.5nm,0.5s,baz=78,slow=7.8,SNR=19
FINES FINESS Array B 86.53 335 P **P 20 35 31.7 -1.6**
2.0nm,0.4s,baz=73,slow=4.9,SNR=35

IDC 20 20:32:03.5±1.4, 51°59N×95°91E, h0km, mb1 2.9/2, mb1mx2.6/68, mbtmp2.9/2, ML1.9/2, Error ellipse: s-maj=36.0km s-min=11.1km az=177.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLY	**Talaya**	**4.82**	**86**	Pg	Pb	20 33 29.4	+0.6
	0.0nm,0.3s,baz=284,slow=12,SNR=18						
TLY				Lg	Lg	20 34 32.3	
	0.1nm,0.3s,baz=41,slow=9.1,SNR=17						
ZALV	**Zalesovo Beam**	**7.13**	**294**	Pn	Pn	20 33 48.4	-0.6
	0.1nm,0.3s,baz=101,slow=13,SNR=2.6						
ZALV				Lg	Lg	20 35 48.5	
	0.4nm,0.3s,baz=106,slow=26,SNR=3.6						
SONM	**Songino Array**	**7.77**	**115**	Pg	Pb	20 34 25.1	+6.1
	0.2nm,0.3s,baz=303,slow=18,SNR=4.9						
SONM				Lg	Lg	20 36 07.7	
	1.0nm,0.3s,baz=300,slow=28,SNR=14						
MKAR	**Makanchi Array**	**10.12**	**247**	Pn	Pn	20 34 30.4	+0.3
	0.0nm,0.3s,baz=57,slow=15,SNR=3.1						
MKAR				Lg	Lg	20 37 25.6	
	0.1nm,0.3s,baz=55,slow=30,SNR=4.2						
KURBB	**Kurchatov Arra**	**10.97**	**272**	Lg	Lg	20 37 48.3	
	0.0nm,0.3s,baz=77,slow=27,SNR=4.5						

*IDC **20** 20:39:51.4±2.8, 39°28N×142°92E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/66, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=70.6km s-min=31.3km az=71.0*
*ISCJB **20** 20:39:56.8±1.4, 39°20N±0°05×142°46E±0°10, h32km±6km, mb3.3/3, Error ellipse: s-maj=12.6km s-min=7.5km az=6.8*
*JMA **20** 20:39:58.1±0.1, 39°24N×142°38E, h33km±1km, M3.4*
ISC 20 20:39:57.2±2.4, 39°22N±0°05×142°4E±0°1, h27km±13km, n18, σ0°75/19, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.60**	**307**	P	**Pb**	**20 40 09.2**	**+0.1**
MIYJ				S	**Sb**	**20 40 16.8**	**-0.4**
OFUJ	**Ofunato**	**0.61**	**257**	P	**Pb**	**20 40 09.6**	**+0.3**
OFUJ				S	**Sb**	**20 40 17.6**	**+0.1**
JTH	**Tanohata**	**0.85**	**329**	P	**Pb**	**20 40 13.1**	**-0.2**
JTH				S	**Sb**	**20 40 24.0**	**-0.3**
JOM	**Ohasama**	**0.92**	**287**	P	**Pb**	**20 40 14.3**	**-0.2**
JOM				S	**Sb**	**20 40 26.0**	**-0.4**
JMK	**Ichinoseki**	**0.98**	**255**	P	**Pn**	**20 40 15.2**	**+0.1**
JMK				S	**Sb**	**20 40 27.6**	**-0.4**
JIO	**Ouri**	**1.14**	**228**	P	**Pn**	**20 40 17.0**	**-0.3**
JIO				S	**Sn**	**20 40 30.9**	**-1.0**
JKZ	**Kuzumaki**	**1.15**	**312**	P	**Pn**	**20 40 18.0**	**+0.5**
JKZ				S	**Sn**	**20 40 32.2**	**-0.1**
JANG	**Nango**	**1.36**	**329**	P	**Pn**	**20 40 20.8**	**+0.5**
MJAR	**Matsushiro Arr**	**4.28**	**233**	Pn	**Pn**	**20 41 02.5**	**+2.0**
	0.6nm,0.3s,baz=45,slow=10,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**28.67**	**126**	T	T	21 16 16.0	
	baz=318,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.68**	**126**	T	T	21 16 16.6	
	baz=318,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.68**	**126**	T	T	21 16 20.3	
	baz=318,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.46**	**128**	T	T	21 17 20.4	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.48**	**128**	T	T	21 17 14.7	
	baz=318,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.48**	**128**	T	T	21 17 33.1	
	baz=318,slow=74						
MKAR	**Makanchi Array**	**43.68**	**300**	P	**P**	**20 48 00.6**	**+1.1**
	0.2nm,0.8s,baz=81,slow=8.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**45.32**	**306**	P	**P**	**20 48 12.3**	**-0.2**
	0.2nm,0.4s,baz=79,slow=8.3,SNR=2.9						
WRA	**Warramunga Arr**	**59.33**	**189**	P	**P**	**20 49 55.9**	**-0.9**
	0.7nm,1.1s,baz=5.0,slow=7.3,SNR=5.5						

*IDC **20** 20:43:23.1±1.1, 35°69N×140°84E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/70, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=21.6km s-min=16.8km az=50.0*
*ISCJB **20** 20:43:24.2±1.0, 35°75N±0°04×140°99E±0°09, h19km±5km, mb3.4/5, Error ellipse: s-maj=13.0km s-min=6.5km az=163.0*
*JMA **20** 20:43:25.1±0.1, 35°75N×140°93E, h13km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φ±22.00000°, δ58.00000°, λ-91.00000°. NP2: φ±204.00000°, δ32.00000°, λ-88.00000°. Principal axes: T Plg13.0000°, Azm113.0000°; N Plg1.0000°, Azm23.0000°; P Plg77.0000°, Azm289.0000°;*
JMA Felt II J1.
ISC 20 20:43:24.8±1.2, 35°74N±0°04×140°93E±0°08, h14km±6km, n21, σ0°72/19, mb3.5/5, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**236**	⇓P	**Pg**	**20 43 27.8**	**+0.2**
CHOJ				S	**Sg**	**20 43 29.6**	**+0.1**
JCN	**Nagara**	**0.68**	**242**	⇑P	**Pb**	**20 43 38.3**	**-0.1**
JYT	**Yasato**	**0.77**	**309**	⇑P	**Pg**	**20 43 39.4**	**-0.3**
JYT				S	**Sg**	**20 43 49.7**	**-0.2**
BSO4	**Boso 4**	**0.90**	**213**	⇓P	**Pn**	**20 43 42.9**	**0.0**
JHO	**Hitachi**	**0.91**	**341**	⇑P	**Pb**	**20 43 41.7**	**-0.8**
BSO3	**Boso 3**	**1.00**	**200**	⇓P	**Pg**	**20 43 43.8**	**-0.3**
BSO1	**Boso 1**	**1.09**	**178**	⇓P	**Pb**	**20 43 44.4**	**-0.7**
MJAR	**Matsushiro Arr**	**2.34**	**291**	Pn	**Pn**	**20 44 02.7**	**-0.2**
	5.2nm,0.3s,baz=112,slow=7.9,SNR=39						
MJAR				Lg	Lg	20 44 34.0	
	5.3nm,0.3s,baz=108,slow=33,SNR=7.0						
MAT	**Matsushiro**	**2.35**	**291**	P	**Pn**	**20 44 02.7**	**-0.3**
MAT				S	**Sn**	**20 44 32.8**	**+1.2**
JHJ	**Hachijo jima 2**	**2.79**	**200**	Pn	**Pn**	**20 44 09.9**	**+0.9**
	14nm,0.3s,baz=84,slow=19,SNR=2.9						
JHJ				Sn	**Sn**	**20 44 42.0**	**-0.4**
	18nm,0.3s,baz=73,slow=19,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	21 18 11.2	
	baz=311,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	21 18 07.0	
	baz=311,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**27.87**	**118**	T	T	21 18 13.2	
	baz=311,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	21 19 02.0	
	baz=312,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	21 19 02.0	
	baz=312,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	21 19 03.1	
	baz=312,slow=75						
ZALV	**Zalesovo Beam**	**42.51**	**313**	P	**P**	**20 51 20.4**	**+0.9**
	0.3nm,0.4s,baz=99,slow=7.7,SNR=2.5						
MKAR	**Makanchi Array**	**44.49**	**303**	P	**P**	**20 51 35.4**	**-0.2**
	0.2nm,0.6s,baz=88,slow=8.9,SNR=4.1						
KURBB	**Kurchatov Arra**	**46.50**	**309**	P	**P**	**20 51 51.3**	**-0.2**
	0.5nm,0.7s,baz=84,slow=7.7,SNR=5.0						
ILAR	**Eielson Array**	**50.79**	**32**	P	**P**	**20 52 25.5**	**+1.3**
	0.4nm,0.7s,baz=266,slow=6.4,SNR=2.9						
WRA	**Warramunga Arr**	**55.73**	**188**	P	**P**	**20 52 59.9**	**-1.1**
	0.4nm,0.5s,baz=4.5,slow=7.2,SNR=7.1						

MEX 20 20:45:29.4±0.5, 16°39N×98°45W, h7km±8km, MD4.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.17**	**355**	*eP*	Pg	20 45 48.3	-3.7
TLIG				*eS*	Sg	20 46 03.4	-3.8
VHO	**Vista Hermosa**	**1.78**	**67**	*eP*	Pn	20 45 57.0	-3.9
VHO				*i* S	Sn	20 46 19.2	-4.7
CAIG	**El Cayaco**	**1.86**	**291**	*i* P	Pn	20 45 58.7	-3.0
CAIG				*i* S	Sn	20 46 20.7	-4.8
PLIG	**Platanillo**	**2.23**	**333**	*i* P	Pn	20 46 04.3	-2.6
PLIG				*eS*	Sn	20 46 30.5	-4.3
TPIG	**Tehuac#an**	**2.27**	**27**	*eP*	Pn	20 46 05.1	-2.5
TPIG				*i* S	Sn	20 46 32.2	-3.7
HUIG	**Huatulco**	**2.34**	**105**	*i* P	Pn	20 46 05.8	-2.4
HUIG				*eS*	Sn	20 46 33.2	-4.1
YAIG	**Yautepec**	**2.53**	**347**	*i* P	Pn	20 46 08.8	-2.3
YAIG				*i* S	Sn	20 46 38.0	-4.2
ARIG	**Puente Sto Nin**	**2.61**	**316**	*eP*	Pn	20 46 09.3	-2.8
ARIG				*i* S	Sn	20 46 40.3	-3.8

IDC 20 20:55:36.3±7.0, 15°82N×98°26W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.5/47, mbtmp3.3/5, ML3.0/1, Error ellipse: s-maj=135.4km s-min=20.2km az=176.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.48**	**68**	Pn	Pn	20 56 33.0	+1.4
	1.5nm,0.3s,baz=275,slow=14,SNR=5.4						
CMIG				Sn	Sn	20 57 13.8	+0.2
	7.5nm,0.3s,baz=269,slow=10,SNR=5.5						
CMIG				Lg	Lg	20 57 26.2	
	6.6nm,0.3s,baz=277,slow=19,SNR=4.2						
PDAR	**Pinedale Array**	**28.54**	**342**	P	P	21 01 34.9	+0.9
	0.5nm,0.8s,baz=153,slow=12,SNR=2.3						
NVAR	**Mina Array Bea**	**28.60**	**326**	P	P	21 01 34.8	+0.2
	0.1nm,0.4s,baz=162,slow=6.6,SNR=2.6						
YKA	**Yellowknife Ar**	**48.02**	**350**	P	P	21 04 16.5	-0.4
	0.2nm,0.7s,baz=152,slow=7.8,SNR=3.9						
ILAR	**Eielson Array**	**58.83**	**338**	P	P	21 05 35.5	-0.9
	0.3nm,0.9s,baz=130,slow=8.3,SNR=3.2						

*ISCJB **20** 21:00:05.8±0.6, 33°35N±0°04×91°00E±0°09, h10km, mb3.5/9, Error ellipse: s-maj=11.1km s-min=5.1km az=0.8*
*IDC **20** 21:00:06.3±0.8, 33°26N×90°82E, h0km, mb3.6/9, mb1 3.7/13, mb1mx3.5/69, mbtmp3.6/13, ML3.1/4, Error ellipse: s-maj=40.3km s-min=15.8km az=51.0*
*BJI **20** 21:00:07.3, 33°28N×90°80E, h4km, mb4.1/8, Ms3.6/1*
ISC 20 21:00:07.9±0.6, 33°28N±0°05×90°9E±0°1, h10km, n27, σ1°94/29, mb3.7/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.58**	**176**	Pn	**Pb**	**21 01 08.8**	**-2.8**
LSA				Pg	**Pg**	**21 01 14.8**	**-1.7**
LSA				Sg	**Sg**	**21 02 05.6**	**+2.7**
TAPN	**Taplejung**	**6.51**	**206**	*eP*	**Pn**	**21 01 45.9**	**+1.8**
	7.6nm,0.7s						
GUN	**Gumba**	**6.86**	**220**	*eP*	**Pn**	**21 01 51.6**	**+2.6**
	20nm,0.5s						
JIRN	**Jiri**	**6.90**	**217**	*eP*	**Pn**	**21 01 52.3**	**+2.8**
	14nm,0.4s						
ODAN	**Odare**	**7.07**	**206**	*eP*	**Pn**	**21 01 53.2**	**+1.5**
	24nm,0.8s						
KKN	**Kakani**	**7.29**	**223**	*eP*	**Pn**	**21 01 57.8**	**+3.1**
	13nm,0.5s						
RAMN	**Ramite**	**7.31**	**211**	*eP*	**Pn**	**21 01 56.8**	**+1.8**
	40nm,0.5s						
PKI	**Pulchoki**	**7.38**	**221**	*eP*	**Pn**	**21 01 58.2**	**+2.1**
	21nm,0.5s						
PKIN	**Phulchoki**	**7.39**	**221**	*eP*	**Pn**	**21 01 59.1**	**+3.0**
	24nm,0.6s						
GKN	**Gorkha**	**7.51**	**227**	*eP*	**Pn**	**21 01 59.9**	**+2.2**
	20nm,0.4s						
DMN	**Daman**	**7.53**	**223**	*eP*	**Pn**	**21 02 00.8**	**+2.8**
	26nm,0.7s						
KOLN	**Koldanda**	**8.33**	**231**	*eP*	**Pn**	**21 02 10.8**	**+1.8**
	10nm,0.7s						
GTA	**Gaotai**	**9.46**	**47**	*eP*	**Pn**	**21 02 26.8**	**+2.4**
GTA				pP		21 02 31.3	
GTA				sP		21 02 34.0	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMQ	**Urumqi**	**10.81**	**348**	*eP*	**Pn**	**21 02 43.8**	**+1.0**
MKAR	**Makanchi Array**	**15.00**	**337**	Pn	**Pn**	**21 03 38.0**	**-2.0**
	0.1nm,0.3s,baz=147,slow=14,SNR=16						
AAK	**Ala-Archa**	**15.91**	**311**	Pn	**Pn**	**21 03 51.6**	**-0.5**
	0.0nm,0.3s,baz=115,slow=12,SNR=1.9						
CMAR	**Chiang Mai Arr**	**16.44**	**152**	Pn	**Pn**	**21 03 58.4**	**-0.5**
	0.1nm,0.3s,baz=331,slow=10,SNR=6.1						
KURBB	**Kurchatov Arra**	**19.56**	**336**	P	**P**	**21 04 34.9**	**-0.8**
	0.0nm,0.3s,baz=144,slow=11,SNR=7.7						
ZALV	**Zalesovo Beam**	**21.10**	**350**	P	**P**	**21 04 51.4**	**-1.1**
	2.5nm,0.5s,baz=170,slow=11,SNR=17						
BVAR	**Borovoye Array**	**24.59**	**329**	P	**P**	**21 05 28.3**	**+0.2**
	0.5nm,0.7s,baz=134,slow=10,SNR=2.4						
GEYT	**Alibeck**	**26.95**	**289**	P	**P**	**21 05 50.0**	**+0.5**
	1.1nm,0.7s,baz=90,slow=5.8,SNR=3.0						
BRTR	**Keskin Array B**	**45.78**	**295**	P	**P**	**21 08 28.1**	**-1.8**
	0.4nm,0.7s,baz=94,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**49.43**	**325**	P	**P**	**21 08 57.4**	**-0.3**
	0.8nm,0.8s,baz=98,slow=7.9,SNR=2.1						
GERES	**GERESS Array B**	**57.79**	**310**	P	**P**	**21 10 00.4**	**+1.0**
	0.1nm,0.3s,baz=56,slow=6.0,SNR=3.9						
WRA	**Warramunga Arr**	**67.25**	**135**	P	**P**	**21 11 02.9**	**+0.1**
	0.7nm,0.9s,baz=319,slow=6.0,SNR=3.0						
ASAR	**Alice Springs**	**69.92**	**138**	P	**P**	**21 11 19.8**	**+0.4**
	0.5nm,1.0s,baz=327,slow=6.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**82.23**	**281**	P	**P**	**21 12 29.0**	**-0.8**
	0.5nm,0.9s,baz=44,slow=4.0,SNR=2.8						

*IDC **20** 21:07:02.6±0.5, 23°82S×175°57W, h0km, mb4.6/21, mb1 4.7/21, mb1mx4.6/39, mbtmp4.6/21, Error ellipse: s-maj=18.3km s-min=14.6km az=161.0*
*ISCJB **20** 21:07:06.7±2.6, 23°87S±0°06×175°70W±0°06, h27km±18km, mb4.9/68, Error ellipse: s-maj=10.3km s-min=8.1km az=136.6*
*BJI **20** 21:07:08.0, 23°90S×175°70W, h40km, mb5.0/37, mB5.5/5, Ms5.3/7, Ms7 5.2/6*
*NEIC **20** 21:07:11.8±1.4, 23°88S×175°75W, h59km±12km, mb5.1/44, Error ellipse: s-maj=10.4km s-min=8.3km az=136.0*
ISC 20 21:07:08.6±0.6, 23°85S±0°06×175°52W±0°08, h34km±2km, h34km:pP-P, n176, σ2°16/193, mb5.1/67, 5C-4D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.79**	**201**	Pn	**Pn**	**21 08 33.7**	**+1.5**
MSVF	**Nonsavu**	**8.55**	**314**	*e*Pn	**Pn**	**21 09 12.4**	**+2.3**
AFI	**Afiamalu**	**10.50**	**20**	Pn	Pn	21 09 28.6	-8.2
	5.8nm,0.3s,baz=241,slow=2.6,SNR=5.0						
AFI				Sn	Sn	21 11 16.6	-17
	3.9nm,0.3s,baz=198,slow=19,SNR=3.1						
RAR	**Rarotonga**	**14.79**	**83**	Pn	Pn	21 10 26.1	-9.2
	4.6nm,0.3s,baz=228,slow=6.0,SNR=7.8						
RAR				Sn	Sn	21 12 55.5	-23
	1.5nm,0.3s,baz=90,slow=19,SNR=4.0						
RAR	**Rarotonga**	**14.79**	**83**	*e*Pn	Pn	21 10 25.7	-10
RAR				*eS*	Sn	21 12 46.5	-32
URZ	**Urewera**	**15.68**	**202**	Pn	**P**	**21 10 50.1**	**-0.6**
	1.1nm,0.3s,baz=113,slow=13,SNR=3.6						
URZ				Sn	Sn	21 13 28.4	-11
	1.1nm,0.3s,baz=143,slow=20,SNR=5.0						
URZ	**Urewera**	**15.68**	**202**	*e*Pn	**Pn**	**21 10 47.5**	**+0.5**
	109nm,1.7s						
URZ				Sn	Sn	21 13 28.4	-11
DZM	**Mont Dzumac**	**16.70**	**272**	Pn	**P**	**21 11 03.6**	**+1.4**
	0.5nm,0.3s,baz=107,slow=17,SNR=12						
DZM	**Mont Dzumac**	**16.70**	**272**	*e*Pn	**P**	**21 11 03.6**	**+1.4**
	98nm,1.2s						
BKZ	**Black Stump Fm**	**16.71**	**202**	*e*Pn	**Pn**	**21 10 57.8**	**-2.4**
	125nm,2.0s						
THZ	**Tophouse**	**20.31**	**206**	*eP*	**P**	**21 11 40.4**	**-1.3**
	122nm,1.7s						
KHZ	**Kahutara**	**20.63**	**204**	*eP*	**P**	**21 11 40.2**	**-4.8**
	71nm,1.2s						
RPZ	**Rata Peaks**	**22.68**	**206**	P	**P**	**21 12 10.6**	**+3.4**
	5.6nm,0.6s,baz=20,slow=12,SNR=3.0						
FOZ	**Fox Glacier**	**23.05**	**208**	*eP*	**P**	**21 12 12.2**	**+1.3**
	215nm,2.0s						
MLZ	**Mavora Lakes**	**25.25**	**208**	*eP*	**P**	**21 12 31.6**	**+0.1**
	16nm,1.0s						
ARMA	**Armidale**	**29.89**	**250**	*eP*	**P**	**21 13 16.1**	**+2.7**
	9.4nm,0.9s						
EIDS	**Eidsvold**	**30.36**	**260**	*eP*	**P**	**21 13 15.9**	**-1.5**
CTA	**Charters Tower**	**35.57**	**268**	P	**P**	**21 14 01.1**	**-2.0**
	5.4nm,0.4s,baz=89,slow=10,SNR=18						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**35.57**	**268**	*eP*	**P**	**21 14 01.6**	**-1.4**
	118nm,1.5s						
PMG	**Port Moresby**	**38.39**	**286**	P	**P**	**21 14 24.8**	**-2.2**
	18nm,0.9s,baz=130,slow=7.9,SNR=3.5						
STKA	**Stephens Creek**	**38.55**	**248**	P	**P**	**21 14 27.9**	**-0.3**
	6.3nm,0.9s,baz=100,slow=10,SNR=4.0						
AS01	**Alice Springs**	**46.04**	**260**	*eP*	**P**	**21 15 27.7**	**-1.6**
AS31	**Alice Springs**	**46.08**	**259**	*eP*	**P**	**21 15 28.9**	**-0.8**
	7.0nm,1.0s						
ASAR	**Alice Springs**	**46.08**	**259**	P	**P**	**21 15 28.6**	**-1.1**
	9.3nm,0.9s,baz=91,slow=8.5,SNR=47						
ASAR				S	**S**	**21 22 15.7**	**+2.4**
	1.0nm,0.9s,baz=106,slow=14,SNR=5.6						
WRAB	**Tennant Creek**	**46.49**	**265**	*eP*	**P**	**21 15 29.7**	**-3.2**
	21nm,0.8s						
WRA	**Warramunga Arr**	**46.49**	**265**	P	**P**	**21 15 30.2**	**-2.8**
	14nm,0.9s,baz=100,slow=8.2,SNR=41						
WRA				S	**S**	**21 22 17.9**	**-1.3**
	2.6nm,1.1s,baz=101,slow=14,SNR=4.2						
VNDA	**Vanda**	**54.81**	**186**	*eP*	**P**	**21 16 38.3**	**+3.5**
	11nm,1.3s						
SOEI	**Soe**	**58.93**	**273**	*eP*	P	21 17 09.9	+4.8
CASY	**Casey**	**61.96**	**206**	*eP*	**P**	**21 17 26.4**	**+1.6**
	4.6nm,0.6s						
QSPA	**South Pole Qui**	**66.24**	**180**	P	**P**	**21 17 53.7**	**+0.6**
	16nm,1.1s,baz=19,slow=3.1,SNR=14						
QSPA	**South Pole Qui**	**66.24**	**180**	*eP*	**P**	**21 17 53.9**	**+0.8**
MJAR	**Matsushiro Arr**	**74.25**	**323**	P	**P**	**21 18 39.9**	**-2.4**
	1.1nm,0.8s,baz=160,slow=7.6,SNR=4.6						
LEM	**Lembang**	**75.27**	**269**	P	**P**	**21 18 46.4**	**-2.6**
	8.5nm,0.4s,baz=323,slow=20,SNR=2.4						
KSM	**Kuching**	**76.14**	**278**	*eP*	**P**	**21 18 52.1**	**-1.6**
	4.3nm,0.6s						
ASAJ	**Asahikawa**	**77.75**	**331**	P	**P**	**21 19 02.1**	**0.0**
	15nm,0.9s,baz=205,slow=8.4,SNR=6.0						
ASAJ	**Asahikawa**	**77.75**	**331**	*eP*	**P**	**21 19 02.0**	**0.0**
	21nm,0.9s						
FALS	**False Pass**	**79.07**	**7**	*eP*	**P**	**21 19 09.4**	**+0.4**
	170nm,0.7s						
YSS	**Yuzh-Sakhalins**	**79.90**	**332**	*eP*	**P**	**21 19 14.2**	**+0.5**
ISA	**Isabella, Lake**	**80.08**	**44**	*eP*	**P**	**21 19 15.2**	**+0.1**
	26nm,1.6s						
PETK	**Petropavlovsk-**	**80.09**	**344**	P	**P**	**21 19 14.2**	**-0.5**
	11nm,0.8s,baz=129,slow=6.6,SNR=7.0						
KSRS	**Korea Array**	**80.90**	**318**	P	**P**	**21 19 19.4**	**+0.1**
	2.0nm,0.9s,baz=129,slow=9.9,SNR=5.4						
KSAR	**Wonju Array Be**	**80.92**	**318**	P	**P**	**21 19 19.4**	**-0.1**
MDPB	**Devils Postpil**	**80.94**	**42**	*eP*	**P**	**21 19 22.2**	**+2.3**
YBH	**Yreka Blue Hor**	**81.51**	**37**	P	**P**	**21 19 21.4**	**-1.2**
	2.0nm,0.7s,baz=333,slow=9.0,SNR=2.6						
USRK	**Ussuriysk Ar.**	**83.01**	**325**	P	**P**	**21 19 30.4**	**+0.1**
	13nm,0.9s,baz=134,slow=4.8,SNR=15						
TUC	**Tucson**	**83.28**	**50**	*eP*	**P**	**21 19 33.4**	**+1.3**
	16nm,1.5s						
NJ2	**Nanjing**	**83.76**	**309**	*eP*	**P**	**21 19 34.4**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,13nm,1.0s						
SYO	**Syowa Base**	**83.97**	**192**	⇓*eP*	**P**	**21 19 32.8**	**-2.1**
LCMT	**Little Creek M**	**84.26**	**45**	*eP*	**P**	**21 19 38.6**	**+1.5**
	18nm,1.2s						
CCUT	**Cedar City**	**84.50**	**45**	*eP*	**P**	**21 19 39.8**	**+1.3**
	19nm,1.2s						
KNB	**Kanab**	**84.54**	**46**	*eP*	**P**	**21 19 39.9**	**+1.4**
	29nm,1.3s						
U15A	**North Rim**	**84.56**	**46**	*eP*	**P**	**21 19 39.1**	**+0.3**
	19nm,1.1s						
MDJ	**Mudanjiang**	**84.56**	**324**	P	**P**	**21 19 36.8**	**-1.4**
MDJ				pmax	pmax		
	comp=Z,22nm,0.9s						
MDJ	**Mudanjiang**	**84.56**	**324**	*eP*	**P**	**21 19 38.8**	**+0.5**
	16nm,0.9s						
SNAA	**Sanae**	**84.61**	**178**	P	**P**	**21 19 35.8**	**-2.5**
SNAA	**Sanae**	**84.61**	**178**	P	**P**	**21 19 37.3**	**-1.0**
	5.6nm,0.8s,baz=200,slow=8.5,SNR=8.0						
SNAA	**Sanae**	**84.61**	**178**	*eP*	**P**	**21 19 39.0**	**+0.7**
VNA3	**Neumayer Olymp**	**84.65**	**175**	P	**P**	**21 19 38.0**	**-0.4**
SZCU	**Shurtz Canyon**	**84.70**	**45**	*eP*	**P**	**21 19 42.2**	**+2.7**
	47nm,1.9s						
VNA2	**Neumayer--Watz**	**85.12**	**176**	P	**P**	**21 19 40.9**	**+0.1**
	baz=189,slow=3.9						
PLCA	**Paso Flores**	**85.32**	**133**	P	**P**	**21 19 41.9**	**-0.6**
	3.4nm,1.0s,baz=266,slow=12,SNR=4.2						
VNA1	**Neumayer--Stat**	**85.33**	**176**	P	**P**	**21 19 42.6**	**+0.8**
MSU	**Marysvale**	**85.82**	**45**	*eP*	**P**	**21 19 43.4**	**-1.6**
CN2	**Changchun**	**86.34**	**322**	*eP*	**P**	**21 19 46.8**	**-0.3**
CN2				*es*P	sP	21 20 01.8	+0.1
CN2				*eS*	**S**	**21 30 18.8**	**-1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,17.0s						
CN2				LR	LR		
	comp=E,1μm,17.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s			

HHC pP pP 21 20 32.8 +1.8
HHC sP sP 21 20 36.6 +1.8
HHC PP **PP** **21 24 09.3 +4.6**
HHC SKS **SKSac** **21 30 52.3 +0.3**
HHC S **S** **21 31 24.6 -0.8**
HHC sS sS 21 31 42.4 -0.9
HHC SS **SS** **21 37 45.8 +3.3**
HHC pmax pmax
comp=Z,12nm,1.2s
HHC LR LR
comp=Z,620nm,19.1s
CM01 Chiang Mai Arr 93.34 289 *e*P **P** **21 20 20.9 +0.3**
CM31 Chiang Mai Arr 93.37 289 *e*P **P** **21 20 22.5 +1.7**
CMAR Chiang Mai Arr 93.37 289 P **P** **21 20 20.9 +0.1**
8.0nm,0.9s,baz=136,slow=3.1,SNR=46
CHTO Chiang Mai 93.51 289 *e*P **P** **21 20 22.1 +0.6**
21nm,1.1s
CD2 Chengdu 94.50 302 *e*P **P** **21 20 26.0 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
LZH Lanzhou 96.61 306 *e*P **P** **21 20 38.6 +3.2**
LZH pP sP 21 20 51.3 +1.2
LZH sP pP 21 20 54.5 +8.3
LZH pmax pmax
comp=Z,36nm,1.5s
LZH pmax pmax
comp=Z,110nm,9.7s
LZH LR LR
comp=N,370nm,17.2s
LZH LR LR
comp=E,380nm,17.5s
LZH LR LR
comp=Z,460nm,19.6s
YKA Yellowknife Ar 98.59 24 P **P** **21 20 42.0 -1.5**
0.1nm,0.5s,baz=237,slow=4.2,SNR=3.3
SONM Songino Array 99.77 318 P **Pdif** **21 20 49.4 +0.1**
0.4nm,0.8s,baz=119,slow=5.1,SNR=2.5
GTA Gaotai 100.85 308 *e*P **Pdif** **21 20 44.5 -10**
GTA pP pPdif 21 20 55.3 -10
GTA sP pP 21 20 59.3 -5.9
GTA PP **PP** **21 24 58.1 -4.7**
GTA Gaotai 100.85 308 SS SS 21 39 15.1 -14
WMQ Urumqi 110.83 310 *e*PKP **PKiKP** **21 25 37.4 -0.8**
ZALV Zalesovo Beam 114.52 320 PKiKP PKPdf 21 25 42.4 -2.4
0.7nm,0.7s,baz=132,slow=2.1,SNR=2.8
MKAR Makanchi Array 115.14 312 PKP **PKPdf** **21 25 45.2 -1.1**
0.3nm,0.7s,baz=161,slow=1.4,SNR=3.7
KURK Kurchatov 117.99 316 PKP **PKPdf** **21 25 50.2 -1.3**
KURBB Kurchatov Arra 118.04 316 PKP **PKPdf** **21 25 50.2 -1.4**
2.0nm,0.2s,baz=95,slow=2.1,SNR=3.4
BVAR Borovoye Array 123.10 319 PKP **PKPdf** **21 26 00.2 -1.2**
0.4nm,0.6s,baz=122,slow=1.9,SNR=3.4
KKAR Karatay Array 123.10 307 *e*PKPdf **PKPdf** **21 26 00.6 -1.1**
KBL Kabul 123.47 297 *e*PKPdf **PKPdf** **21 26 05.0 +2.1**
ABKAR Akbulak array 130.07 315 *e*PKPdf **PKPdf** **21 26 15.3 +0.5**
AKTO Aktyubinsk 131.07 317 PKP **PKPdf** **21 26 16.4 -0.2**
0.5nm,0.5s,baz=284,slow=4.2,SNR=2.4
GEYT Alibeck 132.48 300 PKP **PKPdf** **21 26 20.3 +0.5**
1.0nm,0.7s,baz=17,slow=4.9,SNR=2.9
ARCES ARCESS Array B 132.60 350 PKP **PKPdf** **21 26 18.2 -0.8**
1.7nm,0.9s,baz=23,slow=4.9,SNR=3.4
FINES FINESS Array B 139.61 344 PKP **PKPdf** **21 26 32.5 +0.4**
1.7nm,0.9s,baz=68,slow=5.5,SNR=3.5
HFS Hagfors 143.17 352 PKhKP PKPpre 21 26 34.3
2.4nm,1.0s,baz=168,slow=41,SNR=3.1
SUW Suwalki 146.76 340 *e*PKPdf **PKPab** **21 26 51.0 +3.1**
AKASG Malin Array Be 147.04 331 PKPbc **PKPdf** **21 26 46.0 +0.4**
3.2nm,0.6s,baz=40,slow=4.1,SNR=16
AKBB Malin Array Si 147.04 331 *e*PKPdf **PKPbc** **21 26 47.6 -0.1**
KIEV Kiev 147.05 331 *e*PKPbc **PKPbc** **21 26 47.8 +0.1**
AK11 Malin Array Si 147.08 331 *e*PKPdf **PKPdf** **21 26 46.4 +0.7**
EKA Eskdalemuir Ar 148.04 8 PKPbc **PKPbc** **21 26 49.9 -0.3**
1.2nm,0.8s,baz=344,slow=2.4,SNR=3.7
ASF Jabal al Asfar 150.28 293 PKPbc **PKPbc** **21 26 56.2 -0.6**
2.2nm,0.9s,baz=327,slow=23,SNR=3.0
KWP Kalwaria Pacla 150.56 336 *e*PKP **PKPbc** **21 26 59.6 +2.9**
BR131 Keskin Array S 150.76 310 *e*PKPbc **PKPbc** **21 26 57.1 -0.6**
BRTR Keskin Array B 150.76 310 PKPbc **PKPbc** **21 26 56.8 -0.9**
1.4nm,0.8s,baz=154,slow=5.6,SNR=7.8
BRTR PKPab **PKPab** **21 27 05.4 +0.6**
8.0nm,0.9s,baz=135,slow=3.1,SNR=16
BUR08 Bucovina Ar. S 151.07 330 *e*PKPbc **PKPab** **21 27 03.2 -2.6**
BUR04 Bucovina Ar. S 151.09 330 *e*PKPbc **PKPbc** **21 26 58.5 +0.3**
OJC Ojcow 151.09 339 *e*PKPab **PKPab** **21 27 07.9 +2.3**
STHS Stebnicka Huta 151.28 337 *e*PKP **PKPbc** **21 26 58.5 0.0**
STHS *e* 21 27 09.1
ANTO Ankara 151.29 311 *e*PKPbc **PKPbc** **21 26 58.8 -0.1**
BR231 Keskin MP Arra 151.31 311 *e*PKPbc **PKPbc** **21 26 57.5 -1.4**
MMAI Mount Meron Ar 151.39 296 PKPbc **PKPbc** **21 26 59.8 +0.5**
5.4nm,0.9s,baz=22,slow=1.6,SNR=5.0
NIE Niedzica 151.61 338 *e*PKP **PKPbc** **21 27 00.9 +1.7**
CRVS Cervenica-Dubn 151.63 336 *e*PKP **PKPab** **21 27 10.0 +2.1**
CLL Collm 151.80 349 *e*PKPbc **PKPbc** **21 26 59.0 -0.5**
CLL *e*(PKPab) **pPKPdf** **21 27 06.0 +1.7**
CLL *i* pPKPdf **pPKPbc** **21 27 11.3 +0.7**
comp=Z,25nm,1.1s
CLL *i* 21 27 20.9
CLL Collm 151.80 349 *e*PKPbc **PKPbc** **21 26 58.2 -1.3**
UPC Upice 151.91 344‖ *e*PKP **PKPbc** **21 27 01.0 +1.1**
UPC *ep*PKP **pPKPab** **21 27 ---.- -0.9**
OKC Ostrava-Krasne 151.94 341 *e*PKPAB **PKPab** **21 27 12.6 +3.5**
DPC Dobruska-Polom 151.98 344‖ *e*PKP **PKPbc** **21 27 00.0 -0.1**
DPC *e*PKPAB **sPKPdf** **21 27 08.3 -0.1**
DPC *ep*PKP **pPKPbc** **21 27 11.5 +0.4**
DPC *es*PKP 21 27 22.3
BRG Berggiesshubel 152.04 347 *i* PKP **PKPbc** **21 26 59.6 -0.5**
comp=Z,4.9nm,0.9s
BRG *i* 21 27 11.9
comp=Z,21nm,0.9s
BRG *i* 21 27 21.3
comp=Z,24nm,0.9s
KRLC Kraliky 152.11 343‖ *e*PKP **PKPbc** **21 27 00.2 -0.2**
KRLC *e*PKPAB **pPKPbc** **21 27 11.0 -0.4**
KRLC *es*PKP 21 27 22.3
LANS Liptovska Anna 152.12 339 *e*PKP **PKPbc** **21 27 02.9 +2.5**
LANS *e* 21 27 13.1
MORC Moravsky Berou 152.17 342 *e*PKPbc **PKPbc** **21 27 01.1 +0.6**
PVCC Panska Ves 152.23 346‖ *e*PKP **PKPbc** **21 27 01.8 +1.2**
PVCC *e*PKPAB **pPKPbc** **21 27 13.3 +1.7**
PVCC *ex* x 21 27 21.9
MLR Muntele Rosu 152.27 326 PKPbc **PKPbc** **21 27 00.6 -0.4**
comp=Z,0.7nm,1.1s,baz=12,slow=5.2,SNR=3.2
MLR PKPab **PKPab** **21 27 10.8 -0.1**
comp=Z,1.8nm,0.9s,baz=90,slow=3.1,SNR=6.3
KECS Kecovo 152.34 337 *e*PKP **PKPab** **21 27 13.9 +3.0**
CSS Mathiatis 152.62 300 *e*PKPbc **PKPbc** **21 27 01.0 -0.9**
PRU Pruhonice 152.74 346 *e*PKPAB **PKPab** **21 27 14.1 +1.6**
PRU *ep*PKP **pPKPab** **21 27 22.7 -0.7**
GOPC GO Pecny, Ondr 152.76 345 *e*PKPAB **PKPab** **21 27 14.4 +1.8**
GOPC *ep*PKP **pPKPab** **21 27 22.6 -0.9**
VYHS Vyhne 152.90 339 *e*PKP **PKPab** **21 27 12.9 -0.4**
NKC Novy Kostel 152.94 349 *e*PKPAB **PKPab** **21 27 14.5 +1.1**
NKC *ep*PKP **pPKPab** **21 27 23.1 -1.1**
NKC *es*PKP 21 27 34.1
MEM Membach 153.26 358‖ PKPab **PKPab** **21 27 14.4 -0.3**
KHC Kasperske Hory 153.76 346‖ *e*PKP **PKPbc** **21 27 03.6 -0.4**
KHC *e*PKPAB **PKPab** **21 27 16.6 -0.3**
KHC *es*PKP 21 27 25.8
KHC *ex* x 21 27 38.5
DOU Dourbes 153.80 360‖ PKPab **PKPab** **21 27 17.7 +0.8**
GEC2 GERESS Array S 154.01 346 *e*PKPab **PKPab** **21 27 17.6 -0.4**
GERES GERESS Array B 154.01 346 PKPbc **PKPbc** **21 27 04.9 +0.3**
comp=Z,0.3nm,0.5s,baz=342,slow=1.6,SNR=3.4
GERES PKPab **pPKPbc** **21 27 15.6 -0.1**
comp=Z,2.0nm,0.9s,baz=45,slow=2.1,SNR=8.4
GEA0 GERESS Array S 154.01 346 *e*PKPbc **PKPab** **21 27 12.7 -5.4**
CONA Conrad Observa 154.31 342 *ep*PKPdf **PKPab** **21 27 15.8 -3.6**
comp=Z,8.7nm,1.1s
MOA Molln 154.81 344 *e*PKPab **PKPab** **21 27 17.8 -3.6**
comp=Z,4.4nm,1.3s
ARSA Arzberg 155.03 342 pPKPdf **PKPab** **21 27 17.2 -5.1**
comp=Z,0.2nm,0.3s
KBA Koelnbreinsper 155.75 345 sPKPdf **PKPab** **21 27 21.4 -4.2**
comp=Z,4.7nm,1.6s
MOTA Moosalm 155.96 349 *es*PKPdf **PKPab** **21 27 21.5 -5.0**
comp=Z,1.3nm,0.8s
DAVA Damuels 156.21 351 sPKPdf **PKPab** **21 27 22.2 -5.3**
comp=Z,4.3nm,0.9s
FETA Feichten 156.34 349 sPKPdf **PKPab** **21 27 20.4 -7.7**
comp=Z,3.1nm,1.0s
VISS Visnje 156.54 342 *e*PKPdf **PKPab** **21 27 21.1 -7.7**
BOJS Bojanci 156.69 341 *i* PKPdf **PKPab** **21 27 22.6 -6.9**

KOWA Kowa 167.72 138 PKP **PKPdf** **21 27 11.5 -0.6**
comp=Z,0.7nm,0.5s,baz=312,slow=6.7,SNR=3.6
KOWA Kowa 167.72 138 *e*PKPdf **PKPdf** **21 27 13.8 +1.7**
TOA0 Torodi Ar. Sit 169.04 166 *e*PKPdf **PKPdf** **21 27 14.8 +1.7**
TORD Torodi Ar. Bea 169.04 166 PKP **PKPdf** **21 27 11.5 -1.6**
comp=Z,1.3nm,1.1s,baz=281,slow=2.0,SNR=3.7
TORD PKPab **PKPab** **21 28 22.5 -1.7**
comp=Z,1.3nm,0.8s,baz=198,slow=3.8,SNR=2.8

MEX 20 21:27:07.4±0.3, 16°37N×98°20W, h5km±7km, MD4.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.24**	**344**	*e*P		P		21 27 27.3	-3.8
TLIG				*i* S		Sg		21 27 43.4	-3.8
VHO	**Vista Hermosa**	**1.57**	**63**	*e*P		Pn		21 27 32.5	-3.7
VHO				*i* S		Sn		21 27 52.0	-5.0
CAIG	**El Cayaco**	**2.09**	**289**	*i* P		Pn		21 27 39.6	-3.5
CAIG				*i* S		Sn		21 28 05.3	-4.2
TPIG	**Tehuac#an**	**2.19**	**21**	*i* P		Pn		21 27 42.2	-2.5
TPIG				*i* S		Sn		21 28 07.9	-4.4
PLIG	**Platanillo**	**2.36**	**329**	*i* P		Pn		21 27 44.0	-3.0
PLIG				*e*S		Sn		21 28 12.3	-4.1
YAIG	**Yautepec**	**2.61**	**342**	*e*P		Pn		21 27 48.1	-2.3
YAIG				*e*S		Sn		21 28 18.5	-4.2
ARIG	**Puente Sto Nin**	**2.79**	**313**	*e*P		Pn		21 27 50.1	-2.7
ARIG				*i* S		Sn		21 28 22.2	-4.8

*IDC **20** 21:34:52.4±6.8, 31°.07S×65°.42W, h167km±51km, mb3.3/1, mb1 3.4/4, mb1mx3.2/44, mbtmp3.8/4, Error ellipse: s-maj=62.9km s-min=46.1km az=23.0*
*ISCJB **20** 21:34:53.7±0.6, 30°.96S±0°.05×65°.51W±0°.07, h186km±7km, mb3.3/1, Error ellipse: s-maj=10.4km s-min=7.8km az=30.8*
*SJA **20** 21:34:54.2±1.1, 30°.94S×65°.56W, h186km±7km, ML3.6, MW3.9*
ISC 20 21:34:54.0±0.8, 30°.95S±0°.06×65°.52W±0°.07, h186km±8km, n28, σ0°98/35, 1D, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APLL	**PUNTA DE LOS L**	**1.03**	**302**	*e*P		P	**Pn**	**21 35 23.1**	**+0.5**
APLL				*e*S		S	**Sn**	**21 35 43.9**	**-0.7**
MRA	**San Martin**	**1.47**	**186**	*e*P		P	**Pn**	**21 35 27.3**	**+1.1**
MRA				*e*S		S	**Sn**	**21 35 51.6**	**+0.2**
MRA					IAML			21 35 53.8	
	comp=Z,120nm,0.5s								
ACAN	**Cantantal**	**1.94**	**227**	*e*P		P	**Pn**	**21 35 32.1**	**+1.3**
ACAN				*e*S		S	**Sn**	**21 35 59.5**	**0.0**
CYA	**Choya**	**2.52**	**354**	*e*P		P	**Pn**	**21 35 37.4**	**+0.1**
CYA					IAML			21 36 09.7	
	comp=Z,87nm,0.4s								
AMOG	**MOGNA**	**2.55**	**270**	*e*P		P	**Pn**	**21 35 38.6**	**+0.9**
AMOG				*e*S		S	**Sn**	**21 36 11.6**	**-0.1**
RTLL	**Cerro Villicun**	**2.56**	**261**	*e*P		P	**Pn**	**21 35 38.2**	**+0.5**
RTLL					IAML			21 36 12.1	
	comp=Z,328nm,0.3s								
SJA	**San Juan**	**2.67**	**257**	*e*P		P	**Pn**	**21 35 39.9**	**+0.9**
SJA				*e*S		S	**Sn**	**21 36 14.1**	**+0.1**
SJA					IAML			21 36 15.6	
	comp=Z,387nm,0.2s								
RTCV	**Cerro Valdivia**	**2.73**	**250**	*e*P		P	**Pn**	**21 35 40.2**	**+0.5**
RTCV				*e*S		S	**Sn**	**21 36 15.3**	**-0.2**
ZON	**Zonda**	**2.77**	**257**	*e*P		P	**Pn**	**21 35 40.7**	**+0.6**
ZON				*e*S		S	**Sn**	**21 36 15.7**	**-0.4**
AGUA	**GUANDACOL**	**2.96**	**299**	*e*P		P	**Pn**	**21 35 44.0**	**+1.5**
VCA	**Vinchina**	**3.21**	**313**	*e*P		P	**Pn**	**21 35 47.3**	**+1.6**
VCA					IAML			21 35 49.2	
	comp=Z,52nm,0.3s								
ASAL	**Salagasta**	**3.26**	**239**	*e*P		P	**Pn**	**21 35 46.6**	**+0.5**
RTLS	**Leoncito**	**3.34**	**254**	*e*P		P	**Pn**	**21 35 48.7**	**+1.4**
RTLS					IAML			21 35 49.4	
	comp=Z,413nm,0.3s								
RTLS				*e*S		S	**Sn**	**21 36 25.7**	**-3.2**
ARCO	**CERRO ARCO**	**3.46**	**236**	*e*P		P	**Pn**	**21 35 49.0**	**+0.4**
ARCO					IAML			21 36 32.7	
	comp=Z,381nm,0.3s								
AAGR	**Agnolo**	**3.52**	**232**	*e*P		P	**Pn**	**21 35 50.0**	**+0.6**
AUSP	**Uspallata**	**3.53**	**248**	*e*P		P	**Pn**	**21 35 50.4**	**+0.7**
AVIZ	**Vizcacheras**	**3.57**	**225**	*e*P		P	**Pn**	**21 35 50.6**	**+0.7**
AVIZ				‖ *e*S		S	**Sn**	**21 36 33.4**	**-0.4**
RFA	**San Rafael**	**4.54**	**212**	IAML				21 36 53.0	
	comp=Z,38nm,0.3s								
FSA	**Cafayete**	**4.84**	**355**	IAML				21 36 09.5	
	comp=Z,7.5nm,0.4s								
ROC1	**El Roble**	**5.08**	**245**	*e*P		P	**Pn**	**21 36 09.4**	**0.0**
CPUP	**Villa Florida**	**8.54**	**59**	P		P	**Pn**	**21 36 52.9**	**-1.5**
	comp=Z,3.0nm,0.3s,baz=236,slow=12,SNR=9.6								
LPAZ	**La Paz**	**14.79**	**350**	P		P		**21 38 16.6**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=159,slow=7.8,SNR=13								
SIV	**San Ignacio**	**15.44**	**16**	P		P	**Pn**	**21 38 21.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=194,slow=15,SNR=3.7								
TORD	**Torodi Ar. Bea**	**77.97**	**67**	P		P		**21 46 32.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=272,slow=5.7,SNR=6.9								
WRA	**Warramunga Arr**	**125.92**	**203**	PKP			**PKPdf**	**21 53 34.5**	**+0.1**
	comp=Z,0.9nm,1.1s,baz=166,slow=1.7,SNR=8.8								
KURBB	**Kurchatov Arra**	**146.88**	**43**	PKPbc			**PKPbc**	**21 54 13.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=296,slow=3.3,SNR=7.9								
ZALV	**Zalesovo Beam**	**148.66**	**34**	PKPbc			**PKPbc**	**21 54 19.4**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=310,slow=4.9,SNR=6.0								
MKAR	**Makanchi Array**	**150.62**	**48**	PKPbc			**PKPbc**	**21 54 23.9**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=279,slow=2.6,SNR=6.5								

*ISCJB **20** 21:39:28.8±0.6, 15°.25S±0°.06×167°.6E±0°.1, h129km, mb4.4/19, Error ellipse: s-maj=14.5km s-min=7.9km az=172.6*
*IDC **20** 21:39:30.3±3.3, 15°.25S×167°.63E, h127km±28km, mb4.3/17, mb1 4.3/18, mb1mx4.1/48, mbtmp4.6/18, MS4.8/2, Ms1 4.8/2, ms1mx4.0/41, Error ellipse: s-maj=20.6km s-min=13.9km az=62.0*
*NEIC **20** 21:39:33.3±1.0, 15°.29S×167°.50E, h153km±9km, mb4.8/5, Error ellipse: s-maj=9.9km s-min=8.5km az=215.0*
ISC 20 21:39:30.9±0.5, 15°.25S±0°.07×167°.49E±0°.09, h129km, n46, σ1§05/42, mb4.6/18, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.86**	**188**	P		P	**Pn**	**21 41 10.0**	**+0.9**
	11nm,0.3s,baz=24,slow=5.7,SNR=45								
DZM				S			**Sn**	**21 42 26.1**	**+0.1**
	5.6nm,0.3s,baz=324,slow=19,SNR=4.5								
DZM	**Mont Dzumac**	**6.86**	**188**	*e*Pn		P	**Pn**	**21 41 10.3**	**+1.2**
	61nm,0.5s								
DZM				S			**Sn**	**21 42 26.1**	**+0.1**
HNR	**Honiara**	**9.36**	**307**	*e*Pn		P	**Pn**	**21 41 44.6**	**+1.8**
MSVF	**Nonsavu**	**10.43**	**105**	*e*Pn		P	**Pn**	**21 42 00.2**	**+3.1**
	27nm,0.9s								
EIDS	**Eidsvold**	**18.37**	**234**	*e*P		P	**Pn**	**21 43 37.1**	**-0.3**
CTA	**Charters Tower**	**20.79**	**254**	P		P	**P**	**21 44 03.5**	**+1.4**
	6.9nm,1.0s,baz=91,slow=17,SNR=3.8								
URZ	**Urewera**	**24.45**	**161**	P		P	**P**	**21 44 36.0**	**-1.7**
	11nm,0.9s,baz=264,slow=10,SNR=3.0								
RPZ	**Rata Peaks**	**28.54**	**175**	P		P	**P**	**21 45 12.9**	**-1.5**
	11nm,0.6s,baz=260,slow=1.8,SNR=8.0								
STKA	**Stephens Creek**	**28.82**	**230**	P		P	**P**	**21 45 18.2**	**+1.1**
	16nm,0.6s,baz=44,slow=8.2,SNR=23								
STKA				PcP			**PcP**	**21 48 23.6**	**-0.1**
	5.7nm,0.7s,baz=72,slow=2.1,SNR=7.7								
WRAB	**Tennant Creek**	**31.90**	**257**	*e*P		P	**P**	**21 45 43.3**	**-1.1**
	6.0nm,0.9s								
WRA	**Warramunga Arr**	**31.91**	**257**	P		P	**P**	**21 45 43.6**	**-0.8**
	2.9nm,0.6s,baz=83,slow=8.0,SNR=41								
WRA				PcP			**PcP**	**21 48 31.9**	**-0.1**
	2.3nm,1.0s,baz=88,slow=2.8,SNR=7.5								
ASAR	**Alice Springs**	**32.69**	**250**	P		P	**P**	**21 45 51.0**	**-0.3**
	11nm,0.5s,baz=77,slow=9.1,SNR=126								
ASAR				PcP			**PcP**	**21 48 33.4**	**-0.8**
	0.8nm,0.6s,baz=84,slow=2.9,SNR=4.8								
MBWA	**Marble Bar**	**45.62**	**255**	*e*P		P	**P**	**21 47 39.0**	**+0.3**
	26nm,0.7s								
JCJ	**Chichijima**	**48.73**	**330**	LR		LR		22 06 54.0	
	comp=Z,954nm,21.5s,slow=34								
KKM	**Kota Kinabalu**	**55.02**	**289**	*e*P		P	**P**	**21 48 50.0**	**+0.3**
	15nm,1.1s								
LEM	**Lembang**	**59.20**	**271**	P		P	**P**	**21 49 19.7**	**+0.5**
	15nm,0.6s,baz=311,slow=20,SNR=3.7								
VNDA	**Vanda**	**62.35**	**181**	P		P	**P**	**21 49 39.4**	**+0.1**
	3.5nm,0.5s,baz=6.1,slow=6.2,SNR=29								
USRK	**Ussuriysk Ar.**	**67.44**	**333**	P		P	**P**	**21 50 12.9**	**+0.3**
	3.3nm,0.7s,baz=154,slow=8.0,SNR=7.2								
QSPA	**South Pole Qui**	**74.78**	**180**	P		P	**P**	**21 50 57.0**	**+0.2**
	13nm,0.8s,baz=305,slow=1.3,SNR=38								
QSPA	**South Pole Qui**	**74.78**	**180**	P		P	**P**	**21 50 57.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**75.35**	**294**	P		P	**P**	**21 51 01.9**	**+1.2**
	2.1nm,0.7s,baz=128,slow=4.7,SNR=15								
SEY	**Seymchan**	**78.82**	**353**	P		P	**P**	**21 51 19.0**	**-0.1**
	1.3nm,0.4s,baz=151,slow=7.3,SNR=6.0								
SONM	**Songino Array**	**83.03**	**324**	P		P	**P**	**21 51 42.0**	**-0.1**
	3.1nm,0.9s,baz=150,slow=8.9,SNR=13								
ILAR	**Eielson Array**	**86.95**	**18**	P		P	**P**	**21 51 59.5**	**-1.5**
	0.7nm,0.7s,baz=250,slow=4.8,SNR=7.6								
SYO	**Syowa Base**	**88.27**	**197**‖	*e*P		P	**P**	**21 52 05.6**	**-1.8**
SYO	**Syowa Base**	**88.27**	**197**‖	*e*P		P		**21 52 13.4**	**+6.0**
TIXI	**Tiksi**	**90.51**	**349**	LR		LR		22 27 53.6	
	comp=Z,643nm,21.5s,baz=351,slow=32								
SNAA	**Sanae**	**93.05**	**183**	P		P	**P**	**21 52 28.2**	**-1.4**
	2.2nm,0.6s,baz=166,slow=10,SNR=5.2								
MKAR	**Makanchi Array**	**97.72**	**316**	P		Pdif		21 52 51.2	-0.2
	1.5nm,0.7s,baz=95,slow=6.4,SNR=21								
ZALV	**Zalesovo Beam**	**97.93**	**324**	P		P	**P**	**21 52 51.0**	**-1.0**
	2.2nm,0.8s,baz=109,slow=4.5,SNR=9.4								
ARCES	**ARCESS Array B**	**120.80**	**345**	PKP			**PKPdf**	**21 58 06.4**	**-0.8**
	3.7nm,0.7s,baz=74,slow=1.5,SNR=14								
BOSA	**Boshof**	**123.12**	**220**	PKP			**PKPdf**	**21 58 12.6**	**-0.5**
	3.0nm,0.9s,baz=347,slow=5.4,SNR=4.5								
FINES	**FINESS Array B**	**126.28**	**338**	PKP			**PKPdf**	**21 58 17.0**	**-0.9**
	0.7nm,0.6s,baz=82,slow=2.9,SNR=5.1								
KMBO	**Kilima Mbogo**	**128.19**	**256**	PKP			**PKPdf**	**21 58 24.4**	**+1.0**
	1.5nm,0.8s,baz=43,slow=19,SNR=5.2								
NOA	**NORSAR Array B**	**131.17**	**345**	PKP			**PKPdf**	**21 58 27.7**	**+0.4**
	0.9nm,0.6s,baz=43,slow=5.2,SNR=2.5								
GERES	**GERESS Array B**	**140.20**	**333**	PKhKP			PKPpre	21 58 37.3	
	0.4nm,0.5s,baz=64,slow=8.9,SNR=4.0								
GERES				PKP			**PKPdf**	**21 58 45.0**	**+0.4**
	0.5nm,0.6s,baz=22,slow=1.4,SNR=5.3								
ABTA	**Abfaltersbach**	**142.29**	**332**	*e*PKPdf			PKPpre	21 58 43.1	
	2.8nm,1.2s								
WTTA	**Wattenberg**	**142.30**	**333**	*e*PKPdf			PKPpre	21 58 43.7	
	2.1nm,0.5s								
MOTA	**Moosalm**	**142.47**	**333**	*e*PKPdf			PKPpre	21 58 44.6	
	3.3nm,0.8s								
FETA	**Feichten**	**142.88**	**333**	*e*PKPdf			PKPpre	21 58 45.9	
	6.4nm,0.8s								
DAVA	**Damuels**	**143.03**	**334**	*e*PKPdf			PKPbc	21 58 46.4	-0.6
	7.0nm,1.3s								
TUE	**Stuetta**	**143.90**	**334**	*e*PKPdf			PKPbc	21 58 49.4	-0.1
BNI	**Bardonecchia**	**146.15**	**335**	*e*PKPbc			**PKPbc**	**21 58 56.4**	**0.0**
KEST	**Kesra**	**151.74**	**320**	PKPbc			**PKPbc**	**21 59 10.7**	**-0.1**
	3.5nm,0.7s,baz=86,slow=1.3,SNR=5.1								
ESDC	**Sonseca Array**	**154.54**	**345**	PKPab			**PKPab**	**21 59 31.0**	**-0.6**
	0.7nm,0.8s,baz=17,slow=6.2,SNR=4.7								
TORD	**Torodi Ar. Bea**	**166.07**	**263**	PKP			**PKPdf**	**21 59 20.3**	**-1.3**
	1.3nm,0.7s,baz=36,slow=0.7,SNR=9.1								
TORD				PKPab			**PKPab**	**22 00 21.9**	**-0.8**
	0.7nm,0.8s,baz=96,slow=4.4,SNR=3.8								

*IDC **20** 21:42:36.6±2.6, 16°.83N×98°.19W, h0km, mb3.9/6, mb1 4.0/10, mb1mx3.8/52, mbtmp3.8/10, ML3.5/4, Error ellipse: s-maj=68.2km s-min=18.7km az=31.0*
*ISCJB **20** 21:42:38.6±1.3, 16°.7N±0°.2×98°.30W±0°.09, h33km, mb3.8/6, Error ellipse: s-maj=25.9km s-min=8.6km az=23.2*
ISC 20 21:42:40.9±1.6, 16°.7N±0°.2×98°.3W±0°.1, h35km, n10, σ1§09/11, mb3.8/6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.26**	**83**	Pn		P	**Pn**	**21 43 28.8**	**-0.7**
	2.9nm,0.3s,baz=245,slow=13,SNR=4.8								
CMIG				Sn			**Sn**	**21 44 08.1**	**+1.0**
	25nm,0.3s,baz=196,slow=6.2,SNR=5.1								
TXAR	**Lajitas Array**	**13.49**	**339**	Pn		P	**Pn**	**21 45 49.8**	**-0.1**
	0.1nm,0.3s,baz=153,slow=14,SNR=2.5								
JTS	**JuntasAbangare**	**14.44**	**115**	Pn		P	**Pn**	**21 46 03.1**	**+0.2**
	0.3nm,0.3s,baz=347,slow=19,SNR=2.6								
ANMO	**Albuquerque**	**19.56**	**340**	P		P	**P**	**21 47 06.1**	**+0.1**
	0.1nm,0.3s,baz=340,slow=14,SNR=4.3								
PDAR	**Pinedale Array**	**27.68**	**342**	P		P	**P**	**21 48 27.5**	**+1.6**
	1.0nm,0.6s,baz=152,slow=9.6,SNR=6.9								
NVAR	**Mina Array Bea**	**27.86**	**325**	P		P	**P**	**21 48 29.5**	**+2.0**
	1.9nm,0.9s,baz=149,slow=9.6,SNR=9.4								
SDV	**Santo Domingo**	**28.02**	**103**	P		P	**P**	**21 48 29.1**	**-0.1**
	1.2nm,0.3s,baz=198,slow=20,SNR=3.8								
YKA	**Yellowknife Ar**	**47.13**	**350**	P		P	**P**	**21 51 08.7**	**-0.6**
	0.7nm,0.6s,baz=158,slow=7.5,SNR=8.0								
INK	**Inuvik**	**56.18**	**345**

7.0nm,0.8s
TUL1 **Leonard** 19.64 6 *e*P P 21 48 06.5 -0.9
29nm,0.8s
WHAR **Wooly Hollow** 19.65 15 *e*P Pn 21 48 10.5 +1.5
16nm,1.0s
LAZ **Ladron** 19.68 338 *e*P Pn 21 48 09.0 -0.7
ANMO **Albuquerque** 19.94 340 P P 21 48 11.3 +0.4
2.9nm,0.5s,baz=330,slow=12,SNR=6.9
ANMO **Albuquerque** 19.94 340 *e*P P 21 48 11.2 +0.4
20nm,1.2s
HHAR **Hobbs** 20.26 10 *e*P Pn 21 48 15.9 -0.4
14nm,0.8s
214A **Organ Pipe Nat** 20.40 322 *e*Pn P 21 48 16.8 +1.1
42nm,1.0s
PLAL **Pickwick Lake** 20.73 24 *e*P P 21 48 15.8 -3.4
21nm,0.9s
X18A **Snowflake** 20.93 332 *e*P P 21 48 22.9 +1.3
29nm,0.9s
T25A **Trinidad** 21.44 347 *e*P P 21 48 28.9 +1.9
60nm,1.1s
MHTCO **State Highway** 21.49 346 *e*P P 21 48 29.8 +2.2
19nm,0.9s
X16A **Lo Mia Camp, P** 21.54 329 *e*P P 21 48 29.6 +1.4
31nm,0.8s
113A **Mohawk Valley,** 21.55 322 *e*P P 21 48 27.7 -0.3
11nm,0.8s
PBMO **Poplar Bluff** 21.55 17 *e*P P 21 48 29.7 +1.8
20nm,1.0s
GOGA **Godfrey** 21.66 35 *e*P P 21 48 29.2 0.0
21nm,0.8s
WVT **Waverly** 21.83 23 *e*P P 21 48 30.7 -0.3
23nm,0.8s
SWET **Sewanee** 21.84 28 *e*P P 21 48 30.7 -0.4
6.6nm,0.8s
Y14A **Wickenburg** 21.98 326 *e*P P 21 48 33.5 +0.9
141nm,1.2s
SDCO **Great Sand Dun** 22.27 345 *e*P P 21 48 35.8 -0.2
8.4nm,0.8s
GLA **Glamis** 22.38 321 *e*P P 21 48 37.2 +0.2
51nm,1.6s
WUAZ **Wupatki** 22.40 331 *e*P P 21 48 39.5 +2.1
45nm,1.0s
CBKS **Cedar Bluff** 22.45 357 *e*P P 21 48 37.6 -0.1
27nm,0.9s
S22A **4UR Ranch, Cre** 22.64 342 *e*P P 21 48 40.0 +0.1
11nm,1.0s
FVM **French Village** 22.68 16 *e*P P 21 48 38.7 -1.3
28nm,1.4s
MVCO **Mesa Verde** 22.68 339 *e*P P 21 48 39.6 -0.9
16nm,0.8s
CPCT **Cooper Cave** 22.69 30 *e*P P 21 48 38.4 -1.8
Y12C **Blythe** 22.69 323 *e*P P 21 48 41.8 +1.5
16nm,1.0s
KSU1 **Kansas State U** 22.75 3 *e*P P 21 48 40.5 -0.3
14nm,0.8s
SIUC **Southern Illin** 22.78 19 *e*P P 21 48 40.5 -0.5
22nm,0.8s
KSCO **Kaye Shedlock'** 22.93 351 *e*P P 21 48 41.6 -1.2
32nm,0.8s
HODGE **Hodges** 22.94 36 *e*P P 21 48 42.6 -0.2
13nm,0.8s
BG3 **Lake Jocassee** 23.14 34 *e*P P 21 48 43.8 -1.1
11nm,0.8s
W13A **Hualapai Mount** 23.33 326 *e*P P 21 48 46.9 0.0
13nm,1.2s
Q24A **Divide** 23.35 346 *e*P P 21 48 46.4 -0.9
11nm,1.0s
NHSC **New Hope** 23.41 41 *e*P P 21 48 47.3 -0.2
86nm,1.1s
USIN **University of** 23.52 21 *e*P P 21 48 47.7 -0.8
41nm,0.9s
PV01 **Paradox Valley** 23.54 339 *e*P P 21 48 49.7 +0.7
202nm,0.3s
JSC **Jenkinsville** 23.55 37 *e*P P 21 48 51.3 +2.5
36nm,1.5s
U15A **North Rim** 23.57 331 *e*P P 21 48 50.2 +0.9
25nm,1.0s
PFO **Pinyon Flats O** 23.76 320 *e*P P 21 48 51.0 +0.1
4.6nm,1.0s
LDFC **Landfair** 23.98 324 *e*P P 21 48 53.3 +0.3
21nm,1.1s
SMCO **Snowmass** 24.01 343 *e*P P 21 48 54.7 +1.1
17nm,1.0s
TZTN **Tazewell** 24.04 30 *e*P P 21 48 53.4 0.0
22nm,1.1s
OLIL **Olney** 24.06 20 *e*P P 21 48 52.8 -0.8
24nm,0.9s
KMSC **Kings Mountain** 24.12 36 *e*P P 21 48 53.2 -1.0
47nm,1.8s
ISCO **Idaho Springs** 24.25 346 *e*P P 21 48 55.7 0.0
70nm,1.9s
WCI **Wyandotte Cave** 24.25 24 *e*P P 21 48 54.0 -1.3
33nm,0.8s
KNB **Kanab** 24.30 331 *e*P P 21 48 57.1 +1.1
18nm,1.0s
PKCU **Pink Cliffs** 24.42 332 *e*P P 21 48 55.9 -1.3
71nm,1.9s
LCMT **Little Creek M** 24.50 330 *e*P P 21 48 56.9 -0.9
6.8nm,0.9s
OGNE **Ogallala** 24.75 353 *e*P P 21 49 00.8 +0.9
34nm,1.0s
MTPU **Mount Pierson** 24.86 333 *e*P P 21 49 02.7 +1.4
40nm,0.8s
CCUT **Cedar City** 24.99 331 *e*P P 21 49 03.8 +1.5
5.5nm,0.9s
SHPR **Sheep Range** 25.07 327 *e*P P 21 49 03.5 +0.5
8.4nm,1.0s
SRU **San Rafael Swe** 25.10 337 *e*P P 21 49 03.6 +0.4
14nm,0.9s
MWC **Mount Wilson** 25.16 319 *e*P P 21 49 04.6 +0.8
28nm,1.5s
MSU **Marysvale** 25.25 334 *e*P P 21 49 06.5 +1.9
O20A **White River Ci** 25.26 342 *e*P P 21 49 06.5 +1.8
13nm,0.8s
OTAV **Otavalo** 25.27 127 *e*P P 21 49 05.4 +0.1
19nm,1.4s
N23A **Red Feather La** 25.37 346 *e*P P 21 49 05.0 -0.8
18nm,1.1s
P18A **Preston Nutter** 25.46 338 *e*P P 21 49 07.5 +0.9
19nm,0.8s
P17A **Butcher Ranch,** 25.50 337 *e*P P 21 49 06.2 -0.6
7.1nm,1.0s
TMUT **Trail Mountain** 25.52 336 *e*P P 21 49 07.2 -0.1
23nm,1.3s
PHWY **Pilot Hill** 25.66 347 *e*P P 21 49 07.8 -0.6
11nm,1.1s
NCAT **North Carolina** 25.68 36 *e*P P 21 49 08.5 +0.2
26nm,1.0s
SDDR **Presa de Saban** 25.87 80 *e*P P 21 49 11.0 +0.7
33nm,1.5s
SCIA **State Center** 25.88 9 *e*P P 21 49 09.3 -0.7
24nm,0.8s
DAC **Darwin (Calif)** 26.25 323 *e*P P 21 49 18.9 +5.1
13nm,1.4s
MPU **Maple Canyon** 26.31 336 *e*P P 21 49 14.8 +0.6
8.7nm,0.8s
ISA **Isabella, Lake** 26.36 321 *e*P P 21 49 18.2 +3.7
7.6nm,1.1s
RWWY **Rawlins** 26.43 345 *e*P P 21 49 19.3 +4.0
19nm,1.1s
NLU **North Lily Min** 26.43 336 *e*P P 21 49 16.2 +0.9
12nm,1.0s
R11A **Troy Canyon, C** 26.69 329 *e*P P 21 49 18.4 +0.7
4.1nm,1.0s
RUSC **La Rusia** 26.79 110 *e*P P 21 49 19.3 +0.2
4.9nm,1.0s
DUG **Dugway, Tooele** 26.93 335 *e*P P 21 49 20.4 +0.6
15nm,1.4s
TCUT **Toone Canyon** 27.19 338 *e*P P 21 49 21.5 -0.7
34nm,1.0s
ACSO **Alum Creek Sta** 27.30 26 *e*P P 21 49 24.0 +1.1
15nm,0.9s
BGU **Big Grassy Mou** 27.64 335 *e*P P 21 49 27.3 +1.2
17nm,1.5s
HWUT **Hardware Ranch** 27.68 338 *e*P P 21 49 30.6 +4.2
6.8nm,0.9s
SDV **Santo Domingo** 27.97 102 P P 21 49 34.2 +4.8
13nm,0.8s,baz=306,slow=4.0,SNR=19
SDV **Santo Domingo** 27.97 102 *e*P P 21 49 28.7 -0.7
14nm,0.8s
BW06 **Boulder Array** 28.07 342 *e*P P 21 49 33.2 +3.2
18nm,1.3s
PD31 **Pinedale Array** 28.07 342 *e*P P 21 49 30.0 0.0
PDAR **Pinedale Array** 28.07 342 P P 21 49 30.1 0.0
3.0nm,0.6s,baz=141,slow=9.6,SNR=13
PDAR **Pinedale Array** 28.07 342 *e*P P 21 49 29.2 -0.8
NV11 **Mina Array Sit** 28.10 326 *e*P P 21 49 31.5 +1.2
0.8nm,1.1s
NV01 **Mina Array Sit** 28.18 325 *e*P P 21 49 31.7 +0.7
NVAR **Mina Array Bea** 28.18 325 P P 21 49 30.2 -0.8
5.8nm,0.9s,baz=148,slow=10,SNR=11
HVU **Hansel Valley** 28.27 337 *e*P P 21 49 37.0 +5.3
6.1nm,0.8s
WAKR **Walker** 28.86 324 *e*P P 21 49 38.8 +1.7
29nm,1.8s
TPAW **Teton Pass** 29.15 341 *e*P P 21 49 43.9 +4.3
16nm,1.1s
FXWY **Fox Creek** 29.30 341 *e*P P 21 49 44.7 +3.7
6.3nm,1.0s
MOOW **Moose Ponds** 29.32 341 *e*P P 21 49 41.7 +0.6
7.7nm,1.2s
RLMT **Red Lodge** 30.16 344 *e*P P 21 49 50.3 +1.7
10nm,0.8s
BEKR **Beckworth** 30.32 325 *e*P P 21 49 51.0 +1.0
5.2nm,0.7s
HLID **Hailey** 30.42 337 *e*P P 21 49 56.4 +5.5
5.2nm,1.2s
MFID **Camas Ranch** 30.86 335 *e*P P 21 50 00.5 +5.8
9.5nm,1.3s
MCMT **McKenzie Canyo** 30.96 340 *e*P P 21 49 55.8 +0.2
3.3nm,1.1s
MTP **Monte Pirata** 31.32 82 *e*P P 21 50 02.6 +3.8
31nm,0.9s
DLMT **Dillon** 31.35 340 *e*P P 21 50 00.5 +1.5
14nm,1.0s
LRM **Limekiln Ridge** 31.71 341 *e*P P 21 50 02.5 +0.3
AGMN **Agassiz Nation** 31.96 3 *e*P P 21 50 02.9 -1.2
6.6nm,0.8s
J08A **Circle Bar Ran** 31.96 332 *e*P P 21 50 05.2 +0.8
15nm,0.8s
BMO **Blue Mountains** 32.65 335 *e*P P 21 50 09.9 -0.4
17nm,1.8s
F10A **Beach Ranch, E** 33.53 336 *e*P P 21 50 18.0 0.0
12nm,0.9s
G08A **Pilot Rock** 33.69 333 *e*P P 21 50 19.5 0.0
7.4nm,0.8s
ULM **Lac du Bonnet** 33.91 3 P P 21 50 23.3 +2.3
1.5nm,0.6s,baz=195,slow=7.6,SNR=4.2
BRYW **Bryant College** 34.34 37 *e*P P 21 50 27.3 +2.3
22nm,0.4s
FFC **Flin Flon** 38.44 357 *e*P P 21 50 58.5 -1.2
14nm,0.9s
EDM **Edmonton** 38.68 346 *e*P P 21 51 01.4 -0.5
25nm,0.9s
FCC **Fort Churchill** 42.49 3 *e*P P 21 51 32.4 -0.8
5.2nm,0.9s
YKA **Yellowknife Ar** 47.53 350 P P 21 52 11.9 -1.2
1.7nm,0.8s,baz=158,slow=7.6,SNR=10
HYT **Haines Junctio** 52.56 337 *e*P P 21 52 52.9 +1.4
21nm,1.4s
EGAK **Eagle** 56.37 340 *e*P P 21 53 18.8 -0.1
INK **Inuvik** 56.58 345 P P 21 53 19.4 -0.8
5.2nm,0.8s,baz=125,slow=7.1,SNR=13
INK **Inuvik** 56.58 345 *e*P P 21 53 19.6 -0.7
7.1nm,0.8s
DOT **Dot Lake** 56.71 338 *e*P P 21 53 22.2 +0.7
34nm,1.2s
SCRK **Sand Creek** 56.87 338 *e*P P 21 53 23.9 +1.2
8.8nm,1.1s
RIDG **Independ'e Rid** 57.05 337 *e*P P 21 53 24.6 +0.7
20nm,1.1s
SUA **Susitna One** 58.27 333 *e*P P 21 53 33.0 +0.5
19nm,0.8s
IL1 **Eielson Array** 58.37 338 *e*P P 21 53 32.3 -0.7
ILAR **Eielson Array** 58.37 338 P P 21 53 32.9 -0.2
3.1nm,0.9s,baz=141,slow=4.7,SNR=18
ILB **Eielson Array** 58.37 338 *e*P P 21 53 33.0 0.0
RND **Reindeer** 58.40 336 *e*P P 21 53 34.4 +1.0
16nm,1.0s
CCB **Clear Creek Bu** 58.63 337 *e*P P 21 53 34.2 -0.7
8.8nm,1.3s
TRF **Thorofare Moun** 58.99 336 *e*P P 21 53 37.1 -0.5
21nm,0.9s
BPAW **Bear Paw Mtn.** 59.57 336 *e*P P 21 53 40.6 -0.8
10nm,1.2s
CAST **Castle Rocks** 59.70 335 *e*P P 21 53 41.8 -0.5
14nm,1.0s
SUMG **Summit** 65.70 17 *i*P P 21 54 22.5 -0.1
SUMG *i* 21 54 27.6
DAG **Danmarks Havn** 71.86 14 *i*P P 21 54 59.0 -1.3
DAG *i* 21 55 04.2
ESDC **Sonseca Array** 83.03 51 P P 21 56 07.8 +4.2
0.6nm,0.7s,baz=264,slow=3.4,SNR=3.7
ARCES **ARCESS Array B** 85.79 17 P P 21 56 20.5 +3.6
3.6nm,0.8s,baz=303,slow=7.1,SNR=6.3
TIXI **Tiksi** 86.67 347 *e*P P 21 56 19.9 -1.3
13nm,1.4s
HHC **Hu-ho-hao-te** 116.73 335 *e*PKP PKPdf 22 02 21.4 -1.1
HHC PP PP 22 03 32.8 +3.1
HHC SKS SKSdf 22 09 28.6 -3.1
HHC SKKS SKKSac 22 10 21.8 -6.9
HHC **Hu-ho-hao-te** 116.73 335 SS SS 22 19 31.3 -1.5
GEYT **Alibeck** 121.67 22 PKP PKPdf 22 02 30.2 -1.8
1.0nm,0.7s,baz=257,slow=5.8,SNR=4.5
WRA **Warramunga Arr** 130.00 257 PKP PKPdf 22 02 46.6 -1.7
3.3nm,1.0s,baz=70,slow=1.3,SNR=12
ASAR **Alice Springs** 130.61 253 PKP PKPdf 22 02 48.1 -1.3
1.7nm,0.9s,baz=117,slow=2.1,SNR=11
CMAR **Chiang Mai Arr** 141.50 333 PKP PKPdf 22 03 08.1 -1.7
1.0nm,0.4s,baz=352,slow=1.6,SNR=7.9
HYB **Hyderabad** 146.34 5 *i*PKP PKPdf 22 03 17.0 -1.3
KSM **Kuching** 146.67 299 *e*PKPdf PKPdf 22 03 19.5 +0.6
OPO **Ambohidratompo** 147.03 99 PKPbc PKPbc 22 03 21.5 -0.1
9.3nm,0.9s,baz=255,slow=4.0,SNR=9.2

ISN **20** *22:14:34.4±1.5,38.°69N×43.°10E,h0km±73km, ML3.9*
ISK **20** *22:14:36.4,38.°66N×43.°01E,h5km,ML3.7/9*
ATA **20** *22:14:36.4±0.4,38.°65N×43.°04E,h22km±2km, ML4.4, MS2.9,MW4.3*
IDC **20** *22:14:37.1±1.2,38.°72N×43.°13E,h0km,mb3.2/5, mb1 3.3/11,mb1mx3.2/68,mbtmp3.2/11,ML2.8/6, Error ellipse: s-maj=21.8km s-min=9.3km az=149.0*
ISCJB **20** *22:14:37.8±0.4,38.°65N±0.°02×43.°10E±0.°02,h12km±3km, mb3.1/5, Error ellipse: s-maj=3.5km s-min=2.6km az=164.4*
DDA **20** *22:14:37.5,38.°65N×43.°02E,h7km,Ml3.9*
CSEM **20** *22:14:37.7±0.1,38.°65N×43.°07E,h5km,ML3.9, Error ellipse: s-maj=2.6km s-min=2.0km az=153.0*

ISC 20 22:14:38.7±0.9, 38.°66N±0.°02×43.°07E±0.°02, h12km±6km, n129, σ1§19/152, mb3.2/5, 20C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	0.26	104	PG	Pg	22 14 44.3	+0.2
VANB	Van	0.26	104	*e*Pg	Pg	22 14 44.3	+0.2
TVAN	**Van**	0.29	116	*i*P	Pg	22 14 44.3	-0.5
TVAN				*i*S	Sb	22 14 49.8	-1.1
TVAN	**Van**	0.29	116	P	Pg	22 14 44.3	-0.5
ADCV	**BITLIS_Adilcev**	0.31	299	*i*P	Pg	22 14 44.7	-0.5
ADCV				*i*S	Sg	22 14 50.1	+0.6
ADCV	**BITLIS_Adilcev**	0.31	299	P	Pg	22 14 44.7	-0.5
ADCV				S	Sg	22 14 50.1	+0.6
GEVA	**Gevas**	0.35	182	*i*P	Pg	22 14 44.4	-1.3
GEVA				*e*S	Sg	22 14 50.4	0.0
GEVA				IAML		22 14 54.1	
	comp=Z,6μm,0.3s						
GEVA	**Gevas**	0.35	182	*i*P	Pg	22 14 44.6	-1.1
GEVA				*i*S	Sg	22 14 50.5	0.0
GEVA	**Gevas**	0.35	182	P	Pg	22 14 44.6	-1.1
GEVA				S	Sg	22 14 50.5	0.0
ERCV	**ERCIS-VAN**	0.42	30	PG	Pg	22 14 45.9	-1.1
ERCV				SG	Sb	22 14 53.5	-0.9
ERCV	**ERCIS-VAN**	0.42	30	*e*Pg	Pg	22 14 45.9	-1.1
ERCV				*e*Sg	Sb	22 14 53.5	-0.9
TUTA	**Tutak**	0.77	345	*e*PN7		22 14 52.3	
TUTA	**Tutak**	0.77	345	*i*P	Pg	22 14 52.4	-1.3
TUTA				*i*S	Sg	22 15 02.3	-1.5
TUTA	**Tutak**	0.77	345	P	Pg	22 14 52.4	-1.3
TUTA				S	Sg	22 15 02.3	-1.5
CLDR	**Caldiran**	0.82	53	PG	Pg	22 14 52.9	-1.7
CLDR	**Caldiran**	0.82	53	*i*P	Pg	22 14 52.3	-2.3
CLDR	**Caldiran**	0.82	53	P	Pg	22 14 52.3	-2.3
CLDR	**Caldiran**	0.82	53	*e*Pg	Pg	22 14 52.9	-1.7
GURO	**Guroymak-BITLI**	0.82	263	PG	Pg	22 14 52.7	-1.9
GURO				SG	Sg	22 15 03.9	-1.5
GURO	**Guroymak-BITLI**	0.82	263	*e*Pg	Pg	22 14 52.7	-1.9
GURO				*e*Sg	Sg	22 15 03.9	-1.5
AGRB	**Hanur-Agry**	0.92	356	PG	Pg	22 14 55.0	-1.5
AGRB	**Hanur-Agry**	0.92	356	*e*Pg	Pg	22 14 55.0	-1.5
EKAR	**Karacoban**	0.99	307	*i*P	Pg	22 14 55.5	-2.3
EKAR				IAML		22 15 18.3	
	comp=Z,654nm,0.5s						
EKAR	**Karacoban**	0.99	307	*i*P	Pg	22 14 55.8	-2.0
EKAR	**Karacoban**	0.99	307	P	Pg	22 14 55.8	-2.0
DYDN	**Diyadin**	1.00	28	⇑*i*P	Pg	22 14 56.3	-1.8
DYDN				IAML		22 15 04.4	
	comp=Z,298nm,0.6s						
DYDN				*e*S	Sb	22 15 12.1	+0.7
DYDN	**Diyadin**	1.00	28	*i*P	Pg	22 14 56.3	-1.8
DYDN				*i*S	Sb	22 15 12.7	+1.3
DYDN	**Diyadin**	1.00	28	P	Pg	22 14 56.3	-1.8
DYDN				S	Sb	22 15 12.7	+1.3
SRTM	**Siirt_Merkez**	1.12	234	*i*P	Pg	22 14 59.0	-1.3
SRTM				*i*S	Sb	22 15 15.1	+0.4
SRTM	**Siirt_Merkez**	1.12	234	P	Pg	22 14 59.0	-1.3
SRTM				S	Sb	22 15 15.1	+0.4
HAKT	**HAKKARI**	1.21	155	*i*P	Pg	22 14 59.7	-2.2
HAKT				*i*S	Sn	22 15 20.3	+2.4
HAKT	**HAKKARI**	1.21	155	P	Pg	22 14 59.7	-2.2
SIRT	**Sirnak**	1.26	204	PN	Pg	22 15 01.4	-1.5
SIRT	**Sirnak**	1.26	204	*e*Pn	Pg	22 15 01.4	-1.5
EATA	**Eleskirt**	1.28	340	⇓*i*P	Pg	22 15 01.4	-2.0
EATA				IAML		22 15 04.1	
	comp=Z,176nm,0.5s						
EATA				*e*S	Sb	22 15 20.6	+1.0
EATA	**Eleskirt**	1.28	340	*i*P	Pg	22 15 01.5	-2.0
EATA				*i*S	Sb	22 15 21.0	+1.4
EATA	**Eleskirt**	1.28	340	P	Pg	22 15 01.5	-2.0
EATA				S	Sb	22 15 21.0	+1.4
YOVA	**Hakkari_Y˜…kse**	1.44	138	*i*P	Pn	22 15 04.1	-0.6
YOVA				*i*S	Sn	22 15 26.7	+3.1
YOVA	**Hakkari_Y˜…kse**	1.44	138	P	Pn	22 15 04.1	-0.6
IGDI	**IGDIR**	1.44	33	*i*P	Pn	22 15 04.4	-0.2
IGDI				*i*S	Sn	22 15 26.9	+3.4
BTMN	**Batman**	1.61	242	*i*P	Pn	22 15 07.4	+0.4
BTMN				*i*S	Sn	22 15 28.5	+0.7
BTMN	**Batman**	1.61	242	P	Pn	22 15 07.4	+0.4
BTMN				S	Sn	22 15 28.5	+0.7
HOMI	**Horasan**	1.66	327	⇓*i*P	Pn	22 15 07.0	-0.8
HOMI				IAML		22 15 09.6	
	comp=Z,194nm,0.4s						
HOMI	**Horasan**	1.66	327	*i*P	Pn	22 15 07.0	-0.8
HYR	**Heyderabad**	1.74	52	⇑P	Pn	22 15 09.3	+0.5
DIGO	**Kars**	1.77	7	*e*P	Pn	22 15 09.2	-0.1
DIGO	**Kars**	1.77	7	*i*P	Pn	22 15 09.3	-0.1
DIGO	**Kars**	1.77	7	P	Pn	22 15 09.3	-0.1
ERZM	**Erzurum**	1.82	314	⇓*i*P	Pn	22 15 09.7	-0.3
ECAT	**Cat-ERZURUM**	1.89	301	*e*PN12		22 15 11.1	
ECAT				IAML		22 15 19.8	
	comp=Z,142nm,0.4s						
ECAT				*e*S	Sn	22 15 37.1	+2.4
NAX	**Nakhchivan**	1.96	74	⇓P	Pn	22 15 12.1	+0.3
KARS	**Kars**	1.97	0	PN	Pn	22 15 12.3	+0.3
KARS	**Kars**	1.97	0	*e*Pn	Pn	22 15 12.3	+0.3
GNI	**Garni**	1.97	40	Pg	Pn	22 15 12.8	+0.8
	comp=Z,15nm,0.3s,baz=256,slow=4.2,SNR=160						
GNI				Lg	Lg	22 15 37.9	
	comp=Z,20nm,0.3s,baz=177,slow=17,SNR=5.6						
SENK	**Senkaya-Erzuru**	1.98	344	PN	Pn	22 15 12.3	+0.1
SENK	**Senkaya-Erzuru**	1.98	344	*e*Pn	Pn	22 15 12.3	+0.1
SBZ	**Shahbuz**	2.07	68	⇑P	Pn	22 15 13.4	+0.1
ORD	**Ordubad**	2.30	82	⇓P	Pn	22 15 16.5	+0.1
DIY	**Diyarbakir**	2.37	252	*e*Pn	Pn	22 15 18.1	+0.7
MAZI	**Mazidag**	2.39	241	PN	Pn	22 15 17.9	+0.1
MAZI	**Mazidag**	2.39	241	*e*Pn	Pn	22 15 17.9	+0.1
DYBB	**Diyarbakir**	2.41	254	PN	Pn	22 15 18.1	+0.1
KOPT	**Kop Dagi**	2.42	305	*e*P	Pn	22 15 18.3	0.0
KOPT				IAML		22 15 30.1	
	comp=Z,116nm,0.5s						
KOPT				*e*S	Sn	22 15 50.9	+3.0
KOPT				IVMs_BB	IVMs_BB	22 16 20.3	
	comp=Z,776nm,16.3s						
ARTV	**Artvin**	2.67	341	*e*PN12		22 15 21.4	
BAYB	**BAYBURT**	2.70	307	*i*P	Pn	22 15 22.0	-0.2
AKH	**Akhalkalaki**	2.77	7	PN	Pn	22 15 23.8	+0.8
AKH	**Akhalkalaki**	2.77	7	P	Pg	22 15 30.5	-1.3
AKH	**Akhalkalaki**	2.77	7	*e*Pn	Pn	22 15 23.8	+0.8
TNCL	**Tunceli-Merkez**	2.79	280	*e*PN12		22 15 22.9	
TNCL				IVMs_BB	IVMs_BB	22 17 31.5	
	comp=Z,475nm,19.8s						
BAYT	**Ayd¯–ntepe-Bay**	2.85	308	PN	Pn	22 15 24.4	+0.2
BAYT	**Ayd¯–ntepe-Bay**	2.85	308	*e*Pn	Pn	22 15 24.4	+0.2
PTK	**Pertek**	2.89	276	PN	Pn	22 15 24.8	+0.1
PTK	**Pertek**	2.89	276	*e*Pn	Pn	22 15 24.8	+0.1
GDB	**GEDABAY**	2.92	44	⇓P	Pn	22 15 24.6	+0.5
QZX	**Qazax, Azerbai**	2.98	36	⇑P	Pn	22 15 24.9	-0.9
GANJ	**Ganja**	3.20	51	⇑P	Pn	22 15 29.4	+0.6
KELT	**Kelkit**	3.31	298	*e*P	Pn	22 15 30.3	-0.2
KELT				IVMs_BB	IVMs_BB	22 18 36.1	
	comp=Z,325nm,28.5s						
TBLG	**Delisi**	3.32	22	PN	Pn	22 15 31.8	+1.3
TBLG	**Delisi**	3.32	22	P	Pb	22 15 38.1	+0.6
TBLG				S	Sg	22 16 24.8	-0.6
TBLG	**Delisi**	3.32	22	*e*Pn	Pn	22 15 31.8	+1.3
KTUT	**Trabzon**	3.45	313	PN	Pn	22 15 32.8	+0.6
KTUT	**Trabzon**	3.45	313	*e*Pn	Pn	22 15 32.8	+0.6
BRDA	**Brd**	3.56	62	⇓P	Pn	22 15 34.3	+0.6
URFA	**Urfa**	3.57	251	PN	Pn	22 15 34.5	+0.6
URFA	**Urfa**	3.57	251	*e*Pn	Pn	22 15 34.5	+0.6
ILIC	**ilic-Erzincan**	3.60	284	PN	Pn	22 15 34.8	+0.5
ILIC	**ilic-Erzincan**	3.60	284	*e*Pn	Pn	22 15 34.8	+0.5
KEMA	**Kemaliye**	3.62	281	*e*PN12		22 15 34.2	
DUS	**Dusheti**	3.65	19	P	Pb	22 15 44.9	+1.8
MALT	**Malatya**	3.66	266	PN	Pn	22 15 35.7	+0.5
MALT	**Malatya**	3.66	266	*e*Pn	Pn	22 15 35.7	+0.5
MNGR	**Mingechevir, A**	3.75	54	⇑P	Pn	22 15 36.4	+0.2
ZRD	**Zardab**	3.92	64	⇑P	Pn	22 15 39.1	+0.5
ONI	**Oni**	3.94	4	P	Pb	22 15 49.6	+1.5
GUDG	**Gudauri**	3.95	15	P	Pb	22 15 50.5	+2.2
ESPY	**Espiye-Giresun**	4.04	305	PN	Pn	22 15 41.1	+0.8
ESPY	**Espiye-Giresun**	4.04	305	*e*Pn	Pn	22 15 41.1	+0.8
SEKA	**Sheki**	4.07	50	⇑P	Pn	22 15 41.3	+0.5
LRK	**Lerik**	4.12	89	⇓P	Pn	22 15 41.3	-0.3
GLBA	**Clilabad**	4.19	80	⇓P	Pn	22 15 42.7	+0.4
KDMR	**Kurdemir**	4.31	65	⇑P	Pn	22 15 44.4	+0.4
QBL	**Gabala**	4.32	57	⇑P	Pn	22 15 44.5	+0.3
SAA	**Saatly**	4.32	72	⇓P	Pn	22 15 44.0	-0.2
LKRN	**Lenkeran, Azer**	4.46	88	⇓P	Pn	22 15 45.9	-0.2
IML	**Ismayilli**	4.48	60	⇑P	Pn	22 15 46.5	+0.1
ASTR	**Astara**	4.48	89	⇑P	Pn	22 15 46.1	-0.2
XNQ	**Khinaliq**	4.63	56	⇑P	Pn	22 15 48.8	+0.1
PQL	**Pirkuli**	4.76	62	⇑P	Pn	22 15 50.2	-0.1
ALIB	**Äli-Bayra**	4.78	72	⇑P	Pn	22 15 50.6	+0.1
QSAR	**Qusar**	4.90	53	⇓P	Pn	22 15 52.0	-0.1
GBS	**Qobustan**	4.91	66	⇑P	Pn	22 15 52.8	+0.5
QUBA	**Quba, Azerbaij**	4.96	55	⇑P	Pn	22 15 53.4	+0.4
ATGJ	**Altiaghaj**	5.03	62	⇑P	Pn	22 15 54.1	+0.1
KBZ	**Khabaz**	5.07	359	Pn	Pn	22 15 56.9	+2.5
	comp=Z,0.0nm,0.3s,baz=90,slow=8.1,SNR=2.2						
SIZA	**Siyzn**	5.09	60	⇑P	Pn	22 15 55.1	+0.3
GOBA	**Gobu**	5.43	69	⇓P	Pn	22 16 00.1	+0.6
NDR	**Nardaran**	5.67	68	⇓P	Pn	22 16 03.1	+0.4
GALA	**Gala**	5.75	70	⇑P	Pn	22 16 03.8	+0.1
RTB	**Rutbah**	6.05	203	*e*Pn	Pn	22 16 07.0	-1.0
	SNR=3.0						
BRTR	**Keskin Array B**	7.41	281	Pn	Pn	22 16 28.5	+1.8
	comp=Z,0.1nm,0.3s,baz=106,slow=15,SNR=3.1						
ASF	**Jabal al Asfar**	8.20	220	Pn	Pn	22 16 39.9	+2.3
	comp=Z,0.1nm,0.3s,baz=16,slow=7.4,SNR=3.4						
ASF				Lg	Lg	22 19 01.2	
	comp=Z,0.3nm,0.3s,baz=143,slow=20,SNR=2.8						
MMAI	**Mount Meron Ar**	8.39	230	Pn	Pn	22 16 41.6	+1.4
	comp=Z,0.4nm,0.3s,baz=45,slow=11,SNR=3.2						
AKASG	**Malin Array Be**	15.52	325	Pn	Pn	22 18 17.1	-0.1
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=4.3						
AKTO	**Aktyubinsk**	15.84	37	Pn	Pn	22 18 18.7	-2.7
	comp=Z,0.1nm,0.3s,baz=205,slow=19,SNR=2.2						
GERES	**GERESS Array B**	23.40	305	P	P	22 19 46.8	-0.5
	comp=Z,0.1nm,0.2s,baz=101,slow=10,SNR=2.3						
BVAR	**Borovoye

ellipse: s-maj=16.1km s-min=11.5km az=158.0
*KRSC **20**22:21:43.9±0.8,54°.71N×163°.13E,h60$^{km}_{\pm}$18^{km},ML4.8*
*MOS **20**22:21:48.1±1.1,54°.82N×162°.66E,h58^{km},mb4.9/27,Error ellipse: s-maj=6.4km s-min=3.8km az=86.2*
*NEIC **20**22:21:49.0±0.8,54°.87N×162°.60E,h47$^{km}_{\pm}$8^{km},mb4.5/39,Error ellipse: s-maj=8.9km s-min=4.0km az=157.0*

ISC 20 22:21:45.8±0.7,54.77N±0°.03×162.86E±0°.03,h25$^{km}_{\pm}$4^{km}, n282,σ1°.60/339,mb4.5/90,15C-25D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
KBTR	**Krutoberegovo**	**1.44**	**359**	PN	**Pn**	**22 22 10.0**	**-0.2**
KBTR				S	**Sb**	**22 22 29.9**	**+0.2**
KBTR	**Krutoberegovo**	**1.44**	**359**	*i* P	**Pn**	**22 22 10.0**	**-0.2**
KBTR				*e*S	**Sb**	**22 22 29.9**	**+0.2**
KBG	**Krutoberegovo**	**1.49**	**357**	PN	**Pn**	**22 22 10.8**	**-0.1**
KBG				S	**Sb**	**22 22 32.1**	**+1.0**
KBG	**Krutoberegovo**	**1.49**	**357**	*e*P	**Pn**	**22 22 10.8**	**-0.1**
KBG				*e*S	**Sb**	**22 22 32.1**	**+1.0**
KZV	**Kizimen**	**1.52**	**284**	PN	**Pn**	**22 22 12.1**	**+0.7**
KZV	**Kizimen**	**1.52**	**284**	*i* P	**Pn**	**22 22 12.1**	**+0.7**
TUMR	**Tumrok**	**1.64**	**289**	PN	**Pb**	**22 22 14.7**	**-0.7**
TUMR	**Tumrok**	**1.64**	**289**	*i* P	**Pb**	**22 22 14.7**	**-0.7**
BZMR	**Bezymyannaya**	**1.78**	**312**	PN	**Pb**	**22 22 16.6**	**-1.3**
BZMR	**Bezymyannaya**	**1.78**	**312**	*e*P	**Pb**	**22 22 16.6**	**-1.3**
KMNR	**Kamenistaya**	**1.79**	**304**	PN	**Pb**	**22 22 17.0**	**-1.0**
KMNR				S	**Sb**	**22 22 40.4**	**+0.3**
KMNR	**Kamenistaya**	**1.79**	**304**	*i* P	**Pb**	**22 22 17.0**	**-1.0**
KMNR				*e*S	**Sb**	**22 22 40.4**	**+0.3**
BZWR	**Bezymyannyi-We**	**1.80**	**312**	PN	**Pb**	**22 22 16.9**	**-1.2**
BZWR	**Bezymyannyi-We**	**1.80**	**312**	*e*P	**Pb**	**22 22 16.9**	**-1.2**
LGNR	**Loginova**	**1.80**	**318**	PN	**Pb**	**22 22 17.6**	**-0.7**
LGNR	**Loginova**	**1.80**	**318**	*e*P	**Pb**	**22 22 17.6**	**-0.7**
BKI	**Bering**	**1.85**	**75**	PN	**Pn**	**22 22 14.3**	**-1.5**
BKI				S	**Sn**	**22 22 35.9**	**-2.4**
BKI	**Bering**	**1.85**	**75**	*e*P	**Pn**	**22 22 14.3**	**-1.5**
BKI				*e*S	**Sn**	**22 22 35.9**	**-2.4**
KPT	**Kopyto**	**1.92**	**310**	PN	**Pb**	**22 22 19.3**	**-0.9**
KPT	**Kopyto**	**1.92**	**310**	*e*P	**Pb**	**22 22 19.3**	**-0.9**
SMKR	**Semkarok**	**1.98**	**337**	PN	**Pn**	**22 22 18.8**	**+1.1**
SMKR				S	**Sb**	**22 22 43.9**	**-1.4**
SMKR	**Semkarok**	**1.98**	**337**	*e*P	**Pn**	**22 22 18.8**	**+1.1**
SMKR				*e*S	**Sb**	**22 22 43.9**	**-1.4**
KLY	**Klyuchi**	**1.99**	**322**	PN	**Pn**	**22 22 18.3**	**+0.6**
KLY				S	**Sn**	**22 22 43.0**	**+1.2**
KLY	**Klyuchi**	**1.99**	**322**	*e*P	**Pn**	**22 22 18.3**	**+0.6**
KLY				*e*S	**Sn**	**22 22 43.0**	**+1.2**
BDR	**Baidarnaya**	**2.03**	**333**	PN	**Pn**	**22 22 19.9**	**+1.5**
BDR				S	**Sb**	**22 22 45.7**	**-1.0**
BDR	**Baidarnaya**	**2.03**	**333**	*e*P	**Pn**	**22 22 19.9**	**+1.5**
BDR				*e*S	**Sb**	**22 22 45.7**	**-1.0**
SRKR	**Sorokina**	**2.11**	**334**	PN	**Pn**	**22 22 20.9**	**+1.3**
SRKR	**Sorokina**	**2.11**	**334**	*e*P	**Pn**	**22 22 20.9**	**+1.3**
KII	**Karymskiy**	**2.12**	**251**	PN	**Pn**	**22 22 21.4**	**+1.7**
KII				S	**Sb**	**22 22 48.7**	**-0.9**
KII	**Karymskiy**	**2.12**	**251**	*e*P	**Pn**	**22 22 21.4**	**+1.7**
KII				*e*S	**Sb**	**22 22 48.7**	**-0.9**
KOZ	**Kozyrevsk**	**2.13**	**308**	PN	**Pb**	**22 22 21.8**	**-1.9**
KOZ	**Kozyrevsk**	**2.13**	**308**	*e*P	**Pb**	**22 22 21.8**	**-1.9**
SPN	**Mys Shipunski**	**2.37**	**226**	PN	**Pn**	**22 22 22.9**	**-0.1**
SPN				S	**Sn**	**22 22 50.4**	**-0.9**
SPN	**Mys Shipunski**	**2.37**	**226**	*i* P	**Pn**	**22 22 22.9**	**-0.1**
SPN				*i* S	**Sn**	**22 22 50.4**	**-0.9**
NLC	**Nalytchevo**	**2.62**	**234**	PN	**Pn**	**22 22 26.9**	**+0.4**
NLC				S	**Sn**	**22 22 59.1**	**+1.7**
NLC	**Nalytchevo**	**2.62**	**234**	*e*P	**Pn**	**22 22 26.9**	**+0.4**
NLC				*e*S	**Sn**	**22 22 59.1**	**+1.7**
ESO	**Esso**	**2.64**	**298**	PN	**Pn**	**22 22 28.3**	**+1.6**
ESO	**Esso**	**2.64**	**298**	*e*P	**Pn**	**22 22 28.3**	**+1.6**
ESO				*e*S	**Sb**	**22 23 02.8**	**-1.5**
SDLR	**Sedlovina**	**2.78**	**239**	PN	**Pn**	**22 22 30.3**	**+1.5**
SDLR				S	**Sn**	**22 23 04.6**	**+3.0**
SDLR	**Sedlovina**	**2.78**	**239**	*e*P	**Pn**	**22 22 30.3**	**+1.5**
SDLR				*e*S	**Sn**	**22 23 04.6**	**+3.0**
SMAR	**Somma**	**2.83**	**239**	PN	**Pn**	**22 22 31.2**	**+1.6**
SMAR				S	**Sn**	**22 23 05.8**	**+2.9**
SMAR	**Somma**	**2.83**	**239**	*e*P	**Pn**	**22 22 31.2**	**+1.6**
SMAR				*e*S	**Sn**	**22 23 05.8**	**+2.9**
UGLR	**Uglovaya**	**2.85**	**238**	PN	**Pn**	**22 22 31.5**	**+1.8**
UGLR	**Uglovaya**	**2.85**	**238**	*i* P	**Pn**	**22 22 31.5**	**+1.8**
KRX	**Arik**	**2.86**	**242**	PN	**Pn**	**22 22 31.5**	**+1.7**
KRX				S	**Sn**	**22 23 06.7**	**+3.3**
KRX	**Arik**	**2.86**	**242**	*e*P	**Pn**	**22 22 31.5**	**+1.7**
KRX				*e*S	**Sn**	**22 23 06.7**	**+3.3**
AVH	**Avacha**	**2.86**	**240**	PN	**Pn**	**22 22 31.6**	**+1.8**
AVH				S	**Sb**	**22 23 08.2**	**-2.5**
AVH	**Avacha**	**2.86**	**240**	*e*P	**Pn**	**22 22 31.6**	**+1.8**
AVH				*e*S	**Sb**	**22 23 08.2**	**-2.5**
KOK	**Koryaka**	**2.90**	**241**	PN	**Pn**	**22 22 32.0**	**+1.6**
KOK				S	**Sn**	**22 23 07.3**	**+2.9**
KOK	**Koryaka**	**2.90**	**241**	*e*P	**Pn**	**22 22 32.0**	**+1.6**
KOK				*e*S	**Sn**	**22 23 07.3**	**+2.9**
DALK	**Dalny**	**2.99**	**236**	PN	**Pn**	**22 22 32.5**	**+1.0**
DALK				S	**Sn**	**22 23 08.8**	**+2.3**
DALK	**Dalny**	**2.99**	**236**	*e*P	**Pn**	**22 22 32.5**	**+1.0**
DALK				*e*S	**Sn**	**22 23 08.8**	**+2.3**
PET	**Petropavlovsk**	**3.04**	**237**	*e*PN	**Pn**	**22 22 33.6**	**+1.4**
PET				*e*S	**Sn**	**22 23 10.2**	**+2.4**
PET				pmax	pmax		
	comp=Z,454nm,0.6s						
PET				smax	smax		
	comp=N,2μm,0.7s						
PET				smax	smax		
	comp=E,2μm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,12.0s						
PET	**Petropavlovsk**	**3.04**	**237**	*e*Pn	**Pn**	**22 22 33.8**	**+1.5**
PET				*e*S	**Sn**	**22 23 07.9**	**+0.1**
PET	**Petropavlovsk**	**3.04**	**237**	*i* P	**Pn**	**22 22 34.2**	**+2.0**
GNL	**Ganaly**	**3.08**	**251**	PN	**Pn**	**22 22 35.2**	**+2.3**
GNL				S	**Sb**	**22 23 13.7**	**-3.4**
GNL	**Ganaly**	**3.08**	**251**	*e*P	**Pn**	**22 22 35.2**	**+2.3**
GNL				*e*S	**Sb**	**22 23 13.7**	**-3.4**
KRMR	**Karymshinskiy**	**3.41**	**237**	PN	**Pn**	**22 22 39.3**	**+2.0**
KRMR				S	**Sn**	**22 23 19.0**	**+2.1**
KRMR	**Karymshinskiy**	**3.41**	**237**	*e*P	**Pn**	**22 22 39.3**	**+2.0**
KRMR				*e*S	**Sn**	**22 23 19.0**	**+2.1**
PEA0B	**Petropavlovsk-**	**3.47**	**243**	*e*Pn	**Pn**	**22 22 40.6**	**+2.4**
PETK	**Petropavlovsk-**	**3.47**	**243**	Pn	**Pn**	**22 22 40.0**	**+1.8**
	comp=Z,40nm,0.3s,baz=75,slow=18,SNR=163						
PETK				Sn	**Sb**	**22 23 24.4**	**-3.9**
	comp=Z,27nm,0.3s,baz=82,slow=40,SNR=7.6						
RUS	**Russkaya**	**3.49**	**230**	PN	**Pn**	**22 22 39.4**	**+1.0**
RUS				S	**Sn**	**22 23 21.7**	**+2.8**
RUS	**Russkaya**	**3.49**	**230**	*e*P	**Pn**	**22 22 39.4**	**+1.0**
RUS				*i* P	**Pn**	**22 22 39.5**	**+1.0**
RUS				*e*S	**Sn**	**22 23 21.7**	**+2.8**
MTVR	**Mutnovka**	**3.61**	**232**	PN	**Pn**	**22 22 42.0**	**+1.9**
MTVR				S	**Sn**	**22 23 23.6**	**+1.7**
MTVR	**Mutnovka**	**3.61**	**232**	*e*P	**Pn**	**22 22 42.0**	**+1.9**
MTVR				*e*S	**Sn**	**22 23 23.6**	**+1.7**
ASAK	**Asacha**	**3.80**	**233**	PN	**Pn**	**22 22 45.4**	**+2.6**
ASAK	**Asacha**	**3.80**	**233**	*i* P	**Pn**	**22 22 45.4**	**+2.6**
APC	**Apacha**	**3.85**	**244**	PN	**Pn**	**22 22 46.0**	**+2.7**
APC	**Apacha**	**3.85**	**244**	*e*P	**Pn**	**22 22 46.0**	**+2.7**
KDTR	**Khodutka, Kamc**	**4.13**	**226**	*e*P	**Pn**	**22 22 48.5**	**+1.4**
MIPR	**Malaya Ipel'ka**	**4.42**	**238**	PN	**Pn**	**22 22 53.9**	**+2.8**
MIPR	**Malaya Ipel'ka**	**4.42**	**238**	*e*P	**Pn**	**22 22 53.9**	**+2.8**
OSSR	**Ossora**	**4.49**	**1**	PN	**Pn**	**22 22 52.4**	**+0.3**
OSSR				S	**Sn**	**22 23 44.0**	**+0.6**
OSSR	**Ossora**	**4.49**	**1**	*e*P	**Pn**	**22 22 52.4**	**+0.3**
OSSR				*e*S	**Sn**	**22 23 44.0**	**+0.6**
PALN	**Palana**	**4.61**	**341**	PN	**Pn**	**22 22 56.9**	**+3.2**
PALN	**Palana**	**4.61**	**341**	*e*P	**Pn**	**22 22 56.9**	**+3.2**
PAU	**Pauzhetka**	**4.92**	**230**	PN	**Pn**	**22 23 00.8**	**+2.7**
PAU				S	**Sn**	**22 23 57.8**	**+3.7**
PAU	**Pauzhetka**	**4.92**	**230**	*e*P	**Pn**	**22 23 00.8**	**+2.7**
PAU				*e*S	**Sn**	**22 23 57.8**	**+3.7**
SKR	**Severo-Kuril's**	**5.79**	**228**	*e*PN	Pb	22 23 20.4	-5.6
SKR				*e*S	Sb	22 24 26.1	-8.7
SKR				smax	smax		
	comp=E,273nm,0.8s						
SKR				smax	smax		
	comp=N,418nm,0.9s						
SKR				MLR	MLR		
	comp=Z,800nm,14.0s						
TILK	**Tilichiki**	**5.96**	**16**	PN	**Pn**	**22 23 13.6**	**+1.4**
TILK	**Tilichiki**	**5.96**	**16**	*e*P	**Pn**	**22 23 13.6**	**+1.4**
TILK				*e*S	**Sn**	**22 24 19.8**	**+0.3**
KMSK	**Kamenskaya**	**7.91**	**11**	PN	**Pn**	**22 23 40.9**	**+1.9**
KMSK	**Kamenskaya**	**7.91**	**11**	*e*P	**Pn**	**22 23 40.9**	**+1.9**
MA2	**Magadan**	**8.14**	**311**	*e*PN	**Pn**	**22 23 41.0**	**-1.1**
NKL	**Nikolayevsk**	**13.15**	**272**	*e*PN	**P**	**22 25 01.6**	**+1.1**
NKL				pmax	pmax		
	comp=E,8.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,19nm,0.9s						
BILL	**Bilibino**	**13.41**	**6**	*i* PN	**Pn**	**22 24 57.9**	**+3.7**
BILL				pmax	pmax		
	comp=Z,11nm,0.9s						
YSS	**Yuzh-Sakhalins**	**14.87**	**247**	P	**P**	**22 25 22.4**	**+2.7**
GAMB	**Gambell**	**15.71**	**45**	*e*Pn	**Pn**	**22 25 26.3**	**+1.2**
	comp=Z,4.6nm,0.7s						
ASAJ	**Asahikawa**	**16.88**	**239**	Pn	**P**	**22 25 42.9**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=114,slow=15,SNR=3.5						
ASAJ	**Asahikawa**	**16.88**	**239**	*e*Pn	**Pn**	**22 25 41.2**	**+1.1**
	comp=Z,28nm,1.2s						
UNV	**Unalaska Valle**	**17.84**	**80**	*e*P	**P**	**22 25 54.3**	**+1.8**
	comp=Z,68nm,1.3s						
ERM	**Erimo**	**18.19**	**234**⇑	*e*P	**P**	**22 25 57.0**	**+0.5**
ERM	**Erimo**	**18.19**	**234**	*e*Pn	**Pn**	**22 25 56.4**	**0.0**
YAK	**Yakutsk**	**18.66**	**306**	P	**P**	**22 26 01.1**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=232,slow=2.7,SNR=4.2						
KLR	**Kul'dur**	**19.83**	**267**	*e*P	**P**	**22 26 14.6**	**+0.2**
TIXI	**Tiksi**	**22.29**	**332**	P	**P**	**22 26 40.2**	**-0.6**
	comp=Z,8.8nm,0.6s,baz=128,slow=12,SNR=45						
TIXI	**Tiksi**	**22.29**	**332**	*i* P	**P**	**22 26 40.3**	**-0.4**
TIXI				*i* *SP	**sP**	**22 26 50.1**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TIXI	**Tiksi**	**22.29**	**332**	*e*P	**P**	**22 26 40.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**22.49**	**255**	P	**P**	**22 26 43.4**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=48,slow=15,SNR=3.5						
CAST	**Castle Rocks**	**24.21**	**51**	*e*P	**P**	**22 27 01.8**	**+1.7**
	comp=Z,6.4nm,1.0s						
KDAK	**Kodiak Island**	**24.58**	**65**	P	**P**	**22 27 02.8**	**-0.5**
	comp=Z,9.8nm,0.5s,baz=264,slow=7.0,SNR=12						
KDAK	**Kodiak Island**	**24.58**	**65**	*i* P	**P**	**22 27 03.2**	**-0.2**
KDAK	**Kodiak Island**	**24.58**	**65**	P	**P**	**22 27 02.8**	**-0.5**
	comp=Z,228nm,2.0s						
BPAW	**Bear Paw Mtn.**	**24.70**	**49**	*e*P	**P**	**22 27 05.4**	**+1.0**
	comp=Z,6.4nm,1.0s						
KTH	**Kantishna Hill**	**24.73**	**51**	*e*P	**P**	**22 27 06.2**	**+1.3**
	comp=Z,24nm,1.5s						
MLY	**Manley**	**24.83**	**47**	*e*P	**P**	**22 27 08.1**	**+2.5**
	comp=Z,4.3nm,0.8s						
MJB9	**Matsu-Tunnel**	**24.87**	**233**	*e*P	**P**	**22 27 08.1**	**+1.9**
	comp=Z,19nm,0.7s						
MAJO	**Matsushiro**	**24.87**	**233**⇑	*i* P	**P**	**22 27 07.3**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MAJO	**Matsushiro**	**24.87**	**233**	*e*P	**P**	**22 27 06.7**	**+0.5**
	comp=Z,19nm,0.8s						
MAT	**Matsushiro**	**24.87**	**233**	P	**P**	**22 27 07.6**	**+1.4**
MJAR	**Matsushiro Arr**	**24.87**	**233**	P	**P**	**22 27 04.3**	**-1.9**
	comp=Z,5.0nm,0.8s,baz=22,slow=8.5,SNR=11						
SUA	**Susitna One**	**24.93**	**56**	*e*P	**P**	**22 27 09.1**	**+2.4**
	comp=Z,10.0nm,0.9s						
TRF	**Thorofare Moun**	**25.02**	**51**	*e*P	**P**	**22 27 08.1**	**+0.5**
	comp=Z,17nm,1.0s						
COLD	**Coldfoot**	**25.21**	**42**	*e*P	**P**	**22 27 10.3**	**+1.3**
	comp=Z,9.9nm,0.9s						
TOLK	**Toolik Lake Re**	**25.63**	**39**	*e*P	**P**	**22 27 13.8**	**+0.9**
	comp=Z,8.7nm,0.7s						
WRH	**Wood River Hil**	**25.96**	**48**	*e*P	**P**	**22 27 17.5**	**+1.6**
	comp=Z,11nm,0.9s						
SML	**Sawmill**	**26.04**	**54**	*e*P	**P**	**22 27 17.4**	**+0.8**
SML				pmax	pmax		
	comp=Z,73nm,2.0s						
SML	**Sawmill**	**26.04**	**54**	*e*P	**P**	**22 27 17.4**	**+0.8**
	comp=Z,73nm,2.0s						
COLA	**College**	**26.06**	**47**⇑	*e*P	**P**	**22 27 17.6**	**+0.9**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CCB	**Clear Creek Bu**	**26.08**	**48**	*e*P	**P**	**22 27 18.3**	**+1.4**
	comp=Z,6.5nm,0.9s						
DHY	**Denali Highway**	**26.36**	**52**	*e*P	**P**	**22 27 20.2**	**+0.6**
	comp=Z,23nm,1.7s						
CN2	**Changchun**	**26.44**	**261**	*e*P	**P**	**22 27 22.3**	**+2.0**
ILAR	**Eielson Array**	**26.47**	**48**	P	**P**	**22 27 21.1**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=267,slow=8.8,SNR=28						
ILAR				PcP	**PcP**	**22 30 43.4**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=299,slow=4.2,SNR=4.4						
ILB	**Eielson Array**	**26.47**	**48**	*e*P	**P**	**22 27 21.5**	**+1.1**
IL1	**Eielson Array**	**26.47**	**48**	*e*P	**P**	**22 27 21.6**	**+1.2**
SCM	**Sheep Creek Mo**	**26.51**	**54**	*e*P	**P**	**22 27 22.3**	**+1.4**
SCM				pmax	pmax		
	comp=Z,20nm,1.1s						
SCM	**Sheep Creek Mo**	**26.51**	**54**	*e*P	**P**	**22 27 22.3**	**+1.4**
	comp=Z,20nm,1.1s						
BOD	**Bodaibo**	**26.80**	**297**	*e*P	**P**	**22 27 21.0**	**-2.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SCRK	**Sand Creek**	**27.78**	**49**	*e*P	**P**	**22 27 33.4**	**+1.1**
	comp=Z,6.6nm,1.0s						
INK	**Inuvik**	**31.54**	**40**	P	**P**	**22 28 06.3**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=341,slow=5.1,SNR=3.9						
INK				PcP	**PcP**	**22 30 57.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=310,slow=4.6,SNR=4.9						
BJI	**Beijing**	**34.16**	**264**	P	**P**	**22 28 26.4**	**-2.2**
TLY	**Talaya**	**34.67**	**290**⇑	*i* P	**P**	**22 28 31.2**	**-1.7**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**35.12**	**283**	P	**P**	**22 28 36.3**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=65,slow=8.3,SNR=4.1						
SONM				PcP	**PcP**	**22 31 08.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=126,slow=1.3,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**35.12**	**173**	T	T	23 06 04.2	
	baz=355,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.13**	**173**	T	T	23 05 58.9	
	baz=355,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.14**	**173**	T	T	23 05 59.4	
	baz=355,slow=76						
HHC	**Hu-ho-hao-te**	**36.30**	**269**	*e*P	**P**	**22 28 47.6**	**+0.4**
HHC				pP	sP	22 28 59.8	+1.9
HHC				sP	pP	22 29 05.1	+10
HHC				PP	**PP**	**22 30 10.3**	**+0.5**
HHC				S	**S**	**22 34 22.5**	**-3.8**
HHC				sS	sS	22 34 42.8	+4.0
HHC				SS	**SnSn**	**22 36 46.8**	**-7.1**
NJ2	**Nanjing**	**38.34**	**252**	*e*P	**P**	**22 29 05.4**	**+1.0**
YKA	**Yellowknife Ar**	**40.82**	**45**	P	**P**	**22 29 25.6**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=298,slow=8.3,SNR=9.4						
YKA				PcP	**PcP**	**22 31 26.1**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=305,slow=3.9,SNR=5.6						
RES	**Resolute Bay**	**41.14**	**23**	*e*P	**P**	**22 29 27.6**	**+0.4**
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RES	**Resolute Bay**	**41.14**	**23**	*e*P	**P**	**22 29 27.6**	**+0.4**
	comp=Z,2.1nm,0.7s						
ZALV	**Zalesovo Beam**	**43.25**	**302**	P	**P**	**22 29 42.1**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=76,slow=6.1,SNR=2.4						
NVS	**Novosibirsk**	**43.51**	**304**	*e*P	**P**	**22 29 44.8**	**-1.9**
LZH	**Lanzhou**	**43.98**	**270**	*e*P	**P**	**22 29 53.5**	**+2.6**
LZH				pP	sP	22 30 07.3	+5.6
LZH				sP	pP	22 30 13.6	+15
LZH				*e*PP	**PcP**	**22 31 37.3**	**+1.0**
GTA	**Gaotai**	**44.04**	**277**	*e*P	**P**	**22 29 50.3**	**-1.0**
GTA				pP	sP	22 30 05.4	+3.3
GTA				sP	pP	22 30 13.0	+14
GTA				S	**S**	**22 36 16.0**	**-6.0**
GTA				sS	sS	22 36 42.8	+8.2
GTA				SS	SS	22 39 24.4	-15
KIP	**Kipapa**	**44.38**	**123**⇓	*e*P	**P**	**22 29 55.7**	**+1.7**
KIP				pmax	pmax		
	comp=Z,145nm,1.0s						
SPITS	**Spitsbergen Ar**	**45.74**	**351**	P	**P**	**22 30 04.2**	**0.0**
	comp=Z,2.8nm,0.4s,baz=34,slow=10,SNR=25						
WMQ	**Urumqi**	**47.95**	**290**	P	**P**	**22 30 20.9**	**-1.1**
WMQ				pP	sP	22 30 33.3	+0.5
KURK	**Kurchatov**	**48.23**	**302**⇓	*e*P	**P**	**22 30 22.0**	**-2.0**
KURK				*i* *SP	**sP**	**22 30 34.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**48.23**	**302**	*e*P	**P**	**22 30 21.9**	**-2.0**
	comp=Z,3.2nm,0.5s						
KURBB	**Kurchatov Arra**	**48.33**	**302**	P	**P**	**22 30 22.7**	**-2.0**
	comp=Z,1.4nm,0.4s,baz=57,slow=7.6,SNR=27						
MK31	**Makanchi Array**	**48.89**	**296**	*e*P	**P**	**22 30 26.7**	**-2.5**
MK31	**Makanchi Array**	**48.89**	**296**	*e*P	**P**	**22 30 26.6**	**-2.5**
MKAR	**Makanchi Array**	**48.89**	**296**	P	**P**	**22 30 26.8**	**-2.4**
	comp=Z,2.0nm,0.5s,baz=54,slow=5.9,SNR=48						
MKAR	**Makanchi Array**	**48.89**	**296**	P	**P**	**22 30 26.8**	**-2.4**
MKAR				pmax	pmax		
	comp=Z,17nm,0.6s						
MKAR	**Makanchi Array**	**48.89**	**296**	P	**P**	**22 30 26.8**	**-2.4**
	comp=Z,17nm,0.6s						
MK01	**Makanchi Array**	**48.90**	**296**	*e*P	**P**	**22 30 26.9**	**-2.3**
MAKZ	**Makanchi**	**49.05**	**296**	*e*P	**P**	**22 30 28.0**	**-2.4**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**49.05**	**296**	*e*P	**P**	**22 30 28.0**	**-2.4**
	comp=Z,2.2nm,0.5s						
BVAR	**Borovoye Array**	**50.62**	**309**	P	**P**	**22 30 40.5**	**-1.7**
	comp=Z,3.4nm,0.5s,baz=61,slow=7.8,SNR=38						
BRVK	**Borovoye**	**50.64**	**309**	*e*P	**P**	**22 30 40.7**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**50.64**	**309**	*e*P	**P**	**22 30 40.6**	**-1.7**
	comp=Z,4.3nm,0.5s						
ARCES	**ARCESS Array B**	**52.19**	**342**	P	**P**	**22 30 54.8**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=24,slow=9.8,SNR=1.9						
KMI	**Kunming**	**52.71**	**261**	P	**P**	**22 30 59.6**	**+1.2**
ARU	**Arti**	**53.26**	**318**	*d* *i* P	**P**	**22 31 01.0**	**-0.7**
ARU						22 32 06.3	
ARU						22 32 58.8	
ARU				S	**S**	**22 38 32.5**	**+1.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NVAR	**Mina Array Bea**	**53.66**	**73**	P	**P**	**22 31 08.4**	**+3.1**
	comp=Z,0.3nm,0.4s,baz=290,slow=7.2,SNR=3.9						
AAK	**Ala-Archa**	**55.78**	**297**	P	**P**	**22 31 19.0**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=120,slow=9.1,SNR=5.5						
AAK	**Ala-Archa**	**55.78**	**297**	P	**P**	**22 31 19.0**	**-1.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**55.78**	**297**	*e*P	**P**	**22 31 20.0**	**-0.6**
LSA	**Lhasa**	**55.94**	**274**	*e*P	**P**	**22 31 21.6**	**-0.6**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**55.94**	**274**	*e*P	**P**	**22 31 21.6**	**-0.6**
	comp=Z,2.8nm,0.8s						
KLMR	**Klimovskoe**	**56.30**	**331**	*e*P	**P**	**22 31 22.5**	**-1.2**
KLMR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KLMR	**Klimovskoe**	**56.30**	**331**	*e*P	**P**	**22 31 22.5**	**-1.2**
KLMR				AMP		22 31 24.2	
	comp=Z,5.0nm,0.7s						
ULM	**Lac du Bonnet**	**56.48**	**49**	P	**P**	**22 31 26.8**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=306,slow=8.2,SNR=5.9						
KKAR	**Karatay Array**	**57.48**	**300**	*e*P	**P**	**22 31 31.5**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**57.48**	**300**	*e*P	**P**	**22 31 31.5**	**-0.9**
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**57.88**	**313**	P	**P**	**22 31 34.1**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=56,slow=7.3,SNR=6.5						
ABKAR	**Akbulak array**	**57.93**	**311**	*e*P	**P**	**22 31 34.6**	**-0.8**
	comp=Z,82nm,0.4s						
FIA1	**FINESS Array S**	**59.21**	**337**	*e*P	**P**	**22 31 43.5**	**-0.6**
FINES	**FINESS Array B**	**59.21**	**337**	P	**P**	**22 31 43

GOPC	GO Pecny, Ondr	72.30	339	*e*P		P	22 33 09.6	+0.9	
GOPC	GO Pecny, Ondr	72.30	339	*e*P		P	22 33 09.6	+0.9	
NKC	Novy Kostel	72.47	341	⇓*e*P		P	22 33 10.5	+0.8	
NKC	Novy Kostel	72.47	341	*e*P		P	22 33 10.5	+0.8	
VRAC	Vranov	72.49	338	⇓*i*P		P	22 33 11.1	+1.3	
TESR	Tescani	72.51	330	⇓*i*P		P	22 33 09.5	-0.5	
ARCR	ARCALIA	72.63	332	⇑*i*P		P	22 33 11.9	+1.2	
TLCR		73.06	328	⇓*i*P		P	22 33 13.6	+0.4	
VRI	Vrincioaia	73.07	330	⇓*i*P		P	22 33 13.1	-0.2	
BRYW	Bryant College	73.10	39	*e*P		P	22 33 09.9	-3.7	
	comp=Z,44nm,0.4s								
PLOR	Plostina	73.11	330	⇑*i*P		P	22 33 13.8	+0.2	
CJR	Cluj-Napoca	73.18	332	⇓*i*P		P	22 33 15.0	+1.0	
MEM	Membach	73.22	345	⇑P		P	22 33 14.3	+0.2	
CFR	Carcaliu	73.27	328	⇓*i*P		P	22 33 14.6	+0.1	
KHC	Kasperske Hory	73.30	339	⇓*e*P		P	22 33 15.7	+1.1	
KHC				*ex*		x	22 33 19.1		
KHC	Kasperske Hory	73.30	339	⇓*e*P		P	22 33 15.7	+1.1	
DRGR		73.35	333	⇓*i*P		P	22 33 16.0	+1.0	
GERES	GERESS Array B	73.54	339	P		P	22 33 16.8	+0.6	
	comp=Z,1.9nm,0.5s,baz=33,slow=5.6,SNR=24								
GEA0	GERESS Array S	73.55	339	*e*P		P	22 33 16.5	+0.3	
MLR	Muntele Rosu	73.64	330	P		P	22 33 17.2	+0.3	
	comp=Z,2.4nm,0.5s,baz=323,slow=5.1,SNR=22								
MLR	Muntele Rosu	73.64	330	⇓*i*P		P	22 33 17.6	+0.8	
TLB	Topalu	73.83	328	⇓*i*P		P	22 33 17.9	+0.1	
VOIR		73.94	331	⇑*i*P		P	22 33 19.3	+0.7	
CONA	Conrad Observa	73.95	338	*e*P		P	22 33 19.8	+1.2	
	comp=Z,1.4nm,0.6s,SNR=4.6								
SIRR	Siria	74.11	333	⇑*i*P		P	22 33 20.5	+1.1	
ARR	Arges	74.13	331	⇓*i*P		P	22 33 20.7	+1.1	
MTUR	Matau	74.13	330	⇑*i*P		P	22 33 30.8	+11	
BZS	Buzias	74.72	333	⇓*i*P		P	22 33 23.2	+0.2	
KBA	Koelnbreinsper	75.30	339	*e*P		P	22 33 27.8	+1.3	
	comp=Z,5.2nm,0.6s								
SOKA	Soboth	75.32	338	*e*P		P	22 33 27.4	+0.9	
	comp=Z,1.6nm,0.5s,SNR=6.6								
MOTA	Moosalm	75.49	341	*i* P		P	22 33 28.4	+0.8	
	comp=Z,2.7nm,0.6s								
OBKA	Obir	75.58	338	*i* P		P	22 33 29.2	+1.2	
	comp=Z,3.9nm,0.6s,SNR=7.2								
ABTA	Abfaltersbach	75.79	339	*e*P		P	22 33 30.0	+0.8	
	comp=Z,3.7nm,0.8s,SNR=5.2								
FETA	Feichten	75.88	341	*e*P		P	22 33 30.7	+0.9	
	comp=Z,3.0nm,0.8s								
BR131	Keskin Array S	76.33	322	*e*P		P	22 33 32.8	+0.3	
BRTR	Keskin Array B	76.33	322	P		P	22 33 32.9	+0.3	
	comp=Z,4.0nm,0.6s,baz=62,slow=3.4,SNR=28								
BR231	Keskin MP Arra	76.53	323	*e*P		P	22 33 33.2	-0.3	
VTS	Vitosha	77.08	331	⇑*i*P		P	22 33 36.5	-0.2	
VTS	Vitosha	77.08	331	*e*P		P	22 33 36.0	-0.7	
VTS				pmax		pmax			
	comp=Z,4.0nm,0.6s								
VTS	Vitosha	77.08	331	*e*P		P	22 33 36.0	-0.7	
	comp=Z,4.2nm,0.6s								
PDG	Podgorica	78.31	333	⇑*i*P		P	22 33 43.3	0.0	
WRA	Warramunga Arr	78.31	207	P		P	22 33 43.3	-0.1	
	comp=Z,0.7nm,0.6s,baz=19,slow=5.8,SNR=8.3								
MMAI	Mount Meron Ar	81.61	318	P		P	22 34 02.2	+0.8	
	comp=Z,1.7nm,0.5s,baz=46,slow=7.1,SNR=12								
ASF	Jabal al Asfar	81.76	316	P		P	22 34 02.5	+0.3	
	comp=Z,3.7nm,0.8s,baz=356,slow=3.5,SNR=7.4								
ASAR	Alice Springs	81.98	207	P		P	22 34 04.2	+1.0	
	comp=Z,0.9nm,0.7s,baz=16,slow=5.2,SNR=9.4								
IDI	Anoyia	83.30	327	P		P	22 34 09.7	-0.5	
	comp=Z,6.4nm,1.1s,baz=98,slow=14,SNR=4.4								
ES19	SONSECA Array	85.21	350	*e*P		P	22 34 21.1	+1.3	
ESDC	Sonseca Array	85.25	350	P		P	22 34 21.0	+1.0	
	comp=Z,3.5nm,0.7s,baz=64,slow=8,SNR=24								
QSPA	South Pole Qui	144.52	180	PKP		PKPab	22 41 16.6	-0.3	
	comp=Z,4.3nm,0.8s,baz=121,slow=5.8,SNR=18								

IDC ***20*** *22:25:37.3±0.6, 16°.22N×98°.76W, h0km, mb4.6/24, mb1 4.7/27, mb1mx4.6/49, mbtmp4.5/27, ML3.8/3, MS4.6/1, Ms1 4.7/1, ms1mx3.6/38, Error ellipse: s-maj=18.1km s-min=12.0km az=41.0*

MEX ***20*** *22:25:37.4±0.8, 15°.94N×99°.01W, h5km±10km, MD4.8*

NEIC ***20*** *22:25:40.1±0.2, 16°.27N×98°.69W, h10km, mb5.0/222, MD4.8(MEX), Error ellipse: s-maj=4.7km s-min=2.6km az=195.0*

ISCJB ***20*** *22:25:41.0±1.6, 16°.47N±0°.04×98°.60W±0°.02, h15km±9km, mb4.9/228, Error ellipse: s-maj=6.1km s-min=2.9km az=9.9*

MOS ***20*** *22:25:41.3±0.8, 16°.26N×98°.69W, h33km, mb5.2/50, Error ellipse: s-maj=9.8km s-min=4.6km az=98.5*

BJI ***20*** *22:25:42.8, 16°.50N×98°.70W, h23km, mB5.3/3, Ms5.2/5, Ms7 5.1/5*

ISC 20 22:25:41.4±0.8, 16°.24N±0°.05×98°.86W±0°.04, h26km±5km, n825, σ1°33/841, mb5.0/231, 5C-2D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACX	Acapulco	1.15	303	*e*P		Pn	22 26 00.4	-1.5
ACX				*i* S		Sn	22 26 17.0	+0.3
TLIG	Tlapa	1.35	12	*e*P		Pn	22 26 03.3	-1.5
TLIG				*e*S		Sb	22 26 25.0	+2.0
CAIG	El Cayaco	1.57	301	*e*P		Pn	22 26 03.6	-4.2
CAIG				*i* S		Sn	22 26 23.2	-4.1
VHO	Vista Hermosa	2.20	68	*e*P		Pn	22 26 16.0	-0.5
VHO				*i* S		Sn	22 26 44.6	+1.6
PLIG	Platanillo	2.23	344	*e*P		Pn	22 26 15.8	-1.1
PLIG				*i* S		Sn	22 26 45.3	+1.6
ARIG	Puente Sto Nin	2.48	325	*e*P		Pn	22 26 18.3	-1.9
ARIG				*i* S		Sn	22 26 49.2	-0.5
TPIG	Tehuac#an	2.60	33	*e*P		Pn	22 26 21.4	-0.6
TPIG				*i* S		Sb	22 26 57.3	-1.7
YAIG	Yautepec	2.62	356	*e*P		Pn	22 26 21.0	-1.2
YAIG				*i* S		Sn	22 26 56.1	+2.8
HUIG	Huatulco	2.68	100	*e*P		Pn	22 26 20.4	-2.6
HUIG				*i* S		Sn	22 26 53.0	-1.8
UNM	Universidad Na	3.09	354	*e*P		Pb	22 26 34.5	-1.4
UNM	Universidad Na	3.09	354	*e*Pg		Pb	22 26 34.5	-1.4
CMIG	Matias Romero	3.90	77	Pn		Pn	22 26 38.4	-1.3
	10nm,0.3s,baz=260,slow=11,SNR=41							
CMIG				Sn		Sn	22 27 24.3	-0.5
	57nm,0.3s,baz=184,slow=22,SNR=5.5							
CMIG				Lg		Lg	22 27 39.4	
	95nm,0.3s,baz=269,slow=12,SNR=5.0							
JRQG	Juriquilla Cam	4.69	341	*e*Pg		Pb	22 27 04.3	+1.1
ZAIG	Zacatecas	7.38	332	Pn		Pn	22 27 30.0	+2.1
TEIG	Tepich	10.81	67	*e*Pn		Pn	22 28 13.1	-1.4
TGUH	Tegucigalpa,Un	11.39	99	*e*Pn		Pn	22 28 26.3	+3.7
833A	Chaparral WMA,	12.04	358	P		Pn	22 28 31.1	-0.3
	baz=177							
SLBS	Sierra La Lagu	12.78	307	*e*Pn		Pn	22 28 40.7	-1.0
TXAR	Lajitas Array	13.77	342	Pn		Pn	22 28 56.6	+1.5
	0.1nm,0.3s,baz=158,slow=14,SNR=15							
TXAR				Lg		Lg	22 32 56.2	
	0.1nm,0.3s,baz=162,slow=27,SNR=3.9							
TX31	Lajitas Ar. Si	13.77	342	*e*Pn		Pn	22 28 56.0	+0.9
JCT	Junction City	14.20	357	P		Pn	22 29 00.3	-0.8
	baz=176,SNR=7.4							
JCT	Junction City	14.20	357	*e*P		Pn	22 29 00.8	-0.2
JCT	Junction City	14.20	357	*e*Pn		Pn	22 29 00.8	-0.2
435B	Jarrell	14.53	4	P		Pn	22 29 04.1	-1.3
	baz=184,SNR=6.2							
JTS	JuntasAbangare	14.77	112	Pn		Pn	22 29 09.5	+0.8
	0.7nm,0.3s,baz=217,slow=20,SNR=1.8							
JTS	JuntasAbangare	14.77	112	*e*P		P	22 29 13.2	-1.3
JTS				pmax		pmax		
	comp=Z,73nm,1.1s							
JTS	JuntasAbangare	14.77	112	*e*Pn		P	22 29 13.2	-1.3
	comp=Z,73nm,1.1s							
HDC	Heredia	15.63	112	*e*Pn		P	22 29 25.2	+0.9
	comp=Z,72nm,0.7s							
WHTX	Lake Whitney,	15.73	4	P		Pn	22 29 20.9	-0.5
	baz=184,SNR=27							
WHTX	Lake Whitney,	15.73	4	*e*Pn		Pn	22 29 22.5	+1.1
	comp=Z,200nm,1.0s							
341A	Kurthwood	15.90	18	P		Pn	22 29 22.1	-1.4
	baz=200							
NATX	Nacogdoches	15.92	13	P		Pn	22 29 22.6	-1.1
	baz=194							
NATX	Nacogdoches	15.92	13	*e*Pn		P	22 29 26.0	-1.2
	comp=Z,124nm,1.1s							
342A	Flagon Creek P	16.20	20	P		Pn	22 29 25.8	-1.6
	baz=202,SNR=8.3							
ABTX	Abilene, Hawle	16.33	358	P		Pn	22 29 28.3	-0.8
	baz=177,SNR=25							
ABTX	Abilene, Hawle	16.33	358	*e*Pn		Pn	22 29 30.8	+1.7
	comp=Z,98nm,1.0s							
445A	Amite	16.39	27	P		Pn	22 29 28.4	-1.4
	baz=210							
240A	Hunter Patters	16.40	15	P		Pn	22 29 28.9	-1.0
	baz=197							
MNTX	Cornudas Mount	16.50	340	P		Pn	22 29 31.3	+0.1
	baz=157,SNR=22							
MNTX	Cornudas Mount	16.50	340	*e*Pn		Pn	22 29 31.0	-0.2
	comp=Z,76nm,1.5s							
241A	Mo Tay, Goldon	16.62	18	P		Pn	22 29 31.8	-0.9
	baz=200,SNR=6.9							
242A	Grayson	16.89	20	P		Pn	22 29 35.2	-0.9
	baz=202							
EPT	El Paso	16.96	337	*e*Pn		Pn	22 29 36.9	-0.2
	comp=Z,62nm,1.3s							
140A	Cam and Jess,	17.02	15	P		Pn	22 29 36.6	-1.1
	baz=197							
141A	Papa Simpson,	17.16	17	P		Pn	22 29 38.3	-1.3
	baz=199							
346A	Big Creek Wild	17.34	28	P		Pn	22 29 39.9	-1.8
	baz=211							
244A	Avery, Jackson	17.40	24	P		Pn	22 29 40.3	-2.2
	baz=207							
VBMS	Vicksburg	17.62	24	P		Pn	22 29 43.8	-1.4
	baz=207							
VBMS	Vicksburg	17.62	24	*e*Pn		Pn	22 29 43.5	-1.7
	comp=Z,139nm,1.3s							
Z40A	Long Farm, Mag	17.65	15	P		Pn	22 29 44.2	-1.3
	baz=197,SNR=11							
245A	Little AP, Sta	17.71	26	P		Pn	22 29 44.1	-2.2
	baz=209							
143A	Socs Landing,	17.73	21	P		Pn	22 29 44.4	-2.2
	baz=204							
Z41A	Richland Creek	17.81	17	P		Pn	22 29 45.5	-2.0
	baz=199,SNR=8.5							
MSTX	Muleshoe	18.00	349	P		Pn	22 29 48.7	-1.3
	baz=167,SNR=12							
MSTX	Muleshoe	18.00	349	*e*Pn		Pn	22 29 48.8	-1.3
	comp=Z,129nm,1.0s							
Z42A	Norrel Spur, H	18.07	19	P		Pn	22 29 48.7	-2.1
	baz=201,SNR=5.5							
121A	Cookes Peak, D	18.13	335	P		Pn	22 29 51.8	+0.1
	baz=151,SNR=17							
WLAR	White Oak Lake	18.13	16	*e*Pn		Pn	22 29 49.2	-2.3
	comp=Z,87nm,1.0s							
145A	Houston Renfro	18.19	25	P		Pn	22 29 49.5	-2.7
	baz=208							
450A	Crestview	18.33	36	P		P	22 29 51.2	-2.6
	baz=220							
BRAL	Brewton	18.36	34	P		P	22 29 51.9	-2.2
	baz=218							
Y40A	Okolona	18.40	15	P		P	22 29 52.4	-2.2
	baz=197,SNR=5.8							
349A	Repton	18.42	33	P		P	22 29 52.2	-2.7
	baz=217							
WMOK	Wichita Mounta	18.42	0	P		P	22 29 52.7	-2.2
	baz=180,SNR=9.5							
WMOK	Wichita Mounta	18.42	0	*e*P		P	22 29 54.4	-0.5
WMOK				pmax		pmax		
	comp=Z,27nm,1.0s							
WMOK	Wichita Mounta	18.42	0	*e*Pn		P	22 29 54.4	-0.5
	comp=Z,27nm,1.0s							
146A	Union	18.59	27	P		P	22 29 53.7	-2.9
	baz=210							
Y42A	Garnett, Star	18.65	19	P		P	22 29 54.8	-2.5
	baz=201							
X39A	Fountain Ranch	18.69	12	P		P	22 29 55.5	-2.3
	baz=194,SNR=14							
AMTX	Amarillo	18.74	353	P		P	22 29 56.9	-1.6
	baz=171							
AMTX	Amarillo	18.74	353	*e*P		P	22 29 57.7	-0.8
	comp=Z,90nm,1.0s							
248A	Dixon Mills	18.74	31	P		P	22 29 55.4	-2.9
	baz=215							
249A	Camden	18.95	32	P		P	22 29 58.1	-2.6
	baz=216							
X40A	Basin Creek Fa	18.96	15	P		P	22 29 58.6	-2.2
	baz=198							
Z45A	Winona	18.96	24	P		P	22 29 58.1	-2.7
	baz=208							
147A	Livingston	18.97	28	P		P	22 29 58.6	-2.3
	baz=212,SNR=8.1							
Z46A	Louisville	19.11	26	P		P	22 30 00.6	-1.9
	baz=210,SNR=5.9							
BNM	Barren Site	19.16	340	*e*P		Pn	22 30 05.0	+0.8
553A	Crawfordville	19.17	41	P		P	22 30 01.2	-1.9
	baz=226							
Y22D	IRIS PASSCAL I	19.19	339	P		P	22 30 04.3	+0.9
	baz=155							
Y22E	IRIS PASSCAL I	19.19	339	P		P	22 30 04.2	+0.8
	baz=155							
351A	Pinckard	19.24	37	P		P	22 30 02.4	-1.4
	baz=222							
148A	Greensboro	19.27	30	P		P	22 30 03.1	-1.1
	baz=214							
TUC	Tucson	19.32	328	P		Pn	22 30 06.2	+0.3
	baz=143							
TUC	Tucson	19.32	328	*e*P		Pn	22 30 06.4	+0.4
TUC				pmax		pmax		
	comp=Z,33nm,1.0s							
TUC	Tucson	19.32	328	*e*P		Pn	22 30 06.4	+0.4
	comp=Z,33nm,1.0s							
X42A	Stuttgart	19.36	18	P		P	22 30 03.6	-1.6
	baz=201							
UALR	University of	19.36	16	*e*P		P	22 30 04.2	-1.0
	comp=Z,45nm,1.0s							
250A	Grady	19.40	34	P		P	22 30 03.4	-2.2
	baz=219							
W39A	Magazine	19.42	13	P		P	22 30 04.8	-1.0
	baz=194,SNR=7.9							
655A	Horseshoe Beac	19.49	45	P		P	22 30 04.3	-2.3
	baz=230							
Z47A	Carrollton	19.50	28	P		P	22 30 04.9	-1.8
	baz=212,SNR=8.1							
X43A	Marvell	19.56	20	P		P	22 30 06.4	-1.0
	baz=203							
W40A	Ferguson Farm,	19.57	14	P		P	22 30 05.9	-1.6
	baz=196							
W40A	Ferguson Farm,	19.57	14	*e*P		P	22 30 08.0	+0.5
	comp=Z,71nm,1.2s							
149A	Jones	19.62	32	P		P	22 30 06.5	-1.5
	baz=216,SNR=12							
Y46A	Houston	19.74	25	P		P	22 30 08.4	-0.9
	baz=209,SNR=23							
W41B	Gary Mavity, V	19.76	16	P		P	22 30 08.4	-1.1
	baz=199,SNR=6.0							
352A	Blakely	19.78	37	P		P	22 30 08.0	-1.7
	baz=2							
TUL1	Leonard	19.78	7	P		P	22 30 08.8	-1.0
	baz=188,SNR=15							
TUL1	Leonard	19.78	7	*e*P		P	22 30 09.0	-0.8
	comp=Z,104nm,1.1s							
ANMO	Albuquerque	19.84	341	P		P	22 30 11.1	+0.5
	comp=Z,0.5nm,0.3s,baz=334,slow=13,SNR=27							
ANMO	Albuquerque	19.84	341	P		P	22 30 11.4	+0.9
	baz=158							
ANMO	Albuquerque	19.84	341	*c i*P		P	22 30 11.5	+0.9
ANMO				pmax		pmax		
	comp=Z,20nm,1.0s							
ANMO	Albuquerque	19.84	341	*e*P		Pn	22 30 11.9	-0.4
	comp=Z,33nm,0.9s							
WHAR	Wooly Hollow	19.86	16	*e*P		P	22 30 11.1	+0.5
	comp=Z,145nm,1.2s							
LRAL	Lakeview Retre	19.87	31	P		P	22 30 10.0	-0.7
	baz=215,SNR=18							
LRAL	Lakeview Retre	19.87	31	*e*P		P	22 30 10.6	-0.1
	comp=Z,45nm,1.0s							
Z48A	Northport	19.88	29	P		P	22 30 09.8	-1.1
	baz=213,SNR=10							
251A	Midway	19.96	35	P		P	22 30 10.6	-1.2
	baz=220,SNR=16							
757A	Oxford	19.97	48	P		P	22 30 10.0	-1.9
	baz=234							
150A	Eclectic	20.02	33	P		P	22 30 11.5	-0.9
	baz=218,SNR=33							
454A	Quitman	20.03	41	P		P	22 30 11.4	-1.1
	baz=227							
V39A	Pettigrew	20.07	12	P		P	22 30 12.0	-1.0
	baz=194							
OXF	Oxford	20.08	23	P		P	22 30 12.3	-0.7
	baz=207							
OXF	Oxford	20.08	23	*e*P		P	22 30 12.3	-0.7
OXF				pmax		pmax		
	comp=Z,123nm,1.3s							
OXF	Oxford	20.08	23	*e*P		P	22 30 12.3	-0.7
	comp=Z,123nm,1.3s							
353A	Camilla	20.11	39	P		P	22 30 12.5	-0.9
	baz=224,SNR=8.3							
W43A	Forest City	20.14	20	P		P	22 30 12.8	-0.8
	baz=203							
214A	Organ Pipe Nat	20.14	323	P		Pn	22 30 15.5	-0.2
	baz=137,SNR=27							
214A	Organ Pipe Nat	20.14	323	*e*P		Pn	22 30 15.5	-0.2
	comp=Z,622nm,1.6s							
Y47A	UCPARC, Winfie	20.19	27	P		P	22 30 13.5	-0.7
	baz=212,SNR=21							
V40A	Witts Springs	20.22	14	P		P	22 30 13.8	-0.7
	baz=196,SNR=12							
Z49A	Columbiana	20.23	31	P		P	22 30 13.6	-1.0
	baz=216,SNR=22							
060A	Indiantown	20.25	55	P		P	22 30 13.6	-1.3
	baz=241							
252A	Lumpkin	20.27	37	P		P	22 30 14.2	-0.9
	baz=222,SNR=11							
151A	Opelika	20.33	35	P		P	22 30 15.3	-0.5
	baz=220,SNR=34							
V41A	Mountainview	20.36	16	P		P	22 30 15.3	-0.8
	baz=198,SNR=22							
556A	Lake Butler	20.38	45	P		P	22 30 15.7	-0.6
	baz=231							
X46A	Booneville	20.44	25	P		P	22 30 16.0	-1.0
	baz=209,SNR=16							
MTDJ	Mount Denham	20.46	81	*e*P		P	22 30 17.7	+0.3
	comp=Z,107nm,1.1s							
657A	Interlachen	20.49	47	P		P	22 30 15.5	-2.0
	baz=233							
Y48A	Jasper	20.51	29	P		P	22 30 16.4	-1.2
	baz=213,SNR=12							
TIGA	Tifton	20.55	40	P		P	22 30 17.0	-1.2
	baz=226							
TIGA	Tifton	20.55	40	*e*P		P	22 30 17.4	-0.8
Z50A	Ashland	20.58	32	P		P	22 30 17.7	-0.8
	baz=217,SNR=29							
V42A	Cord	20.60	17	P		P	22 30 17.3	-1.3
	baz=200,SNR=20							
U39A	Green Forest	20.63	12	P		P	22 30 17.7	-1.2
	baz=194,SNR=10							
253A	Americus	20.67	38	P		P	22 30 17.7	-1.7
	baz=223							
X47A	Russelville	20.71	26	P		P	22 30 18.6	-1.2
	baz=211,SNR=26							
W45A	Hickory Valley	20.73	23	P		P	22 30 18.6	-1.5
	baz=207,SNR=5.8							
U40A	Yellville	20.74	14	P		P	22 30 19.2	-0.9
	baz=196,SNR=11							
X18A	Snowflake	20.76	333	*e*P		Pn	22 30 22.4	-0.6
	comp=Z,63nm,1.0s							
Y49A	Blount Mountai	20.82	30	P		P	22 30 19.4	-1.7
	baz=215,SNR=11							
557A	Orange Park	20.85	46	P		P	22 30 18.1	-3.2
	baz=232,SNR=5.2							
355A	Pearson	20.95	41	P		P	22 30 20.3	-2.2
	baz=227							
U41A	Viola	20.95	16	P		P	22 30 21.0	-1.5
	baz=198							
X48A	Hartselle	21.01	28	P		P	22 30 21.6	-1.5
	baz=213,SNR=23							
PLAL	Pickwick Lake	21.02	25	*e*P		P	22 30 20.8	-2.4
	comp=Z,124nm,1.0s							
W46A	Michie	21.03	25	P		P	22 30 21.7	-1.5
	baz=209							
254A	Abbeville	21.09	39	P		P	22 30 22.1	-1.8
	baz=225,SNR=9.3							
T38A	Diamond	21.11	10	P		P	22 30 22.6	-1.5
	baz=192,SNR=5.4							
U42A	Revenden	21.15	17	P		P	22 30 22.9	-1.6
	baz=200,SNR=30							
GNAR	Gosnell	21.17	20	*e*P		P	22 30 25.0	+0.2
	comp=Z,6μm,1.2s							
W18A	Petrified Fore	21.18	335	P		P	22 30 25.2	+0.1
	baz=150,SNR=10.0							
W18A	Petrified Fore	21.18	335	*e*P		P	22 30 26.5	+1.4
	comp=Z,51nm,1.0s							
Y50A	Piedmont	21.18	32	P		P	22 30 23.0	-2.0
	baz=217,SNR=9.1							
T39A	Clever	21.27	12	P		P	22 30 24.4	-1.5
	baz=194,SNR=14							
113A	Mohawk Valley,	21.29	323	*e*P		P	22 30 27.9	+1.9
	comp=Z,61nm,1.0s							
V45A	Humboldt	21.34	23	P		P	22 30 24.4	-2.2
	baz=206							
X16A	Lo Mia Camp, P	21.34	330	*e*P		P	22 30 28.8	+1.9
	comp=Z,76nm,0.9s							
T25A	Trinidad	21.39	348	P		P	22 30 26.4	-1.0
	baz=165,SNR=59							
T25A	Trinidad	21.39	348	*e*P		P	22 30 28.8	+1.3
	comp=Z,92nm,0.9s							
X49A	Woodville	21.39	29	P		P	22 30 24.9	-2.3
	baz=214,SNR=35							
356A	Blackshear	21.40	42	P		P	22 30 24.1	-3.2
	baz=229							
U43A	Rector	21.41	19	P		P	22 30 24.6	-2.8
	baz=202							
MHTCO	State Highway	21.44	347	*e*P		P	22 30 29.2	+1.2
	comp=Z,35nm,0.9s							
W47A	Westpoint	21.45	26	P		P	22 30 25.4	-2.4
	baz=210,SNR=50							
T40A	Mansfield	21.57	14	P		P	22 30 27.8	-1.4
	baz=196,SNR=19							
W48A	Pulaski	21.64	27	P		P	22 30 27.8	-2.1
	baz=212,SNR=26							
T41A	Mountain View	21.66	16	P		P	22 30 29.0	-1.0
	baz=198,SNR=33							
X50A	Fort Payne	21.68	31	P		P	22 30 28.4	-1.9
	baz=216,SNR=32							
GLAT	Glass	21.69	21	*e*P		P	22 30 31.0	+0.6
V46A	Holladay	21.71	24	P		P	22 30 28.9	-1.7
	baz=208,SNR=57							
U44B	Burton Farm, H	21.73	21	P		P	22 30 28.6	-2.2

SDCO **Great Sand Dun** 22.21 346 *e*P P 22 30 36.7 +0.3
comp=Z,84nm,1.6s
WUAZ **Wupatki** 22.22 332 P P 22 30 37.4 +1.1
baz=146,SNR=75
WUAZ **Wupatki** 22.22 332 *e*P P 22 30 38.3 +2.0
comp=Z,139nm,1.1s
R38A **Fenwick Farm,** 22.30 10 P P 22 30 35.4 -1.5
baz=192,SNR=13
Y12C **Blythe** 22.44 324 P P 22 30 38.6 +0.1
baz=137,SNR=10
Y12C **Blythe** 22.44 324 *e*P P 22 30 40.2 +1.7
comp=Z,104nm,1.3s
CBKS **Cedar Bluff** 22.50 358 P P 22 30 38.3 -0.8
baz=177,SNR=9.1
CBKS **Cedar Bluff** 22.50 358 *e*P P 22 30 39.1 -0.1
CBKS pmax pmax
comp=Z,62nm,1.1s
CBKS **Cedar Bluff** 22.50 358 *e*P P 22 30 39.1 -0.1
comp=Z,62nm,1.1s
S22A **4UR Ranch, Cre** 22.55 343 P P 22 30 40.4 +0.4
baz=159,SNR=48
S22A **4UR Ranch, Cre** 22.55 343 *e*P P 22 30 41.1 +1.2
comp=Z,58nm,1.0s
MVCO **Mesa Verde** 22.57 340 P P 22 30 40.2 +0.1
baz=155,SNR=34
MVCO **Mesa Verde** 22.57 340 *e*P P 22 30 41.0 +0.9
comp=Z,174nm,1.1s
R39A **Chumby, Stover** 22.58 12 P P 22 30 37.5 -2.5
baz=194,SNR=9.8
T45A **Paducah** 22.59 22 P P 22 30 38.1 -1.9
baz=206
U47A **Clarksville** 22.60 25 P P 22 30 38.8 -1.3
baz=210,SNR=20
S42A **Caledonia** 22.60 17 P P 22 30 38.0 -2.1
baz=200,SNR=13
IKP **In-Ko-Pah, Jac** 22.61 319 P P 22 30 40.2 -0.2
baz=132,SNR=9.5
SWSC **Sam W. Stewart** 22.62 320 P P 22 30 41.1 +0.7
baz=133,SNR=14
S43A **Fulton Ridge,** 22.62 18 P P 22 30 39.5 -0.9
baz=202,SNR=5.6
PDMCI **Parker Dam,Lak** 22.63 325 P P 22 30 40.6 +0.1
baz=139,SNR=13
R40A **Maddies Statio** 22.72 14 P P 22 30 39.9 -1.5
baz=196,SNR=34
GTBY **Guantanamo Bay** 22.86 77 *e*P P 22 30 39.6 -3.5
KSU1 **Kansas State U** 22.86 5 P P 22 30 40.8 -2.1
baz=185,SNR=11
KSU1 **Kansas State U** 22.86 5 *e*P P 22 30 42.5 -0.4
comp=Z,56nm,0.8s
Q37A **Longview Farm,** 22.88 9 P P 22 30 41.3 -1.8
baz=190
T46A **Princeton** 22.89 23 P P 22 30 41.0 -2.1
baz=208,SNR=20
BC3 **Big Chuckawall** 22.90 322 P P 22 30 44.2 +0.7
baz=135,SNR=7.6
KSCO **Kaye Shedlock'** 22.93 352 P P 22 30 42.9 -0.8
baz=170,SNR=18
KSCO **Kaye Shedlock'** 22.93 352 *e*P P 22 30 43.8 +0.1
comp=Z,126nm,1.0s
R41A **Rosebud** 22.94 15 P P 22 30 41.9 -1.8
baz=198,SNR=18
MONP2 **Monument Peak** 22.97 319 P P 22 30 44.1 -0.2
baz=132,SNR=7.6
U48A **Cassie Pea, Po** 22.97 26 P P 22 30 42.5 -1.5
baz=211,SNR=36
S44A **Carbondale** 22.99 20 P P 22 30 42.5 -1.8
baz=204,SNR=28
CPCT **Cooper Cave** 23.02 31 *e*P P 22 30 43.4 -1.2
SIUC **Southern Illin** 23.02 20 *e*P P 22 30 43.4 -1.1
comp=Z,125nm,1.0s
R42A **Luebbering** 23.08 16 P P 22 30 43.4 -1.7
baz=200,SNR=16
IRM **Iron Mountain** 23.09 324 P P 22 30 46.0 +0.7
baz=136,SNR=45
W13A **Hualapai Mount** 23.10 327 *e*P P 22 30 47.2 +1.6
comp=Z,52nm,1.1s
T47A **Sharon Grove** 23.14 25 P P 22 30 44.8 -1.0
baz=209,SNR=37
S45A **Carrier Mills** 23.20 21 P P 22 30 44.8 -1.6
baz=205,SNR=18
NEE2 **Needles Airpor** 23.24 325 P P 22 30 46.9 +0.1
baz=138
Q39A **Willow Grove F** 23.30 12 P P 22 30 45.6 -1.7
baz=194,SNR=8.3
Q24A **Divide** 23.30 348 P P 22 30 46.8 -1.0
baz=164,SNR=13
Q24A **Divide** 23.30 348 *e*P P 22 30 49.0 +1.2
comp=Z,45nm,1.2s
HODGE **Hodges** 23.32 37 *e*P P 22 30 47.3 -0.2
comp=Z,53nm,0.9s
R43A **Red Bud** 23.32 18 P P 22 30 45.8 -1.7
baz=202,SNR=43
U15A **North Rim** 23.39 332 *e*P P 22 30 50.1 +1.6
comp=Z,43nm,0.9s
109C **Camp Elliot, M** 23.40 318 P P 22 30 48.3 0.0
baz=130
PV01 **Paradox Valley** 23.43 340 *e*P P 22 30 49.6 +0.7
Q40A **Laux Farm, Aux** 23.44 13 P P 22 30 47.0 -1.7
baz=196,SNR=22
BELC **Belle Mtn. Jos** 23.47 322 P P 22 30 49.8 +0.6
baz=134,SNR=28
XPFO **Piæon Flat** 23.47 321 *e*P P 22 30 50.8 +1.5
comp=Z,29nm,1.0s
PFO **Pinyon Flats O** 23.48 321 P P 22 30 49.9 +0.7
baz=133,SNR=12
PFO **Pinyon Flats O** 23.48 321 *e*P P 22 30 50.6 +1.3
PFO pmax pmax
comp=Z,27nm,1.0s
PFO **Pinyon Flats O** 23.48 321 *e*P P 22 30 50.6 +1.3
comp=Z,27nm,1.0s
BG3 **Lake Jocassee** 23.50 34 *e*P P 22 30 50.0 +0.7
comp=Z,49nm,0.8s
S46A **Don Dixon Farm** 23.52 23 P P 22 30 47.6 -1.8
baz=207
T48A **Bowling Green** 23.54 26 P P 22 30 48.2 -1.5
baz=211,SNR=32
PV05 **Paradox Valley** 23.55 339 *e*P P 22 30 50.8 +0.7
R44A **Waltonville** 23.55 20 P P 22 30 48.7 -1.1
baz=204,SNR=26
SLM **Saint Louis** 23.56 17 *e*P P 22 30 50.6 +0.7
SLM pmax pmax
comp=Z,137nm,1.1s
SLM **Saint Louis** 23.56 17 *e*P P 22 30 50.6 +0.7
comp=Z,137nm,1.1s
TKL **Tuckaleechee C** 23.56 32 P P 22 30 49.3 -0.7
comp=Z,22nm,0.8s,baz=195,slow=9.7,SNR=21
TKL **Tuckaleechee C** 23.56 32 *e*P P 22 30 49.2 -0.8
TKL pmax pmax
comp=Z,47nm,1.0s
TKL **Tuckaleechee C** 23.56 32 *e*P P 22 30 49.2 -0.8
comp=Z,46nm,1.0s
P37A **Lathrop** 23.59 9 P P 22 30 47.8 -2.4
baz=190
Q41A **Truxton** 23.60 15 P P 22 30 47.8 -2.5
baz=198,SNR=71
Q42A **Golden Eagle** 23.74 16 P P 22 30 50.2 -1.4
baz=200
LDFC **Landfair** 23.74 325 *e*P P 22 30 54.4 +2.6
comp=Z,67nm,0.8s
P38A **Dawn** 23.76 10 P P 22 30 50.2 -1.6
baz=192,SNR=11
P39B **Salisbury** 23.77 12 P P 22 30 50.2 -1.7
baz=194,SNR=26
PV04 **Paradox Valley** 23.77 340 *e*P P 22 30 52.9 +0.7
O33A **Hebron** 23.78 2 P P 22 30 50.9 -1.1
baz=183,SNR=15
USIN **University of** 23.79 22 *e*P P 22 30 52.1 0.0
comp=Z,411nm,1.4s
PV10 **Paradox Valley** 23.80 340 *e*P P 22 30 52.5 -0.1
CSU **Charleston Sou** 23.80 42 *e*P P 22 30 53.6 +1.3
MOTC **Monteria, Cord** 23.81 105 *e*P P 22 30 52.3 -0.2
NHSC **New Hope** 23.81 42 *e*P P 22 30 51.9 -0.4
comp=Z,130nm,1.0s
GMRC **Granite Mounta** 23.83 324 P P 22 30 54.1 +1.4
baz=136,SNR=20
R45A **Skylar, Fairfi** 23.86 21 P P 22 30 51.3 -1.5
baz=205,SNR=9.4
MURC **Murrieta** 23.92 320 P P 22 30 54.5 +1.1
baz=132,SNR=7.2
O34A **Beatrice** 23.93 4 P P 22 30 53.2 -0.3
baz=185,SNR=53
JSC **Jenkinsville** 23.93 38 *e*P P 22 30 53.8 +0.3
JSC pmax pmax
comp=Z,47nm,0.9s
JSC **Jenkinsville** 23.93 38 *e*P P 22 30 53.8 +0.3
comp=Z,47nm,0.9s
SMCO **Snowmass** 23.93 344 *e*P P 22 30 54.9 +1.0
comp=Z,121nm,1.4s
PV09 **Paradox Valley** 23.95 340 *e*P P 22 30 54.9 +1.0
P40A **Paris** 23.96 13 P P 22 30 52.8 -0.9
baz=196,SNR=48
PAULI **Pauline** 23.99 36 *e*P P 22 30 55.1 +1.0
comp=Z,16nm,1.2s
Q43A **New Douglas** 24.00 18 P P 22 30 53.0 -1.0
baz=202,SNR=26
R46A **Gibon Southern** 24.06 22 P P 22 30 53.6 -1.0
baz=207,SNR=8.4
O35A **Humboldt** 24.08 6 P P 22 30 53.5 -1.3
baz=187
KNB **Kanab** 24.11 332 *e*P P 22 30 57.4 +2.0
KNB pmax pmax
comp=Z,41nm,1.0s
KNB **Kanab** 24.11 332 *e*P P 22 30 57.4 +2.0
comp=Z,41nm,1.0s
S48A **Wiedeman Farm,** 24.14 25 P P 22 30 54.3 -1.1
baz=211,SNR=13
Q44A **Meyer Farm, Va** 24.17 19 P P 22 30 54.5 -1.2
baz=203
O37A **Wolven Farm, M** 24.19 9 P P 22 30 54.8 -1.0
baz=191
BBRC **Big Bear Solar** 24.20 321 P P 22 30 57.6 +1.3
baz=133
ISCO **Idaho Springs** 24.20 347 P P 22 30 56.9 +0.5
baz=164,SNR=55
ISCO **Idaho Springs** 24.20 347 *e*P P 22 30 57.2 +0.9
ISCO pmax pmax
comp=Z,235nm,1.8s
ISCO **Idaho Springs** 24.20 347 *e*P P 22 30 57.2 +0.9
comp=Z,235nm,1.8s
PKCU **Pink Cliffs** 24.24 333 *e*P P 22 30 59.9 +3.2
comp=Z,42nm,1.2s
HEC **Hector,Ludlow** 24.25 323 P P 22 30 58.3 +1.8
baz=135,SNR=18
O38A **Cait** 24.25 10 P P 22 30 55.0 -1.4
baz=192,SNR=5.7
LCMT **Little Creek M** 24.30 331 *e*P P 22 30 58.8 +1.7
comp=Z,24nm,1.0s
OLIL **Olney** 24.32 21 *e*P P 22 30 56.7 -0.3
comp=Z,94nm,1.1s
P41A **Barry, Barry** 24.32 15 P P 22 30 55.9 -1.1
baz=198,SNR=24
TZTN **Tazewell** 24.37 31 P P 22 30 56.9 -0.6
baz=218,SNR=18
TZTN **Tazewell** 24.37 31 *e*P P 22 30 57.5 0.0
SCI2 **San Clemente I** 24.39 317 P P 22 30 59.0 +1.3
baz=128
P42A **Winchester** 24.42 16 P P 22 30 57.6 -0.3
baz=200
N33A **J Bar K, Exete** 24.44 3 P P 22 30 58.1 0.0
baz=183,SNR=6.3
Q45A **Warren Harvey,** 24.44 20 P P 22 30 57.3 -0.8
baz=205,SNR=11
TUQ **Turquoise Moun** 24.45 325 P P 22 30 59.8 +1.3
baz=137,SNR=66
KMSC **Kings Mountain** 24.50 37 P P 22 30 58.5 -0.2
baz=224,SNR=19
KMSC **Kings Mountain** 24.50 37 *e*P P 22 30 58.8 +0.1
comp=Z,183nm,1.8s
R47A **Wooly Knot Far** 24.51 24 P P 22 30 58.2 -0.5
baz=209,SNR=37
WCI **Wyandotte Cave** 24.54 24 P P 22 30 58.2 -0.9
baz=210
WCI **Wyandotte Cave** 24.54 24 *e*P P 22 30 58.7 -0.3
WCI pmax pmax
comp=Z,100nm,0.9s
WCI **Wyandotte Cave** 24.54 24 *e*P P 22 30 58.7 -0.3
comp=Z,100nm,0.9s
O39A **Kirksville** 24.55 12 P P 22 30 58.4 -0.7
baz=194,SNR=11
O40A **La Belle** 24.56 13 P P 22 30 58.5 -0.7
baz=196,SNR=52
CIS **Catalina Islan** 24.57 318 P P 22 31 00.0 +0.6
baz=129
N34A **Lincoln** 24.60 4 P P 22 30 59.2 -0.3
baz=185,SNR=16
BFSC **Mount Baldy Ra** 24.63 320 P P 22 31 01.5 +1.4
baz=132,SNR=9.6
RRX **Edison Barstow** 24.67 322 P P 22 31 01.8 +1.5
baz=134
MTPU **Mount Pierson** 24.69 334 *e*P P 22 31 02.5 +1.6
comp=Z,175nm,1.5s
N35A **Tabor** 24.69 6 P P 22 31 00.2 -0.2
baz=187,SNR=14
P43A **Skaggs, Pawnee** 24.70 17 P P 22 30 60.0 -0.5
baz=202,SNR=6.0
SZCU **Shurtz Canyon** 24.71 332 *e*P P 22 31 03.1 +2.3
comp=Z,29nm,1.1s
N36A **Muff Farm, Cla** 24.72 7 P P 22 30 59.8 -0.9
baz=189,SNR=7.4
N37A **Faris, Mou** 24.76 8 P P 22 31 00.2 -0.8
baz=190
OGNE **Ogallala** 24.77 354 P P 22 31 02.2 +1.0
baz=172,SNR=33
OGNE **Ogallala** 24.77 354 *e*P P 22 31 02.0 +0.8
comp=Z,242nm,1.1s
O41A **Passleys Farm,** 24.78 15 P P 22 31 00.5 -0.7
baz=198,SNR=16
CCUT **Cedar City** 24.80 332 *e*P P 22 31 04.0 +2.3
comp=Z,136nm,0.9s
P44A **Sand Creek, Wi** 24.81 19 P P 22 31 00.9 -0.6
baz=204,SNR=8.0
Q46A **CEJHS Indians,** 24.84 22 P P 22 31 01.0 -0.7
baz=207
SHPR **Sheep Range** 24.84 327 *e*P P 22 31 03.8 +1.8
comp=Z,45nm,1.2s
R48A **Northridge Ran** 24.86 25 P P 22 31 01.1 -0.7
baz=210,SNR=5.9
GSC **Goldstone, Bar** 24.86 323 P P 22 31 03.7 +1.6
baz=135,SNR=25
GSC **Goldstone, Bar** 24.86 323 *e*P P 22 31 03.8 +1.8
GSC pmax pmax
comp=Z,55nm,1.1s
GSC **Goldstone, Bar** 24.86 323 *e*P P 22 31 03.8 +1.8
comp=Z,55nm,1.1s
MWC **Mount Wilson** 24.87 320 *e*P P 22 31 03.4 +1.1
MWC pmax pmax
comp=Z,30nm,1.1s
MWC **Mount Wilson** 24.87 320 *e*P P 22 31 03.4 +1.1
comp=Z,30nm,1.1s
PASC **Pasadena Art C** 24.92 319 *e*P P 22 31 03.5 +1.0
comp=Z,21nm,1.1s
N38A **Joes South For** 24.95 10 P P 22 31 02.4 -0.3
baz=192,SNR=20
SRU **San Rafael Swe** 24.97 338 *e*P P 22 31 04.5 +1.3
SRU pmax pmax
comp=Z,97nm,1.0s
SRU **San Rafael Swe** 24.97 338 *e*P P 22 31 04.5 +1.3
comp=Z,97nm,1.0s
SHOC **Shoshone, Teco** 24.99 325 P P 22 31 04.5 +1.4
baz=137,SNR=14
ZARC **Zaragoza, Cauc** 25.02 108 *e*P P 22 31 03.6 0.0
DECC **Green Verdugo** 25.06 319 P P 22 31 05.2 +1.3
baz=131
MSU **Marysvale** 25.09 335 *e*P P 22 31 05.5 +1.2
MSU **Marysvale** 25.09 335 *e*P P 22 31 05.5 +1.2
BGNE **Belgrade** 25.09 1 P P 22 31 04.0 0.0
baz=181
BGNE **Belgrade** 25.09 1 *e*P P 22 31 04.5 +0.5
comp=Z,56nm,0.8s
Q47A **Bedord North L** 25.10 23 P P 22 31 04.0 -0.1
baz=209,SNR=15
P45A **Graceland, Par** 25.15 21 P P 22 31 03.8 -0.7
baz=205
N39A **Derby Farms, D** 25.16 11 P P 22 31 04.3 -0.3
baz=194,SNR=37
O20A **White River Ci** 25.17 343 P P 22 31 06.1 +1.2
baz=158,SNR=45
O20A **White River Ci** 25.17 343 *e*P P 22 31 06.2 +1.2
comp=Z,120nm,1.1s
M34A **Aspy Farms, Fr** 25.25 4 P P 22 31 05.8 +0.3
baz=185
EDW2 **Edwards Air Fo** 25.27 321 P P 22 31 06.9 +1.2
baz=132,SNR=20
BLO **Bloomington** 25.27 23 *e*P P 22 31 05.7 +0.1
BLO pmax pmax
comp=Z,41nm,0.8s
BLO **Bloomington** 25.27 23 *e*P P 22 31 05.7 +0.1
comp=Z,41nm,0.8s
M33A **Taylor Creek F** 25.29 3 P P 22 31 05.8 0.0
baz=183
M35A **Neola** 25.29 6 P P 22 31 05.6 -0.2
baz=187,SNR=7.8
N23A **Red Feather La** 25.32 347 P P 22 31 07.7 +1.2
baz=164,SNR=27
N23A **Red Feather La** 25.32 347 *e*P P 22 31 07.7 +1.2
comp=Z,44nm,0.9s
P18A **Preston Nutter** 25.34 339 *e*P P 22 31 08.2 +1.6
comp=Z,103nm,1.0s
N41A **Harden Midland** 25.35 14 P P 22 31 05.8 -0.5
baz=198,SNR=14
N40A **Mertquake, Sal** 25.36 13 P P 22 31 05.7 -0.7
baz=196,SNR=8.1
O43A **Sugar Creek Fa** 25.36 17 P P 22 31 05.6 -0.8
baz=201
P17A **Butcher Ranch,** 25.37 338 *e*P P 22 31 08.3 +1.6
comp=Z,63nm,1.1s
TMUT **Trail Mountain** 25.39 337 *e*P P 22 31 08.2 +1.1
comp=Z,57nm,1.1s
M37A **Trindle Farm,** 25.42 8 P P 22 31 06.7 -0.3
baz=190,SNR=16
P46A **Rosedale** 25.42 21 P P 22 31 06.8 -0.1
baz=206
BLG **Laguna Peak, P** 25.43 318 P P 22 31 08.5 +1.2
baz=129
O44A **Mansfield** 25.49 19 P P 22 31 07.0 -0.5
baz=203
LRMC **Laurel Mtn Rad** 25.49 322 P P 22 31 09.5 +1.6
baz=134,SNR=28
OSI **Osito Audit: C** 25.54 319 P P 22 31 09.5 +1.3
baz=131
M38A **Pleasantville** 25.56 10 P P 22 31 07.8 -0.5
baz=192,SNR=17
HDIL **Hopedale** 25.61 17 P P 22 31 08.6 -0.1
baz=201,SNR=7.4
HDIL **Hopedale** 25.61 17 *e*P P 22 31 08.6 -0.1
comp=Z,144nm,0.8s
PHWY **Pilot Hill** 25.62 348 *e*P P 22 31 10.4 +1.3
comp=Z,46nm,0.9s
P47A **Martinsville** 25.64 23 P P 22 31 08.6 -0.4
baz=208
N42A **Yates City** 25.67 16 P P 22 31 08.7 -0.6
baz=200,SNR=11
RREF **El Recreo** 25.67 113 *e*P P 22 31 13.5 +3.3
L32A **Elgin** 25.69 1 P P 22 31 09.8 +0.4
baz=182
L34A **Svendsen Farm,** 25.73 4 P P 22 31 09.4 -0.4
baz=185,SNR=5.7
SCZ2 **Santa Cruz Isl** 25.73 317 P P 22 31 11.2 +1.3
baz=128
PTBC **PUERTO BERRIO,** 25.76 109 *e*P P 22 31 10.0 -0.3
MPMC **Manual Prospec** 25.78 323 P P 22 31 12.1 +1.5
baz=135,SNR=42
M39A **Webster** 25.81 12 P P 22 31 09.6 -0.8
baz=194,SNR=10
O45A **Potomac** 25.81 20 P P 22 31 10.4 -0.1
baz=205,SNR=6.4
M40A **Post Highland** 25.87 13 P P 22 31 10.6 -0.5
baz=196
L33A **Hoskins** 25.88 3 P P 22 31 11.0 -0.1
baz=183,SNR=6.9
ARVC **Arvin** 25.94 320 P P 22 31 13.3 +1.5
baz=131
L35A **Bielow Farm, R** 25.94 6 P P 22 31 11.4 -0.3
baz=187
DAC **Darwin (Calif)** 26.00 324 *e*P P 22 31 13.6 +1.1
DAC pmax pmax
comp=Z,78nm,1.9s
DAC **Darwin (Calif)** 26.00 324 *e*P P 22 31 13.6 +1.1
comp=Z,78nm,1.9s
N43A **Stutzman Famil** 26.00 17 P P 22 31 11.8 -0.5
baz=201
SOTA **Rioblanco** 26.00 120 *e*P P 22 31 16.4 +3.3
L36A **Harm Buss Farm** 26.02 7 P P 22 31 11.9 -0.6
baz=189
SCIA **State Center** 26.04 10 P P 22 31 12.1 -0.4
baz=192,SNR=12
SCIA **State Center** 26.04 10 *e*P P 22 31 12.4 -0.1
comp=Z,91nm,1.1s
M41A **Milan** 26.06 14 P P 22 31 12.3 -0.4
baz=198,SNR=7.3
NCAT **North Carolina** 26.06 37 *e*P P 22 31 13.1 +0.2
comp=Z,64nm,1.0s
ISA **Isabella, Lake** 26.09 322 P P 22 31 14.9 +1.7
baz=133,SNR=26
ISA **Isabella, Lake** 26.09 322 *e*P P 22 31 14.7 +1.5
ISA pmax pmax
comp=Z,38nm,1.0s
ISA **Isabella, Lake** 26.09 322 *e*P P 22 31 14.7 +1.5
comp=Z,38nm,1.0s
SFIN **Lafayette** 26.14 21 P P 22 31 13.0 -0.5
baz=206,SNR=14
SFIN **Lafayette** 26.14 21 *e*P P 22 31 13.4 -0.1
comp=Z,48nm,0.9s
L37A **Phoenix Point,** 26.17 9 P P 22 31 13.4 -0.4
baz=191,SNR=6.7
MPU **Maple Canyon** 26.17 337 *e*P P 22 31 15.8 +1.8
comp=Z,17nm,0.9s
N44A **Piper City** 26.18 19 P P 22 31 13.7 -0.2
baz=204,SNR=6.2
NLU **North Lily Min** 26.29 337 *e*P P 22 31 16.5 +1.4
comp=Z,27nm,1.1s
K31A **O'Neill** 26.30 0 P P 22 31 14.7 -0.3
baz=180
L38A **Oak Wood Farm,** 26.31 10 P P 22 31 14.3 -0.7
baz=192,SNR=11
K33A **Hardington** 26.33 3 P P 22 31 14.9 -0.3
baz=184
M42A **Sheffield** 26.33 16 P P 22 31 14.7 -0.5
baz=200,SNR=6.0
O47A **Sheridan** 26.33 22 P P 22 31 14.5 -0.8
baz=208
K32A **Verdigre** 26.34 1 P P 22 31 15.3 -0.1
baz=182,SNR=9.7
RWWY **Rawlins** 26.37 346 *e*P P 22 31 17.5 +1.6
comp=Z,200nm,1.8s
PKM **Mcpherson Peak** 26.40 319 P P 22 31 17.5 +1.3
baz=129,SNR=7.0
SDDR **Presa de Saban** 26.41 80 *e*P P 22 31 16.4 +0.2
comp=Z,29nm,1.0s
N45A **Kentland** 26.42 20 P P 22 31 16.1 +0.1
baz=205,SNR=6.2
L39A **Vinton** 26.46 11 P P 22 31 15.5 -0.9
baz=194,SNR=11
K34A **Le Mars** 26.47 5 P P 22 31 16.5 0.0
baz=186
R11A **Troy Canyon, C** 26.49 330 P P 22 31 18.4 +1.5
baz=142,SNR=28
R11A **Troy Canyon, C** 26.49 330 *e*P P 22 31 18.4 +1.5
comp=Z,22nm,1.0s
BLA **Blacksburg** 26.50 34 P P 22 31 16.8 -0.1
baz=222,SNR=17
BLA **Blacksburg** 26.50 34 *e*P P 22 31 17.0 +0.1
BLA pmax pmax
comp=Z,78nm,1.0s
BLA **Blacksburg** 26.50 34 *e*P P 22 31 17.0 +0.1
comp=Z,78nm,1.0s
M43A **Waltham Townsh** 26.52 17 P P 22 31 16.5 -0.5
baz=201
L40A **Anamosa** 26.56 13 P P 22 31 15.7 -1.5
baz=196,SNR=8.7
VES **Vestal, Richgr** 26.57 321 P P 22 31 18.7 +1.2
baz=132
K35A **Storm Lake** 26.58 6 P P 22 31 17.0 -0.4
baz=187
K36A **Gilmore City** 26.58 7 P P 22 31 17.0 -0.5
baz=189
JLU **Jordanelle** 26.62 338 *e*P P 22 31 19.1 +0.9
comp=Z,32nm,1.4s
N46A **Monticello** 26.72 21 P P 22 31 18.5 -0.2
baz=206,SNR=8.2
L41A **Preston** 26.73 14 P P 22 31 17.9 -0.9
baz=198
M44A **Midewin, Midew** 26.75 18 P P 22 31 18.7 -0.2
baz=203,SNR=13
VWCC **Virginia Weste** 26.77 35 *e*P P 22 31 19.2 -0.1
DUG **Dugway, Tooele** 26.78 336 P P 22 31 20.8 +1.3
baz=149,SNR=8.6
DUG **Dugway, Tooele** 26.78 336 *e*P P 22 31 21.1 +1.6
DUG pmax pmax
comp=Z,13nm,1.1s
DUG **Dugway, Tooele** 26.78 336 *e*P P 22 31 21.1 +1.6
comp=Z,13nm,1.1s
SMMC **Simmler** 26.79 319 P P 22 31 20.8 +1.3
baz=130,SNR=5.9
CTU **Camp Tracy** 26.81 338 *e*P P 22 31 21.2 +1.5
comp=Z,21nm,1.0s
K37A **Belmond** 26.82 9 P P 22 31 18.5 -1.1
baz=191,SNR=16
K38A **Parkersburg** 26.83 10 P P 22 31 18.9 -0.8
baz=193
L42A **Oliver, Polo** 26.87 15 P P 22 31 19.3 -0.7
baz=200,SNR=8.8
TIN **Tinemaha, Big** 26.91 324 P P 22 31 21.9 +1.3

baz=135
J31A Geddes 26.96 0 P P 22 31 20.9 -0.1
baz=180,SNR=6.4
M45A Boilermakers S 26.99 19 P P 22 31 21.4 +0.2
baz=205
J33A Davis 27.04 3 P P 22 31 20.9 -0.8
baz=184,SNR=5.5
K39A Oelwein 27.05 11 P P 22 31 20.6 -1.1
baz=194,SNR=9.9
J32A Parkston 27.06 2 P P 22 31 21.2 -0.6
baz=182
PAMC Pamplona, Colo 27.06 106 eP P 22 31 23.4 +0.8
TCUT Toone Canyon 27.07 339 eP P 22 31 23.5 +1.4
comp=Z,57nm,1.0s
J34A George 27.07 5 P P 22 31 21.0 -0.9
baz=186
K22A Casper 27.13 348 eP P 22 31 23.9 +1.3
comp=Z,33nm,1.0s
PAGB Antelope Grade 27.21 320 eP P 22 31 25.6 +2.3
comp=Z,31nm,1.3s
J35A Milford 27.22 6 P P 22 31 22.4 -0.8
baz=187
RUSC La Rusia 27.27 109 eP P 22 31 26.7 +2.2
comp=Z,10.0nm,1.2s
RUSC La Rusia 27.27 109 eP P 22 31 26.3 +1.8
J36A Seneca 1, Swea 27.28 7 P P 22 31 22.9 -0.8
baz=189,SNR=14
L43A Garden Prairie 27.28 17 P P 22 31 23.4 -0.4
baz=201,SNR=5.4
K41A Shullsburg 27.28 14 P P 22 31 22.9 -0.9
baz=198
M46A Old House Fiel 27.31 21 P P 22 31 23.3 -0.7
baz=207
J37A Redenius Farm, 27.36 8 P P 22 31 23.6 -0.9
baz=191,SNR=10
ECSD EROS Data Cent 27.47 4 P P 22 31 25.1 -0.4
baz=184,SNR=25
ECSD EROS Data Cent 27.47 4 eP P 22 31 25.2 -0.4
comp=Z,29nm,1.0s
BGU Big Grassy Mou 27.49 336 eP P 22 31 27.1 +1.2
comp=Z,71nm,1.9s
L44A Lake County Fo 27.51 18 P P 22 31 25.3 -0.5
baz=203
J38A Wedel Dairy, R 27.54 10 P P 22 31 24.7 -1.4
baz=193,SNR=18
HWUT Hardware Ranch 27.55 339 eP P 22 31 27.6 +1.1
JFWS Jewell Farm 27.59 14 P P 22 31 25.9 -0.6
baz=198
SPUT South Promonto 27.61 338 eP P 22 31 29.2 +2.3
comp=Z,19nm,1.0s
ACSO Alum Creek Sta 27.61 27 P P 22 31 25.8 -0.9
baz=214,SNR=17
ACSO Alum Creek Sta 27.61 27 eP P 22 31 26.3 -0.4
comp=Z,72nm,1.1s
MLAC Mammoth, Mammo 27.66 324 P P 22 31 28.7 +1.2
baz=135
K42A Prairie Point, 27.68 15 P P 22 31 26.6 -0.7
baz=200
J39A Decorah 27.69 11 P P 22 31 26.2 -1.3
baz=195
I31A Royce, Wessing 27.70 0 P P 22 31 27.2 -0.4
baz=180
I35A Creekview Farm 27.73 6 P P 22 31 27.2 -0.5
baz=188,SNR=7.6
I33A Coleman 27.77 3 P P 22 31 27.6 -0.6
baz=184
MDPB Devils Postpil 27.80 324 eP P 22 31 30.7 +2.0
comp=Z,30nm,1.3s
I34A Hadley 27.83 5 P P 22 31 28.3 -0.4
baz=186
NV11 Mina Array Sit 27.86 326 eP P 22 31 31.3 +2.1
comp=Z,3.3nm,1.1s
PMPB Monarch Peak 27.87 320 eP P 22 31 31.9 +2.7
comp=Z,43nm,1.3s
K43A Burlington 27.88 17 P P 22 31 28.5 -0.6
baz=202,SNR=7.5
J40A Soldiers Grove 27.94 13 P P 22 31 29.1 -0.6
baz=196
NVAR Mina Array Bea 27.94 326 P P 22 31 32.1 +2.1
comp=Z,19nm,0.9s,baz=152,slow=9.4,SNR=79
BW06 Boulder Array 27.98 343 P P 22 31 31.2 +0.8
baz=157,SNR=31
BW06 Boulder Array 27.98 343 eP P 22 31 30.6 +0.3
comp=Z,26nm,1.0s
PD31 Pinedale Array 27.98 343 eP P 22 31 31.3 +0.9
PDAR Pinedale Array 27.98 343 P P 22 31 31.1 +0.7
comp=Z,18nm,0.9s,baz=134,slow=8.5,SNR=65
PDAR Pinedale Array 27.98 343 eP P 22 31 29.8 -0.5
I36A Fitzsimmons Fa 28.00 7 P P 22 31 29.3 -0.8
baz=190
J41A Loganville 28.07 14 P P 22 31 29.4 -1.5
baz=198
I37A Lemond, Waseca 28.07 8 P P 22 31 29.9 -0.9
baz=191,SNR=7.4
SUSD Miller 28.12 360 P P 22 31 30.9 -0.4
baz=180
HVU Hansel Valley 28.14 338 eP P 22 31 32.8 +1.1
HVU pmax pmax
comp=Z,28nm,1.0s
HVU Hansel Valley 28.14 338 eP P 22 31 32.8 +1.1
comp=Z,28nm,1.0s
RSSD Black Hills 28.14 352 P P 22 31 32.3 +0.7
baz=169
RSSD Black Hills 28.14 352 eP P 22 31 32.4 +0.7
RSSD pmax pmax
comp=Z,17nm,1.2s
RSSD Black Hills 28.14 352 eP P 22 31 32.4 +0.7
comp=Z,17nm,1.2s
RYN Ryan 28.20 326 eP P 22 31 34.7 +2.4
comp=Z,17nm,1.1s
H32A Carlson Farm, 28.20 2 P P 22 31 31.7 -0.3
baz=183,SNR=17
I39A Houston 28.22 11 P P 22 31 31.4 -0.8
baz=195
J42A Columbus 28.24 15 P P 22 31 32.0 -0.3
baz=200,SNR=7.3
I38A Scanlan Farm, 28.26 10 P P 22 31 31.6 -0.9
baz=193,SNR=9.8
URVA University of 28.39 37 eP P 22 31 34.1 +0.4
H33A Prehn Over Nor 28.41 3 P P 22 31 33.2 -0.7
baz=184,SNR=9.3
IP03 Louisa 28.42 36 eP P 22 31 34.3 +0.3
comp=Z,14nm,1.1s
IP04 Greensprings 28.42 36 eP P 22 31 34.0 0.0
comp=Z,10nm,0.9s
IP01 Cuckoo 28.43 36 eP P 22 31 34.8 +0.7
comp=Z,14nm,1.1s
AHID Auburn Hatcher 28.44 341 eP P 22 31 35.6 +1.2
I40A Norwalk 28.44 13 P P 22 31 33.4 -0.7
baz=196
H34A Spellman Lake, 28.46 5 P P 22 31 33.8 -0.5
baz=186
SDV Santo Domingo 28.48 101 P P 22 31 34.4 -0.6
comp=Z,7.0nm,0.8s,baz=287,slow=4.5,SNR=8.1
SDV Santo Domingo 28.48 101 eP P 22 31 37.0 +2.1
comp=Z,12nm,0.8s
SDV Santo Domingo 28.48 101 eP P 22 31 35.5 +0.5
J43A Natural Harves 28.48 16 P P 22 31 33.8 -0.7
baz=201
SPRD Spring Road, M 28.50 36 eP P 22 31 34.9 +0.2
comp=Z,16nm,1.1s
H36A Jessenland, He 28.56 7 P P 22 31 34.6 -0.5
baz=190
CVRD Centerville Ro 28.57 36 eP P 22 31 35.1 -0.2
comp=Z,16nm,1.2s
H35A Sunnyside Ranc 28.57 6 P P 22 31 34.4 -0.9
baz=188,SNR=5.6
WAKR Walker 28.61 325 eP P 22 31 38.7 +2.7
comp=Z,21nm,1.1s
MCWV Mont Chateau 28.63 32 P P 22 31 34.5 -1.3
baz=220
MCWV Mont Chateau 28.63 32 eP P 22 31 36.6 +0.7
comp=Z,34nm,1.0s
CMB Columbia Colle 28.82 323 eP P 22 31 39.3 +1.7
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 28.82 323 eP P 22 31 39.3 +1.7
comp=Z,7.7nm,1.0s
I42A Draeger Farm, 28.83 15 P P 22 31 37.1 -0.5
baz=200
H38A Maiden Rock 28.89 10 P P 22 31 37.5 -0.6
baz=193
REDW Red Top Meadow 28.90 342 eP P 22 31 39.7 +1.1
comp=Z,31nm,1.1s
G33A Ortonville 28.94 4 P P 22 31 38.0 -0.5
baz=184,SNR=18
G32A Webster 28.95 2 P P 22 31 38.5 -0.2
baz=182,SNR=15
SNOW Snow King Moun 28.97 342 eP P 22 31 40.8 +1.7
comp=Z,46nm,1.0s
I43A Langenfeld Bro 29.02 16 P P 22 31 38.6 -0.7
baz=201
G34A Benson 29.04 5 P P 22 31 38.6 -0.9
baz=186,SNR=6.0
TPAW Teton Pass 29.05 342 eP P 22 31 40.3 +0.5
comp=Z,38nm,1.1s
LOHW Long Hollow 29.06 342 eP P 22 31 41.0 +1.1
comp=Z,21nm,0.8s
H39A Augusta 29.07 11 P P 22 31 39.0 -0.7
baz=195
AAM Ann Arbor 29.07 24 P P 22 31 38.7 -1.0
baz=211
AAM Ann Arbor 29.07 24 eP P 22 31 39.4 -0.3
AAM pmax pmax
comp=Z,47nm,1.0s
AAM Ann Arbor 29.07 24 eP P 22 31 39.4 -0.3
comp=Z,47nm,1.0s
H40A Chili 29.19 12 P P 22 31 40.0 -0.7
baz=196
FXWY Fox Creek 29.21 342 eP P 22 31 42.3 +1.0
comp=Z,17nm,0.9s
MOOW Moose Ponds 29.23 342 eP P 22 31 42.2 +0.9
comp=Z,15nm,1.0s
RDG13 Poverty Ridge 29.23 321 eP P 22 31 43.4 +2.1
comp=Z,5nm,1.1s
H41A Junction City 29.34 13 P P 22 31 41.3 -0.8
baz=198,SNR=7.5
SPMN Marine on St. 29.34 9 P P 22 31 41.0 -1.1
baz=192,SNR=5.4
SPMN Marine on St. 29.34 9 eP P 22 31 41.6 -0.5
comp=Z,28nm,1.1s
IMW Indian Meadow 29.42 342 eP P 22 31 44.2 +1.1
comp=Z,21nm,1.1s
PAHR Pah Rah Range 29.45 327 eP P 22 31 45.7 +2.4
comp=Z,25nm,1.5s
F31A Hecla 29.54 1 P P 22 31 42.6 -1.2
baz=181,SNR=5.9
N54A Moraine State 29.55 30 P P 22 31 42.1 -2.0
baz=219
N54A Moraine State 29.55 30 eP P 22 31 45.3 +1.2
comp=Z,57nm,1.6s
F33A 5 Mile Ranch, 29.59 4 P P 22 31 43.3 -1.0
baz=185,SNR=6.4
F34A Alexandria 29.62 5 P P 22 31 43.7 -0.9
baz=187
H43A Windswept, Lux 29.66 16 P P 22 31 44.5 -0.5
baz=202
G39A Holcombe 29.67 11 P P 22 31 44.4 -0.7
baz=195,SNR=8.5
O56A Blue Knob Stat 29.73 32 P P 22 31 44.1 -1.6
baz=222,SNR=5.4
O56A Blue Knob Stat 29.73 32 eP P 22 31 45.2 -0.5
comp=Z,36nm,1.5s
F35A Swanville 29.75 6 P P 22 31 45.1 -0.6
baz=188
H17A Grant Village 29.77 343 eP P 22 31 50.4 +4.2
comp=Z,7.9nm,1.1s
AFDM Forest Hills D 29.78 324 eP P 22 31 48.1 +2.0
comp=Z,8.8nm,1.1s
G40A Rib Lake 29.84 12 P P 22 31 46.0 -0.6
baz=196,SNR=8.6
F37A Hinrichs Farm, 29.86 9 P P 22 31 45.7 -1.0
baz=192
F36A Milaca 29.87 7 P P 22 31 46.0 -0.8
baz=190,SNR=7.0
G41A Antigo 30.01 14 P P 22 31 47.5 -0.6
baz=198,SNR=6.6
BEKR Beckworth 30.08 326 eP P 22 31 51.6 +2.6
comp=Z,27nm,1.0s
RLMT Red Lodge 30.10 345 P P 22 31 49.6 +0.5
baz=160,SNR=6.6
RLMT Red Lodge 30.10 345 eP P 22 31 49.8 +0.7
comp=Z,22nm,1.0s
YMR Madison River 30.13 343 eP P 22 31 51.6 +2.2
comp=Z,15nm,0.9s
M54A Oil Creek Stat 30.13 29 P P 22 31 48.6 -0.6
baz=219,SNR=9.9
M54A Oil Creek Stat 30.13 29 eP P 22 31 49.4 +0.2
comp=Z,24nm,0.9s
F38A Pierce - Schro 30.20 10 P P 22 31 49.1 -0.6
baz=193,SNR=6.5
YHH Holmes Hill 30.21 343 eP P 22 31 52.1 +2.0
comp=Z,11nm,1.1s
G42A Mountain 30.22 15 P P 22 31 49.1 -0.8
baz=200,SNR=6.9
E31A Nome 30.24 1 P P 22 31 49.6 -0.5
baz=182,SNR=6.0
E33A Westby DABS, E 30.27 4 P P 22 31 49.3 -1.0
baz=185
HLID Hailey 30.28 337 P P 22 31 51.9 +1.2
baz=149,SNR=13
HLID Hailey 30.28 337 eP P 22 31 52.1 +1.5
comp=Z,16nm,1.0s
E32A Braaten, Kindr 30.30 2 P P 22 31 49.8 -0.8
baz=183
F39A Loretta 30.32 11 P P 22 31 50.0 -0.8
baz=195
E34A Wadena 30.34 5 P P 22 31 50.6 -0.4
baz=187,SNR=6.5
SSPA Standing Stone 30.36 33 P P 22 31 50.2 -0.9
baz=222
SSPA Standing Stone 30.36 33 eP P 22 31 50.8 -0.4
comp=Z,12nm,1.0s
G43A Wallace 30.42 16 P P 22 31 50.4 -1.2
baz=201
E35A Pequot Lakes 30.46 6 P P 22 31 51.3 -0.6
baz=188
F40A Park Falls 30.48 12 P P 22 31 51.6 -0.6
baz=196,SNR=21
ORV Oroville 30.50 324 eP P 22 31 55.0 +2.6
ORV pmax pmax
comp=Z,42nm,1.6s
ORV Oroville 30.50 324 eP P 22 31 55.0 +2.6
comp=Z,42nm,1.6s
F41A Three Lakes 30.53 14 P P 22 31 51.6 -1.0
baz=198
E36A McGregor 30.55 8 P P 22 31 52.1 -0.7
baz=190
PAGS Pennsylvania G 30.68 34 eP P 22 31 54.1 +0.1
comp=Z,12nm,1.1s
MFID Camas Ranch 30.70 335 eP P 22 31 55.5 +1.2
comp=Z,33nm,1.1s
E37A Wrenshall 30.71 9 P P 22 31 53.4 -0.8
baz=192
D31A Mcclaflin, Tow 30.74 2 P P 22 31 53.7 -0.8
baz=182
F42A Maple Grove Fa 30.77 15 P P 22 31 53.6 -1.2
baz=200
GCMT Greycliff 30.82 345 eP P 22 31 57.0 +1.6
E39A Mellen 30.84 11 P P 22 31 54.6 -0.8
baz=195,SNR=10.0
D32A Dogwood Acres, 30.85 2 P P 22 31 54.5 -0.9
baz=183
MCMT McKenzie Canyo 30.85 340 eP P 22 31 57.7 +1.9
COWI Conover 30.86 13 eP P 22 31 55.0 -0.6
comp=Z,24nm,1.0s
E38A The Farm, Brul 30.88 10 P P 22 31 55.1 -0.6
baz=193,SNR=9.7
D33A AnnSam, Waubun 30.91 4 P P 22 31 55.2 -0.9
baz=185
GLMI Grayling 30.93 20 P P 22 31 55.1 -1.1
baz=207
GLMI Grayling 30.93 20 eP P 22 31 55.8 -0.3
comp=Z,66nm,0.8s
LAO LASA Array 30.98 350 P P 22 31 56.4 -0.3
baz=166
D35A Remer 31.01 6 P P 22 31 55.9 -0.9
baz=189
E40A Wakefield 31.03 12 P P 22 31 56.6 -0.4
baz=196,SNR=19
F43A Flat Rock, Esc 31.09 16 P P 22 31 57.3 -0.2
baz=202,SNR=9.3
O03D Paynes Creek 31.17 325 P P 22 31 58.3 -0.1
baz=134
D36A Goodland 31.21 8 P P 22 31 58.0 -0.6
baz=190,SNR=6.0
DLMT Dillon 31.25 341 eP P 22 31 01.4 +2.3
comp=Z,37nm,0.9s
SJG San Juan 31.28 82 P P 22 31 59.0 -0.6
comp=Z,16nm,0.7s,baz=287,slow=8.5,SNR=6.0
SJG San Juan 31.28 82 P P 22 31 59.0 -0.6
D37A Cotton 31.29 8 P P 22 31 58.5 -0.8
baz=192,SNR=7.9
F45A CMU Biological 31.41 18 P P 22 31 59.6 -0.8
baz=205
F44A Big Bay de Noc 31.42 17 P P 22 31 59.6 -0.8
baz=203,SNR=11
E42A Champion 31.46 15 P P 22 32 00.1 -0.7
baz=200,SNR=5.4
C31A Landman Farms, 31.48 1 P P 22 32 00.8 -0.2
baz=182,SNR=20
C34A RKJ Ranch, Bem 31.49 5 P P 22 32 00.2 -0.9
baz=187
MDND Maddock 31.53 359 P P 22 32 01.9 +0.5
baz=178,SNR=18
MDND Maddock 31.53 359 eP P 22 32 01.9 +0.5
comp=Z,301nm,1.0s
MOD Modoc Plateau 31.53 329 eP P 22 32 02.8 +1.1
comp=Z,30nm,1.0s
LRM Limekiln Ridge 31.62 342 eP P 22 32 03.8 +1.3
C35A Jirik Farms, M 31.63 6 P P 22 32 01.3 -1.0
baz=189,SNR=6.1
E43A Lone Tree Farm 31.64 16 P P 22 32 01.0 -1.4
baz=202,SNR=8.6
LUPA Lehigh Univers 31.68 35 eP P 22 32 03.7 +0.8
comp=Z,1.2nm,1.0s
N59A State Game Lan 31.68 34 P P 22 32 01.4 -1.4
baz=226
F46A Macinaw City C 31.73 19 P P 22 32 01.9 -1.3
baz=206,SNR=7.6
J08A Circle Bar Ran 31.78 332 eP P 22 32 05.3 +1.5
comp=Z,47nm,1.0s
C36A Pine Crest Far 31.82 8 P P 22 32 03.4 -0.6
baz=191,SNR=5.9
MTP Monte Pirata 31.85 82 eP P 22 32 05.8 +1.2
comp=Z,44nm,1.0s
D41A Chassel 31.90 13 P P 22 32 04.3 -0.3
baz=199,SNR=11
MMNY Mt. Morris Dam 31.91 30 eP P 22 32 05.8 +1.0
comp=Z,34nm,1.2s
C38A Sawbill Land. 32.01 10 P P 22 32 04.6 -1.1
baz=194
B33A Robert and Kas 32.06 4 P P 22 32 05.1 -0.9
baz=186,SNR=7.7
AGMN Agassiz Nation 32.07 4 P P 22 32 06.0 -0.1
baz=185,SNR=29
AGMN Agassiz Nation 32.07 4 eP P 22 32 06.1 -0.1
comp=Z,64nm,0.8s
B31A Greenbush Farm 32.11 2 P P 22 32 06.3 -0.2
baz=182
E45A Wooded Hills, 32.12 18 P P 22 32 06.1 -0.6
baz=205
B32A Ashes, Strandq 32.13 3 P P 22 32 06.4 -0.2
baz=184,SNR=32
N02D Trinity Center 32.14 325 P P 22 32 07.4 +0.4
baz=133
E44A Grand Marais A 32.15 17 P P 22 32 05.5 -1.4
baz=204
BRNJ Basking Ridge 32.19 36 eP P 22 32 07.7 +0.4
comp=Z,20nm,0.8s
EYMN Ely 32.20 9 P P 22 32 06.5 -0.8
baz=193
EYMN Ely 32.20 9 eP P 22 32 06.4 -0.9
comp=Z,32nm,1.5s
KMRM Mail Ridge 32.20 323 eP P 22 32 10.1 +2.6
comp=Z,70nm,1.5s
M04C Macdoel 32.23 327 P P 22 32 08.7 +0.9
baz=135,SNR=6.7
C39A Grand Marais 32.30 11 P P 22 32 07.3 -0.9
baz=196
B35A Bob, Littlefor 32.31 6 P P 22 32 07.2 -1.1
baz=189,SNR=8.0
B34A Aery, Baudette 32.34 5 P P 22 32 08.0 -0.6
baz=187,SNR=8.3
ODNJ Ogdensburg 32.43 35 eP P 22 32 09.8 +0.4
comp=Z,11nm,1.0s
BINY Binghamton 32.47 33 P P 22 32 09.1 -0.7
baz=224,SNR=5.2
BINY Binghamton 32.47 33 eP P 22 32 10.0 +0.2
comp=Z,29nm,1.3s
BMO Blue Mountains 32.49 335 eP P 22 32 10.5 +0.5
BMO pmax pmax
comp=Z,15nm,1.0s
BMO Blue Mountains 32.49 335 eP P 22 32 10.5 +0.5
comp=Z,14nm,1.0s
M02C Callahan 32.51 325 P P 22 32 10.6 +0.4
baz=133
KHMM Horse Mountain 32.65 324 eP P 22 32 13.4 +1.9
comp=Z,43nm,1.0s
A32A Rocking H Ranc 32.65 3 P P 22 32 10.7 -0.5
baz=184,SNR=11
YBH Yreka Blue Hor 32.66 326 P P 22 32 11.4 -0.2
comp=Z,5.2nm,0.8s,baz=122,slow=4.7,SNR=8.5
A33A Warroad 32.73 4 P P 22 32 11.2 -0.7
baz=186,SNR=12
PAL Palisades 32.77 36 P P 22 32 11.4 -1.0
baz=228
PAL Palisades 32.77 36 eP P 22 32 12.8 +0.4
PAL pmax pmax
comp=Z,8.0nm,0.7s
PAL Palisades 32.77 36 eP P 22 32 12.8 +0.4
comp=Z,8.1nm,0.7s
I07A Izee 32.81 332 eP P 22 32 14.2 +1.3
comp=Z,9.8nm,1.0s
MSO Missoula 32.98 341 P P 22 32 15.0 +0.7
baz=152,SNR=8.5
MSO Missoula 32.98 341 eP P 22 32 15.3 +1.0
comp=Z,15nm,1.0s
KLBO Killbear Provi 32.98 24 P P 22 32 13.2 -1.0
baz=214,SNR=6.5
J05D Fort Rock, OR 33.02 329 P P 22 32 15.4 +0.6
baz=138
BUKO Buck Lake 33.38 25 P P 22 32 17.0 -0.7
baz=215,SNR=12
F10A Beach Ranch, E 33.39 336 eP P 22 32 18.7 +0.8
comp=Z,46nm,0.9s
DELO Deloro Mine 33.41 28 P P 22 32 17.2 -0.8
baz=219,SNR=9.6
J04D Umpqua Nationa 33.42 328 P P 22 32 19.6 +1.3
baz=136
G08A Pilot Rock 33.53 334 eP P 22 32 19.8 +0.7
comp=Z,24nm,0.9s
BANO Bancroft 33.67 27 P P 22 32 19.5 -0.7
baz=218,SNR=7.4
I05D Terrebonne, OR 33.85 330 P P 22 32 22.7 +0.9
baz=139
JTMT Jette 33.90 341 eP P 22 32 24.0 +1.7
comp=Z,17nm,1.0s
ULM Lac du Bonnet 34.01 3 P P 22 32 21.6 -1.5
comp=Z,28nm,1.0s,baz=196,slow=8.5,SNR=28
ULM Lac du Bonnet 34.01 3 eP P 22 32 22.4 -0.7
ULM pmax pmax
comp=Z,46nm,1.1s
ULM Lac du Bonnet 34.01 3 eP P 22 32 22.4 -0.7
comp=Z,46nm,1.1s
E09A Wood Farm, Sta 34.19 336 eP P 22 32 25.1 +0.3
comp=Z,19nm,0.9s
I03D Drain, OR 34.38 328 P P 22 32 27.6 +1.3
baz=135
QUA2 Belchertown 34.49 36 eP P 22 32 27.5 +0.2
comp=Z,22nm,1.1s
H04A Detroit Lake 34.51 330 eP P 22 32 28.4 +0.8
comp=Z,51nm,1.0s
NCB Newcomb 34.64 32 eP P 22 32 28.9 +0.3
comp=Z,48nm,2.0s
LONY Lake Ozonia 34.93 31 P P 22 32 30.7 -0.5
baz=223,SNR=5.2
LONY Lake Ozonia 34.93 31 eP P 22 32 30.6 -0.5
comp=Z,10nm,1.0s
WALA Waterton Lakes 34.96 343 eP P 22 32 33.0 +1.4
comp=Z,17nm,1.0s
HRV Adam Dziewonsk 35.09 36 P P 22 32 32.3 -0.2
baz=230
HRV Adam Dziewonsk 35.09 36 eP P 22 32 32.5 0.0
HRV pmax pmax
comp=Z,14nm,0.9s
HRV Adam Dziewonsk 35.09 36 eP P 22 32 32.5 0.0
comp=Z,14nm,0.9s
WES Weston 35.14 37 eP P 22 32 33.2 +0.3
WES pmax pmax
comp=Z,12nm,1.0s
WES Weston 35.14 37 eP P 22 32 33.2 +0.3
comp=Z,12nm,1.0s
NEW Newport 35.29 339 P P 22 32 35.5 +1.3
baz=148
NEW Newport 35.29 339 eP P 22 32 35.6 +1.3
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 35.29 339 eP P 22 32 35.5 +1.3
comp=Z,9.1nm,1.0s
C09A Chrisman Ranch 35.31 337 eP P 22 32 35.4 +1.0
comp=Z,32nm,0.8s
HNH Hanover 35.47 34 eP P 22 32 36.9 +1.1
comp=Z,17nm,1.2s

FRNY	Flat Rock	35.58	31	*e*P		P		22 32 36.5	-0.2
	comp=Z,7.2nm,0.9s									
LTY	Liberty	35.81	334	*e*P		P		22 32 40.1	+1.3
	comp=Z,55nm,1.3s									
LON	Longmire	35.90	333	*e*P		P		22 32 41.1	+1.6
LON					pmax	pmax				
	comp=Z,73nm,1.8s									
LON	Longmire	35.90	333	*e*P		P		22 32 41.1	+1.6
	comp=Z,73nm,1.8s									
LBNH	Lisbon	36.02	34	P		P		22 32 41.0	+0.4
	baz=227									
LBNH	Lisbon	36.02	34	*e*P		P		22 32 41.6	+1.0
LBNH					pmax	pmax				
	comp=Z,14nm,1.1s									
LBNH	Lisbon	36.02	34	*e*P		P		22 32 41.6	+1.0
	comp=Z,14nm,1.1s									
TRQ	Mont Tremblant	36.11	29	*e*P		P		22 32 41.9	+0.5
B08A	Colville Reser	36.17	337	*e*P		P		22 32 43.0	+1.2
	comp=Z,20nm,0.9s									
C06D	Leavenworth	36.43	335	P		P		22 32 45.5	+1.5
	baz=142									
PKME	Peaks-Kenny Pk	38.11	34	P		P		22 32 58.7	+0.4
	baz=230									
FFC	Flin Flon	38.48	357	*e*P		P		22 33 01.4	+0.2
FFC					pmax	pmax				
	comp=Z,29nm,0.9s									
FFC	Flin Flon	38.48	357	*e*P		P		22 33 01.4	+0.2
	comp=Z,29nm,0.9s									
EDM	Edmonton	38.62	346	*e*P		P		22 33 02.9	+0.4
EDM					pmax	pmax				
	comp=Z,50nm,0.8s									
EDM	Edmonton	38.62	346	*e*P		P		22 33 02.9	+0.4
	comp=Z,50nm,0.8s									
LLLB	Lillooet	38.97	337	*e*P		P		22 33 06.8	+1.3
	comp=Z,33nm,1.0s									
FCC	Fort Churchill	42.60	4	*e*P		P		22 33 35.4	+0.2
FCC					pmax	pmax				
	comp=Z,15nm,1.1s									
FCC	Fort Churchill	42.60	4	*e*P		P		22 33 35.4	+0.2
	comp=Z,15nm,1.1s									
SAML	Samuel	43.28	123	*e*P		P		22 33 45.3	+4.1
	comp=Z,8.7nm,1.4s									
LPAZ	La Paz	44.31	135	*e*P		P		22 33 55.3	+5.1
LPAZ					pmax	pmax				
	comp=Z,1.0nm,0.7s									
SCHQ	Schefferville	45.74	25	P		P		22 34 00.6	+0.1
	comp=Z,20nm,0.8s,baz=229,slow=4.9,SNR=20									
SCHQ	Schefferville	45.74	25	*e*P		P		22 34 00.6	+0.1
	comp=Z,31nm,1.0s									
YKA	Yellowknife Ar	47.52	350	P		P		22 34 14.0	-0.2
	comp=Z,6.8nm,0.8s,baz=158,slow=7.3,SNR=63									
YKA					PP	PP		22 36 07.2	+1.5
	comp=Z,3.2nm,0.9s,baz=153,slow=9.4,SNR=5.3									
YKW3	Yellowknife Ar	47.58	350	*e*P		P		22 34 14.5	-0.2
	comp=Z,17nm,1.2s									
DLBC	Dease Lake	48.03	339	*e*P		P		22 34 21.2	+2.8
	comp=Z,14nm,1.0s									
SIV	San Ignacio	49.15	129	P		P		22 34 27.0	-0.5
	comp=Z,1.5nm,0.9s,baz=307,slow=9.1,SNR=7.9									
WHY	Whitehorse	51.35	338	*e*P		P		22 34 45.6	+1.9
	comp=Z,9.1nm,1.0s									
HYT	Haines Junctio	52.42	337	*e*P		P		22 34 53.4	+1.7
	comp=Z,28nm,1.3s									
BMRM	Bremner River	55.28	335	*e*P		P		22 35 14.2	+1.7
	comp=Z,16nm,1.0s									
KLU	Klutina	56.10	335	*e*P		P		22 35 20.6	+2.2
	comp=Z,17nm,1.0s									
EGAK	Eagle	56.25	340	*e*P		P		22 35 20.1	+0.8
	comp=Z,18nm,0.9s									
INK	Inuvik	56.51	345	*e*P		P		22 35 21.6	+0.5
INK					pmax	pmax				
	comp=Z,21nm,0.9s									
INK	Inuvik	56.51	345	*e*P		P		22 35 21.6	+0.5
	comp=Z,21nm,0.9s									
DOT	Dot Lake	56.58	338	*e*P		P		22 35 23.4	+1.6
	comp=Z,76nm,1.2s									
PAX	Paxson	56.72	337	*e*P		P		22 35 24.0	+1.2
PAX					pmax	pmax				
	comp=Z,13nm,1.0s									
PAX	Paxson	56.72	337	*e*P		P		22 35 24.0	+1.2
	comp=Z,13nm,1.0s									
SCRK	Sand Creek	56.75	338	*e*P		P		22 35 24.9	+1.9
	comp=Z,12nm,1.0s									
RIDG	Independ'e Rid	56.92	338	*e*P		P		22 35 25.7	+1.5
	comp=Z,37nm,1.0s									
SML	Sawmill	57.25	335	*e*P		P		22 35 27.9	+1.4
SML					pmax	pmax				
	comp=Z,16nm,1.0s									
SML	Sawmill	57.25	335	*e*P		P		22 35 27.9	+1.4
	comp=Z,16nm,1.0s									
PMR	Palmer	57.48	334	*e*P		P		22 35 29.0	+1.0
PMR					pmax	pmax				
	comp=Z,13nm,0.9s									
PMR	Palmer	57.48	334	*e*P		P		22 35 29.0	+1.0
	comp=Z,13nm,0.9s									
RC01	Rabbit Creek A	57.49	333	*e*P		P		22 35 29.3	+1.1
	comp=Z,72nm,2.0s									
HDA	Harding Lake	58.06	338	*e*P		P		22 35 33.2	+1.1
	comp=Z,17nm,0.9s									
ILAR	Eielson Array	58.24	338	P		P		22 35 34.0	+0.7
	comp=Z,13nm,1.0s,baz=140,slow=4.9,SNR=66									
RND	Reindeer	58.26	336	*e*P		P		22 35 35.0	+1.4
RND					pmax	pmax				
	comp=Z,40nm,1.0s									
RND	Reindeer	58.26	336	*e*P		P		22 35 35.0	+1.4
	comp=Z,40nm,1.0s									
MCK	McKinley	58.45	336	*e*P		P		22 35 36.0	+1.1
MCK					pmax	pmax				
	comp=Z,20nm,0.9s									
MCK	McKinley	58.45	336	*e*P		P		22 35 36.0	+1.1
	comp=Z,20nm,0.9s									
CPUP	Villa Florida	58.48	136	P		P		22 35 35.8	+0.2
	comp=Z,1.1nm,0.5s,baz=323,slow=7.9,SNR=3.2									
WRH	Wood River Hil	58.52	337	*e*P		P		22 35 36.0	+0.7
	comp=Z,13nm,1.0s									
SPU	Mount Spurr	58.54	333	*e*P		P		22 35 36.9	+1.3
COLA	College	58.64	338	⇓*i*P		P		22 35 37.4	+1.3
COLA					XP	sP		22 35 47.1	-0.2
COLA					PCP	PcP		22 36 27.1	+1.1
COLA					pmax	pmax				
	comp=Z,17nm,1.0s									
TRF	Thorofare Moun	58.84	336	*e*P		P		22 35 38.4	+0.6
	comp=Z,34nm,0.8s									
KTH	Kantishna Hill	59.14	336	*e*P		P		22 35 40.0	+0.3
	comp=Z,10nm,0.8s									
PPLA	Purkeypile	59.35	335	*e*P		P		22 35 41.6	+0.3
	comp=Z,60nm,1.5s									
BPAW	Bear Paw Mtn.	59.43	336	*e*P		P		22 35 41.9	+0.2
	comp=Z,1.8nm,1.0s									
SFJD	Kangerlussuaq	59.53	20	P		P		22 35 41.2	-1.1
	comp=Z,10nm,0.8s,baz=227,slow=4.2,SNR=6.5									
SFJD	Kangerlussuaq	59.53	20	*e*P		P		22 35 42.7	+0.4
SFJD					pmax	pmax				
	comp=Z,111nm,1.8s									
SFJD	Kangerlussuaq	59.53	20	*e*P		P		22 35 42.7	+0.4
	comp=Z,111nm,1.8s									
MLY	Manley	59.78	337	*e*P		P		22 35 45.1	+1.0
	comp=Z,22nm,1.0s									
SVW2	Sparrevohn	60.07	332	*e*P		P		22 35 46.6	+0.5
	comp=Z,14nm,1.0s									
COLD	Coldfoot	60.69	340	*e*P		P		22 35 52.1	+1.9
	comp=Z,8.6nm,0.9s									
TOLK	Toolik Lake Re	61.22	341	P		P		22 35 54.8	+1.0
	baz=122,SNR=9.4									
TOLK	Toolik Lake Re	61.22	341	*e*P		P		22 35 54.9	+1.0
	comp=Z,11nm,0.8s									
TULEG	Thule	62.29	8	*e*P		P		22 36 00.8	-0.1
	comp=Z,11nm,1.1s									
PLCA	Paso Flores	62.48	156	P		P		22 36 02.8	+0.1
	comp=Z,2.8nm,1.0s,baz=333,slow=2.8,SNR=3.4									
SUMG	Summit	65.93	17	*i* P		P		22 36 25.6	+0.3
	comp=Z,28nm,1.1s									
SUMG	Summit	65.93	17	*e*P		P		22 36 25.6	+0.3
SUMG					pmax	pmax				
	comp=Z,29nm,1.1s									
SUMG	Summit	65.93	17	*e*P		P		22 36 25.6	+0.3
	comp=Z,29nm,1.1s									
GAMB	Gambell	67.98	333	*e*P		P		22 36 39.6	+1.6
	comp=Z,5.8nm,1.0s									
DAG	Danmarks Havn	72.06	14	*i* P		P		22 37 02.6	-0.2
	comp=Z,14nm,1.0s									
DAG	Danmarks Havn	72.06	14	*i* P		P		22 37 02.6	-0.2
DAG					pmax	pmax				
	comp=Z,14nm,1.0s									
BILL	Bilibino	76.89	337	*c i*P		P		22 37 31.7	+0.6
BILL				*i*				22 37 46.3		
BILL					pmax	pmax				
	comp=Z,14nm,1.0s									
EKA	Eskdalemuir Ar	80.00	35	P		P		22 37 48.4	-0.1
	comp=Z,4.0nm,0.8s,baz=288,slow=6.0,SNR=7.2									
ESDC	Sonseca Array	83.48	51	P		P		22 38 06.7	-0.6
	comp=Z,2.9nm,1.0s,baz=290,slow=4.5,SNR=7.7									
ES19	SONSECA Array	83.53	51	*e*P		P		22 38 08.0	+0.5
SEY	Seymchan	83.93	334	P		P		22 38 09.4	+0.5
	comp=Z,7.6nm,0.9s,baz=85,slow=5.4,SNR=20									
SEY	Seymchan	83.93	334	⇑*i*P		P		22 38 10.3	+1.3
PET	Petropavlovsk	84.49	324	⇑*i*P		P		22 38 13.4	+1.4
PET					pmax	pmax				
	comp=Z,25nm,1.2s									
PETK	Petropavlovsk-	85.00	324	P		P		22 38 15.2	+0.6
	comp=Z,6.9nm,0.8s,baz=79,slow=7.7,SNR=4.5									
NOA	NORSAR Array B	85.28	27	P		P		22 38 15.5	-0.4
	comp=Z,1.2nm,0.8s,baz=301,slow=5.1,SNR=3.4									
ARCES	ARCESS Array B	86.02	17	P		P		22 38 19.2	-0.2
	comp=Z,3.3nm,0.8s,baz=336,slow=5.6,SNR=6.6									
MA2	Magadan	86.04	331	⇓*i*P		P		22 38 21.0	+1.3
TIXI	Tiksi	86.62	346	P		P		22 38 22.7	+0.4
	baz=55,slow=6.2									
TIXI	Tiksi	86.62	346	*e*P		P		22 38 22.5	+0.2
TIXI					pmax	pmax				
	comp=Z,44nm,1.6s									
TIXI	Tiksi	86.62	346	*e*P		P		22 38 22.5	+0.2
	comp=Z,44nm,1.6s									
CLL	Collm	90.47	36	*e*P		P		22 38 41.0	+0.1
CLL				*e*				22 38 47.0		
CLL	Collm	90.47	36	*e*P		P		22 38 41.0	+0.1
CLL				*e*(sP)		pP		22 38 47.0	-2.3
	comp=Z,5.0nm,1.2s									
CLL				*e*(PP)				22 42 11.0		
KOWA	Kowa	90.54	75	P		P		22 38 40.3	-1.6
	comp=Z,1.9nm,0.8s,baz=16,slow=0.5,SNR=4.8									
FINES	FINESS Array B	91.18	23	P		P		22 38 43.3	-0.7
	comp=Z,2.5nm,0.9s,baz=324,slow=9.4,SNR=5.1									
FINES	FINESS Array B	91.18	23	*e*P		P		22 38 44.0	0.0
FINES					pmax	pmax				
	comp=Z,3.0nm,0.9s									
GERES	GERESS Array B	92.00	38	P		P		22 38 47.0	-1.2
	comp=Z,0.5nm,0.8s,baz=337,slow=3.0,SNR=5.1									
GERES					PP	PP		22 42 27.8	+0.4
	comp=Z,0.9nm,0.9s,baz=293,slow=6.3,SNR=3.6									
YAK	Yakutsk	93.14	339	*e*P		P		22 38 51.3	-1.7
YAK					pmax	pmax				
	comp=Z,20nm,0.8s									
YAK					pmax	pmax				
	comp=E,3.0nm,1.0s									
YAK					pmax	pmax				
	comp=N,3.0nm,0.9s									
TORD	Torodi Ar. Bea	96.23	74	P		P		22 39 06.8	-1.4
	comp=N,0.7nm,0.8s,baz=280,slow=5.3,SNR=3.5									
KLMR	Klimovskoe	96.27	19	*e*P		P		22 39 03.1	-4.3
KLMR					pmax	pmax				
	comp=Z,10.0nm,1.5s									
KLMR	Klimovskoe	96.27	19	*e*P		P		22 39 03.1	-4.3
KLMR					AMP			22 39 05.9		
	comp=Z,10.0nm,1.5s									
YSS	Yuzh-Sakhalins	96.34	323	P		P		22 39 06.1	-1.9
UZH	Uzhgorod	96.99	35	*e*P		P		22 39 06.2	-4.7
UZH				*e*				22 39 12.4		
ERM	Erimo	98.66	318	⇑*i*P		Pdif		22 39 19.6	+1.0
ERM					pmax	pmax				
	comp=Z,25nm,0.8s									
HHC	Hu-ho-hao-te	116.57	335	*e*PKP		PKPdf		22 44 23.0	-0.7
HHC				PP		PP		22 45 33.4	+3.5
HHC				SKS		SKSdf		22 51 30.3	-4.1
HHC				SKKS		SKKSac		22 52 22.4	-8.2
HHC				SS		SS		23 01 30.6	-2.7
HHC				AMB		AMB				
	comp=Z,29nm,5.8s									
MKAR	Makanchi Array	117.25	359	PKP		PKPdf		22 44 22.9	-1.8
	comp=Z,0.2nm,0.7s,baz=35,slow=5.3,SNR=2.8									
MKAR				PP		PP		22 45 36.8	+2.6
	comp=Z,0.9nm,1.0s,baz=12,slow=6.7,SNR=3.6									
NJ2	Nanjing	119.90	323	*e*PKP		PKPdf		22 44 31.8	+1.7
WMQ	Urumqi	119.94	355	*e*PKP		PKPdf		22 44 32.5	+2.5
GEYT	Alibeck	121.94	21	PKP		PKPdf		22 44 34.6	+0.6
	comp=Z,0.6nm,0.3s,baz=20,slow=42,SNR=3.0									
XAN	Xi'an	123.43	332	PKP		PKPdf		22 44 36.6	-0.4
LZH	Lanzhou	123.70	338	*e*PKP		PKPdf		22 44 39.0	+1.4
LZH				sPKP				22 44 48.3		
CD2	Chengdu	128.32	335	PKP		PKPdf		22 44 48.0	+1.6
WRA	Warramunga Arr	129.47	257	PKP		PKPdf		22 44 47.7	-1.0
	comp=Z,1.0nm,0.9s,baz=88,slow=3.1,SNR=5.4									
WRA	Warramunga Arr	129.47	257	*e*PKIKP		PKPdf		22 44 48.1	-0.6
WRA					pmax	pmax				
	comp=Z,1.0nm,0.8s									
ASAR	Alice Springs	130.08	253	PKP		PKPdf		22 44 49.6	-0.2
	comp=Z,0.7nm,0.8s,baz=116,slow=2.2,SNR=4.5									
GYA	Guiyang	130.84	329	*e*Pdif		Pdif		22 41 42.0	-0.3
GYA				PKP		PKiKP		22 44 52.8	+0.5
GYA				PP		PP		22 47 11.0	+4.8
GYA				AMB		AMB				
	comp=Z,120nm,7.8s									
KMI	Kunming	133.81	332	PKP		PKPdf		22 44 55.9	-1.3
CMAR	Chiang Mai Arr	141.32	332	PKhKP		PKPpre		22 45 05.8		
	comp=Z,1.1nm,0.7s,baz=336,slow=3.1,SNR=5.6									
CMAR				PKP		PKPdf		22 45 11.5	+0.6
	comp=Z,2.0nm,0.8s,baz=343,slow=2.9,SNR=10									
HYB	Hyderabad	146.46	4	*i* PKP		PKPdf		22 45 20.0	+0.1
OPO	Ambohidratompo	147.54	99	PKPbc		PKPbc		22 45 23.7	-0.7
	comp=Z,11nm,0.9s,baz=238,slow=3.7,SNR=10									
ABPO	Ambohimpanom	147.59	100	*e*PKP2		PKPbc		22 45 25.3	+0.7
ABPO	Ambohimpanom	147.59	100	*e*PKPbc		PKPbc		22 45 25.3	+0.7

*CSEM **20** 22:32:47.8±0.3,50°.11N×18°.97E,h2km, Error ellipse: s-maj=7.8km s-min=3.7km az=7.0*

PRU 20 22:32:48.6,50°.13N×18°.99E,h0km,2C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.16	0	*e*Pg	Pg	22 32 53.4	+1.7
CHZP				*e*Sg	Sg	22 32 55.2	+1.4
OJC	Ojcow	0.53	80	*i* Pg	Pg	22 32 58.0	-0.7
OJC				*i* Sg	Sg	22 33 04.7	-0.8
OJC	Ojcow	0.53	80	*i* P	Pg	22 32 58.0	-0.7
OJC	Ojcow	0.53	80	*e*P	Pg	22 32 58.1	-0.6
	42nm,1.1s						
OJC	Ojcow	0.53	80	*i* Pg	Pg	22 32 58.0	-0.7
OJC				*i* Sg	Sg	22 33 04.7	-0.8
OKC	Ostrava-Krasne	0.62	242	*e*PG	Pb	22 33 01.4	-0.9
OKC				*e*SG	Sb	22 33 10.9	-0.6
	comp=Z,9.5nm,0.3s						
OKC	Ostrava-Krasne	0.62	242	*e*P	Pb	22 33 01.4	-0.9
OKC	Ostrava-Krasne	0.62	242	Pg	Pb	22 33 01.4	-0.9
MORC	Moravsky Berou	1.00	250	⇑*i*P	Pg	22 33 06.6	-1.1
MORC	Moravsky Berou	1.00	250	⇑*i*P	Pg	22 33 06.6	-1.1
LANS	Liptovska Anna	1.03	162	*e*P	Pg	22 33 07.8	-0.5
LANS				*e*		22 33 20.7	
LANS	Liptovska Anna	1.03	162	*e*Pg	Pg	22 33 07.8	-0.5
LANS				*e*Sg	Sg	22 33 20.7	-0.9
LANS	Liptovska Anna	1.03	162	*e*PG	Pg	22 33 07.8	-0.5
LANS				*e*SG	Sg	22 33 20.7	-0.9
NIE	Niedzica	1.11	130	*e*Pg	Pg	22 33 08.9	-0.9
NIE				*e*Sg	Sg	22 33 23.5	-0.7
NIE	Niedzica	1.11	130	*e*P	Pg	22 33 08.9	-0.9
NIE				*e*		22 33 23.5	
NIE	Niedzica	1.11	130	*e*Pg	Pg	22 33 08.9	-0.9
NIE				*e*Sg	Sg	22 33 23.5	-0.7
KRLC	Kraliky	1.42	269	*e*PG	Pn	22 33 14.7	-1.1
KRLC				*e*SG	Sg	22 33 34.5	+0.2
	comp=Z,1.6nm,0.3s						
KRLC	Kraliky	1.42	269	Pg	Pn	22 33 14.7	-1.1
KRLC				Sg	Sg	22 33 34.5	+0.2
	1.6nm,0.3s						
JAVC	Velka Javorina	1.54	215	*e*P	Pn	22 33 12.7	-4.6
STHS	Stebnicka Huta	1.63	115	*e*Pn	Pn	22 33 18.7	+0.2
STHS				*e*Sn	Sb	22 33 40.4	-0.1
STHS	Stebnicka Huta	1.63	115	*e*PN	Pn	22 33 18.7	+0.2
STHS				*e*SN	Sb	22 33 40.4	-0.1
STHS				*e*LG	Lg	22 33 46.4	
VYHS	Vyhne	1.64	184	*e*P	Pn	22 33 17.3	-1.4
VYHS				*e*		22 33 38.6	
VYHS				pmax	pmax		
	comp=N,5.0nm,0.4s						
VYHS	Vyhne	1.64	184	*e*Pg	Pn	22 33 17.3	-1.4
VYHS				*e*Sn	Sn	22 33 38.6	-1.9
VYHS	Vyhne	1.64	184	*e*PG	Pn	22 33 17.3	-1.4
VYHS				*e*SN	Sn	22 33 38.6	-1.9
VYHS				*e*LG	Lg	22 33 40.2	
DPC	Dobruska-Polom	1.73	278	*e*PG	Pn	22 33 20.1	+0.2
DPC				*e*SG	Sb	22 33 43.6	+0.1
	comp=N,5.2nm,0.4s						
DPC	Dobruska-Polom	1.73	278	Pg	Pn	22 33 20.1	+0.2
DPC				Sg	Sb	22 33 43.6	+0.1
	comp=N,5.2nm,0.4s						
VRAC	Vranov	1.76	243	*e*Sg	Sb	22 33 44.7	+0.3
KRUC	Moravsky	2.00	239	*e*Sg	Sb	22 33 51.5	+0.3
GOPC	GO Pecny, Ondr	2.72	267	*e*SG	Sb	22 34 13.8	+1.8
GOPC	GO Pecny, Ondr	2.72	267	Sg	Sb	22 34 13.8	+1.8
PRU	Pruhonice	2.87	269	*e*SG	Sb	22 34 18.0	+1.7
PRU	Pruhonice	2.87	269	Sg	Sb	22 34 18.0	+1.7
KHC	Kasperske Hory	3.66	256	*e*SG	Sg	22 34 45.5	-0.5
KHC	Kasperske Hory	3.66	256	Sg	Sg	22 34 45.5	-0.5

*IDC **20** 22:47:46.1±1.8,51°.77N×96°.11E,h0km,mb3.8/2, mb1 3.3/6,mb1mx3.2/63,mbtmp3.3/6,ML2.6/4,Error ellipse: s-maj=31.5km s-min=20.5km az=14.0*

*ISCJB **20** 22:47:48.2±0.8,51°.8N±0°.2×95°.70E±0°.09,h10km,mb3.7/2, Error ellipse: s-maj=28.8km s-min=7.9km az=176.7*

*MOS **20** 22:47:48.2±2.5,51°.81N×96°.03E,h10km,mb4.1/2,Error ellipse: s-maj=38.1km s-min=17.0km az=4.1*

ISC 20 22:47:48.8±0.9,51°.9N±0°.1×95°.88E±0°.07,h10km,n13, σ2s00/13,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	Orlik	2.50	74	*e*PN	Pb	22 48 31.0	-2.7
ORL				*e*		22 49 04.1	
ORL				pmax	pmax		
	comp=Z,66nm,0.4s						
ORL				smax	smax		
	comp=N,175nm,0.7s						
MOY	Mondy	3.18	92	*e*PN	Pb	22 48 43.6	-1.8
MOY				*e*		22 49 24.5	
MOY				pmax	pmax		
	comp=Z,35nm,0.6s						
MOY				smax	smax		
	comp=N,238nm,0.6s						
ARS	Arshan	4.05	87	*e*PN	Pn	22 48 52.4	+1.6
ARS				*e*		22 49 00.6	
ARS				*e*		22 49 53.8	
ARS				pmax	pmax		
	comp=Z,63nm,0.5s						
ARS				smax	smax		
	comp=N,306nm,0.8s						
TLY	Talaya	4.82	90	*e*PN	Pb	22 49 13.7	+0.4
TLY				*e*		22 50 13.7	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ZAK	Zakamensk	4.90	105	*e*PN	Pb	22 49 14.2	-0.5
ZAK				*e*		22 50 16.0	
ZAK				pmax	pmax		
	comp=Z,19nm,0.6s						
ZAK				smax	smax		
	comp=N,110nm,1.6s						
ZALV	Zalesovo Beam	6.99	291	Pn	Pn	22 49 32.6	+1.5
	comp=N,0.3nm,0.3s,baz=103,slow=11,SNR=5.4						
ZALV				Lg	Lg	22 51 23.3	
	comp=N,2.0nm,0.3s,baz=110,slow=21,SNR=8.3						
SONM	Songino Array	7.92	117	Pg	Pb	22 50 06.8	+0.6
	comp=N,0.2nm,0.3s,baz=306,slow=17,SNR=11						
SONM				Lg	Lg	22 51 52.1	
	comp=N,0.9nm,0.3s,baz=306,slow=31,SNR=14						
MKAR	Makanchi Array	10.24	245	Pn	Pn	22 50 14.9	-0.7
	comp=N,0.2nm,0.3s,baz=54,slow=13,SNR=17						
MKAR				Lg	Lg	22 53 05.8	
	comp=N,0.2nm,0.3s,baz=66,slow=27,SNR=5.2						
KURK	Kurchatov	10.87	270	P	Pn	22 50 26.4	+2.1
KURBB	Kurchatov Arra	10.95	270	Pn	Pn	22 50 26.4	+1.1
	comp=N,0.0nm,0.3s,baz=73,slow=15,SNR=3.6						
KURBB				Lg	Lg	22 53 27.0	
	comp=N,0.0nm,0.3s,baz=78,slow=31,SNR=4.9						
BVAR	Borovoye Array	15.55	284	Pn	Pn	22 51 23.9	-4.1
	comp=N,0.0nm,0.3s,baz=72,slow=13,SNR=2.2						
FINES	FINESS Array B	37.70	312	P	P	22 55 04.1	+0.2
	comp=N,2.1nm,1.0s,baz=77,slow=9.0,SNR=3.9						
BRTR	Keskin Array B	43.76	279	P	P	22 55 55.3	+0.9
	comp=N,0.9nm,0.8s,baz=64,slow=8.4,SNR=4.9						

*SJA **20** 23:00:26.6±0.8,28°.18S×66°.45W,h191km±4km,ML4.3, MW4.3*

*NEIC **20** 23:00:26.4±0.6,28°.16S×66°.49W,h148km±6km,mb4.2/9, Error ellipse: s-maj=9.4km s-min=6.2km az=94.0*

*ISCJB **20** 23:00:27.3±0.3,28°.11S±0°.03×66°.60W±0°.04,h174km±2km, mb3.9/19,Error ellipse: s-maj=6.1km s-min=4.1km az=6.4*

*IDC **20** 23:00:28.7±0.6,28°.08S×66°.41W,h167km±5km,mb3.8/12, mb1 3.9/15,mb1mx3.8/41,mbtmp4.2/15,Error ellipse: s-maj=19.7km s-min=12.0km az=69.0*

*GUC **20** 23:00:31.0±0.6,27°.71S×66°.66W,h125km±9km,ML4.4*

ISC 20 23:00:27.7±0.5,28°.08S±0°.04×66°.61W±0°.04,h164km±4km, n219,σ1s58/244,mb4.0/18,5C-5D,Catamarca Province

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

PB01				*e*Sn		**Sn**	**23 03 32.0 -6.2**
GO05	**Hualaæø**	**8.27**	**212**	*e*Pn		**Pn**	**23 02 21.0 -3.6**
GO05				*e*Sn		**Sn**	**23 03 49.7 -7.2**
CPUP	**Villa Florida**	**8.44**	**80**	P		**Pn**	**23 02 26.0 -1.0**
	comp=Z,0.2nm,0.3s,baz=270,slow=13,SNR=5.7						
PB11	**IPOC Station P**	**8.74**	**341**	*e*Pn		**Pn**	**23 02 30.6 -0.5**
PB11				*e*Sn		**Sn**	**23 04 02.2 -6.3**
MNMC	**Minye Minye**	**9.32**	**342**	*e*Pn		**Pn**	**23 02 38.7 -0.1**
MNMC				*e*Sn		**Sn**	**23 04 16.6 -6.0**
LPAZ	**La Paz**	**11.82**	**353**	P		**Pn**	**23 03 12.6 +0.6**
	comp=Z,2.9nm,0.3s,baz=148,slow=5.4,SNR=45						
LPAZ				S		**Sn**	**23 05 18.8 -4.5**
	comp=Z,0.4nm,0.3s,baz=31,slow=19,SNR=2.4						
LPAZ	**La Paz**	**11.82**	**353**	*e*Pn		**Pn**	**23 03 11.4 -0.5**
LPAZ				S		**Sn**	**23 05 18.8 -4.5**
PLCA	**Paso Flores**	**13.03**	**193**	P		**Pn**	**23 03 25.7 -1.2**
	comp=Z,0.4nm,0.3s,baz=26,slow=12,SNR=8.0						
SIV	**San Ignacio**	**13.07**	**24**	P		**Pn**	**23 03 27.3 -0.2**
	comp=Z,1.3nm,0.3s,baz=219,slow=13,SNR=48						
SAML	**Samuel**	**19.30**	**10**	*e*P		**P**	**23 04 40.1 -0.1**
	comp=Z,26nm,0.9s						
SOTA	**Rioblanco**	**31.54**	**341**	*e*P		**P**	**23 06 38.7 +3.5**
RREF	**El Recreo**	**33.85**	**344**	*e*P		**P**	**23 06 57.3 +1.9**
RUSC	**La Rusia**	**34.35**	**349**	*e*P		**P**	**23 06 58.7 -0.9**
PAMC	**Pamplona, Colo**	**35.70**	**350**	*e*P		**P**	**23 07 09.3 -1.8**
ZARC	**Zaragoza, Cauc**	**36.25**	**346**	*e*P		**P**	**23 07 12.0 -3.3**
SDV	**Santo Domingo**	**36.95**	**353**	P		**P**	**23 07 20.8 -0.6**
	comp=Z,4.7nm,0.4s,baz=267,slow=19,SNR=6.8						
SDV	**Santo Domingo**	**36.95**	**353**	*e*P		**P**	**23 07 19.3 -2.1**
VNA3	**Neumayer Olymp**	**53.20**	**160**	P		**P**	**23 09 29.4 +0.8**
VNA2	**Neumayer--Watz**	**53.78**	**160**	P		**P**	**23 09 33.2 +0.4**
SNAA	**Sanae**	**55.41**	**160**	P		**P**	**23 09 45.0 +0.4**
SNAA	**Sanae**	**55.41**	**160**	P		**P**	**23 09 44.8 +0.3**
	comp=Z,4.8nm,0.6s,baz=271,slow=10,0,SNR=16						
SNAA				pP		**pP**	**23 10 23.0 +0.7**
	comp=Z,1.5nm,0.6s,baz=261,slow=10,SNR=1.9						
QSPA	**South Pole Qui**	**62.14**	**180**	P		**P**	**23 10 31.8 +0.6**
	comp=Z,6.0nm,0.8s,baz=165,slow=7.7,SNR=16						
445A	**Amite**	**62.71**	**337**	P		**P**	**23 10 32.6 -2.6**
	baz=156						
150A	**Eclectic**	**63.11**	**342**	P		**P**	**23 10 37.6 -0.2**
	baz=161						
344A	**Westbrook Farm**	**63.51**	**337**	P		**P**	**23 10 41.6 +1.2**
	baz=156						
Z50A	**Ashland**	**63.69**	**342**	P		**P**	**23 10 41.8 +0.1**
	baz=161						
833A	**Chaparral WMA,**	**64.28**	**328**	P		**P**	**23 10 46.3 +0.7**
	baz=148						
X50A	**Fort Payne**	**64.76**	**343**	P		**P**	**23 10 48.6 +0.1**
	baz=161						
Y47A	**UCPARC, Winfie**	**64.85**	**341**	P		**P**	**23 10 49.4 +0.3**
	baz=159						
X49A	**Woodville**	**64.99**	**342**	P		**P**	**23 10 50.4 +0.4**
	baz=161						
X48A	**Hartselle**	**65.13**	**341**	P		**P**	**23 10 51.2 +0.3**
	baz=160						
X47A	**Russelville**	**65.42**	**341**	P		**P**	**23 10 52.7 -0.1**
	baz=159						
W48A	**Pulaski**	**65.74**	**342**	P		**P**	**23 10 55.0 +0.2**
	baz=160						
W47A	**Westpoint**	**66.03**	**341**	P		**P**	**23 10 56.9 +0.2**
	baz=160						
V48A	**Smith Brothers**	**66.28**	**342**	P		**P**	**23 10 58.2 0.0**
	baz=160						
JCT	**Junction City**	**66.30**	**329**	*e*P		**P**	**23 11 00.2 +1.7**
	comp=Z,4.2nm,0.6s						
V47A	**Nunnelly**	**66.55**	**342**	P		**P**	**23 10 59.8 -0.2**
	baz=160						
WHTX	**Lake Whitney,**	**66.56**	**332**	P		**P**	**23 11 01.3 +1.2**
	baz=150						
V46A	**Holladay**	**66.70**	**341**	P		**P**	**23 11 00.7 -0.2**
	baz=159						
WVT	**Waverly**	**66.92**	**341**	P		**P**	**23 11 02.2 -0.1**
	baz=160						
U48A	**Cassie Pea, Po**	**66.93**	**343**	P		**P**	**23 11 02.3 -0.1**
	baz=161						
X40A	**Basin Creek Fa**	**66.99**	**337**	P		**P**	**23 11 02.6 -0.2**
	baz=155						
U47A	**Clarksville**	**67.06**	**342**	P		**P**	**23 11 02.9 -0.3**
	baz=160						
TXAR	**Lajitas Array**	**67.20**	**325**	P		**P**	**23 11 05.8 +1.4**
	comp=Z,0.3nm,0.3s,baz=134,slow=6.4,SNR=4.4						
X39A	**Fountain Ranch**	**67.47**	**336**	P		**P**	**23 11 07.0 +1.1**
	baz=154						
V41A	**Mountainview**	**67.94**	**338**	P		**P**	**23 11 09.4 +0.7**
	baz=156						
W39A	**Magazine**	**67.97**	**336**	P		**P**	**23 11 10.3 +1.4**
	baz=154						
V40A	**Witts Springs**	**68.18**	**337**	P		**P**	**23 11 10.5 +0.2**
	baz=155						
U41A	**Viola**	**68.37**	**338**	P		**P**	**23 11 11.7 +0.4**
	baz=156						
WCI	**Wyandotte Cave**	**68.49**	**343**	P		**P**	**23 11 11.8 -0.3**
	baz=161						
V39A	**Pettigrew**	**68.50**	**337**	P		**P**	**23 11 12.9 +0.6**
	baz=154						
T43A	**Greenville**	**68.53**	**340**	P		**P**	**23 11 12.5 +0.2**
	baz=158						
U40A	**Yellville**	**68.69**	**337**	P		**P**	**23 11 14.0 +0.6**
	baz=155						
T42A	**Van Buren**	**68.73**	**339**	P		**P**	**23 11 14.1 +0.6**
	baz=157						
U39A	**Green Forest**	**68.93**	**337**	P		**P**	**23 11 15.1 +0.2**
	baz=155						
T41A	**Mountain View**	**68.96**	**339**	P		**P**	**23 11 15.5 +0.5**
	baz=156,SNR=5.2						
T40A	**Mansfield**	**69.30**	**338**	P		**P**	**23 11 17.5 +0.4**
	baz=156						
S42A	**Caledonia**	**69.32**	**340**	P		**P**	**23 11 17.2 0.0**
	baz=157,SNR=6.1						
S41A	**Jillco Farms,**	**69.45**	**339**	P		**P**	**23 11 18.6 +0.6**
	baz=156,SNR=14						
T39A	**Clever**	**69.47**	**337**	P		**P**	**23 11 18.9 +0.7**
	baz=155						
WMOK	**Wichita Mounta**	**69.49**	**332**	P		**P**	**23 11 19.0 +0.6**
	baz=150						
Q45A	**Warren Harvey,**	**69.60**	**342**	P		**P**	**23 11 18.5 -0.4**
	baz=160						
SYO	**Syowa Base**	**69.64**	**158**	*e*P		**P**	**23 11 17.8 -1.0**
SYO	**Syowa Base**	**69.64**	**158**	*e*PcP		**PcP**	**23 11 39.1 -1.5**
S40A	**Lebanon**	**69.70**	**338**	P		**P**	**23 11 20.3 +0.7**
	baz=156,SNR=5.5						
R42A	**Luebbering**	**69.79**	**340**	P		**P**	**23 11 20.5 +0.4**
	baz=157						
T38A	**Diamond**	**69.80**	**337**	P		**P**	**23 11 21.2 +1.0**
	baz=154,SNR=5.2						
R41A	**Rosebud**	**69.98**	**339**	P		**P**	**23 11 21.8 +0.5**
	baz=157						
S39A	**Bolivar**	**70.06**	**338**	P		**P**	**23 11 22.6 +0.9**
	baz=155,SNR=9.8						
S38A	**Stockton**	**70.20**	**337**	P		**P**	**23 11 23.3 +0.7**
	baz=154,SNR=6.0						
R40A	**Maddies Statio**	**70.26**	**339**	P		**P**	**23 11 23.6 +0.6**
	baz=156						
M54A	**Oil Creek Stat**	**70.28**	**350**	P		**P**	**23 11 23.4 +0.3**
	baz=168						
R39A	**Chumby, Stover**	**70.53**	**338**	P		**P**	**23 11 25.5 +1.0**
	baz=155						
Q41A	**Truxton**	**70.54**	**340**	P		**P**	**23 11 24.8 +0.1**
	baz=157						
R38A	**Fenwick Farm,**	**70.70**	**337**	P		**P**	**23 11 26.3 +0.7**
	baz=155						
SFIN	**Lafayette**	**70.72**	**344**	P		**P**	**23 11 25.7 0.0**
	baz=161						
Q40A	**Laux Farm, Aux**	**70.84**	**339**	P		**P**	**23 11 26.8 +0.4**
	baz=156						
N46A	**Monticello**	**71.12**	**344**	P		**P**	**23 11 27.8 -0.3**
	baz=161						
P41A	**Barry, Barry**	**71.15**	**340**	P		**P**	**23 11 28.5 +0.2**
	baz=157						
P40A	**Paris**	**71.32**	**339**	P		**P**	**23 11 29.7 +0.4**
	baz=156						
P39B	**Salisbury**	**71.50**	**339**	P		**P**	**23 11 30.9 +0.5**
	baz=156						
N43A	**Stutzman Famil**	**71.79**	**342**	P		**P**	**23 11 32.3 +0.2**
	baz=159						
O40A	**La Belle**	**71.81**	**340**	P		**P**	**23 11 32.6 +0.3**
	baz=157						
P38A	**Dawn**	**71.88**	**338**	P		**P**	**23 11 32.7 0.0**
	baz=155						
N42A	**Yates City**	**71.92**	**341**	P		**P**	**23 11 32.9 0.0**
	baz=158						
M43A	**Waltham Townsh**	**72.19**	**343**	P		**P**	**23 11 34.9 +0.4**
	baz=159						
N40A	**Mertquake, Sal**	**72.42**	**340**	P		**P**	**23 11 36.2 +0.4**
	baz=157						
KSU1	**Kansas State U**	**72.46**	**336**	P		**P**	**23 11 36.7 +0.6**
	baz=152						
N39A	**Derby Farms, D**	**72.69**	**340**	P		**P**	**23 11 37.7 +0.3**
	baz=156						
LONY	**Lake Ozonia**	**72.71**	**354**	P		**P**	**23 11 37.6 +0.1**
	baz=173						
L43A	**Garden Prairie**	**72.84**	**343**	P		**P**	**23 11 38.5 +0.2**
	baz=160						
M40A	**Post Highland**	**72.88**	**341**	P		**P**	**23 11 38.6 0.0**
	baz=157						
ANMO	**Albuquerque**	**73.12**	**327**	P		**P**	**23 11 41.5 +1.0**
	comp=Z,0.3nm,0.3s,baz=358,slow=6.9,SNR=3.9						
ANMO	**Albuquerque**	**73.12**	**327**	P		**P**	**23 11 42.0 +1.6**
	baz=144						
ANMO	**Albuquerque**	**73.12**	**327**	*e*P		**P**	**23 11 41.6 +1.2**
	comp=Z,1.0nm,0.7s						
K43A	**Burlington**	**73.22**	**343**	P		**P**	**23 11 40.7 +0.2**
	baz=160						
M38A	**Pleasantville**	**73.40**	**339**	P		**P**	**23 11 41.8 +0.2**
	baz=156						
L40A	**Anamosa**	**73.40**	**341**	P		**P**	**23 11 42.1 +0.5**
	baz=157						
O34A	**Beatrice**	**73.45**	**336**	P		**P**	**23 11 42.5 +0.6**
	baz=152						
K42A	**Prairie Point,**	**73.55**	**343**	P		**P**	**23 11 42.5 +0.1**
	baz=159						
M37A	**Trindle Farm,**	**73.66**	**339**	P		**P**	**23 11 44.0 +0.9**
	baz=155						
O33A	**Hebron**	**73.68**	**336**	P		**P**	**23 11 44.2 +0.9**
	baz=152						
L39A	**Vinton**	**73.68**	**341**	P		**P**	**23 11 43.5 +0.2**
	baz=157						
J43A	**Natural Harves**	**73.88**	**344**	P		**P**	**23 11 44.6 +0.2**
	baz=160						
JFWS	**Jewell Farm**	**73.92**	**342**	P		**P**	**23 11 44.7 +0.1**
	baz=158						
M36A	**Felix, Anita**	**73.94**	**338**	P		**P**	**23 11 45.6 +0.8**
	baz=154						
T25A	**Trinidad**	**73.95**	**329**	P		**P**	**23 11 47.0 +1.8**
	baz=146						
K39A	**Oelwein**	**74.18**	**341**	P		**P**	**23 11 46.2 +0.1**
	baz=157						
L37A	**Phoenix Point,**	**74.22**	**339**	P		**P**	**23 11 46.6 +0.3**
	baz=155						
J41A	**Loganville**	**74.28**	**342**	P		**P**	**23 11 47.2 +0.6**
	baz=159						
I42A	**Draeger Farm,**	**74.48**	**343**	P		**P**	**23 11 48.2 +0.4**
	baz=160						
L36A	**Harm Buss Farm**	**74.48**	**339**	P		**P**	**23 11 48.4 +0.6**
	baz=154						
J40A	**Soldiers Grove**	**74.50**	**342**	P		**P**	**23 11 48.4 +0.5**
	baz=158						
J39A	**Decorah**	**74.71**	**341**	P		**P**	**23 11 49.3 +0.2**
	baz=157						
L35A	**Bielow Farm, R**	**74.78**	**338**	P		**P**	**23 11 50.4 +0.8**
	baz=154						
I41A	**Arkdale**	**74.88**	**343**	P		**P**	**23 11 50.4 +0.3**
	baz=159						
K36A	**Gilmore City**	**74.90**	**339**	P		**P**	**23 11 50.6 +0.3**
	baz=155						
J38A	**Wedel Dairy, R**	**74.92**	**341**	P		**P**	**23 11 50.7 +0.3**
	baz=156						
SDCO	**Great Sand Dun**	**74.94**	**329**	P		**P**	**23 11 52.6 +1.6**
	baz=145						
SDCO	**Great Sand Dun**	**74.94**	**329**	*e*P		**P**	**23 11 52.8 +1.8**
	comp=Z,1.4nm,0.8s						
I39A	**Houston**	**75.14**	**342**	P		**P**	**23 11 51.5 -0.1**
	baz=157						
J37A	**Redenius Farm,**	**75.23**	**340**	P		**P**	**23 11 52.5 +0.3**
	baz=156						
K34A	**Le Mars**	**75.47**	**338**	P		**P**	**23 11 54.2 +0.7**
	baz=153						
I38A	**Seanlan Farm,**	**75.54**	**341**	P		**P**	**23 11 54.6 +0.7**
	baz=157						
H40A	**Chili**	**75.54**	**343**	P		**P**	**23 11 54.3 +0.4**
	baz=158						
G42A	**Mountain**	**75.63**	**344**	P		**P**	**23 11 54.7 +0.3**
	baz=160						
Q24A	**Divide**	**75.78**	**330**	P		**P**	**23 11 57.4 +1.6**
	baz=145						
I37A	**Lemond, Waseca**	**75.83**	**340**	P		**P**	**23 11 56.4 +0.9**
	baz=156						
E45A	**Wooded Hills,**	**75.97**	**347**	P		**P**	**23 11 56.8 +0.5**
	baz=163						
WUAZ	**Wupatki**	**76.06**	**324**	P		**P**	**23 11 59.7 +2.4**
	baz=140						
I35A	**Creekview Farm**	**76.17**	**339**	P		**P**	**23 11 58.0 +0.6**
	baz=154						
F41A	**Three Lakes**	**76.26**	**344**	P		**P**	**23 11 58.4 +0.5**
	baz=160						
G39A	**Holcombe**	**76.37**	**342**	P		**P**	**23 11 58.9 +0.3**
	baz=158						
G38A	**Ridgeland**	**76.44**	**342**	P		**P**	**23 11 59.2 +0.2**
	baz=157						
H36A	**Jessenland, He**	**76.50**	**340**	P		**P**	**23 12 00.3 +1.0**
	baz=155						
ECSD	**EROS Data Cent**	**76.58**	**338**	P		**P**	**23 12 00.3 +0.5**
	baz=153						
ECSD	**EROS Data Cent**	**76.58**	**338**	*e*P		**P**	**23 12 00.3 +0.5**
	comp=Z,6.2nm,1.0s						
E42A	**Champion**	**76.63**	**345**	P		**P**	**23 12 00.5 +0.5**
	baz=161						
ISCO	**Idaho Springs**	**76.68**	**330**	P		**P**	**23 12 02.3 +1.5**
	baz=145						
F40A	**Park Falls**	**76.68**	**343**	P		**P**	**23 12 00.9 +0.6**
	baz=159						
H35A	**Sunnyside Ranc**	**76.88**	**340**	P		**P**	**23 12 01.8 +0.4**
	baz=155						
F39A	**Loretta**	**76.88**	**343**	P		**P**	**23 12 01.7 +0.3**
	baz=158						
IRM	**Iron Mountain**	**77.09**	**320**	P		**P**	**23 12 05.0 +2.0**
	baz=137						
E40A	**Wakefield**	**77.12**	**344**	P		**P**	**23 12 03.4 +0.7**
	baz=159						
H34A	**Spellman Lake,**	**77.14**	**339**	P		**P**	**23 12 03.9 +1.0**
	baz=154						
F37A	**Hinrichs Farm,**	**77.17**	**342**	P		**P**	**23 12 03.8 +0.8**
	baz=157						
F38A	**Pice - Schro**	**77.18**	**342**	P		**P**	**23 12 03.8 +0.7**
	baz=157						
E39A	**Mellen**	**77.22**	**343**	P		**P**	**23 12 03.3 0.0**
	baz=158						
D41A	**Chassel**	**77.37**	**345**	P		**P**	**23 12 04.9 +0.8**
	baz=160						
H33A	**Prehn Over Nor**	**77.47**	**338**	P		**P**	**23 12 05.5 +0.7**
	baz=153						
F36A	**Milaca**	**77.55**	**341**	P		**P**	**23 12 05.5 +0.4**
	baz=156						
N23A	**Red Feather La**	**77.72**	**331**	P		**P**	**23 12 07.3 +0.8**
	baz=145						
TOA0	**Torodi Ar. Sit**	**77.74**	**68**	*e*P		**P**	**23 12 06.2 -0.6**
TORD	**Torodi Ar. Bea**	**77.74**	**68**	P		**P**	**23 12 05.6 -1.3**
	comp=Z,0.8nm,0.6s,baz=272,slow=5.3,SNR=15						
TORD				pP		**pP**	**23 12 47.6 +0.6**
	comp=Z,0.6nm,0.7s,baz=266,slow=5.2,SNR=2.5						
E36A	**McGregor**	**78.07**	**342**	P		**P**	**23 12 08.6 +0.6**
	baz=156						
O20A	**White River Ci**	**78.13**	**329**	P		**P**	**23 12 10.2 +1.4**
	baz=143						
D37A	**Cotton**	**78.43**	**342**	P		**P**	**23 12 10.2 +0.2**
	baz=157						
C39A	**Grand Marais**	**78.45**	**344**	P		**P**	**23 12 10.5 +0.4**
	baz=159						
TUQ	**Turquoise Moun**	**78.46**	**321**	P		**P**	**23 12 13.3 +2.7**
	baz=137						
BOSA	**Boshof**	**78.59**	**116**	P		**P**	**23 12 11.1 -0.5**
	comp=Z,3.1nm,0.6s,baz=243,slow=3.7,SNR=11						
C38A	**Sawbill Land.**	**78.64**	**343**	P		**P**	**23 12 11.1 0.0**
	baz=158						
C36A	**Pine Crest Far**	**79.09**	**342**	P		**P**	**23 12 14.4 +0.8**
	baz=157						
B35A	**Bob, Littlefor**	**79.88**	**342**	P		**P**	**23 12 18.4 +0.6**
	baz=156						
ISA	**Isabella, Lake**	**80.06**	**319**	P		**P**	**23 12 21.6 +2.4**
	baz=135						
PKM	**Mcpherson Peak**	**80.30**	**318**	P		**P**	**23 12 23.3 +2.7**
	baz=134						
DUG	**Dugway, Tooele**	**80.36**	**326**	P		**P**	**23 12 22.6 +1.8**
	baz=140						
DUG	**Dugway, Tooele**	**80.36**	**326**	*e*P		**P**	**23 12 22.6 +1.8**
	comp=Z,1.5nm,0.7s						
R11A	**Troy Canyon, C**	**80.40**	**323**	P		**P**	**23 12 22.9 +1.8**
	baz=138						
AGMN	**Agassiz Nation**	**80.43**	**341**	P		**P**	**23 12 21.4 +0.7**
	baz=154						
C31A	**Landman Farms,**	**80.55**	**339**	P		**P**	**23 12 21.9 +0.5**
	baz=152						
B32A	**Ashes, Strandq**	**80.72**	**340**	P		**P**	**23 12 22.7 +0.5**
	baz=154						
BW06	**Boulder Array**	**80.82**	**329**	P		**P**	**23 12 23.7 +0.4**
	baz=142						
PDAR	**Pinedale Array**	**80.82**	**329**	P		**P**	**23 12 24.4 +1.1**
	comp=Z,1.4nm,0.6s,baz=120,slow=6.8,SNR=16						
PDAR				pP		**pP**	**23 13 05.0 +1.3**
	comp=Z,0.1nm,0.3s,baz=172,slow=40,SNR=1.6						
A33A	**Warroad**	**80.87**	**341**	P		**P**	**23 12 23.7 +0.6**
	baz=154						
NVAR	**Mina Array Bea**	**81.93**	**322**	P		**P**	**23 12 31.1 +1.8**
	comp=Z,0.3nm,0.7s,baz=157,slow=4.9,SNR=3.6						
ULM	**Lac du Bonnet**	**82.19**	**342**	P		**P**	**23 12 30.2 +0.3**
	comp=Z,1.3nm,0.6s,baz=165,slow=6.9,SNR=4.3						
HLID	**Hailey**	**83.69**	**327**	P		**P**	**23 12 40.2 +2.1**
	baz=139						
HLID	**Hailey**	**83.69**	**327**	*e*P		**P**	**23 12 39.3 +1.2**
	comp=Z,2.0nm,0.6s						
WVOR	**Wild Horse Val**	**84.97**	**324**	*e*P		**P**	**23 12 48.4 +3.9**
	comp=Z,11nm,0.8s						
LSZ	**Lusaka**	**87.06**	**106**	*e*P		**P**	**23 12 56.7 +1.2**
	comp=Z,4.0nm,0.8s						
ESDC	**Sonseca Array**	**89.10**	**43**	P		**P**	**23 13 04.1 -0.3**
	comp=Z,0.1nm,0.3s,baz=224,slow=6.2,SNR=5.1						
YKA	**Yellowknife Ar**	**98.06**	**340**	P	Pdif		23 13 45.6 +0.8
	comp=Z,0.4nm,0.8s,baz=136,slow=4.4,SNR=7.3						
ASAR	**Alice Springs**	**124.88**	**203**	PKP		**PKPdf**	**23 19 08.1 -0.8**
	comp=Z,0.7nm,0.5s,baz=134,slow=1.7,SNR=6.8						
WRA	**Warramunga Arr**	**128.14**	**205**	PKP		**PKPdf**	**23 19 15.3 +0.2**
	comp=Z,0.7nm,0.6s,baz=162,slow=1.6,SNR=15						
WRA				pPKP		**pPKPdf**	**23 19 59.1 +0.8**
	comp=Z,0.8nm,0.7s,baz=175,slow=1.5,SNR=3.4						
KURBB	**Kurchatov Arra**	**145.36**	**40**	PKPbc		**PKPab**	**23 19 47.3 +1.0**
	comp=Z,2.5nm,0.7s,baz=301,slow=3.6,SNR=23						
KURK	**Kurchatov**	**145.37**	**40**	PKPbc		**PKPab**	**23 19 47.3 +1.0**
AAK	**Ala-Archa**	**145.43**	**55**	*e*PKPbc		**PKPab**	**23 19 47.9 +0.8**
ZALV	**Zalesovo Beam**	**146.76**	**31**	PKPbc		**PKPab**	**23 19 51.2 -0.3**
	comp=Z,2.5nm,0.4s,baz=296,slow=3.9,SNR=13						
ZALV				pPKPbc	pPKPbc		23 20 32.7 0.0
	comp=Z,1.0nm,0.4s,baz=312,slow=2.9,SNR=2.2						
MKAR	**Makanchi Array**	**149.32**	**44**	PKPbc		**PKPbc**	**23 19 57.9 +0.9**
	comp=Z,1.5nm,0.7s,baz=294,slow=3.2,SNR=18						
MKAR				pPKPbc		**pPKPbc**	**23 20 41.2 +1.3**
	comp=Z,0.7nm,0.6s,baz=295,slow=2.9,SNR=3.7						
SONM	**Songino Array**	**159.54**	**14**	PKPab		**PKPab**	**23 20 46.7 +1.2**
	comp=Z,0.7nm,0.8s,baz=324,slow=4.6,SNR=6.8						
LZH	**Lanzhou**	**168.63**	**43**	*e*PKP		**PKPdf**	**23 20 17.4 +2.1**
LZH				pPKP	pPKPdf		23 20 54.5 -4.3
LZH				sPKP			23 21 08.5
LZH				PKP		**PKPab**	**23 21 29.6 +3.5**

*ISCJB **20** 23:03:32.8±2.0, 16°.10N±0°.06×98°.30W±0°.04, h4km±14km, mb3.9/15, Error ellipse: s-maj=11.1km s-min=5.5km az=21.8*
*MEX **20** 23:03:32.9±0.4, 15°.89N×98°.53W, h9km±6km, MD4.0*
*IDC **20** 23:03:33.6±2.1, 16°.13N×98°.27W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.6/44, mbtmp3.5/7, ML3.8/2, Error ellipse: s-maj=42.2km s-min=18.9km az=1.0*
*NEIC **20** 23:03:33.5±0.0, 15°.87N×98°.53W, h15km, mb4.2/12, MD4.3(MEX), After MEX.*

ISC 20 23:03:33.3±1.7, 16°.02N±0°.05×98°.45W±0°.03, h8km±10km, n39,σ2s50/59, mb4.2/15, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.54**	**356**	*e*P			**Pn**	**23 03 58.9**	**-2.4**
TLIG				*e*S			**Sg**	**23 04 19.1**	**-3.8**
TLIG	**Tlapa**	**1.54**	**356**	*e*P			**Pn**	**23 03 58.9**	**-2.4**
TLIG				*e*S			**Sg**	**23 04 19.1**	**-3.8**
ACX	**Acapulco**	**1.60**	**302**	*e*P			**Pg**	**23 04 05.9**	**+1.9**
ACX				*e*S			**Sg**	**23 04 26.0**	**+1.3**
VHO	**Vista Hermosa**	**1.95**	**57**	*e*P			**Pn**	**23 04 05.4**	**-1.6**
VHO				*i* S			**Sn**	**23 04 29.7**	**-2.1**
VHO	**Vista Hermosa**	**1.95**	**57**	*e*P			**Pn**	**23 04 05.4**	**-1.6**
VHO				*i* S			**Sn**	**23 04 29.7**	**-2.1**
CAIG	**El Cayaco**	**2.02**	**301**	*e*P			**Pn**	**23 04 04.5**	**-3.3**
CAIG				*e*S			**Sn**	**23 04 28.0**	**-5.4**
CAIG	**El Cayaco**	**2.02**	**301**	*e*P			**Pn**	**23 04 05.5**	**-2.3**
CAIG				*e*S			**Sn**	**23 04 28.0**	**-5.4**
HUIG	**Huatulco**	**2.26**	**96**	*e*P			**Pn**	**23 04 08.7**	**-2.4**
HUIG				*i* S			**Sn**	**23 04 35.4**	**-3.8**
HUIG	**Huatulco**	**2.26**	**96**	*e*P			**Pn**	**23 04 08.7**	**-2.4**
HUIG				*i* S			**Sn**	**23 04 35.4**	**-3.8**
PLIG	**Platanillo**	**2.57**	**337**	*e*P			**Pn**	**23 04 13.4**	**-2.0**
PLIG				*i* S			**Sn**	**23 04 44.9**	**-2.0**
PLIG	**Platanillo**	**2.57**	**337**	*e*P			**Pn**	**23 04 14.4**	**-1.0**
PLIG				*i* S			**Sn**	**23 04 44.9**	**-2.0**
TPIG	**Tehuac#an**	**2.60**	**23**	*e*P			**Pn**	**23 04 14.8**	**-1.2**
TPIG				*i* S			**Sn**	**23 04 47.1**	**-0.7**
TPIG	**Tehuac#an**	**2.60**	**23**	*e*P			**Pn**	**23 04 14.8**	**-1.2**
TPIG				*i* S			**Sn**	**23 04 47.1**	**-0.7**
YAIG	**Yautepec**	**2.89**	**348**	*e*P			**Pn**	**23 04 17.7**	**-2.2**
YAIG				*i* S			**Sn**	**23 04 53.9**	**-1.0**
YAIG	**Yautepec**	**2.89**	**348**	*e*P			**Pn**	**23 04 19.6**	**-0.3**
YAIG				*i* S			**Sn**	**23 04 53.9**	**-1.0**
ARIG	**Puente Sto Nin**	**2.89**	**321**	*e*P			**Pn**	**23 04 17.2**	**-2.6**
ARIG				*i* S			**Sn**	**23 04 51.7**	**-3.1**
ARIG	**Puente Sto Nin**	**2.89**	**321**	*e*P			**Pn**	**23 04 18.2**	**-1.5**
ARIG

JAR	**Ashorobuto**	**2.61**	**337**	P	Pn	23 21 27.8	+0.5
JAR				S	Sn	23 21 57.4	-0.4
JNK	**Nakash**	**2.69**	**353**	P	Pn	23 21 29.0	+0.5
JNK				S	Sn	23 21 58.7	-1.3
JBT2	**Biratori 2**	**2.81**	**313**	P	Pn	23 21 32.4	+2.3
JBT2				S	Sn	23 22 04.4	+1.6
JANG	**Nango**	**2.84**	**260**	P	Pn	23 21 30.2	-0.3
JANG				*e*S	Sn	23 21 59.9	-3.6
JFR	**Furan**	**2.96**	**320**	*e*S	Sn	23 22 05.1	-1.4
JOT	**Ohata**	**3.16**	**280**	P	Pn	23 21 35.2	+0.5
JOT				S	Sn	23 22 09.0	-2.2
JTKR	**Abashiri--Toko**	**3.20**	**343**	P	Pn	23 21 37.5	+2.2
JTKR				*e*S	Sn	23 22 13.2	+0.9
JKB	**Kayabe**	**3.27**	**289**	P	Pn	23 21 37.4	+1.1
JKB				*e*S	Sn	23 22 12.8	-1.2
JOM	**Ohasama**	**3.31**	**246**	P	Pn	23 21 37.5	+0.7
JOM				S	Sn	23 22 12.6	-2.3
JEW	**Eniwo**	**3.39**	**306**	P	Pn	23 21 40.5	+2.6
JEW				*e*S	Sn	23 22 16.9	0.0

ISCJB ***20*** *23:23:54.4±1.5,36˚4N±0˚1×70˚3E±0˚2,h110km,mb3.5/2, Error ellipse: s-maj=23.1km s-min=10.2km az=35.3*
NNC ***20*** *23:24:09.2±5.6,37˚18N×70˚59E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=43.4km s-min=37.0km az=165.0*
IDC ***20*** *23:24:10.5±16.0,36˚42N×71˚91E,h326km±193km, mb2.8/2,mb1 2.5/6,mb1mx2.3/65,mbtmp3.3/6, Error ellipse: s-maj=84.7km s-min=65.1km az=49.0*

ISC 20 23:23:57.3±1.9,**36˚4N**±0˚2×**70˚2E**±0˚2,**h110**km,**n10,** σ3=**01**/12,**4C-4D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.43**	**34**	⇓Pn	**Pn**	**23 25 06.8**	**+4.1**
	2.6nm,0.5s						
SFK				⇓Sn	**Sn**	**23 25 52.8**	**-0.6**
	8.9nm,0.3s						
MNAS	**Manas**	**6.33**	**15**	⇓Pn	**Pn**	**23 25 33.0**	**+4.7**
	0.5nm,0.3s						
MNAS				⇓Sn	**Sn**	**23 26 37.9**	**-1.4**
	2.4nm,0.5s						
KK31	**Karatay Array**	**6.71**	**2**	⇑Pn	Pn	23 25 40.7	+7.5
	0.4nm,0.3s,baz=173,slow=12,SNR=23						
KK31				⇑Sn	**Sn**	**23 26 47.9**	**-0.2**
	0.7nm,0.3s,baz=184,slow=22,SNR=7.6						
AAK	**Ala-Archa**	**7.05**	**26**	⇑Pn	**Pn**	**23 25 39.9**	**+2.0**
	1.8nm,0.9s						
AAK				⇑Sn	**Sn**	**23 26 53.6**	**-3.1**
	3.0nm,0.6s						
MKAR	**Makanchi Array**	**13.74**	**37**	P	**Pn**	**23 27 04.6**	**-2.8**
	0.1nm,0.3s,baz=212,slow=12,SNR=5.0						
KURBB	**Kurchatov Arra**	**15.43**	**20**	P	**Pn**	**23 27 24.4**	**-4.3**
	0.0nm,0.3s,baz=204,slow=11,SNR=2.6						
BVAR	**Borovoye Array**	**16.63**	**0**	P	**Pn**	**23 27 43.6**	**0.0**
	0.1nm,0.3s,baz=178,slow=7.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**20.27**	**25**	P	P	23 28 16.3	-7.6
	0.3nm,0.3s,baz=207,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**23 30 57.4**	**-0.4**
	0.8nm,0.7s,baz=98,slow=8.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**65.11**	**268**	P	**P**	**23 34 25.8**	**-0.8**
	0.2nm,0.4s,baz=68,slow=6.3,SNR=5.9						

PDG ***20*** *23:51:08.7±0.4,36˚17N×23˚52E,h10km±1km,ML4.7/12, Error ellipse: s-maj=11.3km s-min=5.0km az=90.0*
ISCJB ***20*** *23:51:08.4±0.1,36˚04N±0˚01×24˚39E±0˚01,h91km±1km, mb4.6/67,Error ellipse: s-maj=2.4km s-min=1.6km az=25.8*
CSEM ***20*** *23:51:09.5±0.1,36˚05N×24˚34E,h88km±1km,mb5.0/14, Error ellipse: s-maj=3.9km s-min=2.3km az=19.0*
ATH ***20*** *23:51:09.2,36˚05N×24˚40E,h68km±3km,ML4.6/20,Error ellipse: s-maj=3.6km s-min=0.7km az=172.0*
HLW ***20*** *23:51:09.0,35˚91N×24˚86E,h13km±19km,Md4.7,Ml4.6*
IDC ***20*** *23:51:09.1±0.9,36˚16N×24˚41E,h80km±8km,mb4.2/28, mb1 4.2/36,mb1mx4.1/66,mbtmp4.5/36,MS3.8/1, Ms1 3.8/1,ms1mx2.8/64,Error ellipse: s-maj=11.3km s-min=9.4km az=179.0*
DDA ***20*** *23:51:10.4,36˚45N×24˚74E,h3km,Ml4.4*
THE ***20*** *23:51:10.7,36˚04N×24˚40E,h71km±2km,ML4.5/26,Error ellipse: s-maj=2.0km s-min=0.4km az=147.0*
MOS ***20*** *23:51:10.2±1.2,36˚22N×24˚39E,h99km,mb4.8/22,Error ellipse: s-maj=5.2km s-min=3.2km az=89.6*
NEIC ***20*** *23:51:10.7±0.0,36˚04N×24˚40E,h71km,mb4.5/43, ML4.5(THE),After THE.*
NEIC Felt at Chania and Irakleion.
ISK ***20*** *23:51:11.5,36˚17N×24˚57E,h40km,ML4.2/16*
GII ***20*** *23:51:14.7±0.0,35˚50N×25˚20E,h15km*
NIC ***20*** *23:51:16.8±0.5,35˚87N×25˚36E,h86km,mb5.0,ML4.6*

ISC 20 23:51:08.6±0.4,**36˚03N**±0˚03×**24˚39E**±0˚02,**h83**km±3km, **h83**km:**pP-P,n906,** σ2=**14**/1102,**mb4.6**/67,**44C-35D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMMV	**Iera Moni Meta**	**0.66**	**211**	P	**Pn**	**23 51 25.4**	**+1.3**
IMMV				S	**Sn**	**23 51 34.6**	**-1.0**
IMMV				AML	AML	23 51 38.4	
	comp=N,91551μm,0.5s						
IMMV				AML	AML	23 51 39.9	
	comp=E,53575μm,0.6s						
IMMV	**Iera Moni Meta**	**0.66**	**211**	P	**Pn**	**23 51 24.9**	**+0.8**
IMMV				S	**Sn**	**23 51 35.0**	**-0.6**
IMMV	**Iera Moni Meta**	**0.66**	**211**	P	**Pn**	**23 51 25.1**	**+1.0**
IMMV				S	**Sn**	**23 51 35.5**	**-0.1**
MHLO	**Agia Marina, M**	**0.66**	**1**	P	**Pn**	**23 51 25.4**	**+1.2**
MHLA	**Plaka, Milos I**	**0.72**	**2**	P	**Pn**	**23 51 26.3**	**+1.6**
MHLA				S	**Sn**	**23 51 37.5**	**+0.8**
MHLA	**Plaka, Milos I**	**0.72**	**2**	P	**Pn**	**23 51 25.4**	**+0.7**
MHLA				S	**Sn**	**23 51 36.6**	**-0.1**
IDI	**Anoyia**	**0.84**	**151**	P	**Pn**	**23 51 26.8**	**+0.7**
	comp=E,821nm,0.3s,baz=331,slow=4.9,SNR=5294						
IDI				S	**Sn**	**23 51 38.6**	**-0.6**
IDI	**Anoyia**	**0.84**	**151**	*e*Pn	**Pn**	**23 51 26.7**	**+0.6**
IDI				*e*Sn	**Sn**	**23 51 37.7**	**-1.5**
IDI	**Anoyia**	**0.84**	**151**	*e*Pn	**Pn**	**23 51 26.7**	**+0.6**
IDI				*e*Sn	**Sn**	**23 51 37.7**	**-1.5**
THR5	**Thira Island,**	**0.86**	**63**	P	**Pn**	**23 51 27.3**	**+1.0**
THR5	**Thira Island,**	**0.86**	**63**	P	**Pn**	**23 51 27.3**	**+1.0**
THR6	**Thira Island,**	**0.88**	**68**	P	**Pn**	**23 51 27.7**	**+1.3**
THR6	**Thira Island,**	**0.88**	**68**	P	**Pn**	**23 51 27.7**	**+1.3**
THR6	**Thira Island,**	**0.88**	**68**	P	**Pn**	**23 51 27.7**	**+1.3**
ANKY	**Antikythira Is**	**0.90**	**260**	P	**Pn**	**23 51 28.1**	**+1.4**
ANKY				S	**Sn**	**23 51 39.5**	**-0.6**
ANKY				AML	AML	23 51 43.8	
	comp=N,38032μm,0.7s						
ANKY				AML	AML	23 51 48.5	
	comp=E,28757μm,0.8s						
ANKY	**Antikythira Is**	**0.90**	**260**	P	**Pn**	**23 51 27.9**	**+1.2**
ANKY				S	**Sn**	**23 51 41.8**	**+1.6**
ANKY	**Antikythira Is**	**0.90**	**260**	P	**Pn**	**23 51 27.7**	**+1.1**
ANKY				S	**Sn**	**23 51 40.0**	**-0.2**
ANKY	**Antikythira Is**	**0.90**	**260**	P	**Pn**	**23 51 27.8**	**+1.1**
ANKY				S	**Sn**	**23 51 41.8**	**+1.6**
THR3	**Thira Island,**	**0.90**	**65**	P	**Pn**	**23 51 28.0**	**+1.3**
THR3	**Thira Island,**	**0.90**	**65**	P	**Pn**	**23 51 28.0**	**+1.3**
IACM	**Heraklion**	**0.91**	**142**	P	**Pn**	**23 51 27.8**	**+1.1**
IACM				S	**Sn**	**23 51 40.2**	**-0.1**
IACM	**Heraklion**	**0.91**	**142**	P	**Pn**	**23 51 27.6**	**+0.8**
IACM				S	**Sn**	**23 51 41.3**	**+1.0**
IACM	**Heraklion**	**0.91**	**142**	P	**Pn**	**23 51 27.8**	**+1.1**
IACM				S	**Sn**	**23 51 41.3**	**+1.0**
SAP4	**Santorini-Oia**	**0.91**	**60**	P	**Pn**	**23 51 28.0**	**+1.2**
SAP4				S	**Sn**	**23 51 40.9**	**+0.6**
SAP4	**Santorini-Oia**	**0.91**	**60**	P	**Pn**	**23 51 28.0**	**+1.2**
SAP4				S	**Sn**	**23 51 40.9**	**+0.6**
THT1	**Athinios (Pele**	**0.91**	**67**	P	**Pn**	**23 51 27.8**	**+1.0**
THT1				S	**Sn**	**23 51 40.4**	**0.0**
THT1	**Athinios (Pele**	**0.91**	**67**	P	**Pn**	**23 51 27.8**	**+1.0**
THT1				S	**Sn**	**23 51 40.4**	**0.0**
THR7	**Fira-Santorini**	**0.93**	**64**	P	**Pn**	**23 51 28.5**	**+1.5**
THR7	**Fira-Santorini**	**0.93**	**64**	P	**Pn**	**23 51 28.5**	**+1.5**
SANT	**Santorini**	**0.93**	**68**	P	**Pn**	**23 51 28.6**	**+1.5**
SANT				S	**Sn**	**23 51 40.7**	**-0.2**
SANT				AML	AML	23 51 42.4	
SANT				AML	AML	23 51 42.6	
SANT	**Santorini**	**0.93**	**68**	*e*Pn	**Pn**	**23 51 28.2**	**+1.1**
SANT				*e*Sn	**Sn**	**23 51 40.6**	**-0.2**
SANT	**Santorini**	**0.93**	**68**	P	**Pn**	**23 51 28.2**	**+1.1**
SANT				*e*Sn	**Sn**	**23 51 40.6**	**-0.2**
SANT	**Santorini**	**0.93**	**68**	P	**Pn**	**23 51 28.2**	**+1.1**
SANT				S	**Sn**	**23 51 41.1**	**+0.3**
SANT	**Santorini**	**0.93**	**68**	P	**Pn**	**23 51 28.2**	**+1.1**
SANT				S	**Sn**	**23 51 41.1**	**+0.3**
SAP2K	**Karterados**	**0.93**	**65**	P	**Pn**	**23 51 28.6**	**+1.5**
SAP2K				S	**Sn**	**23 51 42.0**	**+1.1**
IOSP	**Ios island**	**1.00**	**46**	P	**Pn**	**23 51 29.2**	**+1.3**
IOSP				S	**Sn**	**23 51 41.6**	**-0.7**
IOSP				AML	AML	23 51 42.5	
IOSP				AML	AML	23 51 42.8	
IOSP	**Ios island**	**1.00**	**46**	P	**Pn**	**23 51 28.7**	**+0.8**
IOSP				S	**Sn**	**23 51 41.8**	**-0.5**
SIVA	**Sivas**	**1.06**	**161**	P	**Pn**	**23 51 30.7**	**+2.1**
SIVA				S	**Sn**	**23 51 44.1**	**+0.6**
SIVA				AML	AML	23 51 50.0	
	comp=N,94245μm,0.5s						
SIVA				AML	AML	23 51 51.6	
SIVA	**Sivas**	**1.06**	**161**	P	**Pn**	**23 51 30.0**	**+1.4**
SIVA				S	**Sn**	**23 51 44.4**	**+0.9**
SIVA	**Sivas**	**1.06**	**161**	P	**Pn**	**23 51 30.0**	**+1.4**
SIVA				S	**Sn**	**23 51 44.4**	**+0.9**
SIVA	**Sivas**	**1.06**	**161**	P	**Pn**	**23 51 30.0**	**+1.4**
SIVA				S	**Sn**	**23 51 44.3**	**+0.8**
KYTH	**Kithira**	**1.11**	**283**	P	**Pn**	**23 51 30.6**	**+1.4**
KYTH				S	**Sn**	**23 51 44.5**	**-0.2**
KYTH				AML	AML	23 51 45.9	
	comp=N,33091μm,0.6s						
KYTH				AML	AML	23 51 46.9	
	comp=E,21931μm,0.4s						
KYTH	**Kithira**	**1.11**	**283**	P	**Pn**	**23 51 30.6**	**+1.4**
KYTH				S	**Sn**	**23 51 45.4**	**+0.7**
KYTH	**Kithira**	**1.11**	**283**	P	**Pn**	**23 51 30.6**	**+1.4**
KYTH				S	**Sn**	**23 51 45.4**	**+0.7**
ANAF	**Anafi Island**	**1.16**	**73**	P	**Pn**	**23 51 31.3**	**+1.5**
ANAF				S	**Sn**	**23 51 44.5**	**-1.2**
ANAF				AML	AML	23 51 46.7	
ANAF				AML	AML	23 51 49.0	
ANAF	**Anafi Island**	**1.16**	**73**	P	**Pn**	**23 51 30.8**	**+1.0**
ANAF				S	**Sn**	**23 51 45.2**	**-0.6**
GVD	**Gavdhos**	**1.21**	**192**	P	**Pn**	**23 51 32.4**	**+2.0**
GVD				S	**Sn**	**23 51 47.8**	**+1.0**
GVD				AML	AML	23 51 56.5	
	comp=N,46274μm,0.8s						
GVD				AML	AML	23 51 58.9	
	comp=E,45940μm,0.7s						
GVD	**Gavdhos**	**1.21**	**192**	P	**Pn**	**23 51 32.2**	**+1.8**
GVD	**Gavdhos**	**1.21**	**192**	P	**Pn**	**23 51 32.0**	**+1.6**
GVD				S	**Sn**	**23 51 47.8**	**+1.0**
GVD	**Gavdhos**	**1.21**	**192**	P	**Pn**	**23 51 32.2**	**+1.8**
LAST	**Lasithi**	**1.24**	**134**	P	**Pn**	**23 51 32.5**	**+1.7**
LAST				S	**Sn**	**23 51 47.1**	**-0.4**
LAST				AML	AML	23 51 48.9	
	comp=E,49290μm,0.4s						
LAST				AML	AML	23 51 49.2	
	comp=N,52945μm,0.4s						
LAST	**Lasithi**	**1.24**	**134**	P	**Pn**	**23 51 32.2**	**+1.4**
LAST				S	**Sn**	**23 51 47.8**	**+0.3**
LAST	**Lasithi**	**1.24**	**134**	P	**Pn**	**23 51 32.2**	**+1.4**
LAST				S	**Sn**	**23 51 47.8**	**+0.3**
LAST	**Lasithi**	**1.24**	**134**	P	**Pn**	**23 51 32.2**	**+1.4**
LAST				S	**Sn**	**23 51 47.8**	**+0.3**
NPS	**Neapolis**	**1.25**	**127**	P	**Pn**	**23 51 31.6**	**+0.7**
NPS	**Neapolis**	**1.25**	**127**	P	**Pn**	**23 51 31.2**	**+0.3**
NPS				S	**Sn**	**23 51 47.0**	**-0.7**
NPS				AML	AML	23 51 50.3	
	comp=N,33116μm,0.2s						
NPS				AML	AML	23 51 51.7	
	comp=E,57112μm,0.5s						
NPS	**Neapolis**	**1.25**	**127**	P	**Pn**	**23 51 31.6**	**+0.7**
NPS				S	**Sn**	**23 51 47.8**	**+0.1**
NPS	**Neapolis**	**1.25**	**127**	P	**Pn**	**23 51 31.6**	**+0.7**
NPS				S	**Sn**	**23 51 47.8**	**+0.1**
NPS	**Neapolis**	**1.25**	**127**	P	**Pn**	**23 51 31.6**	**+0.7**
NPS				S	**Sn**	**23 51 47.8**	**+0.1**
MNVA	**Monemvasia**	**1.28**	**301**	P	**Pn**	**23 51 33.3**	**+2.1**
MNVA				S	**Sn**	**23 51 47.4**	**-0.8**
MNVA				AML	AML	23 51 49.5	
	comp=E,25114μm,0.9s						
MNVA				AML	AML	23 51 49.6	
	comp=N,15344μm,0.8s						
MNVA	**Monemvasia**	**1.28**	**301**	P	**Pn**	**23 51 32.7**	**+1.5**
MNVA				S	**Sn**	**23 51 48.1**	**-0.1**
VLI	**Veliai**	**1.36**	**301**	P	**Pn**	**23 51 33.9**	**+1.7**
VLI				S	**Sn**	**23 51 49.7**	**-0.4**
VLI				AML	AML	23 51 50.6	
	comp=N,40420μm,0.7s						
VLI				AML	AML	23 51 51.9	
	comp=E,24288μm,0.5s						
VLI	**Veliai**	**1.36**	**301**	P	**Pn**	**23 51 33.7**	**+1.4**
VLI				S	**Sn**	**23 51 50.5**	**+0.4**
VLI	**Veliai**	**1.36**	**301**	P	**Pn**	**23 51 33.5**	**+1.2**
VLI				S	**Sn**	**23 51 50.2**	**+0.1**
VLI	**Veliai**	**1.36**	**301**	P	**Pn**	**23 51 33.7**	**+1.4**
VLI				S	**Sn**	**23 51 50.4**	**+0.4**
APE	**Apeiranthos**	**1.39**	**41**	PN	**Pn**	**23 51 32.7**	**+0.1**
APE	**Apeiranthos**	**1.39**	**41**	P	**Pn**	**23 51 33.4**	**+0.8**
APE				S	**Sn**	**23 51 51.0**	**+0.2**
APE	**Apeiranthos**	**1.39**	**41**	P	**Pn**	**23 51 33.1**	**+0.5**
APE				S	**Sn**	**23 51 50.2**	**-0.5**
APE				AML	AML	23 51 51.3	
	comp=N,42451μm,0.6s						
APE				AML	AML	23 51 52.1	
	comp=E,21641μm,0.5s						
APE	**Apeiranthos**	**1.39**	**41**	P	**Pn**	**23 51 33.4**	**+0.8**
APE				S	**Sn**	**23 51 51.0**	**+0.2**
APE	**Apeiranthos**	**1.39**	**41**	*e*Pn	**Pn**	**23 51 32.7**	**+0.1**
APE	**Apeiranthos**	**1.39**	**41**	P	**Pn**	**23 51 33.4**	**+0.8**
APE				S	**Sn**	**23 51 51.0**	**+0.2**
APE	**Apeiranthos**	**1.39**	**41**	P	**Pn**	**23 51 33.3**	**+0.7**
APE				S	**Sn**	**23 51 51.0**	**+0.2**
VDRA	**Hydra**	**1.52**	**331**	P	**Pn**	**23 51 36.0**	**+1.8**
VDRA				S	**Sn**	**23 51 52.9**	**-0.7**
VDRA				AML	AML	23 51 56.6	
	comp=N,12460μm,0.6s						
VDRA				AML	AML	23 51 58.2	
	comp=E,16715μm,1.0s						
VDRA	**Hydra**	**1.52**	**331**	P	**Pn**	**23 51 35.6**	**+1.4**
VDRA				S	**Sn**	**23 51 53.5**	**-0.1**
TNSA	**Tinos**	**1.63**	**22**	P	**Pn**	**23 51 37.0**	**+1.3**
TNSA	**Tinos**	**1.63**	**22**	P	**Pn**	**23 51 36.9**	**+1.2**
KRND	**KRANIDI**	**1.68**	**324**	P	**Pn**	**23 51 38.0**	**+1.6**
KRND				S	**Sn**	**23 51 58.1**	**+0.6**
KRND				AML	AML	23 52 00.3	
	comp=N,14334μm,0.8s						
KRND				AML	AML	23 52 00.8	
	comp=E,12545μm,0.4s						
KRND	**KRANIDI**	**1.68**	**324**	P	**Pn**	**23 51 37.8**	**+1.4**
KRND				S	**Sn**	**23 51 58.1**	**+0.6**
KRND	**KRANIDI**	**1.68**	**324**	P	**Pn**	**23 51 37.9**	**+1.5**
KRND				S	**Sn**	**23 51 58.7**	**+1.2**
DID	**Didima**	**1.74**	**328**	P	**Pn**	**23 51 38.3**	**+1.0**
DID				S	**Sn**	**23 51 58.7**	**-0.3**
DID				AML	AML	23 52 00.5	
	comp=N,8968μm,0.6s						
DID				AML	AML	23 52 00.9	
	comp=E,10585μm,0.3s						
DID	**Didima**	**1.74**	**328**	P	**Pn**	**23 51 38.5**	**+1.2**
DID				S	**Sn**	**23 51 59.7**	**+0.7**
DID	**Didima**	**1.74**	**328**	P	**Pn**	**23 51 38.3**	**+1.0**
DID				S	**Sn**	**23 51 59.2**	**+0.2**
DID	**Didima**	**1.74**	**328**	P	**Pn**	**23 51 38.5**	**+1.2**
DID				S	**Sn**	**23 51 59.7**	**+0.7**
ZKR	**Zakros**	**1.74**	**121**	PN	**Pn**	**23 51 39.9**	**+2.7**
ZKR				SN	**Sn**	**23 52 00.2**	**+1.3**
ZKR	**Zakros**	**1.74**	**121**	P	**Pn**	**23 51 38.8**	**+1.7**
ZKR				S	**Sn**	**23 52 00.2**	**+1.3**
ZKR				AML	AML	23 52 02.6	
	comp=N,10442μm,0.4s						
ZKR				AML	AML	23 52 02.7	
	comp=E,27180μm,0.4s						
ZKR	**Zakros**	**1.74**	**121**	P	**Pn**	**23 51 38.9**	**+1.7**
ZKR	**Zakros**	**1.74**	**121**	P	**Pn**	**23 51 38.9**	**+1.7**
ZKR	**Zakros**	**1.74**	**121**	*e*Pn	**Pn**	**23 51 39.9**	**+2.7**
ZKR				*e*Sn	**Sn**	**23 52 00.2**	**+1.3**
ZKR	**Zakros**	**1.74**	**121**	P	**Pn**	**23 51 38.9**	**+1.7**
ZKR				S	**Sn**	**23 52 00.6**	**+1.7**
DYR	**Agios Nikonas**	**1.82**	**294**	P	**Pn**	**23 51 41.1**	**+2.9**
DYR	**Agios Nikonas**	**1.82**	**294**	P	**Pn**	**23 51 40.3**	**+2.1**
VLY	**Voula,Athens**	**1.88**	**345**	P	**Pn**	**23 51 40.2**	**+1.1**
VLY				S	**Sn**	**23 52 02.0**	**-0.2**
VLY				AML	AML	23 52 03.0	
	comp=N,4270μm,0.6s						
VLY				AML	AML	23 52 05.9	
	comp=E,5624μm,0.9s						
VLY	**Voula,Athens**	**1.88**	**345**	P	**Pn**	**23 51 40.1**	**+1.1**
VLY				S	**Sn**	**23 52 02.4**	**+0.2**
VLY	**Voula,Athens**	**1.88**	**345**	P	**Pn**	**23 51 40.1**	**+1.1**
KARY	**Karystos**	**2.00**	**1**	P	**Pn**	**23 51 42.3**	**+1.7**
KARY				S	**Sn**	**23 52 05.3**	**+0.3**
KARY	**Karystos**	**2.00**	**1**	P	**Pn**	**23 51 42.3**	**+1.7**
KARY				S	**Sn**	**23 52 05.3**	**+0.3**
ATH	**Athens Observa**	**2.02**	**345**	P	**Pn**	**23 51 42.4**	**+1.6**
ATH	**Athens Observa**	**2.02**	**345**	P	**Pn**	**23 51 42.2**	**+1.4**
ATH				S	**Sn**	**23 52 05.0**	**-0.3**
ATH				AML	AML	23 52 07.2	
	comp=E,5248μm,0.4s						
ATH				AML	AML	23 52 18.9	
	comp=N,4126μm,0.7s						
ATH	**Athens Observa**	**2.02**	**345**	P	**Pn**	**23 51 42.4**	**+1.6**
ATH	**Athens Observa**	**2.02**	**345**	P	**Pn**	**23 51 42.2**	**+1.4**
ATH				S	**Sn**	**23 52 05.6**	**+0.3**
ATH	**Athens Observa**	**2.02**	**345**	P	**Pn**	**23 51 42.4**	**+1.6**
PTL	**Penteli**	**2.06**	**348**	P	**Pn**	**23 51 43.2**	**+1.7**
PTL	**Penteli**	**2.06**	**348**	P	**Pn**	**23 51 43.1**	**+1.7**
PTL	**Penteli**	**2.06**	**348**	P	**Pn**	**23 51 42.9**	**+1.5**
PTL				S	**Sn**	**23 52 06.8**	**+0.3**
PTL	**Penteli**	**2.06**	**348**	P	**Pn**	**23 51 43.1**	**+1.7**
PTL				S	**Sn**	**23 52 06.8**	**+0.3**
VLX	**Vlachokerasia**	**2.10**	**310**	P	**Pn**	**23 51 43.6**	**+1.6**
VLX	**Vlachokerasia**	**2.10**	**310**	P	**Pn**	**23 51 43.5**	**+1.5**
VLX	**Vlachokerasia**	**2.10**	**310**	P	**Pn**	**23 51 43.7**	**+1.6**
LOUT	**Loutraki**	**2.26**	**330**	P	**Pn**	**23 51 45.6**	**+1.5**
TRIP	**Tripoli**	**2.27**	**312**	P	**Pn**	**23 51 45.9**	**+1.7**
TRIP	**Tripoli**	**2.27**	**312**	P	**Pn**	**23 51 45.9**	**+1.7**
ITM	**Ithomi**	**2.29**	**301**	P	**Pn**	**23 51 46.5**	**+2.1**
ITM	**Ithomi**	**2.29**	**301**	P	**Pn**	**23 51 46.4**	**+1.9**
ITM	**Ithomi**	**2.29**	**301**	P	**Pn**	**23 51 46.6**	**+2.1**
LTK	**Loutraki**	**2.30**	**331**	P	**Pn**	**23 51 46.0**	**+1.4**
LTK	**Loutraki**	**2.30**	**331**	P	**Pn**	**23 51 46.2**	**+1.7**
LTK				S	**Sn**	**23 52 12.8**	**+0.8**
LTK	**Loutraki**	**2.30**	**331**	P	**Pn**	**23 51 46.0**	**+1.4**
LTK	**Loutraki**	**2.30**	**331**	P	**Pn**	**23 51 46.2**	**+1.7**
LTK				S	**Sn**	**23 52 12.8**	**+0.8**
KARP	**Karpathos**	**2.30**	**101**	PN	**Pn**	**23 51 46.2**	**+1.6**
KARP	**Karpathos**	**2.30**	**101**	P	**Pn**	**23 51 45.5**	**+0.9**
KARP				S	**Sn**	**23 52 11.1**	**-1.1**
KARP				AML	AML	23 52 14.1	
	comp=E,33122μm,0.4s						
KARP				AML	AML	23 52 16.0	
	comp=N,31561μm,0.3s						
KARP	**Karpathos**	**2.30**	**101**	*e*Pn	**Pn**	**23 51 45.5**	**+0.9**
KARP				S	**Sn**	**23 52 13.0**	**+0.8**
KARP	**Karpathos**	**2.30**	**101**	P	**Pn**	**23 51 45.9**	**+1.3**
KARP	**Karpathos**	**2.30**	**101**	*e*Pn	**Pn**	**23 51 46.2**	**+1.6**
KARP				S	**Sn**	**23 52 12.2**	**0.0**
KARP	**Karpathos**	**2.30**	**101**	P	**Pn**	**23 51 45.7**	**+1.1**
KARP				S	**Sn**	**23 52 13.0**	**+0.8**
VILL	**Villia**	**2.30**	**338**	P	**Pn**	**23 51 46.4**	**+1.8**
VILL				S	**Sn**	**23 52 13.3**	**+1.1**
PYL	**PYLOS**	**2.31**	**293**	P	**Pn**	**23 51 44.8**	**+0.2**
PYL	**PYLOS**	**2.31**	**293**	P	**Pn**	**23 51 45.2**	**+0.8**
PYL	**PYLOS**	**2.31**	**293**	P	**Pn**	**23 51 45.6**	**+1.0**
PYL	**PYLOS**	**2.31**	**293**	P	**Pn**	**23 51 45.4**	**+0.8**
EREA	**Eretria**	**2.42**	**351**	P	**Pn**	**23 51 48.1**	**+1.9**
EREA				S	**Sn**	**23 52 15.6**	**+0.7**
THAL	**Thalero**	**2.44**	**326**	P	**Pn**	**23 51 47.7**	**+1.3**
GUR	**Goura**	**2.52**	**320**	P	**Pn**	**23 51 48.6**	**+1.0**
GUR	**Goura**	**2.52**	**320**	P	**Pn**	**23 51 48.9**	**+1.3**
GUR	**Goura**	**2.52**	**320**	P	**Pn**	**23 51 48.9**	**+1.3**
GUR	**Goura**	**2.52**	**320**	P	**Pn**	**23 51 48.9**	**+1.3**
BODT	**Bodrum**	**2.57**	**65**	PN	**Pn**	**23 51 49.1**	**+0.9**
BODT	**Bodrum**	**2.57**	**65**	P	**Pn**	**23 51 48.9**	**+0.7**
BODT	**Bodrum**	**2.57**	**65**	*e*Pn	**Pn**	**23 51 49.1**	**+0.9**
BODT	**Bodrum**	**2.57**	**65**	P	**Pn**	**23 51 48.9**	**+0.7**
YKAV	**Yalikavak-Bodr**	**2.57**	**64**	PN	**Pn**	**23 51 49.3**	**+1.1**
YKAV	**Yalikavak-Bodr**	**2.57**	**64**	*e*Pn	**Pn**	**23 51 49.3**	**+1.1**
SMG	**Samos**	**2.58**	**49**	P	**Pn**	**23 51 49.2**	**+0.9**
SMG	**Samos**	**2.58**	**49**	P	**Pn**	**23 51 49.6**	**+1.3**
AMT	**Artemida-Makis**	**2.63**	**306**	P	**Pn**	**23 51 50.5**	**+1.5**
AMT	**Artemida-Makis**	**2.63**	**306**	P	**Pn**	**23 51 50.7**	**+1.7**
**AM

DALY	Dalyan (Mu¨la	3.53	76	*e*Pn		Pn	23 52 03.6	+2.5
DALY	Dalyan (Mu¨la	3.53	76	P		Pn	23 52 04.2	+3.2
DALY				S		Sn	23 52 44.2	+2.5
EVR	Evrytania	3.54	325	P		Pn	23 52 02.8	+1.4
EVR	Evrytania	3.54	325	P		Pn	23 52 02.8	+1.4
PRK	Paraskevi	3.54	24	P		Pn	23 52 02.7	+1.4
PRK	Paraskevi	3.54	24	P		Pn	23 52 02.7	+1.4
KFL	Anninata	3.55	307	P		Pn	23 52 02.1	+0.6
FYTO	Fytoko, Volos	3.57	342	P		Pn	23 52 03.6	+2.0
FYTO				S		Sn	23 52 43.6	+0.9
FYTO	Fytoko, Volos	3.57	342	P		Pn	23 52 03.6	+2.0
FYTO				S		Sn	23 52 43.6	+0.9
FYTO	Fytoko, Volos	3.57	342	P		Pn	23 52 03.4	+1.8
FYTO				S		Sn	23 52 43.6	+0.9
PDO	Prodromos	3.62	316	P		Pn	23 52 04.1	+1.7
DKL	Dikili	3.64	33	PN		Pn	23 52 04.0	+1.4
DKL	Dikili	3.64	33	*e*Pn		Pn	23 52 04.0	+1.4
VLS	Valsamata	3.72	306	P		Pn	23 52 03.9	+0.1
VLS	Valsamata	3.72	306	P		Pn	23 52 03.9	+0.1
VLS	Valsamata	3.72	306	P		Pn	23 52 03.9	+0.1
FETY	Fethiye	3.84	80	PN		Pn	23 52 07.7	+2.4
FETY	Fethiye	3.84	80	P		Pn	23 52 07.0	+1.7
FETY	Fethiye	3.84	80	*e*Pn		Pn	23 52 07.7	+2.4
TAVA	DENIZLI_Tavas	3.90	67	*i* P		Pn	23 52 09.1	+2.8
TAVA				*i* S		Sn	23 52 49.4	-1.6
TAVA	DENIZLI_Tavas	3.90	67	P		Pn	23 52 09.1	+2.8
TAVA				S		Sn	23 52 49.4	-1.6
LIA	Limnos Island	3.92	9	P		Pn	23 52 07.6	+1.2
LIA				S		Sn	23 52 51.1	0.0
LIA	Limnos Island	3.92	9	P		Pn	23 52 07.6	+1.2
LIA				S		Sn	23 52 51.1	0.0
PAIG	Paliouri	3.93	352	P		Pn	23 52 08.3	+1.6
PAIG	Paliouri	3.93	352	P		Pn	23 52 08.3	+1.6
PAIG	Paliouri	3.93	352	P		Pn	23 52 08.2	+1.6
PAIG	Paliouri	3.93	352	P		Pn	23 52 08.2	+1.6
THL	Klokotos Trika	4.00	333	P		Pn	23 52 08.7	+1.2
THL	Klokotos Trika	4.00	333	P		Pn	23 52 08.7	+1.2
LKD2	Lefkada island	4.05	314	P		Pn	23 52 09.0	+0.7
DSL	Palaion Diasel	4.06	321	P		Pn	23 52 09.9	+1.5
DENT	Denizli	4.10	64	PN		Pn	23 52 11.1	+2.2
DENT	Denizli	4.10	64	*e*Pn		Pn	23 52 11.1	+2.2
KSL	Kastellorizon	4.21	87	P		Pn	23 52 12.2	+1.9
KSL	Kastellorizon	4.21	87	P		Pn	23 52 12.2	+1.9
KSL	Kastellorizon	4.21	87	P		Pn	23 52 12.2	+1.9
KULA	Kula-Manisa	4.21	53	PN		Pn	23 52 12.6	+2.1
KULA	Kula-Manisa	4.21	53	*e*Pn		Pn	23 52 12.6	+2.1
AKAS	Kas	4.22	86	PN		Pn	23 52 13.5	+2.8
AKAS	Kas	4.22	86	*i* P		Pn	23 52 11.7	+0.9
AKAS				*i* S		Sn	23 52 55.8	-3.1
AKAS	Kas	4.22	86	P		Pn	23 52 11.6	+0.9
AKAS	Kas	4.22	86	*e*Pn		Pn	23 52 13.5	+2.8
STEP	BALIKESIR_Sava	4.26	37	*i* P		Pn	23 52 12.2	+1.1
OUR	Ouranopolis	4.31	356	P		Pn	23 52 13.6	+1.8
OUR	Ouranopolis	4.31	356	P		Pn	23 52 13.6	+1.8
GOLH	Golhisar	4.33	72	*i* P		Pn	23 52 14.4	+2.3
GOLH				*i* S		Sn	23 53 00.4	-1.0
GOLH	Golhisar	4.33	72	P		Pn	23 52 14.4	+2.3
GOLH				S		Sn	23 53 00.4	-1.0
LIT	Litokhoron	4.33	340	P		Pn	23 52 13.5	+1.4
LIT	Litokhoron	4.33	340	P		Pn	23 52 13.5	+1.4
PLG	Polygyros	4.40	351	P		Pn	23 52 14.8	+1.7
PLG	Polygyros	4.40	351	P		Pn	23 52 14.8	+1.7
BALY	Balya	4.50	34	*i* P		Pn	23 52 14.4	0.0
BALY				*i* S		Sn	23 53 04.3	-1.2
BALY	Balya	4.50	34	P		Pn	23 52 14.4	0.0
BALY				S		Sn	23 53 04.3	-1.2
ELL	Elmali	4.51	79	PN		Pn	23 52 17.2	+2.6
ELL	Elmali	4.51	79	*e*Pn		Pn	23 52 17.2	+2.6
SMTH	Samothraki Isl	4.53	11	P		Pn	23 52 15.7	+1.0
SMTH	Samothraki Isl	4.53	11	P		Pn	23 52 15.7	+1.0
BALB	Balikesir	4.54	36	PN		Pn	23 52 17.2	+2.3
BALB	Balikesir	4.54	36	*e*Pn		Pn	23 52 17.2	+2.3
SLUM	Salum	4.58	171	P		Pn	23 52 15.0	-0.4
	baz=176							
SLUM				S		Sn	23 53 02.0	-5.3
	baz=176							
SLUM	Salum	4.58	171	S		Sn	23 53 02.0	-5.3
JAN	Janina	4.58	323	P		Pn	23 52 16.9	+1.4
KPRO	Kipourio	4.59	330	P		Pn	23 52 16.6	+0.9
KPRO	Kipourio	4.59	330	P		Pn	23 52 16.6	+0.9
HORT	Hortiatis	4.68	348	P		Pn	23 52 18.6	+1.8
HORT	Hortiatis	4.68	348	P		Pn	23 52 18.6	+1.8
THE	Thessaloniki	4.73	347	P		Pn	23 52 19.0	+1.5
THE	Thessaloniki	4.73	347	P		Pn	23 52 19.0	+1.5
IGT	Igoumenitsa	4.75	319	P		Pn	23 52 17.9	+0.1
IGT	Igoumenitsa	4.75	319	P		Pn	23 52 17.9	+0.1
IGT	Igoumenitsa	4.75	319	P		Pn	23 52 17.9	+0.1
SIMA	Simav-Kutahya	4.75	49	PN		Pn	23 52 20.4	+2.5
SIMA	Simav-Kutahya	4.75	49	*e*Pn		Pn	23 52 20.4	+2.5
GONE	Gonen-Balikesi	4.78	32	PN		Pn	23 52 20.7	+2.6
GONE	Gonen-Balikesi	4.78	32	*e*Pn		Pn	23 52 20.7	+2.6
BRDR	BURDUR-Merkez	4.84	68	*i* P		Pn	23 52 22.0	+2.9
BRDR	BURDUR-Merkez	4.84	68	P		Pn	23 52 22.0	+2.9
SOH	Sokhos	4.86	351	P		Pn	23 52 21.5	+2.3
SOH	Sokhos	4.86	351	P		Pn	23 52 21.5	+2.3
PENT	Pentalofos	4.89	329	P		Pn	23 52 21.1	+1.4
KORT	Korkueli	4.90	77	PN		Pn	23 52 22.8	+2.9
KORT	Korkueli	4.90	77	*i* P		Pn	23 52 22.1	+2.3
KORT				*i* S		Sn	23 53 11.8	-3.5
KORT	Korkueli	4.90	77	P		Pn	23 52 22.1	+2.3
KORT	Korkueli	4.90	77	*e*Pn		Pn	23 52 22.8	+2.9
ENEZ	Enez	4.90	16	P		Pn	23 52 21.5	+1.7
ENEZ	Enez	4.90	16	P		Pn	23 52 21.5	+1.7
KAVA	Kavala	4.96	1	P		Pn	23 52 22.2	+1.6
KAVA	Kavala	4.96	1	P		Pn	23 52 21.4	+0.8
KAVA	Kavala	4.96	1	P		Pn	23 52 21.4	+0.8
ALN	Alexandroupoli	5.03	14	P		Pn	23 52 23.0	+1.4
ALN	Alexandroupoli	5.03	14	P		Pn	23 52 23.0	+1.4
NEST	Nestorio	5.11	330	P		Pn	23 52 24.2	+1.5
ANTB	Antalya	5.12	78	PN		Pn	23 52 26.2	+3.4
ANTB	Antalya	5.12	78	*e*Pn		Pn	23 52 26.2	+3.4
SRS	Serrai	5.12	353	P		Pn	23 52 24.9	+2.1
SRS	Serrai	5.12	353	P		Pn	23 52 24.9	+2.1
SRS	Serrai	5.12	353	P		Pn	23 52 24.9	+2.1
SRS	Serrai	5.12	353	P		Pn	23 52 24.9	+2.1
KEK	Kerkira	5.17	317	P		Pn	23 52 23.3	-0.2
KEK	Kerkira	5.17	317	P		Pn	23 52 23.3	-0.2
BCK	Bucak	5.18	72	PN		Pn	23 52 26.7	+3.1
RDO	Rodhopi	5.19	10	P		Pn	23 52 25.2	+1.5
RDO	Rodhopi	5.19	10	P		Pn	23 52 25.2	+1.5
RDO	Rodhopi	5.19	10	P		Pn	23 52 25.2	+1.5
ISP	Isparta	5.23	68	PN		Pn	23 52 26.9	+2.6
ISP	Isparta	5.23	68	⇑*i* P		Pn	23 52 26.4	+2.1
ISP	Isparta	5.23	68	⇑*i* P		Pn	23 52 26.5	+2.1
ISP	Isparta	5.23	68	*e*Pn		Pn	23 52 26.4	+2.1
ISP	Isparta	5.23	68	*i* P		Pn	23 52 26.5	+2.1
ISP	Isparta	5.23	68	P		Pn	23 52 26.8	+2.4
ISP	Isparta	5.23	68	Pn		Pn	23 52 26.7	+2.4
MATC	Matruh	5.23	152	P		Pn	23 52 21.5	-2.9
	baz=155							
KNT	Kendrikon	5.26	348	P		Pn	23 52 26.6	+1.9
KNT	Kendrikon	5.26	348	P		Pn	23 52 26.6	+1.9
TVSB	Tavsanli	5.27	48	PN		Pn	23 52 27.2	+2.2
TVSB	Tavsanli	5.27	48	*e*Pn		Pn	23 52 27.2	+2.2
FNA	Florina	5.31	334	P		Pn	23 52 25.9	+0.5
FNA	Florina	5.31	334	P		Pn	23 52 25.9	+0.5
FNA	Florina	5.31	334	P		Pn	23 52 25.9	+0.5
FNA	Florina	5.31	334	P		Pn	23 52 25.9	+0.5
NVR	Nevrokopi	5.33	356	P		Pn	23 52 27.7	+2.0
NVR	Nevrokopi	5.33	356	P		Pn	23 52 27.7	+2.0
NVR	Nevrokopi	5.33	356	P		Pn	23 52 27.7	+2.0
HMAT	Matruh	5.41	155	P		Pn	23 52 21.5	-5.3
VAY	Valandovo	5.47	345	P		Pn	23 52 30.9	+3.3
VAY	Valandovo	5.47	345	P		Pn	23 52 30.9	+3.3
VAY	Valandovo	5.47	345	P		Pn	23 52 30.9	+3.3
VAY	Valandovo	5.47	345	*e*Pn		Pn	23 52 28.4	+0.8
SUTC	Sutluce-Ispart	5.50	73	PN		Pn	23 52 31.1	+3.0
SHUT	Suhut-Afyon	5.52	61	PN		Pn	23 52 31.0	+2.7
SHUT	Suhut-Afyon	5.52	61	*e*Pn		Pn	23 52 31.0	+2.7
BIA	Bitola	5.54	335	*e*Pn		Pn	23 52 30.6	+2.2
BIA	Bitola	5.54	335	*i* Pn		Pn	23 52 30.2	+1.7
BIA				*i* Sg		Sn	23 53 30.7	-0.1
OHR	Ohrid	5.80	332	*i* Pn		Pn	23 52 33.5	+1.4
OHR	Ohrid	5.80	332	*i* Pn		Pn	23 52 32.4	+0.2
OHR				*e*Pn		Pn	23 52 32.7	+0.6
OHR				*i* Sg		Sn	23 53 35.9	-1.4
KRUS	Krusevo	5.87	336	*e*Pn		Pn	23 52 34.2	+1.1
KRUS	Krusevo	5.87	336	*i* Pn		Pn	23 52 33.3	+0.2
KRUS				*i* Sg		Sn	23 53 38.8	-0.3
KEPZ	Antalya-Kepez	5.88	79	*i* P		Pn	23 52 35.0	+1.8
KEPZ				*i* S		Sn	23 53 36.9	-2.2
DOGA	KONYA_Doganhis	6.18	68	*i* P		Pn	23 52 40.0	+2.7
DOGA				*i* S		Sn	23 53 44.9	-1.7
DOGA	KONYA_Doganhis	6.18	68	P		Pn	23 52 40.0	+2.7
SKO	Skopje	6.37	340	*e*Pn		Pn	23 52 38.6	-1.1
SKO	Skopje	6.37	340	*e*Pn		Pn	23 52 38.6	-1.1
TIR	Tirane	6.38	328	⇓*i* Pn		Pn	23 52 40.0	0.0
TIR	Tirane	6.38	328	*e*P		Pn	23 52 39.1	-0.9
TIR				*e*			23 53 47.8	
TIR	Tirane	6.38	328	*e*Pn		Pn	23 52 39.1	-0.9
TIR				*e*Sn		Pn	23 53 47.8	-3.6
TIR	Tirane	6.38	328	*e*P		Pn	23 52 39.1	-0.9
TIR				*e*S		Sn	23 53 47.8	-3.6
PPCY	Paphos	6.59	98	P		Pn	23 52 41.3	-1.5
	baz=281							
PPCY	Paphos	6.59	98	P		Pn	23 52 41.3	-1.5
SVRH	Sivrihisar-ESK	6.60	57	PN		Pn	23 52 46.2	+3.2
SVRH	Sivrihisar-ESK	6.60	57	*e*Pn		Pn	23 52 46.2	+3.2
VTS	Vitosha	6.62	352	⇓*i* P		Pn	23 52 45.8	+2.5
VTS	Vitosha	6.62	352	*e*P		Pn	23 52 45.5	+2.2
VTS	Vitosha	6.62	352	*e*Pn		Pn	23 52 45.5	+2.2
VTS	Vitosha	6.62	352	*e*P		Pn	23 52 45.5	+2.2
ALFC	Alefka	6.74	95	P		Pn	23 52 43.7	-1.3
	baz=278							
ALFC				S		Sn	23 53 51.7	-8.6
ALFC	Alefka	6.74	95	P		Pn	23 52 43.7	-1.3
ALFC				S		Sn	23 53 51.7	-8.6
SWA2		6.82	172	P		Pn	23 52 45.0	-1.1
	baz=175							
SWA2				S		Sn	23 53 55.5	-6.7
	baz=175							
SWA2		6.82	172	S		Sn	23 53 55.5	-6.7
TIP	Timpagrande	6.83	300	⇑*i* P		Pn	23 52 46.3	+0.2
TIP	Timpagrande	6.83	300	*e*Pn		Pn	23 52 45.1	-1.0
TIP				*e*Sn		Sn	23 53 59.1	-3.3
TIP	Timpagrande	6.83	300	*e*Pn		Pn	23 52 45.1	-1.0
TIP				*e*Sn		Sn	23 53 59.1	-3.3
LEF	Lefka	6.98	95	PN		Pn	23 52 51.8	+3.6
AKDN	Akdeniz- K¨–br	7.02	93	PN		Pn	23 52 52.4	+3.7
SZAC	Souni	7.05	98	P		Pn	23 52 47.5	-1.6
	baz=282							
SZAC				S		Sn	23 54 00.3	-7.5
SZAC	Souni	7.05	98	P		Pn	23 52 47.5	-1.6
SZAC				S		Sn	23 54 00.3	-7.5
TEKE	Tekeli-Mersin	7.06	87	PN		Pn	23 52 52.4	+3.1
TEKE	Tekeli-Mersin	7.06	87	*e*Pn		Pn	23 52 52.4	+3.1
CEL	Celeste	7.14	291	*e*Pn		Pn	23 52 50.2	-0.2
CEL				*e*Sn		Sn	23 54 05.5	-4.6
CEL	Celeste	7.14	291	*e*Pn		Pn	23 52 50.2	-0.2
CEL				*e*Sn		Sn	23 54 05.5	-4.6
ULC	Ulcinj	7.16	328	⇓*i* Pn		Pn	23 52 49.0	-1.5
ULC				*e*Sn		Sn	23 54 03.8	-6.5
ULC	Ulcinj	7.16	328	⇓*i* Pn		Pn	23 52 49.0	-1.5
CHBY	Cihanbeyli	7.24	67	PN		Pn	23 52 55.2	+3.5
CHBY	Cihanbeyli	7.24	67	*e*Pn		Pn	23 52 55.2	+3.5
MAMC	Mammari	7.24	94	P		Pn	23 52 51.5	-0.2
	baz=278							
MAMC	Mammari	7.24	94	P		Pn	23 52 51.5	-0.2
TEVE	Tevekalti-Mers	7.33	84	PN		Pn	23 52 56.2	+3.3
TEVE	Tevekalti-Mers	7.33	84	*e*Pn		Pn	23 52 56.2	+3.3
DRME	Dracevica, Mon	7.36	328	⇓*i* Pn		Pn	23 52 51.5	-1.8
DRME				*e*Sn		Sn	23 54 08.6	-6.7
DRME	Dracevica, Mon	7.36	328	⇓*i* Pn		Pn	23 52 51.5	-1.8
CSS	Mathiatis	7.37	96	*e*Pn		Pn	23 52 51.4	-2.0
CSS				*e*Sn		Sn	23 54 00.8	-15
CSS	Mathiatis	7.37	96	P		Pn	23 52 53.1	-0.4
	baz=280							
CSS				S		Sn	23 54 07.3	-8.2
CSS	Mathiatis	7.37	96	*e*Pn		Pn	23 52 51.4	-2.0
CSS	Mathiatis	7.37	96	P		Pn	23 52 53.1	-0.4
CSS				*e*Sn		Sn	23 54 00.8	-15
CSS				S		Sn	23 54 07.3	-8.2
CSS	Mathiatis	7.37	96	Pn		Pn	23 52 51.8	-1.7
PVY	Plav	7.40	334	⇑*i* Pn		Pn	23 52 53.0	-1.0
PVY				*e*Sn		Sn	23 54 11.0	-5.5
PVY	Plav	7.40	334	⇑*i* Pn		Pn	23 52 53.0	-1.0
GULN	MERSIN_Gulnar	7.41	86	*i* P		Pn	23 52 54.6	+0.6
GULN				*i* S		Sn	23 54 10.8	-5.7
GULN	MERSIN_Gulnar	7.41	86	P		Pn	23 52 54.6	+0.6
PDG	Podgorica	7.53	330	⇑*i* P		Pn	23 52 54.1	-1.5
PDG	Podgorica	7.53	330	⇑*i* Pn		Pn	23 52 53.9	-1.7
TTG	Podgorica	7.53	330	⇑*i* Pn		Pn	23 52 53.9	-1.7
TTG				*e*Sn		Sn	23 54 13.3	-6.1
TTG	Podgorica	7.53	330	*e*P		Pn	23 52 53.9	-1.7
TTG	Podgorica	7.53	330	*e*Pn		Pn	23 52 53.9	-1.7
TTG	Podgorica	7.53	330	*e*P		Pn	23 52 53.9	-1.7
BUM	Brajici-Budva	7.58	327	⇓*i* Pn		Pn	23 52 54.1	-2.3
BUM				*e*Sn		Sn	23 54 14.8	-5.9
BUM	Brajici-Budva	7.58	327	⇓*i* Pn		Pn	23 52 54.1	-2.3
MATE	Matera	7.60	310	⇑*i* P		Pn	23 52 55.7	-0.9
ANTO	Ankara	7.67	57	*e*P		Pn	23 53 01.7	+4.1
ANTO	Ankara	7.67	57	*e*Pn		Pn	23 53 01.7	+4.1
ANTO	Ankara	7.67	57	P		Pn	23 53 01.9	+4.3
	SNR=38							
ANTO	Ankara	7.67	57	Pn		Pn	23 53 01.9	+4.3
	SNR=38							
ANTO	Ankara	7.67	57	*e*P		Pn	23 53 01.7	+4.1
BEY	Berane	7.67	334	⇑*i* Pn		Pn	23 52 56.5	-1.1
IVA	Berane	7.67	334	⇑*i* Pn		Pn	23 52 56.5	-1.1
IVA				*e*Sn		Sn	23 54 18.4	-4.5
CEME	Cevo	7.77	329	⇓*i* Pn		Pn	23 52 56.6	-2.4
CEME				*e*Sn		Sn	23 54 16.9	-6.4
CEME	Cevo	7.77	329	⇓*i* Pn		Pn	23 52 56.6	-2.4
KOME	Kolasin	7.79	333	⇓*i* Pn		Pn	23 52 58.4	-0.8
KOME				*e*Sn		Sn	23 54 20.1	-5.7
KOME	Kolasin	7.79	333	⇓*i* Pn		Pn	23 52 58.4	-0.8
CUC	Castrocucco	7.84	303	*e*Pn		Pn	23 52 59.2	-0.7
CUC	Castrocucco	7.84	303	*e*Pn		Pn	23 52 59.2	-0.7
HCY	Herceg Novi	7.88	326	⇑*i* Pn		Pn	23 52 57.5	-2.8
HCY				*e*Sn		Sn	23 54 20.1	-7.7
HCY	Herceg Novi	7.88	326	⇑*i* Pn		Pn	23 52 57.5	-2.8
KIZK	Mersin	7.89	84	*i* P		Pn	23 53 01.3	+0.7
KIZK				*i* S		Sn	23 54 21.2	-7.0
KIZK	Mersin	7.89	84	P		Pn	23 53 01.3	+0.7
PHNC	Paralimni	7.93	95	P		Pn	23 53 01.4	+0.3
	baz=279							
PHNC	Paralimni	7.93	95	P		Pn	23 53 01.4	+0.3
KERG	Konya-Eregli	7.94	77	*i* P		Pn	23 53 02.3	+1.0
KERG				*i* S		Sn	23 54 30.3	+0.7
KERG	Konya-Eregli	7.94	77	P		Pn	23 53 02.3	+1.0
NKME	Niksic	7.94	330	⇑*i* Pn		Pn	23 52 59.6	-1.6
NKME				*e*Sn		Sn	23 54 23.3	-6.1
NKME	Niksic	7.94	330	⇑*i* Pn		Pn	23 52 59.6	-1.6
NKY	Niksic	7.96	330	⇓*i* Pn		Pn	23 52 59.8	-1.8
NKY				*e*Sn		Sn	23 54 23.5	-6.5
NKY	Niksic	7.96	330	⇓*i* Pn		Pn	23 52 59.8	-1.8
WDD	Wied Dalam	8.01	272	*e*Pn		Pn	23 53 00.8	-1.4
WDD				*e*Sn		Sn	23 54 24.8	-6.3
WDD	Wied Dalam	8.01	272	*e*Pn		Pn	23 53 00.8	-1.4
WDD				*e*Sn		Sn	23 54 24.8	-6.3
VAE	Valguarnera	8.14	283	P		Pn	23 53 04.3	+0.3
	comp=N,4.8nm,0.3s,baz=160,slow=1.5,SNR=22							
VAE				S		Sn	23 54 30.2	-4.2
	comp=N,5.0nm,0.3s,baz=235,slow=7.5,SNR=6.9							
BR131	Keskin Array S	8.19	60	*e*Pn		Pn	23 53 08.5	+3.7
BR131	Keskin Array S	8.19	60	*e*Pn		Pn	23 53 08.5	+3.7
BRTR	Keskin Array B	8.19	60	P		Pn	23 53 06.0	+1.2
	comp=N,9.6nm,0.3s,baz=244,slow=14,SNR=156							
BRTR				S		Sn	23 54 32.8	-3.0
	baz=22,slow=36,SNR=1.2							
HMYD	Mayadein	8.22	137	P		Pn	23 53 01.6	-3.5
	baz=139							
HMYD	Mayadein	8.22	137	P		Pn	23 53 01.6	-3.5
PLE	Pljevlja	8.25	334	⇑*i* Pn		Pn	23 53 04.3	-1.2
PLE				*e*Sn		Sn	23 54 31.8	-5.3
PLE	Pljevlja	8.25	334	⇑*i* Pn		Pn	23 53 04.3	-1.2
DED	Mersin	8.43	81	*i* P		Pn	23 53 09.6	+1.6
DED				*i* S		Sn	23 54 36.9	-4.6
HUMR	Humele	8.50	3	⇑*i* P		Pn	23 53 11.4	+2.5
STON	Ston	8.57	325	*e*Pn		Pn	23 53 05.4	-4.4
STON				Sn		Sn	23 54 34.1	-11
BBLS	Lazići	8.71	335	*e*Pn		Pn	23 53 09.5	-2.3
KOT	Kottamia	8.72	132	P		Pn	23 53 09.5	-2.4
	baz=133							
KOT	Kottamia	8.72	132	P		Pn	23 53 09.5	-2.4
DIVS	Divibare	8.74	339	*e*Pn		Pn	23 53 07.5	-4.7
DIVS	Divibare	8.74	339	*e*Pn		Pn	23 53 07.5	-4.7
HSAF	As Saff	8.78	135	P		Pn	23 53 10.1	-2.7
	baz=136							
HSAF	As Saff	8.78	135	P		Pn	23 53 10.1	-2.7
HHAG	Hagoal	8.86	131	P		Pn	23 53 10.6	-3.3
	baz=132							
GLL	Jalalah	8.90	134	P		Pn	23 53 11.9	-2.5
	baz=135							
TIRR	Tirgusor	8.96	19	⇓*i* P		Pn	23 53 16.6	+1.5
TIRR	Tirgusor	8.96	19	*e*P		Pn	23 53 15.4	+0.3
TIRR	Tirgusor	8.96	19	*e*Pn		Pn	23 53 15.4	+0.3
TIRR	Tirgusor	8.96	19	*e*P		Pn	23 53 15.4	+0.3
TLB	Topalu	8.99	17	⇓*i* P		Pn	23 53 16.1	+0.6
HARR	Harsova	9.06	16	⇓*i* P		Pn	23 53 18.2	+1.7
CLTB	Caltabellotta	9.10	283	*e*Pn		Pn	23 53 17.6	+0.5
CLTB	Caltabellotta	9.10	283	*e*Pn		Pn	23 53 17.6	+0.5
ISR	Istrita	9.23	10	⇑*i* P		Pn	23 53 21.3	+2.5
RSH		9.28	120	P		Pn	23 53 15.8	-3.8
	baz=121							
TEKS	Tekeris	9.29	338	*e*Pn		Pn	23 53 18.8	-0.8
HNTI	Hanita	9.36	105	Pn		Pn	23 53 18.8	-1.9
HNTI				Sn		Sn	23 54 55.6	-8.7
NBNS	Bani Suef	9.41	140	P		Pn	23 53 19.2	-2.2
	baz=141							
VOIR		9.41	3	⇓*i* P		Pn	23 53 24.5	+3.1
LOT	Lotru	9.42	357	⇑*i* P		Pn	23 53 21.9	+0.4
HFRF	Wahat Farafira	9.46	158	P		Pn	23 53 19.7	-2.3
	baz=160							
DQRL	Deir Qamar	9.47	101	*e*P		Pn	23 53 19.4	-2.9
BHL	Bhannes	9.48	100	*e*P		Pn	23 53 19.8	-2.6
BLGI	Bet Lehem HaGe	9.51	107	Pn		Pn	23 53 20.3	-2.4
MLR	Muntele Rosu	9.53	7	P		Pn	23 53 22.6	-0.3
	comp=N,0.1nm,0.3s,baz=208,slow=4.7,SNR=13							
MLR				S		Sn	23 55 06.8	-1.5
	baz=125,slow=21,SNR=1.4							
GRER		9.55	11	⇓*i* P		Pn	23 53 25.5	+2.4
MMA0B	Mount Meron ar	9.57	105	Pn		Pn	23 53 20.5	-3.0
MMAI	Mount Meron Ar	9.57	105	P		Pn	23 53 20.2	-3.3
	comp=N,38nm,0.3s,baz=305,slow=12,SNR=261							
MMAI				S		Sn	23 55 00.8	-8.5
	comp=N,104nm,0.3s,baz=296,slow=29,SNR=18							
SLTI	Sal'it	9.60	110	Pn		Pn	23 53 20.6	-3.3
QRWL	Qaraoun	9.61	102	*e*P		Pn	23 53 21.3	-2.8
HWQ	Hawqa	9.62	97	*e*P		Pn	23 53 21.9	-2.4

OBKA Obir 12.81 328 Pn **Pn** **23 54 07.1 -0.4**
comp=Z,2.6nm,0.5s
OBKA Obir 12.81 328 *e*Pn **Pn** **23 54 07.1 -0.4**
comp=Z,2.6nm,0.5s
OBKA Sn **Sn** **23 56 19.9 -8.3**
comp=Z,5.8nm,0.5s
ARSA Arzberg 13.02 332 Pn **Pn** **23 54 07.6 -2.6**
comp=Z,4.9nm,0.5s
ARSA Arzberg 13.02 332 *e*Pn **Pn** **23 54 07.6 -2.6**
comp=Z,4.9nm,0.5s
ARSA Sn **Sn** **23 56 24.8 -8.3**
comp=Z,3.2nm,0.7s
VYHS Vyhne 13.12 344 *e*P **P** **23 54 16.9 -1.6**
VYHS Vyhne 13.12 344 *e*PN **P** **23 54 16.9 -1.6**
VYHS Vyhne 13.12 344 *e*SN Sn 23 56 26.3 -9.1
ANN Anapa 13.23 45 *e*P **Pn** **23 54 14.4 +1.4**
ANN pmax pmax
comp=Z,71nm,1.0s
MODS Modra-Piesok 13.41 339 *e*P **P** **23 54 21.0 -0.7**
MODS Modra-Piesok 13.41 339 *e*PN **P** **23 54 21.0 -0.7**
VLC Villacollemand 13.44 311 *e*Pn **Pn** **23 54 14.2 -1.5**
VLC Villacollemand 13.44 311 *e*Pn **Pn** **23 54 14.2 -1.5**
CONA Conrad Observa 13.47 335 Pn **Pn** **23 54 15.6 -0.5**
comp=Z,1.3nm,0.5s
CONA Conrad Observa 13.47 335 *e*Pn **Pn** **23 54 15.6 -0.5**
comp=Z,1.3nm,0.5s
CONA *e*Sn **Sn** **23 56 37.7 -6.4**
comp=Z,1.4nm,0.4s
STHS Stebnicka Huta 13.58 351 *e*P **P** **23 54 25.3 +1.7**
STHS Stebnicka Huta 13.58 351 *e*PN **P** **23 54 25.3 +1.7**
LANS Liptovska Anna 13.60 346 *e*P **P** **23 54 26.5 +2.6**
LANS Liptovska Anna 13.60 346 *e*PN **P** **23 54 26.5 +2.6**
NIE Niedzica 13.71 349 *e*P **P** **23 54 26.5 +1.4**
NIE Niedzica 13.71 349 *e*P **P** **23 54 26.5 +1.4**
KBA Koelnbreinsper 13.78 327 *e*Pn **Pn** **23 54 17.5 -2.8**
comp=Z,5.6nm,0.6s
KBA *i* Sn **Sn** **23 56 44.2 -7.5**
comp=Z,3.5nm,0.6s
ABTA Abfaltersbach 13.92 324 *e*Pn **Pn** **23 54 19.0 -3.1**
comp=Z,5.7nm,0.6s,SNR=5.9
ABTA Sn **Sn** **23 56 46.9 -8.2**
comp=Z,8.7nm,0.6s
SOC Sochi 13.98 53 *e*P **Pn** **23 54 22.7 0.0**
SOC *e* 23 56 57.9
SOC pmax pmax
comp=Z,12nm,0.5s
SOC MLR MLR
comp=Z,77nm,10.0s
MOA Molln 14.00 331 *e*Pn **Pn** **23 54 20.3 -2.7**
comp=Z,3.1nm,0.6s
MOA *e*Sn **Sn** **23 56 53.4 -3.4**
comp=Z,3.8nm,0.6s
KRUC Moravsky 14.29 338 *e*P **P** **23 54 33.1 +1.7**
VRAC Vranov 14.45 339 *e*P **P** **23 54 35.2 +1.9**
OKC Ostrava-Krasne 14.53 344 *e*P **P** **23 54 35.3 +1.1**
OKC Ostrava-Krasne 14.53 344 *e*P **P** **23 54 35.3 +1.1**
OKC Ostrava-Krasne 14.53 344 *e*P **P** **23 54 35.3 +1.1**
OJC Ojcow 14.57 348 *e*P **P** **23 54 35.2 +0.6**
OJC Ojcow 14.57 348 *e*P **Pn** **23 54 30.1 -0.3**
OJC Ojcow 14.57 348 *e*Pn **Pn** **23 54 30.1 -0.3**
OJC Ojcow 14.57 348 *e*Pn **Pn** **23 54 30.1 -0.3**
OJC Ojcow 14.57 348 *e*P **P** **23 54 35.2 +0.6**
MORC Moravsky Berou 14.62 342 *e*P **Pn** **23 54 31.0 -0.1**
MORC Moravsky Berou 14.62 342 *e*Pn **Pn** **23 54 31.0 -0.1**
MORC *e*P **P** **23 54 36.0 +0.8**
MORC Moravsky Berou 14.62 342 *e*Pn **Pn** **23 54 31.0 -0.1**
WTTA Wattenberg 14.71 324 Pn **Pn** **23 54 32.7 +0.3**
comp=Z,12nm,0.6s
WTTA Wattenberg 14.71 324 *e*Pn **Pn** **23 54 32.7 +0.3**
comp=Z,12nm,0.6s
WATA Walderalm 14.79 324 Pn **Pn** **23 54 32.5 -0.8**
comp=Z,22nm,0.6s,SNR=13
WATA Walderalm 14.79 324 *e*Pn **Pn** **23 54 32.5 -0.8**
comp=Z,22nm,0.6s,SNR=13
FUORN Ofenpass-Fuorn 14.96 319 *e*Pn **Pn** **23 54 36.5 +0.8**
FUORN Ofenpass-Fuorn 14.96 319 *e*Pn **Pn** **23 54 36.5 +0.8**
FETA Feichten 14.99 321 Pn **Pn** **23 54 35.9 0.0**
comp=Z,30nm,0.7s,SNR=25
FETA Feichten 14.99 321 *e*Pn **Pn** **23 54 35.9 0.0**
comp=Z,30nm,0.7s,SNR=25
GEA0 GERESS Array S 15.02 332 *e*Pn **Pn** **23 54 36.5 +0.3**
GEA0 *e*S **S** **23 57 33.3 -0.8**
GEA0 GERESS Array S 15.02 332 *e*Pn **Pn** **23 54 36.5 +0.3**
GEA0 *e*S **S** **23 57 33.3 -0.8**
GEC2 GERESS Array S 15.03 332 *e*P **Pn** **23 54 37.5 +1.2**
GEC2 pmax pmax
comp=Z,16nm,0.7s
GEC2 GERESS Array S 15.03 332 *e*Pn **Pn** **23 54 37.5 +1.2**
comp=Z,16nm,0.7s
GEC2 GERESS Array S 15.03 332 *e*Pn **Pn** **23 54 37.5 +1.2**
comp=Z,16nm,0.7s
GERES GERESS Array B 15.03 332 P **Pn** **23 54 34.7 -1.6**
comp=Z,0.4nm,0.3s,baz=148,slow=13,SNR=23
AK11 Malin Array Si 15.05 12 *e*Pn **Pn** **23 54 38.3 +1.8**
AK11 Malin Array Si 15.05 12 *e*Pn **Pn** **23 54 38.3 +1.8**
KIEV Kiev 15.07 12 ⇓*i*P **Pn** **23 54 36.0 -0.7**
KIEV Kiev 15.07 12 *e*Pn **Pn** **23 54 36.1 -0.7**
comp=Z,33nm,0.6s
KIEV *e*P **P** **23 54 39.9 -0.2**
KIEV *e*S **S** **23 57 30.6 -4.2**
KIEV Kiev 15.07 12 *e*Pn **Pn** **23 54 36.1 -0.7**
comp=Z,33nm,0.6s
AKASG Malin Array Be 15.08 12 P **Pn** **23 54 34.6 -2.3**
comp=Z,4.3nm,0.3s,baz=201,slow=10,SNR=38
AKASG S **Sn** **23 57 26.8 +4.0**
baz=198,slow=22,SNR=4.1
AKASG Malin Array Be 15.08 12 *c*e**P** **Pn** **23 54 35.9 -1.0**
AKASG pmax pmax
comp=Z,20nm,0.5s
AKBB Malin Array Si 15.08 12 *e*P **Pn** **23 54 36.3 -0.6**
AKBB pmax pmax
comp=Z,34nm,0.7s
AKBB Malin Array Si 15.08 12 *e*Pn **Pn** **23 54 36.2 -0.6**
comp=Z,34nm,0.7s
AKBB *e*S **S** **23 57 32.2 -2.8**
AKBB Malin Array Si 15.08 12 *e*Pn **Pn** **23 54 36.2 -0.6**
comp=Z,34nm,0.7s
AKBB *e*S **S** **23 57 32.2 -2.8**
KRLC Kraliky 15.09 341 *e*P **P** **23 54 42.1 +1.7**
KRLC *e*pP **pP** **23 55 00.5 +3.9**
KRLC Kraliky 15.09 341 *e*P **P** **23 54 42.1 +1.7**
KRLC Kraliky 15.09 341 *e*P **P** **23 54 42.1 +1.7**
KHC Kasperske Hory 15.30 332 *e*P **Pn** **23 54 39.8 0.0**
KHC *ex* x 23 54 44.3
KHC *e*pP **pP** **23 55 01.9 +2.9**
KHC *ex* x 23 55 17.2
KHC *ex* x 23 57 21.4
KHC *e*S **S** **23 57 38.4 -1.4**
KHC Kasperske Hory 15.30 332 *e*P **Pn** **23 54 39.8 0.0**
KHC Kasperske Hory 15.30 332 *e*Pn **Pn** **23 54 37.8 -2.1**
comp=Z,4.3nm,0.7s
KHC *e*P **P** **23 54 43.7 +0.9**
KHC *e*S **S** **23 57 37.4 -2.4**
KHC Kasperske Hory 15.30 332 *e*Pn **Pn** **23 54 37.8 -2.1**
comp=Z,4.3nm,0.7s
TUE Stuetta 15.37 317 *e*Pn **Pn** **23 54 41.2 +0.4**
comp=Z,32nm,0.9s
TUE *e*S Sn 23 57 17.4 -13
TUE Stuetta 15.37 317 *e*Pn **Pn** **23 54 41.2 +0.4**
comp=Z,32nm,0.9s
TUE *e*S Sn 23 57 17.4 -13
DPC Dobruska-Polom 15.46 340 *e*P **P** **23 54 43.6 -1.0**
DPC *ex* x 23 54 45.8
DPC *e*sP **sP** **23 55 12.9 +1.6**
DPC Dobruska-Polom 15.46 340 *e*P **P** **23 54 43.6 -1.0**
GOPC GO Pecny, Ondr 15.54 336 *e*P **P** **23 54 46.6 +1.2**
GOPC *e*sP **sP** **23 55 11.7 -0.4**
GOPC GO Pecny, Ondr 15.54 336 *e*P **P** **23 54 46.6 +1.2**
GOPC GO Pecny, Ondr 15.54 336 *e*P **P** **23 54 46.6 +1.2**
DAVA Damuels 15.60 321 Pn **Pn** **23 54 44.6 +0.9**
comp=Z,14nm,0.5s,SNR=17
DAVA Damuels 15.60 321 *e*Pn **Pn** **23 54 44.6 +0.9**
comp=Z,14nm,0.5s,SNR=17
PRU Pruhonice 15.68 336 *e*P **P** **23 54 47.5 +0.6**
PRU *e*sP **sP** **23 55 14.2 +0.5**
PRU *ex* x 23 55 21.7
PRU Pruhonice 15.68 336 *e*P **P** **23 54 47.5 +0.6**
PRU Pruhonice 15.68 336 *e*P **P** **23 54 47.5 +0.6**
UPC Upice 15.69 340 *e*P **P** **23 54 48.4 +1.4**
UPC Upice 15.69 340 *e*P **P** **23 54 48.4 +1.4**
UPC Upice 15.69 340 *e*P **P** **23 54 48.4 +1.4**
AKH Akhalkalaki 15.84 64 ⇓*i*P **P** **23 54 48.6 -0.4**
AKH Akhalkalaki 15.84 64 *e*P **P** **23 54 48.5 -0.4**
AKH pmax pmax
comp=Z,22nm,0.9s
AKH Akhalkalaki 15.84 64 *e*Pn **P** **23 54 48.5 -0.4**
comp=Z,22nm,0.9s
NEY Neytrino 15.84 57 ⇓*i*P **P** **23 54 48.3 -0.6**
NEY pmax pmax
comp=Z,11nm,0.8s
KIV Kislovodsk 16.08 55 *e*P **P** **23 54 51.1 -0.4**
KIV pmax pmax
comp=Z,44nm,0.9s
KIV Kislovodsk 16.08 55 *e*Pn **Pn** **23 54 50.7 +1.0**
comp=Z,36nm,0.7s
KIV Kislovodsk 16.08 55 P **P** **23 54 54.4 +2.9**
SNR=12
KIV Kislovodsk 16.08 55 Pn **P** **23 54 54.4 +2.9**
SNR=12
KIV Kislovodsk 16.08 55 *e*Pn **Pn** **23 54 50.7 +1.0**
comp=Z,36nm,0.7s
KVAR Kislovodsk Arr 16.09 55 P **Pn** **23 54 50.4 +0.6**
baz=83,slow=1.6,SNR=23
KBZ Khabaz 16.13 56 P **Pn** **23 54 50.8 +0.6**
comp=Z,2.2nm,0.3s,baz=244,slow=6.1,SNR=104
PVCC Panska Ves 16.14 337 *e*P **P** **23 54 52.8 +0.8**
PVCC *ex* x 23 55 23.3
PVCC Panska Ves 16.14 337 *e*P **P** **23 54 52.8 +0.8**
PVCC Panska Ves 16.14 337 *e*P **P** **23 54 52.8 +0.8**
BNI Bardonecchia 16.18 309 *e*P **Pn** **23 54 51.0 +0.1**
BNI pmax pmax
comp=Z,15nm,1.1s
BNI Bardonecchia 16.18 309 *e*Pn **Pn** **23 54 51.0 +0.1**
comp=Z,15nm,1.1s
BNI Bardonecchia 16.18 309 *e*P **Pn** **23 54 51.0 +0.1**
comp=Z,15nm,1.1s
LEPF PUYLOUBIER 16.18 303 *e*P **P** **23 54 54.1 +1.6**
SENIN Lac Senin/Sane 16.46 314 *e*Pn **P** **23 54 56.2 +0.4**
comp=Z,12nm,0.6s
SENIN *e*Sn **Sn** **23 57 52.9 -3.9**
SENIN Lac Senin/Sane 16.46 314 *e*Pn **P** **23 54 56.2 +0.4**
comp=Z,12nm,0.6s
SENIN *e*Sn **Sn** **23 57 52.9 -3.9**
ZEI Tsey 16.50 60 *e*P **Pn** **23 54 55.6 +0.5**
ZEI pmax pmax
comp=Z,21nm,0.6s
NCK Nalchik 16.52 57 ⇓*i*P **P** **23 54 57.2 +0.9**
GNI Garni 16.54 69 P **P** **23 54 57.1 +0.5**
comp=Z,2.7nm,0.3s,baz=304,slow=4.5,SNR=27
GNI Garni 16.54 69*c i*P **P** **23 54 56.9 +0.3**
GNI pmax pmax
comp=Z,55nm,0.8s
GNI Garni 16.54 69 *e*Pn **P** **23 54 57.2 +0.5**
comp=Z,48nm,1.3s
GNI Garni 16.54 69 P **P** **23 54 57.7 +1.1**
SNR=7.2
GNI Garni 16.54 69 Pn **P** **23 54 57.7 +1.1**
SNR=7.2
GNI Garni 16.54 69 *e*Pn **P** **23 54 57.2 +0.6**
comp=Z,48nm,1.3s
NKC Novy Kostel 16.63 332 *e*P **P** **23 54 58.7 +1.3**
NKC Novy Kostel 16.63 332 *e*P **P** **23 54 58.7 +1.3**
NKC Novy Kostel 16.63 332 *e*P **P** **23 54 58.7 +1.3**
BRG Berggiesshubel 16.64 336 *e*P **P** **23 54 58.4 +0.9**
comp=Z,5.3nm,1.0s
BRG Berggiesshubel 16.64 336 *e*P **P** **23 54 58.4 +0.9**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 16.64 336 *e*P **P** **23 54 58.4 +0.9**
comp=Z,5.0nm,1.0s
GRFO Grafenberg 16.69 329 *e*P **Pn** **23 54 57.0 -0.1**
GRFO pmax pmax
comp=Z,33nm,1.2s
GRFO Grafenberg 16.69 329 *e*Pn **Pn** **23 54 57.0 -0.1**
comp=Z,33nm,1.2s
GRFO Grafenberg 16.69 329 *e*P **Pn** **23 54 57.0 -0.1**
comp=Z,33nm,1.2s
SPAK Spaichingen-Ko 16.69 321 *e*P **Pn** **23 54 57.5 +0.3**
GOF Gofitskoye 16.77 52⇑*e*P **P** **23 54 59.5 +0.5**
GOF pmax pmax
comp=Z,25nm,0.6s
TBLG Delisi 16.82 64 *e*P **P** **23 55 01.7 +2.1**
TBLG pmax pmax
comp=Z,17nm,0.8s
TBLG Delisi 16.82 64 *e*Pn **P** **23 55 01.7 +2.1**
comp=Z,17nm,0.8s
TBLG Delisi 16.82 64 *e*Pn **P** **23 55 01.7 +2.1**
comp=Z,17nm,0.8s
STU Stuttgart 16.93 323 *e*P **Pn** **23 55 00.3 +0.2**
STU pmax pmax
comp=Z,35nm,0.8s
STU Stuttgart 16.93 323 *e*Pn **Pn** **23 55 00.3 +0.2**
comp=Z,35nm,0.8s
STU Stuttgart 16.93 323 *e*P **Pn** **23 55 00.3 +0.2**
comp=Z,35nm,0.8s
BFO Black Forest 17.07 321 *e*P **Pn** **23 55 02.1 +0.3**
BFO pmax pmax
comp=Z,11nm,0.8s
BFO Black Forest 17.07 321 *e*Pn **Pn** **23 55 02.1 +0.3**
comp=Z,11nm,0.8s
BFO Black Forest 17.07 321 *e*P **Pn** **23 55 02.1 +0.3**
comp=Z,11nm,0.8s
LOMF Lomont 17.28 316 *e*P **Pn** **23 55 04.8 +0.3**
CLL Collm 17.32 335 *e*P **Pn** **23 55 05.0 +0.2**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 17.32 335 *e*P **Pn** **23 55 05.0 +0.2**
comp=Z,4.0nm,0.9s
CLL *e*(sP) **pP** **23 55 26.0 +4.8**
CLL *e*sPP 23 55 37.0
CLL Collm 17.32 335 *e*P **Pn** **23 55 05.0 +0.2**
comp=Z,4.0nm,0.9s
ECH Echery 17.61 319 *e*P **P** **23 55 08.4 +0.1**
ECH pmax pmax
comp=Z,16nm,1.2s
ECH Echery 17.61 319 *e*Pn **P** **23 55 08.4 +0.1**
comp=Z,16nm,1.2s
ECH Echery 17.61 319 *e*Pn **P** **23 55 08.4 +0.1**
comp=Z,16nm,1.2s
SSB Saint Sauveur 17.64 308 *e*P **P** **23 55 08.1 -0.5**
SSB pmax pmax
comp=Z,52nm,2.0s
SSB Saint Sauveur 17.64 308 *e*Pn **P** **23 55 08.1 -0.5**
comp=Z,52nm,2.0s
SSB Saint Sauveur 17.64 308 *e*P **P** **23 55 08.1 -0.5**
comp=Z,52nm,2.0s
LANF Langenberg 17.76 322 *e*P **Pn** **23 55 11.1 +0.9**
GROC Groznyy 17.95 60 *e*P **Pn** **23 55 14.6 +2.0**
GROC pmax pmax
comp=Z,35nm,1.0s
GROC Groznyy 17.95 60 *e*P **Pn** **23 55 14.6 +2.0**
comp=Z,35nm,1.0s
SUW Suwalki 18.00 358 *e*P **P** **23 55 12.1 -0.4**
SUW Suwalki 18.00 358 *e*P **P** **23 55 12.1 -0.4**
SUW Suwalki 18.00 358 *e*P **P** **23 55 11.4 -1.1**
comp=Z,58nm,0.9s
SUW Suwalki 18.00 358 *e*P **P** **23 55 11.4 -1.1**
comp=Z,58nm,0.9s
LBL Lubilhac 18.45 306 *e*P **Pn** **23 55 20.0 +1.3**
PLDF La Plantade 18.51 309 *e*P **Pn** **23 55 19.2 -0.2**
VSR Storozhevoye 18.52 30 *e*P **P** **23 55 17.5 -0.6**
VSR pmax pmax
comp=Z,20nm,0.4s
PYM Petit Puy Mans 18.81 308 *e*P **Pn** **23 55 23.7 +0.8**
AGO Saint Agoulin 18.86 309 *e*P **Pn** **23 55 23.4 0.0**
NACGM Naroch 18.95 4 *e*P **P** **23 55 21.0 -1.8**
NACGM *e*S **S** **23 58 47.0 -6.5**
AKT Akhty 18.98 66 *e*P **Pn** **23 55 25.1 +0.1**
AKT *e*S **Sn** **23 58 56.8 -0.4**
AKT pmax pmax
comp=Z,24nm,0.7s
AKT smax smax
comp=N,6.0nm,0.4s
AKT smax smax
comp=E,5.0nm,0.4s
WLF Walferdange 19.03 321 ⇓P **Pn** **23 55 27.5 +2.1**
comp=Z,23nm,1.1s
WLF Walferdange 19.03 321 *e*P **P** **23 55 24.6 +0.9**
WLF pmax pmax
comp=Z,25nm,0.9s
WLF Walferdange 19.03 321 *e*P **P** **23 55 24.6 +0.9**
comp=Z,25nm,0.9s
WLF Walferdange 19.03 321 *e*P **P** **23 55 24.6 +0.9**
comp=Z,25nm,0.9s
IDID Didziasalis 19.36 4 *e*P **P** **23 55 26.6 -0.6**
IDID IAmb IAmb 23 55 28.9
comp=Z,15nm,0.9s
IIGN Ignalina 19.37 3 *e*P **P** **23 55 27.0 -0.4**
IIGN IAmb IAmb 23 55 27.9
comp=Z,21nm,0.6s
LPSR Galich'ya Gora 19.50 27 *e*P **P** **23 55 28.3 -0.6**
LPSR pmax pmax
comp=Z,60nm,0.6s
ISAL Salakas 19.58 3 *e*P **P** **23 55 29.2 -0.5**
SNR=29
ISAL Salakas 19.58 3 *e*P **P** **23 55 29.2 -0.5**
ISAL IAmb IAmb 23 55 30.1
comp=Z,15nm,0.5s
VRH Novokhopyorsk 19.61 34 *e*P **P** **23 55 29.8 -0.2**
VRH pmax pmax
comp=Z,80nm,0.7s
MEM Membach 19.70 323 ⇓P **Pn** **23 55 32.8 -0.5**
comp=Z,23nm,0.8s
IZAR Zarasai 19.77 3 *e*P **P** **23 55 31.0 -0.8**
IZAR IAmb IAmb 23 55 32.3
comp=Z,20nm,0.8s
HGN Heimansgroeve 19.84 324 *e*P **Pn** **23 55 36.9 +2.0**
comp=Z,18nm,0.8s
BCLA Clavier 19.93 322 ⇑P **Pn** **23 55 38.5 +2.6**
comp=Z,8.8nm,1.1s
DOU Dourbes 20.09 321 ⇓P **P** **23 55 36.5 +1.3**
BSD Bornholm Skovb 20.17 344 *i* P **P** **23 55 34.8 -1.3**
BSD Bornholm Skovb 20.17 344 *e*P **P** **23 55 34.8 -1.3**
WTSB Winterswijk 20.26 327 *e*P **P** **23 55 38.5 +1.4**
comp=Z,14nm,0.6s
WTSB Winterswijk 20.26 327 *e*P **P** **23 55 38.5 +1.4**
comp=Z,14nm,0.6s
UCC Uccle 20.63 322 *e*P Pn 23 55 43.0 -1.2
UCC pmax pmax
comp=Z,20nm,0.8s
UCC Uccle 20.63 322 *e*P Pn 23 55 43.0 -1.2
comp=Z,20nm,0.8s
OBN Obninsk 20.85 20 P **P** **23 55 41.5 -1.9**
comp=Z,45nm,0.4s,baz=130,slow=22,SNR=11
OBN Obninsk 20.85 20*c i*P **P** **23 55 42.3 -1.0**
OBN pmax pmax
comp=Z,35nm,1.0s
OBN MLR MLR
comp=Z,158nm,18.0s
OBN Obninsk 20.85 20 *e*P **P** **23 55 42.4 -1.0**
comp=Z,50nm,0.5s
TAM Tamanrasset 21.03 236 *e*P **P** **23 55 48.8 +3.0**
TAM pmax pmax
comp=Z,5.0nm,0.9s
TAM Tamanrasset 21.03 236 *e*P **P** **23 55 48.8 +3.0**
comp=Z,4.5nm,0.9s
TAM Tamanrasset 21.03 236 *e*P **P** **23 55 48.8 +3.0**
comp=Z,4.5nm,0.9s
MENF Mencas 21.63 319 *e*P **P** **23 55 54.4 +2.6**
MOS Moscow 21.69 21 *e*P **P** **23 55 49.7 -2.6**
MOS *e*S **S** **23 59 41.0 -6.6**
VSU Vasula 22.50 3⇑*i*P **P** **23 56 00.1 -0.9**
VSU pmax pmax
comp=Z,35nm,0.8s
ES19 SONSECA Array 22.59 288 *e*P **P** **23 56 03.2 +0.9**
ES19 SONSECA Array 22.59 288 *e*P **P** **23 56 03.2 +0.9**
ESDC Sonseca Array 22.64 288 P **P** **23 56 03.5 +0.7**
comp=Z,3.3nm,0.5s,baz=82,slow=9.9,SNR=40
PAB San Pablo 22.94 287 *e*P **P** **23 56 06.8 +0.9**
PAB pmax pmax
comp=Z,29nm,1.3s
PAB San Pablo 22.94 287 *e*P **P** **23 56 06.8 +0.9**
comp=Z,29nm,1.3s
PAB San Pablo 22.94 287 *e*P **P** **23 56 06.8 +0.9**
comp=Z,29nm,1.3s
PUL Pulkovo 24.07 7⇑*i*P **P** **23 56 16.7 +0.9**
PUL pmax pmax
comp=Z,61nm,0.9s
PBRG Braganca 24.82 293 *e*P **P** **23 56 24.2 +1.2**
MVO Moncorvo 25.01 291 *e*P **P** **23 56 26.3 +1.6**
HFS Hagfors 25.09 347 P **P** **23 56 24.2 -1.0**
comp=Z,3.1nm,0.5s,baz=163,slow=12,SNR=27
PBAR Barrancos 25.10 284 *e*P **P** **23 56 27.2 +1.7**
PMRV Marv??o 25.30 287 *e*P **P** **23 56 28.3 +1.0**
PCBR Castelo Branco 25.35 288 *e*P **P** **23 56 29.4 +1.7**
MTE Manteigas 25.39 290 *e*P **P** **23 56 30.0 +1.8**
FINES FINESS Array B 25.46 2 P **P** **23 56 27.6 -0.9**
comp=Z,13nm,0.6s,baz=161,slow=11,SNR=115
FINES PcP **PcP** **23 59 58.6 +0.6**
comp=Z,1.0nm,0.5s,baz=162,slow=1.3,SNR=3.9
FINES ScP **ScP** **00 03 29.4 -0.4**
comp=Z,2.3nm,0.8s,baz=211,slow=2.2,SNR=4.8
FIA1 FINESS Array S 25.46 2 *e*P **P** **23 56 27.9 -0.6**
comp=Z,20nm,0.8s
PESTR Estremoz 25.48 286 *e*P **P** **23 56 30.7 +1.7**
POLO Lamas de Olo 25.59 292 *e*P **P** **23 56 29.9 -0.1**
PVIS Viseu 25.66 290 *e*P **P** **23 56 32.1 +1.5**
PVAQ Vaqueiros 25.71 283 *e*P **P** **23 56 32.4 +1.3**
PBEJ Beja 25.77 284 *e*P **P** **23 56 35.0 +3.5**
PBDV Barranco-do-Ve 25.90 282 *e*P **P** **23 56 36.2 +3.4**
PCVE Castro Verde 25.94 283 *e*P **P** **23 56 36.1 +3.0**
MESJ Messejana 26.06 284 *e*P **P** **23 56 36.0 +1.8**
MESJ AMb AMB 23 56 38.9
comp=Z,58nm,2.1s
MESJ Messejana 26.06 284 *e*P **P** **23 56 36.0 +1.8**
comp=Z,58nm,2.1s
MESJ Messejana 26.06 284 *e*P **P** **23 56 36.0 +1.8**
MESJ Messejana 26.06 284 *e*P **P** **23 56 36.0 +1.8**
PNCL Nicolau / Gran 26.28 284 *e*P **P** **23 56 40.0 +3.9**
NB2 NORSAR Subarra 26.40 346 P **P** **23 56 36.3 -0.8**
comp=Z,1.8nm,0.5s,baz=150,slow=10
NOA NORSAR Array B 26.40 346 P **P** **23 56 35.0 -2.1**
comp=Z,1.3nm,0.5s,baz=102,slow=14,SNR=9.2
MORF Marmelete 26.46 283 *e*P **P** **23 56 33.9 -4.0**
KLMR Klimovskoe 26.66 17 *e*P **P** **23 56 37.2 -2.0**
KLMR *e* 23 57 22.7
KLMR pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 26.66 17 *e*P **P** **23 56 37.3 -2.0**
KLMR AMP 23 56 45.5
comp=Z,12nm,0.9s
KLMR *e*PP **PnPn** **23 57 22.7 -2.1**
GEYT Alibeck 26.93 76 P **P** **23 56 43.1 +1.1**
comp=Z,18nm,0.5s,baz=275,slow=8.5,SNR=61
EKA Eskdalemuir Ar 26.97 324 *e*P **P** **23 56 43.0 +0.9**
comp=Z,6.9nm,0.5s,baz=122,slow=9.4,SNR=35
ESK Eskdalemuir 26.98 324 *e*P **P** **23 56 43.5 +1.2**
ESK pmax pmax
comp=Z,66nm,1.5s
ESK Eskdalemuir 26.98 324 *e*P **P** **23 56 43.5 +1.2**
comp=Z,66nm,1.5s
AKTO Aktyubinsk 28.13 49 P **P** **23 56 52.5 -0.1**
comp=Z,5.6nm,0.5s,baz=251,slow=7.4,SNR=22
ABKAR Akbulak array 29.02 52 *e*P **P** **23 57 00.5 +0.1**
comp=Z,43nm,0.5s
TOA0 Torodi Ar. Sit 30.59 228 *e*P **P** **23 57 16.0 +1.3**
TORD Torodi Ar. Bea 30.59 228 P **P** **23 57 16.3 +1.7**
comp=Z,24nm,0.7s,baz=37,slow=8.5,SNR=17
ARU Arti 30.74 38 P **P** **23 57 15.1 -0.5**
comp=Z,5.0nm,0.4s,baz=251,slow=6.8,SNR=20
ARU Arti 30.74 38*d i*P **P** **23 57 15.2 -0.4**
ARU 23 58 17.1
ARU S **S** **00 02 13.4 +1.0**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 30.74 38 *e*P **P** **23 57 15.1 -0.5**
comp=Z,6.8nm,0.5s
SOKR Solikamsk 31.54 31*c i*P **P** **23 57 20.3 -2.2**
SOKR pmax pmax
comp=Z,8.0nm,0.5s
SVE Sverdlovsk 31.95 38 *e*P **P** **23 57 26.4 +0.2**
SVE pmax pmax
comp=Z,18nm,0.4s
APA Apatity 32.01 7⇓*i*P **P** **23 57 25.5 -1.1**
APA MLR MLR
comp=Z,600nm,17.0s
WSAR Wadi Sarin 32.20 104 P **P** **23 57 28.5 -0.3**
comp=Z,6.4nm,1.1s,baz=288,slow=2.9,SNR=4.4
LVZ Lovozero 32.45 7 *e*P **P** **23 57 29.8 -0.7**
LVZ pmax pmax
comp=Z,20nm,0.8s
LVZ Lovozero 32.45 7 *e*P **P** **23 57 29.8 -0.7**
comp=Z,20nm,0.8s
ARCES ARCESS Array B 33.57 1 P **P** **23 57 39.0 -1.2**
comp=Z,13nm,0.5s,baz=177,slow=9.0,SNR=157
ARCES PcP **PcP** **00 00 19.2 +0.5**
comp=Z,1.7nm,0.6s,baz=173,slow=3.1,SNR=5.2
ARE0 ARCESS Array S 33.57 1 *e*P **P** **23 57 39.1 -1.2**
comp=Z,15nm,0.6s
KEV Kevo 33.82 2 *e*P **P** **23 57 41.2 -1.1**
KEV pmax pmax
comp=Z,117nm,1.8s
KEV Kevo 33.82 2 *e*P **P** **23 57 41.2 -1.1**
comp=Z,117nm,1.8s

BRVK	**Borovoye**	**36.15**	**47**	*d*	*i*P		**P**		**23 58 03.6 +1.0**
BRVK						pmax	pmax		
	comp=Z,64nm,2.5s								
BRVK	**Borovoye**	**36.15**	**47**		*e*P		**P**		**23 58 03.4 +0.7**
	comp=Z,10nm,1.0s								
BVAR	**Borovoye Array**	**36.21**	**47**		P		**P**		**23 58 03.2 +0.1**
	comp=Z,1.6nm,0.3s,baz=254,slow=6.0,SNR=25								
KBL	**Kabul**	**36.24**	**79**		*e*P		**P**		**23 58 05.6 +1.7**
KBL						pmax	pmax		
	comp=Z,13nm,1.4s								
KBL	**Kabul**	**36.24**	**79**		*e*P		**P**		**23 58 05.6 +1.7**
	comp=Z,13nm,1.4s								
KBL	**Kabul**	**36.24**	**79**		*e*P		**P**		**23 58 05.6 +1.7**
	comp=Z,13nm,1.4s								
EKS2	**Erkin-Say**	**38.31**	**65**		P		**P**		**23 58 23.0 +1.7**
	SNR=19								
AML	**Almayashu**	**38.32**	**65**		P		**P**		**23 58 22.7 +1.1**
	SNR=9.4								
USP	**Ospenovka**	**38.77**	**64**		P		**P**		**23 58 25.6 +0.7**
	SNR=8.2								
AAK	**Ala-Archa**	**38.84**	**65**	*c*	*i*P		**P**		**23 58 27.4 +1.7**
AAK						pmax	pmax		
	comp=Z,19nm,0.9s								
AAK	**Ala-Archa**	**38.84**	**65**		P		**P**		**23 58 27.4 +1.7**
	SNR=21								
AAK	**Ala-Archa**	**38.84**	**65**		*e*P		**P**		**23 58 27.3 +1.6**
	comp=Z,16nm,0.8s								
AAK	**Ala-Archa**	**38.84**	**65**		P		**P**		**23 58 27.6 +1.9**
	SNR=9.1								
AAK	**Ala-Archa**	**38.84**	**65**		P		**P**		**23 58 27.6 +1.9**
	SNR=9.1								
FRU	**Bishkek**	**38.91**	**64**	*i*	P		**P**		**23 58 27.5 +1.4**
FRU						pmax	pmax		
	comp=Z,70nm,1.6s								
UCH	**Uchtor**	**38.91**	**65**		P		**P**		**23 58 27.8 +1.2**
	SNR=8.2								
CHMS	**Chumysh**	**38.98**	**64**		P		**P**		**23 58 28.1 +1.4**
	SNR=18								
KBK	**Karagaybulak**	**39.17**	**64**		P		**P**		**23 58 30.1 +1.6**
	SNR=13								
KZA	**Kyzart**	**39.47**	**65**		P		**P**		**23 58 33.3 +2.0**
	SNR=12								
TKM2	**Tokmak 2**	**39.61**	**64**		P		**P**		**23 58 33.3 +1.2**
	SNR=14								
DBIC	**Dimbokro**	**39.64**	**230**		P		**P**		**23 58 35.1 +2.8**
	comp=Z,2.5nm,1.0s,baz=15,slow=6.4,SNR=3.2								
DBIC						LR	LR		00 16 49.9
	comp=Z,125nm,19.4s,baz=120,slow=39								
ULHL	**Ulahol**	**40.18**	**65**		P		**P**		**23 58 38.8 +2.0**
	SNR=7.2								
KURBB	**Kurchatov Arra**	**41.07**	**52**		P		**P**		**23 58 44.1 +0.3**
KURBB						ScP	**ScP**		**00 04 23.4 -0.8**
	comp=Z,36nm,0.4s,baz=278,slow=8.6,SNR=304								
KURK	**Kurchatov**	**41.13**	**52**	*c*	*i*P		**P**		**23 58 44.4 +0.2**
KURK						pmax	pmax		
	comp=Z,37nm,1.0s								
KURK	**Kurchatov**	**41.13**	**52**		*e*P		**P**		**23 58 44.5 +0.2**
	comp=Z,37nm,0.8s								
KURK						ScP	**ScP**		**00 04 23.4 -1.0**
KURK	**Kurchatov**	**41.13**	**52**		P		**P**		**23 58 44.9 +0.6**
	SNR=8.4								
KURK	**Kurchatov**	**41.13**	**52**		P		**P**		**23 58 44.9 +0.6**
	SNR=8.4								
SPITS	**Spitsbergen Ar**	**42.40**	**358**		P		**P**		**23 58 54.1 -0.2**
	comp=Z,2.0nm,0.5s,baz=164,slow=7.8,SNR=16								
MAKZ	**Makanchi**	**43.61**	**57**		*e*P		**P**		**23 59 05.1 +0.6**
MAKZ						pmax	pmax		
	comp=Z,34nm,0.6s								
MAKZ	**Makanchi**	**43.61**	**57**		*e*P		**P**		**23 59 05.1 +0.6**
	comp=Z,34nm,0.6s								
MK31	**Makanchi Array**	**43.83**	**57**		*e*P		**P**		**23 59 06.5 +0.2**
MK31	**Makanchi Array**	**43.83**	**57**		*e*P		**P**		**23 59 06.5 +0.2**
MKAR	**Makanchi Array**	**43.83**	**57**		P		**P**		**23 59 06.9 +0.7**
	comp=Z,86nm,0.5s,baz=271,slow=8.0,SNR=1670								
MKAR						ScP	**ScP**		**00 04 34.9 -0.6**
	comp=Z,0.3nm,0.4s,baz=270,slow=3.7,SNR=5.6								
MKAR	**Makanchi Array**	**43.83**	**57**		*e*P		**P**		**23 59 06.5 +0.2**
	comp=Z,956nm,0.4s								
MKAR						ScP	**ScP**		**00 04 34.9 -0.6**
MK01	**Makanchi Array**	**43.84**	**57**		*e*P		**P**		**23 59 06.5 +0.2**
NVS	**Novosibirsk**	**43.92**	**46**	⇓	*i*P		**P**		**23 59 08.2 +1.4**
NVS						pmax	pmax		
	comp=Z,94nm,0.8s								
NVS						pmax	pmax		
	comp=N,13nm,0.7s								
NVS						pmax	pmax		
	comp=E,30nm,0.7s								
ZAA0	**Zalesovo Array**	**44.86**	**47**		*e*P		**P**		**23 59 14.0 -0.3**
	comp=E,42nm,0.9s								
ZALV	**Zalesovo Beam**	**44.86**	**47**		P		**P**		**23 59 14.2 -0.1**
	comp=E,25nm,0.4s,baz=267,slow=9.4,SNR=147								
ZALV						ScP	**ScP**		**00 04 38.0 -1.5**
	comp=E,1.0nm,0.6s,baz=261,slow=3.6,SNR=4.0								
ZALV	**Zalesovo Beam**	**44.86**	**47**		*e*P		**P**		**23 59 13.9 -0.4**
ZALV						ScP	**ScP**		**00 04 38.0 -1.5**
WMQ	**Urumqi**	**48.11**	**60**		P		**P**		**23 59 41.3 +1.3**
WMQ	**Urumqi**	**48.11**	**60**		pP		pP		23 59 58.0 -2.4
PYUN	**Piuthan**	**49.65**	**82**		*e*P		**P**		**23 59 53.2 +1.1**
	comp=E,32nm,0.6s								
DANN	**Dangsing**	**50.16**	**81**		*e*P		**P**		**23 59 57.6 +1.5**
	comp=E,4.8nm,1.0s								
KOLN	**Koldanda**	**50.27**	**82**		*e*P		**P**		**23 59 57.7 +0.8**
	comp=E,14nm,0.7s								
GKN	**Gorkha**	**51.01**	**81**		*e*P		**P**		**00 00 02.8 +0.5**
	comp=E,17nm,0.4s								
DMN	**Daman**	**51.55**	**81**		*e*P		**P**		**00 00 07.4 +0.9**
	comp=E,36nm,0.8s								
KKN	**Kakani**	**51.61**	**81**		*e*P		**P**		**00 00 07.5 +0.6**
	comp=E,11nm,0.5s								
PKIN	**Phulchoki**	**51.80**	**81**		*e*P		**P**		**00 00 09.4 +1.0**
PKI	**Pulchoki**	**51.81**	**81**		*e*P		**P**		**00 00 08.9 +0.4**
	comp=E,23nm,0.9s								
GUN	**Gumba**	**52.04**	**81**		*e*P		**P**		**00 00 10.8 +0.5**
	comp=E,14nm,0.4s								
JIRN	**Jiri**	**52.40**	**81**		*e*P		**P**		**00 00 13.5 +0.6**
	comp=E,17nm,0.4s								
RAMN	**Ramite**	**53.03**	**81**		*e*P		**P**		**00 00 17.4 -0.1**
	comp=E,22nm,0.6s								
KNGR	**Kungurtug, Tuv**	**53.04**	**50**	⇓	*i*P		**P**		**00 00 17.1 0.0**
TAPN	**Taplejung**	**53.74**	**80**		*e*P		**P**		**00 00 23.2 +0.4**
	comp=E,7.2nm,0.6s								
LSA	**Lhasa**	**55.46**	**76**		*e*P		**P**		**00 00 36.0 +0.7**
	comp=E,5.6nm,0.7s								
TULEG	**Thule**	**56.04**	**344**		*e*P		**P**		**00 00 38.6 +0.4**
	comp=E,14nm,1.2s								
TLY	**Talaya**	**56.47**	**47**		P		**P**		**00 00 42.9 +1.2**
	comp=E,3.4nm,0.5s,baz=262,slow=6.4,SNR=8.2								
TLY	**Talaya**	**56.47**	**47**		*e*P		**P**		**00 00 42.6 +0.9**
	comp=E,12nm,1.0s								
TLY	**Talaya**	**56.47**	**47**		P		**P**		**00 00 43.3 +1.6**
	SNR=6.1								
TLY	**Talaya**	**56.47**	**47**		P		**P**		**00 00 43.3 +1.6**
	SNR=6.1								
GTA	**Gaotai**	**58.11**	**62**		*e*P		**P**		**00 00 54.1 +0.6**
GTA						pP	pP		00 01 10.4 -4.1
GTA						sP	sP		00 01 18.0 -5.8
SONM	**Songino Array**	**59.42**	**51**		P		**P**		**00 01 03.2 +0.6**
	comp=E,8.6nm,0.5s,baz=287,slow=7.3,SNR=70								
SONA1	**Songino Array**	**59.42**	**51**		*e*P		**P**		**00 01 02.8 +0.2**
ULN	**Ulaanbaatar**	**59.82**	**51**	*c*	*i*P		**P**		**00 01 05.7 +0.4**
ULN						pmax	pmax		
	comp=Z,14nm,0.9s								
ULN	**Ulaanbaatar**	**59.82**	**51**		*e*P		**P**		**00 01 05.7 +0.4**
	comp=Z,14nm,0.6s								
ULN	**Ulaanbaatar**	**59.82**	**51**		P		**P**		**00 01 05.4 +0.1**
	SNR=6.7								
ULN	**Ulaanbaatar**	**59.82**	**51**		P		**P**		**00 01 05.4 +0.1**
	SNR=6.7								
TIXI	**Tiksi**	**60.58**	**21**	*c*	*i*P		**P**		**00 01 09.6 -0.2**
TIXI						pmax	pmax		
	comp=Z,5.0nm,0.9s								
SCHQ	**Schefferville**	**62.12**	**319**		P		**P**		**00 01 21.7 +1.1**
	comp=Z,2.9nm,0.5s,baz=49,slow=6.5,SNR=15								
SCHQ	**Schefferville**	**62.12**	**319**		*e*P		**P**		**00 01 21.4 +0.8**
	comp=Z,21nm,1.4s								
LZH	**Lanzhou**	**62.38**	**64**		*e*P		**P**		**00 01 23.5 +0.7**
LZH						pP	pP		00 01 39.8 -4.2
LZH						sP	sP		00 01 46.8 -6.4
LZH					*e*PP		**PP**		**00 03 43.3 +2.6**
RES	**Resolute Bay**	**62.67**	**345**		*e*P		**P**		**00 01 24.5 +0.6**
	comp=Z,1.1nm,0.6s								
CD2	**Chengdu**	**64.67**	**69**		*e*P		**P**		**00 01 38.0 +0.2**
HHC	**Hu-ho-hao-te**	**65.68**	**56**		*e*P		**P**		**00 01 45.5 +1.2**
HHC						pP	pP		00 02 01.8 -3.8
HHC						sP	sP		00 02 08.8 -6.0
HHC						PP	**PP**		**00 04 12.1 +2.7**
HHC						S	**S**		**00 10 23.6 -0.2**
HHC						sS	pS		00 10 51.4 +2.5
HHC	**Hu-ho-hao-te**	**65.68**	**56**			SS	SS		00 14 39.3 +0.6
CHTO	**Chiang Mai**	**66.91**	**83**		*e*P		**P**		**00 01 52.2 -0.1**
	comp=Z,2.5nm,0.8s								
XAN	**Xi'an**	**67.02**	**64**		P		**P**		**00 01 53.4 +0.5**
XAN						pP	pP		00 01 59.1 -15
CMAR	**Chiang Mai Arr**	**67.09**	**83**		P		**P**		**00 01 53.5 0.0**
	comp=Z,1.5nm,0.4s,baz=299,slow=7.8,SNR=15								
CMAR	**Chiang Mai Arr**	**67.09**	**83**	*c*	*e*P		**P**		**00 01 54.2 +0.7**
CMAR						pmax	pmax		
	comp=Z,2.0nm,0.4s								
CM01	**Chiang Mai Arr**	**67.12**	**83**		*e*P		**P**		**00 01 53.9 +0.3**
BILL	**Bilibino**	**72.38**	**14**	*i*	P		**P**		**00 02 23.8 -1.3**
BILL				*i*					00 02 43.4
BILL						pmax	pmax		
	comp=Z,2.0nm,1.0s								
FCC	**Fort Churchill**	**72.64**	**331**		*e*P		**P**		**00 02 27.6 +0.8**
	comp=Z,2.2nm,0.7s								
SEY	**Seymchan**	**72.99**	**22**	⇓	*i*P		**P**		**00 02 30.0 +1.2**
KLR	**Kul'dur**	**73.52**	**41**	*c*	*i*P		**P**		**00 02 31.7 -0.5**
INK	**Inuvik**	**74.67**	**352**		P		**P**		**00 02 38.6 +0.1**
	comp=Z,1.2nm,0.5s,baz=14,slow=5.5,SNR=9.3								
INK	**Inuvik**	**74.67**	**352**		*e*P		**P**		**00 02 38.9 +0.3**
	comp=Z,9.9nm,1.6s								
YKA	**Yellowknife Ar**	**76.43**	**342**		P		**P**		**00 02 49.1 +0.4**
	comp=Z,1.4nm,0.5s,baz=30,slow=5.2,SNR=27								
USRK	**Ussuriysk Ar.**	**76.67**	**45**		P		**P**		**00 02 50.3 0.0**
	comp=Z,6.7nm,0.7s,baz=297,slow=5.0,SNR=9.3								
KS01	**Wonju Array Si**	**78.22**	**52**		*e*P		**P**		**00 02 58.8 -0.4**
KSAR	**Wonju Array Be**	**78.23**	**52**		P		**P**		**00 02 59.6 +0.4**
KSRS	**Korea Array**	**78.25**	**52**		P		**P**		**00 02 59.6 +0.4**
	comp=Z,3.5nm,0.6s,baz=315,slow=4.7,SNR=6.7								
KSRS	**Korea Array**	**78.25**	**52**		P		**P**		**00 02 59.7 +0.4**
KSRS						pmax	pmax		
	comp=Z,3.0nm,0.5s								
FFC	**Flin Flon**	**78.57**	**332**		*e*P		**P**		**00 03 01.2 +0.4**
	comp=Z,5.0nm,0.6s								
ULM	**Lac du Bonnet**	**79.24**	**326**		P		**P**		**00 03 05.5 +0.9**
	comp=Z,0.8nm,0.5s,baz=61,slow=6.0,SNR=3.3								
ILAR	**Eielson Array**	**79.30**	**356**		P		**P**		**00 03 05.1 +0.5**
	comp=Z,0.7nm,0.5s,baz=340,slow=3.8,SNR=12								
DAWY	**Dawson**		**79.42**	**353**	*e*P		**P**		**00 03 06.3 +1.0**
	comp=Z,27nm,1.9s								
WRH	**Wood River Hil**	**79.66**	**357**		*e*P		**P**		**00 03 07.1 +0.6**
	comp=Z,5.8nm,0.7s								
MCK	**McKinley**	**80.44**	**357**		*e*P		**P**		**00 03 10.4 -0.4**
	comp=Z,3.0nm,0.7s								
YSS	**Yuzh-Sakhalins**	**80.63**	**38**		*e*P		**P**		**00 03 13.4 +1.4**
YSS						pmax	pmax		
	comp=Z,12nm,0.9s								
CAST	**Castle Rocks**	**80.85**	**358**		*e*P		**P**		**00 03 14.4 +1.4**
	comp=Z,3.9nm,0.7s								
DHY	**Denali Highway**	**81.02**	**356**		*e*P		**P**		**00 03 14.3 +0.3**
	comp=Z,6.0nm,0.9s								
MAJO	**Matsushiro**	**85.21**	**48**	⇑	*i*P		**P**		**00 03 37.2 +1.2**
MAJO						pmax	pmax		
	comp=Z,8.0nm,1.1s								
MJAR	**Matsushiro Arr**	**85.21**	**48**		P		**P**		**00 03 36.7 +0.8**
	comp=Z,4.4nm,0.9s,baz=309,slow=5.2,SNR=7.8								
KDAK	**Kodiak Island**	**86.51**	**358**		*i*P		**P**		**00 03 44.2 +2.3**
PDAR	**Pinedale Array**	**91.04**	**328**		P		**P**		**00 04 04.4 +0.5**
	comp=Z,2.2nm,0.6s,baz=48,slow=4.4,SNR=2.6								
WRA	**Warramunga Arr**	**117.30**	**96**		PKP		**PKPdf**		**00 09 45.0 +0.3**
	comp=Z,1.4nm,0.7s,baz=318,slow=1.8,SNR=16								
WRA	**Warramunga Arr**	**117.30**	**96**		PKIKP		**PKPdf**		**00 09 45.0 +0.3**
WRA						pmax	pmax		
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**118.81**	**99**		PKP		**PKPdf**		**00 09 48.1 +0.6**
	comp=Z,1.5nm,0.5s,baz=304,slow=1.3,SNR=27								
STKA	**Stephens Creek**	**128.54**	**105**		PKP		**PKPdf**		**00 10 06.9 +1.0**
	comp=Z,3.2nm,0.8s,baz=351,slow=5.2,SNR=3.4								

NNC 20 23:53:58.6±6.8, 37.07N×70.56E, *h*0km, mb3.6, mpv3.2, 5C-3D, Error ellipse: s-maj=53.2km s-min=45.6km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.74**	**37**	⇓P	Pn	23 54 57.9	+0.2
	2.1nm,0.3s						
SFK				⇑Sn	Sn	23 55 44.4	+1.9
	7.2nm,0.3s						
MNAS	**Manas**	**5.62**	**15**	⇓Pn	Pn	23 55 24.4	+0.9
	0.7nm,0.3s						
MNAS				⇑Sn	Sn	23 56 29.7	+1.0
	3.1nm,0.4s						
KK31	**Karatay Array**	**6.03**	**360**	⇑Pn	Pn	23 55 30.6	+1.6
	0.9nm,0.3s,baz=177,slow=12						
KK31				⇓Sn	Sn	23 56 41.4	+2.6
	1.8nm,0.4s,baz=187,slow=22						
AAK	**Ala-Archa**	**6.33**	**27**	⇑Pn	Pn	23 55 30.8	-2.5
	0.9nm,0.4s						
AAK				⇑Sn	Sn	23 56 44.3	-2.1
	3.7nm,0.7s						

MEX 20 23:56:05.2±0.6, 16.46N×98.51W, h7km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.10**	**357**	*e*P	Pg	23 56 22.6	-3.8
TLIG				*i*S	Sg	23 56 37.6	-3.2
ACX	**Acapulco**	**1.36**	**288**	*e*P	Pn	23 56 28.8	-1.8
ACX				*e*S	Sb	23 56 46.3	-2.2
CAIG	**El Cayaco**	**1.78**	**290**	*e*P	Pn	23 56 33.1	-3.3
CAIG				*i*S	Sn	23 56 54.4	-5.0
VHO	**Vista Hermosa**	**1.81**	**70**	*i*P	Pn	23 56 33.7	-3.9
VHO				*i*S	Sn	23 56 55.5	-4.9
PLIG	**Platanillo**	**2.15**	**334**	*e*P	Pn	23 56 38.9	-2.6
PLIG				*i*S	Sn	23 57 04.1	-4.4
TPIG	**Tehuac#an**	**2.24**	**29**	*e*P	Pn	23 56 39.1	-3.8
TPIG				*i*S	Sn	23 57 06.9	-4.0
HUIG	**Huatulco**	**2.41**	**106**	*e*P	Pn	23 56 42.4	-2.7
HUIG				*i*S	Sn	23 57 10.0	-4.8
YAIG	**Yautepec**	**2.45**	**348**	*i*P	Pn	23 56 43.0	-2.8
YAIG				*i*S	Sn	23 57 12.6	-3.6
ARIG	**Puente Sto Nin**	**2.52**	**316**	*e*P	Pn	23 56 44.3	-2.4
ARIG				*i*S	Sn	23 57 13.3	-4.4

*ISCJB **21** 00:04:29.1±0.8, 36.18N±0.05×70.9E±0.1, h100km, Error ellipse: s-maj=12.4km s-min=5.2km az=157.8*
*NNC **21** 00:04:36.1±4.3, 36.86N×70.86E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=34.5km s-min=15.1km az=175.0*
ISC 21 00:04:30.6±1.3, 36.25N±0.09×70.93E±0.08, h100km, n22, σ1s79/28, 9C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.05**	**327**	⇓P	**Pn**	**00 05 18.3**	**+1.2**
	14nm,0.3s						
DZET				⇓S	**Sn**	**00 05 52.2**	**-0.7**
	55nm,0.3s						
SFK	**Sufi-Kurgan**	**4.27**	**28**	⇑P	**Pn**	**00 05 36.4**	**+2.8**
	38nm,0.3s						
SFK				⇑S	**Sn**	**00 06 24.1**	**+1.6**
	15nm,0.2s						
AML	**Almayashu**	**6.25**	**19**	P	**Pn**	**00 06 01.8**	**+1.2**
	SNR=20						
MNAS	**Manas**	**6.34**	**11**	⇑P	**Pn**	**00 06 02.8**	**+1.2**
	3.1nm,0.5s						
MNAS				⇑S	**Sn**	**00 07 09.4**	**-3.3**
	7.3nm,0.5s						
UCH	**Uchtor**	**6.58**	**24**	P	**Pn**	**00 06 06.5**	**+1.3**
	SNR=8.0						
KZA	**Kyzart**	**6.72**	**29**	P	**Pn**	**00 06 08.3**	**+1.4**
	SNR=9.4						
EKS2	**Erkin-Say**	**6.77**	**18**	P	**Pn**	**00 06 08.9**	**+1.5**
	SNR=18						
KK31	**Karatay Array**	**6.85**	**357**	⇑P	**Pn**	**00 06 09.1**	**+0.7**
	5.2nm,0.3s,baz=176,slow=12,SNR=255						
KK31				⇑S	**Sn**	**00 07 21.2**	**-3.6**
	3.5nm,0.4s,baz=186,slow=24						
AAK	**Ala-Archa**	**6.95**	**22**	⇑P	**Pn**	**00 06 11.1**	**+1.2**
	4.0nm,0.5s						
AAK				⇓S	**Sn**	**00 07 24.7**	**-2.7**
	12nm,0.7s						
AAK	**Ala-Archa**	**6.95**	**22**	P	**Pn**	**00 06 11.4**	**+1.6**
	SNR=11						
CHMS	**Chumysh**	**7.36**	**22**	P	**Pn**	**00 06 16.3**	**+1.1**
	SNR=6.1						
USP	**Ospenovka**	**7.53**	**20**	P	**Pn**	**00 06 18.2**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**7.57**	**27**	⇓P	**Pn**	**00 06 19.4**	**+1.0**
	2.9nm,1.2s						
TKM2				⇓S	**Sn**	**00 07 42.5**	**-0.2**
	3.9nm,0.8s						
PYUN	**Piuthan**	**13.05**	**125**	*e*P	**Pn**	**00 07 31.7**	**-0.6**
	7.0nm,0.5s						
KOLN	**Koldanda**	**13.67**	**125**	*e*P	**Pn**	**00 07 39.9**	**-0.5**
	9.8nm,0.4s						
GKN	**Gorkha**	**14.22**	**121**	*e*P	**Pn**	**00 07 45.9**	**-1.6**
	4.3nm,0.3s						
DMN	**Daman**	**14.79**	**122**	*e*P	**Pn**	**00 07 53.4**	**-1.5**
	9.3nm,0.3s						
KKN	**Kakani**	**14.80**	**121**	*e*P	**Pn**	**00 07 53.5**	**-1.5**
	6.0nm,0.4s						
PKIN	**Phulchoki**	**15.01**	**121**	*e*P	**Pn**	**00 07 56.5**	**-1.2**
	4.4nm,0.3s						
PKI	**Pulchoki**	**15.03**	**121**	*e*P	**Pn**	**00 07 56.2**	**-1.8**
	5.1nm,0.5s						
AB31	**Akbulak array**	**15.27**	**332**	⇑P	**P**	**00 08 05.4**	**+2.3**
	1.0nm,0.4s						
AB31				⇑S	Sn	00 10 36.2	-13
	1.2nm,0.6s						
JIRN	**Jiri**	**15.52**	**119**	*e*P	**Pn**	**00 08 02.5**	**-1.7**
	9.8nm,0.3s						

*SCB **21** 00:06:37.5±0.5, 21.49S×66.81W, h224km, Ml4.2/1, Error ellipse: s-maj=14.9km s-min=5.1km az=40.0*
*SJA **21** 00:06:38.7±1.0, 21.95S×67.36W, h199km±10km, ML3.7, MW3.5*
*NEIC **21** 00:06:38.8±0.8, 21.88S×67.28W, h173km±7km, mb4.2/14, Error ellipse: s-maj=14.6km s-min=9.9km az=75.0*
*ISCJB **21** 00:06:38.8±0.2, 21.90S±0.02×67.39W±0.03, h188km±2km, mb4.0/22, Error ellipse: s-maj=4.9km s-min=3.7km az=153.5*
*GUC **21** 00:06:40.2±0.5, 21.81S×67.80W, h215km±7km, ML4.5*
*IDC **21** 00:06:40.4±1.7, 21.75S×67.12W, h188km±15km, mb3.7/9, mb1 3.9/13, mb1mx3.7/38, mbtmp4.2/13, Error ellipse: s-maj=20.0km s-min=12.4km az=65.0*
ISC 21 00:06:39.3±0.7, 21.88S±0.04×67.37W±0.04, h178km±6km, n74, σ1s47/94, mb4.1/22, 7C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.73**	**69**	*e*Pn	**Pn**	**00 07 14.8**	**+1.0**
MOCB				*e*Sn	**Sn**	**00 07 40.3**	**-0.2**
	753nm,0.4s						
PB09	**IPOC Station P**	**1.74**	**272**	⇑*e*P	**Pn**	**00 07 15.4**	**+1.7**
PB09				*e*S	**Sn**	**00 07 41.9**	**+1.6**
PB09				IAML		00 07 46.2	
	comp=E,2μm,0.6s						
PB01	**IPOC Station P**	**2.14**	**292**	*e*Pn	**Pn**	**00 07 19.0**	**+1.1**
PB01	**IPOC Station P**	**2.14**	**292**	⇑*i*P	**Pn**	**00 07 18.8**	**+0.9**
PB01				*i*S	**Sn**	**00 07 48.2**	**+0.4**
PB01				IAML		00 07 49.9	
	comp=E,6μm,0.3s						
PB06	**IPOC Station P**	**2.20**	**248**	⇑*e*P	**Pn**	**00 07 19.8**	**+1.1**
PB06				*e*S	**Sn**	**00 07 50.3**	**+1.1**
PB06				IAML		00 07 51.9	
	comp=E,2μm,0.3s						
HJA	**Humahuaca**	**2.24**	**127**	*e*P	**Pn**	**00 07 21.1**	**+1.8**
HJA				⇓*e*S	**Sn**	**00 07 52.2**	**+1.8**
PB07	**IPOC Station P**	**2.35**	**273**	*e*P	**Pn**	**00 07 21.0**	**+0.7**
PB07				*e*S	**Sn**	**00 07 51.7**	**-0.3**
PB08	**IPOC Station P**	**2.40**	**316**	⇑*e*P	**Pn**	**00 07 22.8**	**+1.7**
PB08				*e*S	**Sn**	**00 07 54.9**	**+1.2**
PB08				IAML		00 07 56.6	
	comp=N,681nm,0.4s						
PB04	**IPOC Station P**	**2.62**	**259**	⇑*e*P	**Pn**	**00 07 24.1**	**+0.7**
PB04				*i*S	**Sn**	**00 07 57.2**	**-0.6**
PB04				IAML		00 07 58.9	
	comp=N,3μm,0.6s						
PB11	**IPOC Station P**	**3.00**	**314**	*e*Pn	**Pn**	**00 07 28.2**	**+0.1**
PB11	**IPOC Station P**	**3.00**	**314**	⇑*i*P	**Pn**	**00 07 28.2**	**+0.1**
PB11				*i*S	**Sn**	**00 08 05.0**	**-1.0**
PB11				IAML		00 08 06.2	
	comp=E,1μm,0.2s						
AZAP	**Zapla**	**3.15**	**138**	*e*P	**Pn**	**00 07 30.6**	**+0.6**
PB10	**IPOC Station P**	**3.36**	**240**	*e*Pn	**Pn**	**00 07 33.0**	**+0.7**
PB10	**IPOC Station P**	**3.36**	**240**	*e*P	**Pn**	**00 07 33.1**	**+0.7**
PB10				*e*S	**Sn**	**00 08 12.4**	**-1.3**
PB10	**IPOC Station P**	**3.36**	**240**	*e*P	**Pn**	**00 07 32.9**	**+0.7**
PB10				*e*S	**Sn**	**00 08 11.8**	**-1.9**
ASTB	**Santa

SRU	**San Rafael Swe**	**72.88**	**326**	*e*P	**P**	**00 17 48.9**	**-0.1**
	comp=Z,5.0nm,0.7s						
CCUT	**Cedar City**	**73.26**	**323**	*e*P	**P**	**00 17 54.0**	**+2.7**
	comp=Z,3.3nm,0.8s						
P17A	**Butcher Ranch,**	**73.26**	**326**	*e*P	**P**	**00 17 51.1**	**0.0**
	comp=Z,4.7nm,1.0s						
PDAR	**Pinedale Array**	**75.16**	**329**	P	**P**	**00 18 02.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=118,slow=8.0,SNR=5.6						
HWUT	**Hardware Ranch**	**75.27**	**327**	*e*P	**P**	**00 18 03.7**	**+0.9**
	comp=Z,1.8nm,0.6s						
SYO	**Syowa Base**	**75.64**	**159**↑	*e*X	P	00 18 11.0	+6.7
ULM	**Lac du Bonnet**	**76.11**	**342**	P	**P**	**00 18 07.0**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=150,slow=5.9,SNR=8.8						
TOA0	**Torodi Ar. Sit**	**76.14**	**70**	*e*P	**P**	**00 18 06.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**76.14**	**70**	P	**P**	**00 18 07.2**	**-0.8**
	comp=Z,3.5nm,0.4s,baz=255,slow=5.6,SNR=171						
NVAR	**Mina Array Bea**	**76.68**	**321**	P	**P**	**00 18 11.1**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=159,slow=7.1,SNR=6.6						
HLID	**Hailey**	**78.13**	**327**	*e*P	**P**	**00 18 20.4**	**+1.7**
	comp=Z,3.7nm,0.8s						
PAHR	**Pah Rah Range**	**78.16**	**322**	*e*P	**P**	**00 18 18.8**	**-0.1**
	comp=Z,5.9nm,0.9s						
YKA	**Yellowknife Ar**	**92.02**	**340**	P	**P**	**00 19 27.7**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=133,slow=4.5,SNR=34						
ASAR	**Alice Springs**	**130.22**	**206**	PKP	**PKPdf**	**00 25 28.7**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=112,slow=1.9,SNR=4.9						
WRA	**Warramunga Ar**	**133.34**	**209**	PKP	**PKPdf**	**00 25 35.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=159,slow=1.9,SNR=8.2						
ZALV	**Zalesovo Beam**	**141.67**	**26**	PKP	**PKPdf**	**00 25 46.5**	**-2.5**
	comp=Z,0.3nm,0.4s,baz=342,slow=1.8,SNR=2.8						
MKAR	**Makanchi Array**	**145.08**	**37**	PKP	PKPbc	00 25 54.9	-0.3
	comp=Z,1.4nm,0.7s,baz=326,slow=2.9,SNR=21						
KLR	**Kul'dur**	**148.77**	**336**	PKPbc	**PKPdf**	**00 26 02.9**	**+1.5**
	comp=Z,0.1nm,0.7s,baz=338,slow=19,SNR=4.1						
LZH	**Lanzhou**	**163.90**	**27**	*e*PKP	**PKPdf**	**00 26 23.5**	**+2.0**
LZH				pPKP	pPKPdf	00 27 10.3	+1.8
LZH				PKP	**PKPab**	**00 27 19.0**	**+3.9**
LZH				sPKP		00 27 28.3	

*IDC **21** 00:24:00.4±4.4, 16°.57N×98°.32W, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.8/51, mbtmp3.8/9, ML3.7/3, Error ellipse: s-maj=87.3km s-min=16.6km az=10.0*
*MEX **21** 00:24:03.8±0.7, 16°.44N×98°.31W, h9km±9km, MD4.1*
*NEIC **21** 00:24:04.0±0.0, 16°.44N×98°.30W, h12km, mb4.2/8, MD4.1(MEX), After MEX.*

ISC 21 00:24:00.8±2.0, **16°.45N**±0°.07×**98°.31W**±0°.04, **h9**km±11km, **n28**, σ1§**11**/**37**, **mb4.1**/**12**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.14**	**348**	*e*P	**Pg**	**00 24 21.9**	**-0.8**
TLIG				*e*S	**Sg**	**00 24 36.2**	**-1.2**
VHO	**Vista Hermosa**	**1.64**	**67**	*i* P	**Pn**	**00 24 30.0**	**+0.1**
VHO				*i* S	**Sn**	**00 24 49.9**	**-1.3**
CAIG	**El Cayaco**	**1.96**	**288**	*e*P	**Pn**	**00 24 33.1**	**-1.2**
CAIG				*i* S	**Sn**	**00 24 58.2**	**-0.8**
TPIG	**Tehuac#an**	**2.16**	**25**	*e*P	**Pn**	**00 24 37.7**	**+0.5**
TPIG				*i* S	**Sn**	**00 25 02.2**	**-1.9**
HUIG	**Huatulco**	**2.22**	**107**	*e*P	**Pn**	**00 24 38.5**	**+0.6**
HUIG				*i* S	**Sn**	**00 25 03.2**	**-2.2**
PLIG	**Platanillo**	**2.24**	**330**	*e*P	**Pn**	**00 24 38.9**	**+0.7**
PLIG				*i* S	**Sn**	**00 25 05.7**	**-0.4**
YAIG	**Yautepec**	**2.51**	**343**	*e*P	**Pn**	**00 24 42.6**	**+0.7**
YAIG				*i* S	**Sn**	**00 25 12.3**	**-0.3**
ARIG	**Puente Sto Nin**	**2.66**	**313**	*e*P	**Pn**	**00 24 44.7**	**+0.8**
ARIG				*i* S	**Sn**	**00 25 15.4**	**-1.0**
CMIG	**Matias Romero**	**3.35**	**78**	Pn	**Pn**	**00 24 53.6**	**+0.4**
	12nm,0.3s,baz=256,slow=10,SNR=56						
CMIG				Pg	**Pb**	**00 25 02.0**	**+1.7**
	8.3nm,0.3s,baz=254,slow=15,SNR=11						
CMIG				Sn	**Sn**	**00 25 32.1**	**-1.1**
	28nm,0.3s,baz=166,slow=14,SNR=4.0						
CMIG				Lg	Lg	00 25 46.6	
	84nm,0.3s,baz=178,slow=24,SNR=17						
H06E1	**SOCORRO T-PHAS**	**3.25**	**283**	T	T	00 39 10.1	
TXAR	**Lajitas Array**	**13.74**	**340**	Pn	**Pn**	**00 27 17.3**	**+1.4**
	0.1nm,0.3s,baz=154,slow=15,SNR=2.4						
ABTX	**Abilene, Hawle**	**16.15**	**356**	*e*P	**P**	**00 27 50.4**	**-1.0**
	12nm,1.0s						
AMTX	**Amarillo**	**18.61**	**351**	*e*P	**P**	**00 28 18.1**	**-0.5**
	5.9nm,0.6s						
ANMO	**Albuquerque**	**19.81**	**340**	P	**P**	**00 28 31.6**	**-0.3**
	0.1nm,0.3s,baz=81,slow=17,SNR=6.7						
SDCO	**Great Sand Dun**	**22.14**	**345**	*e*P	**P**	**00 28 58.1**	**+0.9**
	1.9nm,0.6s						
PV01	**Paradox Valley**	**23.41**	**339**	*e*P	**P**	**00 29 11.2**	**+0.8**
ISCO	**Idaho Springs**	**24.12**	**346**	*e*P	**P**	**00 29 17.9**	**+0.6**
	3.3nm,0.7s						
MSU	**Marysvale**	**25.13**	**334**	*e*P	**P**	**00 29 28.9**	**+2.5**
TMUT	**Trail Mountain**	**25.40**	**336**	*e*P	**P**	**00 29 30.0**	**+1.1**
	6.2nm,0.4s						
PDAR	**Pinedale Array**	**27.94**	**342**	P	**P**	**00 29 52.6**	**+0.9**
	0.8nm,0.7s,baz=153,slow=10.0,SNR=7.8						
NVAR	**Mina Array Bea**	**28.06**	**325**	P	**P**	**00 29 53.3**	**+0.4**
	0.7nm,0.7s,baz=145,slow=10,SNR=4.9						
FFC	**Flin Flon**	**38.31**	**357**	*e*P	**P**	**00 31 21.3**	**-0.2**
	2.9nm,0.7s						
EDM	**Edmonton**	**38.55**	**346**	*e*P	**P**	**00 31 23.3**	**-0.4**
	6.2nm,0.6s						
SCHQ	**Schefferville**	**45.33**	**25**	P	**P**	**00 32 18.5**	**-0.6**
	4.1nm,0.9s,baz=244,slow=0.6,SNR=3.8						
YKA	**Yellowknife Ar**	**47.40**	**350**	P	**P**	**00 32 34.5**	**-0.6**
	0.7nm,0.7s,baz=157,slow=7.3,SNR=12						
INK	**Inuvik**	**56.45**	**345**	P	**P**	**00 33 41.1**	**-1.4**
	1.5nm,0.7s,baz=133,slow=4.4,SNR=6.4						
ILAR	**Eielson Array**	**58.24**	**338**	P	**P**	**00 33 56.7**	**+1.4**
	0.4nm,1.0s,baz=146,slow=7.2,SNR=4.1						
TRF	**Thorofare Moun**	**58.87**	**336**	*e*P	**P**	**00 34 00.2**	**+0.4**
	4.2nm,0.7s						

*IDC **21** 00:23:46.2±2.4, 21°.75S×178°.90W, h0km, mb4.1/2, mb1 4.5/3, mb1mx3.8/48, mbtmp4.3/3, ML4.7/1, Error ellipse: s-maj=63.0km s-min=49.3km az=128.0*

ISC 21 00:24:25.2±2.0, **23°.6S**±0°.1×**179°.3W**±0°.4, **h350**km, **n24**, σ2§**81**/**19**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**14.32**	**189**	P	Pn	00 27 37.1	+3.1
HAZ	**Te Kaha**	**14.32**	**189**	S	**S**	**00 30 02.3**	**-5.0**
RUGZ	**Raukumara Rang**	**14.54**	**190**	P	Pn	00 27 40.3	+3.6
RUGZ	**Raukumara Rang**	**14.54**	**190**	S	**S**	**00 30 10.5**	**-1.5**
PUZ	**Puketiti**	**14.57**	**188**	P	Pn	00 27 40.7	+3.8
PUZ	**Puketiti**	**14.57**	**188**	S	**S**	**00 30 07.8**	**-4.5**
URZ	**Urewera**	**14.92**	**191**	Pn	**Pn**	**00 27 43.2**	**+2.2**
	2.7nm,0.3s,baz=310,slow=2.4,SNR=9.1						
URZ	**Urewera**	**14.92**	**191**	P	**Pn**	**00 27 45.2**	**+4.2**
RIGZ	**Rimuhau**	**15.26**	**189**	P	**Pn**	**00 27 45.6**	**+0.6**
HIZ	**Hauiti**	**15.67**	**197**	P	Pn	00 27 55.5	+5.8
NMHZ	**Naumai**	**15.79**	**191**	P	**Pn**	**00 27 52.9**	**+1.8**
BKZ	**Black Stump Fm**	**15.91**	**192**	P	**Pn**	**00 27 53.1**	**+0.5**
TWVZ	**Taurewa**	**16.05**	**195**	P	**Pn**	**00 27 54.6**	**+0.4**
MCHZ	**McNeill Hill**	**16.15**	**191**	P	**Pn**	**00 27 58.3**	**+3.0**
MOVZ	**Moawhango**	**16.30**	**194**	P	**Pn**	**00 27 58.1**	**+1.0**
BHHZ	**Black Hill Sta**	**16.31**	**193**	P	**Pn**	**00 27 56.9**	**-0.2**
KAHZ	**Kahuranaki**	**16.46**	**190**	P	**Pn**	**00 27 60.0**	**+1.1**
PXZ	**Pawanui**	**16.69**	**190**	P	**P**	**00 28 00.9**	**+2.9**
TSZ	**Takapari Road**	**16.88**	**193**	P	**P**	**00 28 04.5**	**+4.5**
ASAR	**Alice Springs**	**42.70**	**260**	P	P	00 31 50.5	+1.2
	0.7nm,0.4s,baz=97,slow=7.3,SNR=9.8						
WRA	**Warramunga Arr**	**43.06**	**266**	P	**P**	**00 31 52.9**	**+0.8**
	2.2nm,0.4s,baz=100,slow=8.3,SNR=71						
HFS	**Hagfors**	**142.38**	**349**	PKP	**PKPdf**	**00 43 14.5**	**-1.5**
	3.7nm,1.0s,baz=36,slow=5.4,SNR=7.5						
BRTR	**Keskin Array B**	**147.90**	**308**	PKPbc	**PKPab**	**00 43 31.3**	**-2.3**
	0.3nm,0.6s,baz=84,slow=5.9,SNR=2.4						
MMAI	**Mount Meron Ar**	**148.15**	**295**	PKPbc	**PKPab**	**00 43 32.6**	**-2.1**
	0.5nm,0.3s,baz=71,slow=6.9,SNR=7.3						

*IDC **21** 00:27:29.7±2.2, 9°.06S×118°.05E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/54, mbtmp3.7/4, ML4.4/1, Error ellipse: s-maj=90.6km s-min=25.4km az=47.0*
*DJA **21** 00:27:42.3±0.4, 9°.5±4°×11°.8E±°, h36km±10km, M4.0/7, MLv4.0/7*

ISC 21 00:27:40.8±1.2, **9°.3S**±0°.1×**118°.42E**±0°.06, **h35**km, **n13**, σ2§**93**/**17**, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.79**	**306**	P	**Pn**	**00 27 56.9**	**+1.5**
PLAI				S	**Sn**	**00 28 07.6**	**+1.6**
WBSI	**Waikabubak, Su**	**1.02**	**110**	P	**Pn**	**00 27 59.0**	**+0.3**
WBSI				S	**Sn**	**00 28 15.4**	**+3.6**
WSI	**Waingapu**	**1.89**	**102**	P	**Pn**	**00 28 13.7**	**+3.1**
WSI				S	**Sn**	**00 28 35.8**	**+2.6**
BASI	**Baing, Sumba**	**2.32**	**114**	P	**Pn**	**00 28 18.9**	**+2.4**
BASI				S	**Sn**	**00 28 47.5**	**+3.7**
EDFI	**Ende, Flores**	**3.27**	**81**	P	**Pn**	**00 28 31.0**	**+1.3**
SRBI	**Singaraja**	**3.39**	**290**	P	**Pn**	**00 28 32.6**	**+1.3**
BSSI	**Bau Bau, Buton**	**3.74**	**33**	P	**Pn**	**00 28 35.0**	**-1.0**
MMRI	**Maumere**	**3.82**	**81**	P	**Pn**	**00 28 40.6**	**+3.4**
BATI	**Baumata**	**5.25**	**100**	Pn	**Pn**	**00 28 55.8**	**-1.1**
	12nm,0.3s,baz=282,slow=19,SNR=22						
BATI				Sn	**Sn**	**00 29 54.4**	**-1.8**
	7.5nm,0.3s,baz=336,slow=17,SNR=3.3						
BATI	**Baumata**	**5.25**	**100**	P	**Pn**	**00 28 56.5**	**-0.3**
ASAR	**Alice Springs**	**20.58**	**136**	P	**P**	**00 32 14.7**	**-2.3**
	0.9nm,0.7s,baz=316,slow=9.4,SNR=7.8						
ASAR				S	**S**	**00 35 59.0**	**-6.4**
	0.1nm,0.4s,baz=354,slow=27,SNR=3.4						
SONM	**Songino Array**	**57.86**	**350**	P	P	00 37 21.1	-8.1
	0.4nm,0.5s,baz=167,slow=8.5,SNR=8.1						
MKAR	**Makanchi Array**	**64.45**	**333**	P	P	00 38 05.8	-8.0
	0.2nm,0.3s,baz=142,slow=6.4,SNR=8.2						

*IDC **21** 00:27:45.4±2.2, 16°.09N×98°.31W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/51, mbtmp3.6/8, ML3.6/2, MS3.9/1, Ms1 3.9/1, ms1mx3.0/38, Error ellipse: s-maj=44.3km s-min=16.9km az=1.0*
*NEIC **21** 00:27:47.0±0.0, 16°.05N×98°.36W, h15km, mb4.3/30, MD4.3(MEX), After MEX.*
*MEX **21** 00:27:47.3±0.5, 16°.10N×98°.39W, h5km, MD4.3*
*ISCJB **21** 00:27:48.5±1.0, 16°.20N±0°.06×98°.25W±0°.03, h27km±5km, mb4.2/30, MS3.7/1, Error ellipse: s-maj=10.1km s-min=5.2km az=14.0*

ISC 21 00:27:46.1±1.5, **16°.06N**±0°.07×**98°.37W**±0°.04, **h13**km±9km, **n61**, σ1§**69**/**70**, **mb4.3**/**30**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.41**	**35**	*e*P	**Pb**	**00 27 54.4**	**-0.8**
PNIG				*e*S	**Sg**	**00 27 59.6**	**-0.1**
ACX	**Acapulco**	**1.64**	**300**	*e*P	**Pg**	**00 28 17.9**	**+0.3**
ACX				*i* S	**Sg**	**00 28 38.1**	**-0.8**
VHO	**Vista Hermosa**	**1.87**	**57**	*e*P	**Pn**	**00 28 17.2**	**-0.8**
VHO				*e*S	**Sn**	**00 28 39.0**	**-2.6**
CAIG	**El Cayaco**	**2.07**	**299**	*i* P	**Pn**	**00 28 18.5**	**-2.1**
CAIG				*i* S	**Sn**	**00 28 43.1**	**-3.2**
HUIG	**Huatulco**	**2.19**	**97**	*e*P	**Pn**	**00 28 21.3**	**-1.0**
HUIG				*i* S	**Sn**	**00 28 48.0**	**-1.4**
TPIG	**Tehuac#an**	**2.54**	**22**	*i* P	**Pn**	**00 28 26.1**	**-1.1**
TPIG				*i* S	**Sn**	**00 28 55.9**	**-2.2**
PLIG	**Platanillo**	**2.56**	**335**	*i* P	**Pn**	**00 28 26.4**	**-1.1**
PLIG				*i* S	**Sn**	**00 28 57.0**	**-1.6**
YAIG	**Yautepec**	**2.87**	**347**	*e*P	**Pn**	**00 28 30.9**	**-0.8**
YAIG				*e*S	**Sn**	**00 29 04.9**	**-1.3**
ARIG	**Puente Sto Nin**	**2.91**	**320**	*e*P	**Pn**	**00 28 31.4**	**-0.7**
ARIG				*i* S	**Sn**	**00 29 04.3**	**-2.7**
UNM	**Universidad Na**	**3.34**	**347**	*e*Pn	**Pn**	**00 28 39.0**	**+0.7**
CMIG	**Matias Romero**	**3.50**	**72**	Pn	**Pn**	**00 28 40.5**	**+0.3**
	5.2nm,0.3s,baz=246,slow=12,SNR=6.7						
CMIG				Pg	**Pb**	**00 28 48.7**	**+0.8**
	5.7nm,0.3s,baz=255,slow=15,SNR=8.2						
CMIG				Sn	**Sn**	**00 29 20.7**	**-0.9**
	20nm,0.3s,baz=259,slow=16,SNR=4.6						
CMIG				Lg	Lg	00 29 34.8	
	87nm,0.3s,baz=345,slow=19,SNR=12						
H06E1	**SOCORRO T-PHAS**	**12.29**	**285**	T	T	00 42 53.0	
	SNR=18						
TXAR	**Lajitas Array**	**14.09**	**341**	Pn	**Pn**	**00 31 07.8**	**+2.2**
	0.1nm,0.3s,baz=166,slow=12,SNR=2.1						
JTS	**JuntasAbangare**	**14.26**	**112**	*e*Pn	**Pn**	**00 31 05.1**	**-2.9**
WHTX	**Lake Whitney,**	**15.88**	**3**	*e*Pn	**Pn**	**00 31 28.9**	**-0.6**
	26nm,1.2s						
ABTX	**Abilene, Hawle**	**16.53**	**356**	*e*Pn	**Pn**	**00 31 37.4**	**-0.5**
	42nm,1.4s						
MNTX	**Cornudas Mount**	**16.83**	**339**	*e*Pn	**P**	**00 31 43.4**	**-0.3**
	7.7nm,1.3s						
MSTX	**Muleshoe**	**18.27**	**348**	*e*Pn	**Pn**	**00 31 58.1**	**-1.5**
	12nm,1.2s						
AMTX	**Amarillo**	**18.98**	**352**	*e*P	**P**	**00 32 06.4**	**-1.1**
	9.0nm,0.9s						
TUL1	**Lenard**	**19.91**	**6**	*e*P	**P**	**00 32 16.5**	**-1.0**
	16nm,1.0s						
ANMO	**Albuquerque**	**20.16**	**340**	P	**P**	**00 32 20.6**	**+0.1**
	1.8nm,0.7s,baz=169,slow=13,SNR=7.6						
ANMO				LR	LR	00 41 03.6	
	comp=Z,352nm,19.6s,baz=320,slow=40						
ANMO	**Albuquerque**	**20.16**	**340**	*e*P	Pn	00 32 22.3	0.0
	9.3nm,1.4s						
X18A	**Snowflake**	**21.13**	**333**	*e*P	**P**	**00 32 33.0**	**+2.0**
	30nm,1.8s						
T25A	**Trinidad**	**21.67**	**347**	*e*P	**P**	**00 32 39.0**	**+2.2**
	19nm,1.1s						
MHTCO	**State Highway**	**21.72**	**346**	*e*P	**P**	**00 32 39.6**	**+2.2**
	8.0nm,1.0s						
X16A	**Lo Mia Camp, P**	**21.73**	**330**	*e*P	**P**	**00 32 39.8**	**+2.3**
	7.1nm,0.9s						
WVT	**Waverly**	**22.09**	**23**	*e*P	**P**	**00 32 41.2**	**+0.2**
	10nm,0.8s						
Y14A	**Wickenburg**	**22.16**	**326**	*e*P	**P**	**00 32 44.7**	**+2.8**
	82nm,1.7s						
SDCO	**Great Sand Dun**	**22.50**	**345**	*e*P	**P**	**00 32 47.2**	**+1.4**
	17nm,1.9s						
GLA	**Glamis**	**22.54**	**322**	*e*P	**P**	**00 32 49.0**	**+3.1**
	23nm,1.6s						
WUAZ	**Wupatki**	**22.60**	**331**	*e*P	**P**	**00 32 48.7**	**+2.0**
	24nm,1.5s						
S22A	**4UR Ranch, Cre**	**22.86**	**343**	*e*P	**P**	**00 32 50.9**	**+1.3**
	13nm,1.5s						
MVCO	**Mesa Verde**	**22.90**	**339**	*e*P	**P**	**00 32 51.1**	**+1.2**
	39nm,1.7s						
FVM	**French Village**	**22.94**	**16**	*e*P	**P**	**00 32 49.7**	**-0.4**
	36nm,2.0s						
PV01	**Paradox Valley**	**23.76**	**340**	*e*P	**P**	**00 33 00.6**	**+2.0**
SMCO	**Snowmass**	**24.24**	**344**	*e*P	**P**	**00 33 03.3**	**+0.1**
	27nm,1.6s						
PV09	**Paradox Valley**	**24.28**	**339**	*e*P	**P**	**00 33 03.5**	**0.0**
ISCO	**Idaho Springs**	**24.49**	**346**	*e*P	**P**	**00 33 06.8**	**+1.4**
	19nm,1.4s						
KNB	**Kanab**	**24.50**	**331**	*e*P	**P**	**00 33 05.9**	**+0.5**
	27nm,1.7s						
WCI	**Wyandotte Cave**	**24.51**	**23**	*e*P	**P**	**00 33 04.8**	**-0.5**
	44nm,0.8s						
OGNE	**Ogallala**	**25.00**	**353**	*e*P	**P**	**00 33 10.2**	**+0.4**
	76nm,1.7s						
SRU	**San Rafael Swe**	**25.32**	**337**	*e*P	**P**	**00 33 16.2**	**+3.4**
	6.8nm,1.2s						
SCIA	**State Center**	**26.14**	**9**	*e*P	**P**	**00 33 20.6**	**+0.5**
	18nm,1.1s						
WBSM	**Bird Springs**	**26.23**	**321**	*e*P	**P**	**00 33 23.9**	**+2.8**
NLU	**North Lily Min**	**26.64**	**336**	*e*P	**P**	**00 33 27.0**	**+2.2**
	11nm,1.5s						
ECSD	**EROS Data Cent**	**27.63**	**3**	*e*P	**P**	**00 33 32.5**	**-0.9**
	5.6nm,1.1s						
HWUT	**Hardware Ranch**	**27.89**	**339**	*e*P	**P**	**00 33 37.6**	**+1.6**
	2.5nm,0.8s						
PD31	**Pinedale Array**	**28.29**	**342**	*e*P	**P**	**00 33 41.5**	**+1.9**
PDAR	**Pinedale Array**	**28.29**	**342**	P	**P**	**00 33 41.5**	**+1.9**
	0.6nm,0.6s,baz=146,slow=11,SNR=5.5						
PDAR	**Pinedale Array**	**28.29**	**342**	*e*P	**P**	**00 33 41.7**	**+2.1**
NVAR	**Mina Array Bea**	**28.35**	**326**	P	**P**	**00 33 43.5**	**+3.3**
	0.7nm,0.7s,baz=142,slow=10,SNR=4.4						
RSSD	**Black Hills**	**28.38**	**351**	*e*P	**P**	**00 33 39.4**	**-1.0**
	2.1nm,0.8s						
MCID	**Moose Creek**	**30.07**	**341**	*e*P	**P**	**00 33 57.7**	**+2.3**
YKA	**Yellowknife Ar**	**47.77**	**350**	P	**P**	**00 36 22.9**	**+0.2**
	0.5nm,0.9s,baz=155,slow=7.6,SNR=4.3						
INK	**Inuvik**	**56.81**	**345**	P	**P**	**00 37 30.9**	**+1.2**
	2.4nm,1.0s,baz=152,slow=5.4,SNR=4.2						
IL1	**Eielson Array**	**58.58**	**338**	*e*P	**P**	**00 37 44.6**	**+2.2**
ILAR	**Eielson Array**	**58.58**	**338**	P	**P**	**00 37 42.8**	**+0.4**
	0.4nm,0.6s,baz=151,slow=5.8,SNR=7.1						
RES	**Resolute Bay**	**58.66**	**1**	*e*P	**P**	**00 37 42.1**	**-0.7**
	13nm,1.9s						
TRF	**Thorofare Moun**	**59.20**	**336**	*e*P	**P**	**00 37 48.7**	**+1.8**
	12nm,1.1s						
LZH	**Lanzhou**	**124.04**	**338**	*e*PKP	**PKPdf**	**00 46 46.0**	**+1.0**
LZH				pPKP	sPKPdf	00 46 52.8	+1.9
LZH				sPKP		00 46 54.8	
WRA	**Warramunga Arr**	**129.88**	**257**	PKP	**PKPdf**	**00 46 57.5**	**+1.2**
	0.7nm,0.9s,baz=87,slow=2.5,SNR=4.5						

IDC 21 00:28:58.6±2.1, **6°.58S**×**129°.03E**, **h0**km, **mb3.5**/1, **mb1 3.6**/3, **mb1mx3.3**/53, **mbtmp3.4**/3, **ML3.5**/2, **Error ellipse: s-maj=114.3km s-min=32.4km az=67.0**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.25**	**159**	P	Pn	00 32 22.9	+1.0
	0.3nm,0.3s,baz=338,slow=13,SNR=7.1						
WRA				Sn	Sn	00 34 47.6	-13
	0.4nm,0.3s,baz=336,slow=22,SNR=6.1						
ASAR	**Alice Springs**	**17.62**	**165**	P	Pn	00 33 04.9	-0.9
	0.1nm,0.3s,baz=336,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	00 39 55.8	+0.1
	0.3nm,0.6s,baz=117,slow=8.2,SNR=5.5						

*GUC **21** 00:36:23.7±0.6, 28°.01S×69°.96W, h90km, ML3.3*
*SJA **21** 00:36:25.5±0.6, 27°.93S×70°.08W, h77km±8km, ML3.0, MW2.9*

ISC 21 00:36:29.7±1.2, **28°.07S**±0°.04×**70°.14W**±0°.05, **h33**km±10km, **n11**, σ1§**95**/**21**, **1C-2D**, **Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.48**	**350**↑	*i* P	**Pb**	**00 36 39.3**	**-0.7**
GO03				*i* S	**Sn**	**00 36 50.3**	**+2.6**
GO03				IAML		00 36 51.6	
	comp=N,3µm,0.2s						
LCO	**Las Campanas**	**1.06**	**208**↓	*i* P	**Pb**	**00 36 48.5**	**-1.3**
LCO				*i* S	**Sb**	**00 37 05.4**	**+1.9**
LCO				IAML		00 37 07.3	
	comp=N,340nm,0.2s						
VCA	**Vinchina**	**1.83**	**112**	*e*P	**Pb**	**00 37 01.0**	**-1.6**
VCA				IAML		00 37 02.5	
	comp=Z,161nm,0.3s						
VCA				*e*S	**Sb**	**00 37 28.0**	**+2.8**
AGUA	**GUANDACOL**	**2.02**	**135**	*e*P	**Pb**	**00 37 04.1**	**-1.8**
AGUA				*e*S	**Sb**	**00 37 32.8**	**+2.0**
TLL	**Tololo Astrono**	**2.17**	**195**	*e*P	**Pn**	**00 37 01.5**	**-2.4**
TLL				*i* S	**Sn**	**00 37 29.7**	**-0.1**
TLL				IAML		00 37 33.1	
	comp=E,150nm,0.3s						
GO04	**Tololo Observa**	**2.18**	**195**↓	*i* P	**Pn**	**00 37 01.6**	**-2.3**
GO04				*i* S	**Sn**	**00 37 29.9**	**0.0**
GO04				IAML		00 37 34.0	
	comp=E,293nm,0.5s						
AMOG	**MOGNA**	**3.20**	**154**	*e*P	**Pn**	**00 37 18.4**	**+0.5**
AMOG				*e*S	**Sn**	**00 37 57.3**	**+2.4**
RTLS	**Leoncito**	**3.79**	**169**	*e*P	**Pn**	**00 37 26.9**	**+0.7**
RTLS				*e*S	**Sn**	**00 38 12.8**	**+3.0**
RTLS				IAML		00 38 16.2	
	comp=Z,13nm,0.5s						
CYA	**Choya**	**3.84**	**97**	*e*P	**Pn**	**00 37 24.9**	**-1.7**
CYA				IAML		00 37 25.9	
	comp=Z,21nm,0.4s						
CYA				*e*S	**Sn**	**00 38 08.8**	**-1.9**
APLL	**PUNTA DE LOS L**	**3.92**	**127**	*e*P	**Pn**	**00 37 27.1**	**-0.6**
APLL				IAML		00 37 27.9	
	comp=Z,11nm,0.3s						
RTCV	**Cerro Valdivia**	**4.03**	**160**	*e*P	**Pn**	**00 37 29.4**	**+0.2**
RTCV				*e*S	**Sn**	**00 38 16.0**	**+0.7**

PRU 21 00:41:20.9, 50°.27N×18°.76E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANS	**Liptovska Anna**	**1.21**	**157**	*e*PG	Pg	00 41 43.8	-0.3
LANS				*e*SG	Sb	00 42 00.6	-0.3
KRLC	**Kraliky**	**1.29**	**262**	*e*

BURU	**Burvik**	**2.61**	**171**	*e*P		**Pn**	**00 42 34.1**	**+1.8**
ARA0	**ARCESS Array S** baz=50	**3.04**	**36**	Pn		**Pn**	**00 42 38.5**	**+0.2**
ARA0				Sn		**Sn**	**00 43 14.3**	**-1.2**
	SNR=50							
ARA0	**ARCESS Array S** baz=211,slow=14	**3.04**	**36**	Pn		**Pn**	**00 42 38.5**	**+0.2**
ARA0				Sn		**Sn**	**00 43 14.3**	**-1.2**
	baz=214,slow=18							
ARA0	**ARCESS Array S** baz=211,slow=14	**3.04**	**36**	Pn		**Pn**	**00 42 38.5**	**+0.2**
ARA0				Sn		**Sn**	**00 43 14.3**	**-1.2**
	baz=214,slow=18							
ARCES	**ARCESS Array B** comp=Z,1.6nm,0.3s,baz=215,slow=12,SNR=12	**3.04**	**36**	Pn		**Pn**	**00 42 37.1**	**-1.2**
UMAU	**Umeaa**	**3.29**	**178**	*e*P		**Pn**	**00 42 44.5**	**+2.9**
UMAU				*e*SG		**Sg**	**00 43 35.4**	**+0.9**
VRF	**Varrio**	**3.59**	**76**	P		**Pn**	**00 42 46.6**	**+0.8**
VRF	**Varrio**	**3.59**	**76**	*e*P		**Pn**	**00 42 46.6**	**+0.8**
MSF	**Maaselka**	**3.67**	**106**	Pg		**Pb**	**00 42 55.1**	**+0.5**
MSF	**Maaselka**	**3.67**	**106**	*e*PG		**Pb**	**00 42 55.1**	**+0.5**
MSF				*e*SG		**Sb**	**00 43 41.0**	**+1.6**
KU6	**Riekki**	**3.94**	**102**	*e*SG		**Sb**	**00 43 51.4**	**+3.9**
VAF	**Ylistaro**	**4.24**	**166**	*e*P		**Pn**	**00 42 58.5**	**+3.8**
VAF				*e*SG		**Sg**	**00 44 02.1**	**-2.8**
HEMU	**Hemsoen**	**4.61**	**194**	*e*P		**Pn**	**00 43 03.3**	**+3.5**
FIA0	**FINESS Array S** baz=345,slow=16	**6.24**	**154**	Pn		**Pn**	**00 43 23.3**	**+1.2**
FIA0				Sn		**Sn**	**00 44 31.8**	**-2.2**
	baz=344,slow=28							
FIA0				Lg		Lg	00 45 02.1	
	baz=339,slow=37							
FIA0	**FINESS Array S** baz=345,slow=16	**6.24**	**154**	Pn		**Pn**	**00 43 23.3**	**+1.2**
FIA0				Sn		**Sn**	**00 44 31.8**	**-2.2**
	baz=344,slow=28							
FIA0				Lg		Lg	00 45 02.1	
	baz=339,slow=37							
FINES	**FINESS Array B** comp=Z,0.3nm,0.3s,baz=346,slow=15,SNR=12	**6.24**	**154**	Pn		**Pn**	**00 43 23.2**	**+1.1**
FINES				Sn		**Sn**	**00 44 32.6**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=346,slow=23,SNR=8.3							
FINES				Lg		Lg	00 45 02.1	
	comp=Z,1.6nm,0.3s,baz=344,slow=28,SNR=7.9							
NB2	**NORSAR Subarra** baz=36,slow=14	**7.34**	**218**	Pn		**Pn**	**00 43 38.0**	**+0.7**
NB2				Sn		**Sn**	**00 44 59.1**	**-2.1**
	baz=36,slow=28							
NB2				Lg		Lg	00 45 39.5	
	baz=24,slow=37							
NB2	**NORSAR Subarra** baz=36,slow=14	**7.34**	**218**	Pn		**Pn**	**00 43 38.0**	**+0.7**
NB2				Sn		**Sn**	**00 44 59.1**	**-2.1**
	baz=36,slow=28							
NB2				Lg		Lg	00 45 39.5	
	baz=24,slow=37							
NOA	**NORSAR Array B** comp=Z,0.2nm,0.3s,baz=26,slow=11,SNR=5.1	**7.34**	**218**	Pn		**Pn**	**00 43 39.6**	**+2.4**
NOA				Sn		**Sn**	**00 44 58.7**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=32,slow=23,SNR=5.8							
NOA				Lg		Lg	00 45 37.3	
	comp=Z,1.3nm,0.3s,baz=38,slow=24,SNR=8.4							
NRA0	**NORESS Array S** baz=17,slow=16	**7.53**	**215**	Pn		**Pn**	**00 43 41.0**	**+1.1**
NRA0				Sn		**Sn**	**00 45 02.8**	**-3.0**
	baz=16,slow=28							
NRA0				Lg		Lg	00 45 44.3	
	baz=25,slow=28							
NRA0	**NORESS Array S** baz=17,slow=16	**7.53**	**215**	Pn		**Pn**	**00 43 41.0**	**+1.1**
NRA0				Sn		**Sn**	**00 45 02.8**	**-3.0**
	baz=16,slow=28							
NRA0				Lg		Lg	00 45 44.3	
	baz=25,slow=28							
HFS	**Hagfors** comp=Z,0.4nm,0.3s,baz=24,slow=13,SNR=11	**7.65**	**206**	Pn		**Pn**	**00 43 41.7**	**+0.1**
HFS				Sn		**Sn**	**00 45 05.3**	**-3.5**
	comp=Z,0.8nm,0.3s,baz=19,slow=23,SNR=8.0							
HFS				Lg		Lg	00 45 45.7	
	comp=Z,1.0nm,0.3s,baz=25,slow=25,SNR=6.2							
HFS	**Hagfors** baz=17,slow=14	**7.65**	**206**	Pn		**Pn**	**00 43 41.7**	**+0.1**
HFS				Sn		**Sn**	**00 45 07.0**	**-1.9**
	baz=26,slow=22							
HFS				Lg		Lg	00 45 45.8	
	baz=23,slow=28							
HFS	**Hagfors** baz=17,slow=14	**7.65**	**206**	Pn		**Pn**	**00 43 41.7**	**+0.1**
HFS				Sn		**Sn**	**00 45 07.0**	**-1.9**
	baz=26,slow=22							
HFS				Lg		Lg	00 45 45.8	
	baz=23,slow=28							
SPA0	**Spitsbergen Ar** baz=173,slow=16	**11.14**	**356**	Pn		**Pn**	**00 44 28.9**	**-0.4**
SPA0	**Spitsbergen Ar** baz=173,slow=16	**11.14**	**356**	Pn		**Pn**	**00 44 28.9**	**-0.4**

NNC 21 00:44:48.7±5.9, 36.98°N×71.04°E, h0km, mb3.8, mpv3.4, 5C-5D, Error ellipse: s-maj=48.1km s-min=19.9km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino** 6.9nm,0.4s	**2.53**	**317**	⇑Pn	Pn	00 45 31.0	-0.2
DZET				⇓Sn	Sn	00 46 04.8	+2.0
	76nm,0.5s						
SFK	**Sufi-Kurgan** 3.7nm,0.5s	**3.60**	**32**	⇑Pn	Pn	00 45 46.2	+0.3
SFK				⇓Sn	Sn	00 46 31.7	+2.4
	16nm,0.4s						
MNAS	**Manas** 2.4nm,0.6s	**5.62**	**11**	⇓Pn	Pn	00 46 12.3	-1.3
MNAS				⇓Sn	Sn	00 47 19.0	0.0
	5.5nm,0.7s						
KK31	**Karatay Array** 2.6nm,0.3s,baz=181,slow=13,SNR=129	**6.13**	**356**	⇑Pn	Pn	00 46 19.4	-1.2
KK31				⇑Sn	Sn	00 47 30.3	-1.2
	3.4nm,0.5s,baz=187,slow=24						
AAK	**Ala-Archa** 0.8nm,0.3s	**6.25**	**24**	⇑Pn	Pn	00 46 21.7	-0.6
AAK				⇓Sn	Sn	00 47 34.6	+0.1
	2.2nm,0.5s						

*IDC **21** 00:46:37.7±27.0, 16.07°N×98.01°W, h0km, mb3.3/3, mb1 3.8/3, mb1mx3.4/42, mbtmp3.3/3, MS3.9/2, Ms1 3.9/2, ms1mx3.2/23, Error ellipse: s-maj=480.7km s-min=136.2km az=171.0*
*ISCJB **21** 00:46:44.9±0.8, 16.51N±0.06°×98.48W±0.04, h32km±7km, mb3.2/3, Error ellipse: s-maj=10.4km s-min=5.9km az=18.2*
*MEX **21** 00:46:46.5±0.4, 16.49N×98.49W, h12km±3km, MD4.3*
ISC 21 00:46:45.9±1.1, 16.55N±0.07°×98.44W±0.04, h26km±11km, n14, σ1°21/21, mb3.3/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**117**	*e*P	**Pb**	**00 46 53.3**	**-0.3**
PNIG				*i* S	**Sb**	**00 46 58.9**	**+0.1**
TLIG	**Tlapa**	**1.02**	**353**	*e*P	**Pn**	**00 47 03.2**	**-1.5**
TLIG				*i* S	**Sn**	**00 47 17.2**	**-1.1**
ACX	**Acapulco**	**1.40**	**284**	*i* P	**Pb**	**00 47 12.8**	**+1.4**
ACX				*i* S	**Sn**	**00 47 29.5**	**+2.0**
VHO	**Vista Hermosa**	**1.72**	**72**	*e*P	**Pn**	**00 47 14.6**	**+0.2**
VHO				*i* S	**Sn**	**00 47 35.0**	**-0.6**
CAIG	**El Cayaco**	**1.82**	**286**	*e*P	**Pn**	**00 47 14.3**	**-1.3**
CAIG				*i* S	**Sn**	**00 47 35.4**	**-2.5**
TPIG	**Tehuac#an**	**2.13**	**29**	*e*P	**Pn**	**00 47 20.6**	**+0.5**
TPIG				*i* S	**Sn**	**00 47 45.6**	**-0.2**
HUIG	**Huatulco**	**2.37**	**109**	*e*P	**Pn**	**00 47 23.0**	**-0.1**
HUIG				*i* S	**Sn**	**00 47 50.7**	**-0.7**
YAIG	**Yautepec**	**2.38**	**346**	*e*P	**Pn**	**00 47 23.7**	**+0.2**
YAIG				*i* S	**Sn**	**00 47 51.6**	**-0.4**
ARIG	**Puente Sto Nin**	**2.51**	**314**	*e*P	**Pn**	**00 47 24.6**	**-0.5**
ARIG				*e*S	**Sn**	**00 47 52.9**	**-2.0**
TXAR	**Lajitas Array** comp=Z,426nm,18.4s,baz=0.0,slow=38	**13.61**	**340**	LR	LR	00 55 38.0	
ANMO	**Albuquerque** comp=Z,407nm,20.4s,baz=1.0,slow=38	**19.68**	**340**	LR	LR	00 59 23.1	
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=155,slow=9.3,SNR=4.6	**27.81**	**342**	P	**P**	**00 52 34.4**	**+1.1**
NVAR	**Mina Array Bea** 0.2nm,0.4s,baz=142,slow=10,SNR=3.1	**27.91**	**325**	P	**P**	**00 52 35.2**	**+0.9**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=155,slow=7.9,SNR=3.5	**47.28**	**350**	P	**P**	**00 55 16.6**	**-0.2**

*IDC **21** 00:52:30.8±4.5, 16.08N×98.36W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/45, mbtmp3.4/7, ML2.9/1, Error ellipse: s-maj=82.9km s-min=17.2km az=3.0*
ISC 21 00:52:31.8±3.3, 15.9N±0.4×98.30W±0.10, h16km, n8, σ1°27/9, mb3.4/4, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero** 1.0nm,0.3s,baz=258,slow=18,SNR=5.8	**3.49**	**69**	Pn	**Pn**	**00 53 25.7**	**+0.3**
CMIG				Pg	**Pb**	**00 53 32.2**	**-0.9**
	2.2nm,0.3s,baz=250,slow=12,SNR=5.9						
CMIG				Sn	**Sn**	**00 54 07.4**	**+1.0**
	10nm,0.3s,baz=308,slow=1.8,SNR=5.4						
CMIG				Lg	Lg	00 54 24.3	
	53nm,0.3s,baz=198,slow=20,SNR=19						
H06E1	**SOCORRO T-PHAS** SNR=6.5	**12.40**	**285**	T	T	01 07 39.9	
TXAR	**Lajitas Array** baz=161,slow=14,SNR=2.0	**14.27**	**341**	Pn	**Pn**	**00 55 54.2**	**+0.8**
ANMO	**Albuquerque** 1.3nm,0.7s,baz=189,slow=19,SNR=5.6	**20.34**	**340**	P	**P**	**00 57 05.4**	**-2.3**
PDAR	**Pinedale Array** 0.6nm,0.8s,baz=139,slow=12,SNR=3.5	**28.47**	**342**	P	**P**	**00 58 25.8**	**-0.7**
NVAR	**Mina Array Bea** 0.5nm,0.8s,baz=134,slow=9.6,SNR=4.2	**28.53**	**326**	P	**P**	**00 58 27.5**	**+0.5**
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=157,slow=7.5,SNR=5.1	**47.95**	**350**	P	**P**	**01 01 08.7**	**-0.6**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=119,slow=5.2,SNR=4.0	**58.76**	**338**	P	**P**	**01 02 29.7**	**+0.9**

*IDC **21** 01:02:17.8±4.0, 16.05N×98.42W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.6/49, mbtmp3.4/7, ML3.4/2, MS3.9/1, Ms1 3.9/1, ms1mx3.0/23, Error ellipse: s-maj=72.8km s-min=19.3km az=3.0*
*ISCJB **21** 01:02:19.9±1.6, 16.11N±0.10°×98.48W±0.05, h24km±8km, mb3.9/13, MS3.6/1, Error ellipse: s-maj=16.9km s-min=6.6km az=12.2*
*NEIC **21** 01:02:20.0±0.0, 15.95N×98.47W, h16km, mb4.2/9, MD4.2(MEX), After MEX.*
*MEX **21** 01:02:20.6±0.9, 16.02N×98.45W, h16km±999km, MD4.0*
ISC 21 01:02:17.1±2.0, 15.97N±0.09°×98.54W±0.05, h6km±11km, n40, σ2°30/51, mb3.9/13, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.58**	**43**	*e*P	**Pg**	**01 02 29.1**	**+0.7**
PNIG				*i* S	**Sg**	**01 02 34.7**	**-1.3**
PNIG	**Pinotepa**	**0.58**	**43**	*e*P	**Pg**	**01 02 29.1**	**+0.7**
PNIG				*e*S	**Sg**	**01 02 34.3**	**-1.8**
ACX	**Acapulco**	**1.55**	**306**	*i* P	**Pb**	**01 02 46.6**	**+0.4**
ACX				*i* S	**Sn**	**01 03 04.9**	**-0.8**
CAIG	**El Cayaco**	**1.97**	**303**	*e*P	**Pn**	**01 02 49.8**	**-1.3**
CAIG				*e*S	**Sn**	**01 03 14.0**	**-2.1**
CAIG	**El Cayaco**	**1.97**	**303**	*e*P	**Pn**	**01 02 50.4**	**-0.7**
CAIG				*e*S	**Sn**	**01 03 14.3**	**-1.9**
PLIG	**Platanillo**	**2.58**	**339**	*e*P	**Pn**	**01 02 58.9**	**-0.7**
PLIG				*e*S	**Sn**	**01 03 28.6**	**-2.7**
PLIG	**Platanillo**	**2.58**	**339**	*e*P	**Pn**	**01 02 58.9**	**-0.7**
PLIG				*e*S	**Sn**	**01 03 29.2**	**-2.1**
ARIG	**Puente Sto Nin**	**2.88**	**323**	*e*P	**Pn**	**01 03 03.6**	**+0.1**
ARIG				*e*S	**Sn**	**01 03 36.4**	**-2.1**
ARIG	**Puente Sto Nin**	**2.88**	**323**	*e*P	**Pn**	**01 03 03.6**	**+0.1**
ARIG				*e*S	**Sn**	**01 03 37.1**	**-1.4**
UNM	**Universidad Na**	**3.40**	**350**	*e*Pn	**Pn**	**01 03 12.5**	**+1.5**
UNM				*e*Sn	**Sb**	**01 03 57.6**	**-2.1**
CMIG	**Matias Romero** 2.2nm,0.3s,baz=258,slow=15,SNR=27	**3.69**	**72**	Pn	**Pn**	**01 03 15.1**	**+0.4**
CMIG				Sn	**Sn**	**01 03 56.1**	**-2.3**
	26nm,0.3s,baz=251,slow=18,SNR=7.8						
CMIG				Lg	Lg	01 04 10.7	
	40nm,0.3s,baz=295,slow=9.2,SNR=6.4						
JRQG	**Juriquilla Cam**	**5.05**	**339**	*e*Pn	**Pn**	**01 03 35.6**	**+2.0**
JRQG				*e*Sg	**Sb**	**01 04 48.5**	**+1.4**
ZAIG	**Zacatecas**	**7.76**	**331**	*e*Pn	**Pn**	**01 04 14.1**	**+3.1**
ZAIG				*e*Sn	**Sn**	**01 05 46.3**	**+7.0**
H06E1	**SOCORRO T-PHAS** SNR=6.5	**12.15**	**285**	T	T	01 17 23.9	
LTX	**Lajitas**	**14.12**	**341**	*e*Pn	**Pn**	**01 05 41.5**	**+3.6**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=160,slow=13,SNR=3.2	**14.12**	**341**	Pn	**Pn**	**01 05 41.5**	**+3.6**
MNTX	**Cornudas Mount** 2.9nm,1.0s	**16.86**	**340**	*e*Pn	**Pn**	**01 06 12.9**	**-0.9**
ANMO	**Albuquerque** 0.7nm,0.6s,baz=107,slow=20,SNR=3.2	**20.19**	**341**	P	Pn	01 06 54.7	0.0
ANMO				LR	LR	01 15 24.9	
	comp=Z,276nm,18.0s,baz=342,slow=39						
ANMO	**Albuquerque** 3.4nm,1.1s	**20.19**	**341**	*e*P	**P**	**01 06 51.3**	**-1.5**
HHAR	**Hobbs** 4.9nm,1.0s	**20.65**	**11**	*e*P	**P**	**01 06 53.7**	**-3.8**
T25A	**Trinidad** 9.3nm,1.3s	**21.72**	**347**	*e*P	**P**	**01 07 13.1**	**+3.8**
X16A	**Lo Mia Camp, P** 4.1nm,0.9s	**21.73**	**330**	*e*P	**P**	**01 07 11.9**	**+2.5**
GOGA	**Godfrey** 33nm,1.7s	**22.07**	**35**	*e*P	**P**	**01 07 08.6**	**-4.3**
U15A	**North Rim** 7.5nm,1.4s	**23.77**	**332**	*e*P	**P**	**01 07 35.2**	**+4.4**
USIN	**University of** 9.8nm,0.8s	**23.93**	**22**	*e*P	**P**	**01 07 31.4**	**-0.5**
SMCO	**Snowmass** 3.3nm,1.0s	**24.28**	**344**	*e*P	**P**	**01 07 37.5**	**+1.9**
BBSC	**Beaumont Base**	**24.41**	**320**	*e*P	**P**	**01 07 38.1**	**+1.5**
ISCO	**Idaho Springs** 2.6nm,0.9s	**24.54**	**347**	*e*P	**P**	**01 07 38.8**	**+0.9**
KMSC	**Kings Mountain** 34nm,2.0s	**24.54**	**36**	*e*P	**P**	**01 07 34.5**	**-3.2**
MTPU	**Mount Pierson** 7.3nm,1.0s	**25.07**	**334**	*e*P	**P**	**01 07 44.1**	**+1.3**
MWC	**Mount Wilson**	**25.27**	**320**	*e*P	**P**	**01 07 44.2**	**-0.3**
PD31	**Pinedale Array**	**28.33**	**343**	*e*P	**P**	**01 08 13.1**	**+1.0**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=155,slow=9.3,SNR=3.9	**28.33**	**343**	P	**P**	**01 08 13.1**	**+1.0**
PDAR	**Pinedale Array**	**28.33**	**343**	*e*P	**P**	**01 08 12.8**	**+0.8**
NV01	**Mina Array Sit**	**28.33**	**326**	*e*P	**P**	**01 08 13.2**	**+1.1**
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=132,slow=9.1,SNR=3.8	**28.33**	**326**	P	**P**	**01 08 13.2**	**+1.1**
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=155,slow=7.0,SNR=4.3	**47.83**	**350**	P	**P**	**01 10 55.1**	**-0.2**
YKB5	**Yellowknife Ar**	**47.83**	**350**	*e*P	**P**	**01 10 55.1**	**-0.2**
ILAR	**Eielson Array** 0.9nm,1.1s,baz=134,slow=7.7,SNR=3.6	**58.60**	**338**	P	**P**	**01 12 16.6**	**+2.0**
ILB	**Eielson Array**	**58.60**	**338**	*e*P	**P**	**01 12 16.6**	**+2.0**

*ECX **21** 01:18:22.5±0.7, 31.08°N×114.39W, h12km, MD3.4, ML3.5, Fault plane solution: NP1:φs105.00000°, δ68.53000°, λ-13.12000°.*
ISC 21 01:18:13.5±1.5, 31.05N±0.07°×114.13W±0.04, h10km, n19, σ2°27/20, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.90**	**299**	*e*P	**Pn**	**01 18 31.7**	**-0.4**
ECBX				*e*S	**Sg**	**01 18 41.2**	**-1.3**
SPX	**San Pedro Mart**	**1.14**	**270**	*e*P	**Pn**	**01 18 38.4**	**+2.5**
SPX				*e*S	**Sn**	**01 18 51.0**	**-0.8**
214A	**Organ Pipe Nat** baz=203	**1.45**	**51**	P	Pn	01 18 24.2	-16
214A				Sb	**Sg**	**01 19 04.3**	**+4.2**
	baz=203						
CPBX	**Cerro Prieto**	**1.69**	**324**	*e*	Pg	01 19 16.3	+30
CPBX				IAML		01 19 16.3	
	comp=N,1μm,0.6s						
ZAX	**El Zacaton**	**1.89**	**285**	*e*P	**Pg**	**01 18 50.9**	**+1.1**
ZAX				*e*S	**Sg**	**01 19 12.8**	**-1.6**
GLA	**Glamis** baz=170	**2.09**	**344**	P	Pn	01 18 37.0	-12
GLA				S	**Sg**	**01 19 22.6**	**+2.0**
	baz=170						
RMX	**La Rumorosa**	**2.27**	**314**	*e*P	**Pg**	**01 18 56.8**	**-0.3**
IKP	**In-Ko-Pah, Jac** baz=152,SNR=21	**2.32**	**314**	Pb	Pn	01 18 44.9	-7.0
CBX	**Cerro Bola**	**2.50**	**301**	*e*P	**Pg**	**01 19 00.2**	**-1.3**
MONP2	**Monument Peak** baz=150,SNR=22	**2.68**	**314**	Pb	Pn	01 18 50.8	-6.1
Y12C	**Blythe** baz=175	**2.72**	**353**	S	**Sb**	**01 19 36.0**	**+0.4**
BC3	**Big Chuckawall** baz=164,SNR=13	**2.83**	**337**	Pb	**Pn**	**01 18 57.0**	**-1.9**
BC3				S	**Sb**	**01 19 40.6**	**+1.5**
	baz=164						
TUC	**Tucson** baz=225	**3.12**	**65**	Sg	**Sg**	**01 19 53.6**	**-0.2**
109C	**Camp Elliot, M** baz=143	**3.12**	**307**	S	**Sn**	**01 19 38.4**	**-1.9**
IRM	**Iron Mountain** baz=169,SNR=12	**3.22**	**345**	Pb	**Pn**	**01 19 02.2**	**-2.0**
IRM				S	**Sb**	**01 19 51.5**	**+1.4**
	baz=169						
NEE2	**Needles Airpor** baz=175	**3.73**	**354**	S	**Sb**	**01 20 05.6**	**+0.7**
WUAZ	**Wupatki** baz=201	**5.02**	**27**	Pb	Pb	01 19 34.4	-7.2
SHOC	**Shoshone, Teco** baz=164	**5.16**	**340**	Sb	**Sg**	**01 21 04.2**	**+5.0**
W18A	**Petrified Fore** baz=214	**5.49**	**41**	Sb	**Sg**	**01 21 06.4**	**-3.3**

*IDC **21** 01:18:36.2±1.1, 7.25N×127.25E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/53, mbtmp3.4/5, Error ellipse: s-maj=27.1km s-min=23.8km az=2.0*
*ISCJB **21** 01:18:41.9±0.9, 7.10N±0.1°×127.19E±0.07, h60km, mb3.3/5, Error ellipse: s-maj=18.2km s-min=9.7km az=11.8*
ISC 21 01:18:43.2±1.1, 6.9N±0.1°×127.04E±0.10, h60km, n9, σ2°28/12, mb3.5/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.78**	**276**	*e*P	**Pn**	**01 18 55.8**	**-2.6**
MATI				*e*S	**Sn**	**01 19 06.1**	**-3.5**
DAV	**Davao City (W)** 117nm,0.3s,baz=72,slow=13,SNR=3.5	**1.46**	**278**	Pn	**Pn**	**01 19 08.7**	**+1.3**
DAV				Sn	**Sn**	**01 19 28.2**	**+2.6**
	79nm,0.3s,baz=139,slow=20,SNR=8.2						
BUKP	**Musuan**	**2.20**	**297**	*e*P	**Pn**	**01 19 17.0**	**-0.5**
BUKP				*e*S	**Sn**	**01 19 46.5**	**+2.9**
BUTP	**Butuan**	**2.52**	**326**	*e*P	**Pn**	**01 19 21.8**	**0.0**
WRA	**Warramunga Arr** 0.1nm,0.4s,baz=344,slow=10,SNR=4.9	**27.59**	**165**	P	**P**	**01 24 27.8**	**+2.8**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=118,slow=7.8,SNR=8.7	**55.20**	**324**	P	**P**	**01 28 09.0**	**-1.0**
KURBB	**Kurchatov Arra** 0.2nm,0.6s,baz=121,slow=7.8,SNR=2.7	**59.30**	**326**	P	**P**	**01 28 37.6**	**-1.1**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=251,slow=4.9,SNR=7.2	**82.17**	**26**	P	**P**	**01 30 57.7**	**+0.3**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=296,slow=3.9,SNR=2.7	**96.54**	**24**	P	**P**	**01 32 05.2**	**-0.8**

*MOS **21** 01:31:20.6±1.5, 49.58N×156.96E, h7km, mb4.3/1, Error ellipse: s-maj=44.7km s-min=6.6km az=84.3*
KRSC 21 01:31:20.6±1.2, 49.58N×156.96E, h7km±24km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.23**	**334**	*e*PN	Pn	01 31 44.3	0.0
SKR				*e*S	Sg	01 31 58.9	-1.3
SKR				smax	smax		
	comp=E,301nm,0.5s						
SKR				smax	smax		
	comp=N,380nm,0.8s						
SKR	**Severo-Kuril's**	**1.23**	**334**	*e*P	Pb	01 31 43.2	-1.0
SKR				*e*S	Sg	01 31 58.7	-1.5
PAU	**Pauzhetka**	**1.89**	**357**	PN	Pb	01 31 54.9	-0.6
PAU				S	Sb	01 32 19.3	-0.1
PAU	**Pauzhetka**	**1.89**	**357**	*e*P	Pb	01 31 54.9	-0.6
PAU				*e*S	Sb	01 32 19.3	-0.1
KDTR	**Khodutka, Kamc**	**2.34**	**17**	*e*P	Pb	01 32 01.7	-1.5
KDTR				*e*S	Sb	01 32 31.8	-0.5
MIPR	**Malaya Ipel'ka**	**2.71**	**357**	PN	Pn	01 32 06.1	+1.6
MIPR	**Malaya Ipel'ka**	**2.71**	**357**	*e*P	Pn	01 32 06.1	+1.6
ASAK	**Asacha**	**2.87**	**12**	PN	Pb	01 32 09.8	-2.4
ASAK	**Asacha**	**2.87**	**12**	*e*P	Pb	01 32 09.8	-2.4
MTVR	**Mutnovka**	**3.01**	**14**	PN	Pb	01 32 11.8	-2.8
MTVR				S	Sb	01 32 48.9	-2.7
MTVR	**Mutnovka**	**3.01**	**14**	*e*P	Pb	01 32 11.8	-2.8
MTVR				*e*S	Sb	01 32 48.9	-2.7
RUS	**Russkaya**	**3.02**	**18**	PN	Pn	01 32 11.3	+2.4
RUS				S	Sn	01 32 48.1	+2.8
RUS	**Russkaya**	**3.02**	**18**	*e*P	Pn	01 32 11.3	+2.4
RUS				*e*S	Sn	01 32 48.1	+2.8
KRMR	**Karymshinskiy**	**3.34**	**12**	PN	Pn	01 32 16.6	+3.4
KRMR				S	Sb	01 32 57.3	-3.6
KRMR	**Karymshinskiy**	**3.34**	**12**	*e*P	Pn	01 32 16.6	+3.4
KRMR				*e*S	Sb	01 32 57.3	-3.6
DALK	**Dalny**	**3.64**	**17**	PN	Pn	01 32 20.2	+2.9
DALK				S	Sn	01 33 04.5	+4.1
DALK	**Dalny**	**3.64**	**17**	*e*P	Pn	01 32 20.2	+2.9
DALK				*e*S	Sn	01 33 04.5	+4.1
UGLR	**Uglovaya**	**3.82**	**17**	PN	Pn	01 32 22.6	+2.7
UGLR	**Uglovaya**	**3.82**	**17**	*e*P	Pn	01 32 22.6	+2.7
AVH	**Avacha**	**3.86**	**16**	PN	Pn	01 32 24.4	+4.0
AVH	**Avacha**	**3.86**	**16**	*e*P	Pn	01 32 24.4	+4.0
SMAR	**Somma**	**3.87**	**17**	PN	Pn	01 32 24.0	+3.3
SMAR	**Somma**	**3.87**	**17**	*e*P	Pn	01 32 24.0	+3.3
SDLR	**Sedlovina**	**3.90**	**17**	PN	Pn	01 32 23.9	+2.9
SDLR	**Sedlovina**	**3.90**	**17**	*e*P	Pn	01 32 23.9	+2.9
KRX	**Arik**	**3.93**	**15**	PN	Pn	01 32 24.3	+2.8
KRX	**Arik**	**3.93**	**15**	*e*P	Pn	01 32 24.3	+2.8
GNL	**Ganaly**	**4.17**	**8**	PN	Pn	01 32 29.3	+4.6
GNL	**Ganaly**	**4.17**	**8**	*e*P	Pn	01 32 29.3	+4.6

IDC 21 01:43:09.3±3.1, 6.20S×146.94E, h0km, mb3.0/1, mb1 3.4/3, mb1mx3.2/47, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=77.8km s-min=34.0km az=85.0, Eastern New Guinea region

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

0.3nm,0.4s,baz=93,slow=10,SNR=7.2
KURBB Kurchatov Arra 44.29 314 P P 01 54 31.7 -0.5
0.8nm,0.3s,baz=96,slow=9.2,SNR=18
WRA Warramunga Arr 49.09 176 P P 01 55 21.8 +12
0.5nm,0.7s,baz=353,slow=8.0,SNR=2.6
BVAR Borovoye Array 49.56 316 P P 01 55 13.1 -0.4
1.0nm,0.5s,baz=84,slow=9.0,SNR=9.5

IDC 21 01:48:09.3±5.3, 16°22N×98°44W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.5/45, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=97.4km s-min=18.4km az=6.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.52**	**75**	Pn	Pn	01 49 05.6	+0.3
	7.8nm,0.3s,baz=258,slow=14,SNR=24						
CMIG				Pg	Pb	01 49 12.3	-0.2
	3.3nm,0.3s,baz=232,slow=15,SNR=9.7						
CMIG				Sn	Sn	01 49 44.8	-2.8
	11nm,0.3s,baz=265,slow=16,SNR=3.5						
CMIG				Lg	Lg	01 50 02.1	
	84nm,0.3s,baz=216,slow=8.7,SNR=15						
H06E1	**SOCORRO T-PHAS**	**12.18**	**284**	T	T	02 03 18.4	
ANMO	**Albuquerque**	**19.98**	**340**	P	P	01 52 43.5	-0.1
	0.1nm,0.3s,baz=170,slow=14,SNR=3.7						
PDAR	**Pinedale Array**	**28.12**	**342**	P	P	01 54 03.5	+0.2
	0.3nm,0.6s,baz=154,slow=9.3,SNR=3.2						
NVAR	**Mina Array Bea**	**28.18**	**326**	P	P	01 54 04.3	+0.5
	0.7nm,0.8s,baz=149,slow=10.0,SNR=4.8						
YKA	**Yellowknife Ar**	**47.60**	**350**	P	P	01 56 46.0	-0.7
	0.3nm,0.8s,baz=158,slow=7.6,SNR=4.2						

IDC 21 01:49:28.5±5.5, 36°81N×140°02E, h92km±39km, mb2.9/2, mb1 2.9/2, mb1mx2.7/61, mbtmp3.3/2, Error ellipse: s-maj=58.4km s-min=43.9km az=67.0
ISCJB 21 01:49:29.1±1.4, 36°31N±0°07×139°97E±0°09, h93km±8km, mb3.2/2, Error ellipse: s-maj=12.4km s-min=11.1km az=167.9
JMA 21 01:49:31.4±0.1, 36°33N×139°95E, h76km±1km, M2.3
ISC 21 01:49:31.2±3.0, 36°31N±0°07×139°9E±0°1, h79km±19km, n10, σ0°46/15, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.22**	**112**	P	Pn	01 49 43.0	0.0
JYT				S	Sn	01 49 51.5	-0.2
JAG	**Ashikaga**	**0.41**	**286**	P	Pn	01 49 44.1	-0.1
JAG				S	Sn	01 49 53.5	-0.2
JKT	**Katashina**	**0.72**	**310**	P	Pn	01 49 47.1	0.0
JKT				S	Sn	01 49 59.3	+0.4
JRY	**Ryogami san**	**0.89**	**251**	P	Pn	01 49 49.4	+0.5
JRY				S	Sn	01 50 02.5	+0.4
JHK	**Hiroka**	**1.19**	**322**	P	Pn	01 49 52.7	+0.1
JHK				S	Sn	01 50 08.8	+0.2
JOD2	**Odawara 2**	**1.25**	**214**	S	Sn	01 50 09.8	-0.2
MJAR	**Matsushiro Arr**	**1.41**	**280**	P	Pn	01 49 54.9	-0.5
	1.8nm,0.3s,baz=88,slow=14,SNR=17						
MJAR				S	Sn	01 50 12.6	-1.1
	1.0nm,0.3s,baz=74,slow=16,SNR=4.3						
MAT	**Matsushiro**	**1.42**	**280**	P	Pn	01 49 56.0	+0.6
MAT				eS	Sn	01 50 13.5	-0.2
ZALV	**Zalesovo Beam**	**41.53**	**313**	P	P	01 57 02.5	-8.1
	0.3nm,0.3s,baz=90,slow=8.6,SNR=2.1						
MKAR	**Makanchi Array**	**43.50**	**303**	P	P	01 57 22.0	-4.7
	0.1nm,0.5s,baz=99,slow=9.1,SNR=2.2						

IDC 21 01:54:09.7±5.0, 16°36N×98°44W, h0km, mb3.2/3, mb1 3.6/5, mb1mx3.4/48, mbtmp3.2/5, ML3.2/2, Error ellipse: s-maj=93.4km s-min=17.9km az=8.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.48**	**77**	Pn	Pn	01 55 04.8	-0.4
	2.9nm,0.3s,baz=254,slow=12,SNR=8.7						
CMIG				Pg	Pb	01 55 13.2	+0.9
	5.6nm,0.3s,baz=258,slow=14,SNR=13						
CMIG				Lg	Lg	01 56 00.8	
	22nm,0.3s,baz=273,slow=17,SNR=17						
ANMO	**Albuquerque**	**19.86**	**340**	P	P	01 58 42.4	-0.2
	0.1nm,0.3s,baz=169,slow=19,SNR=2.3						
PDAR	**Pinedale Array**	**27.99**	**342**	P	P	02 00 02.1	-0.4
	0.1nm,0.3s,baz=133,slow=10,SNR=2.5						
NVAR	**Mina Array Bea**	**28.07**	**325**	P	P	02 00 03.3	+0.1
	0.1nm,0.2s,baz=132,slow=12,SNR=2.1						
YKA	**Yellowknife Ar**	**47.47**	**350**	P	P	02 02 46.4	+0.3
	0.3nm,0.9s,baz=157,slow=7.8,SNR=4.0						

JMA 21 02:00:48.5±0.2, 37°33N×141°93E, h31km±4km, M3.9
IDC 21 02:00:51.5±4.0, 37°21N×141°97E, h47km±39km, mb3.4/10, mb1 3.6/11, mb1mx3.4/68, mbtmp3.7/11, ML3.2/1, Error ellipse: s-maj=25.6km s-min=18.8km az=80.0
ISC 21 02:00:46.7±3.8, 37°36N±0°06×141°96E±0°07, h9km±23km, n29, σ0°99/29, mb3.7/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.87**	**271**	P	Pb	02 01 04.2	+0.2
JFK				S	Sb	02 01 15.0	-0.8
ONAJ	**Iwakimizuishiy**	**0.96**	**255**	P	Pb	02 01 05.3	-0.4
ONAJ				S	Sb	02 01 16.9	-1.6
JMM	**Marumori**	**1.06**	**299**	P	Pn	02 01 07.5	-0.3
JMM				S	Sb	02 01 20.6	-0.7
JIO	**Ouri**	**1.20**	**336**	P	Pn	02 01 09.7	0.0
JIO				S	Sb	02 01 24.1	-1.2
JFT	**Otama**	**1.30**	**278**	P	Pn	02 01 11.6	+0.4
JFT				S	Sn	02 01 27.6	-1.2
JOU	**Okura**	**1.44**	**315**	P	Pn	02 01 14.0	+0.9
JOU				S	Sn	02 01 32.1	0.0
JMK	**Ichinoseki**	**1.70**	**340**	P	Pn	02 01 17.3	+0.7
JYS	**Shirataka**	**1.73**	**300**	P	Pn	02 01 18.1	+1.0
JFY	**Yanaizu**	**1.80**	**272**	P	Pn	02 01 18.4	+0.4
JYK	**Kaneyama**	**2.01**	**321**	P	Pn	02 01 21.8	+0.9
MJAR	**Matsushiro Arr**	**3.12**	**256**	P	Pn	02 01 37.4	+1.3
	2.8nm,0.3s,baz=92,slow=14,SNR=14						
MAT	**Matsushiro**	**3.12**	**256**	P	Pn	02 01 37.3	+1.2
MAT				eS	Sn	02 02 15.6	+2.1
USRK	**Ussuriysk Ar.**	**10.19**	**315**	P	Pn	02 03 19.8	+6.7
	0.4nm,0.3s,baz=130,slow=14,SNR=10						
H11N2	**WAKE ISLAND Hy**	**27.94**	**122**	T	T	02 36 04.9	
	baz=315,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy**	**27.95**	**122**	T	T	02 36 06.5	
	baz=315,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**27.96**	**122**	T	T	02 36 06.3	
	baz=315,slow=75,SNR=40						
SONM	**Songino Array**	**27.97**	**303**	P	P	02 06 38.8	+1.0
	0.6nm,0.4s,baz=104,slow=9.2,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**28.67**	**124**	T	T	02 36 47.6	
	baz=316,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**28.67**	**124**	T	T	02 36 59.9	
	baz=316,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.69**	**124**	T	T	02 36 59.9	
	baz=316,slow=76,SNR=26						
ZALV	**Zalesovo Beam**	**42.02**	**312**	P	P	02 08 39.1	+0.8
	1.0nm,0.7s,baz=94,slow=4.8,SNR=3.5						
MKAR	**Makanchi Array**	**44.32**	**302**	P	P	02 08 56.8	-0.2
	0.8nm,0.7s,baz=83,slow=8.8,SNR=10						
KURBB	**Kurchatov Arra**	**46.15**	**308**	P	P	02 09 11.4	-0.1
	2.0nm,0.8s,baz=83,slow=8.1,SNR=16						
ILAR	**Eielson Array**	**48.99**	**33**	P	P	02 09 33.7	+0.4
	0.7nm,0.8s,baz=251,slow=6.0,SNR=6.7						
BVAR	**Borovoye Array**	**50.68**	**312**	P	P	02 09 46.9	+0.5
	0.5nm,0.7s,baz=78,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**57.44**	**189**	P	P	02 10 34.2	-1.7
	1.2nm,0.5s,baz=7.0,slow=7.4,SNR=32						
ASAR	**Alice Springs**	**61.17**	**188**	P	P	02 11 00.4	-1.3
	0.7nm,0.7s,baz=14,slow=6.4,SNR=5.4						
YKA	**Yellowknife Ar**	**63.31**	**30**	P	P	02 11 15.7	+0.1
	0.2nm,0.7s,baz=295,slow=6.8,SNR=3.7						
PDAR	**Pinedale Array**	**77.13**	**46**	P	P	02 12 41.0	+0.1
	0.3nm,0.6s,baz=204,slow=2.6,SNR=3.7						

IDC 21 02:03:31.7±3.4, 50°17N×173°70W, h0km, mb3.0/2, mb1 3.7/3, mb1mx3.2/79, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=88.1km s-min=37.4km az=3.0
ISCJB 21 02:03:33.2±1.6, 50°1N±0°1×174°0W±0°1, h33km, mb3.2/1, Error ellipse: s-maj=23.0km s-min=10.0km az=23.7
NEIC 21 02:03:33.4±0.0, 50°16N×174°17W, h23km, ML3.3(AEIC), After AEIC.
ISC 21 02:03:34.6±1.7, 50°2N±0°2×173°95W±0°08, h35km, n11, σ1°57/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**2.10**	**357**	P	Pn	02 04 08.1	+0.8
KOWE	**Korovin West**	**2.19**	**355**	P	Pn	02 04 09.1	+0.6
ETKA	**Kagalaska Isla**	**2.29**	**318**	P	Pn	02 04 08.8	-1.1
ETKA				S	Sn	02 04 35.4	-1.3
ADAG	**Mount Adagdak**	**2.46**	**318**	P	Pn	02 04 11.8	-0.3
ADAG				S	Sn	02 04 41.9	+1.0
KIRH	**Kanaga Island**	**2.62**	**312**	P	Pn	02 04 13.8	-0.7
KIKV	**Kanaga Island**	**2.65**	**311**	P	Pn	02 04 14.1	-0.7
TAPA	**Tanaga Point A**	**2.94**	**305**	P	Pn	02 04 17.8	-1.0
KDAK	**Kodiak Island**	**14.64**	**51**	Pn	Pn	02 06 56.0	-2.9
	0.2nm,0.3s,baz=243,slow=6.8,SNR=3.5						
PETK	**Petropavlovsk-**	**17.79**	**290**	P	P	02 07 42.4	+2.7
	0.4nm,0.3s,baz=83,slow=12,SNR=5.0						
ILAR	**Eielson Array**	**20.38**	**34**	P	P	02 08 09.0	+1.1
	0.2nm,0.4s,baz=230,slow=9.9,SNR=5.5						
PDAR	**Pinedale Array**	**43.71**	**74**	P	P	02 11 37.2	+0.9
	0.4nm,0.8s,baz=307,slow=5.3,SNR=2.5						

MEX 21 02:07:35.5±0.9, 15°59N×99°08W, h7km±16km, MD4.0
NEIC 21 02:07:37.0±0.0, 15°62N×99°05W, h10km, mb4.6/138, MD4.9(MEX), After MEX.
ISCJB 21 02:07:42.2±0.4, 16°19N±0°05×98°36W±0°02, h10km, mb4.5/117, MS4.2/8, Error ellipse: s-maj=6.6km s-min=3.1km az=2.5
IDC 21 02:07:43.4±2.4, 16°31N×98°47W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.0/49, mbtmp4.1/11, ML4.1/2, MS4.2/10, Ms1 4.2/10, ms1mx3.8/46, Error ellipse: s-maj=50.7km s-min=20.2km az=22.0
ISC 21 02:07:45.0±2.1, 16°09N±0°08×98°61W±0°05, h23km±13km, n572, σ1°36/553, mb4.6/117, MS4.2/8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**57**	*e*P	Pb	02 07 54.4	-1.6
PNIG				*i* S	Sn	02 08 09.1	+3.1
ACX	**Acapulco**	**1.43**	**303**	*e*P	Pn	02 08 07.7	-1.9
ACX				*i* S	Sn	02 08 26.7	-1.0
TLIG	**Tlapa**	**1.46**	**2**	*e*P	Pn	02 08 07.7	-2.4
TLIG				*e*S	Sb	02 08 31.1	+1.2
CAIG	**El Cayaco**	**1.85**	**301**	*e*P	Pn	02 08 04.5	-11
CAIG				*i* S	Sn	02 08 25.9	-12
VHO	**Vista Hermosa**	**2.04**	**61**	*i* P	Pn	02 08 17.1	-1.2
VHO				*e*S	Sb	02 08 48.8	+2.2
HUIG	**Huatulco**	**2.43**	**97**	*e*P	Pn	02 08 18.9	-4.4
HUIG				*i* S	Sn	02 08 53.0	+0.7
TPIG	**Tehuac#an**	**2.60**	**27**	*e*P	Pn	02 08 24.4	-1.4
TPIG				*i* S	Sb	02 09 03.2	+0.5
ARIG	**Puente Sto Nin**	**2.74**	**323**	*e*P	Pn	02 08 19.4	-8.2
ARIG				*i* S	Sn	02 08 55.1	-5.0
YAIG	**Yautepec**	**2.79**	**351**	*e*P	Pn	02 08 24.9	-3.5
YAIG				*i* S	Sn	02 09 02.2	+0.8
UNM	**Universidad Na**	**3.27**	**350**	*e*Pn	Pn	02 08 34.5	-0.5
UNM				*e*Sn	Sb	02 09 28.9	+7.1
CMIG	**Matias Romero**	**3.71**	**74**	Pn	Pn	02 08 39.1	-1.8
	20nm,0.3s,baz=246,slow=12,SNR=34						
CMIG				Sn	Sn	02 09 23.2	-0.7
	69nm,0.3s,baz=278,slow=8.7,SNR=10.0						
CMIG				Lg	Lg	02 09 43.9	
	287nm,0.3s,baz=225,slow=6.8,SNR=15						
ZAIG	**Zacatecas**	**7.62**	**331**	*e*Pn	Pn	02 09 34.4	-0.6
ZAIG				*e*Sn	Sn	02 10 50.5	-10
MYIG	**MØrida**	**9.70**	**59**	*e*Pn	Pn	02 10 02.3	-1.0
TEIG	**Tepich**	**10.64**	**66**	*e*Pn	Pn	02 10 13.2	-2.9
TEIG				*e*Sn	Sn	02 12 05.3	-9.5
TGUH	**Tegucigalpa,Un**	**11.13**	**99**	*e*Pn	Pn	02 10 24.8	+1.9
TGUH				*e*Sn	Sn	02 12 16.2	-11
H06E1	**SOCORRO T-PHAS**	**12.06**	**285**	T	T	02 22 42.5	
	SNR=252						
H06S1	**SOCORRO T**	**12.08**	**284**	T	T	02 22 48.7	
	SNR=14						
SLBS	**Sierra La Lagu**	**13.06**	**307**	*e*Pn	Pn	02 10 51.9	+2.5
LPIG	**La Paz**	**13.57**	**308**	LR	LR	02 15 08.2	
	comp=Z,792nm,21.7s,baz=46,slow=33						
TX31	**Lajitas Ar. Si**	**13.98**	**341**	*e*Pn	Pn	02 11 03.8	+2.0
TXAR	**Lajitas Array**	**13.98**	**341**	Lg	Lg	02 15 11.9	
	0.0nm,0.3s,baz=163,slow=22,SNR=7.2						
TXAR				LR	LR	02 16 23.5	
	comp=Z,866nm,18.7s,baz=0.0,slow=38						
JCT	**Junction City**	**14.36**	**356**	*e*Pn	Pn	02 11 03.4	-3.7
JTS	**JuntasAbangare**	**14.49**	**112**	*e*Pn	Pn	02 11 09.8	+1.0
	33nm,1.2s						
WHTX	**Lake Whitney,**	**15.86**	**4**	P	Pn	02 11 28.2	+1.3
	baz=185,SNR=6.7						
WHTX	**Lake Whitney,**	**15.86**	**4**	*e*Pn	P	02 11 30.9	+0.4
	52nm,1.0s						
NATX	**Nacogdoches**	**16.01**	**12**	*e*Pn	Pn	02 11 24.5	-4.3
	36nm,0.8s						
240A	**Hunter Patters**	**16.48**	**15**	P	Pn	02 11 35.0	+0.2
	baz=198						
ABTX	**Abilene, Hawle**	**16.49**	**357**	P	P	02 11 37.2	-0.3
	baz=178,SNR=13						
ABTX	**Abilene, Hawle**	**16.49**	**357**	*e*Pn	Pn	02 11 32.3	-2.6
	40nm,1.1s						
WBCY	**West Bay, Gran**	**16.72**	**76**	*e*Pn	Pn	02 11 37.9	+0.1
	344nm,1.3s						
MNTX	**Cornudas Mount**	**16.72**	**340**	P	Pn	02 11 38.2	+0.4
	baz=159						
MNTX	**Cornudas Mount**	**16.72**	**340**	*e*Pn	Pn	02 11 37.8	0.0
	10nm,1.0s						
GDL2	**Guadalupe Moun**	**16.87**	**343**	*e*Pn	P	02 11 42.2	+0.5
140A	**Cam and Jess,**	**17.10**	**15**	P	Pn	02 11 42.6	+0.1
	baz=198						
EPT	**El Paso**	**17.19**	**337**	*e*Pn	Pn	02 11 43.0	-0.9
	15nm,0.9s						
VBMS	**Vicksburg**	**17.66**	**23**	*e*Pn	Pn	02 11 44.5	-5.0
	45nm,0.9s						
Z40A	**Long Farm, Mag**	**17.73**	**14**	P	Pn	02 11 50.8	+0.4
	baz=198,SNR=6.6						
Z41A	**Richland Creek**	**17.88**	**16**	P	Pn	02 11 52.3	+0.1
	baz=199						
319A	**Douglas**	**18.06**	**329**	*e*Pn	P	02 11 55.9	+0.9
	21nm,0.9s						
348A	**Jackson**	**18.11**	**31**	P	P	02 11 55.9	+0.6
	baz=215						
MSTX	**Muleshoe**	**18.19**	**349**	P	Pn	02 11 56.1	-0.2
	baz=169,SNR=7.1						
MSTX	**Muleshoe**	**18.19**	**349**	*e*Pn	Pn	02 11 56.3	+0.1
	16nm,0.8s						
WLAR	**White Oak Lake**	**18.21**	**15**	*e*Pn	Pn	02 11 57.5	+1.2
	31nm,0.8s						
145A	**Houston Renfro**	**18.23**	**24**	P	P	02 11 56.2	-0.5
	baz=208						
247A	**Quitman**	**18.31**	**28**	P	P	02 11 56.6	-0.9
	baz=212						
121A	**Cookes Peak, D**	**18.36**	**335**	P	Pn	02 11 59.1	+0.7
	baz=153						
121A	**Cookes Peak, D**	**18.36**	**335**	*e*P	P	02 11 57.5	-0.9
	14nm,0.9s						
349A	**Repton**	**18.41**	**32**	P	P	02 11 57.9	-0.8
	baz=217						
Y40A	**Okolona**	**18.48**	**14**	P	P	02 11 58.5	-0.9
	baz=197						
Y41A	**Eaglette Beard**	**18.52**	**16**	P	P	02 11 59.5	-0.3
	baz=199						
WMOK	**Wichita Mounta**	**18.57**	**360**	P	P	02 12 00.2	-0.2
	baz=181						
WMOK	**Wichita Mounta**	**18.57**	**360**	*e*P	Pn	02 12 02.2	+1.5
	12nm,1.1s						
146A	**Union**	**18.61**	**26**	P	P	02 12 00.2	-0.7
	baz=210						
Y42A	**Garnett, Star**	**18.71**	**18**	P	P	02 12 01.2	-0.7
	baz=202						
248A	**Dixon Mills**	**18.75**	**30**	P	P	02 12 02.3	-0.1
	baz=215						
X39A	**Fountain Ranch**	**18.78**	**12**	P	P	02 12 03.0	+0.2
	baz=194						
CCAR	**Cane Creek**	**18.79**	**18**	*e*P	P	02 12 00.1	-2.7
	95nm,1.5s						
AMTX	**Amarillo**	**18.91**	**352**	P	P	02 12 03.7	-0.6
	baz=172						
AMTX	**Amarillo**	**18.91**	**352**	*e*P	P	02 12 04.7	+0.4
	15nm,0.8s						
249A	**Camden**	**18.95**	**31**	P	P	02 12 04.5	-0.1
	baz=216						
147A	**Livingston**	**18.98**	**28**	P	P	02 12 03.8	-1.1
	baz=212						
Z45A	**Winona**	**19.00**	**23**	P	P	02 12 03.1	-2.0
	baz=208						
X40A	**Basin Creek Fa**	**19.04**	**15**	P	P	02 12 04.0	-1.5
	baz=198						
Y43A	**Makayla and Ka**	**19.05**	**20**	P	P	02 12 03.9	-1.7
	baz=204						
X41A	**Kaden, Bauxite**	**19.13**	**16**	P	P	02 12 05.1	-1.4
	baz=199						
Z46A	**Louisville**	**19.14**	**25**	P	P	02 12 05.2	-1.5
	baz=210						
148A	**Greensboro**	**19.28**	**29**	P	P	02 12 07.1	-1.1
	baz=214						
Y44A	**Strider, Charl**	**19.34**	**22**	P	P	02 12 07.7	-1.0
	baz=206						
BNM	**Barren Site**	**19.38**	**340**	*e*P	Pn	02 12 12.0	+1.3
250A	**Grady**	**19.39**	**33**	P	P	02 12 08.6	-0.9
	baz=218						
Y22D	**IRIS PASSCAL I**	**19.41**	**339**	P	P	02 12 10.2	+0.5
	baz=157						
Y22E	**IRIS PASSCAL I**	**19.41**	**339**	P	Pn	02 12 10.4	-0.6
	baz=157						
X42A	**Stuttgart**	**19.42**	**18**	P	P	02 12 09.0	-0.8
	baz=201						
UALR	**University of**	**19.44**	**16**	*e*P	P	02 12 06.8	-3.1
	27nm,1.2s						
Y45A	**Yeager Farm, C**	**19.49**	**23**	P	P	02 12 10.0	-0.5
	baz=208						
W39A	**Magazine**	**19.51**	**12**	P	P	02 12 10.6	-0.1
	baz=195,SNR=6.3						
Z47A	**Carrollton**	**19.52**	**27**	P	P	02 12 10.1	-0.7
	baz=212						
554A	**Perry**	**19.52**	**42**	P	P	02 12 09.3	-1.6
	baz=228						
LPM	**Los Pinos Moun**	**19.53**	**340**	*e*P	Pn	02 12 12.1	-0.3
TUC	**Tucson**	**19.57**	**328**	P	Pn	02 12 13.3	+0.5
	baz=145						
TUC	**Tucson**	**19.57**	**328**	*e*P	Pn	02 12 14.2	+1.3
	44nm,1.9s						
149A	**Jones**	**19.62**	**31**	P	P	02 12 10.3	-1.6
	baz=216						
X43A	**Marvell**	**19.62**	**19**	P	P	02 12 11.8	-0.1
	baz=203						
W40A	**Ferguson Farm,**	**19.66**	**14**	P	P	02 12 12.2	0.0
	baz=197						
W40A	**Ferguson Farm,**	**19.66**	**14**	*e*P	P	02 12 10.8	-1.5
	28nm,0.9s						
352A	**Blakely**	**19.75**	**37**	P	P	02 12 13.5	+0.2
	baz=222						
Y46A	**Houston**	**19.77**	**25**	P	P	02 12 12.7	-0.8
	baz=209						
LAZ	**Ladron**	**19.78**	**339**	*e*P	Pn	02 12 16.2	+0.7
W41B	**Gary Mavity, V**	**19.84**	**16**	P	P	02 12 13.7	-0.5
	baz=199						
LRAL	**Lakeview Retre**	**19.87**	**30**	P	P	02 12 14.8	+0.1
	baz=215						
LRAL	**Lakeview Retre**	**19.87**	**30**	*e*P	P	02 12 14.7	0.0
	14nm,1.0s						
Z48A	**Northport**	**19.90**	**28**	P	P	02 12 13.9	-1.0
	baz=213,SNR=6.5						
TUL1	**Leonard**	**19.90**	**7**	P	P	02 12 13.0	-2.0
	baz=189,SNR=6.6						
TUL1	**Leonard**	**19.90**	**7**	*e*P	P	02 12 13.7	-1.3
	29nm,0.8s						
WHAR	**Wooly Hollow**	**19.94**	**15**	*e*P	Pn	02 12 17.4	+0.3
	28nm,1.1s						
150A	**Eclectic**	**20.01**	**33**	P	P	02 12 15.5	-0.7
	baz=218						
X45A	**UM Field Stati**	**20.05**	**23**	P	P	02 12 15.6	-0.9
	baz=207						
ANMO	**Albuquerque**	**20.05**	**341**	P	Pn	02 12 18.0	-0.7
	0.4nm,0.3s,baz=334,slow=13,SNR=12						
ANMO	**Albuquerque**	**20.05**	**341**	P	Pn	02 12 18.1	-0.7
	baz=159						
ANMO	**Albuquerque**	**20.05**	**341**	*e*P	Pn	02 12 18.0	-0.7
	20nm,1.4s						
OXF	**Oxford**	**20.12**	**23**	P	P	02 12 16.7	-0.6
	baz=207						
OXF	**Oxford**	**20.12**	**23**	*e*P	Pn	02 12 21.8	+2.6
	37nm,1.1s						
W42A	**Bald Knob**	**20.13**	**17**	P	P	02 12 17.1	-0.3
	baz=201						
V39A	**Pettigrew**	**20.16**	**12**	P	P	02 12 16.1	-1.8
	baz=195,SNR=14						
W43A	**Forest City**	**20.20**	**19**	P	P	02 12 18.0	-0.2
	baz=203						
Y47A	**UCPARC, Winfie**	**20.21**	**27**	P	P	02 12 17.0	-1.3
	baz=212						
Z49A	**Columbiana**	**20.23**	**30**	P	P	02 12 17.1	-1.4
	baz=216,SNR=5.7						
V40A	**Witts Springs**	**20.30**	**14**	P	P	02 12 18.4	-1.0
	baz=197,SNR=5.6						
556A	**Lake Butler**	**20.31**	**44**	P	P	02 12 18.2	-1.2
	baz=230						
151A	**Opelika**	**20.32**	**34**	P	P	02 12 18.3	-1.3
	baz=220						
455A	**Stateville**	**20.39**	**42**	P	P	02 12 18.7	-1.6
	baz=228						
214A	**Organ Pipe Nat**	**20.40**	**323**	P	Pn	02 12 22.7	0.0
	baz=139						
214A	**Organ Pipe Nat**	**20.40**	**323**	*e*P	Pn	02 12 21.6	-1.1
	13nm,1.0s						
657A	**Interlachen**	**20.42**	**46**	P	P	02 12 18.7	-2.0
	baz=232						
V41A	**Mountainview**	**20.44**	**15**	P	P	02 12 19.7	-1.2
	baz=199,SNR=6.3						
X46A	**Booneville**	**20.47**	**24**	P	P	02 12 20.7	-0.5
	baz=209						
Y48A	**Jasper**	**20.52**	**28**	P	P	02 12 21.1	-0.7
	baz=213						
758A	**Lake Helen**	**20.52**	**48**	P	P	02 12 19.8	-2.0
	baz=235						
HHAR	**Hobbs**	**20.53**	**11**	*e*P	P	02 12 22.8	+0.9
	23nm,1.0s						
W44A	**Shelby Farms P**	**20.54**	**21**	P	P	02 12 21.5	-0.4
	baz=205						
Z50A	**Ashland**	**20.58**	**32**	P	P	02 12 22.3	-0.1
	baz=217						
V42A	**Cord**	**20.66**	**17**	P	P	02 12 22.6	-0.7
	baz=201						
U39A	**Green Forest**	**20.72**	**12**	P	P	02 12 22.8	-1.1

	baz=203									
W47A	Westpoint baz=210,SNR=6.3	21.48	25	P	P	02 12 30.2	-1.8			
113A	Mohawk Valley, 42nm,1.7s	21.55	323	eP	P	02 12 33.0	+0.2			
T25A	Trinidad baz=166	21.59	347	P	P	02 12 33.4	-0.1			
T25A	Trinidad 24nm,0.9s	21.59	347	eP	P	02 12 35.8	+2.3			
X16A	Lo Mia Camp, P 19nm,0.8s	21.59	330	eP	P	02 12 35.3	+1.9			
MHTCO	State Highway 9.1nm,0.8s	21.64	347	eP	P	02 12 36.7	+2.7			
T40A	Mansfield baz=197,SNR=7.2	21.66	13	P	P	02 12 32.5	-1.4			
W48A	Pulaski baz=212,SNR=7.7	21.66	27	P	P	02 12 32.3	-1.7			
X50A	Fort Payne baz=216	21.68	30	P	P	02 12 33.1	-1.1			
T41A	Mountain View baz=199,SNR=11	21.73	15	P	P	02 12 33.5	-1.3			
V46A	Holladay baz=209,SNR=15	21.75	24	P	P	02 12 32.8	-2.1			
U44B	Burton Farm, H baz=205	21.78	20	P	P	02 12 34.3	-1.0			
U44A	Portageville baz=204	21.82	20	P	P	02 12 34.9	-0.9			
357A	Townsend baz=229	21.83	43	P	P	02 12 34.7	-1.1			
PBMO	Poplar Bluff 28nm,0.8s	21.85	18	eP	P	02 12 37.9	+2.0			
S38A	Stockton baz=193	21.85	10	P	P	02 12 34.4	-1.6			
T42A	Van Buren baz=200,SNR=9.6	21.89	16	P	P	02 12 34.7	-1.7			
PARMO	Parma	21.95	19	eP	P	02 12 36.3	-0.8			
UTMT	University of 188nm,1.4s	21.95	21	eP	P	02 12 36.1	-1.0			
Y14A	Wickenburg 45nm,0.9s	22.00	327	eP	P	02 12 39.4	+1.7			
V47A	Nunnelly baz=210,SNR=14	22.00	25	P	P	02 12 36.0	-1.7			
GOGA	Godfrey baz=222	22.01	36	P	P	02 12 34.9	-2.8			
GOGA	Godfrey 13nm,0.8s	22.01	36	eP	P	02 12 37.8	0.0			
S39A	Bolivar baz=194,SNR=12	22.02	11	P	P	02 12 35.8	-2.0			
S40A	Lebanon baz=196,SNR=5.9	22.09	13	P	P	02 12 36.7	-2.0			
WVT	Waverly baz=209	22.15	24	P	P	02 12 37.3	-1.9			
WVT	Waverly 38nm,0.9s	22.15	24	eP	P	02 12 38.0	-1.2			
SWET	Sewanee 3.9nm,0.6s	22.17	28	eP	P	02 12 37.5	-2.0			
T43A	Greenville baz=202,SNR=7.2	22.17	18	P	P	02 12 37.5	-2.0			
U46A	Springville baz=208	22.22	23	P	P	02 12 38.4	-1.5			
V48A	Smith Brothers baz=212,SNR=5.5	22.22	26	P	P	02 12 37.6	-2.4			
S41A	Jillco Farms, baz=198,SNR=20	22.25	15	P	P	02 12 38.8	-1.6			
GLA	Glamis baz=137	22.37	322	P	P	02 12 42.3	+0.6			
R38A	Fenwick Farm, baz=193	22.40	10	P	P	02 12 41.5	-0.4			
SDCO	Great Sand Dun baz=164,SNR=9.7	22.41	346	P	P	02 12 41.9	-0.5			
SDCO	Great Sand Dun 5.8nm,0.9s	22.41	346	eP	P	02 12 43.1	+0.8			
WUAZ	Wupatki baz=148,SNR=19	22.46	332	P	P	02 12 42.4	-0.4			
WUAZ	Wupatki 22nm,0.9s	22.46	332	eP	P	02 12 45.0	+2.2			
257A	Skidaway Islan baz=229	22.48	42	P	P	02 12 41.1	-1.7			
U47A	Clarksville baz=210,SNR=14	22.63	24	P	P	02 12 42.3	-2.1			
T45A	Paducah baz=206	22.64	21	P	P	02 12 43.3	-1.2			
CBKS	Cedar Bluff baz=178	22.66	358	P	P	02 12 43.5	-1.2			
CBKS	Cedar Bluff 106nm,1.8s	22.66	358	eP	P	02 12 41.2	-3.5			
S42A	Caledonia baz=200,SNR=10	22.67	16	P	P	02 12 42.6	-2.2			
R39A	Chumby, Stover baz=195,SNR=9.8	22.67	11	P	P	02 12 42.9	-1.9			
Y12C	Blythe baz=139	22.69	324	P	P	02 12 45.9	+0.8			
Y12C	Blythe 20nm,1.4s	22.69	324	eP	P	02 12 45.0	0.0			
S22A	4UR Ranch, Cre baz=161,SNR=9.4	22.76	343	P	P	02 12 46.1	0.0			
S22A	4UR Ranch, Cre 41nm,1.7s	22.76	343	eP	P	02 12 47.1	+1.0			
MVCO	Mesa Verde baz=156,SNR=13	22.79	339	P	P	02 12 46.5	+0.2			
MVCO	Mesa Verde 18nm,0.9s	22.79	339	eP	P	02 12 47.4	+1.1			
R40A	Maddies Statio baz=197,SNR=28	22.81	13	P	P	02 12 44.6	-1.6			
IKP	In-Ko-Pah, Jac baz=134	22.88	319	P	P	02 12 48.8	+1.7			
SWSC	Sam W. Stewart baz=135	22.88	320	P	P	02 12 48.5	+1.5			
PDMCI	Parker Dam,Lak baz=140	22.89	325	P	P	02 12 47.9	+0.8			
T46A	Princeton baz=208,SNR=5.6	22.93	22	P	P	02 12 47.2	-0.3			
FVM	French Village 22nm,1.0s	22.97	17	eP	P	02 12 48.3	+0.4			
KSU1	Kansas State U baz=186	22.99	4	P	P	02 12 47.1	-1.0			
KSU1	Kansas State U 13nm,0.7s	22.99	4	eP	P	02 12 44.0	-4.1			
Q37A	Longview Farm, baz=191	22.99	8	P	P	02 12 47.4	-0.7			
U48A	Cassie Pea, Po baz=211,SNR=8.9	22.99	26	P	P	02 12 46.6	-1.6			
R41A	Rosebud baz=199	23.02	15	P	P	02 12 47.6	-0.8			
CPCT	Cooper Cave	23.03	31	eP	P	02 12 46.3	-2.3			
S44A	Carbondale baz=204,SNR=6.5	23.05	19	P	P	02 12 47.3	-1.4			
SIUC	Southern Illin 33nm,0.9s	23.08	19	eP	P	02 12 49.6	+0.6			
KSCO	Kaye Shedlock' baz=171	23.10	352	P	P	02 12 48.9	-0.6			
R42A	Luebbering baz=200	23.15	16	P	P	02 12 48.3	-1.5			
BC3	Big Chuckawall baz=137	23.17	322	P	P	02 12 51.2	+1.1			
T47A	Sharon Grove baz=210,SNR=19	23.18	24	P	P	02 12 48.8	-1.3			
Q38A	Cooks Store, C baz=193	23.20	10	P	P	02 12 49.6	-0.7			
MONP2	Monument Peak baz=134	23.23	319	P	P	02 12 51.3	+0.4			
S45A	Carrier Mills baz=206	23.25	20	P	P	02 12 49.5	-1.3			
HODGE	Hodges 14nm,1.0s	23.29	36	eP	P	02 12 51.4	+0.2			
IRM	Iron Mountain baz=138,SNR=9.7	23.34	323	P	P	02 12 52.9	+1.1			
W13A	Hualapai Mount 18nm,1.6s	23.36	327	eP	P	02 12 54.1	+2.0			
R43A	Red Bud baz=202,SNR=9.3	23.38	17	P	P	02 12 51.2	-0.9			
Q39A	Willow Grove F baz=194	23.39	11	P	P	02 12 50.5	-1.7			
BG3	Lake Jocassee 14nm,0.8s	23.48	34	eP	P	02 12 53.8	+0.7			
Q24A	Divide baz=165	23.50	347	P	P	02 12 54.0	+0.4			
Q24A	Divide 11nm,1.2s	23.50	347	eP	P	02 12 53.6	+0.1			
Q40A	Laux Farm, Aux baz=197,SNR=7.5	23.52	13	P	P	02 12 51.2	-2.3			
TKL	Tuckaleechee C 3.2nm,0.7s,baz=191,slow=10,SNR=5.3	23.56	31	P	P	02 12 54.1	+0.2			
TKL	Tuckaleechee C 14nm,1.0s	23.56	31	eP	P	02 12 54.1	+0.2			
S46A	Don Dixon Farm baz=208	23.56	22	P	P	02 12 52.9	-1.0			
T48A	Bowling Green	23.57	25	P	P	02 12 52.6	-1.3			
	baz=211,SNR=17									
R44A	Waltonville baz=204	23.61	19	P	P	02 12 53.6	-0.7			
U15A	North Rim 11nm,1.0s	23.63	332	eP	P	02 12 56.5	+1.6			
SLM	Saint Louis 57nm,1.4s	23.63	17	eP	P	02 12 53.8	-0.8			
PV01	Paradox Valley	23.65	340	eP	P	02 12 56.5	+1.5			
109C	Camp Elliot, M baz=132	23.66	318	P	P	02 12 55.6	+0.7			
Q41A	Truxton baz=199,SNR=8.1	23.68	14	P	P	02 12 54.3	-0.6			
P37A	Lathrop baz=191	23.70	8	P	P	02 12 53.9	-1.3			
BELC	Belle Mtn. Jos baz=136	23.73	322	P	P	02 12 57.1	+1.4			
XPFO	Piæon Flat 10nm,1.1s	23.74	321	eP	P	02 12 55.4	-0.4			
PFO	Pinyon Flats O baz=135	23.74	321	P	P	02 12 57.2	+1.5			
PFO	Pinyon Flats O 9.8nm,1.1s	23.74	321	eP	P	02 12 56.2	+0.5			
NHSC	New Hope baz=229	23.76	41	P	P	02 12 54.9	-0.9			
PV05	Paradox Valley	23.77	339	eP	P	02 12 57.4	+1.2			
Q42A	Golden Eagle 52nm,0.9s	23.81	16	P	P	02 12 54.9	-1.3			
USIN	University of 63nm,1.1s	23.83	22	eP	P	02 12 56.8	+0.4			
P38A	Dawn baz=193,SNR=11	23.86	10	P	P	02 12 55.1	-1.6			
P39B	Salisbury baz=195,SNR=11	23.86	11	P	P	02 12 55.4	-1.4			
JSC	Jenkinsville 31nm,1.4s	23.90	38	eP	P	02 12 58.7	+1.6			
R45A	Skylar, Fairfi baz=206	23.91	20	P	P	02 12 56.7	-0.5			
O33A	Hebron baz=183	23.91	2	P	P	02 12 56.7	-0.5			
PV04	Paradox Valley	23.99	340	eP	P	02 12 58.8	+0.6			
LDFC	Landfair 15nm,0.9s	24.00	325	eP	P	02 13 01.1	+2.9			
PV10	Paradox Valley	24.02	340	eP	P	02 12 58.9	+0.3			
P40A	Paris baz=196,SNR=14	24.05	13	P	P	02 12 57.0	-1.4			
O34A	Beatrice baz=185	24.06	4	P	P	02 12 58.3	-0.3			
Q43A	New Douglas baz=202	24.07	17	P	P	02 12 57.6	-1.0			
GMRC	Granite Mounta baz=138	24.09	324	P	P	02 12 58.4	-0.7			
R46A	Gibon Southern baz=207	24.11	22	P	P	02 12 58.0	-1.0			
SMCO	Snowmass 49nm,1.6s	24.14	344	eP	P	02 13 01.6	+1.8			
PV09	Paradox Valley	24.16	340	eP	P	02 13 02.2	+2.3			
S48A	Wiedeman Farm, baz=211	24.17	25	P	P	02 12 58.4	-1.3			
MURC	Murrieta baz=133	24.19	320	P	P	02 13 00.8	+0.9			
O35A	Humboldt baz=187	24.20	5	P	P	02 12 59.2	-0.7			
Q44A	Meyer Farm, Va baz=204	24.23	18	P	P	02 12 59.5	-0.6			
EKU	East Kanab	24.25	332	eP	P	02 13 07.5	+6.9			
O37A	Wolven Farm, M baz=191	24.30	8	P	P	02 12 59.5	-1.3			
KNB	Kanab 12nm,1.1s	24.36	332	eP	P	02 13 03.4	+1.8			
O38A	Galt baz=193,SNR=6.3	24.36	10	P	P	02 13 00.1	-1.1			
OLIL	Olney 23nm,1.0s	24.37	20	eP	P	02 13 01.1	-0.3			
TZTN	Tazewell baz=217,SNR=6.7	24.37	30	P	P	02 13 00.5	-1.1			
TZTN	Tazewell 48nm,1.6s	24.37	30	eP	P	02 13 01.3	-0.2			
ISCO	Idaho Springs baz=165,SNR=14	24.40	347	P	P	02 13 02.7	+0.7			
ISCO	Idaho Springs 37nm,1.4s	24.40	347	eP	P	02 13 03.2	+1.1			
P41A	Barry, Barry baz=198	24.40	14	P	P	02 13 01.1	-0.6			
BBRC	Big Bear Solar baz=135	24.46	321	P	P	02 13 03.6	+0.9			
KMSC	Kings Mountain baz=224	24.47	36	P	P	02 13 01.7	-0.7			
KMSC	Kings Mountain 8.1nm,0.8s	24.47	36	eP	P	02 13 03.5	+1.1			
PKCU	Pink Cliffs 24nm,1.3s	24.48	333	eP	P	02 13 07.8	+5.0			
P42A	Winchester baz=200,SNR=8.7	24.50	16	P	P	02 13 01.6	-0.9			
Q45A	Warren Harvey, baz=205	24.50	20	P	P	02 13 01.6	-1.0			
HEC	Hector,Ludlow baz=137	24.51	323	P	P	02 13 04.4	+1.5			
R47A	Wooly Knot Far baz=209,SNR=7.6	24.54	23	P	P	02 13 01.8	-1.2			
LCMT	Little Creek M 4.5nm,1.0s	24.55	331	eP	P	02 13 06.2	+3.0			
WCI	Wyandotte Cave baz=210	24.57	24	P	P	02 13 02.5	-0.8			
WCI	Wyandotte Cave 40nm,1.0s	24.57	24	eP	P	02 13 03.4	+0.1			
N33A	J Bar K, Exete baz=184	24.58	2	P	P	02 13 03.2	-0.2			
O39A	Kirksville baz=195	24.65	11	P	P	02 13 03.1	-0.8			
O40A	La Belle baz=196,SNR=6.6	24.65	12	P	P	02 13 03.0	-0.9			
HELC	Santa Helena 9.9nm,0.9s	24.66	111	eP	P	02 13 02.3	-2.5			
TUQ	Turquoise Moun baz=138,SNR=8.7	24.71	324	P	P	02 13 05.5	+0.8			
N34A	Lincoln baz=186	24.73	4	P	P	02 13 04.5	-0.2			
P43A	Skaggs, Pawnee baz=202	24.77	17	P	P	02 13 04.3	-0.7			
N35A	Tabor baz=188	24.81	5	P	P	02 13 04.5	-0.9			
CIS	Catalina Islan baz=131	24.84	318	P	P	02 13 06.5	+0.7			
N36A	Muff Farm, Cla baz=189	24.84	7	P	P	02 13 04.7	-1.0			
O41A	Passleys Farm, baz=198,SNR=7.8	24.86	14	P	P	02 13 05.2	-0.6			
N37A	Lee Faris, Mou baz=191	24.87	8	P	P	02 13 05.3	-0.7			
P44A	Sand Creek, Wi baz=204	24.87	19	P	P	02 13 05.5	-0.5			
Q46A	CEJHS Indians, baz=207	24.88	21	P	P	02 13 05.4	-0.7			
R48A	Northridge Ran baz=211	24.89	24	P	P	02 13 05.6	-0.5			
BFSC	Mount Baldy Ra baz=133	24.90	320	P	P	02 13 07.5	+1.1			
MTPU	Mount Pierson 38nm,1.5s	24.93	334	eP	P	02 13 08.9	+2.0			
OGNE	Ogallala baz=173,SNR=8.6	24.94	354	P	P	02 13 07.4	+0.7			
OGNE	Ogallala 50nm,1.0s	24.94	354	eP	P	02 13 08.5	+1.8			
SZCU	Shurtz Canyon 14nm,1.5s	24.95	332	eP	P	02 13 09.6	+2.6			
CCUT	Cedar City 8.2nm,1.4s	25.04	331	eP	P	02 13 10.5	+2.7			
N38A	Joes South For baz=193,SNR=8.2	25.05	10	P	P	02 13 06.9	-0.7			
SHPR	Sheep Range 7.7nm,1.2s	25.10	327	eP	P	02 13 11.4	+3.2			
GSC	Goldstone, Bar baz=137	25.12	323	P	P	02 13 10.0	+1.7			
GSC	Goldstone, Bar 51nm,2.0s	25.12	323	eP	P	02 13 11.9	+3.6			
MWC	Mount Wilson 26nm,1.5s	25.14	319	eP	P	02 13 06.9	-1.8			
O42A	Bath baz=200	25.14	16	P	P	02 13 08.0	-0.3			
Q47A	Bedord North L baz=209,SNR=9.1	25.14	23	P	P	02 13 07.4	-1.0			
SRU	San Rafael Swe 16nm,1.1s	25.20	338	eP	P	02 13 10.5	+1.3			
P45A	Graceland, Par baz=206	25.21	20	P	P	02 13 08.4	-0.6			
BGNE	Belgrade baz=182	25.23	1	P	P	02 13 09.0	-0.2			
BGNE	Belgrade	25.23	1	eP	P	02 13 04.9	-4.3			
	30nm,0.9s									
N39A	Derby Farms, D baz=195,SNR=7.3	25.26	11	P	P	02 13 08.8	-0.7			
BLO	Bloomington 26nm,0.8s	25.31	22	eP	P	02 13 10.6	+0.6			
MSU	Marysvale	25.32	335	eP	P	02 13 14.7	+4.4			
DECC	Green Verdugo baz=132	25.33	319	P	P	02 13 11.6	+1.4			
M34A	Aspy Farms, Fr baz=185	25.38	4	P	P	02 13 10.5	-0.1			
O20A	White River Ci baz=159	25.38	343	P	P	02 13 11.6	+0.7			
O20A	White River Ci 19nm,1.1s	25.38	343	eP	P	02 13 13.8	+3.0			
M35A	Neola baz=187	25.41	5	P	P	02 13 10.5	-0.3			
M33A	Taylor Creek F baz=184	25.42	2	P	P	02 13 10.4	-0.5			
O43A	Sugar Creek Fa baz=202	25.43	17	P	P	02 13 10.2	-0.8			
N41A	Harden Midland baz=198,SNR=5.5	25.43	14	P	P	02 13 09.6	-1.4			
N40A	Mertquake, Sal baz=196	25.44	12	P	P	02 13 10.6	-0.5			
P46A	Rosedale baz=207	25.47	21	P	P	02 13 10.7	-0.6			
SNCC	San Nicolas Is baz=129	25.47	316	P	P	02 13 11.7	+0.2			
M36A	Felix, Anita baz=189	25.49	7	P	P	02 13 11.2	-0.4			
TCRU	Three Creeks R 9.3nm,0.5s	25.52	334	eP	P	02 13 11.3	-0.9			
N23A	Red Feather La baz=165	25.52	347	P	P	02 13 13.3	+1.1			
N23A	Red Feather La 10.0nm,0.9s	25.52	347	eP	P	02 13 13.6	+1.5			
M37A	Trindle Farm, baz=191	25.53	8	P	P	02 13 11.8	-0.1			
EDW2	Edwards Air Fo baz=134	25.53	321	P	P	02 13 13.4	+1.3			
O44A	Mansfield baz=204	25.55	18	P	P	02 13 11.8	-0.3			
P18A	Preston Nutter 18nm,1.1s	25.56	339	eP	P	02 13 13.1	+0.5			
P17A	Butcher Ranch, 24nm,1.6s	25.59	338	eP	P	02 13 14.2	+1.5			
TMUT	Trail Mountain 21nm,1.3s	25.61	337	eP	P	02 13 15.1	+2.1			
M38A	Pleasantville baz=193,SNR=13	25.67	9	P	P	02 13 11.6	-1.5			
HDIL	Hopedale baz=202	25.68	17	P	P	02 13 12.7	-0.6			
HDIL	Hopedale 27nm,1.0s	25.68	17	eP	P	02 13 13.4	0.0			
P47A	Martinsville baz=209	25.68	22	P	P	02 13 12.8	-0.6			
BLG	Laguna Peak, P baz=131	25.70	318	P	P	02 13 14.5	+0.9			
N42A	Yates City baz=200	25.75	15	P	P	02 13 13.6	-0.3			
LRMC	Laurel Mtn Rad baz=135	25.75	322	P	P	02 13 15.0	+0.8			
OSI	Osito Audit: C baz=132	25.81	319	P	P	02 13 15.3	+0.6			
PHWY	Pilot Hill 9.4nm,1.0s	25.81	348	eP	P	02 13 14.9	0.0			
L32A	Elgin baz=182	25.83	1	P	P	02 13 14.4	-0.2			
O45A	Potomac baz=205,SNR=7.4	25.86	19	P	P	02 13 14.1	-0.9			
M39A	Webster baz=195,SNR=11	25.90	11	P	P	02 13 14.6	-0.7			
M40A	Post Highland baz=196,SNR=6.7	25.96	12	P	P	02 13 14.7	-1.1			
FURC	Furnace Creek, baz=138	25.98	325	P	P	02 13 18.5	+2.5			
SCZ2	Santa Cruz Isl baz=130	26.00	317	P	P	02 13 16.6	+0.3			
L33A	Hoskins baz=184	26.01	2	P	P	02 13 16.1	-0.3			
NCAT	North Carolina 21nm,1.2s	26.03	37	eP	P	02 13 17.0	+0.5			
MPMC	Manual Prospec baz=136	26.04	323	P	P	02 13 17.3	+0.4			
L35A	Bielow Farm, R baz=188	26.06	5	P	P	02 13 16.6	-0.2			
N43A	Stutzman Famil baz=202	26.07	16	P	P	02 13 16.4	-0.5			
L36A	Harm Buss Farm baz=189	26.14	7	P	P	02 13 16.8	-0.6			
M41A	Milan baz=198	26.14	14	P	P	02 13 16.9	-0.6			
SCIA	State Center baz=193,SNR=9.1	26.14	9	P	P	02 13 16.6	-0.9			
SCIA	State Center 37nm,0.8s	26.14	9	eP	P	02 13 18.3	+0.8			
SFIN	Lafayette baz=206	26.19	20	P	P	02 13 17.0	-0.9			
SFIN	Lafayette 12nm,0.9s	26.19	20	eP	P	02 13 20.0	+2.1			
ARVC	Arvin baz=133	26.21	320	P	P	02 13 18.3	+0.1			
N44A	Piper City baz=204,SNR=6.2	26.24	18	P	P	02 13 17.4	-1.0			
DAC	Darwin (Calif) 6.3nm,1.3s	26.26	324	eP	P	02 13 20.3	+1.4			
L37A	Phoenix Point, baz=191	26.28	8	P	P	02 13 17.9	-0.8			
ROSC	El Rosal 15nm,1.5s	26.33	112	eP	P	02 13 17.9	-2.0			
ISA	Isabella, Lake baz=134	26.35	321	P	P	02 13 20.7	+1.1			
ISA	Isabella, Lake 8.3nm,1.1s	26.35	321	eP	P	02 13 20.3	+0.8			
O47A	Sheridan baz=208	26.38	22	P	P	02 13 19.0	-0.7			
MPU	Maple Canyon 8.3nm,1.2s	26.40	337	eP	P	02 13 21.8	+1.7			
M42A	Sheffield baz=200	26.40	15	P	P	02 13 19.3	-0.6			
L38A	Oak Wood Farm, baz=193,SNR=6.6	26.41	9	P	P	02 13 19.0	-0.9			
K31A	O'Neill baz=181	26.44	360	P	P	02 13 20.6	+0.4			
K33A	Hardington baz=184	26.46	3	P	P	02 13 20.4	0.0			
N45A	Kentland baz=205	26.48	19	P	P	02 13 19.9	-0.6			
K32A	Verdigre baz=182	26.48	1	P	P	02 13 20.0	-0.6			
BLA	Blacksburg baz=222	26.49	34	P	P	02 13 18.9	-1.8			
BLA	Blacksburg 13nm,0.8s	26.49	34	eP	P	02 13 21.8	+1.0			
NLU	North Lily Min 38nm,1.8s	26.52	336	eP	P	02 13 23.1	+1.9			
L39A	Vinton baz=195	26.56	11	P	P	02 13 20.3	-0.9			
RWWY	Rawlins 14nm,1.0s	26.57	345	eP	P	02 13 20.4	-1.2			
CNNC	Cliffs of the baz=229	26.59	40	P	P	02 13 19.7	-1.9			
K34A	Le Mars baz=186	26.59	4	P	P	02 13 21.7	+0.1			
M43A	Waltham Townsh baz=202,SNR=5.0	26.60	16	P	P	02 13 20.9	-0.7			
GRAC	Grapevine Rang baz=138	26.64	325	P	P	02 13 23.4	+1.3			
L40A	Anamosa baz=197,SNR=5.7	26.65	12	P	P	02 13 21.0	-1.1			
CWC	Cottonwood Cre baz=136	26.65	323	P	P	02 13 22.5	+0.2			
K36A	Gilmore City baz=190	26.70	7	P	P	02 13 22.4	-0.1			
K35A	Storm Lake baz=188	26.70	6	P	P	02 13 22.2	-0.3			
R11A	Troy Canyon, C baz=143	26.73	329	P	P	02 13 24.0	+0.9			
R11A	Troy Canyon, C 4.7nm,1.3s	26.73	329	eP	P	02 13 26.1	+3.0			
N46A	Monticello baz=206	26.77	20	P	P	02 13 22.8	-0.3			
M44A	Midewin, Midew baz=204	26.81	18	P	P	02 13 23.0	-0.5			
L41A	Preston baz=198,SNR=11	26.82	13	P	P	02 13 22.5	-1.1			
VES	Vestal, Richgr baz=133	26.84	321	P	P	02 13 24.7	+0.8			

K37A	Belmond baz=191	26.92	8	P		P	02 13 23.0	-1.5
K38A	Parkersburg baz=193	26.93	10	P		P	02 13 24.1	-0.6
L42A	Oliver, Polo baz=200,SNR=5.5	26.95	15	P		P	02 13 23.6	-1.1
DUG	Dugway, Tooele baz=150	27.01	336	P		P	02 13 26.1	+0.5
DUG	Dugway, Tooele 7.4nm,1.1s	27.01	336	eP		P	02 13 28.2	+2.7
M45A	Boilermakers S baz=205	27.05	19	P		P	02 13 25.1	-0.6
J31A	Geddes baz=181	27.11	360	P		P	02 13 26.1	-0.2
K39A	Oelwein baz=195	27.14	11	P		P	02 13 25.7	-0.7
J33A	Davis baz=184	27.17	3	P		P	02 13 26.3	-0.5
J32A	Parkston baz=182	27.20	1	P		P	02 13 26.4	-0.6
J34A	George baz=186	27.20	4	P		P	02 13 27.3	+0.3
K40A	Colesburg baz=196	27.28	12	P		P	02 13 26.5	-1.2
TCUT	Toone Canyon 26nm,1.3s	27.29	339	eP		P	02 13 30.1	+2.0
K22A	Casper baz=164	27.32	347	P		P	02 13 28.9	+0.5
K22A	Casper 9.9nm,1.0s	27.32	347	eP		P	02 13 28.1	-0.3
J35A	Milford baz=188	27.34	5	P		P	02 13 27.4	-0.9
L43A	Garden Prairie baz=202	27.35	16	P		P	02 13 27.7	-0.6
M46A	Old House Fiel baz=207	27.36	20	P		P	02 13 28.1	-0.3
K41A	Shullsburg baz=198	27.37	13	P		P	02 13 27.4	-1.1
J36A	Seneca 1, Swea baz=190	27.39	7	P		P	02 13 28.1	-0.6
J37A	Redenius Farm, baz=191	27.47	8	P		P	02 13 29.3	-0.1
L44A	Lake County Fo baz=203	27.57	17	P		P	02 13 30.3	-0.1
ECSD	EROS Data Cent baz=185	27.60	3	P		P	02 13 30.3	-0.4
ECSD	EROS Data Cent 8.9nm,0.9s	27.60	3	eP		P	02 13 30.1	-0.5
ACSO	Alum Creek Sta baz=214	27.63	26	P		P	02 13 29.5	-1.4
ACSO	Alum Creek Sta 13nm,0.8s	27.63	26	eP		P	02 13 28.5	-2.4
J38A	Wedel Dairy, R baz=194	27.64	10	P		P	02 13 29.7	-1.3
JFWS	Jewell Farm baz=198	27.67	13	P		P	02 13 30.7	-0.5
JFWS	Jewell Farm 18nm,1.1s	27.67	13	eP		P	02 13 31.5	+0.3
K42A	Prairie Point, baz=200	27.75	15	P		P	02 13 31.0	-1.0
J39A	Decorah baz=195	27.79	11	P		P	02 13 31.4	-0.9
SPUT	South Promonto 6.9nm,1.1s	27.83	337	eP		P	02 13 33.2	+0.3
I35A	Creekview Farm baz=188	27.84	6	P		P	02 13 32.4	-0.4
I32A	Karley and Nic baz=183	27.86	2	P		P	02 13 32.5	-0.5
MLAC	Mammoth, Mammo baz=136	27.92	324	P		P	02 13 35.1	+1.3
K43A	Burlington baz=202	27.95	16	P		P	02 13 33.2	-0.5
J40A	Soldiers Grove baz=197	28.03	12	P		P	02 13 34.4	-0.1
MDPB	Devils Postpil 34nm,2.0s	28.05	324	eP		P	02 13 38.5	+3.4
NV11	Mina Array Sit 3.1nm,1.9s	28.12	326	eP		P	02 13 37.8	+2.4
J41A	Loganville baz=198	28.16	13	P		P	02 13 35.0	-0.5
I37A	Lemond, Waseca baz=191	28.18	8	P		P	02 13 35.3	-0.5
BW06	Boulder Array baz=158	28.19	343	P		P	02 13 36.5	+0.3
BW06	Boulder Array 6.8nm,1.0s	28.19	343	eP		P	02 13 35.1	-1.1
PD31	Pinedale Array	28.19	343	eP		P	02 13 37.3	+1.2
PDAR	Pinedale Array 1.8nm,0.8s,baz=134,slow=8.4,SNR=11	28.19	343	P		P	02 13 36.4	+0.3
PDAR	comp=Z,487nm,18.8s,baz=168,slow=35			LR		LR	02 24 15.2	
PDAR	Pinedale Array	28.19	343	eP		P	02 13 36.1	-0.1
NV01	Mina Array Sit	28.19	326	eP		P	02 13 38.2	+1.9
NVAR	Mina Array Bea 1.9nm,0.8s,baz=154,slow=9.3,SNR=13	28.19	326	P		P	02 13 38.0	+1.8
NVAR	comp=Z,986nm,18.6s,baz=240,slow=40			LR		LR	02 26 22.9	
SDV	Santo Domingo 3.4nm,0.6s,baz=335,slow=4.6,SNR=5.2	28.21	101	P		P	02 13 38.0	+1.4
SDV	Santo Domingo 8.7nm,0.8s	28.21	101	eP		P	02 13 38.9	+2.3
H31A	Wolsey baz=181	28.30	0	P		P	02 13 36.8	0.0
RSSD	Black Hills baz=170	28.32	352	P		P	02 13 37.8	+0.5
RSSD	Black Hills 3.3nm,0.8s	28.32	352	eP		P	02 13 39.7	+2.4
J42A	Columbus baz=200	28.32	15	P		P	02 13 36.7	-0.3
I39A	Houston baz=195	28.32	11	P		P	02 13 36.4	-0.6
H32A	Carlson Farm, baz=183	28.34	2	P		P	02 13 37.0	-0.2
HVU	Hansel Valley 30nm,2.0s	28.36	337	eP		P	02 13 39.5	+1.9
I38A	Scanlan Farm, baz=193	28.36	10	P		P	02 13 36.4	-1.0
I40A	Norwalk baz=197	28.53	12	P		P	02 13 38.5	-0.3
H33A	Prehn Over Nor baz=185	28.54	3	P		P	02 13 39.1	+0.1
KVN	Kaiserville 8.7nm,1.3s	28.54	327	eP		P	02 13 39.3	0.0
J43A	Natural Harves baz=201	28.55	16	P		P	02 13 38.7	-0.4
H34A	Spellman Lake, baz=186	28.59	4	P		P	02 13 39.0	-0.4
MCWV	Mont Chateau baz=220	28.62	31	P		P	02 13 39.4	-0.4
H36A	Jessenland, He baz=190	28.67	7	P		P	02 13 39.2	-0.9
H37A	Dierke Farm, C baz=192	28.80	8	P		P	02 13 40.8	-0.5
I41A	Arkdale baz=198	28.85	13	P		P	02 13 40.6	-1.0
I42A	Draeger Farm, baz=200	28.91	15	P		P	02 13 41.3	-1.0
H38A	Maiden Rock baz=193	28.99	9	P		P	02 13 42.9	-0.1
G31A	Conde baz=182	29.05	1	P		P	02 13 43.7	+0.3
G33A	Ortonville baz=185	29.07	3	P		P	02 13 43.2	-0.5
G32A	Webster baz=183	29.09	2	P		P	02 13 43.4	-0.5
I43A	Langenfeld Bro baz=202	29.09	16	P		P	02 13 43.2	-0.7
AAM	Ann Arbor baz=211	29.10	23	P		P	02 13 43.2	-0.8
REDW	Red Top Meadow 31nm,1.6s	29.12	341	eP		P	02 13 47.1	+2.7
H39A	Augusta baz=195	29.16	11	P		P	02 13 43.8	-0.7
SNOW	Snow King Moun 9.4nm,0.9s	29.18	342	eP		P	02 13 47.7	+2.8
TPAW	Teton Pass 11nm,1.3s	29.26	341	eP		P	02 13 49.3	+3.5
LOHW	Long Hollow 23nm,1.7s	29.27	342	eP		P	02 13 47.3	+1.5
H40A	Chili baz=197	29.28	12	P		P	02 13 44.9	-0.6
G36A	St. Michael baz=190	29.34	7	P		P	02 13 45.3	-0.7
FXWY	Fox Creek 5.2nm,1.1s	29.42	341	eP		P	02 13 48.8	+1.7
H41A	Junction City baz=198	29.43	13	P		P	02 13 46.3	-0.5
SPMN	Marine on St. baz=192	29.45	8	P		P	02 13 46.3	-0.8
SPMN	Marine on St. 9.7nm,1.0s	29.45	8	eP		P	02 13 46.7	-0.4
G38A	Ridgeland baz=194	29.54	10	P		P	02 13 47.3	-0.5
N54A	Moraine State baz=219	29.56	29	P		P	02 13 47.7	-0.5
H42A	Shiocton baz=200	29.58	15	P		P	02 13 48.0	-0.2
F31A	Hecla baz=182	29.68	1	P		P	02 13 50.1	+1.0
H43A	Windswept, Lux baz=202	29.74	16	P		P	02 13 49.5	-0.1
G39A	Holcombe baz=195	29.77	11	P		P	02 13 48.9	-1.0
F35A	Swanville baz=188	29.87	6	P		P	02 13 49.9	-0.8
G40A	Rib Lake baz=197	29.93	12	P		P	02 13 50.6	-0.7
F37A	Hinrichs Farm, baz=192	29.96	8	P		P	02 13 50.8	-0.7
F36A	Milaca baz=190	29.98	7	P		P	02 13 51.5	-0.3
G41A	Antigo baz=199	30.09	13	P		P	02 13 52.0	-0.8
M54A	Oil Creek Stat baz=219	30.14	29	P		P	02 13 52.8	-0.5
G42A	Mountain baz=200	30.30	14	P		P	02 13 53.9	-0.7
SSPA	Standing Stone baz=222	30.35	32	P		P	02 13 54.7	-0.4
SSPA	Standing Stone 30nm,1.8s	30.35	32	eP		P	02 13 53.3	-1.8
ERPA	Erie 11nm,0.9s	30.48	28	eP		P	02 13 51.8	-4.4
F40A	Park Falls baz=197	30.57	12	P		P	02 13 56.7	-0.3
E36A	McGregor baz=191	30.66	7	P		P	02 13 57.0	-0.7
E39A	Mellen baz=196	30.93	11	P		P	02 13 58.8	-1.4
MFID	Camas Ranch 27nm,1.8s	30.93	335	eP		P	02 14 06.2	+5.8
COWI	Conover 6.9nm,1.0s	30.95	13	eP		P	02 13 59.1	-1.2
E38A	The Farm, Brul baz=194	30.99	9	P		P	02 14 00.4	-0.2
E40A	Wakefield baz=197	31.12	12	P		P	02 14 01.0	-0.9
D35A	Remer baz=189	31.13	6	P		P	02 14 01.3	-0.5
LAO	LASA Array baz=167	31.16	350	P		P	02 14 02.4	+0.2
LAO	LASA Array 45nm,1.8s	31.16	350	eP		P	02 14 02.5	+0.2
E41A	Kenton baz=199	31.33	13	P		P	02 14 03.6	0.0
WVOR	Wild Horse Val 20nm,1.5s	31.37	331	eP		P	02 14 05.9	+1.7
BOZ	Bozeman (W) 28nm,0.8s	31.38	342	eP		P	02 14 04.8	+0.5
D37A	Cotton baz=192	31.40	8	P		P	02 14 03.6	-0.6
DLMT	Dillon 9.3nm,1.0s	31.46	341	eP		P	02 14 06.5	+1.5
F45A	CMU Biological baz=205	31.48	18	P		P	02 14 04.2	-0.7
F44A	Big Bay de Noc baz=203	31.49	16	P		P	02 14 04.6	-0.4
E42A	Champion baz=200	31.54	14	P		P	02 14 04.2	-1.2
C31A	Landmon Farms, baz=182	31.62	1	P		P	02 14 05.8	-0.4
C35A	Jirik Farms, M baz=189	31.75	6	P		P	02 14 06.8	-0.5
D41A	Chassel baz=199	31.98	13	P		P	02 14 07.8	-1.6
J08A	Circle Bar Ran 12nm,1.1s	32.02	332	eP		P	02 14 09.0	-0.9
C38A	Sawbill Land. baz=194	32.11	9	P		P	02 14 10.3	-0.2
B33A	Robert and Kas baz=186	32.19	4	P		P	02 14 11.2	+0.1
E45A	Wooded Hills, baz=205	32.19	18	P		P	02 14 11.1	0.0
AGMN	Agassiz Nation baz=186,SNR=8.5	32.20	3	P		P	02 14 10.4	-0.8
AGMN	Agassiz Nation 12nm,0.8s	32.20	3	eP		P	02 14 11.2	0.0
B32A	Ashes, Strandq baz=184,SNR=8.5	32.26	3	P		P	02 14 11.0	-0.8
EYMN	Ely baz=194	32.30	9	P		P	02 14 11.5	-0.6
C39A	Grand Marais baz=196	32.40	11	P		P	02 14 11.9	-1.1
B35A	Bob, Littlefor baz=189	32.43	6	P		P	02 14 12.9	-0.4
BINY	Binghamton baz=224	32.47	32	P		P	02 14 13.2	-0.6
B34A	Aer, Baudette baz=188	32.47	5	P		P	02 14 13.0	-0.6
PAL	Palisades baz=228	32.75	36	P		P	02 14 15.3	-0.9
A33A	Warroad baz=186	32.86	4	P		P	02 14 16.9	-0.2
YBH	Yreka Blue Hor comp=Z,466nm,19.3s,baz=172,slow=40	32.92	326	LR		LR	02 29 37.9	
MSO	Missoula baz=153	33.19	341	P		P	02 14 20.7	+0.6
MSO	Missoula 11nm,1.4s	33.19	341	eP		P	02 14 22.5	+2.4
PCRV	Puerto La Cruz comp=Z,356nm,18.6s,baz=278,slow=38	33.57	96	LR		LR	02 29 14.2	
F10A	Beach Ranch, E 9.9nm,1.0s	33.62	336	eP		P	02 14 24.9	+1.1
ULM	Lac du Bonnet 2.0nm,0.7s,baz=186,slow=11,SNR=5.7	34.14	3	P		P	02 14 27.4	-0.8
ULM	comp=Z,217nm,21.3s,baz=120,slow=40			LR		LR	02 30 34.2	
ULM	Lac du Bonnet 12nm,1.4s	34.14	3	eP		P	02 14 27.5	-0.7
FFC	Flin Flon 6.8nm,0.9s	38.64	357	eP		P	02 15 06.9	+0.4
EDM	Edmonton 31nm,1.4s	38.82	346	eP		P	02 15 08.6	+0.5
SCHQ	Schefferville 7.4nm,7.7s,baz=232,slow=5.1,SNR=13	45.77	25	P		P	02 16 04.3	-0.4
SCHQ	Schefferville 16nm,1.1s	45.77	25	eP		P	02 16 04.7	0.0
YKA	Yellowknife Ar 1.1nm,0.8s,baz=158,slow=7.5,SNR=18	47.70	350	P		P	02 16 19.1	-0.5
YKB5	Yellowknife Ar	47.70	350	eP		P	02 16 18.8	-0.8
TAOE	Nuku Hiva Isla 300nm,23.3s	48.02	242	eLR		LR	02 29 42.9	
TAOE	Nuku Hiva Isla 40nm,0.2s	48.02	242	eT		T	03 07 38.0	
RKT	Rikitea 509nm,25.8s	52.76	223	eLR		LR	02 32 19.7	
RKT	Rikitea 13nm,0.2s	52.76	223	eT		T	03 13 31.8	
INK	Inuvik 2.0nm,0.8s,baz=128,slow=7.8,SNR=9.7	56.72	345	P		P	02 17 27.0	+0.5
INK	Inuvik 7.6nm,1.1s	56.72	345	eP		P	02 17 27.0	+0.5
RIDG	Independ'e Rid 19nm,1.3s	57.15	338	eP		P	02 17 31.6	+1.8
IL1	Eielson Array	58.46	338	eP		P	02 17 38.5	-0.4
ILAR	Eielson Array 1.3nm,0.9s,baz=131,slow=5.4,SNR=13	58.46	338	P		P	02 17 39.5	+0.6
ILB	Eielson Array	58.46	338	eP		P	02 17 39.5	+0.6
TRF	Thorofare Moun 14nm,1.1s	59.07	336	eP		P	02 17 44.5	+1.1
CAST	Castle Rocks 15nm,1.4s	59.77	335	eP		P	02 17 48.5	+0.4
MLY	Manley 25nm,1.7s	60.01	337	eP		P	02 17 50.7	+1.0
PPT2	Papeete2 304nm,26.0s	60.35	238	eLR		LR	02 35 22.0	
TBI	Tubuai 358nm,29.5s	63.31	233	eLR		LR	02 36 57.2	
TBI	Tubuai 18nm,0.2s	63.31	233	eT		T	03 26 43.5	
MA2	Magadan comp=Z,122nm,21.4s,baz=81,slow=35	86.28	331	LR		LR	02 58 25.6	
TIXI	Tiksi comp=Z,95nm,18.3s,baz=66,slow=39	86.82	346	LR		LR	03 04 36.9	
YAK	Yakutsk comp=Z,162nm,18.5s,baz=100,slow=38	93.36	339	LR		LR	03 06 21.7	
LZH	Lanzhou	123.92	338	ePKP		PKPdf	02 26 43.3	+1.3
LZH				pPKP		PKiKP	02 26 46.5	+4.2
LZH				sPKP			02 26 48.1	
CD2	Chengdu	128.56	335	PKP		PKPdf	02 26 51.6	+0.7

NEIC ***21*** *02:25:29.0±0.0, 15°.85N×98°.67W, h15km, mb4.9/199, MD5.0(MEX), After MEX.*
MEX ***21*** *02:25:29.0±0.6, 15°.86N×98°.66W, h13km±10km, MD4.4*
MOS ***21*** *02:25:29.1±1.0, 16°.20N×98°.42W, h8km, mb5.0/37, Error ellipse: s-maj=11.7km s-min=5.2km az=95.6*
ISCJB ***21*** *02:25:31.6±1.6, 16°.40N±0°.04×98°.31W±0°.02, h15km±9km, mb4.8/191, MS4.3/24, Error ellipse: s-maj=6.2km s-min=3.1km az=15.3*
BJI ***21*** *02:25:33.4, 16°.40N×98°.50W, h10km, Ms5.1/4, Ms7 4.8/4*
IDC ***21*** *02:25:33.6±5.9, 16°.21N×98°.52W, h28km±39km, mb4.3/14, mb1 4.5/17, mb1mx4.3/48, mbtmp4.5/17, ML4.0/3, MS4.2/26, Ms1 4.3/26, ms1mx4.1/45, Error ellipse: s-maj=25.7km s-min=13.6km az=48.0*
ISC 21 02:25:31.7±0.9, 16°.20N±0°.05×98°.55W±0°.03, h15km±5km, n820, σ1°39/809, mb4.9/192, MS4.3/25, 5C-5D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.45	64	*i* P	Pg	02 25 40.9	+0.3
PNIG				*i* S	Sn	02 25 50.0	-1.3
TLIG	Tlapa	1.36	359	*eP*	Pn	02 25 54.7	-1.5
TLIG				*i* S	Sg	02 26 15.4	-0.2
ACX	Acapulco	1.43	298	*eP*	Pn	02 25 55.0	-2.1
ACX				*i* S	Sn	02 26 14.1	-1.5
CAIG	El Cayaco	1.86	297	*eP*	Pn	02 25 58.8	-4.2
CAIG				*i* S	Sn	02 26 20.8	-5.3
VHO	Vista Hermosa	1.94	63	*eP*	Pn	02 26 02.8	-1.5
VHO				*i* S	Sn	02 26 28.4	-0.2
HUIG	Huatulco	2.38	100	*eP*	Pn	02 26 06.7	-3.5
HUIG				*eS*	Sn	02 26 34.8	-4.4
TPIG	Tehuac#an	2.48	27	*eP*	Pn	02 26 11.4	-0.3
TPIG				*eS*	Sb	02 26 44.2	-2.4
ARIG	Puente Sto Nin	2.69	321	*eP*	Pn	02 26 12.3	-2.2
ARIG				*i* S	Sn	02 26 45.8	-1.1
YAIG	Yautepec	2.70	349	*i* P	Pn	02 26 13.7	-1.0
YAIG				*i* S	Sn	02 26 49.0	+1.8
UNM	Universidad Na	3.17	349	*eP*	Pb	02 26 28.3	+0.4
UNM	Universidad Na	3.17	349	*ePn*	Pb	02 26 28.3	+0.4
CMIG	Matias Romero 44nm,0.3s,baz=261,slow=11,SNR=141	3.62	75	Pn	Pn	02 26 25.7	-1.6
CMIG				Sn	Sn	02 27 10.0	+0.3
CMIG	80nm,0.3s,baz=262,slow=15,SNR=4.3			Lg	Lg	02 27 29.3	
CMIG	896nm,0.3s,baz=286,slow=6.1,SNR=14			LR	LR	02 28 18.4	
ZAIG	comp=Z,6μm,20.0s,baz=258,slow=46 Zacatecas	7.56	331	*ePn*	Pn	02 27 25.2	+3.6
TGUH	Tegucigalpa,Un	11.09	100	*ePn*	Pn	02 28 12.0	+2.2
H06E1	SOCORRO T-PHASI SNR=383	12.09	284	T	T	02 40 27.7	
833A	Chaparral WMA, baz=177	12.10	356	P	Pn	02 28 20.7	-2.8
H06S1	SOCORRO T SNR=52	12.11	284	T	T	02 40 33.3	
LPIG	La Paz comp=Z,1μm,20.8s,baz=71,slow=32	13.55	307	LR	LR	02 32 54.8	
TXAR	Lajitas Array 0.1nm,0.3s,baz=163,slow=12,SNR=20	13.90	341	Pn	Pn	02 28 49.3	+1.1
TXAR	0.1nm,0.3s,baz=148,slow=30,SNR=3.5			Lg	Lg	02 32 57.1	
TXAR	comp=Z,1μm,19.1s,baz=0.0,slow=37			LR	LR	02 34 11.1	
TXAR	Lajitas Array	13.90	341	*eP*	Pn	02 28 49.5	+1.2
TX31	Lajitas Ar. Si	13.90	341	*ePn*	Pn	02 28 49.4	+1.1
JCT	Junction City baz=176	14.26	356	P	Pn	02 28 51.4	-1.8
JCT	Junction City	14.26	356	*eP*	Pn	02 28 53.3	+0.1
JCT	Junction City	14.26	356	*ePn*	Pn	02 28 53.2	+0.1
JTS	JuntasAbangare	14.47	112	*eP*	Pn	02 28 53.1	-3.0
JTS	comp=Z,50nm,0.9s			pmax	pmax		
JTS	JuntasAbangare comp=Z,50nm,0.9s	14.47	112	*ePn*	Pn	02 28 53.1	-3.0
435B	Jarrell baz=184	14.55	3	P	Pn	02 28 55.3	-1.7
WHTX	Lake Whitney, baz=184,SNR=24	15.76	3	P	Pn	02 29 12.0	-1.1
WHTX	Lake Whitney, comp=Z,123nm,1.0s	15.76	3	*ePn*	Pn	02 29 14.0	+1.0
NATX	Nacogdoches baz=194,SNR=7.0	15.89	12	P	Pn	02 29 12.4	-2.4
NATX	Nacogdoches comp=Z,80nm,0.9s	15.89	12	*ePn*	P	02 29 18.4	-0.1
240A	Hunter Patters baz=197	16.36	15	P	Pn	02 29 18.7	-2.2
ABTX	Abilene, Hawle baz=177,SNR=30	16.39	357	P	Pn	02 29 19.8	-1.4
ABTX	Abilene, Hawle comp=Z,93nm,0.8s	16.39	357	*ePn*	Pn	02 29 21.3	+0.1
MNTX	Cornudas Mount baz=157,SNR=17	16.64	339	P	Pn	02 29 23.7	-0.8
MNTX	Cornudas Mount	16.64	339	*ePn*	Pn	02 29 23.5	-0.9
344A	Westbrook Farm baz=207	16.77	24	P	Pn	02 29 24.6	-1.5
446A	Poplarville baz=212	16.78	28	P	Pn	02 29 23.3	-2.9
345A	Thompson Farm, baz=209	16.93	26	P	Pn	02 29 26.0	-2.0
140A	Cam and Jess, baz=197,SNR=16	16.98	14	P	Pn	02 29 28.6	-0.1
EPT	El Paso comp=Z,35nm,1.0s	17.11	336	*ePn*	P	02 29 35.4	+3.3
141A	Papa Simpson, baz=199	17.12	16	P	Pn	02 29 29.8	-0.6
346A	Big Creek Wild baz=210	17.24	27	P	Pn	02 29 30.3	-1.6
244A	Avery, Jackson baz=206	17.32	23	P	Pn	02 29 31.6	-1.3
142A	Monroe baz=202	17.35	19	P	Pn	02 29 32.4	-0.9
VBMS	Vicksburg baz=206	17.54	23	P	Pn	02 29 34.5	-1.2
VBMS	Vicksburg comp=Z,67nm,0.9s	17.54	23	*ePn*	Pn	02 29 35.4	-0.3
Z40A	Long Farm, Mag baz=197,SNR=18	17.61	14	P	Pn	02 29 34.9	-1.7
245A	Little AP, Sta baz=208	17.62	25	P	Pn	02 29 36.4	-0.3
448A	Bay Minette baz=216	17.62	32	P	Pn	02 29 34.8	-1.8
143A	Socs Landing, baz=203	17.66	20	P	Pn	02 29 35.1	-2.0
Z41A	Richland Creek baz=198,SNR=8.9	17.76	16	P	Pn	02 29 37.9	-0.5
WLAR	White Oak Lake comp=Z,86nm,0.8s	18.09	15	*ePn*	P	02 29 43.0	+0.1
MSTX	Muleshoe baz=168,SNR=22	18.10	349	P	Pn	02 29 41.2	-1.6
MSTX	Muleshoe comp=Z,54nm,0.9s	18.10	349	*ePn*	Pn	02 29 42.7	-0.1
Z43A	Armstrong Fami baz=203	18.18	20	P	Pn	02 29 40.8	-2.8
247A	Quitman baz=212,SNR=5.7	18.19	28	P	Pn	02 29 41.3	-2.3
349A	Repton baz=217	18.30	32	P	Pn	02 29 42.7	-2.3
121A	Cookes Peak, D baz=152,SNR=19	18.30	334	P	Pn	02 29 43.5	-1.7
121A	Cookes Peak, D comp=Z,31nm,1.0s	18.30	334	*eP*	P	02 29 45.6	+0.4
Y40A	Okolona baz=196,SNR=10	18.36	14	P	P	02 29 43.7	-2.1
Y41A	Eaglette Beard baz=198	18.40	16	P	P	02 29 43.7	-2.5
WMOK	Wichita Mounta baz=180,SNR=16	18.47	359	P	P	02 29 45.2	-1.8
WMOK	Wichita Mounta	18.47	359	*eP*	P	02 29 46.2	-0.8
WMOK	comp=Z,17nm,1.1s			pmax	pmax		
WMOK	Wichita Mounta comp=Z,17nm,1.1s	18.47	359	*ePn*	P	02 29 46.2	-0.8
146A	Union baz=210	18.49	26	P	P	02 29 44.9	-2.3
Z44A	Pea Ridge, Bel baz=205	18.52	22	P	P	02 29 45.1	-2.4
Y42A	Garnett, Star baz=201	18.59	18	P	P	02 29 46.4	-1.9

248A	Dixon Mills	18.62	30	P		P		02 29 46.5	-2.2
	baz=214,SNR=9.0								
X39A	Fountain Ranch	18.67	11	P		P		02 29 47.4	-1.8
	baz=194,SNR=12								
CCAR	Cane Creek	18.67	18	eP		Pn		02 29 49.9	+0.3
	comp=Z,50nm,0.9s								
350A	Dozier	18.80	34	P		P		02 29 47.7	-2.9
	baz=219								
AMTX	Amarillo	18.82	352	P		P		02 29 48.0	-2.9
	baz=171								
AMTX	Amarillo	18.82	352	eP		P		02 29 50.7	-0.3
	comp=Z,50nm,1.0s								
249A	Camden	18.83	31	P		P		02 29 47.8	-3.2
	baz=216								
059Z	Ave Maria	18.84	55	P		P		02 29 47.5	-3.6
	baz=240								
147A	Livingston	18.86	28	P		P		02 29 49.7	-1.6
	baz=212,SNR=7.0								
Z45A	Winona	18.88	23	P		P		02 29 49.2	-2.3
	baz=207								
X40A	Basin Creek Fa	18.92	15	P		P		02 29 50.2	-1.7
	baz=197,SNR=8.0								
Y43A	Makayla and Ka	18.93	20	P		P		02 29 49.9	-2.1
	baz=203								
957A	Wimauma	18.93	50	P		P		02 29 49.3	-2.8
	baz=236								
X41A	Kaden, Bauxite	19.01	15	P		P		02 29 51.6	-1.3
	baz=198,SNR=13								
Z46A	Louisville	19.02	25	P		P		02 29 51.4	-1.6
	baz=209								
148A	Greensboro	19.16	29	P		P		02 29 54.3	-0.3
	baz=214,SNR=12								
Y44A	Strider, Charl	19.22	21	P		P		02 29 53.7	-1.4
	baz=205								
958A	Wauchula	19.24	51	P		P		02 29 54.1	-1.3
	baz=237								
857A	Zephyrhills	19.27	49	P		P		02 29 54.0	-1.9
	baz=234								
250A	Grady	19.27	33	P		P		02 29 54.3	-1.5
	baz=218								
BNM	Barren Site	19.30	339	eP		Pn		02 29 58.4	+1.0
X42A	Stuttgart	19.31	18	P		P		02 29 54.9	-1.2
	baz=200								
655A	Horseshoe Beac	19.31	44	P		P		02 29 54.4	-1.8
	baz=229								
UALR	University of	19.32	16	eP		P		02 29 56.7	+0.4
	comp=Z,48nm,1.1s								
Y22D	IRIS PASSCAL I	19.33	339	P		P		02 29 55.4	-1.3
	baz=156								
Y22E	IRIS PASSCAL I	19.33	339	P		P		02 29 55.6	-1.0
	baz=156								
Y45A	Yeager Farm, C	19.37	23	P		P		02 29 56.1	-0.8
	baz=207,SNR=8.6								
059A	Moore Haven	19.39	54	P		P		02 29 56.0	-1.1
	baz=239								
W39A	Magazine	19.39	12	P		P		02 29 56.6	-0.6
	baz=194,SNR=26								
Z47A	Carrollton	19.40	27	P		P		02 29 56.4	-0.8
	baz=212,SNR=7.8								
LPM	Los Pinos Moun	19.45	340	eP		Pn		02 30 00.2	+1.1
149A	Jones	19.50	31	P		P		02 29 57.0	-1.3
	baz=216,SNR=15								
X43A	Marvell	19.50	19	P		P		02 29 57.5	-0.7
	baz=202								
TUC	Tucson	19.51	327	P		P		02 29 58.9	+0.3
	baz=143								
TUC	Tucson	19.51	327	eP		Pn		02 30 00.8	+1.0
TUC				pmax		pmax			
	comp=Z,90nm,2.0s								
TUC	Tucson	19.51	327	eP		Pn		02 30 00.8	+1.0
	comp=Z,90nm,2.0s								
BCIP	Isla Barro Col	19.53	109	esP		sP		02 30 09.9	+4.9
453A	Whigham	19.54	39	P		P		02 29 57.1	-1.7
	baz=224								
W40A	Ferguson Farm,	19.54	14	P		P		02 29 58.5	-0.2
	baz=196,SNR=23								
W40A	Ferguson Farm,	19.54	14	eP		Pn		02 30 00.5	+0.4
	comp=Z,78nm,0.8s								
352A	Blakely	19.63	37	P		P		02 29 58.5	-1.2
	baz=222								
Y46A	Houston	19.66	25	P		P		02 29 59.2	-0.8
	baz=208,SNR=28								
LAZ	Ladron	19.71	339	eP		Pn		02 30 03.1	+0.8
W41B	Gary Mavity, V	19.72	15	P		P		02 29 59.3	-1.4
	baz=198,SNR=14								
X44A	Crenshaw	19.73	21	P		P		02 29 58.7	-2.1
	baz=204,SNR=5.6								
LRAL	Lakeview Retre	19.75	30	P		P		02 30 00.1	-0.9
	baz=214,SNR=11								
LRAL	Lakeview Retre	19.75	30	eP		P		02 30 01.2	+0.2
	comp=Z,29nm,1.0s								
Z48A	Northport	19.78	28	P		P		02 30 00.5	-0.8
	baz=212,SNR=15								
TUL1	Leonard	19.79	7	P		P		02 30 00.3	-1.1
	baz=188,SNR=24								
TUL1	Leonard	19.79	7	eP		P		02 30 00.4	-1.0
	comp=Z,45nm,0.7s								
251A	Midway	19.82	35	P		P		02 30 00.6	-1.2
	baz=220								
WHAR	Wooly Hollow	19.82	15	eP		P		02 30 02.4	+0.6
	comp=Z,51nm,0.9s								
858A	St. Cloud	19.87	50	P		P		02 30 00.7	-1.7
	baz=236								
150A	Eclectic	19.89	33	P		P		02 30 01.8	-0.8
	baz=217,SNR=7.6								
555A	McAlpin	19.90	43	P		P		02 30 01.1	-1.5
	baz=229								
X45A	UM Field Stati	19.93	23	P		P		02 30 01.9	-1.0
	baz=206,SNR=11								
353A	Camilla	19.95	38	P		P		02 30 02.0	-1.2
	baz=224								
ANMO	Albuquerque	19.97	341	P		Pn		02 30 04.7	-0.7
	comp=Z,0.9nm,0.3s,baz=335,slow=13,SNR=44								
ANMO	Albuquerque	19.97	341	P		P		02 30 04.2	+0.5
	baz=158								
ANMO	Albuquerque	19.97	341	⇑iP		P		02 30 04.3	+0.6
ANMO				pmax		pmax			
	comp=Z,24nm,0.9s								
ANMO	Albuquerque	19.97	341	eP		Pn		02 30 04.7	-0.7
	comp=Z,25nm,0.9s								
OXF	Oxford	20.00	23	P		P		02 30 02.3	-1.5
	baz=206,SNR=13								
OXF	Oxford	20.00	23	eP		P		02 30 03.7	0.0
OXF				pmax		pmax			
	comp=Z,97nm,1.1s								
OXF	Oxford	20.00	23	eP		P		02 30 03.7	0.0
	comp=Z,97nm,1.1s								
W42A	Bald Knob	20.01	17	P		P		02 30 02.7	-1.1
	baz=200								
V39A	Pettigrew	20.05	12	P		P		02 30 03.5	-0.8
	baz=194,SNR=56								
W43A	Forest City	20.08	19	P		P		02 30 03.7	-0.8
	baz=202								
Y47A	UCPARC, Winfie	20.09	27	P		P		02 30 03.7	-1.0
	baz=211,SNR=16								
Z49A	Columbiana	20.11	31	P		P		02 30 04.7	-0.3
	baz=215,SNR=20								
252A	Lumpkin	20.12	36	P		P		02 30 04.0	-1.1
	baz=221,SNR=6.2								
859A	Kempfer Cattle	20.13	51	P		P		02 30 03.5	-1.7
	baz=237								
V40A	Witts Springs	20.18	14	P		P		02 30 04.9	-0.9
	baz=196,SNR=34								
556A	Lake Butler	20.19	44	P		P		02 30 03.9	-1.9
	baz=230								
151A	Opelika	20.20	34	P		P		02 30 05.2	-0.7
	baz=219,SNR=12								
455A	Stateville	20.27	42	P		P		02 30 04.9	-1.8
	baz=227								
657A	Interlachen	20.30	46	P		P		02 30 04.3	-2.8
	baz=232								
V41A	Mountainview	20.32	15	P		P		02 30 06.4	-0.9
	baz=198,SNR=31								
X46A	Booneville	20.35	24	P		P		02 30 06.5	-1.1
	baz=208,SNR=15								
214A	Organ Pipe Nat	20.36	323	P		P		02 30 08.4	+0.7
	baz=138,SNR=7.4								
214A	Organ Pipe Nat	20.36	323	eP		P		02 30 06.3	-1.4
	comp=Z,435nm,1.8s								
TIGA	Tifton	20.39	39	P		P		02 30 05.9	-2.2
	baz=225								
TIGA	Tifton	20.39	39	eP		Pn		02 30 15.2	+5.0
	comp=Z,32nm,0.9s								
Y48A	Jasper	20.40	28	P		P		02 30 07.3	-0.8
	baz=213,SNR=14								
758A	Lake Helen	20.41	49	P		P		02 30 06.9	-1.3
	baz=235								
HHAR	Hobbs	20.42	11	eP		P		02 30 07.4	-0.9
	comp=Z,41nm,1.0s								
W44A	Shelby Farms P	20.42	21	P		P		02 30 07.2	-1.1
	baz=205								
Z50A	Ashland	20.46	32	P		P		02 30 08.3	-0.4
	baz=217,SNR=15								
V42A	Cord	20.55	17	P		P		02 30 08.6	-1.0
	baz=200,SNR=19								
U39A	Green Forest	20.60	12	P		P		02 30 09.2	-1.1
	baz=194,SNR=37								
X47A	Russelville	20.61	26	P		P		02 30 09.1	-1.4
	baz=210,SNR=29								
658A	Bunnell	20.63	47	P		P		02 30 08.6	-2.1
	baz=234								
W45A	Hickory Valley	20.66	22	P		P		02 30 09.0	-1.9
	baz=206,SNR=14								
557A	Orange Park	20.66	45	P		P		02 30 08.7	-2.2
	baz=231								
Y49A	Blount Mountai	20.71	30	P		P		02 30 08.8	-2.7
	baz=214,SNR=17								
U40A	Yellville	20.71	13	P		P		02 30 10.2	-1.3
	baz=196,SNR=58								
355A	Pearson	20.78	41	P		P		02 30 09.6	-2.7
	baz=227								
X48A	Hartselle	20.91	27	P		P		02 30 12.3	-1.3
	baz=212,SNR=25								
U41A	Viola	20.91	15	P		P		02 30 12.1	-1.6
	baz=198,SNR=23								
PLAL	Pickwick Lake	20.93	25	eP		P		02 30 12.9	-0.9
	comp=Z,48nm,0.9s								
254A	Abbeville	20.93	39	P		P		02 30 12.2	-1.6
	baz=225								
X18A	Snowflake	20.93	333	eP		Pn		02 30 15.8	-0.8
	comp=Z,24nm,0.8s								
W46A	Michie	20.94	24	P		P		02 30 12.0	-2.0
	baz=208,SNR=5.9								
V44A	Blytheville	21.02	20	P		P		02 30 12.5	-2.3
	baz=204								
Y50A	Piedmont	21.06	31	P		P		02 30 13.7	-1.6
	baz=216,SNR=6.8								
T38A	Diamond	21.10	9	P		P		02 30 14.1	-1.5
	baz=192,SNR=19								
U42A	Revenden	21.10	17	P		P		02 30 14.4	-1.2
	baz=200,SNR=36								
GNAR	Gosnell	21.11	20	eP		P		02 30 17.2	+1.5
	comp=Z,5µm,1.5s								
356A	Blackshear	21.23	42	P		P		02 30 15.1	-2.0
	baz=228								
T39A	Clever	21.25	11	P		P		02 30 16.1	-1.1
	baz=194,SNR=34								
V45A	Humboldt	21.26	22	P		P		02 30 15.6	-1.8
	baz=206								
HALT	Halls	21.28	21	eP		P		02 30 16.3	-1.3
X49A	Woodville	21.29	29	P		P		02 30 16.5	-1.2
	baz=214,SNR=27								
W18A	Petrified Fore	21.34	334	P		P		02 30 16.1	-2.3
	baz=150,SNR=7.9								
W18A	Petrified Fore	21.34	334	eP		P		02 30 19.6	+1.1
	comp=Z,24nm,1.0s								
W47A	Westpoint	21.36	25	P		P		02 30 16.9	-1.5
	baz=210,SNR=36								
U43A	Rector	21.36	18	P		P		02 30 16.6	-1.8
	baz=202,SNR=9.4								
T25A	Trinidad	21.50	347	P		P		02 30 20.8	+0.6
	baz=165,SNR=34								
T25A	Trinidad	21.50	347	eP		P		02 30 21.5	+1.4
	comp=Z,258nm,1.8s								
113A	Mohawk Valley,	21.50	323	eP		P		02 30 21.4	+1.4
	comp=Z,29nm,1.0s								
X16A	Lo Mia Camp, P	21.53	330	eP		P		02 30 22.1	+1.6
	comp=Z,34nm,0.8s								
W48A	Pulaski	21.54	27	P		P		02 30 18.6	-1.8
	baz=208,SNR=32								
T40A	Mansfield	21.54	13	P		P		02 30 19.5	-1.0
	baz=196,SNR=43								
MHTCO	State Highway	21.55	347	eP		P		02 30 21.9	+1.2
	comp=Z,26nm,1.0s								
X50A	Fort Payne	21.56	30	P		P		02 30 19.3	-1.4
	baz=215,SNR=5.5								
T41A	Mountain View	21.62	15	P		P		02 30 20.1	-1.1
	baz=198,SNR=30								
GLAT	Glass	21.62	21	eP		P		02 30 22.0	+0.8
V46A	Holladay	21.63	24	P		P		02 30 19.6	-1.7
	baz=208,SNR=61								
U44B	Burton Farm, H	21.66	20	P		P		02 30 21.2	-0.5
	baz=204,SNR=7.2								
U44A	Portageville	21.71	20	P		P		02 30 20.6	-1.6
	baz=204								
357A	Townsend	21.71	43	P		P		02 30 20.1	-2.2
	baz=229								
PBMO	Poplar Bluff	21.73	18	eP		P		02 30 22.3	-0.1
	comp=Z,116nm,0.8s								
S38A	Stockton	21.74	10	P		P		02 30 21.1	-1.4
	baz=192,SNR=44								
T42A	Van Buren	21.78	16	P		P		02 30 21.7	-1.2
	baz=200,SNR=67								
256A	Glennville	21.82	41	P		P		02 30 21.0	-2.4
	baz=227								
PARMO	Parma	21.83	19	eP		P		02 30 23.6	+0.1
UTMT	University of	21.84	21	eP		P		02 30 26.9	+3.3
	comp=Z,206nm,1.0s								
U45A	Rein P Farm,	21.88	22	P		P		02 30 21.9	-2.1
	baz=206,SNR=5.6								
V47A	Nunnelly	21.89	25	P		P		02 30 22.5	-1.6
	baz=209,SNR=42								
GOGA	Godfrey	21.89	36	P		P		02 30 22.0	-2.1
	baz=222,SNR=11								
GOGA	Godfrey	21.89	36	eP		P		02 30 23.3	-0.9
GOGA				pmax		pmax			
	comp=Z,25nm,0.9s								
GOGA	Godfrey	21.89	36	eP		P		02 30 23.2	-0.9
	comp=Z,25nm,0.9s								
S39A	Bolivar	21.90	11	P		P		02 30 22.7	-1.6
	baz=194,SNR=36								
Y14A	Wickenburg	21.95	326	eP		P		02 30 26.6	+1.7
	comp=Z,134nm,1.0s								
S40A	Lebanon	21.98	13	P		P		02 30 23.7	-1.3
	baz=196,SNR=37								
WVT	Waverly	22.03	24	P		P		02 30 23.6	-2.0
	baz=208								
WVT	Waverly	22.03	24	eP		P		02 30 24.2	-1.4
WVT				pmax		pmax			
	comp=Z,100nm,0.9s								
WVT	Waverly	22.03	24	eP		P		02 30 24.2	-1.4
	comp=Z,100nm,0.9s								
SWET	Sewanee	22.05	28	eP		P		02 30 24.7	-1.2
	comp=Z,19nm,0.8s								
T43A	Greenville	22.05	18	P		P		02 30 24.4	-1.5
	baz=202,SNR=48								
V48A	Smith Brothers	22.10	26	P		P		02 30 24.6	-1.8
	baz=211,SNR=18								
U46A	Springville	22.10	23	P		P		02 30 24.4	-1.9
	baz=207,SNR=18								
S41A	Jillco Farms,	22.14	14	P		P		02 30 25.5	-1.3
	baz=198,SNR=55								
T44A	Benton	22.27	19	P		P		02 30 26.7	-1.5
	baz=203,SNR=17								
R38A	Fenwick Farm,	22.28	10	P		P		02 30 26.8	-1.5
	baz=192,SNR=25								
GLA	Glamis	22.32	322	P		P		02 30 29.1	+0.1
	baz=136								
GLA	Glamis	22.32	322	eP		P		02 30 29.0	+0.1
GLA				pmax		pmax			
	comp=Z,43nm,1.1s								
GLA	Glamis	22.32	322	eP		P		02 30 29.0	+0.1
	comp=Z,43nm,1.1s								
SDCO	Great Sand Dun	22.33	345	P		P		02 30 28.3	-0.9
	baz=163,SNR=22								
SDCO	Great Sand Dun	22.33	345	eP		P		02 30 28.6	-0.5
	comp=Z,14nm,0.9s								
WUAZ	Wupatki	22.40	332	P		P		02 30 31.1	+1.4
	baz=147,SNR=39								
WUAZ	Wupatki	22.40	332	eP		P		02 30 31.6	+1.9
	comp=Z,76nm,0.9s								
U47A	Clarksville	22.51	24	P		P		02 30 28.8	-2.0
	baz=209,SNR=38								
T45A	Paducah	22.52	21	P		P		02 30 29.0	-1.9
	baz=205								
S42A	Caledonia	22.55	16	P		P		02 30 29.7	-1.6
	baz=200,SNR=76								
CBKS	Cedar Bluff	22.56	358	P		P		02 30 29.7	-1.6
	baz=177								
CBKS	Cedar Bluff	22.56	358	eP		P		02 30 31.4	+0.1
CBKS				pmax		pmax			
	comp=Z,54nm,1.1s								
CBKS	Cedar Bluff	22.56	358	eP		P		02 30 31.4	+0.1
	comp=Z,54nm,1.1s								
R39A	Chumby, Stover	22.56	11	P		P		02 30 29.4	-1.9
	baz=194,SNR=40								
S43A	Fulton Ridge,	22.57	18	P		P		02 30 29.7	-1.7
	baz=202,SNR=14								
GTBY	Guantanamo Bay	22.58	77	eP		P		02 30 32.5	+0.8
	comp=Z,96nm,0.9s								
Y12C	Blythe	22.65	323	P		P		02 30 30.3	-2.0
	baz=138								
Y12C	Blythe	22.65	323	eP		P		02 30 34.7	+2.4
	comp=Z,44nm,1.5s								
S22A	4UR Ranch, Cre	22.68	343	P		P		02 30 33.4	+0.4
	baz=160,SNR=32								
S22A	4UR Ranch, Cre	22.68	343	eP		P		02 30 33.7	+0.8
	comp=Z,25nm,1.0s								
R40A	Maddies Statio	22.69	13	P		P		02 30 30.9	-1.8
	baz=196,SNR=105								
MVCO	Mesa Verde	22.71	339	P		P		02 30 33.5	+0.3
	baz=155,SNR=38								
MVCO	Mesa Verde	22.71	339	eP		P		02 30 34.2	+1.0
	comp=Z,65nm,0.9s								
T46A	Princeton	22.81	22	P		P		02 30 32.2	-1.7
	baz=207,SNR=17								
IKP	In-Ko-Pah, Jac	22.84	319	P		P		02 30 32.2	-2.2
	baz=133								
PDMCI	Parker Dam,Lak	22.84	325	P		P		02 30 33.4	-0.9
	baz=139,SNR=12								
SWSC	Sam W. Stewart	22.84	320	P		P		02 30 32.3	-2.0
	baz=134								
FVM	French Village	22.85	17	eP		P		02 30 34.6	+0.2
FVM				pmax		pmax			
	comp=Z,43nm,0.8s								
FVM	French Village	22.85	17	eP		P		02 30 34.6	+0.2
	comp=Z,43nm,0.8s								
U48A	Cassie Pea, Po	22.87	26	P		P		02 30 32.8	-1.8
	baz=211,SNR=30								
Q37A	Longview Farm,	22.88	8	P		P		02 30 32.0	-2.6
	baz=190,SNR=11								
KSU1	Kansas State U	22.88	4	P		P		02 30 33.3	-1.4
	baz=185								
KSU1	Kansas State U	22.88	4	eP		P		02 30 37.3	+2.6
	comp=Z,34nm,1.1s								
R41A	Rosebud	22.90	15	P		P		02 30 32.6	-2.3
	baz=198,SNR=32								
CPCT	Cooper Cave	22.91	31	eP		P		02 30 33.9	-1.1
S44A	Carbondale	22.93	19	P		P		02 30 33.3	-1.9
	baz=203,SNR=34								
SIUC	Southern Illin	22.96	19	eP		P		02 30 35.7	+0.1
	comp=Z,101nm,0.9s								
KSCO	Kaye Shedlock'	23.01	352	P		P		02 30 34.3	-1.8
	baz=170,SNR=11								
KSCO	Kaye Shedlock'	23.01	352	eP		P		02 30 36.2	0.0
	comp=Z,74nm,0.9s								
R42A	Luebbering	23.03	16	P		P		02 30 34.0	-2.2
	baz=199,SNR=11								
T47A	Sharon Grove	23.06	24	P		P		02 30 34.6	-2.0
	baz=209,SNR=25								
Q38A	Cooks Store, C	23.09	10	P		P		02 30 34.9	-1.9
	baz=192								
BC3	Big Chuckawall	23.12	322	P		P		02 30 37.9	+0.6
	baz=136,SNR=12								
S45A	Carrier Mills	23.14	20	P		P		02 30 35.6	-1.7
	baz=205,SNR=12								
HODGE	Hodges	23.17	36	eP		P		02 30 37.3	-0.4
	comp=Z,27nm,0.9s								
MONP2	Monument Peak	23.19	319	P		P		02 30 38.0	-0.2
	baz=132,SNR=5.5								
R43A	Red Bud	23.27	17	P		P		02 30 38.6	0.0
	baz=201,SNR=35								
Q39A	Willow Grove F	23.28	11	P		P		02 30 37.7	-1.1
	baz=194								
IRM	Iron Mountain	23.30	323	P		P		02 30 39.5	+0.5
	baz=137,SNR=20								
W13A	Hualapai Mount	23.30	327	eP		P		02 30 40.9	+1.6
	comp=Z,94nm,2.0s								
BG3	Lake Jocassee	23.36	34	eP		P		02 30 39.9	+0.2
	comp=Z,25nm,0.8s								
Q24A	Divide	23.41	347	P		P		02 30 40.3	-0.1
	baz=164,SNR=6.3								
Q24A	Divide	23.41	347	eP		P		02 30 43.2	+2.8
	comp=Z,12nm,1.0s								
Q40A	Laux Farm, Aux	23.41	13	P		P		02 30 38.5	-1.6
	baz=196,SNR=23								
TKL	Tuckaleechee C	23.44	31	P		P		02 30 40.7	+0.2
	comp=Z,11nm,0.7s,baz=193,slow=9.2,SNR=9.9								
TKL	Tuckaleechee C	23.44	31	eP		P		02 30 40.3	-0.2
TKL				pmax		pmax			
	comp=Z,25nm,1.1s								
TKL	Tuckaleechee C	23.44	31	eP		P		02 30 40.3	-0.2
	comp=Z,25nm,1.1s								
S46A	Don Dixon Farm	23.44	22	P		P		02 30 39.3	-1.1
	baz=207								
T48A	Bowling Green	23.45	25	P		P		02 30 38.9	-1.6
	baz=210,SNR=40								
R44A	Waltonville	23.49	19	P		P		02 30 39.8	-1.1
	baz=203,SNR=24								
RGRS	Roger Stewart	23.50	42	eP		P		02 30 41.3	+0.3
	comp=Z,0.7nm,0.4s								
MOTC	Monteria, Cord	23.51	106	eP		P		02 30 40.5	-0.7
SLM	Saint Louis	23.52	16	eP		P		02 30 42.9	+1.8
SLM				pmax		pmax			
	comp=Z,54nm,0.9s								
SLM	Saint Louis	23.52	16	eP		P		02 30 42.9	+1.8
	comp=Z,54nm,0.9s								
Q41A	Truxton	23.56	14	P		P		02 30 39.8	-1.7
	baz=198,SNR=34								
U15A	North Rim	23.57	331	eP		P		02 30 43.2	+1.3
	comp=Z,36nm,1.1s								
PV01	Paradox Valley	23.57	340	eP		P		02 30 42.8	+0.9
P37A	Lathrop	23.59	8	P		P		02 30 39.8	-2.1
	baz=190,SNR=7.5								
109C	Camp Elliot, M	23.63	318	P		P		02 30 42.5	+0.3
	baz=131								
CSU	Charleston Sou	23.63	42	eP		P		02 30 43.6	+1.3
NHSC	New Hope	23.64	41	P		P		02 30 41.3	-1.1
	baz=228,SNR=11								
NHSC	New Hope	23.64	41	eP		P		02 30 44.4	+1.9
	comp=Z,199nm,1.1s								
BELC	Belle Mtn. Jos	23.69	322	P		P		02 30 43.9	+0.9
	baz=135,SNR=13								
XPFO	Piæon Flat	23.70	320	eP		P		02 30 45.3	+2.2
	comp=Z,28nm,1.4s								
Q42A	Golden Eagle	23.70	16	P		P		02 30 42.6	-0.3
	baz=199,SNR=18								
PFO	Pinyon Flats O	23.70	320	P		P		02 30 43.4	+0.3
	baz=134								
PFO	Pinyon Flats O	23.70	320	eP		P		02 30 45.3	+2.1
	comp=Z,27nm,1.4s								
PV05	Paradox Valley	23.70	339	eP		P		02 30 44.1	+0.9
USIN	University of	23.71	22	eP		P		02 30 44.0	+1.0
	comp=Z,161nm,0.9s								
P38A	Dawn	23.75	10	P		P		02 30 41.6	-1.8

O38A **Galt** 24.24 10 P P 02 30 46.4 -1.6
baz=192,SNR=19
OLIL **Olney** 24.25 20 eP P 02 30 48.0 -0.1
comp=Z,166nm,1.6s
TZTN **Tazewell** 24.25 30 P P 02 30 47.5 -0.7
baz=217,SNR=10
TZTN **Tazewell** 24.25 30 eP P 02 30 48.5 +0.3
comp=Z,84nm,1.3s
P41A **Barry, Barry** 24.29 14 P P 02 30 46.8 -1.6
baz=198
KNB **Kanab** 24.29 331 eP P 02 30 50.5 +1.8
comp=Z,24nm,0.9s
ISCO **Idaho Springs** 24.31 347 P P 02 30 49.6 +0.6
baz=164,SNR=54
ISCO **Idaho Springs** 24.31 347 eP P 02 30 49.8 +0.7
ISCO pmax pmax
comp=Z,55nm,1.0s
ISCO **Idaho Springs** 24.31 347 eP P 02 30 49.8 +0.7
comp=Z,55nm,1.0s
KMSC **Kings Mountain** 24.36 36 P P 02 30 48.5 -0.6
baz=223,SNR=10.0
KMSC **Kings Mountain** 24.36 36 eP P 02 30 48.6 -0.5
comp=Z,201nm,1.9s
P42A **Winchester** 24.38 15 P P 02 30 48.5 -0.8
baz=199,SNR=32
Q45A **Warren Harvey,** 24.38 20 P P 02 30 48.7 -0.6
baz=205,SNR=13
PKCU **Pink Cliffs** 24.41 333 eP P 02 30 52.6 +2.6
comp=Z,28nm,1.1s
BBRC **Big Bear Solar** 24.42 321 P P 02 30 50.8 +0.8
baz=134
R47A **Wooly Knot Far** 24.42 23 P P 02 30 48.3 -1.4
baz=209,SNR=25
WCI **Wyandotte Cave** 24.45 24 P P 02 30 49.2 -0.8
baz=209
WCI **Wyandotte Cave** 24.45 24 eP P 02 30 50.0 0.0
WCI pmax pmax
comp=Z,80nm,0.9s
WCI **Wyandotte Cave** 24.45 24 eP P 02 30 50.0 0.0
comp=Z,80nm,0.9s
HEC **Hector,Ludlow** 24.46 323 P P 02 30 50.6 +0.4
baz=136,SNR=9.6
N33A **J Bar K, Exete** 24.47 2 P P 02 30 49.9 -0.2
baz=183,SNR=8.4
LCMT **Little Creek M** 24.48 331 eP P 02 30 52.0 +1.5
comp=Z,9.5nm,0.9s
O39A **Kirksville** 24.53 11 P P 02 30 49.9 -0.8
baz=194,SNR=22
O40A **La Belle** 24.54 12 P P 02 30 49.9 -0.8
baz=196,SNR=44
N34A **Lincoln** 24.62 4 P P 02 30 50.9 -0.5
baz=185,SNR=9.7
SCI2 **San Clemente I** 24.62 316 P P 02 30 51.7 +0.1
baz=129
P43A **Skaggs, Pawnee** 24.65 17 P P 02 30 51.2 -0.6
baz=201
TUQ **Turquoise Moun** 24.66 324 P P 02 30 52.8 +0.8
baz=137,SNR=30
N35A **Tabor** 24.71 5 P P 02 30 51.6 -0.7
baz=187,SNR=6.5
N36A **Muff Farm, Cla** 24.73 7 P P 02 30 51.6 -0.8
baz=188,SNR=5.2
O41A **Passleys Farm,** 24.75 14 P P 02 30 51.8 -0.8
baz=198,SNR=29
P44A **Sand Creek, Wi** 24.75 19 P P 02 30 52.2 -0.5
baz=203,SNR=10
N37A **Lee Faris, Mou** 24.76 8 P P 02 30 52.2 -0.6
baz=190
Q46A **CEJHS Indians,** 24.76 21 P P 02 30 52.0 -0.7
baz=206
R48A **Northridge Ran** 24.77 24 P P 02 30 52.0 -0.8
baz=210,SNR=9.0
CIS **Catalina Islan** 24.80 317 P P 02 30 52.7 -0.5
baz=130
OGNE **Ogallala** 24.85 354 P P 02 30 54.1 +0.5
baz=172,SNR=11
OGNE **Ogallala** 24.85 354 eP P 02 30 55.2 +1.6
comp=Z,179nm,1.1s
BFSC **Mount Baldy Ra** 24.86 320 P P 02 30 54.2 +0.3
baz=132
MTPU **Mount Pierson** 24.86 334 eP P 02 30 55.7 +1.6
comp=Z,26nm,0.9s
SZCU **Shurtz Canyon** 24.89 332 eP P 02 30 57.3 +3.2
comp=Z,12nm,1.0s
FMP **Fort Macarthur** 24.92 318 P P 02 30 53.3 -0.9
baz=130
N38A **Joes South For** 24.94 10 P P 02 30 53.8 -0.5
baz=192,SNR=39
CCUT **Cedar City** 24.98 331 eP P 02 30 56.8 +1.8
comp=Z,20nm,1.5s
O42A **Bath** 25.02 15 P P 02 30 53.9 -1.2
baz=200
Q47A **Bedord North L** 25.02 23 P P 02 30 54.5 -0.6
baz=208,SNR=27
SHPR **Sheep Range** 25.04 327 eP P 02 30 57.8 +2.3
comp=Z,13nm,1.0s
GSC **Goldstone, Bar** 25.07 323 P P 02 30 55.5 -0.3
baz=136,SNR=7.4
GSC **Goldstone, Bar** 25.07 323 eP P 02 30 57.2 +1.5
comp=Z,27nm,1.4s
P45A **Graceland, Par** 25.09 20 P P 02 30 55.0 -0.7
baz=205,SNR=14
SRU **San Rafael Swe** 25.12 338 eP P 02 30 57.2 +0.9
SRU pmax pmax
comp=Z,36nm,1.1s
SRU **San Rafael Swe** 25.12 338 eP P 02 30 57.2 +0.9
comp=Z,36nm,1.1s
BGNE **Belgrade** 25.13 1 P P 02 30 55.7 -0.4
baz=181
BGNE **Belgrade** 25.13 1 eP P 02 30 57.9 +1.9
comp=Z,164nm,1.7s
N39A **Derby Farms, D** 25.14 11 P P 02 30 55.6 -0.5
baz=194,SNR=29
BLO **Bloomington** 25.19 22 eP P 02 30 57.4 +0.7
BLO pmax pmax
comp=Z,79nm,0.8s
BLO **Bloomington** 25.19 22 eP P 02 30 57.4 +0.7
comp=Z,79nm,0.8s
GUYC **Guyana, Colomb** 25.20 113 eP P 02 30 58.7 +1.3
MSU **Marysvale** 25.25 334 eP P 02 30 58.9 +1.5
M34A **Aspy Farms, Fr** 25.27 3 P P 02 30 57.4 0.0
baz=185
DECC **Green Verdugo** 25.29 319 P P 02 30 57.7 +0.1
baz=131
O20A **White River Ci** 25.30 342 P P 02 30 58.5 +0.7
baz=158,SNR=24
O20A **White River Ci** 25.30 342 eP P 02 31 00.5 +2.6
comp=Z,49nm,1.0s
M35A **Neola** 25.30 5 P P 02 30 57.3 -0.3
baz=187,SNR=14
O43A **Sugar Creek Fa** 25.31 17 P P 02 30 56.6 -1.0
baz=201
M33A **Taylor Creek F** 25.32 2 P P 02 30 56.9 -0.9
baz=183
N41A **Harden Midland** 25.32 14 P P 02 30 56.8 -1.0
baz=198,SNR=5.3
N40A **Mertquake, Sal** 25.33 12 P P 02 30 56.6 -1.2
baz=196
P46A **Rosedale** 25.35 21 P P 02 30 57.0 -1.1
baz=206
M36A **Felix, Anita** 25.38 7 P P 02 30 57.7 -0.6
baz=189,SNR=6.0
OTAV **Otavalo** 25.38 127 eP P 02 31 04.1 +4.9
comp=Z,63nm,1.8s
OTAV **Otavalo** 25.38 127 eP P 02 30 53.8 -5.3
M37A **Trindle Farm,** 25.42 8 P P 02 30 58.3 -0.3
baz=190,SNR=11
O44A **Mansfield** 25.43 18 P P 02 30 58.2 -0.6
baz=203,SNR=6.5
N23A **Red Feather La** 25.43 347 P P 02 30 59.6 +0.5
baz=164,SNR=20
N23A **Red Feather La** 25.43 347 eP P 02 31 00.4 +1.3
comp=Z,27nm,0.8s
PTBC **PUERTO BERRIO,** 25.46 109 eP P 02 30 59.1 -0.2
P18A **Preston Nutter** 25.48 339 eP P 02 31 00.7 +1.1
comp=Z,30nm,1.1s
EDW2 **Edwards Air Fo** 25.49 320 P P 02 30 59.9 +0.4
baz=133,SNR=8.1
NORC **Norcasia** 25.50 112 eP P 02 30 56.5 -3.3
P17A **Butcher Ranch,** 25.52 338 eP P 02 31 01.1 +1.2
comp=Z,15nm,1.0s
TMUT **Trail Mountain** 25.54 337 eP P 02 31 01.5 +1.3
comp=Z,18nm,0.8s
M38A **Pleasantville** 25.55 9 P P 02 30 59.1 -0.8
baz=192,SNR=49
P47A **Martinsville** 25.56 22 P P 02 30 59.4 -0.6
baz=208,SNR=11
HDIL **Hopedale** 25.57 16 P P 02 30 59.4 -0.6
baz=201,SNR=14
HDIL **Hopedale** 25.57 16 eP P 02 31 00.1 +0.1
comp=Z,79nm,0.9s
N42A **Yates City** 25.63 15 P P 02 31 00.0 -0.6
baz=199,SNR=8.6
BLG **Laguna Peak, P** 25.66 318 P P 02 31 00.4 -0.6
baz=130
LRMC **Laurel Mtn Rad** 25.71 322 P P 02 31 01.0 -0.6
baz=134
PHWY **Pilot Hill** 25.72 348 eP P 02 31 03.8 +2.0
comp=Z,24nm,0.9s
L32A **Elgin** 25.72 1 P P 02 31 00.7 -0.8
baz=181
SOTA **Rioblanco** 25.73 121 eP P 02 31 01.6 -0.6
O45A **Potomac** 25.75 19 P P 02 31 01.4 -0.3
baz=204,SNR=50
L34A **Svendsen Farm,** 25.75 4 P P 02 31 01.2 -0.5
baz=185
OSI **Osito Audit: C** 25.77 319 P P 02 31 00.9 -1.1
baz=131
M39A **Webster** 25.79 11 P P 02 31 01.2 -0.9
baz=194,SNR=33
M40A **Post Highland** 25.85 12 P P 02 31 01.5 -1.1
baz=196,SNR=24
L33A **Hoskins** 25.90 2 P P 02 31 02.1 -1.0
baz=183
NCAT **North Carolina** 25.91 37 eP P 02 31 03.8 +0.6
comp=Z,50nm,1.0s
FURC **Furnace Creek,** 25.93 325 P P 02 31 02.1 -1.3
baz=137
L35A **Bielow Farm, R** 25.96 5 P P 02 31 02.5 -1.0
baz=187
N43A **Stutzman Famil** 25.96 16 P P 02 31 03.0 -0.5
baz=201,SNR=11
SCZ2 **Santa Cruz Isl** 25.96 317 P P 02 31 02.9 -0.8
baz=129
MPMC **Manual Prospec** 26.00 323 P P 02 31 03.3 -1.0
baz=135,SNR=14
M41A **Milan** 26.03 14 P P 02 31 03.2 -1.0
baz=198,SNR=16
L36A **Harm Buss Farm** 26.03 7 P P 02 31 03.6 -0.7
baz=189
SCIA **State Center** 26.03 9 P P 02 31 03.4 -0.8
baz=192,SNR=29
SCIA **State Center** 26.03 9 eP P 02 31 04.2 0.0
comp=Z,132nm,0.8s
SFIN **Lafayette** 26.07 20 P P 02 31 03.7 -0.9
baz=206,SNR=20
SFIN **Lafayette** 26.07 20 eP P 02 31 04.5 -0.1
comp=Z,48nm,0.8s
SDDR **Presa de Saban** 26.12 80 eP P 02 31 07.4 +2.1
comp=Z,27nm,1.0s
N44A **Piper City** 26.12 18 P P 02 31 04.3 -0.8
baz=203,SNR=14
L37A **Phoenix Point,** 26.17 8 P P 02 31 04.7 -0.8
baz=191,SNR=18
ARVC **Arvin** 26.17 320 P P 02 31 04.2 -1.4
baz=132
DAC **Darwin (Calif)** 26.21 323 eP P 02 31 07.4 +1.2
comp=Z,13nm,1.3s
O47A **Sheridan** 26.26 22 P P 02 31 05.2 -1.1
baz=208,SNR=9.3
M42A **Sheffield** 26.29 15 P P 02 31 05.5 -1.1
baz=199,SNR=7.6
L38A **Oak Wood Farm,** 26.30 9 P P 02 31 06.1 -0.5
baz=192,SNR=24
ISA **Isabella, Lake** 26.31 321 P P 02 31 07.7 +0.8
baz=133
ISA **Isabella, Lake** 26.31 321 P P 02 31 09.6 +2.7
ISA pmax pmax
comp=Z,13nm,1.1s
ISA **Isabella, Lake** 26.31 321 eP P 02 31 09.6 +2.7
comp=Z,13nm,1.0s
MPU **Maple Canyon** 26.33 337 eP P 02 31 08.4 +1.3
comp=Z,35nm,1.4s
K31A **O'Neill** 26.34 360 P P 02 31 06.6 -0.5
baz=180
K33A **Hardington** 26.35 3 P P 02 31 06.8 -0.4
baz=184
N45A **Kentland** 26.36 19 P P 02 31 06.8 -0.4
baz=204,SNR=5.6
BLA **Blacksburg** 26.37 34 P P 02 31 06.5 -0.9
baz=222,SNR=5.8
BLA **Blacksburg** 26.37 34 eP P 02 31 07.1 -0.3
BLA pmax pmax
comp=Z,23nm,0.9s
BLA **Blacksburg** 26.37 34 eP P 02 31 07.1 -0.3
comp=Z,23nm,0.9s
K32A **Verdigre** 26.38 1 P P 02 31 06.4 -1.0
baz=182,SNR=5.2
L39A **Vinton** 26.44 11 P P 02 31 07.0 -1.0
baz=194,SNR=12
NLU **North Lily Min** 26.45 336 eP P 02 31 09.8 +1.5
comp=Z,20nm,1.0s
CNNC **Cliffs of the** 26.47 40 P P 02 31 07.3 -1.0
baz=229
CNNC **Cliffs of the** 26.47 40 eP P 02 31 10.2 +1.9
comp=Z,56nm,1.3s
M43A **Waltham Townsh** 26.48 16 P P 02 31 07.6 -0.7
baz=201,SNR=16
K34A **Le Mars** 26.48 4 P P 02 31 07.6 -0.8
baz=186
L40A **Anamosa** 26.54 12 P P 02 31 07.8 -1.0
baz=196,SNR=18
K36A **Gilmore City** 26.59 7 P P 02 31 08.6 -0.6
baz=189
K35A **Storm Lake** 26.59 5 P P 02 31 08.6 -0.6
baz=187
BARC **Barichara** 26.60 108 eP P 02 31 08.4 -1.5
PKM **Mcpherson Peak** 26.63 318 P P 02 31 08.3 -1.7
baz=130
N46A **Monticello** 26.65 20 P P 02 31 09.1 -0.7
baz=206,SNR=7.9
R11A **Troy Canyon, C** 26.67 329 P P 02 31 11.4 +1.1
baz=142,SNR=13
R11A **Troy Canyon, C** 26.67 329 eP P 02 31 11.8 +1.4
comp=Z,12nm,1.1s
M44A **Midewin, Midew** 26.69 18 P P 02 31 09.7 -0.5
baz=203,SNR=13
L41A **Prem** 26.70 13 P P 02 31 09.4 -0.9
baz=197,SNR=32
PAMC **Pamplona, Colo** 26.76 106 eP P 02 31 09.8 -1.9
JLU **Jordanelle** 26.77 338 eP P 02 31 13.2 +1.9
comp=Z,9.7nm,1.2s
VES **Vestal, Richgr** 26.79 321 P P 02 31 10.4 -0.8
baz=132
K37A **Belmond** 26.81 8 P P 02 31 09.9 -1.3
baz=191,SNR=20
K38A **Parkersburg** 26.82 9 P P 02 31 10.3 -1.1
baz=192,SNR=11
L42A **Oliver, Polo** 26.83 15 P P 02 31 10.3 -1.1
baz=199,SNR=22
M45A **Boilermakers S** 26.93 19 P P 02 31 12.1 -0.3
baz=204
CHIC **Chingaza** 26.93 113 eP P 02 31 15.8 +2.6
DUG **Dugway, Tooele** 26.94 335 P P 02 31 14.0 +1.3
baz=149,SNR=12
DUG **Dugway, Tooele** 26.94 335 eP P 02 31 13.9 +1.3
DUG pmax pmax
comp=Z,17nm,1.1s
DUG **Dugway, Tooele** 26.94 335 eP P 02 31 13.9 +1.3
comp=Z,17nm,1.1s
CTU **Camp Tracy** 26.96 337 eP P 02 31 14.6 +1.7
comp=Z,12nm,0.9s
RUSC **La Rusia** 26.97 109 eP P 02 31 19.3 +5.7
comp=Z,13nm,1.3s
RUSC **La Rusia** 26.97 109 eP P 02 31 13.1 -0.5
J31A **Geddes** 27.01 360 P P 02 31 12.7 -0.4
baz=189,SNR=11
SMMC **Simmler** 27.02 319 P P 02 31 12.9 -0.3
baz=130
K39A **Oelwein** 27.03 11 P P 02 31 12.0 -1.2
baz=194,SNR=16
J33A **Davis** 27.07 3 P P 02 31 12.8 -0.7
baz=184
J34A **George** 27.09 4 P P 02 31 13.0 -0.8
baz=186
J32A **Parkston** 27.09 1 P P 02 31 13.3 -0.5
baz=182,SNR=8.6
K40A **Colesburg** 27.17 12 P P 02 31 13.2 -1.2
baz=196,SNR=18
TCUT **Toone Canyon** 27.21 338 eP P 02 31 16.9 +1.7
comp=Z,32nm,0.9s
J35A **Milford** 27.23 5 P P 02 31 14.0 -1.0
baz=187
L43A **Garden Prairie** 27.23 16 P P 02 31 14.2 -0.8
baz=201,SNR=6.9
K22A **Casper** 27.24 347 P P 02 31 14.9 -0.4
baz=164
K22A **Casper** 27.24 347 eP P 02 31 17.5 +2.2
comp=Z,24nm,1.1s
M46A **Old House Fiel** 27.24 20 P P 02 31 14.2 -0.9
baz=206
K41A **Shullsburg** 27.25 13 P P 02 31 13.9 -1.3
baz=198,SNR=16
J36A **Seneca 1, Swea** 27.28 7 P P 02 31 14.4 -1.1
baz=189,SNR=11
J37A **Redenius Farm,** 27.36 8 P P 02 31 14.8 -1.4
baz=191,SNR=6.1
L44A **Lake County Fo** 27.46 17 P P 02 31 16.3 -0.8
baz=203
ECSD **EROS Data Cent** 27.50 3 P P 02 31 16.6 -0.8
baz=184,SNR=15
ECSD **EROS Data Cent** 27.50 3 eP P 02 31 17.2 -0.3
comp=Z,15nm,1.0s
ACSO **Alum Creek Sta** 27.51 26 P P 02 31 16.8 -0.8
baz=214,SNR=10
ACSO **Alum Creek Sta** 27.51 26 eP P 02 31 17.1 -0.5
comp=Z,26nm,0.8s
J38A **Wedel Dairy, R** 27.52 10 P P 02 31 16.3 -1.4
baz=193,SNR=10
JFWS **Jewell Farm** 27.56 13 P P 02 31 17.0 -1.0
baz=198,SNR=12
JFWS **Jewell Farm** 27.56 13 eP P 02 31 18.3 +0.3
JFWS pmax pmax
comp=Z,31nm,0.8s
JFWS **Jewell Farm** 27.56 13 eP P 02 31 18.3 +0.3
comp=Z,31nm,0.8s
K42A **Prairie Point,** 27.64 15 P P 02 31 17.6 -1.1
baz=199,SNR=9.0
BGU **Big Grassy Mou** 27.65 336 eP P 02 31 20.5 +1.4
comp=Z,11nm,1.1s
J39A **Decorah** 27.67 11 P P 02 31 18.0 -1.0
baz=194,SNR=7.6
HWUT **Hardware Ranch** 27.70 339 eP P 02 31 20.6 +1.1
comp=Z,21nm,1.3s
I35A **Creekview Farm** 27.74 6 P P 02 31 18.7 -0.9
baz=188
I31A **Royce, Wessing** 27.74 0 P P 02 31 18.8 -0.8
baz=180
I32A **Karley and Nic** 27.76 2 P P 02 31 18.9 -0.9
baz=182
I33A **Coleman** 27.80 3 P P 02 31 19.4 -0.7
baz=184
K43A **Burlington** 27.83 16 P P 02 31 19.3 -1.1
baz=201
I34A **Hadley** 27.85 4 P P 02 31 19.6 -1.0
baz=186
J40A **Soldiers Grove** 27.91 12 P P 02 31 20.4 -0.8
baz=196,SNR=7.5
I36A **Fitzsimmons Fa** 28.00 7 P P 02 31 20.9 -1.0
baz=189
MDPB **Devils Postpil** 28.01 324 eP P 02 31 24.0 +1.6
comp=Z,13nm,1.2s
J41A **Loganville** 28.04 13 P P 02 31 21.4 -0.9
baz=198,SNR=17
NV11 **Mina Array Sit** 28.06 326 eP P 02 31 24.2 +1.5
comp=Z,1.3nm,1.1s
I37A **Lemond, Waseca** 28.07 8 P P 02 31 21.7 -0.9
baz=191
BW06 **Boulder Array** 28.11 343 P P 02 31 23.3 +0.1
baz=158,SNR=7.8
BW06 **Boulder Array** 28.11 343 eP P 02 31 25.2 +2.0
comp=Z,41nm,1.5s
PD31 **Pinedale Array** 28.11 343 eP P 02 31 23.9 +0.7
PDAR **Pinedale Array** 28.11 343 P P 02 31 23.4 +0.2
comp=Z,5.2nm,0.8s,baz=128,slow=8.3,SNR=38
PDAR LR LR 02 44 10.9
comp=Z,1μm,19.5s,baz=172,slow=40
PDAR **Pinedale Array** 28.11 343 eP P 02 31 22.8 -0.4
NV01 **Mina Array Sit** 28.14 326 eP P 02 31 24.6 +1.1
NVAR **Mina Array Bea** 28.14 326 P P 02 31 24.8 +1.3
comp=Z,6.5nm,0.8s,baz=153,slow=9.6,SNR=32
NVAR PcP PcP 02 34 37.7 +0.2
comp=Z,1.3nm,0.8s,baz=141,slow=3.5,SNR=3.8
NVAR LR LR 02 44 10.2
comp=Z,1μm,19.6s,baz=220,slow=40
SUSD **Miller** 28.16 359 P P 02 31 22.9 -0.4
baz=179
SDV **Santo Domingo** 28.17 102 P P 02 31 24.6 +0.6
comp=Z,14nm,0.8s,baz=307,slow=5.1,SNR=18
SDV LR LR 02 42 59.9
comp=Z,520nm,21.3s,baz=30,slow=37
SDV **Santo Domingo** 28.17 102 eP P 02 31 24.8 +0.8
comp=Z,16nm,0.9s
SDV **Santo Domingo** 28.17 102 eP P 02 31 22.4 -1.6
H31A **Wolsey** 28.19 0 P P 02 31 23.0 -0.7
baz=180
J42A **Columbus** 28.20 15 P P 02 31 22.8 -0.9
baz=199,SNR=8.3
I39A **Houston** 28.21 11 P P 02 31 22.5 -1.3
baz=194,SNR=9.0
RSSD **Black Hills** 28.22 352 P P 02 31 23.9 -0.2
baz=169
RSSD **Black Hills** 28.22 352 eP P 02 31 25.3 +1.1
RSSD pmax pmax
comp=Z,22nm,1.3s
RSSD **Black Hills** 28.22 352 eP P 02 31 25.3 +1.1
comp=Z,22nm,1.3s
H32A **Carlson Farm,** 28.23 2 P P 02 31 23.3 -0.8
baz=182,SNR=11
URVA **University of** 28.24 37 eP P 02 31 26.2 +2.1
I38A **Scanlan Farm,** 28.25 9 P P 02 31 22.9 -1.3
baz=193,SNR=22
HVU **Hansel Valley** 28.29 337 eP P 02 31 26.1 +1.4
HVU pmax pmax
comp=Z,18nm,1.0s
HVU **Hansel Valley** 28.29 337 eP P 02 31 26.1 +1.4
comp=Z,18nm,1.0s
IP05 **Hopewell Churc** 28.29 36 eP P 02 31 25.3 +0.8
comp=Z,13nm,1.1s
RYN **Ryan** 28.40 326 eP P 02 31 28.8 +3.0
comp=Z,27nm,1.6s
I40A **Norwalk** 28.42 12 P P 02 31 24.4 -1.2
baz=196
H33A **Prehn Over Nor** 28.44 3 P P 02 31 24.9 -0.9
baz=184,SNR=11
J43A **Natural Harves** 28.44 16 P P 02 31 25.0 -0.9
baz=201
H34A **Spellman Lake,** 28.48 4 P P 02 31 25.6 -0.6
baz=186
MCWV **Mont Chateau** 28.50 31 P P 02 31 25.4 -1.1
baz=220
MCWV **Mont Chateau** 28.50 31 eP P 02 31 27.6 +1.1
comp=Z,18nm,0.8s
H36A **Jessenland, He** 28.56 7 P P 02 31 25.9 -1.0
baz=189,SNR=13
H35A **Sunnyside Ranc** 28.59 6 P P 02 31 25.9 -1.3
baz=188
I41A **Arkdale** 28.73 13 P P 02 31 27.8 -0.7
baz=198
CBN **Corbin Frederi** 28.77 36 P P 02 31 27.8 -1.0
baz=226
I42A **Draeger Farm,** 28.79 15 P P 02 31 28.2 -0.8
baz=200,SNR=7.4
WAKR **Walker** 28.82 325 eP P 02 31 31.6 +2.1
comp=Z,10nm,1.1s
H38A **Maiden Rock** 28.88 9 P P 02 31 28.8 -0.9
baz=193
G31A **Conde** 28.94 0 P P 02 31 29.6 -0.7
baz=181
G33A **Ortonville** 28.96 3 P P 02 31 29.6 -0.9
baz=184,SNR=8.0
I43A **Langenfeld Bro** 28.98 16 P P 02 31 30.1 -0.5
baz=201,SNR=8.1
AAM **Ann Arbor** 28.99 23 P P 02 31 29.9 -0.8
baz=210
AAM **Ann Arbor** 28.99 23 eP P 02 31 31.2 +0.5
AAM pmax pmax
comp=Z,132nm,1.9s
AAM **Ann Arbor** 28.99 23 eP P 02 31 31.2 +0.5
comp=Z,132nm,1.9s
CMB **Columbia Colle** 29.04 323 eP P 02 31 32.2 +0.9
comp=Z,3.8nm,1.0s
REDW **Red Top Meadow** 29.04 341 eP P 02 31 32.5 +1.0
comp=Z,50nm,1.6s
H39A **Augusta** 29.05 11 P P 02 31 30.6 -0.7
baz=195
YERR **Yerington** 29.05 325 eP P 02 31 34.2 +2.6
comp=Z,14nm,1.3s
G34A **Benson** 29.06 4 P P 02 31 30.5 -0.8
baz=186
SNOW **Snow King Moun** 29.10 342 eP P 02 31 34.5 +2.5
comp=Z,20nm,1.0s
G35A **Watkins** 29.14 6 P P 02 31 31.0 -1.0
baz=188

H40A **Chili** 29.16 12 P P 02 31 31.2 -1.0
baz=196,SNR=10
TPAW **Teton Pass** 29.18 341 eP P 02 31 34.1 +1.3
comp=Z,16nm,1.1s
LOHW **Long Hollow** 29.19 342 eP P 02 31 33.9 +1.1
comp=Z,19nm,1.2s
G36A **St. Michael** 29.23 7 P P 02 31 32.0 -0.9
baz=190
H41A **Junction City** 29.31 13 P P 02 31 32.4 -1.2
baz=198,SNR=5.6
SPMN **Marine on St.** 29.34 8 P P 02 31 32.8 -1.0
baz=191,SNR=8.2
SPMN **Marine on St.** 29.34 8 eP P 02 31 33.2 -0.6
comp=Z,19nm,0.8s
FXWY **Fox Creek** 29.34 341 eP P 02 31 35.2 +1.0
comp=Z,13nm,1.4s
MOOW **Moose Ponds** 29.36 342 eP P 02 31 35.2 +0.9
comp=Z,7.9nm,0.9s
MOOW ePcP PcP 02 34 40.7 +0.3
G38A **Ridgeland** 29.43 10 P P 02 31 33.5 -1.1
baz=193,SNR=5.5
N54A **Moraine State** 29.44 29 P P 02 31 33.7 -1.1
baz=218
N54A **Moraine State** 29.44 29 eP P 02 31 35.5 +0.7
comp=Z,96nm,2.0s
H42A **Shiocton** 29.47 15 P P 02 31 34.0 -1.0
baz=200
IMW **Indian Meadow** 29.55 342 eP P 02 31 37.0 +0.9
comp=Z,8.8nm,1.1s
F31A **Hecla** 29.57 0 P P 02 31 35.0 -0.9
baz=181
RUBR **Rubicon Trail** 29.60 325 eP P 02 31 39.9 +3.4
comp=Z,30nm,1.0s
F32A **Veblen** 29.61 2 P P 02 31 35.1 -1.1
baz=183
O56A **Blue Knob Stat** 29.61 32 eP P 02 31 36.9 +0.5
comp=Z,33nm,1.6s
H43A **Windswept, Lux** 29.62 16 P P 02 31 35.4 -1.0
baz=201
F34A **Alexandria** 29.64 5 P P 02 31 34.8 -1.6
baz=187
G39A **Holcombe** 29.66 11 P P 02 31 35.8 -0.8
baz=194,SNR=7.7
F35A **Swanville** 29.76 6 P P 02 31 36.4 -1.1
baz=188
G40A **Rib Lake** 29.82 12 P P 02 31 36.8 -1.4
baz=196,SNR=6.4
F37A **Hinrichs Farm,** 29.85 8 P P 02 31 37.1 -1.3
baz=192
F36A **Milaca** 29.87 7 P P 02 31 37.3 -1.3
baz=190,SNR=9.7
G41A **Antigo** 29.98 13 P P 02 31 38.3 -1.2
baz=198,SNR=7.4
AFDM **Forest Hills D** 29.99 323 eP P 02 31 41.9 +2.1
comp=Z,3.6nm,0.9s
M54A **Oil Creek Stat** 30.02 29 P P 02 31 39.1 -0.8
baz=218
M54A **Oil Creek Stat** 30.02 29 eP P 02 31 40.2 +0.2
comp=Z,66nm,1.8s
G42A **Mountain** 30.18 14 P P 02 31 40.0 -1.2
baz=200,SNR=5.3
F38A **Pierce - Schro** 30.19 9 P P 02 31 40.4 -1.0
baz=193
RLMT **Red Lodge** 30.22 345 eP P 02 31 44.2 +2.4
comp=Z,68nm,1.9s
SSPA **Standing Stone** 30.23 32 P P 02 31 40.9 -0.9
baz=222
SSPA **Standing Stone** 30.23 32 eP P 02 31 41.6 -0.2
comp=Z,75nm,2.0s
YMR **Madison River** 30.26 342 eP P 02 31 45.3 +3.1
comp=Z,30nm,1.5s
E31A **Nome** 30.28 1 P P 02 31 40.9 -1.2
baz=182
E33A **Westby DABS, E** 30.29 3 P P 02 31 41.0 -1.2
baz=185
F39A **Loretta** 30.31 11 P P 02 31 41.2 -1.3
baz=195,SNR=6.6
E32A **Braaten, Kindr** 30.33 2 P P 02 31 41.8 -0.8
baz=183
YHH **Holmes Hill** 30.34 343 eP P 02 31 45.7 +2.7
comp=Z,12nm,1.3s
ERPA **Erie** 30.36 28 P P 02 31 41.6 -1.3
baz=217
E34A **Wadena** 30.36 5 P P 02 31 42.0 -0.8
baz=187
G43A **Wallace** 30.38 15 P P 02 31 42.0 -1.0
baz=201
HLID **Hailey** 30.44 337 P P 02 31 42.6 -1.2
baz=149
HLID **Hailey** 30.44 337 eP P 02 31 44.9 +1.1
comp=Z,8.0nm,1.1s
F40A **Park Falls** 30.46 12 P P 02 31 42.7 -1.0
baz=196,SNR=12
E35A **Pequot Lakes** 30.47 6 P P 02 31 42.9 -0.9
baz=188,SNR=7.4
F41A **Three Lakes** 30.50 13 P P 02 31 43.1 -1.0
baz=198
E37A **Wrenshall** 30.71 8 P P 02 31 44.9 -1.0
baz=192
F42A **Maple Grove Fa** 30.74 14 P P 02 31 45.1 -1.1
baz=200
D31A **Mcclaflin, Tow** 30.77 1 P P 02 31 45.4 -1.1
baz=182
E39A **Mellen** 30.82 11 P P 02 31 45.8 -1.1
baz=195,SNR=9.9
COWI **Conover** 30.84 13 eP P 02 31 47.6 +0.5
comp=Z,19nm,1.0s
GLMI **Grayling** 30.86 20 P P 02 31 46.4 -0.9
baz=207
MFID **Camas Ranch** 30.87 335 eP P 02 31 49.9 +2.4
comp=Z,9.5nm,1.0s
E38A **The Farm, Brul** 30.87 9 P P 02 31 46.3 -1.0
baz=193,SNR=8.9
D32A **Dogwood Acres,** 30.88 2 P P 02 31 46.2 -1.2
baz=183
D34A **Park Rapids** 30.93 4 P P 02 31 46.6 -1.2
baz=186
D33A **AnnSam, Waubun** 30.94 4 P P 02 31 46.7 -1.2
baz=185
GCMT **Greyclift** 30.94 345 eP P 02 31 49.7 +1.5
MCMT **McKenzie Canyo** 30.99 340 eP P 02 31 51.5 +2.8
E40A **Wakefield** 31.01 12 P P 02 31 47.6 -1.0
baz=196,SNR=15
D35A **Remer** 31.02 6 P P 02 31 48.0 -0.7
baz=188
LAO **LASA Array** 31.07 350 P P 02 31 48.6 -0.5
baz=166
LAO **LASA Array** 31.07 350 eP P 02 31 48.8 -0.4
comp=Z,7.8nm,0.9s
E41A **Kenton** 31.22 13 P P 02 31 49.7 -0.7
baz=198
D37A **Cotton** 31.29 8 P P 02 31 49.7 -1.3
baz=192,SNR=9.4
BOZ **Bozeman (W)** 31.30 342 P P 02 31 51.7 +0.3
baz=156
WVOR **Wild Horse Val** 31.31 331 eP P 02 31 53.5 +2.1
WVOR pmax pmax
comp=Z,60nm,1.9s
WVOR **Wild Horse Val** 31.31 331 eP P 02 31 53.5 +2.1
comp=Z,60nm,1.9s
F45A **CMU Biological** 31.36 18 P P 02 31 50.3 -1.4
baz=204
F44A **Big Bay de Noc** 31.37 16 P P 02 31 50.1 -1.7
baz=203,SNR=9.0
O03D **Paynes Creek** 31.38 325 P P 02 31 51.0 -1.1
baz=134
DLMT **Dillon** 31.38 341 eP P 02 31 53.8 +1.7
comp=Z,24nm,1.1s
E42A **Champion** 31.42 14 P P 02 31 51.1 -1.1
baz=200
C34A **RKJ Ranch, Bem** 31.51 5 P P 02 31 52.0 -1.0
baz=187
C31A **Landman Farms,** 31.52 1 P P 02 31 51.8 -1.2
baz=182,SNR=8.0
N59A **State Game Lan** 31.55 34 P P 02 31 52.6 -0.8
baz=225
C33A **Trail** 31.56 4 P P 02 31 52.2 -1.2
baz=185
MTP **Monte Pirata** 31.56 82 eP P 02 31 53.6 -0.2
comp=Z,42nm,0.9s
MDND **Maddock** 31.57 359 P P 02 31 52.8 -0.8
baz=178,SNR=7.5
MDND **Maddock** 31.57 359 eP P 02 31 53.8 +0.2
comp=Z,123nm,0.9s
C32A **Crookston** 31.58 3 P P 02 31 52.7 -0.9
baz=184
E43A **Lone Tree Farm** 31.59 15 P P 02 31 52.9 -0.8
baz=202

C35A **Jirik Farms, M** 31.64 6 P P 02 31 53.0 -1.1
baz=188
F46A **Macinaw City C** 31.67 19 P P 02 31 53.4 -1.0
baz=206
MOD **Modoc Plateau** 31.72 328 eP P 02 31 57.5 +2.4
comp=Z,15nm,1.0s
MMNY **Mt. Morris Dam** 31.80 30 eP P 02 31 56.0 +0.4
comp=Z,93nm,1.8s
C36A **Pine Crest Far** 31.82 7 P P 02 31 54.5 -1.2
baz=191,SNR=6.6
D41A **Chassel** 31.87 13 P P 02 31 55.4 -0.7
baz=198,SNR=6.5
C37A **Embarrass** 31.88 8 P P 02 31 55.2 -1.0
baz=192
J08A **Circle Bar Ran** 31.95 332 eP P 02 31 58.5 +1.5
comp=Z,16nm,0.9s
C38A **Sawbill Land,** 32.00 9 P P 02 31 55.7 -1.6
baz=193,SNR=6.6
BRNJ **Basking Ridge** 32.05 36 eP P 02 31 57.8 +0.1
comp=Z,12nm,0.8s
E45A **Wooded Hills,** 32.07 18 P P 02 31 57.2 -0.7
baz=205
B33A **Robert and Kas** 32.08 4 P P 02 31 56.7 -1.2
baz=186,SNR=6.6
AGMN **Agassiz Nation** 32.09 3 P P 02 31 57.2 -0.8
baz=185,SNR=31
AGMN **Agassiz Nation** 32.09 3 eP P 02 31 58.0 -0.1
comp=Z,40nm,0.8s
B31A **Greenbush Farm** 32.15 1 P P 02 31 57.8 -0.8
baz=182
B32A **Ashes, Strandq** 32.15 3 P P 02 31 57.8 -0.8
baz=184,SNR=27
EYMN **Ely** 32.19 9 P P 02 31 58.1 -0.9
baz=193
EYMN **Ely** 32.19 9 eP P 02 31 59.1 +0.2
comp=Z,8.4nm,0.9s
C39A **Grand Marais** 32.29 11 P P 02 31 58.4 -1.4
baz=195
B35A **Bob, Littlefor** 32.32 6 P P 02 31 59.1 -1.0
baz=189,SNR=6.2
BINY **Binghamton** 32.35 32 P P 02 31 59.5 -0.9
baz=223
BINY **Binghamton** 32.35 32 eP P 02 32 00.2 -0.2
comp=Z,16nm,1.0s
B34A **Aery, Baudette** 32.36 5 P P 02 31 59.3 -1.1
baz=187,SNR=7.3
PAL **Palisades** 32.63 36 P P 02 32 02.1 -0.8
baz=228
BMO **Blue Mountains** 32.65 335 eP P 02 32 03.4 +0.2
BMO pmax pmax
comp=Z,9.0nm,1.0s
BMO **Blue Mountains** 32.65 335 eP P 02 32 03.4 +0.2
comp=Z,9.4nm,1.0s
A32A **Rocking H Ranc** 32.68 3 P P 02 32 02.3 -0.9
baz=184,SNR=5.6
A33A **Warroad** 32.76 4 P P 02 32 03.2 -0.7
baz=186,SNR=12
YBH **Yreka Blue Hor** 32.86 326 LR LR 02 45 28.0
comp=Z,387nm,18.3s,baz=150,slow=36
MSO **Missoula** 33.12 341 P P 02 32 06.9 -0.3
baz=153
BUKO **Buck Lake** 33.29 25 P P 02 32 07.5 -1.1
baz=215,SNR=10
PCRV **Puerto La Cruz** 33.52 96 LR LR 02 48 01.4
comp=Z,466nm,18.2s,baz=278,slow=40
F10A **Beach Ranch, E** 33.55 336 eP P 02 32 11.6 +0.6
comp=Z,31nm,1.0s
G08A **Pilot Rock** 33.70 334 eP P 02 32 12.9 +0.6
comp=Z,12nm,1.0s
ULM **Lac du Bonnet** 34.03 3 P P 02 32 14.0 -1.1
comp=Z,8.8nm,0.8s,baz=180,slow=8.7,SNR=24
ULM LR LR 02 48 13.1
comp=Z,298nm,20.2s,baz=184,slow=40
ULM **Lac du Bonnet** 34.03 3 eP P 02 32 14.9 -0.1
ULM pmax pmax
comp=Z,9.0nm,0.8s
ULM **Lac du Bonnet** 34.03 3 eP P 02 32 13.9 -1.1
comp=Z,16nm,0.9s
E09A **Wood Farm, Sta** 34.35 336 eP P 02 32 18.8 +0.9
comp=Z,9.1nm,0.9s
LONY **Lake Ozonia** 34.81 31 P P 02 32 20.5 -1.3
baz=223
LONY **Lake Ozonia** 34.81 31 eP P 02 32 21.9 0.0
comp=Z,9.1nm,1.0s
C09A **Chrisman Ranch** 35.47 337 eP P 02 32 28.8 +1.4
comp=Z,35nm,0.3s
LTY **Liberty** 35.98 334 eP P 02 32 34.1 +2.2
comp=Z,101nm,1.9s
TRQ **Mont Tremblant** 36.01 29 eP P 02 32 33.1 +0.9
PKME **Peaks-Kenny Pk** 37.98 34 P P 02 32 48.4 -0.4
baz=230
FFC **Flin Flon** 38.54 357 eP P 02 32 53.5 0.0
FFC pmax pmax
comp=Z,18nm,1.0s
FFC **Flin Flon** 38.54 357 eP P 02 32 53.5 0.0
comp=Z,18nm,1.0s
EDM **Edmonton** 38.73 346 eP P 02 32 55.1 -0.1
EDM pmax pmax
comp=Z,35nm,0.9s
EDM **Edmonton** 38.73 346 eP P 02 32 55.1 -0.1
comp=Z,35nm,0.9s
LLLB **Lilooet** 39.13 336 eP P 02 33 00.5 +2.0
comp=Z,30nm,1.3s
FCC **Fort Churchill** 42.63 3 eP P 02 33 27.3 +0.1
FCC pmax pmax
comp=Z,21nm,1.3s
FCC **Fort Churchill** 42.63 3 eP P 02 33 27.2 +0.1
comp=Z,21nm,1.3s
LPAZ **La Paz** 44.07 136 P P 02 33 39.8 -0.3
comp=Z,1.1nm,0.8s,baz=338,slow=9.7,SNR=4.5
LPAZ LR LR 02 50 58.0
comp=Z,333nm,18.8s,baz=314,slow=35
LPAZ **La Paz** 44.07 136 eP P 02 33 39.3 -0.8
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ **La Paz** 44.07 136 eP P 02 33 40.7 +0.6
comp=Z,16nm,1.8s
RPN **Rapa Nui** 44.32 194 LR LR 02 47 35.6
comp=Z,296nm,22.0s,baz=77,slow=30
SCHQ **Schefferville** 45.65 25 P P 02 33 50.9 -0.6
comp=Z,21nm,0.8s,baz=230,slow=7.8,SNR=32
SCHQ LR LR 02 55 36.9
comp=Z,447nm,18.9s,baz=188,slow=40
SCHQ **Schefferville** 45.65 25 eP P 02 33 51.4 -0.1
comp=Z,33nm,1.0s
YKA **Yellowknife Ar** 47.61 350 P P 02 34 05.8 -0.9
comp=Z,4.6nm,0.8s,baz=159,slow=7.4,SNR=54
YKA LR LR 02 56 06.7
comp=Z,73nm,18.1s,baz=180,slow=38
YKW3 **Yellowknife Ar** 47.67 350 eP P 02 34 06.3 -0.9
comp=Z,22nm,1.4s
TAOE **Nuku Hiva Isla** 48.12 242 eLR LR 02 47 35.7
comp=Z,464nm,24.0s
TAOE **Nuku Hiva Isla** 48.12 242 eT T 03 25 24.6
comp=Z,40nm,0.2s
DLBC **Dease Lake** 48.18 338 eP P 02 34 13.5 +2.1
comp=Z,44nm,1.6s
HYT **Haines Junctio** 52.58 337 eP P 02 34 46.8 +2.2
comp=Z,47nm,1.8s
RKT **Rikitea** 52.88 223 eLR LR 02 49 50.5
comp=Z,580nm,25.2s
RKT **Rikitea** 52.88 223 eT T 03 31 20.5
comp=Z,31nm,0.3s
DAWY **Dawson** 55.35 340 eP P 02 35 09.8 +5.0
comp=Z,5.5nm,1.0s
KLU **Klutina** 56.26 335 eP P 02 35 14.0 +2.6
comp=Z,21nm,1.2s
EGAK **Eagle** 56.40 340 eP P 02 35 12.5 +0.4
INK **Inuvik** 56.63 345 eP P 02 35 13.7 0.0
INK pmax pmax
comp=Z,13nm,0.9s
INK **Inuvik** 56.63 345 eP P 02 35 13.7 0.0
comp=Z,13nm,0.9s
DOT **Dot Lake** 56.73 338 eP P 02 35 17.1 +2.4
comp=Z,54nm,1.2s
PAX **Paxson** 56.88 337 eP P 02 35 16.8 +1.0
PAX pmax pmax
comp=Z,12nm,1.0s
PAX **Paxson** 56.88 337 eP P 02 35 16.8 +1.0
comp=Z,12nm,1.0s
SCRK **Sand Creek** 56.90 338 eP P 02 35 17.1 +1.2
comp=Z,12nm,1.0s
RIDG **Independ'e Rid** 57.07 337 eP P 02 35 18.3 +1.2
comp=Z,23nm,1.0s
PMR **Palmer** 57.64 334 eP P 02 35 21.3 +0.3
PMR pmax pmax
comp=Z,10.0nm,0.9s
PMR **Palmer** 57.64 334 eP P 02 35 21.3 +0.3
comp=Z,9.7nm,0.9s
PMOR **Pomariorio Ree** 57.76 240 eT T 03 37 26.8
comp=Z,6.3nm,0.2s
HDA **Harding Lake** 58.22 338 eP P 02 35 25.4 +0.3
comp=Z,12nm,0.9s
SUA **Susitna One** 58.27 334 eP P 02 35 26.5 +0.9
comp=Z,29nm,0.9s
IL1 **Eielson Array** 58.39 338 eP P 02 35 25.6 -0.6
ILAR **Eielson Array** 58.39 338 P P 02 35 26.1 -0.2
comp=Z,6.4nm,1.0s,baz=130,slow=4.8,SNR=36
ILAR LR LR 03 03 42.8
comp=Z,395nm,19.4s,baz=138,slow=39
ILAR **Eielson Array** 58.39 338 eP P 02 35 26.6 +0.4
ILAR pmax pmax
comp=Z,8.0nm,1.1s
RND **Reindeer** 58.42 336 eP P 02 35 28.4 +1.8
comp=Z,26nm,1.1s
RES **Resolute Bay** 58.53 1 LR LR 03 03 45.2
comp=Z,300nm,18.9s,baz=215,slow=39
RES **Resolute Bay** 58.53 1 eP P 02 35 25.6 -1.4
RES pmax pmax
comp=Z,6.0nm,0.9s
RES **Resolute Bay** 58.53 1 eP P 02 35 25.6 -1.4
comp=Z,5.8nm,0.9s
MCK **McKinley** 58.61 336 eP P 02 35 28.5 +0.6
comp=Z,13nm,0.9s
CCB **Clear Creek Bu** 58.66 338 eP P 02 35 28.6 +0.5
comp=Z,22nm,1.7s
WRH **Wood River Hil** 58.67 337 eP P 02 35 29.1 +0.9
comp=Z,8.6nm,1.0s
SPU **Mount Spurr** 58.71 333 eP P 02 35 29.1 +0.6
COLA **College** 58.79 338 ⇑iP P 02 35 28.4 -0.6
COLA i XP sP 02 35 36.9 +1.2
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA **College** 58.79 338 eP P 02 35 27.3 -1.7
comp=Z,4.3nm,0.7s
MDM **Murphy Dome** 58.98 338 eP P 02 35 31.1 +0.7
comp=Z,6.4nm,0.9s
TRF **Thorofare Moun** 59.00 336 eP P 02 35 31.3 +0.6
comp=Z,33nm,0.9s
KTH **Kantishna Hill** 59.30 336 eP P 02 35 32.9 +0.2
comp=Z,16nm,0.9s
SFJD **Kangerlussuaq** 59.47 20 LR LR 03 03 16.3
comp=Z,164nm,19.0s,baz=226,slow=38
SFJD **Kangerlussuaq** 59.47 20 i P P 02 35 34.4 +0.7
SFJD **Kangerlussuaq** 59.47 20 i P P 02 35 34.4 +0.7
SFJD **Kangerlussuaq** 59.47 20 eP P 02 35 34.9 +1.2
comp=Z,20nm,1.0s
BPAW **Bear Paw Mtn.** 59.58 336 eP P 02 35 34.7 +0.1
comp=Z,13nm,1.1s
CAST **Castle Rocks** 59.70 335 eP P 02 35 35.3 -0.1
comp=Z,18nm,0.9s
MLY **Manley** 59.93 337 eP P 02 35 37.5 +0.5
comp=Z,17nm,1.0s
SVW2 **Sparrevohn** 60.25 332 eP P 02 35 38.5 -0.6
comp=Z,16nm,1.0s
PPT2 **Papeete2** 60.46 238 eLQ LQ 02 50 44.9
comp=Z,489nm,32.5s
PPT2 eLR LR 02 53 12.6
comp=Z,336nm,26.8s,baz=49
COLD **Coldfoot** 60.83 340 eP P 02 35 44.1 +1.1
comp=Z,40nm,2.0s
TOLK **Toolik Lake Re** 61.36 341 P P 02 35 46.8 +0.2
baz=122
TOLK **Toolik Lake Re** 61.36 341 eP P 02 35 47.8 +1.1
comp=Z,18nm,1.4s
PLCA **Paso Flores** 62.32 156 P P 02 35 53.2 -0.2
comp=Z,2.3nm,1.0s,baz=322,slow=12,SNR=2.8
PLCA LR LR 02 57 23.8
comp=Z,235nm,18.5s,baz=346,slow=31
PLCA **Paso Flores** 62.32 156 eP P 02 35 57.8 +4.3
PLCA pmax pmax
comp=Z,5.0nm,0.9s
PLCA **Paso Flores** 62.32 156 eP P 02 35 57.9 +4.4
comp=Z,12nm,1.2s
TBI **Tubuai** 63.42 233 eLR LR 02 54 43.3
comp=Z,375nm,25.5s
TBI **Tubuai** 63.42 233 eT T 03 44 32.5
comp=Z,24nm,0.3s
SUMG **Summit** 65.88 17 eP P 02 36 17.1 +0.3
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG **Summit** 65.88 17 i P P 02 36 17.1 +0.3
comp=Z,25nm,1.0s
SUMG **Summit** 65.88 17 eP P 02 36 17.1 +0.3
comp=Z,18nm,0.9s
GAMB **Gambell** 68.16 333 eP P 02 36 32.8 +1.8
comp=Z,10nm,1.3s
BORG **Borgarnes** 70.03 26 LR LR 03 08 00.8
comp=Z,104nm,19.7s,baz=316,slow=36
DAG **Danmarks Havn** 72.03 14 i P P 02 36 53.7 -0.8
DAG **Danmarks Havn** 72.03 14 i P P 02 36 53.7 -0.8
BILL **Bilibino** 77.04 337 i P P 02 37 23.6 -0.2
BILL i 02 37 30.2
BILL pmax pmax
comp=Z,6.0nm,1.0s
SPITS **Spitsbergen Ar** 79.18 11 LR LR 03 15 26.5
comp=Z,271nm,18.2s,baz=340,slow=38
ALMR **Almeirim** 79.94 52 eP P 02 37 41.1 +0.8
ALMR AMb AMB 02 37 41.5
comp=Z,19nm,1.1s
ALMR **Almeirim** 79.94 52 eP P 02 37 41.3 +1.0
PMTG **Montargil** 80.22 52 eP P 02 37 42.4 +0.5
MTE **Manteigas** 80.44 51 eP P 02 37 43.6 +0.5
PBRG **Braganca** 80.71 49 eP P 02 37 44.7 +0.2
PBEJ **Beja** 80.73 53 eP P 02 37 45.3 +0.6
PESTR **Estremoz** 80.75 52 eP P 02 37 45.3 +0.5
PMRV **Marv??o** 80.77 52 eP P 02 37 45.3 +0.4
ESDC **Sonseca Array** 83.28 51 P P 02 37 58.3 +0.2
comp=Z,1.7nm,0.8s,baz=302,slow=4.8,SNR=8.6
ESDC LR LR 03 14 54.6
comp=Z,155nm,18.0s,baz=315,slow=36
ES19 **SONSECA Array** 83.32 51 eP P 02 37 58.6 +0.3
SEY **Seymchan** 84.09 334 ⇓iP P 02 38 02.1 +0.4
NB2 **NORSAR Subarra** 85.18 27 P P 02 38 08.1 +0.8
comp=Z,1.6nm,0.7s,baz=300,slow=5.1
NOA **NORSAR Array B** 85.18 27 P P 02 38 08.0 +0.8
comp=Z,1.7nm,0.8s,baz=300,slow=4.9,SNR=6.8
NOA LR LR 03 16 03.5
comp=Z,43nm,21.7s,baz=285,slow=36
PETK **Petropavlovsk-** 85.22 324 P P 02 38 07.6 0.0
comp=Z,9.1nm,0.9s,baz=84,slow=14,SNR=3.7
PETK **Petropavlovsk-** 85.22 324 eP P 02 38 07.4 -0.2
PETK pmax pmax
comp=Z,9.0nm,0.9s
DOU **Dourbes** 85.91 39 ⇓P P 02 38 11.7 +0.6
comp=Z,11nm,2.4s
ARCES **ARCESS Array B** 85.97 17 eP P 02 38 11.2 +0.2
ARCES pmax pmax
comp=Z,4.0nm,0.9s
BCLA **Clavier** 86.22 38 ⇓P P 02 38 12.9 +0.3
MEM **Membach** 86.57 38 ⇑P P 02 38 15.6 +1.3
HFS **Hagfors** 86.68 28 LR LR 03 19 31.4
comp=Z,70nm,18.7s,baz=287,slow=37
TIXI **Tiksi** 86.73 346 ⇓iP P 02 38 14.3 -0.4
TIXI pmax pmax
comp=Z,5.0nm,1.4s
TIXI **Tiksi** 86.73 346 eP P 02 38 14.8 +0.2
comp=Z,29nm,1.7s
WLF **Wallerdange** 87.00 39 ⇓P P 02 38 17.3 +0.8
LVZ **Lovozero** 89.56 16 ⇑iP P 02 38 29.0 +0.7
LVZ pmax pmax
comp=Z,20nm,1.3s
FINES **FINESS Array B** 91.10 23 LR LR 03 20 12.5
comp=Z,97nm,20.9s,baz=308,slow=36
GERES **GERESS Array B** 91.84 38 LR LR 03 21 47.0
comp=Z,90nm,18.1s,baz=304,slow=37
YAK **Yakutsk** 93.28 339 ⇑iP P 02 38 45.8 +0.2
YAK pmax pmax
comp=Z,20nm,1.3s
TORD **Torodi Ar. Bea** 95.95 75 P P 02 38 57.5 -1.4
comp=Z,0.9nm,0.9s,baz=295,slow=3.6,SNR=4.6
KLMR **Klimovskoe** 96.21 19 eP P 02 38 57.3 -1.7
KLMR e 02 42 53.8
KLMR pmax pmax
comp=Z,10.0nm,1.5s
KLMR **Klimovskoe** 96.21 19 eP P 02 38 57.3 -1.7
KLMR AMP 02 39 07.2
comp=Z,10.0nm,1.5s
KLMR ePP PP 02 42 53.8 +2.4
VAE **Valguarnera** 97.48 48 LR LR 03 21 04.7
comp=Z,241nm,18.8s,baz=340,slow=34
AKASG **Malin Array Be** 99.22 31 LR LR 03 28 29.5
comp=Z,70nm,18.6s,baz=345,slow=38
HHC **Hu-ho-hao-te** 116.74 335 ePKP PKPdf 02 44 17.8 +1.9

WMQ	**Urumqi**	**120.00**	**355**	PKP	**PKPdf**	02 44 23.8	**+1.7**
WMQ				LR	LR		
	comp=Z,230nm,15.7s						
WMQ				LR	LR		
	comp=Z,290nm,28.1s						
NJ2	**Nanjing**	**120.12**	**323**	*e*PKP	**PKPdf**	02 44 24.6	**+2.1**
GEYT	**Alibeck**	**121.87**	**22**	PKP	**PKPdf**	02 44 25.6	**-0.2**
	comp=Z,1.1nm,0.6s,baz=338,slow=3.2,SNR=4.1						
LZH	**Lanzhou**	**123.85**	**338**	*e*PKP	**PKPdf**	02 44 32.5	**+2.7**
LZH				sPKP		02 44 37.1	
LZH				LR	LR		
	comp=Z,140nm,18.1s						
LZH				LR	LR		
	comp=Z,200nm,20.1s						
CD2	**Chengdu**	**128.49**	**335**	PKP	**PKPdf**	02 44 39.4	**+0.7**
WRA	**Warramunga Arr**	**129.75**	**257**	PKP	**PKPdf**	02 44 40.6	**-0.6**
	comp=Z,1.2nm,0.9s,baz=67,slow=1.7,SNR=4.0						
ASAR	**Alice Springs**	**130.36**	**253**	PKP	**PKPdf**	02 44 41.7	**-0.6**
	comp=Z,0.5nm,0.7s,baz=106,slow=3,SNR=3.2						
GYA	**Guiyang**	**131.03**	**330**	*e*Pdif	**Pdif**	02 41 34.5	**-0.5**
GYA				PKP	**PKiKP**	02 44 44.3	**-0.3**
GYA				PP	**PP**	02 47 03.0	**+3.8**
HYB	**Hyderabad**	**146.48**	**5**	*i* PKP	**PKPdf**	02 45 12.0	**+0.1**

*IDC **21** 02:27:12.3±1.0, 7.89S×146.63E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/47, mbtmp4.0/6, ML3.6/2, Error ellipse: s-maj=39.4km s-min=18.3km az=79.0*
*ISCJB **21** 02:27:16.2±0.9, 7.89S±0.09×146.4E±0.1, h33km, mb3.9/4, Error ellipse: s-maj=21.8km s-min=11.1km az=156.8*
ISC 21 02:27:17.8±0.9,**7.9S**±0.1×**146.5E**±0.2,**h35**km,**n8,** σ1§**56**/9, **mb4.0/4, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.61**	**157**	Pn	**Pn**	**02 27 42.0**	**-1.7**
	13nm,0.3s,baz=345,slow=5.3,SNR=11						
PMG				Sn	**Sn**	02 28 06.1	+2.7
	31nm,0.3s,baz=254,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**16.80**	**223**	Pn	**Pn**	02 31 10.8	+0.3
	0.2nm,0.3s,baz=47,slow=11,SNR=19						
ASAR	**Alice Springs**	**19.79**	**216**	P	**P**	02 31 44.5	**-0.8**
	0.3nm,0.3s,baz=28,slow=12,SNR=21						
SONM	**Songino Array**	**65.84**	**332**	P	**P**	02 38 01.5	**+1.7**
	0.4nm,0.6s,baz=137,slow=6.3,SNR=3.5						
MKAR	**Makanchi Array**	**78.67**	**321**	P	**P**	02 39 16.6	**+0.2**
	0.8nm,0.7s,baz=97,slow=6.2,SNR=10						
QSPA	**South Pole Qui**	**82.07**	**180**	P	**P**	02 39 34.3	**-0.2**
	1.7nm,0.8s,baz=333,slow=2.6,SNR=4.8						
ILAR	**Eielson Array**	**87.41**	**23**	P	**P**	02 40 00.4	**-0.8**
	1.3nm,0.7s,baz=250,slow=4.8,SNR=12						
TORD	**Torodi Ar. Bea**	**145.05**	**282**	PKPbc	**PKPbc**	02 46 51.6	**-0.4**
	1.6nm,0.8s,baz=68,slow=4.6,SNR=11						

*ISCJB **21** 02:34:05.9±0.4, 5.44S±0.04×152.94E±0.06, h37km, mb4.5/29, MS3.7/2, Error ellipse: s-maj=8.6km s-min=5.6km az=15.1*
*NEIC **21** 02:34:07.9±2.6, 5.36S×152.90E, h39km±3km, mb4.6/21, Error ellipse: s-maj=19.5km s-min=12.9km az=74.0*
*IDC **21** 02:34:08.8±4.9, 5.56S×152.99E, h54km±42km, mb4.1/13, mb1 4.2/14, mb1mx4.0/48, mbtmp4.4/14, ML2.1/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/38, Error ellipse: s-maj=34.1km s-min=20.0km az=106.0*
ISC 21 02:34:07.7±0.5,**5.39S**±0.05×**152.96E**±0.08,**h37**km,**n65,** σ1§**66**/71,**mb4.5**/29,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.43**	**326**	*e*Pn	**Pn**	**02 34 31.8**	**+0.7**
RABL				*e*Sn	**Sn**	02 34 46.2	**-2.5**
PMG	**Port Moresby**	**7.00**	**235**	P	**Pn**	02 35 48.9	**+1.2**
	2.1nm,0.3s,baz=4.1,slow=7.4,SNR=7.9						
PMG				S	**Sn**	02 37 05.5	**-0.6**
	6.0nm,0.3s,baz=141,slow=20,SNR=13						
PMG	**Port Moresby**	**7.00**	**235**	*e*Pn	**Pn**	02 35 49.5	+1.8
PMG				*e*Sn	**Sn**	02 37 06.7	+0.6
HNR	**Honiara**	**8.01**	**121**	LR	LR	02 38 50.4	
	comp=Z,189nm,20.5s,baz=328,slow=36						
PATS	**Pohnpei**	**13.27**	**24**	*e*Pn	**Pn**	02 37 14.7	+1.1
CTAO	**Charters Tower**	**16.00**	**203**	*e*Pn	**P**	02 37 54.2	+1.0
	48nm,1.8s						
EIDS	**Eidsvold**	**19.95**	**185**	*e*P	**P**	02 38 36.1	**-0.6**
	12nm,0.8s						
DZM	**Mont Dzumac**	**21.10**	**143**	LR	LR	02 46 59.7	
	comp=Z,178nm,18.2s,baz=359,slow=37						
DZM	**Mont Dzumac**	**21.10**	**143**	*e*P	**P**	02 38 49.4	+0.1
	31nm,1.4s						
MTN	**Manton Dam**	**22.77**	**250**	*e*P	**P**	02 39 09.1	+2.0
	18nm,1.0s						
SARN	**Sarigan**	**23.07**	**342**	*e*S	**S**	02 43 16.0	**-2.7**
WRAB	**Tennant Creek**	**23.17**	**230**	*e*P	**P**	02 39 11.1	**0.0**
	10nm,0.6s						
WB2	**Warramunga Arr**	**23.17**	**230**	*e*P	**P**	02 39 09.5	-1.7
WB2				*e*S	**S**	02 43 21.2	+0.7
WR1	**Warramunga Arr**	**23.18**	**230**	*e*P	**P**	02 39 10.1	**-1.2**
	11nm,0.6s						
WRA	**Warramunga Arr**	**23.18**	**230**	P	**P**	02 39 10.1	**-1.2**
	5.4nm,0.7s,baz=54,slow=9.7,SNR=40						
AS01	**Alice Springs**	**25.80**	**223**	*e*P	**P**	02 39 34.2	**-1.2**
AS31	**Alice Springs**	**25.83**	**223**	*e*P	**P**	02 39 36.5	**+0.7**
	1.4nm,0.8s						
ASAR	**Alice Springs**	**25.83**	**223**	P	**P**	02 39 34.7	**-1.1**
	3.0nm,0.8s,baz=56,slow=9.0,SNR=21						
STKA	**Stephens Creek**	**28.42**	**201**	P	**P**	02 39 56.8	**-2.2**
	3.1nm,0.7s,baz=21,slow=11,SNR=6.2						
STKA	**Stephens Creek**	**28.42**	**201**	*e*P	**P**	02 39 57.5	**-1.5**
	1.6nm,1.0s						
FOZ	**Fox Glacier**	**40.80**	**161**	*e*P	**P**	02 41 43.4	**-2.0**
	20nm,1.3s						
TWG	**Pinlang**	**41.92**	**313**	*e*P	**P**	02 41 52.0	**-3.0**
	136nm,1.1s						
JNU	**Nakatsue**	**43.66**	**333**	*e*P	**P**	02 42 06.9	**-2.0**
	23nm,1.0s						
RAR	**Rarotonga**	**48.40**	**114**	LR	LR	03 00 31.1	
	comp=Z,128nm,18.9s,baz=99,slow=33						
NJ2	**Nanjing**	**49.40**	**321**	*e*P	**P**	02 42 55.4	+1.5
ASAJ	**Asahikawa**	**50.16**	**350**	*e*P	**P**	02 42 59.8	**+0.3**
	6.1nm,0.7s						
WHN	**Wuhan**	**51.39**	**316**	P	**P**	02 43 05.5	**-3.5**
USRK	**Ussuriysk Ar.**	**52.85**	**341**	P	**P**	02 43 20.0	**+0.3**
	2.8nm,0.8s,baz=178,slow=7.2,SNR=4.0						
XAN	**Xi'an**	**57.16**	**317**	P	**P**	02 43 50.6	**-0.4**
XAN				pP	pP	02 43 59.5	-2.6
CM31	**Chiang Mai Arr**	**58.27**	**295**	*e*P	**P**	02 43 59.5	+0.4
CM31				*e*PcP	**PcP**	02 44 47.3	**-2.8**
CMAR	**Chiang Mai Arr**	**58.27**	**295**	P	**P**	02 43 59.5	+0.4
	2.1nm,0.2s,baz=109,slow=4.8,SNR=6.3						
PETK	**Petropavlovsk-**	**58.41**	**3**	*e*P	**P**	02 44 00.5	+1.0
	10.0nm,0.6s,baz=160,slow=5.9,SNR=19						
PEA1	**Petropavlovsk-**	**58.42**	**3**	*e*P	**P**	02 44 00.5	+1.0
CD2	**Chengdu**	**59.24**	**311**	*e*P	**P**	02 44 05.8	+0.1
HHC	**Hu-ho-hao-te**	**59.62**	**324**	*e*P	**P**	02 44 08.9	+0.7
HHC				pP	pP	02 44 19.0	-0.3
HHC				sP	sP	02 44 22.9	-0.7
HHC				S	**S**	02 52 15.8	**-0.2**
HHC				sS	sS	02 52 32.5	-1.9
LZH	**Lanzhou**	**61.76**	**316**	*e*P	**P**	02 44 27.5	**+4.5**
LZH				pP	sP	02 44 39.3	+0.8
LZH				sP	pP	02 44 43.1	+8.9
LZH				*e*PP	**PP**	02 46 46.3	**+7.0**
SONA0	**Songino Array**	**66.90**	**328**	*e*P	**P**	02 44 56.9	+0.5
SONM	**Songino Array**	**66.90**	**328**	P	**P**	02 44 56.9	**+0.5**
	1.1nm,0.5s,baz=149,slow=5.9,SNR=12						
SONA1	**Songino Array**	**66.91**	**328**	*e*P	**P**	02 44 53.4	-3.0
CHGN	**Chignik**	**73.18**	**26**	*e*P	**P**	02 45 35.7	**+1.2**
	294nm,1.0s						
WMQ	**Urumqi**	**76.28**	**317**	P	**P**	02 45 53.8	**+1.0**
MK01	**Makanchi Array**	**80.86**	**319**	*e*P	**P**	02 46 17.9	**0.0**
MK31	**Makanchi Array**	**80.87**	**319**	*e*P	**P**	02 46 18.5	**+0.5**
MK32	**Makanchi Array**	**80.87**	**319**	*e*P	**P**	02 46 17.8	**-0.3**
MKAR	**Makanchi Array**	**80.87**	**319**	P	**P**	02 46 17.8	**-0.3**
	2.0nm,0.8s,baz=101,slow=6.1,SNR=12						
MKAR	**Makanchi Array**	**80.87**	**319**	*e*P	**P**	02 46 18.5	**+0.5**
	15nm,1.0s						
MAKZ	**Makanchi**	**81.08**	**319**	*e*P	**P**	02 46 19.7	**+0.6**
	3.8nm,0.9s						
MCK	**McKinley**	**81.34**	**22**	*e*P	**P**	02 46 20.3	**+0.2**
	7.3nm,1.0s						
ZAA0	**Zalesovo Array**	**81.73**	**326**	*e*P	**P**	02 46 22.1	**-0.3**
ZAA0				*e*pP	**pP**	02 46 32.5	**-1.3**
ZALV	**Zalesovo Beam**	**81.73**	**326**	P	**P**	02 46 21.7	**-0.7**
	2.8nm,0.6s,baz=109,slow=5.3,SNR=12						
ZAA1	**Zalesovo Array**	**81.73**	**326**	*e*P	**P**	02 46 21.6	**-0.7**
ILAR	**Eielson Array**	**82.64**	**22**	P	**P**	02 46 25.5	**-1.4**
	1.9nm,0.9s,baz=252,slow=4.7,SNR=10						
ILB	**Eielson Array**	**82.64**	**22**	*e*P	**P**	02 46 25.5	**-1.4**
KURK	**Kurchatov**	**84.33**	**322**	*e*P	**P**	02 46 35.8	**-0.1**
	8.6nm,1.4s						
KURK				*e*P	**P**	02 46 35.9	**0.0**
KURBB	**Kurchatov Arra**	**84.36**	**322**	P	**P**	02 46 35.9	**-0.1**
	1.2nm,0.7s,baz=104,slow=4.2,SNR=11						
AAK	**Ala-Archa**	**85.18**	**313**	*e*P	**P**	02 46 41.4	**+0.8**
	3.6nm,0.8s						
BVAR	**Borovoye Array**	**89.80**	**323**	P	**P**	02 47 01.9	**-0.5**
	2.9nm,0.6s,baz=104,slow=6.1,SNR=18						
BRVK	**Borovoye**	**89.87**	**323**	*e*P	**P**	02 47 02.4	**-0.4**
	4.7nm,1.0s						
NV01	**Mina Array Sit**	**92.32**	**52**	*e*P	**P**	02 47 14.9	**+0.1**
NVAR	**Mina Array Bea**	**92.32**	**52**	P	**P**	02 47 14.9	**+0.1**
	0.3nm,0.5s,baz=258,slow=4.5,SNR=4.1						
J08A	**Circle Bar Ran**	**92.62**	**47**	*e*P	**P**	02 47 17.1	**+1.2**
	11nm,0.3s						
LRM	**Limekiln Ridge**	**97.03**	**45**	*e*S	**S**	02 58 59.8	**+3.1**
GERES	**GERESS Array B**	**124.64**	**328**	PKP	**PKPdf**	02 53 03.2	**-0.3**
	0.6nm,0.7s,baz=84,slow=4.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**150.63**	**287**	PKPbc	**PKPbc**	02 53 56.3	**-0.6**
	4.0nm,0.8s,baz=53,slow=1.0,SNR=14						
TOA1	**Torodi Ar. Sit**	**150.64**	**287**	*e*PKPbc	**PKPbc**	02 53 56.3	**-0.6**

*TIF **21** 02:36:02.7, 41.42N×43.80E, h11km±1km*
*ISK **21** 02:36:02.6, 41.42N×43.78E, h2km, ML2.6/1*
*ISCJB **21** 02:36:03.2±0.6, 41.41N±0.04×43.79E±0.03, h3km±6km, Error ellipse: s-maj=6.5km s-min=3.9km az=161.3*
*CSEM **21** 02:36:03.3±0.1, 41.42N×43.78E, h2km, ML2.6, Error ellipse: s-maj=4.3km s-min=2.4km az=150.0*
ISC 21 02:36:03.4±1.0,**41.43N**±0.03×**43.80E**±0.02,**h7**km±10km, **n28,** σ0§**56**/46,**Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.23**	**266**	PG	**Pg**	**02 36 07.9**	**-0.2**
AKH				SG	**Sg**	02 36 11.9	+0.7
AKH	**Akhalkalaki**	**0.23**	**266**	P	**Pg**	02 36 07.8	**-0.2**
AKH				S	**Sg**	02 36 11.0	**-0.1**
AKH	**Akhalkalaki**	**0.23**	**266**	P	**Pg**	02 36 07.8	**-0.2**
AKH				S	**Sg**	02 36 11.0	**-0.1**
KZR	**Kazreti**	**0.47**	**95**	P	**Pg**	02 36 12.6	+0.2
KZR				S	**Sg**	02 36 19.1	+0.5
KZR	**Kazreti**	**0.47**	**95**	P	**Pg**	02 36 12.6	+0.2
KZR				S	**Sg**	02 36 19.1	+0.5
TBLG	**Delisi**	**0.77**	**66**	PG	**Pb**	02 36 18.7	**-0.5**
TBLG				SG	**Sb**	02 36 30.1	+0.2
TBLG	**Delisi**	**0.77**	**66**	P	**Pg**	02 36 18.2	**0.0**
TBLG				S	**Sb**	02 36 29.4	**-0.4**
TBLG	**Delisi**	**0.77**	**66**	P	**Pg**	02 36 18.2	**0.0**
TBLG	**Delisi**	**0.77**	**66**	*e*Pg	**Pb**	02 36 18.7	**-0.5**
TBLG				S	**Sb**	02 36 29.4	**-0.4**
TBLG				*e*Sg	**Sb**	02 36 30.1	+0.2
BTNK	**Botanikuri**	**0.79**	**71**	P	**Pg**	02 36 18.6	**-0.1**
BTNK				S	**Sb**	02 36 30.4	**-0.2**
BTNK	**Botanikuri**	**0.79**	**71**	P	**Pg**	02 36 18.6	**-0.1**
BTNK				S	**Sb**	02 36 30.4	**-0.2**
DUS	**Dusheti**	**0.95**	**45**	P	**Pb**	02 36 21.9	**-0.4**
DUS				S	**Sb**	02 36 36.2	+1.1
DUS	**Dusheti**	**0.95**	**45**	P	**Pb**	02 36 21.9	**-0.4**
DUS				S	**Sb**	02 36 36.2	+1.1
KARS	**Kars**	**0.97**	**215**	PG	**Pb**	02 36 21.8	**-0.8**
KARS	**Kars**	**0.97**	**215**	*e*Pg	**Pb**	02 36 21.8	**-0.8**
GUDG	**Gudauri**	**1.16**	**26**	P	**Pg**	02 36 25.1	**-0.5**
GUDG				S	**Sb**	02 36 41.0	**-0.2**
GUDG	**Gudauri**	**1.16**	**26**	P	**Pg**	02 36 25.1	**-0.5**
GUDG				S	**Sb**	02 36 41.0	**-0.2**
DGRG	**David-gareji**	**1.19**	**88**	P	**Pg**	02 36 25.0	**-1.1**
DGRG				S	**Sb**	02 36 41.8	**-0.1**
DGRG	**David-gareji**	**1.19**	**88**	P	**Pg**	02 36 25.0	**-1.1**
DGRG				S	**Sb**	02 36 41.8	**-0.1**
ONI	**Oni**	**1.19**	**348**	P	**Pg**	02 36 25.6	**-0.7**
ONI				S	**Sn**	02 36 42.9	**-0.2**
SENK	**Senkaya-Erzuru**	**1.40**	**232**	PN	**Pb**	02 36 29.7	**-0.3**
SENK	**Senkaya-Erzuru**	**1.40**	**232**	*e*Pn	**Pb**	02 36 29.7	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.48**	**167**	PN	**Pb**	02 36 30.9	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.48**	**167**	*e*Pn	**Pb**	02 36 30.9	**-0.4**
AGRB	**Hanur-Agry**	**1.95**	**199**	PN	**Pn**	02 36 37.6	**+0.4**
AGRB	**Hanur-Agry**	**1.95**	**199**	*e*Pn	**Pn**	02 36 37.6	**+0.4**
BAYT	**Ayd¨–ntepe-Bay**	**2.96**	**251**	PN	**Pn**	02 36 52.0	**+1.0**
BAYT	**Ayd¨–ntepe-Bay**	**2.96**	**251**	*e*Pn	**Pn**	02 36 52.0	**+1.0**

*ISCJB **21** 02:40:59.4±0.3, 35.77S±0.03×72.11W±0.06, h76km±3km, mb4.6/13, Error ellipse: s-maj=8.7km s-min=3.9km az=24.9*
*SJA **21** 02:40:59.6±0.7, 35.80S×72.01W, h57km±13km, ML4.0, MW3.8*
*GUC **21** 02:41:00.5±0.5, 35.79S×72.03W, h67km±5km, ML4.3*
*NEIC **21** 02:41:00.0±0.0, 35.79S×72.03W, h67km, mb4.6/11, ML4.3(GUC), After GUC.*
NEIC Felt [IV] at Cauquenes, Chanco, Curico, Empedrado, Maule, Parral, Pencahue, Romeral and San Javier; [III] at Chillan, Chillan Viejo, Cobquecura, Colbun, Constitucion, Duao, Iloca, Linares, Longavi, Molina, Pelarco, Pelluhue, Quirihue, San Clemente and Talca; [II] at Coelemu and Pichilemu.
*IDC **21** 02:41:02.0±3.1, 35.75S×71.82W, h72km±26km, mb4.0/7, mb1 4.1/10, mb1mx3.8/33, mbtmp4.2/10, MS3.1/2, Ms1 3.1/2, ms1mx3.0/28, Error ellipse: s-maj=30.6km s-min=16.1km az=93.0*
ISC 21 02:41:00.3±0.6,**35.73S**±0.03×**72.13W**±0.05,**h69**km±6km, **n78,** σ1§**37**/92,**mb4.7**/15,**2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.67**	**233**	*i* P	**Pn**	**02 41 14.9**	**+0.1**
COCH				*i* S	**Sn**	02 41 25.8	+0.4
COCH	**Cobquecura**	**0.67**	**233**	||*i* P	**Pn**	**02 41 15.1**	**+0.3**
COCH				*i* S	**Sn**	02 41 26.0	**+0.6**
COCH				IAML		02 41 28.6	
	comp=N,7μm,0.6s						
GO05	**HualaæØ**	**0.73**	**13**	*e*Pn	**Pn**	02 41 16.0	+0.4
GO05				*e*Sn	**Sn**	02 41 26.7	**0.0**
GO05	**HualaæØ**	**0.73**	**13**	*i* P	**Pn**	02 41 16.1	**+0.6**
GO05				*i* S	**Sn**	02 41 27.7	**+0.9**
GO05	**HualaæØ**	**0.73**	**13**	||*i* P	**Pn**	02 41 15.8	**+0.3**
GO05				*i* S	**Sn**	02 41 27.4	**+0.6**
GO05				IAML		02 41 28.8	
	comp=E,31μm,0.2s						
CCHI	**Chillan**	**0.87**	**177**	*i* P	**Pn**	02 41 18.4	**+1.3**
CCHI				*i* S	**Sn**	02 41 27.9	**-1.7**
CCHI	**Chillan**	**0.87**	**177**	*e*P	**Pn**	02 41 16.3	**-0.9**
CCHI				*i* S	**Sn**	02 41 28.0	**-1.7**
CCHI				IAML		02 41 34.8	
	comp=N,14μm,0.2s						
CCSP	**San Pedro de C**	**1.37**	**215**	*e*P	**Pn**	**02 41 23.1**	**-0.4**
CCSP				*i* S	**Sn**	02 41 40.4	**-0.4**
CCSP				IAML		02 41 50.0	
	comp=N,6μm,0.3s						
CANA	**Caviahue**	**2.32**	**159**	*i* P	**Pn**	**02 41 35.8**	**-0.6**
	comp=Z,635nm,0.8s						
CANA				IAML		02 41 57.5	
	comp=Z,635nm,0.8s						
LMEL	**Las Melosas**	**2.46**	**41**	||*i* P	**Pn**	**02 41 38.5**	**+0.2**
LMEL				*i* S	**Sn**	02 42 07.4	**+0.1**
LMEL				IAML		02 42 15.6	
	comp=N,4μm,0.2s						
ROC1	**El Roble**	**2.90**	**19**	*e*Pn	**Pn**	02 41 44.5	**+0.1**
ROC1				*e*Sn	**Sn**	02 42 17.5	**-0.6**
RFA	**San Rafael**	**3.14**	**73**	*i* P	**Pn**	**02 41 47.6**	**+0.1**
RFA				IAML		02 41 49.7	
	comp=Z,213nm,0.5s						
RFA				*i* S	**Sn**	02 42 24.7	**+0.8**
AVIZ	**Vizcacheras**	**3.73**	**54**	*i* P	**Pn**	02 41 58.3	**+2.7**
AAGR	**Agrelo**	**3.79**	**47**	*i* P	**Pn**	02 41 58.5	**+2.1**
ARCO	**CERRO ARCO**	**3.91**	**43**	*i* P	**Pn**	**02 42 01.1**	**+3.0**
	comp=Z,143nm,0.4s						
ARCO				IAML		02 42 18.7	
	comp=Z,143nm,0.4s						
ASAL	**Salagasta**	**4.15**	**42**	*i* P	**Pn**	**02 42 04.1**	**+2.8**
ASAL				*i* S	**Sn**	02 42 57.6	+8.9
AUSP	**Uspallata**	**4.17**	**34**	*i* P	**Pn**	**02 42 03.7**	**+1.9**
AUSP				*i* S	**Sn**	02 43 04.5	+15
RTLS	**Leoncito**	**4.57**	**32**	*i* P	**Pn**	**02 42 08.2**	**+0.9**
RTLS				IAML		02 43 15.2	
	comp=Z,172nm,0.5s						
RTCV	**Cerro Valdivia**	**4.88**	**39**	*i* P	**Pn**	**02 42 10.9**	**-0.3**
RTCV				*i* S	**Sn**	02 43 20.0	+14
ZON	**Zonda**	**5.07**	**36**	*i* P	**Pn**	**02 42 15.8**	**+2.0**
ZON				IAML		02 43 33.2	
	comp=Z,68nm,0.5s						
PLCA	**Paso Flores**	**5.15**	**167**	P	**Pn**	**02 42 15.5**	**+0.6**
	comp=Z,3.3nm,0.3s,baz=2.9,slow=12,SNR=195						
PLCA				LR	LR	02 44 18.8	
	comp=Z,160nm,21.0s,baz=304,slow=39						
PLCA	**Paso Flores**	**5.15**	**167**	*e*Pn	**Pn**	**02 42 15.6**	**+0.7**
PLCA	**Paso Flores**	**5.15**	**167**	*i* P	**Pn**	**02 42 15.2**	**+0.3**
PLCA				IAML		02 42 52.2	
	comp=Z,43nm,0.3s						
RTLL	**Cerro Villicun**	**5.34**	**36**	*i* P	**Pn**	**02 42 18.9**	**+1.4**
RTLL				*i* S	**Sn**	**02 43 17.6**	**-0.2**
RTLL				IAML		02 43 36.0	
	comp=Z,137nm,0.4s						
ACAN	**Cantantal**	**5.36**	**51**	*i* P	**Pn**	**02 42 19.5**	**+1.8**
AMOG	**MOGNA**	**5.66**	**34**	*i* P	**Pn**	**02 42 22.5**	**+0.6**
LCO	**Las Campanas**	**6.80**	**11**	*e*Pn	**Pn**	**02 42 37.0**	**-0.8**
LCO				*e*Sn	**Sn**	02 43 48.8	**-5.2**
LCO	**Las Campanas**	**6.80**	**11**	*i* P	**Pn**	**02 42 37.7**	**-0.1**
LCO				*i* S	**Sn**	**02 43 49.5**	**-4.5**
AGUA	**GUANDACOL**	**6.94**	**27**	*i* P	**Pn**	**02 42 40.6**	**+1.2**
APLL	**PUNTA DE LOS L**	**7.10**	**43**	*i* P	**Pn**	**02 42 39.1**	**-2.4**
	comp=Z,28nm,0.5s						
APLL				*i* S	**Sn**	**02 43 59.3**	**-1.5**
APLL				IAML		02 44 13.6	
	comp=Z,28nm,0.5s						
VCA	**Vinchina**	**7.72**	**27**	*i* P	**Pn**	**02 42 51.8**	**+1.5**
VCA				IAML		02 44 32.6	
	comp=Z,66nm,0.5s						
CYA	**Choya**	**9.03**	**38**	*i* P	**Pn**	**02 43 05.2**	**-2.8**
CYA				IAML		02 43 37.5	
	comp=Z,7.8nm,0.5s						
CHRN	**Cochrane**	**11.52**	**182**	*e*Pn	**Pn**	**02 43 39.9**	**-1.8**
PB01	**IPOC Station P**	**14.81**	**10**	*e*Pn	**Pn**	**02 44 25.8**	**-0.3**
CPUP	**Villa Florida**	**15.75**	**58**	P	**Pn**	**02 44 38.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=234,slow=13,SNR=4.5						
CPUP				LR	LR	02 51 09.1	
	comp=Z,104nm,20.5s,baz=288,slow=39						
CPUP	**Villa Florida**	**15.75**	**58**	*e*Pn	**Pn**	**02 44 38.4**	**+0.4**
	comp=Z,8.8nm,1.6s						
PB11	**IPOC Station P**	**16.06**	**8**	*e*Pn	**P**	**02 44 46.3**	**+2.1**
	comp=Z,16nm,0.9s						
MNMC	**Minye Minye**	**16.68**	**8**	*e*Pn	**Pn**	**02 44 50.6**	**+0.6**
	comp=Z,14nm,1.0s						
EFI	**East Falkland**	**18.85**	**152**	*e*P	**P**	**02 45 12.9**	**-1.7**
	comp=Z,197nm,1.7s						
LPAZ	**La Paz**	**19.69**	**11**	P	**Pn**	**02 45 26.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=186,slow=7.2,SNR=16						
LPAZ	**La Paz**	**19.69**	**11**	*e*P	**Pn**	**02 45 27.0**	**+0.4**
	comp=Z,6.1nm,0.7s						
SIV	**San Ignacio**	**22.00**	**29**	P	**P**	**02 45 48.0**	**-0.9**
	comp=Z,4.3nm,0.5s,baz=217,slow=9.6,SNR=27						
RCBR	**Riachuelo**	**44.63**	**57**	*e*P	**P**	**02 49 06.5**	**+0.2**
	comp=Z,16nm,1.1s						
VNA3	**Neumayer Olymp**	**47.79**	**157**	P	**P**	**02 49 30.7**	**+0.3**
VNA2	**Neumayer--Watz**	**48.45**	**157**	P	**P**	**02 49 34.8**	**-0.6**
	baz=287,slow=8.1						
SNAA	**Sanae**	**50.02**	**157**	P	**P**	**02 49 47.6**	**+0.2**
SNAA	**Sanae**	**50.02**	**157**	P	**P**	**02 49 47.7**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=311,slow=9.3,SNR=5.8						
SNAA	**Sanae**	**50.02**	**157**	*e*P	**P**	**02 49 47.7**	**+0.2**
	comp=Z,7.4nm,1.2s						
FDF	**Fort de France**	**51.25**	**14**	*e*P	**P**	**02 49 55.9**	**-1.3**
	comp=Z,50nm,1.2s						
QSPA	**South Pole Qui**	**54.51**	**180**	P	**P**	**02 50 22.4**	**+1.5**
	comp=Z,5.0nm,0.9s,baz=151,slow=3.9,SNR=8.1						
QSPA	**South Pole Qui**	**54.51**	**180**	*e*P	**P**	**02 50 22.3**	**+1.5**
	comp=Z,9.7nm,1.2s						
SHEL	**Horse Pasture**	**61.81**	**90**	*e*P

CMIG Sn Sn 02 56 10.1 +1.8
146nm,0.3s,baz=263,slow=18,SNR=4.4
CMIG Lg Lg 02 56 26.3
236nm,0.3s,baz=14,slow=18,SNR=16
CMIG LR LR 02 57 13.2
comp=Z,3µm,19.5s,baz=217,slow=46
JRQG Juriquilla Cam 4.51 334 *e*Pn **Pn 02 55 49.9 +4.2**
ZAIG Zacatecas 7.28 328 *e*Pn **Pn 02 56 25.5 +1.8**
ZAIG *e*Sn **Sn 02 57 41.8 -4.1**
TGUH Tegucigalpa,Un 10.98 102 *e*Pn **Pn 02 57 17.1 +2.8**
833A Chaparral WMA, 11.67 355 P **Pn 02 57 24.5 +0.9**
baz=175,SNR=12
LPIG La Paz 13.45 305 LR LR 03 02 28.6
comp=Z,576nm,20.6s,baz=79,slow=35
LTX Lajitas 13.55 340 *e*P **Pn 02 57 51.2 +1.8**
LTX Lajitas 13.55 340 *e*Pn **Pn 02 57 51.2 +1.8**
TXAR Lajitas Array 13.55 340 Pn **Pn 02 57 51.2 +1.8**
0.1nm,0.3s,baz=160,slow=15,SNR=13
TXAR LR LR 03 03 29.9
comp=Z,2µm,18.4s,baz=0.0,slow=39
TX31 Lajitas Ar. Si 13.55 340 *e*Pn **Pn 02 57 51.9 +2.4**
JCT Junction City 13.84 355 P **Pn 02 57 53.6 +0.2**
baz=174,SNR=11
JCT Junction City 13.84 355 *e*P **Pn 02 57 55.0 +1.6**
JCT Junction City 13.84 355 *e*Pn **Pn 02 57 55.0 +1.6**
435B Jarrell 14.10 3 P **Pn 02 57 57.3 +0.5**
baz=183,SNR=6.7
JTS JuntasAbangare 14.46 114 *e*P **P 02 58 05.4 -3.1**
JTS pmax pmax
comp=Z,64nm,0.8s
JTS JuntasAbangare 14.46 114 *e*P **P 02 58 05.4 -3.1**
comp=Z,64nm,0.8s
WHTX Lake Whitney, 15.31 3 P **Pn 02 58 12.7 -0.4**
baz=183,SNR=11
WHTX Lake Whitney, 15.31 3 *e*Pn **Pn 02 58 13.2 0.0**
comp=Z,364nm,1.1s
NATX Nacogdoches 15.42 12 P **Pn 02 58 14.8 +0.1**
baz=193,SNR=11
NATX Nacogdoches 15.42 12 *e*Pn **P 02 58 17.0 -2.0**
comp=Z,383nm,1.3s
445A Amite 15.82 26 P **Pn 02 58 19.6 -0.1**
baz=209
240A Hunter Patters 15.88 14 P **Pn 02 58 20.8 +0.1**
baz=196,SNR=9.1
ABTX Abilene, Hawle 15.96 356 P **Pn 02 58 21.1 -0.6**
baz=176,SNR=73
ABTX Abilene, Hawle 15.96 356 *e*Pn **Pn 02 58 22.0 +0.4**
comp=Z,197nm,0.9s
241A Mo Tay, Goldon 16.09 17 P **Pn 02 58 22.9 -0.3**
baz=198,SNR=7.8
344A Westbrook Farm 16.29 24 P **Pn 02 58 25.8 0.0**
baz=207
MNTX Cornudas Mount 16.30 338 P **Pn 02 58 26.5 +0.5**
baz=156,SNR=41
MNTX Cornudas Mount 16.30 338 *e*Pn **Pn 02 58 27.0 +1.0**
comp=Z,46nm,1.1s
WBCY West Bay, Gran 16.34 78 *e*Pn **Pn 02 58 25.6 -1.0**
comp=Z,280nm,1.3s
243A Waterproof 16.40 21 P **Pn 02 58 27.0 -0.2**
baz=204
345A Thompson Farm, 16.45 26 P **Pn 02 58 27.2 -0.6**
baz=209
140A Cam and Jess, 16.51 14 P **Pn 02 58 29.5 +1.0**
baz=196,SNR=20
FSCY Frank Sound, G 16.54 78 *e*Pn **P 02 58 30.2 -1.3**
comp=Z,458nm,1.5s
346A Big Creek Wild 16.76 27 P **Pn 02 58 30.6 -1.1**
baz=211
244A Avery, Jackson 16.84 23 P **Pn 02 58 30.7 -2.1**
baz=206,SNR=5.8
142A Monroe 16.87 19 P **Pn 02 58 33.4 +0.3**
baz=202
245A Little AP, Sta 17.14 25 P **Pn 02 58 35.9 -0.6**
baz=208
Z40A Long Farm, Mag 17.14 14 P **P 02 58 38.0 -0.1**
baz=196,SNR=37
448A Bay Minette 17.14 32 P **Pn 02 58 36.3 -0.2**
baz=216
143A Socs Landing, 17.18 20 P **Pn 02 58 37.3 +0.3**
baz=203,SNR=8.2
Z41A Richland Creek 17.29 16 P **P 02 58 39.8 +0.1**
baz=198,SNR=21
246A Jackson Lee, B 17.44 27 P **Pn 02 58 40.4 +0.1**
baz=211
144A Alexander Plac 17.46 23 P **Pn 02 58 38.9 -1.7**
baz=206
348A Jackson 17.51 31 P **Pn 02 58 39.8 -1.3**
baz=215
Z42A Norrel Spur, H 17.54 18 P **P 02 58 42.3 -0.2**
baz=201,SNR=15
WLAR White Oak Lake 17.62 15 *e*Pn **P 02 58 43.0 -0.3**
comp=Z,153nm,0.9s
145A Houston Renfro 17.62 24 P **Pn 02 58 42.1 -0.4**
baz=207
247A Quitman 17.71 28 P **Pn 02 58 43.5 -0.1**
baz=212,SNR=5.6
MSTX Muleshoe 17.71 348 P **Pn 02 58 43.2 -0.6**
baz=166,SNR=46
MSTX Muleshoe 17.71 348 *e*Pn **Pn 02 58 43.1 -0.7**
comp=Z,79nm,0.9s
319A Douglas 17.73 328 *e*Pn **P 02 58 46.0 +1.2**
comp=Z,42nm,0.8s
BRAL Brewton 17.75 33 P **P 02 58 44.9 +0.1**
baz=218,SNR=5.2
BRAL Brewton 17.75 33 *e*Pn **Pn 02 58 42.4 -1.8**
comp=Z,280nm,1.2s
349A Repton 17.82 33 P **Pn 02 58 43.8 -1.2**
baz=217
Y40A Okolona 17.89 14 P **Pn 02 58 46.1 +0.3**
baz=196,SNR=21
Y41A Eaglette Beard 17.93 16 P **Pn 02 58 46.1 -0.2**
baz=198,SNR=28
121A Cookes Peak, D 17.99 333 P **P 02 58 48.3 +0.6**
baz=150,SNR=17
121A Cookes Peak, D 17.99 333 *e*Pn **P 02 58 48.3 +0.6**
comp=Z,39nm,1.0s
146A Union 18.01 26 P **Pn 02 58 45.9 -1.4**
baz=210
WMOK Wichita Mounta 18.03 359 P **Pn 02 58 46.2 -1.4**
baz=179,SNR=30
WMOK Wichita Mounta 18.03 359 *e*P **Pn 02 58 46.3 -1.3**
WMOK pmax pmax
comp=Z,31nm,0.9s
WMOK Wichita Mounta 18.03 359 *e*Pn **Pn 02 58 46.3 -1.3**
comp=Z,31nm,0.9s
Y42A Garnett, Star 18.11 18 P **Pn 02 58 47.5 -1.0**
baz=200
248A Dixon Mills 18.15 30 P **P 02 58 49.4 +0.2**
baz=214,SNR=16
CCAR Cane Creek 18.19 18 *e*Pn **P 02 58 49.8 +0.1**
comp=Z,172nm,1.0s
X39A Fountain Ranch 18.20 11 P **Pn 02 58 48.8 -0.8**
baz=193,SNR=27
350A Dozier 18.33 34 P **P 02 58 51.1 -0.1**
baz=219,SNR=7.1
249A Camden 18.35 32 P **P 02 58 49.8 -1.7**
baz=216,SNR=7.5
147A Livingston 18.38 28 P **P 02 58 50.8 -1.0**
baz=212
Z45A Winona 18.40 24 P **P 02 58 51.2 -0.7**
baz=207
AMTX Amarillo 18.41 351 P **P 02 58 52.0 -0.2**
baz=170
AMTX Amarillo 18.41 351 *e*P **P 02 58 52.0 -0.2**
comp=Z,84nm,1.1s
X40A Basin Creek Fa 18.45 15 P **P 02 58 51.3 -1.2**
baz=197,SNR=14
957A Wimauma 18.50 51 P **P 02 58 52.0 -1.1**
baz=236
058A Arcadia 18.50 53 P **P 02 58 52.0 -1.2**
baz=239
X41A Kaden, Bauxite 18.53 15 P **P 02 58 52.4 -1.0**
baz=198,SNR=9.5
Z46A Louisville 18.54 26 P **P 02 58 52.6 -0.9**
baz=209
553A Crawfordville 18.54 41 P **P 02 58 52.2 -1.4**
baz=226
148A Greensboro 18.68 29 P **P 02 58 54.3 -0.8**
baz=214,SNR=18
Y44A Strider, Charl 18.73 21 P **P 02 58 55.2 -0.4**
baz=205
958A Wauchula 18.81 52 P **P 02 58 55.4 -1.2**
baz=238
X42A Stuttgart 18.83 17 P **P 02 58 55.7 -1.0**
baz=200
857A Zephyrhills 18.83 49 P **P 02 58 55.6 -1.2**
baz=235,SNR=6.5
UALR University of 18.84 15 *e*P **Pn 02 58 57.4 0.0**
comp=Z,145nm,1.0s
Y45A Yeager Farm, C 18.89 23 P **P 02 58 56.9 -0.4**
baz=207,SNR=7.8
Z47A Carrollton 18.92 27 P **P 02 58 56.8 -0.9**
baz=212,SNR=15
W39A Magazine 18.93 12 P **P 02 58 57.8 +0.1**
baz=194,SNR=42
554A Perry 18.95 42 P **P 02 58 55.8 -2.2**
baz=228
BNM Barren Site 18.96 338 *e*P **Pn 02 58 59.5 +0.4**
059A Moore Haven 18.97 54 P **P 02 58 55.3 -3.0**
baz=240
Y22D IRIS PASSCAL I 19.00 338 P **P 02 58 57.5 -1.2**
baz=154
Y22E IRIS PASSCAL I 19.00 338 P **P 02 58 57.7 -1.0**
baz=154
149A Jones 19.02 31 P **P 02 58 58.2 -0.6**
baz=216,SNR=24
X43A Marvell 19.02 19 P **P 02 58 59.1 +0.4**
baz=202,SNR=7.4
W40A Ferguson Farm, 19.07 13 P **P 02 58 59.2 -0.1**
baz=196,SNR=8.5
W40A Ferguson Farm, 19.07 13 *e*P **P 02 58 59.6 +0.3**
comp=Z,160nm,1.0s
LPM Los Pinos Moun 19.11 339 *e*P **Pn 02 59 02.5 +1.6**
352A Blakely 19.16 37 P **P 02 58 59.6 -0.8**
baz=222,SNR=5.1
Y46A Houston 19.17 25 P **P 02 59 00.3 -0.2**
baz=209,SNR=28
X44A Crenshaw 19.25 21 P **P 02 59 01.0 -0.3**
baz=204,SNR=9.6
W41B Gary Mavity, V 19.25 15 P **P 02 59 00.6 -0.6**
baz=198,SNR=16
TUC Tucson 19.25 326 P **Pn 02 59 02.3 -0.3**
baz=142
TUC Tucson 19.25 326 *e*P **Pn 02 59 03.4 +0.9**
TUC pmax pmax
comp=Z,29nm,1.1s
TUC Tucson 19.25 326 *e*P **Pn 02 59 03.4 +0.9**
comp=Z,29nm,1.1s
LRAL Lakeview Retre 19.27 30 P **P 02 59 01.7 +0.2**
baz=215,SNR=26
LRAL Lakeview Retre 19.27 30 *e*P **Pn 02 59 02.8 +0.1**
comp=Z,63nm,1.0s
LRAL *e*Sn **Sn 03 02 33.4 -4.8**
Z48A Northport 19.30 28 P **P 02 59 01.1 -0.7**
baz=213,SNR=34
TUL1 Leonard 19.33 6 P **P 02 59 01.6 -0.6**
baz=188,SNR=19
TUL1 Leonard 19.33 6 *e*P **P 02 59 01.8 -0.4**
comp=Z,295nm,1.0s
DWPF Disney Wildern 19.33 51 P **P 02 59 01.0 -1.3**
baz=237
DWPF Disney Wildern 19.33 51 *e*P **P 02 59 02.2 -0.1**
comp=Z,149nm,1.1s
757A Oxford 19.34 48 P **P 02 59 00.1 -2.2**
baz=234
WHAR Wooly Hollow 19.35 15 *e*P **P 02 59 02.5 +0.2**
comp=Z,94nm,1.0s
251A Midway 19.35 35 P **P 02 59 01.3 -1.1**
baz=220,SNR=10
LAZ Ladron 19.37 338 *e*P **P 02 59 02.6 -0.2**
150A Eclectic 19.42 33 P **P 02 59 03.1 0.0**
baz=218,SNR=30
555A McAlpin 19.44 44 P **P 02 59 02.0 -1.5**
baz=229
X45A UM Field Stati 19.45 23 P **P 02 59 03.3 -0.1**
baz=206,SNR=10
353A Camilla 19.48 39 P **P 02 59 04.2 +0.3**
baz=224,SNR=5.7
BCIP Isla Barro Col 19.49 110 *e*P **P 02 59 01.0 -3.1**
comp=Z,42nm,1.3s
OXF Oxford 19.52 23 P **P 02 59 03.8 -0.4**
baz=206
OXF Oxford 19.52 23 *e*P **P 02 59 04.8 +0.5**
OXF pmax pmax
comp=Z,104nm,1.0s
OXF Oxford 19.52 23 *e*P **P 02 59 04.8 +0.5**
comp=Z,104nm,1.0s
V39A Pettigrew 19.57 11 P **P 02 59 04.6 -0.3**
baz=194,SNR=53
W43A Forest City 19.60 19 P **P 02 59 05.5 +0.4**
baz=202
Y47A UCARC, Winfie 19.61 27 P **P 02 59 04.8 -0.4**
baz=211,SNR=16
ANMO Albuquerque 19.62 340 P **Pn 02 59 06.8 -0.3**
comp=Z,0.6nm,0.3s,baz=333,slow=12,SNR=54
ANMO LR LR 03 07 14.7
comp=Z,3µm,18.0s,baz=340,slow=38
ANMO Albuquerque 19.62 340 *e*P **Pn 02 59 06.8 -0.3**
ANMO pmax pmax
comp=Z,35nm,1.2s
ANMO Albuquerque 19.62 340 *e*P **Pn 02 59 06.8 -0.3**
comp=Z,33nm,1.1s
Z49A Columbiana 19.63 31 P **P 02 59 05.8 +0.3**
baz=216,SNR=43
V40A Witts Springs 19.71 13 P **P 02 59 06.1 -0.3**
baz=196,SNR=42
151A Opelika 19.72 34 P **P 02 59 06.6 0.0**
baz=220,SNR=38
556A Lake Butler 19.74 45 P **P 02 59 05.0 -1.7**
baz=231
455A Stateville 19.81 42 P **P 02 59 06.7 -0.8**
baz=228,SNR=7.5
V41A Mountainview 19.85 15 P **P 02 59 07.5 -0.4**
baz=198,SNR=55
657A Interlachen 19.86 47 P **P 02 59 05.9 -2.1**
baz=233,SNR=6.8
X46A Booneville 19.87 24 P **P 02 59 07.8 -0.3**
baz=208,SNR=26
MTDJ Mount Denham 19.91 82 *e*P **P 02 59 08.8 0.0**
comp=Z,58nm,1.2s
Y48A Jasper 19.92 28 P **P 02 59 08.4 -0.3**
baz=213,SNR=17
TIGA Tifton 19.93 40 P **P 02 59 08.6 -0.2**
baz=225
TIGA Tifton 19.93 40 *e*P **Pn 02 59 10.5 0.0**
comp=Z,116nm,0.7s
HHAR Hobbs 19.95 10 *e*P **P 02 59 08.6 -0.4**
comp=Z,100nm,0.9s
Z50A Ashland 19.98 32 P **P 02 59 09.4 +0.1**
baz=217,SNR=55
V42A Cord 20.07 17 P **P 02 59 08.2 -2.0**
baz=200,SNR=22
214A Organ Pipe Nat 20.13 322 P **P 02 59 12.0 +1.0**
baz=136,SNR=10
214A Organ Pipe Nat 20.13 322 *e*Pn **P 02 59 12.0 +1.0**
comp=Z,177nm,1.0s
U39A Green Forest 20.13 11 P **P 02 59 10.5 -0.5**
baz=214,SNR=50
X47A Russelville 20.13 26 P **P 02 59 10.5 -0.5**
baz=210,SNR=21
W45A Hickory Valley 20.18 22 P **P 02 59 10.6 -0.8**
baz=206,SNR=8.0
557A Orange Park 20.21 46 P **P 02 59 08.9 -2.9**
baz=232,SNR=6.2
Y49A Blount Mountai 20.23 30 P **P 02 59 12.0 -0.1**
baz=215,SNR=15
U40A Yellville 20.23 13 P **P 02 59 11.4 -0.6**
baz=195,SNR=74
V43A Jonesboro 20.30 19 P **P 02 59 10.3 -2.4**
baz=202
X48A Hartselle 20.43 28 P **P 02 59 13.4 -0.7**
baz=212,SNR=32
U41A Viola 20.44 15 P **P 02 59 13.7 -0.6**
baz=198,SNR=18
PLAL Pickwick Lake 20.45 25 *e*P **P 02 59 14.0 -0.4**
comp=Z,111nm,1.1s
W46A Millie 20.46 24 P **P 02 59 15.0 +0.6**
baz=208,SNR=11
254A Abbeville 20.47 39 P **P 02 59 14.3 -0.3**
baz=225,SNR=11
V44A Blytheville 20.54 20 P **P 02 59 14.9 -0.4**
baz=204
Y50A Piedmont 20.58 31 P **P 02 59 15.4 -0.5**
baz=216,SNR=25
U42A Revenden 20.62 16 P **P 02 59 15.5 -0.7**
baz=200,SNR=44
GNAR Gosnell 20.62 19 *e*P **P 02 59 16.1 -0.1**
comp=Z,7µm,1.4s
T38A Diamond 20.63 9 P **P 02 59 14.9 -1.4**
baz=191,SNR=49
X18A Snowflake 20.63 332 *e*P Pn 02 59 18.8 -0.2
comp=Z,56nm,1.0s
457A Yulee 20.70 45 P **P 02 59 15.7 -1.5**
baz=231
356A Blackshear 20.77 42 P **P 02 59 16.1 -1.8**
baz=229
T39A Clever 20.77 11 P **P 02 59 17.1 -0.8**
baz=194,SNR=47
V45A Humboldt 20.78 22 P **P 02 59 16.5 -1.5**
baz=206
HALT Halls 20.80 21 *e*P **P 02 59 17.6 -0.6**
X49A Woodville 20.81 29 P **P 02 59 17.7 -0.6**
baz=214,SNR=20
W47A Westpoint 20.88 25 P **P 02 59 17.9 -1.1**
baz=210,SNR=27
U43A Rector 20.88 18 P **P 02 59 18.2 -0.8**
baz=202
W18A Petrified Fore 21.03 333 P **P 02 59 22.2 +1.2**
baz=149,SNR=17
W18A Petrified Fore 21.03 333 *e*P **P 02 59 23.0 +2.1**
comp=Z,39nm,1.0s
W48A Pulaski 21.06 27 P **P 02 59 20.1 -0.9**
baz=212,SNR=42
T40A Mansfield 21.07 13 P **P 02 59 20.4 -0.7**
baz=196,SNR=71
X50A Fort Payne 21.08 30 P **P 02 59 20.1 -1.2**
baz=216,SNR=36
T25A Trinidad 21.11 346 P **P 02 59 22.5 +0.7**
baz=164,SNR=96
T25A Trinidad 21.11 346 *e*P **P 02 59 22.8 +1.0**
comp=Z,112nm,1.0s
T41A Mountain View 21.14 15 P **P 02 59 21.5 -0.4**
baz=198,SNR=36
V46A Holladay 21.15 24 P **P 02 59 20.2 -1.7**
baz=208,SNR=61
MHTCO State Highway 21.17 346 *e*P **P 02 59 23.5 +1.2**
comp=Z,41nm,1.1s
U44B Burton Farm, H 21.18 20 P **P 02 59 21.4 -0.9**
baz=204
U44A Portageville 21.23 20 P **P 02 59 20.8 -2.0**
baz=203
PBMO Poplar Bluff 21.25 18 *e*P **P 02 59 22.4 -0.6**
comp=Z,96nm,0.8s
X16A Lo Mia Camp, P 21.25 329 *e*P **P 02 59 25.1 +1.8**
comp=Z,72nm,0.9s
357A Townsend 21.25 43 P **P 02 59 22.0 -1.1**
baz=230
113A Mohawk Valley, 21.27 322 *e*P **P 02 59 25.0 +1.7**
comp=Z,30nm,0.8s
S38A Stockton 21.27 10 P **P 02 59 22.0 -1.3**
baz=192,SNR=16
T42A Van Buren 21.30 16 P **P 02 59 22.4 -1.2**
baz=199,SNR=35
PARMO Parma 21.35 19 *e*P **P 02 59 23.6 -0.5**
UTMT University of 21.35 21 *e*P **P 02 59 25.5 +1.3**
comp=Z,535nm,1.3s
256A Glennville 21.36 41 P **P 02 59 23.1 -1.1**
baz=228,SNR=5.2
U45A Rockin P Farm, 21.39 22 P **P 02 59 23.6 -0.9**
baz=206,SNR=7.4
V47A Nunnelly 21.40 25 P **P 02 59 23.7 -1.0**
baz=209,SNR=34
GOGA Godfrey 21.42 36 P **P 02 59 24.2 -0.7**
baz=222,SNR=61
GOGA Godfrey 21.42 36 *e*P **P 02 59 24.5 -0.4**
GOGA pmax pmax
comp=Z,125nm,0.8s
GOGA Godfrey 21.42 36 *e*P **P 02 59 24.5 -0.4**
comp=Z,124nm,0.8s
S39A Bolivar 21.43 11 P **P 02 59 23.9 -1.1**
baz=193,SNR=59
S40A Lebanon 21.51 13 P **P 02 59 25.0 -0.8**
baz=195,SNR=41
WVT Waverly 21.55 24 P **P 02 59 24.9 -1.3**
baz=208
WVT Waverly 21.55 24 *e*P **P 02 59 24.9 -1.3**
WVT pmax pmax
comp=Z,77nm,0.9s
WVT Waverly 21.55 24 *e*P **P 02 59 24.9 -1.3**
comp=Z,77nm,0.9s
SWET Sewanee 21.57 29 *e*P **P 02 59 25.2 -1.3**
comp=Z,18nm,0.8s
T43A Greenville 21.57 18 P **P 02 59 25.4 -1.1**
baz=201,SNR=45
V48A Smith Brothers 21.62 26 P **P 02 59 25.9 -1.1**
baz=211,SNR=23
U46A Springville 21.62 23 P **P 02 59 25.7 -1.2**
baz=207,SNR=9.4
S41A Jilco Farms, 21.66 14 P **P 02 59 26.6 -0.8**
baz=197,SNR=62
Y14A Wickenburg 21.69 325 *e*P **P 02 59 29.5 +1.6**
comp=Z,266nm,1.0s
T44A Benton 21.79 19 P **P 02 59 28.1 -0.7**
baz=203,SNR=14
R38A Fenwick Farm, 21.82 9 P **P 02 59 27.3 -1.8**
baz=192,SNR=29
SDCO Great Sand Dun 21.95 345 P **P 02 59 30.9 0.0**
baz=162,SNR=64
SDCO Great Sand Dun 21.95 345 *e*P **P 02 59 31.3 +0.4**
comp=Z,28nm,0.9s
U47A Clarksville 22.03 24 P **P 02 59 31.3 -0.1**
baz=209,SNR=30
T45A Paducah 22.04 21 P **P 02 59 30.3 -1.2**
baz=205
S42A Caledonia 22.08 16 P **P 02 59 30.4 -1.5**
baz=200,SNR=73
R39A Chumby, Stover 22.09 11 P **P 02 59 30.6 -1.4**
baz=194,SNR=48
S43A Fulton Ridge, 22.09 18 P **P 02 59 30.4 -1.6**
baz=201,SNR=9.0
GLA Glamis 22.11 321 P **P 02 59 33.1 +0.8**
baz=134,SNR=6.9
GLA Glamis 22.11 321 *e*P **P 02 59 34.1 +1.8**
GLA pmax pmax
comp=Z,40nm,0.9s
GLA Glamis 22.11 321 *e*P **P 02 59 34.1 +1.8**
comp=Z,40nm,0.9s
WUAZ Wupatki 22.11 331 P **P 02 59 33.2 +0.7**
baz=145,SNR=54
WUAZ Wupatki 22.11 331 *e*P **P 02 59 34.3 +1.9**
comp=Z,104nm,1.1s
CBKS Cedar Bluff 22.13 357 P **P 02 59 31.7 -0.8**
baz=177,SNR=22
CBKS Cedar Bluff 22.13 357 *e*P **P 02 59 33.5 +1.0**
CBKS pmax pmax
comp=Z,132nm,0.9s
CBKS Cedar Bluff 22.13 357 *e*P **P 02 59 33.5 +1.0**
comp=Z,132nm,0.9s
R40A Maddies Statio 22.22 13 P **P 02 59 32.4 -1.0**
baz=196,SNR=55
CCM Cathedral Cave 22.23 15 *e*P **P 02 59 34.3 +0.7**
CCM pmax pmax
comp=Z,176nm,0.9s
CCM Cathedral Cave 22.23 15 *e*P **P 02 59 34.3 +0.7**
comp=Z,176nm,0.9s
GTBY Guantanamo Bay 22.29 78 *e*P **P 02 59 34.5 +0.1**
comp=Z,59nm,1.0s
S22A 4UR Ranch, Cre 22.32 342 P **P 02 59 34.5 -0.3**
baz=158,SNR=35
S22A 4UR Ranch, Cre 22.32 342 *e*P **P 02 59 35.5 +0.6**
comp=Z,21nm,0.9s
T46A Princeton 22.33 22 P **P 02 59 33.4 -1.2**
baz=207,SNR=17
MVCO Mesa Verde 22.37 338 P **P 02 59 34.9 -0.5**
baz=154,SNR=45
MVCO Mesa Verde 22.37 338 *e*P **P 02 59 36.3 +0.9**
comp=Z,56nm,0.9s
FVM French Village 22.38 17 *e*P **P 02 59 34.2 -0.9**
FVM pmax pmax
comp=Z,69nm,0.8s
FVM French Village 22.38 17 *e*P **P 02 59 34.2 -0.9**
comp=Z,69nm,0.8s
U48A Cassie Pea, Po 22.39 26 P **P 02 59 34.0 -1.3**
baz=211,SNR=19
Y12C Blythe 22.41 322 P **P 02 59 36.3 +0.7**
baz=136,SNR=11
Y12C Blythe 22.41 322 *e*P **P 02 59 37.1 +1.6**
comp=Z,36nm,1.3s
Q37A Longview Farm, 22.41 8 P **P 02 59 33.2 -2.4**
baz=190,SNR=9.1
R41A Rosebud 22.43 14 P **P 02 59 33.9 -1.8**
baz=198,SNR=19
CPCT Cooper Cave 22.43 31 *e*P **P 02 59 34.9 -0.8**
KSU1 Kansas State U 22.43 4 P **P 02 59 33.8 -1.9**
baz=184,SNR=12
KSU1 Kansas State U 22.43 4 *e*P **P 02 59 35.5 -0.2**
comp=Z,71nm,0.9s
S44A Carbondale 22.45 19 P **P 02 59 34.1 -1.8**
baz=203,SNR=18
SIUC Southern Illin 22.48 19 *e*P **P 02 59 36.0 -0.3**
comp=Z,154nm,0.8s
R42A Luebbering 22.56 16 P **P 02 59 35.1 -2.0**
baz=199,SNR=14
T47A Sharon Grove 22.58 24 P **P 02 59 36.0 -1.2**

baz=209,SNR=36
PDMCI **Parker Dam,Lak** 22.59 324 P P 02 59 36.9 -0.6
baz=138,SNR=8.6
KSCO **Kaye Shedlock'** 22.60 351 P P 02 59 37.5 -0.2
baz=170,SNR=20
KSCO **Kaye Shedlock'** 22.60 351 eP P 02 59 37.9 +0.2
comp=Z,115nm,1.1s
Q38A **Cooks Store, C** 22.62 10 P P 02 59 35.6 -2.1
baz=192,SNR=15
SWSC **Sam W. Stewart** 22.63 319 P P 02 59 38.4 +0.5
baz=132,SNR=5.7
IKP **In-Ko-Pah, Jac** 22.64 318 P P 02 59 37.6 -0.4
baz=131
S45A **Carrier Mills** 22.66 20 P P 02 59 36.3 -1.8
baz=205,SNR=14
HODGE **Hodges** 22.70 36 eP P 02 59 38.1 -0.5
comp=Z,110nm,0.8s
R43A **Red Bud** 22.79 17 P P 02 59 37.9 -1.6
baz=201,SNR=13
Q39A **Willow Grove F** 22.81 11 P P 02 59 37.9 -1.8
baz=193
BG3 **Lake Jocassee** 22.89 34 eP P 02 59 40.7 +0.1
comp=Z,66nm,0.8s
BC3 **Big Chuckawall** 22.90 321 P P 02 59 42.0 +1.1
baz=134,SNR=19
Q40A **Laux Farm, Aux** 22.94 13 P P 02 59 39.3 -1.8
baz=196,SNR=25
S46A **Don Dixon Farm** 22.96 22 P P 02 59 39.6 -1.7
baz=207
TKL **Tuckaleechee C** 22.96 32 P P 02 59 40.9 -0.5
comp=Z,54nm,0.8s,baz=193,slow=13,SNR=40
TKL LR LR 03 10 49.7
comp=Z,160nm,21.9s,baz=216,slow=42
TKL **Tuckaleechee C** 22.96 32 eP P 02 59 40.7 -0.7
TKL pmax pmax
comp=Z,95nm,1.0s
TKL **Tuckaleechee C** 22.96 32 eP P 02 59 40.7 -0.7
comp=Z,95nm,1.0s
T48A **Bowling Green** 22.97 25 P P 02 59 39.7 -1.6
baz=210,SNR=24
MONP2 **Monument Peak** 22.99 318 P P 02 59 41.9 0.0
baz=131,SNR=6.0
R44A **Waltonville** 23.01 19 P P 02 59 40.0 -1.8
baz=203,SNR=9.4
BAR **Barrett** 23.02 317 eP P 02 59 43.3 +1.3
comp=Z,13nm,1.0s
Q24A **Divide** 23.03 346 P P 02 59 42.2 -0.1
baz=163,SNR=17
Q24A **Divide** 23.03 346 eP P 02 59 43.7 +1.4
comp=Z,40nm,1.2s
SLM **Saint Louis** 23.04 16 eP P 02 59 42.3 +0.3
SLM pmax pmax
comp=Z,113nm,1.0s
SLM **Saint Louis** 23.04 16 eP P 02 59 42.3 +0.3
comp=Z,113nm,1.0s
W13A **Hualapai Mount** 23.04 326 eP P 02 59 43.7 +1.3
comp=Z,24nm,1.0s
RGRS **Roger Stewart** 23.05 42 eP P 02 59 41.9 -0.3
comp=Z,919nm,0.7s
IRM **Iron Mountain** 23.07 322 P P 02 59 43.2 +0.7
baz=136,SNR=25
Q41A **Truxton** 23.09 14 P P 02 59 40.8 -1.7
baz=198,SNR=28
P37A **Lathrop** 23.13 8 P P 02 59 40.5 -2.5
baz=190,SNR=17
CSU **Charleston Sou** 23.18 42 eP P 02 59 43.4 -0.1
NHSC **New Hope** 23.18 42 P P 02 59 42.6 -1.0
baz=229,SNR=41
NHSC **New Hope** 23.18 42 eP P 02 59 43.6 0.0
comp=Z,517nm,1.1s
NEE2 **Needles Airpor** 23.20 324 P P 02 59 43.5 -0.3
baz=138
Q42A **Golden Eagle** 23.22 16 P P 02 59 42.1 -1.8
baz=199,SNR=11
PV01 **Paradox Valley** 23.23 339 eP P 02 59 45.1 +0.8
USIN **University of** 23.23 22 eP P 02 59 44.6 +0.6
comp=Z,191nm,1.1s
U15A **North Rim** 23.28 331 eP P 02 59 46.5 +1.6
comp=Z,54nm,0.9s
P39B **Salisbury** 23.28 11 P P 02 59 42.5 -2.1
baz=194,SNR=24
P38A **Dawn** 23.28 9 P P 02 59 42.6 -1.9
baz=192,SNR=26
R45A **Skylar, Fairfi** 23.31 20 P P 02 59 42.1 -2.7
baz=205
JSC **Jenkinsville** 23.32 38 eP P 02 59 44.6 -0.3
JSC pmax pmax
comp=Z,71nm,0.8s
JSC **Jenkinsville** 23.32 38 eP P 02 59 44.6 -0.3
comp=Z,71nm,0.8s
PV05 **Paradox Valley** 23.36 338 eP P 02 59 46.5 +0.9
O33A **Hebron** 23.36 1 P P 02 59 43.6 -1.7
baz=182,SNR=7.9
109C **Camp Elliot, M** 23.43 317 P P 02 59 45.4 -0.7
baz=130
MOTC **Monteria, Cord** 23.44 107 eP P 03 00 04.1 +18
P40A **Paris** 23.46 12 P P 02 59 44.4 -1.9
baz=195,SNR=18
BELC **Belle Mtn. Jos** 23.47 321 P P 02 59 46.9 +0.3
baz=134,SNR=8.9
Q43A **New Douglas** 23.47 17 P P 02 59 44.8 -1.6
baz=201
XPFO **Pigeon Flat** 23.48 319 eP P 02 59 48.0 +1.2
comp=Z,28nm,1.1s
PFO **Pinyon Flats O** 23.49 319 P P 02 59 46.6 -0.2
baz=132,SNR=5.5
PFO **Pinyon Flats O** 23.49 319 eP P 02 59 48.0 +1.2
PFO pmax pmax
comp=Z,24nm,1.1s
PFO **Pinyon Flats O** 23.49 319 eP P 02 59 48.0 +1.2
comp=Z,24nm,1.1s
O34A **Beatrice** 23.50 3 P P 02 59 45.6 -1.1
baz=184,SNR=47
R46A **Gibon Southern** 23.51 22 P P 02 59 45.0 -1.7
baz=207
S48A **Wiedeman Farm,** 23.57 25 P P 02 59 45.7 -1.7
baz=210,SNR=12
PV04 **Paradox Valley** 23.57 339 eP P 02 59 48.3 +0.6
PV10 **Paradox Valley** 23.61 339 eP P 02 59 48.0 0.0
Q44A **Meyer Farm, Va** 23.64 18 P P 02 59 46.0 -1.9
baz=203,SNR=11
O35A **Humboldt** 23.64 5 P P 02 59 45.9 -2.1
baz=186,SNR=9.4
SMCO **Snowmass** 23.69 343 eP P 02 59 50.4 +1.4
comp=Z,49nm,1.1s
LDFC **Landfair** 23.70 324 eP P 02 59 51.1 +2.2
comp=Z,51nm,1.0s
O37A **Wolven Farm, M** 23.73 8 P P 02 59 47.2 -1.7
baz=190
PV09 **Paradox Valley** 23.75 339 eP P 02 59 50.2 +0.7
OLIL **Olney** 23.77 20 eP P 02 59 49.1 -0.2
comp=Z,61nm,0.9s
TZTN **Tazewell** 23.77 31 P P 02 59 47.6 -1.8
baz=217,SNR=26
TZTN **Tazewell** 23.77 31 eP P 02 59 50.0 +0.6
comp=Z,107nm,1.1s
O38A **Galt** 23.78 9 P P 02 59 47.5 -1.9
baz=192,SNR=12
GMRC **Granite Mounta** 23.81 323 P P 02 59 49.7 -0.2
baz=136,SNR=15
P41A **Barry, Barry** 23.81 14 P P 02 59 48.0 -1.7
baz=198,SNR=18
KMSC **Kings Mountain** 23.88 36 P P 02 59 48.9 -1.6
baz=224,SNR=60
KMSC **Kings Mountain** 23.88 36 eP P 02 59 50.7 +0.2
comp=Z,101nm,0.9s
Q45A **Warren Harvey,** 23.90 20 P P 02 59 48.9 -1.6
baz=205,SNR=14
P42A **Winchester** 23.90 15 P P 02 59 49.2 -1.4
baz=199,SNR=44
ISCO **Idaho Springs** 23.93 346 P P 02 59 51.8 +0.6
baz=163,SNR=69
ISCO **Idaho Springs** 23.93 346 eP P 02 59 51.8 +0.6
ISCO pmax pmax
comp=Z,39nm,0.8s
ISCO **Idaho Springs** 23.93 346 eP P 02 59 51.8 +0.6
comp=Z,39nm,0.8s
R47A **Wooly Knot Far** 23.94 23 P P 02 59 50.5 -0.4
baz=209,SNR=58
MURC **Murrieta** 23.95 318 P P 02 59 52.1 +1.0
baz=131,SNR=5.6
WCI **Wyandotte Cave** 23.97 24 P P 02 59 50.6 -0.6
baz=209
WCI **Wyandotte Cave** 23.97 24 eP P 02 59 51.2 0.0
WCI pmax pmax
comp=Z,107nm,0.9s
WCI **Wyandotte Cave** 23.97 24 eP P 02 59 51.2 0.0
comp=Z,107nm,0.9s

KNB **Kanab** 24.00 331 eP P 02 59 53.5 +1.7
KNB pmax pmax
comp=Z,62nm,1.1s
KNB **Kanab** 24.00 331 eP P 02 59 53.5 +1.7
comp=Z,62nm,1.1s
GRGC **Isla de Gorgon** 24.02 122 eP P 03 00 06.1 +14
N33A **J Bar K, Exete** 24.03 2 P P 02 59 51.2 -0.5
baz=182,SNR=6.0
O39A **Kirksville** 24.06 11 P P 02 59 51.2 -0.8
baz=194,SNR=27
O40A **La Belle** 24.06 12 P P 02 59 50.2 -1.8
baz=195,SNR=80
PKCU **Pink Cliffs** 24.12 332 eP P 02 59 55.8 +2.9
comp=Z,48nm,1.0s
N34A **Lincoln** 24.17 3 P P 02 59 52.2 -0.8
baz=184,SNR=8.7
P43A **Skaggs, Pawnee** 24.17 17 P P 02 59 51.4 -1.7
baz=201,SNR=13
LCMT **Little Creek M** 24.20 330 eP P 02 59 55.0 +1.5
comp=Z,73nm,1.8s
HEC **Hector,Ludlow** 24.24 322 P P 02 59 54.5 +0.7
baz=134,SNR=8.8
N35A **Tabor** 24.25 5 P P 02 59 52.8 -1.0
baz=186,SNR=16
N36A **Muff Farm, Cla** 24.27 6 P P 02 59 52.6 -1.3
baz=188,SNR=8.3
O41A **Passleys Farm,** 24.27 14 P P 02 59 52.4 -1.6
baz=198,SNR=36
P44A **Sand Creek, Wi** 24.27 19 P P 02 59 53.2 -0.8
baz=203,SNR=10
Q46A **CEJHS Indians,** 24.28 21 P P 02 59 53.1 -1.0
baz=206
R48A **Northridge Ran** 24.29 24 P P 02 59 53.2 -0.9
baz=210,SNR=9.7
N37A **Lee Faris, Mou** 24.30 8 P P 02 59 53.3 -1.0
baz=190,SNR=11
MMU **Miners Mountai** 24.31 335 eP P 02 59 55.7 +1.1
TUQ **Turquoise Moun** 24.42 323 P P 02 59 56.4 +0.8
baz=136,SNR=43
OGNE **Ogallala** 24.43 353 P P 02 59 55.6 +0.1
baz=172,SNR=8.0
OGNE **Ogallala** 24.43 353 eP P 02 59 56.8 +1.2
comp=Z,185nm,1.1s
SCI2 **San Clemente I** 24.45 315 P P 02 59 56.8 +1.2
baz=127
N38A **Joes South For** 24.47 9 P P 02 59 54.9 -0.9
baz=192,SNR=53
Q47A **Bedord North L** 24.54 23 P P 02 59 55.9 -0.5
baz=208,SNR=16
O42A **Bath** 24.55 15 P P 02 59 55.2 -1.2
baz=199,SNR=6.7
MTPU **Mount Pierson** 24.55 333 eP P 02 59 58.5 +1.5
comp=Z,115nm,0.8s
SZCU **Shurtz Canyon** 24.59 331 eP P 02 59 59.2 +2.0
comp=Z,15nm,0.8s
P45A **Graceland, Par** 24.61 20 P P 02 59 56.3 -0.7
baz=205,SNR=14
CIS **Catalina Islan** 24.61 316 P P 02 59 57.2 0.0
baz=128
HELC **Santa Helena** 24.62 112 eP P 03 00 00.6 +2.8
comp=Z,53nm,1.4s
HELC **Santa Helena** 24.62 112 eP P 03 00 04.7 +6.9
BFSC **Mount Baldy Ra** 24.65 319 P P 02 59 58.5 +0.8
baz=131,SNR=11
RRX **Edison Barstow** 24.66 321 P P 02 59 59.0 +1.3
baz=133
ZARC **Zaragoza, Cauc** 24.67 109 eP P 03 00 05.4 +7.5
N39A **Derby Farms, D** 24.68 11 P P 02 59 57.0 -0.6
baz=194,SNR=27
BGNE **Belgrade** 24.68 0 P P 02 59 57.5 -0.2
baz=181
BGNE **Belgrade** 24.68 0 eP P 02 59 58.2 +0.5
comp=Z,98nm,1.3s
CCUT **Cedar City** 24.69 330 eP P 03 00 00.1 +2.1
comp=Z,17nm,0.9s
BLO **Bloomington** 24.71 22 eP P 02 59 58.3 +0.3
BLO pmax pmax
comp=Z,50nm,0.7s
BLO **Bloomington** 24.71 22 eP P 02 59 58.3 +0.3
comp=Z,50nm,0.7s
SHPR **Sheep Range** 24.78 326 eP P 02 59 59.9 +1.0
comp=Z,20nm,1.0s
SRU **San Rafael Swe** 24.79 337 eP P 02 59 59.7 +0.7
SRU pmax pmax
comp=Z,45nm,0.9s
SRU **San Rafael Swe** 24.79 337 eP P 02 59 59.7 +0.7
comp=Z,45nm,0.9s
M34A **Aspy Farms, Fr** 24.82 3 P P 02 59 59.0 0.0
baz=184,SNR=7.3
O43A **Sugar Creek Fa** 24.83 17 P P 02 59 58.5 -0.5
baz=201
GSC **Goldstone, Bar** 24.84 322 P P 02 59 59.4 +0.1
baz=134,SNR=13
GSC **Goldstone, Bar** 24.84 322 eP P 03 00 00.7 +1.4
GSC pmax pmax
comp=Z,18nm,0.9s
GSC **Goldstone, Bar** 24.84 322 eP P 03 00 00.7 +1.4
comp=Z,18nm,0.9s
N41A **Harden Midland** 24.84 14 P P 02 59 58.3 -0.8
baz=197
M35A **Neola** 24.85 5 P P 02 59 58.5 -0.7
baz=186,SNR=15
N40A **Mertquake, Sal** 24.86 12 P P 02 59 58.3 -0.9
baz=196,SNR=8.9
M33A **Taylor Creek F** 24.87 2 P P 02 59 59.1 -0.3
baz=183,SNR=6.3
P46A **Rosedale** 24.87 21 P P 02 59 58.6 -0.7
baz=206
MWC **Mount Wilson** 24.89 318 eP P 03 00 02.0 +2.1
MWC e 03 03 35.2
MWC pmax pmax
comp=Z,73nm,1.8s
MWC **Mount Wilson** 24.89 318 eP P 03 00 02.0 +2.1
comp=Z,73nm,1.8s
MWC ePcP PcP 03 03 35.2 -0.3
M36A **Felix, Anita** 24.92 6 P P 02 59 59.0 -0.8
baz=188
O20A **White River Ci** 24.94 342 P P 03 00 01.5 +1.1
baz=157,SNR=27
O20A **White River Ci** 24.94 342 eP P 03 00 01.7 +1.4
comp=Z,34nm,0.9s
MSU **Marysvale** 24.94 334 eP P 03 00 02.0 +1.6
MSU **Marysvale** 24.94 334 eP P 03 00 02.0 +1.6
O44A **Mansfield** 24.95 18 P P 02 59 59.4 -0.8
baz=203,SNR=6.9
M37A **Trindle Farm,** 24.95 8 P P 03 00 00.1 0.0
baz=190,SNR=38
SHOC **Shoshone, Teco** 24.95 324 P P 03 00 01.4 +1.2
baz=136,SNR=5.4
YOTC **Yotoco, Valle** 24.99 118 eP P 03 00 06.8 +5.9
HORQ **Saladito** 25.02 119 eP P 03 00 03.4 +2.0
N23A **Red Feather La** 25.05 346 P P 03 00 02.2 +0.8
baz=163,SNR=32
N23A **Red Feather La** 25.05 346 eP P 03 00 02.4 +1.0
comp=Z,40nm,0.9s
P47A **Martinsville** 25.08 22 P P 03 00 00.6 -0.7
baz=208,SNR=11
M38A **Pleasantville** 25.09 9 P P 03 00 00.8 -0.5
baz=192,SNR=53
DECC **Green Verdugo** 25.09 318 P P 03 00 02.4 +0.9
baz=130
HDIL **Hopedale** 25.09 16 P P 03 00 00.8 -0.6
baz=201,SNR=16
HDIL **Hopedale** 25.09 16 eP P 03 00 01.4 0.0
comp=Z,72nm,0.8s
CODC **Agust`n Codaz** 25.11 102 eP P 03 00 04.1 +2.2
P18A **Preston Nutter** 25.15 338 eP P 03 00 03.4 +1.1
comp=Z,63nm,1.0s
N42A **Yates City** 25.15 15 P P 03 00 01.5 -0.5
baz=199,SNR=20
GUYC **Guyana, Colomb** 25.19 114 eP P 03 00 10.2 +7.1
P17A **Butcher Ranch,** 25.19 337 eP P 03 00 03.4 +0.8
comp=Z,37nm,1.1s
TMUT **Trail Mountain** 25.22 336 eP P 03 00 04.2 +1.3
comp=Z,24nm,0.7s
O45A **Potomac** 25.27 19 P P 03 00 02.4 -0.6
baz=204,SNR=27
EDW2 **Edwards Air Fo** 25.28 320 P P 03 00 02.8 -0.4
baz=132,SNR=8.2
L32A **Elgin** 25.28 1 P P 03 00 03.0 -0.2
baz=181
L34A **Svendsen Farm,** 25.30 3 P P 03 00 01.6 -1.6
baz=184
M39A **Webster** 25.32 11 P P 03 00 02.4 -1.1
baz=194,SNR=17
PHWY **Pilot Hill** 25.33 347 eP P 03 00 04.6 +0.7
comp=Z,22nm,0.8s

M40A **Post Highland** 25.37 12 P P 03 00 03.0 -0.9
baz=195,SNR=13
PTBC **PUERTO BERRIO,** 25.43 110 eP P 03 00 07.4 +2.7
NCAT **North Carolina** 25.44 37 eP P 03 00 04.5 -0.1
comp=Z,149nm,1.2s
L33A **Hoskins** 25.46 2 P P 03 00 04.2 -0.5
baz=182,SNR=5.8
BLG **Laguna Peak, P** 25.47 317 P P 03 00 06.4 +1.4
baz=128,SNR=6.8
N43A **Stutzman Famil** 25.48 16 P P 03 00 04.6 -0.3
baz=201,SNR=28
LRMC **Laurel Mtn Rad** 25.49 321 P P 03 00 06.3 +1.1
baz=133,SNR=7.5
OTAV **Otavalo** 25.49 128 eP P 03 00 08.9 +3.1
OTAV pmax pmax
comp=Z,6.0nm,1.3s
OTAV **Otavalo** 25.49 128 eP P 03 00 08.1 +2.3
comp=Z,7.4nm,0.9s
L35A **Bielow Farm, R** 25.50 5 P P 03 00 04.5 -0.6
baz=186,SNR=7.4
M41A **Milan** 25.55 14 P P 03 00 05.0 -0.5
baz=198,SNR=9.7
SCIA **State Center** 25.57 9 P P 03 00 05.1 -0.5
baz=192,SNR=33
SCIA **State Center** 25.57 9 eP P 03 00 05.5 -0.1
comp=Z,124nm,0.8s
OSI **Osito Audit: C** 25.57 318 P P 03 00 06.2 +0.3
baz=130
L36A **Harm Buss Farm** 25.57 6 P P 03 00 05.4 -0.4
baz=188
SFIN **Lafayette** 25.59 20 P P 03 00 05.4 -0.5
baz=206,SNR=11
SFIN **Lafayette** 25.59 20 eP P 03 00 05.8 -0.1
comp=Z,44nm,0.8s
N44A **Piper City** 25.64 18 P P 03 00 05.7 -0.6
baz=203,SNR=18
FURC **Furnace Creek,** 25.69 324 P P 03 00 07.9 +1.1
baz=136,SNR=5.1
L37A **Phoenix Point,** 25.70 8 P P 03 00 06.1 -0.8
baz=190,SNR=28
GCUF **Volcan Galeras** 25.73 124 eP P 03 00 06.1 -1.9
MPMC **Manual Prospec** 25.77 322 P P 03 00 08.7 +0.9
baz=134,SNR=31
O47A **Sheridan** 25.78 22 P P 03 00 06.8 -0.9
baz=208,SNR=14
SCZ2 **Santa Cruz Isl** 25.78 316 P P 03 00 08.6 +0.9
baz=127
SOTA **Rioblanco** 25.79 122 eP P 03 00 08.8 +0.3
M42A **Sheffield** 25.81 15 P P 03 00 07.3 -0.7
baz=199,SNR=7.9
L38A **Oak Wood Farm,** 25.83 9 P P 03 00 07.4 -0.7
baz=192,SNR=36
PCON **Cinco Dias** 25.85 121 eP P 03 00 08.1 -1.0
SDDR **Presa de Saban** 25.85 81 eP P 03 00 10.8 +2.2
comp=Z,104nm,1.4s
BRRC **Barranca, Sant** 25.87 109 eP P 03 00 10.2 +1.4
N45A **Kentland** 25.88 19 P P 03 00 08.2 -0.3
baz=204
BLA **Blacksburg** 25.90 34 P P 03 00 08.5 -0.3
baz=222,SNR=12
BLA **Blacksburg** 25.90 34 eP P 03 00 09.2 +0.4
BLA pmax pmax
comp=Z,89nm,1.0s
BLA **Blacksburg** 25.90 34 eP P 03 00 09.2 +0.4
comp=Z,89nm,1.0s
K31A **O'Neill** 25.90 359 P P 03 00 08.7 0.0
baz=179
K33A **Hardington** 25.91 2 P P 03 00 08.6 -0.2
baz=183
MARP **Paez Belalcaza** 25.93 120 eP P 03 00 07.4 -2.1
K32A **Verdigre** 25.94 1 P P 03 00 08.4 -0.7
baz=181,SNR=7.1
ARVC **Arvin** 25.96 319 P P 03 00 10.2 +0.8
baz=130,SNR=7.2
L39A **Vinton** 25.98 11 P P 03 00 08.3 -1.1
baz=194,SNR=38
DAC **Darwin (Calif)** 25.98 323 eP P 03 00 10.8 +1.0
DAC pmax pmax
comp=Z,28nm,1.3s
DAC **Darwin (Calif)** 25.98 323 eP P 03 00 10.8 +1.0
comp=Z,28nm,1.3s
M43A **Waltham Townsh** 26.00 16 P P 03 00 09.0 -0.6
baz=201,SNR=11
MPU **Maple Canyon** 26.00 336 eP P 03 00 11.4 +1.5
comp=Z,21nm,0.8s
CNNC **Cliffs of the** 26.01 41 P P 03 00 09.4 -0.4
baz=230,SNR=14
CNNC **Cliffs of the** 26.01 41 eP P 03 00 10.0 +0.3
comp=Z,139nm,0.9s
K34A **Le Mars** 26.03 4 P P 03 00 09.2 -0.7
baz=185
L40A **Anamosa** 26.07 12 P P 03 00 09.2 -1.0
baz=196,SNR=28
ISA **Isabella, Lake** 26.09 320 P P 03 00 11.6 +1.0
baz=132,SNR=5.6
ISA **Isabella, Lake** 26.09 320 eP P 03 00 12.2 +1.6
ISA pmax pmax
comp=Z,25nm,1.1s
ISA **Isabella, Lake** 26.09 320 eP P 03 00 12.2 +1.6
comp=Z,25nm,1.1s
RWWY **Rawlins** 26.11 345 eP P 03 00 12.3 +1.4
comp=Z,50nm,1.0s
NLU **North Lily Min** 26.12 336 eP P 03 00 12.4 +1.4
comp=Z,32nm,1.0s
K35A **Storm Lake** 26.13 5 P P 03 00 10.1 -0.8
baz=187,SNR=10
VWCC **Virginia Weste** 26.16 35 eP P 03 00 11.1 -0.1
N46A **Monticello** 26.17 20 P P 03 00 10.9 -0.3
baz=206,SNR=14
M44A **Midewin, Midew** 26.21 18 P P 03 00 10.9 -0.6
baz=203,SNR=19
L41A **Preston** 26.23 13 P P 03 00 11.0 -0.7
baz=197,SNR=18
ROSC **El Rosal** 26.31 114 eP P 03 00 14.2 +1.0
comp=Z,14nm,1.1s
K37A **Belmond** 26.35 8 P P 03 00 11.5 -1.3
baz=190,SNR=25
L42A **Oliver, Polo** 26.35 15 P P 03 00 12.3 -0.6
baz=199,SNR=23
K38A **Parkersburg** 26.36 9 P P 03 00 11.7 -1.1
baz=192,SNR=12
PRAC **Prado** 26.37 117 eP P 03 00 15.4 +2.1
comp=Z,13nm,1.0s
PRAC **Prado** 26.37 117 eP P 03 00 10.2 -3.2
R11A **Troy Canyon, C** 26.40 328 P P 03 00 14.6 +1.1
baz=141,SNR=17
R11A **Troy Canyon, C** 26.40 328 eP P 03 00 14.8 +1.2
comp=Z,13nm,0.9s
JLU **Jordanelle** 26.44 337 eP P 03 00 12.8 -1.1
comp=Z,10.0nm,1.1s
M45A **Boilermakers S** 26.45 19 P P 03 00 13.7 0.0
baz=204,SNR=5.1
BARC **Barichara** 26.55 109 eP P 03 00 16.9 +1.7
K39A **Oelwein** 26.56 11 P P 03 00 13.3 -1.4
baz=194,SNR=16
J31A **Geddes** 26.57 359 P P 03 00 14.1 -0.6
baz=179
VES **Vestal, Richgr** 26.58 320 P P 03 00 15.5 +0.6
baz=131,SNR=11
J33A **Davis** 26.62 2 P P 03 00 14.2 -1.0
baz=183
DUG **Dugway, Tooele** 26.63 335 P P 03 00 15.2 -0.3
baz=148,SNR=24
DUG **Dugway, Tooele** 26.63 335 eP P 03 00 17.1 +1.6
DUG pmax pmax
comp=Z,23nm,0.8s
DUG **Dugway, Tooele** 26.63 335 eP P 03 00 17.1 +1.6
comp=Z,23nm,0.8s
CTU **Camp Tracy** 26.63 337 eP P 03 00 17.0 +1.4
comp=Z,19nm,1.0s
J34A **George** 26.64 4 P P 03 00 14.5 -0.9
baz=185,SNR=9.1
J32A **Parkston** 26.65 1 P P 03 00 14.9 -0.6
baz=181,SNR=6.2
K40A **Colesburg** 26.70 12 P P 03 00 14.3 -1.6
baz=196,SNR=13
PAMC **Pamplona, Colo** 26.70 107 eP P 03 00 18.3 +1.5
L43A **Garden Prairie** 26.76 16 P P 03 00 15.5 -1.0
baz=201,SNR=11
J35A **Milford** 26.77 5 P P 03 00 15.7 -0.9
baz=187
K41A **Shullsburg** 26.78 13 P P 03 00 15.0 -1.6
baz=197,SNR=11
J36A **Seneca 1, Swea** 26.82 6 P P 03 00 15.9 -1.2
baz=189,SNR=20
K22A **Casper** 26.85 347 P P 03 00 17.8 +0.3
baz=163,SNR=29
K22A **Casper** 26.85 347 eP P 03 00 18.7 +1.2

TCUT **Toone Canyon** 26.88 338 *eP* P 03 00 19.7 +1.8
comp=Z,53nm,0.9s
comp=Z,76nm,1.2s

FLOC **Florencia** 26.88 121 *eP* P 03 00 15.6 -2.3
J37A **Redenius Farm,** 26.90 8 P P 03 00 16.7 -1.0
baz=190,SNR=9.9

CHIC **Chingaza** 26.93 114 *eP* P 03 00 21.0 +2.2
RUSC **La Rusia** 26.94 110 *eP* P 03 00 21.0 +2.1
comp=Z,33nm,1.3s

RUSC **La Rusia** 26.94 110 *eP* P 03 00 18.3 -0.6
L44A **Lake County Fo** 26.98 17 P P 03 00 17.9 -0.6
baz=202

ACSO **Alum Creek Sta** 27.03 27 P P 03 00 18.2 -0.7
baz=214,SNR=30

ACSO **Alum Creek Sta** 27.03 27 *eP* P 03 00 18.6 -0.3
comp=Z,87nm,0.8s

ECSD **EROS Data Cent** 27.05 3 P P 03 00 18.2 -0.9
baz=184,SNR=20

ECSD **EROS Data Cent** 27.05 3 *eP* P 03 00 18.6 -0.5
comp=Z,46nm,1.1s

J38A **Wedel Dairy, R** 27.06 9 P P 03 00 17.7 -1.4
baz=192,SNR=35

JFWS **Jewell Farm** 27.09 13 P P 03 00 18.6 -0.8
baz=197,SNR=15

JFWS **Jewell Farm** 27.09 13 *eP* P 03 00 19.1 -0.3
JFWS pmax pmax
comp=Z,37nm,0.6s

JFWS **Jewell Farm** 27.09 13 *eP* P 03 00 19.1 -0.3
comp=Z,37nm,0.6s

K42A **Prairie Point,** 27.16 15 P P 03 00 19.5 -0.7
baz=199,SNR=12

J39A **Decorah** 27.20 11 P P 03 00 19.1 -1.4
baz=194,SNR=19

I35A **Creekview Farm** 27.28 5 P P 03 00 20.4 -0.7
baz=187,SNR=5.7

I31A **Royce, Wessing** 27.30 360 P P 03 00 20.8 -0.6
baz=180

I32A **Karley and Nic** 27.31 1 P P 03 00 20.9 -0.6
baz=182

BGU **Big Grassy Mou** 27.33 335 *eP* P 03 00 23.4 +1.6
comp=Z,35nm,1.5s

K43A **Burlington** 27.35 16 P P 03 00 21.2 -0.6
baz=201,SNR=7.8

I33A **Coleman** 27.35 2 P P 03 00 20.7 -1.1
baz=183

HWUT **Hardware Ranch** 27.36 338 *eP* P 03 00 23.2 +1.0
comp=Z,12nm,0.9s
HWUT *ePcP* PcP 03 03 41.3 +0.3

I34A **Hadley** 27.39 4 P P 03 00 21.3 -0.9
baz=185

SPUT **South Promonto** 27.43 337 *eP* P 03 00 24.2 +1.5
comp=Z,18nm,1.0s

J40A **Soldiers Grove** 27.44 12 P P 03 00 21.7 -0.9
baz=196,SNR=6.9

I36A **Fitzsimmons Fa** 27.54 7 P P 03 00 22.3 -1.2
baz=189,SNR=8.8

J41A **Loganville** 27.57 13 P P 03 00 22.9 -0.8
baz=197,SNR=18

I37A **Lemond, Waseca** 27.61 8 P P 03 00 22.8 -1.3
baz=190,SNR=10.0

J42A **Columbus** 27.73 15 P P 03 00 24.6 -0.5
baz=199,SNR=16

I39A **Houston** 27.74 11 P P 03 00 24.5 -0.8
baz=194,SNR=10

PD31 **Pinedale Array** 27.75 342 *eP* P 03 00 26.2 +0.6
PD31 *ePcP* PcP 03 03 41.2 -0.8

PDAR **Pinedale Array** 27.75 342 P P 03 00 26.2 +0.6
comp=Z,11nm,0.8s,baz=133,slow=10,SNR=81
PDAR PcP PcP 03 03 41.2 -0.8
comp=Z,1.3nm,0.6s,baz=140,slow=4.7,SNR=6.5
PDAR LR LR 03 12 24.3
comp=Z,823nm,20.1s,baz=169,slow=38

PDAR **Pinedale Array** 27.75 342 *eP* P 03 00 25.4 -0.2
BW06 **Boulder Array** 27.75 342 P P 03 00 26.2 +0.5
baz=157,SNR=14

BW06 **Boulder Array** 27.75 342 *eP* P 03 00 25.6 -0.1
comp=Z,101nm,1.8s

IP06 **Yanceyville** 27.76 36 *eP* P 03 00 25.7 +0.2
comp=Z,11nm,0.8s

URVA **University of** 27.77 37 *eP* P 03 00 26.4 +0.8
MDPB **Devils Postpil** 27.77 323 *eP* P 03 00 27.6 +1.7
comp=Z,15nm,1.0s

I38A **Scanlan Farm,** 27.79 9 P P 03 00 24.5 -1.2
baz=192,SNR=31

H32A **Carlson Farm,** 27.79 1 P P 03 00 24.5 -1.3
baz=182,SNR=12

IP04 **Greensprings** 27.81 36 *eP* P 03 00 26.2 +0.2
comp=Z,19nm,0.8s

NV11 **Mina Array Sit** 27.81 325 *eP* P 03 00 28.0 +1.8
comp=Z,1.6nm,1.0s

RSSD **Black Hills** 27.82 351 P P 03 00 26.1 -0.1
baz=168

RSSD **Black Hills** 27.82 351 *eP* P 03 00 27.4 +1.2
RSSD pmax pmax
comp=Z,11nm,0.9s

RSSD **Black Hills** 27.82 351 *eP* P 03 00 27.4 +1.2
comp=Z,11nm,0.9s

IP01 **Cuckoo** 27.82 36 *eP* P 03 00 26.6 +0.5
comp=Z,22nm,0.8s

IP05 **Hopewell Churc** 27.82 37 *eP* P 03 00 26.3 +0.3
comp=Z,40nm,1.0s

SPRD **Spring Road, M** 27.88 36 *eP* P 03 00 26.9 +0.3
comp=Z,22nm,0.8s

NV01 **Mina Array Sit** 27.89 325 *eP* P 03 00 28.1 +1.1
NV01 *ePcP* PcP 03 03 43.1 +0.6

NVAR **Mina Array Bea** 27.89 325 P P 03 00 28.8 +1.8
comp=Z,19nm,1.0s,baz=149,slow=9.8,SNR=87
NVAR PcP PcP 03 03 43.1 +0.6
comp=Z,1.6nm,0.7s,baz=155,slow=3.0,SNR=5.1

PMPB **Monarch Peak** 27.89 319 *eP* P 03 00 29.2 +2.4
comp=Z,30nm,1.1s

I40A **Norwalk** 27.94 12 P P 03 00 26.2 -0.9
baz=196

HVU **Hansel Valley** 27.96 337 *eP* P 03 00 28.7 +1.2
HVU pmax pmax
comp=Z,26nm,0.8s

HVU **Hansel Valley** 27.96 337 *eP* P 03 00 28.7 +1.2
comp=Z,26nm,0.8s

J43A **Natural Harves** 27.96 16 P P 03 00 26.6 -0.7
baz=201,SNR=7.7

H33A **Prehn Over Nor** 27.99 2 P P 03 00 26.5 -1.0
baz=183,SNR=6.6

H34A **Spellman Lake,** 28.02 4 P P 03 00 26.9 -0.9
baz=185

MCWV **Mont Chateau** 28.03 31 P P 03 00 27.9 0.0
baz=220,SNR=9.1

MCWV **Mont Chateau** 28.03 31 *eP* P 03 00 28.4 +0.5
comp=Z,44nm,1.1s

SDV **Santo Domingo** 28.07 102 P P 03 00 30.0 +1.2
comp=Z,24nm,0.8s,baz=312,slow=3.4,SNR=35

SDV **Santo Domingo** 28.07 102 *eP* P 03 00 30.1 +1.4
comp=Z,42nm,0.8s

SDV **Santo Domingo** 28.07 102 *eP* P 03 00 29.1 +0.3
H36A **Jesseland, He** 28.10 7 P P 03 00 27.6 -0.8
baz=189,SNR=21

H35A **Sunnyside Ranc** 28.13 5 P P 03 00 27.4 -1.3
baz=187,SNR=9.2

RYN **Ryan** 28.15 325 *eP* P 03 00 31.3 +2.1
comp=Z,26nm,1.5s

H37A **Dierke Farm, C** 28.23 8 P P 03 00 28.7 -0.9
baz=191,SNR=8.3

KVN **Kaiserville** 28.23 326 *eP* P 03 00 31.1 +1.1
KVN pmax pmax
comp=Z,17nm,1.0s

KVN **Kaiserville** 28.23 326 *eP* P 03 00 31.1 +1.1
comp=Z,17nm,1.0s

AHID **Auburn Hatcher** 28.23 340 *eP* P 03 00 30.9 +1.0
comp=Z,78nm,1.8s

I41A **Arkdale** 28.26 13 P P 03 00 29.1 -0.8
baz=197

CBN **Corbin Frederi** 28.30 36 P P 03 00 29.4 -0.9
baz=226

CBN **Corbin Frederi** 28.30 36 *eP* P 03 00 30.8 +0.5
comp=Z,29nm,0.8s

I42A **Draeger Farm,** 28.32 14 P P 03 00 30.1 -0.3
baz=199,SNR=11

H38A **Maiden Rock** 28.41 9 P P 03 00 30.6 -0.7
baz=192,SNR=12

I43A **Langenfeld Bro** 28.50 16 P P 03 00 31.4 -0.7
baz=201,SNR=6.9

AAM **Ann Arbor** 28.50 23 P P 03 00 31.3 -0.8
baz=210

AAM **Ann Arbor** 28.50 23 *eP* P 03 00 32.0 -0.1
AAM pmax pmax
comp=Z,40nm,0.9s

AAM **Ann Arbor** 28.50 23 *eP* P 03 00 32.0 -0.1
comp=Z,40nm,0.9s

G33A **Ortonville** 28.51 3 P P 03 00 30.9 -1.3
baz=184,SNR=8.5

G32A **Webster** 28.54 1 P P 03 00 31.6 -0.8
baz=182,SNR=7.7

WAKR **Walker** 28.58 324 *eP* P 03 00 33.8 +0.7
comp=Z,18nm,1.4s

H39A **Augusta** 28.58 11 P P 03 00 31.9 -0.8
baz=194,SNR=13

G34A **Benson** 28.61 4 P P 03 00 31.7 -1.3
baz=186

G35A **Watkins** 28.68 6 P P 03 00 32.2 -1.4
baz=188

REDW **Red Top Meadow** 28.69 341 *eP* P 03 00 35.0 +1.0
comp=Z,142nm,1.9s

H40A **Chili** 28.69 12 P P 03 00 33.1 -0.7
baz=196,SNR=14

SNOW **Snow King Moun** 28.75 341 *eP* P 03 00 35.7 +1.2
comp=Z,33nm,1.0s

G36A **St. Michael** 28.77 7 P P 03 00 33.3 -1.1
baz=189

YERR **Yerington** 28.80 325 *eP* P 03 00 37.1 +2.0
comp=Z,11nm,1.1s

CMB **Columbia Colle** 28.81 322 *eP* P 03 00 36.1 +1.2
CMB pmax pmax
comp=Z,6.0nm,1.0s

CMB **Columbia Colle** 28.81 322 *eP* P 03 00 36.1 +1.2
comp=Z,6.3nm,1.0s

BMN **Battle Mountai** 28.81 329 *eP* P 03 00 36.8 +1.7
BMN pmax pmax
comp=Z,8.0nm,1.0s

BMN **Battle Mountai** 28.81 329 *eP* P 03 00 36.8 +1.7
comp=Z,8.3nm,1.0s

TPAW **Teton Pass** 28.83 341 *eP* P 03 00 35.7 +0.3
comp=Z,24nm,0.9s

LOHW **Long Hollow** 28.84 341 *eP* P 03 00 36.2 +0.9
comp=Z,24nm,0.8s

H41A **Junction City** 28.84 13 P P 03 00 34.7 -0.4
baz=197,SNR=12

SPMN **Marine on St.** 28.88 8 P P 03 00 34.6 -0.8
baz=191,SNR=18

SPMN **Marine on St.** 28.88 8 *eP* P 03 00 34.6 -0.8
comp=Z,55nm,0.9s

G38A **Ridgeland** 28.96 9 P P 03 00 35.1 -1.0
baz=193,SNR=12

N54A **Moraine State** 28.96 29 P P 03 00 35.7 -0.6
baz=218,SNR=6.5

N54A **Moraine State** 28.96 29 *eP* P 03 00 36.1 -0.2
comp=Z,32nm,1.1s

FXWY **Fox Creek** 28.99 341 *eP* P 03 00 37.5 +0.8
comp=Z,16nm,1.0s

H42A **Shiocton** 28.99 15 P P 03 00 35.8 -0.6
baz=200

MOOW **Moose Ponds** 29.00 341 *eP* P 03 00 38.0 +1.2
comp=Z,14nm,0.8s
MOOW *ePcP* PcP 03 03 45.5 +0.5

O56A **Blue Knob Stat** 29.13 32 P P 03 00 37.3 -0.5
baz=222,SNR=7.8

O56A **Blue Knob Stat** 29.13 32 *eP* P 03 00 38.1 +0.3
H43A **Windswept, Lux** 29.14 16 P P 03 00 37.1 -0.6
baz=201

F33A **5 Mile Ranch,** 29.16 3 P P 03 00 37.3 -0.6
baz=184

G39A **Holcombe** 29.19 10 P P 03 00 37.4 -0.7
baz=194,SNR=20

IMW **Indian Meadow** 29.20 341 *eP* P 03 00 39.5 +0.9
comp=Z,18nm,1.1s
IMW *ePcP* PcP 03 03 46.5 +0.8

VCNR **Virginia City** 29.25 325 *eP* P 03 00 41.3 +2.3
comp=Z,15nm,1.4s

F35A **Swanville** 29.30 5 P P 03 00 38.4 -0.8
baz=187

G40A **Rib Lake** 29.35 12 P P 03 00 38.8 -0.8
baz=196,SNR=13

RUBR **Rubicon Trail** 29.36 324 *eP* P 03 00 41.7 +1.6
comp=Z,33nm,1.0s

F37A **Hinrichs Farm,** 29.39 8 P P 03 00 39.1 -0.9
baz=191,SNR=6.4

PAHR **Pah Rah Range** 29.39 326 *eP* P 03 00 42.1 +1.9
comp=Z,24nm,1.8s

F36A **Milaca** 29.41 7 P P 03 00 39.0 -1.1
baz=190,SNR=12

ALLY **Alegheny Colle** 29.43 28 *eP* P 03 00 39.8 -0.6
comp=Z,32nm,0.9s

SDMD **Soldier's Deli** 29.43 35 *eP* P 03 00 41.2 +0.8
comp=Z,10nm,1.0s

G41A **Antigo** 29.51 13 P P 03 00 39.4 -1.6
baz=198,SNR=7.1

H17A **Grant Village** 29.54 342 P P 03 00 42.8 +1.2
baz=156

H17A **Grant Village** 29.54 342 *eP* P 03 00 43.9 +2.3
comp=Z,14nm,1.2s

M54A **Oil Creek Stat** 29.54 29 P P 03 00 41.0 -0.4
baz=218,SNR=11

M54A **Oil Creek Stat** 29.54 29 *eP* P 03 00 41.3 -0.1
comp=Z,42nm,0.9s

G42A **Mountain** 29.71 14 P P 03 00 41.9 -0.8
baz=199,SNR=9.7

F38A **Pierce - Schro** 29.73 9 P P 03 00 41.9 -1.0
baz=193,SNR=12

SSPA **Standing Stone** 29.75 32 P P 03 00 42.7 -0.5
baz=222

SSPA **Standing Stone** 29.75 32 *eP* P 03 00 43.3 +0.1
comp=Z,20nm,0.9s

AFDM **Forest Hills D** 29.76 323 *eP* P 03 00 44.9 +1.5
comp=Z,4.3nm,1.0s

E31A **Nome** 29.84 1 P P 03 00 42.9 -1.0
baz=181

E33A **Westby DABS, E** 29.84 3 P P 03 00 43.2 -0.8
baz=185

F39A **Loretta** 29.84 10 P P 03 00 42.8 -1.1
baz=194,SNR=6.6

RLMT **Red Lodge** 29.84 344 P P 03 00 43.3 -0.9
baz=159,SNR=5.8

RLMT **Red Lodge** 29.84 344 *eP* P 03 00 45.3 +1.0
comp=Z,28nm,0.8s

ERPA **Erie** 29.88 28 P P 03 00 43.2 -1.1
baz=217

ERPA **Erie** 29.88 28 *eP* P 03 00 43.8 -0.5
comp=Z,31nm,0.8s

G43A **Wallace** 29.90 15 P P 03 00 43.5 -0.9
baz=201

YMR **Madison River** 29.90 342 *eP* P 03 00 46.8 +2.1
comp=Z,18nm,0.9s

E34A **Wadena** 29.91 4 P P 03 00 43.6 -0.9
baz=186

YHH **Holmes Hill** 29.98 342 *eP* P 03 00 47.3 +1.7
comp=Z,9.9nm,1.0s

F40A **Park Falls** 29.99 12 P P 03 00 44.6 -0.7
baz=196,SNR=33

YMC **Maple Creek** 30.00 342 *eP* P 03 00 46.8 +1.2
E35A **Pequot Lakes** 30.01 5 P P 03 00 44.3 -1.1
baz=188,SNR=11

F41A **Three Lakes** 30.02 13 P P 03 00 44.8 -0.8
baz=198

BEKR **Beckworth** 30.04 325 *eP* P 03 00 47.2 +1.2
comp=Z,14nm,0.9s

YHB **Horse Butte** 30.05 342 *eP* P 03 00 46.2 +0.1
comp=Z,5.3nm,0.8s

E36A **McGregor** 30.09 7 P P 03 00 45.3 -0.8
baz=190,SNR=8.6

HLID **Hailey** 30.11 336 P P 03 00 46.9 +0.4
baz=148,SNR=9.0

HLID **Hailey** 30.11 336 *eP* P 03 00 47.7 +1.1
comp=Z,10.0nm,0.9s

MVL **Millersville** 30.11 35 *eP* P 03 00 47.3 +0.9
comp=Z,13nm,0.8s

QLMT **Earthquake Lak** 30.19 341 *eP* P 03 00 50.1 +2.8
F42A **Maple Grove Fa** 30.26 14 P P 03 00 47.1 -0.6
baz=200

E39A **Melen** 30.35 11 P P 03 00 47.8 -0.6
baz=195,SNR=12

COWI **Conover** 30.36 13 *eP* P 03 00 48.1 -0.5
comp=Z,33nm,1.1s

GLMI **Grayling** 30.38 19 P P 03 00 47.9 -0.9
baz=207,SNR=6.3

GLMI **Grayling** 30.38 19 *eP* P 03 00 48.5 -0.2
comp=Z,80nm,0.9s

E38A **The Farm, Brul** 30.41 9 P P 03 00 48.0 -0.9
baz=193,SNR=14

ORV **Oroville** 30.47 323 *eP* P 03 00 51.7 +2.2
ORV pmax pmax
comp=Z,7.0nm,0.9s

ORV **Oroville** 30.47 323 *eP* P 03 00 51.7 +2.2
comp=Z,6.8nm,0.9s

D34A **Park Rapids** 30.47 4 P P 03 00 48.1 -1.4
baz=186

D33A **AnnSam, Waubun** 30.48 3 P P 03 00 48.0 -1.7
baz=185,SNR=6.8

E40A **Wakefield** 30.54 12 P P 03 00 49.3 -0.8
baz=196,SNR=27

MFID **Camas Ranch** 30.55 334 *eP* P 03 00 51.9 +1.5
comp=Z,15nm,1.1s

D35A **Remer** 30.56 6 P P 03 00 49.2 -1.1
baz=188,SNR=7.8

F43A **Flat Rock, Esc** 30.57 15 P P 03 00 48.4 -1.9
baz=201

GCMT **Greycliff** 30.57 344 *eP* P 03 00 51.6 +1.1
MCMT **McKenzie Canyo** 30.64 340 *eP* P 03 00 53.6 +2.3
LAO **LASA Array** 30.67 349 P P 03 00 51.4 +0.1
baz=165,SNR=9.2

LAO **LASA Array** 30.67 349 *eP* P 03 00 51.6 +0.3
comp=Z,46nm,1.3s

SJG **San Juan** 30.74 82 *eP* P 03 00 52.2 0.0
SJG pmax pmax
comp=Z,18nm,0.8s

SJG **San Juan** 30.74 82 *eP* P 03 00 52.2 0.0
comp=Z,18nm,0.8s

E41A **Kenton** 30.75 13 P P 03 00 51.2 -0.7
baz=198,SNR=8.6

D36A **Goodland** 30.75 7 P P 03 00 50.7 -1.2
baz=190,SNR=14

D37A **Cotton** 30.82 8 P P 03 00 51.6 -1.0
baz=191,SNR=12

F45A **CMU Biological** 30.88 18 P P 03 00 52.5 -0.6
baz=204,SNR=8.6

F44A **Big Bay de Noc** 30.90 16 P P 03 00 52.6 -0.7
baz=203,SNR=15

BOZ **Bozeman (W)** 30.94 342 P P 03 00 54.5 +0.7
baz=155

E42A **Champion** 30.95 14 P P 03 00 52.9 -0.8
baz=200,SNR=9.9

CBYP **Canovanas** 31.01 82 *eP* P 03 00 53.4 -1.3
comp=Z,40nm,1.1s

HUMP **Col San Antoni** 31.02 82 *eP* P 03 00 53.2 -1.4
comp=Z,28nm,1.2s

WVOR **Wild Horse Val** 31.02 330 *eP* P 03 00 56.1 +1.5
WVOR pmax pmax
comp=Z,28nm,1.1s

WVOR **Wild Horse Val** 31.02 330 *eP* P 03 00 56.1 +1.5
comp=Z,28nm,1.1s

DLMT **Dillon** 31.03 340 *eP* P 03 00 56.4 +1.7
comp=Z,32nm,0.9s

C34A **RKJ Ranch, Bem** 31.05 4 P P 03 00 53.2 -1.4
baz=186,SNR=5.4

LUPA **Lehigh Univers** 31.07 35 *eP* P 03 00 55.5 +0.7
comp=Z,2.1nm,0.9s

N59A **State Game Lan** 31.07 34 P P 03 00 54.3 -0.6
baz=225

N59A **State Game Lan** 31.07 34 *eP* P 03 00 55.4 +0.4
comp=Z,12nm,0.9s

C31A **Landman Farms,** 31.07 1 P P 03 00 53.9 -0.9
baz=181,SNR=7.1

E43A **Lone Tree Farm** 31.12 15 P P 03 00 54.2 -1.0
baz=201,SNR=11

O03D **Paynes Creek** 31.14 324 P P 03 00 56.0 +0.4
baz=133

MDND **Maddock** 31.14 358 P P 03 00 54.9 -0.5
baz=178

MDND **Maddock** 31.14 358 *eP* P 03 00 56.0 +0.6
comp=Z,71nm,0.9s

C35A **Jirik Farms, M** 31.18 6 P P 03 00 54.6 -1.2
baz=188,SNR=8.1

F46A **Macinaw City C** 31.19 19 P P 03 00 55.1 -0.7
baz=206,SNR=7.0

MTP **Monte Pirata** 31.31 82 *eP* P 03 00 57.5 +0.3
comp=Z,52nm,1.0s

MMNY **Mt. Morris Dam** 31.32 30 *eP* P 03 00 57.1 +0.1
comp=Z,34nm,1.0s

C36A **Pine Crest Far** 31.36 7 P P 03 00 56.6 -0.8
baz=190,SNR=12

LRM **Limekiln Ridge** 31.40 341 *eP* P 03 00 59.8 +1.8
D41A **Chassel** 31.40 13 P P 03 00 56.9 -0.8
baz=198,SNR=19

C37A **Embarrass** 31.42 8 P P 03 00 57.0 -0.9
baz=191

MOD **Modoc Plateau** 31.45 328 *eP* P 03 00 59.9 +1.5
comp=Z,20nm,0.9s

C38A **Sawbill Land.** 31.54 9 P P 03 00 57.5 -1.4
baz=193,SNR=8.5

BRNJ **Basking Ridge** 31.57 36 *eP* P 03 00 59.6 +0.3
comp=Z,44nm,1.1s

E45A **Wooded Hills,** 31.59 18 P P 03 00 58.8 -0.6
baz=205,SNR=5.1

E44A **Grand Marais A** 31.63 16 P P 03 00 59.1 -0.6
baz=203

AGMN **Agassiz Nation** 31.64 3 P P 03 00 59.1 -0.7
baz=185,SNR=11

AGMN **Agassiz Nation** 31.64 3 *eP* P 03 00 59.3 -0.5
comp=Z,34nm,0.8s

J08A **Circle Bar Ran** 31.66 331 *eP* P 03 01 01.7 +1.5
comp=Z,41nm,0.9s

B32A **Ashes, Grandg** 31.70 2 P P 03 00 59.5 -0.8
baz=183,SNR=18

EYMN **Ely** 31.73 9 P P 03 00 59.4 -1.1
baz=193,SNR=12

EYMN **Ely** 31.73 9 *eP* P 03 00 59.8 -0.7
comp=Z,19nm,0.7s

C39A **Grand Marais** 31.82 11 P P 03 01 00.3 -1.0
baz=195,SNR=9.9

ODNJ **Ogdensburg** 31.82 35 *eP* P 03 01 01.7 +0.2
comp=Z,16nm,0.9s

B35A **Bob, Littlefor** 31.86 6 P P 03 01 00.5 -1.2
baz=188,SNR=11

BINY **Binghamton** 31.87 32 P P 03 01 01.3 -0.6
baz=224,SNR=9.9

BINY **Binghamton** 31.87 32 *eP* P 03 01 02.0 0.0
comp=Z,29nm,0.9s

B34A **Aery, Baudette** 31.91 5 P P 03 01 00.8 -1.3
baz=187,SNR=6.1

N02D **Trinity Center** 32.10 324 P P 03 01 03.8 -0.2
baz=132

PAL **Palisades** 32.16 36 P P 03 01 03.5 -0.9
baz=228

PAL **Palisades** 32.16 36 *eP* P 03 01 04.6 +0.2
PAL pmax pmax
comp=Z,31nm,1.0s

PAL **Palisades** 32.16 36 *eP* P 03 01 04.6 +0.2
comp=Z,31nm,1.0s

M04C **Macdoel** 32.17 326 P P 03 01 05.0 +0.2
baz=134,SNR=5.5

A32A **Rocking H Ranc** 32.23 2 P P 03 01 04.1 -0.8
baz=183,SNR=5.3

A33A **Warroad** 32.30 4 P P 03 01 04.7 -0.9
baz=185,SNR=10

BMO **Blue Mountains** 32.34 334 *eP* P 03 01 06.2 +0.1
BMO pmax pmax
comp=Z,14nm,1.2s

BMO **Blue Mountains** 32.34 334 *eP* P 03 01 06.2 +0.1
comp=Z,14nm,1.2s

KLBO **Killbear Provi** 32.42 24 P P 03 01 05.3 -1.3
baz=214,SNR=8.0

M02C **Callahan** 32.46 324 P P 03 01 07.2 0.0
baz=133

YBH **Yreka Blue Hor** 32.61 325 P P 03 01 07.7 -0.8
comp=Z,2.6nm,0.8s,baz=170,slow=7.5,SNR=6.2
YBH LR LR 03 15 39.3
comp=Z,261nm,20.4s,baz=165,slow=39

EGMT **Eagleton** 32.68 346 P P 03 01 09.7 +0.7
baz=160

EGMT **Eagleton** 32.68 346 *eP* P 03 01 09.8 +0.8
comp=Z,60nm,1.4s

I07A **Izee** 32.69 331 *eP* P 03 01 09.8 +0.5
comp=Z,61nm,2.0s

MSO **Missoula** 32.77 340 P P 03 01 10.5 +0.6
baz=152

MSO **Missoula** 32.77 340 *eP* P 03 01 10.9 +1.1
comp=Z,74nm,0.8s

BUKO **Buck Lake** 32.81 25 P P 03 01 09.0 -1.1
baz=215,SNR=10

DELO **Deloro Mine** 32.83 28 P P 03 01 09.3 -0.9
baz=219,SNR=15

J05D **Fort Rock, OR** 32.93 328 P P 03 01 11.7 +0.3
baz=137

BANO **Bancroft** 33.09 27 P P 03 01 11.2 -1.3
baz=218,SNR=5.1

F10A **Beach Ranch, E** 33.23 336 *eP* P 03 01 14.8 +1.0
comp=Z,28nm,0.9s

J04D **Umpqua Nationa** 33.34 328 P P 03 01 15.7 +0.6
baz=136

G08A **Pilot Rock** 33.39 333 *eP* P 03 01 16.2 +0.9
comp=Z,20nm,0.8s

L02D **Cave Junction,** 33.39 325 P P 03 01 15.8 +0.6
baz=132

PLVO **Plevna** 33.48 28 *eP* P 03 01 16.4 +0.4
comp=Z,13nm,1.0s

ULM **Lac du Bonnet** 33.59 3 P P 03 01 15.7 -1.1
comp=Z,4.3nm,0.7s,baz=188,slow=7.8,SNR=12

ULM					LR	LR	03 15 55.8		
	comp=Z,346nm,21.9s,baz=184,slow=38								
ULM	**Lac du Bonnet**	**33.59**	**3**	*e*P	**P**		**03 01 15.4**	**-1.4**	
ULM				pmax	pmax				
	comp=Z,4.0nm,0.6s								
ULM	**Lac du Bonnet**	**33.59**	**3**	*e*P	**P**		**03 01 16.0**	**-0.8**	
	comp=Z,14nm,0.9s								
JTMT	**Jette**	**33.69**	**340**	*e*P	**P**		**03 01 18.8**	**+0.9**	
	comp=Z,15nm,1.0s								
I05D	**Terrebonne, OR**	**33.76**	**330**	P	**P**		**03 01 19.5**	**+1.1**	
	baz=138								
QUA2	**Belchertown**	**33.88**	**36**	*e*P	**P**		**03 01 19.4**	**0.0**	
	comp=Z,20nm,0.9s								
I04A	**Tendick Farm,**	**33.89**	**328**	P	**P**		**03 01 20.5**	**+0.9**	
	baz=136								
E09A	**Wood Farm, Sta**	**34.03**	**335**	*e*P	**P**		**03 01 21.4**	**+0.7**	
	comp=Z,15nm,1.1s								
NCB	**Newcomb**	**34.04**	**32**	*e*P	**P**		**03 01 20.8**	**-0.1**	
	comp=Z,37nm,1.7s								
KEBM	**Edson Butte**	**34.27**	**325**	*e*P	**P**		**03 01 25.6**	**+2.7**	
	comp=Z,126nm,1.0s								
I03D	**Drain, OR**	**34.30**	**327**	P	**P**		**03 01 24.0**	**+0.8**	
	baz=134								
LONY	**Lake Ozonia**	**34.33**	**31**	P	**P**		**03 01 22.7**	**-0.7**	
	baz=223,SNR=9.9								
LONY	**Lake Ozonia**	**34.33**	**31**	*e*P	**P**		**03 01 23.2**	**-0.2**	
	comp=Z,13nm,0.8s								
G05D	**Wamic, OR**	**34.42**	**331**	P	**P**		**03 01 25.0**	**+0.9**	
	baz=139								
H04A	**Detroit Lake**	**34.42**	**329**	*e*P	**P**		**03 01 24.8**	**+0.6**	
	comp=Z,44nm,0.8s								
HRV	**Adam Dziewonsk**	**34.47**	**36**	P	**P**		**03 01 24.3**	**-0.3**	
	baz=230								
HRV	**Adam Dziewonsk**	**34.47**	**36**	*e*P	**P**		**03 01 24.7**	**+0.1**	
HRV				pmax	pmax				
	comp=Z,15nm,1.0s								
HRV	**Adam Dziewonsk**	**34.47**	**36**	*e*P	**P**		**03 01 24.7**	**+0.1**	
	comp=Z,15nm,1.0s								
WALA	**Waterton Lakes**	**34.73**	**342**	*e*P	**P**		**03 01 28.1**	**+1.2**	
	comp=Z,38nm,1.6s								
E07A	**Sunnyside**	**34.78**	**334**	*e*P	**P**		**03 01 28.9**	**+1.7**	
	comp=Z,20nm,1.3s								
ALFO	**Alfred**	**34.93**	**29**	P	**P**		**03 01 27.7**	**-0.8**	
	baz=222,SNR=8.4								
FRNY	**Flat Rock**	**34.98**	**31**	*e*P	**P**		**03 01 28.9**	**0.0**	
	comp=Z,10.0nm,0.9s								
NEW	**Newport**	**35.10**	**338**	P	**P**		**03 01 29.9**	**-0.1**	
	comp=Z,6.2nm,1.0s,baz=146,slow=7.8,SNR=7.9								
NEW	**Newport**	**35.10**	**338**	P	**P**		**03 01 31.2**	**+1.2**	
	baz=148								
NEW	**Newport**	**35.10**	**338**	*e*P	**P**		**03 01 31.7**	**+1.7**	
NEW				pmax	pmax				
	comp=Z,6.0nm,0.8s								
NEW	**Newport**	**35.10**	**338**	*e*P	**P**		**03 01 31.7**	**+1.7**	
	comp=Z,6.0nm,0.8s								
C09A	**Chrisman Ranch**	**35.14**	**336**	*e*P	**P**		**03 01 31.2**	**+0.9**	
	comp=Z,20nm,1.1s								
LBNH	**Lisbon**	**35.42**	**33**	P	**P**		**03 01 33.1**	**+0.4**	
	baz=227								
LBNH	**Lisbon**	**35.42**	**33**	*e*P	**P**		**03 01 33.5**	**+0.7**	
LBNH				pmax	pmax				
	comp=Z,38nm,1.5s								
LBNH	**Lisbon**	**35.42**	**33**	*e*P	**P**		**03 01 33.5**	**+0.7**	
	comp=Z,38nm,1.5s								
NNA	**Nana**	**35.51**	**142**	*e*P	**P**		**03 01 35.8**	**+2.0**	
NNA				pmax	pmax				
	comp=Z,27nm,1.1s								
NNA	**Nana**	**35.51**	**142**	*e*P	**P**		**03 01 35.8**	**+2.0**	
	comp=Z,27nm,1.1s								
TRQ	**Mont Tremblant**	**35.53**	**29**	*e*P	**P**		**03 01 33.8**	**+0.1**	
LTY	**Liberty**	**35.67**	**334**	*e*P	**P**		**03 01 36.0**	**+1.0**	
	comp=Z,33nm,1.3s								
LON	**Longmire**	**35.78**	**332**	*e*P	**P**		**03 01 37.3**	**+1.4**	
LON				pmax	pmax				
	comp=Z,28nm,1.1s								
LON	**Longmire**	**35.78**	**332**	*e*P	**P**		**03 01 37.3**	**+1.4**	
	comp=Z,28nm,1.1s								
B08A	**Colville Reser**	**36.00**	**336**	*e*P	**P**		**03 01 38.7**	**+0.9**	
	comp=Z,11nm,1.0s								
D05A	**Enumclaw**	**36.19**	**332**	*e*P	**P**		**03 01 40.9**	**+1.6**	
	comp=Z,54nm,0.9s								
C06D	**Leavenworth**	**36.29**	**334**	P	**P**		**03 01 41.5**	**+1.3**	
	baz=142								
NIHS	**Ingelmoor High**	**36.72**	**333**	*e*P	**P**		**03 01 44.9**	**+1.1**	
B05A	**Bryant**	**37.06**	**333**	P	**P**		**03 01 47.2**	**+0.5**	
	baz=140								
PKME	**Peaks-Kenny Pk**	**37.50**	**34**	P	**P**		**03 01 50.5**	**0.0**	
	baz=230								
A04D	**Lummi Island**	**37.67**	**333**	P	**P**		**03 01 53.1**	**+1.2**	
	baz=140								
FFC	**Flin Flon**	**38.11**	**357**	*e*P	**P**		**03 01 55.5**	**0.0**	
FFC				pmax	pmax				
	comp=Z,43nm,0.8s								
FFC	**Flin Flon**	**38.11**	**357**	*e*P	**P**		**03 01 55.5**	**0.0**	
	comp=Z,43nm,0.8s								
EDM	**Edmonton**	**38.36**	**345**	*e*P	**P**		**03 01 58.0**	**+0.3**	
EDM				pmax	pmax				
	comp=Z,53nm,0.8s								
EDM	**Edmonton**	**38.36**	**345**	*e*P	**P**		**03 01 58.0**	**+0.3**	
	comp=Z,53nm,0.8s								
LLLB	**Lillooet**	**38.80**	**336**	*e*P	**P**		**03 02 02.6**	**+1.1**	
	comp=Z,18nm,0.8s								
PQI	**Presque Isle**	**39.09**	**33**	*e*P	**P**		**03 02 04.2**	**+0.3**	
	comp=Z,28nm,1.0s								
FCC	**Fort Churchill**	**42.17**	**3**	*e*P	**P**		**03 02 29.6**	**+0.5**	
FCC				pmax	pmax				
	comp=Z,14nm,0.8s								
FCC	**Fort Churchill**	**42.17**	**3**	*e*P	**P**		**03 02 29.6**	**+0.5**	
	comp=Z,14nm,0.8s								
SAML	**Samuel**	**43.08**	**124**⇑	*e*P	**P**		**03 02 36.5**	**-0.6**	
SAML				pmax	pmax				
	comp=Z,3.0nm,1.7s								
LPAZ	**La Paz**	**44.25**	**136**	LR	LR		03 19 17.3		
	comp=Z,228nm,21.7s,baz=318,slow=33								
RPN	**Rapa Nui**	**44.79**	**194**	LR	LR		03 16 51.2		
	comp=Z,183nm,22.0s,baz=40,slow=30								
SCHQ	**Schefferville**	**45.17**	**25**	P	**P**		**03 02 53.1**	**-0.3**	
	comp=Z,26nm,0.9s,baz=231,slow=7.4,SNR=35								
SCHQ				LR	LR		03 24 53.7		
	comp=Z,248nm,18.0s,baz=315,slow=40								
SCHQ	**Schefferville**	**45.17**	**25**	*e*P	**P**		**03 02 53.1**	**-0.3**	
	comp=Z,38nm,1.0s								
YKA	**Yellowknife Ar**	**47.21**	**350**	P	**P**		**03 03 08.7**	**-0.5**	
	comp=Z,11nm,0.9s,baz=158,slow=7.3,SNR=103								
YKA				LR	LR		03 24 33.4		
	comp=Z,43nm,20.9s,baz=180,slow=38								
YKB5	**Yellowknife Ar**	**47.21**	**350**	*e*P	**P**		**03 03 08.7**	**-0.5**	
YKW3	**Yellowknife Ar**	**47.27**	**350**	*e*P	**P**		**03 03 09.4**	**-0.3**	
	comp=Z,15nm,1.0s								
DLBC	**Dease Lake**	**47.85**	**338**	*e*P	**P**		**03 03 16.7**	**+2.3**	
	comp=Z,19nm,0.9s								
TAOE	**Nuku Hiva Isla**	**48.50**	**242**	*e*T	T		03 54 36.6		
	comp=Z,62nm,0.2s								
SIV	**San Ignacio**	**49.02**	**130**	LR	LR		03 23 27.9		
	comp=Z,205nm,18.3s,baz=9.0,slow=35								
WHY	**Whitehorse**	**51.17**	**338**	*e*P	**P**		**03 03 41.4**	**+1.6**	
	comp=Z,9.4nm,0.9s								
FRB	**Frobisher Bay**	**51.33**	**16**	P	**P**		**03 03 40.7**	**+0.1**	
	comp=Z,3.8nm,0.7s,baz=233,slow=9.8,SNR=11								
HYT	**Haines Junctio**	**52.25**	**337**	*e*P	**P**		**03 03 49.3**	**+1.5**	
	comp=Z,16nm,1.1s								
RKT	**Rikitea**	**53.34**	**223**	*e*LR	LR		03 19 15.7		
	comp=Z,515nm,24.8s,baz=37								
RKT	**Rikitea**	**53.34**	**223**	*e*T	T		04 00 38.8		
	comp=Z,27nm,0.3s								
DAWY	**Dawson**	**55.01**	**339**	*e*P	**P**		**03 04 08.7**	**+0.8**	
	comp=Z,6.8nm,0.8s								
KLU	**Klutina**	**55.95**	**335**	*e*P	**P**		**03 04 17.6**	**+2.9**	
	comp=Z,18nm,1.4s								
EGAK	**Eagle**	**56.05**	**339**	*e*P	**P**		**03 04 15.7**	**+0.3**	
	comp=Z,14nm,0.8s								
INK	**Inuvik**	**56.26**	**345**	P	**P**		**03 04 16.9**	**+0.3**	
	comp=Z,15nm,0.8s,baz=129,slow=7.8,SNR=61								
INK	**Inuvik**	**56.26**	**345**	*e*P	**P**		**03 04 17.0**	**+0.3**	
INK				pmax	pmax				
	comp=Z,18nm,0.8s								
INK	**Inuvik**	**56.26**	**345**	*e*P	**P**		**03 04 17.0**	**+0.3**	
	comp=Z,18nm,0.8s								
DOT	**Dot Lake**	**56.40**	**337**	*e*P	**P**		**03 04 19.1**	**+1.3**	
	comp=Z,48nm,1.0s								
PAX	**Paxson**	**56.56**	**336**	*e*P	**P**		**03 04 20.1**	**+1.1**	
PAX				pmax	pmax				
	comp=Z,12nm,1.0s								
PAX	**Paxson**	**56.56**	**336**	*e*P	**P**		**03 04 20.1**	**+1.1**	
	comp=Z,12nm,1.0s								
SCRK	**Sand Creek**	**56.56**	**338**	*e*P	**P**		**03 04 20.6**	**+1.5**	
	comp=Z,18nm,1.1s								
RIDG	**Independ'e Rid**	**56.74**	**337**	*e*P	**P**		**03 04 21.5**	**+1.2**	
	comp=Z,29nm,1.0s								
PMR	**Palmer**	**57.33**	**334**	*e*P	**P**		**03 04 25.0**	**+0.6**	
PMR				pmax	pmax				
	comp=Z,62nm,2.0s								
PMR	**Palmer**	**57.33**	**334**	*e*P	**P**		**03 04 25.0**	**+0.6**	
	comp=Z,62nm,2.0s								
HDA	**Harding Lake**	**57.88**	**337**	*e*P	**P**		**03 04 26.5**	**-1.8**	
	comp=Z,12nm,0.9s								
SUA	**Susitna One**	**57.96**	**333**	*e*P	**P**		**03 04 29.9**	**+0.8**	
	comp=Z,18nm,0.7s								
IL1	**Eielson Array**	**58.05**	**338**	*e*P	**P**		**03 04 29.6**	**+0.1**	
ILAR	**Eielson Array**	**58.05**	**338**	P	**P**		**03 04 29.8**	**+0.3**	
	comp=Z,9.6nm,1.0s,baz=135,slow=4.7,SNR=54								
ILAR				LR	LR		03 31 49.8		
	comp=Z,562nm,18.4s,baz=132,slow=38								
ILB	**Eielson Array**	**58.05**	**338**	*e*P	**P**		**03 04 29.9**	**+0.4**	
RES	**Resolute Bay**	**58.09**	**1**	P	**P**		**03 04 28.9**	**-0.6**	
	comp=Z,3.7nm,0.7s,baz=191,slow=10,SNR=25								
RES	**Resolute Bay**	**58.09**	**1**	*e*P	**P**		**03 04 29.0**	**-0.5**	
RES				pmax	pmax				
	comp=Z,7.0nm,0.8s								
RES	**Resolute Bay**	**58.09**	**1**	*e*P	**P**		**03 04 29.0**	**-0.5**	
	comp=Z,7.1nm,0.8s								
RND	**Reindeer**	**58.10**	**336**	*e*P	**P**		**03 04 31.1**	**+1.2**	
RND				pmax	pmax				
	comp=Z,20nm,0.9s								
RND	**Reindeer**	**58.10**	**336**	*e*P	**P**		**03 04 31.1**	**+1.2**	
	comp=Z,20nm,0.9s								
MCK	**McKinley**	**58.29**	**336**	*e*P	**P**		**03 04 31.9**	**+0.7**	
MCK				pmax	pmax				
	comp=Z,23nm,1.2s								
MCK	**McKinley**	**58.29**	**336**	*e*P	**P**		**03 04 31.9**	**+0.7**	
	comp=Z,23nm,1.2s								
CCB	**Clear Creek Bu**	**58.33**	**337**	*e*P	**P**		**03 04 31.5**	**+0.1**	
	comp=Z,8.0nm,1.2s								
WRH	**Wood River Hil**	**58.34**	**337**	*e*P	**P**		**03 04 31.8**	**+0.3**	
	comp=Z,15nm,1.1s								
SPU	**Mount Spurr**	**58.41**	**333**	*e*P	**P**		**03 04 33.0**	**+0.9**	
CPUP	**Villa Florida**	**58.42**	**136**	P	**P**		**03 04 31.4**	**-1.2**	
	comp=Z,2.2nm,0.9s,baz=318,slow=9.3,SNR=5.0								
CPUP	**Villa Florida**	**58.42**	**136**	*e*P	**P**		**03 04 31.4**	**-1.2**	
CPUP				pmax	pmax				
	comp=Z,7.0nm,1.4s								
CPUP	**Villa Florida**	**58.42**	**136**	*e*P	**P**		**03 04 31.4**	**-1.2**	
	comp=Z,6.9nm,1.4s								
COLA	**College**	**58.46**	**338**	*e*P	**P**		**03 04 32.9**	**+0.6**	
COLA				pmax	pmax				
	comp=Z,12nm,0.9s								
COLA	**College**	**58.46**	**338**	*e*P	**P**		**03 04 32.9**	**+0.6**	
	comp=Z,12nm,0.9s								
MDM	**Murphy Dome**	**58.64**	**338**	*e*P	**P**		**03 04 34.0**	**+0.3**	
	comp=Z,5.3nm,0.8s								
TRF	**Thorofare Moun**	**58.68**	**336**	*e*P	**P**		**03 04 35.0**	**+0.9**	
	comp=Z,27nm,0.7s								
KTH	**Kantishna Hill**	**58.98**	**335**	*e*P	**P**		**03 04 36.6**	**+0.5**	
	comp=Z,16nm,1.0s								
SFJD	**Kangerlussuaq**	**58.99**	**20**	LR	LR		03 32 51.1		
	comp=Z,166nm,18.1s,baz=241,slow=39								
PPLA	**Pukeygille**	**59.20**	**334**	*e*P	**P**		**03 04 38.2**	**+0.5**	
	comp=Z,34nm,1.5s								
BPAW	**Bear Paw Mtn.**	**59.26**	**336**	*e*P	**P**		**03 04 38.0**	**0.0**	
	comp=Z,9.1nm,1.0s								
CAST	**Castle Rocks**	**59.39**	**335**	*e*P	**P**		**03 04 38.8**	**0.0**	
	comp=Z,16nm,0.8s								
MLY	**Manley**	**59.60**	**337**	*e*P	**P**		**03 04 40.7**	**+0.3**	
	comp=Z,15nm,1.0s								
SVW2	**Sparrevohn**	**59.95**	**332**	*e*P	**P**		**03 04 42.3**	**-0.4**	
	comp=Z,22nm,1.2s								
COLD	**Coldfoot**	**60.49**	**339**	*e*P	**P**		**03 04 47.4**	**+1.1**	
	comp=Z,12nm,1.3s								
PPT	**Papeete**	**60.84**	**238**	LR	LR		03 24 47.4		
	comp=Z,117nm,20.6s,baz=16,slow=30								
PPT2	**Papeete2**	**60.85**	**238**	*e*LR	LR		03 22 36.8		
	comp=Z,392nm,25.8s,baz=51								
TOLK	**Toolik Lake Re**	**61.01**	**341**	P	**P**		**03 04 50.3**	**+0.4**	
	baz=121,SNR=6.9								
TOLK	**Toolik Lake Re**	**61.01**	**341**	*e*P	**P**		**03 04 50.3**	**+0.4**	
	comp=Z,9.8nm,1.0s								
PLCA	**Paso Flores**	**62.65**	**156**	pP	**pP**		**03 05 08.3**	**-0.4**	
	comp=Z,10nm,0.8s,baz=353,slow=7.5,SNR=13								
PLCA				LR	LR		03 27 14.6		
	comp=Z,207nm,18.8s,baz=348,slow=31								
PLCA	**Paso Flores**	**62.65**	**156**	*e*P	**P**		**03 05 02.5**	**+1.3**	
PLCA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
TBI	**Tubuai**	**63.84**	**233**	*e*LR	LR		03 24 05.2		
	comp=Z,262nm,25.5s,baz=59								
TBI	**Tubuai**	**63.84**	**233**	*e*T	T		04 13 46.3		
	comp=Z,46nm,0.2s								
SUMG	**Summit**	**65.40**	**17**	*i* P	**P**		**03 05 19.7**	**+0.3**	
SUMG				pmax	pmax				
	comp=Z,28nm,1.1s								
SUMG	**Summit**	**65.40**	**17**	*i* P	**P**		**03 05 19.7**	**+0.3**	
	comp=Z,28nm,1.1s								
SUMG	**Summit**	**65.40**	**17**	*e*P	**P**		**03 05 19.7**	**+0.3**	
	comp=Z,9.4nm,0.9s								
RAR	**Rarotonga**	**71.01**	**240**	LR	LR		03 28 52.2		
	comp=Z,211nm,18.2s,baz=96,slow=29								
DAG	**Danmarks Havn**	**71.55**	**14**	*i* P	**P**		**03 05 56.3**	**-0.9**	
DAG				pmax	pmax				
	comp=Z,12nm,1.0s								
DAG	**Danmarks Havn**	**71.55**	**14**	*i* P	**P**		**03 05 56.3**	**-0.9**	
	comp=Z,12nm,1.0s								
BILL	**Bilibino**	**76.71**	**337**	*i* P	**P**		**03 06 26.8**	**-0.7**	
BILL				*i*			03 06 37.2		
BILL				pmax	pmax				
	comp=Z,15nm,1.0s								
AFI	**Afiamalu**	**78.61**	**252**	LR	LR		03 35 52.5		
	comp=Z,74nm,19.5s,baz=86,slow=32								
SPITS	**Spitsbergen Ar**	**78.71**	**11**	P	**P**		**03 06 39.0**	**+0.5**	
	comp=Z,8.5nm,1.0s,baz=329,slow=7.2,SNR=4.1								
SPITS				LR	LR		03 43 53.8		
	comp=Z,135nm,18.2s,baz=10.0,slow=38								
EKA	**Eskdalemuir Ar**	**79.39**	**35**	LR	LR		03 41 16.4		
	comp=Z,83nm,21.5s,baz=160,slow=35								
POLO	**Lamas de Olo**	**79.60**	**50**	*e*P	**P**		**03 06 45.0**	**+0.8**	
PVIS	**Viseu**	**79.67**	**51**	*e*P	**P**		**03 06 46.3**	**+1.8**	
MTE	**Manteigas**	**80.01**	**51**	*e*P	**P**		**03 06 46.7**	**+0.3**	
PCBR	**Castelo Branco**	**80.19**	**51**	*e*P	**P**		**03 06 47.6**	**+0.4**	
MVO	**Moncorvo**	**80.21**	**50**	*e*P	**P**		**03 06 47.8**	**+0.4**	
PVAQ	**Vaqueiros**	**80.57**	**54**	*e*P	**P**		**03 06 50.0**	**+0.6**	
ESDC	**Sonseca Array**	**82.85**	**51**	P	**P**		**03 07 01.7**	**+0.3**	
	comp=Z,2.0nm,0.9s,baz=296,slow=4.7,SNR=7.6								
ESDC				sP	**sP**		**03 07 11.4**	**-0.4**	
	comp=Z,1.0nm,0.7s,baz=301,slow=4.9,SNR=4.7								
ESDC				LR	LR		03 41 16.7		
	comp=Z,110nm,20.0s,baz=250,slow=34								
ES19	**SONSECA Array**	**82.89**	**51**	*e*P	**P**		**03 07 01.8**	**+0.1**	
SEY	**Seymchan**	**83.78**	**334**	P	**P**		**03 07 06.2**	**+0.6**	
	comp=Z,6.6nm,0.6s,baz=89,slow=5.2,SNR=28								
SEY				sP	**sP**		**03 07 16.4**	**+0.3**	
	comp=Z,2.4nm,0.7s,baz=102,slow=3.7,SNR=6.6								
SEY	**Seymchan**	**83.78**	**334**⇑	*i* P	**P**		**03 07 06.2**	**+0.6**	
SEY				*i*			03 07 15.5		
NBO02	**NORSAR Array S**	**84.53**	**27**	*e*P	**P**		**03 07 09.4**	**-0.1**	
KONO	**Kongsberg**	**84.54**	**29**⇓	*i* P	**P**		03 07 21.7	+12	
NB2	**NORSAR Subarra**	**84.70**	**27**	P	**P**		**03 07 11.0**	**+0.6**	
	comp=Z,1.4nm,0.9s,baz=298,slow=5.1								
NB200	**NORSAR Array S**	**84.70**	**27**	*e*P	**P**		**03 07 11.2**	**+0.8**	
NOA	**NORSAR Array B**	**84.70**	**27**	P	**P**		**03 07 11.2**	**+0.8**	
	comp=Z,4.4nm,1.0s,baz=298,slow=4.8,SNR=5.0								
NOA				sP	**sP**		**03 07 21.3**	**+0.5**	
	comp=Z,3.2nm,0.7s,baz=300,slow=5.0,SNR=6.3								
NOA				LR	LR		03 47 59.2		
	comp=Z,52nm,18.4s,baz=300,slow=38								
PEA1	**Petropavlovsk-**	**84.97**	**324**	*e*P	**P**		**03 07 12.7**	**+0.7**	
PETK	**Petropavlovsk-**	**84.97**	**324**	P	**P**		**03 07 12.7**	**+0.7**	
	comp=Z,12nm,0.9s,baz=74,slow=11,SNR=5.2								
PETK				sP	**sP**		**03 07 22.6**	**+0.2**	
	comp=Z,5.5nm,0.7s,baz=60,slow=8.8,SNR=3.5								
DOU	**Dourbes**	**85.44**	**39**	⇑P	**P**		**03 07 12.7**	**-1.6**	
ARA0	**ARCESS Array S**	**85.49**	**17**	*e*P	**P**		**03 07 13.9**	**-0.3**	
ARCES	**ARCESS Array B**	**85.49**	**17**	P	**P**		**03 07 13.9**	**-0.3**	
	comp=Z,5.6nm,0.8s,baz=308,slow=6.0,SNR=10								
ARCES				LR	LR		03 47 27.3		
	comp=Z,68nm,18.7s,baz=302,slow=37								
BCLA	**Clavier**	**85.75**	**39**	⇑P	**P**		**03 07 16.1**	**+0.3**	
MA2	**Magadan**	**85.93**	**332**	P	**P**		**03 07 17.1**	**+0.5**	
	comp=Z,7.2nm,0.9s,baz=93,slow=7.5,SNR=4.7								
MA2	**Magadan**	**85.93**	**332**	*i* P	**P**		**03 07 17.7**	**+1.2**	
MEM	**Membach**	**86.10**	**38**	⇓P	**P**		**03 07 17.1**	**-0.5**	
HFS	**Hagfors**	**86.19**	**28**	LR	LR		03 46 35.4		
	comp=Z,68nm,20.3s,baz=305,slow=36								
TIXI	**Tiksi**	**86.35**	**347**	P	**P**		**03 07 17.9**	**-0.5**	
	comp=Z,5.6nm,0.8s,baz=31,slow=4.4,SNR=13								
TIXI	**Tiksi**	**86.35**	**347**	*e i*P	**P**		**03 07 18.0**	**-0.4**	
TIXI				pmax	pmax				
	comp=Z,10.0nm,1.0s								
MSF	**Maaselka**	**88.82**	**19**	P	**P**		**03 07 29.4**	**-1.0**	
MSF				pmax	pmax				
	comp=Z,23nm,2.5s								
MSVF	**Nonsavu**	**89.11**	**251**⇓	*i* P	**P**		**03 07 32.7**	**0.0**	
CLL	**Collm**	**89.86**	**36**	*e*P	**P**		**03 07 33.0**	**-2.5**	
CLL				*i*			03 07 44.8		
CLL				pmax	pmax				
	comp=Z,7.0nm,1.4s								
CLL	**Collm**	**89.86**	**36**	*e*(P)	**P**		**03 07 33.0**	**-2.5**	
CLL	**Collm**	**89.86**	**36**	*i* P	P		03 07 41.0	+5.5	
CLL				*i* pP	sP		03 07 44.8	-1.2	
	comp=Z,9.0nm,1.4s								
SUF	**Sumiainen**	**89.86**	**22**	P	**P**		**03 07 34.0**	**-1.3**	
SUF				pmax	pmax				
	comp=Z,15nm,0.9s								
BRG	**Berggiesshubel**	**90.58**	**36**	*e*P	**P**		**03 07 38.7**	**-0.2**	
	comp=Z,3.4nm,0.8s								
BRG				*e*			03 07 48.0		
	comp=Z,7.3nm,1.3s								
BRG	**Berggiesshubel**	**90.58**	**36**	*e*P	**P**		**03 07 38.7**	**-0.2**	
BRG				*e*			03 07 48.0		
BRG				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BRG				pmax	pmax				
	comp=Z,7.0nm,1.3s								
FIA0	**FINESS Array S**	**90.62**	**23**	*e*P	**P**		**03 07 37.9**	**-0.9**	
FIA0	**FINESS Array S**	**90.62**	**23**	*e*P	**P**		**03 07 37.9**	**-0.9**	
FIA1	**FINESS Array S**	**90.62**	**23**	*e*P	**P**		**03 07 38.2**	**-0.6**	
FINES	**FINESS Array B**	**90.62**	**23**	P	**P**		**03 07 37.9**	**-0.9**	
	comp=Z,7.5nm,0.9s,baz=336,slow=4.2,SNR=15								
FINES				LR	LR		03 50 45.3		
	comp=Z,92nm,18.9s,baz=296,slow=37								
FINES	**FINESS Array B**	**90.62**	**23**	*e*P	**P**		**03 07 38.1**	**-0.7**	
FINES				pmax	pmax				
	comp=Z,8.0nm,0.9s								
GERES	**GERESS Array B**	**91.38**	**38**	P	**P**		**03 07 42.6**	**-0.2**	
	comp=Z,0.2nm,0.4s,baz=288,slow=5.5,SNR=4.6								
GERES				LR	LR		03 51 44.6		
	comp=Z,171nm,18.0s,baz=303,slow=38								
GERES	**GERESS Array B**	**91.38**	**38**	*e*P	**P**		**03 07 43.1**	**+0.3**	
YAK	**Yakutsk**	**92.94**	**339**⇑	*e*P	**P**		**03 07 50.1**	**+0.5**	
YAK				pmax	pmax				
	comp=Z,14nm,0.7s								
PUL	**Pulkovo**	**93.30**	**23**⇓	*i* P	**P**		**03 07 52.2**	**+0.9**	
PUL				pmax	pmax				
	comp=Z,27nm,0.7s								
TORD	**Torodi Ar. Bea**	**95.65**	**75**	LR	LR		03 47 49.7		
	comp=Z,123nm,21.0s,baz=305,slow=33								
KLMR	**Klimovskoe**	**95.73**	**19**	*e*P	**P**		**03 08 00.3**	**-2.1**	
KLMR				pmax	pmax				
	comp=Z,15nm,1.1s								
KLMR	**Klimovskoe**	**95.73**	**19**	*e*P	**P**		**03 08 00.4**	**-2.0**	
KLMR				AMP			03 08 02.6		
	comp=Z,15nm,1.1s								
TAM	**Tamanrasset**	**95.88**	**64**	P	**P**		**03 08 05.2**	**+1.1**	
KIEV	**Kiev**	**98.74**	**31**⇑	*e*P	Pdif		03 08 16.7	+0.5	
KIEV				pmax	pmax				
	comp=Z,2.0nm,1.0s								
AKASG	**Malin Array Be**	**98.75**	**31**	P	**P**		**03 08 14.5**	**-1.7**	
	comp=Z,0.2nm,0.4s,

PB02				*e*S	**Sn**	**02 56 55.6**	**+1.2**
PB02				IAML		02 57 01.7	
	comp=E,16μm,0.2s						
PB09	**IPOC Station P**	**1.78**	**183**	*e*P	**Pn**	**02 56 39.6**	**+1.1**
PB09				*e*S	**Sn**	**02 57 03.3**	**+2.1**
PB09				IAML		02 57 06.8	
	comp=N,17μm,0.6s						
PB12	**IPOC Station P**	**1.78**	**321**	*e*P	**Pn**	**02 56 38.0**	**-0.5**
PB12				*e*S	**Sn**	**02 57 01.0**	**-0.1**
PB12				IAML		02 57 09.3	
	comp=N,17μm,0.5s						
PB07	**IPOC Station P**	**1.85**	**202**	*e*P	**Pn**	**02 56 40.0**	**+0.7**
PB07				*e*S	**Sn**	**02 57 04.0**	**+1.3**
PB04	**IPOC Station P**	**2.50**	**202**	*e*Pn	**Pn**	**02 56 48.8**	**+1.0**
PB04				*e*Sn	**Sn**	**02 57 16.8**	**-1.1**
BBOJ	**La Paz, Jacaqu**	**3.15**	**17**	*e*Pn	**Pn**	**02 56 59.6**	**+2.7**
BBOE	**La Paz, Chanca**	**3.36**	**19**	*e*Pn	**Pn**	**02 57 02.7**	**+2.9**
BBOD	**La Paz, Gloria**	**3.39**	**9**	*e*Pn	**Pn**	**02 57 03.0**	**+2.8**
MOCB	**Mochara**	**3.50**	**111**	*e*Pn	**Pn**	**02 57 04.7**	**+3.2**
MOCB				*e*Sn	**Sn**	**02 57 47.5**	**+5.1**
	comp=N,102nm,0.8s						
PB10	**IPOC Station P**	**3.73**	**200**	*e*Pn	**Pn**	**02 57 07.7**	**+3.5**
PB10				*e*Sn	**Sn**	**02 57 54.7**	**+7.6**
LPAZ	**La Paz**	**3.82**	**15**	P	**Pn**	**02 57 08.5**	**+2.5**
	comp=N,10nm,0.3s,baz=195,slow=7.3,SNR=272						
LPAZ				S	**Sn**	**02 57 53.4**	**+3.1**
	comp=N,1.4nm,0.3s,baz=216,slow=13,SNR=3.5						
LPAZ	**La Paz**	**3.82**	**15**	*e*Pn	**Pn**	**02 57 08.4**	**+2.5**
LPAZ				*e*Sn	**Sn**	**02 57 43.6**	**-6.7**
LPAZ				S	**Sn**	**02 57 53.5**	**+3.1**
LPAZ	**La Paz**	**3.82**	**15**	*e*Pn	**Pn**	**02 57 08.4**	**+2.4**
LPAZ				*e*Sn	**Sn**	**02 57 55.0**	**+4.7**
BBOB	**La Paz, Bander**	**3.96**	**14**	*e*Pn	**Pn**	**02 57 09.9**	**+2.1**
SIV	**San Ignacio**	**8.65**	**64**	P	**Pn**	**02 58 08.3**	**-2.8**
	comp=N,9.3nm,0.3s,baz=264,slow=11,SNR=279						
SIV				S	**Sn**	**02 59 41.6**	**-5.4**
	baz=332,slow=21,SNR=3.8						
LCO	**Las Campanas**	**9.07**	**189**	*e*Pn	**Pn**	**02 58 14.7**	**-2.3**
LCO				*e*Sn	**Sn**	**02 59 57.9**	**+0.3**
SAML	**Samuel**	**12.41**	**28**	*e*Pn	Pn	02 58 56.5	-5.5
CPUP	**Villa Florida**	**12.55**	**122**	P	**Pn**	**02 59 02.1**	**-1.6**
	comp=N,0.3nm,0.3s,baz=302,slow=12,SNR=18						
GO05	**HualaæØ**	**15.15**	**189**	*e*P	**P**	**02 59 41.0**	**+0.8**
	comp=N,26nm,1.3s						
PLCA	**Paso Flores**	**20.69**	**183**	P	**P**	**03 00 41.6**	**+0.6**
	comp=N,9.7nm,0.7s,baz=25,slow=11,SNR=29						
PLCA	**Paso Flores**	**20.69**	**183**	*e*P	**P**	**03 00 41.8**	**+0.7**
	comp=N,12nm,0.8s						
EFI	**East Falkland**	**32.78**	**167**	*e*P	**P**	**03 02 30.2**	**-2.0**
	comp=N,344nm,1.7s						
ZAIG	**Zacatecas**	**53.59**	**321**	*e*P	**P**	**03 05 20.4**	**+0.1**
SNAA	**Sanae**	**63.75**	**161**	P	**P**	**03 06 28.5**	**-1.3**
	comp=N,4.3nm,0.9s,baz=288,slow=10.0,SNR=5.8						
SNAA	**Sanae**	**63.75**	**161**	*e*P	**P**	**03 06 28.5**	**-1.3**
	comp=N,7.7nm,1.0s						
DBIC	**Dimbokro**	**68.53**	**74**	P	**P**	**03 06 59.2**	**-2.0**
	comp=N,8.6nm,1.0s,baz=231,slow=9.6,SNR=6.0						
DBIC				pP	**pP**	**03 07 27.9**	**+2.1**
	comp=N,4.9nm,0.8s,baz=197,slow=7.9,SNR=2.5						
DBIC	**Dimbokro**	**68.53**	**74**	*e*P	**P**	**03 06 59.2**	**-2.0**
	comp=N,22nm,1.4s						
DBIC				pP	**pP**	**03 07 27.9**	**+2.1**
KNB	**Kanab**	**70.10**	**324**	*e*P	**P**	**03 07 12.9**	**+2.3**
	comp=N,22nm,1.8s						
QSPA	**South Pole Qui**	**70.17**	**180**	P	**P**	**03 07 11.6**	**+0.9**
	comp=N,3.7nm,0.9s,baz=153,slow=5.7,SNR=5.3						
CCUT	**Cedar City**	**70.78**	**324**	*e*P	**P**	**03 07 16.9**	**+2.0**
	comp=N,14nm,1.8s						
MWC	**Mount Wilson**	**71.24**	**319**	*e*P	**P**	**03 07 19.0**	**+1.4**
NV01	**Mina Array Sit**	**74.19**	**322**	*e*P	**P**	**03 07 36.0**	**+0.9**
NVAR	**Mina Array Bea**	**74.19**	**322**	P	**P**	**03 07 36.0**	**+0.9**
	comp=N,0.9nm,0.9s,baz=170,slow=7.0,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**77.06**	**71**	*e*P	**P**	**03 07 49.6**	**-2.1**
TOA1	**Torodi Ar. Sit**	**77.06**	**71**	*e*P	**P**	**03 07 49.4**	**-2.3**
TORD	**Torodi Ar. Bea**	**77.06**	**71**	P	**P**	**03 07 49.4**	**-2.3**
	comp=N,2.2nm,0.6s,baz=254,slow=5.4,SNR=23						
TORD				pP	**pP**	**03 08 17.3**	**+0.5**
	comp=N,3.0nm,0.7s,baz=250,slow=5.4,SNR=7.0						
YKA	**Yellowknife Ar**	**89.72**	**341**	P	**P**	**03 08 55.0**	**-0.4**
	comp=N,3.1nm,0.8s,baz=134,slow=4.7,SNR=35						
YKA				pP	**pP**	**03 09 22.6**	**+1.5**
	comp=N,2.5nm,0.7s,baz=133,slow=4.6,SNR=15						
YKB5	**Yellowknife Ar**	**89.72**	**341**	*e*P	**P**	**03 08 55.0**	**-0.4**
YKW3	**Yellowknife Ar**	**89.77**	**341**	*e*P	**P**	**03 08 55.6**	**-0.1**
	comp=N,3.8nm,0.8s						
WR1	**Warramunga Arr**	**134.12**	**211**	*e*PKPdf	**PKPdf**	**03 15 15.2**	**-0.5**
WRA	**Warramunga Arr**	**134.12**	**211**	PKP	**PKPdf**	**03 15 15.2**	**-0.5**
	comp=N,0.8nm,0.7s,baz=160,slow=1.6,SNR=5.2						
MK32	**Makanchi Array**	**144.54**	**35**	*e*PKPdf	**PKPab**	**03 15 31.9**	**-0.5**
MK32				*ep*PKPdf	**pPKPdf**	**03 16 02.3**	**+1.7**
MKAR	**Makanchi Array**	**144.54**	**35**	PKP	**PKPab**	**03 15 31.9**	**-0.5**
	comp=N,0.4nm,0.7s,baz=324,slow=2.3,SNR=4.4						
MKAR				pPKP	**pPKPdf**	**03 16 02.3**	**+1.7**
	comp=N,0.7nm,0.6s,baz=306,slow=1.6,SNR=4.8						
SONA1	**Songino Array**	**152.00**	**6**	*e*PKPbc	**PKPbc**	**03 15 52.3**	**-0.3**
SONA0	**Songino Array**	**152.01**	**6**	*e*PKPbc	**PKPbc**	**03 15 52.5**	**-0.2**
SONM	**Songino Array**	**152.01**	**6**	PKPbc	**PKPbc**	**03 15 52.5**	**-0.2**
	comp=N,0.7nm,0.4s,baz=321,slow=1.3,SNR=7.1						

IDC 21 02:58:46.4±1.0, 11°.16N×138°.79E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/54, mbtmp3.6/6, Error ellipse: s-maj=36.4km s-min=23.2km az=94.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.22**	**188**	P	P	03 05 08.6	+0.8
	0.5nm,1.0s,baz=1.2,slow=9.9,SNR=4.6						
ASAR	**Alice Springs**	**34.94**	**188**	P	P	03 05 39.4	-0.9
	0.5nm,0.4s,baz=15,slow=12,SNR=7.3						
CMAR	**Chiang Mai Arr**	**39.13**	**285**	P	P	03 06 16.4	+0.3
	1.9nm,0.3s,baz=100,slow=7.1,SNR=6.4						
MKAR	**Makanchi Array**	**59.21**	**318**	P	P	03 08 48.9	-0.6
	0.9nm,0.8s,baz=103,slow=10,SNR=6.1						
ILAR	**Eielson Array**	**73.30**	**26**	P	P	03 10 19.6	+0.1
	0.2nm,0.5s,baz=250,slow=6.1,SNR=3.9						
YKA	**Yellowknife Ar**	**87.70**	**26**	P	P	03 11 37.0	+0.1
	0.2nm,0.7s,baz=292,slow=5.1,SNR=3.4						

*TEH **21** 03:06:36.4,26°.65N×58°.18E,h28km, ML3.1*
*DSN **21** 03:06:38.9±1.3,26°.30N×58°.05E,h15km, ML3.0/6, Error ellipse: s-maj=15.9km s-min=7.5km az=21.0*
*CSEM **21** 03:06:39.1±1.8,26°.37N×57°.94E,h10km, ML3.0, Error ellipse: s-maj=41.9km s-min=15.7km az=23.0*
*OMAN **21** 03:06:42.0±2.9,26°.27N×58°.01E,h30km, Error ellipse: s-maj=31.2km s-min=11.2km az=13.0*

ISC 21 03:06:33.2±1.6, 26°.26N±0°.05×58°.35E±0°.06, h21km±8km, n47, σ0°82/56, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHSK	**Kohestak**	**1.27**	**293**	*e*Pg	**Pb**	**03 06 57.4**	**+1.1**
KHSK				*e*AMB	AMB	03 06 58.0	
	comp=Z,9μm,0.1s						
KHSK				*e*Sg	**Sn**	**03 07 11.4**	**-0.6**
NIAN	**Nian**	**1.87**	**314**	*e*AMB	AMB	03 07 28.6	
	comp=Z,2μm,0.1s						
NIAN				*e*Pn	**Pn**	**03 07 04.1**	**+0.1**
BANOM	**Banah**	**1.88**	**260**	Pn	**Pb**	**03 07 06.7**	**-0.1**
	SNR=20						
BANOM	**Banah**	**1.88**	**260**	P	**Pb**	**03 07 06.7**	**-0.1**
	SNR=20						
BANOM	**Banah**	**1.88**	**260**	P	**Pb**	**03 07 06.7**	**-0.1**
	SNR=21						
BANOM				S	**Sn**	**03 07 28.3**	**+1.1**
BANOM	**Banah**	**1.88**	**260**	*e*P	**Pb**	**03 07 06.7**	**-0.1**
	SNR=21						
BANOM				S	**Sn**	**03 07 28.3**	**+1.1**
SHME	**Shamm**	**2.00**	**264**	Pb	**Pb**	**03 07 09.0**	**+0.1**
	SNR=6.3						
SHME				Sn	**Sn**	**03 07 31.1**	**+0.9**
SHME	**Shamm**	**2.00**	**264**	P	**Pb**	**03 07 08.6**	**-0.2**
MDH	**Madha**	**2.09**	**243**	*e*P	**Pb**	**03 07 10.1**	**-0.3**
	SNR=15						
MSFE	**Esma-Masafi**	**2.17**	**246**	Pn	**Pb**	**03 07 12.3**	**+0.5**
MSFE				Sn	**Sn**	**03 07 32.5**	**-2.0**
GENO	**Geno**	**2.25**	**301**	*e*Pn	**Pn**	**03 07 10.0**	**+0.6**
GENO				*e*AMB	AMB	03 07 55.1	
	comp=Z,673nm,0.2s						
UOSS	**Minazif**	**2.34**	**236**	Pn	**Pb**	**03 07 13.5**	**-1.2**
UOSS				Sn	**Sn**	**03 07 39.1**	**+0.4**
UOSS	**Minazif**	**2.34**	**236**	P	**Pb**	**03 07 13.5**	**-1.2**
UOSS				S	**Sn**	**03 07 39.1**	**+0.4**
UOSS	**Minazif**	**2.34**	**236**	*e*P	**Pb**	**03 07 13.9**	**-0.8**
	SNR=10						
UOSS				Sn	**Sn**	**03 07 39.1**	**+0.4**
UOSS	**Minazif**	**2.34**	**236**	*e*P	**Pb**	**03 07 13.9**	**-0.8**
	SNR=10						
HATD	**Hatta, Dubai**	**2.46**	**235**	Sn	**Sn**	**03 07 42.0**	**+0.3**
HATD	**Hatta, Dubai**	**2.46**	**235**	S	**Sn**	**03 07 42.0**	**+0.3**
HATD	**Hatta, Dubai**	**2.46**	**235**	P	**Pb**	**03 07 15.3**	**-1.5**
HATD				Sn	**Sn**	**03 07 42.0**	**+0.3**
HATD	**Hatta, Dubai**	**2.46**	**235**	P	**Pb**	**03 07 15.3**	**-1.5**
ASHO	**Ashiyiah**	**2.60**	**233**	Pn	**Pb**	**03 07 18.7**	**-0.5**
	SNR=17						
ASHO	**Ashiyiah**	**2.60**	**233**	P	**Pb**	**03 07 18.7**	**-0.5**
	SNR=17						
ASHO	**Ashiyiah**	**2.60**	**233**	P	**Pb**	**03 07 18.7**	**-0.5**
	SNR=16						
ASHO	**Ashiyiah**	**2.60**	**233**	*e*P	**Pb**	**03 07 18.7**	**-0.5**
	SNR=16						
SOHO	**SOHO**	**2.69**	**218**	*e*P	**Pb**	**03 07 19.5**	**-1.1**
	SNR=17						
HOQ	**Hoqain**	**2.83**	**200**	Pn	**Pb**	**03 07 24.0**	**+0.9**
	SNR=5.7						
HOQ	**Hoqain**	**2.83**	**200**	P	**Pb**	**03 07 24.0**	**+0.9**
	SNR=5.7						
HOQ	**Hoqain**	**2.83**	**200**	Pn	**Pb**	**03 07 24.0**	**+0.9**
	SNR=5.7						
ALNE	**Al Ain**	**3.22**	**228**	*i* P	**Pb**	**03 07 28.0**	**-1.7**
	SNR=8.0						
ARQ	**Araqi**	**3.36**	**210**	Pn	**Pb**	**03 07 33.0**	**+1.0**
	SNR=7.7						
ARQ	**Araqi**	**3.36**	**210**	P	**Pb**	**03 07 33.0**	**+1.0**
	SNR=7.7						
ARQ	**Araqi**	**3.36**	**210**	Pn	**Pb**	**03 07 33.0**	**+1.0**
	SNR=7.7						
CHMN	**Cheshme madani**	**3.66**	**349**	*e*Pn	**Pn**	**03 07 29.1**	**+0.2**
CHMN				*e*AMB	AMB	03 08 13.2	
	comp=Z,99nm,0.1s						
BSY	**Bisya**	**3.66**	**197**	Pn	**Pb**	**03 07 38.0**	**+0.8**
	SNR=7.6						
BSY	**Bisya**	**3.66**	**197**	P	**Pb**	**03 07 38.0**	**+0.8**
	SNR=7.6						
BSYO	**Bisya**	**3.66**	**196**	Pn	**Pb**	**03 07 38.0**	**+0.8**
	SNR=7.6						
NGRK	**Negar Kerman**	**3.66**	**337**	*e*Pn	**Pn**	**03 07 29.0**	**0.0**
NGRK				*e*AMB	AMB	03 08 13.1	
	comp=Z,99nm,0.1s						
WBK	**Wadi Bani Khal**	**3.68**	**171**	Pn	**Pb**	**03 07 37.0**	**-0.6**
	SNR=6.0						
WBK	**Wadi Bani Khal**	**3.68**	**171**	P	**Pb**	**03 07 37.0**	**-0.6**
	SNR=6.0						
WBK	**Wadi Bani Khal**	**3.68**	**171**	Pn	**Pb**	**03 07 37.0**	**-0.6**
	SNR=6.0						
KHGB	**Koh Gabri**	**4.42**	**338**	*e*Pn	**Pn**	**03 07 38.9**	**-0.3**
KHGB				*e*AMB	AMB	03 08 30.7	
	comp=Z,99nm,0.2s						
IMEH	**Mehriz**	**6.07**	**328**	*e*AMB	AMB	03 08 03.2	
	comp=Z,211nm,0.1s						
IMEH				*e*Pn	**Pn**	**03 08 01.6**	**-0.4**
IKOO	**Kooshah**	**6.17**	**5**	*e*AMB	AMB	03 08 03.1	
	comp=Z,144nm,0.1s						
IKOO				*e*Pn	**Pn**	**03 08 02.6**	**-0.7**
ITEG	**Tejag**	**6.62**	**3**	*e*AMB	AMB	03 08 09.4	
	comp=Z,99nm,0.2s						
ITEG				*e*Pn	**Pn**	**03 08 09.3**	**-0.1**
ICHK	**Chekchek**	**6.88**	**331**	*e*Pn	**Pn**	**03 08 12.9**	**-0.2**
ICHK				*e*AMB	AMB	03 08 13.7	
	comp=Z,104nm,0.1s						
ISAD	**Sadrabad**	**6.96**	**325**	*e*Pn	**Pn**	**03 08 14.2**	**+0.1**
ISAD				*e*AMB	AMB	03 08 15.3	
	comp=Z,143nm,0.2s						
IRAM	**Ramesheh**	**7.61**	**318**	*e*Pn	**Pn**	**03 08 22.5**	**-0.5**
IRAM				*e*AMB	AMB	03 08 26.5	
	comp=Z,84nm,0.1s						

*ISCJB **21** 03:31:52.0±0.5, 50°.27N±0°.04×18°.72E±0°.03, h0km, Error ellipse: s-maj=5.1km s-min=2.6km az=0.5*
*IPEC **21** 03:31:52.7±0.2, 50°.29N×18°.81E, h2km±2km, ML1.4/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
*CSEM **21** 03:31:52.8±0.3, 50°.29N×18°.73E, h2km, ML2.2/6, Error ellipse: s-maj=6.3km s-min=2.7km az=2.0*
*WAR **21** 03:31:53.6, 50°.27N×18°.83E, h1km, Mw2.5*
*PRU **21** 03:31:53.4, 50°.26N×18°.73E, h0km*

ISC 21 03:31:52.5±0.8, 50°.23N±0°.04×18°.74E±0°.02, h0km, n26, σ0°77/48, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.17**	**69**	*e*Pg	**Pg**	**03 31 55.7**	**-0.2**
CHZP				*e*Sg	**Sg**	**03 31 57.6**	**-0.4**
CHZP	**Chorzow**	**0.17**	**69**	*e*Pg	**Pg**	**03 31 55.7**	**-0.2**
CHZP				*e*Sg	**Sg**	**03 31 57.6**	**-0.4**
OKC	**Ostrava-Krasne**	**0.55**	**224**	*e*PG	**Pb**	**03 32 04.5**	**-0.5**
OKC				*e*SG	**Sb**	**03 32 12.5**	**-0.9**
	comp=Z,12nm,0.7s						
OKC	**Ostrava-Krasne**	**0.55**	**224**	Pg	**Pb**	**03 32 04.5**	**-0.5**
OKC				Sg	**Sb**	**03 32 12.5**	**-0.9**
	12nm,0.7s						
OJC	**Ojcow**	**0.68**	**90**	*e*Pg	**Pg**	**03 32 05.5**	**-0.1**
OJC				*e*Sg	**Sg**	**03 32 15.0**	**+0.6**
OJC	**Ojcow**	**0.68**	**90**	*e*Pg	**Pg**	**03 32 05.5**	**-0.1**
OJC				*e*Sg	**Sg**	**03 32 15.0**	**+0.6**
OJC	**Ojcow**	**0.68**	**90**	*e*Pg	**Pg**	**03 32 05.5**	**-0.1**
OJC				*e*Sg	**Sg**	**03 32 15.0**	**+0.6**
MORC	**Moravsky Berou**	**0.90**	**240**	*e*Pg	**Pb**	**03 32 11.1**	**+0.1**
MORC				*e*Sg	**Sb**	**03 32 23.1**	**-0.4**
	6.7nm,0.2s						
LANS	**Liptovska Anna**	**1.18**	**156**	*e*Pg	**Pn**	**03 32 16.1**	**-0.2**
LANS				*e*Sg	**Sn**	**03 32 32.7**	**-0.4**
LANS	**Liptovska Anna**	**1.18**	**156**	*e*PG	**Pn**	**03 32 16.1**	**-0.2**
LANS				*e*SG	**Sn**	**03 32 32.7**	**-0.4**
KRLC	**Kraliky**	**1.27**	**264**	*e*PG	**Pg**	**03 32 16.9**	**+0.1**
KRLC				*e*SG	**Sb**	**03 32 34.4**	**+0.2**
	comp=Z,1.6nm,0.3s						
KRLC	**Kraliky**	**1.27**	**264**	Pg	**Pg**	**03 32 16.9**	**+0.1**
KRLC				Sg	**Sb**	**03 32 34.4**	**+0.2**
	1.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.56**	**275**	*e*PG	**Pn**	**03 32 21.8**	**+0.3**
DPC				*e*SG	**Sg**	**03 32 43.0**	**+0.5**
	comp=Z,6.7nm,0.7s						
DPC	**Dobruska-Polom**	**1.56**	**275**	Pg	**Pn**	**03 32 21.8**	**+0.3**
DPC				Sg	**Sg**	**03 32 43.0**	**+0.5**
	6.7nm,0.7s						
VRAC	**Vranov**	**1.67**	**237**	*e*Pn	**Pb**	**03 32 24.1**	**0.0**
VRAC				*e*Sg	**Sg**	**03 32 47.3**	**+1.2**
	2.3nm,0.2s						
KSP	**Ksiaz**	**1.68**	**292**	*e*Pg	**Pg**	**03 32 25.1**	**+0.4**
KSP				*e*Sg	**Sg**	**03 32 47.5**	**+1.1**
KSP	**Ksiaz**	**1.68**	**292**	*e*Pg	**Pg**	**03 32 25.1**	**+0.4**
KSP				*e*Sg	**Sg**	**03 32 47.5**	**+1.1**
VYHS	**Vyhne**	**1.74**	**178**	*e*Pg	**Pn**	**03 32 24.3**	**+0.3**
VYHS				*e*Sn	**Sn**	**03 32 46.1**	**-0.8**
VYHS	**Vyhne**	**1.74**	**178**	*e*PG	**Pn**	**03 32 24.3**	**+0.3**
VYHS				*e*SN	**Sn**	**03 32 46.1**	**-0.8**
VYHS				*e*LG	Lg	03 32 53.3	
STHS	**Stebnicka Huta**	**1.81**	**116**	*e*Pn	**Pb**	**03 32 26.4**	**-0.2**
STHS				*e*Sg	**Sg**	**03 32 53.5**	**+2.7**
STHS	**Stebnicka Huta**	**1.81**	**116**	*e*PN	**Pb**	**03 32 26.4**	**-0.2**
STHS				*e*SG	**Sg**	**03 32 53.5**	**+2.7**
STHS				*e*LG	Lg	03 33 01.6	
KRUC	**Moravsky**	**1.92**	**233**	*e*Pn	**Pb**	**03 32 27.7**	**-0.7**
KRUC				*e*Sg	**Sg**	**03 32 54.9**	**+0.7**
	2.5nm,0.4s						
PRU	**Pruhonice**	**2.71**	**266**	*e*SG	**Sg**	**03 33 19.6**	**-0.1**
PRU	**Pruhonice**	**2.71**	**266**	Sg	**Sg**	**03 33 19.6**	**-0.1**
KHC	**Kasperske Hory**	**3.53**	**254**	*e*SG	**Sg**	**03 33 46.1**	**+0.3**
KHC	**Kasperske Hory**	**3.53**	**254**	Sg	**Sg**	**03 33 46.1**	**+0.3**

*MEX **21** 03:33:53.4±0.4, 15°.87N×98°.63W, h3km±16km, MD4.0*
*ISCJB **21** 03:33:54.7±1.8, 16°.0N±0°.2×98°.66W±0°.05, h35km, mb3.7/5, MS2.9/1, Error ellipse: s-maj=26.2km s-min=6.5km az=3.8*
*IDC **21** 03:33:57.9±11.0, 16°.16N×98°.62W, h32km±60km, mb3.6/5, mb1 3.9/8, mb1mx3.6/46, mbtmp3.7/8, ML3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/41, Error ellipse: s-maj=108.1km s-min=27.7km az=13.0*

ISC 21 03:33:57.6±2.7, 16°.2N±0°.3×98°.66W±0°.06, h35km, n13, σ1°60/13, mb3.7/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.56**	**65**	*e*P	**Pn**	**03 34 06.4**	**-2.7**
PNIG				*e*S	**Sn**	**03 34 16.3**	**-0.9**
ACX	**Acapulco**	**1.35**	**302**	*e*P	**Pn**	**03 34 17.2**	**-2.8**
ACX				*e*S	**Sn**	**03 34 37.0**	**+0.2**
CMIG	**Matias Romero**	**3.73**	**75**	Pn	**Pn**	**03 34 51.4**	**-1.4**
	2.7nm,0.3s,baz=263,slow=12,SNR=10						
CMIG				Sn	**Sn**	**03 35 36.9**	**+1.3**
	5.4nm,0.3s,baz=289,slow=20,SNR=4.4						
CMIG				Lg	Lg	03 35 57.2	
	25nm,0.3s,baz=289,slow=3.0,SNR=6.5						
H06E1	**SOCORRO T-PHASE**	**1.99**	**284**	T	T	03 48 51.4	
	SNR=175						
H06S1	**SOCORRO T**	**12.02**	**284**	T	T	03 48 50.9	
	SNR=16						
TXAR	**Lajitas Array**	**13.90**	**341**	Pn	**Pn**	**03 37 12.9**	**+0.6**
	0.0nm,0.3s,baz=161,slow=16,SNR=5.6						
ANMO	**Albuquerque**	**19.98**	**341**	P	**Pn**	**03 38 28.3**	**-0.7**
	0.1nm,0.3s,baz=344,slow=12,SNR=6.4						
TKL	**Tuckaleechee C**	**23.53**	**32**	LR	LR	03 49 56.8	
	comp=Z,38nm,19.5s,baz=264,slow=41						
NVAR	**Mina Array Bea**	**28.11**	**326**	P	**P**	**03 39 48.3**	**+1.8**
	0.9nm,0.9s,baz=151,slow=10,SNR=7.3						
PDAR	**Pinedale Array**	**28.11**	**343**	P	**P**	**03 39 47.2**	**+0.8**
	1.6nm,1.0s,baz=145,slow=9.7,SNR=8.5						
SCHQ	**Schefferville**	**45.73**	**25**	P	**P**	**03 42 15.6**	**+0.3**
	3.9nm,1.0s,baz=227,slow=6.3,SNR=5.9						
YKA	**Yellowknife Ar**	**47.63**	**350**	P	**P**	**03 42 29.9**	**0.0**
	0.3nm,0.7s,baz=156,slow=7.5,SNR=5.3						
ILAR	**Eielson Array**	**58.38**	**338**	P	**P**	**03 43 50.2**	**+1.0**
	1.3nm,1.0s,baz=142,slow=4.9,SNR=7.9						

IDC 21 03:35:39.7±1.6, 16°.95S×177°.86W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/41, mbtmp3.9/6, Error ellipse: s-maj=105.1km s-min=20.6km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.55**	**240**	P	P	03 43 12.6	-0.1
	4.1nm,0.7s,baz=81,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**45.33**	**259**	P	P	03 43 59.9	-0.1
	1.8nm,0.5s,baz=98,slow=6.8,SNR=57						
ASAR	**Alice Springs**	**45.56**	**253**	P	P	03 44 01.6	-0.1
	18nm,0.4s,baz=90,slow=8.3,SNR=293						
NVAR	**Mina Array Bea**	**78.37**	**44**	P	P	03 47 43.6	+1.1
	0.4nm,0.6s,baz=222,slow=10,SNR=4.0						
ILAR	**Eielson Array**	**84.84**	**13**	P	P	03 48 15.8	0.0
	0.2nm,0.4s,baz=223,slow=5.3,SNR=6.5						
TXAR	**Lajitas Array**	**85.04**	**57**	P	P	03 48 17.3	-0.4
	0.9nm,0.9s,baz=218,slow=5.9,SNR=6.8						
YKA	**Yellowknife Ar**	**93.25**	**25**	P	P	03 48 54.9	-0.9
	0.1nm,0.5s,baz=238,slow=4.6,SNR=4.8						

MEX 21 03:42:14.4±0.7, 16°.38N×98°.35W, h12km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**87**	*e*P	Pg	03 42 18.2	-0.8
PNIG				*e*S	Sg	03 42 22.6	+0.4
ACX	**Acapulco**	**1.53**	**289**	*i* P	Pn	03 42 38.7	-2.9
ACX				*e*S	Sn	03 42 57.0	-4.3
CAIG	**El Cayaco**	**1.96**	**290**	*e*P	Pn	03 42 44.5	-2.9
CAIG				*e*S	Sn	03 43 07.7	-4.2
TPIG	**Tehuac#an**	**2.24**	**25**	*i* P	Pn	03 42 49.0	-2.5
TPIG				*i* S	Sn	03 43 15.4	-3.7
HUIG	**Huatulco**	**2.24**	**105**	*e*P	Pn	03 42 47.9	-3.4
HUIG				*e*S	Sn	03 43 14.6	-4.4

IDC 21 03:52:35.5±6.5, 16°.21N×98°.38W, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/48, mbtmp3.2/5, ML3.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=123.4km s-min=29.1km az=11.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**3.46**	**75**	Pn	P

ACAN	Cantantal	3.70	147	eP		Pn	04 03 27.9	-0.2
AAGR	Agrelo	3.94	171	eP		Pn	04 03 32.5	+1.1
ROC1	El Roble	3.97	198	eP		Pn	04 03 29.9	-2.0
FSA	Cafayete	4.42	47	eP		Pn	04 03 37.1	-0.9
FSA				IAML			04 03 39.8	
	comp=Z,24nm,0.4s							
AHML	Horco Molle	4.45	58	eP		Pn	04 03 36.2	-2.0
AZAP	Zapla	6.38	40	eP		Pn	04 04 02.7	-1.8
HJA	Humahuaca	7.03	33	eP		Pn	04 04 13.9	+0.5
HJA				IAML			04 04 17.1	
	comp=Z,7.3nm,0.4s							
CPUP	Villa Florida	11.22	78	P		Pn	04 05 07.8	-1.9
	comp=Z,0.3nm,0.3s,baz=250,slow=12,SNR=6.3							
LPAZ	La Paz	12.91	6	P		Pn	04 05 34.1	+1.4
	comp=Z,0.2nm,0.3s,baz=198,slow=2.8,SNR=5.1							
SIV	San Ignacio	15.29	33	P		Pn	04 06 01.6	-1.1
	comp=Z,0.1nm,0.3s,baz=219,slow=12,SNR=3.9							
TORD	Torodi Ar. Bea	80.57	69	P		P	04 14 33.6	+0.5
	comp=Z,0.8nm,0.5s,baz=273,slow=5.2,SNR=27							
WRA	Warramunga Arr	125.98	208	PKP		PKPdf	04 21 22.8	+0.6
	comp=Z,0.2nm,0.4s,baz=158,slow=1.8,SNR=5.7							
ZALV	Zalesovo Beam	149.03	30	PKPbc		PKPbc	04 22 08.3	+1.1
	comp=Z,1.8nm,0.5s,baz=306,slow=5.0,SNR=8.3							
MKAR	Makanchi Array	151.93	44	PKPbc		PKPbc	04 22 15.2	+0.8
	comp=Z,0.6nm,0.7s,baz=333,slow=1.6,SNR=7.6							

ISCJB ***21*** *04:02:36.0±0.5, 16°.58N±0°.05×98°.11W±0°.03, h10km, mb4.5/113, MS3.6/13, Error ellipse: s-maj=7.0km s-min=3.8km az=1.8*
NEIC ***21*** *04:02:40.0±0.0, 16°.46N×98°.47W, h15km, mb4.6/129, MD4.2(MEX), After MEX.*
MEX ***21*** *04:02:40.7±0.5, 16°.51N×98°.50W, h13km±6km, MD4.1*
IDC ***21*** *04:02:43.5±6.7, 16°.88N×98°.25W, h33km±45km, mb4.1/10, mb1 4.3/13, mb1mx3.9/51, mbtmp4.2/13, ML3.5/3, MS3.7/16, Ms1 3.7/16, ms1mx3.4/48, Error ellipse: s-maj=50.3km s-min=19.2km az=30.0*

ISC 21 04:02:36.3±1.3, 16°.54N±0°.05×98°.46W±0°.04, h2km±8km, n477, σ1=47/477, mb4.6/113, MS3.6/13, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PNIG	Pinotepa	0.35	115	*i* P		04 02 47.5	-0.8
PNIG				*i* S		04 02 53.1	+5.6
TLIG	Tlapa	1.02	354	*e*P		04 02 57.1	+0.4
TLIG				*e*S		04 03 09.9	-0.7
VHO	Vista Hermosa	1.73	72	*e*P		04 03 08.3	-0.7
VHO				*i* S		04 03 29.1	-1.2
CAIG	El Cayaco	1.81	286	*e*P		04 03 08.4	0.0
CAIG				*i* S		04 03 28.5	-3.4
TPIG	Tehuac#an	2.14	29	*e*P		04 03 14.1	+1.0
TPIG				*e*S		04 03 39.5	-0.9
HUIG	Huatulco	2.38	109	*e*P		04 03 16.2	-0.1
HUIG				*i* S		04 03 45.1	-1.0
PPM	Popocatepetl	2.52	356	*e*P		04 03 19.4	+0.7
PPM				*i* S		04 03 48.8	-1.3
UNM	Universidad Na	2.85	346	*i* P		04 03 24.3	+1.2
UNM				*i* S		04 03 57.5	-0.7
UNM	Universidad Na	2.85	346	*e*Pn		04 03 26.3	-1.9
UNM				*e*Sn		04 04 01.7	-1.9
CMIG	Matias Romero	3.46	80	Pn		Pn	04 03 31.7	+0.5
	12nm,0.3s,baz=241,slow=14,SNR=7.2							
CMIG				Sn		Sn	04 04 10.8	-2.0
	63nm,0.3s,baz=260,slow=21,SNR=6.1							
CMIG				Lg		Lg	04 04 25.9	
	116nm,0.3s,baz=34,slow=21,SNR=9.1							
JRQG	Juriquilla Cam	4.55	336	*e*Pn		Pn	04 03 48.7	+2.3
JRQG				*e*Pg		Pg	04 04 02.8	-0.7
ZAIG	Zacatecas	7.30	329	*e*Pn		Pn	04 04 27.3	+3.0
ZAIG				*e*Pg		Pg	04 04 54.1	-2.2
833A	Chaparral WMA,	11.76	356	P		Pn	04 05 28.0	+3.0
	baz=176							
H06E1	SOCORRO T-PHAS	12.09	282	T		T	04 17 44.8	
	SNR=9.1							
LPIG	La Paz	13.42	306	LR		LR	04 10 02.1	
	comp=Z,162nm,19.9s,baz=49,slow=33							
LTX	Lajitas	13.60	340	*e*Pn		Pn	04 05 51.7	+1.3
TXAR	Lajitas Array	13.60	340	Pn		Pn	04 05 51.7	+1.3
	0.0nm,0.3s,baz=156,slow=16,SNR=6.1							
TXAR				LR		LR	04 11 40.6	
	comp=Z,779nm,19.0s,baz=0.0,slow=40							
TX31	Lajitas Ar. Si	13.60	340	*e*Pn		Pn	04 05 52.9	+2.6
JCT	Junction City	13.93	355	*e*Pn		Pn	04 05 57.0	+2.2
541A	Lake Charles	14.29	19	P		P	04 06 03.4	-3.7
	baz=201							
WHTX	Lake Whitney,	15.41	3	P		P	04 06 18.5	-1.0
	baz=184,SNR=7.3							
WHTX	Lake Whitney,	15.41	3	*e*Pn		P	04 06 20.4	+0.9
	89nm,1.0s							
NATX	Nacogdoches	15.54	12	P		P	04 06 20.7	-0.2
	baz=194							
NATX	Nacogdoches	15.54	12	*e*Pn		P	04 06 19.6	-1.4
	154nm,1.5s							
342A	Flagon Creek P	15.79	20	P		P	04 06 23.2	-0.5
	baz=202							
240A	Hunter Patters	16.00	15	P		P	04 06 26.3	+0.2
	baz=196							
ABTX	Abilene, Hawle	16.05	356	P		P	04 06 26.9	+0.2
	baz=176,SNR=18							
ABTX	Abilene, Hawle	16.05	356	*e*Pn		P	04 06 27.8	+1.1
	57nm,1.0s							
MNTX	Cornudas Mount	16.35	339	P		P	04 06 29.7	-0.3
	baz=156,SNR=7.3							
MNTX	Cornudas Mount	16.35	339	*e*Pn		P	04 06 28.6	-1.4
	23nm,1.5s							
GDL2	Guadalupe Moun	16.48	342	*e*Pn		P	04 06 31.6	0.0
140A	Cam and Jess,	16.63	15	P		P	04 06 32.8	-0.2
	baz=196,SNR=7.3							
244A	Avery, Jackson	16.97	23	P		P	04 06 38.0	+1.2
	baz=206							
Z40A	Long Farm, Mag	17.26	14	P		P	04 06 39.9	-0.1
	baz=196,SNR=14							
Z41A	Richland Creek	17.41	16	P		P	04 06 41.4	-0.2
	baz=198							
Z42A	Norrel Spur, H	17.66	18	P		P	04 06 46.4	+2.0
	baz=201							
WLAR	White Oak Lake	17.74	15	*e*Pn		Pn	04 06 41.5	-2.9
	46nm,1.0s							
319A	Douglas	17.75	328	*e*Pn		P	04 06 47.7	+2.0
	15nm,1.0s							
MSTX	Muleshoe	17.78	348	P		P	04 06 45.8	-0.2
	baz=166,SNR=9.5							
MSTX	Muleshoe	17.78	348	*e*Pn		Pn	04 06 44.0	-1.1
	21nm,1.0s							
247A	Quitman	17.84	28	P		P	04 06 46.3	-0.2
	baz=212							
Y40A	Okolona	18.01	14	P		Pn	04 06 47.7	0.0
	baz=196							
121A	Cookes Peak, D	18.02	334	P		P	04 06 49.5	+0.8
	baz=150							
121A	Cookes Peak, D	18.02	334	*e*Pn		P	04 06 49.3	+0.6
	17nm,1.0s							
Y41A	Eaglette Beard	18.05	16	P		Pn	04 06 48.2	-0.1
	baz=198							
WMOK	Wichita Mounta	18.12	359	P		Pn	04 06 48.5	-0.7
	baz=179,SNR=7.8							
WMOK	Wichita Mounta	18.12	359	*e*Pn		Pn	04 06 48.3	-0.9
	8.9nm,0.9s							
248A	Dixon Mills	18.28	30	P		Pn	04 06 50.4	-0.7
	baz=214,SNR=6.4							
X39A	Fountain Ranch	18.31	11	P		Pn	04 06 50.9	-0.5
	baz=193							
CCAR	Cane Creek	18.32	18	*e*Pn		P	04 06 51.7	0.0
	29nm,0.8s							
AMTX	Amarillo	18.49	352	P		P	04 06 53.5	-0.2
	baz=170							
AMTX	Amarillo	18.49	352	*e*P		Pn	04 06 54.0	+0.2
	18nm,0.9s							
X40A	Basin Creek Fa	18.57	15	P		P	04 06 53.5	-0.9
	baz=197							
X41A	Kaden, Bauxite	18.66	16	P		P	04 06 54.4	-1.0
	baz=198,SNR=11							
148A	Greensboro	18.82	30	P		P	04 06 55.6	-1.6
	baz=214							
UALR	University of	18.96	16	*e*P		Pn	04 06 59.8	+0.4
	44nm,1.0s							
BNM	Barren Site	19.01	339	*e*P		Pn	04 07 02.4	+2.2
Y45A	Yeager Farm, C	19.02	23	P		P	04 06 58.8	-0.6
	baz=207							
W39A	Magazine	19.04	12	P		Pn	04 07 00.2	-0.1
	baz=194,SNR=11							
Y22D	IRIS PASSCAL I	19.04	338	*e*P		P	04 06 58.8	-1.1
	23nm,0.7s							
Z47A	Carrollton	19.05	28	P		P	04 06 59.2	-0.6
	baz=212							
LPM	Los Pinos Moun	19.16	339	*e*P		Pn	04 07 04.3	+2.3
149A	Jones	19.16	31	P		P	04 06 59.9	-1.1
	baz=216							
W40A	Ferguson Farm,	19.19	14	P		P	04 07 00.9	-0.3
	baz=196							
W40A	Ferguson Farm,	19.19	14	*e*P		Pn	04 07 02.0	-0.1
	34nm,0.9s							
TUC	Tucson	19.27	327	P		Pn	04 07 04.3	+1.1
	baz=142							
TUC	Tucson	19.27	327	*e*P		Pn	04 07 05.7	+2.5
	7.0nm,0.8s							
352A	Blakely	19.30	37	P		P	04 07 00.7	-1.8
	baz=222							
Y46A	Houston	19.31	25	P		P	04 07 01.7	-0.9
	baz=209,SNR=7.5							
W41B	Gary Mavity, V	19.37	15	P		P	04 07 03.3	0.0
	baz=198							
LRAL	Lakeview Retre	19.41	30	P		P	04 07 02.9	-0.8
	baz=215,SNR=5.2							
LRAL	Lakeview Retre	19.41	30	*e*P		Pn	04 07 04.6	-0.2
	11nm,1.0s							
LAZ	Ladron	19.42	338	*e*P		Pn	04 07 08.0	+2.8
Z48A	Northport	19.43	28	P		P	04 07 03.1	-0.8
	baz=213,SNR=6.3							
TUL1	Leonard	19.43	7	P		P	04 07 03.0	-0.9
	baz=188							
TUL1	Leonard	19.43	7	*e*P		P	04 07 03.6	-0.3
	77nm,1.0s							
WHAR	Wooly Hollow	19.47	15	*e*P		Pn	04 07 04.7	-0.8
	21nm,1.0s							
251A	Midway	19.49	35	P		P	04 07 01.9	-2.7
	baz=220							
150A	Eclectic	19.56	33	P		P	04 07 03.5	-1.8
	baz=218							
OXF	Oxford	19.65	23	P		P	04 07 05.0	-1.3
	baz=206							
OXF	Oxford	19.65	23	*e*P		Pn	04 07 08.4	+0.8
	17nm,0.8s							
ANMO	Albuquerque	19.68	340	P		Pn	04 07 08.2	-0.1
	0.2nm,0.3s,baz=334,slow=11,SNR=20							
ANMO				LR		LR	04 15 25.5	
	comp=Z,803nm,18.4s,baz=334,slow=39							
ANMO	Albuquerque	19.68	340	P		Pn	04 07 07.6	-0.6
	baz=157							
ANMO	Albuquerque	19.68	340	*e*P		Pn	04 07 08.7	+0.5
	26nm,1.6s							
V39A	Pettigrew	19.69	12	P		P	04 07 06.1	-0.7
	baz=194,SNR=13							
Z49A	Columbiana	19.77	31	P		P	04 07 06.9	-0.7
	baz=216,SNR=10							
V40A	Witts Springs	19.83	14	P		P	04 07 07.6	-0.7
	baz=196,SNR=19							
151A	Opelika	19.86	34	P		P	04 07 07.0	-1.7
	baz=220,SNR=10							
V41A	Mountainview	19.97	15	P		P	04 07 08.7	-1.1
	baz=198,SNR=6.8							
X46A	Booneville	20.00	24	P		P	04 07 09.4	-0.8
	baz=209,SNR=7.2							
Y48A	Jasper	20.06	28	P		P	04 07 09.2	-1.6
	baz=213							
HHAR	Hobbs	20.07	11	*e*P		P	04 07 10.7	-0.2
	24nm,0.9s							
Z50A	Ashland	20.12	32	P		P	04 07 09.6	-1.9
	baz=217,SNR=15							
214A	Organ Pipe Nat	20.13	322	*e*P		Pn	04 07 14.3	+0.9
	81nm,1.2s							
V42A	Cord	20.19	17	P		P	04 07 11.1	-1.2
	baz=200							
U39A	Green Forest	20.25	12	P		P	04 07 12.2	-0.7
	baz=194,SNR=13							
X47A	Russelville	20.27	26	P		P	04 07 11.7	-1.3
	baz=210							
W45A	Hickory Valley	20.31	22	P		P	04 07 12.5	-1.0
	baz=206							
U40A	Yellville	20.35	13	P		P	04 07 12.9	-1.1
	baz=196,SNR=18							
355A	Pearson	20.47	41	P		P	04 07 13.6	-1.7
	baz=227							
U41A	Viola	20.56	15	P		P	04 07 15.0	-1.3
	baz=198,SNR=7.1							
X48A	Hartselle	20.56	28	P		P	04 07 14.7	-1.6
	baz=212							
PLAL	Pickwick Lake	20.58	25	*e*P		P	04 07 17.2	+0.7
	27nm,1.1s							
W46A	Michie	20.59	24	P		P	04 07 14.9	-1.7
	baz=208							
254A	Abbeville	20.61	39	P		P	04 07 15.1	-1.7
	baz=225							
X18A	Snowflake	20.67	332	*e*P		P	04 07 18.8	+1.2
	15nm,0.9s							
Y50A	Piedmont	20.72	31	P		P	04 07 15.8	-2.2
	baz=216							
T38A	Diamond	20.74	9	P		P	04 07 16.2	-2.0
	baz=191,SNR=8.8							
U42A	Revenden	20.75	17	P		P	04 07 16.9	-1.3
	baz=200,SNR=11							
T39A	Clever	20.89	11	P		P	04 07 18.3	-1.6
	baz=194,SNR=15							
X49A	Woodville	20.94	29	P		P	04 07 17.2	-3.2
	baz=214							
W47A	Westpoint	21.01	25	P		P	04 07 18.3	-2.8
	baz=210,SNR=5.1							
W18A	Petrified Fore	21.07	334	P		P	04 07 20.9	-1.1
	baz=149							
W18A	Petrified Fore	21.07	334	*e*P		P	04 07 25.3	+3.3
	12nm,0.9s							
T25A	Trinidad	21.18	347	P		P	04 07 23.3	+0.1
	baz=164,SNR=24							
T25A	Trinidad	21.18	347	*e*P		P	04 07 25.2	+2.0
	27nm,0.9s							
T40A	Mansfield	21.19	13	P		P	04 07 21.8	-1.3
	baz=196,SNR=11							
W48A	Pulaski	21.19	27	P		P	04 07 20.8	-2.3
	baz=212							
X50A	Fort Payne	21.22	30	P		P	04 07 21.0	-2.5
	baz=216,SNR=6.8							
MHTCO	State Highway	21.23	346	*e*P		P	04 07 24.6	+0.8
	37nm,1.5s							
T41A	Mountain View	21.26	15	P		P	04 07 22.8	-1.0
	baz=198,SNR=9.7							
X16A	Lo Mia Camp, P	21.27	329	*e*P		P	04 07 26.8	+2.6
	22nm,0.9s							
V46A	Holladay	21.28	24	P		P	04 07 21.8	-2.2
	baz=208,SNR=9.0							
113A	Mohawk Valley,	21.28	322	*e*P		P	04 07 26.9	+2.9
	9.9nm,0.8s							
PBMO	Poplar Bluff	21.37	18	*e*P		P	04 07 25.1	+0.1
	19nm,0.8s							
S38A	Stockton	21.39	10	P		P	04 07 23.5	-1.6
	baz=192							
T42A	Van Buren	21.42	16	P		P	04 07 24.0	-1.5
	baz=200							
V47A	Nunnelly	21.54	25	P		P	04 07 25.0	-1.8
	baz=210,SNR=8.4							
S39A	Bolivar	21.55	11	P		P	04 07 26.1	-0.8
	baz=193,SNR=13							
GOGA	Godfrey	21.56	36	P		P	04 07 24.2	-2.8
	baz=222,SNR=14							
GOGA	Godfrey	21.56	36	*e*P		P	04 07 26.4	-0.6
	27nm,0.8s							
S40A	Lebanon	21.62	13	P		P	04 07 26.0	-1.7
	baz=196,SNR=24							
WVT	Waverly	21.68	24	P		P	04 07 28.6	+0.3
	baz=208							
WVT	Waverly	21.68	24	*e*P		P	04 07 30.4	+2.1
	18nm,0.9s							
T43A	Greenville	21.70	18	P		P	04 07 26.6	-1.9
	baz=202,SNR=24							
SWET	Sewanee	21.70	29	*e*P		P	04 07 27.3	-1.3
	5.8nm,0.9s							
Y14A	Wickenburg	21.71	326	*e*P		P	04 07 31.2	+2.5
	71nm,0.9s							
V48A	Smith Brothers	21.75	26	P		P	04 07 26.9	-2.2
	baz=211							
S41A	Jilco Farms,	21.78	14	P		P	04 07 28.1	-1.4
	baz=198,SNR=28							
R38A	Fenwick Farm,	21.93	10	P		P	04 07 28.9	-2.1
	baz=192							
SDCO	Great Sand Dun	22.02	345	P		P	04 07 32.8	+0.6
	baz=162,SNR=15							
SDCO	Great Sand Dun	22.02	345	*e*P		P	04 07 33.8	+1.6
	9.3nm,1.1s							
GLA	Glamis	22.11	321	P		P	04 07 34.1	+1.0
	baz=134							
WUAZ	Wupatki	22.14	331	P		P	04 07 34.7	+1.3
	baz=146,SNR=17							
WUAZ	Wupatki	22.14	331	*e*P		P	04 07 36.4	+3.0
	28nm,1.1s							
U47A	Clarksville	22.16	24	P		P	04 07 33.0	-0.5
	baz=209,SNR=6.5							
S42A	Caledonia	22.20	16	P		P	04 07 33.5	-0.4
	baz=200,SNR=11							
R39A	Chumby, Stover	22.20	11	P		P	04 07 33.6	-0.4
	baz=194,SNR=18							
S43A	Fulton Ridge,	22.21	18	P		P	04 07 33.8	-0.3
	baz=202							
CBKS	Cedar Bluff	22.22	357	P		P	04 07 34.6	+0.5
	baz=177,SNR=5.7							
CBKS	Cedar Bluff	22.22	357	*e*P		P	04 07 38.7	+4.5
	40nm,0.8s							
R40A	Maddies Statio	22.34	13	P		P	04 07 35.2	-0.2
	baz=196,SNR=12							
CCM	Cathedral Cave	22.35	15	*e*P		P	04 07 34.1	-1.4
	40nm,0.9s							
S22A	4UR Ranch, Cre	22.38	342	P		P	04 07 36.8	+0.7
	baz=159,SNR=12							
S22A	4UR Ranch, Cre	22.38	342	*e*P		P	04 07 37.5	+1.4
	6.0nm,0.9s							
MVCO	Mesa Verde	22.42	339	P		P	04 07 37.4	+0.8
	baz=154,SNR=13							
MVCO	Mesa Verde	22.42	339	*e*P		P	04 07 38.1	+1.5
	17nm,0.9s							
Y12C	Blythe	22.42	323	*e*P		P	04 07 38.8	+2.5
	9.1nm,1.0s							
T46A	Princeton	22.46	23	P		P	04 07 36.1	-0.6
	baz=207							
FVM	French Village	22.50	17	*e*P		P	04 07 39.5	+2.4
	16nm,0.8s							
Q37A	Longview Farm,	22.52	8	P		P	04 07 37.2	-0.1
	baz=190							
U48A	Cassie Pea, Po	22.52	26	P		P	04 07 36.9	-0.5
	baz=211,SNR=6.3							
KSU1	Kansas State U	22.53	4	P		P	04 07 37.8	+0.3
	baz=185							
KSU1	Kansas State U	22.53	4	*e*P		P	04 07 37.5	0.0
	21nm,0.9s							
R41A	Rosebud	22.55	15	P		P	04 07 37.5	-0.1
	baz=198							
S44A	Carbondale	22.58	19	P		P	04 07 36.7	-1.2
	baz=203							
PDMCI	Parker Dam,Lak	22.61	324	P		P	04 07 39.4	+1.1
	baz=138							
SIUC	Southern Illin	22.61	19	*e*P		P	04 07 39.2	+1.0
	39nm,0.8s							
SWSC	Sam W. Stewart	22.63	319	P		P	04 07 38.9	+0.3
	baz=132							
IKP	In-Ko-Pah, Jac	22.64	318	P		P	04 07 39.1	+0.4
	baz=131							
R42A	Luebbering	22.68	16	P		P	04 07 38.9	-0.1
	baz=199							
KSCO	Kaye Shedlock'	22.68	352	P		P	04 07 39.1	-0.1
	baz=170,SNR=7.2							
KSCO	Kaye Shedlock'	22.68	352	*e*P		P	04 07 39.8	+0.6
	20nm,0.8s							
T47A	Sharon Grove	22.71	24	P		P	04 07 39.3	-0.1
	baz=209,SNR=6.5							
Q38A	Cooks Store, C	22.73	10	P		P	04 07 38.8	-0.7
	baz=192							
S45A	Carrier Mills	22.78	21	P		P	04 07 39.4	-0.7
	baz=205							
HODGE	Hodges	22.84	37	*e*P		P	04 07 39.9	-0.9
	25nm,0.8s							
BC3	Big Chuckawall	22.90	321	P		P	04 07 43.2	+1.6
	baz=134,SNR=7.2							
R43A	Red Bud	22.91	17	P		P	04 07 40.9	-0.5
	baz=201							
Q39A	Willow Grove F	22.93	11	P		P	04 07 41.5	-0.1
	baz=194,SNR=6.3							
MONP2	Monument Peak	22.99	318	P		P	04 07 42.5	-0.1
	baz=131							
BG3	Lake Jocassee	23.03	34	*e*P		P	04 07 42.5	-0.3
	15nm,0.8s							
Q40A	Laux Farm, Aux	23.05	13	P		P	04 07 42.3	-0.6
	baz=196,SNR=6.4							
W13A	Hualapai Mount	23.06	326	*e*P		P	04 07 47.3	+4.0
	7.4nm,1.1s							
IRM	Iron Mountain	23.07	323	P		P	04 07 43.7	+0.5
	baz=136							
T48A	Bowling Green	23.10	25	P		P	04 07 42.7	-0.8
	baz=211,SNR=6.5							
TKL	Tuckaleechee C	23.10	32	P		P	04 07 43.3	-0.2
	12nm,0.8s,baz=200,slow=11,SNR=13							
TKL				LR		LR	04 20 01.1	
	comp=Z,59nm,18.1s,baz=246,slow=46							
TKL	Tuckaleechee C	23.10	32	*e*P		P	04 07 43.4	-0.2
	20nm,0.9s							
R44A	Waltonville	23.14	19	P		P	04 07 43.5	-0.3
	baz=203							
RGRS	Roger Stewart	23.19	42	*e*P		P	04 07 42.9	-1.4
	248nm,0.6s							
Q41A	Truxton	23.21	14	P		P	04 07 44.0	-0.5
	baz=198,SNR=5.7							
P37A	Lathrop	23.24	8	P		P	04 07 44.3	-0.6
	baz=190,SNR=5.6							
PV01	Paradox Valley	23.28	339	*e*P		P	04 07 47.3	+1.8
U15A	North Rim	23.31	331	*e*P		P	04 07 48.1	+2.2
	15nm,1.0s							
CSU	Charleston Sou	23.32	42	*e*P		P	04 07 45.2	-0.5
NHSC	New Hope	23.33	42	P		P	04 07 43.9	-1.9
	baz=229,SNR=9.3							
NHSC	New Hope	23.33	42	*e*P		P	04 07 45.5	-0.3
Q42A	Golden Eagle	23.34	16	P		P	04 07 44.9	-1.0
	baz=199							
USIN	University of	23.36	22	*e*P		P	04 07 47.0	+1.0
	46nm,1.1s							
P38A	Dawn	23.39	10	P		P	04 07 45.3	-1.1
	baz=192							
P39B	Salisbury	23.40	11	P		P	04 07 45.4	-1.0
	baz=194,SNR=9.6							
PV05	Paradox Valley	23.41	338	*e*P		P	04 07 48.8	+2.0
R45A	Skylar, Fairfi	23.44	20	P		P	04 07 45.3	-1.6
	baz=205							
JSC	Jenkinsville	23.46	38	*e*P		P	04 07 46.3	-0.8
	13nm,0.7s							
BELC	Belle Mtn. Jos	23.47	321	P		P	04 07 47.8	+0.4
	baz=134							
P40A	Paris	23.57	12	P		P	04 07 46.6	-1.6
	baz=195,SNR=10							
Q43A	New Douglas	23.59	17	P		P	04 07 47.7	-0.7
	baz=201							
O34A	Beatrice	23.61	3	P		P	04 07 47.7	-0.8
	baz=184,SNR=8.5							
S48A	Wiedeman Farm,	23.71	25	P		P	04 07 47.5	-2.1
	baz=211							
LDFC	Landfair	23.71	324	*e*P		P	04 07 52.8	+3.0
	15nm,0.8s							
O35A	Humboldt	23.74	5	P		P	04 07 49.1	-0.7
	baz=186							
SMCO	Snowmass	23.75	343	*e*P		P	04 07 52.8	+2.4

baz=194,SNR=5.5
O40A La Belle 24.18 12 P P 04 07 52.5 -1.5
baz=196,SNR=16
LCMT Little Creek M 24.23 330 eP P 04 07 56.9 +2.3
4.4nm,0.8s
N34A Lincoln 24.27 4 P P 04 07 53.5 -1.3
baz=185
P43A Skaggs, Pawnee 24.30 17 P P 04 07 53.4 -1.7
baz=201
MMU Miners Mountai 24.35 335 eP P 04 07 57.4 +1.5
N35A Tabor 24.35 5 P P 04 07 54.7 -0.9
baz=186
N36A Muff Farm, Cla 24.38 6 P P 04 07 54.8 -1.0
baz=188
O41A Passleys Farm, 24.39 14 P P 04 07 54.9 -1.1
baz=196,SNR=6.5
P44A Sand Creek, Wi 24.40 19 P P 04 07 54.8 -1.2
baz=203
N37A Lee Faris, Mou 24.41 8 P P 04 07 55.2 -0.9
baz=190
R48A Northridge Ran 24.42 24 P P 04 07 54.6 -1.6
baz=210
TUQ Turquoise Moun 24.43 324 P P 04 07 58.1 +1.6
baz=136,SNR=13
OGNE Ogallala 24.51 353 P P 04 07 57.8 +0.6
baz=172,SNR=9.8
OGNE Ogallala 24.51 353 eP P 04 07 58.3 +1.1
46nm,1.0s
N38A Joes South For 24.58 10 P P 04 07 57.0 -0.7
baz=192,SNR=8.9
MTPU Mount Pierson 24.59 333 eP P 04 08 00.5 +2.3
34nm,0.9s
SZCU Shurtz Canyon 24.62 331 eP P 04 08 01.4 +3.1
10nm,1.3s
BFSC Mount Baldy Ra 24.65 319 P P 04 07 58.8 +0.3
baz=131
Q47A Bedord North L 24.67 23 P P 04 07 57.5 -1.0
baz=208
CCUT Cedar City 24.72 331 eP P 04 08 01.8 +2.6
4.8nm,1.0s
P45A Graceland, Par 24.73 20 P P 04 07 58.2 -0.9
baz=205
BGNE Belgrade 24.78 1 eP P 04 07 57.6 -1.9
29nm,1.3s
N39A Derby Farms, D 24.79 11 P P 04 07 58.2 -1.3
baz=194,SNR=12
SHPR Sheep Range 24.80 326 eP P 04 08 02.3 +2.4
7.1nm,1.1s
SRU San Rafael Swe 24.84 337 eP P 04 08 01.8 +1.5
13nm,1.0s
BLO Bloomington 24.84 22 eP P 04 08 00.0 0.0
12nm,0.8s
M34A Aspy Farms, Fr 24.93 3 P P 04 08 00.4 -0.4
baz=184
M35A Neola 24.95 5 P P 04 08 00.8 -0.2
baz=186
M33A Taylor Creek F 24.97 2 P P 04 08 01.3 +0.2
baz=183
N40A Mertquake, Sal 24.97 12 P P 04 08 00.1 -1.0
baz=196
MSU Marysvale 24.98 334 eP P 04 08 04.0 +2.5
O20A White River Ci 25.00 342 P P 04 08 02.2 +0.5
baz=158
O20A White River Ci 25.00 342 eP P 04 08 03.3 +1.7
11nm,0.9s
M37A Trindle Farm, 25.06 8 P P 04 08 01.3 -0.7
baz=190,SNR=7.9
N23A Red Feather La 25.12 347 P P 04 08 03.4 +0.6
baz=163,SNR=9.2
N23A Red Feather La 25.12 347 eP P 04 08 04.4 +1.6
10nm,1.0s
P18A Preston Nutter 25.19 338 eP P 04 08 06.0 +2.4
16nm,0.9s
M38A Pleasantville 25.20 9 P P 04 08 02.4 -0.8
baz=192,SNR=13
HDIL Hopedale 25.21 17 P P 04 08 02.5 -0.9
baz=201
HDIL Hopedale 25.21 17 eP P 04 08 03.9 +0.6
18nm,0.9s
P47A Martinsville 25.21 23 P P 04 08 01.6 -1.7
baz=208
P17A Butcher Ranch, 25.24 337 eP P 04 08 05.6 +1.8
8.3nm,0.9s
TMUT Trail Mountain 25.26 336 eP P 04 08 06.1 +2.0
17nm,1.3s
N42A Yates City 25.27 15 P P 04 08 02.5 -1.4
baz=199
O45A Potomac 25.39 19 P P 04 08 04.1 -0.9
baz=204,SNR=6.6
L34A Svendsen Farm, 25.40 4 P P 04 08 04.7 -0.4
baz=185
PHWY Pilot Hill 25.40 348 eP P 04 08 07.2 +1.8
7.1nm,0.8s
M39A Webster 25.43 11 P P 04 08 04.4 -0.9
baz=194
M40A Post Highland 25.49 12 P P 04 08 04.9 -1.0
baz=196
NCAT North Carolina 25.59 37 eP P 04 08 06.8 -0.1
27nm,1.1s
N43A Stutzman Famil 25.60 16 P P 04 08 06.3 -0.6
baz=201
L35A Bielow Farm, R 25.61 5 P P 04 08 05.8 -1.1
baz=186
M41A Milan 25.67 14 P P 04 08 06.5 -1.0
baz=198
SCIA State Center 25.68 9 P P 04 08 06.5 -1.1
baz=192,SNR=7.0
SCIA State Center 25.68 9 eP P 04 08 07.5 -0.1
34nm,0.8s
L36A Harm Buss Farm 25.68 7 P P 04 08 07.3 -0.3
baz=188
SFIN Lafayette 25.72 20 P P 04 08 06.4 -1.5
baz=206,SNR=5.3
SFIN Lafayette 25.72 20 eP P 04 08 07.9 -0.1
14nm,0.8s
MPMC Manual Prospec 25.77 323 P P 04 08 09.8 +1.0
baz=134
L37A Phoenix Point, 25.81 8 P P 04 08 07.6 -1.2
baz=190,SNR=6.3
O47A Sheridan 25.91 22 P P 04 08 08.8 -0.9
baz=208
L38A Oak Wood Farm, 25.94 9 P P 04 08 09.6 -0.4
baz=192,SNR=11
DAC Darwin (Calif) 25.99 323 eP P 04 08 12.7 +2.0
6.4nm,1.1s
K32A Verdigre 26.03 1 P P 04 08 09.7 -1.1
baz=181
BLA Blacksburg 26.04 34 P P 04 08 09.2 -1.7
baz=222
BLA Blacksburg 26.04 34 eP P 04 08 10.8 -0.2
44nm,1.4s
MPU Maple Canyon 26.05 336 eP P 04 08 13.1 +1.9
7.6nm,1.1s
L39A Vinton 26.09 11 P P 04 08 10.4 -0.9
baz=194,SNR=6.3
M43A Waltham Townsh 26.12 16 P P 04 08 10.2 -1.4
baz=201
K34A Le Mars 26.13 4 P P 04 08 10.2 -1.6
baz=185
CNNC Cliffs of the 26.15 41 P P 04 08 09.7 -2.2
baz=230
CNNC Cliffs of the 26.15 41 eP P 04 08 12.0 +0.1
34nm,0.8s
NLU North Lily Min 26.16 336 eP P 04 08 14.5 +2.2
9.9nm,1.0s
RWWY Rawlins 26.17 345 eP P 04 08 13.9 +1.6
16nm,1.0s
L40A Anamosa 26.18 12 P P 04 08 10.9 -1.3
baz=196
K36A Gilmore City 26.23 7 P P 04 08 11.2 -1.4
baz=189
K35A Storm Lake 26.24 5 P P 04 08 11.6 -1.0
baz=187
N46A Monticello 26.30 20 P P 04 08 11.3 -1.9
baz=206
M44A Midewin, Midew 26.34 18 P P 04 08 12.0 -1.5
baz=203
L41A Preston 26.35 13 P P 04 08 12.1 -1.5
baz=197,SNR=5.6
CWC Cottonwood Cre 26.38 322 P P 04 08 12.8 -1.4
baz=134
R11A Troy Canyon, C 26.42 329 P P 04 08 15.6 +1.0
baz=141
R11A Troy Canyon, C 26.42 329 eP P 04 08 17.3 +2.7
3.7nm,1.0s
K37A Belmond 26.46 8 P P 04 08 13.0 -1.7
baz=190
K38A Parkersburg 26.47 9 P P 04 08 13.0 -1.7
baz=192
L42A Oliver, Polo 26.47 15 P P 04 08 13.2 -1.6
baz=199,SNR=5.5
M45A Boilermakers S 26.58 19 P P 04 08 14.8 -1.0
baz=204
VES Vestal, Richgr 26.58 320 P P 04 08 16.3 +0.5
baz=131
J31A Geddes 26.66 360 P P 04 08 16.2 -0.3
baz=179
DUG Dugway, Tooele 26.66 335 P P 04 08 18.1 +1.4
baz=148,SNR=5.3
DUG Dugway, Tooele 26.66 335 eP P 04 08 19.0 +2.2
5.8nm,0.8s
K39A Oelwein 26.67 11 P P 04 08 15.0 -1.5
baz=194,SNR=8.6
GATR Gnd/Air Tx Cnt 26.68 316 eP P 04 08 17.5 +0.7
J34A George 26.74 4 P P 04 08 17.3 +0.1
baz=185
K40A Colesburg 26.81 12 P P 04 08 16.6 -1.3
baz=196
L43A Garden Prairie 26.88 16 P P 04 08 17.3 -1.2
baz=201
K41A Shullsburg 26.90 13 P P 04 08 17.2 -1.4
baz=197
K22A Casper 26.92 347 P P 04 08 18.8 -0.3
baz=163,SNR=7.3
K22A Casper 26.92 347 eP P 04 08 20.4 +1.3
16nm,0.9s
J36A Seneca 1, Swea 26.93 7 P P 04 08 17.8 -1.1
baz=189
J37A Redenius Farm, 27.00 8 P P 04 08 17.9 -1.7
baz=190
ECSD EROS Data Cent 27.15 3 P P 04 08 21.6 +0.7
baz=184
ECSD EROS Data Cent 27.15 3 eP P 04 08 20.4 -0.4
14nm,1.1s
ACSO Alum Creek Sta 27.16 27 P P 04 08 19.6 -1.4
baz=214,SNR=6.8
ACSO Alum Creek Sta 27.16 27 eP P 04 08 20.6 -0.4
23nm,0.8s
J38A Wedel Dairy, R 27.17 10 P P 04 08 19.7 -1.3
baz=193,SNR=7.1
JFWS Jewell Farm 27.20 13 P P 04 08 21.2 -0.2
baz=197
JFWS Jewell Farm 27.20 13 eP P 04 08 21.4 +0.1
32nm,1.5s
K42A Prairie Point, 27.28 15 P P 04 08 21.3 -0.8
baz=199
J39A Decorah 27.32 11 P P 04 08 20.5 -1.8
baz=194
BGU Big Grassy Mou 27.37 335 eP P 04 08 25.1 +2.0
17nm,1.8s
I35A Creekview Farm 27.39 5 P P 04 08 21.9 -1.1
baz=187
HWUT Hardware Ranch 27.41 338 eP P 04 08 25.1 +1.7
3.9nm,0.9s
K43A Burlington 27.47 16 P P 04 08 22.4 -1.4
baz=201
J40A Soldiers Grove 27.56 12 P P 04 08 22.7 -1.8
baz=196
MLAC Mammoth, Mammo 27.64 323 P P 04 08 24.3 -1.3
baz=134
I36A Fitzsimmons Fa 27.65 7 P P 04 08 23.7 -1.6
baz=189
J41A Loganville 27.68 13 P P 04 08 24.3 -1.4
baz=198
I37A Lemond, Waseca 27.72 8 P P 04 08 24.6 -1.4
baz=190
MDPB Devils Postpil 27.78 323 eP P 04 08 29.6 +2.7
5.2nm,1.0s
BW06 Boulder Array 27.81 342 P P 04 08 26.6 -0.4
baz=157,SNR=7.6
BW06 Boulder Array 27.81 342 eP P 04 08 28.2 +1.1
21nm,1.4s
PD31 Pinedale Array 27.81 342 eP P 04 08 28.2 +1.2
PDAR Pinedale Array 27.81 342 P P 04 08 27.7 +0.7
2.9nm,0.8s,baz=129,slow=8.6,SNR=24
PDAR LR LR 04 20 27.0
comp=Z,256nm,20.8s,baz=169,slow=39
PDAR Pinedale Array 27.81 342 eP P 04 08 27.0 0.0
NV11 Mina Array Sit 27.83 325 eP P 04 08 29.6 +2.4
0.7nm,1.1s
J42A Columbus 27.85 15 P P 04 08 25.7 -1.4
baz=199,SNR=5.4
I39A Houston 27.85 11 P P 04 08 25.8 -1.3
baz=194
H32A Carlson Farm, 27.89 2 P P 04 08 26.6 -0.9
baz=182
RSSD Black Hills 27.89 351 P P 04 08 27.9 +0.1
baz=169
I38A Scanlan Farm, 27.90 9 P P 04 08 26.0 -1.6
baz=193,SNR=10
NV01 Mina Array Sit 27.91 325 eP P 04 08 30.2 +2.3
NVAR Mina Array Bea 27.91 325 P P 04 08 30.6 +2.6
5.3nm,0.9s,baz=150,slow=10,SNR=32
URVA University of 27.91 37 eP P 04 08 32.2 +4.4
IP01 Cuckoo 27.96 36 eP P 04 08 32.5 +4.3
7.7nm,0.9s
IP05 Hopewell Churc 27.96 37 eP P 04 08 28.4 +0.2
35nm,1.7s
HVU Hansel Valley 28.00 337 eP P 04 08 30.7 +2.0
6.5nm,0.8s
SPRD Spring Road, M 28.02 36 eP P 04 08 32.7 +4.0
7.7nm,1.0s
H34A Spellman Lake, 28.13 4 P P 04 08 29.2 -0.4
baz=185
SDV Santo Domingo 28.16 102 P P 04 08 32.4 +2.0
3.1nm,0.7s,baz=277,slow=5.8,SNR=4.6
SDV LR LR 04 19 31.8
comp=Z,97nm,21.6s,baz=354,slow=36
SDV Santo Domingo 28.16 102 eP P 04 08 34.9 +4.4
7.5nm,0.9s
MCWV Mont Chateau 28.17 31 P P 04 08 29.3 -0.8
baz=220
RYN Ryan 28.17 325 eP P 04 08 32.9 +2.7
9.4nm,1.5s
H36A Jessenland, He 28.21 7 P P 04 08 29.5 -0.9
baz=189
H35A Sunnyside Ranc 28.23 5 P P 04 08 30.1 -0.5
baz=187
H37A Dierke Farm, C 28.34 8 P P 04 08 30.9 -0.6
baz=191
I42A Draeger Farm, 28.44 15 P P 04 08 31.0 -1.4
baz=199
H38A Maiden Rock 28.52 9 P P 04 08 32.1 -1.0
baz=192
I43A Langenfeld Bro 28.62 16 P P 04 08 32.7 -1.4
baz=201
G32A Webster 28.64 1 P P 04 08 33.3 -0.9
baz=182
H39A Augusta 28.69 11 P P 04 08 33.8 -0.9
baz=194
REDW Red Top Meadow 28.74 341 eP P 04 08 37.0 +1.6
27nm,1.6s
SNOW Snow King Moun 28.80 341 eP P 04 08 37.8 +1.9
24nm,1.4s
H40A Chili 28.81 12 P P 04 08 34.7 -1.0
baz=196
TPAW Teton Pass 28.89 341 eP P 04 08 39.3 +2.6
18nm,1.4s
LOHW Long Hollow 28.89 342 eP P 04 08 38.3 +1.6
31nm,1.7s
H41A Junction City 28.95 13 P P 04 08 35.8 -1.2
baz=198
SPMN Marine on St. 28.99 8 P P 04 08 36.0 -1.2
baz=191
SPMN Marine on St. 28.99 8 eP P 04 08 36.6 -0.7
11nm,0.9s
FXWY Fox Creek 29.04 341 eP P 04 08 39.6 +1.5
17nm,1.8s
MOOW Moose Ponds 29.06 341 eP P 04 08 39.6 +1.4
3.9nm,0.8s
G38A Ridgeland 29.07 10 P P 04 08 36.4 -1.6
baz=193
IMW Indian Meadow 29.25 341 eP P 04 08 42.5 +2.5
3.3nm,0.8s
G39A Holcombe 29.30 11 P P 04 08 38.8 -1.2
baz=194
G40A Rib Lake 29.46 12 P P 04 08 40.5 -1.0
baz=196
F37A Hinrichs Farm, 29.50 8 P P 04 08 40.9 -0.9
baz=191
G41A Antigo 29.62 13 P P 04 08 41.9 -1.1
baz=198
M54A Oil Creek Stat 29.68 29 P P 04 08 42.1 -1.3
baz=218
G42A Mountain 29.83 14 P P 04 08 42.8 -1.9
baz=200
F38A Pierce - Schro 29.84 9 P P 04 08 43.3 -1.5
baz=193
SSPA Standing Stone 29.89 32 P P 04 08 43.6 -1.8
baz=222
RLMT Red Lodge 29.91 345 eP P 04 08 47.6 +1.9
17nm,1.3s
F39A Loretta 29.95 11 P P 04 08 44.6 -1.2
baz=194
ERPA Erie 30.01 28 P P 04 08 44.6 -1.8
baz=217
ERPA Erie 30.01 28 eP P 04 08 45.5 -0.9
G43A Wallace 30.02 15 P P 04 08 45.9 -0.6
baz=201
YHH Holmes Hill 30.03 342 eP P 04 08 49.0 +2.1
5.2nm,1.3s
F40A Park Falls 30.11 12 P P 04 08 45.9 -1.3
baz=196,SNR=7.2
E35A Pequot Lakes 30.12 6 P P 04 08 46.2 -1.1
baz=188
F41A Three Lakes 30.14 13 P P 04 08 45.9 -1.6
baz=198
HLID Hailey 30.15 337 P P 04 08 48.3 +0.5
baz=148
E36A McGregor 30.20 7 P P 04 08 46.5 -1.5
baz=190
E39A Mellen 30.47 11 P P 04 08 49.1 -1.2
baz=195,SNR=5.8
E38A The Farm, Brul 30.52 9 P P 04 08 49.6 -1.2
baz=193
MFID Camas Ranch 30.59 335 eP P 04 08 58.9 +7.3
6.0nm,1.1s
E40A Wakefield 30.65 12 P P 04 08 50.5 -1.5
baz=196,SNR=7.3
D35A Remer 30.67 6 P P 04 08 51.6 -0.5
baz=188
F43A Flat Rock, Esc 30.69 16 P P 04 08 51.2 -1.2
baz=202
LAO LASA Array 30.74 350 P P 04 08 52.4 -0.5
baz=165
D36A Goodland 30.86 7 P P 04 08 52.7 -1.1
baz=190
E41A Kenton 30.86 13 P P 04 08 52.5 -1.3
baz=198
D37A Cotton 30.93 8 P P 04 08 53.2 -1.2
baz=191
F45A CMU Biological 31.01 18 P P 04 08 53.9 -1.3
baz=205
F44A Big Bay de Noc 31.02 16 P P 04 08 53.7 -1.5
baz=203
WVOR Wild Horse Val 31.05 330 eP P 04 08 57.8 +2.0
11nm,1.3s
E42A Champion 31.07 14 P P 04 08 54.5 -1.1
baz=200
DLMT Dillon 31.09 341 eP P 04 08 58.3 +2.3
9.5nm,1.0s
E43A Lone Tree Farm 31.24 15 P P 04 08 56.3 -0.9
baz=202
C35A Jirik Farms, M 31.29 6 P P 04 08 56.2 -1.4
baz=188
C36A Pine Crest Far 31.47 7 P P 04 08 58.1 -1.1
baz=190
D41A Chassel 31.52 13 P P 04 08 58.6 -1.0
baz=198,SNR=7.3
C37A Embarrass 31.52 8 P P 04 08 57.9 -1.7
baz=192
C38A Sawbill Land. 31.65 9 P P 04 08 59.0 -1.8
baz=193
J08A Circle Bar Ran 31.69 332 eP P 04 09 03.6 +2.3
15nm,0.9s
B33A Robert and Kas 31.73 4 P P 04 09 00.2 -1.3
baz=185
AGMN Agassiz Nation 31.74 3 P P 04 09 00.3 -1.3
baz=185
AGMN Agassiz Nation 31.74 3 eP P 04 09 01.2 -0.4
8.9nm,0.9s
EYMN Ely 31.84 9 P P 04 09 01.2 -1.2
baz=193
C39A Grand Marais 31.93 11 P P 04 09 02.3 -1.0
baz=195
B35A Bob, Littlefor 31.97 6 P P 04 09 02.2 -1.4
baz=189
B34A Aery, Baudette 32.01 5 P P 04 09 03.1 -0.8
baz=187
BINY Binghamton 32.01 32 P P 04 09 02.5 -1.6
baz=224
M04C Macdoel 32.19 326 P P 04 09 05.8 0.0
baz=135
A33A Warroad 32.41 4 P P 04 09 07.2 -0.2
baz=186
EGMT Eagleton 32.74 346 P P 04 09 10.7 +0.3
baz=190
EGMT Eagleton 32.74 346 eP P 04 09 11.8 +1.3
30nm,1.5s
MSO Missoula 32.82 340 P P 04 09 12.3 +1.1
baz=152
F10A Beach Ranch, E 33.27 336 eP P 04 09 16.4 +1.3
15nm,1.3s
ULM Lac du Bonnet 33.69 3 P P 04 09 17.4 -1.2
1.6nm,0.7s,baz=204,slow=8.3,SNR=4.1
ULM LR LR 04 24 40.3
comp=Z,90nm,20.2s,baz=118,slow=40
NNA Nana 35.50 142 LR LR 04 21 11.4
comp=Z,126nm,20.9s,baz=312,slow=31
FFC Flin Flon 38.20 357 eP P 04 09 57.2 0.0
13nm,0.9s
EDM Edmonton 38.42 346 eP P 04 09 59.4 +0.3
16nm,0.8s
LPAZ La Paz 44.26 136 LR LR 04 27 19.1
comp=Z,115nm,21.0s,baz=310,slow=33
RPN Rapa Nui 44.68 194 LR LR 04 23 57.2
comp=Z,46nm,19.5s,baz=72,slow=28
SCHQ Schefferville 45.30 25 P P 04 10 55.0 -0.4
7.4nm,0.9s,baz=214,slow=3.8,SNR=8.6
SCHQ Schefferville 45.30 25 eP P 04 10 55.1 -0.3
11nm,1.0s
YKA Yellowknife Ar 47.28 350 P P 04 11 10.3 -0.5
2.2nm,0.8s,baz=158,slow=7.3,SNR=35
YKA LR LR 04 31 08.7
comp=Z,14nm,20.6s,baz=180,slow=36
YKB5 Yellowknife Ar 47.28 350 eP P 04 11 10.3 -0.4
YKW3 Yellowknife Ar 47.35 350 eP P 04 11 10.4 -0.9
4.3nm,1.1s
EGAK Eagle 56.10 340 eP P 04 12 17.6 +0.9
4.9nm,0.9s
INK Inuvik 56.32 345 P P 04 12 18.5 +0.3
4.4nm,0.8s,baz=122,slow=7.5,SNR=20
INK Inuvik 56.32 345 eP P 04 12 18.8 +0.7
6.4nm,0.9s
SCRK Sand Creek 56.61 338 eP P 04 12 22.8 +2.3
7.8nm,1.3s
RIDG Independ'e Rid 56.79 337 eP P 04 12 23.5 +1.8
8.9nm,1.0s
IL1 Eielson Array 58.10 338 eP P 04 12 31.2 +0.4
ILAR Eielson Array 58.10 338 P P 04 12 31.6 +0.8
2.8nm,1.0s,baz=141,slow=5.3,SNR=18
ILAR LR LR 04 39 40.4
comp=Z,199nm,18.4s,baz=145,slow=38
ILB Eielson Array 58.10 338 eP P 04 12 32.2 +1.3
CPUP Villa Florida 58.43 136 LR LR 04 36 55.9
comp=Z,82nm,19.3s,baz=338,slow=35
TRF Thorofare Moun 58.72 336 eP P 04 12 36.6 +1.2
8.8nm,0.8s
SFJD Kangerlussuaq 59.12 20 LR LR 04 42 24.1
comp=Z,32nm,19.3s,baz=235,slow=40
CAST Castle Rocks 59.43 335 eP P 04 12 40.7 +0.6
4.7nm,1.0s
MLY Manley 59.65 337 eP P 04 12 42.8 +1.1
4.6nm,1.0s
PLCA Paso Flores 62.60 156 LR LR 04 32 07.5
comp=Z,305nm,21.9s,baz=167,slow=28
SEY Seymchan 83.82 334 P P 04 15 07.8 +0.8
1.0nm,0.3s,baz=75,slow=7.6,SNR=7.3
KOWA Kowa 90.09 75 LR LR 04 51 12.2
comp=Z,43nm,20.5s,baz=248,slow=32
LZH Lanzhou 123.56 338 ePKP PKPdf 04 21 36.5 +0.4
LZH pPKP pPKPdf 04 21 39.8 +2.9
LZH sPKP 04 21 41.3
CD2 Chengdu 128.21 336 PKP PKPdf 04 21 42.6 -2.3

NIED ***21*** *04:08:00,29.˚30N×130.˚80E,h8km,Mw4.1 Best double couple: M0 1.67000×10^15 NP1:φs=142.00000°,δ37.00000°, λ-2.00000°. NP2:φs=234.00000°,δ89.00000°, λ-127.00000°.*

JMA ***21*** *04:08:51.3E0.3,29.˚26N×130.˚79E,h27km±4km,M3.8*

ISCJB ***21*** *04:08:53.0E0.8,29.˚31N±0.˚04×130.˚71E±0.˚08,h52km±6km,*

mb3.8/13,MS3.6/1,Error ellipse: s-maj=13.1km s-min=4.3km az=25.3

*IDC **21** 04:08:54.5±3.9,29.38N×130.59E,h42km±33km,mb3.6/13, mb1 3.7/15,mb1mx3.6/65,mbtmp3.8/15,ML3.4/2,MS3.3/3, Ms1 3.3/3,ms1mx2.7/65,Error ellipse: s-maj=24.4km s-min=23.5km az=56.0*

ISC 21 04:08:54.1±1.5,29.32N±0.06×130.67E±0.09,h43km±13km, n29,σ0.983/37,mb3.9/13,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.86**	**307**	P	**Pn**	**04 09 09.0**	**-0.9**
JNN				*e*S	**Sn**	**04 09 22.6**	**+1.3**
JYAK	**Yakushimahirau**	**0.92**	**351**	P	**Pn**	**04 09 09.7**	**-1.0**
JYAK				*e*S	**Sn**	**04 09 22.8**	**0.0**
JKC	**Kuchinoerabu**	**1.21**	**340**	P	**Pn**	**04 09 13.8**	**-0.8**
JKC				*e*S	**Sn**	**04 09 30.7**	**+1.0**
JTAJ	**Takarajima**	**1.29**	**263**	P	**Pn**	**04 09 15.6**	**-0.1**
JAM	**Amami Oshima**	**1.30**	**226**	P	**Pn**	**04 09 15.0**	**-0.8**
JAM				*e*S	**Sn**	**04 09 31.7**	**-0.3**
JTN	**Tanegashima 3**	**1.35**	**11**	P	**Pn**	**04 09 15.7**	**-0.9**
JTN				*e*S	**Sn**	**04 09 34.0**	**+0.6**
JAMN	**Amaminishikomi**	**1.69**	**231**	P	**Pn**	**04 09 20.6**	**-0.6**
JAMN				S	**Sn**	**04 09 42.6**	**+0.9**
JTSR	**Tashiro 2**	**1.85**	**7**	P	**Pn**	**04 09 23.1**	**-0.3**
JTSR				*e*S	**Sn**	**04 09 46.0**	**+0.4**
JTK	**Tokunoshima**	**2.15**	**225**	P	**Pn**	**04 09 27.2**	**-0.3**
JTK				*e*S	**Sn**	**04 09 54.3**	**+1.4**
JNAR	**Kushima--Naru**	**2.26**	**13**	P	**Pn**	**04 09 29.0**	**0.0**
JNAR				S	**Sn**	**04 09 56.3**	**+0.7**
JTZ	**Takazaki**	**2.60**	**8**	P	**Pn**	**04 09 33.8**	**+0.2**
JNU	**Nakatsue**	**3.79**	**3**	P	**Pn**	**04 09 50.3**	**+0.2**
	5.2nm,0.3s,baz=192,slow=13,SNR=39						
JNU				S	**Sn**	**04 10 33.1**	**-0.4**
	3.9nm,0.3s,baz=76,slow=8.3,SNR=4.8						
KSRS	**Korea Array**	**8.43**	**345**	P	**Pn**	**04 10 56.0**	**+2.3**
	0.3nm,0.3s,baz=159,slow=14,SNR=3.8						
KSRS				LR	LR	04 14 27.0	
	comp=Z,162nm,20.4s,baz=162,slow=40						
USRK	**Ussuriysk Ar.**	**14.89**	**4**	LR	LR	04 18 20.2	
	comp=Z,72nm,18.2s,baz=174,slow=38						
KLR	**Kul'dur**	**19.90**	**2**	P	**P**	**04 13 20.9**	**-1.0**
	0.1nm,0.3s,baz=187,slow=6.4,SNR=14						
SONM	**Songino Array**	**26.31**	**321**	P	**P**	**04 14 24.3**	**-1.5**
	1.0nm,0.7s,baz=140,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**41.19**	**309**	P	**P**	**04 16 34.5**	**+0.1**
	0.7nm,0.4s,baz=91,slow=9.8,SNR=15						
ZALV	**Zalesovo Beam**	**41.19**	**320**	P	**P**	**04 16 33.6**	**-0.8**
	0.8nm,0.4s,baz=111,slow=7.2,SNR=3.2						
KURBB	**Kurchatov Arra**	**44.19**	**314**	P	**P**	**04 16 58.4**	**-0.3**
	2.6nm,0.6s,baz=100,slow=9.0,SNR=19						
WRA	**Warramunga Arr**	**49.10**	**175**	P	**P**	**04 17 38.0**	**+0.5**
	0.6nm,0.8s,baz=355,slow=8.6,SNR=5.0						
BVAR	**Borovoye Array**	**49.47**	**316**	P	**P**	**04 17 39.7**	**-0.3**
	2.9nm,0.5s,baz=96,slow=9.8,SNR=21						
ARU	**Arti**	**56.35**	**321**	LR	LR	04 45 56.2	
	comp=Z,50nm,18.1s,baz=180,slow=40						
ILAR	**Eielson Array**	**60.70**	**29**	P	**P**	**04 19 00.9**	**+0.1**
	0.3nm,0.7s,baz=256,slow=5.1,SNR=4.8						
INK	**Inuvik**	**65.20**	**24**	P	**P**	**04 19 31.3**	**+0.8**
	0.7nm,0.6s,baz=313,slow=6.2,SNR=3.9						
KBZ	**Khabaz**	**68.89**	**309**	P	**P**	**04 19 55.3**	**+1.0**
	1.2nm,0.8s,baz=6.6,slow=3.2,SNR=4.0						
FINES	**FINESS Array B**	**71.24**	**331**	P	**P**	**04 20 07.9**	**-0.6**
	0.5nm,0.4s,baz=72,slow=5.6,SNR=5.4						
AKASG	**Malin Array Be**	**74.58**	**320**	P	**P**	**04 20 28.1**	**-0.4**
	0.9nm,0.5s,baz=58,slow=6.5,SNR=4.3						
YKA	**Yellowknife Ar**	**74.82**	**26**	P	**P**	**04 20 30.1**	**+0.5**
	0.2nm,0.7s,baz=305,slow=6.0,SNR=5.7						
BRTR	**Keskin Array B**	**76.84**	**308**	P	**P**	**04 20 42.2**	**+0.4**
	1.0nm,0.7s,baz=112,slow=5.6,SNR=8.1						

MEX 21 04:12:20.5±0.6,16.09N×98.62W,h19km±11km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.56**	**57**	*e*P	Pb	04 12 30.1	-1.5
PNIG				*e*S	Sb	04 12 36.9	-2.3
ACX	**Acapulco**	**1.42**	**303**	*i* P	Pn	04 12 41.4	-4.0
ACX				*e*S	Sn	04 12 59.0	-4.6
TLIG	**Tlapa**	**1.47**	**2**	*e*P	Pn	04 12 42.3	-3.8
TLIG				*i* S	Sn	04 13 00.8	-4.1
CAIG	**El Cayaco**	**1.85**	**301**	*e*P	Pn	04 12 48.8	-2.5
CAIG				*i* S	Sn	04 13 09.9	-4.2
VHO	**Vista Hermosa**	**2.05**	**61**	*e*P	Pn	04 12 51.8	-2.5
VHO				*i* S	Sn	04 13 16.1	-3.3
HUIG	**Huatulco**	**2.43**	**97**	*e*P	Pn	04 12 56.5	-2.8
HUIG				*i* S	Sn	04 13 24.5	-4.1
PLIG	**Platanillo**	**2.44**	**340**	*e*P	Pn	04 12 56.8	-2.7
PLIG				*i* S	Sn	04 13 24.9	-4.0
TPIG	**Tehuac#an**	**2.61**	**27**	*e*P	Pn	04 12 59.6	-2.3
TPIG				*i* S	Sn	04 13 29.9	-3.3
ARIG	**Puente Sto Nin**	**2.74**	**323**	*e*P	Pn	04 13 00.4	-3.1
ARIG				*i* S	Sn	04 13 33.2	-3.0
YAIG	**Yautepec**	**2.79**	**351**	*e*P	Pn	04 13 01.4	-3.0
YAIG				*i* S	Sn	04 13 34.9	-2.7

MEX 21 04:14:50.4±0.8,16.11N×98.57W,h7km±8km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.50**	**57**	*i* P	Pg	04 14 59.5	-0.7
PNIG				*e*S	Sg	04 15 07.4	+0.6
TLIG	**Tlapa**	**1.44**	**360**	*e*P	Pn	04 15 12.7	-4.4
TLIG				*e*S	Sb	04 15 31.9	-4.4
ACX	**Acapulco**	**1.45**	**301**	*i* P	Pg	04 15 19.1	+0.8
ACX				*i* S	Sg	04 15 37.4	+0.3
CAIG	**El Cayaco**	**1.88**	**300**	*i* P	Pn	04 15 20.3	-2.6
CAIG				*i* S	Sn	04 15 42.8	-4.1
VHO	**Vista Hermosa**	**2.00**	**61**	*e*P	Pn	04 15 22.2	-2.6
VHO				*i* S	Sn	04 15 45.2	-5.0
HUIG	**Huatulco**	**2.39**	**98**	*i* P	Pn	04 15 27.9	-2.1
HUIG				*i* S	Sn	04 15 54.2	-5.3
PLIG	**Platanillo**	**2.44**	**339**	*e*P	Pn	04 15 27.9	-2.8
PLIG				*e*S	Sn	04 15 56.3	-4.6
TPIG	**Tehuac#an**	**2.57**	**26**	*e*P	Pn	04 15 30.1	-2.5
TPIG				*e*S	Sn	04 15 59.4	-4.8
ARIG	**Puente Sto Nin**	**2.75**	**322**	*e*P	Pn	04 15 32.6	-2.4
ARIG				*e*S	Sn	04 16 04.2	-4.2
YAIG	**Yautepec**	**2.78**	**350**	*e*P	Pn	04 15 32.1	-3.3
YAIG				*i* S	Sn	04 16 04.8	-4.5

MEX 21 04:25:08.6±0.5,16.26N×98.27W,h2km±3km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**46**	*e*P	Pg	04 25 12.0	-0.3
PNIG				*i* S	Sg	04 25 15.1	+0.3
TLIG	**Tlapa**	**1.33**	**348**	*i* P	Pg	04 25 29.9	-4.1
TLIG				*e*S	Sg	04 25 47.0	-4.3
ACX	**Acapulco**	**1.64**	**292**	*i* P	Pn	04 25 32.5	-6.0
ACX				*i* S	Sn	04 25 53.7	-6.5
VHO	**Vista Hermosa**	**1.68**	**61**	*e*P	Pn	04 25 35.4	-3.9
VHO				*e*S	Sn	04 25 56.5	-5.0
CAIG	**El Cayaco**	**2.07**	**293**	*e*P	Pn	04 25 41.4	-3.0
CAIG				*e*S	Sn	04 26 06.7	-4.2
HUIG	**Huatulco**	**2.14**	**103**	*e*P	Pn	04 25 42.2	-3.1
HUIG				*i* S	Sn	04 26 08.0	-4.5
TPIG	**Tehuac#an**	**2.32**	**22**	*e*P	Pn	04 25 45.0	-3.0
TPIG				*e*S	Sn	04 26 13.7	-3.5

*ISCJB **21** 04:50:00.4±0.2,51.03N±0.04×177.97W±0.03,h35km, mb4.5/87,MS3.9/41,Error ellipse: s-maj=5.8km s-min=2.9km az=171.8*

*IDC **21** 04:50:02.6±5.5,51.28N×178.10W,h33km±41km,mb4.0/28, mb1 4.1/30,mb1mx4.0/79,mbtmp4.2/30,ML4.1/2,MS3.8/38, Ms1 3.8/38,ms1mx3.6/82,Error ellipse: s-maj=18.8km s-min=10.2km az=171.0*

*NEIC **21** 04:50:03.7±0.0,51.26N×178.07W,h45km,mb4.6/81, ML4.3(AEIC),After AEIC.*

*BJI **21** 04:50:04.0,51.58N×178.25W,h57km,mb4.7/26, mB5.0/14,Ms4.6/9,Ms7 4.3/7*

ISC 21 04:50:02.6±0.5,51.14N±0.08×178.16W±0.04,h35km, n418,σ1.915/406,mb4.6/87,MS3.9/41,7C-7D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPA	**Tanaga Point A**	**0.71**	**17**	P	**Pn**	**04 50 16.1**	**-0.1**
GALAA	**Gareloi Lava P**	**0.73**	**328**	P	**Pn**	**04 50 17.1**	**+0.6**
KIKV	**Kanaga Island**	**0.96**	**39**	P	**Pn**	**04 50 19.4**	**-0.2**
KIRH	**Kanaga Island**	**1.01**	**41**	P	**Pn**	**04 50 20.2**	**-0.1**
ADAG	**Mount Adagdak**	**1.28**	**48**	P	**Pn**	**04 50 24.2**	**+0.2**
ETKA	**Kagalaska Isla**	**1.31**	**56**	P	**Pn**	**04 50 23.6**	**-0.8**
ETKA				S	**Sn**	**04 50 40.9**	**+0.2**
GSTD	**Great Sitkin T**	**1.55**	**53**	P	**Pn**	**04 50 28.0**	**+0.2**
GSTD				S	**Sn**	**04 50 48.2**	**+1.5**
KOWE	**Korovin West**	**2.72**	**62**	P	**Pn**	**04 50 44.5**	**+0.7**
KOWE				S	**Sn**	**04 51 17.8**	**+2.4**
KOKL	**Mount Kliuchef**	**2.73**	**63**	P	**Pn**	**04 50 45.9**	**+1.9**
KOFP	**Korovin Flat P**	**2.77**	**64**	P	**Pn**	**04 50 46.2**	**+1.7**
SMY	**Shemya**	**5.05**	**291**	P	**Pn**	**04 51 19.9**	**+4.1**
OKWE	**Okmok W'ng Wal**	**6.51**	**65**	P	**Pn**	**04 51 38.4**	**+2.5**
OKTU	**Okmok Mt. Tuli**	**6.60**	**66**	P	**Pn**	**04 51 38.7**	**+1.5**
MREP	**Makushin Rep't**	**7.46**	**65**	P	**Pn**	**04 51 50.4**	**+1.4**
UNV	**Unalaska Valle**	**7.61**	**65**	P	**Pn**	**04 51 52.0**	**+1.1**
UNV				S	**Sn**	**04 53 15.5**	**-0.3**
AKUT	**Akutan**	**8.11**	**63**	*e*Pn	**Pn**	**04 51 59.9**	**+2.2**
GAMB	**Gambell**	**13.13**	**13**	*e*Pn	**Pn**	**04 53 09.9**	**+3.7**
OHAK	**Old Harbor**	**15.72**	**58**	*e*Pn	**Pn**	**04 53 38.0**	**-3.2**
	244nm,1.8s						
SVW2	**Sparrevohn**	**15.97**	**43**	*e*Pn	**P**	**04 53 48.3**	**+0.8**
	9.4nm,0.7s						
KDAK	**Kodiak Island**	**16.22**	**56**	Pn	**Pn**	**04 53 43.6**	**-3.8**
	2.5nm,0.3s,baz=229,slow=7.0,SNR=24						
KDAK				Sn	**Sn**	**04 56 44.2**	**-1.9**
	0.2nm,0.3s,baz=291,slow=15,SNR=3.0						
KDAK	**Kodiak Island**	**16.22**	**56**	*e*Pn	**Pn**	**04 53 48.3**	**+0.8**
	195nm,1.7s						
KDAK				Sn	**Sn**	**04 56 44.2**	**-1.9**
SPU	**Mount Spurr**	**17.55**	**45**	*e*Pn	**P**	**04 54 06.9**	**+1.9**
BRLK	**Bradley Lake**	**17.60**	**50**	*e*Pn	**Pn**	**04 54 03.7**	**-1.1**
	45nm,1.3s						
PPLA	**Purkeypile**	**18.23**	**40**	*e*P	**P**	**04 54 15.0**	**+2.3**
	98nm,1.8s						
SUA	**Susitna One**	**18.24**	**45**	*e*P	**Pn**	**04 54 12.2**	**-0.6**
	52nm,1.8s						
CAST	**Castle Rocks**	**18.53**	**38**	*e*P	**Pn**	**04 54 17.6**	**+1.4**
	10.0nm,0.7s						
RC01	**Rabbit Creek A**	**18.56**	**47**	*e*P	**Pn**	**04 54 17.1**	**+0.5**
	52nm,1.7s						
KTH	**Kantishna Hill**	**19.05**	**39**	*e*P	**P**	**04 54 22.2**	**+0.7**
	20nm,0.9s						
TRF	**Thorofare Moun**	**19.26**	**40**	*e*P	**P**	**04 54 24.2**	**+0.3**
	18nm,0.8s						
BPAW	**Bear Paw Mtn.**	**19.29**	**37**	*e*P	**Pn**	**04 54 25.6**	**+0.2**
	35nm,1.6s						
MA2	**Magadan**	**19.42**	**308**	LR	LR	05 01 43.1	
	comp=Z,383nm,19.4s,baz=100,slow=36						
SML	**Sawmill**	**19.44**	**45**	*e*P	**P**	**04 54 26.4**	**+0.7**
	79nm,2.0s						
SEY	**Seymchan**	**19.69**	**318**	P	**P**	**04 54 29.4**	**+1.0**
	0.2nm,0.3s,baz=146,slow=6.5,SNR=3.9						
RND	**Reindeer**	**19.82**	**41**	*e*P	**P**	**04 54 28.9**	**-1.0**
	16nm,0.4s						
MLY	**Manley**	**19.86**	**35**	*e*P	**P**	**04 54 31.0**	**+0.7**
	12nm,0.5s						
SCM	**Sheep Creek Mo**	**19.89**	**46**	*e*P	**P**	**04 54 29.6**	**-1.2**
	15nm,0.6s						
MCK	**McKinley**	**19.92**	**40**	*e*P	**P**	**04 54 30.9**	**-0.1**
	42nm,1.6s						
EYAK	**Cordova Ski Ar**	**20.28**	**50**	*e*P	**P**	**04 54 35.1**	**+0.2**
	45nm,1.6s						
DHY	**Denali Highway**	**20.30**	**42**	*e*P	**P**	**04 54 34.4**	**-0.9**
	30nm,0.6s						
DIV	**Divide**	**20.41**	**48**	*e*P	**P**	**04 54 36.2**	**-0.1**
	28nm,1.5s						
KLU	**Klutina**	**20.44**	**47**	*e*P	Pn	04 54 39.2	+0.3
	12nm,0.8s						
WRH	**Wood River Hil**	**20.58**	**38**	*e*P	**P**	**04 54 37.4**	**-0.7**
	36nm,1.7s						
MDM	**Murphy Dome**	**20.75**	**37**	*e*P	Pn	04 54 41.7	-0.8
	18nm,1.1s						
RAGM	**Ragged Mountai**	**20.77**	**51**	*e*P	Pn	04 54 42.8	0.0
	35nm,1.3s						
CCB	**Clear Creek Bu**	**20.77**	**38**	*e*P	**P**	**04 54 39.5**	**-0.6**
	5.2nm,0.7s						
BMRM	**Bremner River**	**20.92**	**49**	*e*P	**P**	**04 54 43.6**	**+1.7**
	61nm,1.8s						
HARP	**HAARP**	**21.04**	**45**	*e*P	**P**	**04 54 45.9**	**+2.7**
	22nm,0.6s						
PAX	**Paxson**	**21.08**	**43**	*e*P	**P**	**04 54 43.8**	**+0.1**
	19nm,1.2s						
IL1	**Eielson Array**	**21.18**	**38**	*e*P	**P**	**04 54 43.7**	**-0.9**
ILAR	**Eielson Array**	**21.18**	**38**	P	**P**	**04 54 43.5**	**-1.1**
	0.7nm,0.6s,baz=212,slow=9.8,SNR=20						
ILAR				LR	LR	05 03 10.4	
	comp=Z,224nm,18.9s,baz=238,slow=37						
ILB	**Eielson Array**	**21.18**	**38**	*e*P	**P**	**04 54 44.4**	**-0.2**
COLD	**Coldfoot**	**21.25**	**30**	*e*P	**P**	**04 54 43.8**	**-1.6**
	4.1nm,0.6s						
RIDG	**Independ'e Rid**	**21.61**	**42**	*e*P	**P**	**04 54 47.9**	**-1.3**
	44nm,1.7s						
MENT	**Mentasta**	**21.83**	**44**	*e*P	**P**	**04 54 50.2**	**-1.5**
	11nm,1.0s						
DOT	**Dot Lake**	**21.90**	**42**	*e*P	**P**	**04 54 51.1**	**-1.3**
	61nm,1.5s						
SCRK	**Sand Creek**	**22.04**	**41**	*e*P	**P**	**04 54 52.3**	**-1.7**
	6.6nm,0.5s						
TOLK	**Toolik Lake Re**	**22.29**	**28**	P	**P**	**04 54 56.6**	**+0.1**
	baz=233						
TOLK	**Toolik Lake Re**	**22.29**	**28**	*e*P	**P**	**04 54 55.5**	**-1.0**
	51nm,1.9s						
EGAK	**Eagle**	**23.46**	**40**	*e*P	**P**	**04 55 07.4**	**-1.2**
	6.7nm,0.7s						
DAWY	**Dawson**	**24.00**	**43**	*e*P	**P**	**04 55 12.7**	**-1.1**
	5.7nm,0.6s						
HYT	**Haines Junctio**	**24.33**	**51**	*e*P	**P**	**04 55 15.0**	**-1.8**
	32nm,1.9s						
INK	**Inuvik**	**27.42**	**35**	P	**P**	**04 55 43.5**	**-1.0**
	0.8nm,0.5s,baz=249,slow=6.8,SNR=11						
INK				PcP	**PcP**	**04 59 02.3**	**+0.1**
	0.7nm,0.5s,baz=246,slow=4.0,SNR=4.6						
INK				LR	LR	05 07 44.0	
	comp=Z,256nm,18.2s,baz=284,slow=39						
INK	**Inuvik**	**27.42**	**35**	*e*P	**P**	**04 55 44.5**	**0.0**
	8.9nm,1.4s						
INK				PcP	**PcP**	**04 59 02.3**	**+0.1**
YAK	**Yakutsk**	**29.88**	**312**	LR	LR	05 08 15.2	
	comp=Z,329nm,18.9s,baz=98,slow=37						
TIXI	**Tiksi**	**31.04**	**331**	LR	LR	05 09 19.8	
	comp=Z,191nm,19.9s,baz=104,slow=37						
KLR	**Kul'dur**	**31.64**	**287**	P	**P**	**04 56 22.5**	**+0.5**
	1.1nm,0.5s,baz=71,slow=7.0,SNR=53						
KLR				LR	LR	05 09 29.3	
	comp=Z,19nm,20.1s,baz=84,slow=37						
H11N2	**WAKE ISLAND Hy**	**33.49**	**206**	T	T	05 33 21.8	
	baz=18,slow=76,SNR=127						
H11N3	**WAKE ISLAND Hy**	**33.50**	**206**	T	T	05 33 21.5	
	baz=18,slow=76,SNR=116						
H11N1	**WAKE ISLAND Hy**	**33.51**	**206**	T	T	05 33 21.9	
	baz=18,slow=76,SNR=145						
USRK	**Ussuriysk Ar.**	**33.73**	**278**	P	**P**	**04 56 40.5**	**+0.1**
	1.6nm,0.5s,baz=62,slow=10.0,SNR=3.8						
USRK				LR	LR	05 09 22.4	
	comp=Z,114nm,21.7s,baz=21,slow=34						
MJAR	**Matsushiro Arr**	**34.15**	**262**	P	**P**	**04 56 45.1**	**+0.9**
	0.7nm,0.5s,baz=49,slow=8.4,SNR=4.1						
MJAR				LR	LR	05 08 42.4	
	comp=Z,154nm,21.4s,baz=45,slow=33						
YKW3	**Yellowknife Ar**	**35.08**	**46**	*e*P	**P**	**04 56 51.0**	**-0.9**
	3.0nm,0.7s						
YKA	**Yellowknife Ar**	**35.10**	**46**	P	**P**	**04 56 50.8**	**-1.2**
	0.6nm,0.5s,baz=271,slow=9.1,SNR=16						
YKA				PcP	**PcP**	**04 59 23.6**	**+0.7**
	0.2nm,0.4s,baz=285,slow=3.1,SNR=5.6						
YKA				LR	LR	05 12 56.9	
	comp=Z,22nm,18.8s,baz=180,slow=39						
G03D	**McMinnville, O**	**36.35**	**77**	P	**P**	**04 57 02.5**	**-0.4**
	baz=300						
I03D	**Drain, OR**	**37.06**	**80**	P	**P**	**04 57 09.2**	**+0.1**
	baz=302						
G05D	**Wamic, OR**	**37.52**	**76**	P	**P**	**04 57 12.7**	**-0.3**
	baz=300						
YBH	**Yreka Blue Hor**	**38.51**	**82**	LR	LR	05 09 57.5	
	comp=Z,203nm,18.8s,baz=307,slow=31						
EDM	**Edmonton**	**38.58**	**61**	*e*P	**P**	**04 57 22.4**	**+0.6**
	12nm,0.5s						
NEW	**Newport**	**38.59**	**70**	P	**P**	**04 57 22.2**	**+0.3**
	3.2nm,0.5s,baz=299,slow=8.0,SNR=15						
NEW	**Newport**	**38.59**	**70**	P	**P**	**04 57 20.7**	**-1.2**
	baz=298						
RES	**Resolute Bay**	**39.79**	**24**	PcP	**PcP**	**04 59 37.0**	**0.0**
	1.0nm,0.6s,baz=255,slow=4.3,SNR=6.3						
KSRS	**Korea Array**	**40.05**	**272**	P	**P**	**04 57 34.3**	**+0.2**
	1.5nm,0.3s,baz=54,slow=8.6,SNR=5.5						
KSRS				LR	LR	05 11 41.8	
	comp=Z,82nm,21.7s,baz=66,slow=32						
KSAR	**Wonju Array Be**	**40.08**	**272**	P	**P**	**04 57 34.3**	**-0.1**
J08A	**Circle Bar Ran**	**40.25**	**77**	*e*P	**P**	**04 57 37.0**	**+1.1**
	51nm,1.9s						
JNU	**Nakatsue**	**40.95**	**264**	P	**P**	**04 57 43.5**	**+1.7**
	14nm,1.0s,baz=50,slow=3.7,SNR=4.4						
JNU				LR	LR	05 13 22.1	
	comp=Z,151nm,21.7s,baz=112,slow=34						
MSO	**Missoula**	**41.17**	**70**	P	**P**	**04 57 43.0**	**-0.5**
	baz=301						
HLID	**Hailey**	**42.62**	**74**	P	**P**	**04 57 56.2**	**+0.8**
	baz=304,SNR=6.2						
HLID	**Hailey**	**42.62**	**74**	*e*P	**P**	**04 57 56.4**	**+1.0**
	3.9nm,0.9s						
MCMT	**McKenzie Canyo**	**42.87**	**72**	*e*P	**P**	**04 57 58.0**	**+0.5**
NVAR	**Mina Array Bea**	**43.18**	**83**	P	**P**	**04 57 60.0**	**-0.1**
	0.7nm,0.7s,baz=300,slow=9.6,SNR=6.0						
NVAR				LR	LR	05 12 14.8	
	comp=Z,108nm,21.7s,baz=87,slow=31						
YHH	**Holmes Hill**	**44.08**	**71**	*e*P	**P**	**04 58 07.6**	**+0.3**
	8.9nm,1.2s						
H17A	**Grant Village**	**44.46**	**71**	P	**P**	**04 58 12.0**	**+1.6**
	baz=304,SNR=5.8						
H17A	**Grant Village**	**44.46**	**71**	*e*P	**P**	**04 58 12.4**	**+2.1**
	13nm,1.4s						
HVU	**Hansel Valley**	**44.62**	**75**	*e*P	**P**	**04 58 12.7**	**+1.1**
	5.9nm,0.5s						
R11A	**Troy Canyon, C**	**44.92**	**81**	P	**P**	**04 58 13.5**	**-0.5**
	baz=308						
R11A	**Troy Canyon, C**	**44.92**	**81**	*e*P	**P**	**04 58 15.7**	**+1.6**
	2.7nm,1.0s						
DUG	**Dugway, Tooele**	**45.53**	**77**	P	**P**	**04 58 19.0**	**+0.3**
	baz=307,SNR=6.7						
DUG	**Dugway, Tooele**	**45.53**	**77**	*e*P	**P**	**04 58 19.3**	**+0.5**
	12nm,1.3s						
LAO	**LASA Array**	**45.75**	**66**	P	**P**	**04 58 19.1**	**-1.2**
	baz=304						
BW06	**Boulder Array**	**45.99**	**72**	P	**P**	**04 58 22.9**	**+0.4**
	baz=306,SNR=9.4						
BW06	**Boulder Array**	**45.99**	**72**	*e*P	**P**	**04 58 22.9**	**+0.4**
	5.9nm,0.7s						
PD31	**Pinedale Array**	**45.99**	**72**	*e*P	**P**	**04 58 22.9**	**+0.3**
PDAR	**Pinedale Array**	**45.99**	**72**	P	**P**	**04 58 22.8**	**+0.3**
	3.4nm,0.5s,baz=310,slow=3.1,SNR=42						
PDAR				LR	LR	05 14 57.2	
	comp=Z,90nm,20.3s,baz=308,slow=32						
PDAR	**Pinedale Array**	**45.99**	**72**	*e*P	**P**	**04 58 22.7**	**+0.2**
GSC	**Goldstone, Bar**	**46.06**	**85**	P	**P**	**04 58 22.3**	**-0.7**
	baz=310						
GSC	**Goldstone, Bar**	**46.06**	**85**	*e*P	**P**	**04 58 23.7**	**+0.7**
	3.4nm,0.8s						
NLU	**North Lily Min**	**46.12**	**77**	*e*P	**P**	**04 58 24.4**	**+0.9**
	3.7nm,0.8s						
MPU	**Maple Canyon**	**46.36**	**77**	*e*P	**P**	**04 58 26.6**	**+1.2**
	2.5nm,0.6s						
TLY	**Talaya**	**46.53**	**303**	LR	LR	05 19 26.4	
	comp=Z,76nm,18.4s,baz=41,slow=38						
ULN	**Ulaanbaatar**	**46.73**	**297**	*e*P	**P**	**04 58 29.3**	**+1.2**
	5.4nm,0.9s						
MURC	**Murrieta**	**46.92**	**87**	P	**P**	**04 58 29.4**	**-0.3**
	baz=311						
TMUT	**Trail Mountain**	**47.05**	**77**	*e*P	**P**	**04 58 32.1**	**+1.2**
	4.7nm,0.8s						
SONA1	**Songino Array**	**47.10**	**297**	*e*P	**P**	**04 58 31.9**	**+0.9**
SONM	**Songino Array**	**47.12**	**297**	P	**P**	**04 58 32.5**	**+1.4**
	3.8nm,0.9s,baz=56,slow=8.4,SNR=20						
SONM				LR	LR	05 19 21.6	
	comp=Z,262nm,19.3s,baz=14,slow=37						
GMRC	**Granite Mounta**	**47.12**	**85**	P	**P**	**04 58 29.5**	**-1.8**
	baz=311						
P17A	**Butcher Ranch,**	**47.23**	**77**	*e*P	**P**	**04 58 33.3**	**+1.1**
	4.4nm,0.6s						
PFO	**Pinyon Flats O**	**47.38**	**87**	P	**P**	**04 58 33.3**	**0.0**
	baz=311						
P18A	**Preston Nutter**	**47.44**	**76**	*e*P	**P**	**04 58 36.0**	**+2.0**
	5.5nm,0.9s						
SRU	**San Rafael Swe**	**47.59**	**77**	*e*P	**P**	**04 58 36.1**	**+1.1**
	5.0nm,0.5s						
K22A	**Casper**	**47.88**	**71**	P	**P**	**04 58 36.7**	**-0.5**
	ba

baz=309
E36A **McGregor** 53.10 59 P P 04 59 15.0 -1.3
baz=308
EYMN **Ely** 53.16 57 P P 04 59 15.7 -1.0
baz=308
F36A **Milaca** 53.36 60 P P 04 59 17.3 -1.0
baz=309
C38A **Sawbill Land.** 53.42 57 P P 04 59 17.9 -0.8
baz=309
K33A **Hardington** 53.46 65 P P 04 59 18.7 -0.4
baz=309
BGNE **Belgrade** 53.56 67 P P 04 59 19.3 -0.5
baz=310
K34A **Le Mars** 53.93 65 P P 04 59 21.8 -0.7
baz=310
C39A **Grand Marais** 53.96 56 P P 04 59 21.3 -1.3
baz=309
E38A **The Farm, Brul** 53.96 58 P P 04 59 21.3 -1.3
baz=309
F38A **Pierce - Schro** 54.20 59 P P 04 59 23.3 -1.0
baz=309
L34A **Svendsen Farm,** 54.23 65 P P 04 59 24.0 -0.7
baz=310
CBKS **Cedar Bluff** 54.30 70 P P 04 59 24.8 -0.4
baz=311
ZALV **Zalesovo Beam** 54.49 314 PcP PcP 05 00 30.1 +0.7
1.6nm,0.5s,baz=42,slow=4.6,SNR=7.1
ZALV LR LR 05 23 43.1
comp=Z,117nm,20.1s,baz=62,slow=37
J36A **Seneca 1, Swea** 54.51 63 P P 04 59 26.3 -0.4
baz=310
I37A **Lemond, Waseca** 54.60 62 P P 04 59 26.3 -1.0
baz=310
E39A **Mellen** 54.64 58 P P 04 59 26.0 -1.6
baz=310
G38A **Ridgeland** 54.71 60 P P 04 59 27.0 -1.1
baz=310
F39A **Loretta** 54.74 59 P P 04 59 27.0 -1.3
baz=310
O33A **Hebron** 54.74 68 P P 04 59 26.6 -1.8
baz=311
N34A **Lincoln** 54.88 67 P P 04 59 28.9 -0.5
baz=311
M35A **Neola** 54.94 66 P P 04 59 29.7 -0.1
baz=310
E40A **Wakefield** 54.95 58 P P 04 59 29.1 -0.7
baz=310
F40A **Park Falls** 55.17 58 P P 04 59 30.6 -0.8
baz=310
O34A **Beatrice** 55.19 67 P P 04 59 30.8 -0.8
baz=311,SNR=9.8
D41A **Chassel** 55.26 56 P P 04 59 31.2 -0.8
baz=310
N35A **Tabor** 55.36 66 P P 04 59 32.9 +0.1
baz=311,SNR=8.4
E41A **Kenton** 55.43 57 P P 04 59 32.8 -0.5
baz=310
G40A **Rib Lake** 55.54 59 P P 04 59 33.2 -0.9
baz=310
COWI **Conover** 55.58 58 eP P 04 59 33.7 -0.6
2.9nm,0.6s
MNTX **Cornudas Mount** 55.59 81 P P 04 59 34.8 +0.2
baz=313
O35A **Humboldt** 55.59 67 P P 04 59 33.9 -0.6
baz=311
L37A **Phoenix Point,** 55.62 64 P P 04 59 34.0 -0.7
baz=311
MSTX **Muleshoe** 55.66 77 P P 04 59 34.6 -0.6
baz=313
SFJD **Kangerlussuaq** 55.72 22 LR LR 05 24 54.3
comp=Z,90nm,21.0s,baz=306,slow=38
AMTX **Amarillo** 55.72 75 P P 04 59 35.0 -0.6
baz=312
I39A **Houston** 55.74 61 P P 04 59 34.8 -0.7
baz=311
F41A **Three Lakes** 55.83 58 P P 04 59 34.7 -1.5
baz=311
LZH **Lanzhou** 55.84 287 eP P 04 59 37.5 +1.0
LZH pP sP 04 59 53.4 +2.2
LZH sP pP 05 00 00.6 +13
LZH ePP PP **05 01 43.8 +2.8**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,65nm,7.2s
LZH LR LR
comp=N,220nm,15.4s
LZH LR LR
comp=Z,280nm,18.2s
H40A **Chili** 55.86 60 P P 04 59 35.0 -1.3
baz=311
M37A **Trindle Farm,** 55.92 65 P P 04 59 35.9 -0.9
baz=311
KSU1 **Kansas State U** 55.95 68 P P 04 59 36.5 -0.6
baz=312
KSU1 **Kansas State U** 55.95 68 eP P 04 59 36.8 -0.3
6.9nm,0.6s
J39A **Decorah** 55.98 61 P P 04 59 36.2 -1.0
baz=311
GTA **Gaotai** 56.03 292 eP P 04 59 38.5 +0.7
GTA pP sP 04 59 53.9 +1.4
GTA sP pP 05 00 00.9 +13
GTA S S **05 07 19.0 -4.8**
GTA sS sS 05 07 45.6 +4.4
GTA SS SS **05 11 06.6 -3.0**
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,64nm,6.2s
GTA LR LR
comp=N,140nm,14.3s
GTA LR LR
comp=E,110nm,16.2s
GTA LR LR
comp=Z,200nm,16.6s
N37A **Lee Faris, Mou** 56.25 65 P P 04 59 38.5 -0.7
baz=311
M38A **Pleasantville** 56.40 64 P P 04 59 39.0 -1.2
baz=311
I41A **Arkdale** 56.51 60 P P 04 59 40.8 -0.2
baz=311
G42A **Mountain** 56.51 58 P P 04 59 39.7 -1.3
baz=311
E43A **Lone Tree Farm** 56.53 56 P P 04 59 40.6 -0.5
baz=311
L39A **Vinton** 56.60 63 P P 04 59 41.3 -0.4
baz=311
O37A **Wolven Farm, M** 56.68 66 P P 04 59 41.3 -0.9
baz=312
N38A **Joes South For** 56.78 65 P P 04 59 42.2 -0.8
baz=312
F43A **Flat Rock, Esc** 56.79 57 P P 04 59 42.1 -0.9
baz=311
J41A **Loganville** 56.89 60 P P 04 59 42.6 -1.1
baz=311
G43A **Wallace** 56.90 57 P P 04 59 42.7 -1.0
baz=311
M39A **Webster** 56.93 63 P P 04 59 42.3 -1.8
baz=312
P37A **Lathrop** 56.94 66 P P 04 59 43.0 -1.2
baz=312,SNR=5.4
L40A **Anamosa** 57.08 62 P P 04 59 44.4 -0.7
baz=312
F44A **Big Bay de Noc** 57.09 56 P P 04 59 44.5 -0.6
baz=312
O38A **Galt** 57.09 65 P P 04 59 44.1 -1.1
baz=312
I42A **Draeger Farm,** 57.14 59 P P 04 59 44.4 -1.0
baz=312
N39A **Derby Farms, D** 57.15 64 P P 04 59 44.8 -0.8
baz=312
K41A **Shullsburg** 57.23 61 P P 04 59 44.4 -1.7
baz=312,SNR=5.4
Q37A **Longview Farm,** 57.36 67 P P 04 59 45.8 -1.3
baz=312
H43A **Windswept, Lux** 57.37 58 P P 04 59 45.8 -1.3
baz=312
P38A **Dawn** 57.39 66 P P 04 59 46.0 -1.3
baz=312,SNR=6.8
L41A **Preston** 57.48 62 P P 04 59 46.3 -1.6
baz=312
E45A **Wooded Hills,** 57.48 55 P P 04 59 46.2 -1.6
baz=312
I43A **Langenfeld Bro** 57.56 59 P P 04 59 47.4 -1.0
baz=312
WMOK **Wichita Mounta** 57.58 74 P P 04 59 48.3 -0.4
baz=313
WMOK **Wichita Mounta** 57.58 74 eP P 04 59 49.0 +0.3
19nm,2.0s
F45A **CMU Biological** 57.76 56 P P 04 59 49.2 -0.6
baz=312
Q38A **Cooks Store, C** 57.78 67 P P 04 59 48.7 -1.3
baz=312,SNR=9.5
P39B **Salisbury** 57.93 66 P P 04 59 50.1 -1.0
baz=312,SNR=5.6
O40A **La Belle** 58.01 64 P P 04 59 50.6 -1.0
baz=312,SNR=7.1
Q39A **Willow Grove F** 58.10 66 P P 04 59 51.1 -1.2
baz=312
R38A **Fenwick Farm,** 58.14 67 P P 04 59 50.6 -2.0
baz=313,SNR=7.3
TX31 **Lajitas Ar. Si** 58.29 82 eP P 04 59 53.8 -0.1
TXAR **Lajitas Array** 58.29 82 P P 04 59 53.8 -0.1
0.5nm,0.5s,baz=302,slow=6.1,SNR=17
P40A **Paris** 58.30 65 P P 04 59 52.8 -0.9
baz=313,SNR=10
ARCES **ARCESS Array B** 58.39 350 P P 04 59 52.8 -1.1
1.5nm,0.5s,baz=20,slow=7.5,SNR=20
ABTX **Abilene, Hawle** 58.49 76 P P 04 59 53.6 -1.6
baz=314
S38A **Stockton** 58.51 68 P P 04 59 53.5 -1.7
baz=313,SNR=23
R39A **Chumby, Stover** 58.55 67 P P 04 59 53.9 -1.6
baz=313
O41A **Passleys Farm,** 58.57 64 P P 04 59 54.2 -1.4
baz=313
Q40A **Laux Farm, Aux** 58.65 66 P P 04 59 55.5 -0.7
baz=313
T38A **Diamond** 58.69 69 P P 04 59 55.3 -1.2
baz=313
S39A **Bolivar** 58.81 67 P P 04 59 55.5 -1.8
baz=313,SNR=5.4
R40A **Maddies Statio** 59.02 66 P P 04 59 56.9 -1.8
baz=313,SNR=11
Q41A **Truxton** 59.16 65 P P 04 59 59.0 -0.7
baz=313
T39A **Clever** 59.23 68 P P 04 59 58.6 -1.6
baz=313,SNR=12
P42A **Winchester** 59.24 64 P P 04 59 59.5 -0.7
baz=313
S40A **Lebanon** 59.35 67 P P 04 59 59.7 -1.3
baz=313
KURK **Kurchatov** 59.48 314 eP P 05 00 01.0 -0.6
5.5nm,1.3s
R41A **Rosebud** 59.52 66 P P 05 00 00.8 -1.4
baz=313,SNR=6.0
KURBB **Kurchatov Arra** 59.58 314 P P 05 00 01.8 -0.6
0.6nm,0.4s,baz=43,slow=6.5,SNR=15
Q42A **Golden Eagle** 59.59 65 P P 05 00 01.7 -0.9
baz=313
U39A **Green Forest** 59.61 69 P P 05 00 01.7 -1.2
baz=314
T40A **Mansfield** 59.65 67 P P 05 00 01.5 -1.6
baz=314,SNR=8.7
S41A **Jillco Farms,** 59.80 67 P P 05 00 02.5 -1.6
baz=314,SNR=13
WMQ **Urumqi** 59.81 303 P P 05 00 05.1 +0.9
WMQ pP sP 05 00 22.3 +3.4
WMQ sP pP 05 00 29.0 +14
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,260nm,5.5s
WMQ LR LR
comp=N,250nm,18.5s
WMQ LR LR
comp=Z,280nm,23.1s
R42A **Luebbering** 59.87 65 P P 05 00 03.3 -1.2
baz=314
V39A **Pettigrew** 59.89 69 P P 05 00 03.6 -1.2
baz=314
SCHQ **Schefferville** 59.94 39 LR LR 05 27 14.3
comp=Z,147nm,18.2s,baz=3.5,slow=37
U40A **Yellville** 60.00 68 P P 05 00 04.2 -1.3
baz=314,SNR=7.5
Q43A **New Douglas** 60.04 64 P P 05 00 04.8 -1.0
baz=314
S42A **Caledonia** 60.22 66 P P 05 00 05.7 -1.3
baz=314,SNR=8.0
W39A **Magazine** 60.25 70 P P 05 00 06.6 -0.6
baz=314
O45A **Potomac** 60.25 62 P P 05 00 06.7 -0.4
baz=314
WHTX **Lake Whitney,** 60.27 75 P P 05 00 07.2 -0.2
baz=314
P44A **Sand Creek, Wi** 60.29 63 P P 05 00 07.0 -0.4
baz=314
N46A **Monticello** 60.35 61 P P 05 00 07.1 -0.7
baz=314
R43A **Red Bud** 60.37 65 P P 05 00 06.7 -1.2
baz=314
V40A **Witts Springs** 60.40 69 P P 05 00 07.1 -1.2
baz=314,SNR=9.7
MK31 **Makanchi Array** 60.50 309 eP P 05 00 07.8 -1.0
MKAR **Makanchi Array** 60.50 309 P P 05 00 07.9 -0.9
1.0nm,0.5s,baz=46,slow=6.8,SNR=29
MKAR LR LR 05 26 17.4
comp=Z,94nm,21.3s,baz=44,slow=36
MKAR **Makanchi Array** 60.50 309 eP P 05 00 07.8 -1.0
11nm,0.5s
SFIN **Lafayette** 60.51 61 P P 05 00 08.5 -0.4
baz=314
SFIN **Lafayette** 60.51 61 eP P 05 00 09.0 +0.1
39nm,1.8s
MK01 **Makanchi Array** 60.51 309 eP P 05 00 08.0 -0.9
X39A **Fountain Ranch** 60.53 71 P P 05 00 08.3 -0.9
baz=314
U41A **Viola** 60.55 68 P P 05 00 07.9 -1.4
baz=314,SNR=6.4
T42A **Van Buren** 60.56 67 P P 05 00 07.2 -2.0
baz=314
W40A **Ferguson Farm,** 60.67 69 P P 05 00 09.5 -0.6
baz=314
V41A **Mountainview** 60.80 68 P P 05 00 09.5 -1.5
baz=314
R44A **Waltonville** 60.87 64 P P 05 00 09.9 -1.5
baz=314
U42A **Revenden** 60.94 67 P P 05 00 10.7 -1.2
baz=314
Q45A **Warren Harvey,** 60.94 63 P P 05 00 10.9 -1.0
baz=314
P46A **Rosedale** 60.97 62 P P 05 00 11.5 -0.6
baz=314
T43A **Greenville** 60.98 66 P P 05 00 11.3 -0.9
baz=314,SNR=22
O47A **Sheridan** 61.12 61 P P 05 00 11.8 -1.3
baz=314
W41B **Gary Mavity, V** 61.17 69 P P 05 00 12.3 -1.1
baz=314
V42A **Cord** 61.23 68 P P 05 00 12.7 -1.2
baz=314
R45A **Skylar, Fairfi** 61.29 64 P P 05 00 13.8 -0.5
baz=314
X40A **Basin Creek Fa** 61.30 70 P P 05 00 13.5 -0.9
baz=314
BVAR **Borovoye Array** 61.33 320 P P 05 00 14.1 -0.2
2.7nm,0.3s,baz=48,slow=5.6,SNR=14
BVAR LR LR 05 29 07.8
comp=Z,225nm,19.0s,baz=46,slow=38
U43A **Rector** 61.41 67 P P 05 00 14.8 -0.3
baz=314
P47A **Martinsville** 61.59 62 P P 05 00 15.5 -0.7
baz=314,SNR=7.5
Q47A **Bedord North L** 61.88 62 P P 05 00 17.5 -0.7
baz=315
R47A **Wooly Knot Far** 62.28 63 P P 05 00 19.3 -1.5
baz=315
T46A **Princeton** 62.38 65 P P 05 00 20.4 -1.2
baz=315
W44A **Shelby Farms P** 62.62 67 P P 05 00 24.0 +0.8
baz=315
Z42A **Norrel Spur, H** 62.68 70 P P 05 00 23.6 0.0
baz=315
ACSO **Alum Creek Sta** 62.86 59 P P 05 00 24.8 +0.1
baz=315
T47A **Sharon Grove** 62.87 64 P P 05 00 23.9 -1.0
baz=315
S48A **Wiedeman Farm,** 62.99 63 P P 05 00 25.5 -0.1
baz=315
BORG **Borgarnes** 63.06 11 LR LR 05 30 12.4
comp=Z,68nm,18.4s,baz=204,slow=38
WVT **Waverly** 63.06 65 P P 05 00 25.8 -0.4
baz=315
V46A **Holladay** 63.13 66 P P 05 00 26.0 -0.6
baz=315
U47A **Clarksville** 63.15 65 P P 05 00 26.6 -0.1
baz=315
OXF **Oxford** 63.30 68 P P 05 00 26.9 -0.8
baz=315
V47A **Nunnelly** 63.45 65 P P 05 00 27.8 -0.9
baz=316
U48A **Cassie Pea, Po** 63.53 64 P P 05 00 29.1 -0.1
baz=316
M54A **Oil Creek Stat** 63.71 56 P P 05 00 29.3 -1.1
baz=316
PLAL **Pickwick Lake** 63.73 66 eP P 05 00 30.3 -0.3
3.8nm,0.7s
X46A **Booneville** 63.74 67 P P 05 00 30.1 -0.6
baz=316
DAV **Davao City (W)** 63.76 247 LR LR 05 23 30.4
comp=Z,113nm,21.5s,baz=8.5,slow=31
W47A **Westpoint** 63.82 66 P P 05 00 30.5 -0.6
baz=316
N54A **Moraine State** 63.93 57 P P 05 00 31.0 -0.9
baz=316,SNR=5.4
N54A **Moraine State** 63.93 57 eP P 05 00 31.9 +0.1
9.7nm,0.4s
Y46A **Houston** 64.06 68 P P 05 00 32.5 -0.3
baz=316
X47A **Russelville** 64.19 67 P P 05 00 32.8 -0.8
baz=316
W48A **Pulaski** 64.28 65 P P 05 00 33.7 -0.5
baz=316,SNR=6.2
244A **Avery, Jackson** 64.30 70 P P 05 00 34.1 -0.2
baz=316
Y47A **UCPARC, Winfie** 64.64 67 P P 05 00 35.9 -0.6
baz=316
X48A **Hartselle** 64.71 66 P P 05 00 36.1 -0.9
baz=316
Z47A **Carrollton** 65.01 68 P P 05 00 39.0 0.0
baz=316
AFI **Afiamalu** 65.01 173 LR LR 05 27 12.4
comp=Z,19nm,19.2s,baz=343,slow=34
Y48A **Jasper** 65.02 67 P P 05 00 38.2 -0.8
baz=316
X49A **Woodville** 65.08 66 P P 05 00 38.8 -0.6
baz=316,SNR=7.3
BINY **Binghamton** 65.10 53 P P 05 00 39.2 -0.3
baz=317
O56A **Blue Knob Stat** 65.18 56 P P 05 00 39.5 -0.6
baz=317
Z48A **Northport** 65.18 67 P P 05 00 39.5 -0.6
baz=316
TZTN **Tazewell** 65.19 62 P P 05 00 39.9 -0.2
baz=316
SSPA **Standing Stone** 65.27 56 P P 05 00 39.9 -0.7
baz=317
CPCT **Cooper Cave** 65.43 64 eP P 05 00 41.0 -0.7
Y49A **Blount Mountai** 65.50 66 P P 05 00 41.4 -0.7
baz=316
X50A **Fort Payne** 65.50 65 P P 05 00 41.5 -0.7
baz=316,SNR=5.2
LBNH **Lisbon** 65.58 49 P P 05 00 40.8 -1.7
baz=318
Y50A **Piedmont** 65.86 66 P P 05 00 43.6 -0.9
baz=317
Z49A **Columbiana** 65.91 67 P P 05 00 43.9 -0.9
baz=317
FINES **FINESS Array B** 66.10 348 P P 05 00 44.4 -1.2
1.2nm,0.5s,baz=12,slow=8.3,SNR=8.9
FINES LR LR 05 29 50.3
comp=Z,36nm,21.8s,baz=7.5,slow=36
N59A **State Game Lan** 66.15 54 P P 05 00 45.7 -0.6
baz=318
N59A **State Game Lan** 66.15 54 eP P 05 00 46.5 +0.2
5.8nm,0.4s
149A **Jones** 66.19 67 P P 05 00 46.3 -0.3
baz=317
Z50A **Ashland** 66.22 66 P P 05 00 45.8 -1.0
baz=317,SNR=8.3
BLA **Blacksburg** 66.42 60 P P 05 00 47.9 -0.2
baz=317
249A **Camden** 66.44 68 P P 05 00 48.1 -0.2
baz=317
150A **Eclectic** 66.63 67 P P 05 00 48.8 -0.6
baz=317
BG3 **Lake Jocassee** 66.65 63 eP P 05 00 50.0 +0.5
10nm,1.0s
PMG **Port Moresby** 67.35 217 LR LR 05 28 13.6
comp=Z,91nm,18.6s,baz=28,slow=34
251A **Midway** 67.36 67 P P 05 00 53.4 -0.6
baz=317
KMSC **Kings Mountain** 67.44 62 P P 05 00 54.5 0.0
baz=318,SNR=8.1
KMSC **Kings Mountain** 67.44 62 eP P 05 00 54.6 +0.1
17nm,0.9s
GOGA **Godfrey** 67.51 64 P P 05 00 54.3 -0.6
baz=317
HODGE **Hodges** 67.59 63 eP P 05 00 55.8 +0.3
7.8nm,0.6s
NOA **NORSAR Array B** 67.92 355 P P 05 00 56.8 -0.4
0.7nm,0.8s,baz=16,slow=20,SNR=5.0
NOA LR LR 05 31 50.4
comp=Z,42nm,19.2s,baz=355,slow=37
JSC **Jenkinsville** 68.11 62 eP P 05 00 59.3 +0.5
32nm,1.5s
AKTO **Aktyubinsk** 68.11 325 LR LR 05 33 04.9
comp=Z,110nm,19.5s,baz=31,slow=38
TAOE **Nuku Hiva Isla** 68.18 139 eLR LR 05 21 37.0
212nm,22.9s
ABKAR **Akbulak array** 68.37 323 eP P 05 00 60.0 -0.2
25nm,1.3s
355A **Pearson** 69.38 66 P P 05 01 06.1 -0.6
baz=318
356A **Blackshear** 69.81 65 P P 05 01 09.6 +0.3
baz=318
456A **Hilliard** 70.31 65 P P 05 01 12.1 -0.3
baz=318
PMOR **Pomariorio Ree** 70.97 149 eT T 06 18 57.2
5.7nm,0.3s
CMAR **Chiang Mai Arr** 71.44 276 P P 05 01 19.7 +0.2
0.7nm,0.3s,baz=18,slow=6.9,SNR=7.6
CMAR LR LR 05 36 50.8
comp=Z,58nm,18.6s,baz=42,slow=39
TAPN **Taplejung** 71.67 291 eP P 05 01 23.2 +2.1
14nm,0.2s
ODAN **Odare** 72.22 291 eP P 05 01 25.3 +0.9
14nm,0.7s
GUN **Gumba** 72.32 293 eP P 05 01 26.3 +1.2
66nm,0.3s
JIRN **Jiri** 72.33 292 eP P 05 01 26.4 +1.3
141nm,1.0s
RAMN **Ramite** 72.62 291 eP P 05 01 27.6 +0.9
62nm,1.0s
KKN **Kakani** 72.76 293 eP P 05 01 28.8 +1.3
41nm,1.0s
PKI **Pulchoki** 72.85 293 eP P 05 01 28.9 +0.7
69nm,1.2s
PKIN **Phulchoki** 72.85 293 eP P 05 01 29.7 +1.6
14nm,0.5s
PPT2 **Papeete2** 72.88 151 eLR LR 05 23 40.5
113nm,27.0s
GKN **Gorkha** 72.97 293 eP P 05 01 29.6 +0.9
77nm,1.1s
DMN **Daman** 73.00 293 eP P 05 01 29.9 +0.9
39nm,1.0s
DANN **Dangsing** 73.22 294 eP P 05 01 31.8 +1.5
5.3nm,0.9s
KOLN **Koldanda** 73.75 294 eP P 05 01 34.0 +0.7
28nm,0.9s
PYUN **Piuthan** 73.85 295 eP P 05 01 34.7 +0.8
72nm,1.0s
AKASG **Malin Array Be** 75.90 342 P P 05 01 44.5 -0.6
1.4nm,0.4s,baz=19,slow=5.9,SNR=10
AKBB **Malin Array Si** 75.90 342 eP P 05 01 45.3 +0.2
19nm,1.6s
KIEV **Kiev** 75.91 342 eP P 05 01 44.7 -0.4
17nm,1.6s
SORM **Soroca** 78.52 342 ⇑iP P 05 01 59.7 -0.1
GEYT **Alibeck** 78.53 318 LR LR 05 39 37.7
comp=Z,150nm,20.6s,baz=260,slow=38
KVAR **Kislovodsk Arr** 78.87 331 LR LR 05 41 45.8
comp=Z,120nm,18.8s,baz=7.0,slow=39
KBZ **Khabaz** 79.01 331 P P 05 02 02.6 0.0
2.1nm,0.8s,baz=283,slow=2.9,SNR=6.1
KBZ LR LR 05 42 02.5
comp=Z,157nm,19.3s,baz=47,slow=40
KECS **Kecovo** 79.48 348 eP P 05 02 05.8 +0.7
BUR08 **Bucovina Ar. S** 79.57 344 eP P 05 02 06.3 +0.6
BUR04 **Bucovina Ar. S** 79.59 344 eP P 05 02 06.3 +0.4
BURAR **Bucovina Array** 79.59 344 ⇑iP P 05 02 06.1 +0.2
KHC **Kasperske Hory** 79.60 352 eP P 05 02 10.6 +4.8
VYHS **Vyhne** 79.68 349 eP P 05 02 07.1 +0.9
DRGR 80.80 346 ⇑iP P 05 02 12.6 +0.2

AKH	**Akhalkalaki**	**80.93**	**330**	*e*P	**P**	**05 02 15.1**	**+1.8**
	25nm,1.8s						
VRI	**Vrincioaia**	**81.01**	**343**	⇑*i*P	**P**	**05 02 13.9**	**+0.5**
PLOR	**Plostina**	**81.04**	**343**	⇓*i*P	**P**	**05 02 14.1**	**+0.5**
TLCR		**81.25**	**341**	⇓*i*P	**P**	**05 02 15.2**	**+0.5**
CFR	**Carcaliu**	**81.40**	**342**	⇑*i*P	**P**	**05 02 16.8**	**+1.3**
MLR	**Muntele Rosu**	**81.52**	**343**	LR	LR	05 44 02.1	
	comp=Z,19nm,18.2s,baz=300,slow=40						
VOIR		**81.73**	**344**	⇑*i*P	**P**	**05 02 18.2**	**+0.9**
ARR	**Arges**	**81.87**	**344**	⇓*i*P	**P**	**05 02 19.7**	**+1.6**
MTUR	**Matau**	**81.93**	**344**	⇑*i*P	**P**	**05 02 19.4**	**+1.0**
TLB	**Topalu**	**81.99**	**341**	⇓*i*P	**P**	**05 02 18.4**	**-0.2**
TIRR	**Tirgusor**	**82.03**	**341**	⇓*i*P	**P**	**05 02 19.2**	**+0.4**
WRA	**Warramunga Arr**	**82.12**	**224**	P	**P**	**05 02 19.6**	**+0.1**
	1.1nm,0.6s,baz=31,slow=6.2,SNR=3.2						
DIVS	**Divibare**	**83.84**	**347**	*e*P	**P**	**05 02 27.5**	**-0.9**
	6.5nm,1.1s						
DIVS				*e*pP	**sP**	**05 02 43.6**	**+0.2**
VTS	**Vitosha**	**84.81**	**344**	⇓*i*P	**P**	**05 02 33.3**	**-0.1**
VTS	**Vitosha**	**84.81**	**344**	*e*P	**P**	**05 02 33.1**	**-0.3**
	3.3nm,0.7s						
BR131	**Keskin Array S**	**85.33**	**336**	*e*P	**P**	**05 02 36.0**	**0.0**
BRTR	**Keskin Array B**	**85.33**	**336**	P	**P**	**05 02 36.0**	**0.0**
	2.0nm,0.7s,baz=31,slow=2.4,SNR=13						
BR231	**Keskin MP Arra**	**85.44**	**337**	*e*P	**P**	**05 02 36.3**	**-0.2**
AS01	**Alice Springs**	**85.57**	**223**	*e*P	**P**	**05 02 36.9**	**-0.1**
PDG	**Podgorica**	**85.58**	**347**	⇓*i*P	**P**	**05 02 36.8**	**-0.2**
TTG	**Podgorica**	**85.58**	**347**	*e*P	**P**	**05 02 36.7**	**-0.2**
	32nm,1.6s						
ASAR	**Alice Springs**	**85.59**	**223**	P	**P**	**05 02 37.6**	**+0.5**
	1.6nm,0.5s,baz=23,slow=5.7,SNR=14						
ASAR				LR	LR	05 37 34.5	
	comp=Z,67nm,19.8s,baz=136,slow=33						
ESDC	**Sonseca Array**	**89.42**	**4**	P	**P**	**05 02 54.5**	**-1.1**
	0.5nm,0.6s,baz=349,slow=4.2,SNR=5.8						
STKA	**Stephens Creek**	**89.95**	**213**	P	**P**	**05 02 58.3**	**+0.5**
	5.1nm,0.9s,baz=22,slow=5.4,SNR=4.5						
STKA				LR	LR	05 37 37.6	
	comp=Z,94nm,20.1s,baz=26,slow=32						
MMAI	**Mount Meron Ar**	**91.14**	**332**	LR	LR	05 49 29.5	
	comp=Z,27nm,19.1s,baz=120,slow=39						
TORD	**Torodi Ar. Bea**	**115.98**	**0**	PKP	**PKPdf**	**05 08 41.4**	**-0.5**
	0.2nm,0.4s,baz=342,slow=2.5,SNR=9.2						
DBIC	**Dimbokro**	**122.13**	**8**	PKP	**PKPdf**	**05 08 53.1**	**-0.6**
	1.4nm,0.4s,baz=354,slow=2.7,SNR=9.1						
BOSA	**Boshof**	**151.44**	**313**	PKPbc	**PKPbc**	**05 09 52.8**	**+0.2**
	2.7nm,0.6s,baz=16,slow=2.8,SNR=8.2						

*ISCJB **21** 05:03:11.1±1.0,39.94N±0.05×142.4E±0.1,h49km±7km, mb3.6/9, Error ellipse: s-maj=15.2km s-min=7.8km az=13.0*
*JMA **21** 05:03:11.7±0.1,39.94N×142.31E,h42km±1km,M3.4*
*IDC **21** 05:03:14.7±2.6,39.92N×142.38E,h73km±23km,mb3.4/9, mb1 3.5/12,mb1mx3.3/71,mbtmp3.6/12, Error ellipse: s-maj=25.7km s-min=19.0km az=103.0*

ISC 21 05:03:12.3±1.3,39.93N±0.05×142.28E±0.10,h42km±10km, n26,σ1§72/29,mb3.8/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.32**	**272**	P	**Pn**	**05 03 20.8**	**-0.1**
JTH				S	**Sn**	**05 03 26.9**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.50**	**226**	P	**Pn**	**05 03 22.7**	**-0.4**
MIYJ				S	**Sn**	**05 03 30.4**	**-0.3**
JKZ	**Kuzumaki**	**0.73**	**275**	P	**Pn**	**05 03 26.4**	**+0.1**
JKZ				S	**Sn**	**05 03 36.5**	**+0.2**
JANG	**Nango**	**0.74**	**307**	P	**Pn**	**05 03 25.5**	**-0.8**
JOM	**Ohasama**	**0.89**	**240**	P	**Pn**	**05 03 28.3**	**0.0**
JOM				S	**Sn**	**05 03 40.3**	**+0.3**
OFUJ	**Ofunato**	**0.97**	**209**	P	**Pn**	**05 03 29.2**	**-0.2**
JTM	**Tenmabayashi**	**1.26**	**313**	P	**Pn**	**05 03 33.6**	**+0.2**
JMK	**Ichinoseki**	**1.28**	**221**	P	**Pn**	**05 03 33.9**	**+0.3**
JMK				*e*S	**Sn**	**05 03 49.7**	**+0.2**
JAH	**Hinai**	**1.29**	**282**	P	**Pn**	**05 03 34.2**	**+0.4**
JRG	**Rokugo**	**1.38**	**248**	P	**Pn**	**05 03 36.1**	**+1.1**
ASAJ	**Asahikawa**	**4.18**	**3**	P	**Pn**	**05 04 15.9**	**+2.2**
	0.8nm,0.3s,baz=228,slow=20,SNR=3.6						
MAT	**Matsushiro**	**4.66**	**225**	P	**Pn**	**05 04 23.1**	**+3.0**
MAT				*e*S	**Sn**	**05 05 18.1**	**+5.2**
MJAR	**Matsushiro Arr**	**4.66**	**225**	P	**Pn**	**05 04 23.2**	**+3.1**
	1.1nm,0.3s,baz=32,slow=12,SNR=14						
USRK	**Ussuriysk Ar.**	**8.76**	**302**	P	**Pn**	**05 05 20.5**	**+4.1**
	0.1nm,0.3s,baz=97,slow=15,SNR=5.0						
SEY	**Seymchan**	**23.82**	**11**	P	**P**	**05 08 20.3**	**-0.7**
	0.4nm,0.3s,baz=212,slow=5.0,SNR=3.6						
SONM	**Songino Array**	**26.86**	**299**	P	**P**	**05 08 49.2**	**+0.3**
	0.3nm,0.5s,baz=72,slow=9.5,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	05 39 51.0	
	baz=318,slow=75,SNR=65						
H11N1	**WAKE ISLAND Hy**	**29.19**	**126**	T	T	05 39 54.4	
	baz=318,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	05 39 54.6	
	baz=318,slow=75,SNR=60						
ZALV	**Zalesovo Beam**	**40.53**	**310**	P	**P**	**05 10 46.6**	**-0.3**
	0.7nm,0.4s,baz=95,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**43.22**	**300**	P	**P**	**05 11 08.6**	**-0.5**
	0.5nm,0.6s,baz=63,slow=10,SNR=8.0						
KURBB	**Kurchatov Arra**	**44.81**	**306**	P	**P**	**05 11 21.0**	**-0.8**
	1.4nm,0.6s,baz=80,slow=8.5,SNR=12						
WRA	**Warramunga Arr**	**60.02**	**189**	P	**P**	**05 13 13.6**	**-1.1**
	0.8nm,0.7s,baz=6.2,slow=6.8,SNR=8.5						
YKA	**Yellowknife Ar**	**60.97**	**31**	P	**P**	**05 13 19.8**	**-1.0**
	0.1nm,0.6s,baz=299,slow=6.6,SNR=2.8						
FINES	**FINESS Array B**	**66.58**	**332**	P	**P**	**05 13 57.1**	**-0.5**
	1.0nm,0.7s,baz=45,slow=5.7,SNR=3.7						
KBZ	**Khabaz**	**69.55**	**310**	P	**P**	**05 14 16.8**	**+0.2**
	1.2nm,0.7s,baz=21,slow=7.2,SNR=4.6						

WEL 21 05:03:39.7,48°S±13'×16°6E±1'2,h5km,ML4.1/10,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.50**	**27**	P	Pn	05 04 04.6	-2.8
PYZ	**Puysegur Point**	**1.50**	**27**	S	Sn	05 04 25.3	-2.0
APZ	**The Paps**	**1.70**	**67**	P	Pn	05 04 09.0	-1.1
APZ	**The Paps**	**1.70**	**67**	S	Sn	05 04 27.1	-5.1
WHZ	**Wether Hill Ro**	**2.24**	**44**	P	Pn	05 04 16.1	-1.4
WHZ	**Wether Hill Ro**	**2.24**	**44**	S	Sn	05 04 42.1	-3.3
DCZ	**Deep Cove**	**2.28**	**27**	P	Pn	05 04 16.4	-1.6
DCZ	**Deep Cove**	**2.28**	**27**	S	Sn	05 04 43.7	-2.7
SYZ	**Scrubby Hill**	**2.54**	**69**	P	Pn	05 04 21.8	+0.2
SYZ	**Scrubby Hill**	**2.54**	**69**	S	Sn	05 04 51.7	-1.2
MLZ	**Mavora Lakes**	**2.72**	**39**	P	Pn	05 04 23.1	-1.0
TUZ	**Tuapeka**	**3.12**	**61**	P	Pn	05 04 29.0	-0.5
TUZ	**Tuapeka**	**3.12**	**61**	S	Sn	05 05 04.6	-2.5
EAZ	**Earnscleugh**	**3.38**	**49**	P	Pn	05 04 32.1	-1.0
WKZ	**Wanaka**	**3.54**	**42**	P	Pn	05 04 35.5	+0.2
HHSZ	**Highcliff Hill**	**3.74**	**66**	P	Pn	05 04 38.0	-0.1
JCZ	**Jackson Bay**	**4.06**	**33**	P	Pn	05 04 43.4	+0.9
JCZ	**Jackson Bay**	**4.06**	**33**	S	Sn	05 05 30.7	+0.2
ODZ	**Otahua Downs**	**4.22**	**56**	P	Pn	05 04 42.2	-2.5
LBZ	**Lake Benmore**	**4.42**	**47**	P	Pn	05 04 45.0	-2.4
FOZ	**Fox Glacier**	**4.92**	**37**	P	Pn	05 04 54.1	-0.1
DSZ	**Denniston Nort**	**7.22**	**39**	P	Pn	05 05 25.0	-0.9

MEX 21 05:04:14.4±0.5,16.47N×98.44W,h3km±5km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**105**	*e*P	Pg	05 04 20.1	-0.4
PNIG				*i* S	Sg	05 04 24.9	+0.3
TLIG	**Tlapa**	**1.09**	**354**	*e*P	Pg	05 04 32.7	-2.7
TLIG				*e*S	Sg	05 04 46.6	-2.9
ACX	**Acapulco**	**1.41**	**286**	*i* P	Pn	05 04 38.3	-2.7
ACX				*i* S	Sg	05 04 56.8	-3.0
VHO	**Vista Hermosa**	**1.74**	**70**	*e*P	Pn	05 04 42.6	-3.2
VHO				*e*S	Sn	05 05 03.7	-4.9
CAIG	**El Cayaco**	**1.84**	**288**	*e*P	Pn	05 04 43.3	-3.6
CAIG				*e*S	Sn	05 05 06.2	-4.4
TPIG	**Tehuac#an**	**2.19**	**28**	*e*P	Pn	05 04 49.0	-3.0
TPIG				*e*S	Sn	05 05 15.2	-4.5
HUIG	**Huatulco**	**2.35**	**107**	*e*P	Pn	05 04 50.1	-3.9
HUIG				*i* S	Sn	05 05 19.0	-4.3

IGQ 21 05:23:30.6±1.0,4°S±9'×8°1W±1'1,h12km,MLv4.1/6, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUAY	**Guayaquil**	**2.48**	**17**	P	Pn	05 24 09.6	-1.2
AGUAY				S	Sn	05 24 42.3	+1.3
IGUA	**Igualata**	**3.57**	**35**	P	Pn	05 24 24.8	-1.5
IGUA				S	Sn	05 25 09.6	+0.8
BMAS	**Trigal station**	**3.65**	**37**	P	Pn	05 24 26.1	-1.2
BPAT	**Tungurahua Vol**	**3.68**	**38**	P	Pn	05 24 26.9	-0.9
BPAT				S	Sn	05 25 12.3	+0.9
ILLI	**Illinizas Sur**	**4.18**	**28**	P	Pn	05 24 34.3	-0.4
BMOR	**Cotopaxi Volca**	**4.30**	**31**	P	Pn	05 24 36.4	-0.1
BNAS	**Cotopaxi Volca**	**4.34**	**30**	P	Pn	05 24 37.0	0.0
BNAS				S	Sb	05 25 35.9	-3.8
BTAM	**Cotopaxi Volca**	**4.38**	**31**	P	Pn	05 24 39.4	+1.9
BVC2	**Cotopaxi Volca**	**4.39**	**31**	P	Pn	05 24 38.5	+0.9
MAG1	**Magdalena**	**4.43**	**12**	P	Pn	05 24 37.5	-0.3
ANTM	**Antisana-La Mi**	**4.59**	**32**	P	Pn	05 24 44.7	+4.3
OTAV	**Otavalo**	**5.15**	**26**	P	Pn	05 24 48.4	+0.4
IMBA	**Imbabura, San**	**5.30**	**28**	P	Pg	05 25 16.0	+3.8
URCU	**Urcuqui**	**5.42**	**27**	P	Pn	05 24 55.3	+3.6
LITE1	**Lita**	**5.69**	**24**	P	Pb	05 25 05.0	-5.1

MEX 21 05:23:49.8±0.7,16.34N×98.46W,h6km±8km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**81**	*e*P	Pg	05 23 55.9	-0.2
PNIG				*i* S	Sg	05 24 00.1	-0.4
TLIG	**Tlapa**	**1.22**	**355**	*e*P	Pg	05 24 10.2	-3.0
TLIG				*e*S	Sg	05 24 24.8	-4.2
ACX	**Acapulco**	**1.44**	**292**	*i* P	Pn	05 24 09.6	-6.8
ACX				*i* S	Sb	05 24 28.8	-6.8
VHO	**Vista Hermosa**	**1.81**	**66**	*e*P	Pn	05 24 18.7	-2.9
VHO				*e*S	Sn	05 24 40.0	-5.0
CAIG	**El Cayaco**	**1.87**	**292**	*e*P	Pn	05 24 18.2	-4.1
CAIG				*e*S	Sn	05 24 42.1	-4.0
TPIG	**Tehuac#an**	**2.32**	**27**	*e*P	Pn	05 24 25.2	-3.5
TPIG				*e*S	Sn	05 24 52.9	-4.6
HUIG	**Huatulco**	**2.33**	**104**	*e*P	Pn	05 24 25.7	-3.0
HUIG				*i* S	Sn	05 24 53.4	-4.2

*NNC **21** 05:33:09.2±2.3,44.30N×82.99E,h0km,mb2.7,mpv2.3, Error ellipse: s-maj=22.8km s-min=7.3km az=119.0*
*SOME **21** 05:33:11.1,44.27N×82.88E,h15km*
ISC 21 05:33:07.3±3.4,44.2N±0.1×83.3E±0.2,h24km,n8, σ1§59/13,4C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.25**	**253**	*e*P	**Pb**	**05 33 47.8**	**+0.3**
	8.6nm,0.2s						
KTMS				*e*S	**Sb**	**05 34 14.2**	**-0.7**
	14nm,0.2s						
MK31	**Makanchi Array**	**2.73**	**345**	⇓Pg	**Pb**	**05 33 56.1**	**+0.5**
	0.2nm,0.2s,baz=166,slow=16,SNR=55						
MK31				⇓Lg	Lg	05 34 29.3	
	1.3nm,0.3s,baz=171,slow=28,SNR=12						
MAKZ	**Makanchi**	**2.81**	**341**	⇑Pg	**Pb**	**05 33 56.6**	**-0.3**
	3.2nm,1.4s						
MAKZ				⇑Lg	Lg	05 34 31.9	
	0.8nm,0.3s						
PDGK	**Podgornoye**	**2.89**	**255**	⇑Pg	**Pb**	**05 33 58.9**	**+0.7**
	2.6nm,1.1s						
PDGK				⇑Lg	Lg	05 34 34.4	
	2.0nm,0.3s						
KAPS	**Kapalarasan**	**3.04**	**293**	*e*P	**Pb**	**05 34 00.7**	**0.0**
	0.8nm,0.2s						
KAPS				*e*S	**Sb**	**05 34 36.2**	**-1.1**
	2.8nm,0.3s						
UZB	**Uzynbulak**	**3.27**	**254**	*e*P	**Pb**	**05 34 04.8**	**+0.1**
	1.2nm,0.1s						
UZB				*e*S	**Sb**	**05 34 43.7**	**-0.5**
	2.0nm,0.3s						
KPKS	**Kokpek**	**3.42**	**260**	*e*P	**Pb**	**05 34 06.2**	**-1.0**
	2.7nm,0.2s						
KPKS				*e*S	**Sb**	**05 34 45.4**	**-3.0**
	17nm,0.3s						
CHKK	**Chushkaly**	**4.57**	**268**	*e*P	**Pb**	**05 34 28.7**	**+1.9**
	2.6nm,0.5s						
CHKK				*e*S	**Sb**	**05 35 24.4**	**+3.0**
	2.5nm,0.3s						

*ISCJB **21** 05:50:47.9±0.3,38.63N±0.01×21.69E±0.02,h9km±2km, mb3.9/14,MS3.3/5, Error ellipse: s-maj=2.4km s-min=1.7km az=37.9*
*ATH **21** 05:50:47.8,38.61N×21.71E,h16km±1km,ML3.8/19, Error ellipse: s-maj=1.1km s-min=0.7km az=204.0*
*IDC **21** 05:50:47.7±0.9,38.62N×21.70E,h0km,mb3.9/14, mb1 3.9/20,mb1mx3.8/68,mbtmp3.8/20,ML3.7/6,MS3.3/5, Ms1 3.4/5,ms1mx2.7/67, Error ellipse: s-maj=16.5km s-min=15.8km az=148.0*
*PDG **21** 05:50:48.3±0.6,38.62N×21.73E,h11km,ML3.7/8, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*THE **21** 05:50:48.3,38.63N×21.71E,h4km±1km,ML3.8/22, Error ellipse: s-maj=1.1km s-min=0.5km az=218.0*
*CSEM **21** 05:50:48.3±0.1,38.60N×21.71E,h2km,ML4.1, Error ellipse: s-maj=2.0km s-min=1.4km az=53.0*
*BEO **21** 05:50:49.7±0.8,38.67N×21.97E,h0km,M3.4/5*
ISC 21 05:50:48.8±0.8,38.61N±0.01×21.71E±0.01,h10km±5km, n357,σ1§15/455,mb4.0/14,MS3.1/5,30C-26D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.14**	**272**	P	**Pg**	**05 50 51.0**	**-1.1**
PVO				S	**Sg**	**05 50 53.0**	**-1.3**
PVO				AML	AML	05 50 54.3	
PVO				AML	AML	05 50 54.5	
PVO	**Paravola**	**0.14**	**272**	P	**Pg**	**05 50 51.4**	**-0.6**
PVO				S	**Sg**	**05 50 53.8**	**-0.4**
PVO	**Paravola**	**0.14**	**272**	P	**Pg**	**05 50 51.4**	**-0.6**
PVO				S	**Sg**	**05 50 54.0**	**-0.2**
ANX	**Ano Chora**	**0.17**	**96**	P	**Pg**	**05 50 52.3**	**-0.1**
ANX				S	**Sg**	**05 50 55.4**	**+0.4**
ANX	**Ano Chora**	**0.17**	**96**	P	**Pg**	**05 50 52.4**	**-0.1**
ANX				S	**Sg**	**05 50 55.4**	**+0.4**
VVK	**Vomvokou**	**0.21**	**157**	P	**Pg**	**05 50 52.6**	**-0.5**
VVK				S	**Sg**	**05 50 56.2**	**+0.2**
EFP	**Efpalio**	**0.24**	**140**	P	**Pg**	**05 50 53.5**	**-0.2**
EFP				S	**Sg**	**05 50 57.6**	**+0.6**
EFP				AML	AML	05 50 58.2	
EFP				AML	AML	05 50 58.4	
EFP	**Efpalio**	**0.24**	**140**	P	**Pg**	**05 50 53.2**	**-0.4**
EFP				S	**Sg**	**05 50 57.3**	**+0.3**
EFP	**Efpalio**	**0.24**	**140**	P	**Pg**	**05 50 53.3**	**-0.4**
EFP				S	**Sg**	**05 50 57.3**	**+0.3**
UPR	**University Cam**	**0.33**	**170**	P	**Pb**	**05 50 56.1**	**-0.8**
UPR	**University Cam**	**0.33**	**170**	P	**Pg**	**05 50 54.8**	**-0.6**
UPR				S	**Sg**	**05 50 59.3**	**-0.5**
UPR	**University Cam**	**0.33**	**170**	P	**Pg**	**05 50 55.5**	**+0.1**
UPR				S	**Sg**	**05 50 59.3**	**-0.5**
SERG	**Sergoula**	**0.34**	**126**	P	**Pg**	**05 50 55.1**	**-0.4**
SERG				S	**Sg**	**05 51 00.7**	**+0.7**
SERG				AML	AML	05 51 01.9	
	comp=N,95592µm,0.3s						
SERG				AML	AML	05 51 03.4	
	comp=E,91603µm,0.4s						
SERG	**Sergoula**	**0.34**	**126**	P	**Pg**	**05 50 54.9**	**-0.6**
SERG				S	**Sg**	**05 51 00.2**	**+0.2**
SERG	**Sergoula**	**0.34**	**126**	P	**Pg**	**05 50 54.9**	**-0.6**
SERG				S	**Sg**	**05 51 00.7**	**+0.7**
TRIZ	**Trizonia**	**0.38**	**131**	P	**Pg**	**05 50 55.4**	**-0.8**
TRIZ				S	**Sg**	**05 51 01.4**	**+0.2**
TRIZ	**Trizonia**	**0.38**	**131**	P	**Pg**	**05 50 55.5**	**-0.8**
TRIZ				S	**Sg**	**05 51 01.2**	**0.0**
KALE	**Kalithea**	**0.40**	**123**	P	**Pg**	**05 50 56.0**	**-0.8**
KALE				AML	AML	05 51 03.0	
	comp=N,40765µm,0.5s						
KALE				S	**Sb**	**05 51 03.2**	**-1.2**
KALE				AML	AML	05 51 03.4	
	comp=E,33935µm,0.4s						
KALE	**Kalithea**	**0.40**	**123**	P	**Pg**	**05 50 55.9**	**-0.8**
KALE				S	**Sg**	**05 51 02.5**	**+0.5**
KALE	**Kalithea**	**0.40**	**123**	P	**Pg**	**05 50 55.9**	**-0.8**
KALE				S	**Sg**	**05 51 02.6**	**+0.5**
PDO	**Prodromos**	**0.41**	**268**	P	**Pg**	**05 50 55.4**	**-1.5**
PDO				S	**Sg**	**05 51 02.2**	**-0.2**
PDO				AML	AML	05 51 03.6	
	comp=E,36948µm,0.3s						
PDO				AML	AML	05 51 04.2	
	comp=N,54742µm,0.2s						
PDO	**Prodromos**	**0.41**	**268**	P	**Pg**	**05 50 55.8**	**-1.1**
PDO				S	**Sg**	**05 51 02.2**	**-0.2**
PDO	**Prodromos**	**0.41**	**268**	P	**Pg**	**05 50 55.8**	**-1.1**
PDO				S	**Sg**	**05 51 02.4**	**+0.1**
LAKA	**Lakka**	**0.43**	**150**	P	**Pg**	**05 50 56.3**	**-0.9**
LAKA				S	**Sg**	**05 51 02.1**	**-0.7**
LAKA	**Lakka**	**0.43**	**150**	P	**Pg**	**05 50 56.3**	**-0.9**
LAKA				S	**Sg**	**05 51 02.1**	**-0.7**
RLS	**Riolos of Patr**	**0.59**	**199**	P	**Pg**	**05 50 59.8**	**-0.3**
RLS				S	**Sg**	**05 51 07.8**	**-0.1**
RLS				AML	AML	05 51 10.8	
	comp=E,13584µm,0.5s						
RLS				AML	AML	05 51 11.3	
	comp=N,18162µm,0.6s						
RLS	**Riolos of Patr**	**0.59**	**199**	P	**Pg**	**05 50 59.0**	**-1.1**
RLS				S	**Sg**	**05 51 07.7**	**-0.1**
RLS	**Riolos of Patr**	**0.59**	**199**	P	**Pg**	**05 50 59.0**	**-1.1**
RLS				S	**Sb**	**05 51 09.1**	**-0.4**
DLFA	**Delphi**	**0.63**	**102**	P	**Pg**	**05 50 59.5**	**-1.5**
DLFA				S	**Sb**	**05 51 10.2**	**-0.7**
DLFA				AML	AML	05 51 14.0	
	comp=N,16544µm,0.4s						
DLFA				AML	AML	05 51 15.9	
	comp=E,16063µm,0.4s						
DLFA	**Delphi**	**0.63**	**102**	P	**Pg**	**05 50 59.8**	**-1.2**
DLFA				S	**Sg**	**05 51 09.5**	**+0.2**
DRO	**Drossia**	**0.66**	**180**	P	**Pg**	**05 50 59.9**	**-1.7**
DRO				AML	AML	05 51 12.5	
	comp=E,30305µm,0.3s						
DRO				AML	AML	05 51 15.7	
	comp=N,21906µm,0.5s						
DRO	**Drossia**	**0.66**	**180**	P	**Pg**	**05 51 00.2**	**-1.3**
DRO				S	**Sg**	**05 51 10.8**	**+0.6**
DRO	**Drossia**	**0.66**	**180**	P	**Pg**	**05 51 00.2**	**-1.3**
DRO				S	**Sb**	**05 51 11.2**	**-0.5**
KLV	**Kalavryta, Ach**	**0.67**	**148**	P	**Pg**	**05 51 00.1**	**-1.5**
KLV				S	**Sg**	**05 51 11.0**	**+0.6**
KLV				AML	AML	05 51 14.7	
	comp=E,6324µm,0.7s						
KLV				AML	AML	05 51 15.1	
	comp=N,7804µm,0.8s						
KLV	**Kalavryta, Ach**	**0.67**	**148**	P	**Pg**	**05 51 00.3**	**-1.4**
KLV				S	**Sg**	**05 51 10.4**	**0.0**
KLV	**Kalavryta, Ach**	**0.67**	**148**	P	**Pg**	**05 51 00.2**	**-1.5**
KLV				S	**Sb**	**05 51 11.8**	**-0.1**
DSF	**Desfina**	**0.67**	**107**	P	**Pg**	**05 50 59.6**	**-2.2**
DSF				AML	AML	05 51 15.5	
	comp=N,16313µm,0.2s						
DSF				AML	AML	05 51 18.7	
	comp=E,16034µm,0.5s						
DSF	**Desfina**	**0.67**	**107**	P	**Pg**	**05 51 00.2**	**-1.6**
DSF				S	**Sb**	**05 51 11.4**	**-0.7**
DSF	**Desfina**	**0.67**	**107**	P	**Pg**	**05 51 00.2**	**-1.6**
DSF				S	**Sb**	**05 51 11.4**	**-0.7**
DSL	**Palaion Diasel**	**0.71**	**318**	P	**Pg**	**05 50 59.9**	**-2.5**
DSL				AML	AML	05 51 16.3	
	comp=N,19400µm,0.4s						
DSL				AML	AML	05 51 17.9	
	comp=E,16866µm,0.8s						
DSL	**Palaion Diasel**	**0.71**	**318**	P	**Pg**	**05 51 00.7**	**-1.8**
DSL				S	**Sg**	**05 51 11.4**	**-0.3**
DSL	**Palaion Diasel**	**0.71**	**318**	P	**Pg**	**05 51 00.5**	**-2.0**
DSL				S	**Sg**	**05 51 11.4**	**-0.3**
MGNA	**Meganis,,,**	**0.72**	**274**	P	**Pg**	**05 51 01.3**	**-1.4**
MGNA	**Meganis,,,**	**0.72**	**274**	P	**Pg**	**05 51 01.5**	**-1.2**
AXAR	**Agios Charalam**	**0.76**	**78**	P	**Pb**	**05 51 03.9**	**-0.3**
AXAR				AML	AML	05 51 17.7	
	comp=N,55236µm,0.4s						
AXAR				AML	AML	05 51 17.9	
	comp=E,55314µm,0.4s						
AXAR	**Agios Charalam**	**0.76**	**78**	P	**Pg**	**05 51 03.1**	**-0.3**
VTN	**Vitineika**	**0.81**	**211**	P	**Pb**	**05 51 04.9**	**0.0**
VTN	**Vitineika**	**0.81**	**211**	P	**Pg**	**05 51 04.1**	**-0.3**
GUR	**Goura**	**0.84**	**143**	P	**Pg**	**05 51 02.8**	**-2.2**
GUR	**Goura**	**0.84**	**143**	P	**Pg**	**05 51 03.3**	**-1.7**
GUR				S	**Sb**	**05 51 17.0**	**+0.1**
GUR	**Goura**	**0.84**	**143**	P	**Pg**	**05 51 03.2**	**-1.7**
GUR				S	**Sb**	**05 51 17.0**	**+0.1**
LKD2	**Lefkada island**	**0.84**	**282**	P	**Pg**	**05 51 03.7**	**-1.3**
LKD2	**Lefkada island**	**0.84**	**282**	P	**Pg**	**05 51 03.8**	**-1.2**
LKD2	**Lefkada island**	**0.84**	**282**	P	**Pg**	**05 51 03.7**	**-1.3**
KFL	**Anninata**	**0.88**	**236**	P	**Pg**	**05 51 04.4**	**-1.3**
KFL	**Anninata**	**0.88**	**236**	P	**Pg**	**05 51 04.5**	**-1.3**
KFL	**Anninata**	**0.88**	**236**	P	**Pg**	**05 51 04.5**	**-1.3**
THAL	**Thalero**	**0.94**	**127**	P	**Pg**	**05 51 06.1**	**-0.8**
THAL	**Thalero**	**0.94**	**127**	P

NEO	Neokhori	1.37	59	P		Pg	05 51 14.4	-0.7
NEO				S		Sn	05 51 32.8	+0.5
NEO	Neokhori	1.37	59	P		Pn	05 51 13.9	-0.2
NEO				S		Sn	05 51 32.5	+0.2
NEO	Neokhori	1.37	59	P		Pn	05 51 13.7	-0.4
NEO				S		Sn	05 51 32.5	+0.2
XOR	Xorichti	1.38	56	P		Pn	05 51 13.6	-0.6
XOR				S		Sb	05 51 32.4	0.0
XOR	Xorichti	1.38	56	P		Pn	05 51 13.6	-0.6
XOR				S		Sb	05 51 32.4	0.0
IGT	Igoumenitsa	1.41	311	*e*Pg		Pn	05 51 14.5	-0.1
IGT				*e*Sg		Sn	05 51 39.2	+5.9
IGT	Igoumenitsa	1.41	311	P		Pn	05 51 14.7	0.0
IGT	Igoumenitsa	1.41	311	P		Pn	05 51 14.6	-0.1
IGT	Igoumenitsa	1.41	311	P		Pn	05 51 14.5	-0.1
ITM	Ithomi	1.44	173	P		Pn	05 51 13.3	-1.7
ITM	Ithomi	1.44	173	P		Pn	05 51 14.1	-0.9
SKIA	Skiathos	1.48	67	P		Pn	05 51 14.9	-0.6
SKIA	Skiathos	1.48	67	P		Pn	05 51 15.4	-0.1
SKIA				S		Sb	05 51 34.9	-0.4
SKIA	Skiathos	1.48	67	P		Pn	05 51 15.4	-0.1
SKIA				S		Sb	05 51 34.9	-0.4
SGD	Sagiada	1.52	311	P		Pg	05 51 17.6	-0.4
SGD	Sagiada	1.52	311	P		Pb	05 51 17.0	-0.1
LIT	Litokhoron	1.60	22	P		Pn	05 51 17.1	-0.2
LIT	Litokhoron	1.60	22	P		Pn	05 51 17.3	0.0
LIT	Litokhoron	1.60	22	P		Pn	05 51 17.0	-0.3
DID	Didima	1.64	132	P		Pn	05 51 18.2	+0.5
DID	Didima	1.64	132	P		Pn	05 51 18.1	+0.4
DID	Didima	1.64	132	P		Pn	05 51 17.4	-0.3
KRND	KRANIDI	1.67	137	P		Pn	05 51 18.4	+0.3
KRND	KRANIDI	1.67	137	P		Pn	05 51 18.5	+0.3
KRND	KRANIDI	1.67	137	P		Pn	05 51 18.2	0.0
KZN	Kozani	1.69	2	P		Pb	05 51 19.3	-0.8
KZN	Kozani	1.69	2	P		Pn	05 51 19.0	+0.4
KZN	Kozani	1.69	2	P		Pn	05 51 19.0	+0.4
ATH	Athens Observa	1.70	111	P		Pn	05 51 19.5	+0.9
ATH	Athens Observa	1.70	111	P		Pn	05 51 19.2	+0.6
PYL	PYLOS	1.71	179	P		Pb	05 51 19.9	-0.5
PYL	PYLOS	1.71	179	P		Pn	05 51 19.5	+0.7
PYL	PYLOS	1.71	179	P		Pn	05 51 19.5	+0.7
ALNA	Alonissos	1.77	72	P		Pn	05 51 19.2	-0.3
ALNA	Alonissos	1.77	72	P		Pn	05 51 19.5	0.0
MES2	Methoni	1.79	180	P		Pb	05 51 21.3	-0.3
MES2				AML	AML		05 51 57.3	
	comp=E,5880μm,1.2s							
MES2				AML	AML		05 51 59.4	
	comp=N,3642μm,0.8s							
MES2	Methoni	1.79	180	P		Pn	05 51 20.6	+0.9
PTL	Penteli	1.79	108	P		Pn	05 51 20.5	+0.7
PTL	Penteli	1.79	108	P		Pn	05 51 20.4	+0.6
PTL				S		Sn	05 51 42.7	+0.1
PTL	Penteli	1.79	108	P		Pn	05 51 20.4	+0.6
PTL				S		Sn	05 51 42.7	+0.1
VLY	Voula,Athens	1.81	114	P		Pn	05 51 19.7	-0.4
VLY	Voula,Athens	1.81	114	P		Pn	05 51 20.0	-0.1
KEK	Kerkira	1.85	307	P		Pb	05 51 22.0	-0.8
KEK	Kerkira	1.85	307	P		Pn	05 51 21.5	+0.9
NEST	Nestorio	1.87	344	P		Pg	05 51 23.7	-1.0
NEST	Nestorio	1.87	344	P		Pb	05 51 22.5	-0.7
DYR	Agios Nikonas	1.91	165	P		Pn	05 51 22.9	+1.3
DYR	Agios Nikonas	1.91	165	P		Pn	05 51 22.3	+0.8
PAIG	Paliouri	2.02	49	P		Pn	05 51 21.4	-1.5
PAIG	Paliouri	2.02	49	P		Pn	05 51 22.4	-0.5
PAIG	Paliouri	2.02	49	P		Pn	05 51 21.9	-1.0
VLI	Veliai	2.13	152	P		Pn	05 51 24.4	-0.1
VLI	Veliai	2.13	152	P		Pn	05 51 24.7	+0.3
VLI	Veliai	2.13	152	P		Pn	05 51 24.7	+0.3
FNA	Florina	2.18	353	P		Pb	05 51 27.6	-0.9
FNA	Florina	2.18	353	*e*Pn		Pn	05 51 26.5	+1.1
FNA				*e*Sn		Sb	05 51 55.5	-0.2
FNA	Florina	2.18	353	P		Pn	05 51 26.4	+1.1
FNA				*e*Sn		Sb	05 51 55.5	-0.2
FNA	Florina	2.18	353	P		Pn	05 51 26.4	+1.1
PLG	Polygyros	2.21	37	P		Pn	05 51 25.1	-0.6
PLG	Polygyros	2.21	37	P		Pn	05 51 25.1	-0.6
SKY	Skiros Island	2.24	82	P		Pn	05 51 26.8	+0.8
SKY	Skiros Island	2.24	82	P		Pn	05 51 26.6	+0.6
HORT	Hortiatis	2.25	28	P		Pn	05 51 26.0	-0.3
HORT	Hortiatis	2.25	28	P		Pn	05 51 25.5	-0.8
HORT	Hortiatis	2.25	28	P		Pn	05 51 25.5	-0.8
BIA	Bitola	2.42	353	*i* Pn		Pb	05 51 30.8	-1.8
OUR	Ouranopolis	2.46	45	P		Pn	05 51 28.2	-0.8
OUR	Ouranopolis	2.46	45	P		Pn	05 51 27.6	-1.4
OUR	Ouranopolis	2.46	45	P		Pn	05 51 28.6	-0.4
OUR	Ouranopolis	2.46	45	P		Pn	05 51 28.4	-0.6
SOH	Sokhos	2.54	29	P		Pn	05 51 29.9	-0.4
SOH	Sokhos	2.54	29	P		Pn	05 51 30.5	+0.2
SOH	Sokhos	2.54	29	P		Pn	05 51 30.5	+0.2
KYTH	Kithira	2.57	155	P		Pb	05 51 33.8	-1.2
OHR	Ohrid	2.59	345	*i* Pn		Pb	05 51 34.1	-1.4
SERI	Serifos	2.63	123	P		Pn	05 51 31.4	0.0
SERI	Serifos	2.63	123	P		Pn	05 51 31.7	+0.3
KNT	Kendrikon	2.71	19	P		Pn	05 51 33.0	+0.6
KNT	Kendrikon	2.71	19	P		Pn	05 51 32.9	+0.4
KNT	Kendrikon	2.71	19	P		Pn	05 51 33.0	+0.6
KNT	Kendrikon	2.71	19	P		Pn	05 51 32.7	+0.3
KRUS	Krusevo	2.78	353	*i* Pn		Pn	05 51 34.9	+1.5
VAY	Valandovo	2.79	13	*e*Pn		Pn	05 51 33.9	+0.4
VAY				*e*Sn		Sn	05 52 05.9	-1.3
VAY	Valandovo	2.79	13	P		Pn	05 51 33.9	+0.4
VAY				*e*Sn		Sn	05 52 05.9	-1.3
VAY	Valandovo	2.79	13	P		Pn	05 51 33.9	+0.4
VAY	Valandovo	2.79	13	*i* Pn		Pn	05 51 34.0	+0.4
SRS	Serrai	2.89	29	*e*Pn		Pn	05 51 34.6	-0.4
SRS				*e*Sn		Sn	05 52 08.5	-1.3
SRS	Serrai	2.89	29	P		Pn	05 51 34.3	-0.7
SRS	Serrai	2.89	29	*e*Pn		Pn	05 51 34.6	-0.4
SRS	Serrai	2.89	29	P		Pn	05 51 34.9	-0.1
SRS				*e*Sn		Sn	05 52 08.5	-1.3
LIA	Limnos Island	2.99	63	P		Pn	05 51 35.2	-1.0
LIA	Limnos Island	2.99	63	P		Pn	05 51 36.1	-0.1
TIR	Tirane	3.08	333	*i* P		Pn	05 51 39.6	+2.1
TIR	Tirane	3.08	333	*i* P		Pn	05 51 39.6	+2.1
NVR	Nevrokopi	3.19	30	P		Pn	05 51 39.0	-0.2
NVR	Nevrokopi	3.19	30	P		Pn	05 51 39.0	-0.2
SIGR	SIGRI	3.29	78	P		Pn	05 51 39.8	-0.6
SIGR	SIGRI	3.29	78	P		Pn	05 51 40.0	-0.5
SIGR	SIGRI	3.29	78	P		Pn	05 51 40.6	+0.2
SKO	Skopje	3.36	357	*i* Pn		Pn	05 51 43.8	+2.4
APE	Apeiranthos	3.40	116	P		Pn	05 51 43.1	+1.2
APE	Apeiranthos	3.40	116	*i* P		Pn	05 51 42.5	+0.6
APE	Apeiranthos	3.40	116	*i* P		Pn	05 51 42.5	+0.6
IOSP	Ios island	3.41	122	P		Pn	05 51 42.3	+0.2
IOSP	Ios island	3.41	122	P		Pn	05 51 42.6	+0.5
CHOS	Chios island	3.42	92	P		Pn	05 51 42.0	-0.3
BOZC	Bozcaada	3.59	69	*e*P		Pn	05 51 44.0	-0.6
GADA	Gvkgeada	3.61	63	*e*P		Pn	05 51 44.3	-0.5
IMMV	Iera Moni Meta	3.63	149	P		Pn	05 51 43.6	-1.6
IMMV	Iera Moni Meta	3.63	149	P		Pn	05 51 44.8	-0.4
ULC	Ulcinj	3.84	331	*e*Pn		Pn	05 51 48.9	+0.9
ULC				*e*Sn		Sn	05 52 34.4	+1.1
ULC	Ulcinj	3.84	331	*e*Pn		Pn	05 51 48.9	+0.9
ULC				*e*Sn		Sn	05 52 34.6	+1.1
URLA	Izmir	3.84	92	*e*P		Pn	05 51 47.9	-0.2
CGL1	Ceglie Messapi	3.85	303	*e*Pn		Pn	05 51 47.3	-0.9
TIP	Timpagrande	3.90	280	*i* P		Pn	05 51 48.9	-0.1
TIP	Timpagrande	3.90	280	S		Sn	05 52 36.6	+1.7
TIP	Timpagrande	3.90	280	*i* P		Pn	05 51 48.9	-0.1
FASA	Fasano	4.02	305	*e*Pn		Pn	05 51 50.7	+0.3
ENEZ	Enez	4.03	57	*e*P		Pn	05 51 50.4	-0.2
ALN	Alexandroupoli	4.05	54	*e*P		Pn	05 51 50.7	-0.1
DRME	Dracevica, Mon	4.06	332	*i* Pn		Pn	05 51 52.4	+1.4
DRME				*e*Sn		Sn	05 52 39.2	+0.6
DRME	Dracevica, Mon	4.06	332	*i* Pn		Pn	05 51 52.4	+1.4
DRME				*e*Sn		Sn	05 52 39.2	+0.6
MASS	Massafra	4.06	301	*e*Pn		Pn	05 51 51.3	+0.3
DKL	Dikili	4.08	82	*e*P		Pn	05 51 51.3	0.0
GELI	Tayfur-Gelibol	4.09	63	*e*P		Pn	05 51 51.1	-0.4
VTS	Vitosha	4.14	16	*i* P		Pn	05 51 53.7	+1.5
VTS	Vitosha	4.14	16	S		Sn	05 52 42.4	+1.7
VTS	Vitosha	4.14	16	*i* P		Pn	05 51 53.7	+1.5
SMG	Samos	4.14	101	P		Pn	05 51 52.2	+0.1
SMG	Samos	4.14	101	P		Pn	05 51 52.8	+0.7
IDI	Anoyia	4.18	142	Pn		Pn	05 51 54.3	+1.5
	comp=N,1.7nm,0.3s,baz=319,slow=14,SNR=12							
BARS	Barje	4.20	1	*e*Pn		Pn	05 51 53.8	+0.8
BARS				*e*Sn		Sn	05 52 41.4	-0.7
BARS	Barje	4.20	1	*e*Pn		Pn	05 51 53.8	+0.8
BARS				*e*Sn		Sn	05 52 41.4	-0.7
ERIK	Erikli-Kesan	4.24	59	*e*P		Pn	05 51 53.3	-0.2
PDG	Podgorica	4.25	335	*i* P		Pn	05 51 54.2	+0.6
PDG	Podgorica	4.25	335	*i* P		Pn	05 51 54.2	+0.6
PDG				*e*Sn		Sn	05 52 44.9	+1.7
TTG	Podgorica	4.25	335	*i* Pn		Pn	05 51 54.4	+0.8
TTG				*e*Sn		Sn	05 52 44.9	+1.7
BUM	Brajici-Budva	4.26	331	*i* Pn		Pn	05 51 54.2	+0.3
BUM				*e*Sn		Sn	05 52 45.5	+1.7
BUM	Brajici-Budva	4.26	331	*i* Pn		Pn	05 51 54.2	+0.3
BUM				*e*Sn		Sn	05 52 45.5	+1.7
LPK	Lapseki	4.29	64	*e*P		Pn	05 51 53.6	-0.5
MATE	Matera	4.37	299	*i* P		Pn	05 51 55.1	-0.1
MATE	Matera	4.37	299	*i* P		Pn	05 51 55.1	-0.1
CEME	Cevo	4.47	332	*i* Pn		Pn	05 51 57.5	+0.8
CEME				*e*Sn		Sn	05 52 49.9	+1.1
CEME	Cevo	4.47	332	*i* Pn		Pn	05 51 57.5	+0.8
CEME				*e*Sn		Sn	05 52 49.9	+1.1
SG1	Sgolgore (BA)	4.47	301	*e*Pn		Pn	05 51 56.9	+0.2
BEY	Berane	4.47	343	*e*Pn		Pn	05 51 57.8	+1.0
BEY				*e*Sn		Sn	05 52 49.7	+0.8
IVA	Berane	4.47	343	*e*Pn		Pn	05 51 57.8	+1.0
IVA				*e*Sn		Sn	05 52 49.7	+0.8
BAI	Bari	4.47	305	*e*Pn		Pn	05 51 56.9	+0.2
HCY	Herceg Novi	4.55	328	*i* Pn		Pn	05 51 58.3	+0.6
HCY				*e*Sn		Sn	05 52 51.6	+0.9
HCY	Herceg Novi	4.55	328	*i* Pn		Pn	05 51 58.3	+0.6
HCY				*e*Sn		Sn	05 52 51.6	+0.9
KOME	Kolasin	4.55	339	*i* Pn		Pn	05 51 59.1	+1.3
KOME				*e*Sn		Sn	05 52 51.4	+0.5
KOME	Kolasin	4.55	339	*i* Pn		Pn	05 51 59.1	+1.3
KOME				*e*Sn		Sn	05 52 51.4	+0.5
SELS	Selova	4.62	355	*e*Pn		Pn	05 51 59.8	+1.0
NKME	Niksic	4.65	334	*i* P		Pn	05 52 00.2	+1.0
NKME				*e*Sn		Sn	05 52 54.1	+0.9
NKME	Niksic	4.65	334	*i* P		Pn	05 52 00.2	+1.0
NKME				*e*Sn		Sn	05 52 54.1	+0.9
KRBG	Karabiga-Canak	4.67	66	*e*P		Pn	05 51 59.4	0.0
NKY	Niksic	4.68	335	*i* Pn		Pn	05 52 00.5	+0.9
NKY				*e*Sn		Sn	05 52 54.5	+0.5
NKY	Niksic	4.68	335	*i* Pn		Pn	05 52 00.5	+0.9
NKY				*e*Sn		Sn	05 52 54.5	+0.5
BODT	Bodrum	4.70	108	*e*P		Pn	05 52 01.2	+1.4
RKY	Sarkoy-Tekirda	4.70	62	*e*P		Pn	05 51 59.9	0.0
ZAPS	Zavoj	4.71	8	*e*Pn		Pn	05 52 01.5	+1.5
SJES	Sjenica	4.83	345	*e*Pn		Pn	05 52 04.1	+2.4
SJES	Sjenica	4.83	345	*e*Pn		Pn	05 52 04.1	+2.4
TREB	Trebinje	4.83	329	*e*Pn		Pn	05 52 01.1	-0.5
AYDB	Zeytinkoy-Aydi	4.91	96	*e*P		Pn	05 52 03.6	+0.8
BOVS	Bovan	5.02	360	*e*Pn		Pn	05 52 04.8	+0.6
BOVS	Bovan	5.02	360	*e*Pn		Pn	05 52 04.8	+0.6
EDRB	Edirne	5.03	48	*e*P		Pn	05 52 04.9	+0.6
PLE	Pljevlja	5.03	340	*e*Pn		Pn	05 52 05.2	+0.7
PLE				*e*Sn		Sn	05 53 02.5	-0.2
PLE	Pljevlja	5.03	340	*e*Pn		Pn	05 52 05.2	+0.7
PLE				*e*Sn		Sn	05 53 02.5	-0.2
IVAS	Ivanjica	5.10	347	*e*Pn		Pn	05 52 07.7	+2.4
IVAS	Ivanjica	5.10	347	*e*Pn		Pn	05 52 07.7	+2.4
ZAGS	Zajecar	5.21	4	*e*Pn		Pn	05 52 07.3	+0.5
ZAGS	Zajecar	5.21	4	*e*Pn		Pn	05 52 07.3	+0.5
STON	Ston	5.23	326	*i* Pn		Pn	05 52 05.4	-1.7
STON				Sn		Sn	05 53 01.8	-5.6
STON	Ston	5.23	326	*i* Pn		Pn	05 52 05.4	-1.7
GRUS	Gruza	5.33	352	*e*Pn		Pn	05 52 09.6	+1.2
GRUS	Gruza	5.33	352	*e*Pn		Pn	05 52 09.6	+1.2
SBT3	Marmara-Eregli	5.33	63	*e*P		Pn	05 52 08.7	+0.3
MST	Monte Sant`Ang	5.39	307	*e*Pn		Pn	05 52 09.5	+0.1
KULA	Kula-Manisa	5.45	89	*e*P		Pn	05 52 10.5	+0.3
BBLS	Lazići	5.53	342	*e*Pn		Pn	05 52 11.8	+0.5
DIVS	Divibare	5.63	347	*e*Pn		Pn	05 52 14.1	+1.4
DIVS	Divibare	5.63	347	*e*Pn		Pn	05 52 14.1	+1.4
TRUS	Trudelj	5.69	351	*e*Pn		Pn	05 52 15.8	+2.4
TRUS	Trudelj	5.69	351	*e*Pn		Pn	05 52 15.8	+2.4
KUBS	Kucevo	5.79	360	*e*Pn		Pn	05 52 13.9	-1.0
KUBS	Kucevo	5.79	360	*e*Pn		Pn	05 52 13.9	-1.0
CTYL	Yalikoy Yolu	5.80	58	*e*P		Pn	05 52 15.7	+0.8
HAPS	Han Pijesak,Bl	5.85	340	*e*Pn		Pn	05 52 15.2	-0.5
ARMT	Armutlu	5.86	68	*e*P		Pn	05 52 16.3	+0.5
TVSB	Tavsanli	6.09	80	*e*P		Pn	05 52 19.7	+0.6
TEKS	Tekeris	6.15	345	*e*Pn		Pn	05 52 20.3	+0.5
TEKS	Tekeris	6.15	345	*e*Pn		Pn	05 52 20.3	+0.5
FGSL	Fruska Gora	6.69	348	*e*Pn		Pn	05 52 28.7	+1.5
FRGS	Fruska Gora	6.69	348	*e*Pn		Pn	05 52 28.7	+1.5
BLY	Banja Luka	7.00	333	*i* P		Pn	05 52 32.5	+1.1
BLY	Banja Luka	7.00	333	*e*Pn		Pn	05 52 32.4	+0.6
BLY	Banja Luka	7.00	333	*i* P		Pn	05 52 32.5	+1.1
ARR	Arges	7.09	17	*i* P		Pn	05 52 33.4	+0.7
ARR	Arges	7.09	17	*i* P		Pn	05 52 33.4	+0.7
SECR		7.20	25	*i* P		Pn	05 52 34.5	+0.4
SECR		7.20	25	*i* P		Pn	05 52 34.5	+0.4
VOIR		7.26	19	*i* P		Pn	05 52 36.0	+1.0
VOIR		7.26	19	*i* P		Pn	05 52 36.0	+1.0
UDBI	Udbina	7.40	325	*e*Pn		Pn	05 52 37.6	+0.6
UDBI				Sn		Sn	05 53 56.2	-4.8
UDBI	Udbina	7.40	325	*e*Pn		Pn	05 52 37.6	+0.6
ISR	Istrita	7.43	27	*i* P		Pn	05 52 38.4	+1.0
ISR	Istrita	7.43	27	*i* P		Pn	05 52 38.4	+1.0
MLR	Muntele Rosu	7.56	23	Pn		Pn	05 52 40.9	+1.7
	comp=N,0.2nm,0.3s,baz=200,slow=6.6,SNR=13							
TLB	Topalu	7.62	36	*i* P		Pn	05 52 40.6	+0.7
TLB	Topalu	7.62	36	*i* P		Pn	05 52 40.6	+0.7
TIRR	Tirgusor	7.70	39	*i* P		Pn	05 52 42.0	+1.0
TIRR	Tirgusor	7.70	39	*i* P		Pn	05 52 42.0	+1.0
DOPR	Dopca	7.84	19	*i* P		Pn	05 52 44.1	+1.2
DOPR	Dopca	7.84	19	*i* P		Pn	05 52 44.1	+1.2
NVLJ	Novalja	7.85	321	*i* Pn		Pn	05 52 42.6	-0.5
NVLJ				Sn		Sn	05 54 07.8	-4.0
NVLJ	Novalja	7.85	321	*i* Pn		Pn	05 52 42.5	-0.5
PLOR	Plostina	8.11	25	*i* P		Pn	05 52 48.6	+2.0
PLOR	Plostina	8.11	25	*i* P		Pn	05 52 48.6	+2.0
CFR	Carcaliu	8.12	34	*i* P		Pn	05 52 47.7	+0.9
CFR	Carcaliu	8.12	34	*i* P		Pn	05 52 47.7	+0.9
VRI	Vrincioaia	8.15	26	*i* P		Pn	05 52 49.3	+2.2
VRI	Vrincioaia	8.15	26	*i* P		Pn	05 52 49.3	+2.2
CRES	Cresnjev	8.57	329	*e*Pn		Pn	05 52 52.6	-0.3
TESR	Tescani	8.69	23	*i* P		Pn	05 52 56.5	+1.9
TESR	Tescani	8.69	23	*i* P		Pn	05 52 56.5	+1.9
CEY	Cerknica	8.94	325	*e*Pn		Pn	05 52 57.2	-0.8
BRTR	Keskin Array B	9.33	79	Pn		Pn	05 53 05.4	+1.9
	comp=N,0.5nm,0.3s,baz=262,slow=12,SNR=14							
BURAR	Bucovina Array	9.36	15	*i* P		Pn	05 53 05.1	+1.3
BURAR	Bucovina Array	9.36	15	*i* P		Pn	05 53 05.1	+1.3
PSZ	Piszkesteto	9.39	353	*i* P		Pn	05 53 05.8	+1.5
PSZ	Piszkesteto	9.39	353	*i* P		Pn	05 53 05.8	+1.5
OBKA	Obir	9.49	329	*i* Pn		Pn	05 53 14.7	+9.0
KECS	Kecovo	9.91	355	*e*Pn		Pn	05 53 13.4	+2.2
KECS	Kecovo	9.91	355	*e*PN		Pn	05 53 13.4	+2.2
VYHS	Vyhne	10.10	349	*e*Pn		Pn	05 53 16.7	+2.9
VYHS	Vyhne	10.10	349	*e*PN		Pn	05 53 16.7	+2.9
VYHS				*e*SN		Sn	05 55 03.2	-3.9
CONA	Conrad Observa	10.24	337	*i* Pn		Pn	05 53 13.0	-2.8
ABTA	Abfaltersbach	10.57	323	Pn		Pn	05 53 22.2	+1.8
ABTA	Abfaltersbach	10.57	323	*i* Pn		Pn	05 53 22.2	+1.8
MOA	Molln	10.71	332	Pn		Pn	05 53 23.1	+0.9
MOA	Molln	10.71	332	*i* Pn		Pn	05 53 23.1	+0.9
WATA	Walderalm	11.44	323	Pn		Pn	05 53 33.1	+0.7
WATA	Walderalm	11.44	323	*i* Pn		Pn	05 53 33.1	+0.7
MOTA	Moosalm	11.67	322	*i* Pn		Pn	05 53 29.8	-5.8
GERES	GERESS Array B	11.75	333	Pn		Pn	05 53 38.3	+1.8
	comp=N,0.2nm,0.3s,baz=155,slow=14,SNR=4.5							
KHC	Kasperske Hory	12.03	334	*e*P		Pn	05 53 41.5	+1.2
AKASG	Malin Array Be	13.21	21	Pn		Pn	05 53 57.2	+0.9
	comp=N,0.5nm,0.3s,baz=209,slow=12,SNR=4.0							
ESDC	Sonseca Array	19.93	281	P		P	05 55 21.1	+0.3
	comp=N,0.2nm,0.3s,baz=73,slow=11,SNR=5.0							
HFS	Hagfors	22.13	349	P		P	05 55 44.3	0.0
	comp=N,3.6nm,0.6s,baz=162,slow=12,SNR=12							
HFS				LR		LR	06 05 20.7	
	comp=N,85nm,18.0s,baz=27,slow=40							
FINES	FINESS Array B	23.02	5	P		P	05 55 52.0	-1.7
	comp=N,3.9nm,0.7s,baz=167,slow=9.7,SNR=19							
FINES				LR		LR	06 04 44.4	
	comp=N,49nm,19.3s,baz=225,slow=36							
NB2	NORSAR Subarra	23.39	347	P		P	05 55 57.2	-0.4
	comp=Z,2.5nm,0.8s,baz=159,slow=9.3							
NOA	NORSAR Array B	23.39	347	P		P	05 55 57.0	-0.6
	comp=Z,2.6nm,0.7s,baz=152,slow=9.5,SNR=9.2							
NOA				LR		LR	06 05 52.8	
	comp=Z,41nm,18.2s,baz=95,slow=39							
EKA	Eskdalemuir Ar	23.63	323	P		P	05 55 59.3	-0.6
	comp=Z,1.0nm,0.5s,baz=133,slow=9.7,SNR=7.2							
TORD	Torodi Ar. Bea	30.96	220	P		P	05 57 06.3	0.0
	comp=Z,3.0nm,0.7s,baz=30,slow=9.2,SNR=20							
ARCES	ARCESS Array B	31.05	3	P		P	05 57 05.8	-0.8
	comp=Z,1.8nm,0.5s,baz=196,slow=9.8,SNR=36							
AAK	Ala-Archa	39.73	67	P		P	05 58 22.8	+1.2
	comp=Z,0.9nm,0.3s,baz=220,slow=7.8,SNR=5.8							
SPITS	Spitsbergen Ar	39.74	358	P		P	05 58 22.6	+1.5
	comp=Z,0.9nm,0.4s,baz=169,slow=10,SNR=18							
SPITS				LR		LR	06 16 52.4	
	comp=Z,23nm,18.3s,baz=345,slow=39							
MKAR	Makanchi Array	44.28	59	P		P	05 58 58.2	-0.3
	comp=Z,1.9nm,0.4s,baz=276,slow=7.3,SNR=74							
ZALV	Zalesovo Beam	44.70	49	P		P	05 59 00.8	-1.0
	comp=Z,1.8nm,0.5s,baz=280,slow=8.9,SNR=7.0							
SCHQ	Schefferville	58.77	317	P		P	06 00 47.7	+0.8
	comp=Z,1.3nm,0.5s,baz=46,slow=4.9,SNR=6.6							
INK	Inuvik	71.79	351	P		P	06 02 11.6	+0.6
	comp=Z,0.6nm,0.6s,baz=11,slow=12,SNR=5.0							
YKA	Yellowknife Ar	73.30	340	P		P	06 02 20.7	+0.7
	comp=Z,0.1nm,0.5s,baz=33,slow=5.4,SNR=6.7							
ILAR	Eielson Array	76.56	355	P		P	06 02 40.1	+1.1
	comp=Z,0.3nm,0.8s,baz=345,slow=3.1,SNR=5.2							
NVAR	Mina Array Bea	94.98	330	LR		LR	06 52 12.4	
	comp=Z,75nm,20.1s,baz=91,slow=39							

MEX 21 05:54:21.0±0.7, 16°16N×98°47W, h5km±10km, MD3.7,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.41	55	*e*P	Pg	05 54 28.8	-0.1
PNIG				*e*S	Sg	05 54 34.0	-0.2
TLIG	Tlapa	1.40	356	*e*P	P

	baz=193								
W47A	**Westpoint**	21.12	25	P		P	06 03 14.3	-1.2	
	baz=209								
T40A	**Mansfield**	21.36	13	P		P	06 03 18.1	0.0	
	baz=195								
T41A	**Mountain View**	21.43	14	P		P	06 03 18.5	-0.2	
	baz=197								
T25A	**Trinidad**	21.43	346	P		P	06 03 20.9	+1.8	
	baz=164,SNR=6.9								
T25A	**Trinidad**	21.43	346	*e*P		P	06 03 21.8	+2.7	
	7.8nm,0.8s								
MHTCO	**State Highway**	21.49	346	*e*P		P	06 03 22.1	+2.4	
	26nm,1.8s								
PBMO	**Poplar Bluff**	21.52	17	*e*P		P	06 03 21.9	+2.1	
	9.3nm,0.7s								
X16A	**Lo Mia Camp, P**	21.55	329	*e*P		P	06 03 23.0	+2.6	
	8.2nm,0.8s								
S38A	**Stockton**	21.57	9	P		P	06 03 19.9	-0.4	
	baz=191								
T42A	**Van Buren**	21.58	16	P		P	06 03 20.3	-0.1	
	baz=199								
V47A	**Nunnelly**	21.66	24	P		P	06 03 20.5	-0.8	
	baz=209								
S39A	**Bolivar**	21.73	11	P		P	06 03 21.7	-0.3	
	baz=193								
S40A	**Lebanon**	21.79	12	P		P	06 03 22.2	-0.5	
	baz=195,SNR=6.3								
WVT	**Waverly**	21.80	23	P		P	06 03 21.7	-1.1	
	baz=208								
WVT	**Waverly**	21.80	23	*e*P		P	06 03 21.8	-1.0	
	8.8nm,0.8s								
V48A	**Smith Brothers**	21.86	26	P		P	06 03 21.7	-1.8	
	baz=211								
S41A	**Jillco Farms,**	21.95	14	P		P	06 03 23.9	-0.5	
	baz=197								
Y14A	**Wickenburg**	21.99	326	*e*P		P	06 03 26.9	+2.0	
	17nm,0.9s								
SDCO	**Great Sand Dun**	22.27	345	P		P	06 03 28.7	+0.5	
	baz=162								
SDCO	**Great Sand Dun**	22.27	345	*e*P		P	06 03 29.8	+1.6	
	3.1nm,0.9s								
U47A	**Clarksville**	22.28	24	P		P	06 03 26.6	-1.4	
	baz=209								
T45A	**Paducah**	22.30	21	P		P	06 03 27.8	-0.4	
	baz=205								
S42A	**Caledonia**	22.36	16	P		P	06 03 29.4	+0.6	
	baz=199,SNR=6.0								
R39A	**Chumby, Stover**	22.38	11	P		P	06 03 29.7	+0.6	
	baz=193								
WUAZ	**Wupatki**	22.41	331	P		P	06 03 31.4	+1.8	
	baz=145								
WUAZ	**Wupatki**	22.41	331	*e*P		P	06 03 32.7	+3.1	
	6.9nm,0.9s								
R40A	**Maddies Statio**	22.51	12	P		P	06 03 31.1	+0.7	
	baz=195,SNR=5.7								
T46A	**Princeton**	22.59	22	P		P	06 03 31.8	+0.6	
	baz=207								
S22A	**4UR Ranch, Cre**	22.64	342	P		P	06 03 33.2	+1.1	
	baz=158,SNR=7.3								
S22A	**4UR Ranch, Cre**	22.64	342	*e*P		P	06 03 33.6	+1.5	
	3.7nm,0.8s								
U48A	**Cassie Pea, Po**	22.64	25	P		P	06 03 31.0	-0.8	
	baz=210								
MVCO	**Mesa Verde**	22.69	338	P		P	06 03 33.6	+1.0	
	baz=154								
S44A	**Carbondale**	22.72	19	P		P	06 03 33.0	+0.4	
	baz=203								
Q38A	**Cooks Store, C**	22.91	9	P		P	06 03 34.6	0.0	
	baz=192								
KSCO	**Kaye Shedlock'**	22.92	351	P		P	06 03 35.0	+0.1	
	baz=169								
S45A	**Carrier Mills**	22.92	20	P		P	06 03 33.7	-1.1	
	baz=204								
R43A	**Red Bud**	23.06	17	P		P	06 03 35.4	-0.8	
	baz=201								
Q39A	**Willow Grove F**	23.10	11	P		P	06 03 36.2	-0.3	
	baz=193								
T48A	**Bowling Green**	23.22	25	P		P	06 03 37.1	-0.6	
	baz=210								
R44A	**Waltonville**	23.29	19	P		P	06 03 38.2	-0.3	
	baz=203								
IRM	**Iron Mountain**	23.36	323	P		P	06 03 41.0	+1.8	
	baz=136								
NHSC	**New Hope**	23.37	41	P		P	06 03 37.9	-1.4	
	baz=229								
Q41A	**Truxton**	23.37	14	P		P	06 03 38.3	-0.9	
	baz=197								
P37A	**Lathrop**	23.43	8	P		P	06 03 39.7	-0.1	
	baz=190								
Q42A	**Golden Eagle**	23.50	15	P		P	06 03 40.4	-0.1	
	baz=199								
BORC	**Borrego Spring**	23.52	319	*e*P		P	06 03 45.8	+5.0	
PV01	**Paradox Valley**	23.54	339	*e*P		P	06 03 43.4	+2.1	
P39B	**Salisbury**	23.57	11	P		P	06 03 40.9	-0.4	
	baz=193								
P38A	**Dawn**	23.58	9	P		P	06 03 41.0	-0.3	
	baz=191								
R45A	**Skylar, Fairfi**	23.58	20	P		P	06 03 40.8	-0.4	
	baz=204								
U15A	**North Rim**	23.58	331	*e*P		P	06 03 43.6	+2.0	
	3.3nm,0.8s								
109C	**Camp Elliot, M**	23.71	317	P		P	06 03 43.6	+1.0	
	baz=130								
P40A	**Paris**	23.75	12	P		P	06 03 42.2	-0.7	
	baz=195,SNR=5.7								
O34A	**Beatrice**	23.81	3	P		P	06 03 44.0	+0.5	
	baz=184								
Q44A	**Meyer Farm, Va**	23.91	18	P		P	06 03 43.9	-0.5	
	baz=202								
PV10	**Paradox Valley**	23.92	339	*e*P		P	06 03 45.4	+0.6	
TZTN	**Tazewell**	24.01	30	P		P	06 03 44.3	-1.1	
	baz=217								
SMCO	**Snowmass**	24.01	343	*e*P		P	06 03 48.1	+2.3	
	34nm,2.0s								
PV09	**Paradox Valley**	24.06	339	*e*P		P	06 03 46.9	+0.6	
GMRC	**Granite Mounta**	24.10	323	P		P	06 03 47.5	+1.0	
	baz=136								
P42A	**Winchester**	24.18	15	P		P	06 03 46.4	-0.6	
	baz=199,SNR=5.0								
R47A	**Wooly Knot Far**	24.20	23	P		P	06 03 46.6	-0.5	
	baz=208								
MURC	**Murrieta**	24.23	319	P		P	06 03 48.7	+1.2	
	baz=131								
WCI	**Wyandotte Cave**	24.23	23	P		P	06 03 47.6	+0.2	
	baz=209								
WCI	**Wyandotte Cave**	24.23	23	*e*P		P	06 03 47.8	+0.3	
	8.8nm,0.9s								
ISCO	**Idaho Springs**	24.25	346	P		P	06 03 49.3	+1.3	
	baz=163,SNR=11								
ISCO	**Idaho Springs**	24.25	346	*e*P		P	06 03 49.4	+1.4	
	7.4nm,0.8s								
O40A	**La Belle**	24.35	12	P		P	06 03 48.3	-0.2	
	baz=195								
O39A	**Kirksville**	24.36	11	P		P	06 03 49.1	+0.5	
	baz=193								
HEC	**Hector,Ludlow**	24.52	322	P		P	06 03 51.4	+1.2	
	baz=134								
R48A	**Northridge Ran**	24.54	24	P		P	06 03 50.3	0.0	
	baz=210								
P44A	**Sand Creek, Wi**	24.55	18	P		P	06 03 50.1	-0.2	
	baz=203								
O41A	**Passleys Farm,**	24.56	14	P		P	06 03 50.0	-0.4	
	baz=197,SNR=5.8								
TUQ	**Turquoise Moun**	24.71	324	P		P	06 03 54.3	+2.2	
	baz=136,SNR=6.7								
OGNE	**Ogallala**	24.75	353	P		P	06 03 53.5	+1.3	
	baz=171								
OGNE	**Ogallala**	24.75	353	*e*P		P	06 03 54.0	+1.8	
	17nm,1.1s								
N38A	**Joes South For**	24.77	9	P		P	06 03 52.3	0.0	
	baz=192								
Q47A	**Bedord North L**	24.80	22	P		P	06 03 51.9	-0.7	
	baz=208								
MTPU	**Mount Pierson**	24.86	333	*e*P		P	06 03 56.0	+2.4	
	9.9nm,0.8s								
N39A	**Derby Farms, D**	24.97	10	P		P	06 03 54.5	+0.4	
	baz=193								
M35A	**Neola**	25.15	5	P		P	06 03 56.0	+0.3	
	baz=186								
M37A	**Trindle Farm,**	25.25	7	P		P	06 03 57.3	+0.6	
	baz=190								
MSU	**Marysvale**	25.25	334	*e*P		P	06 04 00.0	+3.0	
O20A	**White River Ci**	25.26	342	P		P	06 03 59.6	+2.6	
	baz=157,SNR=5.1								
O20A	**White River Ci**	25.26	342	*e*P		P	06 03 59.6	+2.6	
	9.1nm,0.9s								
N23A	**Red Feather La**	25.37	346	P		P	06 04 00.1	+2.1	
	baz=163								
N23A	**Red Feather La**	25.37	346	*e*P		P	06 04 00.2	+2.2	
	6.6nm,0.8s								
M38A	**Pleasantville**	25.38	9	P		P	06 03 57.8	-0.1	
	baz=191,SNR=5.5								
N42A	**Yates City**	25.44	15	P		P	06 03 58.2	-0.1	
	baz=199								
P18A	**Preston Nutter**	25.46	338	*e*P		P	06 04 01.4	+2.4	
	7.9nm,0.9s								
TMUT	**Trail Mountain**	25.53	336	*e*P		P	06 04 01.6	+2.0	
	24nm,1.9s								
SNCC	**San Nicolas Is**	25.53	315	P		P	06 04 01.4	+2.1	
	baz=126								
O45A	**Potomac**	25.54	19	P		P	06 04 00.0	+0.7	
	baz=204								
EDW2	**Edwards Air Fo**	25.56	320	P		P	06 04 00.8	+1.2	
	baz=132								
M39A	**Webster**	25.61	11	P		P	06 04 00.6	+0.7	
	baz=194								
M40A	**Post Highland**	25.66	12	P		P	06 04 00.4	0.0	
	baz=195								
N43A	**Stutzman Famil**	25.76	16	P		P	06 04 01.3	+0.1	
	baz=200								
M41A	**Milan**	25.84	13	P		P	06 04 01.9	-0.1	
	baz=197								
SFIN	**Lafayette**	25.86	20	P		P	06 04 02.1	0.0	
	baz=205								
SCIA	**State Center**	25.86	9	P		P	06 04 02.8	+0.7	
	baz=191								
SCIA	**State Center**	25.86	9	*e*P		P	06 04 03.0	+0.9	
	21nm,0.9s								
N44A	**Piper City**	25.91	18	P		P	06 04 02.4	-0.2	
	baz=203								
L37A	**Phoenix Point,**	26.00	8	P		P	06 04 03.4	-0.1	
	baz=190								
O47A	**Sheridan**	26.04	21	P		P	06 04 03.7	-0.1	
	baz=207								
SCZ2	**Santa Cruz Isl**	26.05	316	P		P	06 04 05.0	+1.0	
	baz=127								
L38A	**Oak Wood Farm,**	26.13	9	P		P	06 04 04.8	+0.2	
	baz=192								
M43A	**Waltham Townsh**	26.28	16	P		P	06 04 05.7	-0.3	
	baz=200								
MPU	**Maple Canyon**	26.32	336	*e*P		P	06 04 08.3	+1.8	
	2.4nm,0.8s								
L40A	**Anamosa**	26.35	12	P		P	06 04 06.0	-0.7	
	baz=195								
K35A	**Storm Lake**	26.43	5	P		P	06 04 07.5	+0.2	
	baz=186								
NLU	**North Lily Min**	26.44	336	*e*P		P	06 04 09.6	+1.9	
	3.8nm,0.9s								
M44A	**Midewin, Midew**	26.49	17	P		P	06 04 07.6	-0.2	
	baz=202								
L41A	**Preston**	26.52	13	P		P	06 04 07.7	-0.4	
	baz=197								
L42A	**Oliver, Polo**	26.64	14	P		P	06 04 08.7	-0.5	
	baz=199								
K37A	**Belmond**	26.65	8	P		P	06 04 09.2	-0.1	
	baz=190								
K39A	**Oelwein**	26.85	10	P		P	06 04 11.2	+0.1	
	baz=194								
DUG	**Dugway, Tooele**	26.94	335	P		P	06 04 12.8	+0.7	
	baz=148								
DUG	**Dugway, Tooele**	26.94	335	*e*P		P	06 04 14.4	+2.3	
	3.9nm,1.0s								
K40A	**Colesburg**	26.98	12	P		P	06 04 12.3	0.0	
	baz=195								
J36A	**Seneca 1, Swea**	27.12	6	P		P	06 04 13.5	-0.1	
	baz=188								
J38A	**Wedel Dairy, R**	27.35	9	P		P	06 04 15.6	-0.1	
	baz=192								
JFWS	**Jewell Farm**	27.37	13	P		P	06 04 16.2	+0.4	
	baz=197								
I35A	**Creekview Farm**	27.58	5	P		P	06 04 18.0	+0.3	
	baz=187								
J41A	**Loganville**	27.85	13	P		P	06 04 20.3	+0.2	
	baz=197								
BW06	**Boulder Array**	28.07	342	*e*P		P	06 04 23.8	+1.5	
	16nm,1.8s								
PDAR	**Pinedale Array**	28.07	342	P		P	06 04 23.6	+1.2	
	0.7nm,0.7s,baz=137,slow=11,SNR=8.6								
PDAR	**Pinedale Array**	28.07	342	*e*P		P	06 04 23.1	+0.8	
I38A	**Scanlan Farm,**	28.08	9	P		P	06 04 21.5	-0.7	
	baz=192								
NV01	**Mina Array Sit**	28.19	325	*e*P		P	06 04 25.4	+2.0	
NVAR	**Mina Array Bea**	28.19	325	P		P	06 04 25.8	+2.3	
	1.0nm,0.8s,baz=152,slow=11,SNR=6.8								
HVU	**Hansel Valley**	28.27	337	*e*P		P	06 04 26.2	+2.1	
	2.6nm,0.8s								
H35A	**Sunnyside Ranc**	28.43	5	P		P	06 04 24.7	-0.5	
	baz=187								
H38A	**Maiden Rock**	28.71	9	P		P	06 04 28.3	+0.6	
	baz=192								
H40A	**Chili**	28.98	12	P		P	06 04 30.6	+0.5	
	baz=196								
SPMN	**Marine on St.**	29.17	8	P		P	06 04 31.5	-0.3	
	baz=191								
F36A	**Milaca**	29.71	7	P		P	06 04 35.8	-0.8	
	baz=189								
G41A	**Antigo**	29.79	13	P		P	06 04 37.6	+0.2	
	baz=198								
G42A	**Mountain**	29.99	14	P		P	06 04 38.8	-0.3	
	baz=199								
G43A	**Wallace**	30.18	15	P		P	06 04 40.1	-0.7	
	baz=200								
F40A	**Park Falls**	30.28	11	P		P	06 04 41.4	-0.2	
	baz=196								
E36A	**McGregor**	30.39	7	P		P	06 04 42.2	-0.5	
	baz=190								
E39A	**Mellen**	30.64	10	P		P	06 04 45.0	+0.2	
	baz=195								
E38A	**The Farm, Brul**	30.70	9	P		P	06 04 45.3	-0.1	
	baz=193								
E40A	**Wakefield**	30.83	11	P		P	06 04 46.3	-0.2	
	baz=196								
F43A	**Flat Rock, Esc**	30.85	15	P		P	06 04 46.6	-0.1	
	baz=201								
D36A	**Goodland**	31.05	7	P		P	06 04 48.1	-0.3	
	baz=190								
F44A	**Big Bay de Noc**	31.17	16	P		P	06 04 49.5	0.0	
	baz=202								
E43A	**Lone Tree Farm**	31.40	15	P		P	06 04 50.9	-0.6	
	baz=201								
C35A	**Jirik Farms, M**	31.49	6	P		P	06 04 52.5	+0.3	
	baz=188								
D41A	**Chassel**	31.68	13	P		P	06 04 54.4	+0.4	
	baz=198								
AGMN	**Agassiz Nation**	31.95	3	P		P	06 04 57.0	+0.7	
	baz=184								
AGMN	**Agassiz Nation**	31.95	3	*e*P		P	06 04 56.6	+0.4	
	5.4nm,1.1s								
EYMN	**Ely**	32.02	9	P		P	06 04 57.5	+0.6	
	baz=192								
B35A	**Bob, Littlefor**	32.16	6	P		P	06 04 57.9	-0.3	
	baz=188								
ULM	**Lac du Bonnet**	33.89	3	P		P	06 05 13.1	-0.2	
	1.1nm,0.7s,baz=190,slow=12,SNR=3.2								
BEVT	**Boeing Everett**	37.18	333	*e*PcP		PcP	06 07 59.5	-1.7	
FFC	**Flin Flon**	38.43	357	*e*P		P	06 05 52.4	+0.5	
	3.2nm,0.8s								
EDM	**Edmonton**	38.68	345	*e*P		P	06 05 55.0	+0.9	
	5.7nm,0.8s								
YKA	**Yellowknife Ar**	47.53	350	P		P	06 07 05.4	-0.1	
	0.6nm,0.8s,baz=158,slow=7.5,SNR=7.9								
ILAR	**Eielson Array**	58.37	338	P		P	06 08 26.8	+1.3	
	0.7nm,0.7s,baz=148,slow=5.8,SNR=12								
TRF	**Thorofare Moun**	59.00	336	*e*P		P	06 08 31.4	+1.3	
	6.3nm,1.1s								

*ISN **21** 06:02:14.6±0.9,34°.54N×45°.56E,h0km±6km,ML3.0*
*CSEM **21** 06:02:14.6,34°.54N×45°.56E,h0km,ML3.0,After ISN*
*TEH **21** 06:02:16.5,34°.51N×45°.44E,h10km,ML3.0*
*ISCJB **21** 06:02:17.2±0.7,34°.40N±0°.09×45°.48E±0°.05,h18km,Error ellipse: s-maj=13.1km s-min=5.4km az=2.3*
ISC 21 06:02:17.0±1.0,**34°.55N**±0°.10×**45°.57E**±0°.04,**h18km**,**n6,** σ**0°73**/9,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.86**	**104**	*e*Pg		**Pg**	**06 02 33.2**	**-0.6**
IGHG				*e*AMB		AMB	06 02 34.4	
	comp=Z,7μm,0.1s							
IVIS	**Veis**	**1.06**	**91**	*e*Pg		**Pn**	**06 02 36.8**	**-0.3**
IVIS				*e*Sg		**Sg**	**06 02 52.8**	**+1.3**
ILIN	**Lien**	**1.21**	**72**	*e*Pg		**Pg**	**06 02 40.5**	**0.0**
ILIN				*e*AMB		AMB	06 03 06.9	
	comp=Z,2μm,0.1s							

IKRK	**Kirkuk**	**1.32**	**311**	*e*Pn		**Pb**	**06 02 41.0**	**-0.3**	
	SNR=3.0								
IKRK				*i* Sn		**Sg**	**06 03 00.0**	**+0.2**	
	SNR=3.0								
IKOM	**Komasi**	**1.65**	**102**	*e*Pg		**Pg**	**06 02 48.6**	**-0.2**	
IKOM				*e*AMB		AMB	06 03 13.7		
	comp=Z,4μm,0.2s								
RTB	**Rutbah**	**4.63**	**252**	*e*Pn		**Pn**	**06 03 27.0**	**+0.8**	
RTB	SNR=3.0								
				i Sn		**Sn**	**06 04 19.0**	**-0.6**	
	SNR=3.0								

*IDC **21** 06:04:52.9±3.2,16°.36N×98°.38W,h0km,mb3.8/5,*
mb1 4.0/8,mb1mx3.7/49,mbtmp3.7/8,ML3.2/3,MS3.6/9,
Ms1 3.6/9,ms1mx3.2/41,Error ellipse: s-maj=55.8km
s-min=18.0km az=8.0
*ISCJB **21** 06:04:58.2±0.7,16°.54N±0°.05×98°.41W±0°.03,h29km±5km,*
mb4.1/24,MS3.5/5,Error ellipse: s-maj=8.0km
s-min=4.5km az=15.2
*NEIC **21** 06:04:58.7±0.0,16°.57N×98°.47W,h2km,mb4.2/32,*
MD3.9(MEX),After MEX.
*MEX **21** 06:04:58.8±0.6,16°.57N×98°.47W,h4km±7km,MD3.9*
ISC 21 06:04:57.9±1.0,**16°.59N**±0°.05×**98°.45W**±0°.03,**h16**km±7km,
n80,σ1°.**35**/89,**mb4.2**/24,**MS3.5**/5,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**122**	*e*P		**Pg**	**06 05 05.7**	**+0.3**
PNIG				*e*S		**Sg**	**06 05 11.0**	**+0.5**
PNIG	**Pinotepa**	**0.36**	**122**	*e*Pg		**Pg**	**06 05 05.7**	**+0.3**
PNIG				*e*Sg		**Sg**	**06 05 11.0**	**+0.5**
TLIG	**Tlapa**	**0.98**	**353**	*e*P		**Pb**	**06 05 15.3**	**-1.2**
TLIG				*e*S		**Sb**	**06 05 28.6**	**-0.7**
TLIG	**Tlapa**	**0.98**	**353**	*e*P		**Pb**	**06 05 15.3**	**-1.2**
TLIG				*e*S		**Sb**	**06 05 28.6**	**-0.7**
ACX	**Acapulco**	**1.38**	**282**	*e*P		**Pb**	**06 05 22.8**	**-0.6**
ACX				*i* S		**Sn**	**06 05 40.0**	**-0.5**
VHO	**Vista Hermosa**	**1.71**	**73**	*e*P		**Pn**	**06 05 26.8**	**-0.4**
VHO				*e*S		**Sn**	**06 05 47.9**	**-1.0**
VHO	**Vista Hermosa**	**1.71**	**73**	*e*Pn		**Pn**	**06 05 26.8**	**-0.4**
VHO				*e*Sn		**Sn**	**06 05 47.9**	**-1.0**
CAIG	**El Cayaco**	**1.80**	**285**	*e*P		**Pn**	**06 05 27.2**	**-1.2**
CAIG				*e*S		**Sn**	**06 05 49.7**	**-1.2**
CAIG	**El Cayaco**	**1.80**	**285**	*e*Pn		**Pn**	**06 05 27.2**	**-1.2**
CAIG				*e*Sn		**Sn**	**06 05 49.7**	**-1.2**
TPIG	**Tehuac#an**	**2.10**	**29**	*e*P		**Pn**	**06 05 32.2**	**-0.3**
TPIG				*e*S		**Sn**	**06 05 57.9**	**-0.5**
TPIG	**Tehuac#an**	**2.10**	**29**	*e*Pn		**Pn**	**06 05 32.2**	**-0.3**
TPIG				*e*Sn		**Sn**	**06 05 57.9**	**-0.5**
HUIG	**Huatulco**	**2.39**	**110**	*e*P		**Pn**	**06 05 35.6**	**-0.8**
HUIG				*e*S		**Sn**	**06 06 04.3**	**-1.1**
HUIG	**Huatulco**	**2.39**	**110**	*e*Pn		**Pn**	**06 05 35.6**	**-0.8**
HUIG				*e*Sn		**Sn**	**06 06 04.7**	**-0.6**
UNM	**Universidad Na**	**2.81**	**346**	*e*Pn		**Pb**	**06 05 45.5**	**-2.4**
CMIG	**Matias Romero**	**3.45**	**81**	Pn		**Pn**	**06 05 49.3**	**-1.7**
	3.2nm,0.3s,baz=263,slow=12,SNR=12							
CMIG				Pg		**Pb**	**06 05 59.1**	**+0.5**
	14nm,0.3s,baz=278,slow=16,SNR=21							
CMIG				Sn		**Sn**	**06 06 29.7**	**-1.9**
	20nm,0.3s,baz=274,slow=12,SNR=6.5							
CMIG				Lg		Lg	06 06 41.8	
	20nm,0.3s,baz=31,slow=23,SNR=3.5							
CMIG				LR		LR	06 07 31.8	
	comp=Z,521nm,19.6s,baz=194,slow=46							
JRQG	**Juriquilla Cam**	**4.51**	**335**	*e*Pn		**Pn**	**06 06 08.4**	**+2.6**
ZAIG	**Zacatecas**	**7.27**	**328**	*e*Pn		**Pn**	**06 06 47.5**	**+3.7**
KVTX	**Kingsville**	**10.92**	**3**	*e*Pn		**Pn**	**06 07 36.9**	**+3.4**
LPIG	**La Paz**	**13.40**	**306**	LR		LR	06 12 09.0	
	comp=Z,52nm,18.4s,baz=51,slow=32							
LTX	**Lajitas**	**13.56**	**340**	*e*Pn		**Pn**	**06 08 11.6**	**+1.8**
LTX				*e*			06 12 12.1	
TXAR	**Lajitas Array**	**13.56**	**340**	Pn		**Pn**	**06 08 11.6**	**+1.8**
	0.0nm,0.3s,baz=156,slow=16,SNR=3.3							
TXAR				Lg		Lg	06 12 12.1	
	0.0nm,0.3s,baz=152,slow=32,SNR=3.2							
TXAR				LR		LR	06 13 59.1	
	comp=Z,535nm,18.4s,baz=0.0,slow=40							
WHTX	**Lake Whitney,**	**15.36**	**3**	*e*Pn		**P**	**06 08 37.6**	**-1.1**
	30nm,1.1s							
NATX	**Nacogdoches**	**15.49**	**12**	*e*Pn		**P**	**06 08 39.4**	**-0.7**
	115nm,1.7s							
ABTX	**Abilene, Hawle**	**16.00**	**356**	*e*Pn		**P**	**06 08 45.7**	**-0.2**
	43nm,1.4s							
GDL2	**Guadalupe Moun**	**16.45**	**342**	*e*Pn		**P**	**06 08 50.8**	**0.0**
WLAR	**White Oak Lake**	**17.69**	**15**	*e*P		**P**	**06 09 06.1**	**+1.6**
	22nm,1.1s							
MSTX	**Muleshoe**	**17.74**	**348**	*e*Pn		**P**	**06 09 05.4**	**+0.2**
	10.0nm,1.1s							
AMTX	**Amarillo**	**18.45**	**352**	*e*P		**P**	**06 09 12.5**	**-0.5**
	17nm,1.5s							
UALR	**University of**	**18.92**	**16**	*e*P		**Pn**	**06 09 19.8**	**+1.1**
	8.7nm,0.8s							
BNM	**Barren Site**	**18.97**	**339**	*e*P		**Pn**	**06 09 20.5**	**+1.0**
TUL1	**Leonard**	**19.39**	**7**	*e*P		**Pn**	**06 09 25.8**	**+1.4**
	26nm,1.3s							
ANMO	**Albuquerque**	**19.64**	**340**	P		**P**	**06 09 25.6**	**-0.6**
	0.1nm,0.3s,baz=336,slow=11,SNR=7.1							
ANMO				LR		LR	06 17 34.9	
	comp=Z,584nm,18.4s,baz=338,slow=38							
ANMO	**Albuquerque**	**19.64**	**340**	*e*P		**Pn**	**06 09 27.7**	**+0.2**
	17nm,1.9s							
HHAR	**Hobbs**	**20.02**	**11**	*e*P		Pn	06 09 32.6	+0.7
	13nm,1.4s							
PLAL	**Pickwick Lake**	**20.54**	**25**	*e*P		Pn	06 09 36.7	-1.2
	11nm,1.1s							
X18A	**Snowflake**	**20.63**	**332**	*e*P		**P**	**06 09 37.7**	**+0.8**

REDW	**Red Top Meadow**	**28.70**	**341**	*e*P	**P**	06 10 54.7	**+0.1**
	20nm,1.8s							
LOHW	**Long Hollow**	**28.85**	**342**	*e*P	**P**	06 10 56.6	**+0.8**
	4.5nm,0.9s							
YTP	**The Promontory**	**29.47**	**343**	*e*PcP	**PcP**	06 14 05.0	**-1.9**
CTAM	**Taylor**	**29.76**	**320**	*e*PcP	**PcP**	06 14 07.7	**+0.3**
CTAM				*e*S	**S**	06 16 03.3	**+3.9**
KTRM	**Thompson Ridge**	**33.08**	**325**	*e*PcP	**PcP**	06 14 16.6	**+0.2**
ULM	**Lac du Bonnet**	**33.64**	**3**	LR	LR	06 26 25.1	
	comp=Z,99nm,20.5s,baz=80,slow=38							
LPAZ	**La Paz**	**44.28**	**136**	LR	LR	06 28 42.1	
	comp=Z,36nm,19.1s,baz=264,slow=32							
SCHQ	**Schefferville**	**45.26**	**25**	LR	LR	06 33 23.8	
	comp=Z,38nm,20.9s,baz=12,slow=38							
YKA	**Yellowknife Ar**	**47.24**	**350**	P	**P**	**06 13 29.1**	**-0.8**
	0.5nm,0.8s,baz=159,slow=7.3,SNR=8.5							
ILAR	**Eielson Array**	**58.06**	**338**	P	**P**	**06 14 47.9**	**-2.2**
	0.9nm,1.1s,baz=136,slow=5.2,SNR=5.3							
FINES	**FINES Array B**	**90.70**	**23**	LR	LR	06 59 42.6	
	comp=Z,34nm,20.9s,baz=346,slow=36							

IDC 21 06:06:06.6±3.0, 16°26S×175°57E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/46, mbtmp3.8/5, MS3.5/13, Ms1 3.6/13, ms1mx3.4/39, Error ellipse: s-maj=163.8km s-min=27.0km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.38**	**235**	LR	LR	06 12 00.1	
	comp=Z,285nm,20.9s,baz=68,slow=34						
DZM	**Mont Dzumac**	**10.38**	**235**	*e*LR	LR	06 10 47.0	
	697nm,26.9s						
HNR	**Honiara**	**16.66**	**292**	LR	LR	06 16 22.8	
	comp=Z,259nm,18.5s,baz=129,slow=37						
URZ	**Urewera**	**21.96**	**177**	LR	LR	06 17 49.5	
	comp=Z,107nm,18.2s,baz=4.5,slow=32						
PMG	**Port Moresby**	**28.50**	**280**	LR	LR	06 22 07.4	
	comp=Z,103nm,18.1s,baz=12,slow=34						
PPT2	**Papeete2**	**33.35**	**97**	*e*LQ	LQ	06 19 49.5	
	553nm,28.2s						
PPT2				*e*LR	LR	06 20 46.4	
	249nm,28.8s						
PPT	**Papeete**	**33.35**	**97**	LR	LR	06 24 42.5	
	comp=Z,51nm,18.5s,baz=262,slow=34						
TBI	**Tubuai**	**33.59**	**108**	*e*LQ	LQ	06 19 47.4	
	359nm,25.0s						
TBI				*e*LR	LR	06 20 52.5	
	214nm,34.8s						
STKA	**Stephens Creek**	**34.52**	**237**	P	P	06 12 57.6	**+0.8**
	6.6nm,1.1s,baz=68,slow=11,SNR=3.3						
STKA				LR	LR	06 25 34.6	
	comp=Z,129nm,19.3s,baz=39,slow=34						
H11S2	**WAKE ISLAND Hy**	**35.61**	**345**	T	T	06 51 18.2	
	baz=166,slow=75						
H11S3	**WAKE ISLAND Hy**	**35.62**	**345**	T	T	06 51 18.6	
	baz=166,slow=74						
H11S1	**WAKE ISLAND Hy**	**35.63**	**345**	T	T	06 51 19.9	
	baz=166,slow=74						
H11N1	**WAKE ISLAND Hy**	**36.75**	**346**	T	T	06 52 42.0	
	baz=164,slow=76,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**36.75**	**346**	T	T	06 52 42.0	
	baz=164,slow=76,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**36.76**	**346**	T	T	06 52 43.2	
	baz=164,slow=76,SNR=4.4						
WRA	**Warramunga Arr**	**39.29**	**258**	P	P	06 13 37.2	**-0.4**
	0.7nm,0.8s,baz=91,slow=9.1,SNR=5.7						
WRA				LR	LR	06 29 22.6	
	comp=Z,72nm,18.7s,baz=135,slow=36						
ASAR	**Alice Springs**	**39.74**	**252**	P	P	06 13 40.9	**-0.4**
	1.3nm,1.1s,baz=81,slow=9.9,SNR=4.9						
DAV	**Davao City (W)**	**54.62**	**291**	LR	LR	06 37 27.3	
	comp=Z,43nm,20.0s,baz=104,slow=34						
KSRS	**Korea Array**	**69.72**	**321**	LR	LR	06 41 57.7	
	comp=Z,22nm,20.8s,baz=230,slow=31						
RPN	**Rapa Nui**	**69.74**	**113**	LR	LR	06 40 56.7	
	comp=Z,46nm,21.7s,baz=318,slow=30						
LPIG	**La Paz**	**82.70**	**62**	LR	LR	06 48 50.5	
	comp=Z,38nm,18.8s,baz=276,slow=31						
CMAR	**Chiang Mai Arr**	**82.91**	**291**	LR	LR	06 57 33.6	
	comp=Z,20nm,18.2s,baz=172,slow=37						
ILAR	**Eielson Array**	**85.70**	**15**	P	P	06 18 48.2	**+1.2**
	0.6nm,0.7s,baz=228,slow=5.2,SNR=7.0						
SONM	**Songino Array**	**88.59**	**321**	LR	LR	06 54 53.4	
	comp=Z,33nm,21.4s,baz=22,slow=33						
YKA	**Yellowknife Ar**	**95.31**	**26**	P	P	06 19 31.2	**-1.0**
	0.3nm,0.8s,baz=247,slow=4.5,SNR=6.5						
GERES	**GERESS Array B**	**144.28**	**339**	PKP	PKPab	06 25 42.5	**-0.2**
	0.2nm,0.3s,baz=34,slow=3.8,SNR=4.7						

ISCJB 21 06:08:34.7±0.5, 5°31N±0°03×73°73W±0°03, h157km±4km, mb3.2/3, Error ellipse: s-maj=5.8km s-min=4.4km az=27.3
IDC 21 06:08:34.9±0.7, 5°30N×73°68W, h156km±5km, mb3.0/3, mb1 3.3/4, mb1mx3.0/44, mbtmp3.5/4, Error ellipse: s-maj=23.1km s-min=12.1km az=127.0
RSNC 21 06:08:36.9±1.1, 5°30N×73°75W, h144km±7km, ML3.5
ISC 21 06:08:35.4±0.8, 5°29N±0°04×73°72W±0°04, h153km±6km, n28, σ0°82/48, mb3.3/3, 3C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIC	**Chingaza**	**0.66**	**181**	*i* P	**Pn**	**06 08 58.4**	**0.0**
CHIC				*e*S	**Sn**	**06 09 14.7**	**-1.4**
CHIC				*i*		06 09 16.2	
	comp=Z,464nm,0.4s						
ROSC	**El Rosal**	**0.75**	**233**	P	**Pn**	**06 09 00.1**	**+1.1**
	comp=Z,52nm,0.3s,baz=309,slow=8.3,SNR=111						
ROSC				S	**Sn**	**06 09 18.1**	**+1.2**
	comp=Z,112nm,0.3s,baz=30,slow=20,SNR=62						
ROSC	**El Rosal**	**0.75**	**233**	↓*i* P	**Pn**	**06 09 00.1**	**+1.1**
ROSC				*e*S	**Sn**	**06 09 16.8**	**-0.1**
ROSC				*i*		06 09 21.4	
	comp=Z,555nm,0.5s						
CVER	**Cruz Verde, Cu**	**0.84**	**204**	*e*P	**Pn**	**06 09 00.4**	**+0.6**
CVER				*e*S	**Sn**	**06 09 17.1**	**-1.2**
RUSC	**La Rusia**	**0.87**	**47**	↓*i* P	**Pn**	**06 09 00.7**	**+0.7**
RUSC				*i*		06 09 01.3	
	comp=Z,461nm,0.3s						
RUSC				*e*S	**Sn**	**06 09 18.9**	**+0.3**
NORC	**Norcasia**	**1.17**	**283**	*e*P	**Pn**	**06 09 01.9**	**-0.1**
NORC				*e*S	**Sn**	**06 09 21.1**	**-1.2**
VILC	**Villavicencio,**	**1.18**	**178**	*e*P	**Pn**	**06 09 01.8**	**-0.3**
VILC				*e*S	**Sn**	**06 09 22.0**	**-0.6**
VILC				*i*		06 09 23.9	
	comp=Z,630nm,0.4s						
YOPC	**Yopal, Colombi**	**1.30**	**87**	*e*P	**Pn**	**06 09 04.0**	**+0.8**
YOPC				*e*S	**Sn**	**06 09 25.1**	**+0.5**
BARC	**Barichara**	**1.40**	**23**	*e*P	**Pn**	**06 09 04.4**	**0.0**
BARC				*e*S	**Sn**	**06 09 25.7**	**-0.9**
BARC				*i*		06 09 31.9	
	comp=Z,571nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.44**	**330**	↑*i* P	**Pn**	**06 09 03.9**	**-0.6**
PTBC				*e*S	**Sn**	**06 09 25.9**	**-1.0**
PTBC				*i*		06 09 28.8	
	comp=Z,222nm,0.2s						
GUYC	**Guyana, Colomb**	**1.66**	**268**	*e*S	**Sn**	**06 09 31.8**	**0.0**
GUYC				*i*		06 09 44.1	
	comp=Z,196nm,0.4s						
RREF	**El Recreo**	**1.66**	**256**	*e*P	**Pn**	**06 09 07.8**	**+0.2**
RREF				*e*S	**Sn**	**06 09 32.3**	**+0.2**
RREF				*i*		06 09 35.8	
	comp=Z,183nm,0.4s						
TOLC	**Tolima**	**1.74**	**246**	*e*P	**Pn**	**06 09 08.4**	**+0.3**
TOLC				*e*S	**Sn**	**06 09 33.3**	**+0.2**
BRRC	**Barranca, Sant**	**1.80**	**0**	*e*P	**Pn**	**06 09 09.3**	**+0.8**
BRRC				*i*		06 09 09.8	
	comp=Z,1μm,0.1s						
BRRC				*e*S	**Sn**	**06 09 33.0**	**-0.9**
PRAC	**Prado**	**1.95**	**216**	↑*i* P	**Pn**	**06 09 10.2**	**0.0**
PRAC				*e*S	**Sn**	**06 09 36.8**	**-0.1**
HELC	**Santa Helena**	**2.00**	**296**	⇑*e*P	**Pn**	**06 09 11.3**	**+0.1**
HELC				*e*S	**Sn**	**06 09 38.3**	**-0.2**
HELC				*i*		06 09 46.1	
	comp=Z,188nm,0.3s						
SJAC	**San Juan de Ar**	**2.02**	**186**	*e*P	**Pn**	**06 09 10.6**	**-0.5**
PAMC	**Pamplona, Colo**	**2.27**	**27**	*e*P	**Pn**	**06 09 15.5**	**+1.1**
PAMC				*e*S	**Sn**	**06 09 44.5**	**+0.1**
ZARC	**Zaragoza, Cauc**	**2.46**	**333**	*e*S	**Sn**	**06 09 46.5**	**-1.2**
ZARC				*i*		06 09 53.5	
	comp=Z,268nm,0.3s						
OCAC	**Ocana**	**2.95**	**8**	*e*P	**Pn**	**06 09 23.1**	**+0.7**
OCAC				*e*S	**Sn**	**06 09 58.8**	**-0.1**
DBBC	**Dabeiba**	**3.01**	**305**	*e*P	**Pn**	**06 09 24.1**	**+1.0**
DBBC				*e*S	**Sn**	**06 09 60.0**	**+0.1**
CODC	**Agust`n Codaz**	**4.62**	**3**	*e*P	**Pn**	**06 09 43.7**	**-0.2**
CODC				*e*S	**Sn**	**06 10 37.2**	**0.0**
CODC				*i*		06 10 46.8	
	comp=Z,98nm,0.3s						
SDV	**Santo Domingo**	**4.71**	**41**	P	**Pn**	**06 09 45.7**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=196,slow=6.5,SNR=16						
SDV				S	**Sn**	**06 10 37.7**	**-1.8**
	comp=Z,6.4nm,0.3s,baz=54,slow=22,SNR=17						
SIV	**San Ignacio**	**24.58**	**150**	P	**P**	**06 13 41.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=315,slow=11,SNR=4.0						
YKA	**Yellowknife Ar**	**64.48**	**340**	P	**P**	**06 18 55.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=136,slow=6.3,SNR=24						
ILAR	**Eielson Array**	**78.09**	**335**	P	**P**	**06 20 16.4**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=91,slow=3.8,SNR=3.1						
ASAR	**Alice Springs**	**147.73**	**233**	PKPbc	**PKPdf**	**06 28 00.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=143,slow=3.2,SNR=3.2						
WRA	**Warramunga Arr**	**149.06**	**239**	PKPbc	**PKPdf**	**06 28 04.7**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=107,slow=3.1,SNR=7.4						

NEIC 21 06:09:59.3±0.0, 15°66N×98°22W, h18km±4km, MD4.1(MEX), After MEX.
MEX 21 06:09:59.4±0.5, 15°66N×98°22W, h23km±9km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.73**	**7**	*e*P	Pb	06 10 11.6	-2.0
PNIG				*e*S	Sb	06 10 20.4	-2.8
PNIG	**Pinotepa**	**0.73**	**7**	*e*P	Pb	06 10 11.1	-2.4
PNIG				*e*S	Sb	06 10 20.0	-3.2
TLIG	**Tlapa**	**1.92**	**350**	*i* P	Pn	06 10 28.6	-2.3
TLIG				*e*S	Sn	06 10 50.7	-3.7
TLIG	**Tlapa**	**1.92**	**350**	*i* P	Pn	06 10 24.5	-6.3
TLIG				*e*S	Sn	06 10 50.7	-3.7
ACX	**Acapulco**	**1.98**	**308**	*i* P	Pb	06 10 35.5	+0.7
ACX				*i* S	Sb	06 10 58.2	-0.8
VHO	**Vista Hermosa**	**2.00**	**45**	*e*P	Pn	06 10 29.3	-2.7
VHO				*i* S	Sn	06 10 53.0	-3.5
VHO	**Vista Hermosa**	**2.00**	**45**	*e*P	Pn	06 10 29.3	-2.7
VHO				*i* S	Sn	06 10 53.0	-3.5
CAIG	**El Cayaco**	**2.40**	**305**	*e*P	Pn	06 10 35.1	-2.3
CAIG				*i* S	Sn	06 11 02.7	-3.4
CAIG	**El Cayaco**	**2.40**	**305**	*e*P	Pn	06 10 35.1	-2.3
CAIG				*i* S	Sn	06 11 02.7	-3.4
TPIG	**Tehuac#an**	**2.87**	**17**	*e*P	Pn	06 10 41.7	-2.2
TPIG				*e*S	Sn	06 11 14.8	-3.0
TPIG	**Tehuac#an**	**2.87**	**17**	*e*P	Pn	06 10 41.7	-2.2
TPIG				*e*S	Sn	06 11 14.8	-3.0

CSEM 21 06:12:53.6±0.1, 38°63N×21°70E, h10km, ML2.6, Error ellipse: s-maj=2.3km s-min=1.9km az=16.0
THE 21 06:12:54.3, 38°61N×21°70E, h0km±2km, ML2.5/13, Error ellipse: s-maj=2.2km s-min=0.6km az=321.0
ATH 21 06:12:53.6, 38°63N×21°71E, h14km±3km, ML2.6/8, Error ellipse: s-maj=3.0km s-min=0.7km az=222.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVO	**Paravola**	**0.14**	**266**	P	Pg	06 12 57.3	0.0
PVO				S	Sg	06 12 59.3	-0.4
PVO				AML	AML	06 13 00.0	
	comp=N,8174μm,0.5s						
PVO				AML	AML	06 13 00.2	
	comp=E,7450μm,0.2s						
PVO	**Paravola**	**0.14**	**266**	P	Pg	06 12 57.3	0.0
PVO				S	Sg	06 12 59.8	0.0
PVO	**Paravola**	**0.14**	**266**	P	Pg	06 12 57.2	-0.1
PVO				S	Sg	06 12 59.8	0.0
ANX	**Ano Chora**	**0.17**	**101**	P	Pb	06 12 58.2	-0.4
ANX				S	Sb	06 13 01.6	-0.4
ANX	**Ano Chora**	**0.17**	**101**	P	Pb	06 12 58.2	-0.4
ANX				S	Sb	06 13 01.6	-0.4
EFP	**Efpalio**	**0.25**	**142**	P	Pg	06 12 59.3	+0.3
EFP				S	Sg	06 13 02.7	+0.1
EFP				AML	AML	06 13 03.8	
	comp=E,5298μm,0.2s						
EFP				AML	AML	06 13 04.9	
	comp=N,4838μm,0.2s						
EFP	**Efpalio**	**0.25**	**142**	P	Pg	06 12 59.1	+0.1
EFP				S	Sg	06 13 02.8	+0.2
EFP	**Efpalio**	**0.25**	**142**	P	Pg	06 12 59.1	+0.1
EFP				S	Sg	06 13 02.7	+0.1
SERG	**Sergoula**	**0.35**	**128**	P	Pg	06 13 00.7	+0.1
SERG				S	Sb	06 13 06.2	-0.8
SERG				AML	AML	06 13 07.1	
	comp=E,2648μm,0.3s						
SERG				AML	AML	06 13 09.2	
	comp=N,3318μm,0.2s						
SERG	**Sergoula**	**0.35**	**128**	P	Pg	06 13 00.7	0.0
SERG				S	Sg	06 13 06.0	+0.6
SERG	**Sergoula**	**0.35**	**128**	P	Pg	06 13 00.7	0.0
SERG				S	Sb	06 13 06.5	-0.5
TRIZ	**Trizonia**	**0.39**	**132**	P	Pg	06 13 01.3	-0.1
TRIZ	**Trizonia**	**0.39**	**132**	P	Pg	06 13 01.3	-0.1
KALE	**Kalithea**	**0.41**	**125**	P	Pg	06 13 01.9	0.0
KALE				S	Sg	06 13 07.8	+0.3
KALE				AML	AML	06 13 10.7	
	comp=N,1782μm,0.2s						
KALE				AML	AML	06 13 11.0	
	comp=E,1398μm,0.4s						
KALE	**Kalithea**	**0.41**	**125**	P	Pg	06 13 01.8	-0.1
KALE				S	Sg	06 13 07.8	+0.3
KALE	**Kalithea**	**0.41**	**125**	P	Pg	06 13 01.8	-0.1
KALE				S	Sb	06 13 08.2	-0.7
PDO	**Prodromos**	**0.41**	**266**	P	Pg	06 13 01.0	-0.8
PDO				S	Sb	06 13 08.5	-0.3
PDO				AML	AML	06 13 10.5	
	comp=E,1754μm,0.2s						
PDO				AML	AML	06 13 12.3	
	comp=N,3443μm,0.3s						
PDO	**Prodromos**	**0.41**	**266**	P	Pg	06 13 01.4	-0.5
PDO				S	Sg	06 13 08.1	+0.7
PDO	**Prodromos**	**0.41**	**266**	P	Pg	06 13 01.3	-0.6
PDO				S	Sb	06 13 08.6	-0.2
LAKA	**Lakka**	**0.44**	**151**	P	Pg	06 13 02.2	-0.2
LAKA	**Lakka**	**0.44**	**151**	P	Pg	06 13 02.2	-0.2
RLS	**Riolos of Patr**	**0.60**	**199**	P	Pb	06 13 05.9	+0.1
RLS				S	Sb	06 13 14.1	0.0
RLS				AML	AML	06 13 16.5	
	comp=N,685μm,0.3s						
RLS				AML	AML	06 13 20.1	
	comp=E,592μm,0.3s						
RLS	**Riolos of Patr**	**0.60**	**199**	P	Pb	06 13 05.6	-0.3
RLS				S	Sb	06 13 13.9	-0.3
RLS	**Riolos of Patr**	**0.60**	**199**	P	Pb	06 13 05.9	0.0
RLS				S	Sb	06 13 14.3	+0.1
AGG	**Agios Georgios**	**0.63**	**51**	P	Pb	06 13 05.8	+0.2
AGG				S	Sb	06 13 15.4	+0.3
AGG				AML	AML	06 13 18.6	
	comp=E,1973μm,0.2s						
AGG				AML	AML	06 13 21.1	
	comp=N,1448μm,0.3s						
AGG	**Agios Georgios**	**0.63**	**51**	P	Pb	06 13 06.2	-0.2
AGG				S	Sb	06 13 15.0	-0.1
AGG	**Agios Georgios**	**0.63**	**51**	P	Pb	06 13 06.8	+0.4
AGG				S	Sn	06 13 17.2	-0.8
DLFA	**Delphi**	**0.64**	**103**	P	Pg	06 13 05.4	-0.6
DLFA	**Delphi**	**0.64**	**103**	P	Pg	06 13 05.6	-0.4
DRO	**Drossia**	**0.67**	**180**	P	Pg	06 13 06.8	+0.1
DRO				S	Sb	06 13 16.1	-0.2
DRO				AML	AML	06 13 18.4	
	comp=E,1811μm,0.3s						
DRO				AML	AML	06 13 19.3	
	comp=N,759μm,0.2s						
DRO	**Drossia**	**0.67**	**180**	P	Pg	06 13 06.7	0.0
DRO				S	Sb	06 13 16.1	-0.3
DRO	**Drossia**	**0.67**	**180**	P	Pg	06 13 06.5	-0.2
DRO				S	Sb	06 13 17.0	+0.6
DSF	**Desfina**	**0.68**	**108**	P	Pg	06 13 06.3	-0.5
DSF	**Desfina**	**0.68**	**108**	P	Pg	06 13 06.5	-0.3
DSF				S	Sb	06 13 16.9	+0.4
DSF	**Desfina**	**0.68**	**108**	P	Pg	06 13 06.3	-0.5
DSF				S	Sb	06 13 16.9	+0.4
KLV	**Kalavryta, Ach**	**0.68**	**149**	P	Pg	06 13 05.9	-0.9
KLV	**Kalavryta, Ach**	**0.68**	**149**	P	Pg	06 13 06.3	-0.5
KLV				S	Sb	06 13 17.1	+0.6
KLV	**Kalavryta, Ach**	**0.68**	**149**	P	Pg	06 13 06.3	-0.5
KLV				S	Sb	06 13 17.1	+0.6
DSL	**Palaion Diasel**	**0.70**	**317**	P	Pg	06 13 06.5	-0.7
DSL	**Palaion Diasel**	**0.70**	**317**	P	Pg	06 13 06.7	-0.5
LKD2	**Lefkada island**	**0.84**	**282**	P	Pg	06 13 09.6	-0.3
LKD2	**Lefkada island**	**0.84**	**282**	P	Pg	06 13 09.6	-0.2
LKD2	**Lefkada island**	**0.84**	**282**	P	Pg	06 13 09.4	-0.5
GUR	**Goura**	**0.85**	**144**	P	Pg	06 13 08.6	-1.5
GUR	**Goura**	**0.85**	**144**	P	Pg	06 13 09.2	-0.9
GUR				S	Sb	06 13 22.4	+0.8
GUR	**Goura**	**0.85**	**144**	P	Pg	06 13 09.2	-0.9
GUR				S	Sb	06 13 22.4	+0.8
THL	**Klokotos Trika**	**0.97**	**14**	P	Pb	06 13 12.0	-0.1
THL	**Klokotos Trika**	**0.97**	**14**	P	Pb	06 13 12.0	-0.2
VLS	**Valsamata**	**0.99**	**243**	P	Pg	06 13 12.9	+0.2
VLS	**Valsamata**	**0.99**	**243**	P	Pg	06 13 12.6	-0.1
LKR	**Lokris**	**1.01**	**88**	P	Pn	06 13 13.6	+0.2
LKR				S	Sn	06 13 27.8	+0.3
LKR	**Lokris**	**1.01**	**88**	P	Pn	06 13 13.6	+0.2
LKR				S	Sn	06 13 27.8	+0.3
LTK	**Loutraki**	**1.16**	**121**	P	Pg	06 13 16.0	+0.1
LTK	**Loutraki**	**1.16**	**121**	P	Pg	06 13 16.0	+0.1
VILL	**Villia**	**1.34**	**110**	P	Pb	06 13 19.0	+0.4
VILL				S	Sg	06 13 40.0	+3.1
VILL	**Villia**	**1.34**	**110**	P	Pb	06 13 19.0	+0.4
VILL				S	Sg	06 13 40.0	+3.1
XOR	**Xorichti**	**1.37**	**57**	P	Pg	06 13 19.8	-0.2
XOR	**Xorichti**	**1.37**	**57**	P	Pg	06 13 19.8	-0.2

DDA 21 06:13:14.1, 39°34N×27°97E, h7km, Ml2.7
CSEM 21 06:13:14.9±0.1, 39°30N×27°95E, h8km, ML2.7, Error ellipse: s-maj=2.8km s-min=2.1km az=51.0
ISK 21 06:13:14.8, 39°30N×27°95E, h11km, ML2.3/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STEP	**BALIKESIR_Sava**	**0.20**	**292**	*i* P	Pg	06 13 18.5	-0.6
STEP				*i* S	Sg	06 13 22.3	+0.2
STEP	**BALIKESIR_Sava**	**0.20**	**292**	P	Pg	06 13 18.5	-0.6
STEP				S	Sg	06 13 22.3	+0.3
BALB	**Balikesir**	**0.34**	**350**	PG	Pb	06 13 22.3	-0.6
BALB				SG	Sb	06 13 27.8	-0.5
BALB	**Balikesir**	**0.34**	**350**	*e*Pg	Pb	06 13 22.3	-0.6
BALB				*e*Sg	Sb	06 13 27.8	-0.5
AKHS	**Akhisar**	**0.44**	**194**	*i* P	Pg	06 13 22.9	-0.5
AKHS				*i* S	Sb	06 13 30.9	-0.1
AKHS	**Akhisar**	**0.44**	**194**	P	Pg	06 13 22.9	-0.5
AKHS				S	Sb	06 13 30.9	-0.1
BALY	**Balya**	**0.51**	**330**	*i* P	Pg	06 13 23.7	-1.1
BALY				*i* S	Sg	06 13 31.4	-0.2
BALY	**Balya**	**0.51**	**330**	P	Pg	06 13 23.7	-1.1
BALY				S	Sg	06 13 31.4	-0.1
SIMA	**Simav-Kutahya**	**0.83**	**105**	PG	Pb	06 13 31.2	0.0
SIMA				SG	Sb	06 13 43.1	+0.7
SIMA	**Simav-Kutahya**	**0.83**	**105**	*e*Pg	Pb	06 13 31.2	0.0
SIMA				*e*Sg	Sb	06 13 43.1	+0.7
DKL	**Dikili**	**0.85**	**255**	PG	Pb	06 13 31.5	0.0
DKL	**Dikili**	**0.85**	**255**	*e*Pg	Pb	06 13 31.5	0.0
KULA	**Kula-Manisa**	**0.96**	**145**	PG	Pb	06 13 33.8	+0.3
KULA	**Kula-Manisa**	**0.96**	**145**	*e*Pg	Pb	06 13 33.8	+0.3
KCTX	**Karacabey (Bur**	**1.01**	**18**	PG	Pb	06 13 34.5	+0.2
KCTX	**Karacabey (Bur**	**1.01**	**18**	*e*Pg	Pb	06 13 34.5	+0.2
EDC	**Edincik**	**1.05**	**356**	PG	Pn	06 13 35.2	-0.2
EDC	**Edincik**	**1.05**	**356**	*e*Pg	Pn	06 13 35.2	-0.2
BAYC	**CANAKKALE_Bayr**	**1.17**	**292**	*i* P	Pb	06 13 36.9	-0.1
BAYC				*i* S	Sg	06 13 52.8	+0.1
BAYC	**CANAKKALE_Bayr**	**1.17**	**292**	P	Pb	06 13 36.9	-0.2
BAYC				S	Sg	06 13 52.8	+0.2
TVSB	**Tavsanli**	**1.18**	**82**	PN	Pg	06 13 37.6	+0.1
TVSB	**Tavsanli**	**1.18**	**82**	*e*Pn	Pg	06 13 37.6	+0.1
KRBG	**Karabiga-Canak**	**1.20**	**335**	PN	Pg	06 13 38.0	+0.1
KRBG	**Karabiga-Canak**	**1.20**	**335**	*e*Pn	Pg	06 13 38.0	+0.1
GDZ	**Gediz**	**1.21**	**100**	*i* P	Pn	06 13 37.6	-0.1
GDZ				*i* S	Sg	06 13 53.9	+0.2
GDZ	**Gediz**	**1.21**	**100**	P	Pn	06 13 37.6	-0.1
GDZ				S	Sn	06 13 53.9	-0.2
AYDB	**Zeytinkoy-Aydi**	**1.35**	**182**	PN	Pb	06 13 40.2	0.0
AYDB	**Zeytinkoy-Aydi**	**1.35**	**182**	*e*Pn	Pb	06 13 40.2	0.0
LPK	**Lapseki**	**1.41**	**320**	PN	Pb	06 13 40.9	-0.2
LPK	**Lapseki**	**1.41**	**320**	*e*Pn	Pb	06 13 40.9	-0.2
ARMT	**Armutlu**	**1.44**	**29**	PN	Pb	06 13 41.6	-0.1
ARMT	**Armutlu**	**1.44**	**29**	*e*Pn	Pb	06 13 41.6	-0.1
RKY	**Sarkoy-Tekirda**	**1.51**	**337**	PN	Pb	06 13 42.5	-0.3
RKY	**Sarkoy-Tekirda**	**1.51**	**337**	*e*Pn	Pb	06 13 42.5	-0.3
SART	**Tekirdag**	**1.51**	**337**	*i* P	Pn	06 13 41.7	0.0
SART				*i* S	Sb	06 14 01.9	0.0
SART	**Tekirdag**	**1.51**	**337**	P	Pn	06 13 41.7	-0.1
SART				S	Sb	06 14 01.9	0.0

WMQ				LR	LR			
	comp=Z,540nm,12.3s							
CD2	**Chengdu**	**10.56**	**106**	P	**Pn**	**06 16 38.3**	**-2.9**	
CD2				S	**Sn**	**06 18 38.0**	**-1.6**	
MKAR	**Makanchi Array**	**14.43**	**333**	Pn	**Pn**	**06 17 32.0**	**-2.1**	
	0.1nm,0.3s,baz=147,slow=14,SNR=13							
MKAR				LR	LR	06 22 53.6		
	comp=Z,154nm,19.3s,baz=154,slow=36							
AAK	**Ala-Archa**	**15.94**	**306**	Pn	**Pn**	**06 17 52.9**	**-1.5**	
	0.1nm,0.3s,baz=125,slow=16,SNR=2.2							
AAK				LR	LR	06 25 05.3		
	comp=Z,323nm,20.4s,baz=90,slow=41							
CMAR	**Chiang Mai Arr**	**17.00**	**157**	Pn	**Pn**	**06 18 05.9**	**-2.0**	
	0.2nm,0.3s,baz=336,slow=10,SNR=17							
CMAR				LR	LR	06 25 54.2		
	comp=Z,160nm,18.1s,baz=341,slow=42							
SONM	**Songino Array**	**17.32**	**34**	P	**Pn**	**06 18 11.9**	**+0.1**	
	baz=220,slow=14,SNR=12							
KURBB	**Kurchatov Arra**	**18.99**	**333**	P	**P**	**06 18 29.8**	**-1.6**	
	0.0nm,0.3s,baz=140,slow=12,SNR=19							
TLY	**Talaya**	**19.31**	**23**	LR	LR	06 26 59.1		
	comp=Z,91nm,18.4s,baz=222,slow=40							
ZALV	**Zalesovo Beam**	**20.25**	**348**	P	**P**	**06 18 44.6**	**-0.4**	
	1.5nm,0.7s,baz=162,slow=12,SNR=6.8							
ZALV				LR	LR	06 27 10.8		
	comp=Z,111nm,19.4s,baz=72,slow=38							
BVAR	**Borovoye Array**	**24.16**	**327**	P	**P**	**06 19 25.8**	**-0.3**	
	0.4nm,0.4s,baz=126,slow=11,SNR=2.4							
BVAR				LR	LR	06 29 03.3		
	comp=Z,147nm,19.4s,baz=135,slow=37							
GEYT	**Alibeck**	**27.44**	**287**	LR	LR	06 32 52.0		
	comp=Z,198nm,19.6s,baz=100,slow=41							
AKTO	**Aktyubinsk**	**29.44**	**313**	LR	LR	06 33 21.5		
	comp=Z,95nm,18.6s,baz=114,slow=39							
WSAR	**Wadi Sarin**	**31.06**	**258**	LR	LR	06 34 19.3		
	comp=Z,65nm,19.6s,baz=141,slow=39							
JOW	**Kunigami**	**32.06**	**90**	LR	LR	06 34 29.3		
	comp=Z,186nm,20.4s,baz=224,slow=38							
KLR	**Kul'dur**	**32.81**	**51**	P	**P**	**06 20 43.5**	**+0.3**	
	0.1nm,0.7s,baz=276,slow=10,SNR=4.4							
YAK	**Yakutsk**	**36.54**	**29**	LR	LR	06 37 23.7		
	comp=Z,81nm,20.8s,baz=296,slow=38							
BRTR	**Keskin Array B**	**46.13**	**295**	P	**P**	**06 22 33.7**	**-0.9**	
	0.1nm,0.3s,baz=90,slow=8.6,SNR=2.4							
MMAI	**Mount Meron Ar**	**46.52**	**285**	LR	LR	06 45 07.2		
	comp=Z,46nm,18.3s,baz=60,slow=40							
AKASG	**Malin Array Be**	**47.57**	**310**	LR	LR	06 46 21.2		
	comp=Z,55nm,18.5s,baz=325,slow=41							
EIL	**Elat**	**47.99**	**281**	LR	LR	06 47 07.3		
	comp=Z,90nm,18.5s,baz=65,slow=41							
MLR	**Muntele Rosu**	**50.50**	**304**	LR	LR	06 49 04.6		
	comp=Z,14nm,18.3s,baz=40,slow=42							
NOA	**NORSAR Array B**	**56.26**	**325**	LR	LR	06 51 24.4		
	comp=Z,65nm,18.1s,baz=340,slow=40							
JMIC	**Jan Mayen**	**61.23**	**338**	LR	LR	06 54 21.0		
	comp=Z,43nm,18.1s,baz=76,slow=39							
EKA	**Eskdalemuir Ar**	**65.24**	**321**	P	**P**	**06 24 49.0**	**-2.3**	
	1.2nm,0.7s,baz=63,slow=6.5,SNR=2.7							
WRA	**Warramunga Arr**	**67.40**	**137**	P	**P**	**06 25 03.0**	**-2.5**	
	0.3nm,0.8s,baz=327,slow=5.9,SNR=3.0							
ASAR	**Alice Springs**	**70.13**	**139**	P	**P**	**06 25 21.4**	**-1.2**	
	0.8nm,0.8s,baz=326,slow=5.8,SNR=6.3							
ILAR	**Eielson Array**	**71.13**	**23**	P	**P**	**06 25 27.4**	**-0.8**	
	0.6nm,0.9s,baz=291,slow=4.5,SNR=5.5							
YKA	**Yellowknife Ar**	**81.18**	**12**	P	**P**	**06 26 25.8**	**+0.5**	
	0.3nm,0.9s,baz=332,slow=4.8,SNR=5.4							
TORD	**Torodi Ar. Bea**	**82.88**	**281**	P	**P**	**06 26 33.7**	**-1.4**	
	1.0nm,0.7s,baz=45,slow=3.5,SNR=6.5							
CPUP	**Villa Florida**	**152.35**	**278**	PKPbc	**PKPdf**	**06 34 03.0**	**+3.5**	
	1.1nm,0.7s,baz=92,slow=6.1,SNR=4.0							

MEX 21 06:35:28.6±0.4, 16.41N×98.36W, h3km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.23**	**95**	*e*P	Pg	06 35 33.0	-0.1
PNIG				*e*S	Sg	06 35 35.9	-0.1
TLIG	**Tlapa**	**1.16**	**350**	*e*P	Pg	06 35 47.8	-3.0
TLIG				*i* S	Sg	06 36 03.1	-2.8
VHO	**Vista Hermosa**	**1.69**	**67**	*e*P	Pn	06 35 55.5	-3.7
VHO				*e*S	Sn	06 36 17.0	-4.6
CAIG	**El Cayaco**	**1.93**	**289**	*e*P	Pn	06 35 58.6	-3.7
CAIG				*e*S	Sn	06 36 22.8	-4.4
TPIG	**Tehuac#an**	**2.21**	**25**	*i* P	Pn	06 36 03.2	-3.2
TPIG				*e*S	Sn	06 36 29.9	-4.4
HUIG	**Huatulco**	**2.26**	**106**	*e*P	Pn	06 36 03.8	-3.2
HUIG				*e*S	Sn	06 36 30.5	-4.8

JMA 21 06:41:48.6±0.1, 38.21N×141.99E, h52km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.56**	**296**	P	Pn	06 42 00.7	0.0
JIO				*e*S	Sn	06 42 09.3	-0.1
OFUJ	**Ofunato**	**0.91**	**344**	P	Pn	06 42 05.2	+0.1
OFUJ				S	Sn	06 42 16.8	-0.4
JMK	**Ichinoseki**	**0.96**	**321**	P	Pn	06 42 06.1	+0.3
JMK				*e*S	Sn	06 42 19.0	+0.6
JMM	**Marumori**	**1.01**	**250**	P	Pn	06 42 06.3	-0.1
JMM				S	Sn	06 42 19.1	-0.5
JOU	**Okura**	**1.05**	**279**	P	Pn	06 42 07.5	+0.4
JOU				S	Sn	06 42 21.4	+0.6
JFK	**Kawauchi**	**1.22**	**227**	P	Pn	06 42 09.1	-0.3
JFK				*e*S	Sn	06 42 24.0	-0.8
JOM	**Ohasama**	**1.37**	**337**	*e*S	Sn	06 42 29.8	+1.3
JYK	**Kaneyama**	**1.46**	**299**	P	Pn	06 42 13.1	+0.5
JYK				*e*S	Sn	06 42 31.0	+0.4
JFT	**Otama**	**1.48**	**243**	P	Pn	06 42 13.3	+0.4
JFT				*e*S	Sn	06 42 31.6	+0.5
JYS	**Shirataka**	**1.52**	**271**	P	Pn	06 42 13.8	+0.5
JYS				S	Sn	06 42 32.9	+0.9
JRG	**Rokugo**	**1.59**	**319**	P	Pn	06 42 15.1	+0.8
JRG				*e*S	Sn	06 42 35.0	+1.2
JYA	**Atsumi**	**1.83**	**283**	P	Pn	06 42 18.3	+0.7
JYA				*e*S	Sn	06 42 41.1	+1.5

CRAAG ***21*** *06:41:58.7, 35.82N×0.64W, Ml4.7*
SFS ***21*** *06:41:58.0, 35.70N×0.50W, h24km, ML4.2*
LDG ***21*** *06:41:58.6±0.2, 35.77N×0.63W, h2km, Ml3.6/5, Error ellipse: s-maj=5.0km s-min=2.8km az=161.0*
INMG ***21*** *06:41:58.2±0.8, 35.59N×0.64W, h31km, ML3.4, Error ellipse: s-maj=4.5km s-min=2.9km az=157.0*
NEIC ***21*** *06:41:58.8±0.0, 35.71N×0.59W, h24km, ML4.2(ALG), After MDD.*
IGIL ***21*** *06:41:59.6, 35.56N×0.60W, h31km*
MDD ***21*** *06:41:59.1±0.4, 35.80N×0.62W, h16km±6km, mbLg3.2/40, Error ellipse: s-maj=5.9km s-min=3.6km az=167.0, PRIMO*
MDD EMS: II INTENSIDAD MAXIMA-ESPAA.
CSEM ***21*** *06:41:59.9±0.1, 35.82N×0.68W, h30km, ML4.2, Error ellipse: s-maj=3.8km s-min=2.6km az=178.0*
IDC ***21*** *06:42:01.8±2.8, 35.86N×0.67W, h35km±22km, mb3.6/12, mb1 3.8/16, mb1mx3.6/70, mbtmp3.8/16, ML3.9/4, MS3.4/8, Ms1 3.4/8, ms1mx2.9/72, Error ellipse: s-maj=19.6km s-min=16.8km az=112.0*

ISC 21 06:41:58.8±1.1, 35.87N±0.04×0.60W±0.03, h19km±4km, n330, σ2s26/498, mb4.0/13, MS3.6/6, 3D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USTO	**Oran**	**0.14**	**164**	P	**Pg**	**06 42 02.1**	**-0.9**
USTO	**Oran**	**0.14**	**164**	P	**Pg**	**06 42 02.1**	**-0.9**
USTO	**Oran**	**0.14**	**164**	P	**Pg**	**06 42 02.2**	**-0.9**
OTSS	**Djebel Tessala**	**0.61**	**195**	P	**Pb**	**06 42 10.8**	**0.0**
OTSS	**Djebel Tessala**	**0.61**	**195**	P	**Pb**	**06 42 10.8**	**0.0**
OTSS	**Djebel Tessala**	**0.61**	**195**	P	**Pb**	**06 42 10.8**	**0.0**
OTSS	**Djebel Tessala**	**0.61**	**195**	P	**Pb**	**06 42 10.8**	**0.0**
ODJA	**Bouhanifia**	**0.65**	**146**	P	**Pb**	**06 42 11.5**	**0.0**
ODJA	**Bouhanifia**	**0.65**	**146**	P	**Pb**	**06 42 11.5**	**0.0**
ODJA	**Bouhanifia**	**0.65**	**146**	P	**Pb**	**06 42 11.5**	**0.0**
OJBR	**Djebel Berber**	**0.82**	**110**	P	**Pb**	**06 42 14.0**	**-0.4**
OJBR	**Djebel Berber**	**0.82**	**110**	P	**Pb**	**06 42 14.0**	**-0.4**
OJBR	**Djebel Berber**	**0.82**	**110**	P	**Pb**	**06 42 14.0**	**-0.4**
OJBR	**Djebel Berber**	**0.82**	**110**	P	**Pb**	**06 42 14.0**	**-0.4**
OLHC	**Oulhaca**	**0.91**	**228**	P	**Pg**	**06 42 16.0**	**-0.6**
OLHC	**Oulhaca**	**0.91**	**228**	P	**Pg**	**06 42 16.0**	**-0.6**
OLHC	**Oulhaca**	**0.91**	**228**	P	**Pg**	**06 42 16.0**	**-0.6**
OKGL	**Djebel Kef Gue**	**1.02**	**80**	P	Pb	06 42 10.0	-7.9
OKGL	**Djebel Kef Gue**	**1.02**	**80**	P	Pb	06 42 10.0	-7.9
OKGL	**Djebel Kef Gue**	**1.02**	**80**	P	Pb	06 42 10.0	-7.9
OJGS	**Djebel Guires**	**1.16**	**108**	P	Pn	06 42 13.0	-7.0
OJGS	**Djebel Guires**	**1.16**	**108**	P	Pn	06 42 13.0	-7.0
OJGS	**Djebel Guires**	**1.16**	**108**	P	Pn	06 42 13.0	-7.0
EANR	**'Ain N'Sour**	**1.38**	**86**	P	**Pn**	**06 42 21.6**	**-1.5**
EANR	**'Ain N'Sour**	**1.38**	**86**	P	**Pn**	**06 42 21.6**	**-1.5**
EANR	**'Ain N'Sour**	**1.38**	**86**	P	**Pn**	**06 42 21.6**	**-1.5**
EANR	**'Ain N'Sour**	**1.38**	**86**	P	**Pn**	**06 42 21.6**	**-1.5**
ECHF	**Ech Chlef**	**1.60**	**79**	P	**Pn**	**06 42 25.0**	**-1.0**
ECHF	**Ech Chlef**	**1.60**	**79**	P	**Pn**	**06 42 25.0**	**-1.0**
ECHF	**Ech Chlef**	**1.60**	**79**	P	**Pn**	**06 42 25.0**	**-1.0**
ECHA	**Ech Chlef**	**1.62**	**79**	P	**Pn**	**06 42 25.0**	**-1.3**
ECHA	**Ech Chlef**	**1.62**	**79**	P	**Pn**	**06 42 25.0**	**-1.3**
ETRT	**Tiaret**	**1.62**	**107**	P	**Pn**	**06 42 25.7**	**-0.7**
ETRT	**Tiaret**	**1.62**	**107**	P	**Pn**	**06 42 25.7**	**-0.7**
ETRT	**Tiaret**	**1.62**	**107**	P	**Pn**	**06 42 25.7**	**-0.7**
ETRT	**Tiaret**	**1.62**	**107**	P	**Pn**	**06 42 25.7**	**-0.7**
ENIJ	**Nijar**	**1.70**	**311**	P	**Pn**	**06 42 26.6**	**-0.9**
	3.6nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**06 42 45.5**	**-3.3**
	444nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**1.70**	**311**	Pn	**Pn**	**06 42 26.8**	**-0.7**
ENIJ				Sn	**Sn**	**06 42 46.3**	**-2.5**
ENIJ	**Nijar**	**1.70**	**311**	Pn	**Pn**	**06 42 26.8**	**-0.7**
ENIJ				S	**Sn**	**06 42 45.5**	**-3.3**
	444nm,0.3s,SNR=7.9						
ENIJ				Sn	**Sn**	**06 42 46.3**	**-2.5**
CART	**Cartagena**	**1.75**	**349**	P	**Pn**	**06 42 26.1**	**-2.0**
CART				S	**Sn**	**06 42 45.1**	**-4.6**
CART	**Cartagena**	**1.75**	**349**	*e*P	**Pn**	**06 42 26.1**	**-2.0**
CART				*e*S	**Sn**	**06 42 45.1**	**-4.6**
EBNR	**Beni Rached**	**1.77**	**76**	P	**Pn**	**06 42 27.8**	**-0.7**
EBNR	**Beni Rached**	**1.77**	**76**	P	**Pn**	**06 42 27.8**	**-0.7**
EALB	**Alboran**	**1.98**	**273**	P	**Pn**	**06 42 29.9**	**-1.3**
	86nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**06 42 53.6**	**-1.9**
	216nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.98**	**273**	Pn	**Pn**	**06 42 29.7**	**-1.6**
EALB				Sn	**Sn**	**06 42 53.6**	**-1.9**
EALB	**Alboran**	**1.98**	**273**	P	**Pn**	**06 42 29.9**	**-1.3**
	86nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**06 42 53.6**	**-1.9**
	216nm,0.2s,SNR=7.9						
MELI	**Melilla**	**1.99**	**254**	*i* P	**Pn**	**06 42 30.2**	**-1.2**
MELI				*e*S	**Sn**	**06 42 54.2**	**-1.6**
EMLI	**Melilla**	**2.00**	**254**	P	**Pn**	**06 42 29.3**	**-2.2**
	134nm,0.1s,SNR=7.9						
EMLI				S	**Sn**	**06 42 53.8**	**-2.2**
	2µm,0.2s,SNR=7.9						
EMEL	**Melilla**	**2.00**	**254**	P	**Pn**	**06 42 29.3**	**-2.3**
	134nm,0.1s,SNR=7.9						
EMEL				S	**Sn**	**06 42 53.8**	**-2.3**
	2µm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.04**	**346**	P	**Pn**	**06 42 30.9**	**-1.2**
	9.5nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**06 42 53.7**	**-3.4**
	52nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.04**	**346**	P	**Pn**	**06 42 30.9**	**-1.2**
	9.5nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**06 42 53.7**	**-3.4**
	52nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.12**	**300**	P	**Pn**	**06 42 32.1**	**-1.2**
	5.6nm,0.3s,SNR=58						
EBER				S	**Sn**	**06 42 58.3**	**-0.9**
	84nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.12**	**300**	P	**Pn**	**06 42 32.1**	**-1.2**
	5.6nm,0.3s,SNR=58						
EBER				S	**Sn**	**06 42 58.3**	**-0.9**
	84nm,0.3s,SNR=7.9						
GORA	**Gorafe**	**2.54**	**310**	P	**Pn**	**06 42 40.4**	**+1.4**
	18nm,0.3s,SNR=7.9						
GORA				S	**Sn**	**06 43 12.0**	**+2.5**
	158nm,0.4s,SNR=7.9						
GORA	**Gorafe**	**2.54**	**310**	P	**Pn**	**06 42 40.4**	**+1.4**
	18nm,0.3s,SNR=7.9						
GORA				S	**Sn**	**06 43 12.0**	**+2.5**
	158nm,0.4s,SNR=7.9						
ELGU	**Los Guajares,**	**2.64**	**293**	P	**Pn**	**06 42 39.4**	**-1.0**
	17nm,0.3s,SNR=7.9						
ELGU				S	**Sn**	**06 43 09.4**	**-2.6**
	91nm,0.5s,SNR=7.9						
ELGU	**Los Guajares,**	**2.64**	**293**	P	**Pn**	**06 42 39.4**	**-1.0**
	17nm,0.3s,SNR=7.9						
ELGU				S	**Sn**	**06 43 09.4**	**-2.6**
	91nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**2.65**	**301**	P	**Pn**	**06 42 41.3**	**+0.7**
	60nm,0.3s,SNR=48						
EQUE				S	**Sn**	**06 43 11.2**	**-1.0**
	18nm,0.4s,SNR=6.1						
EQUE	**Quentar**	**2.65**	**301**	P	**Pn**	**06 42 41.3**	**+0.7**
	60nm,0.3s,SNR=48						
EQUE				S	**Sn**	**06 43 11.2**	**-1.0**
	18nm,0.4s,SNR=6.1						
SESP	**Santiago Espad**	**2.73**	**326**	P	**Pn**	**06 42 42.4**	**+0.6**
	38nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**06 43 14.6**	**+0.2**
	182nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**2.73**	**326**	P	**Pn**	**06 42 42.4**	**+0.6**
	38nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**06 43 14.6**	**+0.2**
	182nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.77**	**315**	P	**Pn**	**06 42 43.2**	**+1.0**
	38nm,0.2s,SNR=74						
EQES				S	**Sn**	**06 43 17.0**	**+1.8**
	19nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.77**	**315**	P	**Pn**	**06 42 43.2**	**+1.0**
	38nm,0.2s,SNR=74						
EQES				S	**Sn**	**06 43 17.0**	**+1.8**
	19nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**2.87**	**345**	P	**Pn**	**06 42 43.5**	**-0.1**
	46nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**06 43 16.7**	**-1.0**
	88nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**2.87**	**345**	P	**Pn**	**06 42 43.5**	**-0.1**
	46nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**06 43 16.7**	**-1.0**
	88nm,0.2s,SNR=7.9						
EMHD	**Djebel Mahoud**	**2.90**	**82**	P	**Pn**	**06 42 43.2**	**-0.8**
EMHD	**Djebel Mahoud**	**2.90**	**82**	P	**Pn**	**06 42 43.2**	**-0.8**
EMHD	**Djebel Mahoud**	**2.90**	**82**	P	**Pn**	**06 42 43.2**	**-0.8**
EMHD	**Djebel Mahoud**	**2.90**	**82**	P	**Pn**	**06 42 43.2**	**-0.8**
ABA	**Alger-Bouzarea**	**3.08**	**71**	P	**Pg**	**06 42 55.9**	**-1.9**
ABA	**Alger-Bouzarea**	**3.08**	**71**	P	**Pg**	**06 42 55.9**	**-1.9**
ABA	**Alger-Bouzarea**	**3.08**	**71**	P	**Pg**	**06 42 55.9**	**-1.9**
EGOR	**Sierra Gorda,**	**3.09**	**295**	P	**Pn**	**06 42 47.1**	**+0.4**
	9.6nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**06 43 25.0**	**+1.8**
	15nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**3.09**	**295**	P	**Pn**	**06 42 47.1**	**+0.4**
	9.6nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**06 43 25.0**	**+1.8**
	15nm,0.2s,SNR=7.9						
PVLZ	**Peæn de**	**3.10**	**258**	*e*P	**Pn**	**06 42 46.1**	**-0.6**
PVLZ				*e*S	**Sn**	**06 43 20.8**	**-2.4**
EMAL	**Malaga-Limoner**	**3.22**	**287**	*e*P	**Pn**	**06 42 47.0**	**-1.3**
EMAL				*e*S	**Sn**	**06 43 23.2**	**-3.0**
EMIJ	**Mijas**	**3.45**	**283**	P	**Pn**	**06 42 49.5**	**-2.0**
	17nm,0.2s,SNR=30						
EMIJ				S	**Sn**	**06 43 27.8**	**-4.0**
	12nm,0.3s,SNR=7.4						
EMIJ	**Mijas**	**3.45**	**283**	P	**Pn**	**06 42 49.5**	**-2.0**
	17nm,0.2s,SNR=30						
EMIJ				S	**Sn**	**06 43 27.8**	**-4.0**
	12nm,0.3s,SNR=7.4						
EIBI	**Ibiza**	**3.51**	**26**	P	**Pn**	**06 42 51.9**	**-0.4**
	30nm,0.1s,SNR=24						
EIBI				S	**Sn**	**06 43 30.5**	**-2.8**
	110nm,0.3s,SNR=6.0						
EIBI	**Ibiza**	**3.51**	**26**	P	**Pn**	**06 42 51.9**	**-0.4**
	30nm,0.1s,SNR=24						
EIBI				S	**Sn**	**06 43 30.5**	**-2.8**
	110nm,0.3s,SNR=6.0						
CEU	**Ceuta**	**3.88**	**272**	P	**Pn**	**06 42 54.1**	**-3.2**
CEU				S	**Sn**	**06 43 36.6**	**-5.8**
CEU	**Ceuta**	**3.88**	**272**	*e*P	**Pn**	**06 42 54.2**	**-3.2**
CEU				*e*S	**Sn**	**06 43 36.6**	**-5.8**
ECEU	**Ceuta**	**3.88**	**272**	P	**Pn**	**06 42 56.6**	**-0.8**
	16nm,0.2s,SNR=9.7						
ECEU				S	**Sn**	**06 43 37.7**	**-4.8**
	18nm,0.2s,SNR=8.3						
ECEU	**Ceuta**	**3.88**	**272**	P	**Pn**	**06 42 56.6**	**-0.8**
	16nm,0.2s,SNR=9.7						
ECEU				S	**Sn**	**06 43 37.7**	**-4.8**
	18nm,0.2s,SNR=8.3						
EADA	**Adamuz**	**3.92**	**307**	P	**Pn**	**06 42 58.6**	**+0.6**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**06 43 44.1**	**+0.5**
	30nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.92**	**307**	P	**Pn**	**06 42 58.6**	**+0.6**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**06 43 44.1**	**+0.5**
	30nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.98**	**280**	P	**Pn**	**06 42 57.8**	**-1.0**
	5.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**06 43 42.8**	**-2.2**
	6.8nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.98**	**280**	P	**Pn**	**06 42 57.8**	**-1.0**
	5.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**06 43 42.8**	**-2.2**
	6.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.36**	**285**	P	**Pn**	**06 43 04.0**	**0.0**
	0.5nm,0.3s,SNR=4.0						
ESPR				S	**Sn**	**06 43 56.4**	**+2.2**
	30nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.36**	**285**	P	**Pn**	**06 43 04.0**	**0.0**
	0.5nm,0.3s,SNR=4.0						
ESPR				S	**Sn**	**06 43 56.4**	**+2.2**
	30nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**4.44**	**301**	P	**Pn**	**06 43 04.4**	**-0.8**
	3.3nm,0.2s,SNR=33						
ECAB				S	**Sn**	**06 43 53.5**	**-2.9**
	3.8nm,0.2s,SNR=7.4						
ECAB	**El Cabril**	**4.44**	**301**	P	**Pn**	**06 43 04.4**	**-0.8**
	3.3nm,0.2s,SNR=33						
ECAB				S	**Sn**	**06 43 53.5**	**-2.9**
	3.8nm,0.2s,SNR=7.4						
EMOS	**Mosqueruela**	**4.49**	**1**	P	**Pn**	**06 43 06.6**	**+0.6**
	13nm,0.2s,SNR=76						
EMOS				S	**Sn**	**06 43 56.4**	**-1.3**
	22nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.49**	**1**	P	**Pn**	**06 43 06.6**	**+0.6**
	13nm,0.2s,SNR=76						
EMOS				S	**Sn**	**06 43 56.4**	**-1.3**
	22nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.64**	**326**	Pn	**Pn**	**06 43 07.7**	**-0.2**
	14nm,0.3s,baz=140,slow=14,SNR=76						
ESDC				Sn	**Sn**	**06 43 57.9**	**-3.3**
	20nm,0.3s,baz=143,slow=22,SNR=9.8						
ESDC				LR	LR	06 44 26.8	
	comp=Z,64nm,19.7s,baz=115,slow=31						
ESDC	**Sonseca Array**	**4.64**	**326**	P	**Pn**	**06 43 07.9**	**0.0**
	7.7nm,0.1s,SNR=7.9						
ESDC				S	**Sn**	**06 43 58.0**	**-3.3**
	4.1nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.64**	**326**	P	**Pn**	**06 43 07.9**	**0.0**
	7.7nm,0.1s,SNR=7.9						
ESDC				S	**Sn**	**06 43 58.0**	**-3.3**
	4.1nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.72**	**322**	P	**Pn**	**06 43 09.2**	**+0.1**
	3.5nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**06 44 00.9**	**-2.5**
	3.8nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**4.72**	**322**	*e*Pn	**Pn**	**06 43 09.5**	**+0.4**
PAB	**San Pablo**	**4.72**	**322**	P	**Pn**	**06 43 09.2**	**+0.1**
	3.5nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.72**	**322**	*e*Pn	**Pn**	**06 43 09.5**	**+0.4**
PAB				S	**Sn**	**06 44 00.9**	**-2.5**
	3.8nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.74**	**34**	P	**Pn**	**06 43 09.1**	**-0.1**
	5.9nm,0.2s,SNR=20						
ETOS				S	**Sn**	**06 44 01.1**	**-2.5**
	5.3nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**4.74**	**34**	P	**Pn**	**06 43 09.1**	**-0.1**
	5.9nm,0.2s,SNR=20						
ETOS				S	**Sn**	**06 44 01.1**	**-2.5**
	5.3nm,0.1s,SNR=7.9						
SET	**Setif**	**4.87**	**84**	P	**Pn**	**06 43 15.0**	**+3.9**
SET	**Setif**	**4.87**	**84**	P	**Pn**	**06 43 15.0**	**+3.9**
SET	**Setif**	**4.87**	**84**	P	**Pn**	**06 43 15.0**	**+3.9**
UCM	**Universidad Co**	**4.90**	**336**	*e*P	**Pn**	**06 43 12.2**	**+0.8**
UCM				*e*S	**Sb**	**06 44 21.0**	**-1.5**
**

PVAQ	**Vaqueiros**	**5.93**	**287**	P		**Pn**	**06 43 24.3**	**-1.2**
PVAQ				S		**Sn**	**06 44 28.0**	**-4.9**
	18nm,0.3s							
PBDV	**Barranco-do-Ve**	**6.06**	**285**	*e*Pn		**Pn**	**06 43 26.4**	**-1.0**
PBDV				*e*Sn		**Sn**	**06 44 32.8**	**-3.4**
PBDV				A		A	06 44 43.0	
	18nm,0.3s							
PBDV	**Barranco-do-Ve**	**6.06**	**285**	P		**Pn**	**06 43 26.4**	**-1.0**
PBDV				S		**Sn**	**06 44 32.8**	**-3.4**
	18nm,0.3s							
PBDV	**Barranco-do-Ve**	**6.06**	**285**	P		**Pn**	**06 43 26.4**	**-1.0**
PBDV				S		**Sn**	**06 44 32.8**	**-3.4**
	18nm,0.3s							
AVE	**Averroes**	**6.18**	**247**	*e*P		**Pn**	**06 43 30.4**	**+1.4**
AVE				*e*S		**Sn**	**06 44 40.5**	**+1.4**
PBEJ	**Beja**	**6.21**	**292** ‖	*e*Pn		**Pn**	**06 43 28.8**	**-0.6**
PBEJ				*e*Sn		**Sn**	**06 44 36.5**	**-3.3**
PBEJ				A		A	06 45 01.0	
	10.0nm,0.3s							
PBEJ	**Beja**	**6.21**	**292**	P		**Pn**	**06 43 28.8**	**-0.6**
PBEJ				S		**Sn**	**06 44 36.5**	**-3.3**
	5.0nm,0.3s							
PBEJ	**Beja**	**6.21**	**292**	P		**Pn**	**06 43 28.8**	**-0.6**
PBEJ				S		**Sn**	**06 44 36.5**	**-3.3**
	5.0nm,0.3s							
PCVE	**Castro Verde**	**6.23**	**289**	*e*Pn		**Pn**	**06 43 28.8**	**-0.9**
PCVE				*e*Sn		**Sn**	**06 44 37.3**	**-3.0**
PCVE				A		A	06 44 50.3	
	12nm,0.4s							
PCVE	**Castro Verde**	**6.23**	**289**	P		**Pn**	**06 43 28.8**	**-0.9**
PCVE				S		**Sn**	**06 44 37.3**	**-3.0**
	12nm,0.4s							
PCVE	**Castro Verde**	**6.23**	**289**	P		**Pn**	**06 43 28.8**	**-0.9**
PCVE				S		**Sn**	**06 44 37.3**	**-3.0**
	12nm,0.4s							
EMIR	**Miracle**	**6.26**	**15**	P		**Pn**	**06 43 31.9**	**+1.7**
	12nm,0.2s,SNR=12							
EMIR				S		**Sn**	**06 44 40.6**	**-0.6**
	2.1nm,0.3s,SNR=7.9							
EMIR	**Miracle**	**6.26**	**15**	P		**Pn**	**06 43 31.9**	**+1.7**
	12nm,0.2s,SNR=12							
EMIR				S		**Sn**	**06 44 40.6**	**-0.6**
	2.1nm,0.3s,SNR=7.9							
PESTR	**Estremoz**	**6.32**	**300**	*e*Pn		**Pn**	**06 43 30.3**	**-0.7**
PESTR				*e*Sn		**Sn**	**06 44 38.0**	**-4.7**
PESTR				A		A	06 45 31.7	
	15nm,0.5s							
PESTR	**Estremoz**	**6.32**	**300**	*e*Pn		**Pn**	**06 43 30.3**	**-0.7**
CFON	**Fontmartina**	**6.34**	**21**	P		**Pn**	**06 43 31.1**	**-0.2**
	13nm,0.2s,SNR=31							
CFON				S		**Sn**	**06 44 38.0**	**-5.3**
	11nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**6.34**	**21**	P		**Pn**	**06 43 31.1**	**-0.2**
	13nm,0.2s,SNR=31							
CFON				S		**Sn**	**06 44 38.0**	**-5.3**
	11nm,0.3s,SNR=7.9							
MESJ	**Messejana**	**6.42**	**290**	*e*P		**Pn**	**06 43 31.2**	**-1.0**
MESJ	**Messejana**	**6.42**	**290**	*e*P		**Pn**	**06 43 31.3**	**-1.0**
MESJ	**Messejana**	**6.42**	**290**	P		**Pn**	**06 43 31.3**	**-1.0**
MESJ	**Messejana**	**6.42**	**290**	P		**Pn**	**06 43 31.3**	**-1.0**
CMAH	**Djebel Manchou**	**6.52**	**81**	P		**Pn**	**06 43 33.6**	**-0.2**
CMAH	**Djebel Manchou**	**6.52**	**81**	P		**Pn**	**06 43 33.6**	**-0.2**
CMAH	**Djebel Manchou**	**6.52**	**81**	P		**Pn**	**06 43 33.6**	**-0.2**
CSOR	**Sort**	**6.64**	**11**	P		**Pn**	**06 43 36.7**	**+1.3**
	0.8nm,0.1s,SNR=13							
CSOR				S		**Sn**	**06 44 48.7**	**-1.8**
	1.2nm,0.2s,SNR=7.9							
CSOR	**Sort**	**6.64**	**11**	P		**Pn**	**06 43 36.7**	**+1.3**
	0.8nm,0.1s,SNR=13							
CSOR				S		**Sn**	**06 44 48.7**	**-1.8**
	1.2nm,0.2s,SNR=7.9							
MORF	**Marmelete**	**6.64**	**285**	*e*P		**Pn**	**06 43 33.8**	**-1.5**
MORF	**Marmelete**	**6.64**	**285**	*e*Pn		**Pn**	**06 43 33.9**	**-1.5**
MORF				*e*Sn		**Sn**	**06 44 46.4**	**-4.1**
MORF				A		A	06 44 52.3	
	18nm,0.2s							
MORF	**Marmelete**	**6.64**	**285**	P		**Pn**	**06 43 33.9**	**-1.5**
MORF				S		**Sn**	**06 44 46.4**	**-4.1**
	18nm,0.2s							
MORF	**Marmelete**	**6.64**	**285**	P		**Pn**	**06 43 33.9**	**-1.5**
MORF				S		**Sn**	**06 44 46.4**	**-4.1**
	18nm,0.2s							
PNCL	**Nicolau / Gran**	**6.73**	**292**	*e*Pn		**Pn**	**06 43 35.7**	**-0.9**
PNCL				*e*Sn		**Sn**	**06 44 48.8**	**-3.9**
PNCL				A		A	06 45 00.7	
	8.0nm,0.4s							
PNCL	**Nicolau / Gran**	**6.73**	**292**	*e*Pn		**Pn**	**06 43 35.7**	**-0.9**
PNCL				*e*Sn		**Sn**	**06 44 48.8**	**-3.9**
	8.0nm,0.4s							
PCBR	**Castelo Branco**	**6.73**	**308**	*e*Pn		**Pn**	**06 43 37.0**	**+0.4**
PCBR				*e*Sn		**Sn**	**06 44 47.7**	**-5.0**
PCBR				A		A	06 44 57.5	
	17nm,0.7s							
PCBR	**Castelo Branco**	**6.73**	**308**	P		**Pn**	**06 43 37.0**	**+0.4**
PCBR				S		**Sn**	**06 44 47.7**	**-5.0**
	8.5nm,0.7s							
PCBR	**Castelo Branco**	**6.73**	**308**	P		**Pn**	**06 43 37.0**	**+0.4**
PCBR				S		**Sn**	**06 44 47.7**	**-5.0**
	8.5nm,0.7s							
PTEO	**Sao Teotonio**	**6.74**	**287**	*e*Pn		**Pn**	**06 43 35.9**	**-0.8**
PTEO				*e*Sn		**Sn**	**06 44 48.2**	**-4.7**
PTEO				A		A	06 44 59.3	
	23nm,0.4s							
PTEO	**Sao Teotonio**	**6.74**	**287**	P		**Pn**	**06 43 35.9**	**-0.8**
PTEO				S		**Sn**	**06 44 48.2**	**-4.7**
	12nm,0.4s							
PTEO	**Sao Teotonio**	**6.74**	**287**	P		**Pn**	**06 43 35.9**	**-0.8**
PTEO				S		**Sn**	**06 44 48.2**	**-4.7**
	12nm,0.4s							
PFVI	**Vila Bisbo**	**6.75**	**283**	*e*Pn		**Pn**	**06 43 35.8**	**-1.0**
PFVI				*e*Sn		**Sn**	**06 44 48.0**	**-5.1**
PFVI				A		A	06 44 59.2	
	20nm,0.8s							
PFVI	**Vila Bisbo**	**6.75**	**283**	P		**Pn**	**06 43 36.0**	**-0.8**
	2.8nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**06 44 48.1**	**-5.1**
	4.7nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**6.75**	**283**	P		**Pn**	**06 43 36.0**	**-0.8**
	2.8nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**06 44 48.1**	**-5.1**
	4.7nm,0.2s,SNR=7.9							
ECHI	**Chisagues Biel**	**6.81**	**5**	P		**Pn**	**06 43 38.9**	**+1.0**
	0.4nm,0.1s,SNR=7.9							
ECHI				S		**Sn**	**06 44 50.7**	**-4.2**
	3.2nm,0.4s,SNR=7.9							
ECHI	**Chisagues Biel**	**6.81**	**5**	P		**Pn**	**06 43 38.9**	**+1.0**
	0.4nm,0.1s,SNR=7.9							
ECHI				S		**Sn**	**06 44 50.7**	**-4.2**
	3.2nm,0.4s,SNR=7.9							
PMTG	**Montargil**	**6.86**	**300** ‖	*e*Pn		**Pn**	**06 43 37.6**	**-0.7**
PMTG				*e*Sn		**Sn**	**06 44 50.2**	**-5.5**
PMTG				A		A	06 45 16.4	
	12nm,0.8s							
PMTG	**Montargil**	**6.86**	**300** ‖	*e*Pn		**Pn**	**06 43 37.6**	**-0.7**
CLLI	**Llivia**	**6.90**	**16**	P		**Pn**	**06 43 40.8**	**+1.8**
	0.7nm,0.2s,SNR=7.6							
CLLI				S		**Sn**	**06 44 54.4**	**-2.6**
	1.3nm,0.2s,SNR=7.9							
CLLI	**Llivia**	**6.90**	**16**	P		**Pn**	**06 43 40.8**	**+1.8**
	0.7nm,0.2s,SNR=7.6							
CLLI				S		**Sn**	**06 44 54.4**	**-2.6**
	1.3nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**6.98**	**356**	P		**Pn**	**06 43 40.7**	**+0.6**
	4.0nm,0.2s,SNR=7.9							
IELO				S		**Sn**	**06 44 57.1**	**-1.9**
	10nm,0.5s,SNR=7.9							
IELO	**Elcoad**	**6.98**	**356**	P		**Pn**	**06 43 40.7**	**+0.6**
	4.0nm,0.2s,SNR=7.9							
IELO				S		**Sn**	**06 44 57.1**	**-1.9**
	10nm,0.5s,SNR=7.9							
ETSF	**Etsaut**	**7.02**	**0**	*e*Pn		**Pn**	**06 43 42.8**	**+2.2**
ETSF				*e*Sn		**Sn**	**06 44 56.8**	**-3.1**
	6.5nm,0.4s							
ETSF	**Etsaut**	**7.02**	**0**	P		**Pn**	**06 43 42.8**	**+2.2**
ETSF				S		**Sn**	**06 44 56.8**	**-3.1**
	3.2nm,0.4s							
ETSF	**Etsaut**	**7.02**	**0**	P		**Pn**	**06 43 42.8**	**+2.2**
ETSF				S		**Sn**	**06 44 56.8**	**-3.1**
	3.2nm,0.4s							
EORO	**Oroz-Betelu**	**7.04**	**356**	P		**Pn**	**06 43 41.2**	**+0.4**
	3.8nm,0.2s,SNR=24							
EORO				S		**Sn**	**06 44 57.9**	**-2.4**
	2.4nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**7.04**	**356**	P		**Pn**	**06 43 41.2**	**+0.4**
	3.8nm,0.2s,SNR=24							
EORO				S		**Sn**	**06 44 57.9**	**-2.4**
	2.4nm,0.2s,SNR=7.9							
MTE	**Manteigas**	**7.10**	**312**	*e*Pn		**Pn**	**06 43 42.2**	**+0.5**
MTE				*e*Sn		**Sn**	**06 45 00.2**	**-1.7**
MTE				A		A	06 45 40.7	
	20nm,0.8s							
MTE	**Manteigas**	**7.10**	**312**	P		**Pn**	**06 43 42.2**	**+0.5**
MTE				S		**Sn**	**06 45 00.2**	**-1.7**
	9.9nm,0.8s							
MTE	**Manteigas**	**7.10**	**312**	*e*Pn		**Pn**	**06 43 42.1**	**+0.4**
MTE	**Manteigas**	**7.10**	**312**	*e*Pn		**Pn**	**06 43 42.1**	**+0.4**
MTE				S		**Sn**	**06 45 00.2**	**-1.7**
	9.9nm,0.8s							
EJON	**La Jonquera**	**7.11**	**21**	P		**Pn**	**06 43 43.0**	**+1.3**
	0.9nm,0.2s,SNR=7.9							
EJON				S		**Sn**	**06 44 58.8**	**-3.2**
	1.7nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**7.11**	**21**	P		**Pn**	**06 43 43.0**	**+1.3**
	0.9nm,0.2s,SNR=7.9							
EJON				S		**Sn**	**06 44 58.8**	**-3.2**
	1.7nm,0.2s,SNR=7.9							
ALMR	**Almeirim**	**7.14**	**300**	*e*P		**Pn**	**06 43 41.3**	**-0.9**
ALMR	**Almeirim**	**7.14**	**300**	*e*Pn		**Pn**	**06 43 41.9**	**-0.3**
ALMR				*e*Sn		**Sn**	**06 44 59.7**	**-3.0**
ALMR	**Almeirim**	**7.14**	**300**	P		**Pn**	**06 43 41.9**	**-0.3**
ALMR				S		**Sn**	**06 44 59.7**	**-3.0**
ALMR	**Almeirim**	**7.14**	**300**	P		**Pn**	**06 43 41.9**	**-0.3**
ALMR				S		**Sn**	**06 44 59.7**	**-3.0**
EPF	**Esparros**	**7.19**	**6**	*e*Pn		**Pn**	**06 43 44.3**	**+1.4**
EPF				*e*Sn		**Sn**	**06 45 00.8**	**-3.2**
	6.2nm,0.2s							
EPF	**Esparros**	**7.19**	**6**	P		**Pn**	**06 43 44.3**	**+1.4**
EPF				S		**Sn**	**06 45 00.8**	**-3.2**
	3.1nm,0.2s							
EPF	**Esparros**	**7.19**	**6**	P		**Pn**	**06 43 44.3**	**+1.4**
EPF				S		**Sn**	**06 45 00.8**	**-3.2**
	3.1nm,0.2s							
ATE	**Arette**	**7.21**	**359**	P		**Pn**	**06 43 45.0**	**+1.9**
	1.9nm,0.2s,SNR=7.9							
ATE				S		**Sn**	**06 45 02.2**	**-2.2**
	2.1nm,0.2s,SNR=7.9							
ATE	**Arette**	**7.21**	**359**	P		**Pn**	**06 43 45.0**	**+1.9**
	1.9nm,0.2s,SNR=7.9							
ATE				S		**Sn**	**06 45 02.2**	**-2.2**
	2.1nm,0.2s,SNR=7.9							
PTOM	**Tomar**	**7.23**	**303**	*e*Pn		**Pn**	**06 43 43.8**	**+0.3**
PTOM				*e*Sn		**Sn**	**06 45 02.4**	**-2.6**
PTOM	**Tomar**	**7.23**	**303**	P		**Pn**	**06 43 43.8**	**+0.3**
PTOM				S		**Sn**	**06 45 02.4**	**-2.6**
PTOM	**Tomar**	**7.23**	**303**	P		**Pn**	**06 43 43.8**	**+0.3**
PTOM				S		**Sn**	**06 45 02.4**	**-2.6**
SJPF	**Ste Jean**	**7.25**	**356**	*e*Pn		**Pn**	**06 43 45.1**	**+1.4**
SJPF				*e*Sn		**Sn**	**06 45 02.8**	**-2.7**
	5.2nm,0.3s							
SJPF	**Ste Jean**	**7.25**	**356**	P		**Pn**	**06 43 45.1**	**+1.4**
SJPF				S		**Sn**	**06 45 02.8**	**-2.7**
	2.6nm,0.3s							
SJPF	**Ste Jean**	**7.25**	**356**	P		**Pn**	**06 43 45.1**	**+1.4**
SJPF				S		**Sn**	**06 45 02.8**	**-2.7**
	2.6nm,0.3s							
MVO	**Moncorvo**	**7.30**	**318**	*e*Pn		**Pn**	**06 43 45.5**	**+1.0**
MVO				*e*Sn		**Sn**	**06 45 03.2**	**-3.8**
MVO	**Moncorvo**	**7.30**	**318**	P		**Pn**	**06 43 45.5**	**+1.0**
	0.1nm,0.4s,SNR=7.9							
MVO				S		**Sn**	**06 45 03.1**	**-3.8**
	0.8nm,0.3s,SNR=7.9							
MVO	**Moncorvo**	**7.30**	**318**	P		**Pn**	**06 43 45.5**	**+1.0**
	0.1nm,0.4s,SNR=7.9							
MVO				S		**Sn**	**06 45 03.1**	**-3.8**
	0.8nm,0.3s,SNR=7.9							
EALK	**Alkurruntz**	**7.38**	**355**	P		**Pn**	**06 43 47.6**	**+2.1**
	3.9nm,0.3s,SNR=12							
EALK				S		**Sn**	**06 45 07.0**	**-1.6**
	1.4nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**7.38**	**355**	P		**Pn**	**06 43 47.6**	**+2.1**
	3.9nm,0.3s,SNR=12							
EALK				S		**Sn**	**06 45 07.0**	**-1.6**
	1.4nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**7.50**	**312**	*e*Pn		**Pn**	**06 43 47.5**	**+0.3**
PVIS				*e*Sn		**Sn**	**06 45 09.8**	**-2.0**
PVIS	**Viseu**	**7.50**	**312**	P		**Pn**	**06 43 47.5**	**+0.3**
PVIS				S		**Sn**	**06 45 09.8**	**-2.0**
PVIS	**Viseu**	**7.50**	**312**	P		**Pn**	**06 43 47.5**	**+0.3**
PVIS				*e*Sn		**Sn**	**06 45 09.8**	**-2.0**
PCAS	**Casmilo, Conde**	**7.51**	**306**	*e*Pn		**Pn**	**06 43 49.3**	**+2.0**
PCAS				*e*Sn		**Sn**	**06 45 07.4**	**-4.4**
COI	**Coimbra**	**7.54**	**307**	P		**Pn**	**06 43 48.1**	**+0.5**
COI	**Coimbra**	**7.54**	**307**	P		**Pn**	**06 43 48.1**	**+0.5**
PMAFR	**Mafra**	**7.57**	**297**	*e*Pn		**Pn**	**06 43 47.4**	**-0.7**
PMAFR				*e*Sn		**Sn**	**06 45 08.2**	**-5.1**
PMAFR	**Mafra**	**7.57**	**297**	P		**Pn**	**06 43 47.2**	**-0.8**
	5.5nm,0.2s,SNR=7.9							
PMAFR				S		**Sn**	**06 45 07.8**	**-5.5**
	9.5nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**7.57**	**297**	*e*Pn		**Pn**	**06 43 47.4**	**-0.7**
PMAFR				S		**Sn**	**06 45 07.8**	**-5.5**
	9.5nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**7.62**	**323**	*e*Pn		**Pn**	**06 43 49.8**	**+1.0**
PBRG	**Braganca**	**7.62**	**323**	P		**Pn**	**06 43 49.8**	**+1.0**
PBRG	**Braganca**	**7.62**	**323**	P		**Pn**	**06 43 49.8**	**+1.0**
ELAN	**Lanestosa**	**7.67**	**344**	P		**Pn**	**06 43 50.9**	**+1.4**
	2.4nm,0.2s,SNR=7.9							
ELAN				S		**Sn**	**06 45 13.4**	**-2.5**
	0.4nm,0.2s,SNR=4.0							
ELAN	**Lanestosa**	**7.67**	**344**	P		**Pn**	**06 43 50.9**	**+1.4**
	2.4nm,0.2s,SNR=7.9							
ELAN				S		**Sn**	**06 45 13.4**	**-2.5**
	0.4nm,0.2s,SNR=4.0							
ECAL	**Calabor**	**7.72**	**324**	P		**Pn**	**06 43 50.8**	**+0.5**
	1.8nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**06 45 14.7**	**-2.5**
	SNR=7.9							
ECAL	**Calabor**	**7.72**	**324**	P		**Pn**	**06 43 50.8**	**+0.5**
	1.8nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**06 45 14.7**	**-2.5**
	SNR=7.9							
PVRL	**Vila Real**	**7.76**	**316**	*e*Pn		**Pn**	**06 43 51.5**	**+0.8**
PVRL				*e*Sn		**Sn**	**06 45 14.5**	**-3.6**
PVRL	**Vila Real**	**7.76**	**316**	P		**Pn**	**06 43 51.5**	**+0.8**
PVRL				S		**Sn**	**06 45 14.5**	**-3.6**
PVRL	**Vila Real**	**7.76**	**316**	P		**Pn**	**06 43 51.5**	**+0.8**
PVRL				S		**Sn**	**06 45 14.5**	**-3.6**
MTLF	**Montolieu**	**7.77**	**15**	*e*Pn		**Pn**	**06 43 51.2**	**+0.3**
MTLF	**Montolieu**	**7.77**	**15**	P		**Pn**	**06 43 51.2**	**+0.3**
MTLF	**Montolieu**	**7.77**	**15**	P		**Pn**	**06 43 51.2**	**+0.3**
POLO	**Lamas de Olo**	**7.87**	**316**	*e*Pn		**Pn**	**06 43 53.2**	**+0.9**
POLO				*e*Sn		**Sn**	**06 45 15.4**	**-5.4**
POLO	**Lamas de Olo**	**7.87**	**316**	*e*Pn		**Pn**	**06 43 53.2**	**+0.9**
KEST	**Kesra**	**8.08**	**88**	P		**Pn**	**06 43 56.2**	**+1.1**
	0.7nm,0.3s,baz=302,slow=1.1,SNR=15							
KEST				Sn		**Sn**	**06 45 24.7**	**-1.3**
	0.3nm,0.3s,baz=216,slow=19,SNR=1.9							
PTO	**Porto**	**8.19**	**312**	*e*Pn		**Pn**	**06 43 58.4**	**+1.9**
PTO	**Porto**	**8.19**	**312**	P		**Pn**	**06 43 58.4**	**+1.9**
PTO	**Porto**	**8.19**	**312**	P		**Pn**	**06 43 58.4**	**+1.9**
PCAB	**Cabril**	**8.22**	**317**	*e*Pn		**Pn**	**06 43 58.0**	**+0.9**
PCAB				*e*Sn		**Sn**	**06 45 26.5**	**-3.0**
PCAB	**Cabril**	**8.22**	**317**	P		**Pn**	**06 43 58.0**	**+0.9**
PCAB				S		**Sn**	**06 45 26.5**	**-3.0**
PCAB	**Cabril**	**8.22**	**317**	P		**Pn**	**06 43 58.0**	**+0.9**
PCAB				S		**Sn**	**06 45 26.5**	**-3.0**
EARI	**Arriondas**	**8.23**	**336**	P		**Pn**	**06 43 57.5**	**+0.3**
	3.0nm,0.3s,SNR=7.9							
EARI				S		**Sn**	**06 45 26.7**	**-2.9**
	0.3nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**8.23**	**336**	P		**Pn**	**06 43 57.5**	**+0.3**
	3.0nm,0.3s,SNR=7.9							
EARI				S		**Sn**	**06 45 26.7**	**-2.9**
	0.3nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**8.35**	**318**	P		**Pn**	**06 43 58.8**	**-0.1**
	0.2nm,0.3s,SNR=7.9							
ELOB				S		**Sn**	**06 45 27.5**	**-5.1**
	0.7nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**8.35**	**318**	P		**Pn**	**06 43 58.8**	**-0.1**
	0.2nm,0.3s,SNR=7.9							
ELOB				S		**Sn**	**06 45 27.5**	**-5.1**
	0.7nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**8.53**	**318**	*e*Pn		**Pn**	**06 44 02.8**	**+1.4**
PGAV				*e*Sn		**Sn**	**06 45 35.2**	**-1.9**
PGAV	**Gavieira, Arco**	**8.53**	**318**	*e*Pn		**Pn**	**06 44 02.8**	**+1.4**
PGAV				*e*Sn		**Sn**	**06 45 35.2**	**-1.9**
LASF	**Ste Croix**	**8.88**	**21**	*e*Pn		**Pn**	**06 44 06.9**	**+0.8**
LASF	**Ste Croix**	**8.88**	**21**	P		**Pn**	**06 44 06.9**	**+0.8**
LASF	**Ste Croix**	**8.88**	**21**	P		**Pn**	**06 44 06.9**	**+0.8**
EPON	**Pontenova**	**9.00**	**328**	P		**Pn**	**06 44 09.2**	**+1.5**
	2.7nm,0.3s,SNR=7.9							
EPON	**Pontenova**	**9.00**	**328**	P		**Pn**	**06 44 09.2**	**+1.5**
	2.7nm,0.3s,SNR=7.9							
EAGO	**Agolada(Pontev**	**9.03**	**322**	P		**Pn**	**06 44 09.3**	**+1.2**
	0.2nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**9.03**	**322**	P		**Pn**	**06 44 09.3**	**+1.2**
	0.2nm,0.1s,SNR=7.9							
LFF	**La Frestale**	**9.12**	**6**	*e*Pn		**Pn**	**06 44 09.7**	**+0.4**
LFF	**La Frestale**	**9.12**	**6**	P		**Pn**	**06 44 09.7**	**+0.4**
LFF	**La Frestale**	**9.12**	**6**	P		**Pn**	**06 44 09.7**	**+0.4**
LMR	**La Mourre**	**9.25**	**34**	*e*Pn		**Pn**	**06 44 12.5**	**+1.4**
LMR				*e*Sn		**Sn**	**06 45 49.3**	**-5.3**
	6.5nm,0.4s							
LMR	**La Mourre**	**9.25**	**34**	P		**Pn**	**06 44 12.5**	**+1.4**
LMR				S		**Sn**	**06 45 49.3**	**-5.3**
	3.2nm,0.4s							
LMR	**La Mourre**	**9.25**	**34**	P		**Pn**	**06 44 12.5**	**+1.4**
LMR				S		**Sn**	**06 45 49.3**	**-5.3**
	3.2nm,0.4s							
CAF	**Calviac**	**9.27**	**12**	*e*Pn		**Pn**	**06 44 11.7**	**+0.3**
CAF				*e*Sn		**Sn**	**06 45 51.2**	**-4.0**
	4.0nm,0.4s							
CAF	**Calviac**	**9.27**	**12**	P		**Pn**	**06 44 11.7**	**+0.3**
CAF				S		**Sn**	**06 45 51.2**	**-4.0**
	2.0nm,0.4s							
CAF	**Calviac**	**9.27**	**12**	P		**Pn**	**06 44 11.7**	**+0.3**
CAF				S		**Sn**	**06 45 51.2**	**-4.0**
	2.0nm,0.4s							
SMRF	**Simiane la Rot**	**9.38**	**28**	*e*Pn		**Pn**	**06 44 15.3**	**+2.4**
SMRF	**Simiane la Rot**	**9.38**	**28**	P		**Pn**	**06 44 15.3**	**+2.4**
SMRF	**Simiane la Rot**	**9.38**	**28**	P		**Pn**	**06 44 15.3**	**+2.4**
FRF	**La Foret Royal**	**9.49**	**34**	*e*Pn		**Pn**	**06 44 17.2**	**+2.8**
FRF	**La Foret Royal**	**9.49**	**34**	P		**Pn**	**06 44 17.2**	**+2.8**
FRF	**La Foret Royal**	**9.49**	**34**	*e*Pn		**Pn**	**06 44 17.2**	**+2.8**
RJF	**Les Rejaudoux**	**9.56**	**9**	*e*Pn		**Pn**	**06 44 15.3**	**-0.1**
RJF	**Les Rejaudoux**	**9.56**	**9**	P		**Pn**	**06 44 15.3**	**-0.1**
RJF	**Les Rejaudoux**	**9.56**	**9**	P		**Pn**	**06 44 15.3**	**-0.1**
PGF	**Pioggiola**	**9.99**	**45**	*e*Pn		**Pn**	**06 44 23.8**	**+2.4**
PGF	**Pioggiola**	**9.99**	**45**	*e*P		Pn	06 44 29.6	+8.2
PGF				*e*Sn		**Sn**	**06 46 12.1**	**-0.9**
PGF	**Pioggiola**	**9.99**	**45**	P		**Pn**	**06 44 23.8**	**+2.4**
PGF				S		**Sn**	**06 46 12.1**	**-0.9**
PGF	**Pioggiola**	**9.99**	**45**	P		**Pn**	**06 44 23.8**	**+2.4**
PGF				S		**Sn**	**06 46 12.1**	**-0.9**
SBF	**Sospel**	**10.09**	**35**	*e*Pn		**Pn**	**06 44 25.8**	**+3.1**
SBF	**Sospel**	**10.09**	**35**	P		**Pn**	**06 44 25.8**	**+3.1**
SBF	**Sospel**	**10.09**	**35**	P		**Pn**	**06 44 25.8**	**+3.1**
MBDF	**Montbardon**	**10.48**	**30**	*e*Pn		**Pn**	**06 44 31.2**	**+3.1**
MBDF	**Montbardon**	**10.48**	**30**	P		**Pn**	**06 44 31.2**	**+3.1**
MBDF	**Montbardon**	**10.48**	**30**	P		**Pn**	**06 44 31.2**	**+3.1**
MFF	**Saint Martin d**	**10.73**	**2**	*e*Pn		**Pn**	**06 44 31.7**	**+0.3**
MFF	**Saint Martin d**	**10.73**	**2**	P		**Pn**	**06 44 31.7**	**+0.3**
MFF	**Saint Martin d**	**10.73**	**2**	P		**Pn**	**06 44 31.7**	**+0.3**
LPG	**La Plagne**	**11.11**	**28**	*e*Pn		**Pn**	**06 44 39.9**	**+3.0**
LPG	**La Plagne**	**11.11**	**28**	P		**Pn**	**06 44 39.9**	**+3.0**
LPG	**La Plagne**	**11.11**	**28**	P		**Pn**	**06 44 39.9**	**+3.0**
LPL	**La Plagne**	**11.12**	**28**	*e*Pn		**Pn**	**06 44 40.3**	**

TABS				eSg		Sb	06 43 38.4	+0.5
ICHK	**Chekchek**	**2.63**	**298**	ePn		Pn	06 43 01.7	-0.2
ICHK				eAMB	AMB		06 43 46.3	
	comp=Z,6μm,0.1s							
ICHK	**Chekchek**	**2.63**	**298**	ePn		Pn	06 43 01.7	-0.2
IDAH	**Dahanechah**	**2.86**	**53**	ePn		Pb	06 43 09.6	-0.9
IDAH				eAMB	AMB		06 44 00.6	
	comp=Z,2μm,0.4s							
IMON	**Monand**	**3.02**	**44**	eAMB	AMB		06 43 17.2	
	comp=Z,2μm,0.1s							
IMON				ePn		Pn	06 43 06.7	-0.6
ISAD	**Sadrabad**	**3.09**	**287**	ePn		Pn	06 43 08.8	+0.6
ISAD				eAMB	AMB		06 44 00.5	
	comp=Z,3μm,0.2s							
ISAD	**Sadrabad**	**3.09**	**287**	ePn		Pn	06 43 08.8	+0.6
ZHSF	**Zahedan**	**3.44**	**114**	ePn		Pn	06 43 13.1	+0.1
ZHSF				eSg		Sb	06 44 04.9	+2.6
SHRT	**Shahrakht**	**3.71**	**45**	ePn		Pn	06 43 16.5	-0.1
SHRT				eSg		Sb	06 44 12.7	+2.8
BNDS	**Bandar-Abbas**	**3.73**	**194**	ePn		Pn	06 43 16.7	-0.3
NASN	**Na'in**	**4.09**	**296**	ePn		Pn	06 43 21.8	-0.2
GHIR	**Ghir-Karzin**	**4.55**	**234**	ePn		Pn	06 43 28.1	-0.1
GEYT	**Alibeck**	**6.91**	**6**	P		Pn	06 44 05.4	+4.9
	comp=Z,0.4nm,0.3s,baz=186,slow=13,SNR=4.7							
GEYT				S		Sn	06 45 25.6	+6.3
	comp=Z,0.2nm,0.3s,baz=162,slow=15,SNR=3.2							
WSAR	**Wadi Sarin**	**7.89**	**170**	P		Pn	06 44 13.7	-0.3
	comp=Z,0.2nm,0.3s,baz=0.0,slow=13,SNR=2.4							
BRTR	**Keskin Array B**	**20.99**	**301**	P		P	06 47 02.2	-0.6
	comp=Z,2.1nm,0.8s,baz=114,slow=13,SNR=13							
BVAR	**Borovoye Array**	**23.98**	**20**	P		P	06 47 33.3	-0.4
	comp=Z,0.4nm,0.6s,baz=211,slow=13,SNR=2.7							
MKAR	**Makanchi Array**	**24.94**	**44**	P		P	06 47 41.8	-0.7
	comp=Z,0.3nm,0.8s,baz=224,slow=10,SNR=2.3							
GERES	**GERESS Array B**	**37.17**	**311**	P		P	06 49 29.3	-1.0
	comp=Z,1.1nm,0.7s,baz=103,slow=8.9,SNR=8.9							
TORD	**Torodi Ar. Bea**	**53.84**	**264**	P		P	06 51 40.4	-2.2
	comp=Z,0.7nm,0.6s,baz=58,slow=6.6,SNR=8.2							

*IDC **21** 06:44:30.0±3.1, 16°.52N×98°.50W, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.6/50, mbtmp3.5/8, ML3.3/4, MS3.3/4, Ms1 3.3/4, ms1mx2.8/43, Error ellipse: s-maj=61.5km s-min=16.7km az=13.0*

*ISCJB **21** 06:44:33.4±0.6, 16°.46N±0°.06×98°.46W±0°.03, h34km±6km, mb4.0/22, MS3.6/2, Error ellipse: s-maj=9.4km s-min=5.3km az=12.9*

*NEIC **21** 06:44:33.5±0.0, 16°.50N×98°.57W, h7km, mb4.1/28, MD4.1(MEX), After MEX.*

*MEX **21** 06:44:33.4±0.4, 16°.52N×98°.57W, h5km±3km, MD4.1*

ISC 21 06:44:32.6±0.7, 16°.51N±0°.05×98°.55W±0°.03, h21km±3km, n72, σ1§82/81, mb4.2/22, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.42**	**105**	*i* P	**Pb**	**06 44 41.6**	**+0.4**
PNIG				*i* S	**Sb**	**06 44 47.7**	**+0.6**
PNIG	**Pinotepa**	**0.42**	**105**	ePn	**Pb**	**06 44 41.6**	**+0.4**
PNIG				eSg	**Sb**	**06 44 47.8**	**+0.7**
TLIG	**Tlapa**	**1.05**	**359**	eP	**Pn**	**06 44 50.7**	**-1.6**
TLIG				*i* S	**Sb**	**06 45 04.3**	**-1.3**
TLIG	**Tlapa**	**1.05**	**359**	eP	**Pn**	**06 44 50.6**	**-1.6**
TLIG				*i* S	**Sb**	**06 45 03.9**	**-1.7**
ACX	**Acapulco**	**1.31**	**286**	eP	**Pb**	**06 44 57.2**	**+0.7**
ACX				*i* S	**Sb**	**06 45 14.3**	**+1.5**
CAIG	**El Cayaco**	**1.73**	**288**	eP	**Pn**	**06 45 00.2**	**-1.3**
CAIG				eS	**Sn**	**06 45 21.4**	**-1.6**
CAIG	**El Cayaco**	**1.73**	**288**	ePn	**Pn**	**06 45 00.2**	**-1.3**
CAIG				eSn	**Sn**	**06 45 21.4**	**-1.6**
VHO	**Vista Hermosa**	**1.83**	**72**	eP	**Pn**	**06 45 02.5**	**-0.5**
VHO				eS	**Sn**	**06 45 24.7**	**-1.0**
VHO	**Vista Hermosa**	**1.83**	**72**	ePn	**Pn**	**06 45 02.5**	**-0.5**
VHO				eSn	**Sn**	**06 45 24.7**	**-1.0**
TPIG	**Tehuac#an**	**2.21**	**31**	eP	**Pn**	**06 45 07.9**	**-0.4**
TPIG				eS	**Sn**	**06 45 34.6**	**-0.6**
TPIG	**Tehuac#an**	**2.21**	**31**	ePn	**Pn**	**06 45 07.9**	**-0.4**
TPIG				eSn	**Sn**	**06 45 34.6**	**-0.6**
HUIG	**Huatulco**	**2.46**	**107**	eP	**Pn**	**06 45 11.2**	**-0.3**
HUIG				*i* S	**Sn**	**06 45 41.4**	**+0.4**
HUIG	**Huatulco**	**2.46**	**107**	eP	**Pn**	**06 45 11.2**	**-0.3**
HUIG				eS	**Sb**	**06 45 43.9**	**-2.1**
UNM	**Universidad Na**	**2.87**	**348**	ePn	**Pb**	**06 45 22.4**	**-0.9**
CMIG	**Matias Romero**	**3.56**	**80**	Pn	**Pn**	**06 45 26.1**	**-0.6**
	3.3nm,0.3s,baz=258,slow=13,SNR=24						
CMIG				Pg	**Pb**	**06 45 34.8**	**-0.1**
	7.6nm,0.3s,baz=256,slow=17,SNR=16						
CMIG				Sn	**Sn**	**06 46 05.7**	**-2.4**
	17nm,0.3s,baz=96,slow=12,SNR=6.6						
CMIG				Lg	Lg	06 46 21.2	
	26nm,0.3s,baz=358,slow=16,SNR=8.7						
CMIG				LR	LR	06 46 43.7	
	comp=Z,56nm,20.2s,baz=194,slow=38						
JRQG	**Juriquilla Cam**	**4.55**	**337**	ePn	Pn	06 45 46.1	+5.6
ZAIG	**Zacatecas**	**7.29**	**329**	ePn	Pn	06 46 25.9	+7.6
KVTX	**Kingsville**	**11.00**	**3**	ePn	**Pn**	**06 47 13.4**	**+4.6**
H06E1	**SOCORRO T-PHASE**	**12.01**	**283**	T	T	06 59 30.1	
	SNR=5.2						
TX31	**Lajitas Ar. Si**	**13.61**	**341**	ePn	**P**	**06 47 50.2**	**-3.1**
TXAR	**Lajitas Array**	**13.61**	**341**	Pn	**Pn**	**06 47 45.8**	**+1.2**
	0.0nm,0.3s,baz=160,slow=14,SNR=3.2						
JCT	**Junction City**	**13.96**	**356**	ePn	**P**	**06 47 55.2**	**-2.0**
JTS	**JuntasAbangare**	**14.59**	**113**	Pn	**Pn**	**06 47 56.7**	**-1.3**
	0.1nm,0.3s,baz=72,slow=20,SNR=2.0						
WHTX	**Lake Whitney,**	**15.45**	**3**	ePn	**P**	**06 48 12.8**	**-0.9**
	14nm,1.0s						
ABTX	**Abilene, Hawle**	**16.08**	**357**	ePn	**P**	**06 48 22.0**	**+1.2**
	8.0nm,0.8s						
319A	**Douglas**	**17.74**	**328**	eP	**P**	**06 48 42.0**	**+2.7**
	7.1nm,1.0s						
MSTX	**Muleshoe**	**17.80**	**348**	eP	**P**	**06 48 42.6**	**+2.7**
	6.0nm,0.8s						
AMTX	**Amarillo**	**18.52**	**352**	eP	**Pn**	**06 48 50.8**	**+2.9**
	27nm,1.6s						
BNM	**Barren Site**	**19.01**	**339**	eP	**Pn**	**06 48 55.1**	**+0.9**
TUL1	**Leonard**	**19.48**	**7**	eP	**P**	**06 48 57.3**	**-0.9**
	11nm,0.8s						
ANMO	**Albuquerque**	**19.68**	**340**	P	**P**	**06 49 01.1**	**+0.4**
	0.1nm,0.3s,baz=334,slow=11,SNR=8.9						
ANMO				LR	LR	06 57 09.0	
	comp=Z,185nm,18.2s,baz=338,slow=38						
ANMO	**Albuquerque**	**19.68**	**340**	eP	**Pn**	**06 49 02.3**	**+0.1**
	2.9nm,0.9s						
HHAR	**Hobbs**	**20.12**	**11**	eP	Pn	06 49 06.6	-0.5
	5.5nm,1.0s						
PLAL	**Pickwick Lake**	**20.65**	**25**	eP	**P**	**06 49 11.4**	**+0.4**
	12nm,1.4s						
X18A	**Snowflake**	**20.66**	**332**	eP	Pn	06 49 13.7	+0.1
	11nm,1.4s						
T25A	**Trinidad**	**21.20**	**347**	eP	**P**	**06 49 19.8**	**+2.7**
	16nm,1.5s						
MHTCO	**State Highway**	**21.25**	**346**	eP	**P**	**06 49 19.7**	**+2.0**
	4.0nm,1.1s						
X16A	**Lo Mia Camp, P**	**21.26**	**329**	eP	**P**	**06 49 19.9**	**+2.1**
	5.9nm,0.9s						
PBMO	**Poplar Bluff**	**21.44**	**18**	eP	**P**	**06 49 21.4**	**+2.0**
	7.8nm,0.8s						
Y14A	**Wickenburg**	**21.69**	**326**	eP	**P**	**06 49 24.3**	**+2.0**
	27nm,1.0s						
SDCO	**Great Sand Dun**	**22.03**	**345**	eP	**P**	**06 49 28.7**	**+2.6**
	11nm,1.9s						
WUAZ	**Wupatki**	**22.12**	**331**	eP	**P**	**06 49 29.6**	**+2.6**
	8.8nm,0.8s						
CCM	**Cathedral Cave**	**22.41**	**15**	eP	**P**	**06 49 30.8**	**+0.9**
	8.8nm,0.8s						
SIUC	**Southern Illin**	**22.67**	**19**	eP	**P**	**06 49 33.5**	**+0.8**
	13nm,0.8s						
PV01	**Paradox Valley**	**23.28**	**340**	eP	**P**	**06 49 40.7**	**+1.5**
U15A	**North Rim**	**23.30**	**331**	eP	**P**	**06 49 41.0**	**+1.6**
	6.7nm,1.1s						
ISCO	**Idaho Springs**	**24.01**	**347**	eP	**P**	**06 49 48.0**	**+1.6**
	2.6nm,0.8s						
DSCC	**Desert Studies**	**24.30**	**323**	ePcP	**PcP**	**06 53 26.3**	**-2.1**
MTPU	**Mount Pierson**	**24.58**	**333**	eP	**P**	**06 49 53.7**	**+2.0**
	10nm,0.8s						
RPV	**Rancho Palos V**	**24.78**	**318**	eP	**P**	**06 49 49.9**	**-3.2**
SRU	**San Rafael Swe**	**24.84**	**337**	eP	**P**	**06 49 54.7**	**+0.9**
	3.3nm,1.0s						
BLO	**Bloomington**	**24.91**	**23**	eP	**P**	**06 49 52.5**	**-1.7**
	6.6nm,0.8s						
MSU	**Marysvale**	**24.98**	**334**	eP	**P**	**06 49 57.4**	**+2.4**
DBD	**Des Bee Dove**	**25.23**	**337**	eP	**P**	**06 49 58.9**	**+1.5**
DBD				eS	S	06 54 34.4	+12
TMUT	**Trail Mountain**	**25.26**	**337**	eP	**P**	**06 49 59.9**	**+2.2**
	9.6nm,1.6s						

SCIA	**State Center**	**25.73**	**9**	eP		**P**	**06 50 01.7**	**+0.1**
	9.3nm,0.9s							
BW06	**Boulder Array**	**27.82**	**342**	eP		**P**	**06 50 21.6**	**+0.9**
	16nm,1.9s							
PD31	**Pinedale Array**	**27.82**	**342**	eP		**P**	**06 50 21.2**	**+0.5**
PDAR	**Pinedale Array**	**27.82**	**342**	P		**P**	**06 50 21.4**	**+0.7**
	1.0nm,0.9s,baz=135,slow=10,SNR=6.4							
PDAR				LR		LR	07 02 20.7	
	comp=Z,101nm,19.6s,baz=215,slow=38							
PDAR	**Pinedale Array**	**27.82**	**342**	eP		**P**	**06 50 21.7**	**+1.1**
NV01	**Mina Array Sit**	**27.89**	**325**	eP		**P**	**06 50 21.8**	**+0.4**
NVAR	**Mina Array Bea**	**27.89**	**325**	P		**P**	**06 50 23.2**	**+1.8**
	1.0nm,0.9s,baz=145,slow=10,SNR=4.7							
YMS	**Mount Sheridan**	**29.47**	**342**	eP		**P**	**06 50 34.5**	**-1.1**
YMS				eS		**S**	**06 55 33.9**	**+4.9**
YLT	**Little Thumb C**	**29.64**	**342**	eP		**P**	**06 50 40.9**	**+3.9**
RLMT	**Red Lodge**	**29.92**	**345**	eP		**P**	**06 50 38.0**	**-1.4**
	16nm,0.8s							
YMC	**Maple Creek**	**30.06**	**342**	ePcP		**PcP**	**06 53 37.7**	**-4.6**
YMV	**Mammoth Vault**	**30.16**	**343**	eP		**P**	**06 50 40.7**	**-0.8**
BGMT	**Barton Gulch**	**30.80**	**341**	eP		P	06 50 52.0	+4.9
GBL	**Gable Mountain**	**34.67**	**334**	eP		**P**	**06 51 20.6**	**-0.1**
INK	**Inuvik**	**56.33**	**345**	P		**P**	**06 54 11.8**	**+0.1**
	0.8nm,0.8s,baz=123,slow=5.9,SNR=3.8							
ILAR	**Eielson Array**	**58.10**	**338**	P		**P**	**06 54 24.4**	**+0.2**
	0.3nm,0.7s,baz=133,slow=6.3,SNR=4.2							
TORD	**Torodi Ar. Bea**	**95.88**	**75**	LR		LR	07 40 01.2	
	comp=Z,26nm,19.1s,baz=235,slow=35							

*ISCJB **21** 06:50:19.1±0.5, 50°.11N±0°.03×19°.19E±0°.03, h0km, Error ellipse: s-maj=4.8km s-min=2.3km az=14.5*

*IPEC **21** 06:50:20.5±0.2, 50°.08N×19°.30E, h0km, ML2.5/3, Error ellipse: s-maj=2.9km s-min=1.1km az=161.0*

*CSEM **21** 06:50:20.3±0.3, 50°.09N×19°.24E, h2km, ML3.1/8, Error ellipse: s-maj=6.4km s-min=3.0km az=14.0*

*PRU **21** 06:50:20.7, 50°.11N×19°.20E, h0km*

*WAR **21** 06:50:21.1, 50°.09N×19°.33E, h1km, Mw2.9*

ISC 21 06:50:20.4±0.7, 50°.09N±0°.02×19°.26E±0°.02, h0km, n45, σ0§83/75, 4C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.27**	**319**	ePg	**Pb**	**06 50 27.7**	**-0.4**
CHZP				eSg	**Sb**	**06 50 32.7**	**-0.5**
CHZP	**Chorzow**	**0.27**	**319**	ePg	**Pb**	**06 50 27.7**	**-0.4**
CHZP				eSg	**Sb**	**06 50 32.7**	**-0.5**
OJC	**Ojcow**	**0.37**	**69**	*i* Pg	**Pg**	**06 50 27.3**	**-0.1**
OJC				*i* Sg	**Sg**	**06 50 32.1**	**0.0**
OJC	**Ojcow**	**0.37**	**69**	*i* Pg	**Pg**	**06 50 27.3**	**-0.1**
OJC				*i* Sg	**Sg**	**06 50 32.1**	**0.0**
OJC	**Ojcow**	**0.37**	**69**	*i* Pg	**Pg**	**06 50 27.3**	**-0.1**
OKC	**Ostrava-Krasne**	**0.76**	**251**	ePG	**Pg**	**06 50 35.5**	**+0.5**
OKC				eSG	**Sg**	**06 50 44.4**	**-0.5**
	comp=Z,109nm,0.9s						
OKC	**Ostrava-Krasne**	**0.76**	**251**	Pg	**Pg**	**06 50 35.5**	**+0.5**
OKC				Sg	**Sg**	**06 50 44.4**	**-0.5**
	109nm,0.9s						
LANS	**Liptovska Anna**	**0.95**	**172**	ePg	**Pg**	**06 50 38.8**	**+0.3**
LANS				eSg	**Sb**	**06 50 52.6**	**-0.3**
LANS	**Liptovska Anna**	**0.95**	**172**	ePG	**Pg**	**06 50 38.8**	**+0.3**
LANS				eSG	**Sb**	**06 50 52.5**	**-0.3**
NIE	**Niedzica**	**0.95**	**135**	ePg	**Pg**	**06 50 38.5**	**-0.1**
NIE				eSg	**Sg**	**06 50 51.7**	**+0.8**
NIE	**Niedzica**	**0.95**	**135**	ePg	**Pg**	**06 50 38.5**	**-0.1**
NIE				eSg	**Sg**	**06 50 51.7**	**+0.8**
NIE	**Niedzica**	**0.95**	**135**	ePg	**Pg**	**06 50 38.5**	**-0.1**
NIE				eSg	**Sg**	**06 50 51.7**	**+0.8**
MORC	**Moravsky Berou**	**1.16**	**255**	⇓*i* P	**Pb**	**06 50 43.0**	**-0.2**
MORC	**Moravsky Berou**	**1.16**	**255**	⇓*i* P	**Pb**	**06 50 43.0**	**-0.2**
MORC				eSg	**Sg**	**06 50 57.2**	**-0.3**
	76nm,0.5s,baz=74						
STHS	**Stebnicka Huta**	**1.45**	**117**	ePg	**Pn**	**06 50 47.5**	**-0.4**
STHS				eSn	**Sn**	**06 51 09.1**	**+1.5**
STHS	**Stebnicka Huta**	**1.45**	**117**	ePG	**Pn**	**06 50 47.5**	**-0.4**
STHS				eSN	**Sn**	**06 51 09.1**	**+1.5**
STHS				eLG	Lg	06 51 15.8	
KRLC	**Kraliky**	**1.60**	**270**	ePG	**Pn**	**06 50 49.3**	**-0.7**
KRLC				eSG	**Sn**	**06 51 10.4**	**-0.9**
	comp=Z,6.1nm,0.4s						
KRLC	**Kraliky**	**1.60**	**270**	Pg	**Pn**	**06 50 49.3**	**-0.7**
KRLC				Sg	**Sn**	**06 51 10.4**	**-0.9**
	6.1nm,0.4s						
JAVC	**Velka Javorina**	**1.61**	**221**	ePn	**Pg**	**06 50 51.5**	**+0.3**
VYHS	**Vyhne**	**1.62**	**190**	ePg	**Pn**	**06 50 49.6**	**-0.6**
VYHS				eSn	**Sn**	**06 51 10.7**	**-1.1**
VYHS	**Vyhne**	**1.62**	**190**	ePG	**Pn**	**06 50 49.6**	**-0.6**
VYHS				eSN	**Sn**	**06 51 10.7**	**-1.1**
VYHS				eLG	Lg	06 51 12.0	
KECS	**Kecovo**	**1.79**	**153**	ePn	**Pn**	**06 50 51.7**	**-0.9**
KECS				eSn	**Sn**	**06 51 15.9**	**-0.2**
KECS	**Kecovo**	**1.79**	**153**	ePN	**Pn**	**06 50 51.7**	**-0.9**
KECS				eSN	**Sn**	**06 51 15.9**	**-0.2**
KECS				eLG	Lg	06 51 18.4	
CRVS	**Cervenica-Dubn**	**1.86**	**129**	ePn	**Pb**	**06 50 54.8**	**-0.4**
CRVS				eSn	**Sb**	**06 51 19.3**	**+0.2**
CRVS	**Cervenica-Dubn**	**1.86**	**129**	ePN	**Pb**	**06 50 54.8**	**-0.4**
CRVS				eSN	**Sb**	**06 51 19.3**	**+0.2**
VRAC	**Vranov**	**1.90**	**247**	⇑*i* P	**Pg**	**06 50 56.9**	**+0.1**
VRAC	**Vranov**	**1.90**	**247**	ePn	**Pn**	**06 54.6**	**+0.5**
VRAC	**Vranov**	**1.90**	**247**	⇑*i* P	**Pg**	**06 50 56.9**	**+0.1**
VRAC				eSg	**Sb**	**06 51 20.6**	**+0.4**
	26nm,0.5s,baz=65						
DPC	**Dobruska-Polom**	**1.91**	**279**	ePG	**Pn**	**06 50 54.2**	**0.0**
DPC				eSG	**Sn**	**06 51 19.5**	**+0.6**
	comp=Z,28nm,0.4s						
KSP	**Ksiaz**	**2.04**	**293**	ePg	**Pg**	**06 50 59.7**	**+0.2**
KSP				eSg	**Sg**	**06 51 25.9**	**-0.1**
KSP	**Ksiaz**	**2.04**	**293**	ePg	**Pg**	**06 50 59.7**	**+0.2**
KSP				eSg	**Sg**	**06 51 25.9**	**-0.1**
KSP	**Ksiaz**	**2.04**	**293**	ePg	**Pg**	**06 50 59.7**	**+0.2**
KSP				eSg	**Sg**	**06 51 25.9**	**-0.1**
UPC	**Upice**	**2.13**	**283**	eSG	**Sg**	**06 51 28.5**	**-0.2**
	comp=Z,22nm,0.5s						
UPC	**Upice**	**2.13**	**283**	Sg	**Sg**	**06 51 28.5**	**-0.2**
	22nm,0.5s						
KRUC	**Moravsky**	**2.13**	**242**	ePn	**Pn**	**06 50 57.5**	**+0.3**
	baz=61						
KRUC				eSg	**Sb**	**06 51 27.8**	**+1.0**
	30nm,0.7s,baz=61						
PSZ	**Piszkesteto**	**2.21**	**169**	⇑*i* P	**Pg**	**06 51 03.0**	**+0.3**
PSZ	**Piszkesteto**	**2.21**	**169**	⇑*i* P	**Pg**	**06 51 03.0**	**+0.3**
GOPC	**GO Pecny, Ondr**	**2.89**	**268**	eSG	**Sb**	**06 51 50.3**	**+1.5**
	comp=Z,16nm,0.6s						
PVCC	**Panska Ves**	**3.04**	**280**	eSG	**Sg**	**06 51 57.1**	**-0.9**
	comp=Z,31nm,0.6s						
PVCC	**Panska Ves**	**3.04**	**280**	Sg	**Sg**	**06 51 57.1**	**-0.9**
	31nm,0.6s						
PRU	**Pruhonice**	**3.05**	**270**	eSG	**Sb**	**06 51 55.1**	**+2.0**
	comp=Z,13nm,0.7s						
BRG	**Berggiesshubel**	**3.49**	**285**	PG	**Pg**	**06 51 29.8**	**+2.6**
BRG				SG	**Sg**	**06 52 10.2**	**-2.2**
	8.6nm,0.6s						
KHC	**Kasperske Hory**	**3.82**	**258**	ePG	**Pb**	**06 51 30.0**	**+1.4**
KHC				eSG	**Sg**	**06 52 20.1**	**-2.9**
	comp=Z,13nm,0.6s						
BURAR	**Bucovina Array**	**4.64**	**120**	⇓*i* P	**Pn**	**06 51 31.6**	**-0.2**
BURAR	**Bucovina Array**	**4.64**	**120**	⇓*i* P	**Pn**	**06 51 31.6**	**-0.2**

*MAN **21** 06:51:53, 16°.24N×119°.89E, h41km, mb4.8, ML3.7, MS3.7*

*ISCJB **21** 06:51:54.9±0.5, 16°.29N±0°.05×119°.97E±0°.05, h44km±5km, mb3.5/7, MS2.7/1, Error ellipse: s-maj=8.6km s-min=7.3km az=154.6*

*IDC **21** 06:51:57.5±2.6, 16°.25N×120°.53E, h81km±28km, mb3.3/8, mb1 3.5/8, mb1mx3.2/66, mbtmp3.7/8, MS2.9/1, Ms1 2.9/1, ms1mx2.4/34, Error ellipse: s-maj=34.7km s-min=14.9km az=68.0*

ISC 21 06:51:54.8±0.9, 16°.29N±0°.04×119°.94E±0°.07, h41km±7km, n18, σ2§23/22, mb3.6/7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.10**	**343**	eP	**Pn**	**06 52 01.7**	**+0.1**
BOLP				eS	**Sn**	**06 52 07.2**	**+0.8**
SCZP	**Santa Cruz**	**0.51**	**183**	eP	**Pn**	**06 52 05.1**	**-0.7**
SCZP				eS	**Sn**	**06 52 13.7**	**+0.2**
PCPH	**Palayan**	**1.32**	**123**	⇑eP	**Pn**	**06 52 15.3**	**-1.6**
PCPH				eS	**Sn**	**06 52 31.8**	**-1.5**
BALP	**Baler**	**1.66**	**109**	eP	**Pn**	**06 52 21.6**	**+0.1**
BALP				eS	**Sn**	**06 52 42.2**	**+0.6**

CAUP	**Cauayan**	**1.92**	**70**	eP		**Pn**	**06 52 26.9**	**+1.9**
APYP	**Conner**	**2.00**	**38**	eP		**Pn**	**06 52 26.4**	**+0.2**
APYP				eS		**Sn**	**06 52 50.7**	**+0.7**
TGY	**Tagaytay City**	**2.38**	**156**	P		**Pn**	**06 52 32.4**	**+1.0**
	186nm,0.3s,baz=196,slow=1.3,SNR=17							
TGY				S		**Sn**	**06 53 04.4**	**+5.0**
	168nm,0.3s,baz=201,slow=23,SNR=6.3							
POLP	**Polillo Island**	**2.47**	**129**	eP		**Pn**	**06 52 34.7**	**+2.1**
LQP	**Lukban**	**2.66**	**144**	⇓eP		**Pn**	**06 52 38.1**	**+2.7**
CMAR	**Chiang Mai Arr**	**20.16**	**279**	P		Pn	06 56 30.3	+2.3
	1.2nm,0.4s,baz=104,slow=9.0,SNR=5.3							
KSRS	**Korea Array**	**22.23**	**17**	P		**P**	**06 56 45.1**	**-2.8**
	0.7nm,0.5s,baz=202,slow=9.0,SNR=2.9							
GUMO	**Guam**	**24.23**	**93**	LR		LR	07 04 34.8	
	comp=Z,29nm,21.1s,baz=106,slow=32							
SONM	**Songino Array**	**33.38**	**343**	P		**P**	**06 58 30.1**	**+0.7**
	0.5nm,0.6s,baz=159,slow=9.3,SNR=2.6							
WRA	**Warramunga Arr**	**38.68**	**158**	P		**P**	**06 59 11.2**	**-3.7**
	0.4nm,0.3s,baz=332,slow=10.0,SNR=12							
ASAR	**Alice Springs**	**41.99**	**161**	P		**P**	**06 59 38.9**	**-3.3**
	0.3nm,0.4s,baz=339,slow=6.7,SNR=8.0							
MKAR	**Makanchi Array**	**43.54**	**322**	P		**P**	**06 59 55.4**	**+0.9**
	0.2nm,0.5s,baz=134,slow=8.8,SNR=3.7							
KURBB	**Kurchatov Arra**	**47.65**	**325**	P		**P**	**07 00 29.0**	**+2.0**
	0.5nm,0.5s,baz=123,slow=8.4,SNR=5.0							
BVAR	**Borovoye Array**	**53.24**	**325**	P		**P**	**07 01 10.9**	**+1.7**
	0.3nm,0.4s,baz=101,slow=7.6,SNR=3.3							

IDC 21 07:06:42.2±12.0, 3°.86S×151°.82E, h273km±120km, mb3.4/5, mb1 3.5/5, mb1mx3.0/53, mbtmp4.0/5, Error ellipse: s-maj=48.2km s-min=21.7km az=9.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**23.00**	**143**	P	P	07 11 23.5	-0.2
	7.7nm,0.6s,baz=259,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**23.37**	**225**	P	P	07 11 27.4	+0.4
	16nm,0.3s,baz=48,slow=9.9,SNR=419						
ASAR	**Alice Springs**	**26.21**	**220**	P	P	07 11 52.4	-0.1
	0.6nm,0.3s,baz=49,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**29.27**	**239**	P	P	07 12 19.5	-0.2
	1.6nm,0.3s,baz=58,slow=6.8,SNR=19						
MKAR	**Makanchi Array**	**78.98**	**319**	P	P	07 18 16.6	+0.6
	0.1nm,0.4s,baz=92,slow=5.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**79.83**	**326**	P	P	07 18 20.0	-0.4
	0.6nm,0.3s,baz=129,slow=4.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**149.08**	**289**	PKPbc	PKPbc	07 25 58.5	-0.8
	0.2nm,0.3s,baz=74,slow=2.9,SNR=6.2						

MEX 21 07:08:10.4±0.3, 16°.49N×98°.47W, h14km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**107**	*i* P	Pg	07 08 16.6	-0.8
PNIG				eS	Sg	07 08 22.0	-0.3
TLIG	**Tlapa**	**1.07**	**355**	eP	Pb	07 08 27.3	-3.5
TLIG				eS	Sb	07 08 40.6	-4.0
VHO	**Vista Hermosa**	**1.76**	**71**	eP	Pn	07 08 37.4	-3.3
VHO				eS	Sn	07 08 58.2	-4.8
CAIG	**El Cayaco**	**1.81**	**288**	eP	Pn	07 08 37.7	-3.4
CAIG				eS	Sn	07 08 59.2	-4.6
TPIG	**Tehuac#an**	**2.19**	**29**	eP	Pn	07 08 43.3	-3.2
TPIG				*i* S	Sn	07 09 08.8	-4.7
**HU

0.8nm,0.5s,baz=101,slow=7.7,SNR=4.1
MK32 Makanchi Array 44.60 300 *e*P **P 07 16 47.2 +0.4**
MKAR Makanchi Array 44.60 300 P **P 07 16 47.2 +0.4**
0.8nm,0.8s,baz=79,slow=8.9,SNR=9.2
ILAR Eielson Array 44.84 34 P **P 07 16 49.6 +1.3**
0.5nm,0.8s,baz=262,slow=6.8,SNR=5.2
ILB Eielson Array 44.84 34 *e*P **P 07 16 49.6 +1.3**
KURK Kurchatov 45.91 306 *e*P **P 07 16 57.9 +0.8**
2.5nm,0.8s
KURK *e*P **P 07 16 58.2 +1.1**
KURBB Kurchatov Arra 45.99 306 P **P 07 16 58.2 +0.5**
2.5nm,0.6s,baz=77,slow=8.6,SNR=15
INK Inuvik 49.77 29 P **P 07 17 27.8 +1.1**
1.0nm,0.7s,baz=323,slow=7.5,SNR=5.7
BVAR Borovoye Array 50.18 311 P **P 07 17 31.1 +1.0**
1.5nm,0.7s,baz=69,slow=9.4,SNR=9.2
AKTO Aktyubinsk 58.27 311 P **P 07 18 31.2 +2.2**
0.7nm,0.6s,baz=77,slow=11,SNR=3.8
YKA Yellowknife Ar 59.16 32 P **P 07 18 35.8 +0.8**
0.1nm,0.6s,baz=302,slow=6.6,SNR=4.4
WR1 Warramunga Arr 61.22 191 *e*P **P 07 18 49.6 +0.1**
43nm,1.8s
WRA Warramunga Arr 61.22 191 P **P 07 18 49.6 +0.1**
1.8nm,0.8s,baz=11,slow=7.2,SNR=9.6
FIA0 FINESS Array S 66.78 333 *e*P **P 07 19 26.3 +0.7**
FINES FINESS Array B 66.78 333 P **P 07 19 26.3 +0.7**
1.5nm,0.7s,baz=53,slow=7.4,SNR=5.0
GACM Adobe Creek 67.39 58 *e*P **P 07 19 28.3 -1.7**
GDXM Geysers 67.47 58 *e*P **P 07 19 26.4 -4.1**
34nm,1.2s
GSGM Seigler Mounta 67.49 58 *e*P **P 07 19 27.6 -2.9**
KBZ Khabaz 70.56 311 P **P 07 19 50.8 +1.3**
1.1nm,0.7s,baz=57,slow=2.1,SNR=5.1
YMS Mount Sheridan 71.57 47 *e*P **P 07 19 57.0 +0.9**
NB200 NORSAR Array S 71.78 338 *e*P **P 07 19 56.5 -0.1**
NOA NORSAR Array B 71.78 338 P **P 07 19 56.5 -0.1**
0.8nm,0.8s,baz=38,slow=5.7,SNR=2.5
HFS Hagfors 71.79 337 P **P 07 19 57.1 +0.5**
1.2nm,0.6s,baz=52,slow=9.9,SNR=2.7
WSAR Wadi Sarin 72.56 286 LR LR 07 56 06.3
comp=Z,34nm,18.1s,baz=248,slow=39
AKASG Malin Array Be 73.01 323 P **P 07 20 04.5 +0.5**
0.4nm,0.4s,baz=46,slow=5.9,SNR=6.5
HEC Hector,Ludlow 74.00 58 *e*P **P 07 20 11.8 +1.5**
SIV San Ignacio 146.54 50 PKPbc **PKPab 07 28 17.0 -0.1**
0.7nm,0.8s,baz=310,slow=4.7,SNR=4.6

NEIC ***21*** *07:10:01.4±0.0, 16°.30N×98°.48W, h5km, MD4.0(MEX), After MEX.*

MEX 21 07:10:01.4±0.5, 16°.30N×98°.48W, h5km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**75**	*i* P	Pg	07 10 07.8	-0.4
PNIG				*e*S	Sg	07 10 13.2	+0.3
PNIG	**Pinotepa**	**0.35**	**75**	*i* P	Pg	07 10 07.8	-0.4
PNIG				*e*S	Sg	07 10 13.0	+0.1
TLIG	**Tlapa**	**1.26**	**356**	*i* P	Pg	07 10 21.8	-3.8
TLIG				*e*S	Sg	07 10 37.6	-4.3
TLIG	**Tlapa**	**1.26**	**356**	*i* P	Pg	07 10 21.7	-3.8
TLIG				*e*S	Sg	07 10 36.7	-5.1
ACX	**Acapulco**	**1.44**	**293**	*i* P	Pn	07 10 27.1	-1.0
ACX				*i* S	Sb	07 10 46.0	-1.3
VHO	**Vista Hermosa**	**1.84**	**65**	*e*P	Pn	07 10 30.1	-3.8
VHO				*e*S	Sn	07 10 53.2	-4.4
VHO	**Vista Hermosa**	**1.84**	**65**	*e*P	Pn	07 10 30.1	-3.8
VHO				*e*S	Sn	07 10 53.2	-4.4
CAIG	**El Cayaco**	**1.87**	**294**	*e*P	Pn	07 10 30.6	-3.4
CAIG				*e*S	Sn	07 10 53.6	-4.4
CAIG	**El Cayaco**	**1.87**	**294**	*e*P	Pn	07 10 30.6	-3.4
CAIG				*e*S	Sn	07 10 53.6	-4.4
HUIG	**Huatulco**	**2.34**	**103**	*e*P	Pn	07 10 37.3	-3.3
HUIG				*i* S	Sn	07 11 05.4	-4.3
HUIG	**Huatulco**	**2.34**	**103**	*e*P	Pn	07 10 37.3	-3.3
HUIG				*i* S	Sn	07 11 07.9	-1.8
TPIG	**Tehuac#an**	**2.36**	**27**	*e*P	Pn	07 10 37.6	-3.4
TPIG				*e*S	Sn	07 11 06.0	-4.4
TPIG	**Tehuac#an**	**2.36**	**27**	*e*P	Pn	07 10 37.6	-3.4
TPIG				*e*S	Sn	07 11 06.0	-4.4

IDC ***21*** *07:19:29.1±4.5, 15°.79N×98°.27W, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.7/51, mbtmp3.6/8, ML3.0/2, Error ellipse: s-maj=82.9km s-min=18.5km az=180.0*

ISCJB ***21*** *07:19:32.3±1.3, 16°.08N±0°.07×98°.35W±0°.04, h24km±8km, mb3.6/5, Error ellipse: s-maj=11.5km s-min=6.8km az=14.1*

NEIC ***21*** *07:19:33.1±0.0, 16°.07N×98°.38W, h3km, MD4.1(MEX), After MEX.*

MEX ***21*** *07:19:33.2±0.6, 16°.07N×98°.37W, h3km±4km, MD4.1*

ISC 21 07:19:32.6±2.0, 16°.07N±0°.07×98°.36W±0°.04, h15km±11km, n20, σ1§67/32, mb3.7/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**35**	*i* P	**Pb**	**07 19 40.6**	**-0.7**
PNIG				*e*S	**Sg**	**07 19 46.1**	**+0.2**
PNIG	**Pinotepa**	**0.39**	**35**	*i* P	**Pb**	**07 19 40.6**	**-0.7**
PNIG				*e*S	**Sg**	**07 19 45.9**	**0.0**
TLIG	**Tlapa**	**1.50**	**352**	*e*P	**Pn**	**07 19 57.7**	**-1.4**
TLIG				*i* S	**Sn**	**07 20 16.2**	**-2.2**
TLIG	**Tlapa**	**1.50**	**352**	*e*P	**Pn**	**07 19 57.5**	**-1.5**
TLIG				*e*S	**Sn**	**07 20 15.4**	**-3.1**
VHO	**Vista Hermosa**	**1.85**	**57**	*e*P	**Pn**	**07 20 03.2**	**-0.8**
VHO				*e*S	**Sn**	**07 20 25.8**	**-1.5**
VHO	**Vista Hermosa**	**1.85**	**57**	*e*P	**Pn**	**07 20 03.2**	**-0.8**
VHO				*e*S	**Sn**	**07 20 25.8**	**-1.5**
CAIG	**El Cayaco**	**2.07**	**298**	*e*P	**Pn**	**07 20 04.8**	**-2.1**
CAIG				*e*S	**Sn**	**07 20 30.6**	**-1.8**
CAIG	**El Cayaco**	**2.07**	**298**	*e*P	**Pn**	**07 20 04.8**	**-2.1**
CAIG				*e*S	**Sn**	**07 20 30.6**	**-1.8**
HUIG	**Huatulco**	**2.19**	**98**	*e*P	**Pn**	**07 20 07.2**	**-1.2**
HUIG				*i* S	**Sn**	**07 20 33.8**	**-1.5**
HUIG	**Huatulco**	**2.19**	**98**	*e*P	**Pn**	**07 20 07.2**	**-1.2**
HUIG				*i* S	**Sn**	**07 20 33.8**	**-1.5**
TPIG	**Tehuac#an**	**2.52**	**22**	*e*P	**Pn**	**07 20 12.4**	**-0.8**
TPIG				*i* S	**Sn**	**07 20 42.4**	**-1.5**
TPIG	**Tehuac#an**	**2.52**	**22**	*e*P	**Pn**	**07 20 12.4**	**-0.8**
TPIG				*i* S	**Sn**	**07 20 42.4**	**-1.5**
CMIG	**Matias Romero**	**3.48**	**73**	Pn	**Pn**	**07 20 25.5**	**-0.8**
	1.9nm,0.3s,baz=254,slow=12,SNR=14						
CMIG				Pg	**Pb**	**07 20 32.1**	**-1.9**
	4.1nm,0.3s,baz=255,slow=17,SNR=19						
CMIG				Lg	Lg	07 21 21.7	
	19nm,0.3s,baz=273,slow=15,SNR=8.2						
TXAR	**Lajitas Array**	**14.08**	**341**	Pn	**Pn**	**07 22 54.9**	**+3.2**
	0.0nm,0.3s,baz=149,slow=11,SNR=3.2						
ANMO	**Albuquerque**	**20.15**	**340**	P	Pn	07 24 08.7	+0.3
	2.4nm,0.6s,baz=318,slow=13,SNR=10.0						
PDAR	**Pinedale Array**	**28.28**	**342**	P	**P**	**07 25 27.5**	**+1.8**
	0.3nm,0.6s,baz=153,slow=8.0,SNR=4.6						
NVAR	**Mina Array Bea**	**28.35**	**326**	P	**P**	**07 25 28.4**	**+2.1**
	0.5nm,0.8s,baz=158,slow=10,SNR=6.5						
SCHQ	**Schefferville**	**45.69**	**25**	P	**P**	**07 27 52.2**	**-0.6**
	2.9nm,0.9s,baz=206,slow=1.5,SNR=3.8						
YKA	**Yellowknife Ar**	**47.76**	**350**	P	**P**	**07 28 08.6**	**-0.2**
	0.7nm,1.0s,baz=158,slow=7.4,SNR=8.3						
ILAR	**Eielson Array**	**58.57**	**338**	P	**P**	**07 29 29.9**	**+1.4**
	1.2nm,1.0s,baz=136,slow=5.6,SNR=9.6						

ISCJB ***21*** *07:20:07.2±0.4, 6°.83N±0°.03×73°.09W±0°.03, h155km±3km, mb3.5/7, Error ellipse: s-maj=6.3km s-min=4.6km az=39.6*

IDC ***21*** *07:20:08.3±1.2, 6°.81N×72°.94W, h161km±11km, mb3.3/7, mb1 3.7/11, mb1mx3.4/48, mbtmp3.9/11, Error ellipse: s-maj=22.6km s-min=13.4km az=136.0*

RSNC ***21*** *07:20:09.6±0.9, 6°.78N×73°.10W, h142km±5km, ML3.9*

ISC 21 07:20:07.9±0.7, 6°.81N±0°.04×73°.07W±0°.04, h152km±5km, n35, σ0§92/57, mb3.5/7, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**207**	*i* P	**Pn**	**07 20 28.7**	**-0.1**
BARC				*e*S	**Sn**	**07 20 43.4**	**-1.3**
BARC				*i*		07 20 45.0	
	comp=Z,3μm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**35**	*i* P	**Pn**	**07 20 31.6**	**+0.8**
PAMC				*e*S	**Sn**	**07 20 48.4**	**+0.2**
BRRC	**Barranca, Sant**	**0.70**	**295**	⇑*i*P	**Pn**	**07 20 30.6**	**0.0**
BRRC				*e*S	**Sn**	**07 20 47.6**	**-0.3**
BRRC				*i*		07 20 50.9	
	comp=Z,2μm,0.1s						
RUSC	**La Rusia**	**0.91**	**181**	⇑*i*P	**Pn**	**07 20 32.6**	**-0.2**
RUSC				*e*S	**Sn**	**07 20 50.8**	**-0.9**
RUSC				*i*		07 20 52.1	
	comp=Z,597nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.41**	**259**	*e*P	**Pn**	**07 20 35.3**	**-1.3**
PTBC				*e*S	**Sn**	**07 20 57.2**	**-1.4**
PTBC				*i*		07 21 02.1	
	comp=Z,434nm,0.4s						
YOPC	**Yopal, Colombi**	**1.59**	**156**	*i* P	**Pn**	**07 20 39.4**	**+0.7**
YOPC				*e*S	**Sn**	**07 21 02.6**	**+0.4**
CTAU	**Tausa, Cundina**	**1.87**	**211**	*e*P	**Pn**	**07 20 42.7**	**+0.5**
CTAU				*e*S	**Sn**	**07 21 08.2**	**-0.3**
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	*e*P	**Pn**	**07 20 41.8**	**-0.1**
ZARC				*e*S	**Sn**	**07 21 07.4**	**-0.8**
ZARC				*i*		07 21 13.9	
	comp=Z,704nm,0.5s						
CTAB	**Cerro Tablazo,**	**2.12**	**212**	*e*P	**Pn**	**07 20 46.1**	**+1.2**
CTAB				*e*S	**Sn**	**07 21 12.8**	**-0.7**
NORC	**Norcasia**	**2.18**	**235**	*e*P	**Pn**	**07 20 44.8**	**-0.5**
NORC				*e*S	**Sn**	**07 21 13.2**	**-0.9**
CHIC	**Chingaza**	**2.27**	**197**	*e*P	**Pn**	**07 20 46.7**	**0.0**
CHIC				*e*S	**Sn**	**07 21 15.3**	**-1.3**
CHIC				*i*		07 21 22.3	
	comp=Z,373nm,0.5s						
ROSC	**El Rosal**	**2.32**	**213**	P	**Pn**	**07 20 48.7**	**+1.3**
	comp=Z,65nm,0.3s,baz=118,slow=19,SNR=356						
ROSC				S	**Sn**	**07 21 15.3**	**-2.4**
	comp=Z,36nm,0.3s,baz=117,slow=16,SNR=12						
ROSC	**El Rosal**	**2.32**	**213**	⇑*i*P	**Pn**	**07 20 48.4**	**+1.1**
ROSC				*i*		07 21 22.4	
	comp=Z,825nm,0.4s						
CVER	**Cruz Verde, Cu**	**2.49**	**204**	*e*P	**Pn**	**07 20 50.1**	**+0.7**
CVER				*e*S	**Sn**	**07 21 21.2**	**-0.2**
HELC	**Santa Helena**	**2.52**	**256**	*e*P	**Pn**	**07 20 50.1**	**+0.4**
HELC				*e*S	**Sn**	**07 21 21.5**	**-0.4**
HELC				*i*		07 21 27.1	
	comp=Z,485nm,0.5s						
VILC	**Villavicencio,**	**2.75**	**193**	*e*P	**Pn**	**07 20 52.5**	**+0.1**
VILC				*e*S	**Sn**	**07 21 26.6**	**-0.2**
VILC				*i*		07 21 32.1	
	comp=Z,372nm,0.3s						
GUYC	**Guyana, Colomb**	**2.80**	**236**	*e*P	**Pn**	**07 20 53.2**	**0.0**
GUYC				*e*S	**Sn**	**07 21 28.0**	**-0.2**
GUYC				*i*		07 21 34.2	
	comp=Z,882nm,0.4s						
RREF	**El Recreo**	**2.96**	**230**	*e*P	**Pn**	**07 20 55.6**	**+0.2**
RREF				*e*S	**Sn**	**07 21 31.8**	**-0.2**
DBBC	**Dabeiba**	**3.13**	**274**	*e*P	**Pn**	**07 20 58.3**	**+1.3**
DBBC				*e*S	**Sn**	**07 21 34.7**	**-0.3**
TOLC	**Tolima**	**3.15**	**225**	*e*P	**Pn**	**07 20 58.1**	**+0.6**
TOLC				*e*S	**Sn**	**07 21 35.4**	**-0.5**
SDV	**Santo Domingo**	**3.17**	**49**	P	**Pn**	**07 20 58.3**	**+0.6**
	comp=Z,64nm,0.3s,baz=177,slow=1.9,SNR=299						
SDV				S	**Sn**	**07 21 35.1**	**-1.2**
	comp=Z,19nm,0.3s,baz=249,slow=17,SNR=8.6						
SDV	**Santo Domingo**	**3.17**	**49**	⇓*i*P	**Pn**	**07 20 58.2**	**+0.6**
SDV				*i*		07 20 59.2	
	comp=Z,271nm,0.3s						
PRAC	**Prado**	**3.57**	**211**	*e*P	**Pn**	**07 21 02.3**	**-0.4**
PRAC				*e*S	**Sn**	**07 21 44.6**	**-0.6**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P	**Pn**	**07 22 15.3**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=306,slow=2.2,SNR=15						
JTS	**JuntasAbangare**	**12.25**	**287**	P	**Pn**	**07 22 60.0**	**+2.6**
	comp=Z,1.1nm,0.3s,baz=217,slow=2.8,SNR=6.8						
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**07 26 59.1**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=126,slow=9.2,SNR=17						
TXAR				PcP	**PcP**	**07 29 20.6**	**+1.2**
	comp=Z,0.1nm,0.6s,baz=134,slow=5.2,SNR=2.8						
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**07 28 25.0**	**-1.0**
	comp=Z,2.9nm,0.4s,baz=148,slow=6.3,SNR=14						
PDAR	**Pinedale Array**	**48.12**	**324**	P	**P**	**07 28 32.7**	**0.0**
	comp=Z,0.4nm,0.5s,baz=122,slow=8.8,SNR=6.9						
NVAR	**Mina Array Bea**	**51.53**	**315**	P	**P**	**07 28 58.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=121,slow=7.5,SNR=3.6						
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**07 30 19.7**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=133,slow=6.6,SNR=65						
INK	**Inuvik**	**73.05**	**340**	P	**P**	**07 31 20.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=112,slow=2.2,SNR=5.2						
ILAR	**Eielson Array**	**76.99**	**335**	P	**P**	**07 31 43.3**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=127,slow=5.7,SNR=4.1						
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**	**07 38 43.6**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=312,slow=1.4,SNR=3.7						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**07 39 37.8**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=119,slow=3.4,SNR=4.7						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**07 39 40.9**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=106,slow=2.7,SNR=14						

ISCJB ***21*** *07:22:30.8±0.7, 50°.02N±0°.05×78°.49E±0°.08, h0km, Error ellipse: s-maj=8.3km s-min=5.6km az=141.7*

NNC ***21*** *07:22:31.4±0.9, 50°.02N×78°.62E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=12.9km s-min=4.7km az=81.0, Suspected Mining explosion.*

IDC ***21*** *07:22:32.3±0.9, 50°.06N×78°.67E, h0km, mb1 3.1/3, mb1mx2.9/67, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=12.7km s-min=6.3km az=62.0*

ISC 21 07:22:32.0±0.9, 50°.08N±0°.05×78°.73E±0°.07, h0km, n11, σ1§47/16, 9C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.56**	**347**	Pg	**Pg**	**07 22 42.6**	**-0.1**
	4.6nm,0.3s,baz=159,slow=18,SNR=121						
KURBB				Lg	Lg	07 22 51.9	
	5.7nm,0.3s,baz=168,slow=31,SNR=63						
KURK	**Kurchatov**	**0.64**	**354**	⇑P	**Pb**	**07 22 44.8**	**-1.3**
	10nm,0.3s						
KURK				⇑S	**Sb**	**07 22 55.0**	**-0.6**
	57nm,0.7s						
MAKZ	**Makanchi**	**3.92**	**145**	⇓Pn	**Pn**	**07 23 36.0**	**+2.5**
	0.6nm,0.3s						
MAKZ				⇑Pg	**Pb**	**07 23 41.4**	**-0.6**
	1.4nm,0.5s						
MAKZ				⇑Lg	Lg	07 24 31.8	
	4.7nm,0.5s						
MK31	**Makanchi Array**	**4.05**	**143**	⇑Pn	**Pn**	**07 23 35.7**	**+0.4**
	0.5nm,0.3s,baz=279,slow=6.5,SNR=57						
MK31				⇓Pg	**Pb**	**07 23 43.7**	**-0.6**
	1.0nm,0.3s,baz=324,slow=13,SNR=24						
MK31				⇓Lg	Lg	07 24 36.5	
	4.1nm,0.5s,baz=325,slow=24,SNR=16						
MKAR	**Makanchi Array**	**4.05**	**143**	Pn	**Pn**	**07 23 35.7**	**+0.4**
	0.8nm,0.3s,baz=334,slow=12,SNR=44						
MKAR				Pg	**Pb**	**07 23 43.5**	**-0.7**
	1.4nm,0.3s,baz=321,slow=15,SNR=21						
MKAR				Lg	Lg	07 24 36.9	
	2.8nm,0.3s,baz=343,slow=20,SNR=14						
I46RU	**ZALESOVO INFRA**	**5.40**	**42**	*i*		07 56 30.0	
	baz=224,slow=322,SNR=2.2						
ZALV	**Zalesovo Beam**	**5.40**	**42**	Pn	**Pn**	**07 23 55.9**	**+2.2**
	1.8nm,0.3s,baz=234,slow=14,SNR=14						
ZALV				Lg	Lg	07 25 29.3	
	0.7nm,0.3s,baz=244,slow=30,SNR=5.1						
BVA0	**Borovoye Array**	**5.98**	**303**	⇓Pg	**Pb**	**07 24 20.1**	**+3.1**
	1.2nm,0.8s,baz=122,slow=16,SNR=5.1						
BVA0				⇓Sn	**Sn**	**07 25 11.5**	**+0.6**
	1.4nm,0.4s,baz=115,slow=22,SNR=8.9						
BVA0				⇑Lg	Lg	07 25 40.3	
	4.3nm,0.6s						
BVAR	**Borovoye Array**	**5.98**	**303**	Pn	**Pn**	**07 24 01.5**	**-0.2**
	0.2nm,0.3s,baz=116,slow=13,SNR=4.8						
BVAR				Sn	**Sn**	**07 25 09.0**	**-1.9**
	1.2nm,0.3s,baz=113,slow=24,SNR=12						
BVAR				Lg	Lg	07 25 37.8	
	0.6nm,0.3s,baz=115,slow=21,SNR=4.4						
BRVK	**Borovoye**	**6.05**	**303**	⇑Pg	**Pb**	**07 24 18.0**	**-0.2**
	2.8nm,1.4s						
BRVK				⇑Sn	**Sn**	**07 25 12.7**	**+0.1**
	1.9nm,0.5s						
BRVK				⇑Lg	Lg	07 25 44.6	
	1.6nm,0.4s						
AAK	**Ala-Archa**	**8.00**	**203**	Lg	Lg	07 26 43.3	
	0.1nm,0.3s,baz=317,slow=19,SNR=2.5						

ISCJB ***21*** *07:26:43.5±0.6, 27°.9N±0°.1×139°.7E±0°.1, h400km, mb3.5/15, Error ellipse: s-maj=19.4km s-min=10.7km az=137.8*

IDC ***21*** *07:26:45.2±0.6, 27°.98N×140°.06E, h414km±9km, mb3.3/15, mb1 3.4/17, mb1mx3.1/66, mbtmp4.0/17, Error ellipse: s-maj=22.0km s-min=13.3km az=69.0*

ISC 21 07:26:44.8±0.7, 28°.0N±0°.1×139°.9E±0°.2, h400km, n18, σ1§08/19, mb3.7/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.25**	**113**	P	**Pn**	**07 27 44.2**	**+1.8**
	baz=270,slow=16						
JCJ				S	**S**	**07 28 29.6**	**+0.6**
	baz=270,slow=14						
USRK	**Ussuriysk Ar.**	**17.37**	**341**	P	**P**	**07 30 24.1**	**+1.6**
	0.3nm,0.3s,baz=142,slow=14,SNR=4.9						
KLR	**Kul'dur**	**22.12**	**346**	P	**P**	**07 31 09.1**	**+0.8**
	0.0nm,0.4s,baz=169,slow=5.2,SNR=4.7						
SONM	**Songino Array**	**32.65**	**316**	P	**P**	**07 32 42.2**	**+0.7**
	1.4nm,0.5s,baz=128,slow=8.6,SNR=10						
ZALV	**Zalesovo Beam**	**47.46**	**319**	P	**P**	**07 34 40.4**	**-0.8**
	1.3nm,0.3s,baz=98,slow=6.4,SNR=4.0						
WRA	**Warramunga Arr**	**47.94**	**187**	P	**P**	**07 34 44.9**	**-0.3**
	0.5nm,0.5s,baz=4.7,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**48.31**	**309**	P	**P**	**07 34 48.0**	**+0.2**
	0.8nm,0.6s,baz=90,slow=9.7,SNR=11						
KURBB	**Kurchatov Arra**	**50.94**	**314**	P	**P**	**07 35 07.1**	**-0.1**
	2.2nm,0.3s,baz=91,slow=7.9,SNR=18						
ASAR	**Alice Springs**	**51.67**	**187**	P	**P**	**07 35 11.9**	**-0.9**
	0.3nm,0.6s,baz=357,slow=4.6,SNR=4.2						
BVAR	**Borovoye Array**	**55.99**	**317**	P	**P**	**07 35 43.3**	**0.0**
	5.1nm,0.4s,baz=95,slow=7.5,SNR=41						
AKTO	**Aktyubinsk**	**63.95**	**315**	P	**P**	**07 36 37.8**	**+1.0**
	1.3nm,0.5s,baz=90,slow=10,SNR=4.8						
ARCES	**ARCESS Array B**	**72.02**	**340**	P	**P**	**07 37 25.8**	**-0.3**
	1.1nm,0.6s,baz=61,slow=8.6,SNR=7.1						
YKA	**Yellowknife Ar**	**72.34**	**28**	P	**P**	**07 37 26.6**	**-1.4**
	0.2nm,0.4s,baz=296,slow=6.1,SNR=6.8						
KBZ	**Khabaz**	**75.89**	**312**	P	**P**	**07 37 48.9**	**+0.3**
	2.4nm,0.7s,baz=64,slow=7.5,SNR=7.8						
FINES	**FINESS Array B**	**76.23**	**333**	P	**P**	**07 37 49.2**	**-1.0**
	1.6nm,0.5s,baz=73,slow=5.1,SNR=14						
NVAR	**Mina Array Bea**	**81.58**	**51**	P	**P**	**07 38 19.0**	**-0.7**
	0.3nm,0.7s,baz=297,slow=5.1,SNR=4.0						
HFS	**Hagfors**	**81.78**	**336**	P	**P**	**07 38 18.4**	**-1.6**
	1.5nm,0.3s,baz=45,slow=7.1,SNR=6.8						
NOA	**NORSAR Array B**	**82.01**	**337**	P	**P**	**07 38 19.7**	**-1.6**
	0.7nm,0.6s,baz=32,slow=2.6,SNR=2.6						

IDC 21 07:28:05.5±1.5, 4°.13S×153°.51E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/53, mbtmp3.6/5, Error ellipse: s-maj=71.3km s-min=23.8km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.41**	**228**	P	P	07 33 26.2	+0.2
	2.1nm,0.5s,baz=53,slow=10.0,SNR=33						
ASAR	**Alice Springs**	**27.11**	**222**	P	P	07 33 50.7	+0.3
	0.3nm,0.5s,baz=144,slow=5.2,SNR=2.1						
SONM	**Songino Array**	**66.15**	**327**	P	P	07 38 55.3	+0.3
	0.4nm,0.5s,baz=144,slow=5.2,SNR=2.1						
ILAR	**Eielson Array**	**81.28**	**22**	P	P	07 40 23.2	-0.1
	0.8nm,0.7s,baz=243,slow=5.9,SNR=8.4						
YKA	**Yellowknife Ar**	**94.51**	**28**	P	P	07 41 28.2	+0.7
	0.1nm,0.7s,baz=268,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**150.76**	**290**	PKPbc	PKPbc	07 47 59.2	-1.7
	1.3nm,0.8s,baz=48,slow=2.0,SNR=6.3						

ISCJB ***21*** *07:42:01.0±0.2, 61°.32N±0°.03×150°.12W±0°.05, h64km±2km, mb3.9/20, Error ellipse: s-maj=4.6km s-min=3.4km az=154.6*

NEIC ***21*** *07:42:02.7±0.0, 61°.31N×150°.07W, h45km, ML3.8(AEIC), MW3.9(SLM), After AEIC.*

NEIC Felt [III] at Anchorage and Eagle River; [II] at Chugiak, Palmer and Wasilla. Also felt at Elmendorf AFB, Fort Richardson, Girdwood and Talkeetna.

IDC ***21*** *07:42:04.5±3.4, 61°.51N×150°.20W, h74km±28km, mb3.6/20, mb1 3.7/23, mb1mx3.5/82, mbtmp3.8/23, Error ellipse: s-maj=25.1km s-min=12.9km az=43.0*

ISC 21 07:42:02.0±0.7, 61°.32N±0°.03×150°.11W±0°.03, h53km±6km, n71, σ1§22/86, mb4.0/20, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.16**	**192**	P	**Pn**	**07 42 10.4**	**0.0**
FIB				S	**Sn**	**07 42 17.7**	**+1.3**
RC01	**Rabbit Creek A**	**0.29**	**142**	P	**Pn**	**07 42 10.6**	**-0.7**
RC01				S	**Sn**	**07 42 17.4**	**-0.6**
SUA	**Susitna One**	**0.34**	**295**	P	**Pn**	**07 42 11.2**	**-0.7**
SUA				S	**Sn**	**07 42 18.4**	**-0.5**
PMR	**Palmer**	**0.54**	**59**	P	**Pn**	**07 42 12.8**	**-1.0**
PMR				S	**Sn**	**07 42 21.7**	**-0.8**
GHO	**Glory Hole Cre**	**0.72**	**51**	P	**Pn**	**07 42 15.5**	**-0.7**
GHO				S	**Sn**	**07 42 26.6**	**-0.1**
KNK	**Knik Gl

SPITS	Spitsbergen Ar	40.50	4	P	P	07 49 34.3	-0.7		
	1.7nm,0.5s,baz=339,slow=7.7,SNR=9.0								
TXAR	Lajitas Array	44.17	115	P	P	07 50 06.5	+1.0		
	0.4nm,0.7s,baz=327,slow=9.0,SNR=5.5								
TKL	Tuckaleechee C	48.23	90	P	P	07 50 36.9	-0.3		
	1.1nm,0.4s,baz=135,slow=3.8,SNR=5.4								
ARCES	ARCESS Array B	49.40	2	P	P	07 50 44.2	-1.4		
	2.2nm,0.8s,baz=8.8,slow=6.3,SNR=5.3								
KSRS	Korea Array	54.26	284	P	P	07 51 22.4	+0.2		
	0.6nm,0.4s,baz=20,slow=7.8,SNR=2.4								
KSAR	Wonju Array Be	54.29	284	P	P	07 51 22.4	0.0		
SONM	Songino Array	55.15	307	P	P	07 51 28.5	-0.2		
	0.5nm,0.6s,baz=46,slow=6.1,SNR=3.2								
NOA	NORSAR Array B	57.13	11	P	P	07 51 40.4	-2.1		
	1.3nm,0.9s,baz=345,slow=7.0,SNR=2.7								
FINES	FINESS Array B	57.52	2	P	P	07 51 44.1	-1.1		
	0.7nm,0.3s,baz=352,slow=8.4,SNR=3.9								
HFS	Hagfors	58.23	9	P	P	07 51 49.4	-0.8		
	1.0nm,0.6s,baz=352,slow=5.8,SNR=4.0								
EKA	Eskdalemuir Ar	60.80	21	P	P	07 52 07.5	-0.4		
	0.4nm,0.3s,baz=329,slow=5.7,SNR=6.1								
BVAR	Borovoye Array	61.54	334	P	P	07 52 11.7	-1.3		
	0.7nm,0.4s,baz=46,slow=6.9,SNR=7.4								
KURK	Kurchatov	61.71	327	P	P	07 52 12.8	-1.4		
KURBB	Kurchatov Arra	61.82	327	P	P	07 52 12.8	-2.1		
	0.8nm,0.5s,baz=27,slow=6.7,SNR=4.3								
MKAR	Makanchi Array	64.26	323	P	P	07 52 29.1	-2.1		
	0.4nm,0.5s,baz=38,slow=7.0,SNR=7.7								
AKASG	Malin Array Be	68.33	0	P	P	07 52 55.8	-1.3		
	0.7nm,0.3s,baz=0.2,slow=6.3,SNR=6.1								
GERES	GERESS Array B	69.42	11	P	P	07 53 03.9	-0.1		
	0.2nm,0.4s,baz=14,slow=4.4,SNR=3.3								

NEIC ***21*** *08:06:19.5±0.0, 15°.93N×98°.84W, h16km, MD4.0(MEX), After MEX.*

MEX 21 08:06:19.7±0.4, 15°.93N×98°.84W, h16km±6km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.83	56	*e*P	Pb	08 06 32.7	-3.0
PNIG				*e*S	Sb	08 06 43.0	-3.7
PNIG	Pinotepa	0.83	56	*e*P	Pb	08 06 32.7	-3.1
PNIG				*e*S	Sb	08 06 42.9	-3.8
TLIG	Tlapa	1.65	9	*e*P	Pn	08 06 44.9	-3.3
TLIG				*e*S	Sn	08 07 03.8	-5.3
TLIG	Tlapa	1.65	9	*e*P	Pn	08 06 44.9	-3.3
TLIG				*e*S	Sn	08 07 03.8	-5.3
CAIG	El Cayaco	1.77	309	*e*P	Pn	08 06 46.0	-3.6
CAIG				*e*S	Sn	08 07 06.8	-5.0
CAIG	El Cayaco	1.77	309	*e*P	Pn	08 06 46.0	-3.6
CAIG				*e*S	Sn	08 07 06.8	-5.0
VHO	Vista Hermosa	2.32	60	*e*P	Pn	08 06 54.0	-3.5
VHO				*i* S	Sn	08 07 21.4	-4.4
VHO	Vista Hermosa	2.32	60	*e*P	Pn	08 06 54.0	-3.5
VHO				*i* S	Sn	08 07 21.4	-4.4
HUIG	Huatulco	2.63	93	*e*P	Pn	08 06 59.2	-2.4
HUIG				*e*S	Sn	08 07 28.9	-4.3
HUIG	Huatulco	2.63	93	*e*P	Pn	08 06 57.1	-4.5
HUIG				*i* S	Sn	08 07 24.5	-8.7
TPIG	Tehuac#an	2.85	29	*e*P	Pn	08 07 02.2	-2.6
TPIG				*e*S	Sn	08 07 35.0	-3.9
TPIG	Tehuac#an	2.85	29	*e*P	Pn	08 07 02.2	-2.6
TPIG				*e*S	Sn	08 07 35.0	-3.9

MEX 21 08:09:37.6±0.5, 16°.20N×98°.47W, h2km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.38	60	*i* P	Pg	08 09 44.7	-0.2
PNIG				*e*S	Sg	08 09 49.8	-0.1
TLIG	Tlapa	1.35	356	*e*P	Pg	08 10 00.1	-3.5
TLIG				*e*S	Sg	08 10 16.7	-4.6
VHO	Vista Hermosa	1.88	62	*e*P	Pn	08 10 07.6	-3.2
VHO				*e*S	Sn	08 10 30.5	-4.7
CAIG	El Cayaco	1.92	296	*e*P	Pn	08 10 07.3	-4.0
CAIG				*e*S	Sn	08 10 31.5	-4.5
HUIG	Huatulco	2.31	100	*e*P	Pn	08 10 13.2	-3.5
HUIG				*i* S	Sn	08 10 41.4	-4.3
TPIG	Tehuac#an	2.44	25	*e*P	Pn	08 10 15.7	-2.9
TPIG				*e*S	Sn	08 10 45.3	-3.9

NNC ***21*** *08:09:50.0±3.1, 53°.57N×87°.78E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=25.6km s-min=10.1km az=61.0*

IDC 21 08:09:50.2±2.8, 53°.56N×87°.77E, h0km, mb1 3.1/2, mb1mx2.8/75, mbtmp3.1/2, ML2.8/2, 8C-1D, Error ellipse: s-maj=23.4km s-min=14.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.79	284	*i*		08 22 02.7	
	baz=98,slow=344,SNR=11						
ZAA0	Zalesovo Array	1.79	284	⇑Pg	Pn	08 10 22.2	-0.2
	4.7nm,0.5s						
ZAA0				⇓Lg	Lg	08 10 48.1	
	30nm,0.8s						
ZALV	Zalesovo Beam	1.79	284	Pg	Pn	08 10 22.1	-0.3
	3.3nm,0.3s,baz=104,slow=15,SNR=31						
ZALV				Lg	Lg	08 10 48.7	
	4.5nm,0.3s,baz=102,slow=27,SNR=13						
KURK	Kurchatov	6.31	247	⇑Lg	Lg	08 13 10.3	
	3.4nm,0.7s						
KURBB	Kurchatov Arra	6.41	246	Pn	Pn	08 11 26.4	+0.7
	0.2nm,0.3s,baz=62,slow=14,SNR=10						
KURBB				Sn	Sn	08 12 36.9	-2.6
	0.0nm,0.3s,baz=33,slow=29,SNR=2.7						
KURBB				Lg	Lg	08 13 12.6	
	0.1nm,0.3s,baz=62,slow=32,SNR=6.2						
MK31	Makanchi Array	7.63	210	⇑Pn	Pn	08 11 44.4	+1.9
	1.2nm,0.8s,baz=29,slow=14,SNR=8.7						
MK31				⇑Sn	Sn	08 13 11.2	+1.4
	0.6nm,0.6s,baz=27,slow=26,SNR=4.4						
MK31				⇑Lg	Lg	08 13 51.7	
	1.8nm,0.8s,baz=34,slow=28,SNR=4.1						
MKAR	Makanchi Array	7.63	210	Pn	Pn	08 11 44.0	+1.4
	0.2nm,0.3s,baz=28,slow=14,SNR=9.0						
MKAR				Sn	Sn	08 13 09.6	-0.1
	0.1nm,0.3s,baz=24,slow=28,SNR=5.1						
MKAR				Lg	Lg	08 13 53.8	
	0.1nm,0.3s,baz=36,slow=27,SNR=4.4						
MAKZ	Makanchi	7.71	211	⇑Pn	Pn	08 11 44.5	+0.8
	1.5nm,1.1s						
MAKZ				⇑Sn	Sn	08 13 11.9	+0.2
	1.0nm,0.7s						
MAKZ				⇑Lg	Lg	08 13 52.3	
	3.1nm,1.4s						

IDC ***21*** *08:14:30.8±0.9, 38°.20N×144°.77E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/72, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=26.0km s-min=19.4km az=108.0*

ISCJB ***21*** *08:14:34.7±1.1, 38°.47N±0°.04×144°.61E±0°.07, h41km±12km, mb3.7/7, Error ellipse: s-maj=9.5km s-min=6.1km az=29.0*

JMA ***21*** *08:14:35.0±0.2, 38°.37N×144°.55E, h44km, M4.0*

ISC 21 08:14:35.4±3.4, 38°.47N±0°.05×144°.66E±0°.07, h28km±25km, n25, σ1°48/37, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	2.42	286	P	Pn	08 15 12.7	-0.3
OFUJ				*e*S	Sn	08 15 40.6	-1.1
MIYJ	Miyakonagasawa	2.48	297	P	Pn	08 15 13.5	-0.3
MIYJ				S	Sn	08 15 42.1	-1.0
JIO	Ouri	2.60	271	P	Pn	08 15 14.8	-0.7
JIO				S	Sn	08 15 44.1	-2.1
JMK	Ichinoseki	2.74	281	P	Pn	08 15 17.3	-0.1
JMK				*e*S	Sn	08 15 47.8	-1.7
JOM	Ohasama	2.81	292	P	Pn	08 15 18.6	+0.1
JOM				*e*S	Sn	08 15 50.6	-0.8
JYK	Kaneyama	3.40	279	P	Pn	08 15 26.9	+0.4
JYK				*e*S	Sn	08 16 05.4	-0.5
JFT	Otama	3.55	256	P	Pn	08 15 28.3	-0.3
JFT				S	Sn	08 16 07.3	-2.3
JOT	Ohata	4.02	317	S	Sn	08 16 20.1	-1.2
JCH	Churui	4.26	347	P	Pn	08 15 39.1	+0.8
JCH				S	Sn	08 16 25.8	-1.3
JKB	Kayabe	4.40	322	P	Pn	08 15 42.0	+1.7
JKB				*e*S	Sn	08 16 29.3	-1.3
NEM2	Nemuro 2	4.96	9	*e*S	Sn	08 16 39.3	-5.0
JRY	Ryogami san	5.21	244	P	Pn	08 15 49.9	-1.5
JRY				*e*S	Sn	08 16 44.9	-5.7
JOSM	Okushiri--Mats	5.36	314	P	Pn	08 15 55.5	+2.0
MJAR	Matsushiro Arr	5.48	251	Pn	Pn	08 15 54.2	-0.9
	1.1nm,0.3s,baz=57,slow=14,SNR=5.9						
MJAR				Sn	Sn	08 16 57.8	+0.5
	0.4nm,0.3s,baz=12,slow=19,SNR=3.3						
MAT	Matsushiro	5.48	251	P	Pn	08 15 55.8	+0.6
MAT				S	Sn	08 16 58.5	+1.2
JOD2	Odawara 2	5.50	236	P	Pn	08 15 54.6	-0.8
JOD2				*e*S	Sn	08 16 50.7	-7.0
JTKR	Abashiri--Toko	5.53	354	P	Pn	08 15 55.2	-0.5
JTKR				*e*S	Sn	08 16 54.8	-3.5
ASAJ	Asahikawa	5.85	345	Pn	Pn	08 16 02.0	+1.8
	1.0nm,0.3s,baz=183,slow=16,SNR=3.9						
ASAJ				Sn	Sn	08 17 04.5	-1.8
	0.8nm,0.3s,baz=164,slow=18,SNR=2.8						
SEY	Seymchan	24.94	8	P	P	08 19 58.4	+2.5
	2.9nm,0.8s,baz=200,slow=7.8,SNR=11						
MKAR	Makanchi Array	45.55	301	P	P	08 22 53.6	+1.0
	0.5nm,0.7s,baz=94,slow=7.5,SNR=6.2						
KURBB	Kurchatov Arra	47.16	307	P	P	08 23 06.4	+1.2
	1.0nm,0.6s,baz=82,slow=8.1,SNR=7.1						
WRA	Warramunga Arr	58.90	191	P	P	08 24 29.6	-2.3
	0.6nm,0.6s,baz=9.3,slow=7.0,SNR=5.1						
YKA	Yellowknife Ar	61.26	31	P	P	08 24 47.8	+0.2
	0.2nm,0.7s,baz=297,slow=6.0,SNR=4.0						
ASAR	Alice Springs	62.63	191	P	P	08 24 55.2	-2.0
	0.6nm,1.0s,baz=20,slow=8.3,SNR=2.9						
TXAR	Lajitas Array	87.20	54	P	P	08 27 20.2	+0.8
	0.3nm,0.7s,baz=306,slow=3.2,SNR=2.5						

MEX 21 08:20:03.0±0.6, 15°.65N×98°.66W, h5km±12km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.90	35	*e*P	Pg	08 20 18.5	-1.8
PNIG				*e*S	Sg	08 20 30.9	-1.1
ACX	Acapulco	1.67	317	*i* P	Pn	08 20 28.4	-4.6
ACX				*i* S	Sn	08 20 49.8	-5.1
TLIG	Tlapa	1.91	3	*e*P	Pn	08 20 32.0	-4.3
TLIG				*e*S	Sn	08 20 55.9	-4.9
CAIG	El Cayaco	2.08	312	*e*P	Pn	08 20 35.9	-2.7
CAIG				*i* S	Sn	08 21 00.1	-4.8
VHO	Vista Hermosa	2.33	52	*i* P	Pn	08 20 39.2	-3.0
VHO				*e*S	Sn	08 21 06.3	-5.1
HUIG	Huatulco	2.46	87	*e*P	Pn	08 20 41.1	-2.8
HUIG				*i* S	Sn	08 21 10.2	-4.2
PLIG	Platanillo	2.84	344	*e*P	Pn	08 20 47.1	-2.1
PLIG				*i* S	Sn	08 21 20.5	-3.5

NNC ***21*** *08:31:25.4±1.7, 53°.68N×87°.94E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=14.2km s-min=9.0km az=64.0*

IDC 21 08:31:23.8±2.6, 53°.76N×88°.09E, h0km, mb1 3.2/3, mb1mx3.0/73, mbtmp3.2/3, ML2.8/3, 6C-5D, Error ellipse: s-maj=22.4km s-min=14.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.94	277	*i*		08 44 48.5	
	baz=90,slow=343,SNR=8.6						
ZAA0	Zalesovo Array	1.94	277	⇓Pn	Pn	08 31 58.5	+0.4
	17nm,0.8s						
ZAA0				⇓Lg	Lg	08 32 25.7	
	25nm,0.7s						
ZALV	Zalesovo Beam	1.94	277	Pg	Pn	08 31 58.1	0.0
	3.0nm,0.3s,baz=93,slow=12,SNR=71						
ZALV				Lg	Lg	08 32 25.3	
	8.4nm,0.3s,baz=91,slow=24,SNR=27						
KURK	Kurchatov	6.56	246	⇑Pn	Pn	08 33 01.5	-0.1
	1.5nm,0.6s						
KURK				⇓Sn	Sn	08 34 15.3	-1.7
	1.8nm,0.6s						
KURK				⇑Lg	Lg	08 34 49.7	
	5.3nm,0.8s						
KURBB	Kurchatov Arra	6.66	246	Pn	Pn	08 33 03.4	+0.6
	0.3nm,0.3s,baz=62,slow=14,SNR=9.6						
KURBB				Sn	Sn	08 34 18.9	-0.5
	0.0nm,0.3s,baz=62,slow=25,SNR=3.3						
KURBB				Lg	Lg	08 34 54.8	
	0.1nm,0.3s,baz=61,slow=31,SNR=7.4						
MK31	Makanchi Array	7.90	210	⇑Pn	Pn	08 33 21.1	+1.2
	0.1nm,0.2s,baz=30,slow=13,SNR=7.2						
MK31				⇑Sn	Sn	08 34 51.5	+1.5
	0.8nm,0.6s,baz=31,slow=24,SNR=4.9						
MK31				⇑Lg	Lg	08 35 30.7	
	3.1nm,0.9s,baz=22,slow=40,SNR=4.2						
MKAR	Makanchi Array	7.90	210	Pn	Pn	08 33 20.6	+0.7
	0.2nm,0.3s,baz=29,slow=14,SNR=8.2						
MKAR				Sn	Sn	08 34 49.4	-0.6
	0.2nm,0.3s,baz=30,slow=26,SNR=6.6						
MKAR				Lg	Lg	08 35 32.9	
	0.1nm,0.3s,baz=26,slow=31,SNR=3.5						
MAKZ	Makanchi	7.98	212	⇓Pn	Pn	08 33 20.2	-0.8
	2.9nm,1.6s						
MAKZ				⇑Sn	Sn	08 34 51.7	-0.3
	0.7nm,0.5s						
MAKZ				⇓Lg	Lg	08 35 34.3	
	3.2nm,1.0s						
TLY	Talaya	9.67	96	Lg	Lg	08 36 32.0	
	0.0nm,0.3s,baz=4.2,slow=17,SNR=3.1						
BVAR	Borovoye Array	10.60	273	Pn	Pn	08 33 57.2	+0.5
	0.0nm,0.3s,baz=72,slow=14,SNR=2.9						
BVAR				Sn	Sn	08 35 50.3	-5.8
	0.3nm,0.3s,baz=86,slow=24,SNR=3.1						

NIED ***21*** *08:32:00, 36°.80N×142°.40E, h11km, Mw4.9 Best double couple: M0 2.55000×10^16 NP1:φs199.00000°, δ17.00000°, λ98.00000°. NP2:φs11.00000°, δ73.00000°, λ88.00000°.*

IDC ***21*** *08:32:45.4±0.5, 36°.72N×142°.37E, h0km, mb4.5/35, mb1 4.6/41, mb1mx4.4/74, mbtmp4.5/41, ML4.1/5, MS4.2/54, Ms1 4.2/54, ms1mx4.1/71, Error ellipse: s-maj=12.1km s-min=11.3km az=124.0*

MOS ***21*** *08:32:47.8±0.8, 37°.00N×142°.27E, h16km, mb4.9/58, MS4.4/20, Error ellipse: s-maj=7.4km s-min=4.8km az=111.8*

ISCJB ***21*** *08:32:47.8±0.8, 36°.77N±0°.02×142°.27E±0°.03, h22km±5km, mb4.7/153, MS4.4/62, Error ellipse: s-maj=4.0km s-min=3.3km az=144.4*

JMA ***21*** *08:32:47.9±0.2, 36°.75N×142°.38E, h41km, M4.8*

JMA Felt I J1.

NEIC ***21*** *08:32:49.5±1.1, 36°.75N×142°.31E, h22km±8km, mb4.8/91, Error ellipse: s-maj=4.0km s-min=3.2km az=146.0*

NEIC Recorded [1 JMA] in Fukushima and Miyagi.

BJI ***21*** *08:32:49.4, 36°.66N×142°.15E, h36km, mb4.9/64, mB5.1/51, Ms4.7/59, Ms7 4.5/54*

GCMT ***21*** *08:32:49.5±0.4, 36°.81N×142°.36E, h23km±1km, MW4.9/62, Moment Tensor Solution. s17,c21; s62,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 2.22±.26; Mθθ -0.35±.15; Mφφ -1.87±.15; Mrθ 0.17±.22; Mrφ -0.52±.09; Mθφ 2.35±.24; Best double couple: M0 3.17100×10^16 NP1:φs8.00000°, δ69.00000°, λ84.00000°. NP2: φs204.00000°, δ22.00000°, λ105.00000°. Principal axes: T 3.2910, Plg65.0000°, Azm268.0000°; N -0.2420, Plg6.0000°, Azm10.0000°; P -3.0500, Plg24.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 08:32:48.5±0.5, 36°.72N±0°.04×142°.40E±0°.04, h20km±2km, h19km:pP-P, n383, σ1°63/400, mb4.7/153, MS4.4/66, 16C-13D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	1.34	287	P	Pn	08 33 10.3	-1.8
JFK	Kawauchi	1.38	298	P	Pn	08 33 10.7	-2.0
JFK				*e*S	Sn	08 33 28.0	-2.4
JHO	Hitachi	1.47	266	P	Pn	08 33 12.3	-1.6
CHOJ	Chosi	1.60	231	P	Pn	08 33 15.0	-0.7
CHOJ				*e*S	Sn	08 33 34.2	-1.6
JMM	Marumori	1.72	312	P	Pn	08 33 15.7	-1.6
JMM				*e*S	Sn	08 33 35.6	-3.0
JFT	Otama	1.83	296	P	Pn	08 33 18.0	-0.9
JFT				*e*S	Sn	08 33 40.1	-1.4
JIO	Ouri	1.92	335	P	Pn	08 33 18.6	-1.5
JIO				S	Sn	08 33 41.3	-2.4
BSO1	Boso 1	2.36	210	P	Pn	08 33 25.6	-0.1
BSO1				S	Sn	08 33 54.3	+0.5
JAG	Ashikaga	2.39	264	P	Pn	08 33 25.7	-0.8
JMK	Ichinoseki	2.42	338	P	Pn	08 33 25.9	-1.0
JNS	Sasagawa	2.69	295	P	Pn	08 33 31.0	+0.3
JYK	Kaneyama	2.72	324	P	Pn	08 33 30.4	-0.8
JOM	Ohasama	2.88	343	P	Pn	08 33 32.4	-1.0
JOM				S	Sn	08 34 05.2	-2.3
JRY	Ryogami san	2.91	257	P	Pn	08 33 32.8	-0.9
MJAR	Matsushiro Arr	3.37	268	Pn	Pn	08 33 40.4	+0.3
	27nm,0.3s,baz=96,slow=8.1,SNR=170						
MJAR				Sn	Sn	08 34 22.5	+3.0
	18nm,0.3s,baz=242,slow=25,SNR=6.2						
MJAR				LR	LR	08 35 12.4	
	comp=Z,6μm,18.9s,baz=105,slow=44						
MAJO	Matsushiro	3.37	268	*c* *i*P	Pn	08 33 40.3	+0.2
MAJO	Matsushiro	3.37	268	*e*Pn	Pn	08 33 40.8	+0.7
MAJO				*e*Sn	Sn	08 34 22.5	+3.0
MAT	Matsushiro	3.37	268	P	Pn	08 33 40.5	+0.4
MAT				*e*S	Sn	08 34 22.3	+2.7
MJB9	Matsu-Tunnel	3.38	268	*e*Pn	Pn	08 33 40.8	+0.7
JHJ2	Mitsune	4.18	211	*e*Pn	Pn	08 33 51.3	+0.2
JHJ	Hachijo jima 2	4.18	212	Pn	Pn	08 33 50.6	-0.6
	76nm,0.3s,baz=301,slow=21,SNR=16						
JHJ				Sn	Sn	08 34 35.2	-4.3
	165nm,0.3s,baz=112,slow=22,SNR=17						
INU	Inuyama	4.57	254	*e*Pn	Pn	08 33 57.0	+0.6
ERM	Erimo	5.32	6⇑	*e*P	Pn	08 34 04.8	-2.0
ERM	Erimo	5.32	6	*e*Pn	Pn	08 34 05.0	-1.9
ASAJ	Asahikawa	7.39	1	Pn	Pn	08 34 34.5	-0.8
	2.9nm,0.3s,baz=184,slow=9.3,SNR=14						
ASAJ				Sn	Sn	08 35 56.7	-1.8
	3.5nm,0.3s,baz=156,slow=19,SNR=3.3						
YUK	Yuzh-Kuril'sk	7.77	19	*e*P	Pn	08 34 37.4	-3.0
YUK				*e*S	Sn	08 36 01.0	-6.8
YUK				pmax	pmax		
	comp=Z,170nm,0.4s						
YUK				pmax	pmax		
	comp=N,82nm,0.3s						
YUK				pmax	pmax		
	comp=E,71nm,0.3s						
YUK				MLR	MLR		
	comp=Z,1μm,15.0s						
YUK				MLR	MLR		
	comp=E,1μm,16.0s						
YUK				MLR	MLR		
	comp=N,1μm,15.0s						
SHO	Shikotan	7.91	24⇓	*i*P	Pn	08 34 37.4	-4.9
SHO				*i* S	Sn	08 36 00.8	-10
SHO				pmax	pmax		
	comp=Z,18nm,0.6s						
TEY	Ternei	9.39	334	*e*P	Pn	08 35 10.9	+8.2
TEY				pmax	pmax		
	comp=E,30nm,1.0s						
TEY				pmax	pmax		
	comp=N,55nm,1.1s						
TEY				pmax	pmax		
	comp=Z,47nm,1.0s						
TEY				MLR	MLR		
	comp=N,3μm,16.0s						
KUR	Kuril'sk	9.46	24	P	Pn	08 35 00.2	-3.3
KUR				*e*S	Sn	08 36 40.3	-8.9
KUR				pmax	pmax		
	comp=Z,33nm,0.5s						
KUR				pmax	pmax		
	comp=N,9.0nm,0.1s						
KUR				pmax	pmax		
	comp=E,26nm,0.4s						
CBIJ	Chichi jima	9.60	181	*e*Pn	Pn	08 35 03.9	-1.7
CBIJ				*e*Sn	Sn	08 36 44.9	-7.9
JCJ	Chichijima	9.60	181	Pn	Pn	08 35 03.9	-1.7
	comp=E,7.8nm,0.3s,baz=284,slow=20,SNR=5.1						
JCJ				Sn	Sn	08 36 44.9	-7.9
	comp=E,26nm,0.3s,baz=287,slow=23,SNR=6.4						
JNU	Nakatsue	10.11	253	Pn	Pn	08 35 13.2	+0.5
	comp=E,0.5nm,0.3s,baz=58,slow=5.7,SNR=5.0						
JNU				LR	LR	08 38 57.6	
	comp=E,1μm,19.1s,baz=72,slow=37						
JNU	Nakatsue	10.11	253	*e*Pn	Pn	08 35 13.8	+1.2
YSS	Yuzh-Sakhalins	10.23	1⇓	*e*P	Pn	08 35 12.9	-1.3
YSS				*e*S	Sn	08 37 10.9	+2.7
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				smax	smax		
	comp=N,30μm,1.3s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
YSS	Yuzh-Sakhalins	10.23	1	*e*Pn	Pn	08 35 13.2	-1.0
MSHR	Mys Shultsa	10.45	307	*c*e*P*	Pn	08 35 14.1	-3.1
USRK	Ussuriysk Ar.	10.89	317	Pn	Pn	08 35 22.9	-0.2
	comp=E,0.1nm,0.3s,baz=148,slow=12,SNR=3.6						
USRK				LR	LR	08 39 25.4	
	comp=E,2μm,18.6s,baz=122,slow=37						
KSRS	Korea Array	11.59	278	Pn	Pn	08 35 35.0	+2.3
	comp=E,0.0nm,0.3s,baz=85,slow=14,SNR=30						
KSRS				LR	LR	08 39 51.3	
	comp=E,3μm,18.7s,baz=88,slow=37						
KSRS	Korea Array	11.59	278	P	Pn	08 35 35.0	+2.3
KSRS				MLR	MLR		
	comp=Z,3μm,18.7s						
KS01	Wonju Array Si	11.61	278	*e*Pn	Pn	08 35 34.0	+1.0
KS15	Wonju Array Si	11.62	278	*e*Pn	Pn	08 35 34.8	+1.6
KSAR	Wonju Array Be	11.62	278	P	Pn	08 35 35.0	+1.8
KSAR	Wonju Array Be	11.62	278	Pn	Pn	08 35 35.0	+1.8
TJN	Taejon	12.10	273⇑	*e*P	Pn	08 35 39.9	+0.2
MDJ	Mudanjiang	12.51	313	P	Pn	08 35 49.8	+4.5
MDJ				pP	P	08 35 55.5	-1.4
MDJ				sP		08 35 59.1	
MDJ				S	Sn	08 38 07.9	+3.9
MDJ				pmax	pmax		
	comp=Z,22nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,280nm,4.1s						
MDJ				LR	LR		
	comp=Z,1μm,17.0s						
MDJ				LR	LR		
	comp=Z,1μm

NKL MLR MLR
comp=E,2μm,14.0s
NKL MLR MLR
comp=Z,1μm,14.0s
DL2 Dalian 16.56 284 P **Pn** **08 36 37.8 -1.7**
DL2 *e*S **Sn** **08 39 36.8 -5.9**
DL2 pmax pmax
comp=Z,58nm,1.1s
DL2 pmax pmax
comp=Z,410nm,8.9s
DL2 LR LR
comp=Z,820nm,13.7s
DL2 LR LR
comp=Z,2μm,15.7s
DL2 LR LR
comp=Z,2μm,17.0s
NJ2 Nanjing 19.96 263 *e*P **Pn** **08 37 20.9 -0.3**
NJ2 pmax pmax
comp=Z,16nm,0.8s
NJ2 LR LR
comp=Z,770nm,18.4s
NJ2 LR LR
comp=Z,2μm,16.3s
NJ2 LR LR
comp=Z,2μm,17.4s
ZEA Zeya 20.01 333 *e*P **P** **08 37 19.0 -0.8**
ZEA pmax pmax
comp=Z,26nm,0.8s
ZEA MLR MLR
comp=N,1μm,14.0s
ZEA MLR MLR
comp=E,2μm,14.0s
ZEA MLR MLR
comp=Z,3μm,14.0s
HIA Hailar 20.69 314 *e*P **P** **08 37 26.6 -0.6**
HIA pmax pmax
comp=Z,36nm,1.2s
HIA Hailar 20.69 314 *e*P **P** **08 37 26.6 -0.6**
comp=Z,36nm,1.2s
BJI Beijing 20.80 287 P **P** **08 37 27.0 -1.4**
BJI pmax pmax
comp=Z,26nm,1.6s
BJI LR LR
comp=Z,1μm,14.0s
BJI LR LR
comp=Z,2μm,15.4s
BJI LR LR
comp=Z,660nm,16.4s
BJT Baijiatuan 20.80 287 *e*P **P** **08 37 27.5 -1.0**
BJT pmax pmax
comp=Z,47nm,1.3s
BJT Baijiatuan 20.80 287 *e*P **P** **08 37 27.5 -1.0**
comp=Z,47nm,1.3s
CLNS Chul'man 23.29 335 *e*P **P** **08 37 53.4 -1.5**
CLNS pmax pmax
comp=N,17nm,1.2s
CLNS pmax pmax
comp=Z,18nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.2s
CLNS MLR MLR
comp=N,1μm,17.0s
CLNS MLR MLR
comp=Z,1μm,14.0s
CLNS MLR MLR
comp=E,771nm,13.0s
MA2 Magadan 23.51 11 P **P** **08 37 56.6 -0.3**
comp=E,18nm,0.8s,baz=194,slow=9.1,SNR=13
MA2 LR LR 08 47 53.2
comp=E,460nm,19.8s,baz=146,slow=39
MA2 Magadan 23.51 11 *de*P **P** **08 37 57.0 +0.1**
TIY Taiyuan 23.84 281 *e*P **P** **08 38 03.3 +2.9**
TIY S S 08 42 01.3 -14
TIY SS **SnSn** **08 43 00.6 +6.1**
TIY pmax pmax
comp=E,140nm,4.6s
TIY LR LR
comp=E,590nm,11.6s
TIY LR LR
comp=E,1μm,12.9s
TIY LR LR
comp=E,2μm,16.8s
WHN Wuhan 24.10 263 ⇓P **P** **08 38 02.1 -0.7**
WHN pP **sP** **08 38 12.1 +0.8**
WHN S **S** **08 42 19.4 -0.1**
WHN LR LR
comp=E,3μm,16.3s
WHN LR LR
comp=E,1μm,8.0s
WHN LR LR
comp=E,3μm,16.2s
HHC Hu-ho-hao-te 24.32 289 *e*P **P** **08 38 04.1 -0.8**
HHC pP sP 08 38 13.5 +0.1
HHC sP pP 08 38 17.3 +6.4
HHC S **S** **08 42 16.6 -6.5**
HHC sS sS 08 42 31.6 -1.3
HHC pmax pmax
comp=E,17nm,0.9s
HHC pmax pmax
comp=E,180nm,5.6s
HHC LR LR
comp=E,950nm,13.3s
HHC LR LR
comp=E,510nm,12.9s
HHC LR LR
comp=E,510nm,12.9s
CIT Chita 25.45 316 *e*P **P** **08 38 14.9 -0.1**
CIT *e* 08 38 22.7
CIT pmax pmax
comp=Z,211nm,1.4s
YAK Yakutsk 26.55 347 P **P** **08 38 24.8 +0.1**
comp=Z,22nm,0.4s,baz=197,slow=3.7,SNR=8.3
YAK LR LR 08 50 22.8
comp=Z,704nm,19.1s,baz=122,slow=40
YAK Yakutsk 26.55 347 *e*P **P** **08 38 24.0 -0.8**
YAK *e**PP **sP** **08 38 32.4 -0.8**
YAK *e* 08 39 04.1
YAK *e*PPP PPP 08 39 15.0
YAK *e*S **S** **08 42 55.2 -2.7**
YAK *e**SS **pS** **08 43 04.5 +0.3**
YAK *e*SS **SnSn** **08 43 55.5 -4.8**
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=Z,6.0nm,0.5s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK smax smax
comp=E,99nm,2.8s
YAK smax smax
comp=N,28nm,1.7s
YAK MLR MLR
comp=Z,1μm,16.0s
YAK MLR MLR
comp=N,1μm,16.0s
YAK MLR MLR
comp=E,622nm,19.0s
YAK Yakutsk 26.55 347 *e*P **P** **08 38 24.6 -0.2**
comp=E,52nm,1.0s
SEY Seymchan 26.95 10 P **P** **08 38 28.9 +0.6**
comp=E,13nm,0.8s,baz=191,slow=7.5,SNR=31
SEY Seymchan 26.95 10 ⇑*e*P **P** **08 38 29.6 +1.2**
H11N2 WAKE ISLAND Hy 27.31 122 T T 09 07 24.9
baz=314,slow=75,SNR=92
H11N1 WAKE ISLAND Hy 27.32 122 T T 09 07 11.3
baz=314,slow=75,SNR=60
H11N3 WAKE ISLAND Hy 27.33 122 T T 09 07 31.0
baz=314,slow=75,SNR=84
XAN Xi'an 27.35 274 P **P** **08 38 31.6 -0.7**
XAN pP sP 08 38 41.4 +0.6
XAN sP pP 08 38 45.0 +6.7
XAN PP **PnPn** **08 39 21.3 +4.8**
XAN S **S** **08 43 15.1 +3.9**
XAN pmax pmax
comp=E,30nm,1.4s
XAN pmax pmax
comp=E,160nm,5.5s
XAN LR LR
comp=E,360nm,12.8s
XAN LR LR
comp=E,660nm,19.4s
XAN LR LR
comp=E,820nm,17.9s
H11S1 WAKE ISLAND Hy 28.03 124 T T 09 08 20.8
baz=316,slow=75,SNR=54
H11S3 WAKE ISLAND Hy 28.03 124 T T 09 08 17.5
baz=316,slow=75,SNR=54
H11S2 WAKE ISLAND Hy 28.05 124 T T 09 08 20.3
baz=316,slow=75,SNR=36
ENH Enshi 28.09 266 *e*P **P** **08 38 38.2 -0.8**
comp=E,91nm,0.9s
ULN Ulaanbaatar 28.18 304 *ce*P **P** **08 38 39.4 -0.4**
ULN pmax pmax
comp=Z,38nm,1.2s
ULN Ulaanbaatar 28.18 304 *e*P **P** **08 38 39.6 -0.2**
comp=Z,32nm,1.1s
BOD Bodaibo 28.22 327 *e*P **P** **08 38 38.7 -1.0**
BOD pmax pmax
comp=Z,21nm,1.0s
SONA1 Songino Array 28.61 304 *e*P **P** **08 38 43.4 -0.2**
SONA0 Songino Array 28.61 304 *e*P **P** **08 38 43.7 +0.2**
SONM Songino Array 28.61 304 P **P** **08 38 43.7 +0.2**
comp=Z,24nm,0.8s,baz=103,slow=9.0,SNR=112
SONM LR LR 08 50 17.8
comp=Z,583nm,19.2s,baz=100,slow=37
LZH Lanzhou 30.90 281 ⇓P **P** **08 39 03.8 -0.2**
LZH pP sP 08 39 13.4 +0.9
LZH sP pP 08 39 18.8 +8.8
LZH PP **PnPn** **08 40 06.0 +1.4**
LZH *e*S **S** **08 44 04.3 -2.9**
LZH sS sS 08 44 23.0 +5.9
LZH *e*SS **SnSn** **08 45 49.0 +2.0**
LZH pmax pmax
comp=Z,79nm,1.2s
LZH pmax pmax
comp=Z,250nm,4.7s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,2μm,15.0s
LZH LR LR
comp=Z,2μm,16.5s
ZAK Zakamensk 31.08 309 *e*P **P** **08 39 05.4 0.0**
ZAK pmax pmax
comp=Z,19nm,1.3s
TLY Talaya 31.13 311 P **P** **08 39 06.1 +0.4**
comp=Z,5.9nm,0.8s,baz=112,slow=6.5,SNR=19
TLY LR LR 08 52 09.2
comp=Z,902nm,19.3s,baz=120,slow=37
TLY Talaya 31.13 311 *e*P **P** **08 39 05.6 0.0**
TLY *e*S **S** **08 44 11.4 +1.2**
TLY *e*SS **SnSn** **08 45 51.0 -1.1**
TLY pmax pmax
comp=Z,32nm,1.4s
TLY MLR MLR
comp=Z,864nm,17.0s
TLY Talaya 31.13 311 *e*P **P** **08 39 05.7 0.0**
comp=Z,33nm,1.3s
TLY *e*P **P** **08 39 06.1 +0.4**
GYA Guiyang 31.95 262 ⇑*i*P **P** **08 39 11.8 -1.4**
GYA pP sP 08 39 25.4 +3.6
GYA PP **PnPn** **08 40 21.3 +3.0**
GYA PcP **PcP** **08 42 05.0 +1.7**
GYA S **S** **08 44 21.8 -1.9**
GYA sS sS 08 44 39.6 +6.0
GYA SS **SnSn** **08 46 13.3 +0.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,5.0s
GYA LR LR
comp=Z,480nm,16.8s
GYA LR LR
comp=Z,430nm,17.5s
GYA LR LR
comp=Z,440nm,17.6s
CD2 Chengdu 32.46 271 *e*P **P** **08 39 16.6 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
MOY Mondy 32.74 310 *e*P **P** **08 39 19.8 -0.1**
MOY pmax pmax
comp=Z,32nm,2.1s
DAV Davao City (W) 33.26 212 LR LR 08 52 42.1
comp=Z,243nm,20.2s,baz=48,slow=36
GTA Gaotai 33.41 288 *e*P **P** **08 39 26.1 +0.2**
GTA pP sP 08 39 35.3 +0.9
GTA sP pP 08 39 39.8 +7.8
GTA S **S** **08 44 41.8 -4.4**
GTA sS sS 08 44 56.8 +0.6
GTA SS **SnSn** **08 46 44.5 -3.4**
GTA pmax pmax
comp=Z,21nm,1.0s
GTA pmax pmax
comp=Z,190nm,7.8s
GTA LR LR
comp=Z,580nm,14.5s
GTA LR LR
comp=Z,590nm,16.4s
GTA LR LR
comp=Z,590nm,15.4s
QIZ Qiongzhong 33.52 247 P **P** **08 39 26.5 -0.4**
QIZ S **S** **08 44 47.3 -0.7**
QIZ pmax pmax
comp=Z,16nm,1.4s
QIZ LR LR
comp=Z,640nm,15.7s
QIZ LR LR
comp=Z,450nm,13.2s
QIZ LR LR
comp=Z,400nm,12.8s
BILL Bilibino 34.11 16 *i*P **P** **08 39 30.4 -1.1**
BILL *i* 08 39 40.7
BILL *e*S **S** **08 44 53.6 -2.6**
BILL pmax pmax
comp=Z,10.0nm,1.3s
BILL MLR MLR
comp=Z,326nm,18.0s
KNGR Kungurtug, Tuv 34.75 308 *e*P **P** **08 39 37.0 -0.5**
KMI Kunming 35.70 262 P **P** **08 39 45.4 -0.6**
KMI pP sP 08 39 54.8 +0.3
KMI sP pP 08 39 59.3 +7.3
KMI pmax pmax
comp=Z,20nm,1.0s
KMI LR LR
comp=Z,830nm,17.5s
KMI LR LR
comp=Z,490nm,20.9s
KMI LR LR
comp=Z,810nm,18.3s
TIXI Tiksi 35.70 353 P **P** **08 39 44.7 -0.4**
comp=Z,1.0nm,0.4s,baz=173,slow=5.0,SNR=2.9
TIXI Tiksi 35.70 353 ⇓*e*P **P** **08 39 44.9 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
HVS Khovu-Aksy 37.21 308 *e*P **P** **08 39 58.0 -0.4**
HVS pmax pmax
comp=Z,16nm,1.4s
MYLDM Lahad Datu 38.27 221 *e*P **P** **08 40 08.3 +0.7**
comp=Z,27nm,0.9s
SKNT Sakolnakorn 39.17 250 P **P** **08 40 15.4 +0.2**
comp=Z,9.5nm,1.2s
CHAI Chaiyaphum 41.34 251 P **P** **08 40 33.8 +0.6**
comp=Z,7.4nm,1.0s,comp=Z,86nm
LAMP Lampang 41.61 256 P P 08 40 45.5 +10
WMQ Urumqi 41.68 297 P **P** **08 40 36.9 +1.1**
WMQ pP sP 08 40 47.5 +3.1
WMQ sP pP 08 40 53.5 +12
WMQ pmax pmax
comp=Z,38nm,1.3s
WMQ pmax pmax
comp=Z,360nm,3.6s
WMQ LR LR
comp=Z,2μm,15.3s
WMQ LR LR
comp=Z,610nm,21.3s
WMQ LR LR
comp=Z,850nm,25.5s
CMMT Chiang Mai 41.98 257 P **P** **08 40 41.7 +3.3**
comp=Z,9.7nm,1.2s,comp=Z,384nm
CHTO Chiang Mai 41.98 257 P **P** **08 40 41.5 +3.1**
comp=Z,31nm,1.4s
CMAR Chiang Mai Arr 42.18 256 P **P** **08 40 39.5 -0.5**
comp=Z,2.1nm,0.8s,baz=51,slow=7.2,SNR=9.1
CMAR LR LR 08 59 56.8
comp=Z,283nm,18.1s,baz=50,slow=39
CMAR Chiang Mai Arr 42.18 256 *i*P **P** **08 40 42.7 +2.6**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
ZAA0 Zalesovo Array 42.71 313 *e*P **P** **08 40 43.9 0.0**
comp=Z,29nm,1.4s
ZAA1 Zalesovo Array 42.71 313 *e*P **P** **08 40 43.7 -0.2**
ZALV Zalesovo Beam 42.71 313 P **P** **08 40 43.7 -0.2**
comp=Z,5.0nm,0.8s,baz=94,slow=6.4,SNR=26
ZALV LR LR 08 59 15.9
comp=Z,686nm,18.9s,baz=72,slow=37
ZALV Zalesovo Beam 42.71 313 *e*P **P** **08 40 43.3 -0.6**
ZALV Zalesovo Beam 42.71 313 *e*P **P** **08 40 43.3 -0.6**
NVS Novosibirsk 43.62 314 ⇓*i*P **P** **08 40 51.4 +0.1**
NVS *e* 08 42 37.7
NVS pmax pmax
comp=Z,32nm,1.7s
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,23nm,1.7s
CHGN Chignik 43.64 44 *e*P **P** **08 40 53.7 +2.3**
comp=E,278nm,0.9s
SRDT SRDT 44.47 252 P **P** **08 40 59.8 +1.2**
comp=E,14nm,1.1s,comp=E,3μm
MK01 Makanchi Array 44.95 302 *e*P **P** **08 41 01.6 -0.5**
MK31 Makanchi Array 44.95 303 *e*P **P** **08 41 01.7 -0.4**
MK31 Makanchi Array 44.95 303 *e*P **P** **08 41 01.7 -0.4**
MK32 Makanchi Array 44.95 303 *e*P **P** **08 41 01.8 -0.4**
MKAR Makanchi Array 44.95 303 P **P** **08 41 01.8 -0.4**
comp=E,6.2nm,0.8s,baz=89,slow=9.6,SNR=61
MKAR LR LR 09 00 15.5
comp=E,301nm,19.2s,baz=78,slow=37
MKAR Makanchi Array 44.95 303 *e*P **P** **08 41 01.7 -0.4**
comp=E,58nm,0.9s
PHET Kaeng Krachan 44.98 249 P **P** **08 41 04.4 +1.8**
comp=E,6.4nm,1.0s
MAKZ Makanchi 45.16 303 *e*P **P** **08 41 03.5 -0.3**
MAKZ pmax pmax
comp=Z,14nm,1.0s
MAKZ Makanchi 45.16 303 *e*P **P** **08 41 03.5 -0.3**
comp=Z,14nm,1.0s
PMG Port Moresby 46.10 173 LR LR 08 58 22.9
comp=Z,48nm,21.0s,baz=26,slow=33
KURK Kurchatov 46.74 308 *c*⇑P **P** **08 41 15.4 -0.7**
KURK pmax pmax
comp=Z,103nm,1.0s
KURK Kurchatov 46.74 308 *e*P **P** **08 41 15.6 -0.5**
comp=Z,36nm,1.0s
KURK *e*P **pP** **08 41 16.0 -6.3**
TAPN Taplejung 46.75 275 *e*P **P** **08 41 16.9 0.0**
comp=Z,39nm,1.1s
KDAK Kodiak Island 46.81 42 P **P** **08 41 15.8 -0.7**
comp=Z,12nm,0.7s,baz=286,slow=8.5,SNR=5.2
KDAK Kodiak Island 46.81 42 *i*P **P** **08 41 17.2 +0.7**
KDAK Kodiak Island 46.81 42 *e*P **P** **08 41 15.8 -0.7**
comp=Z,277nm,2.0s
KURBB Kurchatov Arra 46.81 308 P **P** **08 41 16.0 -0.7**
comp=Z,10nm,0.7s,baz=83,slow=8.0,SNR=69
CAST Castle Rocks 47.04 34 *e*P **P** **08 41 19.4 +1.1**
comp=Z,12nm,1.4s
ODAN Odare 47.22 274 *e*P **P** **08 41 20.2 -0.3**
comp=Z,14nm,0.6s
BPAW Bear Paw Mtn. 47.56 33 *e*P **P** **08 41 23.7 +1.3**
comp=Z,14nm,1.4s
KTH Kantishna Hill 47.57 34 *e*P **P** **08 41 23.8 +1.3**
comp=Z,12nm,1.0s
MLY Manley 47.70 32 *e*P **P** **08 41 25.0 +1.5**
comp=Z,11nm,0.9s
RAMN Ramite 47.81 275 *e*P **P** **08 41 24.8 -0.3**
comp=Z,74nm,1.0s
JIRN Jiri 47.83 276 *e*P **P** **08 41 25.4 0.0**
comp=Z,72nm,0.9s
GUN Gumba 47.97 276 *e*P **P** **08 41 26.3 -0.1**
comp=Z,69nm,1.0s
MCK McKinley 48.46 34 *e*P **P** **08 41 30.0 +0.7**
MCK pmax pmax
comp=Z,8.0nm,0.9s
MCK McKinley 48.46 34 *e*P **P** **08 41 30.0 +0.7**
comp=Z,7.8nm,0.9s
PKI Pulchoki 48.49 276 *e*P **P** **08 41 30.5 0.0**
comp=Z,15nm,0.6s
RND Reindeer 48.50 34 *e*P **P** **08 41 30.1 +0.4**
RND pmax pmax
comp=Z,11nm,1.0s
RND Reindeer 48.50 34 *e*P **P** **08 41 30.1 +0.4**
comp=Z,11nm,1.0s
PKIN Phulchoki 48.50 276 *e*P **P** **08 41 30.5 +0.1**
comp=Z,32nm,0.9s
KKN Kakani 48.50 277 *e*P **P** **08 41 30.2 -0.2**
comp=Z,32nm,0.7s
DMN Daman 48.72 276 *e*P **P** **08 41 31.9 -0.2**
comp=Z,19nm,0.9s
MDM Murphy Dome 48.76 32 *e*P **P** **08 41 32.5 +0.9**
comp=Z,17nm,0.9s
HNR Honiara 48.78 157 LR LR 09 00 24.0
comp=Z,211nm,20.8s,baz=332,slow=34
WRH Wood River Hil 48.83 33 *e*P **P** **08 41 32.7 +0.6**
comp=Z,18nm,1.4s
GKN Gorkha 48.92 277 *e*P **P** **08 41 33.4 -0.2**
comp=Z,74nm,1.2s
COLA College 48.93 32 *e*P **P** **08 41 33.0 +0.2**
COLA pmax pmax
comp=Z,8.0nm,1.0s
COLA College 48.93 32 *e*P **P** **08 41 33.0 +0.2**
comp=Z,8.1nm,1.0s
TARG Taragay, Kyrgy 49.24 297 *e*P **P** **08 41 35.5 -0.7**
comp=Z,8.7nm,0.8s
HDA Harding Lake 49.32 33 *e*P **P** **08 41 36.2 +0.3**
comp=Z,8.7nm,0.9s
IL1 Eielson Array 49.34 32 *e*P **P** **08 41 36.1 0.0**
ILAR Eielson Array 49.34 32 P **P** **08 41 35.9 -0.1**
comp=Z,6.3nm,0.8s,baz=265,slow=6.5,SNR=62
ILAR LR LR 09 03 14.9
comp=Z,72nm,21.9s,baz=282,slow=37
ILAR Eielson Array 49.34 32 P **P** **08 41 35.9 -0.1**
ILAR pmax pmax
comp=Z,7.0nm,0.8s
ILAR MLR MLR
comp=Z,72nm,21.9s
ILB Eielson Array 49.34 32 *e*P **P** **08 41 36.1 +0.1**
DANN Dangsing 49.47 278 *e*P **P** **08 41 37.7 -0.2**
comp=Z,6.4nm,0.9s
KOLN Koldanda 49.85 277 *e*P **P** **08 41 40.7 0.0**
comp=Z,56nm,1.2s
PYUN Piuthan 50.19 278 *e*P **P** **08 41 43.3 0.0**
comp=Z,67nm,1.0s
NRN Naryn 50.63 297 P **P** **08 41 46.6 +0.1**
NRN pmax pmax
comp=Z,10.0nm,1.1s
SCRK Sand Creek 50.64 33 *e*P **P** **08 41 46.4 +0.4**
comp=Z,9.9nm,1.0s
FRU Bishkek 51.19 299 *e*P **P** **08 41 50.0 -0.4**
FRU MLR MLR
comp=E,600nm,16.0s
AAK Ala-Archa 51.33 299 P **P** **08 41 51.4 -0.2**
comp=E,3.4nm,0.7s,baz=59,slow=3.2,SNR=9.3
AAK Ala-Archa 51.33 299 ⇑*e*P **P** **08 41 51.5 -0.1**
AAK pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 51.37 313 P **P** **08 41 50.9 -0.7**
comp=Z,4.8nm,1.0s,baz=86,slow=6.1,SNR=13
BVAR LR LR 09 04 53.8
comp=Z,585nm,18.0s,baz=77,slow=38
BRVK Borovoye 51.42 313 ⇓*e*P **P** **08 41 52.0 +0.1**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 51.42 313 *e*P **P** **08 41 51.8 -0.1**
comp=Z,7.8nm,1.0s
PSI Prapat 52.31 240 LR LR 09 04 50.3
comp=Z,119nm,20.1s,baz=22,slow=37
MNAS Manas 52.77 299 P **P** **08 42 02.7 +0.3**
MNAS pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 53.96 301 *e*P **P** **08 42 11.0 0.0**
KKAR Karatay Array 53.96 301 *e*P **P** **08 42 11.0 0.0**
HYT Haines Junctio 54.08 37 *e*P **P** **08 42 12.9 +1.2**
comp=Z,28nm,1.4s
LEM Lembang 54.19 224 LR LR 09 05 41.0
comp=Z,183nm,20.0s,baz=252,slow=36
INK Inuvik 54.31 27 P **P** **08 42 13.3 +0.3**
comp=Z,4.9nm,0.8s,baz=282,slow=7.7,SNR=20
INK LR LR 09 07 23.7
comp=Z,189nm,20.0s,baz=266,slow=38
INK Inuvik 54.31 27 *e*P **P** **08 42 12.8 -0.2**
comp=Z,5.2nm,0.8s
WHY Whitehorse 55.37 36 *e*P **P** **08 42 22.0 +1.0**

comp=Z,30nm,1.8s
SVE Sverdlovsk 55.90 319 *e*P **P 08 42 25.4 +0.7**
SVE pmax pmax
comp=Z,25nm,1.1s
WRAB Tennant Creek 56.85 189‖ *e*P **P 08 42 32.1 +0.2**
WRAB pmax pmax
comp=Z,13nm,1.2s
WRAB Tennant Creek 56.85 189 *e*P **P 08 42 32.0 +0.2**
comp=Z,21nm,1.3s
WB2 Warramunga Arr 56.86 189 *e*P **P 08 42 31.6 -0.3**
WR1 Warramunga Arr 56.87 189 *e*P **P 08 42 31.0 -0.9**
comp=Z,17nm,1.2s
WRA Warramunga Arr 56.87 189 P **P 08 42 31.0 -0.9**
comp=Z,5.5nm,0.9s,baz=5.5,slow=7.0,SNR=42
WRA Warramunga Arr 56.87 189 P **P 08 42 31.0 -0.9**
WRA pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 57.12 319 P **P 08 42 32.9 -0.4**
comp=Z,8.0nm,0.3s,baz=80,slow=7.6,SNR=13
ARU Arti 57.12 319 *d* P **P 08 42 32.2 -1.1**
ARU 08 43 26.6
ARU S **S 08 50 26.5 -0.7**
ARU pmax pmax
comp=Z,23nm,1.2s
ARU MLR MLR
comp=Z,650nm,18.0s
ARU Arti 57.12 319 *e*P **P 08 42 33.0 -0.4**
comp=Z,20nm,1.1s
KBL Kabul 58.26 292 *e*P **P 08 42 41.5 -0.5**
KBL pmax pmax
comp=Z,20nm,1.0s
KBL Kabul 58.26 292 *e*P **P 08 42 41.5 -0.5**
comp=Z,20nm,1.0s
ABKAR Akbulak array 58.74 311 *e*P **P 08 42 44.3 -0.6**
comp=Z,45nm,0.8s
HYB Hyderabad 58.98 269 *i* P **P 08 42 47.0 0.0**
AKTO Aktyubinsk 59.47 312 P **P 08 42 49.5 -0.5**
comp=Z,2.8nm,0.8s,baz=69,slow=10,SNR=8.2
AKTO LR LR 09 09 43.0
comp=Z,360nm,18.4s,baz=65,slow=37
AS01 Alice Springs 60.59 189 *e*P **P 08 42 57.8 0.0**
AS31 Alice Springs 60.59 189 *e*P **P 08 42 57.4 -0.4**
comp=Z,1.5nm,0.8s
ASAR Alice Springs 60.59 189 P **P 08 42 57.4 -0.4**
comp=Z,3.1nm,0.9s,baz=8.2,slow=5.2,SNR=17
SPITS Spitsbergen Ar 60.98 349 LR LR 09 12 31.0
comp=Z,339nm,18.4s,baz=355,slow=39
RES Resolute Bay 62.71 15 P **P 08 43 11.2 -0.2**
comp=Z,3.0nm,0.8s,baz=308,slow=5.9,SNR=18
RES Resolute Bay 62.71 15 *e*P **P 08 43 11.3 -0.2**
RES pmax pmax
comp=Z,5.0nm,0.9s
RES Resolute Bay 62.71 15 *e*P **P 08 43 11.3 -0.2**
comp=Z,4.6nm,0.9s
DZM Mont Dzumac 62.73 155 P **P 08 43 13.9 +1.6**
comp=Z,8.5nm,0.9s,baz=27,slow=11,SNR=6.1
DZM LR LR 09 08 19.5
comp=Z,238nm,20.5s,baz=320,slow=34
DZM Mont Dzumac 62.73 155 *e*P **P 08 43 14.1 +1.8**
comp=Z,41nm,1.6s
DZM Mont Dzumac 62.73 155 *e*LR LR 09 02 12.3
comp=Z,343nm,21.6s
DZM Mont Dzumac 62.73 155 *e*P **P 08 43 13.9 +1.6**
comp=Z,54nm,1.8s
YKA Yellowknife Ar 63.68 30 P **P 08 43 18.1 0.0**
comp=Z,2.3nm,0.8s,baz=301,slow=6.7,SNR=51
MSVF Nonsavu 63.77 142‖ *e*P **P 08 43 21.3 +2.0**
MSVF pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 64.44 328 *e*P P 08 43 15.9 -7.2
KLMR pmax pmax
comp=Z,8.0nm,1.1s
KLMR Klimovskoe 64.44 328 *e*P P 08 43 16.0 -7.1
KLMR AMP 08 43 32.7
comp=Z,8.0nm,1.1s
KLMR *e*PP PP 08 45 36.1 -8.3
ARA0 ARCESS Array S 64.57 340 *e*P **P 08 43 24.3 +0.5**
ARCES ARCESS Array B 64.57 340 P **P 08 43 24.3 +0.5**
comp=Z,1.5nm,0.9s,baz=49,slow=9.7,SNR=3.0
ARCES LR LR 09 14 53.4
comp=Z,206nm,20.7s,baz=30,slow=39
GEYT Alibeck 64.67 299 P **P 08 43 25.1 0.0**
comp=Z,3.9nm,0.8s,baz=357,slow=3.0,SNR=9.6
GEYT LR LR 09 14 57.6
comp=Z,182nm,18.6s,baz=110,slow=39
AFI Afiamalu 66.33 130 LR LR 09 07 24.4
comp=Z,104nm,20.9s,baz=322,slow=31
MOS Moscow 67.97 324 *e*P **P 08 43 47.6 +1.8**
OBN Obninsk 68.82 324‖ *e*P **P 08 43 50.7 -0.4**
OBN 08 46 26.0
OBN pmax pmax
comp=Z,35nm,2.5s
OBN MLR MLR
comp=Z,317nm,17.0s
EDM Edmonton 69.10 39 *e*P **P 08 43 53.9 +0.8**
EDM pmax pmax
comp=Z,37nm,1.8s
EDM Edmonton 69.10 39 *e*P **P 08 43 53.9 +0.8**
comp=Z,37nm,1.8s
FIA0 FINESS Array S 69.46 333 *e*P **P 08 43 54.8 -0.2**
FIA0 FINESS Array S 69.46 333 *e*P **P 08 43 54.8 -0.2**
FINES FINESS Array B 69.46 333 P **P 08 43 54.8 -0.2**
comp=Z,3.6nm,0.9s,baz=52,slow=7.5,SNR=7.4
FINES LR LR 09 16 44.1
comp=Z,407nm,18.1s,baz=30,slow=38
VSU Vasula 71.12 330‖ *e*P **P 08 44 06.6 +1.4**
VSU pmax pmax
comp=Z,26nm,1.1s
BMO Blue Mountains 71.56 48 *e*P **P 08 44 09.2 +0.9**
BMO pmax pmax
comp=Z,14nm,1.6s
BMO Blue Mountains 71.56 48 *e*P **P 08 44 09.2 +0.9**
comp=Z,14nm,1.6s
KVAR Kislovodsk Arr 71.70 311 LR LR 09 19 31.0
comp=Z,189nm,18.4s,slow=39
KBZ Khabaz 71.70 311 P **P 08 44 09.3 +0.3**
comp=Z,8.0nm,0.9s,baz=86,slow=3.0,SNR=19
KBZ LR LR 09 20 20.9
comp=Z,339nm,18.7s,baz=42,slow=40
KIV Kislovodsk 71.71 311 *e*P **P 08 44 09.3 +0.1**
KIV *e*S **S 08 53 29.6 +1.5**
KIV *e*SS **SS 08 58 05.4 +2.3**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 71.71 311 *e*P **P 08 44 09.5 +0.4**
comp=Z,18nm,0.8s
KIV Kislovodsk 71.71 311 P **P 08 44 09.1 -0.1**
WSAR Wadi Sarin 71.71 286 LR LR 09 19 47.3
comp=Z,142nm,18.1s,baz=66,slow=39
BANOM Banah 72.06 289 P **P 08 44 11.4 -0.1**
NEY Neytrino 72.07 311‖ *e*P **P 08 44 12.0 +0.5**
NEY pmax pmax
comp=Z,1.0nm,0.8s
SHME Shamm 72.11 289 P **P 08 44 11.5 -0.3**
MSO Missoula 72.39 44 *e*P **P 08 44 13.8 +0.6**
comp=Z,25nm,1.9s
MSFE Esma-Masafi 72.46 289 P **P 08 44 12.1 -1.8**
GNI Garni 72.52 307 LR LR 09 19 08.3
comp=Z,246nm,18.0s,baz=58,slow=38
GNI Garni 72.52 307‖ *e*P **P 08 44 15.5 +1.3**
GNI pmax pmax
comp=Z,12nm,0.9s
UOSS Minazif 72.65 288 *e*P **P 08 44 14.9 -0.2**
comp=Z,9.4nm,0.9s
UOSS Minazif 72.65 288 P **P 08 44 14.4 -0.7**
MFID Camas Ranch 73.25 48 *e*P **P 08 44 19.3 +0.8**
comp=Z,6.1nm,1.1s
CMB Columbia Colle 73.41 55 *e*P **P 08 44 20.4 +1.0**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 73.41 55 *e*P **P 08 44 20.4 +1.0**
comp=Z,5.9nm,1.0s
FFC Flin Flon 73.54 33 *e*P **P 08 44 20.3 +0.5**
FFC pmax pmax
comp=Z,16nm,1.4s
FFC Flin Flon 73.54 33 *e*P **P 08 44 20.3 +0.5**
comp=Z,16nm,1.4s
YERR Yerington 73.63 53 *e*P **P 08 44 21.6 +0.8**
comp=Z,9.8nm,1.3s
LRM Limekiln Ridge 73.82 45 *e*P **P 08 44 23.0 +1.1**
FCC Fort Churchill 73.93 27 *e*P **P 08 44 22.1 +0.2**
FCC pmax pmax
comp=Z,12nm,1.3s
FCC Fort Churchill 73.93 27 *e*P **P 08 44 22.1 +0.2**
comp=Z,12nm,1.3s
HLID Hailey 74.01 47 *e*P **P 08 44 24.0 +1.1**
comp=Z,5.5nm,1.1s
DLMT Dillon 74.01 45 *e*P **P 08 44 23.8 +0.9**
comp=Z,9.8nm,0.9s
RYN Ryan 74.29 53 *e*P **P 08 44 21.4 -3.3**
comp=Z,9.4nm,0.4s
NV01 Mina Array Sit 74.55 54 *e*P **P 08 44 26.2 0.0**
NVAR Mina Array Bea 74.55 54 P **P 08 44 27.1 +0.8**
comp=Z,3.4nm,0.9s,baz=290,slow=5.1,SNR=22
NVAR LR LR 09 11 26.2
comp=Z,100nm,21.7s,baz=91,slow=31
NV11 Mina Array Sit 74.64 53 *e*P **P 08 44 27.4 +0.7**
comp=Z,0.8nm,1.6s
HFS Hagfors 74.70 336 P **P 08 44 26.9 +0.5**
comp=Z,3.4nm,1.0s,baz=79,slow=7.5,SNR=3.0
HFS LR LR 09 20 03.6
comp=Z,685nm,18.2s,baz=32,slow=38
NB2 NORSAR Subarra 74.78 338 P **P 08 44 27.1 +0.2**
comp=Z,8.0nm,1.2s,baz=41,slow=5.9
NB200 NORSAR Array S 74.78 338 *e*P **P 08 44 26.3 -0.6**
NOA NORSAR Array B 74.78 338 P **P 08 44 26.3 -0.6**
comp=Z,2.2nm,0.9s,baz=36,slow=6.0,SNR=2.6
NOA LR LR 09 21 05.9
comp=Z,366nm,19.6s,baz=30,slow=39
AKASG Malin Array Be 75.03 323 P **P 08 44 28.1 -0.4**
comp=Z,3.7nm,0.8s,baz=46,slow=6.3,SNR=15
AKASG LR LR 09 19 13.6
comp=Z,168nm,20.4s,baz=45,slow=37
AKBB Malin Array Si 75.03 323 *e*P **P 08 44 28.1 -0.4**
AKBB *e**PP **sP 08 44 37.8 +0.5**
AKBB Malin Array Si 75.03 323 *e*P **P 08 44 28.1 -0.4**
AKBB *e*pP **sP 08 44 37.8 +0.5**
KIEV Kiev 75.04 323‖ *i*P **P 08 44 28.4 -0.1**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KIEV Kiev 75.04 323 *e*P **P 08 44 28.1 -0.4**
KIEV *e*pP **sP 08 44 37.1 -0.2**
AK11 Malin Array Si 75.07 323 *e*P **P 08 44 28.3 -0.4**
AK11 *e*pP **sP 08 44 37.8 +0.2**
YHB Horse Butte 75.17 45 *e*P **P 08 44 30.8 +1.1**
comp=Z,7.1nm,0.9s
YHH Holmes Hill 75.34 45 *e*P **P 08 44 32.1 +1.3**
comp=Z,6.1nm,1.2s
YPP Pitchstone Pla 75.68 45 *e*P **P 08 44 34.0 +1.2**
H17A Grant Village 75.74 45 *e*P **P 08 44 35.4 +2.4**
comp=Z,15nm,1.0s
IMW Indian Meadow 75.83 46 *e*P **P 08 44 34.8 +1.1**
comp=Z,6.9nm,0.9s
FXWY Fox Creek 75.94 46 *e*P **P 08 44 35.4 +1.2**
comp=Z,6.9nm,1.1s
RLMT Red Lodge 76.03 44 *e*P **P 08 44 35.9 +1.2**
comp=Z,37nm,2.0s
RLMT *e*S **S 08 54 20.4 +3.4**
MOOW Moose Ponds 76.03 46 *e*P **P 08 44 36.0 +1.3**
comp=Z,7.7nm,1.3s
MOOW *e*pP **PcP 08 44 49.6 +2.6**
TPAW Teton Pass 76.07 46 *e*P **P 08 44 35.9 +0.9**
comp=Z,12nm,1.4s
SFJD Kangerlussuaq 76.13 5 LR LR 09 19 44.0
comp=Z,125nm,19.6s,baz=348,slow=37
SNOW Snow King Moun 76.20 46 *e*P **P 08 44 37.5 +1.7**
comp=Z,8.1nm,1.1s
REDW Red Top Meadow 76.21 46 *e*P **P 08 44 36.9 +1.1**
comp=Z,6.1nm,1.1s
R11A Troy Canyon, C 76.33 52 *e*P **P 08 44 37.6 +1.2**
comp=Z,9.3nm,1.3s
LAO LASA Array 76.69 41 *e*P **P 08 44 39.5 +1.3**
comp=Z,17nm,1.1s
HWUT Hardware Ranch 76.86 48 *e*P **P 08 44 40.7 +1.4**
comp=Z,9.3nm,1.3s
DUG Dugway, Tooele 76.96 49 *e*P **P 08 44 40.8 +0.9**
DUG pmax pmax
comp=Z,7.0nm,0.9s
DUG Dugway, Tooele 76.96 49 *e*P **P 08 44 40.8 +0.9**
comp=Z,6.9nm,0.9s
PD31 Pinedale Array 77.32 46 *e*P **P 08 44 42.5 +0.5**
PDAR Pinedale Array 77.32 46 P **P 08 44 41.8 -0.2**
comp=Z,1.6nm,0.7s,baz=261,slow=2.2,SNR=22
PDAR LR LR 09 13 32.3
comp=Z,38nm,21.7s,baz=334,slow=32
JLU Jordanelle 77.54 49 *e*P **P 08 44 43.6 +0.3**
comp=Z,4.6nm,1.0s
NLU North Lily Min 77.56 49 *e*P **P 08 44 44.6 +1.3**
comp=Z,6.1nm,1.0s
SHPR Sheep Range 77.70 54 *e*P **P 08 44 45.3 +1.2**
comp=Z,9.3nm,1.4s
MPU Maple Canyon 77.79 49 *e*P **P 08 44 45.6 +1.0**
comp=Z,6.6nm,0.9s
CCUT Cedar City 78.22 52 *e*P **P 08 44 48.6 +1.5**
comp=Z,6.6nm,1.2s
MSU Marysvale 78.38 51 *e*P **P 08 44 49.5 +1.5**
MSU Marysvale 78.38 51 *e*P **P 08 44 49.5 +1.5**
TMUT Trail Mountain 78.49 49 *e*P **P 08 44 49.9 +1.2**
comp=Z,8.9nm,1.4s
LCMT Little Creek M 78.62 52 *e*P **P 08 44 50.8 +1.6**
comp=Z,6.1nm,1.0s
MTPU Mount Pierson 78.66 51 *e*P **P 08 44 51.3 +1.6**
comp=Z,8.5nm,1.1s
KNB Kanab 78.89 52 *e*P **P 08 44 52.5 +1.7**
KNB *e**PP **PcP 08 45 00.8 +1.4**
KNB pmax pmax
comp=Z,17nm,1.3s
KNB Kanab 78.89 52 *e*P **P 08 44 52.5 +1.7**
comp=Z,17nm,1.3s
KNB *e*pP **PcP 08 45 00.8 +1.4**
SRU San Rafael Swe 79.02 49 *e*P **P 08 44 52.6 +1.1**
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael Swe 79.02 49 *e*P **P 08 44 52.6 +1.1**
comp=Z,9.5nm,0.9s
BUR08 Bucovina Ar. S 79.03 322 *e*P **P 08 44 51.6 +0.4**
BUR04 Bucovina Ar. S 79.04 322 *e*P **P 08 44 51.5 +0.2**
ULM Lac du Bonnet 79.33 34 P **P 08 44 52.2 -0.5**
comp=Z,2.0nm,0.9s,baz=240,slow=8.1,SNR=3.2
ULM LR LR 09 24 20.0
comp=Z,54nm,18.9s,baz=44,slow=39
RAR Rarotonga 79.34 127 LR LR 09 16 08.0
comp=Z,304nm,19.0s,baz=282,slow=33
U15A North Rim 79.58 52 *e*P **P 08 44 55.6 +0.9**
comp=Z,9.6nm,1.4s
BR101 Keskin Array S 79.65 312 *e*P **P 08 44 55.0 +0.2**
BR131 Keskin Array S 79.65 312 *e*P **P 08 44 55.1 +0.2**
BRTR Keskin Array B 79.65 312 P **P 08 44 55.0 +0.2**
comp=Z,5.0nm,1.1s,baz=119,slow=4.4,SNR=16
BRTR LR LR 09 26 22.1
comp=Z,129nm,18.3s,baz=52,slow=40
BRTR Keskin Array B 79.65 312 *ce*P **P 08 44 55.2 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
OJC Ojcow 79.74 327 *e*P **P 08 44 56.1 +1.2**
OJC Ojcow 79.74 327 *e*P **P 08 44 55.8 +0.9**
OJC pmax pmax
comp=Z,30nm,1.5s
OJC Ojcow 79.74 327 *e*P **P 08 44 55.8 +0.9**
comp=Z,30nm,1.5s
UZH Uzhgorod 79.74 324 *e*P **P 08 44 55.4 +0.5**
UZH *e* 08 45 04.8
O20A White River Ci 79.75 47 *e*P **P 08 44 56.2 +0.8**
comp=Z,8.7nm,1.0s
BR231 Keskin MP Arra 80.09 313 *e*P **P 08 44 55.5 -1.6**
NIE Niedzica 80.09 326 *e*P **P 08 44 57.7 +0.8**
NIE Niedzica 80.09 326 *e*P **P 08 44 57.7 +0.8**
PV09 Paradox Valley 80.25 49 *e*P **P 08 44 59.2 +0.9**
PV10 Paradox Valley 80.39 49 *e*P **P 08 45 00.5 +1.5**
PV05 Paradox Valley 80.54 49 *e*P **P 08 45 01.2 +1.4**
N23A Red Feather La 80.60 46 *e*P **P 08 45 01.0 +1.0**
comp=Z,9.4nm,1.0s
WUAZ Wupatki 80.73 53 *e*P **P 08 45 02.1 +1.4**
comp=Z,8.7nm,1.0s
KSP Ksiaz 80.78 329 *e*P **P 08 45 01.6 +1.1**
KSP Ksiaz 80.78 329 *e*P **P 08 45 01.6 +1.1**
PV01 Paradox Valley 80.83 49 *e*P **P 08 45 02.4 +1.1**
113A Mohawk Valley, 80.86 56 *e*P **P 08 45 02.1 +0.8**
comp=Z,4.9nm,1.2s
SMCO Snowmass 81.11 47 *e*P **P 08 45 03.5 +0.5**
comp=Z,6.7nm,1.3s
DPC Dobruska-Polom 81.14 328 *e*P **P 08 45 02.8 +0.3**
DPC Dobruska-Polom 81.14 328 *e*P **P 08 45 02.8 +0.3**
UPC Upice 81.15 329 *e*P **P 08 45 03.1 +0.6**
UPC Upice 81.15 329 *e*P **P 08 45 03.1 +0.6**
X16A Lo Mia Camp, P 81.37 53 *e*P **P 08 45 05.2 +1.0**
comp=Z,5.7nm,1.0s
BRG Berggiesshubel 81.72 330 *e*P P 08 45 15.3 +10
comp=Z,5.4nm,1.1s
BRG *e* 08 45 27.5
comp=Z,6.4nm,1.3s
BRG Berggiesshubel 81.72 330 *e*P P 08 45 15.3 +10
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG MLR MLR
comp=Z,545nm,12.9s
BRG MLR MLR
comp=N,524nm,17.4s
BRG MLR MLR
comp=E,268nm,17.4s
CLL Collm 81.76 331 *i* P **P 08 45 05.9 +0.2**
CLL *e*S **S 08 55 23.0 +5.6**
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 81.76 331 *i* P **P 08 45 05.9 +0.2**
comp=Z,10.0nm,1.2s
CLL *e*(sP) **sP 08 45 18.0 +3.4**
CLL *e*S **S 08 55 23.0 +5.6**
S22A 4UR Ranch, Cre 82.13 48 *e*P **P 08 45 08.9 +0.6**
comp=Z,6.6nm,1.1s
MMAI Mount Meron Ar 82.79 306 LR LR 09 26 19.9
comp=Z,180nm,18.1s,baz=70,slow=39
SDCO Great Sand Dun 82.92 48 *e*P **P 08 45 13.1 +0.7**
comp=Z,4.1nm,1.1s
EYMN Ely 82.97 33 *e*P **P 08 45 12.6 +0.5**
comp=Z,8.4nm,1.1s
KHC Kasperske Hory 83.22 329 *e*P **P 08 45 13.4 0.0**
KHC pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 83.22 329 *e*P **P 08 45 14.0 +0.6**
KHC *e*pP **sP 08 45 23.2 +0.9**
KHC Kasperske Hory 83.22 329 *e*P **P 08 45 13.4 0.0**
comp=Z,1.6nm,0.9s
GERES GERESS Array B 83.39 329 P **P 08 45 14.0 -0.4**
comp=Z,0.6nm,0.6s,baz=28,slow=3.8,SNR=6.2
GERES LR LR 09 25 02.7
comp=Z,298nm,18.9s,baz=6.5,slow=38
GEA0 GERESS Array S 83.40 329 *e*P **P 08 45 14.3 -0.1**
ECSD EROS Data Cent 83.67 39 *e*P **P 08 45 15.9 +0.1**
comp=Z,4.1nm,1.0s
EKA Eskdalemuir Ar 83.69 341 LR LR 09 26 49.9
comp=Z,209nm,18.1s,baz=65,slow=39
PPT Papeete 83.79 117 LR LR 09 16 35.6
comp=Z,170nm,20.1s,baz=347,slow=31
PPT2 Papeete2 83.80 117 *e*LR LR 09 11 45.1
comp=Z,225nm,24.0s
MHTCO State Highway 83.81 48 *e*P **P 08 45 17.9 +1.0**
comp=Z,16nm,1.3s
T25A Trinidad 83.97 48 *e*P **P 08 45 18.6 +0.9**
comp=Z,8.2nm,0.9s
DIVS Divibare 84.11 322 *e*P **P 08 45 18.0 -0.1**
comp=Z,6.1nm,1.2s
ANMO Albuquerque 84.19 50 *ce*P **P 08 45 20.3 +1.5**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 84.19 50 *e*P **P 08 45 20.1 +1.3**
comp=Z,6.1nm,1.0s
EIL Elat 85.21 304 LR LR 09 29 06.0
comp=Z,130nm,18.5s,baz=63,slow=40
TAOE Nuku Hiva Isla 85.33 105 *e*LR LR 09 12 37.0
comp=Z,352nm,23.7s
SCHQ Schefferville 85.42 16 LR LR 09 26 56.5
comp=Z,86nm,19.1s,baz=22,slow=38
BFO Black Forest 85.96 331 *i* P **P 08 45 28.1 +0.8**
AMTX Amarillo 87.13 48 *e*P **P 08 45 34.2 +0.9**
comp=Z,11nm,1.1s
TBI Tubuai 87.69 121 *e*LR LR 09 13 31.8
comp=Z,259nm,29.2s
LPIG La Paz 88.66 61 LR LR 09 26 12.3
comp=Z,65nm,18.2s,baz=264,slow=36
TX31 Lajitas Ar. Si 89.69 53 *e*P **P 08 45 45.8 +0.3**
TX31 *e*P **P 08 45 46.3 +0.7**
LTX Lajitas 89.69 53 *e*P **P 08 45 46.1 +0.6**
LTX Lajitas 89.69 53 *e*P **P 08 45 46.1 +0.6**
TXAR Lajitas Array 89.69 53 P **P 08 45 46.1 +0.6**
comp=Z,2.4nm,0.8s,baz=298,slow=3.4,SNR=26
TXAR LR LR 09 19 44.5
comp=Z,105nm,22.0s,baz=0.0,slow=31
ATD Arta Tunnel 90.71 285 LR LR 09 30 27.8
comp=Z,105nm,19.7s,baz=41,slow=38
VAE Valguarnera 91.88 321 LR LR 09 31 35.6
comp=Z,227nm,18.1s,baz=112,slow=38
WHAR Wooly Hollow 92.16 42 *e*P **P 08 45 57.3 +0.6**
comp=Z,10nm,1.0s
KEST Kesra 95.75 323 LR LR 09 35 22.5
comp=Z,254nm,18.1s,baz=342,slow=39
TKL Tuckaleechee C 96.18 36 LR LR 09 31 52.2
comp=Z,39nm,20.8s,baz=330,slow=37
RKT Rikitea 97.91 113 *e*LR LR 09 18 14.5
comp=Z,256nm,27.0s
ESDC Sonseca Array 97.92 334 LR LR 09 35 22.1
comp=Z,240nm,18.8s,baz=330,slow=38
LPAZ La Paz 146.16 61 PKPbc **PKPbc 08 52 28.7 +0.1**
comp=Z,4.9nm,0.8s,baz=304,slow=3.6,SNR=18
LPAZ La Paz 146.16 61 *e*PKP2 **PKPbc 08 52 28.8 +0.2**
PB11 IPOC Station P 147.30 68 *e*PKPdf **PKPbc 08 52 30.7 -0.5**
LCO Las Campanas 151.26 84 *e*PKPbc **PKPbc 08 52 41.3 +0.3**
GO05 Hualaaø 152.21 97 *e*PKPdf **PKPdf 08 52 38.6 +2.6**
ROC1 El Roble 152.41 92 *e*PKPdf **PKPdf 08 52 38.2 +1.5**

WEL 21 08:36:24.3, 48°S±17″×16°6E±1°0, h5km, ML3.8/8, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.50**	**27**	P		Pn	08 36 50.0	-1.9
PYZ	**Puysegur Point**	**1.50**	**27**	S		Sn	08 37 09.8	-2.1
APZ	**The Paps**	**1.70**	**67**	P		Pn	08 36 53.7	-0.9
APZ	**The Paps**	**1.70**	**67**	S		Sn	08 37 13.8	-2.9
WHZ	**Wether Hill Ro**	**2.24**	**44**	P		Pn	08 37 00.8	-1.2
WHZ	**Wether Hill Ro**	**2.24**	**44**	S		Sn	08 37 26.7	-3.2
DCZ	**Deep Cove**	**2.28**	**27**	P		Pn	08 37 01.4	-1.1
DCZ	**Deep Cove**	**2.28**	**27**	S		Sn	08 37 29.0	-1.9
SYZ	**Scrubby Hill**	**2.54**	**69**	P		Pn	08 37 06.5	+0.4
MLZ	**Mavora Lakes**	**2.72**	**39**	P		Pn	08 37 08.2	-0.4
MLZ	**Mavora Lakes**	**2.72**	**39**	S		Sn	08 37 40.1	-1.8
TUZ	**Tuapeka**	**3.12**	**61**	P		Pn	08 37 13.7	-0.3
TUZ	**Tuapeka**	**3.12**	**61**	S		Sn	08 37 49.5	-2.1
EAZ	**Earnscleugh**	**3.38**	**49**	P		Pn	08 37 17.6	-0.1
EAZ	**Earnscleugh**	**3.38**	**49**	S		Sn	08 37 56.4	-1.8
WKZ	**Wanaka**	**3.54**	**42**	P		Pn	08 37 19.9	0.0
WKZ	**Wanaka**	**3.54**	**42**	S		Sn	08 38 02.1	+0.1
JCZ	**Jackson Bay**	**4.06**	**33**	P		Pn	08 37 28.4	+1.3
ODZ	**Otahua Downs**	**4.22**	**56**	P		Pn	08 37 26.9	-2.3
FOZ	**Fox Glacier**	**4.92**	**37**	P		Pn	08 37 39.8	+1.0

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*NEIC **21** 08:44:24.2±0.0, 16°03N×98°39W, h15km, MD4.0(MEX), After MEX.*

MEX 21 08:44:23.4±0.5, 15°95N×98°34W, h20km±4km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**25**	*e*P		Pb	08 44 31.3	-1.9
PNIG				*e*S		Sb	08 44 38.1	-1.9
PNIG	**Pinotepa**	**0.48**	**25**	*e*P		Pb	08 44 31.3	-1.9
PNIG				*e*S		Sb	08 44 38.1	-1.9
TLIG	**Tlapa**	**1.62**	**352**	*e*P		Pn	08 44 48.3	-2.6
TLIG				*i* S		Sn	08 45 06.7	-4.6
TLIG	**Tlapa**	**1.62**	**352**	*e*P		Pn	08 44 48.3	-2.6
TLIG				*e*S		Sn	08 45 09.4	-1.8
ACX	**Acapulco**	**1.72**	**302**	*i* P		Pn	08 44 47.2	-5.0
ACX				*i* S		Sn	08 45 08.5	-5.0
VHO	**Vista Hermosa**	**1.91**	**54**	*i* P		Pn	08 44 52.9	-2.1
VHO				*e*S		Sn	08 45 14.8	-3.6
VHO	**Vista Hermosa**	**1.91**	**54**	*e*P		Pn	08 44 54.1	-0.9
CAIG	**El Cayaco**	**2.14**	**301**	*e*P		Pn	08 44 55.1	-3.0
CAIG				*i* S		Sn	08 45 20.3	-3.8
CAIG	**El Cayaco**	**2.14**	**301**	*e*P		Pn	08 44 55.1	-3.0
HUIG	**Huatulco**	**2.16**	**95**	*i* P		Pn	08 44 55.4	-2.9
HUIG				*i* S		Sn	08 45 21.3	-3.2
HUIG	**Huatulco**	**2.16**	**95**	*e*P		Pn	08 44 57.8	-0.5
PLIG	**Platanillo**	**2.67**	**336**	*i* P		Pn	08 45 02.9	-2.5
PLIG				*i* S		Sn	08 45 33.8	-3.3

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*IDC **21** 08:54:21.3±0.5, 13°70N×144°81E, h126km±4km, mb3.3/9, mb1 3.5/9, mb1mx3.2/63, mbtmp3.7/9, Error ellipse: s-maj=27.2km s-min=14.4km az=85.0*

ISC 21 08:54:21.3±0.9, 13°7N±0°1×144°9E±0°2, h130km±7km, n12, σ1s01/13, mb3.5/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.13**	**196**	P	**Pn**	**08 54 39.4**	**+0.3**
	1μm,0.3s,baz=178,slow=19,SNR=421						
GUMO				S	**Sn**	**08 54 52.0**	**-0.5**
	455nm,0.3s,baz=225,slow=22,SNR=8.4						
WRA	**Warramunga Arr**	**35.02**	**197**	P	**P**	**09 01 00.9**	**-0.7**
	1.5nm,0.6s,baz=15,slow=8.2,SNR=20						
ASAR	**Alice Springs**	**38.68**	**196**	P	**P**	**09 01 32.0**	**-0.5**
	0.4nm,0.5s,baz=22,slow=13,SNR=12						
DZM	**Mont Dzumac**	**41.36**	**149**	P	**P**	**09 01 56.4**	**+1.6**
	4.4nm,0.7s,baz=317,slow=8.0,SNR=8.5						
STKA	**Stephens Creek**	**45.44**	**184**	P	**P**	**09 02 26.7**	**-0.5**
	1.3nm,0.4s,baz=28,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**61.43**	**316**	P	**P**	**09 04 24.4**	**+0.5**
	0.1nm,0.4s,baz=97,slow=9.5,SNR=4.0						
KURBB	**Kurchatov Arra**	**64.55**	**320**	P	**P**	**09 04 44.5**	**0.0**
	0.3nm,0.4s,baz=104,slow=6.6,SNR=4.0						
ILAR	**Eielson Array**	**68.44**	**25**	P	**P**	**09 05 08.4**	**-0.5**
	0.2nm,0.4s,baz=253,slow=6.0,SNR=3.9						
BVAR	**Borovoye Array**	**69.85**	**322**	P	**P**	**09 05 18.3**	**+0.4**
	0.3nm,0.3s,baz=104,slow=5.8,SNR=3.2						
YKA	**Yellowknife Ar**	**82.73**	**27**	P	**P**	**09 06 30.3**	**-0.1**
	0.2nm,0.5s,baz=285,slow=5.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**134.82**	**305**	PKP	**PKPdf**	**09 13 27.1**	**+1.3**
	0.1nm,0.4s,baz=42,slow=3.3,SNR=2.8						
LPAZ	**La Paz**	**148.01**	**99**	PKPbc	**PKPab**	**09 13 54.6**	**-1.6**
	1.2nm,0.6s,baz=308,slow=3.4,SNR=5.6						

JMA 21 09:06:33.7, 36.71N×140.64E, h6km±1km, M2.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.11**	**210**	P	Pg	09 06 36.2	+0.1
JHO				S	Sg	09 06 37.9	+0.1
ONAJ	**Iwakimizuishiy**	**0.41**	**18**	P	Pg	09 06 41.8	+0.1
ONAJ				*e*S	Sg	09 06 47.0	-0.1
JFK	**Kawauchi**	**0.68**	**16**	P	Pg	09 06 46.7	-0.1
JFK				S	Sg	09 06 55.5	-0.2
MAT	**Matsushiro**	**1.96**	**266**	P	Pn	09 07 08.1	+0.5
MAT				*e*S	Sn	09 07 33.4	+0.9

IDC 21 09:07:35.3±2.9, 53.58N×87.23E, h0km, mb1 2.8/2, mb1mx2.6/76, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=27.8km s-min=16.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**286**	*i*		09 17 19.7	
	baz=102,slow=342,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.48**	**286**	Pg	Pn	09 08 02.6	-0.4
	0.6nm,0.3s,baz=106,slow=14,SNR=9.9						
ZALV				Lg	Lg	09 08 22.0	
	3.3nm,0.3s,baz=41,slow=32,SNR=22						
KURBB	**Kurchatov Arra**	**6.12**	**245**	Pn	Pn	09 09 07.3	+0.4
	0.1nm,0.3s,baz=61,slow=13,SNR=3.3						
KURBB				Lg	Lg	09 10 49.1	
	0.0nm,0.3s,baz=66,slow=34,SNR=3.5						
MKAR	**Makanchi Array**	**7.49**	**207**	Pn	Pn	09 09 27.0	+1.3
	0.1nm,0.3s,baz=27,slow=13,SNR=7.3						

IDC 21 09:10:42.5±1.1, 34.38N×25.12E, h0km, mb3.7/8, mb1 3.7/12, mb1mx3.5/68, mbtmp3.6/12, ML3.5/4, Error ellipse: s-maj=20.9km s-min=19.2km az=100.0
ISCJB 21 09:10:45.7±1.3, 34.32N±0.06×25.14E±0.06, h30km±9km, mb3.6/8, Error ellipse: s-maj=10.3km s-min=8.1km az=18.6
THE 21 09:10:45.3, 34.33N×25.16E, h0km±3km, ML3.1/4, Error ellipse: s-maj=6.6km s-min=1.9km az=159.0
CSEM 21 09:10:45.1±0.6, 34.33N×25.18E, h2km, ML2.8, Error ellipse: s-maj=11.0km s-min=4.5km az=172.0
ATH 21 09:10:46.8, 34.43N×25.11E, h25km±3km, ML2.8/5, Error ellipse: s-maj=6.1km s-min=1.8km az=359.0
ISC 21 09:10:47.3±1.5, 34.41N±0.07×25.15E±0.03, h30km±10km, n32, σ1°60/45, mb3.7/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.67**	**336**	P	**Pn**	**09 10 60.0**	**-0.6**
SIVA				S	**Sb**	**09 11 08.2**	**-1.2**
SIVA	**Sivas**	**0.67**	**336**	P	**Pb**	**09 10 59.6**	**-0.8**
SIVA				S	**Sb**	**09 11 08.5**	**-0.9**
SIVA	**Sivas**	**0.67**	**336**	P	**Pb**	**09 10 59.6**	**-0.8**
SIVA				S	**Sn**	**09 11 10.8**	**+0.7**
LAST	**Lasithi**	**0.80**	**20**	P	**Pn**	**09 11 01.5**	**-1.1**
LAST				AML	AML	09 11 26.7	
	comp=E,1134μm,0.7s						
LAST				AML	AML	09 11 29.9	
	comp=N,983μm,0.8s						
LAST	**Lasithi**	**0.80**	**20**	P	**Pn**	**09 11 01.8**	**-0.7**
LAST	**Lasithi**	**0.80**	**20**	P	**Pn**	**09 11 01.8**	**-0.7**
IDI	**Anoyia**	**0.90**	**347**	Pn	**Pn**	**09 11 03.6**	**-0.3**
	comp=N,37nm,0.3s,baz=166,slow=17,SNR=93						
IDI				Sn	**Sn**	**09 11 16.8**	**+0.8**
	comp=N,27nm,0.3s,baz=137,slow=23,SNR=12						
NPS	**Neapolis**	**0.93**	**24**	P	**Pn**	**09 11 05.0**	**+0.7**
NPS				S	**Sn**	**09 11 17.2**	**+0.5**
NPS				AML	AML	09 11 28.8	
	comp=E,970μm,0.5s						
NPS				AML	AML	09 11 32.4	
	comp=N,804μm,0.6s						
NPS	**Neapolis**	**0.93**	**24**	P	**Pn**	**09 11 04.2**	**-0.1**
NPS				S	**Sn**	**09 11 17.5**	**+0.8**
NPS	**Neapolis**	**0.93**	**24**	P	**Pn**	**09 11 04.2**	**-0.1**
NPS				S	**Sn**	**09 11 20.2**	**+3.5**
GVD	**Gavdhos**	**0.97**	**296**	P	**Pn**	**09 11 04.9**	**0.0**
GVD				AML	AML	09 11 30.4	
	comp=E,1927μm,0.4s						
GVD				AML	AML	09 11 31.8	
	comp=N,2436μm,0.5s						
GVD	**Gavdhos**	**0.97**	**296**	P	**Pn**	**09 11 04.9**	**0.0**
GVD				S	**Sn**	**09 11 19.8**	**+2.2**
GVD	**Gavdhos**	**0.97**	**296**	P	**Pn**	**09 11 04.8**	**0.0**
GVD				S	**Sn**	**09 11 19.8**	**+2.2**
ZKR	**Zakros**	**1.13**	**51**	P	**Pb**	**09 11 07.0**	**-1.2**
ZKR				S	**Sn**	**09 11 25.3**	**+3.8**
ZKR				AML	AML	09 11 34.0	
	comp=E,1296μm,0.8s						
ZKR				AML	AML	09 11 38.1	
	comp=N,594μm,0.4s						
ZKR	**Zakros**	**1.13**	**51**	P	**Pb**	**09 11 07.8**	**-0.4**
IMMV	**Iera Moni Meta**	**1.42**	**318**	P	**Pb**	**09 11 12.4**	**-0.7**
IMMV				AML	AML	09 11 48.4	
	comp=E,1067μm,0.7s						
IMMV				AML	AML	09 11 51.9	
	comp=N,621μm,0.6s						
IMMV	**Iera Moni Meta**	**1.42**	**318**	P	**Pb**	**09 11 12.5**	**-0.6**
IMMV				S	**Sb**	**09 11 34.0**	**+3.2**
IMMV	**Iera Moni Meta**	**1.42**	**318**	P	**Pb**	**09 11 12.5**	**-0.6**
IMMV				S	**Sb**	**09 11 34.0**	**+3.2**
KARP	**Karpathos**	**2.01**	**55**	P	**Pb**	**09 11 22.3**	**-0.8**
BRTR	**Keskin Array B**	**8.61**	**50**	Pn	**Pn**	**09 12 52.7**	**+2.8**
	comp=N,0.1nm,0.3s,baz=222,slow=17,SNR=2.7						
EIL	**Elat**	**9.57**	**117**	Pn	**Pn**	**09 13 06.1**	**+3.1**
	comp=N,0.3nm,0.3s,baz=333,slow=18,SNR=5.4						
EIL				Sn	**Sn**	**09 14 46.8**	**-2.7**
	comp=N,0.4nm,0.3s,baz=27,slow=14,SNR=5.1						
AKASG	**Malin Array Be**	**16.55**	**9**	Pn	**P**	**09 14 37.7**	**-1.6**
	comp=N,0.5nm,0.3s,baz=199,slow=10,SNR=6.5						
KBZ	**Khabaz**	**16.60**	**51**	Pn	**P**	**09 14 39.1**	**-0.8**
	comp=N,0.1nm,0.3s,baz=225,slow=17,SNR=2.5						
GERES	**GERESS Array B**	**16.74**	**333**	Pn	**Pn**	**09 14 38.9**	**-0.6**
	comp=N,0.2nm,0.3s,baz=147,slow=13,SNR=7.3						
HFS	**Hagfors**	**26.80**	**347**	P	**P**	**09 16 24.1**	**-0.4**
	comp=N,1.3nm,0.7s,baz=167,slow=13,SNR=3.0						
TORD	**Torodi Ar. Bea**	**30.00**	**231**	P	**P**	**09 16 52.6**	**-0.7**
	comp=N,0.6nm,0.5s,baz=31,slow=8.6,SNR=12						
ARCES	**ARCESS Array B**	**35.18**	**0**	P	**P**	**09 17 36.0**	**-2.1**
	comp=N,3.1nm,1.1s,baz=184,slow=11,SNR=3.5						
KURBB	**Kurchatov Arra**	**41.60**	**50**	P	**P**	**09 18 32.0**	**-0.4**
	comp=N,0.4nm,0.6s,baz=268,slow=8.6,SNR=5.9						
MKAR	**Makanchi Array**	**44.20**	**56**	P	**P**	**09 18 53.5**	**0.0**
	comp=N,0.3nm,0.5s,baz=282,slow=6.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**45.53**	**46**	P	**P**	**09 19 03.1**	**-0.8**
	comp=N,0.9nm,0.4s,baz=268,slow=9.1,SNR=4.7						
SONM	**Songino Array**	**59.97**	**50**	P	**P**	**09 20 51.2**	**+0.3**
	comp=N,0.3nm,0.4s,baz=266,slow=6.5,SNR=3.3						
YKA	**Yellowknife Ar**	**78.16**	**342**	P	**P**	**09 22 44.4**	**+1.2**
	comp=N,0.1nm,0.5s,baz=30,slow=5.0,SNR=3.1						

NIED 21 09:13:00, 36.80N×142.40E, h20km, Mw3.8 Best double couple: M₀4.77000×10¹⁴ NP1:φ176.00000°, δ25.00000°, λ54.00000°. NP2:φ34.00000°, δ70.00000°, λ106.00000°.
IDC 21 09:13:44.7±0.9, 36.72N×142.49E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.4/74, mbtmp3.5/9, ML3.4/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/53, Error ellipse: s-maj=22.8km s-min=20.0km az=101.0
ISCJB 21 09:13:45.4±0.6, 36.74N±0.03×142.45E±0.05, h15km, mb3.5/7, Error ellipse: s-maj=6.2km s-min=4.4km az=13.6
JMA 21 09:13:47.8±0.2, 36.75N×142.38E, h52km, M3.6
ISC 21 09:13:47.2±0.9, 36.76N±0.04×142.34E±0.06, h15km, n31, σ1°07/37, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.28**	**286**	P	**Pn**	**09 14 10.0**	**-0.6**
JFK	**Kawauchi**	**1.32**	**298**	P	**Pn**	**09 14 10.4**	**-0.7**
JFK				S	**Sb**	**09 14 27.6**	**-0.7**
JHO	**Hitachi**	**1.43**	**264**	P	**Pn**	**09 14 12.1**	**-0.5**
CHOJ	**Chosi**	**1.59**	**229**	P	**Pn**	**09 14 14.9**	**+0.1**
CHOJ				*e*S	**Sn**	**09 14 34.2**	**-1.0**
JMM	**Marumori**	**1.65**	**312**	P	**Pn**	**09 14 15.8**	**+0.2**
JMM				*e*S	**Sn**	**09 14 37.1**	**+0.5**
JFT	**Otama**	**1.77**	**296**	P	**Pn**	**09 14 17.9**	**+0.7**
JFT				*e*S	**Sn**	**09 14 39.7**	**+0.2**
JIO	**Ouri**	**1.86**	**335**	P	**Pn**	**09 14 18.3**	**-0.2**
JIO				*e*S	**Sn**	**09 14 40.6**	**-1.2**
JAG	**Ashikaga**	**2.34**	**263**	P	**Pn**	**09 14 25.4**	**+0.2**
JMK	**Ichinoseki**	**2.36**	**338**	P	**Pn**	**09 14 25.9**	**+0.6**
JMK				*e*S	**Sn**	**09 14 53.9**	**-0.1**
BSO1	**Boso 1**	**2.38**	**208**	P	**Pn**	**09 14 25.6**	**+0.5**
BSO1				*e*S	**Sn**	**09 14 53.6**	**-0.1**
JYK	**Kaneyama**	**2.66**	**325**	P	**Pn**	**09 14 30.3**	**+0.8**
JOM	**Ohasama**	**2.83**	**343**	P	**Pn**	**09 14 32.1**	**+0.3**
JRY	**Ryogami san**	**2.87**	**256**	P	**Pn**	**09 14 32.5**	**+0.1**
JRY				*e*S	**Sn**	**09 15 05.8**	**-0.9**
JOD2	**Odawara 2**	**3.03**	**241**	P	**Pn**	**09 14 34.8**	**+0.2**
JYN	**Shimob**	**3.32**	**249**	P	**Pn**	**09 14 39.8**	**+1.2**
JYN				*e*S	**Sn**	**09 15 18.4**	**+0.6**
MJAR	**Matsushiro Arr**	**3.33**	**267**	Pn	**Pn**	**09 14 40.1**	**+1.4**
	4.3nm,0.3s,baz=83,slow=8.4,SNR=39						
MJAR				Sn	**Sb**	**09 15 22.9**	**-3.3**
	2.6nm,0.3s,baz=75,slow=10,SNR=6.4						
MJAR				LR	LR	09 16 03.7	
	comp=Z,93nm,19.6s,baz=175,slow=41						
MAT	**Matsushiro**	**3.33**	**267**	P	**Pn**	**09 14 40.2**	**+1.5**
MAT				S	**Sn**	**09 15 20.9**	**+2.9**
MAT	**Matsushiro**	**3.33**	**267**	P	**Pn**	**09 14 40.4**	**+1.7**
ASAJ	**Asahikawa**	**7.35**	**1**	Pn	**Pn**	**09 15 33.1**	**-0.8**
	0.5nm,0.3s,baz=186,slow=10,SNR=3.0						
USRK	**Ussuriysk Ar.**	**10.82**	**317**	Pn	Pn	09 16 26.9	+5.4
	0.1nm,0.3s,baz=127,slow=17,SNR=2.6						
KSRS	**Korea Array**	**11.53**	**278**	LR	LR	09 20 42.6	
	comp=Z,59nm,18.7s,baz=110,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.37**	**122**	T	T	09 48 28.1	
	baz=314,slow=75,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**27.38**	**122**	T	T	09 48 28.2	
	baz=314,slow=75,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**27.39**	**122**	T	T	09 48 14.1	
	baz=314,slow=75,SNR=5.6						
SONM	**Songino Array**	**28.55**	**304**	P	**P**	**09 19 43.6**	**+1.2**
	2.2nm,0.8s,baz=103,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**44.89**	**302**	P	**P**	**09 22 01.3**	**+0.3**
	0.5nm,0.7s,baz=88,slow=8.5,SNR=6.7						
KURBB	**Kurchatov Arra**	**46.75**	**308**	P	**P**	**09 22 16.0**	**+0.4**
	0.9nm,0.7s,baz=82,slow=7.9,SNR=8.0						
ILAR	**Eielson Array**	**49.33**	**32**	P	**P**	**09 22 34.9**	**-0.4**
	0.3nm,0.6s,baz=285,slow=5.8,SNR=5.2						
WRA	**Warramunga Arr**	**56.90**	**189**	P	**P**	**09 23 30.7**	**-0.9**
	0.5nm,0.9s,baz=7.9,slow=7.4,SNR=3.8						
ASAR	**Alice Springs**	**60.63**	**189**	P	**P**	**09 23 57.5**	**+0.1**
	0.1nm,0.5s,baz=16,slow=7.2,SNR=3.4						
YKA	**Yellowknife Ar**	**63.67**	**30**	P	**P**	**09 24 17.7**	**+0.3**
	0.1nm,0.6s,baz=302,slow=6.2,SNR=4.0						

DJA 21 09:21:10.8±1.5, 8°S±3°×107°E±°, h23km±14km, M4.2/5, MLv4.2/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**2.21**	**48**	P	Pn	09 21 45.9	-0.1
CGJI				S	Sn	09 22 13.2	+0.6
KASI	**Kota Agung**	**2.60**	**10**	P	Pn	09 21 51.8	+0.3
KASI				S	Sn	09 22 23.0	+0.7
MNAI	**Manna**	**3.87**	**344**	P	Pn	09 22 09.0	+0.1
CMJI	**Cimerak**	**4.38**	**86**	P	Pn	09 22 16.4	+0.5

ISCJB 21 09:24:34.5±0.8, 56.15N±0.06×11.85E±0.10, h19km±10km, Error ellipse: s-maj=9.6km s-min=9.0km az=27.0
UPP 21 09:24:34.5, 56.18N×11.88E, h0km, ML2.4
CSEM 21 09:24:34.4±0.3, 56.15N×11.85E, h10km, ML2.0, Error ellipse: s-maj=8.3km s-min=5.9km az=51.0
IDC 21 09:24:35.5±2.5, 56.25N×11.41E, h0km, mb1 3.1/5, mb1mx2.9/70, mbtmp3.0/5, ML2.8/4, Error ellipse: s-maj=24.9km s-min=21.6km az=162.0
ISC 21 09:24:33.4±1.2, 56.19N±0.03×11.84E±0.04, h12km±13km, n39, σ0°81/40, 2D, Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GID	**Gilleleje**	**0.20**	**109**	*i* P	**Pb**	**09 24 40.2**	**+1.1**
	SNR=129						
COP	**Copenhagen**	**0.61**	**146**	*i* P	**Pb**	**09 24 46.0**	**0.0**
COP	**Copenhagen**	**0.61**	**146**	*i* P	**Pb**	**09 24 46.0**	**0.0**
BJUU	**Bjuv**	**0.68**	**100**	P	**Pb**	**09 24 46.8**	**-0.4**
BJUU				S	**Sg**	**09 24 55.1**	**-0.3**
BJUU	**Bjuv**	**0.68**	**100**	P	**Pb**	**09 24 46.8**	**-0.4**
BJUU				S	**Sg**	**09 24 55.1**	**-0.3**
LLD	**Lille Linde**	**0.89**	**166**	*i* P	**Pg**	**09 24 50.2**	**-0.4**
LLD	**Lille Linde**	**0.89**	**166**	*i* P	**Pg**	**09 24 50.2**	**-0.4**
FABU	**Falkenberg**	**0.94**	**31**	P	**Pn**	**09 24 52.3**	**-0.2**
FABU	**Falkenberg**	**0.94**	**31**	P	**Pn**	**09 24 52.3**	**-0.2**
DEL	**Delary**	**1.17**	**75**	P	**Pg**	**09 24 55.6**	**-0.3**
DEL	**Delary**	**1.17**	**75**	P	**Pg**	**09 24 55.6**	**-0.3**
ONSU	**Onsala**	**1.21**	**2**	P	**Pg**	**09 24 57.0**	**+0.4**
ONSU	**Onsala**	**1.21**	**2**	P	**Pg**	**09 24 57.0**	**+0.4**
MUD	**Monsted U'grnd**	**1.51**	**281**	‖ *i* P	**Pg**	**09 25 02.3**	**0.0**
MUD	**Monsted U'grnd**	**1.51**	**281**	‖ *i* P	**Pg**	**09 25 02.3**	**0.0**
	SNR=56						
GNOU	**Gnosjoe**	**1.52**	**43**	P	**Pg**	**09 25 02.3**	**-0.4**
GNOU	**Gnosjoe**	**1.52**	**43**	P	**Pg**	**09 25 02.3**	**-0.4**
BORU	**Boraas**	**1.53**	**19**	P	**Pg**	**09 25 02.6**	**-0.2**
BORU	**Boraas**	**1.53**	**19**	P	**Pg**	**09 25 02.6**	**-0.2**
TJOU	**Tjoern**	**1.85**	**357**	P	**Pb**	**09 25 07.5**	**+0.4**
TJOU	**Tjoern**	**1.85**	**357**	P	**Pb**	**09 25 07.5**	**+0.4**
VXJU	**Vaexsjoe**	**1.87**	**66**	P	**Pb**	**09 25 07.6**	**+0.1**
VXJU	**Vaexsjoe**	**1.87**	**66**	P	**Pb**	**09 25 07.6**	**+0.1**
BSD	**Bornholm Skovb**	**2.05**	**121**	*i* P	**Pn**	**09 25 07.8**	**0.0**
BSD	**Bornholm Skovb**	**2.05**	**121**	*i* P	**Pn**	**09 25 07.9**	**+0.1**
	SNR=56						
FKPU	**Falk**	**2.22**	**27**	P	**Pb**	**09 25 13.3**	**-0.2**
FKPU	**Falk**	**2.22**	**27**	P	**Pb**	**09 25 13.3**	**-0.2**
VANU	**Vaenersborg**	**2.31**	**3**	P	**Pb**	**09 25 13.9**	**-1.1**
VANU	**Vaenersborg**	**2.31**	**3**	P	**Pb**	**09 25 13.9**	**-1.1**
HOMB	**Homborsund**	**2.76**	**320**	*i* P	**Pn**	**09 25 18.0**	**+0.6**
	SNR=56						
SNART	**Snartemo**	**3.31**	**312**	*i* P	**Pn**	**09 25 25.6**	**+0.6**
	SNR=56						
HFS	**Hagfors**	**4.07**	**13**	Pn	**Pn**	**09 25 36.2**	**+0.7**
	0.1nm,0.3s,baz=194,slow=13,SNR=6.1						
HFS				Pg	**Pb**	**09 25 47.0**	**+2.0**
	0.1nm,0.3s,baz=192,slow=15,SNR=4.8						
HFS				Lg	Lg	09 26 39.3	
	0.3nm,0.3s,baz=198,slow=27,SNR=3.2						
NOA	**NORSAR Array B**	**4.87**	**356**	Pn	**Pn**	**09 25 47.9**	**+1.4**
	0.1nm,0.3s,baz=179,slow=12,SNR=4.2						
NOA				Lg	Lg	09 27 06.3	
	0.3nm,0.3s,baz=164,slow=13,SNR=2.9						
EKA	**Eskdalemuir Ar**	**8.50**	**270**	Pn	**Pn**	**09 26 34.8**	**-1.4**
	baz=84,slow=12,SNR=2.9						
MODS	**Modra-Piesok**	**8.51**	**155**	*e*SG	**Pg**	**09 27 17.9**	**+1.7**
VYHS	**Vyhne**	**8.82**	**148**	*e*SG	Pn	09 26 45.9	+5.2
VYHS				*e*LG	Lg	09 26 50.2	
FINES	**FINESS Array B**	**9.06**	**49**	Pn	**Pn**	**09 26 46.0**	**+2.1**
	0.1nm,0.3s,baz=243,slow=12,SNR=2.3						
FINES				Lg	Lg	09 29 22.3	
	0.1nm,0.3s,baz=248,slow=25,SNR=3.0						
KECS	**Kecovo**	**9.36**	**142**	*e*PG	Pn	09 26 55.1	+7.1
KECS				*e*SG		09 27 08.4	
KECS				*e*LG	Lg	09 27 10.3	
ARCES	**ARCESS Array B**	**14.71**	**19**	Pn	**Pn**	**09 27 59.7**	**-1.4**
	0.1nm,0.3s,baz=212,slow=13,SNR=2.4						

IDC 21 09:34:14.3±3.2, 53.36N×89.13E, h0km, mb1 3.0/3, mb1mx2.8/71, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=28.8km s-min=18.3km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.63**	**285**	*i*		09 51 30.0	
	baz=97,slow=348,SNR=1.1						
ZALV	**Zalesovo Beam**	**2.63**	**285**	Pn	Pn	09 34 58.6	+0.5
	1.8nm,0.3s,baz=100,slow=15,SNR=19						
ZALV				Lg	Lg	09 35 36.6	
	2.4nm,0.3s,baz=106,slow=25,SNR=21						
KURBB	**Kurchatov Arra**	**7.09**	**252**	Pn	Pn	09 36 00.3	+1.1
	0.1nm,0.3s,baz=63,slow=14,SNR=4.1						
KURBB				Lg	Lg	09 38 00.5	
	0.0nm,0.3s,baz=57,slow=30,SNR=3.1						
MKAR	**Makanchi Array**	**7.90**	**217**	Pn	Pn	09 36 11.1	+0.7
	0.1nm,0.3s,baz=36,slow=13,SNR=8.9						
MKAR				Sn	Sn	09 37 39.9	-0.6
	0.2nm,0.3s,baz=36,slow=25,SNR=8.1						
MKAR				Lg	Lg	09 38 24.9	
	0.0nm,0.3s,baz=32,slow=32,SNR=5.1						

IDC 21 09:38:07.6±2.5, 54.04N×86.51E, h0km, mb1 2.9/2, mb1mx2.7/72, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=20.5km s-min=12.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**266**	*i*		09 45 14.7	
	baz=86,slow=345,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.00**	**266**	Pg	Pg	09 38 25.6	-1.1
	baz=86,slow=16,SNR=3.6						
ZALV				Lg	Lg	09 38 40.5	
	2.0nm,0.3s,baz=81,slow=27,SNR=6.7						
ZALV				Rg	Rg	09 38 46.6	
	5.8nm,0.3s,baz=76,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**5.96**	**238**	Pn	Pn	09 39 38.0	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=8.1						
KURBB				Lg	Lg	09 41 16.2	
	0.0nm,0.3s,baz=63,slow=30,SNR=2.9						
MKAR	**Makanchi Array**	**7.73**	**202**	Pn	Pn	09 40 02.4	+1.0
	0.2nm,0.3s,baz=15,slow=12,SNR=25						
MKAR				Sn	Sn	09 41 29.3	-0.2
	0.1nm,0.3s,baz=24,slow=26,SNR=3.7						
MKAR				Lg	Lg	09 42 14.6	
	baz=21,slow=29,SNR=5.7						

ISCJB 21 09:45:13.4±0.5, 37.13N±0.05×57.37E±0.04, h10km, mb3.2/2, Error ellipse: s-maj=7.4km s-min=4.1km az=22.2
IDC 21 09:45:13.8±1.9, 37.21N×57.26E, h0km, mb3.1/3, mb1 3.5/4, mb1mx3.1/70, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=16.7km s-min=9.2km az=37.0
CSEM 21 09:45:14.5, 37.18N×57.40E, h14km, ML3.0, After THR
TEH 21 09:45:16.0, 37.25N×57.45E, h10km, ML3.3
ISC 21 09:45:15.3±0.8, 37.21N±0.06×57.40E±0.04, h10km, n17, σ1°11/17, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.49**	**1**	*e*Pg	**Pg**	**09 45 24.8**	**-0.2**
ISFR	**Sfrayin**	**0.50**	**107**	*e*Pg	**Pg**	**09 45 24.3**	**-0.8**
ISFR				*e*Sg	**Sb**	**09 45 33.5**	**-0.4**
ISFR				*e*AMB	AMB	09 45 34.2	
	comp=Z,85μm,0.1s						
GEYT	**Alibeck**	**0.92**	**38**	Pg	**Pg**	**09 45 32.5**	**-0.5**
	comp=Z,29nm,0.3s,baz=221,slow=18,SNR=166						
GEYT				Lg	Lg	09 45 46.6	
	comp=Z,99nm,0.3s,baz=225,slow=24,SNR=31						
IKRD	**Kardeh**	**0.99**	**115**	*e*Pg	Pn	09 45 46.7	+11
IKRD				*e*AMB	AMB	09 46 16.0	
	comp=Z,5μm,0.2s						
IEMG	**Emamgholi**	**1.02**	**78**	*e*Pg	**Pg**	**09 45 33.9**	**-1.0**
IEMG				*e*AMB	AMB	09 45 56.2	
	comp=Z,6μm,0.1s						
MRVT	**Maraveh tapeh**	**1.14**	**294**	*e*Pg	**Pb**	**09 45 35.8**	**-1.3**
MRVT				*e*Sg	**Sb**	**09 45 51.5**	**-0.5**
IAKL	**Akhelmad**	**1.24**	**119**	*e*AMB	AMB	09 46 01.9	
	comp=Z,7μm,0.1s						
IMND	**Minoodasht**	**1.59**	**272**	*e*Pg	**Pb**	**09 45 46.3**	**+1.5**
IMND				*e*AMB

0.3nm,0.3s,baz=147,slow=14,SNR=22
MKAR LR LR 09 56 41.3
comp=Z,101nm,18.5s,baz=103,slow=40
AAK Ala-Archa 15.76 310 Pn **P 09 50 30.7 -1.4**
0.0nm,0.3s,baz=221,slow=19,SNR=3.2
AAK LR LR 09 57 54.2
comp=Z,114nm,18.5s,baz=104,slow=42
CMAR Chiang Mai Arr 16.65 152 Pn **Pn 09 50 35.6 -4.2**
baz=332,slow=11,SNR=12
CMAR LR LR 09 56 48.8
comp=Z,29nm,20.6s,baz=350,slow=37
SONM Songino Array 18.49 35 P **Pn 09 51 03.6 +1.1**
0.2nm,0.3s,baz=207,slow=9.1,SNR=7.7
KURBB Kurchatov Arra 19.35 336 P **Pn 09 51 12.1 -0.5**
0.1nm,0.3s,baz=142,slow=12,SNR=22
KURK Kurchatov 19.39 336 *eP* **P 09 51 12.4 +0.5**
TLY Talaya 20.40 23 LR LR 10 00 04.8
comp=Z,69nm,19.7s,baz=212,slow=39
ZALV Zalesovo Beam 20.88 350 P **P 09 51 28.7 +0.7**
4.4nm,0.5s,baz=171,slow=12,SNR=17
ZALV LR LR 10 00 13.3
comp=Z,56nm,19.0s,baz=59,slow=38
BJT Baijiatuan 21.26 65 *eP* **P 09 51 33.6 +1.3**
9.3nm,0.8s
BVAR Borovoye Array 24.39 329 P **P 09 52 04.1 +0.1**
0.7nm,0.7s,baz=152,slow=13,SNR=4.2
BVAR LR LR 10 02 52.9
comp=Z,157nm,18.6s,baz=142,slow=40
AKTO Aktyubinsk 29.38 315 LR LR 10 06 05.1
comp=Z,78nm,20.5s,baz=125,slow=39
KSAR Wonju Array Be 30.29 72 P **P 09 52 58.0 +1.1**
KSRS Korea Array 30.32 72 P **P 09 52 58.0 +0.9**
2.2nm,1.0s,baz=257,slow=11,SNR=4.1
ARU Arti 31.87 326 LR LR 10 07 23.4
comp=Z,76nm,18.1s,baz=181,slow=39
TIXI Tiksi 43.14 17 P **P 09 54 45.4 -0.3**
0.9nm,0.6s,baz=267,slow=1.7,SNR=4.2
BRTR Keskin Array B 45.67 295 P **P 09 55 06.1 -0.6**
1.1nm,0.8s,baz=101,slow=5.7,SNR=5.5
AKASG Malin Array Be 47.42 311 P **P 09 55 19.1 -0.9**
1.5nm,0.8s,baz=80,slow=6.5,SNR=4.9
AKASG LR LR 10 19 54.9
comp=Z,48nm,18.5s,baz=325,slow=42
SEY Seymchan 47.87 33 P **P 09 55 24.5 +1.2**
0.6nm,0.5s,baz=266,slow=16,SNR=3.4
FINES FINESS Array B 49.23 325 P **P 09 55 33.8 +0.1**
1.1nm,0.7s,baz=105,slow=11,SNR=3.4
ARCES ARCESS Array B 50.43 336 P **P 09 55 43.3 +0.5**
2.2nm,1.0s,baz=76,slow=8.5,SNR=4.4
SPITS Spitsbergen Ar 54.28 346 P **P 09 56 12.4 +1.2**
2.9nm,0.8s,baz=132,slow=41,SNR=2.6
HFS Hagfors 55.34 324 P **P 09 56 19.2 0.0**
1.9nm,0.8s,baz=83,slow=12,SNR=3.7
NOA NORSAR Array B 56.41 325 P **P 09 56 26.0 -0.9**
1.8nm,0.9s,baz=82,slow=6.6,SNR=3.5
NOA LR LR 10 22 43.3
comp=Z,57nm,18.9s,baz=10.0,slow=38
GERES GERESS Array B 57.64 310 P **P 09 56 35.5 -0.3**
0.3nm,0.3s,baz=70,slow=8.5,SNR=5.4
KEST Kesra 65.17 298 P **P 09 57 27.7 +0.8**
1.4nm,0.6s,baz=218,slow=19,SNR=2.5
WRA Warramunga Arr 67.42 135 P **P 09 57 40.2 -1.0**
1.5nm,1.1s,baz=325,slow=6.2,SNR=6.2
ASAR Alice Springs 70.10 138 P **P 09 57 56.3 -1.6**
0.7nm,0.8s,baz=325,slow=6.6,SNR=7.0
ILAR Eielson Array 72.22 22 P **P 09 58 10.2 0.0**
1.0nm,0.9s,baz=306,slow=4.4,SNR=7.9
INK Inuvik 73.26 16 P **P 09 58 16.6 +0.4**
2.0nm,1.1s,baz=343,slow=5.9,SNR=3.4
YKA Yellowknife Ar 82.16 12 P **P 09 59 06.1 +0.1**
0.2nm,0.7s,baz=328,slow=5.4,SNR=6.4
TORD Torodi Ar. Bea 82.17 281 P **P 09 59 05.4 -1.4**
0.8nm,0.9s,baz=20,slow=5.0,SNR=4.3
CPUP Villa Florida 151.59 276 PKPbc **PKPbc 10 06 38.4 -1.5**
1.2nm,0.6s,baz=68,slow=4.5,SNR=6.6

*IDC **21** 09:49:18.3±1.3,31°.23N×56°.62E,h0km,mb3.3/5,*
mb1 3.5/6,mb1mx3.2/70,mbtmp3.4/6,ML3.4/1,MS3.1/2,
Ms1 3.1/2,ms1mx2.4/44,Error ellipse: s-maj=38.1km
s-min=26.8km az=161.0
*ISCJB **21** 09:49:20.1±0.5,31°.39N±0°.04×56°.77E±0°.06,h10km,*
mb3.3/4,MS3.6/1,Error ellipse: s-maj=7.1km s-min=6.4km
az=2.0
*CSEM **21** 09:49:20.3±0.3,31°.41N×56°.78E,h2km,ML3.7,Error*
ellipse: s-maj=7.9km s-min=7.4km az=119.0
*TEH **21** 09:49:21.6,31°.44N×56°.74E,h10km,ML3.7*
ISC 21 09:49:21.0±0.7,**31°.47N**±0°.04×**56°.76E**±0°.04,**h10**km,**n29,**
s71/30,mb3.3/4,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**1.03**	**277**	*e*Pg		**Pg**	**Pg**	**09 49 39.2**	**-1.5**
IBAF				*e*AMB		AMB	AMB	09 50 00.4	
	comp=Z,11μm,0.1s								
IBAF	**Bafgh**	**1.03**	**277**	*e*Pg		**Pg**	**Pg**	**09 49 39.2**	**-1.5**
KHGB	**Koh Gabri**	**1.12**	**193**	*e*Pg		**Pg**	**Pg**	**09 49 41.3**	**-1.2**
KHGB	**Koh Gabri**	**1.12**	**193**	*e*Pg		**Pg**	**Pg**	**09 49 41.3**	**-1.2**
CHMN	**Cheshme madani**	**1.74**	**157**	*e*Pg		**Pn**	**Pg**	**09 49 52.1**	**+0.6**
CHMN	**Cheshme madani**	**1.74**	**157**	*e*Pg		**Pn**	**Pb**	**09 49 52.1**	**+0.6**
NGRK	**Negar Kerman**	**1.82**	**181**	*e*Pg		**Pb**	**Pg**	**09 49 54.1**	**-0.5**
NGRK	**Negar Kerman**	**1.82**	**181**	*e*Pg		**Pb**	**Pb**	**09 49 54.1**	**-0.5**
IMEH	**Mehriz**	**1.84**	**268**	*e*Pn		**Pn**	**Pg**	**09 49 53.9**	**+1.1**
IMEH	**Mehriz**	**1.84**	**268**	*e*Pn		**Pn**	**Pb**	**09 49 53.9**	**+1.1**
IKOO	**Kooshah**	**2.13**	**63**	*e*Pn		**Pn**	**Pg**	**09 49 57.2**	**+0.3**
IKOO				*e*AMB		AMB	AMB	09 50 29.9	
	comp=Z,11μm,0.4s								
IKOO	**Kooshah**	**2.13**	**63**	*e*Pn		**Pn**	**Pb**	**09 49 57.2**	**+0.3**
ICHK	**Chekchek**	**2.15**	**292**	*e*Pn		**Pn**	**Pg**	**09 49 58.1**	**+1.0**
ICHK				*e*AMB		AMB	AMB	09 50 32.0	
	comp=Z,6μm,0.2s								
ICHK	**Chekchek**	**2.15**	**292**	*e*Pn		**Pn**	**Pb**	**09 49 58.1**	**+1.0**
TABS	**Tabas**	**2.19**	**8**	*e*Pn		**Pn**	**Pb**	**09 49 58.9**	**+1.3**
ISAD	**Sadrabad**	**2.66**	**280**	*e*Pn		**Pn**	**Pb**	**09 50 05.3**	**+1.1**
ISAD				*e*AMB		AMB	AMB	09 50 51.5	
	comp=Z,2μm,0.2s								
ISAD	**Sadrabad**	**2.66**	**280**	*e*Pn		**Pn**	**Pb**	**09 50 05.3**	**+1.1**
IDAH	**Dahanechah**	**2.92**	**64**	*e*Pn		**Pn**	**Pb**	**09 50 15.3**	**+1.9**
NASN	**Na'in**	**3.61**	**293**	*e*Pn		**Pn**	**Pb**	**09 50 17.6**	**+0.4**
SHRT	**Shahrakht**	**3.69**	**53**	*e*Pn		**Pn**	**Pb**	**09 50 20.2**	**+2.1**
SHRT				*e*Sg		**Sg**	**Pb**	**09 51 16.9**	**-2.5**
GHIR	**Ghir-Karzin**	**4.56**	**227**	*e*Pn		**Pn**	**Pb**	**09 50 31.3**	**+1.1**
GHIR				*e*Sg		**Sb**	**Pb**	**09 51 41.5**	**+5.2**
GEYT	**Alibeck**	**6.54**	**9**	Pn		**Pn**	**Pb**	**09 50 58.6**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=191,slow=15,SNR=7.3								
GEYT				LR		LR	LR	09 53 21.2	
	comp=Z,46nm,18.8s,baz=25,slow=36								
WSAR	**Wadi Sarin**	**8.36**	**168**	Pn		**Pn**	**Pb**	**09 51 24.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=326,slow=7.3,SNR=2.8								
BRTR	**Keskin Array B**	**20.49**	**300**	P		**P**	**Pb**	**09 53 59.3**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=109,slow=13,SNR=5.0								
MKAR	**Makanchi Array**	**24.88**	**45**	P		**P**	**Pb**	**09 54 45.9**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=238,slow=8.2,SNR=3.2								
TORD	**Torodi Ar. Bea**	**59.56**	**265**	P		**P**	**Pb**	**09 58 40.1**	**-2.2**
	comp=Z,0.1nm,0.4s,baz=46,slow=7.0,SNR=2.6								
DBIC	**Dimbokro**	**62.39**	**260**	LR		LR	LR	10 27 34.6	
	comp=Z,39nm,18.7s,baz=152,slow=37								
YKA	**Yellowknife Ar**	**86.11**	**356**	P		**P**	**Pb**	**10 02 00.9**	**-0.9**
	comp=Z,0.1nm,0.7s,baz=0.6,slow=4.9,SNR=5.4								
ASAR	**Alice Springs**	**91.89**	**117**	P		**P**	**Pb**	**10 02 28.8**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=319,slow=4.1,SNR=2.7								

ATH 21 09:50:23.3,38°.08N×21°.80E,h28km±3km,**ML1.3/4,Error**
ellipse: s-maj=3.4km s-min=1.3km az=202.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRO	**Drossia**	**0.14**	**208**	P		P	Pb	09 50 29.0	+0.3
DRO				S		S	Sb	09 50 32.6	+0.3
DRO				AML		AML	AML	09 50 33.6	
	comp=E,401μm,0.2s								
DRO				AML		AML	AML	09 50 33.8	
	comp=N,355μm,0.2s								
DRO	**Drossia**	**0.14**	**208**	P		P	Pb	09 50 29.0	+0.3
DRO				S		S	Sb	09 50 31.5	-0.8
LAKA	**Lakka**	**0.22**	**42**	P		P	Pb	09 50 29.2	-0.2
LAKA				S		S	Sb	09 50 32.3	-1.4
KLV	**Kalavryta, Ach**	**0.28**	**97**	P		P	Pb	09 50 30.5	+0.2
KLV				S		S	Sb	09 50 34.8	-0.4
KLV				AML		AML	AML	09 50 35.3	
	comp=N,29μm,0.1s								
KLV				AML		AML	AML	09 50 36.4	
	comp=E,40μm,0.2s								
KLV	**Kalavryta, Ach**	**0.28**	**97**	P		P	Pb	09 50 30.5	+0.2
KLV				S		S	Sb	09 50 34.5	-0.7
EFP	**Efpalio**	**0.36**	**14**	P		P	Pb	09 50 31.3	-0.1
EFP				S		S	Sb	09 50 37.6	+0.7
TRIZ	**Trizonia**	**0.36**	**37**	P		P	Pb	09 50 31.3	-0.1
TRIZ				S		S	Sn	09 50 38.3	-0.6
TRIZ	**Trizonia**	**0.36**	**37**	P		P	Pb	09 50 31.2	-0.2
TRIZ				S		S	Sb	09 50 37.3	+0.4
SERG	**Sergoula**	**0.39**	**32**	P		P	Pb	09 50 31.8	-0.1
SERG				S		S	Sb	09 50 37.7	-0.1
SERG				AML		AML	AML	09 50 39.4	
	comp=E,79μm,0.1s								
SERG				AML		AML	AML	09 50 39.5	
	comp=N,92μm,0.3s								
KALE	**Kalithea**	**0.41**	**41**	P		P	Pb	09 50 32.4	+0.1
KALE				S		S	Sn	09 50 39.6	-0.7
KALE	**Kalithea**	**0.41**	**41**	P		P	Pb	09 50 32.2	-0.1
KALE				S		S	Sn	09 50 39.9	-0.4
GUR	**Goura**	**0.46**	**108**	P		P	Pb	09 50 32.9	0.0
GUR				S		S	Sn	09 50 40.7	-0.7
GUR				AML		AML	AML	09 50 41.7	
	comp=N,159μm,0.2s								
GUR				AML		AML	AML	09 50 42.5	
	comp=E,204μm,0.2s								

*NIED **21** 09:56:00,36°.70N×142°.40E,h20km,Mw4.1 Best double*
couple: Mo1.69000×10^15 NP1:φs195.00000°,δ20.00000°,
λ84.00000°. NP2:φs21.00000°,δ70.00000°,λ92.00000°.
*ISCJB **21** 09:56:49.7±0.5,36°.75N±0°.04×142°.46E±0°.05,h15km,*
mb4.0/21,MS3.4/10,Error ellipse: s-maj=5.8km
s-min=5.0km az=38.3
*IDC **21** 09:56:49.1±0.7,36°.67N×142°.46E,h0km,mb3.9/16,*
mb1 4.1/21,mb1mx3.9/77,mbtmp3.9/21,ML3.8/4,MS3.3/16,
Ms1 3.3/16,ms1mx3.0/67,Error ellipse: s-maj=17.4km
s-min=15.3km az=110.0
*JMA **21** 09:56:51.6±0.2,36°.75N×142°.40E,h42km,M4.0*
*NEIC **21** 09:56:54.5±0.5,36°.76N×142°.37E,h35km,mb4.2/3,Error*
ellipse: s-maj=10.7km s-min=7.8km az=128.0
ISC 21 09:56:51.0±0.6,**36°.73N**±0°.05×**142°.50E**±0°.06,**h15**km,**n59,**
s78/54,mb4.1/21,MS3.5/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.42**	**286**	P		**Pn**	**Pn**	**09 57 14.4**	**-1.9**
JFK	**Kawauchi**	**1.45**	**297**	P		**Pn**	**Pn**	**09 57 14.8**	**-1.9**
JHO	**Hitachi**	**1.56**	**266**	P		**Pn**	**Pn**	**09 57 15.9**	**-2.3**
JMM	**Marumori**	**1.77**	**310**	P		**Pn**	**Pn**	**09 57 19.7**	**-1.4**
JMM				S		**Sn**	**Sn**	**09 57 39.9**	**-3.5**
JFT	**Otama**	**1.90**	**295**	P		**Pn**	**Pn**	**09 57 22.2**	**-0.7**
JFT				*e*S		**Sn**	**Sn**	**09 57 43.7**	**-2.9**
JIO	**Ouri**	**1.95**	**332**	P		**Pn**	**Pn**	**09 57 22.5**	**-1.1**
JIO				*e*S		**Sn**	**Sn**	**09 57 45.1**	**-2.7**
BSO1	**Boso 1**	**2.41**	**211**	P		**Pn**	**Pn**	**09 57 29.4**	**0.0**
JMK	**Ichinoseki**	**2.44**	**336**	P		**Pn**	**Pn**	**09 57 29.8**	**-0.5**
JAG	**Ashikaga**	**2.47**	**264**	P		**Pn**	**Pn**	**09 57 29.7**	**-1.0**
JYK	**Kaneyama**	**2.77**	**323**	P		**Pn**	**Pn**	**09 57 34.3**	**-0.5**
JOM	**Ohasama**	**2.90**	**341**	P		**Pn**	**Pn**	**09 57 36.2**	**-0.5**
JRY	**Ryogami san**	**2.99**	**257**	P		**Pn**	**Pn**	**09 57 36.9**	**-1.0**
JRY				S		**Sn**	**Sn**	**09 58 10.4**	**-3.1**
JOD2	**Odawara 2**	**3.13**	**243**	P		**Pn**	**Pn**	**09 57 39.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.46**	**268**	Pn		**Pn**	**Pn**	**09 57 44.2**	**-0.1**
	14nm,0.3s,baz=126,slow=8.4,SNR=126								
MJAR				Sn		**Sn**	**Sn**	**09 58 27.1**	**+2.0**
	6.9nm,0.3s,baz=77,slow=14,SNR=4.7								
MJAR				LR		LR	LR	09 59 17.2	
	comp=Z,370nm,18.0s,baz=105,slow=44								
MAJO	**Matsushiro**	**3.46**	**268**	*e*Pn		**Pn**	**Pn**	**09 57 44.5**	**+0.2**
MAJO				*e*Sn		**Sn**	**Sn**	**09 58 27.5**	**+2.5**
MAT	**Matsushiro**	**3.46**	**268**	P		**Pn**	**Pn**	**09 57 44.6**	**+0.3**
MAT				*e*S		**Sn**	**Sn**	**09 58 25.4**	**+0.4**
JHJ2	**Mitsune**	**4.23**	**212**	*e*Pn		**Pn**	**Pn**	**09 57 56.3**	**+1.5**
JHJ2				*e*Sn		**Sn**	**Sn**	**09 58 41.2**	**-2.8**
JHJ	**Hachijo jima 2**	**4.24**	**213**	Pn		**Pn**	**Pn**	**09 57 54.3**	**-0.7**
	32nm,0.3s,baz=90,slow=20,SNR=6.8								
JHJ				Sn		**Sn**	**Sn**	**09 58 38.3**	**-5.8**
	68nm,0.3s,baz=76,slow=21,SNR=5.7								
ASAJ	**Asahikawa**	**7.38**	**1**	Pn		**Pn**	**Pn**	**09 58 37.9**	**-0.3**
	1.8nm,0.3s,baz=220,slow=10,SNR=8.2								
ASAJ				Sn		**Sn**	**Sn**	**09 59 57.1**	**-4.5**
	baz=18,slow=20,SNR=2.2								
JNU	**Nakatsue**	**10.20**	**253**	Pn		**Pn**	Pn	09 59 23.2	+6.4
	0.3nm,0.3s,baz=32,slow=4.1,SNR=5.0								
JNU				LR		LR	LR	10 03 47.7	
	comp=Z,186nm,18.0s,baz=12,slow=41								
USRK	**Ussuriysk Ar.**	**10.94**	**316**	Pn		**Pn**	**Pn**	**09 59 27.9**	**+0.9**
	0.3nm,0.3s,baz=134,slow=48,SNR=4.3								
USRK				LR		LR	LR	10 03 30.0	
	comp=Z,184nm,18.1s,baz=107,slow=37								
KSRS	**Korea Array**	**11.67**	**278**	Pn		**Pn**	**Pn**	**09 59 39.0**	**+2.1**
	0.2nm,0.3s,baz=83,slow=13,SNR=6.7								
KSRS				LR		LR	LR	10 03 46.9	
	comp=Z,160nm,19.0s,baz=100,slow=36								
KSAR	**Wonju Array Be**	**11.70**	**278**	Pn		**Pn**	**Pn**	**09 59 39.0**	**+1.7**
KLR	**Kul'dur**	**14.75**	**331**	Pn		**Pn**	**Pn**	**10 00 17.4**	**-1.5**
	0.0nm,0.3s,baz=160,slow=5.0,SNR=4.0								
KLR				LR		LR	LR	10 05 44.6	
	comp=Z,13nm,19.2s,baz=124,slow=36								
PETK	**Petropavlovsk-**	**19.53**	**28**	LR		LR	LR	10 09 32.7	
	comp=Z,26nm,19.8s,baz=214,slow=39								
MA2	**Magadan**	**23.48**	**11**	LR		LR	LR	10 11 48.4	
	comp=Z,63nm,18.1s,baz=122,slow=38								
YAK	**Yakutsk**	**26.57**	**346**	P		**P**	**Pb**	**10 02 28.4**	**+0.4**
	10nm,0.4s,baz=206,slow=1.6,SNR=4.7								
SEY	**Seymchan**	**26.93**	**10**	P		**P**	**Pb**	**10 02 33.3**	**+2.0**
	1.1nm,0.5s,baz=180,slow=8.3,SNR=6.2								
H11N2	**WAKE ISLAND Hy**	**27.24**	**122**	T		T	T	10 31 10.3	
	baz=314,slow=75,SNR=19								
H11N1	**WAKE ISLAND Hy**	**27.25**	**122**	T		T	T	10 31 16.1	
	baz=314,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy**	**27.26**	**122**	T		T	T	10 31 17.9	
	baz=314,slow=75,SNR=14								
H11S1	**WAKE ISLAND Hy**	**27.96**	**124**	T		T	T	10 32 10.6	
	baz=316,slow=76,SNR=15								
H11S3	**WAKE ISLAND Hy**	**27.96**	**124**	T		T	T	10 32 11.3	
	baz=316,slow=76,SNR=9.5								
H11S2	**WAKE ISLAND Hy**	**27.98**	**124**	T		T	T	10 32 17.8	
	baz=316,slow=76,SNR=10.0								
ENH	**Enshi**	**28.18**	**266**	*e*P		**P**	**Pb**	**10 02 42.1**	**-0.9**
	10nm,0.6s								
SONM	**Songino Array**	**28.68**	**304**	P		**P**	**Pb**	**10 02 47.7**	**+0.3**
	6.9nm,0.8s,baz=105,slow=9.0,SNR=26								
SONM				LR		LR	LR	10 13 12.6	
	comp=Z,54nm,18.4s,baz=111,slow=34								
TLY	**Talaya**	**31.19**	**311**	LR		LR	LR	10 15 54.0	
	comp=Z,56nm,21.5s,baz=99,slow=37								
MKAR	**Makanchi Array**	**45.02**	**303**	P		**P**	**Pb**	**10 05 05.7**	**-0.2**
	1.4nm,0.6s,baz=86,slow=9.5,SNR=22								
MKAR				LR		LR	LR	10 23 48.7	
	comp=Z,41nm,18.8s,baz=96,slow=36								
KURK	**Kurchatov**	**46.81**	**308**	P		**P**	**Pb**	**10 05 20.2**	**+0.4**
	2.4nm,0.7s								
KURBB	**Kurchatov Arra**	**46.88**	**308**	P		**P**	**Pb**	**10 05 20.2**	**-0.2**
	3.4nm,0.8s,baz=83,slow=7.9,SNR=27								
ILAR	**Eielson Array**	**49.29**	**32**	P		**P**	**Pb**	**10 05 39.6**	**+0.8**
	0.8nm,0.8s,baz=262,slow=6.7,SNR=7.9								
AAK	**Ala-Archa**	**51.40**	**299**	P		**P**	**Pb**	**10 05 55.7**	**+0.3**
	0.6nm,0.4s,baz=36,slow=2.0,SNR=3.9								
BVAR	**Borovoye Array**	**51.42**	**313**	P		**P**	**Pb**	**10 05 55.2**	**+0.1**
	0.7nm,0.6s,baz=60,slow=8.9,SNR=3.8								
KKAR	**Karatay Array**	**54.03**	**301**	*e*P		**P**	**Pb**	**10 06 12.6**	**-2.1**
	3.1nm,1.3s								
INK	**Inuvik**	**54.26**	**27**	P		**P**	**Pb**	**10 06 17.1**	**+1.2**
	0.7nm,0.9s,baz=331,slow=7.8,SNR=4.1								
WRA	**Warramunga Arr**	**56.89**	**189**	P		**P**	**Pb**	**10 06 35.0**	**-0.3**
	0.5nm,0.4s,baz=7.8,slow=7.7,SNR=17								
ARU	**Arti**	**57.17**	**319**	LR		LR	LR	10 33 57.5	
	comp=Z,48nm,18.2s,baz=158,slow=39								
ABKAR	**Akbulak array**	**58.80**	**311**	*e*P		**P**	**Pb**	**10 06 48.2**	**-0.3**
	0.7nm,0.5s								
AKTO	**Aktyubinsk**	**59.53**	**312**	P		**P**	**Pb**	**10 06 55.0**	**+1.5**
	1.1nm,0.5s,baz=77,slow=9.6,SNR=4.9								
ASAR	**Alice Springs**	**60.61**	**189**	P		**P**	**Pb**	**10 07 01.1**	**-0.1**
	0.4nm,0.5s,baz=5.1,slow=6.9,SNR=7.4								
SPITS	**Spitsbergen Ar**	**60.99**	**349**	LR		LR	LR	10 36 04.5	
	comp=Z,37nm,19.3s,baz=295,slow=39								
YKA	**Yellowknife Ar**	**63.63**	**30**	P		**P**	**Pb**	**10 07 22.0**	**+1.0**
	0.2nm,0.7s,baz=301,slow=6.4,SNR=5.1								
FINES	**FINESS Array B**	**69.49**	**333**	P		**P**	**Pb**	**10 07 58.7**	**+0.3**
	1.3nm,0.7s,baz=46,slow=5.5,SNR=4.4								
KBZ	**Khabaz**	**71.76**	**311**	P		**P**	**Pb**	**10 08 13.4**	**+0.8**
	2.8nm,0.9s,baz=62,slow=2.9,SNR=7.0								
HFS	**Hagfors**	**74.72**	**336**	LR		LR	LR	10 45 14.9	
	comp=Z,42nm,20.2s,baz=356,slow=39								
NOA	**NORSAR Array B**	**74.80**	**338**	LR		LR	LR	10 45 43.3	
	comp=Z,32nm,18.3s,baz=315,slow=39								
GERES	**GERESS Array B**	**83.43**	**329**	P		**P**	**Pb**	**10 09 18.1**	**+0.3**
	0.3nm,0.2s,baz=56,slow=5.3,SNR=3.4								
GERES				LR		LR	LR	10 47 39.9	
	comp=Z,9.8nm,20.8s,baz=356,slow=37								
PPT	**Papeete**	**83.72**	**117**	LR		LR	LR	10 48 07.3	
	comp=Z,35nm,18.2s,baz=254,slow=37								
TXAR	**Lajitas Array**	**89.61**	**53**	P		**P**	**Pb**	**10 09 50.0**	**+1.6**
	0.3nm,0.6s,baz=235,slow=3.2,SNR=3.1								

*ISCJB **21** 10:03:46.4±0.5,43°.77N±0°.04×144°.87E±0°.04,h29km±5km,*
Error ellipse: s-maj=7.1km s-min=4.4km az=156.9
*JMA **21** 10:03:47.1,43°.77N×144°.85E,h0km,M3.2*
JMA Felt I J1.
*SKHL **21** 10:03:47.6±0.5,43°.70N×144°.90E,h40km±2km,mb4.3/3*
ISC 21 10:03:46.0±1.1,**43°.73N**±0°.05×**144°.93E**±0°.05,**h19**km±3km,
n12,σ0°.58/23,4C-2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.21**	**227**	⇑P		**Pg**	**Pg**	**10 03 51.3**	**+0.2**
JNK				*e*S		**Sg**	**Sg**	**10 03 54.2**	**-0.4**
JRA	**Rausu**	**0.25**	**33**	⇑P		**Pb**	**Pg**	**10 03 52.5**	**+0.7**
JRA				*e*S		**Sg**	**Sg**	**10 03 56.4**	**+0.6**
GLVR	**Golovnino**	**0.43**	**88**	*i* P		**Pn**	**Pg**	**10 03 56.7**	**-0.5**
GLVR				*i* S		**Sn**	**Sg**	**10 04 03.9**	**-0.6**
GRPR	**Tuman**	**0.67**	**66**	*i* P		**Pn**	**Pg**	**10 04 00.3**	**-0.1**
GRPR				*i* S		**Sn**	**Sg**	**10 04 09.4**	**-1.0**
NEM2	**Nemuro 2**	**0.69**	**121**	⇓P		**Pn**	**Pg**	**10 04 00.7**	**-0.1**
NEM2				S		**Sn**	**Sg**	**10 04 11.0**	**0.0**
LAGR	**Lagunnoye**	**0.70**	**62**	*e*P		**Pn**	**Pg**	**10 04 00.9**	**0.0**
LAGR				*i* S		**Sn**	**Sg**	**10 04 10.9**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**0.74**	**65**	*i* P		**Pn**	**Pg**	**10 04 01.5**	**0.0**
YUK				AMB		AMB	AMB	10 04 02.8	
	64nm,0.3s								
YUK				AMB		AMB	AMB	10 04 02.8	
	95nm,0.3s								
YUK				AMB		AMB	AMB	10 04 02.8	
	300nm,0.3s								
YUK				*i* S		**Sn**	**Sn**	**10 04 12.1**	**-0.1**
YUK				A		A	A	10 04 12.4	
	736nm,0.3s								
YUK				A		A	A	10 04 12.4	
	412nm,0.3s								
JAK	**Akkeshi**	**0.75**	**193**	⇑P		**Pn**	**Pg**	**10 04 01.6**	**0.0**
JAK				S		**Sn**	**Sn**	**10 04 12.6**	**+0.2**
JTKR	**Abashiri--Toko**	**0.78**	**289**	⇓P		**Pg**	**Pg**	**10 04 00.8**	**-0.4**
JTKR				S		**Sb**	**Sb**	**10 04 10.7**	**-0.4**
JAR	**Ashorobuto**	**0.95**	**243**	⇑P		**Pg**	**Pg**	**10 04 04.6**	**-0.2**
SHO	**Shikotan**	**1.38**	**83**	*i* P		**Pn**	**Pg**	**10 04 10.7**	**+0.4**
SHO				AMB		AMB	AMB	10 04 11.5	
	82nm,0.3s								
SHO				*i* S		**Sn**	**Sn**	**10 04 26.5**	**-1.6**
SHO				A		A	A	10 04 29.9	
	870nm,0.4s								
SHO				A		A	A	10 04 29.9	
	830nm,0.4s								
KUR	**Kuril'sk**	**2.59**	**53**	*e*P		**Pn**	**Pg**	**10 04 27.3**	**+0.5**
KUR				AMB		AMB	AMB	10 04 28.1	
	59nm,0.5s								
KUR				*i* S		**Sn**	**Sn**	**10 04 57.3**	**-0.5**
KUR				A		A	A	10 05 12.5	
	227nm,0.5s								
KUR				A		A	A	10 05 12.5	
	138nm,0.5s								

*JMA **21** 10:07:20.9±0.2,24°.65N×121°.84E,h71km±3km,M2.6*
*

	baz=328							
YM04	**YM04**	**0.55**	**325**	*e*P		**Pn**	**10 07 34.8**	**0.0**
	baz=325							
YM04				*e*S		**Sn**	**10 07 44.7**	**+0.5**
	baz=325							
YM08	**YM08**	**0.55**	**331**	P		**Pn**	**10 07 34.8**	**-0.1**
	baz=331							
YM08				*e*S		**Sn**	**10 07 44.2**	**-0.1**
	baz=331							
YM03	**YM03**	**0.57**	**326**	*e*P		**Pn**	**10 07 35.0**	**-0.1**
	baz=327							
YM03				*e*S		**Sn**	**10 07 44.9**	**+0.2**
	baz=327							
TWS1	**Kuangyinshan**	**0.58**	**313**	P		**Pn**	**10 07 35.3**	**+0.2**
	baz=314							
TWS1				*e*S		**Sn**	**10 07 45.0**	**+0.3**
	baz=314							
NACB	**Ninganchiao**	**0.59**	**207**	*e*P		**Pn**	**10 07 34.2**	**-1.1**
	baz=205							
NACB				*e*S		**Sn**	**10 07 45.4**	**+0.4**
	baz=205							
WLTB	**Daxi**	**0.59**	**284**	P		**Pn**	**10 07 35.4**	**+0.1**
	baz=284							
WLTB				S		**Sn**	**10 07 45.4**	**+0.4**
	baz=284							
TWD	**Chiawan**	**0.68**	**203**	*e*P		**Pn**	**10 07 35.2**	**-1.0**
	baz=201							
TWD				*e*S		**Sn**	**10 07 45.8**	**-0.8**
	baz=201							
NCU	**National Centr**	**0.69**	**293**	*e*P		**Pn**	**10 07 36.2**	**-0.1**
	baz=292							
NCU				S		**Sn**	**10 07 47.4**	**+0.5**
	baz=292							
NCUH	**Zhongli**	**0.69**	**292**	*e*P		**Pn**	**10 07 36.1**	**-0.2**
	baz=292							
NCUH				*e*S		**Sn**	**10 07 47.0**	**+0.1**
	baz=292							
TWT	**Tachien**	**0.79**	**235**	*e*P		**Pn**	**10 07 37.7**	**-0.1**
	baz=234							
TWT				*e*S		**Sn**	**10 07 49.1**	**-0.2**
	baz=234							
LIOB	**Emei**	**0.80**	**266**	*e*P		**Pn**	**10 07 37.3**	**-0.4**
	baz=265							
LIOB				*e*S		**Sn**	**10 07 49.2**	**0.0**
	baz=265							
WHF	**Hehuan Shan**	**0.80**	**226**	*e*P		**Pn**	**10 07 37.6**	**-0.5**
	baz=224							
WHF				*e*S		**Sn**	**10 07 50.0**	**+0.2**
	baz=224							
TDCB	**Techi**	**0.80**	**236**	*e*P		**Pn**	**10 07 37.9**	**0.0**
	baz=235							
TDCB				*e*S		**Sn**	**10 07 49.2**	**-0.3**
	baz=235							
NSTT	**Nanjuang**	**0.81**	**265**	P		**Pn**	**10 07 37.3**	**-0.5**
	baz=264							
NSTT				S		**Sn**	**10 07 49.0**	**-0.5**
	baz=264							
SBCB	**Hsinchu**	**0.82**	**276**	*e*P		**Pn**	**10 07 38.2**	**+0.2**
	baz=276							
SBCB				*e*S		**Sn**	**10 07 50.0**	**+0.2**
	baz=276							
ENLB	**Shoufeng**	**0.84**	**198**	*e*P		**Pn**	**10 07 38.5**	**+0.3**
	baz=197							
ENLB				*e*S		**Sn**	**10 07 50.8**	**+0.8**
	baz=197							
HSN	**Hsinchu**	**0.84**	**277**	*e*P		**Pn**	**10 07 37.6**	**-0.6**
	baz=278							
HSN				*e*S		**Sn**	**10 07 49.7**	**-0.4**
	baz=278							
CHGB	**Renai**	**0.91**	**226**	*e*P		**Pn**	**10 07 39.0**	**-0.3**
	baz=224							
CHGB				*e*S		**Sn**	**10 07 52.3**	**+0.2**
	baz=224							
OWD	**Renai**	**0.99**	**221**	*e*P		**Pn**	**10 07 39.8**	**-0.4**
	baz=220							
OWD				S		**Sn**	**10 07 53.4**	**-0.3**
	baz=220							
JYNG	**Yonagunijimaku**	**1.00**	**104**	P		**Pn**	**10 07 40.0**	**-0.1**
JYNG				S		**Sn**	**10 07 54.3**	**+0.7**
NMLH	**Miaoli**	**1.01**	**261**	*e*P		**Pn**	**10 07 40.4**	**+0.1**
	baz=260							
NMLH				*e*S		**Sn**	**10 07 54.4**	**+0.4**
	baz=260							
YOJ	**Yonaguni jima**	**1.05**	**103**	*e*P		**Pn**	**10 07 40.9**	**+0.1**
	baz=102							
YOJ				*e*S		**Sn**	**10 07 55.6**	**+0.7**
	baz=102							
YOJ	**Yonaguni jima**	**1.05**	**103**	P		**Pn**	**10 07 40.7**	**-0.2**
YOJ				S		**Sn**	**10 07 54.5**	**-0.4**
NSY	**Sanyi**	**1.06**	**255**	*e*P		**Pn**	**10 07 41.1**	**0.0**
	baz=253							
NSY				*e*S		**Sn**	**10 07 55.3**	**+0.1**
	baz=253							
TWQ1	**Liyutan**	**1.07**	**251**	*e*P		**Pn**	**10 07 41.0**	**-0.2**
	baz=250							
TWQ1				S		**Sn**	**10 07 55.3**	**-0.2**
	baz=250							
SMLT	**Sun Moon Lake**	**1.22**	**228**	*e*P		**Pn**	**10 07 43.9**	**+0.7**
	baz=227							
SMLT				*e*S		**Sn**	**10 07 58.6**	**-0.3**
	baz=227							
TYC	**Yuchr**	**1.23**	**230**	*e*P		**Pn**	**10 07 43.3**	**+0.1**
	baz=228							
TYC				*e*S		**Sn**	**10 07 59.0**	**0.0**
	baz=228							
SSLB	**Suanglung**	**1.25**	**223**	*e*P		**Pn**	**10 07 43.8**	**+0.3**
	baz=222							
SSLB				*e*S		**Sn**	**10 07 59.9**	**+0.4**
	baz=222							
HGSD	**Ruisui**	**1.28**	**199**	*e*P		**Pn**	**10 07 44.4**	**+0.5**
	baz=198							
HGSD				*e*S		**Sn**	**10 08 00.3**	**+0.1**
	baz=198							
EHY	**Hungye**	**1.30**	**204**	*e*P		**Pn**	**10 07 43.5**	**-0.7**
	baz=202							
EHY				*e*S		**Sn**	**10 08 00.7**	**-0.1**
	baz=202							
YULB	**Yu-li**	**1.41**	**203**	*e*P		**Pn**	**10 07 45.0**	**-0.6**
	baz=201							
YULB				*e*S		**Sn**	**10 08 03.5**	**+0.1**
	baz=201							
TWF1	**Yuli**	**1.45**	**202**	*e*P		**Pn**	**10 07 46.1**	**-0.1**
	baz=201							
TWF1				*e*S		**Sn**	**10 08 04.7**	**+0.4**
	baz=201							
YUS	**Yu-Shan**	**1.48**	**215**	*e*P		**Pn**	**10 07 46.5**	**-0.5**
	baz=214							
YUS				*e*S		**Sn**	**10 08 05.2**	**-0.5**
	baz=214							
ALS	**Alishan**	**1.55**	**220**	*e*P		**Pn**	**10 07 48.4**	**+0.7**
	baz=219							
ALS				*e*S		**Sn**	**10 08 08.7**	**+1.7**
	baz=219							
CHN5	**Tsauling**	**1.56**	**225**	*e*P		**Pn**	**10 07 48.4**	**+0.7**
	baz=224							
CHN5				*e*S		**Sn**	**10 08 07.0**	**-0.1**
	baz=224							
FULB	**Fuli**	**1.59**	**200**	*e*P		**Pn**	**10 07 47.9**	**-0.3**
	baz=199							
FULB				*e*S		**Sn**	**10 08 07.6**	**-0.2**
	baz=199							
IRIF	**Iriomote-Funau**	**1.72**	**102**	P		**Pn**	**10 07 49.3**	**-0.4**
IRIF				S		**Sn**	**10 08 10.5**	**-0.2**
JKRS	**Kuro-shima**	**1.99**	**103**	P		**Pn**	**10 07 53.5**	**+0.1**
JKRS				S		**Sn**	**10 08 17.4**	**+0.2**
JIJ	**Ishigaki jima**	**2.08**	**99**	P		**Pn**	**10 07 54.3**	**-0.3**
JIJ				S		**Sn**	**10 08 18.8**	**-0.7**
JISG	**Ishigakijimahi**	**2.21**	**93**	P		**Pn**	**10 07 56.5**	**+0.1**
JISG				S		**Sn**	**10 08 22.8**	**+0.2**

*ISCJB **21** 10:12:19.7±0.6,37.°11N±0.°04×27.°92E±0.°03,h0km, Error ellipse: s-maj=5.6km s-min=3.7km az=14.3*
*CSEM **21** 10:12:19.6±0.3,37.°09N×27.°92E,h2km,ML2.2, Error ellipse: s-maj=7.0km s-min=4.1km az=21.0, Suspected Mining explosion.*
*ISK **21** 10:12:19.7,37.°13N×27.°85E,h11km,ML2.2/7*
*DDA **21** 10:12:21.0,37.°18N×27.°88E,h7km,Ml2.6, Suspected Mining explosion.*

ISC 21 10:12:19.2±0.9, 37.°09N±0.°03×27.°93E±0.°02, h0km, n24, σ0°53/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MLSB	**Milas**	**0.24**	**330**			**Pg**	**10 12 24.0**	**+0.2**
MLSB						**Sg**	**10 12 27.1**	**+0.2**

MLSB	**Milas**	**0.24**	**330**	*e*Pg		**Pg**	**10 12 24.0**	**+0.2**
MLSB				*e*Sg		**Sg**	**10 12 27.1**	**+0.2**
YER	**Yerkesik**	**0.29**	**80**	PG		**Pb**	**10 12 27.1**	**-0.2**
YER				SG		**Sb**	**10 12 32.4**	**-0.3**
YER	**Yerkesik**	**0.29**	**80**	*e*Pg		**Pb**	**10 12 27.1**	**-0.2**
BDRM	**Kayabasi**	**0.39**	**267**	*i* P		**Pg**	**10 12 27.1**	**+0.5**
BDRM				*i* S		**Sb**	**10 12 34.4**	**-1.1**
BDRM	**Kayabasi**	**0.39**	**267**	P		**Pg**	**10 12 27.1**	**+0.5**
BDRM				S		**Sb**	**10 12 34.4**	**-1.1**
BODT	**Bodrum**	**0.49**	**267**	PG		**Pg**	**10 12 28.6**	**0.0**
BODT				SG		**Sg**	**10 12 35.6**	**+0.6**
BODT	**Bodrum**	**0.49**	**267**	*e*Pg		**Pg**	**10 12 28.6**	**0.0**
BODT				*e*Sg		**Sg**	**10 12 35.6**	**+0.6**
AYDN	**Tasoluk**	**0.57**	**356**	*i* P		**Pg**	**10 12 30.7**	**+0.5**
AYDN				*i* S		**Sg**	**10 12 37.0**	**-0.7**
AYDN	**Tasoluk**	**0.57**	**356**	P		**Pg**	**10 12 30.7**	**+0.5**
AYDN				S		**Sg**	**10 12 37.0**	**-0.7**
TURN	**Turunc**	**0.58**	**111**	PG		**Pg**	**10 12 29.4**	**-0.9**
TURN	**Turunc**	**0.58**	**111**	*i* P		**Pg**	**10 12 30.3**	**0.0**
TURN				*i* S		**Sg**	**10 12 38.4**	**+0.5**
TURN	**Turunc**	**0.58**	**111**	*e*Pg		**Pg**	**10 12 29.4**	**-0.9**
TURN	**Turunc**	**0.58**	**111**	P		**Pg**	**10 12 30.3**	**0.0**
TURN				S		**Sg**	**10 12 38.4**	**+0.5**
GCAM	**G?zelcaml?**	**0.82**	**318**	PG		**Pg**	**10 12 34.8**	**-0.2**
GCAM	**G?zelcaml?**	**0.82**	**318**	*i* P		**Pb**	**10 12 36.0**	**-0.4**
GCAM	**G?zelcaml?**	**0.82**	**318**	*e*Pg		**Pg**	**10 12 34.8**	**-0.2**
GCAM	**G?zelcaml?**	**0.82**	**318**	P		**Pb**	**10 12 36.0**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**358**	PG		**Pg**	**10 12 35.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**358**	*e*Pg		**Pg**	**10 12 35.9**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.87**	**64**	*i* P		**Pb**	**10 12 37.7**	**+0.4**
TAVA	**DENIZLI_Tavas**	**0.87**	**64**	P		**Pb**	**10 12 37.7**	**+0.4**
FETY	**Fethiye**	**1.03**	**116**	PN		**Pn**	**10 12 41.5**	**+0.6**
FETY	**Fethiye**	**1.03**	**116**	*e*Pn		**Pn**	**10 12 41.5**	**+0.6**

IDC 21 10:13:54.7±2.8, 53.°61N×87.°91E, h0km, mb1 3.2/2, mb1mx2.9/70, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=25.4km s-min=15.6km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**282**	*i*			10 26 37.5	
	baz=95,slow=343,SNR=4.6							
ZALV	**Zalesovo Beam**	**1.87**	**282**	Pn		Pn	10 14 27.8	-0.1
	3.0nm,0.3s,baz=96,slow=15,SNR=30							
ZALV				Lg		Lg	10 14 54.0	
	7.0nm,0.3s,baz=97,slow=24,SNR=21							
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn		Pn	10 15 32.3	+0.7
	0.2nm,0.3s,baz=62,slow=14,SNR=7.7							
KURBB				Lg		Lg	10 17 18.4	
	0.1nm,0.3s,baz=63,slow=33,SNR=10							
MKAR	**Makanchi Array**	**7.72**	**210**	Pn		Pn	10 15 49.7	+1.5
	0.2nm,0.3s,baz=27,slow=13,SNR=10							
MKAR				Sn		Sn	10 17 15.6	-0.7
	0.1nm,0.3s,baz=32,slow=22,SNR=4.3							
MKAR				Lg		Lg	10 17 56.9	
	0.1nm,0.3s,baz=32,slow=28,SNR=4.2							

*ISCJB **21** 10:16:54.0±0.6,56.°14N±0.°04×11.°67E±0.°06,h10km, Error ellipse: s-maj=6.6km s-min=4.2km az=35.6*
*BER **21** 10:16:55.5±3.9,56.°11N×11.°84E,h0km±26km,ML1.4, ML2.1(NAO)*
*CSEM **21** 10:16:55.1±0.2,56.°18N×11.°77E,h5km,ML2.0, Error ellipse: s-maj=6.1km s-min=4.4km az=35.0*
*NAO **21** 10:16:55.0±2.7,56.°19N×11.°99E,ML2.1*
*UPP **21** 10:16:56.1,56.°19N×11.°90E,h2km,ML2.6*
*IDC **21** 10:16:56.4±2.6,56.°22N×11.°36E,h0km,mb1 3.1/5, mb1mx2.9/72,mbtmp3.0/5,ML3.1/3, Error ellipse: s-maj=27.0km s-min=24.6km az=13.0*

ISC 21 10:16:54.7±0.8, 56.°15N±0.°04×11.°80E±0.°03, h10km, n68, σ1°25/78, 3D, Denmark

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GID	**Gilleleje**	**0.21**	**96**	*i* P		**Pg**	**10 17 01.5**	**+2.4**
	SNR=126							
COP	**Copenhagen**	**0.59**	**142**	*i* P		**Pg**	**10 17 07.1**	**+1.1**
COP	**Copenhagen**	**0.59**	**142**	*i* P		**Pg**	**10 17 07.2**	**+1.2**
	SNR=103							
BJUU	**Bjuv**	**0.69**	**96**	P		**Pg**	**10 17 08.0**	**0.0**
BJUU				S		**Sg**	**10 17 16.3**	**-0.7**
LLD	**Lille Linde**	**0.85**	**164**	*i* P		**Pg**	**10 17 11.4**	**+0.3**
LLD	**Lille Linde**	**0.85**	**164**	*i* P		**Pg**	**10 17 11.4**	**+0.3**
	SNR=97							
FABU	**Falkenberg**	**0.99**	**30**	P		**Pb**	**10 17 13.6**	**-0.4**
FABU	**Falkenberg**	**0.99**	**30**	P		**Pb**	**10 17 13.6**	**-0.4**
DEL	**Delary**	**1.20**	**74**	P		**Pb**	**10 17 16.8**	**-0.6**
DEL	**Delary**	**1.20**	**74**	P		**Pb**	**10 17 16.8**	**-0.6**
ONSU	**Onsala**	**1.25**	**3**	P		**Pb**	**10 17 18.2**	**-0.2**
ONSU	**Onsala**	**1.25**	**3**	P		**Pb**	**10 17 18.2**	**-0.2**
MUD	**Monsted U'grnd**	**1.50**	**283**	*i*P		**Pb**	**10 17 23.5**	**+1.0**
MUD	**Monsted U'grnd**	**1.50**	**283**	*i*P		**Pb**	**10 17 23.5**	**+1.0**
	SNR=56							
MUD				*e*S		**Sg**	**10 17 43.9**	**+1.1**
	SNR=50							
GNOU	**Gnosjoe**	**1.57**	**42**	P		**Pb**	**10 17 23.5**	**-0.3**
GNOU				S		**Sb**	**10 17 43.2**	**-0.5**
GNOU	**Gnosjoe**	**1.57**	**42**	P		**Pb**	**10 17 23.5**	**-0.3**
GNOU				S		**Sb**	**10 17 43.2**	**-0.5**
BORN	**Boraas**	**1.58**	**19**	P		**Pb**	**10 17 24.3**	**-0.2**
VXJU	**Vaexsjoe**	**1.90**	**65**	P		**Pb**	**10 17 28.8**	**-0.7**
VXJU	**Vaexsjoe**	**1.90**	**65**	P		**Pb**	**10 17 28.8**	**-0.7**
BSD	**Bornholm Skovb**	**2.05**	**119**	*i* P		**Pn**	**10 17 29.0**	**-0.1**
BSD	**Bornholm Skovb**	**2.05**	**119**	*e*P		**Pn**	**10 17 29.3**	**+0.1**
	SNR=50							
BSD	**Bornholm Skovb**	**2.05**	**119**	*e*P		**Pn**	**10 17 29.3**	**+0.1**
FKPU	**Falk**	**2.27**	**27**	P		**Pb**	**10 17 34.6**	**-1.2**
FKPU	**Falk**	**2.27**	**27**	P		**Pb**	**10 17 34.6**	**-1.2**
VANU	**Vaenersborg**	**2.35**	**3**	P		**Pn**	**10 17 35.0**	**+1.7**
EKSU	**Eksjoe**	**2.39**	**52**	P		**Pn**	**10 17 35.7**	**+1.8**
EKSU	**Eksjoe**	**2.39**	**52**	P		**Pn**	**10 17 35.7**	**+1.8**
OSKU	**Oskarshamn**	**2.59**	**64**	P		**Pn**	**10 17 37.9**	**+1.3**
OSKU	**Oskarshamn**	**2.59**	**64**	P		**Pn**	**10 17 37.9**	**+1.3**
HOMB	**Homborsund**	**2.78**	**321**	*i* P		**Pn**	**10 17 39.2**	**0.0**
	SNR=56							
HOMB				*e*S		**Sn**	**10 18 11.3**	**-1.5**
	SNR=50							
HOMB	**Homborsund**	**2.78**	**321**	*e*P		**Pn**	**10 17 39.2**	**0.0**
HOMB				*e*S		**Sn**	**10 18 11.3**	**-1.5**
HOMB				IAML			10 18 12.6	
	comp=Z,3.7nm,0.2s							
NASU	**Vaermlandsnaes**	**2.88**	**14**	P		**Pn**	**10 17 42.2**	**+1.5**
NASU	**Vaermlandsnaes**	**2.88**	**14**	P		**Pn**	**10 17 42.1**	**+1.5**
LNKU	**Linkoeping**	**2.90**	**43**	P		**Pn**	**10 17 42.3**	**+1.5**
LNKU	**Linkoeping**	**2.90**	**43**	P		**Pn**	**10 17 42.3**	**+1.5**
ASPU	**Aespoe**	**2.93**	**62**	P		**Pn**	**10 17 42.8**	**+1.6**
ASPU	**Aespoe**	**2.93**	**62**	P		**Pn**	**10 17 42.8**	**+1.6**
VSTU	**Vaestervik**	**3.01**	**58**	P		**Pn**	**10 17 44.0**	**+1.7**
VSTU	**Vaestervik**	**3.01**	**58**	P		**Pn**	**10 17 44.0**	**+1.7**
BYXU	**Byxelkrok**	**3.09**	**66**	P		**Pn**	**10 17 44.8**	**+1.4**
BYXU	**Byxelkrok**	**3.09**	**66**	P		**Pn**	**10 17 44.8**	**+1.4**
SNART	**Snartemo**	**3.32**	**313**	*i*P		**Pn**	**10 17 46.7**	**0.0**
	SNR=56							
SNART	**Snartemo**	**3.32**	**313**	*e*P		**Pn**	**10 17 46.8**	**+0.1**
KON	**Kongsberg**	**3.70**	**342**	Pn		**Pn**	**10 17 52.1**	**+0.3**
KON				Lg		Lg	10 18 51.1	
KONO	**Kongsberg**	**3.70**	**342**	Lg		Lg	10 18 51.1	
KONO	**Kongsberg**	**3.70**	**342**	*e*P		**Pn**	**10 17 52.2**	**+0.3**
HFS	**Hagfors**	**4.12**	**13**	Pn		**Pn**	**10 17 58.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=195,slow=13,SNR=12							
HFS				Lg		Lg	10 19 01.2	
	comp=Z,0.5nm,0.3s,baz=192,slow=28,SNR=3.8							
HFS	**Hagfors**	**4.12**	**13**	Pn		**Pn**	**10 17 58.1**	**+0.5**
	SNR=50							
HFS				Lg		Lg	10 19 04.9	
HFS	**Hagfors**	**4.12**	**13**	Pn		**Pn**	**10 17 58.1**	**+0.5**
	baz=201,slow=14							
HFS				Pg		**Pb**	**10 18 05.1**	**-2.1**
	baz=192,slow=18							
HFS				Lg		Lg	10 19 04.9	
	baz=190,slow=22							
HFS	**Hagfors**	**4.12**	**13**	Pn		**Pn**	**10 17 58.1**	**+0.5**
	baz=201,slow=14							
HFS				Pg		**Pb**	**10 18 05.1**	**-2.1**
	baz=192,slow=18							
HFS				Lg		Lg	10 19 04.9	
	baz=190,slow=22							
BLS5	**Blasjo**	**4.35**	**321**	*e*P		**Pn**	**10 18 01.0**	**+0.2**
	SNR=49							
BLS5	**Blasjo**	**4.35**	**321**	*e*P		**Pn**	**10 18 01.0**	**+0.2**

NC602	**NORSAR Array S**	**4.60**	**358**	*e*P		**Pn**	**10 18 04.8**	**+0.6**
	SNR=49							
NC602	**NORSAR Array S**	**4.60**	**358**	*e*P		**Pn**	**10 18 04.8**	**+0.6**
NRA0	**NORESS Array S**	**4.60**	**358**	Pn		**Pn**	**10 18 03.6**	**-0.6**
	SNR=50							
NRA0				Sn		**Sn**	**10 19 01.1**	**+3.4**
	SNR=50							
NRA0				Lg		Lg	10 19 16.3	
NRA0	**NORESS Array S**	**4.60**	**358**	Pn		**Pn**	**10 18 03.6**	**-0.6**
	baz=175,slow=11							
NRA0				Sn		**Sn**	**10 19 01.1**	**+3.4**
	baz=175,slow=22							
NRA0				Lg		Lg	10 19 16.3	
	baz=175,slow=37							
NRA0	**NORESS Array S**	**4.60**	**358**	Pn		**Pn**	**10 18 03.6**	**-0.6**
	baz=175,slow=11							
NRA0				Sn		**Sn**	**10 19 01.1**	**+3.4**
	baz=175,slow=22							
NRA0				Lg		Lg	10 19 16.3	
	baz=175,slow=37							
KMY	**Karmoy**	**4.67**	**314**	*e*P		**Pn**	**10 18 05.6**	**+0.5**
	SNR=49							
KMY	**Karmoy**	**4.67**	**314**	*e*P		**Pn**	**10 18 05.6**	**+0.5**
NB2	**NORSAR Subarra**	**4.91**	**357**	Pn		**Pn**	**10 18 08.4**	**-0.2**
	SNR=50							
NB2	**NORSAR Subarra**	**4.91**	**357**	Pn		**Pn**	**10 18 08.4**	**-0.2**
	baz=177,slow=14							
NB2	**NORSAR Subarra**	**4.91**	**357**	Pn		**Pn**	**10 18 08.4**	**-0.2**
	baz=177,slow=14							
NOA	**NORSAR Array B**	**4.91**	**357**	Pn		**Pn**	**10 18 09.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=180,slow=12,SNR=9.2							
NOA				Lg		Lg	10 19 27.8	
	comp=Z,0.7nm,0.3s,baz=212,slow=22,SNR=3.5							
AKN	**Aaknes**	**6.53**	**340**	*e*P		**Pn**	**10 18 30.3**	**-0.4**
	SNR=47							
AKN	**Aaknes**	**6.53**	**340**	*e*P		**Pn**	**10 18 30.3**	**-0.4**
EKA	**Eskdalemuir Ar**	**8.48**	**271**	Pn		**Pn**	**10 18 56.3**	**-1.2**
	baz=82,slow=13,SNR=4.2							
FINES	**FINESS Array B**	**9.10**	**48**	Pn		**Pn**	**10 19 07.2**	**+1.2**
	baz=243,slow=12,SNR=2.3							
FINES				Lg		Lg	10 21 41.7	
	comp=Z,0.2nm,0.3s,baz=248,slow=25,SNR=3.0							
ARCES	**ARCESS Array B**	**14.76**	**19**	Pn		**Pn**	**10 20 20.5**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=211,slow=14,SNR=4.2							

JMA 21 10:25:29.9±0.2, 40.°90N×145.°39E, h61km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JEM	**Erimo**	**2.02**	**304**	P		Pn	10 26 02.4	+0.9
JAK	**Akkeshi**	**2.16**	**346**	P		Pn	10 26 04.2	+0.7
JAK				S		Sn	10 26 29.0	-0.1
JCH	**Churui**	**2.29**	**319**	P		Pn	10 26 06.1	+0.8
JCH				eS		Sn	10 26 31.6	-0.7
JOB	**Onbets**	**2.31**	**330**	P		Pn	10 26 06.7	+1.1
JOB				S		Sn	10 26 33.6	+0.7
JNBK	**Urakawa-nobuka**	**2.41**	**306**	P		Pn	10 26 08.5	+1.6
JNBK				S		Sn	10 26 35.7	+0.4
NEM2	**Nemuro 2**	**2.48**	**6**	eS		Sn	10 26 37.8	+0.9
JAR	**Ashorobuto**	**2.68**	**334**	P		Pn	10 26 11.3	+0.7
JAR				eS		Sn	10 26 40.5	-1.4
JNK	**Nakash**	**2.73**	**350**	P		Pn	10 26 11.7	+0.4
JNK				eS		Sn	10 26 41.6	-1.5
JBT2	**Biratori 2**	**2.94**	**311**	P		Pn	10 26 16.1	+2.0
JBT2				S		Sn	10 26 49.5	+1.3
JANG	**Nango**	**3.00**	**261**	P		Pn	10 26 13.9	-1.0
JRA	**Rausu**	**3.04**	**356**	P		Pn	10 26 16.6	+1.1
JRA				eS		Sn	10 26 50.7	0.0
JFR	**Furan**	**3.08**	**318**	P		Pn	10 26 17.0	+1.0
JFR				S		Sn	10 26 50.4	-1.2
JTKR	**Abashiri--Toko**	**3.26**	**341**	P		Pn	10 26 20.3	+1.8
JTKR				eS		Sn	10 26 56.3	+0.8
JOT	**Ohata**	**3.31**	**280**	P		Pn	10 26 19.5	+0.2
JOT				S		Sn	10 26 54.6	-2.8
JKB	**Kayabe**	**3.42**	**288**	P		Pn	10 26 21.5	+0.8
JOM	**Ohasama**	**3.45**	**247**	P		Pn	10 26 21.5	+0.4
JOM				eS		Sn	10 26 57.0	-3.7
JEW	**Eniwo**	**3.52**	**305**	P		Pn	10 26 24.2	+2.1
JEW				S		Sn	10 27 03.1	+0.6
JKK2	**Kamakawa 2**	**3.56**	**328**	P		Pn	10 26 25.3	+2.7
JMK	**Ichinoseki**	**3.75**	**240**	eS		Sn	10 27 03.5	-4.6

*ISCJB **21** 10:28:09.3±1.8,16.°31N±0.°05×98.°36W±0.°03,h1km±11km, mb4.3/69,MS3.5/8, Error ellipse: s-maj=7.9km s-min=4.6km az=16.1*
*IDC **21** 10:28:12.8±5.1,16.°33N×98.°32W,h19km±31km,mb4.0/9, mb1 4.2/12,mb1mx3.9/48,mbtmp4.0/12,ML3.4/3,MS3.6/11, Ms1 3.6/11,ms1mx3.2/40, Error ellipse: s-maj=27.8km s-min=16.1km az=53.0*
*NEIC **21** 10:28:13.0±0.0,16.°33N×98.°47W,h4km,mb4.4/80, MD4.2(MEX),After MEX.*
*MEX **21** 10:28:13.1±0.3,16.°34N×98.°46W,h3km±4km,MD3.8*

ISC 21 10:28:11.8±1.5, 16.°37N±0.°05×98.°47W±0.°04, h14km±9km, n140, σ1°70/150, mb4.4/69, MS3.6/8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**86**	*i* P		**Pb**	**10 28 19.1

8.1nm,1.1s
WBCY West Bay, Gran 16.52 77 *e*Pn **Pn** 10 32 01.4 -2.0
290nm,1.3s
EPT El Paso 16.99 336 *e*Pn **P** 10 32 11.8 +0.7
12nm,1.1s
319A Douglas 17.89 329 *e*Pn **P** 10 32 22.6 +1.5
19nm,1.1s
WLAR White Oak Lake 17.91 15 *e*P **P** 10 32 22.5 +1.4
MSTX Muleshoe 17.95 348 *e*Pn **P** 10 32 21.6 -0.2
12nm,0.9s
121A Cookes Peak, D 18.17 334 *e*Pn **Pn** 10 32 23.8 -0.3
42nm,1.8s
WMOK Wichita Mounta 18.29 359 *e*P **Pn** 10 32 27.6 +2.2
9.5nm,1.3s
AMTX Amarillo 18.66 352 *e*P **Pn** 10 32 29.6 -0.2
16nm,1.0s
UALR University of 19.14 16 *e*P **Pn** 10 32 36.0 +0.5
28nm,1.4s
BNM Barren Site 19.16 339 *e*P **Pn** 10 32 38.3 +2.2
LPM Los Pinos Moun 19.31 339 *e*P **Pn** 10 32 39.8 +2.0
W40A Ferguson Farm, 19.36 13 *e*P **Pn** 10 32 38.9 +0.7
17nm,1.0s
TUC Tucson 19.41 327 *e*P **Pn** 10 32 39.9 +1.0
5.2nm,0.9s
LRAL Lakeview Retre 19.57 30 *e*P **P** 10 32 39.4 0.0
LAZ Ladron 19.57 338 *e*P **Pn** 10 32 42.0 +1.0
TUL1 Leonard 19.61 6 *e*P **Pn** 10 32 40.5 -0.7
24nm,1.0s
WHAR Wooly Hollow 19.64 15 *e*P **Pn** 10 32 45.7 +4.1
16nm,1.1s
ANMO Albuquerque 19.83 340 P **Pn** 10 32 43.9 -0.2
0.1nm,0.3s,baz=334,slow=11,SNR=20
ANMO Lg Lg 10 38 54.4
0.1nm,0.3s,baz=240,slow=20,SNR=2.0
ANMO LR LR 10 41 25.6
comp=Z,124nm,21.1s,baz=337,slow=40
ANMO Albuquerque 19.83 340 *e*P **Pn** 10 32 44.2 +0.1
37nm,2.0s
ANMO Lg Lg 10 38 54.4
HHAR Hobbs 20.24 11 *e*P Pn 10 32 49.0 +0.3
7.4nm,0.9s
PLAL Pickwick Lake 20.74 25 *e*P Pn 10 32 53.1 -1.4
11nm,0.9s
X18A Snowflake 20.81 332 *e*P Pn 10 32 55.5 -0.1
17nm,1.0s
W18A Petrified Fore 21.22 334 *e*P **P** 10 32 59.5 +2.0
9.2nm,1.0s
T25A Trinidad 21.35 347 *e*P **P** 10 33 01.7 +2.8
12nm,0.9s
MHTCO State Highway 21.40 346 *e*P **P** 10 33 03.8 +4.3
10nm,1.1s
113A Mohawk Valley, 21.41 322 *e*P **P** 10 33 01.2 +1.9
6.5nm,0.9s
X16A Lo Mia Camp, P 21.42 329 *e*P **P** 10 33 02.3 +2.7
19nm,1.0s
PBMO Poplar Bluff 21.54 18 *e*P **P** 10 33 03.1 +2.3
9.7nm,0.8s
UTMT University of 21.65 21 *e*P **P** 10 33 03.1 +1.2
42nm,0.7s
GOGA Godfrey 21.71 36 *e*P **P** 10 33 03.5 +0.9
WVT Waverly 21.84 24 *e*P **P** 10 33 05.1 +1.1
13nm,0.9s
SWET Sewanee 21.86 29 *e*P **P** 10 33 03.8 -0.4
3.9nm,0.9s
SDCO Great Sand Dun 22.18 345 *e*P **P** 10 33 09.6 +1.7
4.6nm,1.1s
GLA Glamis 22.23 321 *e*P **P** 10 33 10.4 +2.1
13nm,1.0s
WUAZ Wupatki 22.28 331 *e*P **P** 10 33 11.4 +2.6
16nm,1.0s
CBKS Cedar Bluff 22.39 357 *e*P **P** 10 33 09.7 -0.2
15nm,0.9s
S22A 4UR Ranch, Cre 22.54 343 *e*P **P** 10 33 13.1 +1.4
5.7nm,0.8s
Y12C Blythe 22.55 323 *e*P **P** 10 33 13.6 +1.9
5.8nm,1.0s
MVCO Mesa Verde 22.58 339 *e*P **P** 10 33 13.4 +1.2
19nm,1.1s
CPCT Cooper Cave 22.72 31 *e*P **P** 10 33 12.9 -0.5
SIUC Southern Illin 22.78 19 *e*P **P** 10 33 14.7 +0.8
15nm,0.9s
KSCO Kaye Shedlock' 22.85 352 *e*P **P** 10 33 15.2 +0.3
20nm,1.1s
HODGE Hodges 22.99 36 *e*P **P** 10 33 16.4 +0.2
5.8nm,0.8s
W13A Hualapai Mount 23.20 326 *e*P **P** 10 33 19.9 +1.3
21nm,1.8s
TKL Tuckaleechee C 23.26 32 P **P** 10 33 20.2 +1.2
12nm,1.1s,baz=212,slow=8.8,SNR=3.5
TKL Tuckaleechee C 23.26 32 *e*P **P** 10 33 19.1 +0.1
21nm,1.3s
SLM Saint Louis 23.33 16 *e*P **P** 10 33 20.9 +1.3
17nm,0.4s
PV01 Paradox Valley 23.43 340 *e*P **P** 10 33 22.5 +1.5
U15A North Rim 23.45 331 *e*P **P** 10 33 23.5 +2.3
18nm,1.3s
XPFO Piæon Flat 23.61 320 *e*P **P** 10 33 24.8 +2.2
26nm,1.8s
PFO Pinyon Flats O 23.61 320 *e*P **P** 10 33 24.8 +2.1
27nm,1.8s
PV04 Paradox Valley 23.78 339 *e*P **P** 10 33 25.4 +1.1
LDFC Landfair 23.85 324 *e*P **P** 10 33 28.0 +3.1
12nm,1.0s
SMCO Snowmass 23.91 344 *e*P **P** 10 33 27.6 +1.8
20nm,1.4s
TZTN Tazewell 24.07 31 *e*P **P** 10 33 27.7 +0.8
16nm,1.2s
ISCO Idaho Springs 24.16 346 *e*P **P** 10 33 29.4 +1.3
42nm,1.8s
KNB Kanab 24.18 331 *e*P **P** 10 33 30.1 +2.1
20nm,1.4s
WCI Wyandotte Cave 24.27 24 *e*P **P** 10 33 29.1 +0.5
18nm,1.0s
PKCU Pink Cliffs 24.29 332 *e*P **P** 10 33 33.1 +3.8
61nm,1.9s
LCMT Little Creek M 24.37 330 *e*P **P** 10 33 32.4 +2.6
3.6nm,1.0s
MTPU Mount Pierson 24.74 333 *e*P **P** 10 33 36.0 +2.7
26nm,1.0s
SZCU Shurtz Canyon 24.77 331 *e*P **P** 10 33 37.0 +3.5
14nm,1.5s
SHPR Sheep Range 24.94 327 *e*P **P** 10 33 38.1 +3.2
5.4nm,1.1s
GSC Goldstone, Bar 24.98 322 *e*P **P** 10 33 37.5 +2.2
25nm,2.0s
SRU San Rafael Swe 24.99 337 *e*P **P** 10 33 37.9 +2.5
13nm,1.2s
MSU Marysvale 25.13 334 *e*P **P** 10 33 39.6 +2.8
O20A White River Ci 25.16 342 *e*P **P** 10 33 38.8 +1.8
11nm,0.9s
N23A Red Feather La 25.28 347 *e*P **P** 10 33 39.6 +1.5
50nm,2.0s
P18A Preston Nutter 25.35 338 *e*P **P** 10 33 41.9 +3.1
14nm,1.0s
P17A Butcher Ranch, 25.39 337 *e*P **P** 10 33 42.5 +3.5
11nm,1.2s
TMUT Trail Mountain 25.41 337 *e*P **P** 10 33 41.2 +1.8
6.3nm,0.9s
SCIA State Center 25.85 9 *e*P **P** 10 33 43.4 +0.5
21nm,0.9s
MPU Maple Canyon 26.20 337 *e*P **P** 10 33 48.2 +1.8
3.7nm,0.9s
NLU North Lily Min 26.32 336 *e*P **P** 10 33 49.5 +2.0
5.1nm,0.9s
DUG Dugway, Tooele 26.82 335 *e*P **P** 10 33 54.1 +2.2
6.5nm,1.2s
ECSD EROS Data Cent 27.32 3 *e*P **P** 10 33 59.2 +3.0
3.8nm,0.9s
BGU Big Grassy Mou 27.52 336 *e*P **P** 10 34 00.4 +2.1
7.2nm,1.2s
MDPB Devils Postpil 27.91 323 *e*P **P** 10 34 04.9 +3.0
7.7nm,1.3s
NV11 Mina Array Sit 27.96 326 *e*P **P** 10 34 04.8 +2.6
0.5nm,1.1s
BW06 Boulder Array 27.97 342 *e*P **P** 10 34 03.5 +1.2
29nm,1.8s
PD31 Pinedale Array 27.97 342 *e*P **P** 10 34 03.5 +1.2
PDAR Pinedale Array 27.97 342 P **P** 10 34 03.4 +1.2
1.2nm,0.7s,baz=131,slow=10,SNR=9.7
PDAR PcP PcP 10 37 16.6 -0.8
0.6nm,0.8s,baz=131,slow=4.9,SNR=4.0
PDAR LR LR 10 46 49.4
comp=Z,193nm,18.8s,baz=160,slow=40
PDAR Pinedale Array 27.97 342 *e*P **P** 10 34 02.3 0.0
PDAR PcP **PcP** 10 37 16.6 -0.8
NV01 Mina Array Sit 28.04 325 *e*P **P** 10 34 05.2 +2.2
NVAR Mina Array Bea 28.04 325 P **P** 10 34 04.9 +1.9
2.6nm,0.9s,baz=148,slow=9.8,SNR=20
NVAR PcP **PcP** 10 37 18.4 +0.7
0.7nm,0.8s,baz=160,slow=2.9,SNR=3.7
NVAR LR LR 10 46 47.9
comp=Z,303nm,18.3s,baz=274,slow=40
SDV Santo Domingo 28.14 102 LR LR 10 47 28.0
comp=Z,60nm,18.1s,baz=56,slow=41
HVU Hansel Valley 28.16 337 *e*P **P** 10 34 06.2 +2.3
6.0nm,1.1s
FXWY Fox Creek 29.20 341 *e*P **P** 10 34 15.2 +1.9
3.8nm,1.2s
FXWY *e*PcP **PcP** 10 37 21.2 +0.8
DLMT Dillon 31.24 341 *e*P **P** 10 34 33.4 +2.2
6.7nm,1.0s
J08A Circle Bar Ran 31.84 332 *e*P **P** 10 34 38.5 +2.1
8.5nm,0.9s
FFC Flin Flon 38.37 357 *e*P **P** 10 35 32.8 +0.3
24nm,1.8s
LPAZ La Paz 44.14 136 LR LR 10 52 35.8
comp=Z,59nm,21.5s,baz=290,slow=33
SCHQ Schefferville 45.47 25 P **P** 10 36 29.4 -1.1
4.6nm,0.9s,baz=232,slow=7.4,SNR=4.4
YKA Yellowknife Ar 47.45 350 P **P** 10 36 45.7 -0.2
1.0nm,0.8s,baz=158,slow=7.3,SNR=14
YKA PcP **PcP** 10 38 15.8 -0.2
0.5nm,0.8s,baz=153,slow=3.6,SNR=5.1
YKA LR LR 10 58 26.6
comp=Z,12nm,19.6s,baz=180,slow=38
RIDG Independ'e Rid 56.94 337 *e*P **P** 10 37 58.3 +1.8
14nm,1.3s
KDAK Kodiak Island 57.45 329 LR LR 11 04 47.3
comp=Z,80nm,18.3s,baz=132,slow=38
IL1 Eielson Array 58.26 338 *e*P **P** 10 38 06.0 +0.4
ILAR Eielson Array 58.26 338 P **P** 10 38 06.5 +0.9
1.7nm,1.0s,baz=141,slow=4.2,SNR=12
ILAR PcP **PcP** 10 38 57.1 +0.3
0.7nm,0.7s,baz=152,slow=2.3,SNR=7.0
ILAR LR LR 11 04 20.1
comp=Z,51nm,19.5s,baz=165,slow=37
ILB Eielson Array 58.26 338 *e*P **P** 10 38 07.0 +1.4
CPUP Villa Florida 58.32 136 P **P** 10 38 05.0 -1.6
1.6nm,0.9s,baz=329,slow=7.3,SNR=3.5
TRF Thorofare Moun 58.88 336 *e*P **P** 10 38 11.4 +1.2
8.1nm,1.0s
SFJD Kangerlussuaq 59.29 20 LR LR 11 05 30.0
comp=Z,27nm,19.2s,baz=258,slow=38
CAST Castle Rocks 59.58 335 *e*P **P** 10 38 14.4 -0.6
8.0nm,1.0s
MLY Manley 59.80 337 *e*P **P** 10 38 17.5 +1.0
15nm,1.6s
PLCA Paso Flores 62.45 156 P **P** 10 38 34.6 -0.1
2.9nm,0.8s,baz=8.8,slow=11,SNR=6.5
WAKE Wake Island 89.15 290 *e*P **P** 10 41 08.6 +0.9
TORD Torodi Ar. Bea 95.84 75 P **P** 10 41 37.2 -1.5
0.3nm,0.8s,baz=284,slow=5.8,SNR=2.4
LZH Lanzhou 123.72 338 *e*PKP **PKPdf** 10 47 07.5 -2.5
LZH pPKP pPKPdf 10 47 12.8 -1.9
LZH sPKP 10 47 16.6
WRA Warramunga Arr 129.86 257 PKP **PKPdf** 10 47 22.1 +0.3
1.3nm,0.9s,baz=89,slow=3.2,SNR=8.9
ASAR Alice Springs 130.48 253 PKP **PKPdf** 10 47 23.2 +0.3
1.0nm,0.9s,baz=102,slow=2.5,SNR=6.2

*IDC **21** 10:35:31.4±1.6,32.°46N×47.°00E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.4/55,mbtmp3.7/6,ML3.8/1,Error ellipse: s-maj=41.2km s-min=27.3km az=164.0*
*ISN **21** 10:35:33.2±0.4,32.°42N×46.°83E,h0km,2km,ML3.5*
*ISCJB **21** 10:35:34.5±0.8,32.°41N±0.°05×46.°98E±0.°07,h20km, mb3.6/5,Error ellipse: s-maj=8.9km s-min=7.3km az=145.7*
*CSEM **21** 10:35:35.1±0.2,32.°50N×46.°98E,h5km,ML3.5,Error ellipse: s-maj=6.9km s-min=6.0km az=112.0*
*TEH **21** 10:35:36.1,32.°53N×47.°02E,h10km,ML3.4*

ISC 21 10:35:35.7±0.8,32.°53N±0.°05×47.°00E±0.°05,h20km,n30, σ1°37/31,mb3.5/5,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.22**	**35**	*e*Pg		**Pn**	**10 35 57.3**	**-0.3**
IKFM				*e*Sg		**Sb**	**10 36 14.2**	**+0.8**
SHGR	**Shooshtar-Gavs**	**1.58**	**105**	*e*P		**Pb**	**10 36 04.6**	**+0.4**
NSR	**Nassriya**	**1.68**	**206**	*e*Pg		**Pb**	**10 36 06.0**	**0.0**
NSR	SNR=9.0			*e*Sg		**Sb**	**10 36 29.0**	**+2.3**
SNR=9.0								
IKOM	**Komasi**	**1.69**	**14**	*e*AMB		AMB	10 36 31.3	
IKOM	comp=Z,7μm,0.2s			*e*Pn		**Pn**	**10 36 05.4**	**+1.1**
IGHG	**Ghaleghazi**	**1.83**	**349**	*e*AMB		AMB	10 36 48.0	
IGHG	comp=Z,5μm,0.3s			*e*Pn		**Pn**	**10 36 07.8**	**+1.5**
IVIS	**Veis**	**2.00**	**356**	*e*AMB		AMB	10 36 41.4	
IVIS	comp=Z,2μm,0.2s			*e*Pn		**Pn**	**10 36 09.4**	**+1.0**
ILIN	**Lien**	**2.38**	**359**	*e*Pn		**Pn**	**10 36 15.8**	**+1.9**
ILIN				*e*AMB		AMB	10 36 16.8	
comp=Z,2μm,0.1s								
SNGE	**Sanandaj**	**2.57**	**6**	*e*Pn		**Pn**	**10 36 18.0**	**+1.6**
SNGE				*e*Sg		**Sb**	**10 36 52.8**	**+0.2**
KHMZ	**Khomeyn**	**2.76**	**63**	*e*Pn		**Pn**	**10 36 20.6**	**+1.6**
HAGD	**Aghdareh**	**2.90**	**37**	*e*Pn		**Pn**	**10 36 22.4**	**+1.5**
HAGD				*e*AMB		AMB	10 37 02.0	
comp=Z,99nm,0.1s								
ASAO	**Ashtian**	**3.23**	**51**	*e*Pn		**Pn**	**10 36 27.0**	**+1.5**
HKZM	**Kohzaman**	**3.25**	**29**	*e*Pn		**Pn**	**10 36 27.7**	**+1.9**
HKZM				*e*AMB		AMB	10 37 08.8	
comp=Z,99nm,0.4s								
IRAZ	**Razeghan**	**3.76**	**40**	*e*Pn		**Pn**	**10 36 35.4**	**+2.6**
IRAZ				*e*AMB		AMB	10 37 42.4	
comp=Z,780nm,0.4s								
QAM	**Ghamsar**	**3.92**	**71**	*e*Pn		**Pn**	**10 36 37.1**	**+2.1**
QAM				*e*AMB		AMB	10 36 38.8	
comp=Z,741nm,0.1s								
IKLH	**Kolahrood**	**3.93**	**77**	*e*Pn		**Pn**	**10 36 36.5**	**+1.4**
IKLH				*e*AMB		AMB	10 36 38.5	
comp=Z,739nm,0.1s								
GHVR	**GHOM**	**4.08**	**60**	*e*Pn		**Pn**	**10 36 38.4**	**+1.4**
IGAR	**Gharneh**	**4.26**	**90**	*e*Pn		**Pn**	**10 36 40.4**	**+0.7**
IGAR				*e*AMB		AMB	10 37 33.9	
comp=Z,699nm,0.2s								
ZNJK	**Zanjan**	**4.36**	**18**	*e*Pn		**Pn**	**10 36 42.6**	**+1.6**
IZEF	**Zefreh**	**4.51**	**84**	*e*Pn		**Pn**	**10 36 44.1**	**+1.0**
IZEF				*e*AMB		AMB	10 36 45.7	
comp=Z,368nm,0.1s								
IRAM	**Ramesheh**	**4.62**	**98**	*e*Pn		**Pn**	**10 36 45.3**	**+0.7**
IRAM				*e*AMB		AMB	10 38 18.6	
comp=Z,484nm,0.4s								
IVRN	**Varamin**	**4.64**	**57**	*e*Pn		**Pn**	**10 36 45.8**	**+1.1**
IVRN				*e*AMB		AMB	10 36 48.8	
comp=Z,504nm,0.1s								
IDMV	**Damavand**	**5.17**	**53**	*e*AMB		AMB	10 36 56.0	
comp=Z,171nm,0.1s								
IFIR	**Firoozkooh**	**5.69**	**55**	*e*Pn		**Pn**	**10 36 59.8**	**+0.4**
IMEH	**Mehriz**	**6.57**	**98**	*e*Pn		**Pn**	**10 37 11.5**	**+0.1**
IMEH				*e*AMB		AMB	10 38 31.5	
comp=Z,80nm,0.3s								
WSAR	**Wadi Sarin**	**13.83**	**129**	Pn		Pn	10 38 46.4	-4.2
comp=Z,0.4nm,0.3s,baz=342,slow=14,SNR=5.2								
WSAR				Sn		Sn	10 41 12.2	-11
comp=Z,0.1nm,0.3s,baz=149,slow=18,SNR=2.7								
KURBB	**Kurchatov Arra**	**29.40**	**43**	P		**P**	**10 41 37.2**	**-0.3**
comp=Z,0.3nm,0.5s,baz=244,slow=9.9,SNR=3.0								
MKAR	**Makanchi Array**	**30.39**	**52**	P		**P**	**10 41 46.0**	**-0.3**
comp=Z,0.5nm,0.7s,baz=245,slow=7.9,SNR=6.0								
HFS	**Hagfors**	**35.25**	**332**	P		**P**	**10 42 27.2**	**-1.4**
comp=Z,2.7nm,0.9s,baz=139,slow=6.8,SNR=4.0								
TORD	**Torodi Ar. Bea**	**45.60**	**256**	P		**P**	**10 43 53.9**	**-0.8**
comp=Z,0.5nm,0.5s,baz=66,slow=7.2,SNR=5.0								
YKA	**Yellowknife Ar**	**84.16**	**352**	P		**P**	**10 48 04.1**	**-0.9**
comp=Z,0.2nm,0.7s,baz=18,slow=5.5,SNR=3.6								

*NIED **21** 10:48:00,36.°90N×143.°70E,h5km,Mw3.6 Best double couple: M◎3.04000×10^14 NP1:φs57.00000°,δ31.00000°, λ-101.00000°. NP2:φs249.00000°,δ60.00000°, λ-84.00000°.*
*IDC **21** 10:48:16.1±0.9,36.°74N×143.°98E,h0km,mb3.6/10, mb1 3.9/13,mb1mx3.7/64,mbtmp3.7/13,ML3.6/3,Error ellipse: s-maj=24.7km s-min=20.6km az=133.0*
*ISCJB **21** 10:48:19.8±0.6,36.°84N±0.°04×143.°73E±0.°04,h33km, mb3.7/10,Error ellipse: s-maj=6.0km s-min=4.8km az=151.3*
*JMA **21** 10:48:20.2±0.2,36.°87N×143.°74E,h53km,M3.6*

ISC 21 10:48:21.5±0.8,36.°86N±0.°05×143.°79E±0.°07,h35km,n30, σ1°82/40,mb3.6/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.38**	**283**	P		**Pn**	**10 48 57.3**	**-0.8**
JFK				S		**Sn**	**10 49 24.7**	**-1.4**
ONAJ	**Iwakimizuishiy**	**2.41**	**277**	S		**Sn**	**10 49 25.6**	**-1.1**
JHO	**Hitachi**	**2.60**	**265**	P		**Pn**	**10 49 00.0**	**-1.0**
JHO				S		**Sn**	**10 49 29.9**	**-1.4**
JFT	**Otama**	**2.83**	**284**	P		**Pn**	**10 49 04.6**	**+0.3**
JFT				S		**Sn**	**10 49 37.0**	**-0.2**
JMK	**Ichinoseki**	**2.91**	**317**	P		**Pn**	**10 49 04.7**	**-0.6**
JMK				*e*S		**Sn**	**10 49 38.1**	**-1.0**
BSO1	**Boso 1**	**3.17**	**227**	P		**Pn**	**10 49 07.1**	**-1.3**
BSO1				S		**Sn**	**10 49 45.5**	**+0.7**
JOM	**Ohasama**	**3.27**	**324**	P		**Pn**	**10 49 09.9**	**-0.3**
JOM				S		**Sn**	**10 49 45.9**	**-1.9**
JYK	**Kaneyama**	**3.40**	**308**	*e*S		**Sn**	**10 49 51.2**	**0.0**
JAG	**Ashikaga**	**3.51**	**264**	P		**Pn**	**10 49 13.3**	**-0.3**
JANG	**Nango**	**3.93**	**334**	P		**Pn**	**10 49 18.6**	**-0.8**
JANG				*e*S		**Sn**	**10 49 59.1**	**-5.2**
JRY	**Ryogami san**	**4.03**	**259**	P		**Pn**	**10 49 20.0**	**-0.7**
JRY				*e*S		**Sn**	**10 50 03.8**	**-2.9**
JOD2	**Odawara 2**	**4.13**	**249**	P		**Pn**	**10 49 20.9**	**-1.2**
JOD2				S		**Sn**	**10 50 07.4**	**-1.7**
MJAR	**Matsushiro Arr**	**4.49**	**268**	Pn		**Pn**	**10 49 27.7**	**+0.6**
1.9nm,0.3s,baz=84,slow=8.4,SNR=23								
MJAR				Sn		**Sn**	**10 50 17.6**	**-0.6**
baz=46,slow=24,SNR=3.0								
MAT	**Matsushiro**	**4.50**	**268**	P		**Pn**	**10 49 28.0**	**+0.9**
MAT				*e*S		**Sn**	**10 50 17.5**	**-0.7**
JHJ	**Hachijo jima 2**	**4.97**	**223**	Pn		**Pn**	**10 49 32.9**	**-0.8**
12nm,0.3s,baz=75,slow=20,SNR=3.1								
JHJ				Sn		**Sn**	**10 50 23.6**	**-6.3**
43nm,0.3s,baz=162,slow=23,SNR=6.0								
ASAJ	**Asahikawa**	**7.30**	**353**	Pn		**Pn**	**10 50 04.8**	**-0.9**
0.7nm,0.3s,baz=191,slow=16,SNR=6.1								
ASAJ				Sn		**Sn**	**10 51 23.9**	**-3.4**
0.3nm,0.3s,baz=37,slow=20,SNR=3.3								
KLR	**Kul'dur**	**15.15**	**328**	Pn		**Pn**	**10 51 54.2**	**+1.5**
0.0nm,0.3s,baz=220,slow=16,SNR=2.1								
H11N2	**WAKE ISLAND Hy**	**26.45**	**124**	T		T	11 20 55.5	
baz=308,slow=76								
H11N1	**WAKE ISLAND Hy**	**26.46**	**124**	T		T	11 20 56.3	
baz=308								
H11N3	**WAKE ISLAND Hy**	**26.47**	**124**	T		T	11 21 02.3	
baz=308,slow=76								
MKAR	**Makanchi Array**	**45.82**	**303**	P		**P**	**10 56 40.9**	**+1.0**
0.2nm,0.7s,baz=82,slow=12,SNR=2.4								
KURBB	**Kurchatov Arra**	**47.50**	**308**	P		**P**	**10 56 54.4**	**+0.6**
0.4nm,0.6s,baz=82,slow=7.6,SNR=3.2								
ILAR	**Eielson Array**	**48.62**	**32**	P		**P**	**10 57 01.1**	**-0.3**
0.3nm,0.7s,baz=271,slow=6.9,SNR=3.4								
WRA	**Warramunga Arr**	**57.20**	**191**	P		**P**	**10 58 03.7**	**-1.4**
0.3nm,0.5s,baz=8.6,slow=7.2,SNR=8.1								
YKA	**Yellowknife Ar**	**62.99**	**31**	P		**P**	**10 58 44.0**	**-0.4**
0.2nm,0.7s,baz=300,slow=6.6,SNR=5.1								
KBZ	**Khabaz**	**72.45**	**312**	P		**P**	**10 59 46.3**	**+2.1**
0.9nm,0.7s,baz=197,slow=4.4,SNR=4.5								
NVAR	**Mina Array Bea**	**73.56**	**54**	P		**P**	**10 59 51.8**	**+0.5**
0.5nm,0.7s,baz=278,slow=6.5,SNR=5.5								
HFS	**Hagfors**	**75.01**	**337**	P		**P**	**11 00 00.3**	**+1.3**
3.6nm,1.1s,baz=46,slow=6.2,SNR=5.7								
NOA	**NORSAR Array B**	**75.07**	**338**	P		**P**	**11 00 00.2**	**+0.9**
0.9nm,0.6s,baz=39,slow=5.9,SNR=3.6								
TXAR	**Lajitas Array**	**88.70**	**54**	P		**P**	**11 01 11.7**	**0.0**
0.4nm,0.7s,baz=305,slow=2.0,SNR=4.2								

NNC 21 10:52:09.9±3.0,37.°13N×70.°82E,h0km,mb3.5,mpv3.1, 1C-5D,Error ellipse: s-maj=23.0km s-min=19.0km az=172.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.57**	**35**	⇓Pn		Pn	10 53 06.9	+0.1
2.1nm,0.3s								
SFK				⇓Sn		Sn	10 53 51.2	+1.5
6.4nm,0.3s								
MNAS	**Manas**	**5.51**	**13**	⇓Pn		Pn	10 53 33.0	-0.3
1.8nm,0.4s								
MNAS				⇑Sn		Sn	10 54 37.4	0.0
1.3nm,0.5s								
KK31	**Karatay Array**	**5.97**	**358**	⇓Pn		Pn	10 53 39.5	0.0
0.3nm,0.3s,baz=179,slow=13,SNR=5.3								
KK31				⇓Sn		Sn	10 54 50.9	+2.2
1.0nm,0.6s,baz=177,slow=23								

*ISCJB **21** 10:52:09.6±0.5,36.°64N±0.°04×142.°50E±0.°05,h15km, mb3.9/13,Error ellipse: s-maj=5.7km s-min=5.3km az=155.2*
*IDC **21** 10:52:09.3±1.0,36.°64N×142.°40E,h0km,mb3.8/10, mb1 3.9/13,mb1mx3.7/65,mbtmp3.8/13,ML3.6/3,Error ellipse: s-maj=23.6km s-min=17.4km az=121.0*
*JMA **21** 10:52:10.6±0.3,36.°76N×142.°39E,h9km±4km,M4.0*
*NEIC **21** 10:52:10.5±0.6,36.°62N×142.°48E,h10km,mb4.2/2,Error ellipse: s-maj=12.3km s-min=8.2km az=118.0*

ISC 21 10:52:11.6±0.8,36.°67N±0.°06×142.°44E±0.°07,h15km,n42, σ1°34/44,mb3.9/13,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.38**	**289**	P		**Pn**	**10 52 35.0**	**-1.4**
ONAJ				S		**Sn**	**10 52 52.6**	**-1.9**
JFK	**Kawauchi**	**1.43**	**300**	P		**Pn**	**10 52 35.5**	**-1.6**
JFK				*e*S		**Sn**	**10 52 53.4**	**-2.3**
JHO	**Hitachi**	**1.50**	**268**	P		**Pn**	**10 52 37.5**	**-0.5**
JMM	**Marumori**	**1.78**	**313**	P		**Pn**	**10 52 40.8**	**-1.0**
JFT	**Otama**	**1.88**	**297**	P		**Pn**	**10 52 43.2**	**-0.1**
JIO	**Ouri**	**1.98**	**334**	P		**Pn**	**10 52 43.4**	**-1.2**
JOU	**Okura**	**2.21**	**321**	P		**Pn**	**10 52 47.7**	**0.0**
JFY	**Yanaizu**	**2.31**	**289**	P		**Pn**	**10 52 49.7**	**+0.6**
JFY				*e*S		**Sn**	**10 53 17.0**	**-0.3**
JAG	**Ashikaga**	**2.42**	**265**	P		**Pn**	**10 52 50.7**	**+0.1**
JYS	**Shirataka**	**2.44**	**310**	P		**Pn**	**10 52 50.5**	**-0.5**
JYS				S		**Sn**	**10 53 21.0**	**+0.4**
JMK	**Ichinoseki**	**2.48**	**337**	P		**Pn**	**10 52 50.8**	**-0.6**
MJAR	**Matsushiro Arr**	**3.41**	**269**	Pn		**Pn**	**10 53 04.6**	**+0.4**
6.3nm,0.3s,baz=100,slow=11,SNR=36								
MJAR				Sn		**Sn**	**10 53 44.9**	**+0.5**
10nm,0.3s,baz=84,slow=14,SNR=5.4								
MAJO	**Matsushiro**	**3.41**	**269**	*e*Pn		**Pn**	**10 53 02.6**	**-1.6**
MAJO				*e*Sn		**Sn**	**10 53 40.7**	**-3.7**
MAT	**Matsushiro**	**3.41**	**269**	P		**Pn**	**10 53 05.4**	**+1.2**
MAT				S		**Sn**	**10 53 46.4**	**+2.0**
JHJ2	**Mitsune**	**4.15**	**212**	*e*Pn		**Pn**	**10 53 14.6**	**+0.2**
JHJ	**Hachijo jima 2**	**4.16**	**212**	Pn		**Pn**	**10 53 14.3**	**-0.2**
13nm,0.3s,baz=240,slow=20,SNR=5.4								
JHJ				Sn		**Sn**	**10 54 01.5**	**-1.3**
40nm,0.3s,baz=72,slow=21,SNR=5.7								
ERM	**Erimo**	**5.37**	**6**	*e*Pn		**Pn**	**10 53 31.3**	**+0.1**
ASAJ	**Asahikawa**	**7.44**	**1**	Pn		**Pn**	**10 53 58.3**	**-1.3**
1.0nm,0.3s,baz=262,slow=4.7,SNR=4.0								
USRK	**Ussuriysk Ar.**	**10.95**	**317**	Pn		**Pn**	**10 54 50.9**	**+3.2**
0.2nm,0.3s,baz=117,slow=12,SNR=2.5								
KSRS	**Korea Array**	**11.63**	**278**	Pn		**Pn**	**10 54 59.4**	**+2.4**
0.1nm,0.3s,baz=79,slow=14,SNR=4.9								
KSAR	**Wonju Array Be**	**11.66**	**278**	Pn		**Pn**	**10 54 59.4**	**+2.0**
KLR	**Kul'dur**	**14.77**	**332**	Pn		**Pn**	**10 55 40.7**

KURBB	**Kurchatov Arra** 2.1nm,0.8s,baz=83,slow=7.9,SNR=14	**46.87**	**308**	P	**P**	**11 00 40.6**	**-0.4**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=258,slow=6.0,SNR=7.8	**49.36**	**32**	P	**P**	**11 01 00.8**	**+0.8**
WRAB	**Tennant Creek** 0.3nm,0.3s	**56.81**	**189**	*e*P	**P**	**11 01 52.8**	**-2.6**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=1.2,slow=5.9,SNR=8.3	**60.55**	**189**	P	**P**	**11 02 21.0**	**-0.4**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=299,slow=6.5,SNR=3.9	**63.71**	**30**	P	**P**	**11 02 42.6**	**+0.4**
FINES	**FINESS Array B** 1.1nm,0.8s,baz=40,slow=11,SNR=3.6	**69.52**	**333**	P	**P**	**11 03 19.6**	**+0.4**
KBZ	**Khabaz** 1.5nm,0.8s,baz=41,slow=2.7,SNR=5.1	**71.76**	**311**	P	**P**	**11 03 33.3**	**+0.1**
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=42,slow=6.0,SNR=4.9	**75.09**	**323**	P	**P**	**11 03 52.4**	**-0.3**

ISCJB ***21*** *10:52:40.0±0.8,36°.68N±0°.06×142°.57E±0°.09,h15km, mb3.7/8,MS4.2/1,Error ellipse: s-maj=11.7km s-min=8.0km az=29.0*

IDC ***21*** *10:52:40.1±1.0,36°.69N×142°.43E,h0km,mb3.7/8, mb1 3.9/11,mb1mx3.6/65,mbtmp3.8/11,ML3.9/3,MS3.5/2, Ms1 3.5/2,ms1mx2.7/56,Error ellipse: s-maj=23.1km s-min=19.2km az=103.0*

ISC 21 10:52:41.7±0.9,36°.60N±0°.08×142°.55E±0°.10,h15km,n13, σ1§21/14,mb3.8/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr** 15nm,0.3s,baz=74,slow=11,SNR=10	**3.49**	**270**	Pn		**Pn**	**Pn**	**10 53 35.7**	**+0.2**
MJAR				Sn			**Sn**	**10 54 17.6**	**+1.0**
	5.5nm,0.3s,baz=288,slow=13,SNR=5.5								
JHJ	**Hachijo jima 2** 27nm,0.3s,baz=61,slow=19,SNR=3.1	**4.15**	**214**	Pn		**Pn**	**Pn**	**10 53 44.5**	**-0.1**
JHJ				Sn			**Sn**	**10 54 30.6**	**-2.2**
	12nm,0.3s,baz=90,slow=20,SNR=3.7								
ASAJ	**Asahikawa** 1.8nm,0.3s,baz=265,slow=6.1,SNR=4.5	**7.51**	**0**	Pn		**Pn**	**Pn**	**10 54 29.7**	**-0.9**
ASAJ				Sn			**Sn**	**10 55 55.1**	**-0.3**
	0.6nm,0.3s,baz=342,slow=20,SNR=2.3								
PETK	**Petropavlovsk-** comp=Z,40nm,18.0s,baz=194,slow=45	**19.62**	**28**	LR		LR	LR	11 07 14.4	
SONM	**Songino Array** 1.6nm,0.6s,baz=106,slow=11,SNR=1.2	**28.78**	**304**	P		**P**	**P**	**10 58 38.4**	**-0.6**
ZALV	**Zalesovo Beam** 1.1nm,0.5s,baz=90,slow=8.6,SNR=1.4	**42.88**	**313**	P		**P**	**P**	**11 00 39.7**	**+0.5**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=82,slow=8.2,SNR=5.1	**45.12**	**303**	P		**P**	**P**	**11 00 55.5**	**-1.9**
KURBB	**Kurchatov Arra** 1.2nm,0.4s,baz=82,slow=7.8,SNR=5.0	**46.98**	**308**	P		**P**	**P**	**11 01 11.4**	**-0.5**
ILAR	**Eielson Array** 0.3nm,0.4s,baz=262,slow=5.9,SNR=7.9	**49.37**	**32**	P		**P**	**P**	**11 01 31.1**	**+0.8**
WRA	**Warramunga Arr** 1.3nm,0.9s,baz=6.9,slow=7.2,SNR=5.4	**56.77**	**189**	P		**P**	**P**	**11 02 26.4**	**+1.2**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=0.3,slow=6.1,SNR=5.2	**60.50**	**189**	P		**P**	**P**	**11 02 52.5**	**+1.4**
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=305,slow=6.9,SNR=3.1	**63.72**	**30**	P		**P**	**P**	**11 03 13.0**	**+0.7**
RPZ	**Rata Peaks** comp=Z,82nm,18.1s,baz=202,slow=34	**84.03**	**160**	LR		LR	LR	11 40 31.0	

IDC 21 10:58:35.5±2.1,7°.12S×129°.03E,h0km,mb3.3/1, mb1 3.3/3,mb1mx3.0/49,mbtmp3.1/3,ML3.3/2,Error ellipse: s-maj=139.4km s-min=31.6km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=341,slow=13,SNR=12	**13.75**	**159**	Pn		Pn	Pn	11 01 51.0	-0.9
WRA				Sn			Sn	11 04 12.6	-13
	0.4nm,0.3s,baz=338,slow=22,SNR=7.2								
ASAR	**Alice Springs** 0.1nm,0.3s,baz=340,slow=9.2,SNR=6.1	**17.11**	**165**	P		Pn	P	11 02 37.0	+0.8
ASAR				S			Sn	11 05 37.4	-10
	0.1nm,0.3s,baz=360,slow=25,SNR=4.2								
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=121,slow=5.6,SNR=3.5	**67.80**	**327**	P		P	P	11 09 35.3	0.0

IDC ***21*** *11:07:42.4±5.9,16°.43N×98°.53W,h0km,mb3.2/3, mb1 3.5/6,mb1mx3.5/45,mbtmp3.2/6,ML3.1/3,Error ellipse: s-maj=114.2km s-min=27.8km az=15.0*

ISC 21 11:07:45.2±3.6,16°.2N±0°.4×98°.6W±0°.1,h35km,n8,σ1§06/7, mb3.0/3,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero** 1.3nm,0.3s,baz=257,slow=14,SNR=12	**3.70**	**75**	Pn		**Pn**	**Pn**	**11 08 39.0**	**-1.0**
CMIG				Sn			**Sn**	**11 09 23.7**	**+1.3**
	4.8nm,0.3s,baz=244,slow=12,SNR=5.2								
CMIG				Lg		Lg	Lg	11 09 47.2	
	15nm,0.3s,baz=178,slow=16,SNR=13								
H06E1	**SOCORRO T-PHAS** SNR=53	**12.03**	**284**	T		T	T	11 22 36.2	
H06S1	**SOCORRO T** SNR=7.3	**12.05**	**284**	T		T	T	11 22 40.4	
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=167,slow=9.3,SNR=2.3	**13.91**	**341**	Pn		**Pn**	**Pn**	**11 10 59.6**	**-0.5**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=350,slow=12,SNR=5.0	**19.99**	**341**	P		**P**	**P**	**11 12 14.9**	**0.0**
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=148,slow=7.0,SNR=4.6	**28.13**	**343**	P		**P**	**P**	**11 13 34.0**	**-0.2**
NVAR	**Mina Array Bea** 0.2nm,0.7s,baz=136,slow=11,SNR=2.8	**28.14**	**326**	P		**P**	**P**	**11 13 35.5**	**+1.2**
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=158,slow=7.1,SNR=3.6	**47.64**	**350**	P		**P**	**P**	**11 16 17.5**	**-0.2**

MAN 21 11:09:34,10°.15N×122°.96E,h87km,mb4.0,ML2.7,MS2.3, 1C-1D,Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.85**	**162**	⇓*i*P		Pn	Pn	11 09 53.5	+1.6
SNPH				*i* S			Sn	11 10 06.8	+1.7
RCP	**Roxas**	**1.42**	**351**	*e*P		Pn	Pn	11 09 59.7	+1.1
OCLP	**Ormoc**	**1.85**	**61**	*e*P		Pn	Pn	11 10 03.3	-0.8
MSLP	**Maasin**	**1.87**	**90**	*e*P		Pn	Pn	11 10 05.2	+0.8
MSLP				*e*S			Sn	11 10 28.7	+1.2

IDC ***21*** *11:12:13.5±3.4,15°.69N×98°.42W,h0km,mb3.3/4, mb1 3.7/6,mb1mx3.5/46,mbtmp3.3/6,ML3.3/2,MS3.2/1, Ms1 3.2/1,ms1mx2.5/20,Error ellipse: s-maj=53.8km s-min=18.7km az=3.0*

ISCJB ***21*** *11:12:14.9±3.3,15°.9N±0°.4×98°.36W±0°.07,h11km,mb3.1/3, Error ellipse: s-maj=53.8km s-min=9.6km az=3.3*

ISC 21 11:12:16.4±3.0,15°.8N±0°.3×98°.36W±0°.08,h11km,n8, σ0§86/9,mb3.3/3,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero** 4.0nm,0.3s,baz=250,slow=13,SNR=42	**3.56**	**69**	Pn		**Pn**	**Pn**	**11 13 11.8**	**+0.1**
CMIG				Pg			**Pb**	**11 13 20.3**	**+0.8**
	4.7nm,0.3s,baz=250,slow=17,SNR=8.6								
CMIG				Sn			**Sn**	**11 13 53.2**	**-0.6**
	4.7nm,0.3s,baz=270,slow=16,SNR=5.0								
CMIG				Lg		Lg	Lg	11 14 10.6	
	49nm,0.3s,baz=253,slow=7.9,SNR=15								
H06E1	**SOCORRO T-PHAS** SNR=13	**12.35**	**286**	T		T	T	11 27 23.9	
LPIG	**La Paz** 13nm,0.3s,baz=78,slow=4.0,SNR=5.2	**13.92**	**308**	Pn		**Pn**	**Pn**	**11 15 34.2**	**+0.5**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=153,slow=14,SNR=3.8	**14.30**	**341**	Pn		**Pn**	**Pn**	**11 15 39.6**	**+0.5**
TXAR				Lg		Lg	Lg	11 19 51.5	
	0.0nm,0.3s,baz=161,slow=28,SNR=3.9								
TXAR				LR		LR	LR	11 21 33.5	
	comp=Z,96nm,20.2s,baz=0.0,slow=39								
ANMO	**Albuquerque** 1.7nm,0.8s,baz=324,slow=13,SNR=9.3	**20.38**	**341**	P		**P**	**P**	**11 16 53.4**	**-0.1**
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=155,slow=8.8,SNR=4.2	**28.51**	**343**	P		**P**	**P**	**11 18 11.8**	**-0.4**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=146,slow=8.8,SNR=3.3	**28.55**	**326**	P		**P**	**P**	**11 18 13.1**	**+0.6**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=156,slow=7.5,SNR=4.6	**48.00**	**350**	P		**P**	**P**	**11 20 53.6**	**-1.5**

IDC 21 11:20:34.8±2.0,5°.54S×152°.16E,h0km,mb3.5/3, mb1 3.9/4,mb1mx3.4/48,mbtmp3.7/4,ML2.2/1,Error ellipse: s-maj=135.1km s-min=23.5km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 3.3nm,0.3s,baz=52,slow=10,SNR=10	**6.27**	**232**	Pn		Pn	Pn	11 22 09.7	+1.1
PMG				Sn			Sn	11 23 19.6	-1.5
	0.8nm,0.3s,baz=294,slow=12,SNR=2.9								
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=54,slow=9.8,SNR=2.4	**22.48**	**229**	P		P	P	11 25 36.1	+0.1
ASAR	**Alice Springs** 1.4nm,0.8s,baz=57,slow=9.1,SNR=16	**25.18**	**222**	P		P	P	11 26 02.4	+0.2
ILAR	**Eielson Array** 0.4nm,0.8s,baz=238,slow=4.2,SNR=3.4	**83.08**	**22**	P		P	P	11 33 02.5	+0.4
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=55,slow=3.4,SNR=2.6	**149.91**	**287**	PKPbc		PKPbc	PKPbc	11 40 27.1	-1.2

MAN 21 11:22:18,10°.11N×123°.28E,h1km,mb4.2,ML3.0,MS2.7, 1C-2D,Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.70**	**73**	*e*P		Pg	Pg	11 22 32.2	+0.7
LLP				*i* S			Sb	11 22 42.5	-0.8
TBP	**Tagbilaran**	**0.71**	**126**	*e*P		Pb	Pb	11 22 32.7	-0.4
TBP				*i* S			Sb	11 22 44.7	+1.3
SNPH	**Sibulan**	**0.76**	**183**	⇓*i*P		Pb	Pb	11 22 33.7	-0.5
SNPH				*i* S			Sg	11 22 43.6	+1.0
GUIM	**Jordan**	**0.85**	**307**	*e*P		Pg	Pg	11 22 34.0	-0.4
JAP	**San Jose, Anti**	**1.46**	**296**	⇓*e*P		Pg	Pg	11 22 46.6	+0.6
RCP	**Roxas**	**1.54**	**340**	⇓*e*P		Pn	Pn	11 22 46.8	+0.2
RCP				*e*S		Sg	Sg	11 23 08.7	+1.3
MSLP	**Maasin**	**1.55**	**89**	*e*P		Pb	Pb	11 22 47.6	+0.1
MSLP				*e*S		Sg	Sg	11 23 09.2	+1.3
OCLP	**Ormoc**	**1.60**	**54**	*e*P		Pg	Pg	11 22 48.9	+0.1
PAGZ	**Pagadian**	**2.25**	**177**	*e*P		Pn	Pn	11 22 57.7	+1.3

ISCJB ***21*** *11:23:20.0±0.5,12°.9N±0°.1×44°.85W±0°.10,h10km, mb3.9/15,MS3.5/11,Error ellipse: s-maj=17.5km s-min=12.3km az=147.6*

IDC ***21*** *11:23:20.3±0.7,12°.88N×44°.85W,h0km,mb3.9/15, mb1 4.1/15,mb1mx3.8/62,mbtmp3.9/15,MS3.6/11, Ms1 3.6/11,ms1mx3.2/60,Error ellipse: s-maj=21.5km s-min=15.7km az=153.0*

ISC 21 11:23:21.8±0.7,12°.9N±0°.1×44°.8W±0°.1,h10km,n29, σ0§85/15,mb4.0/15,MS3.6/11,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar** SNR=12	**15.62**	**278**	T		T	T	11 42 57.8	
SJG	**San Juan** comp=Z,110nm,20.3s,baz=102,slow=34	**21.18**	**287**	LR		LR	LR	11 35 10.1	
SDV	**Santo Domingo** 2.6nm,0.3s,baz=270,slow=15,SNR=2.7	**25.62**	**264**	P		**P**	**P**	**11 28 52.5**	**+0.5**
SDV				LR		LR	LR	11 41 27.1	
	comp=Z,61nm,18.4s,baz=232,slow=42								
BBTS	**Babate** comp=Z,102nm,20.7s,baz=255,slow=32	**27.55**	**83**	LR		LR	LR	11 37 52.2	
SIV	**San Ignacio** 0.3nm,0.3s,baz=57,slow=14,SNR=4.1	**32.85**	**210**	P		**P**	**P**	**11 29 56.9**	**+0.8**
H10N3	**ASCENSION HYDR** baz=304,slow=75,SNR=47	**36.49**	**123**	T		T	T	12 08 55.3	
H10N2	**ASCENSION HYDR** baz=304,slow=75,SNR=57	**36.50**	**123**	T		T	T	12 08 55.8	
H10N1	**ASCENSION HYDR** baz=304,slow=75,SNR=85	**36.51**	**123**	T		T	T	12 08 56.8	
H10S3	**ASCENSION HYDR** baz=305,slow=75,SNR=15	**36.99**	**124**	T		T	T	12 09 50.1	
H10S1	**ASCENSION HYDR** baz=305,slow=75,SNR=16	**37.00**	**124**	T		T	T	12 09 58.2	
LPAZ	**La Paz** 2.3nm,0.8s,baz=352,slow=7.3,SNR=5.7	**37.00**	**219**	P		**P**	**P**	**11 30 32.1**	**-0.4**
LPAZ				LR		LR	LR	11 45 42.0	
	comp=Z,112nm,19.2s,baz=151,slow=36								
H10S2	**ASCENSION HYDR** baz=305,slow=75,SNR=17	**37.01**	**124**	T		T	T	12 09 51.5	
ATAH	**Atahualpa** comp=Z,141nm,20.1s,baz=54,slow=37	**38.81**	**241**	LR		LR	LR	11 47 13.1	
JTS	**JuntasAbangare** comp=Z,175nm,18.9s,baz=14,slow=37	**39.35**	**271**	LR		LR	LR	11 47 45.5	
KOWA	**Kowa** 1.8nm,0.6s,baz=175,slow=17,SNR=3.7	**39.67**	**83**	P		**P**	**P**	**11 30 54.8**	**+0.3**
KOWA				LR		LR	LR	11 45 58.3	
	comp=Z,93nm,19.6s,baz=210,slow=34								
DBIC	**Dimbokro** comp=Z,78nm,21.2s,baz=254,slow=30	**39.85**	**95**	LR		LR	LR	11 43 36.5	
ESDC	**Sonseca Array** 0.5nm,0.6s,baz=245,slow=8.3,SNR=4.1	**44.79**	**46**	P		**P**	**P**	**11 31 36.2**	**+0.2**
TORD	**Torodi Ar. Bea** 1.6nm,0.9s,baz=284,slow=6.5,SNR=7.3	**45.30**	**84**	P		**P**	**P**	**11 31 40.4**	**+0.2**
TORD				LR		LR	LR	11 48 17.9	
	comp=Z,95nm,21.2s,baz=275,slow=33								
ULM	**Lac du Bonnet** 1.3nm,0.8s,baz=188,slow=14,SNR=2.5	**55.72**	**323**	P		**P**	**P**	**11 32 58.8**	**+0.2**
TXAR	**Lajitas Array** 1.1nm,0.9s,baz=119,slow=7.3,SNR=8.0	**56.73**	**297**	P		**P**	**P**	**11 33 06.1**	**-0.2**
PLCA	**Paso Flores** 4.1nm,1.1s,baz=342,slow=10.0,SNR=2.8	**58.40**	**203**	P			**P**	**11 33 16.7**	**-0.9**
NOA	**NORSAR Array B** 1.3nm,0.7s,baz=246,slow=4.1,SNR=3.5	**62.73**	**27**	P		**P**	**P**	**11 33 45.5**	**-1.5**
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=132,slow=2.2,SNR=4.1	**62.85**	**312**	P		**P**	**P**	**11 33 49.7**	**+1.3**
HFS	**Hagfors** 4.7nm,0.8s,baz=203,slow=11,SNR=6.1	**63.50**	**28**	P		**P**	**P**	**11 33 52.0**	**0.0**
IDI	**Anoyia** comp=Z,200nm,19.8s,baz=258,slow=36	**66.20**	**57**	LR		LR	LR	12 02 55.0	
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=98,slow=7.2,SNR=3.9	**69.36**	**332**	P		**P**	**P**	**11 34 28.0**	**-1.5**
BRTR	**Keskin Array B** 0.7nm,0.8s,baz=298,slow=3.1,SNR=3.8	**73.09**	**52**	P		**P**	**P**	**11 34 53.2**	**+0.5**
EIL	**Elat** comp=Z,41nm,21.2s,baz=249,slow=35	**74.97**	**62**	LR		LR	LR	12 06 44.5	
ILAR	**Eielson Array** 1.8nm,0.9s,baz=73,slow=4.6,SNR=14	**83.54**	**335**	P		**P**	**P**	**11 35 50.2**	**+0.3**

MEX 21 11:27:35.2±0.4,16°.20N×98°.36W,h9km±4km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**49**	*i* P		Pg	Pg	11 27 40.7	-0.4
PNIG				*e*S		Sg	Sg	11 27 45.1	+0.1
TLIG	**Tlapa**	**1.37**	**352**	*e*P		Pn	Pn	11 27 57.0	-3.7
TLIG				*e*S		Sb	Sb	11 28 13.2	-5.6
ACX	**Acapulco**	**1.59**	**295**	*i* P		Pn	Pn	11 28 01.7	-1.8
ACX				*e*S		Sn	Sn	11 28 21.7	-2.5
VHO	**Vista Hermosa**	**1.78**	**61**	*i* P		Pn	Pn	11 28 03.5	-2.9
VHO				*i* S		Sn	Sn	11 28 24.1	-5.2
CAIG	**El Cayaco**	**2.02**	**295**	*e*P		Pn	Pn	11 28 05.4	-4.0
CAIG				*i* S		Sn	Sn	11 28 30.8	-3.9

IDC ***21*** *11:29:14.4±6.8,15°.23N×98°.67W,h0km,mb3.2/4, mb1 3.6/6,mb1mx3.5/47,mbtmp3.2/6,ML3.4/1,Error ellipse: s-maj=130.3km s-min=44.1km az=7.0*

ISCJB ***21*** *11:29:23.9±1.0,16°.50N±0°.07×98°.65W±0°.04,h18km±8km, mb3.1/4,Error ellipse: s-maj=12.0km s-min=5.5km az=12.5*

NEIC ***21*** *11:29:27.4±0.0,16°.48N×98°.57W,h20km,MD4.3(MEX), After MEX.*

MEX ***21*** *11:29:27.0±0.7,16°.45N×98°.61W,h16km±8km,MD4.2*

ISC 21 11:29:25.0±1.2,16°.53N±0°.09×98°.61W±0°.04,h15km±10km, n16,σ1§67/24,mb3.2/4,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**106**	*i* P		**Pg**	**Pg**	**11 29 34.9**	**+0.4**
PNIG				*e*S		**Sg**	**Sg**	**11 29 41.1**	**+0.1**
PNIG	**Pinotepa**	**0.48**	**106**	*i* P		**Pg**	**Pg**	**11 29 34.9**	**+0.4**
PNIG				*e*S		**Sg**	**Sg**	**11 29 40.5**	**-0.5**
TLIG	**Tlapa**	**1.03**	**2**	*e*P		**Pb**	**Pb**	**11 29 43.9**	**-0.6**
TLIG				*i* S		**Sb**	**Sb**	**11 29 57.3**	**-0.6**
TLIG	**Tlapa**	**1.03**	**2**	*e*P		**Pb**	**Pb**	**11 29 44.0**	**-0.6**
TLIG				*e*S		**Sb**	**Sb**	**11 29 56.0**	**-1.9**
ACX	**Acapulco**	**1.25**	**286**	*i* P		Pn	Pn	11 29 44.5	-3.3
ACX				*i* S		**Sb**	**Sb**	**11 30 00.9**	**-3.2**
CAIG	**El Cayaco**	**1.67**	**288**	*e*P		**Pn**	**Pn**	**11 29 53.4**	**-0.2**
CAIG				*i* S		**Sn**	**Sn**	**11 30 12.3**	**-2.6**
CAIG	**El Cayaco**	**1.67**	**288**	*e*P		**Pn**	**Pn**	**11 29 53.5**	**-0.2**
CAIG				*e*S		**Sn**	**Sn**	**11 30 13.8**	**-1.0**
VHO	**Vista Hermosa**	**1.87**	**73**	*e*P		**Pn**	**Pn**	**11 29 55.5**	**-1.1**
VHO				*i* S		**Sn**	**Sn**	**11 30 18.7**	**-1.4**
VHO	**Vista Hermosa**	**1.87**	**73**	*e*P		**Pn**	**Pn**	**11 29 55.5**	**-1.1**
VHO				*e*S		**Sn**	**Sn**	**11 30 21.6**	**+1.5**
CMIG	**Matias Romero** baz=260,slow=18,SNR=0.9	**3.61**	**81**	Pn		**Pn**	**Pn**	**11 30 19.4**	**-0.9**
CMIG				Sn			**Sn**	**11 30 59.5**	**-3.2**
	6.0nm,0.3s,baz=60,slow=20,SNR=4.0								
CMIG				Lg		Lg	Lg	11 31 19.2	
	15nm,0.3s,baz=197,slow=16,SNR=8.4								
H06E1	**SOCORRO T-PHAS** SNR=5.3	**11.96**	**283**	T		T	T	11 44 36.2	
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=146,slow=9.8,SNR=5.2	**13.57**	**341**	Pn		**P**	**P**	**11 32 48.6**	**+2.6**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=149,slow=9.5,SNR=3.0	**27.78**	**343**	P		**P**	**P**	**11 35 14.9**	**+1.4**
NVAR	**Mina Array Bea** 0.1nm,0.4s,baz=147,slow=10,SNR=2.9	**27.84**	**325**	P		**P**	**P**	**11 35 16.5**	**+2.4**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=157,slow=7.3,SNR=4.4	**47.27**	**350**	P		**P**	**P**	**11 37 57.3**	**-0.1**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=133,slow=8.7,SNR=3.8	**58.06**	**338**	P		**P**	**P**	**11 39 17.9**	**+0.7**

IDC ***21*** *11:36:10.5±0.6,16°.65N×98°.35W,h0km,mb4.6/24, mb1 4.7/27,mb1mx4.6/49,mbtmp4.5/27,ML4.1/3,MS4.1/15, Ms1 4.1/15,ms1mx3.9/45,Error ellipse: s-maj=21.0km s-min=11.5km az=55.0*

BJI ***21*** *11:36:11.9,16°.80N×98°.20W,h10km,mB5.4/3,Ms5.1/5, Ms7 5.0/5*

ISCJB ***21*** *11:36:12.1±0.2,16°.85N±0°.02×98°.15W±0°.02,h10km, mb4.8/198,MS4.1/15,Error ellipse: s-maj=3.1km s-min=2.4km az=23.1*

MOS ***21*** *11:36:13.4±1.0,16°.70N×98°.19W,h25km,mb5.1/42,Error ellipse: s-maj=9.4km s-min=4.6km az=101.1*

GCMT ***21*** *11:36:14.8±0.6,16°.76N×98°.27W,h30km±1km,MW5.0/72, Moment Tensor Solution. s27,c31; s72,c100; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.94±.21; Mθθ-2.43±.14; Mφφ-0.51±.13; Mrθ2.64±.18; Mθφ0.38±.11; Mφr-1.74±.19; Best double couple: M₀4.15400×10¹⁶ NP1:φs117.00000°,δ70.00000°,λ99.00000°. NP2: φs273.00000°,δ22.00000°,λ67.00000°. Principal axes: T 4.4640, Plg64.0000°, Azm41.0000°; N -0.6250, Plg8.0000°, Azm294.0000°; P -3.8440, Plg24.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***21*** *11:36:14.8±0.0,16°.51N×98°.50W,h20km,mb5.0/196, MD4.9(MEX),After MEX.*

MEX ***21*** *11:36:14.8±0.5,16°.51N×98°.51W,h18km±26km,MD4.9*

ISC 21 11:36:11.9±1.1,16°.66N±0°.03×98°.41W±0°.03,h10km±6km, n845,σ1§49/851,mb5.0/200,MS4.1/15,8C-4D,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**135**	*e*P		**Pb**	**Pb**	**11 36 21.3**	**+0.5**
PNIG				*e*S		**Sb**	**Sb**	**11 36 27.1**	**+0.3**
PNIG	**Pinotepa**	**0.38**	**135**	*e*P		**Pb**	**Pb**	**11 36 21.3**	**+0.5**
PNIG				*e*S		**Sb**	**Sb**	**11 36 26.6**	**-0.2**
TLIG	**Tlapa**	**0.91**	**351**	*e*P		**Pn**	**Pn**	**11 36 30.9**	**0.0**
TLIG				*e*S		**Sn**	**Sn**	**11 36 43.7**	**-0.4**
TLIG	**Tlapa**	**0.91**	**351**	*e*P		**Pn**	**Pn**	**11 36 30.9**	**0.0**
TLIG				*e*S		**Sn**	**Sn**	**11 36 43.7**	**-0.4**
ACX	**Acapulco**	**1.40**	**279**	*e*P		**Pn**	**Pn**	**11 36 37.1**	**-0.5**
ACX				*i* S		**Sn**	**Sn**	**11 36 54.0**	**-2.2**
VHO	**Vista Hermosa**	**1.66**	**76**	*e*P		**Pb**	**Pb**	**11 36 42.2**	**-0.5**
VHO				*i* S		**Sb**	**Sb**	**11 37 03.0**	**-0.8**
VHO	**Vista Hermosa**	**1.66**	**76**	*e*P		**Pb**	**Pb**	**11 36 42.2**	**-0.5**
VHO				*e*S		**Sb**	**Sb**	**11 37 03.2**	**-0.5**
CAIG	**El Cayaco**	**1.82**	**282**	*e*P		**Pn**	**Pn**	**11 36 41.7**	**-1.6**
CAIG				*e*S		**Sn**	**Sn**	**11 37 02.1**	**-4.3**
CAIG	**El Cayaco**	**1.82**	**282**	*e*P		**Pn**	**Pn**	**11 36 41.7**	**-1.6**
CAIG				*e*S		**Sn**	**Sn**	**11 37 02.1**	**-4.3**
TPIG	**Tehuac#an**	**2.01**	**30**	*e*P		**Pb**	**Pb**	**11 36 47.9**	**-0.9**
TPIG				*i* S		**Sb**	**Sb**	**11 37 12.6**	**-1.3**
TPIG	**Tehuac#an**	**2.01**	**30**	*e*P		**Pb**	**Pb**	**11 36 47.9**	**-0.9**
TPIG				*e*S		**Sb**	**Sb**	**11 37 12.9**	**-1.0**
HUIG	**Huatulco**	**2.38**	**112**	*e*P		**Pn**	**Pn**	**11 36 51.1**	**0.0**
HUIG				*i* S		**Sn**	**Sn**	**11 37 18.7**	**-1.7**
HUIG	**Huatulco**	**2.38**	**112**	*e*P		**Pn**	**Pn**	**11 36 51.1**	**0.0**
HUIG				*e*S		**Sn**	**Sn**	**11 37 18.7**	**-1.7**
MAVM	**Malinalco, Edo**	**2.50**	**336**	*e*P		**Pn**	**Pn**	**11 36 53.5**	**+0.6**
MAVM				*i* S		**Sn**	**Sn**	**11 37 23.4**	**-0.2**
UNM	**Universidad Na**	**2.75**	**345**	*e*P		**Pb**	**Pb**	**11 37 00.5**	**-0.9**
UNM	**Universidad Na**	**2.75**	**345**	*e*Pn		**Pb**	**Pb**	**11 37 00.5**	**-0.9**
TOVM	**TOLUCA**	**2.87**	**335**	*e*P		**Pn**

346A	Big Creek Wild baz=211	16.77	27	P		Pn	11 40 05.9	-1.0
142A	Monroe baz=202	16.86	19	P		Pn	11 40 05.8	-2.3
CPRX	Cap Rock comp=Z,12nm,0.9s	17.03	344	*e*P		P	11 40 11.9	-0.3
VBMS	Vicksburg baz=207	17.06	23	P		Pn	11 40 08.7	-2.0
VBMS	Vicksburg comp=Z,209nm,1.4s	17.06	23	*e*Pn		Pn	11 40 10.3	-0.3
Z40A	Long Farm, Mag baz=197,SNR=23	17.13	14	P		P	11 40 13.1	-0.1
143A	Socs Landing, baz=203	17.18	20	P		Pn	11 40 12.3	+0.2
Z41A	Richland Creek baz=198,SNR=16	17.28	16	P		P	11 40 15.1	+0.3
246A	Jackson Lee, B baz=211	17.45	27	P		Pn	11 40 15.7	+0.1
144A	Alexander Plac baz=206	17.46	23	P		Pn	11 40 16.0	+0.3
348A	Jackson baz=215	17.52	31	P		P	11 40 17.0	-0.6
Z42A	Norrel Spur, H baz=201	17.54	18	P		P	11 40 17.7	0.0
WLAR	White Oak Lake comp=Z,193nm,1.1s	17.61	15	*e*Pn		Pn	11 40 17.4	0.0
MSTX	Muleshoe baz=167,SNR=41	17.68	348	P		Pn	11 40 18.6	+0.2
MSTX	Muleshoe comp=Z,57nm,1.0s	17.68	348	*e*Pn		P	11 40 19.0	-0.3
319A	Douglas comp=Z,37nm,0.9s	17.68	328	*e*Pn		P	11 40 20.3	+1.0
Z43A	Armstrong Fami baz=203	17.70	20	P		P	11 40 19.3	-0.1
247A	Quitman baz=212	17.72	28	P		P	11 40 19.5	-0.2
349A	Repton baz=217	17.83	33	P		Pn	11 40 18.8	-1.5
Y40A	Okolona baz=196	17.88	14	P		Pn	11 40 21.0	+0.2
Y41A	Eaglette Beard baz=198,SNR=13	17.92	16	P		Pn	11 40 20.5	-0.9
121A	Cookes Peak, D baz=150,SNR=13	17.94	333	P		P	11 40 23.9	+1.6
121A	Cookes Peak, D comp=Z,69nm,1.2s	17.94	333	*e*P		P	11 40 24.9	+2.6
WMOK	Wichita Mounta baz=179	18.00	359	P		Pn	11 40 22.6	+0.2
WMOK WMOK	Wichita Mounta comp=Z,30nm,0.9s	18.00	359	*e*P pmax		Pn pmax	11 40 22.0	-0.4
WMOK	Wichita Mounta comp=Z,30nm,0.9s	18.00	359	*e*Pn		Pn	11 40 22.0	-0.4
146A	Union baz=210	18.02	26	P		Pn	11 40 20.5	-2.1
Y42A	Garnett, Star baz=201	18.11	18	P		Pn	11 40 21.9	-1.7
248A	Dixon Mills baz=215,SNR=7.8	18.16	30	P		Pn	11 40 24.1	-0.2
X39A	Fountain Ranch baz=193,SNR=21	18.19	11	P		P	11 40 24.7	-0.1
CCAR	Cane Creek comp=Z,77nm,0.7s	18.19	18	*e*Pn		P	11 40 27.9	+3.1
350A	Dozier baz=219	18.35	35	P		Pn	11 40 25.0	-1.5
249A	Camden baz=216	18.37	32	P		Pn	11 40 26.5	-0.3
AMTX	Amarillo baz=170	18.38	351	P		Pn	11 40 26.9	-0.2
AMTX	Amarillo comp=Z,97nm,1.2s	18.38	351	*e*Pn		P	11 40 27.2	+0.1
147A	Livingston baz=212	18.39	28	P		Pn	11 40 26.4	-0.7
Z45A	Winona baz=207	18.40	24	P		Pn	11 40 26.1	-1.1
X40A	Basin Creek Fa baz=197,SNR=11	18.44	15	P		P	11 40 27.3	-0.3
059Z	Ave Maria baz=242	18.47	56	P		P	11 40 25.7	-2.3
058A	Arcadia baz=239	18.54	53	P		P	11 40 24.9	-3.9
Z46A	Louisville baz=210	18.55	26	P		P	11 40 27.7	-1.1
553A	Crawfordville baz=226	18.57	41	P		P	11 40 27.8	-1.3
351A	Pinckard baz=222	18.64	36	P		P	11 40 27.0	-2.9
148A	Greensboro baz=214	18.69	30	P		P	11 40 29.5	-0.9
Y44A	Strider, Charl baz=205	18.74	22	P		P	11 40 30.0	-0.9
250A	Grady baz=218	18.81	34	P		P	11 40 31.0	-0.8
X42A	Stuttgart baz=201	18.82	18	P		P	11 40 31.7	-0.2
UALR	University of comp=Z,138nm,1.0s	18.84	16	*e*P		Pn	11 40 32.2	-0.3
958A	Wauchula baz=238	18.85	52	P		P	11 40 30.9	-1.3
857A	Zephyrhills baz=235,SNR=5.4	18.87	49	P		P	11 40 31.1	-1.3
Y45A	Yeager Farm, C baz=207	18.90	23	P		P	11 40 32.0	-0.7
BNM	Barren Site	18.91	339	*e*P		Pn	11 40 35.5	+1.8
W39A	Magazine baz=194,SNR=19	18.91	12	P		Pn	11 40 33.2	-0.2
Z47A	Carrollton baz=212	18.93	28	P		P	11 40 32.1	-0.8
Y22D	IRIS PASSCAL I comp=Z,55nm,0.8s	18.95	338	*e*P		Pn	11 40 38.0	+3.9
554A	Perry baz=228	18.98	43	P		P	11 40 32.5	-1.1
059A	Moore Haven baz=240	19.01	54	P		P	11 40 32.5	-1.4
X43A	Marvell baz=203	19.02	19	P		P	11 40 32.6	-1.4
149A	Jones baz=216	19.03	31	P		P	11 40 33.7	-0.4
W40A	Fergusson Farm, baz=196	19.06	14	P		P	11 40 33.6	-0.9
W40A	Ferguson Farm, comp=Z,107nm,0.8s	19.06	14	*e*P		P	11 40 34.6	+0.2
LPM	Los Pinos Moun	19.06	339	*e*P		Pn	11 40 37.5	+2.1
Y46A	Houston baz=209,SNR=19	19.18	25	P		P	11 40 35.6	-0.2
352A	Blakely baz=223	19.18	37	P		P	11 40 35.2	-0.6
TUC	Tucson baz=142	19.20	326	P		Pn	11 40 38.0	+1.1
TUC TUC	Tucson comp=Z,19nm,1.0s	19.20	326	*e*P pmax		Pn pmax	11 40 39.0	+2.1
TUC	Tucson comp=Z,19nm,1.0s	19.20	326	*e*P		Pn	11 40 39.0	+2.1
W41B	Gary Mavity, V baz=198	19.24	15	P		Pn	11 40 36.9	-0.5
LRAL	Lakeview Retre baz=215	19.29	30	P		P	11 40 36.3	-0.7
LRAL	Lakeview Retre comp=Z,46nm,1.1s	19.29	30	*e*P		Pn	11 40 37.9	-0.1
LRAL				*e*Sn		Sn	11 44 08.1	-6.2
656A	Willston baz=232	19.30	46	P		P	11 40 34.8	-2.3
Z48A	Northport baz=213,SNR=23	19.31	28	P		P	11 40 36.8	-0.3
TUL1	Leonard baz=188,SNR=14	19.31	6	P		P	11 40 37.1	-0.1
TUL1	Leonard comp=Z,285nm,1.2s	19.31	6	*e*P		P	11 40 37.1	-0.1
LAZ	Ladron	19.32	338	*e*P		Pn	11 40 40.3	+1.7
WHAR	Wooly Hollow comp=Z,85nm,1.2s	19.34	15	*e*P		Pn	11 40 38.5	-0.1
251A	Midway baz=220,SNR=8.8	19.37	35	P		P	11 40 36.4	-1.4
757A	Oxford baz=234	19.37	48	P		P	11 40 36.6	-1.2
DWPF	Disney Wildern baz=237	19.37	51	P		P	11 40 36.6	-1.3
454A	Quitman baz=227	19.43	41	P		P	11 40 37.2	-1.3
150A	Eclectic baz=218,SNR=18	19.43	33	P		P	11 40 38.7	+0.1
X45A	UM Field Stati baz=207	19.45	23	P		P	11 40 38.6	-0.1
555A	McAlpin baz=230	19.47	44	P		P	11 40 38.7	-0.3
353A	Camilla baz=224	19.51	39	P		P	11 40 39.3	-0.1
OXF	Oxford baz=207	19.52	23	P		P	11 40 39.4	-0.1
OXF OXF	Oxford comp=Z,107nm,1.1s	19.52	23	*e*P pmax		Pn pmax	11 40 40.3	-0.5
OXF	Oxford comp=Z,107nm,1.1s	19.52	23	*e*P		Pn	11 40 40.2	-0.5
W42A	Bald Knob baz=200	19.53	17	P		P	11 40 39.4	-0.1
V39A	Pettigrew baz=194,SNR=44	19.57	12	P		P	11 40 40.2	+0.1
ANMO	Albuquerque comp=Z,0.5nm,0.3s,baz=332,slow=12,SNR=50	19.58	340	P		Pn	11 40 42.1	+0.4
ANMO	Albuquerque baz=157	19.58	340	P		Pn	11 40 41.6	-0.1
ANMO ANMO	Albuquerque comp=Z,29nm,1.2s	19.58	340	*ce*P pmax		Pn pmax	11 40 42.1	+0.4
ANMO	Albuquerque comp=Z,64nm,1.4s	19.58	340	*e*P		Pn	11 40 42.2	+0.5
Y47A	UCPARC, Winfie baz=212	19.62	27	P		P	11 40 39.5	-1.1
Z49A	Columbiana baz=216,SNR=35	19.64	31	P		P	11 40 41.1	+0.2
060A	Indiantown baz=242	19.65	55	P		P	11 40 40.4	-0.5
252A	Lumpkin baz=222,SNR=11	19.67	37	P		P	11 40 40.3	-0.9
V40A	Witts Springs baz=196,SNR=25	19.70	14	P		P	11 40 41.2	-0.4
151A	Opelika baz=220,SNR=9.0	19.74	34	P		P	11 40 41.6	-0.3
556A	Lake Butler baz=231,SNR=5.6	19.77	45	P		P	11 40 41.8	-0.5
455A	Stateville baz=228	19.84	42	P		P	11 40 41.4	-1.6
V41A	Mountainview baz=198,SNR=20	19.84	15	P		P	11 40 42.4	-0.7
X46A	Booneville baz=209,SNR=12	19.88	24	P		P	11 40 43.2	-0.2
657A	Interlachen baz=233	19.89	47	P		P	11 40 42.1	-1.5
Y48A	Jasper baz=213,SNR=9.7	19.93	28	P		P	11 40 43.8	-0.2
HHAR	Hobbs comp=Z,73nm,0.9s	19.94	11	*e*P		P	11 40 44.0	-0.1
TIGA	Tifton baz=226,SNR=6.1	19.95	40	P		P	11 40 43.9	-0.3
TIGA	Tifton comp=Z,148nm,1.0s	19.95	40	*e*P		Pn	11 40 48.6	+2.7
Z50A	Ashland baz=217,SNR=53	20.00	32	P		P	11 40 44.9	+0.2
V42A	Cord baz=200,SNR=12	20.07	17	P		P	11 40 44.9	-0.6
214A	Organ Pipe Nat baz=137,SNR=11	20.07	322	P		Pn	11 40 47.9	+0.6
214A	Organ Pipe Nat comp=Z,108nm,1.1s	20.07	322	*e*P		Pn	11 40 48.4	+1.1
U39A	Green Forest baz=194,SNR=43	20.12	12	P		P	11 40 45.7	-0.4
X47A	Russelville baz=211,SNR=13	20.14	26	P		P	11 40 44.8	-1.5
W45A	Hickory Valley baz=206,SNR=5.7	20.18	22	P		P	11 40 45.8	-0.9
U40A	Yellville baz=196,SNR=57	20.23	13	P		P	11 40 46.9	-0.3
Y49A	Blount Mountai baz=215,SNR=16	20.24	30	P		P	11 40 46.8	-0.6
U41A	Viola baz=198,SNR=15	20.43	15	P		P	11 40 49.1	-0.4
X48A	Hartselle baz=213,SNR=19	20.44	28	P		P	11 40 48.5	-1.0
PLAL	Pickwick Lake comp=Z,273nm,1.8s	20.45	25	*e*P		P	11 40 49.3	-0.3
PLAL				*e*S		S	11 44 37.1	-1.5
W46A	Michie baz=208	20.46	24	P		P	11 40 48.5	-1.2
254A	Abbeville baz=225	20.49	39	P		P	11 40 49.1	-1.0
V44A	Blytheville baz=204	20.54	20	P		P	11 40 50.3	-0.2
X18A	Snowflake comp=Z,50nm,0.9s	20.58	332	*e*P		Pn	11 40 54.1	+0.6
Y50A	Piedmont baz=217,SNR=11	20.60	31	P		P	11 40 51.1	-0.2
T38A	Diamond baz=191,SNR=42	20.62	9	P		P	11 40 50.7	-0.7
U42A	Revenden baz=200,SNR=44	20.62	17	P		P	11 40 50.9	-0.5
GNAR	Gosnell comp=Z,4μm,1.3s	20.62	20	P		P	11 40 51.7	+0.2
T39A	Clever baz=194,SNR=35	20.77	11	P		P	11 40 52.7	-0.4
V45A	Humboldt baz=206	20.78	22	P		P	11 40 51.2	-2.0
X49A	Woodville baz=214,SNR=15	20.82	29	P		P	11 40 52.8	-0.8
U43A	Rector baz=202	20.88	18	P		P	11 40 52.6	-1.6
W47A	Westpoint baz=210,SNR=18	20.88	26	P		P	11 40 53.4	-0.9
W18A	Petrified Fore baz=149	20.98	333	P		P	11 40 55.4	-0.3
T40A	Mansfield baz=196,SNR=60	21.06	13	P		P	11 40 54.9	-1.4
W48A	Pulaski baz=212,SNR=25	21.07	27	P		P	11 40 54.1	-2.2
T25A	Trinidad baz=164,SNR=70	21.07	347	P		P	11 40 58.1	+1.5
T25A	Trinidad comp=Z,132nm,1.2s	21.07	347	*e*P		P	11 40 58.6	+1.9
X50A	Fort Payne baz=216,SNR=22	21.10	30	P		P	11 40 54.3	-2.4
MHTCO	State Highway comp=Z,44nm,1.0s	21.13	346	*e*P		P	11 40 59.0	+1.8
T41A	Mountain View baz=198,SNR=42	21.14	15	P		P	11 40 55.9	-1.2
V46A	Holladay baz=208,SNR=38	21.15	24	P		P	11 40 55.1	-2.1
U44B	Burton Farm, H baz=205	21.18	21	P		P	11 40 55.9	-1.6
X16A	Lo Mia Camp, P comp=Z,63nm,0.9s	21.20	329	*e*P		P	11 41 00.6	+2.7
113A	Mohawk Valley, comp=Z,28nm,0.8s	21.21	322	*e*P		P	11 40 59.7	+1.9
PBMO	Poplar Bluff comp=Z,70nm,0.8s	21.25	18	*e*P		P	11 40 57.9	-0.3
S38A	Stockton baz=192,SNR=16	21.26	10	P		P	11 40 57.0	-1.4
T42A	Van Buren baz=200,SNR=35	21.30	16	P		P	11 40 58.0	-0.8
PARMO	Parma	21.35	19	*e*P		P	11 40 59.2	-0.1
256A	Glennville baz=228	21.38	42	P		P	11 40 57.3	-2.4
U45A	Rockin P Farm, baz=206,SNR=6.6	21.40	22	P		P	11 40 59.5	-0.3
V47A	Nunnelly baz=210,SNR=17	21.41	25	P		P	11 40 59.0	-1.0
S39A	Bolivar baz=194,SNR=42	21.42	11	P		P	11 40 59.3	-0.9
GOGA	Godfrey baz=222	21.44	36	P		P	11 40 59.2	-1.1
GOGA GOGA	Godfrey comp=Z,111nm,0.7s	21.44	36	*e*P pmax		P pmax	11 40 59.8	-0.5
GOGA	Godfrey comp=Z,111nm,0.7s	21.44	36	*e*P		P	11 40 59.8	-0.5
S40A	Lebanon baz=196,SNR=38	21.50	13	P		P	11 41 00.5	-0.4
WVT	Waverly baz=209	21.55	24	P		P	11 41 00.3	-1.2
WVT WVT	Waverly comp=Z,85nm,1.1s	21.55	24	*e*P pmax		P pmax	11 41 00.7	-0.8
WVT	Waverly comp=Z,85nm,1.1s	21.55	24	*e*P		P	11 41 00.7	-0.8
T43A	Greenville baz=202,SNR=24	21.57	18	P		P	11 41 00.7	-1.0
SWET	Sewanee comp=Z,47nm,1.2s	21.58	29	*e*P		P	11 41 01.4	-0.4
U46A	Springville baz=208	21.62	23	P		P	11 41 00.2	-2.0
V48A	Smith Brothers baz=211,SNR=14	21.62	26	P		P	11 41 01.4	-0.9
S41A	Jillco Farms, baz=198,SNR=54	21.66	14	P		P	11 41 02.1	-0.6
T44A	Benton baz=203,SNR=10.0	21.79	19	P		P	11 41 02.7	-1.3
R38A	Fenwick Farm, baz=192,SNR=15	21.80	10	P		P	11 41 02.9	-1.3
SDCO	Great Sand Dun baz=162	21.91	345	P		P	11 41 04.5	-1.2
SDCO	Great Sand Dun comp=Z,20nm,0.9s	21.91	345	*e*P		P	11 41 07.0	+1.3
U47A	Clarksville baz=210,SNR=14	22.04	24	P		P	11 41 05.2	-1.5
GLA	Glamis baz=134	22.04	321	P		P	11 41 08.2	+1.3
GLA GLA	Glamis comp=Z,41nm,1.0s	22.04	321	*e*P pmax		P pmax	11 41 09.6	+2.7
GLA	Glamis comp=Z,41nm,1.0s	22.04	321	*e*P		P	11 41 09.6	+2.7
WUAZ	Wupatki baz=146	22.05	331	P		P	11 41 08.9	+1.8
WUAZ	Wupatki comp=Z,106nm,1.3s	22.05	331	*e*P		P	11 41 09.7	+2.6
S42A	Caledonia baz=200,SNR=53	22.07	16	P		P	11 41 06.2	-0.9
R39A	Chumby, Stover baz=194,SNR=48	22.08	11	P		P	11 41 06.0	-1.1
S43A	Fulton Ridge, baz=202	22.09	18	P		P	11 41 05.7	-1.5
CBKS	Cedar Bluff baz=177	22.10	357	P		P	11 41 06.9	-0.5
CBKS CBKS	Cedar Bluff comp=Z,113nm,1.0s	22.10	357	*e*P pmax		P pmax	11 41 09.3	+1.9
CBKS	Cedar Bluff comp=Z,113nm,1.0s	22.10	357	*e*P		P	11 41 09.2	+1.9
R40A	Maddies Statio baz=196,SNR=53	22.21	13	P		P	11 41 07.7	-0.9
S22A	4UR Ranch, Cre baz=159,SNR=32	22.27	342	P		P	11 41 09.7	+0.1
S22A	4UR Ranch, Cre comp=Z,27nm,1.1s	22.27	342	*e*P		P	11 41 11.6	+2.0
MVCO	Mesa Verde baz=154	22.33	338	P		P	11 41 10.5	+0.4
MVCO	Mesa Verde comp=Z,60nm,0.9s	22.33	338	*e*P		P	11 41 11.9	+1.8
T46A	Princeton baz=207,SNR=14	22.33	23	P		P	11 41 08.9	-0.9
Y12C	Blythe baz=136,SNR=6.8	22.35	323	P		P	11 41 11.4	+1.3
Y12C	Blythe comp=Z,35nm,1.2s	22.35	323	*e*P		P	11 41 12.7	+2.5
FVM FVM	French Village comp=Z,51nm,0.7s	22.37	17	*e*P pmax		P pmax	11 41 09.8	-0.5
FVM	French Village comp=Z,51nm,0.7s	22.37	17	*e*P		P	11 41 09.8	-0.5
U48A	Cassie Pea, Po baz=211,SNR=12	22.40	26	P		P	11 41 11.1	+0.4
Q37A	Longview Farm, baz=190	22.40	8	P		P	11 41 08.6	-2.0
KSU1	Kansas State U baz=185	22.41	4	P		P	11 41 09.7	-1.0
KSU1	Kansas State U comp=Z,56nm,0.8s	22.41	4	*e*P		P	11 41 10.9	+0.2
R41A	Rosebud baz=198,SNR=22	22.42	15	P		P	11 41 09.0	-1.8
CPCT	Cooper Cave	22.44	31	*e*P		P	11 41 10.4	-0.7
S44A	Carbondale baz=204	22.45	19	P		P	11 41 10.1	-1.0
SIUC	Southern Illin comp=Z,104nm,0.8s	22.48	19	*e*P		P	11 41 11.2	-0.3
PDMCI	Parker Dam,Lak baz=138	22.54	324	P		P	11 41 13.3	+1.3
R42A	Luebbering baz=199	22.55	16	P		P	11 41 11.0	-1.2
KSCO	Kaye Shedlock' baz=170,SNR=13	22.57	351	P		P	11 41 11.3	-1.3
KSCO	Kaye Shedlock' comp=Z,52nm,0.8s	22.57	351	*e*P		P	11 41 13.2	+0.7
SWSC	Sam W. Stewart baz=132	22.57	319	P		P	11 41 12.2	-0.3
IKP	In-Ko-Pah, Jac baz=131	22.57	318	P		P	11 41 14.2	+1.6
T47A	Sharon Grove baz=209,SNR=14	22.58	24	P		P	11 41 10.8	-1.8
Q38A	Cooks Store, C baz=192,SNR=14	22.61	10	P		P	11 41 11.6	-1.2
S45A	Carrier Mills baz=205,SNR=17	22.66	21	P		P	11 41 11.7	-1.6
HODGE	Hodges comp=Z,79nm,0.8s	22.72	37	*e*P		P	11 41 13.6	-0.5
R43A	Red Bud baz=201,SNR=8.9	22.78	17	P		P	11 41 13.7	-1.0
Q39A	Willow Grove F baz=194	22.80	11	P		P	11 41 13.6	-1.3
BC3	Big Chuckawall baz=134	22.84	321	P		P	11 41 16.6	+1.2
BG3	Lake Jocassee comp=Z,78nm,1.1s	22.91	34	*e*P		P	11 41 16.1	+0.1
Q40A	Laux Farm, Aux baz=196,SNR=18	22.93	13	P		P	11 41 14.5	-1.7
MONP2	Monument Peak baz=131	22.93	318	P		P	11 41 18.3	+1.7
BAR	Barrett comp=Z,29nm,1.5s	22.96	317	*e*P		P	11 41 19.3	+2.7
S46A	Don Dixon Farm baz=207	22.97	22	P		P	11 41 15.5	-1.1
T48A	Bowling Green baz=211,SNR=20	22.97	25	P		P	11 41 15.5	-1.1
TKL	Tuckaleechee C comp=Z,42nm,0.8s,baz=197,slow=11,SNR=36	22.98	32	P		P	11 41 17.1	+0.4
TKL				LR		LR	11 53 43.8	
TKL TKL	Tuckaleechee C comp=Z,87nm,1.0s	22.98	32	*e*P pmax		P pmax	11 41 16.8	0.0
TKL	Tuckaleechee C comp=Z,86nm,1.0s	22.98	32	*e*P		P	11 41 16.8	0.0
W13A	Hualapai Mount comp=Z,31nm,1.2s	22.99	326	*e*P		P	11 41 20.6	+3.5
Q24A	Divide baz=164,SNR=9.4	22.99	346	P		P	11 41 15.9	-1.3
Q24A	Divide comp=Z,43nm,1.3s	22.99	346	*e*P		P	11 41 19.6	+2.4
IRM	Iron Mountain baz=136	23.01	322	P		P	11 41 18.9	+1.8
R44A	Waltonville baz=203,SNR=8.9	23.01	19	P		P	11 41 15.0	-2.1
SLM SLM	Saint Louis comp=Z,84nm,1.2s	23.03	17	*e*P pmax		P pmax	11 41 23.7	+6.4
SLM	Saint Louis comp=Z,84nm,1.2s	23.03	17	*e*P		P	11 41 23.7	+6.4
RGRS	Roger Stewart	23.07	42	*e*P		P	11 41 16.4	-1.4
Q41A	Truxton baz=198,SNR=14	23.08	14	P		P	11 41 15.7	-2.0
P37A	Lathrop baz=190,SNR=9.4	23.11	8	P		P	11 41 16.3	-1.8
PV01	Paradox Valley	23.18	339	*e*P		P	11 41 20.9	+1.8
CSU	Charleston Sou	23.20	42	*e*P		P	11 41 20.7	+1.7
NHSC	New Hope baz=229	23.21	42	P		P	11 41 18.8	-0.4
NHSC	New Hope comp=Z,405nm,1.1s	23.21	42	*e*P		P	11 41 19.6	+0.5
Q42A	Golden Eagle baz=200	23.21	16	P		P	11 41 19.5	+0.3
U15A	North Rim	23.22	331	*e*P		P	11 41 21.6	+2.0
USIN	University of comp=Z,187nm,1.2s	23.23	22	*e*P		P	11 41 20.9	+1.6
P38A	Dawn baz=192,SNR=16	23.27	10	P		P	11 41 17.7	-2.0
P39B	Salisbury baz=194,SNR=12	23.27	11	P		P	11 41 18.4	-1.3
R45A	Skylar, Fairfi baz=205	23.31	20	P		P	11 41 19.5	-0.6
PV05	Paradox Valley	23.31	338	*e*P		P	11 41 22.0	+1.6
JSC JSC	Jenkinsville comp=Z,94nm,1.1s	23.34	38	*e*P pmax		P pmax	11 41 20.0	-0.4
JSC	Jenkinsville comp=Z,94nm,1.1s	23.34	38	*e*P		P	11 41 20.0	-0.4
O33A	Hebron baz=182,SNR=7.7	23.34	2	P		P	11 41 19.0	-1.4
109C	Camp Elliot, M baz=130	23.37	317	P		P	11 41 22.3	+1.6
PAULI	Pauline comp=Z,22nm,0.7s	23.40	36	*e*P		P	11 41 22.3	+1.3
BELC	Belle Mtn. Jos baz=134	23.41	321	P		P	11 41 22.9	+1.6
XPFO	Piæon Flat comp=Z,10nm,1.0s	23.42	319	*e*P		P	11 41 24.0	+2.5

PFO	Pinyon Flats O	23.43	319	P		P		11 41	23.1	+1.7
	baz=132									
PFO	Pinyon Flats O	23.43	319	eP		P		11 41	23.5	+2.0
PFO				pmax		pmax				
	comp=Z,11nm,1.0s									
PFO	Pinyon Flats O	23.43	319	eP		P		11 41	23.5	+2.0
	comp=Z,11nm,1.0s									
P40A	Paris	23.45	12	P		P		11 41	20.1	-1.4
	baz=196,SNR=27									
Q43A	New Douglas	23.47	17	P		P		11 41	20.1	-1.5
	baz=201,SNR=7.4									
O34A	Beatrice	23.48	3	P		P		11 41	21.6	-0.2
	baz=184,SNR=26									
R46A	Gibon Southern	23.51	22	P		P		11 41	20.1	-2.0
	baz=207									
MOTC	Monteria, Cord	23.51	107	eP		P		11 41	23.7	+1.4
PV04	Paradox Valley	23.53	339	eP		P		11 41	23.9	+1.4
PV10	Paradox Valley	23.56	339	eP		P		11 41	23.5	+0.6
S48A	Wiedeman Farm,	23.58	25	P		P		11 41	21.5	-1.2
	baz=211,SNR=9.5									
O35A	Humboldt	23.62	5	P		P		11 41	21.8	-1.3
	baz=186,SNR=8.9									
Q44A	Meyer Farm, Va	23.63	19	P		P		11 41	21.8	-1.5
	baz=203,SNR=8.3									
LDFC	Landfair	23.64	324	eP		P		11 41	26.5	+2.9
	comp=Z,36nm,1.0s									
SMCO	Snowmass	23.65	343	eP		P		11 41	26.1	+2.2
	comp=Z,49nm,1.1s									
PV09	Paradox Valley	23.70	339	eP		P		11 41	25.4	+1.1
O37A	Wolven Farm, M	23.71	8	P		P		11 41	22.6	-1.5
	baz=190,SNR=7.2									
GMRC	Granite Mounta	23.75	323	P		P		11 41	26.3	+1.7
	baz=136									
O38A	Galt	23.77	9	P		P		11 41	22.9	-1.7
	baz=192,SNR=13									
OLIL	Olney	23.77	20	eP		P		11 41	24.4	-0.2
	comp=Z,75nm,1.2s									
TZTN	Tazewell	23.79	31	P		P		11 41	24.2	-0.7
	baz=217									
TZTN	Tazewell	23.79	31	eP		P		11 41	25.4	+0.6
	comp=Z,195nm,1.5s									
P41A	Barry, Barry	23.81	14	P		P		11 41	23.8	-1.2
	baz=198,SNR=14									
MURC	Murrieta	23.88	318	P		P		11 41	27.6	+1.8
	baz=131									
ISCO	Idaho Springs	23.89	346	P		P		11 41	27.1	+0.9
	baz=163									
ISCO	Idaho Springs	23.89	346	eP		P		11 41	27.8	+1.6
ISCO				pmax		pmax				
	comp=Z,42nm,0.9s									
ISCO	Idaho Springs	23.89	346	eP		P		11 41	27.8	+1.6
	comp=Z,42nm,0.9s									
P42A	Winchester	23.90	16	P		P		11 41	24.7	-1.1
	baz=199,SNR=27									
Q45A	Warren Harvey,	23.90	20	P		P		11 41	25.5	-0.3
	baz=205,SNR=10.0									
KMSC	Kings Mountain	23.90	36	P		P		11 41	24.9	-1.1
	baz=224,SNR=28									
KMSC	Kings Mountain	23.90	36	eP		P		11 41	26.2	+0.3
	comp=Z,75nm,0.9s									
R47A	Wooly Knot Far	23.95	24	P		P		11 41	25.7	-0.6
	baz=209,SNR=34									
KNB	Kanab	23.95	331	eP		P		11 41	29.0	+2.4
KNB				pmax		pmax				
	comp=Z,56nm,1.1s									
KNB	Kanab	23.95	331	eP		P		11 41	29.0	+2.4
	comp=Z,56nm,1.1s									
WCI	Wyandotte Cave	23.98	24	P		P		11 41	26.4	-0.2
	baz=210									
WCI	Wyandotte Cave	23.98	24	eP		P		11 41	26.7	+0.1
WCI				pmax		pmax				
	comp=Z,93nm,0.9s									
WCI	Wyandotte Cave	23.98	24	eP		P		11 41	26.7	+0.1
	comp=Z,93nm,0.9s									
N33A	J Bar K, Exete	24.00	2	P		P		11 41	26.0	-0.9
	baz=182									
O39A	Kirksville	24.05	11	P		P		11 41	26.1	-1.2
	baz=194,SNR=20									
O40A	La Belle	24.05	12	P		P		11 41	25.8	-1.5
	baz=196,SNR=53									
PKCU	Pink Cliffs	24.06	332	eP		P		11 41	31.8	+4.0
	comp=Z,40nm,1.1s									
BBRC	Big Bear Solar	24.14	320	P		P		11 41	29.7	+1.2
	baz=132									
LCMT	Little Creek M	24.15	330	eP		P		11 41	30.5	+2.1
	comp=Z,26nm,1.4s									
N34A	Lincoln	24.15	4	P		P		11 41	27.6	-0.6
	baz=185,SNR=10									
P43A	Skaggs, Pawnee	24.17	17	P		P		11 41	27.3	-1.1
	baz=201									
HEC	Hector,Ludlow	24.18	322	P		P		11 41	30.5	+1.9
	baz=134									
N35A	Tabor	24.23	5	P		P		11 41	28.5	-0.5
	baz=187,SNR=9.5									
N36A	Muff Farm, Cla	24.25	6	P		P		11 41	28.5	-0.7
	baz=188,SNR=9.4									
O41A	Passleys Farm,	24.27	14	P		P		11 41	28.4	-0.9
	baz=198,SNR=31									
P44A	Sand Creek, Wi	24.27	19	P		P		11 41	28.7	-0.6
	baz=203,SNR=8.9									
N37A	Lee Faris, Mou	24.28	8	P		P		11 41	28.3	-1.1
	baz=190									
Q46A	CEJHS Indians,	24.29	21	P		P		11 41	28.4	-1.0
	baz=206									
R48A	Northridge Ran	24.29	24	P		P		11 41	28.4	-1.1
	baz=210,SNR=7.3									
TUQ	Turquoise Moun	24.36	323	P		P		11 41	32.5	+2.1
	baz=136									
SCI2	San Clemente I	24.38	315	P		P		11 41	31.4	+1.0
	baz=128									
OGNE	Ogallala	24.40	353	P		P		11 41	30.9	+0.3
	baz=172									
OGNE	Ogallala	24.40	353	eP		P		11 41	32.1	+1.5
	comp=Z,98nm,0.8s									
N38A	Joes South For	24.46	10	P		P		11 41	30.6	-0.5
	baz=192,SNR=31									
MTPU	Mount Pierson	24.50	333	eP		P		11 41	34.4	+2.5
	comp=Z,90nm,0.8s									
O42A	Bath	24.54	15	P		P		11 41	30.1	-1.6
	baz=200									
SZCU	Shurtz Canyon	24.54	331	eP		P		11 41	34.9	+2.7
	comp=Z,59nm,1.6s									
Q47A	Bedord North L	24.54	23	P		P		11 41	30.9	-0.9
	baz=209,SNR=7.3									
CIS	Catalina Islan	24.55	316	P		P		11 41	32.0	+0.1
	baz=128									
BFSC	Mount Baldy Ra	24.59	319	P		P		11 41	32.6	+0.2
	baz=131									
RRX	Edison Barstow	24.60	321	P		P		11 41	34.4	+2.0
	baz=133									
P45A	Graceland, Par	24.61	20	P		P		11 41	31.4	-1.0
	baz=205,SNR=6.6									
CCUT	Cedar City	24.63	331	eP		P		11 41	29.4	-3.5
	comp=Z,14nm,1.1s									
BGNE	Belgrade	24.66	0	P		P		11 41	32.3	-0.6
	baz=181									
BGNE	Belgrade	24.66	0	eP		P		11 41	32.8	-0.2
	comp=Z,80nm,0.9s									
N39A	Derby Farms, D	24.66	11	P		P		11 41	32.4	-0.5
	baz=194,SNR=42									
HELC	Santa Helena	24.69	112	eP		P		11 41	36.0	+2.1
	comp=Z,20nm,1.0s									
HELC	Santa Helena	24.69	112	eP		P		11 41	35.6	+1.7
BLO	Bloomington	24.72	23	eP		P		11 41	33.6	+0.2
BLO	Bloomington	24.72	23	eP		P		11 41	33.6	+0.2
SHPR	Sheep Range	24.73	326	eP		P		11 41	35.9	+2.2
	comp=Z,23nm,1.2s									
SRU	San Rafael Swe	24.75	337	eP		P		11 41	35.5	+1.6
SRU				pmax		pmax				
	comp=Z,41nm,1.0s									
SRU	San Rafael Swe	24.75	337	eP		P		11 41	35.5	+1.6
	comp=Z,41nm,1.0s									
GSC	Goldstone, Bar	24.78	322	P		P		11 41	34.6	+0.5
	baz=134									
GSC	Goldstone, Bar	24.78	322	eP		P		11 41	36.6	+2.4
GSC				pmax		pmax				
	comp=Z,23nm,1.2s									
GSC	Goldstone, Bar	24.78	322	eP		P		11 41	36.6	+2.4
	comp=Z,23nm,1.2s									
M34A	Aspy Farms, Fr	24.80	3	P		P		11 41	34.3	+0.2
	baz=184									
M35A	Neola	24.83	5	P		P		11 41	34.2	-0.2
	baz=186,SNR=12									
O43A	Sugar Creek Fa	24.83	17	P		P		11 41	33.3	-1.1
	baz=201									
MWC	Mount Wilson	24.83	318	eP		P		11 41	37.2	+2.5
MWC				pmax		pmax				
	comp=Z,27nm,1.2s									
MWC	Mount Wilson	24.83	318	eP		P		11 41	37.2	+2.5
	comp=Z,27nm,1.2s									
N41A	Harden Midland	24.84	14	P		P		11 41	33.2	-1.3
	baz=198									
M33A	Taylor Creek F	24.85	2	P		P		11 41	33.3	-1.2
	baz=183									
N40A	Mertquake, Sal	24.85	12	P		P		11 41	33.3	-1.2
	baz=196									
P46A	Rosedale	24.87	21	P		P		11 41	33.8	-1.0
	baz=206									
MSU	Marysvale	24.89	334	eP		P		11 41	37.5	+2.2
MSU	Marysvale	24.89	334	eP		P		11 41	37.5	+2.2
O20A	White River Ci	24.90	342	P		P		11 41	35.9	+0.7
	baz=158,SNR=25									
O20A	White River Ci	24.90	342	eP		P		11 41	37.5	+2.3
	comp=Z,43nm,1.0s									
M36A	Felix, Anita	24.90	6	P		P		11 41	34.6	-0.5
	baz=188,SNR=7.3									
M37A	Trindle Farm,	24.94	8	P		P		11 41	35.3	-0.1
	baz=190,SNR=28									
O44A	Mansfield	24.95	18	P		P		11 41	33.5	-2.0
	baz=203									
N23A	Red Feather La	25.01	346	P		P		11 41	36.1	-0.2
	baz=163,SNR=23									
N23A	Red Feather La	25.01	346	eP		P		11 41	38.2	+1.9
	comp=Z,25nm,0.9s									
YOTC	Yotoco, Valle	25.06	118	eP		P		11 41	38.8	+2.0
M38A	Pleasantville	25.07	9	P		P		11 41	36.1	-0.5
	baz=192,SNR=41									
HDIL	Hopedale	25.09	17	P		P		11 41	35.9	-0.8
	baz=201									
HDIL	Hopedale	25.09	17	eP		P		11 41	37.7	+1.0
	comp=Z,105nm,1.2s									
P47A	Martinsville	25.09	23	P		P		11 41	36.0	-0.7
	baz=208									
P18A	Preston Nutter	25.10	338	eP		P		11 41	39.1	+1.9
	comp=Z,51nm,1.0s									
P17A	Butcher Ranch,	25.14	337	eP		P		11 41	39.4	+1.9
	comp=Z,26nm,1.0s									
N42A	Yates City	25.15	15	P		P		11 41	36.5	-0.7
	baz=199,SNR=8.3									
TMUT	Trail Mountain	25.17	336	eP		P		11 41	39.9	+2.1
	comp=Z,47nm,1.3s									
EDW2	Edwards Air Fo	25.22	320	P		P		11 41	39.5	+1.4
	baz=132									
L32A	Elgin	25.26	1	P		P		11 41	38.0	-0.3
	baz=181									
O45A	Potomac	25.27	19	P		P		11 41	38.0	-0.3
	baz=205									
L34A	Svendsen Farm,	25.28	4	P		P		11 41	37.5	-0.9
	baz=185,SNR=9.7									
PHWY	Pilot Hill	25.30	348	eP		P		11 41	40.6	+1.6
	comp=Z,19nm,0.8s									
M39A	Webster	25.31	11	P		P		11 41	37.5	-1.1
	baz=194,SNR=13									
M40A	Post Highland	25.36	12	P		P		11 41	37.7	-1.5
	baz=196,SNR=8.0									
BLG	Laguna Peak, P	25.41	317	P		P		11 41	41.5	+1.8
	baz=128									
LRMC	Laurel Mtn Rad	25.43	321	P		P		11 41	41.9	+1.9
	baz=133									
L33A	Hoskins	25.43	2	P		P		11 41	39.3	-0.6
	baz=183									
RREF	El Recreo	25.45	115	eP		P		11 41	44.0	+3.0
NCAT	North Carolina	25.46	37	eP		P		11 41	40.4	+0.2
	comp=Z,172nm,1.4s									
N43A	Stutzman Famil	25.48	16	P		P		11 41	39.5	-0.8
	baz=201									
L35A	Bielow Farm, R	25.48	5	P		P		11 41	39.8	-0.5
	baz=187,SNR=10									
PTBC	PUERTO BERRIO,	25.50	110	eP		P		11 41	42.8	+2.1
M41A	Milan	25.54	14	P		P		11 41	40.2	-0.7
	baz=198,SNR=6.2									
SCIA	State Center	25.55	9	P		P		11 41	40.4	-0.5
	baz=192									
SCIA	State Center	25.55	9	eP		P		11 41	41.3	+0.4
	comp=Z,90nm,0.8s									
L36A	Harm Buss Farm	25.55	6	P		P		11 41	40.4	-0.6
	baz=188,SNR=16									
OTAV	Otavalo	25.56	128	P		P		11 41	45.3	+3.5
OTAV				pmax		pmax				
	comp=Z,7.0nm,1.3s									
OTAV	Otavalo	25.56	128	eP		P		11 41	44.2	+2.4
NORC	Norcasia	25.56	113	eP		P		11 41	52.7	+11
SFIN	Lafayette	25.59	20	P		P		11 41	40.9	-0.4
	baz=206,SNR=9.0									
SFIN	Lafayette	25.59	20	eP		P		11 41	41.7	+0.4
	comp=Z,40nm,0.9s									
FURC	Furnace Creek,	25.63	324	P		P		11 41	43.1	+1.5
	baz=136									
N44A	Piper City	25.64	18	P		P		11 41	41.3	-0.4
	baz=203,SNR=6.1									
L37A	Phoenix Point,	25.69	8	P		P		11 41	41.7	-0.5
	baz=190,SNR=17									
MPMC	Manual Prospec	25.70	322	P		P		11 41	43.6	+0.9
	baz=134									
SCZ2	Santa Cruz Isl	25.72	316	P		P		11 41	42.1	-0.5
	baz=127									
O47A	Sheridan	25.78	22	P		P		11 41	42.2	-0.8
	baz=208,SNR=10									
M42A	Sheffield	25.81	15	P		P		11 41	42.2	-1.0
	baz=199									
L38A	Oak Wood Farm,	25.82	9	P		P		11 41	42.8	-0.5
	baz=192,SNR=25									
SOTA	Rioblanco	25.85	122	eP		P		11 41	47.1	+2.7
K31A	O'Neill	25.88	359	P		P		11 41	43.1	-0.8
	baz=179									
N45A	Kentland	25.88	19	P		P		11 41	43.0	-0.9
	baz=204									
K33A	Hardington	25.88	2	P		P		11 41	42.5	-1.5
	baz=183									
ARVC	Arvin	25.90	319	P		P		11 41	44.0	-0.2
	baz=130									
K32A	Verdigre	25.91	1	P		P		11 41	43.1	-1.1
	baz=181									
BLA	Blacksburg	25.91	34	P		P		11 41	43.1	-1.2
	baz=222									
BLA	Blacksburg	25.91	34	eP		P		11 41	44.1	-0.2
BLA				pmax		pmax				
	comp=Z,66nm,1.0s									
BLA	Blacksburg	25.91	34	eP		P		11 41	44.1	-0.2
	comp=Z,66nm,1.0s									
SDDR	Presa de Saban	25.91	81	eP		P		11 41	46.7	+2.2
	comp=Z,73nm,1.1s									
DAC	Darwin (Calif)	25.92	323	eP		P		11 41	46.2	+1.6
DAC				pmax		pmax				
	comp=Z,20nm,1.1s									
DAC	Darwin (Calif)	25.92	323	eP		P		11 41	46.2	+1.6
	comp=Z,20nm,1.1s									
MPU	Maple Canyon	25.95	336	eP		P		11 41	46.8	+2.0
	comp=Z,14nm,0.8s									
L39A	Vinton	25.96	11	P		P		11 41	43.5	-1.1
	baz=194,SNR=25									
MARP	Paez Belalcaza	26.00	119	eP		P		11 41	47.5	+1.9
M43A	Waltham Townsh	26.00	16	P		P		11 41	43.5	-1.4
	baz=201,SNR=6.7									
K34A	Le Mars	26.01	4	P		P		11 41	44.7	-0.4
	baz=185									
ISA	Isabella, Lake	26.03	320	P		P		11 41	45.9	+0.5
	baz=132									
ISA	Isabella, Lake	26.03	320	eP		P		11 41	48.0	+2.6
ISA				pmax		pmax				
	comp=Z,19nm,1.1s									
ISA	Isabella, Lake	26.03	320	eP		P		11 41	48.0	+2.6
	comp=Z,19nm,1.1s									
L40A	Anamosa	26.05	12	P		P		11 41	43.7	-1.8
	baz=196,SNR=15									
NLU	North Lily Min	26.07	336	eP		P		11 41	48.3	+2.4
	comp=Z,27nm,1.0s									
K36A	Gilmore City	26.11	7	P		P		11 41	45.2	-0.7
	baz=189									
K35A	Storm Lake	26.11	5	P		P		11 41	45.3	-0.7
	baz=187									
N46A	Monticello	26.17	20	P		P		11 41	45.6	-0.9
	baz=206									
VWCC	Virginia Weste	26.18	35	eP		P		11 41	48.0	+1.3
M44A	Midewin, Midew	26.21	18	P		P		11 41	46.1	-0.8
	baz=203,SNR=13									
L41A	Preston	26.22	13	P		P		11 41	45.6	-1.3
	baz=197,SNR=11									
GRAC	Grapevine Rang	26.29	324	P		P		11 41	49.1	+1.3
	baz=136									
CWC	Cottonwood Cre	26.31	322	P		P		11 41	49.4	+1.2
	baz=134									
K37A	Belmond	26.34	8	P		P		11 41	46.9	-1.2
	baz=190,SNR=26									
K38A	Parkersburg	26.34	9	P		P		11 41	47.1	-0.9
	baz=192,SNR=10									
R11A	Troy Canyon, C	26.34	328	P		P		11 41	50.0	+1.6
	baz=141,SNR=15									
L42A	Oliver, Polo	26.35	15	P		P		11 41	47.3	-0.8
	baz=199,SNR=23									
PKM	Mcpherson Peak	26.38	318	P		P		11 41	50.3	+1.6
	baz=129									
JLU	Jordanelle	26.39	337	eP		P		11 41	50.8	+2.0
	comp=Z,18nm,1.3s									
PRAC	Prado	26.44	117	eP		P		11 41	55.4	+6.1
	comp=Z,14nm,1.0s									
PRAC	Prado	26.44	117	eP		P		11 42	02.2	+13
M45A	Boilermakers S	26.45	19	P		P		11 41	48.8	-0.3
	baz=205									
CTAU	Tausa, Cundina	26.46	113	eP		P		11 41	49.4	-0.6
VES	Vestal, Richgr	26.52	320	P		P		11 41	51.0	+1.2
	baz=131									
J31A	Geddes	26.54	359	P		P		11 41	49.8	-0.1
	baz=180,SNR=12									
K39A	Oelwein	26.55	11	P		P		11 41	49.1	-0.9
	baz=194,SNR=28									
DUG	Dugway, Tooele	26.57	335	P		P		11 41	52.3	+1.9
	baz=148									
DUG	Dugway, Tooele	26.57	335	eP		P		11 41	52.4	+2.0
DUG				pmax		pmax				
	comp=Z,21nm,1.0s									
DUG	Dugway, Tooele	26.57	335	eP		P		11 41	52.4	+2.0
	comp=Z,21nm,1.0s									
CTU	Camp Tracy	26.59	337	eP		P		11 41	52.5	+1.9
	comp=Z,9.8nm,0.9s									
J33A	Davis	26.60	2	P		P		11 41	50.4	0.0
	baz=183									
J34A	George	26.62	4	P		P		11 41	50.1	-0.5
	baz=185,SNR=5.4									
BARC	Barichara	26.63	109	eP		P		11 41	53.1	+1.9
J32A	Parkston	26.63	1	P		P		11 41	50.1	-0.5
	baz=181,SNR=6.9									
K40A	Colesburg	26.68	12	P		P		11 41	50.3	-0.9
	baz=196,SNR=11									
L43A	Garden Prairie	26.75	16	P		P		11 41	51.0	-0.8
	baz=201,SNR=6.6									
J35A	Milford	26.75	5	P		P		11 41	50.6	-1.3
	baz=187									
SMMC	Simmler	26.76	318	P		P		11 41	53.4	+1.4
	baz=129									
M46A	Old House Fiel	26.76	20	P		P		11 41	51.0	-0.9
	baz=206									
PAMC	Pamplona, Colo	26.77	107	eP		P		11 41	54.3	+1.5
K41A	Shullsburg	26.77	13	P		P		11 41	51.0	-0.9
	baz=198,SNR=6.5									
J36A	Seneca 1, Swea	26.80	7	P		P		11 41	51.1	-1.1
	baz=189,SNR=29									
K22A	Casper	26.82	347	P		P		11 41	53.6	+1.0
	baz=163,SNR=21									
K22A	Casper	26.82	347	eP		P		11 41	54.2	+1.6
	comp=Z,46nm,0.9s									
TIN	Tinemaha, Big	26.82	323	P		P		11 41	54.2	+1.6
	baz=134									
TCUT	Toone Canyon	26.83	338	eP		P		11 41	55.2	+2.4
	comp=Z,164nm,1.7s									
J37A	Redenius Farm,	26.88	8	P		P		11 41	51.9	-1.0
	baz=190,SNR=16									
RCTC	Rector, Farmer	26.92	321	P		P		11 41	54.6	+1.2
	baz=132									
L44A	Lake County Fo	26.98	17	P		P		11 41	53.3	-0.5
	baz=203									
CHIC	Chinigaza	27.00	114	eP		P		11 42	00.1	+5.4
RUSC	La Rusia	27.01	110	eP		P		11 41	56.7	+1.8
	comp=Z,15nm,1.1s									
RUSC	La Rusia	27.01	110	eP		P		11 41	56.4	+1.5
ECSD	EROS Data Cent	27.03	3	P		P		11 41	54.2	0.0
	baz=184									
ECSD	EROS Data Cent	27.03	3	eP		P		11 41	54.3	0.0
	comp=Z,35nm,1.0s									
ACSO	Alum Creek Sta	27.04	27	P		P		11 41	52.9	-1.4
	baz=214									
ACSO	Alum Creek Sta	27.04	27	eP		P		11 41	54.1	-0.3
	comp=Z,75nm,0.9s									
J38A	Wedel Dairy, R	27.05	10	P		P		11 41	53.1	-1.4
	baz=193,SNR=23									
JFWS	Jewell Farm	27.08	13	P		P		11 41	53.5	-1.2
	baz=197									
JFWS	Jewell Farm	27.08	13	eP		P		11 41	54.6	-0.1
JFWS				pmax		pmax				
	comp=Z,28nm,0.8s									
JFWS	Jewell Farm	27.08	13	eP		P		11 41	54.6	-0.1
	comp=Z,28nm,0.8s									
K42A	Prairie Point,	27.16	15	P		P		11 41	54.3	-1.1
	baz=199,SNR=9.1									
J39A	Decorah	27.19	11	P		P		11 41	54.2	-1.5
	baz=194,SNR=9.7									
I35A	Creekview Farm	27.26	5	P		P		11 41	55.1	-1.3
	baz=187									
I31A	Royce, Wessing	27.28	360	P		P		11 41	55.5	-1.1
	baz=180									
BGU	Big Grassy Mou	27.28	335	eP		P		11 41	58.9	+2.2
	comp=Z,33nm,1.5s									
I32A	Karley and Nic	27.29	1	P		P		11 41	56.0	-0.6
	baz=182									
HWUT	Hardware Ranch	27.32	338	eP		P		11 41	57.9	+0.8
	comp=Z,74nm,1.9s									
K43A	Burlington	27.35	16	P		P		11 41	56.9	-0.2
	baz=201,SNR=9.2									
I34A	Hadley	27.38	4	P		P		11 41	56.2	-1.2
	baz=186									
SPUT	South Promonto	27.38	337	eP		P		11 42	00.2	+2.5
	comp=Z,12nm,1.0s									
J40A	Soldiers Grove	27.43	12	P		P		11 41	57.

HVU Hansel Valley 27.91 337 *e*P P 11 42 04.5 +2.1
HVU pmax pmax
comp=Z,19nm,1.0s
HVU Hansel Valley 27.91 337 *e*P P 11 42 04.5 +2.1
comp=Z,19nm,1.0s
I40A Norwalk 27.93 12 P P 11 42 02.3 -0.1
baz=196
J43A Natural Harves 27.95 16 P P 11 42 02.0 -0.6
baz=201,SNR=6.6
H33A Prehn Over Nor 27.97 3 P P 11 42 02.1 -0.6
baz=184
CVRD Centerville Ro 27.98 36 *e*P P 11 42 05.1 +2.3
comp=Z,10nm,0.7s
H34A Spellman Lake, 28.00 4 P P 11 42 02.1 -0.9
baz=186
MCWV Mont Chateau 28.04 32 P P 11 42 01.8 -1.6
baz=220
MCWV Mont Chateau 28.04 32 *e*P P 11 42 04.0 +0.6
comp=Z,122nm,1.5s
H36A Jessenland, He 28.08 7 P P 11 42 02.9 -0.8
baz=189,SNR=7.6
RYN Ryan 28.10 325 *e*P P 11 42 06.7 +2.6
comp=Z,18nm,1.3s
H35A Sunnyside Ranc 28.11 5 P P 11 42 03.3 -0.7
baz=187
SDV Santo Domingo 28.14 102 P P 11 42 06.0 +1.2
comp=Z,15nm,0.8s,baz=298,slow=3.4,SNR=19
SDV LR LR 11 54 50.6
comp=Z,171nm,20.4s,baz=45,slow=40
SDV Santo Domingo 28.14 102 *e*P P 11 42 06.3 +1.5
comp=Z,34nm,0.9s
SDV Santo Domingo 28.14 102 *e*P P 11 42 06.5 +1.8
AHID Auburn Hatcher 28.18 340 *e*P P 11 42 06.3 +1.5
comp=Z,57nm,1.6s
H37A Dierke Farm, C 28.21 8 P P 11 42 03.9 -1.0
baz=191,SNR=6.1
I41A Arkdale 28.25 13 P P 11 42 04.3 -0.9
baz=196
I42A Draeger Farm, 28.31 15 P P 11 42 05.5 -0.3
baz=200,SNR=11
H38A Maiden Rock 28.40 9 P P 11 42 05.9 -0.6
baz=192,SNR=11
G33A Ortonville 28.49 3 P P 11 42 06.5 -0.8
baz=184,SNR=7.5
I43A Langenfeld Bro 28.50 16 P P 11 42 06.7 -0.7
baz=201,SNR=7.8
G32A Webster 28.52 1 P P 11 42 06.9 -0.7
baz=182,SNR=8.1
WAKR Walker 28.52 324 *e*P P 11 42 10.9 +3.0
comp=Z,8.2nm,1.1s
H39A Augusta 28.57 11 P P 11 42 07.3 -0.7
baz=194,SNR=8.2
G34A Benson 28.59 4 P P 11 42 06.7 -1.5
baz=186
REDW Red Top Meadow 28.64 341 *e*P P 11 42 10.4 +1.4
comp=Z,61nm,1.5s
H40A Chili 28.68 12 P P 11 42 08.3 -0.7
baz=196,SNR=15
SNOW Snow King Moun 28.70 341 *e*P P 11 42 11.6 +2.1
comp=Z,42nm,1.0s
YERR Yerington 28.74 325 *e*P P 11 42 12.6 +2.7
comp=Z,8.6nm,1.0s
CMB Columbia Colle 28.75 322 *e*P P 11 42 11.7 +1.9
CMB pmax pmax
comp=Z,10.0nm,1.3s
CMB Columbia Colle 28.75 322 *e*P P 11 42 11.7 +1.9
comp=Z,10.0nm,1.3s
BMN Battle Mountai 28.75 329 *e*P P 11 42 12.3 +2.4
BMN pmax pmax
comp=Z,7.0nm,1.0s
BMN Battle Mountai 28.75 329 *e*P P 11 42 12.3 +2.4
comp=Z,6.5nm,1.0s
TPAW Teton Pass 28.79 341 *e*P P 11 42 11.6 +1.3
comp=Z,41nm,1.1s
LOHW Long Hollow 28.79 341 *e*P P 11 42 12.2 +1.9
comp=Z,115nm,1.8s
H41A Junction City 28.83 13 P P 11 42 09.9 -0.5
baz=198,SNR=8.2
SPMN Marine on St. 28.86 8 P P 11 42 09.9 -0.7
baz=191,SNR=11
SPMN Marine on St. 28.86 8 *e*P P 11 42 10.4 -0.2
comp=Z,35nm,0.7s
FXWY Fox Creek 28.95 341 *e*P P 11 42 13.0 +1.4
comp=Z,13nm,1.0s
G38A Ridgeland 28.95 10 P P 11 42 10.5 -0.9
baz=193,SNR=7.6
MOOW Moose Ponds 28.96 341 *e*P P 11 42 13.4 +1.6
comp=Z,61nm,1.8s
N54A Moraine State 28.98 30 P P 11 42 11.3 -0.4
baz=219
N54A Moraine State 28.98 30 *e*P P 11 42 11.8 +0.1
comp=Z,28nm,1.2s
H42A Shiocton 28.98 15 P P 11 42 12.2 +0.5
baz=200
F31A Hecla 29.11 0 P P 11 42 12.3 -0.5
baz=180
H43A Windswept, Lux 29.14 16 P P 11 42 12.9 -0.2
baz=201
F33A 5 Mile Ranch, 29.14 3 P P 11 42 12.8 -0.3
baz=184
O56A Blue Knob Stat 29.15 32 P P 11 42 13.0 -0.3
baz=222
O56A Blue Knob Stat 29.15 32 *e*P P 11 42 13.6 +0.3
comp=Z,33nm,1.4s
IMW Indian Meadow 29.15 341 *e*P P 11 42 15.3 +1.7
comp=Z,66nm,1.8s
G39A Holcombe 29.18 11 P P 11 42 13.0 -0.4
baz=194,SNR=16
VCNR Virginia City 29.19 325 *e*P P 11 42 16.9 +3.0
comp=Z,8.0nm,1.0s
F35A Swanville 29.28 5 P P 11 42 14.0 -0.4
baz=188
RUBR Rubicon Trail 29.30 324 *e*P P 11 42 18.2 +3.3
comp=Z,34nm,1.0s
G40A Rib Lake 29.34 12 P P 11 42 14.4 -0.5
baz=196,SNR=11
F37A Hinrichs Farm, 29.38 8 P P 11 42 15.3 +0.1
baz=192
F36A Milaca 29.40 7 P P 11 42 14.5 -0.8
baz=190,SNR=7.8
H17A Grant Village 29.49 342 P P 11 42 17.3 +0.8
baz=156
H17A Grant Village 29.49 342 *e*P P 11 42 19.8 +3.2
comp=Z,18nm,1.4s
G41A Antigo 29.50 13 P P 11 42 15.9 -0.4
baz=198
M54A Oil Creek Stat 29.55 29 P P 11 42 15.6 -1.2
baz=219,SNR=7.6
M54A Oil Creek Stat 29.55 29 *e*P P 11 42 16.6 -0.3
comp=Z,117nm,1.8s
G42A Mountain 29.70 14 P P 11 42 17.5 -0.5
baz=200,SNR=9.8
F38A Pierce - Schro 29.71 9 P P 11 42 17.7 -0.5
baz=193,SNR=7.5
SSPA Standing Stone 29.77 33 P P 11 42 18.8 +0.1
baz=222
SSPA Standing Stone 29.77 33 *e*P P 11 42 19.1 +0.3
comp=Z,26nm,1.0s
RLMT Red Lodge 29.80 344 P P 11 42 20.6 +1.3
baz=159
RLMT Red Lodge 29.80 344 *e*P P 11 42 20.9 +1.7
comp=Z,45nm,1.2s
E31A Nome 29.81 1 P P 11 42 18.8 -0.2
baz=181
E33A Westby DABS, E 29.82 3 P P 11 42 18.8 -0.3
baz=185
F39A Loretta 29.83 11 P P 11 42 19.0 -0.3
baz=195
YMR Madison River 29.86 342 *e*P P 11 42 22.2 +2.5
comp=Z,17nm,1.0s
ERPA Erie 29.89 28 P P 11 42 18.9 -0.9
baz=217
ERPA Erie 29.89 28 *e*P P 11 42 19.4 -0.3
comp=Z,23nm,0.8s
E34A Wadena 29.89 4 P P 11 42 19.1 -0.6
baz=186
G43A Wallace 29.90 15 P P 11 42 19.0 -0.8
baz=201,SNR=6.3
YHH Holmes Hill 29.93 342 *e*P P 11 42 22.8 +2.2
comp=Z,9.2nm,1.0s
BEKR Beckworth 29.98 325 *e*P P 11 42 23.7 +2.9
comp=Z,12nm,0.9s
F40A Park Falls 29.98 12 P P 11 42 19.8 -0.7
baz=196,SNR=26
E35A Pequot Lakes 29.99 6 P P 11 42 19.7 -0.9
baz=188
F41A Three Lakes 30.02 13 P P 11 42 19.7 -1.2
baz=198

HLID Hailey 30.06 336 P P 11 42 22.5 +1.0
baz=148
HLID Hailey 30.06 336 *e*P P 11 42 23.6 +2.0
comp=Z,26nm,1.6s
E36A McGregor 30.07 7 P P 11 42 21.0 -0.4
baz=190
F42A Maple Grove Fa 30.26 14 P P 11 42 22.3 -0.7
baz=200
E39A Mellen 30.34 11 P P 11 42 23.5 -0.3
baz=195,SNR=18
COWI Conover 30.35 13 *e*P P 11 42 23.5 -0.3
comp=Z,16nm,0.8s
GLMI Grayling 30.38 20 P P 11 42 23.5 -0.6
baz=207
GLMI Grayling 30.38 20 *e*P P 11 42 24.8 +0.7
comp=Z,56nm,0.8s
E38A The Farm, Brul 30.39 9 P P 11 42 23.4 -0.8
baz=193,SNR=6.0
ORV Oroville 30.41 323 *e*P P 11 42 27.3 +2.9
ORV pmax pmax
comp=Z,13nm,1.2s
ORV Oroville 30.41 323 *e*P P 11 42 27.3 +2.9
comp=Z,12nm,1.2s
D34A Park Rapids 30.45 4 P P 11 42 23.8 -0.9
baz=186
MFID Camas Ranch 30.50 335 *e*P P 11 42 27.5 +2.1
comp=Z,27nm,1.4s
E40A Wakefield 30.53 12 P P 11 42 24.4 -1.0
baz=196,SNR=22
GCMT Greycliff 30.53 344 *e*P P 11 42 27.0 +1.4
D35A Remer 30.55 6 P P 11 42 24.6 -0.9
baz=188,SNR=7.2
F43A Flat Rock, Esc 30.56 16 P P 11 42 25.0 -0.7
baz=202
LAO LASA Array 30.64 349 P P 11 42 26.7 +0.3
baz=166
LAO LASA Array 30.64 349 *e*P P 11 42 27.5 +1.1
comp=Z,45nm,1.3s
D36A Goodland 30.73 7 P P 11 42 25.8 -1.4
baz=190,SNR=11
E41A Kenton 30.74 13 P P 11 42 26.9 -0.3
baz=198
SJG San Juan 30.80 82 *e*P P 11 42 28.3 +0.2
SJG pmax pmax
comp=Z,22nm,0.8s
SJG San Juan 30.80 82 *e*P P 11 42 28.3 +0.2
comp=Z,22nm,0.8s
D37A Cotton 30.81 8 P P 11 42 27.0 -0.9
baz=191,SNR=10
ATAH Atahualpa 30.84 139 P P 11 42 30.2 +1.3
comp=Z,3.2nm,0.5s,baz=280,slow=11,SNR=2.5
F45A CMU Biological 30.88 18 P P 11 42 27.6 -0.9
baz=205,SNR=5.1
F44A Big Bay de Noc 30.89 16 P P 11 42 27.9 -0.7
baz=203,SNR=9.6
BOZ Bozeman (W) 30.90 342 P P 11 42 28.5 -0.4
baz=155
BOZ Bozeman (W) 30.90 342 *e*P P 11 42 31.8 +3.0
BOZ pmax pmax
comp=Z,22nm,1.3s
BOZ Bozeman (W) 30.90 342 *e*P P 11 42 31.8 +3.0
comp=Z,22nm,1.3s
E42A Champion 30.94 14 P P 11 42 28.6 -0.4
baz=200,SNR=8.8
WVOR Wild Horse Val 30.97 330 *e*P P 11 42 25.9 -3.6
WVOR *e**PP pP 11 42 31.5 -1.1
WVOR Wild Horse Val 30.97 330 *e*P P 11 42 25.9 -3.6
WVOR *e*pP pP 11 42 31.5 -1.1
DLMT Dillon 30.99 340 *e*P P 11 42 31.7 +2.0
comp=Z,27nm,0.8s
C34A RKJ Ranch, Bem 31.04 5 P P 11 42 28.9 -0.9
baz=187
C31A Landman Farms, 31.05 1 P P 11 42 30.0 0.0
baz=181
N59A State Game Lan 31.09 34 P P 11 42 28.4 -2.0
baz=226
E43A Lone Tree Farm 31.11 15 P P 11 42 29.8 -0.7
baz=202,SNR=11
MDND Maddock 31.11 358 P P 11 42 30.4 -0.2
baz=178
MDND Maddock 31.11 358 *e*P P 11 42 30.7 +0.2
comp=Z,37nm,0.8s
C35A Jirik Farms, M 31.17 6 P P 11 42 30.2 -0.8
baz=188,SNR=7.0
F46A Macinaw City C 31.19 19 P P 11 42 31.0 -0.2
baz=205
MMNY Mt. Morris Dam 31.33 30 *e*P P 11 42 32.7 +0.2
comp=Z,70nm,1.5s
C36A Pine Crest Far 31.35 7 P P 11 42 32.0 -0.6
baz=190,SNR=13
LRM Limekiln Ridge 31.35 341 *e*P P 11 42 35.1 +2.1
MTP Monte Pirata 31.37 82 *e*P P 11 42 32.9 -0.2
comp=Z,43nm,1.0s
D41A Chassel 31.39 13 P P 11 42 32.6 -0.3
baz=198,SNR=17
MOD Modoc Plateau 31.40 328 *e*P P 11 42 35.4 +2.1
comp=Z,18nm,0.9s
C37A Embarrass 31.40 8 P P 11 42 32.6 -0.5
baz=192
C38A Sawbill Land. 31.52 9 P P 11 42 32.8 -1.3
baz=193,SNR=8.8
E45A Wooded Hills, 31.59 18 P P 11 42 34.2 -0.5
baz=205
BRNJ Basking Ridge 31.59 36 *e*P P 11 42 35.5 +0.7
comp=Z,19nm,0.9s
J08A Circle Bar Ran 31.61 331 *e*P P 11 42 37.1 +2.0
comp=Z,36nm,0.9s
B33A Robert and Kas 31.61 4 P P 11 42 35.1 +0.2
baz=185
AGMN Agassiz Nation 31.62 3 P P 11 42 34.9 0.0
baz=185
AGMN Agassiz Nation 31.62 3 *e*P P 11 42 34.6 -0.3
comp=Z,22nm,0.8s
E44A Grand Marais A 31.62 17 P P 11 42 33.7 -1.3
baz=203
B31A Greenbush Farm 31.68 1 P P 11 42 35.3 -0.2
baz=182
B32A Ashes, Strandq 31.68 2 P P 11 42 35.1 -0.4
baz=184,SNR=15
EYMN Ely 31.71 9 P P 11 42 35.3 -0.5
baz=193
EYMN Ely 31.71 9 *e*P P 11 42 34.9 -1.0
comp=Z,15nm,0.8s
C39A Grand Marais 31.81 11 P P 11 42 35.8 -0.8
baz=195,SNR=15
B35A Bob, Littlefor 31.84 6 P P 11 42 36.0 -0.9
baz=189,SNR=13
B34A Aery, Baudette 31.89 5 P P 11 42 36.1 -1.2
baz=187
BINY Binghamton 31.89 32 P P 11 42 37.2 -0.3
baz=224
BINY Binghamton 31.89 32 *e*P P 11 42 37.3 -0.1
comp=Z,18nm,0.9s
HRY Holter Researc 31.97 342 *e*P P 11 42 34.9 -3.3
C40A Isle Royale Na 32.08 12 P P 11 42 36.6 -2.5
baz=197,SNR=11
M04C Macdoel 32.12 326 P P 11 42 39.1 -0.5
baz=135
PAL Palisades 32.18 36 P P 11 42 37.7 -2.3
baz=228
PAL Palisades 32.18 36 *e*P P 11 42 40.2 +0.2
PAL pmax pmax
comp=Z,18nm,0.8s
PAL Palisades 32.18 36 *e*P P 11 42 40.2 +0.2
comp=Z,18nm,0.8s
A32A Rocking H Ranc 32.21 2 P P 11 42 38.7 -1.4
baz=184
A33A Warroad 32.28 4 P P 11 42 40.3 -0.5
baz=186,SNR=7.0
BMO Blue Mountains 32.29 334 *e*P P 11 42 42.1 +1.1
BMO pmax pmax
comp=Z,14nm,1.2s
BMO Blue Mountains 32.29 334 *e*P P 11 42 42.1 +1.1
comp=Z,14nm,1.2s
M02C Callahan 32.41 324 P P 11 42 42.2 +0.1
baz=133
YBH Yreka Blue Hor 32.56 325 P P 11 42 43.5 +0.1
comp=Z,3.0nm,0.8s,baz=147,slow=8.0,SNR=5.7
YBH LR LR 11 58 06.6
comp=Z,344nm,20.1s,baz=156,slow=40
EGMT Eagleton 32.64 346 P P 11 42 44.0 0.0
baz=160
EGMT Eagleton 32.64 346 *e*P P 11 42 40.4 -3.6
comp=Z,105nm,1.7s
I07A Izee 32.64 331 *e*P P 11 42 46.1 +2.0
comp=Z,14nm,1.1s
MSO Missoula 32.72 340 P P 11 42 45.5 +0.7
baz=152

MSO Missoula 32.72 340 *e*P P 11 42 46.3 +1.5
comp=Z,70nm,1.9s
F10A Beach Ranch, E 33.18 336 *e*P P 11 42 50.3 +1.5
comp=Z,50nm,1.4s
G08A Pilot Rock 33.34 333 *e*P P 11 42 51.6 +1.4
comp=Z,17nm,0.9s
ULM Lac du Bonnet 33.56 3 P P 11 42 51.5 -0.5
comp=Z,3.4nm,0.5s,baz=186,slow=7.5,SNR=13
ULM LR LR 11 57 30.0
comp=Z,405nm,21.1s,baz=182,slow=38
ULM Lac du Bonnet 33.56 3 *e*P P 11 42 51.4 -0.5
ULM pmax pmax
comp=Z,9.0nm,0.9s
ULM Lac du Bonnet 33.56 3 *e*P P 11 42 51.4 -0.5
comp=Z,8.9nm,0.9s
JTMT Jette 33.64 341 *e*P P 11 42 54.8 +2.0
comp=Z,42nm,1.6s
I05D Terrebonne, OR 33.70 330 P P 11 42 53.1 -0.3
baz=138
QUA2 Belchertown 33.90 36 *e*P P 11 42 57.7 +2.7
comp=Z,10nm,0.8s
ACCN Adirondack Com 33.93 33 *e*P P 11 42 55.2 -0.1
comp=Z,21nm,1.4s
NCB Newcomb 34.05 32 *e*P P 11 42 56.2 -0.2
comp=Z,46nm,1.7s
I03D Drain, OR 34.25 327 P P 11 42 58.7 +0.7
baz=134
LONY Lake Ozonia 34.34 31 P P 11 42 57.5 -1.4
baz=223
LONY Lake Ozonia 34.34 31 *e*P P 11 42 58.7 -0.2
comp=Z,31nm,1.4s
G05D Wamic, OR 34.36 331 P P 11 42 59.4 +0.3
baz=139
H04A Detroit Lake 34.37 329 *e*P P 11 43 00.7 +1.6
comp=Z,45nm,1.0s
HRV Adam Dziewonsk 34.49 36 P P 11 42 59.2 -1.0
baz=230
WALA Waterton Lakes 34.69 342 *e*P P 11 43 03.6 +1.6
comp=Z,21nm,1.2s
FRNY Flat Rock 34.99 31 *e*P P 11 43 05.3 +0.8
comp=Z,32nm,1.6s
NEW Newport 35.05 338 P P 11 43 04.6 -0.4
baz=148
C09A Chrisman Ranch 35.09 337 *e*P P 11 43 06.9 +1.6
comp=Z,23nm,1.2s
TRQ Mont Tremblant 35.54 29 *e*P P 11 43 09.5 +0.3
LTY Liberty 35.62 334 *e*P P 11 43 11.8 +1.8
comp=Z,49nm,1.4s
LON Longmire 35.73 332 *e*P P 11 43 12.9 +2.1
LON pmax pmax
comp=Z,16nm,0.9s
LON Longmire 35.73 332 *e*P P 11 43 12.9 +2.1
comp=Z,16nm,0.9s
B08A Colville Reser 35.95 336 *e*P P 11 43 14.2 +1.4
comp=Z,31nm,1.5s
D05A Enumclaw 36.14 332 *e*P P 11 43 16.4 +2.1
comp=Z,46nm,0.9s
C06D Leavenworth 36.23 334 P P 11 43 16.8 +1.6
baz=142
PKME Peaks-Kenny Pk 37.52 34 P P 11 43 25.1 -0.9
baz=230
PKME Peaks-Kenny Pk 37.52 34 *e*P P 11 43 26.6 +0.5
comp=Z,13nm,0.8s
FFC Flin Flon 38.09 357 *e*P P 11 43 30.9 +0.2
FFC pmax pmax
comp=Z,35nm,0.8s
FFC Flin Flon 38.09 357 *e*P P 11 43 30.9 +0.2
comp=Z,35nm,0.8s
EDM Edmonton 38.32 346 *e*P P 11 43 33.7 +1.0
EDM pmax pmax
comp=Z,54nm,0.9s
EDM Edmonton 38.32 346 *e*P P 11 43 33.7 +1.0
comp=Z,54nm,0.9s
LLLB Lillooet 38.75 336 *e*P P 11 43 38.0 +1.6
comp=Z,21nm,0.9s
FCC Fort Churchill 42.16 3 *e*P P 11 44 04.7 +0.3
FCC Fort Churchill 42.16 3 *e*P P 11 44 04.7 +0.3
SAML Samuel 43.15 124 *e*P P 11 44 11.8 -1.3
comp=Z,3.7nm,0.8s
LPAZ La Paz 44.31 136 P P 11 44 23.0 -0.1
comp=Z,0.9nm,0.6s,baz=306,slow=8.7,SNR=3.1
RPN Rapa Nui 44.80 194 LR LR 11 58 38.2
comp=Z,197nm,20.4s,baz=51,slow=30
SCHQ Schefferville 45.18 25 P P 11 44 28.6 -0.3
comp=Z,22nm,1.0s,baz=223,slow=8.1,SNR=9.0
SCHQ LR LR 12 07 15.6
comp=Z,246nm,18.5s,baz=210,slow=41
SCHQ Schefferville 45.18 25 *e*P P 11 44 29.0 +0.1
YKA Yellowknife Ar 47.17 350 P P 11 44 44.6 +0.3
comp=Z,5.1nm,0.8s,baz=158,slow=7.3,SNR=81
YKA LR LR 12 05 59.1
comp=Z,37nm,19.4s,baz=180,slow=38
DLBC Dease Lake 47.80 338 *e*P P 11 44 52.5 +3.0
TAOE Nuku Hiva Isla 48.45 242 *e*LR LR 11 58 42.7
comp=Z,525nm,24.4s
TAOE Nuku Hiva Isla 48.45 242 *e*T T 12 36 05.8
comp=Z,26nm,0.2s
RKT Rikitea 53.31 223 *e*LR LR 12 01 10.3
comp=Z,546nm,25.8s
RKT Rikitea 53.31 223 *e*T T 12 42 14.6
comp=Z,19nm,0.3s
EGAK Eagle 56.01 339 *e*P P 11 45 51.3 +0.8
INK Inuvik 56.22 345 P P 11 45 52.3 +0.5
comp=Z,13nm,0.8s,baz=129,slow=8.3,SNR=60
INK LR LR 12 13 56.5
comp=Z,366nm,18.5s,baz=157,slow=40
INK Inuvik 56.22 345 *e*P P 11 45 52.7 +0.8
INK pmax pmax
comp=Z,19nm,0.8s
INK Inuvik 56.22 345 *e*P P 11 45 52.7 +0.8
comp=Z,19nm,0.8s
ILAR Eielson Array 58.01 338 P P 11 46 05.6 +1.0
comp=Z,9.3nm,1.0s,baz=139,slow=5.1,SNR=54
SPU Mount Spurr 58.36 333 *e*P P 11 46 08.5 +1.3
COLA College 58.41 338 *e*P P 11 46 08.3 +0.9
COLA College 58.41 338 *e*P P 11 46 08.3 +0.9
CPUP Villa Florida 58.49 136 P P 11 46 07.5 -1.0
comp=Z,3.0nm,0.8s,baz=315,slow=6.8,SNR=6.3
TRF Thorofare Moun 58.63 336 *e*P P 11 46 09.9 +0.6
comp=Z,24nm,0.8s
KTH Kantishna Hill 58.93 335 *e*P P 11 46 12.0 +0.8
comp=Z,8.1nm,0.9s
SFJD Kangerlussuaq 58.99 20 LR LR 12 16 25.5
comp=Z,139nm,18.0s,baz=234,slow=41
PPLA Purkeylie 59.15 335 *e*P P 11 46 13.4 +0.5
COLD Coldfoot 60.44 339 *e*P P 11 46 22.9 +1.5
comp=Z,6.3nm,1.0s
PPT Papeete 60.80 238 LR LR 12 05 17.6
comp=Z,172nm,21.9s,baz=34,slow=29
PPT2 Papeete2 60.81 238 *e*LR LR 12 04 12.7
comp=Z,378nm,25.2s,baz=49
TOLK Toolik Lake Re 60.96 341 P P 11 46 25.7 +0.6
baz=122,SNR=6.5
PLCA Paso Flores 62.69 156 P P 11 46 37.5 +0.4
comp=Z,3.9nm,0.8s,baz=338,slow=6.0,SNR=8.0
SUMG Summit 65.40 17 *i* P P 11 46 55.2 +0.4
SUMG pmax pmax
comp=Z,25nm,1.2s
SUMG Summit 65.40 17 *i* P P 11 46 55.2 +0.4
comp=Z,25nm,1.2s
BORG Borgarnes 69.55 27 LR LR 12 19 41.1
comp=Z,82nm,18.1s,baz=240,slow=38
DAG Danmarks Havn 71.54 14 *i* P P 11 47 32.2 -0.5
DAG pmax pmax
comp=Z,22nm,1.3s
DAG Danmarks Havn 71.54 14 *i* P P 11 47 32.2 -0.5
comp=Z,22nm,1.3s
BILL Bilibino 76.67 337 *i* P P 11 48 02.2 -0.6
BILL *i* 11 48 07.7
BILL pmax pmax
comp=Z,13nm,1.0s
SPITS Spitsbergen Ar 78.70 11 P P 11 48 14.3 +0.3
comp=Z,7.3nm,1.0s,baz=224,slow=4.7,SNR=4.4
EKA Eskdalemuir Ar 79.41 35 P P 11 48 18.0 -0.3
comp=Z,0.7nm,0.4s,baz=290,slow=5.0,SNR=4.0
EKA Eskdalemuir Ar 79.41 35 P P 11 48 18.0 -0.3
ESDC Sonseca Array 82.89 51 P P 11 48 37.1 -0.1
comp=Z,2.1nm,1.0s,baz=285,slow=5.7,SNR=6.2
SEY Seymchan 83.73 334 *e*P P 11 48 41.4 +0.4
KONO Kongsberg 84.55 29 *e*P P 11 48 46.1 +0.9
KONO pmax pmax
comp=Z,26nm,1.1s
NB2 NORSAR Subarra 84.71 27 P P 11 48 46.3 +0.3
comp=Z,1.3nm,0.8s,baz=295,slow=5.3
NOA NORSAR Array B 84.71 27 P P 11 48 47.0 +1.0
comp=Z,4.7nm,1.0s,baz=297,slow=4.9,SNR=5.0
PETK Petropavlovsk- 84.92 324 P P 11 48 47.6 +0.5

comp=Z,3.9nm,0.6s,baz=79,slow=8.7,SNR=3.5
DOU Dourbes 85.46 39 ⇓P **P 11 48 50.6 +0.6**
ARCES ARCESS Array B 85.49 17 P **P 11 48 48.3 -1.4**
comp=Z,8.7nm,1.1s,baz=298,slow=2.6,SNR=7.2
BCLA Clavier 85.77 39 ⇑P **P 11 48 51.1 -0.4**
MA2 Magadan 85.88 332⇑*e*P **P 11 48 53.3 +1.5**
MEM Membach 86.12 38 ⇑P **P 11 48 53.1 -0.1**
HFS Hagfors 86.20 28 P **P 11 48 53.3 -0.2**
comp=Z,2.2nm,0.8s,baz=266,slow=14,SNR=2.8
TIXI Tiksi 86.31 347⇑*e*P **P 11 48 53.1 -0.6**
TIXI pmax pmax
comp=Z,18nm,1.2s
TIXI Tiksi 86.31 347 *e*P **P 11 48 53.7 -0.1**
comp=Z,29nm,1.4s
CLL Collm 89.88 36 *e*P **P 11 49 10.0 -1.2**
CLL Collm 89.88 36 *e*P **P 11 49 12.0 +0.8**
CLL LmV 12 26 00.0
comp=Z,100nm,20.0s
BRG Berggiesshubel 90.60 36 *e*P **P 11 49 13.2 -1.4**
comp=Z,4.3nm,1.1s
BRG Berggiesshubel 90.60 36 *e*P **P 11 49 13.2 -1.4**
BRG pmax pmax
comp=Z,4.0nm,1.1s
FINES FINESS Array B 90.62 23 P **P 11 49 13.8 -0.6**
comp=Z,5.5nm,0.9s,baz=327,slow=3.2,SNR=10
DBIC Dimbokro 91.50 83 P **P 11 49 18.9 -0.6**
comp=Z,4.3nm,0.9s,baz=50,slow=6.8,SNR=3.1
KLNR Kaliningrad 92.03 31⇓*e*P **P 11 49 22.3 +1.3**
VSU Vasula 92.73 25⇓*e*P **P 11 49 26.1 +1.9**
VSU pmax pmax
comp=Z,21nm,1.1s
YAK Yakutsk 92.90 339 *e*P **P 11 49 25.9 +1.0**
YAK pmax pmax
comp=Z,8.0nm,0.8s
NKL Nikolayevsk 93.96 329 *e*P **P 11 49 30.9 +0.9**
TORD Torodi Ar. Bea 95.70 75 P **P 11 49 36.9 -1.9**
comp=Z,1.0nm,1.0s,baz=268,slow=5.8,SNR=3.9
KLMR Klimovskoe 95.73 19 *e*P **P 11 49 35.5 -2.5**
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 95.73 19 *e*P **P 11 49 35.5 -2.5**
KLMR AMP 11 49 37.7
comp=Z,12nm,1.2s
YSS Yuzh-Sakhalins 96.26 323 P P 11 49 51.8 +11
KIEV Kiev 98.75 31⇓*e*P **P 11 49 50.5 -1.3**
KIEV pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 98.76 31*c*e*P Pdif 11 49 52.5 +0.6
MAK Makhachkala 112.91 27 *i* PKIKP **PKiKP 11 54 47.2 -2.2**
MAK *e* 11 55 34.0
MAK pmax pmax
comp=Z,21nm,0.3s
HHC Hu-ho-hao-te 116.37 335 *e*PKP **PKPdf 11 54 50.9 -5.5**
MKAR Makanchi Array 116.84 359 PKP **PKPdf 11 54 55.0 -2.0**
comp=Z,0.2nm,0.6s,baz=9.2,slow=2.4,SNR=3.7
MKAR Makanchi Array 116.84 359 PKIKP **PKPdf 11 54 55.0 -2.0**
WMQ Urumqi 119.55 355 PKP **PKPdf 11 55 03.1 +0.7**
WMQ LR LR
comp=Z,250nm,22.3s
WMQ LR LR
comp=Z,280nm,18.3s
NJ2 Nanjing 119.82 324 *e*PKP **PKPdf 11 55 05.0 +1.9**
AAK Ala-Archa 120.64 6 PKP **PKPdf 11 55 04.1 -0.4**
comp=Z,0.5nm,0.5s,baz=251,slow=10,SNR=4.0
GEYT Ailbeck 121.39 22 PKP **PKPdf 11 55 05.3 -0.7**
comp=Z,1.3nm,0.5s,baz=264,slow=4.5,SNR=4.2
XAN Xi'an 123.25 333 PKP **PKPdf 11 55 08.9 -0.8**
LZH Lanzhou 123.47 338 *e*PKP **PKPdf 11 55 15.3 +5.1**
LZH LR LR
comp=Z,160nm,18.0s
LZH LR LR
comp=Z,160nm,17.9s
LZH LR LR
comp=Z,270nm,20.2s
ENH Enshi 126.15 330 *e*PKPdf **PKPdf 11 55 15.3 0.0**
CD2 Chengdu 128.12 336 PKP **PKPdf 11 55 19.0 -0.1**
WRA Warramunga Arr 129.98 258 PKP **PKPdf 11 55 21.8 -1.0**
comp=Z,3.3nm,1.1s,baz=85,slow=2.8,SNR=12
ASAR Alice Springs 130.62 253 PKP **PKPdf 11 55 23.9 0.0**
comp=Z,0.9nm,1.0s,baz=170,slow=3.7,SNR=4.9
ASAR Alice Springs 130.62 253 PKIKP **PKPdf 11 55 24.0 0.0**
GYA Guiyang 130.69 330 *e*Pdif **Pdif 11 52 15.0 +0.4**
GYA PKP **PKiKP 11 55 25.4 +0.3**
GYA PP **PP 11 57 43.3 +5.2**
GYA AMB AMB
comp=Z,120nm,7.8s
CMAR Chiang Mai Arr 141.15 333 PKP **PKPdf 11 55 43.9 +0.3**
comp=Z,2.1nm,0.8s,baz=338,slow=2.2,SNR=12
HYB Hyderabad 146.00 5 *i* PKP **PKPdf 11 55 52.0 -0.2**
KSM Kuching 146.42 300 *e*PKPdf **PKPdf 11 55 53.2 +0.2**
OPO Ambohidratompo 147.18 99 PKPbc **PKPbc 11 55 56.5 0.0**
comp=Z,8.4nm,0.9s,baz=258,slow=5.1,SNR=7.4
ABPO Ambohimpanom 147.24 99 *e*PKP2 **PKPdf 11 55 54.8 +0.4**
ABPO Ambohimpanom 147.24 99 *e*PKPdf **PKPdf 11 55 54.8 +0.4**

*ISCJB **21** 11:40:14.7±0.7,23°.8S±0°.1×115°.2W±0°.1,h10km,mb4.2/15, MS4.2/17,Error ellipse: s-maj=21.1km s-min=10.8km az=136.6*
*IDC **21** 11:40:15.4±0.8,23°.70S×115°.18W,h0km,mb4.0/10, mb1 4.3/11,mb1mx4.1/35,mbtmp4.0/11,ML4.8/1,MS4.2/18, Ms1 4.2/18,ms1mx4.0/33,Error ellipse: s-maj=31.1km s-min=18.6km az=54.0*
*GCMT **21** 11:40:17.0±0.2,23°.55S×114°.98W,h14km±1km, MW5.0/100,Moment Tensor Solution. s44,c57; s100,c153; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.63±.13; Mθθ-2.05±.12; Mφφ2.69±.13; Mrθ-0.84±.25; Mθφ3.94±.11; Mφr-0.33±.25; Best double couple: M=4.68600×10¹⁶ NP1:φs74.00000°,δ89.00000°, λ-11.00000°. NP2:φs164.00000°,δ79.00000°, λ-179.00000°. Principal axes: T 5.0050, Plg7.0000°, Azm120.0000°; N -0.6330, Plg79.0000°, Azm248.0000°; P -4.3660, Plg9.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 11:40:17.0±0.4,23°.76S×115°.13W,h10km,mb4.7/3 Error ellipse: s-maj=15.2km s-min=8.5km az=54.0*
ISC 21 11:40:16.6±0.6,23°.8S±0°.1×115°.2W±0°.1,h10km,n50,
σ1§13/33,mb4.3/15,MS4.2/17,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.23**	**123**	Pn		**Pn**	**11 41 47.7**	**-0.9**
	22nm,0.3s,baz=111,slow=8.7,SNR=4.7							
RPN				Sn		**Sn**	**11 42 57.4**	**-2.5**
	18nm,0.3s,baz=117,slow=4.5,SNR=3.5							
RPN				LR		LR	11 43 37.1	
	comp=Z,4μm,18.9s,baz=296,slow=32							
RPN				T		T	11 48 09.9	
	31nm,0.3s,baz=90,slow=23,SNR=7.5							
RKT	**Rikitea**	**18.16**	**268**	eLQ		LQ	11 47 52.4	
	4μm,27.5s							
RKT				eLR		LR	11 48 38.0	
	2μm,27.5s							
RKT	**Rikitea**	**18.16**	**268**	*e*T		T	12 03 04.0	
	4.0nm,0.3s							
TAOE	**Nuku Hiva Isla**	**28.12**	**298**	eLR		LR	11 53 13.9	
	2μm,25.9s							
PPT2	**Papeete2**	**32.70**	**274**	*e*S		**S**	**11 52 03.1**	**-3.0**
	137nm,26.5s							
PPT2				eLQ		LQ	11 54 00.8	
	1μm,25.0s							
PPT2				eLR		LR	11 55 04.4	
	963nm,27.2s							
PPT	**Papeete**	**32.70**	**274**	LR		LR	11 55 46.7	
	comp=Z,642nm,18.9s,baz=104,slow=28							
PLCA	**Paso Flores**	**40.86**	**125**	P		**P**	**11 48 01.2**	**+2.3**
	3.8nm,1.0s,baz=317,slow=11,SNR=3.2							
PLCA				LR		LR	12 00 37.9	
	comp=Z,902nm,21.2s,baz=306,slow=30							
RAR	**Rarotonga**	**41.13**	**265**	LR		LR	12 00 06.3	
	comp=Z,325nm,21.2s,baz=98,slow=29							
LPAZ	**La Paz**	**44.68**	**89**	P		**P**	**11 48 31.1**	**+0.3**
	15nm,1.0s,baz=265,slow=4.9,SNR=23							
LPAZ				LR		LR	12 02 31.3	
	comp=Z,511nm,21.3s,baz=258,slow=30							
JTS	**JuntasAbangare**	**45.00**	**45**	LR		LR	12 02 12.8	
	comp=Z,300nm,20.9s,baz=297,slow=29							
LPIG	**La Paz**	**47.89**	**6**	LR		LR	12 03 54.6	
	comp=Z,183nm,21.6s,baz=198,slow=30							
ROSC	**El Rosal**	**48.99**	**60**	LR		LR	12 04 45.8	
	comp=Z,156nm,20.3s,baz=224,slow=30							
CPUP	**Villa Florida**	**52.09**	**106**	P		**P**	**11 49 27.3**	**+0.2**
	1.3nm,0.8s,baz=246,slow=10.0,SNR=2.8							
CPUP				LR		LR	12 07 49.1	
	comp=Z,279nm,18.5s,baz=266,slow=32							
TXAR	**Lajitas Array**	**54.02**	**12**	P		**P**	**11 49 41.2**	**0.0**
	0.1nm,0.6s,baz=200,slow=7.7,SNR=2.9							
TXAR				LR		LR	12 09 47.5	
	comp=Z,96nm,18.1s,baz=0.0,slow=33							
AFI	**Afiamalu**	**54.14**	**270**	LR		LR	12 06 18.6	
	comp=Z,257nm,20.8s,baz=98,slow=29							
SDV	**Santo Domingo**	**54.34**	**59**	P		**P**	**11 49 43.8**	**-0.2**
	1.7nm,0.6s,baz=120,slow=9.8,SNR=3.2							
SDV				LR		LR	12 06 45.6	
	comp=Z,157nm,21.1s,baz=238,slow=29							
JCT	**Junction City**	**55.99**	**16**	*e*P		**P**	**11 49 55.4**	**0.0**
MNTX	**Cornudas Mount**	**56.02**	**10**	*e*P		**P**	**11 49 54.8**	**-0.8**
	9.9nm,1.3s							
WUAZ	**Wupatki**	**59.15**	**4**	*e*P		**P**	**11 50 18.3**	**+0.7**
	15nm,1.8s							
CCUT	**Cedar City**	**61.09**	**2**	*e*P		**P**	**11 50 30.2**	**-0.8**
	20nm,1.6s							
CCUT				*e*PcP		**PcP**	**11 51 13.7**	**-0.3**
CMB	**Columbia Colle**	**61.74**	**355**	*e*P		**P**	**11 50 36.1**	**+0.9**
	46nm,1.2s							
NVAR	**Mina Array Bea**	**62.01**	**357**	P		**P**	**11 50 37.5**	**+0.2**
	2.5nm,0.9s,baz=188,slow=9.1,SNR=8.2							
VNDA	**Vanda**	**65.37**	**194**	LR		LR	12 13 18.8	
	comp=Z,199nm,19.6s,baz=85,slow=30							
TKL	**Tuckaleechee C**	**66.23**	**28**	LR		LR	12 16 10.3	
	comp=Z,136nm,21.9s,baz=176,slow=33							
QSPA	**South Pole Qui**	**66.31**	**180**	LR		LR	12 15 46.4	
	comp=Z,124nm,19.7s,baz=92,slow=32							
PDAR	**Pinedale Array**	**66.48**	**5**	P		**P**	**11 51 04.2**	**-2.3**
	0.5nm,0.7s,baz=156,slow=6.9,SNR=4.5							
COWI	**Conover**	**73.52**	**19**	*e*P		**P**	**11 51 49.3**	**-0.1**
	5.3nm,0.8s							
SNAA	**Sanae**	**74.27**	**162**	P		**P**	**11 51 54.3**	**+0.6**
	1.4nm,0.8s,baz=338,slow=19,SNR=3.5							
SNAA				LR		LR	12 20 56.8	
	comp=Z,106nm,18.8s,baz=195,slow=33							
YKA	**Yellowknife Ar**	**86.04**	**0**	P		**P**	**11 52 56.3**	**-0.6**
	1.0nm,0.9s,baz=178,slow=5.0,SNR=10							
H11S2	**WAKE ISLAND Hy**	**86.99**	**292**	T		T	13 29 12.6	
	baz=116,slow=75,SNR=212							
H11S1	**WAKE ISLAND Hy**	**87.00**	**292**	T		T	13 29 17.1	
	baz=116,slow=75,SNR=128							
H11S3	**WAKE ISLAND Hy**	**87.00**	**292**	T		T	13 29 17.4	
	baz=116,slow=75,SNR=128							
H11N3	**WAKE ISLAND Hy**	**87.36**	**293**	T		T	13 29 36.2	
	baz=118,slow=76,SNR=29							
H11N1	**WAKE ISLAND Hy**	**87.37**	**293**	T		T	13 29 36.9	
	baz=118,slow=76,SNR=22							
H11N2	**WAKE ISLAND Hy**	**87.37**	**293**	T		T	13 29 40.2	
	baz=118,slow=76,SNR=105							
MAW	**Mawson**	**88.80**	**179**	LR		LR	12 27 38.2	
	comp=Z,210nm,20.9s,baz=146,slow=32							
ILAR	**Eielson Array**	**91.67**	**347**	P		**P**	**11 53 23.6**	**0.0**
	0.3nm,0.9s,baz=169,slow=5.2,SNR=3.9							
WRA	**Warramunga Arr**	**99.49**	**243**	LR		LR	12 36 53.6	
	comp=Z,131nm,18.6s,baz=15,slow=34							
SONM	**Songino Array**	**139.32**	**317**	PKP		**PKPdf**	**11 59 45.3**	**+1.2**
	0.1nm,0.4s,baz=108,slow=7.7,SNR=2.0							
ZALV	**Zalesovo Beam**	**146.38**	**339**	PKPbc		**PKPdf**	**11 59 56.9**	**+0.7**
	4.2nm,0.4s,baz=50,slow=1.7,SNR=4.6							
ARU	**Arti**	**147.13**	**6**	PKPbc		**PKPbc**	**11 59 59.3**	**-0.2**
	4.0nm,0.7s,baz=296,slow=2.7,SNR=6.9							
CMAR	**Chiang Mai Arr**	**147.76**	**267**	PKPbc		**PKPbc**	**12 00 03.2**	**+0.7**
	1.8nm,1.0s,baz=79,slow=1.2,SNR=7.2							
CHTO	**Chiang Mai**	**147.85**	**268**	*e*PKPbc		**PKPbc**	**12 00 04.3**	**+1.7**
BRTR	**Keskin Array B**	**149.33**	**51**	PKPbc		**PKPbc**	**12 00 06.3**	**+0.3**
	1.1nm,0.7s,baz=353,slow=1.3,SNR=7.0							
BVAR	**Borovoye Array**	**150.55**	**353**	PKPbc		**PKPbc**	**12 00 08.6**	**+0.2**
	1.3nm,0.6s,baz=355,slow=1.7,SNR=7.6							
KURK	**Kurchatov**	**151.11**	**342**	PKPbc		**PKPbc**	**12 00 09.3**	**-0.4**
KURK				*e*PKPab		**sPKPbc**	**12 00 15.4**	**+1.0**
KURBB	**Kurchatov Arra**	**151.22**	**342**	PKPbc		**PKPbc**	**12 00 09.3**	**-0.7**
	1.0nm,0.5s,baz=25,slow=1.8,SNR=9.6							
MKAR	**Makanchi Array**	**153.14**	**333**	PKPbc		**PKPbc**	**12 00 14.0**	**-0.5**
	0.8nm,0.7s,baz=28,slow=1.7,SNR=9.5							
KBZ	**Khabaz**	**153.22**	**37**	PKPbc		**PKPbc**	**12 00 15.3**	**+0.5**
	1.5nm,0.8s,baz=238,slow=14,SNR=3.4							
ABKAR	**Akbulak array**	**154.35**	**7**	*e*PKPdf		**PKPdf**	**12 00 08.3**	**-0.5**

*ISCJB **21** 11:53:26.2±0.3,51°.58N±0°.02×16°.04E±0°.02,h0km, mb3.0/1,Error ellipse: s-maj=2.7km s-min=2.1km az=24.2*
*VIE **21** 11:53:29.3±1.0,51°.51N×16°.00E,h0km,mb2.5/6,ML3.0/6, Error ellipse: s-maj=7.8km s-min=5.0km az=123.0, Suspected Mining induced.*
*CSEM **21** 11:53:29.1±0.3,51°.52N×16°.03E,h2km,ML3.5/8,Error ellipse: s-maj=5.4km s-min=3.0km az=14.0*
*BGR **21** 11:53:30.8±0.4,51°.48N×16°.00E,h1km,ML3.1/13,Error ellipse: s-maj=5.6km s-min=2.2km az=14.0*
*IDC **21** 11:53:30.2±0.7,51°.56N×15°.81E,h0km,mb3.0/1, mb1 3.3/9,mb1mx3.2/70,mbtmp3.2/9,ML2.9/8,Error ellipse: s-maj=15.1km s-min=6.6km az=101.0*
*PRU **21** 11:53:30.1,51°.50N×15°.97E,h0km*
ISC 21 11:53:27.9±0.6,51°.62N±0°.03×16°.04E±0°.02,h0km,n79,
σ1§30/149,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.80**	**168**	*e*Pg		**Pg**	**11 53 43.2**	**+0.1**
KSP				*e*Sg		**Sg**	**11 53 52.4**	**-1.0**
KSP	**Ksiaz**	**0.80**	**168**	*e*Pg		**Pg**	**11 53 43.3**	**+0.1**
KSP				*e*Sg		**Sg**	**11 53 52.8**	**-0.7**
KSP	**Ksiaz**	**0.80**	**168**	Pg		**Pg**	**11 53 43.3**	**+0.1**
KSP				Sg		**Sg**	**11 53 52.8**	**-0.7**
UPC	**Upice**	**1.11**	**181**	*e*PG		**Pg**	**11 53 48.7**	**-0.6**
UPC				*e*SG		**Sg**	**11 54 02.0**	**-1.7**
UPC	**Upice**	**1.11**	**181**	Pg		**Pg**	**11 53 48.7**	**-0.6**
UPC				Sg		**Sg**	**11 54 02.0**	**-1.7**
DPC	**Dobruska-Polom**	**1.28**	**172**	*e*Pg		**Pg**	**11 53 52.0**	**-0.5**
DPC				*e*Sg		**Sg**	**11 54 07.3**	**-1.9**
DPC	**Dobruska-Polom**	**1.28**	**172**	*e*PG		**Pg**	**11 53 51.6**	**-0.9**
DPC				*e*SG		**Sg**	**11 54 07.1**	**-2.1**
	comp=Z,79nm,0.4s							
DPC	**Dobruska-Polom**	**1.28**	**172**	Pg		**Pg**	**11 53 52.0**	**-0.5**
DPC				Sg		**Sg**	**11 54 07.1**	**-2.1**
	79nm,0.4s							
PVCC	**Panska Ves**	**1.44**	**221**	*e*PG		**Pn**	**11 53 55.2**	**0.0**
PVCC				*e*SG		**Sg**	**11 54 13.3**	**-0.7**
	comp=Z,228nm,0.5s							
PVCC	**Panska Ves**	**1.44**	**221**	Pg		**Pn**	**11 53 55.2**	**0.0**
PVCC				Sg		**Sg**	**11 54 13.3**	**-0.7**
	228nm,0.5s							
BRG	**Berggiesshubel**	**1.52**	**241**	PG		**Pb**	**11 53 57.3**	**+0.4**
BRG				SG		**Sg**	**11 54 16.8**	**+0.1**
	273nm,0.4s							
BRG	**Berggiesshubel**	**1.52**	**241**	*e*Pg		**Pb**	**11 53 57.4**	**+0.4**
BRG				*e*Sg		**Sg**	**11 54 16.9**	**+0.3**
BRG	**Berggiesshubel**	**1.52**	**241**	Pg		**Pb**	**11 53 57.4**	**+0.4**
BRG				Sg		**Sg**	**11 54 16.9**	**+0.3**
KRLC	**Kraliky**	**1.62**	**163**	*e*PG		**Pn**	**11 53 57.3**	**-0.5**
KRLC				*e*SG		**Sn**	**11 54 17.9**	**-1.4**
	comp=Z,14nm,0.3s							
KRLC	**Kraliky**	**1.62**	**163**	Pg		**Pn**	**11 53 57.3**	**-0.5**
KRLC				Sg		**Sn**	**11 54 17.9**	**-1.4**
	14nm,0.3s							
FBE	**Freiberg**	**1.83**	**249**	*e*Pg		**Pb**	**11 54 03.0**	**+0.8**
FBE				*e*Sg		**Sg**	**11 54 26.8**	**+0.2**
FBE	**Freiberg**	**1.83**	**249**	Pg		**Pb**	**11 54 03.0**	**+0.8**
FBE				Sg		**Sg**	**11 54 26.8**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.89**	**205**	*e*PG		**Pn**	**11 54 02.6**	**+1.2**
GOPC				*e*SG		**Sn**	**11 54 25.6**	**-0.3**
	comp=Z,59nm,0.6s							
GOPC	**GO Pecny, Ondr**	**1.89**	**205**	Pg		**Pn**	**11 54 02.6**	**+1.2**
GOPC				Sg		**Sn**	**11 54 25.6**	**-0.3**
	59nm,0.6s							
PRU	**Pruhonice**	**1.89**	**211**	*e*PG		**Pn**	**11 54 02.8**	**+1.3**
PRU				*e*SG		**Sn**	**11 54 26.2**	**+0.2**
	comp=Z,77nm,0.6s							
PRU	**Pruhonice**	**1.89**	**211**	Pg		**Pn**	**11 54 02.8**	**+1.3**
PRU				Sg		**Sn**	**11 54 26.2**	**+0.2**
	77nm,0.6s							
CLL	**Collm**	**1.93**	**262**	*e*Pn		**Pn**	**11 54 01.9**	**-0.1**
CLL				*e*Sg		**Sg**	**11 54 29.8**	**0.0**
CLL	**Collm**	**1.93**	**262**	*e*Pn		**Pn**	**11 54 02.0**	**0.0**
CLL				*e*Pg		**Pg**	**11 54 05.0**	**+0.2**
CLL				*e*			11 54 09.0	
CLL				*e*Sg		**Sg**	**11 54 30.0**	**+0.2**
	comp=Z,66nm,0.5s							
CLL	**Collm**	**1.93**	**262**	Pn		**Pn**	**11 54 01.9**	**-0.1**
CLL				Sg		**Sg**	**11 54 29.8**	**0.0**
MORC	**Moravsky Berou**	**2.08**	**152**	*e*Pn		**Pn**	**11 54 03.8**	**-0.3**
MORC				*e*Pg		**Pg**	**11 54 08.0**	**+0.3**
MORC				*e*Sg		**Sb**	**11 54 33.7**	**+0.8**
MORC	**Moravsky Berou**	**2.08**	**152**	Pn		**Pn**	**11 54 03.8**	**-0.3**
OKC	**Ostrava-Krasne**	**2.23**	**142**	*e*Pg		**Pb**	**11 54 10.2**	**+1.1**
OKC				*e*Sg		**Sb**	**11 54 37.8**	**+0.5**
OKC	**Ostrava-Krasne**	**2.23**	**142**	*e*PG		**Pb**	**11 54 09.9**	**+0.8**
OKC				*e*SG		**Sb**	**11 54 37.6**	**+0.4**
	comp=Z,24nm,0.5s							
OKC	**Ostrava-Krasne**	**2.23**	**142**	Pg		**Pb**	**11 54 10.2**	**+1.1**
OKC				Sg		**Sb**	**11 54 37.8**	**+0.5**
VRAC	**Vranov**	**2.34**	**171**	Pn		**Pn**	**11 54 08.5**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=349,slow=17,SNR=6.6							
VRAC				Lg		Lg	11 54 41.5	
	comp=Z,5.9nm,0.3s,baz=76,slow=19,SNR=8.2							
VRAC	**Vranov**	**2.34**	**171**	*e*Pn		**Pn**	**11 54 07.5**	**-0.2**
VRAC				*e*Sg		**Sb**	**11 54 40.3**	**-0.2**
KRUC	**Moravsky**	**2.57**	**175**	*e*Pn		**Pn**	**11 54 11.6**	**+0.8**
KRUC	**Moravsky**	**2.57**	**175**	*e*Pg		**Pb**	**11 54 15.1**	**+0.2**
KRUC				*e*Sg		**Sb**	**11 54 48.0**	**+0.9**
WERD	**Werda**	**2.63**	**245**	*e*Pn		**Pn**	**11 54 13.0**	**+1.3**
WERD				*e*Pg		**Pg**	**11 54 19.1**	**+0.7**
WERD				*e*Sg		**Sb**	**11 54 50.6**	**+1.7**
WERD	**Werda**	**2.63**	**245**	Pn		**Pn**	**11 54 13.0**	**+1.3**
NKC	**Novy Kostel**	**2.67**	**240**	*e*SG		**Sg**	**11 54 52.4**	**-1.1**
	comp=Z,123nm,0.5s							
NKC	**Novy Kostel**	**2.67**	**240**	Sg		**Sg**	**11 54 52.4**	**-1.1**
	comp=Z,123nm,0.5s							
OJC	**Ojcow**	**2.76**	**119**	*e*Pg		**Pg**	**11 54 21.4**	**+0.5**
OJC				*e*Sg		**Sg**	**11 54 56.7**	**+0.1**
OJC	**Ojcow**	**2.76**	**119**	*e*Pg		**Pg**	**11 54 21.5**	**+0.7**
OJC				*e*Sg		**Sg**	**11 54 57.1**	**+0.5**
OJC	**Ojcow**	**2.76**	**119**	Pg		**Pg**	**11 54 21.5**	**+0.7**
OJC				Sg		**Sg**	**11 54 57.1**	**+0.5**
KHC	**Kasperske Hory**	**2.95**	**213**	*e*PN		**Pn**	**11 54 16.0**	**-0.1**
KHC				*e*PG		**Pb**	**11 54 22.3**	**+0.9**
KHC				*e*SN		**Sn**	**11 54 49.5**	**-2.7**
KHC				*e*SG		**Sb**	**11 55 00.1**	**+2.1**
	comp=Z,22nm,0.4s							
KHC	**Kasperske Hory**	**2.95**	**213**	Pn		**Pn**	**11 54 16.0**	**-0.1**
MOX	**Moxa**	**2.96**	**252**	*e*Pg		**Pg**	**11 54 25.3**	**+0.8**
MOX				*e*Sg		**Sg**	**11 55 03.4**	**+0.6**
MOX	**Moxa**	**2.96**	**252**	Pg		**Pg**	**11 54 25.3**	**+0.8**
MOX				Sg		**Sg**	**11 55 03.4**	**+0.6**
MANZ	**Manzenberg**	**2.98**	**238**	*e*Pn		**Pn**	**11 54 17.8**	**+1.3**
MANZ				*e*Pg		**Pg**	**11 54 26.3**	**+1.2**
MANZ				*e*Sg		**Sg**	**11 55 03.2**	**-0.5**
MANZ	**Manzenberg**	**2.98**	**238**	Pn		**Pn**	**11 54 17.8**	**+1.3**
ROTZ	**Rotzenmuhle**	**3.06**	**234**	*e*Pn		**Pn**	**11 54 18.0**	**+0.4**
ROTZ				*e*Pg		**Pg**	**11 54 27.5**	**+0.9**
ROTZ				*e*Sg		**Sb**	**11 55 03.7**	**+2.4**
ROTZ	**Rotzenmuhle**	**3.06**	**234**	Pn		**Pn**	**11 54 18.0**	**+0.4**
GEC2	**GERESS Array S**	**3.16**	**209**	*e*Pn		**Pn**	**11 54 19.8**	**+0.8**
GEC2				*e*Sg		**Sb**	**11 55 05.4**	**+1.4**
GEC2	**GERESS Array S**	**3.16**	**209**	Pn		**Pn**	**11 54 19.8**	**+0.8**
GEC2				Sg		**Sb**	**11 55 05.4**	**+1.4**
GERES	**GERESS Array B**	**3.16**	**209**	Pn		**Pn**	**11 54 19.6**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=31,slow=13,SNR=16							
GERES				Pg		**Pb**	**11 54 26.1**	**+1.1**
	comp=Z,2.7nm,0.3s,baz=28,slow=17,SNR=25							
GERES				Lg		Lg	11 55 05.1	
	comp=Z,4.9nm,0.3s,baz=27,slow=25,SNR=8.2							
LANS	**Liptovska Anna**	**3.31**	**137**	*e*Pg		**Pb**	**11 54 29.7**	**+2.3**
LANS				*e*Sg		**Sg**	**11 55 15.5**	**+1.4**
LANS	**Liptovska Anna**	**3.31**	**137**	*e*PG		**Pb**	**11 54 29.7**	**+2.3**
LANS				*e*SG		**Sg**	**11 55 15.5**	**+1.4**
MODS	**Modra-Piesok**	**3.35**	**166**	*e*Pg		**Pb**	**11 54 29.8**	**+1.7**
MODS				*e*Sg		**Sg**	**11 55 15.0**	**-0.4**
MODS	**Modra-Piesok**	**3.35**	**166**	*e*PG		**Pb**	**11 54 29.8**	**+1.7**
MODS				*e*SG		**Sg**	**11 55 15.0**	**-0.4**
NIE	**Niedzica**	**3.50**	**127**	*e*P		**Pg**	**11 54 34.4**	**-0.6**
NIE				*e*S		**Sg**	**11 55 21.0**	**+0.7**
BSD	**Bornholm Skovb**	**3.56**	**350**	*i* P		**Pn**	**11 54 25.2**	**+0.8**
BSD				*i* S		**Sn**	**11 55 06.4**	**-0.8**
BSD	**Bornholm Skovb**	**3.56**	**350**	*i* P		**Pn**	**11 54 25.3**	**+0.8**
	SNR=49							
BSD				*i* S		**Sn**	**11 55 06.4**	**-0.8**
VYHS	**Vyhne**	**3.61**	**149**	*e*Pg		**Pg**	**11 54 39.5**	**+2.4**
VYHS	**Vyhne**	**3.61**	**149**	*e*PG		**Pg**	**11 54 39.5**	**+2.4**
VYHS				*e*SG		**Sg**	**11 55 27.8**	**+3.9**
VYHS				*e*LG		Lg	11 55 28.9	
CONA	**Conrad Observa**	**3.70**	**182**	Pn		**Pn**	**11 54 26.8**	**+0.4**
	comp=Z,1.2nm,0.3s							
CONA	**Conrad Observa**	**3.70**	**182**	*e*Pn		**Pn**	**11 54 26.8**	**+0.4**
	comp=Z,1.2nm,0.3s							
CONA				Sg		**Sg**	**11 55 30.0**	**+3.3**
	comp=

s-min=19.1km az=97.0

JMA ***21*** *12:01:19.0±0.2,36°.75N×142°.40E,h41km,M4.8*

ISC 21 12:01:18.0±0.9,36°.76N±0°.05×142°.38E±0°.07,h9km,n33,
σ0s93/35,mb3.7/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.31**	**286**	P	**Pn**	**12 01 41.6**	**-0.9**
JFK	**Kawauchi**	**1.34**	**297**	P	**Pn**	**12 01 42.0**	**-1.0**
JFK				*e*S	**Sb**	**12 01 59.7**	**-1.0**
JHO	**Hitachi**	**1.46**	**265**	P	**Pn**	**12 01 43.6**	**-0.9**
JHO				*e*S	**Sn**	**12 02 02.9**	**-0.9**
CHOJ	**Chosi**	**1.62**	**230**	P	**Pn**	**12 01 46.5**	**-0.2**
JMM	**Marumori**	**1.68**	**312**	P	**Pn**	**12 01 47.2**	**-0.3**
JFT	**Otama**	**1.80**	**296**	P	**Pn**	**12 01 49.7**	**+0.5**
JIO	**Ouri**	**1.88**	**335**	P	**Pn**	**12 01 49.9**	**-0.4**
JMK	**Ichinoseki**	**2.37**	**338**	P	**Pn**	**12 01 57.4**	**+0.3**
JMK				*e*S	**Sn**	**12 02 23.9**	**-2.4**
JAG	**Ashikaga**	**2.38**	**263**	P	**Pn**	**12 01 57.1**	**0.0**
BSO1	**Boso 1**	**2.39**	**209**	P	**Pn**	**12 01 56.7**	**-0.1**
JNS	**Sasagawa**	**2.66**	**294**	P	**Pn**	**12 02 02.5**	**+1.5**
JYK	**Kaneyama**	**2.68**	**324**	P	**Pn**	**12 02 01.8**	**+0.5**
JOM	**Ohasama**	**2.84**	**343**	P	**Pn**	**12 02 03.6**	**+0.1**
JRY	**Ryogami san**	**2.90**	**256**	P	**Pn**	**12 02 04.1**	**-0.3**
JOD2	**Odawara 2**	**3.06**	**242**	P	**Pn**	**12 02 06.4**	**-0.1**
JYN	**Shimob**	**3.35**	**249**	P	**Pn**	**12 02 11.4**	**+0.8**
MJAR	**Matsushiro Arr**	**3.36**	**268**	Pn	**Pn**	**12 02 11.7**	**+1.0**
	5.5nm,0.3s,baz=85,slow=14,SNR=60						
MAT	**Matsushiro**	**3.36**	**268**	P	**Pn**	**12 02 11.8**	**+1.1**
MAT	**Matsushiro**	**3.36**	**268**	P	**Pn**	**12 02 12.1**	**+1.4**
JHJ	**Hachijo jima 2**	**4.21**	**211**	Pn	**Pn**	**12 02 22.3**	**-0.1**
	11nm,0.3s,baz=350,slow=24,SNR=7.3						
ASAJ	**Asahikawa**	**7.35**	**1**	Pn	**Pn**	**12 03 06.0**	**+0.5**
	0.5nm,0.3s,baz=210,slow=16,SNR=7.8						
BTO	**Baotou**	**25.47**	**289**	*e*P	**P**	**12 06 48.5**	**+2.1**
SONM	**Songino Array**	**28.58**	**304**	P	**P**	**12 07 15.2**	**+0.8**
	3.9nm,0.8s,baz=104,slow=8.8,SNR=29						
DAV	**Davao City (W)**	**33.29**	**212**	LR	LR	12 21 17.8	
	comp=Z,220nm,20.8s,baz=36,slow=36						
ZALV	**Zalesovo Beam**	**42.67**	**313**	P	**P**	**12 09 15.4**	**+0.7**
	0.9nm,0.6s,baz=76,slow=6.3,SNR=3.8						
MKAR	**Makanchi Array**	**44.92**	**302**	P	**P**	**12 09 33.2**	**+0.2**
	1.0nm,0.7s,baz=86,slow=9.4,SNR=12						
KURBB	**Kurchatov Arra**	**46.78**	**308**	P	**P**	**12 09 47.8**	**+0.3**
	1.1nm,0.5s,baz=83,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**49.31**	**32**	P	**P**	**12 10 07.3**	**+0.3**
	0.9nm,0.8s,baz=255,slow=6.6,SNR=9.5						
BVAR	**Borovoye Array**	**51.33**	**313**	P	**P**	**12 10 23.8**	**+1.4**
	0.2nm,0.3s,baz=79,slow=7.5,SNR=2.7						
WRA	**Warramunga Arr**	**56.90**	**189**	P	**P**	**12 11 02.6**	**-0.8**
	0.5nm,0.9s,baz=1.4,slow=8.5,SNR=4.0						
ASAR	**Alice Springs**	**60.63**	**189**	P	**P**	**12 11 28.5**	**-0.8**
	0.5nm,0.8s,baz=0.0,slow=7.1,SNR=4.0						
YKA	**Yellowknife Ar**	**63.66**	**30**	P	**P**	**12 11 48.6**	**-0.5**
	0.2nm,0.7s,baz=301,slow=6.8,SNR=3.7						
AKASG	**Malin Array Be**	**74.98**	**323**	P	**P**	**12 12 59.7**	**+0.2**
	0.2nm,0.3s,baz=43,slow=6.0,SNR=3.6						

IDC ***21*** *12:01:28.5±0.4,36°.69N×142°.34E,h0km,mb4.7/39,*
mb1 4.8/45,mb1mx4.6/76,mbtmp4.7/45,ML4.3/4,Error
ellipse: s-maj=11.4km s-min=10.0km az=110.0

NEIC ***21*** *12:01:30.6±1.6,36°.74N×142°.30E,h10km±10km,*
mb4.9/128,Error ellipse: s-maj=4.1km s-min=2.9km
az=139.0

NEIC Recorded [1 JMA] in Fukushima, Ibaraki, Miyagi, Tochigi
and Yamagata.

MOS ***21*** *12:01:31.2±1.0,36°.85N×142°.25E,h22km,mb5.1/89,*
MS4.9/17,Error ellipse: s-maj=6.4km s-min=4.3km
az=109.6

ISCJB ***21*** *12:01:31.3±0.8,36°.76N±0°.02×142°.27E±0°.02,h24km±5km,*
mb4.8/224,MS4.9/31,Error ellipse: s-maj=3.8km
s-min=2.6km az=152.6

JMA ***21*** *12:01:31.2±0.2,36°.75N×142°.39E,h41km,M5.0*

JMA Felt I J1.

BJI ***21*** *12:01:33.6,36°.76N×141°.89E,h33km,mb5.0/73,mB5.1/51,*
Ms4.8/77,Ms7 4.7/70

ISC 21 12:01:32.8±0.6,36°.78N±0°.03×142°.27E±0°.03,h26km±3km,
h25km:pP-P,n532,σ1s49/568,mb4.9/234,MS4.9/32,
27C-17D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.23**	**286**	⇑P	**Pn**	**12 01 53.7**	**-0.6**
ONAJ				*e*S	**Sb**	**12 02 11.4**	**+0.6**
JFK	**Kawauchi**	**1.26**	**298**	⇑P	**Pn**	**12 01 54.0**	**-0.8**
JFK				*e*S	**Sb**	**12 02 12.0**	**+0.1**
JHO	**Hitachi**	**1.38**	**263**	P	**Pn**	**12 01 56.0**	**-0.4**
JHO				*e*S	**Sn**	**12 02 13.7**	**-0.1**
CHOJ	**Chosi**	**1.57**	**227**	P	**Pn**	**12 01 58.7**	**-0.3**
CHOJ				S	**Sn**	**12 02 17.8**	**-0.7**
JMM	**Marumori**	**1.60**	**313**	⇓P	**Pn**	**12 01 59.8**	**+0.3**
JFT	**Otama**	**1.71**	**296**	P	**Pn**	**12 02 01.8**	**+0.8**
JFT				*e*S	**Sb**	**12 02 23.7**	**-1.1**
JIO	**Ouri**	**1.82**	**337**	P	**Pn**	**12 02 01.8**	**-0.7**
JAG	**Ashikaga**	**2.30**	**262**	⇑P	**Pn**	**12 02 09.3**	**+0.3**
JMK	**Ichinoseki**	**2.32**	**339**	P	**Pn**	**12 02 09.8**	**+0.4**
BSO1	**Boso 1**	**2.37**	**207**	P	**Pn**	**12 02 09.5**	**0.0**
BSO1				*e*S	**Sn**	**12 02 37.9**	**+0.4**
JYK	**Kaneyama**	**2.62**	**325**	P	**Pn**	**12 02 13.8**	**+0.4**
JRY	**Ryogami san**	**2.83**	**255**	P	**Pn**	**12 02 16.3**	**0.0**
JOD2	**Odawara 2**	**2.99**	**241**	P	**Pn**	**12 02 18.8**	**+0.2**
MJAR	**Matsushiro Arr**	**3.28**	**267**	Pn	**Pn**	**12 02 23.0**	**+0.4**
	62nm,0.3s,baz=96,slow=11,SNR=113						
MJAR					Sn	**Sn**	**12 03 02.0**	**+1.3**
	49nm,0.3s,baz=96,slow=8.5,SNR=5.0						
MJAR	**Matsushiro Arr**	**3.28**	**267**	P	**Pn**	**12 02 23.0**	**+0.4**
MJAR						12 03 02.0	
MJAR				pmax	pmax		
	comp=Z,62nm,0.3s						
MJAR				smax	smax		
	comp=N,49nm,0.3s						
JYN	**Shimob**	**3.28**	**248**	P	**Pn**	**12 02 23.6**	**+1.0**
JYN				*e*S	**Sn**	**12 03 01.9**	**+1.1**
MAJO	**Matsushiro**	**3.28**	**267**	*c i*P	**Pn**	**12 02 24.0**	**+1.4**
MAJO	**Matsushiro**	**3.28**	**267**	*e*Pn	**Pn**	**12 02 24.1**	**+1.6**
MAJO				*e*Sn	**Sn**	**12 03 01.9**	**+1.2**
MAT	**Matsushiro**	**3.28**	**267**	P	**Pn**	**12 02 24.2**	**+1.6**
MAT				*e*S	**Sn**	**12 03 01.9**	**+1.2**
JHJ2	**Mitsune**	**4.18**	**210**	*e*Pn	**Pn**	**12 02 35.0**	**0.0**
JHJ2				*e*Sn	**Sn**	**12 03 20.1**	**-2.8**
JHJ	**Hachijo jima 2**	**4.19**	**210**	Pn	**Pn**	**12 02 33.6**	**-1.4**
	comp=N,47nm,0.3s,baz=333,slow=23,SNR=20						
JHJ					Sn	**Sn**	**12 03 19.0**	**-4.1**
	comp=N,411nm,0.3s,baz=85,slow=22,SNR=8.2						
ERM	**Erimo**	**5.27**	**7**	⇑*e*P	**Pn**	**12 02 50.1**	**+0.2**
ERM	**Erimo**	**5.27**	**7**	*e*Pn	**Pn**	**12 02 49.9**	**0.0**
ERM				*e*Sn	**Sn**	**12 03 50.0**	**+0.2**
ASAJ	**Asahikawa**	**7.33**	**2**	Pn	**Pn**	**12 03 16.7**	**-1.5**
	comp=N,5.5nm,0.3s,baz=214,slow=12,SNR=32						
ASAJ					Sn	**Sn**	**12 04 36.8**	**-3.8**
	comp=N,2.7nm,0.3s,baz=199,slow=14,SNR=3.8						
ASAJ	**Asahikawa**	**7.33**	**2**	*e*Pn	**Pn**	**12 03 17.1**	**-1.1**
ASAJ					Sn	**Sn**	**12 04 36.8**	**-3.8**
GLVR	**Golovnino**	**7.38**	**19**	*e*P	**Pn**	**12 03 15.3**	**-3.5**
GLVR				*e*S	**Sn**	**12 04 36.3**	**-5.3**
GRPR	**Tuman**	**7.68**	**19**	*e*P	**Pn**	**12 03 19.9**	**-3.1**
GRPR				*e*S	**Sn**	**12 04 43.6**	**-5.5**
LAGR	**Lagunnoye**	**7.74**	**19**	P	**Pn**	**12 03 20.6**	**-3.2**
LAGR				*e*S	**Sn**	**12 04 46.2**	**-4.4**
YUK	**Yuzh-Kuril'sk**	**7.74**	**20**	*e*P	**Pn**	**12 03 20.2**	**-3.6**
YUK				*e*S	**Sn**	**12 04 44.5**	**-6.1**
YUK				pmax	pmax		
	comp=Z,119nm,0.2s						
YUK				pmax	pmax		
	comp=E,58nm,0.3s						
YUK				pmax	pmax		
	comp=N,38nm,0.2s						
YUK				MLR	MLR		
	comp=Z,2μm,13.0s						
YUK				MLR	MLR		
	comp=E,663nm,10.0s						
YUK				MLR	MLR		
	comp=N,2μm,13.0s						
SHO	**Shikotan**	**7.89**	**25**	*e*P	Pn	12 03 20.9	-4.9
SHO				pmax	pmax		
	comp=N,11nm,0.1s						
SHO				pmax	pmax		
	comp=Z,18nm,0.1s						
TEY	**Ternei**	**9.29**	**334**	*e*P	Pn	12 03 54.0	+8.9
TEY				pmax	pmax		
	comp=N,86nm,1.0s						
TEY				pmax	pmax		
	comp=E,52nm,1.0s						
TEY				pmax	pmax		
	comp=Z,86nm,1.0s						
TEY				MLR	MLR		
	comp=E,3μm,14.0s						
TEY				MLR	MLR		
	comp=N,5μm,15.0s						
TEY				MLR	MLR		
	comp=Z,7μm,15.0s						
KUR	**Kuril'sk**	**9.44**	**25**	P	**Pn**	**12 03 50.1**	**+3.0**
KUR				MLR	MLR		
	comp=Z,2μm,13.0s						
KUR				MLR	MLR		
	comp=N,2μm,11.0s						
CBIJ	**Chichi jima**	**9.66**	**180**	*e*Pn	**Pn**	**12 03 46.5**	**-3.6**
CBIJ				*e*Sn	Sn	12 05 26.2	-12
JCJ	**Chichijima**	**9.66**	**180**	Pn	**Pn**	**12 03 46.8**	**-3.4**
	comp=N,17nm,0.3s,baz=270,slow=22,SNR=8.1						
JCJ					Sn	Sn	12 05 26.1	-12
	comp=N,59nm,0.3s,baz=204,slow=20,SNR=4.8						
JNU	**Nakatsue**	**10.04**	**252**	Pn	**Pn**	**12 03 57.1**	**+1.7**
	comp=N,1.2nm,0.3s,baz=78,slow=3.9,SNR=14						
JNU	**Nakatsue**	**10.04**	**252**	*e*Pn	**Pn**	**12 03 56.8**	**+1.4**
YSS	**Yuzh-Sakhalins**	**10.17**	**2**	⇓*e*P	**Pn**	**12 03 55.9**	**-1.1**
YSS				*e*S	**Sn**	**12 05 54.2**	**+4.0**
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				smax	smax		
	comp=E,10.0nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS				MLR	MLR		
	comp=N,1μm,13.0s						
YSS				MLR	MLR		
	comp=E,2μm,11.0s						
YSS	**Yuzh-Sakhalins**	**10.17**	**2**	*e*Pn	**Pn**	**12 03 56.0**	**-1.1**
	comp=E,51nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.78**	**317**	Pn	**Pn**	**12 04 08.7**	**+3.3**
	comp=E,0.6nm,0.3s,baz=132,slow=14,SNR=13						
KSRS	**Korea Array**	**11.48**	**278**	Pn	**Pn**	**12 04 16.5**	**+1.5**
	comp=E,0.5nm,0.3s,baz=84,slow=13,SNR=35						
KS01	**Wonju Array Si**	**11.50**	**278**	*e*Pn	**Pn**	**12 04 17.6**	**+2.2**
KS15	**Wonju Array Si**	**11.51**	**278**	*e*Pn	**Pn**	**12 04 18.3**	**+2.8**
KSAR	**Wonju Array Be**	**11.51**	**278**	P	**Pn**	**12 04 16.5**	**+1.0**
KSAR	**Wonju Array Be**	**11.51**	**278**	Pn	**Pn**	**12 04 16.5**	**+1.0**
TJN	**Taejon**	**12.00**	**273**	⇓*e*P	**Pn**	**12 04 23.9**	**+1.8**
MDJ	**Mudanjiang**	**12.39**	**313**	P	**Pn**	**12 04 31.3**	**+3.8**
MDJ				pmax	pmax		
	comp=E,38nm,1.2s						
MDJ				pmax	pmax		
	comp=E,470nm,4.3s						
MDJ				LR	LR		
	comp=E,2μm,19.5s						
MDJ				LR	LR		
	comp=E,2μm,22.3s						
MDJ				LR	LR		
	comp=E,3μm,20.8s						
MDJ	**Mudanjiang**	**12.39**	**313**	*e*Pn	**Pn**	**12 04 26.4**	**-1.2**
	comp=E,50nm,1.0s						
INCN	**Inchon**	**12.51**	**278**	*e*Pn	**Pn**	**12 04 29.8**	**+0.7**
TYV	**Tymovskoe**	**14.08**	**1**	*e*P	**Pn**	**12 04 49.6**	**-0.9**
TYV				*e*S	**Sn**	**12 07 24.9**	**-0.9**
TYV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TYV				smax	smax		
	comp=E,11nm,1.2s						
GRNR	**Gornyy**	**14.60**	**345**	*e*P	**Pn**	**12 04 53.8**	**-3.8**
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
KLR	**Kul'dur**	**14.61**	**332**	Pn	**Pn**	**12 04 56.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=144,slow=9.3,SNR=12						
KLR	**Kul'dur**	**14.61**	**332**	⇓*e*P	**Pn**	**12 04 56.3**	**-1.5**
CN2	**Changchun**	**14.62**	**304**	*e*P	**Pn**	**12 04 56.6**	**-1.3**
CN2				*e*S	**Sn**	**12 07 34.8**	**-4.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,15.0s						
SNY	**Shenyang**	**15.32**	**295**	⇓P	**Pn**	**12 05 06.6**	**-0.6**
SNY				pmax	pmax		
	comp=Z,18nm,1.1s						
SNY				pmax	pmax		
	comp=Z,500nm,11.7s						
SNY				LR	LR		
	comp=Z,970nm,15.7s						
SNY				LR	LR		
	comp=Z,5μm,13.8s						
SNY				LR	LR		
	comp=Z,7μm,13.3s						
NKL	**Nikolayevsk**	**16.41**	**357**	*e*P	**Pn**	**12 05 17.6**	**-3.5**
NKL				pmax	pmax		
	comp=N,10.0nm,1.1s						
NKL				pmax	pmax		
	comp=Z,33nm,1.1s						
DL2	**Dalian**	**16.45**	**284**	P	**Pn**	**12 05 21.6**	**-0.1**
DL2				S	**Sn**	**12 08 21.1**	**-2.4**
DL2				pmax	pmax		
	comp=Z,54nm,1.0s						
DL2				pmax	pmax		
	comp=Z,430nm,5.0s						
DL2				LR	LR		
	comp=Z,790nm,15.1s						
DL2				LR	LR		
	comp=Z,2μm,14.5s						
DL2				LR	LR		
	comp=Z,2μm,14.3s						
PETK	**Petropavlovsk-**	**19.57**	**29**	P	**P**	**12 05 57.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=206,slow=13,SNR=3.3						
NJ2	**Nanjing**	**19.87**	**263**	*e*P	**Pn**	**12 06 03.9**	**+0.1**
NJ2	**Nanjing**	**19.87**	**263**	*e*P	**Pn**	**12 06 04.1**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.9s						
NJ2				LR	LR		
	comp=Z,1μm,11.4s						
NJ2				LR	LR		
	comp=Z,2μm,13.6s						
NJ2				LR	LR		
	comp=Z,2μm,14.6s						
ZEA	**Zeya**	**19.91**	**333**	*e*P	**P**	**12 06 02.2**	**-0.1**
ZEA				pmax	pmax		
	comp=E,20nm,0.6s						
ZEA				pmax	pmax		
	comp=N,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,64nm,1.0s						
ZEA				MLR	MLR		
	comp=N,3μm,15.0s						
ZEA				MLR	MLR		
	comp=E,2μm,15.0s						
ZEA				MLR	MLR		
	comp=Z,5μm,15.0s						
TIA	**Tai'an**	**20.22**	**276**	P	**P**	**12 06 04.3**	**-1.5**
TIA				pmax	pmax		
	comp=Z,220nm,0.9s						
TIA				LR	LR		
	comp=Z,1μm,13.5s						
TIA				LR	LR		
	comp=Z,1μm,14.1s						
TIA				LR	LR		
	comp=Z,2μm,14.7s						
HIA	**Hailar**	**20.57**	**314**	*e*P	**P**	**12 06 08.6**	**-1.0**
HIA				pmax	pmax		
	comp=Z,42nm,1.0s						
HIA	**Hailar**	**20.57**	**314**	*e*P	**P**	**12 06 08.6**	**-1.0**
	comp=Z,42nm,1.0s						
BJI	**Beijing**	**20.68**	**287**	P	**P**	**12 06 08.3**	**-2.5**
BJI				S	**S**	**12 10 00.5**	**0.0**
BJI				pmax	pmax		
	comp=Z,15nm,0.7s						
BJI				LR	LR		
	comp=Z,2μm,13.4s						
BJI				LR	LR		
	comp=Z,2μm,15.2s						
BJI				LR	LR		
	comp=Z,1μm,22.0s						
BJT	**Baijiatuau**	**20.69**	**287**	*e*P	**P**	**12 06 09.3**	**-1.6**
BJT				pmax	pmax		
	comp=Z,48nm,0.9s						
BJT	**Baijiatuau**	**20.69**	**287**	*e*P	**P**	**12 06 09.3**	**-1.6**
	comp=Z,48nm,0.9s						
SSLB	**Suanglung**	**22.45**	**241**	*e*P	**P**	**12 06 31.4**	**+1.5**
	comp=Z,57nm,1.4s						
TPUB	**Ta-pu**	**22.99**	**240**	*e*P	**P**	**12 06 34.9**	**-0.8**
	comp=Z,198nm,1.7s						
TWG	**Pinlang**	**23.00**	**239**	*e*P	**P**	**12 06 36.1**	**+0.4**
	comp=Z,188nm,1.1s						
CLNS	**Chul'man**	**23.20**	**335**	*e*P	**P**	**12 06 35.1**	**-2.4**
CLNS				*e**PP	**pP**	**12 06 43.8**	**-0.9**
CLNS				*e*		12 07 02.3	
CLNS				*e*		12 10 20.0	
CLNS				*e*S	**S**	**12 10 47.0**	**-0.5**
CLNS				*e*SS	**SnSn**	**12 11 33.4**	**+11**
CLNS				pmax	pmax		
	comp=N,15nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,29nm,1.0s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,29nm,0.9s						
CLNS				pmax	pmax		
	comp=N,46nm,1.1s						
CLNS				pmax	pmax		
	comp=E,24nm,1.1s						
CLNS				smax	smax		
	comp=E,369nm,14.1s						
CLNS				smax	smax		
	comp=N,306nm,12.3s						
CLNS				MLR	MLR		
	comp=Z,3μm,13.0s						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s						
CLNS				MLR	MLR		
	comp=N,2μm,12.0s						
GUMO	**Guam**	**23.21**	**174**	*e*P	**P**	**12 06 36.4**	**-1.5**
GUMO				pmax	pmax		
	comp=Z,387nm,1.3s						
GUMO	**Guam**	**23.21**	**174**	*e*P	**P**	**12 06 36.4**	**-1.5**
	comp=Z,387nm,1.3s						
MA2	**Magadan**	**23.46**	**11**	P	**P**	**12 06 39.8**	**-0.3**
	comp=Z,22nm,0.8s,baz=196,slow=7.0,SNR=19						
MA2	**Magadan**	**23.46**	**11**	*d i*P	**P**	**12 06 40.1**	**+0.1**
WHN	**Wuhan**	**24.01**	**263**	⇑P	**P**	**12 06 44.8**	**-0.7**
WHN				pP	**sP**	**12 06 55.6**	**-0.7**
WHN				sP	**pP**	**12 06 59.3**	**+6.2**
WHN				S	**S**	**12 11 01.0**	**0.0**
WHN				LR	LR		
	comp=Z,2μm,12.9s						
WHN				LR	LR		
	comp=Z,3μm,13.9s						
WHN				LR	LR		
	comp=Z,4μm,14.3s						
HHC	**Hu-ho-hao-te**	**24.21**	**289**	*e*P	**P**	**12 06 46.4**	**-1.0**
HHC				sP	sP	12 06 59.8	+1.5
HHC				S	**S**	**12 10 59.8**	**-4.4**
HHC				sS	sS	12 11 14.9	-1.9
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,4.9s						
HHC				LR	LR		
	comp=Z,1μm,13.0s						
HHC				LR	LR		
	comp=Z,790nm,11.3s						
HHC				LR	LR		
	comp=Z,640nm,13.0s						
CIT	**Chita**	**25.34**	**316**	*e*P	**P**	**12 06 57.9**	**+0.4**
CIT				*e*		12 07 07.3	
CIT				*e*		12 07 36.1	
CIT				pmax	pmax		
	comp=Z,339nm,1.5s						
YAK	**Yakutsk**	**26.47**	**347**	P	**P**	**12 07 07.7**	**+0.2**
	comp=Z,64nm,0.7s,baz=191,slow=1.2,SNR=33						
YAK	**Yakutsk**	**26.47**	**347**	*e*P	**P**	**12 07 06.5**	**-1.0**
YAK				*e**PP	**pP**	**12 07 15.8**	**+0.6**
YAK				*e*PPP	PPP	12 07 53.8	
YAK				*e*S	**S**	**12 11 34.1**	**-5.5**
YAK				*e**SS	**pS**	**12 11 47.8**	**+0.2**
YAK				*e*SSS	SSS	12 13 04.3	
YAK				pmax	pmax		
	comp=Z,83nm,0.9s						
YAK				pmax	pmax		
	comp=N,26nm,1.1s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=Z,179nm,0.8s						
YAK				pmax	pmax		
	comp=N,86nm,1.1s						
YAK				pmax	pmax		
	comp=E,29nm,1.0s						
YAK				smax	smax		
	comp=E,143nm,3.3s						
YAK				smax	smax		
	comp=N,45nm,2.3s						
YAK				MLR	MLR		
	comp=Z,3μm,15.0s						
YAK				MLR	MLR		
	comp=N,3μm,16.0s						
YAK				MLR	MLR		
	comp=E,497nm,12.0s						
YAK	**Yakutsk**	**26.47**	**347**	*e*P	**P**	**12 07 07.5**	**-0.1**
	comp=E,166nm,0.7s						
SEY	**Seymchan**	**26.91**	**10**	P	**P**	**12 07 12.4**	**+1.0**
	comp=E,18nm,0.8s,baz=192,slow=7.4,SNR=32						
SEY	**Seymchan**	**26.91**	**10**	⇓*e*P	**P**	**12 07 13.2**	**+1.7**
XAN	**Xi'an**	**27.25**	**274**	P	**P**	**12 07 14.5**	**-0.4**
XAN				pP	sP	12 07 24.4	-1.3
XAN				sP	pP	12 07 28.3	+5.8
XAN				PP	**PnPn**	**12 07 59.1**	**+0.3**
XAN				S	**S**	**12 11 56.8**	**+4.3**
XAN				pmax	pmax		
	comp=E,47nm,1.2s						
XAN				pmax	pmax		
	comp=E,230nm,5.0s						
XAN				LR	LR		
	comp=E,790nm,14.5s						
XAN				LR	LR		
	comp=E,940nm,15.2s						
XAN				LR	LR		
	comp=E,1μm,16.1s						
H11N2	**WAKE ISLAND Hy**	**27.43**	**122**	T	T	12 36 31.3	
	baz=318						
H11N1	**WAKE ISLAND Hy**	**27.43**	**122**	T	T	12 36 22.2	
	baz=318,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.45**	**122**	T	T	12 36 09.7	
	baz=318,slow=74						
ENH	**Enshi**	**28.00**	**266**	*e*P	**P**	**12 07 21.2**	**-0.5**
	comp=E,10nm,0.9s						
ULN	**Ulaanbaatar**	**28.07**	**304**	*c i*P	**P**	**12 07 22.7**	**+0.5**
ULN				pmax	pmax		
	comp=Z,49nm,1.0s						
ULN	**Ulaanbaatar**	**28.07**	**304**	*e*P	**P**	**12 07 22.8**	**+0.5**
	comp=Z,52nm,1.1s						
ULN	**Ulaanbaatar**	**28.07**	**304**	P	**P**	**12 07 23.0**	**+0.8**
	SNR=20						
ULN	**Ulaanbaatar**	**28.07**	**304**	P	**P**	**12 07 23.0**	**+0.8**
	SNR=20						
BOD	**Bodaibo**	**28.11**	**327**	*e*	**P**	**12 07 22.2**	**-0.1**
BOD				pmax	pmax		
	comp=Z,44nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**28.14**	**124**	T	T	12 37 30.5	
	baz=318,slow=74,SNR=41						
H11S3	**WAKE ISLAND Hy**	**28.14**	**124**	T	T	12 37 15.5	
	baz=318,slow=74,SNR=44						
H11S2	**WAKE ISLAND Hy**	**28.16**	**124**	T	T	12 37 54.8	
	baz=318,SNR=45						
GZH	**Guangzhou**	**28.42**	**249**	P	**P**	**12 07 21.1**	**-4.2**
GZH				S	**S**

	comp=Z,270nm,5.2s								
LZH					LR	LR			
	comp=Z,2µm,14.0s								
LZH					LR	LR			
	comp=Z,2µm,13.8s								
LZH					LR	LR			
	comp=Z,2µm,15.0s								
ZAK	**Zakamensk**	**30.97**	**308**	*e*		**P**	**P**	**12 07 48.4**	**+0.6**
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.3s								
ZAK					pmax	pmax			
	comp=Z,28nm,1.2s								
ZAK					pmax	pmax			
	comp=Z,27nm,1.1s								
TLY	**Talaya**	**31.02**	**311**	P		**P**	**P**	**12 07 48.0**	**-0.1**
	comp=Z,9.6nm,0.7s,baz=122,slow=5.2,SNR=38								
TLY	**Talaya**	**31.02**	**311**	*eP*		**P**		**12 07 48.8**	**+0.6**
TLY					eSS	SS		12 14 36.7	-27
TLY					eSSS	SSS		12 15 03.2	
TLY					pmax	pmax			
	comp=Z,49nm,1.4s								
TLY					MLR	MLR			
	comp=Z,798nm,13.0s								
TLY	**Talaya**	**31.02**	**311**	*eP*		**P**		**12 07 48.8**	**+0.6**
	comp=Z,62nm,1.4s								
TLY	**Talaya**	**31.02**	**311**	P		**P**		**12 07 49.0**	**+0.8**
	SNR=21								
TLY	**Talaya**	**31.02**	**311**	P		**P**		**12 07 49.0**	**+0.8**
	SNR=21								
GYA	**Guiyang**	**31.86**	**261**	*i* P		**P**		**12 07 54.6**	**-1.4**
GYA					pP	sP		12 08 07.3	+0.4
GYA					PP	**PnPn**		**12 09 03.3**	**+2.4**
GYA					PcP	**PcP**		**12 10 48.0**	**+1.6**
GYA					S	**S**		**12 13 04.0**	**-1.3**
GYA					ScP	**ScP**		**12 14 27.8**	**-0.2**
GYA					pmax	pmax			
	comp=Z,30nm,0.7s								
GYA					pmax	pmax			
	comp=Z,120nm,5.0s								
GYA					LR	LR			
	comp=Z,480nm,17.0s								
GYA					LR	LR			
	comp=Z,460nm,17.5s								
GYA					LR	LR			
	comp=Z,490nm,17.6s								
CD2	**Chengdu**	**32.37**	**271**	P		**P**		**12 07 59.8**	**-0.5**
CD2					pP	sP		12 08 09.8	-1.4
CD2					sP	pP		12 08 14.3	+6.3
CD2					S	**S**		**12 13 11.6**	**-1.3**
CD2					sS	sS		12 13 28.6	+3.0
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CD2					pmax	pmax			
	comp=Z,120nm,5.2s								
CD2					LR	LR			
	comp=Z,2µm,14.4s								
CD2					LR	LR			
	comp=Z,2µm,14.9s								
CD2					LR	LR			
	comp=Z,1µm,17.9s								
MOY	**Mondy**	**32.63**	**310**	*eP*		**P**		**12 08 02.9**	**+0.5**
MOY					pmax	pmax			
	comp=Z,29nm,1.7s								
GTA	**Gaotai**	**33.30**	**288**	*eP*		**P**		**12 08 08.8**	**+0.4**
GTA					pP	sP		12 08 17.8	-1.6
GTA					sP	pP		12 08 21.8	+5.6
GTA					S	**S**		**12 13 25.0**	**-2.4**
GTA					sS	sS		12 13 41.8	+1.7
GTA					SS	**SnSn**		**12 15 28.8**	**+0.2**
GTA					pmax	pmax			
	comp=Z,30nm,0.8s								
GTA					pmax	pmax			
	comp=Z,200nm,5.9s								
GTA					LR	LR			
	comp=Z,880nm,14.5s								
GTA					LR	LR			
	comp=Z,700nm,16.2s								
GTA					LR	LR			
	comp=Z,610nm,15.7s								
QIZ	**Qiongzhong**	**33.46**	**247**	P		**P**		**12 08 09.5**	**-0.4**
QIZ					S	**S**		**12 13 27.8**	**-2.2**
QIZ					pmax	pmax			
	comp=Z,19nm,0.7s								
QIZ					LR	LR			
	comp=Z,530nm,11.8s								
QIZ					LR	LR			
	comp=Z,610nm,11.8s								
QIZ					LR	LR			
	comp=Z,570nm,20.6s								
BILL	**Bilibino**	**34.08**	**16**	*i* P		**P**		**12 08 13.3**	**-1.4**
BILL				*i*				12 08 23.5	
BILL					pmax	pmax			
	comp=Z,8.0nm,1.2s								
KNGR	**Kungurtug, Tuv**	**34.64**	**308**	‖ *i* P		**P**		**12 08 21.1**	**+1.1**
KMI	**Kunming**	**35.61**	**262**	P		**P**		**12 08 28.4**	**-0.3**
KMI					pP	sP		12 08 37.6	-2.0
KMI					sP	pP		12 08 44.1	+7.7
KMI					S	**S**		**12 14 02.8**	**-0.7**
KMI					sS	sS		12 14 19.1	+2.8
KMI					pmax	pmax			
	comp=Z,38nm,0.9s								
KMI					pmax	pmax			
	comp=Z,100nm,3.1s								
KMI					LR	LR			
	comp=Z,670nm,17.8s								
KMI					LR	LR			
	comp=Z,630nm,15.1s								
KMI					LR	LR			
	comp=Z,810nm,15.8s								
TIXI	**Tiksi**	**35.62**	**353**	P		**P**		**12 08 27.8**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=161,slow=6.8,SNR=8.7								
TIXI	**Tiksi**	**35.62**	**353**	‖ *eP*		**P**		**12 08 27.7**	**-0.3**
TIXI					pmax	pmax			
	comp=Z,8.0nm,1.2s								
TIXI	**Tiksi**	**35.62**	**353**	*eP*		**P**		**12 08 27.6**	**-0.3**
	comp=Z,7.1nm,0.8s								
MYLDM	**Lahad Datu**	**38.26**	**220**	*eP*		**P**		**12 08 51.6**	**+0.7**
	comp=Z,70nm,1.1s								
KKM	**Kota Kinabalu**	**38.77**	**224**	*eP*		**P**		**12 08 57.1**	**+1.6**
	comp=Z,27nm,1.2s								
KHON	**Khomkaen**	**40.37**	**250**	P		**P**		**12 09 10.2**	**+1.6**
	comp=Z,13nm,1.2s,comp=Z,1µm								
MRSI	**Marisa**	**40.73**	**212**	P		**P**		**12 09 10.8**	**-0.8**
CMAI	**Chiengmai2**	**41.20**	**258**	P		**P**		**12 09 17.0**	**+1.3**
	comp=Z,108nm,0.9s								
CHAI	**Chaiyaphum**	**41.27**	**251**	P		**P**		**12 09 16.5**	**+0.4**
	comp=Z,12nm,1.0s,comp=Z,91nm								
SANI	**Sanana**	**41.50**	**205**	P		**P**		**12 09 16.7**	**-1.2**
LAMP	**Lampang**	**41.53**	**256**	P		**P**		**12 09 19.8**	**+1.6**
	comp=Z,7.2nm,0.8s,comp=Z,91nm								
WMQ	**Urumqi**	**41.57**	**297**	P		**P**		**12 09 19.4**	**+1.0**
WMQ					pP	sP		12 09 28.8	-0.6
WMQ					sP	pP		12 09 37.4	+11
WMQ					S	**S**		**12 15 39.0**	**+6.2**
WMQ					pmax	pmax			
	comp=Z,47nm,1.1s								
WMQ					pmax	pmax			
	comp=Z,400nm,3.7s								
WMQ					LR	LR			
	comp=Z,1µm,13.7s								
WMQ					LR	LR			
	comp=Z,2µm,14.7s								
WMQ					LR	LR			
	comp=Z,2µm,24.3s								
PHIT	**Phitsanulok**	**41.69**	**254**	P		P		12 09 27.2	+7.7
CMMT	**Chiang Mai**	**41.90**	**257**	P		**P**		**12 09 21.0**	**-0.2**
	comp=Z,9.6nm,1.2s,comp=Z,360nm								
CHTO	**Chiang Mai**	**41.90**	**257**	P		**P**		**12 09 22.0**	**+0.7**
	comp=Z,67nm,0.9s								
CHTO	**Chiang Mai**	**41.90**	**257**	*eP*		**P**		**12 09 20.9**	**-0.3**
CHTO					pmax	pmax			
	comp=Z,9.0nm,1.0s								
CHTO	**Chiang Mai**	**41.90**	**257**	*eP*		**P**		**12 09 20.9**	**-0.3**
	comp=Z,8.8nm,1.0s								
CHTO	**Chiang Mai**	**41.90**	**257**	P		**P**		**12 09 21.5**	**+0.2**
CHTO	**Chiang Mai**	**41.90**	**257**	P		**P**		**12 09 21.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**42.10**	**256**	P		**P**		**12 09 22.5**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=43,slow=8.2,SNR=12								
APSI	**Ampana**	**42.11**	**212**	P		**P**		**12 09 22.3**	**-0.6**
ZAA0	**Zalesovo Array**	**42.59**	**313**	*eP*		**P**		**12 09 26.8**	**+0.3**
	comp=Z,29nm,1.0s								
ZALV	**Zalesovo Beam**	**42.59**	**313**	P		**P**		**12 09 27.0**	**+0.6**
	comp=Z,10nm,0.6s,baz=90,slow=7.4,SNR=44								
LSA	**Lhasa**	**42.92**	**276**	P		**P**		**12 09 31.3**	**+1.3**
LSA					pmax	pmax			
	comp=Z,17nm,1.2s								
LSA	**Lhasa**	**42.92**	**276**	*eP*		**P**		**12 09 30.6**	**+0.6**
LSA					pmax	pmax			
	comp=Z,19nm,0.8s								
LSA	**Lhasa**	**42.92**	**276**	*eP*		**P**		**12 09 30.6**	**+0.6**
	comp=Z,19nm,0.8s								
NVS	**Novosibirsk**	**43.51**	**314**	‖ *i* P		**P**		**12 09 34.7**	**+0.8**
NVS					pmax	pmax			
	comp=N,8.0nm,1.3s								
NVS					pmax	pmax			
	comp=Z,37nm,1.3s								
NVS					pmax	pmax			
	comp=E,27nm,1.4s								
SBUM	**Sibu**	**43.98**	**226**	*eP*		**P**		**12 09 38.6**	**+0.6**
	comp=E,14nm,1.3s								
SHL	**Shillong**	**44.09**	**270**	*eP*		**P**		**12 09 39.0**	**-0.2**
SHL					*eS*	**S**		**12 16 05.0**	**-5.5**
SRDT	**SRDT**	**44.40**	**251**	P		**P**		**12 09 42.5**	**+1.1**
	comp=E,16nm,1.0s,comp=E,4µm								
MK31	**Makanchi Array**	**44.84**	**302**	*eP*		**P**		**12 09 44.8**	**+0.1**
MK31					pmax	pmax			
	comp=Z,15nm,0.7s								
MK31	**Makanchi Array**	**44.84**	**302**	*eP*		**P**		**12 09 45.1**	**+0.5**
MKAR	**Makanchi Array**	**44.84**	**302**	P		**P**		**12 09 45.0**	**+0.4**
	comp=Z,14nm,0.8s,baz=87,slow=9.3,SNR=81								
MKAR	**Makanchi Array**	**44.84**	**302**	*eP*		**P**		**12 09 45.1**	**+0.4**
MKAR					pmax	pmax			
	comp=Z,125nm,0.8s								
MKAR	**Makanchi Array**	**44.84**	**302**	*eP*		**P**		**12 09 45.1**	**+0.4**
	comp=Z,125nm,0.8s								
PHET	**Kaeng Krachan**	**44.91**	**249**	P		**P**		**12 09 47.1**	**+1.5**
	comp=Z,10nm,0.9s,comp=Z,157nm								
SVW2	**Sparrevohn**	**45.30**	**37**	*eP*		**P**		**12 09 45.9**	**-2.3**
	comp=Z,22nm,1.2s								
KSM	**Kuching**	**45.88**	**227**	*eP*		**P**		**12 09 53.9**	**+0.6**
	comp=Z,12nm,0.7s								
BNSI	**Bone**	**45.90**	**212**	P		**P**		**12 09 54.4**	**+1.1**
STKI	**Sintang**	**46.34**	**225**	P		**P**		**12 09 57.3**	**+0.5**
KURK	**Kurchatov**	**46.63**	**308**	*c i* P		**P**		**12 09 58.8**	**+0.1**
KURK					pmax	pmax			
	comp=Z,169nm,1.0s								
KURK	**Kurchatov**	**46.63**	**308**	*eP*		**P**		**12 09 58.9**	**+0.1**
	comp=Z,49nm,0.9s								
KURK	**Kurchatov**	**46.63**	**308**	P		**P**		**12 09 58.9**	**+0.2**
	SNR=18								
KURK	**Kurchatov**	**46.63**	**308**	P		**P**		**12 09 58.9**	**+0.2**
	SNR=18								
TAPN	**Taplejung**	**46.65**	**275**	*eP*		**P**		**12 10 00.1**	**+0.6**
	comp=Z,75nm,1.1s								
KURBB	**Kurchatov Arra**	**46.70**	**308**	P		**P**		**12 09 59.0**	**-0.3**
	comp=Z,24nm,0.8s,baz=83,slow=8.0,SNR=86								
KDAK	**Kodiak Island**	**46.83**	**42**	P		**P**		**12 09 59.5**	**-0.7**
	comp=Z,21nm,0.9s,baz=263,slow=6.1,SNR=7.0								
KDAK	**Kodiak Island**	**46.83**	**42**	*i* P		**P**		**12 09 59.8**	**-0.3**
PPLA	**Purkeypile**	**46.98**	**35**	*eP*		**P**		**12 10 03.0**	**+1.6**
	comp=Z,42nm,1.5s								
SPU	**Mount Spurr**	**47.02**	**37**	*eP*		**P**		**12 10 01.0**	**-0.7**
CAST	**Castle Rocks**	**47.05**	**34**	*eP*		**P**		**12 10 02.8**	**+1.0**
	comp=Z,6.7nm,0.8s								
ODAN	**Odare**	**47.12**	**274**	*eP*		**P**		**12 10 03.6**	**+0.4**
	comp=Z,54nm,0.8s								
PDGK	**Podgornoye**	**47.50**	**298**	P		**P**		**12 10 05.5**	**-0.3**
PDGK					pmax	pmax			
	comp=Z,44nm,1.1s								
BPAW	**Bear Paw Mtn.**	**47.56**	**33**	*eP*		**P**		**12 10 06.8**	**+1.0**
	comp=Z,19nm,1.6s								
KTH	**Kantishna Hill**	**47.57**	**34**	*eP*		**P**		**12 10 06.7**	**+0.7**
	comp=Z,24nm,1.3s								
MLY	**Manley**	**47.70**	**32**	*eP*		**P**		**12 10 07.8**	**+0.9**
	comp=Z,11nm,0.8s								
RAMN	**Ramite**	**47.71**	**275**	*eP*		**P**		**12 10 08.2**	**+0.4**
	comp=Z,110nm,1.0s								
JIRN	**Jiri**	**47.73**	**276**	*eP*		**P**		**12 10 08.9**	**+0.9**
	comp=Z,68nm,0.6s								
GUN	**Gumba**	**47.87**	**276**	*eP*		**P**		**12 10 09.6**	**+0.5**
	comp=Z,99nm,0.9s								
SURT	**Suratani**	**48.10**	**246**	P		**P**		**12 10 11.3**	**+0.7**
	comp=Z,7.6nm,1.0s								
TOLK	**Toolik Lake Re**	**48.38**	**27**	*eP*		**P**		**12 10 13.2**	**+1.1**
	comp=Z,8.2nm,0.9s								
PKI	**Pulchoki**	**48.39**	**276**	*eP*		**P**		**12 10 13.2**	**+0.1**
	comp=Z,26nm,0.7s								
PKIN	**Phulchoki**	**48.40**	**276**	*eP*		**P**		**12 10 13.1**	**0.0**
	comp=Z,39nm,0.6s								
KKN	**Kakani**	**48.40**	**276**	*eP*		**P**		**12 10 13.6**	**+0.6**
	comp=Z,64nm,0.8s								
PMR	**Palmer**	**48.42**	**37**	*eP*		**P**		**12 10 09.6**	**-2.8**
PMR					pmax	pmax			
	comp=Z,23nm,1.3s								
PMR	**Palmer**	**48.42**	**37**	*eP*		**P**		**12 10 09.6**	**-2.8**
	comp=Z,23nm,1.3s								
MCK	**McKinley**	**48.46**	**34**	*eP*		**P**		**12 10 13.5**	**+0.7**
MCK					pmax	pmax			
	comp=Z,8.0nm,0.9s								
MCK	**McKinley**	**48.46**	**34**	*eP*		**P**		**12 10 13.5**	**+0.7**
	comp=Z,8.1nm,0.9s								
PRZ	**Przheval'sk**	**48.49**	**298**	P		**P**		**12 10 14.9**	**+1.3**
PRZ					pmax	pmax			
	comp=Z,37nm,1.2s								
RND	**Reindeer**	**48.50**	**34**	*eP*		**P**		**12 10 13.3**	**+0.1**
RND					pmax	pmax			
	comp=Z,11nm,0.9s								
RND	**Reindeer**	**48.50**	**34**	*eP*		**P**		**12 10 13.3**	**+0.1**
	comp=Z,11nm,0.9s								
DMN	**Daman**	**48.62**	**276**	*eP*		**P**		**12 10 15.0**	**+0.2**
	comp=Z,34nm,0.9s								
MDM	**Murphy Dome**	**48.76**	**32**	*eP*		**P**		**12 10 16.1**	**+0.9**
	comp=Z,18nm,0.8s								
GKN	**Gorkha**	**48.82**	**277**	*eP*		**P**		**12 10 16.7**	**+0.5**
	comp=Z,108nm,1.1s								
WRH	**Wood River Hil**	**48.83**	**33**	*eP*		**P**		**12 10 15.4**	**-0.1**
	comp=Z,8.6nm,1.0s								
COLA	**College**	**48.92**	**32**	*eP*		**P**		**12 10 15.9**	**-0.4**
COLA					pmax	pmax			
	comp=Z,24nm,1.4s								
COLA	**College**	**48.92**	**32**	*eP*		**P**		**12 10 15.9**	**-0.4**
	comp=Z,24nm,1.4s								
PKDT	**Phuket**	**49.15**	**245**	P		**P**		**12 10 19.5**	**+0.8**
	comp=Z,17nm,1.2s,comp=Z,1µm								
SOEI	**Soe**	**49.29**	**204**	P		**P**		**12 10 19.4**	**-0.3**
SOEI	**Soe**	**49.29**	**204**	*eP*		**P**		**12 10 23.3**	**+3.6**
	comp=Z,79nm,1.1s								
HDA	**Harding Lake**	**49.32**	**33**	*eP*		**P**		**12 10 19.3**	**-0.1**
	comp=Z,7.7nm,0.8s								
IL1	**Eielson Array**	**49.34**	**32**	*eP*		**P**		**12 10 19.0**	**-0.5**
ILAR	**Eielson Array**	**49.34**	**32**	P		**P**		**12 10 19.1**	**-0.4**
	comp=Z,7.4nm,0.8s,baz=261,slow=6.4,SNR=72								
ILB	**Eielson Array**	**49.34**	**32**	*eP*		**P**		**12 10 19.4**	**0.0**
DANN	**Dangsing**	**49.37**	**278**	*eP*		**P**		**12 10 21.2**	**+0.6**
	comp=Z,12nm,0.9s								
IPM	**Ipoh**	**49.60**	**240**	*eP*		**P**		**12 10 21.7**	**-0.4**
	comp=Z,25nm,1.0s								
KOLN	**Koldanda**	**49.75**	**277**	*eP*		**P**		**12 10 23.9**	**+0.5**
	comp=Z,28nm,0.7s								
PYUN	**Piuthan**	**50.09**	**278**	*eP*		**P**		**12 10 26.5**	**+0.5**
	comp=Z,124nm,1.0s								
HARP	**HAARP**	**50.24**	**35**	*eP*		**P**		**12 10 26.2**	**-0.2**
	comp=Z,84nm,1.7s								
TKM2	**Tokmak 2**	**50.36**	**299**	P		**P**		**12 10 28.3**	**+0.5**
TKM2					pmax	pmax			
	comp=Z,43nm,1.3s								
TKM2	**Tokmak 2**	**50.36**	**299**	P		**P**		**12 10 29.1**	**+1.3**
	SNR=13								
DOT	**Dot Lake**	**50.63**	**34**	*eP*		**P**		**12 10 27.6**	**-1.8**
	comp=Z,77nm,1.9s								
SCRK	**Sand Creek**	**50.64**	**33**	*eP*		**P**		**12 10 29.1**	**-0.5**
	comp=Z,9.0nm,0.9s								
KZA	**Kyzart**	**50.85**	**298**	P		**P**		**12 10 33.4**	**+1.6**
	SNR=12								
KBK	**Karagaybulak**	**50.89**	**299**	P		**P**		**12 10 32.9**	**+1.1**
	SNR=9.2								
USP	**Ospenovka**	**51.02**	**300**	P		**P**		**12 10 32.9**	**+0.2**
	SNR=6.2								
FRU	**Bishkek**	**51.07**	**299**	*eP*		**P**		**12 10 34.0**	**+1.0**
FRU					MLR	MLR			
	comp=E,1µm,16.0s								
AAK	**Ala-Archa**	**51.22**	**299**	*c i* P		**P**		**12 10 34.8**	**+0.6**
AAK					pmax	pmax			
	comp=Z,8.0nm,1.1s								
AAK	**Ala-Archa**	**51.22**	**299**	P		**P**		**12 10 34.9**	**+0.6**
	SNR=10								
AAK	**Ala-Archa**	**51.22**	**299**	*eP*		**P**		**12 10 34.0**	**-0.2**
	comp=Z,12nm,0.9s								
AAK	**Ala-Archa**	**51.22**	**299**	P		**P**		**12 10 34.9**	**+0.6**
	SNR=6.5								
AAK	**Ala-Archa**	**51.22**	**299**	P		**P**		**12 10 34.9**	**+0.6**
	SNR=6.5								
AAK	**Ala-Archa**	**51.22**	**299**	*i* P		**P**		**12 10 34.8**	**+0.6**
	SNR=17								
BVAR	**Borovoye Array**	**51.25**	**313**	P		**P**		**12 10 34.5**	**+0.3**
	comp=Z,8.3nm,0.9s,baz=78,slow=7.7,SNR=24								
BRVK	**Borovoye**	**51.31**	**313**	*eP*		**P**		**12 10 35.0**	**+0.5**
BRVK					pmax	pmax			
	comp=Z,14nm,0.9s								
BRVK	**Borovoye**	**51.31**	**313**	*eP*		**P**		**12 10 35.0**	**+0.5**
	comp=Z,14nm,0.9s								
BRVK	**Borovoye**	**51.31**	**313**	P		**P**		**12 10 35.0**	**+0.5**
	SNR=6.2								
BRVK	**Borovoye**	**51.31**	**313**	P		**P**		**12 10 35.0**	**+0.5**
	SNR=6.2								
UCH	**Uchtor**	**51.33**	**298**	P		**P**		**12 10 37.0**	**+1.5**
	SNR=7.2								
EKS2	**Erkin-Say**	**51.71**	**299**	P		**P**		**12 10 38.5**	**+0.7**
	SNR=9.6								
AML	**Almayashu**	**51.94**	**298**	P		**P**		**12 10 41.2**	**+1.3**
	SNR=16								
PSI	**Prapat**	**52.26**	**240**	*eP*		**P**		**12 10 42.2**	**0.0**
PSI					pmax	pmax			
	comp=Z,10.0nm,0.8s								
PSI	**Prapat**	**52.26**	**240**	*eP*		**P**		**12 10 42.2**	**0.0**
	comp=Z,10nm,0.8s								
MNAS	**Manas**	**52.66**	**299**	P		**P**		**12 10 45.0**	**0.0**
MNAS					pmax	pmax			
	comp=Z,15nm,0.8s								
SFK	**Sufi-Kurgan**	**52.77**	**296**	P		**P**		**12 10 45.7**	**-0.2**
SFK					pmax	pmax			
	comp=Z,27nm,0.9s								
KK31	**Karatay Array**	**53.85**	**301**	P		**P**		**12 10 53.1**	**-0.4**
KK31					pmax	pmax			
	comp=Z,14nm,1.1s								
KKAR	**Karatay Array**	**53.85**	**301**	*eP*		**P**		**12 10 54.3**	**+0.8**
KKAR	**Karatay Array**	**53.85**	**301**	*eP*		**P**		**12 10 54.3**	**+0.8**
HYT	**Haines Junctio**	**54.09**	**37**	*eP*		**P**		**12 10 55.4**	**+0.2**
	comp=Z,23nm,1.3s								
LEM	**Lembang**	**54.17**	**224**	P		**P**		**12 10 55.6**	**-0.7**
	comp=Z,30nm,0.7s,baz=31,slow=4.5,SNR=7.8								
GSI	**Gunungsitoli**	**54.27**	**240**	P		**P**		**12 10 56.5**	**-0.4**
GSI	**Gunungsitoli**	**54.27**	**240**	*eP*		**P**		**12 10 56.2**	**-0.6**
	comp=Z,48nm,0.8s								
MDSI	**Maura Dua**	**54.30**	**229**	P		**P**		**12 10 55.8**	**-1.2**
INK	**Inuvik**	**54.30**	**27**	P		**P**		**12 10 56.5**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=304,slow=7.2,SNR=26								
INK	**Inuvik**	**54.30**	**27**	*eP*		**P**		**12 10 56.7**	**+0.3**
INK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
INK	**Inuvik**	**54.30**	**27**	*eP*		**P**		**12 10 56.7**	**+0.3**
	comp=Z,5.5nm,0.8s								
WHY	**Whitehorse**	**55.38**	**36**	*eP*		**P**		**12 11 05.4**	**+0.9**
	comp=Z,8.3nm,1.0s								
SVE	**Sverdlovsk**	**55.79**	**319**	*eP*		**P**		**12 11 08.5**	**+1.2**
SVE					pmax	pmax			
	comp=Z,41nm,1.1s								
SVE					MLR	MLR			
	comp=Z,905nm,15.0s								
WRAB	**Tennant Creek**	**56.90**	**189**	*d i* P		**P**		**12 11 14.8**	**-0.8**
WRAB					pmax	pmax			
	comp=Z,46nm,1.2s								
WRAB	**Tennant Creek**	**56.90**	**189**	*eP*		**P**		**12 11 15.0**	**-0.6**
	comp=Z,26nm,1.0s								
WB2	**Warramunga Arr**	**56.91**	**189**	*eP*		**P**		**12 11 14.1**	**-1.5**
WRA	**Warramunga Arr**	**56.91**	**189**	P		**P**		**12 11 13.2**	**-2.4**
	comp=Z,10.0nm,0.9s,baz=6.2,slow=7.0,SNR=35								
SOKR	**Solikamsk**	**56.94**	**323**	*eP*		**P**		**12 11 16.2**	**+0.7**
SOKR					pmax	pmax			
	comp=Z,11nm,0.7s								
SOKR					MLR	MLR			
	comp=Z,366nm,17.0s								
ARU	**Arti**	**57.01**	**319**	P		**P**		**12 11 16.2**	**+0.2**
	comp=Z,8.7nm,0.5s,baz=64,slow=4.8,SNR=18								
ARU	**Arti**	**57.01**	**319**	*c i* P		**P**		**12 11 16.0**	**0.0**
ARU								12 12 13.6	
ARU								12 13 22.2	
ARU					PPP	PPP		12 14 47.0	
ARU					S	**S**		**12 19 10.0**	**+1.4**
ARU					pmax	pmax			
	comp=Z,38nm,1.2s								
ARU					MLR	MLR			
	comp=Z,623nm,15.0s								
ARU	**Arti**	**57.01**	**319**	*eP*		**P**		**12 11 16.0**	**0.0**
	comp=Z,154nm,2.0s								
KBL	**Kabul**	**58.15**	**291**	*eP*		**P**		**12 11 24.5**	**-0.2**
KBL					pmax	pmax			
	comp=Z,33nm,1.0s								
KBL	**Kabul**	**58.15**	**291**	*eP*		**P**		**12 11 24.5**	**-0.2**
	comp=Z,33nm,1.0s								
AB31	**Akbulak array**	**58.63**	**310**	*i* P		**P**		**12 11 27.1**	**-0.4**
AB31					pmax	pmax			
	comp=Z,8.0nm,0.7s								
ABKAR	**Akbulak array**	**58.63**	**310**	*eP*		**P**		**12 11 27.6**	**+0.1**
	comp=Z,109nm,0.8s								
HYB	**Hyderabad**	**58.89**	**269**	*i* P		**P**		**12 11 29.0**	**-0.8**
AKTO	**Aktyubinsk**	**59.36**	**312**	P		**P**		**12 11 33.0**	**+0.4**
	comp=Z,5.6nm,0.7s,baz=63,slow=5.3,SNR=17								
AS01	**Alice Springs**	**60.63**	**189**	*eP*		**P**		**12 11 40.9**	**-0.6**
AS31	**Alice Springs**	**60.64**	**189**	*eP*		**P**		**12 11 41.2**	**-0.3**
	comp=Z,4.4nm,0.7s								
ASAR	**Alice Springs**	**60.64**	**189**	P		**P**		**12 11 41.0**	**-0.6**
	comp=Z,6.3nm,0.9s,baz=9.8,slow=5.9,SNR=31								
ASAR	**Alice Springs**	**60.64**	**189**	P		**P**		**12 11 41.0**	**-0.6**
ASA

VSR pmax pmax
comp=Z,10.0nm,0.9s
PINE Pine Mountain 69.97 50 *eP* **P 12 12 43.4 +1.2**
comp=Z,60nm,1.5s
E09A Wood Farm, Sta 70.19 46 *eP* **P 12 12 44.2 +1.0**
comp=Z,18nm,1.2s
GOF Gofitskoye 70.77 312⇑ *eP* **P 12 12 47.2 +0.4**
GOF pmax pmax
comp=Z,57nm,1.3s
SUMG Summit 70.94 0 *eP* **P 12 12 48.9 +1.1**
SUMG Summit 70.94 0 *i* P **P 12 12 48.9 +1.1**
VSU Vasula 71.02 330⇓ *eP* **P 12 12 48.9 +0.9**
VSU pmax pmax
comp=Z,46nm,1.2s
KBZ Khabaz 71.59 311 P **P 12 12 53.0 +1.3**
comp=Z,16nm,0.8s,baz=66,slow=4.3,SNR=37
KBZ Khabaz 71.59 311 P **P 12 12 53.0 +1.3**
KBZ pmax pmax
comp=Z,16nm0.9s
KIV Kislovodsk 71.59 311 *eP* **P 12 12 52.2 +0.3**
KIV pmax pmax
comp=Z,53nm,1.1s
KIV Kislovodsk 71.59 311 *eP* **P 12 12 52.1 +0.3**
comp=Z,44nm,0.8s
KIV Kislovodsk 71.59 311 P **P 12 12 52.9 +0.9**
SNR=12
KIV Kislovodsk 71.59 311 P **P 12 12 52.9 +0.9**
SNR=12
KIV Kislodsk 71.59 311 *i* P **P 12 12 52.8 +0.9**
SNR=6.5
BMO Blue Mountains 71.59 48 *eP* **P 12 12 51.9 0.0**
BMO pmax pmax
comp=Z,20nm,1.6s
BMO Blue Mountains 71.59 48 *eP* **P 12 12 51.9 0.0**
comp=Z,20nm,1.6s
WSAR Wadi Sarin 71.60 286 P **P 12 12 52.5 +0.3**
comp=Z,4.1nm,0.7s,baz=105,slow=10,SNR=4.6
JTMT Jette 71.70 44 *eP* **P 12 12 52.7 +0.1**
comp=Z,14nm,1.2s
J08A Circle Bar Ran 71.72 49 *eP* **P 12 12 53.8 +1.1**
comp=Z,26nm,1.4s
ORV Oroville 71.89 54 *eP* **P 12 12 53.9 +0.2**
ORV pmax pmax
comp=Z,8.0nm,1.3s
ORV Oroville 71.89 54 *eP* **P 12 12 53.9 +0.2**
comp=Z,8.2nm,1.3s
BANOM Banah 71.94 289 P **P 12 12 55.1 +0.9**
SNR=8.4
BANOM Banah 71.94 289 P **P 12 12 55.1 +0.9**
SNR=8.4
BANOM Banah 71.94 289 *i* P **P 12 12 54.9 +0.7**
SNR=8.4
GNI Garni 72.41 307 *ceP* **P 12 12 58.3 +1.3**
GNI pmax pmax
comp=Z,29nm,1.1s
MSO Missoula 72.42 44 *eP* **P 12 12 57.0 +0.2**
comp=Z,12nm,1.4s
BEKR Beckworth 72.46 53 *eP* **P 12 12 58.3 +1.0**
comp=Z,10nm,1.1s
UOSS Minazif 72.54 288 *eP* **P 12 12 58.3 +0.5**
comp=Z,16nm,0.8s
UOSS Minazif 72.54 288 P **P 12 12 58.3 +0.5**
SNR=6.5
UOSS Minazif 72.54 288 P **P 12 12 58.3 +0.5**
SNR=6.5
UOSS Minazif 72.54 288 *i* P **P 12 12 57.8 0.0**
SNR=6.5
HATD Hatta, Dubai 72.66 288 P **P 12 12 59.2 +0.6**
SNR=8.3
HATD Hatta, Dubai 72.66 288 P **P 12 12 59.2 +0.6**
SNR=8.3
HATD Hatta, Dubai 72.66 288 *i* P **P 12 12 59.1 +0.6**
SNR=8.3
SOHO SOHO 72.73 287 *i* P **P 12 12 59.4 +0.5**
SNR=6.5
ASHO Ashiyiah 72.80 288 P **P 12 12 58.9 -0.4**
SNR=7.1
ASHO Ashiyiah 72.80 288 P **P 12 12 58.9 -0.4**
SNR=7.1
ASHO Ashiyiah 72.80 288 *i* P **P 12 12 59.7 +0.4**
SNR=6.7
IZAR Zarasai 72.99 328 *eP* **P 12 13 00.4 +0.5**
IZAR IAmb IAmb 12 13 01.0
comp=Z,6.1nm,0.7s
IDID Didziasalis 73.06 327 *eP* **P 12 13 00.8 +0.5**
IDID IAmb IAmb 12 13 02.6
comp=Z,6.7nm,0.9s
ISAL Salakas 73.16 328 *eP* **P 12 13 01.4 +0.5**
ISAL IAmb IAmb 12 13 03.2
comp=Z,15nm,1.1s
IIGN Ignalina 73.26 328 *eP* **P 12 13 02.0 +0.5**
IIGN IAmb IAmb 12 13 03.8
comp=Z,6.2nm,0.6s
MFID Camas Ranch 73.28 48 *eP* **P 12 13 02.9 +0.9**
comp=Z,29nm,1.9s
NACGM Naroch 73.31 327 *e* **P 12 13 02.0 +0.2**
NACGM eLR LR 12 48 14.0
CMB Columbia Colle 73.45 55 *eP* **P 12 13 03.8 +0.7**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 73.45 55 *eP* **P 12 13 03.8 +0.7**
comp=Z,6.0nm,1.0s
FFC Flin Flon 73.54 33 *eP* **P 12 13 03.5 +0.3**
FFC pmax pmax
comp=Z,11nm,1.1s
FFC Flin Flon 73.54 33 *eP* **P 12 13 03.5 +0.3**
comp=Z,10nm,1.1s
HRY Holter Researc 73.66 44 *eP* **P 12 13 03.3 -0.9**
YERR Yerington 73.67 53 *eP* **P 12 13 05.2 +0.8**
comp=Z,20nm,1.4s
LRM Limekiln Ridge 73.84 45 *eP* **P 12 13 06.0 +0.5**
FCC Fort Churchill 73.92 27 *eP* **P 12 13 05.3 0.0**
FCC pmax pmax
comp=Z,12nm,1.3s
FCC Fort Churchill 73.92 27 *eP* **P 12 13 05.3 0.0**
comp=Z,12nm,1.3s
EGMT Eagleton 74.00 42 *eP* **P 12 13 06.5 +0.4**
comp=Z,14nm,1.1s
DLMT Dillon 74.03 45 *eP* **P 12 13 07.4 +0.9**
comp=Z,22nm,1.3s
HLID Hailey 74.04 47 *eP* **P 12 13 07.4 +0.8**
comp=Z,4.9nm,1.1s
BMN Battle Mountai 74.13 51 *eP* **P 12 13 08.8 +1.7**
BMN pmax pmax
comp=Z,8.0nm,1.0s
BMN Battle Mountai 74.13 51 *eP* **P 12 13 08.8 +1.7**
comp=Z,8.2nm,1.0s
RYN Ryan 74.33 53 *eP* **P 12 13 09.1 +0.8**
comp=Z,4.3nm,1.0s
BOZ Bozeman (W) 74.44 44 *eP* **P 12 13 08.6 -0.2**
BOZ pmax pmax
comp=Z,11nm,0.8s
BOZ Bozeman (W) 74.44 44 *eP* **P 12 13 08.6 -0.2**
comp=Z,11nm,0.8s
MDPB Devils Postpil 74.53 55 *eP* **P 12 13 10.7 +1.1**
comp=Z,5.7nm,1.2s
NV01 Mina Array Sit 74.59 53 *eP* **P 12 13 10.3 +0.4**
NVAR Mina Array Bea 74.59 53 P **P 12 13 10.7 +0.8**
comp=Z,6.3nm,1.0s,baz=288,slow=6.1,SNR=28
HFS Hagfors 74.60 336 P **P 12 13 10.6 +1.4**
comp=Z,1.4nm,0.4s,baz=113,slow=3.7,SNR=5.5
NV11 Mina Array Sit 74.68 53 *eP* **P 12 13 11.0 +0.6**
comp=Z,1.6nm,1.7s
NB2 NORSAR Subarra 74.68 338 P **P 12 13 10.1 +0.3**
comp=Z,24nm,1.2s,baz=40,slow=6.2
NB2 NORSAR Subarra 74.68 338 P **P 12 13 10.1 +0.3**
baz=40,slow=6.2
NOA NORSAR Array B 74.68 338 P **P 12 13 10.4 +0.6**
comp=Z,2.6nm,0.7s,baz=39,slow=5.8,SNR=6.4
AKASG Malin Array Be 74.92 323 P **P 12 13 11.3 +0.1**
comp=Z,9.5nm,0.8s,baz=46,slow=5.9,SNR=34
AKBB Malin Array Si 74.92 323 *eP* **P 12 13 11.4 +0.1**
AKBB pmax pmax
comp=Z,19nm,0.9s
AKBB Malin Array Si 74.92 323 *eP* **P 12 13 11.3 +0.1**
comp=Z,19nm,0.9s
KIEV Kiev 74.93 323 *c iP* **P 12 13 11.3 0.0**
KIEV pmax pmax
comp=Z,13nm,0.9s
KIEV Kiev 74.93 323 *eP* **P 12 13 11.2 0.0**
comp=Z,20nm,1.0s
KIEV Kiev 74.93 323 *i* P **P 12 13 11.5 +0.2**
SNR=8.4
AK11 Malin Array Si 74.96 323 *eP* **P 12 13 11.8 +0.3**
YHB Horse Butte 75.19 45 *eP* **P 12 13 14.4 +1.1**
comp=Z,11nm,1.0s
YHH Holmes Hill 75.37 45 *eP* **P 12 13 15.3 +0.9**
comp=Z,8.4nm,1.3s
YMR Madison River 75.38 45 *eP* **P 12 13 15.5 +1.2**
comp=Z,25nm,1.6s
H17A Grant Village 75.76 45 *eP* **P 12 13 19.3 +2.7**
comp=Z,20nm,1.1s
IMW Indian Meadow 75.86 46 *eP* **P 12 13 18.8 +1.6**
comp=Z,10nm,1.0s
FXWY Fox Creek 75.97 46 *eP* **P 12 13 19.1 +1.4**
comp=Z,9.0nm,1.1s
SIM Simferopol' 75.99 316 *eP* **P 12 13 17.6 +0.1**
SIM pmax pmax
comp=Z,19nm,0.9s
SIM MLR MLR
comp=Z,700nm,16.0s
MOOW Moose Ponds 76.06 46 *eP* **P 12 13 19.6 +1.3**
comp=Z,9.6nm,1.3s
HVU Hansel Valley 76.07 48 *eP* **P 12 13 19.4 +1.1**
HVU pmax pmax
comp=Z,11nm,1.4s
HVU Hansel Valley 76.07 48 *eP* **P 12 13 19.4 +1.1**
comp=Z,11nm,1.4s
ARVC Arvin 76.13 57 *eP* **P 12 13 18.6 +0.1**
SNOW Snow King Moun 76.23 46 *eP* **P 12 13 20.9 +1.6**
comp=Z,8.2nm,1.0s
REDW Red Top Meadow 76.24 46 *eP* **P 12 13 20.5 +1.3**
comp=Z,12nm,1.3s
R11A Troy Canyon, C 76.37 52 *eP* **P 12 13 20.4 +0.4**
comp=Z,11nm,1.3s
LAO LASA Array 76.71 41 *eP* **P 12 13 22.6 +0.9**
comp=Z,15nm,1.0s
HWUT Hardware Ranch 76.89 48 *eP* **P 12 13 24.0 +1.0**
comp=Z,15nm,1.3s
DUG Dugway, Tooele 77.00 49 *eP* **P 12 13 24.3 +0.7**
DUG pmax pmax
comp=Z,11nm,1.0s
DUG Dugway, Tooele 77.00 49 *eP* **P 12 13 24.3 +0.7**
comp=Z,11nm,1.0s
SORM Soroca 77.02 321⇑ *iP* **P 12 13 23.3 0.0**
BW06 Boulder Array 77.35 46 *eP* **P 12 13 25.1 -0.5**
comp=Z,3.7nm,0.8s
PD31 Pinedale Array 77.35 46 *eP* **P 12 13 25.8 +0.2**
PDAR Pinedale Array 77.35 46 P **P 12 13 25.6 0.0**
comp=Z,2.2nm,0.7s,baz=267,slow=2.2,SNR=25
PDAR Pinedale Array 77.35 46 *eP* **P 12 13 24.5 -1.0**
JLU Jordanelle 77.58 48 *eP* **P 12 13 27.9 +1.0**
comp=Z,18nm,1.6s
NLU North Lily Min 77.59 49 *eP* **P 12 13 27.9 +0.9**
comp=Z,5.5nm,0.9s
SHPR Sheep Range 77.74 54 *eP* **P 12 13 29.1 +1.3**
comp=Z,13nm,1.4s
MPU Maple Canyon 77.82 49 *eP* **P 12 13 29.2 +1.0**
comp=Z,7.7nm,0.9s
LVV L'vov 77.99 324 *eP* **P 12 13 29.4 +0.7**
LVV MLR MLR
comp=N,500nm,14.0s
LVV MLR MLR
comp=E,500nm,14.0s
LVV MLR MLR
comp=Z,600nm,14.0s
CCUT Cedar City 78.26 52 *eP* **P 12 13 31.7 +1.0**
comp=Z,8.0nm,1.2s
MSU Marysvale 78.41 50 *eP* **P 12 13 32.9 +1.3**
MSU Marysvale 78.41 50 *eP* **P 12 13 32.9 +1.3**
TMUT Trail Mountain 78.53 49 *eP* **P 12 13 33.6 +1.4**
comp=Z,8.8nm,1.3s
PFO Pinyon Flats O 78.60 57 *eP* **P 12 13 32.7 +0.1**
PFO pmax pmax
comp=Z,7.0nm,1.3s
PFO Pinyon Flats O 78.60 57 *eP* **P 12 13 32.7 +0.1**
comp=Z,7.1nm,1.3s
XPFO Piæon Flat 78.61 57 *eP* **P 12 13 32.7 +0.1**
comp=Z,6.9nm,1.2s
LDFC Landfair 78.62 55 *eP* **P 12 13 32.9 +0.3**
comp=Z,11nm,1.2s
LCMT Little Creek M 78.66 52 *eP* **P 12 13 33.9 +1.1**
comp=Z,10.0nm,1.1s
MTPU Mount Pierson 78.70 51 *eP* **P 12 13 34.7 +1.4**
comp=Z,23nm,1.7s
P17A Butcher Ranch, 78.70 49 *eP* **P 12 13 34.1 +1.1**
comp=Z,19nm,1.1s
KWP Kalwaria Pacla 78.73 325 *eP* **P 12 13 34.5 +1.7**
KWP Kalwaria Pacla 78.73 325 *eP* **P 12 13 34.5 +1.7**
P18A Preston Nutter 78.90 49 *eP* **P 12 13 35.4 +1.1**
comp=Z,23nm,1.6s
BUR08 Bucovina Ar. S 78.92 322 *eP* **P 12 13 34.9 +0.9**
KNB Kanab 78.92 52 *eP* **P 12 13 35.6 +1.3**
KNB pmax pmax
comp=Z,18nm,1.2s
KNB Kanab 78.92 52 *eP* **P 12 13 35.6 +1.3**
comp=Z,18nm,1.2s
BUR04 Bucovina Ar. S 78.94 322 *eP* **P 12 13 34.7 +0.6**
BURAR Bucovina Array 78.94 322⇑ *iP* **P 12 13 34.9 +0.8**
TESR Tescani 78.97 321⇓ *iP* **P 12 13 34.3 +0.1**
SRU San Rafael Swe 79.06 49 *eP* **P 12 13 35.8 +0.7**
SRU pmax pmax
comp=Z,13nm,0.9s
SRU San Rafael Swe 79.06 49 *eP* **P 12 13 35.8 +0.7**
comp=Z,13nm,0.9s
CFR Carcaliu 79.09 319 P **P 12 13 36.1 +1.3**
CFR pmax pmax
comp=Z,10.0nm,2.0s
CFR Carcaliu 79.09 319⇓ *iP* **P 12 13 35.7 +0.9**
ULM Lac du Bonnet 79.33 34 P **P 12 13 35.8 -0.3**
comp=Z,1.8nm,0.9s,baz=0.4,slow=12,SNR=3.6
VRI Vrincioaia 79.36 320 P **P 12 13 38.5 +2.1**
VRI pmax pmax
comp=Z,22nm,1.1s
VRI Vrincioaia 79.36 320⇓ *iP* **P 12 13 37.9 +1.5**
TIRR Tirgusor 79.42 318 *eP* **P 12 13 37.2 +0.6**
TIRR pmax pmax
comp=Z,11nm,1.1s
TIRR Tirgusor 79.42 318⇓ *iP* **P 12 13 37.3 +0.6**
TIRR Tirgusor 79.42 318 *eP* **P 12 13 37.1 +0.6**
comp=Z,11nm,1.1s
BR131 Keskin Array S 79.53 312 *eP* **P 12 13 38.5 +0.9**
BRTR Keskin Array B 79.53 312 P **P 12 13 37.5 -0.1**
comp=Z,7.0nm,1.0s,baz=108,slow=4.0,SNR=26
TLB Topalu 79.54 318⇑ *iP* **P 12 13 38.0 +0.7**
RSSD Black Hills 79.56 42 *eP* **P 12 13 37.7 0.0**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 79.56 42 *eP* **P 12 13 37.7 0.0**
comp=Z,4.4nm,0.9s
STHS Stebnicka Huta 79.56 325 *eP* **P 12 13 39.1 +1.7**
STHS pmax pmax
comp=Z,16nm,1.2s
STHS Stebnicka Huta 79.56 325 *eP* **P 12 13 39.1 +1.7**
STHS *e* 12 14 06.5
OJC Ojcow 79.63 327 *eP* **P 12 13 38.5 +0.8**
OJC Ojcow 79.63 327 *eP* **P 12 13 38.5 +0.8**
OJC Ojcow 79.63 327 *eP* **P 12 13 38.5 +0.8**
comp=Z,35nm,1.1s
UZH Uzhgorod 79.63 324 *eP* **P 12 13 38.4 +0.7**
UZH *e* 12 13 52.8
UZH *eS* **S 12 23 39.6 +1.5**
UZH MLR MLR
comp=N,700nm,15.0s
UZH MLR MLR
comp=E,2µm,15.0s
UZH MLR MLR
comp=Z,450nm,15.0s
O20A White River Ci 79.78 47 *eP* **P 12 13 39.3 +0.3**
comp=Z,14nm,1.1s
BR231 Keskin MP Arra 79.97 313 *eP* **P 12 13 38.8 -1.1**
DOPR Dopca 79.98 321⇓ *iP* **P 12 13 40.6 +0.9**
NIE Niedzica 79.99 326 *eP* **P 12 13 40.9 +1.2**
NIE Niedzica 79.99 326 *eP* **P 12 13 40.9 +1.2**
PV09 Paradox Valley 80.29 49 *eP* **P 12 13 42.8 +1.0**
PV10 Paradox Valley 80.42 49 *eP* **P 12 13 43.4 +0.8**
LANS Liptovska Anna 80.56 326 *eP* **P 12 13 44.9 +2.1**
LANS Liptovska Anna 80.56 326 *eP* **P 12 13 44.9 +2.1**
LANS *e* 12 14 11.4
PV05 Paradox Valley 80.57 49 *eP* **P 12 13 44.0 +0.7**
N23A Red Feather La 80.62 46 *eP* **P 12 13 44.7 +1.1**
comp=Z,15nm,1.1s
PHWY Pilot Hill 80.63 45 *eP* **P 12 13 43.4 -0.3**
comp=Z,7.3nm,1.0s
OKC Ostrava-Krasne 80.64 327 AMS AMS 12 53 50.0
comp=Z,700nm,14.9s
KSP Ksiaz 80.68 329 *eP* **P 12 13 44.8 +1.4**
KSP Ksiaz 80.68 329 *eP* **P 12 13 44.8 +1.4**
WUAZ Wupatki 80.77 52 *eP* **P 12 13 45.3 +1.0**
comp=Z,8.1nm,1.0s
ARR Arges 80.78 321⇑ *iP* **P 12 13 45.4 +1.3**
PV01 Paradox Valley 80.86 49 *eP* **P 12 13 45.3 +0.4**
MORC Moravsky Berou 80.94 327 *eP* **P 12 13 45.7 +0.9**
MORC pmax pmax
comp=Z,61nm,1.1s
MORC Moravsky Berou 80.94 327⇑ *iP* **P 12 13 45.9 +1.0**
MORC Moravsky Berou 80.94 327 *eP* **P 12 13 45.7 +0.9**
comp=Z,61nm,1.1s
DPC Dobruska-Polom 81.04 328 *eP* **P 12 13 46.3 +1.0**
DPC MLR MLR
comp=Z,700nm,16.3s
DPC Dobruska-Polom 81.04 328 *eP* **P 12 13 46.3 +1.0**
DPC *ex* x 12 14 14.1
DPC AMS AMS 12 54 00.0
comp=Z,700nm,16.3s
UPC Upice 81.05 329 *eP* **P 12 13 46.6 +1.3**
UPC MLR MLR
comp=Z,800nm,13.9s
UPC Upice 81.05 329 *eP* **P 12 13 46.6 +1.3**
UPC AMS AMS 12 54 10.0
comp=Z,800nm,13.9s
SMCO Snowmass 81.14 47 *eP* **P 12 13 47.0 +0.5**
comp=Z,6.8nm,1.1s
PSZ Piszkesteto 81.26 325 *eP* **P 12 13 48.0 +1.4**
PSZ pmax pmax
comp=Z,41nm,1.2s
PSZ Piszkesteto 81.26 325⇑ *iP* **P 12 13 47.9 +1.4**
PSZ Piszkesteto 81.26 325 *eP* **P 12 13 48.0 +1.4**
comp=Z,41nm,1.2s
VYHS Vyhne 81.32 326 *eP* **P 12 13 47.5 +0.6**
VYHS pmax pmax
comp=Z,10.0nm,1.3s
VYHS Vyhne 81.32 326 *eP* **P 12 13 47.5 +0.6**
RAYN Ar Rayn 81.39 293 *eP* **P 12 13 48.2 +0.6**
comp=Z,11nm,0.9s
MVCO Mesa Verde 81.49 50 *eP* **P 12 13 49.1 +0.8**
comp=Z,12nm,1.1s
BRG Berggiesshubel 81.62 330 *eP* **P 12 13 48.7 +0.4**
comp=Z,8.1nm,1.0s
BRG *e* 12 13 58.5
comp=Z,4.1nm,0.8s
BRG *i* 12 14 16.6
comp=Z,12nm,0.9s
BRG Berggiesshubel 81.62 330 *eP* **P 12 13 48.7 +0.4**
BRG *e* 12 13 58.5
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,12nm,0.9s
BRG MLR MLR
comp=Z,1µm,16.9s
BRG MLR MLR
comp=N,763nm,14.8s
BRG MLR MLR
comp=E,453nm,14.8s
PVCC Panska Ves 81.63 329 AMS AMS 12 53 50.0
comp=E,800nm,15.4s
CLL Collm 81.66 331 *eP* **P 12 13 48.8 +0.3**
CLL pmax pmax
comp=Z,16nm,0.8s
CLL Collm 81.66 331 *eP* **P 12 13 49.0 +0.5**
comp=Z,11nm,1.0s
CLL *e* 12 14 01.0
CLL Collm 81.66 331 *eP* **P 12 13 48.8 +0.3**
comp=Z,16nm,0.8s
VRAC Vranov 81.71 328⇑ *iP* **P 12 13 49.9 +1.0**
GOPC GO Pecny, Ondr 82.01 329 *eP* **P 12 13 51.5 +1.0**
GOPC MLR MLR
comp=Z,700nm,17.6s
GOPC GO Pecny, Ondr 82.01 329 *eP* **P 12 13 51.5 +1.0**
GOPC AMS AMS 12 55 20.0
comp=Z,700nm,17.6s
PRU Pruhonice 82.06 329 *eP* **P 12 13 51.4 +0.7**
PRU MLR MLR
comp=Z,600nm,16.7s
PRU Pruhonice 82.06 329 *eP* **P 12 13 51.4 +0.7**
PRU *ex* x 12 14 19.2
PRU AMS AMS 12 55 00.0
comp=Z,600nm,16.7s
S22A 4UR Ranch, Cre 82.16 48 *eP* **P 12 13 53.1 +1.3**
comp=Z,6.5nm,1.0s
Q24A Divide 82.35 47 *eP* **P 12 13 54.0 +1.2**
comp=Z,6.0nm,0.9s
MMAI Mount Meron Ar 82.67 306 P **P 12 13 55.0 +0.7**
comp=Z,2.7nm,0.5s,baz=9.2,slow=6.8,SNR=4.7
SDCO Great Sand Dun 82.95 48 *eP* **P 12 13 56.9 +0.9**
comp=Z,6.9nm,1.4s
EYMN Ely 82.97 33 *eP* **P 12 13 55.7 +0.2**
comp=Z,13nm,1.4s
CONA Conrad Observa 83.07 327 *i* pP **P 12 13 57.2 +1.1**
comp=Z,10nm,1.1s
ALN Alexandroupoli 83.12 317 P **P 12 13 58.0 +1.7**
ALN pmax pmax
comp=Z,9.0nm,1.2s
KHC Kasperske Hory 83.12 329 *eP* **P 12 13 57.3 +1.0**
KHC pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 83.12 329 *eP* **P 12 13 56.8 +0.5**
KHC *ex* x 12 14 06.4
KHC *ex* x 12 14 24.4
KHC AMS AMS 12 55 30.0
comp=Z,700nm,14.8s
KHC Kasperske Hory 83.12 329 *eP* **P 12 13 57.2 +1.0**
comp=Z,5.8nm,0.8s
GERES GERESS Array B 83.29 329 P **P 12 13 57.4 +0.1**
comp=Z,2.4nm,0.6s,baz=40,slow=5.2,SNR=15
PMOR Pomariorio Ree 83.45 114 *eT* T 13 45 40.7
comp=Z,4.1nm,0.2s
VTS Vitosha 83.45 319 *eP* **P 12 13 59.2 +0.9**
VTS pmax pmax
comp=Z,13nm,0.8s
VTS Vitosha 83.45 319⇑ *iP* **P 12 13 58.8 +0.5**
VTS Vitosha 83.45 319 *eP* **P 12 13 59.2 +0.9**
comp=Z,13nm,0.8s
ECSD EROS Data Cent 83.69 39 *eP* **P 12 13 59.1 -0.2**
comp=Z,9.2nm,1.3s
MOA Molln 83.82 328 *i* pP **P 12 14 01.5 +1.7**
comp=Z,6.1nm,1.3s
MHTCO State Highway 83.84 48 *eP* **P 12 14 01.8 +1.3**
comp=Z,11nm,1.2s
PPT2 Papeete2 83.92 117 *eS* **S 12 24 31.8 +8.7**
comp=Z,94nm,24.5s
PPT2 Papeete2 83.92 117 *eLR* LR 12 40 26.1
comp=Z,421nm,24.0s,baz=322
DIVS Divibare 84.00 322 *eP* **P 12 14 02.2 +1.2**
comp=Z,28nm,0.8s
T25A Trinidad 84.00 48 *eP* **P 12 14 01.7 +0.4**
LAZ Ladron 84.15 51 *eP* **P 12 14 03.1 +1.1**
ANMO Albuquerque 84.22 50 *deP* **P 12 14 03.2 +0.8**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 84.22 50 *eP* **P 12 14 03.3 +0.9**
comp=Z,8.8nm,1.1s
SRS Serrai 84.29 318 P **P 12 14 03.5 +1.1**
SRS pmax pmax
comp=Z,18nm,1.1s
SOKA Soboth 84.39 327 *i* P **P 12 14 03.3 +0.4**
comp=Z,16nm,1.3s
SOH Sokhos 84.63 318 P **P 12 14 03.2 -1.0**
SOH pmax pmax
comp=Z,6.0nm,1.1s
KBA Koelnbreinsper 84.81 328 *i* P **P 12 14 05.0 -0.2**
comp=Z,5.6nm,0.9s
MYKA Terra Mystica 85.03 327 *i* PcP **P 12 14 06.9 +0.8**
comp=Z,4.2nm,1.0s
PAIG Paliouri 85.09 317 P **P 12 14 05.9 -0.5**
PAIG pmax pmax
comp=Z,21nm,1.3s
TAOE Nuku Hiva Isla 85.44 104 *eS* **S 12 24 44.3 +5.7**
comp=Z,169nm,30.3s
TAOE Nuku Hiva Isla 85.44 104 *eLR* LR 12 41 13.6
comp=Z,688nm,24.8s
RETA Reutte 85.57 329 *i* PcP **P 12 14 09.6 +0.8**
comp=Z,7.6nm,1.0s
PDG Podgorica 85.59 321⇓ *iP* **P 12 14 09.0 +0.1**
TTG Podgorica 85.59 321 *eP* **P 12 14 09.5 +0.6**
TTG pmax pmax
comp=Z,33nm,1.0s
TTG Podgorica 85.59 321 *eP* **P 12 14 09.5 +0.6**
comp=Z,33nm,1.0s
LIT Litokhoron 85.61 318 P **P 12 14 09.1 +0.1**
LIT pmax pmax
comp=Z,25nm,1.1s
FNA Florina 85.71 319 P **P 12 14 10.3 +0.7**
FNA pmax pmax
comp=Z,12nm,1.2s
BFO Black Forest 85.86 331 *eP* **P 12 14 09.2 -0.9**

BFO pmax pmax
comp=Z,16nm,0.8s
BFO Black Forest 85.86 331 *e*P **P 12 14 09.2 -0.9**
comp=Z,16nm,0.8s
FETA Feichten 85.96 329 *i* PcP **P 12 14 11.4 +0.6**
comp=Z,4.7nm,0.9s
DAVA Damuels 86.09 330 *i* PcP **P 12 14 12.0 +0.5**
comp=Z,10nm,0.8s
ECH Echery 86.40 332 *e*P **P 12 14 12.9 +0.1**
ECH Echery 86.40 332 *e*P **P 12 14 12.9 +0.1**
FUORN Ofenpass-Fuorn 86.47 329 *e*P **P 12 14 14.3 +0.8**
KSU1 Kansas State U 87.04 42 *e*P **P 12 14 16.0 -0.1**
comp=Z,9.2nm,0.7s
AMTX Amarillo 87.16 48 *e*P **P 12 14 17.6 +0.7**
comp=Z,9.3nm,0.9s
WMOK Wichita Mounta 88.96 46 *e*P **P 12 14 25.2 -0.2**
WMOK pmax pmax
comp=Z,7.0nm,1.4s
WMOK Wichita Mounta 88.96 46 *e*P **P 12 14 25.2 -0.2**
comp=Z,7.1nm,1.4s
TX31 Lajitas Ar. Si 89.73 53 *e*P **P 12 14 29.2 +0.1**
TXAR Lajitas Array 89.73 53 P **P 12 14 29.4 +0.2**
comp=Z,3.5nm,0.8s,baz=297,slow=3.3,SNR=34
JCT Junction City 91.36 50 *e*P **P 12 14 36.2 -0.5**
JCT Junction City 91.36 50 *e*P **P 12 14 36.2 -0.5**
WHAR Wooly Hollow 92.17 42 *e*P **P 12 14 40.6 +0.3**
ESDC Sonseca Array 97.82 334 P **P 12 15 05.4 -0.6**
comp=Z,0.3nm,0.2s,baz=166,slow=29,SNR=4.8
RKT Rikitea 98.02 113 *e*LR LR 12 47 03.4
comp=Z,415nm,26.2s
TORD Torodi Ar. Bea 118.00 316 PKP **PKPdf 12 20 17.0 -0.8**
comp=Z,0.2nm,0.5s,baz=347,slow=4.9,SNR=3.7
LPAZ La Paz 146.22 61 PKPbc **PKPbc 12 21 11.9 -0.2**
comp=Z,7.0nm,0.9s,baz=339,slow=3.8,SNR=19

IDC ***21*** *12:01:55.8±0.7,36.69N×142.40E,h0km,mb4.9/23, mb1 5.0/26,mb1mx4.7/71,mbtmp4.9/26,ML4.5/3,MS4.0/3, Ms1 4.1/3,ms1mx3.4/23,Error ellipse: s-maj=17.6km s-min=14.6km az=102.0*
ISCJB ***21*** *12:01:56.5±0.6,36.65N±0.06×142.4E±0.1,h15km, mb4.9/23,MS4.0/2,Error ellipse: s-maj=13.9km s-min=7.2km az=22.5*

ISC 21 12:01:58.0±0.6,36.68N±0.07×142.4E±0.1,h15km,n33, σ0.78/31,mb4.9/23,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**3.38**	**269**	Pn	**Pn**	**12 02 51.0**	**+0.8**
	47nm,0.3s,baz=95,slow=8.9,SNR=6.3						
JHJ	**Hachijo jima 2**	**4.16**	**212**	Pn	**Pn**	**12 03 00.9**	**0.0**
	130nm,0.3s,baz=81,slow=20,SNR=6.5						
JHJ				Sn	**Sn**	**12 03 47.2**	**-2.1**
	baz=80,slow=22,SNR=2.4						
ASAJ	**Asahikawa**	**7.43**	**1**	Pn	**Pn**	**12 03 45.4**	**-0.4**
	7.4nm,0.3s,baz=218,slow=13,SNR=5.6						
ASAJ				Sn	**Sn**	**12 05 08.1**	**-1.7**
	4.4nm,0.3s,baz=247,slow=32,SNR=3.0						
JCJ	**Chichijima**	**9.56**	**181**	LR	LR	12 08 17.8	
	comp=Z,124nm,21.7s,baz=218,slow=40						
JNU	**Nakatsue**	**10.11**	**253**	LR	LR	12 07 41.7	
	comp=Z,938nm,20.0s,baz=66,slow=34						
USRK	**Ussuriysk Ar.**	**10.92**	**317**	Pn	Pn	12 04 38.9	+5.2
	1.3nm,0.3s,baz=136,slow=12,SNR=5.0						
KSRS	**Korea Array**	**11.60**	**278**	Pn	Pn	12 04 49.7	+6.8
	0.6nm,0.3s,baz=88,slow=13,SNR=4.7						
MA2	**Magadan**	**23.54**	**11**	P	**P**	**12 07 08.1**	**+0.6**
	33nm,0.8s,baz=193,slow=8.5,SNR=8.1						
YAK	**Yakutsk**	**26.59**	**347**	P	**P**	**12 07 35.1**	**-0.2**
	131nm,0.7s,baz=199,slow=1.6,SNR=16						
SONM	**Songino Array**	**28.64**	**304**	P	**P**	**12 07 54.4**	**+0.4**
	53nm,0.8s,baz=105,slow=9.1,SNR=15						
TLY	**Talaya**	**31.16**	**311**	P	**P**	**12 08 15.3**	**-0.8**
	6.6nm,0.6s,baz=115,slow=12,SNR=9.9						
ZALV	**Zalesovo Beam**	**42.74**	**313**	P	**P**	**12 09 54.3**	**-0.1**
	12nm,0.7s,baz=98,slow=5.7,SNR=6.0						
ZALV				PcP	**PcP**	**12 11 45.4**	**-0.4**
	8.3nm,0.8s,baz=77,slow=3.8,SNR=4.9						
MKAR	**Makanchi Array**	**44.98**	**303**	P	**P**	**12 10 12.4**	**-0.1**
	14nm,0.7s,baz=88,slow=9.5,SNR=8.3						
KDAK	**Kodiak Island**	**46.83**	**42**	LR	LR	12 27 19.4	
	comp=Z,325nm,19.9s,baz=250,slow=32						
KURBB	**Kurchatov Arra**	**46.84**	**308**	P	**P**	**12 10 26.9**	**-0.3**
	34nm,0.9s,baz=84,slow=8.2,SNR=6.9						
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**12 10 47.0**	**+0.6**
	7.6nm,0.8s,baz=267,slow=6.3,SNR=8.7						
ILAR				LR	LR	12 32 00.6	
	comp=Z,110nm,21.8s,baz=278,slow=37						
BVAR	**Borovoye Array**	**51.40**	**313**	P	**P**	**12 11 02.1**	**+0.1**
	6.6nm,0.6s,baz=68,slow=8.2,SNR=8.6						
LEM	**Lembang**	**54.17**	**224**	P	**P**	**12 11 23.9**	**+0.8**
	33nm,0.7s,baz=329,slow=7.0,SNR=4.6						
INK	**Inuvik**	**54.34**	**27**	P	**P**	**12 11 23.9**	**+0.4**
	4.2nm,0.7s,baz=230,slow=2.7,SNR=3.8						
WRA	**Warramunga Arr**	**56.83**	**189**	P	**P**	**12 11 42.3**	**+0.4**
	10nm,0.8s,baz=6.2,slow=7.2,SNR=7.2						
ASAR	**Alice Springs**	**60.56**	**189**	P	**P**	**12 12 07.6**	**-0.2**
	6.8nm,0.7s,baz=9.2,slow=7.0,SNR=9.9						
GEYT	**Alibeck**	**64.70**	**300**	P	**P**	**12 12 34.7**	**-0.8**
	14nm,0.9s,baz=31,slow=3.5,SNR=9.5						
FINES	**FINESS Array B**	**69.49**	**333**	P	**P**	**12 13 05.6**	**+0.1**
	15nm,0.8s,baz=60,slow=7.7,SNR=10						
KBZ	**Khabaz**	**71.73**	**311**	P	**P**	**12 13 20.4**	**+0.9**
	18nm,0.8s,baz=40,slow=2.0,SNR=9.0						
NOA	**NORSAR Array B**	**74.81**	**338**	P	**P**	**12 13 37.7**	**+0.3**
	9.5nm,1.0s,baz=39,slow=5.8,SNR=5.4						
AKASG	**Malin Array Be**	**75.06**	**323**	P	**P**	**12 13 38.9**	**-0.1**
	13nm,0.8s,baz=47,slow=6.0,SNR=5.8						
PDAR	**Pinedale Array**	**77.34**	**46**	P	**P**	**12 13 52.9**	**+0.5**
	2.2nm,0.8s,baz=259,slow=2.1,SNR=6.2						
BRTR	**Keskin Array B**	**79.68**	**312**	P	**P**	**12 14 05.8**	**+0.5**
	8.4nm,1.0s,baz=106,slow=4.1,SNR=11						
MMAI	**Mount Meron Ar**	**82.82**	**306**	P	**P**	**12 14 23.3**	**+1.3**
	8.4nm,0.8s,baz=16,slow=10,SNR=5.8						
GERES	**GERESS Array B**	**83.43**	**329**	P	**P**	**12 14 24.9**	**+0.1**
	5.3nm,0.7s,baz=35,slow=5.1,SNR=12						
TXAR	**Lajitas Array**	**89.70**	**53**	P	**P**	**12 14 56.7**	**+0.8**
	1.9nm,0.7s,baz=301,slow=3.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**118.14**	**316**	PKP	**PKPdf**	**12 20 44.9**	**-0.1**
	0.4nm,0.4s,baz=111,slow=2.4,SNR=3.7						
LPAZ	**La Paz**	**146.18**	**61**	PKPbc	**PKPdf**	**12 21 36.5**	**-1.4**
	4.7nm,0.8s,baz=277,slow=1.6,SNR=4.5						

JMA 21 12:02:10.6±0.3,43.95N×145.58E,h154km,M2.6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.60**	**169**	P	Pn	12 02 32.8	-0.1
NEM2				*e*S	Sn	12 02 50.3	+0.5
JNK	**Nakash**	**0.72**	**240**	P	Pn	12 02 34.0	+0.3
JAK	**Akkeshi**	**1.15**	**214**	P	Pn	12 02 37.0	0.0
JAK				*e*S	Sn	12 02 57.3	+0.1
JTKR	**Abashiri--Toko**	**1.21**	**272**	P	Pn	12 02 37.2	-0.3

NIED ***21*** *12:18:00,36.70N×142.40E,h11km,Mw4.4 Best double couple: M04.13000×10^15 NP1:φ8199.00000°,δ14.00000°, λ99.00000°. NP2:φ810.00000°,δ77.00000°,λ88.00000°.*
ISCJB ***21*** *12:18:04.8±0.3,36.73N±0.02×142.46E±0.03,h9km, mb4.3/54,MS3.9/8,Error ellipse: s-maj=4.0km s-min=2.9km az=39.6*
JMA ***21*** *12:18:05.8±0.2,36.74N×142.41E,h10km±3km,M4.3*
IDC ***21*** *12:18:05.4±0.6,36.66N×142.39E,h0km,mb4.1/25, mb1 4.2/31,mb1mx4.1/75,mbtmp4.1/31,ML3.7/5,MS3.6/8, Ms1 3.6/8,ms1mx3.1/73,Error ellipse: s-maj=15.5km s-min=12.9km az=144.0*
MOS ***21*** *12:18:08.1±1.1,36.87N×142.40E,h27km,mb4.5/31,Error ellipse: s-maj=7.9km s-min=5.3km az=100.8*
NEIC ***21*** *12:18:08.9±2.3,36.79N×142.37E,h19km±14km,mb4.5/10, Error ellipse: s-maj=8.1km s-min=5.3km az=135.0*
BJI ***21*** *12:18:12.9,36.79N×141.57E,h30km,mb4.6/39,mB5.0/18, Ms4.3/11,Ms7 4.1/9*

ISC 21 12:18:06.7±0.5,36.77N±0.04×142.41E±0.05,h9km,n147, σ1.975/171,mb4.4/54,MS4.0/8,14C-3D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.33**	**285**	P	**Pn**	**12 18 30.4**	**-1.2**
ONAJ				S	**Sb**	**12 18 48.7**	**-0.5**
JFK	**Kawauchi**	**1.37**	**296**	P	**Pn**	**12 18 30.9**	**-1.1**
JFK				*e*S	**Sb**	**12 18 49.3**	**-0.8**
JHO	**Hitachi**	**1.49**	**264**	P	**Pn**	**12 18 32.5**	**-1.2**
CHOJ	**Chosi**	**1.65**	**230**	P	**Pn**	**12 18 35.2**	**-0.6**
CHOJ				S	**Sn**	**12 18 55.0**	**-2.1**
JMM	**Marumori**	**1.69**	**311**	P	**Pn**	**12 18 36.4**	**0.0**
JMM				S	**Sn**	**12 18 58.4**	**+0.2**
JFT	**Otama**	**1.82**	**295**	P	**Pn**	**12 18 38.6**	**+0.4**
JFT				S	**Sn**	**12 19 01.3**	**-0.1**
JIO	**Ouri**	**1.88**	**334**	P	**Pn**	**12 18 38.8**	**-0.2**
JIO				S	**Sn**	**12 19 02.4**	**-0.5**
JMK	**Ichinoseki**	**2.37**	**337**	P	**Pn**	**12 18 46.3**	**+0.5**
JMK				S	**Sn**	**12 19 14.7**	**-0.3**
JAG	**Ashikaga**	**2.41**	**263**	P	**Pn**	**12 18 45.8**	**-0.5**
BSO1	**Boso 1**	**2.41**	**209**	P	**Pn**	**12 18 45.8**	**-0.1**
BSO1				S	**Sn**	**12 19 13.4**	**-1.9**
JYK	**Kaneyama**	**2.69**	**323**	P	**Pn**	**12 18 51.0**	**+0.8**
JOM	**Ohasama**	**2.84**	**342**	P	**Pn**	**12 18 52.8**	**+0.6**
JOM				S	**Sn**	**12 19 26.7**	**+0.2**
JRY	**Ryogami san**	**2.93**	**256**	P	**Pn**	**12 18 53.0**	**-0.5**
JRY				S	**Sn**	**12 19 28.4**	**-0.4**
JOD2	**Odawara 2**	**3.09**	**242**	P	**Pn**	**12 18 55.4**	**-0.2**
JYN	**Shimob**	**3.38**	**249**	P	**Pn**	**12 19 00.3**	**+0.6**
JYN				S	**Sn**	**12 19 38.9**	**-1.1**
MJAR	**Matsushiro Arr**	**3.39**	**267**	Pn	**Pn**	**12 19 00.4**	**+0.6**
	19nm,0.3s,baz=82,slow=8.3,SNR=145						
MJAR				Sn	**Sn**	**12 19 41.1**	**+1.0**
	6.8nm,0.3s,baz=86,slow=13,SNR=4.6						
MJAR				LR	LR	12 20 32.3	
	comp=Z,1μm,18.3s,baz=110,slow=44						
MAJO	**Matsushiro**	**3.39**	**267**	*c* iP	**Pn**	**12 19 00.8**	**+1.0**
MAJO	**Matsushiro**	**3.39**	**267**	*e*Pn	**Pn**	**12 19 00.8**	**+1.0**
MAT	**Matsushiro**	**3.39**	**267**	P	**Pn**	**12 19 00.6**	**+0.8**
MAT				S	**Sn**	**12 19 40.0**	**-0.1**
MAT	**Matsushiro**	**3.39**	**267**	P	**Pn**	**12 18 59.9**	**+0.1**
MJB9	**Matsu-Tunnel**	**3.39**	**267**	*e*Pn	**Pn**	**12 19 00.7**	**+0.8**
JHJ2	**Mitsune**	**4.23**	**211**	*e*Pn	**Pn**	**12 19 11.8**	**+0.5**
JHJ2				*e*Sn	**Sn**	**12 19 58.8**	**-2.0**
JHJ	**Hachijo jima 2**	**4.24**	**211**	Pn	**Pn**	**12 19 09.6**	**-1.8**
	19nm,0.3s,baz=328,slow=23,SNR=12						
JHJ				Sn	**Sn**	**12 19 55.8**	**-5.2**
	47nm,0.3s,baz=67,slow=23,SNR=6.5						
INU	**Inuyama**	**4.59**	**254**	*e*Pn	**Pn**	**12 19 17.8**	**+1.5**
ERM	**Erimo**	**5.27**	**6**	iP	**Pn**	**12 19 26.9**	**+1.3**
ERM	**Erimo**	**5.27**	**6**	*e*Pn	**Pn**	**12 19 25.8**	**+0.2**
ERM				*e*Sn	**Sn**	**12 20 24.1**	**-2.3**
ASAJ	**Asahikawa**	**7.34**	**1**	Pn	**Pn**	**12 19 54.3**	**+0.3**
	1.7nm,0.3s,baz=228,slow=9.0,SNR=19						
ASAJ				Sn	**Sn**	**12 21 15.2**	**-2.2**
	0.9nm,0.3s,baz=232,slow=19,SNR=2.7						
ASAJ	**Asahikawa**	**7.34**	**1**	*e*Pn	**Pn**	**12 19 53.9**	**-0.1**
ASAJ				Sn	**Sn**	**12 21 15.2**	**-2.2**
GLVR	**Golovnino**	**7.35**	**18**	P	**Pn**	**12 19 54.5**	**+0.3**
GLVR				*e*S	**Sn**	**12 21 13.4**	**-4.3**
GRPR	**Tuman**	**7.66**	**19**	P	**Pn**	**12 19 58.2**	**-0.2**
GRPR				*e*S	**Sn**	**12 21 19.3**	**-5.9**
YUK	**Yuzh-Kuril'sk**	**7.72**	**19**	P	**Pn**	**12 19 58.1**	**-1.1**
YUK				*e*S	**Sn**	**12 21 19.2**	**-7.5**
YUK				pmax	pmax		
	comp=Z,34nm,0.4s						
YUK				pmax	pmax		
	comp=N,21nm,0.2s						
YUK				pmax	pmax		
	comp=E,39nm,0.2s						
LAGR	**Lagunnoye**	**7.72**	**18**	*e*P	**Pn**	**12 19 58.2**	**-1.0**
LAGR				S	**Sn**	**12 21 20.7**	**-6.0**
SHO	**Shikotan**	**7.85**	**24**	P	**Pn**	**12 19 59.5**	**-1.5**
SHO				*e*S	**Sn**	**12 21 21.8**	**-8.2**
JCJ	**Chichijima**	**9.65**	**181**	Sn	Sn	12 22 04.8	-10
	comp=E,15nm,0.3s,baz=288,slow=22,SNR=4.8						
JNU	**Nakatsue**	**10.14**	**252**	Pn	**Pn**	**12 20 32.4**	**-0.1**
	comp=E,0.3nm,0.3s,baz=63,slow=9.0,SNR=3.5						
JNU				LR	LR	12 24 36.7	
	comp=E,214nm,18.3s,baz=57,slow=39						
JNU	**Nakatsue**	**10.14**	**252**	*e*Pn	**Pn**	**12 20 33.7**	**+1.1**
YSS	**Yuzh-Sakhalins**	**10.18**	**1**	*e*P	**Pn**	**12 20 33.1**	**+0.2**
YSS				*e*S	**Sn**	**12 22 31.1**	**+4.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				MLR	MLR		
	comp=Z,500nm,11.0s						
YSS				MLR	MLR		
	comp=N,400nm,14.0s						
YSS				MLR	MLR		
	comp=E,300nm,12.0s						
USRK	**Ussuriysk Ar.**	**10.86**	**316**	Pn	**Pn**	**12 20 41.0**	**-1.3**
	comp=E,0.2nm,0.3s,baz=120,slow=11,SNR=2.4						
USRK				LR	LR	12 24 24.8	
	comp=E,408nm,18.6s,baz=113,slow=35						
KSRS	**Korea Array**	**11.59**	**278**	Pn	**Pn**	**12 20 54.6**	**+2.3**
	comp=E,0.2nm,0.3s,baz=82,slow=13,SNR=9.9						
KSRS				LR	LR	12 25 10.6	
	comp=E,462nm,18.4s,baz=81,slow=37						
KSAR	**Wonju Array Be**	**11.62**	**278**	P	**Pn**	**12 20 54.6**	**+1.9**
KSAR	**Wonju Array Be**	**11.62**	**278**	Pn	**Pn**	**12 20 54.6**	**+1.9**
TJN	**Taejon**	**12.11**	**273**	iP	**Pn**	**12 21 00.9**	**+1.5**
KLR	**Kul'dur**	**14.67**	**331**	Pn	**Pn**	**12 21 32.9**	**-1.5**
	comp=E,0.0nm,0.3s,baz=120,slow=20,SNR=2.4						
KLR				LR	LR	12 26 49.8	
	comp=E,24nm,18.4s,baz=140,slow=36						
KLR	**Kul'dur**	**14.67**	**331**	*e*P	**Pn**	**12 21 36.0**	**+1.6**
PETK	**Petropavlovsk-**	**19.52**	**28**	*e*P	**P**	**12 22 34.5**	**+0.2**
PETK	**Petropavlovsk-**	**19.52**	**28**	*e*P	**P**	**12 22 34.5**	**+0.2**
ZEA	**Zeya**	**19.97**	**333**	*e*P	**P**	**12 22 39.6**	**+0.5**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2	**Nanjing**	**19.98**	**263**	*e*P	**Pn**	**12 22 40.6**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GUMO	**Guam**	**23.19**	**174**	LR	LR	12 37 13.6	
	comp=Z,94nm,18.2s,baz=99,slow=50						
MA2	**Magadan**	**23.45**	**11**	P	**P**	**12 23 17.4**	**+1.2**
	comp=Z,4.4nm,0.7s,baz=254,slow=5.5,SNR=4.4						
MA2	**Magadan**	**23.45**	**11**	*e*P	**P**	**12 23 17.1**	**+0.9**
HHC	**Hu-ho-hao-te**	**24.31**	**289**	*e*P	**P**	**12 23 23.3**	**-1.4**
HHC				pP	sP	12 23 32.6	+4.0
HHC				sP	pP	12 23 36.6	+9.2
HHC				S	**S**	**12 27 38.0**	**-5.9**
HHC				sS	sS	12 27 51.0	+2.6
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.1s						
HHC				LR	LR		
	comp=Z,110nm,14.8s						
HHC				LR	LR		
	comp=Z,230nm,18.5s						
HHC				LR	LR		
	comp=Z,91nm,17.3s						
YAK	**Yakutsk**	**26.51**	**347**	P	**P**	**12 23 44.9**	**+0.8**
	comp=Z,26nm,0.7s,baz=199,slow=1.1,SNR=14						
YAK	**Yakutsk**	**26.51**	**347**	*e*P	**P**	**12 23 43.8**	**-0.4**
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK	**Yakutsk**	**26.51**	**347**	*e*P	**P**	**12 23 44.1**	**-0.1**
	comp=E,34nm,0.8s						
SEY	**Seymchan**	**26.90**	**10**	P	**P**	**12 23 48.9**	**+1.2**
	comp=E,1.1nm,0.4s,baz=46,slow=4.3,SNR=7.3						
SEY	**Seymchan**	**26.90**	**10**	*e*P	**P**	**12 23 50.4**	**+2.7**
H11N2	**WAKE ISLAND Hy**	**27.33**	**122**	T	T	12 52 28.6	
	baz=314,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.34**	**122**	T	T	12 52 41.1	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.34**	**122**	T	T	12 52 37.2	
	baz=314,slow=75,SNR=14						
XAN	**Xi'an**	**27.36**	**274**	P	**P**	**12 23 50.9**	**-1.3**
XAN				pP	sP	12 24 00.6	+4.5
XAN				sP	pP	12 24 04.5	+10
XAN				PP	**PnPn**	**12 24 39.8**	**+3.7**
XAN				S	**S**	**12 28 29.3**	**-2.9**
XAN				pmax	pmax		
	comp=E,10.0nm,1.3s						
XAN				pmax	pmax		
	comp=E,200nm,6.5s						
XAN				LR	LR		
	comp=E,390nm,14.9s						
XAN				LR	LR		
	comp=E,330nm,11.8s						
H11S1	**WAKE ISLAND Hy**	**28.05**	**124**	T	T	12 53 32.3	
	baz=316,slow=75,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**28.05**	**124**	T	T	12 53 51.2	
	baz=316,slow=75,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**28.06**	**124**	T	T	12 53 35.4	
	baz=316,slow=75,SNR=7.2						
ENH	**Enshi**	**28.11**	**266**	*e*P	**P**	**12 23 58.1**	**-0.9**
	comp=E,37nm,0.9s						
ULN	**Ulaanbaatar**	**28.16**	**304**	iP	**P**	**12 23 59.9**	**+0.5**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ULN	**Ulaanbaatar**	**28.16**	**304**	*e*P	**P**	**12 23 60.0**	**+0.5**
	comp=Z,7.6nm,0.9s						
BOD	**Bodaibo**	**28.18**	**327**	*e*P	**P**	**12 23 59.2**	**-0.1**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SONA1	**Songino Array**	**28.59**	**304**	*e*P	**P**	**12 24 03.8**	**+0.5**
SONM	**Songino Array**	**28.59**	**304**	P	**P**	**12 24 03.8**	**+0.5**
	comp=Z,12nm,0.9s,baz=102,slow=8.8,SNR=76						
LZH	**Lanzhou**	**30.90**	**280**	*e*P	**P**	**12 24 25.0**	**+1.2**
LZH				pP	sP	12 24 34.5	+6.8
LZH				sP	pP	12 24 38.4	+12
LZH				*e*PP	**PnPn**	**12 25 27.1**	**+2.9**
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,53nm,5.0s						
LZH				LR	LR		
	comp=Z,250nm,13.0s						
LZH				LR	LR		
	comp=Z,240nm,13.2s						
LZH				LR	LR		
	comp=Z,340nm,16.7s						
ZAK	**Zakamensk**	**31.06**	**308**	*e*P	**P**	**12 24 23.3**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TLY	**Talaya**	**31.11**	**311**	LR	LR	12 37 39.6	
	comp=Z,183nm,18.2s,baz=60,slow=38						
TLY	**Talaya**	**31.11**	**311**	*e*P	**P**	**12 24 26.4**	**+1.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TLY	**Talaya**	**31.11**	**311**	*e*P	**P**	**12 24 25.4**	**+0.1**
	comp=Z,5.3nm,0.8s						
CD2	**Chengdu**	**32.48**	**271**	*e*P	**P**	**12 24 37.0**	**-0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MOY	**Mondy**	**32.72**	**310**	*e*P	**P**	**12 24 40.0**	**+0.4**
GTA	**Gaotai**	**33.41**	**288**	*e*P	**P**	**12 24 46.3**	**+0.6**
GTA				pP	sP	12 24 55.3	+5.7
GTA				sP	pP	12 24 59.8	+11
GTA				S	**S**	**12 30 02.3**	**-4.8**
GTA				sS	sS	12 30 18.6	+7.0
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,270nm,5.5s						
GTA				LR	LR		
	comp=Z,160nm,15.0s						
GTA				LR	LR		
	comp=Z,220nm,15.4s						
GTA				LR	LR		
	comp=Z,160nm,13.5s						
BILL	**Bilibino**	**34.06**	**16**	*i* P	**P**	**12 24 52.1**	**+1.2**
BILL				*i*		12 26 08.6	
BILL				*i*		12 27 34.6	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KNGR	**Kungurtug, Tuv**	**34.73**	**308**	iP	**P**	**12 24 57.9**	**+0.8**
TIXI	**Tiksi**	**35.65**	**353**	eP	**P**	**12 25 04.9**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KMI	**Kunming**	**35.72**	**262**	P	**P**	**12 25 05.8**	**-0.2**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ	**Urumqi**	**41.67**	**297**	P	**P**	**12 25 57.1**	**+1.5**
WMQ				pP	sP	12 26 01.5	+2.0
WMQ				sP	pP	12 26 06.6	+8.2
WMQ				pmax	pmax		
	comp=Z,17nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,1μm,11.7s						
WMQ				LR	LR		
	comp=Z,180nm,21.5s						
WMQ				LR	LR		
	comp=Z,320nm,19.9s						
WMQ				LR	LR		
	comp=Z,280nm,19.9s						
CMAR	**Chiang Mai Arr**	**42.21**	**256**	P	**P**	**12 26 00.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=37,slow=9.1,SNR=3.5						
ZAA0	**Zalesovo Array**	**42.68**	**313**	*e*P	**P**	**12 26 04.0**	**+0.4**
	comp=Z,5.5nm,1.0s						
ZALV	**Zalesovo Beam**	**42.68**	**313**	P	**P**	**12 26 04.0**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=87,slow=6.4,SNR=12						
ZALV				PcP	**PcP**	**12 27 54.7**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=111,slow=3.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**42.68**	**313**	*e*P	**P**	**12 26 03.6**	**0.0**
ZALV						12 27 54.7	
ZALV	**Zalesovo Beam**	**42.68**	**313**	*e*P	**P**	**12 26 03.6**	**0.0**
ZALV				PcP	**PcP**	**12 27 54.7**	**-0.6**
NVS	**Novosibirsk**	**43.60**	**314**	*e*P	**P**	**12 26 10.4**	**-0.6**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,12nm,1.5s						
MK01	**Makanchi Array**	**44.93**	**302**	*e*P	**P**	**12 26 21.7**	**-0.2**
MK31	**Makanchi Array**	**44.94**	**302**	*e*P	**P**	**12 26 21.6**	**-0.2**
MK31	**Makanchi Array**	**44.94**	**302**	*e*P	**P**	**12 26 21.6**	**-0.2**
MKAR	**Makanchi Array**	**44.94**	**302**	P	**P**	**12 26 22.2**	**+0.4**
	comp=E,3.0nm,0.7s,baz=87,slow=9.7,SNR=32						
MKAR	**Makanchi Array**	**44.94**	**302**	*e*P	**P**	**12 26 21.8**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,23nm,0.7s						

ARU					SS	**SS**			**12 39 33.1**	**-2.8**
ARU					pmax	pmax				
	comp=Z,8.0nm,1.2s									
ARU	**Arti**	**57.09**	**319**	*eP*		**P**			**12 27 53.0**	**-0.1**
	comp=Z,10nm,1.3s									
ABKAR	**Akbulak array**	**58.72**	**311**	*eP*		**P**			**12 28 03.9**	**-0.8**
	comp=Z,25nm,0.7s									
AKTO	**Aktyubinsk**	**59.44**	**312**	P		**P**			**12 28 09.8**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=69,slow=11,SNR=6.1									
ASAR	**Alice Springs**	**60.65**	**189**	P		**P**			**12 28 17.5**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=16,slow=9.0,SNR=11									
PALK	**Pallekele**	**63.10**	**258**	LR		LR			12 58 50.3	
	comp=Z,106nm,18.5s,baz=116,slow=39									
YKA	**Yellowknife Ar**	**63.63**	**30**	P		**P**			**12 28 38.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=304,slow=6.7,SNR=9.5									
GEYT	**Alibeck**	**64.66**	**299**	P		**P**			**12 28 45.0**	**0.0**
	comp=Z,1.8nm,0.7s,baz=225,slow=3.4,SNR=5.1									
FINES	**FINESS Array B**	**69.42**	**333**	P		**P**			**12 29 15.6**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=67,slow=6.8,SNR=8.3									
KBZ	**Khabaz**	**71.68**	**311**	P		**P**			**12 29 29.8**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=57,slow=3.8,SNR=11									
KIV	**Kislovodsk**	**71.68**	**311**	*eP*		**P**			**12 29 30.9**	**+1.9**
KIV					pmax	pmax				
	comp=Z,9.0nm,1.0s									
WVOR	**Wild Horse Val**	**72.05**	**50**	*eP*		**P**			**12 29 33.4**	**+2.1**
WVOR					pmax	pmax				
	comp=Z,25nm,1.8s									
WVOR	**Wild Horse Val**	**72.05**	**50**	*eP*		**P**			**12 29 33.4**	**+2.1**
	comp=Z,25nm,1.8s									
GNI	**Garni**	**72.50**	**307**	*eP*		**P**			**12 29 34.3**	**+0.2**
GNI					pmax	pmax				
	comp=Z,11nm,0.8s									
NVAR	**Mina Array Bea**	**74.50**	**54**	P		**P**			**12 29 47.6**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=277,slow=5.7,SNR=6.5									
AKASG	**Malin Array Be**	**74.99**	**323**	P		**P**			**12 29 48.4**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=46,slow=6.6,SNR=10									
KIEV	**Kiev**	**75.00**	**323**	*eP*		**P**			**12 29 48.2**	**-0.1**
KIEV					pmax	pmax				
	comp=Z,3.0nm,0.9s									
GCMT	**Greycliff**	**75.35**	**43**	*eP*		**P**			**12 29 48.4**	**-2.2**
PDAR	**Pinedale Array**	**77.28**	**46**	P		**P**			**12 30 01.8**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=41,slow=0.3,SNR=5.0									
BUR04	**Bucovina Ar. S**	**79.01**	**322**	*eP*		**P**			**12 30 12.1**	**+1.0**
BRTR	**Keskin Array B**	**79.62**	**312**	P		**P**			**12 30 15.9**	**+1.3**
	comp=Z,1.7nm,1.0s,baz=106,slow=4.0,SNR=8.2									
BRTR	**Keskin Array B**	**79.62**	**312**	P		**P**			**12 30 16.0**	**+1.3**
BRTR					pmax	pmax				
	comp=Z,2.0nm,1.0s									
BR231	**Keskin MP Arra**	**80.06**	**313**	*eP*		**P**			**12 30 16.1**	**-0.9**
PV10	**Paradox Valley**	**80.34**	**49**	*eP*		**P**			**12 30 21.2**	**+2.5**
CLL	**Collm**	**81.72**	**331**	*eP*		**P**			**12 30 26.0**	**+0.6**
CLL					pmax	pmax				
	comp=Z,5.0nm,1.0s									
CLL	**Collm**	**81.72**	**331**	*eP*		**P**			**12 30 26.0**	**+0.6**
	comp=Z,5.0nm,1.0s									
S22A	**4UR Ranch, Cre**	**82.08**	**48**	*eP*		**P**			**12 30 27.6**	**-0.4**
GERES	**GERESS Array B**	**83.35**	**329**	P		**P**			**12 30 34.8**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=28,slow=6.0,SNR=6.8									
ANMO	**Albuquerque**	**84.14**	**50**	*eP*		**P**			**12 30 39.6**	**+1.0**
ANMO					pmax	pmax				
	comp=Z,1.0nm,1.1s									
TXAR	**Lajitas Array**	**89.64**	**53**	P		**P**			**12 31 05.5**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=288,slow=3.8,SNR=5.1									

*NEIC **21** 12:19:51.2±0.0, 16°.20N×98°.36W, h10km, MD4.2(MEX), After MEX.*

MEX 21 12:19:51.2±0.7, 16°.22N×98°.38W, h7km±5km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**55**	*eP*	Pg	12 19 56.4	-0.6
PNIG				*eS*	Sg	12 20 01.4	+0.4
PNIG	**Pinotepa**	**0.29**	**55**	*eP*	Pg	12 19 56.4	-0.6
PNIG				*eS*	Sg	12 20 01.4	+0.4
TLIG	**Tlapa**	**1.34**	**352**	*eP*	Pn	12 20 12.7	-3.8
TLIG	**Tlapa**	**1.34**	**352**	*eP*	Pn	12 20 12.7	-3.8
ACX	**Acapulco**	**1.56**	**295**	*eP*	Pn	12 20 18.8	-0.6
ACX				*i S*	Sn	12 20 37.9	-1.9
VHO	**Vista Hermosa**	**1.79**	**62**	*eP*	Pn	12 20 19.9	-2.9
VHO				*i S*	Sn	12 20 40.9	-4.9
VHO	**Vista Hermosa**	**1.79**	**62**	*eP*	Pn	12 20 19.9	-2.9
VHO				*eS*	Sn	12 20 44.0	-1.9
CAIG	**El Cayaco**	**1.99**	**295**	*eP*	Pn	12 20 21.9	-3.3
CAIG				*i S*	Sn	12 20 46.5	-3.9
CAIG	**El Cayaco**	**1.99**	**295**	*eP*	Pn	12 20 24.8	-0.5
CAIG				*eS*	Sn	12 20 46.9	-3.5

IDC 21 12:22:01.2±1.8, 1°.96N×125°.74E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/60, mbtmp3.3/4, MS4.0/2, Ms1 4.0/2, ms1mx3.1/24, Error ellipse: s-maj=191.6km s-min=22.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.35**	**159**	P	P	12 27 11.2	-0.2
	0.4nm,0.3s,baz=338,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.68**	**163**	P	P	12 27 42.4	+0.2
	0.2nm,0.5s,baz=334,slow=8.4,SNR=3.9						
KSRS	**Korea Array**	**35.38**	**3**	LR	LR	12 43 32.8	
	comp=Z,201nm,21.3s,baz=86,slow=36						
SONM	**Songino Array**	**48.66**	**343**	LR	LR	12 53 13.5	
	comp=Z,251nm,20.4s,baz=54,slow=38						
MKAR	**Makanchi Array**	**58.45**	**326**	P	P	12 31 58.7	-0.3
	0.1nm,0.5s,baz=116,slow=6.5,SNR=3.2						
KURBB	**Kurchatov Arra**	**62.70**	**328**	P	P	12 32 27.9	+0.1
	0.2nm,0.4s,baz=123,slow=6.8,SNR=3.4						

IDC 21 12:33:47.2±750.0, 48°.82N×53°.00E, h0km, Error ellipse: s-maj=364.1km s-min=82.3km az=62.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**3.64**	**62**	*i*		12 57 40.0	
	baz=246,slow=310,SNR=2.3						
I46RU	**ZALESOVO INFRA**	**20.40**	**63**	*i*		14 40 40.0	
	baz=270,slow=326,SNR=1.5						
I34MN	**SONGINO INFRAS**	**34.93**	**71**	*i*		16 05 50.0	
	baz=292,slow=336,SNR=0.4						

*CSEM **21** 12:49:11.5±0.3, 45°.58N×26°.44E, h111km±2km, MD3.3, Error ellipse: s-maj=3.6km s-min=3.2km az=48.0*

BUC 21 12:49:11.0±0.9, 45°.58N×26°.43E, h117km±9km, MD3.5/3, 28C-30D, Error ellipse: s-maj=7.6km s-min=5.7km az=43.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.31**	**30**	*iP*	Pn	12 49 27.5	-0.1
PLOR	**Plostina**	**0.31**	**30**	*iP*	Pn	12 49 27.5	-0.1
PLOR				*i S*	Sn	12 49 39.9	-0.3
PLOR	**Plostina**	**0.31**	**30**	*iP*	Pn	12 49 27.5	-0.1
PLOR				S	Sn	12 49 38.9	-1.3
MLR	**Muntele Rosu**	**0.35**	**255**	P	Pn	12 49 28.0	+0.1
MLR				*i S*	Sn	12 49 40.5	-0.1
VRI	**Vrincioaia**	**0.35**	**36**	*iP*	Pn	12 49 28.1	+0.3
VRI	**Vrincioaia**	**0.35**	**36**	*iP*	Pn	12 49 28.1	+0.3
VRI				*i S*	Sn	12 49 40.2	-0.3
VRI	**Vrincioaia**	**0.35**	**36**	P	Pn	12 49 28.0	+0.2
VRI				S	Sn	12 49 39.9	-0.6
GRER		**0.43**	**117**	*iP*	Pn	12 49 28.0	-0.2
GRER		**0.43**	**117**	*iP*	Pn	12 49 28.0	-0.2
GRER				*i S*	Sn	12 49 41.6	+0.5
GRER		**0.43**	**117**	*iP*	Pn	12 49 28.0	-0.2
GRER				*i S*	Sn	12 49 41.6	+0.5
ODBI	**Odobesti**	**0.48**	**67**	*iP*	Pn	12 49 29.5	+1.1
ODBI	**Odobesti**	**0.48**	**67**	*iP*	Pn	12 49 29.5	+1.1
ODBI				*i S*	Sn	12 49 42.1	+0.6
ODBI	**Odobesti**	**0.48**	**67**	*iP*	Pn	12 49 29.5	+1.1
PETR	**Petresti**	**0.58**	**75**	*iP*	Pn	12 49 29.8	+0.7
PETR	**Petresti**	**0.58**	**75**	*iP*	Pn	12 49 29.8	+0.7
PETR				*i S*	Sn	12 49 43.0	+0.3
PETR	**Petresti**	**0.58**	**75**	P	Pn	12 49 29.8	+0.7
PETR				S	Sn	12 49 43.2	+0.5
SECR		**0.60**	**205**	*iP*	Pn	12 49 28.9	-0.4
SECR		**0.60**	**205**	*iP*	Pn	12 49 28.9	-0.4
SECR				*i S*	Sn	12 49 43.1	+0.1
SECR		**0.60**	**205**	*iP*	Pn	12 49 28.9	-0.4
SECR				*i S*	Sn	12 49 43.1	+0.1
PLAR	**PLOIESTI**	**0.72**	**203**	S	Sn	12 49 44.8	+0.2
PLAR	**PLOIESTI**	**0.72**	**203**	*i S*	Sn	12 49 44.8	+0.2
PLAR	**PLOIESTI**	**0.72**	**203**	*i S*	Sn	12 49 44.8	+0.2
PGOR	**Pogoanele**	**0.78**	**149**	S	Sn	12 49 46.0	+0.6
PGOR	**Pogoanele**	**0.78**	**149**	*i S*	Sn	12 49 46.0	+0.6
PGOR	**Pogoanele**	**0.78**	**149**	*i S*	Sn	12 49 46.0	+0.6
DOPR	**Dopca**	**0.82**	**298**	*iP*	Pn	12 49 30.9	-0.2
DOPR	**Dopca**	**0.82**	**298**	*iP*	Pn	12 49 30.9	-0.2
DOPR				*i S*	Sn	12 49 46.2	-0.1
DOPR	**Dopca**	**0.82**	**298**	*iP*	Pn	12 49 30.9	-0.2
DOPR				*i S*	Sn	12 49 46.2	-0.1
SULR		**0.91**	**188**	*iP*	Pn	12 49 32.2	+0.4
SULR		**0.91**	**188**	*iP*	Pn	12 49 32.2	+0.4
SULR				*i S*	Sn	12 49 48.2	+0.7
SULR		**0.91**	**188**	*iP*	Pn	12 49 32.2	+0.4
SULR				*i S*	Sn	12 49 48.2	+0.7
TESR	**Tescani**	**0.94**	**9**	*iP*	Pn	12 49 31.7	-0.5
TESR	**Tescani**	**0.94**	**9**	*iP*	Pn	12 49 31.7	-0.5
TESR				*i S*	Sn	12 49 46.9	-1.3
TESR	**Tescani**	**0.94**	**9**	P	Pn	12 49 31.7	-0.5
TESR				*i S*	Sn	12 49 46.9	-1.3
AMRR	**Amara**	**1.16**	**146**	*iP*	Pn	12 49 34.7	+0.3
AMRR	**Amara**	**1.16**	**146**	*iP*	Pn	12 49 34.7	+0.3
AMRR				*i S*	Sn	12 49 51.9	-0.2
AMRR	**Amara**	**1.16**	**146**	*iP*	Pn	12 49 34.7	+0.3
AMRR				*i S*	Sn	12 49 51.9	-0.2
GIUM	**Giurgiulesti**	**1.25**	**94**	*iP*	Pn	12 49 36.0	+0.6
GIUM	**Giurgiulesti**	**1.25**	**94**	*iP*	Pn	12 49 36.0	+0.6
GIUM				*i S*	Sn	12 49 54.1	+0.3
GIUM	**Giurgiulesti**	**1.25**	**94**	P	Pn	12 49 36.0	+0.6
GIUM				*i S*	Sn	12 49 54.1	+0.3
CFR	**Carcaliu**	**1.27**	**108**	*iP*	Pn	12 49 35.5	0.0
CFR	**Carcaliu**	**1.27**	**108**	*iP*	Pn	12 49 35.5	0.0
CFR				*i S*	Sn	12 49 53.5	-0.6
CFR	**Carcaliu**	**1.27**	**108**	*iP*	Pn	12 49 35.5	0.0
ARR	**Arges**	**1.28**	**261**	S	Sn	12 49 54.8	+0.3
ARR	**Arges**	**1.28**	**261**	*i S*	Sn	12 49 54.8	+0.3
ARR	**Arges**	**1.28**	**261**	*i S*	Sn	12 49 54.8	+0.3
HARR	**Harsova**	**1.39**	**129**	*iP*	Pn	12 49 37.0	+0.1
HARR	**Harsova**	**1.39**	**129**	*iP*	Pn	12 49 37.0	+0.1
HARR	**Harsova**	**1.39**	**129**	*iP*	Pn	12 49 37.0	+0.1
SGRR	**Singureni**	**1.40**	**194**	*iP*	Pn	12 49 36.8	-0.2
SGRR	**Singureni**	**1.40**	**194**	*iP*	Pn	12 49 36.8	-0.2
SGRR				*i S*	Sn	12 49 55.8	-0.9
SGRR	**Singureni**	**1.40**	**194**	*iP*	Pn	12 49 36.8	-0.2
SGRR				*i S*	Sn	12 49 55.8	-0.9
HUMR	**Humele**	**1.47**	**225**	S	Sn	12 49 57.3	-0.9
HUMR	**Humele**	**1.47**	**225**	*i S*	Sn	12 49 57.3	-0.9
TLB	**Topalu**	**1.52**	**130**	*iP*	Pn	12 49 38.5	+0.2
TLB	**Topalu**	**1.52**	**130**	*iP*	Pn	12 49 38.5	+0.2
TLB				*i S*	Sn	12 49 58.2	-0.9
TLB	**Topalu**	**1.52**	**130**	*iP*	Pn	12 49 38.5	+0.2
TLB				*i S*	Sn	12 49 58.2	-0.9
LEOM	**Leova**	**1.55**	**54**	P	Pn	12 49 39.8	+1.1
LEOM				*i S*	Sn	12 49 59.4	-0.5
CVDA	**Cernavoda**	**1.69**	**137**	*iP*	Pn	12 49 40.8	+0.4
CVDA	**Cernavoda**	**1.69**	**137**	*iP*	Pn	12 49 40.8	+0.4
CVDA				*i S*	Sn	12 50 01.5	-1.3
CVDA	**Cernavoda**	**1.69**	**137**	*iP*	Pn	12 49 40.8	+0.4
CVDA				*i S*	Sn	12 50 01.5	-1.3
TLCR		**1.73**	**102**	*iP*	Pn	12 49 41.4	+0.5
TLCR		**1.73**	**102**	*iP*	Pn	12 49 41.4	+0.5
TLCR				*i S*	Sn	12 50 03.3	-0.3
TLCR		**1.73**	**102**	P	Pn	12 49 41.4	+0.5
TLCR				S	Sn	12 50 03.3	-0.3
TIRR	**Tirgusor**	**1.80**	**128**	*iP*	Pn	12 49 42.0	+0.2
TIRR	**Tirgusor**	**1.80**	**128**	*iP*	Pn	12 49 42.0	+0.2
TIRR				*i S*	Sn	12 50 03.4	-1.8
TIRR	**Tirgusor**	**1.80**	**128**	*iP*	Pn	12 49 42.0	+0.2
LOT	**Lotru**	**1.87**	**267**	*iP*	Pn	12 49 43.9	+1.1
LOT	**Lotru**	**1.87**	**267**	*iP*	Pn	12 49 43.9	+1.1
LOT				*i S*	Sn	12 50 06.8	-0.3
LOT	**Lotru**	**1.87**	**267**	*iP*	Pn	12 49 43.9	+1.1
LOT				*i S*	Sn	12 50 06.8	-0.3
BURAR	**Bucovina Array**	**2.20**	**338**	*iP*	Pn	12 49 48.4	+1.5
BURAR	**Bucovina Array**	**2.20**	**338**	*iP*	Pn	12 49 48.4	+1.5
BURAR	**Bucovina Array**	**2.20**	**338**	*iP*	Pn	12 49 48.4	+1.5
MANR	**Mangalia**	**2.34**	**138**	*iP*	Pn	12 49 49.0	+0.4
MANR	**Mangalia**	**2.34**	**138**	*iP*	Pn	12 49 49.0	+0.4
MANR				*i S*	Sn	12 50 16.0	-1.4
MANR	**Mangalia**	**2.34**	**138**	*iP*	Pn	12 49 49.0	+0.4
SORM	**Soroca**	**2.88**	**27**	P	Pn	12 49 55.2	-0.3
SORM				S	Sn	12 50 27.5	-2.3

*IDC **21** 12:50:02.2±0.9, 51°.19N×178°.19W, h0km, mb3.5/12, mb1 3.7/12, mb1mx3.6/85, mbtmp3.5/12, Error ellipse: s-maj=31.2km s-min=17.7km az=168.0*
*ISCJB **21** 12:50:05.6±0.7, 51°.1N±0°.1×178°.4W±0°.1, h34km, mb3.4/12, Error ellipse: s-maj=17.9km s-min=6.1km az=151.8*
*NEIC **21** 12:50:05.3±0.0, 51°.01N×178°.18W, h18km, ML3.5(AEIC), After AEIC.*

ISC 21 12:50:07.4±0.8, 51°.2N±0°.1×178°.18W±0°.08, h34km, n26, σ1°25/24, mb3.4/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPA	**Tanaga Point A**	**0.68**	**20**	P	**Pb**	**12 50 21.4**	**+0.4**
KIKV	**Kanaga Island**	**0.95**	**41**	P	**Pn**	**12 50 24.8**	**+0.5**
KIKV				S	**Sb**	**12 50 37.9**	**+0.2**
KIRH	**Kanaga Island**	**0.99**	**43**	P	**Pn**	**12 50 25.6**	**+0.7**
ADAG	**Mount Adagdak**	**1.27**	**50**	P	**Pn**	**12 50 29.7**	**+0.9**
ADAG				S	**Sb**	**12 50 47.9**	**+1.0**
GSTD	**Great Sitkin T**	**1.55**	**54**	P	**Pn**	**12 50 33.5**	**+0.9**
GSTD				S	**Sb**	**12 50 54.6**	**-0.1**
KOWE	**Korovin West**	**2.72**	**62**	P	**Pn**	**12 50 50.5**	**+1.9**
KOWE				S	**Sb**	**12 51 25.0**	**-3.2**
KOKL	**Mount Kliuchef**	**2.73**	**64**	P	**Pn**	**12 50 51.1**	**+2.3**
KOFP	**Korovin Flat P**	**2.77**	**65**	P	**Pn**	**12 50 51.5**	**+2.2**
ILAR	**Eielson Array**	**21.16**	**38**	P	**P**	**12 54 49.0**	**-0.2**
	0.8nm,0.9s,baz=229,slow=11,SNR=6.0						
INK	**Inuvik**	**27.41**	**35**	P	**P**	**12 55 48.3**	**-0.9**
	0.7nm,0.9s,baz=225,slow=8.6,SNR=4.0						
KLR	**Kul'dur**	**31.61**	**286**	P	**P**	**12 56 27.4**	**+0.7**
	0.2nm,0.4s,baz=69,slow=11						
H11N2	**WAKE ISLAND Hy**	**33.51**	**206**	T	T	13 32 29.5	
	baz=14						
H11N3	**WAKE ISLAND Hy**	**33.52**	**206**	T	T	13 32 33.7	
	baz=14						
H11N1	**WAKE ISLAND Hy**	**33.53**	**206**	T	T	13 32 30.3	
	baz=14						
H11S1	**WAKE ISLAND Hy**	**34.73**	**206**	T	T	13 34 07.5	
	baz=17						
H11S2	**WAKE ISLAND Hy**	**34.75**	**206**	T	T	13 34 05.8	
	baz=17						
H11S3	**WAKE ISLAND Hy**	**34.75**	**206**	T	T	13 34 05.9	
	baz=17						
YKA	**Yellowknife Ar**	**35.09**	**46**	P	**P**	**12 56 56.1**	**-0.8**
	0.2nm,0.6s,baz=287,slow=8.3,SNR=5.1						
NVAR	**Mina Array Bea**	**43.19**	**83**	P	**P**	**12 58 04.8**	**-0.2**
	0.1nm,0.3s,baz=300,slow=7.2,SNR=3.2						
PDAR	**Pinedale Array**	**46.00**	**72**	P	**P**	**12 58 28.2**	**+0.8**
	1.6nm,0.8s,baz=305,slow=3.1,SNR=16						
TXAR	**Lajitas Array**	**58.30**	**82**	P	**P**	**12 59 58.0**	**-0.9**
	0.1nm,0.5s,baz=296,slow=5.8,SNR=3.9						
MKAR	**Makanchi Array**	**60.46**	**309**	P	**P**	**13 00 12.3**	**-1.1**
	0.2nm,0.5s,baz=66,slow=5.9,SNR=3.7						
BVAR	**Borovoye Array**	**61.29**	**320**	P	**P**	**13 00 18.9**	**0.0**
	0.4nm,0.3s,baz=68,slow=5.0,SNR=4.6						
WRA	**Warramunga Arr**	**82.14**	**224**	P	**P**	**13 02 23.9**	**-0.6**
	0.9nm,1.1s,baz=41,slow=7.7,SNR=3.4						
BRTR	**Keskin Array B**	**85.29**	**336**	P	**P**	**13 02 41.0**	**+0.3**
	0.4nm,0.6s,baz=15,slow=7.1,SNR=3.6						
ASAR	**Alice Springs**	**85.60**	**223**	P	**P**	**13 02 42.8**	**+0.7**
	0.2nm,0.6s,baz=24,slow=5.7,SNR=4.2						

*IDC **21** 12:57:26.4±2.3, 19°.3S±0°.7×177°.4W±0°.5, h570km, n7, σ1°06/9, mb3.7/4, Fiji Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.56**	**46**	P	**P**	**12 59 20.5**	**-0.2**
	3.9nm,0.3s,baz=174,slow=19,SNR=5.4						
AFI				S	**S**	**13 00 53.1**	**-1.1**
	1.6nm,0.3s,baz=294,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**15.42**	**257**	P	**P**	**13 00 39.7**	**-0.1**
	0.3nm,0.3s,baz=126,slow=19,SNR=5.4						
STKA	**Stephens Creek**	**38.87**	**243**	P	**P**	**13 04 04.0**	**+0.2**
	1.0nm,0.4s,baz=90,slow=9.3,SNR=5.3						
WRA	**Warramunga Arr**	**45.38**	**261**	P	**P**	**13 04 54.1**	**-1.0**
	1.0nm,0.3s,baz=98,slow=7.6,SNR=71						
ASAR	**Alice Springs**	**45.40**	**255**	P	**P**	**13 04 54.6**	**-0.6**
	1.1nm,0.4s,baz=86,slow=8.3,SNR=57						
ASAR				PcP	**PcP**	**13 06 22.6**	**+0.3**
	0.3nm,0.4s,baz=100,slow=3.9,SNR=4.7						
ILAR	**Eielson Array**	**87.00**	**13**	P	**P**	**13 09 13.3**	**+1.9**
	0.5nm,1.0s,baz=202,slow=4.5,SNR=3.1						
GERES	**GERESS Array B**	**149.19**	**346**	PKPbc	**PKPbc**	**13 16 11.0**	**-0.4**
	0.2nm,0.3s,baz=27,slow=4.5,SNR=3.1						

*MOS **21** 12:58:58.0±1.0, 49°.55N×154°.25E, h138km, mb4.1/8, Error ellipse: s-maj=17.1km s-min=5.3km az=69.0*
*ISCJB **21** 12:58:60.0±0.5, 49°.66N±0°.07×154°.50E±0°.09, h150km, mb3.6/21, Error ellipse: s-maj=12.1km s-min=4.1km az=141.6*
*KRSC **21** 12:59:00.2±1.4, 49°.45N×155°.25E, h148km±14km, ML4.3*
*IDC **21** 12:59:02.5±1.7, 49°.72N×154°.27E, h156km±14km, mb3.4/20, mb1 3.5/24, mb1mx3.4/76, mbtmp3.9/24, Error ellipse: s-maj=15.5km s-min=10.1km az=148.0*

ISC 21 12:59:01.0±0.7, 49°.58N±0°.09×154°.65E±0°.07, h150km, n71, σ1°35/82, mb3.6/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.45**	**40**	*ePN*	**Pn**	**12 59 28.1**	**-1.9**
SKR				*eS*	**Sn**	**12 59 52.5**	**+0.2**
SKR				pmax	pmax		
	comp=Z,167nm,0.9s						
SKR				smax	smax		
	comp=E,221nm,1.5s						
SKR				smax	smax		
	comp=N,293nm,0.9s						
SKR	**Severo-Kuril's**	**1.45**	**40**	*eP*	**Pn**	**12 59 28.0**	**-1.9**
SKR				*eS*	**Sn**	**12 59 50.6**	**-1.6**
PAU	**Pauzhetka**	**2.34**	**35**	PN	**Pn**	**12 59 39.9**	**-0.2**
PAU				S	**Sn**	**13 00 10.1**	**-0.1**
PAU	**Pauzhetka**	**2.34**	**35**	*eP*	**Pn**	**12 59 39.9**	**-0.2**
PAU				*eS*	**Sn**	**13 00 10.1**	**-0.1**
MIPR	**Malaya Ipel'ka**	**3.01**	**26**	PN	**Pn**	**12 59 48.3**	**-0.1**
MIPR	**Malaya Ipel'ka**	**3.01**	**26**	*eP*	**Pn**	**12 59 48.3**	**-0.1**
KDTR	**Khodutka, Kamc**	**3.12**	**43**	*eP*	**Pn**	**12 59 48.2**	**-1.6**
KDTR				*eS*	**Sn**	**13 00 24.0**	**-3.6**
ASAK	**Asacha**	**3.48**	**35**	PN	**Pn**	**12 59 53.9**	**-0.6**
ASAK	**Asacha**	**3.48**	**35**	*eP*	**Pn**	**12 59 53.9**	**-0.6**
MTVR	**Mutnovka**	**3.67**	**36**	PN	**Pn**	**12 59 57.1**	**+0.2**
MTVR				S	**Sn**	**13 00 39.4**	**-0.9**
MTVR	**Mutnovka**	**3.67**	**36**	*eP*	**Pn**	**12 59 57.1**	**+0.2**
MTVR				*eS*	**Sn**	**13 00 39.4**	**-0.9**
APC	**Apacha**	**3.70**	**24**	PN	**Pn**	**12 59 58.3**	**+1.1**
APC	**Apacha**	**3.70**	**24**	P	**Pn**	**12 59 58.3**	**+1.1**
RUS	**Russkaya**	**3.76**	**39**	PN	**Pn**	**12 59 56.7**	**-1.3**
RUS				S	**Sn**	**13 00 39.3**	**-2.9**
RUS	**Russkaya**	**3.76**	**39**	*eP*	**Pn**	**12 59 56.7**	**-1.3**
RUS				*eS*	**Sn**	**13 00 39.3**	**-2.9**
KRMR	**Karymshinskiy**	**3.92**	**33**	PN	**Pn**	**13 00 00.3**	**+0.2**
KRMR				S	**Sn**	**13 00 45.0**	**-1.1**
KRMR	**Karymshinskiy**	**3.92**	**33**	*eP*	**Pn**	**13 00 00.3**	**+0.2**
KRMR				*eS*	**Sn**	**13 00 45.0**	**-1.1**
PETK	**Petropavlovsk-**	**4.02**	**27**	P	**Pn**	**13 00 02.0**	**+0.6**
	comp=N,1.4nm,0.3s,baz=176,slow=11,SNR=57						
PETK				S	**Sn**	**13 00 50.5**	**+2.1**
	comp=N,1.0nm,0.3s,baz=161,slow=15,SNR=4.9						
DALK	**Dalny**	**4.31**	**35**	PN	**Pn**	**13 00 05.1**	**-0.1**
DALK				S	**Sn**	**13 00 54.1**	**-1.1**
DALK	**Dalny**	**4.31**	**35**	*eP*	**Pn**	**13 00 05.1**	**-0.1**
DALK				*eS*	**Sn**	**13 00 54.1**	**-1.1**
UGLR	**Uglovaya**	**4.48**	**34**	PN	**Pn**	**13 00 08.3**	**+0.8**
UGLR	**Uglovaya**	**4.48**	**34**	*eP*	**Pn**	**13 00 08.3**	**+0.8**
AVH	**Avacha

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.85**	**136**	P	Pn	13 23 10.6	-0.7
	0.1nm,0.3s,baz=308,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**20.29**	**145**	P	P	13 23 39.5	+0.5
	0.4nm,0.4s,baz=325,slow=11,SNR=12						
MKAR	**Makanchi Array**	**64.02**	**331**	P	P	13 29 36.8	0.0
	0.1nm,0.5s,baz=134,slow=6.6,SNR=3.0						

*ISK **21** 13:34:26.4, 37°.25N×28°.16E, h5km, ML2.1/4*
*ISCJB **21** 13:34:27.4±0.7, 37°.19N±0°.05×28°.15E±0°.05, h0km, Error ellipse: s-maj=8.3km s-min=4.1km az=31.7*
*CSEM **21** 13:34:27.4±0.2, 37°.19N×28°.16E, h1km, ML2.1, Error ellipse: s-maj=8.7km s-min=3.9km az=34.0, Suspected Mining explosion.*
*DDA **21** 13:34:27.0, 37°.19N×28°.11E, h7km, Ml2.5, Suspected Mining explosion.*

ISC 21 13:34:25.6±0.9, 37°.08N±0°.05×28°.01E±0°.05, h0km, n12, σ0s53/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.23**	**77**	PG	**Pg**	**13 34 30.1**	**+0.2**
YER				SG	**Sg**	**13 34 32.6**	**-0.3**
YER	**Yerkesik**	**0.23**	**77**	*e*Pg	**Pg**	**13 34 30.1**	**+0.2**
YER				*e*Sg	**Sg**	**13 34 32.6**	**-0.3**
TURN	**Turunc**	**0.52**	**114**	PG	**Pg**	**13 34 36.2**	**+0.6**
TURN				SG	**Sg**	**13 34 43.3**	**+1.0**
TURN	**Turunc**	**0.52**	**114**	*i* P	**Pg**	**13 34 35.7**	**+0.1**
TURN	**Turunc**	**0.52**	**114**	P	**Pg**	**13 34 35.7**	**+0.1**
TURN	**Turunc**	**0.52**	**114**	*e*Pg	**Pg**	**13 34 36.2**	**+0.6**
TURN				*e*Sg	**Sg**	**13 34 43.3**	**+1.0**
BODT	**Bodrum**	**0.56**	**268**	PG	**Pn**	**13 34 40.5**	**-0.4**
BODT				SG	**Sn**	**13 34 50.8**	**-0.1**
BODT	**Bodrum**	**0.56**	**268**	*e*Pg	**Pn**	**13 34 40.5**	**-0.4**
BODT				*e*Sg	**Sn**	**13 34 50.8**	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.58**	**117**	PG	**Pb**	**13 34 38.2**	**-0.5**
DALY	**Dalyan (Mu˘la**	**0.58**	**117**	*e*Pg	**Pb**	**13 34 38.2**	**-0.5**
AYDN	**Tasoluk**	**0.58**	**350**	*i* P	**Pg**	**13 34 37.1**	**+0.3**
AYDN				*i* S	**Sg**	**13 34 45.2**	**+0.7**
AYDN	**Tasoluk**	**0.58**	**350**	P	**Pg**	**13 34 37.1**	**+0.3**
AYDN				S	**Sg**	**13 34 45.2**	**+0.7**

MEX 21 13:41:59.4±0.4, 16°.29N×98°.32W, h4km±4km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**61**	*e*P	Pg	13 42 03.2	-0.2
PNIG				*e*S	Sg	13 42 06.2	0.0
TLIG	**Tlapa**	**1.29**	**349**	*e*P	Pg	13 42 20.6	-3.4
TLIG				*e*S	Sg	13 42 36.6	-4.2
ACX	**Acapulco**	**1.59**	**291**	*e*P	Pn	13 42 26.3	-2.1
ACX				*i* S	Sn	13 42 46.5	-2.9
VHO	**Vista Hermosa**	**1.70**	**63**	*e*P	Pn	13 42 26.2	-4.0
VHO				*e*S	Sn	13 42 47.8	-4.8

MEX 21 13:52:39.1±0.5, 16°.18N×98°.59W, h4km±10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**65**	*e*P	Pg	13 52 48.1	-0.6
PNIG				*e*S	Sg	13 52 55.7	+0.6
TLIG	**Tlapa**	**1.38**	**1**	*e*P	Pn	13 53 01.9	-3.3
TLIG				*e*S	Sg	13 53 18.3	-5.1
ACX	**Acapulco**	**1.40**	**300**	*i* P	Pn	13 53 03.9	-1.5
ACX				*i* S	Sb	13 53 21.3	-2.7
CAIG	**El Cayaco**	**1.82**	**299**	*e*P	Pn	13 53 07.9	-3.4
CAIG				*i* S	Sn	13 53 30.1	-4.7
VHO	**Vista Hermosa**	**1.99**	**63**	*i* P	Pn	13 53 09.9	-3.8
VHO				*i* S	Sn	13 53 34.6	-4.6
PLIG	**Platanillo**	**2.37**	**339**	*i* P	Pn	13 53 15.1	-3.7
PLIG				*e*S	Sn	13 53 43.7	-4.6

*IDC **21** 14:08:56.9±0.7, 35°.76N×141°.33E, h0km, mb4.0/16, mb1 4.0/21, mb1mx3.9/72, mbtmp3.9/21, ML3.5/4, MS3.0/7, Ms1 3.0/7, ms1mx2.7/62, Error ellipse: s-maj=18.6km s-min=15.6km az=86.0*
*NIED **21** 14:09:00, 35°.80N×141°.00E, h44km, Mw4.1 Best double couple: M0 1.35000×10^15 NP1:φs=238.00000°, δ15.00000°, λ129.00000°. NP2:φs=17.00000°, δ79.00000°, λ81.00000°.*
*ISCJB **21** 14:09:01.0±0.6, 35°.74N±0°.04×141°.18E±0°.06, h41km±5km, mb4.0/22, MS3.1/2, Error ellipse: s-maj=8.0km s-min=5.9km az=10.5*
*NEIC **21** 14:09:00.8±2.1, 35°.72N×141°.26E, h26km±15km, mb4.6/4, Error ellipse: s-maj=9.5km s-min=7.5km az=91.0*
*MOS **21** 14:09:00.6±0.9, 35°.73N×141°.18E, h39km, mb4.3/15, Error ellipse: s-maj=10.8km s-min=7.3km az=101.0*
*JMA **21** 14:09:03.1±0.1, 35°.74N×141°.00E, h36km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs=4.00000°, δ73.00000°, λ74.00000°. NP2:φs=229.00000°, δ23.00000°, λ132.00000°. Principal axes: T Plg59.0000°, Azm252.0000°; N Plg15.0000°, Azm9.0000°; P Plg26.0000°, Azm107.0000°;*
JMA Felt I J1.

ISC 21 14:09:01.4±1.2, 35°.77N±0°.06×141°.25E±0°.07, h30km±8km, n60, σ1s47/65, mb4.0/22, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.33**	**259**	⇓P	**Pb**	**14 09 09.2**	**0.0**
CHOJ				S	**Sb**	**14 09 13.5**	**-1.0**
JYT	**Yasato**	**0.97**	**299**	⇓P	**Pn**	**14 09 18.0**	**-1.1**
JYT				*e*S	**Sn**	**14 09 28.9**	**-3.0**
JHO	**Hitachi**	**1.01**	**327**	⇓P	**Pn**	**14 09 19.9**	**+0.3**
JHO				*e*S	**Sn**	**14 09 32.4**	**-0.4**
BSO3	**Boso 3**	**1.14**	**212**	P	**Pn**	**14 09 21.2**	**+0.1**
JAG	**Ashikaga**	**1.60**	**295**	⇓P	**Pn**	**14 09 26.8**	**-0.9**
MJAR	**Matsushiro Arr**	**2.58**	**288**	Pn	**Pn**	**14 09 41.7**	**+0.5**
	11nm,0.3s,baz=89,slow=20,SNR=97						
MJAR				LR	LR	14 10 46.7	
	comp=Z,294nm,19.5s,baz=130,slow=42						
MAJO	**Matsushiro**	**2.58**	**288**	*e*P	**Pn**	**14 09 41.7**	**+0.5**
MAJO	**Matsushiro**	**2.58**	**288**	*e*Pn	**Pn**	**14 09 41.7**	**+0.5**
MAT	**Matsushiro**	**2.58**	**288**	P	**Pn**	**14 09 41.9**	**+0.7**
MAT				S	**Sn**	**14 10 11.0**	**-0.6**
JHJ2	**Mitsune**	**2.90**	**205**	Pn	**Pn**	**14 09 44.6**	**-1.0**
JHJ	**Hachijo jima 2**	**2.91**	**205**	Pn	**Pn**	**14 09 46.1**	**+0.5**
	8.6nm,0.3s,baz=52,slow=14,SNR=2.3						
JHJ				Sn	**Sn**	**14 10 17.7**	**-1.8**
	26nm,0.3s,baz=32,slow=15,SNR=4.7						
JHJ				LR	LR	14 11 01.8	
	comp=Z,123nm,18.1s,baz=249,slow=43						
ASAJ	**Asahikawa**	**8.40**	**7**	Pn	**Pn**	**14 11 01.3**	**+0.1**
	1.0nm,0.3s,baz=205,slow=13,SNR=16						
ASAJ				Sn	**Sn**	**14 12 34.2**	**-0.8**
	0.4nm,0.3s,baz=180,slow=20,SNR=3.2						
GLVR	**Golovnino**	**8.61**	**21**	P	**Pn**	**14 11 07.3**	**+3.3**
GLVR				*e*S	**Sn**	**14 12 36.6**	**-3.5**
GRPR	**Tuman**	**8.92**	**22**	P	**Pn**	**14 11 11.0**	**+2.8**
GRPR				*e*S	**Sn**	**14 12 43.5**	**-4.1**
JNU	**Nakatsue**	**8.96**	**256**	LR	LR	14 15 01.8	
	comp=Z,232nm,18.0s,baz=88,slow=40						
LAGR	**Lagunnoye**	**8.98**	**21**	P	**Pn**	**14 11 12.2**	**+3.2**
LAGR				*i* S	**Sn**	**14 12 45.7**	**-3.4**
YUK	**Yuzh-Kuril'sk**	**8.98**	**22**	*e*P	**Pn**	**14 11 11.8**	**+2.7**
YUK				*e*S	**Sn**	**14 12 44.8**	**-4.4**
YUK				pmax	pmax		
	comp=Z,67nm,0.7s						
YUK				pmax	pmax		
	comp=N,37nm,0.4s						
YUK				pmax	pmax		
	comp=E,59nm,0.5s						
SHO	**Shikotan**	**9.16**	**26**	P	**Pn**	**14 11 13.2**	**+1.7**
KSRS	**Korea Array**	**10.85**	**283**	Pn	**Pn**	**14 11 34.3**	**-0.3**
	comp=E,0.1nm,0.3s,baz=96,slow=14,SNR=2.9						
KSRS				LR	LR	14 15 45.6	
	comp=E,103nm,21.4s,baz=122,slow=37						
KSAR	**Wonju Array Be**	**10.88**	**283**	P	**Pn**	**14 11 34.3**	**-0.7**
KSAR	**Wonju Array Be**	**10.88**	**283**	Pn	**Pn**	**14 11 34.3**	**-0.7**
USRK	**Ussuriysk Ar.**	**11.01**	**323**	Pn	**Pn**	**14 11 38.2**	**+1.3**
	comp=E,0.2nm,0.3s,baz=113,slow=11,SNR=4.1						
KLR	**Kul'dur**	**15.15**	**336**	LR	LR	14 17 54.8	
	comp=E,6.4nm,19.0s,baz=153,slow=35						
NKL	**Nikolayevsk**	**17.39**	**359**	*e*P	Pn	14 12 53.8	-7.8
ZEA	**Zeya**	**20.47**	**336**	*e*P	**P**	**14 13 37.2**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.64**	**118**	T	T	14 43 53.1	
	baz=311,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**27.64**	**119**	T	T	14 43 54.0	
	baz=311,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**27.65**	**118**	T	T	14 43 56.1	
	baz=311,slow=75,SNR=27						
ULN	**Ulaanbaatar**	**27.98**	**306**	*e*P	**P**	**14 14 50.1**	**+0.6**
ULN	**Ulaanbaatar**	**27.98**	**306**	*e*P	**P**	**14 14 50.1**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	14 44 44.9	
	baz=312,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	14 44 43.5	
	baz=312,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	14 44 44.1	
	baz=312,slow=75,SNR=19						
SONM	**Songino Array**	**28.40**	**306**	P	**P**	**14 14 52.6**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=118,slow=10,SNR=5.3						
SONM				PcP	**PcP**	**14 18 05.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=116,slow=3.4,SNR=2.1						
SONM				LR	LR	14 25 18.3	
	comp=Z,50nm,18.5s,baz=114,slow=34						
BOD	**Bodaibo**	**28.54**	**329**	*e*P	**P**	**14 14 54.2**	**0.0**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.6s						
CMAR	**Chiang Mai Arr**	**41.06**	**257**	LR	LR	14 34 27.2	
	comp=Z,22nm,19.3s,baz=355,slow=37						
ZALV	**Zalesovo Beam**	**42.68**	**313**	P	**P**	**14 16 55.2**	**0.0**
	comp=Z,3.2nm,0.7s,baz=92,slow=6.6,SNR=15						
MKAR	**Makanchi Array**	**44.69**	**303**	P	**P**	**14 17 11.9**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=91,slow=10.0,SNR=48						
MKAR				PcP	**PcP**	**14 18 53.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=85,slow=3.6,SNR=2.3						
KURK	**Kurchatov**	**46.62**	**309**	*e*P	**P**	**14 17 26.3**	**-0.4**
KURK						14 19 00.3	
KURK				pmax	pmax		
	comp=Z,57nm,0.9s						
KURK	**Kurchatov**	**46.62**	**309**	*e*P	**P**	**14 17 26.3**	**-0.4**
	comp=Z,57nm,0.9s						
KURK				PcP	**PcP**	**14 19 00.2**	**0.0**
KURBB	**Kurchatov Arra**	**46.69**	**309**	P	**P**	**14 17 27.3**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=84,slow=8.0,SNR=33						
KURBB				PcP	**PcP**	**14 19 00.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=67,slow=2.4,SNR=2.8						
ILAR	**Eielson Array**	**50.64**	**32**	P	**P**	**14 17 58.8**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=270,slow=5.6,SNR=5.7						
BVAR	**Borovoye Array**	**51.33**	**313**	P	**P**	**14 18 03.1**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=87,slow=6.2,SNR=9.8						
BVAR				PcP	**PcP**	**14 19 18.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=79,slow=7.5,SNR=2.2						
BRVK	**Borovoye**	**51.39**	**313**	*e*P	**P**	**14 18 03.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BRVK	**Borovoye**	**51.39**	**313**	*e*P	**P**	**14 18 03.0**	**-0.3**
	comp=Z,9.9nm,1.1s						
WRA	**Warramunga Arr**	**55.79**	**188**	P	**P**	**14 18 35.2**	**-0.6**
	comp=Z,1.6nm,1.1s,baz=4.6,slow=7.5,SNR=9.7						
ARU	**Arti**	**57.23**	**319**	*e*P	**P**	**14 18 45.6**	**0.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARU	**Arti**	**57.23**	**319**	*e*P	**P**	**14 18 45.6**	**0.0**
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**58.66**	**311**	*e*P	**P**	**14 18 55.7**	**-0.1**
	comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**59.52**	**188**	P	**P**	**14 19 02.0**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=0.0,slow=6.1,SNR=4.2						
YKA	**Yellowknife Ar**	**64.97**	**30**	P	**P**	**14 19 36.9**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=304,slow=6.6,SNR=2.6						
FINES	**FINESS Array B**	**69.88**	**332**	P	**P**	**14 20 08.8**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=57,slow=7.0,SNR=6.5						
KBZ	**Khabaz**	**71.63**	**311**	P	**P**	**14 20 21.2**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=54,slow=2.0,SNR=6.6						
HFS	**Hagfors**	**75.19**	**336**	P	**P**	**14 20 41.5**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=341,slow=3.5,SNR=4.6						
AKASG	**Malin Array Be**	**75.22**	**322**	P	**P**	**14 20 40.5**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=47,slow=6.1,SNR=7.9						
NB2	**NORSAR Subarra**	**75.30**	**337**	P	**P**	**14 20 42.1**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.30**	**337**	P	**P**	**14 20 42.4**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=43,slow=5.4,SNR=7.6						
NVAR	**Mina Array Bea**	**75.86**	**53**	P	**P**	**14 20 45.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=308,slow=2.2,SNR=2.1						
BRTR	**Keskin Array B**	**79.59**	**312**	P	**P**	**14 21 06.2**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=114,slow=3.1,SNR=5.2						
GERES	**GERESS Array B**	**83.72**	**328**	P	**P**	**14 21 27.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=46,slow=4.4,SNR=3.9						

*CSEM **21** 14:13:31.1, 39°.46N×29°.80W, h10km, ML3.5, After PDA*

PDA 21 14:13:31.1±0.4, 39°.46N±29°.80W, h10km, MD3.7, ML3.5, Error ellipse: s-maj=9.4km s-min=3.2km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.19**	**134**	*e*S	Sb	14 14 02.4	-6.7
PCED				A	A	14 14 04.2	
	275nm,0.4s						
PCED	**Cedros**	**1.19**	**134**	*e*S	Sb	14 14 02.4	-6.7
CALA	**Caldeira**	**1.22**	**135**	*e*P	Pn	14 13 49.5	-4.8
CALA				*e*S	Sb	14 14 03.3	-6.8
CALA	**Caldeira**	**1.22**	**135**	*e*P	Pn	14 13 49.5	-4.8
CALA				*e*S	Sb	14 14 03.3	-6.8
HOR	**Horta**	**1.30**	**135**	*e*P	Pn	14 13 50.5	-4.8
HOR				*e*S	Sb	14 14 05.3	-7.0
HOR				A	A	14 14 07.0	
	642nm,0.3s						
HOR	**Horta**	**1.30**	**135**	*e*P	Pn	14 13 50.5	-4.8
HOR				*e*S	Sb	14 14 05.3	-7.0
ROSA	**Rosais**	**1.42**	**121**	*e*S	Sn	14 14 08.0	-7.6
ROSA				A	A	14 14 08.9	
	215nm,0.4s						
ROSA	**Rosais**	**1.42**	**121**	*e*S	Sn	14 14 08.0	-7.6
PCAN	**Candelaria**	**1.42**	**134**	*e*P	Pn	14 13 52.3	-4.7
PCAN				*e*S	Sn	14 14 08.3	-7.5
PCAN				A	A	14 14 14.4	
	345nm,0.4s						
PCAN	**Candelaria**	**1.42**	**134**	*e*P	Pn	14 13 52.3	-4.7
PCAN				*e*S	Sn	14 14 08.3	-7.5
PICO	**Pico**	**1.43**	**131**	*e*P	Pn	14 13 52.5	-4.7
PICO				*e*S	Sn	14 14 08.7	-7.4
PICO				A	A	14 14 11.3	
	632nm,0.2s						
PICO	**Pico**	**1.43**	**131**	*e*P	Pn	14 13 52.5	-4.7
PICO				*e*S	Sn	14 14 08.7	-7.4

*IDC **21** 14:20:20.8±0.9, 6°.91N×126°.96E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.5/58, mbtmp3.7/9, Error ellipse: s-maj=38.4km s-min=15.1km az=64.0*
*MAN **21** 14:20:31, 6°.78N×126°.44E, h26km, mb4.5, ML3.4, MS3.2*

ISC 21 14:20:28.1±1.2, 6°.6N±0°.1×126°.6E±0°.1, h35km, n12, σ1s30/10, mb3.8/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.10**	**297**	Pn	**Pn**	**14 20 48.4**	**+1.3**
	142nm,0.3s,baz=90,slow=5.1,SNR=14						
DAV				Sn	**Sn**	**14 21 01.6**	**+0.5**
	192nm,0.3s,baz=273,slow=16,SNR=34						
DAV				LR	LR	14 21 35.5	
	comp=Z,71nm,18.5s,baz=152,slow=54						
BUKP	**Musuan**	**1.98**	**311**	*e*P	**Pn**	**14 20 59.7**	**+0.5**
BUKP				*e*S	**Sn**	**14 21 22.4**	**-0.5**
BUTP	**Butuan**	**2.56**	**338**	*e*P	**Pn**	**14 21 09.0**	**+1.8**
FITZ	**Fitzroy Crossi**	**24.53**	**182**	P	**P**	**14 25 45.1**	**+0.5**
	1.3nm,0.5s,baz=8.7,slow=5.1,SNR=7.5						
WRA	**Warramunga Arr**	**27.44**	**164**	P	**P**	**14 26 12.4**	**+1.5**
	0.2nm,0.3s,baz=334,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**30.90**	**167**	P	**P**	**14 26 41.7**	**0.0**
	0.3nm,0.4s,baz=348,slow=7.4,SNR=5.4						
STKA	**Stephens Creek**	**40.84**	**160**	P	P	14 28 04.4	-2.2
	1.4nm,0.8s,baz=338,slow=19,SNR=2.3						
MKAR	**Makanchi Array**	**55.16**	**324**	P	**P**	**14 29 55.6**	**-1.6**
	0.8nm,0.5s,baz=120,slow=7.1,SNR=15						
KURBB	**Kurchatov Arra**	**59.28**	**327**	P	P	14 30 22.4	-3.9
	0.3nm,0.5s,baz=131,slow=6.2,SNR=3.7						
BVAR	**Borovoye Array**	**64.87**	**326**	P	**P**	**14 31 02.9**	**-0.8**
	0.6nm,0.6s,baz=116,slow=6.6,SNR=4.6						
AKTO	**Aktyubinsk**	**71.35**	**321**	P	P	14 31 41.8	-2.7
	1.1nm,0.6s,baz=111,slow=5.6,SNR=5.2						
ARCES	**ARCESS Array B**	**87.74**	**340**	P	P	14 33 09.3	-3.8
	0.5nm,0.6s,baz=58,slow=8.6,SNR=4.1						

IDC 21 14:22:33.5±15.0, 33°.93N×74°.32E, h0km, mb3.2/1, mb1 3.2/5, mb1mx3.0/64, mbtmp3.2/5, ML3.1/4, MS3.6/1, Ms1 3.6/1, ms1mx2.5/38, Error ellipse: s-maj=226.8km s-min=49.5km az=158.0, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**13.72**	**292**	Pn	Pn	14 25 49.3	0.0
	0.2nm,0.3s,baz=98,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**14.20**	**23**	Pn	Pn	14 25 57.1	+1.2
	0.0nm,0.3s,baz=206,slow=16,SNR=2.7						
KURBB	**Kurchatov Arra**	**16.96**	**9**	Pn	Pn	14 26 31.4	-0.7
	0.0nm,0.3s,baz=205,slow=10,SNR=5.2						
BVAR	**Borovoye Array**	**19.29**	**353**	P	P	14 26 59.3	-0.4
	0.1nm,0.3s,baz=165,slow=12,SNR=2.4						
ZALV	**Zalesovo Beam**	**21.35**	**17**	P	P	14 27 21.4	-0.7
	0.5nm,0.4s,baz=198,slow=12,SNR=3.1						
BRTR	**Keskin Array B**	**32.86**	**292**	LR	LR	14 44 59.2	
	comp=Z,91nm,18.2s,baz=90,slow=41						

*ISCJB **21** 14:23:58.8±1.2, 37°.07N±0°.09×39°.26E±0°.05, h9km, Error ellipse: s-maj=12.9km s-min=5.9km az=1.7*
*ISK **21** 14:23:58.9, 37°.10N×39°.25E, h5km, ML2.2/4*
*CSEM **21** 14:23:59.1±0.3, 37°.08N×39°.25E, h10km, ML2.2, Error ellipse: s-maj=9.9km s-min=5.0km az=173.0*
*DDA **21** 14:24:01.0, 37°.06N×39°.12E, h7km, Ml3.0*

ISC 21 14:23:59.6±1.3, 37°.10N±0°.07×39°.25E±0°.04, h9km, n10, σ0s45/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.49**	**315**	PG	**Pg**	**14 24 08.6**	**-0.5**
URFA				SG	**Sg**	**14 24 15.9**	**+0.4**
URFA	**Urfa**	**0.49**	**315**	*e*Pg	**Pg**	**14 24 08.6**	**-0.5**
URFA				*e*Sg	**Sg**	**14 24 15.9**	**+0.4**
SURC	**SANLIURFA_SURC**	**0.55**	**247**	*i* P	**Pg**	**14 24 10.0**	**-0.4**
SURC	**SANLIURFA_SURC**	**0.55**	**247**	P	**Pg**	**14 24 10.0**	**-0.4**
MAZI	**Mazidag**	**1.02**	**69**	PG	**Pg**	**14 24 18.9**	**-0.4**
MAZI				SG	**Sb**	**14 24 33.5**	**+0.4**
MAZI	**Mazidag**	**1.02**	**69**	*e*Pg	**Pg**	**14 24 18.9**	**-0.4**
MAZI				*e*Sg	**Sb**	**14 24 33.5**	**+0.4**
DYBB	**Diyarbakir**	**1.11**	**39**	PN	**Pg**	**14 24 20.5**	**-0.5**
DIY	**Diyarbakir**	**1.11**	**44**	*e*Pn	**Pg**	**14 24 20.5**	**-0.6**
MALT	**Malatya**	**1.38**	**332**	PN	**Pn**	**14 24 25.3**	**+0.1**
MALT	**Malatya**	**1.38**	**332**	*e*Pn	**Pn**	**14 24 25.3**	**+0.1**

*IDC **21** 14:36:52.6±1.1, 0°.10N×121°.59E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/57, mbtmp3.5/5, Error ellipse: s-maj=133.5km s-min=19.0km az=63.0*
*ISCJB **21** 14:37:13.5±0.7, 0°.23N±0°.09×122°.04E±0°.07, h148km, mb3.4/5, Error ellipse: s-maj=13.3km s-min=9.3km az=178.5*
*DJA **21** 14:37:13.1±0.8, 0°N±5°×12°2E±°, h149km±7km, M3.1/6, MLv3.1/6*

ISC 21 14:37:11.3±0.9, 0°.26N±0°.08×122°.05E±0°.07, h148km, n11, σ2s92/14, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.24**	**333**	P	**Pn**	**14 37 34.2**	**+2.8**
MRSI				S	**Sn**	**14 37 50.4**	**+3.6**
APSI	**Ampana**	**1.23**	**199**	P	**Pn**	**14 37 40.6**	**+2.6**
LUWI	**Luwuk**	**1.48**	**151**	P	**Pn**	**14 37 41.4**	**+0.9**
LUWI				S	**Sn**	**14 38 06.5**	**+3.6**
KMSI	**Cibinong**	**1.96**	**81**	P	**Pn**	**14 37 48.0**	**+2.2**
KMSI				S	**Sn**	**14 38 15.4**	**+3.1**
MPSI	**Mapaga**	**2.15**	**272**	P	**Pn**	**14 37 51.3**	**+3.2**
PCI	**Palu**	**2.50**	**242**	P	**Pn**	**14 37 53.7**	**+1.4**
WRA	**Warramunga Arr**	**23.41**	**150**	P	**P**	**14 42 04.3**	**-2.9**
	1.1nm,0.6s,baz=333,slow=7.8,SNR=32						
ASAR	**Alice Springs**	**26.42**	**155**	P	**P**	**14 42 31.8**	**-2.6**
	0.3nm,0.4s,baz=344,slow=14,SNR=12						
SONM	**Songino Array**	**49.30**	**346**	P	**P**	**14 45 43.5**	**-1.9**
	0.5nm,0.7s,baz=156,slow=7.6,SNR=4.7						
MKAR	**Makanchi Array**	**57.90**	**329**	P	**P**	**14 46 46.1**	**-1.7**
	0.4nm,0.3s,baz=128,slow=8.7,SNR=11						
KURBB	**Kurchatov Arra**	**62.27**	**330**	P	**P**	**14 47 15.5**	**-2.0**
	0.3nm,0.5s,baz=124,slow=5.4,SNR=3.2						

*DDA **21** 14:42:07.8, 38°.39N×38°.37E, h14km, Ml3.9*
*ISK **21** 14:42:07.6, 38°.40N×38°.37E, h3km, ML3.6/18*
*CSEM **21** 14:42:08.3±0.1, 38°.39N×38°.37E, h2km, ML3.6, Error ellipse: s-maj=2.6km s-min=2.4km az=26.0*

ISC 21 14:42:08.2±0.9, 38°.40N±0°.02×38°.37E±0°.02, h6km±7km, n89, σ0s82/114, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.09**	**151**	PG	**Pg**	**14 42 10.3**	**-0.1**
MALT				SG	**Sg**	**14 42 11.9**	**0.0**
MALT	**Malatya**	**0.09**	**151**	*i* Pg	**Pg**	**14 42 10.3**	**-0.1**
MALT				*e

ANDN	**Andirin**	**1.79**	**244**	*i* P	**Pb**	**14 42 41.1**	**-0.4**
ANDN	**Andirin**	**1.79**	**244**	P	**Pb**	**14 42 41.1**	**-0.4**
SUSE	**Susehri**	**1.81**	**356**	*i* P	**Pn**	**14 42 40.5**	**+0.4**
SUSE				*i* S	**Sg**	**14 43 06.6**	**0.0**
SUSE	**Susehri**	**1.81**	**356**	P	**Pn**	**14 42 40.5**	**+0.4**
SUSE				S	**Sg**	**14 43 06.6**	**0.0**
SAIM	**ADANA**	**1.85**	**258**	*i* P	**Pb**	**14 42 41.8**	**-0.7**
SAIM	**ADANA**	**1.85**	**258**	P	**Pb**	**14 42 41.8**	**-0.7**
SVSK	**Karacayir**	**1.86**	**325**	PN	**Pn**	**14 42 41.3**	**+0.8**
SVSK	**Karacayir**	**1.86**	**325**	*e*Pn	**Pn**	**14 42 41.3**	**+0.8**
KELT	**Kelkit**	**1.88**	**21**	*i* P	**Pb**	**14 42 42.3**	**-0.8**
KELT	**Kelkit**	**1.88**	**21**	P	**Pb**	**14 42 42.3**	**-0.8**
MAZI	**Mazidag**	**1.89**	**119**	PN	**Pn**	**14 42 41.9**	**+0.8**
MAZI	**Mazidag**	**1.89**	**119**	*e*Pn	**Pn**	**14 42 41.9**	**+0.8**
KUZU	**Kuzuini**	**1.92**	**213**	*i* P	**Pb**	**14 42 42.5**	**-1.1**
KUZU	**Kuzuini**	**1.92**	**213**	P	**Pb**	**14 42 42.5**	**-1.1**
CUSAR	**Sarkisla-SIVAS**	**1.95**	**302**	*i* P	**Pb**	**14 42 43.1**	**-1.1**
CUSAR	**Sarkisla-SIVAS**	**1.95**	**302**	P	**Pb**	**14 42 43.1**	**-1.1**
BNN	**Bunyan**	**2.03**	**284**	PN	**Pn**	**14 42 43.8**	**+0.8**
BNN	**Bunyan**	**2.03**	**284**	*e*Pn	**Pn**	**14 42 43.8**	**+0.8**
RSDY	**Resadiye-TOKAT**	**2.16**	**338**	PN	**Pn**	**14 42 45.5**	**+0.8**
RSDY	**Resadiye-TOKAT**	**2.16**	**338**	*e*Pn	**Pn**	**14 42 45.5**	**+0.8**
MARD	**Mardin**	**2.19**	**119**	*i* P	**Pn**	**14 42 45.8**	**+0.5**
KOZT	**Kozan**	**2.21**	**246**	PN	**Pn**	**14 42 46.8**	**+1.4**
KOZT	**Kozan**	**2.21**	**246**	*e*Pn	**Pn**	**14 42 46.8**	**+1.4**
KOPT	**Kop Dagi**	**2.31**	**45**	*i* P	**Pb**	**14 42 50.9**	**+0.4**
KOPT	**Kop Dagi**	**2.31**	**45**	P	**Pb**	**14 42 50.9**	**+0.4**
BTMN	**Batman**	**2.34**	**102**	*i* P	**Pn**	**14 42 48.3**	**+1.0**
BTMN	**Batman**	**2.34**	**102**	P	**Pn**	**14 42 48.3**	**+1.0**
BAYB	**BAYBURT**	**2.37**	**38**	*i* P	**Pb**	**14 42 49.8**	**-1.6**
BAYB	**BAYBURT**	**2.37**	**38**	P	**Pb**	**14 42 49.8**	**-1.6**
TOKT	**Tokat**	**2.39**	**324**	PN	**Pn**	**14 42 48.9**	**+1.0**
TOKT	**Tokat**	**2.39**	**324**	*e*Pn	**Pn**	**14 42 48.9**	**+1.0**
YAHY	**KAYSERI_Yahyal**	**2.39**	**264**	*i* P	**Pn**	**14 42 49.5**	**+1.6**
YAHY	**KAYSERI_Yahyal**	**2.39**	**264**	P	**Pn**	**14 42 49.5**	**+1.6**
BAYT	**Ayd¯–ntepe-Bay**	**2.42**	**34**	PN	**Pn**	**14 42 49.4**	**+0.9**
BAYT	**Ayd¯–ntepe-Bay**	**2.42**	**34**	*e*Pn	**Pn**	**14 42 49.4**	**+0.9**
ESPY	**Espiye-Giresun**	**2.53**	**6**	PN	**Pn**	**14 42 50.9**	**+1.0**
ESPY	**Espiye-Giresun**	**2.53**	**6**	*e*Pn	**Pn**	**14 42 50.9**	**+1.0**
ERBA	**Erbaa**	**2.60**	**332**	*i* P	**Pn**	**14 42 51.7**	**+0.9**
ERBA	**Erbaa**	**2.60**	**332**	P	**Pn**	**14 42 51.7**	**+0.9**
GURO	**Guroymak-BITLI**	**2.88**	**86**	PN	**Pn**	**14 42 56.1**	**+1.4**
GURO	**Guroymak-BITLI**	**2.88**	**86**	*e*Pn	**Pn**	**14 42 56.1**	**+1.4**
YAYL	**Yayladag**	**2.97**	**218**	PN	**Pn**	**14 42 56.8**	**+0.8**
YAYL	**Yayladag**	**2.97**	**218**	*i* P	**Pn**	**14 42 56.9**	**+1.0**
YAYL	**Yayladag**	**2.97**	**218**	*e*Pn	**Pn**	**14 42 56.8**	**+0.8**

JMA ***21*** *14:57:23.4±0.4,21.°62N×121.°09E,h9km*
TAP ***21*** *14:57:27.1,21.°73N×121.°37E,h37km±1km,ML2.9,D*
ISC 21 14:57:30.4±1.4**,21.°94N**±0.°08×**121.°29E**±0.°03**,h15**km±10km**,**n22**,σ0.°92**/35**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.27**	**67**	P	**Pg**	**14 57 36.0**	**-0.2**
	baz=29						
LAY				S	**Sb**	**14 57 43.0**	**+1.7**
	baz=29						
TSEB	**Hengchuen, Pin**	**0.36**	**264**	*e*P	**Pg**	**14 57 38.4**	**+0.5**
	baz=289						
TSEB				*e*S	**Sn**	**14 57 46.5**	**-1.5**
	baz=289						
TWKBT	**Hengchun**	**0.44**	**271**	P	**Pg**	**14 57 39.1**	**-0.2**
	baz=292						
TWKBT				*e*S	**Sb**	**14 57 47.9**	**+1.5**
	baz=292						
HEN	**Hengchun**	**0.52**	**278**	*e*P	**Pg**	**14 57 40.7**	**0.0**
	baz=295						
HEN				*e*S	**Sb**	**14 57 49.8**	**+1.3**
	baz=295						
EAST	**Anshuo**	**0.60**	**318**	P	**Pb**	**14 57 43.1**	**+0.3**
	baz=323						
ECL	**Taimali**	**0.73**	**335**	*e*P	**Pb**	**14 57 44.4**	**-0.4**
	baz=336						
ECL				*e*S	**Sn**	**14 57 56.7**	**-0.4**
	baz=336						
SCZT	**Fangliau**	**0.76**	**305**	*e*P	**Pg**	**14 57 45.8**	**+0.7**
	baz=312						
SSPT	**Xinbi**	**0.86**	**309**	*e*P	**Pb**	**14 57 46.4**	**-0.7**
	baz=315						
TWGBT	**Beinan**	**0.90**	**348**	P	**Pb**	**14 57 47.0**	**-0.7**
	baz=346						
TWGBT				S	**Sn**	**14 58 01.7**	**+0.4**
	baz=346						
TWG	**Pinlang**	**0.90**	**347**	*e*P	**Pb**	**14 57 46.8**	**-1.1**
	baz=346						
TWG				*e*S	**Sn**	**14 58 01.4**	**0.0**
	baz=346						
MASBT	**Mashibuluo**	**0.91**	**318**	*e*P	**Pg**	**14 57 48.3**	**+0.3**
	baz=322						
FULB	**Fuli**	**1.26**	**0**	*e*P	**Pn**	**14 57 52.8**	**-0.7**
	baz=357						
ELDTW	**Lidau**	**1.27**	**349**	P	**Pn**	**14 57 52.5**	**-1.3**
	baz=347						
STYT	**Tauyuan**	**1.32**	**338**	*e*P	**Pn**	**14 57 54.2**	**-0.1**
	baz=338						
YULB	**Yu-li**	**1.45**	**0**	*e*P	**Pn**	**14 57 54.7**	**-1.4**
	baz=357						
YOJ	**Yonaguni jima**	**2.97**	**32**	P	**Pn**	**14 58 18.4**	**+1.3**
HATJ	**Hateruma jima**	**3.14**	**47**	P	**Pn**	**14 58 19.2**	**-0.1**
HATJ				S	**Sn**	**14 58 55.8**	**-0.7**
IRIF	**Iriomote-Funau**	**3.28**	**43**	P	**Pn**	**14 58 21.0**	**-0.3**
IRIF				S	**Sn**	**14 59 01.7**	**+1.7**
JKRS	**Kuro-shima**	**3.40**	**47**	P	**Pn**	**14 58 23.0**	**+0.1**
JKRS				*e*S	**Sn**	**14 59 02.7**	**-0.2**
JIJ	**Ishigaki jima**	**3.57**	**47**	P	**Pn**	**14 58 24.8**	**-0.5**
JIJ				S	**Sn**	**14 59 06.1**	**-1.1**
JISG	**Ishigakijimahi**	**3.83**	**46**	P	**Pn**	**14 58 28.5**	**-0.4**
JISG				S	**Sn**	**14 59 12.1**	**-1.6**
JTJ	**Tarama**	**4.13**	**49**	P	**Pn**	**14 58 33.0**	**-0.1**
JTJ				S	**Sn**	**14 59 21.4**	**+0.2**

DDA ***21*** *15:03:25.7,35.°75N×31.°89E,h5km,Ml3.1*
CSEM ***21*** *15:03:27.8±0.7,35.°89N×31.°99E,h10km,ML3.1,Error ellipse: s-maj=17.8km s-min=8.4km az=85.0*
ISCJB ***21*** *15:03:28.0±1.0,35.°91N±0.°04×32.°03E±0.°09,h10km,Error ellipse: s-maj=11.0km s-min=5.3km az=5.7*
NIC ***21*** *15:03:29.8±0.2,35.°96N×32.°12E,h25km,ML2.7*
ISC 21 15:03:27.5±1.2**,35.°87N**±0.°03×**31.°96E**±0.°08**,h10**km**,n15**,**
σ1.°07**/23**,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.88**	**144**	P	**Pg**	**15 03 45.2**	**+0.8**
	baz=334						
ALFC				S	**Sg**	**15 03 56.6**	**+0.7**
ALFC	**Alefka**	**0.88**	**144**	P	**Pg**	**15 03 45.2**	**+0.8**
ALFC				S	**Sg**	**15 03 56.6**	**+0.7**
AKMC	**Akamas**	**0.89**	**160**	P	**Pn**	**15 03 45.8**	**-0.3**
	baz=349						
AKMC				S	**Sn**	**15 03 58.3**	**-0.8**
AKMC	**Akamas**	**0.89**	**160**	P	**Pn**	**15 03 45.8**	**-0.3**
AKMC				S	**Sn**	**15 03 58.3**	**-0.8**
PPCY	**Paphos**	**1.03**	**162**	P	**Pb**	**15 03 47.4**	**0.0**
	baz=350						
PPCY	**Paphos**	**1.03**	**162**	P	**Pb**	**15 03 47.4**	**0.0**
LEF	**Lefka**	**1.06**	**134**	P	**Pb**	**15 03 46.2**	**-1.8**
KEPZ	**Antalya-Kepez**	**1.07**	**344**	*i* P	**Pb**	**15 03 48.2**	**+0.1**
KEPZ	**Antalya-Kepez**	**1.07**	**344**	P	**Pb**	**15 03 48.2**	**+0.1**
GULN	**MERSIN_Gulnar**	**1.32**	**76**	*i* P	**Pn**	**15 03 52.2**	**+0.2**
GULN	**MERSIN_Gulnar**	**1.32**	**76**	P	**Pn**	**15 03 52.2**	**+0.2**
KIZK	**Mersin**	**1.87**	**70**	*i* P	**Pn**	**15 04 01.6**	**+2.1**
KIZK				*i* S	**Sn**	**15 04 22.8**	**-0.3**
KIZK	**Mersin**	**1.87**	**70**	P	**Pn**	**15 04 01.6**	**+2.1**
KIZK				S	**Sn**	**15 04 22.8**	**-0.3**
KERG	**Konya-Eregli**	**2.32**	**48**	*i* P	**Pn**	**15 04 04.5**	**-1.4**
KERG				*i* S	**Sn**	**15 04 33.4**	**-1.2**
KERG	**Konya-Eregli**	**2.32**	**48**	P	**Pn**	**15 04 04.5**	**-1.4**
KERG				S	**Sn**	**15 04 33.4**	**-1.2**

ISCJB ***21*** *15:03:28.0±0.3,24.°40N±0.°02×122.°78E±0.°01,h80km±4km, mb3.4/2,Error ellipse: s-maj=3.8km s-min=2.0km az=170.5*
JMA ***21*** *15:03:27.8±0.1,24.°39N×122.°73E,h82km±1km,M3.4*
TAP ***21*** *15:03:28.0,24.°42N×122.°78E,h82km,ML4.0,B*
ISC 21 15:03:28.5±1.0**,24.°39N**±0.°03×**122.°77E**±0.°02**,h76**km±6km**,**n97**,σ0.°95**/168**,2C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.17**	**69**	P	**Pn**	**15 03 39.9**	**+0.2**
JYNG				S	**Sn**	**15 03 48.8**	**+0.9**
YOJ	**Yonaguni jima**	**0.23**	**72**	P	**Pn**	**15 03 40.3**	**+0.3**
	baz=76						
YOJ				S	**Sn**	**15 03 49.0**	**+0.7**
	baz=76						
YOJ	**Yonaguni jima**	**0.23**	**72**	P	**Pn**	**15 03 40.2**	**+0.3**
YOJ				S	**Sn**	**15 03 49.1**	**+0.7**
TWC	**Suao**	**0.87**	**285**	*i* P	**Pn**	**15 03 45.5**	**-0.3**
	baz=283						
TWC				S	**Sn**	**15 03 57.6**	**-1.0**
	baz=283						
IRIF	**Iriomote-Funau**	**0.88**	**93**	P	**Pn**	**15 03 46.0**	**+0.2**
IRIF				S	**Sn**	**15 03 59.6**	**+0.9**
ENAH	**Nanao**	**0.88**	**274**	P	**Pn**	**15 03 45.6**	**-0.2**
	baz=265						
NANB	**Nanao**	**0.93**	**272**	P	**Pn**	**15 03 46.3**	**-0.2**
	baz=271						
NANB				*e*S	**Sn**	**15 04 00.1**	**+0.2**
	baz=271						
ENA	**Nanau**	**0.94**	**272**	P	**Pn**	**15 03 46.4**	**-0.2**
	baz=270						
ENA				*e*S	**Sn**	**15 04 00.2**	**+0.1**
	baz=270						
HATJ	**Hateruma jima**	**1.00**	**109**	P	**Pn**	**15 03 48.1**	**+0.8**
HATJ				*e*S	**Sn**	**15 04 03.6**	**+2.3**
ILA	**Ilan**	**1.00**	**292**	P	**Pn**	**15 03 47.4**	**+0.1**
	baz=290						
ILA				*e*S	**Sn**	**15 04 01.4**	**-0.1**
	baz=290						
TIPB	**Shuangxi**	**1.04**	**304**	P	**Pn**	**15 03 46.4**	**-1.4**
	baz=302						
TWE	**Neicheng**	**1.06**	**288**	*i* P	**Pn**	**15 03 48.0**	**0.0**
	baz=286						
TWE				*e*S	**Sn**	**15 04 02.6**	**0.0**
	baz=286						
NACB	**Ninganchiao**	**1.10**	**259**	*e*P	**Pn**	**15 03 47.9**	**-0.6**
	baz=257						
NACB				*e*S	**Sn**	**15 04 02.9**	**-0.6**
	baz=257						
SLBB	**Yuanshan**	**1.10**	**289**	P	**Pn**	**15 03 48.8**	**+0.3**
	baz=288						
TWD	**Chiawan**	**1.12**	**254**	⇑*i* P	**Pn**	**15 03 48.2**	**-0.6**
	baz=252						
TWD				S	**Sn**	**15 04 03.5**	**-0.4**
	baz=252						
ENTT	**Nioudou**	**1.13**	**283**	P	**Pn**	**15 03 49.2**	**+0.3**
	baz=286						
NWF	**Wu-fen Shan**	**1.13**	**307**	P	**Pn**	**15 03 48.9**	**0.0**
	baz=298						
NWF				*e*S	**Sn**	**15 04 04.6**	**+0.3**
	baz=298						
WFSB	**Wu-fen Shan**	**1.13**	**307**	P	**Pn**	**15 03 49.0**	**+0.1**
	baz=299						
WFSB				*e*S	**Sn**	**15 04 04.4**	**+0.3**
	baz=299						
JKRS	**Kuro-shima**	**1.14**	**97**	P	**Pn**	**15 03 49.5**	**+0.5**
JKRS				S	**Sn**	**15 04 06.0**	**+1.6**
HWA	**Hwalien**	**1.14**	**249**	P	**Pn**	**15 03 48.9**	**-0.1**
	baz=247						
ENLB	**Shoufeng**	**1.18**	**246**	P	**Pn**	**15 03 49.4**	**-0.1**
	baz=239						
ENLB				*e*S	**Sn**	**15 04 05.4**	**+0.2**
	baz=239						
NWLT	**Wulai**	**1.22**	**289**	*e*P	**Pn**	**15 03 50.4**	**+0.3**
	baz=294						
TWA	**Nacha**	**1.23**	**299**	*e*P	**Pn**	**15 03 50.2**	**0.0**
	baz=288						
JIJ	**Ishigaki jima**	**1.25**	**91**	P	**Pn**	**15 03 50.4**	**0.0**
JIJ				S	**Sn**	**15 04 06.3**	**-0.6**
NNSB	**Datong**	**1.27**	**272**	P	**Pn**	**15 03 50.6**	**-0.1**
	baz=270						
NNSH	**Datong**	**1.27**	**272**	P	**Pn**	**15 03 50.6**	**-0.2**
	baz=270						
NNS	**Nan Shan**	**1.28**	**272**	P	**Pn**	**15 03 50.7**	**-0.1**
	baz=271						
NNS				*e*S	**Sn**	**15 04 07.8**	**+0.1**
	baz=271						
YHNB	**Yeheng**	**1.30**	**283**	P	**Pn**	**15 03 51.4**	**+0.3**
	baz=281						
YHNB				*e*S	**Sn**	**15 04 08.6**	**+0.4**
	baz=281						
YM07	**YM07**	**1.31**	**307**	*e*P	**Pn**	**15 03 50.2**	**-1.0**
	baz=297						
YM07				*e*S	**Sn**	**15 04 06.7**	**-1.5**
	baz=297						
YM08	**YM08**	**1.34**	**307**	*e*P	**Pn**	**15 03 51.2**	**-0.3**
	baz=298						
YM08				*e*S	**Sn**	**15 04 07.8**	**-1.1**
	baz=298						
YM10	**YM10**	**1.34**	**305**	P	**Pn**	**15 03 51.6**	**0.0**
	baz=296						
YM10				*e*S	**Sn**	**15 04 08.1**	**-0.9**
	baz=296						
ESL	**Shilin**	**1.35**	**245**	P	**Pn**	**15 03 51.1**	**-0.6**
	baz=238						
ESL				*e*S	**Sn**	**15 04 08.7**	**-0.6**
	baz=238						
YM04	**YM04**	**1.36**	**304**	P	**Pn**	**15 03 51.8**	**0.0**
	baz=294						
YM04				*e*S	**Sn**	**15 04 08.3**	**-1.1**
	baz=294						
TWY	**Chenhua**	**1.38**	**310**	P	**Pn**	**15 03 52.5**	**+0.3**
	baz=301						
TWY				*e*S	**Sn**	**15 04 10.8**	**+0.8**
	baz=301						
WHF	**Hehuan Shan**	**1.40**	**260**	⇑*i*P	**Pn**	**15 03 52.4**	**-0.3**
	baz=251						
WHF				S	**Sn**	**15 04 10.4**	**-0.6**
	baz=251						
JISG	**Ishigakijimahi**	**1.42**	**82**	P	**Pn**	**15 03 52.5**	**0.0**
JISG				S	**Sn**	**15 04 10.1**	**-0.6**
TWS1	**Kuangyinshan**	**1.42**	**300**	P	**Pn**	**15 03 52.8**	**+0.2**
	baz=290						
EGFH	**Guangfu**	**1.43**	**240**	P	**Pn**	**15 03 52.1**	**-0.6**
	baz=234						
EGFH				S	**Sn**	**15 04 10.3**	**-0.6**
	baz=234						
NTST	**Danshui**	**1.43**	**303**	P	**Pn**	**15 03 53.0**	**+0.3**
	baz=293						
NTST				*e*S	**Sn**	**15 04 10.3**	**-0.6**
	baz=293						
WLTB	**Daxi**	**1.46**	**289**	*e*P	**Pn**	**15 03 53.7**	**+0.7**
	baz=294						
WLTB				*e*S	**Sn**	**15 04 12.4**	**+0.7**
	baz=294						
TWT	**Tachien**	**1.46**	**265**	*e*P	**Pn**	**15 03 54.1**	**+0.8**
	baz=263						
TWT				*e*S	**Sn**	**15 04 12.3**	**+0.3**
	baz=263						
TDCB	**Techi**	**1.48**	**265**	P	**Pn**	**15 03 54.1**	**+0.6**
	baz=263						
TDCB				S	**Sn**	**15 04 12.2**	**-0.2**
	baz=263						
CHGB	**Renai**	**1.50**	**258**	P	**Pn**	**15 03 53.8**	**0.0**
	baz=249						
CHGB				*e*S	**Sn**	**15 04 12.6**	**-0.3**
	baz=249						
OWD	**Renai**	**1.52**	**254**	P	**Pn**	**15 03 53.9**	**-0.2**
	baz=252						
OWD				*e*S	**Sn**	**15 04 12.4**	**-1.0**
	baz=252						
HGSD	**Ruisui**	**1.52**	**234**	P	**Pn**	**15 03 53.4**	**-0.5**
	baz=233						
NCU	**National Centr**	**1.55**	**292**	*e*P	**Pn**	**15 03 54.9**	**+0.5**
	baz=298						
NCU				*e*S	**Sn**	**15 04 14.8**	**+0.9**
	baz=298						
NCUH	**Zhongli**	**1.55**	**292**	P	**Pn**	**15 03 54.8**	**+0.4**
	baz=290						
NCUH				*e*S	**Sn**	**15 04 14.5**	**+0.5**
	baz=290						
EHY	**Hungye**	**1.59**	**237**	P	**Pn**	**15 03 54.2**	**-0.7**
	baz=244						
EHY				*e*S	**Sn**	**15 04 13.7**	**-1.2**
	baz=244						
LIOB	**Emei**	**1.62**	**279**	P	**Pn**	**15 03 55.9**	**+0.7**
	baz=278						
LIOB				*e*S	**Sn**	**15 04 16.4**	**+0.9**
	baz=278						
NSTT	**Nanjuang**	**1.63**	**279**	P	**Pn**	**15 03 55.8**	**+0.4**
	baz=277						
NSTT				*e*S	**Sn**	**15 04 15.9**	**+0.1**
	baz=277						
YULB	**Yu-li**	**1.68**	**234**	P	**Pn**	**15 03 55.5**	**-0.5**
	baz=243						
TWF1	**Yuli**	**1.70**	**233**	P	**Pn**	**15 03 55.9**	**-0.4**
	baz=242						
TWF1				*e*S	**Sn**	**15 04 17.0**	**-0.4**
	baz=242						
DPDB	**Guoxing**	**1.72**	**258**	*e*P	**Pn**	**15 03 57.3**	**+0.7**
	baz=253						
SSLB	**Suanglung**	**1.77**	**251**	P	**Pn**	**15 03 57.3**	**+0.1**
	baz=253						
SSLB				*e*S	**Sn**	**15 04 18.9**	**-0.1**
	baz=253						
JTJ	**Tarama**	**1.77**	**82**	P	**Pn**	**15 03 57.4**	**+0.2**
JTJ				*e*S	**Sn**	**15 04 19.5**	**+0.4**
SMLT	**Sun Moon Lake**	**1.78**	**254**	P	**Pn**	**15 03 58.0**	**+0.5**
	baz=249						
SMLT				*e*S	**Sn**	**15 04 19.4**	**-0.2**
	baz=249						
FULB	**Fuli**	**1.80**	**229**	P	**Pn**	**15 03 56.9**	**-0.8**
	baz=222						
FULB				*e*S	**Sn**	**15 04 19.0**	**-0.8**
	baz=222						
NMLH	**Miaoli**	**1.81**	**275**	*e*P	**Pn**	**15 03 58.5**	**+0.8**
	baz=273						
TYC	**Yuchr**	**1.82**	**255**	*e*P	**Pn**	**15 03 58.4**	**+0.6**
	baz=247						
CHKT	**Chengkung**	**1.82**	**225**	*e*P	**Pn**	**15 03 56.9**	**-1.0**
	baz=224						
CHKT				*e*S	**Sn**	**15 04 18.0**	**-2.2**
	baz=224						
TWQ1	**Liyutan**	**1.82**	**269**	*e*P	**Pn**	**15 03 58.7**	**+0.7**
	baz=277						
TWQ1				*e*S	**Sn**	**15 04 21.4**	**+1.1**
	baz=277						
YUS	**Yu-Shan**	**1.89**	**242**	*e*P	**Pn**	**15 03 59.6**	**+0.3**
	baz=234						
YUS				*e*S	**Sn**	**15 04 21.8**	**-0.8**
	baz=234						
TCU	**Taichung**	**1.93**	**263**	*e*P	**Pn**	**15 04 00.2**	**+0.9**
	baz=272						
WJS	**Zhushan**	**1.95**	**254**	P	**Pn**	**15 04 01.1**	**+1.5**
	baz=250						
WJS				*e*S	**Sn**	**15 04 25.1**	**+1.7**
	baz=250						
ALS	**Alishan**	**2.00**	**244**	*e*P	**Pn**	**15 04 01.4**	**+0.9**
	baz=237						
ELDTW	**Lidau**	**2.00**	**234**	P	**Pn**	**15 03 60.0**	**-0.5**
	baz=233						
ELDTW				*e*S	**Sn**	**15 04 23.7**	**-1.1**
	baz=233						
WCHH	**Zhanghua**	**2.04**	**262**	*e*P	**Pn**	**15 04 01.7**	**+0.8**
	baz=272						
WCHH				*e*S	**Sn**	**15 04 26.3**	**+0.8**
	baz=272						
TWH	**Lutao**	**2.05**	**216**	*e*P	**Pn**	**15 04 00.3**	**-0.6**
	baz=210						
CHN5	**Tsauling**	**2.07**	**248**	*e*P	**Pn**	**15 04 02.5**	**+1.2**
	baz=240						
CHN5				*e*S	**Sn**	**15 04 27.9**	**+1.5**
	baz=240						
WGK	**Gukeng**	**2.14**	**251**	*e*P	**Pn**	**15 04 04.7**	**+2.5**
	baz=240						
WGK				*e*S	**Sn**	**15 04 30.5**	**+2.7**
	baz=240						
WDLH	**Douliu**	**2.16**	**252**	*e*P	**Pn**	**15 04 03.9**	**+1.5**
	baz=263						
WDLH				S	**Sn**	**15 04 30.5**	**+2.2**
	baz=263						
TWGBT	**Beinan**	**2.21**	**225**	*e*P	**Pn**	**15 04 02.7**	**-0.3**
	baz=233						
TWGBT				*e*S	**Sn**	**15 04 28.0**	**-1.4**
	baz=233						
TWG	**Pinlang**	**2.21**	**225**	P	**Pn**	**15 04 02.6**	**-0.5**
	baz=233						
TWG				*e*S	**Sn**	**15 04 28.0**	**-1.5**
	baz=233						
STYT	**Tauyuan**	**2.21**	**237**	*e*P	**Pn**	**15 04 04.1**	**+0.9**
	baz=236						
STYT				*e*S	**Sn**	**15 04 30.2**	**+0.4**
	baz=236						
JIRB	**Irabujima**	**2.23**	**78**	P	**Pn**	**15 04 03.3**	**0.0**
JIRB				S	**Sn**	**15 04 29.6**	**-0.3**
TPUB	**Ta-pu**	**2.24**	**241**	*e*P	**Pn**	**15 04 05.0**	**+1.5**
	baz=240						
TPUB				*e*S	**Sn**	**15 04 32.3**	**+1.9**
	baz=240						
CHN4	**Tsaushan**	**2.25**	**243**	P	**Pn**	**15 04 05.3**	**+1.7**
	baz=235						
CHN4				*e*S	**Sn**	**15 04 32.5**	**+2.0**
	baz=235						
RLNB	**Erlin**	**2.26**	**258**	*e*P	**Pn**	**15 04 04.2**	**+0.5**
	baz=256						
RLNB				*e*S	**Sn**	**15 04 31.4**	**+0.7**
	baz=256						
WTP	**Ta-pu**	**2.28**	**240**	*e*P	**Pn**	**15 04 05.7**	**+1.6**
	baz=239						
WTP				*e*S	**Sn**	**15 04 32.7**	**+1.3**
	baz=239						
JIKM	**Ikemajima**	**2.31**	**76**	P	**Pn**	**15 04 05.0**	**+0.5**
JIKM				*e*S	**Sn**	**15 04 31.8**	**-0.2**
JMJ	**Miyako jima 2**	**2.33**	**79**	*e*P	**Pn**	**15 04 04.9**	**+0.1**
	baz=80						
JMJ				*e*S	**Sn**	**15 04 32.2**	**-0.3**
	baz=80						
JMJ	**Miyako jima 2**	**2.33**	**79**	P	**Pn**	**15 04 05.6**	**+0.9**
JMJ				S	**Sn**	**15 04 32.2**	**-0.3**
TWK	**Hsinying**	**2.37**	**242**	*e*P	**Pn**	**15 04 06.7**	**+1.3**
	baz=241						
TWK				*e*S	**Sn**	**15 04 35.0**	**+1.5**
	baz=241						
CHN1	**Nanshi**	**2.38**	**240**	*e*P	**Pn**	**15 04 06.9**	**+1.5**
	baz=239						
CHN1				*e*S	**Sn**	**15 04 35.4**	**+1.7**
	baz=239						
SGST	**Jiashian**	**2.39**	**237**	*e*P	**Pn**	**15 04 07.2**	**+1.7**
	baz=243						
SGST				*e*S	**Sn**	**15 04 36.2**	**+2.3**
	baz=243						
SLGT	**Liugui**	**2.40**	**235**	*e*P	**Pn**	**15 04 07.0**	**+1.4**
	baz=242						
SLGT				*e*S	**Sn**	**15 04 36.1**	**+2.0**
	baz=242						
JOGS	**Gusukube**	**2.43**	**81**	P	**Pn**	**15 04 06.6**	**+0.6**
JOGS				S	**Sn**	**15 04 35.0**	**+0.3**
ECL	**Taimali**	**2.44**	**223**	*e*P	**Pn**	**15 04 05.4**	**-0.9**
	baz=230						
ECL				*e*S	**Sn**	**15 04 33.5**	**-1.7**
	baz=230						
WSF	**Szhu**	**2.45**	**253**	*e*P	**Pn**	**15 04 07.1**	**+0.8**
	baz=251		

MS3.2/8, Error ellipse: s-maj=18.6km s-min=13.3km az=140.1

ISC 21 15:06:31.1±1.3, **37.3N**±0.1×**89.4E**±0.2, **h35**km, **n16, σ1°35/8, MS3.3/8, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**10.83**	**333**	Pn	**Pn**	**15 09 03.8**	**+0.3**
	0.6nm,0.3s,baz=150,slow=14,SNR=46						
MKAR				Lg	Lg	15 12 21.6	
	0.1nm,0.3s,baz=150,slow=26,SNR=3.1						
MKAR				LR	LR	15 13 47.2	
	comp=Z,164nm,18.1s,baz=117,slow=40						
AAK	**Ala-Archa**	**12.60**	**299**	Pn	**Pn**	**15 09 27.5**	**-0.4**
	0.1nm,0.3s,baz=108,slow=17,SNR=4.1						
KURBB	**Kurchatov Arra**	**15.40**	**333**	Pn	**Pn**	**15 10 02.7**	**-2.9**
	0.0nm,0.3s,baz=145,slow=12,SNR=11						
KURBB				Lg	Lg	15 14 34.2	
	baz=150,slow=33,SNR=2.5						
SONM	**Songino Array**	**16.30**	**45**	Pn	**P**	**15 10 20.1**	**+0.1**
	baz=230,slow=14,SNR=13						
SONM				Lg	Lg	15 15 08.1	
	0.3nm,0.3s,baz=235,slow=28,SNR=6.3						
SONM				LR	LR	15 16 54.6	
	comp=Z,73nm,19.7s,baz=236,slow=38						
ZALV	**Zalesovo Beam**	**16.92**	**351**	P	**Pn**	**15 10 25.6**	**+0.7**
	0.2nm,0.3s,baz=169,slow=11,SNR=13						
ZALV				LR	LR	15 17 35.7	
	comp=Z,136nm,18.5s,baz=146,slow=39						
TLY	**Talaya**	**17.53**	**31**	LR	LR	15 18 13.3	
	comp=Z,34nm,18.9s,baz=224,slow=40						
BVAR	**Borovoye Array**	**20.54**	**326**	P	**P**	**15 11 06.5**	**+0.2**
	1.1nm,0.9s,baz=116,slow=10,SNR=4.2						
BVAR				LR	LR	15 19 35.9	
	comp=Z,84nm,21.4s,baz=137,slow=38						
CMAR	**Chiang Mai Arr**	**20.58**	**153**	P	**P**	**15 11 06.8**	**-0.3**
	1.0nm,1.0s,baz=338,slow=10,SNR=8.1						
KSRS	**Korea Array**	**30.46**	**78**	LR	LR	15 25 31.0	
	comp=Z,13nm,20.4s,baz=270,slow=37						
PALK	**Pallekele**	**30.95**	**197**	LR	LR	15 25 15.3	
	comp=Z,49nm,18.4s,baz=116,slow=37						
KBZ	**Khabaz**	**35.55**	**295**	LR	LR	15 30 09.4	
	comp=Z,30nm,21.6s,baz=51,slow=40						
BRTR	**Keskin Array B**	**43.10**	**291**	P	**P**	**15 14 28.2**	**+0.3**
	1.0nm,1.1s,baz=56,slow=8.8,SNR=3.0						
FINES	**FINESS Array B**	**45.45**	**323**	LR	LR	15 36 32.1	
	comp=Z,68nm,18.3s,baz=2.0,slow=40						
SPITS	**Spitsbergen Ar**	**50.30**	**345**	LR	LR	15 42 37.6	
	comp=Z,33nm,18.4s,baz=250,slow=43						
NOA	**NORSAR Array B**	**52.63**	**323**	LR	LR	15 39 19.9	
	comp=Z,39nm,19.1s,baz=35,slow=38						
KMBO	**Kilima Mbogo**	**61.50**	**244**	LR	LR	15 42 39.7	
	comp=Z,41nm,19.1s,baz=90,slow=35						

*IDC **21** 15:11:53.4±1.8, 36.4N×140.5E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/64, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=37.3km s-min=20.9km az=60.0*
*ISCJB **21** 15:12:01.2±0.6, 36.2IN±0.0S×140.1E±0.0E, h65km±5km, mb3.4/3, Error ellipse: s-maj=7.6km s-min=5.4km az=20.2*
*JMA **21** 15:12:02.8, 36.2EN×140.1E, h55km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs=35.00000°, δ65.00000°, λ93.00000°. NP2:φs=208.00000°, δ25.00000°, λ83.00000°. Principal axes: T Plg70.0000°, Azm312.0000°; N Plg3.0000°, Azm214.0000°; P Plg20.0000°, Azm123.0000°;*
JMA Felt II J1.

ISC 21 15:12:02.3±1.0, **36.23N**±0.04×**140.12E**±0.05, **h58**km±7km, **n21, σ0°83/26, mb3.5/3, 1C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.06**	**94**	↑P	**Pn**	**15 12 11.4**	**+0.4**
JYT				S	**Sn**	**15 12 17.5**	**+0.3**
JAG	**Ashikaga**	**0.57**	**290**	↓P	**Pn**	**15 12 14.7**	**-0.3**
JAG				S	**Sn**	**15 12 23.1**	**-1.1**
JKT	**Katashina**	**0.88**	**307**	↓P	**Pn**	**15 12 18.4**	**-0.5**
JKT				S	**Sn**	**15 12 30.8**	**-0.2**
JRY	**Ryogami san**	**1.01**	**258**	↓P	**Pn**	**15 12 20.4**	**-0.1**
JRY				S	**Sn**	**15 12 33.2**	**-0.7**
JFY	**Yanaizu**	**1.22**	**344**	↓P	**Pn**	**15 12 23.4**	**+0.2**
JFY				S	**Sn**	**15 12 38.8**	**0.0**
JOD2	**Odawara 2**	**1.28**	**221**	P	**Pn**	**15 12 24.8**	**+0.8**
JOD2				S	**Sn**	**15 12 40.7**	**+0.4**
JFK	**Kawauchi**	**1.28**	**28**	↓P	**Pn**	**15 12 24.3**	**+0.2**
JFK				S	**Sn**	**15 12 40.2**	**-0.1**
JFT	**Otama**	**1.30**	**8**	↓P	**Pn**	**15 12 24.6**	**+0.4**
JFT				S	**Sn**	**15 12 41.2**	**+0.6**
JHK	**Hiroka**	**1.35**	**319**	↓P	**Pn**	**15 12 24.9**	**0.0**
MJAR	**Matsushiro Arr**	**1.58**	**282**	Pn	**Pn**	**15 12 27.7**	**-0.3**
	13nm,0.3s,baz=94,slow=9.7,SNR=153						
MJAR				Sn	**Sn**	**15 12 50.2**	**+2.8**
	6.9nm,0.3s,baz=93,slow=30,SNR=8.7						
MAT	**Matsushiro**	**1.58**	**282**	P	**Pn**	**15 12 28.2**	**+0.2**
MAT				eS	**Sn**	**15 12 48.7**	**+1.3**
JHJ	**Hachijo jima 2**	**3.12**	**185**	Pn	**Pn**	**15 12 49.3**	**+0.3**
	17nm,0.3s,baz=53,slow=20,SNR=4.9						
JHJ				Sn	**Sn**	**15 13 24.0**	**-1.1**
	7.3nm,0.3s,baz=17,slow=16,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.66**	**118**	T	T	15 48 01.4	
	baz=312,slow=75,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**28.67**	**118**	T	T	15 48 00.8	
	baz=312,slow=75,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**28.68**	**118**	T	T	15 48 01.9	
	baz=312,slow=75,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**29.33**	**120**	T	T	15 48 51.1	
	baz=314,slow=76,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**29.33**	**120**	T	T	15 48 51.8	
	baz=314,slow=76,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**29.34**	**120**	T	T	15 48 51.1	
	baz=314,slow=76,SNR=4.5						
KURBB	**Kurchatov Arra**	**45.68**	**308**	P	**P**	**15 20 16.5**	**-0.6**
	0.3nm,0.4s,baz=80,slow=8.2,SNR=4.0						
WRA	**Warramunga Arr**	**56.13**	**187**	P	**P**	**15 21 35.5**	**-0.4**
	0.2nm,0.4s,baz=0.9,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**59.86**	**187**	P	**P**	**15 22 02.5**	**+0.5**
	0.5nm,1.0s,baz=13,slow=10.0,SNR=3.6						

*IDC **21** 15:37:56.8±1.1, 17.8S×167.3E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/46, mbtmp3.9/8, ML3.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/40, Error ellipse: s-maj=42.9km s-min=21.5km az=142.0*
*ISCJB **21** 15:37:58.9±0.8, 17.9S±0.0E×167.3E±0.2, h23km, mb3.8/7, MS3.1/2, Error ellipse: s-maj=22.6km s-min=10.4km az=11.8*

ISC 21 15:38:00.3±1.0, **17.9S**±0.1×**167.4E**±0.2, **h23**km, **n11, σ1°17/9, mb3.9/7, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.22**	**192**	Pn	**Pn**	**15 39 04.1**	**+0.9**
	2.1nm,0.3s,baz=40,slow=4.8,SNR=34						
DZM				Sn	**Sn**	**15 39 50.9**	**-1.0**
	3.3nm,0.3s,baz=142,slow=23,SNR=9.8						
HNR	**Honiara**	**11.09**	**319**	LR	LR	15 43 53.3	
	comp=Z,33nm,19.1s,baz=182,slow=32						
AFI	**Afiamalu**	**20.45**	**82**	LR	LR	15 48 55.5	
	comp=Z,38nm,19.2s,baz=266,slow=32						
STKA	**Stephens Creek**	**27.10**	**234**	P	**P**	**15 43 41.8**	**+0.3**
	4.3nm,0.7s,baz=66,slow=8.9,SNR=7.5						
WRA	**Warramunga Arr**	**31.27**	**261**	P	**P**	**15 44 17.8**	**-0.9**
	1.0nm,0.9s,baz=88,slow=8.6,SNR=5.3						
ASAR	**Alice Springs**	**31.75**	**254**	P	**P**	**15 44 22.2**	**-0.6**
	1.3nm,0.6s,baz=81,slow=8.4,SNR=49						
FITZ	**Fitzroy Crossi**	**39.62**	**263**	LR	LR	16 00 44.1	
	comp=Z,64nm,19.9s,baz=144,slow=34						
CMAR	**Chiang Mai Arr**	**76.34**	**295**	P	**P**	**15 49 49.5**	**+1.5**
	0.8nm,0.6s,baz=133,slow=5.1,SNR=7.8						
NVAR	**Mina Array Bea**	**89.28**	**49**	P	**P**	**15 50 55.4**	**+0.4**
	0.2nm,0.5s,baz=212,slow=8.3,SNR=2.3						
ILAR	**Eielson Array**	**89.52**	**18**	P	**P**	**15 50 53.6**	**-1.6**
	0.3nm,0.8s,baz=226,slow=4.9,SNR=2.4						
PDAR	**Pinedale Array**	**97.03**	**47**	P	**P**	**15 51 31.2**	**+0.5**
	0.3nm,0.6s,baz=213,slow=3.1,SNR=2.4						

*ISK **21** 15:40:54.7, 38.3N×38.3E, h5km, ML2.0/3*
*ISCJB **21** 15:40:55.1±0.5, 38.3N±0.0N×38.3E±0.0E, h8km±6km, Error ellipse: s-maj=6.1km s-min=4.0km az=6.7*
*CSEM **21** 15:40:55.0±0.3, 38.4N×38.3E, h5km, ML2.0, Error ellipse: s-maj=5.2km s-min=4.6km az=23.0*

*DDA **21** 15:40:55.0, 38.3N×38.3E, h7km, Ml2.7*

ISC 21 15:40:55.0±0.9, **38.4IN**±0.0N×**38.3E**±0.0E, **h7**km±8km, **n20, σ0°74/40, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MALT	**Malatya**	**0.10**	**162**	PG	**Pg**	**15 40 57.3**	**-0.1**
MALT				SG	**Sg**	**15 40 59.1**	**0.0**
MALT	**Malatya**	**0.10**	**162**	*i* Pg	**Pg**	**15 40 57.3**	**-0.1**
MALT				*e*Sg	**Sg**	**15 40 59.1**	**0.0**
AKCD	**Akcadag**	**0.38**	**253**	*i* P	**Pg**	**15 41 02.4**	**-0.1**
AKCD				*i* S	**Sg**	**15 41 07.6**	**+0.1**
AKCD	**Akcadag**	**0.38**	**253**	P	**Pg**	**15 41 02.4**	**-0.1**
AKCD				S	**Sg**	**15 41 07.6**	**+0.1**
ELZG	**Elazig**	**0.48**	**79**	*i* P	**Pb**	**15 41 05.5**	**-0.3**
ELZG				*i* S	**Sb**	**15 41 13.1**	**+0.1**
ELZG	**Elazig**	**0.48**	**79**	P	**Pb**	**15 41 05.5**	**-0.3**
ELZG				S	**Sb**	**15 41 13.1**	**+0.1**
HEKM	**Malatya_Hekimh**	**0.57**	**324**	*i* P	**Pg**	**15 41 06.6**	**+0.5**
HEKM				*i* S	**Sb**	**15 41 15.9**	**0.0**
HEKM	**Malatya_Hekimh**	**0.57**	**324**	P	**Pg**	**15 41 06.6**	**+0.5**
HEKM				S	**Sb**	**15 41 15.9**	**0.0**
DARE	**Darende-Malaty**	**0.73**	**283**	PG	**Pg**	**15 41 08.9**	**-0.1**
DARE				SG	**Sb**	**15 41 19.3**	**-0.9**
DARE	**Darende-Malaty**	**0.73**	**283**	*e*Pg	**Pg**	**15 41 08.9**	**-0.1**
DARE				*e*Sg	**Sb**	**15 41 19.3**	**-0.9**
KEMA	**Kemaliye**	**0.86**	**5**	*i* P	**Pg**	**15 41 11.4**	**-0.1**
KEMA				*i* S	**Sb**	**15 41 24.9**	**+0.9**
KEMA	**Kemaliye**	**0.86**	**5**	P	**Pg**	**15 41 11.4**	**-0.1**
KEMA				S	**Sb**	**15 41 24.9**	**+0.9**
PTK	**Pertek**	**0.92**	**58**	PG	**Pg**	**15 41 12.8**	**+0.1**
PTK				SG	**Sb**	**15 41 26.9**	**+1.0**
PTK	**Pertek**	**0.92**	**58**	*e*Pg	**Pg**	**15 41 12.8**	**+0.1**
PTK				*e*Sg	**Sb**	**15 41 26.9**	**+1.0**
URFA	**Urfa**	**1.03**	**160**	PG	**Pg**	**15 41 14.7**	**0.0**
URFA				SG	**Sb**	**15 41 29.2**	**+0.4**
URFA	**Urfa**	**1.03**	**160**	*e*Pg	**Pg**	**15 41 14.7**	**0.0**
URFA				*e*Sg	**Sb**	**15 41 29.2**	**+0.4**
TNCL	**Tunceli-Merkez**	**1.14**	**52**	*i* P	**Pg**	**15 41 14.7**	**-2.2**
TNCL				*i* S	**Sb**	**15 41 33.6**	**+1.4**
TNCL	**Tunceli-Merkez**	**1.14**	**52**	P	**Pg**	**15 41 14.7**	**-2.2**
TNCL				S	**Sb**	**15 41 33.6**	**+1.4**
CUKAN	**kangal_SIVAS**	**1.16**	**322**	*i* P	**Pg**	**15 41 16.9**	**-0.2**
CUKAN				*i* S	**Sn**	**15 41 33.9**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.16**	**322**	P	**Pg**	**15 41 16.9**	**-0.2**
CUKAN				S	**Sn**	**15 41 33.9**	**+0.2**

*IDC **21** 15:45:07.6±5.4, 15.1N×98.7W, h0km, mb3.4/4, mb1 3.8/6, mb1mx3.6/45, mbtmp3.4/6, ML3.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/28, Error ellipse: s-maj=97.3km s-min=21.5km az=174.0*
*ISCJB **21** 15:45:13.1±2.1, 15.1N±0.1N×98.8IW±0.0E, h22km±11km, mb3.3/4, Error ellipse: s-maj=22.8km s-min=5.9km az=8.4*
*NEIC **21** 15:45:13.6±0.0, 15.2N×98.8W, h11km, MD4.0(MEX), After MEX.*
*MEX **21** 15:45:13.8±0.9, 15.2IN×98.8W, h13km±23km, MD4.0*

ISC 21 15:45:14.3±2.4, **16.0N**±0.1×**98.82W**±0.0S, **h12**km±11km, **n17, σ2°23/23, mb3.3/4, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.77**	**60**	*i* P	**Pg**	**15 45 27.8**	**-1.4**
PNIG				*i* S	**Sg**	**15 45 39.9**	**+0.6**
PNIG	**Pinotepa**	**0.77**	**60**	*i* P	**Pg**	**15 45 27.8**	**-1.4**
PNIG				*e*S	**Sg**	**15 45 40.4**	**+1.1**
ACX	**Acapulco**	**1.31**	**311**	*e*P	**Pn**	**15 45 37.0**	**-1.5**
ACX				*i* S	**Sn**	**15 45 54.3**	**-1.6**
CAIG	**El Cayaco**	**1.73**	**307**	*e*P	**Pn**	**15 45 41.7**	**-2.5**
CAIG				*i* S	**Sn**	**15 46 03.0**	**-3.1**
CAIG	**El Cayaco**	**1.73**	**307**	*e*P	**Pn**	**15 45 41.7**	**-2.5**
VHO	**Vista Hermosa**	**2.27**	**62**	*e*P	**Pn**	**15 45 50.5**	**-1.2**
VHO				*i* S	**Sn**	**15 46 17.8**	**-2.0**
VHO	**Vista Hermosa**	**2.27**	**62**	*e*P	**Pn**	**15 45 50.5**	**-1.2**
HUIG	**Huatulco**	**2.62**	**95**	*i* P	**Pn**	**15 45 54.1**	**-2.4**
HUIG				*i* S	**Sn**	**15 46 23.5**	**-4.8**
HUIG	**Huatulco**	**2.62**	**95**	*e*P	**Pn**	**15 45 57.6**	**+1.1**
CMIG	**Matias Romero**	**3.93**	**74**	Pn	**Pn**	**15 46 13.0**	**-1.5**
	2.1nm,0.3s,baz=252,slow=16,SNR=8.1						
CMIG				Pg	**Pb**	**15 46 25.3**	**+1.8**
	3.0nm,0.3s,baz=262,slow=14,SNR=7.3						
CMIG				Sn	**Sn**	**15 46 57.4**	**-3.1**
	3.2nm,0.3s,baz=310,slow=23,SNR=5.0						
CMIG				Lg	Lg	15 47 21.3	
	10nm,0.3s,baz=169,slow=16,SNR=8.4						
CMIG				LR	LR	15 47 49.9	
	comp=Z,92nm,19.6s,baz=7.0,slow=38						
H06E1	**SOCORRO T-PHASI**	**1.88**	**285**	T	T	16 00 09.2	
	SNR=52						
H06S1	**SOCORRO T**	**11.90**	**285**	T	T	16 00 14.8	
	SNR=8.0						
TXAR	**Lajitas Array**	**13.99**	**342**	Pn	**P**	**15 48 41.1**	**+0.5**
	0.1nm,0.3s,baz=161,slow=14,SNR=3.4						
NVAR	**Mina Array Bea**	**28.15**	**326**	P	**P**	**15 51 08.6**	**+1.9**
	0.3nm,0.7s,baz=155,slow=8.8,SNR=4.1						
PDAR	**Pinedale Array**	**28.21**	**343**	P	**P**	**15 51 09.5**	**+2.3**
	0.5nm,0.8s,baz=141,slow=9.6,SNR=3.7						
YKA	**Yellowknife Ar**	**47.74**	**350**	P	**P**	**15 53 51.8**	**+0.9**
	0.1nm,0.3s,baz=159,slow=8.3,SNR=3.0						
ILAR	**Eielson Array**	**58.46**	**338**	P	**P**	**15 55 10.9**	**+1.0**
	0.9nm,1.1s,baz=157,slow=5.9,SNR=4.3						

IDC 21 15:45:22.9±5.4, **5.13S×152.25E, h92**km±48km, **mb3.0/4, mb1 3.3/5, mb1mx3.1/49, mbtmp3.4/5, Error ellipse: s-maj=73.8km s-min=29.0km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.59**	**230**	P	Pn	15 46 58.0	+0.8
	0.3nm,0.3s,baz=78,slow=20,SNR=1.9						
PMG				S	Sn	15 48 05.1	-5.9
	0.6nm,0.3s,baz=133,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**22.81**	**228**	P	P	15 50 17.7	-0.5
	0.6nm,0.8s,baz=55,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**25.53**	**222**	P	P	15 50 43.6	+0.4
	0.4nm,0.7s,baz=58,slow=8.9,SNR=3.5						
MKAR	**Makanchi Array**	**80.21**	**319**	P	P	15 57 23.3	-0.1
	0.1nm,0.4s,baz=116,slow=6.6,SNR=2.6						
ILAR	**Eielson Array**	**82.67**	**22**	P	P	15 57 36.0	0.0
	0.8nm,1.0s,baz=232,slow=6.0,SNR=3.4						

JMA 21 15:48:12.2±0.2, **25.20N×123.41E, h184**km±3km, **M3.5, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.82**	**206**	P	Pn	15 48 39.4	+0.3
YOJ				S	Sn	15 49 00.3	+0.4
JYNG	**Yonagunijimaku**	**0.86**	**210**	P	Pn	15 48 39.7	+0.3
JYNG				*e*S	Sn	15 49 00.7	+0.4
IRIF	**Iriomote-Funau**	**0.91**	**161**	P	Pn	15 48 39.7	0.0
IRIF				S	Sn	15 49 01.1	+0.2
JISG	**Ishigakijimahi**	**1.02**	**127**	P	Pn	15 48 40.4	-0.1
JISG				S	Sn	15 49 01.8	-0.4
JIJ	**Ishigaki jima**	**1.07**	**141**	P	Pn	15 48 40.9	+0.1
JIJ				S	Sn	15 49 02.2	-0.7
JKRS	**Kuro-shima**	**1.10**	**150**	P	Pn	15 48 41.7	+0.6
JKRS				S	Sn	15 49 03.8	+0.4
HATJ	**Hateruma jima**	**1.19**	**162**	*e*S	Sn	15 49 05.4	+0.7
JTJ	**Tarama**	**1.30**	**115**	P	Pn	15 48 42.9	+0.2
JTJ				S	Sn	15 49 05.8	-0.4
JIRB	**Irabujima**	**1.64**	**103**	P	Pn	15 48 45.7	-0.1
JIRB				S	Sn	15 49 10.7	-1.2
JIKM	**Ikemajima**	**1.69**	**99**	P	Pn	15 48 46.6	+0.3
JIKM				S	Sn	15 49 12.5	-0.2
JMJ	**Miyako jima 2**	**1.75**	**102**	P	Pn	15 48 47.3	+0.4
JMJ				*e*S	Sn	15 49 13.6	-0.2
JOGS	**Gusukube**	**1.86**	**103**	P	Pn	15 48 48.6	+0.5
JOGS				*e*S	Sn	15 49 16.2	+0.3
JKE	**Kume jima 2**	**3.24**	**69**	P	Pn	15 49 02.2	-1.8
JKE				*e*S	Sn	15 49 40.8	-3.6
JAGN	**Aguni-jima**	**3.72**	**67**	S	Sn	15 49 50.6	-4.4

SJA 21 15:48:40.8±0.8, **31.36S×68.62W, h100**km±3km, **ML2.8, MW3.7, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.12**	**77**	*e*P	Pn	15 48 55.4	+0.6
RTLL				IAML		15 48 55.4	
	comp=Z,391nm,0.3s						
RTLL				*e*S	Sn	15 49 06.5	+1.2
SJA	**San Juan**	**0.18**	**164**	*e*P	Pn	15 48 55.9	+0.9
ZON	**Zonda**	**0.20**	**196**	*e*P	Pn	15 48 55.7	+0.7
AMOG	**MOGNA**	**0.43**	**14**	*e*P	Pn	15 48 57.2	+1.0
AMOG				*e*S	Sn	15 49 08.1	+0.5
RTCV	**Cerro Valdivia**	**0.51**	**173**	*e*P	Pn	15 48 57.2	+0.5
RTLS	**Leoncito**	**0.73**	**233**	*e*P	Pn	15 48 59.9	+1.1
RTLS				IAML		15 49 15.1	
	comp=Z,104nm,0.2s						
AUSP	**Uspallata**	**1.08**	**217**	*e*P	Pn	15 49 03.4	+1.0
ASAL	**Salagasta**	**1.24**	**189**	*e*P	Pn	15 49 05.3	+1.2
ARCO	**CERRO ARCO**	**1.50**	**190**	*e*P	Pn	15 49 08.4	+1.1
ARCO				IAML		15 49 31.3	
	comp=Z,61nm,0.4s						
ACAN	**Cantantal**	**1.52**	**127**	*e*P	Pn	15 49 08.5	+1.2
AAGR	**Agrelo**	**1.73**	**186**	*e*P	Pn	15 49 11.2	+1.1
AGUA	**GUANDACOL**	**1.87**	**3**	*e*P	Pn	15 49 13.3	+1.5
APLL	**PUNTA DE LOS L**	**2.04**	**62**	*e*P	Pn	15 49 14.7	+0.8
VCA	**Vinchina**	**2.64**	**8**	IAML		15 49 58.6	
	comp=Z,33nm,0.2s						
MRA	**San Martin**	**2.68**	**114**	IAML		15 49 54.5	
	comp=Z,50nm,0.2s						

*IDC **21** 15:51:19.3±4.8, 15.7N×98.8W, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.4/49, mbtmp3.1/5, ML3.4/2, Error ellipse: s-maj=88.6km s-min=21.0km az=1.0*
*ISCJB **21** 15:51:21.8±1.6, 16.0N±0.0S×98.73W±0.0E, h23km±10km, mb3.2/3, Error ellipse: s-maj=15.0km s-min=6.4km az=6.2*
*MEX **21** 15:51:23.4±0.6, 15.9SN×98.7W, h16km±14km, MD3.9*

ISC 21 15:51:22.7±1.9, **16.1N**±0.1×**98.76W**±0.0S, **h14**km±11km, **n12, σ1°71/19, mb3.3/3, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.66**	**67**	*e*P	**Pg**	**15 51 35.4**	**-0.2**
PNIG				*e*S	**Sg**	**15 51 43.6**	**-0.8**
ACX	**Acapulco**	**1.28**	**305**	*i* P	**Pn**	**15 51 44.8**	**-1.4**
ACX				*i* S	**Sn**	**15 52 03.1**	**-0.2**
TLIG	**Tlapa**	**1.44**	**7**	*e*P	**Pn**	**15 51 48.3**	**-0.2**
TLIG				*e*S	**Sb**	**15 52 07.2**	**-0.4**
CAIG	**El Cayaco**	**1.71**	**303**	*e*P	**Pn**	**15 51 50.3**	**-1.7**
CAIG				*i* S	**Sn**	**15 52 12.1**	**-1.7**
VHO	**Vista Hermosa**	**2.16**	**64**	*e*P	**Pn**	**15 51 56.5**	**-1.9**
VHO				*e*S	**Sn**	**15 52 23.0**	**-2.2**
PLIG	**Platanillo**	**2.36**	**343**	*e*P	**Pn**	**15 52 01.2**	**+0.1**
PLIG				*e*S	**Sn**	**15 52 30.0**	**0.0**
CMIG	**Matias Romero**	**3.84**	**75**	Pn	**Pn**	**15 52 20.6**	**-0.8**
	1.1nm,0.3s,baz=258,slow=11,SNR=10						
CMIG				Pg	**Pb**	**15 52 33.0**	**+2.7**
	1.5nm,0.3s,baz=257,slow=14,SNR=9.5						
CMIG				Sn	**Sn**	**15 53 05.0**	**-1.4**
	2.1nm,0.3s,baz=226,slow=17,SNR=3.9						
CMIG				Lg	Lg	15 53 29.7	
	7.9nm,0.3s,baz=162,slow=15,SNR=7.5						
H06E1	**SOCORRO T-PHASI**	**1.90**	**285**	T	T	16 06 18.1	
	SNR=17						
TXAR	**Lajitas Array**	**13.90**	**342**	Pn	**P**	**15 54 44.5**	**-3.2**
	0.1nm,0.3s,baz=167,slow=12,SNR=2.5						
PDAR	**Pinedale Array**	**28.11**	**343**	P	**P**	**15 57 15.9**	**+1.4**
	0.1nm,0.4s,baz=155,slow=11,SNR=2.6						
YKA	**Yellowknife Ar**	**47.64**	**350**	P	**P**	**15 59 59.2**	**+1.1**
	0.1nm,0.3s,baz=159,slow=12,SNR=2.5						
ILAR	**Eielson Array**	**58.37**	**338**	P	**P**	**16 01 19.2**	**+1.9**
	0.4nm,1.0s,baz=116,slow=6.1,SNR=3.5						

*IDC **21** 15:54:12.8±1.9, 16.5N×98.15W, h0km, mb4.0/8, mb1 4.1/12, mb1mx3.8/50, mbtmp3.9/12, ML3.7/4, MS3.5/11, Ms1 3.5/11, ms1mx3.1/45, Error ellipse: s-maj=41.4km s-min=13.7km az=17.0*
*NEIC **21** 15:54:14.2±0.0, 16.2N×98.2W, h1km, mb4.4/35, MD4.0(MEX), After MEX.*
*MEX **21** 15:54:14.3±0.4, 16.2IN×98.2W, h2km±3km, MD4.0*

ISC 21 15:54:14.6±0.7, **16.36N**±0.0S×**98.20W**±0.0E, **h22**km±4km, **n194, σ1°61/201, mb4.4/32, MS3.6/9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.08**	**68**	*e*P	**Pb**	**15 54 18.0**	**-0.8**
PNIG				*e*S	**Sb**	**15 54 20.7**	**-0.9**
PNIG	**Pinotepa**	**0.08**	**68**	*e*P	**Pb**	**15 54 18.0**	**-0.8**
PNIG				*e*S	**Sb**	**15 54 20.7**	**-0.9**
TLIG	**Tlapa**	**1.24**	**344**	*e*P	**Pn**	**15 54 36.0**	**-0.8**
TLIG				*i* S	**Sn**	**15 54 52.8**	**-0.2**
TLIG	**Tlapa**	**1.24**	**344**	*e*P	**Pn**	**15 54 36.0**

	6.5nm,0.9s						
TUL1	**Leonard**	19.59	6	P	P	15 58 41.2	0.0
	baz=186						
TUL1	**Leonard**	19.59	6	*e*P	P	15 58 39.6	-1.7
	22nm,0.9s						
V39A	**Pettigrew**	19.82	11	P	P	15 58 43.8	-0.1
	baz=192						
ANMO	**Albuquerque**	19.93	340	P	P	15 58 46.0	+0.8
	0.1nm,0.3s,baz=156,slow=20,SNR=5.3						
ANMO				LR	LR	16 07 39.5	
	comp=Z,74nm,19.3s,baz=342,slow=41						
ANMO	**Albuquerque**	19.93	340	P	Pn	15 58 47.2	+0.3
	baz=154						
ANMO	**Albuquerque**	19.93	340	*e*P	Pn	15 58 46.8	-0.2
	9.5nm,1.3s						
V40A	**Witts Springs**	19.95	13	P	P	15 58 44.9	-0.3
	baz=194						
U39A	**Green Forest**	20.38	11	P	P	15 58 48.5	-1.4
	baz=192						
U40A	**Yellville**	20.48	12	P	P	15 58 49.6	-1.3
	baz=194						
U41A	**Viola**	20.67	14	P	P	15 58 52.4	-0.7
	baz=196						
U42A	**Revenden**	20.85	16	P	P	15 58 53.2	-1.7
	baz=198						
T38A	**Diamond**	20.88	9	P	P	15 58 56.4	+1.1
	baz=189						
X18A	**Snowflake**	20.94	332	*e*P	Pn	15 58 58.9	+0.2
	10nm,0.9s						
W48A	**Pulaski**	21.25	26	P	P	15 58 56.4	-2.8
	baz=210						
X50A	**Fort Payne**	21.26	30	P	P	15 58 55.5	-3.8
	baz=214						
T40A	**Mansfield**	21.31	13	P	P	15 58 59.2	-0.7
	baz=194						
V46A	**Holladay**	21.35	23	P	P	15 58 58.4	-1.9
	baz=207						
T41A	**Mountain View**	21.38	14	P	P	15 58 59.4	-1.2
	baz=196						
T25A	**Trinidad**	21.41	346	P	P	15 59 03.3	+2.0
	baz=162,SNR=9.7						
T25A	**Trinidad**	21.41	346	*e*P	P	15 59 03.2	+2.0
	18nm,1.0s						
S38A	**Stockton**	21.52	9	P	P	15 59 01.2	-1.0
	baz=190						
T42A	**Van Buren**	21.53	16	P	P	15 59 01.0	-1.2
	baz=198						
X16A	**Lo Mia Camp, P**	21.55	329	*e*P	P	15 59 05.2	+2.5
	15nm,0.9s						
GOGA	**Godfrey**	21.56	35	P	P	15 58 58.6	-4.0
	baz=221						
113A	**Mohawk Valley,**	21.57	322	*e*P	P	15 59 05.2	+2.5
	5.4nm,0.9s						
V47A	**Nunnelly**	21.60	24	P	P	15 59 00.8	-2.2
	baz=208						
S39A	**Bolivar**	21.68	11	P	P	15 59 02.7	-1.1
	baz=192						
S40A	**Lebanon**	21.75	12	P	P	15 59 03.3	-1.2
	baz=194,SNR=7.1						
WVT	**Waverly**	21.75	23	P	P	15 59 02.7	-1.9
	baz=207						
WVT	**Waverly**	21.75	23	*e*P	P	15 59 02.0	-2.5
	11nm,0.9s						
S41A	**Jillco Farms,**	21.90	14	P	P	15 59 05.2	-1.0
	baz=196						
R38A	**Fenwick Farm,**	22.07	9	P	P	15 59 06.6	-1.4
	baz=190						
SDCO	**Great Sand Dun**	22.25	345	P	P	15 59 11.8	+1.5
	baz=160						
SDCO	**Great Sand Dun**	22.25	345	*e*P	P	15 59 11.0	+0.7
	13nm,1.5s						
SDCO				*e*pP	sP	15 59 18.6	-0.9
S42A	**Caledonia**	22.31	16	P	P	15 59 08.7	-1.9
	baz=198						
R39A	**Chumby, Stover**	22.34	11	P	P	15 59 09.7	-1.2
	baz=192						
WUAZ	**Wupatki**	22.41	331	P	P	15 59 14.5	+2.6
	baz=143						
WUAZ	**Wupatki**	22.41	331	*e*P	P	15 59 14.0	+2.1
	15nm,1.1s						
R40A	**Maddies Statio**	22.46	12	P	P	15 59 11.1	-1.1
	baz=194						
T46A	**Princeton**	22.53	22	P	P	15 59 11.3	-1.7
	baz=206						
S22A	**4UR Ranch, Cre**	22.62	342	P	P	15 59 15.5	+1.2
	baz=156,SNR=5.1						
S22A	**4UR Ranch, Cre**	22.62	342	*e*P	P	15 59 15.3	+1.1
	6.3nm,0.9s						
MVCO	**Mesa Verde**	22.68	338	P	P	15 59 16.3	+1.5
	baz=152						
MVCO	**Mesa Verde**	22.68	338	*e*P	P	15 59 15.3	+0.4
	27nm,1.3s						
MVCO				*e*pP	sP	15 59 24.0	+0.1
T47A	**Sharon Grove**	22.78	23	P	P	15 59 12.9	-2.7
	baz=208						
HODGE	**Hodges**	22.85	36	*e*P	P	15 59 13.0	-3.4
	15nm,1.0s						
Q38A	**Cooks Store, C**	22.87	9	P	P	15 59 16.2	-0.4
	baz=190						
T48A	**Bowling Green**	23.16	25	P	P	15 59 15.7	-3.8
	baz=209						
Q40A	**Laux Farm, Aux**	23.18	12	P	P	15 59 17.8	-1.9
	baz=194						
R44A	**Waltonville**	23.23	18	P	P	15 59 18.1	-2.1
	baz=202						
MONP2	**Monument Peak**	23.29	318	P	P	15 59 23.7	+2.6
	baz=129						
Q41A	**Truxton**	23.32	14	P	P	15 59 19.4	-1.7
	baz=196						
Q24A	**Divide**	23.33	346	P	P	15 59 22.7	+1.1
	baz=162						
W13A	**Hualapai Mount**	23.34	326	*e*P	P	15 59 24.2	+2.5
	2.4nm,0.9s						
IRM	**Iron Mountain**	23.36	322	P	P	15 59 23.7	+2.1
	baz=134						
P37A	**Lathrop**	23.39	8	P	P	15 59 20.8	-0.9
	baz=188						
P39B	**Salisbury**	23.53	11	P	P	15 59 20.6	-2.6
	baz=192						
PV01	**Paradox Valley**	23.53	339	*e*P	P	15 59 25.3	+1.8
PV01				*e*pP	sP	15 59 33.6	+0.8
P38A	**Dawn**	23.53	9	P	P	15 59 22.9	-0.3
	baz=190						
U15A	**North Rim**	23.58	331	*e*P	P	15 59 26.6	+2.5
	17nm,1.2s						
O33A	**Hebron**	23.63	1	P	P	15 59 24.1	-0.1
	baz=180						
P40A	**Paris**	23.70	12	P	P	15 59 23.4	-1.5
	baz=194						
O34A	**Beatrice**	23.77	3	P	P	15 59 25.4	-0.2
	baz=182						
TZTN	**Tazewell**	23.95	30	P	P	15 59 23.9	-3.3
	baz=216						
TZTN	**Tazewell**	23.95	30	*e*P	P	15 59 23.8	-3.5
	40nm,1.6s						
SMCO	**Snowmass**	23.99	343	*e*P	P	15 59 28.7	+0.6
	32nm,1.6s						
O38A	**Galt**	24.03	9	P	P	15 59 27.8	-0.2
	baz=190						
GMRC	**Granite Mounta**	24.11	323	P	P	15 59 31.1	+2.2
	baz=134						
R47A	**Wooly Knot Far**	24.14	23	P	P	15 59 28.2	-0.9
	baz=208						
ISCO	**Idaho Springs**	24.23	346	P	P	15 59 31.7	+1.5
	baz=161,SNR=7.7						
ISCO	**Idaho Springs**	24.23	346	*e*P	P	15 59 31.1	+0.9
	7.5nm,0.8s						
ISCO				*e*pP	sP	15 59 39.8	+0.2
O40A	**La Belle**	24.31	12	P	P	15 59 28.1	-2.4
	baz=194						
TUQ	**Turquoise Moun**	24.72	324	P	P	15 59 37.1	+2.6
	baz=134,SNR=6.1						
N38A	**Joes South For**	24.72	9	P	P	15 59 33.6	-0.7
	baz=190						
MTPU	**Mount Pierson**	24.86	333	*e*P	P	15 59 38.0	+2.1
	17nm,0.9s						
N39A	**Derby Farms, D**	24.92	10	P	P	15 59 35.0	-1.1
	baz=192,SNR=5.4						
SRU	**San Rafael Swe**	25.10	337	*e*P	P	15 59 40.5	+2.5
	8.1nm,0.8s						
M35A	**Neola**	25.11	4	P	P	15 59 37.5	-0.3
	baz=185						
M37A	**Trindle Farm,**	25.21	7	P	P	15 59 38.7	0.0
	baz=188						
O20A	**White River Ci**	25.25	342	P	P	15 59 41.6	+2.3
	baz=156,SNR=5.1						
O20A	**White River Ci**	25.25	342	*e*P	P	15 59 41.5	+2.2
	12nm,0.9s						
O20A				*e*pP	sP	15 59 50.0	+1.4
MSU	**Marysvale**	25.25	334	*e*P	P	15 59 43.0	+3.6
M38A	**Pleasantville**	25.34	9	P	P	15 59 38.8	-1.0
	baz=190,SNR=5.2						
N23A	**Red Feather La**	25.35	346	P	P	15 59 41.8	+1.6
	baz=161						
N23A	**Red Feather La**	25.35	346	*e*P	P	15 59 41.7	+1.4
	11nm,1.2s						
P18A	**Preston Nutter**	25.45	338	*e*P	P	15 59 43.6	+2.3
	12nm,1.0s						
M39A	**Webster**	25.57	11	P	P	15 59 40.8	-1.1
	baz=192						
M40A	**Post Highland**	25.62	12	P	P	15 59 41.3	-1.1
	baz=194						
LRMC	**Laurel Mtn Rad**	25.78	321	P	P	15 59 47.3	+3.1
	baz=131						
SCIA	**State Center**	25.82	9	P	P	15 59 43.8	-0.4
	baz=190						
SCIA	**State Center**	25.82	9	*e*P	P	15 59 44.2	0.0
	18nm,0.8s						
MPMC	**Manual Prospec**	26.06	322	P	P	15 59 49.2	+2.4
	baz=132						
L38A	**Oak Wood Farm,**	26.08	9	P	P	15 59 46.0	-0.6
	baz=190						
M43A	**Waltham Townsh**	26.23	16	P	P	15 59 47.3	-0.7
	baz=200						
L40A	**Anamosa**	26.31	12	P	P	15 59 47.7	-0.9
	baz=194						
ISA	**Isabella, Lake**	26.38	321	P	P	15 59 52.3	+2.8
	baz=130						
L42A	**Oliver, Polo**	26.59	14	P	P	15 59 49.5	-1.7
	baz=198						
K37A	**Belmond**	26.61	8	P	P	15 59 50.1	-1.2
	baz=189						
R11A	**Troy Canyon, C**	26.70	328	P	P	15 59 54.3	+1.8
	baz=139						
K39A	**Oelwein**	26.81	10	P	P	15 59 51.9	-1.2
	baz=193						
J36A	**Seneca 1, Swea**	27.08	6	P	P	15 59 54.7	-0.9
	baz=187,SNR=5.4						
J37A	**Redenius Farm,**	27.15	7	P	P	15 59 54.6	-1.7
	baz=189						
J38A	**Wedel Dairy, R**	27.31	9	P	P	15 59 55.9	-1.7
	baz=191						
EFD	**Emergency Oper**	27.59	317	*e*P	P	16 00 04.4	+4.2
SDV	**Santo Domingo**	27.89	102	P	P	16 00 05.1	+1.7
	3.5nm,0.6s,baz=293,slow=6.0,SNR=6.2						
PDAR	**Pinedale Array**	28.05	342	P	P	16 00 05.6	+1.0
	0.7nm,0.7s,baz=136,slow=9.6,SNR=5.8						
PDAR				LR	LR	16 12 11.0	
	comp=Z,141nm,20.3s,baz=166,slow=39						
PDAR	**Pinedale Array**	28.05	342	*e*P	P	16 00 05.2	+0.6
NV01	**Mina Array Sit**	28.19	325	*e*P	P	16 00 07.7	+1.9
NVAR	**Mina Array Bea**	28.19	325	P	P	16 00 07.8	+1.9
	1.4nm,0.8s,baz=147,slow=9.2,SNR=11						
H40A	**Chili**	28.93	12	P	P	16 00 09.1	-3.1
	baz=195						
SPMN	**Marine on St.**	29.13	8	P	P	16 00 12.6	-1.2
	baz=190						
G39A	**Holcombe**	29.44	10	P	P	16 00 15.2	-1.4
	baz=193						
G40A	**Rib Lake**	29.59	11	P	P	16 00 16.3	-1.7
	baz=195						
F36A	**Milaca**	29.67	7	P	P	16 00 17.7	-1.0
	baz=188						
M54A	**Oil Creek Stat**	29.72	29	P	P	16 00 14.1	-5.1
	baz=217						
SSPA	**Standing Stone**	29.92	32	P	P	16 00 14.5	-6.4
	baz=221						
G42A	**Mountain**	29.94	14	P	P	16 00 18.2	-2.9
	baz=198						
RLMT	**Red Lodge**	30.15	344	P	P	16 00 23.8	+0.6
	baz=157						
F40A	**Park Falls**	30.23	11	P	P	16 00 22.9	-0.8
	baz=195						
F41A	**Three Lakes**	30.27	13	P	P	16 00 21.5	-2.5
	baz=197						
E35A	**Pequot Lakes**	30.27	5	P	P	16 00 23.3	-0.7
	baz=186						
E39A	**Mellen**	30.60	10	P	P	16 00 25.6	-1.3
	baz=194						
SJG	**San Juan**	30.64	82	LR	LR	16 11 51.3	
	comp=Z,30nm,21.8s,baz=151,slow=35						
E40A	**Wakefield**	30.78	11	P	P	16 00 27.7	-0.8
	baz=195						
D35A	**Remer**	30.82	6	P	P	16 00 28.1	-0.7
	baz=187						
D36A	**Goodland**	31.01	7	P	P	16 00 29.5	-1.0
	baz=188						
D37A	**Cotton**	31.08	8	P	P	16 00 30.3	-0.8
	baz=190						
F44A	**Big Bay de Noc**	31.12	16	P	P	16 00 29.7	-1.8
	baz=202						
E43A	**Lone Tree Farm**	31.35	15	P	P	16 00 31.4	-2.1
	baz=200						
C35A	**Jirik Farms, M**	31.45	5	P	P	16 00 33.2	-1.2
	baz=187						
C36A	**Pine Crest Far**	31.62	7	P	P	16 00 35.1	-0.7
	baz=189						
D41A	**Chassel**	31.64	13	P	P	16 00 34.8	-1.2
	baz=197						
LRM	**Limekiln Ridge**	31.70	341	*e*P	P	16 00 37.2	+0.3
C38A	**Sawill Land.**	31.79	9	P	P	16 00 35.8	-1.6
	baz=192						
AGMN	**Agassiz Nation**	31.91	3	P	P	16 00 37.6	-0.7
	baz=183						
AGMN	**Agassiz Nation**	31.91	3	*e*P	P	16 00 38.1	-0.2
	2.1nm,0.5s						
EYMN	**Ely**	31.98	9	P	P	16 00 37.9	-1.1
	baz=191						
C39A	**Grand Marais**	32.07	10	P	P	16 00 38.4	-1.4
	baz=194						
B35A	**Bob, Littlefor**	32.12	6	P	P	16 00 39.2	-1.0
	baz=187						
YBH	**Yreka Blue Hor**	32.91	325	LR	LR	16 13 55.9	
	comp=Z,122nm,21.3s,baz=155,slow=36						
ULM	**Lac du Bonnet**	33.85	3	LR	LR	16 16 49.0	
	comp=Z,36nm,19.3s,baz=213,slow=40						
NNA	**Nana**	35.21	142	LR	LR	16 12 10.6	
	comp=Z,71nm,19.4s,baz=338,slow=30						
NEW	**Newport**	35.40	338	P	P	16 01 08.8	-0.1
	1.1nm,0.6s,baz=163,slow=17,SNR=2.4						
FFC	**Flin Flon**	38.40	356	*e*P	P	16 01 33.2	-0.9
	8.5nm,0.8s						
FCC	**Fort Churchill**	42.44	3	*e*P	P	16 02 07.0	-0.5
	4.4nm,0.8s						
SCHQ	**Schefferville**	45.37	25	P	P	16 02 30.2	-1.0
	1.3nm,0.6s,baz=292,slow=19,SNR=2.8						
YKA	**Yellowknife Ar**	47.50	350	P	P	16 02 47.6	-0.2
	0.8nm,0.9s,baz=156,slow=7.5,SNR=10						
INK	**Inuvik**	56.56	345	P	P	16 03 55.3	+0.3
	2.6nm,0.7s,baz=120,slow=6.1,SNR=12						
ILAR	**Eielson Array**	58.36	338	P	P	16 04 08.2	+0.3
	1.2nm,1.0s,baz=149,slow=5.4,SNR=6.9						
ILAR				LR	LR	16 32 46.9	
	comp=Z,46nm,18.1s,baz=150,slow=40						
TRF	**Thorofare Moun**	58.99	336	*e*P	P	16 04 13.8	+1.3
	48nm,2.0s						
SPITS	**Spitsbergen Ar**	78.95	11	LR	LR	16 42 57.1	
	comp=Z,32nm,18.9s,baz=165,slow=37						
KOWA	**Kowa**	89.90	75	LR	LR	16 44 35.1	
	comp=Z,22nm,18.7s,baz=205,slow=34						
FINES	**FINESS Array B**	90.82	23	LR	LR	16 49 43.2	
	comp=Z,27nm,18.3s,baz=278,slow=37						

*NEIC **21** 16:14:51.3±0.0, 16°.26N×98°.41W, h2km, MD4.0(MEX), After MEX.*

MEX 21 16:14:51.2±0.6, 16°.26N×98°.42W, h2km±7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.31	65	*e*P	Pg	16 14 56.7	-0.4
PNIG				*i* S	Sg	16 15 01.8	+0.6
PNIG	**Pinotepa**	0.31	65	*e*P	Pg	16 14 56.7	-0.4
PNIG				*i* S	Sg	16 15 01.8	+0.6
TLIG	**Tlapa**	1.30	354	*e*P	Pg	16 15 12.3	-3.9
TLIG				*i* S	Sg	16 15 29.6	-3.5
TLIG	**Tlapa**	1.30	354	*e*P	Pg	16 15 12.3	-3.9
TLIG				*i* S	Sg	16 15 29.6	-3.5
ACX	**Acapulco**	1.51	294	*i* P	Pn	16 15 16.5	-2.8
ACX				*i* S	Sb	16 15 35.3	-4.2
VHO	**Vista Hermosa**	1.81	63	*e*P	Pn	16 15 20.3	-3.3
VHO				*e*S	Sn	16 15 42.4	-4.8
VHO	**Vista Hermosa**	1.81	63	*e*P	Pn	16 15 20.3	-3.3
VHO				*e*S	Sn	16 15 42.4	-4.8
CAIG	**El Cayaco**	1.94	294	*e*P	Pn	16 15 22.1	-3.2
CAIG				*e*S	Sn	16 15 46.2	-4.0
CAIG	**El Cayaco**	1.94	294	*e*P	Pn	16 15 22.1	-3.2
CAIG				*e*S	Sn	16 15 46.2	-4.0
HUIG	**Huatulco**	2.27	102	*e*P	Pn	16 15 26.0	-3.8
HUIG				*i* S	Sn	16 15 54.1	-4.4
HUIG	**Huatulco**	2.27	102	*e*P	Pn	16 15 26.0	-3.8

*ISCJB **21** 16:16:46.4±0.5, 40°.01N±0°.03×27°.78E±0°.04, h12km±4km, Error ellipse: s-maj=5.6km s-min=4.3km az=23.3*
*CSEM **21** 16:16:46.3±0.2, 40°.00N×27°.75E, h14km±2km, ML2.3, Error ellipse: s-maj=4.6km s-min=3.1km az=94.0*
*ISK **21** 16:16:46.3, 40°.00N×27°.81E, h12km, ML2.3/6*
*DDA **21** 16:16:46.2, 40°.00N×27°.71E, h7km, Md2.7*

ISC 21 16:16:46.5±0.8, 40°.00N±0°.02×27°.75E±0°.03, h17km±5km, n19, σ0°.57/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	0.07	313	PG	**Pg**	**16 16 49.4**	**-0.2**
GONE				SG	**Sg**	**16 16 51.8**	**0.0**
GONE	**Gonen-Balikesi**	0.07	313	*e*Pg	**Pg**	**16 16 49.4**	**-0.2**
GONE				*e*Sg	**Sg**	**16 16 51.8**	**0.0**
BALY	**Balya**	0.28	201	*i* P	**Pg**	**16 16 51.6**	**-0.9**
BALY				*i* S	**Sg**	**16 16 56.3**	**-0.4**
BALY	**Balya**	0.28	201	P	**Pg**	**16 16 51.7**	**-0.9**
BALY				S	**Sg**	**16 16 56.3**	**-0.4**
EDC	**Edincik**	0.36	14	PG	**Pg**	**16 16 53.7**	**-0.2**
EDC				SG	**Sg**	**16 16 59.1**	**+0.2**
EDC	**Edincik**	0.36	14	*e*Pg	**Pg**	**16 16 53.7**	**-0.2**
EDC				*e*Sg	**Sg**	**16 16 59.1**	**+0.2**
KCTX	**Karacabey (Bur**	0.54	60	PG	**Pg**	**16 16 56.2**	**-0.9**
KCTX				SG	**Sg**	**16 17 03.5**	**-0.8**
KCTX	**Karacabey (Bur**	0.54	60	*e*Pg	**Pg**	**16 16 56.2**	**-0.9**
KCTX				*e*Sg	**Sg**	**16 17 03.5**	**-0.8**
STEP	**BALIKESIR_Sava**	0.62	182	*i* P	**Pb**	**16 16 59.2**	**+0.2**
STEP				*i* S	**Sb**	**16 17 07.5**	**+0.2**
STEP	**BALIKESIR_Sava**	0.62	182	P	**Pb**	**16 16 59.2**	**+0.2**
STEP				S	**Sb**	**16 17 07.6**	**+0.2**
RKY	**Sarkoy-Tekirda**	0.81	328	PG	**Pb**	**16 17 02.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	0.81	328	*e*Pg	**Pb**	**16 17 02.3**	**+0.1**
SART	**Tekirdag**	0.81	328	*i* P	**Pg**	**16 17 01.3**	**-1.0**
SART				*i* S	**Sg**	**16 17 12.6**	**-0.5**
SART	**Tekirdag**	0.81	328	P	**Pg**	**16 17 01.3**	**-1.0**
SART				S	**Sg**	**16 17 12.6**	**-0.5**
SBT3	**Marmara-Eregli**	0.90	11	PG	**Pb**	**16 17 03.9**	**+0.4**
SBT3				SG	**Sn**	**16 17 16.7**	**-0.1**
SBT3	**Marmara-Eregli**	0.90	11	*e*Pg	**Pb**	**16 17 03.9**	**+0.4**
SBT3				*e*Sg	**Sn**	**16 17 16.7**	**-0.1**
BAYC	**CANAKKALE_Bayr**	0.96	255	*i* P	**Pn**	**16 17 06.1**	**+0.8**
BAYC				*i* S	**Sg**	**16 17 17.3**	**-0.4**
TVSB	**Tavsanli**	1.43	112	PN	**Pn**	**16 17 12.2**	**+0.4**
TVSB				SN	**Sn**	**16 17 30.9**	**+0.6**
TVSB	**Tavsanli**	1.43	112	*e*Pn	**Pn**	**16 17 12.2**	**+0.4**
TVSB				*e*Sn	**Sn**	**16 17 30.9**	**+0.6**

*ISCJB **21** 16:26:09.9±0.8, 32°.02N±0°.03×115°.01W±0°.07, h22km±10km, Error ellipse: s-maj=9.3km s-min=5.1km az=177.5*
*ECX **21** 16:26:10.9±0.5, 31°.99N×115°.03W, h10km, MD2.3, ML2.5*
*MEX **21** 16:26:11.0±0.5, 32°.04N×114°.86W, h10km, MD3.6*

ISC 21 16:26:10.0±1.2, 32°.00N±0°.03×115°.09W±0°.05, h16km±14km, n13, σ0°.76/19, 2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	0.45	336	*e*P	**Pg**	**16 26 19.2**	**+0.1**
CPBX				*e*S	**Sg**	**16 26 26.5**	**+1.3**
CPBX				*e*		16 26 28.8	
CPBX				IAML		16 26 28.8	
	comp=N,2μm,0.2s						
ECBX	**El Chinero**	0.53	177⇓	*e*P	**Pg**	**16 26 20.2**	**-0.2**
ECBX				*e*S	**Sg**	**16 26 27.5**	**0.0**
YMD	**Yuma Desert**	0.72	40	*e*P	**Pg**	**16 26 23.1**	**-0.9**
EMSC	**East Mesa**	0.74	7	*e*P	**Pg**	**16 26 24.1**	**-0.4**
SGL	**Mount Signal**	0.84	320	*e*P	**Pg**	**16 26 26.5**	**+0.2**
COA	**Coachella**	0.86	358	*e*P	**Pg**	**16 26 26.1**	**-0.6**
YUH	**Yuha Desert**	0.96	313	*e*P	**Pg**	**16 26 28.5**	**0.0**
SPIG	**San Pedro Mart**	1.01	199	*e*P	**Pg**	**16 26 29.1**	**-0.4**
SPIG				*e*S	**Sg**	**16 26 43.7**	**+1.0**
SPIG	**San Pedro Mart**	1.01	199	*e*P	**Pg**	**16 26 29.0**	**-0.5**
RMX	**La Rumorosa**	1.03	306	*e*P	**Pg**	**16 26 29.0**	**-0.9**
RMX				*e*S	**Sg**	**16 26 42.6**	**-0.9**
ZAX	**El Zacaton**	1.12	245	*e*P	**Pg**	**16 26 30.1**	**-0.9**
ZAX				*e*S	**Sg**	**16 26 46.8**	**+0.5**
ZAX				IAML		16 26 48.6	
	comp=N,96nm,0.3s						
CBX	**Cerro Bola**	1.37	284	*e*P	**Pn**	**16 26 34.5**	**0.0**
CBX				*i* S	**Sg**	**16 26 53.6**	**-0.7**
CBX	**Cerro Bola**	1.37	284	*e*P	**Pn**	**16 26 35.5**	**+0.9**
CBX				⇓*e*		16 26 56.4	
CBX				IAML		16 26 56.4	
	comp=N,80nm,0.6s						

*CSEM **21** 16:31:45.4, 38°.86N×40°.36E, h7km, MD2.5, After DDA*
*DDA **21** 16:31:45.4, 38°.86N×40°.36E, h7km, Md2.5*

ISC 21 16:31:45.5±2.5, 38°.85N±0°.07×40°.4E±0°.1, h10km±14km, n10, σ0°.43/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCL	**Tunceli-Merkez**	0.71	292	*i* P	**Pb**	**16 31 59.4**	**-0.6**
TNCL				*i* S	**Sb**	**16 32 10.1**	**+0.3**
TNCL	**Tunceli-Merkez**	0.71	292	P	**Pb**	**16 31 59.4**	**-0.6**
TNCL				S	**Sb**	**16 32 10.1**	**+0.3**
PTK	**Pertek**	0.78	273	PG	**Pg**	**16 32 00.1**	**-0.4**
PTK				SG	**Sn**	**16 32 14.5**	**0.0**
DIYA	**Diyarbakir**	0.95	193	*i* P	**Pb**	**16 32 04.4**	**+0.3**
DIYA				*i* S	**Sb**	**16 32 16.8**	**+0.1**
DIYA	**Diyarbakir**	0.95	193	P	**Pb**	**16 32 04.4**	**+0.3**
DIYA				S	**Sb**	**16 32 16.8**	**+0.1**
MAZI	**Mazidag**	1.39	178	*e*PG	**Pn**	**16 32 10.7**	**-0.4**
MAZI				*e*SG	**Sb**	**16 32 29.2**	**-0.3**
KEMA	**Kemaliye**	1.53	286	*i* P	**Pb**	**16 32 13.7**	**-0.3**
KEMA				*i* S	**Sg**	**16 32 35.3**	**+0.6**
KEMA	**Kemaliye**	1.53	286	P	**Pb**	**16 32 13.7**	**-0.3**
KEMA				S	**Sg**	**16 32 35.3**	**+0.6**
KELT	**Kelkit**	1.56	326	*i* P	**Pn**	**16 32 13.9**	**+0.4**
KELT	**Kelkit**	1.56	326	P	**Pn**	**16 32 13.9**	**+0.4**

*IDC **21** 16:41:27.8±1.0, 16°.05N×98°.37W, h0km, mb4.0/7, mb1 4

HUIG				*e*S	**Sn**	**16 42 31.9**	**-1.8**
UNM	**Universidad Na**	**3.21**	**347**	*e*Pn	**Pb**	**16 42 24.1**	**-2.4**
CMIG	**Matias Romero**	**3.48**	**75**	Pn	**Pn**	**16 42 23.3**	**0.0**
	9.2nm,0.3s,baz=258,slow=11,SNR=78						
CMIG				Pg	**Pg**	**16 42 32.9**	**-3.2**
	34nm,0.3s,baz=247,slow=16,SNR=36						
CMIG				Sn	**Sn**	**16 43 05.8**	**+1.4**
	44nm,0.3s,baz=257,slow=10.0,SNR=5.1						
CMIG				Lg	Lg	16 43 19.2	
	116nm,0.3s,baz=272,slow=3.0,SNR=8.0						
JRQG	**Juriquilla Cam**	**4.89**	**337**	*e*Pn	**Pb**	**16 42 51.9**	**-3.4**
ZAIG	**Zacatecas**	**7.64**	**330**	*e*Pn	Pn	16 43 29.0	+8.2
ZAIG				*e*Sg	**Sg**	**16 45 33.2**	**-1.5**
LPIG	**La Paz**	**13.68**	**307**	LR	LR	16 49 02.6	
	comp=Z,141nm,20.3s,baz=30,slow=33						
TX31	**Lajitas Ar. Si**	**13.95**	**341**	*e*Pn	**P**	**16 44 51.8**	**-3.4**
TXAR	**Lajitas Array**	**13.95**	**341**	Pn	**Pn**	**16 44 50.3**	**+3.3**
	0.1nm,0.3s,baz=159,slow=18,SNR=6.1						
TXAR				Lg	Lg	16 48 53.9	
	baz=163,slow=22,SNR=3.2						
TXAR				LR	LR	16 50 35.8	
	comp=Z,138nm,19.5s,baz=0.0,slow=39						
JTS	**JuntasAbangare**	**14.33**	**112**	Pn	**Pn**	**16 44 51.0**	**-1.3**
	0.3nm,0.3s,baz=247,slow=2.3,SNR=2.9						
JTS				LR	LR	16 49 22.7	
	comp=Z,50nm,18.7s,baz=352,slow=33						
ABTX	**Abilene, Hawle**	**16.40**	**356**	*e*Pn	**P**	**16 45 21.7**	**-0.5**
	20nm,0.9s						
MNTX	**Cornudas Mount**	**16.70**	**339**	*e*Pn	**P**	**16 45 28.1**	**+2.6**
	4.8nm,0.9s						
GDL2	**Guadalupe Moun**	**16.84**	**342**	*e*Pn	**P**	**16 45 29.6**	**+2.4**
SRIG	**Santa Rosalia**	**16.96**	**313**	*e*Pn	P	16 45 37.2	+8.8
	46nm,0.9s						
VBMS	**Vicksburg**	**17.48**	**23**	*e*Pn	**Pn**	**16 45 32.1**	**-1.0**
	138nm,1.3s						
319A	**Douglas**	**18.09**	**329**	*e*P	**P**	**16 45 43.2**	**+2.2**
	17nm,1.0s						
MSTX	**Muleshoe**	**18.14**	**348**	*e*P	**P**	**16 45 45.3**	**+3.8**
	9.6nm,0.9s						
121A	**Cookes Peak, D**	**18.36**	**334**	P	**Pn**	**16 45 49.6**	**+5.5**
	8.7nm,0.9s						
AMTX	**Amarillo**	**18.85**	**352**	*e*P	**Pn**	**16 45 53.0**	**+3.2**
	9.8nm,0.7s						
BNM	**Barren Site**	**19.36**	**339**	*e*P	**Pn**	**16 45 58.1**	**+1.9**
TUL1	**Leonard**	**19.77**	**6**	*e*P	**P**	**16 45 59.0**	**-0.4**
	10nm,0.9s						
ANMO	**Albuquerque**	**20.03**	**340**	P	Pn	16 46 04.7	+0.6
	3.3nm,0.8s,baz=164,slow=19,SNR=7.3						
ANMO				LR	LR	16 53 47.5	
	comp=Z,93nm,19.9s,baz=334,slow=37						
ANMO	**Albuquerque**	**20.03**	**340**	*e*P	Pn	16 46 04.8	+0.7
	6.5nm,1.0s						
X18A	**Snowflake**	**21.00**	**333**	*e*P	**P**	**16 46 16.1**	**+3.1**
	16nm,1.1s						
T25A	**Trinidad**	**21.54**	**347**	*e*P	**P**	**16 46 20.0**	**+1.3**
	11nm,0.8s						
X16A	**Lo Mia Camp, P**	**21.61**	**330**	*e*P	**P**	**16 46 22.6**	**+3.2**
	11nm,0.9s						
SDCO	**Great Sand Dun**	**22.37**	**345**	*e*P	**P**	**16 46 29.9**	**+2.2**
	3.0nm,0.8s						
WUAZ	**Wupatki**	**22.47**	**331**	*e*P	**P**	**16 46 32.6**	**+4.0**
	16nm,1.0s						
S22A	**4UR Ranch, Cre**	**22.73**	**342**	*e*P	**P**	**16 46 34.3**	**+2.8**
	5.5nm,0.8s						
MVCO	**Mesa Verde**	**22.77**	**339**	*e*P	**P**	**16 46 33.0**	**+1.1**
	11nm,0.9s						
W13A	**Hualapai Mount**	**23.39**	**327**	*e*P	**P**	**16 46 41.3**	**+3.0**
	5.5nm,1.4s						
PV01	**Paradox Valley**	**23.63**	**340**	*e*P	**P**	**16 46 41.5**	**+0.9**
U15A	**North Rim**	**23.64**	**331**	*e*P	**P**	**16 46 43.5**	**+2.7**
	7.1nm,1.1s						
SMCO	**Snowmass**	**24.10**	**343**	*e*P	**P**	**16 46 45.7**	**+0.4**
	11nm,1.0s						
ISCO	**Idaho Springs**	**24.35**	**346**	*e*P	**P**	**16 46 48.4**	**+0.9**
	7.5nm,0.9s						
KNB	**Kanab**	**24.37**	**331**	*e*P	**P**	**16 46 51.3**	**+3.8**
	6.0nm,0.8s						
MTPU	**Mount Pierson**	**24.93**	**333**	*e*P	**P**	**16 46 56.0**	**+3.1**
	21nm,0.9s						
MSU	**Marysvale**	**25.32**	**334**	*e*P	**P**	**16 46 59.8**	**+3.6**
MSU				*e*pP	**sP**	**16 47 04.3**	**+2.4**
O20A	**White River Ci**	**25.35**	**342**	*e*P	**P**	**16 47 00.3**	**+3.9**
	19nm,1.4s						
N23A	**Red Feather La**	**25.47**	**347**	*e*P	**P**	**16 47 00.6**	**+3.0**
	7.7nm,0.9s						
P18A	**Preston Nutter**	**25.54**	**338**	*e*P	**P**	**16 47 01.0**	**+2.7**
	10nm,1.0s						
TMUT	**Trail Mountain**	**25.61**	**337**	*e*P	**P**	**16 47 02.0**	**+3.2**
	16nm,1.4s						
SCIA	**State Center**	**26.01**	**9**	*e*P	**P**	**16 47 01.3**	**-0.8**
	16nm,0.9s						
SDV	**Santo Domingo**	**28.03**	**102**	P	**P**	**16 47 20.9**	**+0.1**
	3.1nm,0.6s,baz=287,slow=19,SNR=4.8						
PD31	**Pinedale Array**	**28.16**	**342**	*e*P	**P**	**16 47 23.7**	**+1.9**
PDAR	**Pinedale Array**	**28.16**	**342**	P	**P**	**16 47 22.5**	**+0.7**
	0.4nm,0.5s,baz=156,slow=6.9,SNR=3.3						
PDAR				LR	LR	16 59 23.9	
	comp=Z,81nm,20.1s,baz=160,slow=38						
PDAR	**Pinedale Array**	**28.16**	**342**	*e*P	**P**	**16 47 22.8**	**+1.1**
IP04	**Greensprings**	**28.20**	**35**	*e*P	**P**	**16 47 18.7**	**-3.2**
	9.9nm,0.8s						
NV01	**Mina Array Sit**	**28.23**	**326**	*e*P	**P**	**16 47 25.4**	**+3.0**
NVAR	**Mina Array Bea**	**28.23**	**326**	P	**P**	**16 47 25.3**	**+2.8**
	1.7nm,0.9s,baz=142,slow=9.2,SNR=6.0						
NVAR				LR	LR	16 59 55.8	
	comp=Z,114nm,18.8s,baz=274,slow=39						
HVU	**Hansel Valley**	**28.35**	**337**	*e*P	**P**	**16 47 25.8**	**+2.4**
	2.9nm,0.8s						
LOHW	**Long Hollow**	**29.24**	**342**	*e*P	**P**	**16 47 33.5**	**+2.2**
	24nm,2.0s						
FXWY	**Fox Creek**	**29.39**	**341**	*e*P	**P**	**16 47 35.2**	**+2.5**
	2.9nm,1.1s						
M54A	**Oil Creek Stat**	**29.95**	**29**	*e*P	**P**	**16 47 33.6**	**-3.9**
	31nm,1.4s						
YBH	**Yreka Blue Hor**	**32.95**	**325**	LR	LR	17 03 21.0	
	comp=Z,108nm,19.2s,baz=102,slow=40						
EDM	**Edmonton**	**38.78**	**346**	*e*P	**P**	**16 48 57.5**	**+3.9**
	23nm,1.1s						
YKA	**Yellowknife Ar**	**47.64**	**350**	P	**P**	**16 50 05.4**	**+0.3**
	1.1nm,0.8s,baz=158,slow=7.4,SNR=4.1						
CPUP	**Villa Florida**	**58.13**	**136**	P	**P**	**16 51 22.5**	**-0.6**
	1.7nm,0.8s,baz=301,slow=5.9,SNR=3.7						
IL1	**Eielson Array**	**58.45**	**338**	*e*P	**P**	**16 51 27.7**	**+3.0**
ILAR	**Eielson Array**	**58.45**	**338**	P	**P**	**16 51 26.7**	**+1.9**
	1.3nm,0.8s,baz=131,slow=4.7,SNR=4.2						
TRF	**Thorofare Moun**	**59.07**	**336**	*e*P	**P**	**16 51 31.6**	**+2.3**
	49nm,1.9s						
LZH	**Lanzhou**	**123.91**	**338**	*e*PKP	**PKPdf**	**17 00 23.8**	**-4.3**
LZH				pPKP	PKiKP	17 00 27.0	-1.3
LZH				sPKP		17 00 28.3	
WRA	**Warramunga Arr**	**129.89**	**257**	PKP	**PKPdf**	**17 00 40.4**	**+0.7**
	0.6nm,0.9s,baz=90,slow=2.7,SNR=3.4						
ASAR	**Alice Springs**	**130.50**	**253**	PKP	**PKPdf**	**17 00 40.2**	**-0.5**
	0.8nm,1.1s,baz=98,slow=2.9,SNR=3.5						

IDC 21 16:42:52.0±1.3, 2.°25S×136.°66E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/54, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=58.6km s-min=25.2km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.73**	**187**	P	Pn	16 47 00.1	-0.5
	0.1nm,0.3s,baz=8.8,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**21.46**	**187**	P	P	16 47 42.1	0.0
	0.3nm,0.4s,baz=11,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**68.18**	**323**	P	P	16 53 54.4	+0.1
	0.2nm,0.5s,baz=111,slow=7.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**72.18**	**325**	P	P	16 54 18.8	+0.1
	0.2nm,0.8s,baz=110,slow=7.5,SNR=2.9						
ILAR	**Eielson Array**	**86.27**	**25**	P	P	16 55 35.4	0.0
	0.4nm,0.9s,baz=243,slow=4.0,SNR=3.2						

*NIED **21** 16:52:00, 37.°80N×142.°60E, h35km, Mw4.4 Best double couple: M0≃4.18000×10^15 NP1:φ≃255.00000°, δ61.00000°, λ27.00000°. NP2:φ≃151.00000°, δ67.00000°, λ149.00000°.*
*BJI **21** 16:52:49.5, 37.°95N×143.°34E, h5km, mb4.4/29, mB4.9/18, Ms4.1/9, Ms7 3.8/5*
*IDC **21** 16:52:53.6±0.5, 37.°78N×142.°62E, h0km, mb3.9/27, mb1 4.1/33, mb1mx4.0/79, mbtmp4.0/33, ML3.1/4, MS3.3/23, Ms1 3.4/23, ms1mx3.1/75, Error ellipse: s-maj=14.9km s-min=12.1km az=113.0*
*NEIC **21** 16:52:55.1±2.2, 37.°79N×142.°76E, h10km±14km, mb4.8/6,*

2012 MAR

Error ellipse: s-maj=7.4km s-min=4.9km az=120.0
NEIC Recorded [1 JMA] in Miyagi.
*MOS **21** 16:52:57.3±1.1, 37.°96N×142.°69E, h33km, mb4.2/19, Error ellipse: s-maj=9.5km s-min=4.9km az=90.8*
*JMA **21** 16:52:58.2±0.2, 37.°84N×142.°57E, h44km±4km, M4.4*
JMA Felt I J1.

ISC 21 16:52:57.1±0.8, 37.°79N±0.°05×142.°77E±0.°05, h25km±5km, n147, σ1°69/159, mb4.2/49, MS3.5/21, 8C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.30**	**301**	P	**Pn**	**16 53 18.5**	**-1.2**
JIO				S	**Sn**	**16 53 32.3**	**-4.0**
OFUJ	**Ofunato**	**1.55**	**327**	P	**Pn**	**16 53 22.0**	**-1.2**
OFUJ				S	**Sn**	**16 53 39.3**	**-3.2**
JFK	**Kawauchi**	**1.56**	**255**	P	**Pn**	**16 53 21.7**	**-1.6**
JFK				S	**Sn**	**16 53 38.9**	**-3.9**
JMM	**Marumori**	**1.56**	**273**	P	**Pn**	**16 53 21.8**	**-1.5**
JMM				*e*S	**Sn**	**16 53 38.9**	**-3.9**
JMK	**Ichinoseki**	**1.68**	**314**	P	**Pn**	**16 53 24.0**	**-0.9**
JOU	**Okura**	**1.76**	**290**	P	**Pn**	**16 53 25.3**	**-0.7**
JFT	**Otama**	**1.95**	**263**	P	**Pn**	**16 53 28.2**	**-0.4**
JFT				*e*S	**Sn**	**16 53 49.7**	**-2.6**
JOM	**Ohasama**	**2.04**	**326**	P	**Pn**	**16 53 29.3**	**-0.6**
JOM				*e*S	**Sn**	**16 53 52.4**	**-2.2**
JYS	**Shirataka**	**2.18**	**282**	P	**Pn**	**16 53 31.3**	**-0.5**
JYK	**Kaneyama**	**2.20**	**302**	P	**Pn**	**16 53 31.6**	**-0.5**
JRG	**Rokugo**	**2.32**	**315**	P	**Pn**	**16 53 33.6**	**-0.1**
JANG	**Nango**	**2.76**	**340**	P	**Pn**	**16 53 38.7**	**-1.1**
JANG				*e*S	**Sn**	**16 54 09.5**	**-2.8**
JAG	**Ashikaga**	**2.98**	**244**	P	**Pn**	**16 53 42.2**	**-0.6**
MJAR	**Matsushiro Arr**	**3.85**	**253**	Pn	**Pn**	**16 53 55.8**	**+1.0**
	7.5nm,0.3s,baz=78,slow=14,SNR=66						
MJAR				Sn	**Sn**	**16 54 40.6**	**+1.4**
	8.6nm,0.3s,baz=75,slow=20,SNR=5.0						
MJAR				LR	LR	16 55 37.5	
	comp=Z,485nm,18.3s,baz=55,slow=44						
MAJO	**Matsushiro**	**3.85**	**253**	*d* P	**Pn**	**16 53 55.3**	**+0.5**
MAJO	**Matsushiro**	**3.85**	**253**	*e*Pn	**Pn**	**16 53 55.1**	**+0.4**
MAT	**Matsushiro**	**3.85**	**253**	P	**Pn**	**16 53 55.2**	**+0.4**
MAT				S	**Sn**	**16 54 40.3**	**+1.1**
MJB9	**Matsu-Tunnel**	**3.85**	**253**	*e*Pn	**Pn**	**16 53 55.0**	**+0.2**
ERM	**Erimo**	**4.23**	**4**	*e* P	**Pn**	**16 53 59.5**	**-0.5**
ERM	**Erimo**	**4.23**	**4**	*e*Pn	**Pn**	**16 53 59.4**	**-0.5**
INU	**Inuyama**	**5.23**	**244**	*e*Pn	**Pn**	**16 54 14.1**	**+0.4**
JHJ2	**Mitsune**	**5.25**	**208**	*e*Pn	**Pn**	**16 54 12.9**	**-1.1**
JHJ	**Hachijo jima 2**	**5.26**	**208**	Pn	**Pn**	**16 54 12.9**	**-1.1**
	297nm,0.3s,baz=338,slow=6.2,SNR=46						
JHJ				Sn	**Sn**	**16 55 09.6**	**-4.3**
	41nm,0.3s,baz=72,slow=19,SNR=2.9						
GLVR	**Golovnino**	**6.30**	**18**	*e*P	**Pn**	**16 54 27.0**	**-1.4**
GLVR				*e*S	**Sn**	**16 55 37.3**	**-2.2**
ASAJ	**Asahikawa**	**6.32**	**359**	Pn	**Pn**	**16 54 28.6**	**-0.2**
	20nm,0.3s,baz=193,slow=16,SNR=244						
ASAJ				Sn	**Sn**	**16 55 39.2**	**-0.9**
	4.7nm,0.3s,baz=221,slow=20,SNR=4.8						
GRPR	**Tuman**	**6.60**	**19**	*e*P	**Pn**	**16 54 31.2**	**-1.3**
GRPR				*e*S	**Sn**	**16 55 42.7**	**-4.3**
LAGR	**Lagunnoye**	**6.67**	**19**	*e*P	**Pn**	**16 54 32.3**	**-1.1**
LAGR				*e*S	**Sn**	**16 55 45.1**	**-3.4**
YUK	**Yuzh-Kuril'sk**	**6.67**	**20**	*e*P	**Pn**	**16 54 32.0**	**-1.4**
YUK				*e*S	**Sn**	**16 55 44.3**	**-4.2**
YUK				pmax	pmax		
	comp=E,127nm,0.2s						
YUK				pmax	pmax		
	comp=Z,549nm,0.3s						
YUK				pmax	pmax		
	comp=N,51nm,0.1s						
SHO	**Shikotan**	**6.81**	**26**	*e*P	**Pn**	**16 54 35.1**	**-0.3**
SHO				*e*S	**Sn**	**16 55 47.6**	**-4.5**
SHO				pmax	pmax		
	comp=E,63nm,0.2s						
SHO				pmax	pmax		
	comp=Z,20nm,0.1s						
SHO				pmax	pmax		
	comp=N,29nm,0.2s						
KUR	**Kuril'sk**	**8.36**	**26**	*e*P	**Pn**	**16 54 56.9**	**+0.2**
KUR				*e*S	**Sn**	**16 56 26.5**	**-3.7**
KUR				pmax	pmax		
	comp=Z,77nm,0.5s						
KUR				pmax	pmax		
	comp=N,26nm,0.6s						
KUR				smax	smax		
	comp=E,69nm,0.4s						
KUR				smax	smax		
	comp=N,46nm,0.5s						
TEY	**Ternei**	**8.59**	**329**	*e*P	**Pn**	**16 55 01.0**	**+1.2**
YSS	**Yuzh-Sakhalins**	**9.16**	**360**	⇓ *i* P	**Pn**	**16 55 07.6**	**0.0**
YSS				*e*S	**Sn**	**16 56 46.5**	**-3.3**
YSS				pmax	pmax		
	comp=Z,60nm,0.6s						
YSS				smax	smax		
	comp=N,30μm,1.1s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
USRK	**Ussuriysk Ar.**	**10.36**	**312**	Pn	**Pn**	**16 55 24.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=119,slow=15,SNR=3.8						
USRK				LR	LR	16 59 07.2	
	comp=Z,175nm,18.7s,baz=115,slow=36						
CBIJ	**Chichi jima**	**10.67**	**183**	*e*Pn	**Pn**	**16 55 26.5**	**-1.9**
CBIJ				Sn	Sn	16 57 16.4	-11
JCJ	**Chichijima**	**10.67**	**183**	Pn	**Pn**	**16 55 26.5**	**-1.9**
	comp=Z,28nm,0.3s,baz=274,slow=22,SNR=12						
JCJ				Sn	Sn	16 57 16.4	-11
	comp=Z,14nm,0.3s,baz=53,slow=20,SNR=6.3						
JNU	**Nakatsue**	**10.75**	**248**	Pn	**Pn**	**16 55 27.1**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=71,slow=7.5,SNR=5.2						
JNU				LR	LR	16 59 50.9	
	comp=Z,177nm,19.7s,baz=70,slow=39						
JNU	**Nakatsue**	**10.75**	**248**	*e*Pn	**Pn**	**16 55 30.4**	**+0.8**
KSRS	**Korea Array**	**11.78**	**273**	Pn	**Pn**	**16 55 41.2**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=84,slow=14,SNR=3.1						
KSRS				LR	LR	16 59 52.1	
	comp=Z,144nm,20.1s,baz=86,slow=36						
KSAR	**Wonju Array Be**	**11.81**	**273**	P	**Pn**	**16 55 41.2**	**-2.7**
KSAR	**Wonju Array Be**	**11.81**	**273**	Pn	**Pn**	**16 55 41.2**	**-2.7**
GRNR	**Gornyy**	**13.74**	**343**	*e*P	**Pn**	**16 56 08.2**	**-2.1**
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KLR	**Kul'dur**	**13.94**	**329**	Pn	**Pn**	**16 56 11.2**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=125,slow=14,SNR=9.7						
KLR				LR	LR	17 01 44.7	
	comp=Z,16nm,18.5s,baz=142,slow=38						
KLR	**Kul'dur**	**13.94**	**329**	⇑ *e*P	**Pn**	**16 56 10.2**	**-2.7**
NKL	**Nikolayevsk**	**15.43**	**355**	*e*P	**Pn**	**16 56 31.2**	**-1.8**
NKL				pmax	pmax		
	comp=N,5.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PEA0B	**Petropavlovsk-**	**18.50**	**29**	*e*P	**P**	**16 57 10.3**	**-0.9**
	comp=Z,122nm,1.4s						
PETK	**Petropavlovsk-**	**18.50**	**29**	P	**P**	**16 57 11.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=228,slow=11,SNR=5.4						
PETK				LR	LR	17 03 53.6	
	comp=Z,61nm,19.6s,baz=218,slow=36						
PETK	**Petropavlovsk-**	**18.50**	**29**	*e*P	**P**	**16 57 10.3**	**-1.0**
PETK	**Petropavlovsk-**	**18.50**	**29**	*e*P	**P**	**16 57 10.3**	**-1.0**
ZEA	**Zeya**	**19.21**	**331**	*e*P	**P**	**16 57 18.2**	**-0.8**
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
NJ2	**Nanjing**	**20.40**	**261**	*e*P	Pn	16 57 34.9	+0.5
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
MA2	**Magadan**	**22.40**	**11**	P	**P**	**16 57 54.4**	**+0.9**
	comp=Z,18nm,0.8s,baz=196,slow=6.5,SNR=16						
MA2				LR	LR	17 07 36.0	
	comp=Z,58nm,19.1s,baz=88,slow=39						
MA2	**Magadan**	**22.40**	**11**	⇑ *e*P	**P**	**16 57 53.7**	**+0.2**
GUMO	**Guam**	**24.17**	**175**	LR	LR	17 06 52.7	
	comp=Z,39nm,20.9s,baz=52,slow=35						
HHC	**Hu-ho-hao-te**	**24.27**	**287**	*e*P	**P**	**16 58 11.8**	**-0.6**
HHC				pP	pP	16 58 16.0	-3.8
HHC				sP	sP	16 58 18.8	-4.1
HHC				S	**S**	**17 02 27.4**	**-2.3**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,99nm,4.0s						
HHC				LR	LR		
	comp=Z,120nm,11.1s						
HHC				LR	LR		
	comp=Z,120nm,13.6s						
HHC				LR	LR		
	comp=Z,100nm,13.6s						
WHN	**Wuhan**	**24.54**	**261**	⇑ P	**P**	**16 58 16.8**	**+2.1**
YAK	**Yakutsk**	**25.59**	**346**	P	**P**	**16 58 23.6**	**-0.3**
	comp=Z,24nm,0.7s,baz=15,slow=0.9,SNR=17						
YAK				LR	LR	17 08 38.6	
	comp=Z,86nm,20.0s,baz=240,slow=37						
YAK	**Yakutsk**	**25.59**	**346**	*e*P	**P**	**16 58 22.3**	**-1.6**
YAK				*e**PP	**sP**	**16 58 32.6**	**-1.8**
YAK				*e*S	**S**	**17 02 48.8**	**-1.3**
YAK				*e**SS	**sS**	**17 03 07.0**	**+4.6**
YAK				*e*SSS	SSS	17 04 03.8	
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,14nm,1.3s						
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK				smax	smax		
	comp=E,37nm,2.1s						
YAK				smax	smax		
	comp=N,19nm,2.0s						
YAK				MLR	MLR		
	comp=Z,113nm,21.0s						
YAK				MLR	MLR		
	comp=N,267nm,20.0s						
YAK	**Yakutsk**	**25.59**	**346**	*e*P	**P**	**16 58 22.4**	**-1.6**
	comp=N,26nm,0.8s						
SEY	**Seymchan**	**25.85**	**10**	P	**P**	**16 58 28.1**	**+1.8**
	comp=N,12nm,0.6s,baz=190,slow=9.0,SNR=51						
SEY	**Seymchan**	**25.85**	**10**	⇑ *e*P	**P**	**16 58 27.7**	**+1.4**
BOD	**Bodaibo**	**27.49**	**326**	*e*P	**P**	**16 58 40.2**	**-0.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.64**	**124**	T	T	17 28 04.7	
	baz=316,slow=75,SNR=155						
H11N1	**WAKE ISLAND Hy**	**27.65**	**124**	T	T	17 27 55.3	
	baz=316,slow=75,SNR=144						
H11N3	**WAKE ISLAND Hy**	**27.66**	**124**	T	T	17 28 07.4	
	baz=316,slow=75,SNR=151						
ULN	**Ulaanbaatar**	**27.84**	**303**	*i* P	**P**	**16 58 45.5**	**+0.9**
SONA1	**Songino Array**	**28.27**	**303**	*e*P	**P**	**16 58 48.6**	**+0.1**
SONM	**Songino Array**	**28.27**	**302**	P	**P**	**16 58 47.9**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=112,slow=9.1,SNR=5.4						
SONM				PcP	**PcP**	**17 02 03.0**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=119,slow=1.0,SNR=2.6						
SONM				LR	LR	17 10 32.1	
	comp=Z,83nm,18.5s,baz=56,slow=38						
H11S1	**WAKE ISLAND Hy**	**28.39**	**126**	T	T	17 28 58.8	
	baz=318,slow=76,SNR=81						
H11S3	**WAKE ISLAND Hy**	**28.40**	**126**	T	T	17 28 54.4	
	baz=318,slow=76,SNR=146						
H11S2	**WAKE ISLAND Hy**	**28.41**	**126**	T	T	17 28 55.5	
	baz=318,slow=76,SNR=83						
ENH	**Enshi**	**28.47**	**265**	*e*P	**P**	**16 58 50.3**	**0.0**
	comp=Z,12nm,0.9s						
ZAK	**Zakamensk**	**30.66**	**307**	*e*P	**P**	**16 59 07.2**	**-2.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TLY	**Talaya**	**30.67**	**310**	LR	LR	17 11 31.9	
	comp=Z,65nm,21.0s,baz=102,slow=37						
LZH	**Lanzhou**	**31.01**	**279**	*e*P	**P**	**16 59 13.3**	**+0.5**
LZH				pP	pP	16 59 14.8	-5.5
LZH				*e*PP	**PnPn**	**17 00 15.3**	**+1.2**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,92nm,4.8s						
LZH				LR	LR		
	comp=Z,350nm,13.0s						
LZH				LR	LR		
	comp=Z,370nm,13.1s						
LZH				LR	LR		
	comp=Z,420nm,16.5s						
CD2	**Chengdu**	**32.75**	**270**	*e*P	**P**	**16 59 27.8**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
BILL	**Bilibino**	**33.00**	**16**	*i* P	**P**	**16 59 29.9**	**+0.1**
BILL				*i*		16 59 38.4	
BILL				*i*		16 59 46.8	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.5s						
TIXI	**Tiksi**	**34.68**	**352**	P	**P**	**16 59 43.6**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=149,slow=6.3,SNR=3.1						
TIXI	**Tiksi**	**34.68**	**352**	*i* P	**P**	**16 59 44.0**	**-0.2**
TIXI	**Tiksi**	**34.68**	**352**	*e*P	**P**	**16 59 44.0**	**-0.2**
KMI	**Kunming**	**36.14**	**261**	P	**P**	**16 59 58.5**	**+0.9**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WMQ	**Urumqi**	**41.47**	**296**	P	**P**	**17 00 42.8**	**+0.9**
WMQ				pP	pP	17 00 46.5	-3.0
WMQ				sP	sP	17 00 52.3	-0.3
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,310nm,5.5s						
WM

BRVK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
AAK	**Ala-Archa**	**51.08**	**298**	*eP*	**P**	**17 01 58.8**	**+1.2**
AAK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
KSH	**Kashi**	**51.08**	**294**	*eP*	**P**	**17 02 00.1**	**+2.5**
KSH				sP	sP	17 02 07.1	-1.3
KSH				PcS	**PcS**	**17 07 11.8**	**+0.9**
KSH				S	**S**	**17 09 18.1**	**+4.2**
KSH				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KSH				pmax	pmax			
	comp=Z,97nm,4.5s							
KSH				LR	LR			
	comp=Z,97nm,9.5s							
KSH				LR	LR			
	comp=Z,93nm,10.1s							
KSH				LR	LR			
	comp=Z,120nm,7.1s							
INK	**Inuvik**	**53.22**	**27**	P	**P**	**17 02 13.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=270,slow=2.0,SNR=3.6							
KKAR	**Karatay Array**	**53.68**	**300**	*eP*	**P**	**17 02 17.3**	**+0.6**
KKAR	**Karatay Array**	**53.68**	**300**	*eP*	**P**	**17 02 17.3**	**+0.6**
SVE	**Sverdlovsk**	**55.30**	**319**	*eP*	P	17 02 40.5	+12
SVE				pmax	pmax			
	comp=Z,20nm,0.9s							
ARU	**Arti**	**56.51**	**318**	P	**P**	**17 02 36.6**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=59,slow=5.9,SNR=2.7							
WRA	**Warramunga Arr**	**57.97**	**189**	P	**P**	**17 02 47.5**	**0.0**
	comp=Z,1.8nm,0.5s,baz=67,slow=7.2,SNR=23							
ABKAR	**Akbulak array**	**58.28**	**310**	*eP*	**P**	**17 02 50.2**	**+0.7**
	comp=Z,38nm,0.6s							
AKTO	**Aktyubinsk**	**58.97**	**312**	P	**P**	**17 02 54.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=61,slow=14,SNR=3.1							
AKTO				LR	LR	17 27 47.7		
	comp=Z,35nm,18.2s,baz=45,slow=36							
RES	**Resolute Bay**	**61.60**	**15**	LR	LR	17 33 00.5		
	comp=Z,43nm,18.1s,baz=125,slow=39							
RES	**Resolute Bay**	**61.60**	**15**	*eP*	**P**	**17 03 12.7**	**+0.8**
RES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
RES	**Resolute Bay**	**61.60**	**15**	*eP*	**P**	**17 03 12.7**	**+0.8**
	comp=Z,3.2nm,0.7s							
AS01	**Alice Springs**	**61.69**	**189**	*eP*	**P**	**17 03 13.0**	**-0.1**
ASAR	**Alice Springs**	**61.69**	**189**	P	**P**	**17 03 13.7**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=14,slow=7.0,SNR=22							
YKA	**Yellowknife Ar**	**62.61**	**31**	P	**P**	**17 03 20.1**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=305,slow=6.4,SNR=4.2							
DZM	**Mont Dzumac**	**63.57**	**155**	LR	LR	17 28 01.4		
	comp=Z,47nm,21.3s,baz=200,slow=33							
ARCES	**ARCESS Array B**	**63.67**	**340**	P	**P**	**17 03 25.0**	**-0.8**
	comp=Z,1.9nm,1.1s,baz=50,slow=8.4,SNR=2.5							
KLMR	**Klimovskoe**	**63.69**	**328**	*eP*	**P**	**17 03 23.6**	**-2.4**
KLMR				pmax	pmax			
	comp=Z,9.0nm,1.4s							
KLMR	**Klimovskoe**	**63.69**	**328**	*eP*	**P**	**17 03 23.6**	**-2.4**
KLMR				AMP		17 03 27.7		
	comp=Z,9.0nm,1.4s							
AFI	**Afiamalu**	**66.80**	**131**	LR	LR	17 28 57.8		
	comp=Z,10.0nm,20.1s,baz=93,slow=32							
FINES	**FINESS Array B**	**68.65**	**333**	P	**P**	**17 03 57.0**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=44,slow=8.2,SNR=3.4							
FINES	**FINESS Array B**	**68.65**	**333**	P	**P**	**17 03 57.0**	**-0.8**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KIV	**Kislovodsk**	**71.22**	**311**	*eP*	**P**	**17 04 16.4**	**+2.3**
KIV				pmax	pmax			
	comp=Z,11nm,1.0s							
KBZ	**Khabaz**	**71.23**	**311**	P	**P**	**17 04 13.5**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=61,slow=9.6,SNR=3.1							
GNI	**Garni**	**72.12**	**307**	LR	LR	17 38 02.6		
	comp=Z,32nm,18.5s,baz=46,slow=38							
NVAR	**Mina Array Bea**	**73.67**	**54**	P	**P**	**17 04 31.0**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=278,slow=8.7,SNR=3.0							
HFS	**Hagfors**	**73.84**	**336**	P	**P**	**17 04 29.2**	**0.0**
	comp=Z,2.1nm,0.9s,baz=46,slow=8.7,SNR=3.8							
HFS				LR	LR	17 38 28.8		
	comp=Z,25nm,20.9s,baz=12,slow=37							
NB2	**NORSAR Subarra**	**73.90**	**338**	P	P	17 04 35.5	+5.8	
	comp=Z,7.0nm,1.1s,baz=39,slow=5.9							
NOA	**NORSAR Array B**	**73.90**	**338**	P	**P**	**17 04 29.4**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=38,slow=5.8,SNR=3.6							
NOA				LR	LR	17 42 52.4		
	comp=Z,20nm,18.1s,baz=45,slow=41							
AKASG	**Malin Array Be**	**74.36**	**323**	P	**P**	**17 04 32.2**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=45,slow=6.0,SNR=4.7							
KIEV	**Kiev**	**74.37**	**323**	*eP*	**P**	**17 04 32.5**	**0.0**
KIEV				pmax	pmax			
	comp=Z,1.0nm,0.9s							
PDAR	**Pinedale Array**	**76.37**	**46**	P	**P**	**17 04 46.1**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=328,slow=4.4,SNR=4.8							
BUR04	**Bucovina Ar. S**	**78.38**	**322**	*eP*	**P**	**17 04 56.1**	**+0.7**
BRTR	**Keskin Array B**	**79.15**	**312**	P	**P**	**17 04 59.3**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=57,slow=5.3,SNR=2.8							
KHC	**Kasperske Hory**	**82.46**	**329**	*eP*	**P**	**17 05 21.0**	**+3.7**
KHC				*e*	x	17 05 29.5		
KHC	**Kasperske Hory**	**82.46**	**329**	*eP*	**P**	**17 05 21.0**	**+3.7**
KHC				*ex*	x	17 05 29.5		
GERES	**GERESS Array B**	**82.63**	**329**	LR	LR	17 43 49.6		
	comp=Z,44nm,18.0s,baz=360,slow=37							
TXAR	**Lajitas Array**	**88.81**	**53**	P	**P**	**17 05 50.2**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=322,slow=5.7,SNR=2.9							
LPAZ	**La Paz**	**145.38**	**60**	PKPbc	**PKPbc**	**17 12 33.8**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=316,slow=2.7,SNR=7.9							
LPAZ	**La Paz**	**145.38**	**60**	*e*PKIKP	**PKPbc**	**17 12 34.0**	**+0.1**
LPAZ	**La Paz**	**145.38**	**60**	*e*PKPbc	**PKPbc**	**17 12 34.0**	**+0.1**
SIV	**San Ignacio**	**149.77**	**51**	PKPbc	**PKPbc**	**17 12 45.0**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=304,slow=1.7,SNR=10							

*ISCJB **21** 16:56:59.1±0.3,51.°50N±0.°02×16.°10E±0.°02,h0km, mb3.1/2,Error ellipse: s-maj=2.3km s-min=1.9km az=26.5*
*CSEM **21** 16:57:01.1±0.1,51.°50N×16.°10E,h2km,ML3.5/10,Error ellipse: s-maj=2.9km s-min=2.5km az=32.0*
*VIE **21** 16:57:02.8,51.°46N×15.°91E,h0km,mb2.9/1,ML3.2/4, Suspected Mining induced.*
*IDC **21** 16:57:02.0±0.6,51.°49N×15.°95E,h0km,mb3.4/2, mb1 3.4/10,mb1mx3.2/75,mbtmp3.3/10,ML3.2/8,Error ellipse: s-maj=9.4km s-min=5.4km az=99.0*
*BGR **21** 16:57:02.6±0.4,51.°44N×16.°07E,h1km,ML3.0/13,Error ellipse: s-maj=4.4km s-min=2.2km az=14.0*
*PRU **21** 16:57:02.8,51.°44N×16.°07E,h0km*
*UPP **21** 16:57:04.9,51.°71N×15.°65E,h0km,ML2.4,Suspected Mining explosion.*

ISC 21 16:57:00.2±0.6,51.°56N±0.°02×16.°10E±0.°02,h0km,n126, σ1°36/206,11C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**170**	*i* Pg	**Pg**	**16 57 14.3**	**+0.2**
KSP				*e*Sg	**Sg**	**16 57 22.8**	**-0.8**
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pg**	**16 57 14.4**	**+0.2**
KSP				*e*Sg	**Sg**	**16 57 23.1**	**-0.5**
KSP	**Ksiaz**	**0.73**	**170**	Pg	**Pg**	**16 57 14.4**	**+0.2**
KSP				Sg	**Sg**	**16 57 23.1**	**-0.5**
UPC	**Upice**	**1.06**	**183**	*e*PG	**Pg**	**16 57 20.3**	**-0.2**
UPC				*e*SG	**Sg**	**16 57 33.2**	**-0.9**
	comp=Z,125nm,0.3s						
UPC	**Upice**	**1.06**	**183**	Pg	**Pg**	**16 57 20.3**	**-0.2**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*Pg	**Pg**	**16 57 23.1**	**-0.5**
DPC				*e*Sg	**Sg**	**16 57 37.8**	**-1.6**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	**Pg**	**16 57 23.1**	**-0.5**
DPC				*e*SG	**Sg**	**16 57 37.8**	**-1.6**
	comp=Z,80nm,0.7s						
DPC	**Dobruska-Polom**	**1.22**	**173**	Pg	**Pg**	**16 57 23.1**	**-0.5**
DPC				Sg	**Sg**	**16 57 37.8**	**-1.6**
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pg**	**16 57 27.4**	**+0.1**
PVCC				*e*SG	**Sg**	**16 57 45.6**	**-0.1**
	comp=Z,184nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**224**	Pg	**Pg**	**16 57 27.4**	**+0.1**
PVCC				Sg	**Sg**	**16 57 45.6**	**-0.1**
	184nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**244**	PN	**Pn**	**16 57 28.4**	**-0.3**
BRG				PG	**Pg**	**16 57 30.6**	**+1.2**
BRG				SG	**Sn**	**16 57 50.2**	**+1.0**
	103nm,0.5s						
BRG	**Berggiesshubel**	**1.52**	**244**	*e*Pn	**Pn**	**16 57 28.7**	**0.0**
BRG				*e*Pg	**Pg**	**16 57 30.2**	**+0.8**
BRG				*e*Sg	**Sg**	**16 57 48.8**	**-0.3**
BRG	**Berggiesshubel**	**1.52**	**244**	Pn	**Pn**	**16 57 28.7**	**0.0**
KRLC	**Kraliky**	**1.55**	**164**	*e*PG	**Pn**	**16 57 28.7**	**-0.4**
KRLC				*e*SG	**Sg**	**16 57 47.3**	**-2.7**
	comp=Z,23nm,0.5s						
KRLC	**Kraliky**	**1.55**	**164**	Pg	**Pn**	**16 57 28.7**	**-0.4**
KRLC				Sg	**Sg**	**16 57 47.3**	**-2.7**
	23nm,0.5s						
FBE	**Freiberg**	**1.84**	**251**	*e*Pg	**Pg**	**16 57 36.0**	**+0.5**
FBE				*e*Sg	**Sg**	**16 57 59.6**	**+0.3**
FBE	**Freiberg**	**1.84**	**251**	Pg	**Pg**	**16 57 36.0**	**+0.5**
FBE				Sg	**Sg**	**16 57 59.6**	**+0.3**
GOPC	**GO Pecny, Ondr**	**1.85**	**207**	*e*PN	**Pn**	**16 57 33.1**	**-0.1**
GOPC				*e*PG	**Pb**	**16 57 34.8**	**-0.1**
GOPC				*e*SG	**Sb**	**16 57 58.6**	**0.0**
	comp=Z,27nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.85**	**207**	Pn	**Pn**	**16 57 33.1**	**-0.1**
PRU	**Pruhonice**	**1.86**	**213**	*e*PN	**Pn**	**16 57 33.0**	**-0.3**
PRU				*e*PG	**Pb**	**16 57 35.0**	**-0.1**
PRU				*e*SG	**Sb**	**16 57 58.5**	**-0.4**
	comp=Z,36nm,0.7s						
PRU	**Pruhonice**	**1.86**	**213**	Pn	**Pn**	**16 57 33.0**	**-0.3**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**16 57 35.0**	**+0.4**
CLL				*e*Pg	**Pb**	**16 57 37.6**	**+0.9**
CLL				*e*Sg	**Sg**	**16 58 02.7**	**-0.3**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**16 57 35.0**	**+0.4**
CLL				*e*Pg	**Pg**	**16 57 38.0**	**+0.3**
CLL				*i*		16 57 40.1	
CLL				*i*		16 57 42.3	
CLL				*e*		16 57 53.0	
CLL				*e*Sg	**Sg**	**16 58 04.0**	**+1.0**
	comp=Z,37nm,0.4s						
CLL	**Collm**	**1.96**	**264**	Pn	**Pn**	**16 57 35.0**	**+0.4**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**16 57 35.2**	**-0.2**
MORC				*e*Pg	**Pb**	**16 57 37.8**	**+0.2**
MORC				*e*Sg	**Sb**	**16 58 02.8**	**-0.4**
MORC	**Moravsky Berou**	**2.01**	**152**	*i*P	**Pn**	**16 57 35.2**	**-0.2**
MORC	**Moravsky Berou**	**2.01**	**152**	S	**Sb**	**16 58 02.8**	**-0.4**
MORC	**Moravsky Berou**	**2.01**	**152**	*i*P	**Pn**	**16 57 35.2**	**-0.2**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*Pn	**Pn**	**16 57 37.0**	**-0.5**
OKC				*e*Pg	**Pb**	**16 57 40.8**	**+0.6**
OKC				*e*Sg	**Sb**	**16 58 08.3**	**+0.7**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PG	**Pb**	**16 57 40.6**	**+0.4**
OKC				*e*SG	**Sb**	**16 58 06.6**	**-0.9**
	comp=Z,43nm,0.5s						
OKC	**Ostrava-Krasne**	**2.16**	**142**	Pn	**Pn**	**16 57 37.0**	**-0.5**
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**16 57 38.9**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=347,slow=16,SNR=18						
VRAC				Pg	**Pg**	**16 57 44.8**	**+0.9**
	comp=Z,5.8nm,0.3s,baz=349,slow=18,SNR=19						
VRAC				Sn	**Sn**	**16 58 07.7**	**-0.2**
	comp=Z,3.6nm,0.3s,baz=342,slow=6.4,SNR=4.3						
VRAC				Lg	Lg	16 58 10.7		
	comp=Z,6.2nm,0.3s,baz=324,slow=19,SNR=8.6						
VRAC	**Vranov**	**2.28**	**172**	*i*P	**Pn**	**16 57 39.6**	**+0.5**
VRAC	**Vranov**	**2.28**	**172**	S	**Sn**	**16 58 08.9**	**+1.0**
VRAC	**Vranov**	**2.28**	**172**	*i*P	**Pn**	**16 57 39.6**	**+0.5**
VRAC				*e*Sg	**Sb**	**16 58 10.0**	**-0.9**
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**16 57 42.4**	**+0.1**
KRUC				*e*Sg	**Sb**	**16 58 18.6**	**+1.0**
WERD	**Werda**	**2.64**	**247**	*e*Pn	**Pn**	**16 57 45.1**	**+1.0**
WERD				*e*Pg	**Pg**	**16 57 51.2**	**+0.3**
WERD				*e*Sg	**Sg**	**16 58 24.6**	**-0.5**
WERD	**Werda**	**2.64**	**247**	Pn	**Pn**	**16 57 45.1**	**+1.0**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**16 57 45.2**	**+0.7**
NKC				*e*PG	**Pg**	**16 57 51.3**	**0.0**
NKC				*e*SG	**Sg**	**16 58 26.3**	**+0.4**
	comp=Z,67nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**242**	Pn	**Pn**	**16 57 45.2**	**+0.7**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**16 57 53.2**	**+1.3**
OJC				*e*Sg	**Sg**	**16 58 25.5**	**+1.6**
OJC	**Ojcow**	**2.70**	**118**	*e*Pn	**Pn**	**16 57 45.2**	**+0.3**
OJC				*e*Pg	**Pg**	**16 57 53.3**	**+1.4**
OJC				*e*Sg	**Sg**	**16 58 28.0**	**+1.1**
OJC	**Ojcow**	**2.70**	**118**	Pn	**Pn**	**16 57 45.2**	**+0.3**
OJC	**Ojcow**	**2.70**	**118**	Pg	**Pg**	**16 57 53.3**	**+1.4**
OJC				Sg	**Sg**	**16 58 28.0**	**+1.1**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*Pn	**Pn**	**16 57 48.3**	**+0.8**
JAVC				*e*Sg	**Sg**	**16 58 32.2**	**-0.7**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**16 57 48.5**	**+0.5**
KHC				*e*PG	**Pb**	**16 57 54.4**	**+1.2**
KHC				*e*SN	**Sn**	**16 58 22.2**	**-1.5**
KHC				*e*SG	**Sg**	**16 58 32.4**	**-1.6**
	comp=Z,20nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**215**	Pn	**Pn**	**16 57 48.5**	**+0.5**
MOX	**Moxa**	**2.97**	**254**	*e*Pn	**Pn**	**16 57 49.8**	**+1.2**
MOX				*e*Pg	**Pg**	**16 57 57.9**	**+0.7**
MOX				*e*Sg	**Sg**	**16 58 35.2**	**-0.4**
MOX	**Moxa**	**2.97**	**254**	Pn	**Pn**	**16 57 49.8**	**+1.2**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn	**Pn**	**16 57 50.5**	**+0.7**
ROTZ				*e*Sg	**Sg**	**16 58 37.2**	**-1.3**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	Pn	**Pn**	**16 57 50.5**	**+0.7**
ROTZ				Sg	**Sg**	**16 58 37.2**	**-1.3**
GEC2	**GERESS Array S**	**3.13**	**210**	*e*Pn	**Pn**	**16 57 51.6**	**+0.8**
GEC2				*e*Sg	**Sg**	**16 58 39.1**	**-1.5**
GEC2	**GERESS Array S**	**3.13**	**210**	Pn	**Pn**	**16 57 51.6**	**+0.8**
GEC2				Sg	**Sg**	**16 58 39.1**	**-1.5**
GERES	**GERESS Array B**	**3.13**	**210**	Pn	**Pn**	**16 57 51.3**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=25,slow=12,SNR=38						
GERES				Pg	**Pb**	**16 57 57.4**	**+0.7**
	comp=Z,5.2nm,0.3s,baz=30,slow=18,SNR=43						
GERES				Sn	**Sn**	**16 58 25.9**	**-3.0**
	comp=Z,3.7nm,0.3s,baz=27,slow=26,SNR=6.8						
GERES				Lg	Lg	16 58 37.0		
	comp=Z,5.3nm,0.3s,baz=30,slow=28,SNR=8.9						
SMOL	**Smolenice**	**3.17**	**164**	*e*Pg	**Pg**	**16 58 01.0**	**+0.1**
SMOL	**Smolenice**	**3.17**	**164**	*e*PG	**Pg**	**16 58 01.0**	**+0.1**
SMOL				*e*SG	**Sg**	**16 58 40.7**	**-1.3**
WET	**Wettzell**	**3.18**	**222**	*e*Pn	**Pn**	**16 57 51.8**	**+0.3**
WET				*e*Sg	**Sb**	**16 58 38.6**	**+1.7**
WET	**Wettzell**	**3.18**	**222**	Pn	**Pn**	**16 57 51.8**	**+0.3**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*Pg	**Pb**	**16 58 00.2**	**+1.6**
LANS				*e*Sg	**Sg**	**16 58 44.1**	**-0.1**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*PG	**Pb**	**16 58 00.2**	**+1.6**
LANS				*e*SG	**Sg**	**16 58 44.1**	**-0.1**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*Pg	**Pb**	**16 58 01.1**	**+1.8**
MODS				*e*Sg	**Sb**	**16 58 41.4**	**+1.6**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*PG	**Pb**	**16 58 01.1**	**+1.8**
MODS				*e*SG	**Sb**	**16 58 41.4**	**+1.6**
NIE	**Niedzica**	**3.43**	**127**	*e*P	**Pg**	**16 58 04.5**	**-1.5**
NIE				*e*S	**Sg**	**16 58 49.6**	**-0.9**
VYHS	**Vyhne**	**3.54**	**149**	*e*Pg	**Pg**	**16 58 06.5**	**-1.6**
VYHS	**Vyhne**	**3.54**	**149**	*e*PG	**Pg**	**16 58 06.5**	**-1.6**
VYHS				*e*SG	**Sg**	**16 58 55.5**	**+1.6**
VYHS				*e*LG	Lg	16 58 55.9		
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**16 57 58.6**	**+1.0**
BSD				*i* S	**Sn**	**16 58 39.1**	**-2.0**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**16 57 58.6**	**+1.0**
BSD				*i* S	**Sn**	**16 58 39.1**	**-2.0**
CONA	**Conrad Observa**	**3.64**	**183**	Pn	**Pn**	**16 57 58.4**	**+0.5**
	comp=Z,2.0nm,0.2s						
CONA	**Conrad Observa**	**3.64**	**183**	*i* Pn	**Pn**	**16 57 58.4**	**+0.5**
	comp=Z,2.0nm,0.2s						
CONA				*i* Pg	**Pg**	**16 58 08.4**	**-1.6**
	comp=Z,7.5nm,0.3s						
CONA				*i* Sg	**Sg**	**16 58 55.1**	**-2.0**
	comp=Z,17nm,0.5s						
MOA	**Molln**	**3.90**	**198**	Pn	**Pn**	**16 58 02.0**	**+0.6**
	comp=Z,2.1nm,0.2s						
MOA				Sg	**Sg**	**16 59 05.8**	**+0.3**
	comp=Z,11nm,0.3s						
MOA	**Molln**	**3.90**	**198**	*i* Pn	**Pn**	**16 58 02.0**	**+0.6**
	comp=Z,2.1nm,0.2s						
MOA				*i* Sg	**Sg**	**16 59 05.8**	**+0.3**
	comp=Z,11nm,0.3s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pg	**Pg**	**16 58 15.9**	**+0.5**
STHS				*e*Sg	**Sg**	**16 59 09.2**	**+3.0**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PG	**Pg**	**16 58 15.9**	**+0.5**
STHS				*e*SG	**Sg**	**16 59 09.2**	**+3.0**
STHS				*e*LG	Lg	16 59 21.1		
KECS	**Kecovo**	**4.18**	**136**	*e*Pg	**Pg**	**16 58 19.7**	**-0.6**
KECS	**Kecovo**	**4.18**	**136**	*e*PG	**Pg**	**16 58 19.7**	**-0.6**
KECS				*e*SG	**Sg**	**16 59 13.0**	**-1.5**
KECS				*e*LG	Lg	16 59 24.1		
ARSA	**Arzberg**	**4.33**	**185**	Pn	**Pn**	**16 58 09.6**	**+2.3**
	comp=Z,2.8nm,0.2s						
ARSA				Sg	**Sg**	**16 59 18.3**	**-1.0**
	comp=Z,19nm,0.7s						
ARSA	**Arzberg**	**4.33**	**185**	*e*Pn	**Pn**	**16 58 09.6**	**+2.3**
	comp=Z,2.8nm,0.2s						
ARSA				*i* Sg	**Sg**	**16 59 18.3**	**-1.0**
	comp=Z,19nm,0.7s						
PSZ	**Piszkesteto**	**4.40**	**145**	*i*P	**Pn**	**16 58 09.1**	**+0.8**
PSZ	**Piszkesteto**	**4.40**	**145**	S	**Sn**	**16 59 02.3**	**+2.1**
PSZ	**Piszkesteto**	**4.40**	**145**	*i*P	**Pn**	**16 58 09.1**	**+0.8**
KBA	**Koelnbreinsper**	**4.83**	**203**	Pn	**Pn**	**16 58 15.2**	**+0.8**
	comp=Z,0.6nm,0.1s						
KBA	**Koelnbreinsper**	**4.83**	**203**	*i* Pn	**Pn**	**16 58 15.2**	**+0.8**
	comp=Z,0.6nm,0.1s						
BJUU	**Bjuv**	**4.88**	**339**	P	**Pn**	**16 58 15.2**	**+0.5**
BJUU	**Bjuv**	**4.88**	**339**	P	**Pn**	**16 58 15.2**	**+0.5**
BJUU				S	**Sn**	**16 59 09.1**	**-2.7**
SOKA	**Soboth**	**4.94**	**189**	Pn	**Pn**	**16 58 17.5**	**+1.8**
	comp=Z,0.8nm,0.3s						
SOKA	**Soboth**	**4.94**	**189**	*e*Pn	**Pn**	**16 58 17.5**	**+1.8**
	comp=Z,0.8nm,0.3s						
DEL	**Delary**	**5.09**	**346**	P	**Pn**	**16 58 18.4**	**+0.7**
DEL				S	**Sn**	**16 59 14.9**	**-2.2**
DEL	**Delary**	**5.09**	**346**	P	**Pn**	**16 58 18.4**	**+0.7**
DEL				S	**Sn**	**16 59 14.9**	**-2.2**
WATA	**Walderalm**	**5.16**	**217**	Pn	**Pn**	**16 58 20.5**	**+1.7**
	comp=Z,1.2nm,0.2s						
WATA	**Walderalm**	**5.16**	**217**	*i* Pn	**Pn**	**16 58 20.5**	**+1.7**
	comp=Z,1.2nm,0.2s						
OBKA	**Obir**	**5.16**	**192**	*e*Pn	**Pb**	**16 58 34.6**	**+3.2**
	comp=Z,3.1nm,0.3s						
OBKA				*i* Sg	**Sg**	**16 59 42.0**	**-3.9**
	comp=Z,5.0nm,0.4s						
WTTA	**Wattenberg**	**5.20**	**216**	Pn	**Pn**	**16 58 21.4**	**+2.1**
	comp=Z,1.6nm,0.2s						
WTTA	**Wattenberg**	**5.20**	**216**	*e*Pn	**Pn**	**16 58 21.4**	**+2.1**
	comp=Z,1.6nm,0.2s						
MOTA	**Moosalm**	**5.33**	**220**	Pn	**Pn**	**16 58 21.6**	**+0.4**
	comp=Z,1.1nm,0.2s						
MOTA	**Moosalm**	**5.33**	**220**	*i* Pn	**Pn**	**16 58 21.6**	**+0.4**
	comp=Z,1.1nm,0.2s						
RETA	**Reutte**	**5.36**	**223**	Pn	**Pn**	**16 58 21.6**	**+0.1**
	comp=Z,1.1nm,0.2s						
RETA	**Reutte**	**5.36**	**223**	*e*Pn	**Pn**	**16 58 21.6**	**+0.1**
	comp=Z,1.1nm,0.2s						
VXJU	**Vaexsjoe**	**5.41**	**353**	P	**Pn**	**16 58 23.4**	**+1.3**
VXJU	**Vaexsjoe**	**5.41**	**353**	P	**Pn**	**16 58 23.4**	**+1.3**
OSKU	**Oskarshamn**	**5.64**	**360**	P	**Pn**	**16 58 26.8**	**+1.5**
OSKU	**Oskarshamn**	**5.64**	**360**	P	**Pn**	**16 58 26.8**	**+1.5**
FETA	**Feichten**	**5.74**	**220**	Pn	**Pn**	**16 58 28.5**	**+1.7**
	comp=Z,0.6nm,0.4s						
FETA	**Feichten**	**5.74**	**220**	*e*Pn	**Pn**	**16 58 28.5**	**+1.7**
	comp=Z,0.6nm,0.4s						
BYXU	**Byxelkrok**	**5.76**	**5**	P	**Pn**	**16 58 28.6**	**+1.7**
FABU	**Falkenberg**	**5.80**	**341**	P	**Pn**	**16 58 28.1**	**+0.7**
FABU	**Falkenberg**	**5.80**	**341**	P	**Pn**	**16 58 28.1**	**+0.7**
DAVA	**Damuels**	**5.90**	**226**	Pn	**Pn**	**16 58 28.8**	**-0.1**
	comp=Z,1.7nm,0.2s						
DAVA	**Damuels**	**5.90**	**226**	*e*Pn	**Pn**	**16 58 28.8**	**-0.1**
	comp=Z,1.7nm,0.2s						
GNOU	**Gnosjoe**	**5.90**	**348**	P	**Pn**	**16 58 29.9**	**+1.1**
GNOU	**Gnosjoe**	**5.90**	**348**	P	**Pn**	**16 58 29.9**	**+1.1**
SIRR	**Siria**	**6.44**	**143**	*i*P	**Pn**	**16 58 36.9**	**+0.6**
SIRR	**Siria**	**6.44**	**143**	*i*P	**Pn**	**16 58 36.9**	**+0.6**
DRGR		**6.45**	**135**	*i*P	**Pn**	**16 58 37.2**	**+0.8**
DRGR		**6.45**	**135**	*i*P	**Pn**	**16 58 37.2**	**+0.8**
BURAR	**Bucovina Array**	**7.12**	**

20nm,0.3s,baz=246,slow=13,SNR=6.8
CMIG Lg Lg 17 06 57.3
49nm,0.3s,baz=336,slow=20,SNR=16
CMIG LR LR 17 06 57.6
comp=Z,91nm,18.3s,baz=246,slow=32
JRQG Juriquilla Cam 4.72 337 *e*Pn **Pb 17 06 25.1 -3.7**
ZAIG Zacatecas 7.46 330 *e*Pn **Pn 17 06 58.0 +2.8**
LPIG La Paz 13.51 307 LR LR 17 12 54.9
comp=Z,345nm,18.8s,baz=52,slow=35
LTX Lajitas 13.78 341 *e*Pn **Pn 17 08 23.8 +2.2**
LTX *e* 17 12 25.5
TXAR Lajitas Array 13.78 341 Pn **Pn 17 08 23.8 +2.2**
0.1nm,0.3s,baz=164,slow=14,SNR=3.7
TXAR Lg Lg 17 12 25.5
0.1nm,0.3s,baz=162,slow=30,SNR=4.9
TXAR LR LR 17 14 17.0
comp=Z,209nm,18.3s,baz=0.0,slow=40
JTS JuntasAbangare 14.48 113 Pn **Pn 17 08 30.2 -0.9**
baz=312,slow=15,SNR=2.6
ABTX Abilene, Hawle 16.25 357 *e*Pn **P 17 08 57.8 +0.3**
23nm,0.8s
MNTX Cornudas Mount 16.52 339 *e*Pn **P 17 09 02.1 +1.5**
5.0nm,0.9s
GDL2 Guadalupe Moun 16.67 342 *e*Pn **Pn 17 09 00.8 +0.9**
SRIG Santa Rosalia 16.79 313 *e*Pn **P 17 09 03.6 +0.1**
36nm,0.6s
319A Douglas 17.91 329 *e*P **P 17 09 18.7 +2.7**
15nm,1.1s
MSTX Muleshoe 17.97 348 *e*Pn **Pn 17 09 16.7 +0.5**
17nm,1.1s
WMOK Wichita Mounta 18.32 359 *e*P **P 17 09 21.4 +1.0**
4.8nm,1.0s
BNM Barren Site 19.18 339 *e*P **Pn 17 09 32.2 +1.1**
TUC Tucson 19.42 327 *e*P **Pn 17 09 35.1 +1.3**
5.2nm,1.0s
ANMO Albuquerque 19.86 340 P **Pn 17 09 39.4 +0.4**
1.7nm,0.8s,baz=356,slow=14,SNR=4.1
ANMO Lg Lg 17 15 40.7
0.5nm,0.5s,baz=323,slow=20,SNR=3.4
ANMO LR LR 17 18 01.6
comp=Z,198nm,18.8s,baz=338,slow=39
ANMO Albuquerque 19.86 340 *e*P **Pn 17 09 39.9 +0.9**
9.1nm,1.2s
ANMO Lg Lg 17 15 40.7
HHAR Hobbs 20.27 11 *e*P Pn 17 09 44.1 +0.4
4.9nm,0.7s
PLAL Pickwick Lake 20.77 25 *e*P **P 17 09 47.7 +0.5**
14nm,0.9s
X18A Snowflake 20.83 333 *e*P Pn 17 09 49.9 -0.5
14nm,1.1s
T25A Trinidad 21.37 347 *e*P **P 17 09 56.2 +2.3**
12nm,0.8s
113A Mohawk Valley, 21.42 323 *e*P **P 17 09 56.4 +2.3**
4.8nm,0.9s
X16A Lo Mia Camp, P 21.43 330 *e*P **P 17 09 57.3 +2.8**
14nm,0.9s
Y14A Wickenburg 21.86 326 *e*P **P 17 10 01.0 +2.1**
62nm,0.9s
WVT Waverly 21.87 24 *e*P **P 17 10 00.6 +1.6**
10nm,0.9s
SWET Sewanee 21.90 29 *e*P **P 17 10 01.5 +2.2**
14nm,0.9s
SDCO Great Sand Dun 22.20 345 *e*P **P 17 10 05.0 +2.1**
2.9nm,0.9s
GLA Glamis 22.25 321 *e*P **P 17 10 05.1 +2.0**
20nm,1.3s
WUAZ Wupatki 22.30 331 *e*P **P 17 10 07.4 +3.6**
16nm,1.0s
S22A 4UR Ranch, Cre 22.56 343 *e*P **P 17 10 09.2 +2.5**
4.9nm,0.8s
MVCO Mesa Verde 22.60 339 *e*P **P 17 10 09.5 +2.4**
WESC Westside Schoo 22.60 319 *e*P **P 17 10 10.9 +4.1**
FVM French Village 22.70 17 *e*P **P 17 10 11.0 +3.1**
4.7nm,0.6s
CPCT Cooper Cave 22.75 31 *e*P **P 17 10 11.3 +2.8**
14nm,1.1s
TKL Tuckaleechee C 23.29 32 P **P 17 10 16.1 +2.1**
7.2nm,0.9s,baz=205,slow=11,SNR=4.7
BORC Borrego Spring 23.37 319 *e*PcP **PcP 17 14 00.6 -1.2**
U15A North Rim 23.47 331 *e*P **P 17 10 18.9 +2.8**
9.5nm,0.9s
DPP Dos Picos Cty 23.52 318 *e*PcP **PcP 17 14 01.4 -0.7**
DPP *e*pS pS 17 14 48.7 +16
DPP *es*S Sn 17 14 55.7 +5.4
DPP *e* 17 14 59.7
DPP *e*Sn Sn 17 15 03.1 +13
PLM Palomar 23.70 319 *e*PcP **PcP 17 14 03.1 +0.4**
CRY Cary Ranch 23.76 320 *e*Sn Sn 17 15 01.3 +5.1
SMCO Snowmass 23.93 344 *e*P **P 17 10 22.7 +2.0**
6.5nm,1.0s
DGR Domenigoni Val 23.99 319 *e*P **P 17 10 19.6 -1.4**
DGR *es*P **sP 17 10 24.7 +0.9**
DGR *e*Sn Sn 17 15 18.4 +17
HMTC Hemet 24.02 319 *e*P **P 17 10 23.2 +1.9**
TZTN Tazewell 24.10 31 *e*P **P 17 10 24.8 +2.9**
28nm,1.4s
ISCO Idaho Springs 24.18 347 *e*P **P 17 10 22.2 -0.8**
6.3nm,0.8s
KNB Kanab 24.19 331 *e*P **P 17 10 24.6 +1.7**
11nm,1.0s
CIAC Catalina I. Ai 24.73 317 *e*PcP **PcP 17 14 06.7 +2.0**
VTV Victorville 24.79 321 *e*PcP **PcP 17 14 02.0 -2.9**
MSU Marysvale 25.15 334 *e*P **P 17 10 35.3 +3.7**
SBI Santa Barbara 25.18 316 *e*PcP **PcP 17 14 08.9 +3.2**
SCIA State Center 25.88 9 *e*P **P 17 10 40.1 +2.1**
14nm,0.8s
WHFM Hanning Flat 26.17 321 *e*P **P 17 10 45.6 +4.8**
NV11 Mina Array Sit 27.98 326 *e*P **P 17 10 59.2 +2.1**
1.8nm,2.0s
PD31 Pinedale Array 27.99 342 *e*P **P 17 10 59.1 +1.9**
PDAR Pinedale Array 27.99 342 P **P 17 10 59.1 +1.9**
1.0nm,0.7s,baz=157,slow=9.6,SNR=2.7
PDAR LR LR 17 23 49.8
comp=Z,109nm,21.5s,baz=160,slow=40
NV01 Mina Array Sit 28.05 326 *e*P **P 17 10 59.6 +1.7**
NVAR Mina Array Bea 28.05 326 P **P 17 10 59.5 +1.6**
0.9nm,0.8s,baz=135,slow=9.0,SNR=8.2
NVAR LR LR 17 23 51.3
comp=Z,159nm,19.4s,baz=273,slow=40
SDV Santo Domingo 28.15 102 P **P 17 10 58.7 -0.2**
1.8nm,0.3s,baz=297,slow=13,SNR=2.7
SDV LR LR 17 23 30.0
comp=Z,84nm,19.7s,baz=248,slow=39
HVU Hansel Valley 28.18 337 *e*P **P 17 11 00.3 +1.4**
4.1nm,0.9s
ULM Lac du Bonnet 33.89 3 P **P 17 11 45.9 -3.1**
2.0nm,0.5s,baz=191,slow=9.8,SNR=3.8
TDH Tom, Dick, Har 34.86 331 *e*PcP **PcP 17 14 30.2 -0.4**
LPAZ La Paz 44.14 136 LR LR 17 29 41.9
comp=Z,54nm,19.2s,baz=292,slow=34
SCHQ Schefferville 45.50 25 P **P 17 13 26.1 +0.6**
3.7nm,0.8s,baz=203,slow=5.0,SNR=4.3
SCHQ Schefferville 45.50 25 *e*P **P 17 13 26.1 +0.6**
39nm,2.0s
YKA Yellowknife Ar 47.47 350 P **P 17 13 40.5 -0.3**
0.4nm,0.9s,baz=158,slow=7.1,SNR=6.0
YKA LR LR 17 37 19.2
comp=Z,9.4nm,20.2s,baz=180,slow=41
INK Inuvik 56.51 345 P **P 17 14 49.5 +1.5**
0.8nm,0.9s,baz=130,slow=7.9,SNR=2.5
INK LR LR 17 41 31.6
comp=Z,86nm,20.6s,baz=167,slow=39
KDAK Kodiak Island 57.47 329 LR LR 17 38 23.1
comp=Z,33nm,20.4s,baz=106,slow=35
ILAR Eielson Array 58.27 338 P **P 17 14 59.8 -0.9**
0.9nm,1.0s,baz=145,slow=6.5,SNR=3.9
NOA NORSAR Array B 85.02 27 LR LR 17 58 20.5
comp=Z,7.3nm,18.1s,baz=345,slow=38
DBIC Dimbokro 91.61 83 LR LR 17 57 19.0
comp=Z,18nm,20.0s,baz=116,slow=34
URZ Urewera 95.66 232 LR LR 17 56 51.2
comp=Z,51nm,18.1s,baz=197,slow=32

*AUST **21** 17:07:08.8±0.2,28°.23S×136°.00E, h0km, Error ellipse: s-maj=0.2km s-min=0.1km az=6.0*
*ISCJB **21** 17:07:09.2±0.5,28°.29S±0°.04×136°.04E±0°.06, h10km, Error ellipse: s-maj=8.4km s-min=4.6km az=159.8*
*IDC **21** 17:07:12.0±2.5,28°.23S×136°.15E, h0km, mb1 4.2/5, mb1mx3.7/47, mbtmp4.1/5, ML4.0/5, Error ellipse: s-maj=37.6km s-min=15.7km az=51.0*
ISC 21 17:07:11.9±0.8, 28°.30S±0°.05×136°.17E±0°.06, h10km, n17, σ1s89/23, South Australia

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

BBOO Buckleboo 4.50 181 P **Pn 17 08 20.3 +0.2**
baz=4.6,SNR=5.8
BBOO S Sn 17 09 10.7 -1.8
baz=4.6,SNR=4.5
ASAR Alice Springs 5.04 336 Pn **Pn 17 08 30.3 +2.7**
3.1nm,0.3s,baz=156,slow=13,SNR=107
ASAR Sn Sn 17 09 27.1 +1.1
16nm,0.3s,baz=156,slow=22,SNR=17
ASAR Lg Lg 17 09 49.2
6.4nm,0.3s,baz=153,slow=25,SNR=6.6
HTT Hallett 5.64 156 P **Pn 17 08 36.9 +1.1**
baz=5.8
HTT S Sn 17 09 41.2 +0.6
baz=5.8,SNR=5.9
STKA Stephens Creek 5.90 129 Pn **Pn 17 08 41.2 +1.8**
2.7nm,0.3s,baz=307,slow=13,SNR=55
STKA Sn Sn 17 09 45.5 -1.7
5.2nm,0.3s,baz=101,slow=19,SNR=9.0
STKA Lg Lg 17 10 18.5
4.0nm,0.3s,baz=209,slow=21,SNR=4.4
QLP Quilpie 7.37 78 P **Pn 17 09 01.1 +1.5**
baz=7.5,SNR=4.3
QLP S Sn 17 10 23.0 -0.2
baz=7.5
QIS Mount Isa 8.32 23 P **Pn 17 09 11.8 -0.8**
baz=8.3,SNR=7.1
WRA Warramunga Arr 8.48 348 Pn **Pn 17 09 16.5 +1.7**
3.6nm,0.3s,baz=173,slow=12,SNR=84
WRA Sn Sn 17 10 49.6 -1.1
3.8nm,0.3s,baz=169,slow=24,SNR=8.9
WRA Lg Lg 17 11 36.2
baz=171,slow=29,SNR=4.5
WB4 Warramunga Arr 8.52 348 P **Pn 17 09 13.2 -2.1**
baz=8.5
CMSA Cobar Meteorol 8.87 114 P **Pn 17 09 21.5 +1.3**
baz=9.0
RMQ Roma 11.34 84 P **Pn 17 09 55.3 +1.3**
baz=12
CTA Charters Tower 12.30 51 Pn **Pn 17 10 09.4 +2.2**
0.8nm,0.3s,baz=230,slow=15,SNR=7.8
CTA Sn Sn 17 12 20.2 -4.2
0.3nm,0.3s,baz=239,slow=18,SNR=3.3
KMBL Kambalda 12.77 253 P **Pn 17 10 11.2 -2.4**
baz=13
CAN Canberra 12.96 126 P **Pn 17 10 17.7 +1.5**
baz=13
CNB Canberra Magne 13.22 125 P **Pn 17 10 22.0 +2.3**
baz=13
FITZ Fitzroy Crossi 14.01 314 Pn **Pn 17 10 29.7 -0.8**
0.1nm,0.3s,baz=142,slow=7.4,SNR=7.4
FITZ Sn Sn 17 12 56.1 -10
0.2nm,0.3s,baz=309,slow=18,SNR=2.7
KNRA Kununurra 14.31 330 P **Pn 17 10 34.1 -0.5**
baz=14
NWAO Narrogin (SRO) 16.93 250 Sn Sn 17 14 04.6 -13
0.3nm,0.3s,baz=42,slow=5.9,SNR=2.2

*ISCJB **21** 17:26:48.9±1.0, 13°.2N±0°.2×89°.2W±0°.2, h100km, mb3.9/8, Error ellipse: s-maj=38.0km s-min=6.4km az=35.9*
*IDC **21** 17:26:50.3±1.7, 13°.46N×88°.95W, h80km±20km, mb3.6/9, mb1 3.8/12, mb1mx3.5/50, mbtmp4.0/12, MS3.0/4, Ms1 3.0/4, ms1mx2.6/43, Error ellipse: s-maj=47.7km s-min=11.5km az=37.0*
ISC 21 17:26:51.1±0.9, 13°.3N±0°.2×89°.1W±0°.2, h100km, n17, σ1s22/17, mb4.1/8, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**5.02**	**126**	P		**Pn**		**17 28 03.9**	**-0.2**
	2.2nm,0.3s,baz=41,slow=19,SNR=14								
JTS				S		**Sn**		**17 29 00.2**	**-0.7**
	2.6nm,0.3s,baz=347,slow=19,SNR=2.0								
JTS				LR		LR		17 30 11.8	
	comp=Z,95nm,21.4s,baz=2.0,slow=40								
CMIG	**Matias Romero**	**6.76**	**305**	P		**Pn**		**17 28 26.3**	**-1.4**
	1.0nm,0.3s,baz=149,slow=11,SNR=7.5								
CMIG				S		**Sn**		**17 29 41.8**	**-1.5**
	1.9nm,0.3s,baz=243,slow=22,SNR=5.7								
SDV	**Santo Domingo**	**18.62**	**102**	P		**Pn**		**17 31 01.5**	**-1.0**
	0.8nm,0.3s,baz=249,slow=19,SNR=3.9								
TXAR	**Lajitas Array**	**20.93**	**322**	P		Pn		17 31 27.6	-1.8
	1.5nm,0.5s,baz=143,slow=9.7,SNR=21								
LPIG	**La Paz**	**22.77**	**301**	LR		LR		17 40 54.4	
	comp=Z,68nm,19.0s,baz=312,slow=37								
TKL	**Tuckaleechee C**	**22.78**	**11**	LR		LR		17 41 47.1	
	comp=Z,27nm,18.5s,baz=48,slow=40								
PDAR	**Pinedale Array**	**34.30**	**333**	P		**P**		**17 33 28.9**	**+0.8**
	0.3nm,0.5s,baz=133,slow=8.7,SNR=4.2								
PDAR				PcP		**PcP**		**17 36 03.0**	**+0.8**
	0.4nm,0.6s,baz=133,slow=3.8,SNR=5.1								
NVAR	**Mina Array Bea**	**36.03**	**319**	P		**P**		**17 33 45.0**	**+1.9**
	0.3nm,0.5s,baz=129,slow=8.6,SNR=4.2								
NVAR				PcP		**PcP**		**17 36 09.1**	**+1.7**
	0.8nm,0.7s,baz=142,slow=3.1,SNR=6.6								
ULM	**Lac du Bonnet**	**37.27**	**353**	P		**P**		**17 33 52.7**	**-0.4**
	1.3nm,0.5s,baz=173,slow=8.1,SNR=5.1								
ULM				LR		LR		17 50 06.0	
	comp=Z,30nm,19.1s,baz=293,slow=38								
YKA	**Yellowknife Ar**	**52.40**	**345**	P		**P**		**17 35 53.2**	**+0.4**
	1.5nm,0.6s,baz=144,slow=7.6,SNR=35								
INK	**Inuvik**	**61.94**	**343**	P		**P**		**17 37 00.5**	**+0.6**
	1.3nm,0.7s,baz=135,slow=7.1,SNR=6.8								
ILAR	**Eielson Array**	**64.62**	**336**	P		**P**		**17 37 17.8**	**+0.2**
	0.4nm,0.6s,baz=163,slow=5.2,SNR=6.8								
SPITS	**Spitsbergen Ar**	**80.21**	**12**	P		**P**		**17 38 50.4**	**+0.3**
	6.0nm,1.0s,baz=248,slow=6.1,SNR=4.3								
ARCES	**ARCESS Array B**	**85.90**	**19**	P		**P**		**17 39 19.4**	**-0.1**
	2.1nm,1.0s,baz=290,slow=5.7,SNR=3.1								
WRA	**Warramunga Arr**	**137.97**	**255**	PKP		**PKPdf**		**17 46 06.4**	**+1.5**
	0.3nm,0.5s,baz=89,slow=2.6,SNR=4.9								
ASAR	**Alice Springs**	**138.09**	**249**	PKhKP		PKPpre		17 46 02.0	
	0.2nm,0.6s,baz=110,slow=2.8,SNR=4.3								
CMAR	**Chiang Mai Arr**	**147.48**	**346**	PKPbc		**PKPab**		**17 46 24.5**	**-2.0**
	0.9nm,0.6s,baz=346,slow=3.2,SNR=7.2								

IDC 21 17:27:24.5±2.1, 6°.56S×131°.77E, h0km, mb3.9/1, mb1 4.0/5, mb1mx3.6/49, mbtmp3.9/5, ML3.8/4, Error ellipse: s-maj=57.0km s-min=27.2km az=85.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**8.80**	**245**	Pn		Pn		17 29 34.0	+0.8
	1.0nm,0.3s,baz=60,slow=14,SNR=5.0								
BATI				Sn		Sn		17 31 02.3	-11
	1.4nm,0.3s,baz=135,slow=19,SNR=6.6								
FITZ	**Fitzroy Crossi**	**12.94**	**207**	Pn		Pn		17 30 28.3	-1.5
	1.8nm,0.3s,baz=33,slow=10,SNR=34								
FITZ				Sn		Sn		17 32 38.6	-16
	0.3nm,0.3s,baz=270,slow=19,SNR=3.1								
WRA	**Warramunga Arr**	**13.53**	**170**	Pn		Pn		17 30 38.2	+0.2
	0.3nm,0.3s,baz=350,slow=14,SNR=31								
WRA				Sn		Sn		17 33 00.0	-9.2
	1.1nm,0.3s,baz=346,slow=23,SNR=10								
ASAR	**Alice Springs**	**17.13**	**173**	P		Pn		17 31 26.1	+0.5
	0.2nm,0.3s,baz=345,slow=14,SNR=21								
ASAR				S		Sn		17 34 24.7	-12
	0.1nm,0.3s,baz=354,slow=27,SNR=4.3								
MKAR	**Makanchi Array**	**68.84**	**326**	P		P		17 38 30.9	0.0
	0.5nm,0.4s,baz=117,slow=8.2,SNR=19								

*IDC **21** 17:33:12.2±4.6, 15°.90N×98°.43W, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.7/50, mbtmp3.5/8, ML3.1/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/42, Error ellipse: s-maj=84.4km s-min=17.7km az=1.0*
ISC 21 17:33:13.1±3.2, 15°.7N±0°.4×98°.46W±0°.09, h17km, n8, σ0s68/10, mb3.5/5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.72**	**67**	Pn		**Pn**		**17 34 09.7**	**-0.1**
	1.4nm,0.3s,baz=244,slow=17,SNR=12								
CMIG				Pg		**Pg**		**17 34 19.1**	**+0.7**
	14nm,0.3s,baz=259,slow=14,SNR=34								
CMIG				Sn		**Sn**		**17 34 52.7**	**-0.5**
	15nm,0.3s,baz=239,slow=14,SNR=4.9								
CMIG				Lg		Lg		17 35 06.6	
	69nm,0.3s,baz=341,slow=9.4,SNR=10								
CMIG				LR		LR		17 35 14.3	
	comp=Z,48nm,18.6s,baz=160,slow=34								
TXAR	**Lajitas Array**	**14.43**	**341**	Pn		**Pn**		**17 36 37.3**	**+0.5**
	0.0nm,0.3s,baz=162,slow=12,SNR=2.2								
TXAR				LR		LR		17 42 37.1	
	comp=Z,133nm,19.7s,baz=0.0,slow=40								

ANMO Albuquerque 20.50 341 P **P 17 37 50.1 -0.5**
1.7nm,0.6s,baz=337,slow=13,SNR=4.3
ANMO LR LR 17 45 27.3
comp=Z,68nm,18.5s,baz=332,slow=36
NVAR Mina Array Bea 28.63 326 P **P 17 39 09.6 +0.5**
0.5nm,0.8s,baz=155,slow=8.8,SNR=2.7
PDAR Pinedale Array 28.64 343 P **P 17 39 09.1 -0.1**
0.7nm,0.7s,baz=132,slow=11,SNR=5.1
PDAR LR LR 17 51 32.4
comp=Z,75nm,20.1s,baz=185,slow=39
YKA Yellowknife Ar 48.14 350 P **P 17 41 50.8 -1.2**
0.2nm,0.6s,baz=156,slow=7.5,SNR=4.4
INK Inuvik 57.16 345 P **P 17 42 58.8 +0.1**
0.9nm,0.7s,baz=115,slow=6.3,SNR=4.6
ILAR Eielson Array 58.91 338 P **P 17 43 11.4 +0.4**
0.7nm,1.0s,baz=157,slow=4.9,SNR=4.6

*IDC **21** 17:35:43.7±1.4, 7°.88S×157°.72E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.7/53, mbtmp4.0/7, ML4.7/1, MS4.5/1, Ms1 4.5/1, ms1mx2.6/49, Error ellipse: s-maj=30.0km s-min=26.7km az=94.0*
*ISCJB **21** 17:35:47.0±0.9, 8°.0S±0°.2×157°.72E±0°.10, h33km, mb3.8/6, MS4.4/1, Error ellipse: s-maj=23.6km s-min=12.3km az=18.1*
ISC 21 17:35:48.3±1.1, 8°.0S±0°.2×157°.9E±0°.1, h35km, n15, σ1s70/9, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.50**	**125**	Pn		**Pn**		**17 36 28.5**	**+2.1**
	120nm,0.3s,baz=278,slow=5.8,SNR=132								
HNR				Sn		**Sn**		**17 36 53.0**	**-2.7**
	292nm,0.3s,baz=223,slow=24,SNR=33								
HNR	**Honiara**	**2.50**	**125**	*e*P		**Pn**		**17 36 28.0**	**+1.5**
HNR				*e*S		Sn		17 36 50.0	-5.7
WRA	**Warramunga Arr**	**25.70**	**240**	P		**P**		**17 41 15.7**	**+0.2**
	2.0nm,0.7s,baz=66,slow=9.1,SNR=12								
H11S3	**WAKE ISLAND Hy**	**27.72**	**18**	T		T		18 10 20.4	
	baz=198,slow=75,SNR=51								
H11S2	**WAKE ISLAND Hy**	**27.72**	**18**	T		T		18 10 27.7	
	baz=198,slow=75,SNR=64								
H11S1	**WAKE ISLAND Hy**	**27.73**	**18**	T		T		18 10 21.7	
	baz=198,slow=75,SNR=41								
ASAR	**Alice Springs**	**27.76**	**233**	P		**P**		**17 41 33.2**	**-0.9**
	0.7nm,0.5s,baz=63,slow=9.6,SNR=18								
STKA	**Stephens Creek**	**28.19**	**210**	P		**P**		**17 41 38.2**	**+0.5**
	0.9nm,0.3s,baz=44,slow=12,SNR=5.1								
H11N1	**WAKE ISLAND Hy**	**28.93**	**18**	T		T		18 12 08.4	
	baz=197,slow=76								
H11N3	**WAKE ISLAND Hy**	**28.94**	**18**	T		T		18 12 09.3	
	baz=197								
H11N2	**WAKE ISLAND Hy**	**28.94**	**18**	T		T		18 12 12.3	
	baz=197,slow=76								
RAO	**Raoul Island**	**31.07**	**136**	LR		LR		17 51 53.4	
	comp=Z,830nm,20.9s,baz=127,slow=31								
FITZ	**Fitzroy Crossi**	**32.92**	**249**	P		**P**		**17 42 19.6**	**0.0**
	1.1nm,0.4s,baz=76,slow=12,SNR=7.6								
SONM	**Songino Array**	**71.73**	**326**	P		**P**		**17 47 07.7**	**+0.7**
	1.1nm,0.7s,baz=131,slow=5.1,SNR=7.6								
MKAR	**Makanchi Array**	**86.04**	**318**	P		**P**		**17 48 24.1**	**-1.4**
	0.4nm,0.6s,baz=96,slow=5.8,SNR=7.3								

*NIED **21** 17:47:00, 40°.80N×145°.00E, h5km, Mw3.8 Best double couple: M0 6.09000×10^14 NP1: φs=37.00000°, δs=38.00000°, λ=-103.00000°. NP2: φs=233.00000°, δs=53.00000°, λ=-80.00000°.*
*IDC **21** 17:47:41.0±0.9, 40°.75N×144°.81E, h0km, mb3.7/12, mb1 3.8/15, mb1mx3.6/76, mbtmp3.7/15, ML3.0/3, Error ellipse: s-maj=21.5km s-min=18.7km az=146.0*
*JMA **21** 17:47:41.3±0.1, 40°.79N×145°.02E, h63km±2km, M3.7*
*ISCJB **21** 17:47:43.6±0.6, 40°.85N±0°.04×144°.80E±0°.06, h33km, mb3.7/12, Error ellipse: s-maj=7.4km s-min=4.4km az=24.7*
ISC 21 17:47:45.6±0.9, 40°.84N±0°.05×144°.86E±0°.08, h35km, n40, σ1s52/36, mb3.7/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.74**	**313**	P		**Pn**		**17 48 11.8**	**-1.4**
JCH	**Churui**	**2.10**	**328**	P		**Pn**		**17 48 16.2**	**-2.0**
JNBK	**Urakawa-nobuka**	**2.14**	**313**	P		**Pn**		**17 48 17.1**	**-1.6**
JNBK				S		**Sn**		**17 48 44.0**	**0.0**
JAK	**Akkeshi**	**2.15**	**357**	P		**Pn**		**17 48 16.3**	**-2.7**
JTH	**Tanohata**	**2.46**	**249**	P		**Pn**		**17 48 21.0**	**-2.2**
JAR	**Ashorobuto**	**2.58**	**342**	P		**Pn**		**17 48 22.6**	**-2.3**
JANG	**Nango**	**2.59**	**261**	P		**Pn**		**17 48 23.0**	**-2.0**
NEM2	**Nemuro 2**	**2.60**	**14**	P		**Pn**		**17 48 22.4**	**-2.7**
MIYJ	**Miyakonagasawa**	**2.65**	**243**	P		**Pn**		**17 48 24.2**	**-1.6**
JFR	**Furan**	**2.87**	**325**	P		**Pn**		**17 48 27.2**	**-1.6**
JOT	**Ohata**	**2.93**	**282**	P		**Pn**		**17 48 28.5**	**-1.1**
JOM	**Ohasama**	**3.06**	**245**	P		**Pn**		**17 48 29.9**	**-1.5**
JOM				S		**Sn**		**17 49 06.4**	**-0.4**
JRA	**Rausu**	**3.10**	**3**	P		**Pn**		**17 48 29.2**	**-2.7**
JTKR	**Abashiri--Toko**	**3.21**	**348**	P		**Pn**		**17 48 31.8**	**-1.6**
JTKR				S		**Sn**		**17 49 09.5**	**-0.8**
JEW	**Eniwo**	**3.24**	**309**	P		**Pn**		**17 48 32.7**	**-1.2**
JMK	**Ichinoseki**	**3.38**	**237**	P		**Pn**		**17 48 34.2**	**-1.6**
JKK2	**Kamakawa 2**	**3.41**	**333**	P		**Pn**		**17 48 34.9**	**-1.3**
JKK2				S		**Sn**		**17 49 15.2**	**-0.2**
ASAJ	**Asahikawa**	**3.68**	**334**	Pn		**Pn**		**17 48 39.0**	**-0.9**
	1.9nm,0.3s,baz=151,slow=15,SNR=15								
ASAJ				Sn		**Sn**		**17 49 20.8**	**-1.2**
	1.9nm,0.3s,baz=170,slow=11,SNR=4.7								
JYK	**Kaneyama**	**3.96**	**242**	P		**Pn**		**17 48 42.5**	**-1.3**
JYK				S		**Sn**		**17 49 28.0**	**-1.1**
MJAR	**Matsushiro Arr**	**6.75**	**233**	Pn		**Pn**		**17 49 20.0**	**-2.1**
	0.4nm,0.3s,baz=42,slow=11,SNR=5.3								
USRK	**Ussuriysk Ar.**	**10.08**	**294**	Pn		**Pn**		**17 50 08.7**	**+1.0**
	0.2nm,0.3s,baz=113,slow=3.0,SNR=2.9								
SONM	**Songino Array**	**28.16**	**297**	P		**P**		**17 53 35.2**	**+0.6**
	0.7nm,0.5s,baz=82,slow=9.8,SNR=5.7								
H11N2	**WAKE ISLAND Hy**	**28.22**	**132**	T		T		18 23 10.3	
	baz=324,slow=75,SNR=8.9								
H11N1	**WAKE ISLAND Hy**	**28.23**	**132**	T		T		18 23 08.7	
	baz=324,slow=75,SNR=9.2								
H11N3	**WAKE ISLAND Hy**	**28.24**	**132**	T		T		18 23 10.0	
	baz=324,slow=75,SNR=8.0								
H11S1	**WAKE ISLAND Hy**	**29.09**	**133**	T		T		18 24 17.6	
	baz=325,slow=76,SNR=7.0								
H11S3	**WAKE ISLAND Hy**	**29.10**	**133**	T		T		18 24 14.9	
	baz=325,slow=76,SNR=11								
H11S2	**WAKE ISLAND Hy**	**29.11**	**133**	T		T		18 24 18.9	
	baz=325,slow=76,SNR=9.7								
ZALV	**Zalesovo Beam**	**41.46**	**309**	P		**P**		**17 55 28.7**	**0.0**
	0.9nm,0.8s,baz=100,slow=7.5,SNR=2.5								
MKAR	**Makanchi Array**	**44.48**	**300**	P		**P**		**17 55 53.8**	**+0.5**
	0.6nm,0.8s,baz=80,slow=11,SNR=3.5								
ILAR	**Eielson Array**	**44.84**	**34**	P		P		17 55 57.4	+1.6
	1.0nm,1.0s,baz=269,slow=5.5,SNR=6.8								
KURBB	**Kurchatov Arra**	**45.88**	**306**	P		**P**		**17 56 04.7**	**+0.5**
	1.1nm,0.6s,baz=77,slow=8.8,SNR=10								
INK	**Inuvik**	**49.77**	**29**	P		P		17 56 36.0	+1.9
	1.3nm,0.8s,baz=296,slow=5.8,SNR=5.2								
BVAR	**Borovoye Array**	**50.07**	**311**	P		P		17 56 38.5	+1.8
	0.6nm,0.6s,baz=66,slow=8.7,SNR=5.5								
RES	**Resolute Bay**	**58.23**	**16**	P		**P**		**17 57 37.0**	**+1.3**
	1.2nm,0.8s,baz=316,slow=6.9								
YKA	**Yellowknife Ar**	**59.16**	**32**	P		**P**		**17 57 43.5**	**+1.1**
	0.2nm,0.6s,baz=301,slow=

ASAR	**Alice Springs**	**48.60**	**252**	P		P		17 57 32.7	0.0
	2.4nm,0.5s,baz=87,slow=7.8,SNR=35								
NVAR	**Mina Array Bea**	**75.33**	**43**	P		P		18 00 33.6	+1.1
	0.5nm,0.6s,baz=238,slow=8.3,SNR=5.4								
ILAR	**Eielson Array**	**82.63**	**12**	P		P		18 01 12.2	+0.5
	0.3nm,0.5s,baz=230,slow=5.5,SNR=7.6								
PDAR	**Pinedale Array**	**83.26**	**42**	P		P		18 01 14.8	-0.9
	0.4nm,0.5s,baz=209,slow=3.5,SNR=5.7								
YKA	**Yellowknife Ar**	**90.62**	**24**	P		P		18 01 50.2	-0.6
	0.1nm,0.5s,baz=232,slow=3.9,SNR=2.7								
ARCES	**ARCESS Array B**	**124.23**	**351**	PKhKP		PKPpre		18 07 43.2	
	0.7nm,0.5s,baz=58,slow=3.6,SNR=6.8								
ESDC	**Sonseca Array**	**154.46**	**16**	PKPab		PKPab		18 09 03.0	-1.0
	0.1nm,0.3s,baz=337,slow=3.5,SNR=2.9								

*ISK **21** 17:56:43.2, 39˚.64N×43˚.72E, h5km, ML2.3/3*
*ISCJB **21** 17:56:44.6±0.5, 39˚.67N±0˚.03×43˚.73E±0˚.04, h10km±5km, Error ellipse: s-maj=6.4km s-min=4.5km az=44.1*
*CSEM **21** 17:56:44.3±0.2, 39˚.66N×43˚.72E, h10km, ML2.5, Error ellipse: s-maj=4.7km s-min=3.8km az=172.0*
*DDA **21** 17:56:44.2, 39˚.69N×43˚.71E, h7km, Ml2.5*
ISC 21 17:56:43.7±1.1, 39˚.67N±0˚.03×43˚.75E±0˚.03, h18km±3km, n18, σ0s54/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.14**	**201**	*i* P			**Pg**	**17 56 48.0**	**0.0**
DYDN				*i* S			**Sg**	**17 56 51.0**	**+0.1**
DYDN	**Diyadin**	**0.14**	**201**	P			**Pg**	**17 56 48.0**	**0.0**
DYDN				S			**Sg**	**17 56 51.0**	**+0.1**
IGDI	**IGDIR**	**0.32**	**52**	*i* P			**Pb**	**17 56 51.1**	**+0.1**
IGDI				*i* S			**Sb**	**17 56 56.6**	**+0.8**
TASB	**TASBURUN-IGDIR**	**0.49**	**50**	PG			**Pb**	**17 56 54.6**	**+0.8**
TASB				SG			**Sn**	**17 57 02.6**	**-1.3**
TASB	**TASBURUN-IGDIR**	**0.49**	**50**	*e*Pg			**Pb**	**17 56 54.6**	**+0.8**
TASB				*e*Sg			**Sn**	**17 57 02.6**	**-1.3**
CLDR	**Caldiran**	**0.54**	**166**	PG			**Pg**	**17 56 54.3**	**-0.4**
CLDR				SG			**Sb**	**17 57 02.6**	**+0.3**
CLDR	**Caldiran**	**0.54**	**166**	*i* P			**Pg**	**17 56 54.2**	**-0.4**
CLDR				*i* S			**Sb**	**17 57 02.6**	**+0.3**
CLDR	**Caldiran**	**0.54**	**166**	*e*Pg			**Pg**	**17 56 54.3**	**-0.4**
CLDR				S			**Sb**	**17 57 02.6**	**+0.3**
AGRB	**Hanur-Agry**	**0.59**	**261**	PG			**Pg**	**17 56 55.2**	**-0.4**
AGRB				SG			**Sg**	**17 57 04.1**	**+0.5**
AGRB	**Hanur-Agry**	**0.59**	**261**	*e*Pg			**Pg**	**17 56 55.2**	**-0.4**
AGRB				*e*Sg			**Sg**	**17 57 04.1**	**+0.5**
VMUR	**Van-Muradiye**	**0.69**	**192**	*i* P			**Pg**	**17 56 57.7**	**+0.3**
VMUR				*i* S			**Sn**	**17 57 08.5**	**-0.7**
VMUR	**Van-Muradiye**	**0.69**	**192**	P			**Pg**	**17 56 57.7**	**+0.3**
VMUR				S			**Sn**	**17 57 08.5**	**-0.7**
TUTA	**Tutak**	**0.77**	**250**	*i* P			**Pb**	**17 56 58.8**	**+0.1**
TUTA				*i* S			**Sb**	**17 57 09.5**	**+0.5**
TUTA	**Tutak**	**0.77**	**250**	P			**Pb**	**17 56 58.8**	**+0.1**
TUTA				S			**Sb**	**17 57 09.5**	**+0.5**
EATA	**Eleskirt**	**0.99**	**282**	*i* P			**Pb**	**17 57 02.5**	**0.0**
EATA				*i* S			**Sg**	**17 57 16.5**	**+0.4**
EATA	**Eleskirt**	**0.99**	**282**	P			**Pb**	**17 57 02.5**	**0.0**
EATA				S			**Sg**	**17 57 16.5**	**+0.4**
EKAR	**Karacoban**	**1.37**	**253**	*i* P			**Pb**	**17 57 09.4**	**+0.4**
EKAR				*i* S			**Sg**	**17 57 28.4**	**+0.3**
EKAR	**Karacoban**	**1.37**	**253**	P			**Pb**	**17 57 09.4**	**+0.4**
EKAR				S			**Sg**	**17 57 28.4**	**+0.3**

*DJA **21** 17:59:59.0±0.6, 9˚.5±10˚×11˚.8±˚, h118km±9km, M3.6/5, MLv3.6/5*
*IDC **21** 18:00:07.3±2.1, 9˚.16S×118˚.80E, h156km±24km, mb3.4/2, mb1 3.6/6, mb1mx3.2/65, mbtmp4.0/6, MS3.6/1, Ms1 3.6/1, ms1mx2.7/29, Error ellipse: s-maj=51.8km s-min=16.4km az=19.0*
ISC 21 17:59:58.6±1.3, 8˚.9S±0˚.1×118˚.35E±0˚.06, h150km, n17, σ1s97/17, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.57**	**272**	P			**Pn**	**18 00 18.4**	**-1.9**
WBSI	**Waikabubak, Su**	**1.30**	**128**	P			**Pn**	**18 00 25.4**	**-0.8**
WSI	**Waingapu**	**2.09**	**113**	P			**Pn**	**18 00 34.9**	**+0.1**
BASI	**Baing, Sumba**	**2.59**	**122**	P			**Pn**	**18 00 43.1**	**+2.3**
DNP	**Denpasar**	**3.11**	**273**	P			**Pn**	**18 00 47.5**	**+0.1**
IGBI	**Denpasar**	**3.17**	**270**	P			**Pn**	**18 00 48.7**	**+0.6**
EDFI	**Ende, Flores**	**3.30**	**89**	P			**Pn**	**18 00 50.0**	**0.0**
MMRI	**Maumere**	**3.85**	**87**	P			**Pn**	**18 00 56.4**	**-0.5**
JAGI	**Jajag, Banyuwa**	**4.17**	**275**	P			**Pn**	**18 00 59.5**	**-1.6**
BATI	**Baumata**	**5.41**	**105**	P			**Pn**	**18 01 17.8**	**+0.2**
	7.0nm,0.3s,baz=284,slow=9.7,SNR=20								
BATI				S			**Sn**	**18 02 17.4**	**-1.8**
	7.7nm,0.3s,baz=323,slow=20,SNR=7.4								
BATI	**Baumata**	**5.41**	**105**	P			**Pn**	**18 01 17.4**	**-0.2**
LEM	**Lembang**	**10.82**	**280**	P			Pn	18 02 45.2	+15
	7.2nm,0.3s,baz=138,slow=15,SNR=6.2								
FITZ	**Fitzroy Crossi**	**11.61**	**143**	P			**Pn**	**18 02 41.9**	**+2.0**
	0.2nm,0.3s,baz=324,slow=12,SNR=5.0								
FITZ				S			**Sn**	**18 04 44.0**	**-4.2**
	1.0nm,0.3s,baz=170,slow=19,SNR=15								
WRA	**Warramunga Arr**	**18.99**	**127**	P			**Pn**	**18 04 10.9**	**-0.3**
	0.5nm,0.3s,baz=302,slow=13,SNR=43								
WRA				S			**S**	**18 07 34.4**	**-2.3**
	0.1nm,0.3s,baz=306,slow=22,SNR=2.6								
ASAR	**Alice Springs**	**20.95**	**137**	P			Pn	18 04 32.8	-1.6
	1.8nm,0.5s,baz=309,slow=9.1,SNR=82								
STKA	**Stephens Creek**	**31.48**	**140**	P			**P**	**18 06 09.6**	**+3.3**
	1.1nm,0.6s,baz=322,slow=9.5,SNR=4.3								
GUMO	**Guam**	**34.49**	**50**	LR			LR	18 24 11.5	
	comp=Z,84nm,18.1s,baz=102,slow=42								

*BJI **21** 18:00:26.2, 51˚.91N×95˚.65E, h9km, mb4.1/7, mB4.4/11, ML4.5/2, Ms4.1/6, Ms7 3.9/6*
*IDC **21** 18:00:27.4±0.6, 51˚.75N×96˚.00E, h0km, mb4.1/22, mb1 4.2/27, mb1mx4.0/78, mbtmp4.1/27, ML3.5/5, MS3.4/14, Ms1 3.4/14, ms1mx3.1/69, Error ellipse: s-maj=15.0km s-min=8.5km az=172.0*
*ISCJB **21** 18:00:27.6±0.2, 51˚.73N±0˚.04×95˚.87E±0˚.03, h10km, mb4.3/42, MS3.3/11, Error ellipse: s-maj=5.2km s-min=2.7km az=5.8*
*MOS **21** 18:00:27.4±1.2, 51˚.78N×95˚.92E, h9km, mb4.6/27, Error ellipse: s-maj=7.3km s-min=5.8km az=27.6*
*ASRS **21** 18:00:28.2±0.5, 51˚.86N×95˚.82E, h15km, Ms3.8/3*
*NEIC **21** 18:00:29.4±0.2, 51˚.81N×95˚.86E, h10km, mb4.4/14, Error ellipse: s-maj=7.3km s-min=3.9km az=176.0*
ISC 21 18:00:29.3±0.4, 51.78N±0˚.05×95.91E±0˚.03, h10km, n180, σ1s61/196, mb4.3/42, MS3.3/12, 14C-9D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.91**	**266**	*i* Pg			**Pg**	**18 00 44.0**	**-2.7**
KZLR				*e*Sg			**Sg**	**18 00 56.0**	**-2.7**
HVS	**Khovu-Aksy**	**1.53**	**246**	*d i*P*			**Pn**	**18 00 54.6**	**-2.1**
HVS	**Khovu-Aksy**	**1.53**	**246**	‖ *i*P			**Pn**	**18 00 54.6**	**-2.1**
KNGR	**Kungurtug, Tuv**	**1.55**	**139**	*i* P*			**Pn**	**18 00 55.3**	**-1.8**
ORL	**Orlik**	**2.52**	**71**	*e*PN			**Pb**	**18 01 11.9**	**-2.7**
ORL				*e*				18 01 44.9	
ORL					pmax	pmax			
	comp=Z,614nm,0.4s								
ORL					smax	smax			
	comp=N,2μm,0.8s								
ORL	**Orlik**	**2.52**	**71**	*e*P			**Pb**	**18 01 11.9**	**-2.7**
CERR	**Cheremushki**	**2.96**	**293**	*i* Pn			**Pn**	**18 01 16.7**	**+0.4**
CERR				*i* Pg			**Pb**	**18 01 21.3**	**-0.8**
CERR				*e*Sg			**Sb**	**18 01 59.2**	**+0.9**
MOY	**Mondy**	**3.16**	**90**	*e*PN			**Pb**	**18 01 24.2**	**-1.4**
MOY				*e*				18 02 05.0	
MOY					pmax	pmax			
	comp=Z,375nm,0.7s								
MOY					smax	smax			
	comp=N,3μm,0.7s								
ARS	**Arshan**	**4.04**	**86**	*e*PN			**Pn**	**18 01 32.5**	**+1.3**
ARS				*e*				18 01 40.5	
ARS				*e*				18 02 34.4	
ARS					pmax	pmax			
	comp=Z,550nm,0.8s								
ARS					smax	smax			
	comp=N,3μm,0.8s								
ARS	**Arshan**	**4.04**	**86**	*e*P			**Pn**	**18 01 32.5**	**+1.3**
KRAR	**Krasnoyarsk**	**4.60**	**338**	*i* PN			**Pn**	**18 01 39.0**	**+0.2**
KRAR				*i*				18 01 49.7	
TLY	**Talaya**	**4.81**	**88**	Pg			**Pb**	**18 01 53.1**	**-0.4**
	comp=N,0.1nm,0.3s,baz=263,slow=13,SNR=25								
TLY					Lg	Lg		18 02 55.7	
	comp=N,0.4nm,0.3s,baz=253,slow=20,SNR=11								
TLY	**Talaya**	**4.81**	**88**	*e*PN			**Pb**	**18 01 54.3**	**+0.7**
TLY				*e*				18 02 54.9	
TLY					pmax	pmax			
	comp=Z,61nm,0.6s								
TLY	**Talaya**	**4.81**	**88**	*e*Pn			**Pn**	**18 01 42.7**	**+1.0**
ZAK	**Zakamensk**	**4.85**	**104**	*e*PN			**Pb**	**18 01 52.6**	**-1.8**
ZAK				*e*				18 02 56.9	
ZAK					pmax	pmax			
	comp=Z,217nm,1.0s								
ZAK					smax	smax			
	comp=N,1μm,1.5s								
TASR	**Tashtagol**	**5.03**	**284**	*e*Pn			**Pn**	**18 01 45.5**	**+0.8**
TASR				*e*Pg			**Pb**	**18 01 58.6**	**+1.3**
TASR				*e*Sg			**Sb**	**18 03 00.7**	**+2.9**
IRK	**Irkutsk**	**5.18**	**82**	*e*PN			**Pn**	**18 01 45.2**	**-1.7**
IRK				*e*				18 02 00.4	
IRK				*e*				18 03 06.1	
IRK					pmax	pmax			
	comp=Z,188nm,0.9s								
IRK					smax	smax			
	comp=N,2μm,1.4s								
ARTR	**Artybash**	**5.36**	**274**	*i* Pn			**Pn**	**18 01 49.9**	**+0.7**
ARTR				*e*Pg			**Pb**	**18 02 04.3**	**+1.4**
ARTR				*e*Sg			**Sg**	**18 03 14.7**	**-6.5**
AKAR	**Aktash**	**5.43**	**258**	*e*Pn			**Pn**	**18 01 51.0**	**+0.6**
AKAR				*e*Pg			**Pb**	**18 02 06.7**	**+2.4**
AKAR				*e*Sg			**Sb**	**18 03 13.6**	**+4.1**
ELT	**Eltsovka**	**6.09**	**288**	*e*PN			**Pn**	**18 02 00.5**	**+1.3**
ELT	**Eltsovka**	**6.09**	**288**	*e*Pn			**Pn**	**18 02 00.6**	**+1.3**
ELT				*e*Pg			**Pb**	**18 02 15.2**	**-0.2**
ELT				*e*Sg			**Sb**	**18 03 33.2**	**+5.0**
TRG	**Tyrgan**	**6.48**	**77**	*e*PN			**Pn**	**18 02 04.3**	**-0.4**
TRG				*e*				18 02 24.4	
TRG				*e*				18 03 46.0	
TRG					pmax	pmax			
	comp=Z,58nm,0.7s								
TRG					smax	smax			
	comp=N,627nm,1.3s								
UKR	**Ust'-Kan**	**7.03**	**267**	*e*Pn			**Pn**	**18 02 13.1**	**+0.9**
UKR				*i* Pg			Pb	18 02 34.5	+3.1
UKR				*e*Sg			**Sb**	**18 04 01.9**	**+6.6**
ZAA0	**Zalesovo Array**	**7.06**	**292**	*e*Pn			**Pn**	**18 02 14.0**	**+1.5**
ZALV	**Zalesovo Beam**	**7.06**	**292**	Pn			**Pn**	**18 02 13.6**	**+1.1**
	comp=N,1.4nm,0.3s,baz=99,slow=12,SNR=38								
ZALV					Sn		**Sn**	**18 03 33.6**	**+0.8**
	comp=N,3.6nm,0.3s,baz=115,slow=20,SNR=3.6								
ZALV					Lg	Lg		18 04 05.8	
	comp=N,15nm,0.3s,baz=112,slow=26,SNR=9.2								
ZALV					LR	LR		18 04 57.6	
	comp=N,246nm,18.2s,baz=72,slow=38								
ZAA1	**Zalesovo Array**	**7.06**	**292**	*e*Pn			**Pn**	**18 02 13.6**	**+1.1**
ZAA1				*e*Sn			**Sn**	**18 03 33.6**	**+0.8**
ZAA1				*e*Lg			Lg	18 04 05.8	
ZAA1				*e*				18 04 57.6	
OGRR	**Ongureny**	**7.34**	**71**	*e*P			**Pn**	**18 02 17.5**	**+1.1**
SONA1	**Songino Array**	**7.84**	**116**	*e*Pn			Pn	18 02 26.4	+2.9
SONA0	**Songino Array**	**7.85**	**116**	*e*Pn			**Pn**	**18 02 26.0**	**+2.5**
SONA0				*e*Pg			**Pb**	**18 02 47.4**	**+2.0**
SONA0				*e*Lg			Lg	18 04 34.2	
SONA0				*e*				18 05 33.8	
SONM	**Songino Array**	**7.85**	**116**	Pn			**Pn**	**18 02 26.0**	**+2.5**
	comp=N,0.2nm,0.3s,baz=300,slow=13,SNR=4.6								
SONM					Pg		**Pb**	**18 02 47.4**	**+2.0**
	comp=N,1.1nm,0.3s,baz=305,slow=18,SNR=24								
SONM					Lg	Lg		18 04 34.2	
	comp=N,4.8nm,0.3s,baz=305,slow=27,SNR=14								
SONM					LR	LR		18 05 33.8	
	comp=N,258nm,19.9s,baz=307,slow=39								
NVS	**Novosibirsk**	**8.19**	**297**	*e*P			**Pn**	**18 02 29.1**	**+1.1**
NVS	**Novosibirsk**	**8.19**	**297**	*e*Pn			**Pn**	**18 02 28.7**	**+0.7**
NVS				*e*Pg			**Pb**	**18 02 51.6**	**+0.6**
NVS				*e*Sg			Sg	18 04 41.8	-10
ULN	**Ulaanbaatar**	**8.20**	**114**	‖ *e*P			**Pn**	**18 02 27.6**	**-0.8**
SYVR	**Suvo**	**8.76**	**72**	*e*P			Pn	18 02 47.8	+12
SYVR				*e*					
	comp=Z,18nm,0.8s								
NIZ	**Nizh Angarsk**	**9.00**	**58**	*e*P			Pn	18 02 43.0	+3.8
NIZ					pmax	pmax			
	comp=Z,39nm,0.7s								
WMQ	**Urumqi**	**9.69**	**218**	P			**Pn**	**18 02 47.0**	**-1.7**
WMQ					smax	smax			
	comp=Z,130nm,0.9s								
WMQ					smax	smax			
	comp=Z,120nm,0.8s								
MK31	**Makanchi Array**	**10.20**	**246**	*e*P			**Pn**	**18 02 55.6**	**-0.1**
MK31	**Makanchi Array**	**10.20**	**246**	*e*Pn			**Pn**	**18 02 55.6**	**-0.1**
MK32	**Makanchi Array**	**10.20**	**246**	*e*Pn			**Pn**	**18 02 55.9**	**+0.2**
MK32				*e*Lg			Lg	18 05 54.1	
MKAR	**Makanchi Array**	**10.20**	**246**	Pn			**Pn**	**18 02 55.9**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=54,slow=14,SNR=35								
MKAR					Lg	Lg		18 05 54.1	
	comp=Z,2.4nm,0.3s,baz=53,slow=29,SNR=9.0								
MKAR	**Makanchi Array**	**10.20**	**246**	*e*P			**Pn**	**18 02 55.6**	**-0.1**
MKAR	**Makanchi Array**	**10.20**	**246**	*e*Pn			**Pn**	**18 02 55.6**	**-0.1**
MKAR				*e*Lg			Lg	18 05 54.1	
MK01	**Makanchi Array**	**10.21**	**246**	*e*Pn			**Pn**	**18 02 55.6**	**-0.1**
MAKZ	**Makanchi**	**10.37**	**247**	*e*P			**Pn**	**18 02 57.5**	**-0.5**
MAKZ	**Makanchi**	**10.37**	**247**	*e*Pn			**Pn**	**18 02 57.5**	**-0.5**
KURK	**Kurchatov**	**10.89**	**271**	‖ *e*P			**Pn**	**18 03 05.8**	**+0.7**
KURK					pmax	pmax			
	comp=Z,22nm,1.2s								
KURK	**Kurchatov**	**10.89**	**271**	*e*Pn			**Pn**	**18 03 05.5**	**+0.4**
KURK				*e*Lg			Lg	18 06 11.1	
KURBB	**Kurchatov Arra**	**10.97**	**271**	Pn			**Pn**	**18 03 05.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=75,slow=15,SNR=25								
KURBB					Lg	Lg		18 06 11.1	
	comp=Z,0.2nm,0.3s,baz=75,slow=33,SNR=9.0								
BOD	**Bodaibo**	**12.04**	**53**	*e*P			**Pn**	**18 03 19.3**	**-1.4**
PDGK	**Podgornoye**	**13.92**	**239**	P			**Pn**	**18 03 47.7**	**+1.1**
PDGK					pmax	pmax			
	comp=Z,4.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**15.34**	**129**	*e*P			**Pn**	**18 04 04.0**	**-1.9**
HHC					sP	pP		18 04 11.4	-2.0
HHC					S	Sn		**18 06 55.6**	**-0.2**
HHC					pmax	pmax			
	comp=Z,13nm,0.9s								
HHC					pmax	pmax			
	comp=Z,120nm,4.1s								
HHC					LR	LR			
	comp=Z,360nm,6.8s								
HHC					LR	LR			
	comp=Z,340nm,7.9s								
HHC					LR	LR			
	comp=Z,450nm,7.9s								
BVAR	**Borovoye Array**	**15.60**	**285**	Pn			**Pn**	**18 04 06.9**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=72,slow=14,SNR=15								
BVAR					LR	LR		18 10 21.8	
	comp=Z,133nm,20.0s,baz=79,slow=38								
BRVK	**Borovoye**	**15.66**	**285**	‖ *e*P			**Pn**	**18 04 08.6**	**-1.3**
BRVK					pmax	pmax			
	comp=Z,49nm,1.2s								
BRVK	**Borovoye**	**15.66**	**285**	*e*Pn			**Pn**	**18 04 08.8**	**-1.0**
	comp=Z,12nm,0.9s								
TARG	**Taragay, Kyrgy**	**15.93**	**238**	*e*Pn			**Pn**	**18 04 13.5**	**-0.3**
	comp=Z,12nm,1.4s								
KDJ	**Kajisay**	**15.98**	**240**	*e*Pn			**P**	**18 04 14.8**	**-2.9**
	comp=Z,6.7nm,1.0s								
AAK	**Ala-Archa**	**17.13**	**246**	‖ *e*P			**P**	**18 04 29.6**	**-0.9**
AAK					pmax	pmax			
	comp=Z,3.0nm,1.8s								
MNAS	**Manas**	**18.37**	**249**	P			**P**	**18 04 44.4**	**+0.2**
MNAS					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KSH	**Kashi**	**18.49**	**236**	*e*P			**Pn**	**18 04 50.8**	**+5.2**
KSH					pP	sP		18 04 56.1	+6.5
KSH					S	S		**18 08 18.1**	**+1.6**
KSH					pmax	pmax			
	comp=Z,9.0nm,1.2s								
KSH					pmax	pmax			
	comp=Z,79nm,3.5s								
KSH					LR	LR			
	comp=Z,120nm,5.4s								
KSH					LR	LR			
	comp=Z,140nm,5.5s								
KSH					LR	LR			
	comp=Z,180nm,7.6s								
ZEA	**Zeya**	**18.99**	**72**	*e*P			**Pn**	**18 04 55.9**	**+4.5**
KKAR	**Karatay Array**	**19.17**	**253**	*e*P			**Pn**	**18 04 53.7**	**0.0**
KKAR	**Karatay Array**	**19.17**	**253**	*e*P			**Pn**	**18 04 53.7**	**0.0**
SFK	**Sufi-Kurgan**	**19.45**	**242**	P			**Pn**	**18 05 00.1**	**+2.8**
SFK					pmax	pmax			
	comp=Z,5.0nm,0.9s								
YAK	**Yakutsk**	**20.84**	**47**	P			Pn	18 05 11.0	-2.2
	comp=Z,6.9nm,0.4s,baz=101,slow=3.2,SNR=9.2								
YAK	**Yakutsk**	**20.84**	**47**	*e*P			Pn	18 05 11.4	-1.9
YAK				*e**PP			sP	18 05 19.7	+4.8
YAK				*e*				18 05 27.4	
YAK				*e*S			**S**	**18 09 02.8**	**-0.2**
YAK				*e*SS			**SnSn**	**18 09 28.7**	**+5.9**
YAK					pmax	pmax			
	comp=Z,22nm,1.0s								
YAK					pmax	pmax			
	comp=E,14nm,1.3s								
YAK					pmax	pmax			
	comp=Z,13nm,0.8s								
YAK					smax	smax			
	comp=N,38nm,3.1s								
YAK					smax	smax			
	comp=E,28nm,2.3s								
YAK					MLR	MLR			
	comp=E,36nm,18.0s								
YAK					MLR	MLR			
	comp=Z,54nm,17.0s								
YAK					MLR	MLR			
	comp=N,58nm,15.0s								
YAK	**Yakutsk**	**20.84**	**47**	*e*P			Pn	18 05 11.3	-2.0
	comp=N,24nm,0.9s								
SVE	**Sverdlovsk**	**21.03**	**298**	*e*P			**P**	**18 05 13.0**	**+0.2**
SVE					pmax	pmax			
	comp=Z,15nm,0.8s								
ARU	**Arti**	**22.19**	**297**	P			**P**	**18 05 26.1**	**+0.7**
	comp=Z,16nm,0.8s,baz=81,slow=4.2,SNR=20								
ARU					LR	LR		18 15 09.3	
	comp=Z,117nm,18.9s,baz=78,slow=40								
ARU	**Arti**	**22.19**	**297**	*c i*P			**P**	**18 05 24.1**	**-1.2**
ARU					S	S		**18 09 30.1**	**+0.7**
ARU					SS	SnSn		**18 09 57.6**	**+1.7**
ARU					pmax	pmax			
	comp=Z,26nm,1.7s								
ARU	**Arti**	**22.19**	**297**	*e*P			**P**	**18 05 25.6**	**+0.3**
	comp=Z,24nm,0.9s								
KLR	**Kul'dur**	**22.79**	**82**	P			**P**	**18 05 31.9**	**+0.1**
	comp=Z,0.1nm,0.7s,baz=301,slow=11,SNR=4.6								
KLR	**Kul'dur**	**22.79**	**82**	*i* P			**P**	**18 05 32.8**	**+1.0**
ABKAR	**Akbulak array**	**22.86**	**278**	*e*P			**P**	**18 05 31.6**	**-1.0**
	comp=Z,46nm,0.8s								
AKTO	**Aktyubinsk**	**23.66**	**282**	P			**P**	**18 05 40.6**	**0.0**
	comp=Z,27nm,0.7s,baz=85,slow=9.4,SNR=75								
AKTO					LR	LR		18 15 19.4	
	comp=Z,72nm,19.4s,baz=61,slow=38								
TIXI	**Tiksi**	**24.71**	**24**	P			**P**	**18 05 49.7**	**-0.5**
	comp=Z,17nm,0.6s,baz=245,slow=7.1,SNR=87								
TIXI	**Tiksi**	**24.71**	**24**	‖ *e*P			**P**	**18 05 49.2**	**-0.9**
TIXI					pmax	pmax			
	comp=Z,29nm,1.0s								
TIXI	**Tiksi**	**24.71**	**24**	*e*P			**P**	**18 05 49.2**	**-0.9**
	comp=Z,30nm,1.0s								
KSAR	**Wonju Array Be**	**26.64**	**110**	P			**P**	**18 06 07.5**	**-0.4**
KSAR	**Wonju Array Be**	**26.64**	**110**	P			**P**	**18 06 07.5**	**-0.4**
KSRS	**Korea Array**	**26.66**	**110**	P			**P**	**18 06 07.5**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=311,slow=8.2,SNR=4.5								
GEYT	**Alibeck**	**29.79**	**257**	LR			LR	18 18 23.5	
	comp=Z,43nm,20.3s,baz=70,slow=36								
SEY	**Seymchan**	**31.37**	**47**	P			**P**	**18 06 50.4**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=274,slow=11,SNR=4.6								
SEY	**Seymchan**	**31.37**	**47**	‖ *e*P			**P**	**18 06 50.0**	**+0.3**
KLMR	**Klimovskoe**	**31.61**	**309**	*e*P			**P**	**18 06 50.2**	**-1.6**
KLMR					pmax	pmax			
	comp=Z,6.0nm,1.2s								
KLMR	**Klimovskoe**	**31.61**	**309**	*e*P			**P**	**18 06 50.3**	**-1.6**
KLMR					AMP			18 06 51.4	
	comp=Z,6.0nm,1.2s								
VRH	**Novokhopyorsk**	**33.09**	**291**	*e*P			**P**	**18 07 04.5**	**-0.4**
VRH					pmax	pmax			
	comp=Z,20nm,0.6s								
LPSR	**Galich'ya Gora**	**34.16**	**294**	*e*P			**P**	**18 07 13.0**	**-1.2**
LPSR					pmax	pmax			
	comp=Z,8.0nm,0.6s								
VSR	**Storozhevoye**	**34.56**	**292**	*e*P			**P**	**18 07 16.9**	**-0.8**
VSR					pmax	pmax			
	comp=Z,20nm,1.3s								
OBN	**Obninsk**	**34.58**	**299**	LR			LR	18 21 29.1	
	comp=Z,45nm,19.0s,baz=354,slow

BR231	**Keskin MP Arra**	**44.26**	**280**	*e*P	**P**	**18 08 36.4**	**-2.4**
BUR08	**Bucovina Ar. S**	**44.27**	**294**	*e*P	**P**	**18 08 39.5**	**+0.7**
BURAR	**Bucovina Array**	**44.27**	**294**	P	**P**	**18 08 39.2**	**+0.4**
BURAR	**Bucovina Array**	**44.27**	**294**	⇑*i*P	**P**	**18 08 39.3**	**+0.4**
BUR04	**Bucovina Ar. S**	**44.27**	**294**	*e*P	**P**	**18 08 39.0**	**+0.1**
VRI	**Vrincioaia**	**44.37**	**291**	P	**P**	**18 08 39.2**	**-0.3**
VRI	**Vrincioaia**	**44.37**	**291**	‖*i*P	**P**	**18 08 39.3**	**-0.3**
PLOR	**Plostina**	**44.42**	**291**	‖*i*P	**P**	**18 08 35.5**	**-4.5**
NB2	**NORSAR Subarra**	**44.56**	**316**	P	**P**	**18 08 40.1**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=61,slow=7.9						
NB200	**NORSAR Array S**	**44.56**	**316**	*e*P	**P**	**18 08 40.3**	**-0.6**
NOA	**NORSAR Array B**	**44.56**	**316**	P	**P**	**18 08 40.3**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=61,slow=8.0,SNR=6.3						
NOA				LR	LR	18 30 08.2	
	comp=Z,30nm,18.2s,baz=55,slow=40						
KWP	**Kalwaria Pacla**	**44.59**	**298**	P	**P**	**18 08 43.6**	**+2.3**
MLR	**Muntele Rosu**	**45.03**	**291**	LR	LR	18 28 55.4	
	comp=Z,14nm,19.9s,baz=28,slow=38						
VOIR		**45.58**	**291**	P	**P**	**18 08 50.3**	**+1.0**
VOIR		**45.58**	**291**	⇑*i*P	**P**	**18 08 50.4**	**+1.1**
NIE	**Niedzica**	**46.03**	**298**	P	**P**	**18 08 55.4**	**+2.7**
JMIC	**Jan Mayen**	**46.40**	**334**	LR	LR	18 29 29.4	
	comp=Z,19nm,19.3s,baz=254,slow=38						
KECS	**Kecovo**	**46.45**	**297**	*e*P	**P**	**18 08 56.3**	**+0.3**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KECS	**Kecovo**	**46.45**	**297**	*e*P	**P**	**18 08 56.3**	**+0.3**
SIRR	**Siria**	**47.05**	**294**	⇑*i*P	**P**	**18 09 01.5**	**+0.8**
VYHS	**Vyhne**	**47.35**	**298**	*e*P	**P**	**18 09 03.7**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,45nm,3.1s						
VYHS	**Vyhne**	**47.35**	**298**	*e*P	**P**	**18 09 03.7**	**+0.7**
KRLC	**Kraliky**	**47.56**	**301**	*e*P	**P**	**18 09 05.7**	**+1.0**
KRLC	**Kraliky**	**47.56**	**301**	*e*P	**P**	**18 09 05.7**	**+1.0**
RAYN	**Ar Rayn**	**47.59**	**253**	*e*P	**P**	**18 09 05.4**	**+0.2**
	comp=Z,4.9nm,0.8s						
DPC	**Dobruska-Polom**	**47.65**	**302**	*e*P	**P**	**18 09 06.7**	**+1.3**
DPC	**Dobruska-Polom**	**47.65**	**302**	*e*P	**P**	**18 09 06.7**	**+1.3**
UPC	**Upice**	**47.73**	**302**	*e*P	**P**	**18 09 07.1**	**+1.2**
UPC	**Upice**	**47.73**	**302**	*e*P	**P**	**18 09 07.1**	**+1.2**
VTS	**Vitosha**	**48.33**	**289**	⇑*i*P	**P**	**18 09 10.1**	**-0.8**
PRU	**Pruhonice**	**48.80**	**302**	*e*P	**P**	**18 09 15.4**	**+1.2**
PRU	**Pruhonice**	**48.80**	**302**	*e*P	**P**	**18 09 15.4**	**+1.2**
CLL	**Collm**	**48.84**	**304**	*i* P	**P**	**18 09 15.0**	**+0.5**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLL	**Collm**	**48.84**	**304**	*i* P	**P**	**18 09 15.0**	**+0.5**
	comp=Z,8.0nm,0.9s						
CLL				*e*pP	**sP**	**18 09 18.0**	**-0.8**
CLL				Lm	MLR	18 31 00.0	
	comp=Z,100nm,18.4s						
KHC	**Kasperske Hory**	**49.81**	**302**	*e*P	**P**	**18 09 23.2**	**+1.2**
KHC	**Kasperske Hory**	**49.81**	**302**	*e*P	**P**	**18 09 23.2**	**+1.2**
GERES	**GERESS Array B**	**49.91**	**301**	P	**P**	**18 09 23.4**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=39,slow=8.6,SNR=8.0						
GEA0	**GERESS Array S**	**49.92**	**301**	*e*P	**P**	**18 09 23.0**	**+0.1**
KBA	**Koelnbreinsper**	**51.17**	**300**	P	**P**	**18 09 34.5**	**+2.0**
KBA				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ILAR	**Eielson Array**	**54.10**	**28**	P	**P**	**18 09 53.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=318,slow=4.0,SNR=6.2						
ILAR				LR	LR	18 35 16.3	
	comp=Z,72nm,19.6s,baz=269,slow=39						
ILB	**Eielson Array**	**54.10**	**28**	*e*P	**P**	**18 09 51.5**	**-2.2**
INK	**Inuvik**	**54.74**	**20**	P	**P**	**18 09 57.8**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=332,slow=13,SNR=7.0						
INK	**Inuvik**	**54.74**	**20**	*e*P	**P**	**18 09 57.8**	**-0.4**
	comp=Z,3.6nm,1.4s						
YKA	**Yellowknife Ar**	**63.54**	**15**	P	**P**	**18 10 58.2**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=339,slow=6.9,SNR=5.5						
ES19	**SONSECA Array**	**65.36**	**303**	*e*P	**P**	**18 11 11.5**	**-0.1**
ESDC	**Sonseca Array**	**65.41**	**303**	P	**P**	**18 11 12.3**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=36,slow=6.4,SNR=9.4						
WPW	**White Pass**	**76.75**	**25**	*e*P	**P**	**18 12 22.9**	**+2.2**
WR1	**Warramunga Arr**	**78.92**	**143**	*e*P	**P**	**18 12 31.7**	**-1.1**
	comp=Z,82nm,1.4s						
WRA	**Warramunga Arr**	**78.92**	**143**	P	**P**	**18 12 31.7**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=344,slow=6.3,SNR=5.3						
AS31	**Alice Springs**	**82.18**	**145**	*e*P	**P**	**18 12 48.6**	**-1.6**
	comp=Z,4.6nm,0.8s						
ASAR	**Alice Springs**	**82.18**	**145**	P	**P**	**18 12 48.6**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=339,slow=5.4,SNR=6.6						
TOA1	**Torodi Ar. Sit**	**82.38**	**281**	*e*P	**P**	**18 12 51.3**	**-0.2**
TOA0	**Torodi Ar. Sit**	**82.38**	**281**	*e*P	**P**	**18 12 50.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**82.38**	**281**	P	**P**	**18 12 51.3**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=32,slow=5.4,SNR=14						
WHFM	**Hanning Flat**	**87.86**	**27**	*e*P	**P**	**18 13 18.2**	**-0.7**
FON	**Fontana**	**89.61**	**27**	*e*P	**P**	**18 13 24.2**	**-2.9**
FON				*e*PcP	**sP**	**18 13 29.5**	**-2.1**
DPP	**Dos Picos Cty**	**90.79**	**27**	*e*P	**P**	**18 13 34.6**	**+2.0**

*IDC **21** 18:00:39.1±1.3,2°.65S×130°.03E, h0km, mb4.2/8, mb1 4.3/10,mb1mx3.9/62,mbtmp4.2/10,ML3.8/2, Error ellipse: s-maj=66.3km s-min=13.1km az=72.0*

*ISCJB **21** 18:00:42.7±0.5,2°.75S±0°.05×129°.54E±0°.05, h28km, mb4.1/8, Error ellipse: s-maj=8.5km s-min=6.7km az=44.9*

*DJA **21** 18:00:43.5±0.7,3°S±7°×13°.0E±°, h92km±17km, M3.8/2, MLv3.8/2*

ISC 21 18:00:44.3±0.8, 2°.80S±0°.07×129°.56E±0°.05, h28km, n18, σ1§47/21, mb4.2/8, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.83**	**229**	P	**Pb**	**18 01 01.0**	**+0.8**
AAI	**Ambon**	**1.62**	**237**	P	**Pb**	**18 01 14.0**	**+0.4**
NLAI	**Namlea**	**2.50**	**260**	P	**Pn**	**18 01 24.1**	**+1.0**
NLAI	**Namlea**	**2.50**	**260**	P	**Pn**	**18 01 24.2**	**+1.1**
SWI	**Sorong**	**2.57**	**41**	P	**Pn**	**18 01 24.4**	**+0.4**
FAKI	**Fak Fak**	**2.69**	**93**	P	**Pn**	**18 01 25.7**	**0.0**
LBMI	**Labuha**	**2.98**	**316**	P	**Pn**	**18 01 29.4**	**-0.3**
SANI	**Sanana**	**3.65**	**282**	P	**Pn**	**18 01 36.7**	**-2.2**
SANI				S	**Sn**	**18 02 19.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**15.68**	**194**	Pn	**Pn**	**18 04 23.1**	**-0.3**
	0.2nm,0.3s,baz=21,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**17.66**	**165**	P	**Pn**	**18 04 46.4**	**-2.1**
	0.4nm,0.3s,baz=343,slow=13,SNR=9.4						
WRA				S	**Sn**	**18 08 05.8**	**+1.2**
	0.2nm,0.3s,baz=349,slow=20,SNR=4.0						
ASAR	**Alice Springs**	**21.16**	**169**	P	**P**	**18 05 27.1**	**-0.4**
	6.6nm,0.5s,baz=348,slow=11,SNR=26						
ASAR				S	**S**	**18 09 17.9**	**-3.7**
	0.9nm,0.8s,baz=347,slow=20,SNR=4.5						
STKA	**Stephens Creek**	**31.06**	**160**	P	**P**	**18 06 59.3**	**-0.8**
	4.2nm,1.1s,baz=346,slow=6.6,SNR=4.1						
NWAO	**Narrogin (SRO)**	**32.12**	**200**	P	**P**	**18 07 11.6**	**+2.2**
	7.5nm,0.8s,baz=56,slow=11,SNR=2.6						
CMAR	**Chiang Mai Arr**	**36.81**	**306**	P	**P**	**18 07 51.8**	**+1.6**
	0.9nm,0.9s,baz=135,slow=7.5,SNR=5.9						
MKAR	**Makanchi Array**	**64.51**	**326**	P	**P**	**18 11 18.5**	**-0.1**
	1.3nm,0.8s,baz=125,slow=7.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**67.66**	**333**	P	**P**	**18 11 38.2**	**-0.5**
	1.6nm,0.6s,baz=106,slow=5.3,SNR=4.7						
KURBB	**Kurchatov Arra**	**68.73**	**328**	P	**P**	**18 11 45.5**	**+0.1**
	3.3nm,0.7s,baz=127,slow=5.8,SNR=8.0						
BVAR	**Borovoye Array**	**74.31**	**327**	P	**P**	**18 12 19.1**	**0.0**
	1.3nm,0.8s,baz=150,slow=4.3,SNR=3.9						

MEX 21 18:02:16.4±0.7, 16°.20N×98°.34W, h4km±5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**47**	*e*P	Pg	18 02 21.5	-0.3
PNIG				*e*S	Sg	18 02 25.5	+0.1
TLIG	**Tlapa**	**1.37**	**351**	*e*P	Pn	18 02 38.5	-3.9
TLIG				*e*S	Sg	18 02 55.4	-5.1
ACX	**Acapulco**	**1.60**	**295**	*i* P	Pn	18 02 43.8	-1.7
ACX				*i* S	Sn	18 03 04.3	-2.4
VHO	**Vista Hermosa**	**1.76**	**60**	*e*P	Pn	18 02 43.9	-4.1
VHO				*e*S	Sn	18 03 07.0	-4.0
CAIG	**El Cayaco**	**2.03**	**295**	*e*P	Pn	18 02 48.3	-3.1
CAIG				*e*S	Sn	18 03 12.6	-4.7
HUIG	**Huatulco**	**2.19**	**101**	*e*P	Pn	18 02 49.6	-4.0
HUIG				*i* S	Sn	18 03 16.6	-4.6
PLIG	**Platanillo**	**2.44**	**333**	*e*P	Pn	18 02 54.5	-2.7
PLIG				*e*S	Sn	18 03 24.2	-3.5

*NIED **21** 18:05:00, 37°.70N×142°.10E, h32km, Mw4.5 Best double couple: M0 5.73000×10^15 NP1:φs219.00000°, δ41.00000°, λ20.00000°. NP2:φs113.00000°, δ77.00000°, λ129.00000°.*

*ISCJB **21** 18:05:13.3±1.0, 37°.66N±0°.02×142°.18E±0°.02, h8km±5km, mb4.6/165, MS3.8/25, Error ellipse: s-maj=3.7km s-min=2.5km az=164.6*

*BJI **21** 18:05:13.9, 37°.58N×141°.99E, h12km, mb4.5/23, mB4.8/8, Ms4.3/5, Ms7.3 9/3*

*IDC **21** 18:05:13.0±0.4, 37°.63N×142°.20E, h0km, mb4.4/39, mb1 4.5/43, mb1mx4.4/75, mbtmp4.4/43, ML4.7/3, MS3.7/28, Ms1 3.7/28, ms1mx3.4/70, Error ellipse: s-maj=12.7km s-min=9.9km az=119.0*

*JMA **21** 18:05:16.0±0.1, 37°.65N×142°.11E, h29km±3km, M4.6*

JMA Felt II J1.

*MOS **21** 18:05:17.6±0.9, 37°.91N×142°.10E, h30km, mb4.8/61, Error ellipse: s-maj=7.3km s-min=4.4km az=86.3*

*NEIC **21** 18:05:17.5±1.1, 37°.64N×142°.15E, h26km±7km, mb4.8/105, Error ellipse: s-maj=4.0km s-min=2.7km az=135.0*

NEIC Recorded [2 JMA] in Fukushima.

ISC 21 18:05:15.9±0.5, 37°.66N±0°.03×142°.21E±0°.04, h19km±2km, n557, σ1§22/568, mb4.7/166, MS3.8/26, 22C-19D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.05**	**320**	P	**Pb**	**18 05 34.1**	**-1.3**
JIO				S	**Sb**	**18 05 46.5**	**-2.3**
JFK	**Kawauchi**	**1.10**	**255**	P	**Pb**	**18 05 34.3**	**-2.1**
JFK				*e*S	**Sb**	**18 05 47.3**	**-3.0**
JMM	**Marumori**	**1.14**	**281**	P	**Pn**	**18 05 35.1**	**-1.8**
JMM				S	**Sb**	**18 05 48.4**	**-3.1**
ONAJ	**Iwakimizuishiy**	**1.25**	**244**	P	**Pn**	**18 05 36.5**	**-2.0**
ONAJ				S	**Sb**	**18 05 50.8**	**-4.0**
JOU	**Okura**	**1.41**	**301**	P	**Pn**	**18 05 39.8**	**-0.8**
JOU				S	**Sn**	**18 05 56.7**	**-2.0**
JFT	**Otama**	**1.49**	**265**	P	**Pn**	**18 05 41.1**	**-0.7**
JFT				S	**Sn**	**18 05 58.7**	**-2.1**
JMK	**Ichinoseki**	**1.51**	**329**	P	**Pn**	**18 05 40.9**	**-1.1**
JMK				S	**Sn**	**18 05 58.7**	**-2.4**
JYS	**Shirataka**	**1.79**	**289**	P	**Pn**	**18 05 45.1**	**-0.7**
JYS				*e*S	**Sn**	**18 06 07.7**	**-0.3**
JYK	**Kaneyama**	**1.92**	**311**	P	**Pn**	**18 05 47.4**	**-0.3**
JOM	**Ohasama**	**1.95**	**339**	P	**Pn**	**18 05 47.4**	**-0.6**
JOM				*e*S	**Sn**	**18 06 10.5**	**-1.5**
JFY	**Yanaizu**	**2.01**	**264**	P	**Pn**	**18 05 48.4**	**-0.4**
JFY				S	**Sn**	**18 06 13.1**	**-0.3**
JRG	**Rokugo**	**2.13**	**325**	P	**Pn**	**18 05 50.7**	**+0.2**
JRG				*e*S	**Sn**	**18 06 16.0**	**-0.5**
JYA	**Atsumi**	**2.18**	**296**	P	**Pn**	**18 05 50.6**	**-0.6**
JNS	**Sasagawa**	**2.30**	**275**	P	**Pn**	**18 05 52.9**	**+0.1**
MJAR	**Matsushiro Arr**	**3.39**	**252**	Pn	**Pn**	**18 06 07.8**	**0.0**
	15nm,0.3s,baz=81,slow=17,SNR=11.7						
MJAR				Sn	**Sn**	**18 06 49.9**	**+2.4**
	31nm,0.3s,baz=132,slow=11,SNR=7.4						
MJAR				LR	LR	18 07 32.3	
	comp=Z,1μm,20.2s,baz=75,slow=42						
MAJO	**Matsushiro**	**3.39**	**252**	*de*P	**Pn**	**18 06 07.0**	**-0.8**
MAJO	**Matsushiro**	**3.39**	**252**	*e*Pn	**Pn**	**18 06 08.7**	**+0.9**
MAT	**Matsushiro**	**3.39**	**252**	P	**Pn**	**18 06 08.4**	**+0.6**
MAT				S	**Sn**	**18 06 50.1**	**+2.6**
MJB9	**Matsu-Tunnel**	**3.39**	**252**	*e*Pn	**Pn**	**18 06 08.8**	**+0.9**
ERM	**Erimo**	**4.41**	**9**	*c i*P	**Pn**	**18 06 21.8**	**-0.1**
ERM	**Erimo**	**4.41**	**9**	*e*Pn	**Pn**	**18 06 21.8**	**-0.1**
INU	**Inuyama**	**4.77**	**243**	*e*Pn	**Pn**	**18 06 27.8**	**+0.9**
JHJ2	**Mitsune**	**4.94**	**204**	*e*Pn	**Pn**	**18 06 28.4**	**-0.7**
JHJ	**Hachijo jima 2**	**4.94**	**204**	Pn	**Pn**	**18 06 28.4**	**-0.7**
	182nm,0.3s,baz=335,slow=22,SNR=44						
JHJ				Sn	**Sn**	**18 07 23.0**	**-2.8**
	324nm,0.3s,baz=293,slow=20,SNR=11						
JHJ				LR	LR	18 08 41.9	
	comp=Z,1μm,20.6s,baz=75,slow=42						
ASAJ	**Asahikawa**	**6.46**	**2**	Pn	**Pn**	**18 06 50.2**	**+0.2**
	19nm,0.3s,baz=220,slow=9.8,SNR=168						
ASAJ				Sn	**Sn**	**18 08 00.8**	**-2.3**
	9.3nm,0.3s,baz=340,slow=29,SNR=5.2						
ASAJ	**Asahikawa**	**6.46**	**2**	*e*Pn	**Pn**	**18 06 49.8**	**-0.2**
ASAJ				*e*Sn	**Sn**	**18 08 00.8**	**-2.3**
GLVR	**Golovnino**	**6.58**	**21**	*e*P	**Pn**	**18 06 51.1**	**-0.4**
GLVR				*e*S	**Sn**	**18 08 01.4**	**-4.6**
GRPR	**Tuman**	**6.88**	**22**	*e*P	**Pn**	**18 06 54.2**	**-1.6**
GRPR				*e*S	**Sn**	**18 08 08.2**	**-5.3**
LAGR	**Lagunnoye**	**6.94**	**22**	P	**Pn**	**18 06 55.4**	**-1.2**
LAGR				*e*S	**Sn**	**18 08 09.9**	**-5.1**
YUK	**Yuzh-Kuril'sk**	**6.95**	**22**	*e*P	**Pn**	**18 06 55.2**	**-1.4**
YUK				*e*S	**Sn**	**18 08 09.8**	**-5.3**
YUK				pmax	pmax		
	comp=Z,305nm,0.2s						
YUK				pmax	pmax		
	comp=N,25nm,0.1s						
YUK				pmax	pmax		
	comp=E,104nm,0.3s						
SHO	**Shikotan**	**7.13**	**28**	*i* P	**Pn**	**18 06 55.9**	**-3.2**
SHO				*e*S	Sn	18 08 10.6	-9.0
SHO				pmax	pmax		
	comp=Z,75nm,0.4s						
SHO				pmax	pmax		
	comp=N,52nm,0.3s						
SHO				pmax	pmax		
	comp=E,32nm,0.3s						
TEY	**Ternei**	**8.49**	**332**	*e*P	Pn	18 07 24.0	+6.2
TEY				pmax	pmax		
	comp=E,26nm,0.8s						
TEY				pmax	pmax		
	comp=N,60nm,1.0s						
TEY				pmax	pmax		
	comp=Z,77nm,1.0s						
KUR	**Kuril'sk**	**8.68**	**27**	*c i*P	**Pn**	**18 07 19.5**	**-0.9**
KUR				*e*S	**Sn**	**18 08 51.4**	**-6.3**
KUR				pmax	pmax		
	comp=Z,164nm,0.5s						
KUR				pmax	pmax		
	comp=E,61nm,0.3s						
KUR				pmax	pmax		
	comp=N,49nm,0.4s						
KUR				smax	smax		
	comp=E,274nm,0.4s						
KUR				smax	smax		
	comp=N,91nm,0.2s						
YSS	**Yuzh-Sakhalins**	**9.30**	**2**	‖*i*P	**Pn**	**18 07 29.7**	**+0.8**
YSS				*e*S	**Sn**	**18 09 11.1**	**-1.8**
YSS				pmax	pmax		
	comp=Z,40nm,1.3s						
YSS				smax	smax		
	comp=N,50nm,1.0s						
YSS	**Yuzh-Sakhalins**	**9.30**	**2**	*e*Pn	**Pn**	**18 07 29.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.12**	**313**	Pn	**Pn**	**18 07 42.1**	**+2.0**
	comp=N,0.8nm,0.3s,baz=118,slow=14,SNR=9.3						
USRK				LR	LR	18 11 19.9	
	comp=N,238nm,19.0s,baz=128,slow=36						
JNU	**Nakatsue**	**10.29**	**247**	Pn	**Pn**	**18 07 44.4**	**+1.7**
	comp=N,0.8nm,0.3s,baz=62,slow=9.5,SNR=16						
JNU				LR	LR	18 12 03.3	
	comp=N,592nm,18.6s,baz=92,slow=40						
CBIJ	**Chichi jima**	**10.53**	**180**	*e*Pn	**Pn**	**18 07 45.5**	**-0.3**
CBIJ				Sn	Sn	18 09 32.8	-11
JCJ	**Chichijima**	**10.53**	**180**	Pn	**Pn**	**18 07 42.1**	**-3.8**
	comp=N,27nm,0.3s,baz=3.9,slow=17,SNR=15						
JCJ				Sn	Sn	18 09 32.8	-11
	comp=N,26nm,0.3s,baz=258,slow=23,SNR=6.1						
KSRS	**Korea Array**	**11.34**	**273**	Pn	**Pn**	**18 07 59.5**	**+2.5**
	comp=N,0.4nm,0.3s,baz=84,slow=13,SNR=12						
KSRS				LR	LR	18 12 09.4	
	comp=N,320nm,18.1s,baz=72,slow=37						
KS15	**Wonju Array Si**	**11.38**	**273**	*e*Pn	**Pn**	**18 07 59.5**	**+2.1**
KSAR	**Wonju Array Be**	**11.38**	**273**	P	**Pn**	**18 07 59.5**	**+2.1**
KSAR	**Wonju Array Be**	**11.38**	**273**	Pn	**Pn**	**18 07 59.5**	**+2.1**
MDJ	**Mudanjiang**	**11.77**	**310**	P	Pn	18 08 12.0	+9.2
MDJ	**Mudanjiang**	**11.77**	**310**	*e*Pn	**Pn**	**18 08 04.6**	**+1.8**
GRNR	**Gornyy**	**13.74**	**344**	*e*P	**Pn**	**18 08 28.9**	**-0.8**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**13.82**	**330**	Pn	**Pn**	**18 08 30.3**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=141,slow=14,SNR=8.2						
KLR	**Kul'dur**	**13.82**	**330**	‖*e*P	**Pn**	**18 08 29.9**	**-0.9**
NKL	**Nikolayevsk**	**15.53**	**357**	*e*P	**Pn**	**18 08 56.2**	**+2.5**
NKL				pmax	pmax		
	comp=N,6.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,11nm,0.9s						
NKL				MLR	MLR		
	comp=N,500nm,16.0s						
NKL				MLR	MLR		
	comp=E,500nm,16.0s						
NKL				MLR	MLR		
	comp=Z,800nm,16.0s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**15.96**	**231**	LR	LR	18 15 18.9	
	comp=Z,175nm,20.4s,baz=323,slow=38						
PETK	**Petropavlovsk-**	**18.83**	**30**	P	**P**	**18 09 34.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=226,slow=10,SNR=9.8						
PETK				LR	LR	18 16 37.2	
	comp=Z,164nm,21.2s,baz=219,slow=36						
PEA1	**Petropavlovsk-**	**18.84**	**30**	*e*P	**P**	**18 09 34.0**	**-0.5**
PET	**Petropavlovsk**	**19.16**	**31**	*e*P	**Pn**	**18 09 38.9**	**0.0**
PET				pmax	pmax		
	comp=Z,53nm,1.7s						
TIA	**Tai'an**	**20.09**	**274**	P	**P**	**18 09 47.3**	**-1.1**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MA2	**Magadan**	**22.62**	**11**	P	**P**	**18 10 15.4**	**0.0**
	comp=Z,14nm,0.7s,baz=199,slow=9.3,SNR=19						
MA2				LR	LR	18 19 59.6	
	comp=Z,158nm,19.0s,baz=139,slow=39						
MA2	**Magadan**	**22.62**	**11**	‖*e*P	**P**	**18 10 15.5**	**+0.1**
YULB	**Yu-li**	**22.88**	**238**	*e*P	**P**	**18 10 17.1**	**-1.3**
	comp=Z,89nm,1.8s						
TWG	**Pinlang**	**23.42**	**237**	*e*P	**P**	**18 10 26.0**	**+2.0**
	comp=Z,333nm,1.4s						
HHC	**Hu-ho-hao-te**	**23.88**	**287**	*e*P	**P**	**18 10 26.9**	**-1.5**
HHC				S	**S**	**18 14 36.1**	**-7.6**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,4.8s						
HHC				LR	LR		
	comp=Z,240nm,11.8s						
HHC				LR	LR		
	comp=Z,110nm,10.8s						
WHN	**Wuhan**	**24.08**	**261**	⇑P	**P**	**18 10 30.0**	**-0.2**
WHN				pP	**sP**	**18 10 38.0**	**-0.2**
YAK	**Yakutsk**	**25.61**	**346**	P	**P**	**18 10 43.7**	**-0.1**
	comp=Z,32nm,0.6s,baz=182,slow=2.7,SNR=14						
YAK				LR	LR	18 21 11.7	
	comp=Z,347nm,18.1s,baz=148,slow=37						
YAK	**Yakutsk**	**25.61**	**346**	*e*P	**P**	**18 10 42.9**	**-0.8**
YAK				*e**PP	**sP**	**18 10 53.2**	**+1.4**
YAK				*e*		18 11 18.5	
YAK				*e*PPP	PPP	18 11 29.2	
YAK				*e*S	**S**	**18 15 07.7**	**-3.0**
YAK				*e**SS	**sS**	**18 15 23.9**	**+3.8**
YAK				*e*SSS	SSS	18 16 17.3	
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,43nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				smax	smax		
	comp=E,29nm,2.0s						
YAK				smax	smax		
	comp=N,42nm,2.2s						
YAK				MLR	MLR		
	comp=E,115nm,17.0s						
YAK				MLR	MLR		
	comp=Z,358nm,16.0s						
YAK				MLR	MLR		
	comp=N,325nm,16.0s						
YAK	**Yakutsk**	**25.61**	**346**	*e*P	**P**	**18 10 43.7**	**-0.1**
	comp=N,55nm,0.9s						
SEY	**Seymchan**	**26.06**	**11**	P	**P**	**18 10 49.0**	**+1.1**
	comp=N,19nm,0.9s,baz=191,slow=5.5,SNR=39						
SEY	**Seymchan**	**26.06**	**11**	‖*i*P	**P**	**18 10 49.5**	**+1.6**
XAN	**Xi'an**	**27.14**	**273**	P	**P**	**18 10 58.8**	**+0.8**
XAN				pP	sP	18 11 05.0	-1.1
XAN				pmax	pmax		
	comp=N,10.0nm,0.6s						
ULN	**Ulaanbaatar**	**27.54**	**303**	⇑*e*P	**P**	**18 11 01.3**	**-0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.94**	**123**	T	T	18 40 26.3	
	baz=315,slow=75,SNR=674						
H11N1	**WAKE ISLAND Hy**	**27.95**	**123**	T	T	18 40 22.5	
	baz=315,slow=75,SNR=709						
H11N3	**WAKE ISLAND Hy**	**27.95**	**123**	T	T	18 40 28.1	
	baz=315,slow=75,SNR=533						
SONA1	**Songino Array**	**27.97**	**303**	*e*P	**P**	**18 11 06.2**	**+0.8**
SONA0	**Songino Array**	**27.97**	**303**	*e*P	**P**	**18 11 05.7**	**+0.3**
SONM	**Songino Array**	**27.97**	**303**	P	**P**	**18 11 05.7**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=101,slow=8.7,SNR=5.6						
ENH	**Enshi**	**28.02**	**265**	*e*P	**P**	**18 11 05.4**	**-0.5**
	comp=Z,102

MKAR Makanchi Array 44.33 302 P P 18 13 24.9 +0.2
comp=Z,3.2nm,0.8s,baz=78,slow=9.0,SNR=12
MKAR Makanchi Array 44.33 302 *ce*P **P 18 13 24.7 0.0**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 44.33 302 *e*P **P 18 13 26.1 +1.4**
comp=Z,81nm,0.9s
SBUM Sibu 44.55 225 *e*P **P 18 13 26.9 +0.1**
comp=Z,7.7nm,1.1s
KURK Kurchatov 46.05 308 *e*P **P 18 13 38.6 +0.4**
KURK pmax pmax
comp=Z,36nm,1.4s
KURK Kurchatov 46.05 308 *e*P **P 18 13 38.6 +0.4**
comp=Z,36nm,1.4s
KURK *e*P **pP 18 13 38.8 -5.4**
KURBB Kurchatov Arra 46.12 308 P **P 18 13 38.8 0.0**
comp=Z,3.2nm,0.5s,baz=82,slow=7.9,SNR=19
KDAK Kodiak Island 46.21 42 P **P 18 13 39.6 +0.2**
comp=Z,13nm,0.6s,baz=315,slow=3.3,SNR=22
KDAK LR LR 18 32 49.4
comp=Z,134nm,19.7s,baz=252,slow=36
KDAK Kodiak Island 46.21 42 *i*P **P 18 13 39.7 +0.3**
KDAK Kodiak Island 46.21 42 *e*P **P 18 13 39.6 +0.2**
comp=Z,164nm,1.7s
KSM Kuching 46.44 227 *e*P **P 18 13 42.4 +0.7**
comp=Z,11nm,0.8s
TAPN Taplejung 46.53 274 *e*P **P 18 13 43.0 +0.3**
comp=Z,32nm,0.9s
KTH Kantishna Hill 46.88 34 *e*P **P 18 13 46.0 +1.4**
comp=Z,12nm,1.0s
MLY Manley 46.99 32 *e*P **P 18 13 46.8 +1.4**
comp=Z,9.3nm,1.0s
ODAN Odare 47.01 273 *e*P **P 18 13 46.5 +0.1**
comp=Z,54nm,1.0s
RAMN Ramite 47.59 274 *e*P **P 18 13 50.3 -0.6**
comp=Z,49nm,0.7s
JIRN Jiri 47.59 275 *e*P **P 18 13 51.5 +0.4**
comp=Z,14nm,0.5s
TOLK Toolik Lake Re 47.63 27 P **P 18 13 51.9 +1.5**
baz=266,SNR=7.9
TOLK Toolik Lake Re 47.63 27 *e*P **P 18 13 52.1 +1.7**
comp=Z,8.7nm,0.8s
GUN Gumba 47.73 276 *e*P **P 18 13 52.4 +0.3**
comp=Z,86nm,1.1s
PMR Palmer 47.75 37 *e*P **P 18 13 51.9 +0.6**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 47.75 37 *e*P **P 18 13 51.9 +0.6**
comp=Z,14nm,1.0s
MCK McKinley 47.76 34 *e*P **P 18 13 52.6 +1.1**
MCK pmax pmax
comp=Z,6.0nm,0.6s
MCK McKinley 47.76 34 *e*P **P 18 13 52.6 +1.1**
comp=Z,5.7nm,0.6s
RND Reindeer 47.81 35 *e*P **P 18 13 52.7 +0.8**
RND pmax pmax
comp=Z,8.0nm,0.9s
RND Reindeer 47.81 35 *e*P **P 18 13 52.7 +0.8**
comp=Z,8.3nm,0.9s
GHO Glory Hole Cre 47.84 37 *e*P **P 18 13 53.2 +1.1**
comp=Z,20nm,1.0s
MDM Murphy Dome 48.05 32 *e*P **P 18 13 55.1 +1.4**
comp=Z,16nm,1.0s
WRH Wood River Hil 48.12 33 *e*P **P 18 13 55.2 +1.0**
comp=Z,19nm,1.6s
COLA College 48.21 33⇑ *e*P **P 18 13 55.9 +1.0**
COLA pmax pmax
comp=Z,4.0nm,1.0s
PKI Pulchoki 48.25 275 *e*P **P 18 13 56.0 -0.1**
comp=Z,13nm,0.6s
KKN Kakani 48.25 276 *e*P **P 18 13 55.9 -0.1**
comp=Z,44nm,0.9s
PKIN Phulchoki 48.26 275 *e*P **P 18 13 56.2 +0.1**
comp=Z,28nm,0.7s
SURT Suratani 48.42 245 P P 18 14 07.3 +10
comp=Z,8.1nm,1.3s
HDA Harding Lake 48.62 33 *e*P **P 18 13 58.7 +0.6**
comp=Z,8.8nm,0.8s
ILAR Eielson Array 48.63 33 P **P 18 13 58.4 +0.2**
comp=Z,7.1nm,0.8s,baz=261,slow=5.7,SNR=55
GKN Gorkha 48.66 276 *e*P **P 18 13 59.3 +0.2**
comp=Z,105nm,1.0s
TARG Taragay, Kyrgy 48.70 296 *e*P **P 18 14 00.2 +0.8**
comp=Z,10nm,0.7s
KDJ Kajisay 49.02 297 *e*P **P 18 14 02.1 +0.4**
comp=Z,4.3nm,0.6s
DANN Dangsing 49.20 277 *e*P **P 18 14 03.6 +0.2**
comp=Z,10nm,1.0s
KLU Klutina 49.29 37 *e*P **P 18 14 04.8 +1.4**
comp=Z,15nm,1.1s
DIV Divide 49.40 37 *e*P **P 18 14 05.3 +1.1**
comp=Z,25nm,1.1s
KOLN Koldanda 49.59 277 *e*P **P 18 14 06.4 +0.2**
comp=Z,60nm,1.2s
HNR Honiara 49.70 157 LR LR 18 33 29.4
comp=Z,51nm,20.4s,baz=356,slow=34
PYUN Piuthan 49.92 277 *e*P **P 18 14 09.0 +0.2**
comp=Z,109nm,0.9s
DOT Dot Lake 49.94 34 *e*P **P 18 14 08.4 +0.2**
SCRK Sand Creek 49.94 34 *e*P **P 18 14 08.5 +0.2**
comp=Z,7.7nm,0.8s
MENT Mentasta 50.16 35 *e*P **P 18 14 11.3 +1.4**
comp=Z,6.9nm,0.8s
BVAR Borovoye Array 50.62 312 P **P 18 14 13.9 +0.4**
comp=Z,1.3nm,0.5s,baz=63,slow=7.4,SNR=6.8
BVAR LR LR 18 35 39.8
comp=Z,58nm,18.3s,baz=66,slow=36
BRVK Borovoye 50.68 312⇓ *e*P **P 18 14 12.6 -1.3**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BATI Baumata 50.68 204 LR LR 18 33 56.2
comp=Z,54nm,21.7s,baz=26,slow=34
KSH Kashi 50.73 294 *e*P **P 18 14 19.1 +4.4**
KSH sP sP 18 14 30.8 +7.9
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,85nm,4.8s
KSH LR LR
comp=Z,89nm,7.6s
KSH LR LR
comp=Z,56nm,11.0s
AAK Ala-Archa 50.75 298 P **P 18 14 15.2 +0.4**
comp=Z,1.1nm,0.5s,baz=101,slow=6.9,SNR=4.9
AAK Ala-Archa 50.75 298⇑ *e*P **P 18 14 16.1 +1.3**
AAK pmax pmax
comp=Z,5.0nm,1.8s
AAK Ala-Archa 50.75 298 *e*P **P 18 14 15.2 +0.4**
AAK *e*P **P 18 14 15.5 +0.7**
COEN Coen 51.35 179 *e*P **P 18 14 20.1 +0.8**
comp=Z,17nm,0.8s
PSI Prapat 52.66 239 LR LR 18 38 39.5
comp=Z,80nm,18.2s,baz=26,slow=38
PSI Prapat 52.66 239 *e*P **P 18 14 29.5 +0.2**
PSI pmax pmax
comp=Z,12nm,1.1s
PSI Prapat 52.66 239 *e*P **P 18 14 29.5 +0.2**
comp=Z,12nm,1.1s
HYT Haines Junctio 53.42 37 *e*P **P 18 14 35.9 +1.5**
comp=Z,25nm,1.1s
INK Inuvik 53.54 27 P **P 18 14 35.3 +0.3**
comp=Z,6.5nm,1.0s,baz=295,slow=6.4,SNR=15
INK LR LR 18 38 49.5
comp=Z,42nm,20.1s,baz=266,slow=38
INK Inuvik 53.54 27 *e*P **P 18 14 36.1 +1.1**
INK pmax pmax
comp=Z,13nm,1.3s
INK Inuvik 53.54 27 *e*P **P 18 14 36.1 +1.1**
comp=Z,13nm,1.3s
GSI Gunungsitoli 54.66 239 *e*P **P 18 14 43.8 0.0**
comp=Z,71nm,1.4s
LEM Lembang 54.76 224 P **P 18 14 44.6 -0.1**
comp=Z,28nm,0.9s,baz=348,slow=8.5,SNR=4.4
SVE Sverdlovsk 55.10 318 *e*P **P 18 14 46.7 +0.2**
SVE pmax pmax
comp=Z,14nm,0.7s
ARU Arti 56.31 318 P **P 18 14 55.1 -0.1**
comp=Z,2.3nm,0.4s,baz=129,slow=1.4,SNR=7.2
ARU LR LR 18 39 51.1
comp=Z,76nm,20.2s,baz=76,slow=37
ARU Arti 56.31 318 *c*P **P 18 14 55.0 -0.2**
ARU 18 15 50.3
ARU 18 16 56.2
ARU S **S 18 22 44.6 +0.4**
ARU SS **SS 18 26 28.9 -1.6**
ARU pmax pmax
comp=Z,6.0nm,0.8s

ARU Arti 56.31 318 *e*P **P 18 14 55.4 +0.2**
comp=Z,13nm,0.7s
FITZ Fitzroy Crossi 57.61 199 P **P 18 15 05.0 +0.3**
comp=Z,6.5nm,0.5s,baz=12,slow=7.0,SNR=32
DLBC Dease Lake 57.74 38 *e*P **P 18 15 08.0 +2.5**
comp=Z,19nm,1.3s
WRAB Tennant Creek 57.76 189 *d*/*e*P **P 18 15 04.9 -0.8**
WRAB pmax pmax
comp=Z,33nm,1.1s
WRAB Tennant Creek 57.76 189 *e*P **P 18 15 05.2 -0.5**
comp=Z,63nm,1.3s
WR1 Warramunga Arr 57.77 189 *e*P **P 18 15 05.2 -0.6**
comp=Z,82nm,1.4s
WRA Warramunga Arr 57.77 189 P **P 18 15 05.2 -0.6**
comp=Z,24nm,0.6s,baz=5.4,slow=7.4,SNR=424
ABKAR Akbulak array 58.02 310 *e*P **P 18 15 07.1 -0.3**
comp=Z,56nm,0.6s
AKTO Aktyubinsk 58.73 312 P **P 18 15 12.9 +0.5**
comp=Z,1.1nm,0.6s,baz=96,slow=9.2,SNR=2.8
AKTO LR LR 18 44 06.4
comp=Z,36nm,21.1s,baz=75,slow=40
SPITS Spitsbergen Ar 60.03 349 P **P 18 15 21.0 0.0**
comp=Z,2.4nm,0.7s,baz=30,slow=5.8,SNR=4.1
SPITS LR LR 18 42 50.0
comp=Z,95nm,20.3s,baz=25,slow=38
SPITS Spitsbergen Ar 60.03 349 P **P 18 15 21.0 0.0**
SPITS pmax pmax
comp=Z,2.0nm,0.7s
SPITS MLR MLR
comp=Z,95nm,20.3s
AS01 Alice Springs 61.49 189 *e*P **P 18 15 30.5 -0.9**
AS31 Alice Springs 61.49 189 *e*P **P 18 15 31.5 0.0**
comp=Z,4.6nm,0.8s
ASAR Alice Springs 61.49 189 P **P 18 15 31.2 -0.2**
comp=Z,13nm,0.7s,baz=12,slow=6.1,SNR=118
RES Resolute Bay 61.84 15 P **P 18 15 33.4 +0.1**
comp=Z,4.0nm,0.6s,baz=310,slow=7.0,SNR=23
RES Resolute Bay 61.84 15 *e*P **P 18 15 33.3 +0.1**
RES pmax pmax
comp=Z,11nm,1.1s
RES Resolute Bay 61.84 15 *e*P **P 18 15 33.3 +0.1**
comp=Z,11nm,1.1s
MBWA Marble Bar 62.21 204 *e*P **P 18 15 36.3 0.0**
comp=Z,16nm,0.7s
YKW3 Yellowknife Ar 62.91 30 *e*P **P 18 15 40.8 +0.2**
comp=Z,3.9nm,0.8s
YKA Yellowknife Ar 62.95 31 P **P 18 15 41.1 +0.3**
comp=Z,2.5nm,0.6s,baz=301,slow=6.6,SNR=47
KLMR Klimovskoe 63.57 328 *e*P **P 18 15 43.9 -1.0**
KLMR pmax pmax
comp=Z,9.0nm,1.3s
KLMR Klimovskoe 63.57 328 *e*P **P 18 15 43.9 -1.0**
KLMR AMP 18 15 51.6
comp=Z,9.0nm,1.3s
ARA0 ARCESS Array S 63.64 339 *e*P **P 18 15 45.3 0.0**
ARCES ARCESS Array B 63.64 339 P **P 18 15 45.3 0.0**
comp=Z,2.0nm,0.8s,baz=41,slow=5.9,SNR=7.0
GEYT Alibeck 64.00 299 P **P 18 15 49.0 +0.2**
comp=Z,0.5nm,0.4s,baz=343,slow=4.5,SNR=2.6
TULEG Thule 64.40 8 *e*P **P 18 15 49.6 -0.6**
comp=Z,9.4nm,0.7s
DAG Danmarks Havn 65.21 355 *i* P **P 18 15 54.9 -0.5**
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 65.21 355 *i* P **P 18 15 54.9 -0.5**
comp=Z,4.6nm,0.7s
B05A Bryant 66.42 47 P **P 18 16 05.1 +1.4**
baz=301
BEVT Boeing Everett 66.50 47 *e*P **P 18 16 05.8 +1.6**
OBN Obninsk 67.98 323⇑ *e*P **P 18 16 13.4 0.0**
OBN *e* 18 16 20.7
OBN *e* 18 16 27.8
OBN 18 16 40.0
OBN *e*S **S 18 25 12.5 +1.3**
OBN pmax pmax
comp=Z,5.0nm,1.1s
OBN MLR MLR
comp=Z,95nm,18.0s
EDM Edmonton 68.47 39 *e*P **P 18 16 17.9 +1.3**
EDM pmax pmax
comp=Z,17nm,1.2s
EDM Edmonton 68.47 39 *e*P **P 18 16 17.9 +1.3**
comp=Z,17nm,1.2s
I04A Tendick Farm, 68.55 51 P **P 18 16 18.6 +1.3**
baz=302
FIA1 FINESS Array S 68.56 332 *e*P **P 18 16 16.8 -0.2**
FIA1 *e*P **P 18 16 17.1 +0.1**
FIA0 FINESS Array S 68.56 332 *e*P **P 18 16 16.9 0.0**
FIA0 FINESS Array S 68.56 332 *e*P **P 18 16 16.9 0.0**
FINES FINESS Array B 68.56 332 P **P 18 16 16.9 0.0**
comp=Z,8.4nm,0.9s,baz=44,slow=8.3,SNR=18
FINES LR LR 18 51 22.8
comp=Z,54nm,18.8s,baz=20,slow=40
FINES FINESS Array B 68.56 332 *i* P **P 18 16 16.7 -0.3**
FINES pmax pmax
comp=Z,8.0nm,0.9s
L02D Cave Junction, 68.67 53 P **P 18 16 20.0 +2.0**
baz=302
I05D Terrebonne, OR 68.92 50 P **P 18 16 20.6 +1.0**
baz=302
STKA Stephens Creek 69.18 181 P **P 18 16 20.4 -0.6**
comp=Z,2.9nm,0.7s,baz=353,slow=11,SNR=5.6
STKA Stephens Creek 69.18 181 *e*P **P 18 16 20.4 -0.6**
comp=Z,10.0nm,2.0s
NEW Newport 69.24 45 P **P 18 16 22.8 +1.2**
baz=304
SUMG Summit 70.06 0 *e*P **P 18 16 27.6 +1.0**
SUMG pmax pmax
comp=Z,14nm,1.2s
SUMG Summit 70.06 0 *i* P **P 18 16 27.3 +0.7**
SUMG Summit 70.06 0 *e*P **P 18 16 27.6 +1.0**
comp=Z,14nm,1.2s
VSU Vasula 70.24 330⇑ *e*P **P 18 16 26.7 -0.7**
VSU pmax pmax
comp=Z,18nm,1.1s
KBZ Khabaz 70.98 311 P **P 18 16 32.9 +0.8**
comp=Z,1.6nm,0.8s,baz=37,slow=5.8,SNR=2.6
KIV Kislovodsk 70.98 311 *e*P **P 18 16 32.4 +0.1**
KIV pmax pmax
comp=Z,12nm,1.1s
BMO Blue Mountains 71.04 48 *e*P **P 18 16 33.7 +1.0**
BMO pmax pmax
comp=Z,10.0nm,1.3s
BMO Blue Mountains 71.04 48 *e*P **P 18 16 33.7 +1.0**
comp=Z,10nm,1.3s
FFC Flin Flon 72.84 33 *e*P **P 18 16 43.8 +0.6**
FFC pmax pmax
comp=Z,12nm,0.9s
FFC Flin Flon 72.84 33 *e*P **P 18 16 43.8 +0.6**
comp=Z,12nm,0.9s
CMB Columbia Colle 72.99 55 *e*P **P 18 16 45.6 +1.1**
CMB pmax pmax
comp=Z,16nm,1.8s
CMB Columbia Colle 72.99 55 *e*P **P 18 16 45.6 +1.1**
comp=Z,16nm,1.8s
FCC Fort Churchill 73.16 27 *e*P **P 18 16 45.4 +0.5**
FCC pmax pmax
comp=Z,13nm,1.2s
FCC Fort Churchill 73.16 27 *e*P **P 18 16 45.4 +0.5**
comp=Z,13nm,1.2s
LRM Limekiln Ridge 73.26 45 *e*P **P 18 16 47.5 +1.4**
EGMT Eagleton 73.39 42 P **P 18 16 47.1 +0.5**
baz=308
EGMT Eagleton 73.39 42 *e*P **P 18 16 47.7 +1.0**
comp=Z,11nm,1.1s
DLMT Dillon 73.45 45 *e*P **P 18 16 48.7 +1.5**
comp=Z,10.0nm,1.0s
HLID Hailey 73.48 48 P **P 18 16 48.3 +0.9**
baz=306
HLID Hailey 73.48 48 *e*P **P 18 16 49.0 +1.5**
comp=Z,4.4nm,1.0s
HFS Hagfors 73.78 336 P **P 18 16 48.7 +0.1**
comp=Z,4.4nm,0.7s,baz=64,slow=6.6,SNR=16
HFS LR LR 18 52 14.5
comp=Z,161nm,18.3s,baz=26,slow=38
BOZ Bozeman (W) 73.85 45 *e*P **S 18 26 17.9 -2.4**
NB2 NORSAR Subarra 73.86 338 P **P 18 16 49.0 -0.1**
comp=Z,3.1nm,0.7s,baz=41,slow=5.9
NB200 NORSAR Array S 73.86 338 *e*P **P 18 16 49.1 0.0**
NOA NORSAR Array B 73.86 338 P **P 18 16 49.1 0.0**
comp=Z,3.7nm,0.8s,baz=38,slow=5.9,SNR=10
NOA LR LR 18 54 00.0
comp=Z,72nm,19.6s,baz=20,slow=40
NV01 Mina Array Sit 74.11 54 *e*P **P 18 16 52.3 +1.1**
NVAR Mina Array Bea 74.11 54 P **P 18 16 52.4 +1.1**
comp=Z,3.0nm,0.8s,baz=285,slow=6.0,SNR=17
AKASG Malin Array Be 74.19 323 P **P 18 16 50.9 -0.3**
comp=Z,1.6nm,0.4s,baz=46,slow=6.1,SNR=15
AKASG LR LR 18 52 48.6
comp=Z,39nm,19.4s,baz=35,slow=38
AKBB Malin Array Si 74.19 323 *e*P **P 18 16 50.8 -0.4**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 74.19 323 *e*P **P 18 16 50.8 -0.4**
comp=Z,6.7nm,0.7s
NV11 Mina Array Sit 74.20 54 *e*P **P 18 16 53.2 +1.5**
comp=Z,0.9nm,1.5s
KIEV Kiev 74.20 323 *de*P **P 18 16 50.9 -0.3**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 74.20 323 *e*P **P 18 16 50.8 -0.5**
comp=Z,6.6nm,0.7s
AK11 Malin Array Si 74.23 323 *e*P **P 18 16 51.2 -0.2**
YHH Holmes Hill 74.78 45 *e*P **P 18 16 56.1 +1.0**
comp=Z,7.3nm,1.2s
GCMT Greycliff 74.82 44 *e*P **P 18 16 55.0 -0.2**
H17A Grant Village 75.18 45 P **P 18 17 00.1 +2.7**
baz=308
H17A Grant Village 75.18 45 *e*P **P 18 16 59.9 +2.5**
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 75.21 5 LR LR 18 51 10.5
comp=Z,52nm,21.6s,baz=355,slow=37
IMW Indian Meadow 75.28 46 *e*P **P 18 16 60.0 +1.9**
comp=Z,8.3nm,0.9s
FXWY Fox Creek 75.40 46 *e*P **P 18 17 00.6 +2.0**
comp=Z,7.4nm,1.0s
MOOW Moose Ponds 75.49 46 *e*P **P 18 17 00.7 +1.6**
comp=Z,6.7nm,1.1s
HVU Hansel Valley 75.52 48 *e*P **P 18 17 00.8 +1.5**
HVU pmax pmax
comp=Z,7.0nm,1.1s
HVU Hansel Valley 75.52 48 *e*P **P 18 17 00.8 +1.5**
comp=Z,7.1nm,1.1s
TPAW Teton Pass 75.53 46 *e*P **P 18 17 00.7 +1.3**
comp=Z,13nm,1.5s
ISA Isabella, Lake 75.61 56 P **P 18 16 59.8 0.0**
baz=306
ISA Isabella, Lake 75.61 56 *e*P **P 18 16 59.8 0.0**
ISA pmax pmax
comp=Z,4.0nm,1.1s
ISA Isabella, Lake 75.61 56 *e*P **P 18 16 59.8 0.0**
comp=Z,4.3nm,1.1s
REDW Red Top Meadow 75.67 46 *e*P **P 18 17 01.4 +1.3**
comp=Z,8.0nm,1.1s
DAC Darwin (Calif) 75.83 55 *e*P **P 18 17 01.7 +0.5**
DAC pmax pmax
comp=Z,6.0nm,1.3s
DAC Darwin (Calif) 75.83 55 *e*P **P 18 17 01.7 +0.5**
comp=Z,5.8nm,1.3s
R11A Troy Canyon, C 75.88 52 P **P 18 17 01.8 +0.4**
baz=307
R11A Troy Canyon, C 75.88 52 *e*P **P 18 17 02.9 +1.4**
comp=Z,3.6nm,0.9s
FRB Frobisher Bay 76.02 14 P **P 18 17 01.7 +0.2**
comp=Z,7.4nm,0.7s,baz=336,slow=7.5
MPMC Manual Prospec 76.03 55 P **P 18 17 03.0 +0.7**
baz=307
LAO LASA Array 76.09 41 P **P 18 17 03.5 +1.2**
baz=311
LAO LASA Array 76.09 41 *e*P **P 18 17 04.0 +1.7**
comp=Z,13nm,0.9s
FURC Furnace Creek, 76.19 55 P **P 18 17 04.0 +1.1**
baz=307
LRMC Laurel Mtn Rad 76.24 56 P **P 18 17 04.4 +0.9**
baz=307
SORM Soroca 76.31 321⇑ P P 18 17 09.4 +6.0
SORM Soroca 76.31 321⇑ *i*P P 18 17 09.4 +6.0
HWUT Hardware Ranch 76.34 48 *e*P **P 18 17 05.6 +1.6**
comp=Z,6.1nm,0.9s
EDW2 Edwards Air Fo 76.39 56 P **P 18 17 05.7 +1.5**
baz=307
CCCA Chr Cany lake 76.42 56 *e*P **P 18 17 02.1 -2.3**
DUG Dugway, Tooele 76.47 50 P **P 18 17 05.5 +0.8**
baz=308
DUG Dugway, Tooele 76.47 50 *e*P **P 18 17 05.8 +1.1**
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 76.47 50 *e*P **P 18 17 05.8 +1.1**
comp=Z,5.6nm,0.9s
TCUT Toone Canyon 76.74 48 *e*P **P 18 17 07.4 +1.1**
comp=Z,8.3nm,0.9s
BW06 Boulder Array 76.78 46 P **P 18 17 07.0 +0.5**
baz=309
BW06 Boulder Array 76.78 46 *e*P **P 18 17 07.4 +0.9**
comp=Z,4.4nm,0.8s
PD31 Pinedale Array 76.78 46 *e*P **P 18 17 07.4 +0.9**
PDAR Pinedale Array 76.78 46 P **P 18 17 07.0 +0.5**
comp=Z,2.8nm,0.6s,baz=274,slow=1.9,SNR=36
PDAR Pinedale Array 76.78 46 *e*P **P 18 17 06.9 +0.4**
SHOC Shoshone, Teco 76.91 55 P **P 18 17 07.8 +0.7**
baz=307
GSC Goldstone, Bar 76.92 56 P **P 18 17 07.9 +0.7**
baz=307
BFSC Mount Baldy Ra 77.00 57 P **P 18 17 08.8 +1.1**
baz=307
NLU North Lily Min 77.06 49 *e*P **P 18 17 09.7 +1.6**
comp=Z,4.6nm,1.0s
FON Fontana 77.22 57 *e*P **P 18 17 08.2 -0.7**
SHPR Sheep Range 77.26 54 *e*P **P 18 17 11.0 +1.7**
comp=Z,6.8nm,1.1s
MPU Maple Canyon 77.29 49 *e*P **P 18 17 10.6 +1.2**
comp=Z,12nm,1.2s
TUQ Turquoise Moun 77.42 55 P **P 18 17 11.5 +1.4**
baz=307
HEC Hector,Ludlow 77.51 56 P **P 18 17 11.4 +0.8**
baz=307
CCUT Cedar City 77.76 52 *e*P **P 18 17 13.3 +1.2**
comp=Z,5.4nm,1.1s
MSU Marysvale 77.90 51 *e*P **P 18 17 14.4 +1.6**
MSU pmax pmax
comp=Z,1.0nm,1.1s
MSU Marysvale 77.90 51 *e*P **P 18 17 14.4 +1.6**
comp=Z,0.5nm,1.1s
GMRC Granite Mounta 77.98 55 P **P 18 17 13.8 +0.6**
baz=308
KWP Kalwaria Pacla 77.99 325 *e*P **P 18 17 14.3 +1.4**
KWP pmax pmax
comp=Z,270nm,1.4s
KWP Kalwaria Pacla 77.99 325 *e*P **P 18 17 14.3 +1.4**
comp=Z,270nm,1.4s
TLCR 78.04 318⇑ P P 18 17 18.2 +5.0
TLCR 78.04 318⇑ *i*P P 18 17 18.1 +4.9
LDFC Landfair 78.16 55 *e*P **P 18 17 15.5 +1.3**
comp=Z,12nm,1.1s
LCMT Little Creek M 78.17 52 *e*P **P 18 17 15.6 +1.4**
comp=Z,5.2nm,1.0s
P17A Butcher Ranch, 78.17 49 *e*P **P 18 17 15.3 +1.1**
comp=Z,11nm,1.0s
PFO Pinyon Flats O 78.17 57 P **P 18 17 15.5 +1.2**
baz=308
MTPU Mount Pierson 78.19 51 *e*P **P 18 17 16.4 +1.8**
comp=Z,6.4nm,0.9s
BUR08 Bucovina Ar. S 78.20 322 *e*P **P 18 17 14.8 +0.6**
BUR04 Bucovina Ar. S 78.21 322 *e*P **P 18 17 14.5 +0.2**
BURAR Bucovina Array 78.21 322⇓ P **P 18 17 14.6 +0.3**
BURAR Bucovina Array 78.21 322⇓ *i*P **P 18 17 14.6 +0.3**
BELC Belle Mtn. Jos 78.24 56 P **P 18 17 15.2 +0.5**
baz=308
TESR Tescani 78.26 320⇑ *i*P P 18 17 20.9 +6.5
CFR Carcaliu 78.40 319⇓ P **P 18 17 15.8 +0.6**
CFR Carcaliu 78.40 319⇓ *i*P **P 18 17 15.8 +0.6**
KNB Kanab 78.43 52 *e*P **P 18 17 17.3 +1.5**
KNB pmax pmax
comp=Z,16nm,1.3s
KNB Kanab 78.43 52 *e*P **P 18 17 17.3 +1.5**
comp=Z,16nm,1.3s
SRU San Rafael Swe 78.53 49 *e*P **P 18 17 17.1 +0.8**
SRU pmax pmax
comp=Z,12nm,1.1s
SRU San Rafael Swe 78.53 49 *e*P **P 18 17 17.1 +0.8**
comp=Z,12nm,1.1s
ULM Lac du Bonnet 78.63 34 P **P 18 17 16.4 0.0**
comp=Z,3.7nm,0.6s,baz=310,slow=5.4,SNR=8.4
ULM Lac du Bonnet 78.63 34 *e*P **P 18 17 16.6 +0.2**
ULM pmax pmax
comp=Z,11nm,1.1s
ULM Lac du Bonnet 78.63 34 *e*P **P 18 17 16.6 +0.2**
comp=Z,11nm,1.1s
VRI Vrincioaia 78.66 320⇓ P **P 18 17 18.2 +1.5**
VRI Vrincioaia 78.66 320⇓ *i*P **P 18 17 18.2 +1.5**
IRM Iron Mountain 78.70 56 P **P 18 17 18.2 +1.1**
baz=308
BC3 Big Chuckawall 78.81 56 P **P 18 17 18.4 +0.6**
baz=308

STHS	Stebnicka Huta	78.81	325	*e*P		P		18 17 19.0	+1.6
STHS				pmax		pmax				
	comp=Z,4.0nm,1.3s									
STHS	Stebnicka Huta	78.81	325	*e*P		P		18 17 19.0	+1.6
BR101	Keskin Array S	78.91	312	*e*P		P		18 17 18.9	+0.6
BRTR	Keskin Array B	78.91	312	P		P		18 17 18.9	+0.6
	comp=Z,0.3nm,0.4s,baz=114,slow=1.7,SNR=3.1									
RSSD	Black Hills	78.94	42	P		P		18 17 18.7	+0.2
	baz=312									
RSSD	Black Hills	78.94	42	*e*P		P		18 17 19.1	+0.6
RSSD				pmax		pmax				
	comp=Z,6.0nm,0.8s									
RSSD	Black Hills	78.94	42	*e*P		P		18 17 19.1	+0.6
	comp=Z,5.5nm,0.8s									
IKP	In-Ko-Pah, Jac	78.98	57	P		P		18 17 19.6	+0.8
	baz=308									
SWSC	Sam W. Stewart	79.01	57	P		P		18 17 19.8	+1.0
	baz=308									
U15A	North Rim	79.13	52	*e*P		P		18 17 21.3	+1.6
	comp=Z,4.6nm,0.8s									
PDMCI	Parker Dam,Lak	79.27	55	P		P		18 17 21.2	+1.0
	baz=308									
DOPR	Dopca	79.27	321	⇓ *i*P		P		18 17 22.0	+2.0
MLR	Muntele Rosu	79.32	320	LR		LR		18 54 37.7		
	comp=Z,22nm,18.6s,baz=43,slow=37									
MLR	Muntele Rosu	79.32	320	⇓P		P		18 17 27.2	+6.8
MLR	Muntele Rosu	79.32	320	⇓ *i*P		P		18 17 27.2	+6.8
A32A	Rocking H Ranc	79.32	35	P		P		18 17 19.4	-0.8
	baz=316									
BR231	Keskin MP Arra	79.34	312	*e*P		P		18 17 21.3	+0.7
C31A	Landman Farms,	79.56	36	P		P		18 17 21.1	-0.5
	baz=316									
B32A	Ashes, Strandq	79.68	35	P		P		18 17 21.9	-0.3
	baz=316									
LANS	Liptovska Anna	79.80	326	*e*P		P		18 17 24.3	+1.4
LANS	Liptovska Anna	79.80	326	*e*P		P		18 17 24.3	+1.4
A33A	Warroad	79.81	34	P		P		18 17 22.6	-0.2
	baz=317									
VOIR		79.81	320	⇑P		P		18 17 23.0	0.0
VOIR		79.81	320	⇑ *i*P		P		18 17 23.0	0.0
KECS	Kecovo	79.83	325	*e*P		P		18 17 23.8	+0.8
KECS				pmax		pmax				
	comp=Z,2.0nm,1.0s									
KECS	Kecovo	79.83	325	*e*P		P		18 17 23.8	+0.8
PV05	Paradox Valley	80.04	49	*e*P		P		18 17 26.3	+1.6
N23A	Red Feather La	80.05	46	P		P		18 17 25.8	+1.2
	baz=312									
N23A	Red Feather La	80.05	46	*e*P		P		18 17 26.2	+1.5
	comp=Z,14nm,1.3s									
AGMN	Agassiz Nation	80.06	35	P		P		18 17 24.0	-0.2
	baz=317									
D31A	Mcclaflin, Tow	80.10	37	P		P		18 17 24.5	0.0
	baz=316									
MORC	Moravsky Berou	80.18	327	*e*P		P		18 17 25.7	+0.8
MORC				pmax		pmax				
	comp=Z,88nm,1.9s									
MORC	Moravsky Berou	80.18	327	⇓ *i*P		P		18 17 26.0	+1.1
MORC	Moravsky Berou	80.18	327	*e*P		P		18 17 25.7	+0.8
	comp=Z,88nm,1.9s									
Y14A	Wickenburg	80.23	55	*e*P		P		18 17 26.3	+0.8
	comp=Z,29nm,0.9s									
DPC	Dobruska-Polom	80.27	328	*e*P		P		18 17 26.4	+1.0
DPC				*e*				18 17 33.2		
DPC	Dobruska-Polom	80.27	328	*e*P		P		18 17 26.4	+1.0
DPC				*ep*P		PcP		18 17 33.2	+0.7
WUAZ	Wupatki	80.28	53	P		P		18 17 27.4	+1.5
	baz=310									
WUAZ	Wupatki	80.28	53	*e*P		P		18 17 27.6	+1.7
	comp=Z,10nm,1.0s									
KRLC	Kraliky	80.28	328	*e*P		P		18 17 25.7	+0.3
KRLC				*e*				18 17 34.7		
KRLC	Kraliky	80.28	328	*e*P		P		18 17 25.7	+0.3
KRLC				*ep*P		PcP		18 17 34.7	+2.1
PV01	Paradox Valley	80.33	49	*e*P		P		18 17 27.6	+1.4
B34A	Aery, Baudette	80.47	34	P		P		18 17 25.9	-0.6
	baz=318									
VYHS	Vyhne	80.57	326	*e*P		P		18 17 27.5	+0.5
VYHS				pmax		pmax				
	comp=Z,2.0nm,1.2s									
VYHS	Vyhne	80.57	326	*e*P		P		18 17 27.5	+0.5
SMCO	Snowmass	80.59	47	*e*P		P		18 17 27.3	-0.5
	comp=Z,5.7nm,1.0s									
F31A	Hecla	80.69	38	P		P		18 17 27.7	0.0
	baz=316									
BRG	Berggiesshubel	80.84	330	*e*P		P		18 17 28.5	+0.2
	comp=Z,2.9nm,0.9s									
BRG				*i*				18 17 38.0		
	comp=Z,2.3nm,0.6s									
BRG	Berggiesshubel	80.84	330	*e*P		P		18 17 28.5	+0.2
BRG				*i*				18 17 38.0		
BRG				pmax		pmax				
	comp=Z,3.0nm,0.9s									
BRG				pmax		pmax				
	comp=Z,2.0nm,0.6s									
CLL	Collm	80.87	330	*e*P		P		18 17 28.7	+0.2
CLL				pmax		pmax				
	comp=Z,6.0nm,0.9s									
CLL	Collm	80.87	330	*i* P		P		18 17 28.5	0.0
	comp=Z,6.0nm,0.9s									
CLL				*i* pP		sP		18 17 35.5	-1.5
CLL				Lm		MLR		18 58 00.0		
	comp=Z,100nm,18.8s									
CLL	Collm	80.87	330	*e*P		P		18 17 28.7	+0.2
	comp=Z,5.5nm,0.9s									
X16A	Lo Mia Camp, P	80.93	53	*e*P		P		18 17 31.2	+1.8
	comp=Z,6.6nm,1.0s									
VRAC	Vranov	80.94	327	⇑P		P		18 17 30.2	+1.2
VRAC	Vranov	80.94	327	⇑ *i*P		P		18 17 30.2	+1.2
ISCO	Idaho Springs	80.96	46	P		P		18 17 30.9	+1.2
	baz=312									
F32A	Veblen	81.23	37	P		P		18 17 30.4	-0.2
	baz=316									
GOPC	GO Pecny, Ondr	81.24	329	*e*P		P		18 17 31.2	+0.7
GOPC	GO Pecny, Ondr	81.24	329	*e*P		P		18 17 31.2	+0.7
D34A	Park Rapids	81.26	36	P		P		18 17 30.8	+0.1
	baz=318									
E33A	Westby DABS, E	81.31	36	P		P		18 17 30.4	-0.5
	baz=317									
C35A	Jirik Farms, M	81.36	35	P		P		18 17 30.9	-0.3
	baz=318									
G32A	Webster	81.50	38	P		P		18 17 32.4	+0.4
	baz=316									
F33A	5 Mile Ranch,	81.66	37	P		P		18 17 33.0	+0.2
	baz=317,SNR=6.4									
D35A	Remer	81.79	35	P		P		18 17 33.3	-0.2
	baz=318									
C36A	Pine Crest Far	81.83	34	P		P		18 17 33.4	-0.2
	baz=319									
E35A	Pequot Lakes	82.02	36	P		P		18 17 34.1	-0.6
	baz=318									
G33A	Ortonville	82.06	38	P		P		18 17 35.5	+0.6
	baz=317									
C37A	Embarrass	82.14	34	P		P		18 17 34.8	-0.5
	baz=320									
F34A	Alexandria	82.18	37	P		P		18 17 35.2	-0.4
	baz=318									
OGNE	Ogallala	82.19	44	P		P		18 17 37.5	+1.7
	baz=314									
EYMN	Ely	82.27	33	P		P		18 17 35.6	-0.4
	baz=320									
EYMN	Ely	82.27	33	*e*P		P		18 17 36.3	+0.3
	comp=Z,8.6nm,0.9s									
H33A	Prehn Over Nor	82.28	38	P		P		18 17 36.0	-0.1
	baz=317,SNR=6.2									
CONA	Conrad Observa	82.31	327	*e*P		P		18 17 33.4	-2.9
	comp=Z,3.4nm,1.0s									
KHC	Kasperske Hory	82.34	329	*e*P		P		18 17 36.8	+0.4
KHC				pmax		pmax				
	comp=Z,2.0nm,0.8s									
KHC	Kasperske Hory	82.34	329	*e*P		P		18 17 36.7	+0.4
KHC				*ep*P		sP		18 17 43.3	-1.6
KHC	Kasperske Hory	82.34	329	*e*P		P		18 17 36.8	+0.4
	comp=Z,1.6nm,0.8s									
SDCO	Great Sand Dun	82.40	48	P		P		18 17 37.7	+0.4
	baz=312									
SDCO	Great Sand Dun	82.40	48	*e*P		P		18 17 38.7	+1.4
	comp=Z,4.7nm,1.2s									
D37A	Cotton	82.46	34	P		P		18 17 36.9	-0.2
	baz=319									
GERES	GERESS Array B	82.51	329	P		P		18 17 37.3	-0.1
	comp=Z,1.1nm,0.7s,baz=18,slow=4.8,SNR=9.3									
GEA0	GERESS Array S	82.52	329	*e*P		P		18 17 37.2	-0.2
C38A	Sawbill Land.	82.54	33	P		P		18 17 37.1	-0.3
	baz=320,SNR=11									
E36A	McGregor	82.57	35	P		P		18 17 36.6	-1.0
	baz=319									
I33A	Coleman	82.72	39	P		P		18 17 38.6	+0.2
	baz=317									
EKA	Eskdalemuir Ar	82.75	341	P		P		18 17 38.7	+0.4
	comp=Z,1.0nm,0.6s,baz=27,slow=4.8,SNR=9.8									
K31A	O'Neill	82.75	41	P		P		18 17 39.7	+1.1
	baz=316									
VTS	Vitosha	82.76	319	⇑P		P		18 17 39.3	+0.5
VTS	Vitosha	82.76	319	⇑ *i*P		P		18 17 39.3	+0.5
H34A	Spellman Lake,	82.76	38	P		P		18 17 38.5	-0.1
	baz=317									
F36A	Milaca	82.94	36	P		P		18 17 38.7	-0.8
	baz=319									
C39A	Grand Marais	82.96	33	P		P		18 17 39.3	-0.3
	baz=321,SNR=6.0									
G35A	Watkins	82.97	37	P		P		18 17 39.8	+0.1
	baz=318									
ECSD	EROS Data Cent	83.03	39	P		P		18 17 40.6	+0.5
	baz=317									
ECSD	EROS Data Cent	83.03	39	*e*P		P		18 17 40.5	+0.5
	comp=Z,6.0nm,0.8s									
H35A	Sunnyside Ranc	83.19	37	P		P		18 17 41.3	+0.4
	baz=318,SNR=8.0									
E38A	The Farm, Brul	83.27	34	P		P		18 17 40.6	-0.6
	baz=320									
MHTCO	State Highway	83.30	48	*e*P		P		18 17 43.1	+1.3
	comp=Z,28nm,0.7s									
T25A	Trinidad	83.45	48	P		P		18 17 43.0	+0.3
	baz=313									
T25A	Trinidad	83.45	48	*e*P		P		18 17 44.0	+1.4
	comp=Z,9.9nm,0.9s									
F38A	Pierce - Schro	83.62	35	P		P		18 17 43.1	+0.1
	baz=320,SNR=9.6									
SOKA	Soboth	83.63	326	*i* P		P		18 17 43.3	+0.1
	comp=Z,2.9nm,0.7s									
ANMO	Albuquerque	83.70	50	P		P		18 17 46.0	+2.1
	baz=312									
ANMO	Albuquerque	83.70	50	*ce*P		P		18 17 45.1	+1.2
ANMO				pmax		pmax				
	comp=Z,12nm,1.2s									
ANMO	Albuquerque	83.70	50	*e*P		P		18 17 45.5	+1.6
	comp=Z,8.3nm,1.0s									
H36A	Jessenland, He	83.71	37	P		P		18 17 43.6	0.0
	baz=319									
E39A	Mellen	83.89	34	P		P		18 17 44.0	-0.4
	baz=321,SNR=7.7									
J35A	Milford	84.00	38	P		P		18 17 45.4	+0.3
	baz=318									
F39A	Loretta	84.08	34	P		P		18 17 45.6	+0.2
	baz=320									
E40A	Wakefield	84.12	33	P		P		18 17 46.0	+0.4
	baz=321,SNR=10									
D41A	Chassel	84.21	32	P		P		18 17 46.3	+0.3
	baz=322									
G38A	Ridgeland	84.23	35	P		P		18 17 46.0	-0.2
	baz=320									
M33A	Taylor Creek F	84.31	40	P		P		18 17 47.6	+0.9
	baz=317									
I37A	Lemond, Waseca	84.39	37	P		P		18 17 47.8	+0.8
	baz=319									
F40A	Park Falls	84.43	34	P		P		18 17 47.3	+0.1
	baz=321									
J36A	Seneca 1, Swea	84.45	38	P		P		18 17 47.4	+0.1
	baz=318									
G39A	Holcombe	84.45	35	P		P		18 17 47.0	-0.3
	baz=320									
121A	Cookes Peak, D	84.48	53	P		P		18 17 48.7	+0.9
	baz=312									
121A	Cookes Peak, D	84.48	53	*e*P		P		18 17 48.9	+1.0
	comp=Z,13nm,1.1s									
E41A	Kenton	84.51	33	P		P		18 17 47.1	-0.5
	baz=322,SNR=5.6									
SCHQ	Schefferville	84.56	16	P		P		18 17 48.0	+0.3
	comp=Z,3.0nm,0.6s,baz=330,slow=5.9,SNR=3.5									
SCHQ	Schefferville	84.56	16	*e*P		P		18 17 48.0	+0.3
	comp=Z,31nm,1.8s									
COWI	Conover	84.72	33	*e*P		P		18 17 49.0	+0.3
	comp=Z,5.9nm,0.9s									
MOTA	Moosalm	84.77	329	*i* P		P		18 17 49.5	+0.5
	comp=Z,3.3nm,0.8s									
RETA	Reutte	84.79	329	*i* PcP		P		18 17 50.0	+0.9
	comp=Z,5.5nm,1.0s									
J37A	Redenius Farm,	84.84	37	P		P		18 17 49.7	+0.4
	baz=319									
I38A	Scanlan Farm,	84.87	36	P		P		18 17 49.0	-0.5
	baz=320									
G40A	Rib Lake	84.90	34	P		P		18 17 49.5	-0.1
	baz=321,SNR=5.3									
K36A	Gilmore City	84.91	38	P		P		18 17 49.3	-0.4
	baz=318									
E42A	Champion	84.98	32	P		P		18 17 50.0	0.0
	baz=322									
F41A	Three Lakes	85.02	33	P		P		18 17 50.5	+0.3
	baz=322									
M35A	Neola	85.16	40	P		P		18 17 50.9	0.0
	baz=318									
K37A	Belmond	85.21	38	P		P		18 17 51.2	0.0
	baz=319									
H40A	Chili	85.32	35	P		P		18 17 51.9	+0.3
	baz=321									
J38A	Wedel Dairy, R	85.35	37	P		P		18 17 51.6	-0.2
	baz=320									
I39A	Houston	85.39	36	P		P		18 17 52.1	0.0
	baz=320									
E43A	Lone Tree Farm	85.42	32	P		P		18 17 51.9	-0.2
	baz=323									
O34A	Beatrice	85.59	41	P		P		18 17 53.0	-0.1
	baz=317									
M36A	Felix, Anita	85.62	39	P		P		18 17 53.6	+0.4
	baz=318									
N35A	Tabor	85.63	40	P		P		18 17 53.7	+0.4
	baz=318									
H41A	Junction City	85.65	34	P		P		18 17 53.6	+0.3
	baz=321									
J39A	Decorah	85.70	36	P		P		18 17 53.2	-0.4
	baz=320									
G42A	Mountain	85.70	33	P		P		18 17 53.7	+0.1
	baz=322									
I40A	Norwalk	85.78	35	P		P		18 17 53.7	-0.3
	baz=321									
F44A	Big Bay de Noc	85.97	32	P		P		18 17 55.3	+0.4
	baz=324									
G43A	Wallace	86.01	33	P		P		18 17 55.5	+0.4
	baz=323									
L38A	Oak Wood Farm,	86.01	38	P		P		18 17 55.5	+0.3
	baz=319									
N36A	Muff Farm, Cla	86.01	40	P		P		18 17 55.7	+0.6
	baz=318									
SCIA	State Center	86.07	38	P		P		18 17 56.2	+0.8
	baz=319									
K39A	Oelwein	86.10	37	P		P		18 17 55.6	0.0
	baz=320									
N37A	Lee Faris, Mou	86.44	39	P		P		18 17 57.8	+0.6
	baz=319									
M38A	Pleasantville	86.44	38	P		P		18 17 57.8	+0.5
	baz=319									
K40A	Colesburg	86.46	36	P		P		18 17 57.3	0.0
	baz=320									
J41A	Logansville	86.47	35	P		P		18 17 57.2	-0.2
	baz=321									
L39A	Vinton	86.49	37	P		P		18 17 57.5	0.0
	baz=320									
I42A	Draeger Farm,	86.55	34	P		P		18 17 57.7	0.0
	baz=322									
H43A	Windswept, Lux	86.60	33	P		P		18 17 58.1	+0.1
	baz=323									
AMTX	Amarillo	86.61	48	P		P		18 17 59.1	+0.8
	baz=315									
GDL2	Guadalupe Moun	86.84	51	*e*P		P		18 17 58.9	-0.7
N38A	Joes South For	86.90	39	P		P		18 17 59.6	+0.1
	baz=319									
M39A	Webster	86.90	38	P		P		18 17 60.0	+0.5
	baz=320									
J42A	Columbus	86.91	35	P		P		18 17 59.5	-0.1
	baz=322									
O37A	Wolven Farm, M	86.91	40	P		P		18 17 59.9	+0.3
	baz=319									
K41A	Shullsburg	86.92	36	P		P		18 17 59.3	-0.3
	baz=321									
N39A	Derby Farms, D	87.19	38	P		P		18 18 01.5	+0.6
	baz=320									
K42A	Prairie Point,	87.23	35	P		P		18 18 00.6	-0.4
	baz=322									
P37A	Lathrop	87.24	40	P		P		18 18 01.5	+0.3
	baz=319									
L41A	Preston	87.24	36	P		P		18 18 00.3	-0.8
	baz=321									
M40A	Post Highland	87.27	37	P		P		18 18 02.0	+0.7
	baz=320									
O38A	Galt	87.28	39	P		P		18 18 01.8	+0.4
	baz=319									
P38A	Dawn	87.63	40	P		P		18 18 03.8	+0.7
	baz=319									
O39A	Kirksville	87.65	39	P		P		18 18 03.9	+0.7
	baz=320									
L42A	Oliver, Polo	87.69	36	P		P		18 18 03.5	+0.2
	baz=322									
O40A	La Belle	88.08	38	P		P		18 18 05.3	+0.1
	baz=320									
Q38A	Cooks Store, C	88.08	40	P		P		18 18 05.1	-0.1
	baz=319									
P39B	Salisbury	88.13	39	P		P		18 18 05.6	+0.1
	baz=320									
Q39A	Willow Grove F	88.35	40	P		P		18 18 06.8	+0.3
	baz=319									
WMOK	Wichita Mounta	88.39	46	P		P		18 18 07.1	+0.3
	baz=316									
N42A	Yates City	88.43	37	P		P		18 18 07.4	+0.6
	baz=321									
P40A	Paris	88.45	39	P		P		18 18 07.4	+0.4
	baz=320									
M43A	Waltham Townsh	88.46	36	P		P		18 18 07.1	+0.1
	baz=322									
R38A	Fenwick Farm,	88.52	41	P		P		18 18 06.9	-0.4
	baz=319									
O41A	Passleys Farm,	88.57	38	P		P		18 18 07.7	+0.2
	baz=321									
N43A	Stutzman Famil	88.75	36	P		P		18 18 07.8	-0.5
	baz=322									
P41A	Barry, Barry	88.82	38	P		P		18 18 08.0	-0.8
	baz=321									
Q40A	Laux Farm, Aux	88.84	39	P		P		18 18 09.1	+0.3
	baz=320									
R39A	Chumby, Stover	88.87	40	P		P		18 18 09.0	0.0
	baz=319									
S38A	Stockton	88.94	41	P		P		18 18 09.1	-0.2
	baz=319									
T38A	Diamond	89.18	42	P		P		18 18 11.0	+0.5
	baz=319									
S39A	Bolivar	89.19	41	P		P		18 18 10.6	+0.1
	baz=319									
TUL1	Leonard	89.21	44	P		P		18 18 11.1	+0.5
	baz=318									
TX31	Lajitas Ar. Si	89.24	53	*e*P		P		18 18 11.2	+0.2
LTX	Lajitas	89.24	53	*e*P		P		18 18 11.5	+0.5
LTX	Lajitas	89.24	53	*e*P		P		18 18 11.5	+0.5
TXAR	Lajitas Array	89.24	53	P		P		18 18 11.5	+0.5
	comp=Z,2.2nm,0.5s,baz=301,slow=3.1,SNR=28									
R40A	Maddies Statio	89.28	40	P		P		18 18 11.2	+0.3
	baz=320									
Q41A	Truxton	89.30	39	P		P		18 18 11.0	+0.1
	baz=320									
R41A	Rosebud	89.73	39	P		P		18 18 13.2	+0.2
	baz=320									
HHAR	Hobbs	89.93	42	*e*P		P		18 18 14.0	-0.1
	comp=Z,11nm,1.2s									
T40A	Mansfield	90.02	41	P		P		18 18 14.1	-0.3
	baz=320									
U39A	Green Forest	90.10	42	P		P		18 18 15.2	+0.4
	baz=319									
SFIN	Lafayette	90.16	35	P		P		18 18 15.2	+0.3
	baz=323									
Q44A	Meyer Farm, Va	90.42	37	P		P		18 18 16.4	+0.2
	baz=322									
V39A	Pettigrew	90.42	42	P		P		18 18 16.7	+0.3
	baz=319									
S42A	Caledonia	90.43	39	P		P		18 18 17.0	+0.7
	baz=321									
U40A	Yellville	90.45	41	P		P		18 18 16.7	+0.3
	baz=320									
R43A	Red Bud	90.46	38	P		P		18 18 17.2	+0.8
	baz=321									
T41A	Mountain View	90.49	40	P		P		18 18 17.0	+0.4
	baz=320									
P45A	Graceland, Par	90.53	36	P		P		18 18 17.5	+0.7
	baz=323									
V40A	Witts Springs	90.88	42	P		P		18 18 18.4	-0.1
	baz=320									
U41A	Viola	90.95	41	P		P		18 18 19.1	+0.4
	baz=320									
X39A	Fountain Ranch	91.17	43	P		P		18 18 20.6	+0.8
	baz=319									
W40A	Ferguson Farm,	91.22	42	P		P		18 18 20.1	+0.1
	baz=319									
V41A	Mountainview	91.25	41	P		P		18 18 20.3	+0.1
	baz=320									
WHAR	Wooly Hollow	91.56	42	*e*P		P		18 18 21.8	+0.2
	comp=Z,71nm,2.0s									
W41B	Gary Mavity, V	91.67	42	P		P		18 18 22.0	0.0
	baz=320									
PKME	Peaks-Kenny Pk	92.70	22	P		P		18 18 26.8	+0.1
	baz=336									
KEST	Kesra	94.91	323	LR		LR		19 05 51.0		
	comp=Z,86nm,19.6s,baz=319,slow=38									
TOA1	Torodi Ar. Sit	117.33	316	*e*PKPdf		PKPdf		18 24 00.0	-0.7
TORD	Torodi Ar. Bea	117.33	316	PKiKP		PKPdf		18 24 00.0	-0.7
	comp=Z,0.4nm,0.9s,baz=354,slow=2.9,SNR=3.0									
LPAZ	La Paz	145.83	60	PKPbc		PKPdf		18 24 55.1	+0.5
	comp=Z,7.5nm,0.9s,baz=330,slow=4.0,SNR=20									
LPAZ	La Paz	145.83	60	*e*PKPdf		PKPbc		18 24 55.5	+0.4
MNMC	Minye Minye	146.71	65	*e*PKPdf		PKPbc		18 24 57.9	+0.6

NIED ***21*** *18:15:00,36˚.80N×142˚.30E,h8km,Mw4.2 Best double couple: M0 2.51000×10^15 NP1:φ=215.00000°,δ=20.00000°, λ=113.00000°. NP2:φ=11.00000°,δ=71.00000°,λ=82.00000°.*
IDC ***21*** *18:15:06.4±0.5,36˚.67N×142˚.40E,h0km,mb4.1/31, mb1 4.2/38,mb1mx4.1/72,mbtmp4.1/38,ML4.0/6,MS3.2/8, Ms1 3.2/8,ms1mx2.9/69,Error ellipse: s-maj=13.9km s-min=11.3km az=120.0*
ISCJB ***21*** *18:15:07.0±0.3,36˚.70N±0˚.03×142˚.43E±0˚.03,h15km, mb4.2/49,MS3.5/4,Error ellipse: s-maj=4.2km s-min=3.9km az=139.2*
JMA ***21*** *18:15:07.8±0.3,36˚.74N×142˚.36E,h17km±4km,M4.5*
NEIC ***21*** *18:15:07.7±1.6,36˚.69N×142˚.44E,h9km±9km,mb4.7/18, Error ellipse: s-maj=4.8km s-min=3.6km az=121.0*

ISC 21 18:15:08.3±0.4,36˚.64N±0˚.04×142˚.43E±0˚.06,h15km,n133, σ1s33/137,mb4.3/49,MS3.4/4,1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.39

ASAJ Sn **Sn** **18 18 18.1 -2.9**
1.3nm,0.3s,baz=348,slow=19,SNR=3.3
CBIJ **Chichi jima** **9.52 181** *e*Pn **Pn** **18 17 25.6 +0.7**
CBIJ Sn **Sn** **18 19 05.2 -6.4**
JCJ **Chichijima** **9.52 181** Pn **Pn** **18 17 25.6 +0.7**
4.4nm,0.3s,baz=276,slow=19,SNR=3.8
JCJ Sn **Sn** **18 19 05.2 -6.4**
15nm,0.3s,baz=117,slow=22,SNR=6.0
JNU **Nakatsue** **10.12 253** Pn **Pn** **18 17 33.2 +0.1**
0.5nm,0.3s,baz=272,slow=0.3,SNR=5.6
YSS **Yuzh-Sakhalins** **10.31 1** *e*Pn **Pn** **18 17 34.7 -0.9**
USRK **Ussuriysk Ar.** **10.96 317** Pn **Pn** **18 17 44.0 -0.6**
0.2nm,0.3s,baz=128,slow=12,SNR=2.5
USRK LR LR 18 21 28.9
comp=Z,110nm,19.8s,baz=119,slow=35
KSRS **Korea Array** **11.62 278** Pn **Pn** **18 17 55.4 +1.8**
0.3nm,0.3s,baz=86,slow=13,SNR=9.1
KSRS LR LR 18 22 02.3
comp=Z,139nm,18.5s,baz=89,slow=36
KSAR **Wonju Array Be** **11.65 278** Pn **Pn** **18 17 55.4 +1.4**
KLR **Kul'dur** **14.79 332** Pn **Pn** **18 18 34.5 -2.4**
0.0nm,0.3s,baz=153,slow=14,SNR=5.6
KLR LR LR 18 23 39.6
comp=Z,13nm,19.5s,baz=144,slow=35
MA2 **Magadan** **23.58 11** P **P** **18 20 18.3 +0.2**
3.9nm,0.8s,baz=181,slow=17,SNR=2.9
YAK **Yakutsk** **26.63 347** P **P** **18 20 45.7 -0.3**
22nm,0.7s,baz=199,slow=0.4,SNR=20
YAK **Yakutsk** **26.63 347** *e*P **P** **18 20 45.5 -0.5**
28nm,0.8s
SEY **Seymchan** **27.02 10** P **P** **18 20 50.0 +0.5**
1.4nm,0.5s,baz=201,slow=9.7,SNR=10.0
H11N2 **WAKE ISLAND Hy** **27.25 122** T T 18 49 35.7
baz=314,slow=75,SNR=16
H11N1 **WAKE ISLAND Hy** **27.26 122** T T 18 49 40.7
baz=314,slow=75,SNR=12
H11N3 **WAKE ISLAND Hy** **27.27 122** T T 18 49 38.2
baz=314,slow=75,SNR=15
H11S1 **WAKE ISLAND Hy** **27.96 124** T T 18 50 38.7
baz=316,slow=76,SNR=4.5
H11S3 **WAKE ISLAND Hy** **27.96 124** T T 18 50 38.8
baz=316,slow=76,SNR=4.1
H11S2 **WAKE ISLAND Hy** **27.98 124** T T 18 50 34.4
baz=316,slow=76,SNR=3.6
ENH **Enshi** **28.12 267** *e*P **P** **18 20 59.2 -0.5**
29nm,0.8s
ULN **Ulaanbaatar** **28.25 305** *e*P **P** **18 21 01.1 +0.2**
4.6nm,0.8s
SONA1 **Songino Array** **28.68 304** *e*P **P** **18 21 04.5 -0.2**
SONA0 **Songino Array** **28.68 304** *e*P **P** **18 21 05.0 +0.3**
SONM **Songino Array** **28.68 304** P **P** **18 21 05.0 +0.3**
9.6nm,0.8s,baz=104,slow=8.8,SNR=54
SONM LR LR 18 32 10.8
comp=Z,58nm,18.1s,baz=171,slow=36
TLY **Talaya** **31.20 311** LR LR 18 34 09.1
comp=Z,52nm,18.6s,baz=97,slow=37
TIXI **Tiksi** **35.78 353** P **P** **18 22 06.0 -0.4**
0.9nm,0.5s,baz=143,slow=5.0,SNR=3.8
CMAR **Chiang Mai Arr** **42.19 257** P **P** **18 23 01.1 +0.4**
0.4nm,0.3s,baz=48,slow=7.7,SNR=4.6
ZAA0 **Zalesovo Array** **42.78 313** *e*P **P** **18 23 05.5 +0.4**
3.6nm,1.0s
ZAA1 **Zalesovo Array** **42.78 313** *e*P **P** **18 23 05.1 +0.1**
ZAA1 *e*PcP **PcP** **18 24 56.5 +0.3**
ZALV **Zalesovo Beam** **42.78 313** P **P** **18 23 05.1 +0.1**
1.8nm,0.5s,baz=94,slow=6.2,SNR=10
ZALV PcP **PcP** **18 24 56.5 +0.3**
1.4nm,0.7s,baz=82,slow=2.8,SNR=4.4
MK01 **Makanchi Array** **45.01 303** *e*P **P** **18 23 22.8 -0.4**
MK31 **Makanchi Array** **45.02 303** *e*P **P** **18 23 22.9 -0.2**
MK32 **Makanchi Array** **45.02 303** *e*P **P** **18 23 23.0 -0.1**
MKAR **Makanchi Array** **45.02 303** P **P** **18 23 23.0 -0.1**
3.0nm,0.6s,baz=87,slow=9.6,SNR=40
MKAR **Makanchi Array** **45.02 303** *e*P **P** **18 23 22.9 -0.2**
24nm,0.6s
MAKZ **Makanchi** **45.23 303** *e*P **P** **18 23 24.8 -0.1**
3.2nm,0.8s
TAPN **Taplejung** **46.78 275** *e*P **P** **18 23 38.5 +0.8**
12nm,0.8s
KURK **Kurchatov** **46.81 309** *e*P **P** **18 23 36.8 -0.4**
7.6nm,0.8s
KURBB **Kurchatov Arra** **46.88 308** P **P** **18 23 37.5 -0.3**
5.3nm,0.6s,baz=83,slow=7.9,SNR=44
RAMN **Ramite** **47.85 275** *e*P **P** **18 23 46.0 +0.1**
14nm,0.6s
JIRN **Jiri** **47.87 276** *e*P **P** **18 23 47.5 +1.3**
18nm,0.8s
GUN **Gumba** **48.01 277** *e*P **P** **18 23 49.2 +1.9**
22nm,0.8s
PKIN **Phulchoki** **48.54 276** *e*P **P** **18 23 52.0 +0.7**
11nm,0.6s
KKN **Kakani** **48.54 277** *e*P **P** **18 23 52.9 +1.7**
9.4nm,0.8s
DMN **Daman** **48.76 277** *e*P **P** **18 23 53.6 +0.7**
3.5nm,0.5s
GKN **Gorkha** **48.96 277** *e*P **P** **18 23 54.6 +0.2**
15nm,0.7s
TARG **Taragay, Kyrgy** **49.30 297** *e*P **P** **18 23 57.8 +0.7**
3.8nm,0.7s
ILAR **Eielson Array** **49.39 32** P **P** **18 23 57.2 +0.2**
0.9nm,0.8s,baz=261,slow=5.9,SNR=8.9
ILB **Eielson Array** **49.39 32** *e*P **P** **18 23 57.2 +0.2**
DANN **Dangsing** **49.51 278** *e*P **P** **18 24 00.5 +1.7**
2.9nm,1.0s
KDJ **Kajisay** **49.64 298** *e*P **P** **18 24 00.0 +0.6**
2.1nm,0.6s
AAK **Ala-Archa** **51.39 299** LR LR 18 46 49.5
comp=Z,60nm,20.4s,baz=61,slow=37
AAK **Ala-Archa** **51.39 299** *e*P **P** **18 24 13.0 +0.4**
1.9nm,0.8s
BVAR **Borovoye Array** **51.44 313** P **P** **18 24 12.6 0.0**
0.6nm,0.3s,baz=72,slow=9.5,SNR=6.2
BVAR PcP **PcP** **18 25 27.2 +0.3**
1.3nm,0.6s,baz=76,slow=4.8,SNR=5.0
KKAR **Karatay Array** **54.02 301** *e*P **P** **18 24 31.6 -0.4**
LEM **Lembang** **54.16 224** P **P** **18 24 34.2 +0.9**
8.4nm,0.5s,baz=218,slow=20,SNR=3.1
GSI **Gunungsitoli** **54.31 240** *e*P **P** **18 24 35.2 +0.9**
20nm,1.1s
INK **Inuvik** **54.36 27** P **P** **18 24 34.8 +0.8**
0.6nm,0.5s,baz=286,slow=7.0,SNR=6.4
WR1 **Warramunga Arr** **56.80 189** *e*P **P** **18 24 52.0 +0.1**
17nm,1.4s
WRA **Warramunga Arr** **56.80 189** P **P** **18 24 52.0 0.0**
2.0nm,0.7s,baz=5.9,slow=6.9,SNR=24
ARU **Arti** **57.19 319** *e*P **P** **18 24 54.4 0.0**
28nm,2.0s
ABKAR **Akbulak array** **58.81 311** *e*P **P** **18 25 05.5 -0.4**
28nm,0.6s
AKTO **Aktyubinsk** **59.54 312** P **P** **18 25 10.9 -0.1**
1.8nm,0.8s,baz=73,slow=9.6,SNR=5.0
AS31 **Alice Springs** **60.52 189** *e*P **P** **18 25 18.2 +0.3**
0.8nm,0.6s
ASAR **Alice Springs** **60.52 189** P **P** **18 25 18.2 +0.3**
1.7nm,0.7s,baz=16,slow=8.1,SNR=23
RES **Resolute Bay** **62.77 15** P **P** **18 25 33.0 +0.5**
0.6nm,0.5s,baz=331,slow=7.7,SNR=4.7
YKA **Yellowknife Ar** **63.73 30** P **P** **18 25 39.6 +0.6**
0.3nm,0.6s,baz=303,slow=6.6,SNR=7.9
ARA0 **ARCESS Array S** **64.65 340** *e*P **P** **18 25 45.6 +0.7**
ARCES **ARCESS Array B** **64.65 340** P **P** **18 25 45.6 +0.7**
1.0nm,0.9s,baz=52,slow=9.3,SNR=3.5
GEYT **Allbeck** **64.74 300** P **P** **18 25 46.1 0.0**
1.8nm,0.8s,baz=5.7,slow=3.0,SNR=6.7
BEVT **Boeing Everett** **67.06 47** *e*P **P** **18 26 02.3 +1.6**
KDKW **Coast Env Seat** **67.18 47** *e*P **P** **18 25 60.0 -1.6**
FIA0 **FINESS Array S** **69.54 333** *e*P **P** **18 26 16.0 0.0**
FINES **FINESS Array B** **69.54 333** P **P** **18 26 16.0 0.0**
2.2nm,0.7s,baz=58,slow=7.6,SNR=10
KBZ **Khabaz** **71.77 311** P **P** **18 26 30.6 +0.6**
3.8nm,0.8s,baz=50,slow=4.2,SNR=11
KBZ LR LR 19 02 41.8
comp=Z,52nm,18.8s,baz=46,slow=40
KIV **Kislovodsk** **71.78 311** *e*P **P** **18 26 31.6 +1.5**
8.1nm,0.7s
LOY **Loyalton** **72.63 53** *e*P **P** **18 26 33.0 -2.4**
NVAR **Mina Array Bea** **74.57 54** P **P** **18 26 47.2 +0.3**
0.2nm,0.5s,baz=308,slow=4.4,SNR=2.5
HFS **Hagfors** **74.78 336** P **P** **18 26 47.8 +0.3**
1.6nm,0.8s,baz=75,slow=6.1,SNR=3.2
NB2 **NORSAR Subarra** **74.86 338** P **P** **18 26 48.2 +0.2**
comp=Z,1.5nm,0.8s,baz=39,slow=6.2
NB200 **NORSAR Array S** **74.86 339** *e*P **P** **18 26 48.0 +0.1**
NOA **NORSAR Array B** **74.86 338** P **P** **18 26 48.0 +0.1**
comp=Z,0.9nm,0.6s,baz=40,slow=5.7,SNR=3.5
AKASG **Malin Array Be** **75.10 323** P **P** **18 26 49.2 -0.3**
comp=Z,3.0nm,0.7s,baz=47,slow=6.0,SNR=18
AKBB **Malin Array Si** **75.10 323** *e*P **P** **18 26 49.2 -0.3**
KiEV **Kiev** **75.11 323** *e*P **P** **18 26 49.2 -0.4**
comp=Z,3.8nm,0.8s
BAKC **Calstate** **75.79 57** *e*P **P** **18 26 50.4 -3.4**
SBI **Santa Barbara** **76.91 58** *e*P **P** **18 26 56.5 -3.6**
FRB **Frobisher Bay** **76.96 14** P **P** **18 27 00.1 +0.3**
comp=Z,1.2nm,0.5s,baz=344,slow=5.5,SNR=4.2
PDAR **Pinedale Array** **77.36 46** P **P** **18 27 03.7 +0.9**
comp=Z,0.3nm,0.5s,baz=218,slow=9.3,SNR=3.7
GMRC **Granite Mounta** **78.41 55** *e*P **P** **18 27 08.8 +0.1**
BUR08 **Bucovina Ar. S** **79.11 322** *e*P **P** **18 27 12.2 0.0**
BUR04 **Bucovina Ar. S** **79.12 322** *e*P **P** **18 27 12.6 +0.3**
BR101 **Keskin Array S** **79.72 312** *e*P **P** **18 27 16.2 +0.4**
BRTR **Keskin Array B** **79.72 312** P **P** **18 27 16.2 +0.4**
comp=Z,1.0nm,0.8s,baz=107,slow=4.3,SNR=6.5
DREC **Desert Rsrch C** **79.74 57** *e*P **P** **18 27 17.5 +1.8**
DPC **Dobruska-Polom** **81.22 328** *e*P **P** **18 27 24.7 +1.2**
CLL **Collm** **81.84 331** ||*i*P **P** **18 27 27.2 +0.5**
comp=Z,5.0nm,0.8s
GOPC **GO Pecny, Ondr** **82.19 329** *e*P **P** **18 27 29.4 +0.8**
KHC **Kasperske Hory** **83.30 329** *e*P **P** **18 27 34.4 0.0**
KHC **Kasperske Hory** **83.30 329** *e*P **P** **18 27 34.9 +0.5**
comp=Z,1.0nm,0.8s
GERES **GERESS Array B** **83.47 329** P **P** **18 27 35.4 +0.1**
comp=Z,1.5nm,0.7s,baz=31,slow=6.2,SNR=12
GEA0 **GERESS Array S** **83.48 329** *e*P **P** **18 27 35.5 +0.1**
EKA **Eskdalemuir Ar** **83.77 341** P **P** **18 27 37.6 +0.9**
comp=Z,0.6nm,0.6s,baz=45,slow=5.1,SNR=3.7
LTX **Lajitas** **89.71 53** *e*P **P** **18 28 07.0 +0.8**
TXAR **Lajitas Array** **89.71 53** P **P** **18 28 07.0 +0.8**
comp=Z,0.2nm,0.3s,baz=348,slow=3.8,SNR=4.2
LPAZ **La Paz** **146.18 61** PKPbc **PKPbc** **18 34 49.2 0.0**
comp=Z,0.7nm,0.5s,baz=18,slow=6.4,SNR=3.2

MEX 21 18:15:33.1±0.4, 16°.20N×98°.35W, h6$^{km}_{\pm 3}$km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**48**	*e*P	Pg	18 15 38.4	-0.4
PNIG				*e*S	Sg	18 15 42.8	+0.1
TLIG	**Tlapa**	**1.37**	**351**	*e*P	Pn	18 15 54.9	-4.0
TLIG				*e*S	Sb	18 16 12.2	-5.0
ACX	**Acapulco**	**1.59**	**295**	*e*P	Pn	18 16 00.8	-1.0
ACX				*i* S	Sn	18 16 21.1	-1.7
VHO	**Vista Hermosa**	**1.78**	**60**	*e*P	Pn	18 16 01.3	-3.3
VHO				*e*S	Sn	18 16 22.7	-4.9
CAIG	**El Cayaco**	**2.02**	**295**	*e*P	Pn	18 16 05.2	-2.5
CAIG				*e*S	Sn	18 16 28.5	-4.8
PLIG	**Platanillo**	**2.44**	**333**	*e*P	Pn	18 16 10.8	-2.9
PLIG				*e*S	Sn	18 16 39.5	-4.3

*NIED **21** 18:25:00, 38°.60N×141°.90E, h47km, Mw4.1 Best double couple: M0 1.58000×10^{15} NP1:φ$_0$=207.00000°, δ22.00000°, λ96.00000°. NP2:φ$_0$=20.00000°, δ69.00000°, λ88.00000°.*
*ISCJB **21** 18:25:03.6±0.5, 38°.61N±0°.03×141°.96E±0°.05, h56km±3km, mb4.2/50, MS2.8/1, Error ellipse: s-maj=7.1km s-min=3.8km az=30.7*
*JMA **21** 18:25:04.9±0.1, 38°.62N×141°.91E, h48km±1km, M4.0*
JMA Felt II J1.
*MOS **21** 18:25:04.0±1.0, 38°.64N×142°.02E, h61km, mb4.4/22, Error ellipse: s-maj=8.7km s-min=5.2km az=90.7*
*NEIC **21** 18:25:06.9±0.7, 38°.62N×141°.86E, h68km±6km, mb4.6/17, Error ellipse: s-maj=7.8km s-min=5.6km az=137.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.
*IDC **21** 18:25:06.0±1.7, 38°.62N×141°.87E, h59km±14km, mb3.8/33, mb1 3.9/38, mb1mx3.8/75, mbtmp4.1/38, MS2.9/5, Ms1 2.9/5, ms1mx2.6/63, Error ellipse: s-maj=13.9km s-min=10.2km az=116.0*
ISC 21 18:25:04.0±1.0, 38°.56N±0°.04×142°.06E±0°.05, h47$^{km}_{\pm 8}$km, n154, σ1$^{s}_{\%}$56/172, mb4.2/50, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.57**	**260**	P	**Pn**	**18 25 15.6**	**-0.2**
JIO				S	**Sn**	**18 25 22.8**	**-1.6**
OFUJ	**Ofunato**	**0.60**	**330**	P	**Pn**	**18 25 16.1**	**-0.3**
OFUJ				S	**Sn**	**18 25 23.8**	**-1.4**
JMK	**Ichinoseki**	**0.77**	**301**	P	**Pn**	**18 25 17.8**	**-0.6**
JMK				S	**Sn**	**18 25 26.9**	**-2.1**
JOM	**Ohasama**	**1.09**	**327**	P	**Pn**	**18 25 22.5**	**-0.4**
JOM				*e*S	**Sn**	**18 25 35.5**	**-1.4**
JOU	**Okura**	**1.11**	**261**	P	**Pn**	**18 25 22.7**	**-0.5**
JOU				S	**Sn**	**18 25 35.8**	**-1.6**
JMM	**Marumori**	**1.21**	**236**	P	**Pn**	**18 25 24.2**	**-0.3**
JMM				*e*S	**Sn**	**18 25 38.4**	**-1.4**
JYK	**Kaneyama**	**1.38**	**286**	P	**Pn**	**18 25 26.1**	**-0.7**
JRG	**Rokugo**	**1.39**	**307**	P	**Pn**	**18 25 26.2**	**-0.7**
JFK	**Kawauchi**	**1.52**	**219**	P	**Pn**	**18 25 29.0**	**+0.3**
JFK				S	**Sn**	**18 25 46.5**	**-0.7**
JYS	**Shirataka**	**1.60**	**259**	P	**Pn**	**18 25 29.7**	**-0.1**
ERM	**Erimo**	**3.55**	**13**	*e*P	**Pn**	**18 25 58.2**	**+1.6**
ERM	**Erimo**	**3.55**	**13**	*e*Pn	**Pn**	**18 25 58.2**	**+1.6**
MJAR	**Matsushiro Arr**	**3.66**	**238**	P	**Pn**	**18 25 59.7**	**+1.6**
	7.8nm,0.3s,baz=38,slow=12,SNR=74						
MJAR				LR	LR	18 27 45.5	
	comp=Z,158nm,19.7s,baz=110,slow=45						
MAJO	**Matsushiro**	**3.66**	**238**	*e*P	**Pn**	**18 26 00.1**	**+2.0**
MAJO	**Matsushiro**	**3.66**	**238**	*e*Pn	**Pn**	**18 26 00.1**	**+2.0**
MAJO				*e*		18 27 45.5	
MAT	**Matsushiro**	**3.66**	**238**	P	**Pn**	**18 25 59.8**	**+1.7**
MAT				*e*S	**Sn**	**18 26 44.6**	**+4.5**
MJB9	**Matsu-Tunnel**	**3.66**	**238**	*e*Pn	**Pn**	**18 25 59.7**	**+1.5**
INU	**Inuyama**	**5.16**	**233**	*e*Pn	**Pn**	**18 26 20.8**	**+2.2**
ASAJ	**Asahikawa**	**5.57**	**4**	P	**Pn**	**18 26 24.8**	**+0.6**
	3.0nm,0.3s,baz=213,slow=9.3,SNR=21						
ASAJ				S	**Sn**	**18 27 29.1**	**+2.2**
	3.0nm,0.3s,baz=177,slow=26,SNR=5.3						
ASAJ	**Asahikawa**	**5.57**	**4**	P	**Pn**	**18 26 24.8**	**+0.6**
ASAJ				S	**Sn**	**18 27 29.1**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,3.0nm,0.3s						
JHJ	**Hachijo jima 2**	**5.73**	**200**	P	**Pn**	**18 26 27.9**	**+1.4**
	comp=N,12nm,0.3s,baz=68,slow=19,SNR=4.3						
JHJ				S	**Sn**	**18 27 29.5**	**-1.5**
	comp=N,41nm,0.3s,baz=313,slow=23,SNR=5.3						
GRPR	**Tuman**	**6.11**	**26**	*e*P	**Pn**	**18 26 32.5**	**+0.9**
GRPR				*e*S	**Sn**	**18 27 35.9**	**-4.2**
LAGR	**Lagunnoye**	**6.17**	**26**	*e*P	**Pn**	**18 26 33.2**	**+0.8**
LAGR				*e*S	**Sn**	**18 27 39.1**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**6.17**	**26**	*i* P	**Pn**	**18 26 33.8**	**+1.3**
YUK				*e*S	**Sn**	**18 27 38.7**	**-3.0**
YUK				pmax	pmax		
	comp=Z,83nm,0.3s						
YUK				pmax	pmax		
	comp=N,56nm,0.2s						
YUK				pmax	pmax		
	comp=E,13nm,0.2s						
YUK				smax	smax		
	comp=E,165nm,0.3s						
YUK				smax	smax		
	comp=N,365nm,0.5s						
SHO	**Shikotan**	**6.41**	**33**	*e*P	**Pn**	**18 26 33.8**	**-1.9**
SHO				*e*S	**Sn**	**18 27 41.4**	**-6.1**
SHO				pmax	pmax		
	comp=N,1.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,1.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,9.0nm,0.2s						
SHO				smax	smax		
	comp=E,59nm,0.2s						
SHO				smax	smax		
	comp=N,148nm,0.4s						
TEY	**Ternei**	**7.65**	**330**	*e*P	**Pn**	**18 26 57.2**	**+4.5**
TEY				pmax	pmax		
	comp=N,13nm,0.6s						
TEY				pmax	pmax		
	comp=Z,13nm,0.6s						
KUR	**Kuril'sk**	**7.95**	**31**	P	**Pn**	**18 26 57.9**	**+1.1**
KUR				*e*S	**Sn**	**18 28 21.5**	**-3.9**
KUR				smax	smax		
	comp=N,48nm,0.3s						
KUR				smax	smax		
	comp=E,46nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.41**	**3**	*e*P	**Pn**	**18 27 04.6**	**+1.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**9.44**	**310**	P	**Pn**	**18 27 16.7**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=113,slow=14,SNR=9.0						
JNU	**Nakatsue**	**10.57**	**243**	P	**Pn**	**18 27 33.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=55,slow=11,SNR=8.3						
JNU				LR	LR	18 31 57.2	
	comp=Z,88nm,20.6s,baz=304,slow=39						
JNU	**Nakatsue**	**10.57**	**243**	*e*Pn	**Pn**	**18 27 34.6**	**+1.8**
KSRS	**Korea Array**	**11.21**	**269**	P	**Pn**	**18 27 44.3**	**+2.8**
	comp=Z,0.4nm,0.3s,baz=76,slow=14,SNR=8.8						
KSRS				LR	LR	18 31 37.7	
	comp=Z,69nm,19.9s,baz=131,slow=35						
KS15	**Wonju Array Si**	**11.24**	**269**	*e*Pn	**Pn**	**18 27 44.3**	**+2.3**
KSAR	**Wonju Array Be**	**11.24**	**269**	P	**Pn**	**18 27 44.3**	**+2.3**
KSAR	**Wonju Array Be**	**11.24**	**269**	P	**Pn**	**18 27 44.3**	**+2.3**
GRNR	**Gornyy**	**12.85**	**344**	*e*P	**Pn**	**18 28 05.2**	**+1.4**
KLR	**Kul'dur**	**12.99**	**329**	P	**Pn**	**18 28 06.8**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=166,slow=16,SNR=2.2						
PETK	**Petropavlovsk-**	**18.12**	**32**	LR	LR	18 35 42.4	
	comp=Z,42nm,19.3s,baz=245,slow=35						
ZEA	**Zeya**	**18.27**	**331**	*e*P	**P**	**18 29 12.6**	**-0.9**
ZEA				pmax	pmax		
	comp=Z,15nm,0.8s						
MA2	**Magadan**	**21.76**	**12**	P	**P**	**18 29 51.7**	**+0.4**
	comp=Z,2.9nm,0.5s,baz=200,slow=9.5,SNR=4.2						
NACB	**Ninganchiao**	**22.54**	**236**	*e*P	**P**	**18 29 57.8**	**-2.1**
	comp=Z,22nm,0.9s						
SSLB	**Suanglung**	**23.22**	**237**	*e*P	**P**	**18 30 03.7**	**-3.3**
	comp=Z,113nm,2.0s						
TPUB	**Ta-pu**	**23.77**	**236**	*e*P	**P**	**18 30 10.1**	**-2.2**
	comp=Z,165nm,1.8s						
YAK	**Yakutsk**	**24.71**	**346**	P	**P**	**18 30 19.0**	**-1.4**
	comp=Z,5.4nm,0.4s,baz=176,slow=1.6,SNR=5.9						
YAK	**Yakutsk**	**24.71**	**346**	*e*P	**P**	**18 30 18.1**	**-2.3**
YAK				*e*		18 34 36.9	
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YAK	**Yakutsk**	**24.71**	**346**	*e*P	**P**	**18 30 19.0**	**-1.4**
	comp=Z,10nm,0.6s						
SEY	**Seymchan**	**25.20**	**11**	P	**P**	**18 30 25.8**	**+1.0**
	comp=Z,3.9nm,0.6s,baz=197,slow=7.4,SNR=16						
ULN	**Ulaanbaatar**	**26.96**	**302**	*e*P	**P**	**18 30 42.0**	**+0.9**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**26.96**	**302**	*e*P	**P**	**18 30 42.0**	**+0.9**
	comp=Z,2.1nm,0.7s						
SONA1	**Songino Array**	**27.39**	**301**	*e*P	**P**	**18 30 45.5**	**+0.5**
SONA0	**Songino Array**	**27.39**	**301**	*e*P	**P**	**18 30 44.8**	**-0.2**
SONA0				*e*PcP	**PcP**	**18 34 03.1**	**+0.2**
SONM	**Songino Array**	**27.39**	**301**	P	**P**	**18 30 44.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=116,slow=8.8,SNR=6.4						
SONM				PcP	**PcP**	**18 34 03.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=135,slow=2.8,SNR=3.8						
ENH	**Enshi**	**28.00**	**263**	*e*P	**P**	**18 30 49.5**	**-1.0**
	comp=Z,16nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	19 01 25.7	
	baz=317,slow=75,SNR=477						
H11N1	**WAKE ISLAND Hy**	**28.54**	**124**	T	T	19 01 25.3	
	baz=317,slow=75,SNR=477						
H11N3	**WAKE ISLAND Hy**	**28.55**	**124**	T	T	19 01 28.1	
	baz=317,slow=75,SNR=1089						
H11S1	**WAKE ISLAND Hy**	**29.30**	**126**	T	T	19 02 25.6	
	baz=318,slow=76,SNR=108						
H11S3	**WAKE ISLAND Hy**	**29.30**	**126**	T	T	19 02 26.0	
	baz=318,slow=76,SNR=139						
H11S2	**WAKE ISLAND Hy**	**29.31**	**126**	T	T	19 02 25.2	
	baz=318,slow=76,SNR=89						
TLY	**Talaya**	**29.75**	**309**	LR	LR	18 42 32.1	
	comp=Z,25nm,20.7s,baz=104,slow=35						
ZAK	**Zakamensk**	**29.76**	**306**	*e*P	**P**	**18 31 04.1**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	**Tiksi**	**33.84**	**353**	P	**P**	**18 31 40.6**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=159,slow=12,SNR=4.7						
ZAA0	**Zalesovo Array**	**41.28**	**311**	*e*P	**P**	**18 32 44.4**	**-0.1**
	comp=Z,8.5nm,1.1s						
ZAA1	**Zalesovo Array**	**41.28**	**311**	*e*P	**P**	**18 32 44.1**	**-0.4**
ZAA1				*e*PcP	**PcP**	**18 34 42.2**	**-0.1**
ZALV	**Zalesovo Beam**	**41.28**	**311**	P	**P**	**18 32 44.1**	**-0.4**
	comp=Z,3.7nm,0.5s,baz=86,slow=7.8,SNR=23						
ZALV				PcP	**PcP**	**18 34 42.2**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=109,slow=3.3,SNR=6.6						
CMAR	**Chiang Mai Arr**	**42.39**	**254**	P	**P**	**18 32 54.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=42,slow=8.9,SNR=4.7						
MK01	**Makanchi Array**	**43.76**	**301**	*e*P	**P**	**18 33 04.2**	**-0.6**
MK31	**Makanchi Array**	**43.76**	**301**	*e*P	**P**	**18 33 04.3**	**-0.5**
MK32	**Makanchi Array**	**43.76**	**301**	*e*P	**P**	**18 33 04.2**	**-0.5**
MK32	**Makanchi Array**	**43.76**	**301**	*e*P	**P**	**18 33 04.3**	**-0.4**
MK32				*e*PcP	**PcP**	**18 34 50.3**	**-0.5**
MKAR	**Makanchi Array**	**43.76**	**301**	P	**P**	**18 33 04.3**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=84,slow=11,SNR=28						
MKAR				PcP	**PcP**	**18 34 50.3**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=72,slow=4.6,SNR=1.9						
MKAR	**Makanchi Array**	**43.76**	**301**	*e*P	**P**	**18 33 04.3**	**-0.5**
MKAR				*e*		18 34 50.3	
MKAR				pmax	pmax		
	comp=Z,32nm,1.1s						
MKAR	**Makanchi Array**	**43.76**	**301**	*e*P	**P**	**18 33 04.2**	**-0.5**
	comp=Z,32nm,1.1s						
MKAR				PcP	**PcP**	**18 34 50.3**	**-0.5**
MAKZ	**Makanchi**	**43.97**	**301**	*e*P	**P**	**18 33 06.4**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAKZ	**Makanchi**	**43.97**	**301**	*e*P	**P**	**18 33 06.4**	**0.0**
	comp=Z,4.3nm,0.9s						
KURK	**Kurchatov**	**45.41**	**307**	*e*P	**P**	**18 33 17.3**	**-0.5**
KURK				*e*		18 34 56.4	
KURK				pmax	pmax		
	comp=Z,21nm,1.0s						
KURK	**Kurchatov**	**45.41**	**307**	*e*P	**P**	**18 33 17.3**	**-0.5**
	comp=Z,21nm,1.0s						
KURK				*e*PcP	**PcP**	**18 34 56.4**	**+0.1**
KURBB	**Kurchatov Arra**	**45.48**	**307**	P	**P**	**18 33 18.0**	**-0.4**
	comp=Z,17nm,0.6s,baz=82,slow=8.2,SNR=110						
KURBB				PcP	**PcP**	**18 34 56.4**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=87,slow=4.0,SNR=3.6						
TAPN	**Taplejung**	**46.36**	**273**	*e*P	**P**

ARU	**Arti**	**55.57**	**318**	*e*P		**P**	**18 34 34.0**	**-0.3**
	comp=Z,4.9nm,0.9s							
ABKAR	**Akbulak array**	**57.36**	**310**	*e*P		**P**	**18 34 46.5**	**-0.7**
	comp=Z,33nm,0.6s							
AKTO	**Aktyubinsk**	**58.05**	**311**	P		**P**	**18 34 51.4**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=63,slow=8.6,SNR=12							
WR1	**Warramunga Arr**	**58.64**	**189**	*e*P		**P**	**18 34 56.6**	**+0.2**
	comp=Z,37nm,1.9s							
WRA	**Warramunga Arr**	**58.64**	**189**	P		**P**	**18 34 56.6**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=6.8,slow=7.1,SNR=8.3							
SPITS	**Spitsbergen Ar**	**59.13**	**349**	P		**P**	**18 34 59.1**	**-0.1**
	comp=Z,17nm,1.2s,baz=242,slow=6.1,SNR=3.1							
SPITS	**Spitsbergen Ar**	**59.13**	**349**	P		**P**	**18 34 59.1**	**-0.1**
SPITS				pmax	pmax			
	comp=Z,16nm,1.2s							
RES	**Resolute Bay**	**61.00**	**15**	P		**P**	**18 35 12.0**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=345,slow=9.8,SNR=4.0							
YKA	**Yellowknife Ar**	**62.24**	**31**	P		**P**	**18 35 21.1**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=301,slow=6.5,SNR=6.7							
YKB5	**Yellowknife Ar**	**62.24**	**31**	*e*P		**P**	**18 35 21.1**	**+0.7**
ASAR	**Alice Springs**	**62.37**	**188**	P		**P**	**18 35 22.4**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=15,slow=4.7,SNR=9.9							
ARA0	**ARCESS Array S**	**62.75**	**339**	*e*P		**P**	**18 35 23.9**	**0.0**
ARCES	**ARCESS Array B**	**62.75**	**339**	P		**P**	**18 35 23.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=58,slow=7.3,SNR=5.4							
GEYT	**Alibeck**	**63.55**	**299**	P		**P**	**18 35 29.1**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=53,slow=5.9,SNR=5.1							
GHW	**Garrison Hill**	**66.43**	**48**	*e*P		**P**	**18 35 51.8**	**+3.6**
FIA0	**FINESS Array S**	**67.71**	**332**	*e*P		**P**	**18 35 55.6**	**-0.4**
FIA0	**FINESS Array S**	**67.71**	**332**	*e*P		**P**	**18 35 55.5**	**-0.4**
FINES	**FINESS Array B**	**67.71**	**332**	P		**P**	**18 35 55.5**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=54,slow=9.7,SNR=8.6							
LBFM	**Black Fox Moun**	**69.74**	**53**	*e*P		**P**	**18 36 06.6**	**-2.7**
LBFM	**Black Fox Moun**	**69.74**	**53**	*e*P		**P**	**18 36 06.6**	**-2.7**
KVAR	**Kislovodsk Arr**	**70.29**	**311**	P		**P**	**18 36 13.1**	**+0.6**
	comp=Z,5.6nm,0.9s,baz=185,slow=6.3,SNR=5.6							
KIV	**Kislovodsk**	**70.30**	**311**	*e*P		**P**	**18 36 10.6**	**-1.9**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KIV	**Kislovodsk**	**70.30**	**311**	*e*P		**P**	**18 36 13.5**	**+1.0**
	comp=Z,7.6nm,0.8s							
KBZ	**Khabaz**	**70.30**	**311**	P		**P**	**18 36 12.3**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=29,slow=3.6,SNR=9.1							
NLHM	**Lake Herman**	**71.39**	**56**	*e*P		**P**	**18 36 22.9**	**+3.7**
JPC	**Peters Creek,**	**71.83**	**57**	*e*P		**P**	**18 36 26.0**	**+4.2**
HFS	**Hagfors**	**72.91**	**336**	P		**P**	**18 36 27.7**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=55,slow=5.5,SNR=16							
NB2	**NORSAR Subarra**	**72.98**	**337**	P		**P**	**18 36 28.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=40,slow=6.2							
NB200	**NORSAR Array S**	**72.98**	**337**	*e*P		**P**	**18 36 28.2**	**-0.1**
NOA	**NORSAR Array B**	**72.98**	**337**	P		**P**	**18 36 28.2**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=39,slow=6.0,SNR=7.0							
AKASG	**Malin Array Be**	**73.41**	**322**	P		**P**	**18 36 30.4**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=45,slow=6.1,SNR=12							
AKBB	**Malin Array Si**	**73.41**	**322**	*e*P		**P**	**18 36 30.4**	**-0.5**
AKBB				pmax	pmax			
	comp=Z,9.0nm,1.5s							
AKBB	**Malin Array Si**	**73.41**	**322**	*e*P		**P**	**18 36 30.4**	**-0.5**
	comp=Z,9.0nm,1.5s							
NV01	**Mina Array Sit**	**73.67**	**54**	*e*P		**P**	**18 36 32.0**	**-1.0**
NVAR	**Mina Array Bea**	**73.67**	**54**	P		**P**	**18 36 35.2**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=274,slow=4.4,SNR=3.4							
EDW2	**Edwards Air Fo**	**75.99**	**57**	*e*P		**P**	**18 36 48.4**	**+2.1**
PDAR	**Pinedale Array**	**76.24**	**46**	P		**P**	**18 36 49.0**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=287,slow=2.2,SNR=5.0							
RPV	**Rancho Palos V**	**76.41**	**58**	*e*P		**P**	**18 36 47.2**	**-1.3**
VTV	**Victorville**	**76.62**	**56**	*e*P		**P**	**18 36 53.2**	**+3.3**
VTV	**Victorville**	**76.62**	**56**	*e*P		**P**	**18 36 53.2**	**+3.3**
GMRC	**Granite Mounta**	**77.57**	**55**	*e*P		**P**	**18 36 56.1**	**+0.9**
DPP	**Dos Picos Cty**	**77.83**	**58**	*e*P		**P**	**18 37 00.4**	**+3.8**
BR101	**Keskin Array S**	**78.22**	**312**	*e*P		**P**	**18 36 58.6**	**-0.3**
BRTR	**Keskin Array B**	**78.22**	**312**	P		**P**	**18 36 58.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=119,slow=2.5,SNR=7.0							
BR231	**Keskin MP Arra**	**78.65**	**312**	*e*P		**P**	**18 36 58.4**	**-2.8**
CLL	**Collm**	**80.03**	**330**	*e*P		**P**	**18 37 08.0**	**-0.3**
GERES	**GERESS Array B**	**81.69**	**328**	P		**P**	**18 37 17.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=44,slow=6.3,SNR=5.2							
EKA	**Eskdalemuir Ar**	**81.87**	**341**	P		**P**	**18 37 17.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=30,slow=4.4,SNR=3.2							
LTX	**Lajitas**	**88.79**	**53**	*e*P		**P**	**18 37 54.2**	**+1.1**
LTX	**Lajitas**	**88.79**	**53**	*e*P		**P**	**18 37 54.1**	**+1.1**
TXAR	**Lajitas Array**	**88.79**	**53**	P		**P**	**18 37 54.1**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=304,slow=1.8,SNR=2.8							
LPAZ	**La Paz**	**145.47**	**58**	PKPbc		**PKPdf**	**18 44 38.1**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=34,slow=5.1,SNR=3.8							

*CSEM **21** 18:29:21.7±0.2,40.06N×38.41E,h5km,ML2.5, Error ellipse: s-maj=4.2km s-min=3.6km az=156.0*
*DDA **21** 18:29:21.9,40.04N×38.46E,h7km,Ml2.5*
*ISK **21** 18:29:21.1,40.05N×38.39E,h5km,ML2.1/5*
*ISCJB **21** 18:29:22.3±0.7,40.09N±0.04×38.39E±0.04,h15km±7km, Error ellipse: s-maj=7.3km s-min=4.7km az=151.1*

ISC 21 18:29:22.0±0.9,40.06N±0.03×38.40E±0.02,h14km±10km, n26,σ0ˢ54/40,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SUSE	**Susehri**	**0.21**	**314**	*i* P		**Pg**	**18 29 26.9**	**0.0**
SUSE				*i* S		**Sb**	**18 29 31.9**	**+0.1**
SUSE	**Susehri**	**0.21**	**314**	P		**Pg**	**18 29 26.9**	**0.0**
SUSE				S		**Sb**	**18 29 31.9**	**+0.1**
CUZAR	**Zara_SIVAS**	**0.52**	**251**	*i* P		**Pg**	**18 29 32.2**	**0.0**
CUZAR				*i* S		**Sb**	**18 29 41.0**	**+0.6**
CUZAR	**Zara_SIVAS**	**0.52**	**251**	P		**Pg**	**18 29 32.2**	**0.0**
CUZAR				S		**Sb**	**18 29 41.0**	**+0.6**
KELT	**Kelkit**	**0.66**	**82**	*i* P		**Pg**	**18 29 34.5**	**-0.4**
KELT				*i* S		**Sg**	**18 29 43.1**	**-0.6**
KELT	**Kelkit**	**0.66**	**82**	P		**Pg**	**18 29 34.5**	**-0.4**
KELT				S		**Sg**	**18 29 43.1**	**-0.6**
KEMA	**Kemaliye**	**0.79**	**175**	*i* P		**Pg**	**18 29 37.3**	**-0.2**
KEMA	**Kemaliye**	**0.79**	**175**	P		**Pg**	**18 29 37.3**	**-0.2**
GRSN	**GIRESUNGRSN**	**0.87**	**353**	*i* P		**Pb**	**18 29 38.1**	**-0.9**
GRSN	**GIRESUNGRSN**	**0.87**	**353**	P		**Pb**	**18 29 38.1**	**-0.9**
ESPY	**Espiye-Giresun**	**0.89**	**16**	PG		**Pb**	**18 29 38.9**	**-0.4**
ESPY				SG		**Sg**	**18 29 51.8**	**+0.8**
ESPY	**Espiye-Giresun**	**0.89**	**16**	*e*Pg		**Pb**	**18 29 38.9**	**-0.4**
ESPY				*e*Sg		**Sg**	**18 29 51.8**	**+0.8**
RSDY	**Resadiye-TOKAT**	**0.89**	**293**	PG		**Pb**	**18 29 38.1**	**-1.2**
RSDY				SG		**Sb**	**18 29 51.1**	**0.0**
RSDY	**Resadiye-TOKAT**	**0.89**	**293**	*e*Pg		**Pb**	**18 29 38.1**	**-1.2**
RSDY				*e*Sg		**Sb**	**18 29 51.1**	**0.0**
CUKAN	**kangal_SIVAS**	**1.04**	**224**	*i* P		**Pn**	**18 29 42.6**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.04**	**224**	P		**Pn**	**18 29 42.7**	**+0.3**
SVSK	**Karacayir**	**1.09**	**263**	PN		**Pb**	**18 29 42.4**	**-0.3**
SVSK				SN		**Sg**	**18 29 57.7**	**+0.5**
SVSK	**Karacayir**	**1.09**	**263**	*e*PN		**Pb**	**18 29 42.4**	**-0.3**
SVSK				*e*Sn		**Sg**	**18 29 57.7**	**+0.5**
HEKM	**Malatya_Hekimh**	**1.23**	**196**	*i* P		**Pn**	**18 29 44.7**	**-0.3**
HEKM	**Malatya_Hekimh**	**1.23**	**196**	P		**Pn**	**18 29 44.7**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.37**	**75**	PN		**Pb**	**18 29 47.7**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.37**	**75**	*e*Pn		**Pb**	**18 29 47.7**	**+0.1**
PTK	**Pertek**	**1.40**	**146**	PN		**Pn**	**18 29 47.8**	**+0.5**
PTK				SN		**Sg**	**18 30 07.2**	**+0.2**
PTK	**Pertek**	**1.40**	**146**	*e*Pn		**Pn**	**18 29 47.8**	**+0.5**
PTK				*e*Sn		**Sg**	**18 30 07.2**	**+0.2**
BAYB	**BAYBURT**	**1.44**	**81**	*i* P		**Pn**	**18 29 48.5**	**+0.6**
BAYB	**BAYBURT**	**1.44**	**81**	P		**Pn**	**18 29 48.5**	**+0.6**

*DDA **21** 18:30:41.5,37.16N×28.73E,h7km,Ml2.6,Suspected Mining explosion.*
*ISK **21** 18:30:41.9,37.15N×28.64E,h24km,ML2.0/6*
*ISCJB **21** 18:30:42.4±0.5,37.21N±0.03×28.68E±0.03,h0km, Error ellipse: s-maj=4.3km s-min=3.6km az=44.6*
*CSEM **21** 18:30:42.0±0.3,37.20N×28.71E,h1km,ML2.0, Error ellipse: s-maj=7.6km s-min=5.6km az=58.0, Suspected Mining explosion.*

ISC 21 18:30:41.5±0.8,37.18N±0.02×28.65E±0.03,h0km,n24, σ1ˢ65/40,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.29**	**261**	PG		**Pb**	**18 30 49.1**	**-0.6**
YER				SG		**Sb**	**18 30 54.3**	**-0.9**
YER	**Yerkesik**	**0.29**	**261**	*e*Pg		**Pb**	**18 30 49.1**	**-0.6**
YER				*e*Sg		**Sb**	**18 30 54.3**	**-0.9**
TURN	**Turunc**	**0.31**	**186**	PG		**Pn**	**18 30 52.4**	**-0.8**
TURN				SG		**Sb**	**18 31 00.2**	**+4.7**
TURN	**Turunc**	**0.31**	**186**	*i* P		**Pn**	**18 30 52.5**	**-0.8**
TURN				*i* S		**Sb**	**18 31 01.7**	**+6.2**
TURN	**Turunc**	**0.31**	**186**	P		**Pn**	**18 30 52.5**	**-0.8**
TAVA	**DENIZLI_Tavas**	**0.35**	**37**	*i* P		**Pg**	**18 30 48.4**	**+0.1**
TAVA				*i* S		**Sg**	**18 30 53.7**	**+0.8**
TAVA	**DENIZLI_Tavas**	**0.35**	**37**	P		**Pg**	**18 30 48.4**	**+0.1**
TAVA				S		**Sg**	**18 30 53.7**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.36**	**179**	PG		**Pb**	**18 30 49.8**	**-1.0**
DALY				SG		**Sb**	**18 30 55.5**	**-1.6**
DALY	**Dalyan (Mu¨la**	**0.36**	**179**	*i* P		**Pg**	**18 30 48.2**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.36**	**179**	P		**Pg**	**18 30 48.2**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.36**	**179**	*e*Pg		**Pb**	**18 30 49.8**	**-1.0**
DALY				*e*Sg		**Sb**	**18 30 55.5**	**-1.6**
FETY	**Fethiye**	**0.65**	**147**	PG		**Pb**	**18 30 54.8**	**-0.9**
FETY				SG		**Sb**	**18 31 04.3**	**-1.0**
FETY	**Fethiye**	**0.65**	**147**	P		**Pg**	**18 30 53.7**	**-0.2**
FETY	**Fethiye**	**0.65**	**147**	*e*Pg		**Pb**	**18 30 54.8**	**-0.9**
FETY				S		**Sb**	**18 31 02.7**	**-2.6**
FETY				*e*Sg		**Sb**	**18 31 04.3**	**-1.0**
GOLH	**Golhisar**	**0.73**	**85**	*i* P		**Pg**	**18 30 55.0**	**-0.5**
GOLH				*i* S		**Sb**	**18 31 07.4**	**-0.4**
GOLH	**Golhisar**	**0.73**	**85**	P		**Pg**	**18 30 55.0**	**-0.5**
GOLH				S		**Sb**	**18 31 07.4**	**-0.4**
AYDN	**Tasoluk**	**0.78**	**308**	*i* S		**Sb**	**18 31 08.6**	**-0.5**
AYDN	**Tasoluk**	**0.78**	**308**	S		**Sb**	**18 31 08.6**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**322**	PG		**Pb**	**18 31 00.8**	**-0.5**
AYDB				SG		**Sb**	**18 31 14.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**322**	*e*Pg		**Pb**	**18 31 00.8**	**-0.5**
AYDB				*e*Sg		**Sb**	**18 31 14.5**	**-0.3**
AKAS	**Kas**	**1.22**	**141**	PN		**Pg**	**18 31 03.5**	**-1.4**
AKAS	**Kas**	**1.22**	**141**	*i* P		**Pn**	**18 31 07.0**	**+1.0**
AKAS				*i* S		**Sn**	**18 31 26.3**	**+3.1**
AKAS	**Kas**	**1.22**	**141**	*e*Pn		**Pg**	**18 31 03.5**	**-1.4**
AKAS	**Kas**	**1.22**	**141**	P		**Pn**	**18 31 07.0**	**+1.0**

*IDC **21** 18:34:29.6±1.7,9.05S×118.51E,h0km,mb3.3/3, mb1 3.6/6,mb1mx3.3/56,mbtmp3.4/6,ML3.2/3,Error ellipse: s-maj=65.3km s-min=19.5km az=47.0*
*ISCJB **21** 18:34:31.8±1.1,9.2S±0.2×118.5E±0.1,h33km,mb3.4/2, Error ellipse: s-maj=25.2km s-min=11.7km az=31.3*

ISC 21 18:34:34.4±1.3,9.1S±0.2×118.5E±0.1,h35km,n6,σ0ˢ49/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**5.22**	**102**	Pn		**Pn**	**18 35 50.5**	**+0.3**
	2.1nm,0.3s,baz=285,slow=12,SNR=5.0							
BATI				Sn		**Sn**	**18 36 49.1**	**-0.1**
	3.7nm,0.3s,baz=49,slow=20,SNR=3.7							
FITZ	**Fitzroy Crossi**	**11.31**	**143**	Pn		**Pn**	**18 37 14.0**	**+0.3**
	0.1nm,0.3s,baz=323,slow=10,SNR=3.3							
FITZ				Sn		Sn	18 39 10.2	-8.7
	0.3nm,0.3s,baz=176,slow=20,SNR=8.3							
WRA	**Warramunga Arr**	**18.72**	**127**	P		**P**	**18 38 49.4**	**-0.9**
	0.1nm,0.3s,baz=302,slow=12,SNR=5.4							
ASAR	**Alice Springs**	**20.66**	**136**	P		**P**	**18 39 11.3**	**0.0**
	0.5nm,0.5s,baz=315,slow=11,SNR=22							
SONM	**Songino Array**	**57.71**	**350**	P		**P**	**18 44 21.7**	**0.0**
	0.2nm,0.4s,baz=171,slow=9.0,SNR=4.0							
MKAR	**Makanchi Array**	**64.34**	**333**	P		**P**	**18 45 06.6**	**0.0**
	0.2nm,0.5s,baz=146,slow=6.2,SNR=3.4							

IDC 21 18:40:29.3±8.0,7.08S×129.63E,h156km±84km,mb3.1/1, mb1 3.1/5,mb1mx2.9/49,mbtmp3.5/5,Error ellipse: s-maj=73.0km s-min=26.0km az=37.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**6.67**	**242**	P		**Pn**	**18 42 05.7**	**+0.7**
	1.3nm,0.3s,baz=58,slow=9.5,SNR=5.3							
BATI				S		Sn	18 43 20.4	+0.4
	1.6nm,0.3s,baz=73,slow=17,SNR=5.8							
FITZ	**Fitzroy Crossi**	**11.62**	**199**	P		Pn	18 43 09.8	-0.7
	0.1nm,0.3s,baz=27,slow=8.7,SNR=6.0							
FITZ				S		Sn	18 45 12.7	-6.6
	0.5nm,0.3s,baz=142,slow=17,SNR=7.2							
WRA	**Warramunga Arr**	**13.58**	**161**	P		Pn	18 43 34.4	-1.4
	0.1nm,0.3s,baz=339,slow=12,SNR=6.1							
WRA				S		Sn	18 46 00.1	-6.2
	0.5nm,0.3s,baz=332,slow=23,SNR=7.6							
ASAR	**Alice Springs**	**16.99**	**166**	P		Pn	18 44 18.7	+0.8
	0.1nm,0.3s,baz=344,slow=9.8,SNR=18							
ASAR				S		S	18 47 22.8	-3.6
	0.1nm,0.3s,baz=316,slow=22,SNR=6.5							
MKAR	**Makanchi Array**	**68.09**	**327**	P		P	18 51 12.2	-0.1
	0.2nm,0.3s,baz=118,slow=8.1,SNR=7.0							

MEX 21 18:42:43.4±0.7,16.34N×98.45W,h5km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.32**	**81**	*i* P		Pg	18 42 48.9	-0.7
PNIG				*i* S		Sg	18 42 53.8	+0.1
TLIG	**Tlapa**	**1.22**	**355**	*i* P		Pg	18 43 03.0	-3.8
TLIG				*i* S		Sg	18 43 18.6	-4.1
VHO	**Vista Hermosa**	**1.80**	**66**	*e*P		Pn	18 43 12.4	-2.9
CAIG	**El Cayaco**	**1.88**	**292**	*e*P		Pn	18 43 13.2	-3.0
CAIG				*e*S		Sn	18 43 36.1	-4.2
HUIG	**Huatulco**	**2.32**	**104**	*e*P		Pn	18 43 19.2	-3.1
HUIG				*e*S		Sn	18 43 47.1	-4.2

MEX 21 18:51:49.2±0.3,16.12N×98.19W,h12km±2km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**12**	*e*P		Pg	18 51 54.5	-0.4
PNIG				*i* S		Sg	18 51 58.8	0.0
TLIG	**Tlapa**	**1.48**	**346**	*e*P		Pn	18 52 12.4	-3.4
TLIG				*i* S		Sn	18 52 30.1	-5.0
VHO	**Vista Hermosa**	**1.69**	**56**	*i* P		Pn	18 52 15.4	-3.3
VHO				*i* S		Sn	18 52 35.4	-5.0
ACX	**Acapulco**	**1.77**	**295**	*i* P		Pn	18 52 17.2	-2.4
ACX				*i* S		Sn	18 52 38.8	-3.2
HUIG	**Huatulco**	**2.03**	**100**	*i* P		Pn	18 52 20.0	-3.3
HUIG				*i* S		Sn	18 52 44.4	-4.2
CAIG	**El Cayaco**	**2.20**	**295**	*e*P		Pn	18 52 21.7	-3.9
CAIG				*i* S		Sn	18 52 48.8	-3.8

*BJI **21** 18:54:31.0,7.80S×127.40E,h25km,mb4.9/30,mB5.0/20, Ms4.8/2,Ms7 4.6/1*
*ISCJB **21** 18:54:46.2±0.2,7.68S±0.02×127.28E±0.03,h150km, mb4.7/75, Error ellipse: s-maj=3.8km s-min=3.0km az=143.6*
*IDC **21** 18:54:49.0±1.1,7.68S×127.19E,h160km±9km,mb4.3/27, mb1 4.3/28,mb1mx4.2/47,mbtmp4.7/28,MS3.3/8, Ms1 3.3/8,ms1mx2.9/45,Error ellipse: s-maj=10.9km s-min=7.4km az=70.0*
*NEIC **21** 18:54:48.6±0.5,7.76S×127.25E,h160km±4km,mb4.9/40, Error ellipse: s-maj=5.8km s-min=4.1km az=53.0*
*MOS **21** 18:54:48.7±1.1,7.63S×127.13E,h169km,mb5.0/20,Error ellipse: s-maj=11.4km s-min=6.7km az=107.8*
*DJA **21** 18:54:49.8±0.2,8˚S±2˚×12˚7E±˚,h164km±2km,M4.7/54, mb5.0/54,mB5.2/26,MLv5.2/17,Mw(mB)4.5/26*

ISC 21 18:54:47.8±0.2,7.71S±0.04×127.25E±0.04,h150km,n285, σ1ˢ43/305,mb4.7/75,10C-4D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**3.58**	**235**	P		**Pn**	**18 55 44.7**	**+2.0**
SOEI	**Soe**	**3.58**	**235**	*e*Pn		**Pn**	**18 55 44.4**	**+1.7**
SAUI	**Saumlaki**	**4.02**	**94**	P		**Pn**	**18 55 49.7**	**+1.4**
SAUI				S		**Sn**	**18 56 35.2**	**-0.2**
SAUI	**Saumlaki**	**4.02**	**94**	*e*Pn		**Pn**	**18 55 49.5**	**+1.2**
AAI	**Ambon**	**4.11**	**13**	P		**Pn**	**18 55 52.7**	**+3.2**
AAI	**Ambon**	**4.11**	**13**	P		**Pn**	**18 55 52.6**	**+3.1**
BATI	**Baumata**	**4.33**	**235**	P		**Pn**	**18 55 54.2**	**+1.9**
	baz=94,slow=1.4							
BATI				S		**Sn**	**18 56 42.0**	**-0.6**
	128nm,0.3s,baz=131,slow=20,SNR=7.7							
BATI				LR		LR	18 57 10.9	
	comp=Z,367nm,20.0s,baz=265,slow=33							
BATI	**Baumata**	**4.33**	**235**	P		**Pn**	**18 55 54.3**	**+1.9**
BATI				S		**Sn**	**18 56 43.9**	**+1.3**
NLAI	**Namlea**	**4.44**	**358**	P		**Pn**	**18 55 58.4**	**+4.5**
MSAI	**Masohi**	**4.65**	**21**	P		**Pn**	**18 56 00.1**	**+3.5**
MMRI	**Maumere**	**5.05**	**259**	P		**Pn**	**18 56 04.2**	**+2.4**
	294nm,0.8s,4µm3.0nm							
MMRI	**Maumere**	**5.05**	**259**	*e*Pn		**Pn**	**18 56 03.7**	**+1.9**
BBSI	**Bau Bau**	**5.15**	**295**	P		**Pn**	**18 56 07.1**	**+3.9**
	64nm,0.9s,0.2nm							
EDFI	**Ende, Flores**	**5.60**	**259**	P		**Pn**	**18 56 12.1**	**+2.8**
SANI	**Sanana**	**5.76**	**347**	P		**Pn**	**18 56 15.0**	**+3.6**
	61nm,1.2s,704nm0.2nm							
KDI	**Kendari**	**5.93**	**309**	P		**Pn**	**18 56 16.3**	**+2.8**
	276nm,0.9s,2µm							
MTN	**Manton Dam**	**6.37**	**143**	P		**Pn**	**18 56 18.7**	**-0.8**
	baz=6.4,SNR=226							
MTN	**Manton Dam**	**6.37**	**143**	*e*Pn		**Pn**	**18 56 18.7**	**-0.8**
FAKI	**Fak Fak**	**6.89**	**47**	P		**Pn**	**18 56 27.4**	**+1.0**
	48nm,0.6s,1µm0.9nm							
FAKI	**Fak Fak**	**6.89**	**47**	*e*Pn		**Pn**	**18 56 26.4**	**0.0**
BSSI	**Bau Bau, Buton**	**6.89**	**283**	P		**Pn**	**18 56 27.9**	**+1.5**
	138nm,0.9s,0.6nm							
LBMI	**Labuha**	**7.03**	**2**	P		**Pn**	**18 56 32.6**	**+4.3**
	116nm,1.4s,1µm0.4nm							
WSI	**Waingapu**	**7.14**	**254**	P		**Pn**	**18 56 30.0**	**+0.2**
	1µm,0.4s,24µm26nm							
BNSI	**Bone**	**7.83**	**294**	P		**Pn**	**18 56 41.6**	**+2.7**
	196nm,0.9s,2µm0.7nm							
SWI	**Sorong**	**7.89**	**31**	P		**Pn**	**18 56 41.2**	**+1.5**
	67nm,0.7s,2µm0.4nm							
SWI	**Sorong**	**7.89**	**31**	P		**Pn**	**18 56 40.9**	**+1.2**
SWI				pmax	pmax			
	comp=Z,62nm,0.7s							
LUWI	**Luwuk**	**7.99**	**326**	P		**P**	**18 56 44.8**	**+3.7**
	comp=Z,157nm,1.2s,comp=Z,1µm							
LUWI	**Luwuk**	**7.99**	**326**	*e*Pn		**Pn**	**18 56 44.7**	**+3.7**
WBSI	**Waikabubak, Su**	**8.00**	**256**	P		**Pn**	**18 56 42.1**	**+0.8**
	comp=Z,92nm,0.6s,comp=Z,2µmcomp=Z,3.3nm							
KNRA	**Kununurra**	**8.05**	**170**	P		**Pn**	**18 56 40.7**	**-1.2**
	baz=8.1,SNR=144							
TNTI	**Ternate**	**8.43**	**1**	*e*Pn		**Pn**	**18 56 50.5**	**+3.5**
TTSI	**Tana Toraja**	**8.73**	**302**	P		**Pn**	**18 56 54.2**	**+3.3**
	comp=Z,141nm,1.2s,comp=Z,1µm							
APSI	**Ampana**	**8.76**	**320**	P		**Pn**	**18 56 54.7**	**+3.3**
	comp=Z,102nm,0.9s,comp=Z,1µm							
PLAI	**Plampang**	**9.44**	**263**	P		**Pn**	**18 57 01.6**	**+1.2**
	comp=Z,140nm,0.7s,comp=Z,2µm							
MRSI	**Marisa**	**9.70**	**327**	P		**Pn**	**18 57 06.4**	**+3.7**
	comp=Z,26nm,0.7s							
PCI	**Palu**	**10.01**	**312**	P		Pn	18 57 13.2	+5.1
PCI				pmax	pmax			
	comp=Z,92nm,1.2s							
FITZ	**Fitzroy Crossi**	**10.44**	**188**	P		**Pn**	**18 57 11.1**	**-2.6**
	comp=Z,9.2nm,0.3s,baz=20,slow=8.8,SNR=124							
FITZ				S		Sn	18 58 59.9	-9.4
	comp=Z,11nm,0.3s,baz=285,slow=20,SNR=12							
FITZ				LR		LR	19 01 54.5	
	comp=Z,113nm,19.3s,baz=354,slow=41							
MPSI	**Mapaga**	**10.85**	**317**	P		**Pn**	**18 57 22.2**	**+3.2**
	comp=Z,58nm,1.8s,comp=Z,653nm							
**S

MUN Mundaring 26.25 202 P **P** 19 00 09.1 +0.1
baz=26,SNR=8.3
BBOO Buckleboo 26.28 163 P **P** 19 00 10.0 +0.7
baz=26,SNR=111
BBOO Buckleboo 26.28 163 *eP* **P** 19 00 09.8 +0.5
comp=Z,77nm,0.5s
NWAO Narrogin (SRO) 26.76 199 P **P** 19 00 14.1 +0.5
comp=Z,86nm,0.6s,baz=259,slow=8.4,SNR=89
STKA Stephens Creek 27.51 153 P **P** 19 00 21.0 +0.7
comp=Z,42nm,0.5s,baz=328,slow=9.1,SNR=163
STKA Stephens Creek 27.51 153 *eP* **P** 19 00 21.0 +0.7
STKA pmax pmax
comp=Z,9.0nm,0.6s
STKA Stephens Creek 27.51 153 *eP* **P** 19 00 21.0 +0.7
comp=Z,8.8nm,0.6s
HTT Hallett 27.78 159 P **P** 19 00 23.8 +1.0
baz=28,SNR=78
RKGY Rocky Gully 28.39 198 P **P** 19 00 30.0 +2.0
baz=28,SNR=19
IPM Ipoh 28.83 294 *eP* **P** 19 00 32.4 +0.2
comp=Z,13nm,0.7s
MNSI Mandailing Nat 28.86 286 P **P** 19 00 31.6 -0.9
comp=Z,52nm,0.9s
CMSA Cobar Meteorol 29.29 146 P **P** 19 00 36.9 +0.9
baz=29,SNR=109
KULM Kulim 29.51 295 *eP* **P** 19 00 38.0 -0.2
comp=Z,28nm,0.4s
PSI Prapat 30.13 289 P **P** 19 00 43.6 -0.2
comp=Z,59nm,1.0s,baz=112,slow=5.4,SNR=28
PSI Prapat 30.13 289 *eP* **P** 19 00 43.1 -0.7
PSI pmax pmax
comp=Z,45nm,0.8s
PSI Prapat 30.13 289 *eP* **P** 19 00 43.1 -0.7
comp=Z,45nm,0.8s
SKLT Songkhla 30.39 298 P **P** 19 00 46.7 +0.7
comp=Z,36nm,1.1s
GSI Gunungsitoli 30.92 286 P **P** 19 00 49.9 -0.8
comp=Z,32nm,1.1s
GSI Gunungsitoli 30.92 286 *eP* **P** 19 00 49.4 -1.4
comp=Z,37nm,1.1s
KCSI Kotacane, Aceh 31.46 290 P **P** 19 00 55.0 -0.4
comp=Z,19nm,1.0s
TRTT Trang 31.52 299 P **P** 19 00 55.9 0.0
comp=Z,20nm,1.1s,comp=Z,191nm
TPTI 31.92 289 P **P** 19 00 59.7 +0.3
comp=Z,37nm,0.8s
SURT Suratani 32.83 300 P **P** 19 01 07.2 -0.2
comp=Z,9.9nm,1.4s
YNG Young 32.86 147 P **P** 19 01 09.2 +1.7
baz=33,SNR=9.9
MLSI Meulaboh, Aceh 33.00 290 P **P** 19 01 08.7 -0.1
comp=Z,142nm,0.7s
SKNT Sakolnakorn 33.63 317 P **P** 19 01 14.0 -0.3
comp=Z,8.9nm,1.8s
KHON Khomkaen 33.99 315 P **P** 19 01 18.4 +1.0
comp=Z,9.3nm,0.8s
TOO Toolangi 34.02 154 P **P** 19 01 20.1 +2.6
baz=34,SNR=12
CNB Canberra Magne 34.15 147 P **P** 19 01 19.6 +0.9
baz=34,SNR=5.9
JOW Kunigami 34.35 2 P **P** 19 01 20.5 +0.2
comp=Z,24nm,0.8s,baz=153,slow=2.3,SNR=3.6
SRDT SRDT 35.48 308 P **P** 19 01 30.4 +0.2
comp=Z,46nm,1.0s
CM01 Chiang Mai Arr 38.12 313 *eP* **P** 19 01 53.1 +0.5
CM31 Chiang Mai Arr 38.16 313 *eP* **P** 19 01 53.5 +0.7
CM31 *ePcP* **PcP** 19 04 04.4 -0.2
CM31 *e* 19 20 07.5
CMAR Chiang Mai Arr 38.16 313 P **P** 19 01 53.5 +0.7
comp=Z,7.0nm,0.6s,baz=141,slow=6.9,SNR=55
CMAR PcP **PcP** 19 04 04.4 -0.2
comp=Z,1.5nm,0.5s,baz=162,slow=2.5,SNR=5.1
CMAR ScP **S** 19 07 36.4 +1.2
comp=Z,2.2nm,0.8s,baz=159,slow=3.3,SNR=10
CMAR LR LR 19 20 07.5
comp=Z,31nm,18.9s,baz=180,slow=40
CMMT Chiang Mai 38.39 314 P **P** 19 01 54.5 -0.3
comp=Z,18nm,1.7s
CHTO Chiang Mai 38.39 314 P **P** 19 01 55.6 +0.8
comp=Z,80nm,1.7s
CHTO Chiang Mai 38.39 314 *eP* **P** 19 01 55.1 +0.3
CHTO pmax pmax
comp=Z,13nm,0.6s
CHTO Chiang Mai 38.39 314 *eP* **P** 19 01 55.1 +0.3
comp=Z,13nm,0.6s
CMAI Chiengmai2 39.05 315 P **P** 19 02 02.3 +1.8
comp=Z,254nm,1.3s
WHN Wuhan 40.00 343 ⇓P **P** 19 02 09.3 +1.4
DZM Mont Dzumac 40.34 115 P **P** 19 02 11.6 +0.6
comp=Z,2.4nm,0.6s,baz=272,slow=10,SNR=3.2
DZM LR LR 19 19 12.1
comp=Z,84nm,18.9s,baz=246,slow=36
JNU Nakatsue 40.75 5 LR LR 19 17 34.5
comp=Z,31nm,19.5s,baz=222,slow=34
ENH Enshi 41.44 336 *eP* **P** 19 02 19.8 0.0
comp=Z,9.3nm,0.6s
KS15 Wonju Array Si 44.92 1 *eP* **P** 19 02 47.6 +0.1
KSAR Wonju Array Be 44.92 1 P **P** 19 02 47.7 +0.1
KSAR Wonju Array Be 44.92 1 P **P** 19 02 47.6 +0.1
KSRS Korea Array 44.93 1 P **P** 19 02 47.6 0.0
comp=Z,1.8nm,0.4s,baz=179,slow=9.4,SNR=11
XAN Xi'an 45.01 338 P **P** 19 02 47.6 -0.8
XAN pP pP 19 02 57.6 -24
XAN pmax pmax
comp=Z,21nm,0.7s
XAN pmax pmax
comp=Z,140nm,4.4s
MJAR Matsushiro Arr 45.20 12 P **P** 19 02 48.5 -1.4
comp=Z,2.0nm,0.6s,baz=194,slow=9.9,SNR=7.3
MJAR ScP **ScP** 19 08 04.1 -2.1
comp=Z,1.7nm,0.8s,baz=183,slow=4.8,SNR=3.8
MAJO Matsushiro 45.20 12⇑*eP* **P** 19 02 50.7 +0.8
MAJO Matsushiro 45.20 12 *eP* **P** 19 02 48.5 -1.4
MAJO *e*ScP **ScP** 19 08 04.1 -2.1
LZH Lanzhou 48.81 335 *eP* **P** 19 03 18.8 +0.8
LZH pP pP 19 03 23.5 -29
LZH sP sP 19 03 25.9 -43
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.3s
HHC Hu-ho-hao-te 50.43 345 *eP* **P** 19 03 33.4 +3.2
HHC S S 19 10 47.3 +15
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,71nm,5.2s
LSA Lhasa 50.87 319 P **P** 19 03 34.9 +0.8
LSA pmax pmax
comp=Z,17nm,0.7s
LSA Lhasa 50.87 319 *eP* **P** 19 03 34.7 +0.6
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 50.87 319 *eP* **P** 19 03 34.7 +0.6
comp=Z,12nm,0.8s
ODAN Odare 51.70 313 *eP* **P** 19 03 39.8 -0.3
comp=Z,28nm,0.5s
TAPN Taplejung 51.76 314 *eP* **P** 19 03 40.4 -0.2
comp=Z,18nm,0.4s
USRK Ussuriysk Ar. 51.84 4 P **P** 19 03 40.4 0.0
comp=Z,3.1nm,0.6s,baz=154,slow=5.4,SNR=6.3
RAMN Ramite 52.33 313 *eP* **P** 19 03 44.8 +0.1
comp=Z,49nm,0.7s
RPZ Rata Peaks 52.38 141 P **P** 19 03 45.4 +0.9
comp=Z,61nm,1.0s,baz=275,slow=1.2,SNR=9.6
JIRN Jiri 53.04 313 *eP* **P** 19 03 49.8 -0.2
comp=Z,23nm,0.4s
GTA Gaotai 53.33 334 P **P** 19 03 52.0 +0.3
GTA pP pP 19 03 59.5 -27
GTA sP sP 19 04 02.9 -40
GTA pmax pmax
comp=Z,27nm,0.7s
GUN Gumba 53.41 313 *eP* **P** 19 03 52.5 -0.2
comp=Z,32nm,0.5s
ASAJ Asahikawa 53.42 14 P **P** 19 03 52.7 +0.6
comp=Z,5.1nm,0.9s,baz=234,slow=14,SNR=6.6
PKI Pulchoki 53.55 313 *eP* **P** 19 03 53.2 -0.6
comp=Z,15nm,0.5s
PKIN Phulchoki 53.56 313 *eP* **P** 19 03 53.1 -0.7
comp=Z,15nm,0.5s
KKN Kakani 53.77 313 *eP* **P** 19 03 54.9 -0.3
comp=Z,17nm,0.5s
DMN Daman 53.80 312 *eP* **P** 19 03 55.1 -0.4
comp=Z,31nm,0.8s
URZ Urewera 54.19 132 P **P** 19 03 57.8 0.0
comp=Z,9.8nm,0.6s,baz=236,slow=3.6,SNR=5.2
GKN Gorkha 54.36 313 *eP* **P** 19 03 59.1 -0.3
comp=Z,31nm,0.5s
KOLN Koldanda 54.99 312 *eP* **P** 19 04 03.9 -0.1
comp=Z,50nm,0.8s
DANN Dangsing 55.20 312 *eP* **P** 19 04 05.8 +0.2
comp=Z,3.4nm,0.8s
PYUN Piuthan 55.62 312 *eP* **P** 19 04 08.6 0.0
comp=Z,114nm,0.9s
KLR Kul'dur 56.84 4⇑*eP* **P** 19 04 17.5 +1.0
ULN Ulaanbaatar 58.15 344*c iP* **P** 19 04 26.1 +0.2
ULN pmax pmax
comp=Z,12nm,0.8s
ULN Ulaanbaatar 58.15 344 *eP* **P** 19 04 26.4 +0.6
comp=Z,10nm,0.7s
SONA0 Songino Array 58.30 344 *eP* **P** 19 04 27.2 +0.3
SONA0 *e*ScP **ScP** 19 09 01.0 -1.6
SONM Songino Array 58.30 344 P **P** 19 04 27.2 +0.3
comp=Z,6.7nm,0.7s,baz=171,slow=7.1,SNR=59
SONM ScP **ScP** 19 09 01.0 -1.6
comp=Z,1.8nm,0.8s,baz=158,slow=5.5,SNR=10
SONA1 Songino Array 58.31 344 *eP* **P** 19 04 27.2 +0.2
ZAK Zakamensk 61.48 343 *eP* **P** 19 04 47.3 -1.3
ZAK pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 62.54 344 *eP* **P** 19 04 55.8 +0.3
TLY pmax pmax
comp=Z,5.0nm,0.9s
MOY Mondy 63.30 342 *eP* **P** 19 05 00.6 0.0
MOY pmax pmax
comp=Z,11nm,1.9s
PETK Petropavlovsk- 65.87 20 P **P** 19 05 17.3 +0.2
comp=Z,6.7nm,0.5s,baz=176,slow=3.2,SNR=34
PEA1 Petropavlovsk- 65.88 20 *eP* **P** 19 05 17.3 +0.1
BOD Bodaibo 66.19 352 *eP* **P** 19 05 18.1 -0.9
BOD pmax pmax
comp=Z,4.0nm,1.8s
KSH Kashi 66.73 319 P **P** 19 05 23.3 +0.2
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,75nm,4.8s
KSH LR LR
comp=Z,58nm,7.0s
KSH LR LR
comp=Z,120nm,6.4s
KSH LR LR
comp=Z,120nm,7.0s
MK01 Makanchi Array 67.34 328 *eP* **P** 19 05 26.2 -0.4
MK31 Makanchi Array 67.36 328 *eP* **P** 19 05 26.5 -0.3
MK31 Makanchi Array 67.36 328 *eP* **P** 19 05 26.5 -0.3
MK32 Makanchi Array 67.36 328 *eP* **P** 19 05 26.5 -0.2
MK32 *e* 19 35 46.4
MKAR Makanchi Array 67.36 328 P **P** 19 05 26.5 -0.2
comp=Z,7.7nm,0.5s,baz=122,slow=8.1,SNR=145
MKAR LR LR 19 35 46.4
comp=Z,18nm,21.9s,baz=126,slow=36
MKAR Makanchi Array 67.36 328 *eP* **P** 19 05 26.5 -0.2
MKAR pmax pmax
comp=Z,53nm,0.5s
MKAR Makanchi Array 67.36 328 *eP* **P** 19 05 26.5 -0.2
comp=Z,53nm,0.5s
KDJ Kajisay 67.41 322 *eP* **P** 19 05 27.8 +0.5
comp=Z,3.4nm,0.8s
MAKZ Makanchi 67.53 328 *eP* **P** 19 05 27.7 -0.1
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 67.53 328 *eP* **P** 19 05 27.7 -0.1
comp=Z,3.4nm,0.7s
KZA Kyzart 68.58 321 P **P** 19 05 35.2 +0.3
SNR=7.4
UCH Uchtor 69.12 321 P **P** 19 05 38.7 +0.4
SNR=8.1
KBL Kabul 69.16 311 *eP* **P** 19 05 38.3 -0.2
KBL pmax pmax
comp=Z,9.0nm,0.6s
KBL Kabul 69.16 311 *eP* **P** 19 05 38.3 -0.2
comp=Z,9.4nm,0.6s
AAK Ala-Archa 69.35 321*ceP* **P** 19 05 39.5 +0.1
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 69.35 321 P **P** 19 05 39.4 +0.1
SNR=9.8
AAK Ala-Archa 69.35 321 *eP* **P** 19 05 39.9 +0.5
comp=Z,4.7nm,0.6s
YAK Yakutsk 69.56 1 *eP* **P** 19 05 39.1 -0.9
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK Yakutsk 69.56 1 *eP* **P** 19 05 38.9 -1.1
comp=E,14nm,0.7s
AML Almayashu 69.58 320 P **P** 19 05 42.0 +0.9
SNR=11
EKS2 Erkin-Say 69.81 321 P **P** 19 05 42.9 +0.7
SNR=7.8
ZAA0 Zalesovo Array 71.04 335 *eP* **P** 19 05 48.2 -1.0
comp=E,12nm,0.8s
ZALV Zalesovo Beam 71.04 335 P **P** 19 05 48.2 -1.0
comp=E,13nm,0.7s,baz=131,slow=5.1,SNR=50
ZALV Zalesovo Beam 71.04 335 *eP* **P** 19 05 48.0 -1.2
ZALV Zalesovo Beam 71.04 335 *eP* **P** 19 05 48.0 -1.2
ZAA1 Zalesovo Array 71.04 335 *eP* **P** 19 05 48.2 -1.1
KURBB Kurchatov Arra 71.72 330 P **P** 19 05 53.1 -0.2
comp=E,7.3nm,0.6s,baz=135,slow=5.3,SNR=65
KURK Kurchatov 71.73 330*c iP* **P** 19 05 52.8 -0.6
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 71.73 330 *eP* **P** 19 05 53.0 -0.4
comp=Z,9.7nm,0.6s
VNDA Vanda 72.09 173 P **P** 19 05 55.3 +0.1
comp=Z,2.6nm,0.8s,baz=316,slow=6.8,SNR=17
VNDA Vanda 72.09 173 *eP* **P** 19 05 55.7 +0.5
VNDA pmax pmax
comp=Z,7.0nm,1.2s
VNDA Vanda 72.09 173 *eP* **P** 19 05 55.7 +0.5
comp=Z,6.8nm,1.2s
NVS Novosibirsk 72.33 335⇓*iP* **P** 19 05 56.3 -0.6
NVS pmax pmax
comp=Z,8.0nm,0.9s
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,1.1s
SEY Seymchan 73.03 12⇑*eP* **P** 19 06 00.4 -0.4
SEY *i* *PP **pP** 19 06 37.2 -0.3
MAW Mawson 73.30 201 P **P** 19 06 03.2 +0.7
comp=E,8.3nm,0.7s,baz=80,slow=6.9,SNR=3.6
MAW Mawson 73.30 201 *eP* **P** 19 06 03.7 +1.2
MAW pmax pmax
comp=Z,24nm,1.8s
MAW Mawson 73.30 201 *eP* **P** 19 06 03.6 +1.2
comp=Z,24nm,1.8s
BVAR Borovoye Array 77.23 329 P **P** 19 06 24.8 -0.4
comp=Z,3.4nm,0.4s,baz=124,slow=8.7,SNR=37
BRVK Borovoye 77.30 329*c iP* **P** 19 06 24.7 -0.8
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 77.30 329 *eP* **P** 19 06 24.8 -0.8
comp=Z,6.0nm,0.6s
GEYT Alibeck 78.61 311 P **P** 19 06 33.0 -0.1
comp=Z,2.2nm,0.9s,baz=128,slow=2.4,SNR=10
TIXI Tiksi 79.20 1⇑*eP* **P** 19 06 35.1 -0.5
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 79.20 1 *eP* **P** 19 06 34.6 -0.9
comp=Z,3.6nm,0.8s
ABKAR Akbulak array 81.38 322 *eP* **P** 19 06 46.8 -0.9
comp=Z,19nm,0.5s
SYO Syowa Base 82.02 201⇑*eP* P 19 06 40.0 -11
QSPA South Pole Qui 82.27 180 P **P** 19 06 52.4 +0.1
comp=Z,4.4nm,0.7s,baz=272,slow=0.4,SNR=17
QSPA South Pole Qui 82.27 180 *eP* **P** 19 06 52.3 0.0
comp=Z,47nm,2.0s
AKTO Aktyubinsk 82.98 323 P **P** 19 06 55.5 -0.5
comp=Z,2.1nm,0.5s,baz=96,slow=8.5,SNR=9.3
GAMB Gambell 84.62 23 *eP* **P** 19 07 04.1 0.0
comp=Z,5.7nm,0.8s
ARU Arti 84.88 329*d iP* **P** 19 07 04.9 -0.6
ARU 19 10 20.9
ARU S **S** 19 17 14.6 -6.7
ARU SS **SS** 19 22 56.5 -0.9
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 84.88 329 *eP* **P** 19 07 04.7 -0.8
comp=Z,9.8nm,1.3s
RAYN Ar Rayn 85.54 294 *eP* **P** 19 07 09.1 -0.6
RAYN pmax pmax
comp=Z,7.0nm,0.8s
RAYN Ar Rayn 85.54 294 *eP* **P** 19 07 09.1 -0.6
comp=Z,7.4nm,0.8s
KBZ Khabaz 91.21 314 P **P** 19 07 36.1 +0.2
comp=Z,1.3nm,0.9s,baz=38,slow=12,SNR=2.6
SNAA Sanae 94.33 194 P **P** 19 07 50.1 +0.1
comp=Z,4.6nm,0.7s,baz=167,slow=3.0,SNR=11
SNAA Sanae 94.33 194 *eP* **P** 19 07 50.1 +0.1
SNAA pmax pmax
comp=Z,22nm,1.6s
SNAA Sanae 94.33 194 *eP* **P** 19 07 50.1 +0.1
comp=Z,22nm,1.6s
ILAR Eielson Array 95.15 25 P **P** 19 07 51.9 -1.8
comp=Z,0.5nm,0.6s,baz=228,slow=6.2,SNR=5.4
BR101 Keskin Array S 97.64 309 *eP* **P** 19 08 03.9 -1.8
BRTR Keskin Array B 97.64 309 P **P** 19 08 03.9 -1.8
comp=Z,0.6nm,0.8s,baz=126,slow=6.3,SNR=4.7
BRTR Keskin Array B 97.64 309*ceP* **P** 19 08 04.4 -1.4
BRTR pmax pmax
comp=Z,1.0nm,0.8s
ARA0 ARCESS Array S 101.29 339 *ePdif* **Pdif** 19 08 20.0 -1.2
ARA0 *e*PKiKP **PKiKP** 19 12 44.1 -0.7
ARCES ARCESS Array B 101.29 339 P **Pdif** 19 08 20.0 -1.1
comp=Z,0.8nm,0.7s,baz=73,slow=4.1,SNR=4.3
ARCES PKiKP **PKiKP** 19 12 44.1 -0.8
comp=Z,2.0nm,1.0s,baz=297,slow=0.3,SNR=3.6
ARCES ARCESS Array B 101.29 339 P **Pdif** 19 08 20.0 -1.1
SPITS Spitsbergen Ar 101.73 349 P **Pdif** 19 08 21.9 -1.1
comp=Z,2.6nm,0.7s,baz=57,slow=11,SNR=4.7
FIA0 FINESS Array S 102.07 331 *e*PKiKP **PKiKP** 19 12 46.3 -0.1
FINES FINESS Array B 102.07 331 PKiKP **PKiKP** 19 12 46.3 -0.1
comp=Z,0.4nm,0.4s,baz=92,slow=4.2,SNR=4.4
YKA Yellowknife Ar 109.58 26 PKiKP **PKiKP** 19 12 59.4 -0.8
comp=Z,0.7nm,0.8s,baz=302,slow=1.8,SNR=12
YKA PKKPbc **PKKPbc** 19 24 04.6 -3.1
comp=Z,0.4nm,0.6s,baz=115,slow=3.5,SNR=7.4
YKB5 Yellowknife Ar 109.58 26 *e*PKiKP **PKiKP** 19 12 58.6 -1.6
GERES GERESS Array B 111.20 319 PKiKP **PKiKP** 19 13 02.8 -1.1
comp=Z,0.5nm,0.7s,baz=252,slow=1.3,SNR=4.7
NVAR Mina Array Bea 113.87 51 PKiKP **PKiKP** 19 13 09.1 -0.3
comp=Z,0.3nm,0.6s,baz=238,slow=2.9,SNR=4.0
DGR Domenigoni Val 115.63 56 *e*PKPdf **PKPdf** 19 13 12.6 -0.2
HLID Hailey 115.69 45 *e*PKPdf **PKPdf** 19 13 13.7 +0.9
FFC Flin Flon 118.95 30 *i* PKIKP **PKPdf** 19 13 19.1 +0.7
PD31 Pinedale Array 119.32 45 *e*PKPdf **PKPdf** 19 13 19.1 -0.7
PDAR Pinedale Array 119.32 45 PKP **PKPdf** 19 13 19.1 -0.7
comp=Z,0.7nm,0.7s,baz=299,slow=0.9,SNR=7.4
PDAR PKKPbc **PKKPbc** 19 23 32.9 -1.1
comp=Z,0.6nm,0.6s,baz=119,slow=4.9,SNR=6.0
LAO LASA Array 120.18 40 *e*PKPdf **PKPdf** 19 13 22.1 +1.0
ULM Lac du Bonnet 124.51 32 PKP **PKPdf** 19 13 28.0 -1.2
comp=Z,3.0nm,0.7s,baz=6.2,slow=2.1,SNR=6.2
TOA0 Torodi Ar. Sit 126.26 281 *e*PKPdf **PKPdf** 19 13 33.1 -0.5
TORD Torodi Ar. Bea 126.26 281 PKP **PKPdf** 19 13 33.1 -0.5
comp=Z,1.2nm,0.7s,baz=66,slow=2.4,SNR=8.5
TOA1 Torodi Ar. Sit 126.27 281 *e*PKPdf **PKPdf** 19 13 33.1 -0.5
LTX Lajitas 127.63 59 *e*PKiKP **PKPdf** 19 13 36.0 0.0
LTX Lajitas 127.63 59 *e*PKPdf **PKPdf** 19 13 36.0 0.0
TXAR Lajitas Array 127.63 59 PKP **PKPdf** 19 13 36.0 0.0
comp=Z,0.7nm,0.6s,baz=235,slow=2.2,SNR=5.5
TXAR Lajitas Array 127.63 59 PKiKP **PKPdf** 19 13 36.0 0.0
PLCA Paso Flores 129.08 163 PKP **PKPdf** 19 13 38.8 +0.3
comp=Z,2.2nm,1.0s,baz=290,slow=2.2,SNR=3.6
PLCA SKPab SKPab 19 16 43.8 -1.1
comp=Z,1.0nm,0.6s,baz=351,slow=2.4,SNR=4.3
JCT Junction City 130.56 56 *e*PKiKP **PKPdf** 19 13 42.5 +1.1
JCT Junction City 130.56 56 *e*PKPdf **PKPdf** 19 13 42.5 +1.1
SCHQ Schefferville 131.67 11 PKP **PKPdf** 19 13 42.8 -0.1
comp=Z,1.7nm,0.5s,baz=0.0,slow=3.0,SNR=3.5
SCHQ SKPbc **SKPbc** 19 16 52.5 -2.1
comp=Z,4.6nm,0.7s,baz=295,slow=2.3,SNR=5.5
KOWA Kowa 131.78 282 PKP **PKPdf** 19 13 44.0 -0.1
comp=Z,1.3nm,0.6s,baz=108,slow=2.6,SNR=4.4
KOWA SKPbc **SKPbc** 19 16 53.6 -2.6
comp=Z,2.4nm,0.5s,baz=74,slow=4.6,SNR=9.8
DBIC Dimbokro 132.49 272 SKPbc **SKPbc** 19 16 57.0 -1.8
comp=Z,5.5nm,0.8s,baz=135,slow=2.7,SNR=5.6
CMLA Cha da Macela 141.23 325 *i* PKIKP **PKPdf** 19 14 04.0 +3.0
CPUP Villa Florida 145.87 173 PKPbc **PKPdf** 19 14 10.0 +0.5
comp=Z,12nm,0.8s,baz=182,slow=1.8,SNR=26
CPUP PP **PP** 19 17 32.8 +1.9
comp=Z,3.2nm,0.8s,baz=276,slow=4.1,SNR=4.1
CPUP Villa Florida 145.87 173 *e*PKP2 **PKPdf** 19 14 10.6 +1.1
CPUP 19 17 32.8
CPUP Villa Florida 145.87 173 *e*PKPdf **PKPdf** 19 14 10.6 +1.1
CPUP PP **PP** 19 17 32.8 +1.9
JTS JuntasAbangare 148.10 83 PKPbc **PKPbc** 19 14 16.6 -0.3
comp=Z,19nm,0.7s,baz=17,slow=4.9,SNR=15
MNMC Minye Minye 148.58 148 *e*PKPbc **PKPbc** 19 14 19.2 +0.9
NNA Nana 149.07 129 PKPbc **PKPbc** 19 14 19.2 -0.2
comp=Z,10nm,0.7s,baz=257,slow=9.8,SNR=4.0
NNA Nana 149.07 129 *i* PKHKP **PKPbc** 19 14 17.0 -2.4
ATAH Atahualpa 150.48 119 PKPbc **PKPbc** 19 14 25.1 +1.7
comp=Z,18nm,0.6s,baz=98,slow=2.5,SNR=13
LPAZ La Paz 151.71 147 PKPbc **PKPbc** 19 14 26.6 +0.3
comp=Z,5.9nm,0.4s,baz=213,slow=0.9,SNR=15
LPAZ La Paz 151.71 147 *e*PKiKP **PKPbc** 19 14 26.8 +0.5
LPAZ La Paz 151.71 147 *e*PKPbc **PKPbc** 19 14 26.8 +0.5
SIV San Ignacio 155.05 161 PKP **PKPdf** 19 14 23.1 -0.9
comp=Z,1.4nm,0.7s,baz=310,slow=3.1,SNR=8.0
SIV PKPbc PKPbc 19 14 32.9
comp=Z,0.8nm,0.6s,baz=316,slow=2.2,SNR=5.0
SDV Santo Domingo 162.26 85 PKP **PKPdf** 19 14 31.4 -1.4
comp=Z,2.4nm,0.6s,baz=326,slow=3.6,SNR=4.3

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*IDC **21** 18:55:56.7±0.7, 18°.31S×172°.52W, h0km, mb4.2/12, mb1 4.5/13, mb1mx4.2/49, mbtmp4.3/13, ML4.3/1, MS3.7/22, Ms1 3.7/22, ms1mx3.5/49, Error ellipse: s-maj=32.1km s-min=15.2km az=145.0*

*ISCJB **21** 18:56:00.6±0.4, 17°.83S±0°.07×172°.84W±0°.10, h21km, mb4.7/22, MS3.7/20, Error ellipse: s-maj=15.6km s-min=6.8km az=34.2*

*NEIC **21** 18:56:04.8±2.1, 17°.70S×172°.87W, h42km±18km, mb4.8/6, Error ellipse: s-maj=22.5km s-min=9.6km az=135.0*

ISC 21 18:56:01.0±0.6, 18°.02S±0°.09×172°.6W±0°.1, h21km, n88, σ1§59/62, mb4.8/22, MS3.8/21, 1C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	Res
						ISC	h m s	ISC
AFI	**Afiamalu**	**4.17**	**11**	Pn		**Pn**	**18 57 04.5**	**+1.1**
	16nm,0.3s,baz=234,slow=0.6,SNR=10							
AFI				Sn		**Sn**	**18 57 50.6**	**-1.1**
	33nm,0.3s,baz=153,slow=23,SNR=7.9							
AFI	**Afiamalu**	**4.17**	**11**	*e*Pn		**Pn**	**18 57 02.0**	**-1.4**
AFI				Sn		**Sn**	**18 57 50.6**	**-1.1**
MSVF	**Nonsavu**	**8.89**	**270**	*e*Pn		Pn	18 58 14.8	+6.5
RAR	**Rarotonga**	**12.52**	**107**	Pn		Pn	18 58 44.4	-14
	5.6nm,0.3s,baz=264,slow=8.1,SNR=9.3							
RAR				LR		LR	19 02 17.3	
	comp=Z,242nm,21.6s,baz=274,slow=31							
DZM	**Mont Dzumac**	**20.07**	**255**	P		**P**	**19 00 32.0**	**-1.2**
	15nm,0.6s,baz=71,slow=19,SNR=18							
DZM				LR		LR	19 07 00.6	
	comp=Z,298nm,21.1s,baz=102,slow=33							
DZM	**Mont Dzumac**	**20.07**	**255**	*eP*		**P**	**19 00 33.3**	**+0.1**
	102nm,1.4s							
DZM				*e*LR		LR	19 05 20.3	
	453nm,24.9s							
DZM	**Mont Dzumac**	**20.07**	**255**	*eP*		**P**	**19 00 33.1**	**-0.2**
	52nm,1.2s							
PAE	**Paea**	**21.94**	**93**	*e*T		T	19 22 52.5	
	30nm,0.3s							
PPT2	**Papeete2**	**21.95**	**92**	*e*LQ		LQ	19 05 03.2	
	166nm,27.5s							
PPT2				*e*LR		LR	19 05 47.7	
	514nm,25.5s,baz=256							
PPT2	**Papeete2**	**21.95**	**92**	*e*T		T	19 22 55.0	
	20nm,0.3s							
URZ	**Urewera**	**22.07**	**202**	P		**P**	**19 00 50.5**	**-4.0**
	15nm,0.7s,baz=9.9,slow=4.7,SNR=3.8							
URZ				LR		LR	19 09 14.3	
	comp=Z,52nm,21.1s,baz=10,slow=36							
TVO	**Taravao**	**22.24**	**93**	*e*T		T	19 23 02.0	
	7.1nm,0.3s							
LTZ	**Lake Taylor**	**27.82**	**204**	*eP*		**P**	**19 01 52.4**	**+3.6**
	16nm,0.6s							
HNR	**Honiara**	**27.95**	**284**	LR		LR	19 12 09.0	
	comp=Z,115nm,19.5s,baz=70,slow=35							
OXZ	**Oxford**	**28.37**	**204**	*eP*		**P**	**19 01 57.6**	**+3.9**
	40nm,1.0s							
RPZ	**Rata Peaks**	**29.08**	**205**	P		**P**	**19 02 03.9**	**+3.9**
	18nm,0.8s,baz=40,slow=4.2,SNR=8.7							

FOZ	**Fox Glacier**	**29.44**	**207**	*e*P	P	19 02 08.3	+5.2
	60nm,1.0s						
TAOE	**Nuku Hiva Isla**	**32.82**	**78**	*e*LR	LR	19 11 09.9	
	305nm,24.1s						
RKT	**Rikitea**	**35.55**	**105**	*e*LR	LR	19 11 50.6	
	262nm,28.8s						
CTA	**Charters Tower**	**38.86**	**260**	P	**P**	**19 03 23.5**	**-1.6**
	14nm,0.6s,baz=103,slow=7.7						
PMG	**Port Moresby**	**39.92**	**277**	LR	LR	19 19 13.2	
	comp=Z,140nm,18.4s,baz=237,slow=35						
H11S2	**WAKE ISLAND Hy**	**41.59**	**330**	T	T	19 49 29.4	
	baz=147,slow=75,SNR=39						
H11S3	**WAKE ISLAND Hy**	**41.60**	**330**	T	T	19 49 33.3	
	baz=147,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**41.60**	**330**	T	T	19 49 29.7	
	baz=147,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**42.55**	**331**	T	T	19 50 05.8	
	baz=150,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**42.55**	**331**	T	T	19 50 06.1	
	baz=150,slow=76,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**42.56**	**331**	T	T	19 50 07.2	
	baz=150,slow=76,SNR=7.9						
STKA	**Stephens Creek**	**43.43**	**242**	P	**P**	**19 04 01.1**	**-1.5**
	6.8nm,0.7s,baz=90,slow=13,SNR=3.0						
STKA				LR	LR	19 20 08.1	
	comp=Z,122nm,18.7s,baz=36,slow=33						
WR1	**Warramunga Arr**	**50.02**	**259**	*e*P	**P**	**19 04 53.4**	**-1.0**
	37nm,1.0s						
WRA	**Warramunga Arr**	**50.02**	**259**	P	**P**	**19 04 53.4**	**-1.0**
	7.5nm,0.8s,baz=97,slow=7.8,SNR=5.6						
WRA				LR	LR	19 24 52.7	
	comp=Z,90nm,19.4s,baz=185,slow=35						
ASAR	**Alice Springs**	**50.06**	**254**	P	**P**	**19 04 53.4**	**-1.3**
	12nm,0.7s,baz=91,slow=7.7,SNR=5.5						
BATI	**Baumata**	**62.03**	**269**	LR	LR	19 34 29.8	
	comp=Z,65nm,18.3s,baz=178,slow=37						
DAV	**Davao City (W)**	**65.88**	**287**	LR	LR	19 34 35.0	
	comp=Z,15nm,18.1s,baz=126,slow=35						
MJAR	**Matsushiro Arr**	**71.41**	**320**	LR	LR	19 33 02.8	
	comp=Z,8.4nm,21.8s,baz=85,slow=31						
BAKC	**Calstate**	**73.42**	**43**	*e*P	**P**	**19 07 33.8**	**+2.0**
LEOC	**Leona Valley**	**73.52**	**44**	*e*P	**P**	**19 07 35.4**	**+2.9**
CJV	**Casa Juvan**	**73.56**	**44**	*e*P	**P**	**19 07 35.4**	**+2.6**
LPIG	**La Paz**	**73.79**	**57**	LR	LR	19 31 41.2	
	comp=Z,83nm,18.8s,baz=246,slow=29						
CRY	**Cary Ranch**	**73.95**	**46**	*e*P	**P**	**19 07 33.8**	**-1.3**
SNDA	**J Saunders Pla**	**74.03**	**46**	*e*P	P	19 07 31.4	-4.2
HEC	**Hector,Ludlow**	**74.95**	**45**	*e*P	**P**	**19 07 44.4**	**+3.5**
YBH	**Yreka Blue Hor**	**75.24**	**36**	LR	LR	19 31 48.2	
	comp=Z,80nm,21.7s,baz=228,slow=28						
NVAR	**Mina Array Bea**	**75.78**	**41**	P	**P**	**19 07 45.3**	**-0.4**
	0.6nm,0.8s,baz=216,slow=7.3,SNR=4.8						
NVAR				LR	LR	19 34 55.4	
	comp=Z,70nm,19.6s,baz=155,slow=31						
SBUM	**Sibu**	**76.67**	**277**	*e*P	**P**	**19 07 52.8**	**+1.8**
	5.7nm,1.1s						
KSM	**Kuching**	**78.17**	**275**	*e*P	**P**	**19 08 00.6**	**+1.2**
	40nm,1.0s						
LEM	**Lembang**	**78.21**	**267**	P	**P**	**19 08 00.8**	**+0.9**
	29nm,0.8s,baz=90,slow=10,SNR=7.9						
KS01	**Wonju Array Si**	**78.57**	**316**	*e*P	**P**	**19 08 03.6**	**+2.5**
LTX	**Lajitas**	**81.46**	**55**	*e*P	**P**	**19 08 16.6**	**-0.5**
TXAR	**Lajitas Array**	**81.46**	**55**	P	**P**	**19 08 16.6**	**-0.5**
	0.6nm,0.8s,baz=215,slow=4.2,SNR=2.8						
TXAR				LR	LR	19 36 36.0	
	comp=Z,28nm,21.3s,baz=0.0,slow=30						
PD31	**Pinedale Array**	**83.72**	**41**	*e*P	**P**	**19 08 28.7**	**0.0**
PDAR	**Pinedale Array**	**83.72**	**41**	P	**P**	**19 08 28.7**	**0.0**
	1.0nm,0.7s,baz=210,slow=3.7,SNR=9.5						
PDAR				LR	LR	19 42 59.7	
	comp=Z,41nm,18.9s,baz=260,slow=34						
PDAR	**Pinedale Array**	**83.72**	**41**	*e*P	**P**	**19 08 28.5**	**-0.2**
BOZ	**Bozeman (W)**	**83.97**	**38**	*e*P	**P**	**19 08 29.1**	**-0.8**
	22nm,0.6s						
ILAR	**Eielson Array**	**84.86**	**11**	P	**P**	**19 08 33.9**	**+0.2**
	1.4nm,1.0s,baz=206,slow=6.6,SNR=4.8						
ILB	**Eielson Array**	**84.86**	**11**	*e*P	**P**	**19 08 32.1**	**-1.6**
DAWY	**Dawson**	**85.77**	**14**	*e*P	**P**	**19 08 39.5**	**+1.2**
	4.9nm,1.0s						
GSI	**Gunungsitoli**	**90.21**	**271**	*e*P	**P**	**19 09 01.8**	**+1.1**
	23nm,1.2s						
JTS	**JuntasAbangare**	**90.95**	**80**	LR	LR	19 40 39.3	
	comp=Z,46nm,19.0s,baz=172,slow=30						
NNA	**Nana**	**91.74**	**103**	LR	LR	19 42 41.8	
	comp=Z,12nm,21.6s,baz=244,slow=31						
ATAH	**Atahualpa**	**91.82**	**98**	LR	LR	19 42 54.8	
	comp=Z,84nm,19.4s,baz=240,slow=31						
YKA	**Yellowknife Ar**	**92.20**	**23**	P	**P**	**19 09 09.0**	**+0.3**
	0.1nm,0.5s,baz=263,slow=4.9,SNR=3.0						
CMAR	**Chiang Mai Arr**	**94.13**	**288**	P	**P**	**19 09 18.7**	**-0.1**
	0.4nm,0.6s,baz=104,slow=1.9,SNR=3.0						
ULM	**Lac du Bonnet**	**95.49**	**39**	LR	LR	19 47 06.0	
	comp=Z,53nm,19.7s,baz=210,slow=32						
LPAZ	**La Paz**	**98.22**	**110**	LR	LR	19 43 09.9	
	comp=Z,32nm,21.8s,baz=172,slow=29						
ROSC	**El Rosal**	**99.36**	**88**	LR	LR	19 45 29.2	
	comp=Z,38nm,18.9s,baz=194,slow=30						
TKL	**Tuckaleechee C**	**99.37**	**56**	LR	LR	19 51 11.9	
	comp=Z,36nm,18.2s,baz=348,slow=33						
BVAR	**Borovoye Array**	**120.39**	**321**	PKP	**PKPdf**	**19 14 50.4**	**-0.2**
	0.4nm,0.5s,baz=10,slow=1.6,SNR=3.6						
ARA0	**ARCESS Array S**	**127.29**	**352**	*e*PKPdf	**PKPdf**	**19 15 02.9**	**-0.5**
ARCES	**ARCESS Array B**	**127.29**	**352**	PKP	**PKPdf**	**19 15 02.9**	**-0.5**
	1.7nm,0.9s,baz=2.9,slow=1.8,SNR=3.7						
KBZ	**Khabaz**	**140.65**	**318**	PKP	**PKPdf**	**19 15 28.4**	**-0.6**
	1.1nm,0.8s,baz=90,slow=4.0,SNR=3.6						
KMBO	**Kilima Mbogo**	**144.98**	**240**	PKP	**PKPab**	**19 15 36.0**	**-1.3**
	3.8nm,0.9s,baz=136,slow=3.2,SNR=9.6						
CLL	**Collm**	**146.49**	**354**	↑*i*PKPbc	**PKPbc**	**19 15 41.1**	**+0.6**
	comp=Z,19nm,1.7s						
DPC	**Dobruska-Polom**	**146.96**	**349**	*e*PKP	**PKPbc**	**19 15 43.2**	**+1.2**
PRU	**Pruhonice**	**147.59**	**351**	*e*PKP	**PKPbc**	**19 15 44.4**	**+0.7**
KHC	**Kasperske Hory**	**148.56**	**352**	*e*PKP	**PKPbc**	**19 15 46.3**	**0.0**
BR101	**Keskin Array S**	**148.63**	**319**	*e*PKPbc	**PKPbc**	**19 15 47.4**	**+0.4**
BR131	**Keskin Array S**	**148.63**	**319**	*e*PKPbc	**PKPbc**	**19 15 47.8**	**+0.8**
BRTR	**Keskin Array B**	**148.63**	**319**	PKPbc	**PKPbc**	**19 15 47.4**	**+0.4**
	comp=Z,77nm,0.9s,baz=124,slow=2,SNR=14						
GERES	**GERESS Array B**	**148.83**	**352**	PKPbc	**PKPbc**	**19 15 47.3**	**+0.2**
	comp=Z,1.8nm,1.0s,baz=90,slow=1.3,SNR=9.4						
GEA0	**GERESS Array S**	**148.84**	**352**	*e*PKPbc	**PKPbc**	**19 15 47.3**	**+0.2**
BR231	**Keskin MP Arra**	**149.10**	**320**	*e*PKPbc	**PKPbc**	**19 15 47.5**	**-0.6**
CONA	**Conrad Observa**	**149.37**	**349**	*e*PKiKP	**PKPbc**	**19 15 49.5**	**+1.0**
	comp=Z,9.9nm,1.5s						
WTTA	**Wattenberg**	**150.63**	**354**	*i* PKiKP	**PKPbc**	**19 15 52.2**	**+0.5**
	comp=Z,3.7nm,0.5s						
FETA	**Feichten**	**150.95**	**355**	*i* PKiKP	**PKPbc**	**19 15 52.8**	**+0.4**
	comp=Z,6.3nm,1.2s						
MYKA	**Terra Mystica**	**151.00**	**351**	*i* PKPbc	**PKPbc**	**19 15 52.1**	**-0.4**
	comp=Z,1.9nm,0.6s						
ABTA	**Abfaltersbach**	**151.04**	**353**	*i* PKiKP	**PKPbc**	**19 15 52.4**	**-0.1**
	comp=Z,4.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**172.69**	**131**	PKP	**PKPdf**	**19 16 07.9**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=300,slow=2.1,SNR=3.7						
TORD				PKPab	**PKPab**	**19 17 32.8**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=251,slow=4.4,SNR=3.7						
TOA1	**Torodi Ar. Sit**	**172.69**	**131**	*e*PKPdf	**PKPdf**	**19 16 07.9**	**-1.5**
TOA1				*e*PKPab	**PKPab**	**19 17 32.8**	**-2.2**

MEX 21 19:04:47.4±0.3, **16°.56N**×**98°.45W**, **h5**km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**119**	*i* P	Pg	19 04 53.9	-0.4
PNIG				*e*S	Sg	19 04 58.9	0.0
TLIG	**Tlapa**	**1.00**	**354**	*e*P	Pg	19 05 04.0	-2.7
TLIG				*i* S	Sg	19 05 17.3	-2.3
ACX	**Acapulco**	**1.38**	**283**	*i* P	Pn	19 05 13.1	-0.3
ACX				*e*S	Sb	19 05 30.6	-1.2
VHO	**Vista Hermosa**	**1.72**	**73**	*i* P	Pn	19 05 15.1	-3.1
VHO				*i* S	Sn	19 05 36.7	-4.0
CAIG	**El Cayaco**	**1.81**	**286**	*i* P	Pn	19 05 16.1	-3.1
CAIG				*i* S	Sn	19 05 38.5	-4.0
HUIG	**Huatulco**	**2.38**	**109**	*e*P	Pn	19 05 24.2	-2.9
HUIG				*i* S	Sn	19 05 52.8	-4.1

*GUC **21** 19:13:56.4±0.8, 21°.55S×68°.56W, h140km±6km, ML4.0*
*IDC **21** 19:14:05.9±9.1, 20°.93S×67°.82W, h186km±61km, mb3.3/2, mb1 3.3/4, mb1mx3.1/42, mbtmp3.6/4, Error ellipse: s-maj=111.9km s-min=30.3km az=8.0*
ISC 21 19:13:56.3±1.0, **21°.52S**±0°.05×**68°.33W**±0°.09, **h128**km±10km, **n16**, σ1ᵖ**81**/28, **6C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.89**	**252**	↑*i* P	**Pn**	**19 14 18.5**	**+0.4**
PB09				*i* S	**Sn**	**19 14 35.0**	**+0.3**
PB01	**IPOC Station P**	**1.18**	**294**	↑*i* P	**Pn**	**19 14 21.0**	**+0.2**
PB01				*i* S	**Sn**	**19 14 39.5**	**+0.1**
PB01				IAML		19 14 41.2	
	comp=E,3μm,0.2s						
PB07	**IPOC Station P**	**1.46**	**262**	↑*i* P	**Pn**	**19 14 23.8**	**-0.1**
PB07				*i* S	**Sn**	**19 14 44.1**	**-0.8**
PB07				IAML		19 14 44.7	
	comp=N,3μm,0.4s						
PB02	**IPOC Station P**	**1.47**	**278**	↑*i* P	**Pn**	**19 14 23.8**	**-0.1**
PB02				*i* S	**Sn**	**19 14 44.3**	**-0.7**
PB02				IAML		19 14 45.8	
	comp=E,5μm,0.4s						
PB08	**IPOC Station P**	**1.57**	**331**	↑*i* P	**Pn**	**19 14 27.0**	**+1.6**
PB08				*i* S	**Sn**	**19 14 49.5**	**+2.0**
PB06	**IPOC Station P**	**1.65**	**224**	↑*i* P	**Pn**	**19 14 25.7**	**-0.3**
PB06				*i* S	**Sn**	**19 14 48.0**	**-0.7**
PB06				IAML		19 14 48.1	
	comp=E,604nm,0.7s						
PB04	**IPOC Station P**	**1.87**	**244**	*e*P	**Pn**	**19 14 28.1**	**-0.5**
PB04				*i* S	**Sn**	**19 14 51.8**	**-1.7**
PB04				IAML		19 14 53.5	
	comp=N,877nm,0.4s						
PB11	**IPOC Station P**	**2.15**	**324**	*e*P	**Pn**	**19 14 32.4**	**+0.3**
PB11				*i* S	**Sn**	**19 14 60.0**	**+0.5**
PSGC	**Pisagua**	**2.54**	**318**	*e*P	**Pn**	**19 14 36.4**	**-0.6**
PSGC				*i* S	**Sn**	**19 15 07.6**	**-0.7**
MNMC	**Minye Minye**	**2.66**	**333**	↓*i* P	**Pn**	**19 14 39.5**	**+0.8**
MNMC				*i* S	**Sn**	**19 15 12.1**	**+0.8**
MNMC				IAML		19 15 15.4	
	comp=N,838nm,0.3s						
PB12	**IPOC Station P**	**3.45**	**327**	*e*P	**Pn**	**19 14 48.0**	**-0.8**
PB12				*i* S	**Sn**	**19 15 27.8**	**-1.5**
LPAZ	**La Paz**	**5.21**	**2**	P	**Pn**	**19 15 16.6**	**+3.8**
	comp=N,0.7nm,0.3s,baz=193,slow=5.2,SNR=3.9						
SIV	**San Ignacio**	**8.80**	**53**	P	**Pn**	**19 15 58.9**	**-1.8**
	comp=N,0.9nm,0.3s,baz=246,slow=14,SNR=10						
SIV				S	**Sn**	**19 17 31.7**	**-6.5**
	comp=N,0.2nm,0.3s,baz=168,slow=20,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.86**	**70**	P	**P**	**19 25 34.5**	**-0.2**
	comp=N,0.9nm,0.7s,baz=251,slow=5.1,SNR=7.4						
YKA	**Yellowknife Ar**	**91.39**	**340**	P	**P**	**19 26 47.7**	**+0.5**
	comp=N,0.1nm,0.5s,baz=124,slow=5.4,SNR=3.5						
MKAR	**Makanchi Array**	**145.33**	**36**	PKP	**PKPab**	**19 33 19.9**	**+0.5**
	comp=N,0.2nm,0.4s,baz=313,slow=3.5,SNR=5.4						

*GUC **21** 19:14:33.6±0.5, 28°.35S×71°.19W, h33km±4km, ML4.1*
*SJA **21** 19:14:33.1±1.3, 28°.48S×71°.42W, h10km±17km, ML3.9, MW3.8*
ISC 21 19:14:32.4±2.4, **28°.34S**±0°.06×**71°.3W**±0°.1, **h2**km±14km, **n18**, σ1ᵖ**83**/21, **4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.51**	**117**	↓*i* P	Pn	19 14 54.6	+7.8
VACH				*i* S	Sb	19 15 00.0	+10
LCO	**Las Campanas**	**0.83**	**143**	*e*P	**Pg**	**19 14 49.1**	**+0.7**
LCO	**Las Campanas**	**0.83**	**143**	↓*i* P	**Pg**	**19 14 49.1**	**+0.7**
LCO				*i* S	**Sb**	**19 15 00.3**	**-1.3**
LCO				IAML		19 15 01.7	
	comp=N,8μm,0.2s						
GO03	**Copiap**	**1.18**	**51**	↓*i* P	**Pb**	**19 14 54.1**	**-1.6**
GO03				*i* S	**Sg**	**19 15 08.9**	**-1.5**
GO03				IAML		19 15 11.8	
	comp=N,5μm,0.5s						
TLL	**Tololo Astrono**	**1.86**	**168**	*e*P	**Pn**	**19 15 05.0**	**-0.6**
TLL				*e*S	**Sn**	**19 15 28.8**	**-1.1**
TLL				IAML		19 15 34.9	
	comp=N,3μm,0.4s						
GO04	**Tololo Observa**	**1.87**	**167**	↓*i* P	**Pn**	**19 15 04.7**	**-1.0**
GO04				*i* S	**Sn**	**19 15 29.0**	**-1.0**
GO04				IAML		19 15 34.2	
	comp=E,6μm,0.5s						
AGUA	**GUANDACOL**	**2.69**	**116**	*e*P	**Pb**	**19 15 20.7**	**-0.7**
AGUA				*e*S	**Sb**	**19 15 55.3**	**+0.4**
VCA	**Vinchina**	**2.72**	**99**	*e*P	**Pb**	**19 15 21.3**	**-0.7**
VCA				*e*S	**Sb**	**19 15 55.9**	**-0.1**
VCA				IAML		19 16 04.6	
	comp=Z,413nm,0.4s						
RTLL	**Cerro Villicun**	**3.84**	**141**	*e*P	**Pn**	**19 15 34.5**	**+1.8**
RTLL				IAML		19 16 32.0	
	comp=Z,171nm,0.3s						
RTLS	**Leoncito**	**3.84**	**154**	*e*P	**Pn**	**19 15 35.5**	**+2.6**
RTLS				IAML		19 16 39.9	
	comp=Z,205nm,0.3s						
AUSP	**Uspallata**	**4.20**	**158**	*e*P	**Pn**	**19 15 40.0**	**+2.2**
RTCV	**Cerro Valdivia**	**4.23**	**147**	*e*P	**Pn**	**19 15 39.9**	**+1.9**
CYA	**Choya**	**4.82**	**92**	*e*P	**Pn**	**19 15 46.7**	**+0.6**
CYA				IAML		19 15 50.0	
	comp=Z,311nm,0.4s						
ARCO	**CERRO ARCO**	**4.92**	**156**	*e*P	**Pn**	**19 15 51.6**	**+4.1**
ARCO				IAML		19 17 04.4	
	comp=Z,134nm,0.5s						
AAGR	**Agrelo**	**5.17**	**157**	*e*P	Pn	19 15 56.5	+5.5
FSA	**Cafayete**	**5.21**	**66**	*e*P	**Pn**	**19 15 54.6**	**+3.0**
FSA				IAML		19 17 19.8	
	comp=Z,8.5nm,0.5s						
AHML	**Horco Molle**	**5.49**	**75**	IAML		19 15 59.8	
	comp=Z,31nm,0.4s						
MRA	**San Martin**	**6.28**	**132**	*e*P	**Pn**	**19 16 06.2**	**-0.1**
MRA				IAML		19 17 48.3	
	comp=Z,74nm,0.6s						

*IDC **21** 19:31:38.6±2.6, 39°.41S×178°.87E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/42, mbtmp3.5/2, Error ellipse: s-maj=78.1km s-min=47.7km az=17.0*
*ISCJB **21** 19:31:44.5±0.7, 38°.16S±0°.04×179°.06E±0°.06, h31km, mb3.3/2, Error ellipse: s-maj=7.3km s-min=4.6km az=152.9*
*WEL **21** 19:31:46.3, 38°.S±3°×17°.9E±°, h46km±5km, ML3.9/37*
ISC 21 19:31:45.2±1.5, **38°.14S**±0°.05×**179°.02E**±0°.09, **h31**km, **n77**, σ0ᵍ**93**/78, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.58**	**304**	P	**Pn**	**19 31 57.9**	**+0.7**
WMGZ	**Waiomatatini S**	**0.58**	**304**	S	**Sn**	**19 32 05.8**	**+0.2**
PUZ	**Puketiti**	**0.61**	**277**	P	**Pb**	**19 31 58.0**	**+0.6**
PUZ	**Puketiti**	**0.61**	**277**	S	**Sb**	**19 32 05.8**	**+0.1**
CNGZ	**Carnagh Statio**	**0.72**	**242**	P	**Pn**	**19 32 00.8**	**+1.6**
PKGZ	**Pakihiroa**	**0.79**	**289**	P	**Pn**	**19 32 00.3**	**+0.2**
PKGZ	**Pakihiroa**	**0.79**	**289**	S	**Sb**	**19 32 09.8**	**-1.0**
MXZ	**Matakaoa Point**	**0.81**	**316**	P	**Pn**	**19 32 01.3**	**+0.6**
TWGZ	**Tauwhareparae**	**0.82**	**267**	P	**Pn**	**19 32 01.2**	**+0.6**
TWGZ	**Tauwhareparae**	**0.82**	**267**	S	**Sn**	**19 32 11.8**	**+0.1**
TKGZ	**Te Karaka**	**0.97**	**252**	P	**Pn**	**19 32 03.3**	**+0.7**
TKGZ	**Te Karaka**	**0.97**	**252**	S	**Sn**	**19 32 15.4**	**+0.1**
HAZ	**Te Kaha**	**1.05**	**291**	P	**Pn**	**19 32 03.7**	**-0.1**
RUGZ	**Raukumara Rang**	**1.07**	**279**	P	**Pn**	**19 32 04.0**	**-0.2**
RIGZ	**Rimuhau**	**1.14**	**240**	P	**Pn**	**19 32 05.9**	**+1.0**
RIGZ	**Rimuhau**	**1.14**	**240**	S	**Sn**	**19 32 20.6**	**+1.0**
MWZ	**Matawai**	**1.19**	**260**	P	**Pn**	**19 32 05.9**	**+0.2**
MWZ	**Matawai**	**1.19**	**260**	S	**Sn**	**19 32 20.0**	**-0.9**
RAGZ	**Rawiri**	**1.31**	**254**	P	**Pn**	**19 32 08.1**	**+0.7**
MHGZ	**Mahia Peninsul**	**1.33**	**220**	P	**Pn**	**19 32 09.2**	**+1.5**
KNZ	**Kokohu**	**1.37**	**230**	P	**Pn**	**19 32 08.8**	**+0.7**
SNGZ	**Shannon Statio**	**1.47**	**244**	P	**Pn**	**19 32 10.2**	**+0.7**
URZ	**Urewera**	**1.51**	**265**	Pn	**Pn**	**19 32 10.8**	**+0.8**
	9.2nm,0.3s,baz=261,slow=7.7,SNR=56						
URZ				Sn	**Sn**	**19 32 27.8**	**-0.8**
	62nm,0.3s,baz=217,slow=20,SNR=52						
URZ	**Urewera**	**1.51**	**265**	P	**Pn**	**19 32 10.8**	**+0.8**
URZ	**Urewera**	**1.51**	**265**	S	**Sn**	**19 32 28.1**	**-0.6**
WIZ	**White Island**	**1.57**	**292**	P	**Pn**	**19 32 12.4**	**+1.5**
RTZ	**Ruatahuna**	**1.67**	**253**	P	**Pn**	**19 32 13.7**	**+1.4**
WHHZ	**Waihua**	**1.68**	**236**	P	**Pn**	**19 32 13.4**	**+1.0**
RAHZ	**Arahi**	**1.70**	**242**	P	**Pn**	**19 32 13.9**	**+1.1**
MUGZ	**Murupara**	**1.80**	**259**	P	**Pn**	**19 32 14.8**	**+0.7**
MTHZ	**Maungataniwha**	**1.85**	**247**	P	**Pn**	**19 32 15.4**	**+0.6**
MARZ	**Manawahe**	**1.86**	**274**	P	**Pb**	**19 32 18.8**	**+0.4**
ARHZ	**Aropaoanui**	**1.94**	**234**	P	**Pn**	**19 32 17.2**	**+1.2**
OPRZ	**Ohinepanea**	**1.97**	**278**	P	**Pn**	**19 32 16.4**	**0.0**
NMHZ	**Naumai**	**1.98**	**241**	P	**Pn**	**19 32 17.6**	**+1.0**
RRRZ	**Republican Roa**	**1.98**	**264**	P	**Pn**	**19 32 17.7**	**+1.1**
TARZ	**Mount Tarawera**	**1.98**	**267**	P	**Pn**	**19 32 17.8**	**+1.1**
PRRZ	**Plateau Road**	**2.10**	**259**	P	**Pn**	**19 32 19.1**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.14**	**224**	P	**Pn**	**19 32 19.3**	**+0.6**
ALRZ	**Allen Road**	**2.15**	**258**	P	**Pn**	**19 32 19.4**	**+0.6**
TGRZ	**Tauranga**	**2.22**	**280**	P	**Pn**	**19 32 19.7**	**-0.1**
BKZ	**Black Stump Fm**	**2.23**	**242**	P	**Pn**	**19 32 20.7**	**+0.8**
MCHZ	**McNeill Hill**	**2.23**	**234**	P	**Pn**	**19 32 20.9**	**+0.9**
KAHZ	**Kahuranaki**	**2.35**	**225**	P	**Pn**	**19 32 22.3**	**+0.6**
KWHZ	**Kaweka Forest**	**2.40**	**237**	P	**Pn**	**19 32 23.1**	**+0.7**
PXZ	**Pawanui**	**2.52**	**221**	P	**Pn**	**19 32 24.3**	**+0.3**
KUTZ	**Kaahu Road**	**2.54**	**261**	P	**Pn**	**19 32 25.0**	**+0.8**
KRHZ	**Kereru**	**2.55**	**233**	P	**Pn**	**19 32 24.7**	**+0.2**
BHHZ	**Black Hill Sta**	**2.67**	**239**	P	**Pn**	**19 32 26.7**	**+0.5**
WPHZ	**Waipukurau**	**2.78**	**225**	P	**Pn**	**19 32 27.6**	**+0.1**
KRVZ	**Karewarewa**	**2.81**	**249**	P	**Pn**	**19 32 28.5**	**+0.4**
TOZ	**Tahuroa Road**	**2.81**	**277**	P	**Pn**	**19 32 27.8**	**-0.2**
PRHZ	**Porangahau**	**2.82**	**220**	P	**Pn**	**19 32 27.6**	**-0.4**
PNHZ	**Pukenui**	**2.82**	**230**	P	**Pn**	**19 32 27.8**	**-0.3**
MOVZ	**Moawhango**	**2.85**	**243**	P	**Pn**	**19 32 29.4**	**+0.9**
KUZ	**Kuaotunu**	**2.97**	**297**	P	**Pn**	**19 32 29.7**	**-0.5**
ANWZ	**Angora Road**	**3.04**	**220**	P	**Pn**	**19 32 31.4**	**+0.3**
TSZ	**Takapari Road**	**3.05**	**230**	P	**Pn**	**19 32 30.7**	**-0.6**
DVHZ	**Dannevirke**	**3.09**	**225**	P	**Pn**	**19 32 31.3**	**-0.5**
MKAZ	**Moumakai**	**3.23**	**288**	P	**Pn**	**19 32 33.9**	**+0.2**
HIZ	**Hauiti**	**3.30**	**262**	P	**Pn**	**19 32 36.0**	**+1.4**
BFZ	**Birch Farm**	**3.32**	**219**	P	**Pn**	**19 32 34.0**	**-1.0**
WIAZ	**Waiheke Island**	**3.37**	**292**	P	**Pn**	**19 32 36.2**	**+0.5**
PRWZ	**Pori Road**	**3.38**	**224**	P	**Pn**	**19 32 35.9**	**+0.1**
GRZ	**Great Barrier**	**3.41**	**303**	P	**Pn**	**19 32 36.4**	**+0.2**
GRZ	**Great Barrier**	**3.41**	**303**	P	**Pn**	**19 32 36.4**	**+0.2**
ETAZ	**East Tamaki Re**	**3.46**	**289**	P	**Pn**	**19 32 37.9**	**+1.0**
MRZ	**Mangatainoka R**	**3.66**	**226**	P	**Pn**	**19 32 38.5**	**-1.1**
TMWZ	**Te Maipa**	**3.82**	**218**	P	**Pn**	**19 32 40.5**	**-1.4**
HOWZ	**Holdsworth Sta**	**3.86**	**223**	P	**Pn**	**19 32 41.0**	**-1.4**
KIW	**Kapiti Island**	**4.18**	**228**	P	**Pn**	**19 32 45.4**	**-1.4**
WCZ	**Waipu Caves**	**4.34**	**299**	P	**Pn**	**19 32 49.8**	**+0.8**
OUZ	**Omahuta**	**5.25**	**302**	P	**Pn**	**19 33 02.8**	**+1.4**
CTZ	**Chatham Island**	**6.49**	**151**	P	**Pn**	**19 33 22.1**	**+3.7**
ASAR	**Alice Springs**	**40.92**	**277**	P	**P**	**19 39 23.5**	**-1.3**
	0.4nm,0.5s,baz=126,slow=8.8,SNR=7.7						
WRA	**Warramunga Arr**	**42.61**	**282**	P	**P**	**19 39 37.6**	**-1.1**
	0.2nm,0.3s,baz=120,slow=8.9,SNR=12						
ARCES	**ARCESS Array B**	**145.48**	**344**	PKPbc	**PKPab**	**19 51 20.4**	**+1.0**
	1.1nm,0.5s,baz=34,slow=2.7,SNR=15						

MEX 21 19:35:24.5±0.3, **16°.26N**×**98°.28W**, **h6**km±3km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.20**	**47**	*i* P	Pg	19 35 28.2	-0

	11nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	*e*PG	**Pg**	**20 02 37.6**	**+0.5**
GOPC				*e*SG	**Sb**	**20 02 59.8**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	Pg	**Pg**	**20 02 37.6**	**+0.5**
GOPC				Sg	**Sb**	**20 02 59.8**	**0.0**
PRU	**Pruhonice**	**1.84**	**215**	*e*PG	**Pb**	**20 02 36.7**	**-0.1**
PRU				*e*SG	**Sg**	**20 03 01.4**	**0.0**
	comp=Z,4.6nm,0.3s						
PRU	**Pruhonice**	**1.84**	**215**	Pg	**Pb**	**20 02 36.7**	**-0.1**
PRU				Sg	**Sg**	**20 03 01.4**	**0.0**
	4.6nm,0.3s						
CLL	**Collm**	**2.01**	**266**	*e*Pg	**Pb**	**20 02 40.0**	**+0.4**
CLL				*e*Sg	**Sg**	**20 03 07.0**	**+0.2**
OKC	**Ostrava-Krasne**	**2.08**	**143**	*e*SG	**Sg**	**20 03 08.6**	**-0.2**
OKC	**Ostrava-Krasne**	**2.08**	**143**	Sg	**Sg**	**20 03 08.6**	**-0.2**
NKC	**Novy Kostel**	**2.69**	**243**	*e*PG	**Pg**	**20 02 53.1**	**-0.7**
NKC				*e*SG	**Sg**	**20 03 29.0**	**+0.3**
	comp=Z,5.4nm,0.3s						
NKC	**Novy Kostel**	**2.69**	**243**	Pg	**Pg**	**20 02 53.1**	**-0.7**
NKC				Sg	**Sg**	**20 03 29.0**	**+0.3**
	5.4nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**	**20 02 49.9**	**+0.2**
KHC				*e*PG	**Pb**	**20 02 55.8**	**+0.9**
KHC				*e*SN	**Sn**	**20 03 24.4**	**-1.0**
KHC				*e*SG	**Sg**	**20 03 34.3**	**-1.2**
	comp=Z,2.0nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**216**	Pn	**Pn**	**20 02 49.9**	**+0.2**
LANS	**Liptovska Anna**	**3.15**	**137**	*e*Sg	**Sg**	**20 03 43.4**	**+0.1**
LANS	**Liptovska Anna**	**3.15**	**137**	*e*SG	**Sg**	**20 03 43.4**	**+0.1**

*ISCJB **21** 20:02:47.3±1.3,51°.45N±0°.05×16°.11E±0°.06,h0km,Error ellipse: s-maj=8.0km s-min=4.0km az=26.2*
*CSEM **21** 20:02:47.9±0.3,51°.48N×16°.15E,h1km,ML2.6/5,Error ellipse: s-maj=4.6km s-min=2.3km az=8.0*

ISC 21 20:02:48.3±1.6,**51°.47N**±0°.07×**16°.14E**±0°.04,**h0**km,**n22,**
σ0**s27**/34,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**171**	*e*Pg	**Pg**	**20 03 00.6**	**+0.2**
KSP				*e*Sg	**Sg**	**20 03 09.0**	**+0.4**
KSP	**Ksiaz**	**0.63**	**171**	*e*Pg	**Pg**	**20 03 00.6**	**+0.2**
KSP				*e*Sg	**Sg**	**20 03 09.0**	**+0.4**
UPC	**Upice**	**0.96**	**185**	*e*PG	**Pg**	**20 03 07.0**	**+0.2**
UPC				*e*SG	**Sg**	**20 03 19.5**	**+0.2**
UPC	**Upice**	**0.96**	**185**	Pg	**Pg**	**20 03 07.0**	**+0.2**
UPC				Sg	**Sg**	**20 03 19.5**	**+0.2**
DPC	**Dobruska-Polom**	**1.12**	**174**	*e*PG	**Pg**	**20 03 09.6**	**-0.3**
DPC				*e*SG	**Sg**	**20 03 24.3**	**-0.1**
	comp=Z,4.8nm,0.2s						
DPC	**Dobruska-Polom**	**1.12**	**174**	Pg	**Pg**	**20 03 09.6**	**-0.3**
DPC				Sg	**Sg**	**20 03 24.3**	**-0.1**
	4.8nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**227**	*e*PG	**Pg**	**20 03 14.2**	**-0.3**
PVCC				*e*SG	**Sb**	**20 03 33.0**	**+0.2**
	comp=Z,27nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**227**	Pg	**Pg**	**20 03 14.2**	**-0.3**
PVCC				Sg	**Sb**	**20 03 33.0**	**+0.2**
	27nm,0.3s						
KRLC	**Kraliky**	**1.45**	**164**	*e*PG	**Pn**	**20 03 15.9**	**0.0**
KRLC				*e*SG	**Sg**	**20 03 34.7**	**-0.2**
	comp=Z,2.4nm,0.3s						
KRLC	**Kraliky**	**1.45**	**164**	Pg	**Pn**	**20 03 15.9**	**0.0**
KRLC				Sg	**Sg**	**20 03 34.7**	**-0.2**
	2.4nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**248**	PG	**Pb**	**20 03 17.0**	**-0.1**
BRG				SG	**Sg**	**20 03 36.5**	**-0.2**
	10nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.78**	**210**	*e*SG	**Sg**	**20 03 45.4**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.78**	**210**	Sg	**Sg**	**20 03 45.4**	**0.0**
PRU	**Pruhonice**	**1.80**	**215**	*e*SG	**Sg**	**20 03 45.7**	**-0.3**
	comp=Z,6.1nm,0.5s						
PRU	**Pruhonice**	**1.80**	**215**	Sg	**Sg**	**20 03 45.7**	**-0.3**
	6.1nm,0.5s						
CLL	**Collm**	**1.97**	**267**	*e*Pg	**Pg**	**20 03 26.0**	**-0.1**
CLL				*e*Sg	**Sg**	**20 03 52.0**	**+0.3**
	comp=Z,5.0nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**244**	*e*SG	**Sg**	**20 04 14.0**	**+0.7**
	comp=Z,3.2nm,0.4s						
NKC	**Novy Kostel**	**2.65**	**244**	Sg	**Sg**	**20 04 14.0**	**+0.7**
	comp=Z,3.2nm,0.4s						
KHC	**Kasperske Hory**	**2.86**	**216**	*e*SG	**Sg**	**20 04 20.1**	**0.0**
KHC	**Kasperske Hory**	**2.86**	**216**	Sg	**Sg**	**20 04 20.1**	**0.0**
LANS	**Liptovska Anna**	**3.15**	**136**	*e*SG	**Sg**	**20 04 29.5**	**0.0**
LANS	**Liptovska Anna**	**3.15**	**136**	*e*SG	**Sg**	**20 04 29.5**	**0.0**

*ISCJB **21** 20:06:58.9±0.3,50°.44N±0°.02×18°.80E±0°.02,h0km,Error ellipse: s-maj=3.6km s-min=1.5km az=9.3*
*SIGU **21** 20:06:59.4±0.7,50°.N±3°×1°.9E±°,h2km,mb2.4/11*
*IPEC **21** 20:07:00.4±0.2,50°.37N×18°.87E,h1km±2km,ML2.3/3,Error ellipse: s-maj=2.7km s-min=1.1km az=170.0*
*CSEM **21** 20:07:00.4±0.3,50°.41N×18°.83E,h1km,ML3.1/15,Error ellipse: s-maj=6.3km s-min=2.8km az=15.0*
*WAR **21** 20:07:01.2,50°.37N×18°.88E,h1km,Mw3.1*
*BGR **21** 20:07:02.0±0.4,50°.37N×18°.82E,h1km,ML3.1/11,Error ellipse: s-maj=6.7km s-min=3.3km az=8.0*
*IDC **21** 20:07:02.0±1.7,50°.35N×18°.74E,h0km,mb1 3.5/3, mb1mx3.0/70,mbtmp3.3/3,ML2.8/3,Error ellipse: s-maj=33.8km s-min=8.6km az=129.0*
*PRU **21** 20:07:02.2,50°.33N×18°.77E,h0km*

ISC 21 20:07:00.3±0.7,**50°.41N**±0°.02×**18°.83E**±0°.01,**h0**km,**n102,**
σ1**s10**/168,**4C-6D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.16**	**140**	*e*Pg	**Pg**	**20 07 03.7**	**+0.4**
CHZP				*e*Sg	**Sg**	**20 07 06.3**	**+0.9**
CHZP	**Chorzow**	**0.16**	**140**	*e*Pg	**Pg**	**20 07 03.7**	**+0.4**
CHZP				*e*Sg	**Sg**	**20 07 06.3**	**+0.9**
RAC	**Raciborz**	**0.53**	**231**	*e*Pg	**Pb**	**20 07 12.1**	**-0.2**
RAC				*e*Sg	**Sb**	**20 07 20.5**	**0.0**
OJC	**Ojcow**	**0.65**	**107**	*e*Pg	**Pg**	**20 07 12.7**	**0.0**
OJC				*e*Sg	**Sb**	**20 07 22.7**	**-1.4**
OJC	**Ojcow**	**0.65**	**107**	*e*Pg	**Pg**	**20 07 12.9**	**+0.2**
OJC				*e*Sg	**Sb**	**20 07 23.2**	**-0.9**
OJC	**Ojcow**	**0.65**	**107**	*e*Pg	**Pg**	**20 07 12.7**	**0.0**
OJC				*e*Sg	**Sb**	**20 07 22.7**	**-1.4**
OJC	**Ojcow**	**0.65**	**107**	Pg	**Pg**	**20 07 12.9**	**+0.2**
OJC				Sg	**Sb**	**20 07 23.2**	**-0.9**
OKC	**Ostrava-Krasne**	**0.72**	**218**	*e*Pg	**Pg**	**20 07 14.9**	**+0.7**
OKC				*e*Sg	**Sb**	**20 07 25.6**	**-0.7**
OKC	**Ostrava-Krasne**	**0.72**	**218**	*e*PG	**Pg**	**20 07 14.6**	**+0.5**
OKC				*e*SG	**Sg**	**20 07 23.7**	**+0.2**
	comp=Z,139nm,0.9s						
OKC	**Ostrava-Krasne**	**0.72**	**218**	Pg	**Pg**	**20 07 14.6**	**+0.5**
OKC				Sg	**Sg**	**20 07 23.7**	**+0.2**
	139nm,0.9s						
MORC	**Moravsky Berou**	**1.05**	**233**	*e*Pg	**Pg**	**20 07 20.4**	**+0.2**
MORC				*e*Sg	**Sg**	**20 07 34.4**	**+0.6**
MORC	**Moravsky Berou**	**1.05**	**233**	⇓*i*P	**Pg**	**20 07 20.5**	**+0.2**
MORC	**Moravsky Berou**	**1.05**	**233**	S	**Sb**	**20 07 35.8**	**+0.3**
MORC	**Moravsky Berou**	**1.05**	**233**	*e*Pg	**Pg**	**20 07 20.3**	**0.0**
MORC				*e*Sg	**Sg**	**20 07 32.8**	**-1.0**
	54nm,0.3s						
LANS	**Liptovska Anna**	**1.33**	**162**	*e*PG	**Pg**	**20 07 25.4**	**-0.3**
LANS				*e*SG	**Sb**	**20 07 43.5**	**-0.2**
KRLC	**Kraliky**	**1.36**	**256**	*e*PG	**Pg**	**20 07 25.5**	**-0.8**
KRLC				*e*SG	**Sg**	**20 07 43.2**	**-0.6**
	comp=Z,20nm,0.5s						
KRLC	**Kraliky**	**1.36**	**256**	Pg	**Pg**	**20 07 25.5**	**-0.8**
KRLC				Sg	**Sg**	**20 07 43.2**	**-0.6**
	20nm,0.5s						
NIE	**Niedzica**	**1.38**	**136**	*e*Pg	**Pg**	**20 07 26.0**	**-0.6**
NIE				*e*Sg	**Sg**	**20 07 44.7**	**+0.2**
NIE	**Niedzica**	**1.38**	**136**	*e*Pg	**Pg**	**20 07 26.0**	**-0.6**
NIE				*e*Sg	**Sg**	**20 07 44.7**	**+0.2**
NIE	**Niedzica**	**1.38**	**136**	*e*PG	**Pg**	**20 07 26.0**	**-0.6**
NIE				*e*SG	**Sg**	**20 07 44.7**	**+0.2**
DPC	**Dobruska-Polom**	**1.61**	**269**	*e*Pn	**Pn**	**20 07 30.2**	**+0.2**
DPC				*e*Pg	**Pg**	**20 07 31.9**	**+0.9**
DPC				*e*Sg	**Sg**	**20 07 53.0**	**+1.2**
DPC	**Dobruska-Polom**	**1.61**	**269**	*e*PG	**Pn**	**20 07 30.1**	**+0.2**
DPC				*e*SG	**Sb**	**20 07 51.7**	**+0.1**
	comp=Z,41nm,0.5s						
DPC	**Dobruska-Polom**	**1.61**	**269**	Pn	**Pn**	**20 07 30.2**	**+0.2**
DPC	**Dobruska-Polom**	**1.61**	**269**	Pg	**Pg**	**20 07 31.9**	**+0.9**
DPC				Sg	**Sb**	**20 07 51.7**	**+0.1**
	41nm,0.5s						
KSP	**Ksiaz**	**1.67**	**286**	*e*Pb	**Pn**	**20 07 31.0**	**+0.2**
KSP				*e*Pg	**Pg**	**20 07 32.9**	**+0.7**
KSP				*e*Sg	**Sg**	**20 07 55.6**	**+1.7**
KSP	**Ksiaz**	**1.67**	**286**	*e*Pn	**Pb**	**20 07 31.9**	**0.0**
KSP				*e*Pg	**Pg**	**20 07 33.5**	**+1.3**
KSP				*e*Sg	**Sg**	**20 07 55.8**	**+1.8**
KSP	**Ksiaz**	**1.67**	**286**	*e*Pb	**Pn**	**20 07 31.0**	**+0.2**
KSP				*e*Pg	**Pg**	**20 07 32.9**	**+0.7**
KSP				*e*Sg	**Sg**	**20 07 55.6**	**+1.7**
KSP	**Ksiaz**	**1.67**	**286**	*e*Pb	**Pn**	**20 07 31.0**	**+0.2**
KSP	**Ksiaz**	**1.67**	**286**	Pn	**Pb**	**20 07 31.9**	**0.0**
UPC	**Upice**	**1.80**	**274**	*e*PG	**Pg**	**20 07 34.8**	**0.0**
UPC				*e*SG	**Sg**	**20 07 59.3**	**+1.2**
	comp=Z,29nm,0.5s						
UPC	**Upice**	**1.80**	**274**	Pg	**Pg**	**20 07 34.8**	**0.0**
UPC				Sg	**Sg**	**20 07 59.3**	**+1.2**
	29nm,0.5s						
VRAC	**Vranov**	**1.82**	**233**	Pn	**Pn**	**20 07 33.4**	**+0.5**
	3.4nm,0.3s,baz=48,slow=13,SNR=26						
VRAC				Lg	Lg	20 07 57.0	
	6.2nm,0.3s,baz=126,slow=16,SNR=14						
VRAC	**Vranov**	**1.82**	**233**	⇓*i*P	**Pn**	**20 07 31.6**	**-1.3**
VRAC	**Vranov**	**1.82**	**233**	S	**Sb**	**20 07 57.7**	**-0.1**
VRAC	**Vranov**	**1.82**	**233**	*e*Pn	**Pn**	**20 07 32.9**	**0.0**
VRAC				*e*Sg	**Sn**	**20 07 57.2**	**+0.6**
	18nm,0.3s						
STHS	**Stebnicka Huta**	**1.85**	**122**	*e*Pn	**Pb**	**20 07 35.1**	**+0.1**
STHS				*e*Sg	**Sg**	**20 08 03.1**	**+3.4**
STHS	**Stebnicka Huta**	**1.85**	**122**	*e*PN	**Pb**	**20 07 35.1**	**+0.1**
STHS				*e*SG	**Sg**	**20 08 03.1**	**+3.4**
STHS				*e*LG	Lg	20 08 17.3	
VYHS	**Vyhne**	**1.92**	**180**	*e*PN	**Pn**	**20 07 33.4**	**-0.8**
VYHS				*e*SN	**Sn**	**20 07 58.5**	**-0.6**
VYHS				*e*LG	Lg	20 08 13.2	
KRUC	**Moravsky**	**2.08**	**230**	*e*Pn	**Pn**	**20 07 36.0**	**-0.4**
KRUC				*e*Sg	**Sb**	**20 08 05.1**	**-0.1**
	14nm,0.3s						
KECS	**Kecovo**	**2.21**	**150**	*e*Pn	**Pn**	**20 07 37.4**	**-0.8**
KECS	**Kecovo**	**2.21**	**150**	*e*PN	**Pn**	**20 07 37.4**	**-0.8**
KECS				*e*LG	Lg	20 08 17.5	
CRVS	**Cervenica-Dubn**	**2.28**	**131**	*e*Pg	**Pb**	**20 07 41.9**	**-0.4**
CRVS	**Cervenica-Dubn**	**2.28**	**131**	*e*PG	**Pb**	**20 07 41.9**	**-0.4**
PSZ	**Piszkesteto**	**2.59**	**164**	⇑*i*P	**Pn**	**20 07 44.4**	**+0.9**
PSZ	**Piszkesteto**	**2.59**	**164**	S	**Sb**	**20 08 19.9**	**-0.2**
PSZ	**Piszkesteto**	**2.59**	**164**	*e*Pn	**Pg**	**20 07 49.8**	**-0.1**
PSZ				*e*Sn	**Sb**	**20 08 20.7**	**+0.6**
PSZ	**Piszkesteto**	**2.59**	**164**	⇑*i*P	**Pn**	**20 07 44.4**	**+0.9**
GOPC	**GO Pecny, Ondr**	**2.65**	**261**	*e*SG	**Sg**	**20 08 23.7**	**-1.6**
	comp=Z,50nm,1.1s						
GOPC	**GO Pecny, Ondr**	**2.65**	**261**	Sg	**Sg**	**20 08 23.7**	**-1.6**
	50nm,1.1s						
PVCC	**Panska Ves**	**2.72**	**274**	*e*SG	**Sg**	**20 08 28.9**	**+1.2**
	comp=Z,86nm,1.1s						
PVCC	**Panska Ves**	**2.72**	**274**	Sg	**Sg**	**20 08 28.9**	**+1.2**
	86nm,1.1s						
PRU	**Pruhonice**	**2.79**	**263**	*e*PG	**Pg**	**20 07 52.7**	**-1.0**
PRU				*e*SG	**Sg**	**20 08 28.8**	**-1.0**
	comp=Z,25nm,0.8s						
PRU	**Pruhonice**	**2.79**	**263**	Pg	**Pg**	**20 07 52.7**	**-1.0**
PRU				Sg	**Sg**	**20 08 28.8**	**-1.0**
	25nm,0.8s						
STZU	**Stuzhytsa**	**2.83**	**118**	*e*Pn	**Pn**	**20 07 46.8**	**+0.1**
STZU				Pm		20 07 55.8	
STZU				*i* Sn	**Sn**	**20 08 22.0**	**+0.5**
STZU				Sm		20 08 47.4	
UZH	**Uzhgorod**	**2.88**	**127**	*i* Pn	**Pn**	**20 07 47.5**	**+0.2**
UZH				Pm		20 07 51.9	
UZH				*i* Sn	**Sn**	**20 08 23.3**	**+0.7**
UZH				Sm		20 08 24.5	
BRG	**Berggiesshubel**	**3.14**	**280**	PG	**Pg**	**20 08 02.9**	**+2.4**
BRG				SG	**Sg**	**20 08 40.7**	**-0.5**
	15nm,0.8s						
BRG	**Berggiesshubel**	**3.14**	**280**	*e*SG	**Sg**	**20 08 41.0**	**-0.2**
BRG	**Berggiesshubel**	**3.14**	**280**	Sg	**Sg**	**20 08 41.0**	**-0.2**
CONA	**Conrad Observa**	**3.16**	**219**	Pn	**Pn**	**20 07 51.1**	**-0.2**
	0.2nm,0.1s						
CONA				Sn	**Sn**	**20 08 29.3**	**-0.4**
	8.8nm,0.7s						
CONA	**Conrad Observa**	**3.16**	**219**	*e*Pn	**Pn**	**20 07 51.1**	**-0.2**
	0.2nm,0.1s						
CONA				*e*Sn	**Sn**	**20 08 29.3**	**-0.4**
	8.8nm,0.7s						
SHIU	**Shidnytsya**	**3.17**	**110**	*e*Pn	**Pn**	**20 07 51.3**	**-0.1**
SHIU				Pm		20 07 52.5	
SHIU				*i* Sn	**Sn**	**20 08 30.2**	**+0.3**
SHIU				Sm		20 09 05.0	
MUKU	**Mukachevo**	**3.19**	**126**	*e*Pn	**Pn**	**20 07 51.9**	**+0.3**
MUKU				Pm		20 07 57.2	
MUKU				*i* Sn	**Sn**	**20 08 31.8**	**+1.4**
MUKU				Sm		20 08 42.8	
BERU	**Beregovo**	**3.32**	**130**	*i* Pn	**Pn**	**20 07 53.6**	**+0.2**
BERU				*i* Sn	**Sn**	**20 08 34.6**	**+1.2**
LVV	**L'vov**	**3.40**	**98**	*i* Pn	**Pn**	**20 07 54.5**	**0.0**
LVV				Pm		20 08 08.4	
LVV				*i* Sn	**Sn**	**20 08 35.8**	**+0.3**
LVV				Sm		20 08 58.0	
BRIU	**Brid**	**3.44**	**126**	*e*Pn	**Pn**	**20 07 55.3**	**+0.3**
BRIU				Pm		20 08 01.7	
BRIU				*i* Sn	**Sn**	**20 08 37.4**	**+1.0**
BRIU				Sm		20 09 11.1	
MORS	**Morshin**	**3.52**	**109**	*e*Pn	**Pn**	**20 07 56.4**	**+0.2**
MORS				*i* Sn	**Sn**	**20 08 39.9**	**+1.3**
TRSU	**Trosnyk**	**3.56**	**129**	*e*Pn	**Pn**	**20 07 57.1**	**+0.4**
TRSU				Pm		20 08 05.6	
TRSU				*i* Sn	**Sn**	**20 08 40.8**	**+1.3**
TRSU				Sm		20 09 04.4	
MEZ	**Mezhgor'ye**	**3.60**	**120**	*e*Pn	**Pn**	**20 07 56.9**	**-0.4**
MEZ				Pm		20 08 03.6	
MEZ				*i* Sn	**Sn**	**20 08 41.4**	**+0.9**
MEZ				Sm		20 08 44.3	
KORU	**Korolevo**	**3.61**	**127**	*e*Pn	**Pn**	**20 07 57.7**	**+0.3**
KORU				Pm		20 07 59.5	
KORU				*i* Sn	**Sn**	**20 08 41.9**	**+1.2**
KORU				Sm		20 09 16.0	
KHC	**Kasperske Hory**	**3.64**	**251**	*e*PN	**Pn**	**20 07 57.8**	**0.0**
KHC				*e*PG	**Pb**	**20 08 07.0**	**+1.6**
KHC				*e*SG	**Sg**	**20 08 55.8**	**-1.3**
	comp=Z,21nm,0.7s						
KHC	**Kasperske Hory**	**3.64**	**251**	Pn	**Pn**	**20 07 57.8**	**0.0**
GEC2	**GERESS Array S**	**3.69**	**247**	*e*Sg	**Sg**	**20 08 55.8**	**-2.8**
GERES	**GERESS Array B**	**3.69**	**247**	Pn	**Pn**	**20 07 58.4**	**-0.1**
	0.2nm,0.3s,baz=62,slow=17,SNR=4.2						
GERES				Pg	**Pb**	**20 08 07.0**	**+0.7**
	0.3nm,0.3s,baz=66,slow=15,SNR=4.0						
GERES				Lg	Lg	20 08 57.0	
	1.9nm,0.3s,baz=67,slow=31,SNR=27						
CLL	**Collm**	**3.80**	**286**	*e*Sg	**Sg**	**20 09 03.2**	**+1.0**
CLL	**Collm**	**3.80**	**286**	*e*Pg	**Pg**	**20 08 16.0**	**+3.0**
CLL				*e*Sg	**Sg**	**20 09 04.0**	**+1.8**
	comp=Z,36nm,1.1s						
CLL	**Collm**	**3.80**	**286**	Sg	**Sg**	**20 09 03.2**	**+1.0**
ARSA	**Arzberg**	**3.85**	**216**	Pg	**Pg**	**20 08 16.6**	**+2.6**
	comp=Z,0.6nm,0.2s						
ARSA				Sn	**Sn**	**20 08 48.4**	**+1.8**
	comp=Z,2.9nm,0.6s						
ARSA				Sg	**Sg**	**20 09 06.5**	**+2.7**
	comp=Z,7.1nm,0.8s						
ARSA	**Arzberg**	**3.85**	**216**	Pg	**Pg**	**20 08 16.6**	**+2.6**
	comp=Z,0.6nm,0.2s						
ARSA				*e*Sn	**Sn**	**20 08 48.4**	**+1.8**
	comp=Z,2.9nm,0.6s						
ARSA				Sg	**Sg**	**20 09 06.5**	**+2.7**
	comp=Z,7.1nm,0.8s						
MOA	**Molln**	**3.94**	**231**	Pn	**Pn**	**20 08 01.4**	**-0.6**
	comp=Z,0.1nm,0.1s						
MOA	**Molln**	**3.94**	**231**	*e*Pn	**Pn**	**20 08 01.4**	**-0.6**
	comp=Z,0.1nm,0.1s						
MOA				*e*S	**Sb**	**20 09 00.5**	**+1.6**
	comp=Z,8.2nm,0.7s						
WET	**Wettzell**	**4.06**	**254**	*e*Sg	**Sg**	**20 09 09.7**	**-0.9**
WET	**Wettzell**	**4.06**	**254**	Sg	**Sg**	**20 09 09.7**	**-0.9**
STNU	**Starunia**	**4.07**	**113**	*i* Pn	**Pn**	**20 08 04.2**	**+0.5**
STNU				*i* Sn	**Sn**	**20 08 53.1**	**+1.1**
NKC	**Novy Kostel**	**4.09**	**270**	*e*SG	**Sg**	**20 09 11.7**	**0.0**
	comp=Z,28nm,0.9s						
NKC	**Novy Kostel**	**4.09**	**270**	Sg	**Sg**	**20 09 11.7**	**0.0**
	comp=Z,28nm,0.9s						
WERD	**Werda**	**4.17**	**273**	*e*Pg	**Pg**	**20 08 20.8**	**+0.6**
WERD				*e*Sg	**Sg**	**20 09 12.8**	**-1.4**
WERD	**Werda**	**4.17**	**273**	Pg	**Pg**	**20 08 20.8**	**+0.6**
WERD				Sg	**Sg**	**20 09 12.8**	**-1.4**
NSLU	**Nyzhne Selyshc**	**4.30**	**119**	*e*Pn	Pn	20 07 59.3	-7.6
NSLU				Pm		20 08 09.1	
NSLU				*i* Sn	Sn	20 08 45.4	-12
NSLU				Sm		20 09 43.9	
DRGR		**4.45**	**143**	⇑*i*P	**Pn**	**20 08 08.9**	**-0.1**
DRGR		**4.45**	**143**	⇑*i*P	**Pn**	**20 08 08.9**	**-0.1**
KSV	**Kosov**	**4.58**	**115**	*e*Pn	**Pn**	**20 08 11.4**	**+0.6**
KSV				Pm		20 08 14.3	
KSV				*i* Sn	**Sn**	**20 09 06.9**	**+2.1**
KSV				Sm		20 09 23.9	
MOX	**Moxa**	**4.61**	**276**	*e*Sg	**Sg**	**20 09 28.9**	**+0.7**
MOX	**Moxa**	**4.61**	**276**	Sg	**Sg**	**20 09 28.9**	**+0.7**
BURAR	**Bucovina Array**	**5.05**	**121**	⇓*i*P	**Pn**	**20 08 17.0**	**-0.3**
BURAR	**Bucovina Array**	**5.05**	**121**	⇓*i*P	**Pn**	**20 08 17.0**	**-0.3**
HORU	**Horodok**	**5.06**	**101**	*i* Pn	**Pn**	**20 08 18.2**	**+0.8**
HORU				*i* Sn	**Sn**	**20 09 18.0**	**+1.5**
BZS	**Buzias**	**5.15**	**158**	⇓*i*P	**Pn**	**20 08 18.5**	**-0.1**
BZS	**Buzias**	**5.15**	**158**	⇓*i*P	**Pn**	**20 08 18.5**	**-0.1**
KMPD	**K-Podol'skiy**	**5.31**	**108**	*e*Pn	**Pn**	**20 08 21.6**	**+0.9**
KMPD				*i* Sn	**Sn**	**20 09 24.5**	**+2.0**
AKASG	**Malin Array Be**	**6.63**	**84**	Pg	**Pg**	**20 09 03.3**	**-3.9**
	comp=Z,0.5nm,0.3s,baz=279,slow=16,SNR=4.7						
AKASG				Lg	Lg	20 10 31.1	
	comp=Z,0.7nm,0.3s,baz=270,slow=26,SNR=4.5						
FINES	**FINESS Array B**	**11.77**	**17**	Pn	**Pn**	**20 09 47.0**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=199,slow=7.3,SNR=12						
FINES				Sn	Sn	20 11 51.3	-10
	comp=Z,0.1nm,0.3s,baz=206,slow=22,SNR=3.7						
FINES				Lg	Lg	20 13 16.3	
	comp=Z,0.1nm,0.3s,baz=207,slow=36,SNR=1.9						
ARCES	**ARCESS Array B**	**19.45**	**7**	Pn	**P**	**20 11 26.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=187,slow=14,SNR=2.3						

MEX 21 20:16:02.3±0.5,**16°.25N×98°.43W,h2**km±5km,**MD4.0,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**64**	*e*P	Pg	20 16 08.2	-0.2
PNIG				*i* S	Sg	20 16 12.8	+0.2
TLIG	**Tlapa**	**1.31**	**354**	*e*P	Pg	20 16 24.0	-3.4
TLIG				*e*S	Sg	20 16 40.4	-4.0
VHO	**Vista Hermosa**	**1.82**	**63**	*e*P	Pn	20 16 30.6	-4.2
VHO				*e*S	Sn	20 16 54.2	-4.3
CAIG	**El Cayaco**	**1.93**	**294**	*e*P	Pn	20 16 32.2	-4.0
CAIG				*i* S	Sn	20 16 56.7	-4.4
HUIG	**Huatulco**	**2.28**	**102**	*e*P	Pn	20 16 37.5	-3.5
HUIG				*i* S	Sn	20 17 05.6	-4.0

MEX 21 20:18:29.5±0.4,**16°.29N×98°.29W,h5**km,**MD3.7,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**56**	*e*P	Pg	20 18 32.9	-0.4
PNIG				*i* S	Sg	20 18 35.8	0.0
TLIG	**Tlapa**	**1.30**	**348**	*e*P	Pg	20 18 50.6	-3.8
TLIG				*e*S	Sg	20 19 07.1	-4.2
VHO	**Vista Hermosa**	**1.69**	**62**	*e*P	Pn	20 18 56.2	-3.6
VHO				*e*S	Sn	20 19 18.1	-3.8
CAIG	**El Cayaco**	**2.04**	**292**	*e*P	Pn	20 19 01.4	-3.1
CAIG				*i* S	Sn	20 19 26.2	-4.2
HUIG	**Huatulco**	**2.16**	**103**	*i* P	Pn	20 19 03.9	-2.3
HUIG				*i* S	Sn	20 19 29.8	-3.5

*IDC **21** 20:33:27.1±5.8,17°.17S×173°.83W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/45,mbtmp4.0/3,MS4.1/1,Ms1 4.1/1, ms1mx2.7/39,Error ellipse: s-maj=233.0km s-min=62.8km az=138.0*
*ISCJB **21** 20:33:29.9±0.9,16°.8S±0°.3×174°.4W±0°.2,h10km,mb4.2/5, MS4.2/1,

ellipse: s-maj=78.5km s-min=23.9km az=64.0

ISC 21 20:56:47.9±0.8,**9°97'N**±0.05×**125°32'E**±0.09,**h175**km±6km, **n17**,σ1°**62**/24,**mb3.2**/5,**2C-1D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.48**	**290**	*eP*	**Pn**	**20 57 13.1**	**+1.0**
BUTP	**Butuan**	**1.04**	**163**	*eP*	**Pn**	**20 57 15.3**	**-0.3**
BUTP				*eS*	**Sn**	**20 57 36.9**	**0.0**
PLP	**Palo**	**1.23**	**344**↑	*eP*	**Pn**	**20 57 17.9**	**+0.8**
PLP				*eS*	**Sn**	**20 57 39.2**	**-0.5**
OCLP	**Ormoc**	**1.28**	**327**	*eP*	**Pn**	**20 57 18.8**	**+1.3**
OCLP				*eS*	**Sn**	**20 57 42.4**	**+2.0**
LLP	**Lapu-Lapu**	**1.37**	**285**↑	*eP*	**Pn**	**20 57 19.5**	**+1.2**
LLP				*eS*	**Sn**	**20 57 36.0**	**-5.8**
TBP	**Tagbilaran**	**1.46**	**259**	*i* P	**Pn**	**20 57 20.5**	**+1.4**
BESP	**Borongan**	**1.62**	**4**	*eP*	**Pn**	**20 57 20.6**	**-0.1**
BESP				*eS*	**Sn**	**20 57 45.6**	**-0.7**
BUKP	**Musuan**	**2.09**	**187**	*eP*	**Pn**	**20 57 26.3**	**+0.5**
BUKP				*eS*	**Sn**	**20 57 56.3**	**+1.0**
SNPH	**Sibulan**	**2.14**	**253**↓	*eP*	**Pn**	**20 57 27.4**	**+1.0**
CNP	**Catarman**	**2.60**	**346**	*eP*	**Pn**	**20 57 31.7**	**+0.1**
CNP				*eS*	**Sn**	**20 58 05.6**	**0.0**
PVCP	**Virac**	**3.78**	**343**	*eP*	**Pn**	**20 57 47.0**	**+0.9**
ASAR	**Alice Springs**	**34.47**	**166**	P	**P**	**21 03 18.9**	**-0.4**
	0.1nm,0.3s,baz=350,slow=7.6,SNR=5.1						
MKAR	**Makanchi Array**	**51.70**	**323**	P	**P**	**21 05 38.1**	**+1.0**
	0.3nm,0.5s,baz=120,slow=7.5,SNR=6.3						
ARCES	**ARCESS Array B**	**84.14**	**340**	P	**P**	**21 08 59.1**	**+0.1**
	2.0nm,1.0s,baz=67,slow=6.9,SNR=3.4						
FINES	**FINESS Array B**	**85.71**	**332**	P	**P**	**21 09 06.6**	**-0.3**
	0.5nm,0.4s,baz=82,slow=4.0,SNR=6.9						
YKA	**Yellowknife Ar**	**94.41**	**24**	P	**P**	**21 09 48.0**	**+0.4**
	0.1nm,0.6s,baz=297,slow=4.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**119.50**	**291**	PKP	**PKPdf**	**21 15 15.8**	**-1.9**
	0.3nm,0.6s,baz=85,slow=0.4,SNR=4.6						

*IDC **21** 20:57:47.7±1.2,34°.76N×138°.04E,h0km,mb3.3/3, mb1 3.4/4,mb1mx3.2/64,mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=39.9km s-min=18.8km az=62.0*

*ISCJB **21** 20:57:48.6±0.6,35°.49N±0°.05×140°.12E±0°.06,h78km±6km, mb3.2/3,Error ellipse: s-maj=9.4km s-min=6.2km az=43.6*

*JMA **21** 20:57:49.3±0.2,35°.57N×140°.11E,h65km±2km,M2.9*

ISC 21 20:57:49.8±1.0,**35°49'N**±0°.05×**140°11'E**±0°.06,**h70**km±8km, **n16**,σ1°**37**/25,**mb3.4**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.10**	**132**	P	**Pn**	**20 57 59.8**	**-0.2**
KTR	**Katsuura**	**0.38**	**153**	P	**Pn**	**20 58 01.3**	**-0.2**
KTR				*eS*	**Sn**	**20 58 10.6**	**+0.5**
BSO3	**Boso 3**	**0.76**	**154**	P	**Pn**	**20 58 05.2**	**+0.1**
BSO3				X		20 58 18.0	
JOD2	**Odawara 2**	**0.86**	**255**	P	**Pn**	**20 58 06.4**	**-0.2**
JOD2				S	**Sn**	**20 58 18.5**	**-0.6**
JIM2	**Oshima 3**	**0.95**	**216**	P	**Pn**	**20 58 07.6**	**0.0**
JIM2				S	**Sn**	**20 58 20.8**	**-0.1**
JAG	**Ashikaga**	**1.08**	**331**	P	**Pn**	**20 58 07.9**	**-1.4**
BSO1	**Boso 1**	**1.09**	**139**	P	**Pn**	**20 58 08.5**	**-0.4**
BSO1				S	**Sn**	**20 58 24.6**	**+1.3**
JRY	**Ryogami san**	**1.12**	**299**	P	**Pn**	**20 58 09.5**	**-0.3**
JIZS	**Izushimoda**	**1.27**	**233**	P	**Pn**	**20 58 11.8**	**+0.1**
JIZS				S	**Sn**	**20 58 28.1**	**0.0**
JYN	**Shimob**	**1.28**	**271**	P	**Pn**	**20 58 11.7**	**-0.2**
JYN				S	**Sn**	**20 58 28.5**	**0.0**
MJAR	**Matsushiro Arr**	**1.87**	**305**	Pn	**Pn**	**20 58 18.4**	**-1.2**
	8.0nm,0.3s,baz=264,slow=12,SNR=78						
MJAR				Sn	**Sn**	**20 58 47.8**	**+5.4**
	5.1nm,0.3s,baz=257,slow=16,SNR=3.7						
MAT	**Matsushiro**	**1.87**	**305**	P	**Pn**	**20 58 19.6**	**-0.1**
MAT				S	**Sn**	**20 58 43.4**	**+1.0**
JHJ	**Hachijo jima 2**	**2.38**	**187**	Pn	**Pn**	**20 58 27.5**	**+1.0**
	20nm,0.3s,baz=230,slow=16,SNR=1.9						
JHJ				Sn	**Sn**	**20 58 54.7**	**+0.1**
	43nm,0.3s,baz=37,slow=20,SNR=2.6						
MKAR	**Makanchi Array**	**44.07**	**303**	P	**P**	**21 05 49.7**	**-1.0**
	0.2nm,0.5s,baz=96,slow=9.5,SNR=3.4						
KURBB	**Kurchatov Arra**	**46.14**	**309**	P	**P**	**21 06 07.4**	**+0.4**
	0.4nm,0.6s,baz=83,slow=7.5,SNR=7.4						
WRA	**Warramunga Arr**	**55.40**	**187**	P	**P**	**21 07 16.2**	**-0.5**
	0.1nm,0.3s,baz=0.8,slow=7.8,SNR=7.9						

MAN 21 21:10:02,9°88N×123°27E,h0km,mb4.3,ML3.1,MS2.9, 1C-2D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.53**	**183**↓	*i* P	Pg	21 10 13.2	+1.0
SNPH				*i* S	Sg	21 10 19.7	+0.6
TBP	**Tagbilaran**	**0.62**	**107**	*eP*	Pb	21 10 15.3	-0.4
TBP				*i* S	Sb	21 10 25.1	+0.1
LLP	**Lapu-Lapu**	**0.82**	**58**	*eP*	Pb	21 10 18.5	-0.6
LLP				*eS*	Sb	21 10 30.2	-0.5
GUIM	**Jordan**	**1.00**	**318**	*eP*	Pg	21 10 20.5	-0.6
GUIM				*eS*	Sg	21 10 34.2	+0.1
JAP	**San Jose, Anti**	**1.56**	**304**↓	*eP*	Pb	21 10 31.6	-0.2
MSLP	**Maasin**	**1.59**	**81**	*eP*	Pb	21 10 32.0	-0.2
MSLP				*eS*	Sg	21 10 54.0	+0.8
RCP	**Roxas**	**1.75**	**343**↑	*eP*	Pb	21 10 34.4	-0.6
RCP				*eS*	Sb	21 10 57.2	-0.3
OCLP	**Ormoc**	**1.76**	**48**	*eP*	Pn	21 10 33.8	-0.1
PAGZ	**Pagadian**	**2.02**	**177**	*eP*	Pn	21 10 38.0	+0.7

*IDC **21** 21:21:08.9±0.7,54°.86N×162°.76E,h0km,mb4.0/27, mb1 4.1/28,mb1mx4.0/68,mbtmp4.0/28,ML3.3/1,MS3.0/8, Ms1 3.0/8,ms1mx2.7/72,Error ellipse: s-maj=17.6km s-min=13.3km az=156.0*

*KRSC **21** 21:21:10.4±0.7,54°.71N×163°.20E,h67km±16km,ML4.6*

*ISCJB **21** 21:21:13.1±0.4,54°.73N±0°.02×163°.06E±0°.04,h47km±3km, mb4.2/56,MS3.2/6,Error ellipse: s-maj=4.5km s-min=2.7km az=33.3*

*MOS **21** 21:21:14.4±0.9,54°.81N×162°.77E,h55km,mb4.4/25,Error ellipse: s-maj=6.7km s-min=4.1km az=86.9*

*NEIC **21** 21:21:15.6±0.7,54°.87N×162°.73E,h47km±7km,mb4.3/16, Error ellipse: s-maj=9.1km s-min=4.1km az=158.0*

ISC 21 21:21:14.8±0.7,**54°77N**±0°.03×**163°05E**±0°.03,**h46**km±5km, **n219**,σ1°**49**/272,**mb4.2**/56,**MS3.2**/6,**11C-20D**,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.45**	**355**	PN	**Pn**	**21 21 36.6**	**-1.9**
KBTR				S	**Sn**	**21 21 56.6**	**+0.3**
KBTR	**Krutoberegovo**	**1.45**	**355**	*eP*	**Pn**	**21 21 36.6**	**-1.9**
KBTR				*eS*	**Sn**	**21 21 56.6**	**+0.3**
KBG	**Krutoberegovo**	**1.50**	**353**	PN	**Pn**	**21 21 37.4**	**-1.8**
KBG				S	**Sn**	**21 21 57.8**	**+0.2**
KBG	**Krutoberegovo**	**1.50**	**353**	*eP*	**Pn**	**21 21 37.4**	**-1.8**
KBG				*eS*	**Sn**	**21 21 57.8**	**+0.2**
KZV	**Kizimen**	**1.63**	**283**	PN	**Pn**	**21 21 39.1**	**-2.0**
KZV				S	**Sn**	**21 22 00.9**	**0.0**
KZV	**Kizimen**	**1.63**	**283**	*eP*	**Pn**	**21 21 39.1**	**-2.0**
KZV				*eS*	**Sn**	**21 22 00.9**	**0.0**
BKI	**Bering**	**1.74**	**74**	PN	**Pn**	**21 21 39.7**	**-2.7**
BKI				S	**Sn**	**21 22 01.9**	**-1.5**
BKI	**Bering**	**1.74**	**74**	*eP*	**Pn**	**21 21 39.7**	**-2.7**
BKI				*eS*	**Sn**	**21 22 01.9**	**-1.5**
TUMR	**Tumrok**	**1.75**	**288**	PN	**Pn**	**21 21 41.4**	**-1.3**
TUMR				S	**Sn**	**21 22 05.0**	**+1.1**
TUMR	**Tumrok**	**1.75**	**288**	*i* P	**Pn**	**21 21 41.4**	**-1.3**
TUMR				*eS*	**Sn**	**21 22 05.0**	**+1.1**
BZMR	**Bezymyannaya**	**1.87**	**310**	PN	**Pn**	**21 21 43.4**	**-1.0**
BZMR	**Bezymyannaya**	**1.87**	**310**	*eP*	**Pn**	**21 21 43.4**	**-1.0**
CIRR	**Tsirk**	**1.88**	**317**	PN	**Pn**	**21 21 44.0**	**-0.6**
CIRR	**Tsirk**	**1.88**	**317**	*eP*	**Pn**	**21 21 44.0**	**-0.6**
LGNR	**Loginova**	**1.89**	**315**	PN	**Pn**	**21 21 44.6**	**-0.1**
LGNR	**Loginova**	**1.89**	**315**	*eP*	**Pn**	**21 21 44.6**	**-0.1**
LGNR				*eS*	**Sn**	**21 22 09.4**	**+2.0**
BZWR	**Bezymyannyi-We**	**1.89**	**310**	PN	**Pn**	**21 21 43.8**	**-0.9**
BZWR	**Bezymyannyi-We**	**1.89**	**310**	*eP*	**Pn**	**21 21 43.8**	**-0.9**
KMNR	**Kamenistaya**	**1.89**	**303**	PN	**Pn**	**21 21 43.7**	**-0.9**
KMNR				S	**Sn**	**21 22 08.6**	**+1.3**
KMNR	**Kamenistaya**	**1.89**	**303**	*i* P	**Pn**	**21 21 43.7**	**-0.9**
KMNR				*eS*	**Sn**	**21 22 08.6**	**+1.3**
KPT	**Kopyto**	**2.01**	**308**	PN	**Pn**	**21 21 46.4**	**+0.1**
KPT	**Kopyto**	**2.01**	**308**	*eP*	**Pn**	**21 21 46.4**	**+0.1**
KRSR	**Krestovskiy**	**2.03**	**317**	PN	**Pn**	**21 21 45.5**	**-1.0**
KRSR				S	**Sn**	**21 22 11.8**	**+1.1**
KRSR	**Krestovskiy**	**2.03**	**317**	*eP*	**Pn**	**21 21 45.5**	**-1.0**
KRSR				*eS*	**Sn**	**21 22 11.8**	**+1.1**
SMKR	**Semkarok**	**2.03**	**334**	PN	**Pn**	**21 21 45.5**	**-1.0**
SMKR				S	**Sn**	**21 22 11.9**	**+1.3**
SMKR	**Semkarok**	**2.03**	**334**	*eP*	**Pn**	**21 21 45.5**	**-1.0**
SMKR				*eS*	**Sn**	**21 22 11.9**	**+1.3**
KLY	**Klyuchi**	**2.06**	**320**	PN	**Pn**	**21 21 44.9**	**-2.0**
KLY				S	**Sn**	**21 22 10.4**	**-1.0**
KLY	**Klyuchi**	**2.06**	**320**	*eP*	**Pn**	**21 21 44.9**	**-2.0**
KLY				*eS*	**Sn**	**21 22 10.4**	**-1.0**
BDR	**Baidarnaya**	**2.08**	**331**	PN	**Pn**	**21 21 46.5**	**-0.8**
BDR				S	**Sn**	**21 22 14.2**	**+2.1**
BDR	**Baidarnaya**	**2.08**	**331**	*eP*	**Pn**	**21 21 46.5**	**-0.8**
BDR				*eS*	**Sn**	**21 22 14.2**	**+2.1**
SRKR	**Sorokina**	**2.17**	**331**	PN	**Pn**	**21 21 47.6**	**-0.8**
SRKR				S	**Sn**	**21 22 15.1**	**+1.0**
SRKR	**Sorokina**	**2.17**	**331**	*eP*	**Pn**	**21 21 47.6**	**-0.8**
SRKR				*eS*	**Sn**	**21 22 15.1**	**+1.0**
KOZ	**Kozyrevsk**	**2.23**	**307**	PN	**Pn**	**21 21 48.9**	**-0.3**
KOZ	**Kozyrevsk**	**2.23**	**307**	*eP*	**Pn**	**21 21 48.9**	**-0.3**
KOZ				*eS*	**Sn**	**21 22 17.8**	**+2.4**
KII	**Karymskiy**	**2.23**	**252**	PN	**Pn**	**21 21 47.9**	**-1.4**
KII				S	**Sn**	**21 22 16.8**	**+1.2**
KII	**Karymskiy**	**2.23**	**252**	*eP*	**Pn**	**21 21 47.9**	**-1.4**
KII				*eS*	**Sn**	**21 22 16.8**	**+1.2**
SPN	**Mys Shipunski**	**2.45**	**228**	PN	**Pn**	**21 21 49.7**	**-2.5**
SPN				S	**Sn**	**21 22 19.0**	**-1.9**
SPN	**Mys Shipunski**	**2.45**	**228**	*i* P	**Pn**	**21 21 49.7**	**-2.5**
SPN				*eS*	**Sn**	**21 22 19.0**	**-1.9**
NLC	**Nalytchevo**	**2.71**	**235**	PN	**Pn**	**21 21 54.2**	**-1.6**
NLC				S	**Sn**	**21 22 26.7**	**-0.6**
NLC	**Nalytchevo**	**2.71**	**235**	*eP*	**Pn**	**21 21 54.2**	**-1.6**
NLC				*eS*	**Sn**	**21 22 26.7**	**-0.6**
ESO	**Esso**	**2.74**	**297**	PN	**Pn**	**21 21 55.5**	**-0.7**
ESO				S	**Sn**	**21 22 28.8**	**+0.7**
ESO	**Esso**	**2.74**	**297**	*eP*	**Pn**	**21 21 55.5**	**-0.7**
ESO				*eS*	**Sn**	**21 22 28.8**	**+0.7**
SDLR	**Sedlovina**	**2.88**	**240**	PN	**Pn**	**21 21 57.2**	**-1.0**
SDLR				S	**Sn**	**21 22 31.6**	**+0.1**
SDLR	**Sedlovina**	**2.88**	**240**	*eP*	**Pn**	**21 21 57.2**	**-1.0**
SDLR				*eS*	**Sn**	**21 22 31.6**	**+0.1**
SMAR	**Somma**	**2.93**	**241**	PN	**Pn**	**21 21 58.2**	**-0.7**
SMAR				S	**Sn**	**21 22 33.3**	**+0.4**
SMAR	**Somma**	**2.93**	**241**	*eP*	**Pn**	**21 21 58.2**	**-0.7**
SMAR				*eS*	**Sn**	**21 22 33.3**	**+0.4**
UGLR	**Uglovaya**	**2.94**	**240**	PN	**Pn**	**21 21 58.2**	**-0.9**
UGLR				S	**Sn**	**21 22 33.9**	**+0.7**
UGLR	**Uglovaya**	**2.94**	**240**	*eP*	**Pn**	**21 21 58.2**	**-0.9**
UGLR				*eS*	**Sn**	**21 22 33.9**	**+0.7**
KRX	**Arik**	**2.95**	**243**	PN	**Pn**	**21 21 58.7**	**-0.5**
KRX	**Arik**	**2.95**	**243**	*eP*	**Pn**	**21 21 58.7**	**-0.5**
AVH	**Avacha**	**2.96**	**241**	PN	**Pn**	**21 21 58.8**	**-0.4**
AVH	**Avacha**	**2.96**	**241**	*eP*	**Pn**	**21 21 58.8**	**-0.4**
KOK	**Koryaka**	**2.99**	**242**	PN	**Pn**	**21 21 58.9**	**-0.9**
KOK	**Koryaka**	**2.99**	**242**	*eP*	**Pn**	**21 21 58.9**	**-0.9**
DALK	**Dalny**	**3.08**	**237**	PN	**Pn**	**21 21 59.8**	**-1.0**
DALK				S	**Sn**	**21 22 35.6**	**-0.8**
DALK	**Dalny**	**3.08**	**237**	*eP*	**Pn**	**21 21 59.8**	**-1.0**
DALK				*eS*	**Sn**	**21 22 35.6**	**-0.8**
PET	**Petropavlovsk**	**3.13**	**238**	*e*PN	**Pn**	**21 22 01.2**	**-0.4**
PET				*eS*	**Sn**	**21 22 37.7**	**0.0**
PET				pmax	pmax		
	comp=Z,158nm,0.4s						
PET				smax	smax		
	comp=E,555nm,0.9s						
PET				smax	smax		
	comp=N,935nm,0.7s						
PET				MLR	MLR		
	comp=Z,500nm,15.0s						
PET				MLR	MLR		
	comp=Z,900nm,14.0s						
PET	**Petropavlovsk**	**3.13**	**238**	*e*Pn	**Pn**	**21 22 01.1**	**-0.5**
PET				*eS*	**Sn**	**21 22 37.9**	**+0.2**
GNL	**Ganaly**	**3.19**	**252**	PN	**Pn**	**21 22 02.0**	**-0.4**
GNL	**Ganaly**	**3.19**	**252**	*eP*	**Pn**	**21 22 02.0**	**-0.4**
KRMR	**Karymshinskiy**	**3.50**	**238**	PN	**Pn**	**21 22 06.1**	**-0.6**
KRMR				S	**Sn**	**21 22 47.3**	**+0.5**
KRMR	**Karymshinskiy**	**3.50**	**238**	*eP*	**Pn**	**21 22 06.1**	**-0.6**
KRMR				*eS*	**Sn**	**21 22 47.3**	**+0.5**
PEA0B	**Petropavlovsk-**	**3.57**	**244**	*e*Pn	**Pn**	**21 22 07.8**	**+0.1**
PETK	**Petropavlovsk-**	**3.57**	**244**	Pn	**Pn**	**21 22 07.3**	**-0.3**
	comp=Z,15nm,0.3s,baz=74,slow=18,SNR=127						
PETK				Sn	**Sn**	**21 22 49.9**	**+1.3**
	comp=Z,15nm,0.3s,baz=316,slow=12,SNR=9.5						
PETK				LR	LR	21 22 50.8	
	comp=Z,60nm,22.0s,baz=167,slow=29						
PETK	**Petropavlovsk-**	**3.57**	**244**	*e*Pn	**Pn**	**21 22 06.2**	**-1.5**
PETK				Sn	**Sn**	**21 22 49.9**	**+1.3**
RUS	**Russkaya**	**3.58**	**231**	PN	**Pn**	**21 22 06.5**	**-1.1**
RUS				S	**Sn**	**21 22 47.6**	**-0.9**
RUS	**Russkaya**	**3.58**	**231**	*eP*	**Pn**	**21 22 06.5**	**-1.1**
RUS				*eS*	**Sn**	**21 22 47.6**	**-0.9**
MTVR	**Mutnovka**	**3.69**	**234**	PN	**Pn**	**21 22 08.8**	**-0.6**
MTVR	**Mutnovka**	**3.69**	**234**	*eP*	**Pn**	**21 22 08.8**	**-0.6**
ASAK	**Asacha**	**3.89**	**234**	PN	**Pn**	**21 22 12.0**	**0.0**
ASAK	**Asacha**	**3.89**	**234**	P	**Pn**	**21 22 12.0**	**0.0**
APC	**Apacha**	**3.95**	**245**	PN	**Pn**	**21 22 12.7**	**0.0**
APC				S	**Sn**	**21 22 58.6**	**+0.9**
APC	**Apacha**	**3.95**	**245**	*eP*	**Pn**	**21 22 12.7**	**0.0**
APC				*eS*	**Sn**	**21 22 58.6**	**+0.9**
KDTR	**Khodutka, Kamc**	**4.21**	**227**	*eP*	**Pn**	**21 22 15.5**	**-0.8**
KDTR				*eS*	**Sn**	**21 23 03.8**	**-0.3**
OSSR	**Ossora**	**4.50**	**0**	PN	**Pn**	**21 22 19.0**	**-1.2**
OSSR				S	**Sn**	**21 23 10.0**	**-1.1**
OSSR	**Ossora**	**4.50**	**0**	*eP*	**Pn**	**21 22 19.0**	**-1.2**
OSSR				*eS*	**Sn**	**21 23 10.0**	**-1.1**
MIPR	**Malaya Ipel'ka**	**4.51**	**239**	PN	**Pn**	**21 22 20.9**	**+0.4**
MIPR	**Malaya Ipel'ka**	**4.51**	**239**	*eP*	**Pn**	**21 22 20.9**	**+0.4**
PALN	**Palana**	**4.65**	**340**	PN	**Pn**	**21 22 23.1**	**+0.8**
PALN	**Palana**	**4.65**	**340**	P	**Pn**	**21 22 23.1**	**+0.8**
PAU	**Pauzhetka**	**5.00**	**231**	PN	**Pn**	**21 22 26.6**	**-0.6**
PAU	**Pauzhetka**	**5.00**	**231**	*eP*	**Pn**	**21 22 26.6**	**-0.6**
SKR	**Severo-Kuril's**	**5.87**	**229**	*e*PN	**Pn**	**21 22 43.6**	**+4.5**
SKR				pmax	pmax		
	comp=Z,76nm,0.9s						
TILK	**Tilichiki**	**5.93**	**15**	PN	**Pn**	**21 22 40.3**	**+0.4**
TILK	**Tilichiki**	**5.93**	**15**	*eP*	**Pn**	**21 22 40.3**	**+0.4**
TILK				*eS*	**Sn**	**21 23 46.2**	**-0.2**
MA2	**Magadan**	**8.23**	**311**	LR	LR	21 26 43.9	
	comp=Z,86nm,19.6s,baz=308,slow=42						
MA2	**Magadan**	**8.23**	**311**↑	*e*PN	**Pn**	**21 23 07.8**	**-3.6**
SEY	**Seymchan**	**9.86**	**330**↑	*e*PN	**Pn**	**21 23 31.5**	**-2.2**
NKL	**Nikolayevsk**	**13.26**	**272**	*e*PN	**Pn**	**21 24 22.2**	**+2.0**
BILL	**Bilibino**	**13.40**	**5**	*i* PN	**Pn**	**21 24 23.7**	**+1.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s						
KUR	**Kuril'sk**	**13.62**	**232**↑	*e*P	**Pn**	**21 24 24.0**	**-1.2**
GAMB	**Gambell**	**15.64**	**45**	*e*Pn	**Pn**	**21 24 52.8**	**+1.2**
	comp=Z,22nm,1.9s						
ASAJ	**Asahikawa**	**16.98**	**240**	Pn	**Pn**	**21 25 07.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=356,slow=15,SNR=2.6						
ASAJ	**Asahikawa**	**16.98**	**240**	*e*Pn	**Pn**	**21 25 08.3**	**-0.4**
YAK	**Yakutsk**	**18.76**	**306**	LR	LR	21 33 15.9	
	comp=Z,64nm,18.7s,baz=68,slow=39						
YAK	**Yakutsk**	**18.76**	**306**	*eP*	**P**	**21 25 27.4**	**-2.2**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KLR	**Kul'dur**	**19.94**	**267**	P	**P**	**21 25 42.7**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=53,slow=11,SNR=8.0						
KLR	**Kul'dur**	**19.94**	**267**↑	*e*P	**P**	**21 25 42.4**	**-0.2**
TIXI	**Tiksi**	**22.35**	**332**	P	**P**	**21 26 07.2**	**-1.1**
	comp=Z,4.6nm,0.7s,baz=120,slow=10,SNR=20						
TIXI				LR	LR	21 35 34.0	
	comp=Z,38nm,20.0s,baz=160,slow=39						
TIXI	**Tiksi**	**22.35**	**332**↓	*i* P	**P**	**21 26 06.6**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	**Tiksi**	**22.35**	**332**	*eP*	**P**	**21 26 07.3**	**-1.0**
KDAK	**Kodiak Island**	**24.48**	**65**	P	**P**	**21 26 30.1**	**+0.9**
	comp=Z,6.2nm,0.8s,baz=105,slow=16,SNR=4.1						
KDAK	**Kodiak Island**	**24.48**	**65**	*i* P	**P**	**21 26 32.0**	**+2.9**
KDAK	**Kodiak Island**	**24.48**	**65**	*eP*	**P**	**21 26 30.6**	**+1.4**
BPAW	**Bear Paw Mtn.**	**24.62**	**49**	*eP*	**P**	**21 26 32.3**	**+1.9**
	comp=Z,7.6nm,0.9s						
KTH	**Kantishna Hill**	**24.65**	**51**	*eP*	**P**	**21 26 33.2**	**+2.5**
	comp=Z,29nm,1.7s						
MLY	**Manley**	**24.75**	**47**	*eP*	**P**	**21 26 32.3**	**+0.7**
	comp=Z,4.9nm,0.9s						
SUA	**Susitna One**	**24.84**	**56**	*eP*	**P**	**21 26 35.5**	**+2.9**
	comp=Z,54nm,1.9s						
TRF	**Thorofare Moun**	**24.94**	**51**	*eP*	**P**	**21 26 34.7**	**+1.2**
	comp=Z,12nm,1.0s						
MJA0	**Matsu Arr-Jizo**	**24.94**	**233**	*eP*	**P**	**21 26 36.6**	**+3.0**
MJA0				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MJAR	**Matsushiro Arr**	**24.95**	**233**	P	**P**	**21 26 33.2**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=26,slow=9.3,SNR=4.7						
MAJO	**Matsushiro**	**24.96**	**233**↑	*e*P	**P**	**21 26 34.2**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
COLD	**Coldfoot**	**25.14**	**42**	*eP*	**P**	**21 26 36.9**	**+1.8**
	comp=Z,6.9nm,1.0s						
TOLK	**Toolik Lake Re**	**25.57**	**39**	*eP*	**P**	**21 26 40.2**	**+1.2**
	comp=Z,7.1nm,0.9s						
WRH	**Wood River Hil**	**25.88**	**48**	*eP*	**P**	**21 26 43.7**	**+1.9**
	comp=Z,10nm,1.1s						
COLA	**College**	**25.98**	**47**↓	*e*P	**P**	**21 26 44.6**	**+2.0**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CCB	**Clear Creek Bu**	**26.00**	**48**	*eP*	**P**	**21 26 44.2**	**+1.4**
	comp=Z,8.4nm,1.1s						
DHY	**Denali Highway**	**26.27**	**52**	*eP*	**P**	**21 26 46.7**	**+1.1**
	comp=Z,7.8nm,1.2s						
IL1	**Eielson Array**	**26.39**	**48**	*eP*	**P**	**21 26 47.6**	**+1.1**
ILAR	**Eielson Array**	**26.39**	**48**	P	**P**	**21 26 47.0**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=263,slow=8.2,SNR=28						
ILAR	**Eielson Array**	**26.39**	**48**	*eP*	**P**	**21 26 47.3**	**+0.9**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILB	**Eielson Array**	**26.39**	**48**	*eP*	**P**	**21 26 47.4**	**+0.9**
SCM	**Sheep Creek Mo**	**26.42**	**54**	*eP*	**P**	**21 26 48.8**	**+1.9**
SCM				pmax	pmax		
	comp=Z,70nm,1.8s						
SCM	**Sheep Creek Mo**	**26.42**	**54**	*eP*	**P**	**21 26 48.8**	**+1.9**
	comp=Z,70nm,1.8s						
DOT	**Dot Lake**	**27.70**	**50**	*eP*	**P**	**21 26 58.5**	**+0.3**
	comp=Z,27nm,1.5s						
ULN	**Ulaanbaatar**	**34.84**	**282**↓	*e*P	**P**	**21 27 59.5**	**-1.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,2.2s						
H11N2	**WAKE ISLAND Hy**	**35.10**	**174**	T	T	22 05 26.6	
	baz=355,slow=76,SNR=57						
H11N3	**WAKE ISLAND Hy**	**35.11**	**174**	T	T	22 05 27.6	
	baz=355,slow=76,SNR=41						
H11N1	**WAKE ISLAND Hy**	**35.12**	**174**	T	T	22 05 30.7	
	baz=355,slow=76,SNR=55						
SONM	**Songino Array**	**35.23**	**283**	P	**P**	**21 28 03.7**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=83,slow=3.5,SNR=2.4						
SONM				LR	LR	21 42 06.1	
	comp=Z,21nm,19.4s,baz=44,slow=36						
HHC	**Hu-ho-hao-te**	**36.41**	**269**	*eP*	**P**	**21 28 12.4**	**-2.4**
HHC				pP	pP	21 28 22.1	-4.9
HHC				sP	sP	21 28 26.0	-6.4
HHC				S	**S**	**21 33 47.9**	**-5.1**
HHC				sS	sS	21 34 04.9	-8.6
NJ2	**Nanjing**	**38.45**	**252**	*eP*	**P**	**21 28 33.0**	**+1.1**
YKA	**Yellowknife Ar**	**40.74**	**45**	P	**

NCK	**Nalchik**	**69.42**	**317**	ǁ	*e*P	**P**	**21**	**32**	**17.9 +0.2**
NCK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KBZ	**Khabaz**	**69.49**	**318**		P	**P**	**21**	**32**	**18.7 +0.6**
	comp=Z,6.2nm,0.8s,baz=18,slow=4.1,SNR=21								
EKA	**Eskdalemuir Ar**	**69.68**	**352**		P	**P**	**21**	**32**	**19.3 +0.2**
	comp=Z,1.6nm,0.6s,baz=19,slow=5.3,SNR=9.4								
SORM	**Soroca**	**70.61**	**330**		P	**P**	**21**	**32**	**24.1 -0.7**
SORM	**Soroca**	**70.61**	**330**	ǁ	*i*P	**P**	**21**	**32**	**24.1 -0.7**
AKH	**Akhalkalaki**	**71.22**	**316**	ǁ	*i*P	**P**	**21**	**32**	**29.7 +0.8**
STHS	**Stebnicka Huta**	**71.35**	**335**		*e*P	**P**	**21**	**32**	**30.9 +1.5**
STHS					pmax	pmax			
	comp=Z,2.0nm,0.7s								
STHS	**Stebnicka Huta**	**71.35**	**335**		*e*P	**P**	**21**	**32**	**30.9 +1.5**
STHS					*e*		21	56	15.4
CLL	**Collm**	**71.38**	**341**		*e*P	P	21	32	38.0 +8.5
GNI	**Garni**	**71.77**	**315**	ǁ	*e*P	**P**	**21**	**32**	**33.5 +1.2**
GNI					pmax	pmax			
	comp=Z,13nm,0.8s								
MORC	**Moravsky Berou**	**71.89**	**337**		P	**P**	**21**	**32**	**33.7 +1.1**
MORC	**Moravsky Berou**	**71.89**	**337**	ǁ	*i*P	**P**	**21**	**32**	**33.7 +1.1**
BUR08	**Bucovina Ar. S**	**71.95**	**331**		*e*P	**P**	**21**	**32**	**33.5 +0.4**
BUR04	**Bucovina Ar. S**	**71.97**	**331**		*e*P	**P**	**21**	**32**	**33.1 -0.1**
BURAR	**Bucovina Array**	**71.97**	**331**		P	**P**	**21**	**32**	**33.4 +0.2**
BURAR	**Bucovina Array**	**71.97**	**331**	ǁ	*i*P	**P**	**21**	**32**	**33.4 +0.2**
LANS	**Liptovska Anna**	**72.03**	**336**		*e*P	**P**	**21**	**32**	**35.2 +1.7**
LANS	**Liptovska Anna**	**72.03**	**336**		*e*P	**P**	**21**	**32**	**35.2 +1.7**
LANS					*e*		21	56	18.2
KECS	**Kecovo**	**72.41**	**335**		*e*P	**P**	**21**	**32**	**35.0 -0.7**
KECS					pmax	pmax			
	comp=Z,6.0nm,2.2s								
KECS	**Kecovo**	**72.41**	**335**		*e*P	**P**	**21**	**32**	**35.0 -0.7**
TESR	**Tescani**	**72.57**	**330**	ǁ	*i*P	**P**	**21**	**32**	**36.1 -0.6**
VRI	**Vrincioaia**	**73.13**	**330**		P	**P**	**21**	**32**	**44.1 +4.0**
VRI	**Vrincioaia**	**73.13**	**330**	ǁ	*i*P	**P**	**21**	**32**	**44.1 +4.0**
DRGR		**73.40**	**333**		P	**P**	**21**	**32**	**42.1 +0.4**
DRGR		**73.40**	**333**	ǁ	*i*P	**P**	**21**	**32**	**42.1 +0.4**
GERES	**GERESS Array B**	**73.59**	**339**		P	**P**	**21**	**32**	**43.1 +0.3**
	comp=Z,0.6nm,0.6s,baz=28,slow=6.0,SNR=7.8								
MLR	**Muntele Rosu**	**73.70**	**330**		P	**P**	**21**	**32**	**45.1 +1.5**
MLR	**Muntele Rosu**	**73.70**	**330**	ǁ	*i*P	**P**	**21**	**32**	**45.1 +1.5**
VOIR		**74.01**	**331**		P	**P**	**21**	**32**	**43.4 -1.9**
VOIR		**74.01**	**331**	ǁ	*i*P	**P**	**21**	**32**	**43.4 -1.9**
SIRR	**Siria**	**74.17**	**333**	ǁ	*i*P	**P**	**21**	**32**	**46.2 +0.1**
ARR	**Arges**	**74.19**	**331**	ǁ	*i*P	**P**	**21**	**32**	**47.4 +1.1**
LOT	**Lotru**	**74.36**	**332**	ǁ	*i*P	P	21	32	37.8 -10
BZS	**Buzias**	**74.78**	**333**		P	**P**	**21**	**32**	**50.2 +0.5**
BZS	**Buzias**	**74.78**	**333**	ǁ	*i*P	**P**	**21**	**32**	**50.2 +0.5**
BRTR	**Keskin Array B**	**76.41**	**322**		P	**P**	**21**	**32**	**59.5 +0.2**
	comp=Z,1.6nm,0.7s,baz=69,slow=3.5,SNR=13								
BR231	**Keskin MP Arra**	**76.61**	**323**		*e*P	**P**	**21**	**32**	**59.8 -0.6**
WRA	**Warramunga Arr**	**78.36**	**207**		P	**P**	**21**	**33**	**11.2 +1.2**
	comp=Z,0.5nm,1.0s,baz=20,slow=6.4,SNR=2.9								
ASAR	**Alice Springs**	**82.03**	**207**		P	**P**	**21**	**33**	**30.2 +0.5**
	comp=Z,0.4nm,0.6s,baz=19,slow=5.9,SNR=4.5								
ASAR	**Alice Springs**	**82.03**	**207**		*e*P	**P**	**21**	**33**	**32.8 +3.1**
ES19	**SONSECA Array**	**85.24**	**350**		*e*P	**P**	**21**	**33**	**47.8 +1.5**
ESDC	**Sonseca Array**	**85.27**	**350**		P	**P**	**21**	**33**	**48.1 +1.6**
	comp=Z,1.5nm,0.7s,baz=1.7,slow=4.4,SNR=14								
QSPA	**South Pole Qui**	**144.52**	**180**		PKP	**PKPdf**	**21**	**40**	**44.0 -0.5**
	comp=Z,1.2nm,0.7s,baz=46,slow=1.3,SNR=5.2								

*ISCJB **21** 21:38:39.0±0.3, 43°.30N±0°.02×13°.39E±0°.03, h28km±4km, Error ellipse: s-maj=4.3km s-min=3.7km az=160.4*
*CSEM **21** 21:38:39.1±0.1, 43°.28N×13°.37E, h20km, ML2.7/16, Error ellipse: s-maj=2.4km s-min=2.3km az=140.0*
*ROM **21** 21:38:39.2±0.1, 43°.29N×13°.36E, h22km±3km, Md2.6/23, Ml2.2/23, Error ellipse: s-maj=1.9km s-min=1.2km az=63.0*
ISC 21 21:38:38.8±0.8, **43°.26N**±0°.02×**13°.42E**±0°.02, **h17**km±6km, **n59**, σ0**s90**/100, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.20**	**305**	Pg		**Pb**	**21 38 43.8**	**-0.1**
CING				Sg		**Sg**	**21 38 47.1**	**+0.2**
	325nm,0.2s							
CING	**Cingoli**	**0.20**	**305**	Pg		**Pb**	**21 38 43.8**	**-0.1**
CING				Sg		**Sg**	**21 38 47.1**	**+0.2**
	325nm,0.2s							
AOI	**Ancona**	**0.32**	**25**	Pg		**Pb**	**21 38 46.5**	**+0.5**
AOI				Sg		**Sg**	**21 38 52.5**	**+2.3**
	218nm,0.2s							
AOI	**Ancona**	**0.32**	**25**	Pg		**Pb**	**21 38 46.5**	**+0.5**
AOI				Sg		**Sg**	**21 38 52.5**	**+2.3**
	218nm,0.2s							
SNTG	**Esanatoglia**	**0.35**	**269**	Pg		**Pg**	**21 38 45.8**	**-0.3**
SNTG				Sg		**Sg**	**21 38 51.2**	**+0.2**
	254nm,0.2s							
SNTG	**Esanatoglia**	**0.35**	**269**	Pg		**Pg**	**21 38 45.8**	**-0.3**
SNTG				Sg		**Sg**	**21 38 51.2**	**+0.2**
	254nm,0.2s							
ARVD	**Arcevia**	**0.42**	**304**	Pg		**Pg**	**21 38 47.0**	**-0.3**
ARVD				Sg		**Sg**	**21 38 53.2**	**+0.1**
	54nm,0.2s							
ARVD	**Arcevia**	**0.42**	**304**	Pg		**Pg**	**21 38 47.0**	**-0.3**
ARVD				Sg		**Sg**	**21 38 53.2**	**+0.1**
	54nm,0.2s							
GUMA	**Gualdo di Mace**	**0.43**	**118**	Pg		**Pg**	**21 38 45.2**	**-2.3**
GUMA				Sg		**Sg**	**21 38 49.7**	**-3.8**
	1μm,0.2s							
CESI	**CESI - Serrava**	**0.45**	**236**	Pg		**Pg**	**21 38 48.0**	**0.0**
CESI				Sg		**Sb**	**21 38 55.0**	**+0.2**
	76nm,0.4s							
CESI	**CESI - Serrava**	**0.45**	**236**	Pg		**Pg**	**21 38 48.0**	**0.0**
CESI				Sg		**Sb**	**21 38 55.0**	**+0.2**
	76nm,0.4s							
NRCA	**Norcia**	**0.48**	**207**	Pg		**Pb**	**21 38 48.8**	**0.0**
NRCA				Sg		**Sb**	**21 38 57.0**	**+1.4**
	233nm,0.1s							
NRCA	**Norcia**	**0.48**	**207**	Pg		**Pb**	**21 38 48.8**	**0.0**
NRCA				Sg		**Sb**	**21 38 57.0**	**+1.4**
	233nm,0.1s							
FRON	**Frontone**	**0.56**	**297**	Pg		**Pb**	**21 38 49.4**	**-0.8**
FRON				Sg		**Sg**	**21 38 57.8**	**+0.3**
	76nm,0.3s							
FRON	**Frontone**	**0.56**	**297**	Pg		**Pb**	**21 38 49.4**	**-0.8**
FRON				Sg		**Sg**	**21 38 57.8**	**+0.3**
	76nm,0.3s							
ATCC	**AVT- Casa Cast**	**0.57**	**262**	Pg		**Pb**	**21 38 49.6**	**-0.7**
ATCC				Sg		**Sg**	**21 38 58.1**	**+0.3**
	184nm,0.3s							
ATCC	**AVT- Casa Cast**	**0.57**	**262**	Pg		**Pb**	**21 38 49.6**	**-0.7**
ATCC				Sg		**Sg**	**21 38 58.1**	**+0.3**
	184nm,0.3s							
MPAG	**Monte Paganucc**	**0.60**	**308**	Pg		**Pb**	**21 38 49.9**	**-1.0**
MPAG				Sg		**Sb**	**21 38 58.9**	**-0.2**
	38nm,0.4s							
MPAG	**Monte Paganucc**	**0.60**	**308**	Pg		**Pb**	**21 38 49.9**	**-1.0**
MPAG				Sg		**Sb**	**21 38 58.9**	**-0.2**
	38nm,0.4s							
FSSB	**Fossombrone**	**0.63**	**313**	Pg		**Pb**	**21 38 50.7**	**-0.7**
	109nm,0.5s							
FSSB	**Fossombrone**	**0.63**	**313**	Pg		**Pb**	**21 38 50.7**	**-0.7**
	109nm,0.5s							
SMA1	**SAN MARTINO**	**0.64**	**185**	Pg		**Pb**	**21 38 51.6**	**+0.2**
SMA1				Sg		**Sn**	**21 39 02.3**	**-0.5**
	117nm,0.5s							
SMA1	**SAN MARTINO**	**0.64**	**185**	Pg		**Pb**	**21 38 51.6**	**+0.2**
SMA1				Sg		**Sn**	**21 39 02.3**	**-0.5**
	117nm,0.5s							
MURB	**Monte Urbino**	**0.65**	**270**	Pg		**Pb**	**21 38 51.0**	**-0.7**
MURB				Sg		**Sg**	**21 39 00.6**	**+0.3**
	299nm,0.3s							
MURB	**Monte Urbino**	**0.65**	**270**	Pg		**Pb**	**21 38 51.0**	**-0.7**
MURB				Sg		**Sg**	**21 39 00.6**	**+0.3**
	299nm,0.3s							
TERO	**Teramo**	**0.66**	**168**	Pg		**Pg**	**21 38 52.3**	**+0.6**
	68nm,0.4s							
TERO	**Teramo**	**0.66**	**168**	Pg		**Pg**	**21 38 52.3**	**+0.6**
	68nm,0.4s							
PIEI	**Pieia**	**0.70**	**293**	Pg		**Pb**	**21 38 51.4**	**-1.1**
	47nm,0.2s							
PIEI	**Pieia**	**0.70**	**293**	Pg		**Pb**	**21 38 51.4**	**-1.1**
	47nm,0.2s							
CAMP	**Campotosto**	**0.73**	**180**	Pg		**Pg**	**21 38 53.3**	**+0.3**
CAMP				Sg		**Sn**	**21 39 05.3**	**+0.2**
	52nm,0.6s							
CAMP	**Campotosto**	**0.73**	**180**	Pg		**Pg**	**21 38 53.3**	**+0.3**
CAMP				Sg		**Sn**	**21 39 05.3**	**+0.2**
	52nm,0.6s							
ATPC	**Poggio Castell**	**0.73**	**288**	Pg		**Pb**	**21 38 52.3**	**-0.8**
ATPC				Sg		**Sg**	**21 39 03.1**	**+0.3**
	70nm,0.5s							
ATPC	**Poggio Castell**	**0.73**	**288**	Pg		**Pb**	**21 38 52.3**	**-0.8**
ATPC				Sg		**Sg**	**21 39 03.1**	**+0.3**
	70nm,0.5s							
ATVO	**AVT- Monte Val**	**0.74**	**280**	Pg		**Pb**	**21 38 52.5**	**-0.8**
ATVO				Sg		**Sb**	**21 39 03.0**	**-0.2**
	47nm,0.6s							
ATVO	**AVT- Monte Val**	**0.74**	**280**	Pg		**Pb**	**21 38 52.5**	**-0.8**
ATVO				Sg		**Sb**	**21 39 03.0**	**-0.2**
	47nm,0.6s							
PESA	**Pesaro**	**0.80**	**329**	Pg		**Pg**	**21 38 54.7**	**+0.4**
	130nm,0.3s							
PESA	**Pesaro**	**0.80**	**329**	Pg		**Pg**	**21 38 54.7**	**+0.4**
	130nm,0.3s							
BADI	**Badiali**	**0.89**	**287**	Pg		**Pb**	**21 38 55.1**	**-0.6**
	58nm,0.7s							
BADI	**Badiali**	**0.89**	**287**	Pg		**Pb**	**21 38 55.1**	**-0.6**
	58nm,0.7s							
PARC	**Parchiule**	**0.94**	**295**	Pg		**Pb**	**21 38 55.9**	**-0.7**
	31nm,0.4s							
PARC	**Parchiule**	**0.94**	**295**	Pg		**Pb**	**21 38 55.9**	**-0.7**
	31nm,0.4s							
CPGN	**Carpegna, Ital**	**0.96**	**304**	Pg		**Pb**	**21 38 57.1**	**+0.1**
	238μm,39.0s							
CPGN	**Carpegna, Ital**	**0.96**	**304**	Pg		**Pb**	**21 38 57.1**	**+0.1**
	238μm,39.0s							
MGAB	**Montegabbione**	**1.02**	**250**	Pg		**Pb**	**21 38 57.7**	**-0.2**
	61nm,0.5s							
MGAB	**Montegabbione**	**1.02**	**250**	Pg		**Pb**	**21 38 57.7**	**-0.2**
	61nm,0.5s							
NVLJ	**Novalja**	**1.67**	**38**	*i* Pn		**Pn**	**21 39 07.4**	**+0.2**
NVLJ				Sn		**Sn**	**21 39 28.6**	**+0.3**
NVLJ	**Novalja**	**1.67**	**38**	*i* Pn		**Pn**	**21 39 07.4**	**+0.2**
NVLJ				Sn		**Sn**	**21 39 28.5**	**+0.3**
UDBI	**Udbina**	**2.12**	**53**	*e*Pn		**Pn**	**21 39 12.6**	**-0.9**
UDBI				Sn		**Sn**	**21 39 40.6**	**+1.2**
UDBI	**Udbina**	**2.12**	**53**	*e*Pn		**Pn**	**21 39 12.5**	**-0.9**
UDBI				Sn		**Sn**	**21 39 40.5**	**+1.2**
OZLJ	**Ozalj**	**2.77**	**31**	*e*Pn		**Pn**	**21 39 23.3**	**+0.9**
OZLJ				Sn		**Sn**	**21 39 53.8**	**-1.6**
OZLJ	**Ozalj**	**2.77**	**31**	*e*Pn		**Pn**	**21 39 23.2**	**+0.9**
OZLJ				Sn		**Sn**	**21 39 53.8**	**-1.6**
STON	**Ston**	**3.16**	**96**	*e*Pn		**Pn**	**21 39 28.1**	**+0.3**
STON				Sn		**Sn**	**21 40 04.6**	**-0.4**
STON	**Ston**	**3.16**	**96**	*e*Pn		**Pn**	**21 39 28.0**	**+0.3**
STON				Sn		**Sn**	**21 40 04.6**	**-0.4**
ABTA	**Abfaltersbach**	**3.54**	**350**	Pn		**Pn**	**21 39 33.8**	**+0.8**
	0.5nm,0.1s							
ABTA				Sn		**Sn**	**21 40 12.7**	**-1.8**
	0.4nm,0.2s							
ABTA	**Abfaltersbach**	**3.54**	**350**	*i* Pn		**Pn**	**21 39 33.8**	**+0.8**
	0.5nm,0.1s							
ABTA				*e*Sn		**Sn**	**21 40 12.7**	**-1.8**
	0.4nm,0.2s							
KBA	**Koelnbreinsper**	**3.82**	**359**	Pn		**Pn**	**21 39 37.7**	**+0.9**
	0.2nm,0.1s							
KBA				Sg		**Sn**	**21 40 20.0**	**-1.4**
	0.7nm,0.2s							
KBA	**Koelnbreinsper**	**3.82**	**359**	*i* Pn		**Pn**	**21 39 37.7**	**+0.9**
	0.2nm,0.1s							
KBA				Sn		**Sn**	**21 40 20.0**	**-1.4**
	0.7nm,0.2s							
CONA	**Conrad Observa**	**4.97**	**19**	Pn		**Pn**	**21 39 53.7**	**+1.0**
	0.9nm,0.4s							
CONA	**Conrad Observa**	**4.97**	**19**	*e*Pn		**Pn**	**21 39 53.7**	**+1.0**
	0.9nm,0.4s							

*NIED **21** 21:43:00, 37°.80N×142°.60E, h35km, Mw4.6 Best double couple: M₀8.52000×10¹⁵ NP1:φ₀146.00000°, δ63.00000°, λ152.00000° NP2:φ₀250.00000°, δ65.00000°, λ30.00000°,*
*BJI **21** 21:43:53.3, 38°.02N×143°.03E, h10km, mb4.5/46, mB4.9/31, Ms4.3/15, Ms7 4.2/19*
*IDC **21** 21:43:54.1±0.6, 37°.77N×142°.68E, h0km, mb4.0/27, mb1 4.2/34, mb1mx4.1/72, mbtmp4.1/34, ML3.0/5, MS3.5/14, Ms1 3.5/14, ms1mx3.4/71, Error ellipse: s-maj=14.7km s-min=12.1km az=110.0*
*ISCJB **21** 21:43:55.2±0.8, 37°.86N±0°.03×142°.75E±0°.03, h16km±5km, mb4.4/72, MS3.7/15, Error ellipse: s-maj=5.3km s-min=3.7km az=135.2*
*NEIC **21** 21:43:56.1±2.3, 37°.77N×142°.79E, h12km±14km, mb4.6/12, Error ellipse: s-maj=7.6km s-min=5.0km az=115.0*
NEIC Recorded [1 JMA] in Fukushima, Iwate and Miyagi.
*MOS **21** 21:43:57.5±1.3, 37°.90N×142°.79E, h33km, mb4.7/38, Error ellipse: s-maj=8.0km s-min=4.7km az=96.2*
*JMA **21** 21:43:58.1±0.2, 37°.84N×142°.61E, h40km±3km, M4.6*
JMA Felt I J1.
ISC 21 21:43:57.3±0.6, **37°.75N**±0°.04×**142°.82E**±0°.04, **h24**km±3km, **n210**, σ2**s17**/195, **mb4.5**/77, **MS3.7**/15, **23C-12D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.36**	**302**	P		**Pn**	**21 44 18.6**	**-2.2**
JIO				*e*S		**Sn**	**21 44 33.0**	**-5.0**
JFK	**Kawauchi**	**1.59**	**257**	P		**Pn**	**21 44 22.1**	**-1.9**
JFK				*e*S		**Sn**	**21 44 39.5**	**-4.4**
JMM	**Marumori**	**1.61**	**275**	P		**Pn**	**21 44 22.1**	**-2.1**
JMM				*e*S		**Sn**	**21 44 39.7**	**-4.5**
OFUJ	**Ofunato**	**1.61**	**326**	P		**Pn**	**21 44 22.2**	**-2.0**
OFUJ				*e*S		**Sn**	**21 44 39.4**	**-4.9**
JMK	**Ichinoseki**	**1.74**	**314**	P		**Pn**	**21 44 24.2**	**-1.8**
JMK				*e*S		**Sn**	**21 44 43.3**	**-4.2**
JOU	**Okura**	**1.81**	**291**	P		**Pn**	**21 44 25.5**	**-1.5**
JOU				*e*S		**Sn**	**21 44 45.8**	**-3.5**
JFT	**Otama**	**1.99**	**264**	P		**Pn**	**21 44 28.7**	**-0.7**
JFT				S		**Sn**	**21 44 50.5**	**-3.0**
JOM	**Ohasama**	**2.10**	**326**	P		**Pn**	**21 44 29.5**	**-1.4**
JOM				*e*S		**Sn**	**21 44 52.7**	**-3.6**
JYS	**Shirataka**	**2.23**	**283**	P		**Pn**	**21 44 31.7**	**-1.0**
JYK	**Kaneyama**	**2.26**	**302**	P		**Pn**	**21 44 32.0**	**-1.2**
JRG	**Rokugo**	**2.38**	**315**	P		**Pn**	**21 44 33.6**	**-1.2**
JRG				*e*S		**Sn**	**21 44 59.6**	**-3.6**
JNS	**Sasagawa**	**2.78**	**273**	P		**Pn**	**21 44 39.8**	**-0.5**
JANG	**Nango**	**2.81**	**339**	P		**Pn**	**21 44 39.0**	**-1.8**
JAW	**Awa shima**	**2.91**	**285**	P		**Pn**	**21 44 41.5**	**-0.5**
JAG	**Ashikaga**	**3.00**	**245**	P		**Pn**	**21 44 42.6**	**-0.7**
JAG				*e*S		**Sn**	**21 45 15.6**	**-2.9**
MJAR	**Matsushiro Arr**	**3.88**	**253**	Pn		**Pn**	**21 44 55.3**	**-0.1**
	5.8nm,0.3s,baz=78,slow=14,SNR=71							
MJAR				Sn		**Sn**	**21 45 45.2**	**+5.0**
	8.7nm,0.3s,baz=352,slow=7.7,SNR=5.7							
MJAR				LR		LR	21 46 37.6	
	comp=Z,925nm,18.6s,baz=85,slow=44							
MAJO	**Matsushiro**	**3.88**	**253**	*c*	*i*P	**Pn**	**21 44 56.1**	**+0.7**
MAJO	**Matsushiro**	**3.88**	**253**		*e*Pn	**Pn**	**21 44 56.2**	**+0.8**
MAJO					*e*S	**Sb**	**21 45 49.9**	**-1.6**
MAT	**Matsushiro**	**3.88**	**253**		P	**Pn**	**21 44 55.4**	**0.0**
MAT					S	**Sn**	**21 45 43.8**	**+3.6**
MJB9	**Matsu-Tunnel**	**3.88**	**253**		*e*Pn	**Pn**	**21 44 56.6**	**+1.1**
ERM	**Erimo**	**4.27**	**3**	*c*	*i*P	**Pn**	**21 44 59.5**	**-1.3**
ERM	**Erimo**	**4.27**	**3**		*e*Pn	**Pn**	**21 44 59.9**	**-0.8**
ERM					*e*S	**Sn**	**21 45 49.4**	**-0.5**
JHJ2	**Mitsune**	**5.23**	**209**		*e*Pn	**Pn**	**21 45 14.1**	**0.0**
JHJ2					*e*S	**Sn**	**21 46 09.4**	**-4.2**
JHJ	**Hachijo jima 2**	**5.24**	**209**		Pn	**Pn**	**21 45 12.4**	**-1.7**
	262nm,0.3s,baz=136,slow=22,SNR=104							
JHJ					Sn	**Sn**	**21 46 09.8**	**-4.0**
	76nm,0.3s,baz=253,slow=19,SNR=2.8							
JHJ					LR	LR	21 47 27.7	
	comp=Z,444nm,21.6s,baz=40,slow=41							
INU	**Inuyama**	**5.25**	**245**		*e*Pn	**Pn**	**21 45 15.1**	**+0.9**
GLVR	**Golovnino**	**6.33**	**18**		P	**Pn**	**21 45 27.5**	**-1.5**
GLVR					*e*S	**Sn**	**21 46 35.8**	**-4.6**
ASAJ	**Asahikawa**	**6.37**	**359**		Pn	**Pn**	**21 45 28.4**	**-1.1**
	20nm,0.3s,baz=196,slow=16,SNR=167							
ASAJ					Sn	**Sn**	**21 46 38.6**	**-2.9**
	5.4nm,0.3s,baz=54,slow=19,SNR=4.0							
ASAJ	**Asahikawa**	**6.37**	**359**		*e*Pn	**Pn**	**21 45 29.1**	**-0.4**
ASAJ					*e*S	**Sn**	**21 46 42.0**	**+0.6**
GRPR	**Tuman**	**6.63**	**19**		*e*P	**Pn**	**21 45 32.3**	**-0.8**
GRPR					*e*S	**Sn**	**21 46 41.9**	**-6.0**
LAGR	**Lagunnoye**	**6.69**	**19**		*e*P	**Pn**	**21 45 32.9**	**-1.1**
LAGR					*e*S	**Sn**	**21 46 44.8**	**-4.6**
YUK	**Yuzh-Kuril'sk**	**6.69**	**19**		*e*P	**Pn**	**21 45 32.5**	**-1.5**
YUK					*e*S	**Sn**	**21 46 43.4**	**-6.0**
YUK					pmax	pmax		
	comp=E,186nm,0.2s							
YUK					pmax	pmax		
	comp=Z,233nm,0.2s							
SHO	**Shikotan**	**6.83**	**25**		*e*P	**Pn**	**21 45 34.0**	**-1.9**
SHO					*e*S	Sn	21 46 44.9	-7.9
SHO					pmax	pmax		
	comp=N,39nm,0.2s							
SHO					pmax	pmax		
	comp=Z,63nm,0.2s							
KUR	**Kuril'sk**	**8.38**	**25**	ǁ	*i*P	**Pn**	**21 45 58.6**	**+1.4**
KUR					*e*S	**Sn**	**21 47 26.7**	**-4.3**
KUR					pmax	pmax		
	comp=Z,89nm,0.4s							
KUR					pmax	pmax		
	comp=N,30nm,0.2s							
KUR					pmax	pmax		
	comp=E,24nm,0.4s							
KUR					smax	smax		
	comp=N,165nm,0.2s							
KUR					smax	smax		
	comp=E,63nm,0.2s							
TEY	**Ternei**	**8.65**	**329**		*e*P	**Pn**	**21 46 02.9**	**+2.0**
YSS	**Yuzh-Sakhalins**	**9.20**	**360**	ǁ	*i*P	**Pn**	**21 46 08.6**	**+0.2**
YSS					*e*S	**Sn**	**21 47 47.9**	**-3.2**
YSS					pmax	pmax		
	comp=Z,80nm,0.7s							
YSS					smax	smax		
	comp=N,50μm,1.2s							
YSS					MLR	MLR		
	comp=Z,400nm,10.0s							
YSS	**Yuzh-Sakhalins**	**9.20**	**360**		*e*Pn	**Pn**	**21 46 08.4**	**0.0**
	comp=Z,60nm,0.6s							
VLA	**Vladivostok**	**9.91**	**306**	ǁ	*e*P	**Pn**	**21 46 18.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.42**	**312**		Pn	**Pn**	**21 46 24.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=111,slow=28,SNR=3.6							
USRK					LR	LR	21 50 08.4	
	comp=Z,345nm,18.9s,baz=119,slow=36							
CBIJ	**Chichi jima**	**10.63**	**183**		*e*Pn	**Pn**	**21 46 27.1**	**-1.0**
CBIJ					*e*S	**Sn**	**21 48 19.2**	**-7.2**
JCJ	**Chichijima**	**10.63**	**183**		Pn	**Pn**	**21 46 26.8**	**-1.3**
	comp=Z,35nm,0.3s,baz=6.3,slow=20,SNR=16							
JCJ					Sn	Sn	21 48 16.5	-10
	baz=180,slow=20							
JNU	**Nakatsue**	**10.78**	**248**		Pn	**Pn**	**21 46 30.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=64,slow=12,SNR=3.6							
JNU					LR	LR	21 51 01.7	
	comp=Z,344nm,20.3s,baz=62,slow=40							
KSRS	**Korea Array**	**11.83**	**273**		Pn	**Pn**	**21 46 48.0**	**+3.6**
	comp=Z,0.2nm,0.3s,baz=84,slow=14,SNR=4.6							
KSRS					LR	LR	21 51 01.5	
	comp=Z,287nm,19.1s,baz=86,slow=36							
KSAR	**Wonju Array Be**	**11.86**	**273**		P	**Pn**	**21 46 48.0**	**+3.2**
KSAR	**Wonju Array Be**	**11.86**	**273**		Pn	**Pn**	**21 46 48.0**	**+3.2**
KLR	**Kul'dur**	**13.99**	**329**		Pn	**Pn**	**21 47 11.3**	**-2.6**
	comp=Z,0.0nm,0.3s,baz=131,slow=14,SNR=14							
KLR					LR	LR	21 52 44.8	
	comp=Z,36nm,18.5s,baz=142,slow=38							
NKL	**Nikolayevsk**	**15.48**	**355**		*e*P	**Pn**	**21 47 30.8**	**-3.0**
NKL					pmax	pmax		
	comp=N,10.0nm,1.0s							
NKL					pmax	pmax		
	comp=E,17nm,1.0s							
NKL					pmax	pmax		
	comp=Z,23nm,1.0s							
PETK	**Petropavlovsk-**	**18.51**	**29**		P	**P**	**21 48 11.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=201,slow=7.9,SNR=4.6							
PETK					LR	LR	21 56 00.7	
	comp=Z,112nm,19.4s,baz=215,slow=39							
ZEA	**Zeya**	**19.27**	**331**		*e*P	**P**	**21 48 18.8**	**-1.1**
ZEA					pmax	pmax		
	comp=Z,31nm,0.8s							
ZEA					MLR	MLR		
	comp=Z,400nm,13.0s							
NJ2	**Nanjing**	**20.44**	**261**		*e*P	Pn	21 48 34.5	-0.6
NJ2					pmax	pmax		
	comp=Z,15nm,0.5s							
MA2	**Magadan**	**22.44**	**11**		P	**P**	**21 48 54.9**	**+0.8**
	comp=Z,30nm,0

SONA1	**Songino Array**	**28.33**	**303**	*e*P	**P**	**21 49 50.3**	**+1.0**
H11S1	**WAKE ISLAND Hy**	**28.34**	**126**	T	T	22 19 56.2	
	baz=317,slow=76,SNR=122						
SONM	**Songino Array**	**28.34**	**303**	P	**P**	**21 49 49.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=110,slow=8.1,SNR=14						
SONM				LR	LR	22 01 23.5	
	comp=Z,142nm,18.8s,baz=92,slow=37						
H11S3	**WAKE ISLAND Hy**	**28.34**	**126**	T	T	22 19 53.8	
	baz=317,slow=76,SNR=154						
H11S2	**WAKE ISLAND Hy**	**28.35**	**126**	T	T	22 20 09.4	
	baz=317,slow=76,SNR=104						
ENH	**Enshi**	**28.51**	**265**	*e*P	**P**	**21 49 52.7**	**+1.8**
	comp=Z,29nm,1.0s						
ZAK	**Zakamensk**	**30.72**	**307**	*e*P	**P**	**21 50 11.2**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TLY	**Talaya**	**30.73**	**310**	LR	LR	22 03 03.3	
	comp=Z,145nm,18.1s,baz=102,slow=38						
TLY	**Talaya**	**30.73**	**310**⇑	*e*P	P	21 50 16.0	+5.7
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LZH	**Lanzhou**	**31.06**	**279**	*e*P	**P**	**21 50 15.3**	**+1.7**
LZH				pP	sP	21 50 26.8	+3.1
LZH				*e*PP	**PnPn**	**21 51 17.5**	**+2.5**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,90nm,4.9s						
LZH				LR	LR		
	comp=Z,370nm,12.9s						
LZH				LR	LR		
	comp=Z,360nm,13.1s						
LZH				LR	LR		
	comp=Z,430nm,16.7s						
MOY	**Mondy**	**32.35**	**309**	*e*P	P	21 50 35.6	+11
GYA	**Guiyang**	**32.45**	**260**	P	P	21 50 30.4	+4.6
GYA				pP	sP	21 50 38.3	+2.4
GYA				PP	**PnPn**	**21 51 36.0**	**+3.0**
GYA				PcP	**PcP**	**21 53 15.5**	**+2.8**
GYA				S	**S**	**21 55 38.9**	**-0.3**
GYA				sS	sS	21 55 55.0	+3.9
GYA				SS	**SnSn**	**21 57 34.5**	**+1.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,510nm,17.2s						
GYA				LR	LR		
	comp=Z,480nm,17.8s						
GYA				LR	LR		
	comp=Z,520nm,17.9s						
CD2	**Chengdu**	**32.80**	**270**	*e*P	**P**	**21 50 28.8**	**+0.1**
CD2				pP	sP	21 50 38.8	-0.1
CD2				sP	pP	21 50 43.1	+7.2
CD2				S	**S**	**21 55 43.8**	**-0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,230nm,17.9s						
CD2				LR	LR		
	comp=Z,270nm,12.9s						
BILL	**Bilibino**	**33.03**	**16**	*i* P	**P**	**21 50 30.3**	**0.0**
BILL				*i*		21 50 39.5	
BILL				*i*		21 50 47.2	
BILL				*i*		21 51 38.9	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,68nm,16.0s						
GTA	**Gaotai**	**33.43**	**286**	*e*P	**P**	**21 50 34.8**	**+0.5**
GTA				pP	sP	21 50 43.9	-0.6
GTA				sP	pP	21 50 48.6	+7.1
GTA				S	**S**	**21 55 52.3**	**-2.1**
GTA				sS	sS	21 56 09.1	+2.9
GTA				SS	**SnSn**	**21 57 56.8**	**+0.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,100nm,5.7s						
GTA				LR	LR		
	comp=Z,130nm,16.2s						
GTA				LR	LR		
	comp=Z,160nm,16.9s						
GTA				LR	LR		
	comp=Z,190nm,18.5s						
QIZ	**Qiongzhong**	**34.24**	**246**	P	**P**	**21 50 42.0**	**+0.6**
QIZ				S	**S**	**21 56 09.0**	**+2.1**
QIZ				pmax	pmax		
	comp=Z,25nm,1.6s						
DAV	**Davao City (W)**	**34.32**	**211**	LR	LR	22 03 04.6	
	comp=Z,81nm,21.8s,baz=80,slow=34						
KNGR	**Kungurtug, Tuv**	**34.41**	**307**‖	*e*P	**P**	**21 50 41.3**	**-1.3**
TIXI	**Tiksi**	**34.73**	**352**‖	*e*P	**P**	**21 50 44.3**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KMI	**Kunming**	**36.18**	**261**	P	**P**	**21 50 58.6**	**+0.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WMQ	**Urumqi**	**41.52**	**296**	P	**P**	**21 51 46.1**	**+3.4**
WMQ				pP	pP	21 51 50.1	+0.1
WMQ				pmax	pmax		
	comp=Z,20nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.3s						
WMQ				LR	LR		
	comp=Z,180nm,22.7s						
WMQ				LR	LR		
	comp=Z,110nm,22.7s						
WMQ				LR	LR		
	comp=Z,140nm,27.5s						
ZALV	**Zalesovo Beam**	**42.27**	**312**	P	**P**	**21 51 48.4**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=80,slow=6.4,SNR=5.9						
ZALV				LR	LR	22 09 05.6	
	comp=Z,57nm,20.7s,baz=83,slow=36						
CM01	**Chiang Mai Arr**	**42.77**	**256**	*e*P	**P**	**21 51 48.9**	**-4.1**
NVS	**Novosibirsk**	**43.17**	**313**	*e*P	P	21 52 05.5	+10
NVS				pmax	pmax		
	comp=Z,15nm,1.0s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
LSA	**Lhasa**	**43.26**	**275**	*e*P	**P**	**21 51 58.4**	**+0.9**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	**Lhasa**	**43.26**	**275**	*e*P	**P**	**21 51 58.4**	**+0.9**
	comp=Z,4.1nm,0.8s						
MK01	**Makanchi Array**	**44.69**	**302**	*e*P	**P**	**21 52 09.0**	**+0.8**
MK31	**Makanchi Array**	**44.70**	**302**	*i* P	**P**	**21 52 07.5**	**-0.7**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MK31	**Makanchi Array**	**44.70**	**302**	*e*P	**P**	**21 52 08.2**	**-0.1**
MKAR	**Makanchi Array**	**44.70**	**302**	P	**P**	**21 52 08.1**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=87,slow=9.7,SNR=25						
MKAR	**Makanchi Array**	**44.70**	**302**	*i* P	**P**	**21 52 09.6**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**44.70**	**302**	*e*P	**P**	**21 52 08.2**	**-0.1**
	comp=Z,54nm,1.0s						
MAKZ	**Makanchi**	**44.91**	**302**	*e*P	**P**	**21 52 11.5**	**+1.6**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAKZ	**Makanchi**	**44.91**	**302**	*e*P	**P**	**21 52 11.5**	**+1.6**
	comp=Z,9.9nm,1.0s						
KDAK	**Kodiak Island**	**45.82**	**42**	P	**P**	**21 52 17.5**	**+0.6**
	comp=Z,9.1nm,0.7s,baz=275,slow=11,SNR=6.3						
KDAK	**Kodiak Island**	**45.82**	**42**	*i* P	**P**	**21 52 18.8**	**+1.9**
KURK	**Kurchatov**	**46.38**	**308**	P	P	**21 52 21.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KURK	**Kurchatov**	**46.38**	**308**	*e*P	**P**	**21 52 22.1**	**+0.6**
KURBB	**Kurchatov Arra**	**46.45**	**308**	P	**P**	**21 52 21.2**	**-0.8**
	comp=Z,2.9nm,0.5s,baz=81,slow=8.0,SNR=32						
KSM	**Kuching**	**46.86**	**227**	*e*P	**P**	**21 52 26.5**	**+0.9**
	comp=Z,4.7nm,0.8s						
PDGK	**Podgornoye**	**47.44**	**298**	*i* P	**P**	**21 52 28.3**	**-1.7**
PDGK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ODAN	**Odare**	**47.49**	**274**	*e*P	P	21 52 38.5	+7.8
	comp=Z,13nm,0.8s						
KAPI	**Kappang**	**47.65**	**212**	*e*P	**P**	**21 52 27.5**	**-4.2**
	comp=Z,804nm,0.7s						
RAMN	**Ramite**	**48.07**	**274**	*e*P	P	21 52 43.0	+7.7
	comp=Z,31nm,0.9s						
GUN	**Gumba**	**48.20**	**276**	*e*P	P	21 52 44.1	+7.7
	comp=Z,28nm,0.7s						
IL1	**Eielson Array**	**48.29**	**33**	*e*P	**P**	**21 52 38.6**	**+2.4**
ILAR	**Eielson Array**	**48.29**	**33**	P	**P**	**21 52 38.0**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=265,slow=6.5,SNR=10.0						
ILAR	**Eielson Array**	**48.29**	**33**	P	**P**	**21 52 38.0**	**+1.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PKI	**Pulchoki**	**48.73**	**276**	*e*P	P	21 52 47.9	+7.5
	comp=Z,8.4nm,0.7s						
KKN	**Kakani**	**48.73**	**276**	*e*P	P	21 52 48.1	+7.8
	comp=Z,25nm,0.9s						
PKIN	**Phulchoki**	**48.73**	**276**	*e*P	P	21 52 47.6	+7.2
	comp=Z,10nm,0.6s						
DMN	**Daman**	**48.95**	**276**	*e*P	P	21 52 49.7	+7.7
	comp=Z,15nm,0.9s						
GKN	**Gorkha**	**49.14**	**277**	*e*P	P	21 52 51.0	+7.6
	comp=Z,25nm,0.7s						
DANN	**Dangsing**	**49.67**	**277**	*e*P	P	21 52 55.3	+7.7
PYUN	**Piuthan**	**50.39**	**278**	*e*P	P	21 53 01.0	+8.1
	comp=Z,67nm,1.1s						
BVAR	**Borovoye Array**	**50.93**	**312**	P	**P**	**21 52 55.6**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=75,slow=7.4,SNR=9.2						
BRVK	**Borovoye**	**50.98**	**312**	*e*P	**P**	**21 52 57.9**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRVK	**Borovoye**	**50.98**	**312**	*e*P	**P**	**21 52 57.9**	**+1.1**
	comp=Z,8.1nm,0.9s						
AAK	**Ala-Archa**	**51.14**	**298**	*e*P	**P**	**21 52 58.9**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**51.14**	**298**	*e*P	**P**	**21 52 58.9**	**+0.5**
	comp=Z,3.4nm,0.8s						
MNAS	**Manas**	**52.58**	**299**	*i* P	**P**	**21 53 10.3**	**+1.3**
MNAS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**53.74**	**300**	*e*P	**P**	**21 53 17.9**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KKAR	**Karatay Array**	**53.74**	**300**	*e*P	**P**	**21 53 17.9**	**+0.5**
	comp=Z,0.9nm,0.7s						
SVE	**Sverdlovsk**	**55.36**	**319**	*e*P	P	21 53 39.8	+11
SVE				pmax	pmax		
	comp=Z,32nm,1.0s						
SOKR	**Solikamsk**	**56.45**	**322**	*e*P	P	21 53 41.8	+5.2
SOKR				pmax	pmax		
	comp=Z,11nm,1.0s						
ARU	**Arti**	**56.57**	**319**	*d i*P	P	21 53 47.1	+9.5
ARU						21 54 32.6	
ARU				S	S	22 01 47.1	+19
ARU				pmax	pmax		
	comp=Z,34nm,1.2s						
ARU	**Arti**	**56.57**	**319**	*e*P	**P**	**21 53 36.9**	**-0.7**
	comp=Z,19nm,0.8s						
FITZ	**Fitzroy Crossi**	**57.85**	**199**	P	**P**	**21 53 48.4**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=40,slow=7.9,SNR=3.7						
WRAB	**Tennant Creek**	**57.92**	**189**⇑	*e*P	**P**	**21 53 47.4**	**-0.1**
WRAB	**Tennant Creek**	**57.92**	**189**	*e*P	**P**	**21 53 46.6**	**-0.8**
	comp=Z,5.6nm,0.8s						
WRA	**Warramunga Arr**	**57.93**	**189**	P	**P**	**21 53 47.7**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=7.1,slow=7.0,SNR=24						
AB31	**Akbulak array**	**58.34**	**310**	*i* P	**P**	**21 53 49.3**	**-0.9**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ABKAR	**Akbulak array**	**58.34**	**310**	*e*P	**P**	**21 53 49.5**	**-0.7**
	comp=Z,76nm,0.6s						
AKTO	**Aktyubinsk**	**59.03**	**312**	P	**P**	**21 53 56.5**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=64,slow=6.2,SNR=4.5						
RES	**Resolute Bay**	**61.63**	**15**	P	**P**	**21 54 13.1**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=315,slow=5.0,SNR=7.8						
RES	**Resolute Bay**	**61.63**	**15**	*e*P	**P**	**21 54 13.0**	**+0.6**
RES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RES	**Resolute Bay**	**61.63**	**15**	*e*P	**P**	**21 54 12.9**	**+0.6**
	comp=Z,6.5nm,0.8s						
AS01	**Alice Springs**	**61.65**	**189**	*e*P	**P**	**21 54 13.6**	**+0.5**
ASAR	**Alice Springs**	**61.66**	**189**	P	**P**	**21 54 12.8**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=11,slow=7.1,SNR=8.3						
YKA	**Yellowknife Ar**	**62.63**	**31**	P	**P**	**21 54 20.8**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=301,slow=6.4,SNR=6.0						
ARCES	**ARCESS Array B**	**63.73**	**340**	P	**P**	**21 54 26.4**	**0.0**
	comp=Z,1.7nm,0.9s,baz=44,slow=7.2,SNR=4.5						
ARCES	**ARCESS Array B**	**63.73**	**340**	P	**P**	**21 54 26.4**	**0.0**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KLMR	**Klimovskoe**	**63.75**	**328**	*e*P	**P**	**21 54 25.4**	**-1.3**
KLMR				*e**PP	**sP**	**21 54 36.3**	**-0.9**
KLMR				*e*		21 56 46.2	
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KLMR	**Klimovskoe**	**63.75**	**328**	*e*P	**P**	**21 54 25.4**	**-1.3**
KLMR				AMP		21 54 34.2	
	comp=Z,9.0nm,1.4s						
KLMR				*e*pP	**sP**	**21 54 36.3**	**-0.9**
KLMR				*e*PP	**PP**	**21 56 46.2**	**-0.3**
GEYT	**Alibeck**	**64.47**	**299**	P	**P**	**21 54 33.1**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=66,slow=3.6,SNR=2.6						
VRH	**Novokhopyorsk**	**67.80**	**318**	*e*P	P	21 55 03.7	+11
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LPSR	**Galich'ya Gora**	**68.47**	**320**	*e*P	**P**	**21 54 58.4**	**+1.3**
LPSR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FIA1	**FINESS Array S**	**68.70**	**333**	*e*P	**P**	**21 54 58.9**	**+0.5**
FINES	**FINESS Array B**	**68.70**	**333**	P	**P**	**21 54 57.5**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=47,slow=8.9,SNR=6.0						
FINES	**FINESS Array B**	**68.70**	**333**	*i* P	**P**	**21 54 59.5**	**+1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VSR	**Storozhevoye**	**69.13**	**319**	*e*P	P	21 55 12.1	+11
VSR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SUMG	**Summit**	**69.97**	**0**	*i* P	P	21 55 20.2	+14
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SUMG	**Summit**	**69.97**	**0**	*i* P	P	21 55 20.2	+14
	comp=Z,8.0nm,0.9s						
KIV	**Kislovodsk**	**71.28**	**311**	*e*P	**P**	**21 55 17.3**	**+2.6**
KIV				pmax	pmax		
	comp=Z,26nm,1.0s						
KBZ	**Khabaz**	**71.29**	**311**	P	**P**	**21 55 14.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=153,slow=2.3,SNR=2.4						
GNI	**Garni**	**72.18**	**307**‖	*e*P	**P**	**21 55 20.7**	**+0.4**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NV01	**Mina Array Sit**	**73.66**	**54**	*e*P	**P**	**21 55 31.2**	**+2.0**
NVAR	**Mina Array Bea**	**73.66**	**54**	P	**P**	**21 55 30.8**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=277,slow=6.0,SNR=7.1						
HFS	**Hagfors**	**73.90**	**336**	P	**P**	**21 55 29.3**	**-0.6**
	comp=Z,2.6nm,1.0s,baz=59,slow=5.9,SNR=3.7						
NB2	**NORSAR Subarra**	**73.96**	**338**	P	**P**	**21 55 30.5**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**73.96**	**338**	P	**P**	**21 55 29.7**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=39,slow=5.8,SNR=3.4						
AKASG	**Malin Array Be**	**74.42**	**323**	P	**P**	**21 55 32.3**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=46,slow=6.9,SNR=3.9						
PDAR	**Pinedale Array**	**76.37**	**46**	P	**P**	**21 55 46.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=278,slow=1.6,SNR=3.5						
SORM	**Soroca**	**76.55**	**321**	‖P	P	21 55 54.6	+9.3
SORM	**Soroca**	**76.55**	**321**	‖*i*P	P	21 55 54.5	+9.2
ULM	**Lac du Bonnet**	**78.29**	**34**	P	**P**	**21 55 55.2**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=315,slow=7.1,SNR=2.8						
BUR08	**Bucovina Ar. S**	**78.43**	**322**	*e*P	**P**	**21 55 57.9**	**+1.8**
BURAR	**Bucovina Array**	**78.44**	**322**	⇑P	**P**	**21 55 56.8**	**+0.7**
BURAR	**Bucovina Array**	**78.44**	**322**	⇑*i*P	**P**	**21 55 56.8**	**+0.7**
TESR	**Tesceni**	**78.50**	**321**	⇑*i*P	P	21 55 49.2	-7.1
CFR	**Carcaliu**	**78.65**	**319**	⇑P	P	21 56 09.9	+13
CFR	**Carcaliu**	**78.65**	**319**	⇑*i*P	P	21 56 09.9	+13
VRI	**Vrincioaia**	**78.91**	**320**	⇑P	P	21 56 09.5	+11
VRI	**Vrincioaia**	**78.91**	**320**	⇑*i*P	P	21 56 09.5	+11
DOPR	**Dopca**	**79.51**	**321**	⇑*i*P	P	21 56 16.2	+14
VOIR		**80.05**	**321**	⇑P	P	21 56 15.5	+11
VOIR		**80.05**	**321**	⇑*i*P	P	21 56 15.5	+11
ARR	**Arges**	**80.31**	**321**	‖*i*P	P	21 56 13.2	+6.9
MORC	**Moravsky Berou**	**80.37**	**328**	‖P	P	21 56 18.9	+12
MORC	**Moravsky Berou**	**80.37**	**328**	‖*i*P	P	21 56 18.9	+12
LOT	**Lotru**	**80.68**	**321**	⇑*i*P	P	21 56 18.8	+10
PSZ	**Piszkesteto**	**80.72**	**325**	‖P	P	21 56 19.8	+11
PSZ	**Piszkesteto**	**80.72**	**325**	‖*i*P	P	21 56 19.8	+11
VYHS	**Vyhne**	**80.77**	**326**	*e*P	P	21 56 21.7	+13
VYHS	**Vyhne**	**80.77**	**326**	*e*	P	21 56 21.7	+13
BRG	**Berggiesshubel**	**81.00**	**330**	*e*P	P	21 56 19.2	+9.4
	comp=Z,3.2nm,1.0s						
BRG				*e*		21 56 32.8	
	comp=Z,2.8nm,1.0s						
BRG	**Berggiesshubel**	**81.00**	**330**	*e*P	P	21 56 19.2	+9.4
BRG				*e*		21 56 32.8	
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CLL	**Collm**	**81.03**	**331**	*e*P	P	21 56 16.0	+6.1
CLL				*e*		21 56 22.0	
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VRAC	**Vranov**	**81.13**	**328**	‖P	**P**	**21 56 06.7**	**-3.8**
VRAC	**Vranov**	**81.13**	**328**	‖*i*P	**P**	**21 56 06.7**	**-3.8**
CONA	**Conrad Observa**	**82.50**	**327**	pP	**P**	**21 56 21.0**	**+3.2**
	comp=Z,5.0nm,1.5s						
KHC	**Kasperske Hory**	**82.52**	**329**	*e*P	P	21 56 27.5	+10
KHC	**Kasperske Hory**	**82.52**	**329**	*e*P	P	21 56 27.5	+10
GERES	**GERESS Array B**	**82.69**	**329**	P	**P**	**21 56 19.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=39,slow=6.3,SNR=3.0						
EKA	**Eskdalemuir Ar**	**82.83**	**341**	P	**P**	**21 56 17.9**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=34,slow=5.2,SNR=2.6						
VTS	**Vitosha**	**83.01**	**320**⇑	P	P	21 56 26.8	+6.1
VTS	**Vitosha**	**83.01**	**320**⇑	*i*P	P	21 56 26.8	+6.1
MOA	**Molln**	**83.24**	**328**	*i* pP	**P**	**21 56 24.1**	**+2.5**
	comp=Z,5.9nm,1.4s						
SOKA	**Soboth**	**83.82**	**327**	*i* pP	**P**	**21 56 28.1**	**+3.4**
	comp=Z,5.5nm,0.8s						
WATA	**Walderalm**	**84.76**	**329**	*i* P	**P**	**21 56 29.5**	**0.0**
	comp=Z,2.0nm,0.6s						
MOTA	**Moosalm**	**84.94**	**329**	*i* pP	**P**	**21 56 34.4**	**+3.9**
	comp=Z,1.5nm,0.6s						
RETA	**Reutte**	**84.96**	**330**	*i* pP	P	21 56 35.8	+5.3
	comp=Z,6.7nm,1.1s						
TXAR	**Lajitas Array**	**88.80**	**53**	P	**P**	**21 56 51.3**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=277,slow=1.5,SNR=3.4						
LPAZ	**La Paz**	**145.37**	**60**	PKPbc	**PKPab**	**22 03 35.5**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=350,slow=3.0,SNR=15						

*ISCJB **21** 21:51:38.7±0.4, 15°10N±0°03×119°85E±0°04, h55km, mb3.7/17, Error ellipse: s-maj=6.0km s-min=4.4km az=168.0*
*MAN **21** 21:51:39, 15°10N×119°93E, h29km, mb4.6, ML3.4, MS3.3*
*IDC **21** 21:51:44.2±0.8, 15°04N×120°25E, h105km±11km, mb3.4/17, mb1 3.6/17, mb1mx3.4/65, mbtmp3.8/17, Error ellipse: s-maj=25.9km s-min=14.9km az=59.0*

ISC 21 21:51:39.4±0.6, 15°09N±0°03×119°87E±0°06, h55km, n37, σ1ᵖ58/42, mb3.8/17, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.68**	**4**	*e*P	**Pn**	**21 51 52.5**	**-0.7**
SCZP				*e*S	**Sn**	**21 52 02.3**	**-0.9**
PCPH	**Palayan**	**1.27**	**68**⇑	*e*P	**Pn**	**21 51 59.7**	**-1.2**
PCPH				*e*S	**Sn**	**21 52 14.8**	**-2.3**
BOLP	**Bolinao**	**1.28**	**2**	*e*P	**Pn**	**21 52 00.9**	**-0.2**
LUBP	**Lubang**	**1.40**	**165**	*e*P	**Pn**	**21 52 02.4**	**-0.3**
TGY	**Tagaytay City**	**1.43**	**133**	P	**Pn**	**21 52 04.8**	**+1.7**
	845nm,0.3s,baz=259,slow=1.6,SNR=19						
TGY				S	**Sn**	**21 52 24.3**	**+3.4**
	968nm,0.3s,baz=132,slow=17,SNR=8.7						
TGY	**Tagaytay City**	**1.43**	**133**	‖*i*P	**Pn**	**21 52 04.8**	**+1.7**
TGY				*i* S	**Sn**	**21 52 22.8**	**+1.9**
BALP	**Baler**	**1.77**	**68**	*e*P	**Pn**	**21 52 07.5**	**-0.2**
BALP				*e*S	**Sn**	**21 52 27.9**	**-1.2**
LQP	**Lukban**	**1.89**	**121**	‖*e*P	**Pn**	**21 52 09.6**	**+0.1**
PGP	**Puerto Galera**	**1.90**	**146**	*e*P	**Pn**	**21 52 05.1**	**-4.4**
POLP	**Polillo Island**	**2.04**	**100**	*e*P	**Pn**	**21 52 12.7**	**+1.3**
BOAC	**Boac**	**2.51**	**130**	*e*P	**Pn**	**21 52 18.9**	**+1.1**
CAUP	**Cauayan**	**2.63**	**45**	*e*P	**Pn**	**21 52 21.0**	**+1.5**
GQP	**Guinayangan**	**2.76**	**115**	‖*e*P	**Pn**	**21 52 21.9**	**+0.6**
SJMP	**San Jose**	**2.88**	**155**	*e*P	**Pn**	**21 52 24.4**	**+1.4**
APYP	**Conner**	**3.06**	**25**	*e*P	**Pn**	**21 52 26.7**	**+1.4**
APYP				*e*S	**Sn**	**21 53 02.7**	**+2.1**
BUSP	**Coron**	**3.09**	**174**	*e*P	**Pn**	**21 52 26.1**	**+0.3**
BUSP				*e*S	**Sn**	**21 52 59.6**	**-1.9**
AUQP	**San Andres**	**3.24**	**122**	*e*P	Pn	21 52 30.9	+3.1
ENPP	**El Nido**	**3.89**	**186**	*e*P	**Pn**	**21 52 37.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**20.31**	**282**	P	Pn	21 56 16.0	+2.6
	1.2nm,0.8s,baz=97,slow=8.4,SNR=11						
SONM	**Songino Array**	**34.50**	**344**	P	**P**	**21 58 22.6**	**+0.2**
	0.3nm,0.6s,baz=165,slow=12,SNR=2.9						
KLR	**Kul'dur**	**35.41**	**13**	P	**P**	**21 58 29.1**	**-0.9**
	0.1nm,0.6s,baz=216,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**37.61**	**157**	P	**P**	**21 58 46.4**	**-2.7**
	3.1nm,0.7s,baz=336,slow=9.5,SNR=7.6						
ASAR	**Alice Springs**	**40.89**	**160**	P	**P**	**21 59 14.7**	**-1.8**
	0.9nm,0.3s,baz=337,slow=7.1,SNR=4.7						
MKAR	**Makanchi Array**	**44.44**	**323**	P	**P**	**21 59 44.8**	**-0.2**
	0.2nm,0.5s,baz=130,slow=9.4,SNR=3.2						
ZALV	**Zalesovo Beam**	**47.46**	**333**	P	**P**	**22 00 09.9**	**+1.3**
	0.4nm,0.4s,baz=119,slow=6.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**48.59**	**326**	P	**P**	**22 00 19.4**	**+2.0**
	1.0nm,0.9s,baz=119,slow=8.5,SNR=8.9						
BVAR	**Borovoye Array**	**54.18**	**326**	P	**P**	**22 01 00.8**	**+1.7**
	0.3nm,0.4s,baz=117,slow=9.7,SNR=3.6						
AKTO	**Aktyubinsk**	**60.64**	**320**	P	**P**	**22 01 46.7**	**+2.0**
	0.4nm,0.3s,baz=77,slow=14,SNR=2.4						
ARCES	**ARCESS Array B**	**77.50**	**339**	P	**P**	**22 03 29.9**	**+1.0**
	1.7nm,0.9s,baz=76,slow=7.5,SNR=8.9						
BRTR	**Keskin Array B**	**77.66**	**308**	P	**P**	**22 03 31.3**	**+0.7**

LLP	**Lapu-Lapu**	**0.75**	**74**	⇑*e*P	Pg	22 11 23.3	0.0
LLP				*i* S	Sg	22 11 34.1	+1.1
TBP	**Tagbilaran**	**0.75**	**124**	*e*P	Pg	22 11 23.6	+0.3
SNPH	**Sibulan**	**0.77**	**180**	⇓*i*P	Pg	22 11 24.0	+0.3
SNPH				*i* S	Sg	22 11 33.7	+0.1
GUIM	**Jordan**	**0.81**	**309**	*e*P	Pg	22 11 24.3	-0.4
GUIM				*e*S	Sb	22 11 36.5	-1.0
RCP	**Roxas**	**1.52**	**341**	⇓*e*P	Pn	22 11 37.6	+0.3
RCP				*e*S	Sg	22 11 59.4	+1.6
MSLP	**Maasin**	**1.60**	**89**	*e*P	Pn	22 11 38.4	0.0
MSLP				*e*S	Sg	22 12 01.7	+1.3

BJI **21** *22:15:02.9,6˚.10S×146˚.10E,h100km,mb6.3/89,mB6.7/78*
MOS **21** *22:15:04.1±0.9,6˚.19S×146˚.05E,h115km,mb6.4/93, MS5.9/39,Error ellipse: s-maj=7.0km s-min=5.0km az=108.3*
ISCJB **21** *22:15:04.4±0.4,6˚.22S±0˚.02×146˚.01E±0˚.01,h113km±4km, mb6.3/408,Error ellipse: s-maj=2.9km s-min=2.4km az=16.2*
NEIC **21** *22:15:05.0±0.0,6˚.24S×145˚.86E,h120km,Moment Tensor Solution. s32 Moment tensor: Scale 10¹⁸Nm; Mrr-5.78; Mθθ7.34; Mφφ-1.56; Mrθ-4.93; Mθφ-4.01; Mφr-0.97; Best double couple: M₀9.30000×10¹⁸ NP1: φs88.00000°,δ65.00000°,λ-117.00000°. NP2: φs319.00000°,δ37.00000°,λ-45.00000°. Principal axes: T 10.1000, Plg15.0000°, Azm197.0000°; N -1.8000, Plg24.0000°, Azm100.0000°; P -8.2000, Plg60.0000°, Azm316.0000°;*
NEIC **21** *22:15:06.1±0.1,6˚.24S×145˚.96E,h118km,mb6.3/250, ME6.0,MW6.6,MW6.6,MW6.6 Error ellipse: s-maj=2.7km s-min=2.6km az=172.0,Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁸Nm; Mrr-6.36; Mθθ6.49; Mφφ-0.12; Mrθ-4.03; Mθφ-3.90; Mφr-0.53; Best double couple: M₀8.50000×10¹⁸ NP1:φs97.00000°,δ60.00000°, λ-112.00000°. NP2:φs315.00000°,δ36.00000°, λ-57.00000°. Principal axes: T 9.0800, Plg13.0000°, Azm202.0000°; N -1.2000, Plg19.0000°, Azm108.0000°; P -7.8800, Plg67.0000°, Azm325.0000°; Broadband fault plane solution: P waves. NP1:φs280.00000°, δ25.00000°,λ-90.00000°. NP2:φs100.00000°,δ65.00000°, λ-90.00000°. Principal axes: T Plg20.0000°, Azm190.0000°; N Plg0.0000°, Azm0.0000°; P Plg70.0000°, Azm10.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Goroka, Kainantu and Madang and [IV] at Lae, Mount Hagen and Port Moresby. Also felt at Kerema and Tari.
GCMT **21** *22:15:06.1±0.1,6˚.26S×145˚.96E,h127km,MW6.6/147, Moment Tensor Solution. s146,c371; s147,c639; Duration: 4s9 Moment tensor: Scale 10¹⁹Nm; Mrr-0.66±.00; Mθθ0.89±.01; Mφφ-0.23±.01; Mrθ-0.40±.00; Mθφ-0.54±.00; Mφr-0.11±.00; Best double couple: M₀1.01300×10¹⁹ NP1:φs86.00000°,δ62.00000°, λ-125.00000°. NP2:φs322.00000°,δ43.00000°, λ-43.00000°. Principal axes: T 1.1650, Plg10.0000°, Azm200.0000°; N -0.3050, Plg30.0000°, Azm104.0000°; P -0.8600, Plg58.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC **21** *22:15:07.8±1.1,6˚.21S×146˚.03E,h133km±9km,mb5.8/44, mb1 5.8/48,mb1mx5.8/50,mbtmp6.2/48,MS5.9/31, Ms1 5.9/31,ms1mx5.7/50 Error ellipse: s-maj=9.1km s-min=6.2km az=63.0*
DJA **21** *22:15:08.6±0.5,6˚.S±2˚×14˚.6E±˚,h135km±4km,M6.5/117, mb6.3/117,mB6.7/113,MLv7.2/3,Mw(mB)6.5/113, Mwp6.3/55*
NEIC **21** *22:15:19.5±0.0,6˚.65S×146˚.17E,h109km,Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁸Nm; Mrr-6.04; Mθθ7.16; Mφφ-1.13; Mrθ-2.95; Mθφ-5.25; Mφr-2.07; Best double couple: M₀9.10000×10¹⁸ NP1: φs326.00000°,δ48.00000°,λ-42.00000°. NP2:φs87.00000°, δ60.00000°,λ-130.00000°. Principal axes: T 9.9100, Plg7.0000°, Azm204.0000°; N -1.5700, Plg34.0000°, Azm110.0000°; P -8.3400, Plg56.0000°, Azm304.0000°;*
ISC 21 22:15:05.6±0.2,6˚22S±0˚.02×146˚01E±0˚.02,h118km±1km, h118km:pP-P,n2420,σ1s70/2739,mb6.3/396,78C-154D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
PMG	**Port Moresby**	**3.36**	**160**	P		**Pn**	**22 15 56.1**	**-0.5**
	2µm,0.3s,baz=19,slow=5.2,SNR=581							
PMG				S		**Sn**	**22 16 27.9**	**-8.2**
	6µm,0.3s,baz=122,slow=6.2,SNR=5.9							
PMG	**Port Moresby**	**3.36**	**160**	*e*P		**Pn**	**22 15 56.0**	**-0.6**
PMG				*e*			22 16 27.0	
PMG	**Port Moresby**	**3.36**	**160**	*e*Pn		**Pn**	**22 15 56.0**	**-0.6**
PMG				*e*Sn		Sn	22 16 27.0	-9.0
MANU	**Manus Island**	**4.37**	**18**	*e*Pn		**Pn**	**22 16 11.8**	**+1.8**
MANU				*e*Sn		Sn	22 16 42.7	-17
MMPI	**Merauke**	**6.01**	**248**	P		**Pn**	**22 16 35.7**	**+3.6**
	7µm,0.7s,148µm506µm70nm							
JAY	**Jayapura**	**6.44**	**305**	P		**Pn**	**22 16 39.3**	**+1.2**
	14µm,1.2s,375µm129nm							
JAY	**Jayapura**	**6.44**	**305**	P		**Pn**	**22 16 39.3**	**+1.2**
JAY				pmax		pmax		
	comp=Z,14µm,1.2s							
RABL	**Rabaul**	**6.45**	**72**	*e*Pn		**Pn**	**22 16 38.3**	**+0.1**
RABL				*e*Sn		Sn	22 17 22.4	-28
GENI	**Genyem**	**6.85**	**302**	P		**Pn**	**22 16 44.1**	**+0.6**
COEN	**Coen**	**8.18**	**200**	P		**Pn**	**22 17 03.0**	**+1.5**
	baz=8.2,SNR=747							
COEN	**Coen**	**8.18**	**200**	*e*Pn		**Pn**	**22 17 03.3**	**+1.8**
COEN				*e*Sn		**Sn**	**22 18 31.4**	**-0.9**
MTSU	**Mount Surprise**	**11.95**	**188**	P		**Pn**	**22 17 53.5**	**+1.1**
	baz=12,SNR=432							
KMPI	**Kaimana, Papua**	**12.52**	**281**	P		**P**	**22 18 03.4**	**-3.2**
	comp=Z,1µm,1.6s,comp=Z,22µm							
RKPI	**Ransiki, Papua**	**12.70**	**291**	P		**P**	**22 18 05.6**	**-3.0**
	comp=Z,2µm,1.3s,comp=Z,31µm							
CTA	**Charters Tower**	**13.79**	**179**	P		**Pn**	**22 18 16.8**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=0.2,slow=13,SNR=68							
CTA				LR		LR	22 24 11.0	
	comp=Z,62µm,19.1s,baz=360,slow=39							
CTAO	**Charters Tower**	**13.79**	**179**	*e*P		**Pn**	**22 18 16.3**	**+0.1**
CTAO	**Charters Tower**	**13.79**	**179**	*e*Pn		**Pn**	**22 18 16.3**	**+0.1**
FAKI	**Fak Fak**	**14.10**	**283**	P		**P**	**22 18 22.4**	**-1.8**
	comp=Z,2µm,1.1s,comp=Z,42µmcomp=Z,117µm							
FAKI	**Fak Fak**	**14.10**	**283**	*e*Pn		**Pn**	**22 18 17.8**	**-2.5**
HNR	**Honiara**	**14.17**	**104**	P		**Pn**	**22 18 21.0**	**-0.1**
	comp=Z,16nm,0.3s,baz=221,slow=2.1,SNR=33							
HNR				S		**S**	**22 21 07.5**	**-2.7**
	comp=Z,105nm,0.3s,baz=168,slow=20,SNR=3.4							
HNR	**Honiara**	**14.17**	**104**	*e*P		**P**	**22 18 25.0**	**0.0**
HNR				*e*S		**S**	**22 21 09.0**	**-1.2**
HNR	**Honiara**	**14.17**	**104**	P		**Pn**	**22 18 21.0**	**-0.1**
HNR				pmax		pmax		
	comp=Z,16nm,0.3s							
HNR	**Honiara**	**14.17**	**104**	*e*Pn		**Pn**	**22 18 20.3**	**-0.8**
HNR				S		**S**	**22 21 07.5**	**-2.7**
SAUI	**Saumlaki**	**14.70**	**262**	P		**P**	**22 18 31.2**	**+0.3**
	comp=Z,9µm,1.2s,comp=Z,68µmcomp=Z,135µm							
SAUI	**Saumlaki**	**14.70**	**262**	*e*Pn		**Pn**	**22 18 29.3**	**+1.4**
SAUI				*e*Sn		**Sn**	**22 21 03.6**	**-6.9**
QIS	**Mount Isa**	**15.54**	**203**	P		**Pn**	**22 18 37.3**	**-1.1**
	baz=16,SNR=186							
SWI	**Sorong**	**15.65**	**289**	P		**Pn**	**22 18 40.4**	**+0.6**
	comp=Z,7µm,0.9s,comp=Z,89µmcomp=Z,136µm							
MTN	**Manton Dam**	**16.07**	**245**	P		**P**	**22 18 45.6**	**-0.4**
	baz=16,SNR=263							
MTN	**Manton Dam**	**16.07**	**245**	*e*Pn		**Pn**	**22 18 44.6**	**-0.4**
	comp=Z,2µm,0.8s							
MTN				*e*Sn		**Sn**	**22 21 40.5**	**-2.9**
MSAI	**Masohi**	**17.26**	**279**	P		**Pn**	**22 19 02.2**	**+2.7**
	comp=Z,473nm,0.8s,comp=Z,12µm							
PALU	**Palau**	**17.72**	**319**	P		**Pn**	**22 19 05.6**	**+0.5**
	baz=18,SNR=93							
WRAB	**Tennant Creek**	**17.72**	**219***c*	*i*P		**P**	**22 19 03.5**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,872nm,0.8s							
WRAB	**Tennant Creek**	**17.72**	**219**	*e*P		**P**	**22 19 02.8**	**-1.5**
	comp=Z,2µm,1.0s							
WB2	**Warramunga Arr**	**17.73**	**219**	*e*P		**P**	**22 19 00.9**	**-3.4**
WRA	**Warramunga Arr**	**17.73**	**219**	P		**P**	**22 19 03.9**	**-0.5**
	comp=Z,41nm,0.3s,baz=39,slow=11,SNR=296							
WRA				S		**S**	**22 22 15.7**	**-7.0**
	baz=39,slow=21,SNR=4.8							
WRA				LR		LR	22 26 45.4	
	comp=Z,261µm,18.4s,baz=40,slow=39							
WRA				P3KPbc			22 53 54.9	
	comp=Z,0.1nm,0.3s,baz=217,slow=3.9,SNR=10							
WRA				P3KP			22 54 16.6	
	comp=Z,0.1nm,0.3s,baz=125,slow=1.3,SNR=4.6							
WRA	**Warramunga Arr**	**17.73**	**219**	*i* P		**P**	**22 19 03.4**	**-1.0**
WRA				pmax		pmax		
	comp=Z,221nm,0.6s							
PATS	**Pohnpei**	**17.86**	**44**	P		**Pn**	**22 19 07.0**	**+0.3**
	baz=18,SNR=121							
PATS	**Pohnpei**	**17.86**	**44**	*e*P		**Pn**	**22 19 07.3**	**+0.5**
	comp=Z,4µm,1.0s							
AAI	**Ambon**	**17.92**	**277**	P		**Pn**	**22 19 09.1**	**+1.6**
	comp=Z,4µm,0.8s,comp=Z,83µmcomp=Z,168µm							
AAI	**Ambon**	**17.92**	**277**	P		**Pn**	**22 19 09.1**	**+1.6**
AAI				pmax		pmax		
	comp=Z,4µm,0.8s							
NLAI	**Namlea**	**19.07**	**278**	P		**Pn**	**22 19 21.7**	**+0.5**
	comp=Z,2µm,1.4s,comp=Z,51µmcomp=Z,123µm							
LBMI	**Labuha**	**19.28**	**286**	P		**Pn**	**22 19 23.8**	**+0.2**
	comp=Z,4µm,1.1s,comp=Z,71µm							
KNRA	**Kununrra**	**19.35**	**240**	P		**P**	**22 19 21.6**	**-0.4**
	baz=19,SNR=156							
EIDS	**Eidsvold**	**19.65**	**166**	P		**P**	**22 19 25.8**	**+0.7**
	baz=20,SNR=162							
EIDS	**Eidsvold**	**19.65**	**166**	*e*P		**P**	**22 19 25.9**	**+0.7**
	comp=Z,1µm,0.8s							
GUMO	**Guam**	**19.72**	**357**	P		**P**	**22 19 27.0**	**+1.0**
	comp=Z,89nm,0.3s,baz=179,slow=7.0,SNR=45							
GUMO				S		**S**	**22 23 01.9**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=351,slow=18,SNR=2.7							
GUMO	**Guam**	**19.72**	**357**	*e*P		**P**	**22 19 26.6**	**+0.6**
GUMO				S		**S**	**22 23 01.9**	**-0.2**
GUMO				pmax		pmax		
	comp=Z,3µm,0.8s							
GUMO	**Guam**	**19.72**	**357**	*e*P		**P**	**22 19 26.6**	**+0.6**
	comp=Z,3µm,0.8s							
GUMO				S		**S**	**22 23 01.9**	**-0.2**
TNTI	**Ternate**	**19.86**	**290**	*e*P		**Pn**	**22 19 29.4**	**-0.9**
	comp=Z,4µm,1.0s							
QLP	**Quilpie**	**20.32**	**185**	P		**P**	**22 19 33.1**	**+0.7**
	baz=20,SNR=299							
RMQ	**Roma**	**20.32**	**173**	P		**P**	**22 19 33.6**	**+1.1**
	baz=20,SNR=370							
SANI	**Sanana**	**20.39**	**281**	P		**P**	**22 19 33.7**	**+0.4**
	comp=Z,3µm,0.9s,comp=Z,48µmcomp=Z,120µm							
AS01	**Alice Springs**	**20.86**	**213**	*e*P		**P**	**22 19 37.6**	**-0.8**
AS31	**Alice Springs**	**20.89**	**213**	*e*P		**P**	**22 19 37.9**	**-0.7**
	comp=Z,2µm,1.8s							
ASAR	**Alice Springs**	**20.89**	**213**	P		**P**	**22 19 38.9**	**+0.3**
	comp=Z,85nm,0.4s,baz=51,slow=8.1,SNR=385							
ASAR				S		**S**	**22 23 21.4**	**-3.8**
	comp=Z,108nm,0.8s,baz=33,slow=25,SNR=3.8							
ASAR				LR		LR	22 28 44.3	
	comp=Z,230µm,19.1s,baz=34,slow=39							
ASAR				P3KPbc			22 53 36.8	
	comp=Z,1.9nm,0.9s,baz=215,slow=2.8,SNR=4.7							
ASAR				P3KP			22 54 17.7	
	comp=Z,5.2nm,0.9s,baz=309,slow=1.9,SNR=8.4							
SOEI	**Soe**	**21.81**	**259**	P		**P**	**22 19 50.9**	**+2.2**
	comp=Z,1µm,1.0s,comp=Z,38µmcomp=Z,112µm							
SOEI	**Soe**	**21.81**	**259**	*e*P		**P**	**22 19 48.2**	**-0.4**
	comp=Z,3µm,1.0s							
BATI	**Baumata**	**22.46**	**258**	S		**S**	**22 23 56.9**	**+3.2**
	comp=Z,156nm,1.0s,baz=180,slow=20,SNR=2.1							
BATI				LR		LR	22 32 03.5	
	comp=Z,33µm,18.2s,baz=88,slow=45							
BATI	**Baumata**	**22.46**	**258**	P		**P**	**22 19 56.3**	**+1.0**
	comp=Z,641nm,0.8s,comp=Z,14µmcomp=Z,49µm							
KMSI	**Ubinong**	**23.00**	**286**	P		**P**	**22 20 02.7**	**+2.2**
	comp=Z,3µm,0.6s,comp=Z,31µmcomp=Z,4µm							
FITZ	**Fitzroy Crossi**	**23.11**	**237**	P		**P**	**22 20 02.5**	**+1.0**
	comp=Z,838nm,0.8s,baz=65,slow=8.5,SNR=305							
FITZ				S		**S**	**22 23 59.1**	**-4.8**
	comp=Z,100nm,0.8s,baz=162,slow=20,SNR=2.3							
FITZ				LR		LR	22 30 32.8	
	comp=Z,29µm,20.0s,baz=56,slow=40							
BBSI	**Bau Bau**	**23.33**	**271**	P		**P**	**22 20 06.6**	**+3.0**
	comp=Z,146nm,1.1s,comp=Z,7µm							
KDI	**Kendari**	**23.40**	**274**	P		**P**	**22 20 05.5**	**+1.2**
	comp=Z,434nm,1.3s,comp=Z,18µm							
MMRI	**Maumere**	**23.69**	**263**	P		**P**	**22 20 07.4**	**+0.5**
	comp=Z,1µm,0.9s,comp=Z,33µmcomp=Z,66µm							
MMRI	**Maumere**	**23.69**	**263**	*e*P		**P**	**22 20 05.8**	**-1.0**
	comp=Z,2µm,0.9s							
LUWI	**Luwuk**	**23.75**	**282**	P		**P**	**22 20 09.4**	**+2.0**
	comp=Z,5µm,1.5s,comp=Z,82µmcomp=Z,97µm							
LUWI	**Luwuk**	**23.75**	**282**	*e*P		**P**	**22 20 09.1**	**+1.7**
	comp=Z,4µm,0.9s							
DAV	**Davao City (W)**	**24.29**	**303**	P		**P**	**22 20 12.4**	**+0.2**
	comp=Z,474nm,0.5s,baz=132,slow=2.4,SNR=16							
DAV				S		**S**	**22 24 33.4**	**+10**
	comp=Z,135nm,0.4s,baz=229,slow=19,SNR=2.4							
DAV	**Davao City (W)**	**24.29**	**303**	⇓*i*P		**P**	**22 20 12.0**	**-0.3**
DAV	**Davao City (W)**	**24.29**	**303**	*e*P		**P**	**22 20 12.0**	**-0.3**
	comp=Z,2µm,1.2s							
DAV				S		**S**	**22 24 33.4**	**+10**
DAV	**Davao City (W)**	**24.29**	**303**	P		**P**	**22 20 12.5**	**+0.2**
	SNR=43							
ARMA	**Armidale**	**24.64**	**168**	P		**P**	**22 20 16.1**	**+0.7**
	baz=25,SNR=199							
ARMA	**Armidale**	**24.64**	**168**	*e*P		**P**	**22 20 15.5**	**0.0**
	comp=Z,424nm,0.7s							
APSI	**Ampana**	**24.87**	**281**	P		**P**	**22 20 19.8**	**+2.2**
	comp=Z,3µm,1.4s,comp=Z,51µmcomp=Z,74µm							
MRSI	**Marisa**	**24.93**	**285**	P		**P**	**22 20 18.6**	**+0.5**
	comp=Z,667nm,0.6s,comp=Z,14µmcomp=Z,43µm							
BUKP	**Muara**	**25.15**	**304**	*e*P		**P**	**22 20 21.1**	**+1.0**
CMSA	**Cobar Meteorol**	**25.19**	**181**	P		**P**	**22 20 20.5**	**+0.3**
	baz=25,SNR=353							
WRKA	**Warakurna**	**25.25**	**220**	P		**P**	**22 20 20.6**	**-0.4**
	baz=25,SNR=392							
DZM	**Mont Dzumac**	**25.26**	**131**	P		**P**	**22 20 21.0**	**-0.1**
	comp=Z,214nm,0.8s,baz=352,slow=8.1,SNR=34							
DZM				S		S	22 24 26.6	-12
	comp=Z,44nm,1.0s,baz=102,slow=9.3,SNR=2.8							
DZM	**Mont Dzumac**	**25.26**	**131**	*e*P		**P**	**22 20 21.3**	**+0.2**
	comp=Z,1µm,1.5s							
DZM	**Mont Dzumac**	**25.26**	**131**	*e*P		**P**	**22 20 20.9**	**-0.2**
	comp=Z,643nm,1.0s							
DZM				*e*PcP		**PcP**	**22 23 52.4**	**+0.9**
DZM				S		S	22 24 26.6	-12
BUTP	**Butuan**	**25.31**	**306**	*e*P		**P**	**22 20 22.4**	**+0.8**
BSSI	**Bau Bau, Buton**	**25.37**	**269**	P		**P**	**22 20 24.2**	**+2.1**
	comp=Z,648nm,0.9s,comp=Z,35µmcomp=Z,66µm							
BASI	**Baing, Sumba**	**25.47**	**259**	P		**P**	**22 20 25.6**	**+2.6**
	comp=Z,3µm,1.3s,comp=Z,56µmcomp=Z,57µm							
WSI	**Waingapu**	**25.69**	**261**	P		**P**	**22 20 26.5**	**+1.5**
	comp=Z,4µm,1.1s,comp=Z,96µm							
STKA	**Stephens Creek**	**25.85**	**189**	P		**P**	**22 20 26.7**	**+0.5**
	comp=Z,398nm,0.7s,baz=354,slow=8.7,SNR=354							
STKA				S		**S**	**22 24 46.0**	**-1.4**
	comp=Z,41nm,0.8s,baz=60,slow=20,SNR=2.0							
STKA				LR		LR	22 32 03.0	
	comp=Z,47µm,18.7s,baz=18,slow=39							
STKA				P3KP			22 54 11.9	
	comp=Z,4.6nm,0.8s,baz=331,slow=5.8,SNR=4.7							
STKA	**Stephens Creek**	**25.85**	**189**	*e*P		**P**	**22 20 26.1**	**-0.2**
	comp=Z,180nm,1.1s							
STKA				S		**S**	**22 24 46.0**	**-1.4**
STKA				PKKKP			22 54 11.9	
KAPI	**Kappang**	**26.16**	**271**	P		**P**	**22 20 30.6**	**+1.4**
	SNR=28							
TTSI	**Tana Toraja**	**26.29**	**276**	P		**P**	**22 20 32.4**	**+2.0**
	comp=Z,442nm,1.2s,comp=Z,13µmcomp=Z,63µm							
PAGZ	**Pagadian**	**26.55**	**301**	*e*P		**P**	**22 20 38.0**	**+5.3**
WBSI	**Waikabubak, Su**	**26.57**	**261**	P		**P**	**22 20 33.7**	**+0.7**
	comp=Z,1µm,0.9s,comp=Z,26µm							
MSLP	**Maasin**	**26.61**	**308**	*e*P		**P**	**22 20 33.1**	**0.0**
PCI	**Palu**	**26.64**	**280**	P		**P**	**22 20 36.1**	**+2.5**
PCI				pmax		pmax		
	comp=Z,2µm,1.1s							
MPSI	**Mapaga**	**26.86**	**283**	P		**P**	**22 20 36.1**	**+0.5**
	comp=Z,257nm,1.2s,comp=Z,12µm							
BESP	**Borongan**	**27.06**	**311**	*e*P		**P**	**22 20 38.1**	**+0.8**
PLP	**Palo**	**27.14**	**309**	⇓*e*P		**P**	**22 20 37.8**	**-0.2**
MGCD	**Mangrove Creek**	**27.27**	**171**	P		**P**	**22 20 40.0**	**+1.1**
	baz=27,SNR=27							
OCLP	**Ormoc**	**27.35**	**309**	*e*P		**P**	**22 20 40.7**	**+0.8**
LLP	**Lapu-Lapu**	**27.42**	**307**	⇓*e*P		**P**	**22 20 40.3**	**-0.2**
SNPH	**Sibulan**	**27.46**	**304**	⇓*e*P		**P**	**22 20 42.3**	**+1.3**
HTT	**Hallett**	**27.86**	**193**	P		**P**	**22 20 44.3**	**0.0**
	baz=28,SNR=100							
RIV	**Riverview**	**27.88**	**171**	P		**P**	**22 20 45.4**	**+1.0**
	baz=28,SNR=5.5							
TARA	**Tarawa**	**27.91**	**75**	*e*P		**P**	**22 20 44.1**	**-0.7**
LHI	**Lord Howe Isla**	**27.98**	**156**	P		**P**	**22 20 45.4**	**+0.1**
	baz=28,SNR=4.9							
LHI	**Lord Howe Isla**	**27.98**	**156**	*e*P		**P**	**22 20 45.3**	**+0.1**
	comp=Z,431nm,1.0s							
YNG	**Young**	**28.02**	**176**	P		**P**	**22 20 46.7**	**+1.0**
	baz=28,SNR=90							
BBOO	**Buckleboo**	**28.03**	**198**	P		**P**	**22 20 45.4**	**-0.3**
	baz=28,SNR=146							
BBOO	**Buckleboo**	**28.03**	**198**	*e*P		**P**	**22 20 45.3**	**-0.4**
	comp=Z,286nm,0.8s							
PLAI	**Plampang**	**28.10**	**263**	P		**P**	**22 20 46.3**	**-0.3**
	comp=Z,401nm,0.6s,comp=Z,7µm							
CNP	**Catarman**	**28.22**	**311**	*e*P		**P**	**22 20 48.4**	**+0.8**
SGKI	**Sangatta, Kali**	**28.90**	**280**	P		**P**	22 20 59.4	+5.7
CAN	**Canberra**	**29.09**	**175**	*e*P		**P**	**22 20 55.1**	**-0.1**
CAN				pmax		pmax		
	comp=Z,221nm,0.7s							
CAN	**Canberra**	**29.09**	**175**	*e*P		**P**	**22 20 55.1**	**-0.1**
	comp=Z,221nm,0.7s							
CNB	**Canberra Magne**	**29.12**	**174**	P		**P**	**22 20 56.4**	**+1.0**
	baz=29,SNR=8.8							
RCP	**Roxas**	**29.12**	**307**	⇓*e*P		**P**	**22 20 56.7**	**+1.1**
JAP	**San Jose, Anti**	**29.29**	**305**	⇓*e*P		**P**	22 21 04.2	+7.1
PVCP	**Virac**	**29.30**	**312**	*e*P		**P**	**22 20 57.3**	**+0.2**
SMKI	**Samarinda**	**29.31**	**280**	P		**P**	**22 21 00.6**	**+3.3**
	comp=Z,681nm,1.2s,comp=Z,14µmcomp=Z,37µm							
BKB	**Balikpapan**	**29.46**	**278**	P		**P**	**22 21 02.4**	**+3.8**
	comp=Z,1µm,1.1s,comp=Z,25µmcomp=Z,55µm							
MBWA	**Marble Bar**	**29.46**	**237**	*e*P		**P**	**22 20 58.8**	**+0.3**
	comp=Z,389nm,1.0s							
MYLDM	**Lahad Datu**	**29.71**	**292**	⇓P		**P**	**22 21 03.6**	**+2.8**
MYLDM	**Lahad Datu**	**29.71**	**292**	*e*P		**P**	**22 21 03.4**	**+2.6**
	comp=Z,1µm,1.1s							
KBKI	**Kotabaru**	**29.88**	**274**	P		**P**	**22 21 03.5**	**+1.2**
	comp=Z,123nm,1.2s,comp=Z,5µmcomp=Z,42µm							
OTRP	**Odiongan**	**30.16**	**308**	*e*P		**P**	**22 21 05.8**	**+1.0**
AUQP	**San Andres**	**30.23**	**310**	*e*P		**P**	**22 21 07.8**	**+2.4**
SRBI	**Singaraja**	**30.61**	**265**	P		**P**	22 21 15.5	+6.7
DNP	**Denpasar**	**30.63**	**264**	P		**P**	**22 21 12.4**	**+3.4**
	comp=Z,346nm,0.6s,comp=Z,15µm							
DNP	**Denpasar**	**30.63**	**264**	P		**P**	**22 21 12.4**	**+3.4**
IGBI	**Denpasar**	**30.70**	**263**	P		P	22 21 16.4	+6.8
NFK	**Norfolk Island**	**30.73**	**140**	P		**P**	**22 21 09.6**	**-0.1**
	baz=31,SNR=4.2							
GQP	**Guinayangan**	**30.77**	**311**	⇓*e*P		**P**	**22 21 10.7**	**+0.6**
MILA	**Mila**	**30.82**	**175**	P		**P**	**22 21 11.4**	**+0.9**
	baz=31,SNR=9.2							
SJMP	**San Jose**	**30.93**	**307**	*e*P		**P**	**22 21 13.2**	**+1.7**
BOAC	**Boac**	**30.95**	**309**	*e*P		**P**	**22 21 13.0**	**+1.2**
TOO	**Toolangi**	**31.21**	**181**	P		**P**	**22 21 14.8**	**+1.0**
	baz=31,SNR=80							
TOO	**Toolangi**	**31.21**	**181**	P		**P**	**22 21 15.0**	**+1.2**
TOO				pmax		pmax		
	comp=Z,302nm,1.0s							
BUSP	**Coron**	**31.41**	**305**	*e*P		**P**	**22 21 16.2**	**+0.4**
MTKI	**Muara Teweh, K**	**31.48**	**278**	P		**P**	**22 21 17.4**	**+0.9**
	comp=Z,507nm,1.5s,comp=Z,12µmcomp=Z,41µm							
PPR	**Puerto Princes**	**31.48**	**300**	⇓*e*P		**P**	**22 21 18.1**	**+1.6**
ABJI	**Asen Baras**	**31.57**	**265**	P		**P**	**22 21 18.8**	**+1.5**
	comp=Z,86nm,1.0s,comp=Z,3µm							
ENPP	**El Nido**	**31.62**	**303**	*e*P		**P**	**22 21 18.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**31.67**	**264**	P		**P**	**22 21 17.0**	**-1.1**
JAGI	**Jajag, Banyuwa**	**31.67**	**264**	*e*P		**P**	**22 21 16.5**	**-1.6**
	comp=Z,346nm,1.0s							
BATP	**Bataraza**	**31.83**	**298**	*e*P		**P**	**22 21 19.7**	**+0.1**
TGY	**Tagaytay City**	**32.04**	**309**	P		**P**	**22 21 22.6**	**+1.1**
	comp=Z,10µm,1.1s,baz=226,slow=1.2,SNR=46							
TGY				PcP		**PcP**	**22 24 10.7**	**+2.2**
	comp=Z,1µm,0.9s,baz=40,slow=5.0,SNR=4.6							
TGY				S		**S**	**22 26 27.0**	**+2.0**
	comp=Z,97nm,0.3s,baz=94,slow=19,SNR=2.0				

comp=Z,670nm,1.2s
JOW S **S** **22 27 43.0 +0.9**
CMJI Cimerak 37.30 265 P **P** **22 22 06.5 -0.2**
comp=Z,971nm,1.1s,comp=Z,10µm
JCJI Jatiwangi 37.50 267 P **P** **22 22 09.8 +1.4**
comp=Z,794nm,0.8s,comp=Z,19µm
NWAO Narrogin (SRO) 37.71 221 P **P** **22 22 10.2 +0.4**
comp=Z,52nm,0.5s,baz=280,slow=8.0,SNR=23
NWAO S **S** **22 27 47.9 -3.7**
comp=Z,69nm,1.0s,baz=197,slow=19,SNR=2.7
NWAO LR LR 22 38 47.4
comp=Z,125µm,18.9s,baz=291,slow=38
NWAO Narrogin (SRO) 37.71 221 *e*P **P** **22 22 10.5 +0.7**
NWAO *e*S **S** **22 27 43.8 -7.8**
NWAO pmax pmax
comp=Z,301nm,1.0s
NWAO Narrogin (SRO) 37.71 221 *e*P **P** **22 22 10.5 +0.7**
comp=Z,301nm,1.0s
NWAO *e*S **S** **22 27 43.8 -7.8**
TWG Pinlang 37.79 321 *e*P **P** **22 22 10.0 -0.7**
comp=Z,917nm,0.6s
TWG *e*S **S** **22 27 49.5 -3.5**
MUN Mundaring 37.82 224 P **P** **22 22 10.9 +0.1**
baz=38,SNR=45
YOJ Yonaguni jima 37.85 325 *e*P **P** **22 22 13.1 +2.0**
YOJ *e* 22 23 37.2
YOJ *e* 22 24 26.2
YOJ pmax pmax
comp=Z,3µm,1.0s
YOJ Yonaguni jima 37.85 325 *e*P **P** **22 22 13.1 +2.0**
comp=Z,3µm,1.0s
YOJ *e*PP **PP** **22 23 37.2 -2.8**
YOJ *e*PcP **PcP** **22 24 26.2 +1.0**
CISI Cisompet, Garu 37.93 266 P **P** **22 22 11.7 -0.4**
comp=Z,1µm,0.8s,comp=Z,17µmcomp=Z,31µm
CISI Cisompet, Garu 37.93 266 *e*P **P** **22 22 11.7 -0.4**
comp=Z,2µm,1.2s
CISI *e*PP **PP** **22 23 34.3 -6.9**
CISI *e*PcP **PcP** **22 24 27.7 +1.8**
YULB Yu-li 38.07 321 *e*P **P** **22 22 13.4 +0.4**
comp=Z,369nm,0.7s
LEM Lembang 38.14 267 P **P** **22 22 14.2 +0.2**
comp=Z,848nm,0.9s,baz=64,slow=7.5,SNR=70
LEM S **S** **22 27 57.4 -1.4**
comp=Z,71nm,1.0s,baz=338,slow=19,SNR=4.7
LEM LR LR 22 42 04.8
comp=Z,10µm,18.1s,baz=88,slow=42
TPUB Ta-pu 38.42 321 *e*P **P** **22 22 15.9 0.0**
comp=Z,1µm,0.8s
OUZ Omahuta 38.44 142 *e*P **P** **22 22 18.3 +2.4**
comp=Z,744nm,1.0s
NACB Ninganchiao 38.47 323 *e*P **P** **22 22 17.5 +1.2**
comp=Z,2µm,1.0s
SSLB Suanglung 38.57 322 *e*P **P** **22 22 17.4 +0.1**
comp=Z,618nm,1.0s
SSLB *e*PcP **PcP** **22 24 28.3 +0.8**
RKGY Rocky Gully 38.93 220 P **P** **22 22 21.0 +0.9**
baz=39,SNR=53
YHNB Yeheng 38.97 323 *e*P **P** **22 22 22.0 +1.4**
comp=Z,2µm,0.9s
TNG Tangerang 39.13 268 P **P** **22 22 23.6 +1.6**
comp=Z,631nm,1.1s,comp=Z,15µmcomp=Z,42µm
TATO Taipei 39.13 323 *e*P **P** **22 22 23.3 +1.4**
comp=Z,4µm,0.9s
TATO Taipei 39.13 323 P **P** **22 22 23.4 +1.6**
SNR=23
SKJI Sukabumi 39.19 267 P **P** **22 22 23.0 +0.5**
comp=Z,2µm,1.0s,comp=Z,15µm
JHJ2 Mitsune 39.56 352 *e*P **P** **22 22 24.4 -0.8**
comp=Z,1µm,0.7s
JHJ Hachijo jima 2 39.57 352 P **P** **22 22 24.9 -0.4**
comp=Z,1µm,0.7s,baz=167,slow=11,SNR=34
JHJ S **S** **22 28 12.5 -6.9**
comp=Z,126nm,0.8s,baz=45,slow=14,SNR=3.4
SBJI Serang 39.64 268 P **P** **22 22 26.9 +0.6**
comp=Z,372nm,0.9s,comp=Z,7µm
PPBI Pangkal Pinang 39.96 274 P **P** **22 22 30.8 +1.9**
comp=Z,4.4nm,0.9s,comp=Z,967nm
CGJI Cibinong 40.06 267 P **P** **22 22 29.1 -0.6**
comp=Z,1µm,1.2s,comp=Z,15µm
XMIS Christmas Isla 40.13 261 *e*P **P** **22 22 31.9 +1.5**
comp=Z,2µm,1.1s
BLSI Bandar Lampung 40.56 269 P **P** **22 22 34.1 +0.2**
comp=Z,244nm,0.7s,comp=Z,8µm
QZH Quanzhou 40.89 320⇓ *i*P **P** **22 22 37.8 +1.5**
QZH sP **sP** **22 23 10.8 -5.6**
QZH S **S** **22 28 38.9 -0.3**
QZH pmax pmax
comp=Z,900nm,1.0s
QZH pmax pmax
comp=Z,10µm,6.9s
QZH LR LR
comp=Z,14µm,16.6s
QZH LR LR
comp=Z,15µm,17.6s
QZH LR LR
comp=Z,9µm,14.7s
H01W1 Cape Leeuwin H 40.93 221 P **P** **22 22 38.6 +2.2**
baz=81,slow=6.2,SNR=17
H01W3 Cape Leeuwin H 40.94 221 P **P** **22 22 38.8 +2.4**
baz=81,slow=6.2,SNR=13
H01W2 Cape Leeuwin H 40.95 221 P **P** **22 22 38.9 +2.4**
baz=81,slow=6.2,SNR=12
KLI Kotabumi 40.97 270 P **P** **22 22 37.8 +0.5**
comp=Z,466nm,1.0s,comp=Z,8µm
KLI Kotabumi 40.97 270 P **P** **22 22 37.8 +0.5**
KLI pmax pmax
comp=Z,457nm,1.0s
RAO Raoul Island 41.01 128 P **P** **22 22 36.7 -0.6**
comp=Z,310nm,0.5s,baz=233,slow=20,SNR=2.5
RAO Raoul Island 41.01 128 *e*P **P** **22 22 36.4 -1.0**
comp=Z,2µm,0.5s
PMBI Palembang 41.23 273 P **P** **22 22 41.9 +2.6**
comp=Z,2µm,1.1s,comp=Z,26µmcomp=Z,33µm
KASI Kota Agung 41.29 269 P **P** **22 22 39.0 -0.9**
comp=Z,2µm,1.0s,comp=Z,15µmcomp=Z,24µm
HIZ Hauiti 41.41 145 *e*P **P** **22 22 40.5 0.0**
comp=Z,605nm,0.9s
MDSI Maura Dua 41.68 270 P **P** **22 22 42.7 -0.3**
comp=Z,812nm,1.3s,comp=Z,12µm
JNU Nakatsue 41.68 341 P **P** **22 22 43.0 +0.2**
comp=Z,926nm,1.1s,baz=139,slow=3.4,SNR=96
JNU S **S** **22 28 49.8 -1.1**
comp=Z,6.8nm,0.9s,baz=270,slow=20,SNR=4.5
JNU Nakatsue 41.68 341 *e*P **P** **22 22 43.1 +0.3**
comp=Z,1µm,1.1s
JNU *e*PcP **PcP** **22 24 38.6 +1.2**
JNU S **S** **22 28 49.8 -1.1**
DSRI Dabo 41.73 276 P **P** **22 22 44.9 +1.4**
comp=Z,2µm,1.2s,comp=Z,27µm
LWLI Liwa 41.76 269 P **P** **22 22 43.3 -0.5**
comp=Z,1µm,0.8s,comp=Z,14µm
TPRI Tanjung Pinang 42.01 278 P **P** **22 22 47.3 +1.5**
comp=Z,1µm,1.4s,comp=Z,24µmcomp=Z,34µm
HKC Hong Kong Obse 42.13 313⇑ P **P** **22 22 49.0 +2.4**
AFI Afiamalu 42.21 104 P **P** **22 22 48.3 +0.9**
comp=Z,290nm,0.8s,baz=88,slow=7.3,SNR=18
AFI Afiamalu 42.21 104 P **P** **22 22 48.3 +0.9**
AFI pmax pmax
comp=Z,279nm,0.8s
AFI Afiamalu 42.21 104 *e*P **P** **22 22 48.3 +0.9**
comp=Z,534nm,1.0s
INU Inuyama 42.21 349 *e*P **P** **22 22 46.8 -0.2**
comp=Z,1µm,1.7s
KNTN Kanton 42.27 87 *e*P **P** **22 22 48.5 +0.7**
comp=Z,2µm,1.1s
MCO Taipa Grande 42.47 313 P **P** **22 22 52.0 +2.7**
JMBI JAMBI 42.50 274 P **P** **22 22 52.9 +3.2**
comp=Z,3µm,1.1s,comp=Z,42µm
URZ Urewera 42.56 143 P **P** **22 22 50.7 +0.9**
comp=Z,110nm,0.4s,baz=269,slow=4.5,SNR=47
URZ Urewera 42.56 143 *e*P **P** **22 22 50.6 +0.9**
comp=Z,252nm,0.9s
FOZ Fox Glacier 42.66 154 *e*P **P** **22 22 52.0 +1.6**
comp=Z,228nm,1.3s
THZ Tophouse 42.71 150 *e*P **P** **22 22 52.0 +0.9**
comp=Z,275nm,0.7s
BKZ Black Stump Fm 42.80 145 *e*P **P** **22 22 53.0 +1.2**
comp=Z,554nm,1.2s
MYKOM Kota Tinggi 42.84 279 *e*P **P** **22 22 54.1 +1.6**
comp=Z,1µm,1.3s
MXZ Matakaoa Point 42.85 141 *e*P **P** **22 22 52.7 +0.5**
comp=Z,883nm,1.6s
MNAI Manna 42.90 270 P **P** **22 22 54.7 +1.7**
comp=Z,1µm,1.1s,comp=Z,14µm
MNAI Manna 42.90 270 *e*P **P** **22 22 51.5 -1.5**
comp=Z,646nm,0.8s

MJAR Matsushiro Arr 43.16 351 P **P** **22 22 54.0 -0.7**
comp=Z,342nm,0.9s,baz=182,slow=9.3,SNR=163
MJAR ScP **ScP** **22 28 19.9 -2.9**
comp=Z,12nm,0.9s,baz=181,slow=4.7,SNR=4.6
MJAR S **S** **22 29 11.1 -1.4**
comp=Z,22nm,1.2s,baz=104,slow=21,SNR=5.8
MJAR Matsushiro Arr 43.16 351 P **P** **22 22 54.0 -0.7**
MJAR S **S** **22 29 11.1 -1.4**
MJAR pmax pmax
comp=Z,338nm,0.9s
MJAR smax smax
comp=N,22nm,1.2s
MAJO Matsushiro 43.16 351*d* *i*P **P** **22 22 54.1 -0.6**
MAJO pmax pmax
comp=Z,920nm,1.1s
MAJO Matsushiro 43.16 351 *e*P **P** **22 22 54.2 -0.6**
comp=Z,865nm,1.0s
MAT Matsushiro 43.16 351 P **P** **22 22 54.0 -0.7**
MAT S **S** **22 29 09.8 -2.7**
MJB9 Matsu-Tunnel 43.17 351 *e*P **P** **22 22 54.3 -0.5**
comp=Z,844nm,1.0s
LTZ Lake Taylor 43.18 152 *e*P **P** **22 22 55.8 +1.0**
comp=Z,682nm,1.5s
DCZ Deep Cove 43.19 158 *e*P **P** **22 22 56.2 +1.4**
comp=Z,437nm,1.0s
GZH Guangzhou 43.22 313 P **P** **22 22 58.8 +3.5**
GZH S **S** **22 29 19.8 +6.2**
GZH pmax pmax
comp=Z,16µm,8.0s
SNZO South Karori 43.30 148 *e*P **P** **22 22 56.1 +0.4**
comp=Z,1µm,1.6s
RPZ Rata Peaks 43.34 153 P **P** **22 22 57.1 +1.0**
comp=Z,324nm,0.6s,baz=281,slow=2.9,SNR=161
RPZ Rata Peaks 43.34 153 *e*P **P** **22 22 56.3 +0.2**
comp=Z,339nm,0.6s
WKZ Wanaka 43.38 156 *e*P **P** **22 22 57.4 +1.0**
comp=Z,271nm,0.9s
MLZ Mavora Lakes 43.47 157 *e*P **P** **22 22 58.2 +1.0**
comp=Z,398nm,1.1s
OXZ Oxford 43.49 152 *e*P **P** **22 22 57.4 +0.2**
comp=Z,216nm,0.6s
LBZ Lake Benmore 43.50 155 *e*P **P** **22 22 57.7 +0.3**
comp=Z,244nm,0.9s
KHZ Kahutara 43.51 150 *e*P **P** **22 22 58.0 +0.6**
comp=Z,199nm,0.8s
QIZ Qiongzhong 43.58 306 P **P** **22 23 00.3 +2.0**
QIZ sP **sP** **22 23 34.0 -4.6**
QIZ PP **PP** **22 24 41.9 -0.2**
QIZ S **S** **22 29 21.0 +1.9**
QIZ sS **sS** **22 30 05.6 -0.1**
QIZ pmax pmax
comp=Z,10µm,5.7s
QIZ LR LR
comp=Z,4µm,15.7s
QIZ LR LR
comp=Z,5µm,18.6s
QIZ Qiongzhong 43.58 306 *e*P **P** **22 23 00.2 +1.9**
comp=Z,2µm,1.2s
PYZ Puysegur Point 43.62 159 *e*P **P** **22 22 58.9 +0.6**
comp=Z,528nm,1.0s
BFZ Birch Farm 43.69 146 *e*P **P** **22 22 59.8 +0.9**
comp=Z,742nm,1.0s
MASI Maura Aman, Be 43.72 272 P **P** **22 22 59.6 0.0**
comp=Z,2µm,0.8s,comp=Z,17µmcomp=Z,188µm
WHZ Wether Hill Ro 43.85 158 *e*P **P** **22 23 01.0 +0.9**
comp=Z,268nm,0.9s
CRLZ Canterbury Las 43.95 152 *e*P **P** **22 23 02.4 +1.6**
comp=Z,1µm,2.0s
RGRI Rengat 43.97 276 P **P** **22 23 03.7 +2.2**
comp=Z,2µm,1.2s
SSE Sheshan 44.05 329 P **P** **22 23 02.8 +1.0**
SSE pmax pmax
comp=Z,100nm,1.1s
SSE pmax pmax
comp=Z,4µm,5.9s
SSE LR LR
comp=Z,8µm,19.6s
SSE LR LR
comp=Z,4µm,19.1s
MQZ McQueen's Vall 44.06 152 *e*P **P** **22 23 02.7 +0.9**
comp=Z,388nm,1.2s
ODZ Otahua Downs 44.23 155 *e*P **P** **22 23 04.2 +1.2**
comp=Z,130nm,1.1s
NIUE Niue 44.72 111 P **P** **22 23 06.9 -0.5**
baz=45,SNR=8.6
BKNI Bangkinang 45.35 277 P **P** **22 23 13.8 +1.3**
comp=Z,1µm,1.4s,comp=Z,21µmcomp=Z,38µm
BKNI Bangkinang 45.35 277 *e*P **P** **22 23 13.5 +1.0**
comp=Z,2µm,1.4s
PDSI Padang 45.74 275 P **P** **22 23 14.9 -0.7**
comp=Z,171nm,1.3s,comp=Z,7µm
TJN Taejon 45.84 339*d* *i*P **P** **22 23 15.9 0.0**
PPSI Pulau Pagai 45.97 272 P **P** **22 23 18.3 +0.9**
comp=Z,367nm,1.0s,comp=Z,10µm
NJ2 Nanjing 46.03 327 *e*P **P** **22 23 18.8 +1.3**
NJ2 pP **pP** **22 23 42.5 -2.2**
NJ2 sP **sP** **22 23 54.5 -3.4**
NJ2 PcP **PcP** **22 24 53.9 +1.8**
NJ2 ScP **ScP** **22 28 35.8 +1.2**
NJ2 S **S** **22 29 56.1 +2.1**
NJ2 pmax pmax
comp=Z,420nm,1.0s
NJ2 pmax pmax
comp=Z,8µm,10.8s
NJ2 LR LR
comp=Z,24µm,17.3s
NJ2 LR LR
comp=Z,32µm,15.2s
NJ2 LR LR
comp=Z,20µm,21.4s
IPM Ipoh 46.15 282 *e*P **P** **22 23 20.1 +1.3**
comp=Z,423nm,0.8s
KSRS Korea Array 46.62 340 P **P** **22 23 22.6 +0.6**
comp=Z,246nm,0.8s,baz=158,slow=8.3,SNR=187
KSRS ScP **ScP** **22 28 35.7 -1.2**
comp=Z,4.1nm,0.9s,baz=176,slow=5.7,SNR=2.3
KSRS S **S** **22 29 58.7 -3.5**
comp=Z,3.3nm,0.9s,baz=151,slow=5.2,SNR=2.8
KSRS PKiKP **PKiKP** **22 31 49.0 +0.5**
comp=Z,5.6nm,0.9s,baz=167,slow=1.0,SNR=9.0
KSRS LR LR 22 41 19.9
comp=Z,10µm,19.8s,baz=159,slow=34
KSRS PKP2bc 22 55 04.3
comp=Z,2.8nm,0.9s,baz=5.2,slow=3.9,SNR=4.0
KS15 Wonju Array Si 46.62 340 *e*P **P** **22 23 22.8 +0.8**
KSAR Wonju Array Be 46.62 340 P **P** **22 23 22.6 +0.6**
KSAR S **S** **22 29 58.7 -3.6**
KSAR Wonju Array Be 46.62 340 P **P** **22 23 22.6 +0.6**
KSAR ScP **ScP** **22 28 35.7 -1.2**
KSAR S **S** **22 29 58.7 -3.6**
KSAR PKiKP **PKiKP** **22 31 49.0 +0.4**
KSAR ⇑*e* 22 55 04.3
KS01 Wonju Array Si 46.65 340 *e*P **P** **22 23 22.9 +0.6**
KULM Kulim 46.70 283 *e*P **P** **22 23 24.1 +0.9**
comp=Z,702nm,1.1s
MNSI Mandailing Nat 46.87 277 P **P** **22 23 24.4 0.0**
comp=Z,335nm,0.8s,comp=Z,10µm
SISI Saibi 47.05 274 P **P** **22 23 25.8 0.0**
comp=Z,194nm,1.0s,comp=Z,9µm
INCN Inchon 47.09 339 *e*P **P** **22 23 26.9 +1.1**
comp=Z,594nm,1.1s
INCN Inchon 47.09 339 P **P** **22 23 26.5 +0.8**
SNR=40
SKLT Songkhla 47.20 286 P **P** **22 23 27.2 +0.3**
comp=Z,597nm,1.4s,comp=Z,16µm
WHN Wuhan 47.50 322⇓ *i*P **P** **22 23 31.0 +2.0**
WHN S **S** **22 30 18.3 +3.3**
WHN pmax pmax
comp=Z,17µm,4.2s
WHN LR LR
comp=Z,10µm,14.5s
WHN LR LR
comp=Z,8µm,12.2s
WHN LR LR
comp=Z,19µm,21.5s
SKNT Sakolnakorn 47.51 300 P **P** **22 23 29.7 +0.4**
comp=Z,420nm,1.2s,comp=Z,10µm
PSI Prapat 47.86 279 P **P** **22 23 32.1 -0.1**
comp=Z,497nm,1.2s,baz=96,slow=11,SNR=204
PSI S **S** **22 30 19.3 -1.7**
comp=Z,48nm,1.4s,baz=320,slow=19,SNR=12
PSI Prapat 47.86 279 *e*P **P** **22 23 32.5 +0.3**
PSI *e*S **S** **22 30 21.9 +0.9**
PSI pmax pmax
comp=Z,990nm,1.3s
PSI Prapat 47.86 279 *e*P **P** **22 23 32.5 +0.3**
comp=Z,990nm,1.3s

PSI *e*S **S** **22 30 21.9 +0.9**
ERM Erimo 48.08 357*c* *i*P **P** **22 23 34.3 +1.1**
ERM pmax pmax
comp=Z,234nm,0.9s
ERM Erimo 48.08 357 *e*P **P** **22 23 34.2 +1.1**
comp=Z,184nm,0.9s
KHON Khomkaen 48.25 298 P **P** **22 23 36.9 +1.9**
comp=Z,144nm,0.9s,comp=Z,1µm
TRTT Trang 48.26 286 P **P** **22 23 35.3 +0.1**
comp=Z,190nm,1.9s,comp=Z,6µm
TSI Tuntungan 48.35 280 P **P** **22 23 37.0 +1.2**
comp=Z,409nm,1.5s,comp=Z,15µm
CHAI Chaiyaphum 48.81 297 P **P** **22 23 40.3 +1.0**
comp=Z,196nm,0.8s,comp=Z,2µm
COCO West Island 48.84 259 *i* P **P** **22 23 42.4 +2.8**
COCO West Island 48.84 259 *e*P **P** **22 23 41.6 +2.0**
comp=Z,963nm,1.0s
COCO West Island 48.84 259 P **P** **22 23 42.2 +2.6**
SNR=7.8
GSI Gunungsitoli 48.93 277 P **P** **22 23 40.0 -0.3**
comp=Z,424nm,0.7s,comp=Z,15µm
GSI Gunungsitoli 48.93 277 *e*P **P** **22 23 40.2 0.0**
comp=Z,1µm,1.5s
KCSI Kotacane, Aceh 49.13 280 P **P** **22 23 41.2 -0.6**
comp=Z,582nm,1.2s,comp=Z,13µmcomp=Z,27µm
MCQ Macquarie Isla 49.26 170 P **P** **22 23 43.4 +1.3**
baz=49,SNR=3.5
MCQ Macquarie Isla 49.26 170 *e*P **P** **22 23 43.4 +1.3**
MCQ pmax pmax
comp=Z,390nm,1.1s
MCQ Macquarie Isla 49.26 170 *e*P **P** **22 23 43.4 +1.3**
comp=Z,390nm,1.1s
SURT Suratani 49.42 287 P **P** **22 23 44.0 0.0**
comp=Z,490nm,1.3s,comp=Z,6µm
JOHN Johnston Islan 49.53 62 *e*P **P** **22 23 46.2 +1.5**
comp=Z,532nm,0.9s
TPTI 49.66 280 P **P** **22 23 45.6 -0.2**
comp=Z,933nm,1.4s,comp=Z,19µm
PHET Kaeng Krachan 49.84 293 P **P** **22 23 48.9 +1.7**
comp=Z,224nm,1.0s,comp=Z,2µm
YUK Yuzh-Kuril'sk 50.02 360 *e*P **P** **22 23 48.6 +0.6**
GYA Guiyang 50.09 312⇑ *i*P **P** **22 23 50.8 +1.7**
GYA pP pP 22 24 18.0 +1.3
GYA sP sP 22 24 30.8 +1.0
GYA PcP **PcP** **22 25 10.4 +3.3**
GYA PP **PP** **22 25 49.8 +4.4**
GYA ScP **ScP** **22 28 55.0 +2.8**
GYA PcS **PcS** **22 29 06.3 +1.8**
GYA S **S** **22 30 57.3 +5.5**
GYA sS sS 22 31 40.0 +0.6
GYA SS **SS** **22 34 26.5 -0.2**
GYA pmax pmax
comp=Z,2µm,1.2s
GYA pmax pmax
comp=Z,9µm,12.7s
GYA LR LR
comp=Z,15µm,22.7s
GYA LR LR
comp=Z,8µm,25.0s
GYA LR LR
comp=Z,6µm,20.5s
TIA Tai'an 50.16 329 P **P** **22 23 49.4 +0.2**
TIA S **S** **22 30 49.8 -2.4**
TIA SS **SS** **22 34 23.0 -4.2**
TIA pmax pmax
comp=Z,260nm,1.1s
TIA pmax pmax
comp=Z,6µm,6.5s
TIA LR LR
comp=Z,6µm,20.1s
TIA LR LR
comp=Z,24µm,23.0s
TIA LR LR
comp=Z,23µm,36.3s
ASAJ Asahikawa 50.20 357 P **P** **22 23 50.3 +0.9**
comp=Z,71nm,0.5s,baz=208,slow=7.8,SNR=40
ASAJ Asahikawa 50.20 357 *e*P **P** **22 23 50.2 +0.9**
comp=Z,322nm,1.2s
DL2 Dalian 50.27 335⇓ P **P** **22 23 50.0 0.0**
DL2 sP **pP** **22 24 24.0 +6.4**
DL2 S **S** **22 30 53.6 0.0**
DL2 sS sS 22 31 30.8 -10
DL2 SS **SS** **22 34 25.3 -3.5**
DL2 pmax pmax
comp=Z,200nm,0.8s
DL2 pmax pmax
comp=Z,6µm,6.4s
LHMI Lhok Sumawe 50.28 282 P **P** **22 23 51.8 +1.3**
comp=Z,1µm,0.6s,comp=Z,24µmcomp=Z,47µm
LHMI Lhok Sumawe 50.28 282 *e*P **P** **22 23 51.0 +0.4**
comp=Z,796nm,0.6s
ENH Enshi 50.42 318 *e*P **P** **22 23 52.4 +1.1**
comp=Z,2µm,1.3s
ENH *e*PcP **PcP** **22 25 10.2 +2.1**
MLSI Meulaboh, Aceh 50.61 281 P **P** **22 23 52.8 -0.2**
comp=Z,3µm,1.2s,comp=Z,21µm
PHIT Phitsanulok 50.70 298 P **P** **22 23 55.5 +1.9**
comp=Z,658nm,1.0s,comp=Z,4µm
VLA Vladivostok 50.76 347*d* *i*P **P** **22 23 54.2 +0.7**
VLA pmax pmax
comp=Z,592nm,1.2s
SRDT SRDT 50.80 294 P **P** **22 23 55.3 +0.9**
comp=Z,788nm,0.9s,comp=Z,17µm
NANT Nan 51.11 300 P **P** **22 23 58.6 +1.9**
comp=Z,334nm,1.0s,comp=Z,3µm
KUR Kuril'sk 51.25 2*d* *i*P **P** **22 23 58.3 +1.1**
KUR *e* 22 25 54.7
KUR *i*S **S** **22 31 08.7 +1.9**
KUR *e*SSS SSS 22 36 27.9
KUR pmax pmax
comp=Z,2µm,1.3s
KUR pmax pmax
comp=Z,11µm,7.0s
KUR MLR MLR
comp=Z,4µm,18.0s
TEY Ternei 51.72 352 *e*P **P** **22 24 01.0 +0.3**
TEY *e* 22 24 36.0
TEY *e*S **S** **22 31 10.0 -3.3**
TEY pmax pmax
comp=E,43nm,1.0s
TEY pmax pmax
comp=Z,129nm,1.0s
TEY pmax pmax
comp=N,110nm,1.1s
TEY smax smax
comp=E,6µm,12.0s
TEY smax smax
comp=N,5µm,14.0s
USRK Ussuriysk Ar. 51.76 347 P **P** **22 24 01.5 +0.4**
comp=N,343nm,0.8s,baz=164,slow=6.3,SNR=167
USRK ScP **ScP** **22 28 56.3 -2.4**
comp=N,7.0nm,0.9s,baz=131,slow=5.9,SNR=2.3
USRK S **S** **22 31 12.5 -1.4**
comp=N,2.6nm,0.8s,baz=178,slow=29,SNR=5.4
LAMP Lampang 51.92 299 P **P** **22 24 04.9 +2.2**
comp=N,264nm,1.0s,comp=N,2µm
SNY Shenyang 52.03 339⇓ P **P** **22 24 03.1 0.0**
SNY S **S** **22 31 18.0 +0.3**
SNY pmax pmax
comp=N,200nm,1.0s
SNY pmax pmax
comp=N,8µm,6.3s
SNY LR LR
comp=N,22µm,25.5s
SNY LR LR
comp=N,34µm,22.2s
SNY LR LR
comp=N,36µm,41.2s
PAYA Payao 52.05 300 P **P** **22 24 06.7 +3.0**
comp=N,285nm,1.1s,comp=N,3µm
KMI Kunming 52.36 308⇓ P **P** **22 24 09.0 +2.9**
KMI pP pP 22 24 36.9 +3.0
KMI PcP **PcP** **22 25 17.9 +2.2**
KMI PP **PP** **22 26 08.4 +2.4**
KMI S **S** **22 31 28.0 +4.8**
KMI ScS **ScS** **22 33 47.3 +2.3**
KMI pmax pmax
comp=N,550nm,1.3s
KMI pmax pmax
comp=N,11µm,8.4s
KMI LR LR
comp=N,9µm,18.5s
KMI LR LR
comp=N,5µm,20.7s
KMI LR LR
comp=N,13µm,31.7s

CM01 Chiang Mai Arr 52.46 299 *e*P **P** **22 24 09.2 +2.4**
CM01 *e*ScP **ScP** **22 29 06.0 +3.6**
CM31 Chiang Mai Arr 52.49 299 *e*P **P** **22 24 09.7 +2.7**
CM31 *e*ScP **ScP** **22 29 05.8 +3.2**
CM31 Chiang Mai Arr 52.49 299 P **P** **22 24 09.6 +2.6**
CMAR Chiang Mai Arr 52.49 299 P **P** **22 24 09.2 +2.3**
comp=N,646nm,1.0s,baz=122,slow=5.9,SNR=727
CMAR ScP **ScP** **22 29 06.9 +4.4**
comp=N,23nm,0.9s,baz=122,slow=3.0,SNR=6.8
CMAR S **S** **22 31 28.7 +4.0**
comp=N,1.2nm,0.3s,baz=321,slow=15,SNR=5.0
CMAR LR LR 22 47 41.2
comp=N,3µm,20.1s,baz=128,slow=37
CMAR PKPPKP **P'P'df** **22 54 34.2 -2.9**
comp=N,5.4nm,1.0s,baz=297,slow=4.6,SNR=7.0
CMAR PKP2bc 22 54 48.7
comp=N,2.1nm,0.9s,baz=246,slow=4.6,SNR=4.0
CMMT Chiang Mai 52.63 299 P **P** **22 24 08.6 +0.6**
comp=N,624nm,1.7s,comp=N,16µm
CHTO Chiang Mai 52.63 299 P **P** **22 24 09.6 +1.6**
comp=N,2µm,2.2s,comp=N,72µm
CHTO Chiang Mai 52.63 299 *e*P **P** **22 24 10.1 +2.1**
CHTO pmax pmax
comp=Z,490nm,1.0s
CHTO Chiang Mai 52.63 299 *e*P **P** **22 24 10.1 +2.1**
comp=Z,490nm,1.0s
CHTO *e*ScP **ScP** **22 29 06.3 +3.1**
CHTO Chiang Mai 52.63 299 P **P** **22 24 10.2 +2.3**
SNR=329
MDJ Mudanjiang 52.72 345 P **P** **22 24 06.9 -1.2**
MDJ pP pP 22 24 34.6 -1.4
MDJ sP sP 22 24 46.4 -2.6
MDJ PcS **PcS** **22 29 19.0 +4.1**
MDJ S **S** **22 31 24.6 -2.4**
MDJ SS **SS** **22 35 02.1 -5.3**
MDJ pmax pmax
comp=Z,270nm,0.9s
MDJ pmax pmax
comp=Z,7µm,7.0s
MDJ LR LR
comp=Z,10µm,21.7s
MDJ LR LR
comp=Z,22µm,25.0s
MDJ LR LR
comp=Z,27µm,24.0s
MDJ Mudanjiang 52.72 345 *e*P **P** **22 24 08.3 +0.2**
comp=Z,195nm,0.9s
CMAI Chiengmai2 53.00 301 P **P** **22 24 12.7 +1.9**
comp=Z,2µm,1.7s,comp=Z,90µm
YSS Yuzh-Sakhalins 53.02 357κ *i*P **P** **22 24 10.6 +0.4**
YSS *e* 22 24 54.7
YSS *e* 22 25 19.8
YSS *e* 22 26 13.5
YSS *i*S **S** **22 31 30.7 -0.3**
YSS *e*SS **SKiKP** **22 35 14.9 -2.0**
YSS pmax pmax
comp=N,190nm,1.0s
YSS pmax pmax
comp=Z,290nm,1.0s
YSS pmax pmax
comp=E,160nm,1.5s
YSS pmax pmax
comp=Z,4µm,16.0s
YSS pmax pmax
comp=N,1µm,6.3s
YSS pmax pmax
comp=E,600nm,5.2s
YSS smax smax
comp=E,9µm,13.0s
YSS smax smax
comp=N,11µm,14.0s
YSS MLR MLR
comp=N,4µm,16.0s
YSS MLR MLR
comp=E,3µm,15.0s
YSS Yuzh-Sakhalins 53.02 357 *e*P **P** **22 24 10.7 +0.4**
comp=E,357nm,1.0s
CN2 Changchun 53.15 341 *e*P **P** **22 24 10.5 -0.8**
CN2 *e*pP pP 22 24 36.1 -3.1
CN2 *e*S **S** **22 31 27.3 -5.6**
CN2 SS **SKiKP** **22 35 16.0 -1.1**
CN2 pmax pmax
comp=E,40nm,0.8s
CN2 pmax pmax
comp=E,4µm,6.0s
CN2 LR LR
comp=E,11µm,18.0s
CN2 LR LR
comp=E,11µm,18.0s
CN2 LR LR
comp=E,6µm,19.0s
XAN Xi'an 53.23 321 P **P** **22 24 13.0 +0.8**
XAN pP pP 22 24 39.4 -0.7
XAN sP sP 22 24 51.9 -1.2
XAN PcP **PcP** **22 25 20.9 +2.3**
XAN PP **PP** **22 26 15.6 +2.0**
XAN S **S** **22 31 32.1 -2.4**
XAN pmax pmax
comp=E,1µm,1.3s
XAN pmax pmax
comp=E,10µm,8.2s
BJT Baijiatuan 53.61 332 *e*P **P** **22 24 15.0 +0.3**
BJT *e* 22 26 12.5
BJT pmax pmax
comp=Z,467nm,1.1s
BJT Baijiatuan 53.61 332 *e*P **P** **22 24 15.0 +0.3**
comp=Z,467nm,1.1s
BJT *e*PP **PP** **22 26 12.5 -4.3**
BJI Beijing 53.62 332 P **P** **22 24 15.3 +0.5**
BJI S **S** **22 31 37.3 -2.1**
BJI pmax pmax
comp=Z,150nm,1.3s
BJI pmax pmax
comp=Z,2µm,6.1s
BJI LR LR
comp=Z,6µm,27.6s
TIY Taiyuan 53.75 327 *e*P **P** **22 24 16.5 +0.6**
TIY S **S** **22 31 39.1 -2.3**
TIY sS sS 22 32 20.5 -9.0
TIY SS **SS** **22 35 25.4 +1.3**
TIY pmax pmax
comp=Z,140nm,0.7s
TIY pmax pmax
comp=Z,6µm,11.0s
TIY LR LR
comp=Z,11µm,16.3s
TIY LR LR
comp=Z,4µm,12.4s
TIY LR LR
comp=Z,7µm,15.2s
RAR Rarotonga 54.47 112 P **P** **22 24 22.2 +0.8**
comp=Z,147nm,0.8s,baz=260,slow=8.6,SNR=14
RAR LR LR 22 45 55.2
comp=Z,2µm,20.3s,baz=292,slow=34
RAR Rarotonga 54.47 112 *e*P **P** **22 24 21.8 +0.4**
comp=Z,278nm,1.0s
CD2 Chengdu 54.73 315⇓ *i*P **P** **22 24 24.8 +1.7**
CD2 pP pP 22 24 50.3 -0.8
CD2 PcS **PcS** **22 29 25.5 +1.1**
CD2 S **S** **22 31 58.1 +3.4**
CD2 sS sS 22 32 42.6 -0.4
CD2 pmax pmax
comp=Z,2µm,0.5s
CD2 pmax pmax
comp=Z,15µm,4.4s
CD2 LR LR
comp=Z,21µm,19.4s
CD2 LR LR
comp=Z,14µm,17.4s
CD2 LR LR
comp=Z,11µm,14.4s
PBA Port Blair 55.88 288 *e*P P 22 24 30.2 -1.3
PBA IAmb IAmb 22 24 32.5
comp=Z,473nm,1.7s
DGPR DIGLIPUR 56.13 290 *e*P **P** **22 24 33.9 +0.5**
DGPR IAmb IAmb 22 24 35.1
comp=Z,17µm,4.2s
HHC Hu-ho-hao-te 56.51 329 *e*P **P** **22 24 36.8 +1.1**
HHC pP pP 22 25 00.6 -3.3
HHC sP sP 22 25 11.8 -5.1
HHC S **S** **22 32 20.0 +1.8**
HHC sS sS 22 33 01.3 -5.4
HHC pmax pmax
comp=Z,58nm,1.1s
HHC pmax pmax
comp=Z,8µm,6.2s
HHC LR LR
comp=Z,11µm,25.4s
HHC LR LR
comp=Z,12µm,23.1s
HHC LR LR
comp=Z,14µm,25.9s
KLR Kul'dur 56.61 349 P **P** **22 24 36.4 +0.2**
comp=Z,17nm,1.0s,baz=170,slow=4.4,SNR=133
KLR S **S** **22 32 17.9 -1.1**
comp=Z,0.4nm,0.9s,baz=108,slow=20,SNR=2.7
TYV Tymovskoe 56.93 357 *e*P **P** **22 24 38.0 -0.3**
TYV pmax pmax
comp=Z,5µm,8.4s
TYV pmax pmax
comp=Z,266nm,1.3s
XMAS Kiritimati 57.05 84 *e*P **P** **22 24 40.6 +0.6**
comp=Z,828nm,1.0s
BTO Baotou 57.13 328 *e*P **P** **22 24 40.4 +0.2**
BTO pmax pmax
comp=Z,80nm,0.9s
SKR Severo-Kuril's 57.35 8*d i*P **P** **22 24 42.2 +1.0**
SKR *e**PP **sP** **22 25 18.7 -3.8**
SKR *e* 22 25 30.2
SKR *e*S S 22 32 18.9 -10
SKR pmax pmax
comp=Z,4µm,7.9s
SKR pmax pmax
comp=Z,555nm,1.2s
SKR MLR MLR
comp=Z,3µm,18.0s
SKR MLR MLR
comp=Z,4µm,15.0s
GRNR Gornyy 57.36 353⇓ *i*P **P** **22 24 42.2 +0.8**
GRNR *e* 22 32 29.0
GRNR pmax pmax
comp=N,240nm,1.0s
GRNR pmax pmax
comp=Z,410nm,1.0s
LZH Lanzhou 57.74 320⇓ P **P** **22 24 46.6 +2.0**
LZH pP pP 22 25 12.5 -0.4
LZH sP sP 22 25 23.4 -2.4
LZH PP **PP** **22 26 57.4 +3.4**
LZH S **S** **22 32 35.0 +0.4**
LZH sS sS 22 33 20.3 -3.0
LZH SS **SS** **22 36 25.4 -1.8**
LZH pmax pmax
comp=Z,2µm,1.4s
LZH pmax pmax
comp=Z,11µm,7.4s
LZH LR LR
comp=Z,11µm,17.0s
LZH LR LR
comp=Z,4µm,14.2s
LZH LR LR
comp=Z,21µm,18.7s
NKL Nikolayevsk 59.32 356 *i*P **P** **22 24 55.0 +0.1**
NKL *i*S **S** **22 32 54.0 0.0**
NKL pmax pmax
comp=N,79nm,0.9s
NKL pmax pmax
comp=E,16nm,0.9s
NKL pmax pmax
comp=Z,360nm,0.9s
NKL pmax pmax
comp=N,2µm,12.0s
NKL pmax pmax
comp=E,500nm,12.0s
NKL pmax pmax
comp=Z,6µm,12.0s
NKL smax smax
comp=N,10µm,12.0s
NKL smax smax
comp=Z,8µm,12.0s
NKL MLR MLR
comp=N,2µm,13.0s
NKL MLR MLR
comp=E,1µm,13.0s
NKL MLR MLR
comp=Z,5µm,16.0s
HIA Hailar 59.83 340 *e*P **P** **22 24 59.0 +0.4**
HIA pmax pmax
comp=Z,708nm,1.2s
HIA Hailar 59.83 340 *e*P **P** **22 24 59.0 +0.4**
comp=Z,708nm,1.2s
PEA0B Petropavlovsk- 59.93 8 *e*P **P** **22 24 59.9 +0.7**
comp=Z,552nm,1.0s
PETK Petropavlovsk- 59.93 8 P **P** **22 24 59.7 +0.5**
comp=Z,380nm,0.8s,baz=163,slow=4.6,SNR=142
PETK LR LR 22 47 08.6
comp=Z,13µm,21.9s,baz=193,slow=32
PETK PKP2bc 22 54 31.5
comp=Z,18nm,1.0s,baz=95,slow=3.6,SNR=7.2
PETK Petropavlovsk- 59.93 8 *e*P **P** **22 24 59.9 +0.7**
PET Petropavlovsk 59.99 9 *e*P **P** **22 25 00.2 +0.7**
PET *e**SP **sP** **22 25 37.0 -3.9**
PET *e* 22 25 48.6
PET *e*S **S** **22 33 02.2 -0.5**
PET *e* 22 34 35.6
PET *e* 22 39 34.9
PET pmax pmax
comp=Z,5µm,9.4s
PET pmax pmax
comp=Z,202nm,1.0s
PET pmax pmax
comp=Z,5µm,17.5s
PET Petropavlovsk 59.99 9 *e*P **P** **22 24 59.8 +0.3**
comp=Z,210nm,0.9s
KEKH Kekaha 60.09 60 *e*P **P** **22 25 01.3 +0.4**
SHL Shillong 61.31 303 *i* PDSE 22 25 10.5
SHL IAmb IAmb 22 25 12.3
comp=Z,545nm,0.9s
SHL *i*S **S** **22 33 22.0 +1.0**
HON Honolulu 61.34 62 *e*P **P** **22 25 10.8 +1.4**
HON Honolulu 61.34 62 *e*P **P** **22 25 10.8 +1.4**
KIP Kipapa 61.37 62*de*P **P** **22 25 11.1 +1.6**
KIP pmax pmax
comp=Z,3µm,1.0s
KIP Kipapa 61.37 62 *e*P **P** **22 25 11.6 +2.1**
comp=Z,424nm,1.0s
OPA Opana 61.46 61 *e*P **P** **22 25 10.9 +0.7**
OPA Opana 61.46 61 *e*P **P** **22 25 10.8 +0.7**
ZEA Zeya 61.80 347*d i*P **P** **22 25 12.6 +0.8**
ZEA *e* 22 25 50.0
ZEA *e* 22 27 35.0
ZEA *e*S **S** **22 33 25.0 -0.7**
ZEA *e*PS **PnS** **22 33 53.0 -6.1**
ZEA *e*SSS SSS 22 40 12.0
ZEA pmax pmax
comp=E,83nm,0.8s
ZEA pmax pmax
comp=N,420nm,1.0s
ZEA pmax pmax
comp=Z,730nm,1.0s
ZEA pmax pmax
comp=Z,7µm,11.0s
ZEA pmax pmax
comp=E,1µm,12.0s
ZEA pmax pmax
comp=N,2µm,10.0s
ZEA smax smax
comp=Z,4µm,11.0s
ZEA smax smax
comp=N,5µm,14.0s
ZEA smax smax
comp=E,7µm,14.0s
ZEA MLR MLR
comp=N,5µm,14.0s
ZEA MLR MLR
comp=Z,6µm,14.0s
ZEA MLR MLR
comp=E,3µm,15.0s
GTA Gaotai 62.29 321⇓ P **P** **22 25 17.0 +1.5**
GTA pP pP 22 25 41.6 -2.6
GTA sP PcP 22 25 52.9 -1.4
GTA S **S** **22 33 31.6 -1.1**
GTA sS sS 22 34 14.3 -7.7
GTA ScS **SKSac** **22 34 56.0 -0.8**
GTA pmax pmax
comp=E,320nm,1.9s
GTA pmax pmax
comp=E,10µm,8.6s
GTA LR LR
comp=E,5µm,18.1s
GTA LR LR
comp=E,5µm,20.7s
GTA LR LR
comp=E,7µm,24.0s
KKH Kailua Kona 62.56 64 *e*P **P** **22 25 18.9 +1.4**
KKH Kailua Kona 62.56 64 *e*P **P** **22 25 18.9 +1.4**
KHLU Kahalu'u 62.65 64 *e*P **P** **22 25 19.2 +1.0**
comp=E,448nm,1.0s
KHLU *e*PP PP 22 27 27.3 -10
HLK Haleakala 62.70 63 *e*P **P** **22 25 20.0 +1.2**
HUH Hualalai 62.73 64 *e*P **P** **22 25 20.8 +1.8**
KHU Kahuku 62.79 65 *e*P **P** **22 25 20.6 +1.2**
KHU Kahuku 62.79 65 *e*P **P** **22 25 20.6 +1.2**
MLOA Mauna Loa Obse 62.92 64 *e*P **P** **22 25 21.0 +0.6**
comp=E,358nm,1.1s
HPAH Hawaii Prepara 62.96 64 *e*P **P** **22 25 21.3 +1.0**
comp=E,349nm,1.0s
AIN Ainahou 62.97 65 *e*P **P** **22 25 21.6 +1.2**
HMH Humu'ula Sheep 63.02 64 *e*P **P** **22 25 22.8 +1.9**
POHA Pohakuloa 63.02 64 *e*P **P** **22 25 22.9 +1.9**
comp=E,788nm,1.0s
MLH Mauna Loa 63.07 65 *e*P **P** **22 25 23.2 +1.9**
MLH Mauna Loa 63.07 65 *e*P **P** **22 25 23.2 +1.9**
PUH Pauahi 63.19 65 *e*P **P** **22 25 24.8 +3.0**
STCH Steam Cracks 63.27 65 *e*P **P** **22 25 24.1 +1.7**
NPOC North of Pu'u 63.29 65 *e*P **P** **22 25 23.5 +1.0**
JCUZ Jacuzzi 63.30 65 *e*P **P** **22 25 24.4 +1.9**
SMY Shemya 63.39 19 *e*P **P** **22 25 24.6 +2.3**
SMY pmax pmax
comp=Z,540nm,1.1s
SMY Shemya 63.39 19 *e*P **P** **22 25 24.6 +2.3**
comp=Z,540nm,1.1s
SMY *e*PP PP 22 27 34.6 -8.7
HULD Heiheiahulu Di 63.42 65 *e*P **P** **22 25 23.6 +0.3**
LSA Lhasa 63.59 307 P **P** **22 25 27.1 +2.3**
LSA S **S** **22 33 49.6 -0.3**
LSA pmax pmax
comp=Z,640nm,1.0s
LSA LR LR
comp=Z,2µm,28.8s
LSA LR LR
comp=Z,1µm,19.2s
LSA LR LR
comp=Z,4µm,26.4s
LSA Lhasa 63.59 307 *e*P **P** **22 25 27.1 +2.3**
LSA pmax pmax
comp=Z,914nm,0.8s
LSA Lhasa 63.59 307 *e*P **P** **22 25 27.1 +2.3**
comp=Z,914nm,0.8s
LSA Lhasa 63.59 307 P **P** **22 25 27.2 +2.5**
PAE Paea 63.78 107 *e*P **P** **22 25 28.0 +2.4**
comp=Z,26nm,0.7s
PAE Paea 63.78 107 *e*P'P'df P'P'df 22 54 21.7 +1.1
comp=Z,21nm,1.2s
PPT Papeete 63.78 106 P **P** **22 25 27.3 +1.7**
comp=Z,129nm,0.8s,baz=303,slow=2.8,SNR=9.7
PPT LR LR 22 51 23.9
comp=Z,3µm,19.9s,baz=262,slow=34
PPT PKP2bc 22 54 24.4
comp=Z,22nm,0.6s,baz=92,slow=18,SNR=1.9
PPT Papeete 63.78 106 *e*P **P** **22 25 29.2 +3.5**
PPT Papeete 63.78 106 *e*P **P** **22 25 29.2 +3.5**
PPT ⇑*e* 22 54 24.4
PPT2 Papeete2 63.78 106 *e*P **P** **22 25 27.6 +1.9**
comp=Z,307nm,1.5s
PPT2 *e*S **S** **22 33 50.4 -1.5**
comp=Z,27µm,27.2s
PPT2 *e*LQ LQ 22 41 53.0
comp=Z,25µm,28.2s
PPT2 *e*LR LR 22 44 37.4
comp=Z,10µm,25.8s
PPT2 Papeete2 63.78 106 *e*P'P'df P'P'df 22 54 20.8 +0.1
comp=Z,79nm,1.3s
PPTF Pamatai, Papee 63.79 106 *e*P **P** **22 25 26.4 +0.6**
comp=Z,601nm,1.4s
ULN Ulaanbaatar 63.84 332*d i*P **P** **22 25 26.6 +1.0**
ULN *i* *PP **pP** **22 25 52.6 -1.8**
ULN pmax pmax
comp=Z,200nm,1.0s
ULN Ulaanbaatar 63.84 332 *e*P **P** **22 25 26.7 +1.1**
comp=Z,163nm,0.9s
ULN Ulaanbaatar 63.84 332 P **P** **22 25 26.7 +1.1**
SNR=98
TIAR Tiarei 64.00 106 *e*P **P** **22 25 29.1 +2.0**
comp=Z,76nm,0.9s
TIAR Tiarei 64.00 106 *e*P'P'df P'P'df 22 54 21.6 +1.3
comp=Z,38nm,1.1s
TVO Taravao 64.09 107 *e*P **P** **22 25 29.9 +2.1**
comp=Z,60nm,0.9s
TVO Taravao 64.09 107 *e*P'P'df P'P'df 22 54 21.6 +1.4
comp=Z,41nm,1.1s
SONM Songino Array 64.12 331 P **P** **22 25 28.3 +0.8**
comp=Z,191nm,1.1s,baz=153,slow=6.2,SNR=162
SONM S **S** **22 33 56.7 +1.5**
comp=Z,2.1nm,1.0s,baz=42,slow=9.7,SNR=2.3
SONM PKKPab 22 47 25.3
comp=Z,1.4nm,0.8s,baz=297,slow=3.5,SNR=3.8
SONM LR LR 22 54 23.2
comp=Z,7µm,18.6s,baz=140,slow=37
SONM PKP2bc 22 54 24.4
comp=Z,24nm,1.0s,baz=290,slow=2.2,SNR=21
SONA1 Songino Array 64.13 331 *e*P **P** **22 25 28.6 +1.1**
CIT Chita 64.30 338 *e*P **P** **22 25 29.1 +0.7**
CIT *e* 22 26 00.5
CIT *e* 22 26 14.9
CIT *e*S **S** **22 33 59.0 +2.0**
CIT pmax pmax
comp=Z,591nm,1.6s
CASY Casey 64.78 195 *e*P **P** **22 25 32.2 +0.9**
comp=Z,238nm,1.0s
CASY *e*PP **PP** **22 27 51.2 -4.0**
CLNS Chul'man 65.18 347 *e*P **P** **22 25 34.6 +0.6**
CLNS *e**PP **pP** **22 25 59.6 -3.3**
CLNS *e* 22 26 06.9
CLNS *e* 22 27 59.9
CLNS *e*S **S** **22 34 10.7 +3.0**
CLNS *e* 22 35 22.6
CLNS *e*SS **SS** **22 38 23.0 +0.4**
CLNS pmax pmax
comp=N,278nm,1.0s
CLNS pmax pmax
comp=Z,587nm,1.0s
CLNS pmax pmax
comp=E,169nm,0.9s
CLNS smax smax
comp=E,6µm,11.6s
CLNS smax smax
comp=N,2µm,13.8s
PMOR Pomariorio Ree 65.36 104 *e*P **P** **22 25 38.0 +2.1**
comp=N,605nm,0.9s
TAPN Taplejung 65.45 304 *e*P **P** **22 25 38.6 +1.9**
comp=N,3µm,1.2s
TAPN Taplejung 65.45 304 *e*P **P** **22 25 37.2 +0.5**
comp=N,3µm,1.2s
ODAN Odare 65.54 303 *e*P **P** **22 25 39.2 +2.0**
comp=N,2µm,1.0s
ODAN Odare 65.54 303 *e*P **P** **22 25 37.5 +0.3**
comp=N,2µm,1.0s
VAH Vaihoa 65.61 104 *e*P **P** **22 25 39.7 +2.1**
comp=N,378nm,1.1s
MA2 Magadan 65.70 3 LR LR 22 51 47.2
comp=N,2µm,21.7s,baz=188,slow=34
MA2 Magadan 65.70 3*d i*P **P** **22 25 37.1 -0.2**
BOK Bokaro 65.77 299 *e*P **P** **22 25 40.9 +2.5**
BOK IAmb IAmb 22 25 41.7
comp=Z,249nm,0.9s
RAMN Ramite 66.23 303 *e*P **P** **22 25 43.6 +1.9**
comp=Z,956nm,0.6s
RAMN Ramite 66.23 303 *e*P **P** **22 25 41.9 +0.2**
comp=Z,956nm,0.6s
VIS Vishakhapatnam 66.28 292 *i*P **P** **22 25 41.5 -0.2**
VIS *i*x **S** **22 34 27.3 +5.1**
PALK Pallekele 66.52 281 PKP2bc 22 54 19.3
comp=Z,6.7nm,1.1s,baz=283,slow=0.6,SNR=4.1
PALK Pallekele 66.52 281 *i*P **P** **22 25 45.1 +1.7**
PALK Pallekele 66.52 281 *e*P **P** **22 25 45.0 +1.5**
comp=Z,310nm,1.3s
PALK ⇑*e* 22 54 19.3
PALK Pallekele 66.52 281 P **P** **22 25 45.2 +1.7**
SNR=29
PALK Pallekele 66.52 281 *i*P **P** **22 25 45.0 +1.5**
SNR=39
JIRN Jiri 66.82 303 *e*P **P** **22 25 47.4 +1.8**
comp=Z,3µm,1.1s
JIRN Jiri 66.82 303 *e*P **P** **22 25 46.3 +0.7**
comp=Z,2µm,0.9s
GUN Gumba 67.17 304 *e*P **P** **22 25 49.6 +1.9**
GUN Gumba 67.17 304 *e*P **P** **22 25 48.3 +0.6**
comp=Z,3µm,1.1s

ZAK	**Zakamensk**	**67.37**	**332**	*e*P		**P**	**22 25 48.6**	**+0.4**
ZAK				*e*			22 26 16.7	
ZAK					pmax	pmax		
	comp=Z,284nm,1.1s							
ZAK					pmax	pmax		
	comp=Z,237nm,0.9s							
PKI	**Pulchoki**	**67.44**	**303**	*e*P		**P**	**22 25 50.9**	**+1.5**
	comp=Z,1µm,1.1s							
PKI	**Pulchoki**	**67.44**	**303**	*e*P		**P**	**22 25 49.3**	**-0.1**
	comp=Z,1µm,1.1s							
PKIN	**Phulchoki**	**67.45**	**303**	*e*P		**P**	**22 25 50.7**	**+1.3**
	comp=Z,1µm,1.3s							
PKIN	**Phulchoki**	**67.45**	**303**	*e*P		**P**	**22 25 50.1**	**+0.7**
	comp=Z,682nm,0.8s							
KKN	**Kakani**	**67.62**	**303**	*e*P		**P**	**22 25 52.0**	**+1.6**
	comp=Z,2µm,1.0s							
KKN	**Kakani**	**67.62**	**303**	*e*P		**P**	**22 25 50.7**	**+0.3**
	comp=Z,2µm,1.0s							
DMN	**Daman**	**67.70**	**303**	*e*P		**P**	**22 25 53.0**	**+2.0**
DMN	**Daman**	**67.70**	**303**	*e*P		**P**	**22 25 51.4**	**+0.4**
	comp=Z,3µm,1.0s							
PVM	**Polavaram**	**67.73**	**291**	*e*P		**P**	**22 25 50.9**	**-0.1**
PVM					IAmb	IAmb	22 25 53.0	
	comp=Z,439nm,1.2s							
PVM				*e*S		**S**	**22 34 38.6**	**-1.2**
MDRS	**Chennai**	**68.07**	**287**	*e*P		**P**	**22 25 54.6**	**+1.5**
TLY	**Talaya**	**68.09**	**333**	*d*iP		**P**	**22 25 53.4**	**+0.8**
TLY				*e*			22 26 29.9	
TLY				*e*S		**S**	**22 34 40.8**	**-2.2**
TLY				*e*			22 35 31.5	
TLY					pmax	pmax		
	comp=Z,166nm,1.3s							
TLY	**Talaya**	**68.09**	**333**	*e*P		**P**	**22 25 53.5**	**+0.9**
	comp=Z,164nm,1.2s							
TLY				*e*PP		**PP**	**22 28 22.6**	**-1.9**
TLY	**Talaya**	**68.09**	**333**	P		**P**	**22 25 53.6**	**+0.9**
	SNR=86							
IRK	**Irkutsk**	**68.21**	**334**	*e*P		**P**	**22 25 53.3**	**0.0**
IRK				*e*S		**S**	**22 34 49.8**	**+5.5**
GKN	**Gorkha**	**68.23**	**303**	*e*P		**P**	**22 25 55.9**	**+1.7**
GKN	**Gorkha**	**68.23**	**303**	*e*P		**P**	**22 25 54.3**	**+0.1**
	comp=Z,3µm,1.1s							
SKHT	**Srikalahasti**	**68.72**	**287**	*e*P		**P**	**22 25 57.5**	**+0.3**
SKHT					IAmb	IAmb	22 25 59.1	
	comp=Z,561nm,1.2s							
SKHT				*e*S		**S**	**22 34 50.2**	**-1.4**
BOD	**Bodaibo**	**68.89**	**342**	⇑*i*P		**P**	**22 25 56.9**	**-0.5**
BOD					pmax	pmax		
	comp=Z,279nm,1.3s							
ADKI	**Addanki**	**68.94**	**290**	*e*P		**P**	**22 25 59.0**	**+0.5**
ADKI					IAmb	IAmb	22 26 01.2	
	comp=Z,626nm,1.3s							
ADKI				*e*S		**S**	**22 34 54.8**	**+0.7**
KOLN	**Koldanda**	**69.02**	**303**	*e*P		**P**	**22 26 00.8**	**+1.7**
	comp=Z,1µm,0.9s							
KOLN	**Koldanda**	**69.02**	**303**	*e*P		**P**	**22 25 59.2**	**+0.1**
	comp=Z,1µm,0.9s							
DANN	**Dangsing**	**69.07**	**303**	*e*P		**P**	**22 26 01.3**	**+1.7**
DANN	**Dangsing**	**69.07**	**303**	*e*P		**P**	**22 26 00.0**	**+0.4**
	comp=Z,198nm,1.0s							
SEY	**Seymchan**	**69.13**	**3**	PKPPKP			22 54 12.0	
	comp=Z,4.3nm,1.0s,baz=32,slow=2.1,SNR=6.4							
SEY	**Seymchan**	**69.13**	**3**	*d*iP		**P**	**22 25 59.0**	**+0.2**
YAK	**Yakutsk**	**69.22**	**352**	S		**S**	**22 34 52.6**	**-3.1**
	comp=Z,13nm,0.4s,baz=51,slow=3.5,SNR=2.5							
YAK	**Yakutsk**	**69.22**	**352**	*d*iP		**P**	**22 25 59.2**	**-0.1**
YAK				*e*			22 26 20.7	
YAK				*e**PP		**pP**	**22 26 32.5**	**+4.0**
YAK				*e*S		**S**	**22 34 54.5**	**-1.2**
YAK				*e**SS		pS	22 35 20.5	-10
YAK				*e*			22 35 47.2	
YAK				*e*SSS		SSS	22 42 25.1	
YAK					pmax	pmax		
	comp=Z,659nm,1.4s							
YAK					pmax	pmax		
	comp=N,243nm,1.4s							
YAK					pmax	pmax		
	comp=E,65nm,1.8s							
YAK					smax	smax		
	comp=E,11µm,11.1s							
YAK					smax	smax		
	comp=N,11µm,10.9s							
YAK	**Yakutsk**	**69.22**	**352**	*e*P		**P**	**22 25 59.2**	**-0.1**
	comp=N,563nm,0.9s							
YAK				S		**S**	**22 34 52.6**	**-3.1**
MOY	**Mondy**	**69.30**	**332**	*e*P		**P**	**22 26 01.1**	**+0.8**
MOY					pmax	pmax		
	comp=Z,488nm,1.1s							
PYUN	**Piuthan**	**69.63**	**303**	*e*P		**P**	**22 26 04.3**	**+1.4**
PYUN	**Piuthan**	**69.63**	**303**	*e*P		**P**	**22 26 02.6**	**-0.3**
	comp=Z,3µm,1.0s							
NJS	**Nagarjunasagar**	**69.72**	**290**	*e*P		**P**	**22 26 03.3**	**0.0**
NJS					IAmb	IAmb	22 26 04.9	
	comp=Z,368nm,1.2s							
NJS				*e*S		**S**	**22 35 02.8**	**-0.5**
SRLM	**Srisailam**	**70.00**	**290**	*e*P		**P**	**22 26 05.3**	**+0.1**
SRLM					IAmb	IAmb	22 26 09.9	
	comp=Z,492nm,0.8s							
SRLM				*e*S		**S**	**22 35 04.0**	**-2.8**
MIR	**Mirnyy**	**70.23**	**200**	⇓*i*P		**P**	**22 26 07.0**	**+1.4**
MIR				*e*PPP		PPP	22 30 20.0	
MIR					pmax	pmax		
	comp=Z,330nm,1.2s							
MIR					pmax	pmax		
	comp=Z,2µm,10.0s							
RPR	**Rampur**	**70.27**	**292**	*e*P		**P**	**22 26 06.8**	**+0.1**
RPR					IAmb	IAmb	22 26 08.4	
	comp=Z,607nm,1.2s							
RPR				*e*S		**S**	**22 35 10.2**	**+0.5**
KNGR	**Kungurtug, Tuv**	**70.31**	**330**	*i*P		**P**	**22 26 07.4**	**+0.9**
TRD	**Trivandrum**	**70.38**	**281**	*e*P		**P**	**22 26 09.7**	**+2.2**
TRD					IAmb	IAmb	22 26 09.9	
	comp=Z,511nm,1.1s							
HYB	**Hyderabad**	**70.62**	**291**	*i*P		**P**	**22 26 08.0**	**-0.9**
	comp=Z,170nm,1.0s							
HYB				*e*pP		**pP**	**22 26 40.0**	**+1.8**
HYB				*e*PP		**PP**	**22 28 50.0**	**+3.1**
HYB				*e*S		**S**	**22 35 12.0**	**-1.9**
HYB				*e*ScS		**SKSac**	**22 35 56.0**	**-4.6**
HYB	**Hyderabad**	**70.62**	**291**	*e*P		**P**	**22 26 08.8**	**-0.1**
HYB					IAmb	IAmb	22 26 10.3	
	comp=Z,3µm,2.2s							
HYBB	**Hyderabad (bro**	**70.62**	**291**	*e*P		**P**	**22 26 09.0**	**+0.1**
HYBB					IAmb	IAmb	22 26 13.8	
	comp=Z,326nm,0.9s							
HYBB				*e*S		**S**	**22 35 13.5**	**-0.4**
JBP	**Jabalpur**	**70.75**	**297**	⇓*e*P		**P**	**22 26 09.9**	**+0.4**
JBP					AMB	AMB	22 26 11.1	
	comp=Z,683nm,2.6s							
JBP				*e*S		**S**	**22 35 15.3**	**+0.2**
NGP	**Nagpur**	**71.06**	**295**	*e*P		**P**	**22 26 11.7**	**+0.3**
NGP					IAmb	IAmb	22 26 13.4	
	comp=Z,356nm,0.3s							
NGP				*e*S		**S**	**22 35 18.3**	**-0.5**
SRSP	**Sriramsagar**	**71.16**	**292**	*e*P		**P**	**22 26 11.8**	**-0.3**
SRSP					IAmb	IAmb	22 26 13.4	
	comp=Z,636nm,1.2s							
SRSP				*e*S		**S**	**22 35 18.9**	**-1.2**
URV	**Uravakonda**	**71.29**	**288**	*e*P		**P**	**22 26 12.5**	**-0.5**
URV					IAmb	IAmb	22 26 14.7	
	comp=Z,370nm,1.1s							
URV				*e*S		**S**	**22 35 21.4**	**-0.3**
VNDA	**Vanda**	**71.75**	**176**	P		**P**	**22 26 15.1**	**+0.5**
	comp=Z,80nm,0.8s,baz=328,slow=7.0,SNR=181							
VNDA				S		**S**	**22 35 27.6**	**+2.7**
	comp=Z,2.7nm,1.0s,baz=118,slow=19,SNR=7.5							
VNDA				PKP2bc			22 54 01.9	
	comp=Z,1.8nm,1.0s,baz=73,slow=1.4,SNR=4.0							
VNDA				LR		LR	22 57 09.9	
	comp=Z,10µm,18.7s,baz=342,slow=35							
VNDA	**Vanda**	**71.75**	**176**	*e*P		**P**	**22 26 15.4**	**+0.8**
VNDA				S		**S**	**22 35 27.6**	**+2.7**
VNDA					pmax	pmax		
	comp=Z,124nm,0.9s							
VNDA	**Vanda**	**71.75**	**176**	*e*P		**P**	**22 26 15.3**	**+0.8**
	comp=Z,124nm,0.9s							
VNDA				S		**S**	**22 35 27.6**	**+2.7**
VNDA				⇑*e*			22 54 01.9	
UNV	**Unalaska Valle**	**71.86**	**27**	*e*P		**P**	**22 26 16.0**	**+0.5**
	comp=Z,452nm,1.3s							
WMQ	**Urumqi**	**72.32**	**320**	P		**P**	**22 26 20.3**	**+1.6**
WMQ				PcP		**PcP**	**22 26 38.3**	**+2.3**
WMQ				sP		sP	22 26 56.8	-3.9
WMQ				PP		**PP**	**22 29 05.3**	**+4.2**
WMQ				S		**S**	**22 35 34.5**	**+1.9**
WMQ					ScS	**ScS**	**22 36 14.5**	**-0.1**
WMQ					pmax	pmax		
	comp=Z,1µm,1.1s							
WMQ					pmax	pmax		
	comp=Z,20µm,7.3s							
WMQ					LR	LR		
	comp=Z,14µm,21.5s							
WMQ					LR	LR		
	comp=Z,11µm,18.3s							
WMQ					LR	LR		
	comp=Z,17µm,38.3s							
AKUT	**Akutan**	**72.38**	**27**	*e*P		**P**	**22 26 19.2**	**+0.6**
	comp=Z,533nm,1.0s							
SBA	**Scott Base**	**72.41**	**175**	*e*P		**P**	**22 26 20.0**	**+1.5**
SBA					pmax	pmax		
	comp=Z,217nm,1.1s							
SBA	**Scott Base**	**72.41**	**175**	*e*P		**P**	**22 26 20.0**	**+1.5**
	comp=Z,217nm,1.1s							
KLRI	**Killari**	**72.58**	**291**	*e*P		**P**	**22 26 20.4**	**-0.3**
KLRI					IAmb	IAmb	22 26 21.9	
	comp=Z,324nm,1.0s							
KLRI				*e*S		**S**	**22 35 33.3**	**-3.2**
HVS	**Khovu-Aksy**	**72.58**	**328**	*c*iP		**P**	**22 26 20.9**	**+0.8**
HVS					pmax	pmax		
	comp=Z,489nm,1.0s							
H08S2	**Diego Garcia H**	**72.91**	**264**	P		**P**	**22 26 24.9**	**+2.5**
H08S3	**Diego Garcia H**	**72.92**	**264**	P		**P**	**22 26 24.8**	**+2.3**
H08S1	**Diego Garcia H**	**72.93**	**264**	P		**P**	**22 26 25.1**	**+2.6**
DGAR	**Diego Garcia**	**72.97**	**264**	*d*iP		**P**	**22 26 24.4**	**+1.4**
DGAR	**Diego Garcia**	**72.97**	**264**	*e*P		**P**	**22 26 24.2**	**+1.2**
	comp=Z,2µm,1.3s							
BHPL	**Bhopal**	**73.04**	**296**	*e*P		**P**	**22 26 23.4**	**0.0**
BHPL					IAmb	IAmb	22 26 24.4	
	comp=Z,260nm,0.8s							
TAOE	**Nuku Hiva Isla**	**73.15**	**97**	*e*P		**P**	**22 26 26.0**	**+1.8**
	comp=Z,870nm,1.4s							
TAOE				*e*S		**S**	**22 35 39.3**	**-3.9**
	comp=Z,6µm,27.2s							
TAOE	**Nuku Hiva Isla**	**73.15**	**97**	*e*P		**P**	**22 26 25.8**	**+1.6**
	comp=Z,213nm,0.8s							
FALS	**False Pass**	**73.91**	**28**	*e*P		**P**	**22 26 29.0**	**+1.4**
	comp=Z,3µm,1.9s							
DDI	**Dehra Dun**	**74.42**	**304**	*e*P		**P**	**22 26 31.8**	**+0.6**
DDI				*e*P		**P**	**22 26 33.1**	**+1.9**
H08N1	**Diego Garcia H**	**74.47**	**265**	P		**P**	**22 26 29.1**	**-2.3**
H08N2	**Diego Garcia H**	**74.49**	**265**	P		**P**	**22 26 30.5**	**-1.0**
H08N3	**Diego Garcia H**	**74.50**	**265**	P		**P**	**22 26 31.1**	**-0.4**
GOA	**Goa**	**74.65**	**288**	*e*P		**P**	**22 26 34.4**	**+1.7**
POO	**Poona**	**75.23**	**291**	⇓*i*P		P	22 26 28.0	-8.1
	comp=Z,86nm,1.0s							
POO				*i* PP		PP	22 29 41.5	+15
POO				*e*PPP		PPP	22 31 34.5	
POO				*e*SKS		S	22 36 40.0	+34
POO				*i* S		**ScS**	**22 36 48.0**	**+9.1**
POO				*i* SCS		SKKSac	22 37 01.0	+25
POO				*e*SS		SS	22 42 15.5	+77
POO				*e*SSS		SSS	22 45 40.5	
POO				*e*LQ		LQ	22 48 53.5	
POO				*e*LR		LR	22 52 50.0	
POO	**Poona**	**75.23**	**291**	*e*P		**P**	**22 26 37.1**	**+1.0**
SMLA	**Simla**	**75.38**	**304**	*e*P		**P**	**22 26 38.2**	**+1.5**
BILL	**Bilibino**	**75.46**	**8**	*d*iP		**P**	**22 26 36.5**	**+0.2**
BILL				*i* S		S	22 35 57.4	-9.3
BILL					pmax	pmax		
	comp=Z,294nm,1.3s							
SDPT	**Sand Point**	**75.57**	**28**	*e*P		**P**	**22 26 38.9**	**+1.8**
	comp=Z,1µm,1.2s							
BOM	**Bombay**	**76.26**	**291**	*i* x		**P**	**22 26 46.4**	**+4.5**
BOM					AMb	AMB	22 26 55.3	
	comp=Z,836nm,7.5s							
BOM				*ex*		x	22 36 04.7	
DHRM	**DHARAMSHALA**	**76.41**	**305**	*e*P		**P**	**22 26 42.8**	**0.0**
GAMB	**Gambell**	**76.69**	**18**	*e*P		**P**	**22 26 44.0**	**+0.6**
	comp=Z,160nm,1.0s							
MK01	**Makanchi Array**	**77.03**	**321**	*e*P		**P**	**22 26 46.8**	**+1.1**
MK31	**Makanchi Array**	**77.04**	**321**	*ce*P		**P**	**22 26 46.8**	**+1.0**
MK31					pmax	pmax		
	comp=Z,236nm,0.7s							
MK31	**Makanchi Array**	**77.04**	**321**	*e*P		**P**	**22 26 46.8**	**+1.0**
MKAR	**Makanchi Array**	**77.04**	**321**	P		**P**	**22 26 46.7**	**+1.0**
	comp=Z,249nm,0.8s,baz=98,slow=8.2,SNR=555							
MKAR				S		**S**	**22 36 26.1**	**+1.2**
	comp=Z,3.6nm,1.0s,baz=111,slow=8.0,SNR=4.4							
MKAR				PKKP		**PKKPdf**	**22 45 43.6**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=290,slow=3.5,SNR=4.6							
MKAR				PKKPbc		**PKKPbc**	**22 45 52.8**	**-2.3**
	comp=Z,4.1nm,0.9s,baz=282,slow=2.7,SNR=7.3							
MKAR				PKKPab			22 46 27.5	
	comp=Z,1.4nm,0.7s,baz=321,slow=3.1,SNR=5.1							
MKAR				PKP2bc			22 53 50.4	
	comp=Z,2.5nm,0.9s,baz=298,slow=2.6,SNR=8.0							
MKAR				PKPPKP		**P'P'df**	**22 53 58.4**	**+3.0**
	comp=Z,6.4nm,1.0s,baz=309,slow=2.5,SNR=9.7							
MKAR				LR		LR	23 03 08.9	
	comp=Z,3µm,18.6s,baz=108,slow=37							
MKAR	**Makanchi Array**	**77.04**	**321**	*e*P		**P**	**22 26 46.8**	**+1.0**
MKAR				S		**S**	**22 36 26.1**	**+1.2**
MKAR					pmax	pmax		
	comp=Z,1µm,0.8s							
MKAR	**Makanchi Array**	**77.04**	**321**	*e*P		**P**	**22 26 46.8**	**+1.0**
	comp=Z,1µm,0.8s							
MKAR				S		**S**	**22 36 26.1**	**+1.2**
MKAR				PKKP		**PKKPdf**	**22 45 43.6**	**+1.4**
MKAR				PKKPbc		**PKKPbc**	**22 45 52.8**	**-2.3**
MKAR				PKKPab			22 46 27.5	
MKAR				⇑*e*			22 53 50.4	
MKAR				P'P'			22 53 58.4	
CHGN	**Chignik**	**77.06**	**28**	*e*P		**P**	**22 26 47.4**	**+1.8**
	comp=Z,938nm,1.5s							
MAKZ	**Makanchi**	**77.25**	**321**	*e*P		**P**	**22 26 47.8**	**+0.9**
MAKZ					pmax	pmax		
	comp=Z,500nm,0.9s							
MAKZ	**Makanchi**	**77.25**	**321**	*e*P		**P**	**22 26 47.8**	**+0.9**
	comp=Z,500nm,0.9s							
RKT	**Rikitea**	**77.50**	**112**	*e*P		**P**	**22 26 50.2**	**+1.4**
	comp=Z,259nm,1.1s							
RKT				*e*pP		**pP**	**22 27 18.3**	**-0.3**
	comp=Z,232nm,1.0s							
RKT				*e*S		**S**	**22 36 29.5**	**-1.3**
	comp=Z,11µm,28.5s							
RKT	**Rikitea**	**77.50**	**112**	*e*LQ		LQ	22 47 42.0	
	comp=Z,7µm,31.5s							
RKT				*e*LR		LR	22 51 01.0	
	comp=Z,10µm,38.5s							
PDGK	**Podgornoye**	**77.56**	**317**	*i*P		**P**	**22 26 50.6**	**+1.7**
PDGK					pmax	pmax		
	comp=Z,599nm,1.0s							
UZB	**Uzynbulak**	**77.81**	**316**	⇓*i*P		**P**	**22 26 51.5**	**+1.1**
	comp=Z,8µm,1.2s							
UZB				*i* sP		**sP**	**22 27 31.4**	**-1.3**
UZB				*i* S		**S**	**22 36 35.3**	**+1.6**
KPKS	**Kokpek**	**78.16**	**317**	*i*P		**P**	**22 26 53.3**	**+1.2**
	comp=Z,515nm,1.2s							
KPKS				*i* S		**S**	**22 36 38.8**	**+1.6**
SATY	**Saty**	**78.21**	**316**	⇓*i*P		**P**	**22 26 53.7**	**+1.2**
	comp=Z,10µm,1.2s							
SATY				*i* sP		**sP**	**22 27 33.9**	**-1.0**
SATY				*i* S		**S**	**22 36 39.6**	**+1.7**
TIXI	**Tiksi**	**78.53**	**355**	S		**S**	**22 36 35.1**	**-4.8**
	comp=Z,1.4nm,0.3s,baz=278,slow=22,SNR=7.2							
TIXI	**Tiksi**	**78.53**	**355**	*d*iP		**P**	**22 26 52.1**	**-1.4**
TIXI					pmax	pmax		
	comp=Z,147nm,1.2s							
TIXI	**Tiksi**	**78.53**	**355**	*e*P		**P**	**22 26 51.8**	**-1.6**
	comp=Z,94nm,0.9s							
TIXI				S		**S**	**22 36 35.1**	**-4.8**
ZAA0	**Zalesovo Array**	**78.68**	**328**	*e*P		**P**	**22 26 54.0**	**-0.6**
	comp=Z,222nm,0.8s							
ZAA0				*e*PP		**PP**	**22 29 52.3**	**-2.0**
ZALV	**Zalesovo Beam**	**78.68**	**328**	P		**P**	**22 26 54.0**	**-0.6**
	comp=Z,252nm,0.7s,baz=115,slow=4.8,SNR=301							
ZALV				PP		**PP**	**22 29 53.4**	**-0.9**
	comp=Z,25nm,1.0s,baz=144,slow=8.9,SNR=3.8							
ZALV				PKiKP		**PKiKP**	**22 32 29.6**	**+0.5**
	comp=Z,6.3nm,0.7s,baz=64,slow=3.4,SNR=3.7							
ZALV				S		**S**	**22 36 38.7**	**-3.4**
	comp=Z,3.9nm,0.9s,baz=96,slow=14,SNR=3.7							
ZALV				PKKPbc		**PKKPbc**	**22 45 50.6**	**-1.2**
	comp=Z,6.2nm,0.8s,baz=298,slow=2.5,SNR=10							
ZALV				PKKPab		PKKPab	22 46 21.7	
	comp=Z,5.7nm,0.8s,baz=283,slow=2.6,SNR=6.3							
ZALV				PKP2bc			22 53 42.6	
	comp=Z,3.1nm,0.9s,baz=318,slow=2.0,SNR=5.8							
ZALV				PKPPKP		**P'P'df**	**22 53 56.9**	**+5.0**
	comp=Z,12nm,0.9s,baz=285,slow=2.9,SNR=14							
ZALV					LR	LR	23 02 55.1	
	comp=Z,3µm,18.9s,baz=129,slow=36							
KSH	**Kashi**	**78.79**	**312**	P		**P**	**22 26 58.3**	**+2.5**
KSH				PcP		**PcP**	**22 27 07.0**	**+2.8**
KSH				sP		sP	22 27 39.4	+1.2
KSH				S		**S**	**22 36 43.5**	**-0.8**
KSH				SKS		**SKSac**	**22 36 55.3**	**-5.3**
KSH				ScS		**SKKSac**	**22 37 04.5**	**+2.5**
KSH					pmax	pmax		
	comp=Z,1µm,1.4s							
KSH					pmax	pmax		
	comp=Z,7µm,8.8s							
KSH					LR	LR		
	comp=Z,2µm,13.8s							
KSH					LR	LR		
	comp=Z,6µm,19.3s							
KSH					LR	LR		
	comp=Z,6µm,18.8s							
TDK	**Taldyqorghan**	**78.88**	**318**	*i*P		**P**	**22 26 56.9**	**+0.9**
	comp=Z,13µm,1.1s							
TDK				*i* S		**S**	**22 36 46.0**	**+1.3**
MDOK	**Medeo**	**79.18**	**316**	*i*P		**P**	**22 26 59.0**	**+1.2**
	comp=Z,4µm,0.9s							
MDOK				*i* S		**S**	**22 36 49.9**	**+1.7**
AAA	**Alma-Ata**	**79.28**	**316**	*e*P		**P**	**22 26 59.8**	**+1.5**
AAA					pmax	pmax		
	comp=Z,5µm,10.2s							
AAA	**Alma-Ata**	**79.28**	**316**	⇓*i*P		**P**	**22 27 00.1**	**+1.8**
	comp=Z,2µm,1.3s							
AAA				*e*S		**S**	**22 36 51.3**	**+2.1**
ULHL	**Ulahol**	**79.45**	**315**	P		**P**	**22 27 01.1**	**+1.7**
	SNR=22							
SEM	**Semipalatinsk**	**79.72**	**324**	⇓*i*P		**P**	**22 26 60.0**	**-0.7**
	comp=Z,2µm,0.9s							
SEM				*e*PP		**PP**	**22 30 02.3**	**-1.1**
SEM				*i* S		**S**	**22 36 52.0**	**-1.8**
KUU	**Kurty**	**79.90**	**316**	⇓*i*P		**P**	**22 27 02.5**	**+0.9**
	comp=Z,5µm,1.3s							
KUU				*i* S		**S**	**22 36 57.1**	**+1.6**
NVS	**Novosibirsk**	**79.91**	**329**	⇑*i*P		**P**	**22 27 01.6**	**+0.3**
NVS				*e**PP		**pP**	**22 27 35.4**	**+4.2**
NVS				*e*S		**S**	**22 36 52.6**	**-2.4**
NVS					pmax	pmax		
	comp=Z,163nm,0.8s							
NVS					pmax	pmax		
	comp=N,54nm,0.8s							
NVS					pmax	pmax		
	comp=E,74nm,0.8s							
NVS					smax	smax		
	comp=E,235nm,2.4s							
OHAK	**Old Harbor**	**79.97**	**29**	*e*P		**P**	**22 27 03.8**	**+2.3**
	comp=E,718nm,1.4s							
BHJ	**Bhuj**	**80.01**	**295**	*e*P		**P**	**22 27 02.7**	**+0.2**
BHJ					IAmb	IAmb	22 27 05.6	
	comp=Z,631nm,1.0s							
KZA	**Kyzart**	**80.09**	**314**	P		**P**	**22 27 05.1**	**+1.9**
	SNR=1594							
TKM2	**Tokmak 2**	**80.11**	**315**	P		**P**	**22 27 04.3**	**+1.4**
	SNR=102							
BMNS	**Besmoynak**	**80.12**	**316**	⇓*i*P		**P**	**22 27 04.1**	**+1.2**
	comp=Z,5µm,0.9s							
BMNS				*i* S		**S**	**22 36 59.8**	**+1.7**
KBK	**Karagaybulak**	**80.48**	**315**	P		**P**	**22 27 05.9**	**+1.0**
	SNR=327							
KDAK	**Kodiak Island**	**80.56**	**28**	S		S	22 36 48.0	-14
	comp=Z,4.9nm,0.9s,baz=221,slow=20,SNR=1.9							
KDAK					LR	LR	22 56 24.7	
	comp=Z,5µm,21.9s,baz=265,slow=31							
KDAK	**Kodiak Island**	**80.56**	**28**	*i*P		**P**	**22 27 05.2**	**+0.5**
KDAK	**Kodiak Island**	**80.56**	**28**	*e*P		**P**	**22 27 06.2**	**+1.4**
	comp=Z,631nm,1.2s							
KDAK				S		S	22 36 48.0	-14
UCH	**Uchtor**	**80.66**	**314**	P		**P**	**22 27 07.7**	**+1.5**
	SNR=977							
CHMS	**Chumysh**	**80.72**	**315**	P		**P**	**22 27 07.0**	**+1.0**
	SNR=441							
SFK	**Sufi-Kurgan**	**80.76**	**312**	*i*P		**P**	**22 27 06.9**	**+0.4**
SFK					pmax	pmax		
	comp=Z,1µm,1.2s							
FRU	**Bishkek**	**80.77**	**315**	⇓*i*P		**P**	**22 27 08.0**	**+1.8**
FRU				*i*			22 27 34.0	
FRU				*i* S		**S**	**22 37 07.0**	**+2.3**
FRU				*e*PS		**PnS**	**22 38 00.0**	**-6.6**
FRU					pmax	pmax		
	comp=Z,2µm,2.0s							
FRU					pmax	pmax		
	comp=Z,10µm,8.0s							
FRU					smax	smax		
	comp=E,5µm,10.0s							
AAK	**Ala-Archa**	**80.80**	**315**	P		**P**	**22 27 08.1**	**+1.5**
	comp=E,589nm,1.1s,baz=91,slow=4.8,SNR=185							
AAK				S		**S**	**22 37 06.0**	**+0.8**
	comp=E,10nm,1.1s,baz=200,slow=22,SNR=6.0							
AAK	**Ala-Archa**	**80.80**	**315**	*d*iP		**P**	**22 27 07.8**	**+1.2**
AAK					pmax	pmax		
	comp=Z,515nm,1.0s							
AAK	**Ala-Archa**	**80.80**	**315**	P		**P**	**22 27 08.0**	**+1.5**
	SNR=117							
AAK	**Ala-Archa**	**80.80**	**315**	*e*P		**P**	**22 27 08.0**	**+1.5**
	comp=Z,541nm,1.0s							
AAK				S		**S**	**22 37 06.0**	**+0.8**
AAK	**Ala-Archa**	**80.80**	**315**	P		**P**	**22 27 08.1**	**+1.5**
	SNR=343							
AAK				S		**S**	**22 37 07.4**	**+2.1**
AAK	**Ala-Archa**	**80.80**	**315**	*i*P		**P**	**22 27 08.1**	**+

comp=Z,790nm,1.2s
KKAR Karatay Array 83.74 314 *e*P P **22 27 22.6 +0.9**
KKAR Karatay Array 83.74 314 *e*P P **22 27 22.6 +0.9**
QSPA South Pole Qui 83.75 180 P P **22 27 21.3 -0.1**
comp=Z,295nm,0.9s,baz=287,slow=0.3,SNR=296
QSPA S S **22 37 29.8 -4.7**
comp=Z,6.2nm,1.1s,baz=197,slow=19,SNR=7.2
QSPA PKKPbc **PKKPbc 22 45 38.3 -2.7**
comp=Z,2.8nm,0.7s,baz=217,slow=2.3,SNR=6.0
QSPA LR LR 23 05 52.4
comp=Z,10μm,18.3s,baz=6.5,slow=36
QSPA South Pole Qui 83.75 180 *e*P P **22 27 21.4 -0.1**
QSPA *e*PcP **PcP 22 27 21.6 -3.6**
QSPA S S **22 37 29.8 -4.7**
QSPA PKKPbc **PKKPbc 22 45 38.3 -2.7**
PMR Palmer 83.83 26 *e*P P **22 27 21.3 -0.4**
PMR pmax pmax
comp=Z,782nm,1.5s
PMR Palmer 83.83 26 *e*P P **22 27 21.3 -0.4**
comp=Z,782nm,1.5s
PMR *e*PP **PP 22 30 29.4 -7.3**
IUG Iuzhnay 83.85 313⇓ *i*P P **22 27 23.6 +1.2**
comp=Z,7μm,1.1s
KTH Kantishna Hill 83.95 24 *e*P P **22 27 21.3 -1.1**
comp=Z,1μm,1.6s
KTH *e*PP **PP 22 30 34.8 -2.9**
BRZS Berezniki 84.15 322⇓ *i*P P **22 27 24.5 +0.9**
comp=Z,655nm,0.9s
TRF Thorofare Moun 84.16 24 *e*P P **22 27 22.5 -1.1**
comp=Z,594nm,1.7s
BPAW Bear Paw Mtn. 84.18 23 *e*P P **22 27 22.9 -0.6**
comp=Z,397nm,1.3s
BPAW *e*PP **PP 22 30 38.4 -1.1**
CHM Chimkent 84.20 314⇓ *i*P P **22 27 25.7 +1.6**
comp=Z,10μm,1.4s
CHM *i* PP **PP 22 30 41.0 +0.8**
BRLS Boroldaу 84.20 314⇓ *i*P P **22 27 25.5 +1.4**
comp=Z,177nm,1.0s
BRLS *e*PP **PP 22 30 40.9 +0.7**
MID Middleton Isla 84.22 28 *e*P P **22 27 25.0 +1.3**
MID pmax pmax
comp=Z,310nm,0.9s
MID Middleton Isla 84.22 28 *e*P P **22 27 25.0 +1.3**
comp=Z,310nm,0.9s
SML Sawmill 84.27 26 *e*P P **22 27 23.9 -0.1**
SML pmax pmax
comp=Z,1μm,1.4s
SML Sawmill 84.27 26 *e*P P **22 27 23.9 -0.1**
comp=Z,1μm,1.4s
GLI Glacier Island 84.44 27 *e*P P **22 27 24.8 0.0**
comp=Z,390nm,0.6s
MLY Manley 84.70 22 *e*P P **22 27 26.1 0.0**
comp=Z,629nm,1.2s
SCM Sheep Creek Mo 84.72 26 *e*P P **22 27 26.3 0.0**
SCM pmax pmax
comp=Z,921nm,1.3s
SCM Sheep Creek Mo 84.72 26 *e*P P **22 27 26.3 0.0**
comp=Z,921nm,1.3s
RND Reindeer 84.72 24 *e*P P **22 27 25.4 -0.9**
RND pmax pmax
comp=Z,643nm,1.1s
RND Reindeer 84.72 24 *e*P P **22 27 25.4 -0.9**
comp=Z,643nm,1.1s
MCK McKinley 84.83 24 *e*P P **22 27 25.8 -1.0**
MCK *e* 22 30 44.1
MCK pmax pmax
comp=Z,949nm,1.2s
MCK McKinley 84.83 24 *e*P P **22 27 25.8 -1.0**
comp=Z,949nm,1.2s
MCK *e*PP **PP 22 30 44.1 -0.7**
EYAK Cordova Ski Ar 84.92 27 *e*P P **22 27 27.6 +0.5**
comp=Z,582nm,1.6s
EYAK *e*PP **PP 22 30 46.5 +1.0**
DIV Divide 85.13 27 *e*P P **22 27 28.5 +0.2**
comp=Z,1μm,1.5s
NRIK Noril'sk 85.19 342 LR LR 23 05 52.7
comp=Z,2μm,20.6s,baz=242,slow=36
DHY Denali Highway 85.20 25 *e*P P **22 27 28.5 -0.2**
comp=Z,329nm,0.8s
KLU Klutina 85.20 27 *e*P P **22 27 28.9 +0.2**
comp=Z,521nm,1.1s
RAGM Ragged Mountai 85.36 28 *e*P P **22 27 30.0 +0.6**
comp=Z,872nm,1.3s
RAGM *e*PP **PP 22 30 49.2 0.0**
WRH Wood River Hil 85.48 23 *e*P P **22 27 28.9 -1.0**
comp=Z,560nm,1.2s
BMRM Bremner River 85.60 27 *e*P P **22 27 30.6 0.0**
comp=Z,712nm,1.4s
BMRM *e*PP **PP 22 30 52.3 +1.2**
MDM Murphy Dome 85.63 23 *e*P P **22 27 29.5 -1.2**
comp=Z,288nm,1.4s
MDM *e*PP **PP 22 30 50.5 -0.7**
CCB Clear Creek Bu 85.66 23 *e*P P **22 27 29.6 -1.2**
comp=Z,768nm,1.3s
HARP HAARP 85.88 26 *e*P P **22 27 32.3 +0.3**
comp=Z,194nm,0.8s
COLD Coldfoot 85.89 20 *e*P P **22 27 32.4 +0.5**
comp=Z,272nm,1.3s
HDA Harding Lake 85.91 24 *e*P P **22 27 30.9 -1.1**
comp=Z,154nm,0.7s
HDA *e*PP **PP 22 30 51.9 -1.5**
PAX Paxson 85.96 25 *e*P P **22 27 32.2 -0.3**
PAX pmax pmax
comp=Z,700nm,1.6s
PAX Paxson 85.96 25 *e*P P **22 27 32.2 -0.3**
comp=Z,700nm,1.6s
IL1 Eielson Array 86.07 23 *e*P P **22 27 31.6 -1.3**
ILAR Eielson Array 86.07 23 P P **22 27 31.2 -1.6**
comp=Z,230nm,0.6s,baz=252,slow=4.5,SNR=540
ILAR PKiKP **PKiKP 22 32 41.7 +1.2**
comp=Z,2.7nm,0.7s,baz=281,slow=3.3,SNR=3.7
ILAR S **SKSac 22 37 42.4 -5.3**
comp=Z,1.1nm,0.9s,baz=291,slow=2.8,SNR=2.5
ILAR PKKPbc **PKKPbc 22 45 32.0 -3.1**
comp=Z,2.4nm,0.9s,baz=358,slow=1.7,SNR=7.2
ILAR PKKPab PKKPab 22 46 06.2
comp=Z,3.4nm,0.8s,baz=313,slow=0.7,SNR=6.8
ILAR PKPPKP **P'P'df** 22 53 27.9 -10
comp=Z,0.7nm,0.8s,baz=49,slow=1.0,SNR=4.4
ILAR LR LR 23 04 30.5
comp=Z,3μm,19.2s,baz=260,slow=34
ILB Eielson Array 86.07 23 *e*P P **22 27 31.2 -1.6**
BVAR Borovoye Array 86.37 324 P P **22 27 34.6 +0.1**
comp=Z,175nm,0.8s,baz=108,slow=4.7,SNR=188
BVAR PKiKP **PKiKP 22 32 41.8 +0.4**
comp=Z,13nm,0.8s,baz=116,slow=3.4,SNR=4.4
BVAR S **SKSac 22 37 45.4 -4.7**
comp=Z,5.0nm,0.9s,baz=50,slow=4.5,SNR=3.2
BVAR PKKPbc **PKKPbc 22 45 32.9 -0.9**
comp=Z,1.3nm,0.5s,baz=302,slow=3.2,SNR=6.7
BVAR PKKPab PKKPab 22 46 03.0
comp=Z,2.6nm,0.8s,baz=305,slow=5.1,SNR=2.5
BVAR PKPPKP **P'P'df 22 53 36.6 -1.5**
comp=Z,1.3nm,0.9s,baz=1.4,slow=5.8,SNR=6.6
BRVK Borovoye 86.44 324*d i*P P **22 27 34.6 -0.3**
BRVK pmax pmax
comp=Z,140nm,0.9s
BRVK Borovoye 86.44 324 *e*P P **22 27 34.9 0.0**
comp=Z,183nm,1.1s
BRVK Borovoye 86.44 324 P P **22 27 34.8 -0.1**
SNR=67
RIDG Independ'e Rid 86.50 25 *e*P P **22 27 34.7 -0.3**
comp=Z,1μm,1.5s
RIDG *e*PP **PP 22 30 57.7 -0.6**
BALM Baldy 86.66 28 *e*P P **22 27 36.5 +0.5**
BALM pmax pmax
comp=Z,1μm,1.5s
BALM Baldy 86.66 28 *e*P P **22 27 36.5 +0.5**
comp=Z,1μm,1.5s
MENT Mentasta 86.69 26 *e*P P **22 27 36.3 +0.3**
comp=Z,186nm,0.7s
TOLK Toolik Lake Re 86.73 19 P P **22 27 36.9 +0.8**
baz=244
TOLK SKSac **SKSac 22 37 49.3 -2.5**
baz=244
TOLK Toolik Lake Re 86.73 19 *e*P P **22 27 36.7 +0.7**
comp=Z,966nm,1.9s
DOT Dot Lake 86.80 25 *e*P P **22 27 36.3 -0.2**
comp=Z,2μm,1.2s
SCRK Sand Creek 86.94 25 *e*P P **22 27 36.9 -0.4**
comp=Z,166nm,1.0s
SCRK *e*PP **PP 22 31 02.3 +0.4**
FYU Fort Yukon 87.40 22 *e*P P **22 27 39.9 +0.7**
comp=Z,498nm,1.1s
RER Riviere de l'E 88.03 249 *e*P P **22 27 44.5 +1.1**
comp=Z,245nm,0.8s
EGAK Eagle 88.37 24 *e*P P **22 27 43.8 -0.1**
comp=Z,1μm,1.7s
HYT Haines Junctio 88.86 28 *e*P P **22 27 46.2 -0.2**
comp=Z,795nm,1.6s
DAWY Dawson 88.89 25 *e*P P **22 27 46.9 +0.5**
comp=Z,976nm,1.4s
SIT Sitka 89.05 32 *e*P P **22 27 48.5 +1.3**
SIT pmax pmax
comp=Z,368nm,1.5s
SIT Sitka 89.05 32 *e*P P **22 27 48.5 +1.3**
comp=Z,368nm,1.5s
SKAG Skagway 89.59 30 *e*P P **22 27 51.1 +1.5**
comp=Z,392nm,1.4s
BESE Bessie Mountai 89.63 31 *e*P P **22 27 51.2 +1.2**
comp=Z,386nm,1.2s
WBK Wadi Bani Khal 89.64 293 P P **22 27 52.3 +1.4**
SNR=26
DIB Dawson Inlet, 89.87 37 *e*P P **22 27 51.5 +0.3**
comp=Z,87nm,0.7s
H02S1 DAWSON INLET T 89.87 37 P P **22 27 52.0 +0.9**
CRAG Craig 89.92 34 *e*P P **22 27 53.2 +1.8**
comp=Z,329nm,1.5s
WSAR Wadi Sarin 90.02 293 P P **22 27 53.4 +0.8**
comp=Z,127nm,0.8s,baz=128,slow=6.3,SNR=83
WSAR S **SKSac 22 38 14.1 +0.9**
comp=Z,1.6nm,0.7s,baz=162,slow=20,SNR=3.4
WSAR PKKPbc **PKKPbc 22 45 25.1 +1.5**
comp=Z,3.2nm,0.5s,baz=267,slow=8.6,SNR=17
SYO Syowa Base 90.05 200⇑ *i*P P **22 27 50.9 -0.8**
WHY Whitehorse 90.07 29 *e*P P **22 27 53.2 +1.1**
comp=Z,256nm,1.6s
JMDO Jabal Madar 90.41 292 P P **22 27 55.9 +1.5**
SNR=12
BIDO Bidbid 90.52 293 P P **22 27 55.5 +0.7**
SNR=52
BIDO S **SKSac 22 38 17.7 +1.7**
SMDO Samad 90.53 293 P P **22 27 57.1 +2.0**
SNR=17
HOQ Hoqain 91.27 293 P P **22 27 59.9 +1.5**
SNR=12
BSY Bisya 91.28 293 P P **22 28 00.8 +2.4**
SNR=22
ARQ Araqi 91.96 293 P P **22 28 04.1 +2.5**
SNR=21
SOHO SOHO 92.03 294 *i* P P **22 28 01.8 0.0**
SNR=83
DLBC Dease Lake 92.10 32 *e*P P **22 28 02.1 +0.6**
comp=Z,285nm,1.6s
AB31 Akbulak array 92.10 319*c e*P P **22 28 00.8 -0.8**
AB31 pmax pmax
comp=Z,247nm,1.0s
ABKAR Akbulak array 92.10 319 *e*P P **22 28 00.9 -0.7**
comp=Z,1μm,0.8s
GEYT Alibeck 92.12 308 P P **22 28 02.6 +0.5**
comp=Z,213nm,0.8s,baz=119,slow=1.9,SNR=266
GEYT S **SKSac 22 38 24.9 +0.2**
comp=Z,0.4nm,0.4s,baz=120,slow=6.5,SNR=1.9
GEYT PKKPbc **PKKPbc 22 45 20.4 +1.5**
comp=Z,1.4nm,0.6s,baz=255,slow=4.3,SNR=4.5
GEYT PKKPab PKKPab 22 45 57.5
comp=Z,2.3nm,0.7s,baz=224,slow=4.0,SNR=3.1
GEYT LR LR 23 13 29.2
comp=Z,2μm,19.7s,baz=80,slow=38
INK Inuvik 92.22 22 PKiKP **PKiKP 22 32 51.4 +0.7**
baz=230,slow=7.9
INK S **SKSac 22 38 21.2 -2.5**
comp=Z,1.7nm,0.8s,baz=36,slow=30,SNR=11
INK PKKPbc **PKKPdf 22 45 16.4 -0.4**
comp=Z,3.9nm,0.8s,baz=88,slow=3.6,SNR=9.0
INK PKKPab PKKPab 22 45 50.1
comp=Z,5.8nm,0.7s,baz=61,slow=2.7,SNR=6.7
INK PKPPKP **P'P'df 22 53 27.7 +1.4**
comp=Z,1.1nm,0.9s,baz=356,slow=5.9,SNR=3.6
INK LR LR 23 06 09.0
comp=Z,7μm,21.2s,baz=273,slow=33
INK Inuvik 92.22 22 *e*P P **22 28 01.0 -0.8**
INK S **SKSac 22 38 21.3 -2.5**
INK 22 45 16.4
INK pmax pmax
comp=Z,196nm,1.2s
INK Inuvik 92.22 22 *e*P P **22 28 00.9 -0.8**
comp=Z,196nm,1.2s
INK PKiKP **PKiKP 22 32 51.4 +0.7**
INK S **SKSac 22 38 21.2 -2.5**
INK PKKPbc **PKKPdf 22 45 16.4 -0.4**
INK PKKPab PKKPab 22 45 50.1
INK P'P' 22 53 27.7
SHAO Shalim 92.26 288 P P **22 28 03.5 +0.4**
SNR=6.1
SHAO S **SKSac 22 38 26.6 +0.5**
SHAO Shalim 92.26 288 *i* P P **22 28 03.5 +0.4**
SNR=12
BBB Bella Bella 92.34 38 LR LR 23 01 57.2
comp=Z,4μm,20.5s,baz=270,slow=30
BBB Bella Bella 92.34 38 *e*P P **22 28 03.8 +1.2**
comp=Z,253nm,1.1s
MDH Madha 92.36 295 *i* P P **22 28 03.0 -0.4**
SNR=21
UOSS Minazif 92.41 295 *e*P P **22 28 03.4 -0.3**
comp=Z,77nm,0.8s
UOSS *e*PP **PP 22 31 47.6 +1.3**
UOSS Minazif 92.41 295 *i* P P **22 28 03.3 -0.3**
SNR=52
BANOM Banah 92.42 296 P P **22 28 04.7 +1.0**
SNR=61
BANOM Banah 92.42 296 *i* P P **22 28 04.3 +0.6**
SNR=102
HATD Hatta, Dubai 92.47 295 P P **22 28 04.2 +0.4**
SNR=28
HATD Hatta, Dubai 92.47 295 *i* P P **22 28 04.3 +0.4**
SNR=43
ASHO Ashiyiah 92.52 294 P P **22 28 04.4 +0.2**
SNR=23
ASHO Ashiyiah 92.52 294 *i* P P **22 28 03.9 -0.3**
SNR=12
SVE Sverdlovsk 92.63 327 *e*P P **22 28 03.0 -0.9**
SVE *e* 22 33 50.1
SVE *e*S **SKSac 22 38 24.3 -2.2**
SVE *e* 22 48 53.7
SVE pmax pmax
comp=Z,133nm,1.7s
NAZ Nazwa, Dubai 92.91 295 P P **22 28 06.0 +0.1**
SNR=13
NAZ Nazwa, Dubai 92.91 295 *i* P P **22 28 05.9 0.0**
SNR=22
UMQ Umm Al-Quwin 92.96 295 P P **22 28 07.1 +1.0**
AKTO Aktyubinsk 93.47 320 P P **22 28 07.1 -0.8**
comp=Z,57nm,0.9s,baz=100,slow=5.7,SNR=132
AKTO S **SKSac 22 38 31.6 +0.2**
comp=Z,2.6nm,0.9s,baz=237,slow=22,SNR=7.4
AKTO PKKPbc **PKKPdf 22 45 14.3 +0.1**
comp=Z,3.5nm,0.8s,baz=343,slow=2.6,SNR=4.4
AKTO PKKPab PKKPab 22 45 48.7
comp=Z,4.5nm,1.0s,baz=244,slow=5.8,SNR=3.8
AKTO LR LR 23 10 01.0
comp=Z,4μm,21.8s,baz=92,slow=35
AKTO Aktyubinsk 93.47 320 P P **22 28 07.1 -0.8**
AKTO S **SKSac 22 38 31.7 +0.2**
AKTO pmax pmax
comp=Z,57nm,0.9s
AKTO smax smax
comp=N,3.0nm,0.9s
AKTO MLR MLR
comp=Z,4μm,21.8s
AJN Ajban 93.48 294 P P **22 28 08.4 -0.1**
RBK Rabkut 93.56 287 P P **22 28 09.1 0.0**
SNR=5.8
ARU Arti 93.72 326 P P **22 28 07.5 -1.4**
comp=Z,34nm,0.7s,baz=107,slow=1.6,SNR=76
ARU PKKPbc **PKKPdf 22 45 13.8 0.0**
comp=Z,6.5nm,0.8s,baz=258,slow=2.2,SNR=5.8
ARU Arti 93.72 326*d i*P P **22 28 06.9 -2.0**
ARU *PP **pP 22 28 37.1 -2.4**
ARU 22 31 53.0
ARU S **SKSac 22 38 30.6 -1.9**
ARU PS **PS 22 40 28.3 -9.1**
ARU pmax pmax
comp=Z,258nm,2.5s
ARU Arti 93.72 326 *e*P P **22 28 07.6 -1.3**
comp=Z,113nm,1.1s
ARU PKKPbc **PKKPdf 22 45 13.8 0.0**
JCC Jacoby Creek, 93.99 50 *e*P P **22 28 11.8 +1.3**
comp=Z,432nm,1.5s
WHFO Wadi Hawf 94.01 288 P P **22 28 11.2 0.0**
SNR=6.6
KMRM Mail Ridge 94.19 50 *e*P P **22 28 13.6 +2.0**
comp=Z,584nm,1.6s
KMRM *e*PP **PP 22 32 01.3 +1.5**
KHMM Horse Mountain 94.22 49 *e*P P **22 28 14.3 +2.5**
comp=Z,205nm,1.1s
KCPM Cahto Peak 94.24 51 *e*P P **22 28 13.8 +1.9**
comp=Z,343nm,1.2s
L02D Cave Junction, 94.42 48 P P **22 28 13.4 +0.9**
baz=266
HOPS Hopland Field 94.58 51 *e*P P **22 28 14.8 +1.5**
comp=Z,421nm,1.5s
HOPS *e*PP **PP 22 32 00.2 -2.7**
NLWA Neilton Lookou 94.61 43 *e*P P **22 28 16.4 +3.1**
comp=Z,367nm,1.5s
I03D Drain, OR 94.72 47 P P **22 28 13.8 0.0**
baz=266,SNR=7.9
F03A Seaside 94.72 44 *e*P P **22 28 16.5 +2.7**
comp=Z,353nm,1.4s
E03A Lebam 94.76 44 *e*P P **22 28 16.2 +2.3**
comp=Z,227nm,1.3s
GDXM Geysers 94.79 52 *e*P P **22 28 16.1 +1.7**
comp=Z,197nm,1.3s
GDXM *e*PP **PP 22 32 05.5 +1.0**
G03D McMinnville, O 94.88 45 P P **22 28 15.2 +0.7**
baz=266
M02C Callahan 94.92 49 P P **22 28 16.0 +1.1**
baz=266,SNR=32
SOKR Solikamsk 94.92 329*d i*P P **22 28 10.6 -3.7**
SOKR 22 31 59.4
SOKR S **SKSac 22 38 37.7 -1.0**
SOKR SS **SS 22 45 45.5 -0.3**
SOKR pmax pmax
comp=Z,103nm,1.4s
SOKR MLR MLR
comp=Z,5μm,19.0s
HUMO Hull Mountain 94.93 48 *e*P P **22 28 15.2 +0.4**
comp=Z,107nm,1.2s
PGC Sidney 94.98 42 *e*P P **22 28 15.9 +1.0**
comp=Z,411nm,1.6s
N02D Trinity Center 95.00 49 P P **22 28 16.2 +0.9**
baz=266,SNR=28
YBH Yreka Blue Hor 95.05 49 P P **22 28 16.4 +0.9**
comp=Z,122nm,1.2s,baz=178,slow=3.2,SNR=31
YBH PKKPbc **PKKPbc 22 45 11.5 0.0**
comp=Z,2.7nm,0.8s,baz=27,slow=2.3,SNR=3.3
YBH LR LR 23 03 15.4
comp=Z,9μm,22.0s,baz=265,slow=30
YBH Yreka Blue Hor 95.05 49 *e*P P **22 28 17.4 +1.9**
comp=Z,249nm,1.4s
YBH PKKPbc **PKKPbc 22 45 11.5 0.0**
WDC Whiskeytown Da 95.10 50 *e*P P **22 28 15.9 +0.2**
WDC pmax pmax
comp=Z,350nm,1.5s
WDC Whiskeytown Da 95.10 50 *e*P P **22 28 15.9 +0.2**
comp=Z,350nm,1.5s
F04D Rainier, OR 95.12 44 P P **22 28 16.1 +0.5**
baz=266
I04A Tendick Farm, 95.40 47 P P **22 28 17.2 +0.2**
baz=267,SNR=10
A04D Lummi Island 95.48 42 P P **22 28 18.0 +0.9**
baz=267
RDG13 Poverty Ridge 95.52 53 *e*P P **22 28 18.9 +1.2**
comp=Z,348nm,1.5s
RDG13 *e*PP **PP 22 32 09.8 -0.5**
J04D Umpqua Nationa 95.59 47 P P **22 28 18.4 +0.4**
baz=267,SNR=13
H04A Detroit Lake 95.61 46 *e*P P **22 28 18.7 +0.7**
comp=Z,100nm,1.3s
O03D Paynes Creek 95.65 50 P P **22 28 18.2 -0.1**
baz=267,SNR=41
M04C Macdoel 95.70 49 P P **22 28 19.1 +0.5**
baz=267,SNR=11
SAO San Andreas Ge 95.72 54 *e*P P **22 28 18.8 +0.3**
SAO pmax pmax
comp=Z,157nm,1.6s
SAO San Andreas Ge 95.72 54 *e*P P **22 28 18.8 +0.3**
comp=Z,157nm,1.6s
K04D Chiloquin, OR 95.81 48 P P **22 28 19.1 +0.1**
baz=267
ORV Oroville 95.84 51 *e*P P **22 28 19.0 0.0**
ORV *e* 22 32 15.6
ORV pmax pmax
comp=Z,143nm,1.1s
ORV Oroville 95.84 51 *e*P P **22 28 19.0 0.0**
comp=Z,143nm,1.1s
ORV *e*PP **PP 22 32 15.6 +3.1**
B05A Bryant 95.86 42 P P **22 28 19.6 +0.7**
baz=267
B05A SKSac **SKSac 22 38 43.1 -1.2**
baz=267
D05A Enumclaw 95.88 43 *e*P P **22 28 21.1 +2.1**
comp=Z,630nm,1.7s
LON Longmire 95.98 44 *e*P P **22 28 19.3 -0.3**
LON pmax pmax
comp=Z,82nm,1.4s
LON Longmire 95.98 44 *e*P P **22 28 19.3 -0.3**
comp=Z,82nm,1.4s
LLLB Lillooet 96.10 40 *e*P P **22 28 20.1 +0.1**
comp=Z,352nm,1.8s
I05D Terrebonne, OR 96.20 46 P P **22 28 20.9 +0.3**
baz=267,SNR=16
PMPB Monarch Peak 96.20 54 *e*P P **22 28 22.5 +1.7**
comp=Z,386nm,1.8s
AFDM Forest Hills D 96.22 52 *e*P P **22 28 21.5 +0.7**
comp=Z,382nm,1.6s
J05D Fort Rock, OR 96.23 47 P P **22 28 21.4 +0.5**
baz=267,SNR=16
ABPO Ambohimpanom 96.24 250 *e*P P **22 28 21.8 +0.3**
ABPO pmax pmax
comp=Z,55nm,1.1s
ABPO Ambohimpanom 96.24 250 *e*P P **22 28 21.8 +0.3**
comp=Z,55nm,1.1s
G05D Wamic, OR 96.26 45 P P **22 28 21.6 +0.7**
baz=268,SNR=7.8
B06A Marblemount 96.28 42 *e*P P **22 28 21.3 +0.6**
comp=Z,296nm,1.6s
OPO Ambohidratompo 96.34 251 P P **22 28 22.3 +0.3**
comp=Z,69nm,0.9s,baz=92,slow=5.8,SNR=51
OPO LR LR 23 11 22.5
comp=Z,8μm,18.8s,baz=94,slow=35
PINE Pine Mountain 96.46 47 *e*P P **22 28 22.9 +0.9**
comp=Z,95nm,1.1s
PAGB Antelope Grade 96.63 55 *e*P P **22 28 24.1 +1.3**
comp=Z,254nm,1.6s
CMB Columbia Colle 96.63 53 *e*P P **22 28 23.3 +0.6**
CMB *e* 22 32 21.6
CMB pmax pmax
comp=Z,139nm,1.6s
CMB Columbia Colle 96.63 53 *e*P P **22 28 23.3 +0.6**
comp=Z,139nm,1.6s
CMB *e*PP **PP 22 32 21.6 +2.9**
C06D Leavenworth 96.65 43 P P **22 28 22.8 +0.3**
baz=268
G06A Carlson Farm, 96.74 45 *e*P P **22 28 24.2 +1.2**
comp=Z,92nm,1.5s
LTY Liberty 96.78 43 *e*P P **22 28 23.6 +0.4**
comp=Z,274nm,1.6s
SMMC Simmler 96.81 55 P P **22 28 24.7 +1.1**
baz=267,SNR=13
RUBR Rubicon Trail 96.86 51 *e*P P **22 28 25.2 +1.2**
comp=Z,748nm,2.0s
MOD Modoc Plateau 96.86 49 *e*P P **22 28 24.7 +0.9**
comp=Z,147nm,1.4s
PKM Mcpherson Peak 96.94 56 P P **22 28 25.3 +0.9**
baz=267,SNR=28
SBC Santa Barbara 97.00 56 P Pdif 22 28 25.3 +0.8
baz=267
SCZ2 Santa Cruz Isl 97.05 57 P Pdif 22 28 24.9 +0.1
baz=267
SNCC San Nicolas Is 97.10 57 P Pdif 22 28 26.1 +1.1
baz=267
SNCC San Nicolas Is 97.10 57 *e*P Pdif 22 28 26.7 +1.7
comp=Z,130nm,1.1s
F07A Phinny Hill Vi 97.25 45 *e*P Pdif 22 28 27.1 +1.8
comp=Z,274nm,1.7s
VCNR Virginia City 97.26 51 *e*P Pdif 22 28 27.1 +1.3
comp=Z,50nm,1.0s
E07A Sunnyside 97.32 44 *e*P Pdif 22 28 26.6 +1.0
comp=Z,500nm,1.8s
NVL N'lazarevskaya 97.35 194 *e*P Pdif 22 28 25.4 +0.1
NVL *e*SP pP 22 28 59.3 +3.5
NVL *e*S **SKSac 22 38 50.8 -0.5**
NVL *e*SS **S 22 39 37.4 -1.6**
NVL *e*PS PS 22 41 01.2 -15
NVL pmax pmax
comp=Z,38nm,1.3s
WAKR Walker 97.39 52 *e*P Pdif 22 28 27.6 +1.1
comp=Z,212nm,2.0s
WAKR *e*PP **PP 22 32 19.8 -5.1**
RCTC Rector, Farmer 97.47 54 P Pdif 22 28 26.6 +0.1

	baz=268									
PAHR	**Pah Rah Range**	**97.48**	**51**	*e*P		Pdif		22 28 27.7	+1.0	
	comp=Z,239nm,1.9s									
PAHR				*e*PP		**PP**		**22 32 18.7**	**-6.7**	
I07A	**Izee**	**97.51**	**46**	*e*P		Pdif		22 28 27.8	+1.1	
	comp=Z,46nm,1.1s									
BLG	**Laguna Peak, P**	**97.52**	**56**	P		**P**		**22 28 26.7**	**-0.1**	
	baz=268									
HAWA	**Hanford**	**97.54**	**44**	*e*P		Pdif		22 28 27.7	+1.1	
	comp=Z,461nm,1.8s									
YERR	**Yerington**	**97.56**	**52**	*e*P		Pdif		22 28 28.4	+1.2	
	comp=Z,104nm,1.4s									
VES	**Vestal, Richgr**	**97.58**	**55**	P		**P**		**22 28 26.5**	**-0.4**	
	baz=268,SNR=13									
MDPB	**Devils Postpil**	**97.65**	**53**	*e*P		Pdif		22 28 28.6	+0.9	
	comp=Z,208nm,1.9s									
B08A	**Colville Reser**	**97.71**	**42**	*e*P		Pdif		22 28 27.4	0.0	
	comp=Z,327nm,1.8s									
B08A				*e*PP		**PP**		**22 32 28.4**	**+1.7**	
ARVC	**Arvin**	**97.76**	**55**	P		Pdif		22 28 28.4	+0.5	
	baz=268									
OSI	**Osito Audit: C**	**97.83**	**56**	P		Pdif		22 28 29.0	+0.7	
	baz=268									
OSI	**Osito Audit: C**	**97.83**	**56**	*e*P		Pdif		22 28 29.4	+1.1	
	comp=Z,190nm,1.7s									
MLAC	**Mammoth, Mammc**	**97.84**	**53**	P		Pdif		22 28 28.6	+0.1	
	baz=268									
E08A	**Dider Farm, El**	**97.87**	**44**	*e*P		Pdif		22 28 29.1	+1.1	
	comp=Z,413nm,1.6s									
SCI2	**San Clemente I**	**97.91**	**58**	P		**P**		**22 28 28.1**	**-0.4**	
	baz=268									
G08A	**Pilot Rock**	**97.92**	**45**	*e*P		Pdif		22 28 29.1	+0.5	
	comp=Z,141nm,1.4s									
D08A	**Wollman Farm,**	**97.97**	**43**	*e*P		Pdif		22 28 29.9	+1.4	
	comp=Z,86nm,1.0s									
CIS	**Catalina Islan**	**98.04**	**57**	Pdiff		Pdif		22 28 30.1	+0.9	
	baz=268									
ISA	**Isabella, Lake**	**98.07**	**55**	Pdiff		**P**		**22 28 29.1**	**-0.2**	
	baz=268									
ISA	**Isabella, Lake**	**98.07**	**55**	*e*P		Pdif		22 28 29.5	+0.2	
ISA				pmax		pmax				
	comp=Z,55nm,1.3s									
ISA	**Isabella, Lake**	**98.07**	**55**	*e*P		Pdif		22 28 29.5	+0.1	
	comp=Z,55nm,1.3s									
WVOR	**Wild Horse Val**	**98.11**	**48**	*e*P		Pdif		22 28 30.2	+0.8	
WVOR				pmax		pmax				
	comp=Z,60nm,1.2s									
WVOR	**Wild Horse Val**	**98.11**	**48**	*e*P		Pdif		22 28 30.2	+0.8	
	comp=Z,60nm,1.2s									
RYN	**Ryan**	**98.11**	**52**	*e*P		Pdif		22 28 30.0	+0.5	
	comp=Z,98nm,1.4s									
RYN				*e*PP		**PP**		**22 32 28.4**	**-1.9**	
DECC	**Green Verdugo**	**98.14**	**56**	Pdiff		Pdif		22 28 29.9	+0.3	
	baz=268									
FMP	**Fort Macarthur**	**98.15**	**57**	Pdiff		Pdif		22 28 30.6	+1.0	
	baz=268									
J08A	**Circle Bar Ran**	**98.24**	**47**	*e*P		Pdif		22 28 30.6	+0.7	
	comp=Z,50nm,0.9s									
PASC	**Pasadena Art C**	**98.26**	**56**	*e*P		Pdif		22 28 31.3	+1.2	
	comp=Z,167nm,1.5s									
NV01	**Mina Array Sit**	**98.28**	**52**	*e*P		Pdif		22 28 30.9	+0.5	
NVAR	**Mina Array Bea**	**98.28**	**52**	P		Pdif		22 28 31.1	+0.7	
NVAR	comp=Z,21nm,0.8s,baz=252,slow=7.6,SNR=57			PP		**PP**		**22 32 33.6**	**+2.0**	
	comp=Z,6.3nm,1.0s,baz=262,slow=8.3,SNR=4.3									
NVAR				PKiKP		**PKiKP**		**22 33 02.6**	**+0.1**	
	comp=Z,9.9nm,1.0s,baz=250,slow=4.8,SNR=3.6									
NVAR				S		**SKSac**		**22 39 01.2**	**+3.5**	
	comp=Z,1.3nm,0.9s,baz=318,slow=1.2,SNR=2.3									
NVAR				PKKPbc		**PKKPbc**		**22 45 03.5**	**+0.8**	
	comp=Z,2.5nm,0.7s,baz=158,slow=2.3,SNR=7.3									
NVAR				PKKPab		PKKPab		22 45 33.3		
	comp=Z,1.9nm,0.7s,baz=124,slow=3.6,SNR=4.0									
NVAR				PKPPKP		P'P'df		22 53 05.0	-12	
	comp=Z,0.8nm,0.9s,baz=90,slow=1.8,SNR=3.5									
NVAR				LR		LR		23 09 05.9		
	comp=Z,3μm,19.2s,baz=91,slow=33									
TIN	**Tinemaha, Big**	**98.31**	**54**	Pdiff		Pdif		22 28 30.8	+0.4	
	baz=268									
MWC	**Mount Wilson**	**98.36**	**56**	*e*P		Pdif		22 28 31.9	+1.1	
MWC				pmax		pmax				
	comp=Z,178nm,1.4s									
MWC	**Mount Wilson**	**98.36**	**56**	*e*P		Pdif		22 28 31.9	+1.1	
	comp=Z,178nm,1.4s									
NV11	**Mina Array Sit**	**98.40**	**52**	*e*P		Pdif		22 28 31.6	+0.8	
	comp=Z,9.3nm,1.6s									
CWC	**Cottonwood Cre**	**98.41**	**54**	Pdiff		Pdif		22 28 31.1	+0.2	
	baz=268									
C09A	**Chrisman Ranch**	**98.41**	**43**	*e*P		Pdif		22 28 31.1	+0.6	
	comp=Z,77nm,1.0s									
EDW2	**Edwards Air Fo**	**98.44**	**56**	Pdiff		Pdif		22 28 31.4	+0.4	
	baz=268									
KVN	**Kaiserville**	**98.45**	**52**	*e*P		Pdif		22 28 32.1	+1.0	
KVN				*e*				22 32 32.8		
KVN				pmax		pmax				
	comp=Z,196nm,2.0s									
KVN	**Kaiserville**	**98.45**	**52**	*e*P		Pdif		22 28 32.1	+0.9	
	comp=Z,196nm,2.0s									
KVN				*e*PP		**PP**		**22 32 32.8**	**-0.1**	
E09A	**Wood Farm, Sta**	**98.50**	**44**	*e*P		Pdif		22 28 31.3	+0.4	
	comp=Z,260nm,1.3s									
BFSC	**Mount Baldy Ra**	**98.69**	**56**	Pdiff		Pdif		22 28 33.0	+0.8	
	baz=268									
LRMC	**Laurel Mtn Rad**	**98.71**	**55**	Pdiff		Pdif		22 28 32.9	+0.6	
	baz=269									
DAC	**Darwin (Calif)**	**98.80**	**54**	*e*P		Pdif		22 28 33.5	+0.8	
DAC				pmax		pmax				
	comp=Z,83nm,1.3s									
DAC	**Darwin (Calif)**	**98.80**	**54**	*e*P		Pdif		22 28 33.5	+0.8	
	comp=Z,83nm,1.3s									
MPMC	**Manual Prospec**	**98.88**	**55**	Pdiff		Pdif		22 28 33.6	+0.6	
	baz=269									
GRAC	**Grapevine Rang**	**99.00**	**54**	Pdiff		Pdif		22 28 34.2	+0.8	
	baz=269									
MURC	**Murrieta**	**99.06**	**57**	Pdiff		**Pdif**		**22 28 33.8**	**+0.1**	
	baz=269									
BMO	**Blue Mountains**	**99.09**	**46**	*e*P		**Pdif**		**22 28 33.8**	**+0.1**	
BMO				pmax		pmax				
	comp=Z,229nm,1.6s									
BMO	**Blue Mountains**	**99.09**	**46**	*e*P		**Pdif**		**22 28 33.8**	**+0.1**	
	comp=Z,229nm,1.6s									
109C	**Camp Elliot, M**	**99.12**	**58**	Pdiff		**Pdif**		**22 28 34.7**	**+0.8**	
	baz=268									
CPE	**Camp Elliot**	**99.12**	**58**	*e*P		**Pdif**		**22 28 35.2**	**+1.2**	
	comp=Z,95nm,1.4s									
CPE				*e*PP		**PP**		**22 32 33.3**	**-4.6**	
F10A	**Beach Ranch, E**	**99.14**	**45**	*e*P		**Pdif**		**22 28 33.9**	**0.0**	
	comp=Z,90nm,1.0s									
BMN	**Battle Mountai**	**99.15**	**50**	*e*P		**Pdif**		**22 28 34.5**	**+0.3**	
BMN				pmax		pmax				
	comp=Z,53nm,1.4s									
BMN	**Battle Mountai**	**99.15**	**50**	*e*P		**Pdif**		**22 28 34.5**	**+0.3**	
	comp=Z,53nm,1.4s									
NEW	**Newport**	**99.18**	**42**	P		**Pdif**		**22 28 34.5**	**+0.5**	
	comp=Z,33nm,0.8s,baz=256,slow=4.9,SNR=27									
NEW				S		**SKSac**		**22 38 58.9**	**-2.6**	
	comp=Z,0.7nm,0.4s,baz=49,slow=19,SNR=4.0									
NEW	**Newport**	**99.18**	**42**	Pdiff		**Pdif**		**22 28 34.1**	**+0.1**	
	baz=271									
NEW	**Newport**	**99.18**	**42**	*e*P		**Pdif**		**22 28 34.6**	**+0.7**	
NEW				S		**SKSac**		**22 38 58.9**	**-2.6**	
NEW				pmax		pmax				
	comp=Z,83nm,1.1s									
NEW	**Newport**	**99.18**	**42**	*e*P		**Pdif**		**22 28 34.6**	**+0.7**	
	comp=Z,83nm,1.1s									
NEW				S		**SKSac**		**22 38 58.9**	**-2.6**	
RRX	**Edison Barstow**	**99.26**	**56**	Pdiff		**Pdif**		**22 28 35.2**	**+0.6**	
	baz=269									
BBRC	**Big Bear Solar**	**99.31**	**56**	Pdiff		**Pdif**		**22 28 35.1**	**0.0**	
	baz=269									
FURC	**Furnace Creek,**	**99.39**	**54**	Pdiff		**Pdif**		**22 28 35.5**	**+0.4**	
	baz=269									
GSC	**Goldstone, Bar**	**99.42**	**55**	Pdiff		**Pdif**		**22 28 35.7**	**+0.4**	
	baz=269									
GSC	**Goldstone, Bar**	**99.42**	**55**	*e*P		**Pdif**		**22 28 36.4**	**+1.0**	
GSC				pmax		pmax				
	comp=Z,118nm,1.8s									
GSC	**Goldstone, Bar**	**99.42**	**55**	*e*Pdif		**Pdif**		**22 28 36.4**	**+1.0**	
	comp=Z,118nm,1.8s									
LKRN	**Lenkeran, Azer**	**99.49**	**308**	P		**Pdif**		**22 28 35.5**	**0.0**	
SNAA	**Sanae**	**99.61**	**190**	Pdiff		**Pdif**		**22 28 35.1**	**-0.3**	
SNAA				SKS		**SKSac**		**22 39 02.2**	**-0.6**	
SNAA	**Sanae**	**99.61**	**190**	P		**Pdif**		**22 28 34.8**	**-0.6**	
	comp=Z,24nm,1.0s,baz=141,slow=4.2,SNR=27									
SNAA				S		**SKSac**		**22 38 56.9**	**-5.9**	
	comp=Z,1.5nm,0.9s,baz=131,slow=20,SNR=1.8									
SNAA				PKKPbc		**PKKPbc**		**22 44 58.0**	**-1.8**	
	comp=Z,2.5nm,0.6s,baz=247,slow=6.6,SNR=8.3									
SNAA				LR		LR		23 12 05.9		
	comp=Z,8μm,21.7s,baz=144,slow=34									
SNAA	**Sanae**	**99.61**	**190**	*de*P		**Pdif**		**22 28 35.4**	**0.0**	
SNAA				pmax		pmax				
	comp=Z,1μm,1.0s									
SNAA	**Sanae**	**99.61**	**190**	*e*Pdif		**Pdif**		**22 28 34.9**	**-0.6**	
	comp=Z,61nm,1.4s									
SNAA				S		**SKSac**		**22 38 56.9**	**-5.9**	
SNAA				PKKPbc		**PKKPbc**		**22 44 58.0**	**-1.8**	
PFO	**Pinyon Flats O**	**99.68**	**57**	Pdiff		**Pdif**		**22 28 37.2**	**+0.6**	
	baz=269									
PFO	**Pinyon Flats O**	**99.68**	**57**	*e*P		**Pdif**		**22 28 37.0**	**+0.4**	
PFO				pmax		pmax				
	comp=Z,54nm,1.4s									
PFO	**Pinyon Flats O**	**99.68**	**57**	*e*Pdif		**Pdif**		**22 28 37.0**	**+0.4**	
	comp=Z,54nm,1.4s									
XPFO	**Piæon Flat**	**99.68**	**57**	*e*Pdif		**Pdif**		**22 28 37.1**	**+0.5**	
	comp=Z,58nm,1.4s									
MONP2	**Monument Peak**	**99.69**	**58**	Pdiff		**Pdif**		**22 28 37.5**	**+0.8**	
	baz=269									
HEC	**Hector,Ludlow**	**99.80**	**56**	Pdiff		**Pdif**		**22 28 37.7**	**+0.7**	
	baz=269									
YKW3	**Yellowknife Ar**	**99.81**	**28**	*e*Pdif		**Pdif**		**22 28 35.8**	**-0.5**	
	comp=Z,74nm,1.2s									
YKW3				*e*PP		**PP**		**22 32 40.3**	**-1.9**	
YKA	**Yellowknife Ar**	**99.83**	**28**	P		**Pdif**		**22 28 35.8**	**-0.6**	
	comp=Z,15nm,0.6s,baz=271,slow=5.0,SNR=145									
YKA				PP		**PP**		**22 32 42.8**	**+0.5**	
	comp=Z,4.7nm,0.9s,baz=275,slow=7.1,SNR=4.7									
YKA				PKiKP		**PKiKP**		**22 33 04.2**	**+0.1**	
	comp=Z,4.8nm,0.8s,baz=267,slow=1.2,SNR=12									
YKA				PKKPbc		**PKKPbc**		**22 44 55.7**	**-3.3**	
	comp=Z,4.9nm,0.8s,baz=87,slow=2.1,SNR=4.7									
YKA				PKKPab		PKKPab		22 45 21.4		
	comp=Z,3.4nm,0.7s,baz=96,slow=4.8,SNR=11									
YKA				PKPPKP		**P'P'df**		**22 53 12.2**	**0.0**	
	comp=Z,0.8nm,1.0s,baz=90,slow=2.9,SNR=3.9									
YKA				LR		LR		23 13 12.4		
	comp=Z,176nm,19.5s,baz=0.0,slow=35									
YKB5	**Yellowknife Ar**	**99.83**	**28**	*e*Pdif		**Pdif**		**22 28 37.3**	**+0.9**	
SHOC	**Shoshone, Teco**	**99.86**	**55**	Pdiff		**Pdif**		**22 28 37.5**	**+0.3**	
	baz=270									
IKP	**In-Ko-Pah, Jac**	**99.95**	**58**	Pdiff		**Pdif**		**22 28 38.7**	**+0.9**	
	baz=269									
BELC	**Belle Mtn. Jos**	**100.07**	**57**	Pdiff		**Pdif**		**22 28 38.7**	**+0.4**	
	baz=269									
TUQ	**Turquoise Moun**	**100.14**	**55**	Pdiff		**Pdif**		**22 28 39.1**	**+0.4**	
	baz=270									
MFID	**Camas Ranch**	**100.17**	**47**	*e*Pdif		**Pdif**		**22 28 39.4**	**+0.9**	
MFID				*e*PP		**PP**		**22 32 42.8**	**-2.9**	
SWSC	**Sam W. Stewart**	**100.22**	**58**	Pdiff		**Pdif**		**22 28 39.6**	**+0.7**	
	baz=269									
AKT	**Akhty**	**100.29**	**311**	ǁ *i*P		**Pdif**		**22 28 38.4**	**-0.7**	
AKT				*e*				22 32 45.0		
AKT				*e*PPP		PPP		22 34 56.9		
AKT				*e*				22 39 06.6		
AKT				pmax		pmax				
	comp=Z,104nm,0.9s									
GMRC	**Granite Mounta**	**100.35**	**56**	Pdiff		**Pdif**		**22 28 40.3**	**+0.7**	
	baz=270									
R11A	**Troy Canyon, C**	**100.42**	**52**	Pdiff		**Pdif**		**22 28 39.7**	**-0.2**	
	baz=270									
R11A	**Troy Canyon, C**	**100.42**	**52**	*e*Pdif		**Pdif**		**22 28 40.8**	**+0.9**	
MAK	**Makhachkala**	**100.43**	**312**	*e*P		**Pdif**		**22 28 39.1**	**-0.4**	
MAK				*e*				22 32 46.3		
MAK				*e*S		**SKSac**		**22 39 07.7**	**+0.1**	
MAK				*e**SS		SKKSac		22 39 59.5	+17	
MAK				*e**SS		pS		22 39 59.8	-46	
MAK				*e*SS		**SS**		**22 47 01.4**	**-2.7**	
MAK				pmax		pmax				
	comp=Z,158nm,0.9s									
MAK				pmax		pmax				
	comp=Z,1μm,4.1s									
MAK				smax		smax				
	comp=N,608nm,1.8s									
MAK				smax		smax				
	comp=E,3μm,2.9s									
MAK				MLR		MLR				
	comp=Z,3μm,16.0s									
BC3	**Big Chuckawall**	**100.52**	**57**	Pdiff		**Pdif**		**22 28 41.0**	**+0.7**	
	baz=270									
SEKA	**Sheki**	**100.69**	**311**	P		**Pdif**		**22 28 40.5**	**-0.4**	
SHPR	**Sheep Range**	**100.76**	**54**	*e*Pdif		**Pdif**		**22 28 43.2**	**+1.8**	
SHPR				*e*PP		**PP**		**22 32 50.4**	**-0.1**	
IRM	**Iron Mountain**	**100.78**	**57**	Pdiff		**Pdif**		**22 28 42.2**	**+0.8**	
	baz=270									
MNGR	**Mingechevir, A**	**100.79**	**310**	P		**Pdif**		**22 28 41.3**	**+0.1**	
LDFC	**Landfair**	**100.81**	**56**	*e*Pdif		**Pdif**		**22 28 43.6**	**+2.0**	
VNA2	**Neumayer--Watz**	**100.99**	**189**	Pdiff		**Pdif**		**22 28 41.5**	**0.0**	
	baz=141,slow=3.7									
VNA2				SKS		**SKSac**		**22 39 08.2**	**-1.2**	
VNA3	**Neumayer Olymp**	**101.02**	**188**	Pdiff		**Pdif**		**22 28 41.3**	**-0.4**	
VNA3				SKS		**SKSac**		**22 39 07.9**	**-1.7**	
GLA	**Glamis**	**101.04**	**58**	Pdiff		**Pdif**		**22 28 44.3**	**+1.7**	
	baz=270									
GLA	**Glamis**	**101.04**	**58**	*e*P		**Pdif**		**22 28 44.9**	**+2.4**	
GLA	**Glamis**	**101.04**	**58**	*e*Pdif		**Pdif**		**22 28 44.9**	**+2.4**	
JTMT	**Jette**	**101.11**	**43**	*e*Pdif		**Pdif**		**22 28 42.5**	**-0.1**	
ZKTA	**Zakatala**	**101.12**	**311**	P		**Pdif**		**22 28 42.7**	**0.0**	
HLID	**Hailey**	**101.20**	**47**	Pdiff		**Pdif**		**22 28 43.6**	**+0.4**	
	baz=272									
HLID	**Hailey**	**101.20**	**47**	*e*Pdif		**Pdif**		**22 28 44.9**	**+1.7**	
HLID				*e*PP		**PP**		**22 32 51.3**	**-2.3**	
NEE2	**Needles Airpor**	**101.21**	**56**	Pdiff		**Pdif**		**22 28 44.1**	**+0.9**	
	baz=270									
WALA	**Waterton Lakes**	**101.28**	**41**	*e*Pdif		**Pdif**		**22 28 45.3**	**+2.0**	
WALA				*e*PP		**PP**		**22 32 52.6**	**-1.3**	
Y12C	**Blythe**	**101.29**	**57**	Pdiff		**Pdif**		**22 28 44.3**	**+0.7**	
	baz=270									
Y12C	**Blythe**	**101.29**	**57**	*e*Pdif		**Pdif**		**22 28 44.9**	**+1.3**	
EDM	**Edmonton**	**101.33**	**37**	*e*P		**Pdif**		**22 28 45.1**	**+1.8**	
EDM	**Edmonton**	**101.33**	**37**	*e*Pdif		**Pdif**		**22 28 45.1**	**+1.8**	
VNA1	**Neumayer--Stat**	**101.36**	**188**	Pdiff		**Pdif**		**22 28 42.7**	**-0.4**	
GANJ	**Ganja**	**101.37**	**310**	P		**Pdif**		**22 28 43.8**	**0.0**	
MSO	**Missoula**	**101.39**	**44**	Pdiff		**Pdif**		**22 28 43.7**	**-0.2**	
	baz=273									
MSO	**Missoula**	**101.39**	**44**	*e*Pdif		**Pdif**		**22 28 45.2**	**+1.4**	
MSO				*e*PP		**PP**		**22 32 52.1**	**-2.6**	
PDMCI	**Parker Dam,Lak**	**101.61**	**56**	Pdiff		**Pdif**		**22 28 45.4**	**+0.4**	
	baz=270									
GROC	**Groznyy**	**101.67**	**313**	*e*P		**Pdif**		**22 28 44.2**	**-0.9**	
GROC				*e*				22 32 56.2		
GROC				pmax		pmax				
	comp=Z,88nm,1.0s									
W13A	**Hualapai Mount**	**101.81**	**56**	*e*Pdif		**Pdif**		**22 28 48.0**	**+1.9**	
113A	**Mohawk Valley,**	**101.93**	**58**	*e*Pdif		**Pdif**		**22 28 48.4**	**+2.0**	
NAX	**Nakhchivan**	**102.05**	**309**	P		**Pdif**		**22 28 46.9**	**-0.1**	
DGRG	**David-gareji**	**102.06**	**311**	P		**Pdif**		**22 28 46.1**	**-0.8**	
DGRG	**David-gareji**	**102.06**	**311**	*e*P		**Pdif**		**22 28 46.1**	**-0.8**	
RAYN	**Ar Rayn**	**102.07**	**293**	*e*Pdif		**Pdif**		**22 28 47.3**	**0.0**	
CCUT	**Cedar City**	**102.19**	**53**	*e*Pdif		**Pdif**		**22 28 49.2**	**+1.4**	
MCMT	**McKenzie Canyo**	**102.26**	**46**	*e*Pdif		**Pdif**		**22 28 50.5**	**+2.5**	
LCMT	**Little Creek M**	**102.30**	**54**	*e*Pdif		**Pdif**		**22 28 50.0**	**+1.8**	
BGU	**Big Grassy Mou**	**102.33**	**50**	*e*Pdif		**Pdif**		**22 28 48.3**	**0.0**	
SZCU	**Shurtz Canyon**	**102.40**	**53**	*e*Pdif		**Pdif**		**22 28 50.5**	**+1.8**	
DLMT	**Dillon**	**102.41**	**45**	*e*Pdif		**Pdif**		**22 28 49.9**	**+1.4**	
LRM	**Limekiln Ridge**	**102.48**	**45**	*e*Pdif		**Pdif**		**22 28 49.6**	**+0.7**	
HVU	**Hansel Valley**	**102.48**	**49**	*e*P		**Pdif**		**22 28 49.9**	**+1.0**	
HVU	**Hansel Valley**	**102.48**	**49**	*e*Pdif		**Pdif**		**22 28 49.9**	**+1.0**	
TBLG	**Delisi**	**102.52**	**311**	P		**Pdif**		**22 28 48.4**	**-0.5**	
TBLG	**Delisi**	**102.52**	**311**	*e*P		**Pdif**		**22 28 48.8**	**-0.1**	
TBLG	**Delisi**	**102.52**	**311**	*e*Pdif		**Pdif**		**22 28 48.8**	**-0.1**	
DUG	**Dugway, Tooele**	**102.53**	**50**	Pdiff		**Pdif**		**22 28 49.2**	**0.0**	
	baz=272									
DUG	**Dugway, Tooele**	**102.53**	**50**	*e*P		**Pdif**		**22 28 50.2**	**+1.1**	
DUG	**Dugway, Tooele**	**102.53**	**50**	*e*Pdif		**Pdif**		**22 28 50.2**	**+1.1**	
DUS	**Dusheti**	**102.53**	**312**	P		**Pdif**		**22 28 49.3**	**+0.3**	
DUS	**Dusheti**	**102.53**	**312**	*e*P		**Pdif**		**22 28 49.3**	**+0.3**	
GNI	**Garni**	**102.59**	**310**	P		**Pdif**		**22 28 49.5**	**+0.1**	
	comp=Z,30nm,1.1s,baz=172,slow=2.0,SNR=22									
GNI				PP		**PP**		**22 33 06.8**	**+2.7**	
	comp=Z,144nm,1.2s,baz=114,slow=8.6,SNR=4.5									
GNI				S		**SKSac**		**22 39 21.2**	**+2.6**	
	comp=Z,4.2nm,1.0s,baz=90,slow=20,SNR=5.5									
GNI	**Garni**	**102.59**	**310**	P		**Pdif**		**22 28 49.6**	**+0.2**	
	SNR=19									
GNI	**Garni**	**102.59**	**310**	*i* P		**Pdif**		**22 28 49.7**	**+0.2**	
	SNR=24									
KNB	**Kanab**	**102.63**	**54**	*e*P		**Pdif**		**22 28 51.0**	**+1.2**	
KNB	**Kanab**	**102.63**	**54**	*e*Pdif		**Pdif**		**22 28 51.0**	**+1.2**	
GUDG	**Gudauri**	**102.68**	**312**	P		**Pdif**		**22 28 49.5**	**-0.3**	
214A	**Organ Pipe Nat**	**102.74**	**59**	Pdiff		**Pdif**		**22 28 51.2**	**+1.1**	
	baz=271									
SPUT	**South Promonto**	**102.75**	**49**	*e*Pdif		**Pdif**		**22 28 51.1**	**+0.9**	
HRY	**Holter Researc**	**102.84**	**44**	*e*Pdif		**Pdif**		**22 28 52.7**	**+2.3**	
PKCU	**Pink Cliffs**	**103.03**	**53**	*e*Pdif		**Pdif**		**22 28 53.4**	**+1.8**	
YOVA	**Hakkari_Y˜…kse**	**103.05**	**307**	*i* P		**Pdif**		**22 28 51.7**	**+0.1**	
BOZ	**Bozeman (W)**	**103.07**	**45**	Pdiff		**Pdif**		**22 28 52.0**	**+0.6**	
	baz=274									
U15A	**North Rim**	**103.08**	**54**	*e*Pdif		**Pdif**		**22 28 53.7**	**+1.8**	
MSU	**Marysvale**	**103.09**	**52**	*e*P		**Pdif**		**22 28 53.9**	**+2.1**	
MSU	**Marysvale**	**103.09**	**52**	*e*Pdif		**Pdif**		**22 28 53.9**	**+2.1**	
NLU	**North Lily Min**	**103.10**	**51**	*e*Pdif		**Pdif**		**22 28 52.8**	**+1.0**	
MTPU	**Mount Pierson**	**103.10**	**53**	*e*Pdif		**Pdif**		**22 28 53.9**	**+1.9**	
IGDI	**IGDIR**	**103.12**	**309**	*i* P		**Pdif**		**22 28 51.9**	**+0.2**	
CLMT	**Earthquake Lak**	**103.27**	**46**	*e*Pdif		**Pdif**		**22 28 53.6**	**+1.2**	
CLDR	**Caldiran**	**103.28**	**309**	*i* P		**Pdif**		**22 28 52.2**	**-0.4**	
CTU	**Camp Tracy**	**103.31**	**50**	*e*Pdif		**Pdif**		**22 28 52.9**	**+0.3**	
TMCR	**Tamitsa**	**103.37**	**335**	*e*P		**Pdif**		**22 28 52.5**	**+0.4**	
TMCR				pmax		pmax				
	comp=Z,31nm,0.6s									
HWUT	**Hardware Ranch**	**103.40**	**49**	*e*Pdif		**Pdif**		**22 28 54.6**	**+1.6**	
BGD	**Bogdanovka**	**103.40**	**311**	P		**Pdif**		**22 28 53.4**	**+0.3**	
KLMR	**Klimovskoe**	**103.42**	**331**	*e*P		**Pdif**		**22 28 50.3**	**-2.1**	
KLMR				*e*				22 33 08.5		
KLMR				*e*PPP		PPP		22 35 18.8		
KLMR				pmax		pmax				
	comp=Z,74nm,1.0s									
KLMR	**Klimovskoe**	**103.42**	**331**	*e*Pdif		**Pdif**		**22 28 50.3**	**-2.1**	
KLMR				AMP				22 28 53.3		
	comp=Z,74nm,1.0s									
KLMR				*e*PP		**PP**		**22 33 08.5**	**-0.8**	
KLMR				*e*PPP		PPP		22 35 18.8		
KLMR				*e*PKKPbc		**PKKPbc**		**22 44 45.4**	**-3.0**	
KLMR				*e*SS		**SS**		**22 47 36.9**	**-7.3**	
KLMR				*e*SS		**SS**		**22 47 36.9**	**-7.3**	
ONI	**Oni**	**103.43**	**312**	P		**Pdif**		**22 28 53.1**	**+0.1**	
ONI	**Oni**	**103.43**	**312**	*e*P		**Pdif**		**22 28 53.1**	**+0.1**	
RES	**Resolute B

W18A Petrified Fore 105.21 55 Pdiff **Pdif** 22 29 02.6 +1.3
baz=273
LPSR Galich'ya Gora 105.27 323 *e*P **Pdif** 22 29 00.7 -0.1
LPSR *e* 22 39 26.4
LPSR *e*SS SS 22 48 07.7 -2.4
LPSR pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 105.36 321 *e*P **Pdif** 22 29 00.1 -1.1
VSR *e* 22 33 20.1
VSR *e* 22 39 26.4
VSR *e*SS SS 22 48 07.7 -3.7
VSR pmax pmax
comp=Z,20nm,1.0s
MOS Moscow 105.43 326 *e*P **Pdif** 22 28 59.9 -1.6
MOS pmax pmax
comp=Z,55nm,1.5s
PV09 Paradox Valley 105.47 52 *e*Pdif **Pdif** 22 29 04.2 +1.7
PV05 Paradox Valley 105.53 52 *e*Pdif **Pdif** 22 29 04.1 +1.5
PV01 Paradox Valley 105.94 52 *e*Pdif **Pdif** 22 29 06.7 +2.2
O20A White River Ci 106.02 50 Pdiff **Pdif** 22 29 05.9 +1.1
baz=276
O20A White River Ci 106.02 50 *e*Pdif **Pdif** 22 29 06.9 +2.1
SOC Sochi 106.06 313 *d*iP **Pdif** 22 29 03.1 -1.5
SOC pmax pmax
comp=Z,37nm,1.1s
HANI Diyarbakir_Han 106.07 308 *i* P **Pdif** 22 29 05.0 +0.1
MVCO Mesa Verde 106.07 53 Pdiff **Pdif** 22 29 06.1 +1.0
baz=274
MVCO Mesa Verde 106.07 53 *e*Pdif **Pdif** 22 29 07.5 +2.4
OBN Obninsk 106.16 326 Pdiff **Pdif** 22 29 03.7 -0.9
comp=Z,9.5nm,0.4s,baz=354,slow=3.9,SNR=8.5
OBN PKiKP **PKiKP** 22 33 16.1 +0.2
comp=Z,19nm,0.4s,baz=245,slow=18,SNR=5.4
OBN PKKPbc **PKKPbc** 22 44 37.6 -2.3
comp=Z,10nm,0.4s,baz=244,slow=8.4,SNR=4.6
OBN PKKPab **PKKPab** 22 44 56.8 +2.4
comp=Z,5.8nm,0.4s,baz=272,slow=7.4,SNR=2.7
OBN Obninsk 106.16 326 *d*iP **Pdif** 22 29 03.4 -1.3
OBN pmax pmax
comp=Z,35nm,1.2s
OBN Obninsk 106.16 326 *e*Pdif **Pdif** 22 29 05.2 +0.5
OBN PKiKP **PKiKP** 22 33 16.1 +0.2
OBN PKKPbc **PKKPbc** 22 44 37.6 -2.3
OBN PKKPab **PKKPab** 22 44 56.8 +2.4
ARCES ARCESS Array B 106.16 342 Pdiff **Pdif** 22 29 03.5 -0.9
comp=Z,31nm,0.8s,baz=59,slow=4.7,SNR=59
ARCES PKiKP **PKiKP** 22 33 15.8 +0.2
comp=Z,9.4nm,0.8s,baz=98,slow=1.2,SNR=22
ARCES PKKPbc **PKKPbc** 22 44 36.8 -3.7
comp=Z,9.2nm,0.5s,baz=252,slow=2.5,SNR=53
ARCES PKKPab **PKKPab** 22 44 56.9 +2.6
comp=Z,2.0nm,0.5s,baz=265,slow=5.3,SNR=3.0
ARE0 ARCESS Array S 106.16 342 *e*Pdif **Pdif** 22 29 03.5 -1.0
EUZM Uzumlu 106.49 309 *i* P **Pdif** 22 29 07.5 +0.7
RWWY Rawlins 106.64 48 *e*Pdif **Pdif** 22 29 07.3 -0.2
TNCL Tunceli-Merkez 106.67 309 *i* P **Pdif** 22 29 07.6 0.0
LAO LASA Array 106.68 43 Pdiff **Pdif** 22 29 07.3 0.0
baz=279
LAO LASA Array 106.68 43 *e*Pdif **Pdif** 22 29 09.5 +2.2
121A Cookes Peak, D 106.98 58 Pdiff **Pdif** 22 29 09.5 +0.4
baz=274
K22A Casper 107.03 47 Pdiff **Pdif** 22 29 09.9 +0.7
baz=277
K22A Casper 107.03 47 *e*Pdif **Pdif** 22 29 10.3 +1.2
SMCO Snowmass 107.09 51 *e*Pdif **Pdif** 22 29 11.4 +1.6
TULEG Thule 107.21 8 *e*Pdif **Pdif** 22 29 09.1 +0.1
S22A 4UR Ranch, Cre 107.35 53 Pdiff **Pdif** 22 29 12.0 +1.1
baz=276
S22A 4UR Ranch, Cre 107.35 53 *e*Pdif **Pdif** 22 29 12.3 +1.5
KEMA Kemaliye 107.47 309 *i* P **Pdif** 22 29 11.6 +0.5
ANN Anapa 107.52 315 *e*P **Pdif** 22 29 09.4 -1.6
ANN pmax pmax
comp=Z,88nm,0.9s
ANN pmax pmax
comp=Z,784nm,7.3s
Y22D IRIS PASSCAL I 107.60 56 Pdiff **Pdif** 22 29 13.5 +1.7
baz=274
Y22E IRIS PASSCAL I 107.60 56 Pdiff **Pdif** 22 29 13.0 +1.1
baz=274
N23A Red Feather La 107.68 49 Pdiff **Pdif** 22 29 12.5 +0.2
baz=277
N23A Red Feather La 107.68 49 *e*Pdif **Pdif** 22 29 14.6 +2.3
FFC Flin Flon 107.69 34 *e*P **Pdif** 22 29 12.7 +1.2
FFC Flin Flon 107.69 34 *e*Pdif **Pdif** 22 29 12.7 +1.2
BNM Barren Site 107.83 56 *e*Pdif **Pdif** 22 29 15.9 +2.9
BNM *e*PKiKP **PKiKP** 22 33 21.3 +1.3
ANMO Albuquerque 107.91 55 PKKPab PKKPab 22 44 48.6 +1.4
comp=Z,10.0nm,0.9s,baz=303,slow=5.5,SNR=15
ANMO Albuquerque 107.91 55 Pdiff **Pdif** 22 29 14.9 +1.7
baz=275
ANMO Albuquerque 107.91 55 *e*P **Pdif** 22 29 16.6 +3.3
ANMO Albuquerque 107.91 55 *e*Pdif **Pdif** 22 29 16.6 +3.3
ANMO *e*PKiKP **PKiKP** 22 33 19.6 -0.4
ANMO PKKPab **PKKPdf** 22 44 48.6 +1.0
ISCO Idaho Springs 108.07 50 Pdiff **Pdif** 22 29 14.5 +0.5
baz=277
ISCO Idaho Springs 108.07 50 *e*P **Pdif** 22 29 16.1 +2.1
ISCO Idaho Springs 108.07 50 *e*Pdif **Pdif** 22 29 16.1 +2.1
ISCO *e*PKiKP **PKiKP** 22 33 21.3 +1.0
SDCO Great Sand Dun 108.40 52 Pdiff **Pdif** 22 29 15.6 +0.1
baz=276
SDCO Great Sand Dun 108.40 52 *e*Pdif **Pdif** 22 29 18.0 +2.5
SDCO *e*PKiKP **PKiKP** 22 33 20.4 -0.7
KMBO Kilima Mbogo 108.51 267 Pdiff **Pdif** 22 29 18.2 +1.8
comp=Z,7.5nm,1.0s,baz=53,slow=6.5,SNR=19
KMBO PKiKP **PKiKP** 22 33 21.4 -0.5
comp=Z,6.3nm,0.9s,baz=56,slow=5.3,SNR=6.0
KMBO PKKPbc **PKKPbc** 22 44 34.8 +3.3
comp=Z,1.5nm,0.9s,baz=248,slow=2.1,SNR=5.7
KMBO PKKPab **PKKPdf** 22 44 49.5 +3.5
comp=Z,2.8nm,0.7s,baz=281,slow=2.3,SNR=9.0
KMBO Kilima Mbogo 108.51 267 *e*Pdif **Pdif** 22 29 17.5 +1.1
KMBO PKiKP **PKiKP** 22 33 21.4 -0.5
KMBO PKKPbc **PKKPbc** 22 44 34.8 +3.3
KMBO PKKPab **PKKPdf** 22 44 49.5 +3.5
Q24A Divide 108.53 51 Pdiff **Pdif** 22 29 16.1 0.0
baz=277
Q24A Divide 108.53 51 *e*Pdif **Pdif** 22 29 18.3 +2.3
Q24A *e*PKiKP **PKiKP** 22 33 20.5 -0.8
RSSD Black Hills 108.61 46 Pdiff **Pdif** 22 29 16.3 +0.1
baz=280
RSSD Black Hills 108.61 46 *e*P **Pdif** 22 29 16.3 +0.1
RSSD Black Hills 108.61 46 *e*Pdif **Pdif** 22 29 16.3 +0.1
NAI Nairobi 108.94 267 *e*P **Pdif** 22 29 20.6 +2.3
NAI Nairobi 108.94 267 *e*Pdif **Pdif** 22 29 20.6 +2.3
DAG Danmarks Havn 109.00 356 *i* P **Pdif** 22 29 14.9 -2.0
DAG pmax pmax
comp=Z,17nm,0.9s
DAG Danmarks Havn 109.00 356 *i* P **Pdif** 22 29 14.9 -2.0
comp=Z,17nm,0.9s
DAG *i* 22 29 56.0
DAG Danmarks Havn 109.00 356 *i* P **PKiKP** 22 33 21.2 +0.5
DAG Danmarks Havn 109.00 356 *i* P **PKKPbc** 22 44 27.1 -4.5
MNTX Cornudas Mount 109.07 59 Pdiff **Pdif** 22 29 19.3 +1.1
baz=274
T25A Trinidad 109.33 53 Pdiff **Pdif** 22 29 20.1 +0.6
baz=277
T25A Trinidad 109.33 53 *e*Pdif **Pdif** 22 29 21.0 +1.5
FIA1 FINESS Array S 109.44 334 *e*Pdif **Pdif** 22 29 18.9 -0.3
FIA1 *e*PKiKP **PKiKP** 22 33 21.5 -0.3
FINES FINESS Array B 109.44 334 Pdiff **Pdif** 22 29 19.0 -0.2
comp=Z,4.8nm,0.8s,baz=86,slow=5.9,SNR=19
FINES PKiKP **PKiKP** 22 33 22.8 +1.0
comp=Z,23nm,0.7s,baz=76,slow=2.3,SNR=26
FINES PKKPbc **PKKPbc** 22 44 26.9 -2.9
comp=Z,1.1nm,0.6s,baz=283,slow=2.2,SNR=4.7
FINES PKKPab **PKKPdf** 22 44 43.0 -2.0
comp=Z,4.1nm,0.9s,baz=114,slow=2.3,SNR=4.4
FINES FINESS Array B 109.44 334 P **Pdif** 22 29 19.0 -0.2
FINES 22 44 27.0
FINES pmax pmax
comp=Z,5.0nm,0.8s
ASF Jabal al Asfar 109.46 302 Pdiff **Pdif** 22 29 19.8 -0.3
comp=Z,9.8nm,1.0s,baz=178,slow=1.0,SNR=10
ASF PKiKP **PKiKP** 22 33 24.9 +2.0
comp=Z,10nm,0.8s,baz=0.8,slow=2.1,SNR=7.6
ASF PKKPbc **PKKPbc** 22 44 32.6 +3.7
comp=Z,3.1nm,0.8s,baz=158,slow=5.4,SNR=5.2
ASF PKKPab **PKKPdf** 22 44 43.9 -0.7
comp=Z,5.3nm,1.1s,baz=127,slow=1.2,SNR=5.3
SIM Simferopol' 109.82 316 *e*P **Pdif** 22 29 22.8 +1.5
SIM pmax pmax
comp=Z,2µm,12.0s
VSU Vasula 110.31 331 *d*iPKIKP **PKiKP** 22 33 24.4 +0.9
VSU pmax pmax
comp=Z,143nm,1.2s
KSCO Kaye Shedlock' 110.47 51 Pdiff **Pdif** 22 29 24.7 +0.3
baz=279
KSCO Kaye Shedlock' 110.47 51 *e*Pdif **Pdif** 22 29 27.0 +2.6
OGNE Ogallala 110.61 49 Pdiff **Pdif** 22 29 26.6 +1.6
baz=280
OGNE Ogallala 110.61 49 *e*Pdif **Pdif** 22 29 25.9 +1.0
OGNE *e*PKiKP **PKiKP** 22 33 23.4 -1.4
TXAR Lajitas Array 110.73 61 Pdiff **Pdif** 22 29 25.3 -0.5
comp=Z,0.2nm,0.6s,baz=229,slow=4.2,SNR=2.1
TXAR PKiKP **PKiKP** 22 33 25.8 +0.4
comp=Z,13nm,1.0s,baz=284,slow=1.0,SNR=20
TXAR PKKPbc **PKKPbc** 22 44 25.8 +1.1
comp=Z,1.3nm,0.7s,baz=96,slow=4.7,SNR=6.5
TXAR PKKPab **PKKPab** 22 44 35.0 +0.3
comp=Z,16nm,0.9s,baz=110,slow=4.6,SNR=8.4
MDND Maddock 110.86 41 PKiKP **PKiKP** 22 33 24.2 -0.8
baz=284
MSTX Muleshoe 111.03 56 PKiKP **PKiKP** 22 33 25.4 -0.5
baz=277
BR131 Keskin Array S 111.12 310 *e*Pdif **Pdif** 22 29 27.1 -0.3
BRTR Keskin Array B 111.12 310 Pdiff **Pdif** 22 29 27.0 -0.3
comp=Z,6.9nm,0.8s,baz=114,slow=3.2,SNR=48
BRTR PKiKP **PKiKP** 22 33 26.3 +0.4
comp=Z,15nm,0.9s,baz=150,slow=2.3,SNR=14
BRTR PP **PP** 22 34 08.6 +2.0
comp=Z,21nm,0.9s,baz=103,slow=4.4,SNR=6.9
BRTR PKKPbc **PKKPbc** 22 44 24.3 +0.5
comp=Z,1.8nm,0.7s,baz=240,slow=2.7,SNR=5.1
MICGM Minsk 111.15 327 *e*P **Pdif** 22 29 27.0 +0.1
MICGM *e*P **Pdif** 22 29 27.0 +0.1
MICGM *e*pP **pPdif** 22 30 00.0 +2.5
MICGM *e*PKP **PKiKP** 22 33 26.0 +0.7
MICGM *e*PP **PP** 22 34 06.0 +0.1
MICGM *e*PPP PPP 22 36 36.0
MICGM *e*SKS **SKSac** 22 39 52.0 -3.0
MICGM *e*PS **PS** 22 43 34.0 -5.0
MICGM *e*SS **SS** 22 49 26.0 -3.0
MICGM *e*SSS SSS 22 53 22.0
MICGM *e*LQ LQ 22 58 10.0
MICGM *e*LR LR 23 09 00.0
MICGM LRM MLR 23 12 12.0
comp=E,13nm,22.0s
MICGM LRM MLR 23 12 24.0
comp=N,11nm,20.0s
MICGM LRM MLR 23 12 40.0
comp=Z,4.2nm,20.0s
MNK Minsk 111.15 327 *e*P **Pdif** 22 29 26.0 -0.9
MNK *e* 22 33 26.0
MNK *e* 22 34 06.0
MNK *e*PPP PPP 22 36 36.0
MNK *e* 22 39 52.0
MNK *e*PS **PS** 22 43 34.0 -5.0
MNK *e*SS SS 22 49 26.0 -3.0
EIL Elat 111.34 299 Pdiff **Pdif** 22 29 30.8 +2.4
comp=Z,21nm,1.3s,baz=13,slow=5.3,SNR=5.5
EIL PKiKP **PKiKP** 22 33 29.8 +3.4
comp=Z,13nm,0.8s,baz=158,slow=3.0,SNR=8.8
EIL PKKPab **PKKPab** 22 44 34.8 +2.9
comp=Z,4.8nm,0.8s,baz=217,slow=3.1,SNR=4.8
IDID Didziasalis 111.48 328 *e*P **PKKPbc** 22 44 21.7 -1.3
IDID Didziasalis 111.48 328 *e*P **PKiKP** 22 33 26.7 +0.9
IDID IAmb IAmb 22 33 28.4
comp=Z,27nm,0.8s
IDID Didziasalis 111.48 328 *e*P **PKKPbc** 22 44 21.7 -1.3
IDID IAmb IAmb 22 44 24.1
comp=Z,4.3nm,0.7s
BBAL Bala 111.55 310 *i* P **PKiKP** 22 33 28.3 +1.6
IZAR Zarasai 111.58 328 *e*P **PKKPbc** 22 44 20.5 -2.2
IZAR Zarasai 111.58 328 *e*P **PKiKP** 22 33 26.7 +0.7
IZAR IAmb IAmb 22 33 29.4
comp=Z,26nm,1.0s
IZAR Zarasai 111.58 328 *e*P **PKKPbc** 22 44 20.5 -2.2
IZAR IAmb IAmb 22 44 23.9
comp=Z,11nm,1.0s
AKASG Malin Array Be 111.59 322 Pdiff **Pdif** 22 29 28.9 -0.1
comp=Z,1.5nm,0.7s,baz=64,slow=4.6,SNR=11
AKASG PKiKP **PKiKP** 22 33 26.3 0.0
comp=Z,18nm,0.7s,baz=67,slow=2.3,SNR=50
AKASG PP **PP** 22 34 08.7 -0.6
comp=Z,44nm,1.1s,baz=60,slow=5.0,SNR=7.4
AKASG PKKPbc **PKKPbc** 22 44 20.8 -1.7
comp=Z,2.0nm,0.6s,baz=259,slow=3.6,SNR=9.0
AKASG PKKPab **PKKPab** 22 44 32.0 +1.7
comp=Z,2.1nm,0.7s,baz=269,slow=3.4,SNR=4.5
AKBB Malin Array Si 111.59 322 *e*P **Pdif** 22 29 28.8 -0.2
AKBB *i* 22 33 26.2
AKBB Malin Array Si 111.59 322 *e*Pdif **Pdif** 22 29 28.8 -0.2
AKBB *e*PKiKP **PKiKP** 22 33 26.2 0.0
KIEV Kiev 111.60 322 *c*iPKIKP **PKiKP** 22 33 27.1 +0.9
KIEV Kiev 111.60 322 *e*Pdif **Pdif** 22 29 29.0 0.0
KIEV *e*PKiKP **PKiKP** 22 33 25.7 -0.5
KIEV Kiev 111.60 322 *i* P **PKiKP** 22 33 25.8 -0.5
SNR=7.2
NACGM Naroch 111.61 327 *e*P **Pdif** 22 29 28.0 -0.9
NACGM *e*PKP **PKiKP** 22 33 26.0 -0.1
NACGM PKPM 22 33 38.0
comp=Z,0.4nm,1.0s
NACGM *e*PP **PP** 22 34 08.0 -1.2
NACGM *e*PPP PPP 22 36 20.0
NACGM *e*SKS SKSac 22 39 42.0 -15
NACGM *e*SKKS **SKKSac** 22 40 50.0 -10
NACGM *e*SKKKS 22 41 32.0
NACGM *e*PS **PS** 22 43 32.0 -11
NACGM *e*SS **SS** 22 49 30.0 -5.1
NACGM *e*SSS SSS 22 54 46.0
NACGM *e*LQ LQ 23 07 50.0
NACGM *e*LR LR 23 16 44.0
NACGM LRM MLR 23 24 06.0
comp=Z,8.8nm,18.0s
NACGM Naroch 111.61 327 *e* **PKKPbc** 22 44 21.0 -1.6
AK11 Malin Array Si 111.63 322 *e*Pdif **Pdif** 22 29 29.4 +0.3
AK11 *e*PKiKP **PKiKP** 22 33 25.9 -0.4
ISAL Salakas 111.71 328 *e*P **PKKPbc** 22 44 20.2 -2.0
ISAL Salakas 111.71 328 *e*P **PKiKP** 22 33 27.1 +0.8
ISAL IAmb IAmb 22 33 29.6
comp=Z,22nm,0.9s
ISAL Salakas 111.71 328 *e*P **PKKPbc** 22 44 20.2 -2.0
ISAL IAmb IAmb 22 44 23.4
comp=Z,7.7nm,0.9s
ANTO Ankara 111.74 310 *e*P **Pdif** 22 29 30.1 +0.1
ANTO *i* 22 33 27.3
ANTO Ankara 111.74 310 *e*Pdif **Pdif** 22 29 30.1 +0.1
ANTO *e*PKiKP **PKiKP** 22 33 27.3 +0.3
IIGN Ignalina 111.74 328 *e*P **PKiKP** 22 33 27.3 +0.9
IIGN IAmb IAmb 22 33 30.0
comp=Z,37nm,1.1s
IIGN Ignalina 111.74 328 *e*P **PKKPbc** 22 44 21.0 -1.1
IIGN IAmb IAmb 22 44 23.5
comp=Z,14nm,1.1s
GULN MERSIN_Gulnar 111.75 306 *i* P **PKiKP** 22 33 25.8 -1.2
BR231 Keskin MP Arra 111.76 310 *e*Pdif **Pdif** 22 29 30.2 +0.1
BR231 *e*PKiKP **PKiKP** 22 33 27.9 +0.8
AMTX Amarillo 111.81 55 PKiKP **PKiKP** 22 33 26.4 -0.9
baz=278
AMTX Amarillo 111.81 55 *e*Pdif **Pdif** 22 29 28.9 -1.6
B31A Greenbush Farm 111.97 40 PKiKP **PKiKP** 22 33 26.0 -1.1
baz=286
C31A Landman Farms, 112.09 41 PKiKP **PKiKP** 22 33 26.7 -0.6
baz=286
SUSD Miller 112.12 44 PKiKP **PKiKP** 22 33 26.4 -1.1
baz=284
A31A Linda, St. Vin 112.12 39 PKiKP **PKiKP** 22 33 26.7 -0.6
baz=287
MAMC Mammari 112.16 305 P **PKiKP** 22 33 28.8 +1.0
F31A Hecla 112.26 43 PKiKP **PKiKP** 22 33 26.2 -1.5
baz=285
D31A Mcclaflin, Tow 112.30 42 PKiKP **PKiKP** 22 33 26.3 -1.5
baz=286
E31A Nome 112.32 42 PKiKP **PKiKP** 22 33 26.6 -1.2
baz=285
H31A Wolsey 112.44 44 PKiKP **PKiKP** 22 33 27.1 -1.0
baz=284
G31A Conde 112.44 44 PKiKP **PKiKP** 22 33 26.8 -1.2
baz=284
SZAC Souni 112.50 305 P **PKiKP** 22 33 29.3 +0.8
I31A Royce, Wessing 112.51 45 PKiKP **PKiKP** 22 33 26.6 -1.7
baz=284
J31A Geddes 112.54 46 PKiKP **PKiKP** 22 33 27.0 -1.3
baz=283
ULM Lac du Bonnet 112.54 38 Pdiff **Pdif** 22 29 36.9 +3.7
comp=Z,1.7nm,0.5s,baz=301,slow=5.1,SNR=6.8
ULM PKiKP **PKiKP** 22 33 27.6 -0.5
comp=Z,14nm,0.7s,baz=288,slow=1.9,SNR=23
ULM PKKPbc **PKKPbc** 22 44 16.9 -2.5
comp=Z,3.6nm,0.5s,baz=138,slow=4.2,SNR=10
ULM PKKPab **PKKPab** 22 44 25.4 -0.8
comp=Z,13nm,0.9s,baz=102,slow=1.9,SNR=9.3
A32A Rocking H Ranc 112.56 39 PKiKP **PKiKP** 22 33 27.1 -1.1
baz=287
ALFC Alefka 112.67 305 P **PKiKP** 22 33 29.4 +0.6
K31A O'Neill 112.68 46 PKiKP **PKiKP** 22 33 27.6 -1.1
baz=283
B32A Ashes, Strandq 112.69 40 PKiKP **PKiKP** 22 33 27.7 -0.7
baz=287
CBKS Cedar Bluff 112.72 51 *e*P **Pdif** 22 29 37.1 +2.7
CBKS *i* 22 33 28.9
CBKS Cedar Bluff 112.72 51 *e*Pdif **Pdif** 22 29 37.1 +2.7
CBKS *e*PKiKP **PKiKP** 22 33 28.9 +0.1
D32A Dogwood Acres, 112.74 41 PKiKP **PKiKP** 22 33 27.5 -1.1
baz=286
E32A Braaten, Kindr 112.86 42 PKiKP **PKiKP** 22 33 27.3 -1.4
baz=286
C32A Crookston 112.86 40 PKiKP **PKiKP** 22 33 27.4 -1.4
baz=287
SORM Soroca 112.90 320 ⇑PKiKP **PKiKP** 22 33 29.0 +0.2
SORM Soroca 112.90 320 ||*i*P **Pdif** 22 29 35.1 +0.3
SORM Soroca 112.90 320 ⇑*i*P **PKiKP** 22 33 29.0 +0.2
SORM Soroca 112.90 320 ⇑*i*P **PKKPbc** 22 44 13.2 -4.8
PPCY Paphos 112.91 305 P **PKiKP** 22 33 29.3 +0.1
DOGA KONYA_Doganhis 112.92 309 *i* P **PKiKP** 22 33 30.4 +1.0
KIS Kishinev 112.92 319 *e*P **Pdif** 22 29 32.0 -3.0
KIS *e*pP **pPdif** 22 30 04.0 -1.6
KIS Kishinev 112.92 319 *e*PKP **PKiKP** 22 33 27.0 -1.9
KIS Kishinev 112.92 319 *e*PP PP 22 34 15.0 -3.9
KIS Kishinev 112.92 319 *i* PPS PPS 22 44 40.0
KIS *e*SS SS 22 49 00.0 -53
KIS *e*SSS SSS 22 52 40.0
KIS LRM MLR 23 19 28.0
comp=Z,4µm,24.0s
KIS Kishinev 112.92 319 *e*P **Pdif** 22 29 32.0 -3.0
KIS *e* 22 33 27.0
KIS *e* 22 34 15.0
KIS *e*PPP PPP 22 36 49.0
KIS *i* PS PS 22 43 40.0 -16
G32A Webster 112.92 43 PKiKP **PKiKP** 22 33 27.9 -1.1
baz=285
F32A Veblen 113.01 43 PKiKP **PKiKP** 22 33 28.1 -1.0
baz=286
J32A Parkston 113.15 45 PKiKP **PKiKP** 22 33 28.2 -1.3
baz=284
AGMN Agassiz Nation 113.15 40 PKiKP **PKiKP** 22 33 27.7 -1.6
baz=288
H32A Carlson Farm, 113.16 44 PKiKP **PKiKP** 22 33 28.6 -0.9
baz=285
K32A Verdigre 113.23 46 PKiKP **PKiKP** 22 33 28.2 -1.4
baz=284
A33A Warroad 113.25 39 PKiKP **PKiKP** 22 33 28.4 -1.1
baz=288
I32A Karley and Nic 113.26 45 PKiKP **PKiKP** 22 33 28.7 -1.0
baz=284
ESKT Eskisehir 113.28 310 *i* P **PKiKP** 22 33 29.4 -0.6
BOSA Boshof 113.31 235 PKiKP **PKiKP** 22 33 30.5 +0.1
comp=Z,8.8nm,0.7s,baz=150,slow=2.5,SNR=18
BOSA PP **PP** 22 34 23.9 +1.7
comp=Z,24nm,1.2s,baz=117,slow=7.5,SNR=2.1
BOSA PKKPbc **PKKPbc** 22 44 17.9 +1.7
comp=Z,3.9nm,0.7s,baz=264,slow=3.0,SNR=6.0
BOSA PKKPab **PKKPab** 22 44 27.9 +3.7
comp=Z,6.4nm,0.9s,baz=309,slow=4.3,SNR=3.6
NSS Namsos 113.33 340 *e*PP PP 22 34 21.4 +0.4
B33A Robert and Kas 113.33 40 PKiKP **PKiKP** 22 33 28.7 -0.9
baz=288
L32A Elgin 113.36 47 PKiKP **PKiKP** 22 33 29.0 -1.0
baz=283
C33A Trail 113.37 40 PKiKP **PKiKP** 22 33 28.6 -1.1
baz=288
BGNE Belgrade 113.39 48 PKiKP **PKiKP** 22 33 28.9 -1.1
baz=283
TLCR 113.42 317 ⇑PKiKP **PKiKP** 22 33 30.4 +0.5
TLCR 113.42 317 ||*i*P **Pdif** 22 29 38.7 +1.5
TLCR 113.42 317 ⇑*i*P **PKiKP** 22 33 30.4 +0.5
LEOM Leova 113.45 318 ⇑PKiKP **PKiKP** 22 33 30.4 +0.5
LEOM Leova 113.45 318 ||*i*P **Pdif** 22 29 40.5 +3.2
LEOM Leova 113.45 318 ⇑*i*P **PKiKP** 22 33 30.4 +0.5
LEOM Leova 113.45 318 ⇑*i*P **PKKPbc** 22 44 15.3 -0.8
GEYV SAKARYA_Geyve 113.49 311 *i* P **PKiKP** 22 33 30.5 +0.3
D33A AnnSam, Waubun 113.51 41 PKiKP **PKiKP** 22 33 29.1 -1.0
baz=287
F33A 5 Mile Ranch, 113.58 42 PKiKP **PKiKP** 22 33 29.4 -0.8
baz=286
E33A Westby DABS, E 113.59 42 PKiKP **PKiKP** 22 33 29.2 -1.0
baz=287
H33A Prehn Over Nor 113.59 44 PKiKP **PKiKP** 22 33 29.5 -0.8
baz=285
SUMG Summit 113.66 1 *i* PKiKP **PKiKP** 22 33 32.0 +1.9
SUMG pmax pmax
comp=Z,16nm,1.0s
SUMG Summit 113.66 1 *i* P **PKiKP** 22 33 32.0 +1.9
comp=Z,16nm,1.0s
SUMG Summit 113.66 1 *i* P PKKPdf 22 44 46.4 +8.7
G33A Ortonville 113.66 43 PKiKP **PKiKP** 22 33 28.9 -1.4
baz=286
I33A Coleman 113.72 44 PKiKP **PKiKP** 22 33 29.4 -1.2
baz=285
GIUM Giurgiulesti 113.75 317 ||*i*P **PKiKP** 22 33 32.7 +2.2
J33A Davis 113.79 45 PKiKP **PKiKP** 22 33 29.7 -1.0
baz=285
ABTX Abilene, Hawle 113.81 57 PKiKP **PKiKP** 22 33 30.5 -0.5
baz=278
EFOR EFORIE 113.84 316 ⇑*i*P **PKiKP** 22 33 31.6 +0.9
B34A Aery, Baudette 113.86 39 PKiKP **PKiKP** 22 33 29.6 -1.1
baz=289
ISP Isparta 113.86 309 *c*iPKIKP **PKiKP** 22 33 31.0 -0.1
CFR Carcaliu 113.88 317 ||PKiKP 22 33 31.4
CFR Carcaliu 113.88 317 ||*i*P **Pdif** 22 29 40.5 +1.2
CFR Carcaliu 113.88 317 ||*i*P **PKiKP** 22 33 31.4 +0.6
CFR Carcaliu 113.88 317 ||*i*P **PKKPbc** 22 44 15.2 +0.6
TIRR Tirgusor 113.89 316 ||*i*P **PKiKP** 22 33 31.5 +0.7
TIRR Tirgusor 113.89 316 ⇑*i*P **SP** 22 43 51.6 +1.4
TIRR Tirgusor 113.89 316 *e*Pdif **Pdif** 22 29 39.2 -0.1
TIRR *e*PKiKP **PKiKP** 22 33 31.5 +0.7
SUW Suwalki 113.89 327 *e*Pdiff **Pdif** 22 29 33.3 -5.9
SUW *e*PKP **PKiKP** 22 33 30.6 0.0
SUW *e*PP **PP** 22 34 27.3 +1.9
SUW *e*SKSdf SKSdf 22 40 42.7 +11
SUW *e*PS **PS** 22 43 59.2 -4.9
SUW *e*SS **SS** 22 50 05.6 +0.4
SUW LMZ LR 23 14 52.3
comp=Z,6µm,30.9s
SUW Suwalki 113.89 327 *e*PKiKP **PKiKP** 22 33 30.5 0.0
SUW *e* 22 34 27.3
SUW *e*PS **PS** 22 43 59.3 -4.9
SUW *e*SS SS 22 50 05.6 +0.3
SUW MLR MLR
comp=Z,6µm,30.9s
SUW Suwalki 113.89 327 *e*Pdif **Pdif** 22 29 38.0 -1.1
SUW *e*PKiKP **PKiKP** 22 33 31.1 +0.6
ECSD EROS Data Cent 113.93 45 PKiKP **PKiKP** 22 33 30.2 -0.7
baz=285
D34A Park Rapids 113.95 41 PKiKP **PKiKP** 22 33 30.0 -0.9
baz=288
JCT Junction City 113.96 60 PKiKP **PKiKP** 22 33 30.8 -0.6
baz=277
C34A RKJ Ranch, Bem 113.96 40 PKiKP **PKiKP** 22 33 29.6 -1.3
baz=288
M33A Taylor Creek F 114.05 47 PKiKP PKPdf 22 33 30.0 -1.3
baz=284
N33A J Bar K, Exete 114.05 48 PKiKP PKPdf 22 33 30.2 -1.1
baz=283
KZIL AFYON_Kizioren 114.07 309 *i* P PKPdf 22 33 31.4 -0.1
O33A Hebron 114.10 49 PKiKP PKPdf 22 33 30.7 -0.7
baz=283
E34A Wadena 114.14 42 PKiKP PKPdf 22 33 30.3 -1.0
baz=287
KORT Korkueli 114.15 308 *i* P PKPdf 22 33 31.4 -0.3
HARR Harsova 114.16 316 ||PKiKP PKPdf 22 33 32.8 +1.5
HARR Harsova 114.16 316 ||*i*P PKPdf 22 33 32.8 +1.5
CVDA Cernavoda 114.18 316 ||*i*P PKPdf 22 33 32.8 +1.4
G34A Benson 114.19 43 PKiKP PKPdf 22 33 30.4 -1.0
baz=286
WMOK Wichita Mounta 114.19 55 PKiKP PKPdf 22 33 30.2 -1.6
baz=280
PSN Preselentsi 114.25 315 P PKPdf 22 33 31.5 0.0
H34A Spellman Lake, 114.26 44 PKiKP PKPdf 22 33 31.0 -0.5
baz=286
F34A Alexandria 114.29 42 PKiKP PKPdf 22 33 31.2 -0.4
baz=287
LBTB Lobatse 114.29 239 PKKPbc PKKPbc 22 44 14.7 +1.9
comp=Z,7.0nm,0.5s,baz=294,slow=4.1,SNR=11

PETR **Petresti** 114.34 318 ⇑*i*P PKPdf 22 33 33.9 +2.3
PETR **Petresti** 114.34 318 ⇑*i*P **PKKPbc** **22 44 11.4 -1.7**
I34A **Hadley** 114.37 44 PKiKP PKPdf 22 33 30.8 -1.0
baz=286
ODBI **Odobesti** 114.44 318 ⇑*i*P PKPdf 22 33 33.2 +1.4
B35A **Bob, Littlefor** 114.48 39 PKiKP PKPdf 22 33 31.0 -0.8
baz=289
TESR **Tescani** 114.49 319 ⇑*i*P **Pdif** **22 29 43.5 +1.5**
TESR **Tescani** 114.49 319 ⇓*i*P PKPdf 22 33 31.9 0.0
PRAR **RASCA** 114.50 320 ⇓*i*P **Pdif** **22 29 45.6 +3.6**
PRAR **RASCA** 114.50 320 ⇑*i*P PKPdf 22 33 33.2 +1.3
J34A **George** 114.51 45 PKiKP PKPdf 22 33 31.0 -1.1
baz=285
M34A **Aspy Farms, Fr** 114.51 47 PKiKP PKPdf 22 33 30.9 -1.2
baz=284
L34A **Svendsen Farm,** 114.55 47 PKiKP PKPdf 22 33 31.4 -0.8
baz=284
833A **Chaparral WMA,** 114.56 62 PKiKP PKPdf 22 33 31.0 -1.6
baz=276
K34A **Le Mars** 114.56 46 PKiKP PKPdf 22 33 31.2 -1.0
baz=285
AMRR **Amara** 114.59 316 ⇑PKIKP PKPdf 22 33 33.7 +1.6
AMRR **Amara** 114.59 316 ⇑*i*P PKPdf 22 33 33.7 +1.6
GRER 114.61 317 ⇓*i*P PKPdf 22 33 34.9 +2.7
E35A **Pequot Lakes** 114.62 41 PKiKP PKPdf 22 33 31.5 -0.7
baz=288
VRI **Vrincioaia** 114.63 318 ⇓PKIKP PKPdf 22 33 32.6 +0.4
VRI **Vrincioaia** 114.63 318 ⇓*i*P **Pdif** **22 29 46.0 +3.3**
VRI **Vrincioaia** 114.63 318 ⇓*i*P PKPdf 22 33 32.6 +0.4
VRI **Vrincioaia** 114.63 318 ⇓*i*P **PKKPbc** **22 44 16.0 +3.9**
PLOR **Plostina** 114.69 318 ⇑PKIKP PKPdf 22 33 33.6 +1.2
PLOR **Plostina** 114.69 318 ⇓*i*P **Pdif** **22 29 44.9 +1.9**
PLOR **Plostina** 114.69 318 ⇑*i*P PKPdf 22 33 33.6 +1.2
D35A **Remer** 114.69 41 PKiKP **PKiKP** **22 33 31.1 -1.2**
baz=289
GOLH **Golhisar** 114.72 308 *i* P PKPdf 22 33 32.0 -0.8
F35A **Swanville** 114.73 42 PKiKP **PKiKP** **22 33 31.6 -0.8**
baz=288
N34A **Lincoln** 114.73 48 PKiKP PKPdf 22 33 31.3 -1.3
baz=284
O34A **Beatrice** 114.74 49 PKiKP PKPdf 22 33 31.8 -0.8
baz=284
PGOR **Pogoanele** 114.74 317 ⇑*i*P PKPdf 22 33 34.6 +2.2
PGOR **Pogoanele** 114.74 317 ⇑*i*P **PKKPbc** **22 44 16.1 +4.4**
LSZ **Lusaka** 114.81 252 PKKPbc PKKPbc 22 44 10.9 +0.1
comp=Z,18nm,1.0s,baz=286,slow=1.4,SNR=11
LSZ PKKPab **PKKPab** **22 44 21.8 +4.3**
comp=Z,4.9nm,0.6s,baz=345,slow=5.2,SNR=4.0
AKAS **Kas** 114.89 307 *i* P PKPdf 22 33 31.7 -1.5
H35A **Sunnyside Ranc** 114.90 43 PKiKP **PKiKP** **22 33 32.2 -0.5**
baz=287
PRD **Provadia** 114.93 315 P PKPdf 22 33 32.5 -0.3
G35A **Watkins** 114.98 43 PKiKP **PKiKP** **22 33 32.1 -0.8**
baz=287
J35A **Milford** 115.01 45 PKiKP **PKiKP** **22 33 31.6 -1.4**
baz=286
LVV **L'vov** 115.03 323 *i* PKIKP **PKPdf** **22 33 33.0 +0.1**
LVV *e* 22 34 41.9
LVV *e*PPP PPP 22 37 04.2
LVV *e*PS **PKKPbc** **22 44 05.7 -5.2**
LVV *e*SS SS 22 50 33.2 +13
LVV MLR MLR
comp=N,1μm,18.0s
LVV MLR MLR
comp=E,3μm,18.0s
LVV MLR MLR
comp=Z,2μm,18.0s
I35A **Creekview Farm** 115.03 44 PKiKP **PKiKP** **22 33 32.2 -0.9**
baz=286
MBAR **Mbarara** 115.04 266 PKKPbc PKKPbc 22 44 13.3 +3.4
comp=Z,3.4nm,0.8s,baz=187,slow=6.2,SNR=3.9
KSU1 **Kansas State U** 115.05 50 *e*Pdif **Pdif** **22 29 45.5 +0.8**
KSU1 *e*PKiKP **PKiKP** **22 33 32.5 -0.8**
BURAR **Bucovina Array** 115.06 320 ⇑PKIKP **PKPdf** **22 33 35.1 +2.0**
BURAR **Bucovina Array** 115.06 320 ⇑*i*P **Pdif** **22 29 48.0 +3.3**
BURAR **Bucovina Array** 115.06 320 ⇑*i*P **PKPdf** **22 33 35.1 +2.0**
BURAR **Bucovina Array** 115.06 320 ⇑*i*P **PKKPbc** **22 44 15.2 +4.4**
BUR08 **Bucovina Ar. S** 115.06 320 *e*Pdif **Pdif** **22 29 46.1 +1.5**
BUR08 *e*PKiKP **PKPdf** **22 33 33.9 +0.7**
BUR04 **Bucovina Ar. S** 115.07 320 *e*Pdif **Pdif** **22 29 45.7 +1.0**
BUR04 *e*PKiKP **PKPdf** **22 33 33.9 +0.7**
L35A **Bielow Farm, R** 115.11 46 PKiKP **PKiKP** **22 33 32.5 -0.8**
baz=285
M35A **Neola** 115.17 47 PKiKP **PKiKP** **22 33 32.3 -1.0**
baz=285
K35A **Storm Lake** 115.17 46 PKiKP **PKiKP** **22 33 32.7 -0.7**
baz=286
TAVA **DENIZLI_Tavas** 115.18 308 *i* P **PKPdf** **22 33 34.2 +0.6**
KLNR **Kaliningrad** 115.21 329 *d*iPKIKP **PKPdf** **22 33 33.7 +0.7**
D36A **Goodland** 115.23 40 PKiKP **PKiKP** **22 33 32.4 -0.9**
baz=289
C36A **Pine Crest Far** 115.25 40 PKiKP **PKiKP** **22 33 32.4 -1.0**
baz=290
MLR **Muntele Rosu** 115.27 318 PKP **PKPdf** **22 33 33.7 +0.1**
comp=Z,15nm,0.8s,baz=60,slow=1.2,SNR=27
MLR PP **PP** **22 34 39.9 +4.3**
comp=Z,25nm,1.2s,baz=28,slow=7.7,SNR=6.4
MLR PKKPab **PKKPab** **22 44 16.1 +1.8**
comp=Z,1.1nm,0.8s,baz=191,slow=5.0,SNR=4.6
MLR **Muntele Rosu** 115.27 318 *e*PKIKP **PKPdf** **22 33 34.1 +0.4**
MLR 22 34 40.0
MLR 22 44 16.1
MLR **Muntele Rosu** 115.27 318 ⇑*i*P **Pdif** **22 29 52.0 +6.3**
MLR **Muntele Rosu** 115.27 318 ⇓*i*P **PKPdf** **22 33 34.0 +0.4**
MLR **Muntele Rosu** 115.27 318 *e*PKPdf **PKPdf** **22 33 34.1 +0.4**
MLR PP **PP** **22 34 40.0 +4.3**
MLR PKKPab **PKKPab** **22 44 16.1 +1.8**
O35A **Humboldt** 115.31 48 PKiKP **PKiKP** **22 33 32.5 -1.2**
baz=284
SULR 115.31 317 ⇑*i*P **PKPdf** **22 33 35.1 +1.6**
SULR 115.31 317 ⇑*i*P **PKKPbc** **22 44 13.2 +3.5**
SUR **Sutherland** 115.31 230 PKKPbc PKKPbc 22 44 10.6 +1.0
comp=Z,0.6nm,0.9s,baz=300,slow=8.1,SNR=4.0
SECR 115.31 317 ⇑*i*P **PKPdf** **22 33 35.1 +1.5**
HFS **Hagfors** 115.35 336 PKP **PKPdf** **22 33 33.4 +0.2**
comp=Z,16nm,0.7s,baz=111,slow=3.3,SNR=19
HFS PKKPbc **PKKPbc** **22 44 07.6 -2.5**
comp=Z,2.7nm,0.5s,baz=176,slow=2.2,SNR=19
HFS PKKP PKKPdf 22 44 41.7 +7.8
comp=Z,2.8nm,0.6s,baz=197,slow=3.1,SNR=4.1
N35A **Tabor** 115.36 48 PKiKP **PKiKP** **22 33 32.8 -1.0**
baz=285
E36A **McGregor** 115.39 41 PKiKP **PKiKP** **22 33 33.0 -0.7**
baz=289
F36A **Milaca** 115.42 42 PKiKP **PKiKP** **22 33 33.2 -0.6**
baz=288
G36A **St. Michael** 115.47 43 PKiKP **PKiKP** **22 33 33.7 -0.2**
baz=288
DOPR **Dopca** 115.49 318 ⇓*i*P **PKPdf** **22 33 35.2 +1.3**
BUC **Bucharest** 115.49 317 ⇑PKIKP **PKPdf** **22 33 35.7 +1.8**
BUC **Bucharest** 115.49 317 ⇑*i*P **PKPdf** **22 33 35.7 +1.8**
DALY **Dalyan (Mu¨la** 115.52 308 *i* P **PKPdf** **22 33 33.3 -0.8**
H36A **Jessenland, He** 115.55 43 PKiKP **PKiKP** **22 33 33.7 -0.3**
baz=288
NC405 **NORSAR Array S** 115.55 337 *e*PKPdf **PKPdf** **22 33 32.1 -1.4**
TURN **Turunc** 115.55 308 *i* P **PKPdf** **22 33 35.4 +1.2**
NC303 **NORSAR Array S** 115.61 338 *e*PKPdf **PKPdf** **22 33 33.2 -0.4**
J36A **Seneca 1, Swea** 115.63 45 PKiKP **PKiKP** **22 33 33.3 -0.9**
baz=287
SGRR **Singureni** 115.63 316 ⇓*i*P **PKPdf** **22 33 35.3 +1.1**
I36A **Fitzsimmons Fa** 115.66 44 PKiKP **PKiKP** **22 33 33.8 -0.5**
baz=287
C37A **Embarrass** 115.67 40 PKiKP **PKiKP** **22 33 33.4 -0.7**
baz=290
D37A **Cotton** 115.71 40 PKiKP **PKiKP** **22 33 33.6 -0.7**
baz=290
WHTX **Lake Whitney,** 115.73 58 PKiKP **PKPdf** **22 33 34.6 -0.2**
baz=279
WHTX **Lake Whitney,** 115.73 58 *e*PKPdf **PKPdf** **22 33 35.5 +0.7**
L36A **Harm Buss Farm** 115.74 46 PKiKP **PKPdf** **22 33 33.5 -1.0**
baz=286
K36A **Gilmore City** 115.75 45 PKiKP **PKPdf** **22 33 33.6 -0.9**
baz=286
NB201 **NORSAR Array S** 115.75 337 *e*PKPdf **PKPdf** **22 33 33.0 -1.0**
NB201 *e*PP **PP** **22 34 31.3 -6.9**
NB2 **NORSAR Subarra** 115.78 337 PKPdf **PKPdf** **22 33 33.5 -0.6**
comp=Z,10nm,0.8s,baz=44,slow=1.9
NB2 **NORSAR Subarra** 115.78 337 PKPdf **PKPdf** **22 33 33.5 -0.6**
baz=44,slow=1.9
NOA **NORSAR Array B** 115.78 337 PKP **PKPdf** **22 33 33.4 -0.6**
comp=Z,25nm,0.8s,baz=57,slow=1.8,SNR=46
NOA PP **PP** **22 34 38.5 0.0**
comp=Z,15nm,1.0s,baz=52,slow=6.3,SNR=5.2
NOA PKKPbc **PKKPbc** **22 44 06.7 -2.0**
comp=Z,2.9nm,1.0s,baz=224,slow=3.7,SNR=7.2

ARCR **ARCALIA** 115.80 320 ⇓*i*P **PKPdf** **22 33 35.5 +1.1**
ARCR **ARCALIA** 115.80 320 ⇑*i*P **PKKPbc** **22 44 06.6 -1.6**
NC204 **NORSAR Array S** 115.81 338 *e*PKPdf **PKPdf** **22 33 33.1 -1.0**
435B **Jarrell** 115.81 59 PKiKP **PKiKP** **22 33 35.1 +0.2**
baz=278
M36A **Felix, Anita** 115.82 47 PKiKP **PKPdf** **22 33 33.5 -1.1**
baz=286
NC602 **NORSAR Array S** 115.85 337 *e*PKPdf **PKPdf** **22 33 34.4 +0.3**
NC602 **NORSAR Array S** 115.85 337 *e*PP PP 22 34 39.6 +0.7
N36A **Muff Farm, Cla** 115.87 48 PKiKP **PKPdf** **22 33 34.2 -0.6**
baz=285
VOIR 115.88 318 ⇓PKIKP **PKPdf** **22 33 36.1 +1.3**
VOIR 115.88 318 ⇓*i*P **PKPdf** **22 33 36.1 +1.3**
VOIR 115.88 318 ⇓*i*P **PKKPbc** **22 44 07.6 -0.3**
KWP **Kalwaria Pacla** 115.90 323 *e*PKP **PKPdf** **22 33 34.7 +0.2**
KWP *e*PP **PP** **22 34 42.3 +2.6**
KWP *e*PS **PS** **22 44 18.6 -4.1**
KWP *e*SS SS 22 50 43.5 +12
KWP *e* 22 54 57.2
KWP LMZ LR 23 19 18.8
comp=Z,6μm,25.9s
KWP **Kalwaria Pacla** 115.90 323 *e*PKIKP **PKPdf** **22 33 34.7 +0.2**
KWP *e* 22 34 42.3
KWP *e*PS **PS** **22 44 18.6 -4.1**
KWP *e*SS SS 22 50 43.5 +12
KWP *e* 22 54 57.2
KWP MLR MLR
comp=Z,6μm,25.9s
KWP **Kalwaria Pacla** 115.90 323 *e*PKPdf **PKPdf** **22 33 35.4 +0.9**
NBO02 **NORSAR Array S** 115.91 338 *e*PKPdf **PKPdf** **22 33 34.5 +0.3**
E37A **Wrenshall** 115.93 41 PKiKP **PKPdf** **22 33 33.9 -0.8**
baz=290
DOMB **Dombas** 115.93 339 *e*PKPdf **PKPdf** **22 33 34.7 +0.4**
DOMB *e*PP **PP** **22 34 41.4 +2.0**
SZH **Strazhica** 115.94 315 P **PKPdf** **22 33 35.5 +0.7**
AYDN **Tasoluk** 115.94 309 *i* P **PKPdf** **22 33 34.2 -0.9**
NBO00 **NORSAR Array S** 115.96 338 *e*PKPdf **PKPdf** **22 33 33.6 -0.7**
EYMN **Ely** 116.03 39 PKiKP **PKPdf** **22 33 34.0 -0.8**
baz=291
EYMN **Ely** 116.03 39 *e*PKPdf **PKPdf** **22 33 34.4 -0.5**
EYMN *e*PP **PP** **22 34 35.2 -5.5**
NAO01 **NORSAR Array S** 116.03 337 *e*PKPdf **PKPdf** **22 33 35.5 +1.0**
F37A **Hinrichs Farm,** 116.06 42 PKiKP **PKPdf** **22 33 33.9 -1.1**
baz=289
I37A **Lemond, Waseca** 116.08 44 PKiKP **PKPdf** **22 33 34.4 -0.7**
baz=288
ILULI **Ilulissat** 116.09 7 *i* PKIKP **PKPdf** **22 33 34.5 +0.2**
ILULI **Ilulissat** 116.09 7 *i* P **PKPdf** **22 33 34.5 +0.2**
ILULI **Ilulissat** 116.09 7 *e*PKPdf **PKPdf** **22 33 33.9 -0.4**
MDB **Medias** 116.10 319 ⇑PKIKP **PKPdf** **22 33 37.0 +2.0**
MDB **Medias** 116.10 319 ⇑*i*P **PKPdf** **22 33 37.0 +2.0**
SPMN **Marine on St.** 116.11 42 PKiKP **PKPdf** **22 33 34.0 -1.0**
baz=289
SPMN **Marine on St.** 116.11 42 *e*PKPdf **PKPdf** **22 33 35.0 -0.1**
SPMN *e*PP **PP** **22 34 37.3 -4.0**
BEL **Belsk** 116.12 326 *e*Pdiff **Pdif** **22 29 49.7 +0.6**
BEL *e*PKP **PKPdf** **22 33 35.6 +0.7**
BEL *e*PP PP 22 34 51.1 +10
BEL *e*SKSdf **SKSdf** **22 40 36.2 +0.1**
BEL *e*PS **PS** **22 44 18.7 -5.8**
BEL *e*SS **SS** **22 50 37.9 +3.4**
BEL LMZ LR 23 19 21.6
comp=Z,6μm,25.2s
BEL **Belsk** 116.12 326 *e*PKIKP **PKPdf** **22 33 35.6 +0.7**
BEL *e* 22 34 51.2
BEL *e* 22 40 36.2
BEL *e*PS **PS** **22 44 18.7 -5.8**
BEL *e*SS SS 22 50 37.9 +3.4
BEL MLR MLR
comp=Z,6μm,25.2s
GOLR 116.13 317 ⇑*i*P **PKPdf** **22 33 36.8 +1.7**
ARR **Arges** 116.18 318 ⇑*i*P **Pdif** **22 29 50.5 +0.8**
ARR **Arges** 116.18 318 ⇑*i*P **PKPdf** **22 33 37.3 +2.0**
J37A **Redenius Farm,** 116.18 45 PKiKP **PKPdf** **22 33 33.9 -1.4**
baz=287
HUMR **Humele** 116.22 317 ⇑*i*P **PKPdf** **22 33 35.7 +0.4**
ZIMR 116.22 316 PKIKP **PKPdf** **22 33 36.8 +1.5**
ZIMR 116.22 316 ⇑*i*P **PKPdf** **22 33 36.8 +1.5**
H37A **Dierke Farm, C** 116.23 43 PKiKP **PKPdf** **22 33 34.8 -0.6**
baz=288
C38A **Sawbill Land.** 116.25 39 PKiKP **PKPdf** **22 33 33.8 -1.5**
baz=291
K37A **Belmond** 116.28 45 PKiKP **PKPdf** **22 33 34.0 -1.5**
baz=287
M37A **Trindle Farm,** 116.37 47 PKiKP **PKPdf** **22 33 35.3 -0.4**
baz=286
TUL1 **Leonard** 116.38 53 PKiKP **PKPdf** **22 33 35.5 -0.4**
baz=282
TUL1 **Leonard** 116.38 53 *e*PKPdf **PKPdf** **22 33 36.2 +0.3**
CJR **Cluj-Napoca** 116.41 320 ⇑PKIKP **PKPdf** **22 33 36.7 +1.0**
CJR **Cluj-Napoca** 116.41 320 ⇑*i*P **Pdif** **22 29 52.3 +1.7**
CJR **Cluj-Napoca** 116.41 320 ⇑*i*P **PKPdf** **22 33 36.7 +1.0**
BDRM **Kayabasi** 116.42 308 *i* P **PKPdf** **22 33 35.9 -0.1**
N37A **Lee Faris, Mou** 116.43 47 PKiKP **PKPdf** **22 33 35.1 -0.7**
baz=286
BAYC **CANAKKALE_Bayr** 116.46 311 *i* P **PKPdf** **22 33 35.6 -0.3**
E38A **The Farm, Brul** 116.47 41 PKiKP **PKPdf** **22 33 34.6 -1.1**
baz=290
F38A **Pierce - Schro** 116.48 41 PKiKP **PKPdf** **22 33 35.3 -0.5**
baz=290
UZH **Uzhgorod** 116.53 322 *i* P **Pdif** **22 29 52.3 +1.3**
UZH *e* 22 33 35.7
UZH *e* 22 34 02.1
UZH *i* 22 34 41.1
UZH *i* 22 37 14.7
UZH *e* 22 40 09.7
UZH *i* 22 44 22.9
UZH *e* 22 55 03.1
AKN **Aaknes** 116.56 340 *e*PKPdf **PKPdf** **22 33 36.4 +0.9**
AKN *e*PP **PP** **22 34 45.5 +1.7**
TRPA **Tarpa** 116.57 321 ⇓*e*PKPdf **PKPdf** **22 33 35.9 +0.1**
H38A **Maiden Rock** 116.63 43 PKiKP **PKPdf** **22 33 35.2 -0.9**
baz=289
P37A **Lathrop** 116.64 49 PKiKP **PKPdf** **22 33 34.8 -1.5**
baz=285
O37A **Wolven Farm, M** 116.64 48 PKiKP **PKPdf** **22 33 35.8 -0.4**
baz=285
OSL **Oslo** 116.66 337 *e*PKPdf **PKPdf** **22 33 35.7 +0.1**
LOT **Lotru** 116.73 318 ⇓*i*P **PKPdf** **22 33 37.6 +1.2**
Q37A **Longview Farm,** 116.74 50 PKiKP **PKPdf** **22 33 35.5 -1.0**
baz=284
G38A **Ridgeland** 116.76 42 PKiKP **PKPdf** **22 33 35.1 -1.2**
baz=290
URLA **Izmir** 116.77 310 *i* P **PKPdf** **22 33 35.7 -0.9**
I38A **Scanlan Farm,** 116.80 43 PKiKP **PKPdf** **22 33 35.1 -1.4**
baz=289
SCIA **State Center** 116.83 46 PKiKP **PKPdf** **22 33 35.9 -0.7**
baz=287
SCIA **State Center** 116.83 46 *e*PKPdf **PKPdf** **22 33 37.1 +0.5**
STHS **Stebnicka Huta** 116.86 323 *e*PKIKP **PKPdf** **22 33 37.3 +0.9**
STHS **Stebnicka Huta** 116.86 323 *e*PKP **PKPdf** **22 33 37.3 +0.9**
ZEY ¨zmir 116.87 310 *i* P **PKPdf** **22 33 36.9 +0.2**
K38A **Parkersburg** 116.93 45 PKiKP **PKPdf** **22 33 35.1 -1.7**
baz=288
C39A **Grand Marais** 116.93 39 PKiKP **PKPdf** **22 33 35.1 -1.5**
baz=282
J38A **Wedel Dairy, R** 116.93 44 PKiKP **PKPdf** **22 33 35.6 -1.1**
baz=288
CRVS **Cervenica-Dubn** 116.93 322 *e*PKIKP **PKPdf** **22 33 36.8 +0.2**
CRVS **Cervenica-Dubn** 116.93 322 *e*PKP **PKPdf** **22 33 36.8 +0.2**
CRVS *e* 22 42 30.6
L38A **Oak Wood Farm,** 116.95 46 PKiKP **PKPdf** **22 33 35.4 -1.4**
baz=287
DRGR 116.95 320 ⇓PKIKP **PKPdf** **22 33 37.4 +0.6**
DRGR 116.95 320 ⇓*i*P **Pdif** **22 29 52.5 -0.5**
DRGR 116.95 320 ⇓*i*P **PKPdf** **22 33 37.4 +0.6**
DRGR 116.95 320 ⇑*i*P **PKKPbc** **22 44 03.2 -1.0**
KARP **Karpathos** 116.97 307 *e*PKPdf **PKPdf** **22 33 37.8 +0.7**
M38A **Pleasantville** 116.99 46 PKiKP **PKPdf** **22 33 36.2 -0.7**
baz=287
CRAR **CRAIOVA** 117.08 317 ⇑PKIKP **PKPdf** **22 33 39.2 +2.2**
CRAR **CRAIOVA** 117.08 317 ⇑*i*P **PKPdf** **22 33 39.2 +2.2**
F39A **Loretta** 117.12 41 PKiKP **PKPdf** **22 33 35.8 -1.2**
baz=291
N38A **Joes South For** 117.14 47 PKiKP **PKPdf** **22 33 36.4 -0.8**
baz=286
O38A **Galt** 117.15 48 PKiKP **PKPdf** **22 33 36.4 -0.8**
baz=286
DEV **Deva** 117.15 319 ⇑PKIKP **PKPdf** **22 33 38.8 +1.7**
DEV **Deva** 117.15 319 ⇑*i*P **PKPdf** **22 33 38.8 +1.7**
G39A **Holcombe** 117.17 42 PKiKP **PKPdf** **22 33 36.4 -0.7**
baz=290
E39A **Mellen** 117.19 41 PKiKP **PKPdf** **22 33 36.3 -0.9**
baz=291
P38A **Dawn** 117.23 48 PKiKP **PKPdf** **22 33 36.7 -0.7**
baz=286
RZN **Rozhen** 117.27 314 P **PKPdf** **22 33 36.5 -1.2**
KONO **Kongsberg** 117.29 337 *d*iPKIKP **PKPdf** **22 33 38.5 +1.6**
KONO pmax pmax
comp=Z,254nm,1.7s
KONO **Kongsberg** 117.29 337 *e*PKPdf **PKPdf** **22 33 37.2 +0.3**
KONO **Kongsberg** 117.29 337 *e*PP PP 22 34 51.1 +2.2
H39A **Augusta** 117.30 42 PKiKP **PKPdf** **22 33 36.0 -1.4**
baz=290
T38A **Diamond** 117.31 51 PKiKP **PKPdf** **22 33 36.9 -0.8**
baz=284
R38A **Fenwick Farm,** 117.33 50 PKiKP **PKPdf** **22 33 36.2 -1.4**
baz=285
Q38A **Cooks Store, C** 117.34 49 PKiKP **PKPdf** **22 33 36.5 -1.1**
baz=285
SRE **Strehaia** 117.37 318 ⇑PKIKP **PKPdf** **22 33 39.2 +1.7**
SRE **Strehaia** 117.37 318 ⇑*i*P **PKPdf** **22 33 39.2 +1.7**
OJC **Ojcow** 117.38 324 *e*Pdiff **Pdif** **22 29 55.0 +0.3**
OJC *e*PKP **PKPdf** **22 33 37.7 +0.3**
OJC *e*PP **PP** **22 34 53.0 +3.1**
OJC *e*PS **PKKPdf** **22 44 30.9 +1.1**
OJC *e*SS SS 22 50 56.9 +5.8
OJC *e* 22 52 19.6
OJC *e* 22 56 13.8
OJC *e* 22 59 34.8
OJC LMZ LR 23 16 58.5
comp=Z,5μm,33.2s
OJC **Ojcow** 117.38 324 *e*PKIKP **PKPdf** **22 33 37.7 +0.3**
OJC *e* 22 34 53.0
OJC *e*PS **PKKPdf** **22 44 30.9 +1.1**
OJC *e*SS SS 22 50 56.9 +5.9
OJC MLR MLR
comp=Z,5μm,33.2s
OJC **Ojcow** 117.38 324 *e*PKPdf **PKPdf** **22 33 37.6 +0.2**
OJC *e*PP **PP** **22 34 45.6 -4.4**
GKP **Gorka Klasztor** 117.39 328 *e*Pdiff **Pdif** **22 29 51.5 -3.2**
GKP *e*PKP **PKPdf** **22 33 37.5 +0.3**
GKP *ep*PKP **pPKPdf** **22 34 11.8 +2.7**
GKP *e*PP **PP** **22 34 51.1 +1.2**
GKP *e*SS SS 22 50 55.0 +4.1
GKP LMZ LR 23 17 04.2
comp=Z,9μm,28.4s
GKP **Gorka Klasztor** 117.39 328 *e*PKIKP **PKPdf** **22 33 37.5 +0.3**
GKP *e* 22 34 11.8
GKP *e* 22 34 51.1
GKP *e*SS SS 22 50 55.0 +4.1
GKP MLR MLR
comp=Z,9μm,28.4s
I39A **Houston** 117.42 43 PKiKP **PKPdf** **22 33 36.2 -1.5**
baz=289
NIE **Niedzica** 117.42 323 *e*PKP **PKPdf** **22 33 38.5 +1.0**
NIE *ep*PKP **pPKPdf** **22 34 11.9 +2.5**
NIE *e*PP **PP** **22 34 53.9 +3.5**
NIE *e*SS SS 22 50 52.6 +0.8
NIE *e* 22 54 57.6
NIE LMZ LR 23 16 03.8
comp=Z,3μm,29.3s
NIE **Niedzica** 117.42 323 *e*PKIKP **PKPdf** **22 33 38.5 +1.0**
NIE *e* 22 34 11.9
NIE *e* 22 34 53.8
NIE *e*SS SS 22 50 52.6 +0.9
NIE MLR MLR
comp=Z,3μm,29.3s
FRB **Frobisher Bay** 117.42 17 PKKPbc PKKPbc 22 44 02.3 -0.6
comp=Z,3.6nm,0.7s,baz=183,slow=3.2,SNR=3.4
J39A **Decorah** 117.46 44 PKiKP **PKPdf** **22 33 36.0 -1.7**
baz=289
S38A **Stockton** 117.46 51 PKiKP **PKPdf** **22 33 36.6 -1.3**
baz=284
K39A **Oelwein** 117.53 45 PKiKP **PKPdf** **22 33 36.3 -1.6**
baz=288
E40A **Wakefield** 117.59 40 PKiKP **PKPdf** **22 33 37.0 -0.9**
baz=292
BSD **Bornholm Skovb** 117.62 331 *i* PKIKP **PKPdf** **22 33 38.4 +0.8**
BSD *i* 22 34 50.6
BSD pmax pmax
comp=Z,87nm,0.8s
BSD **Bornholm Skovb** 117.62 331 *i* P **PKPdf** **22 33 38.4 +0.8**
comp=Z,87nm,0.8s
BSD *i* 22 34 50.6
L39A **Vinton** 117.63 45 PKiKP **PKPdf** **22 33 36.9 -1.2**
baz=288
FOO **Floro** 117.63 340 *e*PP PP 22 34 53.4 +2.2
F40A **Park Falls** 117.64 41 PKiKP **PKPdf** **22 33 36.9 -1.1**
baz=291
N39A **Derby Farms, D** 117.64 47 PKiKP **PKPdf** **22 33 36.7 -1.4**
baz=287
KECS **Kecovo** 117.69 322 *e*PKIKP **PKPdf** **22 33 37.8 -0.2**
KECS *e* 22 34 57.9
KECS **Kecovo** 117.69 322 *e*PKP **PKPdf** **22 33 37.8 -0.2**
KECS *e*PP **PP** **22 34 57.9 +5.7**
M39A **Webster** 117.70 46 PKiKP **PKPdf** **22 33 37.4 -0.8**
baz=288
HHAR **Hobbs** 117.76 52 *e*PKPdf **PKPdf** **22 33 38.0 -0.6**
O39A **Kirksville** 117.79 48 PKiKP **PKPdf** **22 33 37.4 -1.1**
baz=287
SIRR **Siria** 117.82 320 ⇑*i*P **Pdif** **22 29 58.0 +1.2**
SIRR **Siria** 117.82 320 ⇓*i*P **PKPdf** **22 33 39.1 +0.7**
G40A **Rib Lake** 117.82 42 PKiKP **PKPdf** **22 33 37.5 -0.9**
baz=291
P39B **Salisbury** 117.85 48 PKiKP **PKPdf** **22 33 38.1 -0.5**
baz=286
S39A **Bolivar** 117.89 51 PKiKP **PKPdf** **22 33 37.9 -0.8**
baz=285
APE **Apeiranthos** 117.90 309 ⇓*i*P **PP** **22 34 56.4 +2.1**
H40A **Chili** 117.92 42 PKiKP **PKPdf** **22 33 37.7 -0.9**
baz=290
R39A **Chumby, Stover** 117.95 50 PKiKP **PKPdf** **22 33 37.9 -0.9**
baz=285
MMB **Musomiste** 118.00 314 P **PKPdf** **22 33 37.5 -1.4**
X39A **Fountain Ranch** 118.02 54 PKiKP **PKPdf** **22 33 39.0 -0.1**
baz=282
T39A **Clever** 118.02 51 PKiKP **PKPdf** **22 33 38.0 -1.1**
baz=284
I40A **Norwalk** 118.02 43 PKiKP **PKPdf** **22 33 37.4 -1.4**
baz=290
LANS **Liptovska Anna** 118.03 323 *e*PKIKP **PKPdf** **22 33 39.8 +1.1**
LANS **Liptovska Anna** 118.03 323 *e*PKP **PKPdf** **22 33 39.8 +1.1**
LANS **Liptovska Anna** 118.03 323 *e*P **PKKPbc** **22 44 00.0 -0.4**
LANS *e* 22 44 35.9
VTS **Vitosha** 118.06 315 ⇑*i*P **Pdif** **22 29 57.9 -0.2**
VTS **Vitosha** 118.06 315 ⇓*i*P **PKPdf** **22 33 39.7 +0.6**
VTS **Vitosha** 118.06 315 ⇓*i*P **PKKPbc** **22 44 00.1 -0.1**
VTS **Vitosha** 118.06 315 *e*PKPdf **PKPdf** **22 33 39.2 +0.1**
VTS *e*PP **PP** **22 34 51.2 -4.0**
VTS **Vitosha** 118.06 315 P **PKPdf** **22 33 38.7 -0.4**
K40A **Colesburg** 118.06 45 PKiKP **PKPdf** **22 33 37.4 -1.5**
baz=289
BZS **Buzias** 118.09 319 ⇓PKIKP **PKPdf** **22 33 39.5 +0.6**
BZS **Buzias** 118.09 319 ⇓*i*P **Pdif** **22 29 58.3 +0.3**
BZS **Buzias** 118.09 319 ⇓*i*P **PKPdf** **22 33 39.5 +0.6**
BZS **Buzias** 118.09 319 ⇓*i*P **PKKPbc** **22 43 58.3 -1.7**
V39A **Pettigrew** 118.09 53 PKiKP **PKPdf** **22 33 38.2 -1.1**
baz=284
U39A **Green Forest** 118.09 52 PKiKP **PKPdf** **22 33 38.5 -0.7**
baz=284
J40A **Soldiers Grove** 118.10 44 PKiKP **PKPdf** **22 33 37.5 -1.5**
baz=290
NATX **Nacogdoches** 118.12 57 PKiKP **PKPdf** **22 33 39.2 -0.2**
baz=281
NATX **Nacogdoches** 118.12 57 *e*PKPdf **PKPdf** **22 33 39.6 +0.3**
SANT **Santorini** 118.13 308 ⇑*i*P **PKPdf** **22 33 37.3 -2.0**
SANT **Santorini** 118.13 308 *e*PKPdf **PKPdf** **22 33 39.0 -0.3**
SANT *e*PP **PP** **22 34 54.8 -1.1**
W39A **Magazine** 118.13 53 PKiKP **PKPdf** **22 33 39.1 -0.2**
baz=283
E41A **Kenton** 118.18 40 PKiKP **PKPdf** **22 33 37.7 -1.3**
baz=293
M40A **Post Highland** 118.20 46 PKiKP **PKPdf** **22 33 38.4 -0.8**
baz=288
D41A **Chassel** 118.20 39 PKiKP **PKPdf** **22 33 38.0 -1.1**
baz=293
L40A **Anamosa** 118.20 45 PKiKP **PKPdf** **22 33 38.3 -0.9**
baz=289
COWI **Conover** 118.21 40 *e*PKPdf **PKPdf** **22 33 39.1 0.0**
SFJD **Kangerlussuaq** 118.26 7 PKP **PKPdf** **22 33 37.4 -1.2**
comp=Z,19nm,0.9s,baz=350,slow=2.7,SNR=8.8
SFJD PKKPbc **PKKPbc** **22 43 57.1 -2.9**
comp=Z,5.6nm,0.7s,baz=180,slow=8.1,SNR=3.6
SFJD **Kangerlussuaq** 118.26 7 *i* PKIKP **PKPdf** **22 33 39.0 +0.5**
SFJD pmax pmax
comp=Z,40nm,1.1s

SFJD	**Kangerlussuaq**	**118.26**	**7**	*i* P		**PKPdf**	**22 33 39.0**	**+0.5**
	comp=Z,40nm,1.1s							
SFJD	**Kangerlussuaq**	**118.26**	**7**	*e*PKPdf		**PKPdf**	**22 33 39.0**	**+0.5**
SFJD				PKKPbc		**PKKPbc**	**22 43 57.1**	**-2.9**
PSZ	**Piszkesteto**	**118.28**	**322**	*e*PKIKP		**PKPdf**	**22 33 39.7**	**+0.4**
PSZ				*e*			22 34 55.6	
PSZ	**Piszkesteto**	**118.28**	**322**	*i* P		**PKPdf**	**22 33 40.0**	**+0.7**
PSZ	**Piszkesteto**	**118.28**	**322**	*e*PKPdf		**PKPdf**	**22 33 39.3**	**0.0**
PSZ	**Piszkesteto**	**118.28**	**322**	*e*PKPdf		**PKPdf**	**22 33 39.7**	**+0.4**
PSZ				*e*PP		**PP**	**22 34 55.6**	**-0.9**
TIM	**Timisoara**	**118.30**	**319**	PKIKP		**PKPdf**	**22 33 41.3**	**+2.0**
TIM	**Timisoara**	**118.30**	**319**	*i* P		**PKPdf**	**22 33 41.3**	**+2.0**
N40A	**Mertquake, Sal**	**118.31**	**47**	PKiKP		**PKPdf**	**22 33 38.5**	**-0.9**
	baz=288							
O40A	**La Belle**	**118.32**	**48**	PKiKP		**PKPdf**	**22 33 38.7**	**-0.8**
	baz=287							
RAC	**Raciborz**	**118.36**	**325**	*e*PKIKP		**PKPdf**	**22 33 40.4**	**+1.2**
RAC				MLR		MLR		
	comp=Z,6μm,20.0s							
P40A	**Paris**	**118.36**	**48**	PKiKP		**PKPdf**	**22 33 38.6**	**-1.0**
	baz=287							
F41A	**Three Lakes**	**118.37**	**41**	PKiKP		**PKPdf**	**22 33 38.9**	**-0.6**
	baz=292							
ASK	**Askoy**	**118.37**	**339**	*e*PKPdf		**PKPdf**	**22 33 39.2**	**+0.3**
KKB	**Krupnik**	**118.37**	**315**	P		**PKPdf**	**22 33 38.5**	**-1.1**
BER	**Bergen**	**118.39**	**339**	*e*PKPdf		**PKPdf**	**22 33 39.9**	**+0.9**
BER				*e*PP		**PP**	**22 35 01.4**	**+5.0**
H41A	**Junction City**	**118.42**	**42**	PKiKP		**PKPdf**	**22 33 38.4**	**-1.1**
	baz=291							
I41A	**Arkdale**	**118.47**	**43**	PKiKP		**PKPdf**	**22 33 38.6**	**-1.0**
	baz=291							
COP	**Copenhagen**	**118.48**	**332**	*i* PKIKP		**PKPdf**	**22 33 41.3**	**+2.0**
COP				*i*			22 34 58.8	
COP				pmax		pmax		
	comp=Z,81nm,0.9s							
COP	**Copenhagen**	**118.48**	**332**	*i* P		**PKPdf**	**22 33 41.3**	**+2.0**
	comp=Z,81nm,0.9s							
COP				*i*			22 34 58.8	
BANR	**Banloc**	**118.49**	**319**	*i* P		**PKPdf**	**22 33 41.0**	**+1.4**
Q40A	**Laux Farm, Aux**	**118.50**	**49**	PKiKP		**PKPdf**	**22 33 39.5**	**-0.4**
	baz=286							
OKC	**Ostrava-Krasne**	**118.50**	**324**	*e*PKIKP		**PKPdf**	**22 33 39.9**	**+0.4**
OKC				*e*			22 34 58.7	
OKC				*e*			22 44 28.0	
OKC				MLR		MLR		
	comp=Z,4μm,17.9s							
OKC	**Ostrava-Krasne**	**118.50**	**324**	*e*PKPdf		**PKPdf**	**22 33 39.9**	**+0.4**
OKC				*e*PP		**PP**	**22 34 58.7**	**+1.0**
OKC				*ex*		x	22 44 28.0	
OKC				AMS		AMS	23 27 00.0	
	comp=Z,4μm,17.9s							
G41A	**Antigo**	**118.51**	**41**	PKiKP		**PKPdf**	**22 33 38.8**	**-0.9**
	baz=292							
R40A	**Maddies Statio**	**118.54**	**50**	PKiKP		**PKPdf**	**22 33 38.8**	**-1.2**
	baz=286							
S40A	**Lebanon**	**118.55**	**50**	PKiKP		**PKPdf**	**22 33 38.7**	**-1.4**
	baz=285							
U40A	**Yellville**	**118.59**	**52**	PKiKP		**PKPdf**	**22 33 39.1**	**-1.1**
	baz=284							
JFWS	**Jewell Farm**	**118.61**	**44**	PKiKP		**PKPdf**	**22 33 38.9**	**-1.1**
	baz=290							
JFWS	**Jewell Farm**	**118.61**	**44**	*e*PKIKP		**PKPdf**	**22 33 39.1**	**-0.9**
JFWS				*e*			22 34 56.7	
JFWS	**Jewell Farm**	**118.61**	**44**	*e*PKPdf		**PKPdf**	**22 33 39.1**	**-0.9**
JFWS				*e*PP		**PP**	**22 34 56.7**	**-2.1**
HOMB	**Homborsund**	**118.61**	**336**	*e*PKPdf		**PKPdf**	**22 33 39.9**	**+0.5**
HOMB				*e*PP		**PP**	**22 35 01.0**	**+3.0**
J41A	**Loganville**	**118.61**	**44**	PKiKP		**PKPdf**	**22 33 38.7**	**-1.2**
	baz=290							
T40A	**Mansfield**	**118.65**	**51**	PKiKP		**PKPdf**	**22 33 39.0**	**-1.3**
	baz=285							
K41A	**Shullsburg**	**118.67**	**44**	PKiKP		**PKPdf**	**22 33 38.9**	**-1.2**
	baz=290							
VYHS	**Vyhne**	**118.69**	**323**	*e*PKIKP		**PKPdf**	**22 33 40.0**	**0.0**
VYHS				*e*SS		SS	22 51 09.9	+1.8
VYHS	**Vyhne**	**118.69**	**323**	*e*PKP		**PKPdf**	**22 33 40.0**	**0.0**
VYHS				*e*			22 42 34.1	
VYHS				*e*			22 44 14.0	
VYHS				*e*SS		SS	22 51 09.9	+1.8
VYHS	**Vyhne**	**118.69**	**323**	*e*P		**PKKPbc**	**22 43 55.7**	**-2.3**
VYHS				*e*			22 44 27.2	
RGN	**Rugen**	**118.70**	**331**	*e*PKPdf		**PKPdf**	**22 33 40.9**	**+1.2**
W40A	**Ferguson Farm,**	**118.70**	**53**	PKiKP		**PKPdf**	**22 33 39.7**	**-0.6**
	baz=284							
W40A	**Ferguson Farm,**	**118.70**	**53**	*e*PKPdf		**PKPdf**	**22 33 39.1**	**-1.2**
W40A				*e*PP		**PP**	**22 34 58.4**	**-1.4**
L41A	**Preston**	**118.71**	**45**	PKiKP		**PKPdf**	**22 33 38.8**	**-1.3**
	baz=289							
V40A	**Witts Springs**	**118.75**	**52**	PKiKP		**PKPdf**	**22 33 39.8**	**-0.7**
	baz=284							
LLD	**Lille Linde**	**118.78**	**332**	*i* PKIKP		**PKPdf**	**22 33 40.2**	**+0.3**
LLD	**Lille Linde**	**118.78**	**332**	*i* P		**PKPdf**	**22 33 40.2**	**+0.3**
Y40A	**Okolona**	**118.80**	**55**	PKiKP		**PKPdf**	**22 33 40.3**	**-0.2**
	baz=283							
240A	**Hunter Patters**	**118.81**	**57**	PKiKP		**PKiKP**	**22 33 40.7**	**0.0**
	baz=281							
IDI	**Anoyia**	**118.83**	**307**	PKP		**PKPdf**	**22 33 41.0**	**+0.2**
	comp=Z,93nm,0.8s,baz=159,slow=10,SNR=34							
IDI				PKKPbc		**PKKPbc**	**22 43 56.7**	**-0.3**
	comp=Z,11nm,1.1s,baz=302,slow=5.5,SNR=2.9							
IDI				PKKPab		**PKKPab**	**22 44 02.8**	**+4.0**
	comp=Z,37nm,1.0s,baz=241,slow=6.2,SNR=8.2							
IDI				PKKP		**PKKPdf**	**22 44 31.6**	**+4.7**
	comp=Z,23nm,1.0s,baz=284,slow=8.3,SNR=1.8							
IDI	**Anoyia**	**118.83**	**307**	*i* P		**PKPdf**	**22 33 41.2**	**+0.5**
IDI	**Anoyia**	**118.83**	**307**	*i* P		**PKKPbc**	**22 44 02.2**	**+5.2**
140A	**Cam and Jess,**	**118.85**	**56**	PKiKP		**PKPdf**	**22 33 40.6**	**-0.1**
	baz=282							
E42A	**Champion**	**118.86**	**40**	PKiKP		**PKPdf**	**22 33 39.2**	**-1.2**
	baz=294							
Z40A	**Long Farm, Mag**	**118.86**	**55**	PKiKP		**PKPdf**	**22 33 40.3**	**-0.4**
	baz=282							
MORC	**Moravsky Berou**	**118.88**	**325**	PKIKP		**PKPdf**	**22 33 41.4**	**+1.1**
MORC	**Moravsky Berou**	**118.88**	**325**	*i* P		**PKPdf**	**22 33 41.4**	**+1.1**
MORC	**Moravsky Berou**	**118.88**	**325**	*i* P		**PKKPbc**	**22 43 56.5**	**-0.9**
MORC	**Moravsky Berou**	**118.88**	**325**	*e*PKPdf		**PKPdf**	**22 33 40.9**	**+0.5**
MORC				*e*PP		**PP**	**22 34 58.2**	**-2.2**
N41A	**Harden Midland**	**118.89**	**47**	PKiKP		**PKPdf**	**22 33 39.4**	**-1.2**
	baz=288							
M41A	**Milan**	**118.90**	**46**	PKiKP		**PKPdf**	**22 33 39.6**	**-0.9**
	baz=289							
VAY	**Valandovo**	**118.91**	**314**	*i* P		**PKPdf**	**22 33 40.0**	**-0.6**
F42A	**Maple Grove Fa**	**118.99**	**40**	PKiKP		**PKPdf**	**22 33 39.6**	**-1.1**
	baz=293							
G42A	**Mountain**	**119.00**	**41**	PKiKP		**PKPdf**	**22 33 39.4**	**-1.3**
	baz=292							
BUD	**Budapest**	**119.00**	**322**	*e*PKPdf		**PKPdf**	**22 33 40.8**	**+0.2**
WLAR	**White Oak Lake**	**119.01**	**55**	*e*PKPdf		**PKPdf**	**22 33 41.8**	**+0.8**
O41A	**Passleys Farm,**	**119.05**	**47**	PKiKP		**PKPdf**	**22 33 39.9**	**-1.0**
	baz=288							
P41A	**Barry, Barry**	**119.05**	**48**	PKiKP		**PKPdf**	**22 33 40.1**	**-0.8**
	baz=287							
X40A	**Basin Creek Fa**	**119.05**	**54**	PKiKP		**PKPdf**	**22 33 40.3**	**-0.7**
	baz=283							
KSP	**Ksiaz**	**119.08**	**326**	*e*PKP		**PKPdf**	**22 33 41.0**	**+0.4**
KSP				*e*PP		**PP**	**22 35 04.3**	**+2.6**
KSP				*e*PS		**PS**	**22 44 48.0**	**-3.3**
KSP				*e*SS		SS	22 51 19.9	+6.9
KSP				*e*			22 52 06.5	
KSP				*e*SSS		SSS	22 55 37.7	
KSP				*e*			23 00 01.2	
KSP				LMZ		LR	23 17 58.3	
	comp=Z,6μm,30.0s							
KSP	**Ksiaz**	**119.08**	**326**	*e*PKIKP		**PKPdf**	**22 33 41.0**	**+0.4**
KSP				*e*			22 35 04.3	
KSP				*e*PS		**PS**	**22 44 48.0**	**-3.3**
KSP				*e*SS		SS	22 51 19.9	+7.0
KSP				*e*SSS		SSS	22 55 37.7	
KSP				MLR		MLR		
	comp=Z,6μm,30.0s							
S41A	**Jillco Farms,**	**119.13**	**50**	PKiKP		**PKPdf**	**22 33 40.2**	**-1.0**
	baz=286							
Q41A	**Truxton**	**119.14**	**49**	PKiKP		**PKPdf**	**22 33 40.4**	**-0.6**
	baz=287							
KRLC	**Kraliky**	**119.17**	**325**	*e*PKIKP		**PKPdf**	**22 33 41.3**	**+0.4**
KRLC	**Kraliky**	**119.17**	**325**	*e*PKPdf		**PKPdf**	**22 33 41.3**	**+0.4**
KRLC				*e*PKKP		**PKKPbc**	**22 43 56.6**	**+0.3**
I42A	**Draeger Farm,**	**119.17**	**43**	PKiKP		**PKPdf**	**22 33 39.8**	**-1.2**
	baz=291							
H42A	**Shiocton**	**119.20**	**42**	PKiKP		**PKPdf**	**22 33 39.9**	**-1.2**
	baz=292							
R41A	**Rosebud**	**119.21**	**49**	PKiKP		**PKPdf**	**22 33 40.3**	**-0.9**
	baz=286							
J42A	**Columbus**	**119.24**	**43**	PKiKP		**PKPdf**	**22 33 39.9**	**-1.3**
	baz=291							
KMY	**Karmoy**	**119.24**	**338**	*e*PKPdf		**PKPdf**	**22 33 41.2**	**+0.6**
STAV	**Stavanger**	**119.26**	**338**	*e*PP		PP	22 35 03.5	+1.1
T41A	**Mountain View**	**119.26**	**51**	PKiKP		**PKPdf**	**22 33 40.1**	**-1.3**
	baz=286							
K42A	**Prairie Point,**	**119.28**	**44**	PKiKP		**PKPdf**	**22 33 39.9**	**-1.3**
	baz=290							
V41A	**Mountainview**	**119.28**	**52**	PKiKP		**PKPdf**	**22 33 40.5**	**-1.0**
	baz=284							
SRO	**Srobarova**	**119.29**	**322**	*e*PKIKP		**PKPdf**	**22 33 41.6**	**+0.5**
SRO	**Srobarova**	**119.29**	**322**	*e*PKP		**PKPdf**	**22 33 41.6**	**+0.5**
WHAR	**Wooly Hollow**	**119.30**	**53**	*e*PKPdf		**PKPdf**	**22 33 41.2**	**-0.3**
DPC	**Dobruska-Polom**	**119.30**	**326**	*e*P		**Pdif**	**22 30 05.8**	**+2.4**
DPC				*e*			22 33 41.7	
DPC				*e*			22 35 01.1	
DPC				MLR		MLR		
	comp=Z,5μm,18.9s							
DPC	**Dobruska-Polom**	**119.30**	**326**	*e*PDIFF		**Pdif**	**22 30 05.8**	**+2.4**
DPC				*e*PKPdf		**PKiKP**	**22 33 41.7**	**+0.5**
DPC				*e*PP		**PP**	**22 35 01.1**	**-2.2**
DPC				*e*PKKP		**PKKPbc**	**22 43 52.5**	**-3.4**
DPC				*ex*		x	22 44 28.9	
DPC				*ex*		x	22 51 54.6	
DPC				AMS		AMS	23 28 30.0	
	comp=Z,5μm,18.9s							
X41A	**Kaden, Bauxite**	**119.31**	**54**	PKiKP		**PKPdf**	**22 33 41.2**	**-0.3**
	baz=284							
L42A	**Oliver, Polo**	**119.32**	**45**	PKiKP		**PKPdf**	**22 33 40.3**	**-1.1**
	baz=290							
U41A	**Viola**	**119.32**	**52**	PKiKP		**PKPdf**	**22 33 40.9**	**-0.7**
	baz=285							
Z41A	**Richland Creek**	**119.35**	**55**	PKiKP		**PKPdf**	**22 33 41.0**	**-0.6**
	baz=283							
W41B	**Gary Mavity, V**	**119.36**	**53**	PKiKP		**PKPdf**	**22 33 41.0**	**-0.6**
	baz=284							
Y41A	**Eaglette Beard**	**119.37**	**55**	PKiKP		**PKPdf**	**22 33 41.7**	**0.0**
	baz=283							
UALR	**University of**	**119.38**	**54**	*e*PKPdf		**PKPdf**	**22 33 41.8**	**+0.1**
UPC	**Upice**	**119.40**	**326**	*e*P		**Pdif**	**22 30 02.7**	**-1.0**
UPC				*e*			22 33 41.9	
UPC				*e*			22 35 02.1	
UPC				*e*			22 44 40.5	
UPC				MLR		MLR		
	comp=Z,7μm,22.2s							
UPC	**Upice**	**119.40**	**326**	*e*PDIFF		**Pdif**	**22 30 02.7**	**-1.0**
UPC				*e*PKPdf		**PKiKP**	**22 33 41.9**	**+0.6**
UPC				*e*PP		**PP**	**22 35 02.1**	**-1.8**
UPC				*e*SP		SP	22 44 40.5	+0.9
UPC				AMS		AMS	23 17 40.0	
	comp=Z,7μm,22.2s							
141A	**Papa Simpson,**	**119.41**	**56**	PKiKP		**PKPdf**	**22 33 41.6**	**-0.2**
	baz=282							
M42A	**Sheffield**	**119.44**	**46**	PKiKP		**PKPdf**	**22 33 40.4**	**-1.2**
	baz=289							
N42A	**Yates City**	**119.44**	**46**	PKiKP		**PKPdf**	**22 33 40.7**	**-0.9**
	baz=289							
E43A	**Lone Tree Farm**	**119.47**	**39**	PKiKP		**PKPdf**	**22 33 40.7**	**-0.8**
	baz=294							
G43A	**Wallace**	**119.47**	**41**	PKiKP		**PKPdf**	**22 33 40.6**	**-0.9**
	baz=293							
MUD	**Monsted U'grnd**	**119.48**	**334**	*i* PKIKP		**PKPdf**	**22 33 42.1**	**+0.9**
MUD				*i*			22 35 06.1	
MUD				pmax		pmax		
	comp=Z,60nm,1.1s							
MUD	**Monsted U'grnd**	**119.48**	**334**	*i* P		**PKPdf**	**22 33 42.1**	**+0.9**
	comp=Z,60nm,1.1s							
MUD				*i*			22 35 06.1	
SKO	**Skopje**	**119.50**	**315**	*i* P		**PKPdf**	**22 33 42.0**	**+0.3**
SMOL	**Smolenice**	**119.52**	**323**	*e*PKIKP		**PKPdf**	**22 33 42.1**	**+0.6**
SMOL	**Smolenice**	**119.52**	**323**	*e*PKP		**PKPdf**	**22 33 42.1**	**+0.6**
241A	**Mo Tay, Goldon**	**119.52**	**57**	PKiKP		**PKiKP**	**22 33 42.1**	**+0.1**
	baz=282							
CSKK	**Cs˘ţkako**	**119.52**	**322**	*e*PKPdf		**PKPdf**	**22 33 41.7**	**+0.1**
F43A	**Flat Rock, Esc**	**119.58**	**40**	PKiKP		**PKPdf**	**22 33 41.2**	**-0.6**
	baz=294							
CMIG	**Matias Romero**	**119.60**	**74**	PP		PP	22 35 06.7	+0.1
	comp=Z,7.6nm,1.1s,baz=270,slow=8.1,SNR=3.2							
CMIG				PKKPbc		**PKKPbc**	**22 43 54.3**	**+0.6**
	comp=Z,10nm,0.9s,baz=63,slow=5.3,SNR=8.2							
P42A	**Winchester**	**119.61**	**48**	PKiKP		**PKPdf**	**22 33 41.3**	**-0.6**
	baz=288							
O42A	**Bath**	**119.61**	**47**	PKiKP		**PKPdf**	**22 33 41.2**	**-0.8**
	baz=288							
VRAC	**Vranov**	**119.64**	**324**	PKP		**PKPdf**	**22 33 42.2**	**+0.5**
	comp=Z,56nm,0.9s,baz=90,slow=2.5,SNR=40							
VRAC				PP		**PP**	**22 35 06.0**	**+0.4**
	comp=Z,30nm,1.1s,baz=84,slow=9.0,SNR=4.9							
VRAC	**Vranov**	**119.64**	**324**	*i* P		**PKPdf**	**22 33 42.7**	**+0.9**
R42A	**Luebbering**	**119.66**	**49**	PKiKP		**PKPdf**	**22 33 41.2**	**-0.9**
	baz=287							
MODS	**Modra-Piesok**	**119.67**	**323**	*e*PKIKP		**PKPdf**	**22 33 41.3**	**-0.6**
MODS				*e*			22 44 40.3	
MODS				*e*SS		SS	22 51 18.0	-2.8
MODS	**Modra-Piesok**	**119.67**	**323**	*e*PKP		**PKPdf**	**22 33 41.3**	**-0.6**
MODS				*e*			22 42 34.1	
MODS				*e*			22 44 40.3	
MODS				*e*SS		SS	22 51 18.0	-2.8
Q42A	**Golden Eagle**	**119.67**	**49**	PKiKP		**PKPdf**	**22 33 41.3**	**-0.8**
	baz=287							
541A	**Lake Charles**	**119.67**	**59**	PKiKP		**PKPdf**	**22 33 40.8**	**-1.5**
	baz=281							
HOPE	**Hope Point**	**119.68**	**178**	*e*PKPdf		**PKPdf**	**22 33 41.8**	**+0.1**
I43A	**Langenfeld Bro**	**119.69**	**42**	PKiKP		**PKPdf**	**22 33 40.8**	**-1.2**
	baz=292							
J43A	**Natural Harves**	**119.69**	**43**	PKiKP		**PKPdf**	**22 33 40.5**	**-1.5**
	baz=292							
H43A	**Windswept, Lux**	**119.72**	**42**	PKiKP		**PKPdf**	**22 33 40.8**	**-1.3**
	baz=293							
DIVS	**Divibare**	**119.73**	**318**	*e*PKPdf		**PKPdf**	**22 33 42.3**	**+0.1**
MORH	**M¨ţrigy, Hung**	**119.77**	**321**	*e*PKPdf		**PKPdf**	**22 33 42.5**	**+0.4**
T42A	**Van Buren**	**119.78**	**51**	PKiKP		**PKPdf**	**22 33 41.4**	**-1.0**
	baz=286							
S42A	**Caledonia**	**119.81**	**50**	PKiKP		**PKPdf**	**22 33 41.6**	**-0.9**
	baz=287							
KRUS	**Krusevo**	**119.84**	**315**	*i* P		**PKPdf**	**22 33 42.4**	**-0.1**
U42A	**Revenden**	**119.85**	**52**	PKiKP		**PKPdf**	**22 33 41.4**	**-1.2**
	baz=286							
ZST	**Bratislava**	**119.85**	**323**	*e*PKIKP		**PKPdf**	**22 33 41.6**	**-0.6**
ZST	**Bratislava**	**119.85**	**323**	*e*PKP		**PKPdf**	**22 33 41.6**	**-0.6**
V42A	**Cord**	**119.88**	**52**	PKiKP		**PKPdf**	**22 33 41.5**	**-1.1**
	baz=285							
BIA	**Bitola**	**119.90**	**314**	*e*P		**PKPdf**	**22 33 46.2**	**+3.6**
L43A	**Garden Prairie**	**119.90**	**44**	PKiKP		**PKPdf**	**22 33 41.2**	**-1.2**
	baz=291							
W42A	**Bald Knob**	**119.91**	**53**	PKiKP		**PKPdf**	**22 33 41.6**	**-1.1**
	baz=285							
FNA	**Florina**	**119.94**	**314**	*i* P		PKPdf	22 33 26.9	-16
F44A	**Big Bay de Noc**	**120.00**	**40**	PKiKP		**PKPdf**	**22 33 41.6**	**-0.9**
	baz=295							
K43A	**Bellington**	**120.00**	**44**	PKiKP		**PKPdf**	**22 33 41.4**	**-1.2**
	baz=291							
X42A	**Stuttgart**	**120.00**	**54**	PKiKP		**PKPdf**	**22 33 42.4**	**-0.5**
	baz=284							
M43A	**Waltham Townsh**	**120.01**	**45**	PKiKP		**PKPdf**	**22 33 41.8**	**-0.9**
	baz=290							
N43A	**Stutzman Famil**	**120.02**	**46**	PKiKP		**PKPdf**	**22 33 41.8**	**-1.0**
	baz=290							
FVM	**French Village**	**120.02**	**50**	*e*PKIKP		**PKPdf**	**22 33 42.5**	**-0.3**
FVM	**French Village**	**120.02**	**50**	*e*PKPdf		**PKPdf**	**22 33 42.5**	**-0.3**
E44A	**Grand Marais A**	**120.04**	**39**	PKiKP		**PKPdf**	**22 33 41.7**	**-0.9**
	baz=295							
CCAR	**Cane Creek**	**120.04**	**54**	*e*PKPdf		**PKPdf**	**22 33 43.4**	**+0.4**
CCAR				*e*PP		**PP**	**22 35 05.3**	**-3.7**
Y42A	**Garnett, Star**	**120.05**	**54**	PKiKP		**PKPdf**	**22 33 42.2**	**-0.7**
	baz=284							
Z42A	**Norrel Spur, H**	**120.05**	**55**	PKiKP		**PKPdf**	**22 33 42.5**	**-0.4**
	baz=283							
HDIL	**Hopedale**	**120.06**	**46**	PKiKP		**PKPdf**	**22 33 42.1**	**-0.7**
	baz=289							
HDIL	**Hopedale**	**120.06**	**46**	*e*PKPdf		**PKPdf**	**22 33 43.0**	**+0.2**
O43A	**Sugar Creek Fa**	**120.14**	**47**	PKiKP		**PKPdf**	**22 33 42.8**	**-0.2**
	baz=289							
242A	**Grayson**	**120.15**	**57**	PKiKP		**PKPdf**	**22 33 43.1**	**-0.1**
	baz=282							
342A	**Flagon Creek P**	**120.15**	**57**	PKiKP		**PKPdf**	**22 33 42.8**	**-0.4**
	baz=282							
PVCC	**Panska Ves**	**120.19**	**326**	*e*PKIKP		**PKPdf**	**22 33 43.4**	**+0.6**
PVCC				*e*			22 35 07.2	
PVCC				MLR		MLR		
	comp=Z,5μm,18.7s							
PVCC	**Panska Ves**	**120.19**	**326**	*e*PKPdf		**PKPdf**	**22 33 43.4**	**+0.6**
PVCC				*e*PP		**PP**	**22 35 07.2**	**-2.0**
PVCC				AMS		AMS	23 23 50.0	
	comp=Z,5μm,18.7s							
442A	**Mamou**	**120.19**	**58**	PKiKP		**PKPdf**	**22 33 42.8**	**-0.5**
	baz=282							
P43A	**Skaggs, Pawnee**	**120.19**	**47**	PKiKP		**PKPdf**	**22 33 42.7**	**-0.4**
	baz=289							
542A	**Morse**	**120.20**	**59**	PKiKP		**PKPdf**	**22 33 43.0**	**-0.4**
	baz=281							
142A	**Monroe**	**120.21**	**56**	PKiKP		**PKPdf**	**22 33 43.0**	**-0.3**
	baz=283							
OHR	**Ohrid**	**120.24**	**314**	*i* P		**PKPdf**	**22 33 43.1**	**-0.2**
IVA	**Berane**	**120.25**	**317**	*i* PKP		**PKPdf**	**22 33 42.9**	**-0.3**
Q43A	**New Douglas**	**120.28**	**48**	PKiKP		**PKPdf**	**22 33 42.3**	**-1.0**
	baz=288							
PHP	**Peshkopia**	**120.30**	**315**	*i* P		**PKPdf**	**22 33 43.9**	**+0.6**
PHP	**Peshkopia**	**120.30**	**315**	*i* P		**PKPdf**	**22 33 43.9**	**+0.6**
PVY	**Plav**	**120.31**	**316**	*i* PKP		**PKPdf**	**22 33 43.1**	**-0.3**
R43A	**Red Bud**	**120.31**	**49**	PKiKP		**PKPdf**	**22 33 42.3**	**-1.0**
	baz=288							
BRG	**Berggiesshubel**	**120.35**	**327**	*e*PDIF		Pdif	22 30 27.7	+20
	comp=Z,4.6nm,0.9s							
BRG	**Berggiesshubel**	**120.35**	**327**	*i* PKP		**PKPdf**	**22 33 43.6**	**+0.5**
	comp=Z,147nm,0.9s							
BRG				pPKP		**pPKPdf**	**22 34 17.9**	**+2.9**
	comp=Z,42nm,1.1s							
BRG				PP		**PP**	**22 35 10.0**	**-0.4**
BRG				SDIF			22 42 55.0	
BRG				PKKP		**PKKPbc**	**22 43 54.3**	**+2.3**
	comp=Z,31nm,1.8s							
BRG				*e*			22 44 24.9	
	comp=Z,5.3nm,1.0s							
BRG				*e*			22 44 38.5	
	comp=Z,8.0nm,1.2s							
BRG				PS		**PS**	**22 44 54.0**	**-8.7**
BRG				SS		**SKKSdf**	**22 51 17.0**	**-9.3**
BRG				PKPPKP			22 51 23.4	
	comp=Z,23nm,1.8s							
BRG	**Berggiesshubel**	**120.35**	**327**	*i* PKIKP		**PKPdf**	**22 33 43.6**	**+0.5**
BRG							22 34 17.9	
BRG							22 35 10.0	
BRG				PS		**PS**	**22 44 54.0**	**-8.7**
BRG							22 51 23.4	
BRG				pmax		pmax		
	comp=Z,147nm,0.9s							
BRG				MLR		MLR		
	comp=Z,6μm,21.8s							
BRG				MLR		MLR		
	comp=N,5μm,21.7s							
BRG				MLR		MLR		
	comp=E,7μm,21.7s							
PBMO	**Poplar Bluff**	**120.36**	**51**	*e*PKPdf		**PKPdf**	**22 33 42.7**	**-0.8**
GOPC	**GO Pecny, Ondr**	**120.38**	**326**	*e*P		**Pdif**	**22 30 10.7**	**+2.6**
GOPC				*e*			22 33 43.5	
GOPC				*e*			22 35 08.1	
GOPC				*e*			22 44 54.1	
GOPC				*e*SS		SS	22 51 29.1	-0.6
GOPC				MLR		MLR		
	comp=Z,5μm,22.0s							
GOPC	**GO Pecny, Ondr**	**120.38**	**326**	*e*PDIFF		**Pdif**	**22 30 10.7**	**+2.6**
GOPC				*e*PKPdf		**PKiKP**	**22 33 43.5**	**+0.2**
GOPC				*e*PP		**PP**	**22 35 08.1**	**-2.5**
GOPC				*e*PKKP		**PKKPbc**	**22 43 52.7**	**+0.9**
GOPC				*e*SP		SP	22 44 54.1	+5.7
GOPC				*e*SS		**SS**	**22 51 29.1**	**-0.6**
GOPC				AMS		AMS	23 23 00.0	
	comp=Z,5μm,22.0s							
T43A	**Greenville**	**120.39**	**50**	PKiKP		**PKPdf**	**22 33 42.2**	**-1.4**
	baz=287							
S43A	**Fulton Ridge,**	**120.41**	**50**	PKiKP		**PKPdf**	**22 33 42.4**	**-1.1**

PDG	Podgorica	120.85	316	⇓	*i*P		PKKPbc	22 43 49.3	-0.5	
TTG	Podgorica	120.85	316	⇓	*i*PKP		PKPdf	22 33 44.2	-0.1	
TTG	Podgorica	120.85	316		*e*PKIKP		PKPdf	22 33 44.2	-0.1	
TTG	Podgorica	120.85	316		*e*PKPdf		PKPdf	22 33 44.2	-0.1	
SAN1	Sandwick	120.87	342		*e*P		PKPdf	22 33 45.3	+1.6	
NKY	Niksic	120.89	317	⇓	*i*PKP		PKPdf	22 33 44.3	-0.2	
BORG	Borgarnes	120.89	354		PKP		PKPdf	22 33 44.8	+1.2	
	comp=Z,32nm,0.9s,baz=1.6,slow=2.2,SNR=6.4									
P44A	Sand Creek, Wi	120.91	47		PKiKP		PKPdf	22 33 44.3	-0.2	
	baz=289									
T44A	Benton	120.92	50		PKiKP		PKPdf	22 33 43.5	-1.1	
	baz=287									
NKME	Niksic	120.93	317	⇓	*i*PKP		PKPdf	22 33 44.3	-0.2	
R44A	Waltonville	120.96	49		PKiKP		PKPdf	22 33 43.8	-0.8	
	baz=288									
DRME	Dracevica, Mon	120.99	316	⇓	*i*PKP		PKPdf	22 33 44.5	-0.1	
S44A	Carbondale	120.99	50		PKiKP		PKPdf	22 33 44.0	-0.7	
	baz=288									
U44A	Portageville	121.01	51		PKiKP		PKPdf	22 33 43.6	-1.2	
	baz=287									
SIUC	Southern Illin	121.02	49		*e*PKPdf		PKPdf	22 33 44.6	-0.1	
PVMO	Portageville	121.03	51		*e*PKPdf		PKPdf	22 33 44.9	+0.1	
ULC	Ulcinj	121.03	316	⇓	*i*PKP		PKPdf	22 33 44.4	-0.3	
CEME	Cevo	121.04	317	⇓	*i*PKP		PKPdf	22 33 44.3	-0.4	
V44A	Blytheville	121.04	52		PKiKP		PKPdf	22 33 44.3	-0.6	
	baz=286									
F46A	Macinaw City C	121.13	39		PKiKP		PKPdf	22 33 44.2	-0.5	
	baz=296									
BUM	Brajici-Budva	121.15	316	⇓	*i*PKP		PKPdf	22 33 44.8	-0.2	
KOGS	Kog	121.16	322		*i*PKPdf		PKPdf	22 33 44.7	0.0	
KOGS					*e*			22 34 13.1		
KOGS					*e*PP		PP	22 35 12.2	-3.8	
X44A	Crenshaw	121.20	53		PKiKP		PKPdf	22 33 44.7	-0.5	
	baz=285									
M45A	Boilermakers S	121.23	45		PKiKP		PKPdf	22 33 44.4	-0.6	
	baz=291									
ARSA	Arzberg	121.24	323		*i*PKiKP		PKPdf	22 33 44.9	0.0	
	comp=Z,51nm,0.8s,SNR=36									
ARSA					*i*PKKPab		PKKPbc	22 43 49.7	+1.1	
	comp=Z,5.3nm,0.7s									
N45A	Kentland	121.24	46		PKiKP		PKPdf	22 33 44.8	-0.3	
	baz=291									
Z44A	Pea Ridge, Bel	121.28	55		PKiKP		PKPdf	22 33 45.2	-0.2	
	baz=284									
Y44A	Strider, Charl	121.29	54		PKiKP		PKPdf	22 33 44.8	-0.5	
	baz=285									
W44A	Shelby Farms P	121.29	53		PKiKP		PKPdf	22 33 44.2	-1.1	
	baz=286									
O45A	Potomac	121.29	46		PKiKP		PKPdf	22 33 45.1	-0.1	
	baz=290									
BLY	Banja Luka	121.31	319	⇓	*i*P		PKPdf	22 33 46.0	+0.9	
BLY	Banja Luka	121.31	319	⇓	*i*P		PKKPbc	22 43 48.5	+0.4	
BLY	Banja Luka	121.31	319		*e*PKPdf		PKPdf	22 33 45.5	+0.4	
U44B	Burton Farm, H	121.32	51		PKiKP		PKPdf	22 33 44.5	-0.9	
	baz=287									
244A	Avery, Jackson	121.36	56		PKiKP		PKPdf	22 33 45.6	0.0	
	baz=283									
HCY	Herceg Novi	121.37	317	⇓	*i*PKP		PKPdf	22 33 45.1	-0.2	
Q45A	Warren Harvey,	121.44	48		PKiKP		PKPdf	22 33 45.1	-0.4	
	baz=289									
144A	Alexander Plac	121.44	55		PKiKP		PKPdf	22 33 45.6	-0.1	
	baz=284									
KHC	Kasperske Hory	121.45	325		*e*PKIKP		PKPdf	22 33 45.4	+0.1	
KHC	Kasperske Hory	121.45	325		*e*PDIFF		Pdif	22 30 14.4	+1.4	
KHC					*e*PKPdf		PKiKP	22 33 45.7	+0.3	
KHC					*ex*		x	22 33 58.0		
KHC					*e*PP		PP	22 35 19.4	+1.4	
KHC					*e*PKKP		PKKPab	22 43 45.7	-1.3	
KHC					*ex*		x	22 44 21.6		
KHC					*ex*		x	22 51 32.7		
KHC					AMS		AMS	23 29 40.0		
	comp=Z,5μm,18.9s									
VBMS	Vicksburg	121.46	56		*e*PKPdf		PKPdf	22 33 45.9	+0.1	
NKC	Novy Kostel	121.50	327		*e*PKIKP		PKPdf	22 33 45.8	+0.5	
NKC					*e*			22 35 18.8		
NKC					*e*			22 45 09.0		
NKC					MLR		MLR			
	comp=Z,6μm,19.0s									
NKC	Novy Kostel	121.50	327		*e*PKPdf		PKPdf	22 33 45.8	+0.5	
NKC					*e*PP		PP	22 35 18.8	+0.6	
NKC					*e*SP		SP	22 45 07.2	+8.9	
NKC					AMS		AMS	23 28 30.0		
	comp=Z,6μm,19.0s									
S45A	Carrier Mills	121.51	49		PKiKP		PKPdf	22 33 45.1	-0.6	
	baz=288									
GEC2	GERESS Array S	121.53	325		*e*PKIKP		PKPdf	22 33 45.8	+0.3	
GEC2	GERESS Array S	121.53	325		*e*PKPdf		PKPdf	22 33 45.8	+0.3	
GERES	GERESS Array B	121.53	325		PKP		PKPdf	22 33 45.8	+0.3	
	comp=Z,100nm,0.7s,baz=66,slow=1.5,SNR=218									
GERES					PKKPbc		PKKPbc	22 43 47.3	-0.3	
	comp=Z,1.9nm,0.6s,baz=208,slow=3.4,SNR=7.5									
GERES					PKKP		PKKPdf	22 44 22.3	+0.3	
	comp=Z,3.5nm,0.8s,baz=236,slow=2.4,SNR=5.5									
GERES					SKKPbc		SKKPbc	22 47 37.8	+12	
	comp=Z,3.0nm,1.0s,baz=237,slow=3.4,SNR=3.7									
P45A	Graceland, Par	121.53	47		PKiKP		PKPdf	22 33 45.3	-0.4	
	baz=290									
OLIL	Olney	121.53	48		*e*PKPdf		PKPdf	22 33 45.5	-0.2	
GEA0	GERESS Array S	121.53	325		*e*PKPdf		PKPdf	22 33 46.0	+0.4	
R45A	Skylar, Fairfi	121.54	49		PKiKP		PKPdf	22 33 45.2	-0.5	
	baz=289									
GLMI	Grayling	121.63	40		PKiKP		PKPdf	22 33 45.3	-0.4	
	baz=296									
GLMI	Grayling	121.63	40		*e*PKPdf		PKPdf	22 33 45.7	-0.1	
T45A	Paducah	121.66	50		PKiKP		PKPdf	22 33 45.1	-0.9	
	baz=288									
UTMT	University of	121.69	51		*e*PKPdf		PKPdf	22 33 45.7	-0.3	
MOA	Molln	121.70	324		*i*PKPdf		PKPdf	22 33 45.4	-0.3	
	comp=Z,62nm,0.8s,SNR=38									
MOA					*i*PKKPab		PKKPab	22 43 45.7	-0.3	
	comp=Z,6.1nm,0.8s									
SFIN	Lafayette	121.70	46		PKiKP		PKPdf	22 33 45.4	-0.6	
	baz=291									
SFIN	Lafayette	121.70	46		*e*PKPdf		PKPdf	22 33 45.5	-0.4	
SFIN					*e*PP		PP	22 35 18.2	-1.8	
STON	Ston	121.74	317		P		PKPdf	22 33 44.9	-1.1	
N46A	Monticello	121.77	45		PKiKP		PKPdf	22 33 45.5	-0.6	
	baz=292									
PERS	Pernice	121.77	322		*i*PKPdf		PKPdf	22 33 45.9	-0.1	
U45A	Rockin P Farm,	121.77	51		PKiKP		PKPdf	22 33 45.4	-0.8	
	baz=287									
OXF	Oxford	121.78	53		PKiKP		PKPdf	22 33 45.5	-0.8	
	baz=286									
OXF	Oxford	121.78	53		*e*PKIKP		PKPdf	22 33 46.0	-0.3	
OXF	Oxford	121.78	53		*e*PKPdf		PKPdf	22 33 46.0	-0.3	
W45A	Hickory Valley	121.78	52		PKiKP		PKPdf	22 33 45.5	-0.8	
	baz=286									
V45A	Humboldt	121.80	52		PKiKP		PKPdf	22 33 45.3	-1.0	
	baz=287									
SOKA	Soboth	121.80	322		*i*PKiKP		PKPdf	22 33 46.1	0.0	
	comp=Z,92nm,0.8s,SNR=93									
SOKA					*i*PKKPbc		PKKPab	22 43 40.9	-4.8	
	comp=Z,10nm,0.9s									
M46A	Old House Fiel	121.85	45		PKiKP		PKPdf	22 33 45.7	-0.5	
	baz=292									
Y45A	Yeager Farm, C	121.85	54		PKiKP		PKPdf	22 33 45.7	-0.8	
	baz=285									
145A	Houston Renfro	121.85	55		PKiKP		PKPdf	22 33 46.1	-0.4	
	baz=284									
Z45A	Winona	121.86	54		PKiKP		PKPdf	22 33 46.0	-0.5	
	baz=285									
P46A	Rosedale	121.89	47		PKiKP		PKPdf	22 33 46.0	-0.3	
	baz=290									
Q46A	CEJHS Indians,	121.98	47		PKiKP		PKPdf	22 33 46.0	-0.6	
	baz=290									
245A	Little AP, Sta	122.02	56		PKiKP		PKPdf	22 33 46.7	-0.1	
	baz=284									
OZLJ	Ozalj	122.02	321		P		PKPdf	22 33 46.4	0.0	
345A	Thompson Farm,	122.08	57		PKiKP		PKPdf	22 33 46.3	-0.7	
	baz=283									
USIN	University of	122.10	49		*e*PKPdf		PKPdf	22 33 46.5	-0.3	
R46A	Gibon Southern	122.14	48		PKiKP		PKPdf	22 33 46.5	-0.4	
	baz=289									
S46A	Don Dixon Farm	122.16	49		PKiKP		PKPdf	22 33 45.9	-1.1	
	baz=289									
OBKA	Obir	122.17	322		*i*PKiKP		PKPdf	22 33 46.8	-0.1	
	comp=Z,40nm,0.8s,SNR=31									
OBKA					*i*PKKPab		PKKPbc	22 43 44.8	-0.2	
	comp=Z,19nm,1.4s									
BOJS	Bojanci	122.21	321		*i*PKPdf		PKPdf	22 33 47.2	+0.4	
U46A	Springville	122.22	51		PKiKP		PKPdf	22 33 46.3	-0.8	
	baz=289									
T46A	Princeton	122.23	50		PKiKP		PKPdf	22 33 46.5	-0.6	
	baz=288									
UDBI	Udbina	122.32	320		P		PKPdf	22 33 47.3	+0.2	
Y46A	Houston	122.39	54		PKiKP		PKPdf	22 33 46.3	-1.2	
	baz=286									
O47A	Sheridan	122.41	46		PKiKP		PKPdf	22 33 46.5	-0.9	
	baz=292									
LJU	Ljubljana	122.41	322		*i*PKPdf		PKPdf	22 33 47.5	+0.3	
LJU					*e*PP		PP	22 35 22.0	-2.6	
LJU					*e*			22 37 47.3		
LJU					*e*Sdiff			22 43 14.4		
LJU					*e*			22 43 59.9		
LJU					*e*SP		SP	22 45 27.5	+21	
W46A	Michie	122.42	52		PKiKP		PKPdf	22 33 46.1	-1.5	
	baz=287									
V46A	Holladay	122.43	51		PKiKP		PKPdf	22 33 46.4	-1.1	
	baz=287									
GRF	Grafenberg Arr	122.46	327		PKIKP		PKPdf	22 33 47.7	+0.5	
GRFO	Grafenberg	122.46	327		*e*PKIKP		PKPdf	22 33 47.6	+0.4	
GRFO	Grafenberg	122.46	327		*e*PKPdf		PKPdf	22 33 47.6	+0.4	
PLCA	Paso Flores	122.47	148		PKP		PKPdf	22 33 48.5	+0.9	
	comp=Z,49nm,0.8s,baz=236,slow=2.8,SNR=75									
PLCA					PKKPbc		PKKPab	22 43 44.2	+0.2	
	comp=Z,7.3nm,0.8s,baz=49,slow=2.8,SNR=12									
PLCA					PKKP		PKKPdf	22 44 19.4	-0.3	
	comp=Z,4.1nm,0.8s,baz=279,slow=4.0,SNR=3.9									
PLCA					SKKPbc		SKKPbc	22 47 35.1	+13	
	comp=Z,8.9nm,1.0s,baz=90,slow=4.5,SNR=4.6									
PLCA	Paso Flores	122.47	148		*e*P		PKPdf	22 33 47.8	+0.1	
Z46A	Louisville	122.51	54		PKiKP		PKPdf	22 33 47.2	-0.5	
	baz=285									
346A	Big Creek Wild	122.53	57		PKiKP		PKPdf	22 33 47.5	-0.3	
	baz=284									
BLO	Bloomington	122.54	47		*e*PKIKP		PKPdf	22 33 47.7	+0.1	
BLO	Bloomington	122.54	47		*e*PKPdf		PKPdf	22 33 47.7	+0.1	
WVT	Waverly	122.56	51		PKiKP		PKPdf	22 33 46.6	-1.1	
	baz=288									
WVT	Waverly	122.56	51		*e*PKIKP		PKPdf	22 33 47.0	-0.7	
WVT	Waverly	122.56	51		*e*PKPdf		PKPdf	22 33 47.0	-0.7	
146A	Union	122.56	55		PKiKP		PKPdf	22 33 47.3	-0.6	
	baz=285									
P47A	Martinsville	122.61	47		PKiKP		PKPdf	22 33 47.1	-0.7	
	baz=291									
KBA	Koelnbreinsper	122.62	323		PKIKP		PKPdf	22 33 46.8	-1.0	
KBA	Koelnbreinsper	122.62	323		*i*PKPdf		PKPdf	22 33 47.1	-0.7	
	comp=Z,83nm,0.9s,SNR=61									
KBA					*i*PKKPab		PKKPbc	22 43 44.1	+0.7	
	comp=Z,11nm,1.3s									
646A	Port Sulphur	122.63	59		PKiKP		PKPdf	22 33 47.2	-0.9	
	baz=282									
246A	Jackson Lee, B	122.66	56		PKiKP		PKPdf	22 33 47.4	-0.6	
	baz=284									
MYKA	Terra Mystica	122.67	323		*i*PKPdf		PKPdf	22 33 47.5	-0.2	
	comp=Z,62nm,0.7s,SNR=49									
MYKA					*i*PKKPab		PKKPab	22 43 41.4	-0.5	
	comp=Z,6.4nm,0.8s									
Q47A	Bedord North L	122.69	47		PKiKP		PKPdf	22 33 47.2	-0.8	
	baz=291									
PLAL	Pickwick Lake	122.71	52		*e*PKPdf		PKPdf	22 33 46.8	-1.3	
PLAL					*e*PP		PP	22 35 24.5	-2.6	
446A	Poplarville	122.75	57		PKiKP		PKPdf	22 33 48.1	-0.1	
	baz=284									
CGL1	Ceglie Messapi	122.76	315		*e*P		PKPdf	22 33 48.7	+0.7	
FASA	Fasano	122.78	315		*e*P		PKPdf	22 33 47.9	-0.1	
CADS	Cadrg	122.80	322		*i*PKPdf		PKPdf	22 33 47.6	-0.4	
R47A	Wooly Knot Far	122.84	48		PKiKP		PKPdf	22 33 47.2	-1.0	
	baz=290									
T47A	Sharon Grove	122.84	50		PKiKP		PKPdf	22 33 47.6	-0.7	
	baz=289									
NVLJ	Novalja	122.88	320		P		PKPdf	22 33 47.7	-0.4	
U47A	Clarksville	122.88	50		PKiKP		PKPdf	22 33 47.8	-0.6	
	baz=288									
V47A	Nunnelly	122.89	51		PKiKP		PKPdf	22 33 47.3	-1.1	
	baz=288									
MLA1	Latheron	122.89	341		*e*P		PKPdf	22 33 48.1	+0.4	
BIGH	Upper Bighouse	122.92	342		*e*P		PKPdf	22 33 47.4	-0.3	
BIGH						IAMs_20	IAMs_20	23 14 49.5		
	comp=Z,66μm,65.8s									
TAR1	Taranto	122.94	315		*e*P		PKPdf	22 33 47.4	-0.9	
MASS	Massafra	123.00	315		*e*P		PKPdf	22 33 48.4	-0.1	
W47A	Westpoint	123.00	52		PKiKP		PKPdf	22 33 47.5	-1.2	
	baz=288									
X47A	Russelville	123.01	53		PKiKP		PKPdf	22 33 47.7	-1.0	
	baz=287									
WCI	Wyandotte Cave	123.03	48		PKiKP		PKPdf	22 33 47.9	-0.7	
	baz=290									
WCI	Wyandotte Cave	123.03	48		*e*PKIKP		PKPdf	22 33 47.6	-1.0	
WCI	Wyandotte Cave	123.03	48		*e*PKPdf		PKPdf	22 33 47.6	-1.0	
TRI	Trieste	123.04	322		*e*PKIKP		PKPdf	22 33 48.3	-0.1	
TRI	Trieste	123.04	322		*e*PKPdf		PKPdf	22 33 48.3	-0.1	
247A	Quitman	123.07	56		PKiKP		PKiKP	22 33 49.0	-0.1	
	baz=285									
147A	Livingston	123.19	55		PKiKP		PKPdf	22 33 47.9	-1.2	
	baz=285									
Y47A	UCPARC, Winfie	123.19	53		PKiKP		PKPdf	22 33 47.8	-1.3	
	baz=286									
Z47A	Carrollton	123.21	54		PKiKP		PKPdf	22 33 48.0	-1.1	
	baz=286									
SG1	Sgolgore (BA)	123.24	315		*e*P		PKPdf	22 33 48.9	-0.1	
TSUM	Tsumeb	123.28	242		PKP		PKPdf	22 33 50.8	+1.0	
	comp=Z,35nm,0.9s,baz=76,slow=3.1									
TSUM					PKKPbc		PKKPab	22 43 40.8	+0.2	
	comp=Z,4.3nm,0.7s,baz=287,slow=4.3,SNR=7.7									
TSUM					PKKP		PKKPdf	22 44 18.9	+0.7	
	comp=Z,2.9nm,0.8s,baz=286,slow=10.0,SNR=2.8									
ABTA	Abfaltersbach	123.28	323		*i*PKPdf		PKPdf	22 33 48.7	-0.2	
	comp=Z,144nm,0.8s,SNR=112									
ABTA					*i*PKKPab		PKKPbc	22 43 40.1	-0.7	
	comp=Z,22nm,1.2s									
R48A	Northridge Ran	123.29	48		PKiKP		PKPdf	22 33 48.6	-0.5	
	baz=291									
347A	Saraland	123.29	56		PKiKP		PKPdf	22 33 48.8	-0.5	
	baz=284									
MATE	Matera	123.30	315	⇓	*i*P		PKPdf	22 33 49.7	+0.7	
MATE	Matera	123.30	315	⇓	*i*P		PKPdf	22 33 49.7	+0.7	
AAM	Ann Arbor	123.34	43		PKiKP		PKPdf	22 33 48.0	-1.1	
	baz=295									
AAM	Ann Arbor	123.34	43		*e*PKIKP		PKPdf	22 33 48.6	-0.5	
AAM	Ann Arbor	123.34	43		*e*PKPdf		PKPdf	22 33 48.6	-0.5	
T48A	Bowling Green	123.34	49		PKiKP		PKPdf	22 33 48.5	-0.7	
	baz=290									
447A	Lucedale	123.34	57		PKiKP		PKPdf	22 33 49.2	-0.2	
	baz=284									
WTSB	Winterswijk	123.39	331		*e*PKPdf		PKPdf	22 33 49.1	+0.3	
	comp=Z,458nm,1.6s									
WTSB					*e*pPKPdf		PP	22 35 32.6	+1.9	
S48A	Wiedeman Farm,	123.41	49		PKiKP		PKPdf	22 33 48.9	-0.4	
	baz=290									
U48A	Dassie Pea, Po	123.42	50		PKiKP		PKPdf	22 33 48.5	-0.9	
	baz=289									
MCD	Coleburn Disti	123.44	341		*e*P		PKPdf	22 33 48.9	+0.1	
V48A	Smith Brothers	123.45	51		PKiKP		PKPdf	22 33 47.7	-1.8	
	baz=288									
WATA	Walderalm	123.53	324		*i*PKiKP		PKPdf	22 33 49.4	-0.1	
	comp=Z,98nm,0.8s,SNR=34									
WTTA	Wattenberg	123.53	324		*i*PKiKP		PKiKP	22 33 49.8	0.0	
	comp=Z,159nm,0.8s,SNR=72									
MME1	Meikle Cairn	123.55	340		*e*P		PKPdf	22 33 48.7	-0.3	
W48A	Pulaski	123.55	52		PKiKP		PKPdf	22 33 48.5	-1.2	
	baz=288									
Z48A	Northport	123.58	54		PKiKP		PKPdf	22 33 48.8	-1.0	
	baz=286									
X48A	Hartselle	123.67	53		PKiKP		PKPdf	22 33 48.7	-1.3	
	baz=287									
DRUM	Mains of Drumt	123.71	340		*e*P		PKPdf	22 33 49.5	+0.2	
DRUM						IAMs_20	IAMs_20	23 15 56.7		
	comp=Z,8μm,30.4s									
Y48A	Jasper	123.73	53		PKiKP		PKPdf	22 33 48.9	-1.2	
	baz=287									
148A	Greensboro	123.77	55		PKiKP		PKPdf	22 33 49.6	-0.5	
	baz=286									
248A	Dixon Mills	123.78	55		PKiKP		PKPdf	22 33 50.0	-0.2	
	baz=285									
MOTA	Moosalm	123.80	325		*i*PKiKP		PKPdf	22 33 49.9	-0.1	
	comp=Z,197nm,0.7s,SNR=208									
MOTA					*i*PKKPab		PKKPbc	22 43 38.7	-0.1	
	comp=Z,7.5nm,0.7s									
348A	Jackson	123.82	56		PKiKP		PKPdf	22 33 50.1	-0.2	
	baz=285									
TIP	Timpagrande	123.83	314	⇓	*i*P		PKPdf	22 33 51.3	+1.1	
TIP	Timpagrande	123.83	314	⇑	*i*P		PKKPbc	22 43 36.7	-1.6	
TIP	Timpagrande	123.83	314		*e*PKPdf		PKPdf	22 33 50.8	+0.6	
MDO	Dochfour	123.91	341		*e*P		PKPdf	22 33 49.9	+0.1	
RETA	Reutte	123.92	325		*i*PKiKP		PKPdf	22 33 50.1	-0.1	
	comp=Z,41nm,0.7s,SNR=35									
RETA					*i*PKKPab		PKKPbc	22 43 37.8	-0.5	
	comp=Z,12nm,1.1s									
448A	Bay Minette	123.97	57		PKiKP		PKPdf	22 33 50.1	-0.5	
	baz=285									
RRR	Rubha Reidh	124.02	342		*e*P		PKPdf	22 33 50.3	+0.4	
STU	Stuttgart	124.08	327		*e*PKIKP		PKPdf	22 33 50.7	+0.4	
STU	Stuttgart	124.08	327		*e*PKPdf		PKPdf	22 33 50.6	+0.4	
LRAL	Lakeview Retre	124.12	54		PKiKP		PKPdf	22 33 50.4	-0.5	
	baz=286									
LRAL	Lakeview Retre	124.12	54		*e*PKPdf		PKPdf	22 33 50.3	-0.5	
EDU	Dundee	124.18	340		*e*P		PKPdf	22 33 50.4	+0.2	
CANA	Caviahue	124.18	145		*e*P		PKPdf	22 33 50.3	-0.8	
CANA					*e*P		PKiKP	22 33 52.3	+0.9	
CUC	Castrocucco	124.18	315		*e*PKPdf		PKPdf	22 33 49.9	-1.0	
FETA	Feichten	124.18	324		*i*PKiKP		PKiKP	22 33 51.1	+0.1	
	comp=Z,143nm,0.8s,SNR=92									
FETA					*i*PKKPab		PKKPbc	22 43 36.7	-0.7	
	comp=Z,17nm,1.2s									
X49A	Woodville	124.22	52		PKiKP		PKPdf	22 33 50.0	-1.0	
	baz=288									
249A	Camden	124.31	55		PKiKP		PKPdf	22 33 50.7	-0.6	
	baz=286									
Y49A	Blount Mountai	124.35	53		PKiKP		PKPdf	22 33 50.4	-0.9	
	baz=288									
149A	Jones	124.41	55		PKiKP		PKPdf	22 33 50.8	-0.6	
	baz=286									
349A	Repton	124.42	56		PKiKP		PKPdf	22 33 51.6	+0.1	
	baz=285									
Z49A	Columbiana	124.45	54		PKiKP		PKPdf	22 33 51.2	-0.3	
	baz=287									
DAVA	Damuels	124.53	325		*i*PKiKP		PKiKP	22 33 51.7	0.0	
	comp=Z,199nm,0.8s,SNR=73									
ESY	Stoneypath	124.53	339		*e*P		PKPdf	22 33 51.4	+0.5	
449A	Pace	124.55	57		PKiKP		PKiKP	22 33 52.0	-0.1	
	baz=285									
HGN	Heimansgroeve	124.57	330		*e*PKPdf		PKPdf	22 33 51.5	+0.3	
	comp=Z,223nm,1.0s									
HGN					*e*pPKPdf		PP	22 35 40.8	+2.2	
BRAL	Brewton	124.58	56		PKiKP		PKPdf	22 33 51.9	+0.1	
	baz=285									
MEM	Membach	124.63	330	⇓	PKP		PKPdf	22 33 51.5	+0.3	
MEM	Membach	124.63	330		PKIKP		PKPdf	22 33 51.9	+0.6	
ACSO	Alum Creek Sta	124.66	45		PKiKP		PKPdf	22 33 51.0	-0.6	
	baz=294									
ACSO	Alum Creek Sta	124.66	45		*e*PKPdf		PKPdf	22 33 51.1	-0.6	
ACSO					*e*PP		PP	22 35 37.0	-2.9	
FUORN	Ofenpass-Fuorn	124.67	324		*e*PKPdf		PKPdf	22 33 51.8	0.0	
BEBN	Eben Emael	124.67	330	⇓	PKP		PKPdf	22 33 51.5	+0.2	
BEBN				⇑	PP		PP	22 35 39.6	+0.2	
EDI	Edinburgh	124.73	339		*e*P		PKPdf	22 33 51.4	+0.1	
EDI						IAMs_20	IAMs_20	23 18 55.0		
	comp=Z,7μm,32.1s									
X50A	Fort Payne	124.77	52		PKiKP		PKPdf	22 33 51.3

baz=298
M54A Oil Creek Stat 126.36 42 *e*PKPdf **PKPdf 22 33 54.7 -0.2**
N54A Moraine State 126.40 43 PKiKP **PKPdf 22 33 54.7 -0.4**
baz=297
N54A Moraine State 126.40 43 *e*PKPdf **PKPdf 22 33 55.0 0.0**
CLGH Cloghs, Cushen 126.40 340 *e*P **PKPdf 22 33 54.5 0.0**
CLGH IAMs_20 IAMs_20 23 17 02.4
comp=Z,11µm,37.8s
CWF Charnwood Fore 126.46 336 *e*P **PKPdf 22 33 54.7 0.0**
CWF IAMs_20 IAMs_20 23 18 55.6
comp=Z,11µm,40.0s
SENIN Lac Senin/Sane 126.51 325 *e*PKPdf **PKPdf 22 33 55.5 +0.2**
IOMK Kirk Michael 126.53 339 *e*P **PKPdf 22 33 55.0 +0.2**
IOMK IAMs_20 IAMs_20 23 19 59.7
comp=Z,8µm,35.5s
STNC Stoke 126.55 337 *e*P **PKPdf 22 33 55.4 +0.5**
STNC IAMs_20 IAMs_20 23 18 37.2
comp=Z,12µm,43.6s
WIM Isle of Man 126.66 339 *e*P **PKPdf 22 33 55.4 +0.4**
BG3 Lake Jocassee 126.70 51 *e*PKPdf **PKPdf 22 33 56.4 +0.7**
BG3 ePP **PP 22 35 50.6 -3.1**
WDD Wied Dalam 126.72 311 *e*PKPdf **PKPdf 22 33 56.8 +1.1**
253A Americus 126.72 54 PKiKP **PKPdf 22 33 55.8 -0.1**
baz=288
153A Fort Valley 126.78 54 PKiKP **PKPdf 22 33 55.9 0.0**
baz=289
GOGA Godfrey 126.82 53 PKiKP **PKPdf 22 33 55.8 -0.2**
baz=289
GOGA Godfrey 126.82 53 *e*PKIKP **PKPdf 22 33 55.9 -0.1**
GOGA Godfrey 126.82 53 *e*PKPdf **PKPdf 22 33 55.9 -0.1**
353A Camilla 126.86 55 PKiKP **PKPdf 22 33 56.4 +0.2**
baz=287
MMNY Mt. Morris Dam 126.91 40 *e*PKPdf **PKPdf 22 33 55.5 -0.4**
MMNY ePP **PP 22 35 54.4 -0.2**
453A Whigham 126.92 56 PKiKP **PKiKP 22 33 56.6 -0.2**
baz=287
TRQ Mont Tremblant 127.00 34 *e*PKPdf **PKPdf 22 33 55.4 -0.6**
SKP1 Kophill 127.01 335 *e*P **PKPdf 22 33 55.9 +0.1**
CLTB Caltabellotta 127.01 313 *e*PKPdf **PKPdf 22 33 56.9 +0.6**
553A Crawfordville 127.02 57 PKiKP **PKPdf 22 33 56.5 +0.1**
baz=286
GMM Mts of Mourne 127.03 340 *e*P **PKPdf 22 33 56.0 +0.3**
TGUH Tegucigalpa,Un 127.07 77 *e*PKPdf **PKPdf 22 33 58.0 +1.0**
WPM1 Penmaenmawr 127.08 338 *e*P **PKPdf 22 33 56.0 +0.1**
MCWV Mont Chateau 127.08 44 PKiKP **PKPdf 22 33 55.8 -0.5**
baz=297
MCWV Mont Chateau 127.08 44 *e*PKPdf **PKPdf 22 33 56.5 +0.1**
FOEL Foel Wylfa 127.10 337 *e*P **PKPdf 22 33 55.4 -0.6**
FOEL IAMs_20 IAMs_20 23 22 05.4
comp=Z,8µm,27.2s
WME Myndd Eilian 127.12 338 *e*P **PKPdf 22 33 55.7 -0.2**
WPS Cemaes, Angles 127.19 338 *e*P **PKPdf 22 33 56.2 +0.1**
WPS IAMs_20 IAMs_20 23 20 21.3
comp=Z,9µm,30.8s
WLF1 Llynfaes 127.24 338 *e*P **PKPdf 22 33 56.2 0.0**
WLF1 IAMs_20 IAMs_20 23 20 24.6
comp=Z,20µm,30.7s
HLM1 Long Mynd 127.26 337 *e*P **PKPdf 22 33 56.0 -0.3**
HLM1 IAMs_20 IAMs_20 23 21 01.5
comp=Z,9µm,40.3s
SSW Stow on the Wo 127.26 336 *e*P **PKPdf 22 33 56.0 -0.3**
YLL Llanberis 127.27 338 *e*P **PKPdf 22 33 56.3 0.0**
TIGA Tifton 127.35 55 PKiKP **PKPdf 22 33 56.9 -0.1**
baz=288
TIGA Tifton 127.35 55 *e*PKPdf **PKPdf 22 33 57.3 +0.2**
154A Montrose 127.37 53 PKiKP **PKPdf 22 33 56.6 -0.5**
baz=289
254A Abbeville 127.44 54 PKiKP **PKPdf 22 33 56.9 -0.3**
baz=288
LMEL Las Melosas 127.44 142 *e*P **PKPdf 22 33 58.0 +0.6**
LMEL *i* S **pPKiKP 22 34 33.1 +3.3**
LMEL IAML 22 34 53.4
comp=N,50nm,2.2s
WOL Wolverton 127.48 335 *e*P **PKPdf 22 33 57.1 +0.4**
WOL IAMs_20 IAMs_20 23 20 07.7
comp=Z,10µm,36.9s
HODGE Hodges 127.49 51 *e*PKPdf **PKPdf 22 33 57.3 0.0**
ROC1 El Roble 127.51 140 *e*PKPdf **PKPdf 22 33 58.4 +0.6**
ROC1 El Roble 127.51 140 *e*P **PKPdf 22 33 58.3 +0.6**
ROCH El Roble 127.51 140 ‖ *i*P **PKPdf 22 33 55.1 -2.6**
ROCH *i* S **pPKiKP 22 34 32.3 +2.2**
ROCH IAML 22 34 34.9
comp=N,54nm,0.7s
STRD Stroud 127.53 336 *e*P **PKPdf 22 33 56.4 -0.4**
STRD IAMs_20 IAMs_20 23 21 11.1
comp=Z,9µm,34.7s
454A Quitman 127.53 56 PKiKP **PKiKP 22 33 57.7 -0.3**
baz=287
SWN1 Swindon 127.58 335 *e*P **PKPdf 22 33 57.3 +0.4**
SWN1 IAMs_20 IAMs_20 23 20 07.5
comp=Z,10µm,36.8s
PAULI Pauline 127.62 50 *e*PKPdf **PKPdf 22 33 57.7 +0.2**
BNI Bardonecchia 127.62 324 *e*PKIKP **PKPdf 22 33 58.3 +0.9**
BNI Bardonecchia 127.62 324 *e*PKPdf **PKPdf 22 33 58.3 +0.9**
554A Perry 127.67 57 PKiKP **PKPdf 22 33 57.5 -0.3**
baz=287
O56A Blue Knob Stat 127.68 43 PKiKP **PKPdf 22 33 57.2 -0.4**
baz=298
O56A Blue Knob Stat 127.68 43 *e*PKPdf **PKPdf 22 33 57.3 -0.2**
MCH1 Michaelchurch 127.70 336 *e*P **PKPdf 22 33 57.3 +0.2**
MCH1 IAMs_20 IAMs_20 23 21 13.5
comp=Z,10µm,37.5s
BLA Blacksburg 127.73 47 PKiKP **PKPdf 22 33 57.1 -0.6**
baz=294
BLA Blacksburg 127.73 47 *e*PKIKP **PKPdf 22 33 57.7 0.0**
BLA Blacksburg 127.73 47 *e*PKPdf **PKPdf 22 33 57.7 0.0**
MONM Monmouth 127.74 336 *e*P **PKPdf 22 33 57.3 +0.1**
MONM IAMs_20 IAMs_20 23 21 15.1
comp=Z,10µm,38.1s
OLDB Oldbury-Upon-S 127.78 336 *e*P **PKPdf 22 33 56.9 -0.3**
OLDB IAMs_20 IAMs_20 23 23 23.0
comp=Z,7µm,25.4s
RFA San Rafael 127.85 144 *e*P **PKPdf 22 33 57.9 -0.1**
BATH Bath 127.85 335 *e*P **PKPdf 22 33 57.9 +0.5**
BATH IAMs_20 IAMs_20 23 17 02.6
comp=Z,37µm,99.0s
KMSC Kings Mountain 127.87 50 PKiKP **PKPdf 22 33 57.7 -0.3**
baz=292
KMSC Kings Mountain 127.87 50 *e*PKPdf **PKPdf 22 33 58.1 +0.1**
LONY Lake Ozonia 127.92 36 PKiKP **PKPdf 22 33 57.3 -0.5**
baz=305
LONY Lake Ozonia 127.92 36 *e*PKPdf **PKPdf 22 33 56.6 -1.2**
LONY ePP **PP 22 36 00.2 -0.9**
SSPA Standing Stone 127.96 42 PKiKP **PKPdf 22 33 57.5 -0.5**
baz=299
SSPA Standing Stone 127.96 42 *e*PKPdf **PKPdf 22 33 57.7 -0.2**
355A Pearson 127.98 55 PKiKP **PKPdf 22 33 58.4 +0.2**
baz=288
DSB Dublin 127.99 339 *e*PKPdf **PKPdf 22 33 58.0 +0.4**
455A Stateville 128.02 56 PKiKP **PKPdf 22 33 58.6 +0.2**
baz=288
LPW Lampeter 128.03 337 *e*P **PKPdf 22 33 57.8 0.0**
LPW IAMs_20 IAMs_20 23 21 59.3
comp=Z,12µm,32.3s
VWCC Virginia Weste 128.04 47 *e*PKPdf **PKPdf 22 33 58.0 -0.2**
655A Horseshoe Beac 128.19 57 PKiKP **PKPdf 22 33 58.9 +0.2**
baz=287
JSC Jenkinsville 128.24 51 *e*PKIKP **PKPdf 22 33 59.5 +0.8**
JSC *e* 22 36 02.3
JSC Jenkinsville 128.24 51 *e*PKPdf **PKPdf 22 33 59.5 +0.8**
JSC ePP **PP 22 36 02.3 -1.5**
555A McAlpin 128.26 56 PKiKP **PKPdf 22 33 58.5 -0.3**
baz=287
FRNY Flat Rock 128.37 35 *e*PKPdf **PKPdf 22 33 57.6 -1.0**
FRNY ePP **PP 22 35 58.6 -5.4**
BINY Binghamton 128.40 39 PKiKP **PKPdf 22 33 58.7 -0.1**
baz=302
NCB Newcomb 128.50 37 *e*PKPdf **PKPdf 22 33 58.3 -0.6**
NCB ePP **PP 22 36 04.2 -0.8**
256A Glennville 128.55 54 PKiKP **PKPdf 22 33 59.0 -0.4**
baz=290
356A Blackshear 128.57 55 PKiKP **PKPdf 22 33 59.5 +0.1**
baz=289
NCAT North Carolina 128.67 48 *e*PKPdf **PKPdf 22 33 59.0 -0.5**
SSB Saint Sauveur 128.71 326 *e*PKIKP **PKPdf 22 33 59.8 +0.5**
SSB Saint Sauveur 128.71 326 *e*PKPdf **PKPdf 22 33 59.8 +0.5**
556A Lake Butler 128.75 56 PKiKP **PKiKP 22 34 00.1 -0.3**
baz=288
AAGR Agrelo 128.80 142 *e*P **PKPdf 22 34 00.8 +0.8**
TRQA Tornquist 128.82 152 *e*PKPdf **PKPdf 22 34 00.3 +0.5**
656A Williston 128.84 57 PKiKP **PKiKP 22 34 00.4 -0.3**
baz=287
456A Hilliard 128.85 55 PKiKP **PKiKP 22 34 00.5 -0.1**
baz=288
VSL Villasalto 128.86 317 *e*PKPdf **PKPdf 22 34 00.7 +0.9**
ARCO CERRO ARCO 128.90 142 *e*P **PKPdf 22 34 00.7 +0.4**
PAGS Pennsylvania G 128.93 42 *e*PKPdf **PKPdf 22 33 59.7 -0.1**
IP04 Greensprings 129.01 45 *e*PKPdf **PKPdf 22 33 59.7 -0.3**
AUSP Uspallata 129.03 141 *e*P **PKPdf 22 34 01.3 +0.6**
357A Townsend 129.06 54 PKiKP **PKPdf 22 34 00.5 +0.2**
baz=289
HTL Hartland 129.07 336 *e*P **PKPdf 22 34 00.8 +1.1**
HTL IAMs_20 IAMs_20 23 21 55.3
comp=Z,6µm,32.9s
IP03 Louisa 129.10 45 *e*PKPdf **PKPdf 22 34 00.1 -0.1**
IP03 ePP **PP 22 36 03.9 -5.3**
ASAL Salagasta 129.13 142 *e*P **PKPdf 22 34 01.2 +0.6**
IP07 Quail 129.13 45 *e*PKPdf **PKPdf 22 34 00.3 +0.1**
VT1 Waterbury 129.15 35 *e*PKPdf **PKPdf 22 33 59.8 -0.3**
VT1 ePP **PP 22 36 06.5 -2.7**
IP06 Yanceyville 129.16 45 *e*PKPdf **PKPdf 22 34 00.2 -0.1**
ACCN Adirondack Com 129.17 37 *e*PKPdf **PKPdf 22 34 00.0 -0.2**
ACCN ePP **PP 22 36 06.5 -2.9**
SPRD Spring Road, M 129.19 45 *e*PKPdf **PKPdf 22 34 00.2 -0.2**
SPRD ePP **PP 22 36 05.6 -4.2**
IP01 Cuckoo 129.20 45 *e*PKPdf **PKPdf 22 34 00.4 0.0**
N59A State Game Lan 129.21 41 PKiKP **PKPdf 22 34 00.3 -0.1**
baz=301
N59A State Game Lan 129.21 41 *e*PKPdf **PKPdf 22 34 00.2 -0.1**
CVRD Centerville Ro 129.22 45 *e*PKPdf **PKPdf 22 33 60.0 -0.4**
257A Skidaway Islan 129.24 53 PKiKP **PKPdf 22 34 00.6 0.0**
baz=290
SDMD Soldier's Deli 129.25 43 *e*PKPdf **PKPdf 22 34 00.0 -0.4**
SDMD ePP **PP 22 36 08.6 -1.6**
457A Yulee 129.26 55 PKiKP **PKPdf 22 34 01.0 +0.3**
baz=289
DYA Yadsworthy 129.28 336 *e*P **PKPdf 22 33 59.5 -0.7**
DYA IAMs_20 IAMs_20 23 22 15.3
comp=Z,7µm,33.2s
MVL Millersville 129.29 42 *e*PKPdf **PKPdf 22 34 00.4 -0.1**
MVL ePP **PP 22 36 08.7 -1.7**
557A Orange Park 129.31 56 PKiKP **PKPdf 22 34 01.1 +0.2**
baz=288
657A Interlachen 129.33 57 PKiKP **PKPdf 22 34 01.1 +0.2**
baz=288
PTRD Partlow Road 129.33 45 *e*PKPdf **PKPdf 22 34 00.6 0.0**
757A Oxford 129.35 57 PKiKP **PKPdf 22 34 01.1 +0.1**
baz=287
IP05 Hopewell Churc 129.37 45 *e*PKPdf **PKPdf 22 34 00.3 -0.4**
RTLS Leoncito 129.37 140 *e*P **PKPdf 22 34 01.8 +0.5**
857A Zephyrhills 129.41 58 PKiKP **PKPdf 22 34 01.0 0.0**
baz=286
JTS JuntasAbangare 129.45 82 PKP **PKPdf 22 34 01.7 +0.2**
comp=Z,77nm,0.8s,baz=321,slow=2.5,SNR=30
JTS PP **PP 22 36 11.4 -1.3**
comp=Z,6.7nm,0.3s,baz=346,slow=12,SNR=2.9
GO04 Tololo Observa 129.45 138 ‖ *i*P **PKPdf 22 34 01.7 +0.2**
GO04 *i* S **sPKiKP 22 34 43.0 -3.2**
GO04 IAML 22 35 02.1
comp=E,140nm,1.5s
TLL Tololo Astrono 129.45 138 *e*P **PKPdf 22 34 01.5 0.0**
TLL *i* S **sPKiKP 22 34 43.7 -2.5**
TLL IAML 22 34 53.6
comp=E,76nm,1.4s
CBN Corbin Frederi 129.46 44 PKiKP **PKPdf 22 34 00.9 0.0**
baz=298
CBN Corbin Frederi 129.46 44 *e*PKPdf **PKPdf 22 34 01.3 +0.4**
CBN ePP **PP 22 36 09.0 -2.6**
NHSC New Hope 129.51 52 PKiKP **PKPdf 22 34 01.0 -0.1**
baz=292
NHSC New Hope 129.51 52 *e*PKPdf **PKPdf 22 34 02.6 +1.5**
TRY Troy 129.54 38 *e*PKPdf **PKPdf 22 34 01.0 +0.1**
957A Wimauma 129.56 59 PKiKP **PKiKP 22 34 02.0 -0.1**
baz=286
LUPA Lehigh Univers 129.63 41 *e*PKPdf **PKPdf 22 34 01.1 -0.1**
CSU Charleston Sou 129.64 52 *e*PKPdf **PKPdf 22 34 02.4 +1.0**
URVA University of 129.64 45 *e*PKPdf **PKPdf 22 34 00.9 -0.3**
LBNH Lisbon 129.68 35 PKiKP **PKiKP 22 34 01.6 -0.3**
baz=308
LBNH Lisbon 129.68 35 *e*PKIKP **PKiKP 22 34 01.6 -0.3**
LBNH Lisbon 129.68 35 *e*PKPdf **PKiKP 22 34 01.6 -0.3**
HNH Hanover 129.79 36 *e*PKPdf **PKPdf 22 34 02.0 +0.6**
HNH ePP **PP 22 36 11.2 -2.1**
RTCV Cerro Valdivia 129.81 141 *e*P **PKPdf 22 33 59.9 -2.0**
ODNJ Ogdensburg 129.87 40 *e*PKPdf **PKPdf 22 34 01.7 +0.1**
ODNJ ePP **PP 22 36 10.9 -3.1**
658A Bunnell 129.88 57 PKiKP **PKPdf 22 34 02.2 +0.2**
baz=288
PSUB Penn St. - Bra 129.92 42 *e*PKPdf **PKPdf 22 34 01.5 -0.2**
ZON Zonda 129.93 141 *e*P **PKPdf 22 34 02.4 +0.3**
CCA1 Carnmenellis 130.00 336 *e*P **PKPdf 22 34 01.1 -0.4**
CCA1 IAMs_20 IAMs_20 23 22 19.5
comp=Z,9µm,33.1s
958A Wauchula 130.00 59 PKiKP **PKPdf 22 34 02.6 +0.4**
baz=286
758A Lake Helen 130.07 57 PKiKP **PKPdf 22 34 02.1 -0.2**
baz=288
058A Arcadia 130.10 60 PKiKP **PKiKP 22 34 02.8 -0.4**
baz=286
BRNJ Basking Ridge 130.11 40 *e*PKPdf **PKPdf 22 34 02.3 +0.3**
DWPF Disney Wildern 130.12 58 PKiKP **PKPdf 22 34 02.5 +0.1**
baz=287
DWPF Disney Wildern 130.12 58 *e*PKPdf **PKPdf 22 34 03.5 +1.0**
858A St. Cloud 130.16 58 PKiKP **PKPdf 22 34 02.8 +0.3**
baz=287
PQI Presque Isle 130.20 30 *e*PKPdf **PKPdf 22 34 00.7 -1.4**
RTLL Cerro Villicun 130.21 141 *e*P **PKPdf 22 34 00.8 -1.8**
LCO Las Campanas 130.25 137 *e*PKPdf **PKPdf 22 34 04.1 +1.1**
LCO Las Campanas 130.25 137 *e*P **PKPdf 22 34 03.9 +0.8**
LCO Las Campanas 130.25 137 *e*P **PKPdf 22 34 00.5 -2.6**
HDC Heredia 130.27 82 *e*PKPdf **PKPdf 22 34 04.8 +1.5**
FFD Franklin Falls 130.30 36 *e*PKPdf **PKPdf 22 34 02.6 +0.3**
FFD ePP **PP 22 36 15.6 -1.0**
PAL Palisades 130.35 40 PKiKP **PKPdf 22 34 02.3 -0.2**
baz=303
PAL Palisades 130.35 40 *e*PKIKP **PKPdf 22 34 01.8 -0.7**
PAL Palisades 130.35 40 *e*PKPdf **PKPdf 22 34 01.8 -0.7**
ACAN Cantantal 130.35 143 *e*P **PKPdf 22 34 02.9 0.0**
VAL Valentia 130.38 341 *e*P **Pdif 22 30 46.7 -5.8**
VAL *e*PPP PPP 22 36 19.2
CNNC Cliffs of the 130.41 48 PKiKP **PKPdf 22 34 02.7 -0.1**
baz=295
CNNC Cliffs of the 130.41 48 *e*PKPdf **PKPdf 22 34 03.5 +0.7**
CPNY Central Park 130.44 40 *e*PKPdf **PKPdf 22 34 02.6 -0.1**
AMOG MOGNA 130.46 140 *e*P **PKPdf 22 34 02.5 -0.7**
PKME Peaks-Kenny Pk 130.49 32 PKiKP **PKPdf 22 34 02.3 -0.3**
baz=311
859A Kempfer Cattle 130.59 58 PKiKP **PKPdf 22 34 03.4 +0.1**
baz=287
QUA2 Belchertown 130.59 37 *e*PKPdf **PKPdf 22 34 02.6 -0.3**
059Z Ave Maria 130.60 61 PKiKP **PKPdf 22 34 03.8 +0.4**
baz=285
KEST Kesra 130.61 313 PKP **PKPdf 22 34 04.5 +1.2**
comp=Z,125nm,0.9s,baz=298,slow=1.9,SNR=32
KEST PP **PP 22 36 19.5 +0.2**
comp=Z,34nm,1.0s,baz=347,slow=6.0,SNR=4.0
059A Moore Haven 130.69 60 PKiKP **PKPdf 22 34 03.8 +0.3**
baz=286
WVL Waterville 130.74 33 *e*PKPdf **PKPdf 22 34 03.3 +0.2**
959A Okeechobee 130.76 59 PKiKP **PKPdf 22 34 03.9 +0.2**
baz=287
YLE Yale 130.79 39 *e*PKPdf **PKPdf 22 34 02.7 -0.6**
HRV Adam Dziewonsk 130.94 37 PKiKP **PKPdf 22 34 03.6 0.0**
baz=307
HRV Adam Dziewonsk 130.94 37 *e*PKIKP **PKPdf 22 34 03.4 -0.2**
HRV *e* 22 36 18.7
HRV Adam Dziewonsk 130.94 37 *e*PKPdf **PKPdf 22 34 03.4 -0.2**
HRV ePP **PP 22 36 18.7 -2.0**
MRA San Martin 131.13 144 *e*P **PKPdf 22 34 03.9 -0.6**
WES Weston 131.15 37 *e*PKIKP **PKPdf 22 34 04.6 +0.7**
WES *e* 22 36 20.1
WES Weston 131.15 37 *e*PKPdf **PKPdf 22 34 04.6 +0.7**
WES ePP **PP 22 36 20.1 -2.0**
BCX Boston College 131.27 37 *e*PKPdf **PKPdf 22 34 04.9 +0.7**
BCX ePP **PP 22 36 21.3 -1.6**
BRYW Bryant College 131.30 37 *e*PKPdf **PKPdf 22 34 04.9 +0.6**
BRYW ePP **PP 22 36 21.9 -1.3**
AGUA GUANDACOL 131.42 139 *e*P **PKPdf 22 34 05.7 +0.7**
CMAH Djebel Manchou 131.59 315 P **PKPdf 22 34 06.9 +1.8**
ABSA Djebel Ababsia 131.72 314 P **PKPdf 22 34 05.7 +0.3**
EMMW East Machias 131.82 32 *e*PKPdf **PKPdf 22 34 05.4 +0.2**
CAEH 'Ain El Ouahch 131.92 315 P **PKPdf 22 34 07.2 +1.6**
APLL PUNTA DE LOS L 132.06 141 *e*P **PKPdf 22 34 05.2 -1.0**
VCA Vinchina 132.10 138 *e*P **PKPdf 22 34 07.9 +1.4**
VCA Vinchina 132.10 138 *e*P **PKPdf 22 34 07.4 +0.9**
CKFL Kef-Lekhel 132.19 315 P **PKPdf 22 34 07.9 +1.6**
H09N1 TRISTAN DA CUN 132.40 204 PKP **PKPdf 22 34 07.9 +1.3**
CASM Ain Smara 132.42 315 P **PKPdf 22 34 08.1 +1.4**
CTEI Djebel Teioual 132.58 315 P **PKPdf 22 34 08.2 +1.1**
DFRA Djebel Bou Aff 132.71 315 P **PKPdf 22 34 09.5 +2.2**
SET Setif 133.22 315 P **PKPdf 22 34 11.0 +2.8**
CKHR Kef el Ahmar 133.23 315 P **PKPdf 22 34 10.0 +1.7**
CBCY The Bluff, Cay 133.59 69 *e*PKPdf **PKPdf 22 34 10.1 +0.9**
PB10 IPOC Station P 133.65 131 *e*PKPdf **PKPdf 22 34 11.6 +2.3**
NNA Nana 133.71 113 PKP **PKPdf 22 34 10.2 +0.6**
comp=Z,48nm,0.8s,baz=295,slow=6.6,SNR=15
NNA SKP 22 37 30.2
comp=Z,31nm,1.1s,baz=230,slow=8.6,SNR=3.3
NNA Nana 133.71 113 *i* PKiKP **PKPdf 22 34 11.5 +1.9**
NNA Nana 133.71 113 *e*PKPdf **PKPdf 22 34 11.0 +1.3**
NNA SKP 22 37 30.2
ATAH Atahualpa 133.75 106 PKhKP PKPpre 22 34 01.1
baz=161,slow=4.0
ATAH PKP **PKiKP 22 34 11.0 -0.5**
comp=Z,68nm,0.8s,baz=258,slow=1.1,SNR=3.8
ATAH SKPbc **SKPab 22 37 30.9 -0.2**
comp=Z,50nm,1.1s,baz=270,slow=1.0,SNR=5.7
CYA Choya 133.87 140 *e*P PKPpre 22 33 51.8
BCIP Isla Barro Col 134.50 83 *e*PKPdf **PKPdf 22 34 11.3 +0.2**
PB04 IPOC Station P 134.63 130 *e*PKPdf **PKPdf 22 34 13.2 +1.8**
EMHD Djebel Mahouad 134.91 317 P **PKPdf 22 34 12.0 +0.6**
OTAV Otavalo 135.24 96 *e*PKPpre PKPpre 22 33 59.8
OTAV *e*PKPdf **PKiKP 22 34 14.5 -0.1**
AHML Horco Molle 135.30 139 *e*P PKPpre 22 34 01.1
FSA Cafayete 135.32 137 *e*P PKPpre 22 33 58.8
EBNR Beni Rached 135.82 318 P **PKPdf 22 34 12.6 -0.4**
PB01 IPOC Station P 135.86 129 *e*PKPpre PKPpre 22 34 04.2
PB01 *e*PKPdf **PKPdf 22 34 13.7 +0.1**
CMBC Cumbal 135.96 95 *e*P **PKPdf 22 34 16.5 +2.1**
ECHA Ech Chlef 136.01 318 P **PKPdf 22 34 12.8 -0.5**
EANR 'Ain N'Sour 136.30 318 P **PKPdf 22 34 14.8 +0.9**
PB11 IPOC Station P 136.43 127 *e*PKPdf **PKPdf 22 34 16.0 +1.3**
GCUF Volcan Galeras 136.47 95 *e*P **PKPdf 22 34 16.5 +1.1**
ETRT Tiaret 136.48 317 P **PKPdf 22 34 16.8 +2.4**
SLA San Lorenzo 136.55 136 *e*P PKPpre 22 34 06.6
CART Cartagena 136.71 321 *e*PKPpre PKPpre 22 34 03.8
MNMC Minye Minye 136.82 126 *e*PKPpre PKPpre 22 34 05.0
MNMC *e*PKPdf **PKiKP 22 34 16.9 -0.5**
CAPC Capurgana 136.95 84 *e*P **PKPdf 22 34 14.5 -1.1**
ES19 SONSECA Array 137.07 325 *e*PKPpre PKPpre 22 34 02.7
ES19 *e*PKPdf **PKPdf 22 34 16.0 +0.7**
PBRG Braganca 137.08 330 *e*PKPdf PKPpre 22 34 04.8
PBRG Braganca 137.08 330 *e*PP PP 22 37 02.8 +3.2
PBRG Braganca 137.08 330 *e*SS SS 22 55 08.7 +13
PBRG Braganca 137.08 330 *e*LQ LQ 23 10 40.4
PBRG *e*LR LR 23 20 07.9
comp=Z,3µm,22.0s
ESDC Sonseca Array 137.12 325 PKhKP PKPpre 22 34 05.2
comp=Z,6.7nm,0.8s,baz=30,slow=3.2,SNR=15
ESDC PKP **PKPdf 22 34 16.3 +0.9**
comp=Z,18nm,0.8s,baz=22,slow=2.1,SNR=27
ESDC PP **PP 22 36 57.7 -2.3**
comp=Z,7.1nm,0.8s,baz=48,slow=6.1,SNR=4.1
ESDC PKKP **PKKPdf 22 43 53.2 +1.4**
comp=Z,0.5nm,0.4s,baz=261,slow=1.9,SNR=5.5
ESLA Sonseca Array 137.12 325 *e*PKPpre PKPpre 22 34 05.7
ESLA *e*PKPdf **PKiKP 22 34 16.5 -0.7**
AZAP Zapla 137.18 136 *e*P PKPpre 22 34 09.1
POPC Popayan, Colom 137.29 93 *e*P **PKPdf 22 34 17.2 +0.6**
SOTA Rioblanco 137.32 94 *e*P PKPpre 22 34 07.2
PAB San Pablo 137.43 326 *e*PKHKP PKPpre 22 34 07.0
PAB *e* 22 34 16.6
PAB San Pablo 137.43 326 *e*PKPpre PKPpre 22 34 07.0
PAB *e*PKPdf **PKPdf 22 34 16.6 +0.7**
ODJA Bouhanifia 137.49 318 P **PKPdf 22 34 17.5 +1.4**
HJA Humahuaca 137.59 135 *e*P PKPpre 22 34 11.4
MVO Moncorvo 137.70 329 *e*PKPdf PKPpre 22 34 07.2
MVO Moncorvo 137.70 329 *e*PP PP 22 37 06.1 +2.6
MVO Moncorvo 137.70 329 *e*SS SS 22 55 15.9 +13
MVO Moncorvo 137.70 329 *e*LQ LQ 23 10 47.7
MVO Moncorvo 137.70 329 *e*LR LR 23 21 23.4
comp=Z,4µm,20.0s
PGAV Gavieira, Arco 137.71 331 *e*PKPdf PKPpre 22 34 11.4
PGAV Gavieira, Arco 137.71 331 *e*PP PP 22 37 03.9 +0.4
PGAV Gavieira, Arco 137.71 331 *e*LQ LQ 23 11 40.7
PGAV *e*LR LR 23 21 26.3
comp=Z,3µm,20.0s
YOTC Yotoco, Valle 137.76 91 *e*P PKPpre 22 34 07.2
ASTB Santa Barbara 137.78 136 *e*P PKPpre 22 34 08.7
PCAB Cabril 137.78 331 *e*PKPdf PKPpre 22 34 11.3
PCAB Cabril 137.78 331 *e*PP PP 22 37 05.1 +1.2
GTBY Guantanamo Bay 137.83 67 *e*PKPpre PKPpre 22 34 06.5
GTBY *e*PKPdf **PKPdf 22 34 17.1 +0.1**
POLO Lamas de Olo 137.93 330 *e*PKPdf PKPpre 22 34 05.2
POLO Lamas de Olo 137.93 330 *e*PP PP 22 37 06.3 +1.4
POLO Lamas de Olo 137.93 330 *e*SS SS 22 55 19.9 +14
POLO Lamas de Olo 137.93 330 *e*LQ LQ 23 11 44.7
POLO *e*LR LR 23 21 37.3
comp=Z,1µm,20.0s
PVRL Vila Real 137.96 330 *e*PKPdf PKPpre 22 34 12.8
MARP Paez Belalcaza 138.04 93 *e*P PKPpre 22 34 07.9
YJA Yavi 138.17 133 *e*P PKPpre 22 34 09.1
ALOL LOMAS DE OLMED 138.19 137 *e*P PKPpre 22 34 05.9
PVIS Viseu 138.47 330 *e*PKPdf PKPpre 22 34 09.5
PVIS Viseu 138.47 330 *e*PP PP 22 37 08.6 +0.4
TAM Tamanrasset 138.53 298 *e*PKHKP PKPpre 22 34 08.6
TAM Tamanrasset 138.53 298 *e*PKPpre PKPpre 22 34 08.6
TAM *e*PP **PP 22 37 02.9 -7.1**
MTE Manteigas 138.53 329 *e*PKPdf PKPpre 22 34 11.0
MTE Manteigas 138.53 329 *e*PP PP 22 37 09.9 +1.3
MTE Manteigas 138.53 329 *e*SS SS 22 55 27.9 +15
MTE Manteigas 138.53 329 *e*LQ LQ 23 11 55.1
MTE Manteigas 138.53 329 *e*LR LR 23 21 55.2
comp=Z,3µm,20.0s
MTE Manteigas 138.53 329 *e*PKPpre PKPpre 22 34 08.9
MTE *e*PKPdf **PKPdf 22 34 17.9 0.0**
MOTC Monteria, Cord 138.62 84 *e*P **PKPdf 22 34 18.5 -0.2**
HELC Santa Helena 138.71 88 *e*PKPpre PKPpre 22 34 10.0
HELC *e*PKPdf **PKPdf 22 34 18.0 -0.5**
HELC Santa Helena 138.71 88 *e*P **PKPdf 22 34 18.5 -0.9**
GUYC Guyana, Colomb 138.80 89 *e*P **PKPdf 22 34 17.2 -2.5**
RREF El Recreo 138.83 90 *e*P **PKPdf 22 34 19.2 -0.7**
PCBR Castelo Branco 138.91 328 *e*PKPdf PKPpre 22 34 11.8
PCBR Castelo Branco 138.91 328 *e*PP PP 22 37 13.2 +2.3
PRAC Prado 139.19 92 *e*PKPpre PKPpre 22 34 11.2
PRAC *e*PKPdf **PKPdf 22 34 20.2 +0.4**
PCAS Casmilo, Conde 139.27 330 *e*PKPdf PKPpre 22 34 11.6
PCAS Casmilo, Conde 139.27 330 *e*PP PP 22 37 14.6 +1.5
PCAS Casmilo, Conde 139.27 330 *e*SS SS 22 55 37.7 +16
PCAS Casmilo, Conde 139.27 330 *e*LQ LQ 23 11 26.3
PCAS Casmilo, Conde 139.27 330 *e*LR LR 23 21 57.7
comp=Z,2µm,20.0s
NORC Norcasia 139.34 89 *e*P PKPpre 22 34 13.9
ZARC Zaragoza, Cauc 139.42 86 *e*P PKPpre 22 34 13.9
LPAZ La Paz 139.49 124 PKhKP PKPpre 22 34 11.8
comp=Z,28nm,0.9s,baz=253,slow=1.6,SNR=39
LPAZ SKPbc **SKiKP 22 37 47.8 -1.1**
comp=Z,45nm,1.1s,baz=299,slow=0.9,SNR=4.6
LPAZ La Paz 139.49 124 *e*PKPpre PKPpre 22 34 12.3
LPAZ *e*PKPdf **PKPdf 22 34 21.4 +0.3**
LPAZ SKPbc **SKiKP 22 37 47.8 -1.1**
LPAZ La Paz 139.49 124 *e*P PKPpre 22 34 12.9
PTOM Tomar 139.56 329 *e*PKPdf PKPpre 22 34 13.3
PTOM Tomar 139.56 329 *e*PP PP 22 37 12.7 -2.2
PESTR Estremoz 139.68 328 *e*PKPdf PKPpre 22 34 10.4
PESTR Estremoz 139.68 328 *e*PP PP 22 37 16.9 +1.2
PESTR Estremoz 139.68 328 *e*SS SS 22 55 32.5 +6.2
PESTR Estremoz 139.68 328 *e*LQ LQ 23 11 56.1
PESTR Estremoz 139.68 328 *e*LR LR 23 22 51.2
comp=Z,2µm,20.0s
PESTR Estremoz 139.68 328 *e*PKPpre PKPpre 22 34 11.6
PESTR *e*PKPdf **PKPdf 22 34 20.5 +0.5**
PTBC PUERTO BERRIO 139.79 87 *e*P PKPpre 22 34 13.9
ROSC El Rosal 139.84 90 PKhKP PKPpre 22 34 14.1
comp=Z,36nm,0.5s,baz=357,slow=10,SNR=14
ROSC PKP **PKPdf 22 34 22.2 +0.7**
comp=Z,48nm,0.7s,baz=126,slow=19,SNR=20
ROSC El Rosal 139.84 90 *e*PKPpre PKPpre 22 34 12.7
ROSC *e*PKPdf **PKPdf 22 34 22.0 +0.5**
PMTG Montargil 139.87 328 *e*PKPdf PKPpre 22 34 10.0
PMTG Montargil 139.87 328 *e

PBAR	**Barrancos**	**139.88**	**326**	*e*LQ	LQ	23	12	22.2	
PBAR	**Barrancos**	**139.88**	**326**	*e*LR	LR	23	22	37.1	
	comp=Z,7μm,20.0s								
ALMR	**Almeirim**	**139.99**	**329**	*e*P	PKPpre	22	34	14.4	
ALMR				*e*PP	**PP**	**22**	**37**	**13.6**	**-3.9**
ALMR				AMS	AMS	23	28	46.3	
	comp=E,6μm,20.9s								
ALMR	**Almeirim**	**139.99**	**329**	*e*PKPdf	PKPpre	22	34	13.9	
ALMR	**Almeirim**	**139.99**	**329**	*e*PP	PP	22	37	20.4	+2.9
SJAC	**San Juan de Ar**	**140.08**	**92**	*e*P	PKPpre	22	34	13.9	
EVO	**Evora**	**140.15**	**329**	*e*PKPdf	PKPpre	22	34	14.6	
EVO	**Evora**	**140.15**	**328**	*e*PP	PP	22	37	20.1	+1.5
VILC	**Villavicencio,**	**140.41**	**91**	*e*P	PKPpre	22	34	17.2	
CHIC	**Chingaza**	**140.41**	**90**	*e*P	PKPpre	22	34	17.2	
PBEJ	**Beja**	**140.44**	**327**	*e*PKPdf	PKPpre	22	34	17.1	
PBEJ	**Beja**	**140.44**	**327**	*e*PP	PP	22	37	23.6	+3.2
LGNH	**LØogne**	**140.45**	**68**	*e*PKPpre	PKPpre	22	34	14.7	
LGNH				*e*PKPdf	**PKPdf**	**22**	**34**	**21.4**	**-0.5**
PMAFR	**Mafra**	**140.50**	**329**	*e*PKPdf	PKPpre	22	34	11.7	
PMAFR	**Mafra**	**140.50**	**329**	*e*PP	PP	22	37	23.5	+2.8
PMAFR	**Mafra**	**140.50**	**329**	*e*SS	SS	22	55	52.8	+17
PMAFR	**Mafra**	**140.50**	**329**	*e*LR	LR	23	22	38.8	
	comp=E,2μm,20.0s								
CPUP	**Villa Florida**	**140.51**	**146**	PKHKP	PKPpre	22	34	13.5	
	comp=E,7.4nm,0.5s,baz=246,slow=3.8,SNR=17								
CPUP				PKP	**PKPdf**	**22**	**34**	**23.0**	**+1.2**
	comp=E,59nm,0.9s,baz=255,slow=0.8,SNR=33								
CPUP	**Villa Florida**	**140.51**	**146**	*e*PKPpre	PKPpre	22	34	13.7	
CPUP				*e*PKPdf	**PKPdf**	**22**	**34**	**21.9**	**0.0**
CPUP	**Villa Florida**	**140.51**	**146**	*e*P	PKPpre	22	34	11.4	
BRRC	**Barranca, Sant**	**140.55**	**86**	*e*P	**PKPdf**	**22**	**34**	**20.5**	**-1.7**
SFS	**San Fernando**	**140.60**	**324**	*e*PKHKP	PKPpre	22	34	16.0	
SFS				*e*		22	34	23.2	
SFS	**San Fernando**	**140.60**	**324**	*e*PKPpre	PKPpre	22	34	16.0	
SFS				*e*PKPdf	**PKiKP**	**22**	**34**	**23.2**	**-1.1**
LIS	**Lisbon**	**140.61**	**329**	*e*P	PKPpre	22	34	15.8	
LIS				AMS	AMS	23	28	59.6	
	comp=E,7μm,28.3s								
LIS	**Lisbon**	**140.61**	**329**	*e*PKPdf	PKPpre	22	34	16.0	
LIS	**Lisbon**	**140.61**	**329**	*e*PP	PP	22	37	24.6	+3.3
PMST	**Lisbon--Monsan**	**140.61**	**329**	*e*PKPdf	PKPpre	22	34	14.6	
PMST	**Lisbon--Monsan**	**140.61**	**329**	*e*PP	PP	22	37	22.8	+1.5
PNCL	**Nicolau / Gran**	**140.74**	**328**	*e*PKPdf	PKPpre	22	34	12.4	
PNCL	**Nicolau / Gran**	**140.74**	**328**	*e*PP	PP	22	37	21.6	-0.5
PNCL	**Nicolau / Gran**	**140.74**	**328**	*e*SS	SS	22	55	45.2	+6.7
PNCL	**Nicolau / Gran**	**140.74**	**328**	*e*LQ	LQ	23	12	38.3	
PNCL	**Nicolau / Gran**	**140.74**	**328**	*e*LR	LR	23	23	05.2	
	comp=E,3μm,18.0s								
MESJ	**Messejana**	**140.77**	**327**	*e*P	PKPpre	22	34	15.9	
MESJ				*e*PP	**PP**	**22**	**37**	**18.4**	**-4.0**
MESJ				AMS	AMS	23	27	56.3	
	comp=E,5μm,28.2s								
MESJ	**Messejana**	**140.77**	**327**	*e*P	PKPpre	22	34	15.9	
CODC	**Agust´›n Codaz**	**140.78**	**82**	*e*P	**PKPdf**	**22**	**34**	**20.5**	**-2.1**
PVAQ	**Vaqueiros**	**140.81**	**326**	*e*PKPdf	PKPpre	22	34	12.6	
PVAQ	**Vaqueiros**	**140.81**	**326**	*e*PP	PP	22	37	21.1	-1.6
PVAQ	**Vaqueiros**	**140.81**	**326**	*e*LR	LR	23	23	01.5	
	comp=E,2μm,20.0s								
PCVE	**Castro Verde**	**140.82**	**327**	*e*PKPdf	PKPpre	22	34	12.4	
PCVE	**Castro Verde**	**140.82**	**327**	*e*PP	PP	22	37	26.5	+3.8
PCVE	**Castro Verde**	**140.82**	**327**	*e*SS	SS	22	55	47.8	+8.2
PCVE	**Castro Verde**	**140.82**	**327**	*e*LR	LR	23	23	12.7	
	comp=E,3μm,20.0s								
PBDV	**Barranco-do-Ve**	**141.04**	**326**	*e*PKPdf	PKPpre	22	34	14.9	
PBDV	**Barranco-do-Ve**	**141.04**	**326**	*e*PP	PP	22	37	28.5	+4.4
PBDV	**Barranco-do-Ve**	**141.04**	**326**	*e*SS	SS	22	55	55.6	+13
PBDV	**Barranco-do-Ve**	**141.04**	**326**	*e*LR	LR	23	23	11.0	
	comp=E,2μm,20.0s								
RUSC	**La Rusia**	**141.13**	**88**	*e*PKPpre	PKPpre	22	34	16.9	
RUSC	**La Rusia**	**141.13**	**88**	*e*P	PKPpre	22	34	15.2	
PTEO	**Sao Teotonio**	**141.26**	**327**	*e*PKPdf	PKPpre	22	34	17.4	
PTEO	**Sao Teotonio**	**141.26**	**327**	*e*PP	PP	22	37	30.5	+5.2
MORF	**Marmelete**	**141.39**	**327**	*e*P	PKPpre	22	34	17.3	
MORF				*e*PP	**PP**	**22**	**37**	**21.5**	**-4.8**
MORF				*e*SS	SS	22	55	43.0	-3.4
MORF				AMS	AMS	23	28	02.3	
	comp=E,6μm,25.6s								
MORF	**Marmelete**	**141.39**	**327**	*e*PKPdf	PKPpre	22	34	16.5	
MORF	**Marmelete**	**141.39**	**327**	*e*PP	PP	22	37	29.8	+3.6
MORF	**Marmelete**	**141.39**	**327**	*e*SS	SS	22	55	57.2	+11
PAMC	**Pamplona, Colo**	**141.56**	**86**	*e*P	PKPpre	22	34	19.4	
SDDR	**Presa de Saban**	**141.56**	**67**	*e*PKPpre	PKPpre	22	34	19.4	
SDDR				*e*PKPdf	**PKPdf**	**22**	**34**	**23.8**	**-0.2**
PFVI	**Vila Bisbo**	**141.62**	**327**	*e*PKPdf	PKPpre	22	34	16.6	
PFVI	**Vila Bisbo**	**141.62**	**327**	*e*PP	PP	22	37	28.7	+1.2
PFVI	**Vila Bisbo**	**141.62**	**327**	*e*LQ	LQ	22	55	56.5	
PFVI	**Vila Bisbo**	**141.62**	**327**	*e*LR	LR	23	23	29.8	
	comp=E,3μm,20.0s								
URIC	**Uribia, Colomb**	**142.10**	**79**	*e*P	**PKPdf**	**22**	**34**	**21.8**	**-3.1**
RTC	**Rabat Centre**	**142.66**	**321**	*e*PKPdf	**PKPdf**	**22**	**34**	**23.6**	**-1.8**
SDD	**Santo Domingo**	**142.95**	**68**	*e*PKPpre	PKPpre	22	34	19.6	
SDD				*e*PKPdf	**PKPdf**	**22**	**34**	**23.9**	**-2.4**
SDV	**Santo Domingo**	**143.59**	**84**	PKP	PKPbc	22	34	25.4	-0.2
	comp=E,440nm,1.0s,baz=266,slow=3.1,SNR=140								
SDV	**Santo Domingo**	**143.59**	**84**	PKPdf	PKPbc	22	34	25.9	+0.3
TOA0	**Torodi Ar. Sit**	**144.19**	**284**	*e*PKPdf	**PKPdf**	**22**	**34**	**28.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**144.19**	**284**	PKP	PKPbc	22	34	27.3	+0.2
	comp=E,648nm,0.9s,baz=67,slow=2.6,SNR=620								
TORD				SKKPbc	SKKPbc	22	46	04.8	+3.2
	comp=E,28nm,1.1s,baz=262,slow=3.1,SNR=9.5								
SHEL	**Horse Pasture**	**144.40**	**231**	*e*PKIKP	**PKPdf**	**22**	**34**	**29.2**	**+0.2**
SHEL	**Horse Pasture**	**144.40**	**231**	*e*PKPdf	**PKPdf**	**22**	**34**	**29.2**	**+0.2**
SIV	**San Ignacio**	**145.27**	**130**	PKPbc	**PKPbc**	**22**	**34**	**30.4**	**-0.1**
	comp=E,506nm,1.1s,baz=242,slow=4.0,SNR=408								
AGP	**Aguadilla**	**145.50**	**66**	*e*PKPdf	**PKPbc**	**22**	**34**	**31.0**	**-0.1**
MPR	**Mayaguez**	**145.55**	**67**	*e*PKPdf	**PKPdf**	**22**	**34**	**30.4**	**-0.5**
SJG	**San Juan**	**146.49**	**66**	*e*PKPdf	**PKPdf**	**22**	**34**	**32.2**	**-0.2**
	comp=E,410nm,0.7s,baz=22,slow=2.9,SNR=55								
SJG	**San Juan**	**146.49**	**66**	*e*PKP2	**PKPdf**	**22**	**34**	**32.9**	**+0.4**
SJG	**San Juan**	**146.49**	**66**	*e*PKPdf	**PKPdf**	**22**	**34**	**32.9**	**+0.4**
CBYP	**Canovanas**	**146.71**	**66**	*e*PKPdf	**PKPdf**	**22**	**34**	**31.6**	**-1.3**
CBYP				*e*PKPbc	**PKPbc**	**22**	**34**	**34.2**	**-0.6**
HUMP	**Col San Antoni**	**146.75**	**66**	*e*PKPdf	**PKPdf**	**22**	**34**	**33.5**	**+0.6**
HUMP				*e*PKPbc	**PKPbc**	**22**	**34**	**35.3**	**+0.5**
PGRA	**Graciosa**	**146.89**	**351**	*e*PKPdf	**PKPdf**	**22**	**34**	**32.0**	**-0.6**
MTP	**Monte Pirata**	**147.03**	**66**	*e*PKPdf	**PKPdf**	**22**	**34**	**33.8**	**+0.3**
MTP				*e*PKPbc	**PKPbc**	**22**	**34**	**35.8**	**+0.1**
ADH	**Angra Heroismo**	**147.14**	**350**	*e*PKPdf	**PKPdf**	**22**	**34**	**32.4**	**-0.6**
SAML	**Samuel**	**147.23**	**117**	*e*PKPdf	**PKPbc**	**22**	**34**	**35.8**	**-0.5**
ROSA	**Rosais**	**147.23**	**352**	*e*PKPdf	**PKPdf**	**22**	**34**	**32.2**	**-1.0**
PMAN	**Manadas**	**147.30**	**351**	*e*PKPdf	**PKPdf**	**22**	**34**	**32.3**	**-1.0**
PCED	**Cedros**	**147.39**	**352**	*e*PKPdf	**PKPdf**	**22**	**34**	**32.0**	**-0.6**
STVI	**Saint Thomas**	**147.50**	**65**	*e*PKPdf	**PKPdf**	**22**	**34**	**34.8**	**+0.6**
PCAN	**Candelaria**	**147.52**	**352**	*e*PKPdf	**PKPdf**	**22**	**34**	**33.0**	**-0.7**
BART	**Pico Bartolome**	**147.58**	**347**	*e*PKPdf	**PKPdf**	**22**	**34**	**33.5**	**-0.4**
SPB	**Sao Paulo**	**147.59**	**157**	*e*PKPbc	**PKPbc**	**22**	**34**	**36.5**	**-0.5**
PSET	**Sete Cidades**	**147.66**	**348**	*e*PKPdf	**PKPdf**	**22**	**34**	**33.6**	**-0.4**
CMLA	**Cha da Macela**	**147.67**	**347**	*e*PKP2	**PKPab**	**22**	**34**	**38.1**	**-1.2**
CMLA	**Cha da Macela**	**147.67**	**347**	*e*PKPdf	**PKPdf**	**22**	**34**	**33.0**	**-1.0**
CMLA	**Cha da Macela**	**147.67**	**347**	*e*PKPbc	**PKPab**	**22**	**34**	**38.1**	**-1.2**
ABVI	**Anegada Island**	**147.94**	**64**	*e*PKPbc	**PKPbc**	**22**	**34**	**39.0**	**+0.9**
PSMN	**Pico do Norte,**	**148.30**	**346**	*e*PKPdf	**PKPdf**	**22**	**34**	**34.1**	**-0.9**
PMPS	**Porto Santo**	**148.65**	**331**	*e*PKPdf	**PKPdf**	**22**	**34**	**37.3**	**+1.6**
PMAR	**Madeira**	**149.21**	**331**	*e*PKPdf	**PKPdf**	**22**	**34**	**37.7**	**+0.8**
FUL	**Funchal**	**149.26**	**331**	*e*PKPdf	**PKPdf**	**22**	**34**	**36.5**	**-0.2**
FUL	**Funchal**	**149.26**	**331**	*e*PP	PP	22	38	17.3	+4.6
PMOZ	**Porto Moniz, M**	**149.26**	**332**	*e*PKPdf	**PKPdf**	**22**	**34**	**37.4**	**+0.5**
PMOZ	**Porto Moniz, M**	**149.26**	**332**	*e*PP	PP	22	38	15.1	+2.3
PMOZ	**Porto Moniz, M**	**149.26**	**332**	*e*LQ	LQ	23	17	00.7	
PMOZ				*e*LR	LR	23	26	00.6	
	comp=E,2μm,20.0s								
SABA	**Saba**	**149.27**	**66**	*e*PKPdf	**PKPdf**	**22**	**34**	**39.3**	**+2.2**
SABA				*e*PKPbc	**PKPbc**	**22**	**34**	**42.0**	**+0.5**
SABA	**Saba**	**149.27**	**66**	*e*P	**PKPdf**	**22**	**34**	**38.8**	**+1.6**
SMRT	**St. Maarten**	**149.29**	**65**	*e*PKPdf	**PKPdf**	**22**	**34**	**37.3**	**+0.1**
SMRT				*e*PKPbc	**PKPbc**	**22**	**34**	**39.6**	**-2.0**
SMRT				*e*PKPab	**PKiKP**	**22**	**34**	**43.8**	**+1.1**
SMRT	**St. Maarten**	**149.29**	**65**	*e*P	**PKPdf**	**22**	**34**	**37.9**	**+0.7**
KOWA	**Kowa**	**149.42**	**288**	*e*PKPdf	**PKPdf**	**22**	**34**	**37.6**	**+0.2**
	comp=E,40nm,1.0s,baz=12,slow=0.7,SNR=22								
KOWA				PKPbc	**PKiKP**	**22**	**34**	**43.0**	**-0.1**
	comp=E,661nm,0.8s,baz=99,slow=1.0,SNR=256								
KOWA	**Kowa**	**149.42**	**288**	*e*PKPdf	**PKPdf**	**22**	**34**	**39.0**	**+1.6**
KOWA				*e*PKPbc	**PKiKP**	**22**	**34**	**43.1**	**0.0**
PCRV	**Puerto La Cruz**	**149.43**	**81**	PKP	**PKPdf**	**22**	**34**	**36.4**	**-1.1**
	comp=E,127nm,0.8s,baz=344,slow=1.3,SNR=5.6								
PCRV				PKPbc	**PKPbc**	**22**	**34**	**41.9**	**-0.1**
	comp=E,164nm,0.7s,baz=262,slow=3.2,SNR=25								
SEUS	**St. Eustatius**	**149.55**	**66**	*e*PKPdf	**PKPdf**	**22**	**34**	**38.5**	**+1.0**
SEUS				*e*PKPbc	**PKiKP**	**22**	**34**	**43.4**	**+0.2**
SEUS	**St. Eustatius**	**149.55**	**66**	*e*P	**PKPdf**	**22**	**34**	**37.5**	**0.0**
NEV	**Hard Times**	**150.03**	**66**	*e*P	**PKPdf**	**22**	**34**	**39.0**	**+0.7**
MLYT	**Lee's Yard**	**150.50**	**67**	*e*P	**PKPdf**	**22**	**34**	**39.8**	**+0.7**
ANWB	**Willy Bob**	**150.57**	**65**	*e*PKPdf	**PKPdf**	**22**	**34**	**38.7**	**-0.4**
ANWB				*e*PKPbc	**PKPbc**	**22**	**34**	**45.0**	**+0.3**
ANWB	**Willy Bob**	**150.57**	**65**	*e*P	**PKPdf**	**22**	**34**	**40.0**	**+0.9**
BPA	**Boggy Peak**	**150.71**	**66**	*e*P	**PKPdf**	**22**	**34**	**40.1**	**+0.7**
KIC	**Kosan Boka**	**150.93**	**272**	*e*PKIKP	**PKPdf**	**22**	**34**	**39.6**	**-0.3**
	comp=E,1μm,0.9s								
GDHS	**Morne Mazeau,**	**151.03**	**68**	*e*PKPdf	**PKPdf**	**22**	**34**	**40.4**	**+0.5**
GDHS				*e*PKPbc	**PKPbc**	**22**	**34**	**45.8**	**0.0**
DBIC	**Dimbokro**	**151.05**	**273**	PKP	**PKPdf**	**22**	**34**	**40.2**	**+0.2**
	comp=E,27nm,0.9s,baz=84,slow=1.3,SNR=20								
DBIC				PKPbc	**PKiKP**	**22**	**34**	**47.4**	**+0.9**
	comp=E,880nm,0.9s,baz=76,slow=2.9,SNR=315								
DBIC				pPKPbc	**pPKPbc**	**22**	**35**	**20.8**	**+3.1**
	comp=E,582nm,0.9s,baz=86,slow=4.4,SNR=5.2								
DBIC	**Dimbokro**	**151.05**	**273**	*e*PKPdf	**PKPdf**	**22**	**34**	**40.5**	**+0.5**
DBIC				*e*PKPbc	**PKiKP**	**22**	**34**	**46.8**	**+0.3**
DBIC				pPKPbc	**pPKPbc**	**22**	**35**	**20.8**	**+3.1**
LIC	**Lamto**	**151.21**	**272**	*e*PKIKP	**PKPdf**	**22**	**34**	**39.9**	**-0.4**
	comp=E,3μm,0.8s								
TIC	**Toumodi**	**151.21**	**272**	*e*PKIKP	**PKPdf**	**22**	**34**	**40.0**	**-0.3**
TBG	**Guadaloupe-3**	**151.26**	**68**	*e*P	**PKPdf**	**22**	**34**	**40.4**	**+0.2**
BBL	**Barbers Block**	**151.51**	**69**	*e*P	**PKPdf**	**22**	**34**	**40.9**	**+0.3**
MDPO	**Dominica; Chan**	**151.51**	**69**	*e*P	**PKPdf**	**22**	**34**	**42.5**	**+1.9**
MGG	**Marie-Galante**	**151.54**	**68**	*e*P	**PKPdf**	**22**	**34**	**42.3**	**+1.7**
MDMP	**Dominica, Moor**	**151.54**	**69**	*e*P	**PKPbc**	**22**	**34**	**48.5**	**+1.5**
MDVC	**Dominica, Viel**	**151.54**	**69**	*e*P	**PKPdf**	**22**	**34**	**40.6**	**-0.1**
MDN	**Morne-Daniel**	**151.64**	**69**	*e*P	**PKPbc**	**22**	**34**	**50.8**	**+3.6**
H05N1	**Guadeloupe/Mar**	**151.66**	**67**	PKP	**PKPdf**	**22**	**34**	**41.2**	**+0.4**
H05N1				PKPbc	**PKPbc**	**22**	**34**	**47.2**	**0.0**
DSHT	**Scott's Head**	**151.68**	**69**	*e*P	**PKPbc**	**22**	**34**	**49.7**	**+2.4**
DBCT	**Belle View Cho**	**151.69**	**69**	*e*P	**PKPdf**	**22**	**34**	**44.0**	**+3.1**
DSTT	**Stowe**	**151.74**	**69**	*e*P	**PKPbc**	**22**	**34**	**50.0**	**+2.5**
DLPL	**La Plaine**	**151.77**	**69**	*e*P	**PKPdf**	**22**	**34**	**41.5**	**+0.5**
FDF	**Fort de France**	**152.01**	**70**	*e*PKIKP	**PKPdf**	**22**	**34**	**41.3**	**-0.1**
FDF	**Fort de France**	**152.01**	**70**	*e*PKPdf	**PKPdf**	**22**	**34**	**41.3**	**-0.1**
FDF				*e*PKPbc	**PKiKP**	**22**	**34**	**48.9**	**+0.5**
FDF	**Fort de France**	**152.01**	**70**	*e*P	**PKPdf**	**22**	**34**	**41.3**	**-0.1**
GRHS	**Sauteurs**	**152.08**	**76**	*e*P	**PKPbc**	**22**	**34**	**47.6**	**-0.6**
GRGR	**Grenville**	**152.08**	**76**	*e*PKPdf	**PKPdf**	**22**	**34**	**40.1**	**-1.6**
GRGR	**Grenville**	**152.08**	**76**	*e*P	**PKPdf**	**22**	**34**	**41.5**	**0.0**
SVB	**Belmont**	**152.25**	**73**	*e*PKPdf	**PKPdf**	**22**	**34**	**41.5**	**-0.3**
SVB				*e*PKPbc	**PKPbc**	**22**	**34**	**48.2**	**-0.4**
SVB				*e*PKPab	**PKPab**	**22**	**34**	**56.8**	**-2.0**
SVB	**Belmont**	**152.25**	**73**	*e*P	**PKPdf**	**22**	**34**	**41.5**	**-0.3**
SVB	**Belmont**	**152.25**	**73**	*e*	**PKPbc**	**22**	**34**	**48.9**	**+0.3**
SVV	**Soufriere Volc**	**152.28**	**73**	*e*P	**PKPdf**	**22**	**34**	**43.6**	**+1.8**
SSV	**Crater Summit**	**152.30**	**73**	*e*P	**PKPbc**	**22**	**34**	**50.4**	**+1.6**
SLB	**Belfond**	**152.34**	**72**	*e*P	**PKPdf**	**22**	**34**	**43.3**	**+1.3**
H05S1	**Guadeloupe/Mar**	**152.39**	**71**	PKPbc	**PKPbc**	**22**	**34**	**49.9**	**+1.0**
MCLT	**Moule a Chique**	**152.46**	**72**	*e*P	**PKPdf**	**22**	**34**	**43.7**	**+1.6**
TPP	**Pointe-a-Pierr**	**152.53**	**80**	*e*P	**PKPdf**	**22**	**34**	**44.6**	**+2.4**
TRN	**Trinidad (W)**	**152.54**	**79**	*e*P	**PKPdf**	**22**	**34**	**44.0**	**+1.8**
TRN	**Trinidad (W)**	**152.54**	**79**	*e*P	**PKPbc**	**22**	**34**	**50.1**	**+0.9**
TBH	**Brigand Hill**	**152.89**	**79**	*e*P	**PKPdf**	**22**	**34**	**44.5**	**+1.7**
TOSP	**Speyside**	**153.30**	**77**	*e*P	**PKPdf**	**22**	**34**	**44.5**	**+1.1**
BBGH	**Gun Hill**	**153.89**	**73**	*e*P	PKPpre	22	34	34.6	
BBGH	**Gun Hill**	**153.89**	**73**	*e*PKPdf	**PKPbc**	**22**	**34**	**51.0**	**-1.2**
ASCN	**Ascension**	**155.89**	**235**	*e*PKPdf	**PKPdf**	**22**	**34**	**46.4**	**-0.6**
ASCN				*e*PKPab	**PKPab**	**22**	**35**	**13.2**	**-1.1**
BBTS	**Babate**	**160.91**	**297**	PKP	**PKPdf**	**22**	**34**	**53.5**	**+0.6**
	comp=E,99nm,0.9s,baz=198,slow=2.0,SNR=8.7								
BBTS				PKPab	**PKPab**	**22**	**35**	**37.9**	**+1.9**
	comp=E,187nm,0.9s,baz=339,slow=0.5,SNR=10								
SACV	**Santiago Islan**	**166.60**	**311**	*e*PKPdf	**PKPdf**	**22**	**34**	**57.3**	**-0.9**
RCBR	**Riachuelo**	**167.88**	**171**	*e*PKPdf	**PKPdf**	**22**	**34**	**58.9**	**-0.3**

*CSEM **21** 22:32:53.4±0.2, 38.28N×20.36E, h2km, ML2.9, Error ellipse: s-maj=5.8km s-min=3.1km az=40.0*
*ATH **21** 22:32:53.6, 38.28N×20.43E, h19km±1km, ML2.9/6, Error ellipse: s-maj=3.3km s-min=1.3km az=69.0*
*THE **21** 22:32:54.4, 38.32N×20.42E, h0km±1km, ML3.0/10, Error ellipse: s-maj=2.1km s-min=0.7km az=247.0*
ISC 21 22:32:53.5±0.9, 38.29N±0.03×20.37E±0.03, h14km±6km, n89, σ0.98/119, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**123**	P	**Pg**	**22 32 57.9**	**-0.3**
VLS				S	**Sg**	**22 33 00.8**	**-0.4**
VLS				AML	AML	22 33 01.2	
	comp=N,39970μm,0.2s						
VLS				AML	AML	22 33 01.3	
	comp=E,27745μm,0.1s						
VLS	**Valsamata**	**0.20**	**123**	P	**Pg**	**22 32 58.0**	**-0.1**
VLS				S	**Sg**	**22 33 01.1**	**-0.2**
VLS	**Valsamata**	**0.20**	**123**	P	**Pg**	**22 32 58.0**	**-0.1**
VLS				S	**Sg**	**22 33 01.1**	**-0.2**
KFL	**Anninata**	**0.37**	**119**	P	**Pg**	**22 33 01.1**	**+0.1**
KFL				S	**Sg**	**22 33 06.2**	**0.0**
KFL	**Anninata**	**0.37**	**119**	P	**Pg**	**22 33 00.9**	**-0.1**
KFL				S	**Sg**	**22 33 06.0**	**-0.2**
MGNA	**Meganis„**	**0.49**	**42**	P	**Pg**	**22 33 02.6**	**-0.6**
MGNA				AML	AML	22 33 15.3	
	comp=E,2985μm,0.3s						
MGNA				AML	AML	22 33 15.5	
	comp=N,3628μm,0.5s						
MGNA	**Meganis„**	**0.49**	**42**	P	**Pg**	**22 33 02.9**	**-0.3**
LKD2	**Lefkada island**	**0.55**	**24**	P	**Pg**	**22 33 04.1**	**-0.2**
LKD2				S	**Sg**	**22 33 11.8**	**+0.2**
LKD2				AML	AML	22 33 16.0	
	comp=E,2404μm,0.3s						
LKD2				AML	AML	22 33 18.1	
	comp=N,2689μm,0.2s						
LKD2	**Lefkada island**	**0.55**	**24**	P	**Pg**	**22 33 04.2**	**-0.1**
LKD2				S	**Sg**	**22 33 11.2**	**-0.4**
LKD2	**Lefkada island**	**0.55**	**24**	P	**Pg**	**22 33 04.2**	**-0.1**
LKD2				S	**Sg**	**22 33 11.2**	**-0.4**
PDO	**Prodromos**	**0.71**	**64**	P	**Pg**	**22 33 07.3**	**0.0**
PDO				AML	AML	22 33 24.8	
	comp=N,2420μm,0.4s						
PDO				AML	AML	22 33 27.6	
	comp=E,2687μm,0.6s						
PDO	**Prodromos**	**0.71**	**64**	P	**Pg**	**22 33 07.0**	**-0.3**
PDO				S	**Sg**	**22 33 16.2**	**-0.4**
PDO	**Prodromos**	**0.71**	**64**	P	**Pg**	**22 33 06.7**	**-0.6**
PDO				S	**Sg**	**22 33 16.2**	**-0.4**
VTN	**Vitineika**	**0.74**	**120**	P	**Pg**	**22 33 07.8**	**-0.1**
VTN	**Vitineika**	**0.74**	**120**	P	**Pg**	**22 33 07.5**	**-0.4**
RLS	**Riolos of Patr**	**0.89**	**105**	P	**Pg**	**22 33 10.3**	**-0.5**
RLS				AML	AML	22 33 28.8	
	comp=E,708μm,0.5s						
RLS				AML	AML	22 33 29.4	
	comp=N,780μm,0.6s						
RLS	**Riolos of Patr**	**0.89**	**105**	P	**Pg**	**22 33 10.0**	**-0.8**
RLS				S	**Sb**	**22 33 23.5**	**+1.0**
RLS	**Riolos of Patr**	**0.89**	**105**	P	**Pg**	**22 33 10.0**	**-0.8**
RLS				S	**Sb**	**22 33 23.5**	**+1.0**
PVO	**Paravola**	**0.96**	**70**	P	**Pb**	**22 33 12.5**	**+0.6**
PVO				AML	AML	22 33 32.2	
	comp=N,1905μm,0.5s						
PVO				AML	AML	22 33 33.2	
	comp=E,1511μm,0.3s						
PVO	**Paravola**	**0.96**	**70**	P	**Pg**	**22 33 11.9**	**-0.2**
PVO				S	**Sb**	**22 33 25.7**	**+1.2**
PVO	**Paravola**	**0.96**	**70**	P	**Pg**	**22 33 11.9**	**-0.2**
PVO				S	**Sb**	**22 33 25.7**	**+1.2**
DSL	**Palaion Diasel**	**1.02**	**34**	P	**Pb**	**22 33 12.9**	**0.0**
DSL	**Palaion Diasel**	**1.02**	**34**	P	**Pb**	**22 33 12.8**	**0.0**
DSL				S	**Sb**	**22 33 27.4**	**+1.3**
DSL	**Palaion Diasel**	**1.02**	**34**	P	**Pb**	**22 33 12.6**	**-0.3**
DSL				S	**Sb**	**22 33 27.4**	**+1.3**
DRO	**Drossia**	**1.11**	**107**	P	**Pb**	**22 33 14.7**	**+0.3**
DRO	**Drossia**	**1.11**	**107**	P	**Pb**	**22 33 14.5**	**+0.1**
DRO	**Drossia**	**1.11**	**107**	P	**Pb**	**22 33 14.5**	**+0.1**
EFP	**Efpalio**	**1.21**	**83**	P	**Pn**	**22 33 15.2**	**-0.8**
EFP	**Efpalio**	**1.21**	**83**	P	**Pn**	**22 33 15.5**	**-0.5**
EFP	**Efpalio**	**1.21**	**83**	P	**Pn**	**22 33 15.4**	**-0.5**
IGT	**Igoumenitsa**	**1.24**	**359**	*i* P	Pn	22 33 10.9	-5.5
IGT	**Igoumenitsa**	**1.24**	**359**	P	**Pg**	**22 33 18.3**	**+0.9**
IGT	**Igoumenitsa**	**1.24**	**359**	P	**Pn**	**22 33 16.9**	**+0.5**
IGT				S	**Sg**	**22 33 34.8**	**+1.2**
IGT	**Igoumenitsa**	**1.24**	**359**	P	**Pn**	**22 33 16.9**	**+0.5**
IGT				S	**Sg**	**22 33 34.8**	**+1.2**
ANX	**Ano Chora**	**1.25**	**76**	P	**Pn**	**22 33 16.9**	**+0.2**
ANX	**Ano Chora**	**1.25**	**76**	P	**Pn**	**22 33 16.9**	**+0.2**
EVR	**Evrytania**	**1.29**	**60**	P	**Pn**	**22 33 16.7**	**-0.4**
EVR	**Evryt

BORA	**Eskisehir**	**1.31 125**	P	**Pb**	**22 37 28.9**	**+0.2**
BORA			S	**Sn**	**22 37 46.4**	**+0.8**
BALB	**Balikesir**	**1.36 223**	PN	**Pg**	**22 37 30.0**	**-0.3**
BALB	**Balikesir**	**1.36 223**	*e*Pn	**Pg**	**22 37 30.0**	**-0.3**
SAHE	**Sakarya_HENDEK**	**1.37 81**	*i* P	**Pb**	**22 37 29.3**	**-0.4**
SAHE			*i* S	**Sn**	**22 37 49.5**	**+2.4**
SAHE	**Sakarya_HENDEK**	**1.37 81**	P	**Pb**	**22 37 29.3**	**-0.4**
SAHE			S	**Sn**	**22 37 49.5**	**+2.4**
KRBG	**Karabiga-Canak**	**1.37 260**	PN	**Pg**	**22 37 30.4**	**-0.2**
KRBG	**Karabiga-Canak**	**1.37 260**	*e*Pn	**Pg**	**22 37 30.4**	**-0.2**
BALY	**Balya**	**1.43 231**	*i* P	**Pn**	**22 37 30.1**	**+0.2**
BALY			*i* S	**Sb**	**22 37 48.1**	**-0.8**
BALY	**Balya**	**1.43 231**	P	**Pn**	**22 37 30.1**	**+0.2**
BALY			S	**Sb**	**22 37 48.1**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.44 272**	PN	**Pg**	**22 37 31.2**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.44 272**	*e*Pn	**Pg**	**22 37 31.2**	**-0.7**
BTAS	**Taskesti**	**1.47 92**	*i* P	**Pn**	**22 37 30.7**	**+0.2**
BTAS			*i* S	**Sg**	**22 37 51.7**	**+0.1**
BTAS	**Taskesti**	**1.47 92**	P	**Pn**	**22 37 30.7**	**+0.2**
BTAS			S	**Sg**	**22 37 51.7**	**+0.1**
PHSR	**Pinarhisar**	**1.52 311**	PN	**Pb**	**22 37 32.5**	**+0.2**
PHSR	**Pinarhisar**	**1.52 311**	*e*Pn	**Pb**	**22 37 32.5**	**+0.2**
SIMA	**Simav-Kutahya**	**1.56 182**	PN	**Pb**	**22 37 33.0**	**0.0**
SIMA	**Simav-Kutahya**	**1.56 182**	*e*Pn	**Pb**	**22 37 33.0**	**0.0**
GDZ	**Gediz**	**1.59 168**	*i* P	**Pn**	**22 37 31.3**	**-0.8**
GDZ			*i* S	**Sn**	**22 37 52.8**	**+0.2**
GDZ	**Gediz**	**1.59 168**	P	**Pn**	**22 37 31.3**	**-0.8**
GDZ			S	**Sn**	**22 37 52.8**	**+0.2**
DEMI	**Demirci**	**1.62 190**	*i* P	**Pn**	**22 37 32.5**	**-0.1**
DEMI			*i* S	**Sg**	**22 37 56.2**	**-0.3**
DEMI	**Demirci**	**1.62 190**	P	**Pn**	**22 37 32.5**	**-0.1**
DEMI			S	**Sg**	**22 37 56.2**	**-0.3**
MDUB	**Mudurnu**	**1.63 95**	PN	**Pb**	**22 37 33.6**	**-0.6**
MDUB	**Mudurnu**	**1.63 95**	*e*Pn	**Pb**	**22 37 33.6**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.64 220**	*i* P	**Pn**	**22 37 32.4**	**-0.4**
STEP			*i* S	**Sn**	**22 37 53.1**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.64 220**	P	**Pn**	**22 37 32.3**	**-0.4**
STEP			S	**Sn**	**22 37 53.1**	**-0.6**
ESKT	**Eskisehir**	**1.77 129**	*i* P	**Pn**	**22 37 34.3**	**-0.3**
SEYT	**Eskypehyr**	**1.77 129**	P	**Pn**	**22 37 34.3**	**-0.3**
LPK	**Lapseki**	**1.78 262**	PN	**Pb**	**22 37 36.8**	**+0.1**
LPK	**Lapseki**	**1.78 262**	*e*Pn	**Pb**	**22 37 36.8**	**+0.1**
KESN	**Edirne-Kesan**	**1.82 276**	*i* P	**Pn**	**22 37 34.8**	**-0.8**
KESN			*i* S	**Sb**	**22 38 01.4**	**+0.9**
KESN	**Edirne-Kesan**	**1.82 276**	P	**Pn**	**22 37 34.8**	**-0.8**
KESN			S	**Sb**	**22 38 01.4**	**+0.9**
ERIK	**Erikli-Kesan**	**1.94 272**	PN	**Pb**	**22 37 38.5**	**-1.0**
ERIK	**Erikli-Kesan**	**1.94 272**	*e*Pn	**Pb**	**22 37 38.5**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.99 264**	PN	**Pb**	**22 37 39.5**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.99 264**	*e*Pn	**Pb**	**22 37 39.5**	**-0.8**
AKHS	**Akhisar**	**2.01 209**	*i* P	**Pn**	**22 37 37.2**	**-0.7**
AKHS			*i* S	**Sn**	**22 38 02.0**	**-0.9**
AKHS	**Akhisar**	**2.01 209**	P	**Pn**	**22 37 37.2**	**-0.7**
AKHS			S	**Sn**	**22 38 02.0**	**-0.9**
EDRB	**Edirne**	**2.12 305**	PN	**Pn**	**22 37 40.9**	**+1.5**
EDRB	**Edirne**	**2.12 305**	*e*Pn	**Pn**	**22 37 40.9**	**+1.5**
BAYC	**CANAKKALE_Bayr**	**2.13 246**	*i* S	**Sg**	**22 38 12.1**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**2.13 246**	S	**Sg**	**22 38 12.1**	**-0.7**
KULA	**Kula-Manisa**	**2.15 189**	PN	**Pb**	**22 37 41.6**	**-1.5**
KULA	**Kula-Manisa**	**2.15 189**	*e*Pn	**Pb**	**22 37 41.6**	**-1.5**
ENEZ	**Enez**	**2.22 273**	PN	**Pn**	**22 37 42.5**	**+1.8**
ENEZ	**Enez**	**2.22 273**	*e*Pn	**Pn**	**22 37 42.5**	**+1.8**
SVRH	**Sivrihisar-ESK**	**2.23 122**	PN	**Pn**	**22 37 42.5**	**+1.5**
SVRH	**Sivrihisar-ESK**	**2.23 122**	*e*Pn	**Pn**	**22 37 42.5**	**+1.5**
AYVA	**Ayvalik**	**2.26 235**	*i* P	**Pb**	**22 37 43.7**	**-1.2**
AYVA			*i* S	**Sb**	**22 38 14.7**	**+1.9**
AYVA	**Ayvalik**	**2.26 235**	P	**Pb**	**22 37 43.7**	**-1.2**
AYVA			S	**Sb**	**22 38 14.7**	**+1.9**
BCAM	**Yenicaga**	**2.28 85**	*i* P	**Pn**	**22 37 43.2**	**+1.5**
BCAM			*i* S	**Sb**	**22 38 13.0**	**-0.5**
BCAM	**Yenicaga**	**2.28 85**	P	**Pn**	**22 37 43.2**	**+1.5**
BCAM			S	**Sb**	**22 38 13.0**	**-0.5**
DKL	**Dikili**	**2.29 227**	PN	**Pn**	**22 37 43.5**	**+1.8**
DKL	**Dikili**	**2.29 227**	*e*Pn	**Pn**	**22 37 43.5**	**+1.8**
KHAL	**Karahalli**	**2.30 172**	*i* P	**Pb**	**22 37 43.8**	**-1.8**
KHAL			*i* S	**Sg**	**22 38 17.5**	**-0.5**
KHAL	**Karahalli**	**2.30 172**	P	**Pb**	**22 37 43.8**	**-1.8**
ALN	**Alexandroupoli**	**2.31 277**	PN	**Pn**	**22 37 43.6**	**+1.7**
ALN	**Alexandroupoli**	**2.31 277**	*e*Pn	**Pn**	**22 37 43.6**	**+1.7**
SHUT	**Suhut-Afyon**	**2.38 151**	PN	**Pn**	**22 37 44.7**	**+1.6**
SHUT	**Suhut-Afyon**	**2.38 151**	*e*Pn	**Pn**	**22 37 44.7**	**+1.6**
BOLV	**Bolvadin**	**2.41 142**	*i* P	**Pg**	**22 37 50.0**	**-0.5**
BOLV			*i* S	**Sg**	**22 38 22.4**	**+0.6**
BOZC	**Bozcaada**	**2.44 252**	PN	**Pn**	**22 37 45.6**	**+1.8**
BOZC	**Bozcaada**	**2.44 252**	*e*Pn	**Pn**	**22 37 45.6**	**+1.8**
BOZC			*i* S	**Sg**	**22 38 21.7**	**-0.1**
BOZC	**Bozcaada**	**2.44 252**	*e*Pn	**Pn**	**22 37 45.6**	**+1.8**
GADA	**Gvkgeada**	**2.46 260**	PN	**Pn**	**22 37 46.3**	**+2.3**
GADA	**Gvkgeada**	**2.46 260**	*e*Pn	**Pn**	**22 37 46.3**	**+2.3**
KZIL	**AFYON_Kizioren**	**2.53 160**	*i* P	**Pn**	**22 37 47.1**	**+2.1**
KZIL			*i* S	**Sg**	**22 38 25.9**	**+0.5**
KZIL	**AFYON_Kizioren**	**2.53 160**	P	**Pn**	**22 37 47.2**	**+2.1**
BTIN	**Bart¯–n**	**2.60 67**	*i* P	**Pn**	**22 37 45.5**	**-0.4**
BTIN			*i* S	**Sn**	**22 38 18.7**	**+1.3**
BTIN	**Bart¯–n**	**2.60 67**	P	**Pn**	**22 37 45.5**	**-0.4**
BTIN			S	**Sn**	**22 38 18.7**	**+1.3**
CMDR	**Camlidere-ANKA**	**2.60 92**	*i* P	**Pn**	**22 37 45.7**	**-0.3**
CMDR	**Camlidere-ANKA**	**2.60 92**	P	**Pn**	**22 37 45.7**	**-0.3**
PRD	**Provadia**	**2.84 335**	*e*P	**Pb**	**22 37 53.5**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**2.85 199**	PN	**Pn**	**22 37 51.7**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**2.85 199**	*e*Pn	**Pn**	**22 37 51.7**	**+2.2**
SIGR	**SIGRI**	**2.86 241**	PN	**Pn**	**22 37 51.9**	**+2.5**
SIGR	**SIGRI**	**2.86 241**	*e*Pn	**Pn**	**22 37 51.9**	**+2.5**
KDZ	**Kurdzhali**	**2.93 291**	*e*P	**Pn**	**22 37 51.0**	**+0.5**
URLA	**Izmir**	**2.98 221**	PN	**Pn**	**22 37 53.4**	**+2.2**
URLA	**Izmir**	**2.98 221**	*e*Pn	**Pn**	**22 37 53.4**	**+2.2**
RZN	**Rozhen**	**3.45 289**	*e*P	**Pn**	**22 37 57.5**	**-0.2**
MMB	**Musomiste**	**4.14 285**	*e*P	**Pn**	**22 38 07.2**	**0.0**
KKB	**Krupnik**	**4.67 287**	*e*P	**Pn**	**22 38 14.5**	**+0.1**

*IDC **21** 22:40:51.4±0.6, 14.˚50S×167.˚05E, h0km, mb4.2/14, mb1 4.4/16, mb1mx4.2/54, mbtmp4.3/16, ML4.6/2, Error ellipse: s-maj=22.6km s-min=16.4km az=95.0*
*NEIC **21** 22:40:57.3±1.3, 14.˚46S×166.˚99E, h39km±11km, mb4.9/4, Error ellipse: s-maj=11.7km s-min=7.4km az=69.0*
*ISCJB **21** 22:40:59.5±0.5, 14.˚70S±0.˚06×166.˚8E±0.˚1, h67km, mb4.4/20, Error ellipse: s-maj=14.4km s-min=8.1km az=176.2*

ISC 21 22:41:00.6±0.5, **14˚61S**±0.˚07×**166˚9E**±0.˚1, **h67**km, **n48,** σ1§**12**/52, **mb4.4**/20, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.43**	**183**	Pn		**Pn**	**22 42 44.8**	**-1.8**
	2.9nm,0.3s,baz=277,slow=6.5,SNR=19							
DZM				Sn		**Sn**	**22 44 06.9**	**-2.6**
	baz=323,slow=20,SNR=3.5							
HNR	**Honiara**	**8.49**	**307**	Pn		**Pn**	**22 42 57.8**	**-3.1**
	18nm,0.3s,baz=219,slow=6.5,SNR=3.3							
EIDS	**Eidsvold**	**18.26**	**232**	*e*P		**Pn**	**22 45 12.2**	**+2.7**
	24nm,1.4s							
OUZ	**Omahuta**	**21.40**	**165**	*e*P		**P**	**22 45 44.1**	**+1.2**
	167nm,1.9s							
BKZ	**Black Stump Fm**	**25.90**	**163**	*e*P		**P**	**22 46 26.5**	**+0.1**
	68nm,1.6s							
THZ	**Tophouse**	**27.56**	**170**	*e*P		**P**	**22 46 42.1**	**+0.8**
	52nm,1.4s							
STKA	**Stephens Creek**	**28.77**	**229**	P		**P**	**22 46 53.9**	**+1.8**
	2.1nm,0.6s,baz=58,slow=8.0,SNR=4.5							
RPZ	**Rata Peaks**	**29.23**	**174**	P		**P**	**22 46 56.9**	**+0.8**
	11nm,0.9s,baz=252,slow=3.2,SNR=3.3							
WR1	**Warramunga Arr**	**31.46**	**256**	*e*P		**P**	**22 47 15.7**	**-0.4**
	34nm,1.7s							
WR1				*e*PcP		**PcP**	**22 50 08.4**	**+0.3**
WRA	**Warramunga Arr**	**31.46**	**256**	P		**P**	**22 47 15.7**	**-0.4**
	0.5nm,0.7s,baz=86,slow=9.8,SNR=2.7							
WRA				PcP		**PcP**	**22 50 08.4**	**+0.3**
	0.6nm,0.8s,baz=84,slow=2.6,SNR=4.8							
ASAR	**Alice Springs**	**32.34**	**249**	P		**P**	**22 47 23.8**	**0.0**
	0.5nm,0.4s,baz=74,slow=9.5,SNR=6.3							
ASAR				PcP		**PcP**	**22 50 10.1**	**-0.4**
	1.0nm,0.6s,baz=71,slow=2.2,SNR=6.3							
BBOO	**Buckleboo**	**33.34**	**232**	*e*P		**P**	**22 47 33.4**	**+1.1**
	62nm,1.5s							
MJAR	**Matsushiro Arr**	**57.61**	**333**	P		**P**	**22 50 42.3**	**-1.5**
	1.1nm,0.6s,baz=168,slow=8.6,SNR=4.5							
USRK	**Ussuriysk Ar.**	**66.59**	**333**	P		**P**	**22 51 45.0**	**+1.2**
	3.7nm,0.9s,baz=115,slow=2.1,SNR=3.0							
CMAR	**Chiang Mai Arr**	**74.53**	**294**	P		**P**	**22 52 33.9**	**+1.2**
	0.6nm,0.4s,baz=127,slow=4.8,SNR=7.2							

QSPA	**South Pole Qui**	**75.42**	**180**	P	**P**	**22 52 37.7**	**+0.6**
	5.3nm,0.9s,baz=32,slow=1.9,SNR=7.8						
QSPA	**South Pole Qui**	**75.42**	**180**	*e*P	**P**	**22 52 37.5**	**+0.3**
	27nm,1.0s						
SONA0	**Songino Array**	**82.16**	**324**	*e*P	**P**	**22 53 15.0**	**+0.7**
SONM	**Songino Array**	**82.16**	**324**	P	**P**	**22 53 15.0**	**+0.7**
	0.5nm,0.4s,baz=134,slow=6.2,SNR=3.1						
SONM	**Songino Array**	**82.16**	**324**	P	**P**	**22 53 15.0**	**+0.7**
ILAR	**Eielson Array**	**86.54**	**18**	P	**P**	**22 53 34.5**	**-1.4**
	1.7nm,0.9s,baz=248,slow=5.2,SNR=14						
NVAR	**Mina Array Bea**	**87.50**	**49**	P	**P**	**22 53 41.2**	**-0.3**
	0.9nm,0.9s,baz=242,slow=5.8,SNR=2.6						
C09A	**Chrisman Ranch**	**90.85**	**41**	*e*P	**P**	**22 53 59.3**	**+2.6**
	99nm,0.1s						
SNAA	**Sanae**	**93.65**	**183**	P	**P**	**22 54 08.6**	**-0.8**
	2.0nm,0.8s,baz=213,slow=9.0,SNR=14						
MK32	**Makanchi Array**	**96.84**	**316**	*e*P	**P**	**22 54 25.6**	**+1.3**
MKAR	**Makanchi Array**	**96.84**	**316**	P	**P**	**22 54 25.6**	**+1.3**
	2.1nm,0.9s,baz=83,slow=5.7,SNR=5.1						
YKA	**Yellowknife Ar**	**97.62**	**27**	P	**P**	**22 54 25.7**	**-1.7**
	0.2nm,0.7s,baz=251,slow=3.8,SNR=2.3						
ARA0	**ARCESS Array S**	**120.03**	**345**	*e*PKPdf	**PKPdf**	**22 59 42.6**	**-0.5**
ARCES	**ARCESS Array B**	**120.03**	**345**	PKP	**PKPdf**	**22 59 42.6**	**-0.5**
	1.9nm,0.5s,baz=72,slow=1.7,SNR=34						
BOSA	**Boshof**	**123.20**	**221**	PKP	**PKPdf**	**22 59 51.3**	**+0.7**
	1.3nm,0.7s,baz=101,slow=10,SNR=3.4						
FIA0	**FINESS Array S**	**125.46**	**338**	*e*PKPdf	**PKPdf**	**22 59 53.5**	**-0.1**
FINES	**FINESS Array B**	**125.46**	**338**	PKP	**PKPdf**	**22 59 53.5**	**-0.1**
	1.9nm,0.8s,baz=92,slow=2.8,SNR=13						
NB200	**NORSAR Array S**	**130.40**	**345**	*e*PKPdf	**PKPdf**	**23 00 02.9**	**-0.3**
NOA	**NORSAR Array B**	**130.40**	**345**	PKP	**PKPdf**	**23 00 02.9**	**-0.3**
	0.5nm,0.5s,baz=33,slow=2.1,SNR=2.9						
AKASG	**Malin Array Be**	**130.41**	**326**	PKP	**PKPdf**	**23 00 03.3**	**-0.1**
	0.4nm,0.4s,baz=50,slow=3.5,SNR=3.0						
HFS	**Hagfors**	**130.49**	**343**	PKP	**PKPdf**	**23 00 03.2**	**-0.1**
	0.9nm,0.6s,baz=98,slow=6.3,SNR=4.0						
BR101	**Keskin Array S**	**132.12**	**311**	*e*PKPdf	**PKPdf**	**23 00 07.7**	**+0.5**
BRTR	**Keskin Array B**	**132.12**	**311**	PKP	**PKPdf**	**23 00 07.7**	**+0.5**
	0.3nm,0.5s,baz=101,slow=2.4,SNR=3.5						
BUR04	**Buovina Ar. S**	**134.28**	**324**	*e*PKPdf	**PKPdf**	**23 00 10.5**	**-0.5**
CLL	**Collm**	**137.78**	**336**	*e*(PKPdf)	**PKPdf**	**23 00 16.0**	**-1.3**
EKA	**Eskdalemuir Ar**	**138.63**	**351**	PKP	**PKPdf**	**23 00 18.0**	**-0.7**
	0.6nm,0.7s,baz=28,slow=3.2,SNR=2.8						
CONA	**Conrad Observa**	**139.01**	**330**	*i* PKiKP	**PKiKP**	**23 00 22.3**	**+0.3**
	0.7nm,0.3s						
GERES	**GERESS Array B**	**139.35**	**333**	PKP	**PKPdf**	**23 00 20.9**	**+0.5**
	0.3nm,0.5s,baz=146,slow=1.0,SNR=4.5						
MOTA	**Moosalm**	**141.63**	**333**	*i* PKiKP	**PKiKP**	**23 00 27.1**	**-0.4**
	0.9nm,0.4s						
KEST	**Kesra**	**150.86**	**320**	PKPbc	**PKPbc**	**23 00 46.8**	**+0.7**
	6.7nm,0.7s,baz=135,slow=2.8,SNR=13						
ESDC	**Sonseca Array**	**153.76**	**344**	PKPbc	**PKPbc**	**23 00 52.5**	**0.0**
	0.2nm,0.4s,baz=17,slow=2.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**165.51**	**266**	PKPab	**PKPab**	**23 01 57.0**	**-0.3**
	0.6nm,0.7s,baz=78,slow=4.2,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**165.52**	**266**	*e*PKPab	**PKPab**	**23 01 57.0**	**-0.3**

MAN 21 23:05:25, 10.˚28N×123.˚26E, h32km, mb3.7, ML2.4, MS1.9, Cebu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.70**	**87**	*e*P		Pb	23 05 39.1	+0.3
LLP				*e*S		Sn	23 05 49.4	+1.0
TBP	**Tagbilaran**	**0.83**	**134**	*e*P		Pn	23 05 40.6	+0.1
TBP				*i* S		Sb	23 05 52.4	+0.4
SNPH	**Sibulan**	**0.93**	**181**	*i* P		Pn	23 05 41.9	0.0
SNPH				*i* S		Sn	23 05 52.9	-1.2
MSLP	**Maasin**	**1.58**	**95**	*e*P		Pb	23 05 55.1	+1.5
MSLP				*e*S		Sb	23 06 16.8	+3.5

*IDC **21** 23:13:37.6±0.8, 38.˚23N×144.˚78E, h0km, mb3.7/13, mb1 3.9/15, mb1mx3.7/69, mbtmp3.7/15, ML3.8/2, Error ellipse: s-maj=20.8km s-min=16.2km az=131.0*
*ISCJB **21** 23:13:40.4±0.5, 38.˚39N±0.˚04×144.˚61E±0.˚04, h29km, mb3.7/13, Error ellipse: s-maj=5.9km s-min=4.6km az=153.7*
*JMA **21** 23:13:42.1±0.2, 38.˚41N×144.˚53E, h41km, M4.2*

ISC 21 23:13:42.3±0.7, **38˚41N**±0.˚06×**144˚65E**±0.˚07, **h29**km, **n37,** σ2§**13**/50, **mb3.7**/13, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.42**	**287**	P		**Pn**	**23 14 19.5**	**-0.5**
OFUJ				*e*S		**Sn**	**23 14 47.2**	**-1.4**
MIYJ	**Miyakonagasawa**	**2.49**	**299**	P		**Pn**	**23 14 20.3**	**-0.6**
MIYJ				*e*S		**Sn**	**23 14 48.7**	**-1.7**
JIO	**Ouri**	**2.59**	**272**	P		**Pn**	**23 14 21.6**	**-0.6**
JIO				*e*S		**Sn**	**23 14 50.6**	**-2.1**
JMK	**Ichinoseki**	**2.74**	**283**	P		**Pn**	**23 14 24.1**	**-0.1**
JMK				*e*S		**Sn**	**23 14 55.1**	**-1.2**
JOM	**Ohasama**	**2.82**	**293**	P		**Pn**	**23 14 25.4**	**-0.1**
JOM				*e*S		**Sn**	**23 14 57.4**	**-1.1**
JANG	**Nango**	**3.12**	**310**	P		**Pn**	**23 14 29.1**	**-0.5**
JYK	**Kaneyama**	**3.40**	**280**	P		**Pn**	**23 14 33.6**	**+0.3**
JYK				*e*S		**Sn**	**23 15 12.0**	**-0.6**
JFT	**Otama**	**3.52**	**257**	P		**Pn**	**23 14 34.8**	**-0.3**
JFT				*e*S		**Sn**	**23 15 14.1**	**-1.6**
JOT	**Ohata**	**4.06**	**318**	P		**Pn**	**23 14 42.2**	**-0.2**
JOT				*e*S		**Sn**	**23 15 27.0**	**-2.0**
JCH	**Churui**	**4.32**	**347**	P		**Pn**	**23 14 44.4**	**-1.5**
JCH				*e*S		**Sn**	**23 15 32.4**	**-2.8**
JKB	**Kayabe**	**4.44**	**323**	P		**Pn**	**23 14 48.7**	**+1.0**
NEM2	**Nemuro 2**	**5.02**	**9**	P		**Pn**	**23 14 52.6**	**-3.0**
NEM2				*e*S		**Sn**	**23 15 45.8**	**-6.8**
JRY	**Ryogami san**	**5.17**	**244**	P		**Pn**	**23 14 56.7**	**-1.0**
JRY				*e*S		**Sn**	**23 15 51.9**	**-4.5**
JOSM	**Okushiri--Mats**	**5.40**	**314**	P		**Pn**	**23 15 01.4**	**+0.6**
MJAR	**Matsushiro Arr**	**5.45**	**252**	Pn		**Pn**	**23 15 02.3**	**+0.7**
	1.7nm,0.3s,baz=85,slow=16,SNR=9.9							
MJAR				Sn		**Sn**	**23 16 04.7**	**+1.5**
	1.2nm,0.3s,baz=74,slow=23,SNR=4.1							
MAT	**Matsushiro**	**5.45**	**252**	P		**Pn**	**23 15 02.0**	**+0.4**
MAT				*e*S		**Sn**	**23 16 02.3**	**-1.0**
JOD2	**Odawara 2**	**5.45**	**237**	P		**Pn**	**23 15 00.1**	**-1.5**
JOD2				*e*S		**Sn**	**23 15 57.9**	**-5.5**
JTKR	**Abashiri--Toko**	**5.59**	**355**	P		**Pn**	**23 15 01.8**	**-1.6**
JTKR				*e*S		**Sn**	**23 16 01.8**	**-4.7**
ASAJ	**Asahikawa**	**5.91**	**346**	Pn		**Pn**	**23 15 06.3**	**-1.5**
	1.7nm,0.3s,baz=307,slow=7.3,SNR=4.9							
ASAJ				Sn		**Sn**	**23 16 16.2**	**+1.7**
	1.3nm,0.3s,baz=0.0,slow=32,SNR=3.6							
JHJ	**Hachijo jima 2**	**6.59**	**218**	Pn		**Pn**	**23 15 14.8**	**-2.4**
	12nm,0.3s,baz=63,slow=18,SNR=4.4							
JHJ				Sn		Sn	23 16 21.5	-10
	11nm,0.3s,baz=61,slow=16,SNR=3.1							
USRK	**Ussuriysk Ar.**	**11.14**	**305**	Pn		**Pn**	**23 16 23.2**	**+3.7**
	0.2nm,0.3s,baz=95,slow=13,SNR=4.6							
SEY	**Seymchan**	**25.00**	**8**	P		**P**	**23 19 05.5**	**+2.2**
	2.5nm,0.6s,baz=163,slow=6.1,SNR=9.0							
H11N2	**WAKE ISLAND Hy**	**26.80**	**128**	T		T	23 47 08.7	
	baz=319,slow=75,SNR=5.4							
H11N1	**WAKE ISLAND Hy**	**26.81**	**128**	T		T	23 47 08.3	
	baz=319,slow=75,SNR=4.5							
H11N3	**WAKE ISLAND Hy**	**26.82**	**128**	T		T	23 47 08.8	
	baz=319,slow=75,SNR=4.0							
SONM	**Songino Array**	**29.21**	**301**	P		**P**	**23 19 42.1**	**+0.7**
	0.2nm,0.6s,baz=79,slow=7.5,SNR=2.6							
MKAR	**Makanchi Array**	**45.58**	**302**	P		**P**	**23 22 00.4**	**+0.8**
	0.8nm,0.8s,baz=82,slow=11,SNR=9.8							
ILAR	**Eielson Array**	**46.95**	**33**	P		**P**	**23 22 09.6**	**-0.6**
	0.5nm,0.9s,baz=272,slow=7.1,SNR=4.1							
KURBB	**Kurchatov Arra**	**47.19**	**307**	P		**P**	**23 22 13.2**	**+1.0**
	2.3nm,0.6s,baz=81,slow=8.2,SNR=16							
BVAR	**Borovoye Array**	**51.55**	**312**	P		**P**	**23 22 46.7**	**+1.3**
	0.6nm,0.6s,baz=57,slow=9.1,SNR=4.2							
WRA	**Warramunga Arr**	**58.84**	**191**	P		**P**	**23 23 36.7**	**-1.6**
	0.7nm,0.6s,baz=12,slow=7.2,SNR=5.4							
YKA	**Yellowknife Ar**	**61.32**	**31**	P		**P**	**23 23 54.9**	**+0.1**
	0.2nm,0.7s,baz=304,slow=6.6,SNR=3.6							
ASAR	**Alice Springs**	**62.56**	**191**	P		**P**	**23 24 02.0**	**-1.5**
	0.3nm,0.3s,baz=2.1,slow=7.6,SNR=4.0							
FINES	**FINESS Array B**	**68.77**	**333**	P		**P**	**23 24 43.0**	**-0.2**
	2.2nm,0.9s,baz=345,slow=6.5,SNR=4.6							
PDAR	**Pinedale Array**	**74.86**	**47**	P		**P**	**23 25 20.2**	**-0.2**
	0.2nm,0.5s,baz=300,slow=7.2,SNR=2.7							
EKA	**Eskdalemuir Ar**	**82.65**	**342**	P		**P**	**23 26 04.1**	**+1.4**
	0.2nm,0.4s,baz=34,slow=5.2,SNR=2.9							
TXAR	**Lajitas Array**	**87.25**	**54**	P		**P**	**23 26 27.7**	**+1.3**
	0.7nm,1.0s,baz=319,slow=4.0,SNR=3.1							

*ISCJB **21** 23:16:28.0±2.3, 15.˚7S±0.˚1×167.˚4E±0.˚3, h124km, mb3.7/4, Error ellipse: s-maj=43.9km s-min=12.8km az=170.6*
*IDC **21** 23:16:29.2±6.2, 15.˚70S×167.˚57E, h136km±59km, mb3.6/5, mb1 3.8/6, mb1mx3.3/48, mbtmp4.1/6, Error ellipse: s-maj=50.7km s-min=35.1km az=163.0*

ISC 21 23:16:28.1±1.9, **15.˚6S**±0.˚1×**167.˚6E**±0.˚3, **h124**km, **n7,** σ1§**05**/8, **mb3.7**/4, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.49**	**189**	P		**Pn**	**23 18 02.2**	**+0.9**
	11nm,0.3s,baz=40,slow=17,SNR=73							
DZM				S		**Sn**	**23 19 13.1**	**-1.0**
	3.9nm,0.3s,baz=321,slow=23,SNR=7.1							
CTA	**Charters Tower**	**20.78**	**255**	P		**P**	**23 21 00.5**	**+1.0**
	7.8nm,0.9s,baz=54,slow=8.7,SNR=4.7							
STKA	**Stephens Creek**	**28.65**	**231**	P		**P**	**23 22 13.6**	**+0.3**
	0.6nm,0.4s,baz=67,slow=15,SNR=4.1							
WRA	**Warramunga Arr**	**31.92**	**257**	P		**P**	**23 22 41.0**	**-1.1**
	0.9nm,0.6s,baz=85,slow=8.2,SNR=21							
ASAR	**Alice Springs**	**32.65**	**250**	P		**P**	**23 22 47.9**	**-0.7**
	2.5nm,0.5s,baz=75,slow=9.0,SNR=26							
SONM	**Songino Array**	**83.40**	**324**	P		**P**	**23 28 42.0**	**+0.4**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=3.7							
ARCES	**ARCESS Array B**	**121.20**	**345**	PKP		**PKPdf**	**23 35 04.9**	**-0.9**
	1.7nm,1.0s,baz=42,slow=2.4,SNR=5.7							

*ISCJB **21** 23:17:42.7±0.4, 24.˚74N±0.˚02×121.˚80E±0.˚02, h84km±2km, Error ellipse: s-maj=3.6km s-min=2.5km az=155.9*
*JMA **21** 23:17:42.7±0.3, 24.˚68N×121.˚77E, h81km±4km, M3.2*
*TAP **21** 23:17:43.2, 24.˚71N×121.˚79E, h78km

TDCB	**Techi**	**0.76**	**230**	⇑P	**Pn**	**23 18 00.3**	**+0.6**
	baz=230							
TDCB				*e*S	**Sn**	**23 18 11.8**	**-0.2**
	baz=230							
WHF	**Hehuan Shan**	**0.76**	**219**	⇑P	**Pn**	**23 18 00.1**	**-0.1**
	baz=213							
WHF				*e*S	**Sn**	**23 18 12.2**	**-0.6**
	baz=213							
HWA	**Hwalien**	**0.78**	**193**	*e*P	**Pn**	**23 17 59.4**	**-0.4**
	baz=202							
ENLB	**Shoufeng**	**0.85**	**192**	*e*P	**Pn**	**23 18 00.6**	**0.0**
	baz=200							
ENLB				*e*S	**Sn**	**23 18 15.0**	**+1.4**
	baz=200							
CHGB	**Renai**	**0.88**	**220**	⇑P	**Pn**	**23 18 01.6**	**+0.5**
	baz=213							
CHGB				*e*S	**Sn**	**23 18 14.4**	**-0.2**
	baz=213							
NMLH	**Miaoli**	**0.94**	**258**	*e*P	**Pn**	**23 18 01.8**	**+0.3**
	baz=259							
NMLH				*e*S	**Sn**	**23 18 15.1**	**-0.3**
	baz=259							
OWD	**Renai**	**0.96**	**216**	*e*P	**Pn**	**23 18 02.1**	**+0.1**
	baz=211							
OWD				*e*S	**Sn**	**23 18 16.2**	**+0.1**
	baz=211							
ESL	**Shilin**	**0.98**	**200**	*e*P	**Pn**	**23 18 00.6**	**-1.5**
	baz=193							
NSY	**Sanyi**	**0.99**	**251**	*e*P	**Pn**	**23 18 02.7**	**+0.5**
	baz=252							
NSY				*e*S	**Sn**	**23 18 17.0**	**+0.4**
	baz=252							
TWQ1	**Liyutan**	**1.01**	**248**	*e*P	**Pn**	**23 18 02.6**	**+0.2**
	baz=248							
TWQ1				*e*S	**Sn**	**23 18 16.6**	**-0.3**
	baz=248							
PTSB	**Yuanli**	**1.03**	**254**	*e*P	**Pn**	**23 18 03.2**	**+0.5**
	baz=255							
PTSB				*e*S	**Sn**	**23 18 17.2**	**-0.2**
	baz=255							
DPDB	**Guoxing**	**1.06**	**229**	*e*P	**Pn**	**23 18 03.5**	**+0.4**
	baz=238							
JYNG	**Yonagunijimaku**	**1.09**	**105**	P	**Pn**	**23 18 03.1**	**-0.2**
JYNG				*e*S	**Sn**	**23 18 17.9**	**-0.6**
EGFH	**Guangfu**	**1.12**	**198**	*e*P	**Pn**	**23 18 03.4**	**-0.4**
	baz=197							
YOJ	**Yonaguni jima**	**1.14**	**104**	⇓P	**Pn**	**23 18 03.8**	**-0.2**
	baz=103							
YOJ	**Yonaguni jima**	**1.14**	**104**	P	**Pn**	**23 18 03.7**	**-0.2**
YOJ				*e*S	**Sn**	**23 18 19.1**	**-0.6**
TCU	**Taichung**	**1.18**	**240**	*e*P	**Pn**	**23 18 05.0**	**+0.6**
	baz=240							
TCU				*e*S	**Sn**	**23 18 20.3**	**-0.2**
	baz=240							
SMLT	**Sun Moon Lake**	**1.18**	**224**	⇑P	**Pn**	**23 18 05.1**	**+0.5**
	baz=233							
TYC	**Yuchr**	**1.19**	**226**	⇑P	**Pn**	**23 18 05.1**	**+0.5**
	baz=232							
TYC				*e*S	**Sn**	**23 18 21.4**	**+0.7**
	baz=232							
SSLB	**Suanglung**	**1.22**	**219**	⇑P	**Pn**	**23 18 05.6**	**+0.6**
	baz=229							
SSLB				*e*S	**Sn**	**23 18 21.6**	**+0.1**
	baz=229							
HGSD	**Ruisui**	**1.29**	**195**	*e*P	**Pn**	**23 18 05.2**	**-0.6**
	baz=201							
HGSD				*e*S	**Sn**	**23 18 23.5**	**+0.6**
	baz=201							
EHY	**Hungye**	**1.30**	**199**	*e*P	**Pn**	**23 18 04.9**	**-1.1**
	baz=192							
WCHH	**Zhanghua**	**1.30**	**240**	*e*P	**Pn**	**23 18 06.2**	**+0.2**
	baz=240							
WCHH				*e*S	**Sn**	**23 18 23.5**	**+0.3**
	baz=240							
WNT	**Mingjian**	**1.33**	**230**	*e*P	**Pn**	**23 18 06.7**	**+0.4**
	baz=239							
WNT				*e*S	**Sn**	**23 18 24.4**	**+0.6**
	baz=239							
WJS	**Zhushan**	**1.33**	**227**	*e*P	**Pn**	**23 18 06.4**	**0.0**
	baz=237							
WJS				*e*S	**Sn**	**23 18 24.6**	**+0.6**
	baz=237							
YULB	**Yu-li**	**1.42**	**199**	*e*P	**Pn**	**23 18 06.1**	**-1.4**
	baz=194							
TWF1	**Yuli**	**1.45**	**198**	*e*P	**Pn**	**23 18 06.4**	**-1.6**
	baz=198							
YUS	**Yu-Shan**	**1.46**	**212**	*e*P	**Pn**	**23 18 09.0**	**+0.5**
	baz=222							
YUS				*e*S	**Sn**	**23 18 28.8**	**+1.2**
	baz=222							
ALS	**Alishan**	**1.52**	**217**	⇑P	**Pn**	**23 18 09.7**	**+0.6**
	baz=225							
ALS				*e*S	**Sn**	**23 18 29.7**	**+1.0**
	baz=225							
CHN5	**Tsauling**	**1.53**	**222**	⇑P	**Pn**	**23 18 09.3**	**+0.4**
	baz=221							
CHN5				*e*S	**Sn**	**23 18 29.1**	**+0.6**
	baz=221							
WGK	**Gukeng**	**1.54**	**227**	*e*P	**Pn**	**23 18 09.7**	**+0.7**
	baz=237							
WGK				*e*S	**Sn**	**23 18 29.4**	**+0.8**
	baz=237							
WDLH	**Douliu**	**1.55**	**228**	*e*P	**Pn**	**23 18 09.6**	**+0.4**
	baz=237							
RLNB	**Erlin**	**1.56**	**237**	*e*P	**Pn**	**23 18 09.3**	**+0.1**
	baz=238							
RLNB				*e*S	**Sn**	**23 18 29.1**	**+0.1**
	baz=238							
FULB	**Fuli**	**1.60**	**197**	*e*P	**Pn**	**23 18 09.5**	**-0.4**
	baz=196							
WTCT	**Ta-ch'eng**	**1.63**	**238**	*e*P	**Pn**	**23 18 10.4**	**+0.2**
	baz=238							
WTCT				*e*S	**Sn**	**23 18 30.4**	**-0.4**
	baz=238							
CHKT	**Chengkung**	**1.68**	**194**	*e*P	**Pn**	**23 18 10.4**	**-0.4**
	baz=193							
ELDTW	**Lidau**	**1.70**	**205**	*e*P	**Pn**	**23 18 11.3**	**0.0**
	baz=198							
CHN2	**Minshiung**	**1.70**	**225**	*e*P	**Pn**	**23 18 11.7**	**+0.6**
	baz=234							
CHN2				*e*S	**Sn**	**23 18 33.8**	**+1.4**
	baz=234							
CHY	**Chiayi**	**1.76**	**226**	*e*P	**Pn**	**23 18 12.2**	**+0.4**
	baz=234							
CHY				*e*S	**Sn**	**23 18 34.5**	**+0.8**
	baz=234							
CHN4	**Tsaushan**	**1.77**	**219**	*e*P	**Pn**	**23 18 12.6**	**+0.6**
	baz=218							
TPUB	**Ta-pu**	**1.79**	**217**	*e*P	**Pn**	**23 18 12.5**	**+0.2**
	baz=216							
TPUB				*e*S	**Sn**	**23 18 35.1**	**+0.7**
	baz=216							
WSF	**Szhu**	**1.81**	**233**	*e*P	**Pn**	**23 18 14.3**	**+1.8**
	baz=233							
IRIF	**Iriomote-Funau**	**1.81**	**102**	P	**Pn**	**23 18 12.3**	**-0.2**
IRIF				*e*S	**Sn**	**23 18 34.3**	**-0.6**
STYT	**Tauyuan**	**1.83**	**211**	*e*P	**Pn**	**23 18 13.6**	**+0.6**
	baz=211							
WTP	**Ta-pu**	**1.84**	**216**	*e*P	**Pn**	**23 18 13.2**	**+0.3**
	baz=215							
WTP				*e*S	**Sn**	**23 18 36.6**	**+0.9**
	baz=215							
TWK	**Hsinying**	**1.89**	**219**	*e*P	**Pn**	**23 18 14.0**	**+0.3**
	baz=219							
CHN1	**Nanshi**	**1.93**	**217**	*e*P	**Pn**	**23 18 14.5**	**+0.3**
	baz=216							
CHN1				*e*S	**Sn**	**23 18 39.0**	**+1.1**
	baz=216							
HATJ	**Hateruma jima**	**1.96**	**110**	P	**Pn**	**23 18 14.9**	**+0.5**
HATJ				S	**Sn**	**23 18 39.3**	**+1.0**
SGST	**Jiashian**	**1.99**	**214**	*e*P	**Pn**	**23 18 15.5**	**+0.5**
	baz=224							
CHN8	**Yiju**	**2.00**	**227**	*e*P	**Pn**	**23 18 15.8**	**+0.7**
	baz=237							
TWG	**Pinlang**	**2.02**	**199**	*e*P	**Pn**	**23 18 14.6**	**-0.7**
	baz=187							
TWG				*e*S	**Sn**	**23 18 38.7**	**-1.3**
	baz=187							
TWGBT	**Beinan**	**2.02**	**199**	*e*P	**Pn**	**23 18 13.9**	**-1.5**
	baz=190							
SLGT	**Liugui**	**2.03**	**211**	*e*P	**Pn**	**23 18 16.2**	**+0.7**
	baz=211							
TWH	**Lutao**	**2.04**	**188**	*e*P	**Pn**	**23 18 14.7**	**-0.9**
	baz=181							
TTN	**Taitung**	**2.06**	**197**	*e*P	**Pn**	**23 18 16.0**	**+0.1**
	baz=189							
JKRS	**Kuro-shima**	**2.08**	**103**	P	**Pn**	**23 18 16.3**	**+0.2**
JKRS				S	**Sn**	**23 18 41.0**	**-0.3**
VWUC	**VWUC**	**2.15**	**277**	⇓*e*P	**Pn**	**23 18 16.8**	**-0.2**
	baz=277							
JIJ	**Ishigaki jima**	**2.17**	**99**	P	**Pn**	**23 18 17.1**	**-0.2**
JIJ				*e*S	**Sn**	**23 18 42.5**	**-1.0**
MATB	**Ma-tsu**	**2.19**	**310**	⇓*e*P	**Pn**	**23 18 17.3**	**-0.2**
	baz=308							
SSD	**Sandimen**	**2.25**	**208**	*e*P	**Pn**	**23 18 19.3**	**+0.9**
	baz=218							
ECL	**Taimali**	**2.27**	**200**	*e*P	**Pn**	**23 18 18.7**	**+0.1**
	baz=192							
PNG	**Penghu**	**2.35**	**241**	*e*P	**Pn**	**23 18 19.0**	**-0.8**
	baz=241							
PNG				*e*S	**Sn**	**23 18 45.5**	**-2.4**
	baz=241							
PHUB	**P'eng-hu**	**2.37**	**239**	*e*P	**Pn**	**23 18 19.3**	**-0.7**
	baz=240							
PHUB				*e*S	**Sn**	**23 18 45.4**	**-2.9**
	baz=240							
MASBT	**Mashibuluo**	**2.37**	**207**	*e*P	**Pn**	**23 18 20.8**	**+0.8**
	baz=205							
MASBT				*e*S	**Sn**	**23 18 48.8**	**+0.5**
	baz=205							
WDGT	**Dungji**	**2.44**	**233**	*e*P	**Pn**	**23 18 20.9**	**-0.1**
	baz=234							
EAST	**Anshuo**	**2.50**	**201**	*e*P	**Pn**	**23 18 22.1**	**+0.3**
	baz=192							
WSSB	**Gushan**	**2.52**	**214**	*e*P	**Pn**	**23 18 21.8**	**-0.2**
	baz=213							
SCZT	**Fangliau**	**2.59**	**205**	*e*P	**Pn**	**23 18 23.3**	**+0.3**
	baz=215							
JTJ	**Tarama**	**2.65**	**92**	P	**Pn**	**23 18 24.7**	**+1.0**
JTJ				*e*S	**Sn**	**23 18 55.8**	**+0.9**
LAY	**Lan-yu**	**2.70**	**185**	*e*P	**Pn**	**23 18 23.5**	**-1.0**
	baz=178							
TWK1	**Hengchun**	**2.93**	**198**	*e*P	**Pn**	**23 18 28.2**	**+0.7**
	baz=197							
TWKBT	**Hengchun**	**2.93**	**198**	*e*P	**Pn**	**23 18 28.5**	**+1.0**
	baz=198							
KNMB	**Chin-men Tao**	**3.11**	**266**	*e*P	**Pn**	**23 18 29.5**	**-0.4**
	baz=265							

IDC 21 23:29:12.8±8.7, 2°41S×137°78E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.4/45, mbtmp3.6/3, ML3.9/1, MS4.2/2, Ms1 4.2/2, ms1mx3.6/32, Error ellipse: s-maj=386.2km s-min=31.6km az=84.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.74**	**191**	P	Pn	23 33 20.6	-0.8
	0.4nm,0.3s,baz=12,slow=13,SNR=18						
CTA	**Charters Tower**	**19.42**	**155**	LR	LR	23 40 55.9	
	comp=Z,1μm,20.1s,baz=126,slow=36						
ASAR	**Alice Springs**	**21.46**	**190**	P	P	23 34 03.4	+0.5
	1.7nm,0.5s,baz=14,slow=10,SNR=17						
JCJ	**Chichijima**	**29.64**	**8**	LR	LR	23 44 59.9	
	comp=Z,319nm,21.2s,baz=284,slow=32						
MKAR	**Makanchi Array**	**68.99**	**323**	P	P	23 40 20.1	0.0
	0.2nm,0.6s,baz=105,slow=8.1,SNR=1.8						

MEX 21 23:33:30.2±0.8, 16°17N×98°32W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**40**	*i* P	Pg	23 33 35.0	-0.9
PNIG				*e*S	Sg	23 33 39.8	+0.1
TLIG	**Tlapa**	**1.40**	**350**	*e*P	Pn	23 33 52.2	-4.3
TLIG				*e*S	Sb	23 34 11.0	-4.3
ACX	**Acapulco**	**1.63**	**295**	*e*P	Pn	23 33 57.9	-1.7
ACX				*i* S	Sn	23 34 18.4	-2.5
VHO	**Vista Hermosa**	**1.77**	**59**	*e*P	Pn	23 33 58.9	-2.7
VHO				*e*S	Sn	23 34 20.6	-4.1
CAIG	**El Cayaco**	**2.06**	**295**	*e*P	Pn	23 34 01.3	-4.2
CAIG				*e*S	Sn	23 34 26.4	-5.2
HUIG	**Huatulco**	**2.17**	**100**	*e*P	Pn	23 34 04.1	-2.9
HUIG				*i* S	Sn	23 34 29.6	-4.7

*DDA **21** 23:40:44.4, 41.7°70N×26.8°80E, h8km, Ml2.6*
*ISK **21** 23:40:45.9, 41.6°60N×26.7°75E, h6km, ML2.5/23*
*ISCJB **21** 23:40:46.0±0.5, 41.5°57N±0.0°03×26.7°76E±0.0°04, h4km±5km, Error ellipse: s-maj=5.1km s-min=4.4km az=44.1*
*CSEM **21** 23:40:46.2±0.2, 41.5°58N×26.7°76E, h5km, ML2.5, Error ellipse: s-maj=4.3km s-min=2.9km az=152.0*
*ATH **21** 23:40:52.8, 41.3°34N×26.3°31E, h12km±5km, ML1.5/3, Error ellipse: s-maj=6.1km s-min=1.9km az=221.0*

ISC 21 23:40:45.3±0.9, 41.57N±0.03×26.70E±0.02, h14km±8km, n70, σ0.86/87, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDRB	**Edirne**	**0.28**	**7**	PG	**Pg**	**23 40 51.4**	**+0.2**
EDRB				SG	**Sg**	**23 40 55.4**	**+0.3**
EDRB	**Edirne**	**0.28**	**7**	*e*Pg	**Pg**	**23 40 51.4**	**+0.2**
EDRB				*e*Sg	**Sg**	**23 40 55.4**	**+0.3**
PHSR	**Pinarhisar**	**0.62**	**84**	PG	**Pg**	**23 40 57.6**	**+0.1**
PHSR	**Pinarhisar**	**0.62**	**84**	*e*Pg	**Pg**	**23 40 57.6**	**+0.1**
KESN	**Edirne-Kesan**	**0.74**	**181**	*i* P	**Pb**	**23 41 00.7**	**+0.4**
KESN				*i* S	**Sg**	**23 41 10.1**	**+0.4**
KESN	**Edirne-Kesan**	**0.74**	**181**	P	**Pb**	**23 41 00.7**	**+0.4**
KESN				S	**Sg**	**23 41 10.1**	**+0.4**
ALN	**Alexandroupoli**	**0.83**	**216**	PG	**Pn**	**23 41 03.2**	**+0.5**
ALN				SG	**Sn**	**23 41 15.8**	**+1.1**
ALN	**Alexandroupoli**	**0.83**	**216**	P	**Pg**	**23 41 02.2**	**+0.8**
ALN				S	**Sg**	**23 41 09.5**	**-2.9**
ALN				AML	AML	23 41 17.4	
	comp=N,60μm,0.3s						
ALN				AML	AML	23 41 18.0	
	comp=E,41μm,0.3s						
ALN	**Alexandroupoli**	**0.83**	**216**	P	**Pg**	**23 41 02.3**	**+0.8**
ALN	**Alexandroupoli**	**0.83**	**216**	*e*Pg	**Pn**	**23 41 03.2**	**+0.5**
ALN				S	**Sg**	**23 41 09.4**	**-3.0**
ALN				*e*Sg	**Sn**	**23 41 15.8**	**+1.1**
TKR	**Tekirdag**	**0.86**	**132**	PG	**Pb**	**23 41 02.6**	**+0.6**
TKR				SG	**Sn**	**23 41 14.7**	**-0.6**
TKR	**Tekirdag**	**0.86**	**132**	*e*Pg	**Pb**	**23 41 02.6**	**+0.6**
TKR				*e*Sg	**Sn**	**23 41 14.7**	**-0.6**
CRLT	**Corlu**	**0.90**	**119**	PG	**Pb**	**23 41 03.3**	**+0.6**
CRLT	**Corlu**	**0.90**	**119**	*e*Pg	**Pb**	**23 41 03.3**	**+0.6**
ERIK	**Erikli-Kesan**	**0.91**	**189**	PG	**Pn**	**23 41 04.5**	**+0.8**
ERIK	**Erikli-Kesan**	**0.91**	**189**	*e*Pg	**Pn**	**23 41 04.5**	**+0.8**
ENEZ	**Enez**	**0.93**	**207**	PG	**Pn**	**23 41 04.6**	**+0.6**
ENEZ	**Enez**	**0.93**	**207**	*e*Pg	**Pn**	**23 41 04.6**	**+0.6**
SART	**Tekirdag**	**0.95**	**157**	*i* P	**Pg**	**23 41 03.5**	**-0.3**
SART				*i* S	**Sn**	**23 41 17.6**	**-0.2**
SART	**Tekirdag**	**0.95**	**157**	P	**Pg**	**23 41 03.5**	**-0.3**
SART				S	**Sn**	**23 41 17.6**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.95**	**158**	PG	**Pn**	**23 41 04.8**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.95**	**158**	*e*Pg	**Pn**	**23 41 04.8**	**+0.4**
RDO	**Rodhopi**	**0.97**	**244**	P	**Pb**	**23 41 04.7**	**+0.8**
RDO				S	**Sg**	**23 41 13.3**	**-3.5**
RDO				AML	AML	23 41 20.1	
	comp=E,196μm,0.2s						
RDO				AML	AML	23 41 20.4	
	comp=N,233μm,0.2s						
RDO	**Rodhopi**	**0.97**	**244**	P	**Pb**	**23 41 04.7**	**+0.8**
SBT3	**Marmara-Eregli**	**1.18**	**125**	PN	**Pg**	**23 41 08.6**	**+0.6**
SBT3	**Marmara-Eregli**	**1.18**	**125**	*e*Pn	**Pg**	**23 41 08.6**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.18**	**188**	PN	**Pg**	**23 41 08.8**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.18**	**188**	*e*Pn	**Pg**	**23 41 08.8**	**+0.7**
SLVT	**Silivri**	**1.19**	**106**	PN	**Pg**	**23 41 08.4**	**+0.2**
SLVT	**Silivri**	**1.19**	**106**	*e*Pn	**Pg**	**23 41 08.4**	**+0.2**
CTYL	**Yalikoy Yolu**	**1.20**	**94**	PN	**Pb**	**23 41 08.2**	**+0.4**
CTYL	**Yalikoy Yolu**	**1.20**	**94**	*e*Pn	**Pb**	**23 41 08.2**	**+0.4**
KIYI	**Yal¯–koy-Catal**	**1.20**	**94**	PN	**Pg**	**23 41 08.9**	**+0.4**
KIYI	**Yal¯–koy-Catal**	**1.20**	**94**	*e*Pn	**Pg**	**23 41 08.9**	**+0.4**
KRBG	**Karabiga-Canak**	**1.26**	**159**	PN	**Pg**	**23 41 10.1**	**+0.5**
KRBG	**Karabiga-Canak**	**1.26**	**159**	*e*Pn	**Pg**	**23 41 10.1**	**+0.5**
ELBA	**Catalca**	**1.37**	**107**	*i* P	**Pn**	**23 41 10.1**	**0.0**
ELBA				*i* S	**Sn**	**23 41 28.7**	**+0.7**
ELBA	**Catalca**	**1.37**	**107**	P	**Pn**	**23 41 10.1**	**0.0**
ELBA				S	**Sn**	**23 41 28.7**	**+0.7**
CTKS	**Kestanelik-??a**	**1.40**	**103**	PN	**Pg**	**23 41 12.2**	**0.0**
CTKS	**Kestanelik-??a**	**1.40**	**103**	*e*Pn	**Pg**	**23 41 12.2**	**0.0**
SMTH	**Samothraki Isl**	**1.41**	**219**	P	**Pb**	**23 41 12.6**	**+1.2**
SMTH				S	**Sn**	**23 41 26.9**	**-2.1**
SMTH				AML	AML	23 41 33.1	
	comp=E,72μm,0.4s						
SMTH				AML	AML	23 41 33.5	
	comp=N,60μm,0.4s						
SMTH	**Samothraki Isl**	**1.41**	**219**	P	**Pb**	**23 41 12.6**	**+1.2**
SMTH				S	**Sn**	**23 41 27.1**	**-1.9**
EDC	**Edincik**	**1.51**	**144**	PN	**Pb**	**23 41 13.9**	**+0.8**
EDC	**Edincik**	**1.51**	**144**	*e*Pn	**Pb**	**23 41 13.9**	**+0.8**
GADA	**Gvkgeada**	**1.51**	**204**	PN	**Pg**	**23 41 14.6**	**+0.3**
GADA	**Gvkgeada**	**1.51**	**204**	*e*Pn	**Pg**	**23 41 14.6**	**+0.3**
BGKT	**Bogazkoy**	**1.61**	**103**	PN	**Pb**	**23 41 15.1**	**+0.3**
BGKT	**Bogazkoy**	**1.61**	**103**	*e*Pn	**Pb**	**23 41 15.1**	**+0.3**
KAVA	**Kavala**	**1.75**	**252**	P	**Pg**	**23 41 19.2**	**+0.4**
KAVA	**Kavala**	**1.75**	**252**	P	**Pg**	**23 41 19.2**	**+0.4**
KLYT	**Kilyos**	**1.79**	**99**	PN	**Pb**	**23 41 17.7**	**-0.2**
KLYT	**Kilyos**	**1.79**	**99**	*e*Pn	**Pb**	**23 41 17.7**	**-0.2**
BOZC	**Bozcaada**	**1.80**	**196**	PN	**Pb**	**23 41 19.0**	**+1.0**
BOZC	**Bozcaada**	**1.80**	**196**	*e*Pn	**Pb**	**23 41 19.0**	**+1.0**
KCTX	**Karacabey (Bur**	**1.81**	**136**	PN	**Pb**	**23 41 18.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.81**	**136**	*e*Pn	**Pb**	**23 41 18.3**	**0.0**
ISK	**Istanbul-Kandi**	**1.85**	**105**	PN	**Pb**	**23 41 18.6**	**-0.3**
ISK	**Istanbul-Kandi**	**1.85**	**105**	*e*Pn	**Pb**	**23 41 18.6**	**-0.3**
KAVV	**Kandilli-Istan**	**1.85**	**105**	PN	**Pb**	**23 41 18.5**	**-0.4**
KAVV	**Kandilli-Istan**	**1.85**	**105**	*e*Pn	**Pb**	**23 41 18.5**	**-0.4**
ARMT	**Armutlu**	**1.92**	**121**	PN	**Pb**	**23 41 19.9**	**-0.2**
ARMT	**Armutlu**	**1.92**	**121**	*e*Pn	**Pb**	**23 41 19.9**	**-0.2**
BUY	**Buyukada**	**1.96**	**111**	PN	**Pb**	**23 41 20.2**	**-0.6**
BUY	**Buyukada**	**1.96**	**111**	*i* P	**Pn**	**23 41 18.2**	**+0.1**
BUY	**Buyukada**	**1.96**	**111**	P	**Pn**	**23 41 18.2**	**+0.1**
BUY	**Buyukada**	**1.96**	**111**	*e*Pn	**Pb**	**23 41 20.2**	**-0.6**
NVR	**Nevrokopi**	**2.14**	**265**	P	**Pg**	**23 41 26.4**	**-0.1**
NVR	**Nevrokopi**	**2.14**	**265**	P	**Pg**	**23 41 26.3**	**-0.1**
KAND	**Kocaeli-Kandir**	**2.67**	**99**	*i* P	**Pn**	**23 41 28.0**	**+0.1**
KAND	**Kocaeli-Kandir**	**2.67**	**99**	P	**Pn**	**23 41 28.0**	**+0.1**

*NIED **21** 23:44:00, 23.°20N×121.°60E, h50km, Mw4.7 Best double couple: M0 1.14000×10^16 NP1:φ≈19.00000°, δ≈32.00000°, λ≈76.00000°. NP2:φ≈215.00000°, δ≈60.00000°, λ≈99.00000°.*
*BJI **21** 23:44:33.5, 23.°19N×121.°65E, h15km, mb4.3/37, mB4.7/16, ML4.5/5, Ms4.4/19, Ms7 4.2/15*
*MOS **21** 23:44:34.2±1.0, 23.°28N×121.°85E, h33km, mb4.8/26, Error ellipse: s-maj=12.0km s-min=6.1km az=128.8*
*JMA **21** 23:44:36.8±0.1, 23.°22N×121.°63E, h42km±4km, M4.6*
*NEIC **21** 23:44:36.0±0.0, 23.°21N×121.°75E, h28km, mb4.6/16, ML5.1(TAP), After TAP.*
NEIC Felt at Changhua. Recorded [4 TAP] in Taitung; [2 TAP] in Changhua, Chiayi, Hualien, Miaoli, Nantou and Yunlin; [1 TAP] in Penghu, Pingtung and Yilan.
*IDC **21** 23:44:37.5±2.5, 23.°20N×121.°78E, h48km±25km, mb4.0/32, mb1 4.1/35, mb1mx4.0/68, mbtmp4.2/35, ML4.3/2, MS4.0/2, Ms1 4.1/2, ms1mx3.5/57, Error ellipse: s-maj=14.2km s-min=10.9km az=72.0*
*TAP **21** 23:44:38.3, 23.°25N×121.°59E, h42km, ML5.0, B*

ISC 21 23:44:36.3±0.6, 23°22N±0°02×121°71E±0°02, h30km±4km, n312, σ1.41/416, mb4.4/71, 46C-56D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.34**	**248**	⇑*i*P	**Pn**	**23 44 46.2**	**+1.0**
	baz=227						
CHKT				S	**Sn**	**23 44 51.9**	**+0.9**
	baz=227						
HGSD	**Ruisui**	**0.37**	**316**	⇑P	**Pn**	**23 44 46.4**	**+0.7**
	baz=328						
FULB	**Fuli**	**0.38**	**266**	⇑*i*P	**Pn**	**23 44 46.5**	**+0.7**
	baz=258						
FULB				S	**Sn**	**23 44 53.6**	**+1.5**
	baz=258						
TWF1	**Yuli**	**0.40**	**289**	⇓*i*P	**Pn**	**23 44 46.8**	**+0.8**
	baz=290						
TWF1				S	**Sn**	**23 44 52.7**	**+0.1**
	baz=290						
YULB	**Yu-li**	**0.41**	**294**	⇓P	**Pn**	**23 44 46.9**	**+0.6**
	baz=297						
YULB				*e*S	**Sn**	**23 44 52.6**	**-0.3**
	baz=297						
YULB	**Yu-li**	**0.41**	**294**	*e*Pg	**Pn**	**23 44 46.9**	**+0.6**
YULB				*e*Sg	**Sn**	**23 44 52.5**	**-0.3**
EHY	**Hungye**	**0.45**	**309**	⇓*i*P	**Pn**	**23 44 47.3**	**+0.5**
	baz=305						
EHY				*e*S	**Sn**	**23 44 53.6**	**-0.3**
	baz=305						
EGFH	**Guangfu**	**0.51**	**330**	*e*P	**Pn**	**23 44 48.5**	**+0.9**
	baz=328						
EGFH				*e*S	**Sn**	**23 44 56.0**	**+0.6**
	baz=328						
TWH	**Lutao**	**0.55**	**203**	⇑P	**Pn**	**23 44 49.5**	**+1.4**
	baz=184						
TWH				*e*S	**Sn**	**23 44 58.3**	**+2.0**
	baz=184						
ELDTW	**Lidau**	**0.64**	**267**	⇓*i*P	**Pn**	**23 44 49.3**	**-0.1**
	baz=257						
ELDTW				S	**Sb**	**23 44 56.8**	**-0.9**
	baz=257						
ESL	**Shilin**	**0.64**	**337**	⇑P	**Pn**	**23 44 49.6**	**+0.3**
	baz=337						
ESL				*e*S	**Sb**	**23 44 57.7**	**0.0**
	baz=337						
ENLB	**Shoufeng**	**0.68**	**352**	⇑*i*P	**Pn**	**23 44 51.0**	**+1.1**
	baz=9.0						
ENLB				*e*S	**Sn**	**23 45 00.7**	**+1.1**
	baz=9.0						
TTN	**Taitung**	**0.70**	**228**	*e*P	**Pn**	**23 44 51.4**	**+1.3**
	baz=230						
TTN				*e*S	**Sn**	**23 45 02.0**	**+2.2**
	baz=

SLGT				eS	Sb	23 45 07.8	-0.3				
	baz=249										
WTP	**Ta-pu**	**1.00**	**271**	⇓P	**Pb**	**23 44 55.5**	**+0.3**				
	baz=269										
WTP				eS	Sb	23 45 08.9	+0.7				
	baz=269										
CHN5	**Tsauling**	**1.01**	**292**	⇓*i*P	**Pb**	**23 44 56.1**	**+0.7**				
	baz=292										
CHN5				eS	Sb	23 45 09.4	+0.9				
	baz=292										
TYC	**Yuchr**	**1.03**	**311**	⇓*i*P	**Pb**	**23 44 56.0**	**+0.4**				
	baz=321										
TYC				eS	Sb	23 45 08.8	-0.1				
	baz=321										
SGST	**Jiashian**	**1.04**	**262**	⇓*i*P	**Pb**	**23 44 56.4**	**+0.6**				
	baz=254										
SGST				eS	Sb	23 45 10.1	+0.9				
	baz=254										
DPDB	**Guoxing**	**1.08**	**319**	⇓*i*P	**Pb**	**23 44 56.8**	**+0.4**				
	baz=328										
DPDB				eS	Sn	23 45 09.2	-0.2				
	baz=328										
WJS	**Zhushan**	**1.08**	**304**	*e*P	**Pb**	**23 44 56.9**	**+0.5**				
	baz=305										
WJS				eS	Sb	23 45 10.7	+0.5				
	baz=305										
CHN1	**Nanshi**	**1.08**	**268**	⇓*i*P	**Pb**	**23 44 57.0**	**+0.4**				
	baz=265										
CHN1				S	Sb	23 45 11.5	+1.1				
	baz=265										
SSD	**Sandimen**	**1.10**	**245**	⇓*e*P	**Pn**	**23 44 56.2**	**+0.5**				
	baz=236										
SSD				eS	Sb	23 45 10.4	-0.3				
	baz=236										
TWK	**Hsinying**	**1.12**	**272**	⇓P	**Pb**	**23 44 57.2**	**0.0**				
	baz=270										
TWK				eS	Sb	23 45 11.7	+0.3				
	baz=270										
TDCB	**Techi**	**1.14**	**334**	⇑P	**Pb**	**23 44 57.7**	**+0.1**				
	baz=344										
TDCB				eS	Sn	23 45 10.3	-0.8				
	baz=344										
TAW	**Tawu**	**1.14**	**221**	⇓*e*P	**Pn**	**23 44 56.5**	**+0.2**				
	baz=220										
TAW				eS	Sn	23 45 09.8	-1.1				
	baz=220										
WNT	**Mingjian**	**1.14**	**305**	⇓*i*P	**Pb**	**23 44 57.9**	**+0.4**				
	baz=307										
WNT				eS	Sb	23 45 12.5	+0.5				
	baz=307										
WGK	**Gukeng**	**1.15**	**294**	⇓*e*P	**Pb**	**23 44 57.8**	**+0.3**				
	baz=294										
WGK				eS	Sb	23 45 12.4	+0.3				
	baz=294										
EAST	**Anshuo**	**1.15**	**224**	*e*P	**Pn**	**23 44 56.6**	**+0.2**				
	baz=217										
MASBT	**Mashibuluo**	**1.16**	**239**	⇓P	**Pb**	**23 44 57.4**	**-0.4**				
	baz=229										
MASBT				eS	Sn	23 45 11.4	0.0				
	baz=229										
WDLH	**Douliu**	**1.17**	**294**	*e*P	**Pb**	**23 44 58.5**	**+0.6**				
	baz=303										
WDLH				eS	Sb	23 45 13.3	+0.6				
	baz=303										
CHN2	**Minshiung**	**1.17**	**285**	⇓P	**Pb**	**23 44 58.4**	**+0.4**				
	baz=272										
CHN2				S	Sb	23 45 13.7	+0.8				
	baz=272										
LAY	**Lan-yu**	**1.19**	**187**	⇓*e*P	**Pb**	**23 44 57.9**	**-0.4**				
	baz=181										
ENA	**Nanau**	**1.20**	**1**	⇑P	**Pb**	**23 44 58.2**	**-0.3**				
	baz=17										
ENA				eS	Sb	23 45 13.2	-0.4				
	baz=17										
NANB	**Nanao**	**1.20**	**2**	⇑P	**Pb**	**23 44 58.2**	**-0.3**				
	baz=17										
NANB				eS	Sn	23 45 12.9	+0.6				
	baz=17										
CHY	**Chiayi**	**1.21**	**283**	*e*P	**Pb**	**23 44 58.7**	**+0.1**				
	baz=270										
CHY				eS	Sn	23 45 13.2	+0.6				
	baz=270										
ENAH	**Nanao**	**1.22**	**4**	⇑P	**Pb**	**23 44 58.8**	**-0.1**				
	baz=10.0										
ENAH				eS	Sb	23 45 14.4	+0.1				
	baz=10.0										
SGLT	**Jiouru**	**1.23**	**246**	*e*P	**Pb**	**23 44 59.9**	**+1.0**				
	baz=232										
SGLT				eS	Sb	23 45 16.3	+2.0				
	baz=232										
NNSB	**Datong**	**1.23**	**346**	⇑*e*P	**Pb**	**23 44 58.6**	**-0.5**				
	baz=360										
NNSH	**Datong**	**1.23**	**346**	*e*P	**Pb**	**23 44 59.1**	**0.0**				
	baz=358										
CHN3	**Shinhua**	**1.24**	**263**	⇓P	**Pb**	**23 45 00.1**	**+0.9**				
	baz=271										
CHN3				eS	Sb	23 45 16.9	+2.0				
	baz=271										
NNS	**Nan Shan**	**1.25**	**346**	*e*P	**Pb**	**23 44 58.9**	**-0.5**				
	baz=360										
TWM1	**Shoushan**	**1.25**	**252**	⇓*i*P	**Pb**	**23 45 00.7**	**+1.4**				
	baz=247										
TWM1				eS	Sb	23 45 17.4	+2.4				
	baz=247										
SSPT	**Xinbi**	**1.28**	**235**	*e*P	**Pb**	**23 45 00.1**	**+0.2**				
	baz=223										
SCZT	**Fangliau**	**1.31**	**230**	⇓*e*P	**Pb**	**23 44 59.8**	**-0.6**				
	baz=218										
SCZT				eS	Sb	23 45 16.6	-0.2				
	baz=218										
WLGB	**Puzi**	**1.32**	**281**	P	**Pb**	**23 44 60.0**	**-0.5**				
	baz=280										
WLGB				eS	Sb	23 45 16.3	-0.6				
	baz=280										
TCU	**Taichung**	**1.32**	**314**	*e*P	**Pb**	**23 45 01.1**	**+0.6**				
	baz=304										
TCU				eS	Sb	23 45 17.4	+0.4				
	baz=304										
WCHH	**Zhanghua**	**1.35**	**309**	⇓*e*P	**Pb**	**23 45 01.1**	**0.0**				
	baz=310										
WCHH				eS	Sb	23 45 18.2	+0.2				
	baz=310										
TAI1	**Yung-k'ang**	**1.37**	**263**	*e*P	**Pb**	**23 45 01.1**	**-0.3**				
	baz=259										
TAI1				eS	Sb	23 45 18.8	+0.3				
	baz=259										
CHN8	**Yiju**	**1.38**	**275**	⇓*i*P	**Pb**	**23 45 00.9**	**-0.6**				
	baz=273										
CHN8				S	Sb	23 45 18.0	-0.8				
	baz=273										
TWC	**Suao**	**1.39**	**5**	⇑P	**Pb**	**23 45 01.4**	**-0.2**				
	baz=11										
TWC				eS	Sb	23 45 18.2	-0.7				
	baz=11										
SCLT	**Jiali**	**1.39**	**268**	⇓P	**Pb**	**23 45 01.3**	**-0.4**				
	baz=265										
SCLT				eS	Sb	23 45 18.6	-0.5				
	baz=265										
RLNB	**Erlin**	**1.40**	**298**	⇓P	**Pb**	**23 45 01.2**	**-0.7**				
	baz=299										
RLNB				eS	Sn	23 45 17.5	+0.1				
	baz=299										
TWQ1	**Liyutan**	**1.41**	**323**	P	**Pb**	**23 45 02.5**	**+0.5**				
	baz=325										
TWQ1				S	Sb	23 45 20.3	+0.7				
	baz=325										
ENTT	**Nioudou**	**1.42**	**355**	⇑P	**Pb**	**23 45 01.3**	**-0.8**				
	baz=360										
WSF	**Szhu**	**1.43**	**287**	⇓P	**Pn**	**23 45 01.0**	**+0.9**				
	baz=286										
WSF				eS	Sn	23 45 17.8	0.0				
	baz=286										
KAU	**Kaohsiung**	**1.45**	**243**	*e*P	**Pb**	**23 45 02.9**	**+0.3**				
	baz=254										
WSSB	**Gushan**	**1.45**	**247**	⇓P	**Pb**	**23 45 03.3**	**+0.6**				
	baz=242										
WSSB				eS	Sb	23 45 21.4	+0.5				
	baz=242										
WTCT	**Ta-ch'eng**	**1.46**	**296**	⇓*i*P	**Pb**	**23 45 01.7**	**-1.1**				
	baz=296										
WTCT				S	Sn	23 45 19.4	+0.8				
	baz=296										
YHNB	**Yeheng**	**1.47**	**348**	⇑P	**Pb**	**23 45 02.5**	**-0.6**				
	baz=351										
YHNB				eS	Sn	23 45 19.8	+0.6				
	baz=351										
YHNB	**Yeheng**	**1.47**	**348**	*e*Pn	**Pb**	**23 45 02.4**	**-0.7**				
TWE	**Neicheng**	**1.49**	**359**	*e*P	**Pb**	**23 45 02.6**	**-0.8**				
	baz=355										
WLCH	**Liuqiu**	**1.50**	**235**	*e*P	**Pb**	**23 45 05.3**	**+1.8**				
	baz=230										
HEN	**Hengchun**	**1.51**	**217**	*e*P	**Pb**	**23 45 02.7**	**-1.0**				
	baz=202										
TSEB	**Hengchuen, Pin**	**1.51**	**210**	*e*P	**Pb**	**23 45 02.8**	**-0.9**				
	baz=207										
TSEB				eS	Sb	23 45 21.6	-1.0				
	baz=207										
TWP	**Hsiaoliuchiu**	**1.52**	**235**	*e*P	**Pb**	**23 45 04.8**	**+1.0**				
	baz=230										
TWKBT	**Hengchun**	**1.52**	**213**	⇑P	**Pn**	**23 45 02.5**	**+1.0**				
	baz=200										
TWKBT				S	Sn	23 45 20.5	+0.2				
	baz=200										
TWK1	**Hengchun**	**1.52**	**213**	⇑P	**Pn**	**23 45 02.5**	**+1.0**				
	baz=200										
TWK1				eS	Sn	23 45 20.5	+0.2				
	baz=200										
PTSB	**Yuanli**	**1.52**	**323**	*e*P	**Pb**	**23 45 03.9**	**-0.1**				
	baz=325										
PTSB				eS	Sb	23 45 22.4	-0.5				
	baz=325										
NSTT	**Nanjuang**	**1.54**	**335**	*e*P	**Pb**	**23 45 03.9**	**-0.3**				
	baz=338										
NSTT				eS	Sb	23 45 22.6	-0.8				
	baz=338										
LIOB	**Emei**	**1.55**	**336**	*e*P	**Pb**	**23 45 04.2**	**-0.2**				
	baz=338										
LIOB				eS	Sb	23 45 22.7	-0.9				
	baz=338										
NMLH	**Miaoli**	**1.55**	**328**	*e*P	**Pb**	**23 45 04.2**	**-0.3**				
	baz=330										
NWLT	**Wulai**	**1.56**	**353**	*e*P	**Pb**	**23 45 04.0**	**-0.5**				
	baz=7.0										
JYNG	**Yonagunijimaku**	**1.67**	**43**	P	**Pb**	**23 45 06.4**	**0.0**				
JYNG				eS	Sb	23 45 27.0	0.0				
WLTB	**Daxi**	**1.67**	**346**	*e*P	**Pb**	**23 45 06.7**	**+0.2**				
	baz=353										
WLTB				eS	Sb	23 45 26.6	-0.6				
	baz=353										
SBCB	**Hsinchu**	**1.69**	**337**	*e*P	**Pb**	**23 45 06.3**	**-0.6**				
	baz=340										
HSN	**Hsinchu**	**1.71**	**337**	*e*P	**Pb**	**23 45 06.5**	**-0.7**				
	baz=328										
YOJ	**Yonaguni jima**	**1.72**	**44**	⇓P	**Pb**	**23 45 07.0**	**-0.2**				
	baz=58										
YOJ				eS	Sb	23 45 28.1	-0.3				
	baz=58										
YOJ	**Yonaguni jima**	**1.72**	**44**	P	**Pb**	**23 45 07.0**	**-0.2**				
YOJ				S	Sb	23 45 28.1	-0.3				
YOJ	**Yonaguni jima**	**1.72**	**44**	P	**Pb**	**23 45 07.0**	**-0.2**				
YOJ				pmax	pmax						
	comp=Z,3μm,0.7s										
YOJ	**Yonaguni jima**	**1.72**	**44**	*e*Pn	**Pb**	**23 45 06.5**	**-0.7**				
TIPB	**Shuangxi**	**1.74**	**4**	*e*P	**Pn**	**23 45 06.0**	**+1.5**				
	baz=356										
TIPB				eS	Sn	23 45 27.3	+1.5				
	baz=356										
TATO	**Taipei**	**1.75**	**354**	*e*P	**Pb**	**23 45 06.8**	**-1.0**				
	baz=6.0										
TATO				eS	Sb	23 45 27.9	-1.6				
	baz=6.0										
TATO	**Taipei**	**1.75**	**354**	*e*Pn	**Pb**	**23 45 06.9**	**-1.0**				
TATO				eS	Sn	23 45 26.3	+0.2				
TWB1	**Santiao Chiao**	**1.79**	**8**	*e*P	**Pb**	**23 45 07.5**	**-1.0**				
	baz=13										
NCUH	**Zhongli**	**1.80**	**345**	*e*P	**Pb**	**23 45 08.1**	**-0.5**				
	baz=348										
NCU	**National Centr**	**1.80**	**345**	*e*P	**Pb**	**23 45 07.9**	**-0.8**				
	baz=348										
TAP1	**Taipei**	**1.81**	**355**	*e*P	**Pb**	**23 45 08.9**	**0.0**				
	baz=358										
NWF	**Wu-fen Shan**	**1.84**	**2**	*e*P	**Pb**	**23 45 08.2**	**-1.2**				
	baz=355										
WFSB	**Wu-fen Shan**	**1.84**	**2**	*e*P	**Pb**	**23 45 08.2**	**-1.1**				
	baz=356										
WDGT	**Dungji**	**1.88**	**271**	⇓P	**Pn**	**23 45 07.0**	**+0.6**				
	baz=269										
WDGT				eS	Sn	23 45 27.5	-1.7				
	baz=269										
TWS1	**Kuangyinshan**	**1.89**	**352**	*e*P	**Pn**	**23 45 08.2**	**+1.7**				
	baz=9.0										
YM04	**YM04**	**1.93**	**355**	*e*P	**Pn**	**23 45 09.0**	**+1.9**				
	baz=359										
YM10	**YM10**	**1.93**	**356**	*e*P	**Pb**	**23 45 09.2**	**-1.7**				
	baz=359										
YM07	**YM07**	**1.94**	**358**	*e*P	**Pn**	**23 45 08.2**	**+0.9**				
	baz=1.0										
NTST	**Danshui**	**1.95**	**353**	*e*P	**Pb**	**23 45 09.6**	**-1.5**				
	baz=10.0										
YM08	**YM08**	**1.96**	**357**	*e*P	**Pn**	**23 45 09.0**	**+1.5**				
PHUB	**P'eng-hu**	**1.98**	**279**	⇓P	**Pn**	**23 45 08.2**	**+0.4**				
	baz=265										
PHUB				eS	Sn	23 45 29.5	-2.2				
	baz=265										
PNG	**Penghu**	**2.01**	**280**	⇓*i*P	**Pn**	**23 45 08.7**	**+0.5**				
	baz=266										
PNG				eS	Sn	23 45 30.6	-1.7				
	baz=266										
TWY	**Chenhua**	**2.04**	**357**	*e*P	**Pb**	**23 45 10.9**	**-1.9**				
	baz=1.0										
HATJ	**Hateruma jima**	**2.10**	**66**	P	**Pb**	**23 45 12.3**	**-1.4**				
HATJ				S	Sb	23 45 37.5	-1.8				
IRIF	**Iriomote-Funau**	**2.16**	**59**	P	**Pb**	**23 45 13.4**	**-1.3**				
IRIF				eS	Sb	23 45 40.5	-0.6				
JKRS	**Kuro-shima**	**2.34**	**64**	P	**Pb**	**23 45 15.8**	**-2.0**				
JKRS				eS	Sb	23 45 43.7	-2.6				
JIJ	**Ishigaki jima**	**2.50**	**63**	P	**Pn**	**23 45 17.5**	**+2.5**				
JIJ				S	Sn	23 45 46.5	+2.0				
VWUC	**VWUC**	**2.71**	**311**	⇓*e*P	**Pn**	**23 45 18.0**	**+0.2**				
	baz=311										
JISG	**Ishigakijimahi**	**2.74**	**60**	P	**Pn**	**23 45 20.7**	**+2.4**				
JISG				S	Sn	23 45 52.3	+1.9				
JTJ	**Tarama**	**3.08**	**62**	P	**Pn**	**23 45 25.8**	**+2.9**				
JTJ				S	Sn	23 46 01.1	+2.3				
KNMB	**Chin-men Tao**	**3.28**	**293**	⇓*e*P	**Pn**	**23 45 25.4**	**-0.3**				
	baz=292										
QZH	**Quanzhou**	**3.32**	**302**	⇓*i*Pn	**Pn**	**23 45 25.9**	**-0.3**				
QZH				Sn	Sn	23 46 02.3	-2.4				
QZH				smax	smax						
	comp=Z,610nm,0.4s										
QZH				smax	smax						
	comp=Z,490nm,0.4s										
MATB	**Ma-tsu**	**3.33**	**332**	⇓*e*P	**Pn**	**23 45 26.8**	**+0.5**				
	baz=329										
MATB				eS	Sn	23 46 03.3	-1.5				
	baz=329										
JIRB	**Irabujima**	**3.55**	**63**	P	**Pn**	**23 45 31.3**	**+1.9**				
JIRB				S	Sn	23 46 12.3	+2.0				
JMJ	**Miyako jima 2**	**3.64**	**64**	*e*P	**Pn**	**23 45 33.2**	**+2.6**				
	baz=65										
JMJ	**Miyako jima 2**	**3.64**	**64**	P	**Pn**	**23 45 33.6**	**+3.0**				
JMJ				eS	Sn	23 46 15.2	+2.6				
JIKM	**Ikemajima**	**3.65**	**62**	P	**Pn**	**23 45 32.8**	**+2.0**				
JIKM				S	Sn	23 46 15.2	+2.4				
JOGS	**Gusukube**	**3.71**	**65**	P	**Pn**	**23 45 34.5**	**+2.9**				
JOGS				S	Sn	23 46 17.7	+3.3				
VDOS	**Pratas Island**	**5.26**	**242**	*e*P	**Pn**	**23 45 54.8**	**+1.9**				
	baz=235										
JOW	**Kunigami**	**6.96**	**58**	P	**Pn**	**23 46 16.2**	**0.0**				
	comp=Z,21nm,0.3s,baz=280,slow=23,SNR=100										
JOW				S	Sn	23 47 33.4	-0.9				
	comp=Z,5.1nm,0.3s,baz=143,slow=20,SNR=2.7										
JOW	**Kunigami**	**6.96**	**58**	*e*P	**Pn**	**23 46 17.0**	**+0.8**				
	baz=58										
JOW	**Kunigami**	**6.96**	**58**	*e*Pn	**Pn**	**23 46 16.4**	**+0.2**				
JOW				eS	Sn	23 47 35.5	+1.2				
MCO	**Taipa Grande**	**7.61**	**263**	P	**Pn**	**23 46 27.0**	**+1.9**				
GZH	**Guangzhou**	**7.70**	**271**	Pn	**Pn**	**23 46 23.4**	**-3.0**				
GZH				smax	smax						
	comp=Z,210nm,1.1s										
GZH				smax	smax						
	comp=Z,150nm,1.0s										
NJ2	**Nanjing**	**9.15**	**345**	*e*P	**Pn**	**23 46 48.0**	**+1.7**				
NJ2				pmax	pmax						
	comp=Z,21nm,0.5s										
WHN	**Wuhan**	**9.81**	**320**	⇓P	**Pn**	**23 46 55.3**	**0.0**				
WHN				pP		23 46 57.9					
WHN				S	Sn	**23 48 38.8**	**-5.6**				
WHN				LR	LR						
	comp=Z,2μm,5.6s										
WHN				LR	LR						
	comp=Z,2μm,5.5s										
QIZ	**Qiongzhong**	**11.83**	**252**	*e*Pn	**Pn**	**23 47 25.6**	**+2.5**				
QIZ				eS	Sn	23 49 28.6	-5.6				
GYA	**Guiyang**	**14.03**	**286**	*e*P	**Pn**	**23 47 54.0**	**+0.8**				
GYA				PP	PnPn	**23 48 05.0**	**+3.8**				
GYA				S	Sn	**23 50 30.6**	**+2.5**				
GYA				SS	S	**23 50 47.3**	**-1.5**				
GYA				pmax	pmax						
	comp=Z,10.0nm,0.7s										
GYA				LR	LR						
	comp=Z,620nm,10.2s										
GYA				LR	LR						
	comp=Z,580nm,11.6s										
GYA				LR	LR						
	comp=Z,540nm,11.8s										
KSAR	**Wonju Array Be**	**15.13**	**19**	P	**Pn**	**23 48 09.2**	**+1.3**				
KSRS	**Korea Array**	**15.16**	**19**	P	**Pn**	**23 48 09.2**	**+1.0**				
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=3.6										
KSRS				LR	LR	23 54 52.7					
	comp=Z,510nm,18.1s,baz=327,slow=41										
XAN	**Xi'an**	**15.54**	**317**	P	**Pn**	**23 48 13.6**	**+0.2**				
XAN				S	Sn	**23 51 08.8**	**+4.1**				
XAN				LR	LR						
	comp=Z,700nm,12.8s										
XAN				LR	LR						
	comp=Z,700nm,16.2s										
XAN				LR	LR						
	comp=Z,870nm,16.1s										
KMI	**Kunming**	**17.41**	**280**	P	**Pn**	**23 48 36.8**	**-0.5**				
KMI				pmax	pmax						
	comp=Z,8.0nm,0.8s										
CD2	**Chengdu**	**17.71**	**299**	*e*P	**Pn**	**23 48 40.6**	**-0.2**				
CD2	**Chengdu**	**17.71**	**299**	P	**Pn**	**23 48 40.5**	**-0.2**				
CD2				pP	pP	23 48 46.3	-3.2				
CD2				sP	sP	23 48 48.8	-4.5				
CD2				S	Sn	**23 51 58.8**	**+1.5**				
CD2				pmax	pmax						
	comp=Z,20nm,0.5s										
CD2				pmax	pmax						
	comp=Z,220nm,5.0s										
CD2				LR	LR						
	comp=Z,860nm,14.4s										
CD2				LR	LR						
	comp=Z,1μm,14.4s										
SKNT	**Sakolnakorn**	**17.76**	**253**	P	**P**	**23 48 46.3**	**+4.2**				
	comp=Z,5.0nm,0.8s										
KKM	**Kota Kinabalu**	**17.88**	**198**	*e*Pn	**Pn**	**23 48 42.9**	**-0.2**				
	comp=Z,41nm,1.4s										
MJAR	**Matsushiro Arr**	**19.48**	**43**	P	**P**	**23 49 00.2**	**-0.6**				
	comp=Z,0.4nm,0.3s,baz=221,slow=6.7,SNR=2.7										
HHC	**Hu-ho-hao-te**	**19.54**	**336**	*e*P	**Pn**	**23 49 04.6**	**+1.7**				
HHC				pP	pP	23 49 08.4	-1.2				
HHC				sP	sP	23 49 11.6	-1.8				
HHC				S	**S**	**23 52 39.4**	**-1.2**				
HHC				sS	Sn	23 52 45.3	+3.9				
HHC				pmax	pmax						
	comp=Z,16nm,0.9s										
HHC				pmax	pmax						
	comp=Z,180nm,5.9s										
HHC				LR	LR						
	comp=Z,510nm,13.4s										
HHC				LR	LR						
	comp=Z,540nm,15.4s										
HHC				LR	LR						
	comp=Z,370nm,15.4s										
CHAI	**Chaiyaphum**	**19.95**	**252**	P	**Pn**	**23 49 11.6**	**+3.7**				
	comp=Z,13nm,0.9s,comp=Z,137nm										
LZH	**Lanzhou**	**20.09**	**314**	*e*P	Pn	23 49 13.5	+3.9				
LZH				pP	sP	23 49 18.3	-1.3				
LZH				sP	pP	23 49 21.6	+5.9				
LZH				*e*PP	**PnPn**	**23 49 33.0**	**+8.7**				
LZH				*e*S	**S**	**23 52 51.0**	**-1.0**				
LZH				pmax	pmax						
	comp=Z,37nm,1.2s										
LZH				pmax	pmax						
	comp=Z,150nm,5.0s										
LZH				LR	LR						
	comp=Z,590nm,12.5s										
LZH				LR	LR						
	comp=Z,420nm,12.3s										
LZH				LR	LR						
	comp=Z,650nm,14.0s										
PHIT	**Phitsanulok**	**20.85**	**257**	P	Pn	23 49 18.3	-0.2				
	comp=Z,18nm,0.9s										
LAMP	**Lampang**	**21.14**	**261**	P	**P**	**23 49 21.8**	**+2.8**				
	comp=Z,5.7nm,0.9s										
CMAI	**Chiengmai2**	**21.32**	**265**	P	**P**	**23 49 24.8**	**+3.7**				
	comp=Z,474nm,1.4s										
CMMT	**Chiang Mai**	**21.69**	**263**	P	**P**	**23 49 26.3**	**+1.4**				
	comp=Z,25nm,0.9s										
CHTO	**Chiang Mai**	**21.69**	**263**	P	**P**	**23 49 27.4**	**+2.5**				
	comp=Z,103nm,1.1s										
CHTO	**Chiang Mai**	**21.69**	**263**	*e*P	**P**	**23 49 26.5**	**+1.6**				
CHTO	**Chiang Mai**	**21.69**	**263**	*e*P	**P**	**23 49 26.5**	**+1.6**				
	comp=Z,17nm,0.8s										
CM01	**Chiang Mai Arr**	**21.78**	**262**	*e*P	**P**	**23 49 27.9**	**+2.0**				
CM31	**Chiang Mai Arr**	**21.79**	**262**	*e*P	**P**	**23 49 25.0**	**-1.0**				
CMAR	**Chiang Mai Arr**	**21.79**	**262**	P	**P**	**23 49 27.1**	**+1.1**				
	comp=Z,11nm,1.0s,baz=64,slow=8.3,SNR=41										
CMAR				LR	LR	23 58 12.1					
	comp=Z,424nm,18.8s,baz=56,slow=37										
USRK	**Ussuriysk Ar.**	**22.57**	**20**	P	**P**	**23 49 33.9**	**-0.1**				
	comp=Z,1.6nm,0.6s,baz=193,slow=5.6,SNR=1.9										
SBUM	**Sibu**	**22.61**	**205**	*e*P	**P**	**23 49 33.0**	**-1.7**				
	comp=Z,13nm,0.8s				

KSH				S	S	23 58 43.3	+3.7
KSH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,130nm,5.8s						
KSH				LR	LR		
	comp=Z,330nm,12.8s						
KSH				LR	LR		
	comp=Z,360nm,14.5s						
KSH				LR	LR		
	comp=Z,350nm,15.0s						
H11N1	**WAKE ISLAND Hy**	**42.07**	**86**	T	T	00 37 48.0	
	baz=282,slow=74,SNR=108						
H11N2	**WAKE ISLAND Hy**	**42.07**	**86**	T	T	00 37 44.1	
	baz=282,slow=74,SNR=108						
H11N3	**WAKE ISLAND Hy**	**42.09**	**86**	T	T	00 37 47.3	
	baz=282,slow=74,SNR=103						
NRN	**Naryn**	**42.14**	**307**	P	**P**	**23 52 27.2**	**+0.8**
NRN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**42.17**	**88**	T	T	00 38 03.1	
	baz=284,slow=75,SNR=216						
H11S1	**WAKE ISLAND Hy**	**42.18**	**88**	T	T	00 37 54.3	
	baz=284,slow=75,SNR=119						
H11S2	**WAKE ISLAND Hy**	**42.19**	**88**	T	T	00 37 47.7	
	baz=284,slow=75,SNR=168						
NVS	**Novosibirsk**	**42.57**	**328**	*e*P	**P**	**23 52 28.1**	**-1.2**
TKM2	**Tokmak 2**	**42.73**	**309**	P	**P**	**23 52 32.0**	**+0.9**
	SNR=5.1						
KZA	**Kyzart**	**42.81**	**307**	P	**P**	**23 52 33.3**	**+1.3**
	SNR=5.4						
KURK	**Kurchatov**	**43.13**	**321**	*c i*P	**P**	**23 52 33.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,50nm,1.2s						
KURK	**Kurchatov**	**43.13**	**321**	*e*P	**P**	**23 52 33.3**	**-0.7**
	comp=Z,9.2nm,0.8s						
KBK	**Karagaybulak**	**43.15**	**308**	P	**P**	**23 52 35.4**	**+1.0**
	SNR=6.7						
KURBB	**Kurchatov Arra**	**43.15**	**320**	P	**P**	**23 52 33.6**	**-0.4**
	comp=Z,3.5nm,0.4s,baz=114,slow=7.7,SNR=38						
CHMS	**Chumysh**	**43.36**	**309**	P	**P**	**23 52 36.4**	**+0.5**
	SNR=5.4						
UCH	**Uchtor**	**43.38**	**307**	P	**P**	**23 52 37.9**	**+1.3**
	SNR=10						
AAK	**Ala-Archa**	**43.47**	**308**	P	**P**	**23 52 37.4**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=123,slow=4.5,SNR=12						
AAK	**Ala-Archa**	**43.47**	**308**	*e*P	**P**	**23 52 37.4**	**+0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**43.47**	**308**	*e*P	**P**	**23 52 37.5**	**+0.4**
	comp=Z,2.8nm,0.9s						
SFK	**Sufi-Kurgan**	**43.78**	**304**	P	**P**	**23 52 40.6**	**+1.0**
SFK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AML	**Almayashu**	**43.96**	**307**	P	**P**	**23 52 42.3**	**+1.1**
	SNR=9.5						
EKS2	**Erkin-Say**	**43.99**	**308**	P	**P**	**23 52 41.5**	**+0.4**
	SNR=5.2						
WRAB	**Tennant Creek**	**44.63**	**163**	*e*P	**P**	**23 52 45.3**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WRAB	**Tennant Creek**	**44.63**	**163**	*e*P	**P**	**23 52 45.4**	**-0.9**
	comp=Z,4.2nm,0.7s						
WRA	**Warramunga Arr**	**44.64**	**163**	P	**P**	**23 52 44.8**	**-1.5**
	comp=Z,3.4nm,0.7s,baz=344,slow=8.7,SNR=24						
WRA	**Warramunga Arr**	**44.64**	**163**	*i* P	**P**	**23 52 44.7**	**-1.6**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SEY	**Seymchan**	**44.72**	**19**	P	**P**	**23 52 46.8**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=238,slow=8.0,SNR=5.0						
MNAS	**Manas**	**44.89**	**307**	P	**P**	**23 52 49.4**	**+1.1**
MNAS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
OTUK	**Ortayu**	**46.21**	**315**	P	**P**	**23 52 58.6**	**+0.1**
OTUK				pmax	pmax		
	comp=Z,15nm,0.9s						
KKAR	**Karatay Array**	**46.43**	**308**	*e*P	**P**	**23 53 00.3**	**-0.1**
KKAR	**Karatay Array**	**46.43**	**308**	*e*P	**P**	**23 53 00.3**	**-0.1**
	comp=Z,1.7nm,0.3s						
KBL	**Kabul**	**47.01**	**296**	P	**P**	**23 53 05.9**	**+0.7**
KBL				pmax	pmax		
	comp=Z,15nm,0.9s						
KBL	**Kabul**	**47.01**	**296**	*e*P	**P**	**23 53 05.9**	**+0.7**
	comp=Z,15nm,0.9s						
ASAR	**Alice Springs**	**48.09**	**165**	P	**P**	**23 53 12.8**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=335,slow=6.6,SNR=12						
AS01	**Alice Springs**	**48.10**	**165**	*e*P	**P**	**23 53 12.5**	**-1.0**
BVAR	**Borovoye Array**	**48.72**	**321**	P	**P**	**23 53 17.5**	**-0.5**
	comp=Z,3.9nm,0.5s,baz=105,slow=8.8,SNR=36						
BRVK	**Borovoye**	**48.79**	**321**	*c i*P	**P**	**23 53 18.0**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,21nm,1.2s						
BRVK	**Borovoye**	**48.79**	**321**	*e*P	**P**	**23 53 17.9**	**-0.6**
	comp=Z,8.3nm,0.9s						
BILL	**Bilibino**	**52.42**	**19**	*i* P	**P**	**23 53 44.8**	**-0.9**
BILL				*i*		23 53 54.9	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ABKAR	**Akbulak array**	**54.45**	**315**	*e*P	**P**	**23 54 00.6**	**-0.3**
	comp=Z,9.4nm,0.7s						
SVE	**Sverdlovsk**	**55.10**	**324**	*e*P	**P**	**23 54 04.9**	**-0.5**
SVE				pmax	pmax		
	comp=Z,24nm,1.0s						
GEYT	**Alibeck**	**55.70**	**301**	P	**P**	**23 54 11.1**	**+1.0**
	comp=Z,4.8nm,0.9s,baz=94,slow=4.5,SNR=12						
AKTO	**Aktyubinsk**	**55.79**	**316**	P	**P**	**23 54 09.7**	**-0.8**
	comp=Z,2.9nm,0.5s,baz=100,slow=8.6,SNR=14						
ARU	**Arti**	**56.16**	**323**	*c i*P	**P**	**23 54 11.8**	**-1.2**
ARU						23 55 09.8	
ARU						23 56 16.0	
ARU				S	S	**00 02 00.2**	**0.0**
ARU				pmax	pmax		
	comp=Z,22nm,1.0s						
ARU	**Arti**	**56.16**	**323**	*e*P	**P**	**23 54 11.7**	**-1.4**
	comp=Z,22nm,1.0s						
WSAR	**Wadi Sarin**	**57.52**	**284**	P	**P**	**23 54 22.4**	**-0.9**
	comp=Z,2.4nm,1.0s,baz=99,slow=13,SNR=3.3						
STKA	**Stephens Creek**	**58.00**	**160**	P	**P**	**23 54 25.1**	**-1.2**
	comp=Z,6.4nm,0.7s,baz=57,slow=11,SNR=10						
GNI	**Garni**	**65.74**	**305**	P	**P**	**23 55 18.6**	**0.0**
	comp=Z,2.3nm,0.9s,baz=113,slow=7.7,SNR=3.3						
GNI	**Garni**	**65.74**	**305**	*e*P	**P**	**23 55 18.0**	**-0.6**
GNI				pmax	pmax		
	comp=Z,13nm,1.4s						
GNI	**Garni**	**65.74**	**305**	*e*P	**P**	**23 55 19.4**	**+0.7**
	comp=Z,45nm,1.1s						
VRH	**Novokhopyorsk**	**66.08**	**317**	*e*P	**P**	**23 55 18.2**	**-2.2**
VRH				pmax	pmax		
	comp=Z,20nm,0.9s						
KLMR	**Klimovskoe**	**66.23**	**328**	*e*P	**P**	**23 55 18.4**	**-2.7**
KLMR				pmax	pmax		
	comp=Z,18nm,1.4s						
KLMR	**Klimovskoe**	**66.23**	**328**	*e*P	**P**	**23 55 18.4**	**-2.7**
KLMR				AMP		23 55 21.0	
	comp=Z,18nm,1.4s						
AKH	**Akhalkalaki**	**66.44**	**307**	P	**P**	**23 55 24.1**	**+0.9**
AKH	**Akhalkalaki**	**66.44**	**307**	*i* P	**P**	**23 55 24.0**	**+0.9**
AKH	**Akhalkalaki**	**66.44**	**307**	*e*P	**P**	**23 55 24.1**	**+0.9**
KBZ	**Khabaz**	**66.45**	**309**	P	**P**	**23 55 22.5**	**-0.4**
	comp=Z,6.4nm,0.8s,baz=98,slow=4.8,SNR=20						
KIV	**Kislovodsk**	**66.56**	**309**	*e*P	**P**	**23 55 23.3**	**-0.5**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
KIV	**Kislovodsk**	**66.56**	**309**	*e*P	**P**	**23 55 23.5**	**-0.2**
NEY	**Neytrino**	**66.66**	**309**	*e*P	**P**	**23 55 24.5**	**0.0**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPSR	**Galich'ya Gora**	**67.59**	**319**	*e*P	**P**	**23 55 28.2**	**-1.8**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**67.67**	**318**	*e*P	**P**	**23 55 26.8**	**-3.7**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KDAK	**Kodiak Island**	**68.41**	**35**	*i* P	**P**	**23 55 35.4**	**+0.4**
OBN	**Obninsk**	**68.55**	**322**	*i* P	**P**	**23 55 35.3**	**-0.6**
OBN				*e**PP	**pP**	**23 55 43.5**	**-1.8**
OBN				*e**SP	**sP**	**23 55 47.6**	**-1.3**
OBN						23 56 02.0	
OBN				*e*		23 58 07.1	
OBN				*e*S	S	00 04 57.5	+21
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,712nm,21.0s						
ILAR	**Eielson Array**	**69.84**	**27**	P	**P**	**23 55 44.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=270,slow=7.2,SNR=8.4						
ILAR	**Eielson Array**	**69.84**	**27**	P	**P**	**23 55 44.0**	**+0.1**
SPITS	**Spitsbergen Ar**	**70.52**	**348**	P	**P**	**23 55 47.5**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=34,slow=10,SNR=11						
ARCES	**ARCESS Array B**	**70.60**	**338**	P	**P**	**23 55 47.6**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=71,slow=9.5,SNR=15						
FINES	**FINESS Array B**	**72.51**	**330**	P	**P**	**23 55 58.8**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=70,slow=5.1,SNR=12						
VSU	**Vasula**	**73.04**	**327**	*e*P	**P**	**23 56 02.6**	**-0.6**
VSU				pmax	pmax		
	comp=Z,29nm,1.0s						
ASF	**Jabal al Asfar**	**73.84**	**298**	P	**P**	**23 56 08.8**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=74,slow=4.7,SNR=4.2						
AKASG	**Malin Array Be**	**73.90**	**319**	P	**P**	**23 56 06.8**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=59,slow=6.3,SNR=10						
KIEV	**Kiev**	**73.92**	**319**	*e*P	**P**	**23 56 06.5**	**-2.0**
KIEV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BR131	**Keskin Array S**	**74.13**	**307**	*e*P	**P**	**23 56 08.6**	**-1.6**
BRTR	**Keskin Array B**	**74.13**	**307**	P	**P**	**23 56 09.6**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=98,slow=5.6,SNR=13						
SORM	**Soroca**	**75.22**	**316**	*i* P	**P**	**23 56 14.0**	**-2.1**
SORM	**Soroca**	**75.22**	**316**	*i* P	**P**	**23 56 14.0**	**-2.1**
CFR	**Carcaliu**	**76.31**	**313**	P	**P**	**23 56 19.9**	**-2.5**
CFR	**Carcaliu**	**76.31**	**313**	*i* P	**P**	**23 56 19.9**	**-2.5**
SUW	**Suwalki**	**76.35**	**323**	P	**P**	**23 56 21.2**	**-1.2**
SUW	**Suwalki**	**76.35**	**323**	*e*P	**P**	**23 56 21.2**	**-1.2**
TIRR	**Tirgusor**	**76.36**	**313**	*i* P	**P**	**23 56 21.0**	**-1.7**
TIRR	**Tirgusor**	**76.36**	**313**	*i* P	**P**	**23 56 21.0**	**-1.7**
TESR	**Tescani**	**76.85**	**315**	*i* P	**P**	**23 56 23.6**	**-1.9**
VRI	**Vrincioaia**	**77.01**	**314**	*i* P	**P**	**23 56 26.6**	**+0.2**
VRI	**Vrincioaia**	**77.01**	**314**	*i* P	**P**	**23 56 26.6**	**+0.2**
BURAR	**Bucovina Array**	**77.39**	**316**	*i* P	**P**	**23 56 27.2**	**-1.4**
BURAR	**Bucovina Array**	**77.39**	**316**	*i* P	**P**	**23 56 27.2**	**-1.4**
BUR08	**Bucovina Ar. S**	**77.39**	**316**	*e*P	**P**	**23 56 27.7**	**-0.9**
BUR04	**Bucovina Ar. S**	**77.39**	**316**	*e*P	**P**	**23 56 27.1**	**-1.5**
MLR	**Muntele Rosu**	**77.66**	**314**	P	**P**	**23 56 29.7**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=66,slow=10.0,SNR=7.4						
MLR	**Muntele Rosu**	**77.66**	**314**	*i* P	**P**	**23 56 29.8**	**-0.4**
MLR	**Muntele Rosu**	**77.66**	**314**	*i* P	**P**	**23 56 29.8**	**-0.4**
DOPR	**Dopca**	**77.86**	**315**	*i* P	**P**	**23 56 29.0**	**-2.1**
ARR	**Arges**	**78.57**	**314**	*i* P	**P**	**23 56 34.7**	**-0.4**
HFS	**Hagfors**	**78.63**	**331**	P	**P**	**23 56 34.8**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=117,slow=5.0,SNR=12						
CJR	**Cluj-Napoca**	**78.74**	**316**	*i* P	**P**	**23 56 34.1**	**-2.0**
CJR	**Cluj-Napoca**	**78.74**	**316**	*i* P	**P**	**23 56 34.1**	**-2.0**
DRGR		**79.28**	**316**	*i* P	**P**	**23 56 37.6**	**-1.4**
DRGR		**79.28**	**316**	*i* P	**P**	**23 56 37.6**	**-1.4**
NB2	**NORSAR Subarra**	**79.29**	**332**	P	**P**	**23 56 36.4**	**-2.4**
	comp=Z,0.9nm,0.6s,baz=60,slow=5.6						
NOA	**NORSAR Array B**	**79.29**	**332**	P	**P**	**23 56 36.9**	**-1.9**
	comp=Z,2.0nm,0.8s,baz=62,slow=5.2,SNR=4.5						
VTS	**Vitosha**	**80.56**	**312**	*i* P	**P**	**23 56 45.5**	**-0.7**
VTS	**Vitosha**	**80.56**	**312**	*i* P	**P**	**23 56 45.5**	**-0.7**
VTS	**Vitosha**	**80.56**	**312**	*e*P	**P**	**23 56 45.4**	**-0.8**
VYHS	**Vyhne**	**81.00**	**319**	*e*P	**P**	**23 56 47.1**	**-1.1**
VYHS				pmax	pmax		
	comp=Z,77nm,3.5s						
VYHS	**Vyhne**	**81.00**	**319**	*e*P	**P**	**23 56 47.1**	**-1.1**
DPC	**Dobruska-Polom**	**81.68**	**321**	*e*P	**P**	**23 56 51.2**	**-0.6**
DPC	**Dobruska-Polom**	**81.68**	**321**	*e*P	**P**	**23 56 51.2**	**-0.6**
CLL	**Collm**	**83.10**	**323**	*e*P	**P**	**23 56 58.0**	**-1.2**
CLL	**Collm**	**83.10**	**323**	*e*P	**P**	**23 56 58.0**	**-1.2**
YKA	**Yellowknife Ar**	**83.66**	**23**	P	**P**	**23 57 00.8**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=314,slow=4.7,SNR=16						
OPO	**Ambohidratompo**	**83.75**	**247**	P	**P**	**23 57 02.9**	**-0.3**
	comp=Z,5.0nm,0.6s,baz=55,slow=4.7,SNR=3.9						
KHC	**Kasperske Hory**	**83.82**	**321**	*e*P	**P**	**23 57 02.0**	**-1.0**
KHC	**Kasperske Hory**	**83.82**	**321**	*e*P	**P**	**23 57 02.0**	**-1.0**
GERES	**GERESS Array B**	**83.89**	**321**	P	**P**	**23 57 02.2**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=64,slow=6.1,SNR=11						
ABPO	**Ambohimpanom**	**83.92**	**246**	*i* P	**P**	**23 57 04.6**	**+0.5**
KMBO	**Kilima Mbogo**	**85.34**	**267**	P	**P**	**23 57 11.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=42,slow=8.4,SNR=8.5						
KMBO	**Kilima Mbogo**	**85.34**	**267**	*i* P	**P**	**23 57 13.0**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SDV	**Santo Domingo**	**145.88**	**22**	PKPbc	**PKPdf**	**00 04 12.1**	**-1.2**
	comp=Z,6.6nm,0.7s,baz=306,slow=3.7,SNR=8.6						

MEX 21 23:48:23.6±0.5, 15.95N×98.23W, h8km±4km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.45**	**13**	*i* P	Pg	23 48 31.7	-0.7
PNIG				*i* S	Sg	23 48 38.8	+0.5
TLIG	**Tlapa**	**1.64**	**349**	*e*P	Pn	23 48 49.6	-3.3
TLIG				*i* S	Sn	23 49 08.8	-5.4
ACX	**Acapulco**	**1.81**	**301**	*i* P	Pn	23 48 49.7	-5.5
ACX				*i* S	Sn	23 49 11.4	-6.9
VHO	**Vista Hermosa**	**1.82**	**52**	*i* P	Pn	23 48 52.4	-3.0
VHO				*i* S	Sn	23 49 13.0	-4.9
CAIG	**El Cayaco**	**2.24**	**299**	*e*P	Pn	23 48 57.5	-3.5
CAIG				*e*S	Sn	23 49 24.8	-4.1

IDC 21 23:49:35.9±8.0, 30.61S×177.96W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/42, mbtmp3.5/2, Error ellipse: s-maj=337.6km s-min=62.5km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.14**	**267**	P	P	23 57 38.0	-0.4
	0.3nm,0.6s,baz=98,slow=7.6,SNR=2.4						
WRA	**Warramunga Arr**	**44.14**	**272**	P	P	23 57 46.6	0.0
	0.7nm,0.7s,baz=112,slow=8.1,SNR=5.7						
FINES	**FINESS Array B**	**145.35**	**340**	PKPbc	PKPbc	00 09 14.0	-0.8
	1.6nm,0.9s,baz=57,slow=5.1,SNR=4.1						

*IDC **21** 23:50:20.9±1.5, 2.63S×77.72W, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/42, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=47.0km s-min=30.7km az=73.0*

*IGQ **21** 23:50:28.0±0.8, 3.5S×7.8W×2.7, h10km, MLv4.3/9*

ISC 21 23:50:21.6±1.8, 3.14S±0.04×78.2W±0.2, h11km±12km, n36, σ1s15/42, mb3.4/4, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPAT	**Tungurahua Vol**	**1.65**	**350**	P	**Pb**	**23 50 52.1**	**-0.2**
BPAT				S	**Sn**	**23 51 11.7**	**-0.7**
BMAS	**Trigal station**	**1.66**	**349**	P	**Pb**	**23 50 52.2**	**-0.2**
BMAS				S	**Sn**	**23 51 12.5**	**0.0**
RETU	**Refugio**	**1.70**	**350**	P	**Pb**	**23 50 52.9**	**-0.3**
BIL2	**Estacion Bilba**	**1.71**	**348**	P	**Pg**	**23 50 54.1**	**-0.4**
IGUA	**Igualata**	**1.71**	**344**	P	**Pg**	**23 50 54.5**	**+0.1**
BULB	**Ulba Tungurahu**	**1.71**	**351**	P	**Pb**	**23 50 52.9**	**-0.4**
BULB				S	**Sn**	**23 51 13.3**	**-0.5**
BBIL	**Ulba Tungurahu**	**1.71**	**349**	P	**Pb**	**23 50 53.2**	**-0.1**
BBIL				S	**Sb**	**23 51 14.2**	**-0.8**
BRUN	**Tungurahua Vol**	**1.73**	**351**	P	**Pb**	**23 50 53.0**	**-0.5**
JUI6	**Juive**	**1.73**	**350**	P	**Pb**	**23 50 53.4**	**-0.2**
BMOR	**Cotopaxi Volca**	**2.41**	**353**	P	**Pb**	**23 51 04.8**	**-0.6**
BMOR				S	**Sb**	**23 51 34.2**	**-1.2**
BTAM	**Cotopaxi Volca**	**2.46**	**354**	P	**Pb**	**23 51 05.1**	**-1.1**
COV1	**Cotopaxi Volc**	**2.47**	**356**	P	**Pb**	**23 51 05.7**	**-0.8**
BREF	**Cotopaxi Volca**	**2.47**	**353**	P	**Pb**	**23 51 05.8**	**-0.6**
CAMI	**Rancho Maria**	**2.47**	**352**	P	**Pb**	**23 51 06.1**	**-0.3**
BNAS	**Cotopaxi Volca**	**2.47**	**352**	P	**Pb**	**23 51 06.0**	**-0.5**
ILLI	**Illinizas Sur**	**2.48**	**347**	P	**Pb**	**23 51 06.6**	**+0.2**
BVC2	**Cotopaxi Volca**	**2.48**	**354**	P	**Pb**	**23 51 05.5**	**-1.0**
VC1	**Cotopaxi 1**	**2.49**	**354**	P	**Pb**	**23 51 05.9**	**-0.9**
NAS2	**Nasa**	**2.50**	**353**	P	**Pb**	**23 51 06.5**	**-0.3**
ANTM	**Antisana-La Mi**	**2.59**	**358**	P	**Pn**	**23 51 06.2**	**+2.3**
ANTI	**Antisana**	**2.67**	**360**	P	**Pn**	**23 51 07.3**	**+2.2**
TERV	**Terraza Guagua**	**2.98**	**351**	P	**Pb**	**23 51 16.2**	**+1.2**
PINO	**Pino**	**3.00**	**351**	P	**Pb**	**23 51 15.2**	**-0.2**
YANA	**Yana**	**3.03**	**352**	P	**Pb**	**23 51 15.3**	**-0.6**
IMBA	**Imbabura, San**	**3.39**	**359**	P	**Pb**	**23 51 24.0**	**+1.9**
CUIC	**Cuicocha-Domo**	**3.43**	**357**	P	**Pb**	**23 51 21.7**	**-0.9**
MAG1	**Magdalena**	**3.45**	**332**	P	**Pb**	**23 51 22.3**	**-0.5**
YAHU	**Yahuarcocha**	**3.49**	**1**	P	**Pb**	**23 51 22.4**	**-1.2**
URCU	**Urcuqui**	**3.56**	**358**	P	**Pb**	**23 51 26.4**	**+1.5**
ATAH	**Atahualpa**	**3.98**	**183**	Pn	**Pb**	**23 51 30.9**	**-1.1**
	7.2nm,0.3s,baz=4.1,slow=8.4,SNR=37						
ATAH				Sn	**Sb**	**23 52 20.0**	**-0.3**
	2.8nm,0.3s,baz=128,slow=20,SNR=7.1						
NNA	**Nana**	**8.89**	**172**	Sn	**Sn**	**23 54 12.2**	**+1.8**
	1.4nm,0.3s,baz=288,slow=20,SNR=3.6						
SIV	**San Ignacio**	**21.11**	**128**	P	**P**	**23 55 07.5**	**+0.9**
	0.7nm,0.6s,baz=318,slow=12,SNR=5.0						
YKA	**Yellowknife Ar**	**71.05**	**343**	P	**P**	**00 01 38.4**	**-1.0**
	0.1nm,0.4s,baz=140,slow=5.9,SNR=4.2						
KOWA	**Kowa**	**75.47**	**74**	P	**P**	**00 02 04.7**	**-1.9**
	1.0nm,0.6s,baz=309,slow=6.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**80.84**	**76**	P	**P**	**00 02 34.0**	**-2.4**
	0.2nm,0.4s,baz=290,slow=6.3,SNR=2.1						
WRA	**Warramunga Arr**	**140.70**	**233**	PKP	**PKPdf**	**00 09 54.8**	**+2.4**
	0.4nm,0.9s,baz=124,slow=1.7,SNR=1.7						

*KLM **22** 00:21:24.8, 4.06N×126.90E, h50km, mb5.5*

*IDC **22** 00:21:32.9±1.3, 3.47N×125.71E, h79km±11km, mb4.7/48, mb1 4.7/49, mb1mx4.7/58, mbtmp5.0/49, MS4.1/11, Ms1 4.1/11, ms1mx3.7/54, Error ellipse: s-maj=11.3km s-min=6.6km az=75.0*

*BJI **22** 00:21:33.1, 3.50N×125.70E, h92km, mb4.8/58, mB5.2/38*

*DJA **22** 00:21:34.5±0.3, 4.N±2.×12.6E±., h86km±3km, M5.2/51, mb5.2/51, mB5.6/35, MLv5.6/12, Mw(mB)5.1/35*

*ISCJB **22** 00:21:34.0±0.3, 3.50N±0.02×125.92E±0.02, h107km±2km, mb4.9/165, Error ellipse: s-maj=4.0km s-min=2.6km az=172.3*

*MOS **22** 00:21:35.4±1.1, 3.50N×125.79E, h119km, mb5.0/64, MS4.0/6, Error ellipse: s-maj=7.5km s-min=4.2km az=114.8*

*NEIC **22** 00:21:37.0±0.7, 3.51N×125.86E, h117km±6km, mb5.1/73, Error ellipse: s-maj=5.4km s-min=3.8km az=81.0*

NEIC Felt [III] in the Kepulauan Talaud.

*GCMT **22** 00:21:37.0±0.4, 3.43N×125.89E, h67km±3km, MW5.6/59, Moment Tensor Solution. s35,c39; s59,c76; Duration: 1⍰5 Moment tensor: Scale 10^17Nm; Mrr2.41±.18; Mθθ-0.51±.12; Mφφ-1.90±.12; Mrθ0.51±.09; Mrφ-0.91±.09; Mθφ1.20±.13; Best double couple: Mo2.71200×10^17 NP1:φ25.00000°, δ59.00000°, λ88.00000°. NP2: φ208.00000°, δ31.00000°, λ93.00000°. Principal axes: T 2.7440, Plg76.0000°, Azm290.0000°; N -0.0640, Plg1.0000°, Azm25.0000°; P -2.6790, Plg14.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 00:21:34.3±0.5, 3.49N±0.03×125.87E±0.04, h94km±3km, n610, σ1⍰58/685, mb5.0/165, 28C-37D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.73**	**340**	*i* P	**Pn**	**00 22 16.0**	**-0.5**
GSPH				*i* S	**Sn**	**00 22 49.1**	**+0.2**
TNTI	**Ternate**	**3.09**	**151**	*e*Pn	**Pn**	**00 22 19.2**	**-1.9**
TNTI				*e*S	**Sn**	**00 22 55.7**	**-1.5**
MATI	**Mati**	**3.45**	**6**	*e*P	**Pn**	**00 22 25.4**	**-0.6**
KMSI	**Cibinong**	**3.46**	**213**	P	**Pn**	**00 22 27.1**	**+0.9**
KMSI				S	**Sn**	**00 23 07.4**	**+1.2**
DAV	**Davao City (W)**	**3.56**	**355**	P	**Pn**	**00 22 27.7**	**+0.1**
	131nm,0.3s,baz=168,slow=2.6,SNR=12						
DAV				S	**Sn**	**00 23 08.1**	**-0.6**
	212nm,0.3s,baz=53,slow=20,SNR=4.2						
DAV				LR	LR	00 24 15.1	
	comp=Z,3μm,21.3s,baz=242,slow=45						
DAV	**Davao City (W)**	**3.56**	**355**	*e*Pn	**Pn**	**00 22 28.7**	**+1.2**
DAV				*e*S	**Sn**	**00 23 09.2**	**+0.4**
DAV	**Davao City (W)**	**3.56**	**355**	Pn	**Pn**	**00 22 28.9**	**+1.4**
	SNR=26						
DAV	**Davao City (W)**	**3.56**	**355**	P	**Pn**	**00 22 28.9**	**+1.4**
	SNR=26						
KCP	**Kidapawan**	**3.58**	**347**	*i* P	**Pn**	**00 22 28.9**	**+1.1**
KCP				*i* S	**Sn**	**00 23 12.9**	**+3.8**
CTBH	**Cotabato--PC H**	**4.04**	**336**	*e*P	**Pn**	**00 22 35.2**	**+1.2**
CTBH				*i* S	**Sn**	**00 23 22.7**	**+2.5**
LBMI	**Labuha**	**4.42**	**158**	P	**Pn**	**00 22 37.3**	**-1.8**
BUKP	**Musuan**	**4.43**	**350**	*e*P	**Pn**	**00 22 40.5**	**+1.2**
BUKP				*e*S	**Sn**	**00 23 33.1**	**+3.3**
MRSI	**Marisa**	**4.94**	**233**	P	**Pn**	**00 22 47.7**	**+1.5**
	2μm,0.5s,24μm7.7nm						
MRSI				S	**Sn**	**00 23 40.9**	**-1.3**
	2μm

PBKI	**Pangkalan Bun**	**15.47**	**247**	P		**P**	**00 25 14.1**	**+4.2**
	comp=Z,316nm,1.1s,comp=Z,10µm								
GENI	**Genyem**	**15.51**	**113**	P		**P**	**00 25 11.7**	**+1.4**
SRBI	**Singaraja**	**15.66**	**223**	P		**P**	**00 25 14.3**	**+2.3**
	comp=Z,106nm,1.4s,comp=Z,2µm								
KSM	**Kuching**	**15.68**	**263**	⇓P		**P**	**00 25 16.0**	**+3.8**
KSM	**Kuching**	**15.68**	**263**	*e*Pn		**P**	**00 25 12.9**	**+0.7**
	comp=Z,308nm,2.0s								
JAY	**Jayapura**	**15.98**	**112**	P		**P**	**00 25 15.1**	**-0.5**
	comp=Z,887nm,0.9s,comp=Z,14µm								
JAY	**Jayapura**	**15.98**	**112**	P		**P**	**00 25 16.5**	**+0.9**
JAY				pmax		pmax			
	comp=Z,889nm,0.9s								
BLJI	**Banyuglugur**	**16.57**	**228**	P		P	00 25 29.7	+7.6
JAGI	**Jajag, Banyuwa**	**16.67**	**224**	P		**P**	**00 25 28.0**	**+4.8**
JAGI	**Jajag, Banyuwa**	**16.67**	**224**	*e*Pn		**P**	**00 25 24.5**	**+1.3**
	comp=Z,76nm,0.9s								
GMJI	**Gumukmas**	**17.04**	**227**	P		**P**	**00 25 30.1**	**+2.9**
	comp=Z,85nm,1.1s								
MTN	**Manton Dam**	**17.05**	**162**	P		**Pn**	**00 25 23.6**	**-3.3**
	baz=17,SNR=17								
MTN	**Manton Dam**	**17.05**	**162**	*e*Pn		**Pn**	**00 25 23.7**	**-3.3**
	comp=Z,68nm,0.9s								
PWJI	**Pagerwojo**	**18.11**	**231**	P		**Pn**	**00 25 42.2**	**+2.4**
	comp=Z,56nm,0.8s,comp=Z,2µm								
UGM	**Wanagama**	**19.05**	**233**	*e*P		**P**	**00 25 48.0**	**-1.4**
	comp=Z,391nm,1.5s								
KNRA	**Kununurra**	**19.26**	**172**	P		**P**	**00 25 51.6**	**0.0**
	baz=19,SNR=24								
TWG	**Pinlang**	**19.77**	**347**	*e*P		**P**	**00 25 54.4**	**-2.7**
	comp=Z,204nm,0.5s								
KPJI	**Karang Pucung**	**20.04**	**238**	P		Pn	00 26 01.8	-0.8
	comp=Z,85nm,0.9s								
YULB	**Yu-li**	**20.27**	**348**	*e*P		**P**	**00 25 59.4**	**-3.1**
	comp=Z,42nm,1.2s								
TPUB	**Ta-pu**	**20.33**	**346**	*e*P		**P**	**00 26 00.9**	**-2.3**
	comp=Z,90nm,1.0s								
SSLB	**Suanglung**	**20.73**	**347**	*e*P		**P**	**00 26 04.6**	**-2.8**
	comp=Z,47nm,0.8s								
LEM	**Lembang**	**20.91**	**241**	P		Pn	00 26 12.2	-0.8
	comp=Z,33nm,0.5s,baz=8.0,slow=13,SNR=6.2								
LEM				LR		LR	00 35 04.2		
	comp=Z,523nm,21.6s,baz=36,slow=39								
NACB	**Ninganchiao**	**20.97**	**349**	*e*P		**P**	**00 26 08.6**	**-1.4**
	comp=Z,188nm,0.8s								
GUMO	**Guam**	**21.27**	**61**	P		**P**	**00 26 15.8**	**+2.5**
	comp=Z,98nm,0.8s,baz=173,slow=8.1,SNR=3.3								
GUMO				LR		LR	00 33 09.1		
	comp=Z,471nm,20.3s,baz=218,slow=32								
FITZ	**Fitzroy Crossi**	**21.46**	**181**	P		**P**	**00 26 14.3**	**-0.9**
	comp=Z,49nm,0.5s,baz=5.6,slow=9.4,SNR=65								
FITZ				S		**S**	**00 30 02.8**	**-5.4**
	comp=Z,3.6nm,0.7s,baz=155,slow=14,SNR=2.7								
YHNB	**Yeheng**	**21.50**	**349**	*e*P		**P**	**00 26 14.1**	**-1.6**
	comp=Z,54nm,0.7s								
QIZ	**Qiongzhong**	**22.00**	**316**	P		**P**	**00 26 21.6**	**+0.6**
QIZ				pP		**pP**	**00 26 38.8**	**-0.7**
QIZ				S		**S**	**00 30 10.8**	**-7.6**
QIZ				sS		**sS**	**00 30 48.0**	**-1.4**
QIZ				LR		LR			
	comp=Z,810nm,13.9s								
QIZ				LR		LR			
	comp=Z,600nm,9.6s								
QIZ				LR		LR			
	comp=Z,940nm,30.4s								
MYKOM	**Kota Tinggi**	**22.06**	**266**	*e*P		**P**	**00 26 25.0**	**+3.2**
	comp=Z,175nm,1.5s								
CGJI	**Cibinong**	**22.51**	**244**	P		**P**	**00 26 27.1**	**+0.6**
	comp=Z,121nm,0.5s,comp=Z,3µm								
KTGM	**Kuala Trenggan**	**22.74**	**275**	⇓P		**P**	**00 26 32.1**	**+3.2**
GZH	**Guangzhou**	**22.95**	**329**	P		**P**	**00 26 34.1**	**+3.3**
GZH				LR		LR			
	comp=Z,550nm,13.7s								
GZH				LR		LR			
	comp=Z,490nm,13.5s								
MDSI	**Maura Dua**	**23.08**	**250**	P		**P**	**00 26 35.4**	**+3.2**
	comp=Z,54nm,1.1s,comp=Z,1µm								
MDSI				pP		**pP**	**00 26 51.0**	**-0.2**
	comp=Z,54nm,1.1s,comp=Z,1µm								
KASI	**Kota Agung**	**23.15**	**247**	P		**P**	**00 26 37.8**	**+4.9**
	comp=Z,110nm,0.9s								
JOW	**Kunigami**	**23.32**	**5**	P		**P**	**00 26 35.0**	**+0.8**
	comp=Z,254nm,1.1s,baz=189,slow=5.7,SNR=19								
JOW				S		**S**	**00 30 41.7**	**+2.0**
	comp=Z,21nm,1.0s,baz=108,slow=20,SNR=2.1								
JOW	**Kunigami**	**23.32**	**5**	*e*P		**P**	**00 26 35.1**	**+0.8**
	comp=Z,331nm,1.1s								
JOW				S		**S**	**00 30 41.7**	**+2.0**
FRIM	**Kepong**	**24.21**	**270**	⇓P		**P**	**00 26 46.3**	**+3.9**
COEN	**Coen**	**24.40**	**136**	P		**P**	**00 26 43.1**	**-1.0**
	baz=24,SNR=19								
COEN	**Coen**	**24.40**	**136**	*e*P		**P**	**00 26 43.0**	**-1.1**
	comp=Z,50nm,1.0s								
MASI	**Maura Aman, Be**	**24.52**	**255**	P		**P**	**00 26 48.4**	**+3.0**
	comp=Z,273nm,1.1s,comp=Z,5µm								
WRAB	**Tennant Creek**	**24.73**	**161**	*ce*P		**P**	**00 26 45.7**	**-1.4**
WRAB				pmax		pmax			
	comp=Z,101nm,1.0s								
WRAB	**Tennant Creek**	**24.73**	**161**	*e*P		**P**	**00 26 46.0**	**-1.1**
	comp=Z,58nm,0.7s								
WRA	**Warramunga Arr**	**24.73**	**161**	P		**P**	**00 26 45.9**	**-1.3**
	comp=Z,18nm,0.5s,baz=342,slow=10,SNR=132								
WRA				PcP		**PcP**	**00 30 22.1**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=341,slow=2.7,SNR=4.8								
WRA				S		**S**	**00 31 05.2**	**+2.6**
	comp=Z,25nm,1.0s,baz=340,slow=18,SNR=9.6								
WRA				ScP		**ScP**	**00 33 53.2**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=338,slow=2.8,SNR=4.6								
WRA				PKiKP		**PKiKP**	**00 38 02.8**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=320,slow=1.3,SNR=4.7								
WRA				P3KPbc			00 59 55.0		
	comp=Z,2.2nm,1.2s,baz=160,slow=3.9,SNR=5.5								
WRA	**Warramunga Arr**	**24.73**	**161**	P		**P**	**00 26 45.9**	**-1.3**
WRA							00 30 22.1		
WRA				S		**S**	**00 31 05.2**	**+2.6**
WRA				pmax		pmax			
	comp=Z,43nm,1.1s								
WRA				smax		smax			
	comp=N,25nm,1.0s								
WB2	**Warramunga Arr**	**24.73**	**161**	*e*P		**P**	**00 26 49.8**	**+2.7**
WC3	**Warramunga Arr**	**24.76**	**161**	*e*P		**P**	**00 26 46.7**	**-0.7**
PMG	**Port Moresby**	**24.78**	**121**	P		**P**	**00 26 47.8**	**+0.2**
	comp=N,12nm,0.5s,baz=306,slow=14								
PMG				LR		LR	00 38 18.3		
	comp=N,612nm,20.1s,baz=326,slow=40								
PMG	**Port Moresby**	**24.78**	**121**	*e*P		**P**	**00 26 47.9**	**+0.3**
IPM	**Ipoh**	**24.81**	**273**	⇓P		**P**	**00 26 51.6**	**+3.7**
IPM	**Ipoh**	**24.81**	**273**	*e*P		**P**	**00 26 51.1**	**+3.2**
	comp=N,92nm,1.2s								
KULM	**Kulim**	**25.21**	**275**	*e*P		**P**	**00 26 54.4**	**+2.8**
	comp=N,77nm,1.1s								
MBWA	**Marble Bar**	**25.23**	**194**	*e*P		**P**	**00 26 51.3**	**-0.4**
	comp=N,48nm,0.9s								
MBWA	**Marble Bar**	**25.23**	**194**	P		**P**	**00 26 51.4**	**-0.2**
MBWA	**Marble Bar**	**25.23**	**194**	P		**P**	**00 26 51.4**	**-0.2**
SKLT	**Songkhla**	**25.40**	**279**	P		**P**	**00 26 56.2**	**+2.9**
	comp=N,54nm,1.8s,comp=N,888nm								
KHON	**Khomkaen**	**26.00**	**301**	P		**P**	**00 27 02.2**	**+3.5**
	comp=N,34nm,1.2s								
MNSI	**Mandailing Nat**	**26.41**	**265**	P		**P**	**00 27 06.7**	**+4.3**
	comp=N,108nm,1.1s,comp=N,1µm								
CHAI	**Chaiyaphum**	**26.53**	**299**	P		**P**	**00 27 04.9**	**+1.4**
	comp=N,16nm,1.3s,comp=N,178nm								
PSI	**Prapat**	**26.92**	**269**	P		**P**	**00 27 06.5**	**-0.7**
	comp=N,4.0nm,0.4s,baz=69,slow=13,SNR=3.1								
PSI				LR		LR	00 37 42.5		
	comp=N,259nm,20.6s,baz=97,slow=36								
PSI	**Prapat**	**26.92**	**269**	*e*P		**P**	**00 27 06.7**	**-0.5**
PSI	**Prapat**	**26.92**	**269**	*e*P		**P**	**00 27 06.7**	**-0.5**
QIS	**Mount Isa**	**27.44**	**151**	P		**P**	**00 27 10.9**	**-0.7**
	baz=27,SNR=17								
SURT	**Suratani**	**27.45**	**283**	P		**P**	**00 27 14.0**	**+2.3**
	comp=N,15nm,1.8s,comp=N,327nm								
KCSI	**Kotacane, Aceh**	**28.05**	**271**	P		**P**	**00 27 20.3**	**+3.2**
	comp=N,32nm,1.4s								
AS31	**Alice Springs**	**28.11**	**164**	*e*P		**P**	**00 27 16.8**	**-0.8**
	comp=N,7.8nm,0.6s								
ASAR	**Alice Springs**	**28.11**	**164**	P		**P**	**00 27 16.8**	**-0.8**
	comp=N,6.7nm,0.4s,baz=342,slow=7.0,SNR=68								
ASAR				PcP		**PcP**	**00 30 29.9**	**0.0**
	comp=N,6.6nm,0.4s,baz=348,slow=2.1,SNR=10								
ASAR				S		S	00 32 08.0	+12	
	comp=N,4.7nm,0.9s,baz=346,slow=17,SNR=6.6								
ASAR				ScP		**ScP**	**00 34 03.0**	**+0.4**
	comp=N,1.9nm,0.5s,baz=341,slow=3.1,SNR=5.3								
ASAR				LR		LR	00 39 20.4		
	comp=N,460nm,21.1s,baz=295,slow=38								
AS01	**Alice Springs**	**28.12**	**164**	*e*P		**P**	**00 27 15.5**	**-2.1**
CBIJ	**Chichi jima**	**28.18**	**32**	P		**P**	**00 27 19.1**	**+0.9**
JCJ	**Chichijima**	**28.18**	**32**	P		**P**	**00 27 19.1**	**+0.9**
	comp=N,55nm,0.5s,baz=204,slow=19,SNR=4.3								
GSI	**Gunungsitoli**	**28.36**	**266**	P		**P**	**00 27 22.8**	**+3.0**
	comp=N,61nm,1.0s								
GSI	**Gunungsitoli**	**28.36**	**266**	*e*P		**P**	**00 27 20.2**	**+0.3**
	comp=N,48nm,1.0s								
PHIT	**Phitsanulok**	**28.44**	**300**	P		**P**	**00 27 22.3**	**+1.7**
	comp=N,21nm,1.1s,comp=N,378nm								
WRKA	**Warakurna**	**28.46**	**175**	P		**P**	**00 27 20.6**	**0.0**
	baz=29,SNR=125								
NJ2	**Nanjing**	**29.16**	**348**	*e*P		**P**	**00 27 24.0**	**-2.7**
NJ2				pmax		pmax			
	comp=N,20nm,0.5s								
GYA	**Guiyang**	**29.33**	**323**	ScS		ScS	00 37 59.3	-1.9	
LAMP	**Lampang**	**29.70**	**302**	P		**P**	**00 27 35.2**	**+3.5**
	comp=N,6.1nm,0.9s,comp=N,76nm								
JNU	**Nakatsue**	**29.84**	**8**	P		**P**	**00 27 33.1**	**+0.2**
	comp=N,54nm,0.9s,baz=183,slow=5.3,SNR=24								
JNU	**Nakatsue**	**29.84**	**8**	*e*P		**P**	**00 27 32.4**	**-0.5**
	comp=N,79nm,1.0s								
CM01	**Chiang Mai Arr**	**30.23**	**301**	*e*P		**P**	**00 27 36.9**	**+0.5**
CM01				*e*PcP		**PcP**	**00 30 36.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**30.26**	**301**	P		**P**	**00 27 37.2**	**+0.6**
	comp=N,4.0nm,0.8s,baz=124,slow=7.5,SNR=19								
CMAR				PcP		**PcP**	**00 30 36.4**	**+1.1**
	comp=N,2.6nm,0.8s,baz=137,slow=2.3,SNR=6.5								
CMAR				ScP		**ScP**	**00 34 11.2**	**+1.8**
	comp=N,0.6nm,0.4s,baz=107,slow=3.1,SNR=3.1								
CMAR				LR		LR	00 42 26.0		
	comp=N,324nm,18.3s,baz=115,slow=42								
CMMT	**Chiang Mai**	**30.41**	**302**	P		**P**	**00 27 38.1**	**+0.1**
	comp=N,24nm,0.7s,comp=N,455nm								
CHTO	**Chiang Mai**	**30.42**	**302**	P		**P**	**00 27 39.2**	**+1.2**
	comp=N,75nm,1.0s,comp=N,2µm								
CHTO	**Chiang Mai**	**30.42**	**302**	*e*P		**P**	**00 27 38.3**	**+0.3**
CHTO				*e*			00 30 37.3		
CHTO	**Chiang Mai**	**30.42**	**302**	*e*P		**P**	**00 27 38.3**	**+0.3**
CHTO				*e*PcP		**PcP**	**00 30 37.3**	**+1.5**
CHTO	**Chiang Mai**	**30.42**	**302**	P		**P**	**00 27 38.6**	**+0.5**
	SNR=5.8								
CHTO	**Chiang Mai**	**30.42**	**302**	P		**P**	**00 27 38.6**	**+0.5**
	SNR=5.8								
MEEK	**Meekatharra**	**30.77**	**193**	P		**P**	**00 27 40.3**	**-0.7**
	baz=31,SNR=27								
ENH	**Enshi**	**30.82**	**332**	*e*P		**P**	**00 27 40.6**	**-0.8**
	comp=N,18nm,0.9s								
ENH				*e*PcP		**PcP**	**00 30 37.1**	**+0.5**
CTAO	**Charters Tower**	**30.82**	**140**	*e*P		**P**	**00 27 42.0**	**+0.4**
CTAO				pmax		pmax			
	comp=Z,32nm,0.9s								
CTAO	**Charters Tower**	**30.82**	**140**	*e*P		**P**	**00 27 42.0**	**+0.4**
	comp=Z,32nm,0.9s								
KMI	**Kunming**	**30.95**	**316**	P		**P**	**00 27 43.3**	**+0.4**
KMI				pP		pP	00 28 04.3	+0.1	
KMI				sP		sP	00 28 16.0	+0.9	
KMI				pmax		pmax			
	comp=Z,11nm,0.7s								
KMI				LR		LR			
	comp=Z,480nm,14.6s								
KMI				LR		LR			
	comp=Z,250nm,12.0s								
KMI				LR		LR			
	comp=Z,920nm,24.1s								
TJN	**Taejon**	**32.75**	**2**	*de*P		**P**	**00 27 58.7**	**+0.4**
INU	**Inuyama**	**33.34**	**17**	*e*P		**P**	**00 28 03.9**	**+0.5**
	comp=Z,42nm,1.0s								
TIA	**Tai'an**	**33.54**	**347**	P		**P**	**00 28 05.1**	**-0.1**
TIA				pmax		pmax			
	comp=Z,10.0nm,1.2s								
MORW	**Morawa**	**33.72**	**196**	P		**P**	**00 28 06.7**	**-0.1**
	baz=34,SNR=6.1								
INCN	**Inchon**	**33.83**	**1**	*e*P		**P**	**00 28 09.2**	**+1.4**
	comp=Z,65nm,1.0s								
KS15	**Wonju Array Si**	**33.84**	**3**	*e*P		**P**	**00 28 08.9**	**+1.2**
KSAR	**Wonju Array Be**	**33.84**	**3**	P		**P**	**00 28 08.7**	**+1.0**
KSAR							00 30 45.9		
KSAR	**Wonju Array Be**	**33.84**	**3**	P		**P**	**00 28 08.7**	**+1.0**
KSAR				PcP		**PcP**	**00 30 45.9**	**+1.1**
KSRS	**Korea Array**	**33.85**	**3**	P		**P**	**00 28 08.7**	**+0.8**
	comp=Z,35nm,0.9s,baz=183,slow=10,SNR=71								
KSRS				PcP		**PcP**	**00 30 45.9**	**+1.1**
	comp=Z,3.0nm,0.5s,baz=187,slow=3.1,SNR=6.2								
KS01	**Wonju Array Si**	**33.87**	**3**	*e*P		**P**	**00 28 07.9**	**-0.1**
KS01				*e*PcP		**PcP**	**00 30 45.6**	**+0.8**
CD2	**Chengdu**	**34.34**	**325**	P		**P**	**00 28 12.0**	**-0.2**
CD2				pP		pP	00 28 33.3	-0.4	
CD2				sP		sP	00 28 44.3	-0.2	
CD2				S		**S**	**00 33 33.5**	**+0.4**
CD2				sS		sS	00 34 10.8	+0.6	
CD2				pmax		pmax			
	comp=Z,50nm,0.9s								
CD2				pmax		pmax			
	comp=Z,160nm,5.0s								
QLP	**Quilpie**	**34.77**	**150**	P		**P**	**00 28 14.7**	**-1.3**
	baz=35,SNR=6.3								
MJAR	**Matsushiro Arr**	**34.80**	**18**	P		**P**	**00 28 15.1**	**-0.9**
	comp=Z,15nm,0.9s,baz=195,slow=9.7,SNR=21								
MJAR				PcP		**PcP**	**00 30 49.0**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=202,slow=4.0,SNR=4.0								
MAJO	**Matsushiro**	**34.80**	**18**	*ce*P		**P**	**00 28 15.2**	**-0.9**
MAJO				pmax		pmax			
	comp=Z,18nm,0.9s								
MAJO	**Matsushiro**	**34.80**	**18**	*e*P		**P**	**00 28 15.2**	**-0.9**
	comp=Z,17nm,0.8s								
MAT	**Matsushiro**	**34.80**	**18**	P		**P**	**00 28 14.6**	**-1.5**
KMBL	**Kambalda**	**34.88**	**186**	P		**P**	**00 28 16.3**	**-0.5**
	baz=35,SNR=60								
BLDU	**Ballidu**	**35.03**	**194**	P		**P**	**00 28 17.6**	**-0.5**
	baz=35,SNR=8.4								
DL2	**Dalian**	**35.46**	**354**	P		**P**	**00 28 20.5**	**-1.2**
DL2				*e*S		**S**	**00 33 49.8**	**-0.1**
DL2				pmax		pmax			
	comp=Z,67nm,0.7s								
DL2				LR		LR			
	comp=Z,420nm,15.5s								
DL2				LR		LR			
	comp=Z,490nm,21.2s								
DL2				LR		LR			
	comp=Z,730nm,20.5s								
KLBR	**Kellerberrin**	**35.74**	**192**	P		**P**	**00 28 23.8**	**-0.4**
	baz=36,SNR=25								
HNR	**Honiara**	**36.30**	**111**	P		**P**	**00 28 28.8**	**-0.5**
	comp=Z,42nm,0.4s,baz=288,slow=20,SNR=5.3								
HNR				LR		LR	00 42 28.5		
	comp=Z,313nm,21.2s,baz=318,slow=34								
HNR	**Honiara**	**36.30**	**111**	*e*P		**P**	**00 28 28.6**	**-0.6**
HNR				pmax		pmax			
	comp=Z,17nm,0.3s								
HNR	**Honiara**	**36.30**	**111**	*e*P		**P**	**00 28 28.6**	**-0.6**
	comp=Z,17nm,0.3s								
MUN	**Mundaring**	**36.45**	**194**	P		**P**	**00 28 29.7**	**-0.5**
	baz=37,SNR=3.5								
NWAO	**Narrogin (SRO)**	**37.14**	**192**	*e*P		**P**	**00 28 36.0**	**0.0**
NWAO				pmax		pmax			
	comp=Z,74nm,1.3s								
NWAO	**Narrogin (SRO)**	**37.14**	**192**	*e*P		**P**	**00 28 36.0**	**0.0**
	comp=Z,74nm,1.3s								
BBOO	**Buckleboo**	**37.38**	**166**	P		**P**	**00 28 37.7**	**-0.4**
	baz=38,SNR=57								
BBOO	**Buckleboo**	**37.38**	**166**	*e*P		**P**	**00 28 37.7**	**-0.4**
	comp=Z,43nm,1.0s								
BJT	**Baijiatuan**	**37.41**	**348**	*e*P		**P**	**00 28 38.5**	**+0.3**
BJT				pmax		pmax			
	comp=Z,47nm,1.0s								
BJT	**Baijiatuan**	**37.41**	**348**	*e*P		**P**	**00 28 38.5**	**+0.3**
	comp=Z,47nm,1.0s								
BJI	**Beijing**	**37.42**	**348**	P		**P**	**00 28 38.5**	**+0.1**
BJI				pmax		pmax			
	comp=Z,38nm,0.9s								
EIDS	**Eidsvold**	**37.70**	**141**	P		**P**	**00 28 40.4**	**-0.6**
	baz=38,SNR=5.1								
EIDS	**Eidsvold**	**37.70**	**141**	*e*P		**P**	**00 28 40.0**	**-1.0**
SNY	**Shenyang**	**38.22**	**357**	⇓P		**P**	**00 28 45.8**	**+0.8**
SNY				pmax		pmax			
	comp=Z,60nm,0.9s								
SNY				pmax		pmax			
	comp=Z,300nm,12.0s								
SNY				LR		LR			
	comp=Z,560nm,21.0s								
SNY				LR		LR			
	comp=Z,260nm,18.2s								
SNY				LR		LR			
	comp=Z,900nm,20.0s								
STKA	**Stephens Creek**	**38.22**	**158**	P		**P**	**00 28 45.0**	**-0.2**
	comp=Z,8.2nm,0.5s,baz=340,slow=8.2,SNR=19								
STKA				PcP		**PcP**	**00 30 57.7**	**-0.2**
	comp=Z,6.5nm,0.5s,baz=326,slow=7.3,SNR=3.0								
STKA	**Stephens Creek**	**38.22**	**158**	*e*P		**P**	**00 28 45.0**	**-0.2**
	comp=Z,8.7nm,0.9s								
STKA				PcP		**PcP**	**00 30 57.7**	**-0.2**
LZH	**Lanzhou**	**38.28**	**331**	⇑P		**P**	**00 28 46.3**	**+0.4**
LZH				pP		pP	00 29 07.3	-0.3	
LZH				sP		sP	00 29 20.1	+1.7	
LZH				*e*PP		**PnPn**	**00 30 20.3**	**+2.4**
LZH				S		**S**	**00 34 33.1**	**-0.2**
LZH				sS		sS	00 35 11.0	+0.2	
LZH				SS		**SS**	**00 37 18.0**	**-7.6**
LZH				pmax		pmax			
	comp=Z,48nm,1.3s								
LZH				pmax		pmax			
	comp=Z,230nm,5.5s								
LZH				LR		LR			
	comp=Z,880nm,16.8s								
LZH				LR		LR			
	comp=Z,570nm,14.5s								
LZH				LR		LR			
	comp=Z,790nm,18.6s								
HTT	**Hallett**	**38.74**	**162**	P		**P**	**00 28 50.1**	**+0.5**
	baz=39,SNR=13								
RKGY	**Rocky Gully**	**38.81**	**192**	P		**P**	**00 28 51.0**	**+0.9**
	baz=39,SNR=12								
SHL	**Shillong**	**39.33**	**307**	⇓*i*P		**P**	**00 28 58.5**	**+3.7**
SHL				*e*S		**PcP**	**00 31 06.0**	**+4.2**
HHC	**Hu-ho-hao-te**	**39.36**	**343**	*e*P		**P**	**00 28 55.8**	**+1.0**
HHC				sP		sP	00 29 29.8	+2.5	
HHC				S		**S**	**00 34 50.4**	**+1.1**
HHC				pmax		pmax			
	comp=Z,15nm,0.9s								
HHC				pmax		pmax			
	comp=Z,140nm,5.6s								
HHC				LR		LR			
	comp=Z,430nm,18.8s								
HHC				LR		LR			
	comp=Z,95nm,13.3s								
HHC				LR		LR			
	comp=Z,560nm,16.0s								
CN2	**Changchun**	**40.14**	**360**	*e*P		**P**	**00 29 00.8**	**-0.2**
CN2				pmax		pmax			
	comp=Z,20nm,1.0s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=Z,700nm,21.0s								
CN2				LR		LR			
	comp=Z,500nm,21.0s								
CN2				LR		LR			
	comp=Z,500nm,20.0s								
USRK	**Ussuriysk Ar.**	**40.90**	**7**	P		**P**	**00 29 08.0**	**+0.7**
	comp=Z,52nm,0.9s,baz=189,slow=7.4,SNR=43								
MDJ	**Mudanjiang**	**41.08**	**4**	P		**P**	**00 29 07.9**	**-0.9**
MDJ				pP		pP	00 29 31.8	+1.1	
MDJ				S		**S**	**00 35 18.3**	**+3.6**
MDJ				pmax		pmax			
	comp=Z,120nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,480nm,3.9s								
MDJ	**Mudanjiang**	**41.08**	**4**	*e*P		**P**	**00 29 09.4**	**+0.6**
	comp=Z,100nm,1.0s								
ARMA	**Armidale**	**41.75**	**146**	P		**P**	**00 29 15.3**	**+0.8**
	baz=42,SNR=10.0								
ARMA	**Armidale**	**41.75**	**146**	*e*P		**P**	**00 29 14.8**	**+0.3**
	comp=Z,48nm,1.1s								
LSA	**Lhasa**	**41.96**	**312**	P		**P**	**00 29 16.9**	**+0.2**
LSA				pmax		pmax			
	comp=Z,6.0nm,1.0s								
LSA	**Lhasa**	**41.96**	**312**	*e*P		**P**	**00 29 17.2**	**+0.5**
LSA				pmax		pmax			
	comp=Z,7.0nm,0.6s								
LSA	**Lhasa**	**41.96**	**312**	*e*P		**P**	**00 29 17.2**	**+0.5**
	comp=Z,7.2nm,0.6s								
TEY	**Ternei**	**42.43**	**11**	*e*P		**P**	**00 29 19.8**	**0.0**
TEY				pmax		pmax			
	comp=N,43nm,1.0s								
TEY				pmax		pmax			
	comp=Z,65nm,1.0s								
GTA	**Gaotai**	**42.87**	**330**	P		**P**	**00 29 23.3**	**-0.3**
GTA				pP		pP	00 29 48.3	+2.6	
GTA				sP		sP	00 30 00.1	+3.8	
GTA				PcP		**PcP**	**00 31 14.3**	**+1.3**
GTA				PcS		**PcS**	**00 35 04.1**	**-1.4**
GTA				S		**S**	**00 35 43.3**	**+1.9**
GTA				ScS		**ScS**	**00 39 13.4**	**-1.9**
GTA				pmax		pmax			
	comp=Z,7.0nm,1.3s								
GTA				pmax		pmax			
	comp=Z,130nm,6.5s								
GTA				LR		LR			
	comp=Z,340nm,19.5s

HYB ePP **sP** **00 30 36.0 -4.4**
ZAK Zakamensk 50.47 341 eP **P** **00 30 21.1 -1.6**
ZAK e 00 31 03.3
ZAK pmax pmax
comp=Z,4.0nm,1.3s
NKL Nikolayevsk 50.98 11 i P **P** **00 30 27.0 +0.7**
NKL e 00 31 43.0
NKL pmax pmax
comp=N,27nm,1.2s
NKL pmax pmax
comp=Z,69nm,1.2s
TLY Talaya 51.49 342 P **P** **00 30 29.8 -0.4**
comp=Z,1.8nm,0.4s,baz=176,slow=8.7,SNR=4.2
TLY Talaya 51.49 342 eP **P** **00 30 29.5 -0.7**
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY Talaya 51.49 342 eP **P** **00 30 29.6 -0.6**
comp=Z,11nm,0.9s
TLY Talaya 51.49 342 P **P** **00 30 30.5 +0.3**
SNR=5.3
TLY Talaya 51.49 342 P **P** **00 30 30.5 +0.3**
SNR=5.3
MOY Mondy 52.31 341 eP **P** **00 30 36.3 -0.2**
MOY pmax pmax
comp=Z,32nm,2.2s
WMQ Urumqi 52.43 326 P **P** **00 30 36.6 -0.8**
WMQ pP pP 00 31 00.1 -0.1
WMQ sP sP 00 31 07.6 -3.1
WMQ PcP **PcP** **00 31 46.8 -0.2**
WMQ pmax pmax
comp=Z,32nm,1.5s
WMQ pmax pmax
comp=Z,790nm,11.6s
WMQ LR LR
comp=Z,1μm,22.9s
WMQ LR LR
comp=Z,710nm,24.1s
WMQ LR LR
comp=Z,1μm,25.3s
KNGR Kungurtug, Tuv 52.67 338⇓ eP **P** **00 30 40.0 +0.9**
CLNS Chul'man 53.20 359 eP **P** **00 30 43.6 +0.8**
CLNS pmax pmax
comp=Z,88nm,1.0s
CLNS pmax pmax
comp=N,57nm,1.1s
CLNS pmax pmax
comp=E,28nm,1.1s
HVS Khovu-Aksy 54.60 336⇑ eP **P** **00 30 53.0 -0.1**
HVS pmax pmax
comp=Z,20nm,1.0s
MSVF Nonsavu 55.59 114⇑ eP **P** **00 31 02.9 +2.0**
MSVF pmax pmax
comp=Z,32nm,0.8s
MSVF Nonsavu 55.59 114 eP **P** **00 31 02.4 +1.5**
comp=Z,104nm,1.1s
PETK Petropavlovsk- 55.97 23 P **P** **00 31 04.1 +1.2**
comp=Z,16nm,0.7s,baz=196,slow=4.0,SNR=14
PETK Petropavlovsk- 55.97 23 eP **P** **00 31 03.7 +0.8**
PETK Petropavlovsk- 55.97 23 eP **P** **00 31 03.7 +0.8**
PET Petropavlovsk 56.28 23⇓ eP **P** **00 31 05.8 +0.8**
PET pmax pmax
comp=Z,43nm,1.3s
PDGK Podgornoye 57.05 321 P **P** **00 31 09.2 -1.7**
PDGK pmax pmax
comp=Z,10.0nm,1.0s
MK01 Makanchi Array 57.24 326 eP **P** **00 31 10.8 -1.2**
MK31 Makanchi Array 57.26 326 P **P** **00 31 11.3 -0.9**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 57.26 326 eP **P** **00 31 11.2 -1.0**
MKAR Makanchi Array 57.26 326 P **P** **00 31 11.6 -0.6**
comp=Z,4.7nm,0.4s,baz=119,slow=7.9,SNR=166
MKAR PcP **PcP** **00 32 04.9 -0.6**
comp=Z,23nm,0.7s,baz=126,slow=3.6,SNR=14
MKAR ScP **ScP** **00 35 56.8 -0.1**
comp=Z,0.6nm,0.7s,baz=114,slow=3.5,SNR=2.7
MKAR PKP2bc 01 01 14.6
comp=Z,0.5nm,1.0s,baz=282,slow=1.1,SNR=4.5
MKAR P4KPbc 01 08 23.6
comp=Z,0.6nm,0.7s,baz=106,slow=6.1,SNR=7.0
MKAR Makanchi Array 57.26 326 eP **P** **00 31 11.2 -1.0**
MKAR 00 32 04.9
MKAR pmax pmax
comp=Z,231nm,1.1s
MKAR Makanchi Array 57.26 326 eP **P** **00 31 11.2 -1.0**
comp=Z,231nm,1.1s
MKAR PcP **PcP** **00 32 04.9 -0.6**
MKAR ScP **ScP** **00 35 56.8 -0.1**
MKAR ⇑e 01 01 14.6
MKAR e 01 08 23.6
MAKZ Makanchi 57.45 326 eP **P** **00 31 12.2 -1.3**
MAKZ pmax pmax
comp=Z,23nm,0.6s
MAKZ Makanchi 57.45 326 eP **P** **00 31 12.2 -1.3**
comp=Z,23nm,0.6s
KSH Kashi 57.61 316 P **P** **00 31 14.8 -0.1**
KSH pP pP 00 31 37.5 -0.5
KSH sP sP 00 31 47.3 -1.1
KSH ScP **ScP** **00 35 56.0 -2.8**
KSH S **S** **00 39 00.9 -5.2**
KSH sS sS 00 39 42.0 -3.7
KSH pmax pmax
comp=Z,11nm,1.2s
KSH pmax pmax
comp=Z,130nm,6.3s
KSH LR LR
comp=Z,150nm,12.9s
KSH LR LR
comp=Z,370nm,15.6s
KSH LR LR
comp=Z,450nm,20.2s
KDJ Kajisay 57.96 319 P **P** **00 31 17.6 +0.3**
KDJ pmax pmax
comp=Z,16nm,1.1s
YAK Yakutsk 58.47 2 P **P** **00 31 20.9 +0.6**
comp=Z,53nm,0.6s,baz=157,slow=0.4,SNR=18
YAK Yakutsk 58.47 2 eP **P** **00 31 18.1 -2.1**
YAK e 00 32 07.5
YAK eS **S** **00 39 09.8 -6.4**
YAK e 00 40 49.9
YAK pmax pmax
comp=Z,83nm,0.9s
YAK pmax pmax
comp=N,28nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,23nm,1.5s
YAK pmax pmax
comp=N,54nm,2.0s
YAK smax smax
comp=N,101nm,2.7s
YAK smax smax
comp=E,35nm,2.1s
YAK Yakutsk 58.47 2 eP **P** **00 31 20.6 +0.3**
comp=E,118nm,0.9s
MA2 Magadan 59.14 14 P **P** **00 31 25.3 +0.3**
comp=E,27nm,0.8s,baz=209,slow=7.0,SNR=12
MA2 Magadan 59.14 14 ceP **P** **00 31 25.7 +0.7**
KZA Kyzart 59.21 318 P **P** **00 31 26.0 -0.4**
SNR=13
SFK Sufi-Kurgan 59.55 315 P **P** **00 31 26.9 -1.6**
SFK pmax pmax
comp=Z,9.0nm,1.0s
KBK Karagaybulak 59.67 318 P **P** **00 31 29.2 0.0**
SNR=9.3
UCH Uchtor 59.77 318 P **P** **00 31 30.5 +0.3**
SNR=13
AAK Ala-Archa 59.96 318 ceP **P** **00 31 30.6 -0.6**
AAK pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 59.96 318 eP **P** **00 31 31.1 0.0**
comp=Z,23nm,1.1s
AAK Ala-Archa 59.96 318 P **P** **00 31 31.3 +0.1**
AAK sP **PcP** **00 32 15.4 -1.1**
AAK Ala-Archa 59.96 318 P **P** **00 31 31.3 +0.1**
AAK S **PcP** **00 32 15.4 -1.1**
USP Ospenovka 60.23 319 P **P** **00 31 32.4 -0.4**
SNR=9.6
AML Almayashu 60.28 317 P **P** **00 31 33.9 +0.2**
SNR=19
ZAA0 Zalesovo Array 60.41 333 eP **P** **00 31 32.1 -1.7**
ZALV Zalesovo Beam 60.41 333 P **P** **00 31 32.4 -1.4**
comp=Z,3.2nm,0.4s,baz=115,slow=5.0,SNR=12
ZALV PcP **PcP** **00 32 17.8 0.0**
comp=Z,20nm,1.0s,baz=114,slow=3.6,SNR=14
ZALV Zalesovo Beam 60.41 333 eP **P** **00 31 31.0 -2.8**
ZALV PcP **PcP** **00 32 17.8 0.0**
EKS2 Erkin-Say 60.45 318 P **P** **00 31 34.6 +0.2**
SNR=6.5
KBL Kabul 60.99 308 eP **P** **00 31 36.9 -1.5**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 60.99 308 eP **P** **00 31 36.9 -1.5**
comp=Z,11nm,1.0s
MNAS Manas 61.23 317 P **P** **00 31 39.3 -0.5**
MNAS pmax pmax
comp=Z,14nm,1.2s
KURBB Kurchatov Arra 61.48 328 P **P** **00 31 39.6 -1.5**
comp=Z,9.4nm,0.4s,baz=130,slow=6.2,SNR=90
KURBB PcP **PcP** **00 32 23.8 +1.6**
comp=Z,23nm,0.8s,baz=126,slow=5.6,SNR=7.7
KURK Kurchatov 61.48 328 ceP **P** **00 31 39.8 -1.3**
KURK pmax pmax
comp=Z,116nm,1.0s
KURK Kurchatov 61.48 328 eP **P** **00 31 40.4 -0.7**
comp=Z,28nm,0.7s
KURK PcP **PcP** **00 32 23.8 +1.6**
KURK Kurchatov 61.48 328 P **P** **00 31 40.2 -0.9**
SNR=9.8
KURK Kurchatov 61.48 328 P **P** **00 31 40.2 -0.9**
SNR=9.8
NVS Novosibirsk 61.70 334 eP **P** **00 31 41.1 -1.3**
NVS e 00 32 17.6
NVS eS **S** **00 39 56.3 -1.4**
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS smax smax
comp=N,7.0nm,1.7s
NVS smax smax
comp=E,13nm,1.9s
LBZ Lake Benmore 61.97 145 eP **P** **00 31 44.4 -0.1**
comp=E,45nm,1.2s
SEY Seymchan 62.45 13 P **P** **00 31 48.5 +1.2**
comp=E,27nm,1.1s,baz=214,slow=5.9,SNR=43
SEY Seymchan 62.45 13 ceP **P** **00 31 49.1 +1.7**
KK31 Karatay Array 62.82 317 i P **P** **00 31 49.1 -1.2**
KK31 pmax pmax
comp=Z,12nm,1.2s
KKAR Karatay Array 62.82 317 eP **P** **00 31 48.9 -1.4**
KKAR pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 62.82 317 eP **P** **00 31 48.9 -1.4**
comp=Z,4.2nm,0.9s
BVA0 Borovoye Array 67.05 327 eP **P** **00 32 16.2 -1.3**
BVA0 pmax pmax
comp=Z,22nm,1.4s
BVAR Borovoye Array 67.05 327 P **P** **00 32 16.9 -0.5**
comp=Z,5.1nm,0.4s,baz=127,slow=7.1,SNR=37
BVAR PcP **PcP** **00 32 44.4 -0.7**
comp=Z,11nm,0.7s,baz=119,slow=5.7,SNR=9.9
BRVK Borovoye 67.12 327 deP **P** **00 32 17.1 -0.8**
BRVK pmax pmax
comp=Z,51nm,1.0s
BRVK Borovoye 67.12 327 eP **P** **00 32 16.8 -1.2**
comp=Z,24nm,0.9s
BRVK Borovoye 67.12 327 P **P** **00 32 17.4 -0.5**
SNR=6.4
BRVK Borovoye 67.12 327 P **P** **00 32 17.4 -0.5**
SNR=6.4
WSAR Wadi Sarin 67.73 294 P **P** **00 32 20.8 -1.6**
comp=Z,3.1nm,0.8s,baz=102,slow=12,SNR=4.4
WSAR LR LR 01 06 21.3
comp=Z,128nm,18.2s,baz=56,slow=40
TIXI Tiksi 68.09 1 ceP **P** **00 32 22.9 -0.7**
TIXI pmax pmax
comp=Z,47nm,1.0s
TIXI Tiksi 68.09 1 eP **P** **00 32 23.3 -0.3**
comp=Z,106nm,1.5s
BILL Bilibino 70.00 15 c i P **P** **00 32 35.0 -0.5**
BILL i 00 32 51.2
BILL i 00 35 13.2
BILL pmax pmax
comp=Z,11nm,1.1s
GEYT Alibeck 70.38 309 P **P** **00 32 37.6 -0.8**
comp=Z,4.1nm,0.9s,baz=131,slow=4.1,SNR=13
AB31 Akbulak array 71.79 321 P **P** **00 32 45.1 -1.6**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 71.79 321 eP **P** **00 32 46.0 -0.7**
AKTO Aktyubinsk 73.31 322 P **P** **00 32 54.6 -1.1**
comp=Z,6.0nm,0.5s,baz=105,slow=10,SNR=38
SVE Sverdlovsk 73.71 329 eP **P** **00 32 57.1 -0.8**
ARU Arti 74.68 328 d iP **P** **00 33 02.0 -1.6**
ARU S **S** **00 42 36.2 +4.1**
ARU SS **SS** **00 47 13.1 -8.1**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 74.68 328 eP **P** **00 33 02.4 -1.2**
comp=Z,12nm,0.8s
GAMB Gambell 74.96 24 eP **P** **00 33 06.1 +1.1**
comp=Z,44nm,1.0s
FALS False Pass 76.11 34 eP **P** **00 33 13.0 +1.3**
comp=Z,73nm,0.7s
RAYN Ar Rayn 79.79 293 P **P** **00 33 31.7 -1.2**
RAYN pmax pmax
comp=Z,10.0nm,0.9s
RAYN Ar Rayn 79.79 293 eP **P** **00 33 31.7 -1.2**
comp=Z,10nm,0.8s
GROC Groznyy 80.38 313 eP **P** **00 33 33.3 -2.3**
GROC eS **S** **00 43 34.8 +0.6**
GROC pmax pmax
comp=Z,8.0nm,0.9s
OPO Ambohidratompo 80.41 251 P **P** **00 33 35.6 -0.8**
comp=Z,3.6nm,0.5s,baz=68,slow=5.4,SNR=7.2
GNI Garni 80.98 310 P **P** **00 33 40.9 +1.8**
comp=Z,1.3nm,0.5s,baz=140,slow=7.9,SNR=3.9
GNI LR LR 01 12 19.4
comp=Z,74nm,21.4s,baz=16,slow=38
GNI Garni 80.98 310 deP **P** **00 33 37.9 -1.2**
GNI pmax pmax
comp=Z,11nm,1.3s
GNI Garni 80.98 310 eP **P** **00 33 38.3 -0.8**
comp=Z,12nm,1.1s
SVW2 Sparrevohn 81.42 29 eP **P** **00 33 43.0 +2.2**
ZEI Tsey 81.74 313 eP **P** **00 33 41.5 -1.6**
ZEI pmax pmax
comp=Z,4.0nm,0.8s
AKH Akhalkalaki 81.98 311 eP **P** **00 33 45.0 +0.6**
AKH Akhalkalaki 81.98 311⇑ iP **P** **00 33 45.3 +0.9**
AKH Akhalkalaki 81.98 311 eP **P** **00 33 45.0 +0.6**
ATD Arta Tunnel 82.48 281 P **P** **00 33 47.0 -0.4**
comp=Z,6.7nm,0.6s,baz=99,slow=19,SNR=3.9
KBZ Khabaz 82.52 313 P **P** **00 33 46.6 -0.3**
comp=Z,2.9nm,1.0s,baz=248,slow=4.3,SNR=5.2
KDAK Kodiak Island 82.54 32 i P **P** **00 33 47.8 +1.1**
PPLA Purkeypile 83.23 27 eP **P** **00 33 51.0 +0.7**
comp=Z,26nm,1.0s
MAW Mawson 83.24 200 P **P** **00 33 50.3 +0.3**
comp=Z,11nm,0.9s,baz=86,slow=16,SNR=2.4
VNDA Vanda 83.30 173 P **P** **00 33 50.5 +0.2**
comp=Z,5.4nm,0.4s,baz=318,slow=6.5,SNR=68
VNDA Vanda 83.30 173 eP **P** **00 33 50.6 +0.4**
VNDA Vanda 83.30 173 eP **P** **00 33 50.6 +0.4**
CAST Castle Rocks 83.33 27 eP **P** **00 33 51.7 +1.0**
BRLK Bradley Lake 83.59 30 eP **P** **00 33 50.8 -1.3**
VRH Novokhopyorsk 83.62 321 eP **P** **00 33 52.1 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
SUA Susitna One 83.78 29 eP **P** **00 33 53.6 +0.5**
KTH Kantishna Hill 83.86 27 eP **P** **00 33 53.9 +0.4**
comp=Z,17nm,1.1s
BPAW Bear Paw Mtn. 83.87 26 eP **P** **00 33 54.1 +0.7**
comp=Z,1.7nm,0.6s
MLY Manley 84.05 25 eP **P** **00 33 55.5 +1.1**
TRF Thorofare Moun 84.13 27 eP **P** **00 33 55.0 0.0**
comp=Z,12nm,0.9s
RC01 Rabbit Creek A 84.24 29 eP **P** **00 33 55.6 +0.2**
comp=Z,25nm,0.4s
COLD Coldfoot 84.44 23 eP **P** **00 33 57.9 +1.6**
comp=Z,42nm,0.9s
PMR Palmer 84.56 29 eP **P** **00 33 57.3 +0.4**
PMR pmax pmax
comp=Z,4.0nm,0.3s
PMR Palmer 84.56 29 eP **P** **00 33 57.3 +0.4**
comp=Z,3.9nm,0.3s
MCK McKinley 84.75 26 eP **P** **00 33 58.4 +0.5**
MCK pmax pmax
comp=Z,47nm,1.3s
MCK McKinley 84.75 26 eP **P** **00 33 58.4 +0.5**
comp=Z,47nm,1.3s
RND Reindeer 84.77 27 eP **P** **00 33 58.4 +0.3**
RND Reindeer 84.77 27 eP **P** **00 33 58.4 +0.3**
TOLK Toolik Lake Re 84.78 21 P **P** **00 33 59.7 +1.7**
baz=266
TOLK Toolik Lake Re 84.78 21 eP **P** **00 33 59.6 +1.6**
SML Sawmill 84.95 28 eP **P** **00 33 59.7 +0.7**
SML Sawmill 84.95 28 eP **P** **00 33 59.7 +0.7**
MDM Murphy Dome 85.11 25 eP **P** **00 34 00.9 +1.2**
WRH Wood River Hil 85.16 26 eP **P** **00 33 59.9 0.0**
KLMR Klimovskoe 85.19 331 eP **P** **00 33 56.1 -4.0**
KLMR pmax pmax
comp=Z,62nm,1.3s
KLMR Klimovskoe 85.19 331 eP **P** **00 33 56.1 -4.0**
KLMR AMP 00 34 01.3
comp=Z,62nm,1.3s
VSR Storozhevoye 85.23 321 eP **P** **00 33 58.7 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.6s
COLA College 85.27 25⇓ eP **P** **00 34 00.3 -0.1**
COLA pmax pmax
comp=Z,3.0nm,1.0s
CCB Clear Creek Bu 85.28 26 eP **P** **00 33 59.9 -0.6**
LPSR Galich'ya Gora 85.39 322 eP **P** **00 34 00.5 -0.8**
LPSR pmax pmax
comp=Z,30nm,0.8s
SCM Sheep Creek Mo 85.43 28 eP **P** **00 34 03.0 +1.6**
SCM Sheep Creek Mo 85.43 28 eP **P** **00 34 03.0 +1.6**
DHY Denali Highway 85.43 27 eP **P** **00 34 02.7 +1.2**
HDA Harding Lake 85.65 26 eP **P** **00 34 02.1 -0.2**
IL1 Eielson Array 85.68 25 eP **P** **00 34 01.8 -0.7**
ILAR Eielson Array 85.68 25 P **P** **00 34 01.9 -0.6**
comp=Z,2.5nm,0.4s,baz=249,slow=4.7,SNR=50
ILB Eielson Array 85.68 25 eP **P** **00 34 01.9 -0.6**
TMCR Tamitsa 85.93 334 eP **P** **00 34 02.0 -1.7**
TMCR pmax pmax
comp=Z,100nm,1.3s
MOS Moscow 86.15 325 eP **P** **00 34 02.5 -2.4**
MOS e 00 34 47.5
MOS pmax pmax
comp=Z,64nm,1.2s
DIV Divide 86.17 29 eP **P** **00 34 06.3 +1.2**
comp=Z,3.1nm,0.6s
PAX Paxson 86.30 27 eP **P** **00 34 06.3 +0.6**
PAX pmax pmax
comp=Z,10.0nm,1.3s
PAX Paxson 86.30 27 eP **P** **00 34 06.3 +0.6**
comp=Z,9.9nm,1.3s
RIDG Independ'e Rid 86.57 26 eP **P** **00 34 07.2 +0.2**
OBN Obninsk 86.76 325 d iP **P** **00 34 07.7 -0.2**
OBN e 00 37 26.0
OBN pmax pmax
comp=Z,82nm,1.7s
OBN MLR MLR
comp=Z,166nm,16.0s
OBN Obninsk 86.76 325 eP **P** **00 34 07.2 -0.8**
comp=Z,20nm,0.5s
DOT Dot Lake 86.92 27 eP **P** **00 34 08.3 -0.4**
comp=Z,8.5nm,0.5s
LVZ Lovozero 87.25 338 ceP **P** **00 34 09.6 -0.5**
LVZ pmax pmax
comp=Z,31nm,1.0s
ASF Jabal al Asfar 87.29 302 P **P** **00 34 10.9 -0.3**
comp=Z,4.1nm,0.8s,baz=100,slow=6.9,SNR=9.0
APA Apatity 87.74 337⇓ iP **P** **00 34 10.8 -1.6**
APA pmax pmax
comp=Z,21nm,0.9s
APA MLR MLR
comp=Z,600nm,16.0s
EGAK Eagle 88.14 25 eP **P** **00 34 14.5 +0.1**
comp=Z,2.7nm,0.6s
KMBO Kilima Mbogo 88.69 269 P **P** **00 34 19.2 +0.8**
comp=Z,1.7nm,0.5s,baz=61,slow=11,SNR=8.1
KMBO Kilima Mbogo 88.69 269 eP **P** **00 34 19.1 +0.7**
KMBO Kilima Mbogo 88.69 269 eP **P** **00 34 19.1 +0.7**
DAWY Dawson 88.96 26 eP **P** **00 34 18.2 -0.1**
comp=Z,4.8nm,0.7s
EIL Elat 89.09 300 P P 00 34 24.8 +5.2
comp=Z,4.5nm,0.6s,baz=66,slow=4.4,SNR=8.0
BR131 Keskin Array S 89.51 310 eP **P** **00 34 21.1 -0.5**
BRTR Keskin Array B 89.51 310 P **P** **00 34 20.1 -1.5**
comp=Z,4.6nm,1.0s,baz=130,slow=4.9,SNR=21
BRTR Keskin Array B 89.51 310 ceP **P** **00 34 20.8 -0.8**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
PUL Pulkovo 89.81 330 ceP **P** **00 34 22.2 -0.1**
PUL pmax pmax
comp=Z,65nm,0.4s
BR231 Keskin MP Arra 90.17 310 eP **P** **00 34 20.7 -3.9**
ARCES ARCESS Array B 90.37 340 P **P** **00 34 23.7 -1.1**
comp=Z,46nm,0.9s,baz=77,slow=5.5,SNR=69
ARCES PKiKP **PKiKP** **00 39 19.1 -0.2**
comp=Z,1.0nm,0.5s,baz=97,slow=0.7,SNR=9.2
ARCES PKKP **PKKPbc** **00 51 54.1 -1.8**
comp=Z,2.3nm,1.0s,baz=135,slow=0.7,SNR=5.4
ARCES ARCESS Array B 90.37 340 eP **P** **00 34 23.4 -1.4**
ARCES PKiKP **PKiKP** **00 39 19.1 -0.2**
ARCES PKKP **PKKPbc** **00 51 54.1 -1.8**
ARE0 ARCESS Array S 90.37 340 eP **P** **00 34 24.1 -0.7**
ARE0 ARCESS Array S 90.37 340 eP **P** **00 34 24.1 -0.7**
SPA0 Spitsbergen Ar 90.54 349 eP **P** **00 34 25.9 +0.4**
SPA0 Spitsbergen Ar 90.54 349 eP **P** **00 34 25.5 0.0**
SPITS Spitsbergen Ar 90.54 349 P **P** **00 34 25.5 0.0**
comp=Z,6.6nm,0.4s,baz=67,slow=6.4,SNR=62
INK Inuvik 90.69 21 eP **P** **00 34 25.9 -0.3**
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 90.69 21 eP **P** **00 34 25.9 -0.3**
comp=Z,9.1nm,0.9s
HAMF Hammerfest 90.76 341 eP **P** **00 34 24.9 -1.6**
HEF Hetta 91.26 339 eP **P** **00 34 27.8 -1.1**
KTK1 Kautokeino 91.27 339 eP **P** **00 34 27.5 -1.5**
KTK1 IAmb IAmb 00 34 28.5
comp=Z,25nm,1.1s
WHY Whitehorse 91.51 29 eP **P** **00 34 31.6 +1.3**
AKASG Malin Array Be 91.53 321 P **P** **00 34 29.4 -1.2**
comp=Z,2.6nm,0.6s,baz=70,slow=4.6,SNR=19
KIEV Kiev 91.55 321⇓ eP **P** **00 34 29.5 -1.1**
KIEV pmax pmax
comp=Z,5.0nm,1.2s
AK11 Malin Array Si 91.57 321 eP **P** **00 34 30.2 -0.5**
FIA1 FINESS Array S 91.63 332 eP **P** **00 34 29.8 -0.9**
FINES FINESS Array B 91.63 332 P **P** **00 34 29.5 -1.2**
comp=Z,6.6nm,0.6s,baz=74,slow=4.2,SNR=50
FINES PKiKP **PKiKP** **00 39 21.1 -0.4**
comp=Z,0.8nm,0.5s,baz=128,slow=3.1,SNR=4.1
VSU Vasula 91.82 329⇓ eP **P** **00 34 30.4 -1.3**
VSU pmax pmax
comp=Z,28nm,0.6s
SYO Syowa Base 91.90 201⇓ eP **P** **00 34 30.7 -1.1**
KIF Kilpisjarvi 92.12 340 eP **P** **00 34 31.6 -1.2**
TRO Tromso 92.59 340 eP **P** **00 34 33.6 -1.3**
QSPA South Pole Qui 93.40 180 P **P** **00 34 39.5 +0.5**
comp=Z,7.2nm,0.5s,baz=329,slow=10,SNR=35
QSPA South Pole Qui 93.40 180 eP **P** **00 34 39.3 +0.3**
comp=Z,14nm,0.5s
TESR Tescani 93.83 317⇓ iP **P** **00 34 40.7 -0.5**
VRI Vrincioaia 93.87 316 ⇓P **P** **00 34 41.2 -0.3**
VRI Vrincioaia 93.87 316⇓ iP **P** **00 34 41.2 -0.3**
PLOR Plostina 93.93 316 ⇓P **P** **00 34 41.9 +0.1**
PLOR Plostina 93.93 316⇓ iP **P** **00 34 41.9 +0.1**
DLBC Dease Lake 94.38 31 eP **P** **00 34 44.5 +0.9**
STEI Steigen 94.41 339 eP **P** **00 34 41.8 -1.6**
MLR Muntele Rosu 94.47 316 P **P** **00 34 44.2 -0.3**
comp=Z,13nm,0.8s,baz=72,slow=6.4,SNR=7.0
MLR Muntele Rosu 94.47 316⇑ iP **P** **00 34 44.1 -0.3**
MLR Muntele Rosu 94.47 316 eP **P** **00 34 44.0 -0.4**
BURAR Bucovina Array 94.61 318 ⇓P **P** **00 34 44.9 0.0**
BURAR Bucovina Array 94.61 318⇓ iP **P** **00 34 44.8 -0.1**
BUR04 Bucovina Ar. S 94.61 318 eP **P** **00 34 44.4 -0.6**
BUR08 Bucovina Ar. S 94.61 318 eP **P** **00 34 44.2 -0.7**
SUW Suwalki 94.62 325 eP **P** **00 34 43.7 -1.0**
SUW Suwalki 94.62 325 eP **P** **00 34 43.7 -1.0**
ARR Arges 95.41 316⇑ iP **P** **00 34 47.7 -0.9**
KWP Kalwaria Pacla 95.84 320 eP **P** **00 34 50.9 +0.5**
KWP Kalwaria Pacla 95.84 320 eP **P** **00 34 50.9 +0.5**
KLNR Kaliningrad 96.17 326 ceP **P** **00 34 51.6 -0.1**
KLNR pmax pmax
comp=Z,73nm,1.0s
UZH Uzhgorod 96.33 320 eP **P** **00 34 52.0 -0.6**
UZH e 00 35 18.6
UZH e 00 35 34.8

DRGR		96.44	318	⇓P		**P**	00 34 53.2	-0.1
DRGR		96.44	318	⇓*i*P		**P**	00 34 53.2	-0.1
CRVS	**Cervenica-Dubn**	96.80	320	*e*P		**P**	00 34 55.8	+1.0
CRVS	**Cervenica-Dubn**	96.80	320	*e*P		**P**	00 34 55.8	+1.0
STHS	**Stebnicka Huta**	96.82	320	*e*P		**P**	00 34 54.8	-0.1
STHS				pmax	pmax			
	comp=Z,3.0nm,0.6s							
STHS	**Stebnicka Huta**	96.82	320	*e*P		**P**	00 34 54.8	-0.1
VTS	**Vitosha**	96.94	313	⇑P		**P**	00 34 54.7	-1.0
VTS	**Vitosha**	96.94	313	⇑*i*P		**P**	00 34 54.7	-1.0
SIRR	**Siria**	97.26	317	⇓*i*P		**P**	00 34 56.4	-0.5
DAG	**Danmarks Havn**	97.37	352	*i* P		**P**	00 34 54.4	-2.3
DAG				pmax	pmax			
	comp=Z,10.0nm,0.7s							
DAG	**Danmarks Havn**	97.37	352	*i* P		**P**	00 34 54.4	-2.3
	comp=Z,9.9nm,0.7s							
BZS	**Buzias**	97.44	317	⇑P		**P**	00 34 56.4	-1.3
BZS	**Buzias**	97.44	317	⇑*i*P		**P**	00 34 56.4	-1.3
KECS	**Kecovo**	97.53	320	*e*P		**P**	00 34 57.4	-0.6
KECS				pmax	pmax			
	comp=Z,3.0nm,1.1s							
KECS	**Kecovo**	97.53	320	*e*P		**P**	00 34 57.4	-0.6
HFS	**Hagfors**	97.83	332	P	P	**P**	00 34 57.7	-1.4
	comp=Z,4.5nm,0.5s,baz=114,slow=3.6,SNR=35							
LANS	**Liptovska Anna**	98.02	321	*e*P	Pdif		00 35 00.8	+0.5
LANS	**Liptovska Anna**	98.02	321	*e*P	Pdif		00 35 00.8	+0.5
RES	**Resolute Bay**	98.19	10	PKiKP		**PKiKP**	00 39 33.2	+0.5
	comp=Z,0.6nm,0.5s,baz=226,slow=3.3,SNR=4.0							
LSZ	**Lusaka**	98.32	255	*e*P		**P**	00 35 01.8	-0.6
LSZ	**Lusaka**	98.32	255	*e*P		**P**	00 35 01.8	-0.6
NB2	**NORSAR Subarra**	98.61	333	P		**P**	00 35 00.8	-1.9
	comp=Z,10nm,0.6s,baz=67,slow=4.6							
NB2	**NORSAR Subarra**	98.61	333	P		**P**	00 35 00.8	-1.9
NB2				pmax	pmax			
	comp=Z,8.0nm,0.6s							
NB2	**NORSAR Subarra**	98.61	333	P		**P**	00 35 00.8	-1.9
	baz=67,slow=4.6							
NOA	**NORSAR Array B**	98.61	333	P		**P**	00 35 01.1	-1.6
	comp=Z,10.0nm,0.7s,baz=67,slow=4.6,SNR=26							
OSL	**Oslo**	99.28	332	*e*P		**Pdif**	00 35 04.3	-1.3
VRAC	**Vranov**	99.78	321	P		**Pdif**	00 35 07.1	-1.1
	comp=Z,1.7nm,0.4s,baz=67,slow=4.0,SNR=4.2							
YKA	**Yellowknife Ar**	100.06	24	P		**Pdif**	00 35 09.8	+0.8
	comp=Z,1.3nm,0.7s,baz=296,slow=4.6,SNR=13							
YKA				PKiKP		**PKiKP**	00 39 37.0	+0.7
	comp=Z,0.2nm,0.5s,baz=305,slow=1.6,SNR=7.2							
YKA				PKKPbc		**PKKPbc**	00 51 26.3	-3.5
	comp=Z,0.4nm,0.4s,baz=121,slow=3.4,SNR=8.2							
BRG	**Berggiesshubel**	100.92	323	*i* P		**Pdif**	00 35 13.5	+0.4
	comp=Z,7.5nm,0.9s							
BRG	**Berggiesshubel**	100.92	323	*i* P		**Pdif**	00 35 13.5	+0.4
BRG				pmax	pmax			
	comp=Z,8.0nm,0.9s							
CLL	**Collm**	101.33	324	*e*P		**Pdif**	00 35 15.0	+0.1
CLL	**Collm**	101.33	324	*e*Pdif		**Pdif**	00 35 15.0	+0.1
CLL				*e*PP		**PP**	00 39 22.0	-2.9
GERES	**GERESS Array B**	101.73	321	P		**Pdif**	00 35 16.9	0.0
	comp=Z,0.7nm,0.8s,baz=70,slow=4.4,SNR=7.0							
BOJS	**Bojanci**	101.78	318	*i* P		**Pdif**	00 35 17.9	+0.8
VISS	**Visnje**	101.97	318	*e*P		**Pdif**	00 35 18.7	+0.8
JAVS	**Javornik**	102.45	318	*i* P		**Pdif**	00 35 19.7	-0.5
NVAR	**Mina Array Bea**	107.70	48	Pdiff		**Pdif**	00 35 45.6	+1.8
	comp=Z,0.1nm,0.3s,baz=292,slow=4.8,SNR=3.0							
NVAR				PKiKP		**PKiKP**	00 39 52.7	+1.4
	comp=Z,0.8nm,0.8s,baz=253,slow=3.6,SNR=5.0							
NVAR				PKKPbc		**PKKPbc**	00 51 06.5	+0.1
	comp=Z,0.2nm,0.5s,baz=104,slow=3.8,SNR=4.2							
NVAR				PKKP		**PKKPdf**	00 51 19.1	-0.5
	comp=Z,0.3nm,0.5s,baz=116,slow=4.1,SNR=5.1							
EKA	**Eskdalemuir Ar**	108.03	332	PKiKP		**PKiKP**	00 39 51.1	0.0
	comp=Z,0.7nm,0.6s,baz=43,slow=3.8,SNR=4.6							
HLID	**Hailey**	108.55	42	P		**PKiKP**	00 39 53.8	+1.1
	baz=294							
MPMC	**Manual Prospec**	109.10	50	P		**PKiKP**	00 39 54.9	+0.9
	baz=289							
EGMT	**Eagleton**	109.48	36	P		**PKiKP**	00 39 55.0	+0.8
	baz=299							
R11A	**Troy Canyon, C**	109.73	47	P		**PKiKP**	00 39 56.8	+1.7
	baz=291							
GMRC	**Granite Mounta**	110.93	51	P		**PKiKP**	00 39 58.9	+1.5
	baz=290							
BELC	**Belle Mtn. Jos**	110.93	52	P		**PKiKP**	00 39 58.6	+1.2
	baz=290							
DUG	**Dugway, Tooele**	111.00	45	P		**PKiKP**	00 39 58.0	+0.6
	baz=294							
RLMT	**Red Lodge**	111.17	39	P		**PKiKP**	00 39 56.5	-1.2
	baz=299							
IKP	**In-Ko-Pah, Jac**	111.29	53	P		**PKiKP**	00 39 58.0	-0.1
	baz=289							
FRB	**Frobisher Bay**	112.07	7	PKiKP		**PKiKP**	00 39 59.1	+0.7
	comp=Z,0.9nm,0.6s,baz=263,slow=1.9,SNR=3.8							
PDAR	**Pinedale Array**	112.09	41	PKiKP		**PKiKP**	00 40 00.1	+0.6
	comp=Z,0.4nm,0.5s,baz=136,slow=3.9,SNR=5.6							
PDAR				PKKPab		**PKKPab**	00 51 00.8	-0.3
	comp=Z,0.2nm,0.4s,baz=107,slow=4.8,SNR=8.4							
LAO	**LASA Array**	112.22	36	P		**PKiKP**	00 40 00.8	+1.4
	baz=302							
WUAZ	**Wupatki**	113.92	49	P		**PKiKP**	00 40 04.3	+1.2
	baz=293							
K22A	**Casper**	114.11	40	P		PKPdf	00 40 03.9	+0.6
	baz=300							
O20A	**White River Ci**	114.19	43	P		PKPdf	00 40 04.6	+1.1
	baz=298							
RSSD	**Black Hills**	114.89	37	P		PKPdf	00 40 04.6	-0.2
	baz=303							
ULM	**Lac du Bonnet**	115.57	28	PKP		**PKPdf**	00 40 06.1	+0.5
	comp=Z,0.9nm,0.5s,baz=220,slow=2.4,SNR=2.9							
ULM				PKKPab		**PKKPab**	00 50 43.0	-2.3
	comp=Z,1.0nm,0.4s,baz=125,slow=5.3,SNR=4.2							
TUC	**Tucson**	115.62	52	P		**PKPdf**	00 40 07.3	+0.9
	baz=292							
ISCO	**Idaho Springs**	116.12	42	P		**PKPdf**	00 40 07.8	+0.4
	baz=300							
C31A	**Landman Farms,**	116.27	31	P		**PKPdf**	00 40 07.2	+0.2
	baz=310							
ESDC	**Sonseca Array**	117.06	318	PKP		**PKPdf**	00 40 09.6	+0.7
	comp=Z,0.5nm,0.7s,baz=72,slow=1.8,SNR=5.6							
ANMO	**Albuquerque**	117.81	47	P		**PKPdf**	00 40 11.7	+1.0
	baz=297							
ANMO	**Albuquerque**	117.81	47	*d i* PKIKP		**PKPdf**	00 40 12.0	+1.3
ANMO				pmax	pmax			
	comp=Z,7.0nm,1.0s							
121A	**Cookes Peak, D**	117.86	50	P		**PKPdf**	00 40 11.6	+0.8
	baz=295							
T25A	**Trinidad**	118.25	44	P		**PKPdf**	00 40 12.2	+0.8
	baz=300							
F33A	**5 Mile Ranch,**	118.29	32	P		**PKPdf**	00 40 11.0	0.0
	baz=311							
POLO	**Lamas de Olo**	118.61	322	*e*PKPdf		**PKPdf**	00 40 13.1	+1.2
MTE	**Manteigas**	119.00	321	*e*PKPdf		**PKPdf**	00 40 13.8	+1.2
PCBR	**Castelo Branco**	119.27	320	*e*PKPdf		**PKPdf**	00 40 13.7	+0.7
ECSD	**EROS Data Cent**	119.46	34	P		**PKPdf**	00 40 13.2	-0.2
	baz=309							
F36A	**Milaca**	119.72	31	P		**PKPdf**	00 40 14.0	+0.3
	baz=313							
H35A	**Sunnyside Ranc**	119.82	32	P		**PKPdf**	00 40 14.4	+0.4
	baz=312							
PBAR	**Barrancos**	119.89	318	*e*PKPdf		**PKPdf**	00 40 12.8	-1.5
MNTX	**Cornudas Mount**	120.06	50	P		**PKPdf**	00 40 15.9	+1.1
	baz=296							
MNTX	**Cornudas Mount**	120.06	50	*e*PKPdf		**PKPdf**	00 40 15.3	+0.5
C40A	**Isle Royale Na**	120.34	27	P		**PKPdf**	00 40 14.6	-0.2
	baz=316							
EVO	**Evora**	120.34	319	*e*PKPdf		**PKPdf**	00 40 16.5	+1.4
E39A	**Mellen**	120.82	29	P		**PKPdf**	00 40 15.7	-0.1
	baz=316							
PCVE	**Castro Verde**	120.85	318	*e*PKPdf		**PKPdf**	00 40 17.0	+0.8
SCHQ	**Schefferville**	120.93	9	PKP		**PKPdf**	00 40 16.1	+0.3
	comp=Z,3.4nm,0.4s,baz=2.6,slow=1.6,SNR=25							
MSTX	**Muleshoe**	120.96	47	P		**PKPdf**	00 40 17.4	+0.8
	baz=299							
MSTX	**Muleshoe**	120.96	47	*e*PKPdf		**PKPdf**	00 40 16.9	+0.3
F39A	**Loretta**	120.98	29	P		**PKPdf**	00 40 15.9	-0.2
	baz=316							
PMST	**Lisbon--Monsan**	120.98	320	*e*PKPdf		**PKPdf**	00 40 16.3	-0.1
J36A	**Seneca 1, Swea**	120.99	33	P		**PKPdf**	00 40 15.9	-0.4
	baz=311							
I37A	**Lemond, Waseca**	121.04	32	P		**PKPdf**	00 40 16.9	+0.5
	baz=313							
G38A	**Ridgeland**	121.04	30	P		**PKPdf**	00 40 15.5	-0.8
	baz=315							
E40A	**Wakefield**	121.08	28	P		**PKPdf**	00 40 16.6	+0.3
	baz=317							
O33A	**Hebron**	121.14	38	P		**PKPdf**	00 40 16.5	-0.2
	baz=307							
G39A	**Holcombe**	121.30	30	P		**PKPdf**	00 40 17.0	+0.2
	baz=315							
F40A	**Park Falls**	121.36	29	P		**PKPdf**	00 40 16.9	-0.1
	baz=317							
J37A	**Redenius Farm,**	121.43	33	P		**PKPdf**	00 40 17.0	-0.1
	baz=312							
MORF	**Marmelete**	121.44	318	*e*PKPdf		**PKPdf**	00 40 18.4	+1.0
PFVI	**Vila Bisbo**	121.65	318	*e*PKPdf		**PKPdf**	00 40 18.6	+0.9
K37A	**Belmond**	121.74	33	P		**PKPdf**	00 40 17.6	-0.1
	baz=312							
G40A	**Rib Lake**	121.79	29	P		**PKPdf**	00 40 18.3	+0.5
	baz=316							
F41A	**Three Lakes**	121.98	28	P		**PKPdf**	00 40 18.4	+0.3
	baz=318							
I39A	**Houston**	122.13	31	P		**PKPdf**	00 40 18.0	-0.5
	baz=314							
TORD	**Torodi Ar. Bea**	122.18	288	PKP		**PKPdf**	00 40 18.9	-0.4
	comp=Z,3.6nm,0.8s,baz=54,slow=1.7,SNR=21							
TORD				PKKPbc		**PKKPbc**	00 50 16.1	+0.5
	comp=Z,0.5nm,0.8s,baz=247,slow=3.2,SNR=4.3							
KSU1	**Kansas State U**	122.33	38	P		**PKPdf**	00 40 19.3	+0.3
	baz=307							
KSU1	**Kansas State U**	122.33	38	*e*PKPdf		**PKPdf**	00 40 19.5	+0.5
J39A	**Decorah**	122.40	32	P		**PKPdf**	00 40 17.9	-1.0
	baz=314							
TXAR	**Lajitas Array**	122.42	52	PKP		**PKPdf**	00 40 20.4	+0.9
	comp=Z,2.9nm,0.7s,baz=170,slow=1.8,SNR=34							
TXAR				PKKPbc		**PKKPab**	00 50 15.8	+0.2
	comp=Z,0.2nm,0.5s,baz=110,slow=4.0,SNR=4.0							
G42A	**Mountain**	122.66	28	P		**PKPdf**	00 40 19.7	+0.3
	baz=318							
M38A	**Pleasantville**	122.89	34	P		**PKPdf**	00 40 20.0	+0.1
	baz=312							
L39A	**Vinton**	123.07	33	P		**PKPdf**	00 40 20.3	0.0
	baz=313							
WMOK	**Wichita Mounta**	123.40	44	P		**PKPdf**	00 40 22.2	+1.0
	baz=303							
M39A	**Webster**	123.42	34	P		**PKPdf**	00 40 20.5	-0.5
	baz=313							
I42A	**Draeger Farm,**	123.43	30	P		**PKPdf**	00 40 20.8	-0.1
	baz=317							
JFWS	**Jewell Farm**	123.45	31	P		**PKPdf**	00 40 20.9	-0.1
	baz=315							
L40A	**Anamosa**	123.54	33	P		**PKPdf**	00 40 20.9	-0.3
	baz=314							
P38A	**Dawn**	123.86	36	P		**PKPdf**	00 40 22.5	+0.6
	baz=310							
J43A	**Natural Harves**	124.04	30	P		**PKPdf**	00 40 21.8	-0.3
	baz=317							
Q38A	**Cooks Store, C**	124.24	37	P		**PKPdf**	00 40 22.4	-0.2
	baz=310							
M41A	**Milan**	124.38	33	P		**PKPdf**	00 40 22.7	-0.1
	baz=314							
P39B	**Salisbury**	124.41	36	P		**PKPdf**	00 40 22.9	0.0
	baz=311							
O40A	**La Belle**	124.50	35	P		**PKPdf**	00 40 23.5	+0.4
	baz=312							
R38A	**Fenwick Farm,**	124.56	38	P		**PKPdf**	00 40 23.0	-0.2
	baz=309							
Q39A	**Willow Grove F**	124.57	36	P		**PKPdf**	00 40 23.8	+0.5
	baz=311							
K43A	**Burlington**	124.58	30	P		**PKPdf**	00 40 23.3	+0.1
	baz=317							
JCT	**Junction City**	124.86	49	P		**PKPdf**	00 40 24.7	+0.5
	baz=300							
S38A	**Stockton**	124.91	38	P		**PKPdf**	00 40 24.2	+0.3
	baz=309							
R39A	**Chumby, Stover**	125.00	37	P		**PKPdf**	00 40 24.4	+0.3
	baz=310							
T38A	**Diamond**	125.03	39	P		**PKPdf**	00 40 24.5	+0.2
	baz=308							
Q40A	**Laux Farm, Aux**	125.13	36	P		**PKPdf**	00 40 24.7	+0.4
	baz=312							
S39A	**Bolivar**	125.23	38	P		**PKPdf**	00 40 24.4	-0.1
	baz=310							
R40A	**Maddies Statio**	125.48	37	P		**PKPdf**	00 40 25.1	0.0
	baz=311							
T39A	**Clever**	125.61	39	P		**PKPdf**	00 40 25.5	+0.1
	baz=309							
Q41A	**Truxton**	125.65	35	P		**PKPdf**	00 40 25.5	+0.2
	baz=312							
S40A	**Lebanon**	125.79	37	P		**PKPdf**	00 40 25.8	+0.2
	baz=310							
U39A	**Green Forest**	125.95	39	P		**PKPdf**	00 40 25.8	-0.2
	baz=309							
R41A	**Rosebud**	126.00	36	P		**PKPdf**	00 40 26.3	+0.3
	baz=312							
T40A	**Mansfield**	126.06	38	P		**PKPdf**	00 40 26.2	0.0
	baz=310							
Q42A	**Golden Eagle**	126.08	35	P		**PKPdf**	00 40 26.5	+0.4
	baz=313							
V39A	**Pettigrew**	126.18	40	P		**PKPdf**	00 40 26.4	-0.1
	baz=308							
833A	**Chaparral WMA,**	126.21	51	P		**PKPdf**	00 40 27.2	+0.5
	baz=299							
S41A	**Jillco Farms,**	126.25	37	P		**PKPdf**	00 40 26.6	+0.1
	baz=311							
U40A	**Yellville**	126.36	39	P		**PKPdf**	00 40 27.1	+0.3
	baz=309							
W39A	**Magazine**	126.49	41	P		**PKPdf**	00 40 27.8	+0.7
	baz=308							
T41A	**Mountain View**	126.59	37	P		**PKPdf**	00 40 27.6	+0.4
	baz=311							
X39A	**Fountain Ranch**	126.69	41	P		**PKPdf**	00 40 28.7	+1.2
	baz=307							
S42A	**Caledonia**	126.69	36	P		**PKPdf**	00 40 27.7	+0.3
	baz=312							
V40A	**Witts Springs**	126.73	39	P		**PKPdf**	00 40 27.7	+0.1
	baz=309							
U41A	**Viola**	126.95	38	P		**PKPdf**	00 40 28.0	+0.1
	baz=310							
T42A	**Van Buren**	127.01	37	P		**PKPdf**	00 40 28.0	+0.1
	baz=311							
V41A	**Mountainview**	127.16	39	P		**PKPdf**	00 40 28.4	+0.1
	baz=310							
KOWA	**Kowa**	127.23	291	PKP		**PKPdf**	00 40 29.3	+0.3
	comp=Z,4.3nm,1.0s,baz=87,slow=2.4,SNR=8.7							
U42A	**Revenden**	127.36	38	P		**PKPdf**	00 40 28.9	+0.3
	baz=311							
T43A	**Greenville**	127.45	36	P		**PKPdf**	00 40 29.0	+0.2
	baz=312							
V42A	**Cord**	127.62	38	P		**PKPdf**	00 40 29.6	+0.4
	baz=310							
Y41A	**Eaglette Beard**	128.06	41	P		**PKPdf**	00 40 31.2	+1.1
	baz=308							
341A	**Kurthwood**	129.20	44	P		**PKPdf**	00 40 34.2	+1.9
	baz=306							
M54A	**Oil Creek Stat**	129.53	25	P		**PKPdf**	00 40 32.7	0.0
	baz=326							
WVT	**Waverly**	129.55	36	P		**PKPdf**	00 40 33.1	+0.3
	baz=314							
DBIC	**Dimbokro**	129.79	282	PKP		**PKPdf**	00 40 34.1	+0.2
	comp=Z,1.3nm,0.5s,baz=46,slow=3.3,SNR=4.5							
DBIC				SKPbc	SKPbc		00 43 47.9	-0.1
	comp=Z,3.7nm,0.8s,baz=116,slow=7.0,SNR=4.1							
W47A	**Westpoint**	130.29	36	P		**PKPdf**	00 40 34.6	+0.3
	baz=314							
Y46A	**Houston**	130.45	39	P		**PKPdf**	00 40 35.6	+1.0
	baz=312							
Y47A	**UCPARC, Winfie**	131.06	38	P		**PKPdf**	00 40 36.6	+0.8
	baz=313							
X49A	**Woodville**	131.56	36	P		**PKPdf**	00 40 37.4	+0.7
	baz=315							
TKL	**Tuckaleechee C**	132.17	33	PKP		**PKPdf**	00 40 38.7	+0.8
	comp=Z,3.6nm,0.5s,baz=155,slow=3.0,SNR=6.3							
251A	**Midway**	133.79	38	P		**PKPdf**	00 40 42.5	+1.5
	baz=314							
BBTS	**Babate**	138.61	297	PKhKP		PKPpre	00 40 47.2	
	comp=Z,21nm,0.9s,baz=30,slow=3.3,SNR=2.7							
PLCA	**Paso Flores**	140.08	160	PKP		**PKPdf**	00 40 53.7	+1.2
	comp=Z,5.4nm,1.0s,baz=234,slow=5.2,SNR=7.6							
TRQA	**Tornquist**	144.86	169	*e*PKPbc		PKPbc	00 41 00.3	+0.1
JTS	**JuntasAbangare**	146.39	66	PKPbc		**PKPbc**	00 41 05.3	-0.3
	comp=Z,6.8nm,0.4s,baz=48,slow=3.2,SNR=7.0							
LCO	**Las Campanas**	150.13	150	*e*PKPbc		**PKPbc**	00 41 15.6	+0.2
ATAH	**Atahualpa**	155.57	100	PKP		**PKPdf**	00 41 21.1	+2.3
	comp=Z,3.9nm,0.7s,baz=356,slow=13,SNR=3.9							
ATAH				PKPab		**PKPab**	00 41 47.0	+1.8
	comp=Z,8.7nm,1.0s,baz=250,slow=2.5,SNR=4.3							
CPUP	**Villa Florida**	157.09	173	PKP		**PKPdf**	00 41 20.5	+0.6
	comp=Z,3.6nm,0.9s,baz=288,slow=0.9,SNR=6.1							
CPUP				PKPab		**PKPab**	00 41 51.3	+0.8
	comp=Z,6.7nm,0.9s,baz=202,slow=2.4,SNR=8.8							
ROSC	**El Rosal**	158.19	68	PKP		**PKPdf**	00 41 22.3	+0.2
	comp=Z,3.9nm,0.3s,baz=39,slow=19,SNR=6.2							
SDV	**Santo Domingo**	159.46	53	PKP		**PKPdf**	00 41 23.2	-0.1
	comp=Z,9.3nm,1.0s,baz=246,slow=1.7,SNR=9.1							
SDV				PKPab		**PKPab**	00 42 02.4	+0.9
	comp=Z,6.0nm,0.8s,baz=299,slow=3.7,SNR=3.9							
LPAZ	**La Paz**	161.26	134	PKP		**PKPdf**	00 41 26.8	+1.1
	comp=Z,6.5nm,1.1s,baz=339,slow=3.9,SNR=14							
SIV	**San Ignacio**	165.83	152	PKP		**PKPdf**	00 41 30.1	+0.8
	baz=228,slow=1.5							

*ISCJB **22** 00:21:44.0±0.5, 67.83N±0.03×20.27E±0.09, h0km, Error ellipse: s-maj=5.1km s-min=3.7km az=171.7*
*CSEM **22** 00:21:44.1±0.2, 67.82N×20.28E, h2km, ML1.8, Error ellipse: s-maj=3.8km s-min=3.4km az=55.0, Mining explosion.*
*UPP **22** 00:21:44.5, 67.84N×20.21E, h0km, ML1.8, Mining explosion.*
*HEL **22** 00:21:45.1±0.0, 67.84N×20.19E, h0km, ML1.7, ML1.8(UPP), Explosion*

ISC 22 00:21:44.6±0.9, 67.84N±0.02×20.25E±0.03, h0km, n39, ₀0ₛ71/55, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	0.12	16	P	**Pg**	00 21 47.1	+0.1
KUA				S	**Sg**	00 21 48.6	0.0
KUA	**Kurravaara**	0.12	16	P	**Pg**	00 21 47.1	+0.1
KUA				S	**Sg**	00 21 48.6	0.0
KUA	**Kurravaara**	0.12	16	*i* P	**Pg**	00 21 47.1	+0.1
KUA				*i* S	**Sg**	00 21 48.6	0.0
RATU	**Laukkuluspa**	0.25	267	P	**Pg**	00 21 49.2	-0.1
RATU	**Laukkuluspa**	0.25	267	P	**Pg**	00 21 49.2	-0.1
RATU	**Laukkuluspa**	0.25	267	*i* P	**Pg**	00 21 49.2	-0.1
NIKU	**Nikkaluokta**	0.46	275	P	**Pg**	00 21 53.1	-0.3
NIKU	**Nikkaluokta**	0.46	275	P	**Pg**	00 21 53.1	-0.3
NIKU	**Nikkaluokta**	0.46	275	*i* P	**Pg**	00 21 53.1	-0.3
LANU	**Lannavaara**	0.69	71	P	**Pg**	00 21 57.9	+0.1
LANU				S	**Sg**	00 22 07.2	+0.4
LANU	**Lannavaara**	0.69	71	P	**Pg**	00 21 57.9	0.0
LANU	**Lannavaara**	0.69	71	*e*P	**Pg**	00 21 57.7	-0.1
LANU				*e*S	**Sg**	00 22 07.2	+0.5
DUNU	**Dundret**	0.73	170	P	**Pg**	00 21 58.2	-0.3
DUNU	**Dundret**	0.73	170	P	**Pg**	00 21 58.2	-0.3
DUNU	**Dundret**	0.73	170	*i* P	**Pg**	00 21 58.2	-0.3
MASU	**Masugnsbyn**	0.77	119	P	**Pg**	00 21 59.4	+0.1
MASU	**Masugnsbyn**	0.77	119	P	**Pg**	00 21 59.4	+0.1
MASU	**Masugnsbyn**	0.77	119	*i* P	**Pg**	00 21 59.4	+0.1
KIF	**Kilpisjarvi**	1.19	10	P	**Pg**	00 22 07.1	-0.3
KIF				S	**Sg**	00 22 23.0	+0.2
KIF	**Kilpisjarvi**	1.19	10	*e*P	**Pg**	00 22 07.2	-0.3
	baz=195						
KIF				MSG		00 22 22.6	
	comp=Z,9.1nm,0.2s						
KIF				*e*S	**Sg**	00 22 23.0	+0.2
PAJU	**Pajala**	1.38	125	P	**Pg**	00 22 10.2	-0.7
PAJU	**Pajala**	1.38	125	P	**Pg**	00 22 10.2	-0.7
PAJU	**Pajala**	1.38	125	*e*P	**Pg**	00 22 10.2	-0.7
HEF	**Hetta**	1.40	64	Pg	**Pn**	00 22 10.5	-0.9
HEF				Sb	**Sg**	00 22 29.3	-0.3
HEF	**Hetta**	1.40	64	*e*PG	**Pn**	00 22 10.5	-0.9
HEF				MSG		00 22 28.0	
	comp=Z,5.6nm,0.2s						
HEF				*e*SB	**

EFP				S	Sg	00 32 38.4	+0.6
EFP				AML	AML	00 32 39.4	
	comp=E,1543μm,0.2s						
EFP				AML	AML	00 32 42.7	
	comp=N,585μm,0.3s						
EFP	**Efpalio**	**0.30**	**272**	P	Pg	00 32 33.6	-0.2
EFP				S	Sg	00 32 38.3	+0.5
EFP	**Efpalio**	**0.30**	**272**	P	Pg	00 32 33.5	-0.3
EFP				S	Sb	00 32 39.0	-1.2
LAKA	**Lakka**	**0.30**	**234**	P	Pg	00 32 33.9	+0.1
LAKA	**Lakka**	**0.30**	**234**	P	Pg	00 32 33.9	+0.1
ANX	**Ano Chora**	**0.33**	**302**	P	Pg	00 32 34.5	-0.1
ANX				S	Sg	00 32 39.8	+0.8
ANX				AML	AML	00 32 41.3	
	comp=N,869μm,0.3s						
ANX				AML	AML	00 32 42.3	
	comp=E,733μm,0.3s						
ANX	**Ano Chora**	**0.33**	**302**	P	Pg	00 32 34.5	0.0
ANX				S	Sg	00 32 39.6	+0.6
ANX	**Ano Chora**	**0.33**	**302**	P	Pg	00 32 34.2	-0.3
ANX				S	Sg	00 32 40.2	+1.2
KLV	**Kalavryta, Ach**	**0.39**	**196**	P	Pg	00 32 35.3	-0.2
KLV				S	Sg	00 32 41.2	+0.5
KLV	**Kalavryta, Ach**	**0.39**	**196**	P	Pg	00 32 35.4	-0.1
KLV				S	Sg	00 32 41.0	+0.4
KLV	**Kalavryta, Ach**	**0.39**	**196**	P	Pg	00 32 35.0	-0.5
KLV				S	Sg	00 32 41.0	+0.4
GUR	**Goura**	**0.48**	**174**	P	Pg	00 32 37.2	-0.1
GUR				S	Sg	00 32 44.4	+0.7
GUR				AML	AML	00 32 47.0	
	comp=E,172μm,0.3s						
GUR				AML	AML	00 32 49.1	
	comp=N,242μm,0.4s						
GUR	**Goura**	**0.48**	**174**	P	Pg	00 32 37.2	-0.1
GUR				S	Sg	00 32 44.2	+0.5
GUR	**Goura**	**0.48**	**174**	P	Pg	00 32 37.1	-0.2
GUR				S	Sb	00 32 44.9	-0.8
THAL	**Thalero**	**0.48**	**142**	P	Pg	00 32 37.2	-0.1
THAL				S	Sb	00 32 44.7	-0.9
THAL				AML	AML	00 32 46.7	
	comp=N,345μm,0.2s						
THAL				AML	AML	00 32 47.5	
	comp=E,352μm,0.2s						
THAL	**Thalero**	**0.48**	**142**	P	Pg	00 32 37.2	-0.1
THAL				S	Sg	00 32 44.4	+0.8
THAL	**Thalero**	**0.48**	**142**	P	Pg	00 32 37.2	-0.1
THAL				S	Sb	00 32 45.1	-0.5
PROD	**Prodromos**	**0.51**	**108**	P	Pg	00 32 37.4	-0.5
PROD				AML	AML	00 32 47.8	
	comp=N,310μm,0.3s						
PROD				AML	AML	00 32 48.4	
	comp=E,368μm,0.3s						
PROD	**Prodromos**	**0.51**	**108**	P	Pg	00 32 37.5	-0.3
AGG	**Agios Georgios**	**0.60**	**4**	P	Pg	00 32 38.9	-0.7
AGG				AML	AML	00 32 50.1	
	comp=N,467μm,0.3s						
AGG				AML	AML	00 32 51.0	
	comp=E,711μm,0.4s						
AGG	**Agios Georgios**	**0.60**	**4**	P	Pg	00 32 39.2	-0.4
AGG				S	Sb	00 32 49.1	-0.1
AGG	**Agios Georgios**	**0.60**	**4**	P	Pg	00 32 39.1	-0.5
AGG				S	Sb	00 32 49.1	-0.1
LKR	**Lokris**	**0.61**	**67**	P	Pg	00 32 39.1	-0.5
LKR				AML	AML	00 32 52.3	
	comp=E,295μm,0.2s						
LKR				AML	AML	00 32 54.8	
	comp=N,321μm,0.2s						
LKR	**Lokris**	**0.61**	**67**	P	Pg	00 32 39.3	-0.4
LKR				S	Sg	00 32 48.3	+0.6
LKR	**Lokris**	**0.61**	**67**	P	Pg	00 32 39.2	-0.5
LKR				S	Sg	00 32 48.3	+0.6
EVR	**Evrytania**	**0.62**	**323**	P	Pg	00 32 39.7	-0.2
EVR				AML	AML	00 32 52.5	
	comp=E,223μm,0.6s						
EVR				AML	AML	00 32 56.9	
	comp=N,198μm,0.8s						
EVR	**Evrytania**	**0.62**	**323**	P	Pg	00 32 39.7	-0.2
EVR				S	Sb	00 32 49.3	-0.4
EVR	**Evrytania**	**0.62**	**323**	P	Pg	00 32 39.7	-0.2
EVR				S	Sb	00 32 49.3	-0.4
PVO	**Paravola**	**0.63**	**289**	P	Pg	00 32 40.2	+0.2
PVO	**Paravola**	**0.63**	**289**	P	Pg	00 32 40.0	0.0
DRO	**Drossia**	**0.65**	**224**	P	Pg	00 32 40.4	0.0
DRO				AML	AML	00 32 58.3	
	comp=N,166μm,0.3s						
DRO				AML	AML	00 32 58.6	
	comp=E,250μm,0.6s						
DRO	**Drossia**	**0.65**	**224**	P	Pg	00 32 40.3	-0.1
DRO				S	Sb	00 32 49.9	-0.5
DRO	**Drossia**	**0.65**	**224**	P	Pg	00 32 40.2	-0.2
DRO				S	Sb	00 32 49.9	-0.5
LTK	**Loutraki**	**0.67**	**126**	P	Pg	00 32 40.7	0.0
LTK	**Loutraki**	**0.67**	**126**	P	Pg	00 32 40.7	-0.1
LTK	**Loutraki**	**0.67**	**126**	P	Pg	00 32 40.8	0.0
RLS	**Riolos of Patr**	**0.74**	**241**	P	Pg	00 32 41.9	-0.2
RLS	**Riolos of Patr**	**0.74**	**241**	P	Pg	00 32 41.9	-0.2
VILL	**Villia**	**0.85**	**107**	P	Pg	00 32 44.4	+0.2
VILL				S	Sb	00 32 57.0	+0.8
VILL	**Villia**	**0.85**	**107**	P	Pg	00 32 44.4	+0.2
VILL				S	Sb	00 32 57.0	+0.8
SMIA	**Simia**	**0.86**	**57**	P	Pg	00 32 43.9	-0.5
SMIA	**Simia**	**0.86**	**57**	P	Pg	00 32 44.1	-0.3
PDO	**Prodromos**	**0.88**	**282**	P	Pb	00 32 45.4	+0.2
PDO	**Prodromos**	**0.88**	**282**	P	Pg	00 32 45.0	+0.2
PDO				S	Sb	00 32 58.0	+0.9
PDO	**Prodromos**	**0.88**	**282**	P	Pg	00 32 45.0	+0.2
PDO				S	Sb	00 32 58.0	+0.9
AMT	**Artemida-Makis**	**0.99**	**207**	P	Pg	00 32 47.0	0.0
AMT	**Artemida-Makis**	**0.99**	**207**	P	Pb	00 32 47.1	-0.1
AMT				S	Sn	00 33 02.0	0.0
AMT	**Artemida-Makis**	**0.99**	**207**	P	Pb	00 32 47.1	-0.1
AMT				S	Sn	00 33 02.0	0.0
THL	**Klokotos Trika**	**1.16**	**350**	P	Pg	00 32 51.0	+0.7
THL				AML	AML	00 33 10.1	
	comp=N,44μm,0.7s						
THL				AML	AML	00 33 10.4	
	comp=E,51μm,0.8s						
THL	**Klokotos Trika**	**1.16**	**350**	P	Pg	00 32 50.4	+0.2
THL	**Klokotos Trika**	**1.16**	**350**	P	Pg	00 32 50.9	+0.7
THL				S	Sn	00 33 07.8	+1.6
DSL	**Palaion Diasel**	**1.17**	**308**	P	Pb	00 32 50.1	-0.1
DSL	**Palaion Diasel**	**1.17**	**308**	P	Pb	00 32 50.0	-0.2
DID	**Didima**	**1.18**	**140**	P	Pg	00 32 51.1	+0.6
DID	**Didima**	**1.18**	**140**	P	Pg	00 32 50.6	+0.1
DID				S	Sn	00 33 07.8	+1.2
DID	**Didima**	**1.18**	**140**	P	Pg	00 32 50.7	+0.2
DID				S	Sn	00 33 07.8	+1.2
KFL	**Anninata**	**1.22**	**256**	P	Pb	00 32 51.1	+0.1
KFL	**Anninata**	**1.22**	**256**	P	Pn	00 32 50.9	0.0
KRND	**KRANIDI**	**1.24**	**146**	P	Pg	00 32 51.8	+0.2
KRND	**KRANIDI**	**1.24**	**146**	P	Pb	00 32 51.5	+0.1
ATHU	**Athens Univers**	**1.27**	**110**	P	Pg	00 32 52.1	0.0
ATHU	**Athens Univers**	**1.27**	**110**	P	Pb	00 32 51.9	+0.1
ITM	**Ithomi**	**1.27**	**193**	P	Pg	00 32 52.1	-0.1
ITM	**Ithomi**	**1.27**	**193**	P	Pb	00 32 51.9	+0.1
EREA	**Eretria**	**1.30**	**89**	P	Pg	00 32 52.6	-0.1
EREA	**Eretria**	**1.30**	**89**	P	Pb	00 32 52.4	+0.1
VLY	**Voula,Athens**	**1.32**	**115**	P	Pn	00 32 51.8	-0.5
VLY	**Voula,Athens**	**1.32**	**115**	P	Pn	00 32 52.5	+0.2
VLY				S	Sg	00 33 10.6	+0.3
VLY	**Voula,Athens**	**1.32**	**115**	P	Pn	00 32 52.5	+0.2
VLY				S	Sg	00 33 10.6	+0.3
LKD2	**Lefkada island**	**1.33**	**287**	P	Pg	00 32 53.5	+0.2
LKD2	**Lefkada island**	**1.33**	**287**	P	Pg	00 32 53.2	-0.1
VLS	**Valsamata**	**1.35**	**260**	P	Pn	00 32 51.2	-1.6
VLS	**Valsamata**	**1.35**	**260**	P	Pn	00 32 52.3	-0.5
PYL	**PYLOS**	**1.58**	**196**	P	Pg	00 32 57.9	-0.2
PYL	**PYLOS**	**1.58**	**196**	P	Pg	00 32 57.7	-0.4
DYR	**Agios Nikonas**	**1.65**	**179**	P	Pb	00 32 58.6	+0.2
DYR	**Agios Nikonas**	**1.65**	**179**	P	Pb	00 32 58.7	+0.3
VLI	**Veliai**	**1.77**	**163**	P	Pn	00 32 59.2	+0.7
VLI	**Veliai**	**1.77**	**163**	P	Pb	00 33 00.0	-0.5

*DDA **22** 00:38:09.2, 35°.57N×26°.02E, h7km, Ml3.9*
*MOS **22** 00:38:12.5±1.2, 35°.53N×26°.11E, h31km, mb4.4/33, Error ellipse: s-maj=5.1km s-min=3.3km az=97.6*
*ISK **22** 00:38:12.1, 35°.54N×26°.05E, h16km, ML4.2/7*
*NEIC **22** 00:38:12.1±0.0, 35°.49N×26°.10E, h30km, mb4.3/13, ML4.1(ATH), ML4.2(THE), After ATH.*

*ATH **22** 00:38:12.2, 35°.49N×26°.10E, h30km±1km, ML4.1/25, Error ellipse: s-maj=1.5km s-min=0.5km az=168.0*
*THE **22** 00:38:13.1, 35°.50N×26°.09E, h10km±1km, ML4.2/21, Error ellipse: s-maj=1.3km s-min=0.4km az=179.0*
*ISCJB **22** 00:38:13.2±0.2, 35°.44N±0°.02×26°.11E±0°.01, h44km±2km, mb4.2/54, MS3.6/1, Error ellipse: s-maj=2.7km s-min=1.8km az=2.1*
*HLW **22** 00:38:13.2, 35°.38N×26°.47E, h20km±13km, Md3.6, Ml3.5*
*CSEM **22** 00:38:13.1±0.1, 35°.45N×26°.09E, h20km, mb4.3/37, Error ellipse: s-maj=3.1km s-min=2.0km az=1.0*
*IDC **22** 00:38:15.2±1.5, 35°.65N×25°.97E, h39km±14km, mb3.9/27, mb1 3.9/35, mb1mx3.8/69, mbtmp4.1/35, ML3.7/8, Error ellipse: s-maj=14.2km s-min=8.7km az=153.0*
*NIC **22** 00:38:17.4±0.3, 36°.07N×26°.40E, h25km, mb4.5, ML4.0*
ISC 22 00:38:13.0±0.7, 35°.49N±0°.02×26°.12E±0°.02, h26km±5km, n745, σ1§73/857, mb4.3/54, 22C-14D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.38**	**168**	PG		**Pb**	**00 38 21.3**	**-0.2**
ZKR				SG		**Sb**	**00 38 27.5**	**+0.4**
ZKR	**Zakros**	**0.38**	**168**	P		**Pb**	**00 38 21.5**	**0.0**
ZKR				S		**Sb**	**00 38 25.9**	**-1.2**
ZKR				AML		AML	00 38 27.0	
ZKR				AML		AML	00 38 27.1	
	comp=N,75281μm,0.4s							
ZKR	**Zakros**	**0.38**	**168**	P		**Pb**	**00 38 21.2**	**-0.2**
ZKR				S		**Sb**	**00 38 26.8**	**-0.3**
ZKR	**Zakros**	**0.38**	**168**	*e*Pg		**Pb**	**00 38 21.3**	**-0.2**
ZKR				S		**Sb**	**00 38 26.8**	**-0.3**
ZKR				*e*Sg		**Sb**	**00 38 27.5**	**+0.4**
ZKR	**Zakros**	**0.38**	**168**	P		**Pb**	**00 38 21.2**	**-0.2**
ZKR				S		**Sb**	**00 38 26.8**	**-0.3**
NPS	**Neapolis**	**0.47**	**241**	P		**Pb**	**00 38 22.7**	**-0.2**
NPS				S		**Sb**	**00 38 28.7**	**-0.8**
NPS	**Neapolis**	**0.47**	**241**	P		**Pb**	**00 38 23.2**	**+0.3**
NPS				S		**Sb**	**00 38 28.3**	**-1.2**
NPS	**Neapolis**	**0.47**	**241**	P		**Pb**	**00 38 22.7**	**-0.2**
NPS				S		**Sb**	**00 38 28.7**	**-0.8**
NPS	**Neapolis**	**0.47**	**241**	P		**Pb**	**00 38 22.7**	**-0.2**
NPS				S		**Sb**	**00 38 28.7**	**-0.8**
NPS	**Neapolis**	**0.47**	**241**	P		**Pb**	**00 38 22.7**	**-0.2**
NPS				S		**Sb**	**00 38 28.7**	**-0.8**
LAST	**Lasithi**	**0.62**	**238**	P		**Pb**	**00 38 25.4**	**+0.1**
LAST				S		**Sb**	**00 38 33.0**	**-0.8**
LAST				AML		AML	00 38 33.4	
	comp=E,54629μm,0.2s							
LAST				AML		AML	00 38 33.6	
	comp=N,52926μm,0.2s							
LAST	**Lasithi**	**0.62**	**238**	P		**Pb**	**00 38 25.1**	**-0.2**
LAST				S		**Sb**	**00 38 32.9**	**-0.8**
LAST	**Lasithi**	**0.62**	**238**	P		**Pb**	**00 38 25.1**	**-0.2**
LAST				S		**Sb**	**00 38 33.4**	**-0.3**
LAST	**Lasithi**	**0.62**	**238**	P		**Pb**	**00 38 25.1**	**-0.2**
LAST				S		**Sb**	**00 38 32.9**	**-0.8**
KARP	**Karpathos**	**0.85**	**86**	PG		**Pn**	**00 38 30.9**	**+1.5**
KARP				SG		**Sn**	**00 38 43.2**	**+2.2**
KARP	**Karpathos**	**0.85**	**86**	P		**Pn**	**00 38 30.2**	**+0.2**
KARP				S		**Sn**	**00 38 41.4**	**+0.4**
KARP				AML		AML	00 38 43.7	
	comp=E,58684μm,0.3s							
KARP				AML		AML	00 38 44.6	
	comp=N,61315μm,0.3s							
KARP	**Karpathos**	**0.85**	**86**	*e*Pg		**Pn**	**00 38 29.4**	**+0.1**
KARP				S		**Sn**	**00 38 42.2**	**+1.2**
KARP	**Karpathos**	**0.85**	**86**	P		**Pn**	**00 38 29.7**	**+0.3**
KARP	**Karpathos**	**0.85**	**86**	*e*Pg		**Pn**	**00 38 30.9**	**+1.5**
KARP				S		**Sn**	**00 38 42.2**	**+1.2**
KARP				*e*Sg		**Sn**	**00 38 43.2**	**+2.2**
KARP	**Karpathos**	**0.85**	**86**	P		**Pn**	**00 38 29.4**	**+0.1**
KARP				S		**Sn**	**00 38 42.2**	**+1.2**
IACM	**Heraklion**	**0.88**	**258**	P		**Pn**	**00 38 29.8**	**+0.2**
IACM				S		**Sb**	**00 38 40.8**	**0.0**
IACM	**Heraklion**	**0.88**	**258**	P		**Pn**	**00 38 29.6**	**0.0**
IACM				S		**Sn**	**00 38 41.2**	**-0.3**
IACM	**Heraklion**	**0.88**	**258**	P		**Pn**	**00 38 29.6**	**0.0**
IACM				S		**Sb**	**00 38 40.9**	**0.0**
ANAF	**Anafi Island**	**0.91**	**342**	P		**Pn**	**00 38 30.6**	**+0.5**
ANAF				S		**Sn**	**00 38 42.9**	**+0.5**
ANAF				AML		AML	00 38 46.1	
ANAF				AML		AML	00 38 46.3	
ANAF	**Anafi Island**	**0.91**	**342**	P		**Pn**	**00 38 30.2**	**+0.1**
ANAF				S		**Sn**	**00 38 42.8**	**+0.4**
IDI	**Anoyia**	**1.02**	**259**	Pn		**Pn**	**00 38 31.5**	**-0.3**
	comp=N,256nm,0.3s,baz=358,slow=5.7,SNR=3612							
IDI				Sn		**Sb**	**00 38 44.7**	**-0.5**
	comp=N,2μm,0.3s,baz=337,slow=15,SNR=61							
IDI	**Anoyia**	**1.02**	**259**	‖ *i*P		**Pn**	**00 38 31.6**	**-0.1**
IDI	**Anoyia**	**1.02**	**259**	S		**Sb**	**00 38 44.7**	**-0.5**
SANT	**Santorini**	**1.03**	**329**	‖ *i*P		**Pb**	**00 38 31.9**	**-0.3**
SANT	**Santorini**	**1.03**	**329**	S		**Sn**	**00 38 47.2**	**+1.8**
SANT	**Santorini**	**1.03**	**329**	P		**Pb**	**00 38 31.9**	**-0.3**
SANT				AML		AML	00 38 47.0	
	comp=N,23647μm,0.4s							
SANT				AML		AML	00 38 48.5	
	comp=E,40584μm,0.4s							
SANT	**Santorini**	**1.03**	**329**	*e*Pg		**Pn**	**00 38 31.6**	**-0.2**
SANT				*e*Sg		**Sn**	**00 38 45.0**	**-0.4**
SANT	**Santorini**	**1.03**	**329**	P		**Pb**	**00 38 31.8**	**-0.5**
SANT				*e*Sg		**Sn**	**00 38 45.0**	**-0.4**
SANT				S		**Sn**	**00 38 46.0**	**+0.6**
SANT	**Santorini**	**1.03**	**329**	P		**Pb**	**00 38 31.7**	**-0.5**
SANT				S		**Sn**	**00 38 46.0**	**+0.6**
THR6	**Thira Island,**	**1.04**	**326**	P		**Pb**	**00 38 32.1**	**-0.4**
THR6	**Thira Island,**	**1.04**	**326**	P		**Pn**	**00 38 31.8**	**-0.1**
THR6	**Thira Island,**	**1.04**	**326**	P		**Pb**	**00 38 32.0**	**-0.4**
THR6	**Thira Island,**	**1.04**	**326**	P		**Pn**	**00 38 31.8**	**-0.1**
THR8	**Santorini-Mono**	**1.05**	**331**	P		**Pb**	**00 38 32.1**	**-0.5**
THR8	**Santorini-Mono**	**1.05**	**331**	P		**Pb**	**00 38 32.1**	**-0.5**
THR8	**Santorini-Mono**	**1.05**	**331**	P		**Pn**	**00 38 31.9**	**-0.2**
THT1	**Athinios (Pele**	**1.05**	**328**	P		**Pn**	**00 38 31.8**	**-0.3**
THT1				S		**Sn**	**00 38 47.2**	**+1.3**
THT1	**Athinios (Pele**	**1.05**	**328**	P		**Pn**	**00 38 32.0**	**-0.1**
THT1				S		**Sn**	**00 38 46.8**	**+0.9**
THT1	**Athinios (Pele**	**1.05**	**328**	P		**Pn**	**00 38 31.8**	**-0.3**
THT1				S		**Sn**	**00 38 46.8**	**+0.9**
SAP2K	**Karterados**	**1.07**	**329**	P		**Sb**	**00 38 32.3**	**-0.6**
SAP2K				S		**Sb**	**00 38 46.7**	**+0.2**
THR3	**Thira Island,**	**1.09**	**328**	P		**Pb**	**00 38 32.6**	**-0.6**
THR3	**Thira Island,**	**1.09**	**328**	P		**Pb**	**00 38 32.6**	**-0.6**
THR3	**Thira Island,**	**1.09**	**328**	P		**Pb**	**00 38 32.6**	**-0.6**
THR3	**Thira Island,**	**1.09**	**328**	P		**Pb**	**00 38 32.6**	**-0.6**
THR7	**Fira-Santorini**	**1.09**	**329**	P		**Pb**	**00 38 33.0**	**-0.2**
THR7	**Fira-Santorini**	**1.09**	**329**	P		**Pb**	**00 38 32.8**	**-0.4**
THR7	**Fira-Santorini**	**1.09**	**329**	P		**Pb**	**00 38 32.6**	**-0.6**
THT2	**Imerovigli**	**1.10**	**329**	P		**Pb**	**00 38 33.8**	**+0.4**
THT2				S		**Sb**	**00 38 47.7**	**+0.4**
THT2	**Imerovigli**	**1.10**	**329**	P		**Pb**	**00 38 33.3**	**-0.1**
THT2				S		**Sb**	**00 38 47.8**	**+0.4**
THT2	**Imerovigli**	**1.10**	**329**	P		**Pb**	**00 38 32.9**	**-0.5**
THT2				S		**Sb**	**00 38 47.6**	**+0.2**
THR2	**Thira island,**	**1.10**	**330**	P		**Pn**	**00 38 32.8**	**-0.1**
THR2	**Thira island,**	**1.10**	**330**	P		**Pn**	**00 38 32.7**	**-0.1**
THR2	**Thira island,**	**1.10**	**330**	P		**Pn**	**00 38 32.8**	**-0.1**
THR2	**Thira island,**	**1.10**	**330**	P		**Pn**	**00 38 32.7**	**-0.1**
THR5	**Thira Island,**	**1.12**	**326**	P		**Pn**	**00 38 32.8**	**-0.2**
THR5	**Thira Island,**	**1.12**	**326**	P		**Pn**	**00 38 33.0**	**0.0**
THR5	**Thira Island,**	**1.12**	**326**	P		**Pn**	**00 38 32.9**	**0.0**
SAP4	**Santorini-Oia**	**1.15**	**329**	P		**Pb**	**00 38 34.0**	**-0.3**
SAP4	**Santorini-Oia**	**1.15**	**329**	P		**Pb**	**00 38 34.0**	**-0.3**
SIVA	**Sivas**	**1.17**	**247**	P		**Pb**	**00 38 35.0**	**+0.4**
SIVA				S		**Sb**	**00 38 49.8**	**+0.5**
SIVA				AML		AML	00 38 52.3	
	comp=E,72389μm,0.6s							
SIVA				AML		AML	00 38 53.5	
	comp=N,48435μm,0.6s							
SIVA	**Sivas**	**1.17**	**247**	P		**Pb**	**00 38 34.7**	**+0.1**
SIVA				S		**Sb**	**00 38 49.8**	**+0.5**
SIVA	**Sivas**	**1.17**	**247**	P		**Pb**	**00 38 34.5**	**-0.1**
SIVA				S		**Sb**	**00 38 49.8**	**+0.5**
SIVA	**Sivas**	**1.17**	**247**	P		**Pb**	**00 38 34.7**	**+0.1**
SIVA				S		**Sb**	**00 38 49.8**	**+0.5**
NISR	**Nisiros**	**1.39**	**36**	P		**Pn**	**00 38 37.0**	**+0.4**
NISR				AML		AML	00 39 02.3	
	comp=E,28395μm,0.3s							
NISR				AML		AML	00 39 03.4	
	comp=N,21985μm,0.4s							
NISR	**Nisiros**	**1.39**	**36**	P		**Pn**	**00 38 37.2**	**+0.6**
NISR				S		**Sb**	**00 38 56.0**	**+0.5**
NISR	**Nisiros**	**1.39**	**36**	P		**Pn**	**00 38 37.3**	**+0.6**
NISR				S		**Sb**	**00 38 56.0**	**+0.5**
APE	**Apeiranthos**	**1.65**	**343**	PN		**Pn**	**00 38 40.7**	**+0.4**
APE				SN		**Sn**	**00 39 00.9**	**+0.3**
APE	**Apeiranthos**	**1.65**	**343**	*d* iP		**Pn**	**00 38 40.3**	**0.0**
APE	**Apeiranthos**	**1.65**	**343**	‖ *i*P		**Pn**	**00 38 40.4**	**+0.1**
APE	**Apeiranthos**	**1.65**	**343**	S		**Sb**	**00 39 04.5**	**+1.4**
APE	**Apeiranthos**	**1.65**	**343**	P		**Pn**	**00 38 40.0**	**-0.3**
APE				AML		AML	00 39 07.7	
	comp=E,3693μm,0.6s							
APE				AML		AML	00 39 10.2	
	comp=N,3554μm,0.6s							
APE	**Apeiranthos**	**1.65**	**343**	P		**Pn**	**00 38 40.3**	**0.0**
APE	**Apeiranthos**	**1.65**	**343**	*e*Pn		**Pn**	**00 38 40.7**	**+0.4**
APE				S		**Sn**	**00 39 00.5**	**-0.1**
APE	**Apeiranthos**	**1.65**	**343**	P		**Pn**	**00 38 40.3**	**0.0**
APE				S		**Sn**	**00 39 00.5**	**-0.1**
IMMV	**Iera Moni Meta**	**1.75**	**270**	PN		**Pn**	**00 38 42.1**	**+0.5**
IMMV	**Iera Moni Meta**	**1.75**	**270**	P		**Pn**	**00 38 41.5**	**-0.2**
IMMV				AML		AML	00 39 14.9	
	comp=N,10717μm,0.4s							
IMMV				AML		AML	00 39 15.7	
	comp=E,11009μm,0.6s							
IMMV	**Iera Moni Meta**	**1.75**	**270**	*e*Pn		**Pn**	**00 38 42.1**	**+0.5**
IMMV				S		**Sb**	**00 39 04.8**	**-1.1**
IMMV	**Iera Moni Meta**	**1.75**	**270**	P		**Pn**	**00 38 41.4**	**-0.2**
IMMV				S		**Sb**	**00 39 04.8**	**-1.1**
ARG	**Arkhangelos**	**1.78**	**65**	P		**Pn**	**00 38 43.1**	**+1.0**
ARG	**Arkhangelos**	**1.78**	**65**	P		**Pn**	**00 38 43.5**	**+1.3**
ARG				AML		AML	00 39 14.2	
	comp=E,9792μm,0.7s							
ARG				AML		AML	00 39 15.0	
	comp=N,7925μm,0.4s							
ARG	**Arkhangelos**	**1.78**	**65**	P		**Pn**	**00 38 43.1**	**+1.0**
ARG	**Arkhangelos**	**1.78**	**65**	P		**Pn**	**00 38 43.3**	**+1.2**
ARG				S		**Sb**	**00 39 06.0**	**-1.0**
ARG	**Arkhangelos**	**1.78**	**65**	P		**Pn**	**00 38 43.1**	**+1.0**
ARG				S		**Sb**	**00 39 06.0**	**-1.0**
GVD	**Gavdhos**	**1.79**	**249**	PN		**Pn**	**00 38 43.2**	**+1.0**
GVD	**Gavdhos**	**1.79**	**249**	P		**Pb**	**00 38 46.4**	**+1.3**
GVD				AML		AML	00 39 15.7	
	comp=N,8669μm,0.3s							
GVD				AML		AML	00 39 20.8	
	comp=E,11480μm,0.5s							
GVD	**Gavdhos**	**1.79**	**249**	P		**Pn**	**00 38 43.6**	**+1.4**
GVD	**Gavdhos**	**1.79**	**249**	*e*Pn		**Pn**	**00 38 43.2**	**+1.0**
GVD	**Gavdhos**	**1.79**	**249**	P		**Pn**	**00 38 43.6**	**+1.4**
GVD	**Gavdhos**	**1.79**	**249**	P		**Pn**	**00 38 43.6**	**+1.4**
MHLO	**Agia Marina, M**	**1.83**	**311**	P		**Pn**	**00 38 43.8**	**+1.0**
MHLO				AML		AML	00 39 15.2	
	comp=E,19936μm,0.5s							
MHLO				AML		AML	00 39 16.6	
	comp=N,18788μm,0.5s							
MHLO	**Agia Marina, M**	**1.83**	**311**	P		**Pn**	**00 38 43.8**	**+1.0**
MHLO	**Agia Marina, M**	**1.83**	**311**	P		**Pn**	**00 38 43.8**	**+1.0**
BODT	**Bodrum**	**1.84**	**31**	PN		**Pn**	**00 38 43.2**	**+0.3**
BODT	**Bodrum**	**1.84**	**31**	P		**Pn**	**00 38 41.9**	**-1.0**
BODT	**Bodrum**	**1.84**	**31**	P		**Pn**	**00 38 41.9**	**-1.0**
BODT	**Bodrum**	**1.84**	**31**	*e*Pn		**Pn**	**00 38 43.2**	**+0.3**
BODT	**Bodrum**	**1.84**	**31**	P		**Pn**	**00 38 41.9**	**-1.0**
MHLA	**Plaka, Milos I**	**1.86**	**313**	P		**Pn**	**00 38 44.1**	**+0.9**
MHLA	**Plaka, Milos I**	**1.86**	**313**	P		**Pn**	**00 38 44.0**	**+0.9**
BDRM	**Kayabasi**	**1.90**	**34**	*i* P		**Pn**	**00 38 44.3**	**+0.5**
BDRM	**Kayabasi**	**1.90**	**34**	P		**Pn**	**00 38 44.3**	**+0.5**
SERI	**Serifos**	**2.13**	**322**	P		**Pn**	**00 38 46.6**	**-0.3**
SERI	**Serifos**	**2.13**	**322**	P		**Pn**	**00 38 47.1**	**+0.2**
TNSA	**Tinos**	**2.19**	**340**	P		**Pn**	**00 38 47.6**	**0.0**
TNSA				AML		AML	00 39 25.6	
	comp=N,2418μm,0.4s							
TNSA				AML		AML	00 39 26.2	
	comp=E,1560μm,0.7s							
TNSA	**Tinos**	**2.19**	**340**	P		**Pn**	**00 38 48.1**	**+0.5**
MLSB	**Milas**	**2.24**	**36**	PN		**Pn**	**00 38 49.6**	**+1.1**
MLSB	**Milas**	**2.24**	**36**	*e*Pn		**Pn**

CHOS	Chios island	2.89	359	P		Pn	00 38 57.8	+0.3
CHOS	Chios island	2.89	359	P		Pn	00 38 57.8	+0.3
KSL	Kastellorizon	2.89	76	P		Pn	00 38 59.7	+2.3
KSL	Kastellorizon	2.89	76	P		Pn	00 38 59.3	+1.9
KSL	Kastellorizon	2.89	76	P		Pn	00 38 59.2	+1.9
KSL	Kastellorizon	2.89	76	P		Pn	00 38 59.3	+1.9
AKAS	Kas	2.93	74	PN		Pn	00 38 59.6	+1.6
AKAS	Kas	2.93	74	*i* P		Pn	00 38 58.8	+0.8
AKAS				*i* S		Sn	00 39 32.5	+0.1
AKAS	Kas	2.93	74	P		Pn	00 38 58.8	+0.8
AKAS	Kas	2.93	74	*e*Pn		Pn	00 38 59.6	+1.6
AKAS				S		Sn	00 39 32.5	+0.1
TAVA	DENIZLI_Tavas	2.99	48	*i* P		Pn	00 39 01.4	+2.5
TAVA				*i* S		Sb	00 39 38.0	-3.9
TAVA	DENIZLI_Tavas	2.99	48	P		Pn	00 39 01.4	+2.5
TAVA				S		Sb	00 39 38.0	-3.9
VLY	Voula,Athens	3.01	322	P		Pn	00 39 00.0	+1.1
VLY	Voula,Athens	3.01	322	P		Pn	00 38 59.9	+0.9
VLY	Voula,Athens	3.01	322	P		Pn	00 39 00.1	+1.1
VLY	Voula,Athens	3.01	322	P		Pn	00 38 59.9	+0.9
KRND	KRANIDI	3.05	309	P		Pn	00 39 01.4	+1.9
KRND				AML	AML		00 39 40.7	
	comp=E,1502µm,0.7s							
KRND				AML	AML		00 39 44.7	
	comp=N,1206µm,0.3s							
KRND	KRANIDI	3.05	309	P		Pn	00 39 00.8	+1.3
KRND	KRANIDI	3.05	309	P		Pn	00 39 00.8	+1.3
DID	Didima	3.07	312	P		Pn	00 39 00.9	+1.0
DID	Didima	3.07	312	P		Pn	00 39 00.8	+1.0
DID	Didima	3.07	312	P		Pn	00 39 00.9	+1.0
DID	Didima	3.07	312	P		Pn	00 39 00.8	+1.0
PSRA	Psara	3.08	352	P		Pn	00 38 59.6	-0.3
PSRA	Psara	3.08	352	P		Pn	00 39 00.4	+0.5
ATHU	Athens Univers	3.10	323	P		Pn	00 39 01.6	+1.3
ATHU	Athens Univers	3.10	323	P		Pn	00 39 01.5	+1.3
PTL	Penteli	3.13	325	P		Pn	00 39 02.1	+1.4
PTL	Penteli	3.13	325	P		Pn	00 39 01.9	+1.2
PTL	Penteli	3.13	325	P		Pn	00 39 01.9	+1.2
PTL	Penteli	3.13	325	P		Pn	00 39 01.9	+1.2
ATH	Athens Observa	3.14	323	P		Pn	00 39 02.2	+1.4
ATH	Athens Observa	3.14	323	P		Pn	00 39 02.5	+1.7
ATH				AML	AML		00 39 54.2	
	comp=E,767µm,0.8s							
ATH				AML	AML		00 39 58.5	
	comp=N,1270µm,0.6s							
ATH	Athens Observa	3.14	323	P		Pn	00 39 02.2	+1.4
ATH	Athens Observa	3.14	323	P		Pn	00 39 02.2	+1.4
ATH	Athens Observa	3.14	323	P		Pn	00 39 02.2	+1.4
GOLH	Golhisar	3.28	57	*i* P		Pn	00 39 04.6	+1.8
GOLH				*i* S		Sb	00 39 46.6	-3.5
GOLH	Golhisar	3.28	57	P		Pn	00 39 04.6	+1.8
GOLH				S		Sb	00 39 46.6	-3.5
ELL	Elmali	3.31	67	PN		Pn	00 39 06.3	+3.0
ELL	Elmali	3.31	67	P		Pn	00 39 06.3	+3.0
ELL	Elmali	3.31	67	*e*Pn		Pn	00 39 06.3	+3.0
DYR	Agios Nikonas	3.32	294	P		Pn	00 39 05.6	+2.4
DYR	Agios Nikonas	3.32	294	P		Pn	00 39 05.0	+1.8
EREA	Eretria	3.41	330	P		Pn	00 39 06.0	+1.5
EREA	Eretria	3.41	330	P		Pn	00 39 06.0	+1.5
VILL	Villia	3.49	321	P		Pn	00 39 07.1	+1.4
VILL	Villia	3.49	321	P		Pn	00 39 07.1	+1.4
LOUT	Loutraki	3.55	316	P		Pn	00 39 08.8	+2.4
LOUT	Loutraki	3.55	316	P		Pn	00 39 08.1	+1.7
LOUT	Loutraki	3.55	316	P		Pn	00 39 08.1	+1.7
VLX	Vlachokerasia	3.55	303	P		Pn	00 39 08.0	+1.5
VLX				AML	AML		00 39 57.2	
	comp=E,1208µm,0.5s							
VLX				AML	AML		00 40 06.0	
	comp=N,1254µm,0.7s							
VLX	Vlachokerasia	3.55	303	P		Pn	00 39 08.0	+1.5
VLX				S		Sn	00 39 49.5	+1.8
VLX	Vlachokerasia	3.55	303	P		Pn	00 39 07.8	+1.3
VLX				S		Sn	00 39 49.5	+1.8
VLX	Vlachokerasia	3.55	303	P		Pn	00 39 08.0	+1.5
VLX				S		Sn	00 39 49.5	+1.8
LTK	Loutraki	3.58	316	P		Pn	00 39 09.5	+2.7
LTK	Loutraki	3.58	316	P		Pn	00 39 08.7	+1.9
LTK	Loutraki	3.58	316	P		Pn	00 39 08.7	+1.9
LTK	Loutraki	3.58	316	P		Pn	00 39 08.7	+1.9
SKY	Skiros Island	3.61	340	P		Pn	00 39 08.2	+1.0
SKY	Skiros Island	3.61	340	P		Pn	00 39 08.4	+1.2
KULA	Kula-Manisa	3.64	33	PN		Pn	00 39 10.1	+2.4
KULA	Kula-Manisa	3.64	33	*e*Pn		Pn	00 39 10.1	+2.4
AKHS	Akhisar	3.64	21	*i* P		Pn	00 39 08.5	+0.8
AKHS	Akhisar	3.64	21	P		Pn	00 39 08.5	+0.8
TRIP	Tripoli	3.71	304	P		Pn	00 39 10.5	+1.8
TRIP	Tripoli	3.71	304	P		Pn	00 39 10.2	+1.6
SIGR	SIGRI	3.72	357	PN		Pn	00 39 09.5	+0.8
SIGR	SIGRI	3.72	357	P		Pn	00 39 08.2	-0.5
SIGR	SIGRI	3.72	357	P		Pn	00 39 09.0	+0.3
SIGR	SIGRI	3.72	357	P		Pn	00 39 09.2	+0.5
SIGR	SIGRI	3.72	357	*e*Pn		Pn	00 39 09.5	+0.8
SIGR	SIGRI	3.72	357	P		Pn	00 39 09.0	+0.3
KORT	Korkueli	3.74	65	PN		Pn	00 39 12.2	+3.1
KORT	Korkueli	3.74	65	*i* P		Pn	00 39 12.0	+2.9
KORT				*i* S		Sn	00 39 56.7	+4.3
KORT	Korkueli	3.74	65	P		Pn	00 39 12.0	+2.9
KORT				S		Sn	00 39 56.7	+4.3
PRK	Paraskevi	3.75	2	P		Pn	00 39 09.4	+0.2
PRK	Paraskevi	3.75	2	P		Pn	00 39 09.1	-0.1
PRK	Paraskevi	3.75	2	P		Pn	00 39 09.4	+0.2
PRK	Paraskevi	3.75	2	P		Pn	00 39 09.9	+0.7
PRK	Paraskevi	3.75	2	P		Pn	00 39 09.4	+0.2
THAL	Thalero	3.76	314	P		Pn	00 39 12.1	+2.7
THAL	Thalero	3.76	314	P		Pn	00 39 11.3	+2.0
THAL	Thalero	3.76	314	P		Pn	00 39 11.3	+2.0
PROD	Prodromos	3.78	318	P		Pn	00 39 11.6	+2.0
PROD	Prodromos	3.78	318	P		Pn	00 39 11.2	+1.6
ITM	Ithomi	3.78	298	P		Pn	00 39 13.1	+3.5
ITM				AML	AML		00 39 59.5	
	comp=E,487µm,0.8s							
ITM				AML	AML		00 40 07.1	
	comp=N,396µm,0.4s							
ITM	Ithomi	3.78	298	P		Pn	00 39 12.0	+2.4
ITM				S		Sn	00 39 54.9	+1.7
ITM	Ithomi	3.78	298	P		Pn	00 39 12.0	+2.4
ITM				S		Sn	00 39 54.9	+1.7
ITM	Ithomi	3.78	298	P		Pn	00 39 12.0	+2.4
ITM				S		Sn	00 39 54.9	+1.7
PYL	PYLOS	3.81	293	P		Pn	00 39 10.8	+0.8
PYL	PYLOS	3.81	293	P		Pn	00 39 11.0	+1.0
PYL	PYLOS	3.81	293	P		Pn	00 39 11.0	+1.0
PYL	PYLOS	3.81	293	P		Pn	00 39 11.0	+1.0
MES2	Methoni	3.81	292	P		Pn	00 39 10.7	+0.7
MES2	Methoni	3.81	292	P		Pn	00 39 11.0	+1.0
BRDR	BURDUR-Merkez	3.86	54	*i* P		Pn	00 39 12.5	+1.7
BRDR	BURDUR-Merkez	3.86	54	P		Pn	00 39 12.5	+1.7
GUR	Goura	3.89	310	P		Pn	00 39 13.7	+2.4
GUR				AML	AML		00 40 00.4	
	comp=E,1907µm,0.6s							
GUR				AML	AML		00 40 13.5	
	comp=N,1805µm,0.4s							
GUR	Goura	3.89	310	P		Pn	00 39 13.1	+1.9
GUR				S		Sn	00 39 57.5	+1.3
GUR	Goura	3.89	310	P		Pn	00 39 13.1	+1.9
GUR				S		Sn	00 39 57.5	+1.3
GUR	Goura	3.89	310	P		Pn	00 39 13.1	+1.9
GUR				S		Sn	00 39 57.5	+1.3
ANTB	Antalya	3.93	68	PN		Pn	00 39 15.0	+3.4
ANTB	Antalya	3.93	68	*e*Pn		Pn	00 39 15.0	+3.4
KHAL	Karahalli	3.94	42	*i* P		Pn	00 39 14.5	+2.5
KHAL	Karahalli	3.94	42	P		Pn	00 39 14.5	+2.5
LKR	Lokris	4.02	323	P		Pn	00 39 14.4	+1.5
LKR	Lokris	4.02	323	P		Pn	00 39 14.2	+1.3
LKR	Lokris	4.02	323	P		Pn	00 39 14.2	+1.3
LKR	Lokris	4.02	323	P		Pn	00 39 14.2	+1.3
SLUM	Salum	4.06	191	P		Pn	00 39 14.3	+0.9
	baz=196							
SLUM				S		Sn	00 39 58.0	-2.0
	baz=196							
SLUM				AMP			00 40 00.0	
	baz=196							
SLUM	Salum	4.06	191	P		Pn	00 39 14.3	+0.9
SLUM				S		Sn	00 39 58.1	-2.0
KLV	Kalavryta, Ach	4.08	310	P		Pn	00 39 16.6	+2.9
KLV				AML	AML		00 40 04.3	
	comp=E,649µm,0.9s							
KLV				AML	AML		00 40 05.3	
	comp=N,519µm,0.8s							
KLV	Kalavryta, Ach	4.08	310	P		Pn	00 39 15.7	+1.9
KLV	Kalavryta, Ach	4.08	310	P		Pn	00 39 15.7	+1.9
KLV	Kalavryta, Ach	4.08	310	P		Pn	00 39 15.7	+1.9
STEP	BALIKESIR_Sava	4.08	18	*i* P		Pn	00 39 14.2	+0.4
STEP	BALIKESIR_Sava	4.08	18	P		Pn	00 39 14.2	+0.4
AMT	Artemida-Makis	4.09	301	P		Pn	00 39 17.5	+3.5
AMT	Artemida-Makis	4.09	301	P		Pn	00 39 16.4	+2.5
AMT				S		Sn	00 40 03.5	+2.5
AMT	Artemida-Makis	4.09	301	P		Pn	00 39 16.8	+2.9
AMT				S		Sn	00 40 03.5	+2.5
DSF	Desfina	4.09	316	P		Pn	00 39 15.8	+1.9
DSF	Desfina	4.09	316	P		Pn	00 39 15.7	+1.7
DSF	Desfina	4.09	316	P		Pn	00 39 15.6	+1.6
DSF	Desfina	4.09	316	P		Pn	00 39 15.7	+1.7
SMIA	Simia	4.10	326	P		Pn	00 39 16.4	+2.4
SMIA	Simia	4.10	326	P		Pn	00 39 16.0	+2.0
SMIA	Simia	4.10	326	P		Pn	00 39 16.0	+2.0
DEMI	Demirci	4.11	30	*i* P		Pn	00 39 16.9	+2.8
DEMI	Demirci	4.11	30	P		Pn	00 39 17.0	+2.8
SKIA	Skiathos	4.23	331	P		Pn	00 39 17.3	+1.4
SKIA	Skiathos	4.23	331	P		Pn	00 39 17.3	+1.4
ISP	Isparta	4.24	55	*de*P		Pn	00 39 16.3	+0.3
ISP	Isparta	4.24	55	*e*Pn		Pn	00 39 17.4	+1.4
ISP				*e*S		Sn	00 40 07.3	+2.7
ISP	Isparta	4.24	55	*e*P		Pn	00 39 16.3	+0.3
ISP	Isparta	4.24	55	*e*Pn		Pn	00 39 17.4	+1.4
ISP				*e*S		Sn	00 40 07.3	+2.7
MATC	Matruh	4.24	167	P		Pn	00 39 14.8	-1.1
	baz=170							
KZIL	AFYON_Kizioren	4.25	48	*i* P		Pn	00 39 18.2	+2.1
KZIL	AFYON_Kizioren	4.25	48	P		Pn	00 39 18.2	+2.1
SIMA	Simav-Kutahya	4.25	32	PN		Pn	00 39 18.8	+2.7
SIMA	Simav-Kutahya	4.25	32	*e*Pn		Pn	00 39 18.8	+2.7
KALE	Kalithea	4.30	313	P		Pn	00 39 19.9	+3.0
KALE	Kalithea	4.30	313	P		Pn	00 39 19.0	+2.1
KALE	Kalithea	4.30	313	P		Pn	00 39 19.0	+2.1
KALE	Kalithea	4.30	313	P		Pn	00 39 19.0	+2.1
LAKA	Lakka	4.31	311	P		Pn	00 39 19.0	+2.1
LAKA	Lakka	4.31	311	P		Pn	00 39 19.0	+2.1
LAKA	Lakka	4.31	311	P		Pn	00 39 19.0	+2.1
DRO	Drossia	4.31	306	P		Pn	00 39 20.1	+3.2
DRO				AML	AML		00 40 12.7	
	comp=N,707µm,0.9s							
DRO				AML	AML		00 40 13.6	
	comp=E,1199µm,0.6s							
DRO	Drossia	4.31	306	P		Pn	00 39 19.3	+2.4
DRO	Drossia	4.31	306	P		Pn	00 39 19.4	+2.5
TRIZ	Trizonia	4.33	313	P		Pn	00 39 20.2	+3.1
TRIZ	Trizonia	4.33	313	P		Pn	00 39 19.5	+2.4
BOZC	Bozcaada	4.34	359	PN		Pn	00 39 18.5	+1.2
BOZC	Bozcaada	4.34	359	*e*Pn		Pn	00 39 18.5	+1.2
SERG	Sergoula	4.37	313	P		Pn	00 39 21.1	+3.4
SERG	Sergoula	4.37	313	P		Pn	00 39 20.2	+2.5
SERG	Sergoula	4.37	313	P		Pn	00 39 20.2	+2.5
BALB	Balikesir	4.37	18	PN		Pn	00 39 19.0	+1.3
BALB	Balikesir	4.37	18	*e*Pn		Pn	00 39 19.0	+1.3
SUTC	Sutluce-Ispart	4.40	62	PN		Pn	00 39 21.2	+2.9
SUTC	Sutluce-Ispart	4.40	62	*e*Pn		Pn	00 39 21.2	+2.9
NEO	Neokhori	4.45	330	P		Pn	00 39 19.8	+0.9
NEO	Neokhori	4.45	330	P		Pn	00 39 20.1	+1.3
LIA	Limnos Island	4.46	351	P		Pn	00 39 19.5	+0.6
LIA	Limnos Island	4.46	351	P		Pn	00 39 19.7	+0.8
LIA	Limnos Island	4.46	351	P		Pn	00 39 20.1	+1.2
LIA	Limnos Island	4.46	351	P		Pn	00 39 19.7	+0.8
EFP	Efpalio	4.47	312	P		Pn	00 39 21.8	+2.7
EFP				AML	AML		00 40 15.5	
	comp=E,367µm,1.1s							
EFP				AML	AML		00 40 16.0	
	comp=N,396µm,0.7s							
EFP	Efpalio	4.47	312	P		Pn	00 39 21.2	+2.2
EFP	Efpalio	4.47	312	P		Pn	00 39 21.4	+2.4
GDZ	Gediz	4.48	36	*i* P		Pn	00 39 21.0	+1.6
GDZ	Gediz	4.48	36	P		Pn	00 39 21.0	+1.6
BAGO	Egridir - ISPA	4.50	55	*i* P		Pn	00 39 19.1	-0.5
XOR	Xorichti	4.51	330	P		Pn	00 39 21.2	+1.5
XOR	Xorichti	4.51	330	P		Pn	00 39 21.2	+1.5
XOR	Xorichti	4.51	330	P		Pn	00 39 21.2	+1.5
RLS	Riolos of Patr	4.53	306	P		Pn	00 39 23.4	+3.6
RLS	Riolos of Patr	4.53	306	P		Pn	00 39 23.0	+3.1
RLS	Riolos of Patr	4.53	306	P		Pn	00 39 22.5	+2.6
RLS	Riolos of Patr	4.53	306	P		Pn	00 39 23.0	+3.1
ANX	Ano Chora	4.57	314	P		Pn	00 39 22.9	+2.4
ANX	Ano Chora	4.57	314	P		Pn	00 39 22.9	+2.4
AGG	Agios Georgios	4.64	321	PN		Pn	00 39 23.6	+2.1
AGG	Agios Georgios	4.64	321	*e*P		Pn	00 39 24.2	+2.7
AGG	Agios Georgios	4.64	321	P		Pn	00 39 24.6	+3.2
AGG	Agios Georgios	4.64	321	*e*Pn		Pn	00 39 24.2	+2.7
AGG	Agios Georgios	4.64	321	*e*Pn		Pn	00 39 23.6	+2.1
AGG	Agios Georgios	4.64	321	P		Pn	00 39 23.9	+2.4
KEPZ	Antalya-Kepez	4.65	71	*i* P		Pn	00 39 24.4	+2.8
KEPZ	Antalya-Kepez	4.65	71	P		Pn	00 39 24.4	+2.8
FYTO	Fytoko, Volos	4.66	328	P		Pn	00 39 23.3	+1.7
FYTO	Fytoko, Volos	4.66	328	P		Pn	00 39 23.3	+1.7
FYTO	Fytoko, Volos	4.66	328	P		Pn	00 39 23.3	+1.7
SHUT	Suhut-Afyon	4.68	48	PN		Pn	00 39 24.8	+2.7
SHUT	Suhut-Afyon	4.68	48	*e*Pn		Pn	00 39 24.8	+2.7
GADA	Gvkgeada	4.70	358	P		Pn	00 39 23.1	+1.0
GADA	Gvkgeada	4.70	358	P		Pn	00 39 23.1	+1.0
GADA	Gvkgeada	4.70	358	P		Pn	00 39 23.1	+1.0
TVSB	Tavsanli	4.76	33	PN		Pn	00 39 25.4	+2.2
TVSB	Tavsanli	4.76	33	*e*Pn		Pn	00 39 25.4	+2.2
PAIG	Paliouri	4.83	337	P		Pn	00 39 25.4	+1.4
PAIG	Paliouri	4.83	337	P		Pn	00 39 24.6	+0.6
PAIG	Paliouri	4.83	337	P		Pn	00 39 25.4	+1.4
PAIG	Paliouri	4.83	337	P		Pn	00 39 25.3	+1.3
PAIG	Paliouri	4.83	337	P		Pn	00 39 25.4	+1.4
EVR	Evrytania	4.85	316	P		Pn	00 39 27.8	+3.4
EVR	Evrytania	4.85	316	P		Pn	00 39 27.1	+2.7
EVR	Evrytania	4.85	316	P		Pn	00 39 26.9	+2.5
EVR	Evrytania	4.85	316	P		Pn	00 39 27.1	+2.7
SMTH	Samothraki Isl	4.99	355	P		Pn	00 39 25.9	-0.3
SMTH	Samothraki Isl	4.99	355	P		Pn	00 39 27.0	+0.7
KFL	Anninata	5.01	303	P		Pn	00 39 29.2	+2.7
KFL	Anninata	5.01	303	P		Pn	00 39 28.8	+2.3
KFL	Anninata	5.01	303	P		Pn	00 39 28.9	+2.4
PDO	Prodromos	5.02	310	P		Pn	00 39 29.6	+3.0
PDO	Prodromos	5.02	310	P		Pn	00 39 28.9	+2.3
PDO	Prodromos	5.02	310	P		Pn	00 39 28.9	+2.3
BOLV	Bolvadin	5.03	49	*i* P		Pn	00 39 29.5	+2.6
BOLV	Bolvadin	5.03	49	P		Pn	00 39 29.5	+2.6
AKMC	Akamas	5.10	93	P		Pn	00 39 29.2	+1.4
	baz=283							
AKMC	Akamas	5.10	93	P		Pn	00 39 29.2	+1.4
PPCY	Paphos	5.13	95	P		Pn	00 39 29.9	+1.7
	baz=285							
PPCY	Paphos	5.13	95	P		Pn	00 39 29.9	+1.7
DOGA	KONYA_Doganhis	5.16	58	*i* P		Pn	00 39 31.0	+2.3
DOGA				*i* S		Sn	00 40 30.1	+2.6
DOGA	KONYA_Doganhis	5.16	58	P		Pn	00 39 31.0	+2.3
DOGA				S		Sn	00 40 30.1	+2.6
VLS	Valsamata	5.18	303	P		Pn	00 39 29.9	+1.0
VLS	Valsamata	5.18	303	P		Pn	00 39 29.1	+0.2
VLS	Valsamata	5.18	303	P		Pn	00 39 29.9	+1.0
VLS	Valsamata	5.18	303	P		Pn	00 39 29.9	+1.0
VLS	Valsamata	5.18	303	P		Pn	00 39 29.9	+1.0
THL	Klokotos Trika	5.21	322	P		Pn	00 39 32.2	+2.9
THL	Klokotos Trika	5.21	322	P		Pn	00 39 31.6	+2.4
THL	Klokotos Trika	5.21	322	P		Pn	00 39 31.6	+2.4
ENEZ	Enez	5.24	0	P		Pn	00 39 30.7	+1.1
ENEZ	Enez	5.24	0	P		Pn	00 39 30.7	+1.1
ALFC	Alefka	5.31	92	P		Pn	00 39 31.2	+0.6
	baz=282							
ALFC				S		Sn	00 40 30.6	-0.4
ALFC	Alefka	5.31	92	P		Pn	00 39 31.2	+0.6
ALFC				S		Sn	00 40 30.6	-0.4
PLG	Polygyros	5.31	337	P		Pn	00 39 31.9	+1.2
PLG	Polygyros	5.31	337	P		Pn	00 39 31.4	+0.8
PLG	Polygyros	5.31	337	P		Pn	00 39 31.9	+1.2
PLG	Polygyros	5.31	337	P		Pn	00 39 32.0	+1.2
PLG	Polygyros	5.31	337	P		Pn	00 39 31.9	+1.2
ALN	Alexandroupoli	5.40	359	P		Pn	00 39 32.6	+0.8
ALN	Alexandroupoli	5.40	359	P		Pn	00 39 30.9	-0.8
ALN	Alexandroupoli	5.40	359	P		Pn	00 39 32.6	+0.8
ALN	Alexandroupoli	5.40	359	P		Pn	00 39 32.6	+0.8
ALN	Alexandroupoli	5.40	359	P		Pn	00 39 32.6	+0.8
LIT	Litokhoron	5.42	329	P		Pn	00 39 33.2	+1.0
LIT	Litokhoron	5.42	329	P		Pn	00 39 33.2	+1.0
LIT	Litokhoron	5.42	329	P		Pn	00 39 33.2	+1.0
LIT	Litokhoron	5.42	329	P		Pn	00 39 33.2	+1.0
LKD2	Lefkada island	5.46	309	P		Pn	00 39 33.5	+0.8
LKD2	Lefkada island	5.46	309	P		Pn	00 39 34.5	+1.7
LKD2	Lefkada island	5.46	309	P		Pn	00 39 34.1	+1.3
LKD2	Lefkada island	5.46	309	P		Pn	00 39 34.5	+1.7
ESKT	Eskisehir	5.51	42	*i* P		Pn	00 39 34.7	+1.3
SEYT	Eskypehyr	5.51	42	P		Pn	00 39 34.7	+1.3
LEF	Lefka	5.55	92	P		Pn	00 39 34.9	+1.0
SZAC	Souni	5.59	96	P		Pn	00 39 36.7	+2.2
	baz=285							
SZAC				S		Sn	00 40 38.3	+0.4
SZAC	Souni	5.59	96	P		Pn	00 39 36.7	+2.2
SZAC				S		Sn	00 40 38.3	+0.4
RDO	Rodhopi	5.67	356	P		Pn	00 39 34.6	-0.9
RDO	Rodhopi	5.67	356	P		Pn	00 39 35.9	+0.4
RDO	Rodhopi	5.67	356	P		Pn	00 39 36.1	+0.6
RDO	Rodhopi	5.67	356	P		Pn	00 39 35.9	+0.4
KDHN	Kadinhani	5.67	56	*i* P		Pn	00 39 37.5	+1.8
KDHN	Kadinhani	5.67	56	P		Pn	00 39 37.5	+1.8
SOH	Sokhos	5.75	339	P		Pn	00 39 38.5	+1.8
SOH	Sokhos	5.75	339	P		Pn	00 39 38.5	+1.8
SOH	Sokhos	5.75	339	P		Pn	00 39 38.5	+1.8
SOH	Sokhos	5.75	339	P		Pn	00 39 38.5	+1.8
MAMC	Mammari	5.81	91	P		Pn	00 39 39.2	+1.7
	baz=281							
MAMC	Mammari	5.81	91	P		Pn	00 39 39.2	+1.7
KPRO	Kipourio	5.84	321	P		Pn	00 39 40.9	+3.0
KPRO	Kipourio	5.84	321	P		Pn	00 39 40.4	+2.5
JAN	Janina	5.90	316	P		Pn	00 39 42.8	+4.0
JAN	Janina	5.90	316	P		Pn	00 39 41.8	+3.1
KZN	Kozani	5.91	326	P		Pn	00 39 42.0	+3.1
KZN	Kozani	5.91	326	P		Pn	00 39 41.7	+2.8
KZN	Kozani	5.91	326	P		Pn	00 39 42.0	+3.1
KZN	Kozani	5.91	326	P		Pn	00 39 41.3	+2.4
KZN	Kozani	5.91	326	P		Pn	00 39 42.0	+3.1
CSS	Mathiatis	5.93	93	*e*Pn		Pn	00 39 40.6	+1.6
CSS				*e*S		Sn	00 40 39.4	-6.8
CSS	Mathiatis	5.93	93	P		Pn	00 39 40.8	+1.7
	baz=283							
CSS				S		Sn	00 40 42.1	-4.1
CSS	Mathiatis	5.93	93	*e*Pn		Pn	00 39 40.7	+1.6
CSS	Mathiatis	5.93	93	P		Pn	00 39 39.6	+0.5
GULN	MERSIN_Gulnar	6.07	81	*i* P		Pn	00 39 38.9	-2.2
GULN				*i* S		Sn	00 40 48.7	-1.0
NVR	Nevrokopi	6.11	344	P		Pn	00 39 42.5	+0.9
NVR	Nevrokopi	6.11	344	P		Pn	00 39 43.2	+1.5
IGT	Igoumenitsa	6.12	313	P		Pn	00 39 42.6	+0.9
IGT	Igoumenitsa	6.12	313	P		Pn	00 39 42.5	+0.9
IGT	Igoumenitsa	6.12	313	P		Pn	00 39 42.6	+0.9
IGT	Igoumenitsa	6.12	313	P		Pn	00 39 42.6	+0.9
KDZ	Kurdzhali	6.17	355	*e*P		Pn	00 39 42.0	-0.5
KNT	Kendrikon	6.20	337	P		Pn	00 39 43.6	+0.8
KNT	Kendrikon	6.20	337	P		Pn	00 39 44.4	+1.5
SGD	Sagiada	6.23	313	P		Pn	00 39 44.4	+1.2
SGD	Sagiada	6.23	313	P		Pn	00 39 44.4	+1.2
SWA2		6

BURAR **Bucovina Array** 12.13 357 P Pn 00 41 06.7 +2.5
BURAR **Bucovina Array** 12.13 357⇑ *i*P Pn 00 41 06.7 +2.5
BURAR **Bucovina Array** 12.13 357⇑ *i*P Pn 00 41 06.7 +2.5
NVLJ **Novalja** 12.49 320 *e*Pn Pn 00 41 07.2 -1.8
ANN **Anapa** 12.69 39 *e*P Pn 00 41 10.3 -1.4
ANN *e*S Sn 00 43 29.9 -2.2
ANN pmax pmax
comp=Z,68nm,1.1s
BOJS **Bojanci** 12.96 324 *i* Pn Pn 00 41 13.9 -1.6
CRES **Cresnjev** 13.11 325 *i* Pn Pn 00 41 15.8 -1.6
GBRS **Gornja Briga** 13.20 323 *i* Pn Pn 00 41 18.7 0.0
GBRS **Gornja Briga** 13.20 323 *i* Pn Pn 00 41 18.7 0.0
KEST **Kesra** 13.65 276 Pn Pn 00 41 25.8 +0.8
comp=Z,0.2nm,0.3s,baz=51,slow=14,SNR=4.4
KEST Sn Sn 00 43 50.5 -5.3
comp=Z,0.0nm,0.3s,baz=99,slow=19,SNR=2.1
VYHS **Vyhne** 14.07 340 *e*P P 00 41 36.9 -1.1
VYHS **Vyhne** 14.07 340 *e*P P 00 41 36.9 -1.1
VYHS **Vyhne** 14.07 340 *e*PN P 00 41 36.9 -1.1
STHS **Stebnicka Huta** 14.37 347 *e*P P 00 41 42.9 +1.5
STHS **Stebnicka Huta** 14.37 347 *e*P P 00 41 42.9 +1.5
STHS **Stebnicka Huta** 14.37 347 *e*PN P 00 41 42.9 +1.5
AKH **Akhalkalaki** 14.83 61 *e*P Pn 00 41 42.9 +1.8
AKH **Akhalkalaki** 14.83 61 *e*Pn Pn 00 41 42.9 +1.8
AKH **Akhalkalaki** 14.83 61 *e*Pn Pn 00 41 42.9 +1.8
NEY **Neytrino** 14.98 54⇑ *e*P Pn 00 41 41.5 -1.6
ABTA **Abfaltersbach** 15.19 322 *i* P P 00 41 54.3 +3.7
comp=Z,3.3nm,0.8s
KIV **Kislovodsk** 15.28 51 *e*P Pn 00 41 46.9 0.0
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,97nm,11.0s
KVAR **Kislovodsk Arr** 15.28 51 Pn P 00 41 52.6 +1.0
baz=219,slow=6.5,SNR=14
KBZ **Khabaz** 15.31 52 Pn P 00 41 52.2 +0.5
comp=Z,0.8nm,0.3s,baz=249,slow=9.3,SNR=68
AK11 **Malin Array Si** 15.34 7 *e*Pn P 00 41 51.2 -0.9
AK11 **Malin Array Si** 15.34 7 *e*Pn P 00 41 51.2 -0.9
KIEV **Kiev** 15.36 7⇓ *e*P Pn 00 41 46.3 -1.6
KIEV **Kiev** 15.36 7 *e*Pn Pn 00 41 48.7 +0.8
comp=Z,13nm,0.8s
KIEV **Kiev** 15.36 7 *e*Pn Pn 00 41 48.7 +0.8
comp=Z,13nm,0.8s
AKSG **Malin Array Be** 15.37 7 Pn Pn 00 41 46.4 -1.6
comp=Z,0.5nm,0.3s,baz=192,slow=10,SNR=20
AKASG Sn S 00 44 48.5 -4.5
baz=193,slow=22,SNR=7.6
AKASG **Malin Array Be** 15.37 7 *ce*P Pn 00 41 47.2 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB **Malin Array Si** 15.37 7 *e*P Pn 00 41 49.3 +1.3
AKBB pmax pmax
comp=Z,13nm,0.8s
AKBB **Malin Array Si** 15.37 7 *e*Pn Pn 00 41 49.3 +1.3
comp=Z,13nm,0.8s
GNI **Garni** 15.43 67 Pn P 00 41 53.2 -0.1
comp=Z,0.3nm,0.3s,baz=324,slow=5.8,SNR=5.8
GNI **Garni** 15.43 67⇓ *e*P Pn 00 41 49.1 +0.1
GNI **Garni** 15.43 67 *e*Pn P 00 41 52.6 -0.8
comp=Z,4.6nm,0.9s
GNI **Garni** 15.43 67 *e*Pn P 00 41 52.6 -0.8
comp=Z,4.6nm,0.9s
ZEI **Tsey** 15.59 57 *e*P P 00 41 54.7 -0.4
ZEI pmax pmax
comp=Z,8.0nm,0.6s
NCK **Nalchik** 15.66 54⇑ *e*P Pn 00 41 51.9 0.0
WATA **Walderalm** 16.06 322 *i* P P 00 42 04.0 +3.6
comp=Z,3.0nm,0.8s
SQTA **Sankt Quirin** 16.17 321 *i* P P 00 42 05.8 +4.3
GEA0 **GERESS Array S** 16.17 329 *e*Pn Pn 00 41 59.3 +0.8
GEA0 **GERESS Array S** 16.17 329 *e*Pn Pn 00 41 59.3 +0.8
GERES **GERESS Array B** 16.18 329 Pn P 00 42 00.8 -0.8
comp=Z,0.2nm,0.3s,baz=147,slow=12,SNR=7.5
KHC **Kasperske Hory** 16.45 330 *e*P Pn 00 42 00.0 -2.0
KHC **Kasperske Hory** 16.45 330 *e*P Pn 00 42 00.0 -2.0
KHC *ex* x 00 42 20.0
RETA **Reutte** 16.58 321 *i* P P 00 42 09.9 +4.0
comp=Z,1.0nm,0.5s
SBF **Sospel** 16.61 306 *e*P P 00 42 06.1 -0.2
SBF pmax pmax
comp=Z,18nm,0.9s
SBF **Sospel** 16.61 306 *e*P P 00 42 06.1 -0.2
comp=Z,18nm,0.9s
BNI **Bardonecchia** 17.61 309 *e*P Pn 00 42 13.3 -3.3
BNI **Bardonecchia** 17.61 309 *e*Pn Pn 00 42 13.3 -3.3
LPG **La Plagne** 17.76 310 *e*P P 00 42 19.5 +0.2
LPG pmax pmax
comp=Z,10.0nm,1.3s
LPG **La Plagne** 17.76 310 *e*P P 00 42 19.5 +0.2
comp=Z,10.0nm,1.3s
LPL **La Plagne** 17.78 310 *e*P P 00 42 20.7 +1.3
LPL pmax pmax
comp=Z,3.0nm,0.6s
LPL **La Plagne** 17.78 310 *e*P P 00 42 20.7 +1.3
comp=Z,3.0nm,0.6s
SENIN **Lac Senin/Sane** 17.85 313 *e*Pn Pn 00 42 18.7 -0.9
comp=Z,39nm,1.8s
SENIN **Lac Senin/Sane** 17.85 313 *e*Pn Pn 00 42 18.7 -0.9
comp=Z,39nm,1.8s
VSR **Storozhevoye** 18.31 27 *e*P P 00 42 24.4 -0.6
VSR pmax pmax
comp=Z,5.0nm,0.6s
CLL **Collm** 18.41 333 *e*P P 00 42 24.0 -2.1
CLL **Collm** 18.41 333 *e*P P 00 42 24.0 -2.1
CLL *i* pP pP 00 42 31.6 -1.6
comp=Z,4.0nm,0.9s
SUW **Suwalki** 18.63 355 *e*P P 00 42 27.9 -0.6
SUW pmax pmax
comp=Z,19nm,0.7s
SUW **Suwalki** 18.63 355 *e*P P 00 42 27.9 -0.6
comp=Z,19nm,0.7s
CABF **La Chapelle** 18.70 313 *e*P Pn 00 42 29.8 0.0
CABF pmax pmax
comp=Z,5.0nm,0.7s
CABF **La Chapelle** 18.70 313 *e*P Pn 00 42 29.8 0.0
comp=Z,5.0nm,0.7s
HAU **Haudompre** 19.27 317 P Pn 00 42 36.7 0.0
HAU pmax pmax
comp=Z,2.0nm,0.4s
VRH **Novokhopyorsk** 19.31 31 *e*P P 00 42 36.3 +0.4
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH **Novokhopyorsk** 19.31 31 *e*P P 00 42 36.3 +0.4
comp=Z,10.0nm,0.6s
LPSR **Galich'ya Gora** 19.37 24 *e*P Pn 00 42 38.0 +0.2
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SMF **Signal de Mont** 20.09 310 *e*P P 00 42 44.3 -0.2
SMF pmax pmax
comp=Z,3.0nm,0.6s
AVF **Avril sur Loir** 20.45 310 *e*P P 00 42 48.1 -0.3
AVF pmax pmax
comp=Z,10.0nm,1.2s
AVF **Avril sur Loir** 20.45 310 *e*P P 00 42 48.1 -0.3
comp=Z,10.0nm,1.2s
SSF **Saint Saulge** 20.48 311 *e*P P 00 42 48.3 -0.4
SSF pmax pmax
comp=Z,53nm,1.6s
RAYN **Ar Rayn** 20.62 120 P Pn 00 42 52.9 +0.1
RAYN pmax pmax
comp=Z,4.0nm,1.1s
RAYN **Ar Rayn** 20.62 120 *e*P P 00 42 51.7 +1.3
comp=Z,4.2nm,1.1s
RAYN **Ar Rayn** 20.62 120 *e*P P 00 42 51.7 +1.3
comp=Z,4.2nm,1.1s
BGF **Bois d'Agland** 20.67 309 *e*P P 00 42 50.4 -0.4
BGF pmax pmax
comp=Z,7.0nm,0.9s
BGF **Bois d'Agland** 20.67 309 *e*P P 00 42 50.4 -0.4
comp=Z,7.0nm,0.9s
OBN **Obninsk** 20.91 17 P P 00 42 54.1 +0.8
comp=Z,7.7nm,0.4s,baz=7.0,slow=9.3,SNR=4.3
OBN **Obninsk** 20.91 17⇑ *e*P Pn 00 42 54.5 -1.4
OBN *e* 00 43 09.6
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,258nm,18.0s
TCF **Toulx Ste Croi** 20.97 308 *e*P P 00 42 53.8 -0.2
TCF pmax pmax
comp=Z,62nm,2.4s
TCF **Toulx Ste Croi** 20.97 308 *e*P P 00 42 53.8 -0.2
comp=Z,62nm,2.4s
RJF **Les Rejaudoux** 21.07 305 *e*P P 00 42 55.7 +0.5
RJF pmax pmax
comp=Z,9.0nm,1.0s
RJF **Les Rejaudoux** 21.07 305 *e*P P 00 42 55.7 +0.5
comp=Z,9.0nm,1.0s
BAIF **Baives** 21.58 319 *e*P P 00 43 01.3 +0.8
BAIF pmax pmax
comp=Z,7.0nm,0.8s
BAIF **Baives** 21.58 319 *e*P P 00 43 01.3 +0.8
comp=Z,7.0nm,0.8s
ETSF **Etsaut** 21.90 298 *e*P P 00 43 04.7 +0.6
ETSF pmax pmax
comp=Z,38nm,1.9s
ETSF **Etsaut** 21.90 298 *e*P P 00 43 04.7 +0.6
comp=Z,38nm,1.9s
TAM **Tamanrasset** 21.94 240 *e*P P 00 43 07.2 +2.4
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM **Tamanrasset** 21.94 240 *e*P P 00 43 07.2 +2.4
comp=Z,3.0nm,0.8s
TAM **Tamanrasset** 21.94 240 *e*P P 00 43 07.2 +2.4
comp=Z,3.0nm,0.8s
SJPF **Ste Jean** 22.42 298 *e*P P 00 43 10.5 +0.9
SJPF pmax pmax
comp=Z,7.0nm,0.7s
SJPF **Ste Jean** 22.42 298 *e*P P 00 43 10.5 +0.9
comp=Z,7.0nm,0.7s
MFF **Saint Martin d** 22.60 307 *e*P P 00 43 11.4 -0.1
MFF pmax pmax
comp=Z,11nm,0.6s
MFF **Saint Martin d** 22.60 307 *e*P P 00 43 11.4 -0.1
comp=Z,11nm,0.6s
VSU **Vasula** 22.98 1⇑ *e*P P 00 43 12.9 -2.5
VSU pmax pmax
comp=Z,15nm,0.9s
LDF **La Druitiere** 23.34 312 *e*P P 00 43 17.6 -1.5
LDF pmax pmax
comp=Z,91nm,2.3s
LDF **La Druitiere** 23.34 312 *e*P P 00 43 17.6 -1.5
comp=Z,91nm,2.3s
FLN **La Foliniere** 23.63 312 *e*P P 00 43 20.6 -1.3
FLN pmax pmax
comp=Z,39nm,1.4s
ES19 **SONSECA Array** 24.09 289 *e*P P 00 43 26.6 +0.1
ES19 **SONSECA Array** 24.09 289 *e*P P 00 43 26.6 +0.1
ESDC **Sonseca Array** 24.14 289 P P 00 43 26.4 -0.5
comp=Z,1.7nm,0.5s,baz=82,slow=9.4,SNR=34
GUD **Guadarrama** 24.32 291 P P 00 43 28.3 -0.3
GUD **Guadarrama** 24.32 291 P P 00 43 28.3 -0.3
PAB **San Pablo** 24.44 289 P P 00 43 29.5 -0.2
PAB pmax pmax
comp=Z,7.0nm,3.3s
PAB **San Pablo** 24.44 289 P P 00 43 29.5 -0.2
comp=Z,7.0nm,3.3s
SGMF **Saint Gilles** 24.71 310 *e*P P 00 43 32.4 +0.5
SGMF pmax pmax
comp=Z,121nm,2.1s
SGMF **Saint Gilles** 24.71 310 *e*P P 00 43 32.4 +0.5
comp=Z,121nm,2.1s
QUIF **Quistinic** 24.98 309 *e*P P 00 43 34.1 -0.2
QUIF pmax pmax
comp=Z,35nm,1.4s
GEYT **Alibeck** 25.70 75 P P 00 43 42.1 +1.0
comp=Z,5.6nm,0.4s,baz=274,slow=8.6,SNR=26
HFS **Hagfors** 25.94 346 P P 00 43 42.4 -0.5
comp=Z,1.6nm,0.8s,baz=137,slow=9.5,SNR=5.0
FINES **FINESS Array B** 25.97 360 P P 00 43 41.4 -1.7
comp=Z,0.7nm,0.5s,baz=159,slow=12,SNR=8.1
FINES **FINESS Array B** 25.97 360 *i* P P 00 43 42.2 -1.0
FINES pmax pmax
comp=Z,1.0nm,0.4s
SFS **San Fernando** 26.11 282 P P 00 43 46.0 +1.3
SFS pmax pmax
comp=Z,175nm,0.9s
SFS **San Fernando** 26.11 282 P P 00 43 46.0 +1.3
comp=Z,175nm,0.9s
PBRG **Braganca** 26.32 294 *e*P P 00 43 46.3 -0.3
PBRG **Braganca** 26.32 294 *e*P P 00 43 46.3 -0.3
MVO **Moncorvo** 26.51 292 *e*P P 00 43 48.1 -0.3
MVO **Moncorvo** 26.51 292 *e*P P 00 43 48.1 -0.3
PBAR **Barrancos** 26.60 286 *e*P P 00 43 48.8 -0.3
comp=Z,24nm,1.3s
PBAR **Barrancos** 26.60 286 *e*P P 00 43 48.8 -0.3
comp=Z,24nm,1.3s
MTE **Manteigas** 26.89 291 *e*P P 00 43 53.6 +1.8
MTE **Manteigas** 26.89 291 *e*P P 00 43 53.6 +1.8
PESTR **Estremoz** 26.98 287 *e*P P 00 43 52.5 -0.1
PESTR **Estremoz** 26.98 287 *e*P P 00 43 52.5 -0.1
PVAQ **Vaqueiros** 27.20 284 *e*P P 00 43 54.6 0.0
PVAQ **Vaqueiros** 27.20 284 *e*P P 00 43 54.6 0.0
PBEJ **Beja** 27.26 285 *e*P P 00 43 57.4 +2.3
comp=Z,16nm,1.8s
PBEJ **Beja** 27.26 285 *e*P P 00 43 57.4 +2.3
comp=Z,16nm,1.8s
NOA **NORSAR Array B** 27.29 344 P P 00 43 53.1 -2.0
comp=Z,0.5nm,0.7s,baz=144,slow=9.0,SNR=3.0
PBDV **Barranco-do-Ve** 27.39 284 *e*P P 00 43 57.5 +1.2
PBDV **Barranco-do-Ve** 27.39 284 *e*P P 00 43 57.5 +1.2
PCVE **Castro Verde** 27.43 285 *e*P P 00 43 58.6 +2.0
PCVE **Castro Verde** 27.43 285 *e*P P 00 43 58.6 +2.0
AKTO **Aktyubinsk** 27.45 47 P P 00 43 56.5 -0.2
comp=Z,1.7nm,0.5s,baz=260,slow=10,SNR=6.8
PMTG **Montargil** 27.46 288 *e*P P 00 43 55.9 -1.0
PMTG **Montargil** 27.46 288 *e*P P 00 43 55.9 -1.0
MESJ **Messejana** 27.55 285 *e*P P 00 43 59.8 +2.1
MESJ **Messejana** 27.55 285 *e*P P 00 43 59.8 +2.1
MESJ **Messejana** 27.55 285 *e*P P 00 43 59.8 +2.1
ALMR **Almeirim** 27.73 288 *e*P P 00 44 01.1 +1.8
ALMR AMb AMb 00 44 04.9
comp=Z,28nm,2.2s
PNCL **Nicolau / Gran** 27.77 286 *e*P P 00 43 58.5 -1.1
comp=Z,17nm,1.5s
PNCL **Nicolau / Gran** 27.77 286 *e*P P 00 43 58.5 -1.1
comp=Z,17nm,1.5s
EKA **Eskdalemuir Ar** 28.23 324 P P 00 44 02.6 -1.0
comp=Z,0.4nm,0.3s,baz=117,slow=9.1,SNR=9.1
ABKAR **Akbulak array** 28.26 50 *e*P P 00 44 03.9 +0.1
comp=Z,14nm,0.7s
ARU **Arti** 30.32 36⇑ *e*P P 00 44 21.4 -0.7
ARU pmax pmax
comp=Z,1.0nm,0.5s
TOA0 **Torodi Ar. Sit** 31.30 231 *e*P P 00 44 31.9 +0.7
comp=Z,8.7nm,1.4s
TORD **Torodi Ar. Bea** 31.30 231 P P 00 44 31.7 +0.6
comp=Z,1.3nm,0.3s,baz=33,slow=8.7,SNR=69
ARCES **ARCESS Array B** 34.10 360 P P 00 44 53.7 -1.4
comp=Z,0.7nm,0.6s,baz=176,slow=8.5,SNR=8.9
KOWA **Kowa** 34.17 240 P P 00 44 56.6 +0.3
comp=Z,0.7nm,0.4s,baz=22,slow=13,SNR=4.9
KKAR **Karatay Array** 34.85 64 *e*P P 00 45 01.7 -0.2
KKAR **Karatay Array** 34.85 64 *e*P P 00 45 01.7 -0.2
KKAR **Karatay Array** 34.85 64 *e*P P 00 45 01.7 -0.2
BRVK **Borovoye** 35.50 46⇑ *e*P P 00 45 08.0 +0.7
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BVAR **Borovoye Array** 35.55 46 P P 00 45 08.9 +1.1
comp=Z,1.6nm,1.0s,baz=261,slow=6.4,SNR=4.6
AAK **Ala-Archa** 37.81 64 P P 00 45 29.2 +1.9
comp=Z,4.4nm,0.8s,baz=243,slow=3.2,SNR=18
AAK **Ala-Archa** 37.81 64 *de*P P 00 45 28.9 +1.6
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK **Ala-Archa** 37.81 64 *e*P P 00 45 29.3 +2.0
comp=Z,14nm,1.5s
AAK **Ala-Archa** 37.81 64 *e*P P 00 45 28.9 +1.6
comp=Z,3.0nm,0.8s
NRN **Naryn** 39.07 66 P P 00 45 40.2 +2.1
NRN pmax pmax
comp=Z,4.0nm,0.8s
NRN **Naryn** 39.07 66 P P 00 45 40.2 +2.1
comp=Z,4.0nm,0.8s
KSH **Kashi** 39.35 69 *e*P P 00 45 40.1 -0.2
KSH S S 00 51 37.6 -2.4
KURBB **Kurchatov Arra** 40.30 51 P P 00 45 48.5 +0.6
comp=Z,6.7nm,0.5s,baz=275,slow=8.7,SNR=37
KURK **Kurchatov** 40.36 51 *d i* P P 00 45 48.7 +0.3
KURK pmax pmax
comp=Z,40nm,2.5s
KURK **Kurchatov** 40.36 51 *e*P P 00 45 48.9 +0.5
comp=Z,6.3nm,0.6s
DBIC **Dimbokro** 40.39 232 P P 00 45 48.6 -0.3
comp=Z,1.3nm,0.5s,baz=22,slow=8.9,SNR=4.3
MAKZ **Makanchi** 42.72 57 *e*P P 00 46 09.0 +1.2
MAKZ pmax pmax
comp=Z,5.0nm,0.5s
MAKZ **Makanchi** 42.72 57 *e*P P 00 46 09.0 +1.2
comp=Z,4.7nm,0.5s
MK31 **Makanchi Array** 42.94 57 *e*P P 00 46 10.4 +0.8
MK31 **Makanchi Array** 42.94 57 *e*P P 00 46 10.4 +0.8
MKAR **Makanchi Array** 42.94 57 P P 00 46 10.5 +0.9
comp=Z,7.7nm,0.4s,baz=270,slow=8.3,SNR=227
MKAR PcP PcP 00 47 57.8 -2.1
comp=Z,0.4nm,0.6s,baz=277,slow=3.5,SNR=2.4
MKAR **Makanchi Array** 42.94 57 *e*P P 00 46 10.4 +0.9
MKAR 00 47 57.8
MKAR pmax pmax
comp=Z,101nm,0.5s
MKAR **Makanchi Array** 42.94 57 *e*P P 00 46 10.4 +0.9
comp=Z,100nm,0.5s
MKAR PcP PcP 00 47 57.8 -2.1
MK01 **Makanchi Array** 42.95 57 *e*P P 00 46 10.1 +0.4
SPITS **Spitsbergen Ar** 43.00 357 P P 00 46 09.0 -0.6
comp=Z,3.6nm,0.8s,baz=153,slow=9.7,SNR=4.6
SPITS **Spitsbergen Ar** 43.00 357 P P 00 46 09.0 -0.6
SPITS pmax pmax
comp=Z,6.0nm,0.9s
NVS **Novosibirsk** 43.30 45 *e*P P 00 46 13.0 +0.7
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=Z,4.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.7s
ZAA0 **Zalesovo Array** 44.21 46 *e*P P 00 46 19.5 -0.1
comp=E,3.3nm,0.6s
ZALV **Zalesovo Beam** 44.21 46 P P 00 46 19.4 -0.3
comp=E,4.0nm,0.5s,baz=270,slow=8.7,SNR=19
WMQ **Urumqi** 47.16 60 P P 00 46 45.0 +1.8
WMQ pP pP 00 46 50.5 -0.8
TLY **Talaya** 55.80 47⇓ *e*P P 00 47 47.7 0.0
TLY pmax pmax
comp=Z,2.0nm,0.8s
GTA **Gaotai** 57.12 62 *e*P P 00 47 58.0 +0.6
GTA pP pP 00 48 04.0 -1.6
GTA sP sP 00 48 07.1 -1.6
SONM **Songino Array** 58.67 51 P P 00 48 08.9 +0.7
comp=Z,0.6nm,0.4s,baz=291,slow=7.9,SNR=4.6
ULN **Ulaanbaatar** 59.08 51⇓ *e*P P 00 48 11.9 +0.9
ULN pmax pmax
comp=Z,1.0nm,1.0s
TIXI **Tiksi** 60.58 21⇑ *e*P P 00 48 20.2 -0.5
TIXI pmax pmax
comp=Z,9.0nm,2.5s
FRB **Frobisher Bay** 60.78 329 P P 00 48 21.6 -0.6
comp=Z,0.6nm,0.4s,baz=88,slow=5.9,SNR=3.7
LZH **Lanzhou** 61.35 64 *e*P P 00 48 29.3 +2.5
LZH pP pP 00 48 34.0 -1.0
LZH sP sP 00 48 37.8 -0.4
LZH *e*PP PP 00 50 46.6 +4.8
SCHQ **Schefferville** 63.44 320 P P 00 48 39.9 -0.4
comp=Z,2.0nm,0.5s,baz=67,slow=5.3,SNR=17
BOSA **Boshof** 63.77 181 P P 00 48 45.9 +3.2
comp=Z,2.4nm,0.9s,baz=355,slow=11,SNR=2.2
HHC **Hu-ho-hao-te** 64.80 57 *e*P P 00 48 51.1 +1.5
USRK **Ussuriysk Ar.** 76.05 45 P P 00 49 57.6 -0.4
comp=Z,2.5nm,0.5s,baz=273,slow=1.6,SNR=6.7
YKA **Yellowknife Ar** 77.37 342 P P 00 50 04.2 -0.9
comp=Z,0.3nm,0.6s,baz=30,slow=5.2,SNR=4.5
KSAR **Wonju Array Be** 77.44 53 P P 00 50 06.4 +0.4
KSAR **Wonju Array Be** 77.44 53 P P 00 50 06.4 +0.4
KSRS **Korea Array** 77.46 53 P P 00 50 06.4 +0.3
comp=Z,2.4nm,0.6s,baz=312,slow=5.0,SNR=7.2
ILAR **Eielson Array** 79.92 357 P P 00 50 20.6 +1.4
comp=Z,0.2nm,0.6s,baz=342,slow=5.1,SNR=2.9
ULM **Lac du Bonnet** 80.47 326 P P 00 50 20.7 -1.7
comp=Z,0.5nm,0.4s,baz=45,slow=2.9,SNR=1.9

NNC 22 00:51:51.8±5.7, 37.03N×70.01E, h0km, mb3.6, mpv3.2, 7C-1D, Error ellipse: s-maj=43.6km s-min=37.7km az=168.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.05**	**42**	⇑P	Pn	00 52 54.8	-0.4
	3.0nm,0.4s						
SFK				⇑S	Sn	00 53 46.1	+2.6
	9.0nm,0.4s						
MNAS	**Manas**	**5.78**	**19**	⇑P	Pn	00 53 19.3	+0.4
	1.1nm,0.5s						
MNAS				⇑S	Sn	00 54 27.2	+1.2
	3.4nm,0.5s						
KK31	**Karatay Array**	**6.08**	**4**	⇑P	Pn	00 53 24.4	+1.5
	0.3nm,0.2s,baz=174,slow=12,SNR=29						
KK31				⇓S	Sn	00 54 33.8	+0.7
	1.5nm,0.6s,baz=184,slow=23						
AAK	**Ala-Archa**	**6.58**	**30**	⇑P	Pn	00 53 28.2	-1.8
	1.5nm,0.5s						
AAK				⇑S	Sn	00 54 44.7	-1.0
	4.4nm,0.8s						

MEX 22 00:57:10.1±0.6, 16.37N×98.41W, h15km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**86**	*i* P	Pg	00 57 15.2	-0.8
PNIG				*i* S	Sg	00 57 19.8	-0.2
TLIG	**Tlapa**	**1.19**	**353**	*i* P	Pn	00 57 28.0	-4.4
TLIG				*i* S	Sb	00 57 43.4	-4.4
ACX	**Acapulco**	**1.47**	**290**	*i* P	Pn	00 57 33.6	-2.5
ACX				*i* S	Sn	00 57 51.6	-3.6
VHO	**Vista Hermosa**	**1.75**	**66**	*e*P	Pn	00 57 36.8	-3.3
VHO				*e*S	Sn	00 57 57.0	-5.3
CAIG	**El Cayaco**	**1.90**	**291**	*e*P	Pn	00 57 38.8	-3.2
CAIG				*e*S	Sn	00 58 00.7	-5.0
PLIG	**Platanillo**	**2.26**	**333**	*e*P	Pn	00 57 44.2	-2.8
PLIG				*e*S	Sn	00 58 10.2	-4.6
HUIG	**Huatulco**	**2.29**	**105**	*i* P	Pn	00 57 44.3	-3.1
HUIG				*i* S	Sn	00 58 11.5	-3.9

*MOS **22** 01:00:44.8±2.5, 51.16N×167.89E, h42km, mb4.4/1, Error ellipse: s-maj=62.3km s-min=10.0km az=34.5*

KRSC 22 01:00:44.8±1.1, 51.16N×167.89E, h42km±24km, ML4.4, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**5.63**	**294**	*e*S	Sn	01 03 14.1	+4.9
SDLR	**Sedlovina**	**5.93**	**295**	P	Pn	01 02 14.0	+3.9
SDLR	**Sedlovina**	**5.93**	**295**	*e*P	Pn	01 02 14.0	+3.9
DALK	**Dalny**	**5.94**	**292**	P	Pn	01 02 14.4	+4.3
DALK	**Dalny**	**5.94**	**292**	*e*P	Pn	01 02 14.4	+4.3
UGLR	**Uglovaya**	**5.94**	**294**	P	Pn	01 02 15.5	+5.2
UGLR	**Uglovaya**	**5.94**	**294**	*e*P	Pn	01 02 15.5	+5.2
RUS	**Russkaya**	**5.96**	**286**	P	Pn	01 02 14.9	+4.5
RUS				S	Sn	01 03 21.0	+3.8
RUS	**Russkaya**	**5.96**	**286**	*e*P	Pn	01 02 14.9	+4.5
RUS				*e*S	Sn	01 03 21.0	+3.8
SMAR	**Somma**	**5.97**	**294**	P	Pn	01 02 15.5	+4.7
SMAR	**Somma**	**5.97**	**294**	*e*P	Pn	01 02 15.5	+4.7
AVH	**Avacha**	**6.01**	**294**	P	Pn	01 02 15.7	+4.5
AVH	**Avacha**	**6.01**	**294**	*e*P	Pn	01 02 15.7	+4.5
KRX	**Arik**	**6.09**	**295**	P	Pn	01 02 17.4	+5.1
KRX	**Arik**	**6.09**	**295**	*e*P	Pn	01 02 17.4	+5.1
MTVR	**Mutnovka**	**6.17**	**286**	P	Pn	01 02 18.7	+5.3
MTVR				S	Sn	01 03 27.6	+5.0
MTVR	**Mutnovka**	**6.17**	**286**	*e*P	Pn	01 02 18.7	+5.3
MTVR				*e*S	Sn	01 03 27.6	+5.0
KDTR	**Khodutka, Kamc**	**6.17**	**280**	*e*S	Sn	01 03 27.1	+4.7
TUMR	**Tumrok**	**6.22**	**315**	P	Pn	01 02 18.4	+4.3
TUMR	**Tumrok**	**6.22**	**315**	*e*P	Pn	01 02 18.4	+4.3
KRMR	**Karymshinskiy**	**6.26**	**289**	P	Pn	01 02 19.3	+4.8
KRMR				S	Sn	01 03 28.8	+4.2
KRMR	**Karymshinskiy**	**6.26**	**289**	*e*P	Pn	01 02 19.3	+4.8
KRMR				*e*S	Sn	01 03 28.8	+4.2
ASAK	**Asacha**	**6.32**	**285**	P	Pn	01 02 19.8	+4.3
ASAK	**Asacha**	**6.32**	**285**	*e*P	Pn	01 02 19.8	+4.3
GNL	**Ganaly**	**6.59**	**297**	P	Pn	01 02 24.7	+5.5
GNL				S	Sn	01 03 37.9	+4.8
GNL	**Ganaly**	**6.59**	**297**	*e*P	Pn	01 02 24.7	+5.5
GNL				*e*S	Sn	01 03 37.9	+4.8
APC	**Apacha**	**6.85**	**289**	P	Pn	01 02 27.6	+4.9
APC	**Apacha**	**6.85**	**289**	*e*P	Pn	01 02 27.6	+4.9

*IDC **22** 01:16:47.7±0.8, 40.80N×145.11E, h0km, mb3.8/23, mb1 3.9/26, mb1mx3.8/64, mbtmp3.8/26, ML3.2/3, Error*

ellipse: s-maj=21.5km s-min=14.6km az=171.0
*JMA **22** 01:16:48.9±0.2, 40.°88N×145.°26E, h65km±3km, M3.9*
*MOS **22** 01:16:50.9±1.0, 40.°85N×145.°01E, h33km, mb4.1/17, Error ellipse: s-maj=12.1km s-min=7.3km az=97.0*
*ISCJB **22** 01:16:51.4±0.3, 40.°99N±0.°03×145.°07E±0.°04, h33km, mb4.0/30, Error ellipse: s-maj=4.0km s-min=4.0km az=169.0*
*NEIC **22** 01:16:52.9±0.4, 40.°80N×145.°08E, h35km, mb4.6/10, Error ellipse: s-maj=9.1km s-min=6.6km az=164.0*

ISC 22 01:16:52.8±0.6, **40.°87N**±0.°04×**145.°12E**±0.°05, **h35**km, **n91**, σ2.9**04**/107, **mb3.9**/30, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.87**	**309**	*eP*		**Pn**	**01 17 20.5**	**-1.7**
ERM				*e*			01 17 41.3	
ERM	**Erimo**	**1.87**	**309**	*eP*n		**Pn**	**01 17 20.5**	**-1.7**
ERM				*eS*n		**Sn**	**01 17 41.3**	**-3.3**
JEM	**Erimo**	**1.87**	**309**	P		**Pn**	**01 17 20.3**	**-1.9**
JEM				*eS*		**Sn**	**01 17 42.5**	**-2.1**
JAK	**Akkeshi**	**2.15**	**352**	P		**Pn**	**01 17 23.2**	**-2.9**
JAK				S		**Sn**	**01 17 48.2**	**-3.3**
JCH	**Churui**	**2.19**	**324**	P		**Pn**	**01 17 24.6**	**-2.0**
JCH				*eS*		**Sn**	**01 17 49.3**	**-3.1**
JOB	**Onbets**	**2.25**	**335**	P		**Pn**	**01 17 25.6**	**-1.9**
JOB				S		**Sn**	**01 17 51.9**	**-2.1**
JNBK	**Urakawa-nobuka**	**2.27**	**309**	P		**Pn**	**01 17 26.8**	**-0.9**
JNBK				S		**Sn**	**01 17 53.8**	**-0.7**
NEM2	**Nemuro 2**	**2.54**	**10**	P		**Pn**	**01 17 28.4**	**-3.0**
NEM2				*eS*		**Sn**	**01 17 56.4**	**-4.7**
JAR	**Ashorobuto**	**2.63**	**338**	P		**Pn**	**01 17 29.9**	**-2.8**
JAR				S		**Sn**	**01 18 00.0**	**-3.3**
JNK	**Nakash**	**2.73**	**354**	P		**Pn**	**01 17 30.8**	**-3.3**
JNK				*eS*		**Sn**	**01 18 00.5**	**-5.4**
JANG	**Nango**	**2.79**	**261**	P		**Pn**	**01 17 32.6**	**-2.3**
JANG				*eS*		**Sn**	**01 18 03.0**	**-4.3**
JBT2	**Biratori 2**	**2.81**	**314**	P		**Pn**	**01 17 34.4**	**-0.8**
JBT2				S		**Sn**	**01 18 07.8**	**0.0**
JFR	**Furan**	**2.97**	**321**	P		**Pn**	**01 17 35.5**	**-1.9**
JRA	**Rausu**	**3.07**	**0**	P		**Pn**	**01 17 35.8**	**-2.9**
JRA				*eS*		**Sn**	**01 18 10.6**	**-3.6**
JOT	**Ohata**	**3.12**	**281**	P		**Pn**	**01 17 37.8**	**-1.6**
JOT				S		**Sn**	**01 18 11.9**	**-3.5**
GRPR	**Tuman**	**3.16**	**9**	*eP*		**Pn**	**01 17 37.1**	**-2.9**
GRPR				*eS*		**Sn**	**01 18 12.6**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**3.21**	**10**	*eP*		**Pn**	**01 17 39.3**	**-1.4**
YUK				*eS*		**Sn**	**01 18 13.7**	**-4.0**
YUK	comp=Z,90nm,0.2s			pmax		pmax		
YUK	comp=E,25nm,0.1s			pmax		pmax		
YUK	comp=N,136nm,0.6s			pmax		pmax		
YUK	comp=E,366nm,0.5s			smax		smax		
YUK	comp=N,136nm,0.6s			smax		smax		
JTKR	**Abashiri--Toko**	**3.23**	**344**	P		**Pn**	**01 17 39.3**	**-1.6**
JTKR				S		**Sn**	**01 18 15.2**	**-2.9**
JKB	**Kayabe**	**3.24**	**290**	P		**Pn**	**01 17 39.3**	**-1.8**
JKB				*eS*		**Sn**	**01 18 15.3**	**-3.1**
JOM	**Ohasama**	**3.25**	**246**	P		**Pn**	**01 17 39.5**	**-1.7**
JOM				*eS*		**Sn**	**01 18 14.4**	**-4.2**
JEW	**Eniwo**	**3.38**	**307**	P		**Pn**	**01 17 42.4**	**-0.6**
JEW				S		**Sn**	**01 18 20.8**	**-1.0**
JMK	**Ichinoseki**	**3.56**	**239**	P		**Pn**	**01 17 43.7**	**-1.8**
JMK				S		**Sn**	**01 18 21.6**	**-4.6**
ASAJ	**Asahikawa**	**3.75**	**331**	Pn		**Pn**	**01 17 47.1**	**-0.9**
ASAJ	comp=N,3.4nm,0.3s,baz=205,slow=16,SNR=16			Sn		**Sn**	**01 18 28.8**	**-2.1**
ASAJ	**Asahikawa**	**3.75**	**331**	*eP*n		**Pn**	**01 17 47.1**	**-0.9**
ASAJ	comp=N,1.9nm,0.3s,baz=288,slow=20,SNR=4.3			*eS*n		**Sn**	**01 18 30.9**	**0.0**
KUR	**Kuril'sk**	**4.81**	**24**	*eP*		**Pn**	**01 18 01.3**	**-1.3**
KUR				*eS*		**Sn**	**01 18 53.2**	**-3.8**
KUR	comp=Z,58nm,0.4s			pmax		pmax		
KUR	comp=N,19nm,0.1s			pmax		pmax		
KUR	comp=E,18nm,0.2s			smax		smax		
KUR	comp=N,91nm,0.3s			smax		smax		
KUR	comp=E,62nm,0.4s							
MJAR	**Matsushiro Arr**	**6.92**	**234**	Pn		**Pn**	**01 18 29.1**	**-2.5**
	comp=E,0.4nm,0.3s,baz=45,slow=14,SNR=3.1							
MAJO	**Matsushiro**	**6.92**	**234**	*eP*		**Pn**	**01 18 29.1**	**-2.5**
MAJO	**Matsushiro**	**6.92**	**234**	*eP*n		**Pn**	**01 18 29.1**	**-2.5**
USRK	**Ussuriysk Ar.**	**10.25**	**293**	Pn		**Pn**	**01 19 17.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=106,slow=14,SNR=6.9							
KLR	**Kul'dur**	**12.61**	**316**	Pn		**Pn**	**01 19 49.9**	**+0.5**
	comp=E,0.0nm,0.3s,baz=130,slow=17,SNR=3.4							
HIA	**Hailar**	**19.72**	**304**	*eP*		**Pn**	**01 21 18.4**	**-2.4**
HIA	comp=Z,9.0nm,0.4s			pmax		pmax		
HIA	**Hailar**	**19.72**	**304**	*eP*		**Pn**	**01 21 18.4**	**-2.4**
	comp=Z,8.5nm,0.4s							
SEY	**Seymchan**	**22.52**	**9**	P		**P**	**01 21 48.5**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=150,slow=4.7,SNR=5.8							
ULN	**Ulaanbaatar**	**27.88**	**297**	*eP*		**P**	**01 22 42.4**	**+3.1**
ULN	comp=Z,7.0nm,1.3s			pmax		pmax		
ULN	**Ulaanbaatar**	**27.88**	**297**	*eP*		**P**	**01 22 42.4**	**+3.1**
	comp=Z,7.4nm,1.3s							
H11N2	**WAKE ISLAND Hy**	**28.09**	**132**	T		T	01 52 15.0	
	baz=324							
H11N1	**WAKE ISLAND Hy**	**28.11**	**132**	T		T	01 52 20.2	
	baz=324							
H11N3	**WAKE ISLAND Hy**	**28.11**	**132**	T		T	01 52 22.3	
	baz=324							
SONA1	**Songino Array**	**28.32**	**297**	*eP*		P	01 22 46.4	+3.2
SONA0	**Songino Array**	**28.32**	**297**	*eP*		**P**	**01 22 43.6**	**+0.4**
SONM	**Songino Array**	**28.32**	**297**	P		**P**	**01 22 43.6**	**+0.4**
	comp=Z,3.3nm,1.1s,baz=89,slow=8.2,SNR=7.8							
H11S1	**WAKE ISLAND Hy**	**28.97**	**134**	T		T	01 53 16.2	
	baz=325,slow=74							
H11S3	**WAKE ISLAND Hy**	**28.98**	**134**	T		T	01 53 21.5	
	baz=325							
H11S2	**WAKE ISLAND Hy**	**28.99**	**134**	T		T	01 53 17.7	
	baz=325,slow=74							
ZAA1	**Zalesovo Array**	**41.60**	**309**	*eP*		**P**	**01 24 37.5**	**+0.5**
ZALV	**Zalesovo Beam**	**41.60**	**309**	P		**P**	**01 24 37.5**	**+0.5**
	comp=Z,9.0nm,0.5s,baz=103,slow=8.3,SNR=5.9							
KDAK	**Kodiak Island**	**42.33**	**45**	P		**P**	**01 24 43.4**	**+0.5**
	comp=Z,1.0nm,1.1s,baz=270,slow=4.0,SNR=2.7							
KDAK	**Kodiak Island**	**42.33**	**45**	*eP*		**P**	**01 24 43.4**	**+0.5**
	comp=Z,117nm,1.9s							
CAST	**Castle Rocks**	**42.43**	**36**	*eP*		**P**	**01 24 44.6**	**+0.8**
	comp=Z,18nm,1.8s							
TRF	**Thorofare Moun**	**43.24**	**36**	*eP*		**P**	**01 24 48.8**	**-1.7**
	comp=Z,19nm,1.8s							
MK31	**Makanchi Array**	**44.64**	**300**	*eP*		**P**	**01 25 02.4**	**+0.6**
MK31	**Makanchi Array**	**44.64**	**300**	*eP*		**P**	**01 25 02.4**	**+0.6**
MK32	**Makanchi Array**	**44.64**	**300**	*eP*		**P**	**01 25 02.0**	**+0.3**
MKAR	**Makanchi Array**	**44.64**	**300**	P		**P**	**01 25 02.0**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=86,slow=10,SNR=6.2							
ILAR	**Eielson Array**	**44.71**	**34**	P		**P**	**01 25 03.0**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=252,slow=7.1,SNR=6.6							
ILB	**Eielson Array**	**44.71**	**34**	*eP*		**P**	**01 25 03.0**	**+1.0**
KURK	**Kurchatov**	**45.94**	**306**	P		**P**	**01 25 12.8**	**+0.8**
KURK	comp=Z,3.0nm,0.6s			pmax		pmax		
KURK	**Kurchatov**	**45.94**	**306**	*eP*		**P**	**01 25 12.4**	**+0.4**
	comp=Z,2.7nm,0.8s							
KURBB	**Kurchatov Arra**	**46.02**	**306**	P		**P**	**01 25 12.8**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=77,slow=8.5,SNR=29							
INK	**Inuvik**	**49.65**	**29**	P		**P**	**01 25 41.8**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=274,slow=4.7,SNR=6.4							
INK	**Inuvik**	**49.65**	**29**	*eP*		**P**	**01 25 41.8**	**+1.4**
	comp=Z,23nm,2.0s							
BVAR	**Borovoye Array**	**50.20**	**311**	P		**P**	**01 25 45.6**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=73,slow=8.3,SNR=12							
AB31	**Akbulak array**	**57.71**	**309**	*eP*		**P**	**01 26 40.5**	**+0.8**
AB31	**Akbulak array**	**57.71**	**309**	*eP*		**P**	**01 26 40.5**	**+0.8**
ABKAR	**Akbulak array**	**57.71**	**309**	*eP*		**P**	**01 26 40.5**	**+0.8**
	comp=Z,10nm,0.6s							
YKA	**Yellowknife Ar**	**59.04**	**32**	P		**P**	**01 26 49.6**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=302,slow=6.8,SNR=7.0							
YKB5	**Yellowknife Ar**	**59.04**	**32**	*eP*		**P**	**01 26 49.6**	**+0.9**
WR1	**Warramunga Arr**	**61.32**	**192**	*eP*		**P**	**01 27 04.8**	**0.0**
	comp=Z,22nm,1.9s							
WRA	**Warramunga Arr**	**61.32**	**192**	P		**P**	**01 27 04.8**	**0.0**
	comp=Z,1.0nm,0.8s,baz=9.9,slow=6.7,SNR=6.2							
GEYT	**Alibeck**	**64.51**	**299**	P		**P**	**01 27 26.3**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=54,slow=7.3,SNR=2.6							
FIA0	**FINESS Array S**	**66.75**	**333**	*eP*		**P**	**01 27 40.4**	**+0.4**
FIA0	**FINESS Array S**	**66.75**	**333**	*eP*		**P**	**01 27 40.4**	**+0.4**
FINES	**FINESS Array B**	**66.75**	**333**	P		**P**	**01 27 40.4**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=18,slow=6.8,SNR=6.5							
NV01	**Mina Array Sit**	**70.41**	**56**	*eP*		**P**	**01 28 03.7**	**+0.1**
NVAR	**Mina Array Bea**	**70.41**	**56**	P		**P**	**01 28 03.7**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=291,slow=7.6,SNR=2.6							
KBZ	**Khabaz**	**70.58**	**311**	P		**P**	**01 28 05.3**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=25,slow=8.3,SNR=4.1							
NB200	**NORSAR Array S**	**71.73**	**338**	*eP*		**P**	**01 28 11.4**	**+0.4**
NOA	**NORSAR Array B**	**71.73**	**338**	P		**P**	**01 28 11.4**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=36,slow=6.0,SNR=3.0							
HFS	**Hagfors**	**71.75**	**337**	P		**P**	**01 28 11.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=2.7,slow=9.1,SNR=4.4							
PD31	**Pinedale Array**	**72.94**	**48**	*eP*		**P**	**01 28 19.2**	**+0.5**
PDAR	**Pinedale Array**	**72.94**	**48**	P		**P**	**01 28 19.2**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=321,slow=4.0,SNR=2.1							
AKASG	**Malin Array Be**	**73.00**	**323**	P		**P**	**01 28 19.2**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=46,slow=5.6,SNR=5.9							
AKBB	**Malin Array Si**	**73.00**	**323**	*eP*		**P**	**01 28 19.2**	**+0.6**
AKBB	comp=Z,4.0nm,1.0s			pmax		pmax		
AKBB	**Malin Array Si**	**73.00**	**323**	*eP*		**P**	**01 28 19.2**	**+0.6**
	comp=Z,3.6nm,1.0s							
BR101	**Keskin Array S**	**78.42**	**313**	*eP*		**P**	**01 28 50.4**	**+0.4**
BRTR	**Keskin Array B**	**78.42**	**313**	P		**P**	**01 28 50.4**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=40,slow=1.6,SNR=2.4							
EKA	**Eskdalemuir Ar**	**80.43**	**342**	P		**P**	**01 29 01.2**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=33,slow=5.9,SNR=2.9							
GERES	**GERESS Array B**	**80.92**	**330**	P		**P**	**01 29 03.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=47,slow=5.9,SNR=3.0							
LTX	**Lajitas**	**85.52**	**55**	*eP*		**P**	**01 29 28.4**	**+0.9**
LTX	**Lajitas**	**85.52**	**55**	*eP*		**P**	**01 29 28.4**	**+0.9**
TXAR	**Lajitas Array**	**85.52**	**55**	P		**P**	**01 29 28.4**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=275,slow=3.1,SNR=3.7							

*NNC **22** 01:31:36.9±0.2, 42.°52N×73.°43E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=6.7km s-min=1.0km az=174.0*
*KNET **22** 01:31:37.9±0.6, 42.°51N×73.°52E, h16km±2km, ml2.7, Error ellipse: s-maj=4.5km s-min=2.4km az=94.0*
*KRNET **22** 01:31:37.7±0.1, 42.°52N×73.°45E, h16km, mb3.4*
*SOME **22** 01:31:38.0, 42.°52N×73.°50E, h10km*

ISC 22 01:31:38.3±0.8, **42.°53N**±0.°02×**73.°44E**±0.°01, **h15**km±6km, **n74**, σ1.9**47**/137, **52C-41D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.27**	**324**	⇓*iP*		**Pg**	**01 31 43.8**	**-0.3**
MRKS	1μm,0.1s			*eS*		**Sg**	**01 31 47.7**	**-0.4**
MRKS	**Merke**	**0.27**	**324**	⇓*iP*		**Pg**	**01 31 43.8**	**-0.3**
MRKS	baz=24			⇓*eS*		**Sg**	**01 31 47.7**	**-0.4**
EKS2	**Erkin-Say**	**0.28**	**62**	⇑P		**Pg**	**01 31 43.9**	**-0.4**
EKS2	156nm,0.1s,SNR=1585			⇑S		**Sg**	**01 31 48.2**	**-0.3**
EKS2	**Erkin-Say**	**0.28**	**62**	⇑*iP*		**Pg**	**01 31 44.0**	**-0.4**
EKS2	baz=60			⇑*iS*		**Sg**	**01 31 47.8**	**-0.7**
AML	**Almayashu**	**0.44**	**155**	⇓P		**Pg**	**01 31 46.2**	**-1.0**
AML	343nm,0.2s,SNR=1003			⇑S		**Sg**	**01 31 52.3**	**-0.9**
AML	**Almayashu**	**0.44**	**155**	⇓*iP*		**Pg**	**01 31 46.2**	**-1.0**
AML	baz=55			⇓*iS*		**Sg**	**01 31 52.0**	**-1.3**
MNAS	**Manas**	**0.69**	**267**	⇓P		**Pg**	**01 31 50.6**	**-1.2**
MNAS	9.1nm,0.3s			⇑S		**Sg**	**01 31 59.7**	**-1.3**
MNAS	**Manas**	**0.69**	**267**	⇓*iP*		**Pg**	**01 31 50.7**	**-1.2**
MNAS	baz=68			⇓*iS*		**Sg**	**01 31 59.8**	**-1.3**
TOKL	**Toktogul**	**0.73**	**216**	⇓*eP*		**Pg**	**01 31 51.2**	**-1.3**
TOKL	baz=16			⇓*iS*		**Sg**	**01 32 01.5**	**-0.5**
AAK	**Ala-Archa**	**0.78**	**82**	⇓P		**Pg**	**01 31 52.6**	**-0.9**
AAK	2.6nm,0.1s			⇑S		**Sg**	**01 32 03.5**	**-0.5**
AAK	**Ala-Archa**	**0.78**	**82**	⇓P		**Pg**	**01 31 52.8**	**-0.8**
AAK	133nm,0.4s			⇑S		**Sg**	**01 32 03.7**	**-0.3**
AAK	**Ala-Archa**	**0.78**	**82**	⇓*iP*		**Pg**	**01 31 52.8**	**-0.8**
AAK	26nm,0.1s,SNR=32			⇑*iS*		**Sg**	**01 32 03.4**	**-0.5**
UCH	**Uchtor**	**0.85**	**110**	⇓P		**Pg**	**01 31 53.8**	**-1.1**
UCH	226nm,0.4s			⇑S		**Sg**	**01 32 05.3**	**-0.8**
UCH	**Uchtor**	**0.85**	**110**	⇓*iP*		**Pg**	**01 31 53.8**	**-1.1**
UCH	baz=81			⇓*iS*		**Sg**	**01 32 05.1**	**-1.0**
FRU1	**Bishkek**	**0.92**	**72**	⇑*iP*		**Pg**	**01 31 55.5**	**-0.6**
FRU1	baz=71			⇑*iS*		**Sb**	**01 32 08.0**	**-0.1**
USP	**Ospenovka**	**1.07**	**46**	⇑P		**Pg**	**01 31 57.7**	**-1.2**
USP	26nm,0.1s,SNR=18			⇓S		**Sb**	**01 32 12.2**	**-0.3**
USP	**Ospenovka**	**1.07**	**46**	⇑*iP*		**Pg**	**01 31 57.8**	**-1.2**
USP	baz=46			⇑*iS*		**Sb**	**01 32 12.1**	**-0.3**
CHMS	**Chumysh**	**1.07**	**64**	P		**Pg**	**01 31 57.9**	**-1.2**
CHMS	26nm,0.2s,SNR=20			⇑S		**Sg**	**01 32 12.1**	**-0.9**
CHMS	**Chumysh**	**1.07**	**64**	⇑*iP*		**Pg**	**01 31 57.8**	**-1.2**
CHMS	baz=63			⇑*iS*		**Sg**	**01 32 12.0**	**-1.0**
KBK	**Karagaybulak**	**1.12**	**83**	⇓P		**Pg**	**01 31 58.9**	**-1.0**
KBK	42nm,0.1s,SNR=31			⇑S		**Sb**	**01 32 14.6**	**+0.7**
KBK	**Karagaybulak**	**1.12**	**83**	⇑*iP*		**Pg**	**01 31 58.9**	**-1.0**
KBK	188nm,0.2s baz=83			⇑*iS*		**Sg**	**01 32 13.7**	**-0.8**
ARSB	**Arslanbob**	**1.25**	**196**	⇑*iP*		**Pg**	**01 32 01.3**	**-1.1**
ARSB	baz=96			⇑*iS*		**Sg**	**01 32 18.4**	**-0.4**
ARK	**Arkit**	**1.32**	**237**	⇓*iP*		**Pn**	**01 32 02.3**	**0.0**
ARK	baz=36			⇓*iS*		**Sg**	**01 32 20.5**	**-0.4**
KZA	**Kyzart**	**1.42**	**108**	⇑P		**Pn**	**01 32 03.9**	**+0.1**
KZA	43nm,0.2s,SNR=178			⇓S		**Sg**	**01 32 23.3**	**-0.7**
KZA	**Kyzart**	**1.42**	**108**	⇓*iP*		**Pn**	**01 32 03.8**	**-0.1**
KZA	107nm,0.2s baz=8.0			⇓*iS*		**Sg**	**01 32 22.1**	**-1.9**
DZA	**Taraz**	**1.60**	**284**	*eP*		**Pn**	**01 32 07.2**	**+1.1**
DZA	147nm,0.2s			*eS*		**Sb**	**01 32 28.3**	**+0.8**
DZA	**Taraz**	**1.60**	**284**	*eP*		**Pn**	**01 32 07.2**	**+1.1**
DZA	480nm,0.2s baz=84			*eS*		**Sb**	**01 32 28.4**	**+0.8**
TKM2	**Tokmak 2**	**1.64**	**75**	⇑P		**Pn**	**01 32 07.7**	**+1.1**
TKM2	18nm,0.3s			⇓S		**Sb**	**01 32 29.1**	**+0.4**
TKM2	**Tokmak 2**	**1.64**	**75**	⇓P		**Pn**	**01 32 07.8**	**+0.9**
TKM2	96nm,0.2s baz=75			⇑*iS*		**Sb**	**01 32 29.2**	**+0.4**
BOOM	**Boomskoye usch**	**1.85**	**90**	⇑*eP*		**Pb**	**01 32 12.0**	**+0.1**
BOOM	baz=90			⇑*eS*		**Sg**	**01 32 36.9**	**-0.9**
DGS	**Degeres**	**1.85**	**67**	*eP*		**Pb**	**01 32 11.6**	**-0.3**
DGS	12nm,0.2s 188nm,0.2s			*eS*		**Sb**	**01 32 36.0**	**+1.0**
DGS	**Degeres**	**1.85**	**67**	*eP*		**Pb**	**01 32 11.6**	**-0.3**
DGS	baz=66			*eS*		**Sb**	**01 32 36.0**	**+1.0**
KST	**Kastek**	**1.93**	**74**	⇓*iP*		**Pb**	**01 32 13.1**	**-0.1**
KST	9.0nm,0.2s 166nm,0.7s			⇑*iS*		**Sg**	**01 32 38.8**	**-1.5**
KST	**Kastek**	**1.93**	**74**	⇓*iP*		**Pb**	**01 32 13.1**	**-0.1**
KST	baz=73			⇑*iS*		**Sg**	**01 32 38.8**	**-1.5**
ULHL	**Ulahol**	**2.09**	**97**	⇓P		**Pb**	**01 32 15.7**	**-0.4**
ULHL	38nm,0.2s,SNR=54			⇑P		**Pn**	**01 32 14.8**	**+1.8**
ULHL	**Ulahol**	**2.09**	**97**	⇑*iP*		**Pn**	**01 32 14.8**	**+1.8**
ULHL	baz=97			⇑*iS*		**Sb**	**01 32 41.8**	**-0.2**
NRN	**Naryn**	**2.20**	**119**	⇑*iP*		**Pn**	**01 32 16.1**	**+1.5**
NRN	baz=19			⇑*iS*		**Sn**	**01 32 43.9**	**+2.2**
KK31	**Karatay Array**	**2.23**	**286**	Pn		**Pn**	**01 32 16.4**	**+1.6**
KK31	7.9nm,0.5s,baz=104,slow=16,SNR=255			Sn		**Sn**	**01 32 45.2**	**-0.5**
MTBS	**Maitube**	**2.28**	**74**	*eP*		**Pb**	**01 32 19.5**	**+0.3**
MTBS	94nm,0.4s,baz=97,slow=19,SNR=39 4.9nm,0.2s			⇓*iS*		**Sg**	**01 32 49.5**	**-2.0**
MTBS	**Maitube**	**2.28**	**74**	*eP*		**Pb**	**01 32 19.5**	**+0.3**
MTBS	78nm,0.5s baz=73			⇓*iS*		**Sg**	**01 32 49.5**	**-2.0**
IZV	**Izvestkoviy**	**2.39**	**77**	*eP*		**Pb**	**01 32 20.5**	**-0.6**
IZV	25nm,0.2s 111nm,0.3s			*eS*		**Sb**	**01 32 51.0**	**+0.6**
IZV	**Izvestkoviy**	**2.39**	**77**	*eP*		**Pb**	**01 32 20.5**	**-0.6**
IZV	baz=76			*eS*		**Sb**	**01 32 51.0**	**+0.6**
SFK	**Sufi-Kurgan**	**2.52**	**179**	⇑Pn		**Pn**	**01 32 19.4**	**+0.6**
SFK	9.2nm,0.4s 91nm,0.8s			⇑Lg		Lg	01 32 56.6	
SFK	**Sufi-Kurgan**	**2.52**	**179**	⇓*iP*		**Pn**	**01 32 20.3**	**+1.5**
SFK	baz=79			⇓*iS*		**Sn**	**01 32 51.7**	**+2.4**
KUU	**Kurty**	**2.52**	**56**	*eP*		**Pb**	**01 32 23.5**	**+0.3**
KUU	5.1nm,0.2s 62nm,0.3s			*eS*		**Sg**	**01 32 56.3**	**-2.9**
KUU	**Kurty**	**2.52**	**56**	*eP*		**Pb**	**01 32 23.5**	**+0.3**
KUU	baz=56			*eS*		**Sg**	**01 32 56.3**	**-2.9**
IUG	**Iuzhnay**	**2.56**	**263**	*eP*		**Pb**	**01 32 25.2**	**+1.3**
IUG	50nm,0.3s 245nm,0.4s			*eS*		**Sg**	**01 32 58.7**	**-1.8**
IUG	**Iuzhnay**	**2.56**	**263**	*eP*		**Pb**	**01 32 25.2**	**+1.3**
IUG	baz=63			*eS*		**Sg**	**01 32 58.7**	**-1.8**
TNSS	**Tian-Shan**	**2.63**	**78**	*eP*		**Pb**	**01 32 25.7**	**+0.4**
TNSS	5.1nm,0.3s 67nm,0.3s			*eS*		**Sg**	**01 33 00.4**	**-2.4**
TNSS	**Tian-Shan**	**2.63**	**78**	*eP*		**Pb**	**01 32 25.7**	**+0.4**
TNSS	baz=77			*eS*		**Sg**	**01 33 00.4**	**-2.4**
AAA	**Alma-Ata**	**2.64**	**74**	*eP*		**Pb**	**01 32 26.3**	**+1.0**
AAA	16nm,0.2s 95nm,0.2s			*eS*		**Sg**	**01 33 01.4**	**-1.8**
AAA	**Alma-Ata**	**2.64**	**74**	*eP*		**Pb**	**01 32 26.3**	**+1.0**
AAA	baz=74			*eS*		**Sg**	**01 33 01.4**	**-1.8**
KTBS	**Karatobe**	**2.65**	**62**	*eP*		**Pb**	**01 32 25.8**	**+0.3**
KTBS	2.1nm,0.1s 93nm,0.6s			*eS*		**Sg**	**01 33 00.5**	**-2.9**
KTBS	**Karatobe**	**2.65**	**62**	*eP*		**Pb**	**01 32 25.8**	**+0.3**
KTBS	baz=60			*eS*		**Sg**	**01 33 00.5**	**-2.9**
KNDC	**Almaty**	**2.68**	**74**	⇑Pg		**Pb**	**01 32 25.1**	**-0.9**
KNDC	12nm,0.3s 44nm,0.3s			⇑Lg		Lg	01 33 02.3	
BRLS	**Borolday**	**2.70**	**282**	*eP*		**Pb**	**01 32 26.4**	**0.0**
BRLS	0.7nm,0.3s 75nm,0.3s			*eS*		**Sb**	**01 33 01.0**	**+1.7**
MDOK	**Medeo**	**2.73**	**75**	⇑Pg		**Pb**	**01 32 26.8**	**0.0**
MDOK	5.0nm,0.3s 45nm,0.6s			⇑Lg		Lg	01 33 04.7	
MDOK	**Medeo**	**2.73**	**75**	*eP*		**Pb**	**01 32 27.2**	**+0.4**
MDOK	3.9nm,0.2s 43nm,0.5s			⇑*iS*		**Sb**	**01 33 02.5**	**+2.3**
MDOK	**Medeo**	**2.73**	**75**	*eP*		**Pb**	**01 32 27.2**	**+0.4**
MDOK	baz=75			⇑*iS*		**Sb**	**01 33 02.4**	**+2.3**
KOTS	**Kotyrbulak**	**2.79**	**74**	*eP*		**Pb**	**01 32 28.8**	**+0.9**
KOTS	4.1nm,0.3s 42nm,0.5s			*eS*		**Sg**	**01 33 05.0**	**-2.8**
KDJ	**Kajisay**	**2.80**	**97**	⇓*iP*		**Pn**	**01 32 24.9**	**+2.2**
KDJ	baz=97			⇓*iS*		**Sn**	**01 32 58.8**	**+2.5**
CHKK	**Chushkaly**	**2.91**	**62**	*eP*		**Pb**	**01 32 30.6**	**+0.7**
CHKK	1.4nm,0.3s 84nm,0.3s			*eS*		**Sg**	**01 33 08.4**	**-3.4**
CHKK	**Chushkaly**	**2.91**	**62**	*eP*		**Pb**	**01 32 30.6**	**+0.7**
CHKK	baz=62			*eS*		**Sg**	**01 33 08.4**	**-3.4**
KURS	**Kuram**	**3.60**	**73**	*eP*		**Pb**	**01 32 41.7**	**+0.1**
KURS				*eS*		**Sb**	**01 33 27.4**	**+2.3**
ARXS	**Arharly**	**3.61**	**61**	*eP*		**Pb**	**01 32 42.5**	**+0.6**
ARXS	2.3nm,0.3s 30nm,0.4s			*eS*		**Sb**	**01 33 29.1**	**+3.5**
PDGK	**Podgornoye**	**4

0.2nm,0.3s
AKTO Aktyubinsk 13.23 312 ⇓Pn Pn 01 34 43.9 -1.5
1.6nm,0.8s

ISCJB ***22*** *01:45:45.3±0.6, 11°.79N±0°.07×43°.06E±0°.06, h16km±12km, Error ellipse: s-maj=12.4km s-min=7.5km az=148.7*
ARO ***22*** *01:45:46.0, 11°.8N±0°.3×43°.1E±0°.4, h4km, Ml2.9*
ISC 22 01:45:45.7±1.2, 11°.79N±0°.05×43°.05E±0°.04, h14km±9km, n10, σ0°51/12, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TDD	**Tadjoura Ara**	**0.14**	**276**	*eP*		**Pg**	**01 45 49.4**	**0.0**
MCAD	**Moucha**	**0.17**	**110**	*eP*		**Pg**	**01 45 49.4**	**-0.6**
OBO	**Obock**	**0.31**	**51**	*eP*		**Pg**	**01 45 52.1**	**-0.1**
ATD	**Arta Tunnel**	**0.32**	**217**	*eP*		**Pg**	**01 45 52.4**	**-0.1**
ATD	**Arta Tunnel**	**0.32**	**217**	*eP*		**Pg**	**01 45 52.4**	**-0.1**
ATD				*eS*		**Sg**	**01 45 57.2**	**+0.2**
ATA	**Atar**	**0.37**	**155**	*eP*		**Pg**	**01 45 52.8**	**-0.4**
SGH	**Sud-Ghoubbet**	**0.54**	**229**	*eP*		**Pg**	**01 45 56.0**	**-0.4**
LDLD	**Lac de Lave**	**0.57**	**249**	*eP*		**Pg**	**01 45 56.5**	**-0.5**
MAOD	**Malaho**	**0.86**	**291**	*eP*		**Pg**	**01 46 01.8**	**-0.6**
BDHA	**Al Bayda'**	**3.28**	**48**	*i P*		**Pn**	**01 46 37.6**	**+0.7**
BDHA				*e*			01 46 37.7	
	baz=210,slow=14							
BDHA				*i* S		**Sn**	**01 47 15.4**	**-0.5**
BDHA					AML	AML	01 47 34.8	
	comp=N,127nm,0.4s							

ISCJB ***22*** *01:47:08.0±0.2, 46°.04N±0°.01×6°.79E±0°.02, h4km±2km, Error ellipse: s-maj=2.0km s-min=1.8km az=172.9*
CSEM ***22*** *01:47:09.1±0.1, 46°.03N×6°.84E, h2km, ML2.4/24, Error ellipse: s-maj=1.6km s-min=1.4km az=92.0*
LDG ***22*** *01:47:09.8±0.1, 46°.02N×6°.90E, h2km, Md2.2/2, Ml2.4/21, Error ellipse: s-maj=1.1km s-min=0.9km az=109.0*
GEN ***22*** *01:47:09.6, 46°.03N×6°.91E, h5km, ML1.8*
ROM ***22*** *01:47:09.2±0.2, 46°.02N×6°.93E, h7km, Md1.9/5, Ml1.9/3, Error ellipse: s-maj=2.3km s-min=1.4km az=69.0*
ZUR ***22*** *01:47:09.7, 46°.03N×6°.87E, h4km±1km, ML2.0/12*
VIE ***22*** *01:47:11.1±0.7, 45°.95N×7°.08E, h8km, mb1.9/1, ML2.0/2, Error ellipse: s-maj=7.5km s-min=4.0km az=146.0*
STR ***22*** *01:47:12.1±0.6, 46°.09N±0°.03×6°.66E±0°.04, h5km, MLv2.6/13*
ISC 22 01:47:09.8±0.8, 46°.04N±0°.01×6°.86E±0°.01, h8km±4km, n139, σ1s19/215, 21C-10D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.04**	**48**	⇑*iPg*		**Pg**	**01 47 11.2**	**-0.5**
	3μm,0.1s							
EMV				*i* Sg		**Sg**	**01 47 12.1**	**-0.9**
	3μm,0.1s							
EMV	**Vieux Emosson**	**0.04**	**48**	⇑*iPg*		**Pg**	**01 47 11.2**	**-0.5**
EMV				Sg		**Sg**	**01 47 12.1**	**-0.9**
	716nm,0.2s							
EMV	**Vieux Emosson**	**0.04**	**48**	Pg		**Pg**	**01 47 11.2**	**-0.5**
EMV				Sg		**Sg**	**01 47 12.1**	**-0.9**
	716nm,0.2s							
OGSI	**Sixt**	**0.08**	**293**	⇓*iPg*		**Pg**	**01 47 11.6**	**-0.3**
OGSI				*i* Sg		**Sg**	**01 47 13.0**	**-0.4**
OGSI	**Sixt**	**0.08**	**293**	⇓*iPg*		**Pg**	**01 47 11.6**	**-0.3**
OGSI				*i* Sg		**Sg**	**01 47 13.0**	**-0.4**
SALAN	**Lac Salanfe**	**0.14**	**37**	⇑*iPg*		**Pg**	**01 47 12.6**	**-0.2**
	263nm,0.1s							
SALAN				*i* Sg		**Sg**	**01 47 14.5**	**-0.5**
	263nm,0.1s							
SALAN	**Lac Salanfe**	**0.14**	**37**	⇑*iPg*		**Pg**	**01 47 12.6**	**-0.2**
SALAN				*i* Sg		**Sg**	**01 47 14.5**	**-0.5**
SMUR	**Muraz-Reservoi**	**0.24**	**11**	⇑*iPg*		**Pg**	**01 47 14.5**	**-0.2**
SMUR	**Muraz-Reservoi**	**0.24**	**11**	⇑*iPg*		**Pg**	**01 47 14.4**	**-0.2**
GRYON	**Gryon**	**0.28**	**40**	⇑*iPg*		**Pg**	**01 47 15.1**	**-0.2**
	40nm,0.2s							
GRYON	**Gryon**	**0.28**	**40**	⇑*iPg*		**Pg**	**01 47 15.1**	**-0.2**
MRGE	**Morge**	**0.30**	**152**	⇓*iPg*		**Pg**	**01 47 15.6**	**-0.2**
	944nm,0.2s							
MRGE	**Morge**	**0.30**	**152**	⇓*iPg*		**Pg**	**01 47 15.6**	**-0.2**
MRGE				Sg		**Sg**	**01 47 19.7**	**-0.1**
	181nm,0.2s							
MRGE	**Morge**	**0.30**	**152**	Pg		**Pg**	**01 47 15.6**	**-0.2**
MRGE				Sg		**Sg**	**01 47 19.7**	**-0.1**
	181nm,0.2s							
AIGLE	**Aigle**	**0.31**	**12**	⇑*iPg*		**Pg**	**01 47 15.8**	**-0.2**
	455nm,0.4s							
AIGLE	**Aigle**	**0.31**	**12**	⇑*iPg*		**Pg**	**01 47 15.8**	**-0.2**
OG01	**Vacheresse**	**0.32**	**338**	Pg		**Pg**	**01 47 16.2**	**+0.1**
OG01				Sg		**Sg**	**01 47 21.2**	**+0.9**
OG01	**Vacheresse**	**0.32**	**338**	Pg		**Pg**	**01 47 16.2**	**+0.1**
NOV2	**NOV2**	**0.34**	**2**	⇑*iPg*		**Pg**	**01 47 16.2**	**-0.2**
	262nm,0.5s							
NOV2	**NOV2**	**0.34**	**2**	⇑*iPg*		**Pg**	**01 47 16.2**	**-0.2**
RSL	**Roselend**	**0.38**	**205**	⇑*iPg*		**Pg**	**01 47 17.2**	**-0.1**
RSL	**Roselend**	**0.38**	**205**	⇑*iPg*		**Pg**	**01 47 16.9**	**-0.4**
DIX	**Grande Dixence**	**0.39**	**83**	⇓*iPg*		**Pg**	**01 47 16.9**	**-0.5**
	607nm,0.2s							
DIX	**Grande Dixence**	**0.39**	**83**	⇓*iPg*		**Pg**	**01 47 17.2**	**-0.2**
DIX				Sg		**Sg**	**01 47 22.3**	**-0.2**
	122nm,0.2s							
DIX	**Grande Dixence**	**0.39**	**83**	Pg		**Pg**	**01 47 17.2**	**-0.2**
DIX				Sg		**Sg**	**01 47 22.3**	**-0.2**
	122nm,0.2s							
NOV3	**NOV3**	**0.40**	**8**	⇑*iPg*		**Pg**	**01 47 17.5**	**-0.2**
	192nm,0.4s							
NOV3	**NOV3**	**0.40**	**8**	⇑*iPg*		**Pg**	**01 47 17.5**	**-0.2**
SENIN	**Lac Senin/Sane**	**0.45**	**43**	⇑*iPg*		**Pg**	**01 47 18.3**	**-0.3**
	85nm,0.2s							
SENIN	**Lac Senin/Sane**	**0.45**	**43**	⇑*iPg*		**Pg**	**01 47 18.3**	**-0.3**
LPL	**La Plagne**	**0.53**	**189**	*ePg*		**Pg**	**01 47 19.7**	**-0.3**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**01 47 26.9**	**0.0**
	16nm,0.3s,SNR=1.0							
LPL	**La Plagne**	**0.53**	**189**	*ePg*		**Pg**	**01 47 19.7**	**-0.3**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**01 47 26.9**	**0.0**
	7.8nm,0.3s,SNR=1.0							
LPG	**La Plagne**	**0.54**	**188**	*ePg*		**Pg**	**01 47 20.0**	**-0.3**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**01 47 27.2**	**-0.3**
	33nm,0.3s,SNR=1.0							
LPG	**La Plagne**	**0.54**	**188**	*ePg*		**Pg**	**01 47 20.0**	**-0.3**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**01 47 27.2**	**-0.3**
	17nm,0.3s,SNR=1.0							
LSD	**Lago del Serru**	**0.61**	**161**	⇑*iPg*		**Pg**	**01 47 21.2**	**-0.4**
	192nm,0.2s							
LSD	**Lago del Serru**	**0.61**	**161**	Pg		**Pg**	**01 47 21.2**	**-0.4**
LSD				Sg		**Sg**	**01 47 28.8**	**-0.8**
	56nm,0.2s							
LKBD	**Leukerbad**	**0.64**	**57**	⇓*iPg*		**Pg**	**01 47 21.8**	**-0.3**
	13nm,0.5s							
LKBD	**Leukerbad**	**0.64**	**57**	⇓*iPg*		**Pg**	**01 47 21.9**	**-0.2**
LKBD2	**Leukerbad 2**	**0.64**	**58**	⇓*iPg*		**Pg**	**01 47 21.9**	**-0.3**
LKBD2	**Leukerbad 2**	**0.64**	**58**	⇓*iPg*		**Pg**	**01 47 21.8**	**-0.4**
CIRO	**Champorcher**	**0.66**	**131**	P		**Pg**	**01 47 21.9**	**-0.7**
CIRO				Sg		**Sg**	**01 47 30.1**	**-1.1**
CIRO	**Champorcher**	**0.66**	**131**	Pg		**Pg**	**01 47 21.9**	**-0.7**
CIRO				Sg		**Sg**	**01 47 30.1**	**-1.1**
SATI	**Passo dei Sala**	**0.72**	**102**	P		**Pg**	**01 47 22.6**	**-1.2**
SATI				S		**Sg**	**01 47 32.0**	**-1.2**
MMK	**Mattmark**	**0.77**	**89**	⇑*iPg*		**Pg**	**01 47 23.7**	**-0.9**
	40nm,0.2s							
MMK	**Mattmark**	**0.77**	**89**	⇑*iPg*		**Pg**	**01 47 23.7**	**-0.9**
CABF	**La Chapelle**	**0.78**	**317**	*ePg*		**Pg**	**01 47 25.1**	**+0.2**
	SNR=1.0							
CABF				*e*Sn		**Sb**	**01 47 38.0**	**+1.5**
	16nm,0.3s,SNR=1.0							
CABF	**La Chapelle**	**0.78**	**317**	*ePg*		**Pg**	**01 47 25.1**	**+0.2**
	SNR=1.0							
CABF				*e*Sn		**Sb**	**01 47 38.0**	**+1.5**
	8.2nm,0.3s,SNR=1.0							
TRAV	**Traversella**	**0.81**	**130**	P		**Pg**	**01 47 24.4**	**-1.0**
TRAV				S		**Sg**	**01 47 34.4**	**-1.6**
RSP	**Reno Superiore**	**0.93**	**162**	P		**Pg**	**01 47 27.1**	**-0.6**
RSP				S		**Sg**	**01 47 38.4**	**-1.4**
RRL	**Rocca Remolon**	**1.12**	**182**	P		**Pg**	**01 47 30.4**	**-0.8**
RRL				S		**Sg**	**01 47 44.5**	**-1.2**
MBDF	**Montbardon**	**1.31**	**183**	*ePg*		**Pg**	**01 47 34.0**	**-0.9**
MBDF	**Montbardon**	**1.31**	**183**	*eP*		**Pb**	**01 47 34.9**	**+0.2**
MBDF				*e*Sg		**Sg**	**01 47 51.4**	**-0.5**
	5.0nm,0.3s,SNR=1.0							
MBDF	**Montbardon**	**1.31**	**183**	*ePg*		**Pg**	**01 47 34.0**	**-0.9**
MBDF	**Montbardon**	**1.31**	**183**	*eP*		**Pb**	**01 47 34.9**	**+0.2**
MBDF				*e*Sg		**Sg**	**01 47 51.4**	**-0.5**
	2.5nm,0.3s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.31**	**212**	*ePg*		**Pn**	**01 47 34.1**	**-0.4**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**01 47 51.7**	**-0.2**
	11nm,0.4s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.31**	**212**	*ePg*		**Pn**	**01 47 34.1**	**-0.4**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**01 47 51.7**	**-0.2**
	5.6nm,0.4s,SNR=1.0							
HINF	**Hinteralfeld**	**1.78**	**360**	*ePn*		**Pn**	**01 47 40.2**	**-0.7**
	SNR=1.0							
HINF	**Hinteralfeld**	**1.78**	**360**	*ePg*		**Pb**	**01 47 43.3**	**+0.6**
HINF				*e*Sn		**Sn**	**01 48 01.7**	**-2.0**
	SNR=1.0							
HINF				*e*Sg		**Sb**	**01 48 06.2**	**+1.0**
	6.0nm,0.3s							
HINF	**Hinteralfeld**	**1.78**	**360**	*ePn*		**Pn**	**01 47 40.2**	**-0.7**
	SNR=1.0							
HINF	**Hinteralfeld**	**1.78**	**360**	*ePg*		**Pb**	**01 47 43.3**	**+0.6**
HINF				*e*Sn		**Sn**	**01 48 01.7**	**-2.0**
	SNR=1.0							
HINF				*e*Sg		**Sb**	**01 48 06.2**	**+1.0**
	3.0nm,0.3s							
VIVF	**Saint-Julien-l**	**1.94**	**233**	*ePg*		**Pb**	**01 47 45.9**	**+0.6**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**01 48 05.5**	**-2.1**
	SNR=1.0							
VIVF				*e*Sg		**Sb**	**01 48 10.9**	**+1.2**
	12nm,0.2s							
VIVF	**Saint-Julien-l**	**1.94**	**233**	*ePg*		**Pb**	**01 47 45.9**	**+0.6**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**01 48 05.5**	**-2.1**
	SNR=1.0							
VIVF				*e*Sg		**Sb**	**01 48 10.9**	**+1.2**
	5.9nm,0.2s							
HAU	**Haudompre**	**2.00**	**350**	*ePn*		**Pn**	**01 47 43.6**	**-0.3**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**01 48 13.3**	**-0.7**
	9.4nm,0.3s							
HAU	**Haudompre**	**2.00**	**350**	*ePn*		**Pn**	**01 47 43.6**	**-0.3**
	SNR=1.0							
HAU				*e*Sg		**Sb**	**01 48 13.3**	**-0.7**
	4.7nm,0.3s							
SMF	**Signal de Mont**	**2.17**	**287**	*eP*		**Pn**	**01 47 47.3**	**+1.0**
	SNR=1.0							
SMF	**Signal de Mont**	**2.17**	**287**	*ePg*		**Pb**	**01 47 50.8**	**+1.4**
	SNR=1.0							
SMF				*e*Sg		**Sb**	**01 48 17.8**	**+1.3**
	4.9nm,0.2s							
SMF	**Signal de Mont**	**2.17**	**287**	*eP*		**Pn**	**01 47 47.3**	**+1.0**
	SNR=1.0							
SMF	**Signal de Mont**	**2.17**	**287**	*ePg*		**Pb**	**01 47 50.8**	**+1.4**
	SNR=1.0							
SMF				*e*Sg		**Sb**	**01 48 17.8**	**+1.3**
	2.5nm,0.2s							
SBF	**Sospel**	**2.21**	**169**	*ePg*		**Pb**	**01 47 50.5**	**+0.5**
SBF	**Sospel**	**2.21**	**169**	*ePg*		**Pb**	**01 47 50.5**	**+0.5**
SMRF	**Simiane la Rot**	**2.25**	**204**	*eP*		**Pn**	**01 47 49.3**	**+2.0**
SMRF	**Simiane la Rot**	**2.25**	**204**	*ePg*		**Pg**	**01 47 52.6**	**-0.3**
SMRF				*e*Sg		**Sb**	**01 48 20.4**	**+1.7**
	1.1nm,0.3s							
SMRF	**Simiane la Rot**	**2.25**	**204**	*eP*		**Pn**	**01 47 49.3**	**+2.0**
SMRF	**Simiane la Rot**	**2.25**	**204**	*ePg*		**Pg**	**01 47 52.6**	**-0.3**
SMRF				*e*Sg		**Sb**	**01 48 20.4**	**+1.7**
	0.6nm,0.3s							
PLDF	**La Plantade**	**2.25**	**269**	Pg		**Pb**	**01 47 52.4**	**+1.7**
PLDF				Sn		**Sn**	**01 48 14.3**	**-1.2**
PLDF				Sg		**Sg**	**01 48 21.8**	**-0.4**
PLDF	**La Plantade**	**2.25**	**269**	Pg		**Pb**	**01 47 52.5**	**+1.7**
CDF	**Champ du Feu**	**2.39**	**7**	*ePn*		**Pn**	**01 47 48.4**	**-0.9**
	SNR=1.0							
CDF	**Champ du Feu**	**2.39**	**7**	*ePg*		**Pg**	**01 47 54.5**	**-1.1**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**01 48 16.4**	**-2.5**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**01 48 25.5**	**-1.2**
	3.4nm,0.4s,SNR=1.0							
CDF	**Champ du Feu**	**2.39**	**7**	*ePn*		**Pn**	**01 47 48.4**	**-0.9**
	SNR=1.0							
CDF	**Champ du Feu**	**2.39**	**7**	*ePg*		**Pg**	**01 47 54.5**	**-1.1**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**01 48 16.4**	**-2.5**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**01 48 25.5**	**-1.2**
	1.7nm,0.4s,SNR=1.0							
LOR	**Lormes**	**2.40**	**302**	*ePn*		**Pn**	**01 47 49.6**	**+0.2**
	baz=120,SNR=1.0							
LOR	**Lormes**	**2.40**	**302**	*ePg*		**Pb**	**01 47 54.8**	**+1.5**
	baz=121							
LOR				*e*Sg		**Sb**	**01 48 25.1**	**+2.0**
	3.3nm,0.3s,SNR=1.0							
LOR	**Lormes**	**2.40**	**302**	*ePn*		**Pn**	**01 47 49.6**	**+0.2**
	SNR=1.0							
LOR	**Lormes**	**2.40**	**302**	*ePg*		**Pb**	**01 47 54.8**	**+1.5**
LOR				*e*Sg		**Sb**	**01 48 25.1**	**+2.0**
	1.6nm,0.3s,SNR=1.0							
DAVA	**Damuels**	**2.43**	**58**	Pg		**Pg**	**01 47 56.2**	**-0.1**
	0.8nm,0.2s							
DAVA				Sg		**Sg**	**01 48 29.1**	**+1.3**
	2.6nm,0.2s							
DAVA	**Damuels**	**2.43**	**58**	*i* Pg		**Pg**	**01 47 56.2**	**-0.1**
	0.8nm,0.2s							
DAVA				*i* Sg		**Sg**	**01 48 29.1**	**+1.3**
	2.6nm,0.2s							
FRF	**La Foret Royal**	**2.48**	**184**	*eP*		**Pn**	**01 47 51.7**	**+1.3**
FRF	**La Foret Royal**	**2.48**	**184**	*ePg*		**Pg**	**01 47 56.3**	**-1.0**
	SNR=1.0							
FRF				*e*Sg		**Sg**	**01 48 28.9**	**-0.5**
	1.8nm,0.3s							
FRF	**La Foret Royal**	**2.48**	**184**	*eP*		**Pn**	**01 47 51.7**	**+1.3**
FRF	**La Foret Royal**	**2.48**	**184**	*ePg*		**Pg**	**01 47 56.3**	**-1.0**
	SNR=1.0							
FRF				*e*Sg		**Sg**	**01 48 28.9**	**-0.5**
	0.9nm,0.3s							
SFTF	**Sexfontaines**	**2.50**	**331**	*e*Sn		**Sn**	**01 48 20.8**	**-0.6**
	2.1nm,0.2s							
SFTF	**Sexfontaines**	**2.50**	**331**	*e*Sn		**Sn**	**01 48 20.8**	**-0.6**
	1.0nm,0.2s							
SSF	**Saint Saulge**	**2.53**	**295**	*eP*		**Pn**	**01 47 52.5**	**+1.4**
	SNR=1.0							
SSF	**Saint Saulge**	**2.53**	**295**	*ePg*		**Pb**	**01 47 57.2**	**+1.8**
SSF				*e*Sg		**Sb**	**01 48 29.4**	**+2.8**
	1.7nm,0.2s,SNR=1.0							
SSF	**Saint Saulge**	**2.53**	**295**	*eP*		**Pn**	**01 47 52.5**	**+1.4**
	SNR=1.0							
SSF	**Saint Saulge**	**2.53**	**295**	*ePg*		**Pb**	**01 47 57.2**	**+1.8**
SSF				*e*Sg		**Sb**	**01 48 29.4**	**+2.8**
	0.9nm,0.2s,SNR=1.0							
AVF	**Avril sur Loir**	**2.54**	**289**	*ePn*		**Pn**	**01 47 51.4**	**+0.2**
AVF	**Avril sur Loir**	**2.54**	**289**	*ePg*		**Pg**	**01 47 57.7**	**-0.7**
	SNR=1.0							
AVF				*e*Sg		**Sb**	**01 48 29.9**	**+3.0**
	2.4nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**2.54**	**289**	*ePn*		**Pn**	**01 47 51.4**	**+0.2**
AVF	**Avril sur Loir**	**2.54**	**289**	*ePg*		**Pg**	**01 47 57.7**	**-0.7**
	SNR=1.0							
AVF				*e*Sg		**Sb**	**01 48 29.9**	**+3.0**
	1.2nm,0.3s,SNR=1.0							
AGO	**Saint Agoulin**	**2.59**	**272**	Pn		**Pn**	**01 47 51.6**	**-0.4**
AGO	**Saint Agoulin**	**2.59**	**272**	Pg		**Pb**	**01 47 57.5**	**+1.0**
AGO				Sn		**Sn**	**01 48 23.1**	**-0.6**
AGO	**Saint Agoulin**	**2.59**	**272**	Pn		**Pn**	**01 47 51.6**	**-0.4**
AGO	**Saint Agoulin**	**2.59**	**272**	Pg		**Pb**	**01 47 57.5**	**+1.0**
PAGF	**Fort de Pagny**	**2.63**	**343**	*ePg*		**Pb**	**01 47 58.1**	**+0.9**
PAGF				*e*Sg		**Sg**	**01 48 33.0**	**-1.4**
PAGF	**Fort de Pagny**	**2.63**	**343**	*ePg*		**Pb**	**01 47 58.1**	**+0.9**
PAGF				*e*Sg		**Sg**	**01 48 33.0**	**-1.4**
LBL	**Lubilhac**	**2.66**	**254**	Pg		**Pg**	**01 48 00.2**	**-0.4**
LBL				Sg		**Sg**	**01 48 35.0**	**-0.1**
LBL	**Lubilhac**	**2.66**	**254**	Pg		**Pg**	**01 48 00.2**	**-0.4**
PYM	**Petit Puy Mans**	**2.70**	**265**	Pn		**Pn**	**01 47 53.2**	**-0.4**
PYM	**Petit Puy Mans**	**2.70**	**265**	Pg		**Pg**	**01 48 00.8**	**-0.7**
PYM				Sn		**Sn**	**01 48 26.9**	**+0.4**
PYM	**Petit Puy Mans**	**2.70**	**265**	Pn		**Pn**	**01 47 53.2**	**-0.4**
PYM	**Petit Puy Mans**	**2.70**	**265**	Pg		**Pg**	**01 48 00.9**	**-0.7**
LMR	**La Mourre**	**2.71**	**185**	*eP*		**Pn**	**01 47 54.9**	**+1.3**
LMR	**La Mourre**	**2.71**	**185**	*ePg*		**Pg**	**01 48 00.2**	**-1.5**
	SNR=1.0							
LMR				*e*Sg		**Sb**	**01 48 34.4**	**+2.5**
LMR	**La Mourre**	**2.71**	**185**	*eP*		**Pn**	**01 47 54.9**	**+1.3**
LMR	**La Mourre**	**2.71**	**185**	*ePg*		**Pg**	**01 48 00.2**	**-1.5**
	SNR=1.0							
LMR				*e*Sg		**Sb**	**01 48 34.4**	**+2.5**
MEZF	**Maizieres J'vi**	**2.75**	**334**	*ePg*		**Pg**	**01 48 01.4**	**-1.1**
MEZF				*e*Sn		**Sn**	**01 48 25.2**	**-2.5**
MEZF				*e*Sg		**Sg**	**01 48 37.7**	**-0.5**
	5.9nm,0.4s							
MEZF	**Maizieres J'vi**	**2.75**	**334**	*ePg*		**Pg**	**01 48 01.4**	**-1.1**
MEZF				*e*Sn		**Sn**	**01 48 25.2**	**-2.5**
MEZF				*e*Sg		**Sg**	**01 48 37.7**	**-0.5**
	3.0nm,0.4s							
BGF	**Bois d'Agland**	**2.83**	**282**	*ePn*		**Pn**	**01 47 55.3**	**+0.1**
	SNR=1.0							
BGF	**Bois d'Agland**	**2.83**	**282**	*ePg*		**Pg**	**01 48 03.1**	**-0.8**
BGF				*e*Sg		**Sb**	**01 48 36.1**	**+0.8**
	8.5nm,0.3s							
BGF	**Bois d'Agland**	**2.83**	**282**	*ePn*		**Pn**	**01 47 55.3**	**+0.1**
	SNR=1.0							
BGF	**Bois d'Agland**	**2.83**	**282**	*ePg*		**Pg**	**01 48 03.1**	**-0.8**
BGF				*e*Sg		**Sb**	**01 48 36.1**	**+0.8**
	4.2nm,0.3s							
FETA	**Feichten**	**2.85**	**68**	Sg		**Sg**	**01 48 42.0**	**+0.7**
	3.0nm,0.8s							
FETA	**Feichten**	**2.85**	**68**	Sg		**Sg**	**01 48 42.0**	**+0.7**
	3.0nm,0.8s							
LASF	**Ste Croix**	**2.89**	**228**	*eP*		**Pn**	**01 47 57.5**	**+1.4**
LASF	**Ste Croix**	**2.89**	**228**	*ePg*		**Pb**	**01 48 03.6**	**+2.0**
LASF				*e*Sg		**Sg**	**01 48 40.9**	**-1.7**
	2.6nm,0.3s,SNR=1.0							
LASF	**Ste Croix**	**2.89**	**228**	*eP*		**Pn**	**01 47 57.5**	**+1.4**
LASF	**Ste Croix**	**2.89**	**228**	*ePg*		**Pb**	**01 48 03.6**	**+2.0**
LASF				*e*Sg		**Sg**	**01 48 40.9**	**-1.7**
	1.3nm,0.3s,SNR=1.0							
TCF	**Toulx Ste Croi**	**3.24**	**276**	*eP*		**Pn**	**01 48 01.7**	**+0.8**
TCF	**Toulx Ste Croi**	**3.24**	**276**	*ePg*		**Pg**	**01 48 10.3**	**-1.5**
TCF				*e*Sg		**Sg**	**01 48 51.8**	**-1.9**
	SNR=1.0							
TCF	**Toulx Ste Croi**	**3.24**	**276**	*eP*		**Pn**	**01 48 01.7**	**+0.8**
TCF	**Toulx Ste Croi**	**3.24**	**276**	*ePg*		**Pg**	**01 48 10.3**	**-1.5**
TCF				*e*Sg		**Sg**	**01 48 51.8**	**-1.9**
	SNR=1.0							
CAF	**Calviac**	**3.55**	**253**	*e*Sg		**Sg**	**01 49 02.0**	**-1.7**
CAF	**Calviac**	**3.55**	**253**	*e*Sg		**Sg**	**01 49 02.0**	**-1.7**
RJF	**Les Rejaudoux**	**3.81**	**261**	*e*Sg		**Sg**	**01 49 09.8**	**-2.4**
	1.4nm,0.2s,SNR=1.0							
RJF	**Les Rejaudoux**	**3.81**	**261**	*e*Sg		**Sg**	**01 49 09.8**	**-2.4**
	0.7nm,0.2s,SNR=1.0							
MTLF	**Montolieu**	**4.27**	**232**	*e*Sg		**Sg**	**01 49 23.3**	**-3.4**
	SNR=1.0							
MTLF	**Montolieu**	**4.27**	**232**	*e*Sg		**Sg**	**01 49 23.3**	**-3.4**
	SNR=1.0							
LFF	**La Frestale**	**4.44**	**258**	*e*Sg		**Sg**	**01 49 30.6**	**-1.6**
LFF	**La Frestale**	**4.44**	**258**	*e*Sg		**Sg**	**01 49 30.6**	**-1.6**

TIR ***22*** *01:49:34.0, 41°.09N×19°.52E, h1km, ML2.6*
ATH ***22*** *01:49:34.5, 41°.20N×19°.45E, h26km±2km, ML2.2/9, Error ellipse: s-maj=3.2km s-min=1.0km az=354.0*
THE ***22*** *01:49:34.8, 41°.31N×19°.28E, h21km±10km, ML2.3/6, Error ellipse: s-maj=12.5km s-min=1.8km az=309.0*
CSEM ***22*** *01:49:35.0±0.1, 41°.11N×19°.48E, h2km, ML2.7, Error ellipse: s-maj=3.4km s-min=2.3km az=71.0*
ROM ***22*** *01:49:36.6±0.2, 41°.10N×19°.35E, h10km, Md2.9/6, Ml2.4/4, Error ellipse: s-maj=3.3km s-min=1.7km az=82.0*
BEO ***22*** *01:49:36.6±1.3, 41°.09N×19°.62E, h6km±3km, M2.7/4*
ISCJB ***22*** *01:49:36.7±0.4, 41°.10N±0°.01×19°.45E±0°.03, h18km±4km, Error ellipse: s-maj=3.4km s-min=2.3km az=156.4*
SKO ***22*** *01:49:37.2, 41°.20N×19°.56E, h18km, M1.8, ML2.2*
PDG ***22*** *

comp=N,135μm,0.2s
KEK AML AML 01 50 28.5
comp=E,166μm,0.4s
KEK Kerkira 1.41 170 P **Pn 01 50 01.6 0.0**
KEK Kerkira 1.41 170 Pn **Pb 01 50 02.4 +0.2**
KEK Sn **Sg 01 50 22.1 +1.0**
KEK Kerkira 1.41 170 P **Pn 01 50 01.6 0.0**
KEK S **Sg 01 50 22.9 +1.8**
KEK Kerkira 1.41 170 Pn **Pb 01 50 02.4 +0.2**
KEK Sn **Sg 01 50 22.1 +1.0**
FNA Florina 1.47 102 *i* PG **Pn 01 50 02.9 +0.5**
FNA *i* SG **Sn 01 50 19.9 -1.9**
FNA Florina 1.47 102 P **Pn 01 50 01.6 -0.8**
FNA S **Sn 01 50 21.4 -0.4**
FNA AML AML 01 50 24.1
comp=E,248μm,0.6s
FNA AML AML 01 50 24.2
comp=N,395μm,0.6s
FNA Florina 1.47 102 P **Pn 01 50 02.0 -0.4**
FNA Florina 1.47 102 *i* Pg **Pn 01 50 02.9 +0.5**
FNA *i* Sg **Sn 01 50 19.9 -1.9**
FNA S **Sb 01 50 23.1 +1.1**
FNA Florina 1.47 102 P **Pn 01 50 02.0 -0.4**
FNA S **Sb 01 50 23.1 +1.1**
CEME Cevo 1.50 344 ⇓ *i* Pg **Pn 01 50 03.2 +0.3**
CEME *e*Sg **Sg 01 50 25.3 +1.4**
CEME Cevo 1.50 344 ⇓ *i* Pg **Pn 01 50 03.2 +0.3**
CEME *e*Sg **Sg 01 50 25.3 +1.4**
PVY Plav 1.53 13 ⇓ *i* Pg **Pn 01 50 03.6 +0.3**
PVY *e*Sg **Sn 01 50 24.6 +1.2**
PVY Plav 1.53 13 ⇓ *i* Pg **Pn 01 50 03.6 +0.3**
PVY *e*Sg **Sn 01 50 24.6 +1.2**
HCY Herceg Novi 1.53 331 ⇑ *i* Pg **Pn 01 50 04.0 +0.8**
HCY *e*Sg **Sg 01 50 27.5 +2.6**
PENT Pentalofos 1.55 125 P **Pn 01 50 03.2 -0.4**
PENT S **Sb 01 50 25.8 +1.3**
PENT AML AML 01 50 29.3
comp=N,85μm,0.6s
PENT AML AML 01 50 29.9
comp=E,89μm,0.4s
PENT Pentalofos 1.55 125 P **Pn 01 50 03.4 -0.2**
PENT S **Sb 01 50 25.3 +0.8**
SGD Sagiada 1.60 159 P **Pn 01 50 04.7 +0.6**
SGD Sagiada 1.60 159 P **Pn 01 50 04.6 +0.5**
SGD Sagiada 1.60 159 P **Pb 01 50 05.0 -0.4**
IGT Igoumenitsa 1.70 157 P **Pn 01 50 05.1 -0.5**
IGT S **Sb 01 50 29.4 +0.8**
IGT AML AML 01 50 32.8
comp=N,112μm,0.4s
IGT AML AML 01 50 39.5
comp=E,68μm,0.5s
IGT Igoumenitsa 1.70 157 P **Pn 01 50 05.6 0.0**
IGT S **Sb 01 50 29.1 +0.5**
IGT Igoumenitsa 1.70 157 P **Pn 01 50 05.6 0.0**
IGT S **Sg 01 50 30.6 +0.3**
SKO Skopje 1.70 59 P **Pn 01 50 04.6 -1.0**
SKO Skopje 1.70 59 P **Pn 01 50 04.6 -1.0**
SKO Skopje 1.70 59 *e*Pg **Pn 01 50 06.9 +1.3**
SKO *i* Sg **Sn 01 50 27.6 +0.1**
NKME Niksic 1.71 347 ⇓ *i* Pn **Pn 01 50 06.9 +1.2**
NKME *e*Sn **Sb 01 50 30.6 +1.7**
KOME Kolasin 1.74 1 *e*Pn **Pn 01 50 07.8 +1.6**
KOME *e*Sn **Sb 01 50 31.1 +1.1**
KOME Kolasin 1.74 1 *e*Pn **Pn 01 50 07.8 +1.6**
KOME *e*Sn **Sb 01 50 31.1 +1.1**
NKY Niksic 1.74 348 *e*Pn **Pn 01 50 07.7 +1.4**
NKY *e*Sn **Sb 01 50 32.3 +2.3**
JAN Janina 1.79 144 P **Pn 01 50 06.3 -0.4**
JAN S **Sb 01 50 32.5 +1.4**
JAN AML AML 01 50 39.3
comp=N,91μm,0.4s
JAN AML AML 01 50 43.5
comp=E,109μm,0.4s
JAN Janina 1.79 144 P **Pn 01 50 06.7 0.0**
JAN S **Sb 01 50 31.6 +0.5**
JAN Janina 1.79 144 P **Pn 01 50 06.6 -0.1**
JAN S **Sg 01 50 33.6 +0.6**
BEY Berane 1.79 10 ⇓ *i* Pn **Pn 01 50 08.2 +1.3**
BEY *e*Sn **Sn 01 50 31.7 +1.9**
IVA Berane 1.79 10 ⇓ *i* Pn **Pn 01 50 08.2 +1.3**
IVA *e*Sn **Sn 01 50 31.7 +1.9**
TREB Trebinje 1.82 333 *e*Pn **Pn 01 50 06.3 -0.9**
KPRO Kipourio 1.84 128 P **Pn 01 50 08.5 +1.0**
KPRO S **Sb 01 50 32.6 0.0**
KPRO Kipourio 1.84 128 P **Pn 01 50 08.1 +0.6**
KPRO S **Sb 01 50 32.2 -0.4**
KPRO Kipourio 1.84 128 P **Pn 01 50 08.8 +1.3**
NOCI Noci 1.86 261 P **Pn 01 50 07.5 -0.3**
NOCI Noci 1.86 261 Pn **Pn 01 50 07.1 -0.7**
comp=E,52nm,0.3s
NOCI Noci 1.86 261 Pn **Pn 01 50 07.1 -0.7**
comp=E,52nm,0.3s
KZN Kozani 1.91 114 P **Pn 01 50 10.2 +1.6**
KZN Kozani 1.91 114 P **Pn 01 50 09.4 +0.9**
KZN S **Sb 01 50 35.4 +0.6**
KZN Kozani 1.91 114 P **Pn 01 50 09.6 +1.1**
KZN S **Sb 01 50 35.4 +0.6**
SJES Sjenica 2.18 9 *e*Pn **Pn 01 50 14.0 +1.7**
SJES *e*Sn **Sn 01 50 40.8 +1.2**
SJES Sjenica 2.18 9 *e*Pn **Pn 01 50 14.0 +1.7**
SJES *e*Sn **Sn 01 50 40.8 +1.2**
STON Ston 2.21 324 *e*Pn **Pn 01 50 10.6 -2.0**
STON Sn **Sn 01 50 38.2 -1.8**
STON Ston 2.21 324 *e*Pn **Pn 01 50 10.5 -2.0**
STON Sn **Sn 01 50 38.2 -1.8**
DSL Palaion Diasel 2.33 147 P **Pn 01 50 13.9 -0.3**
DSL Palaion Diasel 2.33 147 P **Pn 01 50 14.3 +0.1**
CRAC Craco 2.43 253 Pn **Pn 01 50 15.4 -0.2**
comp=E,11μm,14.0s
CRAC Craco 2.43 253 Pn **Pn 01 50 15.4 -0.2**
comp=E,11μm,14.0s
SELS Selova 2.44 29 *e*Pn **Pn 01 50 14.7 -1.0**
BARS Barje 2.44 45 *e*Pn **Pn 01 50 16.6 +0.9**
THL Klokotos Trika 2.47 128 P **Pn 01 50 16.6 +0.4**
THL S **Sn 01 50 46.9 +0.4**
THL AML AML 01 50 59.0
comp=E,16μm,0.6s
THL AML AML 01 51 01.5
comp=N,26μm,0.7s
THL Klokotos Trika 2.47 128 P **Pn 01 50 16.5 +0.4**
THL S **Sn 01 50 47.0 +0.5**
LKD2 Lefkada island 2.48 158 P **Pn 01 50 15.2 -1.1**
LKD2 Lefkada island 2.48 158 P **Pn 01 50 16.1 -0.3**
IVAS Ivanjica 2.52 11 *e*Pn **Pn 01 50 18.1 +1.2**
IVAS Ivanjica 2.52 11 *e*Pn **Pn 01 50 18.1 +1.2**
KNT Kendrikon 2.58 88 P **Pn 01 50 16.1 -1.5**
KNT S **Sn 01 50 47.4 -1.7**
KNT Kendrikon 2.58 88 P **Pn 01 50 16.7 -0.9**
KNT S **Sn 01 50 47.9 -1.2**
PIPA Pietrapaola 2.61 232 Pn **Pn 01 50 18.0 0.0**
PIPA Pietrapaola 2.61 232 Pn **Pn 01 50 18.0 0.0**
SALB San Lorenzo Be 2.69 244 Pn **Pn 01 50 19.0 -0.3**
SALB San Lorenzo Be 2.69 244 Pn **Pn 01 50 19.0 -0.3**
EVR Evrytania 2.82 140 P **Pn 01 50 22.9 +1.8**
EVR Evrytania 2.82 140 P **Pn 01 50 22.3 +1.2**
TIP Timpagrande 2.84 228 P **Pn 01 50 20.5 -0.8**
HAPS Han Pijesak,BI 3.00 353 *e*Pn **Pb 01 50 28.1 -1.3**
CUC Castrocucco 3.01 250 P **Pn 01 50 23.6 0.0**
CUC Castrocucco 3.01 250 P **Pn 01 50 23.4 -0.2**
AGG Agios Georgios 3.02 133 P **Pn 01 50 24.0 +0.3**
AGG S **Sn 01 50 0.5 +0.6**
AGG Agios Georgios 3.02 133 P **Pn 01 50 24.2 +0.5**
AGG S **Sn 01 50 0.6 +0.6**
SRS Serrai 3.10 88 P **Pn 01 50 23.3 -2.6**
SRS Serrai 3.10 88 P **Pn 01 50 23.4 -1.5**
ANX Ano Chora 3.13 142 P **Pn 01 50 26.2 +0.9**
ANX Ano Chora 3.13 142 P **Pn 01 50 26.1 +0.8**
NVR Nevrokopi 3.31 84 P **Pn 01 50 25.4 -2.3**
NVR Nevrokopi 3.31 84 P **Pn 01 50 26.5 -1.2**
ZAGS Zajecar 3.38 36 *e*Pn **Pn 01 50 28.5 -0.2**
ZAGS Zajecar 3.38 36 *e*Pn **Pn 01 50 28.5 -0.2**
PAIG Paliouri 3.41 109 P **Pn 01 50 26.7 -2.3**
PAIG Paliouri 3.41 109 P **Pn 01 50 28.0 -1.0**
NVLJ Novalja 4.84 317 *e*Pn **Pn 01 50 48.7 0.0**
NVLJ Sn **Sn 01 51 42.0 -2.9**
NVLJ Novalja 4.84 317 *e*Pn **Pn 01 50 48.7 0.0**
NVLJ Sn **Sn 01 51 41.9 -2.9**

*ISCJB **22** 01:50:42.6±0.4, 27°90N±0°04×51°70E±0°04, h16km, mb3.6/16, MS3.6/1, Error ellipse: s-maj=6.7km s-min=3.2km az=43.5*

*IDC **22** 01:50:42.6±1.1, 27°96N×51°61E, h0km, mb3.7/16, mb1 3.7/18, mb1mx3.6/65, mbtmp3.7/18, ML3.4/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/59, Error ellipse: s-maj=25.6km s-min=16.7km az=153.0*

*CSEM **22** 01:50:46.0±0.2, 28°05N×51°84E, h20km, ML3.4, Error ellipse: s-maj=9.2km s-min=2.9km az=50.0*

*OMAN **22** 01:50:48.5±1.6, 27°63N×51°89E, h10km, Error ellipse: s-maj=23.0km s-min=12.3km az=21.0*

*TEH **22** 01:50:48.4, 28°25N×51°78E, h10km, ML3.3*

ISC 22 01:50:44.4±0.7, 27°94N±0°06×51°76E±0°06, h16km, n50, σ1°28/64, mb3.9/16, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHBU	**AHRAM**	**1.01**	**336**	*e*Pg	**Pb**	**01 51 03.0**	**-0.5**
GHIR	**Ghir-Karzin**	**1.14**	**72**	*e*Pg	**Pn**	**01 51 05.1**	**-0.7**
GHIR				*e*Sg	**Sb**	**01 51 19.6**	**-0.8**
ISRV	**Sarvestan**	**1.86**	**39**	*e*Pn	**Pn**	**01 51 16.7**	**+0.7**
IRAM	**Ramesheh**	**3.89**	**8**	*e*Pn	**Pn**	**01 51 43.4**	**-0.4**
IRAM				*e*AMB	AMB	01 52 53.2	
	comp=Z,294nm,0.3s						
IMEH	**Mehriz**	**4.24**	**35**	*e*Pn	**Pn**	**01 51 50.3**	**+1.7**
IMEH				*e*AMB	AMB	01 51 54.0	
	comp=Z,645nm,0.1s						
ISAD	**Sadrabad**	**4.30**	**22**	*e*Pn	**Pn**	**01 51 50.2**	**+0.8**
ISAD				*e*AMB	AMB	01 52 08.7	
	comp=Z,210nm,0.3s						
SHME	**Shamm**	**4.34**	**115**	P	**Pn**	**01 51 50.4**	**+0.6**
SHME				S	**Sn**	**01 52 41.5**	**+1.4**
BANOM	**Banah**	**4.52**	**115**	P	**Pn**	**01 51 53.3**	**+1.0**
	SNR=28						
BANOM				S	**Sn**	**01 52 43.4**	**-1.2**
BANOM	**Banah**	**4.52**	**115**	P	**Pn**	**01 51 53.3**	**+1.0**
	SNR=28						
BANOM				S	**Sn**	**01 52 43.4**	**-1.2**
NAZ	**Nazwa, Dubai**	**4.57**	**129**	P	**Pn**	**01 51 55.2**	**+2.3**
NAZ				S	**Sn**	**01 52 46.6**	**+0.9**
NAZ	**Nazwa, Dubai**	**4.57**	**129**	P	**Pn**	**01 51 55.2**	**+2.3**
NAZ				S	**Sn**	**01 52 46.6**	**+0.9**
MSFE	**Esma-Masafi**	**4.70**	**122**	P	**Pn**	**01 51 56.0**	**+1.2**
	SNR=7.7						
MSFE				S	**Sn**	**01 52 48.8**	**-0.2**
ICHK	**Chekchek**	**4.86**	**27**	*e*Pn	**Pn**	**01 51 57.4**	**+0.2**
IBAF	**Bafgh**	**4.92**	**41**	*e*Pn	**Pn**	**01 51 58.4**	**+0.6**
IBAF				*e*AMB	AMB	01 52 03.8	
	comp=Z,276nm,0.1s						
NASN	**Na'in**	**4.93**	**10**	*e*Pn	**Pn**	**01 51 57.8**	**-0.3**
IZEF	**Zefreh**	**4.96**	**6**	*e*Pn	**Pn**	**01 51 58.4**	**-0.2**
IZEF				*e*AMB	AMB	01 51 59.5	
	comp=Z,194nm,0.1s						
UOSS	**Minazif**	**4.97**	**126**	P	**Pn**	**01 51 59.7**	**+1.2**
UOSS				S	**Sn**	**01 52 54.8**	**-0.9**
UOSS	**Minazif**	**4.97**	**126**	P	**Pn**	**01 51 59.7**	**+1.2**
UOSS				S	**Sn**	**01 52 54.8**	**-0.9**
ASHO	**Ashiyiah**	**5.04**	**129**	P	**Pn**	**01 52 00.8**	**+1.4**
	SNR=11						
ASHO				S	**Sn**	**01 52 57.5**	**+0.1**
ASHO	**Ashiyiah**	**5.04**	**129**	P	**Pn**	**01 52 00.8**	**+1.4**
	SNR=11						
ASHO				S	**Sn**	**01 52 57.5**	**+0.1**
IKLH	**Kolahrood**	**5.36**	**358**	*e*AMB	AMB	01 52 08.8	
	comp=Z,134nm,0.2s						
IKLH				*e*Pn	**Pn**	**01 52 03.6**	**-0.5**
QAM	**Ghamsar**	**5.81**	**357**	*e*Pn	**Pn**	**01 52 07.9**	**-2.2**
QAM				*e*AMB	AMB	01 53 21.6	
	comp=Z,252nm,0.2s						
KHMZ	**Khomeyn**	**5.98**	**345**	*e*Pn	**Pn**	**01 52 12.8**	**+0.2**
ASAO	**Ashtian**	**6.75**	**348**	*e*Pn	**Pn**	**01 52 23.2**	**0.0**
IGHG	**Ghaleghazi**	**7.77**	**326**	*e*Pn	**Pn**	**01 52 37.2**	**+0.1**
WSAR	**Wadi Sarin**	**7.77**	**126**	Pn	**Pn**	**01 52 37.5**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=316,slow=12,SNR=14						
WSAR				Sn	**Sn**	**01 54 01.4**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=270,slow=19,SNR=2.5						
WSAR	**Wadi Sarin**	**7.77**	**126**	P	**Pn**	**01 52 37.9**	**+1.0**
	SNR=5.7						
WSAR				S	**Sn**	**01 54 01.7**	**-2.9**
WSAR	**Wadi Sarin**	**7.77**	**126**	P	**Pn**	**01 52 37.9**	**+1.0**
	SNR=5.7						
WSAR				S	**Sn**	**01 54 01.7**	**-2.9**
IVIS	**Veis**	**7.79**	**329**	*e*Pn	**Pn**	**01 52 37.5**	**+0.2**
IVIS				*e*AMB	AMB	01 52 43.0	
	comp=Z,108nm,0.1s						
SNGE	**Sanandaj**	**8.06**	**333**	*e*Pn	**Pn**	**01 52 41.4**	**+0.3**
ILIN	**Lien**	**8.07**	**331**	*e*Pn	**Pn**	**01 52 41.3**	**0.0**
ILIN				*e*AMB	AMB	01 52 42.8	
	comp=Z,240nm,0.1s						
GEYT	**Alibeck**	**11.30**	**27**	Sn	**Sn**	**01 55 29.8**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=214,slow=32,SNR=6.4						
BRTR	**Keskin Array B**	**19.06**	**313**	P	**Pn**	**01 55 07.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=134,slow=14,SNR=6.8						
AKTO	**Aktyubinsk**	**22.96**	**10**	P	**P**	**01 55 49.8**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=220,slow=16,SNR=2.3						
AAK	**Ala-Archa**	**23.55**	**46**	P	**P**	**01 55 57.5**	**+3.2**
	comp=Z,0.4nm,0.6s,baz=210,slow=14,SNR=1.8						
BVAR	**Borovoye Array**	**28.61**	**24**	P	**P**	**01 56 41.4**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=209,slow=6.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**30.41**	**35**	P	**P**	**01 56 58.1**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=239,slow=9.2,SNR=2.6						
MKAR	**Makanchi Array**	**30.43**	**44**	P	**P**	**01 56 57.8**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=236,slow=8.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**35.48**	**34**	P	**P**	**01 57 40.3**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=232,slow=3.5,SNR=2.6						
FINES	**FINESS Array B**	**37.64**	**340**	P	**P**	**01 57 57.7**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=144,slow=7.5,SNR=13						
HFS	**Hagfors**	**41.22**	**332**	P	**P**	**01 58 27.7**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=119,slow=8.9,SNR=14						
HFS				LR	LR	02 16 40.8	
	comp=Z,89nm,19.9s,baz=66,slow=38						
NOA	**NORSAR Array B**	**42.75**	**332**	P	**P**	**01 58 39.8**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=128,slow=9.0,SNR=3.7						
ARCES	**ARCESS Array B**	**44.33**	**347**	P	**P**	**01 58 53.1**	**-0.2**
	comp=Z,2.8nm,1.0s,baz=142,slow=6.1,SNR=4.6						
EKA	**Eskdalemuir Ar**	**47.70**	**321**	P	**P**	**01 59 19.8**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=100,slow=8.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**48.81**	**263**	P	**P**	**01 59 29.7**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=60,slow=7.4,SNR=18						
KOWA	**Kowa**	**53.28**	**268**	P	**P**	**02 00 03.6**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=59,slow=9.9,SNR=8.6						
DBIC	**Dimbokro**	**57.50**	**260**	P	**P**	**02 00 32.7**	**-0.6**
	comp=Z,3.0nm,1.0s,baz=76,slow=8.8,SNR=4.1						
SCHQ	**Schefferville**	**82.23**	**329**	P	**P**	**02 03 04.3**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=76,slow=12,SNR=3.0						
YKA	**Yellowknife Ar**	**89.22**	**354**	P	**P**	**02 03 39.4**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=8.5,slow=5.6,SNR=3.6						
TXAR	**Lajitas Array**	**118.39**	**336**	PKP	**PKPdf**	**02 09 30.8**	**-1.0**
	comp=Z,0.1nm,0.6s,baz=130,slow=1.4,SNR=2.4						

IDC 22 01:53:26.9±3.5, 23°17S×66°41W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/33, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=104.9km s-min=42.0km az=35.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.04**	**346**	Pn	Pn	01 55 11.8	0.0
	0.3nm,0.3s,baz=157,slow=6.7,SNR=9.1						
TXAR	**Lajitas Array**	**63.33**	**324**	P	P	02 03 58.0	0.0
	1.6nm,1.3s,baz=143,slow=6.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**75.76**	**69**	P	P	02 05 15.2	+0.1
	0.1nm,0.4s,baz=249,slow=5.6,SNR=5.6						

IDC 22 01:56:19.1±3.4, 4°25S×151°49E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.3/45, mbtmp3.6/2, Error ellipse: s-maj=141.1km s-min=45.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.86**	**226**	P	P	02 01 24.7	+0.4
	1.4nm,0.5s,baz=51,slow=10,SNR=19						
ASAR	**Alice Springs**	**25.70**	**220**	P	P	02 01 50.6	-0.6
	0.4nm,0.4s,baz=57,slow=8.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**148.90**	**288**	PKPbc	PKPbc	02 16 09.6	-0.4
	0.2nm,0.4s,baz=77,slow=2.5,SNR=5.9						

MEX 22 02:00:31.1±0.4, 16°11N×98°47W, h15km±6km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.43**	**49**	*i* P	Pg	02 00 38.8	-1.0
PNIG				*e*S	Sg	02 00 44.6	-1.1
TLIG	**Tlapa**	**1.45**	**356**	*e*P	Pn	02 00 53.3	-3.6
TLIG				*i* S	Sn	02 01 10.4	-5.3
ACX	**Acapulco**	**1.53**	**300**	*i* P	Pn	02 00 55.4	-2.5
ACX				*i* S	Sn	02 01 13.8	-3.9
VHO	**Vista Hermosa**	**1.92**	**60**	*e*P	Pn	02 01 00.1	-3.3
VHO				*e*S	Sn	02 01 22.4	-5.0
CAIG	**El Cayaco**	**1.96**	**299**	*e*P	Pn	02 01 00.5	-3.4
CAIG				*e*S	Sn	02 01 23.5	-4.6
HUIG	**Huatulco**	**2.30**	**98**	*i* P	Pn	02 01 04.9	-3.6
HUIG				*i* S	Sn	02 01 32.8	-3.6
PLIG	**Platanillo**	**2.48**	**337**	*e*P	Pn	02 01 07.8	-3.1
PLIG				*e*S	Sn	02 01 37.7	-3.3

MAN 22 02:08:53, 10°02N×123°26E, h33km, mb3.7, ML2.5, MS2.0, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.67**	**182**	⇑ *i* P	Pb	02 09 07.2	+0.8
SNPH				*i* S	Sn	02 09 16.5	+0.9
TBP	**Tagbilaran**	**0.68**	**119**	*e*P	Pn	02 09 03.9	-2.4
LLP	**Lapu-Lapu**	**0.76**	**67**	*e*P	Pn	02 09 07.3	-0.1
LLP				*e*S	Sb	02 09 19.0	+1.1
GUIM	**Jordan**	**0.89**	**313**	*e*P	Pn	02 09 09.7	+0.4
GUIM				*e*S	Sb	02 09 21.5	-0.2
MSLP	**Maasin**	**1.58**	**86**	*e*P	Pb	02 09 22.4	+0.7
MSLP				*e*S	Sb	02 09 45.4	+4.1

JMA 22 02:23:11.7, 36°20N×141°00E, h35km±1km, M3.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.54**	**320**	P	Pn	02 23 22.5	-0.4
JHO				S	Sn	02 23 30.1	-0.6
ONAJ	**Iwakimizuishiy**	**0.91**	**350**	P	Pn	02 23 27.9	-0.2
JFK	**Kawauchi**	**1.17**	**355**	P	Pn	02 23 31.2	-0.4
MAT	**Matsushiro**	**2.28**	**279**	P	Pn	02 23 48.7	+1.8
MAT				*e*S	Sn	02 24 14.1	+0.4

*ISK **22** 02:38:58.8, 38°70N×43°42E, h21km, ML2.0/3*

*ISCJB **22** 02:38:59.5±0.7, 38°68N±0°03×43°43E±0°06, h25km±6km, Error ellipse: s-maj=8.4km s-min=4.7km az=14.4*

*CSEM **22** 02:38:59.0±0.3, 38°69N×43°38E, h19km±2km, ML2.0, Error ellipse: s-maj=7.1km s-min=4.5km az=104.0*

*DDA **22** 02:39:00.2, 38°73N×43°35E, h7km, Ml2.5*

ISC 22 02:38:59.3±1.0, 38°70N±0°02×43°34E±0°03, h18km±2km, n23, σ1°03/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.12**	**161**	PG	**Pg**	**02 39 04.1**	**+0.8**
VANB	**Van**	**0.12**	**161**	*i* Pg	**Pg**	**02 39 04.1**	**+0.8**
TVAN	**Van**	**0.18**	**164**	*i* P	**Pg**	**02 39 03.7**	**-0.5**
TVAN				*i* S	**Sg**	**02 39 08.5**	**+0.9**
TVAN	**Van**	**0.18**	**164**	P	**Pg**	**02 39 03.7**	**-0.5**
TVAN				S	**Sg**	**02 39 08.5**	**+0.9**
ERCV	**ERCIS-VAN**	**0.32**	**360**	PG	**Pg**	**02 39 06.2**	**-0.1**
ERCV				SG	**Sb**	**02 39 12.0**	**+0.8**
ERCV	**ERCIS-VAN**	**0.32**	**360**	*e*Pg	**Pg**	**02 39 06.2**	**-0.1**
ERCV				*e*Sg	**Sb**	**02 39 12.0**	**+0.8**
VMUR	**Van-Muradiye**	**0.34**	**32**	*i* P	**Pb**	**02 39 06.5**	**-0.4**
VMUR				*i* S	**Sb**	**02 39 12.9**	**+0.9**
VMUR	**Van-Muradiye**	**0.34**	**32**	P	**Pb**	**02 39 06.5**	**-0.4**
VMUR				S	**Sb**	**02 39 12.9**	**+0.9**
GEVA	**Gevas**	**0.45**	**210**	*i* P	**Pg**	**02 39 08.2**	**-0.4**
GEVA				*i* S	**Sn**	**02 39 17.3**	**-1.4**
GEVA	**Gevas**	**0.45**	**210**	P	**Pg**	**02 39 08.2**	**-0.4**
GEVA				S	**Sn**	**02 39 17.3**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.49**	**282**	*i* P	**Pg**	**02 39 07.9**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.49**	**282**	P	**Pg**	**02 39 07.9**	**-1.4**
CLDR	**Caldiran**	**0.63**	**46**	PG	**Pb**	**02 39 10.7**	**-1.1**
CLDR				SG	**Sg**	**02 39 19.9**	**-0.4**
CLDR	**Caldiran**	**0.63**	**46**	*i* P	**Pb**	**02 39 10.7**	**-1.1**
CLDR				*i* S	**Sg**	**02 39 20.5**	**+0.2**
CLDR	**Caldiran**	**0.63**	**46**	P	**Pb**	**02 39 10.7**	**-1.1**
CLDR				*e*Sg	**Sg**	**02 39 19.9**	**-0.4**
CLDR				S	**Sg**	**02 39 20.5**	**+0.2**
TUTA	**Tutak**	**0.81**	**330**	*i* P	**Pg**	**02 39 15.5**	**+0.3**
TUTA				*i* S	**Sn**	**02 39 27.6**	**0.0**
TUTA	**Tutak**	**0.81**	**330**	P	**Pg**	**02 39 15.5**	**+0.3**
TUTA				S	**Sn**	**02 39 27.6**	**0.0**
AGRB	**Hanur-Agry**	**0.91**	**343**	PG	**Pn**	**02 39 17.6**	**+0.2**
AGRB				SG	**Sn**	**02 39 30.6**	**+0.5**
AGRB	**Hanur-Agry**	**0.91**	**343**	*e*Pg	**Pn**	**02 39 17.6**	**+0.2**
AGRB				*e*Sg	**Sn**	**02 39 30.6**	**+0.5**
GURO	**Guroymak-BITLI**	**1.04**	**262**	PN	**Pg**	**02 39 19.7**	**+0.2**
GURO				SN	**Sg**	**02 39 34.3**	**+1.2**
GURO	**Guroymak-BITLI**	**1.04**	**262**	*e*Pn	**Pg**	**02 39 19.7**	**+0.2**
GURO				*e*Sn	**Sg**	**02 39 34.3**	**+1.2**
HAKT	**HAKKARI**	**1.18**	**166**	*i* P	**Pn**	**02 39 20.3**	**-0.8**
HAKT				*i* S	**Sg**	**02 39 41.7**	**+4.1**
HAKT	**HAKKARI**	**1.18**	**166**	P	**Pn**	**02 39 20.3**	**-0.8**

*IDC **22** 02:54:14.7±2.7, 37°75N×144°60E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/66, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=71.2km s-min=32.2km az=64.0*

*ISCJB **22** 02:54:18.3±0.9, 37°92N±0°05×144°30E±0°06, h33km, mb3.5/3, Error ellipse: s-maj=7.6km s-min=6.8km az=144.3*

*JMA **22** 02:54:19.7±0.2, 37°89N×144°18E, h44km, M3.7*

ISC 22 02:54:19.8±1.3, 37°91N±0°07×144°32E±0°08, h35km, n18, σ1°86/30, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.39**	**300**	P	**Pn**	**02 54 56.5**	**+0.1**
OFUJ				S	**Sn**	**02 55 24.1**	**-0.3**
JIO	**Ouri**	**2.41**	**284**	P	**Pn**	**02 54 56.4**	**-0.2**
JIO				S	**Sn**	**02 55 23.6**	**-1.3**
MIYJ	**Miyakonagasawa**	**2.57**	**311**	P	**Pn**	**02 54 58.9**	**0.0**
MIYJ				*e*S	**Sn**	**02 55 28.1**	**-0.8**
JMK	**Ichinoseki**	**2.65**	**294**	P	**Pn**	**02 55 00.7**	**+0.7**
JMK				*e*S	**Sn**	**02 55 31.1**	**+0.2**
JOM	**Ohasama**	**2.84**	**304**	P	**Pn

*ISK **22** 03:05:40.9,38.69N×43.19E, h4km, ML2.1/5*
*ISCJB **22** 03:05:42.4±0.5, 38.69N±0.03×43.24E±0.04, h13km±5km, Error ellipse: s-maj=5.6km s-min=4.3km az=33.2*
*DDA **22** 03:05:42.6, 38.68N×43.25E, h7km, Ml2.8*
*CSEM **22** 03:05:42.2±0.2, 38.70N×43.19E, h5km, ML2.1, Error ellipse: s-maj=5.9km s-min=4.6km az=112.0*

ISC 22 03:05:41.4±1.1, 38.70N±0.03×43.23E±0.03, h18km±3km, n23, σ0969/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**130**	PG	**Pg**	**03 05 46.9**	**+0.9**
VANB	**Van**	**0.16**	**130**	*i* Pg	**Pg**	**03 05 46.9**	**+0.9**
TVAN	**Van**	**0.22**	**141**	*i* P	**Pg**	**03 05 46.8**	**-0.1**
TVAN				*i* S	**Sg**	**03 05 50.9**	**+0.3**
TVAN	**Van**	**0.22**	**141**	P	**Pg**	**03 05 46.8**	**-0.1**
TVAN				S	**Sg**	**03 05 50.9**	**+0.3**
ERCV	**ERCIS-VAN**	**0.33**	**15**	PG	**Pb**	**03 05 49.0**	**+0.1**
ERCV				SG	**Sb**	**03 05 54.4**	**+0.5**
ERCV	**ERCIS-VAN**	**0.33**	**15**	*e*Pg	**Pb**	**03 05 49.0**	**+0.1**
ERCV				*e*Sg	**Sb**	**03 05 54.4**	**+0.5**
VMUR	**Van-Muradiye**	**0.39**	**43**	*i* P	**Pb**	**03 05 50.8**	**+0.8**
VMUR				*i* S	**Sn**	**03 05 58.1**	**-1.2**
VMUR	**Van-Muradiye**	**0.39**	**43**	P	**Pb**	**03 05 50.8**	**+0.8**
VMUR				S	**Sn**	**03 05 58.2**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.41**	**285**	*i* P	**Pb**	**03 05 51.2**	**+0.9**
ADCV				*i* S	**Sn**	**03 05 58.5**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.41**	**285**	P	**Pb**	**03 05 51.2**	**+0.9**
ADCV				S	**Sn**	**03 05 58.5**	**-1.3**
GEVA	**Gevas**	**0.41**	**199**	*i* P	**Pg**	**03 05 50.1**	**+0.2**
GEVA				*i* S	**Sb**	**03 05 56.8**	**+0.6**
GEVA	**Gevas**	**0.41**	**199**	P	**Pg**	**03 05 50.1**	**+0.2**
GEVA				S	**Sb**	**03 05 56.8**	**+0.6**
CLDR	**Caldiran**	**0.70**	**50**	PG	**Pb**	**03 05 54.7**	**-0.3**
CLDR				SG	**Sn**	**03 06 06.2**	**-0.7**
CLDR	**Caldiran**	**0.70**	**50**	*i* P	**Pb**	**03 05 54.8**	**-0.3**
CLDR				*i* S	**Sn**	**03 06 06.0**	**-0.9**
CLDR	**Caldiran**	**0.70**	**50**	P	**Pb**	**03 05 54.8**	**-0.3**
CLDR				S	**Sn**	**03 06 06.0**	**-0.9**
TUTA	**Tutak**	**0.77**	**335**	*i* P	**Pn**	**03 05 57.4**	**-0.2**
TUTA				*i* S	**Sn**	**03 06 08.6**	**-0.2**
TUTA	**Tutak**	**0.77**	**335**	P	**Pn**	**03 05 57.4**	**-0.2**
TUTA				S	**Sn**	**03 06 08.6**	**-0.2**
AGRB	**Hanur-Agry**	**0.89**	**348**	PG	**Pg**	**03 05 59.1**	**+0.2**
AGRB	**Hanur-Agry**	**0.89**	**348**	*e*Pg	**Pg**	**03 05 59.1**	**+0.2**
GURO	**Guroymak-BITLI**	**0.95**	**261**	PG	**Pb**	**03 05 58.8**	**-0.6**
GURO	**Guroymak-BITLI**	**0.95**	**261**	*e*Pg	**Pb**	**03 05 58.8**	**-0.6**
SIRT	**Sirnak**	**1.35**	**208**	PN	**Pg**	**03 06 07.8**	**+0.4**
SIRT	**Sirnak**	**1.35**	**208**	*e*Pn	**Pg**	**03 06 07.8**	**+0.4**

*NEIC **22** 03:11:42.8±0.0, 16.15N×98.37W, h10km, MD4.0(MEX), After MEX.*

MEX 22 03:11:42.7±0.6, 16.15N×98.37W, h9km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**45**	*i* P	Pg	03 11 49.0	-0.3
PNIG				*i* S	Sg	03 11 53.0	-0.2
PNIG	**Pinotepa**	**0.34**	**45**	*i* P	Pg	03 11 49.0	-0.4
PNIG				*i* S	Sg	03 11 53.6	-0.2
TLIG	**Tlapa**	**1.42**	**352**	*e*P	Pn	03 12 05.4	-3.4
TLIG				*e*S	Sb	03 12 21.8	-5.8
TLIG	**Tlapa**	**1.42**	**352**	*e*P	Pn	03 12 05.3	-3.4
TLIG				*e*S	Sb	03 12 20.4	-7.2
ACX	**Acapulco**	**1.59**	**297**	*e*P	Pn	03 12 06.6	-4.5
ACX				*i* S	Sn	03 12 27.1	-4.8
VHO	**Vista Hermosa**	**1.82**	**60**	*e*P	Pn	03 12 10.7	-3.7
VHO				*e*S	Sn	03 12 32.8	-4.8
VHO	**Vista Hermosa**	**1.82**	**60**	*e*P	Pn	03 12 10.7	-3.7
VHO				*e*S	Sn	03 12 32.8	-4.8
CAIG	**El Cayaco**	**2.02**	**296**	*e*P	Pn	03 12 12.9	-4.1
CAIG				*e*S	Sn	03 12 37.5	-4.9
CAIG	**El Cayaco**	**2.02**	**296**	*e*P	Pn	03 12 12.6	-4.5
CAIG				*e*S	Sn	03 12 37.5	-4.9
TPIG	**Tehuac#an**	**2.45**	**23**	*e*P	Pn	03 12 20.3	-2.8
TPIG				*e*S	Sn	03 12 49.2	-4.1
TPIG	**Tehuac#an**	**2.45**	**23**	*e*P	Pn	03 12 20.3	-2.8
TPIG				*e*S	Sn	03 12 49.2	-4.1
PLIG	**Platanillo**	**2.48**	**334**	*e*P	Pn	03 12 20.5	-2.9
PLIG				*e*S	Sn	03 12 49.5	-4.2
PLIG	**Platanillo**	**2.48**	**334**	*e*P	Pn	03 12 20.5	-2.9
PLIG				*e*S	Sn	03 12 49.5	-4.2

MAN 22 03:21:27, 9.15N×123.11E, h58km, mb3.5, ML2.2, MS1.6, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.23**	**33**	⇑*i* P	Pn	03 21 38.8	+2.3
SNPH				*i* S	Sn	03 21 46.5	+3.2
DCPH	**Dipolog City**	**0.61**	**157**	⇑*e*P	Pn	03 21 38.5	-1.6
DCPH				*e*S	Sn	03 21 49.7	+0.1
PAGZ	**Pagadian**	**1.32**	**168**	*e*P	Pn	03 21 51.2	+1.9
PAGZ				*e*S	Sn	03 22 07.7	+1.8
GUIM	**Jordan**	**1.55**	**341**	*e*P	Pn	03 21 53.4	+1.0
GUIM				*e*S	Sn	03 22 13.7	+2.2

*NEIC **22** 03:47:13.5±0.0, 16.31N×98.09W, h12km, MD4.1(MEX), After MEX.*

MEX 22 03:47:13.7±0.6, 16.32N×98.10W, h14km±1km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.08**	**340**	*i* P	Pg	03 47 15.5	-1.1
PNIG				*i* S	Sg	03 47 18.0	-0.6
PNIG	**Pinotepa**	**0.08**	**340**	*i* P	Pg	03 47 15.5	-1.1
PNIG				*i* S	Sg	03 47 18.1	-0.5
TLIG	**Tlapa**	**1.31**	**340**	*i* P	Pn	03 47 33.8	-4.1
TLIG				*i* S	Sb	03 47 49.7	-5.4
TLIG	**Tlapa**	**1.31**	**340**	*i* P	Pn	03 47 33.8	-4.1
TLIG				*i* S	Sb	03 47 49.3	-5.9
VHO	**Vista Hermosa**	**1.51**	**60**	*e*P	Pn	03 47 37.1	-3.5
VHO				*e*S	Sn	03 47 54.7	-5.5
VHO	**Vista Hermosa**	**1.51**	**60**	*e*P	Pn	03 47 37.1	-3.5
VHO				*e*S	Sn	03 47 54.7	-5.5
ACX	**Acapulco**	**1.77**	**288**	*e*P	Pn	03 47 41.9	-2.2
ACX				*i* S	Sn	03 48 03.7	-2.7
HUIG	**Huatulco**	**1.99**	**106**	*e*P	Pn	03 47 43.4	-3.6
HUIG				*e*S	Sn	03 48 08.0	-3.9
HUIG	**Huatulco**	**1.99**	**106**	*e*P	Pn	03 47 43.4	-3.6
HUIG				*e*S	Sn	03 48 08.0	-3.9
CAIG	**El Cayaco**	**2.20**	**290**	*e*P	Pn	03 47 46.2	-3.7
CAIG				*e*S	Sn	03 48 13.0	-4.0
CAIG	**El Cayaco**	**2.20**	**290**	*e*P	Pn	03 47 45.8	-4.1
CAIG				*e*S	Sn	03 48 13.2	-3.8
TPIG	**Tehuac#an**	**2.21**	**19**	*e*P	Pn	03 47 47.6	-2.6
TPIG				*e*S	Sn	03 48 13.0	-4.3
TPIG	**Tehuac#an**	**2.21**	**19**	*e*P	Pn	03 47 47.6	-2.6
TPIG				*e*S	Sn	03 48 13.0	-4.3
PLIG	**Platanillo**	**2.46**	**327**	*e*P	Pn	03 47 50.7	-2.9
PLIG				*e*S	Sn	03 48 19.7	-3.8
PLIG	**Platanillo**	**2.46**	**327**	*e*P	Pn	03 47 52.0	-1.5
PLIG				*e*S	Sn	03 48 20.3	-3.2

*ISCJB **22** 03:52:14.8±1.2, 16.24N±0.06×98.28W±0.04, h1km±7km, mb4.0/22, Error ellipse: s-maj=10.3km s-min=5.2km az=20.1*
*NEIC **22** 03:52:17.9±0.0, 16.20N×98.36W, h2km, mb4.1/26, MD4.1(MEX), After MEX.*
*MEX **22** 03:52:17.6±0.6, 16.18N×98.35W, h2km±4km, MD4.1*
*IDC **22** 03:52:18.6±6.3, 16.01N×98.26W, h26km±40km, mb3.4/5, mb1 3.8/7, mb1mx3.5/47, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=43.1km s-min=25.9km az=24.0*

ISC 22 03:52:14.4±1.9, 16.19N±0.06×98.38W±0.03, h0km±12km, n58, σ2245/71, mb4.1/22, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**50**	*i* P	**Pb**	**03 52 22.7**	**-0.2**
PNIG				*i* S	**Sb**	**03 52 28.1**	**-0.5**
PNIG	**Pinotepa**	**0.32**	**50**	*e*Pg	**Pb**	**03 52 22.7**	**-0.2**
PNIG				*e*Sg	**Sb**	**03 52 28.1**	**-0.5**
TLIG	**Tlapa**	**1.38**	**352**	*e*P	**Pn**	**03 52 40.2**	**-0.9**
TLIG				*e*S	**Sb**	**03 52 58.5**	**-0.9**
TLIG	**Tlapa**	**1.38**	**352**	*e*P	**Pn**	**03 52 40.2**	**-0.9**
TLIG				*e*S	**Sb**	**03 52 54.5**	**-4.9**
ACX	**Acapulco**	**1.57**	**296**	*e*P	**Pn**	**03 52 40.5**	**-3.1**
ACX				*i* S	**Sn**	**03 53 01.2**	**-3.5**
VHO	**Vista Hermosa**	**1.81**	**61**	*e*P	**Pn**	**03 52 46.5**	**-0.5**
VHO				*e*S	**Sn**	**03 53 07.9**	**-2.8**
VHO	**Vista Hermosa**	**1.81**	**61**	*e*Pn	**Pn**	**03 52 46.5**	**-0.5**
VHO				*e*Sn	**Sn**	**03 53 07.9**	**-2.8**
CAIG	**El Cayaco**	**2.00**	**296**	*i* P	**Pn**	**03 52 50.0**	**+0.5**
CAIG				*i* S	**Sn**	**03 53 14.3**	**-1.0**
CAIG	**El Cayaco**	**2.00**	**296**	*e*P	**Pn**	**03 52 46.4**	**-3.1**
CAIG				*i* S	**Sn**	**03 53 14.0**	**-1.3**
HUIG	**Huatulco**	**2.22**	**101**	*e*P	**Pn**	**03 52 51.9**	**-0.6**
HUIG				*e*S	**Sn**	**03 53 18.9**	**-1.8**
HUIG	**Huatulco**	**2.22**	**101**	*e*Pn	**Pn**	**03 52 52.3**	**-0.2**
TPIG	**Tehuac#an**	**2.42**	**23**	*e*P	**Pn**	**03 52 55.2**	**-0.2**
TPIG				*e*S	**Sn**	**03 53 24.2**	**-1.7**
PLIG	**Platanillo**	**2.44**	**334**	*e*P	**Pn**	**03 52 56.0**	**+0.4**
PLIG				*e*S	**Sn**	**03 53 25.0**	**-1.3**
PLIG	**Platanillo**	**2.44**	**334**	*e*Pn	**Pn**	**03 52 56.0**	**+0.4**
UNM	**Universidad Na**	**3.21**	**346**	*e*Pn	**Pn**	**03 53 08.2**	**+1.8**
UNM				*e*Pg	**Pg**	**03 53 17.2**	**+1.1**
UNM				*e*Sn	**Sb**	**03 53 49.8**	**-2.6**
CMIG	**Matias Romero**	**3.47**	**75**	Pn	**Pn**	**03 53 09.3**	**-0.4**
	4.6nm,0.3s,baz=255,slow=13,SNR=13						
CMIG				Pg	**Pg**	**03 53 20.8**	**-0.2**
	11nm,0.3s,baz=255,slow=16,SNR=20						
CMIG				Sn	**Sn**	**03 53 51.5**	**0.0**
	14nm,0.3s,baz=266,slow=15,SNR=4.7						
CMIG				Lg	Lg	03 54 07.5	
	80nm,0.3s,baz=190,slow=20,SNR=22						
JRQG	**Juriquilla Cam**	**4.90**	**337**	*e*Pn	**Pn**	**03 53 29.4**	**-0.2**
TGUH	**Tegucigalpa,Un**	**10.93**	**100**	*e*Pn	**Pn**	**03 54 51.8**	**-0.4**
TGUH				*e*Sn	Sn	03 56 43.0	-12
TXAR	**Lajitas Array**	**13.96**	**341**	Pn	**P**	**03 55 41.5**	**-0.5**
	0.0nm,0.3s,baz=157,slow=11,SNR=4.5						
TXAR				Lg	Lg	03 59 42.8	
	0.0nm,0.3s,baz=142,slow=31,SNR=3.1						
WHTX	**Lake Whitney,**	**15.76**	**3**	*e*Pn	**Pn**	**03 55 53.1**	**-4.6**
	9.0nm,0.7s						
ABTX	**Abilene, Hawle**	**16.40**	**356**	*e*Pn	**P**	**03 56 08.0**	**-1.1**
	14nm,1.0s						
MNTX	**Cornudas Mount**	**16.71**	**339**	*e*Pn	**Pn**	**03 56 07.9**	**-2.1**
	3.3nm,1.4s						
BNM	**Barren Site**	**19.36**	**339**	*e*P	**Pn**	**03 56 44.1**	**+1.1**
DWPF	**Disney Wildern**	**19.65**	**50**	*e*P	**P**	**03 56 40.3**	**-4.5**
	166nm,1.5s						
TUL1	**Leonard**	**19.78**	**6**	*e*P	**P**	**03 56 45.3**	**-0.9**
	9.0nm,1.1s						
WHAR	**Wooly Hollow**	**19.79**	**15**	*e*P	**P**	**03 56 41.5**	**-4.8**
	44nm,2.0s						
ANMO	**Albuquerque**	**20.03**	**340**	P	Pn	03 56 50.7	-0.2
	1.0nm,0.5s,baz=333,slow=11,SNR=4.5						
ANMO	**Albuquerque**	**20.03**	**340**	*e*P	Pn	03 56 52.4	+1.5
	8.1nm,1.5s						
HHAR	**Hobbs**	**20.40**	**10**	*e*P	Pn	03 56 55.3	+0.3
	4.7nm,1.0s						
PLAL	**Pickwick Lake**	**20.87**	**24**	*e*P	**P**	**03 56 58.2**	**+0.1**
	6.8nm,1.1s						
X18A	**Snowflake**	**21.01**	**332**	*e*P	**P**	**03 57 04.5**	**+4.6**
	15nm,1.6s						
T25A	**Trinidad**	**21.54**	**347**	*e*P	**P**	**03 57 08.4**	**+2.9**
	49nm,1.9s						
MHTCO	**State Highway**	**21.59**	**346**	*e*P	**P**	**03 57 09.7**	**+3.6**
	4.0nm,1.1s						
X16A	**Lo Mia Camp, P**	**21.62**	**330**	*e*P	**P**	**03 57 10.2**	**+3.9**
	3.9nm,0.9s						
PBMO	**Poplar Bluff**	**21.69**	**17**	*e*P	**P**	**03 57 08.5**	**+1.7**
	8.0nm,0.8s						
GOGA	**Godfrey**	**21.80**	**35**	*e*P	**P**	**03 57 08.8**	**+0.7**
	31nm,1.9s						
WVT	**Waverly**	**21.97**	**23**	*e*P	**P**	**03 57 13.0**	**+3.1**
	6.6nm,0.8s						
SDCO	**Great Sand Dun**	**22.38**	**345**	*e*P	**P**	**03 57 18.9**	**+4.4**
	4.9nm,1.3s						
WUAZ	**Wupatki**	**22.48**	**331**	*e*P	**P**	**03 57 21.1**	**+5.5**
	4.6nm,0.8s						
FVM	**French Village**	**22.82**	**16**	*e*P	**P**	**03 57 20.2**	**+1.3**
	4.1nm,1.0s						
SIUC	**Southern Illin**	**22.92**	**19**	*e*P	**P**	**03 57 18.2**	**-1.8**
	5.8nm,0.8s						
SMCO	**Snowmass**	**24.11**	**343**	*e*P	**P**	**03 57 36.5**	**+4.2**
	4.7nm,1.0s						
ISCO	**Idaho Springs**	**24.36**	**346**	*e*P	**P**	**03 57 37.9**	**+3.4**
	4.8nm,0.9s						
MTPU	**Mont Pierson**	**24.94**	**333**	*e*P	**P**	**03 57 42.6**	**+2.8**
	9.3nm,1.3s						
N23A	**Red Feather La**	**25.48**	**347**	*e*P	**P**	**03 57 48.0**	**+3.4**
	4.7nm,0.9s						
NCAT	**North Carolina**	**25.82**	**36**	*e*P	**P**	**03 57 47.0**	**-0.5**
	30nm,1.6s						
PKLM	**Kerr Lake**	**27.64**	**319**	*e*P	**P**	**03 58 06.3**	**+2.4**
PDAR	**Pinedale Array**	**28.16**	**342**	P	**P**	**03 58 10.8**	**+2.0**
	0.4nm,0.6s,baz=133,slow=6.7,SNR=4.9						
PDAR	**Pinedale Array**	**28.16**	**342**	*e*P	**P**	**03 58 11.1**	**+2.4**
NVAR	**Mina Array Bea**	**28.24**	**326**	P	**P**	**03 58 12.2**	**+2.7**
	1.0nm,0.9s,baz=137,slow=12,SNR=5.4						
AGMN	**Agassiz Nation**	**32.09**	**3**	*e*P	**P**	**03 58 45.5**	**+2.4**
FFC	**Flin Flon**	**38.56**	**357**	*e*P	**P**	**03 59 41.1**	**+2.4**
	5.6nm,1.3s						
EDM	**Edmonton**	**38.78**	**346**	*e*P	**P**	**03 59 43.5**	**+2.9**
	6.0nm,1.0s						
YKA	**Yellowknife Ar**	**47.64**	**350**	P	**P**	**04 00 53.4**	**+1.3**
	0.4nm,0.9s,baz=159,slow=7.3,SNR=8.6						
ILAR	**Eielson Array**	**58.46**	**338**	P	**P**	**04 02 13.6**	**+1.7**
	1.2nm,1.2s,baz=152,slow=4.0,SNR=5.1						
LZH	**Lanzhou**	**123.92**	**338**	*e*PKP	**PKPdf**	**04 11 12.3**	**-3.0**
LZH				pPKP		04 11 20.4	
LZH				sPKP		04 11 26.6	
WRA	**Warramunga Arr**	**129.90**	**257**	PKP	**PKPdf**	**04 11 26.8**	**-0.1**
	0.9nm,1.0s,baz=90,slow=2.5,SNR=4.8						
ASAR	**Alice Springs**	**130.51**	**253**	PKP	**PKPdf**	**04 11 27.5**	**-0.5**
	0.2nm,0.5s,baz=64,slow=2.2,SNR=2.8						

*KRNET **22** 04:10:12.6±0.1, 38.59N×69.51E, mb4.6*
*IDC **22** 04:10:14.1±1.0, 38.60N×69.92E, h0km, mb4.1/19, mb1 4.2/28, mb1mx4.0/72, mbtmp4.1/28, ML3.7/8, MS2.9/4, Ms1 2.9/4, ms1mx2.5/63, Error ellipse: s-maj=18.5km s-min=8.6km az=151.0*
*ISCJB **22** 04:10:15.5±0.2, 38.79N±0.02×69.52E±0.02, h12km, mb4.2/39, MS2.6/1, Error ellipse: s-maj=2.8km s-min=2.2km az=159.4*
*NNC **22** 04:10:16.2±1.1, 38.76N×69.66E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=8.3km s-min=6.0km az=30.0*
*SOME **22** 04:10:16.8, 39.08N×70.17E, h20km*
*NEIC **22** 04:10:18.4±2.2, 38.90N×69.64E, h15km±14km, mb4.7/14, Error ellipse: s-maj=9.0km s-min=5.1km az=157.0*
*MOS **22** 04:10:21.0±1.2, 39.01N×69.76E, h48km, mb4.4/21, Error ellipse: s-maj=8.0km s-min=4.8km az=82.8*
*BJI **22** 04:10:21.1, 39.48N×69.81E, h24km, mb3.9/4, ML4.1/2*

ISC 22 04:10:16.9±0.4, 38.75N±0.03×69.68E±0.03, h12km, n208, σ2547/254, mb4.3/39, 30C-24D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**2.60**	**354**	⇓Pg	**Pb**	**04 11 04.2**	**+0.8**
	208nm,0.3s						
TAS				⇓Lg	Lg	04 11 37.9	
	3µm,0.3s						
TAS	**Tashkent**	**2.60**	**354**	PN	**Pb**	**04 11 04.2**	**+0.8**
TAS				pmax	pmax		
	comp=Z,208nm,0.3s						
TAS	**Tashkent**	**2.60**	**354**	⇑*i* P	**Pb**	**04 11 01.2**	**-2.2**
	baz=57						
TAS				⇑*i* S	**Sb**	**04 11 35.5**	**+0.2**
	baz=57						
SFK	**Sufi-Kurgan**	**3.22**	**66**	⇑Pn	**Pn**	**04 11 09.3**	**+1.7**
	comp=Z,48nm,0.5s						
SFK				⇓Pg	**Pb**	**04 11 14.7**	**+0.4**
	comp=Z,94nm,0.5s						
SFK				⇓Lg	Lg	04 11 58.5	
	comp=Z,587nm,0.5s						
SFK	**Sufi-Kurgan**	**3.22**	**66**	PN	**Pn**	**04 11 09.3**	**+1.7**
SFK				pmax	pmax		
	comp=Z,48nm,0.5s						
SFK				pmax	pmax		
	comp=Z,94nm,0.5s						
SFK	**Sufi-Kurgan**	**3.22**	**66**	⇑*i* P	**Pn**	**04 11 09.9**	**+2.3**
	baz=64						
SFK				⇑*i* S	**Sb**	**04 11 51.5**	**-2.1**
	baz=64						
IUG	**luzhnay**	**3.41**	**4**	*e*P	**Pn**	**04 11 12.2**	**+2.2**
	comp=Z,233nm,0.4s						
IUG				*e*S	**Sn**	**04 11 51.9**	**+1.5**
	comp=Z,1µm,0.5s						
CHM	**Chimkent**	**3.57**	**359**	*e*P	**Pn**	**04 11 15.6**	**+3.5**
	comp=Z,96nm,0.2s						
CHM				*e*S	**Sn**	**04 11 57.6**	**+3.4**
	comp=Z,1µm,0.3s						
KBL	**Kabul**	**4.23**	**187**	*e*PN	**Pb**	**04 11 26.9**	**-4.5**
KBL	**Kabul**	**4.23**	**187**	*e*Pn	**Pb**	**04 11 26.9**	**-4.5**
KBL				*e*Sn	**Sn**	**04 12 15.3**	**+4.5**
BRLS	**Borolday**	**4.28**	**2**	*e*P	**Pn**	**04 11 20.8**	**-1.1**
	comp=Z,1.0nm,0.5s						
BRLS				*e*S	**Sn**	**04 12 07.0**	**-4.8**
	comp=Z,312nm,0.4s						
MNAS	**Manas**	**4.31**	**29**	⇑Pn	**Pn**	**04 11 23.9**	**+1.4**
	comp=Z,41nm,0.4s						
MNAS				⇑Sn	**Sn**	**04 12 16.7**	**+4.0**
	comp=Z,127nm,0.7s						
MNAS				⇓Lg	Lg	04 12 32.8	
	comp=Z,109nm,0.4s						
MNAS	**Manas**	**4.31**	**29**	PN	**Pn**	**04 11 23.9**	**+1.4**
MNAS				S	**Sn**	**04 12 16.7**	**+4.0**
MNAS				pmax	pmax		
	comp=Z,41nm,0.4s						
MNAS				smax	smax		
	comp=N,127nm,0.7s						
MNAS	**Manas**	**4.31**	**29**	⇑*i* P	**Pn**	**04 11 23.9**	**+1.4**
	baz=29						
MNAS				⇑*i* S	**Sn**	**04 12 16.4**	**+3.7**
	baz=29						
DZA	**Taraz**	**4.33**	**16**	*e*P	**Pn**	**04 11 25.3**	**+2.7**
	comp=N,376nm,0.3s						
DZA				*e*S	**Sn**	**04 12 14.8**	**+1.9**
	comp=N,608nm,0.4s						
KK31	**Karatay Array**	**4.40**	**8**	⇑Pn	**Pn**	**04 11 25.2**	**+1.7**
	comp=N,40nm,0.5s,baz=127,slow=9.0,SNR=7.0						
KK31				⇓Pg	**Pb**	**04 11 35.6**	**+1.4**
	comp=N,16nm,0.3s,baz=199,slow=19,SNR=9.1						
KK31				⇓Sn	**Sn**	**04 12 17.2**	**+2.6**
	comp=N,52nm,0.4s						
KK31				⇓Lg	Lg	04 12 33.8	
	comp=N,403nm,0.8s,baz=193,slow=32,SNR=4.4						
KK31	**Karatay Array**	**4.40**	**8**	PN	**Pn**	**04 11 25.2**	**+1.7**
KK31				pmax	pmax		
	comp=Z,40nm,0.5s						
KK31				pmax	pmax		
	comp=Z,16nm,0.3s						
KKAR	**Karatay Array**	**4.40**	**8**	*e*PN	**Pn**	**04 11 25.3**	**+1.8**
KKAR	**Karatay Array**	**4.40**	**8**	*e*Pn	**Pn**	**04 11 25.3**	**+1.8**
KKAR				*e*Sn	**Sn**	**04 12 07.5**	**-7.1**
KK01	**Karatay Array**	**4.40**	**8**	*e*Pn	**Pn**	**04 11 25.9**	**+2.3**
KK01				*e*Sn	**Sn**	**04 12 13.1**	**-1.6**
KK04	**Karatay Array**	**4.40**	**8**	*e*Pn	**Pn**	**04 11 25.1**	**+1.5**
KK04				*e*Sn	**Sn**	**04 12 06.6**	**-8.2**
KK05	**Karatay Array**	**4.41**	**8**	*e*Pn	**Pn**	**04 11 25.0**	**+1.3**
KK05				*e*Sn	**Sn**	**04 12 14.9**	**-0.2**
AML	**Almayashu**	**4.56**	**41**	P	**Pn**	**04 11 27.1**	**+0.9**
	SNR=76						
MRKS	**Merke**	**4.82**	**33**	*e*P	**Pn**	**04 11 33.0**	**+3.7**
	comp=Z,73nm,0.2s						
MRKS				*e*S	**Sn**	**04 12 28.1**	**+2.9**
	comp=Z,242nm,0.5s						
KSH	**Kashi**	**4.96**	**79**	Pn	**Pn**	**04 11 27.8**	**-3.5**
KSH				Sn	**Sn**	**04 12 20.0**	**-8.6**
KSH				smax	smax		
	comp=Z,430nm,0.4s						
KSH				smax	smax		
	comp=Z,300nm,0.5s						
EKS2	**Erkin-Say**	**5.00**	**37**	P	**Pn**	**04 11 33.7**	**+1.8**
	SNR=47						
UCH	**Uchtor**	**5.07**	**45**	P	**Pn**	**04 11 34.6**	**+1.5**
	SNR=28						
AAK	**Ala-Archa**	**5.34**	**42**	Pn	**Pn**	**04 11 37.7**	**+1.1**
	comp=Z,6.8nm,0.3s,baz=204,slow=10,SNR=62						
AAK				Sn	**Sn**	**04 12 42.4**	**+4.3**
	comp=Z,10.0nm,0.3s,baz=316,slow=22,SNR=7.0						
AAK				Lg	Lg	04 13 00.7	
	comp=Z,10nm,0.3s,baz=151,slow=20,SNR=4.6						
AAK				LR	LR	04 13 58.2	
	comp=Z,184nm,18.8s,baz=229,slow=42						
AAK	**Ala-Archa**	**5.34**	**42**	⇑Pn	**Pn**	**04 11 37.6**	**+0.9**
	comp=Z,14nm,0.4s						
AAK				⇓Sn	**Sn**	**04 12 39.8**	**+1.7**
	comp=Z,174nm,1.1s						
AAK				⇑Lg	Lg	04 13 04.6	
	comp=Z,171nm,0.9s						
AAK	**Ala-Archa**	**5.34**	**42**	*c i*PN	**Pn**	**04 11 37.5**	**+0.9**
AAK	**Ala-Archa**	**5.34**	**42**	P	**Pn**	**04 11 37.6**	**+1.1**
	SNR=55						
AAK	**Ala-Archa**	**5.34**	**42**	*e*Pn	**Pn**	**04 11 37.5**	**+0.9**
AAK				*e*Sn	**Sn**	**04 12 31.1**	**-7.0**
AAK				*e*Sn	**Sn**	**04 12 42.4**	**+4.3**
AAK				Lg	Lg	04 13 00.7	
KZA	**Kyzart**	**5.40**	**50**	P	**Pn**	**04 11 38.8**	**+1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GYB2	ALIBECK ARRAY	9.11	269	ePn	Pn	04 12 26.7	-1.6
GYB2				eSn	Sn	04 14 08.5	-2.3
GYB1	ALIBECK ARRAY	9.12	268	ePn	Pn	04 12 26.8	-1.5
GYB1				eSn	Sn	04 14 09.3	-1.5
GYA2	ALIBECK ARRAY	9.12	269	ePn	Pn	04 12 29.4	+1.1
GYA2				eSn	Sn	04 14 07.4	-3.4
GYB3	ALIBECK ARRAY	9.12	269	ePn	Pn	04 12 30.0	+1.7
GYB3				eSn	Sn	04 14 08.9	-2.0
GEYT	Alibeck	9.12	268	Pn	Pn	04 12 27.9	-0.5
	comp=Z,0.5nm,0.3s,baz=95,slow=10,SNR=4.3						
GEYT				Sn	Sn	04 14 10.9	-0.1
	comp=Z,3.7nm,0.3s,baz=107,slow=18,SNR=7.0						
GEYT				Lg	Lg	04 15 08.2	
	baz=86,slow=23,SNR=2.0						
GYA0	ALIBECK ARRAY	9.12	268	ePn	Pn	04 12 27.8	-0.5
GYA0				eSn	Sn	04 14 12.2	+1.3
GYA0B	ALIBECK ARRAY	9.12	268	ePn	Pn	04 12 28.8	+0.5
GYA0B				eSn	Sn	04 14 11.7	+0.7
GYA1	ALIBECK ARRAY	9.12	268	ePn	Pn	04 12 29.7	+1.3
GYA1				eSn	Sn	04 14 09.7	-1.3
GYB5	ALIBECK ARRAY	9.13	268	ePn	Pn	04 12 27.1	-1.4
GYB5				eSn	Sn	04 14 09.2	-1.9
OTUK	Ortayu	9.69	11	⇑Pn	Pn	04 12 36.1	0.0
	comp=Z,9.7nm,0.7s						
OTUK				⇑Sn	Sn	04 14 27.4	+2.6
	comp=Z,33nm,1.0s						
OTUK				⇓Lg	Lg	04 15 22.5	
	comp=Z,66nm,0.9s						
OTUK	Ortayu	9.69	11	P	Pn	04 12 36.1	0.0
OTUK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SMLA	Simla	9.77	139	eP	Pn	04 12 37.8	+0.6
SMLA				eS	Sn	04 14 21.2	-5.7
DDI	Dehra Dun	10.87	138	eP	Pn	04 12 53.7	+1.3
MK01	Makanchi Array	12.25	45	ePn	Pn	04 13 11.1	0.0
MK31	Makanchi Array	12.26	45	⇑Pn	Pn	04 13 10.9	-0.4
	comp=Z,3.0nm,0.8s						
MK31	Makanchi Array	12.26	45	eP	Pn	04 13 11.7	+0.4
MK31	Makanchi Array	12.26	45	ePn	Pn	04 13 11.7	+0.4
MK32	Makanchi Array	12.26	45	ePn	Pn	04 13 09.5	-1.8
MKAR	Makanchi Array	12.26	45	Pn	Pn	04 13 09.5	-1.8
	comp=Z,0.3nm,0.3s,baz=227,slow=14,SNR=23						
MKAR				Lg	Lg	04 16 42.0	
	comp=Z,0.3nm,0.3s,baz=253,slow=24,SNR=3.5						
MKAR				LR	LR	04 17 19.8	
	comp=Z,31nm,21.8s,baz=180,slow=35						
MKAR	Makanchi Array	12.26	45	*i* P	Pn	04 13 11.6	+0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	12.26	45	ePn	Pn	04 13 11.7	+0.3
MKAR				Lg	Lg	04 16 42.0	
AB07	Akbulak array	12.60	330	ePn	Pn	04 13 14.6	-1.3
AB08	Akbulak array	12.61	329	ePn	Pn	04 13 14.4	-1.6
AB08				eSn	Sn	04 15 30.1	-6.1
AB06	Akbulak array	12.61	330	ePn	Pn	04 13 13.9	-2.1
AB06				eSn	Sn	04 15 27.0	-9.3
AB01	Akbulak array	12.62	330	ePn	Pn	04 13 14.4	-1.7
AB01				eSn	Sn	04 15 26.6	-10
AB31	Akbulak array	12.62	330	⇑Pn	Pn	04 13 14.9	-1.2
	comp=Z,7.7nm,0.5s,baz=159,slow=11,SNR=9.5						
AB31				⇓Sn	Sn	04 15 37.3	+0.9
	comp=Z,4.6nm,0.5s,baz=234,slow=34,SNR=7.8						
AB31	Akbulak array	12.62	330	eP	Pn	04 13 16.2	+0.1
AB31	Akbulak array	12.62	330	ePn	Pn	04 13 14.7	-1.4
AB31				eSn	Sn	04 15 25.3	-11
ABKAR	Akbulak array	12.62	330	ePn	Pn	04 13 14.7	-1.4
ABKAR				eSn	Sn	04 15 27.1	-9.3
AB02	Akbulak array	12.62	330	ePn	Pn	04 13 14.6	-1.5
AB02				eSn	Sn	04 15 28.9	-7.6
AB04	Akbulak array	12.62	330	ePn	Pn	04 13 13.8	-2.4
AB04				eSn	Sn	04 15 27.1	-9.4
AB05	Akbulak array	12.63	330	ePn	Pn	04 13 14.5	-1.8
AB09	Akbulak array	12.63	329	ePn	Pn	04 13 14.6	-1.7
AB09				eSn	Sn	04 15 33.4	-3.4
KURBB	Kurchatov Arra	13.43	25	Pn	Pn	04 13 22.5	-4.6
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=3.3						
KURBB				Lg	Lg	04 17 08.1	
	comp=Z,0.1nm,0.3s,baz=0.5,slow=14,SNR=5.6						
KURK	Kurchatov	13.54	25	⇑Pn	Pn	04 13 31.2	+2.5
	comp=Z,3.7nm,1.0s						
KURK	Kurchatov	13.54	25	*d*eP	Pn	04 13 28.8	+0.2
KURK	Kurchatov	13.54	25	ePn	Pn	04 13 22.5	-6.1
KURK				Lg	Lg	04 17 08.1	
BVA0	Borovoye Array	14.29	2	⇑Pn	Pn	04 13 37.0	-1.9
	comp=Z,4.9nm,0.4s,baz=164,slow=12,SNR=95						
BVA0	Borovoye Array	14.29	2	P	Pn	04 13 37.4	-1.5
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BVAR	Borovoye Array	14.29	2	Pn	Pn	04 13 36.8	-2.1
	comp=Z,1.2nm,0.3s,baz=165,slow=13,SNR=33						
BVAR				Sn	Sn	04 16 09.1	-8.1
	comp=Z,0.2nm,0.3s,baz=190,slow=23,SNR=2.2						
AKTO	Aktyubinsk	14.31	328	Pn	Pn	04 13 39.0	-0.4
	comp=Z,0.7nm,0.3s,baz=137,slow=14,SNR=13						
AKTO				Sn	Sn	04 16 12.5	-5.4
	comp=Z,0.7nm,0.3s,baz=331,slow=21,SNR=6.5						
AKTO				LR	LR	04 19 29.2	
	comp=Z,50nm,19.0s,baz=128,slow=38						
AKTO	Aktyubinsk	14.31	328	⇓Pn	Pn	04 13 38.2	-1.1
	comp=Z,19nm,0.5s						
AKTO				⇓Sn	Sn	04 16 19.2	+1.3
	comp=Z,14nm,1.0s						
AKTO	Aktyubinsk	14.31	328	eP	Pn	04 13 39.2	-0.1
BRVK	Borovoye	14.32	1	*d*eP	Pn	04 13 37.4	-1.9
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BRVK	Borovoye	14.32	1	ePn	Pn	04 13 37.4	-1.9
GKN	Gorkha	16.44	126	eP	P	04 14 11.1	+0.8
	comp=Z,40nm,0.4s						
BHPL	Bhopal	16.81	155	eP	Pn	04 14 12.1	-0.1
BHPL				IAmb	IAmb	04 14 18.0	
	comp=Z,15nm,0.3s						
DMN	Daman	17.01	126	eP	P	04 14 17.0	+0.2
	comp=Z,14nm,0.5s						
PKIN	Phulchoki	17.22	126	eP	P	04 14 20.1	+1.0
	comp=Z,6.4nm,0.3s						
PKI	Pulchoki	17.23	126	eP	P	04 14 19.8	+0.5
	comp=Z,12nm,0.5s						
GUN	Gumba	17.30	124	eP	P	04 14 20.3	+0.3
	comp=Z,8.3nm,0.4s						
ZAA0	Zalesovo Array	18.39	29	⇓Pn	P	04 14 30.3	-1.2
	comp=Z,4.7nm,0.5s						
ZAA0	Zalesovo Array	18.39	29	ePn	P	04 14 29.5	-2.0
	comp=Z,6.9nm,0.8s						
ZALV	Zalesovo Beam	18.39	29	P	P	04 14 29.3	-2.2
	comp=Z,3.4nm,0.3s,baz=219,slow=12,SNR=36						
ZAA1	Zalesovo Array	18.39	29	ePn	P	04 14 29.3	-2.2
RAMN	Ramite	18.42	125	eP	Pn	04 14 33.2	+0.8
	comp=Z,26nm,0.6s						
NVS	Novosibirsk	18.53	25	eP	P	04 14 31.5	-1.5
NVS				pmax	pmax		
	comp=Z,21nm,1.1s						
NVS				pmax	pmax		
	comp=N,10.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
TAPN	Taplejung	18.88	122	eP	P	04 14 36.7	-0.7
ODAN	Odare	18.99	123	eP	Pn	04 14 39.6	+0.3
ARU	Arti	19.17	341	P	P	04 14 39.7	-0.4
	comp=E,0.0nm,0.3s,baz=166,slow=7.2,SNR=4.3						
ARU				LR	LR	04 22 57.9	
	comp=E,56nm,19.9s,baz=102,slow=39						
ARU	Arti	19.17	341	*d i*P	P	04 14 39.3	-0.8
ARU				S	Sn	04 18 10.9	-4.6
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARU	Arti	19.17	341	eP	P	04 14 39.6	-0.4
	comp=Z,7.2nm,0.6s						
GNI	Garni	19.29	282	P	Pn	04 14 44.7	+1.8
	comp=Z,0.5nm,0.3s,baz=1.6,slow=11,SNR=2.4						
NCK	Nalchik	20.18	292	⇓eP	Pn	04 14 55.6	+2.5
NCK				pmax	pmax		
	comp=Z,11nm,0.8s						
BOK	Bokaro	20.30	133	eP	Pn	04 14 55.4	+0.7
BOK				IAmb	IAmb	04 15 01.3	
	comp=Z,9.5nm,0.4s						
POO	Poona	20.47	169	eP	Pn	04 14 57.2	+0.5
KBZ	Khabaz	20.70	292	P	Pn	04 14 59.6	+0.4
	comp=Z,1.2nm,0.7s,baz=141,slow=7.6,SNR=4.2						
GOF	Gofitskoye	20.75	296	⇑eP	Pn	04 15 11.4	+12
GOF				pmax	pmax		
	comp=Z,78nm,1.4s						
KIV	Kislovodsk	20.87	293	eP	P	04 14 59.0	+0.1
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,19nm,14.0s						
SOKR	Solikamsk	22.42	343	eP	P	04 15 13.7	-1.5
SOKR				pmax	pmax		
	comp=Z,16nm,0.9s						
HYB	Hyderabad	22.62	157	eP	P	04 15 19.8	+2.1
SHL	Shillong	22.86	119	eP	P	04 15 21.1	+0.6
KNGR	Kungurtug, Tuv	22.93	50	⇑eP	P	04 15 21.8	+1.0
VRH	Novokhopyorsk	23.21	312	eP	P	04 15 29.4	+5.9
VRH				pmax	pmax		
	comp=Z,40nm,0.6s						
GTA	Gaotai	23.36	79	eP	P	04 15 25.4	+0.1
GTA				pP	sP	04 15 33.0	+2.6
GTA				sP	pP	04 15 36.0	+7.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
VSR	Storozhevoye	24.73	310	eP	P	04 15 47.6	+10
VSR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
LPSR	Galich'ya Gora	25.33	313	eP	P	04 15 43.1	-0.2
LPSR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAK	Zakamensk	26.39	53	eP	P	04 15 51.1	-2.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	Talaya	26.93	50	⇓eP	P	04 15 58.1	+0.2
TLY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BR101	Keskin Array S	27.82	284	eP	P	04 16 08.2	+2.0
BRTR	Keskin Array B	27.82	284	P	P	04 16 08.2	+2.0
	comp=Z,0.3nm,0.4s,baz=100,slow=9.2,SNR=5.5						
BRTR	Keskin Array B	27.82	284	*c*eP	P	04 16 09.6	+3.5
SONA0	Songino Array	28.00	59	eP	P	04 16 06.4	-1.3
SONM	Songino Array	28.00	59	P	P	04 16 06.4	-1.3
	comp=Z,0.6nm,0.5s,baz=281,slow=9.8,SNR=2.5						
ULN	Ulaanbaatar	28.45	59	⇓eP	P	04 16 11.0	-0.7
ULN				pmax	pmax		
	comp=Z,6.0nm,2.5s						
BR231	Keskin MP Arra	28.45	284	eP	P	04 16 09.4	-2.3
AKASG	Malin Array Be	30.75	306	P	P	04 16 32.8	+1.1
	comp=Z,0.4nm,0.4s,baz=114,slow=8.5,SNR=5.4						
AKASG	Malin Array Be	30.75	306	*c*eP	P	04 16 32.0	+0.2
AKBB	Malin Array Si	30.75	306	eP	P	04 16 32.8	+1.0
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKBB	Malin Array Si	30.75	306	eP	P	04 16 32.8	+1.0
	comp=Z,2.7nm,0.8s						
DGPR	DIGLIPUR	32.76	135	eP	P	04 16 51.4	+1.6
BUR04	Bucovina Ar. S	33.22	300	eP	P	04 16 50.9	-2.8
ENH	Enshi	33.66	92	eP	P	04 16 57.1	-0.6
	comp=Z,12nm,1.6s						
BOD	Bodaibo	34.32	42	eP	P	04 17 01.2	-1.8
BOD				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LVZ	Lovozero	34.99	338	eP	P	04 17 06.7	-2.0
LVZ				pmax	pmax		
	comp=Z,118nm,1.9s						
LVZ	Lovozero	34.99	338	eP	P	04 17 06.7	-2.0
	comp=Z,118nm,1.9s						
FIA0	FINESS Array S	35.04	325	eP	P	04 17 09.8	+0.6
FIA0	FINESS Array S	35.04	325	eP	P	04 17 09.8	+0.6
FIA1	FINESS Array S	35.04	325	eP	P	04 17 08.5	-0.7
FINES	FINESS Array B	35.04	325	P	P	04 17 09.8	+0.6
	comp=Z,2.2nm,0.5s,baz=118,slow=9.3,SNR=23						
DIVS	Divibare	37.18	295	eP	P	04 17 30.0	+2.2
	comp=Z,3.6nm,0.9s						
KEV	Kevo	38.33	338	eP	P	04 17 36.2	-0.9
KEV				pmax	pmax		
	comp=Z,76nm,2.0s						
KEV	Kevo	38.33	338	eP	P	04 17 36.2	-0.9
	comp=Z,76nm,2.0s						
ARA0	ARCESS Array S	38.67	337	eP	P	04 17 40.4	+0.4
ARCES	ARCESS Array B	38.67	337	P	P	04 17 40.4	+0.4
	comp=Z,3.8nm,0.7s,baz=107,slow=8.1,SNR=25						
ARCES	ARCESS Array B	38.67	337	eP	P	04 17 39.4	-0.6
ARCES	ARCESS Array B	38.67	337	eP	P	04 17 39.4	-0.6
ARE0	ARCESS Array S	38.67	337	eP	P	04 17 39.4	-0.6
	comp=Z,54nm,2.0s						
BRG	Berggiesshubel	40.43	306	*i* P	P	04 17 56.3	+1.4
	comp=Z,3.2nm,0.8s						
BRG	Berggiesshubel	40.43	306	*i* P	P	04 17 56.3	+1.4
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	Hagfors	40.66	320	P	P	04 17 57.4	+0.8
	comp=Z,8.5nm,0.6s,baz=98,slow=11,SNR=55						
GERES	GERESS Array B	40.80	303	P	P	04 17 59.0	+0.9
	comp=Z,0.3nm,0.5s,baz=71,slow=10,SNR=3.2						
GERES	GERESS Array B	40.80	303	P	P	04 17 59.0	+0.9
CUC	Castrocucco	41.12	289	eP	P	04 18 03.8	+3.0
	comp=Z,2.6nm,0.8s						
NC405	NORSAR Array S	41.73	322	eP	P	04 18 04.7	-0.7
NC602	NORSAR Array S	41.78	321	eP	P	04 18 05.6	-0.2
NC303	NORSAR Array S	41.90	322	eP	P	04 18 07.5	+0.6
NB201	NORSAR Array S	41.92	322	eP	P	04 18 06.5	-0.6
NB2	NORSAR Subarra	41.96	322	P	P	04 18 07.4	0.0
	comp=Z,3.0nm,0.5s,baz=95,slow=8.6						
NB2	NORSAR Subarra	41.96	322	P	P	04 18 07.3	-0.1
NB2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NB200	NORSAR Array S	41.96	322	eP	P	04 18 07.7	+0.3
NOA	NORSAR Array B	41.96	322	P	P	04 18 07.7	+0.3
	comp=Z,5.4nm,0.6s,baz=95,slow=8.3,SNR=24						
NOA	NORSAR Array B	41.96	322	P	P	04 18 07.7	+0.3
NOA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NAO01	NORSAR Array S	42.11	321	eP	P	04 18 08.0	-0.6
NBO02	NORSAR Array S	42.14	322	eP	P	04 18 09.2	+0.4
NBO00	NORSAR Array S	42.17	322	eP	P	04 18 09.4	+0.3
NC204	NORSAR Array S	42.20	322	eP	P	04 18 09.4	+0.1
KONO	Kongsberg	42.69	320	eP	P	04 18 13.8	+0.5
KONO				pmax	pmax		
	comp=Z,34nm,1.5s						
KONO	Kongsberg	42.69	320	eP	P	04 18 13.8	+0.5
	comp=Z,34nm,1.5s						
TIXI	Tiksi	44.10	23	*c*eP	P	04 18 23.3	-1.2
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SPITS	Spitsbergen Ar	45.07	346	P	P	04 18 32.5	+0.3
	comp=Z,9.5nm,1.0s,baz=120,slow=5.8,SNR=11						
KEST	Kesra	47.37	286	P	P	04 18 52.8	+1.9
	comp=Z,1.9nm,0.6s,baz=313,slow=12,SNR=3.4						
KEST	Kesra	47.37	286	eP	P	04 18 52.8	+1.9
	comp=Z,40nm,1.8s						
EKA	Eskdalemuir Ar	49.95	315	P	P	04 19 10.8	+0.4
	comp=Z,1.1nm,0.6s,baz=90,slow=7.8,SNR=9.4						
ESDC	Sonseca Array	55.50	296	P	P	04 19 52.7	+0.9
	comp=Z,0.4nm,0.4s,baz=58,slow=7.3,SNR=15						
TOA1	Torodi Ar. Sit	64.76	267	eP	P	04 20 55.8	+0.3
TORD	Torodi Ar. Bea	64.76	267	P	P	04 20 55.8	+0.3
	comp=Z,1.0nm,0.6s,baz=50,slow=6.0,SNR=27						
KOWA	Kowa	68.42	272	P	P	04 21 20.0	+1.0
	comp=Z,1.1nm,0.6s,baz=8.5,slow=6.4,SNR=4.2						
TOLK	Toolik Lake Re	69.01	14	eP	P	04 21 21.8	-0.1
	comp=Z,6.8nm,0.5s						
COLD	Coldfoot	70.09	15	eP	P	04 21 28.6	+0.1
	comp=Z,6.5nm,1.2s						
INK	Inuvik	71.86	9	P	P	04 21 39.3	+0.2
	comp=Z,2.5nm,0.5s,baz=349,slow=6.2,SNR=41						
ILAR	Eielson Array	72.90	15	P	P	04 21 43.9	-1.6
	comp=Z,1.1nm,0.8s,baz=331,slow=4.7,SNR=13						
ILB	Eielson Array	72.90	15	eP	P	04 21 43.9	-1.6
YKA	Yellowknife Ar	79.05	2	P	P	04 22 20.2	-0.3
	comp=Z,1.6nm,0.7s,baz=350,slow=5.8,SNR=44						
YKA	Yellowknife Ar	79.05	2	P	P	04 22 20.2	-0.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKB5	Yellowknife Ar	79.05	2	eP	P	04 22 20.2	-0.3
SCHQ	Schefferville	79.62	336	P	P	04 22 23.7	-0.1
	comp=Z,1.9nm,0.7s,baz=56,slow=3.7,SNR=7.4						
SCHQ	Schefferville	79.62	336	eP	P	04 22 23.7	-0.1
	comp=Z,18nm,1.8s						
WRA	Warramunga Arr	84.06	121	*i* P	P	04 22 53.5	+5.9
FFC	Flin Flon	86.62	355	*i* P	P	04 23 01.4	+1.4

MEX 22 04:16:46.8±0.6**,16°.51N×98°.12W,h5km,MD3.9,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.12	185	*i* P	Pg	04 16 48.4	-0.8
PNIG				eS	Sg	04 16 51.2	+0.4
TLIG	Tlapa	1.13	338	eP	Pg	04 17 05.1	-3.5
TLIG				*i* S	Sg	04 17 21.0	-2.3
VHO	Vista Hermosa	1.44	67	eP	Pn	04 17 10.2	-3.5
VHO				*i* S	Sb	04 17 28.0	-5.0
ACX	Acapulco	1.71	282	*i* P	Pn	04 17 12.1	-5.2
ACX				eS	Sn	04 17 33.9	-5.6
TPIG	Tehuac#an	2.03	21	eP	Pn	04 17 18.4	-3.4
TPIG				eS	Sn	04 17 43.2	-4.5
CAIG	El Cayaco	2.13	285	eP	Pn	04 17 19.8	-3.3
CAIG				eS	Sn	04 17 45.4	-4.5
PLIG	Platanillo	2.29	325	eP	Pn	04 17 22.1	-3.3
PLIG				eS	Sn	04 17 49.7	-4.4

*SGS **22** 04:16:52.2, 32°.10N×34°.87E, h10km*
*HLW **22** 04:17:01.9, 31°.26N×35°.37E, h6km±9km, Md3.1, Ml3.0*
*ISCJB **22** 04:17:03.1±0.3, 31°.31N±0°.02×35°.35E±0°.04, h29km±3km, Error ellipse: s-maj=5.5km s-min=2.5km az=5.3*
*CSEM **22** 04:17:03.4±0.1, 31°.29N×35°.41E, h26km±1km, MD3.7, Error ellipse: s-maj=3.4km s-min=1.6km az=98.0*
*GII **22** 04:17:03.8±0.1, 31°.31N×35°.42E, h23km, MD3.7/7*
*JSO **22** 04:17:04.6±2.1, 31°.30N×35°.53E, h25km±5km, MD3.8*
*NIC **22** 04:17:06.8±0.2, 31°.04N×34°.50E, h25km, mb4.2, ML3.7*
ISC 22 04:17:03.6±0.9**, 31°.31N**±0°.02×**35°.40E**±0°.03**, h28**km±5km**, n86, σ0s.66**/112**, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	Masada	0.03	278	Pg	Pb	04 17 07.9	-0.3
MZDA	Masada	0.03	278	Pg	Pb	04 17 07.9	-0.3
LISJ	El Lisan	0.09	133	*i* P	Pb	04 17 08.8	+0.3
LISJ				eS	Sb	04 17 13.2	+1.4
DSI	Dead Sea	0.27	356	Pg	Pb	04 17 10.2	-0.2
DSI				Sg	Sb	04 17 14.6	-0.4
DSI	Dead Sea	0.27	356	Pg	Pb	04 17 10.2	-0.2
DSI				Sg	Sb	04 17 14.6	-0.4
KARJ		0.28	130	*i* P	Pn	04 17 17.2	+5.3
KARJ				eS	Sn	04 17 27.5	+10
WALJ	Wala	0.43	54	*i* P	Pb	04 17 12.4	-0.5
WALJ				eS	Sb	04 17 18.4	-0.8
SWQJ	Swaqa	0.57	96	*i* P	Pb	04 17 14.9	-0.2
SWQJ				eS	Sb	04 17 23.3	+0.4
JDRJ	Daraweish	0.62	158	*i* P	Pb	04 17 15.7	-0.3
JDRJ				eS	Sb	04 17 24.9	+0.5
ZFRI	Zfri	0.77	194	Pg	Pn	04 17 17.8	-0.9
ZFRI				Sg	Sb	04 17 28.3	-0.3
ZFRI	Zfri	0.77	194	Pg	Pn	04 17 17.8	-0.9
ZFRI				Sg	Sb	04 17 28.3	-0.3
RMNI	Mount Ramon	0.90	218	Pg	Pb	04 17 20.7	+0.1
RMNI	Mount Ramon	0.90	218	Pg	Pb	04 17 20.7	+0.1
KZIT	Kziot	0.95	245	Pg	Pn	04 17 20.8	-0.3
KZIT	Kziot	0.95	245	Pg	Pn	04 17 20.8	-0.3
HMDT	Nahal Hemdat	0.95	6	Pg	Pn	04 17 20.4	-0.8
HMDT				Sg	Sb	04 17 33.6	-0.1
HMDT	Nahal Hemdat	0.95	6	Pg	Pn	04 17 20.4	-0.8
HMDT				Sg	Sb	04 17 33.6	-0.1
SLTI	Sal'it	0.98	342	Pg	Pn	04 17 21.1	-0.5
SLTI				Sg	Sb	04 17 34.6	0.0
SLTI	Sal'it	0.98	342	Pg	Pn	04 17 21.1	-0.5
SLTI				Sg	Sb	04 17 34.6	0.0
PRNI	Paran	1.01	200	Pg	Pn	04 17 21.7	-0.3
PRNI				Sg	Sb	04 17 36.0	+0.6
PRNI	Paran	1.01	200	Pg	Pn	04 17 21.7	-0.3
PRNI				Sg	Sb	04 17 36.0	+0.6
QRNJ	Al-Qirein	1.04	8	*i* P	Pn	04 17 21.9	-0.4
QRNJ				eS	Sb	04 17 36.3	+0.1
MMLI	Mount Malkishu	1.13	1	Pg	Pn	04 17 22.9	-0.8
MMLI	Mount Malkishu	1.13	1	Pg	Pn	04 17 22.9	-0.8
HRFI	Mount Harif	1.30	194	Pn	Pn	04 17 25.6	-0.5
HRFI				Sn	Sb	04 17 43.3	-0.5
HRFI	Mount Harif	1.30	194	Pn	Pn	04 17 25.6	-0.5
HRFI				Sn	Sb	04 17 43.3	-0.5
OFRI	'Ofer	1.36	345	Pn	Pn	04 17 26.8	0.0
OFRI				Sn	Sb	04 17 45.3	-0.2
OFRI	'Ofer	1.36	345	Pn	Pn	04 17 26.8	0.0
OFRI				Sn	Sb	04 17 45.3	-0.2
BLGI	Bet Lehem HaGe	1.44	353	Pn	Pn	04 17 28.1	+0.2
BLGI	Bet Lehem HaGe	1.44	353	Pn	Pn	04 17 28.1	+0.2
SHMJ	Saham	1.45	12	*i* P	Pn	04 17 27.8	-0.3
SHMJ				eS	Sb	04 17 48.5	+0.4
RSH		1.48	257	P	Pn	04 17 27.9	-0.5
	baz=259						
RSH				S	Sn	04 17 46.7	-0.2
	baz=259						
RSH		1.48	257	P	Pn	04 17 27.9	-0.5
RSH				S	Sn	04 17 46.7	-0.2
MBRI	Mt Berech	1.56	196	Pn	Pn	04 17 29.3	-0.4
MBRI	Mt Berech	1.56	196	Pn	Pn	04 17 29.3	-0.4
AQBJ	Aqaba	1.60	191	*i* P	Pb	04 17 33.1	+0.6
AQBJ				eS	Sb	04 17 54.4	+2.1
HITJ	Hittiya	1.60	166	*i* P	Pn	04 17 30.2	-0.1
EIL	Elat	1.68	194	Pn	Pn	04 17 30.8	-0.4
EIL	Elat	1.68	194	Pn	Pn	04 17 30.8	-0.4
MMA0B	Mount Meron ar	1.71	0	Pn	Pn	04 17 32.0	+0.4
MMA0B	Mount Meron ar	1.71	0	Pn	Pn	04 17 32.0	+0.4
KSHT	Keshet	1.71	12	Pn	Pn	04 17 32.0	+0.3
KSHT	Keshet	1.71	12	Pn	Pn	04 17 32.0	+0.3
HNTI	Hanita	1.78	354	Pn	Pn	04 17 33.1	+0.5
HNTI	Hanita	1.78	354	Pn	Pn	04 17 33.1	+0.5
KSDI	Kefar Szold	1.89	7	Pn	Pn	04 17 34.3	+0.1
KSDI	Kefar Szold	1.89	7	Pn	Pn	04 17 34.3	+0.1
HQLS		2.02	188	P	Pn	04 17 35.2	-0.7
SHBL	Chebaa	2.06	8	eP	Pn	04 17 36.4	-0.2
HBST	Basata	2.16	196	P	Pn	04 17 36.9	-0.9
	baz=196						
RCY	Rachaya	2.22	9	eP	Pn	04 17 39.1	+0.4
HAQS	Haql	2.29	191	P	Pn	04 17 38.6	-0.9
NUB		2.36	196	P	Pn	04 17 40.5	-0.1
	baz=196						
DQRL	Deir Qamar	2.40	3	eP	Pn	04 17 42.1	+0.9
JLOS		2.56	178	S	Sb	04 18 21.6	+1.5
BHL	Bhannes	2.60	5	eP	Pn	04 17 44.4	+0.4
BDAS	Al Bad'	2.88	185	P	Pn	04 17 47.3	-0.5
HWQ	Hawqa	3.00	9	eP	Pn	04 17 50.8	+1.3
HKAT	Jabal Katrina	3.03	204	P	Pn	04 17 49.2	-0.8
	baz=205						
HHAG	Hagoal	3.15	246	P	Pn	04 17 51.0	-0.5
	baz=247						
HHAG	Hagoal	3.15	246	P	Pn	04 17 51.0	-0.5
TBKS	Tabuk	3.23	162	S	Sb	04 18 39.6	+0.3
TR2	Tor 2	3.25	207	P	Pn	04 17 52.1	-0.8
	baz=208						
TR2	Tor 2	3.25	207	P	Pn	04 17 52.1	-0.8
KOT	Kottamia	3.37	247	P	Pn	04 17 53.8	-0.7
	baz=248						
TR1	Tor 1	3.52	201	P	Pn	04 17 55.6	-0.9
	baz=202						
TR1	Tor 1	3.52	201	P	Pn	04 17 55.6	-0.9
GLL	Jalalah	3.62	243	P	Pn	04 17 57.7	-0.3
	baz=244						
HSAF	As Saff	3.72	244	P	Pn	04 17 58.5	-0.8
	baz=245						
SZAC	Souni	4.04	329	P	Pn	04 18 05.0	+1.3
	baz=159						
SZAC				S	Sn	04 18 50.5	+0.4
SZAC	Souni	4.04	329	P	Pn	04 18 05.0	+1.3
SZAC				S	Sn	04 18 50.5	+0.4
CSS	Mathiatis	4.04	335	eP	Pn	04 18 04.0	+0.3
CSS	Mathiatis	4.04	335	eS	Sn	04 18 49.1	-1.0
LFK	Lefkose	4.26	339	eP	Pn	04 18 07.8	+1.0
EREN	Erenkoy	4.34	347	eP	Pn	04 18 07.0	-0.7
LEF	Lefka	4.35	332	eP	Pn	04 18 09.1	+1.2
PPCY	Paphos	4.39	325	P	Pn	04 18 09.0	+0.5
	baz=154						
PPCY	Paphos	4.39	325	P	Pn	04 18 09.0	+0.5
ALFC	Alefka	4.50	329	P	Pn	04 18 10.9	+0.9
	baz=158						
ALFC				S	Sn	04 19 01.4	-0.1
ALFC	Alefka	4.50	329	P	Pn	04 18 10.9	+0.9
ALFC				S	Sn	04 19 01.4	-0.1
AKMC	Akamas	4.52	326	P	Pn	04 18 10.8	+0.6
	baz=154						
AKMC	Akamas	4.52	326	P	Pn	04 18 10.8	+0.6
YAYL	Yayladag	4.75	7	eP	Pn	04 18 13.7	+0.1
AKKU	Akkuyu-Mersin	5.08	343	eP	Pn	04 18 19.2	+1.3
TEKE	Tekeli-Mersin	5.19	339	eP	Pn	04 18 21.0	+1.6
KIZK	Mersin	5.27	349	eP	Pn	04 18 20.0	-0.5

*IDC **22** 04:42:48.1±0.7, 50°.18N×173°.54W, h0km, mb4.0/24, mb1 4.2/25, mb1mx4.0/76, mbtmp4.0/25, ML2.5/1, MS3.3/17, Ms1 3.3/17, ms1mx2.9/69, Error ellipse: s-maj=22.0km s-min=13.0km az=6.0*

*ISCJB **22** 04:42:49.6±1.6,50.49N±0.05×173.44W±0.04, h15km±11km, mb4.3/82, MS3.3/17, Error ellipse: s-maj=8.3km s-min=3.9km az=6.3*
*NEIC **22** 04:42:50.0±2.1,50.37N×173.53W, h7km±12km, mb4.4/87, ML3.9(AEIC), Error ellipse: s-maj=6.8km s-min=3.1km az=195.0*

ISC 22 04:42:51.7±1.2, 50.39N±0.08×173.44W±0.04, h17km±6km, n192, σ1°44/188, mb4.3/83, MS3.3/17, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.93**	**348**	*eP*	**Pn**	**04 43 23.0**	**-0.8**
KOKL	**Mount Kliuchef**	**1.99**	**346**	*eP*	**Pn**	**04 43 23.8**	**-0.9**
KOKL				*eSn*	**Sn**	**04 43 49.6**	**+0.4**
GSTD	**Great Sitkin T**	**2.38**	**315**	*eSn*	**Sn**	**04 43 56.3**	**-2.5**
ADAG	**Mount Adagdak**	**2.55**	**310**	*eP*	**Pn**	**04 43 31.6**	**-0.6**
KIRH	**Kanaga Island**	**2.75**	**305**	*eP*	**Pn**	**04 43 34.1**	**-0.9**
KIKV	**Kanaga Island**	**2.78**	**304**	*eSn*	**Sn**	**04 44 06.5**	**-2.1**
TAPA	**Tanaga Point A**	**3.10**	**299**	*eP*	**Pn**	**04 43 39.4**	**-0.5**
OKSP	**Okmok Steeple**	**4.29**	**46**	*P*	**Pn**	**04 43 55.3**	**-0.9**
OKWE	**Okmok W'ng Wal**	**4.46**	**44**	*P*	**Pn**	**04 43 58.7**	**+0.3**
UNV	**Unalaska Valle**	**5.50**	**48**	*eP*	**Pn**	**04 44 12.1**	**-0.6**
UNV				*eSn*	Sn	04 45 08.2	-7.3
ZRO	**Akutan Zero**	**5.89**	**48**	*eP*	**Pn**	**04 44 19.2**	**+1.0**
AKUT	**Akutan**	**6.02**	**48**	*eP*	**Pn**	**04 44 19.8**	**0.0**
AKUT				*eSn*	**Sn**	**04 45 26.6**	**-1.6**
FALS	**False Pass**	**7.56**	**50**	*eP*	**Pn**	**04 44 41.0**	**0.0**
SDPT	**Sand Point**	**9.28**	**53**	*eP*	**Pn**	**04 45 04.0**	**-0.5**
CHGN	**Chignik**	**10.75**	**51**	*eP*	**Pn**	**04 45 23.7**	**-0.8**
CHGN				*eSn*	**Sn**	**04 47 21.5**	**-2.8**
GAMB	**Gambell**	**13.46**	**3**	*eP*	**Pn**	**04 46 03.6**	**+2.1**
OHAK	**Old Harbor**	**13.70**	**52**	*eP*	**Pn**	**04 46 00.9**	**-4.0**
KDAK	**Kodiak Island** 0.8nm,0.3s,baz=203,slow=4.2,SNR=26	**14.26**	**51**	*Pn*	**Pn**	**04 46 08.4**	**-4.1**
KDAK	**Kodiak Island**	**14.26**	**51**	*ePn*	**Pn**	**04 46 09.6**	**-2.9**
SVW2	**Sparrevohn**	**14.64**	**36**	*ePn*	**Pn**	**04 46 17.9**	**+0.1**
BRLK	**Bradley Lake** 34nm,1.1s	**15.89**	**45**	*ePn*	**Pn**	**04 46 31.0**	**-3.3**
SUA	**Susitna One** 42nm,2.0s	**16.77**	**40**	*ePn*	**Pn**	**04 46 42.5**	**-3.1**
RC01	**Rabbit Creek A** 15nm,1.1s	**17.00**	**42**	*ePn*	**Pn**	**04 46 45.4**	**-3.0**
PPLA	**Purkeypile** 29nm,1.4s	**17.02**	**35**	*ePn*	**Pn**	**04 46 49.2**	**+0.4**
CAST	**Castle Rocks** 12nm,0.9s	**17.38**	**33**	*ePn*	**Pn**	**04 46 53.3**	**+0.2**
KTH	**Kantishna Hill** 15nm,0.9s	**17.87**	**34**	*ePn*	**Pn**	**04 46 58.9**	**-0.4**
SML	**Sawmill** 16nm,0.9s	**17.94**	**41**	*ePn*	**Pn**	**04 46 55.9**	**-4.2**
PEA1	**Petropavlovsk-**	**18.02**	**290**	*ePn*	**Pn**	**04 47 00.1**	**-1.0**
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=101,slow=15,SNR=3.3	**18.02**	**290**	*P*	**Pn**	**04 47 00.1**	**-1.0**
TRF	**Thorofare Moun** 20nm,1.5s	**18.04**	**35**	*ePn*	**Pn**	**04 47 00.2**	**-1.2**
BPAW	**Bear Paw Mtn.** 21nm,1.0s	**18.19**	**33**	*ePn*	**Pn**	**04 47 03.6**	**+0.5**
SCM	**Sheep Creek Mo** 24nm,1.0s	**18.37**	**41**	*eP*	**P**	**04 47 03.0**	**-2.4**
SCM				*eSn*	**Sn**	**04 50 24.3**	**-5.7**
RND	**Reindeer** 13nm,1.1s	**18.55**	**36**	*eP*	**P**	**04 47 06.1**	**-1.2**
RND				*esP*	**sP**	**04 47 14.3**	**-0.2**
EYAK	**Cordova Ski Ar** 19nm,1.1s	**18.56**	**46**	*eP*	**P**	**04 47 05.1**	**-2.2**
MCK	**McKinley** 11nm,1.0s	**18.70**	**35**	*eP*	**P**	**04 47 09.4**	**+0.5**
KLU	**Klutina** 9.4nm,1.0s	**18.84**	**43**	*eP*	**P**	**04 47 07.0**	**-3.4**
MLY	**Manley** 9.7nm,1.1s	**18.86**	**30**	*eP*	**Pn**	**04 47 11.9**	**+0.6**
DHY	**Denali Highway** 4.2nm,1.0s	**18.95**	**38**	*eP*	**P**	**04 47 10.8**	**-1.0**
RAGM	**Ragged Mountai** 27nm,0.9s	**19.00**	**47**	*eP*	**P**	**04 47 11.5**	**-0.7**
BMRM	**Bremner River** 18nm,0.8s	**19.23**	**46**	*eP*	**P**	**04 47 14.3**	**-0.4**
WRH	**Wood River Hil** 5.7nm,0.9s	**19.43**	**34**	*eP*	**P**	**04 47 16.5**	**-0.3**
HARP	**HAARP** 15nm,0.9s	**19.54**	**41**	*eP*	**P**	**04 47 19.1**	**+0.9**
CCB	**Clear Creek Bu** 5.8nm,0.9s	**19.63**	**34**	*eP*	**P**	**04 47 18.3**	**-0.7**
MDM	**Murphy Dome** 8.7nm,1.0s	**19.66**	**33**	*eP*	**P**	**04 47 20.7**	**+1.4**
PAX	**Paxson** 7.0nm,1.2s	**19.66**	**40**	*eP*	**P**	**04 47 19.5**	**0.0**
HDA	**Harding Lake** 19nm,1.0s	**19.80**	**35**	*eP*	**P**	**04 47 21.0**	**+0.1**
IL1	**Eielson Array**	**20.02**	**34**	*eP*	**P**	**04 47 22.6**	**-0.7**
ILAR	**Eielson Array** 2.0nm,0.5s,baz=232,slow=8.8,SNR=20	**20.02**	**34**	*P*	**P**	**04 47 21.5**	**-1.8**
ILB	**Eielson Array**	**20.02**	**34**	*eP*	**P**	**04 47 22.6**	**-0.8**
RIDG	**Independ'e Rid** 11nm,1.1s	**20.27**	**38**	*eP*	**P**	**04 47 25.9**	**-0.1**
BALM	**Baldy**	**20.29**	**46**	*eP*	**P**	**04 47 27.0**	**+0.6**
MENT	**Mentasta** 22nm,1.4s	**20.37**	**41**	*eP*	**P**	**04 47 27.9**	**+0.7**
COLD	**Coldfoot** 18nm,1.0s	**20.50**	**26**	*eP*	Pn	04 47 30.4	-0.4
DOT	**Dot Lake** 22nm,0.8s	**20.53**	**39**	*eP*	**P**	**04 47 28.1**	**-0.8**
SCRK	**Sand Creek** 12nm,1.0s	**20.71**	**38**	*eP*	**P**	**04 47 30.3**	**-0.6**
PCA	**Pinnacle** 23nm,0.8s	**21.04**	**50**	*eP*	**P**	**04 47 31.1**	**-3.4**
FYU	**Fort Yukon** 20nm,1.0s	**21.60**	**31**	*eP*	**P**	**04 47 42.3**	**+2.0**
TOLK	**Toolik Lake Re** 22nm,0.8s	**21.67**	**24**	*eP*	**P**	**04 47 42.4**	**+1.3**
EGAK	**Eagle** 11nm,0.8s	**22.17**	**37**	*eP*	**P**	**04 47 46.8**	**+0.3**
SEY	**Seymchan** 3.8nm,0.8s,baz=111,slow=10.0,SNR=12	**22.27**	**317**	*P*	**P**	**04 47 47.4**	**0.0**
HYT	**Haines Junctio** 8.5nm,0.8s	**22.53**	**49**	*eP*	**P**	**04 47 52.0**	**+1.6**
DAWY	**Dawson** 19nm,1.4s	**22.60**	**40**	*eP*	**P**	**04 47 52.1**	**+1.1**
SKAG	**Skagway** 9.1nm,0.9s	**23.40**	**53**	*eP*	**P**	**04 48 00.7**	**+1.4**
DLBC	**Dease Lake** 9.2nm,1.0s	**26.10**	**55**	*eP*	**P**	**04 48 25.8**	**+1.5**
INK	**Inuvik** 1.8nm,0.6s,baz=240,slow=7.4,SNR=18	**26.40**	**32**	*P*	**P**	**04 48 27.5**	**+0.7**
INK	1.5nm,0.7s,baz=239,slow=0.3,SNR=4.6			*PcP*	**PcP**	**04 51 51.2**	**-0.5**
NLWA	**Neilton Lookou** 117nm,1.9s	**32.25**	**76**	*eP*	**P**	**04 49 20.7**	**+1.7**
YKA	**Yellowknife Ar** 1.1nm,0.8s,baz=278,slow=9.1,SNR=17	**33.46**	**46**	*P*	**P**	**04 49 30.5**	**+1.1**
YKA	0.9nm,0.7s,baz=280,slow=3.0,SNR=11			*PcP*	**PcP**	**04 52 09.7**	**-0.2**
YKA	comp=Z,5.5nm,19.1s,baz=0.0,slow=39			*LR*	LR	05 04 50.1	
YKB5	**Yellowknife Ar**	**33.46**	**46**	*eP*	**P**	**04 49 30.5**	**+1.1**
YKB5				*ePcP*	**PcP**	**04 52 09.7**	**-0.2**
D05A	**Enumclaw** 22nm,1.0s	**33.50**	**75**	*eP*	**P**	**04 49 32.0**	**+2.2**
LON	**Longmire** 3.4nm,0.8s	**33.79**	**76**	*eP*	**P**	**04 49 33.1**	**+0.6**
H11N2	**WAKE ISLAND Hy** baz=25,slow=76,SNR=9.1	**34.34**	**214**	*T*	T	05 25 54.7	
H11N3	**WAKE ISLAND Hy** baz=25,slow=76,SNR=7.0	**34.35**	**214**	*T*	T	05 25 59.2	
H11N1	**WAKE ISLAND Hy** baz=25,slow=76,SNR=5.2	**34.36**	**214**	*T*	T	05 25 56.2	
B08A	**Colville Reser** 6.6nm,1.1s	**34.64**	**72**	*eP*	**P**	**04 49 40.6**	**+0.8**
KLR	**Kul'dur** 0.1nm,0.9s,baz=68,slow=10,SNR=4.6	**34.71**	**290**	*P*	**P**	**04 49 39.4**	**-1.0**
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=9.4	**35.54**	**214**	*T*	T	05 27 22.1	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=12	**35.56**	**214**	*T*	T	05 27 30.4	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=14	**35.56**	**214**	*T*	T	05 27 19.3	
EDM	**Edmonton** 5.5nm,0.8s	**36.31**	**62**	*eP*	**P**	**04 49 54.4**	**+0.3**
J08A	**Circle Bar Ran** 8.2nm,1.1s	**37.48**	**79**	*eP*	**P**	**04 50 04.9**	**+0.7**
WVOR	**Wild Horse Val** 8.2nm,1.1s	**37.85**	**80**	*eP*	**P**	**04 50 08.2**	**+0.8**
RES	**Resolute Bay** comp=Z,32nm,18.3s,baz=349,slow=45	**39.24**	**24**	*LR*	LR	05 12 19.6	
HLID	**Hailey** 3.9nm,1.0s	**39.91**	**76**	*eP*	**P**	**04 50 25.4**	**+0.7**
NV01	**Mina Array Sit**	**40.28**	**85**	*eP*	**P**	**04 50 28.2**	**+0.4**
NV01				*ePcP*	**PcP**	**04 52 31.2**	**-0.1**
NVAR	**Mina Array Bea** 1.1nm,0.8s,baz=278,slow=9.6,SNR=7.2	**40.28**	**85**	*P*	**P**	**04 50 28.2**	**+0.4**
NVAR	1.1nm,0.8s,baz=293,slow=2.2,SNR=7.1			*PcP*	**PcP**	**04 52 31.2**	**-0.1**
EGMT	**Eagleton** 6.0nm,0.9s	**40.54**	**68**	*eP*	**P**	**04 50 32.0**	**+2.2**
BOZ	**Bozeman (W)** 2.3nm,1.0s	**40.59**	**72**	*eP*	**P**	**04 50 30.2**	**-0.1**
YHH	**Holmes Hill** 3.8nm,1.0s	**41.47**	**73**	*eP*	**P**	**04 50 37.9**	**+0.1**
H17A	**Grant Village** 13nm,1.8s	**41.84**	**73**	*eP*	**P**	**04 50 42.4**	**+1.6**
HVU	**Hansel Valley** 4.0nm,0.9s	**41.88**	**78**	*eP*	**P**	**04 50 41.8**	**+0.8**
R11A	**Troy Canyon, C** 2.6nm,0.9s	**42.05**	**84**	*eP*	**P**	**04 50 42.9**	**+0.4**
TPAW	**Teton Pass** 6.3nm,1.3s	**42.09**	**74**	*eP*	**P**	**04 50 43.6**	**+0.8**
MLI	**Malad Range**	**42.15**	**77**	*eP*	**P**	**04 50 42.0**	**-1.2**
REDW	**Red Top Meadow** 12nm,1.5s	**42.22**	**74**	*eP*	**P**	**04 50 44.6**	**+0.8**
RLMT	**Red Lodge** 6.7nm,1.0s	**42.27**	**71**	*eP*	**P**	**04 50 46.6**	**+2.5**
DUG	**Dugway, Tooele** 7.0nm,1.1s	**42.74**	**80**	*eP*	**P**	**04 50 48.6**	**+0.6**
TCUT	**Toone Canyon** 11nm,1.2s	**43.10**	**78**	*eP*	**P**	**04 50 52.2**	**+1.1**
GSC	**Goldstone, Bar** 5.1nm,0.9s	**43.12**	**88**	*eP*	**P**	**04 50 51.0**	**0.0**
BW06	**Boulder Array** 6.2nm,0.9s	**43.34**	**74**	*eP*	**P**	**04 50 53.0**	**+0.1**
PD31	**Pinedale Array**	**43.34**	**74**	*eP*	**P**	**04 50 53.0**	**+0.1**
PDAR	**Pinedale Array** 4.5nm,0.8s,baz=300,slow=4.2,SNR=35	**43.34**	**74**	*P*	**P**	**04 50 53.0**	**+0.1**
PDAR	**Pinedale Array**	**43.34**	**74**	*eP*	**P**	**04 50 52.3**	**-0.6**
NLU	**North Lily Min** 5.4nm,1.0s	**43.35**	**79**	*eP*	**P**	**04 50 53.6**	**+0.7**
JLU	**Jordanelle** 6.3nm,1.1s	**43.37**	**78**	*eP*	**P**	**04 50 53.7**	**+0.6**
MPU	**Maple Canyon** 11nm,1.1s	**43.59**	**79**	*eP*	**P**	**04 50 55.2**	**+0.3**
CCUT	**Cedar City** 15nm,1.9s	**43.94**	**83**	*eP*	**P**	**04 50 58.5**	**+0.7**
SNO	**Snow College**	**44.05**	**80**	*eP*	**P**	**04 51 00.4**	**+1.7**
SGU	**Sterling**	**44.06**	**80**	*eP*	**P**	**04 51 03.0**	**+4.2**
ELU	**Electric Lake**	**44.08**	**79**	*eP*	**P**	**04 50 58.7**	**-0.2**
FCC	**Fort Churchill** 6.0nm,0.9s	**44.16**	**47**	*eP*	**P**	**04 51 02.6**	**+3.7**
LCMT	**Little Creek M** 4.6nm,0.9s	**44.34**	**84**	*eP*	**P**	**04 51 01.6**	**+0.7**
MTPU	**Mount Pierson** 2.3nm,1.1s	**44.40**	**82**	*eP*	**P**	**04 51 02.4**	**+0.8**
P17A	**Butcher Ranch,** 33nm,0.9s	**44.46**	**79**	*eP*	**P**	**04 51 01.6**	**-0.3**
KNB	**Kanab** 5.8nm,1.0s	**44.61**	**83**	*eP*	**P**	**04 51 04.0**	**+0.9**
P18A	**Preston Nutter** 11nm,0.5s	**44.68**	**79**	*eP*	**P**	**04 51 04.5**	**+0.8**
W13A	**Hualapai Mount** 3.7nm,0.9s	**45.11**	**86**	*eP*	**P**	**04 51 07.3**	**+0.2**
U15A	**North Rim** 7.2nm,0.9s	**45.30**	**84**	*eP*	**P**	**04 51 09.2**	**+0.4**
O20A	**White River Ci** 13nm,1.2s	**45.64**	**77**	*eP*	**P**	**04 51 11.3**	**0.0**
PV09	**Paradox Valley**	**46.05**	**79**	*eP*	**P**	**04 51 14.6**	**0.0**
PV10	**Paradox Valley**	**46.18**	**79**	*eP*	**P**	**04 51 12.1**	**-3.5**
WUAZ	**Wupatki** 5.5nm,0.9s	**46.45**	**84**	*eP*	**P**	**04 51 17.9**	**+0.2**
PV01	**Paradox Valley**	**46.62**	**79**	*eP*	**P**	**04 51 18.9**	**-0.1**
ULM	**Lac du Bonnet** 1.7nm,1.1s,baz=243,slow=8.8,SNR=3.4	**47.35**	**58**	*P*	**P**	**04 51 23.4**	**-0.8**
ULM	comp=Z,24nm,21.7s,baz=360,slow=35			*LR*	LR	05 10 48.4	
S22A	**4UR Ranch, Cre** 5.9nm,1.2s	**47.95**	**78**	*eP*	**P**	**04 51 30.1**	**+0.7**
SDCO	**Great Sand Dun** 6.8nm,1.4s	**48.78**	**78**	*eP*	**P**	**04 51 36.2**	**+0.3**
MHTCO	**State Highway** 7.8nm,0.9s	**49.67**	**78**	*eP*	**P**	**04 51 43.6**	**+1.0**
T25A	**Trinidad** 10nm,1.0s	**49.84**	**78**	*eP*	**P**	**04 51 44.3**	**+0.4**
ANMO	**Albuquerque** 2.7nm,1.0s	**49.93**	**81**	*eP*	**P**	**04 51 44.7**	**+0.1**
SONA0	**Songino Array**	**50.10**	**300**	*eP*	**P**	**04 51 45.6**	**0.0**
SONM	**Songino Array** 1.4nm,1.8s,baz=59,slow=8.7,SNR=4.5	**50.10**	**300**	*P*	**P**	**04 51 45.6**	**0.0**
HHC	**Hu-ho-hao-te**	**51.22**	**290**	*eP*	**P**	**04 51 50.6**	**-3.5**
SPITS	**Spitsbergen Ar** 3.5nm,0.8s,baz=11,slow=9.1,SNR=11	**51.56**	**357**	*P*	**P**	**04 51 56.2**	**+0.2**
SPITS	comp=Z,29nm,21.6s,baz=20,slow=35			*LR*	LR	05 12 49.6	
FRB	**Frobisher Bay** comp=Z,60nm,18.6s,baz=298,slow=37	**52.05**	**33**	*LR*	LR	05 15 25.0	
DAG	**Danmarks Havn**	**52.10**	**7**	*i P*	**P**	**04 52 00.9**	**+0.8**
MNTX	**Cornudas Mount** 3.0nm,0.8s	**52.73**	**84**	*eP*	**P**	**04 52 05.5**	**+0.1**
MSTX	**Muleshoe** 14nm,1.0s	**52.89**	**80**	*eP*	**P**	**04 52 06.2**	**-0.5**
AMTX	**Amarillo** 7.7nm,1.0s	**52.98**	**78**	*eP*	**P**	**04 52 07.2**	**-0.1**
SUMG	**Summit**	**53.40**	**15**	*i P*	**P**	**04 52 11.6**	**+1.4**
WMOK	**Wichita Mounta** 4.7nm,0.8s	**54.88**	**76**	*eP*	**P**	**04 52 20.2**	**-0.9**
SFJD	**Kangerlussuaq** comp=Z,30nm,20.6s,baz=296,slow=38	**55.24**	**24**	*LR*	LR	05 17 45.9	
TX31	**Lajitas Ar. Si**	**55.41**	**84**	*eP*	**P**	**04 52 24.7**	**-0.4**
LTX	**Lajitas**	**55.41**	**84**	*eP*	**P**	**04 52 24.6**	**-0.5**
LTX				*ePcP*	**PcP**	**04 53 24.8**	**-0.5**
TXAR	**Lajitas Array** 3.4nm,0.9s,baz=300,slow=5.7,SNR=30	**55.41**	**84**	*P*	**P**	**04 52 24.6**	**-0.5**
TXAR	1.0nm,0.7s,baz=238,slow=1.6,SNR=7.6			*PcP*	**PcP**	**04 53 24.8**	**-0.5**
ABTX	**Abilene, Hawle** 10nm,1.1s	**55.74**	**79**	*eP*	**P**	**04 52 26.9**	**-0.4**
SCHQ	**Schefferville** 2.1nm,0.8s,baz=320,slow=5.5,SNR=4.9	**58.61**	**41**	*P*	**P**	**04 52 47.6**	**+0.3**
LZH	**Lanzhou**	**58.92**	**290**	*eP*	**P**	**04 52 51.1**	**+1.2**
LZH				*pP*	*sP*	04 52 57.5	-0.1
LZH				*sP*	*pP*	04 53 00.8	+5.3
LZH				*ePP*	**PP**	**04 55 03.3**	**+3.5**
ARA0	**ARCESS Array S**	**59.58**	**352**	*eP*	**P**	**04 52 53.5**	**-0.3**
ARCES	**ARCESS Array B** 0.9nm,0.6s,baz=24,slow=6.9,SNR=6.2	**59.58**	**352**	*P*	**P**	**04 52 53.5**	**-0.3**
KURK	**Kurchatov**	**62.11**	**317**	*eP*	**P**	**04 53 12.0**	**+0.8**
KURBB	**Kurchatov Arra** 1.2nm,0.8s,baz=43,slow=6.8,SNR=6.8	**62.22**	**317**	*P*	**P**	**04 53 12.0**	**+0.1**
WMQ	**Urumqi**	**62.70**	**306**	*P*	**P**	**04 53 16.0**	**+0.7**
MK31	**Makanchi Array**	**63.27**	**312**	*eP*	**P**	**04 53 20.5**	**+1.5**
MK32	**Makanchi Array**	**63.27**	**312**	*eP*	**P**	**04 53 18.9**	**-0.2**
MKAR	**Makanchi Array** 0.7nm,0.8s,baz=64,slow=5.5,SNR=6.6	**63.27**	**312**	*P*	**P**	**04 53 18.8**	**-0.2**
MKAR	**Makanchi Array** 9.3nm,1.0s	**63.27**	**312**	*eP*	**P**	**04 53 20.5**	**+1.5**
MK01	**Makanchi Array**	**63.28**	**312**	*eP*	**P**	**04 53 18.8**	**-0.3**
BVAR	**Borovoye Array** 1.0nm,0.5s,baz=46,slow=8.3,SNR=8.3	**63.78**	**323**	*P*	**P**	**04 53 22.4**	**0.0**
BVAR	comp=Z,29nm,20.6s,baz=46,slow=38			*LR*	LR	05 23 16.4	
AFI	**Afiamalu** comp=Z,22nm,21.2s,baz=84,slow=31	**64.04**	**178**	*LR*	LR	05 15 59.2	
KMI	**Kunming**	**67.24**	**282**	*P*	**P**	**04 53 46.5**	**+1.2**
FIA0	**FINESS Array S**	**67.42**	**350**	*eP*	**P**	**04 53 46.4**	**+0.8**
FINES	**FINESS Array B** 2.0nm,1.0s,baz=7.4,slow=6.0,SNR=4.1	**67.42**	**350**	*P*	**P**	**04 53 46.4**	**+0.8**
FINES	comp=Z,17nm,18.1s,baz=324,slow=41			*LR*	LR	05 28 30.3	
NB2	**NORSAR Subarra** comp=Z,3.6nm,0.8s,baz=3.7,slow=6.2	**68.86**	**358**	*P*	**P**	**04 53 55.3**	**+0.6**
NB200	**NORSAR Array S**	**68.86**	**358**	*eP*	**P**	**04 53 56.0**	**+1.2**
NOA	**NORSAR Array B** comp=Z,2.1nm,0.8s,baz=3.5,slow=6.5,SNR=4.8	**68.86**	**358**	*P*	**P**	**04 53 56.0**	**+1.2**
NOA	comp=Z,9.4nm,18.1s,baz=330,slow=38			*LR*	LR	05 25 55.6	
HFS	**Hagfors** comp=Z,2.0nm,0.6s,baz=347,slow=5.0,SNR=7.5	**69.68**	**356**	*P*	**P**	**04 54 00.8**	**+1.0**
AAK	**Ala-Archa** comp=Z,3.7nm,0.8s	**70.06**	**313**	*eP*	**P**	**04 54 03.5**	**+0.9**
AKTO	**Aktyubinsk** comp=Z,1.8nm,0.8s,baz=24,slow=7.6,SNR=9.1	**70.39**	**328**	*P*	**P**	**04 54 04.7**	**+0.4**
AB05	**Akbulak array**	**70.70**	**326**	*eP*	**P**	**04 54 07.0**	**+0.8**
AB04	**Akbulak array**	**70.72**	**326**	*eP*	**P**	**04 54 07.0**	**+0.7**
AB31	**Akbulak array**	**70.72**	**326**	*eP*	**P**	**04 54 07.1**	**+0.8**
ABKAR	**Akbulak array** comp=Z,9.0nm,0.6s	**70.72**	**326**	*eP*	**P**	**04 54 07.1**	**+0.8**
PPT	**Papeete** comp=Z,59nm,21.8s,baz=359,slow=29	**70.86**	**156**	*LR*	LR	05 17 18.4	
KKAR	**Karatay Array**	**71.50**	**316**	*eP*	**P**	**04 54 11.9**	**+0.7**
RAR	**Rarotonga** comp=Z,11nm,18.1s,baz=188,slow=35	**72.30**	**167**	*LR*	LR	05 24 47.0	
DZM	**Mont Dzumac** 2.66nm,20.5s,baz=170,slow=32	**74.31**	**199**	*LR*	LR	05 22 10.0	
CM31	**Chiang Mai Arr**	**74.51**	**280**	*eP*	**P**	**04 54 29.2**	**-0.1**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.3s,baz=16,slow=5.9,SNR=5.2	**74.51**	**280**	*P*	**P**	**04 54 29.2**	**-0.1**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=12,slow=5.3,SNR=4.7	**77.45**	**345**	*P*	**P**	**04 54 45.0**	**-0.6**
AKBB	**Malin Array Si** 2.6nm,1.4s	**77.45**	**345**	*eP*	**P**	**04 54 45.0**	**-0.6**
GEYT	**Alibeck** comp=Z,0.6nm,0.4s,baz=328,slow=5.3,SNR=5.2	**81.05**	**321**	*P*	**P**	**04 55 06.3**	**+0.7**
BUR04	**Bucovina Ar. S**	**81.06**	**347**	*eP*	**P**	**04 55 06.3**	**+0.8**
MLR	**Muntele Rosu** comp=Z,4.9nm,18.1s,baz=358,slow=40	**83.03**	**346**	*LR*	LR	05 38 14.8	
WR1	**Warramunga Arr** comp=Z,9.1nm,1.4s	**83.78**	**228**	*eP*	**P**	**04 55 17.3**	**-2.5**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.9s,baz=92,slow=31,SNR=2.6	**83.78**	**228**	*P*	**P**	**04 55 17.3**	**-2.5**
GNI	**Garni** comp=Z,26nm,18.8s,baz=3.5,slow=40	**83.81**	**332**	*LR*	LR	05 39 10.9	
BR101	**Keskin Array S**	**87.16**	**339**	*eP*	**P**	**04 55 36.3**	**-0.5**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.8s,baz=237,slow=4.1,SNR=3.8	**87.16**	**339**	*P*	**P**	**04 55 36.3**	**-0.5**
BRTR	comp=Z,7.3nm,21.9s,baz=22,slow=37			*LR*	LR	05 37 18.7	
AS31	**Alice Springs** comp=Z,1.0nm,1.1s	**87.17**	**227**	*eP*	**P**	**04 55 34.6**	**-2.0**
ASAR	**Alice Springs** comp=Z,1.0nm,1.0s,baz=36,slow=6.3,SNR=5.2	**87.17**	**227**	*P*	**P**	**04 55 34.6**	**-2.0**
RPZ	**Rata Peaks** comp=Z,48nm,21.6s,baz=279,slow=30	**94.69**	**191**	*LR*	LR	05 30 03.9	
TOA1	**Torodi Ar. Sit**	**116.59**	**5**	*e*	**PKPdf**	**05 01 33.3**	**-1.6**
TORD	**Torodi Ar. Rea** comp=Z,0.6nm,0.9s,baz=309,slow=1.0,SNR=4.3	**116.59**	**5**	*P*	**PKPdf**	**05 01 33.3**	**-1.6**

*ISCJB **22** 05:19:00.9±0.4,38.39N±0.02×38.37E±0.03, h4km±6km, Error ellipse: s-maj=4.3km s-min=3.9km az=135.1*
*CSEM **22** 05:19:00.8±0.2,38.39N×38.36E, h5km, ML2.5, Error ellipse: s-maj=3.8km s-min=3.3km az=47.0*
*DDA **22** 05:19:00.8,38.37N×38.36E, h7km, Ml2.9*
*ISK **22** 05:19:00.1,38.40N×38.36E, h4km, ML2.5/5*

ISC 22 05:19:00.9±0.9, 38.40N±0.03×38.36E±0.02, h6km±8km, n26, σ0°56/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.10**	**147**	*PG*	**Pg**	**05 19 02.9**	**-0.3**
MALT				*SG*	**Sg**	**05 19 04.9**	**0.0**
MALT	**Malatya**	**0.10**	**147**	*ePg*	**Pg**	**05 19 02.9**	**-0.3**
MALT				*eSg*	**Sg**	**05 19 04.9**	**0.0**
AKCD	**Akcadag**	**0.36**	**253**	*i P*	**Pg**	**05 19 07.7**	**-0.2**
AKCD				*i S*	**Sg**	**05 19 13.7**	**+1.1**
AKCD	**Akcadag**	**0.36**	**253**	*P*	**Pg**	**05 19 07.7**	**-0.2**
AKCD				*S*	**Sg**	**05 19 13.7**	**+1.1**
ELZG	**Elazig**	**0.50**	**79**	*i P*	**Pg**	**05 19 11.2**	**+0.6**
ELZG				*i S*	**Sb**	**05 19 19.0**	**-0.9**
ELZG	**Elazig**	**0.50**	**79**	*P*	**Pg**	**05 19 11.2**	**+0.6**
ELZG				*S*	**Sb**	**05 19 19.0**	**-0.9**
HEKM	**Malatya_Hekimh**	**0.57**	**327**	*i P*	**Pg**	**05 19 11.7**	**-0.3**
HEKM				*i S*	**Sb**	**05 19 21.5**	**-0.4**
HEKM	**Malatya_Hekimh**	**0.57**	**327**	*P*	**Pg**	**05 19 11.7**	**-0.3**
HEKM				*S*	**Sb**	**05 19 21.5**	**-0.4**
DARE	**Darende-Malaty**	**0.71**	**284**	*PG*	**Pg**	**05 19 13.9**	**-0.6**
DARE				*SG*	**Sb**	**05 19 24.9**	**-0.7**
DARE	**Darende-Malaty**	**0.71**	**284**	*ePg*	**Pg**	**05 19 13.9**	**-0.6**
DARE				*eSg*	**Sb**	**05 19 24.9**	**-0.7**
KEMA	**Kemaliye**	**0.88**	**7**	*i P*	**Pg**	**05 19 17.0**	**-0.7**
KEMA				*i S*	**Sb**	**05 19 31.2**	**+0.7**
KEMA	**Kemaliye**	**0.88**	**7**	*P*	**Pg**	**05 19 17.0**	**-0.7**
KEMA				*S*	**Sb**	**05 19 31.2**	**+0.7**
PTK	**Pertek**	**0.95**	**58**	*PG*	**Pg**	**05 19 18.2**	**-0.9**
PTK				*SG*	**Sb**	**05 19 32.7**	**0.0**
PTK	**Pertek**	**0.95**	**58**	*ePg*	**Pg**	**05 19 18.2**	**-0.9**
PTK				*eSg*	**Sb**	**05 19 32.7**	**0.0**
URFA	**Urfa**	**1.02**	**159**	*PG*	**Pg**	**05 19 19.9**	**-0.7**
URFA				*SG*	**Sb**	**05 19 34.9**	**+0.1**
URFA	**Urfa**	**1.02**	**159**	*ePg*	**Pg**	**05 19 19.9**	**-0.7**
URFA				*eSg*	**Sb**	**05 19 34.9**	**+0.1**
ILIC	**ilic-Erzincan**	**1.06**	**9**	*PG*	**Pg**	**05 19 20.8**	**-0.5**
ILIC				*

WRA				S		**S**	**05 32 09.9**	**-4.2**
	1.5nm,0.9s,baz=95,slow=14,SNR=5.8							
FITZ	**Fitzroy Crossi**	**51.10**	**265**	P		**P**	**05 27 31.7**	**+0.1**
	8.1nm,0.9s,baz=82,slow=6.5,SNR=15							
MBWA	**Marble Bar**	**55.65**	**260**	*e*P		**P**	**05 28 03.7**	**-0.2**
	34nm,0.8s							
QSPA	**South Pole Qui**	**66.24**	**180**	P		**P**	**05 29 13.7**	**+0.7**
	1.9nm,0.7s,baz=326,slow=3.6,SNR=7.7							
MJAR	**Matsushiro Arr**	**72.00**	**325**	P		**P**	**05 29 47.8**	**-0.1**
	0.8nm,0.3s,baz=186,slow=6.7,SNR=4.4							
KSRS	**Korea Array**	**78.38**	**320**	P		**P**	**05 30 23.9**	**+0.4**
	1.3nm,0.6s,baz=134,slow=6.7,SNR=4.2							
PETK	**Petropavlovsk-**	**79.11**	**346**	P		**P**	**05 30 27.6**	**+0.6**
	3.0nm,0.9s,baz=124,slow=6.5,SNR=5.3							
NJ2	**Nanjing**	**80.83**	**311**	*e*P		**P**	**05 30 36.6**	**+0.1**
CMB	**Columbia Colle**	**82.97**	**43**	*e*P		**P**	**05 30 47.6**	**+0.2**
	4.5nm,1.1s							
MDPB	**Devils Postpil**	**83.56**	**44**	*e*P		**P**	**05 30 50.4**	**-0.3**
	19nm,1.4s							
CN2	**Changchun**	**84.00**	**323**	*e*P		**P**	**05 30 53.4**	**+1.0**
NV01	**Mina Array Sit**	**84.52**	**44**	*e*P		**P**	**05 30 55.3**	**-0.1**
NVAR	**Mina Array Bea**	**84.52**	**44**	P		**P**	**05 30 55.8**	**+0.4**
	0.3nm,0.5s,baz=214,slow=7.5,SNR=6.4							
TUC	**Tucson**	**86.27**	**52**	*e*P		**P**	**05 31 03.9**	**+0.1**
	3.3nm,1.0s							
U15A	**North Rim**	**87.36**	**48**	*e*P		**P**	**05 31 08.8**	**-0.3**
	4.6nm,1.1s							
G08A	**Pilot Rock**	**88.21**	**38**	*e*P		**P**	**05 31 12.6**	**0.0**
	26nm,1.9s							
TXAR	**Lajitas Array**	**90.17**	**58**	P		**P**	**05 31 22.7**	**+0.6**
	0.5nm,0.7s,baz=214,slow=6.0,SNR=7.0							
TCUT	**Toone Canyon**	**90.43**	**45**	*e*P		**P**	**05 31 23.9**	**+0.8**
	97nm,0.4s							
HHC	**Hu-ho-hao-te**	**90.57**	**315**	*e*P		**P**	**05 31 23.1**	**-0.6**
HHC					PP	**PP**	**05 35 05.8**	**-2.3**
HHC	**Hu-ho-hao-te**	**90.57**	**315**	S		**S**	**05 41 34.3**	**-1.1**
HHC	**Hu-ho-hao-te**	**90.57**	**315**	SS		SS	05 47 54.3	+1.6
ILAR	**Eielson Array**	**91.91**	**13**	P		**P**	**05 31 28.4**	**-0.7**
	0.3nm,0.5s,baz=215,slow=6.2,SNR=3.4							
PDAR	**Pinedale Array**	**92.46**	**44**	P		**P**	**05 31 31.9**	**-0.6**
	0.4nm,0.7s,baz=221,slow=2.0,SNR=3.5							
LZH	**Lanzhou**	**93.55**	**308**	∥P		**P**	**05 31 40.0**	**+2.4**
LZH				pP		pP	05 33 35.4	+3.8
LZH				sP		sP	05 34 24.9	+1.7
LZH				*e*PP		**PP**	**05 35 35.3**	**+3.9**
LZH	**Lanzhou**	**93.55**	**308**	S		**S**	**05 42 03.8**	**+1.9**
LZH	**Lanzhou**	**93.55**	**308**	sS		sS	05 45 26.4	-0.4
LZH	**Lanzhou**	**93.55**	**308**	SS		SS	05 48 40.4	+5.1
YKA	**Yellowknife Ar**	**100.19**	**25**	P		**Pdif**	**05 32 07.5**	**+1.0**
	0.1nm,0.8s,baz=257,slow=5.5,SNR=3.0							
KURBB	**Kurchatov Arra**	**115.39**	**316**	PKP		**PKPdf**	**05 36 58.2**	**-1.1**
	0.2nm,0.4s,baz=78,slow=1.9,SNR=4.6							
KSH	**Kashi**	**115.47**	**304**	*e*PKP		**PKPdf**	**05 36 58.1**	**-1.9**
BVAR	**Borovoye Array**	**120.58**	**319**	PKP		**PKPdf**	**05 37 08.6**	**-0.7**
	0.5nm,0.3s,baz=116,slow=3.4,SNR=5.3							
ARCES	**ARCESS Array B**	**131.89**	**348**	PKP		**PKPdf**	**05 37 29.6**	**-0.8**
	1.5nm,0.8s,baz=22,slow=1.3,SNR=7.4							
FINES	**FINESS Array B**	**138.48**	**342**	PKP		**PKPdf**	**05 37 43.4**	**+0.6**
	2.1nm,1.1s,baz=29,slow=3.2,SNR=2.5							
HFS	**Hagfors**	**142.54**	**349**	PKhKP		PKPpre	05 37 46.3	
	2.9nm,0.3s,baz=60,slow=3.4,SNR=31							
AKASG	**Malin Array Be**	**145.07**	**328**	PKPbc		**PKPdf**	**05 37 54.6**	**-0.2**
	1.1nm,0.4s,baz=43,slow=4.2,SNR=13							
AKBB	**Malin Array Si**	**145.07**	**328**	*e*PKPdf		**PKPdf**	**05 37 54.1**	**-0.7**
KIEV	**Kiev**	**145.08**	**328**	*e*PKPdf		**PKPdf**	**05 37 54.1**	**-0.7**
AK11	**Malin Array Si**	**145.11**	**328**	*e*PKPdf		**PKPdf**	**05 37 53.5**	**-1.4**
BRTR	**Keskin Array B**	**147.76**	**307**	PKPbc		**PKPbc**	**05 38 02.8**	**-0.8**
	0.8nm,0.7s,baz=139,slow=5.9,SNR=5.0							
BRTR				PKPab		**PKPab**	**05 38 08.1**	**+0.3**
	1.0nm,0.6s,baz=78,slow=3.4,SNR=5.9							
BR231	**Keskin MP Arra**	**148.34**	**308**	*e*PKPbc		**PKPbc**	**05 38 04.0**	**-1.1**
EKA	**Eskdalemuir Ar**	**148.44**	**4**	PKPbc		**PKPbc**	**05 38 03.3**	**-1.2**
	0.5nm,0.4s,baz=348,slow=3.1,SNR=5.3							
EKA				PKPab		**PKPab**	**05 38 08.9**	**-0.9**
	0.5nm,0.4s,baz=343,slow=3.7,SNR=4.8							
KWP	**Kalwaria Pacla**	**148.85**	**331**	*e*PKP		**PKPbc**	**05 38 06.1**	**+0.3**
BUR04	**Bucovina Ar. S**	**149.07**	**326**	*e*PKPbc		**PKPbc**	**05 38 07.6**	**+1.1**
NIE	**Niedzica**	**150.03**	**333**	*e*PKP		**PKPbc**	**05 38 09.1**	**+0.4**
CLL	**Collm**	**150.88**	**344**	∥*i*PKPbc		**PKPbc**	**05 38 10.4**	**-0.1**
	comp=Z,9.0nm,0.9s							
CLL	**Collm**	**150.88**	**344**	*e*PKPbc		**PKPbc**	**05 38 10.5**	**0.0**
CLL				*e*PKPab		**PKPab**	**05 38 19.4**	**-0.7**
BRG	**Berggiesshubel**	**151.02**	**342**	*i*PKP		**PKPbc**	**05 38 10.4**	**-0.4**
	comp=Z,4.6nm,0.7s							
BRG				*e*			05 38 20.6	
	comp=Z,4.3nm,1.2s							
VYHS	**Vyhne**	**151.36**	**334**	*e*PKP		**PKPab**	**05 38 21.8**	**-0.4**
GERES	**GERESS Array B**	**152.90**	**340**	PKPbc		**PKPbc**	**05 38 14.5**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=353,slow=4.9,SNR=3.7							
GERES				PKPab		**PKPab**	**05 38 28.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=194,slow=37,SNR=2.7							
ESDC	**Sonseca Array**	**163.81**	**12**	PKPab		**PKPab**	**05 39 16.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=214,slow=0.9,SNR=14							
TORD	**Torodi Ar. Bea**	**169.28**	**187**	PKP		**PKPdf**	**05 38 24.5**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=160,slow=4.6,SNR=3.2							
TORD				PKPab		**PKPab**	**05 39 40.7**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=155,slow=3.8,SNR=3.2							

IDC 22 05:22:03.0±6.1, 4°58N×124°57E, h438km±80km, mb3.1/7, mb1 3.3/7, mb1mx2.9/62, mbtmp3.9/7, Error ellipse: s-maj=43.7km s-min=15.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.19**	**159**	P	P	05 27 00.0	-0.8
	0.4nm,0.4s,baz=331,slow=11,SNR=2.6						
CMAR	**Chiang Mai Arr**	**28.59**	**301**	P	P	05 27 22.0	0.0
	0.5nm,0.4s,baz=128,slow=8.4,SNR=4.9						
ASAR	**Alice Springs**	**29.51**	**162**	P	P	05 27 29.8	-0.3
	1.0nm,0.3s,baz=339,slow=7.3,SNR=7.2						
STKA	**Stephens Creek**	**39.71**	**157**	P	P	05 28 57.0	+1.1
	1.1nm,0.4s,baz=327,slow=7.7,SNR=3.0						
KLR	**Kul'dur**	**44.91**	**7**	P	P	05 29 36.3	-0.5
	0.1nm,0.4s,baz=202,slow=7.0,SNR=4.4						
SONM	**Songino Array**	**45.84**	**343**	P	P	05 29 45.2	+1.0
	0.4nm,0.4s,baz=169,slow=8.2,SNR=2.8						
MKAR	**Makanchi Array**	**55.64**	**326**	P	P	05 30 55.9	-0.2
	0.9nm,0.5s,baz=122,slow=7.9,SNR=19						
MKAR				PcP	PcP	05 31 49.0	-0.5
	0.3nm,0.6s,baz=147,slow=3.8,SNR=3.7						
KURBB	**Kurchatov Arra**	**59.87**	**328**	P	P	05 31 24.8	-0.2
	0.4nm,0.3s,baz=128,slow=7.8,SNR=8.6						

MOS 22 05:27:29.0±0.6, 44°42N×148°42E, h57km, mb4.2/1, Error ellipse: s-maj=27.8km s-min=24.0km az=39.2
JMA 22 05:27:30.6±0.4, 44°03N×148°15E, h0km, M4.0
SKHL 22 05:27:31.0±0.4, 44°40N×148°30E, h30km±3km, mb4.4/3
ISC 22 05:27:28.9±2.5, 44°47N±0°08×148°2E±0°1, h6km±12km, n22, σ0°96/33, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.80**	**344**	*d*PN	**Pn**	**05 27 46.8**	**+0.1**
KUR				*i*S	**Sn**	**05 27 58.6**	**-0.2**
KUR				pmax	pmax		
	comp=Z,527nm,0.3s						
KUR				pmax	pmax		
	comp=N,69nm,0.4s						
KUR				pmax	pmax		
	comp=E,90nm,0.1s						
KUR				smax	smax		
	comp=N,1μm,0.2s						
KUR				smax	smax		
	comp=E,315nm,0.2s						
KUR	**Kuril'sk**	**0.80**	**344**	*i*P	**Pn**	**05 27 46.8**	**+0.1**
KUR				AMB	AMB	05 27 47.3	
	comp=E,69nm,0.4s						
KUR				AMB	AMB	05 27 47.3	
	comp=E,90nm,0.4s						
KUR				AMB	AMB	05 27 47.3	
	comp=E,267nm,0.4s						
KUR				*i*S	**Sn**	**05 27 58.6**	**-0.2**
KUR				A	A	05 28 00.0	
	comp=E,1μm,0.2s						
KUR				A	A	05 28 00.0	
	comp=E,320nm,0.2s						
SHO	**Shikotan**	**1.14**	**239**	*e*PN	**Pg**	**05 27 50.8**	**0.0**
SHO				*e*S	**Sg**	**05 28 05.6**	**0.0**
SHO				pmax	pmax		
	comp=N,46nm,0.2s						
SHO				pmax	pmax		
	comp=E,43nm,0.2s						
SHO				pmax	pmax		
	comp=Z,115nm,0.2s						
SHO				smax	smax		
	comp=N,366nm,0.2s						
SHO				smax	smax		
	comp=E,136nm,0.1s						
SHO	**Shikotan**	**1.14**	**239**	*e*P	**Pg**	**05 27 50.8**	**0.0**
SHO				AMB	AMB	05 27 51.0	
	comp=E,115nm,0.4s						
SHO				*e*S	**Sg**	**05 28 05.6**	**0.0**
SHO				A	A	05 28 13.7	
	comp=E,366nm,0.2s						
SHO				A	A	05 28 13.7	
	comp=E,480nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.72**	**256**	*e*PN	**Pb**	**05 28 00.5**	**-0.4**
YUK				*e*S	**Sb**	**05 28 22.7**	**-0.1**
YUK				pmax	pmax		
	comp=N,76nm,0.2s						
YUK				pmax	pmax		
	comp=Z,157nm,0.2s						
YUK				pmax	pmax		
	comp=E,115nm,0.3s						
YUK				smax	smax		
	comp=N,377nm,0.1s						
YUK				smax	smax		
	comp=E,525nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.72**	**256**	*e*P	**Pn**	**05 27 59.9**	**+0.5**
YUK				AMB	AMB	05 28 02.5	
	comp=E,76nm,0.3s						
YUK				AMB	AMB	05 28 02.5	
	comp=E,115nm,0.3s						
YUK				AMB	AMB	05 28 02.5	
	comp=E,158nm,0.3s						
YUK				*e*S	**Sn**	**05 28 21.3**	**-0.3**
YUK				A	A	05 28 27.9	
	comp=E,377nm,0.3s						
YUK				A	A	05 28 27.9	
	comp=E,53nm,0.3s						
LAGR	**Lagunnoye**	**1.77**	**257**	*e*S	**Sn**	**05 28 23.2**	**+0.4**
GRPR	**Tuman**	**1.79**	**255**	*e*PN	**Pn**	**05 28 00.6**	**+0.2**
GRPR				*e*S	**Sn**	**05 28 23.2**	**-0.2**
GRPR	**Tuman**	**1.79**	**255**	*e*P	**Pn**	**05 28 00.6**	**+0.2**
GRPR				*e*S	**Sn**	**05 28 23.2**	**-0.2**
GLVR	**Golovnino**	**2.05**	**250**	*e*S	**Sn**	**05 28 30.2**	**+0.5**
NEM2	**Nemuro 2**	**2.08**	**239**	P	**Pn**	**05 28 04.1**	**-0.2**
NEM2				*e*S	**Sn**	**05 28 28.6**	**-1.8**
JRA	**Rausu**	**2.26**	**258**	P	**Pb**	**05 28 09.0**	**-1.1**
JRA				*e*S	**Sb**	**05 28 37.4**	**-0.9**
JNK	**Nakash**	**2.65**	**252**	P	**Pn**	**05 28 13.7**	**+1.6**
JAK	**Akkeshi**	**2.92**	**241**	P	**Pn**	**05 28 16.4**	**+0.5**
JAR	**Ashoroboto**	**3.40**	**251**	P	**Pn**	**05 28 24.8**	**+2.4**
JNBK	**Urakawa-nobuka**	**4.52**	**243**	P	**Pn**	**05 28 39.4**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.54**	**305**	*e*PN	**Pn**	**05 28 39.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.54**	**305**	*e*P	**Pn**	**05 28 39.0**	**+0.9**
JKB	**Kayabe**	**5.83**	**246**	P	**Pn**	**05 28 57.5**	**+1.7**
JKB				*e*S	**Sn**	**05 30 02.2**	**-0.7**
JOT	**Ohata**	**6.08**	**242**	P	**Pn**	**05 29 00.1**	**+0.9**
TYV	**Tymovskoe**	**7.40**	**332**	*e*PN	**Pn**	**05 29 18.7**	**+1.3**
TYV	**Tymovskoe**	**7.40**	**332**	*e*P	**Pn**	**05 29 18.7**	**+1.3**

CSEM 22 05:33:22.3±0.3, 38°54N×43°30E, h19km, ML1.9, Error ellipse: s-maj=7.4km s-min=4.9km az=147.0
ISK 22 05:33:22.5, 38°56N×43°26E, h16km, ML1.9/2
ISCJB 22 05:33:23.3±1.2, 38°55N±0°06×43°31E±0°06, h23km±9km, Error ellipse: s-maj=10.5km s-min=6.4km az=147.6
DDA 22 05:33:23.5, 38°63N×43°25E, h7km, Ml2.6
ISC 22 05:33:23.3±0.9, 38°58N±0°03×43°27E±0°03, h17km±7km, n16, σ0°77/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.10**	**80**	PG	**Pg**	**05 33 26.6**	**-0.4**
VANB	**Van**	**0.10**	**80**	*i*Pg	**Pg**	**05 33 26.6**	**-0.4**
TVAN	**Van**	**0.12**	**115**	*i*P	**Pb**	**05 33 26.5**	**-0.8**
TVAN				*i*S	**Sg**	**05 33 30.5**	**+0.6**
TVAN	**Van**	**0.12**	**115**	P	**Pb**	**05 33 26.5**	**-0.8**
TVAN				S	**Sg**	**05 33 30.5**	**+0.6**
GEVA	**Gevas**	**0.31**	**212**	*i*P	**Pg**	**05 33 29.6**	**-0.5**
GEVA				*i*S	**Sb**	**05 33 36.5**	**+1.0**
GEVA	**Gevas**	**0.31**	**212**	P	**Pg**	**05 33 29.6**	**-0.5**
GEVA				S	**Sb**	**05 33 36.5**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.48**	**298**	*i*P	**Pg**	**05 33 32.8**	**-0.4**
ADCV				*i*S	**Sb**	**05 33 41.6**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.48**	**298**	P	**Pg**	**05 33 32.8**	**-0.4**
ADCV				S	**Sb**	**05 33 41.6**	**+1.2**
CLDR	**Caldiran**	**0.76**	**42**	PG	**Pb**	**05 33 37.4**	**-0.8**
CLDR				SG	**Sg**	**05 33 49.4**	**+1.1**
CLDR	**Caldiran**	**0.76**	**42**	*e*Pg	**Pb**	**05 33 37.4**	**-0.8**
CLDR				*e*Sg	**Sg**	**05 33 49.4**	**+1.1**
TUTA	**Tutak**	**0.90**	**337**	*i*P	**Pb**	**05 33 40.0**	**-0.6**
TUTA				*i*S	**Sb**	**05 33 52.1**	**-0.2**
TUTA	**Tutak**	**0.90**	**337**	P	**Pb**	**05 33 40.0**	**-0.6**
TUTA				S	**Sb**	**05 33 52.1**	**-0.2**
GURO	**Guroymak-BITLI**	**0.97**	**269**	PG	**Pb**	**05 33 40.9**	**-0.9**
GURO				SG	**Sg**	**05 33 55.4**	**+0.4**
GURO	**Guroymak-BITLI**	**0.97**	**269**	*e*Pg	**Pb**	**05 33 40.9**	**-0.9**
GURO				*e*Sg	**Sg**	**05 33 55.4**	**+0.4**
AGRB	**Hanur-Agry**	**1.02**	**348**	PG	**Pn**	**05 33 43.2**	**+0.1**
AGRB	**Hanur-Agry**	**1.02**	**348**	*e*Pg	**Pn**	**05 33 43.2**	**+0.1**

ISCJB 22 05:47:35.1±0.5, 43°14N±0°02×13°47E±0°05, h15km±7km, Error ellipse: s-maj=6.2km s-min=3.7km az=166.4
ROM 22 05:47:35.4±0.1, 43°14N×13°45E, h20km±2km, Md2.5/13, Ml2.0/13, Error ellipse: s-maj=2.1km s-min=1.3km az=64.0
CSEM 22 05:47:35.1±0.2, 43°14N×13°51E, h10km, ML2.6/9, Error ellipse: s-maj=4.1km s-min=3.4km az=80.0
ISC 22 05:47:34.4±1.1, 43°15N±0°02×13°55E±0°02, h5km±10km, n30, σ0°98/54, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMA	**Gualdo di Mace**	**0.30**	**106**	Pg	**Pg**	**05 47 39.5**	**-0.7**
GUMA				Sg	**Sg**	**05 47 42.6**	**-1.5**
	1μm,0.2s						
GUMA	**Gualdo di Mace**	**0.30**	**106**	Pg	**Pg**	**05 47 39.5**	**-0.7**
GUMA				Sg	**Sg**	**05 47 42.6**	**-1.5**
	1μm,0.2s						
CING	**Cingoli**	**0.34**	**312**	Pg	**Pg**	**05 47 42.0**	**+0.9**
CING				Sg	**Sb**	**05 47 47.2**	**-1.7**
	88nm,0.3s						
CING	**Cingoli**	**0.34**	**312**	Pg	**Pg**	**05 47 42.0**	**+0.9**
CING				Sg	**Sb**	**05 47 47.2**	**-1.7**
	88nm,0.3s						
AOI	**Ancona**	**0.41**	**6**	Pg	**Pb**	**05 47 44.2**	**0.0**
AOI				Sg	**Sb**	**05 47 51.8**	**+1.1**
	85nm,0.2s						
AOI	**Ancona**	**0.41**	**6**	Pg	**Pb**	**05 47 44.2**	**0.0**
AOI				Sg	**Sb**	**05 47 51.8**	**+1.1**
	85nm,0.2s						
NRCA	**Norcia**	**0.45**	**225**	Pg	**Pg**	**05 47 43.4**	**+0.4**
NRCA				Sg	**Sb**	**05 47 49.8**	**-2.0**
	973nm,0.1s						
NRCA	**Norcia**	**0.45**	**225**	Pg	**Pg**	**05 47 43.4**	**+0.4**
NRCA				Sg	**Sb**	**05 47 49.8**	**-2.0**
	973nm,0.1s						
SNTG	**Esanatoglia**	**0.46**	**284**	Pg	**Pg**	**05 47 43.4**	**+0.2**
SNTG				Sg	**Sg**	**05 47 49.6**	**+0.5**
	105nm,0.2s						
SNTG	**Esanatoglia**	**0.46**	**284**	Pg	**Pg**	**05 47 43.4**	**+0.2**
SNTG				Sg	**Sg**	**05 47 49.6**	**+0.5**
	105nm,0.2s						
CESI	**CESI - Serrava**	**0.49**	**253**	Pg	**Pg**	**05 47 44.0**	**+0.1**
CESI				Sg	**Sg**	**05 47 50.6**	**+0.4**
	42nm,0.2s						
CESI	**CESI - Serrava**	**0.49**	**253**	Pg	**Pg**	**05 47 44.0**	**+0.1**
CESI				Sg	**Sg**	**05 47 50.6**	**+0.4**
	42nm,0.2s						
TERO	**Teramo**	**0.53**	**175**	Pg	**Pg**	**05 47 45.6**	**+1.1**
TERO				Sg	**Sb**	**05 47 54.5**	**+0.4**
	98nm,0.2s						
TERO	**Teramo**	**0.53**	**175**	Pg	**Pg**	**05 47 45.6**	**+1.1**
TERO				Sg	**Sb**	**05 47 54.5**	**+0.4**
	98nm,0.2s						
SMA1	**SAN MARTINO**	**0.54**	**197**	Pg	**Pg**	**05 47 45.4**	**+0.6**
SMA1				Sg	**Sb**	**05 47 53.7**	**-0.8**
	179nm,0.3s						
SMA1	**SAN MARTINO**	**0.54**	**197**	Pg	**Pg**	**05 47 45.4**	**+0.6**
SMA1				Sg	**Sb**	**05 47 53.7**	**-0.8**
	179nm,0.3s						
ARVD	**Arcevia**	**0.56**	**309**	Pg	**Pg**	**05 47 45.7**	**+0.4**
ARVD				Sg	**Sb**	**05 47 53.9**	**-1.3**
	25nm,0.2s						
CAMP	**Campotosto**	**0.62**	**189**	Pg	**Pg**	**05 47 46.9**	**+0.6**
CAMP				Sg	**Sb**	**05 47 56.6**	**-0.3**
	72nm,0.3s						
CAMP	**Campotosto**	**0.62**	**189**	Pg	**Pg**	**05 47 46.9**	**+0.6**
CAMP				Sg	**Sb**	**05 47 56.6**	**-0.3**
	72nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.66**	**274**	Pg	**Pg**	**05 47 47.1**	**-0.1**
ATCC				Sg	**Sb**	**05 47 56.1**	**-2.0**
	47nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.66**	**274**	Pg	**Pg**	**05 47 47.1**	**-0.1**
ATCC				Sg	**Sb**	**05 47 56.1**	**-2.0**
	47nm,0.3s						
MPAG	**Monte Paganucc**	**0.75**	**310**	Pg	**Pg**	**05 47 49.2**	**+0.4**
	21nm,0.5s						
MPAG	**Monte Paganucc**	**0.75**	**310**	Pg	**Pg**	**05 47 49.2**	**+0.4**
	21nm,0.5s						
PIEI	**Pieia**	**0.83**	**298**	Pg	**Pg**	**05 47 50.1**	**-0.3**
	18nm,0.2s						
PIEI	**Pieia**	**0.83**	**298**	Pg	**Pg**	**05 47 50.1**	**-0.3**
	18nm,0.2s						
NVLJ	**Novalja**	**1.71**	**34**	*e*Pn	**Pn**	**05 48 05.0**	**+0.1**
NVLJ				Sn	**Sn**	**05 48 27.0**	**-0.2**
NVLJ	**Novalja**	**1.71**	**34**	*e*Pn	**Pn**	**05 48 05.0**	**+0.1**
NVLJ				Sn	**Sn**	**05 48 26.9**	**-0.2**
UDBI	**Udbina**	**2.12**	**49**	*i*Pn	**Pn**	**05 48 12.2**	**+1.6**
UDBI	**Udbina**	**2.12**	**49**	*i*Pn	**Pn**	**05 48 12.2**	**+1.6**

IDC 22 05:48:22.0±3.6, 20°30S×177°98W, h491km±27km, mb3.3/4, mb1 3.5/6, mb1mx3.1/41, mbtmp4.2/6, Error ellipse: s-maj=114.5km s-min=19.4km az=148.0
ISC 22 05:48:23.8±2.2, 20°0S±0°6×178°1W±0°4, h500km, n10, σ1°35/11, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.56**	**46**	P	**P**	**05 50 26.9**	**+0.7**
	7.3nm,0.3s,baz=74,slow=23,SNR=5.0						
AFI				S	**S**	**05 52 05.3**	**-1.2**
	2.6nm,0.3s,baz=106,slow=21,SNR=2.7						
DZM	**Mont Dzumac**	**14.57**	**259**	P	**P**	**05 51 29.8**	**+0.1**
	0.5nm,0.3s,baz=75,slow=19,SNR=6.2						
ASAR	**Alice Springs**	**44.54**	**256**	P	**P**	**05 55 50.0**	**-0.7**
	0.7nm,0.4s,baz=91,slow=7.9,SNR=8.8						
ASAR				PcP	**PcP**	**05 57 21.9**	**-1.4**
	0.3nm,0.7s,baz=94,slow=3.9,SNR=5.3						
WRA	**Warramunga Arr**	**44.57**	**262**	P	**P**	**05 55 49.8**	**-1.2**
	0.4nm,0.3s,baz=96,slow=7.7,SNR=19						
CMAR	**Chiang Mai Arr**	**89.85**	**290**	P	**P**	**06 00 31.2**	**+1.9**
	0.9nm,0.4s,baz=128,slow=5.8,SNR=1.5						
SONM	**Songino Array**	**95.30**	**319**	P	**P**	**06 00 53.3**	**-0.5**
	0.4nm,0.4s,baz=152,slow=6.5,SNR=1.9						
MKAR	**Makanchi Array**	**110.77**	**314**	PKiKP	**PKiKP**	**06 05 58.4**	**-1.0**
	0.1nm,0.4s,baz=56,slow=2.7,SNR=2.0						
AKASG	**Malin Array Be**	**142.52**	**331**	PKhKP	PKPpre	06 06 55.6	
	0.9nm,0.5s,baz=38,slow=3.9,SNR=11						
BRTR	**Keskin Array B**	**146.42**	**313**	PKPbc	**PKPdf**	**06 07 08.4**	**+1.9**
	0.4nm,0.5s,baz=123,slow=5.3,SNR=2.8						
GERES	**GERESS Array B**	**149.68**	**344**	PKPbc	**PKPbc**	**06 07 16.8**	**+0.1**
	0.3nm,0.3s,baz=334,slow=6.0,SNR=1.8						

IDC 22 06:00:15.9±1.4, 32°50N×47°94E, h0km, mb3.7/13, mb1 3.8/17, mb1mx3.6/66, mbtmp3.8/17, ML3.7/4, MS2.9/5, Ms1 2.9/5, ms1mx2.5/55, Error ellipse: s-maj=29.7km s-min=18.7km az=171.0
TEH 22 06:00:15.6, 32°64N×48°01E, h7km, ML3.8
ISCJB 22 06:00:15.9±0.4, 32°41N±0°04×47°95E±0°05, h15km, mb3.7/14, MS3.1/3, Error ellipse: s-maj=6.4km s-min=4.5km az=147.6
CSEM 22 06:00:17.9±0.5, 32°60N×48°07E, h2km, ML3.6, Error ellipse: s-maj=13.8km s-min=6.0km az=56.0
THR 22 06:00:19.9±1.1, 32°69N×48°15E, h25km±12km, ML3.5
DSN 22 06:00:26.9±1.5, 32°62N×49°44E, h7km, ML4.2/1, Error ellipse: s-maj=64.0km s-min=10.3km az=40.0
ISC 22 06:00:18.3±0.6, 32°59N±0°05×47°95E±0°05, h15km, n87, σ1°37/88, mb3.7/14, MS3.1/3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.86**	**123**	*e*Pg	**Pb**	**06 00 35.3**	**+0.2**
SHGR	**Shooshtar-Gavs**	**0.86**	**123**	*e*Pg	**Pb**	**06 00 35.3**	**+0.2**
SHGR				AML	AML	06 00 59.0	
	comp=N,3μm,0.3s						
SHGR				AML	AML	06 01 04.6	

comp=Z,2µm,0.2s
IVRN Varamin 3.96 52 *e*Pn **Pn 06 01 19.6 +1.0**
NASN Na'in 4.10 86 *e*Pn **Pn 06 01 20.5 -0.3**
NASN Na'in 4.10 86 *e*Pn **Pn 06 01 20.6 -0.3**
THKV Tehran--Karaj 4.11 35 *e*Pn **Pn 06 01 21.2 +0.4**
THKV Tehran--Karaj 4.11 35 *e*Pn **Pn 06 01 21.2 +0.4**
THKV AML AML 06 02 38.3
comp=E,59nm,0.6s
IGZV Ghazvin 4.23 26 *e*Pn **Pn 06 01 22.2 -0.2**
IGZV *e*AMB AMB 06 01 36.2
comp=Z,1µm,0.3s
IGZV Ghazvin 4.23 26 *e*Pn **Pn 06 01 22.2 -0.2**
CHTH Charan 4.23 38 *e*Pn **Pn 06 01 22.8 +0.3**
CHTH Charan 4.23 38 *e*Pn **Pn 06 01 22.8 +0.3**
ILAS Lasjerd 5.01 55 *e*Pn **Pn 06 01 32.9 -0.3**
ILAS *e*AMB AMB 06 01 37.4
comp=E,1µm,0.1s
ILAS Lasjerd 5.01 55 *e*Pn **Pn 06 01 32.9 -0.3**
IFIR Firoozkooh 5.01 51 *e*Pn **Pn 06 01 33.3 0.0**
IFIR *e*AMB AMB 06 01 53.1
comp=Z,480nm,0.2s
IFIR Firoozkooh 5.01 51 *e*Pn **Pn 06 01 33.3 0.0**
IPAR Pars 5.15 121 *e*Pn **Pn 06 01 36.1 +0.9**
IPAR *e*AMB AMB 06 02 37.2
comp=Z,1µm,0.3s
IPAR Pars 5.15 121 *e*Pn **Pn 06 01 36.1 +0.9**
ISHM Shahmirzad 5.47 53 *e*Pn **Pn 06 01 39.4 -0.1**
ISHM *e*AMB AMB 06 01 42.9
comp=Z,2µm,0.2s
IANJ Anjilo 5.72 58 *e*Pn **Pn 06 01 41.9 -1.1**
IANJ *e*AMB AMB 06 01 45.4
comp=Z,476nm,0.2s
IANJ Anjilo 5.72 58 *e*Pn **Pn 06 01 41.9 -1.1**
GNI Garni 7.98 342 LR LR 06 06 00.6
comp=Z,50nm,20.8s,baz=162,slow=43
ASF Jabal al Asfar 9.36 270 Pn **Pn 06 02 33.8 +1.1**
comp=Z,0.3nm,0.3s,baz=32,slow=7.5,SNR=1.9
ASF Sn Sn **06 04 13.4 -4.4**
comp=Z,0.1nm,0.3s,baz=37,slow=17,SNR=1.1
ASF Lg Lg 06 05 18.8
comp=Z,0.2nm,0.3s,baz=226,slow=21,SNR=2.5
BANOM Banah 9.86 130 *i* P **Pn 06 02 36.9 -2.7**
SNR=16
BANOM S Sn 06 04 19.6 -10
GEYT Alibeck 9.87 55 Pn **Pn 06 02 40.9 +1.2**
comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=3.0
GEYT LR LR 06 07 24.3
comp=Z,17nm,20.1s,baz=240,slow=43
NAZ Nazwa, Dubai 10.15 136 P **Pn 06 02 43.4 -0.2**
NAZ Nazwa, Dubai 10.15 136 P **Pn 06 02 43.4 -0.2**
MSFE Esma-Masafi 10.17 133 *i* P **Pn 06 02 41.8 -2.0**
SNR=8.8
MDH Madha 10.30 133 *i* P **Pn 06 02 43.9 -1.8**
SNR=14
UOSS Minazif 10.50 134 *i* P **Pn 06 02 45.8 -2.6**
SNR=8.5
HATD Hatta, Dubai 10.55 135 P **Pn 06 02 48.0 -1.1**
SNR=7.2
HATD Hatta, Dubai 10.55 135 *i* P **Pn 06 02 48.0 -1.1**
SNR=7.2
ASHO Ashiyiah 10.61 136 P **Pn 06 02 48.0 -1.9**
SNR=18
ASHO Ashiyiah 10.61 136 *i* P **Pn 06 02 48.0 -1.9**
SNR=18
ALNE Al Ain 10.93 139 *i* P **Pn 06 02 53.0 -1.2**
SNR=7.7
WSAR Wadi Sarin 13.25 132 Pn **Pn 06 03 23.6 -2.4**
comp=Z,1.8nm,0.3s,baz=310,slow=12,SNR=18
WSAR Sn Sn 06 05 41.8 -11
comp=Z,0.3nm,0.3s,baz=350,slow=18,SNR=1.6
AKTO Aktyubinsk 19.33 20 P **P 06 04 42.1 -0.8**
comp=Z,0.3nm,0.3s,baz=188,slow=12,SNR=8.6
AKASG Malin Array Be 22.76 328 P **P 06 05 21.3 +1.3**
comp=Z,1.3nm,0.8s,baz=131,slow=10,SNR=4.5
AAK Ala-Archa 23.21 57 LR LR 06 14 28.7
comp=Z,25nm,20.9s,baz=208,slow=37
ARU Arti 24.95 14 P **P 06 05 42.1 +1.2**
comp=Z,4.9nm,0.2s,baz=192,slow=5.7,SNR=4.4
BVAR Borovoye Array 26.04 32 P **P 06 05 51.5 +0.7**
comp=Z,1.4nm,0.8s,baz=225,slow=7.3,SNR=6.5
KURBB Kurchatov Arra 28.82 42 P **P 06 06 17.8 +2.1**
comp=Z,0.4nm,0.6s,baz=247,slow=9.5,SNR=5.5
MKAR Makanchi Array 29.73 51 P **P 06 06 23.7 -0.2**
comp=Z,0.9nm,0.7s,baz=247,slow=8.0,SNR=9.9
FINES FINESS Array B 32.16 340 P **P 06 06 45.4 +0.2**
comp=Z,0.7nm,0.4s,baz=150,slow=11,SNR=6.3
ZALV Zalesovo Beam 33.74 40 P **P 06 06 58.9 -0.1**
comp=Z,0.5nm,0.3s,baz=236,slow=10,SNR=2.5
HFS Hagfors 35.58 331 P **P 06 07 14.4 -0.5**
comp=Z,1.1nm,0.5s,baz=131,slow=10,SNR=7.2
NOA NORSAR Array B 37.10 331 LR LR 06 24 13.5
comp=Z,32nm,16.1s,baz=220,slow=39
ARCES ARCESS Array B 39.09 348 P **P 06 07 44.1 -0.4**
comp=Z,1.2nm,0.8s,baz=168,slow=6.2,SNR=4.5
EKA Eskdalemuir Ar 42.03 318 P **P 06 08 09.1 +0.1**
comp=Z,0.3nm,0.6s,baz=110,slow=8.4,SNR=3.1
TORD Torodi Ar. Bea 46.39 256 P **P 06 08 43.9 -0.5**
comp=Z,0.3nm,0.8s,baz=58,slow=7.5,SNR=2.8
SPITS Spitsbergen Ar 47.72 352 P **P 06 08 54.6 +0.6**
comp=Z,1.1nm,0.4s,baz=138,slow=6.7,SNR=7.9
SCHQ Schefferville 76.56 327 LR LR 06 46 54.2
comp=Z,29nm,18.3s,baz=357,slow=36
INK Inuvik 79.41 1 P **P 06 12 24.1 +0.7**
baz=3.9,slow=7.2
ILAR Eielson Array 82.27 6 P **P 06 12 39.6 +0.9**
comp=Z,0.4nm,0.7s,baz=330,slow=1.4,SNR=4.1
YKA Yellowknife Ar 84.21 352 P **P 06 12 48.8 0.0**
comp=Z,0.2nm,0.7s,baz=16,slow=5.5,SNR=6.0

JMA ***22*** *06:04:46.9±0.2, 40.°81N×145.°41E, h65km±3km, M3.7*
ISCJB ***22*** *06:04:48.0±1.4, 41.°01N±0.°07×145.°23E±0.°08, h10km, mb3.4/6, MS3.1/2, Error ellipse: s-maj=11.0km s-min=8.1km az=153.1*
IDC ***22*** *06:05:01.2±2.3, 41.°84N×144.°68E, h0km, mb3.5/6, mb1 3.5/8, mb1mx3.4/69, mbtmp3.5/8, ML2.9/2, MS3.0/2, Ms1 3.0/2, ms1mx2.3/53, Error ellipse: s-maj=47.6km s-min=33.2km az=144.0*
ISC 22 06:04:47.2±1.7, 40.°98N±0.°06×145.°17E±0.°08, h10km, n21, σ1°75/24, mb3.4/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.83**	**305**	P	**Pb**	**06 05 20.4**	**-0.4**
JEM				*e*S	**Sb**	**06 05 43.2**	**-0.6**
JAK	**Akkeshi**	**2.05**	**350**	P	**Pb**	**06 05 22.8**	**-1.6**
JAK				*e*S	**Sb**	**06 05 49.4**	**-0.5**
JCH	**Churui**	**2.12**	**321**	P	**Pb**	**06 05 24.3**	**-1.4**
JCH				*e*S	**Sb**	**06 05 50.6**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.23**	**306**	P	**Pb**	**06 05 26.4**	**-1.2**
JNBK				*e*S	**Sb**	**06 05 54.6**	**-0.6**
NEM2	**Nemuro 2**	**2.42**	**10**	P	**Pn**	**06 05 27.5**	**+0.7**
NEM2				*e*S	**Sn**	**06 05 56.4**	**-0.1**
JAR	**Ashorobuto**	**2.54**	**336**	P	**Pn**	**06 05 29.5**	**+1.0**
JAR				*e*S	**Sn**	**06 06 01.0**	**+1.6**
JNK	**Nakash**	**2.63**	**353**	P	**Pn**	**06 05 30.1**	**+0.5**
JFR	**Furan**	**2.91**	**320**	P	**Pn**	**06 05 35.2**	**+1.7**
JFR				*e*S	**Sn**	**06 06 10.0**	**+1.5**
JTKR	**Abashiri--Toko**	**3.13**	**343**	P	**Pn**	**06 05 38.6**	**+2.0**
JTKR				*e*S	**Sn**	**06 06 16.3**	**+2.3**
JOT	**Ohata**	**3.14**	**279**	P	**Pn**	**06 05 37.6**	**+0.9**
JOM	**Ohasama**	**3.33**	**244**	P	**Pn**	**06 05 38.4**	**-0.9**
JEW	**Eniwo**	**3.34**	**305**	P	**Pb**	**06 05 42.4**	**-4.1**
JEW				*e*S	**Sn**	**06 06 22.0**	**+2.8**
ASAJ	**Asahikawa**	**3.67**	**330**	Pn	**Pn**	**06 05 46.9**	**+2.9**
	1.1nm,0.3s,baz=151,slow=11,SNR=5.2						
ASAJ				Sn	**Sn**	**06 06 26.0**	**-1.3**
	1.2nm,0.3s,baz=164,slow=21,SNR=2.4						
MJAR	**Matsushiro Arr**	**7.01**	**233**	Pn	**Pb**	**06 06 49.3**	**+0.2**
	0.4nm,0.3s,baz=40,slow=16,SNR=1.4						
SONM	**Songino Array**	**28.31**	**297**	P	P	06 10 48.6	+7.7
	0.2nm,0.4s,baz=81,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**44.62**	**299**	P	P	06 13 09.7	+10
	0.2nm,0.6s,baz=72,slow=9.3,SNR=3.1						
KURBB	**Kurchatov Arra**	**45.99**	**306**	P	P	06 13 19.4	+9.0
	0.4nm,0.4s,baz=76,slow=8.5,SNR=4.5						
PMG	**Port Moresby**	**50.17**	**177**	LR	LR	06 33 38.5	
	comp=Z,32nm,20.7s,baz=11,slow=34						
YKA	**Yellowknife Ar**	**58.92**	**32**	P	P	06 14 57.6	+12
	0.2nm,0.9s,baz=296,slow=6.6,SNR=3.3						
YKA				LR	LR	06 41 55.3	
	comp=Z,6.7nm,18.8s,baz=180,slow=38						
FINES	**FINESS Array B**	**66.67**	**333**	P	P	06 15 47.4	+10
	1.2nm,0.7s,baz=46,slow=8.2,SNR=6.2						
AKASG	**Malin Array Be**	**72.93**	**323**	P	P	06 16 26.9	+10
	0.2nm,0.4s,baz=41,slow=7.4,SNR=3.6						

IDC ***22*** *06:06:33.0±1.8, 5.°61S×130.°88E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.5/50, mbtmp3.9/4, ML3.8/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/45, Error ellipse: s-maj=106.7km s-min=25.8km az=68.0*
ISCJB ***22*** *06:06:48.6±1.0, 6.°21S±0.°05×130.°0E±0.°2, h146km, mb3.7/2, Error ellipse: s-maj=24.9km s-min=6.8km az=7.4*
DJA ***22*** *06:06:55.0±1.4, 6.°5S±14.°×13.°0E±.°, h158km±42km, MD3.9/3, mb3.9/2, MLv3.9/3*
ISC 22 06:06:50.7±1.3, 6.°18S±0.°10×130.°0E±0.°2, h146km, n7, σ1°32/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**3.93**	**35**	P	**Pn**	**06 07 50.9**	**+0.9**
FAKI				S	**Sn**	**06 08 35.8**	**-0.2**
SWI	**Sorong**	**5.43**	**13**	P	**Pn**	**06 08 10.9**	**+1.1**
	21nm,0.8s,0.1nm						
SWI				S	**Sn**	**06 09 09.7**	**-1.8**
	21nm,0.8s,0.1nm						
WRA	**Warramunga Arr**	**14.31**	**163**	Pn	Pn	06 10 02.6	-4.1
	0.3nm,0.3s,baz=347,slow=11,SNR=18						
WRA				Sn	Sn	06 12 33.8	-12
	0.9nm,0.3s,baz=335,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.78**	**168**	P	**P**	**06 10 48.3**	**+0.4**
	0.7nm,0.3s,baz=346,slow=10,SNR=40						
ASAR				S	S	06 14 00.5	-4.7
	0.2nm,0.3s,baz=328,slow=19,SNR=4.1						
STKA	**Stephens Creek**	**27.76**	**158**	P	**P**	**06 12 24.6**	**-1.2**
	2.0nm,0.9s,baz=340,slow=12,SNR=2.8						
USRK	**Ussuriysk Ar.**	**50.18**	**2**	LR	LR	06 34 15.3	
	comp=Z,33nm,21.1s,baz=150,slow=34						
MKAR	**Makanchi Array**	**67.56**	**327**	P	**P**	**06 17 31.5**	**+0.1**
	0.6nm,0.6s,baz=126,slow=6.8,SNR=7.9						

ISCJB ***22*** *06:14:45.9±1.3, 16.°8N±0.°1×100.°20W±0.°05, h18km, mb3.2/3, Error ellipse: s-maj=16.7km s-min=5.4km az=16.6*
MEX ***22*** *06:14:48.1±0.7, 16.°85N×100.°21W, h2km±7km, MD3.8*
IDC ***22*** *06:14:55.5±3.7, 18.°68N×99.°15W, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.4/42, mbtmp3.2/4, ML2.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/15, Error ellipse: s-maj=113.7km s-min=18.6km az=31.0*
ISC 22 06:14:47.5±1.4, 16.°9N±0.°1×100.°15W±0.°06, h18km, n9, σ2°12, mb3.3/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.19**	**322**	*e*P	**Pb**	**06 14 51.7**	**-0.5**
CAIG				*e*S	**Sb**	**06 14 55.0**	**-0.2**
ACX	**Acapulco**	**0.28**	**96**	*e*P	**Pg**	**06 14 53.5**	**-0.2**
ACX				*e*S	**Sg**	**06 14 58.4**	**+0.4**
ZIIG	**Zihuatanejo**	**1.44**	**299**	*e*P	**Pn**	**06 15 11.5**	**-1.3**
ZIIG				*i* S	**Sn**	**06 15 29.4**	**-1.9**
TLIG	**Tlapa**	**1.65**	**66**	*e*P	**Pn**	**06 15 15.5**	**-0.3**
TLIG				*e*S	**Sn**	**06 15 36.1**	**-0.5**
CMIG	**Matias Romero**	**5.04**	**87**	Pn	**Pn**	**06 16 02.3**	**0.0**
	0.4nm,0.3s,baz=312,slow=14,SNR=5.0						
CMIG				Sn	**Sn**	**06 16 55.8**	**-4.3**
	1.6nm,0.3s,baz=293,slow=9.4,SNR=4.2						
CMIG				Lg	Lg	06 17 15.6	
	1.3nm,0.3s,baz=287,slow=17,SNR=4.4						
LPIG	**La Paz**	**11.91**	**309**	LR	LR	06 21 26.6	
	comp=Z,44nm,20.3s,baz=116,slow=33						
NVAR	**Mina Array Bea**	**26.71**	**327**	P	**P**	**06 20 30.0**	**+3.8**
	0.3nm,0.7s,baz=138,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**46.66**	**351**	P	P	06 23 12.0	-2.7
	0.3nm,0.8s,baz=159,slow=7.2,SNR=6.4						
ILAR	**Eielson Array**	**57.17**	**338**	P	**P**	**06 24 34.1**	**+1.1**
	0.3nm,1.0s,baz=147,slow=5.1,SNR=3.6						

NIED ***22*** *06:16:00, 37.°20N×142.°20E, h35km, Mw3.7 Best double couple: M0=4.57000×10^14 NP1:φ=65.00000°, δ=31.00000°, λ=-2.00000°. NP2:φ=156.00000°, δ=89.00000°, λ=-121.00000°.*
IDC ***22*** *06:16:05.8±0.9, 37.°08N×142.°39E, h0km, mb3.7/9, mb1 3.9/14, mb1mx3.7/67, mbtmp3.7/14, ML3.6/4, MS2.7/3, Ms1 2.8/3, ms1mx2.5/55, Error ellipse: s-maj=23.8km s-min=15.8km az=142.0*
ISCJB ***22*** *06:16:06.1±1.2, 37.°21N±0.°04×142.°25E±0.°05, h15km±8km, mb3.6/9, MS2.8/1, Error ellipse: s-maj=7.5km s-min=6.7km az=36.1*
JMA ***22*** *06:16:07.6±0.2, 37.°18N×142.°18E, h30km±5km, M4.0*
ISC 22 06:16:06.5±2.3, 37.°18N±0.°04×142.°20E±0.°06, h4km±14km, n33, σ1°76/38, mb3.7/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.07**	**281**	P	**Pg**	**06 16 26.4**	**-0.7**
JMM	**Marumori**	**1.31**	**302**	P	**Pn**	**06 16 30.0**	**-1.6**
JMM				*e*S	**Sb**	**06 16 46.3**	**-2.6**
JIO	**Ouri**	**1.44**	**332**	P	**Pn**	**06 16 31.9**	**-1.5**
JIO				*e*S	**Sb**	**06 16 49.2**	**-3.4**
JFT	**Otama**	**1.52**	**284**	P	**Pn**	**06 16 33.9**	**-0.6**
JFT				*e*S	**Sn**	**06 16 52.9**	**-1.8**
JOU	**Okura**	**1.70**	**315**	P	**Pn**	**06 16 36.9**	**0.0**
JOU				*e*S	**Sn**	**06 16 56.7**	**-2.4**
JMK	**Ichinoseki**	**1.93**	**337**	P	**Pn**	**06 16 39.7**	**-0.4**
JYS	**Shirataka**	**1.99**	**302**	P	**Pn**	**06 16 41.4**	**+0.5**
JYS				*e*S	**Sn**	**06 17 05.9**	**-0.3**
JFY	**Yanaizu**	**2.00**	**277**	P	**Pn**	**06 16 40.9**	**-0.2**
JFY				*e*S	**Sn**	**06 17 05.7**	**-0.9**
JYK	**Kaneyama**	**2.27**	**321**	P	**Pn**	**06 16 44.5**	**-0.2**
JYK				*e*S	**Sn**	**06 17 11.5**	**-1.6**
JAG	**Ashikaga**	**2.33**	**252**	P	**Pn**	**06 16 44.6**	**-0.9**
JOM	**Ohasama**	**2.40**	**343**	P	**Pn**	**06 16 46.9**	**+0.3**
JOM				*e*S	**Sn**	**06 17 15.1**	**-1.3**
MJAR	**Matsushiro Arr**	**3.26**	**260**	Pn	**Pn**	**06 17 00.2**	**+1.8**
	4.9nm,0.3s,baz=85,slow=16,SNR=20						
MJAR				Sn	**Sb**	**06 17 43.4**	**-1.5**
	5.1nm,0.3s,baz=77,slow=13,SNR=5.0						
MJAR				LR	LR	06 18 30.3	
	comp=Z,124nm,21.4s,baz=85,slow=43						
MAT	**Matsushiro**	**3.26**	**260**	P	**Pn**	**06 17 00.1**	**+1.7**
MAT				*e*S	**Sn**	**06 17 39.5**	**+1.8**
JHJ	**Hachijo jima 2**	**4.50**	**207**	Pn	**Pn**	**06 17 14.8**	**-0.7**
	10nm,0.3s,baz=244,slow=24,SNR=2.5						
JHJ				Sn	**Sn**	**06 18 03.5**	**-4.8**
	60nm,0.3s,baz=52,slow=19,SNR=7.4						
ASAJ	**Asahikawa**	**6.94**	**2**	Pn	**Pn**	**06 17 49.1**	**+0.2**
	1.1nm,0.3s,baz=226,slow=14,SNR=4.5						
KSRS	**Korea Array**	**11.37**	**276**	Pn	**Pn**	**06 18 53.9**	**+4.2**
	0.2nm,0.3s,baz=89,slow=14,SNR=5.8						
KSRS				LR	LR	06 22 57.0	
	comp=Z,27nm,18.7s,baz=58,slow=36						
PETK	**Petropavlovsk-**	**19.25**	**29**	P	**Pn**	**06 20 33.7**	**+1.0**
	baz=218,slow=9.1,SNR=2.4						
SEY	**Seymchan**	**26.53**	**10**	P	**P**	**06 21 46.7**	**+1.7**
	0.9nm,0.3s,baz=168,slow=3.7,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**27.69**	**122**	T	T	06 50 55.6	
	baz=314,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**27.70**	**122**	T	T	06 50 54.0	
	baz=314,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy**	**27.70**	**122**	T	T	06 50 54.6	
	baz=314,slow=75,SNR=29						
SONM	**Songino Array**	**28.23**	**304**	P	**P**	**06 22 01.9**	**+1.4**
	0.4nm,0.4s,baz=108,slow=9.3,SNR=2.2						
H11S1	**WAKE ISLAND Hy**	**28.42**	**124**	T	T	06 51 55.8	
	baz=316,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**28.42**	**124**	T	T	06 51 53.9	
	baz=316,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.43**	**124**	T	T	06 51 58.1	
	baz=316,slow=76,SNR=34						
CMAR	**Chiang Mai Arr**	**42.14**	**256**	P	**P**	**06 24 02.2**	**+2.1**
	0.7nm,0.4s,baz=52,slow=9.3,SNR=3.0						
CMAR				LR	LR	06 44 58.5	
	comp=Z,12nm,18.2s,baz=195,slow=41						
MKAR	**Makanchi Array**	**44.57**	**302**	P	**P**	**06 24 19.8**	**+0.3**
	0.6nm,0.7s,baz=88,slow=9.1,SNR=7.7						
KURBB	**Kurchatov Arra**	**46.41**	**308**	P	**P**	**06 24 33.9**	**0.0**
	1.2nm,0.5s,baz=82,slow=8.1,SNR=11						
ILAR	**Eielson Array**	**49.04**	**32**	P	**P**	**06 24 53.2**	**-1.0**
	0.9nm,0.7s,baz=263,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	**57.29**	**189**	P	**P**	**06 25 54.1**	**-1.3**
	0.5nm,0.7s,baz=7.2,slow=7.0,SNR=6.6						
YKA	**Yellowknife Ar**	**63.37**	**30**	P	**P**	**06 26 36.2**	**-0.3**
	0.2nm,0.7s,baz=301,slow=6.7,SNR=7.3						
PDAR	**Pinedale Array**	**77.12**	**46**	P	**P**	**06 28 01.4**	**0.0**
	0.2nm,0.6s,baz=316,slow=5.0,SNR=3.0						
LPAZ	**La Paz**	**146.08**	**60**	PKPbc	**PKPbc**	**06 35 48.8**	**-0.1**
	0.8nm,0.7s,baz=301,slow=3.4,SNR=4.0						

CSEM ***22*** *06:21:50.9±0.1, 40.°82N×31.°57E, h2km, ML2.8, Error ellipse: s-maj=2.8km s-min=1.9km az=169.0*
DDA ***22*** *06:21:50.3, 40.°88N×31.°55E, h7km, Ml2.8*
ISK ***22*** *06:21:50.4, 40.°78N×31.°56E, h3km, MD3.0/3*
ISC 22 06:21:50.7±1.1, 40.°84N±0.°03×31.°55E±0.°02, h3km±11km, n52, σ0°67/67, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCAM	**Yenicaga**	**0.39**	**93**	*i* P	**Pg**	**06 21 58.5**	**+0.3**
BCAM	**Yenicaga**	**0.39**	**93**	P	**Pg**	**06 21 58.5**	**+0.3**
MDUB	**Mudurnu**	**0.45**	**216**	PG	**Pg**	**06 21 59.2**	**-0.2**
MDUB				SG	**Sg**	**06 22 05.8**	**+0.5**
MDUB	**Mudurnu**	**0.45**	**216**	*i* Pg	**Pg**	**06 21 59.2**	**-0.2**
MDUB				*i* Sg	**Sg**	**06 22 05.8**	**+0.5**
BTAS	**Taskesti**	**0.50**	**238**	*i* P	**Pg**	**06 22 00.4**	**+0.2**
BTAS	**Taskesti**	**0.50**	**238**	P	**Pg**	**06 22 00.4**	**+0.2**
SAHE	**Sakarya_HENDEK**	**0.53**	**272**	*i* P	**Pg**	**06 22 00.9**	**+0.1**
SAHE				*i* S	**Sg**	**06 22 08.3**	**+0.6**
SAHE	**Sakarya_HENDEK**	**0.53**	**272**	P	**Pg**	**06 22 00.9**	**+0.1**
SAHE				S	**Sg**	**06 22 08.3**	**+0.6**
CMDR	**Camlidere-ANKA**	**0.78**	**116**	*i* P	**Pg**	**06 22 05.7**	**+0.1**
CMDR				*i* S	**Sb**	**06 22 17.2**	**-0.8**
CMDR	**Camlidere-ANKA**	**0.78**	**116**	P	**Pg**	**06 22 05.7**	**+0.1**
CMDR				S	**Sb**	**06 22 17.2**	**-0.8**
GULT	**Gulveren**	**0.89**	**243**	PG	**Pg**	**06 22 07.8**	**+0.2**
GULT				SG	**Sb**	**06 22 20.5**	**-0.4**
GULT	**Gulveren**	**0.89**	**243**	*e*Pg	**Pg**	**06 22 07.8**	**+0.2**
GULT				*e*Sg	**Sb**	**06 22 20.5**	**-0.4**
SAUV	**Serdivan-Sakar**	**0.93**	**264**	PG	**Pb**	**06 22 09.3**	**-0.2**
SAUV	**Serdivan-Sakar**	**0.93**	**264**	*e*Pg	**Pb**	**06 22 09.3**	**-0.2**
SPNC	**Sapanca-Adapaz**	**0.95**	**261**	PG	**Pb**	**06 22 09.6**	**-0.2**
SPNC	**Sapanca-Adapaz**	**0.95**	**261**	*e*Pg	**Pb**	**06 22 09.6**	**-0.2**
BTIN	**Bart¯–n**	**0.96**	**33**	*i* P	**Pg**	**06 22 08.4**	**-0.6**
BTIN				*i* S	**Sg**	**06 22 20.9**	**-0.5**
BTIN	**Bart¯–n**	**0.96**	**33**	P	**Pg**	**06 22 08.4**	**-0.6**
BTIN				S	**Sg**	**06 22 20.9**	**-0.5**
GEYV	**SAKARYA_Geyve**	**1.02**	**250**	*i* P	**Pb**	**06 22 10.5**	**-0.4**
GEYV				*i* S	**Sb**	**06 22 25.2**	**+0.6**
GEYV	**SAKARYA_Geyve**	**1.02**	**250**	P	**Pb**	**06 22 10.5**	**-0.4**
GEYV				S	**Sb**	**06 22 25.2**	**+0.6**
KAND	**Kocaeli-Kandir**	**1.06**	**284**	*i* P	**Pg**	**06 22 08.7**	**-2.3**
KAND				*i* S	**Sg**	**06 22 24.6**	**-0.1**
BORA	**Eskisehir**	**1.27**	**222**	*i* P	**Pn**	**06 22 15.0**	**-0.4**
BORA	**Eskisehir**	**1.27**	**222**	P	**Pn**	**06 22 15.0**	**-0.4**
KURC	**Kurucasile-Bar**	**1.35**	**41**	PN	**Pb**	**06 22 17.4**	**+0.8**
KURC	**Kurucasile-Bar**	**1.35**	**41**	*e*Pn	**Pb**	**06 22 17.4**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.39**	**181**	PN	**Pg**	**06 22 16.7**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.39**	**181**	*e*Pn	**Pg**	**06 22 16.7**	**-0.6**
ESKT	**Eskisehir**	**1.42**	**202**	*i* P	**Pb**	**06 22 17.6**	**-0.3**
ESKT				*i* S	**Sn**	**06 22 36.8**	**+0.1**
SEYT	**Eskypehyr**	**1.42**	**202**	P	**Pb**	**06 22 17.6**	**-0.2**
SEYT				S	**Sn**	**06 22 36.8**	**+0.1**
HRT	**Hereke**	**1.43**	**270**	PN	**Pb**	**06 22 17.8**	**-0.1**
HRT	**Hereke**	**1.43**	**270**	*e*Pn	**Pb**	**06 22 17.8**	**-0.1**
ADVT	**Abdulvahap**	**1.44**	**254**	PN	**Pg**	**06 22 18.1**	**-0.1**
ADVT	**Abdulvahap**	**1.44**	**254**	*e*Pn	**Pg**	**06 22 18.1**	**-0.1**
SILT	**Sile**	**1.48**	**283**	PN	**Pg**	**06 22 19.0**	**0.0**
SILT	**Sile**	**1.48**	**283**	*e*Pn	**Pg**	**06 22 19.0**	**0.0**
AFSR	**Af¯ar-Bala (A**	**1.81**	**140**	PN	**Pn**	**06 22 22.9**	**+0.1**
AFSR	**Af¯ar-Bala (A**	**1.81**	**140**	*e*Pn	**Pn**	**06 22 22.9**	**+0.1**
BUY	**Buyukada**	**1.84**	**271**	PN	**Pb**	**06 22 24.1**	**-0.9**
BUY	**Buyukada**	**1.84**	**271**	*e*Pn	**Pb**	**06 22 24.1**	**-0.9**
KAVV	**Kandilli-Istan**	**1.90**	**278**	PN	**Pb**	**06 22 25.0**	**-0.9**
KAVV	**Kandilli-Istan**	**1.90**	**278**	*e*Pn	**Pb**	**06 22 25.0**	**-0.9**
ISK	**Istanbul-Kandi**	**1.90**	**278**	PN	**Pb**	**06 22 25.0**	**-0.9**
ISK	**Istanbul-Kandi**	**1.90**	**278**	*e*Pn	**Pb**	**06 22 25.0**	**-0.9**
KLYT	**Kilyos**	**1.94**	**283**	PN	**Pb**	**06 22 25.6**	**-1.0**
KLYT	**Kilyos**	**1.94**	**283**	*e*Pn	**Pb**	**06 22 25.6**	**-1.0**
ARMT	**Armutlu**	**2.06**	**263**	PN	**Pn**	**06 22 26.9**	**+0.7**
ARMT	**Armutlu**	**2.06**	**263**	*e*Pn	**Pn**	**06 22 26.9**	**+0.7**
TVSB	**Tavsanli**	**2.12**	**230**	PN	**Pn**	**06 22 27.4**	**+0.4**
BGKT	**Bogazkoy**	**2.13**	**280**	PN	**Pn**	**06 22 28.3**	**+1.2**
BGKT	**Bogazkoy**	**2.13**	**280**	*e*Pn	**Pn**	**06 22 28.3**	**+1.2**
CTKS	**Kestanelik-??a**	**2.34**	**281**	PN	**Pn**	**06 22 31.2**	**+1.3**
CTKS	**Kestanelik-??a**	**2.34**	**281**	*e*Pn	**Pn**	**06 22 31.2**	**+1.3**

**NNC 22 06:22:56.7±2.9, 36.

TPIG				*e*S	Sn	06 47 07.4	-2.7

MEX 22 06:51:45.7±0.5, 16°21'N×98°24'W, h11km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**31**	*i* P	Pg	06 51 49.4	-0.7
PNIG				*e*S	Sg	06 51 53.2	+0.1
TLIG	**Tlapa**	**1.38**	**347**	*e*P	Pn	06 52 07.6	-3.4
TLIG				*e*S	Sb	06 52 24.0	-5.3
VHO	**Vista Hermosa**	**1.68**	**59**	*e*P	Pn	06 52 11.8	-3.5
VHO				*e*S	Sn	06 52 32.1	-4.8
ACX	**Acapulco**	**1.69**	**293**	*i* P	Pn	06 52 10.2	-5.0
ACX				*i* S	Sn	06 52 31.6	-5.2
HUIG	**Huatulco**	**2.10**	**102**	*i* P	Pn	06 52 18.4	-2.4
HUIG				*i* S	Sn	06 52 42.0	-5.0
CAIG	**El Cayaco**	**2.12**	**293**	*i* P	Pn	06 52 17.8	-3.2
CAIG				*e*S	Sn	06 52 42.9	-4.5
TPIG	**Tehuac#an**	**2.35**	**21**	*e*P	Pn	06 52 21.3	-3.2
TPIG				*e*S	Sn	06 52 48.9	-4.6
PLIG	**Platanillo**	**2.48**	**331**	*e*P	Pn	06 52 23.1	-3.1
PLIG				*i* S	Sn	06 52 52.5	-4.1

NIED ***22*** *06:57:00, 40°.90N×145°.30E, h5km, Mw3.6 Best double couple: M₀2.51000×10¹⁴ NP1:φ=205.00000°, δ=34.00000°, λ=-94.00000°. NP2:φ=30.00000°, δ=56.00000°, λ=-87.00000°.*

JMA 22 06:57:35.3±0.2, 40°.91N×145°.26E, h68km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.93**	**306**	P	Pn	06 58 06.8	+0.9
JEM				*e*S	Sn	06 58 29.2	0.0
JAK	**Akkeshi**	**2.13**	**349**	P	Pn	06 58 09.1	+0.5
JAK				*e*S	Sn	06 58 34.4	+0.5
JCH	**Churui**	**2.22**	**321**	P	Pn	06 58 10.9	+1.1
JCH				*e*S	Sn	06 58 35.7	-0.5
JOB	**Onbets**	**2.26**	**332**	*e*S	Sn	06 58 37.5	+0.4
JNBK	**Urakawa-nobuka**	**2.33**	**307**	*e*S	Sn	06 58 39.9	+1.1
NEM2	**Nemuro 2**	**2.48**	**8**	*e*S	Sn	06 58 42.3	-0.2
JAR	**Ashorobuto**	**2.63**	**336**	*e*S	Sn	06 58 45.7	-0.5
JNK	**Nakash**	**2.70**	**352**	P	Pn	06 58 16.9	+0.5
JNK				*e*S	Sn	06 58 46.8	-1.2
JBT2	**Biratori 2**	**2.86**	**312**	*e*S	Sn	06 58 53.7	+1.9
JANG	**Nango**	**2.90**	**261**	P	Pn	06 58 18.9	-0.2
JANG				*e*S	Sn	06 58 49.8	-3.0
JFR	**Furan**	**3.00**	**319**	*e*S	Sn	06 58 54.4	-0.9
JRA	**Rausu**	**3.03**	**358**	P	Pn	06 58 22.2	+1.4
JOT	**Ohata**	**3.21**	**280**	P	Pn	06 58 24.3	+0.9
JOT				*e*S	Sn	06 58 58.6	-1.9
JTKR	**Abashiri--Toko**	**3.22**	**342**	*e*S	Sn	06 59 01.6	+1.1
JOM	**Ohasama**	**3.36**	**246**	*e*S	Sn	06 59 01.8	-2.3
JEW	**Eniwo**	**3.44**	**305**	*e*S	Sn	06 59 07.4	+1.5
JMK	**Ichinoseki**	**3.67**	**239**	*e*S	Sn	06 59 08.7	-2.9

IDC 22 07:15:59.2±3.1, 14°.72S×177°.09W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/48, mbtmp3.6/3, MS3.1/4, Ms1 3.1/4, ms1mx2.8/37, Error ellipse: s-maj=366.2km s-min=33.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.21**	**82**	LR	LR	07 18 57.7	
	comp=Z,60nm,21.7s,baz=274,slow=34						
URZ	**Urewera**	**24.01**	**191**	LR	LR	07 29 08.5	
	comp=Z,83nm,20.5s,baz=37,slow=33						
ASAR	**Alice Springs**	**46.94**	**251**	P	P	07 24 32.0	-0.1
	0.8nm,0.8s,baz=86,slow=8.1,SNR=7.0						
ASAR				LR	LR	07 43 02.7	
	comp=Z,65nm,18.8s,baz=158,slow=35						
PETK	**Petropavlovsk-**	**70.95**	**344**	LR	LR	07 53 28.4	
	comp=Z,12nm,20.7s,baz=216,slow=32						
TXAR	**Lajitas Array**	**83.22**	**57**	P	P	07 28 28.4	+0.3
	0.7nm,1.0s,baz=206,slow=6.0,SNR=4.7						
PDAR	**Pinedale Array**	**84.17**	**43**	P	P	07 28 32.5	-0.3
	0.5nm,0.8s,baz=204,slow=3.3,SNR=4.2						

MEX 22 07:30:06.2±0.7, 16°.47N×98°.21W, h7km±9km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.11**	**133**	*i* P	Pg	07 30 07.8	-0.9
PNIG				*e*S	Sg	07 30 10.7	+0.2
TLIG	**Tlapa**	**1.14**	**343**	*e*P	Pg	07 30 25.1	-3.0
TLIG				*i* S	Sg	07 30 39.0	-3.8
VHO	**Vista Hermosa**	**1.54**	**67**	*e*P	Pn	07 30 30.9	-3.4
VHO				*e*S	Sn	07 30 49.4	-5.2
ACX	**Acapulco**	**1.63**	**284**	*i* P	Pn	07 30 31.8	-3.5
ACX				*i* S	Sn	07 30 51.0	-5.5
CAIG	**El Cayaco**	**2.05**	**287**	*i* P	Pn	07 30 37.7	-3.4
CAIG				*e*S	Sn	07 31 02.6	-4.3
TPIG	**Tehuac#an**	**2.10**	**23**	*e*P	Pn	07 30 38.9	-3.1
TPIG				*e*S	Sn	07 31 03.8	-4.6
PLIG	**Platanillo**	**2.27**	**327**	*e*P	Pn	07 30 41.3	-3.0
PLIG				*e*S	Sn	07 31 08.2	-4.3

MEX 22 07:41:39.9±0.8, 16°.10N×98°.51W, h15km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**51**	*i* P	Pg	07 41 48.3	-1.1
PNIG				*i* S	Sg	07 41 54.4	-1.5
TLIG	**Tlapa**	**1.46**	**358**	*e*P	Pn	07 42 02.5	-3.4
TLIG				*e*S	Sn	07 42 20.0	-4.9
ACX	**Acapulco**	**1.50**	**301**	*i* P	Pn	07 42 00.6	-5.7
ACX				*i* S	Sn	07 42 19.8	-5.9
CAIG	**El Cayaco**	**1.93**	**300**	*e*P	Pn	07 42 09.7	-2.5
CAIG				*i* S	Sn	07 42 31.4	-4.8
VHO	**Vista Hermosa**	**1.96**	**60**	*e*P	Pn	07 42 09.4	-3.5
VHO				*i* S	Sn	07 42 32.9	-4.5
PLIG	**Platanillo**	**2.47**	**338**	*e*P	Pn	07 42 16.3	-3.5
PLIG				*e*S	Sn	07 42 45.1	-4.7
TPIG	**Tehuac#an**	**2.56**	**25**	*e*P	Pn	07 42 17.3	-3.8
TPIG				*e*S	Sn	07 42 47.2	-4.9

IDC ***22*** *08:11:32.5±1.4, 2°.17S×121°.60E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/56, mbtmp3.5/4, MS3.7/1, Ms1 3.7/1, ms1mx2.4/31, Error ellipse: s-maj=215.1km s-min=23.2km az=60.0*

ISCJB ***22*** *08:11:35.8±0.7, 2°.46S±0°.06×121°.41E±0°.09, h22km, mb3.4/4, MS3.7/1, Error ellipse: s-maj=12.7km s-min=8.7km az=7.2*

DJA ***22*** *08:11:36.1±0.4, 2°.5S×3°×12°.1E±°, h10km, M4.2/5, MLv4.2/5*

ISC 22 08:11:36.5±1.0, 2°.41S±0°.05×121°.32E±0°.08, h22km, n12, σ1°47'12, mb3.4/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.53**	**13**	P	Pn	**08 12 02.8**	**+0.3**
APSI				S	Sb	**08 12 26.2**	**+3.1**
TTSI	**Tana Toraja**	**1.62**	**247**	P	Pn	**08 12 04.9**	**+1.1**
LUWI	**Luwuk**	**1.99**	**47**	P	Pn	**08 12 09.3**	**+0.4**
PCI	**Palu**	**2.11**	**315**	P	Pb	**08 12 13.0**	**-1.0**
BNSI	**Bone**	**2.31**	**211**	P	Pn	**08 12 14.4**	**+1.1**
MPSI	**Mapaga**	**3.08**	**333**	P	Pn	**08 12 24.3**	**+0.5**
BSSI	**Bau Bau, Buton**	**3.79**	**193**	P	Pn	**08 12 34.3**	**+0.6**
WRA	**Warramunga Arr**	**21.57**	**145**	P	P	**08 16 23.9**	**-0.9**
	0.9nm,0.9s,baz=316,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**24.39**	**151**	P	P	**08 16 53.9**	**+0.5**
	0.3nm,0.6s,baz=342,slow=14,SNR=5.5						
JHJ	**Hachijo jima 2**	**39.42**	**25**	LR	LR	08 34 13.5	
	comp=Z,117nm,22.0s,baz=81,slow=35						
MKAR	**Makanchi Array**	**59.81**	**330**	P	P	**08 21 39.8**	**-0.3**
	0.4nm,0.7s,baz=139,slow=7.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**63.83**	**337**	P	P	**08 22 05.0**	**-2.0**
	0.6nm,0.5s,baz=128,slow=9.3,SNR=2.0						

CSEM ***22*** *08:15:30.9±0.1, 45°.80N×10°.99E, h15km, ML3.0/13, Error ellipse: s-maj=1.5km s-min=1.3km az=87.0*

ROM ***22*** *08:15:31.1±0.2, 45°.79N×10°.97E, h7km±5km, Md2.4/11, Ml2.2/8, Error ellipse: s-maj=4.2km s-min=1.4km az=17.0*

VIE ***22*** *08:15:32.2±0.5, 45°.87N×11°.01E, h10km±4km, mb2.1/7, ML2.6/10, Error ellipse: s-maj=3.6km s-min=2.8km az=47.0*

ISC 22 08:15:31.1±0.8, 45°.80N±0°.02×10°.99E±0°.02, h13km±6km, n50, σ0°48/92, 3C-5D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROVR	**Rover¯¤ Verone**	**0.16**	**159**	Pg	**Pg**	**08 15 35.0**	**0.0**
ROVR				Sg	**Sg**	**08 15 37.3**	**-0.4**
	1μm,0.3s						
ROVR	**Rover¯¤ Verone**	**0.16**	**159**	Pg	**Pg**	**08 15 35.0**	**0.0**
ROVR				Sg	**Sg**	**08 15 37.3**	**-0.4**
	1μm,0.3s						
BALD	**Monte Baldo**	**0.17**	**227**	*i* Pg	**Pg**	**08 15 35.2**	**+0.1**
BALD				*i* Sg	**Sg**	**08 15 38.0**	**+0.1**
BALD	**Monte Baldo**	**0.17**	**227**	*i*⇑*i*Pg	**Pg**	**08 15 35.2**	**+0.1**
BALD				*i* Sg	**Sg**	**08 15 38.0**	**+0.1**
MARN	**Marana (Italy)**	**0.22**	**136**	*e*Pg	**Pg**	**08 15 35.9**	**+0.1**
MARN				*e*Sg	**Sg**	**08 15 39.1**	**0.0**
MARN	**Marana (Italy)**	**0.22**	**136**	⇑*e*Pg	**Pg**	**08 15 35.9**	**+0.1**
MARN				*e*Sg	**Sg**	**08 15 39.1**	**0.0**
MAGA	**Magasa**	**0.26**	**265**	Pg	**Pg**	**08 15 36.8**	**+0.3**
MAGA				Sg	**Sg**	**08 15 40.6**	**+0.4**
	445nm,0.4s						
MAGA	**Magasa**	**0.26**	**265**	Pg	**Pg**	**08 15 36.8**	**+0.3**
MAGA				Sg	**Sg**	**08 15 40.6**	**+0.4**
	445nm,0.4s						
RNI	**Roncone**	**0.32**	**306**	*i*Pg	**Pg**	**08 15 37.0**	**-0.7**
RNI				*i* Sg	**Sg**	**08 15 42.0**	**-0.1**
PANI	**Panarotta**	**0.35**	**43**	*i*⇓Pg	**Pg**	**08 15 37.7**	**-0.5**
PANI				*i* Sg	**Sg**	**08 15 42.4**	**-0.7**
SALO	**Salr**	**0.37**	**242**	Pg	**Pg**	**08 15 39.1**	**+0.5**
SALO				Sg	**Sb**	**08 15 45.1**	**-0.2**
SALO	**Salr**	**0.37**	**242**	Pg	**Pg**	**08 15 39.1**	**+0.5**
SALO				Sg	**Sb**	**08 15 45.1**	**-0.2**
CGRP	**Cima Grappa**	**0.57**	**81**	*e*Pg	**Pg**	**08 15 42.6**	**+0.3**
CGRP				*e*Sg	**Sg**	**08 15 50.0**	**+0.1**
CGRP	**Cima Grappa**	**0.57**	**81**	⇓*e*Pg	**Pg**	**08 15 42.6**	**+0.3**
CGRP				*e*Sg	**Sg**	**08 15 50.0**	**+0.1**
OZOL	**Ozolo**	**0.61**	**4**	*e*Pg	**Pg**	**08 15 43.0**	**0.0**
OZOL	**Ozolo**	**0.61**	**4**	⇓*e*Pg	**Pg**	**08 15 43.0**	**0.0**
TEOL	**Teolo**	**0.65**	**132**	*e*Pg	**Pg**	**08 15 43.7**	**+0.1**
TEOL				*e*Sg	**Sg**	**08 15 52.5**	**+0.3**
TEOL	**Teolo**	**0.65**	**132**	⇑*e*Pg	**Pg**	**08 15 43.7**	**+0.1**
TEOL				*e*Sg	**Sg**	**08 15 52.5**	**+0.3**
CARE	**Lago del Cares**	**0.66**	**342**	*e*Pg	**Pg**	**08 15 43.5**	**-0.5**
CARE	**Lago del Cares**	**0.66**	**342**	⇓*e*Pg	**Pg**	**08 15 43.5**	**-0.5**
APPI	**Appiano**	**0.70**	**13**	Pg	**Pb**	**08 15 45.1**	**-0.1**
APPI				Sg	**Sb**	**08 15 54.9**	**0.0**
	89nm,0.4s						
APPI	**Appiano**	**0.70**	**13**	Pg	**Pb**	**08 15 45.1**	**-0.1**
APPI				Sg	**Sb**	**08 15 54.9**	**0.0**
	89nm,0.4s						
KOSI	**Kohlern**	**0.72**	**22**	Pg	**Pb**	**08 15 45.5**	**-0.1**
KOSI				Sg	**Sb**	**08 15 55.6**	**+0.2**
	41nm,0.2s						
KOSI	**Kohlern**	**0.72**	**22**	Pg	**Pb**	**08 15 45.5**	**-0.1**
KOSI				Sg	**Sb**	**08 15 55.6**	**+0.2**
	41nm,0.2s						
MOSI	**Grossmontoni**	**0.88**	**340**	Pg	**Pb**	**08 15 48.6**	**+0.3**
MOSI				Sg	**Sb**	**08 16 00.8**	**+0.8**
	60nm,0.4s						
MOSI	**Grossmontoni**	**0.88**	**340**	Pg	**Pb**	**08 15 48.6**	**+0.3**
MOSI				Sg	**Sb**	**08 16 00.8**	**+0.8**
	60nm,0.4s						
ABSI	**Aberstueckl**	**0.96**	**14**	Pg	**Pb**	**08 15 49.8**	**+0.1**
ABSI				Sg	**Sb**	**08 16 03.2**	**+0.8**
	83nm,0.2s						
ABSI	**Aberstueckl**	**0.96**	**14**	Pg	**Pb**	**08 15 49.8**	**+0.1**
ABSI				Sg	**Sb**	**08 16 03.2**	**+0.8**
	83nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**0.97**	**329**	Pg	**Pg**	**08 15 49.8**	**0.0**
FUORN				Sg	**Sg**	**08 16 02.4**	**0.0**
	25nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**0.97**	**329**	Pg	**Pg**	**08 15 49.8**	**0.0**
FUORN				Sg	**Sg**	**08 16 02.4**	**0.0**
	25nm,0.2s						
CIMO	**Cimolais**	**1.13**	**63**	*e*Pg	**Pn**	**08 15 53.3**	**+0.6**
CIMO	**Cimolais**	**1.13**	**63**	*e*Pg	**Pn**	**08 15 53.3**	**+0.6**
ROSI	**Rosskopf**	**1.17**	**14**	Pg	**Pg**	**08 15 53.6**	**0.0**
ROSI				Sg	**Sg**	**08 16 09.1**	**+0.3**
	75nm,0.3s						
ROSI	**Rosskopf**	**1.17**	**14**	Pg	**Pg**	**08 15 53.6**	**0.0**
ROSI				Sg	**Sg**	**08 16 09.1**	**+0.3**
	75nm,0.3s						
FETA	**Feichten**	**1.24**	**352**	Pg	**Pg**	**08 15 55.0**	**+0.1**
	1.3nm,0.2s,SNR=4.6						
FETA				Sg	**Sg**	**08 16 11.2**	**+0.1**
	2.4nm,0.1s						
FETA	**Feichten**	**1.24**	**352**	*i* Pg	**Pg**	**08 15 55.0**	**+0.1**
	1.3nm,0.2s,SNR=4.6						
FETA				*e*Sg	**Sg**	**08 16 11.2**	**+0.1**
	2.4nm,0.1s						
STAL	**STALIGIAL**	**1.28**	**68**	Pg	**Pg**	**08 15 55.6**	**-0.2**
STAL				Sg	**Sg**	**08 16 13.6**	**+1.1**
STAL	**STALIGIAL**	**1.28**	**68**	Pg	**Pg**	**08 15 55.6**	**-0.2**
STAL				Sg	**Sg**	**08 16 13.6**	**+1.1**
RISI	**Rein**	**1.38**	**33**	Pg	**Pg**	**08 15 57.5**	**0.0**
RISI	**Rein**	**1.38**	**33**	Pg	**Pg**	**08 15 57.5**	**0.0**
ABTA	**Abfaltersbach**	**1.42**	**47**	Pg	**Pg**	**08 15 58.4**	**0.0**
	1.8nm,0.1s,SNR=7.7						
ABTA				Sg	**Sg**	**08 16 18.3**	**+1.4**
	6.6nm,0.2s,SNR=4.9						
ABTA	**Abfaltersbach**	**1.42**	**47**	Pg	**Pg**	**08 15 58.4**	**0.0**
	1.8nm,0.1s,SNR=7.7						
ABTA				Sg	**Sg**	**08 16 18.3**	**+1.4**
	6.6nm,0.2s,SNR=4.9						
WTTA	**Wattenberg**	**1.53**	**17**	Pg	**Pg**	**08 16 00.4**	**-0.1**
	1.7nm,0.1s						
WTTA				Sg	**Sg**	**08 16 20.2**	**-0.3**
	6.9nm,0.2s,SNR=4.8						
WTTA	**Wattenberg**	**1.53**	**17**	Pg	**Pg**	**08 16 00.4**	**-0.1**
	1.7nm,0.1s						
WTTA				*e*Sg	**Sg**	**08 16 20.2**	**-0.3**
	6.9nm,0.2s,SNR=4.8						
MOTA	**Moosalm**	**1.55**	**3**	Pg	**Pg**	**08 16 00.6**	**-0.2**
	1.3nm,0.1s						
MOTA				Sg	**Sg**	**08 16 21.0**	**0.0**
	5.8nm,0.2s						
MOTA	**Moosalm**	**1.55**	**3**	*i* Pg	**Pg**	**08 16 00.6**	**-0.2**
	1.3nm,0.1s						
MOTA				*i* Sg	**Sg**	**08 16 21.0**	**0.0**
	5.8nm,0.2s						
WATA	**Walderalm**	**1.59**	**14**	Pg	**Pg**	**08 16 01.4**	**-0.2**
	2.7nm,0.1s						
WATA				Sg	**Sg**	**08 16 22.3**	**0.0**
	5.1nm,0.1s						
WATA	**Walderalm**	**1.59**	**14**	*e*Pg	**Pg**	**08 16 01.4**	**-0.2**
	2.7nm,0.1s						
WATA				*i* Sg	**Sg**	**08 16 22.3**	**0.0**
	5.1nm,0.1s						
NVLJ	**Novalja**	**3.01**	**113**	*e*Pn	**Pn**	**08 16 18.4**	**-0.1**
NVLJ				Sn	**Sn**	**08 16 52.7**	**-1.6**
NVLJ	**Novalja**	**3.01**	**113**	*e*Pn	**Pn**	**08 16 18.3**	**-0.1**
NVLJ				Sn	**Sn**	**08 16 52.6**	**-1.6**

CSEM ***22*** *08:21:58.1±0.1, 45°.80N×10°.99E, h15km, ML2.8/6, Error ellipse: s-maj=1.5km s-min=1.3km az=144.0*

ROM 22 08:21:58.2±0.1, 45°.79N×10°.97E, h8km±1km, Md2.1/11, Ml2.0/6, 3C-2D, Error ellipse: s-maj=1.9km s-min=1.3km az=2.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALD	**Monte Baldo**	**0.15**	**224**	*e*Pg	Pg	08 22 02.5	+1.0
BALD				*e*Sg	Sg	08 22 05.0	+1.2
BALD	**Monte Baldo**	**0.15**	**224**	⇑*e*Pg	Pg	08 22 02.5	+1.0
BALD				*e*Sg	Sg	08 22 05.0	+1.2
ROVR	**Rover¯¤ Verone**	**0.16**	**153**	Pg	Pg	08 22 02.2	+0.5
ROVR				Sg	Sg	08 22 04.6	+0.5
	633nm,0.2s						
ROVR	**Rover¯¤ Verone**	**0.16**	**153**	Pg	Pg	08 22 02.2	+0.5
ROVR				Sg	Sg	08 22 04.6	+0.5
	633nm,0.2s						
MARN	**Marana (Italy)**	**0.23**	**132**	*e*Pg	Pg	08 22 03.1	+0.3
MARN				*e*Sg	Sg	08 22 06.4	+0.5
MARN	**Marana (Italy)**	**0.23**	**132**	⇑*e*Pg	Pg	08 22 03.1	+0.3
MARN				*e*Sg	Sg	08 22 06.4	+0.4
MAGA	**Magasa**	**0.24**	**267**	Pg	Pg	08 22 04.0	+1.0
MAGA				Sg	Sg	08 22 07.9	+1.6
	266nm,0.3s						
MAGA	**Magasa**	**0.24**	**267**	Pg	Pg	08 22 04.0	+1.0
MAGA				Sg	Sg	08 22 07.9	+1.6
	266nm,0.3s						
RNI	**Roncone**	**0.31**	**309**	*e*Pg	Pg	08 22 04.2	-0.2
RNI				*e*Sg	Sg	08 22 09.5	+1.0
RNI	**Roncone**	**0.31**	**309**	⇓*e*Pg	Pg	08 22 04.2	-0.2
RNI				*e*Sg	Sg	08 22 09.5	+1.0
SALO	**Salr**	**0.35**	**241**	Pg	Pb	08 22 06.1	-0.6
SALO				Sg	Sb	08 22 11.8	-0.7
SALO	**Salr**	**0.35**	**241**	Pg	Pb	08 22 06.1	-0.6
SALO				Sg	Sb	08 22 11.8	-0.7
PANI	**Panarotta**	**0.37**	**45**	⇓*e*Pg	Pg	08 22 04.9	-0.6
PANI				*e*Sg	Sg	08 22 09.6	-0.7
MABI	**Malga Bissina**	**0.41**	**310**	Pg	Pg	08 22 06.8	+0.5
MABI				Sg	Sb	08 22 13.1	-1.2
	17nm,0.1s						
MABI	**Malga Bissina**	**0.41**	**310**	Pg	Pg	08 22 06.8	+0.5
MABI				Sg	Sb	08 22 13.1	-1.2
	17nm,0.1s						
CGRP	**Cima Grappa**	**0.59**	**81**	Pg	Pg	08 22 09.8	+0.2
CGRP				*e*Sg	Sg	08 22 17.3	-0.1
CGRP	**Cima Grappa**	**0.59**	**81**	Pg	Pg	08 22 09.8	+0.2
CGRP	**Cima Grappa**	**0.59**	**81**	⇑*e*Pg	Pg	08 22 09.8	+0.2
CGRP				*e*Sg	Sg	08 22 17.3	-0.1
CARE	**Lago del Cares**	**0.66**	**344**	*e*Pg	Pg	08 22 10.8	-0.3
CARE				*e*Sg	Sg	08 22 19.6	-0.2
CARE	**Lago del Cares**	**0.66**	**344**	*e*Pg	Pg	08 22 10.8	-0.3
CARE				*e*Sg	Sg	08 22 19.6	-0.1
APPI	**Appiano**	**0.71**	**15**	Pg	Pg	08 22 12.3	+0.3
APPI				Sg	Sg	08 22 21.8	+0.5
	38nm,0.7s						
APPI	**Appiano**	**0.71**	**15**	Pg	Pg	08 22 12.3	+0.3
APPI				Sg	Sg	08 22 21.8	+0.5
	38nm,0.7s						
KOSI	**Kohlern**	**0.73**	**23**	Pg	Pg	08 22 12.6	+0.3
KOSI				Sg	Sg	08 22 22.6	+0.7
KOSI	**Kohlern**	**0.73**	**23**	Pg	Pg	08 22 12.6	+0.3
KOSI				Sg	Sg	08 22 22.6	+0.7
FUORN	**Ofenpass-Fuorn**	**0.96**	**330**	Pg	Pg	08 22 17.1	-0.2
FUORN				Sg	Sb	08 22 30.0	-0.2
FUORN	**Ofenpass-Fuorn**	**0.96**	**330**	Pg	Pb	08 22 17.1	-0.2
FUORN				Sg	Sb	08 22 30.0	-0.2
ABSI	**Aberstueckl**	**0.97**	**15**	Pg	Pg	08 22 17.1	+0.2
ABSI				Sg	Sg	08 22 29.5	0.0
	28nm,0.1s						
ABSI	**Aberstueckl**	**0.97**	**15**	Pg	Pg	08 22 17.1	+0.2
ABSI				Sg	Sg	08 22 29.5	0.0
	28nm,0.1s						
STAL	**STALIGIAL**	**1.30**	**68**	Pg	Pn	08 22 22.8	+0.1
STAL				Sg	Sn	08 22 40.6	+0.3
STAL	**STALIGIAL**	**1.30**	**68**	Pg	Pn	08 22 22.8	+0.1
STAL				Sg	Sn	08 22 40.6	+0.3
RISI	**Rein**	**1.39**	**33**	Pg	Pb	08 22 24.4	-0.1
RISI				Sg	Sb	08 22 42.5	0.0
	42nm,0.3s						
RISI	**Rein**	**1.39**	**33**	Pg	Pb	08 22 24.4	-0.1
RISI				Sg	Sb	08 22 42.5	0.0
	42nm,0.3s						

CSEM ***22*** *08:33:58.1, 40°.45N×21°.87E, h0km, Suspected Mining explosion. After ATH*

ATH 22 08:33:58.1, 40°.45N×21°.87E, h0km±4km, ML0.0, Error ellipse: s-maj=4.7km s-min=1.4km az=163.0, Suspected Mining explosion., Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.16**	**207**	P	Pg	08 34 00.7	-0.4
KZN				S	Sg	08 34 03.0	-0.2
KZN	**Kozani**	**0.16**	**207**	P	Pg	08 34 00.2	-1.0
KZN				S	Sg	08 34 02.3	-0.9
KZN	**Kozani**	**0.16**	**207**	P	Pg	08 34 00.8	-0.3
KZN				S	Sg	08 34 03.0	-0.2
FNA	**Florina**	**0.50**	**312**	P	Pg	08 34 07.9	+0.2
FNA	**Florina**	**0.50**	**312**	P	Pg	08 34 07.4	-0.3
FNA				S	Sg	08 34 15.8	+1.6
FNA	**Florina**	**0.50**	**312**	P	Pg	08 34 07.7	0.0
FNA				S	Sg	08 34 15.5	+1.3
LIT	**Litokhoron**	**0.59**	**126**	P	Pg	08 34 09.9	+0.5
LIT	**Litokhoron**	**0.59**	**126**	P	Pg	08 34 09.4	0.0
LIT	**Litokhoron**	**0.59**	**126**	P	Pg	08 34 09.6	+0.2
PENT	**Pentalofos**	**0.61**	**246**	P	Pg	08 34 10.0	+0.2
PENT				S	Sb	08 34 20.3	-0.6
PENT	**Pentalofos**	**0.61**	**246**	P	Pg	08 34 09.2	-0.6
PENT				S	Sb	08 34 19.6	-1.3
PENT	**Pentalofos**	**0.61**	**246**	P	Pg	08 34 09.6	-0.2
PENT				S	Sg	08 34 19.2	+1.5
NEST	**Nestorio**	**0.62**	**267**	P	Pg	08 34 09.7	-0.3
NEST	**Nestorio**	**0.62**	**267**	P	Pg	08 34 09.7	-0.3
NEST	**Nestorio**	**0.62**	**267**	P	Pg	08 34 10.0	0.0
KPRO	**Kipourio**	**0.63**	**218**	P	Pg	08 34 09.7	-0.4
KPRO	**Kipourio**	**0.63**	**218**	P	Pg	08 34 09.7	-0.4
KPRO	**Kipourio**	**0.63**	**218**	P	Pg	08 34 10.0	-0.1
GRG	**Griva**	**0.65**	**39**	P	Pg	08 34 10.0	-0.6
GRG	**Griva**	**0.65**	**39**	P	Pg	08 34 09.8	-0.8
GRG	**Griva**	**0.65**	**39**	P	Pg

NPS				S	Sn	08 45 44.3	+0.8		
KARP	**Karpathos**	**1.28**	**32**	P	**Pb**	08 45 36.1	0.0		
KARP				AML	AML	08 46 12.3			
	comp=N,332μm,0.5s								
KARP				AML	AML	08 46 14.1			
	comp=E,461μm,0.7s								
KARP	**Karpathos**	**1.28**	**32**	P	**Pb**	08 45 36.0	0.0		
KARP				S	**Sb**	08 45 56.2	+4.0		
KARP	**Karpathos**	**1.28**	**32**	P	**Pb**	08 45 36.0	0.0		
KARP				S	**Sb**	08 45 56.2	+4.0		
SIVA	**Sivas**	**1.38**	**295**	P	**Pn**	08 45 35.8	+0.3		
SIVA	**Sivas**	**1.38**	**295**	P	**Pn**	08 45 35.8	+0.3		
SIVA	**Sivas**	**1.38**	**295**	P	**Pn**	08 45 35.9	+0.4		
IDI	**Anoyia**	**1.45**	**305**	Pn	**Pb**	08 45 38.2	-0.7		
	comp=E,6.3nm,0.3s,baz=164,slow=11,SNR=18								
IDI				Sn	**Sb**	**08 46 00.4**	**+3.4**		
	comp=E,6.1nm,0.3s,baz=319,slow=19,SNR=7.0								
IDI				LR	LR	08 46 13.6			
	comp=E,14nm,19.3s,baz=148,slow=39								
THR6	**Thira Island,**	**2.05**	**338**	P	**Pn**	08 45 46.3	+1.6		
THR6	**Thira Island,**	**2.05**	**338**	P	**Pn**	08 45 46.3	+1.6		
THR3	**Thira Island,**	**2.09**	**339**	P	**Pn**	08 45 46.4	+1.0		
THR3	**Thira Island,**	**2.09**	**339**	P	**Pn**	08 45 46.4	+1.0		
THR5	**Thira Island,**	**2.12**	**338**	P	**Pn**	08 45 46.2	+0.5		
THR5	**Thira Island,**	**2.12**	**338**	P	**Pn**	08 45 46.2	+0.5		
IMMV	**Iera Moni Meta**	**2.18**	**298**	*e*P	**Pn**	08 45 48.3	+1.7		
IMMV				*e*S	**Sn**	08 46 14.6	+2.1		
IMMV	**Iera Moni Meta**	**2.18**	**298**	P	**Pn**	08 45 47.0	+0.4		
IMMV	**Iera Moni Meta**	**2.18**	**298**	P	**Pn**	08 45 47.0	+0.4		
ARG	**Arkhangelos**	**2.29**	**39**	P	**Pn**	08 45 50.1	+2.0		
ARG	**Arkhangelos**	**2.29**	**39**	P	**Pn**	08 45 50.1	+2.0		
APE	**Apeiranthos**	**2.69**	**346**	*e*P	**Pn**	08 45 53.9	+0.2		
DALY	**Dalyan (Mu˙la**	**3.02**	**38**	*i* P	**Pn**	08 45 58.9	+0.8		
DALY	**Dalyan (Mu˙la**	**3.02**	**38**	P	**Pn**	08 45 58.9	+0.8		
TURN	**Turunc**	**3.04**	**37**	*e*P	**Pn**	08 45 55.4	-3.0		
TURN	**Turunc**	**3.04**	**37**	*i* P	**Pn**	08 45 56.5	-1.9		
TURN				*i* S	**Sn**	08 46 29.2	-4.5		
TURN	**Turunc**	**3.04**	**37**	P	**Pn**	08 45 56.5	-1.9		
YER	**Yerkesik**	**3.11**	**30**	*e*P	**Pn**	08 45 59.9	+0.5		
GCAM	**G?zelcaml?**	**3.32**	**12**	*e*P	**Pn**	08 46 03.2	+1.0		
AYDN	**Tasoluk**	**3.44**	**21**	*i* P	**Pn**	08 46 04.8	+0.9		
AYDN				*i* S	**Sn**	08 46 41.0	-2.6		
AYDN	**Tasoluk**	**3.44**	**21**	P	**Pn**	08 46 04.8	+0.9		
AYDN				S	**Sn**	08 46 41.0	-2.6		
TAVA	**DENIZLI_Tavas**	**3.66**	**34**	*i* P	**Pn**	08 46 08.3	+1.2		
TAVA				*i* S	**Sn**	08 46 49.6	+0.4		
TAVA	**DENIZLI_Tavas**	**3.66**	**34**	P	**Pn**	08 46 08.3	+1.2		
TAVA				S	**Sn**	08 46 49.7	+0.4		
ELL	**Elmali**	**3.70**	**51**	*e*P	**Pn**	08 46 07.5	-0.2		
GOLH	**Golhisar**	**3.82**	**42**	*i* P	**Pn**	08 46 09.2	0.0		
GOLH				*i* S	**Sn**	08 46 53.9	+0.8		
GOLH	**Golhisar**	**3.82**	**42**	P	**Pn**	08 46 09.2	0.0		
GOLH				S	**Sn**	08 46 53.9	+0.8		
CHOS	**Chios island**	**3.93**	**357**	*e*P	**Pn**	08 46 12.3	+1.6		
AKASG	**Malin Array Be**	**16.37**	**7**	Pn	**P**	**08 49 01.7**	**-0.7**		
	comp=E,1.0nm,0.3s,baz=192,slow=11,SNR=3.1								
TORD	**Torodi Ar. Bea**	**30.80**	**332**	P	P	08 51 22.0	-3.5		
	comp=E,0.1nm,0.3s,baz=33,slow=11,SNR=1.9								
KURBB	**Kurchatov Arra**	**40.82**	**50**	P	**P**	**08 52 50.4**	**-0.5**		
	comp=E,1.0nm,0.5s,baz=274,slow=8.5,SNR=10								
MKAR	**Makanchi Array**	**43.36**	**56**	P	**P**	**08 53 11.3**	**-0.5**		
	comp=E,0.4nm,0.5s,baz=272,slow=9.3,SNR=7.4								
ZALV	**Zalesovo Beam**	**44.80**	**46**	P	**P**	**08 53 22.1**	**-1.1**		
	comp=E,1.2nm,0.3s,baz=269,slow=9.6,SNR=4.9								
LEM	**Lembang**	**86.68**	**101**	LR	LR	09 39 29.4			
	comp=E,45nm,20.1s,baz=226,slow=38								

MEX 22 09:01:37.8±0.6, 16°.31N×98°.27W, h13km±3km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**59**	*i* P	Pg	09 01 40.7	-0.9
PNIG				*i* S	Sg	09 01 43.7	-0.6
TLIG	**Tlapa**	**1.28**	**347**	*e*P	Pn	09 01 58.1	-3.4
TLIG				*i* S	Sb	09 02 13.2	-5.0
ACX	**Acapulco**	**1.63**	**290**	*i* P	Pn	09 02 03.6	-2.6
ACX				*i* S	Sn	09 02 22.7	-4.2
VHO	**Vista Hermosa**	**1.65**	**63**	*e*P	Pn	09 02 03.8	-2.9
VHO				*e*S	Sn	09 02 22.6	-5.2
CAIG	**El Cayaco**	**2.05**	**291**	*e*P	Pn	09 02 08.6	-3.5
CAIG				*i* S	Sn	09 02 32.9	-4.6
TPIG	**Tehuac#an**	**2.27**	**22**	*e*P	Pn	09 02 12.9	-2.2
TPIG				*e*S	Sn	09 02 38.2	-4.8
PLIG	**Platanillo**	**2.38**	**330**	*e*P	Pn	09 02 14.1	-2.5
PLIG				*e*S	Sn	09 02 42.0	-3.8

*ISCJB **22** 09:02:09.8±1.0, 3°.2N×0°.2×127°.6E±0°.5, h300km, mb3.5/10, Error ellipse: s-maj=77.8km s-min=11.6km az=161.4*
*IDC **22** 09:02:12.2±13.0, 3°.12N×127°.33E, h306km±150km, mb3.2/10, mb1 3.3/10, mb1mx3.0/61, mbtmp3.8/10, MS2.8/3, Ms1 2.8/3, ms1mx2.5/19, Error ellipse: s-maj=77.3km s-min=25.0km az=70.0*
ISC 22 09:02:11.5±1.2, 3°.1N±0°.2×127°.4E±0°.6, h300km, n13, σ0§51/10, mb3.5/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.29**	**336**	LR	LR	09 04 34.8	
	comp=Z,80nm,18.4s,baz=154,slow=33						
FITZ	**Fitzroy Crossi**	**21.17**	**185**	P	**P**	**09 06 34.0**	**-0.1**
	1.2nm,0.5s,baz=8.1,slow=12,SNR=5.7						
PMG	**Port Moresby**	**23.33**	**122**	LR	LR	09 19 21.8	
	comp=Z,75nm,18.3s,baz=250,slow=44						
WRA	**Warramunga Arr**	**23.94**	**164**	P	**P**	**09 06 59.2**	**-0.1**
	2.9nm,0.8s,baz=341,slow=10,SNR=30						
ASAR	**Alice Springs**	**27.39**	**167**	P	**P**	**09 07 30.7**	**+0.5**
	0.4nm,0.5s,baz=345,slow=6.8,SNR=6.9						
KSRS	**Korea Array**	**34.16**	**1**	LR	LR	09 21 48.7	
	comp=Z,6.4nm,21.4s,baz=315,slow=34						
STKA	**Stephens Creek**	**37.36**	**160**	P	**P**	**09 08 55.9**	**-0.2**
	2.0nm,0.7s,baz=348,slow=9.1,SNR=5.8						
SONM	**Songino Array**	**48.06**	**341**	P	**P**	**09 10 21.3**	**-0.1**
	0.4nm,0.5s,baz=140,slow=5.6,SNR=1.9						
MKAR	**Makanchi Array**	**58.40**	**325**	P	**P**	**09 11 36.2**	**0.0**
	0.5nm,0.4s,baz=124,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**61.40**	**333**	P	**P**	**09 11 57.1**	**+0.8**
	0.6nm,0.3s,baz=114,slow=6.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**62.58**	**327**	P	**P**	**09 12 04.1**	**-0.1**
	2.1nm,0.8s,baz=122,slow=6.4,SNR=18						
BVAR	**Borovoye Array**	**68.16**	**327**	P	**P**	**09 12 38.9**	**-0.9**
	0.3nm,0.4s,baz=104,slow=6.1,SNR=2.4						
AKTO	**Aktyubinsk**	**74.52**	**322**	P	**P**	**09 13 17.8**	**+0.2**
	0.6nm,0.5s,baz=90,slow=5.1,SNR=4.1						

*ISCJB **22** 09:06:03.6±0.4, 27°.45N±0°.07×126°.84E±0°.08, h183km±7km, mb3.5/6, Error ellipse: s-maj=15.9km s-min=4.0km az=135.0*
*IDC **22** 09:06:04.6±0.9, 27°.49N×126°.88E, h178km±15km, mb3.3/6, mb1 3.4/8, mb1mx3.0/69, mbtmp3.8/8, Error ellipse: s-maj=29.9km s-min=15.9km az=81.0*
*JMA **22** 09:06:05.2±0.2, 27°.55N×126°.81E, h170km, M4.0*
ISC 22 09:06:04.5±0.8, 27°.50N±0°.08×126°.80E±0°.08, h178km±10km, n27, σ1§07/44, mb3.5/6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.99**	**156**	P	**Pn**	**09 06 32.5**	**+0.6**
JAGN				S	**Sn**	09 06 52.7	-0.3
JIH	**Iheya**	**1.14**	**114**	P	**Pn**	**09 06 33.8**	**+0.8**
JIH				S	**Sn**	**09 06 54.3**	**-0.7**
JKE	**Kume jima 2**	**1.17**	**181**	P	**Pn**	**09 06 34.0**	**+0.7**
JKE				S	**Sn**	**09 06 56.0**	**+0.4**
JNTH	**Nagotoyohara**	**1.46**	**132**	P	**Pn**	09 06 37.0	+1.1
JNTH				S	**Sn**	09 06 59.7	-0.5
JOW	**Kunigami**	**1.47**	**116**	P	**Pn**	09 06 36.7	+0.7
	155nm,0.3s,baz=299,slow=28,SNR=199						
JOW				S	**Sn**	**09 06 59.1**	**-1.3**
	138nm,0.3s,baz=281,slow=22,SNR=19						
JOW	**Kunigami**	**1.47**	**116**	P	**Pn**	09 06 36.7	+0.7
JOW				S	**Sn**	09 06 59.8	-0.5
JOKE	**Okinoerabujima**	**1.58**	**95**	P	**Pn**	09 06 37.3	+0.3
JOKE				S	**Sn**	09 07 00.6	-1.6
JTK	**Tokunoshima**	**1.93**	**81**	P	**Pn**	09 06 40.6	0.0
JTK				S	**Sn**	09 07 06.7	-1.9
JAMN	**Amaminishikomi**	**2.23**	**70**	P	**Pn**	09 06 43.6	-0.3
JAMN				*e*S	**Sn**	09 07 12.5	-2.0
JAM	**Amami Oshima**	**2.64**	**69**	P	**Pn**	09 06 48.6	-0.1
JAM				S	**Sn**	09 07 21.0	-2.1
JTAJ	**Takarajima**	**2.68**	**52**	P	**Pn**	09 06 49.5	+0.3
JTAJ				*e*S	**Sn**	09 07 24.1	+0.1
JIKM	**Ikemajima**	**2.92**	**209**	P	**Pn**	09 06 52.3	+0.2
JIKM				*e*S	**Sn**	09 07 28.2	-0.9
JZK	**Kikaishima**	**2.92**	**73**	S	**Sn**	09 07 28.9	-0.2
JMJ	**Miyako jima 2**	**3.00**	**207**	P	**Pn**	09 06 53.1	+0.1
JMJ				*e*S	**Sn**	09 07 30.4	-0.4
JOGS	**Gusukube**	**3.00**	**205**	P	**Pn**	09 06 53.2	+0.1
JOGS				*e*S	**Sn**	09 07 31.0	+0.1
JIRB	**Irabujima**	**3.04**	**209**	P	**Pn**	09 06 53.3	-0.2
JIRB				S	**Sn**	09 07 29.6	-2.1
JTJ	**Tarama**	**3.42**	**214**	P	**Pn**	09 06 57.8	-0.4
JTJ				*e*S	**Sn**	09 07 38.2	-1.9
JNN	**Nakanoshima**	**3.57**	**48**	P	**Pn**	09 07 01.1	+1.0
JISG	**Ishigakijimahi**	**3.66**	**218**	P	**Pn**	09 07 00.6	-0.7
JISG				S	**Sn**	09 07 43.3	-2.4
JNU	**Nakatsue**	**6.62**	**31**	P	**Pn**	09 07 40.8	+1.1
	1.3nm,0.3s,baz=270,slow=5.7,SNR=8.5						
KSRS	**Korea Array**	**9.97**	**5**	P	**Pn**	09 08 25.0	+1.4
	0.3nm,0.3s,baz=183,slow=13,SNR=5.7						
SONM	**Songino Array**	**25.80**	**327**	P	**P**	09 11 20.9	+1.7
	1.7nm,0.4s,baz=139,slow=11,SNR=9.3						
MKAR	**Makanchi Array**	**39.74**	**311**	P	**P**	09 13 19.1	-0.6
	0.8nm,0.6s,baz=102,slow=10.0,SNR=8.2						
KURBB	**Kurchatov Arra**	**43.06**	**316**	P	**P**	09 13 46.2	-0.4
	0.5nm,0.4s,baz=104,slow=8.7,SNR=9.3						
FITZ	**Fitzroy Crossi**	**45.34**	**182**	P	**P**	09 14 05.9	+0.8
	2.5nm,0.8s,baz=9.5,slow=6.1,SNR=5.9						
BVAR	**Borovoye Array**	**48.48**	**318**	P	**P**	09 14 28.9	-0.1
	0.2nm,0.2s,baz=93,slow=10,SNR=1.8						
YKA	**Yellowknife Ar**	**77.91**	**25**	P	**P**	09 17 41.5	-0.8
	0.2nm,0.8s,baz=296,slow=6.1,SNR=4.3						

MEX 22 09:07:16.5±0.4, 16°.18N×98°.36W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**46**	*i* P	Pg	09 07 21.8	-0.7
PNIG				*e*S	Sg	09 07 26.6	0.0
TLIG	**Tlapa**	**1.39**	**352**	*e*P	Pn	09 07 39.0	-3.8
TLIG				*e*S	Sb	09 07 56.6	-4.6
ACX	**Acapulco**	**1.60**	**296**	*e*P	Pn	09 07 41.8	-3.6
ACX				*i* S	Sn	09 08 03.2	-3.2
VHO	**Vista Hermosa**	**1.79**	**60**	*e*P	Pn	09 07 45.2	-3.1
VHO				*i* S	Sn	09 08 07.8	-3.8
CAIG	**El Cayaco**	**2.02**	**296**	*e*P	Pn	09 07 48.0	-3.3
CAIG				*i* S	Sn	09 08 12.3	-4.8
HUIG	**Huatulco**	**2.20**	**100**	*i* P	Pn	09 07 50.0	-3.7
HUIG				*e*S	Sn	09 08 17.1	-4.3

*IDC **22** 09:11:48.5±0.6, 42°.92N×41°.69E, h0km, mb3.5/9, mb1 3.6/12, mb1mx3.4/64, mbtmp3.5/12, ML2.8/3, MS2.8/5, Ms1 2.9/5, ms1mx2.4/50, Error ellipse: s-maj=14.1km s-min=7.2km az=144.0*
*ISCJB **22** 09:11:48.6±0.5, 42°.78N±0°.02×41°.91E±0°.02, h9km±3km, mb3.5/9, MS2.9/1, Error ellipse: s-maj=3.5km s-min=2.5km az=167.3*
*DDA **22** 09:11:49.9, 42°.63N×41°.95E, h25km, MI3.8*
*CSEM **22** 09:11:49.1±0.1, 42°.73N×41°.96E, h2km, mb3.9/4, Error ellipse: s-maj=3.7km s-min=2.9km az=140.0*
*MOS **22** 09:11:49.7±1.2, 42°.75N×41°.92E, h11km, mb3.9/4, Error ellipse: s-maj=6.5km s-min=5.5km az=141.8*
*TIF **22** 09:11:51.1, 42°.75N×42°.16E, h19km±2km*
ISC 22 09:11:49.5±1.1, 42°.74N±0°.02×41°.95E±0°.02, h11km±8km, n120, σ1§18/177, mb3.5/10, 2C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEY	**Neytrino**	**0.76**	**48**	*d* iPG	**Pg**	**09 12 04.0**	**-0.3**
NEY	**Neytrino**	**0.76**	**48**	*i* Pg	**Pg**	**09 12 04.0**	**-0.3**
ONI	**Oni**	**1.12**	**97**	P	**Pb**	09 12 09.4	-1.5
ONI				S	**Sb**	**09 12 23.0**	**-2.5**
ONI	**Oni**	**1.12**	**97**	||iPG	**Pb**	09 12 09.4	-1.5
ONI	**Oni**	**1.12**	**97**	P	**Pb**	09 12 09.4	-1.5
ONI				S	**Sb**	**09 12 23.0**	**-2.5**
SHA1	**Shidzhatmaz**	**1.12**	**27**	||iPG	**Pn**	09 12 11.6	+0.2
SHA1				*i* S	**Sb**	**09 12 26.3**	**+0.5**
SHA1	**Shidzhatmaz**	**1.12**	**27**	*i* Pg	**Pn**	09 12 11.6	+0.2
SHA1				*i* Sg	**Sb**	**09 12 26.3**	**+0.5**
KBZ	**Khabaz**	**1.21**	**35**	Pg	**Pb**	**09 12 12.5**	**+0.2**
	32nm,0.3s,baz=217,slow=15,SNR=551						
KBZ				Lg	Lg	09 12 28.9	
	66nm,0.3s,baz=276,slow=2.5,SNR=15						
DIGR	**Digorskoe uzhe**	**1.21**	**82**	*e*PG	**Pb**	**09 12 11.5**	**-1.0**
DIGR				*e*S	**Sb**	**09 12 26.2**	**-2.1**
DIGR	**Digorskoe uzhe**	**1.21**	**82**	*e*Pg	**Pb**	**09 12 11.5**	**-1.0**
DIGR				*e*Sg	**Sb**	**09 12 26.2**	**-2.1**
KIV	**Kislovodsk**	**1.33**	**24**	||iPG	**Pg**	**09 12 15.0**	**0.0**
KIV				*i* S	**Sg**	**09 12 33.0**	**+0.7**
KIV	**Kislovodsk**	**1.33**	**24**	*i* Pg	**Pg**	**09 12 15.0**	**0.0**
KIV				*i* Sg	**Sg**	**09 12 33.0**	**+0.7**
KVAR	**Kislovodsk Arr**	**1.33**	**24**	Pg	**Pn**	**09 12 14.5**	**+0.3**
	baz=184,slow=12,SNR=118						
KVAR				Lg	Lg	09 12 33.6	
	baz=150,slow=14,SNR=10						
KVAR				LR	LR	09 12 41.0	
	comp=Z,80nm,21.5s,baz=136,slow=42						
DBOC	**Borcka**	**1.41**	**189**	*i* P	**Pn**	**09 12 14.6**	**-0.6**
DBOC				*i* S	**Sn**	**09 12 33.0**	**-0.7**
NCK	**Nalchik**	**1.42**	**57**	*e*PG	**Pg**	**09 12 17.0**	**+0.2**
NCK	**Nalchik**	**1.42**	**57**	*e*Pg	**Pg**	**09 12 17.0**	**+0.2**
ZEI	**Tsey**	**1.44**	**87**	*e*PG	**Pn**	**09 12 16.2**	**+0.5**
ZEI				*e*S	**Sn**	**09 12 35.0**	**+0.3**
ZEI	**Tsey**	**1.44**	**87**	*e*Pg	**Pn**	**09 12 16.2**	**+0.5**
ZEI				*e*Sg	**Sn**	**09 12 35.0**	**+0.3**
LSNR	**Lesken**	**1.48**	**68**	*e*PG	**Pb**	**09 12 17.3**	**+0.3**
LSNR				*e*S	**Sb**	**09 12 36.3**	**+0.5**
LSNR	**Lesken**	**1.48**	**68**	*e*Pg	**Pb**	**09 12 17.3**	**+0.3**
LSNR				*e*Sg	**Sb**	**09 12 36.3**	**+0.5**
ARTV	**Artvin**	**1.56**	**181**	*i* P	**Pn**	**09 12 16.4**	**-0.9**
ARTV				*i* S	**Sn**	**09 12 36.5**	**-1.0**
PYA1	**Pyatigorsk**	**1.56**	**32**	||iPG	**Pg**	**09 12 19.3**	**-0.2**
PYA1				*e*S	**Sg**	**09 12 39.5**	**-0.3**
PYA1	**Pyatigorsk**	**1.56**	**32**	*i* Pg	**Pg**	**09 12 19.3**	**-0.2**
PYA1				*e*Sg	**Sg**	**09 12 39.5**	**-0.3**
KORR	**Kora**	**1.59**	**77**	*e*PG	**Pb**	**09 12 19.4**	**+0.4**
KORR				*e*S	**Sg**	**09 12 41.6**	**+0.8**
KORR	**Kora**	**1.59**	**77**	*e*Pg	**Pb**	**09 12 19.4**	**+0.4**
KORR				*e*Sg	**Sg**	**09 12 41.6**	**+0.8**
STDR	**Stavd-Durt**	**1.67**	**67**	*e*PN	**Pb**	**09 12 20.3**	**0.0**
STDR				*e*S	**Sg**	**09 12 43.7**	**+0.4**
STDR	**Stavd-Durt**	**1.67**	**67**	*e*Pn	**Pb**	**09 12 20.3**	**0.0**
STDR				*e*Sg	**Sg**	**09 12 43.7**	**+0.4**
LACR	**Lac**	**1.73**	**86**	||iPN	**Pn**	**09 12 20.7**	**+1.1**
LACR				*e*S	**Sb**	**09 12 43.1**	**0.0**
LACR	**Lac**	**1.73**	**86**	*i* Pn	**Pn**	**09 12 20.7**	**+1.1**
LACR				*e*Sg	**Sb**	**09 12 43.1**	**0.0**
DBAD	**Bademkaya**	**1.73**	**186**	*i* P	**Pn**	**09 12 19.4**	**-0.2**
DBAD				*i* S	**Sn**	**09 12 40.5**	**-1.2**
DBAD	**Bademkaya**	**1.73**	**186**	P	**Pn**	**09 12 19.4**	**-0.2**
DBAD				S	**Sn**	**09 12 40.5**	**-1.2**
AKH	**Akhalkalaki**	**1.76**	**139**	*e*P	**Pb**	**09 12 21.3**	**-0.6**
AKH				*e*S	**Sb**	**09 12 44.0**	**0.0**
AKH	**Akhalkalaki**	**1.76**	**139**	P	**Pn**	**09 12 20.7**	**+0.7**
AKH				S	**Sn**	**09 12 43.6**	**+1.1**
AKH	**Akhalkalaki**	**1.76**	**139**	*i* PN	**Pn**	**09 12 20.7**	**+0.7**
AKH	**Akhalkalaki**	**1.76**	**139**	P	**Pn**	**09 12 20.7**	**+0.7**
AKH				S	**Sn**	**09 12 43.6**	**+1.1**
ARNR	**Ardon**	**1.77**	**75**	*e*PN	**Pg**	**09 12 23.6**	**+0.1**
ARNR				*e*S	**Sg**	**09 12 46.4**	**0.0**
ARNR	**Ardon**	**1.77**	**75**	*e*Sg	**Sg**	**09 12 46.4**	**0.0**
SOC	**Sochi**	**1.84**	**298**	*e*PN	**Pg**	**09 12 24.4**	**-0.3**
SOC				*e*		09 12 49.7	
SOC				pmax	pmax		
	comp=Z,201nm,0.6s						
SOC				smax	smax		
	comp=N,392nm,0.4s						
SOC	**Sochi**	**1.84**	**298**	*e*Sg	**Sg**	**09 12 49.7**	**+1.1**
	comp=N,392nm,0.4s						
DDEM	**Demirkent**	**1.85**	**185**	*i* P	**Pn**	**09 12 21.8**	**+0.5**
DDEM				*i* S	**Sn**	**09 12 44.8**	**+0.1**
DDEM	**Demirkent**	**1.85**	**185**	P	**Pn**	**09 12 21.8**	**+0.5**
DDEM				S	**Sn**	**09 12 44.8**	**+0.1**
GUDG	**Gudauri**	**1.89**	**98**	P	**Pn**	**09 12 22.8**	**+0.9**
GUDG				S	**Sn**	**09 12 45.0**	**-0.7**
GUDG	**Gudauri**	**1.89**	**98**	P	**Pn**	**09 12 22.8**	**+0.9**
GUDG				S	**Sn**	**09 12 45.0**	**-0.7**
BGD	**Bogdanovka**	**1.92**	**140**	P	**Pn**	**09 12 23.4**	**+1.1**
BGD				S	**Sn**	**09 12 46.7**	**+0.2**
BGD	**Bogdanovka**	**1.92**	**140**	P	**Pn**	**09 12 23.4**	**+1.1**
BGD				S	**Sn**	**09 12 46.7**	**+0.2**
PRTR	**Priterechnaya**	**1.98**	**59**	*e*PN	**Pg**	**09 12 27.1**	**-0.4**
PRTR				*e*S	**Sg**	**09 12 51.9**	**-1.3**
PRTR	**Priterechnaya**	**1.98**	**59**	*e*Sg	**Sg**	**09 12 51.9**	**-1.3**
BTKR	**Batakoyurt**	**2.00**	**71**	*e*PN	**Pb**	**09 12 25.4**	**-0.5**
BTKR	**Batakoyurt**	**2.00**	**71**	*e*Pn	**Pb**	**09 12 25.4**	**-0.5**
VLKR	**Vladikavkaz**	**2.03**	**80**	*e*PN	**Pb**	**09 12 25.8**	**-0.6**
VLKR	**Vladikavkaz**	**2.03**	**80**	*e*Pn	**Pb**	**09 12 25.8**	**-0.6**
DUS	**Dusheti**	**2.14**	**107**	P	**Pb**	**09 12 27.6**	**-0.8**
DUS				S	**Sb**	**09 12 55.3**	**+0.4**
DUS	**Dusheti**	**2.14**	**107**	*e*PN	**Pb**	**09 12 27.6**	**-0.8**
DUS				*e*S	**Sb**	**09 12 55.3**	**+0.4**
DUS	**Dusheti**	**2.14**	**107**	P	**Pb**	**09 12 27.5**	**-0.8**
DUS				S	**Sb**	**09 12 55.3**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.20**	**172**	*e*P	**Pb**	**09 12 28.6**	**-0.8**
KARS	**Kars**	**2.27**	**158**	*e*P	**Pb**	**09 12 29.4**	**-1.2**
TBLG	**Delisi**	**2.31**	**115**	*e*P	**Pn**	**09 12 28.7**	**+1.3**
TBLG	**Delisi**	**2.31**	**115**	P	**Pn**	**09 12 28.1**	**+0.7**
TBLG				S	**Sn**	**09 12 56.8**	**+1.1**
TBLG	**Delisi**	**2.31**	**115**	*e*PN	**Pn**	**09 12 28.1**	**+0.7**
TBLG				*e*S	**Sn**	**09 12 56.8**	**+1.1**
TBLG	**Delisi**	**2.31**	**115**	P	**Pn**	**09 12 28.1**	**+0.7**
TBLG				S	**Sn**	**09 12 56.8**	**+1.1**
BTNK	**Botanikuri**	**2.37**	**116**	P	**Pn**	**09 12 29.8**	**+1.6**
BTNK	**Botanikuri**	**2.37**	**116**	P	**Pn**	**09 12 28.8**	**+0.5**
BTNK				S	**Sn**	**09 12 59.3**	**+2.0**
KTUT	**Trabzon**	**2.39**	**224**	*e*P	**Pn**	**09 12 29.3**	**+0.7**
EAK	**Akyaka**	**2.40**	**148**	*i* P	**Pn**	**09 12 30.0**	**+1.1**
EAK				*i* S	**Sn**	**09 12 59.3**	**+1.0**
MACK	**Trabzon**	**2.42**	**223**	*i* P	**Pn**	**09 12 29.3**	**+0.2**
MACK				*i* S	**Sn**	**09 12 57.3**	**-1.4**
MACK	**Trabzon**	**2.42**	**223**	P	**Pn**	**09 12 29.3**	**+0.2**
MACK				S	**Sn**	**09 12 57.3**	**-1.4**
GOF	**Gofitskoye**	**2.45**	**18**	||*e*PN	**Pg**	**09 12 36.5**	**+0.1**
GOF				*e*S	**Sg**	**09 13 06.3**	**-1.8**
GOF				pmax	pmax		
	comp=Z,125nm,0.8s						
GOF				smax	smax		
	comp=N,451nm,1.3s						
GOF	**Gofitskoye**	**2.45**	**18**	*e*Sb	**Sg**	**09 13 06.3**	**-1.8**
	comp=N,451nm,1.3s						
DIGO	**Kars**	**2.56**	**155**	*i* P	**Pb**	**09 12 34.2**	**-1.3**
DIGO				*i* S	**Sb**	**09 13 07.7**	**+0.6**
DIGO	**Kars**	**2.56**	**155**	P	**Pb**	**09 12 34.2**	**-1.3**
DIGO				S	**Sb**	**09 13 07.7**	**+0.6**
HOMI	**Horasan**	**2.69**	**181**	*i* P	**Pb**	**09 12 36.6**	**-1.3**
BAYT	**Ayd¨–ntepe-Bay**	**2.71**	**211**	*e*P	**Pn**	**09 12 33.6**	**+0.5**
BAYB	**BAYBURT**	**2.79**	**208**	*i* P	**Pn**	**09 12 35.4**	**+1.2**
BAYB				*i* S	**Sn**	**09 13 08.4**	**+0.5**
BAYB	**BAYBURT**	**2.79**	**208**	P	**Pn**	**09 12 35.4**	**+1.2**
BAYB				S	**Sn**	**09 13 08.4**	**+0.5**
DGRG	**David-gareji**	**2.86**	**116**

σ1§26/16, 2C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.67	286	*i*		09 28 30.0	
	baz=97,slow=341,SNR=3.0						
ZAA0	Zalesovo Array	1.67	286	⇓Pn	Pn	09 17 06.2	-0.8
	16nm,0.4s						
ZAA0				⇓Sn	Sn	09 17 31.4	+3.0
	5.2nm,0.2s						
ZALV	Zalesovo Beam	1.67	286	Pn	Pn	09 17 06.0	-1.0
	18nm,0.3s,baz=105,slow=14,SNR=119						
ZALV				Lg	Lg	09 17 31.7	
	17nm,0.3s,baz=104,slow=30,SNR=13						
KURK	Kurchatov	6.16	247	⇓Pn	Pn	09 18 08.8	+0.2
	2.0nm,0.6s						
KURK				⇓Sn	Sn	09 19 19.0	-0.1
	3.5nm,0.9s						
KURK				⇓Lg	Lg	09 19 49.8	
	28nm,1.4s						
KURBB	Kurchatov Arra	6.25	246	Pn	Pn	09 18 10.8	+0.8
	0.5nm,0.3s,baz=62,slow=14,SNR=37						
KURBB				Sn	Sn	09 19 20.4	-1.1
	0.1nm,0.3s,baz=132,slow=19,SNR=3.0						
KURBB				Lg	Lg	09 19 55.8	
	0.1nm,0.3s,baz=63,slow=33,SNR=16						
MK31	Makanchi Array	7.51	209	⇑Pn	Pn	09 18 27.8	+0.5
	0.9nm,0.3s,baz=29,slow=12,SNR=76						
MK31				⇓Sn	Sn	09 19 52.0	-0.5
	1.2nm,0.5s,baz=34,slow=26,SNR=3.2						
MK31				⇓Lg	Lg	09 20 34.1	
	4.6nm,0.7s,baz=16,slow=29,SNR=7.3						
MKAR	Makanchi Array	7.51	209	Pn	Pn	09 18 27.4	+0.1
	1.7nm,0.3s,baz=30,slow=14,SNR=93						
MKAR				Pg	Pb	09 18 43.7	-4.4
	0.4nm,0.3s,baz=32,slow=17,SNR=5.1						
MKAR				Sn	Sn	09 19 53.1	+0.6
	0.5nm,0.3s,baz=28,slow=23,SNR=9.2						
MKAR				Lg	Lg	09 20 31.8	
	0.4nm,0.3s,baz=27,slow=29,SNR=9.1						
MAKZ	Makanchi	7.59	210	⇑Pn	Pn	09 18 29.4	+1.0
	2.0nm,0.4s						
BVA0	Borovoye Array	10.28	274	⇓Pn	Pn	09 19 05.2	0.0
	0.8nm,0.6s,baz=62,slow=19,SNR=8.2						
BVA0				Sn	Sn	09 21 01.7	+1.3
	1.7nm,0.6s,baz=89,slow=14,SNR=3.8						
BVAR	Borovoye Array	10.28	274	Pn	Pn	09 19 03.9	-1.3
	0.5nm,0.3s,baz=80,slow=13,SNR=8.2						
BVAR				Sn	Sn	09 20 58.6	-1.8
	0.4nm,0.3s,baz=75,slow=28,SNR=3.5						

*IDC **22** 09:19:27.8±1.3, 18°.37N×73°.28W, h0km, mb3.3/3, mb1 3.8/4, mb1mx3.4/55, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=65.3km s-min=30.5km az=52.0*
*ISCJB **22** 09:19:31.0±0.9, 18°.40N±0°.08×73°.2W±0°.2, h33km, mb3.2/3, Error ellipse: s-maj=23.4km s-min=10.8km az=166.4*
ISC 22 09:19:33.7±1.0, 18°.35N±0°.10×73°.4W±0°.2, h35km, n14, σ1§79/14, **mb3.5/3, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	9.77	164	Sn	Sn	09 23 37.1	-3.4
	0.5nm,0.3s,baz=344,slow=15,SNR=3.6						
ZARC	Zaragoza, Cauc	10.88	188	*eP*	Pn	09 22 07.5	+0.5
BCIP	Isla Barro Col	11.08	215	*eP*	Pn	09 22 07.9	-1.8
PCRV	Puerto La Cruz	11.72	133	Pn	Pn	09 22 18.6	+0.1
	0.6nm,0.3s,baz=324,slow=15,SNR=3.6						
PTBC	PUERTO BERRIO,	11.78	185	*eP*	Pn	09 22 20.2	+0.8
HELC	Santa Helena	12.26	190	*eP*	Pn	09 22 28.0	+1.8
RREF	El Recreo	13.50	188	*eP*	Pn	09 22 45.3	+1.9
CHIC	Chingaza	13.64	182	*eP*	Pn	09 22 44.9	-0.2
SOTA	Rioblanco	16.42	192	*eP*	P	09 23 27.6	+3.1
TXAR	Lajitas Array	29.71	297	P	P	09 25 37.8	+1.0
	0.1nm,0.6s,baz=104,slow=7.5,SNR=3.2						
YKA	Yellowknife Ar	52.51	337	P	P	09 28 42.5	-0.5
	0.4nm,0.7s,baz=128,slow=7.9,SNR=10						
ILAR	Eielson Array	66.54	333	P	P	09 30 19.1	-0.7
	0.2nm,0.5s,baz=99,slow=5.6,SNR=3.6						
WRA	Warramunga Arr	153.79	262	PKPbc	PKPbc	09 39 29.2	-0.7
	0.4nm,0.5s,baz=87,slow=2.6,SNR=9.9						
ASAR	Alice Springs	154.02	254	PKPbc	PKPbc	09 39 29.5	-0.9
	0.2nm,0.4s,baz=108,slow=2.1,SNR=2.9						

*IDC **22** 09:26:20.1±0.9, 1°.35N×126°.62E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.6/57, mbtmp3.9/8, ML3.6/1, Error ellipse: s-maj=58.3km s-min=16.9km az=72.0*
*ISCJB **22** 09:26:25.1±0.8, 0°.90N±0°.08×125°.46E±0°.05, h35km, mb3.8/7, Error ellipse: s-maj=11.3km s-min=6.8km az=8.5*
*DJA **22** 09:26:25.9±0.4, 1°.N±5°×12°.5E±°, h10km, M4.1/5, MLv4.1/5*
ISC 22 09:26:27.4±1.0, 0°.8N±0°.1×125°.42E±0°.05, h35km, n14, σ1§86/16, **mb3.8/7, Northern Moluca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.45	262	P	Pn	09 26 51.8	+0.7
KMSI				S	Sn	09 27 09.1	+0.2
LBMI	Labuha	2.52	124	P	Pn	09 27 07.8	+2.0
LBMI				S	Sn	09 27 37.4	+2.1
SANI	Sanana	2.87	168	P	Pn	09 27 08.4	-2.3
LUWI	Luwuk	3.20	236	P	Pn	09 27 16.0	+0.8
LUWI				S	Sn	09 27 54.3	+2.1
MRSI	Marisa	3.49	265	P	Pn	09 27 19.9	+0.8
APSI	Ampana	4.12	246	P	Pn	09 27 28.1	+0.2
FITZ	Fitzroy Crossi	18.76	179	P	Pn	09 30 48.0	+3.8
	0.1nm,0.3s,baz=0.0,slow=10,SNR=2.7						
WRA	Warramunga Arr	22.38	157	P	P	09 31 20.5	-2.3
	1.9nm,0.5s,baz=338,slow=11,SNR=24						
ASAR	Alice Springs	25.66	162	P	P	09 31 54.2	0.0
	1.3nm,0.7s,baz=339,slow=9.1,SNR=13						
STKA	Stephens Creek	35.92	156	P	P	09 33 22.2	-2.3
	2.1nm,0.8s,baz=343,slow=11,SNR=3.0						
PETK	Petropavlovsk-	58.64	22	P	P	09 36 12.0	-8.9
	2.4nm,0.8s,baz=221,slow=8.6,SNR=2.3						
MKAR	Makanchi Array	59.25	327	P	P	09 36 24.6	-0.8
	0.3nm,0.3s,baz=121,slow=7.5,SNR=14						
KURBB	Kurchatov Arra	63.53	329	P	P	09 36 53.6	-0.5
	0.2nm,0.2s,baz=124,slow=5.8,SNR=1.8						
BVAR	Borovoye Array	69.08	328	P	P	09 37 29.1	-0.6
	0.4nm,0.7s,baz=113,slow=9.6,SNR=2.2						

IDC 22 09:36:50.2±2.9, 10°.09N×126°.31E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.3/60, mbtmp3.6/5, Error ellipse: s-maj=273.4km s-min=28.8km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.87	165	P	P	09 43 08.6	+0.1
	0.2nm,0.9s,baz=344,slow=10,SNR=1.2						
MKAR	Makanchi Array	52.19	323	P	P	09 46 03.7	+0.8
	0.8nm,0.5s,baz=120,slow=7.6,SNR=15						
ZALV	Zalesovo Beam	54.80	331	P	P	09 46 21.5	-0.4
	0.3nm,0.3s,baz=131,slow=6.6,SNR=2.1						
KURBB	Kurchatov Arra	56.24	325	P	P	09 46 32.5	+0.1
	0.8nm,0.8s,baz=128,slow=5.4,SNR=6.2						
BVAR	Borovoye Array	61.84	325	P	P	09 47 09.7	-1.5
	0.4nm,0.4s,baz=122,slow=5.2,SNR=2.9						

*IDC **22** 09:37:16.8±1.5, 34°.40N×70°.11E, h0km, mb3.5/6, mb1 3.7/10, mb1mx3.4/67, mbtmp3.5/10, ML3.3/4, Error ellipse: s-maj=34.6km s-min=26.4km az=124.0*
*NNC **22** 09:37:21.0±3.9, 34°.59N×69°.79E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=46.4km s-min=30.5km az=116.0*
*ISCJB **22** 09:37:23.5±0.9, 34°.53N±0°.07×70°.1E±0°.1, h63km, mb3.5/6, Error ellipse: s-maj=17.8km s-min=9.7km az=17.3*
ISC 22 09:37:25.0±1.2, 34°.5N±0°.1×70°.1E±0°.1, h63km, n16, σ1§86/20, **mb3.4/6, 4C-3D, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	6.14	25	⇑Pn	Pn	09 38 53.5	+0.3
	4.6nm,0.5s						
SFK				⇑Sn	Sn	09 40 07.3	+5.1
	3.6nm,0.5s						
MNAS	Manas	8.20	13	⇓Pn	Pn	09 39 22.2	+0.8
	1.3nm,0.4s						
MNAS				⇓Sn	Sn	09 40 53.3	+0.7
	4.3nm,0.9s						
KK31	Karatay Array	8.61	2	Pn	Pn	09 39 26.8	0.0
	4.3nm,1.0s,baz=189,slow=13,SNR=13						
KK31				⇓Sn	Sn	09 41 04.3	+2.0
	1.4nm,0.5s,baz=197,slow=25,SNR=5.4						
AAK	Ala-Archa	8.83	22	Pn	Pn	09 39 29.6	-0.3
	0.6nm,0.3s,baz=186,slow=15,SNR=6.6						
AAK				Sn	Sn	09 41 04.6	-3.4
	0.3nm,0.3s,baz=167,slow=17,SNR=2.4						
AAK	Ala-Archa	8.83	22	⇑Pn	Pn	09 39 30.8	+0.8
	1.8nm,0.7s						
TKM2	Tokmak 2	9.45	25	⇑Pn	Pn	09 39 35.8	-2.6
	1.8nm,0.8s						
MKAR	Makanchi Array	15.36	33	Pn	Pn	09 40 57.3	-0.5
	0.1nm,0.3s,baz=209,slow=12,SNR=3.5						
AB31	Akbulak array	16.55	336	Pn	Pn	09 41 11.2	-1.7
	0.5nm,0.5s,baz=152,slow=13,SNR=11						
KURBB	Kurchatov Arra	17.25	18	P	Pn	09 41 21.0	-0.5
	0.1nm,0.3s,baz=209,slow=9.3,SNR=7.4						
BVAR	Borovoye Array	18.53	1	P	Pn	09 41 36.0	-1.1
	0.2nm,0.3s,baz=163,slow=12,SNR=3.8						
ZALV	Zalesovo Beam	22.04	24	P	P	09 42 12.5	-1.7
	0.7nm,0.4s,baz=219,slow=9.2,SNR=3.5						
FINES	FINESS Array B	38.76	328	P	P	09 44 43.6	+0.7
	1.2nm,0.7s,baz=156,slow=11,SNR=2.2						
NOA	NORSAR Array B	45.56	324	P	P	09 45 39.1	+0.8
	1.0nm,0.9s,baz=93,slow=9.0,SNR=3.0						
TORD	Torodi Ar. Bea	64.95	269	P	P	09 47 58.7	+0.3
	0.2nm,0.5s,baz=40,slow=7.5,SNR=2.4						
WRA	Warramunga Arr	81.57	121	P	P	09 49 36.8	+0.7
	0.4nm,0.8s,baz=329,slow=5.2,SNR=3.0						
YKA	Yellowknife Ar	83.28	2	P	P	09 49 44.3	-0.1
	0.3nm,0.7s,baz=349,slow=5.3,SNR=7.4						

IDC 22 09:52:16.6±3.1, 54°.22N×86°.91E, h0km, mb1 2.7/2, mb1mx2.7/62, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=24.7km s-min=18.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.26	259	*i*		10 02 10.0	
	baz=77,slow=339,SNR=2.3						
ZALV	Zalesovo Beam	1.26	258	Pg	Pg	09 52 39.8	-0.9
	0.5nm,0.3s,baz=77,slow=17,SNR=7.1						
ZALV				Lg	Lg	09 52 57.8	
	0.8nm,0.3s,baz=76,slow=23,SNR=4.6						
KURBB	Kurchatov Arra	6.26	238	Pn	Pn	09 53 50.5	+0.3
	0.0nm,0.3s,baz=56,slow=14,SNR=6.8						
KURBB				Sn	Sn	09 55 01.4	-0.9
	0.0nm,0.3s,baz=62,slow=27,SNR=3.1						
KURBB				Lg	Lg	09 55 36.3	
	0.0nm,0.3s,baz=58,slow=30,SNR=3.4						
MKAR	Makanchi Array	7.99	203	Pn	Pn	09 54 16.0	+2.0
	0.0nm,0.3s,baz=20,slow=13,SNR=3.1						
MKAR				Lg	Lg	09 56 27.1	
	0.0nm,0.3s,baz=19,slow=27,SNR=2.3						

NNC 22 09:59:33.1±2.6, 54°.31N×86°.15E, h0km, mb3.8, mpv3.1, 4C-3D, Error ellipse: s-maj=34.7km s-min=14.1km az=164.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	0.86	246	⇑P	Pg	09 59 49.5	0.0
	3.7nm,0.6s						
ZAA0				⇓S	Sg	10 00 01.9	+1.1
	7.7nm,0.3s						
KURK	Kurchatov	5.84	235	⇑Pn	Pn	10 01 02.8	+2.0
	3.0nm,0.9s						
KURK				⇓Lg	Lg	10 02 40.0	
	5.2nm,0.8s						
MK31	Makanchi Array	7.92	200	⇑Pn	Pn	10 01 31.2	+1.8
	1.8nm,0.6s,baz=28,slow=13,SNR=38						
MK31				⇑Sn	Sn	10 02 59.5	-0.1
	0.2nm,0.4s,baz=29,slow=32,SNR=4.2						
MK31				⇓Lg	Lg	10 03 45.1	
	3.4nm,0.9s						

NEIC 22 10:04:07.3±0.0, 19°.69N×156°.37W, h33km, ML3.7(HVO), **After HVO., Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	Kailua Kona	0.33	95	*e*Pg	Pb	10 04 14.7	-0.8
KKH				*e*Sg	Sn	10 04 18.3	-2.8
KHLU	Kahalu'u	0.46	102	*e*Pn	Pb	10 04 15.9	-1.5
KHLU				*e*Sg	Sb	10 04 21.4	-2.9
HUH	Hualalai	0.50	90	*e*Pn	Pb	10 04 16.4	-1.8
HUH				*e*Sg	Sb	10 04 23.0	-2.6
MHA	Mahukona	0.66	41	*e*Pg	Pn	10 04 18.8	-1.5
HPAH	Hawaii Prepara	0.72	62	*e*Pg	Pn	10 04 19.1	-2.0
MWH	Moku'aweowe	0.76	105	*e*Pn	Pn	10 04 20.0	-2.1
MLOA	Mauna Loa Obse	0.76	101	*e*Pn	Pn	10 04 20.1	-2.0
MLOA				*e*Sg	Sn	10 04 29.6	-3.1
POHA	Pohakuloa	0.79	85	*e*Pg	Pn	10 04 20.4	-1.9
POHA				*e*Sg	Sn	10 04 30.7	-2.4
KHU	Kahuku	0.84	122	*e*Pn	Pn	10 04 20.9	-2.0
HMH	Humu'ula Sheep	0.84	96	*e*Pg	Pn	10 04 21.5	-1.5
AIN	Ainahou	0.92	110	*e*Pg	Pn	10 04 21.9	-2.1
MLH	Mauna Loa	0.95	102	*e*Pn	Pn	10 04 22.6	-1.8
MLH				*e*Sg	Sn	10 04 34.0	-2.9
WRMHI	West Rim	1.05	105	*e*Pn	Pn	10 04 23.8	-2.0
WRMHI				*e*Sg	Sn	10 04 36.7	-2.6
UWE	Uwekahuna	1.05	104	*e*Pn	Pn	10 04 23.7	-2.1
UWE				*e*Sg	Sn	10 04 36.9	-2.5
SDHHI	Sand Hill	1.06	106	*e*Pn	Pn	10 04 23.5	-2.3
SDHHI				*e*Sg	Sn	10 04 36.7	-2.8
OBL	Observatory Le	1.06	105	*e*Pn	Pn	10 04 23.8	-2.1
OBL				*e*Sg	Sn	10 04 37.4	-2.2
UWB	Uwekahuna B	1.06	104	*e*Pn	Pn	10 04 23.7	-2.2
HLK	Haleakala	1.07	6	*e*Pn	Pn	10 04 23.6	-2.6
SBLHI	Steaming Bluff	1.07	104	*e*Pn	Pn	10 04 23.7	-2.4
SBLHI				*e*Sg	Sn	10 04 36.9	-3.0
RIM	Rim	1.07	106	*e*Pn	Pn	10 04 23.9	-2.3
HLP	Hilina Pali	1.07	111	*e*Pn	Pn	10 04 23.9	-2.2
HLP				*e*Sn	Sn	10 04 37.3	-2.6
KKO	Keanakako'i	1.08	105	*e*Pn	Pn	10 04 24.2	-2.0
KKO				*e*Sn	Sn	10 04 36.5	-3.6
BYL	Byron's Ledge	1.08	105	*e*Pn	Pn	10 04 24.1	-2.1
BYL				*e*Sn	Sn	10 04 37.6	-2.5
PUH	Pauahi	1.13	106	*e*Pn	Pn	10 04 24.3	-2.6
KHLH	Kahului Airpor	1.20	357	*e*Pn	Pn	10 04 25.6	-2.1
STCH	Steam Cracks	1.21	104	*e*Pn	Pn	10 04 25.7	-2.3
NPOC	North of Pu'u	1.22	104	*e*Pn	Pn	10 04 25.7	-2.4
NPOC				*e*Sn	Sn	10 04 40.3	-3.3
JCUZ	Jacuzzi	1.23	104	*e*Pn	Pn	10 04 25.8	-2.5
JCUZ				*e*Sn	Sn	10 04 39.7	-4.2
HULD	Heiheiahulu Di	1.34	101	*e*Pn	Pn	10 04 27.3	-2.4
HON	Honolulu	2.23	317	*e*Pn	Pn	10 04 38.5	-3.4
HON				*e*Sn	Sn	10 05 03.0	-5.4
KIP	Kipapa	2.31	319	*e*Pn	Pn	10 04 39.6	-3.5
OPA	Opana	2.51	323	*e*Pn	Pn	10 04 42.8	-3.0
KEKH	Kekaha	3.87	307	*e*Pn	Pn	10 05 01.1	-3.3

*ISCJB **22** 10:15:01.7±0.5, 37°.12N±0°.03×27°.91E±0°.03, h0km, Error ellipse: s-maj=4.9km s-min=3.0km az=16.2*
*ISK **22** 10:15:01.7, 37°.14N×27°.86E, h11km, ML2.3/6, Suspected Mining explosion.*
*CSEM **22** 10:15:01.9±0.2, 37°.12N×27°.90E, h1km, ML2.3, Error ellipse: s-maj=5.6km s-min=3.3km az=24.0, Suspected Mining explosion.*
*DDA **22** 10:15:02.6, 37°.16N×27°.89E, h7km, Ml2.6, Suspected Mining explosion.*
ISC 22 10:15:01.1±0.8, 37°.10N±0°.03×27°.93E±0°.02, h0km, n31, σ0§49/49, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.23	328	PG	Pg	10 15 05.9	+0.3
MLSB				SG	Sg	10 15 09.1	+0.5
MLSB	Milas	0.23	328	*e*Pg	Pg	10 15 05.9	+0.3
MLSB				*e*Sg	Sg	10 15 09.1	+0.5
YER	Yerkesik	0.28	82	PG	Pb	10 15 09.1	-0.1
YER				SG	Sb	10 15 14.1	-0.4
YER	Yerkesik	0.28	82	*e*Pg	Pb	10 15 09.1	-0.1
YER				*e*Sg	Sb	10 15 14.1	-0.4
BDRM	Kayabasi	0.39	265	*i* P	Pg	10 15 09.5	+0.9
BDRM				*i* S	Sb	10 15 16.2	-1.3
BDRM	Kayabasi	0.39	265	P	Pg	10 15 09.5	+0.9
BDRM				S	Sb	10 15 16.2	-1.3
BODT	Bodrum	0.50	266	PG	Pg	10 15 10.5	-0.2
BODT				SG	Sg	10 15 17.9	+0.8
BODT	Bodrum	0.50	266	*e*Pg	Pg	10 15 10.5	-0.2
BODT				*e*Sg	Sg	10 15 17.9	+0.8
AYDN	Tasoluk	0.56	356	*i* P	Pg	10 15 12.6	+0.6
AYDN				*i* S	Sg	10 15 19.4	+0.1
AYDN	Tasoluk	0.56	356	P	Pg	10 15 12.6	+0.6
AYDN				S	Sg	10 15 19.4	+0.1
TURN	Turunc	0.58	112	PG	Pg	10 15 12.2	-0.1
TURN	Turunc	0.58	112	*i* P	Pg	10 15 12.2	-0.1
TURN				*i* S	Sg	10 15 20.0	+0.1
TURN	Turunc	0.58	112	P	Pg	10 15 12.2	-0.1
TURN				S	Sg	10 15 20.0	+0.1
DALY	Dalyan (Mu¨la	0.64	116	PG	Pb	10 15 15.6	+0.4
DALY	Dalyan (Mu¨la	0.64	116	*i* P	Pb	10 15 15.2	0.0
DALY				*i* S	Sn	10 15 28.5	+0.1
DALY	Dalyan (Mu¨la	0.64	116	P	Pb	10 15 15.2	0.0
DALY	Dalyan (Mu¨la	0.64	116	*e*Pg	Pb	10 15 15.6	+0.4
DALY				S	Sn	10 15 28.5	+0.1
GCAM	G?zlcaml?	0.82	318	PG	Pg	10 15 16.3	-0.5
GCAM	G?zlcaml?	0.82	318	*i* P	Pg	10 15 17.1	+0.3
GCAM				*i* S	Sg	10 15 27.9	+0.5
GCAM	G?zlcaml?	0.82	318	*e*Pg	Pg	10 15 16.3	-0.5
GCAM	G?zlcaml?	0.82	318	P	Pg	10 15 17.1	+0.3
GCAM				S	Sg	10 15 27.9	+0.5
AYDB	Zeytinkoy-Aydi	0.85	358	PG	Pg	10 15 17.5	+0.1
AYDB	Zeytinkoy-Aydi	0.85	358	*e*Pg	Pg	10 15 17.5	+0.1
TAVA	DENIZLI_Tavas	0.87	65	*i* P	Pb	10 15 19.2	+0.1
TAVA				*i* S	Sb	10 15 31.7	+0.4
TAVA	DENIZLI_Tavas	0.87	65	P	Pb	10 15 19.2	+0.1
TAVA				S	Sb	10 15 31.7	+0.4
FETY	Fethiye	1.03	116	PN	Pn	10 15 23.0	+0.1
FETY	Fethiye	1.03	116	*e*Pn	Pn	10 15 23.0	+0.1
KULA	Kula-Manisa	1.53	22	PN	Pn	10 15 29.1	-0.7
KULA	Kula-Manisa	1.53	22	*e*Pn	Pn	10 15 29.1	-0.7
AKAS	Kas	1.60	122	PN	Pb	10 15 31.8	+0.2
AKAS	Kas	1.60	122	*e*Pn	Pb	10 15 31.8	+0.2

IDC 22 10:20:52.2±5.6, 23°.38S×115°.69W, h0km, mb3.6/2, mb1 4.0/2, mb1mx3.5/36, mbtmp3.6/2, MS3.7/10, Ms1 3.7/10, ms1mx3.4/28, Error ellipse: s-maj=356.3km s-min=60.9km az=110.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	6.86	124	LR	LR	10 24 23.8	
	comp=Z,864nm,18.3s,baz=316,slow=31						
RKT	Rikitea	17.72	267	*e*T	T	10 43 49.7	
	1.5nm,0.2s						
TAOE	Nuku Hiva Isla	27.51	298	*e*LR	LR	10 33 51.7	
	283nm,25.5s						
PPT2	Papeete2	32.21	274	*e*LR	LR	10 35 57.6	
	91nm,24.8s						
RAR	Rarotonga	40.73	264	LR	LR	10 39 32.0	
	comp=Z,46nm,21.8s,baz=112,slow=28						
PLCA	Paso Flores	41.49	126	LR	LR	10 41 13.2	
	comp=Z,89nm,21.1s,baz=262,slow=29						
JTS	JuntasAbangare	44.99	45	LR	LR	10 42 39.0	
	comp=Z,61nm,20.3s,baz=264,slow=29						
CPUP	Villa Florida	52.66	106	LR	LR	10 49 20.4	
	comp=Z,68nm,18.4s,baz=226,slow=32						
AFI	Afiamalu	53.69	270	LR	LR	10 48 17.4	
	comp=Z,41nm,18.4s,baz=112,slow=31						
SDV	Santo Domingo	54.49	59	LR	LR	10 49 39.4	
	comp=Z,409nm,18.1s,baz=142,slow=32						
NVAR	Mina Array Bea	61.53	358	P	P	10 31 11.1	-0.2
	1.0nm,1.1s,baz=171,slow=6.4,SNR=3.2						
YBH	Yreka Blue Hor	65.11	354	LR	LR	10 54 50.5	
	comp=Z,33nm,18.3s,baz=168,slow=31						
VNDA	Vanda	65.71	194	LR	LR	10 54 12.0	
	comp=Z,157nm,18.2s,baz=300,slow=30						
QSPA	South Pole Qui	66.77	180	LR	LR	10 54 35.0	
	comp=Z,133nm,21.1s,baz=332,slow=30						
YKA	Yellowknife Ar	85.58	1	P	P	10 33 32.4	+0.6
	0.3nm,1.0s,baz=173,slow=5.6,SNR=4.5						
H11S2	WAKE ISLAND Hy	86.40	292	T	T	12 09 51.8	
	baz=116,slow=75,SNR=49						
H11S1	WAKE ISLAND Hy	86.41	292	T	T	12 09 51.3	
	baz=116,slow=75,SNR=25						
H11S3	WAKE ISLAND Hy	86.42	292	T	T	12 09 52.6	
	baz=116,slow=75,SNR=30						
H11N3	WAKE ISLAND Hy	86.76	293	T	T	12 10 19.1	
	baz=114						
H11N1	WAKE ISLAND Hy	86.77	293	T	T	12 10 17.8	
	baz=114,SNR=8.5						
H11N2	WAKE ISLAND Hy	86.78	293	T	T	12 10 18.6	
	baz=114,SNR=8.5						
CMAR	Chiang Mai Arr	147.33	268	PKPbc	PKPbc	10 40 38.1	-0.5
	0.7nm,0.3s,baz=66,slow=3.1,SNR=4.2						
MKAR	Makanchi Array	152.52	333	PKPbc	PKPbc	10 40 50.0	-0.6
	0.1nm,0.5s,baz=51,slow=4.6,SNR=2.3						

*ISCJB **22** 10:28:16.7±0.8, 19°.55N±0°.06×78°.0W±0°.1, h10km, mb3.4/3, MS3.1/2, Error ellipse: s-maj=16.5km s-min=7.0km az=157.3*
*IDC **22** 10:28:16.1±1.3, 19°.56N×78°.10W, h0km, mb3.4/3, mb1 3.9/5, mb1mx3.5/54, mbtmp3.7/5, ML3.5/2, MS3.0/5, Ms1 3.1/5, ms1mx2.7/31, Error ellipse: s-maj=40.9km s-min=33.1km az=50.0*
*JSN **22** 10:28:21.3±0.3, 19°.43N×77°.87W, h8km±4km, MD4.5*
ISC 22 10:28:17.8±0.9, 19°.49N±0°.08×78°.1W±0°.1, h10km, n15, σ1§14/13, **mb3.3/3, 1C

BAYB				S		**Sb**	**10 51 59.2**	**-0.9**
MACK	**Trabzon**	**0.69**	**26**	*i* P		**Pb**	**10 51 49.9**	**-0.2**
MACK				*i* S		**Sb**	**10 52 00.4**	**+0.2**
MACK	**Trabzon**	**0.69**	**26**	P		**Pb**	**10 51 49.8**	**-0.2**
MACK				S		**Sb**	**10 52 00.4**	**+0.2**
ESPY	**Espiye-Giresun**	**0.77**	**321**	PG		**Pg**	**10 51 50.6**	**+0.7**
ESPY				SG		**Sg**	**10 52 00.2**	**+0.4**
ESPY	**Espiye-Giresun**	**0.77**	**321**	*e*Pg		**Pg**	**10 51 50.6**	**+0.7**
ESPY				*e*Sg		**Sg**	**10 52 00.2**	**+0.4**
SUSE	**Susehri**	**0.90**	**263**	*i* P		**Pg**	**10 51 52.1**	**-0.3**
SUSE				*i* S		**Sg**	**10 52 03.9**	**-0.1**
SUSE	**Susehri**	**0.90**	**263**	P		**Pg**	**10 51 52.1**	**-0.3**
SUSE				S		**Sg**	**10 52 03.9**	**-0.1**
PTK	**Pertek**	**1.43**	**179**	PN		**Pn**	**10 52 02.1**	**-0.4**
PTK	**Pertek**	**1.43**	**179**	*e*Pn		**Pn**	**10 52 02.1**	**-0.4**

*IDC **22** 10:58:20.4±4.4, 15°.83N×98°.34W, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.8/49, mbtmp3.8/11, ML3.1/2, MS3.3/18, Ms1 3.3/18, ms1mx3.1/47, Error ellipse: s-maj=80.0km s-min=20.0km az=179.0*

*ISCJB **22** 10:58:21.5±2.1, 15°.9N±0°.1×98°.16W±0°.04, h25km±9km, mb4.1/37, MS3.2/15, Error ellipse: s-maj=19.0km s-min=6.3km az=179.6*

*NEIC **22** 10:58:23.0±0.0, 15°.97N×98°.36W, h6km, mb4.2/41, MD4.1(MEX), After MEX.*

*MEX **22** 10:58:23.4±0.5, 15°.99N×98°.37W, h4km±5km, MD4.1*

ISC 22 10:58:23.0±1.3, 15°.95N±0°.08×98°.34W±0°.04, h14km±5km, n227, σ1°56/226, mb4.3/37, MS3.3/15, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**25**	*e*P	**Pg**	**10 58 31.9**	**-0.8**
PNIG				*e*S	**Sg**	**10 58 38.9**	**-0.4**
PNIG	**Pinotepa**	**0.49**	**25**	*e*Pg	**Pg**	**10 58 31.9**	**-0.8**
PNIG				*e*Sg	**Sg**	**10 58 38.9**	**-0.4**
TLIG	**Tlapa**	**1.62**	**352**	*e*P	**Pn**	**10 58 48.9**	**-2.4**
TLIG				*e*S	**Sn**	**10 59 08.5**	**-3.7**
TLIG	**Tlapa**	**1.62**	**352**	*e*P	**Pn**	**10 58 48.9**	**-2.4**
TLIG				*e*S	**Sn**	**10 59 07.8**	**-4.4**
ACX	**Acapulco**	**1.72**	**302**	*e*P	**Pn**	**10 58 50.5**	**-2.1**
ACX				*e*S	**Sn**	**10 59 11.3**	**-3.2**
VHO	**Vista Hermosa**	**1.91**	**54**	*e*P	**Pn**	**10 58 53.5**	**-1.8**
VHO				*e*S	**Sn**	**10 59 16.5**	**-2.7**
VHO	**Vista Hermosa**	**1.91**	**54**	*e*Pn	**Pn**	**10 58 53.5**	**-1.8**
VHO				*e*Sn	**Sn**	**10 59 16.4**	**-2.7**
CAIG	**El Cayaco**	**2.15**	**301**	*e*P	**Pn**	**10 58 55.1**	**-3.3**
CAIG				*i* S	**Sn**	**10 59 20.6**	**-4.3**
CAIG	**El Cayaco**	**2.15**	**301**	*e*Pn	**Pn**	**10 58 55.1**	**-3.3**
UNM	**Universidad Na**	**3.46**	**347**	*e*Pn	**Pn**	**10 59 19.1**	**+2.4**
CMIG	**Matias Romero**	**3.50**	**71**	Pn	**Pn**	**10 59 16.5**	**-0.6**
	3.1nm,0.3s,baz=252,slow=12,SNR=21						
CMIG				Sn	**Sn**	**10 59 57.3**	**-1.1**
	19nm,0.3s,baz=222,slow=19,SNR=4.9						
CMIG				LR	LR	11 00 03.0	
	comp=Z,115nm,19.8s,baz=104,slow=29						
CMIG				Lg	Lg	11 00 14.3	
	28nm,0.3s,baz=321,slow=20,SNR=9.3						
JRQG	**Juriquilla Cam**	**5.14**	**337**	*e*Pn	**Pn**	**10 59 41.9**	**+2.1**
ZAIG	**Zacatecas**	**7.87**	**330**	*e*Pn	**Pn**	**11 00 20.4**	**+3.0**
H06E1	**SOCORRO T-PHAS**	**12.34**	**285**	T	T	11 13 45.8	
	SNR=135						
H06S1	**SOCORRO T**	**12.36**	**285**	T	T	11 13 46.6	
	SNR=10						
LPIG	**La Paz**	**13.86**	**308**	LR	LR	11 05 54.2	
	comp=Z,117nm,21.2s,baz=121,slow=33						
LTX	**Lajitas**	**14.20**	**341**	*e*Pn	**Pn**	**11 01 45.1**	**+1.3**
TXAR	**Lajitas Array**	**14.20**	**341**	Pn	**Pn**	**11 01 45.1**	**+1.3**
	0.0nm,0.3s,baz=168,slow=12,SNR=4.8						
TXAR				LR	LR	11 07 40.2	
	comp=Z,270nm,19.2s,baz=0.0,slow=39						
TX31	**Lajitas Ar. Si**	**14.20**	**341**	*e*Pn	**Pn**	**11 01 45.1**	**+1.2**
TX31				*e*Pn	P	11 01 45.3	-6.0
WHTX	**Lake Whitney,**	**15.99**	**3**	P	**P**	**11 02 11.0**	**-0.1**
	baz=183						
WHTX	**Lake Whitney,**	**15.99**	**3**	*e*Pn	**Pn**	**11 02 08.1**	**+0.4**
	7.1nm,0.8s						
341A	**Kurthwood**	**16.03**	**16**	P	**P**	**11 02 10.1**	**-1.3**
	baz=198						
ABTX	**Abilene, Hawle**	**16.65**	**356**	P	**P**	**11 02 19.0**	**+0.6**
	baz=176						
ABTX	**Abilene, Hawle**	**16.65**	**356**	*e*Pn	**P**	**11 02 18.7**	**+0.3**
	13nm,0.9s						
MNTX	**Cornudas Mount**	**16.95**	**339**	P	**P**	**11 02 22.7**	**+1.0**
	baz=156						
MNTX	**Cornudas Mount**	**16.95**	**339**	*e*Pn	**P**	**11 02 21.5**	**-0.2**
	1.8nm,0.9s						
140A	**Cam and Jess,**	**17.18**	**14**	P	**P**	**11 02 24.8**	**+0.6**
	baz=196						
244A	**Avery, Jackson**	**17.47**	**22**	P	**P**	**11 02 26.9**	**-0.6**
	baz=205						
347A	**Saraland**	**17.80**	**28**	P	**Pn**	**11 02 30.0**	**-0.3**
	baz=212						
319A	**Douglas**	**18.32**	**329**	*e*P	**P**	**11 02 38.5**	**+1.5**
	6.0nm,0.8s						
MSTX	**Muleshoe**	**18.39**	**348**	*e*P	**Pn**	**11 02 37.9**	**+0.2**
	6.0nm,0.9s						
121A	**Cookes Peak, D**	**18.61**	**334**	P	**Pn**	**11 02 42.2**	**+1.7**
	baz=150						
121A	**Cookes Peak, D**	**18.61**	**334**	*e*P	**Pn**	**11 02 41.8**	**+1.4**
	4.9nm,0.8s						
248A	**Dixon Mills**	**18.75**	**29**	P	**Pn**	**11 02 41.5**	**-0.4**
	baz=213						
MIAR	**Mount Ida**	**19.01**	**12**	*e*P	**P**	**11 02 43.9**	**-0.5**
	6.2nm,1.0s						
W39A	**Magazine**	**19.60**	**11**	P	**P**	**11 02 51.2**	**+0.4**
	baz=193						
BNM	**Barren Site**	**19.61**	**339**	*e*P	**Pn**	**11 02 51.9**	**-0.6**
BNM				*e*P	**sP**	**11 02 58.6**	**+1.7**
LPM	**Los Pinos Moun**	**19.75**	**339**	*e*P	**Pn**	**11 02 53.7**	**-0.6**
Y46A	**Houston**	**19.80**	**24**	P	**P**	**11 02 52.4**	**-0.6**
	baz=208,SNR=5.8						
TUC	**Tucson**	**19.83**	**327**	P	**Pn**	**11 02 54.3**	**-0.7**
	baz=142						
LRAL	**Lakeview Retre**	**19.87**	**29**	P	**P**	**11 02 52.8**	**-1.1**
	baz=214						
LRAL	**Lakeview Retre**	**19.87**	**29**	*e*P	**P**	**11 02 52.9**	**-1.0**
	11nm,1.0s						
Z48A	**Northport**	**19.91**	**27**	P	**P**	**11 02 53.6**	**-0.6**
	baz=212						
251A	**Midway**	**19.92**	**34**	P	**P**	**11 02 52.5**	**-1.9**
	baz=219						
150A	**Eclectic**	**20.00**	**32**	P	**P**	**11 02 55.0**	**-0.2**
	baz=217						
TUL1	**Leonard**	**20.01**	**6**	*e*P	**P**	**11 02 55.4**	**0.0**
	11nm,0.9s						
X45A	**UM Field Stati**	**20.08**	**22**	P	**P**	**11 02 56.3**	**+0.1**
	baz=206						
Z49A	**Columbiana**	**20.23**	**30**	P	**P**	**11 02 56.3**	**-1.4**
	baz=215						
Y47A	**UCPARC, Winfie**	**20.23**	**26**	P	**P**	**11 02 56.3**	**-1.4**
	baz=210						
556A	**Lake Butler**	**20.24**	**44**	P	**P**	**11 02 54.4**	**-3.4**
	baz=230						
V39A	**Pettigrew**	**20.25**	**11**	P	**P**	**11 02 57.7**	**-0.4**
	baz=193,SNR=7.9						
ANMO	**Albuquerque**	**20.27**	**340**	P	**P**	**11 02 59.2**	**+0.8**
	3.2nm,0.8s,baz=345,slow=13,SNR=18						
ANMO				LR	LR	11 10 17.7	
	comp=Z,60nm,19.7s,baz=338,slow=35						
ANMO	**Albuquerque**	**20.27**	**340**	P	**P**	**11 02 59.1**	**+0.6**
	baz=157						
151A	**Opelika**	**20.30**	**33**	P	**P**	**11 02 56.8**	**-1.7**
	baz=219						
V40A	**Witts Springs**	**20.38**	**13**	P	**P**	**11 02 59.9**	**+0.5**
	baz=195						
X46A	**Booneville**	**20.50**	**24**	P	**P**	**11 02 59.0**	**-1.6**
	baz=208						
Z50A	**Ashland**	**20.57**	**31**	P	**P**	**11 03 00.3**	**-1.1**
	baz=216						
HHAR	**Hobbs**	**20.63**	**10**	*e*P	Pn	11 03 03.3	-1.1
	6.6nm,0.9s						
214A	**Organ Pipe Nat**	**20.68**	**323**	P	**P**	**11 03 02.8**	**+0.1**
	baz=137						
V42A	**Cord**	**20.73**	**16**	P	**P**	**11 03 02.0**	**-1.1**
	baz=199						
X47A	**Russelville**	**20.76**	**25**	P	**P**	**11 03 01.8**	**-1.6**
	baz=210,SNR=6.7						
U39A	**Green Forest**	**20.81**	**11**	P	**P**	**11 03 03.8**	**-0.2**
	baz=193,SNR=8.6						
Y49A	**Blount Mountai**	**20.83**	**29**	P	**P**	**11 03 02.5**	**-1.8**
	baz=214						
U40A	**Yellville**	**20.91**	**12**	P	**P**	**11 03 05.3**	**+0.2**
	baz=195,SNR=15						
X48A	**Hartselle**	**21.04**	**27**	P	**P**	**11 03 05.6**	**-1.0**
	baz=212						
PLAL	**Pickwick Lake**	**21.07**	**24**	*e*P	**P**	**11 03 05.4**	**-1.4**
	13nm,0.9s						
W46A	**Michie**	**21.09**	**23**	P	**P**	**11 03 05.9**	**-1.1**
	baz=208						
U41A	**Viola**	**21.11**	**15**	P	**P**	**11 03 06.0**	**-1.2**
	baz=197						
U42A	**Revenden**	**21.29**	**16**	P	**P**	**11 03 08.1**	**-1.0**
	baz=199						
T38A	**Diamond**	**21.31**	**9**	P	**P**	**11 03 09.3**	**-0.1**
	baz=191,SNR=7.0						
X49A	**Woodville**	**21.41**	**28**	P	**P**	**11 03 08.7**	**-1.8**
	baz=213						
T39A	**Clever**	**21.45**	**11**	P	**P**	**11 03 11.4**	**+0.4**
	baz=193,SNR=9.3						
W47A	**Westpoint**	**21.50**	**25**	P	**P**	**11 03 09.3**	**-2.1**
	baz=209						
U43A	**Rector**	**21.53**	**18**	P	**P**	**11 03 11.6**	**-0.1**
	baz=201						
W48A	**Pulaski**	**21.68**	**26**	P	**P**	**11 03 11.4**	**-1.9**
	baz=211						
T40A	**Mansfield**	**21.74**	**13**	P	**P**	**11 03 13.3**	**-0.7**
	baz=195						
V46A	**Holladay**	**21.78**	**23**	P	**P**	**11 03 12.4**	**-2.0**
	baz=207						
T25A	**Trinidad**	**21.79**	**347**	P	**P**	**11 03 15.2**	**+0.5**
	baz=164						
T25A	**Trinidad**	**21.79**	**347**	*e*P	**P**	**11 03 16.6**	**+1.9**
	8.1nm,0.9s						
T41A	**Mountain View**	**21.81**	**14**	P	**P**	**11 03 13.1**	**-1.7**
	baz=197						
MHTCO	**State Highway**	**21.84**	**346**	*e*P	**P**	**11 03 19.4**	**+4.1**
	5.0nm,1.0s						
PBMO	**Poplar Bluff**	**21.91**	**17**	*e*P	**P**	**11 03 17.3**	**+1.5**
	24nm,0.8s						
T42A	**Van Buren**	**21.96**	**16**	P	**P**	**11 03 15.3**	**-1.1**
	baz=199,SNR=7.5						
GOGA	**Godfrey**	**21.98**	**35**	P	**P**	**11 03 14.4**	**-2.2**
	baz=221						
GOGA	**Godfrey**	**21.98**	**35**	*e*P	**P**	**11 03 15.3**	**-1.3**
	12nm,0.9s						
V47A	**Nunnelly**	**22.03**	**24**	P	**P**	**11 03 14.7**	**-2.4**
	baz=209						
S39A	**Bolivar**	**22.11**	**11**	P	**P**	**11 03 17.0**	**-1.0**
	baz=193,SNR=10						
SWET	**Sewanee**	**22.18**	**28**	*e*P	**P**	**11 03 17.5**	**-1.3**
	15nm,0.8s						
S40A	**Lebanon**	**22.18**	**12**	P	**P**	**11 03 16.9**	**-1.9**
	baz=195,SNR=6.4						
WVT	**Waverly**	**22.18**	**23**	P	**P**	**11 03 16.7**	**-2.0**
	baz=208						
WVT	**Waverly**	**22.18**	**23**	*e*P	**P**	**11 03 16.4**	**-2.3**
	12nm,0.8s						
T43A	**Greenville**	**22.23**	**17**	P	**P**	**11 03 17.5**	**-1.8**
	baz=201,SNR=7.4						
V48A	**Smith Brothers**	**22.24**	**25**	P	**P**	**11 03 16.6**	**-2.7**
	baz=210						
U46A	**Springville**	**22.25**	**22**	P	**P**	**11 03 17.3**	**-2.2**
	baz=207						
R38A	**Fenwick Farm,**	**22.50**	**9**	P	**P**	**11 03 20.4**	**-1.8**
	baz=191						
SDCO	**Great Sand Dun**	**22.62**	**345**	P	**P**	**11 03 23.4**	**-0.4**
	baz=162						
SDCO	**Great Sand Dun**	**22.62**	**345**	*e*P	**P**	**11 03 25.1**	**+1.3**
	3.1nm,0.9s						
U47A	**Clarksville**	**22.66**	**24**	P	**P**	**11 03 21.2**	**-2.7**
	baz=209						
WUAZ	**Wupatki**	**22.71**	**332**	P	**P**	**11 03 25.0**	**+0.4**
	baz=146						
WUAZ	**Wupatki**	**22.71**	**332**	*e*P	**P**	**11 03 26.4**	**+1.7**
	5.4nm,0.8s						
S42A	**Caledonia**	**22.74**	**16**	P	**P**	**11 03 23.4**	**-1.4**
	baz=199						
S43A	**Fulton Ridge,**	**22.75**	**17**	P	**P**	**11 03 23.2**	**-1.6**
	baz=201						
R39A	**Chumby, Stover**	**22.77**	**11**	P	**P**	**11 03 23.8**	**-1.2**
	baz=193						
R40A	**Maddies Statio**	**22.89**	**12**	P	**P**	**11 03 25.0**	**-1.4**
	baz=35,SNR=11						
CCM	**Cathedral Cave**	**22.90**	**15**	*e*P	**P**	**11 03 26.5**	**+0.1**
	6.9nm,0.8s						
T46A	**Princeton**	**22.96**	**22**	P	**P**	**11 03 25.0**	**-2.1**
	baz=206						
S22A	**4UR Ranch, Cre**	**22.98**	**343**	P	**P**	**11 03 27.6**	**0.0**
	baz=159						
S22A	**4UR Ranch, Cre**	**22.98**	**343**	*e*P	**P**	**11 03 28.6**	**+1.0**
	4.5nm,1.1s						
MVCO	**Mesa Verde**	**23.02**	**339**	P	**P**	**11 03 28.2**	**+0.3**
	baz=154						
MVCO	**Mesa Verde**	**23.02**	**339**	*e*P	**P**	**11 03 29.3**	**+1.4**
	6.0nm,0.8s						
U48A	**Cassie Pea, Po**	**23.02**	**25**	P	**P**	**11 03 25.5**	**-2.2**
	baz=210						
CPCT	**Cooper Cave**	**23.02**	**30**	*e*P	**P**	**11 03 26.2**	**-1.4**
FVM	**French Village**	**23.04**	**16**	*e*P	**P**	**11 03 27.0**	**-0.9**
	7.8nm,0.9s						
R41A	**Rosebud**	**23.10**	**14**	P	**P**	**11 03 27.5**	**-0.9**
	baz=197						
S44A	**Carbondale**	**23.10**	**19**	P	**P**	**11 03 27.5**	**-1.0**
	baz=203,SNR=7.4						
SIUC	**Southern Illin**	**23.14**	**19**	*e*P	**P**	**11 03 29.1**	**+0.3**
	15nm,0.8s						
T47A	**Sharon Grove**	**23.21**	**23**	P	**P**	**11 03 27.7**	**-1.9**
	baz=208,SNR=6.8						
HODGE	**Hodges**	**23.26**	**36**	*e*P	**P**	**11 03 29.0**	**-1.1**
	12nm,0.8s						
Q38A	**Cooks Store, C**	**23.30**	**9**	P	**P**	**11 03 29.9**	**-0.6**
	baz=192						
S45A	**Carrier Mills**	**23.30**	**20**	P	**P**	**11 03 29.0**	**-1.5**
	baz=204,SNR=6.7						
R43A	**Red Bud**	**23.45**	**17**	P	**P**	**11 03 29.8**	**-2.1**
	baz=201,SNR=7.0						
TKL	**Tuckaleechee C**	**23.55**	**31**	P	**P**	**11 03 33.0**	**-0.1**
	3.6nm,0.8s,baz=202,slow=13,SNR=3.3						
TKL				LR	LR	11 15 24.7	
	comp=Z,42nm,18.8s,baz=215,slow=43						
T48A	**Bowling Green**	**23.59**	**24**	P	**P**	**11 03 30.9**	**-2.5**
	baz=210,SNR=6.7						
Q40A	**Laux Farm, Aux**	**23.61**	**12**	P	**P**	**11 03 31.9**	**-1.6**
	baz=195						
R44A	**Waltonville**	**23.67**	**18**	P	**P**	**11 03 32.5**	**-1.6**
	baz=203						
Q41A	**Truxton**	**23.76**	**14**	P	**P**	**11 03 33.5**	**-1.4**
	baz=197						
P37A	**Lathrop**	**23.81**	**8**	P	**P**	**11 03 34.2**	**-1.3**
	baz=190						
JSC	**Jenkinsville**	**23.86**	**37**	*e*P	**P**	**11 03 35.9**	**-0.1**
	7.7nm,0.8s						
PV01	**Paradox Valley**	**23.87**	**340**	*e*P	**P**	**11 03 37.7**	**+1.3**
U15A	**North Rim**	**23.88**	**331**	*e*P	**P**	**11 03 38.5**	**+2.0**
	3.7nm,0.8s						
Q42A	**Golden Eagle**	**23.89**	**15**	P	**P**	**11 03 35.4**	**-0.8**
	baz=199						
P39B	**Salisbury**	**23.96**	**11**	P	**P**	**11 03 35.7**	**-1.2**
	baz=193						
R45A	**Skylar, Fairfi**	**23.96**	**20**	P	**P**	**11 03 35.3**	**-1.6**
	baz=204						
P38A	**Dawn**	**23.96**	**9**	P	**P**	**11 03 35.9**	**-1.0**
	baz=192						
Q43A	**New Douglas**	**24.13**	**17**	P	**P**	**11 03 36.4**	**-2.1**
	baz=201						
P40A	**Paris**	**24.13**	**12**	P	**P**	**11 03 36.9**	**-1.6**
	baz=195						
O34A	**Beatrice**	**24.19**	**3**	P	**P**	**11 03 38.4**	**-0.7**
	baz=184						
Q44A	**Meyer Farm, Va**	**24.29**	**18**	P	**P**	**11 03 38.2**	**-1.8**
	baz=202						
O35A	**Humboldt**	**24.33**	**5**	P	**P**	**11 03 39.2**	**-1.1**
	baz=186						
SMCO	**Snowmass**	**24.35**	**344**	*e*P	**P**	**11 03 42.4**	**+1.4**
	19nm,2.0s						
TZTN	**Tazewell**	**24.37**	**30**	P	**P**	**11 03 38.0**	**-2.8**
	baz=216						
O37A	**Wolven Farm, M**	**24.41**	**8**	P	**P**	**11 03 40.3**	**-0.8**
	baz=190						
KMSC	**Kings Mountain**	**24.44**	**35**	P	**P**	**11 03 38.7**	**-2.7**
	baz=223						
O38A	**Galt**	**24.46**	**9**	P	**P**	**11 03 40.7**	**-0.8**
	baz=191						
P41A	**Barry, Barry**	**24.48**	**14**	P	**P**	**11 03 39.9**	**-1.9**
	baz=197						
Q45A	**Warren Harvey,**	**24.55**	**19**	P	**P**	**11 03 40.7**	**-1.7**
	baz=204						
R47A	**Wooly Knot Far**	**24.58**	**23**	P	**P**	**11 03 40.4**	**-2.2**
	baz=208						
ISCO	**Idaho Springs**	**24.60**	**346**	P	**P**	**11 03 43.4**	**+0.3**
	baz=163,SNR=10						
ISCO	**Idaho Springs**	**24.60**	**346**	*e*P	**P**	**11 03 43.9**	**+0.7**
	6.0nm,0.8s						
WCI	**Wyandotte Cave**	**24.61**	**23**	P	**P**	**11 03 41.3**	**-1.5**
	baz=209						
WCI	**Wyandotte Cave**	**24.61**	**23**	*e*P	**P**	**11 03 42.1**	**-0.7**
	21nm,0.8s						
O40A	**La Belle**	**24.74**	**12**	P	**P**	**11 03 42.8**	**-1.2**
	baz=195						
O39A	**Kirksville**	**24.74**	**11**	P	**P**	**11 03 43.7**	**-0.4**
	baz=193						
N34A	**Lincoln**	**24.86**	**3**	P	**P**	**11 03 44.9**	**-0.1**
	baz=184						
R48A	**Northridge Ran**	**24.92**	**24**	P	**P**	**11 03 43.8**	**-1.9**
	baz=210						
N35A	**Tabor**	**24.94**	**5**	P	**P**	**11 03 46.0**	**+0.1**
	baz=186						
O41A	**Passleys Farm,**	**24.94**	**14**	P	**P**	**11 03 44.2**	**-1.6**
	baz=197						
MTPU	**Mount Pierson**	**25.17**	**334**	*e*P	**P**	**11 03 50.3**	**+1.9**
	5.3nm,0.8s						
Q47A	**Bedord North L**	**25.18**	**22**	P	**P**	**11 03 46.7**	**-1.3**
	baz=208						
P45A	**Graceland, Par**	**25.26**	**19**	P	**P**	**11 03 47.7**	**-1.0**
	baz=204						
N39A	**Derby Farms, D**	**25.36**	**10**	P	**P**	**11 03 48.7**	**-0.9**
	baz=193						
SRU	**San Rafael Swe**	**25.43**	**338**	*e*P	**P**	**11 03 50.3**	**-0.3**
	2.1nm,0.9s						
P46A	**Rosedale**	**25.51**	**20**	P	**P**	**11 03 49.5**	**-1.5**
	baz=206						
M35A	**Neola**	**25.54**	**5**	P	**P**	**11 03 52.0**	**+0.8**
	baz=186						
M37A	**Trindle Farm,**	**25.64**	**7**	P	**P**	**11 03 52.2**	**+0.1**
	baz=190						
N23A	**Red Feather La**	**25.72**	**347**	P	**P**	**11 03 53.0**	**-0.3**
	baz=163						
M38A	**Pleasantville**	**25.77**	**9**	P	**P**	**11 03 52.5**	**-0.8**
	baz=192						
N42A	**Yates City**	**25.82**	**15**	P	**P**	**11 03 53.0**	**-0.8**
	baz=199						
TMUT	**Trail Mountain**	**25.85**	**337**	*e*P	**P**	**11 03 55.6**	**+1.1**
	3.2nm,0.6s						
O45A	**Potomac**	**25.92**	**19**	P	**P**	**11 03 53.2**	**-1.5**
	baz=204,SNR=6.1						
M39A	**Webster**	**26.00**	**11**	P	**P**	**11 03 55.0**	**-0.4**
	baz=194,SNR=5.8						
NCAT	**North Carolina**	**26.00**	**36**	*e*P	**P**	**11 03 55.4**	**-0.1**
	23nm,0.6s						
M40A	**Post Highland**	**26.05**	**12**	P	**P**	**11 03 55.0**	**-0.8**
	baz=195						
SCIA	**State Center**	**26.25**	**9**	P	**P**	**11 03 57.8**	**+0.1**
	baz=191						
SCIA	**State Center**	**26.25**	**9**	*e*P	**P**	**11 03 57.8**	**+0.1**
	12nm,0.8s						
N44A	**Piper City**	**26.30**	**18**	P	**P**	**11 03 58.0**	**-0.1**
	baz=203						
L37A	**Phoenix Point,**	**26.39**	**8**	P	**P**	**11 03 59.5**	**+0.6**
	baz=190						
O47A	**Sheridan**	**26.42**	**21**	P	**P**	**11 03 58.5**	**-0.7**
	baz=207						
L38A	**Oak Wood Farm,**	**26.51**	**9**	P	**P**	**11 03 59.8**	**-0.3**
	baz=192						
N45A	**Kentland**	**26.53**	**19**	P	**P**	**11 03 60.0**	**-0.3**
	baz=204						
L39A	**Vinton**	**26.65**	**11**	P	**P**	**11 04 00.3**	**-1.1**
	baz=194						
L40A	**Anamosa**	**26.74**	**12**	P	**P**	**11 04 01.1**	**-1.1**
	baz=195						
M44A	**Midewin, Midew**	**26.87**	**17**	P	**P**	**11 04 02.4**	**-0.9**
	baz=202						
L41A	**Preston**	**26.90**	**13**	P	**P**	**11 04 03.0**	**-0.6**
	baz=197						
L42A	**Oliver, Polo**	**27.02**	**14**	P	**P**	**11 04 03.8**	**-0.9**
	baz=199						
K37A	**Belmond**	**27.03**	**8**	P	**P**	**11 04 03.4**	**-1.4**
	baz=190						
K38A	**Parkersburg**	**27.04**	**9**	P	**P**	**11 04 03.7**	**-1.1**
	baz=192						
GATR	**Gnd/Air Tx Cnt**	**27.19**	**317**	*e*P	**P**	**11 04 06.3**	**0.0**
K39A	**Oelwein**	**27.24**	**10**	P	**P**	**11 04 05.2**	**-1.4**
	baz=194						
DUG	**Dugway, Tooele**	**27.25**	**335**	P	**P**	**11 04 07.1**	**+0.1**
	baz=148						
J31A	**Geddes**	**27.26**	**359**	P	**P**	**11 04 06.6**	**-0.3**
	baz=179						
J38A	**Wedel Dairy, R**	**27.74**	**9**	P	**P**	**11 04 10.6**	**-0.5**
	baz=192						
JFWS	**Jewell Farm**	**27.76**	**13**	P	**P**	**11 04 10.3**	**-1.0**
	baz=197						
MGPM	**Gravel Pit**	**28.22**	**324**	*e*PcP	**PcP**	**11 07 32.6**	**+3.3**
J41A	**Loganville**	**28.24**	**13**	P	**P**	**11 04 14.7**	**-0.9**
	baz=197						
PD31	**Pinedale Array**	**28.41**	**342**	*e*P	**P**	**11 04 18.2**	**+0.9**
PDAR	**Pinedale Array**	**28.41**	**342**	P	**P**	**11 04 18.2**	**+0.9**
	0.3nm,0.5s,baz=150,slow=11,SNR=3.8						
PDAR				LR	LR	11 15 57.4	
	comp=Z,77nm,18.5s,baz=171,slow=37						
NV01	**Mina Array Sit**	**28.46**	**326**	*e*P	**P**	**11 04 18.5**	**+0.6**
NVAR	**Mina Array Bea**	**28.46**	**326**	P	**P**	**11 04 18.5**	**+0.7**
	0.7nm,0.7s,baz=162,slow=9.2,SNR=4.7						
NVAR				LR	LR	11 15 48.1	
	comp=Z,99nm,19.7s,baz=296,slow=37						
H32A	**Carlson Farm,**	**28.48**	**1**	P	**P**	**11 04 17.5**	**-0.2**
	baz=182						
I43A	**Langenfeld Bro**	**29.17**	**15**	P	**P**	**11 04 22.7**	**-1.1**
	baz=200						
PAHR	**Pah Rah Range**	**29.96**	**326**	*e*P	**P**	**11 04 29.8**	**-1.3**
	6.0nm,0.8s						
ATAH	**Atahualpa**	**30.26**	**138**	LR	LR	11 14 01.5	
	comp=Z,49nm,20.5s,baz=106,slow=31						
F40A	**Park Falls**	**30.67**	**11**	P	**P**	**11 04 36.3**	**-0.8**
	baz=196						
E40A	**Wakefield**	**31.21**	**11**	P	**P**	**11 04 40.3**	**-1.

MEX 22 11:45:13.9±0.4, 16°55N×98°46W, h6^km±6^km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**116**	*eP*	Pg	11 45 20.6	-0.3
PNIG				*eS*	Sg	11 45 25.6	0.0
PNIG	**Pinotepa**	**0.36**	**116**	*eP*	Pg	11 45 20.6	-0.3
PNIG				*eS*	Sg	11 45 25.6	0.0
TLIG	**Tlapa**	**1.01**	**354**	*i* P	Pg	11 45 30.8	-2.5
TLIG				*eS*	Sg	11 45 43.7	-2.7
TLIG	**Tlapa**	**1.01**	**354**	*i* P	Pg	11 45 30.8	-2.6
TLIG				*eS*	Sg	11 45 43.7	-2.8
ACX	**Acapulco**	**1.37**	**283**	*eP*	Pn	11 45 35.0	-4.7
ACX				*i* S	Sb	11 45 52.4	-5.5
ACX	**Acapulco**	**1.37**	**283**	*eP*	Pn	11 45 35.0	-4.7
ACX				*eS*	Sb	11 45 50.8	-7.1
VHO	**Vista Hermosa**	**1.74**	**72**	*eP*	Pn	11 45 41.2	-3.7
VHO				*eS*	Sn	11 46 03.0	-4.5
VHO	**Vista Hermosa**	**1.74**	**72**	*eP*	Pn	11 45 41.2	-3.7
VHO				*eS*	Sn	11 46 03.0	-4.5
CAIG	**El Cayaco**	**1.80**	**286**	*eP*	Pn	11 45 42.0	-3.5
CAIG				*i* S	Sn	11 46 04.3	-4.4
CAIG	**El Cayaco**	**1.80**	**286**	*eP*	Pn	11 45 42.0	-3.5
CAIG				*eS*	Sn	11 46 07.7	-1.0
HUIG	**Huatulco**	**2.39**	**109**	*eP*	Pn	11 45 50.6	-3.2
HUIG				*i* S	Sn	11 46 19.3	-4.2
HUIG	**Huatulco**	**2.39**	**109**	*eP*	Pn	11 45 50.6	-3.1

*NNC **22** 11:46:08.1±2.9, 37°.65N×71°.45E, h0^km, mb3.9, mpv3.6, Error ellipse: s-maj=22.8km s-min=21.1km az=153.0*

ISC 22 11:46:08.4±3.3, 37°.4N±0°.2×71°.6E±0°.1, h109^km, n12, σ1^s28/16, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.03**	**29**	⇑P	**Pn**	**11 46 56.2**	**+1.2**
	7.5nm,0.4s						
SFK				⇑S	**Sn**	**11 47 32.1**	**+1.2**
	30nm,0.4s						
AML	**Almayashu**	**5.03**	**18**	P	**Pn**	**11 47 21.5**	**-0.3**
	SNR=54						
MNAS	**Manas**	**5.16**	**7**	⇓P	**Pn**	**11 47 23.6**	**+0.2**
	5.9nm,0.5s						
MNAS				⇓S	**Sn**	**11 48 21.2**	**-0.7**
	3.0nm,0.5s						
UCH	**Uchtor**	**5.35**	**24**	P	**Pn**	**11 47 25.2**	**-1.1**
	SNR=12						
EKS2	**Erkin-Say**	**5.55**	**17**	P	**Pn**	**11 47 28.6**	**0.0**
	SNR=8.6						
AAK	**Ala-Archa**	**5.71**	**22**	⇓P	**Pn**	**11 47 29.8**	**-1.1**
	4.4nm,0.4s						
AAK				⇓S	**Sn**	**11 48 35.9**	**+0.6**
	4.2nm,0.8s						
AAK	**Ala-Archa**	**5.71**	**22**	P	**Pn**	**11 47 30.1**	**-0.8**
	SNR=14						
KK31	**Karatay Array**	**5.79**	**352**	P	**Pn**	**11 47 32.7**	**+0.8**
	1.9nm,0.3s,baz=161,slow=11,SNR=24						
KK31				⇓S	**Sn**	**11 48 37.0**	**+0.1**
	1.9nm,0.5s,baz=177,slow=23,SNR=6.0						
TKM2	**Tokmak 2**	**6.34**	**28**	⇑P	**Pn**	**11 47 37.0**	**-2.4**
	6.5nm,0.8s						
TKM2	**Tokmak 2**	**6.34**	**28**	P	**Pn**	**11 47 37.2**	**-2.2**
	SNR=11						
MDOK	**Medeo**	**7.13**	**34**	P	**Pn**	**11 47 51.8**	**+1.7**
	2.1nm,0.5s						
AB31	**Akbulak array**	**14.58**	**328**	P	**Pn**	**11 49 28.9**	**-0.2**
	0.2nm,0.3s,baz=142,slow=12,SNR=6.6						

*ISCJB **22** 11:54:56.7±0.5, 19°.9S±0°.1×177°.9W±0°.1, h350^km, mb3.8/12, Error ellipse: s-maj=20.6km s-min=9.1km az=44.8*

*IDC **22** 11:54:59.9±2.7, 19°.85S×177°.94W, h369^km±28^km, mb3.5/12, mb1 3.7/13, mb1mx3.4/42, mbtmp4.2/13, Error ellipse: s-maj=20.0km s-min=12.8km az=134.0*

ISC 22 11:54:58.0±0.6, 19°.9S±0°.1×177°.8W±0°.1, h350^km, n17, σ1^s54/18, mb3.8/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.26**	**45**	P	**Pn**	**11 56 58.1**	**+2.7**
	1.9nm,0.3s,baz=14,slow=19,SNR=4.2						
AFI				S	**S**	**11 58 28.7**	**-2.4**
	2.1nm,0.3s,baz=180,slow=20,SNR=3.1						
DZM	**Mont Dzumac**	**14.92**	**259**	P	**Pn**	**11 58 16.4**	**+2.4**
	0.3nm,0.3s,baz=82,slow=19,SNR=6.2						
STKA	**Stephens Creek**	**38.26**	**244**	P	**P**	**12 01 45.8**	**-0.1**
	5.6nm,0.6s,baz=89,slow=12,SNR=6.8						
ASAR	**Alice Springs**	**44.88**	**256**	P	**P**	**12 02 38.2**	**-1.0**
	7.8nm,0.7s,baz=94,slow=8.2,SNR=128						
WRA	**Warramunga Arr**	**44.92**	**261**	P	**P**	**12 02 38.2**	**-1.3**
	0.8nm,0.3s,baz=96,slow=7.6,SNR=77						
VNDA	**Vanda**	**58.52**	**185**	P	**P**	**12 04 18.7**	**+0.6**
	1.4nm,0.6s,baz=353,slow=6.5,SNR=6.5						
MJAR	**Matsushiro Arr**	**69.87**	**323**	P	**P**	**12 05 30.1**	**-1.6**
	0.7nm,0.5s,baz=169,slow=5.5,SNR=3.3						
QSPA	**South Pole Qui**	**70.16**	**180**	P	**P**	**12 05 33.2**	**-0.1**
	12nm,0.8s,baz=45,slow=1.8,SNR=34						
PETK	**Petropavlovsk-**	**75.76**	**345**	P	**P**	**12 06 06.0**	**+0.3**
	3.6nm,0.7s,baz=106,slow=7.4,SNR=7.5						
YBH	**Yreka Blue Hor**	**79.68**	**39**	P	**P**	**12 06 28.6**	**+1.0**
	2.6nm,1.0s,baz=271,slow=7.1,SNR=3.0						
NVAR	**Mina Array Bea**	**80.43**	**43**	P	**P**	**12 06 32.7**	**+0.9**
	0.8nm,0.8s,baz=227,slow=9.9,SNR=4.8						
TXAR	**Lajitas Array**	**86.54**	**57**	P	**P**	**12 07 03.6**	**+1.0**
	0.2nm,0.7s,baz=219,slow=8.1,SNR=3.7						
ILAR	**Eielson Array**	**87.69**	**13**	P	**P**	**12 07 06.5**	**-0.5**
	0.7nm,0.5s,baz=232,slow=5.1,SNR=16						
VNA3	**Neumayer Olymp**	**88.72**	**176**	P	**P**	**12 07 10.2**	**-1.8**
VNA2	**Neumayer--Watz**	**89.16**	**177**	P	**P**	**12 07 12.9**	**-1.2**
	baz=179,slow=2.1						
YKA	**Yellowknife Ar**	**95.88**	**25**	P	**P**	**12 07 44.7**	**-0.1**
	0.6nm,1.1s,baz=253,slow=4.1,SNR=3.7						
EKA	**Eskdalemuir Ar**	**144.39**	**5**	PKP	**PKPab**	**12 13 50.1**	**-1.7**
	2.7nm,0.9s,baz=12,slow=3.9,SNR=4.8						

IDC 22 12:13:48.8±2.2, 6°55S×129°85E, h0^km, mb3.5/1, mb1 3.7/4, mb1mx3.3/58, mbtmp3.5/4, ML3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/30, Error ellipse: s-maj=87.9km s-min=28.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.19**	**199**	Pn	Pn	12 16 42.7	-1.2
	0.3nm,0.3s,baz=15,slow=9.1,SNR=13						
FITZ				Sn	Sn	12 18 43.4	-17
	0.2nm,0.3s,baz=106,slow=17,SNR=3.2						
WRA	**Warramunga Arr**	**14.01**	**162**	Pn	Pn	12 17 08.7	-0.1
	0.3nm,0.3s,baz=347,slow=13,SNR=24						
WRA				Sn	Sn	12 19 32.4	-13
	0.6nm,0.3s,baz=331,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**17.46**	**168**	P	P	12 17 55.0	-0.3
	0.2nm,0.3s,baz=349,slow=9.6,SNR=22						
CTA	**Charters Tower**	**20.85**	**132**	LR	LR	12 26 39.1	
	comp=Z,122nm,18.6s,baz=60,slow=37						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	12 24 48.5	0.0
	0.2nm,0.5s,baz=110,slow=7.9,SNR=4.6						

*NIED **22** 12:16:00, 40°.80N×145°.00E, h5^km, Mw3.5 Best double couple: M₀2.08000×10^14 NP1:φ=239.00000°, δ32.00000°, λ=-62.00000°. NP2:φ=27.00000°, δ62.00000°, λ=-106.00000°.*

JMA 22 12:16:43.9±0.2, 40°.81N×145°.03E, h69^km±4^km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.85**	**311**	P	Pn	12 17 14.2	+0.7
JEM				*eS*	Sn	12 17 35.0	-1.0
JCH	**Churui**	**2.19**	**326**	P	Pn	12 17 19.0	+0.9
JCH				*eS*	Sn	12 17 43.8	-0.4
JAK	**Akkeshi**	**2.20**	**354**	*eS*	Sn	12 17 44.8	+0.5
JNBK	**Urakawa-nobuka**	**2.25**	**311**	P	Pn	12 17 20.5	+1.6
JNBK				*eS*	Sn	12 17 46.6	+0.9
JOB	**Onbets**	**2.27**	**337**	*eS*	Sn	12 17 47.3	+1.1
NEM2	**Nemuro 2**	**2.61**	**12**	P	Pn	12 17 24.7	+1.0
NEM2				*eS*	Sn	12 17 53.8	-0.5
JAR	**Ashorobuto**	**2.66**	**340**	P	Pn	12 17 25.3	+0.9
JAR				*eS*	Sn	12 17 55.7	+0.2
JANG	**Nango**	**2.71**	**262**	P	Pn	12 17 25.3	+0.2
JANG				*eS*	Sn	12 17 53.8	-3.1
JNK	**Nakash**	**2.78**	**355**	P	Pn	12 17 26.9	+0.8
JNK				*eS*	Sn	12 17 57.7	-0.9
JBT2	**Biratori 2**	**2.80**	**315**	P	Pn	12 17 28.4	+2.1
JBT2				*eS*	Sn	12 18 00.4	+1.4
JFR	**Furan**	**2.97**	**323**	P	Pn	12 17 29.9	+1.2
JFR				*eS*	Sn	12 18 01.5	-1.7
JTM	**Tenmabayashi**	**3.01**	**271**	P	Pn	12 17 30.1	+0.9
JTM				*eS*	Sn	12 18 02.0	-2.0
JOT	**Ohata**	**3.06**	**282**	P	Pn	12 17 30.9	+1.0
JOT				*eS*	Sn	12 18 03.2	-2.2
JRA	**Rausu**	**3.13**	**1**	*eS*	Sn	12 18 06.8	-0.1
JOM	**Ohasama**	**3.16**	**246**	P	Pn	12 17 32.2	+0.9
JKB	**Kayabe**	**3.20**	**291**	P	Pn	12 17 33.1	+1.4
JKB				*eS*	Sn	12 18 07.1	-1.5
JTKR	**Abashiri--Toko**	**3.27**	**346**	P	Pn	12 17 34.6	+1.9
JTKR				*eS*	Sn	12 18 11.5	+1.2
JEW	**Eniwo**	**3.36**	**308**	*eS*	Sn	12 18 13.6	+1.0
JAH	**Hinai**	**3.41**	**261**	P	Pn	12 17 36.1	+1.5
JAH				*eS*	Sn	12 18 12.0	-1.8
JMK	**Ichinoseki**	**3.47**	**239**	P	Pn	12 17 36.3	+0.8
JMK				*eS*	Sn	12 18 12.9	-2.4
JKK2	**Kamakawa 2**	**3.50**	**332**	P	Pn	12 17 37.9	+2.1
JRG	**Rokugo**	**3.66**	**249**	P	Pn	12 17 39.6	+1.6
JRG				*eS*	Sn	12 18 19.2	-0.7
JYK	**Kaneyama**	**4.06**	**244**	P	Pn	12 17 44.9	+1.4
JOU	**Okura**	**4.16**	**236**	*eS*	Sn	12 18 30.7	-1.7

IDC 22 12:19:03.0±1.2, 3°.82S×102°.49W, h0^km, mb3.7/6, mb1 4.0/6, mb1mx3.8/40, mbtmp3.7/6, MS3.5/15, Ms1 3.5/15, ms1mx3.3/35, Error ellipse: s-maj=67.0km s-min=22.2km az=62.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**22.09**	**20**	LR	LR	12 30 38.2	
	comp=Z,72nm,20.7s,baz=178,slow=32						
JTS	**JuntasAbangare**	**22.39**	**51**	LR	LR	12 30 26.1	
	comp=Z,206nm,19.2s,baz=312,slow=30						
ATAH	**Atahualpa**	**24.21**	**99**	LR	LR	12 31 29.3	
	comp=Z,107nm,20.2s,baz=287,slow=31						
NNA	**Nana**	**26.65**	**109**	LR	LR	12 32 29.7	
	comp=Z,93nm,19.1s,baz=270,slow=30						
LPIG	**La Paz**	**28.77**	**345**	LR	LR	12 33 23.7	
	comp=Z,96nm,21.5s,baz=96,slow=30						
TXAR	**Lajitas Array**	**32.98**	**358**	P	P	12 25 40.1	+0.3
	0.1nm,0.4s,baz=164,slow=11,SNR=3.5						
TXAR				LR	LR	12 37 54.0	
	comp=Z,65nm,18.4s,baz=0.0,slow=34						
SDV	**Santo Domingo**	**34.18**	**68**	LR	LR	12 37 17.9	
	comp=Z,64nm,20.1s,baz=66,slow=32						
LPAZ	**La Paz**	**35.95**	**113**	P	P	12 26 05.7	-0.7
	0.8nm,0.6s,baz=315,slow=5.7,SNR=3.7						
LPAZ				LR	LR	12 37 55.1	
	comp=Z,35nm,21.1s,baz=272,slow=32						
NVAR	**Mina Array Bea**	**44.51**	**342**	LR	LR	12 41 39.5	
	comp=Z,85nm,20.2s,baz=280,slow=30						
PLCA	**Paso Flores**	**46.65**	**146**	P	P	12 27 33.8	+0.4
	1.4nm,0.9s,baz=330,slow=9.5,SNR=4.2						
PLCA				LR	LR	12 41 39.7	
	comp=Z,66nm,20.2s,baz=303,slow=29						
PDAR	**Pinedale Array**	**46.81**	**353**	P	P	12 27 34.0	-0.7
	0.3nm,0.8s,baz=189,slow=5.3,SNR=2.6						
PDAR				LR	LR	12 43 51.4	
	comp=Z,31nm,19.3s,baz=123,slow=32						
CPUP	**Villa Florida**	**48.66**	**122**	LR	LR	12 44 56.2	
	comp=Z,53nm,19.9s,baz=205,slow=32						
YBH	**Yreka Blue Hor**	**48.93**	**340**	LR	LR	12 44 42.8	
	comp=Z,31nm,18.1s,baz=194,slow=32						
YKA	**Yellowknife Ar**	**66.77**	**354**	P	P	12 29 56.0	+0.1
	0.9nm,0.9s,baz=164,slow=6.3,SNR=16						
ILAR	**Eielson Array**	**75.77**	**342**	P	P	12 30 50.6	+0.3
	2.2nm,0.9s,baz=152,slow=4.6,SNR=17						
DZM	**Mont Dzumac**	**89.57**	**248**	LR	LR	13 02 02.2	
	comp=Z,96nm,21.4s,baz=6.0,slow=29						
H11N3	**WAKE ISLAND Hy 91.83**	**290**		T	T	14 13 40.3	
	baz=94,slow=75,SNR=9.2						
H11N2	**WAKE ISLAND Hy 91.85**	**290**		T	T	14 13 43.2	
	baz=94,slow=75,SNR=9.1						
H11N1	**WAKE ISLAND Hy 91.85**	**290**		T	T	14 13 42.0	
	baz=94,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy 91.95**	**288**		T	T	14 13 47.9	
	baz=94,slow=75,SNR=69						
H11S1	**WAKE ISLAND Hy 91.96**	**288**		T	T	14 13 49.2	
	baz=94,slow=75,SNR=64						
H11S3	**WAKE ISLAND Hy 91.97**	**288**		T	T	14 13 44.9	
	baz=94,slow=75,SNR=60						
HNR	**Honiara**	**96.82**	**260**	LR	LR	13 07 22.0	
	comp=Z,59nm,18.3s,baz=204,slow=30						
ZALV	**Zalesovo Beam**	**129.67**	**354**	PKP	PKPdf	12 38 15.1	+0.9
	0.8nm,0.7s,baz=34,slow=0.5,SNR=2.5						
MKAR	**Makanchi Array**	**136.99**	**355**	PKP	PKPdf	12 38 28.4	+0.3
	1.1nm,1.0s,baz=64,slow=2.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**154.48**	**306**	PKPbc	PKPbc	12 39 05.1	-1.6
	0.3nm,0.3s,baz=160,slow=2.9,SNR=2.7						

*NEIC **22** 12:21:07.9±0.0, 16°.17N×98°.40W, h3^km, MD4.0(MEX), After MEX.*

MEX 22 12:21:07.7±0.6, 16°.15N×98°.39W, h5^km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**47**	*eP*	Pg	12 21 13.9	-0.6
PNIG				*eS*	Sg	12 21 19.2	0.0
PNIG	**Pinotepa**	**0.35**	**47**	*eP*	Pg	12 21 13.9	-0.6
PNIG				*eS*	Sg	12 21 19.2	0.0
TLIG	**Tlapa**	**1.41**	**353**	*eP*	Pn	12 21 31.0	-3.2
TLIG				*eS*	Sb	12 21 48.2	-4.8
TLIG	**Tlapa**	**1.41**	**353**	*eP*	Pn	12 21 31.0	-3.2
TLIG				*eS*	Sb	12 21 47.9	-5.2
ACX	**Acapulco**	**1.58**	**297**	*eP*	Pn	12 21 30.5	-5.9
ACX				*eS*	Sn	12 21 49.7	-7.5
ACX	**Acapulco**	**1.58**	**297**	*eP*	Pn	12 21 30.5	-5.9
ACX				*eS*	Sn	12 21 49.6	-7.6
VHO	**Vista Hermosa**	**1.84**	**60**	*eP*	Pn	12 21 37.2	-2.9
VHO				*eS*	Sn	12 22 00.2	-3.7
VHO	**Vista Hermosa**	**1.84**	**60**	*eP*	Pn	12 21 38.0	-2.1
VHO				*eS*	Sn	12 22 00.3	-3.6
CAIG	**El Cayaco**	**2.01**	**297**	*eP*	Pn	12 21 38.0	-4.2
CAIG				*i* S	Sn	12 22 03.9	-3.9
CAIG	**El Cayaco**	**2.01**	**297**	*eP*	Pn	12 21 36.9	-5.3
CAIG				*eS*	Sn	12 22 08.1	+0.3
HUIG	**Huatulco**	**2.23**	**99**	*i* P	Pn	12 22 22.2	-3.2
HUIG				*i* S	Sn	12 22 08.6	-4.7
HUIG	**Huatulco**	**2.23**	**99**	*eP*	Pb	12 21 48.1	-0.5

*SOME **22** 12:27:48.1, 44°.68N×82°.08E, h0^km*

*NNC **22** 12:27:51.5±1.3, 44°.72N×82°.21E, h0^km, mb3.6, mpv3.1, Error ellipse: s-maj=17.8km s-min=3.4km az=118.0*

*ISCJB **22** 12:27:53.6±1.2, 44°.73N±0°.07×82°.2E±0°.1, h10^km, Error ellipse: s-maj=13.9km s-min=5.4km az=38.4*

ISC 22 12:27:47.3±1.4, 44°.67N±0°.06×82°.20E±0°.07, h10^km, n13, σ2^s13/23, 7C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**2.11**	**288**	*eP*	**Pb**	**12 28 27.1**	**+1.4**
	8.9nm,0.2s						
KAPS				*eS*	**Sg**	**12 28 55.1**	**-0.1**
	29nm,0.4s						
MK31	**Makanchi Array**	**2.13**	**2**	⇑Pn	**Pg**	**12 28 27.8**	**-0.4**
	4.4nm,0.2s,baz=182,slow=14,SNR=382						
MK31				⇑Sn	**Sg**	**12 28 55.6**	**-0.1**
	3.9nm,0.2s,baz=186,slow=28,SNR=32						
MAKZ	**Makanchi**	**2.15**	**356**	⇑Pn	**Pb**	**12 28 27.8**	**+1.5**
	2.7nm,0.2s						
MAKZ				⇓Sn	**Sg**	**12 28 55.7**	**-0.7**
	17nm,0.6s						
PDGK	**Podgornoye**	**2.37**	**237**	⇑Pn	**Pb**	**12 28 31.7**	**+1.5**
	3.4nm,0.3s						
PDGK				⇓Sn	**Sg**	**12 29 04.3**	**+0.8**
	28nm,0.6s						
MNBS	**Baschi**	**2.79**	**259**	*eP*	**Pb**	**12 28 37.5**	**+0.2**
	10nm,0.3s						
MNBS				*eS*	**Sb**	**12 29 13.2**	**+1.6**
	25nm,0.3s						
ARXS	**Arharly**	**3.17**	**263**	*eP*	**Pb**	**12 28 46.1**	**+2.4**
	6.0nm,0.3s						
ARXS				*eS*	**Sg**	**12 29 27.9**	**-1.1**
	31nm,0.4s						
ZSN	**Zaisan**	**3.34**	**33**	*eP*	**Pb**	**12 28 48.2**	**+1.4**
	0.5nm,0.2s						
ZSN				*eS*	**Sg**	**12 29 31.6**	**-3.1**
	3.4nm,0.5s						
MDOK	**Medeo**	**4.02**	**250**	⇓Pg	**Pg**	**12 29 04.6**	**+0.4**
	2.8nm,0.4s						
MDOK				⇓Lg	Lg	12 29 59.6	
	5.2nm,0.6s						
MDOK	**Medeo**	**4.02**	**250**	*eP*	**Pb**	**12 29 00.8**	**+2.6**
	5.6nm,0.4s						
MDOK				*eS*	**Sg**	**12 29 53.5**	**-2.8**
	4.5nm,0.5s						
TNSS	**Tian-Shan**	**4.13**	**249**	*eP*	**Pb**	**12 29 03.6**	**+3.2**
	2.7nm,0.3s						
TNSS				*eS*	**Sg**	**12 29 58.0**	**-2.1**
	7.9nm,0.5s						
KUU	**Kurty**	**4.28**	**262**	*eP*	**Pb**	**12 29 05.3**	**+2.6**
	2.2nm,0.2s						
KUU				⇑*i*S	**Sg**	**12 30 01.2**	**-3.6**
	11nm,0.2s						
TKM2	**Tokmak 2**	**5.09**	**252**	⇑Pg	**Pg**	**12 29 21.8**	**-3.0**
	1.7nm,0.5s						
TKM2				⇓Lg	Lg	12 30 33.7	
	1.6nm,0.4s						
AAK	**Ala-Archa**	**5.95**	**253**	⇓Pg	**Pg**	**12 29 39.2**	**-2.1**
	0.7nm,0.5s						
AAK				⇑Lg	Lg	12 31 00.3	
	1.6nm,0.6s						

*IDC **22** 12:54:25.9±1.0, 36°.11N×68°.88E, h0^km, mb3.9/16, mb1 4.1/22, mb1mx3.9/67, mbtmp4.0/22, ML3.9/6, MS3.0/11, Ms1 3.1/11, ms1mx2.8/67, Error ellipse: s-maj=19.6km s-min=13.4km az=166.0*

*BJI **22** 12:54:25.0, 36°.63N×68°.30E, h26^km, mb4.5/18, mB4.7/11, ML4.1/1, Ms3.9/5, Ms7 3.9/3*

*ISCJB **22** 12:54:27.8±0.2, 36°.18N±0°.02×68°.81E±0°.02, h35^km, mb4.2/37, MS3.2/11, Error ellipse: s-maj=2.9km s-min=2.3km az=14.5*

*NEIC **22** 12:54:28.1±2.8, 36°.28N×68°.83E, h10^km±18^km, mb4.3/10, Error ellipse: s-maj=10.1km s-min=5.9km az=162.0*

*MOS **22** 12:54:30.1±1.0, 36°.31N×69°.02E, h33^km, mb4.2/21, Error ellipse: s-maj=9.2km s-min=4.8km az=72.6*

*NNC **22** 12:54:32.6±1.9, 36°.31N×68°.70E, h69^km±26^km, mb4.4, mpv4.5, Error ellipse: s-maj=19.2km s-min=9.8km az=160.0*

ISC 22 12:54:30.8±0.4, 36°.18N±0°.04×68°.86E±0°.04, h35^km, n196, σ2^s18/229, mb4.1/36, MS3.2/11, 19C-13D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.64**	**175**	*ePN*	**Pn**	**12 54 57.8**	**+0.5**
KBL	**Kabul**	**1.64**	**175**	*ePn*	**Pn**	**12 54 57.8**	**+0.5**
KBL				*eSn*	**Sn**	**12 55 18.8**	**+1.6**
CEP	**Cherat**	**3.43**	**132**	P	**Pn**	**12 55 25.3**	**+3.5**
CEP				S	Sn	12 56 15.0	+14
THW	**Thamme Wali**	**4.13**	**144**	P	**Pn**	**12 55 33.5**	**+2.2**
CHCP	**Chirah Chowk**	**4.40**	**124**	P	**Pn**	**12 55 37.9**	**+2.8**
SARP	**Sargodha**	**5.29**	**142**	P	**Pn**	**12 55 48.2**	**+0.9**
SFK	**Sufi-Kurgan**	**5.30**	**42**	⇑P	**Pn**	**12 55 49.4**	**+1.8**
	37nm,0.3s						
SFK				⇓S	**Sn**	**12 56 52.2**	**+4.7**
	111nm,0.6s						
SFK	**Sufi-Kurgan**	**5.30**	**42**	PN	**Pn**	**12 55 49.4**	**+1.8**
SFK				S	**Sn**	**12 56 52.2**	**+4.7**
SFK				pmax	pmax		
	comp=Z,37nm,0.3s						
SFK				smax	smax		
	comp=N,111nm,0.6s						
KSH	**Kashi**	**6.54**	**57**	Pn	**Pn**	**12 56 01.1**	**-3.5**
KSH				Sn	**Sn**	**12 57 11.9**	**-6.1**
KSH				smax	smax		
	comp=N,130nm,0.5s						
KSH				smax	smax		
	comp=N,110nm,0.6s						
MNAS	**Manas**	**6.91**	**23**	⇑P	**Pn**	**12 56 10.2**	**+0.6**
	comp=N,15nm,0.4s						
MNAS				⇓S	**Sn**	**12 57 28.0**	**+1.0**
	comp=N,50nm,0.5s						
MNAS	**Manas**	**6.91**	**23**	PN	**Pn**	**12 56 10.2**	**+0.6**
MNAS				S	**Sn**	**12 57 28.0**	**+1.0**
MNAS				pmax	pmax		
	comp=Z,15nm,0.4s						
MNAS				smax	smax		
	comp=N,50nm,0.5s						
KK07	**Karatay Array**	**7.02**	**10**	*ePn*	**Pn**	**12 56 11.4**	**+0.4**
KK06	**Karatay Array**	**7.03**	**10**	*ePn*	**Pn**	**12 56 11.7**	**+0.5**
AML	**Almayashu**	**7.03**	**31**	P	**Pn**	**12 56 12.2**	**+0.6**
	SNR=171						
KK03	**Karatay Array**	**7.03**	**10**	*ePn*	**Pn**	**12 56 11.4**	**+0.2**
KK08	**Karatay Array**	**7.03**	**10**	*ePn*	**Pn**	**12 56 11.7**	**+0.5**
KK02	**Karatay Array**	**7.04**	**10**	*ePn*	**Pn**	**12 56 11.8**	**+0.5**
KK31	**Karatay Array**	**7.04**	**10**	⇑P	**Pn**	**12 56 11.8**	**+0.6**
	comp=N,4.4nm,0.3s,baz=200,slow=15,SNR=139						
KK31				⇓S	**Sn**	**12 57 30.0**	**0.0**
	comp=N,7.8nm,0.3s,baz=253,slow=46,SNR=5.4						
KK31	**Karatay Array**	**7.04**	**10**	*ePN*	**Pn**	**12 56 12.0**	**+0.7**
KK31	**Karatay Array**	**7.04**	**10**	*ePn*	**Pn**	**12 56 12.0**	**+0.7**
KKAR	**Karatay Array**	**7.04**	**10**	*ePN*	**Pn**	**12 56 12.0**	**+0.8**
KKAR	**Karatay Array**	**7.04**	**10**	*ePn*	**Pn**	**12 56 12.0**	**+0.8**
KK01	**Karatay Array**	**7.04**	**10**	*ePn*	**Pn**	**12 56 11.8**	**+0.6**
KK04	**Karatay Array**	**7.04**	**10**	*ePn*	**Pn**	**12 56 11.8**	**+0.5**
KK05

	comp=E,100nm,0.6s								
SMLA					IAML			12 59 16.0	
	comp=N,133nm,0.5s								
GYB1	**ALIBECK ARRAY**	**8.76**	**285**	*e*Pn		**Pn**		**12 56 35.7**	**+0.8**
GYB1				*e*Sn		**Sn**		**12 58 07.7**	**-4.7**
GYB2	**ALIBECK ARRAY**	**8.76**	**285**	*e*Pn		**Pn**		**12 56 34.8**	**-0.2**
GYB2				*e*Sn		**Sn**		**12 58 11.6**	**-0.9**
GYA2	**ALIBECK ARRAY**	**8.77**	**285**	*e*Pn		**Pn**		**12 56 34.0**	**-1.0**
GYA2				*e*Sn		**Sn**		**12 58 07.1**	**-5.5**
GYA1	**ALIBECK ARRAY**	**8.77**	**285**	*e*Pn		**Pn**		**12 56 35.0**	**0.0**
GYA1				*e*Sn		**Sn**		**12 58 10.8**	**-1.8**
GEYT	**Alibeck**	**8.77**	**285**	Pn		**Pn**		**12 56 33.4**	**-1.6**
	comp=N,1.7nm,0.3s,baz=109,slow=14,SNR=16								
GEYT				Sn		**Sn**		**12 58 11.2**	**-1.4**
	comp=N,6.3nm,0.3s,baz=103,slow=26,SNR=8.1								
GEYT				LR		LR		13 00 59.0	
	comp=N,67nm,18.4s,baz=175,slow=45								
GYA0	**ALIBECK ARRAY**	**8.77**	**285**	*e*Pn		**Pn**		**12 56 35.7**	**+0.7**
GYA0				*e*Sn		**Sn**		**12 58 11.7**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**8.77**	**285**	*e*Pn		**Pn**		**12 56 35.3**	**+0.2**
GYA0B				*e*Sn		**Sn**		**12 58 11.7**	**-1.0**
GYB3	**ALIBECK ARRAY**	**8.77**	**285**	*e*Pn		**Pn**		**12 56 34.0**	**-1.1**
GYB3				*e*Sn		**Sn**		**12 58 14.7**	**+2.0**
GYB5	**ALIBECK ARRAY**	**8.77**	**285**	*e*Pn		**Pn**		**12 56 35.9**	**+0.8**
GYB5				*e*Sn		**Sn**		**12 58 10.4**	**-2.4**
KDJ	**Kajisay**	**8.78**	**45**	P		**Pn**		**12 56 35.2**	**-0.1**
KDJ				pmax		pmax			
	comp=Z,9.0nm,1.3s								
KDJ	**Kajisay**	**8.78**	**45**	*e*Pn		**Pn**		**12 56 35.1**	**-0.1**
GYB4	**ALIBECK ARRAY**	**8.78**	**285**	*e*Pn		**Pn**		**12 56 36.9**	**+1.6**
GYB4				*e*Sn		**Sn**		**12 58 12.8**	**-0.2**
TARG	**Taragay, Kyrgy**	**8.90**	**49**	*e*Pn		**Pn**		**12 56 36.5**	**-0.7**
KNDC	**Almaty**	**9.40**	**39**	⇑P		**Pn**		**12 56 44.3**	**+0.6**
	comp=Z,39nm,0.5s								
MDOK	**Medeo**	**9.40**	**40**	⇓P		**Pn**		**12 56 44.0**	**+0.2**
	comp=Z,28nm,0.5s								
MDOK				⇓S		**Sn**		**12 58 27.7**	**-0.7**
	comp=Z,16nm,0.8s								
PRZ	**Przheval'sk**	**9.71**	**47**	P		**Pn**		**12 56 48.4**	**+0.4**
PRZ				pmax		pmax			
	comp=Z,12nm,1.2s								
KHET	**Khetri**	**9.99**	**142**	*e*P		**Pn**		**12 56 50.1**	**-1.7**
KHET				*e*S		**Sn**		**12 58 38.4**	**-4.3**
SONA	**Sohna**	**10.53**	**136**	*e*P		**Pn**		**12 56 57.5**	**-1.7**
SONA				*e*S		**Sn**		**12 58 50.4**	**-5.4**
JOSI	**Joshimath**	**10.55**	**119**	*e*P		**Pn**		**12 57 00.1**	**+0.5**
JOSI				*ex*		x		12 58 59.0	
PDGK	**Podgornoye**	**10.85**	**46**	⇓P		**Pn**		**12 57 02.8**	**-0.9**
	comp=Z,8.0nm,0.5s								
PDGK				⇑S		**Sn**		**12 59 05.5**	**+1.6**
	comp=Z,11nm,0.9s								
PDGK	**Podgornoye**	**10.85**	**46**	P		**Pn**		**12 57 02.8**	**-0.9**
PDGK				S		**Sn**		**12 59 05.5**	**+1.6**
PDGK				pmax		pmax			
	comp=Z,8.0nm,0.5s								
PDGK				smax		smax			
	comp=N,11nm,0.9s								
PYUN	**Piuthan**	**14.41**	**120**	*e*P		**Pn**		**12 57 49.6**	**-2.9**
	comp=N,48nm,0.4s								
MAKZ	**Makanchi**	**14.45**	**39**	*e*P		**Pn**		**12 57 48.1**	**-4.6**
MAKZ	**Makanchi**	**14.45**	**39**	*e*Pn		**Pn**		**12 57 48.1**	**-4.6**
MK01	**Makanchi Array**	**14.59**	**39**	*e*Pn		**Pn**		**12 57 51.6**	**-3.0**
AB07	**Akbulak array**	**14.59**	**336**	*e*Pn		**Pn**		**12 57 51.1**	**-3.4**
AB08	**Akbulak array**	**14.60**	**336**	*e*Pn		**Pn**		**12 57 50.8**	**-3.9**
MK31	**Makanchi Array**	**14.60**	**39**	P		**Pn**		**12 57 51.6**	**-3.1**
	comp=N,4.3nm,0.6s,baz=222,slow=12,SNR=68								
MK31	**Makanchi Array**	**14.60**	**39**	*e*P		**Pn**		**12 57 52.2**	**-2.5**
MK31	**Makanchi Array**	**14.60**	**39**	*e*Pn		**Pn**		**12 57 52.1**	**-2.5**
MK32	**Makanchi Array**	**14.60**	**39**	*e*Pn		**Pn**		**12 57 51.9**	**-2.8**
MKAR	**Makanchi Array**	**14.60**	**39**	Pn		**Pn**		**12 57 51.9**	**-2.8**
	comp=N,0.6nm,0.3s,baz=230,slow=14,SNR=42								
MKAR	**Makanchi Array**	**14.60**	**39**	*i* P		**Pn**		**12 57 52.2**	**-2.5**
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.7s								
MKAR	**Makanchi Array**	**14.60**	**39**	*e*Pn		**Pn**		**12 57 52.1**	**-2.5**
AB03	**Akbulak array**	**14.60**	**336**	*e*Pn		**Pn**		**12 57 51.2**	**-3.5**
AB06	**Akbulak array**	**14.60**	**336**	*e*Pn		**Pn**		**12 57 51.3**	**-3.4**
AB01	**Akbulak array**	**14.61**	**336**	*e*Pn		**Pn**		**12 57 51.3**	**-3.4**
AB31	**Akbulak array**	**14.61**	**336**	⇑P		**Pn**		**12 57 51.2**	**-3.5**
	comp=Z,4.6nm,0.5s,baz=158,slow=12,SNR=181								
AB31				⇑S		**Sn**		**13 00 31.5**	**-3.8**
	comp=Z,6.6nm,0.6s								
AB31	**Akbulak array**	**14.61**	**336**	*e*P		**Pn**		**12 57 51.4**	**-3.3**
AB31	**Akbulak array**	**14.61**	**336**	*e*Pn		**Pn**		**12 57 51.4**	**-3.3**
ABKAR	**Akbulak array**	**14.61**	**336**	*e*Pn		**Pn**		**12 57 51.4**	**-3.3**
AB02	**Akbulak array**	**14.61**	**336**	*e*Pn		**Pn**		**12 57 51.4**	**-3.4**
AB04	**Akbulak array**	**14.61**	**336**	*e*Pn		**Pn**		**12 57 51.4**	**-3.4**
AB09	**Akbulak array**	**14.62**	**336**	*e*Pn		**Pn**		**12 57 51.4**	**-3.6**
AB05	**Akbulak array**	**14.62**	**336**	*e*Pn		**Pn**		**12 57 51.6**	**-3.4**
DANN	**Dangsing**	**14.81**	**118**	*e*P		**Pn**		**12 57 55.4**	**-2.5**
BHPL	**Bhopal**	**14.87**	**148**	*e*P		**Pn**		**12 57 56.3**	**-2.2**
KOLN	**Koldanda**	**15.04**	**120**	*e*P		**Pn**		**12 57 56.8**	**-4.1**
	comp=Z,28nm,0.6s								
GKN	**Gorkha**	**15.64**	**117**	*e*P		**Pn**		**12 58 05.5**	**-3.2**
	comp=Z,75nm,0.6s								
KURBB	**Kurchatov Arra**	**16.04**	**23**	Pn		**Pn**		**12 58 09.6**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=6.5								
KURK	**Kurchatov**	**16.15**	**23**	⇑P		**P**		**12 58 16.7**	**-1.0**
	comp=Z,7.0nm,1.2s								
KURK	**Kurchatov**	**16.15**	**23**	*ce*P		**Pn**		**12 58 12.2**	**-2.6**
KURK				pmax		pmax			
	comp=Z,14nm,0.8s								
KURK	**Kurchatov**	**16.15**	**23**	*e*Pn		**Pn**		**12 58 09.6**	**-5.3**
KURK				*e*Pn		**P**		**12 58 13.8**	**-3.9**
DMN	**Daman**	**16.21**	**117**	*e*P		**Pn**		**12 58 12.8**	**-3.3**
	comp=Z,57nm,0.5s								
KKN	**Kakani**	**16.23**	**116**	*e*P		**Pn**		**12 58 13.9**	**-2.4**
	comp=Z,79nm,0.6s								
AKTO	**Aktyubinsk**	**16.27**	**335**	Pn		**Pn**		**12 58 14.7**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=149,slow=17,SNR=8.0								
AKTO				LR		LR		13 05 22.5	
	comp=Z,64nm,19.1s,baz=124,slow=40								
AKTO	**Aktyubinsk**	**16.27**	**335**	⇓P		**Pn**		**12 58 14.7**	**-1.7**
	comp=Z,7.2nm,0.8s								
AKTO				⇓S		**Sn**		**13 01 08.8**	**-6.8**
	comp=Z,4.4nm,0.8s								
WMQ	**Urumqi**	**16.30**	**56**	P		**Pn**		**12 58 16.8**	**-0.2**
WMQ				pP		P		12 58 19.6	-0.1
WMQ				PP		**sP**		**12 58 33.4**	**+0.2**
WMQ				pmax		pmax			
	comp=Z,21nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,240nm,5.7s								
PKIN	**Phulchoki**	**16.44**	**117**	*e*P		**Pn**		**12 58 16.6**	**-2.4**
	comp=Z,50nm,0.6s								
PKI	**Pulchoki**	**16.45**	**117**	*e*P		**Pn**		**12 58 16.9**	**-2.3**
	comp=Z,73nm,0.6s								
GUN	**Gumba**	**16.60**	**115**	*e*P		**Pn**		**12 58 18.9**	**-2.2**
	comp=Z,48nm,0.5s								
BVA0	**Borovoye Array**	**16.88**	**3**	⇑P		**Pn**		**12 58 21.7**	**-2.4**
	comp=Z,7.0nm,0.9s,baz=178,slow=13,SNR=31								
BVAR	**Borovoye Array**	**16.88**	**3**	Pn		**Pn**		**12 58 21.6**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=172,slow=11,SNR=13								
BVAR				Sn		**Sn**		**13 01 24.3**	**-6.2**
	comp=Z,0.2nm,0.3s,baz=159,slow=22,SNR=4.2								
BRVK	**Borovoye**	**16.91**	**3**	*ce*P		**Pn**		**12 58 21.9**	**-2.6**
BRVK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
BRVK	**Borovoye**	**16.91**	**3**	*e*Pn		**Pn**		**12 58 22.1**	**-2.4**
	comp=Z,5.4nm,0.6s								
JIRN	**Jiri**	**16.97**	**115**	*e*P		**Pn**		**12 58 24.2**	**-1.6**
	comp=Z,108nm,0.5s								
NGP	**Nagpur**	**17.42**	**147**	*e*P		**Pn**		**12 58 29.8**	**-1.2**
RAMN	**Ramite**	**17.67**	**116**	*e*P		**Pn**		**12 58 32.0**	**-2.4**
	comp=Z,48nm,0.6s								
POO	**Poona**	**18.12**	**165**	*e*P		**Pn**		**12 58 36.2**	**-3.5**
TAPN	**Taplejung**	**18.26**	**114**	*e*P		**P**		**12 58 39.3**	**-2.3**
	comp=Z,39nm,0.5s								
BOK	**Bokaro**	**19.19**	**125**	*e*P		**P**		**12 58 51.3**	**-0.2**
GNI	**Garni**	**19.36**	**289**	*ce*P		**Pn**		**12 58 57.5**	**+2.8**
GNI				pmax		pmax			
	comp=Z,89nm,1.7s								
GNI	**Garni**	**19.36**	**289**	*e*P		**P**		**12 58 50.6**	**-2.8**
	comp=Z,7.6nm,0.6s								
HYB	**Hyderabad**	**20.57**	**153**	*ex*		Pn		12 59 08.7	-0.2
NCK	**Nalchik**	**20.68**	**298**	*e*P		Pn		12 59 11.6	+1.4
NCK				pmax		pmax			
	comp=Z,11nm,0.8s								
ZAA0	**Zalesovo Array**	**20.96**	**27**	⇓P		**P**		**12 59 09.9**	**-0.6**
	comp=Z,10.0nm,0.6s								
ZAA0	**Zalesovo Array**	**20.96**	**27**	*e*P		**P**		**12 59 09.8**	**-0.7**
	comp=Z,20nm,1.0s								
ZALV	**Zalesovo Beam**	**20.96**	**27**	P		**P**		**12 59 09.8**	**-0.6**
	comp=Z,11nm,0.4s,baz=220,slow=9.9,SNR=44								
ZALV	**Zalesovo Beam**	**20.96**	**27**	*e*P		**P**		**12 59 09.6**	**-0.9**
ZALV	**Zalesovo Beam**	**20.96**	**27**	*e*P		**P**		**12 59 09.6**	**-0.9**
ZAA1	**Zalesovo Array**	**20.96**	**27**	*e*P		**P**		**12 59 09.8**	**-0.7**
NVS	**Novosibirsk**	**21.13**	**23**	*e*P		**P**		**12 59 12.2**	**-0.1**
NVS				pmax		pmax			
	comp=N,5.0nm,0.4s								
NVS				pmax		pmax			
	comp=E,3.0nm,0.4s								
NVS				pmax		pmax			
	comp=Z,7.0nm,0.4s								
KBZ	**Khabaz**	**21.23**	**299**	P		**P**		**12 59 12.7**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=137,slow=19,SNR=2.1								
NEY	**Neytrino**	**21.26**	**297**	*e*P		**P**		**12 59 18.0**	**+3.9**
NEY				pmax		pmax			
	comp=Z,1.0nm,1.0s								
ARU	**Arti**	**21.43**	**344**	P		**P**		**12 59 16.0**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=226,slow=3.9,SNR=4.3								
ARU				LR		LR		13 08 01.0	
	comp=Z,20nm,19.0s,baz=123,slow=38								
ARU	**Arti**	**21.43**	**344**	*d* P		**P**		**12 59 16.0**	**+0.5**
ARU								12 59 35.1	
ARU				S		**S**		**13 03 13.1**	**+1.9**
ARU				SS		**SnSn**		**13 03 35.5**	**+0.2**
ARU				pmax		pmax			
	comp=Z,3.0nm,0.7s								
ARU	**Arti**	**21.43**	**344**	*e*P		**P**		**12 59 13.6**	**-1.9**
	comp=Z,3.9nm,1.0s								
KIV	**Kislovodsk**	**21.43**	**299**	*e*P		**P**		**12 59 19.8**	**+4.1**
KIV				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,40nm,14.0s								
SHL	**Shillong**	**22.36**	**112**	*e*P		**P**		**12 59 26.8**	**+0.9**
SHL	**Shillong**	**22.36**	**112**	*e*P		**P**		**12 59 26.5**	**+0.5**
GTA	**Gaotai**	**24.61**	**73**	*e*P		**P**		**12 59 48.8**	**+0.9**
GTA				pP		pP		12 59 55.9	-2.0
GTA				sP		sP		12 59 59.4	-2.7
GTA				PcP		**PcP**		**13 03 28.3**	**+3.4**
GTA				S		**S**		**13 04 10.8**	**+4.0**
GTA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
GTA				pmax		pmax			
	comp=Z,38nm,4.3s								
GTA				LR		LR			
	comp=Z,210nm,18.6s								
GTA				LR		LR			
	comp=Z,100nm,15.4s								
MOY	**Mondy**	**27.56**	**46**	*e*P		**P**		**13 00 19.0**	**+4.6**
LZH	**Lanzhou**	**28.16**	**80**	*e*P		**P**		**13 00 21.8**	**+1.8**
LZH				pP		pP		13 00 28.6	-1.4
LZH				sP		sP		13 00 32.0	-2.2
LZH				*e*PP		**PnPn**		**13 01 11.8**	**+3.3**
LZH				pmax		pmax			
	comp=Z,16nm,1.0s								
LZH				pmax		pmax			
	comp=Z,110nm,5.0s								
LZH				LR		LR			
	comp=Z,150nm,11.9s								
LZH				LR		LR			
	comp=Z,170nm,12.2s								
LZH				LR		LR			
	comp=Z,200nm,12.3s								
ZAK	**Zakamensk**	**28.51**	**49**	*e*P		**P**		**13 00 21.8**	**-1.0**
ZAK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
OBN	**Obninsk**	**29.08**	**321**	⇑*e*P		**P**		**13 00 27.2**	**-0.4**
OBN				*e*				13 01 19.9	
OBN				pmax		pmax			
	comp=Z,18nm,1.2s								
EIL	**Elat**	**29.09**	**267**	LR		LR		13 14 41.5	
	comp=Z,32nm,18.6s,baz=323,slow=42								
TLY	**Talaya**	**29.12**	**47**	*e*P		**P**		**13 00 29.0**	**+0.9**
TLY				pmax		pmax			
	comp=Z,2.0nm,0.9s								
CD2	**Chengdu**	**29.45**	**90**	*e*P		**P**		**13 00 31.0**	**-0.3**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
SONA0	**Songino Array**	**29.94**	**55**	*e*P		**P**		**13 00 37.0**	**+1.4**
SONM	**Songino Array**	**29.94**	**55**	P		**P**		**13 00 37.0**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=262,slow=9.4,SNR=15								
SONM	**Songino Array**	**29.94**	**55**	P		**P**		**13 00 37.0**	**+1.4**
SONM				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ULN	**Ulaanbaatar**	**30.38**	**55**	*ce*P		**P**		**13 00 40.3**	**+0.8**
ULN				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ULN	**Ulaanbaatar**	**30.38**	**55**	*e*P		**P**		**13 00 39.0**	**-0.5**
	comp=Z,2.4nm,0.5s								
KMI	**Kunming**	**31.01**	**101**	P		**P**		**13 00 47.3**	**+1.9**
KMI				pmax		pmax			
	comp=Z,10.0nm,0.6s								
AKASG	**Malin Array Be**	**31.81**	**310**	P		**P**		**13 00 53.0**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=90,slow=7.6,SNR=4.5								
AKASG	**Malin Array Be**	**31.81**	**310**	*ce*P		**P**		**13 00 54.2**	**+2.3**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKBB	**Malin Array Si**	**31.81**	**310**	*e*P		**P**		**13 00 53.0**	**+1.1**
AKBB				pmax		pmax			
	comp=Z,3.0nm,0.9s								
AKBB	**Malin Array Si**	**31.81**	**310**	*e*P		**P**		**13 00 53.0**	**+1.1**
	comp=Z,2.8nm,0.9s								
CMAR	**Chiang Mai Arr**	**31.84**	**116**	P		**P**		**13 00 53.2**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=298,slow=8.3,SNR=6.5								
CMAR				LR		LR		13 15 41.1	
	comp=Z,15nm,18.0s,baz=190,slow=40								
MLR	**Muntele Rosu**	**33.44**	**300**	LR		LR		13 18 24.8	
	comp=Z,11nm,18.4s,baz=88,slow=43								
HHC	**Hu-ho-hao-te**	**33.49**	**69**	*e*P		**P**		**13 01 07.3**	**+0.5**
HHC				pmax		pmax			
	comp=Z,8.0nm,1.0s								
HHC				pmax		pmax			
	comp=Z,78nm,4.7s								
IDI	**Anoyia**	**35.48**	**282**	P		**P**		**13 01 28.0**	**+4.0**
	comp=Z,3.3nm,0.3s,baz=42,slow=12,SNR=7.0								
FIA0	**FINESS Array S**	**36.80**	**327**	*e*P		**P**		**13 01 36.3**	**+1.4**
FIA0	**FINESS Array S**	**36.80**	**327**	*e*P		**P**		**13 01 36.3**	**+1.4**
FINES	**FINESS Array B**	**36.80**	**327**	P		**P**		**13 01 36.3**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=119,slow=14,SNR=4.5								
WHN	**Wuhan**	**38.14**	**85**	P		**P**		**13 01 45.4**	**-1.2**
ARA0	**ARCESS Array S**	**40.80**	**338**	*e*P		**P**		**13 02 09.2**	**+0.9**
ARCES	**ARCESS Array B**	**40.80**	**338**	P		**P**		**13 02 09.2**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=120,slow=8.5,SNR=7.0								
GERES	**GERESS Array B**	**41.71**	**305**	LR		LR		13 24 52.0	
	comp=Z,28nm,18.6s,baz=46,slow=44								
KHC	**Kasperske Hory**	**41.77**	**306**	*e*P		**P**		**13 02 14.5**	**-2.1**
KHC				pmax		pmax			
	comp=Z,2.0nm,0.5s								
KHC	**Kasperske Hory**	**41.77**	**306**	*e*P		**P**		**13 02 14.5**	**-2.1**
	comp=Z,2.4nm,0.5s								
HFS	**Hagfors**	**42.26**	**322**	P		**P**		**13 02 21.6**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=90,slow=9.4,SNR=5.8								
HFS				LR		LR		13 22 48.0	
	comp=Z,45nm,18.2s,baz=74,slow=40								
NB2	**NORSAR Subarra**	**43.61**	**323**	P		**P**		**13 02 31.8**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=99,slow=8.6								
NB200	**NORSAR Array S**	**43.61**	**323**	*e*P		**P**		**13 02 31.9**	**+0.7**
NOA	**NORSAR Array B**	**43.61**	**323**	P		**P**		**13 02 31.9**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=100,slow=8.1,SNR=6.5								
NOA				LR		LR		13 24 41.1	
	comp=Z,32nm,19.2s,baz=260,slow=42								
NOA	**NORSAR Array B**	**43.61**	**323**	P		**P**		**13 02 32.0**	**+0.7**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
NOA				MLR		MLR			
	comp=Z,32nm,19.2s								
YAK	**Yakutsk**	**45.23**	**35**	*e*P		**P**		**13 02 44.2**	**0.0**
YAK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
TJN	**Taejon**	**46.51**	**72**	*ce*P		**P**		**13 02 58.0**	**+3.3**
KS15	**Wonju Array Si**	**46.59**	**70**	*e*P		**P**		**13 02 55.3**	**0.0**
KSAR	**Wonju Array Be**	**46.59**	**70**	P		**P**		**13 02 55.3**	**0.0**
KSAR	**Wonju Array Be**	**46.59**	**70**	P		**P**		**13 02 55.3**	**0.0**
KSRS	**Korea Array**	**46.61**	**70**	P		**P**		**13 02 55.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=270,slow=7.4,SNR=4.2								
TIXI	**Tiksi**	**46.72**	**22**	*ce*P		**P**		**13 02 56.1**	**+0.3**
TIXI				pmax		pmax			
	comp=Z,3.0nm,0.7s								
TIXI	**Tiksi**	**46.72**	**22**	*e*P		**P**		**13 02 56.2**	**+0.4**
	comp=Z,5.2nm,0.5s								
KLR	**Kul'dur**	**46.72**	**53**	*e*P		**P**		**13 02 55.8**	**-0.4**
SPITS	**Spitsbergen Ar**	**47.42**	**347**	P		**P**		**13 03 03.1**	**+1.8**
	comp=Z,11nm,1.0s,baz=107,slow=9.7,SNR=11								
NKL	**Nikolayevsk**	**51.60**	**47**	*e*P		**P**		**13 03 33.5**	**+0.2**
NKL				pmax		pmax			
	comp=Z,19nm,0.9s								
TYV	**Tymovskoe**	**53.29**	**49**	*e*P		**P**		**13 03 49.8**	**+3.8**
TYV				pmax		pmax			
	comp=Z,200nm,7.0s								
YSS	**Yuzh-Sakhalins**	**54.41**	**54**	*e*P		**P**		**13 03 54.6**	**+0.4**
YSS				pmax		pmax			
	comp=Z,10.0nm,0.5s								
ESDC	**Sonseca Array**	**56.08**	**297**	P		**P**		**13 04 06.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=59,slow=8.0,SNR=7.6								
BILL	**Bilibino**	**59.65**	**26**	*i* P		**P**		**13 04 29.9**	**-1.0**
BILL				pmax		pmax			
	comp=Z,2.0nm,0.9s								
TOA1	**Torodi Ar. Sit**	**63.98**	**268**	*e*P		**P**		**13 05 00.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**63.98**	**267**	P		**P**		**13 05 00.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=52,slow=5.4,SNR=11								
TOLK	**Toolik Lake Re**	**71.66**	**14**	*e*P		**P**		**13 05 49.4**	**+1.0**
	comp=Z,3.3nm,0.9s								
ILAR	**Eielson Array**	**75.55**	**15**	P		**P**		**13 06 11.5**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=292,slow=4.8,SNR=4.5								
ILB	**Eielson Array**	**75.55**	**15**	*e*P		**P**		**13 06 11.5**	**+0.2**
YKA	**Yellowknife Ar**	**81.63**	**2**	P		**P**		**13 06 45.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=351,slow=5.3,SNR=8.2								
YKA	**Yellowknife Ar**	**81.63**	**2**	*i* P		**P**		**13 06 45.4**	**+0.6**
NEW	**Newport**	**95.77**	**4**	LR		LR		13 55 59.7	
	comp=Z,15nm,18.8s,baz=220,slow=38								
GBL	**Gable Mountain**	**97.26**	**6**	*e*P		Pdif		13 08 01.5	+1.5
F10A	**Beach Ranch, E**	**98.04**	**4**	*e*P		Pdif		13 08 05.0	+1.4
	comp=Z,6.5nm,0.9s								

BJI ***22*** *12:59:27.4, 15°.30S×167°.40E, h149km, mb4.8/42, mB4.9/29*

GCMT ***22*** *12:59:28.9±0.4, 15°.39S×167°.56E, h127km±3km, MW5.0/60, Moment Tensor Solution. s29,c32; s60,c83; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.50±.15; Mθθ 0.14±.23; Mϕϕ -2.36±.20; Mrθ -0.95±.16; Mrϕ 3.21±.22; Mθϕ -0.83±.15; Best double couple: M=4.12100×10^16 NP1: ϕs 178.00000°, δ 59.00000°, λ 140.00000°. NP2: ϕs 291.00000°, δ 57.00000°, λ 39.00000°. Principal axes: T 3.5910, Plg49.0000°, Azm144.0000°; N 1.0550, Plg41.0000°, Azm326.0000°; P -4.6500, Plg1.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***22*** *12:59:28.3±0.9, 15°.27S±0°.04×167°.45E±0°.04, h155km±8km, mb4.7/86 Error ellipse: s-maj=6.5km s-min=5.3km az=36.0*

NEIC ***22*** *12:59:28.9±0.8, 15°.19S×167°.53E, h147km±7km, mb5.0/41, Error ellipse: s-maj=5.1km s-min=4.7km az=215.0*

IDC ***22*** *12:59:28.1±0.7, 15°.23S×167°.60E, h140km±5km, mb4.3/29, mb1 4.4/31, mb1mx4.3/44, mbtmp4.7/31, MS3.3/10, Ms1 3.3/10, ms1mx3.0/42, Error ellipse: s-maj=11.4km s-min=8.6km az=90.0*

MOS ***22*** *12:59:28.5±1.2, 15°.12S×167°.40E, h152km, mb4.8/19, Error ellipse: s-maj=10.4km s-min=8.0km az=34.7*

ISC 22 12:59:28.8±0.5, 15°27'S±0'.05×167°47'E±0'.05, h145km±4km, h146km:pP-P, n254, σ1°37/295, mb4.8/86, 8C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.84**	**188**	P		**Pn**	**13 01 06.0**	**-0.7**
	12nm,0.3s,baz=38,slow=15,SNR=54					

FITZ					PcP	**PcP**	**13 08 53.5**	**+1.2**
	comp=Z,2.3nm,0.6s,baz=210,slow=3.1,SNR=4.0									
PAE	**Paea**	**41.20**	**99**	*eP*	**P**	**13 07 00.2**	**+0.7**
	comp=Z,7.8nm,0.9s									
PPT2	**Papeete2**	**41.21**	**99**	*eS*	**S**	**13 13 04.4**	**+1.7**
	comp=Z,56nm,24.0s									
PPT2				*e*LR	LR	13 18 25.0				
	comp=Z,184nm,32.2s									
TIAR	**Tiarei**	**41.43**	**99**	*eP*	**P**	**13 07 02.9**	**+1.5**
	comp=Z,31nm,1.1s									
TIAR				*e*pP	**pP**	**13 07 35.9**	**+2.3**
	comp=Z,14nm,0.9s									
BATI	**Baumata**	**42.96**	**271**	P	**P**	**13 07 14.9**	**+1.1**
	comp=Z,12nm,0.5s,baz=151,slow=1.8,SNR=4.3									
BATI				LR	LR	13 26 27.6				
	comp=Z,74nm,18.2s,baz=192,slow=38									
PMOR	**Pomariorio Ree**	**43.03**	**96**	*eP*	**P**	**13 07 15.3**	**+0.9**
	comp=Z,249nm,1.1s									
TAOE	**Nuku Hiva Isla**	**51.53**	**89**	*eP*	**P**	**13 08 20.3**	**+0.1**
	comp=Z,155nm,1.2s									
KKM	**Kota Kinabalu**	**55.01**	**289**	*eP*	**P**	**13 08 46.1**	**+0.4**
	comp=Z,73nm,1.4s									
MJAR	**Matsushiro Arr**	**58.47**	**332**	P	**P**	**13 09 08.4**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=172,slow=7.9,SNR=7.8									
MAJO	**Matsushiro**	**58.47**	**332**	*eP*	**P**	**13 09 08.4**	**-1.2**
MAJO	**Matsushiro**	**58.47**	**332**	*eP*	**P**	**13 09 08.4**	**-1.2**
KSM	**Kuching**	**58.90**	**281**	*eP*	**P**	**13 09 12.7**	**-0.3**
	comp=Z,8.6nm,1.0s									
LEM	**Lembang**	**59.18**	**271**	P	**P**	**13 09 15.8**	**+0.6**
	comp=Z,25nm,0.7s,baz=163,slow=19,SNR=5.1									
JNU	**Nakatsue**	**59.47**	**324**	P	**P**	**13 09 16.3**	**-0.3**
	comp=Z,9.0nm,0.8s,baz=90,slow=5.1,SNR=6.8									
JNU	**Nakatsue**	**59.47**	**324**	*eP*	**P**	**13 09 16.3**	**-0.3**
	comp=Z,26nm,1.3s									
VNDA	**Vanda**	**62.33**	**181**	P	**P**	**13 09 35.5**	**+0.4**
	comp=Z,9.2nm,0.6s,baz=360,slow=7.9,SNR=44									
VNDA	**Vanda**	**62.33**	**181**	*eP*	**P**	**13 09 35.6**	**+0.4**
VNDA				pmax	pmax					
	comp=Z,10.0nm,0.7s									
VNDA	**Vanda**	**62.33**	**181**	*eP*	**P**	**13 09 35.6**	**+0.4**
	comp=Z,10nm,0.7s									
SBA	**Scott Base**	**62.60**	**180**	*eP*	**P**	**13 09 37.9**	**+0.9**
SBA				pmax	pmax					
	comp=Z,29nm,0.8s									
SBA	**Scott Base**	**62.60**	**180**	*eP*	**P**	**13 09 37.9**	**+0.9**
	comp=Z,29nm,0.8s									
ASAJ	**Asahikawa**	**63.31**	**340**	P	**P**	**13 09 42.9**	**+0.8**
	comp=Z,10nm,0.7s,baz=223,slow=8.5,SNR=20									
ASAJ	**Asahikawa**	**63.31**	**340**	*eP*	**P**	**13 09 42.2**	**+0.2**
	comp=Z,10nm,0.7s									
KSRS	**Korea Array**	**64.29**	**326**	P	**P**	**13 09 49.0**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=136,slow=7.3,SNR=7.7									
KSRS				pP	**PcP**	**13 10 22.4**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=148,slow=4.4,SNR=4.2									
KSRS				LR	LR	13 34 58.5				
	comp=Z,9.2nm,21.1s,baz=275,slow=33									
KS15	**Wonju Array Si**	**64.30**	**326**	*eP*	**P**	**13 09 49.0**	**+0.3**
KS15				*e*pP	**PcP**	**13 10 22.4**	**+0.3**
KS15				*e*		13 34 58.5				
KSAR	**Wonju Array Be**	**64.30**	**326**	P	**P**	**13 09 49.0**	**+0.3**
KSAR				*PP	**PcP**	**13 10 22.4**	**+0.3**
KSAR	**Wonju Array Be**	**64.30**	**326**	P	**P**	**13 09 49.0**	**+0.3**
KSAR				pP	**PcP**	**13 10 22.4**	**+0.3**
KS01	**Wonju Array Si**	**64.32**	**326**	*eP*	**P**	**13 09 48.5**	**-0.3**
KS01				*e*pP	**PcP**	**13 10 22.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**65.80**	**342**⇑	*eP*	**P**	**13 09 58.9**	**+0.7**
YSS				*e*		13 18 28.3				
YSS				pmax	pmax					
	comp=Z,10.0nm,1.0s									
YSS	**Yuzh-Sakhalins**	**65.80**	**342**	*eP*	**P**	**13 09 58.7**	**+0.6**
	comp=Z,22nm,1.1s									
NJ2	**Nanjing**	**66.19**	**316**	*eP*	**P**	**13 10 02.3**	**+1.3**
NJ2				pmax	pmax					
	comp=Z,3.0nm,0.5s									
USRK	**Ussuriysk Ar.**	**67.45**	**333**	P	**P**	**13 10 09.6**	**+0.8**
	comp=Z,7.5nm,0.7s,baz=147,slow=5.9,SNR=13									
WHN	**Wuhan**	**68.44**	**312**	⇓P	**P**	**13 10 15.8**	**+0.6**
PETK	**Petropavlovsk-**	**68.61**	**354**	P	**P**	**13 10 15.1**	**-0.7**
	comp=Z,6.4nm,0.8s,baz=143,slow=4.1,SNR=5.6									
PETK				LR	LR	13 37 35.3				
	comp=Z,11nm,18.6s,baz=105,slow=33									
PEA1	**Petropavlovsk-**	**68.62**	**354**	*eP*	**P**	**13 10 15.1**	**-0.7**
PEA1				*e*		13 37 35.3				
MDJ	**Mudanjiang**	**68.84**	**332**	P	**P**	**13 10 16.3**	**-1.1**
MDJ				pmax	pmax					
	comp=Z,28nm,1.1s									
MDJ				pmax	pmax					
	comp=Z,170nm,3.5s									
MDJ	**Mudanjiang**	**68.84**	**332**	*eP*	**P**	**13 10 18.0**	**+0.6**
	comp=Z,20nm,0.9s									
TYV	**Tymovskoe**	**69.34**	**343**	*eP*	**P**	**13 10 22.1**	**+1.8**
TYV				pmax	pmax					
	comp=Z,7.0nm,1.4s									
TYV				pmax	pmax					
	comp=Z,400nm,5.6s									
PSI	**Prapat**	**70.12**	**279**	*eP*	**P**	**13 10 25.2**	**-0.9**
PSI				pmax	pmax					
	comp=Z,16nm,1.0s									
PSI	**Prapat**	**70.12**	**279**	*eP*	**P**	**13 10 25.2**	**-0.9**
	comp=Z,16nm,1.0s									
CN2	**Changchun**	**70.20**	**329**	*eP*	**P**	**13 10 25.4**	**-0.4**
CN2				pmax	pmax					
	comp=Z,10.0nm,0.7s									
SKNT	**Sakolnakorn**	**70.34**	**295**	P	**P**	**13 10 26.8**	**-0.4**
	comp=Z,12nm,0.9s									
TRTT	**Trang**	**70.96**	**284**	P	**P**	**13 10 31.2**	**+0.2**
	comp=Z,6.3nm,1.0s									
GSI	**Gunungsitoli**	**70.98**	**277**	*eP*	**P**	**13 10 31.3**	**+0.1**
	comp=Z,30nm,1.0s									
GRNR	**Gornyy**	**71.16**	**340**	*eP*	**P**	**13 10 32.0**	**+0.6**
GRNR				pmax	pmax					
	comp=Z,24nm,0.6s									
KLR	**Kul'dur**	**71.57**	**336**	*eP*	**P**	**13 10 31.3**	**-2.6**
ENH	**Enshi**	**71.85**	**309**	*eP*	**P**	**13 10 35.2**	**-0.9**
	comp=Z,13nm,0.8s									
NKL	**Nikolayevsk**	**71.94**	**343**	*eP*	**P**	**13 10 36.8**	**+0.8**
NKL				pmax	pmax					
	comp=Z,24nm,0.9s									
GYA	**Guiyang**	**72.17**	**305**⇑	*iP*	**P**	**13 10 38.8**	**+0.6**
GYA				pP	pP	13 11 16.4	+2.6			
GYA				PP	**PP**	**13 13 24.0**	**+3.3**
GYA				S	**S**	**13 19 49.8**	**+0.5**
GYA				SKS	**SKSac**	**13 20 25.3**	**-4.0**
GYA				pmax	pmax					
	comp=Z,20nm,1.0s									
GYA				pmax	pmax					
	comp=Z,120nm,5.4s									
PHIT	**Phitsanulok**	**73.57**	**293**	P	**P**	**13 10 48.3**	**+1.9**
	comp=Z,9.2nm,0.9s									
NANT	**Nan**	**73.93**	**295**	P	**P**	**13 10 49.5**	**+1.0**
	comp=Z,8.6nm,0.7s,comp=Z,321nm									
XAN	**Xi'an**	**74.19**	**313**	P	**P**	**13 10 50.0**	**+0.2**
XAN				pP	pP	13 11 22.9	-2.6			
XAN				sP	sP	13 11 40.6	-0.5			
XAN				pmax	pmax					
	comp=Z,12nm,0.9s									
XAN				pmax	pmax					
	comp=Z,100nm,5.1s									
KMI	**Kunming**	**74.75**	**302**	P	**P**	**13 10 55.1**	**+1.7**
KMI				pmax	pmax					
	comp=Z,16nm,0.6s									
LAMP	**Lampang**	**74.76**	**294**	P	**P**	**13 10 54.8**	**+1.5**
	comp=Z,8.2nm,0.8s,comp=Z,81nm									
QSPA	**South Pole Qui**	**74.76**	**180**	P	**P**	**13 10 52.8**	**+0.1**
	comp=Z,26nm,0.9s,baz=0.7,slow=2.6,SNR=58									
QSPA	**South Pole Qui**	**74.76**	**180**	*eP*	**P**	**13 10 52.8**	**+0.1**
	comp=Z,42nm,1.1s									
CM01	**Chiang Mai Arr**	**75.31**	**294**	*eP*	**P**	**13 10 57.8**	**+1.3**
CM01				*e*pP	**pP**	**13 11 33.9**	**+1.6**
CM31	**Chiang Mai Arr**	**75.34**	**294**	*eP*	**P**	**13 10 57.8**	**+1.1**
CM31				*e*pP	**pP**	**13 11 32.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**75.34**	**294**	P	**P**	**13 10 58.4**	**+1.7**
	comp=Z,4.6nm,0.7s,baz=130,slow=4.8,SNR=24									
CMAR				pP	**pP**	**13 11 32.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=116,slow=4.7,SNR=3.3									
CMMT	**Chiang Mai**	**75.47**	**294**	P	**P**	**13 10 57.3**	**-0.1**
	comp=Z,11nm,0.7s									
CHTO	**Chiang Mai**	**75.47**	**294**	P	**P**	**13 10 58.4**	**+1.0**
	comp=Z,38nm,0.8s									
CHTO	**Chiang Mai**	**75.47**	**294**	*eP*	**P**	**13 10 57.2**	**-0.2**
CHTO				pmax	pmax					
	comp=Z,6.0nm,0.7s									
CHTO	**Chiang Mai**	**75.47**	**294**	*eP*	**P**	**13 10 57.2**	**-0.2**
	comp=Z,6.3nm,0.7s									
CMAI	**Chiengmai2**	**75.80**	**296**	P	**P**	**13 11 00.9**	**+1.4**
	comp=Z,110nm,1.2s									

HHC	**Hu-ho-hao-te**	**76.11**	**320**	*eP*	**P**	**13 11 01.9**	**+1.2**
HHC				pmax	pmax					
	comp=Z,16nm,1.0s									
HHC				pmax	pmax					
	comp=Z,100nm,4.4s									
CD2	**Chengdu**	**76.48**	**308**	*eP*	**P**	**13 11 03.8**	**+0.8**
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
CD2				pmax	pmax					
	comp=Z,120nm,5.0s									
ZEA	**Zeya**	**76.86**	**337**	*eP*	**P**	**13 11 05.2**	**+0.7**
ZEA				pmax	pmax					
	comp=Z,20nm,0.8s									
LZH	**Lanzhou**	**78.82**	**312**	⇑P	**P**	**13 11 17.8**	**+1.8**
LZH				pP	pP	13 11 53.8	+1.7			
LZH				sP	sP	13 12 09.3	+1.8			
LZH				*e*PP	**PP**	**13 14 21.3**	**+4.6**
LZH				pmax	pmax					
	comp=Z,20nm,1.0s									
LZH				pmax	pmax					
	comp=Z,110nm,4.7s									
LZH				LR	LR					
	comp=Z,270nm,15.8s									
LZH				LR	LR					
	comp=Z,290nm,15.6s									
LZH				LR	LR					
	comp=Z,210nm,16.5s									
SEY	**Seymchan**	**78.84**	**353**	*ceP*	**P**	**13 11 13.8**	**-1.4**
MAW	**Mawson**	**81.46**	**202**	P	**P**	**13 11 30.4**	**+1.1**
	comp=Z,13nm,0.8s,baz=208,slow=3.4,SNR=4.4									
YAK	**Yakutsk**	**82.60**	**343**	*eP*	**P**	**13 11 33.8**	**-1.4**
YAK				*e*		13 14 46.8				
YAK				*e*PPP	PPP	13 16 42.2				
YAK				*e*S	**S**	**13 21 34.2**	**-5.7**
YAK				*e*		13 21 42.2				
YAK				*e*SS	**SS**	**13 27 11.1**	**+5.7**
YAK				pmax	pmax					
	comp=Z,29nm,0.9s									
YAK				pmax	pmax					
	comp=N,6.0nm,1.0s									
YAK				pmax	pmax					
	comp=E,3.0nm,1.0s									
YAK				pmax	pmax					
	comp=Z,140nm,4.3s									
YAK				pmax	pmax					
	comp=N,105nm,4.7s									
YAK				pmax	pmax					
	comp=E,64nm,4.2s									
YAK				smax	smax					
	comp=N,38nm,3.7s									
YAK				smax	smax					
	comp=E,28nm,3.3s									
YAK	**Yakutsk**	**82.60**	**343**	*eP*	**P**	**13 11 35.3**	**+0.1**
	comp=E,42nm,0.8s									
ULN	**Ulaanbaatar**	**82.68**	**324**	*eP*	**P**	**13 11 36.2**	**0.0**
ULN				pmax	pmax					
	comp=Z,21nm,1.1s									
ULN	**Ulaanbaatar**	**82.68**	**324**	*eP*	**P**	**13 11 36.8**	**+0.6**
	comp=Z,23nm,1.0s									
SONA0	**Songino Array**	**83.04**	**324**	*eP*	**P**	**13 11 38.3**	**+0.3**
SONM	**Songino Array**	**83.04**	**324**	P	**P**	**13 11 38.3**	**+0.3**
	comp=Z,11nm,1.1s,baz=143,slow=5.3,SNR=43									
SONA1	**Songino Array**	**83.04**	**324**	*eP*	**P**	**13 11 38.3**	**+0.3**
BILL	**Bilibino**	**83.08**	**360**	*i* P	**P**	**13 11 33.0**	**-4.6**
BILL				*i*		13 12 10.5				
BILL				pmax	pmax					
	comp=Z,2.0nm,1.1s									
BILL				MLR	MLR					
	comp=Z,88nm,27.0s									
GTA	**Gaotai**	**83.17**	**314**	⇑P	**P**	**13 11 39.9**	**+1.0**
GTA				pP	pP	13 12 16.8	+1.4			
GTA				sP	sP	13 12 31.4	+0.6			
GTA				S	**S**	**13 21 50.9**	**+3.8**
GTA				pmax	pmax					
	comp=Z,14nm,1.2s									
GTA				pmax	pmax					
	comp=Z,130nm,5.3s									
SHL	**Shillong**	**83.99**	**298**	*eP*	**P**	**13 11 43.0**	**-0.4**
CAST	**Castle Rocks**	**84.45**	**17**	*eP*	**P**	**13 11 43.0**	**-1.7**
	comp=Z,5.8nm,0.9s									
BOD	**Bodaibo**	**85.04**	**334**	*eP*	**P**	**13 11 46.7**	**-1.0**
BOD				pmax	pmax					
	comp=Z,16nm,1.3s									
YBH	**Yreka Blue Hor**	**85.66**	**45**	P	**P**	**13 11 51.2**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=302,slow=3.5,SNR=4.3									
LSA	**Lhasa**	**86.00**	**302**	*eP*	**P**	**13 11 54.6**	**+0.8**
LSA				pmax	pmax					
	comp=Z,7.0nm,0.6s									
LSA	**Lhasa**	**86.00**	**302**	*eP*	**P**	**13 11 54.6**	**+0.8**
	comp=Z,6.5nm,0.6s									
BREC	**Barre Substati**	**86.04**	**54**	*eP*	**P**	**13 11 53.4**	**+0.2**
ZAK	**Zakamensk**	**86.10**	**325**	*eP*	**P**	**13 11 52.6**	**-0.7**
ZAK				pmax	pmax					
	comp=Z,14nm,1.3s									
ISA	**Isabella, Lake**	**86.33**	**52**	P	**P**	**13 11 53.9**	**-0.9**
	baz=248									
EDW2	**Edwards Air Fo**	**86.42**	**53**	P	**P**	**13 11 55.1**	**-0.1**
	baz=249									
TLY	**Talaya**	**86.54**	**326**	*eP*	**P**	**13 11 56.2**	**+0.9**
TLY				pmax	pmax					
	comp=Z,11nm,1.0s									
WAKR	**Walker**	**86.68**	**49**	*eP*	**P**	**13 11 56.3**	**-0.3**
	comp=Z,12nm,0.8s									
HDA	**Harding Lake**	**86.70**	**18**	*eP*	**P**	**13 11 54.4**	**-1.4**
	comp=Z,4.7nm,0.8s									
COLA	**College**	**86.77**	**18**	*eP*	**P**	**13 11 53.8**	**-2.3**
COLA				pmax	pmax					
	comp=Z,3.0nm,0.9s									
LRMC	**Laurel Mtn Rad**	**86.87**	**52**	P	**P**	**13 11 57.5**	**0.0**
	baz=249									
CWC	**Cottonwood Cre**	**86.92**	**51**	P	**P**	**13 11 57.6**	**-0.1**
	baz=249									
CRY	**Cary Ranch**	**86.92**	**54**	*eP*	**P**	**13 11 57.4**	**-0.3**
IL1	**Eielson Array**	**86.98**	**18**	*eP*	**P**	**13 11 54.4**	**-2.7**
ILAR	**Eielson Array**	**86.98**	**18**	P	**P**	**13 11 54.8**	**-2.3**
	comp=Z,1.6nm,0.7s,baz=237,slow=5.1,SNR=19									
ILAR				pP	**pP**	**13 12 32.2**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=235,slow=5.7,SNR=3.7									
ILAR				LR	LR	13 50 20.4				
	comp=Z,19nm,18.3s,baz=334,slow=35									
ILB	**Eielson Array**	**86.98**	**18**	*eP*	**P**	**13 11 54.9**	**-2.3**
ILB				*e*pP	**pP**	**13 12 32.2**	**-1.6**
ILB				*e*		13 50 20.4				
BBB	**Bella Bella**	**87.11**	**34**	LR	LR	13 47 05.9				
	comp=Z,19nm,19.4s,baz=226,slow=33									
J05D	**Fort Rock, OR**	**87.30**	**44**	P	**P**	**13 11 59.1**	**-0.3**
	baz=246									
NV01	**Mina Array Sit**	**87.48**	**49**	*eP*	**P**	**13 11 60.0**	**-0.5**
NV01				*e*pP	**pP**	**13 12 37.7**	**+0.4**
NV01				*e*		13 44 34.0				
NVAR	**Mina Array Bea**	**87.48**	**49**	P	**P**	**13 11 60.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=230,slow=8.2,SNR=8.7									
NVAR				pP	**pP**	**13 12 36.9**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=230,slow=8.0,SNR=4.0									
NVAR				LR	LR	13 44 33.9				
	comp=Z,30nm,19.6s,baz=271,slow=31									
FURC	**Furnace Creek,**	**87.84**	**51**	P	**P**	**13 12 02.0**	**+0.1**
	baz=249									
GMRC	**Granite Mounta**	**88.18**	**53**	P	**P**	**13 12 03.5**	**-0.2**
	baz=250									
TUQ	**Turquoise Moun**	**88.20**	**53**	P	**P**	**13 12 03.6**	**-0.2**
	baz=250									
SYO	**Syowa Base**	**88.25**	**197**	*iP*	**P**	**13 12 01.4**	**-1.8**
SYO	**Syowa Base**	**88.25**	**197**	⇓*i* PcP	**P**	**13 12 02.8**	**-0.4**
SHPR	**Sheep Range**	**89.14**	**52**	*eP*	**P**	**13 12 09.1**	**+0.9**
SHPR				*e*pP	**pP**	**13 12 46.0**	**+0.9**
PDMCI	**Parker Dam,Lak**	**89.20**	**54**	P	**P**	**13 12 08.8**	**+0.5**
	baz=251									
R11A	**Troy Canyon, C**	**89.45**	**50**	P	**P**	**13 12 09.4**	**-0.3**
	baz=250									
KNGR	**Kungurtug, Tuv**	**89.47**	**323**	*eP*	**P**	**13 12 08.5**	**-0.9**
TIXI	**Tiksi**	**90.53**	**349**	*ceP*	**P**	**13 12 13.0**	**-0.7**
TIXI				pmax	pmax					
	comp=Z,5.0nm,1.7s									
TIXI	**Tiksi**	**90.53**	**349**	*eP*	**P**	**13 12 12.9**	**-0.7**
	comp=Z,2.9nm,0.8s									
U15A	**North Rim**	**91.31**	**53**	*eP*	**P**	**13 12 17.2**	**-1.3**
U15A				*e*pP	**pP**	**13 12 56.8**	**+1.3**
X16A	**Lo Mia Camp, P**	**91.36**	**55**	*eP*	**P**	**13 12 18.4**	**-0.2**
X16A				*e*pP	**pP**	**13 12 52.9**	**-2.7**
WUAZ	**Wupatki**	**91.74**	**54**	*eP*	**P**	**13 12 18.3**	**-2.1**
WUAZ				*e*pP	**pP**	**13 12 54.5**	**-2.9**
SNAA	**Sanae**	**93.02**	**183**	P	**P**	**13 12 24.6**	**-1.0**
SNAA	**Sanae**	**93.02**	**183**	P	**P**	**13 12 24.3**	**-1.3**
	comp=Z,6.2nm,0.8s,baz=206,slow=9.4,SNR=9.3									

SNAA	**Sanae**	**93.02**	**183**	*eP*	**P**	**13 12 24.5**	**-1.0**
SNAA				pmax	pmax					
	comp=Z,42nm,1.7s									
SNAA	**Sanae**	**93.02**	**183**	*eP*	**P**	**13 12 24.5**	**-1.1**
	comp=Z,42nm,1.7s									
WMQ	**Urumqi**	**93.24**	**314**	P	**P**	**13 12 27.0**	**+0.1**
WMQ				sP	sP	13 13 18.6	-0.6			
WMQ				pmax	pmax					
	comp=Z,28nm,1.1s									
WMQ				pmax	pmax					
	comp=Z,170nm,5.9s									
VNA3	**Neumayer Olymp**	**93.68**	**181**	P	**P**	**13 12 27.5**	**-1.0**
VNA2	**Neumayer--Watz**	**93.95**	**182**	P	**P**	**13 12 29.0**	**-0.7**
	baz=208,slow=1.4									
VNA2				S	**S**	**13 23 27.8**	**+0.7**
PD31	**Pinedale Array**	**95.17**	**47**	*eP*	**P**	**13 12 34.6**	**-1.4**
PDAR	**Pinedale Array**	**95.17**	**47**	P	**P**	**13 12 34.6**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=268,slow=3.4,SNR=2.9									
PDAR				PKKPbc	**PKKPbc**	**13 29 28.9**	**-2.1**
	comp=Z,1.0nm,1.0s,baz=74,slow=5.3,SNR=5.5									
LTX	**Lajitas**	**96.37**	**61**	*eP*	**P**	**13 12 41.1**	**-0.6**
LTX	**Lajitas**	**96.37**	**61**	*eP*	**P**	**13 12 41.0**	**-0.6**
TXAR	**Lajitas Array**	**96.37**	**61**	P	**P**	**13 12 41.0**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=243,slow=4.0,SNR=2.6									
MK01	**Makanchi Array**	**97.71**	**316**	*eP*	**P**	**13 12 47.0**	**-0.2**
MK31	**Makanchi Array**	**97.72**	**316**	*eP*	**P**	**13 12 47.2**	**-0.1**
MK31	**Makanchi Array**	**97.72**	**316**	*eP*	**P**	**13 12 47.1**	**-0.1**
MK32	**Makanchi Array**	**97.72**	**316**	*eP*	**P**	**13 12 47.2**	**0.0**
MKAR	**Makanchi Array**	**97.72**	**316**	P	**P**	**13 12 47.2**	**0.0**
	comp=Z,2.1nm,0.6s,baz=92,slow=6.6,SNR=31									
MKAR	**Makanchi Array**	**97.72**	**316**	*eP*	Pdif	13 12 47.3	0.0
MKAR				pmax	pmax					
	comp=Z,20nm,0.7s									
MKAR	**Makanchi Array**	**97.72**	**316**	*eP*	**P**	**13 12 47.2**	**0.0**
	comp=Z,20nm,0.7s									
MAKZ	**Makanchi**	**97.93**	**316**	*eP*	Pdif	13 12 48.2	0.0
MAKZ				pmax	pmax					
	comp=Z,4.0nm,0.6s									
MAKZ	**Makanchi**	**97.93**	**316**	*eP*	Pdif	13 12 48.2	0.0
	comp=Z,4.0nm,0.6s									
ZAA0	**Zalesovo Array**	**97.94**	**324**	*eP*	**P**	**13 12 47.2**	**-0.7**
	comp=Z,6.3nm,0.9s									
ZALV	**Zalesovo Beam**	**97.94**	**324**	P	**P**	**13 12 47.2**	**-0.7**
	comp=Z,3.9nm,0.7s,baz=116,slow=4.4,SNR=19									
ZALV	**Zalesovo Beam**	**97.94**	**324**	*eP*	**P**	**13 12 46.8**	**-1.1**
ZALV	**Zalesovo Beam**	**97.94**	**324**	*eP*	**P**	**13 12 46.8**	**-1.1**
YKA	**Yellowknife Ar**	**97.94**	**27**	P	**P**	**13 12 46.1**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=255,slow=4.6,SNR=45									
YKA				PKKPbc	**PKKPbc**	**13 29 20.8**	**-3.1**
	comp=Z,0.4nm,0.8s,baz=67,slow=2.7,SNR=8.0									
ZAA1	**Zalesovo Array**	**97.94**	**324**	*eP*	**P**	**13 12 47.2**	**-0.7**
KSH	**Kashi**	**100.68**	**308**	*eP*	**Pdif**	**13 13 06.8**	**+6.1**
KSH				pmax	pmax					
	comp=Z,59nm,4.5s									
KURK	**Kurchatov**	**100.93**	**320**	*eP*	**Pdif**	**13 13 01.7**	**+0.3**
KURK	**Kurchatov**	**100.93**	**320**	*ePdif*	**Pdif**	**13 13 01.7**	**+0.3**
KURBB	**Kurchatov Arra**	**100.97**	**320**	P	**Pdif**	**13 13 01.7**	**+0.1**
	comp=Z,0.5nm,0.2s,baz=99,slow=4.6,SNR=3.4									
BVAR	**Borovoye Array**	**106.28**	**321**	Pdiff	**Pdif**	**13 13 24.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=106,slow=5.1,SNR=4.1									
AKTO	**Aktyubinsk**	**114.00**	**319**	PKP	**PKiKP**	**13 17 49.9**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=113,slow=2.4,SNR=4.5									
ARA0	**ARCESS Array S**	**120.82**	**345**	*ePKPdf*	**PKPdf**	**13 18 02.8**	**-0.3**
ARCES	**ARCESS Array B**	**120.82**	**345**	PKP	**PKPdf**	**13 18 02.8**	**-0.3**
	comp=Z,6.5nm,0.6s,baz=66,slow=1.4,SNR=38									
KLMR	**Klimovskoe**	**121.25**	**333**	*ePKIKP*	**PKPdf**	**13 18 01.9**	**-2.1**
KLMR				pmax	pmax					
	comp=Z,10.0nm,1.3s									
KLMR	**Klimovskoe**	**121.25**	**333**	*ePKPdf*	**PKPdf**	**13 18 02.0**	**-2.1**
KLMR				AMP		13 18 04.6				
	comp=Z,10.0nm,1.3s									
SDV	**Santo Domingo**	**122.97**	**89**	PKP	**PKPdf**	**13 18 06.9**	**-2.1**
	comp=Z,4.

TOA0	**Torodi Ar. Sit**	**166.04 263**	*e*PKPdf	**PKPdf**	**13 19 16.5**	**-0.9**
TOA0			*e*PKPab	**PKPab**	**13 20 18.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**166.04 263**	PKP	**PKPdf**	**13 19 16.9**	**-0.5**
	comp=Z,3.6nm,0.9s,baz=41,slow=1.0,SNR=15					
TORD			PKPab	**PKPab**	**13 20 18.4**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=107,slow=3.5,SNR=6.1					
TOA1	**Torodi Ar. Sit**	**166.05 263**	*e*PKPdf	**PKPdf**	**13 19 16.9**	**-0.5**
TOA1			*e*PKPab	**PKPab**	**13 20 18.4**	**-0.1**
DBIC	**Dimbokro**	**168.61 222**	PKPab	**PKPab**	**13 20 30.7**	**+1.0**
	comp=Z,4.5nm,0.8s,baz=166,slow=7.6,SNR=3.7					
KOWA	**Kowa**	**171.73 266**	PKP	**PKPdf**	**13 19 20.4**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=259,slow=4.1,SNR=5.1					
KOWA			PKPab	**PKPab**	**13 20 44.1**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=23,slow=6.5,SNR=5.5					
KOWA	**Kowa**	**171.73 266**	*e*PKPdf	**PKPdf**	**13 19 19.7**	**-1.3**
KOWA			*e*PKPdf	**PKPdf**	**13 19 20.4**	**-0.6**
KOWA			*e*PKPab	**PKPab**	**13 20 44.1**	**+0.4**

NNC 22 13:01:14.8±2.7, 36.45N×68.73E, h0km, mb3.9, mpv3.5, 5C-6D, Error ellipse: s-maj=26.6km s-min=20.8km az=122.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**5.18**	**45**	⇑P	Pn	13 02 34.2	+0.5
	3.5nm,0.3s						
SFK				⇓S	Sn	13 03 36.9	+2.6
	10nm,0.3s						
MNAS	**Manas**	**6.70**	**25**	⇑P	Pn	13 02 55.0	+0.4
	1.3nm,0.3s						
MNAS				⇓S	Sn	13 04 13.1	+1.4
	6.9nm,0.8s						
KK31	**Karatay Array**	**6.79**	**11**	⇓P	Pn	13 02 56.5	+0.8
	0.3nm,0.2s,baz=200,slow=16,SNR=20						
KK31				⇑S	Sn	13 04 15.2	+1.6
	0.7nm,0.3s,baz=196,slow=23,SNR=4.2						
AAK	**Ala-Archa**	**7.62**	**34**	⇓P	Pn	13 03 06.9	-0.3
	3.1nm,0.8s						
AAK				⇓S	Sn	13 04 35.3	+1.0
	12nm,0.7s						
TKM2	**Tokmak 2**	**8.35**	**37**	⇑P	Pn	13 03 16.3	-1.1
	2.2nm,0.6s						
TKM2				⇑S	Sn	13 04 50.9	-1.6
	4.0nm,0.8s						
MDOK	**Medeo**	**9.27**	**41**	⇓P	Pn	13 03 29.1	-0.8
	3.8nm,0.7s						

MEX 22 13:36:24.1±0.5, 16.19N×98.37W, h5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.31**	**49**	*e*P	Pg	13 36 29.6	-0.5
PNIG				*i* S	Sg	13 36 34.2	0.0
TLIG	**Tlapa**	**1.38**	**352**	*e*P	Pn	13 36 46.7	-3.5
TLIG				*e*S	Sb	13 37 03.5	-5.0
CAIG	**El Cayaco**	**2.01**	**295**	*e*P	Pn	13 36 54.5	-4.2
CAIG				*i* S	Sn	13 37 19.4	-4.9
HUIG	**Huatulco**	**2.21**	**101**	*e*P	Pn	13 36 58.7	-2.8
HUIG				*i* S	Sn	13 37 25.7	-3.6

*IDC **22** 13:36:33.7±2.6, 1.23N×127.23E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/57, mbtmp3.3/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/19, Error ellipse: s-maj=277.9km s-min=21.9km az=67.0*
*DJA **22** 13:36:41.7±0.3, 0.7S×5.1°×12.5E×1.1°, h10km, M4.2/9, mB4.7/1, mb4.7/1, MLv3.9/9, Mw(mB)4.0/1*
*ISCJB **22** 13:36:42.9±0.6, 0.12S±0.08×124.72E±0.05, h44km, mb3.2/4, MS2.6/1, Error ellipse: s-maj=12.3km s-min=5.7km az=24.4*
ISC 22 13:36:43.6±1.0, 0.04N±0.08×124.76E±0.06, h44km, n14, σ2.938/16, mb3.3/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.94**	**305**	P	**Pn**	**13 37 00.5**	**+0.1**
KMSI				S	**Sn**	**13 37 14.1**	**+1.4**
LUWI	**Luwuk**	**2.26**	**242**	P	**Pn**	**13 37 18.4**	**0.0**
SANI	**Sanana**	**2.41**	**149**	P	**Pn**	**13 37 17.6**	**-2.9**
SANI				S	**Sn**	**13 37 54.6**	**+5.8**
LBMI	**Labuha**	**2.82**	**104**	P	**Pn**	**13 37 28.1**	**+1.9**
LBMI				S	**Sn**	**13 38 01.0**	**+2.0**
MRSI	**Marisa**	**2.85**	**279**	P	**Pn**	**13 37 24.8**	**-1.8**
APSI	**Ampana**	**3.25**	**253**	P	**Pn**	**13 37 33.0**	**+1.0**
NLAI	**Namlea**	**4.01**	**144**	P	**Pn**	**13 37 41.2**	**-1.3**
MPSI	**Mapaga**	**4.87**	**274**	P	**Pn**	**13 37 57.0**	**+2.7**
TTSI	**Tana Toraja**	**5.81**	**238**	P	**Pn**	**13 38 07.6**	**+0.4**
WRA	**Warramunga Arr**	**21.96**	**155**	P	**P**	**13 41 31.5**	**-2.4**
	0.5nm,0.9s,baz=341,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**25.18**	**160**	P	**P**	**13 42 04.8**	**-0.3**
	0.2nm,0.7s,baz=346,slow=11,SNR=4.5						
JHJ	**Hachijo jima 2**	**35.82**	**22**	LR	LR	13 58 43.3	
	comp=Z,10nm,18.5s,baz=114,slow=39						
MKAR	**Makanchi Array**	**59.52**	**327**	P	**P**	**13 46 41.4**	**-1.1**
	0.3nm,0.4s,baz=124,slow=7.4,SNR=9.6						
KURBB	**Kurchatov Arra**	**63.82**	**329**	P	**P**	**13 47 09.6**	**-1.7**
	0.3nm,0.5s,baz=139,slow=5.9,SNR=7.1						

MAN 22 13:40:52, 16.50N×120.49E, h28km, mb3.9, ML2.7, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.57**	**258**	*e*P	Pn	13 41 05.5	+1.3
BOLP				*e*S	Sn	13 41 14.5	+1.8
BALP	**Baler**	**1.28**	**126**	*e*P	Pn	13 41 14.5	+0.4
BALP				*e*S	Sb	13 41 31.8	+0.2

*IDC **22** 13:45:16.7±1.1, 8.38N×72.72W, h0km, mb2.8/1, mb1 3.4/2, mb1mx3.1/51, mbtmp3.2/2, ML2.9/1, Error ellipse: s-maj=32.2km s-min=18.4km az=127.0*
*RSNC **22** 13:45:20.3±0.7, 8.35N×72.53W, h0km±5km, ML3.3*
ISC 22 13:45:20.0±1.7, 8.49N±0.06×72.62W±0.05, h17km±12km, n13, σ1.932/20, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCAC	**Ocana**	**0.74**	**250**	*e*P	**Pg**	**13 45 34.4**	**-0.1**
OCAC				*e*S	**Sn**	**13 45 46.6**	**-0.1**
CODC	**Agust˜›n Codaz**	**1.65**	**330**	*e*P	**Pg**	**13 45 51.6**	**-0.1**
CODC				*i*		13 46 25.5	
	comp=Z,449nm,0.3s						
BRRC	**Barranca, Sant**	**1.75**	**218**	*e*P	**Pn**	**13 45 50.4**	**+0.8**
BRRC				*e*S	**Sb**	**13 46 13.1**	**-0.4**
BARC	**Barichara**	**1.97**	**197**	*e*P	**Pn**	**13 45 51.9**	**-1.0**
BARC				*e*S	**Sn**	**13 46 17.6**	**+0.3**
BARC				*i*		13 46 24.7	
	comp=Z,347nm,0.5s						
SDV	**Santo Domingo**	**2.00**	**79**	Pn	**Pn**	**13 45 54.1**	**+0.8**
	comp=Z,34nm,0.3s,baz=280,slow=16,SNR=106						
SDV				Sn	**Sb**	**13 46 20.0**	**-0.8**
	comp=Z,86nm,0.3s,baz=78,slow=18,SNR=10.0						
SDV	**Santo Domingo**	**2.00**	**79**	*e*P	**Pn**	**13 45 53.8**	**+0.6**
SDV				*e*S	**Sn**	**13 46 19.3**	**+1.2**
SDV				*i*		13 46 22.9	
	comp=Z,171nm,0.4s						
ZARC	**Zaragoza, Cauc**	**2.43**	**246**	*e*P	**Pn**	**13 46 00.6**	**+1.6**
ZARC				*e*S	**Sb**	**13 46 32.1**	**-0.9**
ZARC				*i*		13 46 37.8	
	comp=Z,114nm,0.5s						
RUSC	**La Rusia**	**2.63**	**190**	*e*P	**Pn**	**13 46 01.6**	**-0.6**
RUSC				*e*S	**Sn**	**13 46 34.2**	**+0.3**
RUSC				*i*		13 46 42.5	
	comp=Z,101nm,0.3s						
PTBC	**PUERTO BERRIO,**	**2.66**	**223**	*e*P	**Pn**	**13 46 02.3**	**+0.1**
PTBC				*i*		13 46 46.1	
	comp=Z,61nm,0.2s						
ROSC	**El Rosal**	**4.00**	**205**	Pg	**Pn**	**13 46 25.2**	**+4.2**
	comp=Z,4.5nm,0.3s,baz=262,slow=19,SNR=6.8						
ROSC				Lg	Lg	13 47 19.6	
	comp=Z,3.7nm,0.3s,baz=165,slow=20,SNR=3.0						
YKA	**Yellowknife Ar**	**61.88**	**339**	P	**P**	**13 55 37.6**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=132,slow=7.4,SNR=2.7						
ASAR	**Alice Springs**	**150.47**	**236**	PKPbc	**PKPbc**	**14 05 11.0**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=107,slow=3.2,SNR=3.0						
WRA	**Warramunga Arr**	**151.55**	**244**	PKPbc	**PKPbc**	**14 05 13.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=106,slow=2.6,SNR=6.6						

*IDC **22** 13:46:57.1±1.1, 8.28N×72.67W, h0km, mb3.0/1, mb1 3.5/2, mb1mx3.2/52, mbtmp3.3/2, ML3.0/1, MS2.4/1, Ms1 2.4/1, ms1mx2.3/10, Error ellipse: s-maj=33.5km s-min=18.0km az=127.0*
*ISCJB **22** 13:46:60.0±1.5, 8.27N±0.05×72.52W±0.05, h2km±9km, mb3.2/1, Error ellipse: s-maj=9.0km s-min=6.9km az=146.1*
*RSNC **22** 13:47:01.3±1.1, 8.26N×72.51W, h2km±8km, ML3.4*
ISC 22 13:46:57.6±1.2, 8.26N±0.04×72.49W±0.04, h10km±11km, n13, σ0.979/18, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCAC	**Ocana**	**0.82**	**269**	*e*P	**Pn**	**13 47 15.3**	**0.0**
OCAC				*e*S	**Sn**	**13 47 27.2**	**-0.5**
BRRC	**Barranca, Sant**	**1.67**	**227**	*e*P	**Pg**	**13 47 30.4**	**+0.7**
BRRC				*i*		13 48 02.2	
	comp=Z,212nm,0.5s						
BARC	**Barichara**	**1.79**	**203**	*e*P	**Pg**	**13 47 32.6**	**+0.5**
BARC				*e*S	**Sg**	**13 47 55.7**	**+0.3**
BARC				*i*		13 48 05.3	
	comp=Z,545nm,0.4s						
CODC	**Agust˜›n Codaz**	**1.91**	**330**	*e*P	**Pb**	**13 47 32.3**	**-0.2**
CODC				*e*S	**Sg**	**13 47 59.1**	**-0.1**
CODC				*i*		13 48 05.1	
	comp=Z,736nm,0.5s						
SDV	**Santo Domingo**	**1.94**	**71**	Pn	**Pg**	**13 47 34.6**	**-0.1**
	comp=Z,51nm,0.3s,baz=215,slow=13,SNR=8.9						
SDV				Sn	**Sg**	**13 48 00.5**	**+0.6**
	comp=Z,106nm,0.3s,baz=2.5,slow=22,SNR=9.0						
SDV	**Santo Domingo**	**1.94**	**71**	*e*P	**Pg**	**13 47 34.2**	**-0.6**
SDV				*e*S	**Sg**	**13 48 00.2**	**+0.3**
SDV				*i*		13 48 07.2	
	comp=Z,286nm,0.5s						
ZARC	**Zaragoza, Cauc**	**2.47**	**252**	*e*P	**Pb**	**13 47 41.4**	**-0.7**
ZARC				*e*S	**Sb**	**13 48 11.5**	**-1.1**
ZARC				*i*		13 48 19.0	
	comp=Z,183nm,0.4s						
PTBC	**PUERTO BERRIO,**	**2.60**	**229**	*e*P	**Pb**	**13 47 43.5**	**-0.7**
PTBC				*i*		13 48 23.3	
	comp=Z,81nm,0.4s						
ROSC	**El Rosal**	**3.86**	**208**	Pg	**Pb**	**13 48 05.0**	**-1.0**
	comp=Z,2.4nm,0.3s,baz=294,slow=20,SNR=3.1						
ROSC				Lg	Lg	13 48 59.4	
	comp=Z,5.2nm,0.3s,baz=197,slow=19,SNR=2.4						
SJG	**San Juan**	**11.57**	**32**	LR	LR	13 54 03.5	
	comp=Z,22nm,21.7s,baz=94,slow=37						
YKA	**Yellowknife Ar**	**62.14**	**339**	P	**P**	**13 57 19.5**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=123,slow=7.2,SNR=2.7						
ASAR	**Alice Springs**	**150.45**	**236**	PKPbc	**PKPbc**	**14 06 49.6**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=120,slow=3.3,SNR=2.8						
WRA	**Warramunga Arr**	**151.56**	**243**	PKPbc	**PKPbc**	**14 06 54.5**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=105,slow=2.7,SNR=7.4						

IDC 22 13:51:55.9±999.0, 53.83N×3.69E, h0km, Error ellipse: s-maj=444.6km s-min=152.5km az=114.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**8.01**	**124**	*i*		14 44 10.0	
	baz=311,slow=331,SNR=1.1						
I43RU	**DUBNA INFRASONI**	**9.21**	**68**	*i*		15 50 20.0	
	baz=276,slow=330,SNR=4.2						
I31KZ	**AKTYUBINSK INF**	**32.86**	**73**	*i*		17 15 50.0	
	baz=295,slow=321,SNR=0.5						

IDC 22 14:07:02.2±549.0, 48.00N×50.47E, h0km, Error ellipse: s-maj=207.4km s-min=115.4km az=54.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**5.52**	**61**	*i*		14 41 10.0	
	baz=246,slow=308,SNR=2.9						
I43RU	**DUBNA INFRASONI**	**11.89**	**322**	*i*		15 23 10.0	
	baz=133,slow=335,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**22.28**	**62**	*i*		16 22 20.0	
	baz=270,slow=326,SNR=3.5						
I34MN	**SONGINO INFRAS**	**36.80**	**69**	*i*		17 53 40.0	
	baz=295,slow=332,SNR=0.5						
I18DK	**QAANAAQ INFRAS**	**49.44**	**346**	*i*		19 18 00.0	
	baz=38,slow=346,SNR=0.6						

MAN 22 14:11:33, 14.46N×122.45E, h3km, mb3.6, ML2.4, MS1.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.56**	**180**	⇓P	Pg	14 11 44.4	+0.7
GQP				*i* S	Sb	14 11 52.8	-0.9
BOAC	**Boac**	**1.16**	**211**	*e*P	Pn	14 11 56.8	+0.7
BOAC				*e*S	Sn	14 12 12.4	-0.1
BALP	**Baler**	**1.52**	**327**	*e*P	Pn	14 12 01.3	+0.1
BALP				*e*S	Sg	14 12 21.9	-0.1
PVCP	**Virac**	**1.86**	**117**	*e*P	Pn	14 12 06.2	+0.3

*ISK **22** 14:17:39.9, 41.00N×39.61E, h22km, ML1.9/2*
*ISCJB **22** 14:17:40.7±0.9, 40.98N±0.06×39.56E±0.06, h15km, Error ellipse: s-maj=9.4km s-min=6.8km az=166.1*
*CSEM **22** 14:17:40.8±0.3, 40.97N×39.57E, h12km, ML2.6, Error ellipse: s-maj=6.9km s-min=4.6km az=164.0*
*DDA **22** 14:17:41.6, 40.86N×39.76E, h18km, Ml2.6*
ISC 22 14:17:40.4±1.2, 40.99N±0.06×39.60E±0.06, h15km, n17, σ0.954/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTUT	**Trabzon**	**0.12**	**92**	PG	**Pb**	**14 17 44.7**	**+0.2**
KTUT				SG	**Sb**	**14 17 48.3**	**+1.1**
KTUT	**Trabzon**	**0.12**	**92**	*e*Pg	**Pb**	**14 17 44.7**	**+0.2**
KTUT				*e*Sg	**Sb**	**14 17 48.3**	**+1.1**
MACK	**Trabzon**	**0.14**	**111**	*i* P	**Pb**	**14 17 45.2**	**+0.5**
MACK	**Trabzon**	**0.14**	**111**	P	**Pb**	**14 17 45.2**	**+0.5**
ESPY	**Espiye-Giresun**	**0.67**	**264**	PG	**Pg**	**14 17 53.6**	**+0.1**
ESPY	**Espiye-Giresun**	**0.67**	**264**	*e*Pg	**Pg**	**14 17 53.6**	**+0.1**
BAYT	**Ayd˜–ntepe-Bay**	**0.72**	**145**	PG	**Pb**	**14 17 55.2**	**+0.3**
BAYT				SG	**Sb**	**14 18 05.4**	**+0.7**
BAYT	**Ayd˜–ntepe-Bay**	**0.72**	**145**	*e*Pg	**Pb**	**14 17 55.2**	**+0.3**
BAYT				*e*Sg	**Sb**	**14 18 05.4**	**+0.7**
KELT	**Kelkit**	**0.88**	**197**	*i* P	**Pg**	**14 17 57.1**	**-0.5**
KELT	**Kelkit**	**0.88**	**197**	P	**Pg**	**14 17 57.1**	**-0.5**
CHOM	**Cayeli-Rize**	**0.88**	**83**	*e*Pg	**Pb**	**14 17 57.3**	**-0.2**
BAYB	**BAYBURT**	**0.89**	**145**	*i* P	**Pn**	**14 17 57.9**	**-0.7**
BAYB	**BAYBURT**	**0.89**	**145**	P	**Pn**	**14 17 57.9**	**-0.7**
DBAD	**Bademkaya**	**1.58**	**88**	*i* P	**Pb**	**14 18 09.2**	**-0.3**
DBAD				*i* S	**Sb**	**14 18 29.6**	**+0.3**
DBAD	**Bademkaya**	**1.58**	**88**	P	**Pb**	**14 18 09.2**	**-0.3**
DBAD				S	**Sb**	**14 18 29.6**	**+0.3**
DDEM	**Demirkent**	**1.63**	**93**	*i* P	**Pb**	**14 18 10.4**	**+0.1**
DDEM	**Demirkent**	**1.63**	**93**	P	**Pb**	**14 18 10.4**	**+0.1**

IDC 22 14:20:57.6±8.5, 15.77S×174.72W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/48, mbtmp3.8/3, Error ellipse: s-maj=375.5km s-min=39.2km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.52**	**257**	P	P	14 29 42.8	0.0
	0.0nm,2.3s,baz=91,slow=8.1,SNR=3.3						
ASAR	**Alice Springs**	**48.79**	**252**	P	P	14 29 44.7	-0.2
	1.4nm,0.5s,baz=90,slow=7.8,SNR=28						
ILAR	**Eielson Array**	**83.06**	**12**	P	P	14 33 24.6	0.0
	1.7nm,1.2s,baz=217,slow=5.8,SNR=4.0						

KRSC 22 14:32:43.9±0.7, 55.75N×162.50E, h53km±18km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.50**	**21**	*e*P	Pn	14 32 55.7	+0.5
KBTR				*e*S	Sn	14 33 04.1	+0.7
KBG	**Krutoberegovo**	**0.52**	**13**	*e*P	Pn	14 32 55.9	+0.4
KBG				*e*S	Sn	14 33 04.4	+0.5
SMKR	**Semkarok**	**1.01**	**326**	*e*P	Pn	14 33 03.1	+1.2
SMKR				*e*S	Sn	14 33 16.8	+1.6
LGNR	**Loginova**	**1.07**	**289**	*e*P	Pn	14 33 03.8	+1.0
LGNR				*e*S	Sn	14 33 17.2	+0.4
BDR	**Baidarnaya**	**1.09**	**319**	*e*P	Pn	14 33 04.5	+1.6
BDR				*e*S	Sn	14 33 19.2	+2.1
BZMR	**Bezymyannaya**	**1.15**	**280**	*e*P	Pn	14 33 04.3	+0.6
BZWR	**Bezymyannyi-We**	**1.15**	**282**	*e*P	Pn	14 33 04.8	+1.0
SRKR	**Sorokina**	**1.17**	**321**	*e*P	Pn	14 33 05.7	+1.7
SRKR				*e*S	Sn	14 33 21.0	+2.0
KLY	**Klyuchi**	**1.18**	**299**	*e*P	Pn	14 33 03.6	-0.4
KLY				*e*S	Sn	14 33 17.8	-1.2
KRSR	**Krestovskiy**	**1.18**	**294**	*e*P	Pn	14 33 04.7	+0.5
KRSR				*e*S	Sn	14 33 19.1	-0.2
KMNR	**Kamenistaya**	**1.28**	**271**	*e*P	Pn	14 33 07.2	+1.8
KMNR				*e*S	Sn	14 33 24.5	+3.0
KPT	**Kopyto**	**1.30**	**281**	*e*S	Sn	14 33 24.4	+2.3
KZV	**Kizimen**	**1.41**	**244**	*e*P	Pn	14 33 09.2	+2.0
KZV				*e*S	Sn	14 33 27.1	+2.3
TUMR	**Tumrok**	**1.42**	**252**	*i* P	Pn	14 33 09.4	+2.1
TUMR				*e*S	Sn	14 33 28.1	+3.2
KOZ	**Kozyrevsk**	**1.51**	**283**	*e*P	Pn	14 33 10.9	+2.4
KOZ				*e*S	Sn	14 33 30.8	+3.8
BKI	**Bering**	**2.05**	**104**	*e*S	Sn	14 33 44.6	+4.4
ESO	**Esso**	**2.15**	**276**	*e*P	Pn	14 33 19.9	+2.7
ESO				*e*S	Sn	14 33 46.4	+3.7
SPN	**Mys Shipunski**	**3.02**	**210**	*e*P	Pn	14 33 32.9	+3.7
SPN				*e*S	Sn	14 34 08.8	+4.7
NLC	**Nalytchevo**	**3.17**	**217**	*e*P	Pn	14 33 34.1	+2.9
NLC				*e*S	Sn	14 34 09.9	+2.2
SDLR	**Sedlovina**	**3.25**	**222**	*e*P	Pn	14 33 35.1	+2.7
SMAR	**Somma**	**3.29**	**222**	*e*P	Pn	14 33 35.3	+2.2
AVH	**Avacha**	**3.31**	**223**	*e*P	Pn	14 33 36.4	+3.2
UGLR	**Uglovaya**	**3.33**	**222**	*e*P	Pn	14 33 36.7	+3.3
GNL	**Ganaly**	**3.35**	**234**	*e*P	Pn	14 33 36.2	+2.5
DALK	**Dalny**	**3.49**	**220**	*e*P	Pn	14 33 38.7	+3.1
KRMR	**Karymshinskiy**	**3.88**	**223**	*e*P	Pn	14 33 44.8	+3.8
KRMR				*e*S	Sn	14 34 30.0	+4.8
RUS	**Russkaya**	**4.07**	**217**	P	Pn	14 33 47.5	+4.1

*ISK **22** 14:33:22.8, 38.69N×39.88E, h12km, ML2.4/4*
*CSEM **22** 14:33:23.1±0.3, 38.59N×39.71E, h10km, ML2.4, Error ellipse: s-maj=10.3km s-min=5.8km az=40.0*
*DDA **22** 14:33:23.8, 38.65N×39.73E, h7km, Ml2.6*
ISC 22 14:33:21.8±1.3, 38.68N±0.03×39.74E±0.03, h2km±15km, n15, σ1.950/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.34**	**308**	PG	**Pb**	**14 33 31.8**	**+1.1**
PTK	**Pertek**	**0.34**	**308**	*e*Pg	**Pb**	**14 33 31.8**	**+1.1**
TNCL	**Tunceli-Merkez**	**0.46**	**340**	*i* P	**Pb**	**14 33 33.9**	**+1.3**
TNCL				*i* S	**Sb**	**14 33 40.7**	**+0.8**
TNCL	**Tunceli-Merkez**	**0.46**	**340**	P	**Pb**	**14 33 33.9**	**+1.3**
TNCL				S	**Sb**	**14 33 40.7**	**+0.8**
HANI	**Diyarbakir_Han**	**0.58**	**117**	*i* P	**Pg**	**14 33 34.5**	**+1.6**
HANI				*i* S	**Sb**	**14 33 43.6**	**+0.3**
HANI	**Diyarbakir_Han**	**0.58**	**117**	P	**Pg**	**14 33 34.5**	**+1.6**
HANI				S	**Sb**	**14 33 43.7**	**+0.3**
ELZG	**Elazig**	**0.62**	**253**	*i* P	**Pg**	**14 33 35.1**	**+1.5**
ELZG				*i* S	**Sb**	**14 33 43.8**	**-0.8**
ELZG	**Elazig**	**0.62**	**253**	P	**Pg**	**14 33 35.1**	**+1.5**
ELZG				S	**Sb**	**14 33 43.8**	**-0.8**
DYBB	**Diyarbakir**	**0.79**	**156**	PG	**Pg**	**14 33 37.9**	**+1.0**
DYBB				SG	**Sb**	**14 33 49.2**	**-0.3**
DIY	**Diyarbakir**	**0.87**	**154**	*e*Pg	**Pg**	**14 33 37.9**	**-0.6**
DIY				*e*Sg	**Sg**	**14 33 49.2**	**-0.6**
ERZN	**Erzincan**	**0.90**	**359**	PG	**Pg**	**14 33 40.3**	**+1.2**
ERZN				SG	**Sb**	**14 33 53.8**	**+1.0**
EZC	**Erzincan**	**1.11**	**344**	*e*Pg	**Pb**	**14 33 40.3**	**-3.5**
EZC				*e*Sg	**Sg**	**14 33 53.8**	**-3.7**
KEMA	**Kemaliye**	**1.14**	**301**	*i* P	**Pb**	**14 33 44.0**	**-0.1**
KEMA	**Kemaliye**	**1.14**	**301**	P	**Pb**	**14 33 44.0**	**-0.1**
MAZI	**Mazidag**	**1.34**	**155**	PN	**Pn**	**14 33 47.5**	**-0.1**

*BJI **22** 14:35:13.9, 21.53S×174.65W, h14km, mb5.0/28, mB5.5/12, Ms5.2/13, Ms7 5.0/9*
*ISCJB **22** 14:35:14.9±1.5, 21.43S±0.04×174.37W±0.06, h33km±13km, mb4.9/81, MS4.5/42, Error ellipse: s-maj=10.1km s-min=6.0km az=33.2*
*GCMT **22** 14:35:17.3±0.2, 21.55S×173.66W, h16km, MW5.1/99, Moment Tensor Solution. s50,c70; s99,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.29±.16; $M_{\theta\theta}$-1.18±.11; $M_{\phi\phi}$-3.11±.11; $M_{r\theta}$1.88±.36; $M_{\theta\phi}$-2.14±.09; $M_{\phi r}$1.79±.31; Best double couple: M_o5.10300×10^{16} NP1:ϕ_s40.00000°, δ60.00000°, λ97.00000°. NP2: ϕ_s206.00000°, δ30.00000°, λ78.00000°. Principal axes: T 5.0350, Plg74.0000°, Azm328.0000°; N 0.1360, Plg6.0000°, Azm216.0000°; P -5.1710, Plg15.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 14:35:17.3±0.3, 21.36S×174.45W, h35km, mb5.0/52 Error ellipse: s-maj=10.9km s-min=5.7km az=117.0*
*WEL **22** 14:35:17.0, 21.36S×174.45W, h35km*
*IDC **22** 14:35:17.3±3.0, 21.40S×174.37W, h30km±21km, mb4.3/24, mb1 4.4/25, mb1mx4.4/46, mbtmp4.5/25, ML4.7/1, MS4.4/34, Ms1 4.5/34, ms1mx4.3/48, Error ellipse: s-maj=17.7km s-min=11.7km az=138.0*
ISC 22 14:35:15.9±0.7, 21.55S±0.05×174.14W±0.06, h30km±4km, h30km:pP-P,n201, σ2.914/189, mb5.0/80, MS4.7/44, 3C, Tonga Islands

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

	30nm,1.2s							
THZ	**Tophouse**	**22.92**	**206**	P	**P**	**14 40 20.1**	**+2.6**
THZ	**Tophouse**	**22.92**	**206**	S	**S**	**14 44 23.2**	**-2.3**
KHZ	**Kahutara**	**23.23**	**204**	*e*P	**P**	**14 40 20.4**	**-0.1**
	5.8nm,0.9s							
KHZ	**Kahutara**	**23.23**	**204**	P	**P**	**14 40 20.9**	**+0.4**
PAE	**Paea**	**23.45**	**85**	*e*T	T	15 04 13.7		
	1.7nm,0.3s							
PPT2	**Papeete2**	**23.47**	**85**	*e*S	**S**	**14 44 28.3**	**-6.9**
	276nm,22.0s							
PPT2				*e*LQ	LQ	14 44 42.2		
	2µm,25.8s							
PPT2				*e*LR	LR	14 46 00.6		
	1µm,20.8s,baz=254							
PPT	**Papeete**	**23.48**	**85**	LR	LR	14 48 02.4		
	comp=Z,2µm,18.8s,baz=256,slow=32							
LTZ	**Lake Taylor**	**24.03**	**205**	*e*P	**P**	**14 40 30.8**	**+2.5**
	21nm,0.6s							
OXZ	**Oxford**	**24.58**	**205**	*e*P	**P**	**14 40 33.3**	**0.0**
	37nm,1.0s							
RPZ	**Rata Peaks**	**25.30**	**206**	P	**P**	**14 40 40.7**	**+0.9**
	16nm,0.7s,baz=312,slow=0.7,SNR=9.5							
RPZ				LR	LR	14 51 39.5		
	comp=Z,1µm,18.9s,baz=28,slow=39							
RPZ	**Rata Peaks**	**25.30**	**206**	*e*P	**P**	**14 40 39.8**	**0.0**
	23nm,0.8s							
FOZ	**Fox Glacier**	**25.66**	**208**	*e*P	**P**	**14 40 43.5**	**+0.4**
	88nm,1.3s							
LHI	**Lord Howe Isla**	**25.89**	**242**	*e*P	**P**	**14 40 42.6**	**-2.6**
	44nm,1.0s							
ODZ	**Otahua Downs**	**26.57**	**205**	*e*P	**P**	**14 40 53.0**	**+1.7**
WKZ	**Wanaka**	**27.05**	**207**	*e*P	**P**	**14 40 56.6**	**+1.0**
HNR	**Honiara**	**27.67**	**292**	LR	LR	14 51 26.2		
	comp=Z,661nm,18.4s,baz=142,slow=35							
MLZ	**Mavora Lakes**	**27.86**	**207**	*e*P	**P**	**14 41 03.6**	**+0.7**
	4.8nm,0.6s							
PYZ	**Puysegur Point**	**29.11**	**208**	*e*P	**P**	**14 41 14.2**	**+0.2**
	44nm,1.0s							
ARMA	**Armidale**	**31.91**	**247**	P	**P**	**14 41 40.2**	**+1.1**
	baz=32,SNR=5.0							
ARMA	**Armidale**	**31.91**	**247**	*e*P	**P**	**14 41 36.2**	**-2.9**
	10nm,0.9s							
RMQ	**Roma**	**34.16**	**254**	P	**P**	**14 41 59.4**	**+0.7**
	baz=35,SNR=4.7							
CAN	**Canberra**	**34.98**	**239**	P	**P**	**14 42 08.7**	**+2.9**
	baz=35							
TAOE	**Nuku Hiva Isla**	**35.06**	**74**	*e*S	**S**	**14 47 34.3**	**-3.2**
	132nm,24.0s							
TAOE				*e*LR	LR	14 51 08.6		
	739nm,20.8s,baz=244							
RKT	**Rikitea**	**36.19**	**100**	*e*S	**S**	**14 47 52.0**	**-2.6**
	158nm,27.5s							
RKT				*e*LR	LR	14 51 29.6		
	1µm,30.0s,baz=264							
CTA	**Charters Tower**	**36.98**	**265**	P	**P**	**14 42 23.1**	**+0.2**
	4.6nm,0.7s,baz=101,slow=12,SNR=5.8							
CTAO	**Charters Tower**	**36.98**	**265**	*e*P	**P**	**14 42 18.6**	**-4.3**
	7.3nm,0.8s							
CMSA	**Cobar Meteorol**	**37.10**	**246**	P	**P**	**14 42 23.8**	**-0.1**
	baz=38,SNR=11							
QLP	**Quilpie**	**38.21**	**254**	P	**P**	**14 42 33.6**	**+0.3**
	baz=39,SNR=5.8							
PMG	**Port Moresby**	**39.09**	**282**	P	**P**	**14 42 40.0**	**-0.7**
	18nm,0.9s,baz=94,slow=8.0,SNR=3.5							
PMG				LR	LR	14 57 44.7		
	comp=Z,750nm,18.3s,baz=147,slow=35							
PMG	**Port Moresby**	**39.09**	**282**	*e*P	**P**	**14 42 37.4**	**-3.3**
	22nm,0.9s							
MTSU	**Mount Surprise**	**39.14**	**267**	P	**P**	**14 42 41.6**	**+0.4**
	baz=40,SNR=6.8							
STKA	**Stephens Creek**	**40.61**	**246**	P	**P**	**14 42 53.1**	**-0.1**
	9.0nm,0.8s,baz=90,slow=11,SNR=11							
STKA				LR	LR	14 59 04.7		
	comp=Z,589nm,19.2s,baz=80,slow=35							
STKA	**Stephens Creek**	**40.61**	**246**	*e*P	**P**	**14 42 53.2**	**0.0**
	3.3nm,1.0s							
COEN	**Coen**	**41.24**	**273**	P	**P**	**14 42 59.1**	**+0.4**
	baz=42,SNR=4.5							
COEN	**Coen**	**41.24**	**273**	*e*P	**P**	**14 42 55.5**	**-3.1**
	7.2nm,0.8s							
HTT	**Hallett**	**42.96**	**244**	P	**P**	**14 43 12.4**	**-0.1**
	baz=43,SNR=3.9							
AS01	**Alice Springs**	**47.75**	**257**	*e*P	**P**	**14 43 48.5**	**-2.1**
AS31	**Alice Springs**	**47.79**	**257**	*e*P	**P**	**14 43 50.2**	**-0.7**
	5.2nm,1.0s							
ASAR	**Alice Springs**	**47.79**	**257**	P	**P**	**14 43 49.6**	**-1.4**
	15nm,0.8s,baz=103,slow=7.1,SNR=118							
ASAR				PcP	**PcP**	**14 45 21.1**	**+1.3**
	2.3nm,0.9s,baz=100,slow=4.4,SNR=2.9							
ASAR				S	**S**	**14 50 44.7**	**-1.3**
	1.2nm,1.1s,baz=96,slow=16,SNR=5.2							
ASAR				LR	LR	15 04 32.0		
	comp=Z,578nm,18.1s,baz=96,slow=37							
WRAB	**Tennant Creek**	**48.02**	**262**	*e*P	**P**	**14 43 50.2**	**-2.5**
	16nm,0.9s							
WRA	**Warramunga Arr**	**48.02**	**262**	P	**P**	**14 43 51.0**	**-1.7**
	12nm,1.0s,baz=99,slow=8.0,SNR=46							
WRA				PcP	**PcP**	**14 45 22.0**	**+1.5**
	1.3nm,0.6s,baz=97,slow=3.2,SNR=2.7							
WRA				S	**S**	**14 50 48.8**	**-0.6**
	0.7nm,1.1s,baz=139,slow=19,SNR=2.8							
WRKA	**Warakurna**	**52.65**	**254**	P	**P**	**14 44 26.9**	**-0.8**
	baz=53,SNR=28							
GUMO	**Guam**	**53.27**	**307**	LR	LR	15 06 56.5		
	comp=Z,146nm,18.0s,baz=133,slow=36							
KNRA	**Kununurra**	**54.18**	**266**	P	**P**	**14 44 39.3**	**+0.3**
	baz=54,SNR=4.0							
FITZ	**Fitzroy Crossi**	**56.45**	**262**	P	**P**	**14 44 54.8**	**-0.6**
	3.5nm,0.7s,baz=146,slow=10,SNR=9.5							
SBA	**Scott Base**	**57.09**	**185**	*e*P	**P**	**14 45 02.8**	**+3.8**
	15nm,1.3s							
VNDA	**Vanda**	**57.22**	**186**	P	**P**	**14 45 03.8**	**+3.9**
	1.7nm,0.8s,baz=59,slow=5.9,SNR=5.3							
VNDA				LR	LR	15 05 06.3		
	comp=Z,207nm,20.8s,baz=9.0,slow=31							
RPN	**Rapa Nui**	**58.75**	**109**	LR	LR	15 06 30.5		
	comp=Z,725nm,18.1s,baz=264,slow=32							
SOEI	**Soe**	**60.13**	**271**	*e*P	**P**	**14 45 21.4**	**+0.1**
	21nm,0.7s							
BATI	**Baumata**	**60.54**	**270**	LR	LR	15 12 18.3		
	comp=Z,298nm,18.0s,baz=141,slow=37							
KLBR	**Kellerberrin**	**60.88**	**245**	P	**P**	**14 45 26.8**	**+0.7**
	baz=61,SNR=5.8							
NWAO	**Narrogin (SRO)**	**61.12**	**243**	LR	LR	15 11 30.8		
	comp=Z,473nm,18.6s,slow=36							
MBWA	**Marble Bar**	**61.13**	**257**	*e*P	**P**	**14 45 27.1**	**-0.8**
	28nm,1.3s							
MORW	**Morawa**	**62.76**	**248**	P	**P**	**14 45 40.0**	**+1.2**
	baz=63,SNR=4.2							
DAV	**Davao City (W)**	**65.58**	**289**	LR	LR	15 12 39.7		
	comp=Z,77nm,19.5s,baz=151,slow=34							
QSPA	**South Pole Qui**	**68.52**	**180**	P	**P**	**14 46 18.1**	**+2.6**
	4.5nm,0.8s,baz=124,slow=1.5,SNR=11							
QSPA				LR	LR	15 12 09.6		
	comp=Z,372nm,20.6s,baz=38,slow=32							
QSPA	**South Pole Qui**	**68.52**	**180**	*e*P	**P**	**14 46 17.0**	**+1.6**
	29nm,1.5s							
MJAR	**Matsushiro Arr**	**73.23**	**322**	P	**P**	**14 46 43.9**	**-0.3**
	3.3nm,0.9s,baz=161,slow=6.3,SNR=7.5							
MJAR				LR	LR	15 15 15.1		
	comp=Z,122nm,20.7s,baz=180,slow=33							
JOW	**Kunigami**	**73.62**	**308**	LR	LR	15 14 45.0		
	comp=Z,147nm,21.3s,baz=119,slow=32							
JNU	**Nakatsue**	**75.54**	**315**	P	**P**	**14 46 56.9**	**-0.9**
	8.6nm,1.0s,baz=62,slow=2.4,SNR=4.2							
JNU				LR	LR	15 15 44.7		
	comp=Z,74nm,19.4s,baz=120,slow=32							
ASAJ	**Asahikawa**	**76.41**	**329**	P	**P**	**14 47 02.8**	**+0.3**
	2.4nm,0.9s,baz=153,slow=9.0,SNR=3.3							
LEM	**Lembang**	**76.61**	**268**	P	**P**	**14 47 05.7**	**+1.2**
	20nm,0.6s,baz=114,slow=20,SNR=5.8							
LPIG	**La Paz**	**76.89**	**57**	LR	LR	15 17 03.7		
	comp=Z,740nm,18.0s,baz=229,slow=33							
KSM	**Kuching**	**77.12**	**277**	*e*P	**P**	**14 47 05.2**	**-2.0**
	18nm,1.1s							
EDW2	**Edwards Air Fo**	**77.39**	**44**	P	**P**	**14 47 10.8**	**+2.5**
	baz=233							
ISA	**Isabella, Lake**	**77.55**	**44**	P	**P**	**14 47 11.6**	**+2.4**
	baz=232							
LRMC	**Laurel Mtn Rad**	**77.95**	**44**	P	**P**	**14 47 14.3**	**+2.8**
	baz=233							
PETK	**Petropavlovsk-**	**78.26**	**343**	P	**P**	**14 47 12.2**	**-0.5**
	2.7nm,0.7s,baz=112,slow=8.1,SNR=8.4							
PETK				LR	LR	15 17 05.1		
	comp=Z,286nm,20.6s,baz=154,slow=32							
N02D	**Trinity Center**	**78.42**	**37**	P	**P**	**14 47 16.8**	**+2.9**
	baz=228							
MPMC	**Manual Prospec**	**78.43**	**44**	P	**P**	**14 47 17.1**	**+2.8**
	baz=233							
YSS	**Yuzh-Sakhalins**	**78.49**	**331**	*e*P	**P**	**14 47 14.2**	**+0.1**
	12nm,0.8s							
YBH	**Yreka Blue Hor**	**78.92**	**37**	P	**P**	**14 47 17.7**	**+1.1**
	6.3nm,1.1s,baz=217,slow=8.8,SNR=5.8							
YBH				LR	LR	15 15 32.6		
	comp=Z,426nm,19.8s,baz=222,slow=31							
NVAR	**Mina Array Bea**	**79.37**	**41**	P	**P**	**14 47 19.9**	**+0.5**
	4.2nm,0.9s,baz=224,slow=8.5,SNR=18							
NVAR				LR	LR	15 16 36.2		
	comp=Z,438nm,19.2s,baz=95,slow=31							
KSRS	**Korea Array**	**80.09**	**317**	P	**P**	**14 47 24.1**	**+1.2**
	3.9nm,1.0s,baz=120,slow=5.7,SNR=13							
KSRS				LR	LR	15 18 47.1		
	comp=Z,100nm,20.3s,baz=124,slow=33							
KSAR	**Wonju Array Be**	**80.11**	**317**	P	**P**	**14 47 24.1**	**+1.1**
J05D	**Fort Rock, OR**	**80.77**	**36**	P	**P**	**14 47 27.6**	**+0.9**
	baz=229							
MAW	**Mawson**	**81.77**	**199**	LR	LR	15 23 00.7		
	comp=Z,470nm,18.4s,baz=76,slow=35							
USRK	**Ussuriysk Ar.**	**81.89**	**324**	P	**P**	**14 47 34.0**	**+1.6**
	1.7nm,0.7s,baz=123,slow=5.3,SNR=3.7							
USRK				LR	LR	15 19 57.8		
	comp=Z,533nm,20.5s,baz=126,slow=33							
NJ2	**Nanjing**	**83.34**	**308**	*e*P	**P**	**14 47 38.6**	**-1.7**
NJ2				pmax	pmax			
	comp=Z,4.0nm,0.5s							
MDJ	**Mudanjiang**	**83.48**	**323**	P	**P**	**14 47 41.0**	**+0.3**
MDJ				S	**S**	**14 58 01.9**	**+1.6**
MDJ				pmax	pmax			
	comp=Z,18nm,2.3s							
MDJ				LR	LR			
	comp=N,330nm,20.3s							
MDJ				LR	LR			
	comp=E,450nm,19.5s							
MDJ				LR	LR			
	comp=Z,810nm,20.7s							
B05A	**Bryant**	**83.64**	**32**	P	**P**	**14 47 42.0**	**+0.6**
	baz=228							
TMUT	**Trail Mountain**	**84.36**	**44**	*e*P	**P**	**14 47 46.0**	**+0.3**
	11nm,0.6s							
TXAR	**Lajitas Array**	**84.63**	**56**	P	**P**	**14 47 48.9**	**+1.9**
	1.0nm,1.0s,baz=225,slow=7.5,SNR=5.3							
TXAR				LR	LR	15 18 57.7		
	comp=Z,408nm,19.7s,baz=0.0,slow=31							
HLID	**Hailey**	**84.82**	**39**	P	**P**	**14 47 50.4**	**+2.6**
	baz=234							
SUA	**Susitna One**	**84.84**	**11**	*e*P	**P**	**14 47 47.4**	**0.0**
	19nm,1.1s							
GAMB	**Gambell**	**85.07**	**1**	*e*P	**P**	**14 47 47.5**	**-0.7**
	24nm,1.3s							
KLR	**Kul'dur**	**85.30**	**328**	LR	LR	15 21 20.8		
	comp=Z,29nm,20.7s,slow=32							
CN2	**Changchun**	**85.36**	**321**	*e*P	**P**	**14 47 51.6**	**+1.4**
CN2				*e*S	**S**	**14 58 19.9**	**+0.8**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CN2				LR	LR			
	comp=N,200nm,17.0s							
CN2				LR	LR			
	comp=E,300nm,17.0s							
BMRM	**Bremner River**	**85.63**	**14**	*e*P	**P**	**14 47 50.5**	**-0.8**
	20nm,1.2s							
SFER	**Spokane School**	**85.64**	**35**	*e*P	**P**	**14 47 55.3**	**+3.7**
MA2	**Magadan**	**85.80**	**343**	LR	LR	15 22 01.1		
	comp=Z,854nm,20.3s,baz=134,slow=33							
SCM	**Sheep Creek Mo**	**85.83**	**12**	*e*P	**P**	**14 47 52.2**	**0.0**
	12nm,0.8s							
PLCA	**Paso Flores**	**85.92**	**132**	LR	LR	15 17 57.8		
	comp=Z,297nm,20.0s,baz=258,slow=30							
CAST	**Castle Rocks**	**86.45**	**10**	*e*P	**P**	**14 47 54.3**	**-0.9**
	11nm,1.0s							
KTH	**Kantishna Hill**	**86.76**	**10**	*e*P	**P**	**14 47 55.0**	**-1.8**
	12nm,1.1s							
TRF	**Thorofare Moun**	**86.77**	**10**	*e*P	**P**	**14 47 56.6**	**-0.4**
	17nm,1.0s							
SNAA	**Sanae**	**86.83**	**177**	LR	LR	15 23 52.7		
	comp=Z,433nm,19.9s,baz=183,slow=34							
IPM	**Ipoh**	**86.83**	**276**	*e*P	**P**	**14 47 56.4**	**-1.8**
	18nm,0.9s							
MCK	**McKinley**	**87.27**	**11**	*e*P	**P**	**14 47 58.0**	**-1.2**
	21nm,1.0s							
PDAR	**Pinedale Array**	**87.30**	**42**	P	**P**	**14 48 00.7**	**+0.5**
	0.6nm,0.8s,baz=199,slow=3.1,SNR=5.5							
PDAR				LR	LR	15 20 11.7		
	comp=Z,240nm,19.4s,baz=255,slow=31							
KULM	**Kulim**	**87.48**	**277**	*e*P	**P**	**14 48 01.0**	**-0.4**
	6.7nm,0.8s							
WRH	**Wood River Hil**	**88.09**	**11**	*e*P	**P**	**14 48 03.0**	**-0.1**
	16nm,1.0s							
DOT	**Dot Lake**	**88.13**	**13**	*e*P	**P**	**14 48 03.3**	**-0.1**
	23nm,1.0s							
PSI	**Prapat**	**88.17**	**274**	*e*P	**P**	**14 48 02.5**	**-2.3**
	20nm,1.2s							
HDA	**Harding Lake**	**88.25**	**11**	*e*P	**P**	**14 48 02.6**	**-1.2**
	17nm,1.2s							
CCB	**Clear Creek Bu**	**88.31**	**11**	*e*P	**P**	**14 48 03.2**	**-0.9**
	15nm,1.5s							
SCRK	**Sand Creek**	**88.44**	**13**	*e*P	**P**	**14 48 05.5**	**+0.5**
	7.8nm,1.1s							
COLA	**College**	**88.51**	**11**	*e*P	**P**	**14 48 02.0**	**-3.0**
	36nm,1.5s							
IL1	**Eielson Array**	**88.59**	**11**	*e*P	**P**	**14 48 05.2**	**-0.3**
ILAR	**Eielson Array**	**88.59**	**11**	P	**P**	**14 48 05.6**	**+0.2**
	3.7nm,1.0s,baz=220,slow=6.0,SNR=14							
SKNT	**Sakolnakorn**	**88.86**	**289**	P	**P**	**14 48 09.2**	**+1.4**
	21nm,1.9s							
GSI	**Gunungsitoli**	**88.87**	**272**	*e*P	**P**	**14 48 06.8**	**-1.3**
	39nm,1.1s							
TRTT	**Trang**	**89.30**	**279**	P	**P**	**14 48 12.6**	**+2.6**
	11nm,1.3s,234nm							
SRAK	**Srakaew**	**89.46**	**285**	P	**P**	**14 48 15.2**	**+4.6**
	25nm,1.6s,433nm							
DAWY	**Dawson**	**89.52**	**15**	*e*P	**P**	**14 48 11.3**	**+1.4**
	17nm,1.5s							
ENH	**Enshi**	**89.62**	**303**	*e*P	**P**	**14 48 09.5**	**-1.6**
	38nm,1.3s							
EGAK	**Eagle**	**89.74**	**13**	*e*P	**P**	**14 48 11.1**	**+0.3**
	6.6nm,1.0s							
GYA	**Guiyang**	**90.31**	**298**	*e*P	**P**	**14 48 14.0**	**-0.6**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
XAN	**Xi'an**	**91.65**	**306**	P	**P**	**14 48 22.8**	**+2.3**
XAN				pP	pP	14 48 27.0	-3.1
XAN				pmax	pmax			
	comp=Z,11nm,1.7s							
XAN				pmax	pmax			
	comp=Z,150nm,5.0s							
PHIT	**Phitsanulok**	**92.09**	**288**	P	**P**	**14 48 26.9**	**+4.0**
	8.4nm,1.0s							
HHC	**Hu-ho-hao-te**	**92.68**	**313**	*e*P	**P**	**14 48 26.5**	**+1.3**
HHC				SKS	**SKSac**	**14 58 57.4**	**+0.4**
HHC				S	**S**	**14 59 23.8**	**-4.4**
HHC				SS	**SS**	**15 05 43.5**	**+1.8**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,110nm,4.9s							
HHC				LR	LR			
	comp=N,160nm,14.8s							
HHC				LR	LR			
	comp=E,160nm,12.3s							
JTS	**JuntasAbangare**	**92.97**	**80**	LR	LR	15 22 40.7		
	comp=Z,234nm,18.4s,baz=183,slow=30							
KMI	**Kunming**	**93.04**	**296**	P	**P**	**14 48 27.1**	**-0.3**
KMI				pP	PcP	14 48 30.5	+2.5
KMI				SKS	**SKSac**	**14 58 56.9**	**-3.0**
KMI				S	**S**	**14 59 29.8**	**-2.6**
KMI				pmax	pmax			
	comp=Z,11nm,0.5s							
KMI				pmax	pmax			
	comp=Z,120nm,3.2s							
KMI				LR	LR			
	comp=N,68nm,5.2s							
KMI				LR	LR			
	comp=E,97nm,5.2s							
LAMP	**Lampang**	**93.28**	**288**	P	**P**	**14 48 31.5**	**+3.2**
	4.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**93.86**	**288**	P	**P**	**14 48 33.0**	**+1.9**
	2.5nm,0.8s,baz=122,slow=3.1,SNR=16							
CMAR				LR	LR	15 33 14.5		
	comp=Z,37nm,18.1s,baz=151,slow=37							
CMMT	**Chiang Mai**	**93.99**	**289**	P	**P**	**14 48 33.4**	**+1.8**
	9.0nm,2.0s							
CHTO	**Chiang Mai**	**93.99**	**289**	P	**P**	**14 48 34.5**	**+2.9**
	39nm,2.0s							
CHTO	**Chiang Mai**	**93.99**	**289**	P	**P**	**14 48 30.2**	**-1.4**
	8.6nm,1.1s							
CMAI	**Chiengmai2**	**94.31**	**290**	P	**P**	**14 48 36.3**	**+3.0**
	48nm,1.9s							
CD2	**Chengdu**	**94.40**	**301**	*e*P	**P**	**14 48 32.5**	**-0.8**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,140nm,5.0s							
YKA	**Yellowknife Ar**	**95.99**	**24**	P	**P**	**14 48 40.4**	**+0.7**
	0.3nm,0.7s,baz=216,slow=5.6,SNR=5.4							
YKA				LR	LR	15 29 36.1		
	comp=Z,11nm,18.0s,baz=180,slow=34							
ECSD	**EROS Data Cent**	**96.08**	**45**	P	**P**	**14 48 41.0**	**+0.4**
	baz=246							
LZH	**Lanzhou**	**96.28**	**306**	*e*P	**P**	**14 48 41.0**	**-0.9**
LZH				pP	PcP	14 48 45.3	+3.2
LZH				sP	pP	14 48 48.3	-3.2
LZH				*e*PP	**PP**	**14 52 35.3**	**-0.5**
LZH				pmax	pmax			
	comp=Z,15nm,1.0s							
LZH				pmax	pmax			
	comp=Z,83nm,6.4s							
LZH				LR	LR			
	comp=N,260nm,16.3s							
LZH				LR	LR			
	comp=E,300nm,15.7s							
LZH				LR	LR			
	comp=Z,250nm,18.4s							
LPAZ	**La Paz**	**98.33**	**111**	LR	LR	15 27 01.6		
	comp=Z,389nm,18.1s,baz=256,slow=32							
SONM	**Songino Array**	**98.93**	**318**	P	Pdif	14 48 55.2	+1.7
	0.2nm,0.4s,baz=101,slow=2.9,SNR=3.8							
SONM				LR	LR	15 29 37.8		
	comp=Z,76nm,20.5s,baz=118,slow=33							
ULM	**Lac du Bonnet**	**99.12**	**40**	LR	LR	15 28 19.2		
	comp=Z,374nm,19.8s,baz=253,slow=32							
WMQ	**Urumqi**	**110.34**	**310**	*e*PKP	**PKiKP**	**14 53 44.5**	**-0.8**
WMQ				LR	LR			
	comp=N,97nm,18.3s							
WMQ				LR	LR			
	comp=E,230nm,27.5s							
WMQ				LR	LR			
	comp=Z,230nm,24.5s							
ZALV	**Zalesovo Beam**	**113.58**	**321**	PKiKP	**PKiKP**	**14 53 50.9**	**-0.1**
	0.8nm,0.6s,baz=198,slow=2.0,SNR=5.0							
MKAR	**Makanchi Array**	**114.55**	**313**	PKP	PKPdf	14 53 53.8	+0.7
	0.3nm,0.6s,baz=112,slow=0.5,SNR=5.2							
KURBB	**Kurchatov Arra**	**117.27**	**317**	PKP	**PKPdf**	**14 53 57.8**	**-0.3**
	0.9nm,0.9s,baz=92,slow=1.7,SNR=5.9							
KSH	**Kashi**	**118.45**	**304**	*e*PKP	**PKPdf**	**14 54 06.8**	**+5.8**
BVAR	**Borovoye Array**	**122.20**	**320**	PKP	**PKPdf**	**14 54 08.2**	**+0.6**
	1.5nm,0.7s,baz=97,slow=2.7,SNR=8.8							
ARCES	**ARCESS Array B**	**130.56**	**351**	PKP	**PKPdf**	**14 54 24.2**	**+1.1**
	2.9nm,0.8s,baz=352,slow=3.6,SNR=4.9							
SUW	**Suwalki**	**145.02**	**342**	*e*PKP	**PKPdf**	**14 54 51.2**	**+1.2**
EKA	**Eskdalemuir Ar**	**145.60**	**9**	PKPbc	**PKPab**	**14 54 51.9**	**+0.4**
	0.4nm,0.4s,baz=332,slow=4.4,SNR=2.8							
AKASG	**Malin Array Si**	**145.62**	**333**	PKPbc	**PKPdf**	**14 54 51.2**	**0.0**
	2.8nm,0.6s,baz=38,slow=3.6,SNR=27							
KIEV	**Kiev**	**145.63**	**333**	*e*P	**PKPdf**	**14 54 49.3**	**-1.9**
AK11	**Malin Array Si**	**145.66**	**333**	*e*PKPbc	**PKPdf**	**14 54 51.3**	**+0.1**
OJC	**Ojcow**	**149.35**	**342**	*e*PKP	**PKPbc**	**14 55 02.9**	**+1.1**
STHS	**Stebnicka Huta**	**149.63**	**340**	*e*PKP	**PKPbc**	**14 55 04.8**	**+2.3**
STHS				*e*		14 55 12.6		
KSP	**Ksiaz**	**149.64**	**347**	*e*PKP	**PKPbc**	**14 55 04.5**	**+2.0**
CLL	**Collm**	**149.78**	**351**	*i* PKPbc	**PKPbc**	**14 55 03.1**	**+0.3**
	comp=Z,33nm,1.8s							
CLL				*i* PKPab	**pPKPdf**	**14 55 07.2**	**-0.6**
	comp=Z,17nm,1.3s							
CLL				*i* pPKPbc	**pPKPbc**	**14 55 12.2**	**-0.3**
CLL				*e*PSKS		15 09 09.0		
CLL				*e*PPS	PPS	15 11 48.0		
CLL				*e*		15 23 18.0		
CLL				*e*SSS	SSS	15 23 54.0		
CLL				Lm	MLR	16 08 00.0		
	comp=N,100nm,19.9s							
CLL				Lm	MLR	16 08 00.0		
	comp=E,100nm,19.9s							
CLL				Lm	MLR	16 08 00.0		
	comp=Z,200nm,18.9s							
NIE	**Niedzica**	**149.92**	**341**	*e*PKP	**PKPbc**	**14 55 05.2**	**+1.9**
CRVS	**Cervenica-Dubn**	**150.00**	**339**	*e*PKP	**PKPbc**	**14 55 05.7**	**+2.2**
BRG	**Berggiesshubel**	**150.06**	**350**	*e*PKP	**PKPbc**	**14 55 05.1**	**+1.7**
	comp=Z,87nm,2.2s							
BRG				*e*		14 55 16.4		
	comp=Z,15nm,1.4s							
DPC	**Dobruska-Polom**	**150.10**	**346**	*e*PKP	**PKPbc**	**14 55 06.1**	**+2.4**
DPC				*e*pPKP	**sPKPbc**	**14 55 13.6**	**-3.2**
BRTR	**Keskin Array B**	**150.19**	**314**	PKPbc	**PKPbc**	**14 55 04.3**	**-0.1**
	comp=Z,5.4nm,1.1s,baz=116,slow=3.0,SNR=9.9							
MORC	**Moravsky Berou**	**150.35**	**345**	*e*PKPbc	**PKPbc**	**14 55 05.4**	**+1.1**
BR231	**Keskin MP Arra**	**150.71**	**315**	*e*PKPbc	**PKPbc**	**14 55 04.6**	**-0.9**
PRU	**Pruhonice**	**150.80**	**348**	*e*PKPAB	**PKPab**	**14 55 10.1**	**-2.3**
PRU				AMS	AMS	16 05 00.0		
	comp=Z,200nm,18.6s

LIA	**Limnos Island**	**0.62**	**228**	P	**Pg**	**14 35 30.0 -1.3**
LIA				S	**Sg**	**14 35 40.0 +0.5**
LIA	**Limnos Island**	**0.62**	**228**	P	**Pg**	**14 35 30.0 -1.3**
LIA				S	**Sg**	**14 35 40.0 +0.5**
ERIK	**Erikli-Kesan**	**0.66**	**57**	PG	**Pn**	**14 35 34.0 -0.5**
ERIK	**Erikli-Kesan**	**0.66**	**57**	*e*Pg	**Pn**	**14 35 34.0 -0.5**
LPK	**Lapseki**	**0.75**	**85**	PG	**Pn**	**14 35 35.3 -0.5**
LPK	**Lapseki**	**0.75**	**85**	*e*Pg	**Pn**	**14 35 35.3 -0.5**
RDO	**Rodhopi**	**0.85**	**347**	P	**Pg**	**14 35 35.0 -0.7**
RDO	**Rodhopi**	**0.85**	**347**	P	**Pg**	**14 35 35.0 -0.7**
SIGR	**SIGRI**	**1.10**	**177**	PG	**Pn**	**14 35 41.6 +0.9**
SIGR	**SIGRI**	**1.10**	**177**	*e*Pg	**Pn**	**14 35 41.6 +0.9**
SIGR	**SIGRI**	**1.10**	**177**	P	**Pb**	**14 35 37.6 -2.8**
SIGR				S	**Sg**	**14 35 52.8 -2.1**
RKY	**Sarkoy-Tekirda**	**1.13**	**70**	PN	**Pn**	**14 35 41.9 +0.9**
RKY	**Sarkoy-Tekirda**	**1.13**	**70**	*e*Pn	**Pn**	**14 35 41.9 +0.9**
PRK	**Paraskevi**	**1.13**	**160**	P	**Pb**	**14 35 38.0 -2.8**
PRK				S	**Sb**	**14 35 53.1 -2.5**
KRBG	**Karabiga-Canak**	**1.16**	**86**	PN	**Pn**	**14 35 42.7 +1.3**
KRBG	**Karabiga-Canak**	**1.16**	**86**	*e*Pn	**Pn**	**14 35 42.7 +1.3**
OUR	**Ouranopolis**	**1.38**	**271**	PN	**Pb**	**14 35 46.6 +1.6**
OUR	**Ouranopolis**	**1.38**	**271**	*e*Pn	**Pb**	**14 35 46.6 +1.6**
GONE	**Gonen-Balikesi**	**1.48**	**100**	PN	**Pg**	**14 35 46.9 -0.8**
GONE	**Gonen-Balikesi**	**1.48**	**100**	*e*Pn	**Pg**	**14 35 46.9 -0.8**
EDRB	**Edirne**	**1.69**	**25**	PN	**Pb**	**14 35 50.7 +0.3**
EDRB	**Edirne**	**1.69**	**25**	*e*Pn	**Pb**	**14 35 50.7 +0.3**
SBT3	**Marmara-Eregli**	**1.76**	**70**	PN	**Pb**	**14 35 50.9 -0.6**
SBT3	**Marmara-Eregli**	**1.76**	**70**	*e*Pn	**Pb**	**14 35 50.9 -0.6**
CHOS	**Chios island**	**1.94**	**174**	PN	**Pb**	**14 35 53.5 -1.1**
CHOS	**Chios island**	**1.94**	**174**	*e*Pn	**Pb**	**14 35 53.5 -1.1**

MAN 22 14:39:27.9±14.4N×126.3°53.6E, h4km, mb4.6, ML3.5, MS3.3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.91**	**259**	*e*P	Pb	14 39 45.0	-0.4
BUTP				*e*S	Sb	14 39 57.1	-0.7
BIPH	**Bislig**	**0.96**	**190**	*i*P	Pg	14 39 45.8	+0.3
BIPH				*i* S	Sg	14 39 57.3	-0.7
SCPH	**Surigao**	**1.21**	**302**	*e*P	Pg	14 39 50.0	-0.2
SCPH				*e*S	Sg	14 40 05.6	-0.2
BUKP	**Musuan**	**1.91**	**229**	*e*P	Pn	14 40 01.4	+1.0
BUKP				*e*S	Sb	14 40 25.9	-0.9
MSLP	**Maasin**	**1.92**	**301**	*e*P	Pn	14 40 01.4	+0.9
MSLP				*e*S	Sn	14 40 25.6	+0.5
PLP	**Palo**	**2.52**	**323**	*e*P	Pn	14 40 10.1	+1.3
PLP				*i* S	Sn	14 40 41.9	+1.9
TBP	**Tagbilaran**	**2.68**	**282**	*e*P	Pn	14 40 11.6	+0.6
TBP				*i* S	Sn	14 40 43.4	-0.6
CNP	**Catarman**	**3.82**	**332**	*e*P	Pn	14 40 27.6	+1.0

MAN 22 14:48:17, 10.17N×122.16E, h1km, mb4.2, ML3.0, MS2.7, 2C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**0.61**	**340**	*e*P	Pn	14 48 33.3	+0.5
GUIM	**Jordan**	**0.61**	**43**	*e*P	Pg	14 48 29.7	+0.8
GUIM				*e*S	Sg	14 48 37.4	+0.5
SNPH	**Sibulan**	**1.34**	**128**	*i*P	Pn	14 48 42.8	-0.1
SNPH				*i* S	Sg	14 48 59.5	-0.6
RCP	**Roxas**	**1.49**	**22**	*e*P	Pn	14 48 45.3	+0.3
RCP				*e*S	Sn	14 49 06.5	+1.4
OTRP	**Odiongan**	**2.18**	**356**	*e*P	Pg	14 48 59.8	+0.2
SJMP	**San Jose**	**2.50**	**336**	*e*P	Pn	14 48 59.6	+0.9
SJMP				*e*S	Sb	14 49 34.8	+0.9
BUSP	**Coron**	**2.65**	**314**	*e*P	Pn	14 49 02.3	+1.4
MSLP	**Maasin**	**2.65**	**91**	*e*P	Pn	14 49 02.5	+1.5
MSLP				*e*S	Sn	14 49 31.1	-2.7
ENPP	**El Nido**	**2.88**	**291**	*e*P	Pn	14 49 06.0	+1.9

*IDC **22** 14:59:36.1±2.4, 9.89S×112.30E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/55, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=111.5km s-min=19.9km az=49.0*
*DJA **22** 14:59:45.4±1.0, 10.5S±6.6×11.3E±, h21km±11km, M3.8/11, MLv3.8/11*

ISC 22 14:59:40.0±2.1, 9.46S±0.10×112.72E±0.04, h11km±14km, n16, σ1.36°/22, mb4.0/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.38**	**31**	P	**Pg**	**15 00 06.6**	**+0.1**
GMJI				S	**Sg**	**15 00 23.2**	**-1.2**
PWJI	**Pagerwojo**	**1.69**	**327**	P	**Pg**	**15 00 13.6**	**+1.1**
PWJI				S	**Sg**	**15 00 34.4**	**0.0**
JAGI	**Jajag, Banyuwa**	**1.72**	**55**	P	**Pg**	**15 00 13.4**	**+0.4**
JAGI				S	**Sg**	**15 00 34.7**	**-0.7**
BLJI	**Banyuglugur**	**1.91**	**27**	P	**Pg**	**15 00 17.1**	**+0.5**
BLJI				S	**Sg**	**15 00 40.0**	**-1.4**
PCJI	**Pacitan**	**1.98**	**309**	P	**Pg**	**15 00 18.0**	**+0.1**
PCJI				S	**Sg**	**15 00 43.5**	**-0.1**
ABJI	**Asem Bagus**	**2.23**	**42**	P	**Pb**	**15 00 21.3**	**+1.0**
ABJI				S	**Sg**	**15 00 51.7**	**0.0**
GRJI	**Gresik**	**2.54**	**355**	P	**Pg**	**15 00 27.5**	**-1.2**
UGM	**Wanagama**	**2.66**	**305**	P	**Pb**	**15 00 27.8**	**+0.1**
KMMI	**Kalianget**	**2.69**	**27**	P	**Pb**	**15 00 27.7**	**-0.5**
PLAI	**Plampang**	**5.03**	**83**	P	**Pn**	**15 00 59.1**	**+3.6**
FITZ	**Fitzroy Crossi**	**15.20**	**126**	Pn	**Pn**	**15 03 11.5**	**-3.2**
	0.2nm,0.3s,baz=300,slow=9.1,SNR=5.2						
WRA	**Warramunga Arr**	**23.33**	**119**	P	**P**	**15 04 47.5**	**-1.0**
	0.4nm,0.4s,baz=290,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**24.68**	**128**	P	**P**	**15 05 00.5**	**-0.8**
	1.0nm,0.7s,baz=303,slow=8.9,SNR=20						
SONM	**Songino Array**	**57.31**	**355**	P	**P**	**15 09 28.1**	**+0.1**
	1.1nm,0.7s,baz=182,slow=8.3,SNR=5.3						
MKAR	**Makanchi Array**	**62.23**	**337**	P	**P**	**15 10 01.8**	**0.0**
	0.6nm,0.5s,baz=145,slow=7.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**67.44**	**343**	P	**P**	**15 10 35.0**	**-0.5**
	0.9nm,0.6s,baz=157,slow=3.5,SNR=5.8						

*IDC **22** 15:13:08.8±0.7, 0.51S×125.47E, h0km, mb4.3/15, mb1 4.3/16, mb1mx4.0/59, mbtmp4.3/16, MS3.6/1, Ms1 3.6/1, ms1mx2.7/56, Error ellipse: s-maj=33.1km s-min=13.9km az=77.0*
*NEIC **22** 15:13:10.1±2.4, 0.47S×125.60E, h8km±15km, mb4.7/19, Error ellipse: s-maj=7.6km s-min=3.8km az=70.0*
*ISCJB **22** 15:13:12.2±0.2, 0.44S±0.04×125.72E±0.05, h35km, mb4.4/34, Error ellipse: s-maj=7.8km s-min=3.7km az=150.3*
*DJA **22** 15:13:13.8±1.1, 1.1S±5.2×12.6E±, h16km±9km, M3.9/6, MLv3.9/6*

ISC 22 15:13:14.2±0.5, 0.45S±0.05×125.84E±0.05, h35km, n83, σ1.32°/84, mb4.5/34, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.59**	**175**	P	**Pn**	**15 13 39.4**	**-0.6**
LBMI	**Labuha**	**1.67**	**96**	P	**Pn**	**15 13 41.2**	**+0.1**
TNTI	**Ternate**	**1.95**	**51**	*e*Pn	**Pn**	**15 13 47.0**	**+2.1**
KMSI	**Cibinong**	**2.12**	**299**	P	**Pn**	**15 13 48.1**	**+0.9**
KMSI				S	**Sn**	**15 14 15.6**	**+3.3**
NLAI	**Namlea**	**3.04**	**156**	P	**Pn**	**15 14 00.2**	**+0.3**
NLAI				S	**Sn**	**15 14 35.3**	**+0.2**
LUWI	**Luwuk**	**3.12**	**259**	P	Pn	15 14 08.1	+7.1
LUWI	**Luwuk**	**3.12**	**259**	*e*Pn	**Pn**	**15 14 04.2**	**+3.2**
MRSI	**Marisa**	**4.00**	**283**	P	**Pn**	**15 14 14.9**	**+1.8**
APSI	**Ampana**	**4.21**	**264**	P	**Pn**	**15 14 17.0**	**+1.0**
MSAI	**Masohi**	**4.22**	**133**	P	**Pn**	**15 14 18.4**	**+2.3**
MSAI				S	**Sn**	**15 15 07.4**	**+3.2**
TTSI	**Tana Toraja**	**6.54**	**247**	P	**Pn**	**15 14 48.7**	**+0.6**
FAKI	**Fak Fak**	**6.86**	**111**	*e*Pn	**Pn**	**15 14 52.5**	**0.0**
FAKI				*e*Sn	**Sn**	**15 16 04.7**	**-4.7**
MYLDM	**Lahad Datu**	**9.22**	**307**	*e*Pn	**Pn**	**15 15 22.5**	**-2.3**
SOEI	**Soe**	**9.37**	**190**	*e*Pn	Pn	15 15 22.7	-4.3
BATI	**Baumata**	**9.93**	**193**	LR	LR	15 20 58.9	
	comp=Z,297nm,18.5s,baz=113,slow=48						
MTN	**Manton Dam**	**13.38**	**157**	*e*Pn	**Pn**	**15 16 22.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**17.54**	**181**	P	**Pn**	**15 17 14.0**	**-2.0**
	baz=13,slow=11						
WRAB	**Tennant Creek**	**21.08**	**157**	*e*P	**P**	**15 17 55.3**	**-0.4**
	6.3nm,0.8s						
WRAB				*e*S	Sn	15 21 54.5	-1.4
WR1	**Warramunga Arr**	**21.08**	**157**	*e*P	**P**	**15 17 54.8**	**-1.0**
	12nm,1.2s						
WRA	**Warramunga Arr**	**21.08**	**157**	P	**P**	**15 17 54.8**	**-1.0**
	3.3nm,0.4s,baz=334,slow=11,SNR=82						
WB2	**Warramunga Arr**	**21.09**	**157**	*e*P	**P**	**15 17 57.4**	**+1.6**
COEN	**Coen**	**21.78**	**129**	*e*P	**P**	**15 18 05.1**	**+1.8**
	15nm,1.2s						
YULB	**Yu-li**	**24.11**	**350**	*e*P	**P**	**15 18 24.7**	**-2.2**
	78nm,1.9s						
TPUB	**Ta-pu**	**24.15**	**348**	*e*P	**P**	**15 18 25.6**	**-1.6**
	140nm,1.9s						
AS31	**Alice Springs**	**24.37**	**162**	*e*P	**P**	**15 18 29.7**	**+0.5**
	2.1nm,1.1s						
ASAR	**Alice Springs**	**24.37**	**162**	P	**P**	**15 18 29.9**	**+0.6**
	4.1nm,0.8s,baz=346,slow=12,SNR=64						
AS01	**Alice Springs**	**24.38**	**162**	*e*P	**P**	**15 18 30.1**	**+0.7**
SSLB	**Suanglung**	**24.56**	**349**	*e*P	**P**	**15 18 30.9**	**-0.1**
	74nm,2.0s						
NACB	**Ninganchiao**	**24.82**	**351**	*e*P	**P**	**15 18 33.8**	**+0.5**
	18nm,0.8s						
ENH	**Enshi**	**34.29**	**334**	*e*P	**P**	**15 19 54.9**	**-2.5**
	4.7nm,0.8s						
STKA	**Stephens Creek**	**34.62**	**156**	P	**P**	**15 20 01.1**	**+0.9**
	3.3nm,0.9s,baz=323,slow=7.0,SNR=5.6						
STKA	**Stephens Creek**	**34.62**	**156**	*e*P	**P**	**15 20 00.6**	**+0.4**
	7.2nm,1.7s						
KS15	**Wonju Array Si**	**37.76**	**3**	*e*P	**P**	**15 20 27.2**	**+0.3**
KSAR	**Wonju Array Be**	**37.76**	**3**	P	**P**	**15 20 27.9**	**+1.0**
KSRS	**Korea Array**	**37.77**	**3**	P	**P**	**15 20 27.9**	**+0.9**
	3.6nm,0.6s,baz=179,slow=9.7,SNR=23						
KS01	**Wonju Array Si**	**37.79**	**3**	*e*P	**P**	**15 20 27.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**44.80**	**6**	P	**P**	**15 21 25.3**	**+0.7**
	2.4nm,0.6s,baz=199,slow=7.7,SNR=7.7						
ASAJ	**Asahikawa**	**46.83**	**17**	P	**P**	**15 21 40.9**	**+0.2**
	2.5nm,0.7s,baz=192,slow=9.3,SNR=5.4						
ASAJ	**Asahikawa**	**46.83**	**17**	*e*P	**P**	**15 21 41.0**	**+0.3**
	8.9nm,1.3s						
KLR	**Kul'dur**	**49.75**	**5**	P	**P**	**15 22 03.0**	**-0.1**
	0.1nm,0.6s,baz=171,slow=7.2,SNR=6.1						
SONA0	**Songino Array**	**50.99**	**343**	*e*P	**P**	**15 22 11.8**	**-0.9**
SONM	**Songino Array**	**50.99**	**343**	P	**P**	**15 22 11.8**	**-0.9**
	1.0nm,0.7s,baz=157,slow=7.9,SNR=7.9						
SONA1	**Songino Array**	**51.00**	**343**	*e*P	**P**	**15 22 11.5**	**-1.2**
PETK	**Petropavlovsk-**	**59.62**	**22**	P	**P**	**15 23 15.8**	**+1.2**
	2.4nm,0.5s,baz=172,slow=3.3,SNR=15						
PEA1	**Petropavlovsk-**	**59.62**	**22**	*e*P	**P**	**15 23 15.8**	**+1.1**
BKZ	**Black Stump Fm**	**60.15**	**136**	*e*P	**P**	**15 23 19.8**	**+1.2**
	53nm,1.7s						
MK01	**Makanchi Array**	**60.49**	**327**	*e*P	**P**	**15 23 19.9**	**-0.9**
MK31	**Makanchi Array**	**60.51**	**327**	*e*P	**P**	**15 23 19.9**	**-1.0**
MK32	**Makanchi Array**	**60.51**	**327**	*e*P	**P**	**15 23 19.6**	**-1.3**
MKAR	**Makanchi Array**	**60.51**	**327**	P	**P**	**15 23 19.6**	**-1.3**
	1.2nm,0.4s,baz=122,slow=7.8,SNR=29						
MKAR	**Makanchi Array**	**60.51**	**327**	*e*P	**P**	**15 23 19.9**	**-1.0**
	16nm,1.0s						
BFZ	**Birch Farm**	**60.67**	**138**	*e*P	**P**	**15 23 23.8**	**+1.7**
	141nm,1.8s						
MAKZ	**Makanchi**	**60.69**	**327**	*e*P	**P**	**15 23 21.1**	**-1.0**
	14nm,1.9s						
KDJ	**Kajisay**	**60.92**	**320**	*e*P	**P**	**15 23 23.3**	**-0.6**
	1.9nm,1.1s						
YAK	**Yakutsk**	**62.39**	**2**	P	**P**	**15 23 33.6**	**+0.4**
	9.5nm,0.6s,baz=89,slow=1.2,SNR=8.4						
YAK	**Yakutsk**	**62.39**	**2**	*e*P	**P**	**15 23 33.1**	**-0.1**
	12nm,0.7s						
MA2	**Magadan**	**62.95**	**14**	P	**P**	**15 23 38.6**	**+1.6**
	4.9nm,0.8s,baz=263,slow=4.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**63.92**	**334**	P	**P**	**15 23 42.3**	**-1.2**
	0.8nm,0.4s,baz=138,slow=7.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**63.92**	**334**	*e*P	**P**	**15 23 42.8**	**-0.7**
ZAA1	**Zalesovo Array**	**63.92**	**334**	*e*P	**P**	**15 23 42.3**	**-1.2**
KURBB	**Kurchatov Arra**	**64.80**	**329**	P	**P**	**15 23 48.3**	**-1.0**
	1.8nm,0.6s,baz=130,slow=5.9,SNR=21						
KURK	**Kurchatov**	**64.80**	**329**	*e*P	**P**	**15 23 48.5**	**-0.8**
KK05	**Karatay Array**	**65.71**	**319**	*e*P	**P**	**15 23 53.5**	**-2.0**
KK03	**Karatay Array**	**65.72**	**319**	*e*P	**P**	**15 23 54.1**	**-1.5**
BVAR	**Borovoye Array**	**70.35**	**328**	P	**P**	**15 24 23.5**	**-0.9**
	0.5nm,0.3s,baz=129,slow=6.7,SNR=7.7						
BRVK	**Borovoye**	**70.42**	**328**	*e*P	**P**	**15 24 24.5**	**-0.3**
	1.4nm,0.8s						
TIXI	**Tiksi**	**72.01**	**1**	*e*P	**P**	**15 24 34.0**	**-0.1**
	9.9nm,2.0s						
AB07	**Akbulak array**	**74.82**	**322**	*e*P	**P**	**15 24 50.5**	**-0.5**
AB06	**Akbulak array**	**74.82**	**322**	*e*P	**P**	**15 24 50.5**	**-0.5**
AB02	**Akbulak array**	**74.83**	**322**	*e*P	**P**	**15 24 50.4**	**-0.8**
AB03	**Akbulak array**	**74.83**	**322**	*e*P	**P**	**15 24 50.4**	**-0.8**
AB01	**Akbulak array**	**74.83**	**322**	*e*P	**P**	**15 24 50.5**	**-0.6**
AB31	**Akbulak array**	**74.83**	**322**	*e*P	**P**	**15 24 50.8**	**-0.3**
ABKAR	**Akbulak array**	**74.83**	**322**	*e*P	**P**	**15 24 50.8**	**-0.4**
	15nm,0.8s						
AB08	**Akbulak array**	**74.84**	**322**	*e*P	**P**	**15 24 50.7**	**-0.5**
AB04	**Akbulak array**	**74.84**	**322**	*e*P	**P**	**15 24 50.5**	**-0.7**
AB05	**Akbulak array**	**74.84**	**322**	*e*P	**P**	**15 24 50.6**	**-0.5**
AB09	**Akbulak array**	**74.85**	**322**	*e*P	**P**	**15 24 50.9**	**-0.3**
AKTO	**Aktyubinsk**	**76.39**	**322**	P	**P**	**15 24 59.4**	**-0.7**
	3.8nm,0.6s,baz=99,slow=7.1,SNR=20						
ARU	**Arti**	**77.99**	**328**	*e*P	**P**	**15 25 09.3**	**+0.4**
	8.5nm,1.3s						
SDPT	**Sand Point**	**81.14**	**34**	*e*P	**P**	**15 25 26.5**	**+0.5**
	112nm,1.3s						
TORD	**Torodi Ar. Bea**	**123.26**	**285**	PKP	**PKPdf**	**15 32 08.4**	**-0.1**
	0.4nm,0.6s,baz=61,slow=2.5,SNR=2.4						
TOA1	**Torodi Ar. Sit**	**123.27**	**285**	*e*PKPdf	**PKPdf**	**15 32 08.4**	**-0.1**

*ISCJB **22** 15:15:16.0±0.9, 38.63N±0.06×143.64E±0.08, h15km, mb3.6/4, Error ellipse: s-maj=10.5km s-min=7.4km az=40.2*
*IDC **22** 15:15:15.1±1.3, 38.59N×143.70E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.4/69, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=42.0km s-min=20.0km az=94.0*
*JMA **22** 15:15:17.8±0.3, 38.74N×143.36E, h7km±5km, M3.4*

ISC 22 15:15:16.5±1.2, 38.72N±0.06×143.56E±0.09, h15km, n28, σ2.32°/27, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.52**	**284**	P	**Pn**	**15 15 43.1**	**0.0**
MIYJ	**Miyakonagasawa**	**1.60**	**303**	P	**Pn**	**15 15 44.1**	**-0.1**
JIO	**Ouri**	**1.75**	**262**	P	**Pn**	**15 15 46.6**	**+0.3**
JIO				*e*S	**Sb**	**15 16 08.6**	**-1.6**
JMK	**Ichinoseki**	**1.84**	**278**	P	**Pn**	**15 15 48.4**	**+0.9**
JOM	**Ohasama**	**1.92**	**294**	P	**Pn**	**15 15 48.9**	**+0.3**
JANG	**Nango**	**2.29**	**317**	P	**Pn**	**15 15 55.7**	**+2.1**
JOU	**Okura**	**2.30**	**262**	P	**Pn**	**15 15 55.0**	**+1.1**
JOU				*e*S	**Sn**	**15 16 21.6**	**-0.3**
JMM	**Marumori**	**2.34**	**249**	P	**Pn**	**15 15 55.4**	**+1.0**
JRG	**Rokugo**	**2.38**	**287**	P	**Pn**	**15 15 56.7**	**+1.8**
JYK	**Kaneyama**	**2.51**	**275**	P	**Pn**	**15 15 58.1**	**+1.4**
JAH	**Hinai**	**2.70**	**304**	P	**Pb**	**15 16 02.6**	**-1.8**
JYS	**Shirataka**	**2.79**	**261**	P	**Pn**	**15 16 02.5**	**+1.9**
JFT	**Otama**	**2.81**	**248**	P	**Pn**	**15 16 02.7**	**+1.8**
JTM	**Tenmabayashi**	**2.82**	**318**	P	**Pb**	**15 16 05.6**	**-0.9**
MJAR	**Matsushiro Arr**	**4.77**	**245**	Pn	**Pn**	**15 16 30.1**	**+2.2**
	1.0nm,0.3s,baz=59,slow=10,SNR=14						
MAT	**Matsushiro**	**4.78**	**245**	P	**Pn**	**15 16 30.9**	**+3.0**
MAT				*e*S	**Sn**	**15 17 26.3**	**+3.3**
ASAJ	**Asahikawa**	**5.44**	**353**	Pn	**Pn**	**15 16 38.4**	**+1.4**
	0.5nm,0.3s,baz=219,slow=11,SNR=9.8						
ASAJ				Sn	**Sn**	**15 17 35.8**	**-3.5**
	baz=90,slow=19,SNR=1.9						
JHJ	**Hachijo jima 2**	**6.38**	**210**	Pn	**Pn**	**15 16 49.4**	**-0.5**
	2.9nm,0.3s,baz=12,slow=20,SNR=6.3						
JHJ				Sn	**Sn**	**15 17 55.5**	**-6.9**
	1.5nm,0.3s,baz=246,slow=20,SNR=2.5						
SEY	**Seymchan**	**24.82**	**10**	P	**P**	**15 20 41.0**	**+3.2**
	0.3nm,0.3s,baz=249,slow=23,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**27.67**	**127**	T	T	15 50 03.1	
	baz=319,slow=74,SNR=23						
H11N1	**WAKE ISLAND Hy**	**27.68**	**127**	T	T	15 50 00.8	
	baz=319,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.68**	**127**	T	T	15 50 01.4	
	baz=319,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.46**	**129**	T	T	15 51 05.2	
	baz=310						
H11S3	**WAKE ISLAND Hy**	**28.46**	**129**	T	T	15 51 07.2	
	baz=310						
H11S2	**WAKE ISLAND Hy**	**28.48**	**129**	T	T	15 51 09.4	
	baz=310						
KURBB	**Kurchatov Arra**	**46.32**	**307**	P	**P**	**15 23 43.0**	**+1.5**
	0.2nm,0.3s,baz=79,slow=8.2,SNR=3.6						
WRA	**Warramunga Arr**	**58.99**	**190**	P	**P**	**15 25 16.8**	**+1.2**
	0.7nm,0.5s,baz=8.5,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**62.72**	**190**	P	**P**	**15 25 39.2**	**-1.6**
	0.3nm,0.6s,baz=9.0,slow=5.3,SNR=5.5						

MEX 22 15:24:38.2±0.4, 16.40N×98.38W, h12km±3km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**91**	*i* P	Pg	15 24 42.6	-0.7
PNIG				*i* S	Sg	15 24 46.7	+0.1
TLIG	**Tlapa**	**1.17**	**351**	*i* P	Pb	15 24 57.0	-3.6
TLIG				*e*S	Sb	15 25 11.3	-4.4
ACX	**Acapulco**	**1.50**	**288**	*i* P	Pn	15 25 00.1	-4.9
ACX				*i* S	Sn	15 25 19.5	-5.0
VHO	**Vista Hermosa**	**1.71**	**67**	*e*P	Pn	15 25 05.0	-3.0
VHO				*e*S	Sn	15 25 25.1	-4.9
CAIG	**El Cayaco**	**1.93**	**290**	*e*P	Pn	15 25 07.8	-3.1
CAIG				*e*S	Sn	15 25 30.5	-4.5
HUIG	**Huatulco**	**2.27**	**106**	*e*P	Pn	15 25 12.5	-3.1
HUIG				*e*S	Sn	15 25 39.1	-4.4

IDC 22 15:52:08.9±573.0, 48.00N×50.72E, h0km, Error ellipse: s-maj=207.7km s-min=115.2km az=53.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.37**	**61**	*i*		16 25 20.0	
	baz=246,slow=308,SNR=3.0						
I43RU	**DUBNA INFRASON**	**12.00**	**322**	*i*		17 08 50.0	
	baz=132,slow=332,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**22.13**	**62**	*i*		18 07 30.0	
	baz=269,slow=328,SNR=1.4						

*NIED **22** 15:59:00, 36.50N×141.20E, h8km, Mw3.4 Best double couple: M0 1.22000×10^14 NP1:φ=64.00000°, δ=80.00000°, λ=2.00000°. NP2:φ=334.00000°, δ=88.00000°, λ=170.00000°.*

JMA 22 15:59:06.1, 36.53N×141.24E, h31km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.55**	**279**	P	Pb	15 59 16.8	-0.5
ONAJ	**Iwakimizuishiy**	**0.67**	**328**	P	Pb	15 59 18.9	-0.5
ONAJ				S	Sb	15 59 28.4	-0.1
JFK	**Kawauchi**	**0.89**	**341**	P	Pn	15 59 22.2	-0.3
JFK				S	Sn	15 59 34.0	-0.3
JYT	**Yasato**	**0.90**	**251**	P	Pn	15 59 22.3	-0.2
JYT				S	Sn	15 59 34.3	-0.1
JFT	**Otama**	**1.22**	**324**	P	Pn	15 59 27.8	+0.7
JFT				S	Sn	15 59 43.3	+0.7
JMM	**Marumori**	**1.38**	**345**	P	Pn	15 59 29.6	+0.4
JMM				S	Sn	15 59 46.9	+0.5
JAG	**Ashikaga**	**1.44**	**266**	P	Pn	15 59 30.5	+0.4
JAG				S	Sn	15 59 48.6	+0.6
MAT	**Matsushiro**	**2.44**	**271**	P	Pn	15 59 45.9	+2.0
MAT				*e*S	Sn	16 00 15.3	+2.6

*NIED **22** 16:09:00, 30.80N×142.40E, h5km, Mw4.2 Best double couple: M0 2.24000×10^15 NP1:φ=176.00000°, δ=43.00000°, λ=43.00000°. NP2:φ=51.00000°, δ=62.00000°, λ=125.00000°.*
*IDC **22** 16:09:28.6±0.6, 30.70N×142.08E, h0km, mb4.1/27, mb1 4.2/31, mb1mx4.1/80, mbtmp4.1/31, ML3.6/4, MS3.5/13, Ms1 3.5/13, ms1mx3.2/70, Error ellipse: s-maj=16.3km s-min=12.9km az=83.0*
*ISCJB **22** 16:09:30.7±0.3, 30.72N±0.02×141.88E±0.05, h23km, mb4.6/100, MS3.7/12, Error ellipse: s-maj=6.6km s-min=3.3km az=167.2*
*JMA **22** 16:09:30.2±0.2, 30.81N×142.35E, h57km, M4.2*
*MOS **22** 16:09:30.1±0.9, 30.70N×141.99E, h22km, mb4.6/41, Error ellipse: s-maj=12.5km s-min=5.6km az=119.0*
*NEIC **22** 16:09:34.2±0.3, 30.41N×140.72E, h10km, mb4.8/57, Error ellipse: s-maj=8.6km s-min=7.8km az=64.0*
*BJI **22** 16:09:37.3, 30.77N×141.14E, h41km, mb4.3/41, mB4.8/29, Ms4.1/12, Ms7 4.0/10*

**ISC 22 16:09:32.4±0.

	comp=Z,14nm,0.7s										
SSLB	**Suanglung**	**19.88**	**255**	*eP*		**P**		**16 14 03.3**	**+1.1**
	comp=Z,25nm,1.0s										
KLR	**Kul'dur**	**20.00**	**340**	P		**P**		**16 14 02.8**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=135,slow=12,SNR=10										
KLR	**Kul'dur**	**20.00**	**340**	*eP*		Pn		16 14 07.9	+2.8
TPUB	**Ta-pu**	**20.35**	**254**	*eP*		**P**		**16 14 08.5**	**+1.2**
	comp=Z,42nm,1.3s										
GRNR	**Gornyy**	**20.41**	**350**	*eP*		**P**		**16 14 08.0**	**+0.2**
GRNR				pmax		pmax					
	comp=Z,13nm,1.0s										
NKL	**Nikolayevsk**	**22.40**	**358**	*eP*		**P**		**16 14 30.0**	**+1.0**
BJT	**Baijiatuan**	**22.88**	**301**	*eP*		**P**		**16 14 30.5**	**-3.8**
BJT				pmax		pmax					
	comp=Z,15nm,0.7s										
BJT	**Baijiatuan**	**22.88**	**301**	*eP*		**P**		**16 14 30.5**	**-3.8**
	comp=Z,15nm,0.7s										
BJI	**Beijing**	**22.88**	**301**	P		**P**		**16 14 30.5**	**-3.8**
BJI				pmax		pmax					
	comp=Z,18nm,0.7s										
HIA	**Hailar**	**24.96**	**324**	*eP*		**P**		**16 14 54.3**	**+0.3**
HIA				pmax		pmax					
	comp=Z,13nm,0.7s										
HIA	**Hailar**	**24.96**	**324**	*eP*		**P**		**16 14 54.3**	**+0.3**
	comp=Z,13nm,0.7s										
PETK	**Petropavlovsk-**	**25.12**	**23**	LR		LR		16 24 56.8			
	comp=Z,32nm,21.7s,baz=250,slow=37										
ZEA	**Zeya**	**25.31**	**339**	*eP*		**P**		**16 14 57.6**	**+0.5**
ZEA				pmax		pmax					
	comp=N,24nm,1.0s										
ZEA				pmax		pmax					
	comp=Z,29nm,1.0s										
H11S3	**WAKE ISLAND Hy**	**25.54**	**113**	T		T		16 41 46.5			
	baz=299										
H11S1	**WAKE ISLAND Hy**	**25.54**	**113**	T		T		16 41 43.1			
	baz=299										
H11S2	**WAKE ISLAND Hy**	**25.55**	**113**	T		T		16 41 43.6			
	baz=299										
HHC	**Hu-ho-hao-te**	**26.49**	**301**	*eP*		**P**		**16 15 07.1**	**-1.0**
HHC				pmax		pmax					
	comp=Z,15nm,0.8s										
HHC				pmax		pmax					
	comp=Z,100nm,4.4s										
HHC				LR		LR					
	comp=Z,130nm,14.1s										
HHC				LR		LR					
	comp=Z,160nm,11.8s										
HHC				LR		LR					
	comp=Z,150nm,11.2s										
ENH	**Enshi**	**27.90**	**277**	*eP*		**P**		**16 15 17.0**	**-3.8**
	comp=Z,5.0nm,0.8s										
MA2	**Magadan**	**29.44**	**9**	P		**P**		**16 15 33.1**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=156,slow=20,SNR=3.2										
ULN	**Ulaanbaatar**	**31.60**	**313**	*ce*P		**P**		**16 15 52.5**	**-1.0**
ULN				pmax		pmax					
	comp=Z,12nm,1.7s										
ULN	**Ulaanbaatar**	**31.60**	**313**	*eP*		**P**		**16 15 54.0**	**+0.5**
	comp=Z,7.6nm,0.8s										
SONA1	**Songino Array**	**32.01**	**312**	*eP*		**P**		**16 15 58.5**	**+1.4**
SONA0	**Songino Array**	**32.01**	**312**	*eP*		**P**		**16 15 57.6**	**+0.6**
SONM	**Songino Array**	**32.01**	**312**	P		**P**		**16 15 57.6**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=121,slow=8.3,SNR=13										
SONM				LR		LR		16 29 34.8			
	comp=Z,88nm,18.1s,baz=122,slow=38										
LZH	**Lanzhou**	**32.09**	**290**	*eP*		**P**		**16 15 57.0**	**-0.9**
LZH				*e*PP		**PnPn**		**16 17 04.8**	**+1.1**
LZH				pmax		pmax					
	comp=Z,17nm,1.0s										
LZH				pmax		pmax					
	comp=Z,130nm,4.6s										
LZH				LR		LR					
	comp=Z,150nm,11.9s										
LZH				LR		LR					
	comp=Z,170nm,12.2s										
LZH				LR		LR					
	comp=Z,200nm,12.3s										
YAK	**Yakutsk**	**32.29**	**349**	*eP*		**P**		**16 15 59.1**	**-0.1**
YAK				pmax		pmax					
	comp=Z,14nm,0.5s										
YAK	**Yakutsk**	**32.29**	**349**	*eP*		**P**		**16 15 59.1**	**-0.1**
	comp=Z,14nm,0.5s										
CD2	**Chengdu**	**32.67**	**280**	*eP*		**P**		**16 16 00.4**	**-2.6**
CD2				pmax		pmax					
	comp=Z,10.0nm,0.5s										
CD2				pmax		pmax					
	comp=Z,140nm,5.0s										
SEY	**Seymchan**	**32.89**	**9**	P		**P**		**16 16 04.9**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=174,slow=7.2,SNR=24										
SEY	**Seymchan**	**32.89**	**9**	*eP*		P		16 16 14.6	+10
ZAK	**Zakamensk**	**34.78**	**316**	*eP*		**P**		**16 16 18.1**	**-3.1**
ZAK				pmax		pmax					
	comp=Z,6.0nm,1.4s										
KMI	**Kunming**	**34.95**	**271**	P		**P**		**16 16 22.8**	**-0.2**
KMI				pmax		pmax					
	comp=Z,9.0nm,0.6s										
TLY	**Talaya**	**35.03**	**318**	*eP*		**P**		**16 16 23.4**	**+0.2**
TLY				pmax		pmax					
	comp=Z,9.0nm,0.9s										
TLY				MLR		MLR					
	comp=Z,112nm,16.0s										
TLY	**Talaya**	**35.03**	**318**	*eP*		**P**		**16 16 21.6**	**-1.5**
	comp=Z,17nm,0.9s										
GTA	**Gaotai**	**35.27**	**296**	*eP*		**P**		**16 16 25.5**	**0.0**
GTA				pP		pP		16 16 33.8	+1.3
GTA				sP		sP		16 16 37.5	+2.2
GTA				S		S		16 21 45.8	-12
GTA				pmax		pmax					
	comp=Z,5.0nm,1.0s										
GTA				pmax		pmax					
	comp=Z,41nm,4.5s										
GTA				LR		LR					
	comp=Z,81nm,12.8s										
GTA				LR		LR					
	comp=Z,120nm,15.7s										
MOY	**Mondy**	**36.57**	**317**	*eP*		**P**		**16 16 38.2**	**+1.7**
SAUI	**Saumlaki**	**39.84**	**197**	*eP*		P		16 17 11.7	+7.5
	comp=Z,107nm,1.0s										
BILL	**Bilibino**	**39.96**	**14**	*i* P		**P**		**16 17 03.0**	**-1.7**
BILL				pmax		pmax					
	comp=Z,1.0nm,0.9s										
CM31	**Chiang Mai Arr**	**40.72**	**263**	*eP*		**P**		**16 17 10.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**40.72**	**263**	P		**P**		**16 17 10.8**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=58,slow=6.9,SNR=7.7										
CMAR				LR		LR		16 35 50.4			
	comp=Z,58nm,18.3s,baz=82,slow=39										
CM01	**Chiang Mai Arr**	**40.72**	**263**	*eP*		**P**		**16 17 10.3**	**-1.3**
KAPI	**Kappang**	**41.41**	**215**	*eP*		P		16 17 23.2	+6.1
	comp=Z,1µm,0.8s										
TIXI	**Tiksi**	**41.56**	**354**	P		**P**		**16 17 17.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=140,slow=6.1,SNR=7.6										
TIXI	**Tiksi**	**41.56**	**354**	*eP*		P		16 17 23.7	+5.9
TIXI				pmax		pmax					
	comp=Z,1.0nm,0.9s										
WMQ	**Urumqi**	**44.33**	**303**	P		**P**		**16 17 40.8**	**0.0**
WMQ				LR		LR					
	comp=Z,96nm,28.9s										
WMQ				LR		LR					
	comp=Z,82nm,19.7s										
WMQ				LR		LR					
	comp=Z,110nm,21.7s										
COEN	**Coen**	**44.47**	**178**	*eP*		**P**		**16 17 43.1**	**+1.2**
	comp=Z,66nm,1.9s										
MTN	**Manton Dam**	**44.57**	**195**	*eP*		**P**		**16 17 42.2**	**-0.5**
	comp=Z,99nm,2.0s										
KULM	**Kulim**	**46.30**	**245**	*eP*		**P**		**16 17 55.7**	**-0.9**
	comp=Z,11nm,1.2s										
ZAA0	**Zalesovo Array**	**46.63**	**317**	*eP*		**P**		**16 17 59.6**	**+0.9**
	comp=Z,2.2nm,0.8s										
ZALV	**Zalesovo Beam**	**46.63**	**317**	P		**P**		**16 17 59.1**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=109,slow=8.0,SNR=6.4										
ZALV				PcP		**PcP**		**16 19 32.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=100,slow=3.4,SNR=2.4										
ZALV				LR		LR		16 38 12.0			
	comp=Z,66nm,18.6s,baz=256,slow=37										
ZALV	**Zalesovo Beam**	**46.63**	**317**	*eP*		**P**		**16 17 58.4**	**-0.3**
ZALV								16 19 32.8			
ZALV	**Zalesovo Beam**	**46.63**	**317**	*eP*		**P**		**16 17 58.4**	**-0.3**
ZALV				PcP		**PcP**		**16 19 32.8**	**+0.5**
ZAA1	**Zalesovo Array**	**46.63**	**317**	*eP*		**P**		**16 17 59.1**	**+0.4**
TAPN	**Taplejung**	**47.14**	**280**	*eP*		**P**		**16 18 04.3**	**+0.9**
MK01	**Makanchi Array**	**48.03**	**307**	*eP*		**P**		**16 18 10.3**	**+0.6**
MK31	**Makanchi Array**	**48.04**	**307**	*eP*		**P**		**16 18 10.5**	**+0.7**
MK31	**Makanchi Array**	**48.04**	**307**	*eP*		**P**		**16 18 10.5**	**+0.7**
MK32	**Makanchi Array**	**48.04**	**307**	*eP*		**P**		**16 18 10.8**	**+1.0**
MKAR	**Makanchi Array**	**48.04**	**307**	P		**P**		**16 18 10.8**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=90,slow=9.3,SNR=35										
MKAR	**Makanchi Array**	**48.04**	**307**	*eP*		**P**		**16 18 10.3**	**+0.5**
MKAR				pmax		pmax					
	comp=Z,23nm,0.8s										
MKAR	**Makanchi Array**	**48.04**	**307**	*eP*		**P**		**16 18 10.2**	**+0.5**
	comp=Z,23nm,0.8s										
RAMN	**Ramite**	**48.20**	**280**	*eP*		**P**		**16 18 11.9**	**+0.3**
	comp=Z,14nm,0.8s										
JIRN	**Jiri**	**48.33**	**281**	*eP*		**P**		**16 18 12.5**	**-0.2**
	comp=Z,30nm,0.8s										
GUN	**Gumba**	**48.52**	**282**	*eP*		**P**		**16 18 13.9**	**-0.3**
	comp=Z,13nm,0.7s										
PKIN	**Phulchoki**	**49.02**	**281**	*eP*		**P**		**16 18 18.7**	**+0.7**
KKN	**Kakani**	**49.06**	**282**	*eP*		**P**		**16 18 18.5**	**+0.3**
DMN	**Daman**	**49.26**	**281**	*eP*		**P**		**16 18 19.5**	**-0.3**
GKN	**Gorkha**	**49.53**	**282**	*eP*		**P**		**16 18 22.1**	**+0.4**
	comp=Z,7.3nm,0.7s										
KURK	**Kurchatov**	**50.31**	**312**	*ce*P		**P**		**16 18 27.3**	**+0.2**
KURK				pmax		pmax					
	comp=Z,20nm,1.0s										
KURK	**Kurchatov**	**50.31**	**312**	*eP*		**P**		**16 18 27.5**	**+0.4**
	comp=Z,13nm,0.8s										
PDGK	**Podgornoye**	**50.31**	**303**	P		**P**		**16 18 27.7**	**+0.3**
PDGK				pmax		pmax					
	comp=Z,8.0nm,1.3s										
KURBB	**Kurchatov Arra**	**50.37**	**312**	P		**P**		**16 18 28.1**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=88,slow=7.6,SNR=36										
KOLN	**Koldanda**	**50.48**	**282**	*eP*		**P**		**16 18 28.9**	**-0.1**
	comp=Z,2.8nm,0.5s										
PYUN	**Piuthan**	**50.89**	**283**	*eP*		**P**		**16 18 31.9**	**-0.2**
	comp=Z,9.0nm,0.5s										
WRAB	**Tennant Creek**	**50.92**	**189**	*ce*P		**P**		**16 18 31.3**	**-0.6**
WRAB				pmax		pmax					
	comp=Z,10.0nm,0.7s										
WRA	**Warramunga Arr**	**50.93**	**189**	P		**P**		**16 18 31.1**	**-0.9**
	comp=Z,7.0nm,0.8s,baz=6.1,slow=7.7,SNR=44										
WRA	**Warramunga Arr**	**50.93**	**189**	*i* P		**P**		**16 18 31.7**	**-0.3**
WRA				pmax		pmax					
	comp=Z,7.0nm,0.8s										
GSI	**Gununguitoli**	**51.18**	**244**	*eP*		**P**		**16 18 34.4**	**+0.3**
	comp=Z,1.1nm,0.9s										
PRZ	**Przheval'sk**	**51.23**	**302**	P		**P**		**16 18 33.7**	**-0.7**
PRZ				pmax		pmax					
	comp=Z,5.0nm,0.6s										
KDAK	**Kodiak Island**	**51.61**	**38**	*i* P		P		16 18 50.1	+13
PPLA	**Purkeypile**	**52.16**	**32**	*eP*		P		16 18 51.6	+11
	comp=Z,24nm,1.5s										
KDJ	**Kajisay**	**52.18**	**302**	P		**P**		**16 18 40.7**	**-0.8**
KDJ				pmax		pmax					
	comp=Z,5.0nm,1.3s										
KDJ	**Kajisay**	**52.18**	**302**	*eP*		**P**		**16 18 40.7**	**-0.8**
	comp=Z,5.5nm,1.3s										
CAST	**Castle Rocks**	**52.27**	**31**	*eP*		P		16 18 51.7	+10
	comp=Z,18nm,1.9s										
BRLK	**Bradley Lake**	**52.57**	**36**	*eP*		P		16 18 58.4	+14
	comp=Z,98nm,1.9s										
SUA	**Susitna One**	**52.73**	**34**	*eP*		P		16 18 56.7	+12
	comp=Z,27nm,1.8s										
KTH	**Kantishna Hill**	**52.80**	**31**	*eP*		P		16 18 54.0	+8.4
	comp=Z,41nm,2.0s										
MLY	**Manley**	**53.02**	**29**	*eP*		P		16 18 57.4	+10
	comp=Z,2.6nm,0.8s										
TRF	**Thorofare Moun**	**53.07**	**31**	*eP*		P		16 18 59.3	+12
	comp=Z,28nm,1.9s										
TKM2	**Tokmak 2**	**53.20**	**303**	P		**P**		**16 18 50.7**	**+1.7**
TKM2				pmax		pmax					
	comp=Z,5.0nm,1.4s										
COLD	**Coldfoot**	**53.49**	**27**	*eP*		P		16 19 02.0	+11
	comp=Z,8.2nm,1.7s										
KSH	**Kashi**	**53.57**	**299**	*eP*		**P**		**16 18 55.8**	**+4.0**
KSH				PcS		**PcS**		**16 24 02.1**	**+4.7**
KSH				S		S		16 26 14.0	-10
KSH				pmax		pmax					
	comp=Z,4.0nm,0.9s										
KSH				pmax		pmax					
	comp=Z,110nm,6.8s										
KSH				LR		LR					
	comp=Z,97nm,6.7s										
KSH				LR		LR					
	comp=Z,83nm,6.4s										
KSH				LR		LR					
	comp=Z,150nm,7.4s										
SML	**Sawmill**	**53.89**	**33**	*eP*		P		16 19 04.4	+11
SML				pmax		pmax					
	comp=Z,12nm,1.2s										
SML	**Sawmill**	**53.89**	**33**	*eP*		P		16 19 04.4	+11
	comp=Z,12nm,1.2s										
AAK	**Ala-Archa**	**54.04**	**303**	LR		LR		16 42 32.4			
	comp=Z,85nm,20.1s,baz=35,slow=37										
AAK	**Ala-Archa**	**54.04**	**303**	*eP*		**P**		**16 18 53.9**	**-1.3**
AAK				pmax		pmax					
	comp=Z,1.0nm,1.2s										
AAK	**Ala-Archa**	**54.04**	**303**	*eP*		**P**		**16 18 56.0**	**+0.8**
	comp=Z,10nm,2.0s										
MDM	**Murphy Dome**	**54.08**	**30**	*eP*		P		16 19 04.9	+10
	comp=Z,21nm,1.8s										
WRH	**Wood River Hil**	**54.11**	**30**	*eP*		P		16 19 05.6	+11
	comp=Z,12nm,1.5s										
CCB	**Clear Creek Bu**	**54.24**	**30**	*eP*		P		16 19 08.0	+12
	comp=Z,15nm,1.8s										
HDA	**Harding Lake**	**54.60**	**30**	*eP*		P		16 19 09.7	+11
	comp=Z,20nm,1.9s										
OTUK	**Ortayu**	**54.61**	**310**	P		**P**		**16 18 59.8**	**+0.7**
OTUK				pmax		pmax					
	comp=Z,13nm,1.2s										
IL1	**Eielson Array**	**54.64**	**30**	*eP*		**P**		**16 19 00.2**	**+1.2**
ILAR	**Eielson Array**	**54.64**	**30**	P		**P**		**16 18 58.6**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=260,slow=5.7,SNR=7.0										
ILB	**Eielson Array**	**54.64**	**30**	*eP*		**P**		**16 18 59.1**	**+0.1**
AS01	**Alice Springs**	**54.65**	**189**	*eP*		**P**		**16 18 59.3**	**-0.2**
AS31	**Alice Springs**	**54.65**	**189**	*eP*		**P**		**16 19 00.2**	**+0.7**
	comp=Z,1.0nm,0.6s										
ASAR	**Alice Springs**	**54.65**	**189**	P		**P**		**16 18 59.0**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=1.3,slow=5.8,SNR=16										
ASAR				LR		LR		16 41 57.6			
	comp=Z,38nm,18.5s,baz=239,slow=36										
ASAR	**Alice Springs**	**54.65**	**189**	P		**P**		**16 18 59.0**	**-0.5**
ASAR				pmax		pmax					
	comp=Z,1.0nm,0.7s										
ASAR				MLR		MLR					
	comp=Z,38nm,18.5s										
BVA0	**Borovoye Array**	**55.24**	**316**	*i* P		**P**		**16 19 04.4**	**+0.9**
BVA0				pmax		pmax					
	comp=Z,2.0nm,0.7s										
BVAR	**Borovoye Array**	**55.24**	**316**	P		**P**		**16 19 04.4**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=97,slow=8.2,SNR=14										
BRVK	**Borovoye**	**55.30**	**316**	*ce*P		**P**		**16 19 04.8**	**+0.9**
BRVK				pmax		pmax					
	comp=Z,5.0nm,1.0s										
BRVK	**Borovoye**	**55.30**	**316**	*eP*		**P**		**16 19 05.1**	**+1.2**
	comp=Z,5.4nm,0.6s										
SFK	**Sufi-Kurgan**	**55.32**	**300**	P		**P**		**16 19 05.3**	**+0.7**
SFK				pmax		pmax					
	comp=Z,2.0nm,0.6s										
HARP	**HAARP**	**55.39**	**33**	*eP*		**P**		**16 19 05.7**	**+1.3**
	comp=Z,67nm,1.9s										
FYU	**Fort Yukon**	**55.40**	**28**	*eP*		P		16 19 18.5	+14
	comp=Z,48nm,2.0s										
RIDG	**Independ'e Rid**	**55.52**	**31**	*eP*		P		16 19 15.2	+10
	comp=Z,29nm,1.8s										
MBWA	**Marble Bar**	**55.85**	**205**	*eP*		**P**		**16 19 08.2**	**+0.1**
	comp=Z,33nm,1.6s										
DOT	**Dot Lake**	**55.87**	**31**	*eP*		P		16 19 12.4	+4.6
	comp=Z,7.5nm,0.8s										
SCRK	**Sand Creek**	**55.89**	**31**	*eP*		P		16 19 17.9	+10
	comp=Z,4.6nm,1.2s										
MENT	**Mentasta**	**56.04**	**32**	*eP*		P		16 19 23.9	+15
	comp=Z,18nm,1.9s										
EIDS	**Eidsvold**	**56.49**	**170**	*eP*		P		16 19 25.2	+13
	comp=Z,109nm,1.8s										
KK31	**Karatay Array**	**56.81**	**304**	P		**P**		**16 19 15.8**	**+0.8**
KK31				pmax		pmax					
	comp=Z,4.0nm,0.9s										
KK31	**Karatay Array**	**56.81**	**304**	*eP*		**P**		**16 19 15.8**	**+0.8**
KKAR	**Karatay Array**	**56.81**	**304**	*eP*		**P**		**16 19 16.5**	**+1.5**
KKAR	**Karatay Array**	**56.81**	**304**	*eP*		**P**		**16 19 16.5**	**+1.5**
EGAK	**Eagle**	**57.10**	**30**	*eP*		P		16 19 25.9	+9.3
	comp=Z,12nm,1.6s										
DZM	**Mont Dzumac**	**57.56**	**153**	*eP*		P		16 19 34.5	+14
	comp=Z,60nm,2.0s										
SVE	**Sverdlovsk**	**60.22**	**321**	*eP*		**P**		**16 19 39.5**	**+1.1**
KBL	**Kabul**	**60.24**	**295**	*eP*		**P**		**16 19 38.6**	**-0.7**
KBL				pmax		pmax					
	comp=Z,6.0nm,0.8s										
KBL	**Kabul**	**60.24**	**295**	*eP*		**P**		**16 19 38.6**	**-0.7**
	comp=Z,6.0nm,0.8s										
BESE	**Bessie Mountai**	**60.88**	**37**	*eP*		P		16 19 53.7	+11
	comp=Z,48nm,1.6s										
ARU	**Arti**	**61.43**	**321**	P		**P**		**16 19 47.5**	**+0.9**
	comp=Z,5.7nm,0.7s,baz=94,slow=2.5,SNR=16										
ARU	**Arti**	**61.43**	**321**	*d* iP		**P**		**16 19 47.4**	**+0.8**
ARU								16 20 25.4			
ARU								16 22 02.6			
ARU				S		**S**		**16 28 07.7**	**+1.5**
ARU				SS		**SS**		**16 32 02.5**	**-4.0**
ARU				pmax		pmax					
	comp=Z,22nm,1.7s										
ARU	**Arti**	**61.43**	**321**	*eP*		**P**		**16 19 46.9**	**+0.3**
	comp=Z,25nm,0.8s										
AB06	**Akbulak array**	**62.40**	**313**	*eP*		**P**		**16 19 53.7**	**+0.4**
AB07	**Akbulak array**	**62.41**	**313**	*eP*		**P**		**16 19 53.5**	**+0.1**
AB05	**Akbulak array**	**62.41**	**313**	*eP*		**P**		**16 19 53.8**	**+0.4**
AB02	**Akbulak array**	**62.41**	**313**	*eP*		**P**		**16 19 52.3**	**-1.1**
AB01	**Akbulak array**	**62.42**	**313**	*eP*		**P**		**16 19 54.1**	**+0.6**
AB31	**Akbulak array**	**62.42**	**313**	*eP*		**P**		**16 19 54.1**	**+0.7**
AB31	**Akbulak array**	**62.42**	**313**	*eP*		**P**		**16 19 54.0**	**+0.7**
ABKAR	**Akbulak array**	**62.42**	**313**	*eP*		**P**		**16 19 53.9**	**+0.5**
	comp=Z,45nm,0.6s										
AB03	**Akbulak array**	**62.42**	**313**	*eP*		**P**		**16 19 53.7**	**+0.2**
AB04	**Akbulak array**	**62.42**	**313**	*eP*		**P**		**16 19 52.6**	**-0.8**
AB08	**Akbulak array**	**62.43**	**313**	*eP*		**P**		**16 19 53.6**	**+0.1**
AB09	**Akbulak array**	**62.43**	**313**	*eP*		**P**		**16 19 54.2**	**+0.7**
AKTO	**Aktyubinsk**	**63.28**	**315**	P		**P**		**16 19 59.9**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=101,slow=7.8,SNR=8.9										
GEYT	**Alibeck**	**67.37**	**302**	P		**P**		**16 20 28.5**	**+2.6**
	comp=Z,2.7nm,0.9s,baz=357,slow=3.0,SNR=6.8										
NWAO	**Narrogin (SRO)**	**67.51**	**202**	P		**P**		**16 20 26.9**	**+0.3**
	comp=Z,16nm,0.9s,baz=267,slow=4.7,SNR=3.8										
RES	**Resolute Bay**	**68.57**	**14**	*eP*		**P**		**16 20 33.9**	**+1.1**
RES				pmax		pmax					
	comp=Z,2.0nm,0.8s										
RES	**Resolute Bay**	**68.57**	**14**	*eP*		**P**		**16 20 33.9**	**+1.1**
	comp=Z,2.2nm,0.8s										
YKA	**Yellowknife Ar**	**69.05**	**29**	P		**P**		**16 20 36.8**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=290,slow=6.4,SNR=4.3										
KLMR	**Klimovskoe**	**69.32**	**329**	*eP*		P		16 20 32.3	-5.4
KLMR				pmax		pmax					
	comp=Z,9.0nm,1.1s										
KLMR	**Klimovskoe**	**69.32**	**329**	*eP*		P		16 20 32.3	-5.4
KLMR				AMP				16 20 39.0			
	comp=Z,9.0nm,1.1s										
ARCES	**ARCESS Array B**	**70.03**	**340**	*eP*		**P**		**16 20 44.6**	**+2.7**
ARCES	**ARCESS Array B**	**70.03**	**340**	*eP*		**P**		**16 20 44.6**	**+2.7**
ARE0	**ARCESS Array S**	**70.03**	**340**	*eP*		**P**		**16 20 45.9**	**+4.0**
	comp=Z,50nm,1.5s										
MARYW	**Marymoor Park**	**71.66**	**45**	*eP*		P		16 21 06.9	+15
WPW	**White Pass**	**72.44**	**46**	*eP*		P		16 21 08.1	+11
VRH	**Novokhopyorsk**	**72.57**	**320**	*eP*		**P**		**16 20 56.7**	**-0.8**
VRH				*e*				16 21 09.5			
VRH				pmax		pmax					
	comp=Z,9.0nm,1.4s										
LPSR	**Galich'ya Gora**	**73.44**	**322**	*eP*		**P**		**16 21 01.9**	**-0.7**
LPSR				*e*				16 21 14.7			
LPSR				pmax		pmax					
	comp=Z,5.0nm,1.0s										
YBH	**Yreka Blue Hor**	**73.91**	**51**	P		**P**		**16 21 03.5**	**-2.3**
	comp=Z,3.5nm,0.3s,baz=112,slow=19,SNR=3.6										
VSR	**Storozhevoye**	**73.98**	**320**	*eP*		**P**		**16 21 06.1**	**+0.2**
VSR				*e*				16 21 18.0			
VSR				pmax		pmax					
	comp=Z,10.0nm,1.4s										
FIA1	**FINESS Array S**	**74.58**	**333**	*eP*		**P**		**16 21 10.6**	**+1.4**
FIA0	**FINESS Array S**	**74.58**	**333**	*eP*		**P**		**16 21 09.9**	**+0.7**
FIA0	**FINESS Array S**	**74.58**	**333**	*eP*		**P**		**16 21 09.9**	**+0.7**
FINES	**FINESS Array B**	**74.58**	**333**	P		**P**		**16 21 09.9**	**+0

BRTR	**Keskin Array B**	**146.09**	**314**	PKPbc	**PKPbc**	**16 31 58.3**	**+0.5**
	0.7nm,0.7s,baz=58,slow=3.1,SNR=3.5						
MMAI	**Mount Meron Ar**	**147.40**	**302**	PKPbc	**PKPbc**	**16 32 02.9**	**+1.5**
	0.9nm,0.5s,baz=64,slow=3.4,SNR=2.6						
GERES	**GERESS Array B**	**148.81**	**346**	PKPbc	**PKPbc**	**16 32 05.5**	**+1.1**
	0.2nm,0.3s,baz=347,slow=5.5,SNR=4.6						

IDC 22 16:32:24.0±2.1, 1°66'N×126°86'E, h0km, **mb3.2**/3, **mb1 3.4**/3, **mb1mx3.2**/58, **mbtmp3.2**/3, **MS2.9**/1, **Ms1 3.1**/1, **ms1mx2.3**/21, **Error ellipse: s-maj=177.2km s-min=25.2km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.69**	**161**	P	P	16 37 26.2	-1.2
	0.6nm,0.6s,baz=340,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**26.09**	**165**	P	P	16 38 00.7	+1.0
	0.3nm,0.9s,baz=344,slow=12,SNR=3.6						
CMAR	**Chiang Mai Arr**	**32.06**	**303**	LR	LR	16 52 11.1	
	comp=Z,19nm,19.4s,baz=207,slow=37						
MKAR	**Makanchi Array**	**59.32**	**326**	P	P	16 42 27.8	-0.1
	0.2nm,0.4s,baz=117,slow=8.4,SNR=6.6						

*OMAN **22** 16:38:54.0±9.8, 28°88N×50°63E, h10km, Error ellipse: s-maj=107.2km s-min=18.4km az=144.0*
*TEH **22** 16:39:07.6, 28°00N×51°77E, h10km, ML3.8*
*THR **22** 16:39:07.3±0.8, 27°82N×51°66E, h44km±7km, ML3.8*
*ISCJB **22** 16:39:10.7±0.3, 28°03N±0°03×51°78E±0°04, h26km, mb3.9/23, Error ellipse: s-maj=5.9km s-min=3.6km az=140.5*
*CSEM **22** 16:39:10.6±0.3, 28°04N×51°76E, h10km, ML3.8, Error ellipse: s-maj=8.1km s-min=3.7km az=55.0*
*IDC **22** 16:39:14.1±3.5, 28°03N×51°77E, h38km±30km, mb3.7/23, mb1 3.8/28, mb1mx3.7/66, mbtmp3.9/28, ML3.7/5, Error ellipse: s-maj=17.5km s-min=12.1km az=177.0*
*DSN **22** 16:39:17.1±1.1, 27°90N×52°28E, h15km, ML3.7/8, Error ellipse: s-maj=21.2km s-min=6.6km az=12.0*

ISC 22 16:39:12.9±0.5, **28°08N**±0°04×**51°87E**±0°05, **h26**km, **n101**, σ1§**46**/108, **mb3.8**/23, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHBU	**AHRAM**	**0.93**	**327**	*e*Pg	**Pb**	**16 39 28.1**	**-2.2**
AHBU				*e*Sg	**Sn**	**16 39 42.6**	**0.0**
GHIR	**Ghir-Karzin**	**1.01**	**78**	*e*Pg	**Pn**	**16 39 31.0**	**-0.5**
GHIR	**Ghir-Karzin**	**1.01**	**78**	*e*Pg	**Pn**	**16 39 31.0**	**-0.5**
GHIR				AML	AML	16 39 51.3	
	comp=E,1μm,0.4s						
GHIR				AML	AML	16 39 58.4	
	comp=N,1μm,0.4s						
IPAR	**Pars**	**2.04**	**30**	*e*Pn	**Pn**	**16 39 47.1**	**+1.3**
IPAR				*e*Sg	**Sb**	**16 40 19.6**	**+5.2**
IPAR				*e*AMB	AMB	16 40 27.8	
	comp=Z,4μm,0.4s						
IPAR	**Pars**	**2.04**	**30**	*e*Pn	**Pn**	**16 39 47.1**	**+1.3**
IPAR				*e*Sg	**Sb**	**16 40 19.6**	**+5.2**
BOQSS		**3.13**	**226**	P	**Pb**	**16 40 11.6**	**+3.8**
BOQSS				S	Sb	16 40 56.8	+11
SLWS		**3.45**	**199**	P	**Pb**	**16 40 16.8**	**+3.5**
SLWS				S	Sb	16 41 04.4	+10
KFJS		**3.47**	**273**	P	Pb	16 40 18.5	+5.0
KFJS				S	Sb	16 41 06.8	+12
IRAM	**Ramesheh**	**3.74**	**7**	*e*Pn	**Pn**	**16 40 09.4**	**+0.3**
IRAM				*e*AMB	AMB	16 41 19.6	
	comp=Z,936nm,0.3s						
IRAM	**Ramesheh**	**3.74**	**7**	*e*Pn	**Pn**	**16 40 09.4**	**+0.3**
BNDS	**Bandar-Abbas**	**3.88**	**99**	*e*Pn	**Pn**	**16 40 07.6**	**-3.3**
GENO	**Geno**	**3.88**	**99**	*e*Pn	**Pn**	**16 40 11.1**	**+0.1**
GENO				*e*AMB	AMB	16 42 24.9	
	comp=Z,1μm,0.8s						
GENO	**Geno**	**3.88**	**99**	*e*Pn	**Pn**	**16 40 11.1**	**+0.1**
IMEH	**Mehriz**	**4.07**	**35**	*e*Pn	**Pn**	**16 40 15.3**	**+1.6**
IMEH				*e*AMB	AMB	16 40 20.8	
	comp=Z,2μm,0.1s						
IMEH	**Mehriz**	**4.07**	**35**	*e*Pn	**Pn**	**16 40 15.3**	**+1.6**
BTHS		**4.12**	**193**	P	**Pn**	**16 40 14.7**	**+0.5**
ISAD	**Sadrabad**	**4.13**	**22**	*e*Pn	**Pn**	**16 40 15.9**	**+1.4**
ISAD				*e*AMB	AMB	16 40 35.0	
	comp=Z,634nm,0.2s						
ISAD	**Sadrabad**	**4.13**	**22**	*e*Pn	**Pn**	**16 40 15.9**	**+1.4**
IGAR	**Gharneh**	**4.31**	**2**	*e*Pn	**Pn**	**16 40 18.1**	**+1.2**
IGAR				*e*AMB	AMB	16 41 09.7	
	comp=Z,1μm,0.3s						
SHME	**Shamm**	**4.32**	**117**	*i* P	**Pn**	**16 40 16.0**	**-0.9**
	SNR=12						
NIAN	**Nian**	**4.43**	**96**	*e*Pn	**Pn**	**16 40 18.2**	**-0.2**
NIAN				*e*AMB	AMB	16 42 04.7	
	comp=N,1μm,0.4s						
NIAN	**Nian**	**4.43**	**96**	*e*Pn	**Pn**	**16 40 18.2**	**-0.2**
BANOM	**Banah**	**4.50**	**118**	P	**Pn**	**16 40 19.7**	**+0.2**
	SNR=25						
BANOM	**Banah**	**4.50**	**118**	P	**Pn**	**16 40 19.7**	**+0.2**
	SNR=25						
BANOM				S	**Sn**	**16 41 07.7**	**-3.3**
BANOM	**Banah**	**4.50**	**118**	*i* P	**Pn**	**16 40 19.4**	**0.0**
	SNR=25						
BANOM				S	**Sn**	**16 41 07.7**	**-3.3**
NGRK	**Negar Kerman**	**4.54**	**69**	*e*Pn	**Pn**	**16 40 21.0**	**+0.7**
NGRK				*e*AMB	AMB	16 40 26.9	
	comp=Z,99nm,0.1s						
NGRK	**Negar Kerman**	**4.54**	**69**	*e*Pn	**Pn**	**16 40 21.0**	**+0.7**
NAZ	**Nazwa, Dubai**	**4.59**	**131**	P	**Pn**	**16 40 22.0**	**+1.4**
	SNR=7.8						
NAZ	**Nazwa, Dubai**	**4.59**	**131**	Pn	**Pn**	**16 40 22.0**	**+1.4**
	SNR=7.8						
NAZ	**Nazwa, Dubai**	**4.59**	**131**	P	**Pn**	**16 40 21.3**	**+0.7**
	SNR=7.8						
NAZ	**Nazwa, Dubai**	**4.59**	**131**	*i* P	**Pn**	**16 40 21.3**	**+0.7**
	SNR=7.8						
KHGB	**Koh Gabri**	**4.63**	**59**	*e*Pn	**Pn**	**16 40 22.8**	**+1.4**
KHGB				*e*AMB	AMB	16 40 25.6	
	comp=Z,99nm,0.2s						
KHGB	**Koh Gabri**	**4.63**	**59**	*e*Pn	**Pn**	**16 40 22.8**	**+1.4**
ICHK	**Chekchek**	**4.69**	**27**	*e*Pn	**Pn**	**16 40 22.9**	**+0.7**
ICHK				*e*AMB	AMB	16 41 20.2	
	comp=Z,896nm,0.2s						
ICHK	**Chekchek**	**4.69**	**27**	*e*Pn	**Pn**	**16 40 22.9**	**+0.7**
MSFE	**Esma-Masafi**	**4.70**	**124**	P	**Pn**	**16 40 22.4**	**+0.2**
	SNR=12						
MSFE	**Esma-Masafi**	**4.70**	**124**	*i* P	**Pn**	**16 40 22.3**	**+0.1**
	SNR=12						
IBAF	**Bafgh**	**4.75**	**42**	*e*Pn	**Pn**	**16 40 24.0**	**+1.1**
IBAF				*e*AMB	AMB	16 40 30.2	
	comp=Z,690nm,0.1s						
IBAF	**Bafgh**	**4.75**	**42**	*e*Pn	**Pn**	**16 40 24.0**	**+1.1**
NASN	**Na'in**	**4.77**	**10**	*e*Pn	**Pn**	**16 40 22.6**	**-0.7**
NASN	**Na'in**	**4.77**	**10**	*e*P	**Pn**	**16 40 22.7**	**-0.7**
IZEF	**Zefreh**	**4.81**	**5**	*e*Pn	**Pn**	**16 40 24.7**	**+0.8**
IZEF				*e*AMB	AMB	16 40 30.4	
	comp=Z,418nm,0.1s						
IZEF	**Zefreh**	**4.81**	**5**	*e*Pn	**Pn**	**16 40 24.7**	**+0.8**
MDH	**Madha**	**4.84**	**124**	*i* P	**Pn**	**16 40 23.9**	**-0.1**
	SNR=12						
UOSS	**Minazif**	**4.99**	**128**	P	**Pn**	**16 40 28.1**	**+2.0**
	SNR=11						
UOSS	**Minazif**	**4.99**	**128**	Pn	**Pn**	**16 40 28.1**	**+2.0**
	SNR=11						
UOSS	**Minazif**	**4.99**	**128**	P	**Pn**	**16 40 25.6**	**-0.5**
	SNR=10						
UOSS	**Minazif**	**4.99**	**128**	*i* P	**Pn**	**16 40 25.6**	**-0.5**
	SNR=10						
HATD	**Hatta, Dubai**	**5.02**	**129**	P	**Pn**	**16 40 29.2**	**+2.7**
	SNR=8.2						
HATD	**Hatta, Dubai**	**5.02**	**129**	P	**Pn**	**16 40 26.6**	**+0.1**
	SNR=8.0						
HATD	**Hatta, Dubai**	**5.02**	**129**	*i* P	**Pn**	**16 40 26.6**	**+0.1**
	SNR=8.0						
ASHO	**Ashiyiah**	**5.06**	**131**	P	**Pn**	**16 40 27.1**	**0.0**
	SNR=18						
ASHO	**Ashiyiah**	**5.06**	**131**	Pn	**Pn**	**16 40 28.8**	**+1.7**
	SNR=11						
ASHO	**Ashiyiah**	**5.06**	**131**	P	**Pn**	**16 40 27.1**	**0.0**
	SNR=18						
ASHO	**Ashiyiah**	**5.06**	**131**	*i* P	**Pn**	**16 40 26.9**	**-0.2**
	SNR=18						
CHMN	**Cheshme madani**	**5.28**	**69**	*e*Pn	**Pn**	**16 40 31.8**	**+1.4**
CHMN				*e*AMB	AMB	16 40 34.6	
	comp=Z,99nm,0.2s						
CHMN	**Cheshme madani**	**5.28**	**69**	*e*Pn	**Pn**	**16 40 31.8**	**+1.4**
ALNE	**Al Ain**	**5.32**	**138**	*i* P	**Pn**	**16 40 30.7**	**0.0**
	SNR=13						
QAM	**Ghamsar**	**5.67**	**356**	*e*Pn	**Pn**	**16 40 35.9**	**+0.3**
QAM				*e*AMB	AMB	16 41 48.0	
	comp=Z,584nm,0.2s						
SOHO	**SOHO**	**5.75**	**132**	*i* P	**Pn**	**16 40 36.0**	**-0.5**
	SNR=12						
IVRN	**Varamin**	**6.89**	**359**	*e*Pn	**Pn**	**16 40 52.7**	**+0.4**
IVRN				*e*AMB	AMB	16 42 11.5	
	comp=Z,312nm,0.2s						
IVRN	**Varamin**	**6.89**	**359**	*e*Pn	**Pn**	**16 40 52.7**	**+0.4**
TABS	**Tabas**	**7.15**	**38**	*e*Pn	**Pn**	**16 40 55.9**	**0.0**
TABS	**Tabas**	**7.15**	**38**	*e*P	**Pn**	**16 40 56.0**	**0.0**
IDMV	**Damavand**	**7.47**	**1**	*e*Pn	**Pn**	**16 41 00.5**	**+0.1**
IDMV				*e*AMB	AMB	16 41 04.4	
	comp=Z,157nm,0.2s						
IDMV	**Damavand**	**7.47**	**1**	*e*Pn	**Pn**	**16 41 00.5**	**+0.1**
IFIR	**Firoozkooh**	**7.57**	**6**	*e*AMB	AMB	16 41 05.0	
	comp=Z,73nm,0.1s						
IFIR				*e*Pn	**Pn**	**16 41 02.4**	**+0.6**
IVIS	**Veis**	**7.72**	**328**	*e*AMB	AMB	16 41 14.1	
	comp=Z,312nm,0.1s						
IVIS				*e*Pn	**Pn**	**16 41 03.1**	**-0.6**
WSAR	**Wadi Sarin**	**7.78**	**127**	Pn	**Pn**	**16 41 03.9**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=303,slow=10,SNR=33						
WSAR				Sn	**Sn**	**16 42 27.9**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=279,slow=19,SNR=2.4						
WSAR	**Wadi Sarin**	**7.78**	**127**	P	**Pn**	**16 41 06.0**	**+1.6**
	SNR=5.4						
WSAR	**Wadi Sarin**	**7.78**	**127**	Pn	**Pn**	**16 41 06.0**	**+1.6**
	SNR=5.4						
WSAR	**Wadi Sarin**	**7.78**	**127**	P	**Pn**	**16 41 06.0**	**+1.6**
	SNR=5.4						
ILIN	**Lien**	**7.99**	**330**	*e*AMB	AMB	16 41 08.5	
	comp=Z,839nm,0.1s						
ILIN				*e*Pn	**Pn**	**16 41 07.4**	**-0.2**
GEYT	**Alibeck**	**11.13**	**26**	Pn	**Pn**	**16 41 52.2**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=130,slow=42,SNR=3.0						
MMAI	**Mount Meron Ar**	**15.01**	**293**	Pn	**Pn**	**16 42 41.7**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=113,slow=11,SNR=2.7						
KBZ	**Khabaz**	**17.20**	**338**	P	**P**	**16 43 12.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=178,slow=10,SNR=5.3						
BRTR	**Keskin Array B**	**19.03**	**312**	P	**Pn**	**16 43 33.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=16						
AKTO	**Aktyubinsk**	**22.81**	**10**	P	**P**	**16 44 14.5**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=194,slow=13,SNR=3.6						
AAK	**Ala-Archa**	**23.39**	**46**	P	**P**	**16 44 21.4**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=233,slow=9.6,SNR=2.9						
IDI	**Anoyia**	**24.00**	**294**	P	**P**	**16 44 26.1**	**+0.5**
	comp=Z,8.2nm,0.7s,baz=88,slow=8.8,SNR=5.4						
AKASG	**Malin Array Be**	**28.36**	**329**	P	**P**	**16 45 03.2**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=132,slow=8.3,SNR=4.7						
BVAR	**Bovoye Array**	**28.44**	**24**	P	**P**	**16 45 05.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=247,slow=7.4,SNR=4.5						
BVAR				PcP	**PcP**	**16 48 16.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=184,slow=2.6,SNR=4.5						
KURBB	**Kurchatov Arra**	**30.24**	**35**	P	**P**	**16 45 21.5**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=237,slow=9.0,SNR=4.3						
MKAR	**Makanchi Array**	**30.26**	**44**	P	**P**	**16 45 22.3**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=230,slow=8.4,SNR=10						
ZALV	**Zalesovo Beam**	**35.31**	**34**	P	**P**	**16 46 05.7**	**0.0**
	comp=Z,1.1nm,0.4s,baz=245,slow=9.7,SNR=8.5						
GERES	**GERESS Array B**	**35.85**	**316**	P	**P**	**16 46 09.4**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=93,slow=9.9,SNR=3.0						
FINES	**FINESS Array B**	**37.53**	**340**	P	**P**	**16 46 24.0**	**-0.4**
	comp=Z,2.5nm,0.4s,baz=148,slow=7.9,SNR=40						
HFS	**Hagfors**	**41.14**	**332**	P	**P**	**16 46 54.2**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=120,slow=8.5,SNR=28						
NB2	**NORSAR Subarra**	**42.66**	**332**	P	**P**	**16 47 06.0**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**42.66**	**332**	P	**P**	**16 47 06.1**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=127,slow=9.1,SNR=7.7						
CMAR	**Chiang Mai Arr**	**44.07**	**92**	P	**P**	**16 47 19.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=284,slow=8.1,SNR=7.3						
ARCES	**ARCESS Array B**	**44.21**	**347**	P	**P**	**16 47 19.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=150,slow=6.2,SNR=13						
SONM	**Songino Array**	**46.25**	**49**	P	**P**	**16 47 37.5**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=256,slow=7.3,SNR=4.1						
EKA	**Eskdalemuir Ar**	**47.64**	**321**	P	**P**	**16 47 45.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=104,slow=8.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**48.92**	**263**	P	**P**	**16 47 56.1**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=58,slow=7.7,SNR=17						
TORD				PcP	**PcP**	**16 49 19.9**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=66,slow=5.8,SNR=2.3						
SPITS	**Spitsbergen Ar**	**52.66**	**351**	P	**P**	**16 48 24.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=116,slow=6.6,SNR=5.7						
KOWA	**Kowa**	**53.38**	**268**	P	**P**	**16 48 30.1**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=58,slow=9.5,SNR=11						
DBIC	**Dimbokro**	**57.61**	**260**	P	**P**	**16 49 00.3**	**-0.7**
	comp=Z,5.8nm,0.8s,baz=43,slow=7.2,SNR=6.6						
KSRS	**Korea Array**	**63.06**	**60**	P	**P**	**16 49 39.1**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=278,slow=7.4,SNR=4.5						
YKA	**Yellowknife Ar**	**89.09**	**354**	P	**P**	**16 52 05.0**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=9.6,slow=5.0,SNR=8.0						
ASAR	**Alice Springs**	**94.29**	**114**	P	**P**	**16 52 28.7**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=308,slow=4.6,SNR=2.9						

*NEIC **22** 16:42:24.8±3.2, 15°98N×98°50W, h9km±14km, mb4.1/17, MD4.2(MEX), Error ellipse: s-maj=27.9km s-min=9.9km az=176.0*
*ISCJB **22** 16:42:25.9±1.6, 16°02N±0°08×98°47W±0°04, h27km±9km, mb4.0/21, MS3.8/1, Error ellipse: s-maj=14.1km s-min=6.2km az=12.5*
*IDC **22** 16:42:25.7±4.2, 16°28N×98°42W, h0km, mb3.8/6, mb1 3.9/9, mb1mx3.7/47, mbtmp3.6/9, ML3.4/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/47, Error ellipse: s-maj=80.2km s-min=18.5km az=5.0*
*MEX **22** 16:42:25.5±0.6, 15°96N×98°60W, h14km±9km, MD4.2*

ISC 22 16:42:24.5±1.3, **16°01N**±0°07×**98°61W**±0°04, **h13**km±7km, **n56**, σ2§**50**/60, **mb4.1**/21, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.60**	**51**	*e*P	**Pg**	**16 42 36.1**	**-0.1**
PNIG				*e*S	**Sg**	**16 42 44.0**	**-0.3**
PNIG	**Pinotepa**	**0.60**	**51**	*e*Pg	**Pg**	**16 42 36.1**	**-0.1**
ACX	**Acapulco**	**1.47**	**306**	*e*P	**Pn**	**16 42 47.4**	**-3.3**
ACX				*i* S	**Sn**	**16 43 05.9**	**-4.0**
TLIG	**Tlapa**	**1.54**	**2**	*e*P	**Pn**	**16 42 49.9**	**-1.9**
TLIG				*e*S	**Sn**	**16 43 09.0**	**-2.8**
TLIG	**Tlapa**	**1.54**	**2**	*e*P	**Pn**	**16 42 49.9**	**-1.9**
TLIG				*e*S	**Sn**	**16 43 09.0**	**-2.8**
CAIG	**El Cayaco**	**1.89**	**303**	*e*P	**Pn**	**16 42 54.5**	**-2.0**
CAIG				*e*S	**Sn**	**16 43 17.3**	**-3.0**
CAIG	**El Cayaco**	**1.89**	**303**	*e*Pn	**Pn**	**16 42 54.5**	**-2.0**
CAIG				*e*Sn	**Sn**	**16 43 17.3**	**-3.0**
VHO	**Vista Hermosa**	**2.09**	**59**	*e*P	**Pn**	**16 42 56.9**	**-2.5**
VHO				*e*S	**Sn**	**16 43 22.9**	**-2.5**
VHO	**Vista Hermosa**	**2.09**	**59**	*e*Sn	**Sn**	**16 43 23.2**	**-2.2**
HUIG	**Huatulco**	**2.42**	**95**	*i* P	**Pn**	**16 43 01.6**	**-2.2**
HUIG				*i* S	**Sn**	**16 43 29.6**	**-3.8**
UNM	**Universidad Na**	**3.34**	**351**	*e*Pn	**Pn**	**16 43 20.2**	**+3.5**
UNM				*e*Sn	**Sg**	**16 44 09.3**	**-2.6**
CMIG	**Matias Romero**	**3.73**	**73**	Pn	**Pn**	**16 43 21.0**	**-0.9**
	1.4nm,0.3s,baz=262,slow=11,SNR=17						
CMIG				Sn	**Sn**	**16 44 04.0**	**-1.8**
	5.6nm,0.3s,baz=224,slow=20,SNR=6.1						
CMIG				Lg	Lg	16 44 17.3	
	4.6nm,0.3s,baz=336,slow=16,SNR=4.9						
JRQG	**Juriquilla Cam**	**4.98**	**340**	*e*Pn	**Pn**	**16 43 41.3**	**+2.0**
JRQG				*e*Sg	**Sg**	**16 45 00.2**	**-4.4**
ZAIG	**Zacatecas**	**7.69**	**332**	*e*Pn	Pn	16 44 23.3	+6.8
H06E1	**SOCORRO T-PHAS**	**12.07**	**285**	T	T	16 57 25.8	
	SNR=48						
H06S1	**SOCORRO T**	**12.09**	**285**	T	T	16 57 26.3	
LTX	**Lajitas**	**14.05**	**342**	*e*Pn	**Pn**	**16 45 44.4**	**+1.0**
TXAR	**Lajitas Array**	**14.05**	**342**	Pn	**Pn**	**16 45 44.4**	**+1.0**
	0.1nm,0.3s,baz=165,slow=14,SNR=2.5						
BNM	**Barren Site**	**19.45**	**340**	*e*P	**P**	**16 46 52.0**	**+0.8**
TUC	**Tucson**	**19.63**	**328**	*e*P	**Pn**	**16 46 55.7**	**+1.3**
	2.1nm,0.9s						
ANMO	**Albuquerque**	**20.12**	**341**	P	**P**	**16 47 00.2**	**+1.7**
	0.1nm,0.3s,baz=132,slow=12,SNR=3.5						
ANMO	**Albuquerque**	**20.12**	**341**	*e*P	Pn	16 47 01.1	+0.7
	5.7nm,1.3s						
X18A	**Snowflake**	**21.07**	**333**	*e*P	**P**	**16 47 10.9**	**+2.2**
	2.7nm,0.8s						
113A	**Mohawk Valley,**	**21.61**	**323**	*e*P	**P**	**16 47 16.6**	**+2.3**
	14nm,1.9s						
X16A	**Lo Mia Camp, P**	**21.66**	**330**	*e*P	**P**	**16 47 17.8**	**+2.8**
	4.2nm,0.9s						
T25A	**Trinidad**	**21.66**	**347**	*e*P	**P**	**16 47 18.2**	**+3.1**
	14nm,1.4s						
WVT	**Waverly**	**22.22**	**24**	*e*P	**P**	**16 47 21.9**	**+1.0**
	7.0nm,0.8s						
WUAZ	**Wupatki**	**22.53**	**332**	*e*P	**P**	**16 47 27.2**	**+2.9**
	9.3nm,1.1s						
WESC	**Westside Schoo**	**22.77**	**320**	*e*P	**P**	**16 47 29.9**	**+3.1**
S22A	**4UR Ranch, Cre**	**22.83**	**343**	*e*P	**P**	**16 47 29.0**	**+1.3**
	5.5nm,1.5s						
MVCO	**Mesa Verde**	**22.86**	**339**	*e*P	**P**	**16 47 28.1**	**+0.2**
	3.2nm,0.8s						
SIUC	**Southern Illin**	**23.16**	**19**	*e*P	**P**	**16 47 27.5**	**-3.2**
	11nm,1.1s						
DPP	**Dos Picos Cty**	**23.69**	**319**	*e*P	**P**	**16 47 42.2**	**+6.2**
DPP				*e*Sn	Sn	16 52 28.9	+17
CRY	**Cary Ranch**	**23.94**	**320**	*e*Sn	Sn	16 52 27.8	+10
SMCO	**Snowmass**	**24.21**	**344**	*e*P	**P**	**16 47 44.0**	**+2.6**
	4.6nm,1.1s						
ISCO	**Idaho Springs**	**24.48**	**347**	*e*P	**P**	**16 47 44.8**	**+1.1**
	9.1nm,1.6s						
BFSC	**Mount Baldy Ra**	**24.96**	**320**	*e*P	**P**	**16 47 48.3**	**+0.4**
MTPU	**Mount Pierson**	**25.00**	**334**	*e*P	**P**	**16 47 51.6**	**+3.1**
	15nm,1.8s						
OGNE	**Ogallala**	**25.02**	**354**	*e*P	**P**	**16 47 50.0**	**+1.7**
	12nm,0.4s						
PASC	**Pasadena Art C**	**25.24**	**319**	*e*P	**P**	**16 47 49.1**	**-1.2**
PASC				*es*P	**pP**	**16 47 55.5**	**+1.3**
SCIA	**State Center**	**26.22**	**9**	*e*P	**P**	**16 47 59.6**	**+0.5**
	10.0nm,0.8s						
TIN	**Tinemaha, Big**	**27.23**	**324**	*e*P	**P**	**16 48 06.5**	**-2.0**
NV01	**Mina Array Sit**	**28.26**	**326**	*e*P	**P**	**16 48 19.4**	**+1.7**
NVAR	**Mina Array Bea**	**28.26**	**326**	P	**P**	**16 48 20.3**	**+2.6**
	0.7nm,0.8s,baz=168,slow=9.1,SNR=5.6						
PD31	**Pinedale Array**	**28.27**	**343**	*e*P	**P**	**16 48 18.5**	**+0.7**
PDAR	**Pinedale Array**	**28.27**	**343**	P	**P**	**16 48 20.1**	**+2.3**
	0.3nm,0.4s,baz=143,slow=11,SNR=4.2						
PDAR	**Pinedale Array**	**28.27**	**343**	*e*P	**P**	**16 48 19.3**	**+1.5**
CMB	**Columbia Colle**	**29.14**	**323**	*e*P	**P**	**16 48 22.1**	**-3.3**
M54A	**Oil Creek Stat**	**30.21**	**29**	*e*P	P	16 48 28.6	-6.3
	27nm,1.2s						
SJG	**San Juan**	**31.08**	**81**	LR	LR	17 01 32.0	
	comp=Z,236nm,20.8s,baz=103,slow=37						
YBH	**Yreka Blue Hor**	**32.98**	**326**	P	**P**	**16 49 01.7**	**+2.5**
	2.9nm,0.4s,baz=70,slow=15,SNR=4.8						
BBOR	**Butler Butte**	**33.77**	**327**	*e*P	P	16 49 11.8	+5.6
WPW	**White Pass**	**36.05**	**333**	*e*P	**P**	**16 49 30.0**	**+4.1**
YKA	**Yellowknife Ar**	**47.78**	**350**	P	**P**	**16 51 01.6**	**+0.4**
	0.3nm,0.8s,baz=160,slow=7.6,SNR=5.6						
INK	**Inuvik**	**56.79**	**345**	P	**P**	**16 52 09.7**	**+1.7**
	2.0nm,1.0s,baz=90,slow=3.8,SNR=3.1						
ILAR	**Eielson Array**	**58.53**	**338**	P	**P**	**16 52 22.2**	**+1.8**
	1.0nm,1.1s,baz=137,slow=4.3,SNR=4.7						

*MEX **22** 16:46:42.5±0.4, 15°88N×98°58W, h14km±9km, MD5.0*
*ISCJB **22** 16:46:42.6±1.1, 16°37N±0°03×98°27W±0°02, h2km±6km, mb5.0/323, MS4.5/51, Error ellipse: s-maj=4.7km s-min=2.6km az=11.7*
*IDC **22** 16:46:43.3±0.6, 16°29N×98°42W, h0km, mb4.6/30, mb1 4.7/34, mb1mx4.6/53, mbtmp4.6/34, ML4.5/3, MS4.4/38, Ms1 4.4/38, ms1mx4.3/46, Error ellipse: s-maj=16.9km s-min=11.2km az=44.0*
*MOS **22** 16:46:46.0±1.0, 16°34N×98°34W, h27km, mb5.2/83, MS4.6/15, Error ellipse: s-maj=8.5km s-min=3.9km az=96.8*
*NEIC **22** 16:46:47.8±0.7, 16°33N×98°34W, h28km±4km, mb5.1/299, MD5.0(MEX), Error ellipse: s-maj=3.7km s-min=2.3km az=201.0*
*NEIC Felt [III] at Mexico. Also felt at Acatzingo, Pin

NATX	Nacogdoches baz=193	15.85	12	P		Pn	16 50 25.2	-2.5
NATX	Nacogdoches 193nm,1.2s	15.85	12	*e*Pn		Pn	16 50 27.9	+0.2
444A	Pine Grove baz=208	16.06	25	P		Pn	16 50 27.2	-3.3
342A	Flagon Creek P baz=201	16.09	19	P		Pn	16 50 28.1	-2.7
343A	Vidalia baz=204	16.24	22	P		Pn	16 50 29.3	-3.5
445A	Amite baz=209	16.24	26	P		Pn	16 50 29.5	-3.3
240A	Hunter Patters baz=196	16.31	14	P		Pn	16 50 30.5	-3.1
ABTX	Abilene, Hawle baz=176,SNR=19	16.35	357	P		Pn	16 50 31.3	-2.9
ABTX	Abilene, Hawle 480nm,1.7s	16.35	357	*e*Pn		Pn	16 50 33.0	-1.2
241A	Mo Tay, Goldon baz=199	16.52	17	P		Pn	16 50 33.5	-2.8
MNTX	Cornudas Mount baz=156,SNR=49	16.62	339	P		Pn	16 50 37.9	+0.2
MNTX	Cornudas Mount 135nm,1.6s	16.62	339	*e*Pn		Pn	16 50 37.0	-0.7
344A	Westbrook Farm baz=206	16.72	24	P		Pn	16 50 36.3	-2.5
446A	Poplarville baz=212	16.72	28	P		Pn	16 50 35.9	-2.9
GDL2	Guadalupe Moun	16.77	343	*e*Pn		Pn	16 50 38.4	-1.1
242A	Grayson baz=201	16.78	19	P		Pn	16 50 37.1	-2.5
243A	Waterproof baz=203	16.83	21	P		Pn	16 50 37.6	-2.7
SRIG	Santa Rosalia	16.86	313	*e*Pn		Pn	16 50 40.9	+0.2
345A	Thompson Farm, baz=209	16.87	26	P		Pn	16 50 38.2	-2.6
140A	Cam and Jess, baz=196,SNR=8.9	16.93	14	P		Pn	16 50 39.7	-1.8
447A	Lucedale baz=214	17.06	30	P		Pn	16 50 40.8	-2.3
141A	Papa Simpson, baz=198	17.07	16	P		Pn	16 50 41.1	-2.1
EPT	El Paso 127nm,1.3s	17.10	336	*e*Pn		Pn	16 50 44.2	+0.4
346A	Big Creek Wild baz=210	17.18	27	P		Pn	16 50 41.8	-2.9
244A	Avery, Jackson baz=206	17.26	23	P		Pn	16 50 42.5	-3.2
142A	Monroe baz=201	17.29	19	P		Pn	16 50 43.2	-2.8
VBMS	Vicksburg baz=206	17.48	23	P		Pn	16 50 46.1	-2.3
VBMS	Vicksburg 225nm,1.4s	17.48	23	*e*Pn		Pn	16 50 46.4	-2.0
245A	Little AP, Sta baz=208	17.56	25	P		Pn	16 50 47.2	-2.2
Z40A	Long Farm, Mag baz=196	17.57	14	P		Pn	16 50 47.2	-2.2
143A	Socs Landing, baz=203	17.61	20	P		Pn	16 50 46.7	-3.3
347A	Saraland baz=213	17.61	29	P		Pn	16 50 48.1	-2.0
Z41A	Richland Creek baz=198,SNR=8.2	17.71	16	P		Pn	16 50 49.0	-2.3
246A	Jackson Lee, B baz=210	17.87	27	P		Pn	16 50 49.9	-3.3
144A	Alexander Plac baz=206	17.89	23	P		Pn	16 50 50.8	-2.6
348A	Jackson baz=215	17.93	31	P		Pn	16 50 50.8	-3.2
Z42A	Norrel Spur, H baz=200	17.97	18	P		Pn	16 50 51.4	-3.0
319A	Douglas 161nm,1.1s	18.00	329	*e*Pn		P	16 50 55.9	+0.6
WLAR	White Oak Lake 133nm,1.1s	18.04	15	*e*Pn		Pn	16 50 54.0	-1.4
145A	Houston Renfro baz=207	18.05	24	P		Pn	16 50 52.6	-2.8
MSTX	Muleshoe baz=166,SNR=16	18.07	348	P		Pn	16 50 55.4	-0.5
MSTX	Muleshoe 316nm,1.6s	18.07	348	*e*Pn		Pn	16 50 54.3	-1.6
Z43A	Armstrong Fami baz=202	18.13	20	P		Pn	16 50 53.8	-2.5
247A	Quitman baz=212,SNR=5.6	18.13	28	P		Pn	16 50 53.1	-3.3
349A	Repton baz=217	18.24	32	P		Pn	16 50 54.5	-3.2
121A	Cookes Peak, D baz=150,SNR=47	18.28	334	P		P	16 50 59.7	+1.1
Y40A	Okolona baz=196	18.32	14	P		Pn	16 50 57.0	-1.7
Y41A	Eaglette Beard baz=198	18.35	16	P		Pn	16 50 57.5	-1.6
WMOK	Wichita Mounta baz=179	18.43	359	P		P	16 50 58.2	-1.8
WMOK	Wichita Mounta WMOK comp=Z,35nm,1.0s	18.43	359	*e*P	pmax	P pmax	16 50 58.8	-1.2
WMOK	Wichita Mounta comp=Z,35nm,1.0s	18.43	359	*e*P		P	16 50 58.8	-1.2
146A	Union baz=210	18.43	26	P		P	16 50 58.7	-1.4
Z44A	Pea Ridge, Bel baz=205	18.47	22	P		P	16 50 58.5	-1.9
Y42A	Garnett, Star baz=200	18.54	18	P		P	16 50 58.9	-2.3
248A	Dixon Mills baz=214	18.57	30	P		P	16 50 59.2	-2.3
CCAR	Cane Creek comp=Z,57nm,0.8s	18.62	18	*e*P		P	16 51 01.1	-1.0
X39A	Fountain Ranch baz=193,SNR=20	18.62	11	P		P	16 51 01.2	-0.9
350A	Dozier baz=219	18.74	34	P		P	16 51 01.4	-2.0
249A	Camden baz=216	18.77	31	P		P	16 51 01.9	-1.8
059Z	Ave Maria baz=241	18.78	55	P		P	16 51 00.6	-3.3
AMTX	Amarillo baz=170	18.79	352	P		P	16 51 04.1	0.0
AMTX	Amarillo comp=Z,69nm,0.9s	18.79	352	*e*P		P	16 51 03.1	-1.0
147A	Livingston baz=212,SNR=9.0	18.81	28	P		P	16 51 03.1	-1.1
Z45A	Winona baz=207	18.82	23	P		P	16 51 03.1	-1.2
058A	Arcadia baz=238	18.86	52	P		P	16 51 01.8	-3.0
957A	Wimauma baz=236	18.87	50	P		P	16 51 02.4	-2.5
X40A	Basin Creek Fa baz=197,SNR=15	18.87	15	P		P	16 51 03.6	-1.3
Y43A	Makayla and Ka baz=203	18.88	20	P		P	16 51 03.7	-1.2
553A	Crawfordville baz=226	18.95	40	P		P	16 51 02.3	-3.4
452A	Marianna baz=223	18.96	38	P		P	16 51 03.0	-2.8
X41A	Kaden, Bauxite baz=198	18.96	15	P		P	16 51 04.8	-1.0
Z46A	Louisville baz=209	18.96	25	P		P	16 51 04.2	-1.6
351A	Pinckard baz=221	19.04	36	P		P	16 51 04.3	-2.3
148A	Greensboro baz=213	19.11	29	P		P	16 51 06.8	-0.6
Y44A	Strider, Charl baz=204	19.16	21	P		P	16 51 07.9	-0.1
958A	Wauchula baz=237	19.18	51	P		P	16 51 06.7	-1.6
857A	Zephyrhills baz=235	19.21	49	P		P	16 51 07.4	-1.2
250A	Grady baz=218	19.21	33	P		P	16 51 07.6	-1.0
X42A	Stuttgart baz=200	19.26	17	P		P	16 51 08.7	-0.3
UALR	University of comp=Z,56nm,1.0s	19.27	16	*e*P		P	16 51 08.9	-0.3
BNM	Barren Site	19.28	339	*e*P		P	16 51 09.9	+0.3
Y22D	IRIS PASSCAL I baz=154	19.32	338	P		P	16 51 09.9	0.0
Y22D	IRIS PASSCAL I comp=Z,181nm,1.1s	19.32	338	*e*P		Pn	16 51 11.4	+0.4
Y22E	IRIS PASSCAL I baz=154	19.32	338	P		Pn	16 51 11.2	+0.2
Y45A	Yeager Farm, C baz=206,SNR=11	19.32	23	P		P	16 51 10.3	+0.5
059A	Moore Haven baz=240	19.32	54	P		P	16 51 07.5	-2.4
Z47A	Carrollton baz=211	19.34	27	P		P	16 51 09.7	-0.3
554A	Perry baz=228	19.35	42	P		P	16 51 09.0	-1.0
W39A	Magazine baz=193,SNR=21	19.35	12	P		P	16 51 10.3	+0.3
LPM	Los Pinos Moun	19.43	339	*e*P		Pn	16 51 12.8	+0.4
149A	Jones baz=216,SNR=10	19.44	31	P		Pn	16 51 12.0	-0.3
X43A	Marvell baz=202	19.45	19	P		P	16 51 10.9	-0.2
453A	Whigham baz=225	19.48	39	P		P	16 51 10.9	-0.6
W40A	Ferguson Farm, baz=195,SNR=7.2	19.49	13	P		P	16 51 11.4	-0.2
W40A	Ferguson Farm, comp=Z,148nm,1.1s	19.49	13	*e*P		P	16 51 11.1	-0.5
TUC	Tucson baz=142	19.51	327	P		Pn	16 51 13.9	+0.6
TUC	Tucson TUC comp=Z,59nm,1.1s	19.51	327	P	pmax	Pn pmax	16 51 14.1	+0.9
352A	Blakely baz=222	19.57	37	P		P	16 51 11.1	-1.4
Y46A	Houston baz=208,SNR=20	19.60	25	P		P	16 51 12.8	-0.1
656A	Willston baz=232	19.65	46	P		P	16 51 12.1	-1.3
W41B	Gary Mavity, V baz=198,SNR=9.1	19.67	15	P		P	16 51 13.2	-0.3
X44A	Crenshaw baz=204	19.67	21	P		P	16 51 13.1	-0.5
LAZ	Ladron	19.69	338	*e*P		P	16 51 13.8	-0.3
LRAL	Lakeview Retre baz=214,SNR=13	19.70	30	P		P	16 51 14.5	+0.6
LRAL	Lakeview Retre comp=Z,56nm,1.1s	19.70	30	*e*P		P	16 51 14.0	+0.1
DWPF	Disney Wildern baz=236	19.70	50	P		P	16 51 13.0	-1.0
757A	Oxford baz=233	19.72	47	P		P	16 51 12.8	-1.3
Z48A	Northport baz=212,SNR=27	19.72	28	P		P	16 51 14.4	+0.2
TUL1	Leonard baz=187,SNR=16	19.74	7	P		P	16 51 13.5	-0.9
TUL1	Leonard comp=Z,82nm,0.8s	19.74	7	*e*P		P	16 51 12.5	-1.8
251A	Midway baz=220	19.76	35	P		P	16 51 14.1	-0.6
WHAR	Wooly Hollow comp=Z,290nm,1.8s	19.77	15	*e*P		P	16 51 14.1	-0.6
454A	Quitman baz=226	19.81	41	P		P	16 51 13.9	-1.2
959A	Okechobee baz=239	19.81	52	P		P	16 51 13.8	-1.4
858A	St. Cloud baz=236	19.81	50	P		P	16 51 14.5	-0.7
150A	Eclectic baz=217,SNR=14	19.84	32	P		Pn	16 51 16.4	-0.6
555A	McAlpin baz=229	19.84	43	P		P	16 51 14.2	-1.2
X45A	UM Field Stati baz=206,SNR=18	19.87	23	P		P	16 51 15.3	-0.5
353A	Camilla baz=224	19.89	38	P		P	16 51 15.2	-0.8
OXF	Oxford baz=206,SNR=9.8	19.95	22	P		P	16 51 15.9	-0.7
OXF	Oxford OXF comp=Z,147nm,1.1s	19.95	22	*e*P	pmax	P pmax	16 51 16.3	-0.3
OXF	Oxford comp=Z,146nm,1.1s	19.95	22	*e*P		P	16 51 16.3	-0.3
ANMO	Albuquerque comp=Z,1.0nm,0.3s,baz=334,slow=12,SNR=68	19.95	341	P		Pn	16 51 18.0	-0.6
ANMO	Albuquerque baz=157	19.95	341	P		Pn	16 51 18.8	+0.2
ANMO	Albuquerque ANMO comp=Z,118nm,1.7s	19.95	341	*ce*P	pmax	P pmax	16 51 15.8	-1.1
ANMO	Albuquerque comp=Z,190nm,1.7s	19.95	341	*e*P		Pn	16 51 17.8	-0.8
W42A	Ball Knob baz=200	19.96	17	P		P	16 51 16.7	0.0
060A	Indiantown baz=241	19.96	54	P		P	16 51 16.5	-0.4
V39A	Pettigrew baz=193,SNR=49	20.00	12	P		P	16 51 17.1	-0.2
W43A	Forest City baz=202	20.03	19	P		P	16 51 17.4	0.0
Y47A	UCPARC, Winfie baz=211,SNR=20	20.04	27	P		P	16 51 17.8	+0.2
Z49A	Columbiana baz=215,SNR=28	20.05	30	P		P	16 51 18.4	+0.7
252A	Lumpkin baz=221	20.06	36	P		P	16 51 17.5	-0.4
859A	Kempfer Cattle baz=238	20.07	51	P		P	16 51 16.8	-1.2
MTDJ	Mount Denham comp=Z,216nm,1.6s	20.12	81	*e*P		P	16 51 18.6	-0.1
MTDJ	Mount Denham	20.12	81	*e*P		P	16 51 16.9	-1.8
556A	Lake Butler baz=230,SNR=7.7	20.13	44	P		P	16 51 18.1	-0.6
V40A	Witts Springs baz=196,SNR=22	20.14	13	P		P	16 51 18.8	+0.1
151A	Opelika baz=219,SNR=9.6	20.14	34	P		P	16 51 19.3	+0.6
455A	Stateville baz=228	20.21	42	P		P	16 51 19.4	0.0
657A	Interlachen baz=232	20.24	46	P		P	16 51 19.4	-0.4
V41A	Mountainview baz=197,SNR=18	20.28	15	P		P	16 51 19.9	-0.3
X46A	Booneville baz=208,SNR=17	20.30	24	P		P	16 51 20.6	+0.2
MET	Memphis--Engin comp=Z,161nm,0.6s	20.31	21	*e*P		P	16 51 20.5	0.0
TIGA	Tifton baz=225	20.33	39	P		P	16 51 20.0	-0.8
TIGA	Tifton comp=Z,97nm,1.3s	20.33	39	*e*P		P	16 51 21.0	+0.2
Y48A	Jasper baz=212,SNR=18	20.34	28	P		P	16 51 21.0	+0.1
758A	Lake Helen baz=235	20.35	49	P		P	16 51 19.3	-1.7
214A	Organ Pipe Nat baz=137,SNR=34	20.36	323	P		Pn	16 51 22.9	-0.3
W44A	Shelby Farms P baz=204	20.37	21	P		P	16 51 19.5	-1.6
HHAR	Hobbs comp=Z,138nm,1.6s	20.37	11	*e*P		P	16 51 20.1	-1.2
Z50A	Ashland baz=216,SNR=23	20.40	32	P		P	16 51 22.0	+0.4
253A	Americus baz=223	20.46	37	P		P	16 51 20.8	-1.4
V42A	Cord baz=199,SNR=22	20.50	17	P		P	16 51 22.3	-0.3
U39A	Green Forest baz=193,SNR=22	20.56	12	P		P	16 51 22.6	-0.6
X47A	Russelville baz=210,SNR=27	20.56	26	P		P	16 51 22.8	-0.5
658A	Bunnell baz=234	20.57	47	P		P	16 51 21.8	-1.6
557A	Orange Park baz=232	20.60	45	P		P	16 51 22.1	-1.6
Y49A	Blount Mountai baz=214,SNR=22	20.65	30	P		P	16 51 23.5	-0.7
U40A	Yellville baz=195,SNR=46	20.66	13	P		P	16 51 23.1	-1.3
V43A	Jonesboro baz=202	20.72	19	P		P	16 51 24.0	-1.0
355A	Pearson baz=227	20.72	41	P		P	16 51 23.7	-1.3
X48A	Hartselle baz=212,SNR=22	20.85	27	P		P	16 51 25.6	-0.8
U41A	Viola baz=198,SNR=18	20.86	15	P		P	16 51 25.2	-1.4
254A	Abbeville baz=225	20.87	39	P		P	16 51 26.2	-0.4
PLAL	Pickwick Lake comp=Z,76nm,0.8s	20.87	25	*e*P		P	16 51 25.9	-0.7
W46A	Michie baz=208,SNR=7.3	20.89	24	P		P	16 51 26.3	-0.5
X18A	Snowflake comp=Z,277nm,1.6s	20.92	333	*e*P		Pn	16 51 29.1	-0.9
V44A	Blytheville baz=203	20.97	20	P		P	16 51 26.6	-1.0
Y50A	Piedmont baz=216	21.00	31	P		P	16 51 26.8	-1.3
U42A	Revenden baz=199,SNR=47	21.05	16	P		P	16 51 27.8	-0.7
T38A	Diamond baz=191,SNR=10	21.05	9	P		P	16 51 27.5	-1.1
153A	Fort Valley baz=222	21.06	36	P		P	16 51 27.1	-1.7
457A	Yulee baz=231	21.09	44	P		P	16 51 27.8	-1.2
356A	Blackshear baz=228	21.17	42	P		P	16 51 28.9	-1.0
T39A	Clever baz=193,SNR=47	21.20	11	P		P	16 51 28.7	-1.5
X49A	Woodville baz=214,SNR=29	21.23	29	P		P	16 51 29.7	-0.8
W47A	Westpoint baz=210,SNR=42	21.30	25	P		P	16 51 30.5	-0.8
U43A	Rector baz=202,SNR=15	21.31	18	P		P	16 51 30.7	-0.5
W18A	Petrified Fore baz=149,SNR=36	21.33	334	P		P	16 51 33.1	+1.3
W18A	Petrified Fore comp=Z,221nm,1.5s	21.33	334	*e*P		P	16 51 32.9	+1.1
154A	Montrose baz=224	21.45	38	P		P	16 51 31.9	-1.1
T25A	Trinidad baz=164,SNR=84	21.47	347	P		P	16 51 34.5	+1.2
T25A	Trinidad comp=Z,433nm,1.7s	21.47	347	*e*P		P	16 51 34.6	+1.2
W48A	Pulaski baz=211,SNR=32	21.48	27	P		P	16 51 32.8	-0.4
T40A	Mansfield baz=195,SNR=51	21.50	13	P		P	16 51 32.9	-0.5
113A	Mohawk Valley, comp=Z,278nm,1.9s	21.50	323	*e*P		P	16 51 34.2	+0.8
X50A	Fort Payne baz=215,SNR=12	21.50	30	P		P	16 51 33.4	-0.1
X16A	Lo Mia Camp, P comp=Z,99nm,0.9s	21.52	330	*e*P		P	16 51 35.0	+1.2
MHTCO	State Highway comp=Z,208nm,1.8s	21.52	346	*e*P		P	16 51 34.6	+0.7
PVMO	Portageville comp=Z,307nm,0.4s	21.57	20	*e*P		P	16 51 36.0	+1.9
T41A	Mountain View baz=197,SNR=28	21.57	15	P		P	16 51 34.3	+0.2
V46A	Holladay baz=208,SNR=73	21.57	23	P		P	16 51 33.5	-0.6
U44B	Burton Farm, H baz=204,SNR=11	21.61	20	P		P	16 51 34.0	-0.6
357A	Townsend baz=229	21.65	43	P		P	16 51 33.2	-1.8
U44A	Portageville baz=203	21.65	20	P		P	16 51 34.0	-1.0
PBMO	Poplar Bluff comp=Z,125nm,0.8s	21.68	18	*e*P		P	16 51 34.0	-1.2
T42A	Van Buren baz=199,SNR=27	21.73	16	P		P	16 51 35.0	-0.8
256A	Glennville baz=228	21.76	41	P		P	16 51 34.6	-1.6
UTMT	University of comp=Z,382nm,1.1s	21.78	21	*e*P		P	16 51 37.5	+1.1
U45A	Rockin P Farm, baz=206	21.82	22	P		P	16 51 35.6	-1.2
GOGA	Godfrey baz=222,SNR=14	21.83	36	P		P	16 51 36.0	-0.9
GOGA	Godfrey GOGA comp=Z,35nm,0.8s	21.83	36	*e*P	pmax	P pmax	16 51 35.9	-1.0
GOGA	Godfrey comp=Z,35nm,0.8s	21.83	36	*e*P		P	16 51 35.9	-1.0
V47A	Nunnelly baz=209,SNR=58	21.83	25	P		P	16 51 36.4	-0.5
S39A	Bolivar baz=193,SNR=37	21.86	11	P		P	16 51 36.8	-0.4
S40A	Lebanon baz=195,SNR=39	21.93	13	P		P	16 51 37.1	-0.9
WVT	Waverly baz=208	21.97	24	P		P	16 51 37.7	-0.8
WVT	Waverly WVT comp=Z,100nm,0.8s	21.97	24	*e*P	pmax	P pmax	16 51 36.8	-1.7
WVT	Waverly comp=Z,100nm,0.8s	21.97	24	*e*P		P	16 51 36.8	-1.7
T43A	Greenville baz=201,SNR=36	22.00	18	P		P	16 51 38.1	-0.7
V48A	Smith Brothers baz=211,SNR=23	22.04	26	P		P	16 51 38.7	-0.5
U46A	Springville baz=207,SNR=15	22.04	23	P		P	16 51 38.1	-1.1
R38A	Fenwick Farm, baz=191,SNR=12	22.24	10	P		P	16 51 39.7	-1.6
SDCO	Great Sand Dun baz=162,SNR=49	22.30	345	P		P	16 51 42.4	+0.1
SDCO	Great Sand Dun comp=Z,124nm,1.8s	22.30	345	*e*P		P	16 51 42.4	+0.1
257A	Skidaway Islan baz=229	22.30	42	P		P	16 51 41.4	-0.7
GLA	Glamis baz=134,SNR=14	22.32	322	P		P	16 51 44.5	+2.1
GLA	Glamis GLA comp=Z,231nm,1.5s	22.32	322	*e*P	pmax	P pmax	16 51 43.4	+1.0
GLA	Glamis comp=Z,231nm,1.5s	22.32	322	*e*P		P	16 51 43.4	+1.0
WUAZ	Wupatki baz=145,SNR=84	22.39	331	P		P	16 51 45.0	+1.9
WUAZ	Wupatki comp=Z,116nm,1.0s	22.39	331	*e*P		P	16 51 44.9	+1.7
U47A	Clarksville baz=209,SNR=34	22.46	24	P		P	16 51 42.8	-0.8
T45A	Paducah baz=205	22.47	21	P		P	16 51 42.5	-1.2
S42A	Caledonia baz=199,SNR=42	22.50	16	P		P	16 51 43.2	-1.0
R39A	Chumby, Stover baz=193,SNR=43	22.51	11	P		P	16 51 43.3	-0.9
S43A	Fulton Ridge, baz=201,SNR=21	22.52	18	P		P	16 51 43.6	-0.7
CBKS	Cedar Bluff baz=176,SNR=16	22.52	357	P		P	16 51 43.3	-1.1
CBKS	Cedar Bluff CBKS comp=Z,163nm,1.3s	22.52	357	*e*P	pmax	P pmax	16 51 43.8	-0.6
CBKS	Cedar Bluff comp=Z,163nm,1.3s	22.52	357	*e*P		P	16 51 43.8	-0.6
GTBY	Guantanamo Bay comp=Z,72nm,1.0s	22.52	77	*e*P		P	16 51 42.8	-1.8
R40A	Maddies Statio baz=195,SNR=72	22.64	13	P		P	16 51 45.1	-0.6
Y12C	Blythe baz=136	22.65	323	P		P	16 51 47.4	+1.6
Y12C	Blythe comp=Z,42nm,1.1s	22.65	323	*e*P		P	16 51 47.0	+1.3
S22A	4UR Ranch, Cre baz=158,SNR=89	22.66	343	P		P	16 51 47.4	+1.3
S22A	4UR Ranch, Cre comp=Z,122nm,1.4s	22.66	343	*e*P		P	16 51 46.5	+0.3
MVCO	Mesa Verde baz=154,SNR=55	22.69	339	P		P	16 51 48.0	+1.6
MVCO	Mesa Verde comp=Z,307nm,1.4s	22.69	339	*e*P		P	16 51 46.9	+0.5
T46A	Princeton baz=207,SNR=25	22.75	22	P		P	16 51 46.3	-0.6
FVM	French Village FVM comp=Z,98nm,1.1s	22.80	17	*e*P	pmax	P pmax	16 51 46.9	-0.4
FVM	French Village comp=Z,98nm,1.1s	22.80	17	*e*P		P	16 51 46.9	-0.4
U48A	Cassie Pea, Po baz=210,SNR=30	22.82	25	P		P	16 51 47.1	-0.4
Q37A	Longview Farm, baz=190	22.83	8	P		P	16 51 45.9	-1.8
PDMCI	Parker Dam,Lak baz=138,SNR=12	22.84	325	P		P	16 51 48.5	+0.8
IKP	In-Ko-Pah, Jac baz=131,SNR=11	22.84	319	P		P	16 51 49.7	+1.9
KSU1	Kansas State U comp=Z,156nm,1.6s	22.84	4	*e*P		P	16 51 46.8	-0.9
SWSC	Sam W. Stewart baz=132,SNR=12	22.84	320	P		P	16 51 49.7	+1.9
R41A	Rosebud baz=198,SNR=22	22.85	15	P		P	16 51 47.1	-0.7
S44A	Carbondale baz=203,SNR=20	22.88	19	P		P	16 51 47.6	-0.5
SIUC	Southern Illin comp=Z,97nm,0.8s	22.91	19	*e*P		P	16 51 47.7	-0.7
KSCO	Kaye Shedlock'	22.98	352	P		P	16 51 49.3	0.0

baz=169
KSCO **Kaye Shedlock'** 22.98 352 *e*P P 16 51 48.7 -0.6
comp=Z,549nm,1.6s
R42A **Luebbering** 22.98 16 P P 16 51 48.0 -1.2
baz=199,SNR=11
T47A **Sharon Grove** 23.00 24 P P 16 51 48.9 -0.5
baz=209,SNR=48
Q38A **Cooks Store, C** 23.04 10 P P 16 51 48.4 -1.3
baz=192,SNR=9.9
S45A **Carrier Mills** 23.08 20 P P 16 51 49.6 -0.6
baz=205,SNR=17
HODGE **Hodges** 23.11 36 *e*P P 16 51 49.2 -1.3
comp=Z,56nm,1.2s
BC3 **Big Chuckawall** 23.12 322 P P 16 51 52.5 +1.7
baz=134,SNR=23
MONP2 **Monument Peak** 23.20 319 P P 16 51 53.2 +1.5
baz=131,SNR=14
R43A **Red Bud** 23.21 17 P P 16 51 51.3 -0.3
baz=201,SNR=19
BAR **Barrett** 23.22 318 *e*P P 16 51 52.9 +1.2
comp=Z,46nm,1.4s
IRM **Iron Mountain** 23.30 323 P P 16 51 54.2 +1.8
baz=136,SNR=68
W13A **Hualapai Mount** 23.30 327 *e*P P 16 51 53.9 +1.2
comp=Z,155nm,1.8s
BG3 **Lake Jocassee** 23.31 34 *e*P P 16 51 51.4 -1.2
comp=Z,39nm,0.9s
Q40A **Laux Farm, Aux** 23.36 13 P P 16 51 52.0 -1.0
baz=195,SNR=24
TKL **Tuckaleechee C** 23.38 31 P P 16 51 53.1 -0.2
comp=Z,14nm,0.7s,baz=190,slow=11,SNR=13
TKL **Tuckaleechee C** 23.38 31 *e*P P 16 51 52.5 -0.8
comp=Z,45nm,1.0s
Q24A **Divide** 23.38 347 P P 16 51 53.8 +0.2
baz=163,SNR=12
Q24A **Divide** 23.38 347 *e*P P 16 51 54.4 +0.8
comp=Z,122nm,1.5s
S46A **Don Dixon Farm** 23.39 22 P P 16 51 52.3 -1.0
baz=207
T48A **Bowling Green** 23.39 25 P P 16 51 52.9 -0.5
baz=210,SNR=28
R44A **Waltonville** 23.44 19 P P 16 51 53.1 -0.7
baz=203,SNR=22
NEE2 **Needles Airpor** 23.44 325 P P 16 51 54.6 +0.7
baz=138
RGRS **Roger Stewart** 23.44 42 *e*P P 16 51 53.4 -0.5
comp=Z,523nm,0.9s
SLM **Saint Louis** 23.47 16 *e*P P 16 51 54.2 +0.1
SLM pmax pmax
comp=Z,141nm,1.3s
SLM **Saint Louis** 23.47 16 *e*P P 16 51 54.2 +0.1
comp=Z,141nm,1.3s
MOTC **Monteria, Cord** 23.47 106 *e*P P 16 51 56.3 +2.0
Q41A **Truxton** 23.51 14 P P 16 51 53.5 -1.0
baz=197,SNR=37
P37A **Lathrop** 23.55 8 P P 16 51 53.8 -1.1
baz=190,SNR=8.7
PV01 **Paradox Valley** 23.55 340 *e*P P 16 51 56.0 +0.8
U15A **North Rim** 23.56 331 *e*P P 16 51 55.9 +0.5
comp=Z,98nm,1.4s
CSU **Charleston Sou** 23.57 42 *e*P P 16 51 54.1 -1.0
NHSC **New Hope** 23.58 41 P P 16 51 55.0 -0.3
baz=229
NHSC **New Hope** 23.58 41 *e*P P 16 51 54.9 -0.3
comp=Z,283nm,1.0s
DPP **Dos Picos Cty** 23.60 318 *e*PcP PcP 16 55 42.1 +1.7
DPP *e*S S 16 56 12.8 +3.5
109C **Camp Elliot, M** 23.63 318 P P 16 51 56.4 +0.7
baz=130
CPE **Camp Elliot** 23.63 318 *e*P P 16 51 56.2 +0.5
comp=Z,138nm,1.8s
Q42A **Golden Eagle** 23.65 16 P P 16 51 55.2 -0.7
baz=199,SNR=14
USIN **University of** 23.66 22 *e*P P 16 51 55.3 -0.7
comp=Z,188nm,1.0s
PV05 **Paradox Valley** 23.68 339 *e*P P 16 51 57.0 +0.6
BELC **Belle Mtn. Jos** 23.69 322 P P 16 51 58.5 +2.0
baz=134,SNR=28
XPFO **Piæon Flat** 23.70 320 *e*P P 16 51 58.1 +1.6
comp=Z,133nm,1.7s
PFO **Pinyon Flats O** 23.70 320 P P 16 51 57.8 +1.3
baz=132,SNR=10
PFO **Pinyon Flats O** 23.70 320 *e*P P 16 51 57.7 +1.1
PFO pmax pmax
comp=Z,115nm,1.6s
PFO **Pinyon Flats O** 23.70 320 *e*P P 16 51 57.7 +1.1
comp=Z,115nm,1.6s
P38A **Dawn** 23.70 10 P P 16 51 55.3 -1.1
baz=192,SNR=17
P39B **Salisbury** 23.70 11 P P 16 51 55.2 -1.1
baz=194,SNR=36
PV15 **Paradox Valley** 23.71 340 *e*P P 16 51 55.4 -1.4
JSC **Jenkinsville** 23.72 38 *e*P P 16 51 55.9 -0.7
JSC pmax pmax
comp=Z,25nm,0.7s
JSC **Jenkinsville** 23.72 38 *e*P P 16 51 55.9 -0.7
comp=Z,25nm,0.7s
R45A **Skylar, Fairfi** 23.74 20 P P 16 51 55.8 -0.9
baz=205,SNR=12
P40A **Paris** 23.88 12 P P 16 51 57.0 -1.0
baz=195,SNR=58
Q43A **New Douglas** 23.90 17 P P 16 51 57.8 -0.5
baz=201,SNR=16
O34A **Beatrice** 23.91 3 P P 16 51 58.1 -0.3
baz=184,SNR=11
PV10 **Paradox Valley** 23.93 339 *e*P P 16 51 58.8 -0.1
R46A **Gibon Southern** 23.93 22 P P 16 51 58.1 -0.5
baz=206,SNR=9.3
LDFC **Landfair** 23.94 325 *e*P P 16 52 00.9 +2.0
comp=Z,292nm,1.8s
LDFC *e*Sn Sn 16 56 50.5 +12
S48A **Wiedeman Farm,** 24.00 25 P P 16 51 58.8 -0.4
baz=210,SNR=17
SMCO **Snowmass** 24.03 344 *e*P P 16 52 01.5 +1.5
comp=Z,152nm,1.3s
GMRC **Granite Mounta** 24.04 323 P P 16 52 01.0 +1.2
baz=136,SNR=35
GMRC **Granite Mounta** 24.04 323 *e*P P 16 51 58.6 -1.2
GMRC *e*Sn S 16 56 33.0 +16
O35A **Humboldt** 24.05 5 P P 16 51 58.4 -1.2
baz=186
Q44A **Meyer Farm, Va** 24.06 18 P P 16 51 59.2 -0.6
baz=202,SNR=14
DGR **Domenigoni Val** 24.07 319 *e*P P 16 51 59.8 -0.2
PV09 **Paradox Valley** 24.07 339 *e*P P 16 52 00.7 +0.5
O37A **Wolven Farm, M** 24.14 8 P P 16 51 59.4 -1.2
baz=190
MURC **Murrieta** 24.15 319 P P 16 52 02.8 +2.1
baz=131,SNR=5.7
TZTN **Tazewell** 24.20 30 P P 16 52 01.5 +0.4
baz=217,SNR=24
TZTN **Tazewell** 24.20 30 *e*P P 16 52 01.0 -0.1
comp=Z,424nm,1.8s
O38A **Galt** 24.20 9 P P 16 52 00.1 -1.0
baz=192,SNR=14
OLIL **Olney** 24.20 20 *e*P P 16 52 00.3 -0.8
comp=Z,188nm,1.5s
P41A **Barry, Barry** 24.24 14 P P 16 52 00.6 -0.9
baz=197,SNR=14
KNB **Kanab** 24.28 331 *e*P P 16 52 03.2 +1.1
KNB pmax pmax
comp=Z,46nm,0.9s
KNB **Kanab** 24.28 331 *e*P P 16 52 03.2 +1.1
comp=Z,46nm,0.9s
ISCO **Idaho Springs** 24.29 347 P P 16 52 02.5 +0.3
baz=163,SNR=57
ISCO **Idaho Springs** 24.29 347 *e*P P 16 52 02.5 +0.3
ISCO pmax pmax
comp=Z,299nm,1.7s
ISCO **Idaho Springs** 24.29 347 *e*P P 16 52 02.5 +0.3
comp=Z,299nm,1.7s
KMSC **Kings Mountain** 24.30 36 P P 16 52 02.5 +0.5
baz=223,SNR=16
KMSC **Kings Mountain** 24.30 36 *e*P P 16 52 01.3 -0.7
comp=Z,171nm,1.6s
Q45A **Warren Harvey,** 24.33 20 P P 16 52 01.6 -0.6
baz=204,SNR=7.2
P42A **Winchester** 24.33 15 P P 16 52 01.8 -0.5
baz=199,SNR=36
R47A **Wooly Knot Far** 24.37 23 P P 16 52 02.4 -0.2
baz=208,SNR=33
WCI **Wyandotte Cave** 24.40 24 P P 16 52 02.1 -0.8
baz=209
WCI **Wyandotte Cave** 24.40 24 *e*P P 16 52 02.3 -0.6
WCI pmax pmax
comp=Z,667nm,1.9s
WCI **Wyandotte Cave** 24.40 24 *e*P P 16 52 02.3 -0.6
comp=Z,667nm,1.9s
PKCU **Pink Cliffs** 24.40 333 *e*P P 16 52 05.1 +1.8
comp=Z,139nm,1.7s
BBRC **Big Bear Solar** 24.42 321 P P 16 52 04.6 +1.1
baz=132
N33A **J Bar K, Exete** 24.43 2 P P 16 52 03.4 +0.2
baz=182
HEC **Hector Ludlow** 24.46 323 P P 16 52 04.9 +1.3
baz=134
LCMT **Little Creek M** 24.48 331 *e*P P 16 52 05.0 +1.1
comp=Z,17nm,0.9s
O39A **Kirksville** 24.49 11 P P 16 52 02.8 -0.8
baz=194,SNR=20
O40A **La Belle** 24.49 12 P P 16 52 03.0 -0.6
baz=195,SNR=47
N34A **Lincoln** 24.58 4 P P 16 52 04.6 +0.1
baz=184,SNR=9.4
P43A **Skaggs, Pawnee** 24.60 17 P P 16 52 04.6 -0.1
baz=201
HELC **Santa Helena** 24.61 111 *e*P P 16 52 05.4 0.0
comp=Z,58nm,1.6s
HELC **Santa Helena** 24.61 111 *i* Pg P 16 52 09.8 +4.3
HELC *e*P P 16 52 09.8 +4.3
SCI2 **San Clemente I** 24.63 316 P P 16 52 05.4 +0.4
baz=128
TUQ **Turquoise Moun** 24.66 324 P P 16 52 06.7 +1.3
baz=136,SNR=35
TUQ **Turquoise Moun** 24.66 324 *e*PcP PcP 16 55 41.5 -1.3
N35A **Tabor** 24.66 5 P P 16 52 05.6 +0.3
baz=186,SNR=7.7
N36A **Muff Farm, Cla** 24.68 6 P P 16 52 05.2 -0.2
baz=188,SNR=11
O41A **Passleys Farm,** 24.70 14 P P 16 52 05.4 -0.2
baz=197,SNR=41
P44A **Sand Creek, Wi** 24.70 19 P P 16 52 05.9 +0.3
baz=203,SNR=13
Q46A **CE3 Indians,** 24.71 21 P P 16 52 05.0 -0.7
baz=206
R48A **Northridge Ran** 24.71 24 P P 16 52 05.6 -0.1
baz=210,SNR=12
N37A **Lee Faris, Mou** 24.72 8 P P 16 52 05.4 -0.3
baz=190,SNR=12
CIS **Catalina Islan** 24.80 317 P P 16 52 07.5 +0.8
baz=128
OGNE **Ogallala** 24.81 354 P P 16 52 08.4 +1.6
baz=172,SNR=52
OGNE **Ogallala** 24.81 354 *e*P P 16 52 07.3 +0.6
comp=Z,757nm,1.6s
MTPU **Mount Pierson** 24.85 334 *e*P P 16 52 08.7 +1.3
comp=Z,268nm,1.6s
BFSC **Mount Baldy Ra** 24.86 320 P P 16 52 08.9 +1.6
baz=131
SZCU **Shurtz Canyon** 24.88 332 *e*P P 16 52 08.9 +1.4
comp=Z,42nm,1.2s
N38A **Joes South For** 24.89 10 P P 16 52 07.1 -0.3
baz=192,SNR=22
FMP **Fort Macarthur** 24.92 318 P P 16 52 09.2 +1.5
baz=129
CCUT **Cedar City** 24.97 331 *e*P P 16 52 09.7 +1.3
comp=Z,22nm,1.2s
Q47A **Bedord North L** 24.97 23 P P 16 52 08.1 +0.1
baz=208,SNR=21
O42A **Bath** 24.97 15 P P 16 52 08.2 +0.2
baz=199
P45A **Graceland, Par** 25.04 20 P P 16 52 08.7 0.0
baz=205
SHPR **Sheep Range** 25.04 327 *e*P P 16 52 09.9 +1.0
comp=Z,130nm,1.8s
GSC **Goldstone, Bar** 25.07 323 P P 16 52 11.5 +2.4
baz=134,SNR=13
GSC **Goldstone, Bar** 25.07 323 *e*P P 16 52 10.5 +1.4
GSC pmax pmax
comp=Z,99nm,1.5s
GSC **Goldstone, Bar** 25.07 323 *e*P P 16 52 10.5 +1.4
comp=Z,99nm,1.5s
BGNE **Belgrade** 25.09 1 P P 16 52 09.4 +0.2
baz=180
BGNE **Belgrade** 25.09 1 *e*P P 16 52 09.8 +0.6
comp=Z,256nm,1.7s
N39A **Derby Farms, D** 25.10 11 P P 16 52 08.7 -0.5
baz=193,SNR=44
MWC **Mount Wilson** 25.10 319 *e*P P 16 52 10.9 +1.4
MWC pmax pmax
comp=Z,57nm,1.3s
MWC **Mount Wilson** 25.10 319 *e*P P 16 52 10.9 +1.4
comp=Z,57nm,1.3s
SRU **San Rafael Swe** 25.11 338 *e*P P 16 52 10.4 +0.8
SRU pmax pmax
comp=Z,95nm,1.1s
SRU **San Rafael Swe** 25.11 338 *e*P P 16 52 10.4 +0.8
comp=Z,95nm,1.1s
BLO **Bloomington** 25.14 22 *e*P P 16 52 09.5 -0.1
BLO pmax pmax
comp=Z,80nm,0.8s
BLO **Bloomington** 25.14 22 *e*P P 16 52 09.5 -0.1
comp=Z,80nm,0.8s
PASC **Pasadena Art C** 25.15 319 *e*P P 16 52 11.1 +1.3
comp=Z,110nm,1.8s
SHOC **Shoshone, Teco** 25.19 324 P P 16 52 12.0 +1.9
baz=136
M34A **Aspy Farms, Fr** 25.23 3 P P 16 52 11.0 +0.5
baz=184
MSU **Marysvale** 25.24 334 *e*P P 16 52 11.9 +1.1
MSU **Marysvale** 25.24 334 *e*P P 16 52 11.9 +1.1
O43A **Sugar Creek Fa** 25.26 17 P P 16 52 10.5 -0.2
baz=201
M35A **Neola** 25.26 5 P P 16 52 11.3 +0.7
baz=186,SNR=6.2
N41A **Harden Midland** 25.27 14 P P 16 52 10.8 +0.1
baz=197,SNR=13
M33A **Taylor Creek F** 25.27 2 P P 16 52 11.3 +0.5
baz=183,SNR=6.2
O20A **White River Ci** 25.28 342 P P 16 52 12.6 +1.5
baz=157,SNR=32
O20A **White River Ci** 25.28 342 *e*P P 16 52 12.3 +1.2
comp=Z,162nm,1.3s
N40A **Mertquake, Sal** 25.28 12 P P 16 52 10.7 -0.1
baz=195,SNR=10
DECC **Green Verdugo** 25.29 319 P P 16 52 13.2 +2.1
baz=130
P46A **Rosedale** 25.30 21 P P 16 52 11.8 +0.8
baz=206,SNR=8.2
M36A **Felix, Anita** 25.33 6 P P 16 52 11.4 +0.1
baz=188,SNR=8.9
RREF **El Recreo** 25.35 114 *e*P P 16 52 05.9 -6.6
OTAV **Otavalo** 25.37 127 *e*P P 16 52 14.3 +1.9
comp=Z,16nm,1.3s
M37A **Trindle Farm,** 25.37 8 P P 16 52 11.8 +0.2
baz=190,SNR=12
O44A **Mansfield** 25.38 18 P P 16 52 11.5 -0.2
baz=203,SNR=6.3
N23A **Red Feather La** 25.41 347 P P 16 52 13.6 +1.3
baz=163,SNR=36
N23A **Red Feather La** 25.41 347 *e*P P 16 52 13.0 +0.7
comp=Z,57nm,1.0s
TCRU **Three Creeks R** 25.44 334 *e*P P 16 52 13.0 +0.4
comp=Z,44nm,1.1s
SNCC **San Nicolas Is** 25.45 316 *e*P P 16 52 13.0 +0.5
comp=Z,255nm,1.8s
P18A **Preston Nutter** 25.46 339 *e*P P 16 52 13.7 +0.8
comp=Z,93nm,1.0s
NORC **Norcasia** 25.47 112 *e*P P 16 52 11.5 -1.4
EDW2 **Edwards Air Fo** 25.49 320 P P 16 52 14.6 +1.6
baz=132,SNR=21
P17A **Butcher Ranch,** 25.51 338 *e*P P 16 52 13.7 +0.6
comp=Z,130nm,1.6s
M38A **Pleasantville** 25.51 9 P P 16 52 12.4 -0.5
baz=192,SNR=58
P47A **Martinsville** 25.51 22 P P 16 52 13.4 +0.5
baz=208
HDIL **Hopedale** 25.52 16 P P 16 52 12.9 0.0
baz=201,SNR=8.0
HDIL **Hopedale** 25.52 16 *e*P P 16 52 12.3 -0.7
comp=Z,76nm,0.9s
TMUT **Trail Mountain** 25.53 337 *e*P P 16 52 14.3 +0.9
comp=Z,161nm,1.5s
FOXC **Fox Airport** 25.55 320 *e*PcP PcP 16 55 48.3 +3.6
N42A **Yates City** 25.58 15 P P 16 52 13.2 -0.4
baz=199,SNR=13
BLG **Laguna Peak, P** 25.67 318 P P 16 52 16.4 +1.9
baz=128,SNR=6.0
L32A **Elgin** 25.68 1 P P 16 52 14.6 +0.1
baz=181
PHWY **Pilot Hill** 25.69 348 *e*P P 16 52 16.1 +1.1
comp=Z,142nm,1.6s
O45A **Potomac** 25.70 19 P P 16 52 14.5 -0.2
baz=204,SNR=18
LRMC **Laurel Mtn Rad** 25.71 322 P P 16 52 16.8 +1.8
baz=133,SNR=20
M39A **Webster** 25.74 11 P P 16 52 14.1 -0.9
baz=194,SNR=28
OSI **Osito Audit: C** 25.77 319 P P 16 52 17.1 +1.6
baz=130
OSI **Osito Audit: C** 25.77 319 *e*P P 16 52 16.6 +1.1
comp=Z,220nm,1.8s
M40A **Post Highland** 25.80 12 P P 16 52 14.7 -0.8
baz=195,SNR=10
NCAT **North Carolina** 25.85 37 *e*P P 16 52 16.4 +0.3
comp=Z,90nm,1.1s
MARP **Paez Belalcaza** 25.86 119 *e*P P 16 52 16.8 +0.1
L33A **Hoskins** 25.86 2 P P 16 52 16.7 +0.6
baz=182
N43A **Stutzman Famil** 25.91 16 P P 16 52 16.2 -0.3
baz=200,SNR=33
L35A **Bielow Farm, R** 25.91 5 P P 16 52 17.0 +0.4
baz=186,SNR=7.4
FURC **Furnace Creek,** 25.93 324 P P 16 52 16.5 -0.3
baz=136
M41A **Milan** 25.98 14 P P 16 52 16.4 -0.8
baz=197,SNR=9.3
SCIA **State Center** 25.98 9 P P 16 52 17.4 +0.2
baz=191,SNR=32
SCIA **State Center** 25.98 9 *e*P P 16 52 17.0 -0.3
comp=Z,111nm,0.7s
L36A **Harm Buss Farm** 25.99 7 P P 16 52 17.2 -0.1
baz=188
MPMC **Manual Prospec** 26.00 323 P P 16 52 19.3 +1.7
baz=134,SNR=28
SFIN **Lafayette** 26.02 20 P P 16 52 17.6 +0.1
baz=205,SNR=11
SFIN **Lafayette** 26.02 20 *e*P P 16 52 17.3 -0.3
comp=Z,45nm,0.8s
SDDR **Presa de Saban** 26.07 80 *e*P P 16 52 18.6 +0.3
comp=Z,26nm,1.0s
N44A **Piper City** 26.07 18 P P 16 52 16.9 -1.1
baz=203,SNR=9.9
L37A **Phoenix Point,** 26.12 8 P P 16 52 17.9 -0.5
baz=190,SNR=15
ARVC **Arvin** 26.17 320 P P 16 52 19.8 +0.8
baz=130
O47A **Sheridan** 26.21 22 P P 16 52 19.0 -0.3
baz=207,SNR=9.1
DAC **Darwin (Calif)** 26.21 323 *e*P P 16 52 20.4 +0.8
DAC pmax pmax
comp=Z,35nm,1.4s
DAC **Darwin (Calif)** 26.21 323 *e*P P 16 52 20.4 +0.8
comp=Z,35nm,1.4s
M42A **Sheffield** 26.24 15 P P 16 52 19.6 0.0
baz=199
L38A **Oak Wood Farm,** 26.25 9 P P 16 52 19.8 +0.1
baz=192,SNR=29
ROSC **El Rosal** 26.29 113 P P 16 52 21.0 +0.2
comp=Z,5nm,0.4s,baz=198,slow=20,SNR=2.5
ROSC **El Rosal** 26.29 113 *e*P P 16 52 20.9 +0.2
comp=Z,19nm,1.3s
SBC **Santa Barbara** 26.30 318 P P 16 52 21.3 +1.2
baz=128
K31A **O'Neill** 26.30 360 P P 16 52 20.9 +0.8
baz=179
ISA **Isabella, Lake** 26.31 321 P P 16 52 22.6 +2.2
baz=132,SNR=17
ISA **Isabella, Lake** 26.31 321 *e*P P 16 52 21.5 +1.2
ISA pmax pmax
comp=Z,126nm,1.9s
ISA **Isabella, Lake** 26.31 321 *e*P P 16 52 21.5 +1.2
comp=Z,126nm,1.9s
N45A **Kentland** 26.31 19 P P 16 52 20.6 +0.4
baz=204,SNR=6.9
BLA **Blacksburg** 26.31 34 P P 16 52 20.6 +0.3
baz=222,SNR=8.3
BLA **Blacksburg** 26.31 34 *e*P P 16 52 19.7 -0.6
BLA pmax pmax
comp=Z,36nm,0.8s
BLA **Blacksburg** 26.31 34 *e*P P 16 52 19.7 -0.6
comp=Z,36nm,0.8s
K33A **Hardington** 26.31 2 P P 16 52 20.6 +0.4
baz=183
MPU **Maple Canyon** 26.31 337 *e*P P 16 52 21.6 +1.1
comp=Z,39nm,1.2s
PRAC **Prado** 26.33 116 *e*P P 16 52 22.1 +1.5
comp=Z,28nm,1.4s
K32A **Verdigre** 26.34 1 P P 16 52 21.0 +0.5
baz=181,SNR=5.9
L39A **Vinton** 26.40 11 P P 16 52 20.0 -1.0
baz=194,SNR=22
CNNC **Cliffs of the** 26.41 40 P P 16 52 21.1 0.0
baz=229
CNNC **Cliffs of the** 26.41 40 *e*P P 16 52 21.7 +0.6
comp=Z,149nm,0.3s
M43A **Waltham Townsh** 26.43 16 P P 16 52 20.9 -0.3
baz=201,SNR=16
NLU **North Lily Min** 26.43 336 *e*P P 16 52 22.7 +1.1
comp=Z,36nm,1.0s
K34A **Le Mars** 26.44 4 P P 16 52 21.4 0.0
baz=185
RWWY **Rawlins** 26.46 345 *e*P P 16 52 22.9 +1.0
comp=Z,156nm,1.3s
L40A **Anamosa** 26.49 12 P P 16 52 21.4 -0.4
baz=196,SNR=13
K36A **Gilmore City** 26.54 7 P P 16 52 21.7 -0.6
baz=188
K35A **Storm Lake** 26.55 5 P P 16 52 22.3 0.0
baz=187
BARC **Barichara** 26.57 108 *e*P P 16 52 25.6 +2.6
VWCC **Virginia Weste** 26.58 35 *e*P P 16 52 22.6 -0.1
GRAC **Grapevine Rang** 26.59 325 P P 16 52 25.4 +2.5
baz=136,SNR=12
N46A **Monticello** 26.60 20 P P 16 52 22.5 -0.3
baz=206
CWC **Cottonwood Cre** 26.60 323 P P 16 52 23.6 +0.5
baz=134
PKM **Mcpherson Peak** 26.64 318 P P 16 52 23.7 +0.3
baz=129
M44A **Midewin, Midew** 26.64 18 P P 16 52 22.8 -0.4
baz=203,SNR=16
L41A **Preston** 26.66 13 P P 16 52 23.0 -0.3
baz=197,SNR=22
R11A **Troy Canyon, C** 26.67 329 P P 16 52 24.6 +0.9
baz=141,SNR=26
R11A **Troy Canyon, C** 26.67 329 *e*P P 16 52 25.1 +1.4
comp=Z,29nm,1.3s
PAMC **Pamplona, Colo** 26.73 106 *e*P P 16 52 26.7 +1.9
JLU **Jordanelle** 26.76 338 *e*P P 16 52 25.3 +0.8
comp=Z,34nm,1.3s
K37A **Belmond** 26.77 8 P P 16 52 23.1 -1.2
baz=190,SNR=24
K38A **Parkersburg** 26.78 9 P P 16 52 23.8 -0.6
baz=192,SNR=11
L42A **Oliver, Polo** 26.78 15 P P 16 52 23.9 -0.5
baz=199,SNR=16
VES **Vestal, Richgr** 26.80 321 P P 16 52 26.3 +1.7
baz=131,SNR=13
M45A **Boilermakers S** 26.88 19 P P 16 52 25.1 -0.2
baz=204
DUG **Dugway, Tooele** 26.93 335 P P 16 52 27.9 +1.9
baz=148,SNR=16
DUG **Dugway, Tooele** 26.93 335 *e*P P 16 52 27.9 +1.9
DUG pmax pmax
comp=Z,20nm,0.8s
DUG **Dugway, Tooele** 26.93 335 *e*P P 16 52 27.9 +1.9
comp=Z,20nm,0.8s
RUSC **La Rusia** 26.94 110 *e*P P 16 52 27.7 +1.0
comp=Z,6.6nm,1.0s
RUSC **La Rusia** 26.94 110 *e*P P 16 52 30.3 +3.6
CTU **Camp Tracy** 26.95 337 *e*P P 16 52 27.3 +1.1
comp=Z,18nm,1.0s
J31A **Geddes** 26.97 360 P P 16 52 26.0 -0.2
baz=179,SNR=6.6
K39A **Oelwein** 26.98 11 P P 16 52 25.3 -1.0
baz=194,SNR=11
SMMC **Simmler** 27.02 319 P P 16 52 28.4 +1.6
baz=129
J33A **Davis** 27.03 2 P P 16 52 26.0 -0.6
baz=183
J34A **George** 27.05 4 P P 16 52 26.9 0.0
baz=185
J32A **Parkston** 27.05 1 P P 16 52 26.7 -0.1
baz=181,SNR=14
TIN **Tinemaha, Big** 27.12 324 P P 16 52 30.0 +2.3
baz=134,SNR=5.9
K40A **Colesburg** 27.12 12 P P 16 52 26.7 -0.8
baz=195,SNR=7.3
L43A **Garden Prairie** 27.18 16 P P 16 52 28.0 0.0
baz=201,SNR=6.0
J35A **Milford** 27.19 5 P P 16 52 27.7 -0.3
baz=187

M46A Old House Fiel 27.19 20 P P 16 52 28.0 -0.1
baz=206
TCUT Toone Canyon 27.20 338 eP P 16 52 29.8 +1.3
comp=Z,61nm,0.9s
RCTC Rector, Farmer 27.20 321 P P 16 52 30.6 +2.3
baz=132
K41A Shullsburg 27.20 13 P P 16 52 27.4 -0.9
baz=197,SNR=9.0
K22A Casper 27.21 347 P P 16 52 29.5 +1.0
baz=163
K22A Casper 27.21 347 eP P 16 52 29.6 +1.0
comp=Z,68nm,1.4s
J36A Seneca 1, Swea 27.24 7 P P 16 52 27.4 -1.1
baz=188,SNR=21
J37A Redenius Farm, 27.31 8 P P 16 52 28.0 -1.2
baz=190,SNR=9.4
L44A Lake County Fo 27.41 17 P P 16 52 29.7 -0.3
baz=202
PAGB Antelope Grade 27.45 319 eP P 16 52 33.3 +2.8
comp=Z,119nm,2.0s
ACSO Alum Creek Sta 27.45 26 P P 16 52 30.7 +0.2
baz=214
ECSD EROS Data Cent 27.46 3 P P 16 52 30.5 0.0
baz=184,SNR=28
ECSD EROS Data Cent 27.46 3 eP P 16 52 30.2 -0.3
comp=Z,65nm,1.4s
J38A Wedel Dairy, R 27.48 10 P P 16 52 30.3 -0.4
baz=192,SNR=15
JFWS Jewell Farm 27.51 13 P P 16 52 31.0 0.0
baz=197,SNR=10.0
JFWS Jewell Farm 27.51 13 eP P 16 52 30.8 -0.2
JFWS pmax pmax
comp=Z,35nm,0.7s
JFWS Jewell Farm 27.51 13 eP P 16 52 30.8 -0.2
comp=Z,35nm,0.7s
K42A Prairie Point, 27.59 15 P P 16 52 31.5 -0.2
baz=199,SNR=5.9
J39A Decorah 27.62 11 P P 16 52 31.2 -0.8
baz=194,SNR=7.9
BGU Big Grassy Mou 27.64 336 eP P 16 52 33.6 +1.3
comp=Z,74nm,1.6s
HWUT Hardware Ranch 27.68 339 eP P 16 52 33.3 +0.6
comp=Z,67nm,1.7s
I35A Creekview Farm 27.69 5 P P 16 52 32.6 0.0
baz=187
I31A Royce, Wessing 27.71 360 P P 16 52 33.1 +0.3
baz=180
I32A Karley and Nic 27.72 2 P P 16 52 33.1 +0.3
baz=182
SPUT South Promonto 27.74 337 eP P 16 52 34.2 +0.9
comp=Z,24nm,1.1s
I33A Coleman 27.76 3 P P 16 52 33.1 -0.1
baz=183
K43A Burlington 27.78 16 P P 16 52 33.0 -0.4
baz=201,SNR=6.7
I34A Hadley 27.80 4 P P 16 52 33.7 0.0
baz=185
MLAC Mammoth, Mammo27.87 324 P P 16 52 36.1 +1.6
baz=134
J40A Soldiers Grove 27.87 12 P P 16 52 34.2 0.0
baz=196
I36A Fitzsimmons Fa 27.95 7 P P 16 52 34.3 -0.7
baz=189
J41A Loganville 27.99 13 P P 16 52 34.9 -0.4
baz=197,SNR=11
MDPB Devils Postpil 28.01 324 eP P 16 52 37.3 +1.5
comp=Z,79nm,1.6s
I37A Lemond, Waseca 28.03 8 P P 16 52 35.3 -0.3
baz=190,SNR=8.4
NV11 Mina Array Sit 28.06 326 eP P 16 52 37.3 +1.2
comp=Z,7.1nm,1.5s
BW06 Boulder Array 28.09 343 P P 16 52 37.3 +0.9
baz=157,SNR=23
BW06 Boulder Array 28.09 343 eP P 16 52 37.1 +0.6
comp=Z,35nm,1.0s
PD31 Pinedale Array 28.09 343 eP P 16 52 37.1 +0.7
PDAR Pinedale Array 28.09 343 P P 16 52 37.1 +0.7
comp=Z,5.4nm,0.7s,baz=138,slow=7.8,SNR=50
PDAR LR LR 17 04 36.0
comp=Z,3µm,18.2s,baz=168,slow=38
PDAR Pinedale Array 28.09 343 eP P 16 52 36.7 +0.2
PMPB Monarch Peak 28.10 319 eP P 16 52 38.6 +2.2
comp=Z,54nm,1.3s
SUSD Miller 28.12 359 P P 16 52 36.3 -0.2
baz=179
SDV Santo Domingo 28.13 102 P P 16 52 38.9 +1.8
comp=Z,7.8nm,0.7s,baz=280,slow=5.2,SNR=8.0
SDV LR LR 17 05 24.2
comp=Z,768nm,18.8s,baz=330,slow=40
SDV Santo Domingo 28.13 102 eP P 16 52 38.1 +1.0
comp=Z,19nm,1.1s
SDV Santo Domingo 28.13 102 eP P 16 52 38.6 +1.5
IP07 Quail 28.14 36 eP P 16 52 36.2 -0.4
comp=Z,17nm,1.2s
NV01 Mina Array Sit 28.14 326 eP P 16 52 38.0 +1.1
NVAR Mina Array Bea 28.14 326 P P 16 52 38.8 +1.8
comp=Z,12nm,0.9s,baz=152,slow=9.1,SNR=69
NVAR PcP PcP 16 55 51.8 +0.8
comp=Z,1.5nm,0.9s,baz=132,slow=3.8,SNR=3.0
NVAR LR LR 17 04 03.7
comp=Z,795nm,19.8s,baz=222,slow=37
J42A Columbus 28.15 15 P P 16 52 36.8 +0.1
baz=199,SNR=12
H31A Wolsey 28.16 0 P P 16 52 36.9 +0.2
baz=180
I39A Houston 28.16 11 P P 16 52 36.5 -0.3
baz=194,SNR=11
URVA University of 28.18 37 eP P 16 52 37.9 +0.9
RSSD Black Hills 28.19 352 P P 16 52 38.7 +1.3
baz=168
RSSD Black Hills 28.19 352 eP P 16 52 38.2 +0.9
RSSD pmax pmax
comp=Z,63nm,1.5s
RSSD Black Hills 28.19 352 eP P 16 52 38.2 +0.9
comp=Z,63nm,1.5s
H32A Carlson Farm, 28.19 2 P P 16 52 37.2 +0.1
baz=182
I38A Scanlan Farm, 28.21 9 P P 16 52 36.1 -1.1
baz=192,SNR=10
IP03 Louisa 28.22 36 eP P 16 52 36.4 -1.0
comp=Z,16nm,1.2s
IP04 Greensprings 28.22 36 eP P 16 52 38.8 +1.4
comp=Z,13nm,0.9s
IP01 Cuckoo 28.23 36 eP P 16 52 37.2 -0.3
comp=Z,33nm,1.5s
IP05 Hopewell Churc 28.23 36 eP P 16 52 37.7 +0.2
comp=Z,52nm,1.4s
MMIM Miami Mountain 28.24 322 eP P 16 52 40.5 +2.7
HVU Hansel Valley 28.27 337 eP P 16 52 38.5 +0.5
HVU pmax pmax
comp=Z,27nm,1.0s
HVU Hansel Valley 28.27 337 eP P 16 52 38.5 +0.5
comp=Z,27nm,1.0s
SPRD Spring Road, M 28.29 36 eP P 16 52 37.9 -0.2
comp=Z,18nm,1.3s
I40A Norwalk 28.37 12 P P 16 52 38.6 -0.1
baz=196
J43A Natural Harves 28.39 16 P P 16 52 38.7 -0.1
baz=200
H33A Prehn Over Nor 28.40 3 P P 16 52 39.0 +0.1
baz=183,SNR=8.2
RYN Ryan 28.40 326 eP P 16 52 41.2 +2.0
comp=Z,64nm,1.7s
H34A Spellman Lake, 28.44 4 P P 16 52 38.8 -0.5
baz=185,SNR=8.1
MCWV Mont Chateau 28.45 31 P P 16 52 39.5 +0.1
baz=220
MCWV Mont Chateau 28.45 31 eP P 16 52 38.8 -0.6
comp=Z,55nm,1.4s
KVN Kaiserville 28.48 327 eP P 16 52 41.3 +1.4
KVN pmax pmax
comp=Z,68nm,1.7s
KVN Kaiserville 28.48 327 eP P 16 52 41.3 +1.4
comp=Z,68nm,1.7s
PTRD Partlow Road 28.51 36 eP P 16 52 40.2 +0.3
comp=Z,62nm,0.3s
H36A Jessenland, He 28.52 7 P P 16 52 38.4 -1.6
baz=189,SNR=12
H35A Sunnyside Ranc 28.54 5 P P 16 52 39.7 -0.4
baz=187,SNR=5.4
AHID Auburn Hatcher 28.56 340 eP P 16 52 41.0 +0.4
comp=Z,31nm,1.2s
H37A Dierke Farm, C 28.65 8 P P 16 52 41.2 +0.1
baz=191
I41A Arkdale 28.68 13 P P 16 52 41.6 +0.1
baz=197
I42A Draeger Farm, 28.74 14 P P 16 52 42.1 +0.1
baz=199,SNR=10
I42A Draeger Farm, 28.74 14 eP P 16 52 41.8 -0.2
comp=Z,198nm,2.0s
WAKR Walker 28.82 324 eP P 16 52 45.5 +2.5
comp=Z,82nm,1.8s
H38A Maiden Rock 28.83 9 P P 16 52 42.5 -0.2
baz=192
G31A Conde 28.90 0 P P 16 52 42.7 -0.7
baz=180
G33A Ortonville 28.92 3 P P 16 52 43.0 -0.6
baz=184,SNR=7.1
I43A Langenfeld Bro 28.93 16 P P 16 52 43.7 +0.1
baz=201,SNR=6.3
AAM Ann Arbor 28.93 23 P P 16 52 43.2 -0.5
baz=210
AAM Ann Arbor 28.93 23 eP P 16 52 43.9 +0.3
AAM pmax pmax
comp=Z,38nm,1.0s
AAM Ann Arbor 28.93 23 eP P 16 52 43.9 +0.3
comp=Z,38nm,1.0s
G32A Webster 28.94 1 P P 16 52 43.4 -0.4
baz=182
H39A Augusta 29.00 11 P P 16 52 44.4 +0.1
baz=194,SNR=5.2
G34A Benson 29.02 4 P P 16 52 43.3 -1.1
baz=185
REDW Red Top Meadow 29.02 341 eP P 16 52 45.4 +0.7
comp=Z,53nm,1.4s
CMB Columbia Colle 29.04 323 eP P 16 52 45.9 +1.2
CMB pmax pmax
comp=Z,32nm,1.6s
CMB Columbia Colle 29.04 323 eP P 16 52 45.9 +1.2
comp=Z,32nm,1.6s
YERR Yerington 29.05 325 eP P 16 52 46.9 +2.0
comp=Z,71nm,1.8s
SNOW Snow King Moun 29.08 341 eP P 16 52 46.6 +1.3
comp=Z,46nm,1.1s
BMN Battle Mountai 29.08 330 eP P 16 52 46.4 +1.2
BMN pmax pmax
comp=Z,30nm,1.4s
BMN Battle Mountai 29.08 330 eP P 16 52 46.4 +1.2
comp=Z,30nm,1.4s
G35A Watkins 29.09 6 P P 16 52 44.2 -0.8
baz=188
H40A Chili 29.11 12 P P 16 52 44.9 -0.4
baz=196,SNR=13
TPAW Teton Pass 29.16 341 eP P 16 52 46.4 +0.4
comp=Z,56nm,1.4s
LOHW Long Hollow 29.17 342 eP P 16 52 47.0 +1.0
comp=Z,28nm,1.1s
G36A St. Michael 29.18 7 P P 16 52 45.0 -0.8
baz=189
H41A Junction City 29.26 13 P P 16 52 46.0 -0.6
baz=197,SNR=9.5
H41A Junction City 29.26 13 eP P 16 52 46.0 -0.6
comp=Z,31nm,0.9s
SPMN Marine on St. 29.30 8 P P 16 52 45.9 -0.9
baz=191,SNR=12
SPMN Marine on St. 29.30 8 eP P 16 52 46.0 -0.9
comp=Z,33nm,0.8s
FXWY Fox Creek 29.32 341 eP P 16 52 48.4 +1.0
comp=Z,12nm,0.9s
MOOW Moose Ponds 29.34 342 eP P 16 52 47.9 +0.4
comp=Z,52nm,1.8s
G38A Ridgeland 29.38 10 P P 16 52 47.0 -0.6
baz=193,SNR=7.4
N54A Moraine State 29.39 29 P P 16 52 47.7 0.0
baz=218
N54A Moraine State 29.39 29 eP P 16 52 48.0 +0.2
comp=Z,59nm,1.5s
H42A Shiocton 29.42 15 P P 16 52 47.9 -0.1
baz=200
H42A Shiocton 29.42 15 eP P 16 52 47.2 -0.7
comp=Z,29nm,1.2s
RDG13 Poverty Ridge 29.45 320 eP P 16 52 49.2 +0.8
comp=Z,35nm,1.4s
VCNR Virginia City 29.49 325 eP P 16 52 51.0 +2.1
comp=Z,40nm,1.5s
IMW Indian Meadow 29.53 342 eP P 16 52 49.7 +0.4
comp=Z,26nm,1.3s
F31A Hecla 29.54 0 P P 16 52 48.6 -0.4
baz=180,SNR=9.5
O56A Blue Knob Stat 29.55 32 P P 16 52 49.3 0.0
baz=221,SNR=5.4
O56A Blue Knob Stat 29.55 32 eP P 16 52 49.2 0.0
comp=Z,14nm,0.8s
F32A Veblen 29.57 2 P P 16 52 48.9 -0.4
baz=182
H43A Windswept, Lux 29.57 16 P P 16 52 49.2 -0.1
baz=201
H43A Windswept, Lux 29.57 16 eP P 16 52 49.0 -0.4
comp=Z,30nm,1.1s
F33A 5 Mile Ranch, 29.57 3 P P 16 52 48.8 -0.6
baz=184
F34A Alexandria 29.60 5 P P 16 52 48.8 -0.8
baz=186
G39A Holcombe 29.61 10 P P 16 52 49.4 -0.3
baz=194,SNR=12
PAHR Pah Rah Range 29.64 326 eP P 16 52 51.6 +1.4
comp=Z,38nm,1.6s
F35A Swanville 29.72 6 P P 16 52 50.3 -0.3
baz=187
G40A Rib Lake 29.77 12 P P 16 52 51.2 +0.1
baz=196,SNR=15
F37A Hinrichs Farm, 29.81 8 P P 16 52 51.4 0.0
baz=191
F36A Milaca 29.83 7 P P 16 52 50.7 -0.9
baz=189,SNR=17
SDMD Soldier's Deli 29.84 35 eP P 16 52 50.9 -0.9
comp=Z,4.9nm,0.6s
ALLY Allegheny Colle 29.86 28 eP P 16 52 50.9 -1.0
comp=Z,27nm,0.9s
H17A Grant Village 29.88 342 P P 16 52 54.4 +2.0
baz=156
H17A Grant Village 29.88 342 eP P 16 52 53.7 +1.4
comp=Z,52nm,1.8s
G41A Antigo 29.93 13 P P 16 52 52.5 0.0
baz=198
M54A Oil Creek Stat 29.97 29 P P 16 52 53.1 +0.2
baz=218,SNR=12
M54A Oil Creek Stat 29.97 29 eP P 16 52 53.2 +0.3
comp=Z,56nm,1.4s
LKWY Lake 29.98 343 eP P 16 52 52.8 -0.5
LKWY pmax pmax
comp=Z,27nm,0.8s
LKWY Lake 29.98 343 eP P 16 52 52.8 -0.5
comp=Z,27nm,0.8s
AFDM Forest Hills D 29.99 323 eP P 16 52 54.3 +1.2
comp=Z,7.7nm,0.9s
MPR Mayaguez 30.00 82 eP P 16 52 54.0 +0.7
comp=Z,46nm,0.7s
G42A Mountain 30.13 14 P P 16 52 52.4 -1.8
baz=199,SNR=6.4
G42A Mountain 30.13 14 eP P 16 52 54.2 -0.1
comp=Z,26nm,1.0s
F38A Pierce - Schro 30.15 9 P P 16 52 53.8 -0.6
baz=192,SNR=6.4
SSPA Standing Stone 30.17 32 P P 16 52 54.7 +0.1
baz=222
SSPA Standing Stone 30.17 32 eP P 16 52 53.5 -1.2
comp=Z,15nm,1.0s
RLMT Red Lodge 30.19 345 P P 16 52 55.3 +0.3
baz=159,SNR=17
RLMT Red Lodge 30.19 345 eP P 16 52 56.2 +1.1
comp=Z,112nm,1.9s
E31A Nome 30.24 1 P P 16 52 55.1 -0.2
baz=181
YMR Madison River 30.24 342 eP P 16 52 55.7 +0.2
comp=Z,24nm,1.0s
E33A Westby DABS, E 30.25 3 P P 16 52 53.6 -1.7
baz=184
F39A Loretta 30.26 11 P P 16 52 55.2 -0.3
baz=194,SNR=10
BEKR Beckworth 30.28 325 eP P 16 52 57.8 +1.9
comp=Z,24nm,0.5s
E32A Braaten, Kindr 30.29 2 P P 16 52 55.5 -0.2
baz=182
ERPA Erie 30.30 28 eP P 16 52 55.7 -0.1
comp=Z,20nm,0.6s
YHH Holmes Hill 30.31 342 eP P 16 52 57.5 +1.2
comp=Z,45nm,1.9s
E34A Wadena 30.32 5 P P 16 52 55.8 -0.1
baz=186
G43A Wallace 30.33 15 P P 16 52 55.9 -0.1
baz=201
G43A Wallace 30.33 15 eP P 16 52 54.6 -1.4
comp=Z,15nm,0.7s
YHB Horse Butte 30.38 342 eP P 16 52 55.5 -1.2
comp=Z,39nm,1.8s
F40A Park Falls 30.41 12 P P 16 52 57.1 +0.4
baz=196,SNR=20
HLID Hailey 30.42 337 P P 16 52 58.2 +1.2
baz=148,SNR=13
HLID Hailey 30.42 337 eP P 16 52 57.4 +0.3
comp=Z,50nm,1.9s
E35A Pequot Lakes 30.43 6 P P 16 52 56.8 -0.1
baz=188,SNR=5.2
F41A Three Lakes 30.45 13 P P 16 52 56.4 -0.7
baz=198
PAGS Pennsylvania G 30.49 34 eP P 16 52 57.0 -0.5
comp=Z,11nm,1.0s
E36A McGregor 30.51 7 P P 16 52 57.4 -0.2
baz=190,SNR=9.1
QLMT Earthquake Lak 30.52 342 eP P 16 52 59.2 +1.2
MVL Millersville 30.53 35 eP P 16 52 56.0 -1.8
comp=Z,12nm,1.1s
ATAH Atahualpa 30.58 138 LR LR 17 02 45.9
comp=Z,669nm,19.5s,baz=331,slow=32
E37A Wrenshall 30.66 8 P P 16 52 58.8 -0.2
baz=191
F42A Maple Grove Fa 30.69 14 P P 16 52 58.5 -0.7
baz=200
ORV Oroville 30.70 324 eP P 16 53 01.3 +1.9
ORV pmax pmax
comp=Z,64nm,1.7s
ORV Oroville 30.70 324 eP P 16 53 01.3 +1.9
comp=Z,64nm,1.7s
D31A Mcclaflin, Tow 30.73 1 P P 16 52 59.1 -0.5
baz=181
E39A Mellen 30.77 11 P P 16 52 59.7 -0.2
baz=195,SNR=16
COWI Conover 30.79 13 eP P 16 52 59.6 -0.5
comp=Z,17nm,0.8s
GLMI Grayling 30.81 19 P P 16 53 00.1 -0.2
baz=206
GLMI Grayling 30.81 19 eP P 16 53 00.5 +0.2
E38A The Farm, Brul 30.83 9 P P 16 53 00.6 +0.2
baz=193,SNR=6.6
D32A Dogwood Acres, 30.84 2 P P 16 53 00.1 -0.3
baz=182
MFID Camas Ranch 30.85 335 eP P 16 53 02.2 +1.4
comp=Z,93nm,1.6s
D34A Park Rapids 30.88 4 P P 16 53 00.5 -0.4
baz=186
D33A AnnSam, Waubun 30.89 4 P P 16 53 00.1 -0.9
baz=185
GCMT Greycliff 30.92 345 eP P 16 53 02.5 +1.0
E40A Wakefield 30.96 12 P P 16 53 01.4 -0.2
baz=196,SNR=20
MCMT McKenzie Canyo 30.97 340 eP P 16 53 03.7 +1.7
PSUB Penn St. - Bra 30.98 36 eP P 16 53 02.2 +0.4
comp=Z,22nm,1.6s
D35A Remer 30.98 6 P P 16 53 01.4 -0.3
baz=188,SNR=7.3
F43A Flat Rock, Esc 31.00 15 P P 16 53 01.1 -0.7
baz=201,SNR=18
LAO LASA Array 31.04 350 P P 16 53 02.7 +0.4
baz=165,SNR=7.9
LAO LASA Array 31.04 350 eP P 16 53 03.1 +0.7
comp=Z,124nm,1.8s
D36A Goodland 31.17 7 P P 16 53 02.7 -0.8
baz=190,SNR=11
E41A Kenton 31.17 13 P P 16 53 03.3 -0.1
baz=198,SNR=6.7
D37A Cotton 31.24 8 P P 16 53 03.6 -0.4
baz=191,SNR=12
BOZ Bozeman (W) 31.28 342 P P 16 53 05.8 +1.2
baz=155,SNR=9.0
BOZ Bozeman (W) 31.28 342 eP P 16 53 06.1 +1.5
BOZ pmax pmax
comp=Z,27nm,1.4s
BOZ Bozeman (W) 31.28 342 eP P 16 53 06.1 +1.5
comp=Z,27nm,1.4s
WVOR Wild Horse Val 31.30 331 eP P 16 53 05.8 +1.0
WVOR pmax pmax
comp=Z,69nm,1.4s
WVOR Wild Horse Val 31.30 331 eP P 16 53 05.8 +1.0
comp=Z,69nm,1.4s
F45A CMU Biological 31.31 18 P P 16 53 04.4 -0.3
baz=204
F44A Big Bay de Noc 31.32 16 P P 16 53 04.4 -0.4
baz=202,SNR=10
DLMT Dillon 31.36 341 eP P 16 53 06.9 +1.6
comp=Z,82nm,1.4s
E42A Champion 31.37 14 P P 16 53 05.1 -0.1
baz=200,SNR=6.6
O03D Paynes Creek 31.38 324 P P 16 53 06.5 +1.1
baz=133
C34A RKJ Ranch, Bem 31.47 5 P P 16 53 05.6 -0.4
baz=186
C31A Landman Farms, 31.48 1 P P 16 53 06.0 -0.1
baz=181,SNR=7.7
LUPA Lehigh Univers 31.48 35 eP P 16 53 05.1 -1.2
comp=Z,1.1nm,1.0s
N59A State Game Lan 31.49 34 P P 16 53 04.6 -1.7
baz=225
N59A State Game Lan 31.49 34 eP P 16 53 05.1 -1.2
comp=Z,17nm,1.4s
MTP Monte Pirata 31.51 82 eP P 16 53 06.0 -0.7
comp=Z,64nm,1.1s
C33A Trail 31.52 4 P P 16 53 05.9 -0.6
baz=185
MDND Maddock 31.54 359 P P 16 53 06.5 -0.2
baz=178,SNR=22
MDND Maddock 31.54 359 eP P 16 53 06.8 +0.2
comp=Z,178nm,1.0s
C32A Crookston 31.54 3 P P 16 53 06.3 -0.4
baz=183
E43A Lone Tree Farm 31.55 15 P P 16 53 05.7 -1.0
baz=201,SNR=14
C35A Jirik Farms, M 31.60 6 P P 16 53 06.6 -0.6
baz=188
F46A Macinaw City C 31.62 18 P P 16 53 06.7 -0.7
baz=206
MOD Modoc Plateau 31.72 328 eP P 16 53 09.5 +1.0
comp=Z,102nm,1.8s
LRM Limekiln Ridge 31.73 341 eP P 16 53 09.7 +1.0
MMNY Mt. Morris Dam 31.74 30 eP P 16 53 07.7 -0.8
comp=Z,30nm,1.1s
C36A Pine Crest Far 31.78 7 P P 16 53 08.6 -0.2
baz=190,SNR=11
D41A Chassel 31.82 13 P P 16 53 08.6 -0.5
baz=198,SNR=13
C37A Embarrass 31.83 8 P P 16 53 08.8 -0.4
baz=191,SNR=8.8
J08A Circle Bar Ran 31.94 332 eP P 16 53 11.4 +1.0
comp=Z,86nm,1.4s
C38A Sawbill Land. 31.95 9 P P 16 53 09.8 -0.6
baz=193,SNR=16
WDC Whiskeytown Da 31.98 324 eP P 16 53 10.3 -0.4
WDC pmax pmax
comp=Z,38nm,1.9s
WDC Whiskeytown Da 31.98 324 eP P 16 53 10.3 -0.4
comp=Z,38nm,1.9s
BRNJ Basking Ridge 31.99 36 eP P 16 53 10.8 +0.2
comp=Z,15nm,0.6s
E45A Wooded Hills, 32.02 18 P P 16 53 11.1 +0.2
baz=204
B33A Robert and Kas 32.04 4 P P 16 53 11.0 -0.1
baz=185
AGMN Agassiz Nation 32.05 3 P P 16 53 11.1 0.0
baz=184,SNR=33
AGMN Agassiz Nation 32.05 3 eP P 16 53 11.3 +0.2
comp=Z,40nm,0.9s
E44A Grand Marais A 32.05 16 P P 16 53 11.4 +0.2
baz=203,SNR=5.7
B31A Greenbush Farm 32.11 1 P P 16 53 11.7 0.0
baz=181
B32A Ashes, Strandq 32.11 2 P P 16 53 11.9 +0.2
baz=183,SNR=22
EYMN Ely 32.15 9 P P 16 53 11.9 -0.1
baz=192,SNR=9.2
EYMN Ely 32.15 9 eP P 16 53 11.4 -0.6
comp=Z,76nm,1.8s
ODNJ Ogdensburg 32.24 35 eP P 16 53 12.0 -0.9
comp=Z,16nm,1.2s
C39A Grand Marais 32.24 11 P P 16 53 12.5 -0.3
baz=195,SNR=14
B35A Bob, Littlefor 32.28 6 P P 16 53 12.5 -0.6
baz=188,SNR=15
BINY Binghamton 32.29 32 P P 16 53 12.5 -0.8
baz=223
BINY Binghamton 32.29 32 eP P 16 53 13.0 -0.4
comp=Z,18nm,0.8s
HRY Holter Researc 32.35 343 eP P 16 53 13.8 -0.2
KMRM Mail Ridge 32.42 323 eP P 16 53 15.2 +0.7
comp=Z,27nm,1.0s

M04C **Macdoel** 32.43 326 P P 16 53 15.4 +0.6
baz=135
PAL **Palisades** 32.57 36 P P 16 53 15.9 +0.1
baz=228
PAL **Palisades** 32.57 36 eP P 16 53 15.5 -0.3
PAL pmax pmax
comp=Z,16nm,0.8s
PAL **Palisades** 32.57 36 eP P 16 53 15.4 -0.3
comp=Z,16nm,0.8s
A31A **Linda, St. Vin** 32.63 2 P P 16 53 16.5 +0.3
baz=182
A32A **Rocking H Ranc** 32.64 2 P P 16 53 15.7 -0.6
baz=183,SNR=8.2
BMO **Blue Mountains** 32.64 335 eP P 16 53 16.7 +0.2
BMO pmax pmax
comp=Z,74nm,1.8s
BMO **Blue Mountains** 32.64 335 eP P 16 53 16.7 +0.2
comp=Z,74nm,1.8s
M02C **Callahan** 32.71 325 P P 16 53 17.2 0.0
baz=133
A33A **Warroad** 32.71 4 P P 16 53 16.9 0.0
baz=185,SNR=15
SADO **Sadowa** 32.80 26 eP P 16 53 17.1 -0.6
comp=Z,12nm,0.7s
KHMM **Horse Mountain** 32.85 323 eP P 16 53 19.3 +0.8
comp=Z,133nm,1.8s
YBH **Yreka Blue Hor** 32.86 326 LR LR 17 08 53.6
comp=Z,905nm,19.6s,baz=162,slow=40
I07A **Izee** 32.98 332 eP P 16 53 20.2 +0.7
comp=Z,13nm,1.1s
EGMT **Eagleton** 33.03 346 P P 16 53 20.7 +0.8
baz=160,SNR=15
EGMT **Eagleton** 33.03 346 eP P 16 53 20.7 +0.8
comp=Z,89nm,1.6s
MSO **Missoula** 33.10 340 P P 16 53 21.2 +0.7
baz=152,SNR=8.5
MSO **Missoula** 33.10 340 eP P 16 53 21.3 +0.8
comp=Z,42nm,1.6s
J05D **Fort Rock, OR** 33.20 329 P P 16 53 22.7 +1.2
baz=137
PCRV **Puerto La Cruz** 33.48 96 LR LR 17 08 04.2
comp=Z,471nm,19.3s,baz=282,slow=38
F10A **Beach Ranch, E** 33.53 336 eP P 16 53 24.4 +0.1
comp=Z,217nm,2.0s
J04D **Umpqua Nationa** 33.60 328 P P 16 53 26.5 +1.4
baz=136,SNR=8.9
BBOR **Butler Butte** 33.65 327 eP P 16 53 28.6 +3.2
G08A **Pilot Rock** 33.69 334 eP P 16 53 25.2 -0.4
comp=Z,116nm,1.9s
TRY **Troy** 33.88 34 eP P 16 53 26.1 -1.1
comp=Z,15nm,1.2s
PLVO **Plevna** 33.90 28 eP P 16 53 26.9 -0.5
comp=Z,8.2nm,0.7s
ULM **Lac du Bonnet** 33.99 3 P P 16 53 27.4 -0.7
comp=Z,9.6nm,0.7s,baz=187,slow=9.8,SNR=25
ULM LR LR 17 07 44.3
comp=Z,525nm,18.5s,baz=164,slow=37
ULM **Lac du Bonnet** 33.99 3 eP P 16 53 26.9 -1.2
comp=Z,116nm,1.8s
JTMT **Jette** 34.02 341 eP P 16 53 28.9 +0.4
comp=Z,67nm,1.8s
KBO **Bosley Butte** 34.02 325 eP P 16 53 30.6 +2.0
comp=Z,338nm,1.7s
I04A **Tendick Farm,** 34.16 328 P P 16 53 30.3 +0.7
baz=136
QUA2 **Belchertown** 34.29 35 eP P 16 53 30.2 -0.6
comp=Z,18nm,0.8s
ACCN **Adirondack Com** 34.33 33 eP P 16 53 29.6 -1.5
comp=Z,7.2nm,0.9s
E09A **Wood Farm, Sta** 34.34 336 eP P 16 53 31.2 +0.1
comp=Z,13nm,0.8s
G06A **Carlson Farm,** 34.38 332 eP P 16 53 32.5 +0.9
comp=Z,34nm,1.4s
NCB **Newcomb** 34.46 32 eP P 16 53 32.5 +0.2
comp=Z,32nm,1.6s
BRYW **Bryant College** 34.52 37 eP P 16 53 32.0 -0.8
comp=Z,38nm,1.6s
KEBM **Edson Butte** 34.52 326 eP P 16 53 34.0 +1.1
comp=Z,278nm,1.7s
I03D **Drain, OR** 34.56 327 P P 16 53 33.9 +0.8
baz=134
F07A **Phinny Hill Vi** 34.58 333 eP P 16 53 33.3 0.0
comp=Z,54nm,1.8s
E08A **Dider Farm, El** 34.69 335 eP P 16 53 34.6 +0.4
comp=Z,32nm,1.7s
H04A **Detroit Lake** 34.69 330 eP P 16 53 35.0 +0.7
comp=Z,115nm,1.6s
LONY **Lake Ozonia** 34.75 31 P P 16 53 33.1 -1.6
baz=223
LONY **Lake Ozonia** 34.75 31 eP P 16 53 34.8 0.0
comp=Z,66nm,1.5s
HAWA **Hanford** 34.80 334 eP P 16 53 34.5 -0.7
comp=Z,7.0nm,0.9s
HRV **Adam Dziewonsk** 34.88 36 P P 16 53 34.8 -1.1
baz=229
HRV **Adam Dziewonsk** 34.88 36 eP P 16 53 35.7 -0.2
HRV pmax pmax
comp=Z,29nm,1.3s
HRV **Adam Dziewonsk** 34.88 36 eP P 16 53 35.7 -0.2
comp=Z,29nm,1.3s
E07A **Sunnyside** 35.07 334 eP P 16 53 38.6 +1.0
comp=Z,30nm,1.4s
WALA **Waterton Lakes** 35.07 342 eP P 16 53 38.8 +1.2
comp=Z,22nm,1.0s
D08A **Wollman Farm,** 35.09 335 eP P 16 53 37.9 +0.2
comp=Z,42nm,1.8s
NNA **Nana** 35.28 141 LR LR 17 05 17.5
comp=Z,530nm,20.2s,baz=336,slow=32
FRNY **Flat Rock** 35.40 31 eP P 16 53 40.3 0.0
comp=Z,16nm,0.8s
NEW **Newport** 35.42 338 LR LR 17 09 46.1
comp=Z,1µm,18.5s,baz=170,slow=39
NEW **Newport** 35.42 338 P P 16 53 41.1 +0.6
baz=148,SNR=5.7
NEW **Newport** 35.42 338 eP P 16 53 41.4 +0.9
NEW pmax pmax
comp=Z,28nm,1.5s
NEW **Newport** 35.42 338 eP P 16 53 41.4 +0.9
comp=Z,28nm,1.5s
C09A **Chrisman Ranch** 35.45 337 eP P 16 53 42.0 +1.2
comp=Z,26nm,0.8s
VT1 **Waterbury** 35.46 32 eP P 16 53 41.5 +0.6
comp=Z,10.0nm,0.8s
LBNH **Lisbon** 35.83 33 P P 16 53 44.7 +0.6
baz=227
LBNH **Lisbon** 35.83 33 eP P 16 53 44.5 +0.4
LBNH pmax pmax
comp=Z,19nm,1.1s
LBNH **Lisbon** 35.83 33 eP P 16 53 44.5 +0.4
comp=Z,19nm,1.1s
TRQ **Mont Tremblant** 35.95 29 eP P 16 53 45.2 +0.1
LTY **Liberty** 35.97 334 eP P 16 53 46.6 +1.4
comp=Z,144nm,1.7s
LON **Longmire** 36.07 332 eP P 16 53 48.4 +2.3
LON eS S 16 59 26.8 +2.1
LON pmax pmax
comp=Z,33nm,1.4s
LON **Longmire** 36.07 332 eP P 16 53 48.4 +2.3
comp=Z,33nm,1.4s
LON eS S 16 59 26.8 +2.1
F04D **Rainier, OR** 36.12 331 P P 16 53 48.3 +1.8
baz=137
B08A **Colville Reser** 36.31 336 eP P 16 53 48.9 +0.7
comp=Z,79nm,1.8s
D05A **Enumclaw** 36.48 333 eP P 16 53 50.4 +0.9
comp=Z,48nm,1.2s
C06D **Leavenworth** 36.59 335 P P 16 53 52.1 +1.7
baz=142
B06A **Marblemount** 37.30 335 eP P 16 53 56.5 +0.1
comp=Z,69nm,1.6s
B05A **Bryant** 37.35 334 P P 16 53 57.5 +0.5
baz=140
NLWA **Neilton Lookou** 37.48 331 eP P 16 53 58.7 +0.6
comp=Z,78nm,1.4s
PKME **Peaks-Kenny Pk** 37.92 34 P P 16 54 02.4 +0.6
baz=230
PKME **Peaks-Kenny Pk** 37.92 34 eP P 16 54 02.6 +0.8
comp=Z,56nm,1.8s
A04D **Lummi Island** 37.97 334 P P 16 54 03.2 +1.1
baz=140
PGC **Sidney** 38.23 333 eP P 16 54 04.5 +0.1
comp=Z,41nm,1.3s
FFC **Flin Flon** 38.51 357 eP P 16 54 06.2 -0.4
FFC pmax pmax
comp=Z,25nm,0.9s
FFC **Flin Flon** 38.51 357 eP P 16 54 06.2 -0.4
comp=Z,25nm,0.9s
EDM **Edmonton** 38.71 346 eP P 16 54 08.2 -0.2
EDM pmax pmax
comp=Z,65nm,0.9s
EDM **Edmonton** 38.71 346 eP P 16 54 08.2 -0.2
comp=Z,65nm,0.9s
LLLB **Lillooet** 39.11 336 eP P 16 54 12.3 +0.5
comp=Z,120nm,1.8s
PQI **Presque Isle** 39.50 33 eP P 16 54 14.2 -0.9
comp=Z,33nm,1.4s
FCC **Fort Churchill** 42.59 3 eP P 16 54 40.2 0.0
FCC pmax pmax
comp=Z,22nm,0.8s
FCC **Fort Churchill** 42.59 3 eP P 16 54 40.2 0.0
comp=Z,22nm,0.8s
SAML **Samuel** 42.98 123 eP P 16 54 42.7 -1.4
comp=Z,6.5nm,1.2s
LPAZ **La Paz** 44.06 136 P P 16 54 53.2 -0.2
comp=Z,1.3nm,0.8s,baz=330,slow=9.8,SNR=2.9
LPAZ LR LR 17 12 06.1
comp=Z,344nm,18.0s,baz=312,slow=35
LPAZ **La Paz** 44.06 136 eP P 16 54 52.8 -0.7
RPN **Rapa Nui** 44.37 194 LR LR 17 09 19.7
comp=Z,321nm,18.6s,baz=50,slow=30
RPN **Rapa Nui** 44.37 194 eP P 16 54 56.8 +1.8
RPN pmax pmax
comp=Z,184nm,1.1s
RPN **Rapa Nui** 44.37 194 eP P 16 54 56.8 +1.8
comp=Z,184nm,1.1s
SCHQ **Schefferville** 45.60 25 P P 16 55 04.2 -0.4
comp=Z,27nm,0.7s,baz=229,slow=7.1,SNR=30
SCHQ LR LR 17 16 49.1
comp=Z,775nm,18.0s,baz=192,slow=40
SCHQ **Schefferville** 45.60 25 eP P 16 55 04.3 -0.2
comp=Z,30nm,0.8s
YKA **Yellowknife Ar** 47.58 350 P P 16 55 19.2 -0.7
comp=Z,5.1nm,0.8s,baz=158,slow=7.4,SNR=59
YKA LR LR 17 17 22.1
comp=Z,102nm,18.4s,baz=180,slow=39
YKW3 **Yellowknife Ar** 47.64 350 eP P 16 55 19.9 -0.5
comp=Z,56nm,1.8s
DLBC **Dease Lake** 48.17 338 eP P 16 55 26.9 +2.3
comp=Z,28nm,1.1s
TAOE **Nuku Hiva Isla** 48.18 242 eS S 17 02 23.9 -0.3
comp=Z,276nm,24.9s
TAOE eLR LR 17 08 55.5
comp=Z,825nm,25.1s,baz=58
TAOE **Nuku Hiva Isla** 48.18 242 eT T 17 46 37.4
comp=Z,104nm,0.2s
TAOE **Nuku Hiva Isla** 48.18 242 eP P 16 55 29.0 +3.7
comp=Z,292nm,1.9s
WHY **Whitehorse** 51.49 338 eP P 16 55 51.6 +1.6
comp=Z,50nm,1.8s
FRB **Frobisher Bay** 51.75 16 LR LR 17 22 02.2
comp=Z,175nm,19.0s,baz=208,slow=41
FRB **Frobisher Bay** 51.75 16 P P 16 55 52.4 +0.7
RKT **Rikitea** 52.94 223 eS S 17 03 31.8 +1.9
comp=Z,274nm,30.0s
RKT eLR LR 17 11 22.9
comp=Z,1µm,27.0s,baz=38
RKT **Rikitea** 52.94 223 eT T 17 52 37.2
comp=Z,57nm,0.2s
BALM **Baldy** 54.56 336 eP P 16 56 13.6 +1.1
BALM pmax pmax
comp=Z,45nm,1.7s
BALM **Baldy** 54.56 336 eP P 16 56 13.6 +1.1
comp=Z,45nm,1.7s
DAWY **Dawson** 55.33 340 eP P 16 56 19.0 +0.9
comp=Z,45nm,1.8s
BMRM **Bremner River** 55.43 335 eP P 16 56 20.1 +1.3
comp=Z,81nm,1.7s
EYAK **Cordova Ski Ar** 55.68 334 eP P 16 56 22.4 +1.8
comp=Z,20nm,1.0s
DIV **Divide** 56.00 335 eP P 16 56 24.4 +1.6
comp=Z,22nm,1.1s
MENT **Mentasta** 56.18 337 eP P 16 56 24.2 +0.1
comp=Z,15nm,1.1s
KLU **Klutina** 56.25 335 eP P 16 56 25.7 +1.0
comp=Z,32nm,1.3s
EGAK **Eagle** 56.38 340 eP P 16 56 25.7 +0.3
comp=Z,17nm,0.8s
HARP **HAARP** 56.44 336 eP P 16 56 27.0 +1.0
comp=Z,35nm,1.1s
INK **Inuvik** 56.61 345 P P 16 56 26.9 -0.2
comp=Z,12nm,0.8s,baz=129,slow=7.9,SNR=54
INK LR LR 17 23 48.7
comp=Z,925nm,20.4s,baz=150,slow=39
INK **Inuvik** 56.61 345 eP P 16 56 26.8 -0.2
comp=Z,20nm,0.9s
DOT **Dot Lake** 56.72 338 eP P 16 56 29.2 +1.3
comp=Z,99nm,1.2s
PAX **Paxson** 56.87 336 eP P 16 56 30.4 +1.4
PAX pmax pmax
comp=Z,18nm,1.0s
PAX **Paxson** 56.87 336 eP P 16 56 30.4 +1.4
comp=Z,18nm,1.0s
SCRK **Sand Creek** 56.88 338 eP P 16 56 30.4 +1.2
comp=Z,90nm,2.0s
SCM **Sheep Creek Mo** 57.00 335 eP P 16 56 32.0 +2.0
SCM pmax pmax
comp=Z,45nm,1.2s
SCM **Sheep Creek Mo** 57.00 335 eP P 16 56 32.0 +2.0
comp=Z,45nm,1.2s
RIDG **Independ'e Rid** 57.06 337 eP P 16 56 31.6 +1.3
comp=Z,195nm,1.9s
SML **Sawmill** 57.40 334 eP P 16 56 33.9 +1.1
SML pmax pmax
comp=Z,45nm,1.3s
SML **Sawmill** 57.40 334 eP P 16 56 33.9 +1.1
comp=Z,45nm,1.3s
KDAK **Kodiak Island** 57.56 329 P P 16 56 34.2 +0.3
comp=Z,7.9nm,0.7s,baz=106,slow=7.4,SNR=4.8
KDAK **Kodiak Island** 57.56 329 iP P 16 56 35.9 +2.0
KDAK **Kodiak Island** 57.56 329 eP P 16 56 34.4 +0.5
comp=Z,130nm,1.7s
BRLK **Bradley Lake** 57.57 332 eP P 16 56 35.0 +1.0
comp=Z,26nm,0.8s
PMR **Palmer** 57.63 334 eP P 16 56 35.3 +0.9
PMR pmax pmax
comp=Z,118nm,2.0s
PMR **Palmer** 57.63 334 eP P 16 56 35.3 +0.9
comp=Z,118nm,2.0s
RC01 **Rabbit Creek A** 57.65 333 eP P 16 56 35.6 +1.0
comp=Z,13nm,0.9s
DHY **Denali Highway** 57.66 336 eP P 16 56 35.7 +0.9
comp=Z,41nm,1.9s
PMOR **Pomariorio Ree** 57.82 240 eT T 17 58 41.7
comp=Z,14nm,0.2s
HDA **Harding Lake** 58.20 338 eP P 16 56 38.9 +0.5
comp=Z,15nm,0.9s
CPUP **Villa Florida** 58.24 136 P P 16 56 38.5 -0.6
comp=Z,0.9nm,0.4s,baz=300,slow=8.7,SNR=3.9
CPUP LR LR 17 20 19.6
comp=Z,102nm,20.7s,baz=333,slow=35
CPUP **Villa Florida** 58.24 136 eP P 16 56 39.1 0.0
CPUP **Villa Florida** 58.24 136 eP P 16 56 39.1 0.0
SUA **Susitna One** 58.26 333 eP P 16 56 40.1 +1.2
comp=Z,29nm,0.8s
IL1 **Eielson Array** 58.37 338 eP P 16 56 39.8 +0.3
ILAR **Eielson Array** 58.37 338 P P 16 56 39.9 +0.3
comp=Z,9.8nm,0.9s,baz=140,slow=4.7,SNR=5.0
ILAR LR LR 17 24 23.1
comp=Z,965nm,18.3s,baz=132,slow=39
ILB **Eielson Array** 58.37 338 eP P 16 56 40.1 +0.6
RND **Reindeer** 58.40 336 eP P 16 56 40.9 +1.0
RND pmax pmax
comp=Z,45nm,1.1s
RND **Reindeer** 58.40 336 eP P 16 56 40.9 +1.0
comp=Z,45nm,1.1s
NRS **Narsarsuaq** 58.48 27 eP P 16 56 41.1 +0.8
NRS pmax pmax
comp=Z,25nm,0.8s
NRS **Narsarsuaq** 58.48 27 eP P 16 56 41.1 +0.8
comp=Z,25nm,0.8s
RES **Resolute Bay** 58.49 1 P P 16 56 39.4 -0.8
comp=Z,4.8nm,0.6s,baz=189,slow=11,SNR=35
RES **Resolute Bay** 58.49 1 eP P 16 56 39.5 -0.7
RES pmax pmax
comp=Z,6.0nm,0.7s
RES **Resolute Bay** 58.49 1 eP P 16 56 39.5 -0.7
comp=Z,6.4nm,0.7s
MCK **McKinley** 58.60 336 eP P 16 56 41.7 +0.6
MCK pmax pmax
comp=Z,20nm,0.9s
MCK **McKinley** 58.60 336 eP P 16 56 41.7 +0.6
comp=Z,20nm,0.9s
CCB **Clear Creek Bu** 58.64 338 eP P 16 56 41.8 +0.5
comp=Z,40nm,1.8s
WRH **Wood River Hil** 58.65 337 eP P 16 56 42.2 +0.7
comp=Z,7.6nm,0.9s
RSO **Redoubt South** 58.71 332 eP P 16 56 42.8 +0.5
COLA **College** 58.78 338 eP P 16 56 42.8 +0.5
COLA pmax pmax
comp=Z,20nm,1.0s
COLA **College** 58.78 338 eP P 16 56 42.8 +0.5
comp=Z,20nm,1.0s
FYU **Fort Yukon** 58.80 340 eP P 16 56 43.9 +1.4
comp=Z,59nm,1.5s
MDM **Murphy Dome** 58.96 338 eP P 16 56 44.3 +0.7
comp=Z,8.3nm,1.0s
TRF **Thorofare Moun** 58.99 336 eP P 16 56 44.7 +0.6
comp=Z,47nm,1.0s
KTH **Kantishna Hill** 59.29 336 eP P 16 56 46.5 +0.5
comp=Z,18nm,0.9s
SFJD **Kangerlussuaq** 59.42 20 P P 16 56 47.2 +0.5
comp=Z,17nm,0.9s,baz=225,slow=5.9,SNR=8.4
SFJD LR LR 17 24 29.8
comp=Z,246nm,18.0s,baz=230,slow=38
SFJD **Kangerlussuaq** 59.42 20 iP P 16 56 47.8 +1.1
SFJD pmax pmax
comp=Z,19nm,0.9s
SFJD **Kangerlussuaq** 59.42 20 iP P 16 56 47.8 +1.1
comp=Z,19nm,0.9s
PPLA **Purkeypile** 59.50 335 eP P 16 56 48.5 +1.0
comp=Z,60nm,1.3s
BPAW **Bear Paw Mtn.** 59.57 336 eP P 16 56 48.0 +0.2
comp=Z,15nm,1.0s
CAST **Castle Rocks** 59.69 335 eP P 16 56 49.0 +0.3
comp=Z,26nm,0.9s
MLY **Manley** 59.92 337 eP P 16 56 50.7 +0.4
comp=Z,27nm,1.0s
CHGN **Chignik** 60.06 326 eP P 16 56 52.2 +0.9
comp=Z,94nm,1.5s
SVW2 **Sparrevohn** 60.24 332 eP P 16 56 52.1 -0.4
comp=Z,18nm,1.0s
PPT **Papeete** 60.51 239 LR LR 17 16 01.0
comp=Z,269nm,18.2s,baz=21,slow=29
PPT2 **Papeete2** 60.52 238 eS S 17 05 09.0 -1.5
comp=Z,249nm,26.8s
PPT2 eLQ LQ 17 11 55.9
comp=Z,579nm,29.5s
PPT2 eLR LR 17 14 25.6
comp=Z,671nm,26.8s,baz=51
ILULI **Ilulissat** 60.55 18 eP P 16 56 52.8 -1.6
ILULI pmax pmax
comp=Z,29nm,1.4s
ILULI **Ilulissat** 60.55 18 eP P 16 56 52.8 -1.6
comp=Z,29nm,1.4s
COLD **Coldfoot** 60.81 340 eP P 16 56 57.5 +1.1
comp=Z,11nm,1.0s
TOLK **Toolik Lake Re** 61.34 341 P P 16 57 01.2 +1.2
baz=121,SNR=9.6
TOLK **Toolik Lake Re** 61.34 341 eP P 16 57 00.5 +0.5
comp=Z,14nm,1.0s
TULEG **Thule** 62.25 8 eP P 16 57 06.3 +0.4
comp=Z,17nm,1.3s
PLCA **Paso Flores** 62.34 156 P P 16 57 08.1 +1.1
comp=Z,4.5nm,0.9s,baz=357,slow=8.4,SNR=8.8
PLCA LR LR 17 18 50.9
comp=Z,325nm,18.6s,baz=356,slow=31
PLCA **Paso Flores** 62.34 156 eP P 16 57 08.6 +1.6
PLCA pmax pmax
comp=Z,9.0nm,1.0s
PLCA **Paso Flores** 62.34 156 eP P 16 57 08.6 +1.6
comp=Z,8.6nm,1.0s
FALS **False Pass** 62.48 324 eP P 16 57 07.4 -0.3
comp=Z,45nm,0.7s
ANGG **Ammassalik, Gr** 63.45 24 eP P 16 57 13.7 -0.3
comp=Z,34nm,1.1s
SPB **Sao Paulo** 63.69 127 eP P 16 57 15.7 -0.5
comp=Z,44nm,1.7s
SUMG **Summit** 65.83 17 iP P 16 57 30.7 +0.8
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG **Summit** 65.83 17 iP P 16 57 30.7 +0.8
comp=Z,14nm,0.8s
SUMG **Summit** 65.83 17 eP P 16 57 29.9 -0.1
comp=Z,15nm,0.9s
GAMB **Gambell** 68.15 333 eP P 16 57 45.2 +0.9
comp=Z,10nm,1.1s
BORG **Borgarnes** 69.97 26 LR LR 17 29 04.8
comp=Z,175nm,21.2s,baz=273,slow=36
SCO **Scoresbysund** 70.32 20 eP P 16 58 00.9 +3.3
SCO **Scoresbysund** 70.32 20 iP P 16 58 00.9 +3.3
RAR **Rarotonga** 70.68 240 LR LR 17 20 32.5
comp=Z,230nm,18.6s,baz=86,slow=29
DAG **Danmarks Havn** 71.98 14 iP P 16 58 07.6 0.0
DAG pmax pmax
comp=Z,13nm,1.0s
DAG **Danmarks Havn** 71.98 14 iP P 16 58 07.6 0.0
comp=Z,13nm,1.0s
BILL **Bilibino** 77.03 337 iP P 16 58 35.9 -1.2
BILL i 16 58 45.6
BILL i 17 01 28.7
BILL iS S 17 08 24.6 -0.2
BILL iSS SS 17 13 19.0 -2.3
BILL pmax pmax
comp=Z,14nm,1.1s
BILL MLR MLR
comp=Z,497nm,16.0s
SPITS **Spitsbergen Ar** 79.13 11 P P 16 58 49.7 +1.0
comp=Z,3.5nm,0.7s,baz=345,slow=4.9,SNR=3.8
SPITS LR LR 17 34 52.3
comp=Z,478nm,20.1s,baz=325,slow=36
EKA **Eskdalemuir Ar** 79.81 35 P P 16 58 52.6 -0.1
comp=Z,3.9nm,0.8s,baz=290,slow=5.1,SNR=11
EKA LR LR 17 33 48.5
comp=Z,133nm,21.8s,baz=250,slow=35
GRR **Gorron** 82.99 42 eP P 16 59 09.8 +0.1
GRR pmax pmax
comp=Z,36nm,1.5s
FLN **La Foliniere** 83.12 41 eP P 16 59 11.5 +1.1
FLN pmax pmax
comp=Z,30nm,1.3s
ESDC **Sonseca Array** 83.22 51 P P 16 59 11.7 +0.5
comp=Z,2.1nm,0.8s,baz=299,slow=4.9,SNR=8.9
ESDC LR LR 17 36 08.1
comp=Z,172nm,18.0s,baz=255,slow=36
ES19 **SONSECA Array** 83.26 51 eP P 16 59 11.7 +0.3
LDF **La Druitiere** 83.40 41 eP P 16 59 12.7 +0.8
LDF pmax pmax
comp=Z,18nm,1.2s
SEY **Seymchan** 84.08 334 P P 16 59 15.8 +0.8
comp=Z,4.3nm,0.9s,baz=93,slow=6.8,SNR=18
SEY **Seymchan** 84.08 334 ceP P 16 59 13.8 -1.2
ETSF **Etsaut** 84.78 47 eP P 16 59 20.5 +1.4
ETSF pmax pmax
comp=Z,20nm,1.5s
NB2 **NORSAR Subarra** 85.12 27 P P 16 59 21.8 +1.4
comp=Z,1.6nm,0.7s,baz=299,slow=5.1
NB200 **NORSAR Array S** 85.12 27 eP P 16 59 21.1 +0.7
NOA **NORSAR Array B** 85.12 27 P P 16 59 21.1 +0.7
comp=Z,3.3nm,0.9s,baz=301,slow=5.0,SNR=10
NOA LR LR 17 39 11.7
comp=Z,48nm,19.9s,baz=300,slow=37
PEA1 **Petropavlovsk-** 85.21 324 eP P 16 59 21.4 +0.4
PETK **Petropavlovsk-** 85.21 324 P P 16 59 21.4 +0.4
comp=Z,4.9nm,0.8s,baz=72,slow=7.8,SNR=4.4
PETK LR LR 17 35 32.0
comp=Z,93nm,19.9s,baz=55,slow=34
EPF **Esparros** 85.37 47 eP P 16 59 23.2 +1.2
EPF pmax pmax
comp=Z,14nm,1.2s
TCF **Toulx Ste Croi** 85.61 43 eP P 16 59 22.9 -0.3
TCF pmax pmax
comp=Z,11nm,1.1s
BAIF **Baives** 85.62 39 eP P 16 59 24.1 +1.0
BAIF pmax pmax
comp=Z,29nm,1.5s
ARA0 **ARCESS Array S** 85.92 17 eP P 16 59 24.9 +0.7
ARCES **ARCESS Array B** 85.92 17 P P 16 59 24.9 +0.7
comp=Z,4.0nm,0.8s,baz=282,slow=4.5,SNR=7.9
ARCES LR LR 17 40 44.3
comp=Z,149nm,18.1s,baz=321,slow=38
BGF **Bois d'Agland** 85.94 43 eP P 16 59 24.4 -0.4
BGF pmax pmax
comp=Z,5.0nm,0.7s
GIVF **Givet** 85.98 39 eP P 16 59 23.6 -1.3
GIVF pmax pmax
comp=Z,2.0nm,0.2s
AVF **Avril sur Loir** 86.19 42 eP P 16 59 26.2 +0.2
AVF pmax pmax
comp=Z,7.0nm,1.2s
MA2 **Magadan** 86.21 332 P P 16 59 27.2 +1.4
comp=Z,6.2nm,0.8s,baz=66,slow=5.1,SNR=6.2
HFS **Hagfors** 86.62 28 P P 16 59 28.5 +0.7

comp=Z,1.9nm,0.8s,baz=20,slow=4.6,SNR=3.2
HFS LR LR 17 39 15.5
comp=Z,68nm,21.1s,baz=282,slow=36
TIXI Tiksi 86.71 347 *c i*P **P 16 59 28.1 +0.1**
TIXI pmax pmax
comp=Z,20nm,1.7s
TIXI Tiksi 86.71 347 *e*P **P 16 59 27.4 -0.5**
comp=Z,17nm,1.2s
SGF Sodankyl 87.50 18 *e*P **P 16 59 31.7 -0.2**
SGF pmax pmax
comp=Z,17nm,2.5s
CABF La Chapelle 88.02 42 *e*P **P 16 59 33.0 -2.0**
CABF pmax pmax
comp=Z,74nm,2.2s
MSVF Nonsavu 88.84 251 *e*P **P 16 59 42.8 +3.5**
MSVF pmax pmax
comp=Z,13nm,1.0s
MSVF Nonsavu 88.84 251 *e*P **P 16 59 43.2 +3.9**
comp=Z,18nm,1.0s
LVZ Lovozero 89.51 16 *i*P **P 16 59 38.9 -2.6**
LVZ pmax pmax
comp=Z,33nm,1.7s
KOWA Kowa 90.20 75 P **P 16 59 45.9 +0.2**
comp=Z,2.4nm,0.8s,baz=297,slow=6.8,SNR=6.5
KOWA LR LR 17 36 53.7
comp=Z,182nm,19.7s,baz=223,slow=33
CLL Collm 90.27 36 *e*P **P 16 59 45.0 -0.3**
CLL Collm 90.27 36 *e*P **P 16 59 45.0 -0.3**
CLL *e*PP **PP 17 03 21.0 +2.3**
CLL *e*SKKSac **SKKSac 17 10 25.0 -4.6**
CLL *e*S **S 17 10 34.0 -4.8**
CLL *e*PS **PnS 17 11 39.0 -7.8**
CLL *e*SS **SS 17 16 45.0 +7.4**
CLL *e* 17 18 00.0
CLL *e*SSS SSS 17 20 24.0
CLL LmV 17 47 00.0
comp=Z,200nm,18.8s
NKC Novy Kostel 90.43 37 AMS AMS 17 43 30.0
comp=Z,400nm,17.4s
FIA0 FINESS Array S 91.05 23 *e*P **P 16 59 48.6 -0.1**
FIA0 FINESS Array S 91.05 23 *e*P **P 16 59 48.6 -0.1**
FINES FINESS Array B 91.05 23 P **P 16 59 48.6 -0.1**
comp=Z,2.7nm,0.9s,baz=319,slow=5.5,SNR=4.4
FINES LR LR 17 42 47.0
comp=Z,158nm,19.4s,baz=316,slow=37
KHC Kasperske Hory 91.58 38 *e*P **P 16 59 56.3 +4.8**
KHC MLR MLR
comp=Z,500nm,17.7s
KHC Kasperske Hory 91.58 38 *e*P **P 16 59 56.3 +4.8**
KHC AMS AMS 17 44 40.0
comp=Z,500nm,17.7s
DBIC Dimbokro 91.63 83 LR LR 17 36 51.6
comp=Z,121nm,21.3s,baz=274,slow=33
PRU Pruhonice 91.74 36 AMS AMS 17 44 20.0
comp=Z,400nm,17.2s
GERES GERESS Array B 91.78 38 P **P 16 59 52.4 -0.1**
comp=Z,0.6nm,0.7s,baz=280,slow=5.9,SNR=4.8
GERES LR LR 17 41 30.1
comp=Z,138nm,20.2s,baz=292,slow=36
GOPC GO Pecny, Ondr 91.92 36 AMS AMS 17 44 40.0
comp=Z,400nm,17.6s
UPC Upice 92.33 36 AMS AMS 17 41 30.0
comp=Z,300nm,17.8s
DPC Dobruska-Polom 92.58 36 *e*P **P 16 59 57.3 +1.2**
DPC MLR MLR
comp=Z,300nm,19.6s
DPC Dobruska-Polom 92.58 36 *e*P **P 16 59 57.3 +1.2**
DPC AMS AMS 17 42 50.0
comp=Z,300nm,19.6s
YAK Yakutsk 93.27 339 *e*P **P 16 59 58.4 -0.5**
YAK *e* 17 00 03.6
YAK *e*S **SKSac 17 10 27.9 -4.5**
YAK *e* 17 11 07.2
YAK *e*SSS SSS 17 21 00.6
YAK pmax pmax
comp=Z,16nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=Z,143nm,5.3s
YAK pmax pmax
comp=E,71nm,4.2s
YAK pmax pmax
comp=N,158nm,5.9s
YAK smax smax
comp=N,88nm,4.4s
YAK smax smax
comp=E,54nm,4.3s
YAK MLR MLR
comp=Z,444nm,21.0s
YAK MLR MLR
comp=E,279nm,20.0s
YAK MLR MLR
comp=N,510nm,21.0s
YAK Yakutsk 93.27 339 *e*P **P 16 59 59.4 +0.4**
comp=N,19nm,0.9s
KEST Kesra 94.47 51 LR LR 17 41 01.1
comp=N,125nm,19.1s,baz=222,slow=34
TOA1 Torodi Ar. Sit 95.89 75 *e*P **P 17 00 11.1 -0.9**
TORD Torodi Ar. Bea 95.90 75 P **P 17 00 11.1 -0.9**
comp=N,0.6nm,0.8s,baz=306,slow=4.2,SNR=3.5
TORD LR LR 17 40 45.6
comp=N,207nm,20.1s,baz=275,slow=34
KLMR Klimovskoe 96.16 19 *e*P **P 17 00 10.5 -1.7**
KLMR pmax pmax
comp=Z,10.0nm,1.4s
KLMR Klimovskoe 96.16 19 *e*P **P 17 00 10.5 -1.7**
KLMR AMP 17 00 15.8
comp=Z,10.0nm,1.4s
YSS Yuzh-Sakhalins 96.55 323 *e*P **P 17 00 15.1 +0.8**
YSS *e* 17 04 06.0
YSS *e*S **S 17 11 36.4 +1.7**
YSS *e*SS **SS 17 18 07.3 -0.2**
UZH Uzhgorod 96.79 35 *e*P **P 17 00 13.4 -2.0**
UZH *e* 17 00 21.9
VAE Valguarnera 97.42 48 LR LR 17 42 18.6
comp=Z,281nm,19.1s,baz=330,slow=34
KIEV Kiev 99.16 31 *e*P **Pdif 17 00 22.6 -3.4**
KIEV pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 99.17 31 P **Pdif 17 00 24.5 -1.5**
comp=Z,0.3nm,0.2s,baz=293,slow=2.8,SNR=4.4
AKASG LR LR 17 44 36.9
comp=Z,105nm,21.9s,baz=300,slow=35
AKASG Malin Array Be 99.17 31 *c e*P **Pdif 17 00 21.5 -4.5**
DZM Mont Dzumac 100.51 250 *e*LR LR 17 33 29.6
comp=Z,310nm,23.2s
ZAA1 Zalesovo Array 110.04 358 *e*PP PP 17 05 48.0 -0.1
ZALV Zalesovo Beam 110.05 358 PP PP 17 05 48.0 -0.2
comp=Z,0.6nm,0.7s,baz=353,slow=9.0,SNR=3.8
BVAR Borovoye Array 110.36 7 PP PP 17 05 48.6 -1.9
comp=Z,0.3nm,0.4s,baz=9.9,slow=3.4,SNR=2.9
KIV Kislovodsk 110.39 29 *i* PKIKP **PKiKP 17 05 13.3 -3.8**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 113.29 2 *e*PP PP 17 06 10.6 -0.9
MAK Makhachkala 113.33 27 *i* PKIKP **PKiKP 17 05 19.1 -3.4**
MAK *e*SS SS 17 21 51.2 -5.3
MAK pmax pmax
comp=Z,29nm,0.6s
MAK MLR MLR
comp=Z,214nm,20.0s
KURBB Kurchatov Arra 113.38 2 PP PP 17 06 10.6 -1.5
comp=Z,1.1nm,1.0s,baz=343,slow=6.1,SNR=6.6
HHC Hu-ho-hao-te 116.72 335 *e*PKP **PKPdf 17 05 26.4 -2.9**
HHC AMB AMB
comp=Z,110nm,6.3s
HHC LR LR
comp=Z,330nm,14.8s
HHC LR LR
comp=Z,650nm,14.8s
HHC LR LR
comp=Z,230nm,13.5s
MK32 Makanchi Array 117.26 359 *e*PP PP 17 06 37.1 -2.3
MKAR Makanchi Array 117.26 359 PP PP 17 06 37.1 -2.3
comp=Z,0.6nm,0.8s,baz=5.4,slow=6.1,SNR=4.3
WMQ Urumqi 119.97 355 *e*P **PKPdf 17 05 33.9 -1.5**
WMQ AMB AMB
comp=Z,260nm,5.1s
WMQ LR LR
comp=Z,450nm,19.9s
WMQ LR LR
comp=Z,480nm,17.1s
NJ2 Nanjing 120.11 323 *e*PKP **PKPdf 17 05 38.3 +2.4**
GEYT Alibeck 121.81 22 PKP **PKPdf 17 05 39.2 +0.1**
comp=Z,1.5nm,0.7s,baz=256,slow=5.4,SNR=4.5

GTA Gaotai 122.06 343 *e*PKP **PKPdf 17 05 34.9 -4.8**
GTA sPKP 17 05 49.6
GTA AMB AMB
comp=Z,81nm,5.7s
GTA LR LR
comp=Z,140nm,22.3s
GTA LR LR
comp=Z,230nm,23.3s
GTA LR LR
comp=Z,140nm,20.9s
WHN Wuhan 123.77 326 PKP **PKPdf 17 05 38.9 -4.0**
LZH Lanzhou 123.83 338 *e*PKP **PKPdf 17 05 41.8 -1.4**
LZH LR LR
comp=Z,220nm,18.5s
LZH LR LR
comp=Z,290nm,18.0s
LZH LR LR
comp=Z,400nm,20.2s
KSH Kashi 124.30 5 PKP **PKPdf 17 05 48.1 +4.2**
KSH PP PP 17 07 39.9 +12
KSH AMB AMB
comp=Z,79nm,9.0s
KSH LR LR
comp=Z,76nm,7.5s
KSH LR LR
comp=Z,60nm,9.5s
KSH LR LR
comp=Z,120nm,17.9s
ENH Enshi 126.48 330 *e*PKPdf **PKPdf 17 05 47.4 -0.8**
CD2 Chengdu 128.47 335 PKP **PKPdf 17 05 51.0 -1.1**
WB2 Warramunga Arr 129.79 257 *e*PKPdf **PKPdf 17 05 54.3 -0.4**
WR1 Warramunga Arr 129.81 257 *e*PKPdf **PKPdf 17 05 54.9 +0.1**
WRA Warramunga Arr 129.81 257 PKP **PKPdf 17 05 54.9 +0.1**
comp=Z,2.8nm,0.9s,baz=86,slow=1.7,SNR=12
AS01 Alice Springs 130.37 253 *e*PKPdf **PKPdf 17 05 55.2 -0.5**
AS31 Alice Springs 130.41 253 *e*PKPdf **PKPdf 17 05 55.6 -0.3**
ASAR Alice Springs 130.42 253 PKP **PKPdf 17 05 56.1 +0.3**
comp=Z,1.9nm,0.8s,baz=107,slow=2.3,SNR=7.9
GYA Guiyang 131.02 330 *e*Pdif **Pdif 17 02 48.0 -0.4**
GYA PKP **PKiKP 17 05 58.3 +0.3**
GYA PP **PP 17 08 17.4 +4.8**
GYA AMB AMB
comp=Z,130nm,8.0s
CM31 Chiang Mai Arr 141.49 333 *e*PKPpre PKPpre 17 06 11.4
CM31 *e*PKPdf **PKPdf 17 06 15.7 -0.9**
CMAR Chiang Mai Arr 141.49 333 PKhKP PKPpre 17 06 10.8
comp=Z,1.5nm,0.9s,baz=344,slow=3.8,SNR=4.9
CMAR PKP **PKPdf 17 06 16.4 -0.1**
comp=Z,1.3nm,0.9s,baz=325,slow=2.5,SNR=11
CM01 Chiang Mai Arr 141.51 333 *e*PKPpre PKPpre 17 06 09.9
CM01 *e*PKPdf **PKPdf 17 06 16.6 0.0**
HYB Hyderabad 146.44 5 *i* PKP **PKPdf 17 06 25.0 -0.2**
HYB *e*pPKP sPKPab 17 06 39.0 +4.2
KSM Kuching 146.56 299 *e*PKPdf **PKPdf 17 06 26.1 +0.6**
OPO Ambodidratompo 147.20 99 PKPbc **PKPbc 17 06 29.8 +1.0**
comp=Z,9.4nm,0.8s,baz=256,slow=4.6,SNR=8.1
ABPO Ambohimpanom 147.24 100 *e*PKP2 **PKPbc 17 06 28.7 -0.2**
ABPO Ambohimpanom 147.24 100 *e*PKPbc **PKPbc 17 06 28.7 -0.2**
KULM Kulim 151.43 317 *e*PKPbc **PKPbc 17 06 37.4 -2.0**
IPM Ipoh 151.78 315 *e*PKPbc **PKPbc 17 06 39.2 -1.1**
PSI Prapat 154.42 316 *e*PKIKP **PKPdf 17 06 37.0 -0.9**
PSI *e* 17 07 00.8
PSI Prapat 154.42 316 *e*PKPdf **PKPdf 17 06 37.0 -0.9**
PSI *e*PKPab **PKPab 17 07 00.8 +0.5**
GSI Gunungsitoli 156.43 316 *e*PKPdf **PKPdf 17 06 39.0 -1.5**
GSI *e*PKPab **PKPab 17 07 08.4 -0.3**
PALK Pallekele 156.63 2 *e*PKIKP **PKPdf 17 06 41.4 +0.7**
PALK Pallekele 156.63 2 *e*PKPdf **PKPdf 17 06 41.4 +0.7**

WEL 22 16:49:44.2,44°S±1°×172°8E±0°9,h9km±1km, ML3.7/20, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.12**	**253**	P	Pg	16 49 48.5	+1.6
MQZ	**McQueen's Vall**	**0.12**	**253**	S	Sg	16 49 50.7	+1.9
CRLZ	**Canterbury Las**	**0.17**	**306**	P	Pg	16 49 49.6	+1.9
CRLZ	**Canterbury Las**	**0.17**	**306**	S	Sg	16 49 52.5	+2.5
EYCZ	**Eyrewell**	**0.41**	**307**	P	Pb	16 49 54.0	+0.3
OXZ	**Oxford**	**0.66**	**301**	P	Pb	16 49 58.2	+0.4
OXZ	**Oxford**	**0.66**	**301**	S	Sb	16 50 07.9	+0.8
LTZ	**Lake Taylor**	**0.97**	**336**	P	Pn	16 50 03.7	-0.4
LTZ	**Lake Taylor**	**0.97**	**336**	S	Sn	16 50 17.7	-0.3
RPZ	**Rata Peaks**	**1.27**	**267**	P	Pg	16 50 08.6	-0.1
RPZ	**Rata Peaks**	**1.27**	**267**	P	Pg	16 50 10.0	+1.4
KHZ	**Kahutara**	**1.36**	**23**	P	Pn	16 50 08.9	-0.5
INZ	**Inchbonnie**	**1.38**	**313**	P	Pg	16 50 10.4	-0.2
WVZ	**Waitaha Valley**	**1.62**	**291**	P	Pb	16 50 14.0	-0.3
THZ	**Tophouse**	**1.91**	**2**	P	Pn	16 50 16.6	-0.4
LBZ	**Lake Benmore**	**2.02**	**248**	P	Pn	16 50 19.4	+0.9
DSZ	**Denniston Nort**	**2.06**	**339**	P	Pn	16 50 19.9	+0.8
ODZ	**Otahua Downs**	**2.07**	**228**	P	Pn	16 50 19.6	+0.4
BSWZ	**Blackbirch Sta**	**2.11**	**22**	P	Pn	16 50 19.6	0.0
FOZ	**Fox Glacier**	**2.18**	**273**	P	Pb	16 50 22.7	-1.0
TUWZ	**Tuamarina**	**2.39**	**21**	P	Pn	16 50 23.7	+0.1
NNZ	**Nelson**	**2.49**	**10**	P	Pn	16 50 25.2	+0.4
TCW	**Tory Channel**	**2.69**	**24**	P	Pn	16 50 27.2	-0.4
HHSZ	**Highcliff Hill**	**2.72**	**215**	P	Pn	16 50 28.2	+0.1
QRZ	**Quartz Range**	**2.85**	**356**	P	Pn	16 50 30.2	+0.3
JCZ	**Jackson Bay**	**2.94**	**261**	P	Pn	16 50 32.9	+1.8
EAZ	**Earnscleugh**	**2.95**	**237**	P	Pn	16 50 31.8	+0.6
WKZ	**Wanaka**	**2.96**	**246**	P	Pn	16 50 32.2	+0.8
CAW	**Cannon Point**	**3.06**	**34**	P	Pn	16 50 31.8	-0.9
MTW	**Mount Morrison**	**3.21**	**39**	P	Pn	16 50 33.9	-0.8
TUZ	**Tuapeka**	**3.21**	**224**	P	Pn	16 50 35.3	+0.5
OGWZ	**Otaki Gorge**	**3.35**	**32**	P	Pn	16 50 36.9	+0.2
MRZ	**Mangatainoka R**	**3.65**	**35**	P	Pn	16 50 39.6	-1.2
MSZ	**Milford Sound**	**3.65**	**252**	P	Pn	16 50 41.8	+0.9
MLZ	**Mavora Lakes**	**3.76**	**242**	P	Pn	16 50 42.9	+0.5
SYZ	**Scrubby Hill**	**3.87**	**221**	P	Pn	16 50 44.5	+0.7
BFZ	**Birch Farm**	**3.93**	**42**	P	Pn	16 50 43.7	-1.0
WHZ	**Wether Hill Ro**	**4.11**	**236**	P	Pn	16 50 46.8	-0.4
ANWZ	**Angora Road**	**4.21**	**42**	P	Pn	16 50 47.7	-0.9
PREZ	**Palmer Road**	**4.44**	**14**	P	Pn	16 50 54.4	+2.6
PKE	**Pukeiti**	**4.56**	**12**	P	Pn	16 50 55.3	+1.9

*NEIC **22** 16:52:30.0±0.0, 16°.12N×98°.58W, h5km, MD4.3(MEX), After MEX.*

MEX 22 16:52:29.9±0.5, 16°.12N×98°.58W, h4km±6km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.51**	**58**	*e*P	Pg	16 52 39.2	-0.5
PNIG				*e*S	Sg	16 52 47.0	+0.7
PNIG	**Pinotepa**	**0.51**	**58**	*e*P	Pg	16 52 39.2	-0.5
PNIG				*e*S	Sg	16 52 47.0	+0.7
TLIG	**Tlapa**	**1.43**	**1**	*e*P	Pn	16 52 52.7	-4.1
TLIG				*e*S	Sg	16 53 11.1	-4.8
TLIG	**Tlapa**	**1.43**	**1**	*e*P	Pn	16 52 52.7	-4.1
TLIG				*e*S	Sg	16 53 11.1	-4.8
ACX	**Acapulco**	**1.43**	**301**	*i* P	Pn	16 52 52.1	-4.7
ACX				*i* S	Sb	16 53 10.1	-5.8
CAIG	**El Cayaco**	**1.86**	**300**	*i* P	Pn	16 52 59.9	-2.7
CAIG				*e*S	Sn	16 53 22.2	-4.4
CAIG	**El Cayaco**	**1.86**	**300**	*i* P	Pn	16 53 00.4	-2.3
CAIG				*e*S	Sn	16 53 21.9	-4.7
VHO	**Vista Hermosa**	**2.01**	**62**	*e*P	Pn	16 53 01.8	-3.1
VHO				*i* S	Sn	16 53 25.7	-4.8
VHO	**Vista Hermosa**	**2.01**	**62**	*e*P	Pn	16 53 01.8	-3.1
VHO				*i* S	Sn	16 53 25.7	-4.8
HUIG	**Huatulco**	**2.40**	**98**	*i* P	Pn	16 53 07.8	-2.4
HUIG				*i* S	Sn	16 53 35.2	-4.9
HUIG	**Huatulco**	**2.40**	**98**	*i* P	Pn	16 53 07.8	-2.4
HUIG				*i* S	Sn	16 53 35.2	-4.9

MEX 22 16:57:04.8±0.4, 16°.04N×98°.61W, h14km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.58**	**53**	*i* P	Pg	16 57 14.6	-1.7
PNIG				*e*S	Sg	16 57 22.6	-1.4
ACX	**Acapulco**	**1.46**	**305**	*e*P	Pn	16 57 27.3	-3.5
ACX				*i* S	Sn	16 57 45.6	-4.1
TLIG	**Tlapa**	**1.52**	**1**	*e*P	Pn	16 57 28.1	-3.6
TLIG				*i* S	Sn	16 57 46.1	-5.2
CAIG	**El Cayaco**	**1.88**	**303**	*e*P	Pn	16 57 34.2	-2.4
CAIG				*i* S	Sn	16 57 55.9	-4.2
VHO	**Vista Hermosa**	**2.07**	**60**	*e*P	Pn	16 57 35.4	-4.0
VHO				*e*S	Sn	16 58 00.3	-4.8
HUIG	**Huatulco**	**2.42**	**96**	*e*P	Pn	16 57 40.8	-3.2
HUIG				*e*S	Sn	16 58 08.5	-4.9

*ISCJB **22** 17:00:28.8±0.9, 15°.96N±0°.07×98°.60W±0°.04, h10km, mb3.5/4, Error ellipse: s-maj=10.2km s-min=4.9km az=5.5*
*IDC **22** 17:00:32.1±4.7, 16°.24N×98°.55W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/47, mbtmp3.4/6, Error ellipse: s-maj=91.0km s-min=18.4km az=6.0*
*MEX **22** 17:00:32.1±0.9, 15°.88N×98°.61W, h16km±16km, MD4.2*
ISC 22 17:00:30.3±1.2, 15°.97N±0°.09×98°.57W±0°.04, h10km, n14, σ1°70/20, mb3.5/4, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.60**	**46**	*i* P	Pn	**17 00 43.0**	**-1.9**
PNIG				*i* S	Sb	**17 00 51.3**	**-0.2**
CAIG	**El Cayaco**	**1.95**	**304**	*e*P	Pn	**17 01 01.2**	**-2.2**
CAIG				*i* S	Sn	**17 01 24.9**	**-3.0**
VHO	**Vista Hermosa**	**2.08**	**58**	*e*P	Pn	**17 01 05.2**	**-0.2**
VHO				*i* S	Sn	**17 01 30.4**	**-1.2**
HUIG	**Huatulco**	**2.38**	**94**	*i* P	Pn	**17 01 08.9**	**-0.5**
HUIG				*e*S	Sn	**17 01 36.3**	**-2.4**
TPIG	**Tehuac#an**	**2.70**	**25**	*e*P	Pn	**17 01 14.3**	**+0.3**
TPIG				*i* S	Sn	**17 01 45.6**	**-1.2**
ARIG	**Puente Sto Nin**	**2.86**	**324**	*e*P	Pn	**17 01 15.2**	**-0.8**
ARIG				*i* S	Sn	**17 01 48.7**	**-1.8**
CMIG	**Matias Romero**	**3.71**	**72**	Pn	Pn	**17 01 28.4**	**+0.7**
	baz=258,slow=15,SNR=6.8						
CMIG				Pg	**Pg**	**17 01 39.1**	**-2.3**
	2.8nm,0.3s,baz=251,slow=14,SNR=7.5						
CMIG				Sn	**Sn**	**17 02 10.4**	**-1.2**
	4.7nm,0.3s,baz=264,slow=18,SNR=4.6						
CMIG				Lg	Lg	17 02 26.9	
	11nm,0.3s,baz=356,slow=23,SNR=10						
H06E1	**SOCORRO T-PHAS**	**12.12**	**285**	T	T	17 15 30.7	
	SNR=101						
H06S1	**SOCORRO T**	**12.14**	**285**	T	T	17 15 33.8	
	SNR=11						
TXAR	**Lajitas Array**	**14.10**	**341**	Pn	**Pn**	**17 03 51.7**	**+1.3**
	baz=162,slow=15,SNR=2.9						
NVAR	**Mina Array Bea**	**28.31**	**326**	P	**P**	**17 06 26.7**	**+2.2**
	0.8nm,0.8s,baz=151,slow=9.4,SNR=5.2						
PDAR	**Pinedale Array**	**28.32**	**343**	P	**P**	**17 06 25.3**	**+0.8**
	0.5nm,0.7s,baz=148,slow=8.7,SNR=5.1						
YKA	**Yellowknife Ar**	**47.82**	**350**	P	**P**	**17 09 08.7**	**+0.8**
	0.1nm,0.4s,baz=158,slow=7.5,SNR=5.1						
ILAR	**Eielson Array**	**58.59**	**338**	P	**P**	**17 10 28.9**	**+1.8**
	1.3nm,1.0s,baz=162,slow=5.7,SNR=7.4						

*ISK **22** 17:05:57.0, 39°.61N×26°.06E, h7km, ML2.3/5*
*ISCJB **22** 17:05:57.6±0.4, 39°.61N±0°.02×26°.08E±0°.03, h8km±4km, Error ellipse: s-maj=4.5km s-min=3.1km az=173.3*
*ATH **22** 17:05:57.1, 39°.60N×26°.10E, h22km±6km, ML1.5/5, Error ellipse: s-maj=6.6km s-min=0.9km az=199.0*
*CSEM **22** 17:05:57.6±0.1, 39°.61N×26°.06E, h12km, ML2.3, Error ellipse: s-maj=3.1km s-min=2.1km az=85.0*
*THE **22** 17:05:58.0, 39°.59N×26°.06E, h9km±2km, ML1.4/5, Error ellipse: s-maj=2.6km s-min=0.5km az=226.0*
*DDA **22** 17:05:59.7, 39°.82N×26°.25E, h7km, Md2.6*
ISC 22 17:05:57.2±0.8, 39°.61N±0°.01×26°.11E±0°.02, h14km±6km, n56, σ0°52/88, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.15**	**172**	PG	**Pg**	**17 06 00.9**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.15**	**172**	*e*Pg	**Pg**	**17 06 00.9**	**-0.2**
BOZC	**Bozcaada**	**0.23**	**350**	PG	**Pg**	**17 06 02.4**	**0.0**
BOZC				SG	**Sg**	**17 06 06.2**	**+0.3**
BOZC	**Bozcaada**	**0.23**	**350**	*i* P	**Pb**	**17 06 03.0**	**-0.2**
BOZC				*i* S	**Sg**	**17 06 06.2**	**+0.3**
BOZC	**Bozcaada**	**0.23**	**350**	*e*Pg	**Pg**	**17 06 02.4**	**0.0**
BOZC				*e*Sg	**Sg**	**17 06 06.2**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.36**	**69**	*i* P	**Pb**	**17 06 05.4**	**-0.1**
BAYC				*i* S	**Sb**	**17 06 11.1**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.36**	**69**	P	**Pb**	**17 06 05.4**	**-0.1**
BAYC				S	**Sb**	**17 06 11.1**	**+0.1**
PRK	**Paraskevi**	**0.39**	**160**	P	**Pb**	**17 06 06.2**	**+0.4**
PRK				S	**Sb**	**17 06 11.2**	**-0.4**
PRK				AML	AML	17 06 11.7	
	comp=E,555μm,0.6s						
PRK				AML	AML	17 06 12.1	
	comp=N,548μm,0.2s						
PRK	**Paraskevi**	**0.39**	**160**	P	**Pb**	**17 06 05.6**	**-0.2**
PRK				S	**Sb**	**17 06 11.1**	**-0.4**
PRK	**Paraskevi**	**0.39**	**160**	P	**Pb**	**17 06 05.6**	**-0.2**
PRK				S	**Sb**	**17 06 11.3**	**-0.3**
SIGR	**SIGRI**	**0.44**	**206**	PG	**Pg**	**17 06 05.8**	**-0.2**
SIGR				SG	**Sg**	**17 06 12.8**	**+0.8**
SIGR	**SIGRI**	**0.44**	**206**	P	**Pg**	**17 06 05.7**	**-0.3**
SIGR				S	**Sg**	**17 06 11.3**	**-0.7**
SIGR				AML	AML	17 06 13.9	
	comp=E,165μm,0.2s						
SIGR				AML	AML	17 06 14.9	
	comp=N,176μm,0.2s						
SIGR	**SIGRI**	**0.44**	**206**	P	**Pg**	**17 06 05.8**	**-0.2**
SIGR				S	**Sg**	**17 06 11.8**	**-0.2**
SIGR				*e*Sg	**Sg**	**17 06 12.8**	**+0.8**
SIGR	**SIGRI**	**0.44**	**206**	P	**Pg**	**17 06 05.8**	**-0.2**
SIGR				S	**Sg**	**17 06 11.8**	**-0.2**
AYVA	**Ayvalik**	**0.54**	**123**	*i* P	**Pn**	**17 06 09.6**	**-0.9**
AYVA				*i* S	**Sn**	**17 06 20.5**	**+1.2**
AYVA	**Ayvalik**	**0.54**	**123**	P	**Pn**	**17 06 09.6**	**-0.9**
AYVA				S	**Sn**	**17 06 20.5**	**+1.2**
GADA	**Gvkgeada**	**0.60**	**345**	PG	**Pg**	**17 06 08.3**	**-0.7**
GADA				SG	**Sg**	**17 06 17.4**	**+0.4**
GADA	**Gvkgeada**	**0.60**	**345**	*e*Pg	**Pg**	**17 06 08.3**	**-0.7**
GADA				*e*Sg	**Sg**	**17 06 17.4**	**+0.4**
LIA	**Limnos Island**	**0.77**	**292**	P	**Pg**	**17 06 11.3**	**-0.8**
LIA				S	**Sn**	**17 06 24.2**	**-0.7**
LIA				AML	AML	17 06 27.5	
	comp=N,78μm,0.3s						
LIA				AML	AML	17 06 30.2	
	comp=E,78μm,0.4s						
LIA	**Limnos Island**	**0.77**	**292**	P	**Pg**	**17 06 11.9**	**-0.2**
LIA				S	**Sb**	**17 06 23.5**	**+0.9**
LIA	**Limnos Island**	**0.77**	**292**	P	**Pg**	**17 06 11.9**	**-0.2**
LIA				S	**Sb**	**17 06 23.5**	**+0.9**
DKL	**Dikili**	**0.82**	**131**	PG	**Pn**	**17 06 14.3**	**0.0**
DKL	**Dikili**	**0.82**	**131**	*e*Pg	**Pn**	**17 06 14.3**	**0.0**
GELI	**Tayfur-Gelibol**	**0.84**	**20**	PG	**Pb**	**17 06 13.8**	**+0.3**
GELI				SG	**Sn**	**17 06 26.6**	**0.0**
GELI	**Tayfur-Gelibol**	**0.84**	**20**	*e*Pg	**Pb**	**17 06 13.8**	**+0.3**
GELI				*e*Sg	**Sn**	**17 06 26.6**	**0.0**
LPK	**Lapseki**	**0.91**	**33**	PG	**Pg**	**17 06 14.8**	**-0.1**
LPK	**Lapseki**	**0.91**	**33**	*e*Pg	**Pg**	**17 06 14.8**	**-0.1**
SMTH	**Samothraki Isl**	**0.97**	**333**	P	**Pb**	**17 06 15.1**	**-0.6**
SMTH				S	**Sn**	**17 06 30.1**	**+0.3**
SMTH				AML	AML	17 06 31.8	
	comp=E,33μm,0.4s						
SMTH				AML	AML	17 06 35.0	
	comp=N,45μm,0.4s						
SMTH	**Samothraki Isl**	**0.97**	**333**	P	**Pg**	**17 06 16.0**	**+0.1**
SMTH				S	**Sn**	**17 06 29.8**	**-0.1**
SMTH	**Samothraki Isl**	**0.97**	**333**	P	**Pg**	**17 06 16.0**	**+0.1**
SMTH				S	**Sn**	**17 06 29.9**	**0.0**
ERIK	**Erikli-Kesan**	**1.10**	**16**	PN	**Pn**	**17 06 18.2**	**0.0**
ERIK	**Erikli-Kesan**	**1.10**	**16**	*e*Pn	**Pn**	**17 06 18.2**	**0.0**
ENEZ	**Enez**	**1.13**	**2**	PN	**Pn**	**17 06 18.7**	**+0.2**
ENEZ	**Enez**	**1.13**	**2**	*e*Pn	**Pn**	**17 06 18.7**	**+0.2**
BALY	**Balya**	**1.18**	**83**	*i* P	**Pg**	**17 06 19.7**	**-0.2**
BALY				*i* S	**Sn**	**17 06 35.9**	**+0.8**
BALY	**Balya**	**1.18**	**83**	P	**Pg**	**17 06 19.7**	**-0.2**
BALY				S	**Sn**	**17 06 35.9**	**+0.8**
KRBG	**Karabiga-Canak**	**1.21**	**49**	PN	**Pg**	**17 06 20.3**	**-0.1**
KRBG	**Karabiga-Canak**	**1.21**	**49**	*e*Pn	**Pg**	**17 06 20.3**	**-0.1**
CHOS	**Chios island**	**1.22**	**182**	PN	**Pg**	**17 06 20.9**	**+0.1**
CHOS	**Chios island**	**1.22**	**182**	P	**Pg**	**17 06 20.6**	**-0.2**
CHOS				S	**Sg**	**17 06 36.8**	**+0.1**
CHOS	**Chios island**	**1.22**	**182**	P	**Pb**	**17

comp=N,31µm,0.7s
ALN Alexandroupoli 1.29 358 P Pg 17 06 21.7 -0.3
ALN S Sg 17 06 39.1 +0.4
ALN Alexandroupoli 1.29 358 P Pg 17 06 21.7 -0.3
ALN S Sg 17 06 39.1 +0.4
URLA Izmir 1.30 163 PN Pb 17 06 21.6 +0.1
URLA Izmir 1.30 163 ePn Pb 17 06 21.6 +0.1
RKY Sarkoy-Tekirda 1.35 37 PN Pg 17 06 23.1 -0.2
RKY Sarkoy-Tekirda 1.35 37 ePn Pg 17 06 23.1 -0.2
EDC Edincik 1.54 61 PN Pb 17 06 25.9 +0.4
EDC Edincik 1.54 61 ePn Pb 17 06 25.9 +0.4
SBT3 Marmara-Eregli 1.92 48 PN Pb 17 06 31.4 -0.4
SBT3 Marmara-Eregli 1.92 48 ePn Pb 17 06 31.4 -0.4
ARMT Armutlu 2.32 65 PN Pb 17 06 36.9 -1.9
ARMT Armutlu 2.32 65 ePn Pb 17 06 36.9 -1.9

*IDC **22** 17:08:11.9±5.7, 42°.11N×104°.53W, h0km, mb2.5/1, mb1 3.2/3, mb1mx3.0/62, mbtmp3.0/3, ML3.1/2, Error ellipse: s-maj=92.6km s-min=13.5km az=152.0*
*ISCJB **22** 17:08:19.6±1.2, 43°.5N±0°.1×105°.1W±0°.1, h0km, Error ellipse: s-maj=19.0km s-min=7.2km az=145.7*
*NEIC **22** 17:08:20.1±1.0, 43°.38N×105°.08W, h0km, ML3.0, Error ellipse: s-maj=16.8km s-min=6.6km az=145.0, Suspected Mining explosion.*
NEIC 73 km [46 miles] NNE of Douglas.

ISC 22 17:08:20.7±1.3, 43°.37N±0°.09×105°.10W±0°.09, h0km, n11, σ2s28/11, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	1.07	45	eP	Pb	17 08 41.0	-1.3
K22A	Casper	1.27	236	eP	Pb	17 08 44.5	-1.1
BW06	Boulder Array	3.32	261	eP	Pn	17 09 13.8	-0.3
PDAR	Pinedale Array	3.32	261	Pn	Pn	17 09 14.2	+0.1
	0.9nm,0.3s,baz=86,slow=15,SNR=24						
PDAR				Lg	Lg	17 09 58.5	
	20nm,0.3s,baz=76,slow=30,SNR=28						
LAO	LASA Array	3.41	347	eP	Pb	17 09 20.4	-1.6
RLMT	Red Lodge	3.47	302	eP	Pn	17 09 14.8	-1.4
GCMT	Greycliff	4.06	308	eP	Pn	17 09 24.0	-0.2
EGMT	Eagleton	5.68	327	eP	Pn	17 09 45.6	-0.8
	19nm,0.9s						
I10CA	LAC DU BONNET	9.23	39	*i*		18 00 50.0	
	baz=223,slow=315,SNR=4.1						
ULM	Lac du Bonnet	9.34	39	Pn	Pn	17 10 34.7	-1.7
	0.4nm,0.3s,baz=217,slow=16,SNR=4.6						
ULM				Sn	Sn	17 12 24.2	+2.1
	0.3nm,0.3s,baz=274,slow=19,SNR=2.2						
ULM				Lg	Lg	17 13 12.0	
	0.4nm,0.3s,baz=192,slow=20,SNR=2.2						
YKA	Yellowknife Ar	19.95	347	P	Pn	17 13 00.7	+5.1
	0.2nm,0.7s,baz=154,slow=14,SNR=5.4						

*ISK **22** 17:11:21.7, 37°.23N×38°.95E, h5km, ML2.3/5*
*ISCJB **22** 17:11:22.6±1.1, 37°.21N±0°.04×38°.98E±0°.03, h1km±7km, Error ellipse: s-maj=7.5km s-min=4.4km az=166.5*
*DDA **22** 17:11:22.1, 37°.23N×38°.98E, h7km, Ml3.0*
*CSEM **22** 17:11:23.4±0.3, 37°.23N×38°.96E, h8km, ML2.3, Error ellipse: s-maj=8.3km s-min=5.1km az=154.0*

ISC 22 17:11:22.4±1.2, 37°.21N±0°.04×38°.96E±0°.03, h4km±11km, n21, σ0s89/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	Urfa	0.26	334	PG	Pg	17 11 27.3	-0.2
URFA				SG	Sg	17 11 31.7	+0.8
URFA	Urfa	0.26	334	*i* Pg	Pg	17 11 27.3	-0.2
URFA				*i* Sg	Sg	17 11 31.7	+0.8
SURC	SANLIURFA_SURC	0.43	221	*i* P	Pb	17 11 31.7	-0.8
SURC	SANLIURFA_SURC	0.43	221	P	Pb	17 11 31.7	-0.8
DIYA	Diyarbakir	1.17	52	*i* P	Pn	17 11 46.9	+1.4
DIYA				*i* S	Sn	17 12 02.6	+0.7
DIYA	Diyarbakir	1.17	52	P	Pn	17 11 46.9	+1.4
DIYA				S	Sn	17 12 02.6	+0.7
MALT	Malatya	1.19	339	PN	Pn	17 11 44.9	-0.9
MALT				SN	Sn	17 12 02.7	+0.3
MALT	Malatya	1.19	339	ePn	Pn	17 11 44.9	-0.9
MALT				eSn	Sn	17 12 02.7	+0.3
DYBB	Diyarbakir	1.20	51	PN	Pn	17 11 45.7	-0.2
DYBB				SN	Sn	17 12 03.3	+0.7
MAZI	Mazidag	1.21	77	PN	Pn	17 11 45.7	-0.4
MAZI				SN	Sn	17 12 04.1	+1.1
MAZI	Mazidag	1.21	77	ePn	Pn	17 11 45.7	-0.4
MAZI				eSn	Sn	17 12 04.1	+1.1
DIY	Diyarbakir	1.22	55	ePn	Pn	17 11 45.7	-0.5
DIY				eSn	Sn	17 12 03.3	+0.1
GAZ	Gaziantep	1.40	269	PN	Pg	17 11 49.4	+0.2
GAZ				SN	Sg	17 12 09.5	+2.1
GAZ	Gaziantep	1.40	269	ePn	Pg	17 11 49.4	+0.2
GAZ				eSn	Sg	17 12 09.5	+2.1
MARD	Mardin	1.45	85	*i* P	Pn	17 11 49.2	-0.3
MARD				*i* S	Sg	17 12 08.9	-0.1
KUZU	Kuzuini	1.57	255	*i* P	Pg	17 11 52.1	-0.4
KUZU				*i* S	Sg	17 12 13.3	+0.4
KUZU	Kuzuini	1.57	255	P	Pg	17 11 52.1	-0.4
KUZU				S	Sg	17 12 13.3	+0.4
KMRS	Kahramanmaras	1.67	281	PN	Pg	17 11 53.7	-0.7
KMRS	Kahramanmaras	1.67	281	ePn	Pg	17 11 53.7	-0.7
PTK	Pertek	1.72	11	PN	Pb	17 11 53.7	-0.9
PTK	Pertek	1.72	11	ePn	Pb	17 11 53.7	-0.9

*IDC **22** 17:19:03.8±1.2, 7°.25S×156°.08E, h0km, mb3.8/7, mb1 3.7/8, mb1mx3.6/41, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=35.1km s-min=27.8km az=102.0*
*ISCJB **22** 17:19:08.1±0.5, 7°.4S±0°.1×156°.21E±0°.10, h44km, mb3.9/9, Error ellipse: s-maj=17.1km s-min=13.7km az=163.3*
*NEIC **22** 17:19:09.2±3.0, 7°.39S×156°.19E, h40km±31km, mb4.6/2, Error ellipse: s-maj=29.6km s-min=13.2km az=158.0*

ISC 22 17:19:09.5±0.8, 7.5S±0°.2×156°.3E±0°.1, h44km, n29, σ1s23/24, mb4.1/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	4.11	118	Pn	Pn	17 20 11.5	+1.6
	3.0nm,0.3s,baz=324,slow=14,SNR=2.2						
HNR				Sn	Sn	17 20 55.0	-1.7
	6.7nm,0.3s,baz=238,slow=8.1,SNR=3.7						
HNR	Honiara	4.11	118	P	Pn	17 20 21.0	+11
HNR				S	Sn	17 21 17.0	+20
HNR	Honiara	4.11	118	ePn	Pn	17 20 11.1	+1.3
HNR				Sn	Sn	17 20 55.0	-1.7
WR1	Warramunga Arr	24.60	238	eP	P	17 24 25.9	+0.1
	25nm,1.9s						
WRA	Warramunga Arr	24.60	238	P	P	17 24 25.9	+0.1
	0.6nm,0.8s,baz=62,slow=9.4,SNR=7.2						
ASAR	Alice Springs	26.82	231	P	P	17 24 46.1	+0.2
	0.3nm,0.9s,baz=59,slow=9.6,SNR=3.7						
H11S3	WAKE ISLAND Hy	27.79	22	T	T	17 53 14.7	
	baz=201,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	27.79	22	T	T	17 53 12.2	
	baz=201,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	27.80	22	T	T	17 53 12.2	
	baz=201,slow=76,SNR=5.8						
H11N1	WAKE ISLAND Hy	28.98	21	T	T	17 54 40.1	
	baz=201						
H11N3	WAKE ISLAND Hy	28.99	21	T	T	17 54 40.1	
	baz=201						
H11N2	WAKE ISLAND Hy	29.00	21	T	T	17 54 39.5	
	baz=201						
SONA0	Songino Array	70.44	327	eP	P	17 30 19.4	0.0
SONM	Songino Array	70.44	327	P	P	17 30 19.4	0.0
	0.3nm,0.5s,baz=133,slow=6.1,SNR=2.1						
MK01	Makanchi Array	84.60	318	eP	P	17 31 38.0	-0.4
MK31	Makanchi Array	84.61	318	eP	P	17 31 38.5	+0.1
MK32	Makanchi Array	84.61	318	eP	P	17 31 38.4	0.0
MKAR	Makanchi Array	84.61	318	P	P	17 31 38.4	0.0
	2.0nm,0.6s,baz=101,slow=6.3,SNR=28						
MKAR	Makanchi Array	84.61	318	eP	P	17 31 38.5	0.0
	13nm,0.6s						
ZALV	Zalesovo Beam	85.30	326	P	P	17 31 40.4	-1.3
	1.2nm,0.6s,baz=119,slow=6.5,SNR=6.0						
ZAA1	Zalesovo Array	85.30	326	eP	P	17 31 40.4	-1.3
KURK	Kurchatov	88.00	322	eP	P	17 31 53.9	-1.0
KURBB	Kurchatov Array	88.04	321	P	P	17 31 53.9	-1.2
	0.2nm,0.5s,baz=88,slow=5.6,SNR=6.5						
PTRM	Twissleman Ran	89.08	54	eP	P	17 31 59.0	-1.4
KDKW	Coast Env Seat	89.70	42	eP	P	17 32 03.8	+0.8
BAKC	Calstate	89.92	54	eP	P	17 32 07.4	+3.1
ALPC	Antelope	90.47	55	eP	P	17 32 06.0	-1.0
BVAR	Borovoye Array	93.45	323	P	P	17 32 18.7	-1.6
	0.5nm,0.6s,baz=108,slow=3.8,SNR=3.0						
U15A	North Rim	95.54	54	eP	P	17 32 30.9	+0.3
	3.7nm,1.3s						

*SJA **22** 17:25:47.9±0.6, 27°.20S×68°.50W, h138km±8km, ML2.9, MW3.2*
*GUC **22** 17:25:48.5±1.0, 27°.26S×68°.46W, h95km±30km, ML3.8*

ISC 22 17:25:48.0±1.3, 27°.05S±0°.04×68°.47W±0°.04, h28km±16km, n16, σ1s71/21, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	Copiap	1.66	250	⇑*i* P	Pb	17 26 16.8	-1.2
GO03				*i* S	Sn	17 26 37.7	+1.8
GO03				IAML		17 26 38.5	
	comp=E,3µm,0.3s						
VCA	Vinchina	1.70	172	eP	Pb	17 26 18.5	-0.2
VCA				eS	Sb	17 26 40.1	+0.4
VCA				IAML		17 26 40.5	
	comp=Z,108nm,0.4s						
GO02	Mina Guanaco	2.13	332	⇓*i* P	Pb	17 26 26.4	+0.3
GO02				*i* S	Sb	17 26 54.6	+2.4
GO02				IAML		17 26 57.5	
	comp=N,485nm,0.5s						
FSA	Cafayete	2.42	68	eP	Pb	17 26 29.8	-1.1
FSA				IAML		17 26 32.7	
	comp=Z,12nm,0.5s						
AGUA	GUANDACOL	2.43	180	eP	Pn	17 26 27.1	+1.1
VACH	Vallenar	2.54	233	eP	Pb	17 26 38.1	+5.3
VACH				*i* S	Sb	17 27 06.6	+3.0
CYA	Choya	2.74	121	eP	Pn	17 26 31.9	+1.7
CYA				IAML		17 26 32.0	
	comp=Z,81nm,0.2s						
CYA	Choya	2.74	121	⇓*i* P	Pn	17 26 31.8	+1.6
CYA				*i* S	Sn	17 27 02.4	0.0
LCO	Las Campanas	2.78	225	⇓*i* P	Pn	17 26 30.3	-0.6
LCO				*i* S	Sn	17 27 02.0	-1.7
LCO				IAML		17 27 03.3	
	comp=E,234nm,0.7s						
AHML	Horco Molle	2.81	85	eP	Pb	17 26 35.3	-2.2
PB14	IPOC Station P	2.98	324	eP	Pb	17 26 37.1	-3.4
APLL	PUNTA DE LOS L	3.75	153	eP	Pn	17 26 43.8	-0.2
APLL				IAML		17 27 26.7	
	comp=Z,13nm,0.4s						
AMOG	MOGNA	3.88	180	eP	Pn	17 26 45.1	-0.8
RTLL	Cerro Villicun	4.27	180	⇑*i* P	Pn	17 26 50.5	-0.6
RTLS	Leoncito	4.79	188	eP	Pn	17 26 57.9	-0.7
RTLS				IAML		17 26 58.2	
	comp=Z,14nm,0.2s						
RTCV	Cerro Valdivia	4.80	181	eP	Pn	17 26 57.7	-0.8

JMA 22 17:55:43.8±0.1, 38°.36N×144°.52E, h32km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	2.34	289	P	Pn	17 56 21.5	+1.4
OFUJ				eS	Sn	17 56 49.8	+2.1
MIYJ	Miyakonagasawa	2.43	301	P	Pn	17 56 22.5	+1.2
MIYJ				eS	Sn	17 56 50.9	+1.0
JIO	Ouri	2.49	273	P	Pn	17 56 23.5	+1.4
JIO				eS	Sn	17 56 52.8	+1.4
JMK	Ichinoseki	2.65	284	P	Pn	17 56 26.1	+1.8
JMK				eS	Sn	17 56 57.4	+2.1
JOM	Ohasama	2.75	295	P	Pn	17 56 27.5	+1.8
JOM				eS	Sn	17 56 59.7	+1.9
JANG	Nango	3.08	312	P	Pn	17 56 31.5	+1.3
JANG				eS	Sn	17 57 07.3	+1.4
JYK	Kaneyama	3.31	281	P	Pn	17 56 35.5	+2.2
JYK				eS	Sn	17 57 15.2	+3.7
JFT	Otama	3.41	257	P	Pn	17 56 37.0	+2.2
JFT				eS	Sn	17 57 16.5	+2.3
JCH	Churui	4.34	349	P	Pn	17 56 47.0	-0.5
JCH				eS	Sn	17 57 34.8	-2.2
JKB	Kayabe	4.42	324	P	Pn	17 56 50.9	+2.3
NEM2	Nemuro 2	5.08	10	P	Pn	17 56 54.8	-2.9
NEM2				eS	Sn	17 57 48.3	-7.0
JTKR	Abashiri--Toko	5.62	355	P	Pn	17 57 04.2	-0.9
JTKR				eS	Sn	17 58 04.9	-3.7

IDC 22 17:56:26.9±2.3, 6°.16S×130°.30E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.3/48, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=90.6km s-min=29.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.71	201	Pn	Pn	17 59 28.3	-0.8
	0.1nm,0.3s,baz=24,slow=10.0,SNR=3.8						
FITZ				Sn	Sn	18 01 32.9	-18
	0.2nm,0.3s,baz=131,slow=14,SNR=4.2						
WRA	Warramunga Arr	14.25	164	Pn	Pn	17 59 50.2	+0.1
	0.4nm,0.3s,baz=348,slow=12,SNR=19						
WRA				Sn	Sn	18 02 14.9	-14
	0.4nm,0.3s,baz=339,slow=22,SNR=8.6						
ASAR	Alice Springs	17.75	169	P	Pn	18 00 36.0	+0.4
	0.2nm,0.3s,baz=352,slow=12,SNR=18						
ASAR				S	Sn	18 03 38.3	-16
	0.1nm,0.3s,baz=348,slow=26,SNR=4.0						
MKAR	Makanchi Array	67.69	326	P	P	18 07 26.1	0.0
	0.2nm,0.4s,baz=114,slow=8.0,SNR=4.5						

*ISCJB **22** 17:57:24.4±0.2, 44°.50N±0°.01×6°.67E±0°.02, h9km±3km, Error ellipse: s-maj=2.6km s-min=2.0km az=137.5*
*GEN **22** 17:57:25.4, 44°.50N×6°.68E, h6km, ML1.7*
*STR **22** 17:57:25.7±0.4, 44°.52N±0°.02×6°.67E±0°.02, h5km, MLv2.5/8*
*CSEM **22** 17:57:25.0±0.1, 44°.52N×6°.68E, h10km, ML2.5/18, Error ellipse: s-maj=2.0km s-min=1.7km az=52.0*
*LDG **22** 17:57:25.4±0.0, 44°.51N×6°.68E, h2km, Md2.6/2, Ml2.6/12, Error ellipse: s-maj=0.9km s-min=0.7km az=50.0*
*ROM **22** 17:57:25.5±0.3, 44°.52N×6°.74E, h9km±1km, Md2.3/11, Ml1.7/3, Error ellipse: s-maj=3.3km s-min=1.3km az=61.0*

ISC 22 17:57:25.1±0.8, 44°.51N±0°.01×6°.68E±0°.02, h15km±6km, n86, σ0s83/143, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	Montbardon	0.22	16	ePg	Pg	17 57 30.2	-0.1
	SNR=1.0						
MBDF				eSg	Sg	17 57 33.2	-0.6
	90nm,0.3s						
MBDF	Montbardon	0.22	16	ePg	Pg	17 57 30.2	-0.1
	SNR=1.0						
MBDF				eSg	Sg	17 57 33.2	-0.6
	45nm,0.3s						
PZZ	Stroppo	0.31	91	Pg	Pg	17 57 31.7	0.0
PZZ				Sg	Sg	17 57 36.2	0.0
OG22	Abries	0.36	31	Pg	Pg	17 57 32.5	-0.1
OG22				Sg	Sg	17 57 37.8	0.0
OG22	Abries	0.36	31	Pg	Pg	17 57 32.6	-0.1
DOI	San Damiano	0.40	91	Pg	Pg	17 57 32.8	-0.5
DOI				Sg	Sb	17 57 39.1	-0.9
DOI	San Damiano	0.40	91	Pg	Pg	17 57 32.8	-0.5
DOI				Sg	Sb	17 57 39.1	-0.9
RRL	Rocca Remolon	0.41	11	P	Pg	17 57 33.8	+0.2
RRL				S	Sb	17 57 40.1	-0.3
RRL	Rocca Remolon	0.41	11	Pg	Pg	17 57 33.8	+0.2
RRL				Sg	Sb	17 57 40.2	-0.2
OG25	Le Caire	0.46	252	Pg	Pb	17 57 34.7	-0.2
OG25				Sg	Sg	17 57 40.4	-0.2
OG25	Le Caire	0.46	252	Pg	Pb	17 57 34.7	-0.2
BHB	Bricherasio	0.53	51	P	Pb	17 57 35.7	-0.3
BHB				Sg	Sg	17 57 42.3	-0.4
BHB	Bricherasio	0.53	51	Pg	Pb	17 57 35.8	-0.3
BHB				Sg	Sg	17 57 42.3	-0.4
STV	Sant Anna di V	0.53	120	P	Pg	17 57 35.6	-0.1
STV				Sg	Sg	17 57 42.4	-0.4
STV	Sant Anna di V	0.53	120	Pg	Pb	17 57 35.7	-0.5
STV				Sg	Sg	17 57 42.4	-0.4
BNI	Bardonecchia	0.54	360	Pg	Pb	17 57 36.1	-0.2
BNI				Sg	Sg	17 57 43.5	+0.4
BNI	Bardonecchia	0.54	360	Pg	Pb	17 57 36.1	-0.2
BNI				Sg	Sg	17 57 43.5	+0.4
ENR	Entracque	0.60	118	Pg	Pg	17 57 36.9	-0.1
ENR				S	Sg	17 57 44.6	-0.4
ENR	Entracque	0.60	118	Pg	Pg	17 57 36.9	-0.1
ENR				Sg	Sg	17 57 44.6	-0.4
ORIF	Oris-en-Rattie	0.70	306	ePg	Pg	17 57 38.6	-0.2
	SNR=1.0						
ORIF				eSg	Sg	17 57 47.8	-0.4
	82nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	0.70	306	ePg	Pg	17 57 38.6	-0.2
	SNR=1.0						
ORIF				eSg	Sg	17 57 47.8	-0.4
	41nm,0.3s,SNR=1.0						
RSP	Reno Superiore	0.76	33	P	Pb	17 57 40.2	+0.2
RSP				S	Sg	17 57 49.8	-0.1
RSP				Sg	Sb	17 57 51.0	+0.8
	25nm,0.4s						
RSP	Reno Superiore	0.76	33	Pg	Pb	17 57 40.2	+0.2
RSP				Sg	Sb	17 57 51.0	+0.8
	25nm,0.4s						
GDM	Grand'Maison	0.80	330	Pg	Pg	17 57 40.5	-0.2
GDM				Sg	Sg	17 57 50.7	-0.6
GDM	Grand'Maison	0.80	330	Pg	Pg	17 57 40.6	-0.2
SBF	Sospel	0.85	140	ePg	Pb	17 57 41.3	-0.2
SBF	Sospel	0.85	140	eP	Pn	17 57 43.2	+0.7
	SNR=1.0						
SBF				eSg	Sg	17 57 52.3	-0.4
	30nm,0.3s,SNR=1.0						
SBF	Sospel	0.85	140	ePg	Pb	17 57 41.3	-0.2
SBF	Sospel	0.85	140	eP	Pn	17 57 43.2	+0.7
	SNR=1.0						
SBF				eSg	Sg	17 57 52.3	-0.4
	15nm,0.3s,SNR=1.0						
GBOS	Grotte di Boss	0.87	108	P	Pb	17 57 41.9	-0.1
GBOS				S	Sg	17 57 52.5	-1.0
GBOS				Sg	Sb	17 57 53.3	-0.1
GBOS	Grotte di Boss	0.87	108	Pg	Pb	17 57 41.9	-0.1
GBOS				Sg	Sb	17 57 53.3	-0.1
FRF	La Foret Royal	0.95	182	ePg	Pb	17 57 43.4	+0.1
	SNR=1.0						
FRF	La Foret Royal	0.95	182	eP	Pn	17 57 45.1	+1.2
	SNR=1.0						
FRF				eSg	Sg	17 57 55.4	-0.6
	56nm,0.2s,SNR=1.0						
FRF	La Foret Royal	0.95	182	ePg	Pb	17 57 43.4	+0.1
	SNR=1.0						
FRF	La Foret Royal	0.95	182	eP	Pn	17 57 45.1	+1.2
	SNR=1.0						
FRF				eSg	Sg	17 57 55.4	-0.6
	28nm,0.2s,SNR=1.0						
SMRF	Simiane la Rot	0.96	236	ePg	Pg	17 57 43.5	-0.2
	SNR=1.0						
SMRF	Simiane la Rot	0.96	236	eP	Pn	17 57 45.4	+1.4
	SNR=1.0						
SMRF				eSn	Sn	17 57 57.9	+0.5
	14nm,0.3s,SNR=1.0						
SMRF	Simiane la Rot	0.96	236	ePg	Pg	17 57 43.5	-0.2
	SNR=1.0						
SMRF	Simiane la Rot	0.96	236	eP	Pn	17 57 45.4	+1.4
	SNR=1.0						
SMRF				eSn	Sn	17 57 57.9	+0.5
	6.9nm,0.3s,SNR=1.0						
LPG	La Plagne	0.98	3	ePg	Pg	17 57 44.0	-0.2
	SNR=1.0						
LPG	La Plagne	0.98	3	eP	Pn	17 57 44.9	+0.3
	SNR=1.0						
LPG				eSg	Sg	17 57 56.9	-0.3
	16nm,0.3s,SNR=1.0						
LPG	La Plagne	0.98	3	ePg	Pg	17 57 44.0	-0.2
	SNR=1.0						
LPG	La Plagne	0.98	3	eP	Pn	17 57 44.9	+0.3
	SNR=1.0						
LPG				eSg	Sg	17 57 56.9	-0.3
	8.1nm,0.3s,SNR=1.0						
GRN	Grenoble	0.99	318	Pg	Pn	17 57 44.8	+0.3
GRN				Sg	Sb	17 57 58.1	+1.3
GRN	Grenoble	0.99	318	Pg	Pn	17 57 44.8	+0.3
NEGI	Seborga	0.99	132	P	Pb	17 57 44.1	+0.1
NEGI				S	Sg	17 57 56.5	-0.8
LSD	Lago del Serru	1.00	19	P	Pg	17 57 44.2	-0.2
LSD				S	Sg	17 57 57.2	-0.4
LSD				Sg	Sb	17 57 58.0	+0.7
	18nm,0.4s						
LSD	Lago del Serru	1.00	19	Pg	Pg	17 57 44.3	-0.2
LSD				Sg	Sb	17 57 58.0	+0.7
	18nm,0.4s						
LPL	La Plagne	1.00	2	ePg	Pg	17 57 44.2	-0.4
	SNR=1.0						
LPL				eSg	Sg	17 57 57.5	-0.3
	14nm,0.3s,SNR=1.0						
LPL	La Plagne	1.00	2	ePg	Pg	17 57 44.2	-0.4
	SNR=1.0						
LPL				eSg	Sg	17 57 57.5	-0.3
	7.1nm,0.3s,SNR=1.0						
IMI	Imperia	1.06	124	Pg	Pb	17 57 45.2	+0.1
IMI				Sg	Sb	17 57 59.2	+0.4
IMI	Imperia	1.06	124	Pg	Pb	17 57 45.2	+0.1
IMI				Sg	Sb	17 57 59.2	+0.4
RORO	Rocca Rossa	1.07	112	Pg	Pb	17 57 44.9	-0.4
RORO				Sg	Sg	17 57 59.1	-0.7
	19nm,0.5s						
RORO	Rocca Rossa	1.07	112	Pg	Pb	17 57 44.9	-0.4
RORO				Sg	Sg	17 57 59.1	-0.7
	19nm,0.5s						
LMR	La Mourre	1.19	186	ePg	Pn	17 57 47.4	+0.3
	SNR=1.0						
LMR	La Mourre	1.19	186	eP	Pg	17 57 48.6	+0.6
	SNR=1.0						
LMR				eSn	Sb	17 58 02.7	+0.3
	42nm,0.2s,SNR=1.0						
LMR	La Mourre	1.19	186	ePg	Pn	17 57 47.4	+0.3
	SNR=1.0						
LMR	La Mourre	1.19	186	eP	Pg	17 57 48.6	+0.6
	SNR=1.0						
LMR				eSn	Sb	17 58 02.7	+0.3
	21nm,0.2s,SNR=1.0						
VIVF	Saint-Julien-l	1.48	284	ePn	Pn	17 57 50.9	-0.2
	SNR=1.0						
VIVF	Saint-Julien-l	1.48	284	ePg	Pb	17 57 52.5	+0.3
VIVF				eSn	Sn	17 58 10.0	-0.1
	SNR=1.0						
VIVF				eSg	Sg	17 58 12.0	-0.7
	13nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-l	1.48	284	ePn	Pn	17 57 50.9	-0.2
	SNR=1.0						
VIVF	Saint-Julien-l	1.48	284	ePg	Pb	17 57 52.5	+0.3
VIVF				eSn	Sn	17 58 10.0	-0.1
	SNR=1.0						
VIVF				eSg	Sg	17 58 12.0	-0.7
	6.6nm,0.3s,SNR=1.0						
LASF	Ste Croix	2.08	259	ePn	Pn	17 57 59.2	-0.2
	SNR=1.0						
LASF	Ste Croix	2.08	259	ePg	Pg	17 58 03.9	-1.0
LASF				eSn	Sn	17 58 24.5	-0.4
	3.1nm,0.2s		

SSF	**Saint Saulge**	**3.38**	**320**	*e*P		**Pn**	**17 58 19.0**	**+1.7**
	SNR=1.0							
BGF	**Bois d'Agland**	**3.38**	**309**	*e*P		**Pn**	**17 58 20.2**	**+2.9**
	SNR=1.0							
LOR	**Lormes**	**3.39**	**325**	*e*Sg		**Sg**	**17 59 12.8**	**-1.1**
	2.7nm,0.3s,SNR=1.0							
LOR	**Lormes**	**3.39**	**325**	*e*Sg		**Sg**	**17 59 12.8**	**-1.1**
	1.4nm,0.3s,SNR=1.0							
MTLF	**Montolieu**	**3.43**	**252**	*e*P		**Pn**	**17 58 20.7**	**+2.7**
RJF	**Les Rejaudoux**	**3.75**	**284**	*e*Pn		**Pn**	**17 58 22.1**	**-0.3**
	SNR=1.0							
RJF	**Les Rejaudoux**	**3.75**	**284**	*e*P		**Pn**	**17 58 22.1**	**-0.3**
	SNR=1.0							
LFF	**La Frestale**	**4.26**	**278**	*e*Pn		**Pn**	**17 58 29.1**	**-0.2**
LFF	**La Frestale**	**4.26**	**278**	*e*P		**Pn**	**17 58 29.1**	**-0.2**

ISCJB ***22*** *18:08:23.7±0.3, 67.°04N±0.°02×20.°88E±0.°08, h0km, Error ellipse: s-maj=4.4km s-min=2.9km az=166.8*
UPP ***22*** *18:08:24.6, 67.°05N×20.°95E, h0km, ML1.9, Mining explosion.*
CSEM ***22*** *18:08:24.7±0.2, 67.°08N×20.°94E, h2km, ML2.1, Error ellipse: s-maj=7.1km s-min=4.1km az=73.0, Mining explosion.*
HEL ***22*** *18:08:25.3±0.1, 67.°05N×20.°93E, h0km, ML2.1, ML1.9(UPP), Explosion*
IDC ***22*** *18:08:25.2±0.9, 67.°12N×21.°35E, h0km, mb1 2.9/4, mb1mx2.8/70, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=15.8km s-min=7.3km az=112.0*

ISC 22 18:08:25.0±0.7, 67.°07N±0.°02×20.°94E±0.°02, h0km, n58, σ1§00/80, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DUNU	**Dundret**	**0.15**	**289**	P	**Pg**	**18 08 28.0**		**+0.1**
DUNU				S	**Sg**	**18 08 30.7**		**+0.8**
DUNU	**Dundret**	**0.15**	**289**	P	**Pg**	**18 08 28.1**		**+0.1**
DUNU				S	**Sg**	**18 08 30.8**		**+0.8**
DUNU	**Dundret**	**0.15**	**289**	*i* P	**Pg**	**18 08 28.1**		**+0.1**
DUNU				*i* S	**Sg**	**18 08 30.8**		**+0.8**
MASU	**Masugnsbyn**	**0.56**	**46**	P	**Pg**	**18 08 35.7**		**-0.1**
MASU	**Masugnsbyn**	**0.56**	**46**	P	**Pg**	**18 08 35.7**		**-0.1**
MASU	**Masugnsbyn**	**0.56**	**46**	*i* P	**Pg**	**18 08 35.7**		**-0.1**
ERTU	**Ertsjaerv**	**0.72**	**136**	P	**Pg**	**18 08 37.9**		**-0.8**
ERTU				S	**Sg**	**18 08 48.1**		**+0.1**
ERTU	**Ertsjaerv**	**0.72**	**136**	P	**Pg**	**18 08 37.9**		**-0.8**
ERTU				S	**Sg**	**18 08 48.1**		**+0.1**
ERTU	**Ertsjaerv**	**0.72**	**136**	*e*S	**Sg**	**18 08 48.0**		**0.0**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**18 08 40.4**		**-2.0**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**18 08 40.4**		**-2.0**
HARU	**Harads**	**0.91**	**179**	*i* P	**Pg**	**18 08 40.4**		**-2.0**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**18 08 41.8**		**-0.7**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**18 08 41.8**		**-0.7**
KUA	**Kurravaara**	**0.92**	**346**	*e*P	**Pg**	**18 08 41.8**		**-0.7**
RATU	**Laukkuluspa**	**0.92**	**326**	P	**Pg**	**18 08 41.9**		**-0.7**
RATU	**Laukkuluspa**	**0.92**	**326**	P	**Pg**	**18 08 41.9**		**-0.7**
RATU	**Laukkuluspa**	**0.92**	**326**	*e*P	**Pg**	**18 08 41.9**		**-0.7**
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	**18 08 44.3**		**-1.0**
LANU				Sb	**Sb**	**18 09 00.0**		**-0.6**
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	**18 08 44.3**		**-1.0**
LANU	**Lannavaara**	**1.06**	**22**	*e*P	**Pg**	**18 08 44.1**		**-1.2**
LANU				*e*SB	**Sb**	**18 09 00.1**		**-0.6**
NIKU	**Nikkaluokta**	**1.09**	**318**	P	**Pg**	**18 08 45.0**		**-0.8**
NIKU	**Nikkaluokta**	**1.09**	**318**	P	**Pg**	**18 08 45.0**		**-0.8**
NIKU	**Nikkaluokta**	**1.09**	**318**	*e*P	**Pg**	**18 08 45.0**		**-0.8**
KALU	**Kalix**	**1.56**	**140**	Pg	**Pn**	**18 08 52.8**		**-1.1**
KALU				Sn	**Sb**	**18 09 15.1**		**+0.3**
KALU	**Kalix**	**1.56**	**140**	*e*PG	**Pn**	**18 08 52.8**		**-1.1**
KALU				*e*SN	**Sb**	**18 09 15.1**		**+0.3**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**18 08 53.6**		**-0.8**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**18 08 53.6**		**-0.8**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pn**	**18 08 53.6**		**-0.8**
TOF	**Tornio**	**1.68**	**125**	Pg	**Pn**	**18 08 55.1**		**-0.5**
TOF				Sn	**Sn**	**18 09 17.7**		**-0.1**
TOF	**Tornio**	**1.68**	**125**	*e*PG	**Pn**	**18 08 55.1**		**-0.5**
TOF				MSG		18 09 16.4		
	comp=Z,25nm,0.2s							
TOF				*e*SN	**Sn**	**18 09 17.7**		**-0.1**
HEF	**Hetta**	**1.69**	**36**	P	**Pn**	**18 08 55.2**		**-0.6**
HEF				Sn	**Sg**	**18 09 19.2**		**-0.2**
HEF	**Hetta**	**1.69**	**36**	*e*P	**Pn**	**18 08 55.2**		**-0.6**
	baz=219							
HEF				MSG		18 09 17.7		
	comp=Z,14nm,0.2s							
HEF				*e*SN	**Sg**	**18 09 19.2**		**-0.2**
KIF	**Kilpisjarvi**	**1.94**	**359**	Pb	**Pb**	**18 09 00.3**		**-0.9**
KIF				Sg	**Sg**	**18 09 27.3**		**0.0**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*PB	**Pb**	**18 09 00.3**		**-0.9**
KIF				MSG		18 09 24.2		
	comp=Z,24nm,0.2s							
KIF				*e*SG	**Sg**	**18 09 27.3**		**0.0**
SGF	**Sodankyl**	**2.20**	**78**	P	**Pn**	**18 09 03.2**		**+0.4**
SGF	**Sodankyl**	**2.20**	**78**	*e*P	**Pn**	**18 09 03.2**		**+0.4**
	baz=259							
SGF				*e*SG	**Sb**	**18 09 33.3**		**-0.1**
BURU	**Burvik**	**2.51**	**176**	*e*PB	**Pn**	**18 09 08.7**		**+1.8**
OUL	**Oulu**	**2.84**	**132**	P	**Pn**	**18 09 12.7**		**+1.2**
OUL				Sg	**Sb**	**18 09 54.1**		**+2.4**
OUL	**Oulu**	**2.84**	**132**	*e*P	**Pn**	**18 09 12.7**		**+1.2**
OUL				*e*SG	**Sb**	**18 09 54.1**		**+2.4**
ARE0	**ARCESS Array S**	**3.00**	**32**	P	**Pn**	**18 09 13.4**		**-0.3**
ARE0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pn**	**18 09 13.4**		**-0.3**
	baz=215							
ARE0				*e*S	**Sn**	**18 09 52.4**		**+2.0**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**18 09 13.8**		**+0.1**
	comp=Z,0.3nm,0.3s,baz=214,slow=14,SNR=45							
ARCES				Lg	Lg	18 09 52.7		
	comp=Z,0.8nm,0.3s,baz=215,slow=28,SNR=3.1							
OUF	**Merijarvi**	**3.13**	**148**	P	**Pn**	**18 09 16.0**		**+0.5**
OUF	**Merijarvi**	**3.13**	**148**	*e*P	**Pn**	**18 09 16.1**		**+0.5**
	baz=330							
OUF				MSG		18 09 56.6		
	comp=Z,2.6nm,0.2s							
UMAU	**Umeaa**	**3.21**	**182**	P	**Pn**	**18 09 16.8**		**+0.3**
UMAU	**Umeaa**	**3.21**	**182**	*e*P	**Pn**	**18 09 16.8**		**+0.3**
VRF	**Varrio**	**3.41**	**75**	P	**Pn**	**18 09 20.6**		**+1.2**
VRF	**Varrio**	**3.41**	**75**	*e*P	**Pn**	**18 09 20.6**		**+1.2**
MSF	**Maaselka**	**3.45**	**106**	*e*PG	**Pb**	**18 09 28.6**		**+1.7**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**18 09 24.0**		**+0.3**
	baz=291							
VAF	**Ylistaro**	**4.11**	**169**	P	**Pn**	**18 09 29.8**		**+0.8**
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**18 09 29.8**		**+0.8**
	baz=349							
HEMU	**Hemsoen**	**4.58**	**197**	P	**Pn**	**18 09 37.1**		**+1.6**
HEMU	**Hemsoen**	**4.58**	**197**	*e*P	**Pn**	**18 09 37.1**		**+1.6**
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 09 56.4**		**+0.4**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=10							
FINES				Sn	**Sn**	**18 11 04.6**		**-1.4**
	comp=Z,0.2nm,0.3s,baz=339,slow=23,SNR=10							
FINES				Lg	Lg	18 11 36.1		
	comp=Z,0.1nm,0.3s,baz=341,slow=29,SNR=2.2							
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**18 10 13.7**		**-0.4**
	comp=Z,0.1nm,0.3s,baz=71,slow=13,SNR=1.3							
NOA				Sn	**Sn**	**18 11 37.2**		**-1.5**
	comp=Z,0.1nm,0.3s,baz=4.4,slow=18,SNR=1.6							
NOA				Lg	Lg	18 12 16.3		
	comp=Z,0.1nm,0.3s,baz=40,slow=20,SNR=1.4							
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 10 18.5**		**+0.7**
	comp=Z,0.1nm,0.3s,baz=39,slow=13,SNR=2.2							
HFS				Sn	**Sn**	**18 11 43.6**		**-1.7**
	comp=Z,0.1nm,0.3s,baz=31,slow=25,SNR=1.5							

DJA 22 18:08:26.6±0.3, 0.°0N±4.°×12.°1E±°, h10km, M3.7/8, mb3.9/4, MLv3.7/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MPSI	**Mapaga**	**0.73**	**260**	P	Pb	18 08 41.2		-0.3
MPSI				S	Sb	18 08 51.5		-0.1
MRSI	**Marisa**	**1.32**	**90**	P	Pn	18 08 50.0		-1.1
MRSI				S	Sb	18 09 07.5		-1.0
PCI	**Palu**	**1.57**	**210**	P	Pn	18 08 54.5		-0.1
APSI	**Ampana**	**1.71**	**143**	P	Pn	18 08 56.6		+0.1
LUWI	**Luwuk**	**2.62**	**125**	P	Pn	18 09 11.3		+2.2
SGKI	**Sangatta, Kali**	**3.17**	**252**	P	Pn	18 09 15.9		-0.8
KMSI	**Cibinong**	**3.36**	**88**	P	Pb	18 09 23.4		-2.9
TTSI	**Tana Toraja**	**3.58**	**193**	P	Pb	18 09 28.8		-1.3
KBKI	**Kotabaru**	**5.82**	**230**	P	Pn	18 09 52.6		-0.4
LBMI	**Labuha**	**6.97**	**99**	P	Pn	18 10 09.0		+0.2

ISCJB ***22*** *18:22:20.4±0.6, 18.°56N±0.°03×145.°69E±0.°03, h183km, 5km, mb4.8/231, Error ellipse: s-maj=4.4km s-min=4.2km az=166.2*
MOS ***22*** *18:22:21.3±0.9, 18.°54N×145.°66E, h194km, mb4.9/43, Error ellipse: s-maj=8.7km s-min=5.4km az=97.7*
NEIC ***22*** *18:22:22.2±0.6, 18.°49N×145.°71E, h189km±5km, mb4.9/174, Error ellipse: s-maj=3.9km s-min=3.5km az=129.0*
GCMT ***22*** *18:22:22.2±0.3, 18.°51N×146.°02E, h184km±3km, MW5.0/88, Moment Tensor Solution. s26,c30; s88,c117; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.25±.14; Mθθ 1.73±.17; Mϕϕ -0.47±.17; Mrθ -2.62±.11; Mrϕ -0.17±.16; Mθϕ 2.13±.11; Best double couple: M0 3.71600×10^16 NP1: ϕs 125.00000°, δ80.00000°, λ-74.00000°. NP2: ϕs 247.00000°, δ19.00000°, λ-147.00000°. Principal axes: T 3.6570, Plg33.0000°, Azm202.0000°; N 0.1200, Plg16.0000°, Azm303.0000°; P -3.7750, Plg52.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***22*** *18:22:22.5, 18.°65N×145.°99E, h207km, mb4.5/34, mB4.7/29*
IDC ***22*** *18:22:24.0±0.9, 18.°42N×145.°73E, h213km±8km, mb4.1/31, mb1 4.2/35, mb1mx4.0/59, mbtmp4.6/35, Error ellipse: s-maj=11.0km s-min=6.6km az=80.0*

ISC 22 18:22:22.7±0.5, 18.°50N±0.°04×145.°80E±0.°06, h199km±4km, n487, σ1§38/521, mb4.8/231, 11C-4D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SARN	**Sarigan**	**1.79**	**181**	*e*Pn	**Pn**	**18 22 56.2**		**-2.8**
GUMO	**Guam**	**4.96**	**191**	P	**Pn**	**18 23 36.0**		**-0.7**
	54nm,0.3s,baz=38,slow=2.3,SNR=28							
GUMO				S	**S**	**18 24 34.0**		**-1.0**
	52nm,0.3s,baz=18,slow=20,SNR=6.4							
GUMO	**Guam**	**4.96**	**191**	*e*P	**Pn**	**18 23 35.7**		**-0.9**
GUMO	**Guam**	**4.96**	**191**	*e*Pn	**Pn**	**18 23 35.7**		**-0.9**
CBIJ	**Chichi jima**	**9.19**	**339**	*e*Pn	**Pn**	**18 24 29.5**		**-1.9**
CBIJ				S	**S**	**18 26 06.8**		**-7.5**
JCJ	**Chichijima**	**9.19**	**339**	P	**Pn**	**18 24 29.1**		**-2.2**
	35nm,0.3s,baz=120,slow=20,SNR=22							
JCJ				S	**S**	**18 26 06.8**		**-7.5**
	40nm,0.3s,baz=287,slow=19,SNR=5.1							
JHJ	**Hachijo jima 2**	**15.53**	**341**	P	**P**	**18 25 53.1**		**+1.6**
	20nm,0.3s,baz=268,slow=22,SNR=16							
JHJ				S	**S**	**18 28 43.2**		**-0.6**
	4.0nm,0.3s,baz=163,slow=19,SNR=4.7							
INU	**Inuyama**	**18.51**	**337**	*e*P	**P**	**18 26 24.9**		**+0.9**
	20nm,0.7s							
MJAR	**Matsushiro Arr**	**19.18**	**341**	P	**P**	**18 26 31.0**		**-0.4**
	2.8nm,0.3s,baz=164,slow=8.7,SNR=27							
MJAR				S	**S**	**18 29 57.0**		**-1.0**
	0.6nm,0.3s,baz=157,slow=26,SNR=5.7							
MJAR	**Matsushiro Arr**	**19.18**	**341**	P	**P**	**18 26 31.0**		**-0.4**
MJAR				S	**S**	**18 29 57.0**		**-1.0**
MAJO	**Matsushiro**	**19.18**	**341**	*e*P	**P**	**18 26 31.8**		**+0.4**
MAJO	**Matsushiro**	**19.18**	**341**	*e*P	**P**	**18 26 31.5**		**+0.1**
	27nm,0.6s							
MAJO				*e*S	**S**	**18 29 57.0**		**-1.1**
MAT	**Matsushiro**	**19.18**	**341**	P	**P**	**18 26 31.1**		**-0.3**
MAT				*e*S	**S**	**18 29 56.2**		**-1.8**
MJB9	**Matsu-Tunnel**	**19.19**	**341**	*e*P	**P**	**18 26 31.8**		**+0.4**
	29nm,0.5s							
JNU	**Nakatsue**	**19.78**	**320**	P	**P**	**18 26 40.0**		**+2.1**
	0.4nm,0.3s,baz=128,slow=13,SNR=3.9							
H11S3	**WAKE ISLAND Hy**	**19.81**	**87**	T	T	18 48 03.1		
	baz=278,slow=75							
H11S1	**WAKE ISLAND Hy**	**19.82**	**87**	T	T	18 48 01.0		
	baz=278,slow=75							
H11S2	**WAKE ISLAND Hy**	**19.82**	**87**	T	T	18 48 04.1		
	baz=278,slow=75							
H11N1	**WAKE ISLAND Hy**	**19.96**	**83**	T	T	18 48 08.3		
	baz=274							
H11N2	**WAKE ISLAND Hy**	**19.97**	**83**	T	T	18 48 22.3		
	baz=274							
H11N3	**WAKE ISLAND Hy**	**19.98**	**83**	T	T	18 48 05.0		
	baz=274							
MANU	**Manus Island**	**20.47**	**176**	*e*P	**P**	**18 26 44.9**		**-0.4**
	64nm,0.8s							
SRPI	**Serui, Papua**	**22.32**	**206**	P	**P**	**18 27 05.4**		**+1.3**
	92nm,1.6s							
ERM	**Erimo**	**23.55**	**355**	*e*P	**P**	**18 27 15.5**		**+0.5**
SWI	**Sorong**	**23.97**	**218**	P	**P**	**18 27 18.8**		**-0.3**
	40nm,1.4s,1μm							
TGY	**Tagaytay City**	**24.25**	**263**	P	**P**	**18 27 22.0**		**+0.2**
	101nm,0.4s,baz=87,slow=19,SNR=2.8							
KSRS	**Korea Array**	**24.54**	**324**	P	**P**	**18 27 23.4**		**-0.7**
	4.1nm,0.5s,baz=142,slow=8.8,SNR=18							
KSRS				ScP	**ScP**	**18 34 14.7**		**-2.0**
	1.0nm,0.9s,baz=128,slow=2.0,SNR=3.4							
KS15	**Wonju Array Si**	**24.55**	**324**	*e*P	**P**	**18 27 24.6**		**+0.4**
KSAR	**Wonju Array Be**	**24.55**	**324**	P	**P**	**18 27 23.4**		**-0.8**
KSAR	**Wonju Array Be**	**24.55**	**324**	P	**P**	**18 27 23.4**		**-0.8**
KSAR				ScP	**ScP**	**18 34 14.7**		**-2.0**
KS01	**Wonju Array Si**	**24.57**	**324**	*e*P	**P**	**18 27 24.5**		**+0.1**
FAKI	**Fak Fak**	**25.12**	**213**	P	**P**	**18 27 28.7**		**-0.8**
	28nm,1.2s,606nm							
FAKI	**Fak Fak**	**25.12**	**213**	*e*P	**P**	**18 27 29.4**		**-0.1**
	62nm,1.3s							
ASAJ	**Asahikawa**	**25.69**	**355**	P	**P**	**18 27 36.0**		**+1.7**
	17nm,1.1s,baz=211,slow=12,SNR=40							
ASAJ	**Asahikawa**	**25.69**	**355**	*e*P	**P**	**18 27 35.6**		**+1.3**
	31nm,1.3s							
LBMI	**Labuha**	**26.18**	**225**	P	**P**	**18 27 40.1**		**+1.0**
	18nm,1.2s							
PMG	**Port Moresby**	**27.76**	**177**	*e*P	**P**	**18 27 54.6**		**+1.5**
PMG				pmax	pmax			
	comp=Z,96nm,1.0s							
NJ2	**Nanjing**	**27.77**	**304**	*e*P	**P**	**18 27 53.6**		**+0.6**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**28.13**	**339**	P	**P**	**18 27 56.8**		**+0.7**
	comp=Z,3.7nm,0.6s,baz=152,slow=9.6,SNR=8.5							
YSS	**Yuzh-Sakhalins**	**28.49**	**356**	*e*P	**P**	**18 27 59.7**		**+0.4**
YSS				*e**SP	**sP**	**18 29 04.7**		**+1.9**
YSS				*e*S	**S**	**18 32 32.2**		**+0.3**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.5s							
YSS	**Yuzh-Sakhalins**	**28.49**	**356**	*e*P	**P**	**18 27 60.0**		**+0.7**
	comp=Z,74nm,1.5s							
MDJ	**Mudanjiang**	**29.36**	**336**	P	**P**	**18 28 06.3**		**-0.7**
MDJ				pP	pP	18 28 48.4		+0.8
MDJ				sP	sP	18 29 12.0		+1.3
MDJ				pmax	pmax			
	comp=Z,140nm,4.8s							
WHN	**Wuhan**	**30.92**	**299**	P	**P**	**18 28 24.9**		**+4.0**
TYV	**Tymovskoe**	**32.39**	**356**	*e*P	**P**	**18 28 34.5**		**+1.0**
TYV				*e*S	**S**	**18 33 35.8**		**+3.1**
TYV				pmax	pmax			
	comp=Z,300nm,4.9s							
TYV				pmax	pmax			
	comp=Z,20nm,1.6s							
TYV				smax	smax			
	comp=E,400nm,5.1s							
TYV				smax	smax			
	comp=N,20nm,2.0s							
KLR	**Kul'dur**	**32.69**	**343**	P	**P**	**18 28 36.8**		**+0.7**
	comp=N,1.4nm,0.5s,baz=160,slow=8.1,SNR=16							
KLR	**Kul'dur**	**32.69**	**343**	*d* P	**P**	**18 28 36.2**		**+0.1**
GRNR	**Gornyy**	**33.06**	**349**	*e*P	**P**	**18 28 40.2**		**+0.9**
GRNR				pmax	pmax			
	comp=Z,22nm,0.6s							
TTSI	**Tana Toraja**	**33.36**	**233**	P	**P**	**18 28 44.2**		**+1.9**
	comp=Z,51nm,1.2s,comp=Z,718nm							
MTN	**Manton Dam**	**34.34**	**206**	*e*P	**P**	**18 28 51.1**		**+0.4**
	comp=Z,53nm,1.2s							
NKL	**Nikolayevsk**	**34.81**	**355**	*i* P	**P**	**18 28 55.5**		**+1.2**
NKL				pmax	pmax			
	comp=N,19nm,0.9s							
NKL				pmax	pmax			
	comp=Z,82nm,0.9s							
SOEI	**Soe**	**35.21**	**219**	P	**P**	**18 28 57.3**		**-1.0**
	comp=Z,44nm,0.9s							
SOEI	**Soe**	**35.21**	**219**	*e*P	**P**	**18 28 57.6**		**-0.8**
	comp=Z,31nm,0.8s							
PETK	**Petropavlovsk-**	**35.77**	**12**	P	**P**	**18 29 04.1**		**+1.6**
	comp=Z,9.8nm,0.7s,baz=191,slow=6.8,SNR=27							
PETK				ScP	**ScP**	**18 34 49.9**		**-3.1**
	comp=Z,2.6nm,0.6s,baz=188,slow=3.1,SNR=6.0							
PETK	**Petropavlovsk-**	**35.77**	**12**	*e*P	**P**	**18 29 03.9**		**+1.4**
PEA1	**Petropavlovsk-**	**35.77**	**12**	*e*P	**P**	**18 29 04.1**		**+1.6**
PEA1				*e*ScP	**ScP**	**18 34 49.9**		**-3.1**
SBUM	**Sibu**	**36.56**	**248**	*e*P	**P**	**18 29 11.1**		**+1.3**
	comp=Z,54nm,1.6s							

HHC	**Hu-ho-hao-te**	**36.81**	**315**	*e*P	**P**	**18 29 13.3**		**+1.6**
HHC				pmax	pmax			
	comp=Z,59nm,4.0s							
ZEA	**Zeya**	**37.99**	**342**	*e*P	**P**	**18 29 20.6**		**-0.6**
ZEA				pmax	pmax			
	comp=Z,17nm,1.0s							
STKI	**Sintang**	**38.37**	**245**	P	**P**	**18 29 23.9**		**-1.0**
	comp=Z,14nm,1.7s							
KSM	**Kuching**	**38.70**	**248**	*e*P	**P**	**18 29 28.3**		**+0.6**
	comp=Z,12nm,0.9s							
WRAB	**Tennant Creek**	**39.81**	**197**	*c**e*P	**P**	**18 29 36.2**		**-0.5**
WRAB				pmax	pmax			
	comp=Z,29nm,1.2s							
WRAB	**Tennant Creek**	**39.81**	**197**	*e*P	**P**	**18 29 36.5**		**-0.2**
WRAB				*e*pP	**pP**	**18 30 16.8**		**-2.1**
WR1	**Warramunga Arr**	**39.82**	**197**	*e*P	**P**	**18 29 36.8**		**-0.1**
	comp=Z,28nm,1.0s							
WR1				*e*PcP	**PcP**	**18 31 38.4**		**-0.4**
WR1				*e*ScP	**ScP**	**18 35 06.6**		**-2.3**
WRA	**Warramunga Arr**	**39.82**	**197**	P	**P**	**18 29 36.8**		**-0.1**
	comp=Z,15nm,0.9s,baz=20,slow=8.4,SNR=101							
WRA				PcP	**PcP**	**18 31 38.4**		**-0.5**
	comp=Z,1.4nm,0.6s,baz=17,slow=3.6,SNR=5.1							
WRA				ScP	**ScP**	**18 35 06.6**		**-2.3**
	comp=Z,2.9nm,0.9s,baz=14,slow=4.3,SNR=11							
CD2	**Chengdu**	**39.92**	**296**	*e*P	**P**	**18 29 38.5**		**+0.8**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,140nm,5.0s							
KMI	**Kunming**	**40.39**	**287**	P	**P**	**18 29 43.3**		**+1.5**
KMI				pmax	pmax			
	comp=Z,9.0nm,0.5s							
LZH	**Lanzhou**	**40.84**	**304**	*e*P	**P**	**18 29 47.3**		**+2.0**
LZH				pP	pP	18 30 31.4		+3.8
LZH				sP	sP	18 30 55.3		+5.1
LZH				*e*PP	**PP**	**18 31 26.5**		**+2.8**
LZH				S	**S**	**18 35 42.3**		**+0.7**
LZH				sS	sS	18 36 58.0		+1.9
LZH				SS	**SS**	**18 38 45.3**		**-5.9**
LZH				pmax	pmax			
	comp=Z,25nm,1.1s							
LZH				pmax	pmax			
	comp=Z,110nm,4.6s							
MA2	**Magadan**	**41.18**	**4**	*c**e*P	**P**	**18 29 48.4**		**+0.9**
ULN	**Ulaanbaatar**	**42.99**	**322**	*c**e*P	**P**	**18 30 02.1**		**-0.4**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ULN	**Ulaanbaatar**	**42.99**	**322**	*e*P	**P**	**18 30 02.0**		**-0.4**
	comp=Z,16nm,1.7s							
PHIT	**Phitsanulok**	**43.14**	**276**	P	P	18 30 14.0		+10
SONA0	**Songino Array**	**43.36**	**321**	*e*P	**P**	**18 30 05.6**		**+0.2**
SONA0				*e*PP	**PcP**	**18 31 49.8**		**-0.5**
SONA0				*e*ScP	**ScP**	**18 35 20.0**		**-2.8**
SONM	**Songino Array**	**43.36**	**321**	P	**P**	**18 30 05.6**		**+0.2**
	comp=Z,3.5nm,0.5s,baz=137,slow=10.0,SNR=39							
SONM				PcP	**PcP**	**18 31 49.8**		**-0.6**
	comp=Z,1.5nm,0.9s,baz=139,slow=3.9,SNR=2.1							
SONM				ScP	**ScP**	**18 35 20.0**		**-2.8**
	comp=Z,0.3nm,0.5s,baz=131,slow=3.0,SNR=3.9							
SONA1	**Songino Array**	**43.36**	**321**	*e*P	**P**	**18 30 05.7**		**+0.3**
AS01	**Alice Springs**	**43.47**	**196**	*e*P	**P**	**18 30 06.5**		**+0.1**
AS31	**Alice Springs**	**43.48**	**196**	*e*P	**P**	**18 30 07.5**		**+1.0**
	comp=Z,1.6nm,0.6s							
ASAR	**Alice Springs**	**43.49**	**196**	P	**P**	**18 30 06.1**		**-0.4**
	comp=Z,2.6nm,0.8s,baz=15,slow=7.1,SNR=39							
ASAR				PcP	**PcP**	**18 31 50.5**		**-0.4**
	comp=Z,0.9nm,0.8s,baz=14,slow=4.8,SNR=3.0							
ASAR				ScP	**ScP**	**18 35 22.0**		**-1.5**
	comp=Z,1.2nm,0.8s,baz=17,slow=4.8,SNR=5.8							
CM01	**Chiang Mai Arr**	**44.33**	**278**	*e*P	**P**	**18 30 14.8**		**+1.4**
MYKOM	**Kota Tinggi**	**44.34**	**253**	*e*P

ZAA0 **Zalesovo Array** 58.24 323 *e*P P 18 31 56.1 +0.1
comp=Z,9.2nm,0.6s
ZALV **Zalesovo Beam** 58.24 323 P P 18 31 56.1 +0.1
comp=Z,9.2nm,0.6s,baz=111,slow=8.1,SNR=51
ZALV **Zalesovo Beam** 58.24 323 *e*P P 18 31 55.8 -0.3
ZALV **Zalesovo Beam** 58.24 323 *e*P P 18 31 55.8 -0.3
ZAA1 **Zalesovo Array** 58.24 323 *e*P P 18 31 56.1 +0.1
MK01 **Makanchi Array** 58.66 314 *e*P P 18 32 00.1 +0.8
MK31 **Makanchi Array** 58.67 314 *e*P P 18 31 59.9 +0.6
MK31 **Makanchi Array** 58.67 314 *e*P P 18 31 59.9 +0.6
MK32 **Makanchi Array** 58.67 314 *e*P P 18 31 58.9 -0.4
MK32 eScP ScP 18 36 24.3 -4.2
MKAR **Makanchi Array** 58.67 314 P P 18 31 58.9 -0.4
comp=Z,2.3nm,0.5s,baz=90,slow=8.8,SNR=32
MKAR ScP ScP 18 36 24.3 -4.2
comp=Z,0.2nm,0.6s,baz=91,slow=6.3,SNR=2.0
MKAR **Makanchi Array** 58.67 314 *e*P P 18 31 59.9 +0.6
comp=Z,17nm,0.6s
MKAR ScP ScP 18 36 24.3 -4.2
MAKZ **Makanchi** 58.89 314 P P 18 32 01.2 +0.4
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
SVW2 **Sparrevohn** 58.95 29 *e*P P 18 32 02.5 +1.6
comp=Z,20nm,0.7s
OHAK **Old Harbor** 58.96 34 *e*P P 18 32 02.5 +1.5
comp=Z,50nm,0.9s
NVS **Novosibirsk** 59.33 323⇑ *i*P P 18 32 03.8 +0.2
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=Z,4.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.6s
KDAK **Kodiak Island** 59.47 33 *i*P P 18 32 05.4 +0.9
PDGK **Podgornoye** 60.41 310 P P 18 32 10.1 -1.3
PDGK pmax pmax
comp=Z,2.0nm,0.5s
BRLK **Bradley Lake** 60.81 31 *e*P P 18 32 14.1 +0.5
comp=Z,30nm,0.7s
PPLA **Purkeypile** 61.03 28 *e*P P 18 32 16.5 +1.3
comp=Z,32nm,1.2s
PRZ **Przheval'sk** 61.19 309 P P 18 32 19.2 +2.5
CAST **Castle Rocks** 61.23 27 *e*P P 18 32 17.5 +1.1
comp=Z,39nm,0.8s
SUA **Susitna One** 61.30 29 *e*P P 18 32 17.6 +0.6
comp=Z,19nm,0.8s
KURK **Kurchatov** 61.49 318 *ce*P P 18 32 18.2 -0.1
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK **Kurchatov** 61.49 318 *e*P P 18 32 18.4 +0.1
comp=Z,7.1nm,0.6s
KURBB **Kurchatov Arra** 61.54 318 P P 18 32 19.0 +0.4
comp=Z,7.7nm,0.5s,baz=96,slow=6.9,SNR=66
RC01 **Rabbit Creek A** 61.68 30 *e*P P 18 32 19.6 +0.3
comp=Z,38nm,0.7s
KTH **Kantishna Hill** 61.77 27 *e*P P 18 32 20.7 +0.7
comp=Z,71nm,1.2s
BPAW **Bear Paw Mtn.** 61.89 26 *e*P P 18 32 21.9 +1.1
comp=Z,73nm,1.2s
TRF **Thorofare Moun** 62.02 27 *e*P P 18 32 22.2 +0.4
comp=Z,44nm,1.0s
PMR **Palmer** 62.08 29 *e*P P 18 32 22.3 +0.3
PMR pmax pmax
comp=Z,36nm,1.0s
PMR **Palmer** 62.08 29 *e*P P 18 32 22.3 +0.3
comp=Z,36nm,1.0s
KDJ **Kajisay** 62.09 308 P P 18 32 24.2 +1.5
KDJ pmax pmax
comp=Z,7.0nm,1.2s
KDJ **Kajisay** 62.09 308 *e*P P 18 32 24.2 +1.5
comp=Z,7.1nm,1.2s
GHO **Glory Hole Cre** 62.22 29 *e*P P 18 32 23.5 +0.4
comp=Z,30nm,0.7s
MLY **Manley** 62.26 25 *e*P P 18 32 24.4 +1.2
comp=Z,41nm,1.2s
SML **Sawmill** 62.50 29 *e*P P 18 32 25.7 +0.8
SML pmax pmax
comp=Z,91nm,0.9s
SML **Sawmill** 62.50 29 *e*P P 18 32 25.6 +0.8
comp=Z,91nm,0.9s
RND **Reindeer** 62.63 27 *e*P P 18 32 26.0 +0.3
RND pmax pmax
comp=Z,17nm,0.8s
RND **Reindeer** 62.63 27 *e*P P 18 32 26.0 +0.3
comp=Z,17nm,0.8s
MCK **McKinley** 62.67 27 *e*P P 18 32 26.4 +0.4
MCK pmax pmax
comp=Z,39nm,1.3s
MCK **McKinley** 62.67 27 *e*P P 18 32 26.4 +0.4
comp=Z,39nm,1.3s
GLI **Glacier Island** 62.89 30 *e*P P 18 32 28.5 +1.0
comp=Z,93nm,1.5s
SCM **Sheep Creek Mo** 62.97 29 *e*P P 18 32 29.2 +1.2
SCM pmax pmax
comp=Z,91nm,0.9s
SCM **Sheep Creek Mo** 62.97 29 *e*P P 18 32 29.2 +1.2
comp=Z,91nm,0.9s
NRN **Naryn** 62.98 308 P P 18 32 31.3 +2.5
NRN pmax pmax
comp=Z,3.0nm,1.0s
KSH **Kashi** 63.07 305 *e*P P 18 32 34.0 +4.8
KSH S S 18 40 45.1 +1.0
KSH sS ScS 18 42 07.8 +5.1
KSH pmax pmax
comp=Z,91nm,6.8s
KSH LR LR
comp=Z,67nm,7.8s
KSH LR LR
comp=Z,82nm,8.6s
KSH LR LR
comp=Z,110nm,8.0s
COLD **Coldfoot** 63.10 23 *e*P P 18 32 30.1 +1.4
comp=Z,26nm,1.2s
DHY **Denali Highway** 63.21 28 *e*P P 18 32 30.4 +0.7
comp=Z,29nm,1.3s
WRH **Wood River Hil** 63.21 26 *e*P P 18 32 29.9 +0.5
comp=Z,33nm,1.2s
TKM2 **Tokmak 2** 63.26 309 P P 18 32 31.0 +0.6
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
MDM **Murphy Dome** 63.27 26 *e*P P 18 32 30.2 +0.4
comp=Z,19nm,0.7s
CCB **Clear Creek Bu** 63.37 26 *e*P P 18 32 30.7 +0.2
comp=Z,24nm,1.3s
COLA **College** 63.40 26 *e*P P 18 32 31.3 +0.6
COLA pmax pmax
comp=Z,13nm,0.9s
EYAK **Cordova Ski Ar** 63.49 31 *e*P P 18 32 33.1 +1.8
comp=Z,27nm,0.7s
KLU **Klutina** 63.56 30 *e*P P 18 32 33.2 +1.3
comp=Z,51nm,1.2s
DIV **Divide** 63.57 30 *e*P P 18 32 33.6 +1.6
comp=Z,66nm,1.4s
HDA **Harding Lake** 63.68 27 *e*P P 18 32 32.2 -0.4
comp=Z,11nm,0.8s
TOLK **Toolik Lake Re** 63.74 22 P P 18 32 34.5 +1.5
baz=253
TOLK **Toolik Lake Re** 63.74 22 *e*P P 18 32 34.6 +1.7
comp=Z,45nm,1.3s
IL1 **Eielson Array** 63.78 26 *e*P P 18 32 32.4 -0.8
ILAR **Eielson Array** 63.78 26 P P 18 32 32.9 -0.3
comp=Z,13nm,0.9s,baz=259,slow=4.9,SNR=90
ILB **Eielson Array** 63.78 26 *e*P P 18 32 32.7 -0.5
PAX **Paxson** 64.04 28 *e*P P 18 32 35.8 +0.8
PAX pmax pmax
comp=Z,18nm,0.7s
PAX **Paxson** 64.04 28 *e*P P 18 32 35.8 +0.8
comp=Z,18nm,0.7s
AAK **Ala-Archa** 64.07 309 *e*P P 18 32 35.3 -0.4
AAK pmax pmax
comp=Z,1.0nm,0.9s
HARP **HAARP** 64.08 29 *e*P P 18 32 36.6 +1.3
comp=Z,50nm,0.8s
BMRM **Bremner River** 64.11 31 *e*P P 18 32 36.6 +1.2
comp=Z,82nm,1.2s
RIDG **Independ'e Rid** 64.45 27 *e*P P 18 32 38.2 +0.5
comp=Z,49nm,1.2s
DOT **Dot Lake** 64.78 28 *e*P P 18 32 40.3 +0.6
comp=Z,55nm,0.9s
MENT **Mentasta** 64.82 28 *e*P P 18 32 41.5 +1.5
comp=Z,6.6nm,0.6s
FYU **Fort Yukon** 64.83 24 *e*P P 18 32 41.3 +1.4
comp=Z,128nm,1.5s
SCRK **Sand Creek** 64.87 27 *e*P P 18 32 40.8 +0.3
comp=Z,24nm,1.0s
SFK **Sufi-Kurgan** 64.94 306 P P 18 32 42.3 +0.8
SFK pmax pmax
comp=Z,3.0nm,1.3s
OTUK **Ortayu** 65.48 315 P P 18 32 44.7 +0.2
OTUK pmax pmax
comp=Z,4.0nm,0.7s
EGAK **Eagle** 66.20 27 *e*P P 18 32 49.7 +0.9
comp=Z,36nm,1.6s
BVA0 **Borovoye Array** 66.69 320 *i*P P 18 32 51.5 -0.6
BVA0 pmax pmax
comp=Z,13nm,0.8s
BVAR **Borovoye Array** 66.69 320 P P 18 32 52.4 +0.2
comp=Z,14nm,0.8s,baz=91,slow=7.2,SNR=54
BRVK **Borovoye** 66.76 321 *ce*P P 18 32 53.2 +0.7
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK **Borovoye** 66.76 321 *e*P P 18 32 52.8 +0.3
comp=Z,10nm,0.8s
DAWY **Dawson** 66.89 27 *e*P P 18 32 54.4 +1.2
comp=Z,40nm,1.5s
KK31 **Karatay Array** 66.97 310 P P 18 32 53.8 -0.3
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR **Karatay Array** 66.97 310 *e*P P 18 32 55.1 +1.0
KKAR **Karatay Array** 66.97 310 *e*P P 18 32 55.1 +1.0
SKAG **Skagway** 68.61 33 *e*P P 18 33 06.0 +2.0
comp=Z,18nm,0.8s
WHY **Whitehorse** 68.83 31 *e*P P 18 33 07.0 +1.5
comp=Z,39nm,1.3s
INK **Inuvik** 69.52 23 *e*P P 18 33 09.9 +0.5
INK pmax pmax
comp=Z,18nm,0.8s
INK **Inuvik** 69.52 23 *e*P P 18 33 09.9 +0.5
comp=Z,18nm,0.8s
DLBC **Dease Lake** 71.40 34 *e*P P 18 33 22.8 +1.8
comp=Z,55nm,1.4s
SVE **Sverdlovsk** 72.10 325 *e*P P 18 33 26.0 +0.9
SVE pmax pmax
comp=Z,12nm,1.0s
ARU **Arti** 73.29 325 *c i*P P 18 33 31.9 -0.2
ARU 18 33 47.8
ARU *PP pP 18 34 15.5 -4.0
ARU 18 36 13.6
ARU S S 18 42 44.3 +0.2
ARU pmax pmax
comp=Z,15nm,1.2s
ARU **Arti** 73.29 325 *e*P P 18 33 32.1 0.0
comp=Z,9.0nm,0.7s
AB06 **Akbulak array** 73.54 317 *e*P P 18 33 33.1 -0.7
AB07 **Akbulak array** 73.55 317 *e*P P 18 33 33.2 -0.6
AB02 **Akbulak array** 73.55 317 *e*P P 18 33 33.5 -0.3
AB05 **Akbulak array** 73.55 317 *e*P P 18 33 33.5 -0.3
AB01 **Akbulak array** 73.56 317 *e*P P 18 33 33.5 -0.3
AB03 **Akbulak array** 73.56 317 *e*P P 18 33 32.7 -1.2
AB31 **Akbulak array** 73.56 317 *e*P P 18 33 33.3 -0.6
AB31 **Akbulak array** 73.56 317 *e*P P 18 33 33.3 -0.6
ABKAR **Akbulak array** 73.56 317 *e*P P 18 33 33.3 -0.6
comp=Z,46nm,0.6s
AB04 **Akbulak array** 73.56 317 *e*P P 18 33 33.5 -0.3
AB08 **Akbulak array** 73.57 317 *e*P P 18 33 33.6 -0.4
AB09 **Akbulak array** 73.57 317 *e*P P 18 33 33.1 -0.8
AKTO **Aktyubinsk** 74.58 318 P P 18 33 38.4 -1.4
comp=Z,1.5nm,0.5s,baz=84,slow=12,SNR=9.2
AKTO **Aktyubinsk** 74.58 318 P P 18 33 38.9 -0.9
AKTO pmax pmax
comp=Z,2.0nm,0.7s
DGAR **Diego Garcia** 76.75 257 *e*P P 18 33 52.0 -0.7
NLWA **Neilton Lookou** 76.84 44 *e*P P 18 33 54.2 +1.5
comp=Z,54nm,1.4s
GEYT **Alibeck** 77.10 306 P P 18 33 54.4 0.0
comp=Z,0.9nm,0.6s,baz=73,slow=6.3,SNR=4.2
LLLB **Lillooet** 77.37 41 *e*P P 18 33 56.9 +1.3
comp=Z,56nm,1.8s
G03D **McMinnville, O** 77.75 46 P P 18 33 59.1 +1.4
baz=284
B05A **Bryant** 77.80 43 P P 18 33 59.5 +1.6
baz=284
I03D **Drain, OR** 78.06 48 P P 18 34 01.3 +1.8
baz=284
YKW3 **Yellowknife Ar** 78.09 28 *e*P P 18 33 59.5 +0.2
comp=Z,12nm,0.7s
YKA **Yellowknife Ar** 78.12 28 P P 18 33 59.7 +0.3
comp=Z,10nm,0.7s,baz=289,slow=5.5,SNR=162
D05A **Enumclaw** 78.13 44 *e*P P 18 34 02.1 +2.3
comp=Z,53nm,1.2s
L02D **Cave Junction,** 78.25 49 P P 18 34 02.3 +1.6
baz=284
LON **Longmire** 78.36 45 *e*P P 18 34 02.5 +1.3
LON pmax pmax
comp=Z,25nm,1.4s
LON **Longmire** 78.36 45 *e*P P 18 34 02.5 +1.3
comp=Z,25nm,1.4s
HUMO **Hull Mountain** 78.61 49 *e*P P 18 34 04.5 +2.0
comp=Z,11nm,0.6s
H04A **Detroit Lake** 78.62 47 *e*P P 18 34 03.7 +1.1
comp=Z,36nm,1.3s
C06D **Leavworth** 78.66 43 P P 18 34 03.7 +1.0
baz=285
I04A **Tendick Farm,** 78.69 48 P P 18 34 04.1 +1.0
baz=285
LTY **Liberty** 78.98 44 *e*P P 18 34 04.0 -0.5
comp=Z,65nm,1.6s
M02C **Callahan** 78.99 50 P P 18 34 06.5 +1.8
baz=285
YBH **Yreka Blue Hor** 79.01 50 P P 18 34 05.8 +0.9
comp=Z,7.4nm,0.7s,baz=3.4,slow=2.6,SNR=9.2
YBH **Yreka Blue Hor** 79.01 50 *e*P P 18 34 05.9 +1.1
YBH pmax pmax
comp=Z,40nm,1.5s
YBH **Yreka Blue Hor** 79.01 50 *e*P P 18 34 05.9 +1.1
comp=Z,40nm,1.5s
J04D **Umpqua Nationa** 79.05 48 P P 18 34 06.3 +1.1
baz=285,SNR=6.7
G05D **Wamic, OR** 79.08 46 P P 18 34 06.2 +1.2
baz=285
N02D **Trinity Center** 79.21 50 P P 18 34 07.1 +1.2
baz=285,SNR=5.7
I05D **Terrebonne, OR** 79.30 47 P P 18 34 07.4 +1.1
baz=285
SPITS **Spitsbergen Ar** 79.38 351 P P 18 34 07.2 +1.2
comp=Z,1.2nm,0.4s,baz=35,slow=5.3,SNR=19
WDC **Whiskeytown Da** 79.43 51 *e*P P 18 34 08.7 +1.7
comp=Z,13nm,1.3s
K04D **Chiloquin, OR** 79.46 49 P P 18 34 08.4 +1.1
baz=285,SNR=5.3
B08A **Colville Reser** 79.56 43 *e*P P 18 34 08.7 +1.1
comp=Z,22nm,0.6s
RES **Resolute Bay** 79.60 14 *e*P P 18 34 07.8 +0.6
RES pmax pmax
comp=Z,13nm,0.8s
RES **Resolute Bay** 79.60 14 *e*P P 18 34 07.8 +0.6
comp=Z,13nm,0.8s
M04C **Macleod** 79.62 49 P P 18 34 09.7 +1.5
baz=286,SNR=8.5
J05D **Fort Rock, OR** 79.65 48 P P 18 34 10.0 +1.6
baz=286
GDXM **Geysers** 79.71 53 *e*P P 18 34 10.7 +2.0
comp=Z,61nm,1.7s
E07A **Sunnyside** 79.71 44 *e*P P 18 34 10.1 +1.6
comp=Z,21nm,0.6s
PINE **Pine Mountain** 79.72 47 *e*P P 18 34 10.6 +1.8
comp=Z,52nm,0.8s
O03D **Paynes Creek** 80.05 51 P P 18 34 11.3 +0.8
baz=286
D08A **Wollman Farm,** 80.19 44 *e*P P 18 34 12.1 +1.2
comp=Z,18nm,0.6s
E08A **Dider Farm, El** 80.25 44 *e*P P 18 34 12.7 +1.3
comp=Z,52nm,1.5s
C09A **Chrisman Ranch** 80.39 43 *e*P P 18 34 13.1 +1.0
comp=Z,18nm,0.6s
WSAR **Wadi Sarin** 80.40 291 P P 18 34 13.4 +0.8
comp=Z,3.1nm,0.9s,baz=76,slow=8.3,SNR=3.3
ORV **Oroville** 80.47 52 *e*P P 18 34 13.5 +0.9
ORV pmax pmax
comp=Z,25nm,1.2s
ORV **Oroville** 80.47 52 *e*P P 18 34 13.5 +0.9
comp=Z,25nm,1.2s
G08A **Pilot Rock** 80.67 45 *e*P P 18 34 15.1 +1.3
comp=Z,7.1nm,0.9s
MOD **Modoc Plateau** 80.69 49 *e*P P 18 34 15.1 +1.2
comp=Z,41nm,1.4s
E09A **Wood Farm, Sta** 80.85 44 *e*P P 18 34 16.1 +1.6
comp=Z,20nm,0.7s
NEW **Newport** 81.00 42 P P 18 34 16.3 +0.9
comp=Z,12nm,0.6s,baz=297,slow=6.0,SNR=15
NEW **Newport** 81.00 42 P P 18 34 16.2 +0.9
baz=288
NEW **Newport** 81.00 42 *e*P P 18 34 16.2 +0.9
NEW pmax pmax
comp=Z,34nm,1.3s
NEW **Newport** 81.00 42 *e*P P 18 34 16.2 +0.9
comp=Z,34nm,1.3s
AFDM **Forest Hills D** 81.04 52 *e*P P 18 34 16.9 +1.2
comp=Z,24nm,1.3s
J08A **Circle Bar Ran** 81.56 47 *e*P P 18 34 19.7 +1.2
comp=Z,16nm,0.8s
F10A **Beach Ranch, E** 81.62 44 *e*P P 18 34 19.8 +1.1
comp=Z,15nm,1.4s
EDM **Edmonton** 81.69 37 *e*P P 18 34 19.4 +0.6
EDM pmax pmax
comp=Z,37nm,1.3s
EDM **Edmonton** 81.69 37 *e*P P 18 34 19.4 +0.6
comp=Z,37nm,1.3s
WVOR **Wild Horse Val** 81.72 48 *e*P P 18 34 20.5 +1.1
comp=Z,15nm,0.8s
CMB **Columbia Colle** 81.74 53 *e*P P 18 34 20.4 +1.0
CMB pmax pmax
comp=Z,39nm,1.4s
CMB **Columbia Colle** 81.74 53 *e*P P 18 34 20.4 +1.0
comp=Z,39nm,1.4s
BMO **Blue Mountains** 81.91 45 *e*P P 18 34 21.2 +1.0
BMO pmax pmax
comp=Z,33nm,1.3s
BMO **Blue Mountains** 81.91 45 *e*P P 18 34 21.2 +1.0
comp=Z,33nm,1.3s
VCNR **Virginia City** 81.92 51 *e*P P 18 34 22.3 +1.7
comp=Z,16nm,0.8s
PAHR **Pah Rah Range** 82.00 51 *e*P P 18 34 22.0 +1.2
comp=Z,20nm,1.1s
UOSS **Minazif** 82.05 294 *e*P P 18 34 22.0 +0.7
comp=Z,7.9nm,1.1s
WAKR **Walker** 82.31 52 *e*P P 18 34 24.2 +1.6
comp=Z,12nm,0.7s
PAGB **Antelope Grade** 82.52 55 *e*P P 18 34 25.2 +1.8
comp=Z,31nm,1.2s
ARA0 **ARCESS Array S** 82.72 342 *e*P P 18 34 23.7 -0.1
ARCES **ARCESS Array B** 82.72 342 P P 18 34 23.7 -0.1
comp=Z,4.9nm,0.6s,baz=75,slow=7.6,SNR=21
WALA **Waterton Lakes** 82.76 41 *e*P P 18 34 25.8 +1.3
comp=Z,21nm,1.3s
SMMC **Simmler** 82.84 55 P P 18 34 26.3 +1.2
baz=288
MDPB **Devils Postpil** 82.85 53 *e*P P 18 34 26.8 +1.4
comp=Z,7.2nm,1.0s
TULEG **Thule** 82.90 8 *e*P P 18 34 25.3 +0.8
comp=Z,86nm,1.5s
RYN **Ryan** 82.96 52 *e*P P 18 34 27.2 +1.4
comp=Z,22nm,1.0s
JTMT **Jette** 82.97 42 *e*P P 18 34 26.9 +1.2
comp=Z,10nm,0.9s
MLAC **Mammoth, Mammo** 83.03 53 P P 18 34 27.4 +1.0
baz=288
PKM **Mcpherson Peak** 83.11 56 P P 18 34 27.7 +1.0
baz=288
NV01 **Mina Array Sit** 83.19 52 *e*P P 18 34 28.1 +1.0
NVAR **Mina Array Bea** 83.19 52 P P 18 34 28.4 +1.3
comp=Z,14nm,0.5s,baz=267,slow=6.1,SNR=105
NV11 **Mina Array Sit** 83.30 52 *e*P P 18 34 28.7 +1.1
comp=Z,1.2nm,0.8s
BMN **Battle Mountai** 83.35 50 *e*P P 18 34 29.4 +1.6
BMN pmax pmax
comp=Z,9.0nm,0.6s
BMN **Battle Mountai** 83.35 50 *e*P P 18 34 29.4 +1.6
comp=Z,8.7nm,0.6s
MFID **Camas Ranch** 83.38 47 *e*P P 18 34 29.0 +1.1
comp=Z,24nm,0.8s
VES **Vestal, Richgr** 83.39 55 P P 18 34 27.9 0.0
baz=288
MSO **Missoula** 83.50 43 P P 18 34 28.0 -0.4
baz=290
SCZ2 **Santa Cruz Isl** 83.52 56 P P 18 34 28.2 -0.4
baz=288
SNCC **San Nicolas Is** 83.84 57 *e*P P 18 34 28.2 -2.1
ISA **Isabella, Lake** 83.92 55 P P 18 34 30.8 +0.1
baz=288
ISA **Isabella, Lake** 83.92 55 *e*P P 18 34 31.3 +0.6
ISA pmax pmax
comp=Z,19nm,1.9s
ISA **Isabella, Lake** 83.92 55 *e*P P 18 34 31.3 +0.6
comp=Z,19nm,1.9s
CWC **Cottonwood Cre** 83.98 54 P P 18 34 31.4 +0.3
baz=288
HLID **Hailey** 84.30 46 P P 18 34 33.6 +1.0
baz=290
HLID **Hailey** 84.30 46 *e*P P 18 34 33.5 +0.9
comp=Z,14nm,1.1s
GRAC **Grapevine Rang** 84.34 53 P P 18 34 33.7 +1.0
baz=289
ALPC **Antelope** 84.36 55 *e*P P 18 34 37.7 +4.8
DAC **Darwin (Calif)** 84.40 54 *e*P P 18 34 34.0 +0.7
DAC pmax pmax
comp=Z,14nm,1.4s
DAC **Darwin (Calif)** 84.40 54 *e*P P 18 34 34.0 +0.7
comp=Z,14nm,1.4s
DAG **Danmarks Havn** 84.47 356 *e*P P 18 34 32.2 -0.4
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG **Danmarks Havn** 84.47 356 *i*P P 18 34 32.2 -0.4
comp=Z,4.3nm,0.9s
EDW2 **Edwards Air Fo** 84.54 55 P P 18 34 34.9 +1.1
baz=289
MPMC **Manual Prospec** 84.55 54 P P 18 34 35.1 +1.0
baz=289
LRMC **Laurel Mtn Rad** 84.59 55 P P 18 34 35.0 +0.8
baz=289
CIS **Catalina Islan** 84.67 57 P P 18 34 35.0 +0.5
baz=289
LRM **Limekiln Ridge** 84.82 43 *e*P P 18 34 36.1 +0.8
DLMT **Dillon** 84.89 44 *e*P P 18 34 36.6 +1.1
comp=Z,19nm,1.3s
BREC **Barre Substati** 84.89 56 *e*P P 18 34 34.2 -1.3
FURC **Furnace Creek,** 84.90 53 P P 18 34 36.3 +0.9
baz=289
HRY **Holter Researc** 84.90 42 *e*P P 18 34 36.8 +1.3
MCMT **McKenzie Canyo** 84.91 44 *e*P P 18 34 36.9 +1.1
BFSC **Mount Baldy Ra** 85.00 56 P P 18 34 36.2 0.0
baz=289
R11A **Troy Canyon, C** 85.23 51 P P 18 34 38.5 +1.1
baz=290
R11A **Troy Canyon, C** 85.23 51 *e*P P 18 34 38.5 +1.1
comp=Z,29nm,1.4s
RVR **Riverside** 85.31 56 *e*P P 18 34 36.4 -1.2
RVR **Riverside** 85.31 56 *e*P P 18 34 36.4 -1.2
RVR *e*PcP PcP 18 34 39.9 -0.4
GSC **Goldstone, Bar** 85.32 54 P P 18 34 38.5 +0.8
baz=289
GSC **Goldstone, Bar** 85.32 54 *e*P P 18 34 38.2 +0.4
GSC pmax pmax
comp=Z,30nm,1.6s
GSC **Goldstone, Bar** 85.32 54 *e*P P 18 34 38.1 +0.4
comp=Z,30nm,1.6s
BOZ **Bozeman (W)** 85.44 43 P P 18 34 38.9 +0.7
baz=292
EGMT **Eagleton** 85.71 41 P P 18 34 39.8 +0.4
baz=293
EGMT **Eagleton** 85.71 41 *e*P P 18 34 40.2 +0.9
comp=Z,17nm,1.0s
HEC **Hector,Ludlow** 85.84 55 P P 18 34 41.1 +0.8
baz=290
QLMT **Earthquake Lak** 85.85 44 *e*P P 18 34 41.9 +1.5
HWB **Hans Werner Br** 85.95 57 *e*P P 18 34 42.0 +1.2
TUQ **Turquoise Moun** 85.96 54 P P 18 34 41.8 +0.9
baz=290
YHB **Horse Butte** 86.04 44 *e*P P 18 34 43.1 +1.8
comp=Z,36nm,1.0s
HVU **Hansel Valley** 86.06 47 *e*P P 18 34 42.7 +1.4
HVU pmax pmax
comp=Z,34nm,1.2s
HVU **Hansel Valley** 86.06 47 *e*P P 18 34 42.7 +1.4
comp=Z,34nm,1.2s
PFO **Pinyon Flats O** 86.15 56 P P 18 34 42.5 +0.6
baz=290
PFO **Pinyon Flats O** 86.15 56 *e*P P 18 34 42.9 +1.0
PFO pmax pmax
comp=Z,24nm,1.4s
PFO **Pinyon Flats O** 86.15 56 *e*P P 18 34 42.9 +1.0
comp=Z,24nm,1.4s
XPFO **Piæon Flat** 86.16 56 *e*P P 18 34 42.9 +0.9
comp=Z,24nm,1.4s
SHPR **Sheep Range** 86.18 53 *e*P P 18 34 43.7 +1.7
comp=Z,9.9nm,0.9s
BGU **Big Grassy Mou** 86.19 48 *e*P P 18 34 43.2 +1.2
comp=Z,6.9nm,0.8s
YMR **Madison River** 86.22 44 *e*P P 18 34 44.4 +2.2
comp=Z,43nm,1.0s
YHH **Holmes Hill** 86.25 44 *e*P P 18 34 44.0 +1.6

	comp=Z,21nm,1.2s									
GMRC	**Granite Mounta**	86.38	55	P		P		18 34 43.9	+0.9	
	baz=290,SNR=7.1									
BELC	**Belle Mtn. Jos**	86.38	55	P		P		18 34 43.5	+0.4	
	baz=290									
MONP2	**Monument Peak**	86.42	57	P		P		18 34 43.7	+0.4	
	baz=290,SNR=6.7									
SPUT	**South Piromonto**	86.46	48	*eP*		P		18 34 44.8	+1.5	
	comp=Z,25nm,1.1s									
IMW	**Indian Meadow**	86.53	45	*eP*		P		18 34 45.5	+1.8	
	comp=Z,16nm,1.0s									
FXWY	**Fox Creek**	86.57	45	*eP*		P		18 34 45.0	+1.1	
	comp=Z,13nm,1.1s									
H17A	**Grant Village**	86.58	44	P		P		18 34 46.5	+2.5	
	baz=293									
H17A	**Grant Village**	86.58	44	*eP*		P		18 34 46.8	+2.9	
	comp=Z,13nm,0.9s									
DUG	**Dugway, Tooele**	86.60	49	P		P		18 34 45.0	+1.0	
	baz=291									
DUG	**Dugway, Tooele**	86.60	49	*eP*		P		18 34 45.5	+1.5	
	comp=Z,20nm,0.8s									
TPAW	**Teton Pass**	86.67	45	*eP*		P		18 34 44.8	+0.4	
	comp=Z,20nm,1.4s									
LDFC	**Landfair**	86.70	54	*eP*		P		18 34 46.0	+1.4	
	comp=Z,35nm,1.1s									
MOOW	**Moose Ponds**	86.72	45	*eP*		P		18 34 46.0	+1.5	
	comp=Z,8.7nm,0.9s									
IKP	**In-Ko-Pah, Jac**	86.75	57	P		P		18 34 45.6	+0.8	
	baz=290									
REDW	**Red Top Meadow**	86.79	45	*eP*		P		18 34 46.1	+1.2	
	comp=Z,30nm,1.8s									
BC3	**Big Chuckawall**	86.93	56	P		P		18 34 46.4	+0.7	
	baz=290									
HWUT	**Hardware Ranch**	86.96	47	*eP*		P		18 34 46.6	+0.8	
	comp=Z,25nm,0.8s									
IRM	**Iron Mountain**	87.00	55	P		P		18 34 46.8	+0.9	
	baz=290,SNR=7.1									
FIA1	**FINESS Array S**	87.11	335	*eP*		P		18 34 44.0	-1.7	
FIA0	**FINESS Array S**	87.11	335	*eP*		P		18 34 44.1	-1.7	
FIA0	**FINESS Array S**	87.11	335	*eP*		P		18 34 44.1	-1.7	
FINES	**FINESS Array B**	87.11	335	P		P		18 34 44.1	-1.7	
	comp=Z,4.5nm,0.4s,baz=64,slow=4.9,SNR=59									
CCUT	**Cedar City**	87.16	51	*eP*		P		18 34 48.2	+1.4	
	comp=Z,14nm,0.9s									
RLMT	**Red Lodge**	87.16	43	P		P		18 34 48.0	+1.3	
	baz=294									
RLMT	**Red Lodge**	87.16	43	*eP*		P		18 34 48.4	+1.8	
	comp=Z,9.7nm,0.6s									
CTU	**Camp Tracy**	87.17	48	*eP*		P		18 34 48.0	+1.2	
	comp=Z,14nm,0.9s									
FFC	**Flin Flon**	87.21	33	*eP*		P		18 34 47.0	+0.6	
FFC				pmax		pmax				
	comp=Z,16nm,0.9s									
FFC	**Flin Flon**	87.21	33	*eP*		P		18 34 47.0	+0.6	
	comp=Z,16nm,0.9s									
NLU	**North Lily Min**	87.22	49	*eP*		P		18 34 48.4	+1.3	
	comp=Z,17nm,1.0s									
TCUT	**Toone Canyon**	87.26	48	*eP*		P		18 34 47.8	+0.5	
	comp=Z,25nm,0.7s									
JLU	**Jordanelle**	87.42	48	*eP*		P		18 34 49.0	+0.9	
	comp=Z,21nm,0.9s									
MPU	**Maple Canyon**	87.51	49	*eP*		P		18 34 49.8	+1.3	
	comp=Z,17nm,1.1s									
Y12C	**Blythe**	87.62	55	P		P		18 34 49.7	+0.9	
	baz=291									
GLA	**Glamis**	87.63	56	P		P		18 34 49.7	+0.8	
	baz=291,SNR=6.3									
GLA	**Glamis**	87.63	56	*eP*		P		18 34 50.4	+1.5	
GLA				pmax		pmax				
	comp=Z,8.0nm,0.6s									
GLA	**Glamis**	87.63	56	*eP*		P		18 34 50.4	+1.5	
	comp=Z,7.6nm,0.6s									
MSU	**Marysvale**	87.68	50	*eP*		P		18 34 50.8	+1.5	
MSU	**Marysvale**	87.68	50	*eP*		P		18 34 50.8	+1.5	
PDMCI	**Parker Dam,Lak**	87.72	55	P		P		18 34 50.5	+1.2	
	baz=291									
KNB	**Kanab**	87.75	52	*eP*		P		18 34 51.2	+1.6	
KNB				pmax		pmax				
	comp=Z,45nm,1.0s									
KNB	**Kanab**	87.75	52	*eP*		P		18 34 51.2	+1.6	
	comp=Z,45nm,1.0s									
BW06	**Boulder Array**	87.89	45	P		P		18 34 50.4	+0.1	
	baz=293									
BW06	**Boulder Array**	87.89	45	*eP*		P		18 34 50.7	+0.5	
	comp=Z,25nm,0.8s									
PD31	**Pinedale Array**	87.89	45	*eP*		P		18 34 50.0	-0.3	
PDAR	**Pinedale Array**	87.89	45	P		P		18 34 50.6	+0.4	
	comp=Z,1.1nm,0.4s,baz=130,slow=0.8,SNR=26									
PDAR	**Pinedale Array**	87.89	45	*eP*		P		18 34 50.2	0.0	
TMUT	**Trail Mountain**	88.09	49	*eP*		P		18 34 52.6	+1.3	
	comp=Z,10.0nm,0.8s									
P17A	**Butcher Ranch,**	88.35	49	*eP*		P		18 34 53.8	+1.4	
	comp=Z,17nm,1.1s									
U15A	**North Rim**	88.36	52	*eP*		P		18 34 54.1	+1.5	
	comp=Z,16nm,0.8s									
LAO	**LASA Array**	88.44	41	P		P		18 34 53.2	+0.7	
	baz=296									
LAO	**LASA Array**	88.44	41	*eP*		P		18 34 53.7	+1.1	
	comp=Z,11nm,0.8s									
P18A	**Preston Nutter**	88.65	49	*eP*		P		18 34 55.3	+1.4	
	comp=Z,6.3nm,0.6s									
FCC	**Fort Churchill**	88.80	27	*eP*		P		18 34 54.2	+0.4	
FCC				pmax		pmax				
	comp=Z,17nm,1.3s									
FCC	**Fort Churchill**	88.80	27	*eP*		P		18 34 54.2	+0.4	
	comp=Z,17nm,1.3s									
WUAZ	**Wupatki**	89.39	53	P		P		18 34 58.3	+1.0	
	baz=292,SNR=5.4									
WUAZ	**Wupatki**	89.39	53	*eP*		P		18 34 57.2	-0.2	
	comp=Z,29nm,1.0s									
214A	**Organ Pipe Nat**	89.61	56	P		P		18 34 59.5	+1.3	
	baz=292									
X16A	**Lo Mia Camp, P**	89.76	54	*eP*		P		18 35 00.2	+1.1	
	comp=Z,6.3nm,0.9s									
O20A	**White River Ci**	89.86	47	P		P		18 35 00.0	+0.6	
	baz=294									
O20A	**White River Ci**	89.86	47	*eP*		P		18 35 00.4	+1.0	
	comp=Z,17nm,1.1s									
PV09	**Paradox Valley**	89.89	49	*eP*		P		18 35 01.0	+1.2	
RWWY	**Rawlins**	89.93	46	*eP*		P		18 34 58.9	-1.0	
	comp=Z,9.2nm,1.0s									
K22A	**Casper**	89.98	45	P		P		18 35 00.4	+0.4	
	baz=295									
PV10	**Paradox Valley**	90.00	49	*eP*		P		18 35 01.2	+0.9	
PV05	**Paradox Valley**	90.08	50	*eP*		P		18 35 01.8	+1.3	
PV01	**Paradox Valley**	90.44	49	*eP*		P		18 35 03.1	+0.9	
W18A	**Petrified Fore**	90.78	53	P		P		18 35 04.9	+1.1	
	baz=293									
W18A	**Petrified Fore**	90.78	53	*eP*		P		18 35 05.1	+1.3	
	comp=Z,13nm,1.0s									
MVCO	**Mesa Verde**	90.87	50	P		P		18 35 04.8	+0.6	
	baz=294,SNR=6.0									
MVCO	**Mesa Verde**	90.87	50	*eP*		P		18 35 05.0	+0.7	
	comp=Z,14nm,1.2s									
RSSD	**Black Hills**	90.96	43	P		P		18 35 04.4	-0.1	
	baz=297									
RSSD	**Black Hills**	90.96	43	*eP*		P		18 35 05.0	+0.5	
RSSD				pmax		pmax				
	comp=Z,4.0nm,0.8s									
RSSD	**Black Hills**	90.96	43	*eP*		P		18 35 05.0	+0.5	
	comp=Z,4.4nm,0.8s									
TUC	**Tucson**	91.07	55	P		P		18 35 06.3	+1.2	
	baz=293									
TUC	**Tucson**	91.07	55	*eP*		P		18 35 06.6	+1.5	
TUC				pmax		pmax				
	comp=Z,12nm,1.2s									
TUC	**Tucson**	91.07	55	*eP*		P		18 35 06.6	+1.5	
	comp=Z,12nm,1.2s									
N23A	**Red Feather La**	91.13	46	P		P		18 35 06.1	+0.7	
	baz=296,SNR=16									
N23A	**Red Feather La**	91.13	46	*eP*		P		18 35 07.2	+1.8	
	comp=Z,28nm,1.0s									
SMCO	**Snowmass**	91.15	48	*eP*		P		18 35 06.8	+1.1	
	comp=Z,15nm,0.9s									
ISCO	**Idaho Springs**	91.83	47	P		P		18 35 09.8	+1.1	
	baz=296,SNR=9.9									
ISCO	**Idaho Springs**	91.83	47	*eP*		P		18 35 10.2	+1.5	
	comp=Z,7.1nm,1.0s									
S22A	**4UR Ranch, Cre**	91.85	49	P		P		18 35 09.7	+0.8	
	baz=295,SNR=5.7									
S22A	**4UR Ranch, Cre**	91.85	49	*eP*		P		18 35 10.4	+1.6	
	comp=Z,11nm,0.9s									
MDND	**Maddock**	91.89	38	P		P		18 35 09.6	+1.1	
	baz=300									
Q24A	**Divide**	92.52	48	P		P		18 35 12.7	+0.7	
	baz=296									
HFS	**Hagfors**	92.61	338	P		P		18 35 09.7	-1.8	
	comp=Z,1.5nm,0.4s,baz=62,slow=6.7,SNR=13									
ULM	**Lac du Bonnet**	92.71	34	P		P		18 35 12.0	-0.2	
	comp=Z,2.3nm,0.6s,baz=288,slow=6.4,SNR=7.3									
ULM	**Lac du Bonnet**	92.71	34	*eP*		P		18 35 12.3	+0.1	
	comp=Z,4.9nm,0.9s									
NB200	**NORSAR Array S**	92.80	340	*eP*		P		18 35 11.0	-1.4	
NOA	**NORSAR Array B**	92.80	340	P		P		18 35 11.0	-1.4	
	comp=Z,0.7nm,0.8s,baz=44,slow=4.6,SNR=3.4									
SDCO	**Great Sand Dun**	92.80	49	P		P		18 35 14.1	+0.8	
	baz=296,SNR=5.2									
SDCO	**Great Sand Dun**	92.80	49	*eP*		P		18 35 14.4	+1.2	
	comp=Z,6.4nm,0.9s									
C31A	**Landman Farms,**	93.00	37	P		P		18 35 13.6	0.0	
	baz=302,SNR=5.6									
LAZ	**Ladron**	93.03	52	*eP*		P		18 35 15.9	+1.6	
A32A	**Rocking H Ranc**	93.10	36	P		P		18 35 13.9	-0.1	
	baz=303									
121A	**Cookes Peak, D**	93.31	54	P		P		18 35 17.0	+1.5	
	baz=294									
ANMO	**Albuquerque**	93.31	52	P		P		18 35 15.8	+0.2	
	comp=Z,8.9nm,1.2s,baz=225,slow=5.7,SNR=10									
ANMO	**Albuquerque**	93.31	52	P		P		18 35 16.5	+1.0	
	baz=295									
ANMO	**Albuquerque**	93.31	52	*ce*		P		18 35 16.0	+0.5	
ANMO				pmax		pmax				
	comp=Z,7.0nm,1.1s									
ANMO	**Albuquerque**	93.31	52	*eP*		P		18 35 16.9	+1.4	
	comp=Z,10nm,1.2s									
B32A	**Ashes, Strandq**	93.36	36	P		P		18 35 15.7	+0.5	
	baz=303									
D31A	**Mcclaflin, Tow**	93.39	38	P		P		18 35 15.0	-0.3	
	baz=302									
A33A	**Warroad**	93.70	35	P		P		18 35 16.8	+0.1	
	baz=304									
T25A	**Trinidad**	93.85	49	P		P		18 35 18.8	+0.8	
	baz=297									
T25A	**Trinidad**	93.85	49	*eP*		P		18 35 19.2	+1.2	
	comp=Z,9.3nm,1.1s									
BR101	**Keskin Array S**	94.32	314	*eP*		P		18 35 18.6	-1.3	
BRTR	**Keskin Array B**	94.32	314	P		P		18 35 18.6	-1.4	
	comp=Z,1.2nm,0.8s,baz=67,slow=4.2,SNR=6.7									
I31A	**Royce, Wessing**	94.47	41	P		P		18 35 20.0	-0.4	
	baz=301									
C34A	**RKJ Ranch, Bem**	94.68	36	P		P		18 35 20.7	-0.5	
	baz=304									
E33A	**Westby DABS, E**	94.68	38	P		P		18 35 20.8	-0.5	
	baz=303									
J31A	**Geddes**	94.73	41	P		P		18 35 20.7	-0.9	
	baz=301									
BR231	**Keskin MP Arra**	94.85	315	*eP*		P		18 35 19.0	-3.3	
F33A	**5 Mile Ranch,**	94.88	38	P		P		18 35 22.1	-0.1	
	baz=303									
H32A	**Carlson Farm,**	94.90	40	P		P		18 35 21.5	-0.9	
	baz=302									
B35A	**Bob, Littlefor**	94.93	35	P		P		18 35 22.0	-0.4	
	baz=305									
K31A	**O'Neill**	95.06	42	P		P		18 35 22.6	-0.5	
	baz=301									
G33A	**Ortonville**	95.14	39	P		P		18 35 22.8	-0.6	
	baz=303									
H33A	**Prehn Over Nor**	95.23	39	P		P		18 35 23.3	-0.5	
	baz=302									
MNTX	**Cornudas Mount**	95.51	54	P		P		18 35 26.2	+0.8	
	baz=296									
I33A	**Coleman**	95.53	40	P		P		18 35 26.1	+0.8	
	baz=302									
ECSD	**EROS Data Cent**	95.81	40	P		P		18 35 25.9	-0.6	
	baz=302									
J34A	**George**	96.46	40	P		P		18 35 28.8	-0.6	
	baz=303									
F36A	**Milaca**	96.47	37	P		P		18 35 29.1	-0.4	
	baz=305									
F38A	**Pierce - Schro**	97.35	36	P		P		18 35 33.2	-0.2	
	baz=306									
LTX	**Lajitas**	97.87	56	*eP*		P		18 35 36.3	+0.1	
LTX	**Lajitas**	97.87	56	*eP*		P		18 35 36.2	+0.1	
TXAR	**Lajitas Array**	97.87	56	P		P		18 35 36.3	0.0	
	comp=Z,0.7nm,0.6s,baz=305,slow=3.2,SNR=5.3									
G40A	**Rib Lake**	98.71	36	P		P		18 35 39.1	-0.4	
	baz=307									
F41A	**Three Lakes**	99.03	35	P		Pdif		18 35 40.5	-0.4	
	baz=308									
LSZ	**Lusaka**	120.47	263	*e*PKIKP		PKPdf		18 40 51.5	0.0	
LSZ	**Lusaka**	120.47	263	*e*PKPdf		PKPdf		18 40 51.5	0.0	
TOA1	**Torodi Ar. Sit**	132.66	309	*e*PKPdf		PKPdf		18 41 13.0	-1.6	
TOA1				*e*SKPbc		SKPbc		18 44 20.2	-3.1	
TORD	**Torodi Ar. Bea**	132.66	309	PKP		PKPdf		18 41 13.0	-1.6	
	comp=Z,0.4nm,0.5s,baz=22,slow=0.6,SNR=4.1									
TORD				SKPbc		SKPbc		18 44 20.2	-3.1	
	comp=Z,2.4nm,0.8s,baz=52,slow=1.7,SNR=12									
SDV	**Santo Domingo**	134.91	56	PKP		PKPdf		18 41 19.3	+0.1	
	comp=Z,7.2nm,0.7s,baz=328,slow=4.4,SNR=10									
SDV	**Santo Domingo**	134.91	56	*e*PKPdf		PKPdf		18 41 19.8	+0.6	
PLCA	**Paso Flores**	141.79	133	PKhKP		PKPpre		18 41 26.5		
	comp=Z,1.7nm,0.8s,baz=253,slow=1.1,SNR=4.9									
LCO	**Las Campanas**	145.11	114	*e*PKP2		PKPab		18 41 38.0	+0.5	
LCO	**Las Campanas**	145.11	114	*e*PKPdf		PKPab		18 41 38.0	+0.5	
PB11	**UC Station P**	146.51	98	*e*PKPdf		PKPdf		18 41 40.8	+1.1	
MNMC	**Miny Miny e**	146.52	97	*e*PKPdf		PKPbc		18 41 41.4	-0.3	
LPAZ	**La Paz**	147.57	91	PKPbc		PKPdf		18 41 43.2	+1.0	
	comp=Z,8.0nm,0.7s,baz=319,slow=4.0,SNR=19									
LPAZ	**La Paz**	147.57	91	*e*PKIKP		PKPdf		18 41 43.4	+1.3	
LPAZ	**La Paz**	147.57	91	*e*PKPdf		PKPdf		18 41 43.4	+1.3	
CPUP	**Villa Florida**	157.26	114	PKPab		PKPab		18 42 27.3	-0.2	
	comp=Z,3.3nm,0.8s,baz=269,slow=4.7,SNR=7.3									

*ISCJB **22** 18:23:06.4±0.6, 43.81N±0.05×105.01W±0.09, h0km, Error ellipse: s-maj=9.3km s-min=7.1km az=161.6*
*IDC **22** 18:23:07.9±2.1, 43.68N×105.32W, h0km, mb1 3.3/3, mb1mx3.1/63, mbtmp3.1/3, ML2.7/2, Error ellipse: s-maj=48.6km s-min=9.5km az=150.0*
*NEIC **22** 18:23:08.8±0.5, 43.78N×105.16W, h0km, ML3.0, Error ellipse: s-maj=6.6km s-min=6.3km az=75.0, Suspected Mining explosion.*
NEIC 63 km [39 miles] SSE of Gillette.

ISC 22 18:23:08.2±1.1, 43.79N±0.06×105.09W±0.07, h0km, n17, σ0 91/16, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	0.83	66	*eP*		Pn	18 23 27.0	-0.4
K22A	**Casper**	1.55	223	*eP*		Pn	18 23 35.2	-2.0
LAO	**LASA Array**	3.01	345	*eP*		Pn	18 23 58.2	+1.0
RLMT	**Red Lodge**	3.27	295	*eP*		Pn	18 24 00.5	-0.4
PDAR	**Pinedale Array**	3.42	254	Pn		Pn	18 24 03.2	+0.3
	10nm,0.3s,baz=72,slow=16,SNR=33							
PDAR				Lg		Lg	18 24 48.6	
	8.3nm,0.3s,baz=79,slow=34,SNR=6.5							
BW06	**Boulder Array**	3.42	254	*eP*		Pn	18 24 03.2	+0.3
OGNE	**Ogallala**	3.64	140	*eP*g		Pg	18 24 17.6	-0.3
GCMT	**Greycliff**	3.82	303	*eP*		Pn	18 24 08.5	+0.1
H17A	**Grant Village**	4.00	281	*eP*		Pn	18 24 11.6	+0.7
ISCO	**Idaho Springs**	4.01	186	*eP*		Pn	18 24 12.4	+1.3
KSCO	**Soye Shedlock'**	5.12	158	*eP*		Pn	18 24 27.2	+0.9
	19nm,0.5s							
EGMT	**Eagleton**	5.34	324	*eP*		Pn	18 24 28.8	-0.5
	6.3nm,0.5s							
PV04	**Paradox Valley**	6.11	209	*eP*		Pn	18 24 40.9	+0.9
TMUT	**Trail Mountain**	6.42	228	*eP*		Pn	18 24 44.4	+0.1
	11nm,0.4s							
I10CA	**LAC DU BONNET**	8.91	41	*i*			19 17 20.0	
	baz=224,slow=316,SNR=4.4							
ULM	**Lac du Bonnet**	9.02	41	Pn		Pn	18 25 20.2	+0.7
	0.5nm,0.3s,baz=229,slow=12,SNR=6.9							
ULM				Lg		Lg	18 27 49.4	
	0.3nm,0.3s,baz=147,slow=14,SNR=2.9							
YKA	**Yellowknife Ar**	19.55	347	P		P	18 27 36.3	-0.8
	0.1nm,0.3s,baz=158,slow=12,SNR=3.1							

*ISCJB **22** 18:37:06.8±0.4, 20.61S±0.09×178.39W±0.08, h587km, mb4.2/31, Error ellipse: s-maj=13.7km s-min=6.9km az=148.7*
*IDC **22** 18:37:07.9±1.6, 20.72S×178.35W, h595km±18km, mb3.6/16, mb1 3.8/19, mb1mx3.5/50, mbtmp4.5/19, Error ellipse: s-maj=17.3km s-min=10.9km az=148.0*
*NEIC **22** 18:37:08.9±0.8, 20.69S×178.39W, h606km±9km, mb4.5/17, Error ellipse: s-maj=22.2km s-min=12.5km az=147.0*

ISC 22 18:37:07.1±0.5, 20.75S±0.1×178.26W±0.09, h587km, n94, σ1 11/95, mb4.3/31, 6C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.54	309	*eP*		P	18 38 37.0	+1.2

AFI	**Afiamalu**	9.14	44	P		P		18 39 18.2	+0.9	
	6.6nm,0.3s,baz=214,slow=3.6,SNR=6.9									
AFI				S		S		18 40 58.6	-5.4	
	3.0nm,0.3s,baz=196,slow=18,SNR=3.6									
DZM	**Mont Dzumac**	14.32	262	P		P		18 40 08.0	-1.4	
	0.6nm,0.3s,baz=85,slow=18,SNR=14									
OUZ	**Omahuta**	16.18	205	*eP*		P		18 40 27.9	+1.4	
	46nm,1.0s									
URZ	**Urewera**	17.99	192	P		P		18 40 41.2	-1.7	
	3.4nm,0.3s,baz=359,slow=6.8,SNR=12									
URZ	**Urewera**	17.99	192	*eP*		P		18 40 42.3	-0.7	
	40nm,1.2s									
RPZ	**Rata Peaks**	24.66	199	P		P		18 41 43.8	+1.1	
	3.8nm,0.5s,baz=8.1,slow=7.1,SNR=3.4									
PMG	**Port Moresby**	35.14	283	P		P		18 43 12.3	-0.8	
	18nm,0.7s,baz=129,slow=6.5,SNR=6.2									
STKA	**Stephens Creek**	37.49	244	P		P		18 43 32.5	+0.2	
	3.0nm,0.7s,baz=90,slow=7.3,SNR=8.7									
AS01	**Alice Springs**	44.20	257	*eP*		P		18 44 24.8	-0.7	
ASAR	**Alice Springs**	44.24	257	P		P		18 44 25.2	-0.6	
	8.9nm,0.5s,baz=90,slow=6.7,SNR=231									
ASAR				PcP		PcP		18 45 56.8	-0.5	
	2.6nm,0.8s,baz=104,slow=3.9,SNR=9.3									
ASAR				S		S		18 50 15.5	-2.3	
	3.1nm,0.9s,baz=97,slow=14,SNR=5.0									
WRA	**Warramunga Arr**	44.33	262	P		P		18 44 25.6	-1.0	
	3.4nm,0.3s,baz=97,slow=7.4,SNR=326									
WRA				PcP		PcP		18 45 57.4	-0.3	
	1.2nm,0.7s,baz=96,slow=3.3,SNR=4.7									
SOEI	**Soe**	56.26	272	*eP*		P		18 45 54.6	+1.1	
	33nm,0.8s									
BATI	**Baumata**	56.69	271	P		P		18 45 57.0	+0.7	
	12nm,0.7s,baz=153,slow=6.8,SNR=4.2									
MJAR	**Matsushiro Arr**	70.20	324	P		P		18 47 21.1	-0.9	
	1.5nm,0.6s,baz=156,slow=6.2,SNR=5.5									
KSM	**Kuching**	73.19	278	*eP*		P		18 47 40.2	+0.4	
	3.1nm,1.2s									
PETK	**Petropavlovsk-**	76.37	345	P		P		18 47 56.8	+0.2	
	9.4nm,1.0s,baz=145,slow=5.3,SNR=5.8									
KSRS	**Korea Array**	76.85	319	P		P		18 48 00.3	+0.8	
	1.2nm,0.6s,baz=130,slow=6.0,SNR=6.7									
PT2	**Point Dume**	78.46	47	*eP*		P		18 48 06.8	-1.5	
USRK	**Ussuriysk Ar.**	78.96	326	P		P		18 48 10.9	+0.2	
	3.0nm,0.8s,baz=151,slow=3.3,SNR=4.4									
DPP	**Dos Picos Cty**	79.19	49	*eP*		P		18 48 11.3	-1.0	
BFSC	**Mount Baldy Ra**	79.38	47	*eP*		P		18 48 15.2	+1.8	
PLM	**Palomar**	79.44	48	*eP*		P		18 48 14.6	+0.8	
WESC	**Westside Schoo**	79.92	49	*eP*		P		18 48 16.5	+0.4	
GMRC	**Granite Mounta**	81.06	48	*eP*		P		18 48 24.0	+1.8	
UMPQ	**Umpqua Communi**	81.19	37	*eP*		P		18 48 22.9	+0.4	
NV01	**Mina Array Sit**	81.31	43	*eP*		P		18 48 24.9	+1.5	
NVAR	**Mina Array Bea**	81.31	43	P		P		18 48 24.8	+1.3	
	1.7nm,0.7s,baz=224,slow=9.4,SNR=8.7									
PINE	**Pine Mountain**	82.86	38	*eP*		P		18 48 33.4	+2.2	
	6.6nm,0.9s									
319A	**Douglas**	83.94	53	*eP*		P		18 48 39.6	+2.9	
	9.3nm,0.8s									
U15A	**North Rim**	84.25	48	*eP*		P		18 48 37.6	-0.8	
	5.5nm,0.4s									
GSI	**Gunungsitoli**	84.99	273	*eP*		P		18 48 42.8	+0.7	
	9.7nm,0.7s									
ENH	**Enshi**	85.93	304	*eP*		P		18 48 47.0	+0.8	
	9.2nm,1.0s									
F10A	**Beach Ranch, E**	86.28	38	*eP*		P		18 48 49.0	+1.4	
	6.3nm,0.8s									
TRF	**Thorofare Moun**	86.66	12	*eP*		P		18 48 48.7	-0.4	
	37nm,2.0s									
RND	**Reindeer**	86.91	13	*eP*		P		18 48 50.4	+0.3	
	6.0nm,0.7s

comp=Z,0.3nm,0.7s,baz=204,slow=3.2,SNR=2.7

MOS ***22*** *18:40:18.1±1.6,27.˚52S×178.˚32W,h278km,mb4.9/13, Error ellipse: s-maj=11.1km s-min=9.6km az=103.0*
WEL ***22*** *18:40:19.0,27.˚79S×178.˚29W,h288km*
GCMT ***22*** *18:40:19.8±0.3,27.˚55S×178.˚10W,h289km±2km, MW5.2/69,Moment Tensor Solution. s47,c64; s69,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.38±.23; Mθθ2.71±.23; Mϕϕ-6.09±.20; Mrθ-2.86±.24; Mrϕ-1.23±.19; Mθϕ3.63±.23; Best double couple: Mo7.11800×10^16 NP1:ϕs335.00000°,δ41.00000°,λ53.00000°. NP2: ϕs222.00000°,δ41.00000°,λ151.00000°. Principal axes: T 6.9080, Plg49.0000°, Azm204.0000°; N 0.4200, Plg35.0000°, Azm348.0000°; P -7.3280, Plg18.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *18:40:19.8±0.1,27.˚79S×178.˚29W,mb4.9/43 Error ellipse: s-maj=6.7km s-min=4.7km az=139.0*
BJI ***22*** *18:40:19.3,27.˚38S×177.˚68W,h298km,mb4.4/29, mB4.9/17*
IDC ***22*** *18:40:19.5±0.4,27.˚60S×178.˚34W,h281km±3km,mb4.3/27, mb1 4.4/28,mb1mx4.3/45,mbtmp4.9/28,Error ellipse: s-maj=9.2km s-min=8.4km az=91.0*
ISCJB ***22*** *18:40:19.6±0.3,27.˚95S±0.˚03×178.˚31W±0.˚05, h298km±3km,mb4.7/78,Error ellipse: s-maj=7.2km s-min=4.3km az=28.4*

ISC 22 18:40:19.9±0.3,27.˚85S±0.˚04×178.˚21W±0.˚05, h290km±3km,h291km:pP-P,n477,σ1§64/514,mb4.7/79, 16C-11D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RIZ	**Raoul Island**	**1.42**	**170**	P		**Pn**	**18 41 02.7**	**+1.2**
RIZ	**Raoul Island**	**1.42**	**170**	S		**S**	**18 41 37.2**	**+2.6**
RAO	**Raoul Island**	**1.42**	**170**	P		**Pn**	**18 41 02.7**	**+1.1**
	930nm,0.3s,baz=92,slow=2.5,SNR=35							
RAO				S		**S**	**18 41 34.6**	**-0.1**
	2μm,0.3s,baz=335,slow=19,SNR=11							
GLKZ	**Green Lake**	**1.43**	**170**	P		**Pn**	**18 41 02.9**	**+1.3**
GLKZ	**Green Lake**	**1.43**	**170**	S		**S**	**18 41 36.0**	**+1.2**
MXZ	**Matakaoa Point**	**10.12**	**196**	P		**Pn**	**18 42 37.6**	**-1.8**
MXZ	**Matakaoa Point**	**10.12**	**196**	S		**S**	**18 44 27.9**	**-5.4**
OUZ	**Omahuta**	**10.14**	**222**	*e*Pn		**Pn**	**18 42 39.3**	**-0.3**
WMGZ	**Waiomatatini S**	**10.34**	**195**	P		**Pn**	**18 42 38.5**	**-3.6**
WMGZ	**Waiomatatini S**	**10.34**	**195**	S		**S**	**18 44 34.0**	**-4.3**
HAZ	**Te Kaha**	**10.44**	**198**	P		**Pn**	**18 42 39.4**	**-3.9**
HAZ	**Te Kaha**	**10.44**	**198**	S		**S**	**18 44 36.0**	**-4.5**
PKGZ	**Pakihiroa**	**10.49**	**196**	P		Pn	18 42 39.1	-5.0
PKGZ	**Pakihiroa**	**10.49**	**196**	S		**S**	**18 44 34.0**	**-7.7**
PUZ	**Puketiti**	**10.62**	**195**	P		Pn	18 42 40.5	-5.1
PUZ	**Puketiti**	**10.62**	**195**	S		**S**	**18 44 37.2**	**-7.4**
MSVF	**Nonsavu**	**10.64**	**340**	*e*P		**Pn**	**18 42 42.3**	**-3.9**
MSVF	**Nonsavu**	**10.64**	**340**	*e*Pn		**Pn**	**18 42 44.5**	**-1.6**
TWGZ	**Tauwhareparae**	**10.78**	**196**	P		**P**	**18 42 50.5**	**-0.2**
OPRZ	**Ohinepanea**	**10.89**	**202**	P		**Pn**	**18 42 49.6**	**+0.7**
CNGZ	**Carnagh Statio**	**11.02**	**195**	P		**Pn**	**18 42 45.8**	**-4.7**
URZ	**Urewera**	**11.10**	**199**	P		**Pn**	**18 42 49.5**	**-1.9**
	9.1nm,0.3s,baz=270,slow=4.7,SNR=25							
URZ				S		**S**	**18 44 47.8**	**-7.7**
	26nm,0.3s,baz=338,slow=19,SNR=15							
URZ	**Urewera**	**11.10**	**199**	P		**Pn**	**18 42 48.3**	**-3.1**
URZ	**Urewera**	**11.10**	**199**	S		**S**	**18 44 48.8**	**-6.8**
TOZ	**Tahuroa Road**	**11.18**	**207**	P		**P**	**18 42 56.9**	**+1.9**
RAGZ	**Rawiri**	**11.23**	**198**	P		**Pn**	**18 42 52.2**	**-1.0**
RAGZ	**Rawiri**	**11.23**	**198**	S		**S**	**18 44 52.2**	**-6.5**
RIGZ	**Rimuhau**	**11.34**	**196**	P		**Pn**	**18 42 54.7**	**+0.2**
MUGZ	**Murupara**	**11.40**	**200**	P		**Pn**	**18 42 54.9**	**-0.3**
PRGZ	**Paritu Road**	**11.52**	**195**	P		**Pn**	**18 42 55.7**	**-0.9**
SNGZ	**Shannon Statio**	**11.52**	**198**	P		**Pn**	**18 42 57.1**	**+0.5**
ALRZ	**Allen Road**	**11.61**	**202**	P		**Pn**	**18 42 58.3**	**+0.5**
KNZ	**Kokohu**	**11.66**	**196**	P		**Pn**	**18 42 56.3**	**-2.0**
TLZ	**Tolley Road**	**11.69**	**205**	P		**Pn**	**18 42 58.1**	**-0.6**
RAHZ	**Arahi**	**11.71**	**198**	P		**Pn**	**18 42 57.6**	**-1.4**
MTHZ	**Maungataniwha**	**11.72**	**199**	P		**Pn**	**18 42 56.9**	**-2.3**
MHGZ	**Mahia Peninsul**	**11.73**	**195**	P		**Pn**	**18 42 58.2**	**-1.0**
WHHZ	**Waihua**	**11.82**	**198**	P		**Pn**	**18 42 59.5**	**-0.9**
WATZ	**Wairata**	**11.95**	**203**	P		**Pn**	**18 43 03.4**	**-0.3**
NMHZ	**Naumai**	**11.96**	**199**	P		**Pn**	**18 43 00.1**	**-2.0**
ARHZ	**Aropaoanui**	**12.06**	**198**	P		**Pn**	**18 43 01.8**	**-1.4**
RATZ	**Rangitukua**	**12.08**	**203**	P		**Pn**	**18 43 03.4**	**-0.1**
HIZ	**Hauiti**	**12.11**	**207**	P		**P**	**18 43 07.1**	**+1.7**
BKZ	**Black Stump Fm**	**12.12**	**200**	*e*Pn		**Pn**	**18 43 01.9**	**-2.1**
BKZ	**Black Stump Fm**	**12.12**	**200**	P		**Pn**	**18 43 01.1**	**-2.9**
MCHZ	**McNeill Hill**	**12.32**	**199**	P		**Pn**	**18 43 04.6**	**-1.7**
KRVZ	**Karewarewa**	**12.33**	**203**	P		**Pn**	**18 43 06.1**	**-0.6**
WTVZ	**West Tongariro**	**12.37**	**203**	P		**Pn**	**18 43 06.2**	**-0.9**
KWHZ	**Kaweka Forest**	**12.38**	**200**	P		**Pn**	**18 43 04.6**	**-2.6**
TWVZ	**Taurewa**	**12.38**	**204**	P		**Pn**	**18 43 06.9**	**-0.4**
CKHZ	**Cape Kidnapper**	**12.41**	**197**	P		**Pn**	**18 43 06.0**	**-1.4**
NGZ	**Ngauruhoe**	**12.42**	**203**	P		**Pn**	**18 43 07.7**	**0.0**
FWVZ	**Far West T-bar**	**12.50**	**203**	P		**Pn**	**18 43 07.7**	**-1.2**
BHHZ	**Black Hill Sta**	**12.55**	**201**	P		Pn	18 43 04.1	-5.1
KAHZ	**Kahuranaki**	**12.59**	**198**	P		**Pn**	**18 43 06.0**	**-3.7**
KRHZ	**Kereru**	**12.60**	**200**	P		**Pn**	**18 43 06.3**	**-3.5**
PKVZ	**Pokaka**	**12.61**	**204**	P		**Pn**	**18 43 08.6**	**-1.3**
VRZ	**Vera Road**	**12.68**	**206**	P		**P**	**18 43 11.4**	**-0.3**
PXZ	**Pawanui**	**12.82**	**197**	P		**Pn**	**18 43 09.9**	**-2.5**
TSZ	**Takapari Road**	**13.10**	**200**	P		**Pn**	**18 43 11.5**	**-4.3**
BFZ	**Birch Farm**	**13.59**	**198**	*e*P		**Pn**	**18 43 17.6**	**-4.1**
DZM	**Mont Dzumac**	**15.05**	**289**	P		**Pn**	**18 43 41.0**	**+1.5**
	8.4nm,0.3s,baz=102,slow=11,SNR=56							
DZM				S		**S**	**18 46 27.1**	**+4.2**
	0.1nm,0.3s,baz=131,slow=19,SNR=1.4							
DZM	**Mont Dzumac**	**15.05**	**289**	*e*P		**Pn**	**18 43 40.4**	**+1.0**
	336nm,1.6s							
AFI	**Afiamalu**	**15.11**	**25**	P		**P**	**18 43 33.6**	**-5.2**
	21nm,0.3s,baz=40,slow=1.6,SNR=19							
AFI				S		S	18 46 03.0	-21
	3.7nm,0.3s,baz=198,slow=19,SNR=4.2							
AFI	**Afiamalu**	**15.11**	**25**	*e*P		**P**	**18 43 33.7**	**-5.2**
AFI				*e*Pn		**Pn**	**18 43 34.8**	**-5.3**
AFI				S		S	18 46 03.0	-21
KHZ	**Kahutara**	**16.01**	**203**	*e*P		**P**	**18 43 47.1**	**-1.3**
	273nm,1.9s							
OXZ	**Oxford**	**17.34**	**204**	*e*P		**P**	**18 44 00.5**	**-2.3**
	109nm,1.6s							
RAR	**Rarotonga**	**18.02**	**73**	P		**P**	**18 44 10.3**	**-0.1**
	1.5nm,0.3s,baz=238,slow=11,SNR=3.3							
RPZ	**Rata Peaks**	**18.04**	**206**	P		**P**	**18 44 08.7**	**-1.7**
	1.2nm,0.3s,baz=292,slow=1.3,SNR=8.3							
RPZ				S		**S**	**18 47 17.0**	**-4.9**
	4.3nm,0.3s,baz=42,slow=16,SNR=13							
LHI	**Lord Howe Isla**	**20.07**	**254**	*e*P		**P**	**18 44 32.9**	**+0.8**
	144nm,0.8s							
WHZ	**Wether Hill Ro**	**21.09**	**208**	*e*P		**P**	**18 44 43.1**	**+1.0**
	52nm,1.2s							
EIDS	**Eidsvold**	**27.53**	**268**	*e*P		**P**	**18 45 40.9**	**+0.4**
	19nm,0.6s							
HNR	**Honiara**	**27.55**	**307**	P		**P**	**18 45 38.2**	**-2.5**
	37nm,0.4s,baz=162,slow=20,SNR=5.1							
PAE	**Paea**	**28.22**	**75**	*e*T		T	19 14 49.0	
	7.4nm,0.3s							
PPT2	**Papeete2**	**28.25**	**75**	*e*LQ		LQ	18 51 53.7	
	746nm,28.0s							
PPT2				*e*LR		LR	18 53 06.2	
	237nm,27.2s							
CTA	**Charters Tower**	**33.29**	**276**	P		**P**	**18 46 31.0**	**+0.1**
	18nm,0.6s,baz=103,slow=10							
CTAO	**Charters Tower**	**33.29**	**276**	*e*P		**P**	**18 46 31.3**	**+0.4**
CTAO				pmax		pmax		
	comp=Z,24nm,0.8s							
CTAO	**Charters Tower**	**33.29**	**276**	*e*P		**P**	**18 46 31.3**	**+0.4**
	comp=Z,24nm,0.8s							
STKA	**Stephens Creek**	**34.95**	**253**	P		**P**	**18 46 45.2**	**+0.3**
	comp=Z,8.5nm,0.5s,baz=100,slow=12,SNR=44							
STKA				PcP		**PcP**	**18 49 12.2**	**+1.8**
	comp=Z,5.6nm,0.7s,baz=105,slow=8.2,SNR=4.8							
STKA	**Stephens Creek**	**34.95**	**253**	*e*P		**P**	**18 46 45.3**	**+0.3**
STKA							18 49 12.2	
STKA				pmax		pmax		
	comp=Z,3.0nm,0.6s							
STKA	**Stephens Creek**	**34.95**	**253**	*e*P		**P**	**18 46 45.3**	**+0.3**
	comp=Z,2.9nm,0.6s							
STKA				PcP		**PcP**	**18 49 12.2**	**+1.8**
RKT	**Rikitea**	**39.17**	**93**	*e*T		T	19 28 00.5	
	comp=Z,1.5nm,0.3s							
AS01	**Alice Springs**	**43.08**	**264**	*e*P		**P**	**18 47 51.0**	**-1.1**
AS31	**Alice Springs**	**43.12**	**264**	*e*P		**P**	**18 47 51.6**	**-0.8**
	comp=Z,7.0nm,0.4s							
ASAR	**Alice Springs**	**43.12**	**264**	P		**P**	**18 47 51.6**	**-0.8**
	comp=Z,15nm,0.5s,baz=90,slow=6.9,SNR=154							
ASAR				pP		**pP**	**18 48 52.8**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=41,slow=41,SNR=2.3							
ASAR				PcP		**PcP**	**18 49 36.6**	**+0.1**
	comp=Z,4.1nm,0.5s,baz=124,slow=3.9,SNR=6.9							
ASAR				ScP		**ScP**	**18 53 01.8**	**+2.2**
	comp=Z,4.6nm,1.2s,baz=109,slow=4.2,SNR=4.2							
ASAR				S		**S**	**18 53 54.3**	**-2.1**
	comp=Z,1.7nm,0.8s,baz=102,slow=16,SNR=5.1							
WRAB	**Tennant Creek**	**43.87**	**270**	*ce*P		**P**	**18 47 57.0**	**-1.4**
WRAB				pmax		pmax		
	comp=Z,22nm,0.9s							
WRAB	**Tennant Creek**	**43.87**	**270**	*e*P		**P**	**18 47 56.4**	**-1.9**
	comp=Z,30nm,0.6s							
WR1	**Warramunga Arr**	**43.87**	**270**	*e*P		**P**	**18 47 57.2**	**-1.2**
	comp=Z,44nm,0.5s							
WR1				*e*pP		**pP**	**18 48 59.1**	**+1.0**
WR1				*e*PcP		**PcP**	**18 49 38.9**	**-0.1**
WRA	**Warramunga Arr**	**43.87**	**270**	P		**P**	**18 47 57.2**	**-1.2**
	comp=Z,34nm,0.5s,baz=108,slow=7.6,SNR=273							
WRA				pP		**pP**	**18 48 59.1**	**+1.0**
	comp=Z,3.0nm,0.6s,baz=106,slow=7.8,SNR=1.6							
WRA				PcP		**PcP**	**18 49 38.9**	**-0.1**
	comp=Z,13nm,0.9s,baz=107,slow=3.5,SNR=9.4							
WRA				ScP		**ScP**	**18 53 05.0**	**+2.4**
	comp=Z,3.4nm,1.2s,baz=111,slow=4.0,SNR=3.9							
WRA				S		**S**	**18 54 01.3**	**-6.1**
	comp=Z,2.6nm,1.0s,baz=110,slow=15,SNR=4.7							
SBA	**Scott Base**	**50.56**	**184**	P		P	18 48 53.8	+5.0
SBA	**Scott Base**	**50.56**	**184**	*e*P		P	18 48 53.8	+5.0
	comp=Z,125nm,1.2s							
VNDA	**Vanda**	**50.61**	**186**	P		**P**	**18 48 53.1**	**+3.9**
	comp=Z,17nm,0.6s,baz=7.0,slow=8.6,SNR=104							
VNDA	**Vanda**	**50.61**	**186**	*e*P		**P**	**18 48 52.0**	**+2.8**
VNDA				pmax		pmax		
	comp=Z,116nm,1.5s							
VNDA	**Vanda**	**50.61**	**186**	*e*P		**P**	**18 48 52.0**	**+2.8**
	comp=Z,116nm,1.5s							
FITZ	**Fitzroy Crossi**	**52.22**	**268**	P		**P**	**18 49 01.1**	**-0.8**
	comp=Z,9.2nm,0.5s,baz=103,slow=5.2,SNR=42							
NWAO	**Narrogin (SRO)**	**55.15**	**248**	P		**P**	**18 49 22.1**	**-0.8**
	comp=Z,9.3nm,0.9s,baz=83,slow=4.8,SNR=7.6							
SWI	**Sorong**	**55.26**	**290**	P		**P**	**18 49 23.0**	**-0.9**
MBWA	**Marble Bar**	**56.35**	**262**	*e*P		**P**	**18 49 30.2**	**-1.4**
	comp=Z,16nm,0.6s							
SOEI	**Soe**	**56.84**	**277**	P		**P**	**18 49 36.2**	**+1.0**
SOEI	**Soe**	**56.84**	**277**	*e*P		**P**	**18 49 35.3**	**+0.1**
	comp=Z,66nm,1.3s							
BATI	**Baumata**	**57.17**	**276**	P		**P**	**18 49 37.7**	**+0.3**
	comp=Z,11nm,0.5s,baz=157,slow=7.7,SNR=8.6							
CASY	**Casey**	**57.31**	**207**	*e*P		**P**	**18 49 37.8**	**+0.3**
	comp=Z,37nm,0.7s							
NLAI	**Namlea**	**57.51**	**285**	P		**P**	**18 49 39.1**	**-0.6**
LBMI	**Labuha**	**58.53**	**288**	P		**P**	**18 49 49.3**	**+2.5**
SANI	**Sanana**	**59.08**	**286**	P		**P**	**18 49 49.0**	**-1.5**
TNTI	**Ternate**	**59.41**	**289**	*e*P		**P**	**18 49 51.9**	**-0.9**
	comp=Z,26nm,0.9s							
KMSI	**Cibinong**	**62.15**	**287**	P		**P**	**18 50 12.9**	**+1.8**
QSPA	**South Pole Qui**	**62.25**	**180**	P		**P**	**18 50 14.3**	**+3.1**
	comp=Z,43nm,1.0s,baz=30,slow=10,SNR=74							
QSPA	**South Pole Qui**	**62.25**	**180**	*e*P		**P**	**18 50 14.1**	**+2.9**
	comp=Z,88nm,1.2s							
PBKI	**Pangkalan Bun**	**71.18**	**277**	P		**P**	**18 51 08.9**	**+1.0**
KKM	**Kota Kinabalu**	**71.61**	**287**	*e*P		**P**	**18 51 10.4**	**-0.1**
	comp=Z,29nm,0.8s							
CISI	**Cisompet, Garu**	**72.36**	**271**	P		**P**	**18 51 16.0**	**+1.0**
CISI	**Cisompet, Garu**	**72.36**	**271**	*e*P		**P**	**18 51 14.4**	**-0.6**
	comp=Z,81nm,0.9s							
LEM	**Lembang**	**72.86**	**271**	P		**P**	**18 51 17.8**	**-0.3**
	comp=Z,92nm,0.7s,baz=135,slow=8.6,SNR=30							
SBUM	**Sibu**	**73.19**	**282**	*e*P		**P**	**18 51 19.1**	**-0.7**
	comp=Z,28nm,0.9s							
KSM	**Kuching**	**74.38**	**280**	*e*P		**P**	**18 51 26.2**	**-0.4**
	comp=Z,52nm,0.7s							
MAW	**Mawson**	**74.63**	**200**	P		**P**	**18 51 29.3**	**+2.2**
	comp=Z,43nm,0.6s,baz=138,slow=7.2,SNR=34							
MAW	**Mawson**	**74.63**	**200**	*e*P		**P**	**18 51 29.5**	**+2.4**
MAW	**Mawson**	**74.63**	**200**	*e*P		**P**	**18 51 29.5**	**+2.4**
MJAR	**Matsushiro Arr**	**76.05**	**325**	P		**P**	**18 51 34.5**	**-1.1**
	comp=Z,6.3nm,0.6s,baz=163,slow=5.5,SNR=26							
MJAR				pP		**pP**	**18 52 43.0**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=172,slow=6.9,SNR=3.2							
MAJO	**Matsushiro**	**76.05**	**325**	*e*P		**P**	**18 51 34.7**	**-0.9**
MAJO				pmax		pmax		
	comp=Z,10.0nm,0.9s							
MAJO	**Matsushiro**	**76.05**	**325**	*e*P		**P**	**18 51 34.8**	**-0.9**
	comp=Z,12nm,0.6s							
MAJO				*e*pP		**pP**	**18 52 43.0**	**+0.3**
MAT	**Matsushiro**	**76.05**	**325**	P		**P**	**18 51 34.5**	**-1.1**
MJB9	**Matsu-Tunnel**	**76.05**	**325**	*e*P		**P**	**18 51 34.7**	**-0.9**
	comp=Z,12nm,0.6s							
KLI	**Kotabumi**	**76.19**	**272**	P		**P**	**18 51 36.3**	**-0.6**
KASI	**Kota Agung**	**76.21**	**271**	P		**P**	**18 51 36.4**	**-0.6**
LWLI	**Liwa**	**76.83**	**271**	P		**P**	**18 51 40.6**	**0.0**
MDSI	**Maura Dua**	**76.97**	**272**	P		**P**	**18 51 39.8**	**-1.5**
JNU	**Nakatsue**	**77.53**	**318**	P		**P**	**18 51 43.0**	**-0.9**
	comp=Z,7.6nm,0.7s,baz=108,slow=9.6,SNR=6.2							
TPRI	**Tanjung Pinang**	**79.17**	**277**	P		**P**	**18 51 53.9**	**+0.6**
MASI	**Maura Aman, Be**	**79.30**	**272**	P		**P**	**18 51 53.8**	**-0.3**
SYO	**Syowa Base**	**79.55**	**193**	*e*P		**P**	**18 51 54.0**	**-0.3**
SYO	**Syowa Base**	**79.55**	**193**	*e*PcP		**PcP**	**18 51 57.9**	**-3.3**
ASAJ	**Asahikawa**	**80.10**	**332**	P		**P**	**18 51 58.3**	**+0.8**
	comp=Z,6.2nm,0.8s,baz=144,slow=19,SNR=6.8							
ASAJ	**Asahikawa**	**80.10**	**332**	*e*P		**P**	**18 51 58.2**	**+0.7**
	comp=Z,9.7nm,0.9s							
SNAA	**Sanae**	**80.70**	**179**	P		**P**	**18 52 02.3**	**+1.7**
SNAA	**Sanae**	**80.70**	**179**	P		**P**	**18 52 02.0**	**+1.5**
	comp=Z,22nm,1.0s,baz=202,slow=6.5,SNR=18							
SNAA	**Sanae**	**80.70**	**179**	*e*P		**P**	**18 51 57.0**	**-3.6**
SNAA	**Sanae**	**80.70**	**179**	*e*P		**P**	**18 52 02.0**	**+1.5**
	comp=Z,62nm,1.3s							
VNA3	**Neumayer Olymp**	**80.86**	**176**	P		**P**	**18 52 03.0**	**+1.7**
VNA2	**Neumayer--Watz**	**81.29**	**177**	P		**P**	**18 52 05.8**	**+2.2**
	baz=184,slow=4.9							
NVL	**N'lazarevskaya**	**81.40**	**183**	*e*P		**P**	**18 52 03.9**	**-0.2**
NVL				pmax		pmax		
	comp=Z,43nm,1.4s							
VNA1	**Neumayer--Stat**	**81.52**	**177**	P		**P**	**18 52 06.9**	**+2.2**
KSRS	**Korea Array**	**82.29**	**320**	P		**P**	**18 52 09.9**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=135,slow=5.6,SNR=11							
KS15	**Wonju Array Si**	**82.30**	**320**	*e*P		**P**	**18 52 09.9**	**+0.7**
KSAR	**Wonju Array Be**	**82.30**	**320**	P		**P**	**18 52 09.9**	**+0.7**
KSAR	**Wonju Array Be**	**82.30**	**320**	P		**P**	**18 52 09.9**	**+0.7**
KS01	**Wonju Array Si**	**82.32**	**320**	*e*P		**P**	**18 52 08.6**	**-0.7**
YSS	**Yuzh-Sakhalins**	**82.38**	**334**	*e*P		**P**	**18 52 10.5**	**+1.2**
YSS				*e*			18 53 21.0	
YSS				pmax		pmax		
	comp=Z,10.0nm,0.7s							
YSS	**Yuzh-Sakhalins**	**82.38**	**334**	*e*P		**P**	**18 52 10.0**	**+0.6**
	comp=Z,32nm,1.1s							
SBI	**Santa Barbara**	**82.88**	**46**	*e*P		**P**	**18 52 13.8**	**+1.6**
SISI	**Saibi**	**82.92**	**272**	P		**P**	**18 52 14.5**	**+1.5**
PETK	**Petropavlovsk-**	**83.30**	**346**	P		**P**	**18 52 12.8**	**-1.2**
	comp=Z,6.7nm,0.7s,baz=88,slow=3.3,SNR=8.2							
PEA1	**Petropavlovsk-**	**83.31**	**346**	*e*P		**P**	**18 52 12.8**	**-1.2**
MNSI	**Mandailing Nat**	**83.47**	**274**	P		**P**	**18 52 14.7**	**-1.1**
BGC	**Bolinger Road**	**83.86**	**41**	*e*P		**P**	**18 52 20.6**	**+3.3**
CPIM	**Pinole Ridge**	**83.89**	**41**	*e*P		**P**	**18 52 20.5**	**+3.2**
IPM	**Ipoh**	**83.93**	**278**	*e*P		**P**	**18 52 17.5**	**-0.7**
	comp=Z,40nm,1.3s							
MWC	**Mount Wilson**	**83.97**	**46**	*e*P		**P**	**18 52 15.3**	**-2.8**
MWC	**Mount Wilson**	**83.97**	**46**	*e*P		**P**	**18 52 15.3**	**-2.8**
TJR	**Tejon Ranch**	**84.05**	**45**	*e*P		**P**	**18 52 15.1**	**-3.1**
PLCA	**Paso Flores**	**84.38**	**133**	P		**P**	**18 52 22.3**	**+2.2**
	comp=Z,7.7nm,1.1s,baz=240,slow=6.3,SNR=9.0							
PLCA	**Paso Flores**	**84.38**	**133**	*e*P		**P**	**18 52 21.8**	**+1.7**
PLCA				pmax		pmax		
	comp=Z,12nm,1.1s							
PLCA	**Paso Flores**	**84.38**	**133**	*e*P		**P**	**18 52 21.8**	**+1.7**
	comp=Z,12nm,1.1s							
NJ2	**Nanjing**	**84.45**	**311**	*e*P		**P**	**18 52 21.1**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
ISA	**Isabella, Lake**	**84.62**	**45**	*e*P		**P**	**18 52 22.2**	**+1.0**
ISA				pmax		pmax		
	comp=Z,13nm,1.3s							
ISA	**Isabella, Lake**	**84.62**	**45**	*e*P		**P**	**18 52 22.2**	**+1.0**
	comp=Z,13nm,1.3s							
KULM	**Kulim**	**84.65**	**279**	*e*P		**P**	**18 52 21.6**	**-0.1**
	comp=Z,40nm,1.3s							
BBRC	**Big Bear Solar**	**84.73**	**47**	*e*P		**P**	**18 52 19.8**	**-2.1**
USRK	**Ussuriysk Ar.**	**84.94**	**327**	P		**P**	**18 52 20.0**	**-2.4**
	comp=Z,6.9nm,0.8s,baz=145,slow=5.3,SNR=10							
PSI	**Prapat**	**84.99**	**276**	P		**P**	**18 52 23.0**	**-0.6**
	comp=Z,18nm,0.7s,baz=135,slow=5.7,SNR=21							
PSI	**Prapat**	**84.99**	**276**	*e*P		**P**	**18 52 22.7**	**-0.9**
PSI				pmax		pmax		
	comp=Z,81nm,1.4s							
PSI	**Prapat**	**84.99**	**276**	*e*P		**P**	**18 52 22.7**	**-0.9**
	comp=Z,81nm,1.4s							
CMB	**Columbia Colle**	**85.00**	**42**	*e*P		**P**	**18 52 24.0**	**+1.1**
CMB				*e*pP		**pP**	**18 53 30.6**	**-0.9**
AFDM	**Forest Hills D**	**85.25**	**41**	*e*pP		pP	18 53 32.0	-0.8
ORV	**Oroville**	**85.35**	**40**	*e*pP		pP	18 53 32.3	-0.9
GSC	**Goldstone, Bar**	**85.45**	**46**	*e*P		**P**	**18 52 26.1**	**+0.8**
GSC				*e**PP		**pP**	**18 53 33.6**	**-0.4**
GSC	**Goldstone, Bar**	**85.45**	**46**	*e*P		**P**	**18 52 26.1**	**+0.8**
GSC				*e*pP		**pP**	**18 53 33.6**	**-0.4**
WDC	**Whiskeytown Da**	**85.45**	**39**	*e*P		**P**	**18 52 22.8**	**-2.3**
WDC				*e**PP		**pP**	**18 53 33.5**	**-0.3**
WDC	**Whiskeytown Da**	**85.45**	**39**	*e*P		**P**	**18 52 22.8**	**-2.3**
WDC				*e*pP		**pP**	**18 53 33.5**	**-0.3**
GSI	**Gunungsitoli**	**85.48**	**274**	*e*P		**P**	**18 52 25.4**	**-0.4**
	comp=Z,93nm,0.9s							
MDPB	**Devils Postpil**	**85.52**	**43**	*e*P		**P**	**18 52 26.2**	**+0.4**
MDPB				*e*pP		**pP**	**18 53 33.4**	**-1.0**
TYV	**Tymovskoe**	**85.65**	**336**	*e*P		**P**	**18 52 26.2**	**+0.5**
TYV				pmax		pmax		
	comp=Z,7.0nm,1.9s							
TYV				pmax		pmax		
	comp=Z,100nm,3.9s							
WAKR	**Walker**	**85.87**	**42**	*e*P		**P**	**18 52 26.0**	**-1.4**
WAKR				*e*pP		**pP**	**18 53 35.1**	**-1.1**
BEKR	**Beckworth**	**86.22**	**41**	*e*P		**P**	**18 52 26.8**	**-2.2**
	comp=Z,60nm,0.8s							
MDJ	**Mudanjiang**	**86.42**	**326**	P		**P**	**18 52 29.0**	**-0.6**
MDJ				pP		pP	18 53 39.3	+0.8
MDJ				sP		sP	18 54 09.3	+0.5
MDJ				S		**S**	**19 02 43.4**	**+3.1**
MDJ				pmax		pmax		
	comp=Z,15nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,210nm,5.7s							
MDJ	**Mudanjiang**	**86.42**	**326**	*e*P		**P**	**18 52 29.8**	**+0.2**
	comp=Z,12nm,1.0s							
NVAR	**Mina Array Bea**	**86.50**	**43**	P		**P**	**18 52 30.9**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=223,slow=8.1,SNR=12							
NVAR				pP		**pP**	**18 53 38.2**	**-1.1**

	comp=Z,34nm,1.9s									
RND	**Reindeer**	**93.88**	**13**	*e*P		**P**		**18 53 04.1**	**+0.1**
	comp=Z,34nm,1.9s									
REDW	**Red Top Meadow**	**93.97**	**42**	*e*pP		pP		18 54 13.8	-0.9
FXWY	**Fox Creek**	**94.03**	**42**	*e*P		**P**		**18 53 06.2**	**+0.8**
	comp=Z,5.4nm,0.9s									
PD31	**Pinedale Array**	**94.42**	**43**	*e*pP		pP		18 54 15.7	-1.1
PDAR	**Pinedale Array**	**94.42**	**43**	P		**P**		**18 53 07.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=209,slow=3.2,SNR=3.3									
PDAR				pP		**pP**		**18 54 15.7**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=208,slow=3.0,SNR=5.3									
PDAR				PKKPbc		**PKKPdf**		**19 10 05.1**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=52,slow=1.5,SNR=2.6									
PDAR	**Pinedale Array**	**94.42**	**43**	*e*P		**P**		**18 53 07.0**	**-0.3**
PDAR				*e*pP		**pP**		**18 54 15.2**	**-1.6**
PDAR				PKKPbc		**PKKPdf**		**19 10 05.1**	**-0.9**
CD2	**Chengdu**	**94.57**	**302**	*e*P		**P**		**18 53 08.0**	**0.0**
CD2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
ILAR	**Eielson Array**	**95.49**	**13**	P		**P**		**18 53 10.4**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=221,slow=5.9,SNR=6.6									
ILAR				pP		**pP**		**18 54 20.4**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=301,slow=47,SNR=2.7									
ILB	**Eielson Array**	**95.49**	**13**	*e*pP		pP		18 54 20.4	-0.5
BILL	**Bilibino**	**96.29**	**354**	*i* P		**P**		**18 53 13.3**	**-1.5**
BILL				*i*				18 54 25.0		
BILL				pmax		pmax				
	comp=Z,2.0nm,1.0s									
LZH	**Lanzhou**	**97.05**	**307**	*e*P		Pdif		18 53 25.8	+6.5
LZH				pP		pP		18 54 34.1	+5.2
LZH				sP		sP		18 55 03.0	+4.0
LZH				ePP		PP		18 57 28.1	+8.4
SONA0	**Songino Array**	**101.12**	**318**	*e*Pdif		**Pdif**		**18 53 36.2**	**-0.9**
SONA0				*e*PKKPbc		**PKKPbc**		**19 09 48.7**	**+0.6**
SONM	**Songino Array**	**101.12**	**318**	P		**Pdif**		**18 53 36.2**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=134,slow=4.3,SNR=2.9									
SONM				PKKPbc		**PKKPbc**		**19 09 48.7**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=321,slow=1.8,SNR=4.6									
YKA	**Yellowknife Ar**	**103.23**	**25**	PKPbc		**PKKPbc**		**19 09 39.3**	**-3.0**
	comp=Z,0.5nm,0.6s,baz=40,slow=2.8,SNR=8.9									
TIXI	**Tiksi**	**105.76**	**345**	PKiKP		**PKiKP**		**18 58 06.6**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=130,slow=4.5,SNR=3.6									
ULM	**Lac du Bonnet**	**106.29**	**42**	PKKPab		PKKPab		19 09 46.6	+0.6
	comp=Z,3.6nm,0.9s,baz=84,slow=6.6,SNR=7.1									
WMQ	**Urumqi**	**111.49**	**309**	*e*PKP		**PKiKP**		**18 58 19.0**	**-0.6**
RES	**Resolute Bay**	**114.87**	**17**	PKP		PKPdf		18 58 24.4	-0.7
	comp=Z,0.8nm,0.6s,baz=262,slow=3.7,SNR=7.1									
MK01	**Makanchi Array**	**115.96**	**311**	*e*PKPdf		**PKPdf**		**18 58 26.9**	**-1.1**
MK31	**Makanchi Array**	**115.98**	**311**	*e*PKPdf		**PKPdf**		**18 58 26.9**	**-1.1**
MK32	**Makanchi Array**	**115.98**	**311**	*e*PKPdf		**PKPdf**		**18 58 26.9**	**-1.2**
MK32				*e*PKKPbc		**PKKPbc**		**19 09 01.4**	**+0.7**
MKAR	**Makanchi Array**	**115.98**	**311**	PKP		**PKPdf**		**18 58 26.9**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=80,slow=1.5,SNR=26									
MKAR				PKKPbc		**PKKPbc**		**19 09 01.4**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=268,slow=4.3,SNR=8.0									
MKAR	**Makanchi Array**	**115.98**	**311***c*	*i* PKIKP		**PKPdf**		**18 58 26.8**	**-1.3**
MKAR				pmax		pmax				
	comp=Z,3.0nm,0.8s									
ZAA1	**Zalesovo Array**	**116.00**	**319**	*e*PKPdf		**PKPdf**		**18 58 26.8**	**-1.0**
ZALV	**Zalesovo Beam**	**116.00**	**319**	PKP		**PKPdf**		**18 58 26.8**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=173,slow=3.3,SNR=6.2									
OPO	**Ambohidratompo**	**116.27**	**229**	PKP		**PKPdf**		**18 58 30.9**	**+1.1**
	comp=Z,4.2nm,0.6s,baz=116,slow=3.3,SNR=5.7									
PRZ	**Przheval'sk**	**117.67**	**306**	PKiKP		**PKPdf**		**18 58 32.5**	**+0.8**
KSH	**Kashi**	**118.76**	**302**	*e*PKP		**PKPdf**		**18 58 34.4**	**+0.6**
KSH				PP		**PP**		**18 59 59.3**	**+2.2**
KSH				AMB		AMB				
	comp=Z,200nm,5.4s									
KSH				LR		LR				
	comp=Z,97nm,6.0s									
KSH				LR		LR				
	comp=Z,86nm,7.8s									
KSH				LR		LR				
	comp=Z,190nm,6.2s									
KURK	**Kurchatov**	**119.14**	**315***c*	*i* PKIKP		**PKPdf**		**18 58 33.0**	**-1.0**
KURK				pmax		pmax				
	comp=Z,24nm,1.0s									
KURK	**Kurchatov**	**119.14**	**315**	*e*PKPdf		**PKPdf**		**18 58 32.1**	**-1.8**
KURK				*e*PKPdf		**PKiKP**		**18 58 33.5**	**-0.5**
ULHL	**Ulahol**	**119.17**	**305**	P		**PKPdf**		**18 58 35.0**	**+0.4**
	SNR=5.0									
NRN	**Naryn**	**119.17**	**304**	PKIKP		**PKPdf**		**18 58 34.9**	**+0.1**
KURBB	**Kurchatov Arra**	**119.18**	**315**	PKP		**PKPdf**		**18 58 32.2**	**-1.9**
	comp=Z,4.5nm,0.7s,baz=106,slow=2.0,SNR=14									
BOSA	**Boshof**	**119.52**	**204**	PKP		**PKPdf**		**18 58 36.7**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=147,slow=3.2,SNR=8.0									
TKM2	**Tokmak 2**	**119.78**	**306**	P		**PKPdf**		**18 58 35.6**	**-0.2**
	SNR=9.6									
KZA	**Kyzart**	**119.86**	**305**	P		**PKPdf**		**18 58 36.7**	**+0.5**
	SNR=6.3									
KBK	**Karagaybulak**	**120.19**	**305**	P		**PKPdf**		**18 58 36.4**	**-0.1**
	SNR=5.3									
CHMS	**Chumysh**	**120.40**	**306**	P		**PKPdf**		**18 58 36.4**	**-0.4**
	SNR=5.5									
UCH	**Uchtor**	**120.43**	**305**	P		**PKPdf**		**18 58 37.7**	**+0.4**
	SNR=7.1									
AAK	**Ala-Archa**	**120.52**	**305**	*i* PKIKP		**PKPdf**		**18 58 36.3**	**-0.8**
AAK	**Ala-Archa**	**120.52**	**305**	*e*PKPdf		**PKPdf**		**18 58 37.2**	**0.0**
USP	**Ospenovka**	**120.63**	**306**	P		**PKPdf**		**18 58 37.1**	**-0.1**
	SNR=8.7									
AML	**Almayashu**	**121.00**	**304**	P		**PKPdf**		**18 58 38.4**	**0.0**
	SNR=11									
EKS2	**Erkin-Say**	**121.04**	**305**	P		**PKPdf**		**18 58 38.4**	**+0.3**
	SNR=5.5									
KBL	**Kabul**	**123.02**	**295**	*e*PKPdf		**PKPdf**		**18 58 43.0**	**+0.8**
FRB	**Frobisher Bay**	**123.28**	**30**	PKP		**PKPdf**		**18 58 40.7**	**-0.8**
	comp=Z,5.4nm,0.7s,baz=305,slow=2.8,SNR=12									
KKAR	**Karatay Array**	**123.48**	**305**	*e*PKIKP		**PKPdf**		**18 58 42.5**	**-0.1**
KKAR	**Karatay Array**	**123.48**	**305**	*e*PKPdf		**PKPdf**		**18 58 42.5**	**-0.1**
BVAR	**Borovoye Array**	**124.44**	**317**	PKP		**PKPdf**		**18 58 43.7**	**-0.4**
	comp=Z,5.1nm,0.6s,baz=90,slow=2.0,SNR=39									
SCHQ	**Schefferville**	**124.45**	**41**	PKP		**PKPdf**		**18 58 43.5**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=278,slow=7.1,SNR=3.3									
BRVK	**Borovoye**	**124.50**	**317***c*	*i* PKIKP		**PKPdf**		**18 58 44.0**	**-0.2**
BRVK				pmax		pmax				
	comp=Z,16nm,1.0s									
BRVK	**Borovoye**	**124.50**	**317**	*e*PKPdf		**PKPdf**		**18 58 44.1**	**-0.1**
SPITS	**Spitsbergen Ar**	**129.15**	**356**	PKP		**PKPdf**		**18 58 52.2**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=5.7,slow=4.3,SNR=16									
LSZ	**Lusaka**	**130.07**	**214**	*e*PKPdf		**PKPdf**		**18 58 57.1**	**+0.9**
ARU	**Arti**	**130.99**	**322**	*i* PKIKP		**PKPdf**		**18 58 55.7**	**-0.8**
ARU								19 01 16.6		
ARU				SS		SS		19 18 26.3	+2.0
ARU	**Arti**	**130.99**	**322**	*e*PKPdf		**PKPdf**		**18 58 56.1**	**-0.4**
AB31	**Akbulak array**	**131.08**	**312**	*e*PKIKP		**PKPdf**		**18 58 56.9**	**0.0**
AB31	**Akbulak array**	**131.08**	**312**	*e*PKPdf		**PKPdf**		**18 58 56.9**	**0.0**
ABKAR	**Akbulak array**	**131.08**	**312**	*e*PKPdf		**PKPdf**		**18 58 57.1**	**+0.2**
UOSS	**Minazif**	**131.50**	**280**	*e*PKPdf		**PKPdf**		**18 58 57.8**	**-0.7**
AKTO	**Aktyubinsk**	**132.22**	**314**	PKP		**PKPdf**		**18 58 58.3**	**-0.7**
	comp=Z,4.0nm,0.7s,baz=67,slow=4.2,SNR=20									
GEYT	**Alibeck**	**132.27**	**297**	PKP		**PKPdf**		**18 59 00.2**	**+0.6**
	comp=Z,4.4nm,0.8s,baz=96,slow=1.5,SNR=12									
KMBO	**Kilima Mbogo**	**135.40**	**236**	PKP		**PKPdf**		**18 59 08.0**	**+1.5**
	comp=Z,3.1nm,0.9s,baz=338,slow=3.5,SNR=7.0									
ARA0	**ARCESS Array S**	**136.06**	**348**	*e*PKPpre		PKPpre		18 58 57.1		
ARA0				*e*PKPdf		**PKPdf**		**18 59 05.3**	**-0.3**
ARCES	**ARCESS Array B**	**136.06**	**348**	PKhKP		PKPpre		18 58 57.1		
	comp=Z,2.1nm,0.8s,baz=30,slow=2.9,SNR=9.1									
ARCES				PKP		**PKPdf**		**18 59 05.3**	**-0.3**
	comp=Z,8.3nm,0.9s,baz=23,slow=1.2,SNR=21									
KLMR	**Klimovskoe**	**138.42**	**333**	*e*PKIKP		**PKPdf**		**18 59 07.8**	**-2.4**
KLMR				pmax		pmax				
	comp=Z,16nm,1.3s									
KLMR	**Klimovskoe**	**138.42**	**333**	*e*PKPdf		**PKPdf**		**18 59 07.9**	**-2.3**
KLMR				AMP				18 59 10.4		
	comp=Z,16nm,1.3s									
RAYN	**Ar Rayn**	**140.52**	**274**	PKIKP		**PKPdf**		**18 59 14.6**	**-0.7**
RAYN	**Ar Rayn**	**140.52**	**274**	*e*PKPdf		**PKPdf**		**18 59 14.6**	**-0.7**
VRH	**Novokhopyorsk**	**142.03**	**319**	*e*PKIKP		**PKPdf**		**18 59 17.0**	**0.0**
VRH				pmax		pmax				
	comp=Z,7.0nm,0.6s									
GNI	**Garni**	**142.67**	**301**	*i* PKIKP		**PKPdf**		**18 59 16.8**	**-2.0**
FIA1	**FINESS Array S**	**142.69**	**341**	*e*PKPpre		PKPpre		18 59 13.6		
FIA0	**FINESS Array S**	**142.69**	**341**	*e*PKHKP		PKPpre		18 59 13.0		
FIA0	**FINESS Array S**	**142.69**	**341**	*e*PKPpre		PKPpre		18 59 13.0		
FINES	**FINESS Array B**	**142.69**	**341**	PKhKP		PKPpre		18 59 13.0		
	comp=Z,2.0nm,0.4s,baz=45,slow=3.4,SNR=23									
FINES	**FINESS Array B**	**142.69**	**341***c*	*i* PKIKP		**PKPdf**		**18 59 20.7**	**+2.8**
FINES				pmax		pmax				
	comp=Z,3.0nm,0.6s									
ZEI	**Tsey**	**142.94**	**305**	*i* PKIKP		PKPpre		18 59 16.0		
ZEI				pmax		pmax				
	comp=Z,7.0nm,0.7s									
OBN	**Obninsk**	**142.96**	**327**↑	*e*PKIKP		PKPpre		18 59 15.0		
OBN				*e*				19 02 37.5		
OBN				pmax		pmax				
	comp=Z,23nm,2.0s									
LPSR	**Galich'ya Gora**	**143.01**	**322**	*e*PKHKP		PKPpre		18 59 14.6		
LPSR				pmax		pmax				
	comp=Z,6.0nm,0.5s									
GOF	**Gofitskoye**	**143.09**	**309**↑	*e*PKIKP		PKPbc		18 59 16.5	-0.5
GOF				pmax		pmax				
	comp=Z,21nm,0.7s									
AKH	**Akhalkalaki**	**143.46**	**303**	*e*PKIKP		PKPab		18 59 17.6	+0.4
AKH	**Akhalkalaki**	**143.46**	**303**	||*i*P		PKPbc		18 59 18.5	+0.2
AKH	**Akhalkalaki**	**143.46**	**303**	*e*PKPpre		PKPbc		18 59 17.6	-0.7
KBZ	**Khabaz**	**143.49**	**307**	PKP		PKPbc		18 59 17.8	-0.2
	comp=Z,5.6nm,0.9s,baz=132,slow=1.5,SNR=9.1									
VSR	**Storozhevoye**	**143.50**	**320**	*e*PKIKP		PKPab		18 59 16.5	-0.3
VSR				pmax		pmax				
	comp=Z,10.0nm,1.0s									
KIV	**Kislovodsk**	**143.59**	**307**	*e*PKIKP		PKPbc		18 59 18.6	+0.1
KIV				pmax		pmax				
	comp=Z,15nm,1.1s									
KIV	**Kislovodsk**	**143.59**	**307**	*e*PKPdf		PKPbc		18 59 18.9	+0.5
VSU	**Vasula**	**144.82**	**337**	*e*PKIKP		PKPbc		18 59 19.6	-1.9
NC303	**NORSAR Array S**	**146.01**	**352**	*e*PKPdf		**PKPdf**		**18 59 24.3**	**+0.6**
NC405	**NORSAR Array S**	**146.07**	**351**	*e*PKPdf		**PKPdf**		**18 59 23.2**	**-0.6**
NB201	**NORSAR Array S**	**146.19**	**352**	*e*PKPdf		**PKPdf**		**18 59 23.8**	**-0.3**
NB2	**NORSAR Subarra**	**146.21**	**352**	PKP		**PKPdf**		**18 59 24.4**	**+0.3**
	comp=Z,17nm,0.8s,baz=13,slow=2.9									
NB2	**NORSAR Subarra**	**146.21**	**352**	PKP		pPKPdf		19 00 35.0	-2.3
	comp=Z,32nm,1.7s,baz=10,slow=3.2									
NB200	**NORSAR Array S**	**146.21**	**352**	*e*PKPdf		**PKPdf**		**18 59 24.7**	**+0.6**
NB200				*ep*PKPdf		**pPKPdf**		**19 00 35.9**	**-1.4**
NOA	**NORSAR Array B**	**146.21**	**352**	PKPbc		**PKPdf**		**18 59 24.7**	**+0.6**
	comp=Z,11nm,0.7s,baz=14,slow=4.5,SNR=26									
NOA				pPKPbc		**pPKPdf**		**19 00 35.9**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=26,slow=0.3,SNR=1.3									
NBO02	**NORSAR Array S**	**146.24**	**352**	*e*PKPdf		**PKPdf**		**18 59 24.2**	**+0.2**
NBO00	**NORSAR Array S**	**146.27**	**352**	*e*PKPdf		**PKPbc**		**18 59 25.6**	**-0.3**
NAO01	**NORSAR Array S**	**146.44**	**352**	*e*PKPdf		**PKPbc**		**18 59 26.0**	**-0.3**
NC602	**NORSAR Array S**	**146.46**	**351**	*e*PKPdf		**PKPdf**		**18 59 25.1**	**+0.7**
HFS	**Hagfors**	**146.71**	**349**	PKPbc		**PKPbc**		**18 59 26.0**	**-1.0**
	comp=Z,21nm,0.7s,baz=45,slow=2.2,SNR=33									
IZAR	**Zarasai**	**147.03**	**335**	*e*P		**PKPbc**		**18 59 27.6**	**-0.5**
IZAR				IAmb		IAmb		18 59 29.4		
	comp=Z,16nm,0.9s									
IDID	**Didziasalis**	**147.16**	**334**	*e*P		**PKPbc**		**18 59 28.0**	**-0.5**
IDID				IAmb		IAmb		18 59 29.7		
	comp=Z,13nm,1.0s									
ISAL	**Salakas**	**147.21**	**334**	*e*P		**PKPbc**		**18 59 28.3**	**-0.3**
ISAL				IAmb		IAmb		18 59 29.9		
	comp=Z,10.0nm,1.0s									
IIGN	**Ignalina**	**147.34**	**334**	*e*P		**PKPbc**		**18 59 28.6**	**-0.3**
IIGN				IAmb		IAmb		18 59 30.3		
	comp=Z,15nm,0.9s									
KONO	**Kongsberg**	**147.76**	**353***c*	*i* PKP2		**PKPbc**		**18 59 30.1**	**+0.2**
KONO				pmax		pmax				
	comp=Z,314nm,2.5s									
KONO	**Kongsberg**	**147.76**	**353**	*e*PKPbc		**PKPbc**		**18 59 29.4**	**-0.5**
AKASG	**Malin Array Be**	**149.13**	**325**	PKPbc		**PKPbc**		**18 59 32.3**	**-1.3**
	comp=Z,16nm,0.7s,baz=44,slow=4.2,SNR=34									
AKASG				pPKPbc		**pPKPbc**		**19 00 45.2**	**-1.0**
	comp=Z,0.5nm,0.2s,baz=43,slow=3.4,SNR=3.4									
AKBB	**Malin Array Si**	**149.13**	**325**	*e*PKPbc		**PKPbc**		**18 59 33.1**	**-0.5**
KIEV	**Kiev**	**149.15**	**325**	*e*PKPbc		**PKPbc**		**18 59 33.1**	**-0.6**
AK11	**Malin Array Si**	**149.18**	**325**	*e*PKPdf		**PKPdf**		**18 59 31.0**	**+1.8**
SUW	**Suwalki**	**149.51**	**335**	*e*PKP		**PKPbc**		**18 59 34.5**	**+0.1**
SUW				*e*				19 00 49.7		
SUW	**Suwalki**	**149.51**	**335**	*e*PKP2		**PKPbc**		**18 59 34.6**	**+0.1**
SUW	**Suwalki**	**149.51**	**335**	*e*PKPbc		**PKPbc**		**18 59 34.6**	**+0.2**
MMAI	**Mount Meron Ar**	**150.64**	**288**	PKPbc		**PKPbc**		**18 59 39.0**	**+1.1**
	comp=Z,23nm,0.6s,baz=64,slow=3.4,SNR=50									
ILGA	**Ilgaz**	**150.74**	**305**	*e*PKPbc		**PKPbc**		**18 59 39.2**	**+1.1**
MUD	**Monsted U'grnd**	**150.93**	**352**	*i* PKIKP		**PKPbc**		**18 59 37.7**	**0.0**
MUD				pmax		pmax				
	comp=Z,24nm,0.9s									
MUD	**Monsted U'grnd**	**150.93**	**352**	*i* P		**PKPbc**		**18 59 37.7**	**0.0**
	comp=Z,24nm,0.9s									
SORM	**Soroca**	**151.11**	**322**	PKIKP		**PKPbc**		**18 59 38.2**	**-0.2**
SORM	**Soroca**	**151.11**	**322**	||*i*P		**PKPbc**		**18 59 38.2**	**-0.2**
BSD	**Bornholm Skovb**	**151.14**	**344**	*i* PKIKP		**PKPbc**		**18 59 37.3**	**-0.9**
BSD				pmax		pmax				
	comp=Z,37nm,0.8s									
BSD	**Bornholm Skovb**	**151.14**	**344**	*i* P		**PKPbc**		**18 59 37.3**	**-0.9**
	comp=Z,37nm,0.8s									
COP	**Copenhagen**	**151.14**	**347**	*i* PKIKP		**PKPbc**		**18 59 39.0**	**+0.8**
COP				pmax		pmax				
	comp=Z,33nm,0.8s									
COP	**Copenhagen**	**151.14**	**347**	*i* P		**PKPbc**		**18 59 39.0**	**+0.8**
	comp=Z,33nm,0.8s									
BR101	**Keskin Array S**	**151.15**	**302**	*e*PKPbc		**PKPbc**		**18 59 38.5**	**-0.5**
BR101				*e*PKPab		**PKPab**		**18 59 47.6**	**-0.4**
BR131	**Keskin Array S**	**151.15**	**302**	*e*PKPbc		**PKPbc**		**18 59 38.6**	**-0.4**
BRTR	**Keskin Array B**	**151.15**	**302**	PKPbc		**PKPbc**		**18 59 38.5**	**-0.4**
	comp=Z,6.1nm,0.6s,baz=130,slow=3.2,SNR=34									
BRTR				PKPab		**PKPab**		**18 59 47.6**	**-0.4**
	comp=Z,5.0nm,0.6s,baz=99,slow=3.5,SNR=12									
BRTR				pPKPbc		**pPKPbc**		**19 00 52.8**	**+1.1**
	comp=Z,4.6nm,1.0s,baz=124,slow=2.2,SNR=4.8									
LLD	**Lille Linde**	**151.51**	**347**	*i* PKIKP		**PKPbc**		**18 59 39.6**	**+0.5**
LLD				pmax		pmax				
	comp=Z,59nm,0.7s									
LLD	**Lille Linde**	**151.51**	**347**	*i* P		**PKPbc**		**18 59 39.6**	**+0.5**
	comp=Z,59nm,0.7s									
MILM	**Milestii Mici**	**151.53**	**319**↑	||*i*P		**PKPbc**		**18 59 39.0**	**-0.4**
ANTO	**Ankara**	**151.74**	**303**	*e*PKIKP		**PKPbc**		**18 59 40.5**	**+0.2**
ANTO	**Ankara**	**151.74**	**303**	*e*PKPbc		**PKPbc**		**18 59 40.5**	**+0.2**
BR231	**Keskin MP Arra**	**151.76**	**303**	*e*PKPbc		**PKPbc**		**18 59 41.1**	**+0.7**
BEL	**Belsk**	**152.12**	**334**	*e*PKP		**PKPbc**		**18 59 41.5**	**+0.9**
BEL				*e*				19 00 58.4		
BEL	**Belsk**	**152.12**	**334**	*e*PKIKP		**PKPbc**		**18 59 41.5**	**+0.9**
GKP	**Gorka Klasztor**	**152.15**	**340**	*e*PKP		**PKPbc**		**18 59 41.3**	**+0.7**
GKP	**Gorka Klasztor**	**152.15**	**340**	*e*PKIKP		**PKPbc**		**18 59 41.3**	**+0.7**
CSS	**Mathiatis**	**152.24**	**293**	*e*PKPbc		**PKPbc**		**18 59 41.5**	**+0.1**
EKA	**Eskdalemuir Ar**	**152.30**	**6**	PKP		**PKPdf**		**18 59 31.6**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=337,slow=1.7,SNR=3.4									
EKA				PKPbc		**PKPbc**		**18 59 40.0**	**-0.9**
	comp=Z,2.4nm,0.5s,baz=336,slow=1.6,SNR=19									
EKA				PKPab		**PKPab**		**18 59 51.1**	**-0.9**
	comp=Z,3.6nm,0.6s,baz=341,slow=3.1,SNR=11									
CFR	**Carcaliu**	**152.84**	**317**	PKIKP		**PKPbc**		**18 59 42.3**	**-0.1**
CFR	**Carcaliu**	**152.84**	**317**	||*i*P		**PKPbc**		**18 59 42.3**	**-0.1**
KWP	**Kalwaria Pacla**	**152.98**	**329**	*e*PKP		**PKPbc**		**18 59 43.1**	**+0.5**
KWP	**Kalwaria Pacla**	**152.98**	**329**	PKP2		**PKPab**		**18 59 55.3**	**+0.1**
KWP	**Kalwaria Pacla**	**152.98**	**329**	*e*PKPab		**PKPab**		**18 59 55.3**	**+0.1**
TESR	**Tescani**	**152.99**	**320**	||*i*P		**PKPab**		**18 59 55.1**	**-0.2**
TIRR	**Tirgusor**	**153.02**	**315**	PKIKP		**PKPbc**		**18 59 43.4**	**+0.6**
TIRR	**Tirgusor**	**153.02**	**315**	||*i*P		**PKPbc**		**18 59 43.4**	**+0.6**
TIRR	**Tirgusor**	**153.02**	**315**	*e*PKPab		**PKPab**		**18 59 56.1**	**+0.6**
BUR08	**Bucovina Ar. S**	**153.10**	**324**	*e*PKPbc		**PKPbc**		**18 59 44.1**	**+1.1**
BURAR	**Bucovina Array**	**153.11**	**324**	PKIKP		**PKPbc**		**18 59 43.5**	**+0.4**
BURAR	**Bucovina Array**	**153.11**	**324**	||*i*P		**PKPbc**		**18 59 43.5**	**+0.4**
BUR04	**Bucovina Ar. S**	**153.11**	**324**	*e*PKPbc		**PKPbc**		**18 59 43.8**	**+0.7**
VRI	**Vrincioaia**	**153.31**	**319**	PKIKP		**PKPbc**		**18 59 43.4**	**-0.1**
VRI	**Vrincioaia**	**153.31**	**319**	||*i*P		**PKPbc**		**18 59 43.4**	**-0.1**
PLOR	**Plostina**	**153.36**	**319**	PKIKP		**PKPbc**		**18 59 43.3**	**-0.3**
PLOR	**Plostina**	**153.36**	**319**↑	||*i*P		**PKPbc**		**18 59 43.3**	**-0.3**
OJC	**Ojcow**	**153.77**	**333**	*e*PKP		**PKPbc**		**18 59 44.9**	**+0.6**
OJC	**Ojcow**	**153.77**	**333**	*e*PKIKP		**PKPbc**		**18 59 44.9**	**+0.6**
STHS	**Stebnicka Huta**	**153.79**	**330**	*e*PKP2		**PKPab**		**18 59 59.2**	**+0.6**
STHS	**Stebnicka Huta**	**153.79**	**330**	*e*PKP		**PKPab**		**18 59 59.2**	**+0.6**
UZH	**Uzhgorod**	**153.88**	**328**	*e*PKP2		**PKPab**		**18 59 58.9**	**-0.1**
MLR	**Muntele Rosu**	**153.97**	**319**	PKPbc		**PKPbc**		**18 59 45.1**	**0.0**
	baz=89,slow=4.6									
MLR	**Muntele Rosu**	**153.97**	**319**	PKIKP		**PKPbc**		**18 59 44.9**	**-0.1**
MLR	**Muntele Rosu**	**153.97**	**319**↑	||*i*P		**PKPbc**		**18 59 44.9**	**-0.1**
CRVS	**Cervenica-Dubn**	**154.07**	**329**	*e*PKP2		**PKPab**		**18 59 59.8**	**0.0**
CRVS	**Cervenica-Dubn**	**154.07**	**329**	*e*PKP		**PKPab**		**18 59 59.8**	**0.0**
KSP	**Ksiaz**	**154.53**	**338**	*e*PKP		**PKPbc**		**18 59 46.8**	**+0.9**
KSP				*e*				19 01 14.7		
KSP	**Ksiaz**	**154.53**	**338**	*e*PKIKP		**PKPbc**		**18 59 46.8**	**+0.9**
LANS	**Liptovska Anna**	**154.74**	**332**	*e*PKIKP		**PKPbc**		**18 59 47.8**	**+1.4**
LANS				*e*				19 00 02.9		
LANS	**Liptovska Anna**	**154.74**	**332**	*e*PKP		**PKPbc**		**18 59 47.8**	**+1.4**
LANS				*e*				19 00 02.9		
ARR	**Arges**	**154.80**	**320**	||*i*P		**PKPbc**		**18 59 48.1**	**+1.4**
KECS	**Kecovo**	**154.82**	**330**	*e*PKP2		**PKPab**		**19 00 02.6**	**-0.4**
KECS	**Kecovo**	**154.82**	**330**	*e*PKP		**PKPab**		**19 00 02.6**	**-0.4**
UPC	**Upice**	**154.91**	**338**	*e*PKP2		**PKPab**		**19 00 03.9**	**+0.5**
UPC	**Upice**	**154.91**	**338**	*e*PKPAB		**PKPab**		**19 00 03.9**	**+0.5**
DRGR		**154.94**	**325**	PKIKP		**PKPbc**		**18 59 46.8**	**-0.2**
DRGR		**154.94**	**325**↑	||*i*P		**PKPbc**		**18 59 46.8**	**-0.2**
DPC	**Dobruska-Polom**	**154.95**	**338**

s-maj=135.7km s-min=38.5km az=1.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**1.63**	**183**	*i*		18 54 10.0	
	baz=3.6,slow=328,SNR=0.8						
I48TN	**KESRA INFRASON**	**15.02**	**194**	*i*		20 19 20.0	
	baz=12,slow=326,SNR=0.3						
I43RU	**DUBNA INFRASON**	**15.19**	**57**	*i*		20 16 30.0	
	baz=264,slow=321,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	**27.85**	**73**	*i*		21 40 00.0	
	baz=289,slow=326,SNR=0.2						

MEX 22 18:51:07.9±0.5, 16°22N×98°39W, h10km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.31**	**55**	*i* P	Pg	18 51 13.7	-0.5
PNIG				*i* S	Sg	18 51 18.4	+0.1
TLIG	**Tlapa**	**1.35**	**353**	*e*P	Pn	18 51 28.8	-4.2
TLIG				*e*S	Sb	18 51 45.7	-5.1
ACX	**Acapulco**	**1.55**	**295**	*i* P	Pn	18 51 32.3	-3.3
ACX				*e*S	Sn	18 51 52.8	-3.0
VHO	**Vista Hermosa**	**1.80**	**62**	*e*P	Pn	18 51 35.9	-3.3
VHO				*e*S	Sn	18 51 57.0	-5.2
CAIG	**El Cayaco**	**1.98**	**295**	*e*P	Pn	18 51 39.0	-2.4
CAIG				*e*S	Sn	18 52 02.0	-4.4

*CSEM **22** 18:53:12.2, 42°.83N×13°.18E, h10km, MD1.6/4, After ROM*
ROM 22 18:53:12.2±0.1, 42°.83N×13°.18E, h10km±1km, Md1.6/4, Ml0.8/2, Error ellipse: s-maj=2.9km s-min=1.0km az=58.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.05**	**270**	Pg	Pg	18 53 14.7	+0.4
NRCA				Sg	Sg	18 53 16.1	+0.3
NRCA	**Norcia**	**0.05**	**270**	Pg	Pg	18 53 14.7	+0.4
NRCA				Sg	Sg	18 53 16.1	+0.3
FDMO	**Fiordimonte**	**0.21**	**341**	Pg	Pg	18 53 17.1	+0.4
FDMO				Sg	Sg	18 53 21.4	+1.7
	9.0nm,0.2s						
FDMO	**Fiordimonte**	**0.21**	**341**	Pg	Pg	18 53 17.1	+0.4
FDMO				Sg	Sg	18 53 21.4	+1.7
	9.0nm,0.2s						
SMA1	**SAN MARTINO**	**0.23**	**151**	Pg	Pg	18 53 17.6	+0.6
SMA1				Sg	Sg	18 53 22.1	+1.8
	20nm,0.4s						
SMA1	**SAN MARTINO**	**0.23**	**151**	Pg	Pg	18 53 17.6	+0.6
SMA1				Sg	Sg	18 53 22.1	+1.8
	20nm,0.4s						
CESI	**CESI - Serrava**	**0.27**	**310**	Pg	Pb	18 53 18.4	-0.7
CESI				Sg	Sb	18 53 22.9	-0.9
CESI	**CESI - Serrava**	**0.27**	**310**	Pg	Pb	18 53 18.4	-0.7
CESI				Sg	Sb	18 53 22.9	-0.9

IDC 22 19:01:54.6±956.0, 53°.54N×4°.88E, h0km, Error ellipse: s-maj=413.1km s-min=142.1km az=118.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**7.27**	**127**	*i*		19 49 00.0	
	baz=313,slow=331,SNR=0.4						
I43RU	**DUBNA INFRASON**	**18.66**	**67**	*i*		20 55 39.9	
	baz=274,slow=321,SNR=3.6						
I31KZ	**AKTYUBINSK INF**	**32.26**	**74**	*i*		22 19 10.0	
	baz=294,slow=325,SNR=1.4						

IDC 22 19:02:08.4±7.4, 30°.75S×179°.54W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/45, mbtmp3.3/2, Error ellipse: s-maj=303.0km s-min=62.0km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.76**	**268**	P	P	19 09 59.4	-0.3
	0.4nm,0.7s,baz=105,slow=7.5,SNR=5.5						
WRA	**Warramunga Arr**	**42.78**	**273**	P	P	19 10 08.0	0.0
	0.2nm,0.5s,baz=113,slow=7.9,SNR=5.5						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	19 21 45.4	-0.7
	0.8nm,0.8s,baz=22,slow=4.5,SNR=4.1						

IDC 22 19:04:47.9±2.3, 58°.88S×149°.37E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/39, mbtmp3.9/4, ML3.2/1, MS3.7/15, Ms1 3.7/15, ms1mx3.4/33, Error ellipse: s-maj=177.5km s-min=29.2km az=73.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.20**	**172**	P	P	19 09 13.1	+0.3
	0.1nm,0.3s,baz=324,slow=8.7,SNR=4.9						
VNDA				LR	LR	19 15 44.5	
	comp=Z,229nm,20.5s,baz=325,slow=34						
RPZ	**Rata Peaks**	**20.21**	**51**	LR	LR	19 15 56.3	
	comp=Z,315nm,18.3s,baz=188,slow=33						
URZ	**Urewera**	**27.27**	**53**	LR	LR	19 20 26.4	
	comp=Z,184nm,18.7s,baz=214,slow=34						
STKA	**Stephens Creek**	**27.51**	**346**	LR	LR	19 20 30.9	
	comp=Z,36nm,20.8s,baz=205,slow=34						
QSPA	**South Pole Qui**	**34.22**	**180**	LR	LR	19 23 10.6	
	comp=Z,172nm,20.9s,baz=342,slow=35						
H01W1	**Cape Leeuwin H**	**33.34**	**300**	T	T	19 46 47.6	
	baz=146,slow=74,SNR=17						
H01W2	**Cape Leeuwin H**	**33.34**	**300**	T	T	19 46 47.8	
	baz=146,slow=74,SNR=16						
H01W3	**Cape Leeuwin H**	**33.35**	**300**	T	T	19 46 48.6	
	baz=146,slow=74,SNR=13						
MAW	**Mawson**	**36.73**	**220**	LR	LR	19 26 43.0	
	comp=Z,190nm,18.1s,baz=64,slow=36						
ASAR	**Alice Springs**	**36.86**	**336**	P	P	19 11 58.3	+0.4
	1.1nm,0.8s,baz=166,slow=9.6,SNR=9.3						
DZM	**Mont Dzumac**	**38.76**	**26**	LR	LR	19 24 22.1	
	comp=Z,193nm,19.0s,baz=236,slow=30						
WRA	**Warramunga Arr**	**40.39**	**338**	P	P	19 12 27.1	-0.4
	1.9nm,0.9s,baz=165,slow=7.3,SNR=9.2						
FITZ	**Fitzroy Crossi**	**44.26**	**327**	P	P	19 12 58.8	-0.2
	3.3nm,1.0s,baz=140,slow=10,SNR=3.4						
SNAA	**Sanae**	**48.30**	**191**	LR	LR	19 33 54.8	
	comp=Z,101nm,19.3s,baz=153,slow=36						
PMG	**Port Moresby**	**49.39**	**357**	LR	LR	19 31 15.5	
	comp=Z,92nm,19.6s,baz=169,slow=32						
HNR	**Honiara**	**49.99**	**14**	LR	LR	19 30 10.9	
	comp=Z,78nm,20.8s,baz=198,slow=30						
BATI	**Baumata**	**52.33**	**327**	LR	LR	19 33 08.9	
	comp=Z,94nm,21.4s,baz=220,slow=32						
LEM	**Lembang**	**60.94**	**311**	LR	LR	19 37 24.0	
	comp=Z,62nm,20.8s,baz=220,slow=32						
DAV	**Davao City (W)**	**68.46**	**335**	LR	LR	19 44 16.3	
	comp=Z,27nm,19.7s,baz=28,slow=35						
H08S2	**Diego Garcia H**	**76.71**	**277**	T	T	20 40 53.5	
	baz=149,slow=76,SNR=9.1						
H08S1	**Diego Garcia H**	**76.72**	**277**	T	T	20 40 53.8	
	baz=149,slow=76,SNR=6.2						
H08S3	**Diego Garcia H**	**76.73**	**277**	T	T	20 40 51.8	
	baz=149,slow=76,SNR=6.2						
H08N1	**Diego Garcia H**	**78.58**	**277**	T	T	20 43 17.5	
	baz=154						
H08N3	**Diego Garcia H**	**78.59**	**277**	T	T	20 43 12.9	
	baz=154						
H08N2	**Diego Garcia H**	**78.60**	**277**	T	T	20 43 17.9	
	baz=154						
H11N1	**WAKE ISLAND Hy**	**79.63**	**17**	T	T	20 44 19.9	
	baz=211						
H11N3	**WAKE ISLAND Hy**	**79.63**	**17**	T	T	20 44 22.7	
	baz=211						
H11N2	**WAKE ISLAND Hy**	**79.64**	**17**	T	T	20 44 21.3	
	baz=211						
BOSA	**Boshof**	**81.31**	**227**	LR	LR	19 50 08.5	
	comp=Z,37nm,18.7s,baz=202,slow=34						
CMAR	**Chiang Mai Arr**	**87.41**	**313**	LR	LR	19 55 07.4	
	comp=Z,22nm,19.2s,baz=182,slow=34						
YKA	**Yellowknife Ar**	**141.46**	**48**	PKP	PKPdf	19 24 17.2	-2.0
	0.1nm,0.7s,baz=237,slow=2.6,SNR=2.8						

IDC 22 19:16:21.1±796.0, 53°.30N×4°.57E, h0km, Error ellipse: s-maj=346.1km s-min=131.8km az=120.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**7.28**	**124**	*i*		20 04 40.0	
	baz=311,slow=329,SNR=0.9						
I48TN	**KESRA INFRASON**	**17.81**	**167**	*i*		21 07 10.0	
	baz=349,slow=324,SNR=0.8						
I43RU	**DUBNA INFRASON**	**18.93**	**66**	*i*		21 09 43.2	
	baz=275,slow=323						
I31KZ	**AKTYUBINSK INF**	**32.51**	**73**	*i*		22 35 10.0	
	baz=294,slow=328,SNR=2.0						

*ISCJB **22** 19:25:25.6±0.7, 31°.38S±0°.03×69°.08W±0°.05, h117km±7km, Error ellipse: s-maj=6.5km s-min=5.7km az=171.0*
*GUC **22** 19:25:25.9±0.6, 31°.36S×69°.19W, h123km±3km, ML3.5*
*SJA **22** 19:25:26.0±0.8, 31°.39S×69°.02W, h111km±3km, ML3.4, MW3.7*
ISC 22 19:25:25.9±1.5, 31°.38S±0°.04×69°.08W±0°.05, h115km±9km, n26, σ0°55/31, 2C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.38**	**116**	*e*P	**Pn**	**19 25 42.8**	**+0.1**
ZON				*e*S	**Sn**	**19 25 54.7**	**-0.6**
RTLS	**Leoncito**	**0.46**	**204**	*e*P	**Pn**	**19 25 43.7**	**+0.2**
RTLS				IAML		19 25 44.1	
	comp=Z,565nm,0.3s						
RTLL	**Cerro Villicun**	**0.52**	**84**	*e*P	**Pn**	**19 25 43.4**	**-0.1**
RTLL				*e*S	**Sn**	**19 25 56.4**	**-0.3**
RTLL				IAML		19 25 57.6	
	comp=Z,1μm,0.4s						
RTLL	**Cerro Villicun**	**0.52**	**84**	↓*i*P	**Pn**	**19 25 43.4**	**-0.1**
RTLL				*i* S	**Sn**	**19 25 56.4**	**-0.3**
RTCV	**Cerro Valdivia**	**0.66**	**137**	*e*P	**Pn**	**19 25 44.9**	**+0.4**
AMOG	**MOGNA**	**0.67**	**49**	*e*P	**Pn**	**19 25 44.9**	**+0.3**
AUSP	**Uspallata**	**0.88**	**197**	*e*P	**Pn**	**19 25 47.2**	**+0.5**
ASAL	**Salagasta**	**1.22**	**170**	*e*P	**Pn**	**19 25 50.7**	**+0.7**
ARCO	**CERRO ARCO**	**1.46**	**175**	*e*P	**Pn**	**19 25 53.5**	**+0.8**
ARCO				IAML		19 26 16.8	
	comp=Z,534nm,0.6s						
AAGR	**Agrelo**	**1.71**	**173**	*e*P	**Pn**	**19 25 56.5**	**+0.8**
ACAN	**Cantantal**	**1.84**	**120**	*e*P	**Pn**	**19 25 57.8**	**+0.7**
GO04	**Tololo Observa**	**1.91**	**309**	↑*i*P	**Pn**	**19 25 58.4**	**+0.1**
GO04				*i* S	**Sn**	**19 26 23.0**	**+0.1**
GO04				IAML		19 26 27.2	
	comp=N,886nm,0.6s						
TLL	**Tololo Astrono**	**1.92**	**309**	*e*P	**Pn**	**19 25 58.5**	**+0.2**
TLL				*i* S	**Sn**	**19 26 22.7**	**-0.4**
TLL				IAML		19 26 24.5	
	comp=N,347nm,0.7s						
AGUA	**GUANDACOL**	**1.95**	**15**	*e*P	**Pn**	**19 26 00.1**	**+1.4**
PEL	**Peldehue**	**2.23**	**217**	↓*i*P	**Pn**	**19 26 02.3**	**+0.3**
PEL				*i* S	**Sn**	**19 26 29.7**	**0.0**
ROCH	**El Roble**	**2.28**	**225**	↓*i*P	**Pn**	**19 26 02.5**	**-0.4**
ROCH				*i* S	**Sn**	**19 26 31.3**	**0.0**
ROCH				IAML		19 26 34.1	
	comp=N,286nm,0.4s						
ROC1	**El Roble**	**2.29**	**225**	*e*P	**Pn**	**19 26 02.7**	**-0.3**
APLL	**PUNTA DE LOS L**	**2.40**	**66**	*e*P	**Pn**	**19 26 04.4**	**+0.1**
APLL				IAML		19 26 34.0	
	comp=Z,62nm,0.2s						
LMEL	**Las Melosas**	**2.64**	**201**	IAML		19 26 51.3	
	comp=E,97nm,0.5s						
VCA	**Vinchina**	**2.74**	**16**	*e*P	**Pn**	**19 26 09.8**	**+1.0**
VCA				IAML		19 26 49.6	
	comp=Z,212nm,0.5s						
LCO	**Las Campanas**	**2.75**	**329**	↑*i*P	**Pn**	**19 26 09.2**	**+0.1**
LCO				*i* S	**Sn**	**19 26 41.9**	**-0.3**
LCO				IAML		19 26 44.3	
	comp=E,169nm,0.3s						
MRA	**San Martin**	**3.04**	**111**	*e*P	**Pn**	**19 26 12.9**	**+0.2**
MRA				IAML		19 26 48.5	
	comp=Z,151nm,0.7s						
RFA	**San Rafael**	**3.42**	**172**	*e*P	**Pn**	**19 26 17.2**	**-0.4**
RFA				IAML		19 26 57.9	
	comp=Z,132nm,0.4s						
CYA	**Choya**	**4.08**	**45**	*e*P	**Pn**	**19 26 25.5**	**-1.0**
CYA				IAML		19 26 25.9	
	comp=Z,68nm,0.4s						
AHML	**Horco Molle**	**5.63**	**36**	IAML		19 27 55.7	
	comp=Z,6.5nm,0.5s						
FSA	**Cafayete**	**5.91**	**28**	IAML		19 26 51.0	
	comp=Z,8.1nm,0.8s						

*DJA **22** 19:26:49.5±0.7, 1°.N±3°×9°.9E±°, h109km±7km, M3.2/7, MLv3.2/7*
*IDC **22** 19:26:54.5±6.5, 1°.20N×99°.14E, h150km±26km, mb3.3/5, mb1 3.4/5, mb1mx2.9/71, mbtmp3.7/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=103.2km s-min=78.7km az=92.0*
ISC 22 19:26:48.0±0.9, 0°.71N±0°.06×99°.52E±0°.09, h126km±7km, n13, σ1°58/17, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.11**	**36**	P	**Pn**	**19 27 05.6**	**+0.4**
MNSI				S	**Sn**	**19 27 18.5**	**+0.4**
PDSI	**Padang**	**1.87**	**150**	P	**Pn**	**19 27 21.3**	**+1.1**
PDSI				S	**Sn**	**19 27 44.9**	**+0.1**
GSI	**Gunungsitoli**	**2.03**	**287**	P	**Pn**	**19 27 23.6**	**+1.5**
GSI				S	**Sn**	**19 27 48.4**	**+0.2**
SISI	**Saibi**	**2.07**	**192**	P	**Pn**	**19 27 21.5**	**-1.1**
SISI				S	**Sn**	**19 27 47.5**	**-1.6**
PSI	**Prapat**	**2.16**	**344**	P	**Pn**	**19 27 24.8**	**+0.9**
	3.7nm,0.3s,baz=162,slow=12,SNR=3.4						
PSI				S	**Sn**	**19 27 46.8**	**-4.6**
	2.4nm,0.3s,baz=219,slow=3.0,SNR=1.8						
KCSI	**Kotacane, Aceh**	**3.29**	**328**	P	**Pn**	**19 27 39.2**	**+0.8**
TPTI		**3.45**	**317**	P	**Pn**	**19 27 41.5**	**+1.1**
SONM	**Songino Array**	**47.32**	**6**	P	**P**	**19 35 09.8**	**+0.7**
	0.3nm,0.5s,baz=190,slow=7.3,SNR=2.7						
JHJ	**Hachijo jima 2**	**49.69**	**45**	LR	LR	19 53 34.6	
	comp=Z,18nm,21.9s,baz=125,slow=32						
KURBB	**Kurchatov Arra**	**52.83**	**343**	P	**P**	**19 35 50.9**	**+0.4**
	0.2nm,0.3s,baz=158,slow=7.2,SNR=5.9						
ZALV	**Zalesovo Beam**	**54.44**	**349**	P	**P**	**19 36 02.1**	**0.0**
	0.6nm,0.5s,baz=167,slow=7.2,SNR=4.8						
BVAR	**Borovoye Array**	**57.49**	**340**	P	**P**	**19 36 23.6**	**-0.3**
	0.5nm,0.5s,baz=137,slow=9.3,SNR=4.3						
ARCES	**ARCESS Array B**	**83.78**	**340**	P	**P**	**19 39 02.5**	**-0.4**
	1.3nm,0.8s,baz=97,slow=6.5,SNR=4.6						

MEX 22 19:30:03.2±0.6, 16°.56N×98°.47W, h7km±10km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.37**	**117**	*e*P	Pg	19 30 10.1	-0.4
PNIG				*e*S	Sg	19 30 15.1	-0.2
TLIG	**Tlapa**	**1.00**	**355**	*e*P	Pg	19 30 19.7	-2.8
TLIG				*i* S	Sg	19 30 31.9	-3.5
ACX	**Acapulco**	**1.36**	**283**	*i* P	Pn	19 30 25.0	-3.8
ACX				*i* S	Sb	19 30 43.2	-3.7
VHO	**Vista Hermosa**	**1.74**	**73**	*e*P	Pn	19 30 31.2	-2.9
VHO				*e*S	Sn	19 30 52.1	-4.5
CAIG	**El Cayaco**	**1.79**	**286**	*e*P	Pn	19 30 31.4	-3.1
CAIG				*i* S	Sn	19 30 52.8	-4.8

IDC 22 19:34:19.6±766.0, 53°.52N×3°.88E, h0km, Error ellipse: s-maj=350.0km s-min=130.5km az=119.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**7.75**	**123**	*i*		20 25 30.0	
	baz=310,slow=329,SNR=1.4						
I48TN	**KESRA INFRASON**	**18.12**	**166**	*i*		21 26 40.0	
	baz=349,slow=325,SNR=0.8						
I43RU	**DUBNA INFRASON**	**19.22**	**67**	*i*		21 33 13.0	
	baz=274,slow=321,SNR=3.9						
I31KZ	**AKTYUBINSK INF**	**32.84**	**73**	*i*		22 57 20.0	
	baz=294,slow=323,SNR=1.5						

JMA 22 19:35:20.2, 31°.24N×130°.61E, h4km, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTSR	**Tashiro 2**	**0.28**	**105**	P	Pg	19 35 25.8	+0.2
JTSR				*e*S	Sg	19 35 29.8	+0.6

JMA 22 19:37:52.5, 36°.80N×138°.58E, h6km±3km, M0.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.40**	**230**	P	Pg	19 38 00.4	+0.2
MAT				S	Sg	19 38 05.6	+0.3
MAT	**Matsushiro**	**0.40**	**230**	P	Pg	19 38 00.5	+0.3
MAT				*e*S	Sg	19 38 05.6	+0.3

*ISCJB **22** 19:42:13.1±0.2, 61°.62N±0°.02×149°.70W±0°.04, h56km±2km, mb3.8/22, MS3.0/7, Error ellipse: s-maj=3.4km s-min=2.9km az=175.7*
*IDC **22** 19:42:13.4±1.8, 61°.68N×149°.91W, h46km±16km, mb3.6/22, mb1 3.8/26, mb1mx3.7/76, mbtmp3.9/26, ML3.5/4, MS2.9/10, Ms1 2.9/10, ms1mx2.7/63, Error ellipse: s-maj=14.4km s-min=11.0km az=59.0*
*NEIC **22** 19:42:14.8±0.0, 61°.59N×149°.68W, h36km, MW3.9, ML4.0(AEIC) Best double couple: NP1:φs196.00000°, δ70.00000°, λ-91.00000°. NP2:φs20.00000°, δ20.00000°, λ-86.00000°. Principal axes: T 0.9500, Plg25.0000°, Azm287.0000°; N 0.1400, Plg1.0000°, Azm197.0000°; P -1.0900, Plg65.0000°, Azm104.0000°; After AEIC.*
NEIC Felt [III] at Anchorage, Chugiak, Eagle River, Palmer and Wasilla and [II] at Elmendorf AFB. Also felt at Fort Richardson and Willow.
ISC 22 19:42:13.3±0.6, 61°.58N±0°.03×149°.70W±0°.03, h45km±5km, n143, σ1°21/152, mb3.8/22, MS2.9/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMR	**Palmer**	**0.27**	**87**	*e*Pn	**Pn**	**19 42 21.4**	**-0.2**
PMR				*e*Sn	**Sn**	**19 42 27.4**	**-0.1**
GHO	**Glory Hole Cre**	**0.41**	**62**	*e*Pn	**Pn**	**19 42 23.0**	**-0.3**
GHO				*e*Sn	**Sn**	**19 42 30.4**	**0.0**
FIB	**Fire Island**	**0.48**	**209**	*e*Pn	**Pn**	**19 42 24.6**	**+0.7**
FIB				*e*Sn	**Sn**	**19 42 34.4**	**+2.9**
RC01	**Rabbit Creek A**	**0.49**	**182**	*e*Pn	**Pn**	**19 42 23.4**	**-0.8**
RC01				*e*Sn	**Sn**	**19 42 32.6**	**+0.8**
SUA	**Susitna One**	**0.52**	**257**	*e*Pn	**Pn**	**19 42 24.5**	**-0.1**
SUA				*e*Sn	**Sn**	**19 42 33.1**	**+0.6**
KNK	**Knik Glacier**	**0.62**	**105**	*e*Pn	**Pn**	**19 42 26.0**	**+0.2**
SML	**Sawmill**	**0.69**	**70**	*e*Pn	**Pn**	**19 42 26.4**	**-0.3**
SML				*e*Sn	**Sn**	**19 42 36.4**	**0.0**
SKT	**Skwentna**	**0.96**	**295**	*e*Pn	**Pn**	**19 42 30.5**	**+0.2**
STLK	**Strandline Lak**	**1.03**	**266**	P	**Pn**	**19 42 32.0**	**+0.6**
SLKM	**Skilak Lake**	**1.11**	**194**	*e*Pn	**Pn**	**19 42 32.7**	**+0.3**
SCM	**Sheep Creek Mo**	**1.16**	**76**	*e*Pn	**Pn**	**19 42 33.5**	**+0.5**
SCM				*e*Sn	**Sn**	**19 42 49.2**	**+1.4**
SPU	**Mount Spurr**	**1.20**	**252**	*e*Pn	**Pn**	**19 42 35.0**	**+1.3**
SPCP	**Crater Peak Br**	**1.22**	**256**	P	**Pn**	**19 42 35.0**	**+1.0**
SPCP				S	**Sn**	**19 42 51.7**	**+2.2**
CKL	**Chakachamna La**	**1.33**	**254**	P	**Pn**	**19 42 36.4**	**+0.9**
SPWE	**Spurr West**	**1.41**	**259**	P	**Pn**	**19 42 38.0**	**+1.4**
GLI	**Glacier Island**	**1.44**	**118**	*e*Pn	**Pn**	**19 42 37.5**	**+0.6**
GLI				S	**Sn**	**19 42 56.6**	**+2.0**
JPK	**Jack Peak**	**1.58**	**108**	*e*Pn	**Pn**	**19 42 39.8**	**+0.8**
VMT	**TAPS TI Valdez**	**1.68**	**106**	*e*Pn	**Pn**	**19 42 41.1**	**+0.9**
VLZ	**Valdez**	**1.68**	**104**	*e*Pn	**Pn**	**19 42 41.0**	**+0.8**
PPLA	**Purkeypile**	**1.76**	**320**	*e*Pn	**Pn**	**19 42 42.2**	**+0.7**
PPLA				S	**Sn**	**19 43 04.6**	**+1.9**
RDJH	**Redoubt Jeurge**	**1.81**	**238**	P	**Pn**	**19 42 43.3**	**+1.3**
KLU	**Klutina**	**1.81**	**91**	*e*Pn	**Pn**	**19 42 42.8**	**+0.8**
KLU				S	**Sn**	**19 43 06.2**	**+2.4**
DHY	**Denali Highway**	**1.85**	**35**	*e*Pn	**Pn**	**19 42 43.7**	**+1.0**
RSO	**Redoubt South**	**1.86**	**234**	*e*Pn	**Pn**	**19 42 44.6**	**+1.7**
RND	**Reindeer**	**1.87**	**12**	*e*Pn	**Pn**	**19 42 44.1**	**+1.2**
RND				S	**Sn**	**19 43 07.2**	**+1.9**
RDWB	**Redoubt West**	**1.88**	**236**	P	**Pn**	**19 42 44.1**	**+1.0**
TRF	**Thorofare Moun**	**1.90**	**352**	*e*Pn	**Pn**	**19 42 44.5**	**+1.2**
BRLK	**Bradley Lake**	**1.92**	**198**	*e*Pn	**Pn**	**19 42 44.3**	**+0.9**
DIV	**Divide**	**1.94**	**102**	*e*Pn	**Pn**	**19 42 44.5**	**+0.7**
KTH	**Kantishna Hill**	**2.06**	**345**	*e*Pn	**Pn**	**19 42 46.7**	**+1.3**
PS11	**TAPS Pump St11**	**2.06**	**74**	*e*Pn	**Pn**	**19 42 47.4**	**+2.0**
CAST	**Castle Rocks**	**2.15**	**330**	*e*Pn	**Pn**	**19 42 47.6**	**+1.0**
EYAK	**Cordova Ski Ar**	**2.18**	**117**	*e*Pn	**Pn**	**19 42 47.6**	**+0.6**
PS12	**TAPS Pump St12**	**2.18**	**91**	*e*Pn	**Pn**	**19 42 47.7**	**+0.6**
MCK	**McKinley**	**2.19**	**9**	*e*Pn	**Pn**	**19 42 48.5**	**+1.4**
ILW	**Iliamna West**	**2.27**	**229**	*e*Pn	**Pn**	**19 42 50.1**	**+1.6**
HARP	**HAARP**	**2.30**	**67**	*e*Pn	**Pn**	**19 42 50.3**	**+1.6**
PAX	**Paxson**	**2.42**	**53**	*e*Pn	**Pn**	**19 42 51.6**	**+1.2**
BMRM	**Bremner River**	**2.54**	**102**	*e*Pn	**Pn**	**19 42 51.8**	**-0.2**
PS10	**TAPS Pump St10**	**2.60**	**43**	*e*Pn	**Pn**	**19 42 54.8**	**+2.1**
BPAW	**Bear Paw Mtn.**	**2.60**	**347**	*e*Pn	**Pn**	**19 42 53.6**	**+0.8**
RAGM	**Ragged Mountai**	**2.73**	**114**	*e*Pn	**Pn**	**19 42 55.3**	**+0.8**
SVW2	**Sparrevohn**	**2.88**	**263**	*e*Pn	**Pn**	**19 42 57.4**	**+0.8**
WRH	**Wood River Hil**	**2.99**	**13**	*e*Pn	**Pn**	**19 42 58.9**	**+0.8**
VRDI	**Verde Repeater**	**3.02**	**94**	P	**Pn**	**19 42 58.9**	**+0.1**
HDA	**Harding Lake**	**3.10**	**23**	*e*Pn	**Pn**	**19 43 00.8**	**+1.1**
MENT	**Mentasta**	**3.11**	**61**	*e*Pn	**Pn**	**19 43 01.4**	**+1.1**
RIDG	**Ridgepend'e Rid**	**3.12**	**44**	*e*Pn	**Pn**	**19 43 01.6**	**+1.7**
CCB	**Clear Creek Bu**	**3.19**	**15**	*e*Pn	**Pn**	**19 43 01.5**	**+0.6**
TT01	**Tatalina**	**3.24**	**297**	*e*Pn	**Pn**	**19 43 02.3**	**+0.7**
PS08	**TAPS Pump Stn8**	**3.25**	**23**	*e*Pn	**Pn**	**19 43 02.6**	**+0.9**
KHIT	**Khitrov Hills**	**3.34**	**107**	P	**Pn**	**19 43 03.1**	**+0.1**
COLA	**College**	**3.41**	**13**	*e*Pn	**Pn**	**19 43 04.8**	**+0.9**
IL1	**Eielson Array**	**3.45**	**20**	*e*Pn	**Pn**	**19 43 04.9**	**+0.6**
ILAR	**Eielson Array**	**3.45**	**20**	P	**Pn**	**19 43 05.0**	**+0.7**
	2.3nm,0.3s,baz=202,slow=14,SNR=88

	comp=Z,24nm,18.6s,baz=323,slow=38								
RLMT	**Red Lodge**	**28.60**	**106**	*e*P	**P**	**19 48 06.0**	**+0.9**		
HVU	**Hansel Valley**	**29.66**	**115**	*e*P	**P**	**19 48 16.9**	**+2.4**		
NV01	**Mina Array Sit**	**30.20**	**126**	*e*P	**P**	**19 48 20.9**	**+1.5**		
NVAR	**Mina Array Bea**	**30.20**	**126**	P	**P**	**19 48 20.6**	**+1.2**		
	1.6nm,0.8s,baz=306,slow=7.7,SNR=6.4								
NV11	**Mina Array Sit**	**30.25**	**125**	*e*P	**P**	**19 48 22.4**	**+2.6**		
PD31	**Pinedale Array**	**30.30**	**110**	*e*P	**P**	**19 48 21.6**	**+1.3**		
PDAR	**Pinedale Array**	**30.30**	**110**	P	**P**	**19 48 21.6**	**+1.3**		
	0.7nm,0.6s,baz=303,slow=3.9,SNR=9.3								
PDAR				LR	LR	20 00 48.4			
	comp=Z,40nm,19.1s,baz=288,slow=37								
ULM	**Lac du Bonnet**	**31.29**	**86**	P	**P**	**19 48 29.6**	**+1.0**		
	5.5nm,0.8s,baz=309,slow=9.1,SNR=12								
ULM				LR	LR	20 01 47.7			
	comp=Z,50nm,18.8s,baz=344,slow=37								
BAKC	**Calstate**	**32.61**	**129**	*e*pP	pP	19 48 51.8	-0.4		
AGMN	**Agassiz Nation**	**32.63**	**89**	*e*P	**P**	**19 48 41.5**	**+1.1**		
SRU	**San Rafael Swe**	**32.83**	**115**	*e*P	**P**	**19 48 43.6**	**+1.0**		
STCC	**Santa Clara**	**33.51**	**130**	*e*pP	pP	19 49 00.9	+0.8		
KNB	**Kanab**	**33.62**	**120**	*e*P	**P**	**19 48 50.7**	**+1.3**		
CLTC	**Calectric**	**34.39**	**128**	*e*pP	pP	19 49 10.7	+2.9		
EYMN	**Ely**	**34.96**	**86**	*e*P	**P**	**19 49 01.7**	**+1.0**		
WUAZ	**Wupatki**	**35.51**	**119**	*e*P	**P**	**19 49 07.1**	**+1.4**		
S22A	**4UR Ranch, Cre**	**35.58**	**112**	*e*P	**P**	**19 49 08.7**	**+2.2**		
SPITS	**Spitsbergen Ar**	**40.22**	**4**	P	**P**	**19 49 44.6**	**-0.2**		
	7.2nm,1.0s,baz=348,slow=10,SNR=6.6								
LTX	**Lajitas**	**44.11**	**115**	*e*P	**P**	**19 50 18.3**	**+1.2**		
TXAR	**Lajitas Array**	**44.11**	**115**	P	**P**	**19 50 18.3**	**+1.2**		
	0.5nm,0.6s,baz=333,slow=7.2,SNR=4.5								
TKL	**Tuckaleechee C**	**48.04**	**91**	LR	LR	20 11 15.5			
	comp=Z,36nm,20.7s,baz=7.5,slow=36								
MJAR	**Matsushiro Arr**	**50.28**	**275**	LR	LR	20 12 59.0			
	comp=Z,11nm,19.8s,baz=40,slow=37								
KSRS	**Korea Array**	**54.39**	**284**	P	**P**	**19 51 34.6**	**-0.6**		
	0.5nm,0.6s,baz=30,slow=8.3,SNR=5.4								
KSRS				LR	LR	20 14 16.6			
	comp=Z,9.8nm,21.9s,baz=215,slow=35								
KSAR	**Wonju Array Be**	**54.42**	**284**	P	**P**	**19 51 34.6**	**-0.9**		
SONA0	**Songino Array**	**55.15**	**307**	*e*P	**P**	**19 51 40.9**	**+0.1**		
SONM	**Songino Array**	**55.15**	**307**	P	**P**	**19 51 40.9**	**+0.1**		
	0.7nm,0.7s,baz=46,slow=4.2,SNR=6.8								
NB200	**NORSAR Array S**	**56.83**	**11**	*e*P	**P**	**19 51 50.9**	**-1.7**		
NOA	**NORSAR Array B**	**56.83**	**11**	P	**P**	**19 51 50.9**	**-1.7**		
	0.6nm,0.7s,baz=350,slow=7.2,SNR=2.7								
ZAA1	**Zalesovo Array**	**57.03**	**325**	*e*P	**P**	**19 51 53.3**	**-0.7**		
ZALV	**Zalesovo Beam**	**57.03**	**325**	P	**P**	**19 51 53.3**	**-0.7**		
	0.5nm,0.5s,baz=18,slow=5.2,SNR=2.9								
EKA	**Eskdalemuir Ar**	**60.48**	**21**	P	**P**	**19 52 17.8**	**-0.1**		
	2.2nm,0.6s,baz=335,slow=5.5,SNR=14								
BVAR	**Borovoye Array**	**61.40**	**334**	P	**P**	**19 52 23.8**	**-0.4**		
	0.6nm,0.7s,baz=35,slow=5.3,SNR=4.8								
KURK	**Kurchatov**	**61.60**	**327**	*e*P	**P**	**19 52 25.3**	**-0.3**		
KURBB	**Kurchatov Arra**	**61.61**	**327**	*e*P	**P**	**19 52 25.3**	**-1.0**		
	0.7nm,0.5s,baz=30,slow=6.8,SNR=7.1								
MK32	**Makanchi Array**	**64.17**	**323**	*e*P	**P**	**19 52 41.2**	**-1.6**		
MKAR	**Makanchi Array**	**64.17**	**323**	P	**P**	**19 52 41.2**	**-1.6**		
	0.3nm,0.6s,baz=39,slow=6.3,SNR=4.7								
AB31	**Akbulak array**	**66.98**	**339**	*e*P	**P**	**19 53 00.1**	**-0.8**		
ABKAR	**Akbulak array**	**66.98**	**339**	*e*P	**P**	**19 53 00.1**	**-0.7**		
AKASG	**Malin Array Be**	**68.06**	**1**	P	**P**	**19 53 06.2**	**-1.4**		
	1.3nm,0.5s,baz=3.0,slow=6.3,SNR=13								
AKBB	**Malin Array Si**	**68.06**	**1**	*e*P	**P**	**19 53 06.2**	**-1.4**		
KWP	**Kalwaria Pacla**	**68.97**	**5**	*e*P	**P**	**19 53 14.1**	**+0.8**		
GERES	**GERESS Array B**	**69.12**	**12**	P	**P**	**19 53 14.0**	**-0.3**		
	0.2nm,0.3s,baz=336,slow=1.6,SNR=4.4								
BUR08	**Bucovina Ar. S**	**71.05**	**4**	*e*P	**P**	**19 53 26.2**	**0.0**		
BUR04	**Bucovina Ar. S**	**71.08**	**4**	*e*P	**P**	**19 53 26.3**	**-0.1**		
KBZ	**Khabaz**	**74.55**	**351**	P	**P**	**19 53 46.8**	**0.0**		
	1.8nm,0.8s,baz=23,slow=3.5,SNR=5.2								
ESDC	**Sonseca Array**	**75.33**	**27**	P	**P**	**19 53 51.4**	**-0.1**		
	1.2nm,0.9s,baz=334,slow=7.8,SNR=5.0								
BR231	**Keskin MP Arra**	**78.91**	**358**	*e*P	**P**	**19 54 11.7**	**+0.1**		
BR101	**Keskin Array S**	**79.01**	**357**	*e*P	**P**	**19 54 11.0**	**-1.3**		
BRTR	**Keskin Array B**	**79.01**	**357**	P	**P**	**19 54 11.0**	**-1.3**		
	0.9nm,0.8s,baz=20,slow=3.9,SNR=4.4								

IDC 22 19:49:31.4±800.0, 53.72N×3.28E, h0km, Error ellipse: s-maj=372.3km s-min=138.9km az=118.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.15**	**122**	*i*		20 42 00.0	
	baz=310,slow=323,SNR=0.8						
I48TN	**KESRA INFRASON**	**18.41**	**164**	*i*		21 43 20.0	
	baz=351,slow=325,SNR=0.5						
I43RU	**DUBNA INFRASON**	**19.47**	**67**	*i*		21 50 25.0	
	baz=279,slow=322,SNR=3.7						
I31KZ	**AKTYUBINSK INF**	**33.13**	**73**	*i*		23 14 50.0	
	baz=295,slow=322,SNR=0.8						

MEX 22 20:02:51.2±1.1, 16.17N×98.19W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**14**	*e*P	Pg	20 02 54.2	-1.5
PNIG				*i* S	Sg	20 02 58.6	-0.2
VHO	**Vista Hermosa**	**1.66**	**57**	*e*P	Pn	20 03 17.5	-3.6
VHO				*i* S	Sn	20 03 38.8	-4.1
HUIG	**Huatulco**	**2.04**	**101**	*e*P	Pn	20 03 22.4	-3.8
HUIG				*i* S	Sn	20 03 47.2	-4.8
CAIG	**El Cayaco**	**2.18**	**294**	*e*P	Pn	20 03 23.9	-4.2
CAIG				*e*S	Sn	20 03 51.5	-4.0
PLIG	**Platanillo**	**2.54**	**331**	*e*P	Pn	20 03 30.8	-2.5
PLIG				*e*S	Sn	20 04 00.9	-3.7

IDC 22 20:21:12.5±5.8, 8.19S×127.62E, h25km±59km, mb3.1/5, mb1 3.2/7, mb1mx2.9/49, mbtmp3.8/7, Error ellipse: s-maj=74.0km s-min=24.9km az=57.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.39**	**242**	P	Pn	20 22 19.6	-1.5
	20nm,0.3s,baz=108,slow=8.1,SNR=39						
BATI				S	S	20 23 16.9	+1.1
	9.1nm,0.3s,baz=60,slow=20,SNR=9.6						
WRA	**Warramunga Arr**	**13.38**	**152**	P	Pn	20 24 06.1	-6.9
	0.4nm,0.3s,baz=333,slow=14,SNR=19						
WRA				S	S	20 26 26.7	-15
	1.1nm,0.3s,baz=336,slow=22,SNR=14						
ASAR	**Alice Springs**	**16.53**	**159**	P	Pn	20 24 50.1	-0.5
	0.2nm,0.3s,baz=339,slow=11,SNR=17						
ASAR				S	S	20 27 46.2	-2.5
	0.2nm,0.3s,baz=323,slow=17,SNR=5.3						
SONM	**Songino Array**	**58.85**	**343**	P	P	20 30 44.5	-0.2
	0.4nm,0.7s,baz=155,slow=4.8,SNR=2.4						
MKAR	**Makanchi Array**	**67.95**	**328**	P	P	20 31 44.1	+0.1
	0.2nm,0.5s,baz=122,slow=8.1,SNR=7.8						
ZALV	**Zalesovo Beam**	**71.62**	**335**	P	P	20 32 05.6	-0.5
	0.4nm,0.5s,baz=135,slow=5.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**72.31**	**330**	P	P	20 32 10.3	+0.1
	0.8nm,0.6s,baz=131,slow=5.0,SNR=15						
BVAR	**Borovoye Array**	**77.82**	**329**	P	P	20 32 42.3	+0.6
	0.4nm,0.6s,baz=106,slow=5.3,SNR=2.8						

IDC 22 20:28:23.5±2.2, 6.74S×150.71E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/49, mbtmp3.3/3, Error ellipse: s-maj=160.1km s-min=29.4km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.61**	**229**	P	P	20 33 05.5	+0.9
	0.3nm,0.4s,baz=54,slow=10.0,SNR=5.0						
ASAR	**Alice Springs**	**23.33**	**222**	P	P	20 33 32.6	-0.9
	0.2nm,0.4s,baz=58,slow=9.3,SNR=5.7						
ILAR	**Eielson Array**	**84.73**	**22**	P	P	20 40 59.4	+0.1
	0.7nm,1.1s,baz=236,slow=6.4,SNR=3.2						

MEX 22 20:35:06.8±0.3, 16.28N×98.29W, h12km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**53**	*e*P	Pg	20 35 10.6	-0.4
PNIG				*i* S	Sg	20 35 13.6	-0.3
ACX	**Acapulco**	**1.62**	**292**	*i* P	Pn	20 35 32.8	-2.5
ACX				*i* S	Sn	20 35 52.1	-4.1
VHO	**Vista Hermosa**	**1.69**	**62**	*e*P	Pn	20 35 32.7	-3.7
VHO				*i* S	Sn	20 35 53.4	-4.6
CAIG	**El Cayaco**	**2.05**	**292**	*e*P	Pn	20 35 38.5	-2.7
CAIG				*i* S	Sn	20 36 02.2	-4.5
HUIG	**Huatulco**	**2.15**	**103**	*i* P	Pn	20 35 40.1	-2.5
HUIG				*i* S	Sn	20 36 04.4	-4.9

*ISCJB **22** 20:42:03.2±0.4, 16.44N±0.04×98.08W±0.03, h10km, mb4.6/135, MS3.8/27, Error ellipse: s-maj=5.8km s-min=3.5km az=7.4*
*MEX **22** 20:42:04.6±0.4, 16.14N×98.38W, h5km±3km, MD4.8*
*IDC **22** 20:42:04.3±0.9, 16.64N×98.17W, h0km, mb4.3/23, mb1 4.4/27, mb1mx4.3/56, mbtmp4.3/27, ML3.9/4, MS3.8/30, Ms1 3.8/30, ms1mx3.7/43, Error ellipse: s-maj=24.2km s-min=12.9km az=42.0*
*NEIC **22** 20:42:05.4±0.3, 16.42N×98.18W, h10km, mb4.8/132, MD4.8(MEX), Error ellipse: s-maj=5.6km s-min=3.3km az=28.0*

ISC 22 20:42:03.0±2.2, 16.28N±0.05×98.39W±0.03, h5km±13km, n519, σ1§39/512, mb4.8/135, MS3.8/27, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**66**	*e*P	**Pb**	**20 42 10.8**	**+0.3**
PNIG				*i* S	**Sb**	**20 42 16.2**	**+0.7**
PNIG	**Pinotepa**	**0.28**	**66**	*e*P	**Pb**	**20 42 10.8**	**+0.3**
PNIG				*i* S	**Sb**	**20 42 16.2**	**+0.7**
TLIG	**Tlapa**	**1.29**	**352**	*e*P	**Pn**	**20 42 27.2**	**-0.7**
TLIG				*e*S	**Sn**	**20 42 45.5**	**-0.1**
TLIG	**Tlapa**	**1.29**	**352**	*e*P	**Pn**	**20 42 27.2**	**-0.7**
TLIG				*e*S	**Sn**	**20 42 45.5**	**-0.1**
ACX	**Acapulco**	**1.53**	**293**	*e*P	**Pn**	**20 42 30.3**	**-0.7**
ACX				*i* S	**Sn**	**20 42 50.6**	**-0.7**
VHO	**Vista Hermosa**	**1.77**	**63**	*e*P	**Pn**	**20 42 33.9**	**-0.7**
VHO				*e*S	**Sn**	**20 42 55.5**	**-2.2**
VHO	**Vista Hermosa**	**1.77**	**63**	*e*P	**Pn**	**20 42 33.9**	**-0.7**
VHO				*e*S	**Sn**	**20 42 55.5**	**-2.2**
CAIG	**El Cayaco**	**1.96**	**293**	*e*P	**Pn**	**20 42 36.3**	**-0.6**
CAIG				*e*S	**Sn**	**20 43 00.9**	**-1.0**
CAIG	**El Cayaco**	**1.96**	**293**	*e*P	**Pn**	**20 42 34.3**	**-2.6**
CAIG				*e*S	**Sn**	**20 43 00.9**	**-1.0**
HUIG	**Huatulco**	**2.25**	**103**	*e*P	**Pn**	**20 42 38.6**	**-2.3**
HUIG	**Huatulco**	**2.25**	**103**	*e*P	**Pn**	**20 42 38.6**	**-2.3**
TPIG	**Tehuac#an**	**2.34**	**25**	*e*P	**Pn**	**20 42 43.2**	**+0.8**
TPIG				*i* S	**Sn**	**20 43 11.2**	**-0.6**
TPIG	**Tehuac#an**	**2.34**	**25**	*e*P	**Pn**	**20 42 43.2**	**+0.8**
TPIG				*i* S	**Sg**	**20 43 18.4**	**0.0**
PLIG	**Platanillo**	**2.36**	**333**	*e*P	**Pn**	**20 42 43.0**	**+0.5**
PLIG				*e*S	**Sn**	**20 43 12.2**	**+0.3**
PLIG	**Platanillo**	**2.36**	**333**	*e*P	**Pn**	**20 42 43.0**	**+0.5**
PLIG				*e*S	**Sn**	**20 43 12.2**	**+0.3**
PPM	**Popocatepetl**	**2.78**	**355**	*e*P	**Pn**	**20 42 49.5**	**+0.7**
PPM				*i* S	**Sn**	**20 43 23.5**	**+0.5**
PPM	**Popocatepetl**	**2.78**	**355**	*e*P	**Pn**	**20 42 49.5**	**+0.7**
UNM	**Universidad Na**	**3.13**	**346**	*i* P	**Pn**	**20 42 54.8**	**+1.5**
UNM				*i* S	**Sn**	**20 43 32.4**	**+1.3**
UNM	**Universidad Na**	**3.13**	**346**	*e*Pn	**Pb**	**20 42 57.8**	**-1.5**
CMIG	**Matias Romero**	**3.46**	**76**	Pn	**Pn**	**20 42 56.4**	**-1.1**
	28nm,0.3s,baz=257,slow=11,SNR=322						
CMIG				Pg	**Pb**	**20 43 03.5**	**-1.3**
	14nm,0.3s,baz=260,slow=14,SNR=23						
CMIG				Sn	**Sn**	**20 43 37.2**	**-1.8**
	38nm,0.3s,baz=310,slow=8.3,SNR=5.4						
CMIG				Lg	Lg	20 43 52.9	
	176nm,0.3s,baz=342,slow=20,SNR=19						
LVIG	**Laguna Verde**	**3.91**	**28**	*e*Pn	**Pn**	**20 43 03.3**	**-0.4**
MOIG	**Morelia**	**4.30**	**322**	*e*Pn	**Pb**	**20 43 18.1**	**-1.2**
TGIG		**5.08**	**84**	*e*P	**Pn**	**20 43 19.7**	**-0.2**
TGIG				*i* S	**Sn**	**20 44 17.6**	**-1.4**
TGIG		**5.08**	**84**	*e*P	**Pn**	**20 43 20.3**	**+0.4**
CJM	**Chamela**	**7.10**	**298**	*e*P	**Pn**	**20 43 48.9**	**+1.2**
CJM				*i* S	**Sn**	**20 45 10.0**	**+1.3**
CJM	**Chamela**	**7.10**	**298**	*e*P	**Pn**	**20 43 50.4**	**+2.8**
833A	**Chaparral WMA,**	**12.03**	**356**	P	**Pn**	**20 44 57.0**	**+1.8**
	baz=174						
H06E1	**SOCORRO T-PHAS**	**12.21**	**284**	T	T	20 57 08.6	
	SNR=239						
H06S1	**SOCORRO T**	**12.24**	**283**	T	T	20 57 12.6	
	SNR=16						
H06N1	**SOCORRO T-PHAS**	**12.29**	**284**	T	T	20 57 14.2	
SLBS	**Sierra La Lagu**	**13.12**	**306**	*e*Pn	**P**	**20 45 16.7**	**-3.9**
LPIG	**La Paz**	**13.62**	**307**	LR	LR	20 49 32.6	
	comp=Z,288nm,20.0s,baz=42,slow=33						
TXAR	**Lajitas Array**	**13.87**	**340**	Pn	**Pn**	**20 45 22.5**	**+2.0**
	0.1nm,0.3s,baz=167,slow=17,SNR=7.7						
TXAR				Lg	Lg	20 49 24.7	
	0.1nm,0.3s,baz=156,slow=27,SNR=3.2						
TXAR				LR	LR	20 51 27.1	
	comp=Z,857nm,19.7s,baz=0.0,slow=41						
TX31	**Lajitas Ar. Si**	**13.87**	**340**	*e*Pn	**Pn**	**20 45 22.8**	**+2.3**
JCT	**Junction City**	**14.20**	**355**	P	**Pn**	**20 45 25.8**	**+0.9**
	baz=173						
JCT	**Junction City**	**14.20**	**355**	*e*Pn	**Pn**	**20 45 25.9**	**+1.0**
JTS	**JuntasAbangare**	**14.36**	**113**	Pn	**Pn**	**20 45 29.2**	**+2.0**
	0.4nm,0.3s,baz=18,slow=19,SNR=3.3						
WHTX	**Lake Whitney,**	**15.67**	**3**	P	**Pn**	**20 45 46.7**	**+2.1**
	baz=182						
NATX	**Nacogdoches**	**15.78**	**12**	P	**Pn**	**20 45 47.3**	**+1.3**
	baz=192						
NATX	**Nacogdoches**	**15.78**	**12**	*e*Pn	**Pn**	**20 45 46.5**	**+0.4**
	193nm,1.6s						
240A	**Hunter Patters**	**16.25**	**14**	P	**Pn**	**20 45 53.2**	**+1.1**
	baz=195						
ABTX	**Abilene, Hawle**	**16.32**	**356**	P	**P**	**20 45 55.7**	**-0.3**
	baz=175,SNR=18						
ABTX	**Abilene, Hawle**	**16.32**	**356**	*e*Pn	**Pn**	**20 45 52.6**	**-0.4**
	84nm,0.8s						
MNTX	**Cornudas Mount**	**16.62**	**339**	P	**Pn**	**20 45 57.8**	**+1.0**
	baz=155						
344A	**Westbrook Farm**	**16.64**	**23**	P	**Pn**	**20 45 58.0**	**+0.9**
	baz=206						
140A	**Cam and Jess,**	**16.87**	**14**	P	**Pn**	**20 46 00.4**	**+0.4**
	baz=195						
244A	**Avery, Jackson**	**17.18**	**23**	P	**Pn**	**20 46 03.1**	**-0.8**
	baz=205						
VBMS	**Vicksburg**	**17.41**	**23**	P	**Pn**	**20 46 07.0**	**+0.3**
	baz=206						
Z40A	**Long Farm, Mag**	**17.50**	**14**	P	**Pn**	**20 46 07.4**	**-0.4**
	baz=195,SNR=6.1						
449A	**Pace**	**17.67**	**33**	P	**Pn**	**20 46 08.9**	**-1.1**
	baz=217						
WLAR	**White Oak Lake**	**17.98**	**14**	*e*Pn	**Pn**	**20 46 12.4**	**-1.3**
	49nm,1.2s						
319A	**Douglas**	**18.01**	**328**	*e*Pn	**P**	**20 46 16.6**	**+1.7**
	27nm,0.8s						
MSTX	**Muleshoe**	**18.05**	**348**	P	**Pn**	**20 46 15.0**	**+0.2**
	baz=166						
MSTX	**Muleshoe**	**18.05**	**348**	*e*Pn	**Pn**	**20 46 14.9**	**+0.1**
	28nm,1.0s						
Y40A	**Okolona**	**18.25**	**14**	P	**Pn**	**20 46 15.8**	**-1.3**
	baz=195						
121A	**Cookes Peak, D**	**18.29**	**334**	P	**Pn**	**20 46 17.3**	**-0.5**
	baz=149,SNR=7.5						
WMOK	**Wichita Mounta**	**18.39**	**359**	P	**Pn**	**20 46 17.5**	**-1.3**
	baz=178,SNR=6.2						
WMOK	**Wichita Mounta**	**18.39**	**359**	*e*P	**Pn**	**20 46 17.6**	**-1.3**
	9.2nm,0.8s						
X39A	**Fountain Ranch**	**18.56**	**11**	P	**P**	**20 46 19.8**	**-1.0**
	baz=192						
249A	**Camden**	**18.68**	**31**	P	**P**	**20 46 19.3**	**-2.8**
	baz=215						
147A	**Livingston**	**18.72**	**27**	P	**P**	**20 46 20.7**	**-1.9**
	baz=211						
AMTX	**Amarillo**	**18.76**	**352**	P	**P**	**20 46 23.0**	**-0.1**
	baz=169						
AMTX	**Amarillo**	**18.76**	**352**	*e*P	**P**	**20 46 23.2**	**+0.1**
	26nm,0.6s						
UALR	**University of**	**19.20**	**15**	*e*P	**P**	**20 46 27.9**	**+0.1**
	18nm,0.8s						
BNM	**Barren Site**	**19.28**	**339**	*e*P	**Pn**	**20 46 32.0**	**+2.1**
W39A	**Magazine**	**19.29**	**11**	P	**P**	**20 46 27.8**	**-0.9**
	baz=193,SNR=10.0						
LPM	**Los Pinos Moun**	**19.43**	**339**	*e*P	**P**	**20 46 30.6**	**+0.1**
W40A	**Ferguson Farm,**	**19.43**	**13**	P	**P**	**20 46 29.0**	**-1.3**
	baz=195						
Y46A	**Houston**	**19.52**	**24**	P	**P**	**20 46 30.1**	**-1.2**
	baz=208,SNR=5.2						
TUC	**Tucson**	**19.53**	**327**	P	**Pn**	**20 46 32.8**	**+0.1**
	baz=141						
TUC	**Tucson**	**19.53**	**327**	*e*P	**Pn**	**20 46 34.1**	**+1.4**
	8.1nm,0.9s						
W41B	**Gary Mavity, V**	**19.61**	**15**	P	**P**	**20 46 31.8**	**-0.4**
	baz=197						
LRAL	**Lakeview Retre**	**19.61**	**30**	P	**P**	**20 46 31.6**	**-0.7**
	baz=214						
LRAL	**Lakeview Retre**	**19.61**	**30**	*e*P	**P**	**20 46 31.1**	**-1.2**
	12nm,0.9s						
Z48A	**Northport**	**19.64**	**28**	P	**P**	**20 46 30.5**	**-2.1**
	baz=212						
LAZ	**Ladron**	**19.69**	**338**	*e*P	**P**	**20 46 33.1**	**-0.3**
TUL1	**Leonard**	**19.69**	**6**	P	**P**	**20 46 32.3**	**-0.9**
	baz=187						
TUL1	**Leonard**	**19.69**	**6**	*e*P	**P**	**20 46 32.7**	**-0.4**
	50nm,1.0s						
WHAR	**Wooly Hollow**	**19.70**	**15**	*e*P	**P**	**20 46 33.1**	**-0.2**
	95nm,1.7s						
150A	**Eclectic**	**19.75**	**32**	P	**P**	**20 46 33.3**	**-0.5**
	baz=217						
OXF	**Oxford**	**19.87**	**22**	*e*P	**P**	**20 46 34.0**	**-1.1**
	46nm,1.1s						
V39A	**Pettigrew**	**19.94**	**11**	P	**P**	**20 46 34.9**	**-1.0**
	baz=193,SNR=16						
ANMO	**Albuquerque**	**19.95**	**340**	Pn	**Pn**	**20 46 38.2**	**+0.4**
	0.8nm,0.3s,baz=216,slow=17,SNR=18						
ANMO				Lg	Lg	20 52 41.5	
	0.1nm,0.3s,baz=200,slow=11,SNR=3.2						
ANMO				LR	LR	20 55 19.0	
	comp=Z,705nm,18.1s,baz=339,slow=40						
ANMO	**Albuquerque**	**19.95**	**340**	P	**Pn**	**20 46 37.6**	**-0.2**
	baz=156						
ANMO	**Albuquerque**	**19.95**	**340**	*e*P	**Pn**	**20 46 38.2**	**+0.4**
	16nm,0.8s						
ANMO				Lg	Lg	20 52 41.5	
Y47A	**UCPARC, Winfie**	**19.95**	**26**	P	**P**	**20 46 35.3**	**-0.7**
	baz=210						
Z49A	**Columbiana**	**19.96**	**30**	P	**P**	**20 46 35.5**	**-0.7**
	baz=215						
151A	**Opelika**	**20.05**	**34**	P	**P**	**20 46 36.0**	**-1.1**
	baz=219						
V40A	**Witts Springs**	**20.07**	**13**	P	**P**	**20 46 36.3**	**-1.1**
	baz=195,SNR=12						
V41A	**Mountainview**	**20.21**	**15**	P	**P**	**20 46 37.7**	**-1.1**
	baz=197,SNR=5.9						
X46A	**Booneville**	**20.22**	**24**	P	**P**	**20 46 37.5**	**-1.5**
	baz=208						
Y48A	**Jasper**	**20.26**	**28**	P	**P**	**20 46 38.3**	**-1.1**
	baz=212						
HHAR	**Hobbs**	**20.31**	**10**	*e*P	Pn	20 46 41.3	-0.7
	100nm,1.6s						
214A	**Organ Pipe Nat**	**20.38**	**323**	P	Pn	20 46 43.2	+0.3
	baz=136						
V42A	**Cord**	**20.43**	**16**	P	**P**	**20 46 40.0**	**-1.2**
	baz=199						
U39A	**Green Forest**	**20.50**	**11**	P	**P**	**20 46 40.9**	**-1.0**
	baz=193,SNR=18						
Y49A	**Blount Mountai**	**20.56**	**29**	P	**P**	**20 46 42.2**	**-0.5**
	baz=214						
U40A	**Yellville**	**20.60**	**13**	P	**P**	**20 46 41.7**	**-1.3**
	baz=195,SNR=24						
X48A	**Hartselle**	**20.77**	**27**	P	**P**	**20 46 43.4**	**-1.5**
	baz=212						
254A	**Abbeville**	**20.77**	**39**	P	**P**	**20 46 41.9**	**-3.1**
	baz=224						
PLAL	**Pickwick Lake**	**20.79**	**24**	*e*P	**P**	**20 46 44.1**	**-1.0**
	32nm,0.8s						
U41A	**Viola**	**20.80**	**15**	P	**P**	**20 46 44.2**	**-1.0**
	baz=197						
X18A	**Snowflake**	**20.93**	**332**	*e*P	Pn	20 46 49.3	-0.1
	28nm,1.0s						
U42A	**Revenden**	**20.98**	**16**	P	**P**	**20 46 45.7**	**-1.5**
	baz=199,SNR=6.9						
T38A	**Diamond**	**20.99**	**9**	P	**P**	**20 46 45.6**	**-1.7**
	baz=190,SNR=13						
T39A	**Clever**	**21.14**	**11**	P	**P**	**20 46 47.7**	**-1.2**
	baz=193,SNR=8.8						
X49A	**Woodville**	**21.14**	**29**	P	**P**	**20 46 45.4**	**-3.5**
	baz=213						
W47A	**Westpoint**	**21.22**	**25**	P	**P**	**20 46 48.4**	**-1.3**
	baz=209						
W18A	**Petrified Fore**	**21.34**	**334**	P	**P**	**20 46 51.2**	**0.0**
	baz=148,SNR=7.9						
W18A	**Petrified Fore**	**21.34**	**334**	*e*P	**P**	**20 46 53.5**	**+2.2**
	18nm,0.8s						
W48A	**Pulaski**	**21.40**	**26**	P	**P**	**20 46 50.3**	**-1.4**
	baz=211						
T40A	**Mansfield**	**21.43**	**13**	P	**P**	**20 46 50.6**	**-1.5**

FVM	French Village 26nm,1.0s	22.73	16	eP	P	P	20 47 06.7 +0.7
U48A	Cassie Pea, Po baz=210	22.74	25	P	P	P	20 47 04.0 -2.1
Q37A	Longview Farm, baz=189	22.78	8	P	P	P	20 47 04.9 -1.5
R41A	Rosebud baz=197,SNR=8.5	22.79	14	P	P	P	20 47 05.3 -1.3
S44A	Carbondale baz=203	22.81	19	P	P	P	20 47 05.2 -1.6
SIUC	Southern Illin 47nm,0.9s	22.84	19	eP	P	P	20 47 07.8 +0.7
PDMCI	Parker Dam,Lak baz=137	22.86	325	P	P	P	20 47 07.5 +0.1
IKP	In-Ko-Pah, Jac baz=131	22.88	319	P	P	P	20 47 09.3 +1.7
SWSC	Sam W. Stewart baz=132	22.88	320	P	P	P	20 47 09.3 +1.8
R42A	Luebbering baz=198	22.91	15	P	P	P	20 47 06.0 -1.9
T47A	Sharon Grove baz=208,SNR=9.2	22.93	24	P	P	P	20 47 07.8 -0.2
KSCO	Kaye Shedlock' baz=169,SNR=5.2	22.95	352	P	P	P	20 47 08.2 -0.2
KSCO	Kaye Shedlock' 44nm,0.7s	22.95	352	eP	P	P	20 47 09.3 +0.8
Q38A	Cooks Store, C baz=191,SNR=6.2	22.98	10	P	P	P	20 47 08.1 -0.5
S45A	Carrier Mills baz=204,SNR=5.8	23.01	20	P	P	P	20 47 07.8 -1.1
HODGE	Hodges 15nm,0.8s	23.02	36	eP	P	P	20 47 07.3 -1.7
R43A	Red Bud baz=200	23.14	17	P	P	P	20 47 09.5 -0.8
BC3	Big Chuckawall baz=134	23.15	321	P	P	P	20 47 12.0 +1.5
Q39A	Willow Grove F baz=193	23.17	11	P	P	P	20 47 08.9 -1.6
BG3	Lake Jocassee 15nm,0.7s	23.21	34	eP	P	P	20 47 10.3 -0.8
MONP2	Monument Peak baz=130	23.23	319	P	P	P	20 47 12.0 +0.6
TKL	Tuckaleechee C 8.2nm,0.9s,baz=212,slow=13,SNR=2.2	23.30	31	P	P	P	20 47 09.1 -2.7
T48A	Bowling Green baz=210,SNR=10	23.31	25	P	P	P	20 47 10.1 -1.8
W13A	Hualapai Mount 12nm,1.3s	23.32	326	eP	P	P	20 47 14.2 +1.9
IRM	Iron Mountain baz=135	23.32	323	P	P	P	20 47 14.1 +1.9
Q24A	Divide baz=163,SNR=7.9	23.37	347	P	P	P	20 47 12.4 -0.4
Q24A	Divide 25nm,1.1s	23.37	347	eP	P	P	20 47 13.6 +0.8
R44A	Waltonville baz=203,SNR=6.7	23.37	19	P	P	P	20 47 12.3 -0.3
Q41A	Truxton baz=197,SNR=9.9	23.45	14	P	P	P	20 47 11.8 -1.5
NHSC	New Hope baz=229	23.49	41	P	P	P	20 47 13.0 -0.8
NHSC	New Hope 103nm,1.0s	23.49	41	eP	P	P	20 47 12.9 -0.8
P37A	Lathrop baz=189	23.49	8	P	P	P	20 47 12.1 -1.7
PV01	Paradox Valley	23.55	340	eP	P	P	20 47 16.4 +1.8
U15A	North Rim 47nm,1.4s	23.57	331	eP	P	P	20 47 16.6 +1.7
Q42A	Golden Eagle baz=199,SNR=9.5	23.58	15	P	P	P	20 47 13.6 -1.1
USIN	University of 73nm,0.8s	23.58	22	eP	P	P	20 47 14.3 -0.3
USIN				eSn	Sn		20 51 55.7 +6.3
P39B	Salisbury baz=193,SNR=5.4	23.64	11	P	P	P	20 47 13.4 -1.9
P38A	Dawn baz=191,SNR=8.8	23.64	9	P	P	P	20 47 13.9 -1.3
R45A	Skylar, Fairfi baz=204	23.67	20	P	P	P	20 47 13.7 -1.8
PV05	Paradox Valley	23.68	339	eP	P	P	20 47 16.6 +0.7
BELC	Belle Mtn. Jos baz=133	23.72	321	P	P	P	20 47 18.1 +1.9
PFO	Pinyon Flats O baz=132	23.73	320	P	P	P	20 47 18.3 +1.9
P40A	Paris baz=195,SNR=15	23.82	12	P	P	P	20 47 15.6 -1.4
Q43A	New Douglas baz=200	23.83	17	P	P	P	20 47 15.9 -1.2
R46A	Gibon Southern baz=206	23.86	22	P	P	P	20 47 16.0 -1.4
O34A	Beatrice baz=183,SNR=8.9	23.86	3	P	P	P	20 47 16.0 -1.4
PV10	Paradox Valley	23.92	339	eP	P	P	20 47 18.7 +0.4
Q44A	Meyer Farm, Va baz=202	23.99	18	P	P	P	20 47 17.5 -1.1
O35A	Humboldt baz=185	24.00	5	P	P	P	20 47 17.5 -1.2
SMCO	Snowmass 29nm,1.0s	24.02	343	eP	P	P	20 47 21.3 +2.0
GMRC	Granite Mounta baz=135	24.07	323	P	P	P	20 47 21.2 +1.7
O37A	Wolven Farm, M baz=190,SNR=6.3	24.09	8	P	P	P	20 47 18.1 -1.4
TZTN	Tazewell baz=217	24.11	30	P	P	P	20 47 18.2 -1.5
OLIL	Olney 36nm,1.1s	24.13	20	eP	P	P	20 47 19.2 -0.7
O38A	Galt baz=191,SNR=7.9	24.14	9	P	P	P	20 47 18.1 -1.9
P41A	Barry, Barry baz=197,SNR=6.1	24.17	14	P	P	P	20 47 18.5 -1.8
KMSC	Kings Mountain baz=223	24.20	36	P	P	P	20 47 17.9 -2.7
Q45A	Warren Harvey, baz=204	24.25	20	P	P	P	20 47 19.5 -1.5
P42A	Winchester baz=199,SNR=12	24.26	15	P	P	P	20 47 19.5 -1.6
ISCO	Idaho Springs baz=162,SNR=28	24.27	346	P	P	P	20 47 22.1 +0.5
ISCO	Idaho Springs 35nm,0.8s	24.27	346	eP	P	P	20 47 22.7 +1.2
R47A	Wooly Knot Far baz=208,SNR=19	24.29	23	P	P	P	20 47 20.1 -1.3
KNB	Kanab 28nm,1.2s	24.29	331	eP	P	P	20 47 24.2 +2.5
WCI	Wyandotte Cave baz=209	24.32	24	P	P	P	20 47 20.4 -1.3
WCI	Wyandotte Cave 51nm,1.0s	24.32	24	eP	P	P	20 47 21.4 -0.2
WCI				eSn	S		20 52 17.6 +36
O40A	La Belle baz=195,SNR=9.2	24.43	12	P	P	P	20 47 20.9 -1.7
O39A	Kirksville baz=193,SNR=5.8	24.43	11	P	P	P	20 47 21.0 -1.6
LCMT	Little Creek M 24nm,1.6s	24.49	330	eP	P	P	20 47 24.6 +1.2
HEC	Hector,Ludlow baz=134	24.49	322	P	P	P	20 47 24.3 +0.9
N35A	Tabor baz=186	24.61	5	P	P	P	20 47 23.1 -1.2
N36A	Muff Farm, Cla baz=187	24.63	6	P	P	P	20 47 23.4 -1.0
P44A	Sand Creek, Wi baz=202	24.63	18	P	P	P	20 47 23.2 -1.3
O41A	Passleys Farm, baz=197,SNR=13	24.63	14	P	P	P	20 47 23.2 -1.3
R48A	Northridge Ran baz=210,SNR=7.3	24.63	24	P	P	P	20 47 23.4 -1.2
N37A	Lee Faris, Mou baz=189	24.66	8	P	P	P	20 47 23.7 -1.1
TUQ	Turquoise Moun baz=136	24.68	324	P	P	P	20 47 26.9 +1.7
OGNE	Ogallala baz=171,SNR=9.6	24.78	353	P	P	P	20 47 26.4 +0.4
OGNE	Ogallala 112nm,1.3s	24.78	353	eP	P	P	20 47 27.2 +1.3
N38A	Joes South For baz=191,SNR=9.1	24.83	9	P	P	P	20 47 25.8 -0.6
CIS	Catalina Islan baz=128	24.84	317	P	P	P	20 47 28.6 +2.1
MTPU	Mount Pierson 47nm,0.9s	24.85	333	eP	P	P	20 47 29.2 +2.2
Q47A	Bedord North L baz=208,SNR=7.2	24.89	23	P	P	P	20 47 25.8 -1.1
CCUT	Cedar City 5.7nm,1.1s	24.98	331	eP	P	P	20 47 30.0 +2.1
N39A	Derby Farms, D baz=193,SNR=8.0	25.04	11	P	P	P	20 47 27.2 -0.9
SHPR	Sheep Range 22nm,1.6s	25.06	327	eP	P	P	20 47 30.5 +1.9
GSC	Goldstone, Bar baz=134	25.10	322	P	P	P	20 47 30.9 +2.0
GSC	Goldstone, Bar 19nm,1.3s	25.10	322	eP	P	P	20 47 30.8 +1.9
M35A	Neola baz=186	25.21	5	P	P	P	20 47 29.1 -0.5
N40A	Mertquake, Sal baz=195,SNR=5.5	25.22	12	P	P	P	20 47 28.4 -1.4
P46A	Rosedale baz=206	25.22	21	P	P	P	20 47 29.2 -0.6
MSU	Marysvale	25.25	334	eP	P	P	20 47 31.6 +1.2
O20A	White River Ci baz=157,SNR=8.8	25.27	342	P	P	P	20 47 30.6 +0.1
O20A	White River Ci 27nm,0.9s	25.27	342	eP	P	P	20 47 32.5 +2.0
M36A	Felix, Anita baz=188	25.28	6	P	P	P	20 47 29.5 -0.8
M37A	Trindle Farm, baz=189,SNR=5.8	25.32	8	P	P	P	20 47 30.0 -0.6
N23A	Red Feather La baz=162,SNR=13	25.39	347	P	P	P	20 47 32.2 +0.5
N23A	Red Feather La 28nm,0.8s	25.39	347	eP	P	P	20 47 33.2 +1.6
HDIL	Hopedale baz=200	25.45	16	P	P	P	20 47 31.1 -0.7
M38A	Pleasantville baz=191,SNR=18	25.45	9	P	P	P	20 47 31.1 -0.8
P18A	Preston Nutter 35nm,1.0s	25.46	338	eP	P	P	20 47 33.2 +0.8
N42A	Yates City baz=198,SNR=7.3	25.51	15	P	P	P	20 47 31.8 -0.7
EDW2	Edwards Air Fo baz=131	25.52	320	P	P	P	20 47 33.2 +0.4
TMUT	Trail Mountain 16nm,0.9s	25.53	336	eP	P	P	20 47 34.5 +1.6
O45A	Potomac baz=204	25.62	19	P	P	P	20 47 32.4 -1.1
PHWY	Pilot Hill 19nm,1.0s	25.67	348	eP	P	P	20 47 35.3 +1.0
M39A	Webster baz=193,SNR=14	25.68	11	P	P	P	20 47 32.9 -1.1
M40A	Post Highland baz=195,SNR=6.9	25.74	12	P	P	P	20 47 33.1 -1.4
NCAT	North Carolina 33nm,0.8s	25.76	37	eP	P	P	20 47 34.0 -0.7
L35A	Bielow Farm, R baz=186	25.86	5	P	P	P	20 47 34.7 -0.9
M41A	Milan baz=197,SNR=6.1	25.91	14	P	P	P	20 47 34.7 -1.3
SCIA	State Center baz=191,SNR=5.1	25.93	9	P	P	P	20 47 35.3 -0.9
SCIA	State Center 78nm,0.8s	25.93	9	eP	P	P	20 47 35.6 -0.6
L36A	Harm Buss Farm baz=188	25.93	6	P	P	P	20 47 34.3 -2.0
SFIN	Lafayette baz=205	25.94	20	P	P	P	20 47 33.7 -2.6
SFIN	Lafayette 22nm,0.8s	25.94	20	eP	P	P	20 47 35.6 -0.7
N44A	Piper City baz=202,SNR=5.8	26.00	18	P	P	P	20 47 35.9 -0.9
MPMC	Manual Prospec baz=134	26.02	323	P	P	P	20 47 36.2 -1.2
L37A	Phoenix Point, baz=190	26.07	8	P	P	P	20 47 35.4 -2.0
O47A	Sheridan baz=207	26.13	22	P	P	P	20 47 35.7 -2.4
L38A	Oak Wood Farm, baz=191,SNR=14	26.19	9	P	P	P	20 47 37.4 -1.2
ROSC	El Rosal comp=Z,73nm,19.9s,baz=24,slow=36	26.21	113	LR	LR		20 57 58.0
BLA	Blacksburg baz=222	26.22	34	P	P	P	20 47 34.4 -4.6
DAC	Darwin (Calif) 10.0nm,1.4s	26.23	323	eP	P	P	20 47 40.7 +1.4
N45A	Kentland baz=204	26.23	19	P	P	P	20 47 38.0 -1.0
MPU	Maple Canyon 9.4nm,0.9s	26.31	337	eP	P	P	20 47 41.8 +1.8
ISA	Isabella, Lake baz=131	26.34	321	P	P	P	20 47 40.5 +0.4
ISA	Isabella, Lake 4.9nm,1.0s	26.34	321	eP	P	P	20 47 41.9 +1.8
L39A	Vinton baz=193,SNR=7.2	26.34	11	P	P	P	20 47 38.5 -1.5
M43A	Waltham Townsh baz=200	26.36	16	P	P	P	20 47 39.1 -1.1
L40A	Anamosa baz=195	26.43	12	P	P	P	20 47 39.5 -1.2
NLU	North Lily Min 12nm,0.9s	26.43	336	eP	P	P	20 47 42.6 +1.5
RWWY	Rawlins 22nm,1.0s	26.44	345	eP	P	P	20 47 42.8 +1.6
K36A	Gilmore City baz=188	26.49	7	P	P	P	20 47 40.1 -1.2
K35A	Storm Lake baz=186	26.49	5	P	P	P	20 47 40.3 -1.1
N46A	Monticello baz=205	26.53	20	P	P	P	20 47 39.7 -1.9
M44A	Midewin, Midew baz=202,SNR=5.5	26.57	18	P	P	P	20 47 41.2 -0.8
L41A	Preston baz=197,SNR=7.3	26.59	13	P	P	P	20 47 41.0 -1.2
R11A	Troy Canyon, C baz=140	26.68	329	P	P	P	20 47 43.5 +0.2
R11A	Troy Canyon, C 7.0nm,1.1s	26.68	329	eP	P	P	20 47 44.8 +1.5
K37A	Belmond baz=190,SNR=15	26.71	8	P	P	P	20 47 41.9 -1.4
L42A	Oliver, Polo baz=198,SNR=8.2	26.71	15	P	P	P	20 47 42.2 -1.1
K38A	Parkersburg baz=192	26.72	9	P	P	P	20 47 41.9 -1.4
RUSC	La Rusia 8.0nm,1.2s	26.86	110	eP	P	P	20 47 45.2 -0.2
K39A	Oelwein baz=193,SNR=11	26.92	11	P	P	P	20 47 43.6 -1.6
J31A	Geddes baz=179	26.93	359	P	P	P	20 47 44.7 -0.5
DUG	Dugway, Tooele baz=148,SNR=5.1	26.93	335	P	P	P	20 47 45.4 0.0
DUG	Dugway, Tooele 14nm,1.2s	26.93	335	eP	P	P	20 47 47.7 +2.2
K40A	Colesburg baz=195,SNR=6.0	27.06	12	P	P	P	20 47 45.1 -1.3
M46A	Old House Fiel baz=206	27.11	20	P	P	P	20 47 45.9 -1.0
L43A	Garden Prairie baz=200	27.11	16	P	P	P	20 47 45.2 -1.7
J35A	Milford baz=186	27.14	5	P	P	P	20 47 46.0 -1.1
K41A	Shullsburg baz=197	27.14	13	P	P	P	20 47 46.1 -1.1
J36A	Seneca 1, Swea baz=188,SNR=9.2	27.18	6	P	P	P	20 47 46.5 -1.1
K22A	Casper baz=162	27.19	347	P	P	P	20 47 48.4 +0.5
K22A	Casper 18nm,0.9s	27.19	347	eP	P	P	20 47 48.0 +0.2
TCUT	Toone Canyon 19nm,0.9s	27.19	338	eP	P	P	20 47 49.6 +1.6
J37A	Redenius Farm, baz=190,SNR=7.2	27.26	8	P	P	P	20 47 46.9 -1.3
L44A	Lake County Fo baz=202	27.34	17	P	P	P	20 47 48.1 -0.8
ACSO	Alum Creek Sta baz=213	27.37	26	P	P	P	20 47 46.8 -2.5
ACSO	Alum Creek Sta 19nm,1.0s	27.37	26	eP	P	P	20 47 48.6 -0.7
ECSD	EROS Data Cent baz=183	27.41	3	P	P	P	20 47 48.7 -0.9
J38A	Wedel Dairy, R baz=192,SNR=8.3	27.42	9	P	P	P	20 47 48.1 -1.6
JFWS	Jewell Farm baz=197	27.45	13	P	P	P	20 47 48.6 -1.3
JFWS	Jewell Farm 16nm,0.8s	27.45	13	eP	P	P	20 47 50.1 +0.2
K42A	Prairie Point, baz=199	27.52	15	P	P	P	20 47 49.3 -1.3
J39A	Decorah baz=194	27.57	11	P	P	P	20 47 49.2 -1.7
BGU	Big Grassy Mou 18nm,1.4s	27.64	336	eP	P	P	20 47 53.6 +1.8
I35A	Creekview Farm baz=187	27.64	5	P	P	P	20 47 49.6 -2.1
HWUT	Hardware Ranch 5.7nm,0.9s	27.68	338	eP	P	P	20 47 53.8 +1.6
K43A	Burlington baz=201	27.71	16	P	P	P	20 47 50.8 -1.5
J40A	Soldiers Grove baz=195	27.80	12	P	P	P	20 47 51.9 -1.2
I36A	Fitzsimmons Fa baz=188	27.90	7	P	P	P	20 47 52.6 -1.3
J41A	Loganville baz=197	27.93	13	P	P	P	20 47 53.2 -1.1
I37A	Lemond, Waseca baz=190	27.97	8	P	P	P	20 47 53.2 -1.4
SDV	Santo Domingo 5.1nm,0.7s,baz=327,slow=4.5,SNR=5.2	28.04	102	P	P	P	20 47 56.5 +0.7
SDV				LR	LR		21 00 49.1
SDV	Santo Domingo 11nm,0.9s	28.04	102	eP	P	P	20 47 57.1 +1.3
BW06	Boulder Array baz=156	28.08	342	P	P	P	20 47 55.5 -0.3
BW06	Boulder Array 16nm,1.2s	28.08	342	eP	P	P	20 47 57.0 +1.2
PD31	Pinedale Array	28.08	342	eP	P	P	20 47 57.0 +1.2
PDAR	Pinedale Array 2.8nm,0.8s,baz=136,slow=11,SNR=12	28.08	342	P	P	P	20 47 56.9 +1.1
PDAR	Pinedale Array	28.08	342	eP	P	P	20 47 56.4 +0.5
NV11	Mina Array Sit 0.7nm,1.1s	28.08	326	eP	P	P	20 47 57.8 +1.9
J42A	Columbus baz=199	28.09	14	P	P	P	20 47 54.6 -1.0
I39A	Houston baz=194	28.10	11	P	P	P	20 47 54.3 -1.4
I38A	Scanlan Farm, baz=192,SNR=7.1	28.15	9	P	P	P	20 47 54.9 -1.3
H32A	Carlson Farm, baz=181	28.15	1	P	P	P	20 47 55.4 -0.8
NV01	Mina Array Sit	28.16	325	eP	P	P	20 47 58.8 +2.1
NVAR	Mina Array Bea 2.1nm,0.8s,baz=157,slow=9.5,SNR=8.2	28.16	325	P	P	P	20 47 58.8 +2.1
NVAR				LR	LR		20 59 56.3
RSSD	Black Hills baz=168	28.16	351	P	P	P	20 47 56.7 +0.1
HVU	Hansel Valley 7.7nm,0.9s	28.27	337	eP	P	P	20 47 58.7 +1.2
J43A	Natural Harves baz=200	28.32	15	P	P	P	20 47 56.8 -0.9
H34A	Spellman Lake, baz=185	28.39	4	P	P	P	20 47 57.2 -1.1
H36A	Jessenland, He baz=188	28.46	7	P	P	P	20 47 58.0 -0.9
H35A	Sunnyside Ranc baz=187	28.49	5	P	P	P	20 47 58.1 -1.1
AHID	Auburn Hatcher 9.4nm,0.9s	28.55	340	eP	P	P	20 48 01.1 +1.1
H37A	Dierke Farm, C baz=191	28.59	8	P	P	P	20 47 59.3 -0.8
I41A	Arkdale baz=197	28.62	13	P	P	P	20 47 59.3 -1.1
I42A	Draeger Farm, baz=199	28.68	14	P	P	P	20 47 59.8 -1.0
H38A	Maiden Rock baz=192	28.77	9	P	P	P	20 48 00.7 -1.1
I43A	Langenfeld Bro baz=200	28.86	15	P	P	P	20 48 01.0 -1.5
G33A	Ortonville baz=183	28.88	3	P	P	P	20 48 01.5 -1.1
G32A	Webster baz=181	28.90	1	P	P	P	20 48 02.0 -0.9
H39A	Augusta baz=194	28.94	11	P	P	P	20 48 02.5 -0.8
G34A	Benson baz=185	28.97	4	P	P	P	20 48 02.3 -1.2
REDW	Red Top Meadow 18nm,1.3s	29.01	341	eP	P	P	20 48 04.5 +0.4
H40A	Chili baz=196,SNR=6.8	29.05	12	P	P	P	20 48 03.3 -0.9
G36A	St. Michael baz=189	29.13	7	P	P	P	20 48 03.9 -1.0
TPAW	Teton Pass 7.8nm,0.9s	29.16	341	eP	P	P	20 48 05.9 +0.4
H41A	Junction City baz=197	29.20	13	P	P	P	20 48 04.4 -1.1
SPMN	Marine on St. baz=191	29.24	8	P	P	P	20 48 04.6 -1.2
SPMN	Marine on St. 17nm,0.9s	29.24	8	eP	P	P	20 48 05.0 -0.9
FXWY	Fox Creek 5.2nm,0.9s	29.31	341	eP	P	P	20 48 07.6 +0.7
G38A	Ridgeland baz=192	29.32	9	P	P	P	20 48 05.5 -1.1
MOOW	Moose Ponds 17nm,1.6s	29.33	342	eP	P	P	20 48 07.5 +0.6
O56A	Blue Knob Stat baz=221	29.46	32	P	P	P	20 48 06.9 -1.1
F31A	Hecla baz=180	29.49	0	P	P	P	20 48 07.4 -0.7
F33A	5 Mile Ranch, baz=184	29.52	3	P	P	P	20 48 07.3 -1.1
G39A	Holcombe baz=194,SNR=6.7	29.55	10	P	P	P	20 48 07.6 -1.0
F35A	Swanville baz=187	29.66	5	P	P	P	20 48 08.7 -0.9
G40A	Rib Lake baz=196,SNR=6.4	29.71	12	P	P	P	20 48 08.0 -2.0
F36A	Milaca baz=189	29.77	7	P	P	P	20 48 09.5 -1.1
M54A	Oil Creek Stat baz=218	29.88	29	P	P	P	20 48 09.0 -2.7
G42A	Mountain baz=199	30.07	14	P	P	P	20 48 11.5 -1.7
F38A	Pierce - Schro baz=192	30.09	9	P	P	P	20 48 11.8 -1.6
RLMT	Red Lodge baz=158,SNR=6.7	30.18	345	P	P	P	20 48 15.2 +0.8
RLMT	Red Lodge 37nm,1.6s	30.18	345	eP	P	P	20 48 15.8 +1.3
E31A	Nome baz=180	30.20	1	P	P	P	20 48 13.4 -0.9
G43A	Wallace baz=200	30.26	15	P	P	P	20 48 13.7 -1.2
YHH	Holmes Hill 5.6nm,1.1s	30.30	342	eP	P	P	20 48 17.3 +1.6
F40A	Park Falls baz=195,SNR=13	30.35	11	P	P	P	20 48 14.9 -0.8
F41A	Three Lakes baz=197	30.39	13	P	P	P	20 48 14.4 -1.6
HLID	Hailey baz=148	30.42	337	P	P	P	20 48 16.7 +0.1
HLID	Hailey 4.1nm,0.9s	30.42	337	eP	P	P	20 48 18.2 +1.6
E39A	Mellen baz=194	30.71	11	P	P	P	20 48 18.0 -0.9
COWI	Conover 6.6nm,0.8s	30.72	13	eP	P	P	20 48 18.5 -0.5
E38A	The Farm, Brul baz=192	30.77	9	P	P	P	20 48 18.1 -1.3
D33A	AnnSam, Waubun baz=184	30.85	3	P	P	P	20 48 18.7 -1.3
MFID	Camas Ranch 8.1nm,1.0s	30.86	335	eP	P	P	20 48 21.4 +1.0
E40A	Wakefield baz=196,SNR=12	30.90	11	P	P	P	20 48 19.7 -0.8
D35A	Remer baz=188	30.93	6	P	P	P	20 48 19.7 -1.1
F43A	Flat Rock, Esc baz=201,SNR=5.3	30.93	15	P	P	P	20 48 19.4 -1.4
MCMT	McKenzie Canyo	30.96	340	eP	P	P	20 48 22.1 +0.6
LAO	LASA Array baz=165	31.02	350	P	P	P	20 48 20.7 -0.9
E41A	Kenton baz=197	31.11	13	P	P	P	20 48 21.0 -1.4
D36A	Goodland baz=189	31.11	7	P	P	P	20 48 21.1 -1.3
D37A	Cotton baz=191	31.19	8	P	P	P	20 48 21.9 -1.2
F45A	CMU Biological baz=204	31.24	18	P	P	P	20 48 22.5 -1.0
F44A	Big Bay de Noc baz=202	31.25	16	P	P	P	20 48 22.5 -1.2
E42A	Champion baz=199	31.31	14	P	P	P	20 48 23.0 -1.2
WVOR	Wild Horse Val 18nm,1.4s	31.31	330	eP	P	P	20 48 26.2 +1.8
C31A	Landman Farms, baz=181	31.43	1	P	P	P	20 48 24.6 -0.7
E43A	Lone Tree Farm baz=201,SNR=5.8	31.48	15	P	P	P	20 48 24.3 -1.3
MDND	Maddock baz=177	31.50	358	P	P	P	20 48 25.3 -0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDND	Maddock	31.50	358	eP	P	20 48 26.4	+0.6
	71nm,0.8s						
C35A	Jirik Farms, M	31.55	6	P	P	20 48 24.9	-1.4
	baz=188						
LRM	Limekiln Ridge	31.72	341	eP	P	20 48 29.5	+1.4
C36A	Pine Crest Far	31.73	7	P	P	20 48 26.9	-0.9
	baz=190						
D41A	Chassel	31.76	13	P	P	20 48 27.3	-0.8
	baz=198,SNR=7.2						
B33A	Robert and Kas	31.99	4	P	P	20 48 29.1	-1.0
	baz=185						
AGMN	Agassiz Nation	32.00	3	P	P	20 48 29.1	-1.2
	baz=184,SNR=10						
AGMN	Agassiz Nation	32.00	3	eP	P	20 48 29.7	-0.5
	18nm,0.9s						
B32A	Ashes, Strandq	32.07	2	P	P	20 48 29.9	-0.9
	baz=183,SNR=8.9						
EYMN	Ely	32.09	9	P	P	20 48 29.8	-1.2
	baz=192						
EYMN	Ely	32.09	9	eP	P	20 48 30.5	-0.5
	9.4nm,1.0s						
C39A	Grand Marais	32.18	10	P	P	20 48 30.5	-1.3
	baz=195						
BINY	Binghamton	32.20	32	P	P	20 48 30.3	-1.8
	baz=223						
B35A	Bob, Littlefor	32.22	6	P	P	20 48 31.0	-1.2
	baz=188						
B34A	Aery, Baudette	32.27	5	P	P	20 48 31.4	-1.2
	baz=186						
A32A	Rocking H Ranc	32.59	2	P	P	20 48 34.6	-0.8
	baz=183						
BMO	Blue Mountains	32.64	335	eP	P	20 48 36.3	+0.2
	3.6nm,1.0s						
A33A	Warroad	32.66	4	P	P	20 48 35.3	-0.8
	baz=185						
SADO	Sadowa	32.71	26	P	P	20 48 34.7	-1.8
	5.0nm,0.8s,baz=265,slow=10,SNR=3.8						
YBH	Yreka Blue Hor	32.88	325	LR	LR	21 02 49.4	
	comp=Z,131nm,18.8s,baz=150,slow=38						
EGMT	Eagleton	33.01	346	P	P	20 48 39.9	+0.7
	baz=159						
EGMT	Eagleton	33.01	346	eP	P	20 48 40.1	+0.9
	16nm,1.2s						
MSO	Missoula	33.09	340	P	P	20 48 40.3	+0.3
	baz=151						
F10A	Beach Ranch, E	33.53	336	eP	P	20 48 44.4	+0.6
	12nm,1.0s						
G08A	Pilot Rock	33.69	333	eP	P	20 48 45.6	+0.4
	5.9nm,0.9s						
ULM	Lac du Bonnet	33.95	3	P	P	20 48 44.5	-2.8
	6.0nm,0.8s,baz=175,slow=6.2,SNR=6.6						
ULM				LR	LR	21 03 22.6	
	comp=Z,110nm,20.7s,baz=223,slow=38						
ULM	Lac du Bonnet	33.95	3	eP	P	20 48 46.5	-0.7
	19nm,1.4s						
H04A	Detroit Lake	34.70	330	eP	P	20 48 55.6	+1.6
	26nm,1.3s						
WALA	Waterton Lakes	35.06	342	eP	P	20 48 58.4	+1.4
	17nm,1.4s						
C09A	Chrisman Ranch	35.45	337	eP	P	20 49 01.6	+1.3
	33nm,1.6s						
LTY	Liberty	35.97	334	eP	P	20 49 06.3	+1.5
	22nm,1.4s						
B08A	Colville Reser	36.31	336	eP	P	20 49 08.3	+0.6
	16nm,1.4s						
FFC	Flin Flon	38.47	357	eP	P	20 49 26.1	+0.2
	19nm,0.8s						
EDM	Edmonton	38.69	346	eP	P	20 49 28.0	+0.2
	29nm,0.9s						
LLLB	Lillooet	39.11	336	eP	P	20 49 32.6	+1.2
	30nm,1.6s						
FCC	Fort Churchill	42.54	3	eP	P	20 49 59.6	+0.2
	53nm,1.9s						
LPAZ	La Paz	44.02	136	P	P	20 50 15.8	+3.2
	1.1nm,0.7s,baz=326,slow=8.1,SNR=3.7						
LPAZ				LR	LR	21 07 30.4	
	comp=Z,57nm,18.9s,baz=288,slow=35						
RPN	Rapa Nui	44.43	194	LR	LR	21 05 27.0	
	comp=Z,42nm,21.2s,baz=134,slow=31						
SCHQ	Schefferville	45.52	25	P	P	20 50 21.3	-2.2
	14nm,0.8s,baz=224,slow=4.5,SNR=7.7						
SCHQ				LR	LR	21 11 41.1	
	comp=Z,98nm,19.3s,baz=104,slow=39						
SCHQ	Schefferville	45.52	25	eP	P	20 50 23.0	-0.5
	16nm,0.9s						
YKA	Yellowknife Ar	47.55	350	P	P	20 50 38.7	-0.6
	3.0nm,0.9s,baz=157,slow=7.5,SNR=32						
YKA				LR	LR	21 12 18.6	
	comp=Z,16nm,18.6s,baz=180,slow=38						
YKW3	Yellowknife Ar	47.62	350	eP	P	20 50 39.2	-0.6
	9.8nm,1.2s						
TAOE	Nuku Hiva Isla	48.29	242	eLR	LR	21 04 12.9	
	184nm,24.6s						
TAOE	Nuku Hiva Isla	48.29	242	eT	T	21 42 05.6	
	150nm,0.3s						
SIV	San Ignacio	48.83	129	P	P	20 50 52.4	+2.6
	1.2nm,0.8s,baz=297,slow=12,SNR=3.8						
HYT	Haines Junctio	52.56	337	eP	P	20 51 18.7	+1.2
	27nm,1.5s						
RKT	Rikitea	53.04	223	eT	T	21 48 03.6	
	30nm,0.3s						
KLU	Klutina	56.25	335	eP	P	20 51 45.7	+1.4
	12nm,1.1s						
EGAK	Eagle	56.37	340	eP	P	20 51 45.6	+0.6
	6.8nm,0.9s						
INK	Inuvik	56.59	345	P	P	20 51 46.5	+0.1
	7.8nm,0.9s,baz=122,slow=6.4,SNR=31						
INK	Inuvik	56.59	345	eP	P	20 51 46.7	+0.2
	12nm,0.8s						
DOT	Dot Lake	56.72	338	eP	P	20 51 48.3	+0.8
	39nm,1.1s						
PAX	Paxson	56.87	336	eP	P	20 51 49.8	+1.1
	11nm,1.2s						
RIDG	Independ'e Rid	57.06	337	eP	P	20 51 51.1	+1.1
	24nm,1.0s						
DHY	Denali Highway	57.66	336	eP	P	20 51 55.4	+1.1
	16nm,1.6s						
PMOR	Pomariorio Ree	57.92	240	eT	T	21 54 08.4	
	5.4nm,0.2s						
CPUP	Villa Florida	58.20	136	P	P	20 52 00.4	+2.0
	2.9nm,1.0s,baz=325,slow=5.3,SNR=3.3						
SUA	Susitna One	58.26	333	eP	P	20 51 59.5	+1.0
	9.7nm,0.8s						
IL1	Eielson Array	58.37	338	eP	P	20 51 59.1	0.0
ILAR	Eielson Array	58.37	338	P	P	20 51 59.5	+0.4
	2.7nm,0.9s,baz=143,slow=5.2,SNR=28						
ILAR				LR	LR	21 19 28.2	
	comp=Z,237nm,18.3s,baz=130,slow=39						
ILB	Eielson Array	58.37	338	eP	P	20 51 59.6	+0.5
RND	Reindeer	58.41	336	eP	P	20 52 00.7	+1.3
	42nm,1.4s						
RES	Resolute Bay	58.45	1	P	P	20 51 58.4	-1.1
	0.7nm,0.4s,baz=207,slow=11,SNR=5.2						
RES				LR	LR	21 17 15.3	
	comp=Z,72nm,18.6s,baz=171,slow=36						
RES	Resolute Bay	58.45	1	eP	P	20 51 57.8	-1.7
	3.0nm,0.7s						
MCK	McKinley	58.60	336	eP	P	20 52 01.3	+0.6
	8.6nm,0.9s						
TRF	Thorofare Moun	58.99	336	eP	P	20 52 04.5	+0.8
	24nm,0.9s						
KTH	Kantishna Hill	59.29	336	eP	P	20 52 06.2	+0.5
	9.3nm,0.9s						
SFJD	Kangerlussuaq	59.35	20	P	P	20 52 04.6	-1.2
	6.9nm,0.8s,baz=203,slow=1.2,SNR=4.0						
SFJD				LR	LR	21 19 55.2	
	comp=Z,89nm,18.3s,baz=223,slow=38						
SFJD	Kangerlussuaq	59.35	20	iP	P	20 52 04.6	-1.2
	6.6nm,0.8s						
PPLA	Purkeypile	59.51	335	eP	P	20 52 07.8	+0.5
	30nm,1.5s						
BPAW	Bear Paw Mtn.	59.57	336	eP	P	20 52 07.8	+0.4
	12nm,1.4s						
CAST	Castle Rocks	59.69	335	eP	P	20 52 08.6	+0.2
	19nm,1.0s						
MLY	Manley	59.92	337	eP	P	20 52 10.6	+0.7
	12nm,1.0s						
SVW2	Sparrevohn	60.24	332	eP	P	20 52 12.3	+0.1
	11nm,1.0s						
PPT	Papeete	60.62	239	LR	LR	21 12 13.4	
	comp=Z,71nm,18.8s,baz=346,slow=30						
PPT2	Papeete2	60.63	239	eLR	LR	21 09 57.6	
	133nm,24.5s						
COLD	Coldfoot	60.81	339	eP	P	20 52 16.8	+0.9
	9.4nm,1.4s						
TOLK	Toolik Lake Re	61.33	341	P	P	20 52 19.9	+0.4
	baz=121						
TOLK	Toolik Lake Re	61.33	341	eP	P	20 52 19.5	0.0
	7.9nm,1.1s						
PLCA	Paso Flores	62.33	156	LR	LR	21 15 47.4	
	comp=Z,64nm,18.3s,baz=340,slow=32						
SUMG	Summit	65.76	17	iP	P	20 52 49.1	0.0
	10nm,1.0s						
SUMG	Summit	65.76	17	eP	P	20 52 48.9	-0.2
	14nm,1.2s						
BORG	Borgarnes	69.89	26	LR	LR	21 26 51.8	
	comp=Z,37nm,18.3s,baz=185,slow=39						
RAR	Rarotonga	70.79	240	LR	LR	21 17 23.4	
	comp=Z,118nm,19.2s,baz=9.5,slow=30						
DAG	Danmarks Havn	71.91	14	iP	P	20 53 24.9	-2.0
	9.2nm,0.8s						
BBTS	Babate	78.36	78	LR	LR	21 25 39.4	
	comp=Z,105nm,18.4s,baz=320,slow=34						
SPITS	Spitsbergen Ar	79.07	11	P	P	20 54 08.4	+0.4
	4.0nm,0.8s,baz=298,slow=6.2,SNR=3.4						
SPITS				LR	LR	21 30 51.8	
	comp=Z,110nm,19.4s,baz=340,slow=37						
ESDC	Sonseca Array	83.11	51	P	P	20 54 29.4	-0.9
	1.1nm,0.8s,baz=296,slow=5.0,SNR=7.0						
ES19	SONSECA Array	83.15	51	eP	P	20 54 29.1	-1.4
SEY	Seymchan	84.09	334	P	P	20 54 35.0	+0.2
	1.1nm,0.5s,baz=335,slow=21,SNR=5.1						
NB2	NORSAR Subarra	85.04	27	P	P	20 54 40.0	+0.3
	comp=Z,5.3nm,1.0s,baz=298,slow=5.1						
NOA	NORSAR Array B	85.04	27	P	P	20 54 40.1	+0.5
	comp=Z,0.8nm,0.7s,baz=286,slow=7.0,SNR=3.2						
NOA				LR	LR	21 35 03.6	
	comp=Z,13nm,18.3s,baz=305,slow=38						
PETK	Petropavlovsk-	85.24	324	P	P	20 54 41.3	+0.5
	comp=Z,13nm,1.2s,baz=67,slow=11,SNR=3.6						
PETK				LR	LR	21 32 27.6	
	comp=Z,31nm,19.9s,baz=72,slow=36						
ARCES	ARCESS Array B	85.85	17	P	P	20 54 42.4	-1.1
	comp=Z,3.7nm,0.9s,baz=305,slow=4.3,SNR=5.6						
HFS	Hagfors	86.53	28	LR	LR	21 37 16.4	
	comp=Z,29nm,19.2s,baz=287,slow=38						
TIXI	Tiksi	86.69	347	eP	P	20 54 46.9	-0.7
	comp=Z,7.5nm,1.2s						
KOWA	Kowa	90.09	75	LR	LR	21 32 56.9	
	comp=Z,54nm,21.9s,baz=248,slow=34						
FINES	FINESS Array B	90.97	23	P	P	20 55 08.6	+0.6
	comp=Z,2.2nm,0.9s,baz=234,slow=6.4,SNR=3.8						
FINES				LR	LR	21 37 55.3	
	comp=Z,67nm,18.3s,baz=273,slow=37						
DBIC	Dimbokro	91.53	83	LR	LR	21 29 27.2	
	comp=Z,31nm,21.5s,baz=232,slow=31						
GERES	GERESS Array B	91.69	38	LR	LR	21 38 58.9	
	comp=Z,82nm,18.3s,baz=270,slow=37						
TORD	Torodi Ar. Bea	95.79	75	P	P	20 55 33.8	+2.6
	comp=Z,0.7nm,0.9s,baz=260,slow=4.2,SNR=3.2						
TORD				LR	LR	21 37 07.5	
	comp=Z,64nm,19.2s,baz=260,slow=35						
AKASG	Malin Array Be	99.08	31	LR	LR	21 44 18.5	
	comp=Z,36nm,18.0s,baz=310,slow=38						
DZM	Mont Dzumac	100.62	250	eLR	LR	21 28 52.5	
	comp=Z,76nm,22.8s						
HHC	Hu-ho-hao-te	116.73	335	ePKP	PKPdf	21 00 43.6	-5.4
HHC				PP	PP	21 01 54.1	-1.7
LZH	Lanzhou	123.83	338	ePKP	PKPdf	21 00 59.9	-3.0
LZH				pPKP	sPKPdf	21 01 08.3	+3.2
LZH				sPKP		21 01 13.4	
KSH	Kashi	124.25	5	ePKP	PKPdf	21 01 07.8	+4.2
KSH				PP	PP	21 02 49.5	+2.5
CD2	Chengdu	128.47	336	PKP	PKPdf	21 01 10.0	-1.8
WRA	Warramunga Arr	129.91	257	PKhKP	PKPpre	21 01 13.2	
	comp=Z,0.3nm,0.7s,baz=84,slow=1.6,SNR=5.5						
ASAR	Alice Springs	130.53	253	PKhKP	PKPpre	21 01 14.5	
	comp=Z,0.5nm,0.9s,baz=108,slow=3.0,SNR=2.8						
CMAR	Chiang Mai Arr	141.50	333	PKP	PKPdf	21 01 37.6	+1.4
	comp=Z,0.4nm,0.8s,baz=333,slow=1.0,SNR=3.5						
HYB	Hyderabad	146.38	5	iPKP	PKPdf	21 01 43.0	-1.9
OPO	Ambohidratompo	147.11	99	PKPbc	PKPab	21 01 53.4	+3.5
	comp=Z,8.6nm,0.9s,baz=245,slow=4.2,SNR=7.0						

*NIED **22** 20:42:00, 40°.70N×145°.00E, h5km, Mw3.3 Best double couple: Mo1.05000×10^14 NP1:φs216.00000°, δ35.00000°, λ-79.00000°. NP2:φs23.00000°, δ55.00000°, λ-97.00000°.*

JMA 22 20:42:51.9±0.2**, 40°.69N**×**145°.02E, h56km, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.93	314	P	Pn	20 43 22.9	+0.6
JEM				S	Sn	20 43 44.5	-0.9
JCH	Churui	2.29	328	P	Pn	20 43 28.1	+0.9
JCH				S	Sn	20 43 53.2	-1.0
JAK	Akkeshi	2.32	354	P	Pn	20 43 28.4	+0.8
JAK				eS	Sn	20 43 55.4	+0.5
JNBK	Urakawa-nobuka	2.33	314	P	Pn	20 43 29.5	+1.7
JNBK				eS	Sn	20 43 56.2	+1.0
JOB	Onbets	2.38	339	P	Pn	20 43 30.3	+1.8
JOB				eS	Sn	20 43 57.3	+0.8
JANG	Nango	2.69	264	P	Pn	20 43 33.2	+0.5
JANG				eS	Sn	20 44 02.0	-2.1
NEM2	Nemuro 2	2.73	11	P	Pn	20 43 34.3	+1.1
NEM2				eS	Sn	20 44 03.8	-1.1
JAR	Ashorobuto	2.77	341	P	Pn	20 43 34.4	+0.6
JAR				eS	Sn	20 44 05.4	-0.5
JTM	Tenmabayashi	3.00	273	P	Pn	20 43 38.4	+1.4
JTM				S	Sn	20 44 11.1	-0.7
JFR	Furan	3.06	325	P	Pn	20 43 39.2	+1.4
JFR				S	Sn	20 44 12.0	-1.3
JOT	Ohata	3.08	284	P	Pn	20 43 39.3	+1.2
JOT				eS	Sn	20 44 12.0	-1.7
JOM	Ohasama	3.11	248	P	Pn	20 43 40.0	+1.6
JOM				S	Sn	20 44 13.8	-0.5
JKB	Kayabe	3.23	293	P	Pn	20 43 41.7	+1.6
JKB				eS	Sn	20 44 16.2	-1.2
JTKR	Abashiri--Toko	3.38	346	P	Pn	20 43 44.1	+2.0
JTKR				S	Sn	20 44 22.0	+1.0
JAH	Hinai	3.38	263	P	Pn	20 43 43.7	+1.5
JAH				eS	Sn	20 44 20.3	-0.8
JMK	Ichinoseki	3.40	241	P	Pn	20 43 43.8	+1.3
JMK				S	Sn	20 44 20.4	-1.1
JOU	Okura	4.09	237	P	Pn	20 43 53.7	+1.8

*IDC **22** 20:47:48.5±1.6, 33°.55N×89°.19E, h0km, mb3.3/3, mb1 3.4/7, mb1mx3.2/70, mbtmp3.3/7, ML3.0/4, MS2.9/4, Ms1 2.9/4, ms1mx2.5/48, Error ellipse: s-maj=61.2km s-min=20.3km az=63.0*

*ISCJB **22** 20:47:51.2±0.8, 33°.77N±0°.06×89°.7E±0°.1, h33km, mb3.2/2, MS2.7/3, Error ellipse: s-maj=16.2km s-min=7.9km az=9.0*

ISC 22 20:47:53.7±0.9**, 33°.78N**±0°.08×**89°.6E**±0°.1**, h35km, n22, σ1s.56**/19**, MS2.5**/3**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAPN	Taplejung	6.61	195	eP	Pn	20 49 28.3	-0.3
	5.4nm,0.4s						
GUN	Gumba	6.66	210	eP	Pn	20 49 29.0	-0.4
	13nm,0.6s						
JIRN	Jiri	6.76	207	eP	Pn	20 49 31.8	+1.0
	10nm,0.4s						
KKN	Kakani	7.02	213	eP	Pn	20 49 35.2	+0.9
	6.9nm,0.6s						
ODAN	Odare	7.15	196	eP	Pn	20 49 35.3	-0.7
	23nm,0.5s						
PKI	Pulchoki	7.16	211	eP	Pn	20 49 36.5	+0.3
	6.9nm,0.5s						
GKN	Gorkha	7.16	218	eP	Pn	20 49 37.3	+1.3
	6.2nm,0.6s						
PKIN	Phulchoki	7.16	211	eP	Pn	20 49 36.8	+0.7
	5.4nm,0.5s						
DMN	Daman	7.26	213	eP	Pn	20 49 38.9	+1.4
	4.8nm,0.6s						
RAMN	Ramite	7.28	202	eP	Pn	20 49 37.5	-0.3
	11nm,0.4s						
DANN	Dangsing	7.37	224	eP	Pn	20 49 40.9	+1.9
KOLN	Koldanda	7.90	222	eP	Pn	20 49 46.8	+0.6
	3.9nm,0.6s						
MKAR	Makanchi Array	14.14	339	Pn	Pn	20 51 08.3	-3.1
	0.0nm,0.3s,baz=163,slow=10,SNR=3.3						
AAK	Ala-Archa	14.79	311	LR	LR	20 58 08.8	
	comp=Z,49nm,20.2s,baz=115,slow=42						
CMAR	Chiang Mai Arr	17.40	149	P	Pn	20 51 51.8	-1.9
	0.1nm,0.3s,baz=328,slow=12,SNR=3.0						
KURBB	Kurchatov Arra	18.69	338	P	P	20 52 08.0	-0.7
	0.0nm,0.3s,baz=146,slow=12,SNR=8.4						
SONM	Songino Array	18.89	37	P	Pn	20 52 15.5	+3.6
	0.1nm,0.3s,baz=226,slow=11,SNR=4.0						
ZALV	Zalesovo Beam	20.45	352	P	P	20 52 28.5	+0.6
	1.6nm,0.7s,baz=172,slow=11,SNR=8.6						
ZALV				LR	LR	21 01 40.9	
	comp=Z,20nm,19.7s,baz=231,slow=40						
TLY	Talaya	20.59	25	LR	LR	21 00 54.1	
	comp=Z,20nm,18.2s,baz=202,slow=38						
BVAR	Borovoye Array	23.63	330	P	P	20 53 02.4	+0.9
	0.2nm,0.5s,baz=106,slow=4.7,SNR=3.4						
GEYT	Alibeck	25.78	288	LR	LR	21 05 35.8	
	comp=Z,58nm,18.7s,baz=45,slow=42						
WRA	Warramunga Arr	68.35	135	P	P	20 58 52.5	+0.8
	0.5nm,0.8s,baz=332,slow=6.6,SNR=3.9						

MEX 22 20:49:37.3±0.9**, 16°.45N**×**98°.21W, h5km, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.10	128	eP	Pg	20 49 38.2	-1.1
PNIG				iS	Sg	20 49 41.0	+0.3
VHO	Vista Hermosa	1.54	66	eP	Pn	20 50 01.5	-4.1
VHO				eS	Sn	20 50 21.8	-4.3
ACX	Acapulco	1.64	285	eP	Pn	20 50 00.7	-6.2
ACX				iS	Sn	20 50 21.8	-6.5
CAIG	El Cayaco	2.06	287	eP	Pn	20 50 09.6	-3.0
CAIG				iS	Sn	20 50 34.4	-4.3
HUIG	Huatulco	2.13	108	eP	Pn	20 50 10.7	-2.8
HUIG				iS	Sn	20 50 36.6	-3.7

IDC 22 20:59:13.9±8.0**, 32°.60S**×**179°.78W, h404km**±96km**, mb3.3**/2**, mb1 3.5**/3**, mb1mx3.0**/40**, mbtmp4.0**/3**, Error ellipse: s-maj=113.0km s-min=40.9km az=4.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.19	203	P	P	21 00 49.8	+1.6
	1.0nm,0.3s,baz=107,slow=14,SNR=8.3						
URZ				S	S	21 02 04.8	-1.0
	3.0nm,0.3s,baz=90,slow=20,SNR=16						
ASAR	Alice Springs	41.54	270	P	P	21 06 24.4	+0.2
	0.6nm,0.4s,baz=105,slow=7.5,SNR=12						
WRA	Warramunga Arr	42.73	275	P	P	21 06 33.4	-0.3
	1.8nm,0.3s,baz=111,slow=8.1,SNR=82						
FINES	FINESS Array B	146.64	338	PKPbc	PKPbc	21 18 07.2	-0.9
	1.5nm,0.8s,baz=46,slow=6.0,SNR=4.6						

*ISCJB **22** 21:04:45.7±0.5, 67°.04N±0°.02×20°.91E±0°.10, h0km, Error ellipse: s-maj=5.4km s-min=3.3km az=4.4*

*IDC **22** 21:04:47.7±0.9, 67°.13N×20°.87E, h0km, mb1 2.9/4, mb1mx2.8/75, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=15.1km s-min=6.2km az=117.0*

*CSEM **22** 21:04:47.5±0.3, 67°.10N×20°.77E, h2km, ML2.0, Error ellipse: s-maj=8.0km s-min=5.2km az=98.0, Mining explosion.*

*HEL **22** 21:04:47.8±0.3, 67°.20N×20°.61E, h0km, ML2.0, Explosion*

*NAO **22** 21:04:47.6±0.8, 67°.15N×20°.98E, ML2.3*

*BER **22** 21:04:49.9±3.6, 67°.17N×20°.88E, h0km, ML2.3, ML2.3(NAO), Suspected explosion*

ISC 22 21:04:46.9±0.8**, 67°.12N**±0°.03×**20°.62E**±0°.05**, h0km, n43, σ1s.30**/64**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.84	132	SB	Sb	21 05 15.9	-0.3
LANU	Lannavaara	1.07	29	Pb	Pg	21 05 07.2	-0.2
LANU	Lannavaara	1.07	29	PB	Pg	21 05 07.3	-0.2
KALU	Kalix	1.67	138	Pg	Pn	21 05 18.4	+1.0
KALU	Kalix	1.67	138	PG	Pn	21 05 18.4	+1.0
	baz=319						
KALU				SN	Sg	21 05 42.5	+1.9
HEF	Hetta	1.74	40	eP	Pn	21 05 17.9	-0.5
	SNR=50						
HEF				Sn	Sn	21 05 39.9	-1.2
HEF	Hetta	1.74	40	eP	Pn	21 05 17.9	-0.5
HEF	Hetta	1.74	40	PG	Pn	21 05 17.1	-1.2
	baz=230						
HEF				MSG		21 05 37.8	
	comp=Z,11nm,0.2s						
HEF				SN	Sn	21 05 40.0	-1.2
TOF	Tornio	1.81	123	MSG		21 05 43.3	
	comp=Z,9.4nm,0.2s						
TOF				SN	Sg	21 05 46.0	+1.0
KIF	Kilpisjarvi	1.90	2	Pn	Pn	21 05 21.2	+0.7
	SNR=50						
KIF				Sn	Sb	21 05 47.2	+0.7
KIF	Kilpisjarvi	1.90	2	Pn	Pn	21 05 21.2	+0.7
KIF				Lg	Lg	21 05 47.5	
KIF	Kilpisjarvi	1.90	2	Pn	Pn	21 05 21.2	+0.7
KIF				Lg	Lg	21 05 47.5	
KIF	Kilpisjarvi	1.90	2	PG	Pn	21 05 20.8	+0.3
KIF				MSG		21 05 43.0	
	comp=Z,10nm,0.2s						
KIF				SN	Sb	21 05 47.2	+0.7
KTK1	Kautokeino	2.14	26	eP	Pn	21 05 24.8	+0.9
	SNR=50						
KTK1	Kautokeino	2.14	26	eP	Pn	21 05 24.8	+0.9
KTK1				IAML		21 05 56.2	
	comp=Z,42nm,0.7s						
SGF	Sodankyl	2.32	79	PG	Pn	21 05 27.4	+1.1
	baz=266						
SGF				SG	Sb	21 05 58.7	+0.1
BURU	Burvik	2.56	173	PB	Pb	21 05 32.9	-0.8
OUL	Oulu	2.96	131	Pg	Pb	21 05 41.6	+1.1
OUL	Oulu	2.96	131	PG	Pb	21 05 41.6	+1.1
ARA0	ARCESS Array S	3.03	35	Pn	Pn	21 05 36.7	+0.6
	SNR=50						
ARA0				Sn	Sn	21 06 12.6	-0.4
	SNR=50						
ARA0				Lg	Lg	21 06 17.0	
ARA0	ARCESS Array S	3.03	35	Pn	Pn	21 05 36.7	+0.6
	baz=216,slow=14						
ARA0				Sn	Sn	21 06 12.7	-0.4
	baz=213,slow=28						
ARA0				Lg	Lg	21 06 16.9	
	baz=213,slow=28						
ARA0	ARCESS Array S	3.03	35	Pn	Pn	21 05 36.7	+0.6
	baz=216,slow=14						
ARA0				Sn	Sn	21 06 12.7	-0.4
	baz=213,slow=28						
ARA0				Lg	Lg	21 06 16.9	
	baz=213,slow=28						
ARCES	ARCESS Array B	3.03	35	Pn	Pn	21 05 36.5	+0.5
	comp=Z,0.7nm,0.3s,baz=216,slow=13,SNR=29						
ARCES				Sn	Sn	21 06 12.7	-0.3
	comp=Z,1.3nm,0.3s,baz=217,slow=24,SNR=8.6						
ARCES				Lg	Lg	21 06 19.3	
	comp=Z,2.5nm,0.3s,baz=220,slow=30,SNR=13						
OUF	Merijarvi	3.24	147	Sg	Sg	21 06 30.8	-0.1
OUF	Merijarvi	3.24	147	SG	Sg	21 06 30.9	-0.1
VRF	Varrio	3.52	76	PG	Pb	21 05 50.9	+0.8
	baz=262						
VRF				SG	Sb	21 06 34.4	+1.0
MSF	Maaselka	3.58	106	PB	Pb	21 05 48.2	-2.9
MSF				SG	Sg	21 06 39.7	-2.2
KU6	Riekki	3.86	102	Pn	Pn	21 05 49.2	+1.7
KU6	Riekki	3.86	102	PN	Pn	21 05 49.2	+1.7
VAF	Ylistaro	4.18	167	PN	Pn	21 05 55.9	+4.0
VAF				SG	Sg	21 07 00.5	-0.7
FIA0	FINESS Array S	6.17	155	Pn	Pn	21 06 21.0	+1.9
	SNR=50						
FIA0				Sn	Sn	21 07 29.4	-0.9
	SNR=50						
FIA0				Lg	Lg	21 07 59.8	
FIA0	FINESS Array S	6.17	155	Pn	Pn	21 06 21.0	+1.9
	baz=351,slow=18						
FIA0				Sn	Sn	21 07 29.4	-0.9
	baz=342,slow=22						
FIA0				Lg	Lg	21 07 59.8	
	baz=345,slow=28						
FIA0	FINESS Array S	6.17	155	Pn	Pn	21 06 21.0	+1.9
	baz=351,slow=18						
FIA0				Sn	Sn	21 07 29.4	-0.9
	baz=342,slow=22						
FIA0				Lg	Lg	21 07 59.8	
	baz=345,slow=28						
FINES	FINESS Array B	6.17	155	Pn	Pn	21 06 21.1	+1.9
	comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=5.8						
FINES				Sn	Sn	21 07 28.9	-1.4
	comp=Z,0.2nm,0.3s,baz=340,slow=19,SNR=4.0						
FINES				Lg	Lg	21 07 59.5	
	comp=Z,0.3nm,0.3s,baz=342,slow=35,SNR=3.3						

NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**21 06 36.6**	**+1.1**
	SNR=50						
NB2				Lg	Lg	21 08 40.3	
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**21 06 36.6**	**+1.1**
NB2				Lg	Lg	21 08 40.3	
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**21 06 36.6**	**+1.1**
NB2				Lg	Lg	21 08 40.3	
NOA	**NORSAR Array B**	**7.36**	**218**	Pn	**Pn**	**21 06 37.3**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=30,slow=11,SNR=3.0						
NOA				Sn	**Sn**	**21 07 56.3**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=46,slow=22,SNR=4.3						
NOA				Lg	Lg	21 08 39.0	
	comp=Z,0.4nm,0.3s,baz=32,slow=20,SNR=4.2						
NRA0	**NORESS Array S**	**7.54**	**216**	Pn	**Pn**	**21 06 37.9**	**-0.1**
NRA0				Lg	Lg	21 08 46.0	
	baz=30,slow=37						
NRA0	**NORESS Array S**	**7.54**	**216**	Pn	**Pn**	**21 06 37.9**	**-0.1**
NRA0				Lg	Lg	21 08 46.0	
	baz=30,slow=37						
HFS	**Hagfors**	**7.65**	**207**	Pn	**Pn**	**21 06 38.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=4.4						
HFS				Sn	**Sn**	**21 08 04.2**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=27,slow=20,SNR=9.4						
HFS				Lg	Lg	21 08 48.9	
	comp=Z,0.3nm,0.3s,baz=27,slow=26,SNR=4.4						
HFS	**Hagfors**	**7.65**	**207**	Pn	**Pn**	**21 06 39.7**	**+0.2**
	baz=17,slow=14						
HFS				Sn	**Sn**	**21 08 06.0**	**-0.8**
	baz=30,slow=22						
HFS				Lg	Lg	21 08 50.4	
	baz=30,slow=28						
HFS	**Hagfors**	**7.65**	**207**	Pn	**Pn**	**21 06 39.7**	**+0.2**
	baz=17,slow=14						
HFS				Sn	**Sn**	**21 08 06.0**	**-0.8**
	baz=30,slow=22						
HFS				Lg	Lg	21 08 50.4	
	baz=30,slow=28						

*BER **22** 21:20:24.5±0.4, 70.°96N×7.°16W, h0km±118km, ML3.5*

ISC 22 21:20:26.1±3.5, 71.°2N±0.°1×7.°5W±0.°3, h16km, n5, σ1s04/10, 4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.33**	**232**	⇓*i* P	**Pb**	**21 20 32.9**	**-0.7**
JNE				*e*S	**Sb**	**21 20 38.7**	**+0.1**
JNE				IAML		21 20 40.9	
	comp=Z,3μm,0.2s						
JNW	**Jan Mayen West**	**0.34**	**241**	⇓*i* P	**Pb**	**21 20 33.6**	**-0.2**
JNW				*e*S	**Sb**	**21 20 40.3**	**+1.3**
JNW				IAML		21 20 40.5	
	comp=Z,6μm,0.3s						
JMIC	**Jan Mayen**	**0.39**	**238**	⇓*i* P	**Pg**	**21 20 33.7**	**-0.2**
JMIC				*e*S	**Sb**	**21 20 40.8**	**+0.5**
JMIC				IAML		21 20 41.8	
	comp=Z,2μm,0.4s						
JMI	**Jan Mayen**	**0.48**	**237**	⇓*i* P	**Pb**	**21 20 35.4**	**-0.8**
JMI				*e*S	**Sb**	**21 20 43.2**	**+0.2**
JMI				IAML		21 20 46.1	
	comp=Z,2μm,0.5s						
DAG	**Danmarks Havn**	**6.38**	**336**	*i* P	**Pn**	**21 22 00.5**	**+1.3**
DAG				*i* S	**Sn**	**21 23 09.9**	**-1.7**

MEX 22 21:25:00.2±0.6, 16.°27N×98.°35W, h10km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.24**	**60**	*e*P	Pg	21 25 05.0	-0.2
PNIG				*e*S	Sg	21 25 08.0	-0.5
TLIG	**Tlapa**	**1.30**	**351**	*e*P	Pn	21 25 21.1	-3.6
TLIG				*e*S	Sb	21 25 36.8	-5.0
ACX	**Acapulco**	**1.57**	**293**	*i* P	Pn	21 25 23.5	-4.8
ACX				*i* S	Sn	21 25 42.9	-5.7
VHO	**Vista Hermosa**	**1.74**	**62**	*i* P	Pn	21 25 27.2	-3.6
VHO				*e*S	Sn	21 25 47.5	-5.6
CAIG	**El Cayaco**	**2.00**	**293**	*e*P	Pn	21 25 30.3	-3.8
CAIG				*i* S	Sn	21 25 55.0	-4.2
HUIG	**Huatulco**	**2.21**	**103**	*i* P	Pn	21 25 34.4	-2.6
HUIG				*i* S	Sn	21 25 59.5	-4.9

*IDC **22** 21:27:12.7±8.1, 36.°50N×72.°17E, h111km±53km, mb1 3.0/6, mb1mx2.7/63, mbtmp3.4/6, Error ellipse: s-maj=107.2km s-min=25.1km az=161.0*

*ISCJB **22** 21:27:20.1±0.5, 37.°25N±0.°03×71.°88E±0.°05, h142km, Error ellipse: s-maj=6.6km s-min=4.2km az=150.7*

*NNC **22** 21:27:27.3±1.4, 37.°71N×71.°86E, h143km±17km, mb3.2, mpv4.0, Error ellipse: s-maj=13.9km s-min=10.3km az=55.0*

ISC 22 21:27:20.5±0.8, 37.°27N±0.°07×71.°87E±0.°06, h142km, n36, σ1s74/43, 10C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.02**	**24**	⇑P	**Pn**	**21 28 10.0**	**+2.0**
	46nm,0.3s						
SFK				⇑S	**Sn**	**21 28 43.1**	**-1.6**
	57nm,0.4s						
AML	**Almayashu**	**5.06**	**16**	P	**Pn**	**21 28 36.0**	**+1.1**
	SNR=91						
MNAS	**Manas**	**5.24**	**5**	⇑P	**Pn**	**21 28 38.4**	**+1.4**
	21nm,0.4s						
MNAS				⇑S	**Sn**	**21 29 33.1**	**-3.5**
	37nm,0.8s						
UCH	**Uchtor**	**5.36**	**22**	P	**Pn**	**21 28 39.7**	**+0.9**
	SNR=56						
KZA	**Kyzart**	**5.46**	**27**	P	**Pn**	**21 28 40.7**	**+0.4**
	SNR=7.4						
EKS2	**Erkin-Say**	**5.58**	**15**	P	**Pn**	**21 28 43.5**	**+1.9**
	SNR=20						
AAK	**Ala-Archa**	**5.73**	**20**	P	**Pn**	**21 28 45.1**	**+1.5**
	baz=170,slow=7.1						
AAK	**Ala-Archa**	**5.73**	**20**	⇑P	**Pn**	**21 28 44.9**	**+1.3**
	6.5nm,0.3s						
AAK				⇓S	**Sn**	**21 29 46.0**	**-2.5**
	16nm,0.6s						
AAK	**Ala-Archa**	**5.73**	**20**	P	**Pn**	**21 28 45.0**	**+1.5**
	SNR=30						
KBK	**Karagaybulak**	**5.88**	**23**	P	**Pn**	**21 28 47.4**	**+1.9**
	SNR=12						
KK31	**Karatay Array**	**5.92**	**350**	⇓P	**Pn**	**21 28 47.7**	**+1.7**
	4.8nm,0.3s						
KK31				⇑S	**Sn**	**21 29 50.6**	**-2.2**
	12nm,0.4s						
ULHL	**Ulahol**	**6.00**	**33**	P	**Pn**	**21 28 47.8**	**+0.5**
	SNR=5.5						
CHMS	**Chumysh**	**6.13**	**20**	P	**Pn**	**21 28 50.0**	**+1.2**
	SNR=14						
USP	**Ospenovka**	**6.32**	**18**	P	**Pn**	**21 28 52.1**	**+0.7**
	SNR=8.0						
TKM2	**Tokmak 2**	**6.33**	**26**	⇑P	**Pn**	**21 28 52.5**	**+0.9**
	3.8nm,0.6s						
TKM2				⇑S	**Sn**	**21 30 01.7**	**-1.2**
	3.4nm,0.7s						
TKM2	**Tokmak 2**	**6.33**	**26**	P	**Pn**	**21 28 52.4**	**+0.9**
	SNR=7.2						
PDGK	**Podgornoye**	**8.40**	**41**	⇓P	**Pn**	**21 29 21.5**	**+2.2**
	2.3nm,0.8s						
GEYT	**Alibeck**	**10.93**	**278**	P	**Pn**	**21 29 52.0**	**-1.0**
	0.1nm,0.3s,baz=96,slow=10,SNR=2.6						
GEYT				S	**Sn**	**21 31 53.0**	**-0.7**
	0.6nm,0.3s,baz=105,slow=17,SNR=4.2						
MKAR	**Makanchi Array**	**12.26**	**36**	P	**Pn**	**21 30 09.0**	**-1.2**
	0.1nm,0.3s,baz=214,slow=14,SNR=4.8						
PYUN	**Piuthan**	**13.08**	**131**	*e*P	**Pn**	**21 30 20.9**	**-0.2**
	15nm,0.5s						
KOLN	**Koldanda**	**13.69**	**130**	*e*P	**Pn**	**21 30 29.0**	**+0.1**
	6.8nm,0.4s						
GKN	**Gorkha**	**14.17**	**127**	*e*P	**Pn**	**21 30 34.9**	**-0.1**
	8.1nm,0.4s						
KURBB	**Kurchatov Arra**	**14.18**	**18**	P	**Pn**	**21 30 35.4**	**+0.6**
	0.0nm,0.3s,baz=203,slow=11,SNR=2.8						
DMN	**Daman**	**14.74**	**127**	*e*P	**Pn**	**21 30 42.1**	**-0.1**
	4.6nm,0.3s						
AB31	**Akbulak array**	**14.78**	**328**	⇑P	**Pn**	**21 30 44.5**	**+2.2**
	2.0nm,0.6s,baz=144,slow=13,SNR=62						
AB31				S	Sn	21 33 22.0	-3.9
	0.4nm,0.3s,baz=155,slow=24,SNR=5.9						
PKIN	**Phulchoki**	**14.95**	**126**	*e*P	**P**	**21 30 44.9**	**-2.0**
	5.3nm,0.4s						
PKI	**Pulchoki**	**14.96**	**126**	*e*P	**P**	**21 30 45.1**	**-2.0**
	6.7nm,0.5s						
GUN	**Gumba**	**15.03**	**124**	*e*P	**Pn**	**21 30 45.3**	**-0.7**
	4.7nm,0.4s						
JIRN	**Jiri**	**15.40**	**124**	*e*P	**P**	**21 30 50.6**	**-1.5**
	16nm,0.4s						
BVAR	**Borovoye Array**	**15.79**	**357**	P	**Pn**	**21 30 57.6**	**+2.8**
	0.2nm,0.3s,baz=166,slow=16,SNR=3.8						
RAMN	**Ramite**	**16.15**	**125**	*e*P	**P**	**21 31 00.2**	**-0.1**
AKTO	**Aktyubinsk**	**16.49**	**327**	P	**Pn**	**21 31 07.5**	**+4.2**
	0.3nm,0.3s,baz=132,slow=14,SNR=9.1						
AKTO				S	S	21 33 58.7	-8.3
	0.1nm,0.3s,baz=44,slow=16,SNR=2.5						
AKTO	**Aktyubinsk**	**16.49**	**327**	⇓P	**P**	**21 31 04.5**	**+1.0**
	2.6nm,0.8s						
AKTO				⇑S	**S**	**21 34 03.4**	**-3.6**
	1.1nm,0.7s						
TAPN	**Taplejung**	**16.62**	**122**	*e*P	**P**	**21 31 05.3**	**-0.2**
	4.9nm,0.4s						
ODAN	**Odare**	**16.73**	**124**	*e*P	**P**	**21 31 07.1**	**+0.5**
ZALV	**Zalesovo Beam**	**18.93**	**24**	P	**P**	**21 31 31.4**	**+1.3**
	0.4nm,0.3s,baz=211,slow=11,SNR=5.6						

*IDC **22** 21:30:07.7±2.2, 30.°46S×179.°37E, h496km±21km, mb3.5/5, mb1 3.6/7, mb1mx3.2/44, mbtmp4.4/7, Error ellipse: s-maj=25.2km s-min=18.9km az=44.0*

*ISCJB **22** 21:30:09.4±0.7, 30.°53S±0.°05×179.°0E±0.°1, h500km, mb4.0/5, Error ellipse: s-maj=12.7km s-min=6.9km az=3.8*

*WEL **22** 21:30:15.5±1.2, 31.°S±9.°×18.°0E±2.°8, h467km±21km*

ISC 22 21:30:08.8±0.6, 30.°50S±0.°08×179.°1E±0.°1, h500km, n43, σ1s75/43, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.88**	**65**	P	**P**	**21 31 20.4**	**+1.4**
GLKZ	**Green Lake**	**2.88**	**65**	S	**S**	**21 32 15.8**	**-0.2**
KUZ	**Kuaotunu**	**6.83**	**203**	P	P	21 31 58.2	+5.1
MXZ	**Matakaoa Point**	**7.07**	**185**	P	**P**	**21 31 58.4**	**+2.9**
MXZ	**Matakaoa Point**	**7.07**	**185**	S	**S**	**21 33 21.7**	**-1.3**
WIAZ	**Waiheke Island**	**7.08**	**207**	P	P	21 32 00.9	+5.3
HAZ	**Te Kaha**	**7.32**	**188**	P	**P**	**21 32 00.1**	**+2.2**
HAZ	**Te Kaha**	**7.32**	**188**	S	**S**	**21 33 25.5**	**-2.1**
WMGZ	**Waiomatatini S**	**7.32**	**184**	P	**P**	**21 32 00.9**	**+2.9**
WMGZ	**Waiomatatini S**	**7.32**	**184**	S	**S**	**21 33 29.0**	**+1.4**
MKAZ	**Moumakai**	**7.35**	**205**	P	P	21 32 03.5	+5.2
PKGZ	**Pakihiroa**	**7.41**	**186**	P	**P**	**21 32 01.3**	**+2.3**
PKGZ	**Pakihiroa**	**7.41**	**186**	S	**S**	**21 33 28.3**	**-1.2**
RUGZ	**Raukumara Rang**	**7.53**	**188**	P	**P**	**21 32 02.4**	**+2.1**
RUGZ	**Raukumara Rang**	**7.53**	**188**	S	**S**	**21 33 29.2**	**-2.7**
TWGZ	**Tauwhareparae**	**7.71**	**186**	P	**P**	**21 32 05.0**	**+2.9**
TWGZ	**Tauwhareparae**	**7.71**	**186**	S	**S**	**21 33 36.1**	**+1.1**
TOZ	**Tahuroa Road**	**7.80**	**201**	P	P	21 32 07.9	+5.0
URZ	**Urewera**	**7.91**	**191**	P	**P**	**21 32 04.4**	**+0.3**
	3.8nm,0.3s,baz=346,slow=5.4,SNR=17						
URZ				S	**S**	**21 33 35.3**	**-3.4**
	2.2nm,0.3s,baz=50,slow=23,SNR=8.4						
URZ	**Urewera**	**7.91**	**191**	P	**P**	**21 32 04.3**	**+0.3**
URZ	**Urewera**	**7.91**	**191**	S	**S**	**21 33 34.9**	**-3.7**
MWZ	**Matawai**	**7.92**	**189**	S	**S**	**21 33 37.1**	**-1.8**
MWZ	**Matawai**	**7.92**	**189**	P	**P**	**21 32 04.9**	**+0.7**
CNGZ	**Carnagh Statio**	**8.00**	**185**	P	**P**	**21 32 07.7**	**+2.8**
RPZ	**Rata Peaks**	**14.65**	**204**	P	**P**	**21 33 14.1**	**-1.0**
	0.8nm,0.3s,baz=352,slow=3.5,SNR=5.7						
CTA	**Charters Tower**	**31.34**	**282**	P	**P**	**21 35 49.6**	**+1.8**
	4.6nm,0.8s,baz=94,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**32.00**	**258**	P	**P**	**21 35 55.0**	**+1.8**
	3.8nm,0.3s,baz=93,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**40.59**	**268**	P	**P**	**21 37 05.5**	**+0.9**
	1.2nm,0.3s,baz=105,slow=7.1,SNR=16						
ASAR				PcP	**PcP**	**21 38 54.3**	**-0.4**
	0.2nm,0.4s,baz=106,slow=3.8,SNR=3.1						
ASAR				ScP	**ScP**	**21 41 55.6**	**-0.8**
	1.0nm,0.7s,baz=118,slow=4.1,SNR=11						
WRA	**Warramunga Arr**	**41.59**	**274**	P	**P**	**21 37 13.5**	**+1.0**
	3.0nm,0.3s,baz=112,slow=8.0,SNR=95						
WRA				ScP	**ScP**	**21 42 00.2**	**-0.2**
	1.0nm,1.1s,baz=119,slow=3.6,SNR=3.7						
QSPA	**South Pole Qui**	**59.61**	**180**	P	**P**	**21 39 24.3**	**+0.7**
	1.7nm,0.5s,baz=64,slow=2.3,SNR=5.7						
MKAR	**Makanchi Array**	**115.92**	**311**	PKP	**PKPdf**	**21 47 52.3**	**-1.8**
	0.2nm,0.5s,baz=119,slow=1.8,SNR=3.7						
KURBB	**Kurchatov Arra**	**119.34**	**314**	PKP	**PKPdf**	**21 47 58.7**	**-1.7**
	0.4nm,0.4s,baz=90,slow=1.9,SNR=5.0						
BVAR	**Borovoye Arr**	**124.72**	**316**	PKP	**PKPdf**	**21 48 10.2**	**-0.6**
	0.9nm,0.7s,baz=110,slow=1.7,SNR=6.4						
AKTO	**Aktyubinsk**	**132.31**	**312**	PKP	**PKPdf**	**21 48 24.4**	**-0.8**
	0.7nm,0.6s,baz=90,slow=2.0,SNR=3.9						
SFJD	**Kangerlussuaq**	**133.14**	**24**	PKP	**PKPdf**	**21 48 25.7**	**-0.6**
	4.8nm,0.7s,baz=356,slow=14,SNR=4.0						
ARCES	**ARCESS Array B**	**138.13**	**346**	PKhKP	PKPpre	21 48 27.0	
	5.2nm,1.1s,baz=45,slow=2.1,SNR=7.6						
FINES	**FINESS Array B**	**144.34**	**338**	PKP	**PKPdf**	**21 48 45.8**	**-1.0**
	7.2nm,0.5s,baz=61,slow=3.5,SNR=63						
NB2	**NORSAR Subarra**	**148.42**	**349**	PKP	**PKPbc**	**21 48 57.1**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.42**	**349**	PKPbc	**PKPbc**	**21 48 57.0**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=16,slow=4.2,SNR=5.2						
HFS	**Hagfors**	**148.79**	**346**	PKPbc	**PKPbc**	**21 48 57.8**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=4.3,slow=5.8,SNR=8.4						
HFS				PKPab	**PKPab**	**21 49 03.5**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=48,slow=2.1,SNR=9.9						
MMAI	**Mount Meron Ar**	**149.11**	**284**	PKPbc	**PKPbc**	**21 49 01.3**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=98,slow=6.0,SNR=3.5						
AKASG	**Malin Array Be**	**149.81**	**321**	PKPbc	**PKPbc**	**21 48 59.9**	**-1.7**
	comp=Z,2.7nm,0.7s,baz=51,slow=2.5,SNR=9.6						
BRTR	**Keskin Array B**	**150.42**	**298**	PKPbc	**PKPbc**	**21 49 03.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=139,slow=3.7,SNR=5.2						

MEX 22 21:39:05.1±0.3, 16.°22N×98.°34W, h15km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**51**	*e*P	Pg	21 39 10.4	-0.4
PNIG				*e*S	Sg	21 39 14.5	-0.2
TLIG	**Tlapa**	**1.35**	**351**	*e*P	Pn	21 39 26.0	-3.6
TLIG				*e*S	Sn	21 39 42.1	-5.3
ACX	**Acapulco**	**1.59**	**294**	*i* P	Pn	21 39 28.0	-4.8
ACX				*e*S	Sn	21 39 46.9	-6.3
VHO	**Vista Hermosa**	**1.76**	**61**	*i* P	Pn	21 39 31.4	-3.9
VHO				*i* S	Sn	21 39 53.1	-4.5
CAIG	**El Cayaco**	**2.02**	**294**	*e*P	Pn	21 39 35.7	-3.0
CAIG				*i* S	Sn	21 39 59.4	-4.3
HUIG	**Huatulco**	**2.19**	**102**	*e*P	Pn	21 39 38.2	-2.9
HUIG				*i* S	Sn	21 40 03.4	-4.7

IDC 22 21:45:03.1±6.8, 6.°90S×117.°30E, h542km±108km, mb2.7/3, mb1 3.0/4, mb1mx2.4/61, mbtmp3.7/4, Error ellipse: s-maj=196.8km s-min=32.2km az=49.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.79**	**145**	P	P	21 48 00.3	+0.1
	0.4nm,0.3s,baz=325,slow=18,SNR=21						
WRA	**Warramunga Arr**	**21.01**	**130**	P	P	21 49 09.1	+0.1
	0.9nm,0.6s,baz=311,slow=9.5,SNR=19						
ASAR	**Alice Springs**	**23.07**	**138**	P	P	21 49 27.1	-0.3
	0.9nm,0.4s,baz=314,slow=8.2,SNR=16						
MKAR	**Makanchi Array**	**61.83**	**333**	P	P	21 54 29.5	0.0
	0.2nm,0.5s,baz=153,slow=7.9,SNR=5.9						

*ISCJB **22** 21:45:15.6±0.3, 22.°04S±0.°02×67.°32W±0.°03, h193km±3km, mb3.9/11, Error ellipse: s-maj=4.7km s-min=3.4km az=143.3*

*SCB **22** 21:45:15.1±0.4, 21.°81S×67.°19W, h170km, Ml4.3/3, Error ellipse: s-maj=10.0km s-min=3.3km az=36.0*

*IDC **22** 21:45:16.1±1.6, 21.°93S×67.°04W, h182km±14km, mb3.7/11, mb1 3.9/16, mb1mx3.8/39, mbtmp4.3/16, Error ellipse: s-maj=16.7km s-min=10.9km az=69.0*

*SJA **22** 21:45:16.5±1.4, 22.°09S×67.°28W, h186km±13km, ML4.3, MW3.9*

*GUC **22** 21:45:17.7±0.5, 21.°99S×67.°60W, h198km±10km, ML5.1*

ISC 22 21:45:16.1±0.7, 22.°01S±0.°04×67.°24W±0.°04, h186km±6km, n55, σ1s84/83, mb4.1/11, 10C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.61**	**96**	*e*P	**Pn**	**21 45 51.1**	**+0.9**
YJA				*i* S	**Sn**	**21 46 16.9**	**+0.4**
YJA				IAML		21 46 21.8	
	comp=Z,583nm,0.4s						
MOCB	**Mochara**	**1.67**	**63**	*e*Pn	**Pn**	**21 45 51.9**	**+1.1**
MOCB				*e*Sn	**Sn**	**21 46 17.7**	**+0.2**
	comp=Z,1μm,0.4s						
PB09	**IPOC Station P**	**1.87**	**276**	⇑*i* P	**Pn**	**21 45 53.2**	**+0.8**
PB09				*e*S	**Sn**	**21 46 19.4**	**-1.2**
PB09				IAML		21 46 27.0	
	comp=E,8μm,0.2s						
HJA	**Humahuaca**	**2.07**	**126**	*e*P	**Pn**	**21 45 55.9**	**+1.1**
HJA				IAML		21 45 56.1	
	comp=Z,852nm,0.4s						
HJA				*i* S	**Sn**	**21 46 26.1**	**+1.3**
PB06	**IPOC Station P**	**2.27**	**252**	⇓*i* P	**Pn**	**21 45 56.7**	**0.0**
PB06				*e*S	**Sn**	**21 46 27.1**	**-1.1**
PB06				IAML		21 46 29.6	
	comp=E,10μm,0.1s						
PB01	**IPOC Station P**	**2.30**	**294**	⇑*i* P	**Pn**	**21 45 57.5**	**+0.5**
PB01				*i* S	**Sn**	**21 46 28.6**	**-0.3**
PB01				IAML		21 46 29.6	
	comp=N,16μm,0.4s						
PB07	**IPOC Station P**	**2.47**	**276**	⇑*i* P	**Pn**	**21 45 59.1**	**+0.1**
PB07				*i* S	**Sn**	**21 46 30.9**	**-1.5**
PB07				IAML		21 46 32.6	
	comp=N,8μm,0.5s						
PB02	**IPOC Station P**	**2.56**	**285**	⇑*i* P	**Pn**	**21 46 00.1**	**+0.1**
PB02				*i* S	**Sn**	**21 46 32.1**	**-2.1**
PB02				IAML		21 46 33.8	
	comp=N,11μm,0.6s						
PB08	**IPOC Station P**	**2.58**	**316**	⇑*i* P	**Pn**	**21 46 02.0**	**+1.5**
PB08				*i* S	**Sn**	**21 46 35.2**	**+0.3**
PB08				IAML		21 46 39.0	
	comp=N,1μm,0.5s						
PB04	**IPOC Station P**	**2.71**	**263**	⇑*i* P	**Pn**	**21 46 01.8**	**0.0**
PB04				*i* S	**Sn**	**21 46 35.5**	**-1.9**
PB04				IAML		21 46 37.9	
	comp=E,5μm,0.5s						
AZAP	**Zapla**	**2.98**	**138**	*e*P	**Pn**	**21 46 05.3**	**+0.2**
AZAP				IAML		21 46 05.6	
	comp=Z,825nm,0.5s						
SLA	**San Lorenzo**	**3.14**	**150**	*e*P	**Pn**	**21 46 07.9**	**+1.0**
SLA				IAML		21 46 08.3	
	comp=Z,290nm,0.6s						
PB11	**IPOC Station P**	**3.18**	**314**	⇑*i* P	**Pn**	**21 46 07.3**	**-0.1**
PB11				*i* S	**Sn**	**21 46 46.1**	**-1.3**
ASTB	**Santa Barbara**	**3.21**	**127**	*e*P	**Pn**	**21 46 07.9**	**+0.1**
ASTB				*i* S	**Sn**	**21 46 49.4**	**+1.2**
PB10	**IPOC Station P**	**3.41**	**243**	*e*P	**Pn**	**21 46 09.4**	**-0.7**
PB10				IAML		21 46 10.1	
	comp=Z,866nm,0.2s						
PB10				*i* S	**Sn**	**21 46 48.6**	**-3.6**
PB10	**IPOC Station P**	**3.41**	**243**	⇓*i* P	**Pn**	**21 46 09.3**	**-0.7**
PB10				*i* S	**Sn**	**21 46 48.5**	**-3.6**
PB10				IAML		21 46 51.7	
	comp=E,5μm,0.4s						
ALOL	**LOMAS DE OLMED**	**3.50**	**122**	*e*P	**Pn**	**21 46 10.6**	**-0.6**
ALOL				*i* S	**Sn**	**21 46 50.1**	**-4.3**
PSGC	**Pisagua**	**3.61**	**311**	⇑*i* P	**Pn**	**21 46 11.4**	**-1.2**
PSGC				*i* S	**Sn**	**21 46 53.0**	**-3.8**
MNMC	**Minye Minye**	**3.61**	**322**	⇑*i* P	**Pn**	**21 46 13.4**	**+0.5**
MNMC				*i* S	**Sn**	**21 46 56.5**	**-0.8**
PB14	**IPOC Station P**	**3.90**	**228**	*e*P	**Pn**	**21 46 15.9**	**-0.6**
PB14				*i* S	**Sn**	**21 47 00.3**	**-3.5**
PB14				IAML		21 47 00.5	
	comp=Z,888nm,0.3s						
PB14	**IPOC Station P**	**3.90**	**228**	⇓*i* P	**Pn**	**21 46 15.9**	**-0.6**
PB14				*i* S	**Sn**	**21 47 00.0**	**-3.8**
FSA	**Cafayete**	**4.25**	**164**	*e*P	**Pn**	**21 46 20.4**	**-0.3**
FSA				IAML		21 46 24.1	
	comp=Z,69nm,0.4s						
FSA				*i* S	**Sn**	**21 47 15.5**	**+4.1**
PB12	**IPOC Station P**	**4.45**	**319**	⇑*i* P	**Pn**	**21 46 21.4**	**-1.8**
PB12				*i* S	**Sn**	**21 47 12.2**	**-3.8**
AHML	**Horco Molle**	**5.06**	**160**	*e*P	**Pn**	**21 46 31.4**	**+0.3**
AHML				IAML		21 46 32.6	
	comp=Z,43nm,0.4s						
AHML				*i* S	**Sn**	**21 47 31.5**	**+1.4**
BBOJ	**La Paz, Jacaqu**	**5.09**	**350**	*e*Pn	**Pn**	**21 46 33.7**	**+1.8**
BBOJ				*e*Sn	**Sn**	**21 47 30.3**	**-1.1**
	comp=Z,108nm,0.8s						
BBOE	**La Paz, Chanca**	**5.21**	**352**	*e*Pn	**Pn**	**21 46 35.4**	**+1.8**
BBOD	**La Paz, Gloria**	**5.49**	**346**	*e*Pn	**Pn**	**21 46 38.8**	**+1.6**
LPAZ	**La Paz**	**5.75**	**351**	P	**Pn**	**21 46 41.8**	**+1.2**
	comp=Z,32nm,0.3s,baz=153,slow=6.5,SNR=373						
LPAZ				S	**Sn**	**21 47 47.1**	**0.0**
	comp=Z,3.1nm,0.3s,baz=86,slow=19,SNR=3.1						
LPAZ	**La Paz**	**5.75**	**351**	*e*P	**Pn**	**21 46 41.9**	**+1.3**
LPAZ	**La Paz**	**5.75**	**351**	*e*Pn	**Pn**	**21 46 42.2**	**+1.6**
LPAZ				*e*Sn	**Sn**	**21 47 46.0**	**-1.1**
BBOB	**La Paz, Bander**	**5.90**	**352**	*e*P

SUTC	**Sutluce-Ispart**	**0.66**	**337**	*e*Pg	**Pn**	**21 46 19.8**	**-1.8**
KORT	**Korkueli**	**0.79**	**280**	PG	**Pn**	**21 46 20.5**	**-2.8**
KORT	**Korkueli**	**0.79**	**280**	*i* P	**Pn**	**21 46 20.7**	**-2.6**
KORT				*i* S	**Sn**	**21 46 27.7**	**-6.4**
KORT	**Korkueli**	**0.79**	**280**	P	**Pn**	**21 46 20.7**	**-2.6**
BCK	**Bucak**	**0.84**	**316**	PG	**Pn**	**21 46 22.0**	**-1.9**
BCK				SG	**Sn**	**21 46 33.9**	**-1.2**
BCK	**Bucak**	**0.84**	**316**	*e*Pg	**Pn**	**21 46 22.0**	**-1.9**
BCK				*e*Sg	**Sn**	**21 46 33.9**	**-1.2**
ELL	**Elmali**	**1.14**	**265**	PN	**Pn**	**21 46 27.9**	**-0.2**
ELL	**Elmali**	**1.14**	**265**	*e*Pn	**Pn**	**21 46 27.9**	**-0.2**
ISP	**Isparta**	**1.15**	**327**	PN	**Pn**	**21 46 28.0**	**-0.3**
ISP	**Isparta**	**1.15**	**327**	*e*Pn	**Pn**	**21 46 28.0**	**-0.3**
BAGO	**Egridir - ISPA**	**1.20**	**340**	*i* P	**Pn**	**21 46 27.9**	**-1.0**
BAGO				*i* S	**Sn**	**21 46 44.0**	**-0.2**
DOGA	**KONYA_Doganhis**	**1.27**	**12**	*i* P	**Pn**	**21 46 29.9**	**-0.1**
DOGA				*i* S	**Sn**	**21 46 45.6**	**-0.4**
DOGA	**KONYA_Doganhis**	**1.27**	**12**	P	**Pn**	**21 46 29.9**	**-0.1**
DOGA				S	**Sn**	**21 46 45.6**	**-0.4**
BRDR	**BURDUR-Merkez**	**1.30**	**310**	*i* P	**Pn**	**21 46 29.4**	**-1.0**
BRDR				*i* S	**Sn**	**21 46 46.2**	**-0.5**
BRDR	**BURDUR-Merkez**	**1.30**	**310**	P	**Pn**	**21 46 29.4**	**-1.0**
BRDR				S	**Sn**	**21 46 46.2**	**-0.5**
AKAS	**Kas**	**1.52**	**246**	PN	**Pn**	**21 46 34.1**	**+0.7**
AKAS				SN	**Sn**	**21 46 54.3**	**+2.3**
AKAS	**Kas**	**1.52**	**246**	*i* P	**Pn**	**21 46 34.1**	**+0.7**
AKAS				*i* S	**Sb**	**21 46 55.8**	**+0.8**
AKAS	**Kas**	**1.52**	**246**	P	**Pn**	**21 46 34.1**	**+0.7**
AKAS				*e*Sn	**Sn**	**21 46 54.3**	**+2.3**
AKAS				S	Sb	21 46 55.8	+0.8
TEKE	**Tekeli-Mersin**	**1.61**	**116**	PN	**Pn**	**21 46 35.2**	**+0.7**
TEKE	**Tekeli-Mersin**	**1.61**	**116**	*e*Pn	**Pn**	**21 46 35.2**	**+0.7**
KZIL	**AFYON_Kizioren**	**1.68**	**326**	*i* P	**Pn**	**21 46 34.4**	**-1.2**
KZIL	**AFYON_Kizioren**	**1.68**	**326**	P	**Pn**	**21 46 34.4**	**-1.2**
SHUT	**Suhut-Afyon**	**1.79**	**340**	PN	**Pn**	**21 46 36.2**	**-0.9**
SHUT	**Suhut-Afyon**	**1.79**	**340**	*e*Pn	**Pn**	**21 46 36.2**	**-0.9**
FETY	**Fethiye**	**1.81**	**263**	PN	**Pn**	**21 46 38.6**	**+1.3**
FETY	**Fethiye**	**1.81**	**263**	P	**Pn**	**21 46 38.3**	**+1.0**
FETY	**Fethiye**	**1.81**	**263**	*e*Pn	**Pn**	**21 46 38.6**	**+1.3**
AKKU	**Akkuyu-Mersin**	**1.93**	**111**	PN	**Pn**	**21 46 39.9**	**+1.0**
AKKU	**Akkuyu-Mersin**	**1.93**	**111**	*e*Pn	**Pn**	**21 46 39.9**	**+1.0**
ALFC	**Alefka** baz=324	**1.99**	**148**	P	**Pn**	**21 46 37.5**	**-2.3**
ALFC				S	**Sn**	**21 46 58.6**	**-5.0**
ALFC	**Alefka**	**1.99**	**148**	P	**Pn**	**21 46 37.5**	**-2.3**
AKMC	**Akamas** baz=333	**2.01**	**156**	P	**Pn**	**21 46 37.6**	**-2.4**
AKMC	**Akamas**	**2.01**	**156**	P	**Pn**	**21 46 37.6**	**-2.4**
TAVA	**DENIZLI_Tavas**	**2.02**	**288**	*i* P	**Pn**	**21 46 40.2**	**+0.1**
TAVA	**DENIZLI_Tavas**	**2.02**	**288**	P	**Pn**	**21 46 40.2**	**+0.1**
DALY	**Dalyan (Mu¨la**	**2.14**	**270**	PN	**Pn**	**21 46 43.2**	**+1.4**
DALY				SN	**Sn**	**21 47 09.2**	**+2.0**
DALY	**Dalyan (Mu¨la**	**2.14**	**270**	*i* P	**Pn**	**21 46 43.9**	**+2.1**
DALY	**Dalyan (Mu¨la**	**2.14**	**270**	*e*Pn	**Pn**	**21 46 43.2**	**+1.4**
DALY	**Dalyan (Mu¨la**	**2.14**	**270**	P	**Pn**	**21 46 43.9**	**+2.1**
DALY				*e*Sn	**Sn**	**21 47 09.2**	**+2.0**
PPCY	**Paphos** baz=334	**2.14**	**157**	P	**Pn**	**21 46 39.8**	**-2.0**
PPCY	**Paphos**	**2.14**	**157**	P	**Pn**	**21 46 39.8**	**-2.0**
TURN	**Turunc**	**2.18**	**271**	PN	**Pb**	**21 46 47.8**	**+0.7**
TURN				SN	**Sb**	**21 47 18.3**	**+4.6**
TURN	**Turunc**	**2.18**	**271**	*i* P	**Pb**	**21 46 47.6**	**+0.5**
TURN				*i* S	**Sb**	**21 47 17.4**	**+3.7**
SULT	**Sultanhani-AKS**	**2.20**	**52**	PN	**Pn**	**21 46 42.7**	**+0.1**
SULT	**Sultanhani-AKS**	**2.20**	**52**	*e*Pn	**Pn**	**21 46 42.7**	**+0.1**
MAMC	**Mammari** baz=313	**2.28**	**137**	P	**Pn**	**21 46 42.4**	**-1.3**
MAMC	**Mammari**	**2.28**	**137**	P	**Pn**	**21 46 42.4**	**-1.3**

*IDC **22** 21:47:26.3±3.3, 36°.79S×179°.07E, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.8/39, mbtmp4.0/3, ML3.8/1, Error ellipse: s-maj=74.3km s-min=42.2km az=126.0*
*ISCJB **22** 21:47:27.9±0.8, 37°.10S±0°.04×179°.39E±0°.07, h33km, mb3.9/2, Error ellipse: s-maj=7.8km s-min=5.9km az=179.4*
*WEL **22** 21:47:27.8, 37°.5±9°.×17°.9E±°, h33km, ML3.8/22*
ISC 22 21:47:29.6±1.7, 37°.14S±0°.08×179°.3E±0°.1, h33km, n78, σ1§07/79, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**242**	P	**Pn**	**21 47 44.5**	**-1.7**
MXZ	**Matakaoa Point**	**0.92**	**242**	S	**Sn**	**21 47 55.2**	**-3.1**
WMGZ	**Waiomatatini S**	**1.00**	**227**	P	**Pn**	**21 47 48.0**	**+0.7**
WMGZ	**Waiomatatini S**	**1.00**	**227**	S	**Sn**	**21 48 01.2**	**+1.0**
PKGZ	**Pakihiroa**	**1.25**	**233**	P	**Pn**	**21 47 50.9**	**+0.1**
PKGZ	**Pakihiroa**	**1.25**	**233**	S	**Sn**	**21 48 06.9**	**+0.4**
PUZ	**Puketiti**	**1.26**	**222**	P	**Pn**	**21 47 51.5**	**+0.5**
PUZ	**Puketiti**	**1.26**	**222**	S	**Sn**	**21 48 08.5**	**+1.7**
HAZ	**Te Kaha**	**1.38**	**243**	P	**Pn**	**21 47 51.4**	**-1.1**
HAZ	**Te Kaha**	**1.38**	**243**	S	**Sn**	**21 48 10.3**	**+0.7**
TWGZ	**Tauwhareparae**	**1.49**	**226**	P	**Pn**	**21 47 55.3**	**+1.2**
TWGZ	**Tauwhareparae**	**1.49**	**226**	S	**Sn**	**21 48 14.5**	**+2.0**
RUGZ	**Raukumara Rang**	**1.55**	**237**	P	**Pn**	**21 47 55.7**	**+0.6**
CNGZ	**Carnagh Statio**	**1.61**	**213**	P	**Pn**	**21 47 57.4**	**+1.6**
TKGZ	**Te Karaka**	**1.75**	**222**	P	**Pn**	**21 47 58.6**	**+0.9**
WIZ	**White Island**	**1.75**	**257**	P	**Pn**	**21 47 57.9**	**+0.2**
MWZ	**Matawai**	**1.86**	**230**	P	**Pn**	**21 47 59.6**	**+0.4**
MWZ	**Matawai**	**1.86**	**230**	S	**Sn**	**21 48 21.2**	**+0.5**
RIGZ	**Rimuhau**	**2.00**	**218**	P	**Pn**	**21 48 01.6**	**+0.5**
RAGZ	**Rawiri**	**2.03**	**228**	P	**Pn**	**21 48 02.2**	**+0.6**
URZ	**Urewera** 30nm,0.3s,baz=214,slow=0.1,SNR=140	**2.09**	**237**	Pn	**Pn**	**21 48 02.7**	**+0.4**
URZ	24nm,0.3s,baz=188,slow=21,SNR=15			Sn	**Sn**	**21 48 26.5**	**-0.6**
URZ	**Urewera**	**2.09**	**237**	P	**Pn**	**21 48 02.7**	**+0.4**
URZ	**Urewera**	**2.09**	**237**	S	**Sn**	**21 48 26.9**	**-0.2**
PRGZ	**Paritu Road**	**2.12**	**212**	P	**Pn**	**21 48 03.1**	**+0.4**
SNGZ	**Shannon Statio**	**2.27**	**223**	P	**Pn**	**21 48 05.0**	**+0.2**
MARZ	**Manawahe**	**2.27**	**247**	P	**Pn**	**21 48 05.0**	**+0.1**
KNZ	**Kokohu**	**2.29**	**214**	P	**Pn**	**21 48 04.8**	**-0.3**
KNZ	**Kokohu**	**2.29**	**214**	S	**Sn**	**21 48 25.1**	**-0.6**
MHGZ	**Mahia Peninsul**	**2.30**	**209**	P	**Pn**	**21 48 06.0**	**+0.7**
OPRZ	**Ohinepanea**	**2.32**	**252**	P	**Pn**	**21 48 05.2**	**-0.3**
RTZ	**Ruatahuna**	**2.37**	**231**	P	**Pn**	**21 48 06.7**	**+0.4**
MUGZ	**Murupara**	**2.43**	**236**	P	**Pn**	**21 48 07.1**	**+0.1**
TARZ	**Mount Tarawera**	**2.50**	**243**	P	**Pn**	**21 48 08.7**	**+0.7**
RAHZ	**Arahi**	**2.51**	**224**	P	**Pn**	**21 48 06.0**	**-2.1**
RRRZ	**Republican Roa**	**2.53**	**241**	P	**Pn**	**21 48 09.4**	**+0.9**
WHHZ	**Waihua**	**2.54**	**220**	P	**Pn**	**21 48 08.6**	**0.0**
KARZ	**Kaharoa**	**2.61**	**249**	P	**Pn**	**21 48 10.3**	**+0.8**
MTHZ	**Maungataniwha**	**2.61**	**228**	P	**Pn**	**21 48 10.0**	**+0.5**
HLRZ	**Highlands Stat**	**2.61**	**244**	P	**Pn**	**21 48 10.3**	**+0.8**
KMRZ	**Kaimai**	**2.79**	**254**	P	**Pn**	**21 48 11.9**	**-0.1**
NMHZ	**Naumai**	**2.79**	**225**	P	**Pn**	**21 48 12.4**	**+0.3**
ARHZ	**Aropaoanui**	**2.81**	**220**	P	**Pn**	**21 48 12.4**	**+0.2**
KUZ	**Kuaotunu**	**2.92**	**277**	P	**Pn**	**21 48 12.4**	**-1.3**
BKZ	**Black Stump Fm**	**3.02**	**227**	P	**Pn**	**21 48 15.2**	**0.0**
CKHZ	**Cape Kidnapper**	**3.08**	**214**	P	**Pn**	**21 48 14.9**	**-1.0**
MCHZ	**McNeill Hill**	**3.10**	**221**	P	**Pn**	**21 48 16.2**	**0.0**
TOZ	**Tahuroa Road**	**3.11**	**258**	P	**Pn**	**21 48 15.6**	**-0.7**
KWHZ	**Kaweka Forest**	**3.23**	**224**	P	**Pn**	**21 48 17.4**	**-0.7**
GRZ	**Great Barrier**	**3.24**	**285**	P	**Pn**	**21 48 18.5**	**+0.4**
KAHZ	**Kahuranaki**	**3.28**	**215**	P	**Pn**	**21 48 17.8**	**-0.9**
MKAZ	**Moumakai**	**3.33**	**269**	P	**Pn**	**21 48 18.7**	**-0.7**
WIAZ	**Waiheke Island**	**3.38**	**275**	P	**Pn**	**21 48 19.7**	**-0.4**
KRHZ	**Kereru**	**3.42**	**222**	P	**Pn**	**21 48 19.8**	**-0.7**
PXZ	**Pawanui**	**3.48**	**213**	P	**Pn**	**21 48 19.6**	**-1.8**
BHHZ	**Black Hill Sta**	**3.48**	**227**	P	**Pn**	**21 48 21.4**	**-0.1**
KRVZ	**Karewarewa**	**3.50**	**235**	P	**Pn**	**21 48 21.8**	**-0.1**
ETAZ	**East Tamaki Re**	**3.53**	**272**	P	**Pn**	**21 48 22.8**	**+0.7**
NGZ	**Ngauruhoe**	**3.58**	**234**	P	**Pn**	**21 48 22.2**	**-0.7**
TWVZ	**Taurewa**	**3.63**	**237**	P	**Pn**	**21 48 23.9**	**+0.3**
ABAZ	**Army Bay**	**3.65**	**277**	P	**Pn**	**21 48 24.4**	**+0.7**
PNHZ	**Pukenui**	**3.70**	**221**	P	**Pn**	**21 48 23.3**	**-1.2**
AWAZ	**Awhitu Peninsu**	**3.75**	**270**	P	**Pn**	**21 48 26.0**	**+0.9**
HIZ	**Hauiti**	**3.80**	**248**	P	**Pn**	**21 48 26.9**	**+1.0**
WTAZ	**Waiatarua**	**3.81**	**272**	P	**Pn**	**21 48 27.2**	**+1.1**
ANWZ	**Angora Road**	**4.00**	**213**	P	**Pn**	**21 48 27.5**	**-1.0**
DVHZ	**Dannevirke**	**4.01**	**217**	P	**Pn**	**21 48 27.0**	**-1.7**
VRZ	**Vera Road**	**4.12**	**240**	P	**Pn**	**21 48 30.9**	**+0.8**
WCZ	**Waipu Caves**	**4.19**	**285**	P	**Pn**	**21 48 31.4**	**+0.1**
POWZ	**Post Office Ro**	**4.28**	**220**	P	**Pn**	**21 48 31.6**	**-0.8**
PRWZ	**Pori Road**	**4.30**	**217**	P	**Pn**	**21 48 31.4**	**-1.4**
LREZ	**Lake Rotokare**	**4.52**	**238**	P	**Pn**	**21 48 39.0**	**+3.3**
PKE	**Pukeiti**	**4.69**	**242**	P	**Pn**	**21 48 40.3**	**+2.2**
OGWZ	**Otaki Gorge**	**4.90**	**220**	P	**Pn**	**21 48 38.7**	**-2.2**
OUZ	**Omahuta**	**5.02**	**291**	P	**Pn**	**21 48 43.2**	**+0.6**
CTZ	**Chatham Island**	**7.28**	**156**	P	**Pn**	**21 49 15.7**	**+2.1**
ASAR	**Alice Springs** 1.0nm,0.5s,baz=119,slow=8.0,SNR=14	**41.05**	**276**	P	**P**	**21 55 09.8**	**-0.3**
WRA	**Warramunga Arr** 1.3nm,0.4s,baz=121,slow=7.8,SNR=16	**42.65**	**281**	P	**P**	**21 55 22.4**	**-0.8**
FINES	**FINESS Array B** 1.1nm,0.7s,baz=53,slow=1.0,SNR=4.2	**150.47**	**334**	PKPbc	**PKPbc**	**22 07 17.5**	**+0.6**

MEX 22 21:49:30.4±0.4, 16°.61N×98°.41W, h10km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**128**	*e*P	Pg	21 49 36.9	-0.4
PNIG				*e*S	Sg	21 49 41.9	0.0
TLIG	**Tlapa**	**0.96**	**351**	*e*P	Pg	21 49 46.0	-3.0
TLIG				*e*S	Sg	21 49 58.2	-3.4
ACX	**Acapulco**	**1.41**	**281**	*i* P	Pn	21 49 50.0	-6.2
ACX				*e*S	Sn	21 50 07.5	-7.4
VHO	**Vista Hermosa**	**1.67**	**74**	*e*P	Pn	21 49 56.3	-3.7
VHO				*e*S	Sn	21 50 17.0	-4.6
CAIG	**El Cayaco**	**1.83**	**284**	*i* P	Pn	21 49 59.1	-2.9
CAIG				*e*S	Sn	21 50 21.0	-4.2
HUIG	**Huatulco**	**2.37**	**110**	*i* P	Pn	21 50 06.1	-3.2
HUIG				*i* S	Sn	21 50 33.5	-4.9

IDC 22 21:58:26.8±3.6, 2°.64S×100°.32E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/58, mbtmp3.6/5, Error ellipse: s-maj=138.5km s-min=25.7km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=189,slow=11,SNR=3.5	**21.00**	**356**	P	P	22 03 11.2	-0.9
H08S2	**Diego Garcia H** baz=81,slow=76,SNR=119	**28.15**	**259**	T	T	22 33 14.1	
H08S3	**Diego Garcia H** baz=81,slow=76,SNR=113	**28.16**	**259**	T	T	22 33 12.4	
H08S1	**Diego Carcia H** baz=81,slow=76,SNR=76	**28.17**	**259**	T	T	22 33 15.5	
H08N1	**Diego Garcia H** baz=147,slow=76,SNR=10	**29.44**	**262**	T	T	22 35 21.2	
H08N2	**Diego Garcia H** baz=147,slow=76,SNR=9.2	**29.46**	**262**	T	T	22 35 21.0	
H08N3	**Diego Garcia H** baz=147,slow=76,SNR=8.2	**29.47**	**262**	T	T	22 35 26.0	
H01W3	**Cape Leeuwin H** baz=336	**34.56**	**160**	T	T	22 41 38.6	
H01W2	**Cape Leeuwin H** baz=336	**34.58**	**160**	T	T	22 41 35.8	
H01W1	**Cape Leeuwin H** baz=336	**34.58**	**160**	T	T	22 41 40.1	
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=295,slow=7.8,SNR=3.3	**37.40**	**120**	P	P	22 05 41.6	-0.2
SONM	**Songino Array** 0.5nm,0.6s,baz=199,slow=8.1,SNR=4.0	**50.54**	**5**	P	P	22 07 27.9	+0.7
MKAR	**Makanchi Array** 1.4nm,0.6s,baz=146,slow=8.0,SNR=15	**51.72**	**344**	P	P	22 07 36.0	+0.1
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=167,slow=7.1,SNR=3.2	**57.85**	**349**	P	P	22 08 19.8	-0.4

*IDC **22** 22:07:03.0±1.0, 13°.22N×120°.17E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/71, mbtmp3.7/5, Error ellipse: s-maj=21.3km s-min=12.8km az=115.0*
*ISCJB **22** 22:07:04.8±0.6, 13°.33N±0°.04×120°.12E±0°.06, h16km, mb3.7/5, Error ellipse: s-maj=8.1km s-min=5.1km az=179.1*
*MAN **22** 22:07:05, 13°.39N×120°.20E, h23km, mb4.2, ML3.0, MS2.7*
ISC 22 22:07:05.0±0.8, 13°.29N±0°.04×120°.17E±0°.06, h16km, n12, σ0§80/16, mb3.6/5, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.45**	**9**	*e*P	**Pb**	**22 07 14.3**	**-0.2**
LUBP				*e*S	**Sb**	**22 07 20.0**	**-1.0**
TGY	**Tagaytay City** 384nm,0.3s,baz=194,slow=4.1,SNR=11	**1.10**	**43**	Pg	**Pg**	**22 07 25.5**	**-0.8**
TGY				Lg	Lg	22 07 40.4	
TGY	**Tagaytay City** 191nm,0.3s,baz=190,slow=16,SNR=6.1	**1.10**	**43**	*e*P	**Pg**	**22 07 25.6**	**-0.8**
TGY				*i* S	Sb	22 07 28.5	-11
SJMP	**San Jose**	**1.24**	**132**	*e*P	**Pb**	**22 07 27.7**	**-0.4**
SJMP				*e*S	**Sg**	**22 07 45.3**	**+0.1**
BUSP	**Coron**	**1.28**	**179**	*e*P	**Pg**	**22 07 29.6**	**-0.1**
BUSP				*e*S	**Sn**	**22 07 46.0**	**+0.8**
BOAC	**Boac**	**1.64**	**84**	*e*P	**Pn**	**22 07 33.1**	**-0.1**
BOAC				*e*S	**Sb**	**22 07 55.5**	**+0.3**
ENPP	**El Nido**	**2.20**	**199**	*e*P	**Pb**	**22 07 42.8**	**-1.6**
WRA	**Warramunga Arr** 1.6nm,0.7s,baz=336,slow=9.6,SNR=20	**35.85**	**157**	P	**P**	**22 14 03.7**	**-0.5**
SONM	**Songino Array** 0.7nm,0.7s,baz=167,slow=10,SNR=4.6	**36.30**	**344**	P	**P**	**22 14 08.8**	**+0.7**
ASAR	**Alice Springs** 1.6nm,0.6s,baz=341,slow=7.1,SNR=17	**39.11**	**160**	P	**P**	**22 14 31.9**	**+0.1**
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=132,slow=8.2,SNR=2.1	**46.06**	**324**	P	**P**	**22 15 29.3**	**+1.2**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=134,slow=7.6,SNR=4.3	**50.24**	**327**	P	**P**	**22 16 01.0**	**+0.7**

MAN 22 22:09:48, 11°.62N×125°.42E, h25km, mb4.0, ML2.8, MS2.4, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.03**	**129**	*e*P	Pb	22 09 53.4	+1.2
BESP				*e*S	Sb	22 09 59.0	+3.9
PLP	**Palo**	**0.62**	**224**	*e*P	Pn	22 10 01.7	+0.4
PLP				*e*S	Sn	22 10 12.3	+1.8
MSLP	**Maasin**	**1.57**	**200**	*e*P	Pb	22 10 16.0	-0.5
MSLP				*e*S	Sb	22 10 40.0	+4.1

*IDC **22** 22:14:42.5±0.6, 16°.44N×98°.46W, h0km, mb4.2/20, mb1 4.4/24, mb1mx4.2/52, mbtmp4.2/24, ML3.8/4, MS4.0/30, Ms1 4.0/30, ms1mx3.9/44, Error ellipse: s-maj=17.8km s-min=11.7km az=44.0*
*ISCJB **22** 22:14:44.0±0.3, 16°.61N±0°.03×98°.06W±0°.02, h10km, mb4.7/176, MS4.0/27, Error ellipse: s-maj=5.0km s-min=3.0km az=4.7*
*NEIC **22** 22:14:45.3±0.0, 16°.22N×98°.47W, h9km, mb4.8/183, MD4.8(MEX), After MEX.*
*BJI **22** 22:14:45.8, 16°.60N×98°.20W, h10km, mB5.6/4, Ms5.0/2, Ms7 4.8/2*
*MEX **22** 22:14:46.1±0.7, 16°.27N×98°.46W, h16km±8km, MD4.8*
ISC 22 22:14:45.5±0.8, 16°.39N±0°.05×98°.42W±0°.03, h18km±3km, n616, σ1§62/615, mb4.8/176, MS4.0/28, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**89**	*i* P	**Pg**	**22 14 52.4**	**+0.6**
PNIG				*i* S	**Sg**	**22 14 57.2**	**+1.1**
PNIG	**Pinotepa**	**0.28**	**89**	*i* P	**Pg**	**22 14 52.4**	**+0.6**
PNIG				*i* S	**Sg**	**22 14 57.2**	**+1.1**
ACX	**Acapulco**	**1.46**	**289**	*i* P	**Pn**	**22 15 08.4**	**-2.5**
ACX				*i* S	**Sn**	**22 15 27.6**	**-1.9**
VHO	**Vista Hermosa**	**1.75**	**67**	*e*P	**Pn**	**22 15 14.8**	**-0.3**
VHO				*e*S	**Sn**	**22 15 36.2**	**-1.0**
VHO	**Vista Hermosa**	**1.75**	**67**	*e*P	**Pn**	**22 15 14.9**	**-0.3**
VHO				*e*S	**Sn**	**22 15 36.1**	**-1.1**
CAIG	**El Cayaco**	**1.89**	**291**	*e*P	**Pn**	**22 15 14.5**	**-2.2**
CAIG				*e*S	**Sn**	**22 15 37.0**	**-3.1**
PLIG	**Platanillo**	**2.24**	**333**	*e*P	**Pn**	**22 15 21.1**	**-0.7**
PLIG				*e*S	**Sn**	**22 15 48.2**	**-0.9**
PLIG	**Platanillo**	**2.24**	**333**	*e*P	**Pn**	**22 15 21.1**	**-0.7**
PLIG				*e*S	**Sn**	**22 15 50.4**	**+1.3**
HUIG	**Huatulco**	**2.31**	**105**	*e*P	**Pn**	**22 15 20.1**	**-2.5**
HUIG				*i* S	**Sn**	**22 15 46.8**	**-3.7**
HUIG	**Huatulco**	**2.31**	**105**	*e*P	**Pn**	**22 15 20.1**	**-2.5**
HUIG				*e*S	**Sn**	**22 15 47.5**	**-3.0**
UNM	**Universidad Na**	**3.01**	**346**	*e*Pn	**Pn**	**22 15 32.5**	**-0.1**
CMIG	**Matias Romero** 32nm,0.3s,baz=252,slow=12,SNR=154	**3.46**	**78**	Pn Pg	**Pb**	**22 15 37.6**	**-0.8**
CMIG	37nm,0.3s,baz=257,slow=15,SNR=50			Lg	Lg	22 16 33.9	
CMIG	377nm,0.3s,baz=171,slow=22,SNR=17			LR	LR	22 16 52.8	
CMIG	comp=Z,740nm,21.3s,baz=256,slow=37						

LVIG	**Laguna Verde**	**3.83**	**30**	*e*Pn	**Pn**	**22 15 40.9**	**-2.5**
MOIG	**Morelia**	**4.20**	**322**	*e*Pn	**Pn**	**22 15 51.6**	**+2.7**
ZAIG	**Zacatecas**	**7.45**	**329**	*e*Pn	**Pn**	**22 16 35.8**	**+2.2**
833A	**Chaparral WMA,** baz=176	**11.91**	**356**	P	**Pn**	**22 17 34.0**	**-0.5**
H06E1	**SOCORRO T-PHAS** SNR=79	**12.16**	**283**	T	T	22 29 54.2	
H06S1	**SOCORRO T** SNR=7.7	**12.18**	**283**	T	T	22 29 52.2	
H06N1	**SOCORRO T-PHAS** SNR=3.5	**12.23**	**283**	T	T	22 29 57.2	
HPIG		**12.46**	**329**	*e*Pn	Pn	22 17 48.7	+6.5
SLBS	**Sierra La Lagu**	**13.03**	**306**	*e*Pn	**Pn**	**22 17 54.5**	**+4.7**
LPIG	**La Paz** 5.6nm,0.3s,baz=176,slow=14,SNR=2.2	**13.53**	**306**	Pn	Pn	22 18 02.1	+5.5
LPIG	comp=Z,1μm,19.3s,baz=125,slow=35			LR	LR	22 22 32.8	
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=169,slow=14,SNR=8.8	**13.76**	**340**	Pn	**Pn**	**22 17 60.0**	**+0.2**
TXAR	0.1nm,0.3s,baz=156,slow=25,SNR=3.9			Lg	Lg	22 21 57.5	
TXAR	comp=Z,2μm,18.6s,baz=0.0,slow=40			LR	LR	22 23 53.9	
TX31	**Lajitas Ar. Si**	**13.76**	**340**	*e*Pn	**Pn**	**22 18 03.8**	**+4.0**
JCT	**Junction City** baz=175	**14.08**	**355**	P	**Pn**	**22 18 03.6**	**-0.6**
JCT	**Junction City**	**14.08**	**355**	*e*Pn	**Pn**	**22 18 04.3**	**+0.2**
JTS	**JuntasAbangare** 1.1nm,0.3s,baz=338,slow=19,SNR=2.6	**14.44**	**113**	*e*Pn	**Pn**	**22 18 10.7**	**+1.7**
JTS	**JuntasAbangare** 117nm,1.1s	**14.44**	**113**	*e*Pn	**Pn**	**22 18 09.1**	**+0.1**
WHTX	**Lake Whitney,** baz=184	**15.56**	**3**	P	**Pn**	**22 18 25.3**	**+1.4**
WHTX	**Lake Whitney,** 57nm,0.9s	**15.56**	**3**	*e*Pn	**Pn**	**22 18 22.7**	**-1.3**
NATX	**Nacogdoches** baz=193	**15.68**	**12**	P	**Pn**	**22 18 25.3**	**-0.2**
NATX	**Nacogdoches** 98nm,1.1s	**15.68**	**12**	*e*Pn	**Pn**	**22 18 23.8**	**-1.8**
445A	**Amite** baz=209	**16.07**	**26**	P	**Pn**	**22 18 31.1**	**+0.6**
ABTX	**Abilene, Hawle** baz=176,SNR=10	**16.20**	**356**	P	**Pn**	**22 18 33.3**	**+1.0**
ABTX	**Abilene, Hawle** 87nm,0.9s	**16.20**	**356**	Pn	**Pn**	**22 18 30.7**	**-1.6**
241A	**Mo Tay, Goldon** baz=199	**16.35**	**17**	P	**Pn**	**22 18 35.2**	**+1.2**
MNTX	**Cornudas Mount** baz=156	**16.50**	**339**	P	**Pn**	**22 18 37.6**	**+1.5**
MNTX	**Cornudas Mount** 48nm,1.4s	**16.50**	**339**	*e*Pn	**Pn**	**22 18 37.1**	**+1.0**
344A	**Westbrook Farm** baz=207	**16.55**	**24**	P	**Pn**	**22 18 35.2**	**-1.4**
140A	**Cam and Jess,** baz=196	**16.77**	**14**	P	**Pn**	**22 18 39.1**	**-0.3**
244A	**Avery, Jackson** baz=206	**17.09**	**23**	P	**Pn**	**22 18 43.3**	**-0.2**
VBMS	**Vicksburg** baz=206	**17.32**	**23**	P	**Pn**	**22 18 44.6**	**-1.7**
Z40A	**Long Farm, Mag** baz=196	**17.40**	**14**	P	**Pn**	**22 18 46.8**	**-0.5**
143A	**Socs Landing,** baz=203	**17.44**	**20**	P	**Pn**	**22 18 47.4**	**-0.5**
WLAR	**White Oak Lake** 60nm,1.1s	**17.88**	**15**	*e*Pn	**Pn**	**22 18 50.5**	**-2.7**
319A	**Douglas** 82nm,1.0s	**17.90**	**328**	*e*Pn	**P**	**22 18 55.7**	**+1.5**
MSTX	**Muleshoe** baz=167	**17.94**	**348**	P	**Pn**	**22 18 54.8**	**+0.7**
MSTX	**Muleshoe** 79nm,1.2s	**17.94**	**348**	*e*Pn	**Pn**	**22 18 54.0**	**-0.1**
247A	**Quitman** baz=212	**17.96**	**28**	P	**Pn**	**22 18 53.7**	**-0.6**
Y40A	**Okolona** baz=196	**18.15**	**14**	P	**Pn**	**22 18 55.2**	**-1.4**
121A	**Cookes Peak, D** baz=150,SNR=8

V41A	Mountainview	baz=198,SNR=13	20.11	15	P	P	22 19 16.3	-2.0
X46A	Booneville	baz=208,SNR=5.4	20.13	24	P	P	22 19 16.6	-1.9
Y48A	Jasper	baz=213,SNR=6.2	20.18	28	P	P	22 19 16.9	-2.2
HHAR	Hobbs	15nm,0.9s	20.21	11	eP	P	22 19 19.5	+0.1
Z50A	Ashland	baz=217,SNR=12	20.23	32	P	P	22 19 17.0	-2.7
214A	Organ Pipe Nat	baz=137,SNR=7.5	20.27	322	P	P	22 19 21.1	+1.0
214A	Organ Pipe Nat	219nm,1.1s	20.27	322	eP	P	22 19 22.5	+2.3
V42A	Cord	baz=200	20.33	17	P	P	22 19 18.4	-2.2
U39A	Green Forest	baz=194,SNR=13	20.39	12	P	P	22 19 19.4	-1.9
X47A	Russelville	baz=210,SNR=6.1	20.39	26	P	P	22 19 18.8	-2.6
Y49A	Blount Mountai	baz=215,SNR=8.0	20.48	30	P	P	22 19 20.7	-1.6
U40A	Yellville	baz=195,SNR=16	20.50	13	P	P	22 19 20.9	-1.5
X48A	Hartselle	baz=212,SNR=8.3	20.68	27	P	P	22 19 21.9	-2.6
U41A	Viola	baz=198,SNR=8.4	20.70	15	P	P	22 19 22.5	-2.2
PLAL	Pickwick Lake	47nm,1.1s	20.70	25	eP	P	22 19 23.6	-1.1
254A	Abbeville	baz=225	20.71	39	P	P	22 19 22.1	-2.7
X18A	Snowflake	53nm,0.9s	20.82	332	eP	P	22 19 28.3	+2.1
Y50A	Piedmont	baz=216	20.84	31	P	P	22 19 23.4	-2.8
U42A	Revenden	baz=200,SNR=18	20.88	16	P	P	22 19 24.7	-2.0
GNAR	Gosnell	2µm,1.3s	20.89	19	eP	P	22 19 26.5	-0.1
T38A	Diamond	baz=191,SNR=9.3	20.89	9	P	P	22 19 24.8	-2.0
T39A	Clever	baz=194,SNR=6.7	21.03	11	P	P	22 19 26.4	-1.9
X49A	Woodville	baz=214,SNR=8.3	21.06	29	P	P	22 19 26.4	-2.2
W47A	Westpoint	baz=210	21.13	25	P	P	22 19 26.6	-2.8
U43A	Rector	baz=202	21.14	18	P	P	22 19 28.3	-1.1
W18A	Petrified Fore	baz=149	21.22	334	P	P	22 19 31.4	+0.8
W18A	Petrified Fore	40nm,0.9s	21.22	334	eP	P	22 19 32.7	+2.1
154A	Montrose	baz=224	21.29	38	P	P	22 19 28.3	-2.8
W48A	Pulaski	baz=212,SNR=10	21.31	27	P	P	22 19 29.0	-2.3
T40A	Mansfield	baz=196,SNR=15	21.33	13	P	P	22 19 29.6	-1.9
X50A	Fort Payne	baz=215	21.34	30	P	P	22 19 29.5	-2.1
T25A	Trinidad	baz=164,SNR=22	21.34	347	P	P	22 19 31.6	-0.2
T25A	Trinidad	57nm,1.0s	21.34	347	eP	P	22 19 33.5	+1.7
MHTCO	State Highway	85nm,1.8s	21.39	346	eP	P	22 19 33.7	+1.3
T41A	Mountain View	baz=198	21.40	15	P	P	22 19 31.2	-1.1
V46A	Holladay	baz=208,SNR=8.7	21.41	23	P	P	22 19 30.3	-2.0
113A	Mohawk Valley,	43nm,0.9s	21.42	322	eP	P	22 19 34.7	+2.3
X16A	Lo Mia Camp, P	60nm,0.9s	21.42	329	eP	P	22 19 34.8	+2.1
PBMO	Poplar Bluff	29nm,0.8s	21.51	18	eP	P	22 19 32.2	-1.2
T42A	Van Buren	baz=199	21.56	16	P	P	22 19 32.8	-1.1
U45A	Rockin P Farm,	baz=206	21.65	22	P	P	22 19 31.7	-3.2
V47A	Nunnelly	baz=209,SNR=7.0	21.66	25	P	P	22 19 33.1	-1.9
GOGA	Godfrey	baz=222	21.66	36	P	P	22 19 33.1	-2.0
GOGA	Godfrey	29nm,0.9s	21.66	36	eP	P	22 19 33.7	-1.4
S39A	Bolivar	baz=193,SNR=7.5	21.69	11	P	P	22 19 33.3	-2.1
S40A	Lebanon	baz=195,SNR=9.7	21.77	13	P	P	22 19 34.1	-2.0
WVT	Waverly	baz=208	21.80	24	P	P	22 19 33.7	-2.8
WVT	Waverly	32nm,0.8s	21.80	24	eP	P	22 19 34.6	-1.9
SWET	Sewanee	15nm,1.1s	21.82	28	eP	P	22 19 35.2	-1.7
T43A	Greenville	baz=201,SNR=15	21.84	18	P	P	22 19 34.5	-2.4
V48A	Smith Brothers	baz=211,SNR=8.3	21.87	26	P	P	22 19 34.9	-2.5
U46A	Springville	baz=207	21.88	23	P	P	22 19 35.0	-2.3
S41A	Jillco Farms,	baz=197,SNR=21	21.92	14	P	P	22 19 35.8	-2.1
T44A	Benton	baz=203	22.05	19	P	P	22 19 37.6	-1.6
SDCO	Great Sand Dun	baz=162,SNR=15	22.17	345	P	P	22 19 40.5	-0.3
SDCO	Great Sand Dun	12nm,0.9s	22.17	345	eP	P	22 19 41.8	+1.0
GLA	Glamis	baz=135	22.25	321	P	P	22 19 42.7	+1.3
GLA	Glamis	67nm,1.0s	22.25	321	eP	P	22 19 43.9	+2.5
WUAZ	Wupatki	baz=146,SNR=22	22.28	331	P	P	22 19 42.8	+0.9
WUAZ	Wupatki	91nm,1.0s	22.28	331	eP	P	22 19 44.2	+2.3
U47A	Clarksville	baz=209,SNR=7.3	22.29	24	P	P	22 19 39.1	-2.6
S42A	Caledonia	baz=200	22.34	16	P	P	22 19 40.8	-1.5
R39A	Chumby, Stover	baz=194,SNR=12	22.35	11	P	P	22 19 40.7	-1.7
S43A	Fulton Ridge,	baz=201	22.35	18	P	P	22 19 41.1	-1.4
CBKS	Cedar Bluff	baz=177	22.37	357	P	P	22 19 42.8	+0.1
CBKS	Cedar Bluff	58nm,1.1s	22.37	357	eP	P	22 19 43.5	+0.8
R40A	Maddies Statio	baz=196	22.48	13	P	P	22 19 43.4	-0.4
S22A	4UR Ranch, Cre	baz=159	22.53	342	P	P	22 19 45.6	+0.9
S22A	4UR Ranch, Cre	22nm,1.0s	22.53	342	eP	P	22 19 46.2	+1.5
Y12C	Blythe	baz=137,SNR=6.1	22.56	323	P	P	22 19 46.0	+1.3
Y12C	Blythe	51nm,1.3s	22.56	323	eP	P	22 19 47.6	+2.8
MVCO	Mesa Verde	baz=154,SNR=16	22.57	339	P	P	22 19 45.2	0.0
MVCO	Mesa Verde	128nm,1.4s	22.57	339	eP	P	22 19 46.0	+0.9
T46A	Princeton	baz=207	22.59	22	P	P	22 19 43.8	-1.1
FVM	French Village	14nm,0.8s	22.64	17	eP	P	22 19 46.1	+0.6
U48A	Cassie Pea, Po	baz=211,SNR=9.5	22.65	26	P	P	22 19 43.5	-2.1
Q37A	Longview Farm,	baz=190	22.67	8	P	P	22 19 45.0	-0.9
CPCT	Cooper Cave		22.68	31	eP	P	22 19 44.5	-1.5
R41A	Rosebud	baz=198	22.69	14	P	P	22 19 45.3	-0.7
S44A	Carbondale	baz=203	22.71	19	P	P	22 19 45.5	-0.8
SIUC	Southern Illin	57nm,1.3s	22.74	19	eP	P	22 19 47.4	+0.8
PDMCI	Parker Dam,Lak	baz=138	22.75	325	P	P	22 19 48.0	+1.3
IKP	In-Ko-Pah, Jac	baz=132,SNR=7.0	22.77	319	P	P	22 19 49.0	+1.9
R42A	Luebbering	baz=199	22.82	16	P	P	22 19 46.6	-0.8
T47A	Sharon Grove		22.84	24	P	P	22 19 46.4	-1.2
		baz=209,SNR=5.7						
KSCO	Kaye Shedlock'	baz=170	22.84	352	P	P	22 19 47.8	+0.1
KSCO	Kaye Shedlock'	33nm,0.8s	22.84	352	eP	P	22 19 48.1	+0.4
Q38A	Cooks Store, C	baz=192	22.88	10	P	P	22 19 47.1	-0.9
S45A	Carrier Mills	baz=205,SNR=9.0	22.92	20	P	P	22 19 46.4	-2.0
HODGE	Hodges	19nm,0.9s	22.95	36	eP	P	22 19 47.1	-1.7
BC3	Big Chuckawall	baz=135	23.04	321	P	P	22 19 51.5	+1.6
MONP2	Monument Peak	baz=132	23.13	319	P	P	22 19 53.3	+2.4
BG3	Lake Jocassee	37nm,1.3s	23.14	34	eP	P	22 19 50.0	-0.7
Q40A	Laux Farm, Aux	baz=196	23.20	13	P	P	22 19 50.1	-1.2
W13A	Hualapai Mount	35nm,1.1s	23.21	326	eP	P	22 19 54.7	+3.0
IRM	Iron Mountain	baz=136,SNR=14	23.21	323	P	P	22 19 52.4	+0.8
TKL	Tuckaleechee C	17nm,1.1s,baz=224,slow=7.5,SNR=8.6	23.22	31	P	P	22 19 50.3	-1.2
TKL	Tuckaleechee C	39nm,1.1s	23.22	31	eP	P	22 19 50.5	-1.0
T48A	Bowling Green	baz=210,SNR=8.4	23.22	25	P	P	22 19 49.4	-2.2
Q24A	Divide	baz=164	23.25	347	P	P	22 19 52.0	-0.1
Q24A	Divide	30nm,1.4s	23.25	347	eP	P	22 19 54.0	+1.9
R44A	Waltonville	baz=203	23.27	19	P	P	22 19 52.0	-0.1
Q41A	Truxton	baz=198,SNR=7.6	23.35	14	P	P	22 19 51.6	-1.2
P37A	Lathrop	baz=190	23.39	8	P	P	22 19 51.9	-1.3
CSU	Charleston Sou		23.41	42	eP	P	22 19 53.7	+0.2
NHSC	New Hope	baz=229	23.42	41	P	P	22 19 53.0	-0.5
NHSC	New Hope	110nm,1.0s	23.42	41	eP	P	22 19 54.5	+0.9
PV01	Paradox Valley		23.43	340	eP	P	22 19 55.9	+2.0
U15A	North Rim	49nm,1.0s	23.46	331	eP	P	22 19 56.2	+1.9
Q42A	Golden Eagle	baz=199	23.48	16	P	P	22 19 53.1	-1.0
USIN	University of	120nm,1.4s	23.49	22	eP	P	22 19 54.5	+0.3
P39B	Salisbury	baz=194,SNR=5.3	23.54	11	P	P	22 19 53.2	-1.5
P38A	Dawn	baz=192	23.54	9	P	P	22 19 53.2	-1.5
JSC	Jenkinsville	23nm,1.2s	23.56	38	eP	P	22 19 53.9	-1.0
PV05	Paradox Valley		23.56	339	eP	P	22 19 56.4	+1.2
R45A	Skylar, Fairfi	baz=205	23.57	20	P	P	22 19 54.0	-1.0
BELC	Belle Mtn. Jos	baz=134	23.61	321	P	P	22 19 56.3	+0.7
O33A	Hebron	baz=182	23.61	2	P	P	22 19 54.4	-1.0
XPFO	Pïæon Flat	43nm,1.3s	23.62	320	eP	P	22 19 58.0	+2.2
PFO	Pinyon Flats O	baz=133	23.63	320	P	P	22 19 56.7	+0.9
PFO	Pinyon Flats O	36nm,1.2s	23.63	320	eP	P	22 19 58.1	+2.3
P40A	Paris	baz=195,SNR=14	23.72	12	P	P	22 19 54.7	-1.7
Q43A	New Douglas	baz=201,SNR=8.0	23.73	17	P	P	22 19 54.8	-1.7
O34A	Beatrice	baz=184,SNR=6.9	23.76	3	P	P	22 19 56.0	-0.8
R46A	Gibon Southern	baz=207	23.77	22	P	P	22 19 55.1	-1.8
PV04	Paradox Valley		23.78	339	eP	P	22 19 58.2	+0.9
PV10	Paradox Valley		23.81	339	eP	P	22 19 57.9	+0.3
S48A	Wiedeman Farm,	baz=210	23.83	25	P	P	22 19 55.4	-2.2
O35A	Humboldt	baz=186	23.89	5	P	P	22 19 57.2	-0.9
Q44A	Meyer Farm, Va	baz=203	23.90	18	P	P	22 19 56.1	-2.0
SMCO	Snowmass	33nm,1.2s	23.91	343	eP	P	22 20 00.0	+1.4
PV09	Paradox Valley		23.95	339	eP	P	22 19 59.9	+0.9
GMRC	Granite Mounta	baz=136,SNR=8.6	23.96	323	P	P	22 20 00.1	+1.2
O37A	Wolven Farm, M	baz=190	23.98	8	P	P	22 19 57.2	-1.7
TZTN	Tazewell	baz=217,SNR=7.2	24.03	31	P	P	22 19 57.1	-2.3
TZTN	Tazewell	29nm,1.0s	24.03	31	eP	P	22 19 59.2	-0.2
OLIL	Olney	27nm,1.0s	24.03	20	eP	P	22 19 59.3	-0.1
O38A	Galt	baz=192	24.04	9	P	P	22 19 57.6	-1.9
P41A	Barry, Barry	baz=198	24.07	14	P	P	22 19 58.1	-1.7
MURC	Murrieta	baz=131	24.08	319	P	P	22 20 01.1	+1.2
KMSC	Kings Mountain	baz=223	24.13	36	P	P	22 19 57.8	-2.6
KMSC	Kings Mountain	15nm,0.8s	24.13	36	eP	P	22 19 59.3	-1.0
ISCO	Idaho Springs	baz=163,SNR=17	24.15	346	P	P	22 20 01.1	+0.2
ISCO	Idaho Springs	42nm,1.1s	24.15	346	eP	P	22 20 01.3	+0.4
Q45A	Warren Harvey,	baz=205	24.16	20	P	P	22 19 58.8	-1.8
P42A	Winchester	baz=199,SNR=11	24.16	15	P	P	22 19 59.4	-1.2
KNB	Kanab	70nm,1.1s	24.18	331	eP	P	22 20 02.9	+1.8
R47A	Wooly Knot Far	baz=209,SNR=24	24.20	23	P	P	22 19 59.4	-1.6
WCI	Wyandotte Cave	baz=209	24.23	24	P	P	22 19 59.6	-1.6
WCI	Wyandotte Cave	49nm,1.0s	24.23	24	eP	P	22 20 00.8	-0.5
O39A	Kirksville	baz=194	24.32	11	P	P	22 20 00.9	-1.2
O40A	La Belle	baz=195,SNR=17	24.32	12	P	P	22 20 00.6	-1.5
LCMT	Little Creek M	69nm,1.8s	24.38	330	eP	P	22 20 04.3	+1.5
HEC	Hector,Ludlow	baz=135,SNR=9.0	24.38	322	P	P	22 20 04.0	+1.2
N34A	Lincoln	baz=184	24.42	4	P	P	22 20 01.7	-1.2
P43A	Skaggs, Pawnee	baz=201	24.43	17	P	P	22 20 01.6	-1.5
N35A	Tabor	baz=186	24.50	5	P	P	22 20 02.3	-1.5
N36A	Muff Farm, Cla	baz=188	24.52	6	P	P	22 20 02.1	-1.9
O41A	Passleys Farm,	baz=198,SNR=13	24.53	14	P	P	22 20 02.7	-1.3
P44A	Sand Creek, Wi	baz=203	24.54	19	P	P	22 20 02.6	-1.4
R48A	Northridge Ran	baz=210	24.55	24	P	P	22 20 02.3	-1.8
N37A	Lee Faris, Mou	baz=190	24.56	8	P	P	22 20 02.6	-1.6
TUQ	Turquoise Moun	baz=136	24.58	324	P	P	22 20 06.4	+1.8
HELC	Santa Helena	44nm,1.3s	24.60	112	eP	P	22 20 08.6	+3.4
OGNE	Ogallala	baz=172	24.67	353	P	P	22 20 04.9	-0.4
OGNE	Ogallala		24.67	353	eP	P	22 20 06.5	+1.2
N38A	Joes South For	baz=192,SNR=8.3	24.73	9	P	P	22 20 04.2	-1.5
MTPU	Mount Pierson	116nm,1.0s	24.74	333	eP	P	22 20 08.2	+1.8
SZCU	Shurtz Canyon	48nm,1.4s	24.77	331	eP	P	22 20 08.2	+1.7
BFSC	Mount Baldy Ra	baz=132	24.79	319	P	P	22 20 07.4	+0.9
Q47A	Bedord North L	baz=208,SNR=7.1	24.80	23	P	P	22 20 05.0	-1.4
O42A	Bath	baz=199	24.80	15	P	P	22 20 05.6	-0.9
CCUT	Cedar City	19nm,1.0s	24.87	331	eP	P	22 20 09.8	+2.5
P45A	Graceland, Par	baz=205	24.87	20	P	P	22 20 06.8	-0.3
N39A	Derby Farms, D	baz=194,SNR=13	24.93	11	P	P	22 20 06.2	-1.4
SHPR	Sheep Range	33nm,1.2s	24.95	327	eP	P	22 20 09.9	+2.0
GSC	Goldstone, Bar	baz=135	24.99	322	P	P	22 20 08.5	+0.2
GSC	Goldstone, Bar	30nm,1.1s	24.99	322	eP	P	22 20 10.2	+1.9
SRU	San Rafael Swe	32nm,1.0s	24.99	337	eP	P	22 20 09.7	+1.3
MWC	Mount Wilson	49nm,1.4s	25.03	319	eP	P	22 20 11.3	+2.5
M34A	Aspy Farms, Fr	baz=184	25.08	3	P	P	22 20 08.7	-0.2
O43A	Sugar Creek Fa	baz=201	25.09	17	P	P	22 20 07.1	-1.9
M35A	Neola	baz=186	25.10	5	P	P	22 20 07.7	-1.5
N41A	Harden Midland	baz=197	25.11	14	P	P	22 20 07.5	-1.7
SHOC	Shoshone, Teco	baz=136	25.11	324	P	P	22 20 10.2	+1.0
N40A	Mertzake, Sal	baz=196	25.12	12	P	P	22 20 08.7	-0.5
M33A	Taylor Creek F	baz=183	25.12	2	P	P	22 20 08.2	-1.1
P46A	Rosedale	baz=206	25.13	21	P	P	22 20 07.6	-1.8
MSU	Marysvale		25.13	334	eP	P	22 20 11.9	+2.2
O20A	White River Ci	baz=158	25.16	342	P	P	22 20 10.5	+0.7
O20A	White River Ci	44nm,1.3s	25.16	342	eP	P	22 20 11.4	+1.5
M36A	Felix, Anita	baz=188	25.17	6	P	P	22 20 08.0	-1.8
M37A	Trindle Farm,	baz=190,SNR=8.3	25.21	8	P	P	22 20 08.6	-1.5
O44A	Mansfield	baz=203	25.21	18	P	P	22 20 08.6	-1.5
DECC	Green Verdugo	baz=130	25.22	319	P	P	22 20 11.4	+1.0
N23A	Red Feather La	baz=163,SNR=8.2	25.27	347	P	P	22 20 11.0	0.0
N23A	Red Feather La	23nm,1.1s	25.27	347	eP	P	22 20 12.1	+1.1
P47A	Martinsville	baz=208	25.34	22	P	P	22 20 10.0	-1.4
M38A	Pleasantville	baz=192,SNR=16	25.35	9	P	P	22 20 09.6	-1.7
P18A	Preston Nutter	37nm,1.0s	25.35	338	eP	P	22 20 13.4	+1.6
HDIL	Hopedale	baz=201	25.35	16	P	P	22 20 10.0	-1.4
HDIL	Hopedale	45nm,0.9s	25.35	16	eP	P	22 20 11.3	0.0
P17A	Butcher Ranch,	25nm,1.1s	25.39	337	eP	P	22 20 13.2	+1.2
OTAV	Otavalo	21nm,1.3s	25.41	127	eP	P	22 20 11.4	-1.2
TMUT	Trail Mountain	75nm,1.7s	25.41	336	eP	P	22 20 13.9	+1.6
N42A	Yates City	baz=199,SNR=5.5	25.41	15	P	P	22 20 10.4	-1.6
EDW2	Edwards Air Fo	baz=132,SNR=6.5	25.42	320	P	P	22 20 13.0	+0.8
O45A	Potomac	baz=204	25.53	19	P	P	22 20 11.3	-1.7
PHWY	Pilot Hill	22nm,1.4s	25.56	348	eP	P	22 20 14.8	+1.2
M39A	Webster	baz=194	25.58	11	P	P	22 20 11.9	-1.5
BLG	Laguna Peak, P	baz=129,SNR=5.6	25.60	317	P	P	22 20 17.4	+3.6
M40A	Post Highland	baz=195	25.63	12	P	P	22 20 12.2	-1.7
NCAT	North Carolina	31nm,0.9s	25.69	37	eP	P	22 20 14.2	-0.4
OSI	Osito Audit: C	39nm,1.1s	25.70	319	eP	P	22 20 18.0	+3.3
N43A	Stutzman Famil	baz=201	25.74	16	P	P	22 20 13.4	-1.6
L35A	Bielow Farm, R	baz=186	25.75	5	P	P	22 20 13.8	-1.2
M41A	Milan	baz=198	25.81	14	P	P	22 20 14.1	-1.4
SCIA	State Center	baz=192,SNR=5.7	25.82	9	P	P	22 20 14.6	-1.1
SCIA	State Center	48nm,0.9s	25.82	9	eP	P	22 20 15.2	-0.5
L36A	Harm Buss Farm	baz=188	25.83	6	P	P	22 20 15.2	-0.5
FURC	Furnace Creek,	baz=136	25.85	324	P	P	22 20 16.9	+1.0
SFIN	Lafayette	baz=206	25.85	20	P	P	22 20 14.7	-1.2
SFIN	Lafayette	20nm,0.8s	25.85	20	eP	P	22 20 15.3	-0.6
N44A	Piper City	baz=203	25.90	18	P	P	22 20 15.4	-1.0
MPMC	Manual Prospec	baz=135,SNR=7.5	25.91	323	P	P	22 20 17.2	+0.4
L37A	Phoenix Point,	baz=190	25.96	8	P	P	22 20 15.7	-1.2
SDDR	Presa de Saban	54nm,1.1s	25.97	80	eP	P	22 20 19.6	+2.3
O47A	Sheridan	baz=208	26.04	22	P	P	22 20 15.8	-1.8
L38A	Oak Wood Farm,	baz=192	26.09	9	P	P	22 20 17.3	-0.7
DAC	Darwin (Calif)	24nm,1.1s	26.13	323	eP	P	22 20 20.2	+1.5
N45A	Kentland	baz=204	26.14	19	P	P	22 20 17.5	-1.0
BLA	Blacksburg	baz=222	26.14	34	P	P	22 20 17.2	-1.5
BLA	Blacksburg	35nm,1.1s	26.14	34	eP	P	22 20 18.0	-0.7
ISA	Isabella, Lake	baz=132	26.23	321	P	P	22 20 21.1	+1.6
ISA	Isabella, Lake	31nm,1.0s	26.23	321	eP	P	22 20 24.2	+4.6
L39A	Vinton	baz=194,SNR=9.2	26.23	11	P	P	22 20 17.9	-1.5
M43A	Waltham Townsh	baz=201	26.26	16	P	P	22 20 19.1	-0.5
ROSC	El Rosal	19nm,1.3s	26.28	113	eP	P	22 20 24.0	+3.4
K34A	Le Mars	baz=185	26.29	4	P	P	22 20 18.3	-1.5
NLU	North Lily Min	34nm,1.1s	26.32	336	eP	P	22 20 22.1	+1.6
L40A	Anamosa	baz=196,SNR=5.5	26.32	12	P	P	22 20 18.0	-2.2
RWWY	Rawlins	33nm,1.1s	26.32	345	eP	P	22 20 22.0	+1.4
PRAC	Prado	16nm,1.1s	26.33	116	eP	P	22 20 24.6	+4.0
K36A	Gilmore City	baz=189	26.38	7	P	P	22 20 19.4	-1.3
K35A	Storm Lake	baz=187	26.39	5	P	P	22 20 19.2	-1.6
VWCC	Virginia Weste		26.41	35	eP	P	22 20 20.9	-0.2
N46A	Monticello	baz=206,SNR=6.1	26.43	20	P	P	22 20 19.8	-1.4
M44A	Midewin, Midew	baz=203	26.47	18	P	P	22 20 19.6	-1.9
L41A	Preston	baz=197,SNR=6.8	26.49	13	P	P	22 20 19.6	-2.1
PKM	Mcpherson Peak	baz=129	26.57	318	P	P	22 20 23.3	+0.5
R11A	Troy Canyon, C	baz=141	26.57	329	P	P	22 20 23.9	+1.2
R11A	Troy Canyon, C	31nm,1.3s	26.57	329	eP	P	22 20 24.9	+2.2
K37A	Belmond	baz=190,SNR=11	26.61	8	P	P	22 20 20.2	-2.5
K38A	Parkersburg	baz=192	26.61	9	P	P	22 20 21.1	-1.7
L42A	Oliver, Polo	baz=199	26.61	15	P	P	22 20 20.8	-2.0
JLU	Jordanelle	14nm,1.4s	26.64	337	eP	P	22 20 24.4	+1.1
M45A	Boilermakers S	baz=204	26.71	19	P	P	22 20 21.2	-2.5

VES Vestal, Richgr 26.72 320 P P 22 20 26.1 +2.2
baz=132
J31A Geddes 26.82 359 P P 22 20 23.6 -1.0
baz=179
DUG Dugway, Tooele 26.82 335 P P 22 20 24.9 +0.1
baz=148,SNR=5.0
DUG Dugway, Tooele 26.82 335 eP P 22 20 27.2 +2.3
20nm,1.0s
K39A Oelwein 26.82 11 P P 22 20 22.5 -2.1
baz=194
CTU Camp Tracy 26.83 337 eP P 22 20 26.8 +1.8
17nm,1.1s
J33A Davis 26.87 2 P P 22 20 24.5 -0.6
baz=183
RUSC La Rusia 26.92 110 eP P 22 20 29.3 +2.8
14nm,1.3s
K40A Colesburg 26.95 12 P P 22 20 23.9 -2.0
baz=196
L43A Garden Prairie 27.02 16 P P 22 20 25.1 -1.4
baz=201
M46A Old House Fiel 27.02 20 P P 22 20 24.6 -1.9
baz=206
K41A Shullsburg 27.04 13 P P 22 20 25.1 -1.6
baz=197
J36A Seneca 1, Swea 27.08 7 P P 22 20 24.9 -2.1
baz=189,SNR=5.7
K22A Casper 27.08 347 P P 22 20 26.8 -0.4
baz=163
K22A Casper 27.08 347 eP P 22 20 28.7 +1.5
44nm,1.1s
TCUT Toone Canyon 27.08 338 eP P 22 20 29.0 +1.7
99nm,1.5s
J37A Redenius Farm, 27.15 8 P P 22 20 25.7 -2.0
baz=190,SNR=6.3
L44A Lake County Fo 27.24 17 P P 22 20 27.0 -1.4
baz=202
ACSO Alum Creek Sta 27.29 26 P P 22 20 27.0 -1.9
baz=214
ACSO Alum Creek Sta 27.29 26 eP P 22 20 28.1 -0.8
27nm,0.8s
ECSD EROS Data Cent 27.30 3 P P 22 20 27.9 -1.1
baz=184
ECSD EROS Data Cent 27.30 3 eP P 22 20 28.1 -0.9
10nm,1.0s
J38A Wedel Dairy, R 27.32 9 P P 22 20 27.1 -2.1
baz=192
JFWS Jewell Farm 27.34 13 P P 22 20 26.1 -3.2
baz=197
JFWS Jewell Farm 27.34 13 eP P 22 20 28.9 -0.5
14nm,1.0s
K42A Prairie Point, 27.42 15 P P 22 20 27.8 -2.3
baz=199
BGU Big Grassy Mou 27.52 336 eP P 22 20 32.8 +1.5
22nm,1.2s
I35A Creekview Farm 27.53 5 P P 22 20 29.9 -1.2
baz=187
HWUT Hardware Ranch 27.57 338 eP P 22 20 32.7 +1.0
14nm,1.0s
HWUT ePcP PcP 22 23 50.3 +1.0
K43A Burlington 27.61 16 P P 22 20 30.1 -1.7
baz=201
SPUT South Promonto 27.63 337 eP P 22 20 33.9 +1.8
19nm,1.2s
J40A Soldiers Grove 27.70 12 P P 22 20 30.4 -2.2
baz=196
I36A Fitzsimmons Fa 27.79 7 P P 22 20 31.1 -2.3
baz=189
J41A Loganville 27.83 13 P P 22 20 30.6 -3.1
baz=198,SNR=5.7
I37A Lemond, Waseca 27.86 8 P P 22 20 32.0 -2.0
baz=190
MDPB Devils Postpil 27.92 323 eP P 22 20 36.8 +1.9
MDPB epP pP 22 20 37.0 -3.6
BW06 Boulder Array 27.96 342 P P 22 20 35.3 +0.1
baz=157,SNR=5.8
BW06 Boulder Array 27.96 342 eP P 22 20 35.7 +0.5
46nm,1.4s
PD31 Pinedale Array 27.96 342 eP P 22 20 35.8 +0.5
PDAR Pinedale Array 27.96 342 P P 22 20 35.7 +0.5
1.4nm,0.6s,baz=133,slow=10,SNR=18
PDAR LR LR 22 32 59.1
comp=Z,742nm,19.1s,baz=168,slow=39
PDAR Pinedale Array 27.96 342 eP P 22 20 35.2 0.0
NV11 Mina Array Sit 27.97 326 eP P 22 20 37.5 +2.2
1.8nm,1.1s
J42A Columbus 27.99 15 P P 22 20 33.5 -1.6
baz=199,SNR=5.4
I39A Houston 28.00 11 P P 22 20 33.4 -1.8
baz=194
H32A Carlson Farm, 28.04 2 P P 22 20 34.2 -1.4
baz=182
I38A Scanlan Farm, 28.04 9 P P 22 20 33.7 -2.0
baz=192,SNR=6.6
RSSD Black Hills 28.05 351 P P 22 20 35.2 -0.8
baz=169
RSSD Black Hills 28.05 351 eP P 22 20 38.3 +2.3
9.9nm,1.1s
NV01 Mina Array Sit 28.05 325 eP P 22 20 37.9 +1.8
NVAR Mina Array Bea 28.05 325 P P 22 20 36.8 +0.7
2.2nm,0.5s,baz=144,slow=9.8,SNR=11
NVAR LR LR 22 31 44.2
comp=Z,255nm,19.3s,baz=268,slow=37
SDV Santo Domingo 28.10 102 P P 22 20 37.8 +1.2
5.2nm,0.9s,baz=304,slow=6.5,SNR=5.8
SDV LR LR 22 32 41.0
comp=Z,362nm,20.3s,baz=298,slow=38
SDV Santo Domingo 28.10 102 eP P 22 20 38.6 +1.9
15nm,1.0s
HVU Hansel Valley 28.16 337 eP P 22 20 38.3 +1.4
20nm,1.0s
I40A Norwalk 28.20 12 P P 22 20 35.2 -1.9
baz=196
J43A Natural Harves 28.22 16 P P 22 20 35.0 -2.2
baz=201
H33A Prehn Over Nor 28.24 3 P P 22 20 36.6 -0.8
baz=184
H34A Spellman Lake, 28.28 4 P P 22 20 36.7 -1.0
baz=185
H36A Jessenland, He 28.36 7 P P 22 20 36.8 -1.6
baz=189
H35A Sunnyside Ranc 28.38 5 P P 22 20 37.3 -1.4
baz=187
H37A Dierke Farm, C 28.49 8 P P 22 20 38.6 -1.0
baz=191
I41A Arkdale 28.52 13 P P 22 20 38.7 -1.2
baz=197
I42A Draeger Farm, 28.58 14 P P 22 20 39.3 -1.1
baz=199
H38A Maiden Rock 28.67 9 P P 22 20 39.8 -1.4
baz=192
WAKR Walker 28.73 324 eP P 22 20 44.3 +2.2
9.9nm,0.9s
I43A Langenfeld Bro 28.76 16 P P 22 20 39.9 -2.2
baz=201
AAM Ann Arbor 28.76 23 P P 22 20 39.5 -2.5
baz=210
G33A Ortonville 28.77 3 P P 22 20 39.8 -2.3
baz=184
G32A Webster 28.79 1 P P 22 20 40.0 -2.2
baz=182
H39A Augusta 28.84 11 P P 22 20 40.6 -2.1
baz=194
REDW Red Top Meadow 28.89 341 eP P 22 20 44.6 +1.1
37nm,1.4s
H40A Chili 28.95 12 P P 22 20 42.1 -1.6
baz=196,SNR=6.4
CMB Columbia Colle 28.95 322 eP P 22 20 45.9 +2.0
13nm,1.2s
YERR Yerington 28.96 325 eP P 22 20 46.4 +2.3
53nm,1.2s
BMN Battle Mountai 28.98 329 eP P 22 20 46.1 +1.9
12nm,1.3s
G36A St. Michael 29.02 7 P P 22 20 42.9 -1.4
baz=189
TPAW Teton Pass 29.04 341 eP P 22 20 46.1 +1.3
28nm,1.2s
LOHW Long Hollow 29.05 342 eP P 22 20 46.4 +1.5
22nm,0.9s
H41A Junction City 29.10 13 P P 22 20 43.0 -2.0
baz=198
SPMN Marine on St. 29.13 8 P P 22 20 44.2 -1.2
baz=191
SPMN Marine on St. 29.13 8 eP P 22 20 44.7 -0.6
21nm,0.8s
FXWY Fox Creek 29.20 341 eP P 22 20 47.1 +0.9
11nm,1.0s
MOOW Moose Ponds 29.21 342 eP P 22 20 47.0 +0.7
14nm,1.1s
MOOW ePcP PcP 22 23 54.5 +1.1
N54A Moraine State 29.22 29 P P 22 20 43.5 -2.7
baz=218
N54A Moraine State 29.22 29 eP P 22 20 45.0 -1.1
8.0nm,0.8s
G38A Ridgeland 29.22 10 P P 22 20 44.5 -1.6
baz=193
H42A Shiocton 29.25 15 P P 22 20 44.6 -1.8
baz=200
IMW Indian Meadow 29.41 341 eP P 22 20 49.6 +1.5
11nm,1.0s
F33A 5 Mile Ranch, 29.42 3 P P 22 20 47.0 -0.8
baz=184
G39A Holcombe 29.45 10 P P 22 20 46.7 -1.4
baz=194
PAHR Pah Rah Range 29.55 326 eP P 22 20 51.3 +2.0
45nm,1.9s
PAHR ePcP PcP 22 23 54.7 +0.5
G40A Rib Lake 29.61 12 P P 22 20 47.9 -1.7
baz=196
F37A Hinrichs Farm, 29.65 8 P P 22 20 48.2 -1.6
baz=191
F36A Milaca 29.67 7 P P 22 20 48.5 -1.6
baz=190
H17A Grant Village 29.75 342 eP P 22 20 52.4 +1.3
14nm,1.5s
G41A Antigo 29.77 13 P P 22 20 49.0 -1.9
baz=198
M54A Oil Creek Stat 29.80 29 P P 22 20 48.6 -2.7
baz=218
M54A Oil Creek Stat 29.80 29 eP P 22 20 51.0 -0.3
14nm,0.9s
YFT Old Faithful 29.88 342 eP P 22 20 53.8 +1.6
9.9nm,1.1s
AFDM Forest Hills D 29.91 323 eP P 22 20 54.9 +2.6
5.7nm,0.8s
G42A Mountain 29.97 14 P P 22 20 50.6 -2.1
baz=199
F38A Pierce - Schro 29.98 9 P P 22 20 51.0 -1.9
baz=193
RLMT Red Lodge 30.06 345 P P 22 20 53.7 -0.1
baz=159,SNR=6.2
RLMT Red Lodge 30.06 345 eP P 22 20 55.1 +1.3
41nm,1.2s
F39A Loretta 30.10 10 P P 22 20 52.3 -1.6
baz=194
YMR Madison River 30.11 342 eP P 22 20 55.2 +0.9
12nm,0.9s
G43A Wallace 30.16 15 P P 22 20 52.7 -1.7
baz=201
YHH Holmes Hill 30.19 342 eP P 22 20 56.9 +1.9
7.3nm,1.0s
F40A Park Falls 30.25 12 P P 22 20 53.3 -2.0
baz=196,SNR=11
HLID Hailey 30.31 337 P P 22 20 55.3 -0.7
baz=149
HLID Hailey 30.31 337 eP P 22 20 57.1 +1.1
6.5nm,0.9s
E36A McGregor 30.35 7 P P 22 20 54.6 -1.4
baz=190
QLMT Earthquake Lak 30.40 342 eP P 22 20 58.4 +1.6
F42A Maple Grove Fa 30.52 14 P P 22 20 56.0 -1.6
baz=200
E39A Mellen 30.61 11 P P 22 20 57.0 -1.4
baz=195
ORV Oroville 30.62 323 eP P 22 21 01.2 +2.6
9.2nm,1.0s
COWI Conover 30.62 13 eP P 22 20 57.6 -1.0
11nm,0.9s
GLMI Grayling 30.64 19 P P 22 20 57.3 -1.3
baz=207
E38A The Farm, Brul 30.67 9 P P 22 20 56.8 -2.0
baz=193
D34A Park Rapids 30.73 4 P P 22 20 56.9 -2.5
baz=186
MFID Camas Ranch 30.74 335 eP P 22 21 01.8 +2.0
19nm,1.1s
MFID ePcP PcP 22 23 58.5 +1.3
E40A Wakefield 30.80 12 P P 22 20 58.6 -1.5
baz=196,SNR=6.8
D35A Remer 30.82 6 P P 22 20 58.1 -2.1
baz=188
F43A Flat Rock, Esc 30.83 15 P P 22 20 57.8 -2.5
baz=201,SNR=6.1
MCMT McKenzie Canyo 30.85 340 eP P 22 21 02.8 +2.0
LAO LASA Array 30.90 350 P P 22 20 59.5 -1.5
baz=166
LAO LASA Array 30.90 350 eP P 22 21 01.8 +0.7
32nm,1.4s
E41A Kenton 31.00 13 P P 22 20 59.7 -2.2
baz=198
D36A Goodland 31.01 7 P P 22 21 00.3 -1.6
baz=190
D37A Cotton 31.08 8 P P 22 21 00.7 -1.8
baz=191
F44A Big Bay de Noc 31.16 16 P P 22 21 00.5 -2.7
baz=203
WVOR Wild Horse Val 31.20 330 eP P 22 21 05.2 +1.4
37nm,1.3s
E42A Champion 31.21 14 P P 22 21 01.9 -1.8
baz=200
DLMT Dillon 31.24 341 eP P 22 21 05.0 +0.8
32nm,1.1s
O03D Paynes Creek 31.29 324 P P 22 21 04.2 -0.3
baz=133
C34A RKJ Ranch, Bem 31.31 5 P P 22 21 02.3 -2.2
baz=186
N59A State Game Lan 31.32 34 P P 22 21 02.0 -2.8
baz=225
E43A Lone Tree Farm 31.38 15 P P 22 21 02.9 -2.3
baz=201,SNR=5.6
MDND Maddock 31.39 358 P P 22 21 03.9 -1.3
baz=178
C35A Jirik Farms, M 31.44 6 P P 22 21 04.1 -1.6
baz=188
F46A Macinaw City C 31.45 18 P P 22 21 03.5 -2.3
baz=206
MMNY Mt. Morris Dam 31.57 30 eP P 22 21 07.6 +0.7
12nm,1.0s
LRM Limekiln Ridge 31.61 341 eP P 22 21 08.8 +1.3
15nm,1.0s
C36A Pine Crest Far 31.62 7 P P 22 21 05.8 -1.5
baz=190
MOD Modoc Plateau 31.62 328 eP P 22 21 09.5 +1.9
18nm,0.9s
D41A Chassel 31.66 13 P P 22 21 05.9 -1.7
baz=198,SNR=6.6
C37A Embarrass 31.67 8 P P 22 21 06.2 -1.5
baz=192
C38A Sawbill Land. 31.79 9 P P 22 21 07.7 -1.1
baz=193
J08A Circle Bar Ran 31.84 332 eP P 22 21 10.9 +1.5
27nm,0.8s
E45A Wooded Hills, 31.85 17 P P 22 21 08.3 -1.1
baz=205
E44A Grand Marais A 31.89 16 P P 22 21 07.6 -2.0
baz=203
AGMN Agassiz Nation 31.89 3 P P 22 21 08.5 -1.1
baz=185
AGMN Agassiz Nation 31.89 3 eP P 22 21 08.9 -0.7
17nm,1.0s
EYMN Ely 31.98 9 P P 22 21 09.1 -1.4
baz=193
EYMN Ely 31.98 9 eP P 22 21 09.9 -0.5
7.7nm,0.9s
C39A Grand Marais 32.08 11 P P 22 21 09.9 -1.4
baz=195
B35A Bob, Littlefor 32.12 6 P P 22 21 10.4 -1.2
baz=188
HRY Holter Researc 32.22 343 eP P 22 21 13.6 +0.9
M04C Macdoel 32.34 326 P P 22 21 14.2 +0.4
baz=135
A32A Rocking H Ranc 32.48 2 P P 22 21 14.2 -0.6
baz=184
BMO Blue Mountains 32.53 335 eP P 22 21 15.7 +0.3
11nm,1.0s
A33A Warroad 32.56 4 P P 22 21 14.8 -0.6
baz=186
SADO Sadowa 32.63 26 eP P 22 21 15.1 -1.1
7.1nm,0.8s
KHMM Horse Mountain 32.77 323 eP P 22 21 20.0 +2.3
22nm,0.9s
YBH Yreka Blue Hor 32.77 325 P P 22 21 16.4 -1.2
1.1nm,0.7s,baz=144,slow=15,SNR=3.3
YBH LR LR 22 36 07.0
comp=Z,363nm,18.5s,baz=169,slow=39
I07A Izee 32.87 331 eP P 22 21 19.8 +1.3
7.2nm,0.9s
EGMT Eagleton 32.90 346 eP P 22 21 19.1 +0.5
37nm,1.3s
MSO Missoula 32.98 340 P P 22 21 19.4 +0.1
baz=152
MSO Missoula 32.98 340 eP P 22 21 19.7 +0.4
8.4nm,1.0s
PINE Pine Mountain 33.33 330 eP P 22 21 23.8 +1.2
9.3nm,1.0s
F10A Beach Ranch, E 33.42 336 eP P 22 21 24.0 +0.8
38nm,1.1s
PCRV Puerto La Cruz 33.42 96 LR LR 22 36 06.1
comp=Z,192nm,19.1s,baz=282,slow=38
J04D Umpqua Nationa 33.51 328 P P 22 21 25.0 +0.9
baz=136
G08A Pilot Rock 33.58 333 eP P 22 21 25.2 +0.6
14nm,1.0s
PLVO Plevna 33.73 28 eP P 22 21 24.6 -1.3
21nm,1.6s
ULM Lac du Bonnet 33.84 3 P P 22 21 24.0 -2.6
1.2nm,0.5s,baz=126,slow=19,SNR=2.3
ULM LR LR 22 35 26.4
comp=Z,133nm,20.5s,baz=148,slow=37
ULM Lac du Bonnet 33.84 3 eP P 22 21 26.4 -0.2
7.2nm,0.9s
JTMT Jette 33.89 341 eP P 22 21 28.6 +1.2
18nm,1.1s
E09A Wood Farm, Sta 34.23 336 eP P 22 21 30.6 +0.6
22nm,1.4s
LONY Lake Ozonia 34.58 31 P P 22 21 30.9 -2.3
baz=223
WALA Waterton Lakes 34.95 342 eP P 22 21 37.5 +1.1
62nm,1.9s
C09A Chrisman Ranch 35.34 337 eP P 22 21 41.5 +1.8
14nm,0.9s
TRQ Mont Tremblant 35.78 29 eP P 22 21 43.5 -0.1
LTY Liberty 35.86 334 eP P 22 21 45.4 +1.2
32nm,1.3s
LON Longmire 35.96 332 eP P 22 21 46.4 +1.3
13nm,0.8s
B08A Colville Reser 36.20 336 eP P 22 21 48.0 +0.9
14nm,1.4s
FFC Flin Flon 38.36 357 eP P 22 22 04.8 -0.5
19nm,0.9s
EDM Edmonton 38.58 346 eP P 22 22 07.3 +0.2
31nm,0.8s
LLLB Lillooet 39.00 336 eP P 22 22 11.6 +0.9
20nm,1.2s
FCC Fort Churchill 42.43 3 eP P 22 22 38.6 -0.2
7.5nm,0.9s
LPAZ La Paz 44.12 136 P P 22 22 54.8 +1.0
1.0nm,0.8s,baz=312,slow=8.9,SNR=3.4
LPAZ LR LR 22 40 08.4
comp=Z,251nm,18.3s,baz=284,slow=34
LPAZ La Paz 44.12 136 eP P 22 22 56.7 +2.8
4.7nm,1.0s
RPN Rapa Nui 44.53 194 LR LR 22 37 01.7
comp=Z,96nm,19.8s,baz=162,slow=30
SCHQ Schefferville 45.43 25 P P 22 23 02.3 -0.8
8.4nm,0.9s,baz=240,slow=7.7,SNR=7.7
SCHQ LR LR 22 44 51.5
comp=Z,227nm,18.4s,baz=153,slow=40
SCHQ Schefferville 45.43 25 eP P 22 23 02.4 -0.7
33nm,1.5s
YKA Yellowknife Ar 47.44 350 P P 22 23 18.0 -0.7
2.5nm,0.9s,baz=159,slow=7.4,SNR=26
YKA PcP PcP 22 24 48.5 -0.4
0.6nm,0.8s,baz=153,slow=3.6,SNR=3.1
YKA LR LR 22 44 39.5
comp=Z,35nm,18.2s,baz=180,slow=38
YKW3 Yellowknife Ar 47.50 350 eP P 22 23 18.5 -0.7
7.8nm,0.8s
DLBC Dease Lake 48.05 338 eP P 22 23 25.9 +2.2
14nm,0.9s
TAOE Nuku Hiva Isla 48.31 242 eS S 22 30 25.0 -0.8
40nm,24.0s
TAOE eLR LR 22 36 56.3
192nm,23.5s
TAOE Nuku Hiva Isla 48.31 242 eT T 23 14 42.7
65nm,0.2s
WHY Whitehorse 51.37 338 eP P 22 23 51.3 +2.3
14nm,1.3s
HYT Haines Junctio 52.44 337 eP P 22 23 58.3 +1.4
41nm,1.4s
RKT Rikitea 53.10 223 eT T 23 20 50.6
40nm,0.3s
EGAK Eagle 56.26 340 eP P 22 24 24.7 +0.2
EGAK esP pP 22 24 30.9 +0.6
INK Inuvik 56.48 345 P P 22 24 24.5 -1.4
4.4nm,0.9s,baz=131,slow=7.1,SNR=15
INK LR LR 22 49 23.5
comp=Z,86nm,18.7s,baz=159,slow=37
INK Inuvik 56.48 345 eP P 22 24 26.1 +0.2
10.0nm,0.8s
DOT Dot Lake 56.60 338 eP P 22 24 28.6 +1.6
31nm,1.1s
PAX Paxson 56.75 336 eP P 22 24 29.3 +1.2
9.1nm,1.0s
SCRK Sand Creek 56.76 338 eP P 22 24 29.5 +1.2
9.3nm,1.0s
RIDG Independ'e Rid 56.94 337 eP P 22 24 30.7 +1.3
16nm,1.0s
PMOR Pomariorio Ree 57.95 240 eT T 23 26 55.7
7.5nm,0.2s
HDA Harding Lake 58.08 337 eP P 22 24 38.5 +1.1
7.7nm,0.8s
SUA Susitna One 58.15 333 eP P 22 24 39.3 +1.2
9.8nm,0.8s
IL1 Eielson Array 58.26 338 eP P 22 24 38.2 -0.4
ILAR Eielson Array 58.26 338 P P 22 24 38.0 -0.6
4.9nm,1.2s,baz=138,slow=4.7,SNR=21
ILAR LR LR 22 51 01.5
comp=Z,244nm,18.3s,baz=130,slow=37
ILB Eielson Array 58.26 338 eP P 22 24 39.5 +1.0
RND Reindeer 58.29 336 eP P 22 24 40.1 +1.2
39nm,1.5s
CPUP Villa Florida 58.30 136 P P 22 24 39.1 -0.3
2.0nm,0.8s,baz=350,slow=6.1,SNR=2.6
CPUP LR LR 22 48 50.5
comp=Z,118nm,18.9s,baz=320,slow=35
RES Resolute Bay 58.34 1 P P 22 24 37.7 -1.3
0.8nm,0.9s,baz=191,slow=4.9,SNR=6.2
RES Resolute Bay 58.34 1 eP P 22 24 38.6 -0.3
14nm,1.7s
MCK McKinley 58.48 336 eP P 22 24 41.5 +1.2
6.6nm,0.8s
TRF Thorofare Moun 58.88 336 eP P 22 24 43.8 +0.6
18nm,0.9s
KTH Kantishna Hill 59.18 336 eP P 22 24 46.0 +0.8
24nm,1.4s
SFJD Kangerlussuaq 59.25 20 LR LR 22 54 53.7
comp=Z,145nm,18.2s,baz=230,slow=41
BPAW Bear Paw Mtn. 59.46 336 eP P 22 24 47.7 +0.7
9.7nm,1.1s
CAST Castle Rocks 59.58 335 eP P 22 24 47.9 0.0
14nm,0.9s
MLY Manley 59.80 337 eP P 22 24 50.0 +0.6
16nm,1.1s
SVW2 Sparrevohn 60.13 332 eP P 22 24 52.1 +0.5
9.1nm,1.0s
PPT Papeete 60.65 238 LR LR 22 44 32.5
comp=Z,117nm,21.5s,baz=336,slow=30
PPT2 Papeete2 60.66 238 eLR LR 22 42 38.3
101nm,23.8s
COLD Coldfoot 60.69 339 eP P 22 24 56.6 +1.2
5.6nm,0.9s
TOLK Toolik Lake Re 61.22 341 P P 22 24 59.5 +0.5
baz=122
PLCA Paso Flores 62.45 156 P P 22 25 07.7 +0.1
5.0nm,1.0s,baz=357,slow=7.6,SNR=6.9
PLCA LR LR 22 47 31.8
comp=Z,205nm,18.0s,baz=344,slow=32
PLCA Paso Flores 62.45 156 eP P 22 25 09.1 +1.5
15nm,1.2s
BORG Borgarnes 69.80 26 LR LR 22 58 31.0
comp=Z,36nm,19.0s,baz=127,slow=38
SPITS Spitsbergen Ar 78.97 11 LR LR 23 02 55.3
comp=Z,112nm,20.9s,baz=0.0,slow=37
ESDC Sonseca Array 83.07 51 P P 22 27 08.9 -1.3
0.5nm,0.7s,baz=262,slow=8.9,SNR=4.2
ES19 SONSECA Array 83.11 51 eP P 22 27 09.8 -0.7
SEY Seymchan 83.97 334 P P 22 27 14.9 +0.5
2.5nm,0.8s,baz=124,slow=5.3,SNR=9.7
NOA NORSAR Array B 84.95 27 P P 22 27 19.9 +0.5
3.9nm,1.2s,baz=298,slow=4.4,SNR=3.0
NOA LR LR 23 05 09.7
comp=Z,320nm,21.5s,baz=350,slow=36
PETK Petropavlovsk- 85.13 324 P P 22 27 21.6 +1.2
2.0nm,0.7s,baz=60,slow=8.7,SNR=2.3

PETK				LR	LR	23 05 25.1		
	comp=Z,23nm,18.5s,baz=59,slow=36							
ARCES	**ARCESS Array B**	**85.75**	**17**	P	**P**	**22 27 22.7**	**-0.5**	
	3.0nm,0.8s,baz=319,slow=9.5,SNR=4.1							
HFS	**Hagfors**	**86.45**	**28**	LR	LR	23 06 58.5		
	comp=Z,38nm,20.6s,baz=276,slow=36							
TIXI	**Tiksi**	**86.58**	**347**	*e*P	**P**	**22 27 26.9**	**-0.3**	
	15nm,1.4s							
KOWA	**Kowa**	**90.09**	**75**	LR	LR	23 03 28.4		
	comp=Z,48nm,21.1s,baz=227,slow=32							
FINES	**FINESS Array B**	**90.88**	**23**	P	**P**	**22 27 48.1**	**+0.4**	
	1.6nm,0.9s,baz=304,slow=3.9,SNR=2.3							
FINES				LR	LR	23 09 35.7		
	comp=Z,90nm,21.1s,baz=318,slow=36							
DBIC	**Dimbokro**	**91.54**	**83**	LR	LR	23 09 21.8		
	comp=Z,46nm,18.8s,baz=262,slow=36							
GERES	**GERESS Array B**	**91.62**	**38**	LR	LR	23 11 58.5		
	comp=Z,95nm,18.1s,baz=288,slow=38							
TORD	**Torodi Ar. Bea**	**95.79**	**75**	LR	LR	23 11 24.8		
	comp=Z,56nm,18.1s,baz=290,slow=36							
HHC	**Hu-ho-hao-te**	**116.61**	**335**	*e*PKP	**PKPdf**	**22 33 25.3**	**-3.6**	
HHC				AMB	AMB			
	comp=Z,90nm,4.9s							
MKAR	**Makanchi Array**	**117.11**	**359**	PKP	**PKPdf**	**22 33 28.8**	**-0.9**	
	0.3nm,0.8s,baz=205,slow=2.6,SNR=3.8							
WMQ	**Urumqi**	**119.82**	**355**	*e*PKP	**PKPdf**	**22 33 36.3**	**+1.3**	
WMQ				LR	LR			
	comp=N,160nm,30.5s							
WMQ				LR	LR			
	comp=Z,110nm,23.5s							
NJ2	**Nanjing**	**120.03**	**324**	*e*PKP	**PKPdf**	**22 33 35.3**	**-0.3**	
LZH	**Lanzhou**	**123.72**	**338**	*e*PKP	**PKPdf**	**22 33 38.4**	**-4.4**	
LZH				sPKP		22 33 52.8		
LZH				LR	LR			
	comp=N,220nm,18.5s							
LZH				LR	LR			
	comp=E,290nm,18.0s							
LZH				LR	LR			
	comp=Z,400nm,20.0s							
ENH	**Enshi**	**126.38**	**330**	*e*PKPdf	**PKPdf**	**22 33 47.9**	**-0.1**	
BOSA	**Boshof**	**126.98**	**114**	PKP	**PKPdf**	**22 33 48.0**	**-1.2**	
	4.0nm,1.1s,baz=333,slow=4.2,SNR=3.7							
CD2	**Chengdu**	**128.36**	**336**	PKP	**PKPdf**	**22 33 52.0**	**+0.3**	
WRA	**Warramunga Arr**	**129.91**	**258**	PKP	**PKPdf**	**22 33 53.8**	**-1.0**	
	1.5nm,0.9s,baz=101,slow=2.2,SNR=7.3							
AS01	**Alice Springs**	**130.49**	**253**	*e*PKPdf	**PKPdf**	**22 33 55.2**	**-0.6**	
ASAR	**Alice Springs**	**130.53**	**253**	PKP	**PKPdf**	**22 33 56.0**	**+0.1**	
	1.1nm,0.9s,baz=79,slow=2.1,SNR=6.3							
CMAR	**Chiang Mai Arr**	**141.38**	**333**	PKP	**PKPdf**	**22 34 16.8**	**+0.6**	
	1.2nm,0.4s,baz=320,slow=1.6,SNR=8.8							
HYB	**Hyderabad**	**146.28**	**5**	*i* PKP	**PKPdf**	**22 34 25.0**	**+0.2**	
KSM	**Kuching**	**146.54**	**299**	*e*PKPdf	**PKPbc**	**22 34 26.3**	**-0.5**	
OPO	**Ambohidratompo**	**147.16**	**99**	PKPbc	**PKPab**	**22 34 29.1**	**-1.1**	
	3.6nm,0.8s,baz=236,slow=3.6,SNR=2.2							

MEX 22 22:21:12.6±0.8, 16°.04N×98°.59W, h18km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**52**	*e*P	Pg	22 21 22.1	-1.9
PNIG				*e*S	Sg	22 21 28.9	-2.7
ACX	**Acapulco**	**1.47**	**304**	*e*P	Pn	22 21 33.1	-5.2
ACX				*i* S	Sn	22 21 51.5	-5.6
TLIG	**Tlapa**	**1.52**	**1**	*e*P	Pn	22 21 36.2	-2.8
TLIG				*e*S	Sn	22 21 53.6	-4.8
CAIG	**El Cayaco**	**1.89**	**302**	*e*P	Pn	22 21 40.6	-3.5
CAIG				*i* S	Sn	22 22 03.2	-4.4
VHO	**Vista Hermosa**	**2.06**	**60**	*e*P	Pn	22 21 44.0	-2.5
VHO				*i* S	Sn	22 22 08.2	-3.7
HUIG	**Huatulco**	**2.41**	**96**	*i* P	Pn	22 21 48.0	-3.2
HUIG				*e*S	Sn	22 22 16.1	-4.0

MEX 22 22:31:49.4±0.5, 16°.31N×98°.29W, h6km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.18**	**64**	*i* P	Pg	22 31 52.5	-0.5
PNIG				*e*S	Sg	22 31 55.6	+0.2
TLIG	**Tlapa**	**1.27**	**348**	*e*P	Pg	22 32 10.2	-3.6
TLIG				*e*S	Sg	22 32 26.1	-4.1
ACX	**Acapulco**	**1.60**	**290**	*i* P	Pn	22 32 11.1	-7.2
ACX				*e*S	Sn	22 32 32.2	-7.0
VHO	**Vista Hermosa**	**1.68**	**63**	*e*P	Pn	22 32 15.8	-3.6
VHO				*e*S	Sn	22 32 36.8	-4.6
CAIG	**El Cayaco**	**2.03**	**291**	*e*P	Pn	22 32 21.2	-2.9
CAIG				*i* S	Sn	22 32 45.2	-4.6
HUIG	**Huatulco**	**2.17**	**104**	*e*P	Pn	22 32 22.9	-3.2
PLIG	**Platanillo**	**2.37**	**331**	*e*P	Pn	22 32 25.4	-3.5
PLIG				*e*S	Sn	22 32 54.0	-4.4

*NIED **22** 22:36:00, 40°.90N×145°.20E, h5km, Mw3.7 Best double couple: M₀3.44000×10¹⁴ NP1:φ₀≡241.00000°, δ37.00000°, λ-95.00000°. NP2:φ₀≡68.00000°, δ53.00000°, λ-86.00000°.*
*ISCJB **22** 22:36:44.7±0.5, 40°.92N±0°.03×144°.98E±0°.05, h10km, mb3.7/15, MS3.5/2, Error ellipse: s-maj=5.1km s-min=4.5km az=22.9*
*IDC **22** 22:36:44.4±0.9, 40°.82N×145°.11E, h0km, mb3.7/15, mb1 3.9/17, mb1mx3.7/62, mbtmp3.7/17, ML3.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.5/56, Error ellipse: s-maj=22.4km s-min=18.9km az=149.0*
*JMA **22** 22:36:46.5±0.1, 40°.89N×145°.15E, h67km±2km, M3.5*
ISC 22 22:36:46.0±0.7, 40°.96N±0°.05×144°.97E±0°.05, h10km, n42, σ1°53/52, mb3.7/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.73**	**308**	P	**Pb**	**22 37 17.1**	**-0.7**
JEM				*e*S	**Sb**	**22 37 38.5**	**-1.0**
JCH	**Churui**	**2.05**	**325**	P	**Pb**	**22 37 21.4**	**-1.9**
JCH				S	**Sn**	**22 37 45.9**	**-0.2**
JAK	**Akkeshi**	**2.05**	**354**	P	**Pb**	**22 37 20.7**	**-2.6**
JAK				*e*S	**Sn**	**22 37 46.2**	**0.0**
JOB	**Onbets**	**2.12**	**337**	P	**Pb**	**22 37 22.4**	**-2.2**
JOB				*e*S	**Sn**	**22 37 48.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**2.12**	**309**	P	**Pb**	**22 37 23.5**	**-1.1**
JNBK				*e*S	**Sb**	**22 37 49.9**	**-1.1**
NEM2	**Nemuro 2**	**2.48**	**13**	P	**Pn**	**22 37 26.0**	**-0.4**
NEM2				*e*S	**Sn**	**22 37 54.1**	**-2.6**
JAR	**Ashorobuto**	**2.50**	**340**	P	**Pn**	**22 37 27.0**	**+0.2**
JAR				*e*S	**Sn**	**22 37 56.8**	**-0.6**
JNK	**Nakash**	**2.63**	**356**	P	**Pn**	**22 37 28.3**	**-0.3**
JNK				*e*S	**Sn**	**22 37 58.2**	**-2.4**
JBT2	**Biratori 2**	**2.67**	**314**	P	**Pb**	**22 37 30.2**	**-3.6**
JBT2				*e*S	**Sb**	**22 38 03.3**	**-3.3**
JANG	**Nango**	**2.69**	**259**	P	**Pn**	**22 37 29.3**	**-0.1**
JANG				*e*S	**Sn**	**22 38 00.1**	**-1.9**
JFR	**Furan**	**2.83**	**322**	P	**Pn**	**22 37 32.1**	**+0.8**
JFR				*e*S	**Sn**	**22 38 04.5**	**-0.9**
JRA	**Rausu**	**2.98**	**2**	P	**Pn**	**22 37 33.0**	**-0.4**
JRA				*e*S	**Sn**	**22 38 06.4**	**-2.8**
JOT	**Ohata**	**2.99**	**279**	P	**Pn**	**22 37 34.4**	**+0.9**
JOT				S	**Sn**	**22 38 07.8**	**-1.6**
JKB	**Kayabe**	**3.10**	**289**	P	**Pn**	**22 37 36.2**	**+1.2**
JKB				*e*S	**Sn**	**22 38 11.1**	**-1.0**
JTKR	**Abashiri--Toko**	**3.11**	**346**	P	**Pn**	**22 37 36.2**	**+1.0**
JTKR				*e*S	**Sn**	**22 38 12.7**	**+0.3**
JOM	**Ohasama**	**3.18**	**243**	P	**Pn**	**22 37 36.0**	**-0.1**
JOM				*e*S	**Sn**	**22 38 11.7**	**-2.4**
JEW	**Eniwo**	**3.23**	**307**	*e*S	**Sn**	**22 38 15.7**	**+0.3**
ASAJ	**Asahikawa**	**3.61**	**332**	Pn	**Pn**	**22 37 44.0**	**+2.0**
	2.0nm,0.3s,baz=178,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**22 38 25.8**	**+1.1**
	1.7nm,0.3s,baz=238,slow=11,SNR=6.2						
MJAR	**Matsushiro Arr**	**6.88**	**232**	Pn	**Pn**	**22 38 25.3**	**-1.6**
	0.5nm,0.3s,baz=38,slow=12,SNR=4.3						
SEY	**Seymchan**	**22.45**	**9**	P	**P**	**22 41 45.2**	**+0.3**
	0.9nm,0.3s,baz=180,slow=3.7,SNR=5.1						
SONM	**Songino Array**	**28.19**	**297**	P	**P**	**22 42 38.2**	**-0.5**
	0.2nm,0.4s,baz=83,slow=6.2,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**28.24**	**132**	T	T	23 12 08.9	
	baz=324,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	23 12 06.0	
	baz=324,slow=75,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**28.26**	**132**	T	T	23 12 11.3	
	baz=324,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.11**	**134**	T	T	23 13 16.2	
	baz=325,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**29.12**	**134**	T	T	23 13 14.1	
	baz=325,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**29.13**	**134**	T	T	23 13 14.3	
	baz=325,slow=76,SNR=24						
ZALV	**Zalesovo Beam**	**41.45**	**309**	P	**P**	**22 44 32.5**	**-0.2**
	0.4nm,0.5s,baz=88,slow=7.2,SNR=3.2						
ZALV				PcP	**PcP**	**22 46 32.5**	**+2.2**
	0.5nm,0.4s,baz=123,slow=5.3,SNR=3.1						
MKAR	**Makanchi Array**	**44.50**	**299**	P	**P**	**22 44 58.9**	**+1.4**
	0.4nm,0.6s,baz=85,slow=9.6,SNR=6.5						
ILAR	**Eielson Array**	**44.70**	**34**	P	**P**	**22 44 58.1**	**-0.7**
	0.8nm,0.9s,baz=256,slow=5.8,SNR=6.2						
KURBB	**Kurchatov Arra**	**45.88**	**306**	P	**P**	**22 45 10.4**	**+2.0**
	1.5nm,0.7s,baz=79,slow=8.4,SNR=11						
INK	**Inuvik**	**49.63**	**29**	P	**P**	**22 45 37.8**	**+0.6**
	0.5nm,0.3s,baz=343,slow=11,SNR=3.6						
BVAR	**Borovoye Array**	**50.06**	**311**	P	**P**	**22 45 43.1**	**+2.4**
	0.6nm,0.6s,baz=70,slow=8.4,SNR=3.8						
HNR	**Honiara**	**52.01**	**161**	LR	LR	23 06 47.5	
	comp=Z,30nm,19.4s,baz=126,slow=35						
YKA	**Yellowknife Ar**	**59.02**	**32**	P	**P**	**22 46 45.9**	**+0.3**
	0.2nm,0.7s,baz=298,slow=6.2,SNR=3.5						
WRA	**Warramunga Arr**	**61.39**	**191**	P	**P**	**22 47 01.2**	**-1.1**
	0.9nm,0.8s,baz=8.7,slow=7.3,SNR=3.9						
FINES	**FINESS Array B**	**66.62**	**333**	P	**P**	**22 47 37.1**	**+0.9**
	3.2nm,1.1s,baz=28,slow=8.6,SNR=5.3						
KBZ	**Khabaz**	**70.43**	**311**	P	**P**	**22 48 01.6**	**+1.3**
	1.2nm,0.7s,baz=52,slow=4.1,SNR=4.5						
GNI	**Garni**	**71.56**	**307**	LR	LR	23 22 49.3	
	comp=Z,30nm,18.7s,baz=315,slow=38						
HFS	**Hagfors**	**71.63**	**337**	P	**P**	**22 48 08.9**	**+1.6**
	1.8nm,0.8s,baz=15,slow=12,SNR=2.8						
AKASG	**Malin Array Be**	**72.86**	**323**	P	**P**	**22 48 15.5**	**+0.7**
	0.5nm,0.4s,baz=50,slow=6.5,SNR=4.2						
TXAR	**Lajitas Array**	**85.56**	**55**	P	**P**	**22 49 24.7**	**-0.1**
	0.2nm,0.6s,baz=316,slow=5.0,SNR=2.9						

KRSC 22 23:18:31.7±0.6, 54°.82N×162°.37E, h41km±17km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**1.23**	**285**	*e*P	Pn	23 18 53.8	+1.3
KZV				*e*S	Sn	23 19 08.9	+0.9
TUMR	**Tumrok**	**1.36**	**291**	*e*P	Pn	23 18 56.0	+1.7
KBTR	**Krutoberegovo**	**1.42**	**10**	*e*P	Pn	23 18 57.0	+2.1
KBTR				*e*S	Sn	23 19 14.8	+2.5
KMNR	**Kamenistaya**	**1.54**	**309**	*e*P	Pn	23 18 58.6	+1.9
KMNR				*e*S	Sn	23 19 17.0	+1.5
BZMR	**Bezymyannaya**	**1.55**	**317**	*e*P	Pn	23 18 57.7	+0.8
BZWR	**Bezymyannyi-We**	**1.57**	**318**	*e*P	Pn	23 18 59.0	+1.8
KLY	**Klyuchi**	**1.79**	**328**	*e*P	Pn	23 19 00.9	+0.9
KLY				*e*S	Sn	23 19 22.0	+0.6
SMKR	**Semkarok**	**1.84**	**344**	*e*P	Pn	23 19 03.1	+2.3
SMKR				*e*S	Sn	23 19 25.7	+2.8
BDR	**Baidarnaya**	**1.87**	**340**	*e*P	Pn	23 19 03.6	+2.3
KII	**Karymskiy**	**1.88**	**246**	*e*P	Pn	23 19 03.7	+2.4
KOZ	**Kozyrevsk**	**1.89**	**312**	*e*P	Pn	23 19 03.4	+2.0
KOZ				*e*S	Sn	23 19 26.2	+2.2
SRKR	**Sorokina**	**1.96**	**340**	*e*P	Pn	23 19 04.8	+2.3
BKI	**Bering**	**2.11**	**78**	*e*S	Sn	23 19 31.5	+2.1
SPN	**Mys Shipunski**	**2.21**	**220**	*e*P	Pn	23 19 07.5	+1.7
SPN				*e*S	Sn	23 19 32.3	+0.4
ESO	**Esso**	**2.37**	**299**	*e*P	Pn	23 19 11.0	+3.0
ESO				*e*S	Sn	23 19 39.1	+3.3
NLC	**Nalytchevo**	**2.43**	**228**	*e*P	Pn	23 19 11.4	+2.6
NLC				*e*S	Sn	23 19 39.9	+2.6
SDLR	**Sedlovina**	**2.57**	**234**	*e*P	Pn	23 19 14.4	+3.5
SMAR	**Somma**	**2.62**	**235**	*e*P	Pn	23 19 15.4	+3.8
KRX	**Arik**	**2.63**	**238**	*e*P	Pn	23 19 15.0	+3.2
UGLR	**Uglovaya**	**2.64**	**234**	*e*P	Pn	23 19 15.6	+3.8
AVH	**Avacha**	**2.65**	**235**	*e*P	Pn	23 19 15.5	+3.6
DALK	**Dalny**	**2.79**	**231**	*e*P	Pn	23 19 17.0	+3.3
DALK				*e*S	Sn	23 19 49.5	+3.4
GNL	**Ganaly**	**2.83**	**248**	*e*P	Pn	23 19 17.9	+3.5
PET	**Petropavlovsk**	**2.84**	**232**	*e*P	Pn	23 19 18.4	+4.0
PET				*e*S	Sn	23 19 51.1	+3.8
KRMR	**Karymshinskiy**	**3.21**	**233**	*e*P	Pn	23 19 23.6	+4.1
KRMR				*e*S	Sn	23 20 00.8	+4.4
RUS	**Russkaya**	**3.31**	**225**	*e*P	Pn	23 19 24.8	+3.9
KDTR	**Khodutka, Kamc**	**3.96**	**222**	*e*S	Sn	23 20 19.2	+4.2

*IDC **22** 23:25:33.2±3.0, 3°.10S×139°.00E, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.7/43, mbtmp4.0/6, ML4.4/1, Error ellipse: s-maj=113.6km s-min=23.0km az=92.0*
*ISCJB **22** 23:25:37.6±0.7, 3°.17S±0°.08×138°.6E±0°.2, h35km, mb3.9/5, Error ellipse: s-maj=23.2km s-min=11.2km az=5.3*
*NEIC **22** 23:25:39.5±0.6, 3°.16S×138°.67E, h35km, mb4.0/3, Error ellipse: s-maj=18.9km s-min=9.3km az=96.0*
ISC 22 23:25:39.3±0.9, 3°.2S±0°.1×138°.7E±0°.2, h35km, n12, σ0°81/12, mb4.0/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**17.21**	**194**	*e*Pn	**Pn**	**23 29 37.0**	**-0.2**
	8.5nm,0.7s						
WRA	**Warramunga Arr**	**17.22**	**194**	P	**Pn**	**23 29 36.9**	**-0.4**
	1.2nm,0.3s,baz=18,slow=12,SNR=29						
WRA				S	Sn	23 32 33.0	-15
	0.2nm,0.3s,baz=18,slow=22,SNR=3.3						
FITZ	**Fitzroy Crossi**	**19.58**	**220**	P	**P**	**23 30 04.4**	**-0.2**
	baz=30,slow=14						
FITZ				S	S	23 33 30.2	-14
	baz=125,slow=12						
ASAR	**Alice Springs**	**20.91**	**192**	P	**P**	**23 30 19.4**	**+0.4**
	5.2nm,0.5s,baz=19,slow=10,SNR=50						
MAJO	**Matsushiro**	**39.48**	**359**	P	**P**	**23 33 06.7**	**+0.1**
	1.0nm,0.3s						
COCO	**West Island**	**42.35**	**255**	P	**P**	**23 33 30.7**	**+0.2**
RAO	**Raoul Island**	**48.68**	**127**	P	**P**	**23 34 20.6**	**+0.1**
MKAR	**Makanchi Array**	**70.10**	**323**	P	**P**	**23 36 50.1**	**+2.0**
	0.6nm,0.6s,baz=119,slow=7.6,SNR=8.8						
KURK	**Kurchatov**	**74.04**	**325**	P	**P**	**23 37 10.7**	**-0.8**
KURBB	**Kurchatov Arra**	**74.05**	**325**	P	**P**	**23 37 10.7**	**-0.9**
	0.7nm,0.9s,baz=104,slow=5.1,SNR=4.3						
BVAR	**Borovoye Array**	**79.64**	**325**	P	**P**	**23 37 43.0**	**-0.1**
	1.2nm,0.7s,baz=77,slow=3.1,SNR=7.7						
MCK	**McKinley**	**85.10**	**25**	P	**P**	**23 38 11.3**	**-0.2**
	0.9nm,0.5s						

*IDC **22** 23:47:00.9±0.8, 16°.67N×98°.20W, h0km, mb4.2/17, mb1 4.3/21, mb1mx4.2/54, mbtmp4.1/21, ML4.1/4, MS3.7/27, Ms1 3.7/27, ms1mx3.6/51, Error ellipse: s-maj=22.8km s-min=13.4km az=46.0*
*ISCJB **22** 23:47:02.4±0.4, 16°.63N±0°.04×97°.88W±0°.02, h20km, mb4.6/140, MS3.7/24, Error ellipse: s-maj=6.4km s-min=3.3km az=174.9*
*MEX **22** 23:47:02.8±0.6, 16°.26N×98°.06W, h19km±46km, MD4.8*
*NEIC **22** 23:47:05.4±0.0, 16°.48N×98°.29W, h25km, mb4.7/152, MD4.8(MEX), After MEX.*
NEIC Felt at Amatitlan and Puerto Escondido.
ISC 22 23:47:04.5±0.6, 16°.65N±0°.06×98°.16W±0°.05, h20km, n618, σ1°60/584, mb4.8/140, MS3.6/24, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.64**	**278**	*e*P	Pn	23 47 24.0	-8.2
ACX				*i* S	**Sn**	**23 47 45.6**	**-7.2**
PPM	**Popocatepetl**	**2.44**	**350**	*e*P	**Pn**	**23 47 44.4**	**+0.6**
PPM				*i* S	**Sb**	**23 48 19.0**	**+1.0**
PPM	**Popocatepetl**	**2.44**	**350**	*e*P	**Pn**	**23 47 44.4**	**+0.6**
PPM				*e*S	**Sn**	**23 48 09.8**	**-3.5**
MAVM	**Malinalco, Edo**	**2.62**	**331**	*e*P	**Pn**	**23 47 47.0**	**+1.1**
MAVM				*i* S	**Sb**	**23 48 22.0**	**-0.8**
UNM	**Universidad Na**	**2.83**	**340**	*e*Pn	**Pn**	**23 47 50.7**	**+1.8**
CMIG	**Matias Romero**	**3.17**	**82**	Pn	**Pn**	**23 47 54.7**	**+1.5**
	38nm,0.3s,baz=259,slow=11,SNR=321						
CMIG				Pg	**Pb**	**23 48 03.7**	**+3.6**
	131nm,0.3s,baz=269,slow=16,SNR=74						
CMIG				Sn	**Sb**	**23 48 34.1**	**-4.2**
	156nm,0.3s,baz=220,slow=7.4,SNR=5.3						
CMIG				Lg		23 48 49.2	
	507nm,0.3s,baz=310,slow=15,SNR=13						
MOIG	**Morelia**	**4.17**	**317**	*e*Pn	**Pn**	**23 48 10.1**	**+2.9**
JRQG	**Juriquilla Cam**	**4.58**	**332**	*e*Pn	**Pn**	**23 48 15.5**	**+2.6**
SFJM	**Santa Fe**	**6.00**	**310**	*e*P	Pn	23 48 26.5	-5.8
SFJM				*i* S	**Sn**	**23 49 37.4**	**-3.2**
CJM	**Chamela**	**7.13**	**294**	*e*P	**Pn**	**23 48 44.9**	**-2.8**
CJM				*e*S	**Sn**	**23 50 11.3**	**+3.0**
CJM	**Chamela**	**7.13**	**294**	*e*P	**Pn**	**23 48 45.0**	**-2.8**

ZAIG	**Zacatecas**	**7.37**	**326**	*e*Pn	**Pn**	**23 48 53.8**	**+2.6**	
833A	**Chaparral WMA,**	**11.68**	**355**	P	**Pn**	**23 49 49.3**	**-0.7**	
	baz=175							
H06E1	**SOCORRO T-PHAS**	**12.35**	**282**	T	T	00 02 08.7		
	SNR=28							
H06S1	**SOCORRO T**	**12.37**	**282**	T	T	00 02 13.5		
	SNR=8.2							
SLBS	**Sierra La Lagu**	**13.09**	**304**	*e*Pn	**Pn**	**23 50 09.6**	**+0.1**	
LPIG	**La Paz**	**13.58**	**305**	LR	LR	23 54 31.5		
	comp=Z,609nm,18.2s,baz=69,slow=33							
TXAR	**Lajitas Array**	**13.60**	**339**	Pn	**Pn**	**23 50 16.4**	**0.0**	
	0.5nm,0.3s,baz=144,slow=18,SNR=13							
TXAR				Lg	Lg	23 54 14.1		
	0.0nm,0.3s,baz=165,slow=32,SNR=3.8							
TXAR				LR	LR	23 56 04.6		
	comp=Z,713nm,18.4s,baz=0.0,slow=40							
TX31	**Lajitas Ar. Si**	**13.60**	**339**	*e*Pn	**Pn**	**23 50 17.6**	**+1.1**	
JCT	**Junction City**	**13.85**	**354**	P	**Pn**	**23 50 18.9**	**-0.8**	
	baz=174							
JCT	**Junction City**	**13.85**	**354**	*e*Pn	**Pn**	**23 50 20.2**	**+0.5**	
435B	**Jarrell**	**14.08**	**2**	P	**Pn**	**23 50 24.1**	**+1.3**	
	baz=183							
JTS	**JuntasAbangare**	**14.31**	**115**	Pn	**Pn**	**23 50 25.3**	**-0.8**	
	0.5nm,0.3s,baz=249,slow=18,SNR=2.1							
JTS	**JuntasAbangare**	**14.31**	**115**	*e*Pn	**Pn**	**23 50 26.7**	**+0.6**	
WHTX	**Lake Whitney,**	**15.29**	**2**	P	**Pn**	**23 50 40.3**	**+1.1**	
	baz=183							
WHTX	**Lake Whitney,**	**15.29**	**2**	*e*Pn	**Pn**	**23 50 38.3**	**-0.9**	
	121nm,1.1s							
341A	**Kurthwood**	**15.31**	**16**	P	**Pn**	**23 50 39.3**	**-0.2**	
	baz=199							
NATX	**Nacogdoches**	**15.38**	**11**	P	**Pn**	**23 50 40.9**	**+0.6**	
	baz=193							
NATX	**Nacogdoches**	**15.38**	**11**	*e*Pn	**Pn**	**23 50 39.7**	**-0.6**	
	142nm,1.4s							
444A	**Pine Grove**	**15.55**	**24**	P	**Pn**	**23 50 42.3**	**-0.4**	
	baz=208							
342A	**Flagon Creek P**	**15.59**	**19**	P	**P**	**23 50 44.5**	**-2.8**	
	baz=201							
445A	**Amite**	**15.73**	**26**	P	**Pn**	**23 50 45.4**	**+0.4**	
	baz=209							
240A	**Hunter Patters**	**15.83**	**14**	P	**P**	**23 50 47.5**	**-2.4**	
	baz=196							
ABTX	**Abilene, Hawle**	**15.96**	**355**	P	**P**	**23 50 49.3**	**-2.1**	
	baz=175,SNR=14							
ABTX	**Abilene, Hawle**	**15.96**	**355**	Pn	**Pn**	**23 50 46.8**	**-1.2**	
	79nm,0.8s							
241A	**Mo Tay, Goldon**	**16.03**	**16**	P	**Pn**	**23 50 49.2**	**+0.4**	
	baz=199							
344A	**Westbrook Farm**	**16.21**	**23**	P	**Pn**	**23 50 51.3**	**+0.2**	
	baz=206							
242A	**Grayson**	**16.29**	**18**	P	**P**	**23 50 52.7**	**-2.3**	
	baz=201							
243A	**Waterproof**	**16.33**	**21**	P	**Pn**	**23 50 52.0**	**-0.7**	
	baz=203							
MNTX	**Cornudas Mount**	**16.36**	**338**	P	**P**	**23 50 55.2**	**-0.6**	
	baz=155,SNR=18							
MNTX	**Cornudas Mount**	**16.36**	**338**	*e*Pn	**Pn**	**23 50 53.5**	**+0.5**	
	25nm,1.3s							
345A	**Thompson Farm,**	**16.36**	**25**	P	**Pn**	**23 50 52.5**	**-0.6**	
	baz=209							
140A	**Cam and Jess,**	**16.45**	**14**	P	**P**	**23 50 55.0**	**-1.8**	
	baz=196							
GDL2	**Guadalupe Moun**	**16.47**	**341**	Pn	**P**	**23 50 56.5**	**-0.7**	
447A	**Lucedale**	**16.54**	**30**	P	**Pn**	**23 50 54.7**	**-0.6**	
	baz=214							
141A	**Papa Simpson,**	**16.58**	**16**	P	**P**	**23 50 57.3**	**-0.9**	
	baz=198							
244A	**Avery, Jackson**	**16.76**	**23**	P	**Pn**	**23 50 57.4**	**-0.7**	
	baz=206							
142A	**Monroe**	**16.80**	**18**	P	**P**	**23 50 59.4**	**-1.3**	
	baz=201							
VBMS	**Vicksburg**	**16.98**	**23**	P	**Pn**	**23 51 00.3**	**-0.6**	
	baz=206							
245A	**Little AP, Sta**	**17.05**	**25**	P	**Pn**	**23 51 01.3**	**-0.5**	
	baz=208							
Z40A	**Long Farm, Mag**	**17.09**	**14**	P	**P**	**23 51 03.2**	**-0.6**	

LRAL **Lakeview Retre** 19.18 30 *e*P Pn 23 51 27.2 -0.6
24nm,0.9s
LRAL *e*Sn Sn 23 54 58.7 -3.6
W41B Gary Mavity, V 19.19 15 P Pn 23 51 27.3 -0.7
baz=198
Z48A Northport 19.21 28 P Pn 23 51 26.8 -1.4
baz=212,SNR=17
251A Midway 19.24 35 P Pn 23 51 27.1 -1.5
baz=220
WHAR Wooly Hollow 19.29 15 *e*P Pn 23 51 29.1 -0.1
29nm,1.0s
TUL1 Leonard 19.30 6 P P 23 51 27.5 -0.7
baz=187
TUL1 Leonard 19.30 6 *e*P P 23 51 27.5 -0.7
107nm,1.3s
150A Eclectic 19.32 32 P P 23 51 27.6 -0.8
baz=217,SNR=11
TUC Tucson 19.34 326 P Pn 23 51 31.6 +1.7
baz=142
TUC Tucson 19.34 326 *e*P Pn 23 51 29.7 -0.2
83nm,2.0s
X45A UM Field Stati 19.37 22 P Pn 23 51 28.9 -1.3
baz=206
OXF Oxford 19.44 22 P P 23 51 28.4 -1.4
baz=206,SNR=5.5
OXF Oxford 19.44 22 *e*P Pn 23 51 30.2 -0.8
33nm,0.8s
Y47A UCPARC, Winfie 19.52 26 P P 23 51 30.3 -0.4
baz=211,SNR=11
V39A Pettigrew 19.53 11 P P 23 51 30.3 -0.6
baz=193,SNR=11
Z49A Columbiana 19.53 30 P P 23 51 30.4 -0.4
baz=215,SNR=19
556A Lake Butler 19.61 45 P P 23 51 31.2 -0.5
baz=231
151A Opelika 19.62 34 P Pn 23 51 31.7 -1.5
baz=219,SNR=15
V40A Witts Springs 19.66 13 P P 23 51 31.4 -0.8
baz=196,SNR=12
ANMO Albuquerque 19.68 339 P P 23 51 32.1 -0.4
0.1nm,0.3s,baz=326,slow=13,SNR=4.0
ANMO LR LR 23 59 49.1
comp=Z,774nm,18.0s,baz=334,slow=39
ANMO Albuquerque 19.68 339 P Pn 23 51 35.0 +1.0
baz=156
ANMO Albuquerque 19.68 339 *e*P Pn 23 51 36.0 +1.9
16nm,1.1s
X46A Booneville 19.79 24 P P 23 51 33.4 -0.2
baz=208,SNR=12
V41A Mountainview 19.80 15 P P 23 51 32.3 -1.4
baz=197,SNR=11
TIGA Tifton 19.81 39 P Pn 23 51 34.2 -1.2
baz=225,SNR=5.7
TIGA Tifton 19.81 39 *e*P Pn 23 51 34.4 -1.1
68nm,1.0s
Y48A Jasper 19.83 28 P P 23 51 33.4 -0.6
baz=213,SNR=9.8
Z50A Ashland 19.88 31 P Pn 23 51 34.6 -1.7
baz=217,SNR=18
HHAR Hobbs 19.91 10 *e*P Pn 23 51 35.6 -1.0
19nm,1.1s
V42A Cord 20.01 16 P P 23 51 35.8 -0.1
baz=199
X47A Russelville 20.05 26 P P 23 51 35.9 -0.5
baz=210,SNR=11
658A Bunnell 20.06 48 P P 23 51 36.0 -0.5
baz=234
U39A Green Forest 20.09 11 P P 23 51 35.8 -1.1
baz=193,SNR=11
Y49A Blount Mountai 20.13 29 P P 23 51 37.2 -0.2
baz=214,SNR=10
U40A Yellville 20.19 12 P P 23 51 36.9 -1.0
baz=195,SNR=18
355A Pearson 20.20 41 P Pn 23 51 38.3 -1.7
baz=227
214A Organ Pipe Nat 20.23 322 P Pn 23 51 40.4 0.0
baz=136
214A Organ Pipe Nat 20.23 322 *e*P Pn 23 51 39.6 -0.8
114nm,1.1s
X48A Hartselle 20.34 27 P P 23 51 39.0 -0.6
baz=212,SNR=12
254A Abbeville 20.35 39 P P 23 51 39.1 -0.6
baz=225
PLAL Pickwick Lake 20.36 24 *e*P P 23 51 39.6 -0.2
28nm,0.8s
W46A Michie 20.38 24 P P 23 51 39.7 -0.3
baz=208,SNR=5.9
U41A Viola 20.39 15 P P 23 51 39.1 -1.0
baz=198,SNR=8.4
Y50A Piedmont 20.49 31 P P 23 51 40.5 -0.6
baz=216
153A Fort Valley 20.54 37 P Pn 23 51 42.5 -1.5
baz=222
U42A Revenden 20.57 16 P P 23 51 40.9 -1.1
baz=199,SNR=10.0
T38A Diamond 20.59 9 P Pn 23 51 42.8 -1.9
baz=191
X18A Snowflake 20.71 332 *e*P Pn 23 51 45.3 -0.9
68nm,1.6s
V45A Humboldt 20.71 22 P P 23 51 43.1 -0.4
baz=206
X49A Woodville 20.71 29 P P 23 51 42.5 -1.1
baz=214,SNR=16
T39A Clever 20.73 11 P P 23 51 42.4 -1.4
baz=193,SNR=15
W47A Westpoint 20.79 25 P P 23 51 43.2 -1.3
baz=210,SNR=9.9
154A Montrose 20.93 38 P P 23 51 45.4 -0.6
baz=224
W48A Pulaski 20.97 26 P P 23 51 45.4 -1.0
baz=211,SNR=14
X50A Fort Payne 20.99 30 P P 23 51 45.8 -0.8
baz=215,SNR=8.7
T40A Mansfield 21.02 13 P P 23 51 45.9 -1.1
baz=195,SNR=11
V46A Holladay 21.07 23 P P 23 51 47.0 -0.4
baz=208
T41A Mountain View 21.09 14 P P 23 51 46.8 -0.9
baz=197,SNR=22
T25A Trinidad 21.14 346 P P 23 51 48.9 +0.3
baz=164,SNR=11
T25A Trinidad 21.14 346 *e*P P 23 51 49.8 +1.3
33nm,0.9s
PBMO Poplar Bluff 21.19 17 *e*P P 23 51 48.3 -0.4
23nm,0.6s
MHTCO State Highway 21.20 345 *e*P P 23 51 50.0 +0.9
35nm,1.3s
T42A Van Buren 21.24 16 P P 23 51 48.2 -1.1
baz=199,SNR=8.8
UTMT University of 21.28 21 *e*P P 23 51 49.8 0.0
115nm,1.0s
GOGA Godfrey 21.31 36 P P 23 51 48.7 -1.4
baz=222,SNR=16
GOGA Godfrey 21.31 36 *e*P P 23 51 49.4 -0.7
32nm,0.8s
U45A Rockin P Farm, 21.32 21 P P 23 51 48.9 -1.2
baz=206,SNR=5.6
V47A Nunnelly 21.32 24 P P 23 51 48.2 -1.9
baz=209,SNR=21
X16A Lo Mia Camp, P 21.33 329 *e*P P 23 51 51.3 +0.8
30nm,0.8s
S39A Bolivar 21.39 11 P P 23 51 49.0 -1.9
baz=193,SNR=16
S40A Lebanon 21.46 12 P P 23 51 50.3 -1.3
baz=195,SNR=10
WVT Waverly 21.47 23 P P 23 51 50.2 -1.5
baz=206
WVT Waverly 21.47 23 *e*P P 23 51 50.7 -1.0
42nm,0.8s
SWET Sewanee 21.48 28 *e*P P 23 51 51.2 -0.7
7.3nm,0.7s
T43A Greenville 21.51 17 P P 23 51 50.3 -1.9
baz=201,SNR=9.1
U46A Springville 21.54 22 P P 23 51 52.1 -0.4
baz=207,SNR=6.9
S41A Jillco Farms, 21.61 14 P P 23 51 51.7 -1.6
baz=197,SNR=24
U47A Clarksville 21.95 24 P P 23 51 55.4 -1.5
baz=209,SNR=15
SDCO Great Sand Dun 21.99 344 P P 23 51 58.4 +0.7
baz=161,SNR=22
SDCO Great Sand Dun 21.99 344 *e*P P 23 51 58.0 +0.4
7.3nm,0.6s
S42A Caledonia 22.02 16 P P 23 51 55.9 -1.7
baz=199,SNR=16
S43A Fulton Ridge, 22.03 17 P P 23 51 56.8 -0.9
baz=201
R39A Chumby, Stover 22.05 11 P P 23 51 55.9 -2.0
baz=193
CBKS Cedar Bluff 22.12 357 P P 23 51 59.8 +1.0
baz=176
CBKS Cedar Bluff 22.12 357 *e*P P 23 51 59.9 +1.0
76nm,1.1s
R40A Maddies Statio 22.17 12 P P 23 51 58.5 -0.8
baz=195,SNR=22
WUAZ Wupatki 22.18 330 P P 23 52 00.4 +0.8
baz=145,SNR=33
WUAZ Wupatki 22.18 330 *e*P P 23 52 00.8 +1.2
54nm,1.0s
GLA Glamis 22.21 320 P P 23 52 00.5 +0.7
baz=134,SNR=6.1
GLA Glamis 22.21 320 *e*P P 23 52 02.8 +3.0
37nm,1.0s
T46A Princeton 22.25 22 P P 23 51 59.6 -0.5
baz=207,SNR=12
U48A Cassie Pea, Po 22.31 25 P P 23 51 58.9 -1.8
baz=211,SNR=16
FVM French Village 22.32 16 *e*P P 23 52 01.3 +0.5
16nm,0.7s
CPCT Cooper Cave 22.33 30 *e*P P 23 52 00.3 -0.7
S22A 4UR Ranch, Cre 22.36 342 P P 23 52 03.8 +2.2
baz=158
S22A 4UR Ranch, Cre 22.36 342 *e*P P 23 52 02.6 +0.9
10nm,0.9s
R41A Rosebud 22.38 14 P P 23 52 00.2 -1.2
baz=197,SNR=12
Q37A Longview Farm, 22.38 8 P P 23 51 59.9 -1.7
baz=190
S44A Carbondale 22.39 19 P P 23 52 00.3 -1.3
baz=203,SNR=9.7
SIUC Southern Illin 22.42 19 *e*P P 23 52 03.5 +1.6
18nm,0.7s
MVCO Mesa Verde 22.43 338 P P 23 52 03.3 +1.0
baz=154,SNR=19
MVCO Mesa Verde 22.43 338 *e*P P 23 52 04.5 +2.2
77nm,1.4s
T47A Sharon Grove 22.50 24 P P 23 52 02.4 -0.4
baz=209
R42A Luebbering 22.50 15 P P 23 52 01.8 -1.0
baz=199
Y12C Blythe 22.51 322 P P 23 52 04.6 +1.6
baz=136
Y12C Blythe 22.51 322 *e*P P 23 52 08.9 +5.9
47nm,1.5s
Q38A Cooks Store, C 22.58 9 P P 23 52 04.0 +0.4
baz=192
S45A Carrier Mills 22.59 20 P P 23 52 02.7 -1.0
baz=205,SNR=10
HODGE Hodges 22.59 36 *e*P P 23 52 03.4 -0.4
30nm,0.8s
KSCO Kaye Shedlock' 22.62 351 P P 23 52 03.7 -0.5
baz=169
KSCO Kaye Shedlock' 22.62 351 *e*P P 23 52 06.0 +1.7
41nm,0.8s
PDMCI Parker Dam,Lak 22.69 324 P P 23 52 05.8 +1.0
baz=138
R43A Red Bud 22.73 17 P P 23 52 04.9 -0.3
baz=201
SWSC Sam W. Stewart 22.74 319 P P 23 52 06.6 +1.2
baz=132
IKP In-Ko-Pah, Jac 22.75 318 P P 23 52 09.4 +3.9
baz=131
Q39A Willow Grove F 22.77 10 P P 23 52 05.0 -0.7
baz=193
BG3 Lake Jocassee 22.79 34 *e*P P 23 52 05.9 0.0
18nm,0.7s
TKL Tuckaleechee C 22.86 31 P P 23 52 06.0 -0.7
29nm,1.0s,baz=200,slow=12,SNR=19
TKL S Sn 23 56 30.2 -0.7
4.3nm,0.7s,baz=299,slow=19,SNR=3.1
TKL Tuckaleechee C 22.86 31 *e*P P 23 52 06.2 -0.5
46nm,1.0s
TKL S Sn 23 56 30.2 -0.7
T48A Bowling Green 22.88 25 P P 23 52 04.9 -2.0
baz=210,SNR=13
S46A Don Dixon Farm 22.89 22 P P 23 52 06.2 -0.7
baz=207
Q40A Laux Farm, Aux 22.89 12 P P 23 52 05.9 -1.0
baz=195
R44A Waltonville 22.95 19 P P 23 52 06.8 -0.7
baz=203,SNR=5.7
BC3 Big Chuckawall 23.00 321 P P 23 52 09.3 +1.0
baz=134
Q41A Truxton 23.04 14 P P 23 52 05.4 -3.0
baz=197,SNR=7.4
CSU Charleston Sou 23.05 42 *e*P P 23 52 07.9 -0.7
Q24A Divide 23.06 346 P P 23 52 09.2 +0.2
baz=163
Q24A Divide 23.06 346 *e*P P 23 52 10.1 +1.1
40nm,1.7s
NHSC New Hope 23.06 41 P P 23 52 09.1 +0.3
baz=229,SNR=12
NHSC New Hope 23.06 41 *e*P P 23 52 09.3 +0.6
166nm,1.0s
P37A Lathrop 23.10 8 P P 23 52 07.8 -1.3
baz=190
MONP2 Monument Peak 23.10 318 P P 23 52 11.7 +2.3
baz=131
W13A Hualapai Mount 23.13 326 *e*P P 23 52 13.2 +3.5
11nm,1.0s
USIN University of 23.16 21 *e*P P 23 52 10.7 +1.0
94nm,1.2s
IRM Iron Mountain 23.16 322 P P 23 52 10.6 +0.8
baz=135
Q42A Golden Eagle 23.16 15 P P 23 52 08.4 -1.3
baz=199
JSC Jenkinsville 23.20 38 *e*P P 23 52 09.9 -0.3
81nm,1.6s
P39B Salisbury 23.24 11 P P 23 52 09.2 -1.2
baz=193,SNR=6.7
R45A Skylar, Fairfi 23.24 20 P P 23 52 10.1 -0.4
baz=205
P38A Dawn 23.25 9 P P 23 52 09.3 -1.2
baz=192
PV01 Paradox Valley 23.28 339 *e*P P 23 52 12.3 +1.2
O33A Hebron 23.35 1 P P 23 52 11.3 -0.2
baz=182
U15A North Rim 23.35 330 *e*P P 23 52 12.5 +0.5
22nm,0.9s
Q43A New Douglas 23.41 17 P P 23 52 10.7 -1.5
baz=201
P40A Paris 23.41 12 P P 23 52 11.0 -1.2
baz=195,SNR=5.2
PV05 Paradox Valley 23.42 338 *e*P P 23 52 14.6 +2.1
R46A Gibon Southern 23.43 21 P P 23 52 11.4 -1.0
baz=206
O34A Beatrice 23.48 3 P P 23 52 12.7 -0.3
baz=184
S48A Wiedeman Farm, 23.49 25 P P 23 52 11.5 -1.5
baz=210,SNR=8.4
BELC Belle Mtn. Jos 23.57 320 P P 23 52 15.3 +1.3
baz=133
Q44A Meyer Farm, Va 23.57 18 P P 23 52 12.0 -1.8
baz=202
XPFO Piæon Flat 23.59 319 *e*P P 23 52 18.1 +3.9
15nm,1.2s
PFO Pinyon Flats O 23.59 319 P P 23 52 14.6 +0.4
1.1nm,0.8s,baz=53,slow=14,SNR=1.7
PFO Pinyon Flats O 23.59 319 P P 23 52 18.3 +4.1
baz=132
PFO Pinyon Flats O 23.59 319 *e*P P 23 52 17.8 +3.6
13nm,1.1s
O35A Humboldt 23.61 4 P P 23 52 12.4 -1.8
baz=186
PV04 Paradox Valley 23.63 339 *e*P P 23 52 15.1 +0.5
PV10 Paradox Valley 23.66 338 *e*P P 23 52 17.4 +2.5
TZTN Tazewell 23.68 30 P P 23 52 13.8 -1.1
baz=217,SNR=11
TZTN Tazewell 23.68 30 *e*P P 23 52 15.4 +0.5
36nm,0.8s
O37A Wolven Farm, M 23.69 8 P P 23 52 13.0 -1.9
baz=190
OLIL Olney 23.70 20 *e*P P 23 52 15.0 -0.1
28nm,1.0s
SMCO Snowmass 23.73 343 *e*P P 23 52 16.9 +1.1
27nm,1.4s
O38A Galt 23.74 9 P P 23 52 13.8 -1.6
baz=191
P41A Barry, Barry 23.76 14 P P 23 52 14.3 -1.3
baz=197
KMSC Kings Mountain 23.77 36 P P 23 52 13.8 -1.9
baz=223,SNR=13
KMSC Kings Mountain 23.77 36 *e*P P 23 52 15.9 +0.1
27nm,0.8s
PV09 Paradox Valley 23.80 338 *e*P P 23 52 18.6 +2.3
Q45A Warren Harvey, 23.83 20 P P 23 52 15.4 -0.9
baz=204,SNR=5.8
P42A Winchester 23.85 15 P P 23 52 14.8 -1.6
baz=199,SNR=11
R47A Wooly Knot Far 23.86 23 P P 23 52 15.9 -0.7
baz=209,SNR=29
WCI Wyandotte Cave 23.89 24 P P 23 52 15.8 -1.1
baz=209
WCI Wyandotte Cave 23.89 24 *e*P P 23 52 16.8 -0.1
37nm,0.8s
GMRC Granite Mounta 23.91 322 P P 23 52 17.4 +0.2
baz=135
ISCO Idaho Springs 23.96 346 P P 23 52 17.6 -0.2
baz=163,SNR=17
ISCO Idaho Springs 23.96 346 *e*P P 23 52 18.9 +1.0
20nm,0.9s
O40A La Belle 24.02 12 P P 23 52 16.3 -1.7
baz=195,SNR=13
O39A Kirksville 24.02 11 P P 23 52 16.9 -1.1
baz=194
MURC Murrieta 24.05 318 P P 23 52 21.4 +2.9
baz=130
KNB Kanab 24.08 330 *e*P P 23 52 19.6 +0.7
34nm,1.1s
P43A Skaggs, Pawnee 24.11 16 P P 23 52 17.2 -1.7
baz=201
N34A Lincoln 24.15 3 P P 23 52 18.8 -0.5
baz=184
PKCU Pink Cliffs 24.19 332 *e*P P 23 52 22.7 +2.7
21nm,1.0s
R48A Northridge Ran 24.21 24 P P 23 52 18.8 -1.0
baz=210,SNR=8.7
P44A Sand Creek, Wi 24.21 18 P P 23 52 18.9 -0.9
baz=203,SNR=5.5
O41A Passleys Farm, 24.22 14 P P 23 52 18.6 -1.3
baz=197,SNR=12
N35A Tabor 24.23 5 P P 23 52 19.0 -0.9
baz=186
N36A Muff Farm, Cla 24.24 6 P P 23 52 19.5 -0.6
baz=188
N37A Lee Faris, Mou 24.27 7 P P 23 52 19.7 -0.6
baz=189
LCMT Little Creek M 24.28 330 *e*P P 23 52 24.4 +3.7
47nm,1.8s
HEC Hector,Ludlow 24.34 321 P P 23 52 21.9 +0.8
baz=134
N38A Joes South For 24.43 9 P P 23 52 20.6 -1.3
baz=192,SNR=8.0
OGNE Ogallala 24.44 353 P P 23 52 22.0 0.0
baz=171
OGNE Ogallala 24.44 353 *e*P P 23 52 22.5 +0.4
170nm,1.6s
Q47A Bedord North L 24.46 23 P P 23 52 21.3 -0.8
baz=208,SNR=8.3
O42A Bath 24.49 15 P P 23 52 21.7 -0.7
baz=199
TUQ Turquoise Moun 24.52 323 P P 23 52 24.3 +1.5
baz=136
P45A Graceland, Par 24.54 20 P P 23 52 21.9 -0.9
baz=205
SCI2 San Clemente I 24.56 315 P P 23 52 24.9 +1.8
baz=127
MTPU Mount Pierson 24.62 333 *e*P P 23 52 25.8 +1.8
63nm,0.8s
N39A Derby Farms, D 24.64 10 P P 23 52 22.4 -1.3
baz=193,SNR=11
BLO Bloomington 24.64 22 *e*P P 23 52 23.8 +0.1
65nm,1.4s
BGNE Belgrade 24.67 0 P P 23 52 23.3 -0.7
baz=180
BFSC Mount Baldy Ra 24.76 319 P P 23 52 27.7 +2.6
baz=131
CCUT Cedar City 24.76 330 *e*P P 23 52 31.9 +6.8
O43A Sugar Creek Fa 24.77 16 P P 23 52 23.6 -1.3
baz=201
N41A Harden Midland 24.80 13 P P 23 52 24.1 -1.0
baz=197
P46A Rosedale 24.80 20 P P 23 52 23.9 -1.2
baz=206
M34A Aspy Farms, Fr 24.80 3 P P 23 52 24.2 -1.0
baz=184
N40A Mertquake, Sal 24.81 12 P P 23 52 23.9 -1.3
baz=195
M35A Neola 24.82 4 P P 23 52 25.2 -0.1
baz=186
M33A Taylor Creek F 24.85 2 P P 23 52 25.1 -0.6
baz=182
SRU San Rafael Swe 24.85 337 *e*P P 23 52 27.0 +1.1
22nm,1.0s
SHPR Sheep Range 24.87 326 *e*P P 23 52 29.9 +3.9
8.1nm,1.0s
M36A Felix, Anita 24.89 6 P P 23 52 25.0 -0.9
baz=188
O44A Mansfield 24.89 18 P P 23 52 24.5 -1.4
baz=203
M37A Trindle Farm, 24.92 7 P P 23 52 25.1 -1.1
baz=190,SNR=10.0
GSC Goldstone, Bar 24.94 322 P P 23 52 26.1 -0.5
baz=134
GSC Goldstone, Bar 24.94 322 *e*P P 23 52 28.4 +1.8
0nm,1.8s
O20A White River Ci 24.99 341 P P 23 52 27.8 +0.7
baz=157
O20A White River Ci 24.99 341 *e*P P 23 52 29.4 +2.3
30nm,1.1s
P47A Martinsville 25.01 22 P P 23 52 26.2 -0.9
baz=208
MSU Marysvale 25.01 333 *e*P P 23 52 29.4 +2.1
HDIL Hopedale 25.03 16 P P 23 52 26.8 -0.4
baz=200
HDIL Hopedale 25.03 16 *e*P P 23 52 27.3 +0.1
42nm,1.1s
SHOC Shoshone, Teco 25.05 323 P P 23 52 29.1 +1.6
baz=136
M38A Pleasantville 25.05 9 P P 23 52 26.3 -1.1
baz=192,SNR=20
N23A Red Feather La 25.08 346 P P 23 52 27.4 -0.6
baz=163
N23A Red Feather La 25.08 346 *e*P P 23 52 30.2 +2.2
14nm,1.0s
N42A Yates City 25.10 15 P P 23 52 26.9 -1.0
baz=199
O45A Potomac 25.20 19 P P 23 52 27.9 -0.9
baz=204,SNR=7.1
P18A Preston Nutter 25.20 338 *e*P P 23 52 30.9 +1.7
20nm,0.9s
P17A Butcher Ranch, 25.25 337 *e*P P 23 52 31.4 +2.0
15nm,1.2s
L32A Elgin 25.27 0 P P 23 52 30.8 +1.4
baz=181
M39A Webster 25.28 11 P P 23 52 28.1 -1.3
baz=194,SNR=6.8
L34A Svendsen Farm, 25.28 3 P P 23 52 30.1 +0.6
baz=184
TMUT Trail Mountain 25.28 336 *e*P P 23 52 30.8 +0.9
9.9nm,0.9s
M40A Post Highland 25.33 12 P P 23 52 29.4 -0.6
baz=195
NCAT North Carolina 25.33 37 *e*P P 23 52 30.4 +0.4
38nm,0.9s
PHWY Pilot Hill 25.36 347 *e*P P 23 52 35.8 +5.2
12nm,1.1s
EDW2 Edwards Air Fo 25.38 319 P P 23 52 32.4 +1.8
baz=131
N43A Stutzman Famil 25.42 16 P P 23 52 29.4 -1.3
baz=200,SNR=11
L33A Hoskins 25.44 2 P P 23 52 30.8 -0.2
baz=182
L35A Bielow Farm, R 25.48 5 P P 23 52 30.1 -1.2
baz=186
M41A Milan 25.50 13 P P 23 52 30.5 -1.0
baz=197
SFIN Lafayette 25.52 20 P P 23 52 31.0 -0.7
baz=205,SNR=9.4
SFIN Lafayette 25.52 20 *e*P P 23 52 31.7 +0.1
22nm,0.8s
SCIA State Center 25.53 9 P P 23 52 30.2 -1.5
baz=191,SNR=6.9
SCIA State Center 25.53 9 *e*P P 23 52 31.3 -0.4
35nm,0.7s
L36A Harm Buss Farm 25.54 6 P P 23 52 30.8 -1.1
baz=188
N44A Piper City 25.58 18 P P 23 52 31.0 -1.2
baz=203,SNR=6.6
BLG Laguna Peak, P 25.58 317 P P 23 52 36.1 +3.8
baz=128
LRMC Laurel Mtn Rad 25.59 321 P P 23 52 34.6 +2.1
baz=133
L37A Phoenix Point, 25.67 8 P P 23 52 31.8 -1.3

baz=190
O47A **Sheridan** 25.70 22 P P 23 52 32.2 -1.1
baz=207,SNR=7.5
FURC **Furnace Creek,** 25.78 324 P P 23 52 35.0 +0.9
baz=136
BLA **Blacksburg** 25.79 34 P P 23 52 33.4 -0.9
baz=222,SNR=5.8
BLA **Blacksburg** 25.79 34 eP P 23 52 34.4 +0.2
31nm,0.9s
L38A **Oak Wood Farm,** 25.80 9 P P 23 52 33.7 -0.4
baz=192,SNR=8.7
N45A **Kentland** 25.81 19 P P 23 52 33.8 -0.5
baz=204
MPMC **Manual Prospec** 25.86 322 P P 23 52 36.7 +1.6
baz=134
K33A **Hardington** 25.89 2 P P 23 52 35.0 -0.1
baz=183
K31A **O'Neill** 25.89 359 P P 23 52 34.8 -0.3
baz=179
L39A **Vinton** 25.93 11 P P 23 52 33.8 -1.6
baz=194,SNR=7.1
M43A **Waltham Townsh** 25.94 16 P P 23 52 34.0 -1.5
baz=201,SNR=7.5
K34A **Le Mars** 26.01 3 P P 23 52 35.3 -0.8
baz=185
L40A **Anamosa** 26.02 12 P P 23 52 34.3 -1.8
baz=195
VWCC **Virginia Weste** 26.05 35 eP P 23 52 36.5 -0.1
MPU **Maple Canyon** 26.06 336 eP P 23 52 39.2 +2.3
9.3nm,0.8s
ARVC **Arvin** 26.07 319 P P 23 52 37.3 +0.6
baz=130
DAC **Darwin (Calif)** 26.07 322 eP P 23 52 40.2 +3.2
12nm,1.1s
K36A **Gilmore City** 26.10 6 P P 23 52 35.8 -1.1
baz=188
K35A **Storm Lake** 26.11 5 P P 23 52 35.1 -1.9
baz=187
RWWY **Rawlins** 26.14 344 eP P 23 52 39.5 +1.9
38nm,1.3s
M44A **Midewin, Midew** 26.15 17 P P 23 52 36.2 -1.2
baz=202,SNR=7.2
L41A **Preston** 26.18 13 P P 23 52 35.9 -1.7
baz=197
NLU **North Lily Min** 26.19 335 eP P 23 52 41.1 +3.1
14nm,0.9s
ISA **Isabella, Lake** 26.19 320 P P 23 52 39.7 +1.8
baz=132
ISA **Isabella, Lake** 26.19 320 eP P 23 52 42.9 +4.9
14nm,1.0s
L42A **Oliver, Polo** 26.30 14 P P 23 52 37.5 -1.2
baz=199,SNR=5.5
K37A **Belmond** 26.32 8 P P 23 52 37.2 -1.7
baz=190,SNR=14
K38A **Parkersburg** 26.32 9 P P 23 52 36.9 -2.0
baz=192
M45A **Boilermakers S** 26.39 19 P P 23 52 38.3 -1.2
baz=204
CWC **Cottonwood Cre** 26.47 322 P P 23 52 41.5 +1.0
baz=134
R11A **Troy Canyon, C** 26.48 328 P P 23 52 45.2 +4.6
baz=140
R11A **Troy Canyon, C** 26.48 328 eP P 23 52 44.4 +3.7
38nm,1.8s
K39A **Oelwein** 26.52 10 P P 23 52 38.7 -2.0
baz=194,SNR=5.7
PKM **Mcpherson Peak** 26.55 317 P P 23 52 44.7 +3.4
baz=128
J31A **Geddes** 26.56 359 P P 23 52 40.1 -1.0
baz=179
J33A **Davis** 26.60 2 P P 23 52 39.8 -1.6
baz=183
J32A **Parkston** 26.64 1 P P 23 52 40.4 -1.4
baz=181
K40A **Colesburg** 26.65 12 P P 23 52 40.2 -1.6
baz=195
VES **Vestal, Richgr** 26.68 320 P P 23 52 44.0 +1.7
baz=131
DUG **Dugway, Tooele** 26.69 334 P P 23 52 43.4 +1.0
baz=148
DUG **Dugway, Tooele** 26.69 334 eP P 23 52 43.8 +1.3
9.9nm,0.8s
M46A **Old House Fiel** 26.69 20 P P 23 52 41.8 -0.5
baz=206
L43A **Garden Prairie** 26.70 16 P P 23 52 41.4 -0.9
baz=200
K41A **Shullsburg** 26.73 13 P P 23 52 41.7 -0.9
baz=197
J35A **Milford** 26.75 5 P P 23 52 40.6 -2.2
baz=186
J36A **Seneca 1, Swea** 26.79 6 P P 23 52 41.1 -2.1
baz=188,SNR=11
J37A **Redenius Farm,** 26.86 7 P P 23 52 42.2 -1.6
baz=190,SNR=7.0
K22A **Casper** 26.88 346 P P 23 52 43.7 -0.5
baz=162,SNR=5.5
K22A **Casper** 26.88 346 eP P 23 52 45.1 +0.9
26nm,1.0s
L44A **Lake County Fo** 26.92 17 P P 23 52 43.1 -1.3
baz=202
SMMC **Simmler** 26.93 318 P P 23 52 48.1 +3.5
baz=129
TCUT **Toone Canyon** 26.93 338 eP P 23 52 47.8 +3.0
56nm,1.4s
ACSO **Alum Creek Sta** 26.94 26 P P 23 52 43.1 -1.4
baz=214,SNR=18
ACSO **Alum Creek Sta** 26.94 26 eP P 23 52 44.4 -0.2
42nm,0.8s
J38A **Wedel Dairy, R** 27.02 9 P P 23 52 42.6 -2.6
baz=192,SNR=8.1
ECSD **EROS Data Cent** 27.03 2 P P 23 52 46.0 +0.6
baz=184
ECSD **EROS Data Cent** 27.03 2 eP P 23 52 44.4 -0.9
9.8nm,0.8s
JFWS **Jewell Farm** 27.04 13 P P 23 52 44.8 -0.6
baz=197
JFWS **Jewell Farm** 27.04 13 eP P 23 52 45.7 +0.3
16nm,0.7s
RCTC **Rector, Farmer** 27.08 320 P P 23 52 47.4 +1.5
baz=131
K42A **Prairie Point,** 27.11 14 P P 23 52 45.1 -0.9
baz=199
J39A **Decorah** 27.16 10 P P 23 52 45.2 -1.3
baz=194
I35A **Creekview Farm** 27.25 5 P P 23 52 46.3 -1.0
baz=187
K43A **Burlington** 27.29 16 P P 23 52 46.4 -1.3
baz=201
I34A **Hadley** 27.37 4 P P 23 52 47.8 -0.6
baz=185
BGU **Big Grassy Mou** 27.39 335 eP P 23 52 50.8 +2.0
23nm,1.6s
J40A **Soldiers Grove** 27.40 12 P P 23 52 47.3 -1.3
baz=196
HWUT **Hardware Ranch** 27.42 338 eP P 23 52 51.0 +1.9
6.3nm,0.8s
SPUT **South Promonto** 27.49 336 eP P 23 52 56.9 +7.2
I36A **Fitzsimmons Fa** 27.51 6 P P 23 52 48.8 -0.8
baz=189
J41A **Loganville** 27.52 13 P P 23 52 48.5 -1.2
baz=197,SNR=6.9
I37A **Lemond, Waseca** 27.57 7 P P 23 52 48.6 -1.6
baz=190
J42A **Columbus** 27.67 14 P P 23 52 49.5 -1.6
baz=199,SNR=6.7
I39A **Houston** 27.70 10 P P 23 52 50.4 -0.9
baz=194
IP05 **Hopewell Churc** 27.71 36 eP P 23 52 52.1 +0.6
9.3nm,0.7s
I38A **Scanlan Farm,** 27.75 9 P P 23 52 50.2 -1.6
baz=192,SNR=7.7
H32A **Carlson Farm,** 27.77 1 P P 23 52 51.3 -0.7
baz=182
BW06 **Boulder Array** 27.79 342 P P 23 52 52.7 +0.2
baz=156
BW06 **Boulder Array** 27.79 342 eP P 23 52 51.3 -1.2
44nm,1.5s
PD31 **Pinedale Array** 27.79 342 eP P 23 52 52.4 0.0
PDAR **Pinedale Array** 27.79 342 P P 23 52 52.6 +0.1
1.8nm,0.7s,baz=144,slow=10,SNR=9.9
PDAR LR LR 00 05 07.8
comp=Z,134nm,18.9s,baz=170,slow=39
PDAR **Pinedale Array** 27.79 342 eP P 23 52 51.8 -0.6
RSSD **Black Hills** 27.83 351 P P 23 52 53.0 +0.2
baz=168
RSSD **Black Hills** 27.83 351 eP P 23 53 00.1 +7.3
I40A **Norwalk** 27.90 12 P P 23 52 52.2 -0.9
baz=196

NV11 **Mina Array Sit** 27.90 325 eP P 23 53 01.0 +7.6
J43A **Natural Harves** 27.91 15 P P 23 52 52.5 -0.7
baz=200
SDV **Santo Domingo** 27.91 103 P P 23 52 55.3 +1.6
6.3nm,0.9s,baz=296,slow=3.6,SNR=8.6
SDV LR LR 00 05 33.9
comp=Z,189nm,18.4s,baz=38,slow=40
SDV **Santo Domingo** 27.91 103 eP P 23 52 56.1 +2.4
8.5nm,0.8s
NV01 **Mina Array Sit** 27.98 325 eP P 23 53 01.6 +7.4
NVAR **Mina Array Bea** 27.98 325 P P 23 52 53.5 -0.7
0.5nm,0.3s,baz=145,slow=9.7,SNR=2.4
NVAR LR LR 00 03 44.6
comp=Z,167nm,21.9s,baz=266,slow=36
H34A **Spellman Lake,** 28.00 4 P P 23 52 53.3 -0.7
baz=185
HVU **Hansel Valley** 28.02 336 eP P 23 52 55.2 +0.8
14nm,0.9s
H36A **Jesseland, He** 28.07 6 P P 23 52 53.4 -1.2
baz=189,SNR=5.2
H35A **Sunnyside Ranc** 28.10 5 P P 23 52 53.4 -1.5
baz=187
CBN **Corbin Frederi** 28.19 36 P P 23 52 56.5 +0.8
baz=226
H37A **Dierke Farm, C** 28.19 8 P P 23 52 55.2 -0.5
baz=191
I41A **Arkdale** 28.21 13 P P 23 52 55.7 -0.2
baz=197
I42A **Draeger Farm,** 28.26 14 P P 23 52 55.8 -0.6
baz=199
KVN **Kaiserville** 28.32 326 eP P 23 53 01.3 +4.2
6.6nm,1.0s
H38A **Maiden Rock** 28.38 9 P P 23 52 56.8 -0.6
baz=192
AAM **Ann Arbor** 28.43 23 P P 23 52 57.2 -0.6
baz=210
AAM **Ann Arbor** 28.43 23 eP P 23 52 57.4 -0.4
18nm,0.5s
I43A **Langenfeld Bro** 28.45 15 P P 23 52 57.1 -0.9
baz=201
G33A **Ortonville** 28.50 3 P P 23 52 57.3 -1.1
baz=184
G32A **Webster** 28.52 1 P P 23 52 57.7 -1.0
baz=182
H39A **Augusta** 28.54 10 P P 23 52 57.6 -1.2
baz=184
G34A **Benson** 28.58 4 P P 23 52 57.2 -2.0
baz=185
H40A **Chili** 28.65 12 P P 23 52 59.2 -0.6
baz=196
REDW **Red Top Meadow** 28.73 341 eP P 23 53 02.2 +1.4
59nm,1.8s
G36A **St. Michael** 28.74 6 P P 23 52 58.7 -1.9
baz=189
H41A **Junction City** 28.79 13 P P 23 52 59.8 -1.3
baz=197
H41A **Junction City** 28.79 13 eP P 23 53 00.9 -0.1
17nm,1.0s
SPMN **Marine on St.** 28.84 8 P P 23 52 59.6 -1.9
baz=191
SPMN **Marine on St.** 28.84 8 eP P 23 53 00.6 -0.9
16nm,0.7s
N54A **Moraine State** 28.87 29 P P 23 53 00.3 -1.5
baz=218
N54A **Moraine State** 28.87 29 eP P 23 53 01.7 -0.1
66nm,2.0s
LOHW **Long Hollow** 28.88 341 eP P 23 52 58.7 -3.5
14nm,0.8s
TPAW **Teton Pass** 28.88 341 eP P 23 53 04.0 +1.8
45nm,1.8s
BMN **Battle Mountai** 28.89 329 eP P 23 53 07.1 +5.0
5.4nm,1.0s
G38A **Ridgeland** 28.92 9 P P 23 53 00.6 -1.6
baz=193
H42A **Shiocton** 28.94 14 P P 23 52 59.4 -3.0
baz=199
O56A **Blue Knob Stat** 29.03 32 P P 23 53 00.7 -2.6
baz=221
FXWY **Fox Creek** 29.04 341 eP P 23 53 04.7 +1.2
6.5nm,0.9s
MOOW **Moose Ponds** 29.05 341 eP P 23 53 04.9 +1.3
10nm,1.2s
G39A **Holcombe** 29.15 10 P P 23 53 02.9 -1.3
baz=194,SNR=5.4
F34A **Alexandria** 29.16 4 P P 23 53 03.2 -1.1
baz=186
IMW **Indian Meadow** 29.24 341 eP P 23 53 10.4 +5.0
7.5nm,0.8s
F35A **Swanville** 29.28 5 P P 23 53 02.5 -2.8
baz=187
G40A **Rib Lake** 29.30 12 P P 23 53 02.9 -2.7
baz=196
F37A **Hinrichs Farm,** 29.36 8 P P 23 53 04.2 -1.9
baz=191
F36A **Milaca** 29.38 7 P P 23 53 04.4 -1.9
baz=189
M54A **Oil Creek Stat** 29.45 29 P P 23 53 04.9 -2.0
baz=218,SNR=5.3
M54A **Oil Creek Stat** 29.45 29 eP P 23 53 06.9 -0.1
11nm,0.7s
G41A **Antigo** 29.46 13 P P 23 53 06.1 -0.9
baz=198
G42A **Mountain** 29.66 14 P P 23 53 07.5 -1.2
baz=199
E31A **Nome** 29.82 0 P P 23 53 08.9 -1.3
baz=181
G43A **Wallace** 29.85 15 P P 23 53 08.8 -1.6
baz=201
E34A **Wadena** 29.88 4 P P 23 53 07.2 -3.5
baz=186
RLMT **Red Lodge** 29.88 344 P P 23 53 12.3 +1.4
baz=159
RLMT **Red Lodge** 29.88 344 eP P 23 53 11.1 +0.1
18nm,0.8s
F40A **Park Falls** 29.95 11 P P 23 53 10.4 -0.9
baz=196,SNR=8.1
YMR **Madison River** 29.95 342 eP P 23 53 15.2 +3.7
24nm,1.4s
F41A **Three Lakes** 29.98 13 P P 23 53 10.0 -1.6
baz=196
E35A **Pequot Lakes** 29.98 5 P P 23 53 10.1 -1.5
baz=187
YHH **Holmes Hill** 30.02 342 eP P 23 53 15.7 +3.4
5.8nm,1.0s
E36A **McGregor** 30.06 7 P P 23 53 10.7 -1.6
baz=190
HLID **Hailey** 30.17 336 P P 23 53 14.0 +0.5
baz=148
HLID **Hailey** 30.17 336 eP P 23 53 16.0 +2.5
6.7nm,1.2s
F42A **Maple Grove Fa** 30.21 14 P P 23 53 11.7 -1.9
baz=200
COWI **Conover** 30.32 12 eP P 23 53 13.9 -0.6
8.2nm,1.0s
COWI esP pP 23 53 20.4 -0.3
GLMI **Grayling** 30.32 19 P P 23 53 13.2 -1.4
baz=206
GLMI **Grayling** 30.32 19 eP P 23 53 14.4 -0.1
38nm,0.7s
E40A **Wakefield** 30.49 11 P P 23 53 14.8 -1.4
baz=196,SNR=6.7
F43A **Flat Rock, Esc** 30.51 15 P P 23 53 14.0 -2.3
baz=201,SNR=7.3
D35A **Remer** 30.54 6 P P 23 53 14.4 -2.1
baz=188
SJG **San Juan** 30.57 82 LR LR 00 07 08.6
comp=Z,96nm,18.6s,baz=280,slow=40
MFID **Camas Ranch** 30.62 334 P P 23 53 19.6 +2.2
21nm,1.5s
LAO **LASA Array** 30.69 349 P P 23 53 17.0 -1.0
baz=165
LAO **LASA Array** 30.69 349 eP P 23 53 18.8 +0.8
35nm,1.5s
MCMT **McKenzie Canyo** 30.69 339 eP P 23 53 19.9 +1.7
E41A **Kenton** 30.70 12 P P 23 53 15.7 -2.2
baz=198
D36A **Goodland** 30.72 7 P P 23 53 15.8 -2.3
baz=190
D37A **Cotton** 30.79 8 P P 23 53 15.8 -2.9
baz=191
F44A **Big Bay de Noc** 30.84 16 P P 23 53 16.8 -2.3
baz=202,SNR=5.3
E42A **Champion** 30.89 14 P P 23 53 17.4 -2.3
baz=200
N59A **State Game Lan** 30.97 34 P P 23 53 17.0 -3.4
baz=225
BOZ **Bozeman (W)** 30.99 341 P P 23 53 18.9 -1.7
baz=155

C31A **Landman Farms,** 31.06 1 P P 23 53 19.4 -1.6
baz=181
E43A **Lone Tree Farm** 31.06 15 P P 23 53 18.7 -2.5
baz=201,SNR=5.1
DLMT **Dillon** 31.08 340 eP P 23 53 27.7 +6.2
19nm,0.9s
C33A **Trail** 31.09 3 P P 23 53 19.9 -1.4
baz=185
WVOR **Wild Horse Val** 31.10 330 eP P 23 53 23.5 +1.8
18nm,1.4s
F46A **Macinaw City C** 31.13 18 P P 23 53 19.4 -2.2
baz=206
MDND **Maddock** 31.14 358 P P 23 53 19.8 -2.0
baz=178
C35A **Jirik Farms, M** 31.16 5 P P 23 53 20.2 -1.7
baz=188
MMNY **Mt. Morris Dam** 31.22 29 eP P 23 53 22.5 -0.1
9.2nm,0.8s
C36A **Pine Crest Far** 31.33 7 P P 23 53 21.0 -2.5
baz=190
D41A **Chassel** 31.35 13 P P 23 53 21.3 -2.4
baz=198
C37A **Embarrass** 31.38 8 P P 23 53 22.4 -1.5
baz=191
LRM **Limekiln Ridge** 31.44 341 eP P 23 53 26.8 +2.0
C38A **Sawbill Land.** 31.50 9 P P 23 53 23.5 -1.5
baz=193
E45A **Wooded Hills,** 31.53 17 P P 23 53 23.2 -2.0
baz=204
E44A **Grand Marais A** 31.57 16 P P 23 53 23.6 -2.0
baz=203
B33A **Robert and Kas** 31.61 3 P P 23 53 24.1 -1.8
baz=185
AGMN **Agassiz Nation** 31.62 3 P P 23 53 24.8 -1.2
baz=184
AGMN **Agassiz Nation** 31.62 3 eP P 23 53 24.8 -1.2
14nm,0.9s
B32A **Ashes, Strandq** 31.69 2 P P 23 53 25.3 -1.3
baz=183
EYMN **Ely** 31.69 9 P P 23 53 24.4 -2.2
baz=192
J08A **Circle Bar Ran** 31.73 331 eP P 23 53 27.9 +0.6
12nm,0.9s
BINY **Binghamton** 31.77 32 P P 23 53 25.5 -2.0
baz=223
BINY **Binghamton** 31.77 32 P P 23 53 25.1 -2.4
3.9nm,0.7s
C39A **Grand Marais** 31.78 10 P P 23 53 24.4 -3.0
baz=195
B35A **Bob, Littlefor** 31.83 6 P P 23 53 26.1 -1.8
baz=188
HRY **Holter Researc** 32.05 342 eP P 23 53 31.7 +1.7
12nm,1.0s
A32A **Rocking H Ranc** 32.21 2 P P 23 53 28.5 -2.7
baz=183
A33A **Warroad** 32.28 3 P P 23 53 29.1 -2.7
baz=185
SADO **Sadowa** 32.28 26 P P 23 53 30.0 -1.9
7.8nm,0.8s,baz=243,slow=9.8,SNR=11
SADO **Sadowa** 32.28 26 eP P 23 53 30.9 -1.0
10nm,0.8s
BMO **Blue Mountains** 32.41 334 eP P 23 53 38.1 +5.0
7.6nm,1.2s
YBH **Yreka Blue Hor** 32.70 325 P P 23 53 35.8 +0.1
1.1nm,0.6s,baz=180,slow=7.1,SNR=2.5
YBH LR LR 00 06 35.1
comp=Z,133nm,19.0s,baz=166,slow=36
EGMT **Eagleton** 32.71 346 eP P 23 53 42.8 +7.1
BUKO **Buck Lake** 32.73 25 P P 23 53 34.4 -1.4
baz=215,SNR=11
DELO **Deloro Mine** 32.74 28 P P 23 53 34.5 -1.4
baz=218,SNR=7.6
MSO **Missoula** 32.82 340 P P 23 53 35.7 -1.0
baz=152
MSO **Missoula** 32.82 340 eP P 23 53 41.9 +5.2
15nm,1.4s
F10A **Beach Ranch, E** 33.29 335 eP P 23 53 41.7 +0.9
30nm,1.5s
G08A **Pilot Rock** 33.46 333 eP P 23 53 42.5 +0.2
7.3nm,1.0s
ULM **Lac du Bonnet** 33.57 3 P P 23 53 41.2 -1.8
1.1nm,0.5s,baz=220,slow=6.4,SNR=3.6
ULM LR LR 00 07 08.3
comp=Z,72nm,20.7s,baz=208,slow=36
ULM **Lac du Bonnet** 33.57 3 eP P 23 53 46.6 +3.6
JTMT **Jette** 33.73 340 eP P 23 53 47.3 +2.6
12nm,1.3s
LONY **Lake Ozonia** 34.23 31 P P 23 53 48.1 -0.8
baz=223
H04A **Detroit Lake** 34.50 329 eP P 23 53 50.4 -0.9
24nm,1.1s
WALA **Waterton Lakes** 34.78 342 eP P 23 53 56.3 +2.5
56nm,1.9s
LON **Longmire** 35.85 332 eP P 23 54 03.9 +0.9
29nm,1.8s
B08A **Colville Reser** 36.06 336 eP P 23 54 08.1 +3.4
10.0nm,1.3s
FFC **Flin Flon** 38.11 356 eP P 23 54 21.4 -0.5
14nm,0.8s
FCC **Fort Churchill** 42.16 3 eP P 23 54 55.1 -0.3
30nm,1.8s
LPAZ **La Paz** 44.14 136 P P 23 55 11.9 -0.8
0.8nm,0.8s,baz=342,slow=7.6,SNR=4.2
LPAZ LR LR 00 12 40.7
comp=Z,64nm,19.4s,baz=301,slow=35
SCHQ **Schefferville** 45.09 25 P P 23 55 18.6 -0.5
11nm,0.9s,baz=217,slow=6.2,SNR=13
SCHQ LR LR 00 17 00.9
comp=Z,151nm,18.4s,baz=113,slow=40
SCHQ **Schefferville** 45.09 25 eP P 23 55 18.9 -0.3
14nm,1.0s
YKA **Yellowknife Ar** 47.23 350 P P 23 55 34.7 -1.1
2.0nm,0.7s,baz=156,slow=7.2,SNR=23
YKA LR LR 00 17 59.9
comp=Z,11nm,19.5s,baz=180,slow=39
YKW3 **Yellowknife Ar** 47.29 350 eP P 23 55 38.4 +2.1
10nm,0.9s
TAOE **Nuku Hiva Isla** 48.66 242 eLR LR 00 09 08.5
112nm,23.7s
TAOE **Nuku Hiva Isla** 48.66 242 eT T 00 46 58.9
32nm,0.2s
HYT **Haines Junctio** 52.30 337 eP P 23 56 20.7 +6.1
RKT **Rikitea** 53.46 223 eT T 00 53 04.2
19nm,0.3s
MENT **Mentasta** 55.93 337 eP P 23 56 44.7 +3.8
7.7nm,0.4s
INK **Inuvik** 56.29 345 P P 23 56 42.6 -0.7
2.9nm,0.7s,baz=120,slow=7.5,SNR=11
INK **Inuvik** 56.29 345 eP P 23 56 42.9 -0.4
8.7nm,0.8s
DOT **Dot Lake** 56.46 337 eP P 23 56 45.6 +0.9
18nm,1.1s
PAX **Paxson** 56.62 336 eP P 23 56 48.5 +2.6
SCRK **Sand Creek** 56.62 338 eP P 23 56 48.9 +3.0
4.0nm,0.9s
RIDG **Independ'e Rid** 56.80 337 eP P 23 56 47.9 +0.8
16nm,1.1s
HDA **Harding Lake** 57.94 337 eP P 23 56 57.0 +1.9
4.5nm,0.8s
SUA **Susitna One** 58.03 333 eP P 23 57 00.4 +4.4
9.9nm,0.7s
RES **Resolute Bay** 58.07 1 LR LR 00 25 38.2
comp=Z,96nm,19.4s,baz=313,slow=40
RES **Resolute Bay** 58.07 1 eP P 23 56 57.0 +1.1
17nm,1.8s
IL1 **Eielson Array** 58.11 338 eP P 23 56 55.8 -0.5
ILAR **Eielson Array** 58.11 338 P P 23 56 56.0 -0.4
1.8nm,1.1s,baz=139,slow=5.3,SNR=9.6
ILAR LR LR 00 24 14.9
comp=Z,183nm,18.3s,baz=136,slow=38
ILB **Eielson Array** 58.11 338 eP P 23 56 56.4 0.0
RND **Reindeer** 58.16 336 eP P 23 56 57.4 +0.7
7.9nm,0.9s
PMOR **Pomariorio Ree** 58.30 240 eT T 00 59 08.0
3.6nm,0.2s
SFJD **Kangerlussuaq** 58.92 20 LR LR 00 25 05.6
comp=Z,42nm,18.7s,baz=246,slow=39
KTH **Kantishna Hill** 59.05 335 eP P 23 57 06.3 +3.3
28nm,1.8s
BPAW **Bear Paw Mtn.** 59.32 336 eP P 23 57 08.5 +3.7
5.2nm,1.8s
CAST **Castle Rocks** 59.45 335 eP P 23 57 04.8 -0.9
5.8nm,0.8s
MLY **Manley** 59.66 337 eP P 23 57 06.9 -0.2
4.7nm,0.8s
PPT **Papeete** 60.99 238 LR LR 00 18 48.2
comp=Z,50nm,19.1s,baz=161,slow=31
PPT2 **Papeete2** 61.01 238 eLR LR 00 14 47.0

66nm,26.8s
PLCA **Paso Flores** 62.59 157 P P 23 57 26.8 -0.5
4.8nm,0.9s,baz=353,slow=7.7,SNR=7.1
BORG **Borgarnes** 69.46 26 LR LR 00 31 25.6
comp=Z,22nm,18.9s,baz=186,slow=38
SPITS **Spitsbergen Ar** 78.66 11 LR LR 00 35 33.0
comp=Z,36nm,18.6s,baz=345,slow=37
ESDC **Sonseca Array** 82.71 51 P P 23 59 26.7 -0.4
0.2nm,0.6s,baz=292,slow=6.5,SNR=3.2
ESDC LR LR 00 33 33.6
comp=Z,31nm,20.0s,baz=165,slow=34
SEY **Seymchan** 83.85 334 P P 23 59 32.1 -0.3
0.8nm,0.4s,baz=108,slow=16
NOA **NORSAR Array B** 84.61 27 LR LR 00 40 34.2
comp=Z,18nm,18.6s,baz=290,slow=38
PETK **Petropavlovsk-** 85.07 324 LR LR 00 36 05.0
comp=Z,22nm,20.4s,baz=289,slow=35
ARCES **ARCESS Array B** 85.43 17 P P 23 59 38.6 -1.8
2.5nm,1.0s,baz=298,slow=3.8,SNR=3.3
HFS **Hagfors** 86.11 28 LR LR 00 38 20.5
comp=Z,17nm,21.8s,baz=283,slow=36
TIXI **Tiksi** 86.38 347 *eP* P 23 59 47.2 +2.3
20nm,1.7s
KOWA **Kowa** 89.79 75 LR LR 00 35 49.2
comp=Z,60nm,21.2s,baz=240,slow=33
DBIC **Dimbokro** 91.26 83 LR LR 00 38 15.5
comp=Z,12nm,21.9s,baz=228,slow=34
GERES **GERESS Array B** 91.26 38 LR LR 00 42 13.7
comp=Z,48nm,19.3s,baz=290,slow=36
TORD **Torodi Ar. Bea** 95.48 75 LR LR 00 40 35.9
comp=Z,51nm,20.6s,baz=290,slow=34
URZ **Urewera** 96.10 232 LR LR 00 35 03.2
comp=Z,97nm,18.6s,baz=1.5,slow=30
LZH **Lanzhou** 123.57 339 *e*PKP PKPdf 00 05 58.3 -3.0
LZH pPKP pPKPdf 00 06 08.1 0.0
LZH sPKP 00 06 12.0
WRA **Warramunga Arr** 130.21 258 PKP PKPdf 00 06 13.1 -1.0
0.6nm,1.1s,baz=89,slow=3.1,SNR=3.0

*ISCJB **22** 23:59:28.4±0.6, 35.87N±0.04×139.56E±0.07, h99km±3km, mb3.5/5, Error ellipse: s-maj=10.8km s-min=5.3km az=156.0*
*IDC **22** 23:59:28.6±2.1, 35.88N×139.65E, h92km±12km, mb3.3/5, mb1 3.4/7, mb1mx3.1/65, mbtmp3.7/7, Error ellipse: s-maj=38.6km s-min=7.5km az=65.0*
*JMA **22** 23:59:30.2±0.1, 35.88N×139.61E, h86km±1km, M3.1*
JMA Felt I J1.
ISC 22 23:59:29.2±1.0, 35.88N±0.05×139.57E±0.07, h95km±7km, n21, σ0°75/29, mb3.6/5, 6D, Near south coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JHU **Hanno** 0.24 264 ⇓P Pn 23 59 43.6 +0.6
JHU S Sn 23 59 52.6 -0.6
TOK **Tokyo** 0.24 142 P Pn 23 59 43.0 +0.1
JAG **Ashikaga** 0.56 350 ⇓P Pn 23 59 45.1 +0.2
JAG S Sn 23 59 56.1 -0.6
JRY **Ryogami san** 0.56 285 ⇓P Pn 23 59 45.7 +0.7
JRY eS Sn 23 59 56.8 0.0
JOD2 **Odawara 2** 0.73 213 ⇓P Pn 23 59 46.3 -0.2
JOD2 S Sn 23 59 58.5 -0.9
JYN **Shimob** 0.92 246 ⇓P Pn 23 59 48.8 +0.3
JYN S Sn 00 00 03.3 +0.4
JKT **Katashina** 0.93 344 ⇓P Pn 23 59 48.9 +0.3
JKT S Sn 00 00 03.0 -0.1
JIM2 **Oshima 3** 1.16 186 P Pn 23 59 51.1 -0.1
JIM2 S Sn 00 00 06.7 -1.0
MJAR **Matsushiro Arr** 1.29 301 P Pn 23 59 52.5 -0.1
9.8nm,0.3s,baz=107,slow=13,SNR=59
MJAR S Sn 00 00 09.6 -0.7
14nm,0.3s,baz=125,slow=18,SNR=14
MAT **Matsushiro** 1.29 301 P Pn 23 59 52.8 +0.1
MAT eS Sn 00 00 09.4 -0.9
BSO3 **Boso 3** 1.32 144 P Pn 23 59 53.3 +0.6
BSO3 eS Sn 00 00 10.8 +0.3
JHJ **Hachijo jima 2** 2.76 176 P Pn 00 00 12.2 +0.6
128nm,0.3s,baz=286,slow=23,SNR=17
JHJ S Sn 00 00 43.6 -0.5
71nm,0.3s,baz=57,slow=23,SNR=9.4
KSRS **Korea Array** 9.49 283 P Pn 00 01 45.6 +2.7
0.2nm,0.3s,baz=93,slow=14,SNR=5.4
H11N2 **WAKE ISLAND Hy** 28.90 117 T T 00 35 22.2
baz=308,slow=74,SNR=3.3
H11N1 **WAKE ISLAND Hy** 28.90 117 T T 00 35 19.9
baz=308,slow=74,SNR=6.5
H11N3 **WAKE ISLAND Hy** 28.91 117 T T 00 35 22.9
baz=308,slow=74,SNR=6.6
ZALV **Zalesovo Beam** 41.61 313 P P 00 07 07.8 +0.2
0.6nm,0.5s,baz=98,slow=8.6,SNR=3.0
MKAR **Makanchi Array** 43.49 303 P P 00 07 22.8 -0.1
0.3nm,0.6s,baz=81,slow=8.4,SNR=5.0
KURBB **Kurchatov Arra** 45.55 309 P P 00 07 39.5 +0.2
0.9nm,0.5s,baz=81,slow=7.5,SNR=14
BVAR **Borovoye Array** 50.26 313 P P 00 08 14.8 -0.7
0.2nm,0.5s,baz=82,slow=3.1,SNR=2.2
WRA **Warramunga Arr** 55.73 186 P P 00 08 56.0 0.0
0.6nm,0.7s,baz=0.6,slow=7.5,SNR=6.9

*IDC **23** 00:09:34.2±4.9, 36.55N×142.21E, h0km, mb3.3/3, mb1 3.3/5, mb1mx3.1/70, mbtmp3.4/5, ML3.3/2, MS2.1/1, Ms1 2.1/1, ms1mx1.9/30, Error ellipse: s-maj=89.0km s-min=38.5km az=97.0*
*ISCJB **23** 00:09:37.1±1.1, 36.65N±0.05×141.98E±0.08, h19km, mb3.1/3, Error ellipse: s-maj=9.9km s-min=6.9km az=20.6*
*JMA **23** 00:09:39.1±0.1, 36.66N×141.91E, h42km±5km, M3.3*
ISC 23 00:09:36.3±1.4, 36.58N±0.05×142.05E±0.09, h19km, n21, σ1°90/21, mb3.3/3, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ONAJ **Iwakimizuishiy** 1.13 298 P Pb 00 09 57.0 -0.3
JHO **Hitachi** 1.19 272 P Pb 00 09 58.1 -0.2
JHO S Sb 00 10 11.9 -1.5
JFK **Kawauchi** 1.23 310 P Pb 00 09 58.5 -0.4
JMM **Marumori** 1.63 322 P Pn 00 10 04.0 0.0
JMM eS Sn 00 10 22.9 -1.6
JFT **Otama** 1.66 305 eS Sn 00 10 24.2 -1.1
JIO **Ouri** 1.96 344 P Pb 00 10 09.0 -2.3
JIO eS Sn 00 10 30.3 -2.1
JFY **Yanaizu** 2.05 294 P Pb 00 10 11.5 -1.5
JOU **Okura** 2.10 329 eS Sn 00 10 35.1 -0.9
JAG **Ashikaga** 2.10 267 P Pn 00 10 11.4 +1.0
MJAR **Matsushiro Arr** 3.09 270 Pn Pn 00 10 26.2 +2.1
2.2nm,0.3s,baz=87,slow=10,SNR=9.9
MJAR Sn Sn 00 10 59.0 -1.6
2.7nm,0.3s,baz=85,slow=15,SNR=6.5
MJAR LR LR 00 11 53.0
comp=Z,32nm,19.9s,baz=135,slow=44
MAT **Matsushiro** 3.10 270 P Pb 00 10 27.0 -3.8
MAT S Sn 00 11 02.0 +1.4
JHJ **Hachijo jima 2** 3.92 209 Pn Pn 00 10 36.0 +0.5
10nm,0.3s,baz=75,slow=19,SNR=6.4
JHJ Sn Sn 00 11 17.9 -3.1
13nm,0.3s,baz=53,slow=19,SNR=4.6
H11N2 **WAKE ISLAND Hy** 27.48 121 T T 00 44 41.5
baz=315
H11N1 **WAKE ISLAND Hy** 27.48 121 T T 00 44 41.0
baz=315
H11N3 **WAKE ISLAND Hy** 27.49 121 T T 00 44 41.0
baz=315
H11S1 **WAKE ISLAND Hy** 28.18 123 T T 00 45 30.1
baz=318
H11S3 **WAKE ISLAND Hy** 28.18 123 T T 00 45 30.6
baz=318
H11S2 **WAKE ISLAND Hy** 28.20 123 T T 00 45 29.5
baz=318
SONM **Songino Array** 28.46 305 P P 00 15 31.5 +1.3
0.5nm,0.8s,baz=116,slow=8.2,SNR=3.0
MKAR **Makanchi Array** 44.79 303 P P 00 17 49.4 +0.6
0.1nm,0.5s,baz=85,slow=5.8,SNR=3.2
KURBB **Kurchatov Arra** 46.69 308 P P 00 18 06.7 +3.1
0.2nm,0.4s,baz=81,slow=7.0,SNR=3.0

IDC 23 00:18:00.6±6.5, 39.05N×111.01E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.1/68, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=135.0km s-min=31.8km az=85.0, Northeastern China

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SONM **Songino Array** 9.40 341 Pn Pn 00 20 17.4 0.0
0.1nm,0.3s,baz=159,slow=14,SNR=7.5
SONM Lg Lg 00 22 54.9
baz=159,slow=30,SNR=8.0
MKAR **Makanchi Array** 22.32 300 P P 00 22 59.8 0.0
0.4nm,0.8s,baz=96,slow=11,SNR=5.3
CMAR **Chiang Mai Arr** 23.04 210 P P 00 23 07.5 0.0
0.6nm,0.3s,baz=11,slow=9.5,SNR=7.6

*NEIC **23** 00:21:28.4±0.0, 16.44N×98.45W, h7km, MD4.0(MEX), After MEX.*
MEX 23 00:21:28.7±0.6, 16.46N×98.44W, h8km±5km, MD4.0, Near coast of Guerrero

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PNIG **Pinotepa** 0.31 103 *i*P Pg 00 21 34.4 -0.5
PNIG eS Sg 00 21 39.1 +0.1
PNIG **Pinotepa** 0.31 103 *i*P Pg 00 21 34.4 -0.5
PNIG eS Sg 00 21 39.0 0.0
ACX **Acapulco** 1.42 287 *i*P Pn 00 21 50.3 -4.4
ACX *i*S Sb 00 22 07.6 -6.0
VHO **Vista Hermosa** 1.75 69 *e*P Pn 00 21 56.4 -3.1
VHO eS Sn 00 22 17.4 -4.6
VHO **Vista Hermosa** 1.75 69 *e*P Pn 00 21 56.4 -3.1
VHO eS Sn 00 22 17.4 -4.6
CAIG **El Cayaco** 1.84 289 *e*P Pn 00 21 56.7 -3.9
CAIG eS Sn 00 22 19.6 -4.4
CAIG **El Cayaco** 1.84 289 *e*P Pn 00 21 56.7 -3.9
CAIG eS Sn 00 22 19.6 -4.4
PLIG **Platanillo** 2.17 332 *e*P Pn 00 22 02.1 -3.1
PLIG eS Sn 00 22 28.6 -3.7
PLIG **Platanillo** 2.17 332 *e*P Pn 00 22 02.1 -3.1
PLIG eS Sn 00 22 28.6 -3.7
HUIG **Huatulco** 2.35 107 *e*P Pn 00 22 04.2 -3.3
HUIG *i*S Sn 00 22 32.1 -4.5
HUIG **Huatulco** 2.35 107 *e*P Pn 00 22 04.2 -3.3
HUIG eS Sn 00 22 31.4 -5.2
ZIIG **Zihuatanejo** 3.11 292 *i*P Pn 00 22 15.1 -2.9
ZIIG *i*S Sn 00 22 52.0 -3.3

*ISCJB **23** 00:22:14.9±0.9, 36.01S±0.05×73.39W±0.07, h10km, mb3.6/4, Error ellipse: s-maj=9.1km s-min=6.1km az=152.3*
*IDC **23** 00:22:14.6±1.8, 36.00S×73.55W, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/36, mbtmp3.7/5, ML3.9/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/30, Error ellipse: s-maj=51.6km s-min=32.3km az=68.0*
*GUC **23** 00:22:17.1±0.4, 35.98S×73.33W, h12km±2km, ML3.7*
ISC 23 00:22:16.5±1.3, 35.96S±0.07×73.31W±0.10, h10km, n24, σ1°59/25, mb3.6/4, 1C-1D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
COCH **Cobquecura** 0.45 112 *e*P Pg 00 22 25.7 +0.2
COCH eS Sg 00 22 31.9 +0.5
COCH IAML 00 22 33.5
comp=N,10μm,0.6s
CCHI **Chillan** 1.18 123 *e*P Pb 00 22 37.1 -1.9
CCHI eS Sb 00 22 52.6 -1.8
CCHI IAML 00 22 59.4
comp=E,6μm,0.8s
GO05 **HualaæØ** 1.47 50 *e*P Pn 00 22 42.4 -0.8
GO05 eS Sn 00 23 01.5 -1.0
GO05 IAML 00 23 23.7
comp=E,945nm,0.6s
CANA **Caviahue** 2.63 138 *e*P Pn 00 22 58.9 -0.4
CANA IAML 00 23 08.0
comp=N,464nm,0.5s
CANA eS Sb 00 23 38.4 +2.0
LMEL **Las Melosas** 3.31 51 IAML 00 24 03.2
comp=N,205nm,1.0s
ROC1 **El Roble** 3.53 33 *e*P Pn 00 23 12.6 +0.9
RFA **San Rafael** 4.13 75 *e*P Pn 00 23 21.8 +2.0
AAGR **Agrelo** 4.68 53 *e*P Pn 00 23 30.0 +2.6
ARCO **CERRO ARCO** 4.77 51 *e*P Pn 00 23 29.9 +1.2
ARCO IAML 00 23 53.1
comp=Z,26nm,0.5s
AUSP **Uspallata** 4.95 42 *e*P Pn 00 23 33.6 +2.4
PLCA **Paso Flores** 5.23 156 Pn Pn 00 23 33.4 -1.5
comp=Z,0.9nm,0.3s,baz=340,slow=13,SNR=18
PLCA Lg Lg 00 24 58.5
comp=Z,2.7nm,0.3s,baz=100,slow=23,SNR=6.2
PLCA LR LR 00 25 17.2
comp=Z,78nm,20.8s,baz=340,slow=35
PLCA **Paso Flores** 5.23 156 *e*P Pn 00 23 34.0 -0.9
RTLS **Leoncito** 5.33 40 *e*P Pn 00 23 38.0 +1.5
RTCV **Cerro Valdivia** 5.70 45 *e*P Pn 00 23 42.3 +1.1
ACAN **Cantantal** 6.27 56 *e*P Pn 00 23 51.1 +2.0
AMOG **MOGNA** 6.43 40 *e*P Pn 00 23 52.1 +0.7
AGUA **GUANDACOL** 7.62 33 *e*P Pn 00 24 08.8 +1.0
APLL **PUNTA DE LOS L** 7.94 48 IAML 00 24 38.8
comp=Z,2.6nm,0.7s
VCA **Vinchina** 8.40 32 *e*P Pn 00 24 16.7 -1.8
CPUP **Villa Florida** 16.69 59 LR LR 00 32 41.3
comp=Z,51nm,20.2s,baz=243,slow=37
SIV **San Ignacio** 22.69 32 P P 00 27 17.9 -0.4
comp=Z,2.2nm,0.9s,baz=229,slow=11,SNR=6.8
TXAR **Lajitas Array** 70.96 332 P P 00 33 33.5 -0.8
comp=Z,0.3nm,0.8s,baz=156,slow=8.9,SNR=5.4
KOWA **Kowa** 82.39 66 P P 00 34 41.8 +2.7
comp=Z,0.9nm,0.6s,baz=209,slow=4.9,SNR=4.1
TORD **Torodi Ar. Bea** 85.85 71 P P 00 34 56.8 0.0
comp=Z,0.4nm,1.0s,baz=225,slow=4.5,SNR=2.4

*ISCJB **23** 00:26:04.8±0.6, 67.79N±0.03×20.3E±0.1, h0km, Error ellipse: s-maj=6.7km s-min=4.4km az=160.6*
*CSEM **23** 00:26:05.2±0.3, 67.80N×20.28E, h2km, ML2.2, Error ellipse: s-maj=7.3km s-min=5.5km az=53.0, Mining explosion.*
*UPP **23** 00:26:05.3, 67.82N×20.21E, h0km, ML2.2, Mining explosion.*
*HEL **23** 00:26:05.9±0.0, 67.82N×20.21E, h0km, ML2.0, ML2.2(UPP), Explosion*
ISC 23 00:26:05.5±0.9, 67.82N±0.02×20.23E±0.03, h0km, n45, σ0°68/54, Sweden

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KUA **Kurravaara** 0.14 17 P Pg 00 26 08.3 0.0
KUA S Sg 00 26 10.3 +0.2
KUA **Kurravaara** 0.14 17 P Pg 00 26 08.3 0.0
KUA S Sg 00 26 10.3 +0.2
KUA **Kurravaara** 0.14 17 *i*P Pg 00 26 08.3 0.0
KUA *i*S Sg 00 26 10.3 +0.2
RATU **Laukkuluspa** 0.24 272 P Pg 00 26 10.0 -0.1
RATU **Laukkuluspa** 0.24 272 P Pg 00 26 10.1 -0.1
RATU **Laukkuluspa** 0.24 272 *i*P Pg 00 26 10.1 -0.1
NIKU **Nikkaluokta** 0.46 277 P Pg 00 26 14.0 -0.2
NIKU **Nikkaluokta** 0.46 277 P Pg 00 26 14.0 -0.2
NIKU **Nikkaluokta** 0.46 277 *i*P Pg 00 26 14.0 -0.2
LANU **Lannavaara** 0.70 70 P Pg 00 26 18.8 -0.2
LANU **Lannavaara** 0.70 70 P Pg 00 26 18.8 -0.2
LANU **Lannavaara** 0.70 70 *i*P Pg 00 26 18.8 -0.2
DUNU **Dundret** 0.71 169 P Pg 00 26 18.7 -0.4
DUNU **Dundret** 0.71 169 P Pg 00 26 18.7 -0.4
DUNU **Dundret** 0.71 169 *i*P Pg 00 26 18.7 -0.4
MASU **Masugnsbyn** 0.77 117 P Pg 00 26 19.9 -0.3
MASU **Masugnsbyn** 0.77 117 P Pg 00 26 20.0 -0.3
MASU **Masugnsbyn** 0.77 117 *i*P Pg 00 26 20.0 -0.3
KIF **Kilpisjarvi** 1.21 10 Pb Pg 00 26 28.6 -0.1
KIF **Kilpisjarvi** 1.21 10 *e*P Pb 00 26 29.0 -0.3
KIF Sb Sb 00 26 44.8 -0.7
KIF **Kilpisjarvi** 1.21 10 *e*P Pb 00 26 29.0 -0.3
KIF **Kilpisjarvi** 1.21 10 *e*PB Pg 00 26 28.6 -0.1
baz=190
KIF MSG 00 26 44.1
comp=Z,20nm,0.2s
KIF *e*SB Sb 00 26 44.8 -0.7
PAJU **Pajala** 1.37 124 P Pg 00 26 30.6 -1.1
PAJU **Pajala** 1.37 124 P Pg 00 26 30.6 -1.1
PAJU **Pajala** 1.37 124 *e*P Pg 00 26 30.6 -1.1
HEF **Hetta** 1.42 64 P Pn 00 26 31.2 -1.3
HEF **Hetta** 1.42 64 *e*P Pn 00 26 31.6 -0.9
HEF **Hetta** 1.42 64 *e*P Pn 00 26 31.3 -1.3
baz=246
HEF MSG 00 26 48.5
comp=Z,10nm,0.2s
ERTU **Ertsjaerv** 1.48 148 P Pn 00 26 32.5 -0.9
ERTU **Ertsjaerv** 1.48 148 P Pn 00 26 32.6 -0.9
ERTU **Ertsjaerv** 1.48 148 *e*P Pn 00 26 32.6 -0.9
TOF **Tornio** 2.38 135 Pb Pn 00 26 46.9 +1.3
TOF Sg Sb 00 27 18.9 0.0
TOF **Tornio** 2.38 135 *e*PB Pn 00 26 47.0 +1.3
TOF MSG 00 27 16.0
comp=Z,6.0nm,0.2s
TOF *e*SG Sb 00 27 18.9 0.0
SGF **Sodankyl** 2.44 96 Pb Pn 00 26 47.7 +1.2
SGF Sg Sb 00 27 20.6 -0.1
SGF **Sodankyl** 2.44 96 *e*PB Pn 00 26 47.8 +1.2
baz=279
SGF *e*SG Sb 00 27 20.6 -0.1
ARE0 **ARCESS Array S** 2.59 46 P Pn 00 26 49.1 +0.5
ARE0 **ARCESS Array S** 2.59 46 *e*P Pn 00 26 49.1 +0.5
baz=230
OUL **Oulu** 3.56 138 Pg Pb 00 27 09.7 +0.4
OUL **Oulu** 3.56 138 *e*PG Pb 00 27 09.7 +0.4
baz=323
VRF **Varrio** 3.56 87 Pg Pb 00 27 09.8 +0.4
VRF **Varrio** 3.56 87 *e*PG Pb 00 27 09.8 +0.4
MSF **Maaselka** 3.97 115 P Pn 00 27 08.8 +1.2
MSF **Maaselka** 3.97 115 *e*P Pn 00 27 08.8 +1.2
baz=301
KU6 **Riekki** 4.21 111 P Pn 00 27 11.5 +0.7
KU6 **Riekki** 4.21 111 *e*P Pn 00 27 11.5 +0.7
baz=300

MAN 23 00:26:33, 10.06N×123.20E, h21km, mb4.0, ML2.8, MS2.4, 1C-1D, Cebu

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SNPH **Sibulan** 0.71 177 *i*P Pb 00 26 46.9 +0.1
SNPH *i*S Sn 00 26 58.8 +0.5
TBP **Tagbilaran** 0.75 119 *e*P Pb 00 26 47.2 -0.1
TBP *i*S Sn 00 27 00.8 +1.8
LLP **Lapu-Lapu** 0.79 71 *e*P Pb 00 26 44.8 -3.4
LLP eS Sb 00 26 54.6 -3.8
GUIM **Jordan** 0.82 313 *e*P Pb 00 26 48.2 -0.5
GUIM eS Sn 00 27 01.8 +0.8
RCP **Roxas** 1.56 343 *e*P Pn 00 27 00.1 +0.6
RCP eS Sb 00 27 23.9 +3.5
MSLP **Maasin** 1.63 87 *e*P Pn 00 26 59.4 -1.1
MSLP eS Sn 00 27 21.0 +0.1
OCLP **Ormoc** 1.70 54 *e*P Pn 00 27 02.3 +0.8
OCLP eS Sn 00 27 23.1 +0.6

*ISCJB **23** 00:26:45.8±0.5, 22.53S±0.04×68.58W±0.05, h127km±6km, mb3.8/3, Error ellipse: s-maj=8.4km s-min=6.6km az=180.0*
*GUC **23** 00:26:46.7±0.4, 22.45S×68.63W, h124km±3km, ML3.9*
*SJA **23** 00:26:47.2±1.2, 22.79S×68.49W, h93km±162km, ML2.6, MW2.9*
*IDC **23** 00:26:47.6±5.3, 22.44S×68.18W, h117km±33km, mb3.6/3, mb1 3.7/6, mb1mx3.4/37, mbtmp3.9/6, Error ellipse: s-maj=61.5km s-min=23.6km az=53.0*
ISC 23 00:26:46.2±0.9, 22.55S±0.04×68.52W±0.07, h118km±9km, n23, σ1°44/33, mb3.8/3, 6C, Northern Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PB06 **IPOC Station P** 0.99 261 *e*P Pn 00 27 08.6 +0.5
PB06 eS Sn 00 27 25.6 +0.9
PB06 IAML 00 27 27.4
comp=E,2μm,0.2s
PB09 **IPOC Station P** 1.01 318 *e*P Pn 00 27 08.6 +0.2
PB09 eS Sn 00 27 25.2 +0.1
PB09 IAML 00 27 27.1
comp=E,5μm,0.6s
PB07 **IPOC Station P** 1.51 303 *e*P Pn 00 27 13.9 0.0
PB07 eS Sn 00 27 34.2 -0.6
PB07 IAML 00 27 34.5
comp=N,3μm,0.3s
PB04 **IPOC Station P** 1.53 278 *e*P Pn 00 27 14.2 +0.2
PB04 eS Sn 00 27 35.2 0.0
PB04 IAML 00 27 37.5
comp=N,2μm,0.1s
PB01 **IPOC Station P** 1.75 329 *e*P Pn 00 27 16.2 -0.4
PB01 eS Sn 00 27 38.6 -1.2
PB01 IAML 00 27 41.6
comp=E,761nm,0.2s
PB02 **IPOC Station P** 1.77 313 *e*P Pn 00 27 16.7 -0.2
PB02 eS Sn 00 27 39.5 -0.7
PB02 IAML 00 27 47.1
comp=E,1μm,0.2s
PB10 **IPOC Station P** 2.11 243 *e*P Pn 00 27 21.5 +0.5
PB10 eS Sn 00 27 46.7 -0.9
PB10 **IPOC Station P** 2.11 243 *e*P Pn 00 27 21.3 +0.3
PB10 eS Sn 00 27 46.4 -1.2
PB10 IAML 00 27 56.4
comp=N,888nm,0.4s
PB08 **IPOC Station P** 2.47 346 *e*P Pn 00 27 26.2 +0.3
PB08 eS Sn 00 27 56.5 +0.1
PB14 **IPOC Station P** 2.70 220 *e*P Pn 00 27 29.2 +0.4
PB14 eS Sn 00 27 58.2 -3.3
PB14 **IPOC Station P** 2.70 220 IAML 00 28 10.5
comp=N,340nm,0.2s
YJA **Yavi** 2.80 83 *e*P Pn 00 27 32.1 +1.8
YJA IAML 00 27 33.1
comp=Z,18nm,0.5s
HJA **Humahuaca** 2.94 103 *e*P Pn 00 27 33.6 +1.6
HJA IAML 00 27 35.5
comp=Z,36nm,0.4s
SLA **San Lorenzo** 3.51 129 eS Pn 00 27 42.4 +3.1
SLA IAML 00 27 42.6
comp=Z,7.6nm,0.4s
AZAP **Zapla** 3.58 118 *e*P Pn 00 27 41.6 +1.2
ASTB **Santa Barbara** 3.99 111 *e*P Pn 00 27 46.8 +1.0
LPAZ **La Paz** 6.24 3 P Pn 00 28 17.7 +1.2
comp=Z,0.7nm,0.3s,baz=166,slow=7.4,SNR=15
LPAZ S Sn 00 29 25.8 -1.0
comp=Z,0.1nm,0.3s,baz=357,slow=18,SNR=2.1
SIV **San Ignacio** 9.59 48 P Pn 00 28 57.0 -4.3
comp=Z,2.3nm,0.3s,baz=244,slow=12,SNR=24
SIV S Sn 00 30 36.6 -11
comp=Z,0.2nm,0.3s,baz=300,slow=20,SNR=3.7
CPUP **Villa Florida** 10.86 113 P Pn 00 29 16.4 -2.0
comp=Z,0.0nm,0.3s,baz=309,slow=13,SNR=3.1
KOWA **Kowa** 73.10 66 P P 00 38 04.4 +0.3
comp=Z,1.3nm,0.7s,baz=235,slow=5.2,SNR=5.9
TORD **Torodi Ar. Bea** 77.37 70 P P 00 38 28.4 -0.2
comp=Z,0.8nm,0.4s,baz=256,slow=5.5,SNR=21
YKA **Yellowknife Ar** 92.29 340 P P 00 39 43.2 +0.7
comp=Z,0.3nm,0.6s,baz=138,slow=4.2,SNR=8.1
MKAR **Makanchi Array** 146.25 37 PKPbc PKPbc 00 46 13.0 0.0
comp=Z,0.3nm,0.6s,baz=300,slow=2.4,SNR=3.9

*IDC **23** 00:27:12.0±0.6, 29.62S×179.17W, h332km±7km, mb3.0/2, mb1 3.3/3, mb1mx3.0/43, mbtmp3.9/3, Error ellipse: s-maj=32.4km s-min=21.6km az=144.0*
*ISCJB **23** 00:27:12.9±0.6, 29.75S±0.06×179.8W±0.1, h300km, mb3.1/2, Error ellipse: s-maj=13.8km s-min=4.6km az=27.9*
*WEL **23** 00:27:17.9±1.1, 30.5S±20°×18°0W±5°, h253km±33km*
ISC 23 00:27:11.5±0.7, 29.70S±0.08×179.8W±0.1, h300km, n49, σ2°43/48, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
RIZ **Raoul Island** 1.70 75 P Pn 00 27 57.3 +1.3
RIZ **Raoul Island** 1.70 75 S S 00 28 31.5 +1.1
GLKZ **Green Lake** 1.70 76 P Pn 00 27 57.3 +1.2
GLKZ **Green Lake** 1.70 76 S S 00 28 32.5 +1.0
RAO **Raoul Island** 1.70 75 P Pn 00 27 58.1 +2.0
192nm,0.3s,baz=86,slow=12,SNR=8.5
RAO S S 00 28 32.0 +0.5
341nm,0.3s,baz=276,slow=23,SNR=8.1
MXZ **Matakaoa Point** 8.00 191 P Pn 00 29 08.8 +3.8
WMGZ **Waiomatatini S** 8.23 190 P Pn 00 29 09.1 +1.3
WMGZ **Waiomatatini S** 8.23 190 S S 00 30 41.8 -0.5
HAZ **Te Kaha** 8.29 193 P Pn 00 29 11.6 +3.2
HAZ **Te Kaha** 8.29 193 S S 00 30 41.5 -1.9
PKGZ **Pakihiroa** 8.36 192 P Pn 00 29 12.6 +3.1
PKGZ **Pakihiroa** 8.36 192 S S 00 30 43.1 -2.1
PUZ **Puketiti** 8.51 190 P Pn 00 29 14.6 +3.4
PUZ **Puketiti** 8.51 190 S S 00 30 45.4 -3.1
RUGZ **Raukumara Rang** 8.51 194 P Pn 00 29 12.2 +0.9

RUGZ	**Raukumara Rang**	**8.51 194**	S	**S**	**00 30 45.9**	**-2.8**
MWZ	**Matawai**	**8.89 194**	P	**Pn**	**00 29 17.7**	**+1.6**
MWZ	**Matawai**	**8.89 194**	S	**S**	**00 30 55.4**	**-1.8**
URZ	**Urewera**	**8.91 196**	P	**Pn**	**00 29 19.6**	**+3.4**
	1.7nm,0.3s,baz=275,slow=4.7,SNR=14					
URZ			S	S	00 30 54.0	-3.6
	2.5nm,0.3s,baz=148,slow=23,SNR=13					
URZ	**Urewera**	**8.91 196**	P	**Pn**	**00 29 17.6**	**+1.3**
URZ	**Urewera**	**8.91 196**	S	**S**	**00 30 57.9**	**+0.2**
CNGZ	**Carnagh Statio**	**8.92 190**	P	**Pn**	**00 29 20.5**	**+4.3**
TKGZ	**Te Karaka**	**8.93 192**	P	**Pn**	**00 29 19.8**	**+3.5**
TKGZ	**Te Karaka**	**8.93 192**	S	**S**	**00 30 56.7**	**-1.3**
MUGZ	**Murupara**	**9.21 197**	P	**Pn**	**00 29 22.3**	**+2.5**
MUGZ	**Murupara**	**9.21 197**	S	**S**	**00 31 05.1**	**+0.9**
RIGZ	**Rimuhau**	**9.21 192**	P	**Pn**	**00 29 20.8**	**+1.0**
RIGZ	**Rimuhau**	**9.21 192**	S	**S**	**00 31 02.1**	**-2.3**
RTZ	**Ruatahuna**	**9.29 196**	P	**Pn**	**00 29 23.3**	**+2.4**
SNGZ	**Shannon Statio**	**9.36 194**	P	**Pn**	**00 29 23.9**	**+2.1**
SNGZ	**Shannon Statio**	**9.36 194**	S	**S**	**00 31 05.8**	**-2.1**
ARHZ	**Aropaoanui**	**9.90 195**	P	**Pn**	**00 29 29.9**	**+1.6**
ARHZ	**Aropaoanui**	**9.90 195**	S	**S**	**00 31 18.5**	**-1.5**
DZM	**Mont Dzumac**	**14.51 298**	P	Pn	00 30 33.9	+9.5
	1.6nm,0.3s,baz=131,slow=12,SNR=23					
ASAR	**Alice Springs**	**41.58 267**	P	**P**	**00 34 32.8**	**+1.8**
	0.5nm,0.5s,baz=101,slow=6.2,SNR=5.7					
ASAR			PcP	**PcP**	**00 36 22.4**	**+0.5**
	0.4nm,0.6s,baz=122,slow=3.7,SNR=4.3					
WRA	**Warramunga Arr**	**42.51 272**	P	**P**	**00 34 39.9**	**+1.6**
	1.0nm,0.7s,baz=111,slow=7.7,SNR=8.1					
MKAR	**Makanchi Array**	**116.13 311**	PKP	**PKPdf**	**00 45 15.5**	**-3.4**
	0.1nm,0.4s,baz=220,slow=1.9,SNR=2.5					
KURBB	**Kurchatov Arra**	**119.47 314**	PKP	**PKPdf**	**00 45 21.6**	**-3.5**
	0.5nm,0.5s,baz=116,slow=2.0,SNR=6.1					
BVAR	**Borovoye Array**	**124.81 316**	PKP	**PKPdf**	**00 45 32.5**	**-2.8**
	1.1nm,0.7s,baz=131,slow=4.7					
ARCES	**ARCESS Array B**	**137.57 347**	PKhKP	PKPpre	00 45 47.3	
	3.2nm,1.1s,baz=46,slow=3.9,SNR=4.6					
ARCES			PKP	**PKPdf**	**00 45 54.4**	**-4.6**
	2.2nm,0.9s,baz=50,slow=3.1,SNR=3.1					
KBZ	**Khabaz**	**143.42 304**	PKP	PKPab	00 46 06.1	-1.2
	1.2nm,0.8s,baz=179,slow=4.2,SNR=4.2					
FINES	**FINESS Array B**	**143.94 339**	PKP	**PKPab**	**00 46 06.0**	**-2.8**
	4.8nm,0.3s,baz=53,slow=4.1,SNR=73					
NB2	**NORSAR Subarra**	**147.81 350**	PKP	**PKPdf**	**00 46 16.9**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=14,slow=2.8					
NOA	**NORSAR Array B**	**147.81 350**	PKPbc	**PKPdf**	**00 46 17.2**	**0.0**
	comp=Z,2.1nm,0.7s,baz=15,slow=4.3,SNR=7.6					
HFS	**Hagfors**	**148.23 347**	PKPbc	**PKPdf**	**00 46 18.4**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=90,slow=2.2,SNR=6.4					
AKASG	**Malin Array Be**	**149.79 322**	PKPbc	**PKPdf**	**00 46 22.9**	**+2.3**
	comp=Z,2.0nm,0.5s,baz=48,slow=2.6,SNR=9.6					
MMAI	**Mount Meron Ar**	**149.84 285**	PKPbc	**PKPdf**	**00 46 24.8**	**+3.3**
	comp=Z,2.2nm,0.4s,baz=63,slow=1.8,SNR=9.6					
BRTR	**Keskin Array B**	**150.89 299**	PKPbc	**PKPdf**	**00 46 26.1**	**+3.2**
	comp=Z,0.5nm,0.4s,baz=139,slow=4.5,SNR=6.9					
TORD	**Torodi Ar. Bea**	**163.47 185**	PKPab	**PKPab**	**00 47 28.8**	**-3.1**
	comp=Z,0.3nm,0.5s,baz=181,slow=3.1,SNR=9.3					

*KRSC **23** 00:56:48.2±0.9,54°.66N×163°.16E,h16km±24km,ML4.0*
*IDC **23** 00:56:49.7±1.4,55°.32N×162°.38E,h0km,mb3.3/6,*
mb1 3.6/7,mb1mx3.3/78,mbtmp3.3/7,ML3.1/1,MS3.3/1,
Ms1 3.3/1,ms1mx2.2/43,Error ellipse: s-maj=46.0km
s-min=19.5km az=160.0

ISC 23 00:56:51.1±2.3,54°.91N±0°.08×162°.86E±0°.07,h17km±13km, n36,σ1°30/44,mb3.3/6,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.31**	**359**	*eP*	**Pg**	**00 57 15.9**	**-0.4**
KBTR				*eS*	**Sg**	**00 57 35.8**	**+2.5**
KZV	**Kizimen**	**1.49**	**279**	*eP*	**Pn**	**00 57 18.0**	**+0.7**
KZV				*eS*	**Sg**	**00 57 39.3**	**0.0**
TUMR	**Tumrok**	**1.60**	**285**	*eP*	**Pb**	**00 57 20.4**	**0.0**
TUMR				*eS*	**Sg**	**00 57 44.1**	**+1.2**
BZMR	**Bezymyannaya**	**1.70**	**308**	*eP*	**Pb**	**00 57 22.5**	**+0.5**
LGNR	**Loginova**	**1.71**	**315**	*eP*	**Pg**	**00 57 23.1**	**-0.9**
LGNR				*eS*	**Sg**	**00 57 48.3**	**+2.1**
BZWR	**Bezymyannyi-We**	**1.71**	**309**	*eP*	**Pg**	**00 57 22.9**	**-1.2**
KMNR	**Kamenistaya**	**1.72**	**301**	*eP*	**Pb**	**00 57 22.7**	**+0.3**
KMNR				*eS*	**Sg**	**00 57 48.4**	**+1.7**
KPT	**Kopyto**	**1.84**	**306**	*eS*	**Sg**	**00 57 52.3**	**+1.9**
SMKR	**Semkarok**	**1.86**	**335**	*eP*	**Pb**	**00 57 24.6**	**0.0**
SMKR				*eS*	**Sg**	**00 57 51.1**	**+0.2**
KLY	**Klyuchi**	**1.89**	**319**	*eP*	**Pb**	**00 57 24.4**	**-0.7**
KLY				*eS*	**Sg**	**00 57 50.4**	**-1.4**
BDR	**Baidarnaya**	**1.91**	**331**	*eP*	**Pb**	**00 57 25.6**	**0.0**
SRKR	**Sorokina**	**2.00**	**332**	*eP*	**Pb**	**00 57 27.4**	**+0.4**
SRKR				*eS*	**Sg**	**00 57 55.9**	**+0.5**
KOZ	**Kozyrevsk**	**2.06**	**305**	*eP*	**Pb**	**00 57 27.9**	**-0.1**
KII	**Karymskiy**	**2.17**	**248**	*eP*	**Pn**	**00 57 27.1**	**+0.5**
KII				*eS*	**Sn**	**00 57 54.3**	**+1.2**
SDLR	**Sedlovina**	**2.85**	**237**	*eP*	**Pn**	**00 57 36.2**	**+0.2**
SMAR	**Somma**	**2.90**	**237**	*eP*	**Pn**	**00 57 36.9**	**+0.2**
KRX	**Arik**	**2.92**	**240**	*eP*	**Pn**	**00 57 37.5**	**+0.6**
UGLR	**Uglovaya**	**2.92**	**236**	*eP*	**Pn**	**00 57 37.1**	**+0.2**
UGLR				*eS*	**Sn**	**00 58 12.7**	**+1.0**
AVH	**Avacha**	**2.93**	**238**	*eP*	**Pn**	**00 57 37.7**	**+0.7**
KOK	**Koryaka**	**2.97**	**239**	*eP*	**Pn**	**00 57 38.0**	**+0.5**
PET	**Petropavlovsk**	**3.12**	**235**	*eP*	**Pn**	**00 57 39.7**	**+0.2**
PET				*eS*	**Sn**	**00 58 16.9**	**+0.6**
GNL	**Ganaly**	**3.13**	**249**	*eP*	**Pn**	**00 57 41.0**	**+1.3**
PETK	**Petropavlovsk-**	**3.54**	**242**	Pn	**Pn**	**00 57 46.1**	**+0.9**
	7.7nm,0.3s,baz=73,slow=18,SNR=24						
PETK				Sn	**Sn**	**00 58 30.4**	**+3.7**
	0.4nm,0.3s,baz=278,slow=34,SNR=3.0						
RUS	**Russkaya**	**3.58**	**228**	*eP*	**Pn**	**00 57 45.1**	**-0.7**
MTVR	**Mutnovka**	**3.69**	**231**	*eP*	**Pn**	**00 57 48.0**	**+0.5**
ASAK	**Asacha**	**3.88**	**231**	*eP*	**Pn**	**00 57 50.7**	**+0.6**
ILAR	**Eielson Array**	**26.38**	**48**	P	**P**	**01 02 26.8**	**+0.6**
	0.7nm,0.8s,baz=265,slow=9.2,SNR=8.0						
H11N2	**WAKE ISLAND Hy**	**35.25**	**173**	T	T	01 41 06.7	
	baz=355,slow=76,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**35.26**	**173**	T	T	01 41 09.8	
	baz=355,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**35.27**	**173**	T	T	01 41 10.3	
	baz=355,slow=76,SNR=8.7						
YKA	**Yellowknife Ar**	**40.72**	**45**	P	**P**	**01 04 31.0**	**+0.7**
	0.2nm,0.7s,baz=299,slow=8.3,SNR=4.2						
KURBB	**Kurchatov Arra**	**48.27**	**302**	P	**P**	**01 05 28.0**	**-2.8**
	0.1nm,0.3s,baz=48,slow=9.9,SNR=2.9						
MKAR	**Makanchi Array**	**48.84**	**296**	P	**P**	**01 05 32.0**	**-3.2**
	0.2nm,0.7s,baz=58,slow=7.9,SNR=4.1						
AAK	**Ala-Archa**	**55.73**	**297**	LR	LR	01 29 54.1	
	comp=Z,27nm,19.5s,baz=135,slow=36						
TXAR	**Lajitas Array**	**68.45**	**70**	P	**P**	**01 07 53.5**	**+1.3**
	0.3nm,0.7s,baz=306,slow=4.5,SNR=4.6						
BRTR	**Keskin Array B**	**76.23**	**322**	P	**P**	**01 08 37.8**	**-0.7**
	0.2nm,0.4s,baz=43,slow=4.5,SNR=2.6						

*IDC **23** 01:08:50.3±3.4,18°.85S×169°.44E,h263km±36km,mb3.5/5,*
mb1 3.7/6,mb1mx3.3/43,mbtmp4.1/6,Error ellipse:
s-maj=76.2km s-min=25.5km az=152.0

ISC 23 01:08:48.9±1.6,18°.7S±0°.3×169°.4E±0°.4,h246km,n10, σ0°96/10,mb3.7/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.39**	**219**	P	**Pn**	**01 09 57.9**	**+0.6**
	1.7nm,0.3s,baz=106,slow=16,SNR=23						
STKA	**Stephens Creek**	**28.30**	**237**	P	**P**	**01 14 19.5**	**-0.4**
	2.6nm,0.7s,baz=77,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**33.11**	**262**	P	**P**	**01 15 01.4**	**-0.9**
	1.2nm,0.6s,baz=94,slow=8.7,SNR=15						
ASAR	**Alice Springs**	**33.44**	**255**	P	**P**	**01 15 04.7**	**-0.4**
	7.8nm,0.6s,baz=83,slow=9.0,SNR=111						
SONM	**Songino Array**	**86.88**	**323**	P	**P**	**01 21 07.6**	**+1.7**
	0.9nm,0.8s,baz=103,slow=6.7,SNR=4.4						
ILAR	**Eielson Array**	**89.64**	**17**	P	**P**	**01 21 17.4**	**-1.0**
	0.5nm,0.8s,baz=220,slow=7.1,SNR=4.6						
YKA	**Yellowknife Ar**	**100.09**	**27**	P	**Pdif**	**01 22 06.9**	**+0.9**
	0.1nm,0.7s,baz=254,slow=4.3,SNR=3.3						
ARCES	**ARCESS Array B**	**124.57**	**345**	PKP	**PKPdf**	**01 27 17.8**	**-0.6**
	1.7nm,1.0s,baz=95,slow=2.7,SNR=4.6						
GERES	**GERESS Array B**	**144.08**	**332**	PKP	**PKPab**	**01 27 53.9**	**+0.3**
	0.7nm,0.6s,baz=42,slow=4.7,SNR=8.7						
FETA	**Feichten**	**146.76**	**333**	*i* PKPab	**PKPbc**	**01 28 02.2**	**0.0**
	2.3nm,0.7s						

KRSC 23 01:14:10.6±1.1,54°.67N×163°.08E,h17km±35km,ML3.8,

Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.54**	**355**	*eP*	Pn	01 14 37.7	+0.4
KBTR				*eS*	Sn	01 14 57.2	+0.2
KZV	**Kizimen**	**1.67**	**286**	*eP*	Pb	01 14 40.1	-0.8
KZV				*eS*	Sb	01 15 01.4	-0.3
BKI	**Bering**	**1.75**	**71**	*eP*	Pb	01 14 41.8	-0.4
BKI				*eS*	Sb	01 15 04.4	+0.5
TUMR	**Tumrok**	**1.80**	**291**	*eP*	Pb	01 14 42.4	-0.7
TUMR				*eS*	Sb	01 15 05.9	+0.5
BZMR	**Bezymyannaya**	**1.95**	**312**	*eP*	Pb	01 14 44.5	-1.2
KMNR	**Kamenistaya**	**1.96**	**305**	*eP*	Pb	01 14 44.8	-1.0
KMNR				*eS*	Sb	01 15 09.8	-0.1
BZWR	**Bezymyannyi-We**	**1.96**	**312**	*eP*	Pb	01 14 44.6	-1.4
LGNR	**Loginova**	**1.96**	**317**	*eP*	Pb	01 14 45.2	-0.8
LGNR				*eS*	Sb	01 15 10.4	+0.1
KPT	**Kopyto**	**2.08**	**310**	*eS*	Sb	01 15 13.9	+0.3
SMKR	**Semkarok**	**2.12**	**335**	*eP*	Pn	01 14 46.4	+1.1
SMKR				*eS*	Sn	01 15 12.3	+1.0
KLY	**Klyuchi**	**2.15**	**321**	*eP*	Pn	01 14 45.8	+0.2
KLY				*eS*	Sn	01 15 11.3	-0.5
BDR	**Baidarnaya**	**2.17**	**332**	*eP*	Pn	01 14 47.7	+1.6
KII	**Karymskiy**	**2.22**	**255**	*eP*	Pb	01 14 48.7	-1.6
KII				*eS*	Sb	01 15 16.8	-0.6
SRKR	**Sorokina**	**2.26**	**332**	*eP*	Pn	01 14 48.1	+0.9
KOZ	**Kozyrevsk**	**2.30**	**308**	*eP*	Pb	01 14 50.2	-1.3
SPN	**Mys Shipunski**	**2.40**	**230**	*eP*	Pn	01 14 50.6	+1.5
SPN				*eS*	Sn	01 15 19.3	+1.2
NLC	**Nalytchevo**	**2.67**	**237**	*eP*	Pn	01 14 54.7	+1.9
NLC				*eS*	Sb	01 15 27.8	-2.6
ESO	**Esso**	**2.80**	**298**	*eP*	Pn	01 14 56.8	+2.2
SDLR	**Sedlovina**	**2.84**	**242**	*eP*	Pn	01 14 57.9	+2.6
UGLR	**Uglovaya**	**2.91**	**241**	*eP*	Pn	01 14 58.9	+2.7
AVH	**Avacha**	**2.93**	**243**	*eP*	Pn	01 14 59.1	+2.7
KRX	**Arik**	**2.93**	**245**	*eP*	Pb	01 14 59.7	-2.7
KOK	**Koryaka**	**2.97**	**244**	*eP*	Pb	01 15 00.4	-2.6
DALK	**Dalny**	**3.04**	**239**	*eP*	Pn	01 15 00.5	+2.6
DALK				*eS*	Sn	01 15 37.1	+3.2
PET	**Petropavlovsk**	**3.10**	**240**	*eP*	Pn	01 15 01.5	+2.8
PET				*eS*	Sn	01 15 38.5	+3.2
GNL	**Ganaly**	**3.17**	**254**	*eP*	Pn	01 15 03.0	+3.2
KRMR	**Karymshinskiy**	**3.47**	**240**	*eP*	Pn	01 15 06.8	+3.0
RUS	**Russkaya**	**3.53**	**232**	*eP*	Pn	01 15 07.6	+3.0
MTVR	**Mutnovka**	**3.65**	**235**	*eP*	Pn	01 15 09.6	+3.2
ASAK	**Asacha**	**3.85**	**236**	*eP*	Pn	01 15 12.4	+3.3
KDTR	**Khodutka, Kamc**	**4.16**	**228**	P	Pn	01 15 17.9	+4.7
KDTR				*eS*	Sn	01 16 06.5	+5.2

*ISCJB **23** 01:55:59.4±1.0,36°.9S±0°.2×51°.9E±0°.2,h10km,mb3.7/5,*
MS3.5/9,Error ellipse: s-maj=33.8km s-min=17.6km
az=29.6
*IDC **23** 01:55:59.8±1.1,36°.96S×51°.92E,h0km,mb3.7/5,*
mb1 3.9/6,mb1mx3.5/54,mbtmp3.8/6,ML4.1/1,MS3.4/9,
Ms1 3.5/9,ms1mx3.1/43,Error ellipse: s-maj=59.8km
s-min=20.5km az=23.0

ISC 23 01:56:01.5±1.2,36°.9S±0°.3×51°.9E±0°.2,h10km,n15, σ1°34/9,mb3.8/5,MS3.4/9,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**18.71**	**346**	P	**P**	**02 00 20.1**	**-0.3**
	0.6nm,0.3s,baz=178,slow=11,SNR=5.4						
LBTB	**Lobatse**	**25.41**	**290**	P	**P**	**02 01 27.5**	**-1.8**
	1.4nm,0.7s,baz=145,slow=12,SNR=2.8						
LBTB				LR	LR	02 09 59.1	
	comp=Z,61nm,21.4s,baz=121,slow=33						
TSUM	**Tsumeb**	**34.82**	**291**	P	**P**	**02 02 52.7**	**0.0**
	2.4nm,0.8s,baz=134,slow=12,SNR=3.0						
KMBO	**Kilima Mbogo**	**38.08**	**336**	LR	LR	02 16 40.5	
	comp=Z,52nm,19.3s,baz=96,slow=32						
DBIC	**Dimbokro**	**68.45**	**297**	LR	LR	02 34 33.8	
	comp=Z,27nm,19.5s,baz=120,slow=34						
TORD	**Torodi Ar. Bea**	**68.62**	**306**	P	**P**	**02 07 06.7**	**+1.8**
	0.4nm,0.9s,baz=136,slow=5.3,SNR=2.3						
TORD				LR	LR	02 34 29.3	
	comp=Z,35nm,21.6s,baz=45,slow=34						
ASAR	**Alice Springs**	**70.05**	**105**	P	**P**	**02 07 13.9**	**0.0**
	0.5nm,0.7s,baz=236,slow=6.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**70.68**	**47**	LR	LR	02 30 42.8	
	comp=Z,25nm,21.4s,baz=190,slow=29						
STKA	**Stephens Creek**	**71.45**	**116**	LR	LR	02 31 57.1	
	comp=Z,105nm,18.2s,baz=203,slow=30						
WRA	**Warramunga Arr**	**72.41**	**102**	P	**P**	**02 07 27.2**	**-1.0**
	1.1nm,1.1s,baz=235,slow=5.3,SNR=4.6						
KOWA	**Kowa**	**73.37**	**303**	LR	LR	02 38 21.6	
	comp=Z,48nm,19.4s,baz=199,slow=35						
IDI	**Anoyia**	**76.08**	**337**	LR	LR	02 42 04.2	
	comp=Z,10nm,18.9s,baz=259,slow=36						
BRTR	**Keskin Array B**	**78.07**	**346**	LR	LR	02 41 55.1	
	comp=Z,13nm,18.1s,baz=123,slow=35						
ILAR	**Eielson Array**	**149.91**	**16**	PKPbc	**PKPbc**	**02 15 51.7**	**+0.7**
	0.2nm,0.7s,baz=331,slow=3.4,SNR=4.2						
YKA	**Yellowknife Ar**	**153.04**	**346**	PKPbc	**PKPbc**	**02 15 59.4**	**+1.1**
	0.1nm,0.7s,baz=22,slow=1.7,SNR=2.8						
YKA				PKPab	**PKPab**	**02 16 08.4**	**-1.3**
	0.1nm,0.7s,baz=20,slow=2.3,SNR=4.0						

MAN 23 02:09:43,8°.63N×126°.41E,h32km,mb3.6,ML2.4,MS1.8, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.44**	**186**	*eP*	Pn	02 09 53.8	+0.6
BIPH				*i* S	Sn	02 10 01.9	+1.9
BUTP	**Butuan**	**0.85**	**294**	*eP*	Pn	02 09 47.1	-12
BUTP				*eS*	Sb	02 10 10.4	-0.1
BUKP	**Musuan**	**1.53**	**241**	*eP*	Pb	02 10 09.7	-1.1

*NEIC **23** 02:16:22.3±0.0,15°.92N×98°.65W,h16km±5km,MD4.1*
*MEX **23** 02:16:22.3±0.4,15°.92N×98°.65W,h16km±5km,MD4.1*
*IDC **23** 02:16:26.4±10.0,16°.12N×98°.43W,h33km±54km,mb3.5/8,*
mb1 3.8/10,mb1mx3.6/46,mbtmp3.7/10,ML3.3/2,MS3.3/3,
Ms1 3.3/3,ms1mx2.8/29,Error ellipse: s-maj=98.6km
s-min=26.3km az=10.0

ISC 23 02:16:19.4±1.9,15°.85N±0°.07×98°.62W±0°.04,h5km±10km, n209,σ2°02/212,mb4.2/42,MS3.4/3,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.71**	**42**	*i* P	**Pg**	**02 16 33.3**	**+0.1**
PNIG				*i* S	**Sg**	**02 16 41.8**	**-0.8**
PNIG	**Pinotepa**	**0.71**	**42**	*i* P	**Pg**	**02 16 33.3**	**+0.1**
PNIG				*i* S	**Sg**	**02 16 41.8**	**-0.8**
ACX	**Acapulco**	**1.56**	**311**	*eP*	Pn	02 16 42.3	-5.5
ACX				*i* S	**Sn**	**02 17 01.1**	**-7.3**
CAIG	**El Cayaco**	**1.98**	**307**	*eP*	**Pn**	**02 16 50.6**	**-2.9**
CAIG				*i* S	**Sn**	**02 17 13.1**	**-5.6**
CAIG	**El Cayaco**	**1.98**	**307**	*eP*	**Pn**	**02 16 50.6**	**-2.9**
CAIG				*i* S	**Sn**	**02 17 13.1**	**-5.6**
VHO	**Vista Hermosa**	**2.18**	**56**	*eP*	**Pn**	**02 16 54.7**	**-1.8**
VHO				*eS*	**Sn**	**02 17 20.4**	**-3.7**
VHO	**Vista Hermosa**	**2.18**	**56**	*eP*	**Pn**	**02 16 54.7**	**-1.8**
VHO				*eS*	**Sn**	**02 17 20.4**	**-3.7**
HUIG	**Huatulco**	**2.42**	**92**	*eP*	**Pn**	**02 16 58.6**	**-1.1**
HUIG				*i* S	**Sn**	**02 17 26.8**	**-2.9**
HUIG	**Huatulco**	**2.42**	**92**	*eP*	**Pn**	**02 16 58.6**	**-1.1**
PLIG	**Platanillo**	**2.66**	**342**	*eP*	**Pn**	**02 17 00.9**	**-2.2**
PLIG				*eS*	**Sn**	**02 17 30.2**	**-5.6**
PLIG	**Platanillo**	**2.66**	**342**	*eP*	**Pn**	**02 17 00.9**	**-2.2**
PLIG				*eS*	**Sn**	**02 17 30.2**	**-5.6**
UNM	**Universidad Na**	**3.50**	**351**	*ePn*	**Pn**	**02 17 17.3**	**+2.6**
CMIG	**Matias Romero**	**3.79**	**71**	Pn	**Pn**	**02 17 18.1**	**-0.4**
	8.1nm,0.3s,baz=259,slow=12,SNR=151						
CMIG				Sn	**Sn**	**02 18 01.9**	**-1.6**
	28nm,0.3s,baz=173,slow=22,SNR=7.2						
CMIG				Lg	Lg	02 18 20.0	
	175nm,0.3s,baz=342,slow=22,SNR=24						
LVIG	**Laguna Verde**	**4.38**	**28**	*ePn*	Pn	02 17 22.7	-4.0
MOIG	**Morelia**	**4.52**	**328**	*ePn*	Pn	02 17 34.3	+5.5
MOIG				*eSn*	**Sn**	**02 18 27.0**	**+5.1**
ZAIG	**Zacatecas**	**7.82**	**332**	*ePn*	**Pn**	**02 18 17.5**	**+3.3**
H06E1	**SOCORRO T-PHAS**	**12.11**	**286**	T	T	02 31 21.4	
	SNR=177						
H06S1	**SOCORRO T**	**12.12**	**285**	T	T	02 31 25.7	
	SNR=24						
TXAR	**Lajitas Array**	**14.20**	**342**	Pn	**Pn**	**02 19 43.2**	**+1.8**
	0.0nm,0.3s,baz=155,slow=13,SNR=5.3						
JTS	**JuntasAbangare**	**14.41**	**111**	*ePn*	**Pn**	**02 19 42.8**	**-1.5**
JCT	**Junction City**	**14.60**	**356**	*ePn*	**Pn**	**02 19 47.7**	**+0.9**
ABTX	**Abilene, Hawle**	**16.72**	**357**	P	**Pn**	**02 20 15.0**	**+0.5**
	baz=177						
ABTX	**Abilene, Hawle**	**16.72**	**357**	*ePn*	**P**	**02 20 16.6**	**-0.3**
	14nm,1.0s						
MNTX	**Cornudas Mount**	**16.93**	**340**	P	**P**	**02 20 19.2**	**0.0**
	baz=157						
MNTX	**Cornudas Mount**	**16.93**	**340**	*ePn*	**P**	**02 20 20.2**	**+1.0**
	3.0nm,1.0s						
319A	**Douglas**	**18.26**	**330**	*eP*	**P**	**02 20 37.5**	**+3.5**
	16nm,1.4s						
WMOK	**Wichita Mounta**	**18.80**	**360**	*eP*	**Pn**	**02 20 41.4**	**+1.1**
	1.7nm,0.7s						
X39A	**Fountain Ranch**	**19.02**	**11**	P	**P**	**02 20 42.2**	**0.0**
	baz=194						
AMTX	**Amarillo**	**19.15**	**352**	P	**Pn**	**02 20 45.6**	**+1.0**
	baz=171						
AMTX	**Amarillo**	**19.15**	**352**	*eP*	**Pn**	**02 20 45.0**	**+0.4**
	8.2nm,0.9s						
MIAR	**Mount Ida**	**19.16**	**13**	*eP*	**P**	**02 20 44.6**	**+0.9**
	182nm,0.6s						
147A	**Livingston**	**19.20**	**27**	P	**P**	**02 20 42.4**	**-1.7**
	baz=212						
X40A	**Basin Creek Fa**	**19.27**	**15**	P	**P**	**02 20 44.1**	**-0.9**
	baz=197						
148A	**Greensboro**	**19.49**	**29**	P	**P**	**02 20 45.8**	**-1.6**
	baz=214						
Y45A	**Yeager Farm, C**	**19.71**	**23**	P	**P**	**02 20 48.7**	**-1.1**
	baz=207						
Z47A	**Carrollton**	**19.73**	**27**	P	**P**	**02 20 48.6**	**-1.4**
	baz=212						
W39A	**Magazine**	**19.74**	**12**	P	**P**	**02 20 49.6**	**-0.5**
	baz=194						
TUC	**Tucson**	**19.76**	**328**	*eP*	**Pn**	**02 20 54.8**	**+2.8**
	1.6nm,0.8s						
149A	**Jones**	**19.83**	**31**	P	**P**	**02 20 49.1**	**-2.0**
	baz=216						
Y46A	**Houston**	**20.00**	**24**	P	**P**	**02 20 51.5**	**-1.3**
	baz=209,SNR=9.4						
LRAL	**Lakeview Retre**	**20.09**	**30**	P	**P**	**02 20 52.3**	**-1.6**
	baz=214						
LRAL	**Lakeview Retre**	**20.09**	**30**	*eP*	**P**	**02 20 53.1**	**-0.7**
	7.2nm,0.9s						
Z48A	**Northport**	**20.11**	**28**	P	**P**	**02 20 52.4**	**-1.7**
	baz=213,SNR=7.2						
TUL1	**Leonard**	**20.13**	**7**	P	**P**	**02 20 53.6**	**-0.7**
	baz=188						
TUL1	**Leonard**	**20.13**	**7**	*eP*	**P**	**02 20 53.0**	**-1.4**
	42nm,1.6s						
WHAR	**Wooly Hollow**	**20.17**	**15**	*eP*	**P**	**02 20 54.2**	**-0.6**
	20nm,1.4s						
150A	**Eclectic**	**20.22**	**32**	P	**P**	**02 20 52.8**	**-2.6**
	baz=218						
X45A	**UM Field Stati**	**20.27**	**22**	P	**P**	**02 20 54.2**	**-1.6**
	baz=206						
ANMO	**Albuquerque**	**20.27**	**341**	P	Pn	02 20 58.3	+0.2
	0.7nm,0.4s,baz=329,slow=12,SNR=5.1						
ANMO	**Albuquerque**	**20.27**	**341**	P	Pn	02 20 58.3	+0.3
	baz=158						
ANMO	**Albuquerque**	**20.27**	**341**	*eP*	Pn	02 20 58.4	+0.4

MVCO	**Mesa Verde**	**23.00**	**339**	P		**P**	**02 21 26.4**	**+0.9**
	baz=155							
MVCO	**Mesa Verde**	**23.00**	**339**	*e*P		**P**	**02 21 26.2**	**+0.8**
	17nm,1.4s							
R40A	**Maddies Statio**	**23.04**	**13**	P		**P**	**02 21 24.9**	**-0.7**
	baz=196,SNR=7.0							
T46A	**Princeton**	**23.15**	**22**	P		**P**	**02 21 25.6**	**-1.1**
	baz=207							
U48A	**Cassie Pea, Po**	**23.21**	**25**	P		**P**	**02 21 25.7**	**-1.7**
	baz=211,SNR=8.3							
CPCT	**Cooper Cave**	**23.24**	**30**	*e*P		**P**	**02 21 26.2**	**-1.4**
S44A	**Carbondale**	**23.28**	**19**	P		**P**	**02 21 26.7**	**-1.3**
	baz=203,SNR=5.6							
SIUC	**Southern Illin**	**23.31**	**19**	*e*P		**P**	**02 21 27.5**	**-0.8**
	14nm,0.8s							
KSCO	**Kaye Shedlock'**	**23.34**	**352**	*e*P		**P**	**02 21 28.5**	**-0.2**
	16nm,1.1s							
T47A	**Sharon Grove**	**23.40**	**24**	P		**P**	**02 21 27.6**	**-1.6**
	baz=209,SNR=6.4							
S45A	**Carrier Mills**	**23.48**	**20**	P		**P**	**02 21 28.8**	**-1.2**
	baz=205							
HODGE	**Hodges**	**23.49**	**36**	*e*P		**P**	**02 21 29.2**	**-1.0**
	7.8nm,0.8s							
R43A	**Red Bud**	**23.61**	**17**	P		**P**	**02 21 30.4**	**-0.9**
	baz=201							
Q39A	**Willow Grove F**	**23.63**	**11**	P		**P**	**02 21 31.1**	**-0.3**
	baz=194							
TKL	**Tuckaleechee C**	**23.77**	**31**	P		**P**	**02 21 32.7**	**-0.3**
	2.4nm,0.7s,baz=193,slow=9.9,SNR=4.8							
T48A	**Bowling Green**	**23.79**	**25**	P		**P**	**02 21 31.5**	**-1.5**
	baz=210,SNR=8.4							
U15A	**North Rim**	**23.83**	**332**	*e*P		**P**	**02 21 40.2**	**+6.4**
	7.2nm,1.4s							
R44A	**Waltonville**	**23.84**	**19**	P		**P**	**02 21 32.2**	**-1.3**
	baz=203							
PV01	**Paradox Valley**	**23.87**	**340**	*e*P		**P**	**02 21 35.0**	**+0.9**
Q41A	**Truxton**	**23.91**	**14**	P		**P**	**02 21 32.9**	**-1.3**
	baz=198							
NHSC	**New Hope**	**23.95**	**41**	P		**P**	**02 21 33.8**	**-0.8**
	baz=229							
P38A	**Dawn**	**24.10**	**10**	P		**P**	**02 21 34.9**	**-1.1**
	baz=192							
P39B	**Salisbury**	**24.10**	**11**	P		**P**	**02 21 35.2**	**-0.8**
	baz=194							
PV04	**Paradox Valley**	**24.21**	**340**	*e*P		**P**	**02 21 38.9**	**+1.7**
P40A	**Paris**	**24.28**	**12**	P		**P**	**02 21 36.2**	**-1.4**
	baz=196,SNR=6.9							
O34A	**Beatrice**	**24.30**	**4**	P		**P**	**02 21 36.8**	**-1.0**
	baz=185							
SMCO	**Snowmass**	**24.36**	**344**	*e*P		**P**	**02 21 41.1**	**+2.1**
	14nm,1.5s							
SMCO				*e*S		**S**	**02 25 60.0**	**+0.9**
S48A	**Wiedeman Farm,**	**24.39**	**25**	P		**P**	**02 21 36.3**	**-2.4**
	baz=210							
Q44A	**Meyer Farm, Va**	**24.46**	**18**	P		**P**	**02 21 38.0**	**-1.4**
	baz=203							
O38A	**Galt**	**24.59**	**10**	P		**P**	**02 21 39.5**	**-1.0**
	baz=192							
OLIL	**Olney**	**24.60**	**20**	*e*P		**P**	**02 21 39.4**	**-1.2**
	7.3nm,0.3s							
ISCO	**Idaho Springs**	**24.63**	**347**	*e*P		**P**	**02 21 41.6**	**+0.5**
	7.3nm,1.3s							
P41A	**Barry, Barry**	**24.64**	**14**	P		**P**	**02 21 39.9**	**-1.0**
	baz=198							
KMSC	**Kings Mountain**	**24.67**	**36**	*e*P		**P**	**02 21 40.8**	**-0.5**
	14nm,1.3s							
Q45A	**Warren Harvey,**	**24.72**	**20**	P		**P**	**02 21 40.3**	**-1.4**
	baz=205							
P42A	**Winchester**	**24.73**	**15**	P		**P**	**02 21 40.6**	**-1.1**
	baz=199							
R47A	**Wooly Knot Far**	**24.77**	**23**	P		**P**	**02 21 41.0**	**-1.1**
	baz=209,SNR=8.7							
WCI	**Wyandotte Cave**	**24.80**	**24**	P		**P**	**02 21 40.0**	**-2.3**
	baz=209							
WCI	**Wyandotte Cave**	**24.80**	**24**	*e*P		**P**	**02 21 41.7**	**-0.6**
	75nm,1.9s							
O39A	**Kirksville**	**24.88**	**11**	P		**P**	**02 21 42.3**	**-0.8**
	baz=194							
O40A	**La Belle**	**24.88**	**12**	P		**P**	**02 21 42.3**	**-0.9**
	baz=196							
O41A	**Passleys Farm,**	**25.10**	**14**	P		**P**	**02 21 44.1**	**-1.0**
	baz=198							
MTPU	**Mount Pierson**	**25.13**	**334**	*e*P		**P**	**02 21 49.8**	**+4.0**
	5.8nm,1.0s							
N38A	**Joes South For**	**25.29**	**10**	P		**P**	**02 21 45.6**	**-1.1**
	baz=192,SNR=6.5							
Q47A	**Bedord North L**	**25.36**	**23**	P		**P**	**02 21 47.1**	**-0.4**
	baz=208							
P45A	**Graceland, Par**	**25.43**	**20**	P		**P**	**02 21 46.7**	**-1.4**
	baz=205							
N39A	**Derby Farms, D**	**25.49**	**11**	P		**P**	**02 21 47.9**	**-0.7**
	baz=194							
MSU	**Marysvale**	**25.53**	**335**	*e*P		**P**	**02 21 52.2**	**+2.9**
O20A	**White River Ci**	**25.60**	**343**	P		**P**	**02 21 51.7**	**+1.8**
	baz=158							
O20A	**White River Ci**	**25.60**	**343**	*e*P		**P**	**02 21 51.9**	**+1.9**
	6.0nm,0.8s							
N23A	**Red Feather La**	**25.75**	**347**	P		**P**	**02 21 52.0**	**+0.7**
	baz=164,SNR=5.2							
N23A	**Red Feather La**	**25.75**	**347**	*e*P		**P**	**02 21 53.1**	**+1.8**
	4.9nm,0.8s							
M38A	**Pleasantville**	**25.90**	**9**	P		**P**	**02 21 51.2**	**-1.1**
	baz=192,SNR=5.3							
P47A	**Martinsville**	**25.91**	**22**	P		**P**	**02 21 51.0**	**-1.4**
	baz=208							
HDIL	**Hopedale**	**25.91**	**16**	P		**P**	**02 21 51.5**	**-0.9**
	baz=201							
O45A	**Potomac**	**26.09**	**19**	P		**P**	**02 21 52.5**	**-1.6**
	baz=204,SNR=6.2							
M39A	**Webster**	**26.14**	**11**	P		**P**	**02 21 53.4**	**-1.0**
	baz=194							
N43A	**Stutzman Famil**	**26.30**	**16**	P		**P**	**02 21 55.2**	**-0.8**
	baz=201							
SCIA	**State Center**	**26.38**	**9**	P		**P**	**02 21 56.2**	**-0.5**
	baz=192							
SCIA	**State Center**	**26.38**	**9**	*e*P		**P**	**02 21 56.8**	**+0.1**
	16nm,0.9s							
SFIN	**Lafayette**	**26.41**	**20**	P		**P**	**02 21 56.2**	**-0.8**
	baz=206							
SFIN	**Lafayette**	**26.41**	**20**	*e*P		**P**	**02 21 57.2**	**+0.2**
	9.3nm,0.9s							
N44A	**Piper City**	**26.47**	**18**	P		**P**	**02 21 56.8**	**-0.7**
	baz=203							
O47A	**Sheridan**	**26.60**	**22**	P		**P**	**02 21 57.9**	**-0.8**
	baz=208							
M42A	**Sheffield**	**26.64**	**15**	P		**P**	**02 21 58.6**	**-0.4**
	baz=199							
L38A	**Oak Wood Farm,**	**26.65**	**9**	P		**P**	**02 21 59.7**	**+0.6**
	baz=192							
BLA	**Blacksburg**	**26.69**	**34**	P		**P**	**02 21 58.4**	**-1.2**
	baz=222							
N45A	**Kentland**	**26.70**	**19**	P		**P**	**02 21 58.9**	**-0.7**
	baz=204							
NLU	**North Lily Min**	**26.73**	**337**	*e*P		**P**	**02 22 03.6**	**+3.5**
	8.3nm,1.6s							
L39A	**Vinton**	**26.79**	**11**	P		**P**	**02 21 59.7**	**-0.7**
	baz=194							
N46A	**Monticello**	**27.00**	**20**	P		**P**	**02 22 01.2**	**-1.1**
	baz=205							
M44A	**Midewin, Midew**	**27.04**	**18**	P		**P**	**02 22 01.7**	**-0.9**
	baz=203							
L41A	**Preston**	**27.05**	**13**	P		**P**	**02 22 02.4**	**-0.3**
	baz=197							
K37A	**Belmond**	**27.16**	**8**	P		**P**	**02 22 02.5**	**-1.3**
	baz=191							
L42A	**Oliver, Polo**	**27.18**	**15**	P		**P**	**02 22 02.3**	**-1.6**
	baz=199							
DUG	**Dugway, Tooele**	**27.22**	**336**	*e*P		**P**	**02 22 06.2**	**+1.8**
	0.9nm,0.6s							
J35A	**Milford**	**27.57**	**5**	P		**P**	**02 22 07.2**	**-0.2**
	baz=187							
J36A	**Seneca 1, Swea**	**27.63**	**7**	P		**P**	**02 22 06.9**	**-1.0**
	baz=189							
ACSO	**Alum Creek Sta**	**27.85**	**26**	P		**P**	**02 22 08.1**	**-1.8**
	baz=214							
J38A	**Wedel Dairy, R**	**27.87**	**10**	P		**P**	**02 22 08.3**	**-1.8**
	baz=193							
JFWS	**Jewell Farm**	**27.91**	**13**	P		**P**	**02 22 08.8**	**-1.6**
	baz=198							
NVAR	**Mina Array Bea**	**28.38**	**326**	P		**P**	**02 22 17.6**	**+2.6**
	0.2nm,0.3s,baz=156,slow=4.7,SNR=2.8							
NVAR					LR	LR	02 34 08.1	
	comp=Z,91nm,19.7s,baz=107,slow=38							
J41A	**Loganville**	**28.39**	**13**	P		**P**	**02 22 14.1**	**-0.6**
	baz=198							
PDAR	**Pinedale Array**	**28.41**	**343**	P		**P**	**02 22 15.6**	**+0.4**
	0.8nm,1.0s,baz=184,slow=7.2,SNR=3.6							
PDAR	**Pinedale Array**	**28.41**	**343**	*e*P		**P**	**02 22 15.4**	**+0.2**
J42A	**Columbus**	**28.55**	**15**	P		**P**	**02 22 15.8**	**-0.4**
	baz=199							
LOHW	**Long Hollow**	**29.49**	**342**	*e*P		**P**	**02 22 26.5**	**+1.7**
	12nm,1.6s							
FXWY	**Fox Creek**	**29.64**	**342**	*e*P		**P**	**02 22 28.5**	**+2.4**
	5.5nm,1.6s							
O56A	**Blue Knob Stat**	**29.94**	**32**	*e*P		**P**	**02 22 27.3**	**-1.3**
	26nm,1.8s							
M54A	**Oil Creek Stat**	**30.36**	**29**	P		**P**	**02 22 31.8**	**-0.5**
	baz=218							
HLID	**Hailey**	**30.72**	**337**	*e*P		**P**	**02 22 38.4**	**+2.8**
	1.3nm,0.9s							
F40A	**Park Falls**	**30.81**	**12**	P		**P**	**02 22 35.3**	**-0.9**
	baz=196							
BOZ	**Bozeman (W)**	**31.60**	**342**	*e*P		**P**	**02 22 45.5**	**+2.2**
AGMN	**Agassiz Nation**	**32.43**	**3**	P		**P**	**02 22 50.0**	**-0.4**
	baz=185							
AGMN	**Agassiz Nation**	**32.43**	**3**	*e*P		**P**	**02 22 49.8**	**-0.6**
	2.7nm,0.8s							
BINY	**Binghamton**	**32.67**	**32**	P		**P**	**02 22 51.5**	**-1.2**
	baz=223							
YBH	**Yreka Blue Hor**	**33.10**	**326**	LR		LR	02 36 57.7	
	comp=Z,30nm,20.5s,baz=170,slow=37							
FFC	**Flin Flon**	**38.88**	**357**	*e*P		**P**	**02 23 46.0**	**+0.4**
	2.2nm,0.8s							
SAML	**Samuel**	**42.88**	**123**	*e*P		**P**	**02 24 20.2**	**+1.0**
	1.2nm,0.6s							
FCC	**Fort Churchill**	**42.97**	**3**	*e*P		**P**	**02 24 19.9**	**+0.6**
	13nm,1.9s							
SCHQ	**Schefferville**	**45.99**	**25**	P		**P**	**02 24 43.3**	**-0.2**
	5.0nm,0.7s,baz=230,slow=7.8,SNR=8.9							
YKA	**Yellowknife Ar**	**47.93**	**350**	P		**P**	**02 24 58.7**	**+0.2**
	0.4nm,0.8s,baz=159,slow=7.3,SNR=7.7							
INK	**Inuvik**	**56.94**	**345**	P		**P**	**02 26 07.2**	**+1.9**
	0.9nm,1.0s,baz=152,slow=5.8,SNR=2.6							
ILAR	**Eielson Array**	**58.68**	**338**	P		**P**	**02 26 18.8**	**+1.1**
	1.0nm,1.1s,baz=148,slow=6.4,SNR=5.0							
SPITS	**Spitsbergen Ar**	**79.52**	**11**	LR		LR	03 05 38.7	
	comp=Z,21nm,19.0s,baz=325,slow=37							

MEX 23 02:19:36.7±0.4, 16°01N×98°69W, h16km±999km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.66**	**55**	*e*P	Pg	02 19 47.5	-2.2
PNIG				*i* S	Sg	02 19 55.6	-2.8
ACX	**Acapulco**	**1.41**	**307**	*i* P	Pn	02 19 57.1	-4.6
ACX				*i* S	Sn	02 20 13.9	-6.1
CAIG	**El Cayaco**	**1.83**	**304**	*e*P	Pn	02 20 04.3	-3.2
CAIG				*e*S	Sn	02 20 25.4	-5.0
VHO	**Vista Hermosa**	**2.15**	**60**	*e*P	Pn	02 20 09.1	-3.0
VHO				*e*S	Sn	02 20 34.1	-4.5
PLIG	**Platanillo**	**2.49**	**342**	*e*P	Pn	02 20 13.9	-2.8
PLIG				*e*S	Sn	02 20 42.8	-4.0
HUIG	**Huatulco**	**2.49**	**95**	*i* P	Pn	02 20 14.2	-2.4
HUIG				*i* S	Sn	02 20 41.9	-4.8

MEX 23 02:24:15.7±0.7, 15°93N×98°34W, h5km±5km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.50**	**24**	*i* P	Pg	02 24 25.1	-0.2
PNIG				*i* S	Sg	02 24 31.7	-0.1
ACX	**Acapulco**	**1.73**	**303**	*i* P	Pn	02 24 43.2	-3.3
ACX				*i* S	Sn	02 25 04.5	-4.5
VHO	**Vista Hermosa**	**1.91**	**53**	*e*P	Pn	02 24 46.1	-3.0
VHO				*i* S	Sn	02 25 08.3	-5.3
CAIG	**El Cayaco**	**2.16**	**301**	*e*P	Pn	02 24 48.7	-3.7
CAIG				*e*S	Sn	02 25 14.6	-4.9
PLIG	**Platanillo**	**2.69**	**336**	*e*P	Pn	02 24 57.5	-2.3
PLIG				*i* S	Sn	02 25 29.4	-3.4

MEX 23 02:32:57.6±0.8, 16°10N×98°48W, h16km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.44**	**49**	*i* P	Pg	02 33 05.3	-1.2
PNIG				*i* S	Sg	02 33 10.3	-2.2
ACX	**Acapulco**	**1.53**	**300**	*i* P	Pn	02 33 21.0	-3.3
ACX				*i* S	Sn	02 33 39.8	-4.1
VHO	**Vista Hermosa**	**1.93**	**60**	*e*P	Pn	02 33 27.1	-2.9
VHO				*e*S	Sn	02 33 49.4	-4.6
CAIG	**El Cayaco**	**1.96**	**299**	*e*P	Pn	02 33 27.0	-3.2
CAIG				*i* S	Sn	02 33 49.8	-4.7
HUIG	**Huatulco**	**2.30**	**98**	*e*P	Pn	02 33 31.5	-3.4
HUIG				*i* S	Sn	02 33 58.6	-4.3
PLIG	**Platanillo**	**2.48**	**337**	*e*P	Pn	02 33 34.1	-3.3
PLIG				*e*S	Sn	02 34 02.7	-4.7

*ISCJB **23** 02:37:19.8±0.5, 42°.81N±0°.02×77°.81W±0°.02, h0km±3km, Error ellipse: s-maj=2.8km s-min=2.5km az=40.7*
*OTT **23** 02:37:21.3±0.1, 42°.74N×77°.83W, h5km, MN2.5/23, 92km east from Fort Erie, On Eastern Background Seismic Zone.*
*NEIC **23** 02:37:22.1±0.0, 42°.75N×77°.86W, h2km, ML2.5(LDO), MN2.5(OTT), After LDO.*
NEIC Felt at Appleton, Geneseo and Pittsford.

ISC 23 02:37:20.8±1.0, 42°.77N±0°.02×77°.82W±0°.02, h5km±7km, n70, σ1°.9 19/130, 1C, New York

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMNY	**Mt. Morris Dam**	**0.07**	**240**	*e*Pg	**Pg**	**02 37 22.7**	**+0.2**
MMNY				Sg	**Sg**	**02 37 23.9**	**+0.2**
MEDO	**Medina**	**0.61**	**311**	⇑PG	**Pg**	**02 37 32.5**	**0.0**
MEDO				SG	**Sg**	**02 37 40.9**	**+0.4**
MEDO				Trac		02 37 42.0	
	comp=Z,12nm,0.1s						
MEDO	**Medina**	**0.61**	**311**	Pg	**Pg**	**02 37 32.5**	**0.0**
MEDO				Sg	**Sg**	**02 37 40.9**	**+0.4**
STCO	**Saint Catharin**	**1.08**	**295**	PG	**Pg**	**02 37 40.9**	**-0.7**
STCO				SG	**Sg**	**02 37 55.1**	**-0.5**
STCO				Trac		02 38 01.1	
	comp=Z,13nm,0.1s						
STCO	**Saint Catharin**	**1.08**	**295**	Pg	**Pg**	**02 37 40.9**	**-0.7**
STCO				Sg	**Sg**	**02 37 55.1**	**-0.5**
WLVO	**Wesleyville**	**1.23**	**340**	PG	**Pn**	**02 37 43.5**	**-1.1**
WLVO				SG	**Sb**	**02 37 59.1**	**-1.6**
WLVO				Trac		02 38 04.5	
	comp=Z,30nm,0.2s						
WLVO	**Wesleyville**	**1.23**	**340**	Pg	**Pn**	**02 37 43.5**	**-1.1**
WLVO				Sg	**Sb**	**02 37 59.1**	**-1.6**
TORO	**Toronto--Lesli**	**1.40**	**308**	PG	**Pn**	**02 37 46.6**	**-0.3**
TORO				SG	**Sb**	**02 38 05.3**	**-0.2**
TORO				Trac		02 38 10.8	
	comp=Z,146nm,0.3s						
TORO	**Toronto--Lesli**	**1.40**	**308**	Pg	**Pn**	**02 37 46.6**	**-0.3**
TORO				Sg	**Sb**	**02 38 05.3**	**-0.2**
BINY	**Binghamton**	**1.47**	**112**	P	**Pn**	**02 37 47.2**	**-0.8**
	baz=293						
BINY				S	**Sn**	**02 38 07.1**	**-0.6**
	baz=293						
BINY	**Binghamton**	**1.47**	**112**	PG	**Pn**	**02 37 47.4**	**-0.6**
BINY				SG	**Sn**	**02 38 07.2**	**-0.4**
BINY	**Binghamton**	**1.47**	**112**	*e*Pn	**Pn**	**02 37 46.5**	**-1.5**
BINY				*e*Sn	**Sn**	**02 38 05.5**	**-2.2**
PKRO	**Pickering**	**1.50**	**323**	PG	**Pn**	**02 37 48.5**	**+0.2**
PKRO				SG	**Sn**	**02 38 08.2**	**-0.1**
PKRO				Trac		02 38 15.1	
	comp=Z,107nm,0.2s						
PKRO	**Pickering**	**1.50**	**323**	Pg	**Pn**	**02 37 48.5**	**+0.2**
PKRO				Sg	**Sn**	**02 38 08.2**	**-0.1**
TYNO	**Tyneside**	**1.54**	**283**	PN	**Pn**	**02 37 49.5**	**+0.6**
TYNO				SG	**Sb**	**02 38 09.7**	**+0.1**
TYNO				Trac		02 38 14.1	
	comp=Z,41nm,0.1s						
TYNO	**Tyneside**	**1.54**	**283**	Pn	**Pn**	**02 37 49.5**	**+0.6**
TYNO				Sg	**Sb**	**02 38 09.7**	**+0.1**
ERPA	**Erie**	**1.73**	**249**	*e*Pn	**Pn**	**02 37 52.2**	**+0.7**
DELO	**Deloro Mine**	**1.75**	**5**	PN	**Pn**	**02 37 52.5**	**+0.7**
DELO				SG	**Sb**	**02 38 16.4**	**+0.6**
DELO				Trac		02 38 16.9	
	comp=Z,19nm,0.3s						
DELO	**Deloro Mine**	**1.75**	**5**	Pn	**Pn**	**02 37 52.5**	**+0.7**
DELO				Sg	**Sb**	**02 38 16.4**	**+0.6**
ACTO	**Acton**	**1.84**	**298**	PN	**Pn**	**02 37 54.0**	**+1.0**
ACTO				SN	**Sn**	**02 38 16.9**	**+0.2**
ACTO				SG	**Sb**	**02 38 18.5**	**+0.3**
ACTO				Trac		02 38 21.9	
	comp=Z,37nm,0.2s						
ACTO	**Acton**	**1.84**	**298**	Pn	**Pn**	**02 37 54.0**	**+1.0**
ACTO				Sn	**Sn**	**02 38 16.9**	**+0.2**
M54A	**Oil Creek Stat**	**1.86**	**228**	P	**Pn**	**02 37 54.1**	**+0.8**
	baz=46						
M54A				S	**Sb**	**02 38 19.2**	**+0.3**
	baz=46						
M54A	**Oil Creek Stat**	**1.86**	**228**	*e*Pn	**Pb**	**02 37 54.9**	**-0.4**
M54A				*e*Sn	**Sb**	**02 38 18.1**	**-0.8**
ALLY	**Alegheny Colle**	**2.06**	**238**	SN	**Sn**	**02 38 22.6**	**+0.6**
SSPA	**Standing Stone**	**2.13**	**181**	P	**Pn**	**02 37 58.1**	**+1.1**
	baz=0.7						
SSPA				S	**Sb**	**02 38 25.8**	**-0.8**
	baz=0.7						
SSPA	**Standing Stone**	**2.13**	**181**	*e*Pn	**Pn**	**02 37 58.1**	**+1.1**
SSPA				*e*Sn	**Sb**	**02 38 26.1**	**-0.5**
SADO	**Sadowa**	**2.22**	**335**	PN	**Pn**	**02 37 59.5**	**+1.3**
SADO				SN	**Sn**	**02 38 27.0**	**+1.1**
SADO				Trac		02 38 31.0	
	comp=Z,24nm,0.3s						
SADO	**Sadowa**	**2.22**	**335**	*e*Pn	**Pn**	**02 37 59.5**	**+1.3**
SADO				*e*Sn	**Sb**	**02 38 28.9**	**-0.2**
BANO	**Bancroft**	**2.25**	**358**	SN	**Sn**	**02 38 27.3**	**+0.5**
BANO				SN	**Sb**	**02 38 27.4**	**-2.7**
BANO				Trac		02 38 32.0	
	comp=Z,19nm,0.3s						
BANO	**Bancroft**	**2.25**	**358**	Sn	**Sn**	**02 38 27.3**	**+0.5**
PLVO	**Plevna**	**2.33**	**13**	PN	**Pn**	**02 38 01.3**	**+1.5**
PLVO				SN	**Sn**	**02 38 29.6**	**+0.7**
PLVO				Trac		02 38 34.4	
	comp=Z,5.0nm,0.2s						
PLVO	**Plevna**	**2.33**	**13**	*e*Pn	**Pn**	**02 38 01.5**	**+1.7**
PLVO				*e*Sn	**Sb**	**02 38 32.1**	**-0.4**
N59A	**State Game Lan**	**2.40**	**140**	P	**Pn**	**02 38 01.6**	**+0.8**
	baz=320						
N59A				S	**Sn**	**02 38 32.0**	**+1.4**
	baz=320						
N59A	**State Game Lan**	**2.40**	**140**	*e*Pn	**Pn**	**02 38 01.1**	**+0.3**
N59A				*e*Sn	**Sn**	**02 38 30.7**	**+0.1**
N54A	**Moraine State**	**2.42**	**223**	S	**Sb**	**02 38 35.7**	**+0.7**
	baz=41						
N54A	**Moraine State**	**2.42**	**223**	*e*Pn	**Pb**	**02 38 03.7**	**-1.1**
N54A				*e*Sn	**Sb**	**02 38 35.5**	**+0.4**
CLWO	**Collingwood**	**2.46**	**314**	PN	**Pn**	**02 38 02.8**	**+1.2**
CLWO				SN	**Sn**	**02 38 32.8**	**+0.7**
CLWO				Trac		02 38 38.2	
	comp=Z,20nm,0.3s						
CLWO				LG	Lg	02 38 38.4	
CLWO	**Collingwood**	**2.46**	**314**	Pn	**Pn**	**02 38 02.8**	**+1.2**
CLWO				Sn	Sn	02 38 21.8	-10
O56A	**Blue Knob Stat**	**2.56**	**193**	P	**Pn**	**02 38 05.1**	**+2.1**
	baz=12						
ELFO	**Elginfield**	**2.60**	**281**	PN	**Pn**	**02 38 03.8**	**+0.4**
ELFO				SN	**Sn**	**02 38 35.8**	**+0.4**
ELFO				Trac		02 38 42.5	
	comp=Z,13nm,0.1s						
ELFO	**Elginfield**	**2.60**	**281**	Pn	**Pn**	**02 38 03.8**	**+0.4**
ELFO				Sn	**Sn**	**02 38 35.8**	**+0.4**
NCB	**Newcomb**	**2.89**	**64**	PN	**Pn**	**02 38 07.9**	**+0.5**
NCB				SN	**Sn**	**02 38 42.0**	**-0.5**
NCB				LG	Lg	02 38 50.8	
NCB	**Newcomb**	**2.89**	**64**	*e*Pn	**Pn**	**02 38 09.3**	**+1.9**
NCB				*e*Sn	**Sb**	**02 38 46.9**	**-1.5**
WBO	**Williamsburg**	**2.89**	**39**	PN	**Pn**	**02 38 09.3**	**+1.8**
WBO				SN	**Sn**	**02 38 43.5**	**+0.8**
WBO				Trac		02 38 56.7	
	comp=Z,2.2nm,0.1s						
BUKO	**Buck Lake**	**2.90**	**338**	PN	**Pn**	**02 38 08.3**	**+0.7**
BUKO				SN	**Sn**	**02 38 43.9**	**+1.0**
BUKO				LG	Lg	02 38 51.0	
BUKO				Trac		02 38 54.2	
	comp=Z,3.7nm,0.2s						
BUKO	**Buck Lake**	**2.90**	**338**	Pn	**Pn**	**02 38 08.3**	**+0.7**
BUKO				Sn	**Sn**	**02 38 43.9**	**+1.0**
ODNJ	**Ogdensburg**	**2.93**	**124**	*e*Pn	**Pn**	**02 38 08.3**	**+0.3**
ODNJ				*e*Sn	**Sn**	**02 38 45.0**	**+1.4**
PEMO	**Pembroke**	**2.94**	**8**	PN	**Pn**	**02 38 08.5**	**+0.4**
PEMO				SN	**Sn**	**02 38 44.9**	**+1.1**
PEMO				Trac		02 38 52.5	
	comp=Z,6.3nm,0.2s						
PEMO				LG	Lg	02 38 53.9	
PEMO	**Pembroke**	**2.94**	**8**	Pn	**Pn**	**02 38 08.5**	**+0.4**
PEMO				Sn	**Sn**	**02 38 44.9**	**+1.1**
LONY	**Lake Ozonia**	**2.99**	**51**	PN	**Pn**	**02 38 11.9**	**+3.0**
LONY				SN	**Sn**	**02 38 44.9**	**-0.2**
LONY				LG	Lg	02 38 54.7	
LONY	**Lake Ozonia**	**2.99**	**51**	*e*Pn	**Pn**	**02 38 11.7**	**+2.8**
LONY				*e*Sn	**Sn**	**02 38 45.8**	**+0.7**
BASO	**Ashfield**	**3.06**	**295**	PN	**Pn**	**02 38 10.0**	**+0.2**
BASO				SN	**Sn**	**02 38 46.2**	**-0.7**
BASO				LG	Lg	02 38 55.2	
BASO				Trac		02 38 59.4	
	comp=Z,7.1nm,0.2s						
BASO	**Ashfield**	**3.06**	**295**	Pn	**Pn**	**02 38 10.0**	**+0.2**
BASO				Sn	**Sn**	**02 38 46.2**	**-0.7**
BMRO	**Meriville Lake**	**3.07**	**308**	PN	**Pn**	**02 38 10.2**	**+0.3**
BMRO				SN	**Sn**	**02 38 46.5**	**-0.4**
BMRO				LG	Lg	02 38 58.6	
BMRO				Trac		02 39 03.4	
	comp=Z,5.9nm,0.2s						
BMRO	**Meriville Lake**	**3.07**	**308**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.95**	**42**	Pn	**Pn**	**03 03 57.4**	**+0.1**
	64nm,0.3s,baz=212,slow=2.8,SNR=27						
AFI				Sn	**Sn**	**03 04 17.8**	**-3.1**
	350nm,0.3s,baz=36,slow=23,SNR=36						
RAR	**Rarotonga**	**13.95**	**117**	LR	LR	03 10 12.4	
	comp=Z,42nm,19.6s,baz=238,slow=29						
DZM	**Mont Dzumac**	**20.46**	**248**	LR	LR	03 14 38.7	
	comp=Z,161nm,21.8s,baz=31,slow=33						
DZM	**Mont Dzumac**	**20.46**	**248**	*e*P	Pn	03 08 07.3	+3.4
	48nm,1.1s						
DZM				*e*LR	LR	03 13 29.7	
	258nm,27.4s						
DZM	**Mont Dzumac**	**20.46**	**248**	*e*P	Pn	03 08 07.3	+3.5
	10nm,0.8s						
PAE	**Paea**	**22.69**	**99**	*e*T	T	03 31 47.9	
	1.7nm,0.3s						
PPT	**Papeete**	**22.69**	**99**	LR	LR	03 14 47.6	
	comp=Z,27nm,20.0s,baz=313,slow=30						
PPT2	**Papeete2**	**22.69**	**99**	*e*LR	LR	03 13 40.8	
	103nm,26.5s						
PPT2	**Papeete2**	**22.69**	**99**	*e*T	T	03 31 46.9	
	3.1nm,0.4s						
TVO	**Taravao**	**23.00**	**99**	*e*T	T	03 32 09.6	
	1.0nm,0.3s						
URZ	**Urewera**	**24.38**	**199**	P	**P**	**03 08 41.4**	**-0.4**
	4.5nm,0.4s,baz=303,slow=3.8,SNR=6.4						
TAOE	**Nuku Hiva Isla**	**32.86**	**83**	*e*LR	LR	03 18 15.7	
	112nm,29.6s						
RKT	**Rikitea**	**36.75**	**108**	*e*T	T	03 49 17.0	
	4.2nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.07**	**329**	T	T	03 52 33.5	
	baz=143,slow=74,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**39.08**	**329**	T	T	03 52 33.5	
	baz=143,slow=74,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**39.09**	**329**	T	T	03 52 34.7	
	baz=143,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**40.01**	**330**	T	T	03 53 47.3	
	baz=150,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**40.02**	**330**	T	T	03 53 47.4	
	baz=150,slow=76,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**40.03**	**330**	T	T	03 53 48.5	
	baz=150,slow=76,SNR=11						
COEN	**Coen**	**42.25**	**266**	*e*P	**P**	**03 11 17.8**	**+0.6**
	4.0nm,0.6s						
STKA	**Stephens Creek**	**44.28**	**240**	P	**P**	**03 11 32.1**	**-1.3**
	3.8nm,0.8s,baz=94,slow=8.7,SNR=4.5						
WRAB	**Tennant Creek**	**50.10**	**257**	*e*P	**P**	**03 12 17.6**	**-1.4**
	5.4nm,1.2s						
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**03 12 17.4**	**-1.6**
	1.0nm,0.7s,baz=95,slow=6.5,SNR=14						
WRA				PcP	**PcP**	**03 13 38.8**	**+0.3**
	0.5nm,0.9s,baz=95,slow=3.4,SNR=5.3						
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**03 12 19.9**	**-1.2**
	6.3nm,0.6s,baz=86,slow=8.2,SNR=63						
VNDA	**Vanda**	**63.44**	**186**	P	**P**	**03 13 52.2**	**-0.5**
	2.0nm,0.9s,baz=2.3,slow=6.9,SNR=7.1						
MJAR	**Matsushiro Arr**	**69.08**	**320**	LR	LR	03 39 53.1	
	comp=Z,9.8nm,21.2s,baz=155,slow=32						
YBH	**Yreka Blue Hor**	**73.41**	**37**	LR	LR	03 39 10.9	
	comp=Z,39nm,19.7s,baz=214,slow=29						
NVAR	**Mina Array Bea**	**74.13**	**42**	LR	LR	03 39 00.6	
	comp=Z,62nm,20.7s,baz=213,slow=29						
TXAR	**Lajitas Array**	**80.37**	**56**	P	**P**	**03 15 36.3**	**+1.0**
	0.5nm,0.9s,baz=225,slow=6.3,SNR=5.6						
PDAR	**Pinedale Array**	**82.06**	**42**	P	**P**	**03 15 44.9**	**+0.7**
	1.0nm,1.0s,baz=199,slow=4.1,SNR=4.6						
PDAR				LR	LR	03 45 21.6	
	comp=Z,33nm,18.7s,baz=237,slow=31						
ILAR	**Eielson Array**	**82.36**	**11**	P	**P**	**03 15 45.6**	**+0.7**
	0.4nm,0.6s,baz=226,slow=6.4,SNR=13						
YKA	**Yellowknife Ar**	**89.96**	**23**	P	**P**	**03 16 23.0**	**+0.6**
	0.2nm,0.7s,baz=225,slow=3.8,SNR=5.7						
ULM	**Lac du Bonnet**	**93.74**	**39**	LR	LR	03 50 25.8	
	comp=Z,37nm,21.5s,baz=342,slow=30						
KMBO	**Kilima Mbogo**	**145.79**	**244**	*e*PKPbc	**PKPab**	**03 23 04.6**	**+0.4**
GERES	**GERESS Array B**	**146.15**	**352**	PKPbc	**PKPdf**	**03 23 03.7**	**+1.0**
	0.4nm,0.6s,baz=29,slow=3.0,SNR=5.4						
BRTR	**Keskin Array B**	**146.30**	**321**	PKPbc	**PKPbc**	**03 23 05.5**	**+1.0**
	3.8nm,0.8s,baz=126,slow=2.8,SNR=28						
ABTA	**Abfaltersbach**	**148.36**	**353**	*i* sPKPdf	**PKPbc**	**03 23 10.3**	**+0.4**
	1.6nm,0.7s						

NEIC 23 03:29:16.5±0.0, 52°56N×170°16W, h37km, ML3.5(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**1.33**	**58**	P	Pn	03 29 39.2	+0.7
OKWE	**Okmok W'ng Wal**	**1.48**	**51**	P	Pn	03 29 41.3	+0.8
OKAK	**Okmok**	**1.49**	**46**	P	Pn	03 29 39.9	-0.9
OKAK				S	Sn	03 29 58.8	-0.2
OKTU	**Okmok Mt. Tuli**	**1.53**	**56**	P	Pn	03 29 42.1	+0.8
OKRE	**Okmok R'deer P**	**1.54**	**51**	P	Pn	03 29 42.3	+0.9
MGOD	**Makushin Gods**	**2.33**	**57**	P	Pn	03 29 53.0	+0.7
MGOD				S	Sn	03 30 20.4	+0.6
MCIR	**Makushin Cirqu**	**2.41**	**53**	P	Pn	03 29 54.0	+0.7
KOFP	**Korovin Flat P**	**2.43**	**265**	P	Pn	03 29 53.5	-0.1
MSW	**Makushin Switc**	**2.44**	**55**	P	Pn	03 29 54.4	+0.6
MSW				S	Sn	03 30 24.3	+1.9
MNAT	**Makushin Natee**	**2.48**	**56**	P	Pn	03 29 54.9	+0.7
KOWE	**Korovin West**	**2.51**	**267**	P	Pn	03 29 54.6	-0.1
UNV	**Unalaska Valle**	**2.55**	**58**	*e*Pn	Pn	03 29 55.9	+0.6
UNV				*e*S	Sn	03 30 25.9	+0.9
AKRB	**Akutan Reef Bi**	**2.92**	**56**	P	Pn	03 30 01.6	+1.3
AKRB				S	Sn	03 30 38.1	+4.1
AKUT	**Akutan**	**3.07**	**57**	*e*Pn	Pn	03 30 04.5	+2.1
AKUT				*e*S	Sn	03 30 40.8	+3.1
AKSA	**Akutan Strait**	**3.11**	**58**	P	Pn	03 30 05.8	+2.9
WESP	**Westdahl Peak**	**3.78**	**57**	P	Pn	03 30 15.1	+2.8
WESN	**West Dahl Nort**	**3.89**	**57**	P	Pn	03 30 16.2	+2.6
FALS	**False Pass**	**4.62**	**57**	*e*Pn	Pn	03 30 27.4	+3.7
FALS				*e*S	Sn	03 31 23.4	+7.4
SDPT	**Sand Point**	**6.36**	**60**	*e*Pn	Pn	03 30 50.5	+2.9
SDPT				*e*S	Sn	03 31 58.1	-0.8

DJA 23 03:32:56.5±0.5, 9°S±7°×111°7E±°, h41km±12km, M3.6/7, MLv3.6/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.56**	**31**	P	Pn	03 33 09.2	+1.1
PLAI				S	Sn	03 33 18.9	+2.5
WBSI	**Waikabubak, Su**	**1.91**	**100**	P	Pn	03 33 26.3	-0.4
DNP	**Denpasar**	**2.33**	**285**	P	Pn	03 33 33.5	+1.2
DNP				S	Sn	03 34 02.5	+2.8
IGBI	**Denpasar**	**2.36**	**282**	P	Pn	03 33 31.9	-0.8
IGBI				S	Sn	03 33 59.7	-0.7
SRBI	**Singaraja**	**2.55**	**298**	P	Pn	03 33 35.0	-0.4
SRBI				S	Sn	03 34 04.1	-1.1
JAGI	**Jajag, Banyuwa**	**3.39**	**284**	P	Pn	03 33 46.4	-0.6

*TIF **23** 04:06:31.7, 42°.49N×43°.35E, h16km±1km*
*CSEM **23** 04:06:32.3±0.4, 42°.47N×43°.29E, h2km, ML2.5, Error ellipse: s-maj=8.5km s-min=4.6km az=163.0*
*DDA **23** 04:07:26.6, 42°.33N×43°.33E, h8km, Ml3.3*
ISC 23 04:06:32.3±1.0, 42°.45N±0°.04×43°.31E±0°.03, h6km±10km, n20, σ0°53/40, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.17**	**37**	P	**Pg**	**04 06 35.7**	**-0.1**
ONI				S	**Sg**	**04 06 38.5**	**+0.3**
ONI	**Oni**	**0.17**	**37**	P	**Pg**	**04 06 35.7**	**-0.1**
ONI				S	**Sg**	**04 06 38.5**	**+0.3**
GUDG	**Gudauri**	**0.86**	**89**	P	**Pb**	**04 06 49.7**	**0.0**
GUDG				S	**Sb**	**04 07 01.8**	**+0.2**
GUDG	**Gudauri**	**0.86**	**89**	P	**Pb**	**04 06 49.7**	**0.0**
GUDG				S	**Sb**	**04 07 01.8**	**+0.2**
AKH	**Akhalkalaki**	**1.05**	**173**	P	**Pg**	**04 06 52.4**	**0.0**
AKH				S	**Sb**	**04 07 07.4**	**+0.4**
AKH	**Akhalkalaki**	**1.05**	**173**	P	**Pg**	**04 06 52.4**	**0.0**
AKH				S	**Sb**	**04 07 07.4**	**+0.4**
TBLG	**Delisi**	**1.28**	**124**	P	**Pn**	**04 06 56.5**	**-0.2**
TBLG				S	**Sn**	**04 07 13.8**	**-0.4**
TBLG	**Delisi**	**1.28**	**124**	P	**Pn**	**04 06 56.5**	**-0.2**
TBLG				S	**Sn**	**04 07 13.8**	**-0.4**
BTNK	**Botanikuri**	**1.35**	**124**	P	**Pn**	**04 06 57.2**	**-0.4**
BTNK				S	**Sn**	**04 07 16.0**	**+0.2**
BTNK	**Botanikuri**	**1.35**	**124**	P	**Pn**	**04 06 57.2**	**-0.4**
BTNK				S	**Sn**	**04 07 16.0**	**+0.2**
ARTV	**Artvin**	**1.64**	**220**	*i* P	**Pn**	**04 07 00.7**	**-1.1**
ARTV				*i* S	**Sn**	**04 07 23.4**	**+0.3**
ARTV	**Artvin**	**1.64**	**220**	P	**Pn**	**04 07 00.6**	**-1.1**
ARTV				S	**Sn**	**04 07 23.4**	**+0.3**
DBOC	**Borcka**	**1.65**	**229**	*i* P	**Pn**	**04 07 02.0**	**+0.2**
DBOC				*i* S	**Sn**	**04 07 24.1**	**+0.8**
DBOC	**Borcka**	**1.65**	**229**	P	**Pn**	**04 07 02.0**	**+0.2**
DBOC				S	**Sn**	**04 07 24.1**	**+0.8**
DGRG	**David-gareji**	**1.83**	**122**	P	**Pb**	**04 07 05.7**	**-0.5**
DGRG				S	**Sg**	**04 07 32.3**	**+1.1**
DGRG	**David-gareji**	**1.83**	**122**	P	**Pb**	**04 07 05.7**	**-0.5**
DGRG				S	**Sg**	**04 07 31.2**	**0.0**
DBAD	**Bademkaya**	**1.88**	**221**	*i* P	**Pb**	**04 07 06.2**	**-0.7**
DBAD				*i* S	**Sb**	**04 07 31.2**	**+0.5**
DBAD	**Bademkaya**	**1.88**	**221**	P	**Pb**	**04 07 06.2**	**-0.7**
DBAD				S	**Sb**	**04 07 31.2**	**+0.5**
DDEM	**Demirkent**	**1.95**	**217**	*i* P	**Pb**	**04 07 07.5**	**-0.6**
DDEM				*i* S	**Sb**	**04 07 33.3**	**+0.6**
DDEM	**Demirkent**	**1.95**	**217**	P	**Pb**	**04 07 07.6**	**-0.6**
DDEM				S	**Sb**	**04 07 33.3**	**+0.6**

*NEIC **23** 04:09:20.5±0.0, 41°.19S×172°.84E, h161km, ML4.2(WEL), After WEL.*
WEL 23 04:09:20.7, 41°S±2°×177°E±°, h158km±4km, 1C, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.37**	**95**	Pn	Pn	04 09 42.6	+0.3
NNZ				Sn	Sn	04 09 58.6	-0.2
NNZ	**Nelson**	**0.37**	**95**	P	Pn	04 09 42.7	+0.3
NNZ	**Nelson**	**0.37**	**95**	S	Sn	04 09 58.7	-0.1
QRZ	**Quartz Range**	**0.45**	**323**	⇑Pn	Pn	04 09 42.9	+0.2
QRZ				Sn	Sn	04 09 58.1	-1.3
QRZ	**Quartz Range**	**0.45**	**323**	P	Pn	04 09 42.9	+0.2
QRZ	**Quartz Range**	**0.45**	**323**	S	Sn	04 09 58.2	-1.2
THZ	**Tophouse**	**0.58**	**179**	Pn	Pn	04 09 43.6	+0.3
THZ				Sn	Sn	04 10 00.0	-0.8
THZ	**Tophouse**	**0.58**	**179**	P	Pn	04 09 43.7	+0.4
THZ	**Tophouse**	**0.58**	**179**	S	Sn	04 10 00.2	-0.5
TUWZ	**Tuamarina**	**0.83**	**108**	Pn	Pn	04 09 45.5	+0.7
TUWZ	**Tuamarina**	**0.83**	**108**	P	Pn	04 09 45.5	+0.7
DUWZ	**D'Urville Isla**	**0.87**	**64**	Pn	Pn	04 09 45.8	+0.6
BSWZ	**Blackbirch Sta**	**0.91**	**126**	Pn	Pn	04 09 46.0	+0.6
BSWZ				Sn	Sn	04 10 05.0	+0.6
BSWZ	**Blackbirch Sta**	**0.91**	**126**	P	Pn	04 09 46.0	+0.6
DSZ	**Denniston Nort**	**0.99**	**235**	Pn	Pn	04 09 45.8	-0.4
DSZ	**Denniston Nort**	**0.99**	**235**	P	Pn	04 09 45.8	-0.3
DSZ	**Denniston Nort**	**0.99**	**235**	S	Sn	04 10 03.0	-2.6
TCW	**Tory Channel**	**1.05**	**92**	Pn	Pn	04 09 47.2	+0.7
CMWZ	**Cape Campbell**	**1.14**	**120**	P	Pn	04 09 48.4	+1.1
KHZ	**Kahutara**	**1.32**	**159**	Pn	Pn	04 09 49.2	+0.3
KHZ	**Kahutara**	**1.32**	**159**	P	Pn	04 09 49.3	+0.4
KHZ	**Kahutara**	**1.32**	**159**	S	Sn	04 10 09.3	-1.5
WEL	**Wellington**	**1.42**	**95**	Pn	Pn	04 09 50.3	+0.3
BHW	**Baring Head**	**1.51**	**99**	Pn	Pn	04 09 51.0	+0.2
BHW	**Baring Head**	**1.51**	**99**	P	Pn	04 09 51.0	+0.2
KIW	**Kapiti Island**	**1.56**	**79**	Pn	Pn	04 09 51.9	+0.4
KIW	**Kapiti Island**	**1.56**	**79**	P	Pn	04 09 51.9	+0.4
KIW	**Kapiti Island**	**1.56**	**79**	S	Sn	04 10 14.8	-0.2
CAW	**Cannon Point**	**1.65**	**88**	Pn	Pn	04 09 52.5	+0.2
CAW	**Cannon Point**	**1.65**	**88**	P	Pn	04 09 52.5	+0.2
LTZ	**Lake Taylor**	**1.66**	**196**	Pn	Pn	04 09 52.3	-0.2
LTZ	**Lake Taylor**	**1.66**	**196**	P	Pn	04 09 52.4	-0.2
OGWZ	**Otaki Gorge**	**1.76**	**79**	Pn	Pn	04 09 54.0	+0.4
OGWZ	**Otaki Gorge**	**1.76**	**79**	P	Pn	04 09 54.0	+0.5
MSWZ	**Moikau Station**	**1.79**	**98**	Pn	Pn	04 09 54.0	+0.1
MSWZ	**Moikau Station**	**1.79**	**98**	P	Pn	04 09 54.0	+0.1
PLWZ	**Palliser**	**1.82**	**103**	Pn	Pn	04 09 54.4	+0.1
PLWZ	**Palliser**	**1.82**	**103**	P	Pn	04 09 54.4	+0.1
INZ	**Inchbonnie**	**1.88**	**215**	P	Pn	04 09 54.2	-0.7
PAWZ	**Paruwai Farm**	**1.92**	**97**	Pn	Pn	04 09 55.4	0.0
PAWZ	**Paruwai Farm**	**1.92**	**97**	P	Pn	04 09 55.4	0.0
NMEZ	**Namu Road**	**1.92**	**23**	Pn	Pn	04 09 56.0	+0.6
NMEZ	**Namu Road**	**1.92**	**23**	P	Pn	04 09 55.9	+0.6
MTW	**Mount Morrison**	**1.97**	**90**	Pn	Pn	04 09 55.9	0.0
MTW	**Mount Morrison**	**1.97**	**90**	P	Pn	04 09 55.9	0.0
HOWZ	**Holdsworth Sta**	**2.01**	**83**	Pn	Pn	04 09 56.4	+0.1
HOWZ	**Holdsworth Sta**	**2.01**	**83**	P	Pn	04 09 56.5	+0.1
NWEZ	**Newall Road**	**2.05**	**22**	Pn	Pn	04 09 57.4	+0.6
KHEZ	**Kahui Hut**	**2.08**	**25**	Pn	Pn	04 09 57.5	+0.3
PREZ	**Palmer Road**	**2.08**	**28**	Pn	Pn	04 09 57.6	+0.4
PREZ	**Palmer Road**	**2.08**	**28**	P	Pn	04 09 57.7	+0.4
OHWZ	**Ohakea**	**2.09**	**63**	P	Pn	04 09 57.8	+0.6
MRZ	**Mangatainoka R**	**2.10**	**76**	Pn	Pn	04 09 57.3	-0.1
MRZ	**Mangatainoka R**	**2.10**	**76**	P	Pn	04 09 57.4	-0.1
TRWZ	**Traveller**	**2.12**	**97**	Pn	Pn	04 09 57.9	+0.2
TRWZ	**Traveller**	**2.12**	**97**	P	Pn	04 09 57.8	+0.2
NEZ	**North Egmont**	**2.12**	**26**	Pn	Pn	04 09 57.6	-0.1
WAZ	**Wanganui**	**2.14**	**49**	Pn	Pn	04 09 58.6	+0.7
PKE	**Pukeiti**	**2.16**	**23**	Pn	Pn	04 09 58.5	+0.4
PKE	**Pukeiti**	**2.16**	**23**	P	Pn	04 09 58.5	+0.4
DREZ	**Durham Road**	**2.23**	**27**	Pn	Pn	04 09 59.3	+0.3
OXZ	**Oxford**	**2.23**	**196**	Pn	Pn	04 09 57.9	-1.0
OXZ	**Oxford**	**2.23**	**196**	P	Pn	04 09 58.0	-0.9
TMWZ	**Te Maipa**	**2.27**	**89**	Pn	Pn	04 09 59.5	+0.1
TMWZ	**Te Maipa**	**2.27**	**89**	P	Pn	04 09 59.4	+0.1
TIWZ	**Tintock**	**2.30**	**81**	Pn	Pn	04 09 59.9	0.0
TIWZ	**Tintock**	**2.30**	**81**	P	Pn	04 09 59.9	+0.1
POWZ	**Post Office Ro**	**2.32**	**71**	Pn	Pn	04 09 59.8	-0.2
CRLZ	**Canterbury Las**	**2.40**	**185**	Pn	Pn	04 10 00.5	-0.3
PRWZ	**Pori Road**	**2.42**	**76**	Pn	Pn	04 10 01.4	+0.2
WVZ	**Waitaha Valley**	**2.48**	**220**	Pn	Pn	04 10 00.6	-1.2
VRZ	**Vera Road**	**2.51**	**35**	Pn	Pn	04 10 02.3	+0.1
CPWZ	**Castlepoint**	**2.52**	**85**	Pn	Pn	04 10 02.9	+0.6
MQZ	**McQueen's Vall**	**2.53**	**184**	Pn	Pn	04 10 00.9	-1.5
BFZ	**Birch Farm**	**2.59**	**80**	Pn	Pn	04 10 03.1	-0.2
TSZ	**Takapari Road**	**2.59**	**65**	Pn	Pn	04 10 02.9	-0.5
DVHZ	**Dannevirke**	**2.64**	**72**	Pn	Pn	04 10 03.4	-0.5
PKVZ	**Pokaka**	**2.67**	**46**	Pn	Pn	04 10 04.2	0.0
WNVZ	**Wahianoa**	**2.78**	**49**	Pn	Pn	04 10 05.5	-0.3
FWVZ	**Far West T-bar**	**2.81**	**47**	Pn	Pn	04 10 05.7	-0.4
PNHZ	**Pukenui**	**2.82**	**64**	Pn	Pn	04 10 05.5	-0.7
TUVZ	**Tukino**	**2.85**	**49**	Pn	Pn	04 10 06.4	-0.3
RPZ	**Rata Peaks**	**2.87**	**208**	Pn	Pn	04 10 05.1	-1.6
TWVZ	**Taurewa**	**2.88**	**44**	Pn	Pn	04 10 06.3	-0.6
NGZ	**Ngauruhoe**	**2.89**	**47**	Pn	Pn	04 10 06.7	-0.4
WTVZ	**West Tongariro**	**2.92**	**46**	Pn	Pn	04 10 07.1	-0.4
WPHZ	**Waipukurau**	**2.92**	**69**	Pn	Pn	04 10 07.0	-0.4
OTVZ	**Oturere**	**2.93**	**47**	Pn	Pn	04 10 07.2	-0.4
KRVZ	**Karewarewa**	**2.97**	**46**	Pn	Pn	04 10 08.2	+0.2
HIZ	**Hauiti**	**3.07**	**30**	Pn	Pn	04 10 08.7	-0.5
PXZ	**Pawanui**	**3.24**	**70**	Pn	Pn	04 10 10.9	-0.3
FOZ	**Fox Glacier**	**3.27**	**223**	Pn	Pn	04 10 09.9	-1.7
KAHZ	**Kahuranaki**	**3.34**	**67**	Pn	Pn	04 10 12.2	-0.5
MCHZ	**McNeill Hill**	**3.39**	**60**	Pn	Pn	04 10 12.6	-0.7
BKZ	**Black Stump Fm**	**3.42**	**55**	Pn	Pn	04 10 12.6	-1.1
NMHZ	**Naumai**	**3.65**	**56**	Pn	Pn	04 10 15.8	-0.9
LBZ	**Lake Benmore**	**3.77**	**211**	Pn	Pn	04 10 15.8	-2.3
TOZ	**Tahuroa Road**	**4.00**	**31**	Pn	Pn	04 10 19.8	-1.3
JCZ	**Jackson Bay**	**4.18**	**225**	Pn	Pn	04 10 21.4	-2.2
ODZ	**Otahua Downs**	**4.19**	**202**	Pn	Pn	04 10 22.2	-1.3
KNZ	**Kokohu**	**4.26**	**61**	Pn	Pn	04 10 22.5	-1.9
MHGZ	**Mahia Peninsul**	**4.35**	**64**	Pn	Pn	04 10 24.3	-1.3
RAGZ	**Rawiri**	**4.40**	**54**	Pn	Pn	04 10 26.6	+0.2
WKZ	**Wanaka**	**4.62**	**217**	Pn	Pn	04 10 26.5	-2.6
EAZ	**Earnscleugh**	**4.82**	**212**	Pn	Pn	04 10 29.1	-2.6

IDC 23 04:11:01.5±3.1, 2°.11N×92°.88E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.3/69, mbtmp3.7/4, ML4.3/1, MS3.7/2, Ms1 3.7/2, ms1mx2.7/63, Error ellipse: s-maj=105.7km s-min=28.8km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.30**	**20**	P	Pn	04 15 05.1	+0.5
	0.4nm,0.3s,baz=214,slow=14,SNR=3.5						
BATI	**Baumata**	**33.00**	**112**	LR	LR	04 33 01.3	
	comp=Z,89nm,18.8s,baz=350,slow=40						
MKAR	**Makanchi Array**	**45.45**	**350**	P	P	04 19 22.2	-0.1
	0.6nm,0.5s,baz=172,slow=9.4,SNR=9.6						
WRA	**Warramunga Arr**	**46.20**	**120**	P	P	04 19 28.4	-0.2
	0.4nm,0.8s,baz=301,slow=9.1,SNR=3.2						
ZALV	**Zelesovo Beam**	**52.09**	**354**	P	P	04 20 12.9	-0.2
	1.0nm,0.4s,baz=171,slow=8.5,SNR=4.6						
BORG	**Borgarnes**	**98.20**	**337**	LR	LR	05 10 32.9	
	comp=Z,38nm,19.6s,baz=176,slow=36						

*DDA **23** 04:17:07.7, 38°.31N×26°.48E, h8km, Ml2.5*
*ISCJB **23** 04:17:08.8±0.6, 38°.28N±0°.03×26°.51E±0°.06, h7km±3km, Error ellipse: s-maj=7.6km s-min=3.9km az=164.1*
*CSEM **23** 04:17:08.9±0.3, 38°.29N×26°.55E, h8km, ML2.1, Error ellipse: s-maj=9.0km s-min=4.4km az=59.0*
*ISK **23** 04:17:08.2, 38°.28N×26°.56E, h5km, ML2.1/4*
ISC 23 04:17:08.3±0.9, 38°.29N±0°.02×26°.55E±0°.03, h7km±6km, n27, σ0°72/42, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**˜zmir**	**0.06**	**219**	*i* P	**Pg**	**04 17 10.6**	**+0.5**
ZEY				*i* S	**Sg**	**04 17 11.9**	**+0.6**
URLA	**Izmir**	**0.08**	**25**	PG	**Pg**	**04 17 10.1**	**-0.3**
URLA	**Izmir**	**0.08**	**25**	*i* P	**Pg**	**04 17 10.0**	**-0.3**
URLA				*i* S	**Sg**	**04 17 11.9**	**+0.1**
URLA	**Izmir**	**0.08**	**25**	*e*Pg	**Pg**	**04 17 10.1**	**-0.3**
URLA				S	**Sg**	**04 17 11.9**	**+0.1**
KRBN	**Karaburun**	**0.30**	**360**	PG	**Pb**	**04 17 15.5**	**-0.6**
KRBN				SG	**Sb**	**04 17 20.8**	**-0.5**
KRBN	**Karaburun**	**0.30**	**360**	*e*Pg	**Pb**	**04 17 15.5**	**-0.6**
KRBN				*e*Sg	**Sb**	**04 17 20.8**	**-0.5**
DGB	**˜zmir**	**0.35**	**132**	*i* P	**Pb**	**04 17 16.3**	**-0.6**
DGB				*i* S	**Sb**	**04 17 21.9**	**-0.7**
GMLD	**Gumuldur**	**0.35**	**126**	PG	**Pb**	**04 17 16.0**	**-1.0**
GMLD	**Gumuldur**	**0.35**	**126**	*e*Pg	**Pb**	**04 17 16.0**	**-1.0**
CHOS	**Chios island**	**0.40**	**284**	PG	**Pb**	**04 17 17.6**	**-0.3**
CHOS	**Chios island**	**0.40**	**284**	*e*Pg	**Pb**	**04 17 17.6**	**-0.3**
GCAM	**G?zelcami?**	**0.80**	**137**	PG	**Pb**	**04 17 24.4**	**-0.1**
GCAM	**G?zelcami?**	**0.80**	**137**	*i* P	**Pn**	**04 17 25.0**	**-0.9**
GCAM				*i* S	**Sb**	**04 17 36.3**	**+0.9**
GCAM	**G?zelcami?**	**0.80**	**137**	*e*Pg	**Pb**	**04 17 24.4**	**-0.1**
GCAM	**G?zelcami?**	**0.80**	**137**	P	**Pn**	**04 17 25.0**	**-0.9**
GCAM				S	**Sb**	**04 17 36.3**	**+0.9**
DKL	**Dikili**	**0.83**	**19**	PG	**Pb**	**04 17 25.5**	**+0.4**
DKL				SG	**Sn**	**04 17 38.4**	**-0.5**
DKL	**Dikili**	**0.83**	**19**	*e*Pg	**Pb**	**04 17 25.5**	**+0.4**
SIGR	**SIGRI**	**1.07**	**330**	PN	**Pn**	**04 17 29.9**	**+0.2**
SIGR	**SIGRI**	**1.07**	**330**	*e*Pn	**Pn**	**04 17 29.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**108**	PN	**Pn**	**04 17 30.7**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**108**	*e*Pn	**Pn**	**04 17 30.7**	**+0.3**
AYDN	**Tasoluk**	**1.22**	**120**	*i* P	**Pb**	**04 17 30.7**	**-1.1**
AYDN				*i* S	**Sn**	**04 17 49.4**	**+0.8**
AYDN	**Tasoluk**	**1.22**	**120**	P	**Pb**	**04 17 30.7**	**-1.1**
AYDN				S	**Sn**	**04 17 49.4**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.42**	**40**	*i* P	**Pb**	**04 17 35.1**	**0.0**
STEP				*i* S	**Sg**	**04 17 55.7**	**+1.8**
STEP	**BALIKESIR_Sava**	**1.42**	**40**	P	**Pb**	**04 17 35

TLIG	**Tlapa**	**1.53**	**3**	*e*P		**Pn**	**04 42 35.5**	**-1.3**
TLIG				*e*S		**Sn**	**04 42 52.2**	**-4.5**
CAIG	**El Cayaco**	**1.86**	**303**	*e*P		**Pn**	**04 42 39.8**	**-1.4**
CAIG				*e*S		**Sn**	**04 43 01.5**	**-3.1**
CAIG	**El Cayaco**	**1.86**	**303**	*e*P		**Pn**	**04 42 39.8**	**-1.4**
CAIG				*e*S		**Sn**	**04 43 01.5**	**-3.1**
VHO	**Vista Hermosa**	**2.11**	**60**	*e*P		**Pn**	**04 42 43.6**	**-1.2**
VHO				*e*S		**Sn**	**04 43 07.5**	**-3.4**
VHO	**Vista Hermosa**	**2.11**	**60**	*e*P		**Pn**	**04 42 43.6**	**-1.2**
VHO				*e*S		**Sn**	**04 43 07.5**	**-3.4**
HUIG	**Huatulco**	**2.45**	**96**	*e*P		**Pn**	**04 42 46.7**	**-2.6**
HUIG				*i* S		**Sn**	**04 43 15.3**	**-3.9**
HUIG	**Huatulco**	**2.45**	**96**	*e*P		**Pn**	**04 42 47.4**	**-2.0**
PLIG	**Platanillo**	**2.50**	**341**	*e*P		**Pn**	**04 42 48.9**	**-1.2**
PLIG				*e*S		**Sn**	**04 43 18.7**	**-1.7**
PLIG	**Platanillo**	**2.50**	**341**	*e*P		**Pn**	**04 42 48.9**	**-1.2**
PLIG				*i* S		**Sn**	**04 43 17.0**	**-3.4**
CMIG	**Matias Romero**	**3.76**	**73**	Pn		**Pn**	**04 43 06.8**	**-0.6**
	2.4nm,0.3s,baz=260,slow=14,SNR=34							
CMIG				Sn		**Sn**	**04 43 50.1**	**-1.3**
	11nm,0.3s,baz=339,slow=9.9,SNR=5.2							
CMIG				Lg		Lg	04 44 07.9	
	40nm,0.3s,baz=7.2,slow=24,SNR=19							
H06E1	**SOCORRO T-PHASI**	**2.04**	**285**	T		T	04 57 10.3	
	SNR=103							
H06S1	**SOCORRO T**	**12.06**	**285**	T		T	04 57 10.1	
	SNR=6.1							
TXAR	**Lajitas Array**	**14.03**	**342**	Pn		**Pn**	**04 45 29.6**	**+1.3**
	0.0nm,0.3s,baz=169,slow=12,SNR=2.5							
ANMO	**Albuquerque**	**20.10**	**341**	P		**Pn**	**04 46 46.0**	**+0.8**
	0.1nm,0.3s,baz=330,slow=12,SNR=3.8							
NVAR	**Mina Array Bea**	**28.23**	**326**	P		P	04 48 07.3	+4.6
	0.4nm,0.6s,baz=131,slow=9.7,SNR=3.3							
PDAR	**Pinedale Array**	**28.25**	**343**	P		**P**	**04 48 05.4**	**+2.7**
	0.3nm,0.7s,baz=128,slow=7.3,SNR=4.0							
YKA	**Yellowknife Ar**	**47.76**	**350**	P		**P**	**04 50 46.8**	**+0.6**
	0.2nm,0.8s,baz=158,slow=7.0,SNR=4.6							
ILAR	**Eielson Array**	**58.51**	**338**	P		**P**	**04 52 08.6**	**+3.2**
	0.2nm,0.6s,baz=143,slow=6.3,SNR=5.9							

*IDC **23** 04:45:56.5±1.6,3.°95S×138.°80E,h0km,mb3.8/5, mb1 4.2/6,mb1mx3.7/45,mbtmp4.0/6,ML4.5/1,Error ellipse: s-maj=67.1km s-min=27.2km az=91.0*
*ISCJB **23** 04:46:07.6±0.7,4.°17S±0.°08×138.°4E±0.°2,h100km, mb3.6/5,Error ellipse: s-maj=28.7km s-min=10.7km az=167.9*
*NEIC **23** 04:46:11.9±4.3,4.°28S×138.°43E,h131km±44km,mb4.1/2, Error ellipse: s-maj=27.8km s-min=23.2km az=145.0*

ISC 23 04:46:08.9±0.9,4.°1S±0.°1×138.°4E±0.°3,h100km,n11, σ0s81/11,mb3.6/5,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COEN	**Coen**	**10.83**	**154**	*e*Pn	**Pn**	**04 48 41.7**	**+0.7**
WRAB	**Tennant Creek**	**16.18**	**194**	*e*P	**Pn**	**04 49 50.3**	**-0.3**
	12nm,0.6s						
WRA	**Warramunga Arr**	**16.19**	**194**	Pn	**Pn**	**04 49 50.1**	**-0.5**
	1.7nm,0.3s,baz=17,slow=12,SNR=86						
CTA	**Charters Tower**	**17.60**	**155**	P	**P**	**04 50 07.3**	**-0.2**
	0.3nm,0.3s,baz=347,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**19.89**	**192**	P	**P**	**04 50 32.4**	**-0.2**
	6.7nm,0.6s,baz=18,slow=11,SNR=62						
MKAR	**Makanchi Array**	**70.73**	**323**	P	**P**	**04 57 15.6**	**+1.3**
	0.6nm,0.7s,baz=116,slow=8.2,SNR=6.3						
KURK	**Kurchatov**	**74.70**	**325**	P	**P**	**04 57 38.3**	**+0.7**
KURBB	**Kurchatov Arra**	**74.71**	**325**	P	**P**	**04 57 38.3**	**+0.6**
	0.4nm,0.7s,baz=113,slow=5.8,SNR=5.4						
BVAR	**Borovoye Array**	**80.30**	**325**	P	**P**	**04 58 09.5**	**+0.7**
	0.7nm,0.7s,baz=134,slow=6.2,SNR=4.6						
ABKAR	**Akbulak array**	**85.60**	**320**	*e*P	**P**	**04 58 35.4**	**-0.9**
	1.1nm,0.8s						
ILAR	**Eielson Array**	**87.26**	**24**	P	**P**	**04 58 43.2**	**-0.8**
	0.6nm,0.8s,baz=268,slow=4.3,SNR=6.0						

*NIED **23** 04:46:00.42°.10N×139.°20E,h8km,Mw3.7 Best double couple: M0 3.66000×10^14 NP1:φ=187.00000°,δ34.00000°, λ100.00000°. NP2:φ=355.00000°,δ56.00000°,λ83.00000°.*
*IDC **23** 04:46:14.4±1.1,42.°09N×139.°10E,h0km,mb3.6/5, mb1 3.9/6,mb1mx3.4/65,mbtmp3.6/6,ML2.4/1,MS2.3/1, Ms1 2.3/1,ms1mx2.0/64,Error ellipse: s-maj=35.5km s-min=27.2km az=109.0*
*JMA **23** 04:46:16.3±0.1,42.°15N×139.°17E,h18km±1km,M3.8*
JMA Felt II J1.

ISC 23 04:46:16.9±1.2,42.°15N±0.°06×139.°20E±0.°05,h19km±4km, n15,σ1s20/20,mb3.7/5,3C-1D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.22**	**109**	⇓P	**Pg**	**04 46 21.8**	**-0.4**
JOSM				*e*S	**Sg**	**04 46 25.2**	**-0.7**
JSH	**Shimam**	**0.80**	**52**	⇑P	**Pb**	**04 46 31.3**	**-0.8**
JSH				*e*S	**Sb**	**04 46 41.3**	**-1.1**
JYM2	**Yakumo 2**	**0.88**	**92**	⇑P	**Pb**	**04 46 33.3**	**-0.1**
JYM2				*e*S	**Sb**	**04 46 45.1**	**+0.5**
JSR	**Shiriuchi**	**1.11**	**124**	⇑P	**Pn**	**04 46 36.5**	**-0.7**
JSR				*e*S	**Sb**	**04 46 50.8**	**-0.5**
JKB	**Kayabe**	**1.40**	**100**	P	**Pn**	**04 46 40.9**	**-0.3**
JNB	**Noboribetsu**	**1.40**	**76**	P	**Pn**	**04 46 40.5**	**-0.8**
JSI2	**Shiura 2**	**1.43**	**140**	P	**Pn**	**04 46 40.6**	**-1.0**
JSI2				*e*S	**Sn**	**04 46 58.3**	**-1.5**
ASAJ	**Asahikawa**	**3.17**	**51**	Pn	**Pg**	**04 47 16.8**	**-0.8**
	1.4nm,0.3s,baz=223,slow=18,SNR=3.8						
USRK	**Ussuriysk Ar.**	**5.65**	**294**	Pn	**Pn**	**04 47 39.1**	**-0.6**
	1.2nm,0.3s,baz=102,slow=16,SNR=19						
USRK				Sn	**Sn**	**04 48 41.2**	**-2.8**
	0.2nm,0.3s,baz=103,slow=31,SNR=3.2						
KSRS	**Korea Array**	**9.86**	**245**	LR	LR	04 51 28.5	
	comp=Z,18nm,21.2s,baz=135,slow=32						
ILAR	**Eielson Array**	**46.18**	**35**	P	**P**	**04 54 41.7**	**+1.8**
	0.2nm,0.7s,baz=288,slow=7.1,SNR=4.3						
YKA	**Yellowknife Ar**	**60.27**	**31**	P	**P**	**04 56 24.3**	**+0.9**
	0.3nm,0.5s,baz=306,slow=6.2,SNR=7.1						
WRA	**Warramunga Arr**	**61.95**	**185**	P	**P**	**04 56 35.5**	**+0.2**
	0.8nm,0.7s,baz=0.5,slow=7.0,SNR=4.7						
FINES	**FINESS Array B**	**63.51**	**330**	P	**P**	**04 56 46.0**	**+0.8**
	1.8nm,0.9s,baz=54,slow=7.1,SNR=4.0						
PDAR	**Pinedale Array**	**75.29**	**45**	P	**P**	**04 58 00.0**	**+1.2**
	0.3nm,0.6s,baz=333,slow=1.7,SNR=3.7						

RSNC 23 05:07:03.0±0.7,7.°41N×78.°05W,h24km±15km,MB5.4, ML2.3,Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**1.34**	**152**	*e*P	Pn	05 07 24.8	-1.5
SOLC				*e*S	Sn	05 07 42.8	-0.5
CAPC	**Capurgana**	**1.40**	**30**	*e*P	Pn	05 07 25.9	-1.1
	comp=Z,159nm,0.4s						
CAPC				*e*S	Sn	05 07 43.3	-1.4
CAPC				*i*		05 07 44.1	
	comp=Z,159nm,0.4s						
BCIP	**Isla Barro Col**	**2.48**	**315**	*e*P	Pn	05 07 42.1	+0.1
BCIP				*i*		05 07 43.4	
	comp=Z,18nm,0.5s						
BCIP				*e*S	Sn	05 08 10.9	-0.7
MOTC	**Monteria, Cord**	**2.72**	**60**	*e*P	Pn	05 07 45.2	-0.1
MOTC				*e*S	Sn	05 08 16.7	-0.8
MOTC				*i*		05 08 20.0	
	comp=Z,5.6nm,0.7s						
HELC	**Santa Helena**	**2.78**	**116**	*e*P	Pn	05 07 46.1	-0.3
HELC				*e*S	Sn	05 08 19.6	+0.2
HELC				*i*		05 08 25.8	
	comp=Z,9.2nm,0.5s						
RREF	**El Recreo**	**3.67**	**133**	*e*P	Pn	05 07 58.1	-0.7
RREF				*i*		05 08 53.1	
	comp=Z,3.3nm,0.8s						
PTBC	**PUERTO BERRIO,**	**3.67**	**103**	*e*P	Pn	05 07 57.5	-0.8
PTBC				*e*S	Sn	05 08 40.0	-0.9
PTBC				*i*		05 08 58.7	
	comp=Z,3.3nm,0.7s						

*ISCJB **23** 05:32:05.1±0.3,51.°47N±0.°01×16.°22E±0.°03,h0km,Error ellipse: s-maj=2.3km s-min=2.0km az=161.0*
*IPEC **23** 05:32:07.3±0.4,51.°48N×16.°31E,h0km±2km,ML2.7/2, Error ellipse: s-maj=4.0km s-min=1.8km az=58.0*
*CSEM **23** 05:32:07.5±0.1,51.°46N×16.°19E,h2km,ML3.5/15,Error ellipse: s-maj=2.8km s-min=2.1km az=85.0*
*IDC **23** 05:32:08.7±0.8,51.°40N×16.°19E,h0km,mb1 3.3/6, mb1mx3.0/65,mbtmp3.2/6,ML3.0/6,Error ellipse: s-maj=17.3km s-min=6.9km az=102.0*
*BGR **23** 05:32:08.7±0.6,51.°42N×16.°20E,h1km,ML3.1/13,Error ellipse: s-maj=7.8km s-min=2.2km az=17.0*
*VIE **23** 05:32:11.2±1.1,51.°24N×16.°14E,h0km,mb2.5/8,ML2.9/8, Error ellipse: s-maj=8.2km s-min=7.2km az=77.0, Suspected Mining induced.*
*UPP **23** 05:32:24.7,51.°02N×15.°79E,h1km,Mw2.8*
*WAR **23** 05:32:24.7,51.°02N×15.°87E,h0km,ML2.0,Suspected Mining explosion.*

ISC 23 05:32:06.6±0.6,51.°52N±0.°02×16.°20E±0.°02,h0km,n99, σ1s37/165,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**175**	*i* Pg	**Pg**	**05 32 20.0**	**+0.3**
KSP				*e*Sg	**Sg**	**05 32 28.2**	**-0.3**
KSP				*e*		05 32 31.5	
KSP	**Ksiaz**	**0.68**	**175**	*e*Pg	**Pg**	**05 32 20.0**	**+0.3**
KSP				*e*Sg	**Sg**	**05 32 27.2**	**-1.2**
KSP	**Ksiaz**	**0.68**	**175**	*i* Pg	**Pg**	**05 32 20.0**	**+0.3**
KSP				*e*Sg	**Sg**	**05 32 28.2**	**-0.3**
KSP				*e*		05 32 31.5	
KSP	**Ksiaz**	**0.68**	**175**	Pg	**Pg**	**05 32 20.0**	**+0.3**
KSP				Sg	**Sg**	**05 32 27.2**	**-1.2**
UPC	**Upice**	**1.02**	**187**	*e*PG	**Pg**	**05 32 26.2**	**0.0**
UPC				*e*SG	**Sg**	**05 32 38.3**	**-1.1**
	comp=Z,160nm,0.4s						
UPC	**Upice**	**1.02**	**187**	Pg	**Pg**	**05 32 26.2**	**0.0**
UPC				Sg	**Sg**	**05 32 38.3**	**-1.1**
	160nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**176**	*e*Pg	**Pg**	**05 32 29.0**	**-0.1**
DPC				*e*Sg	**Sg**	**05 32 43.4**	**-0.9**
DPC	**Dobruska-Polom**	**1.17**	**176**	*e*PG	**Pg**	**05 32 28.8**	**-0.3**
DPC				*e*SG	**Sg**	**05 32 43.1**	**-1.2**
	comp=Z,64nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**176**	Pg	**Pg**	**05 32 28.8**	**-0.3**
DPC				Sg	**Sg**	**05 32 43.4**	**-0.9**
PVCC	**Panska Ves**	**1.43**	**227**	*e*PG	**Pn**	**05 32 34.3**	**+0.5**
PVCC				*e*SG	**Sb**	**05 32 53.2**	**+0.3**
	comp=Z,311nm,0.4s						
PVCC	**Panska Ves**	**1.43**	**227**	Pg	**Pn**	**05 32 34.3**	**+0.5**
PVCC				Sg	**Sb**	**05 32 53.2**	**+0.3**
	311nm,0.4s						
KRLC	**Kraliky**	**1.49**	**165**	*e*PG	**Pn**	**05 32 34.4**	**-0.3**
KRLC				*e*SG	**Sg**	**05 32 53.5**	**-1.0**
	comp=Z,14nm,0.4s						
KRLC	**Kraliky**	**1.49**	**165**	Pg	**Pn**	**05 32 34.4**	**-0.3**
KRLC				Sg	**Sg**	**05 32 53.5**	**-1.0**
	14nm,0.4s						
BRG	**Berggiesshubel**	**1.56**	**246**	PN	**Pn**	**05 32 35.4**	**-0.2**
BRG				PG	**Pg**	**05 32 37.3**	**+0.8**
BRG				SG	**Sg**	**05 32 57.4**	**+0.7**
	91nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.84**	**210**	*e*PG	**Pb**	**05 32 41.4**	**+0.2**
GOPC				*e*SG	**Sb**	**05 33 04.5**	**-0.3**
	comp=Z,50nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.84**	**210**	Pg	**Pb**	**05 32 41.4**	**+0.2**
GOPC				Sg	**Sb**	**05 33 04.5**	**-0.3**
	50nm,0.6s						
PRU	**Pruhonice**	**1.86**	**215**	*e*PN	**Pn**	**05 32 39.3**	**-0.4**
PRU				*e*PG	**Pb**	**05 32 41.6**	**+0.1**
PRU				*e*SG	**Sb**	**05 33 05.0**	**-0.3**
	comp=Z,66nm,0.5s						
PRU	**Pruhonice**	**1.86**	**215**	Pn	**Pn**	**05 32 39.3**	**-0.4**
FBE	**Freiberg**	**1.89**	**253**	*e*Sg	**Sg**	**05 33 07.7**	**+0.5**
FBE	**Freiberg**	**1.89**	**253**	Sg	**Sg**	**05 33 07.7**	**+0.5**
MORC	**Moravsky Berou**	**1.94**	**153**	*e*Pn	**Pn**	**05 32 40.8**	**-0.2**
MORC	**Moravsky Berou**	**1.94**	**153**	*e*Pn	**Pn**	**05 32 40.7**	**-0.2**
MORC				*e*Sg	**Sn**	**05 33 06.4**	**+0.4**
	47nm,0.5s						
CLL	**Collm**	**2.01**	**265**	*e*Sg	**Sg**	**05 33 12.7**	**+1.4**
CLL	**Collm**	**2.01**	**265**	*e*Pn	**Pn**	**05 32 42.0**	**+0.2**
CLL				*e*Pg	**Pg**	**05 32 46.0**	**+0.8**
CLL				*e*Sg	**Sg**	**05 33 13.0**	**+1.7**
	comp=Z,44nm,0.5s						
CLL				LmV		10 53 00.0	
	comp=Z,200nm,19.7s						
CLL	**Collm**	**2.01**	**265**	Sg	**Sg**	**05 33 12.7**	**+1.4**
OKC	**Ostrava-Krasne**	**2.09**	**143**	*e*Pg	**Pb**	**05 32 46.3**	**+0.9**
OKC				*e*Sg	**Sb**	**05 33 12.0**	**+0.2**
OKC	**Ostrava-Krasne**	**2.09**	**143**	*e*PG	**Pb**	**05 32 46.2**	**+0.9**
OKC				*e*SG	**Sb**	**05 33 12.1**	**+0.2**
	comp=Z,41nm,0.5s						
OKC	**Ostrava-Krasne**	**2.09**	**143**	Pg	**Pb**	**05 32 46.3**	**+0.9**
OKC				Sg	**Sb**	**05 33 12.1**	**+0.2**
	comp=Z,41nm,0.5s						
VRAC	**Vranov**	**2.23**	**173**	Pn	**Pn**	**05 32 45.5**	**+0.7**
	comp=Z,4.8nm,0.3s,baz=344,slow=14,SNR=12						
VRAC				Lg	Lg	05 33 15.4	
	comp=Z,13nm,0.3s,baz=208,slow=7.6,SNR=11						
VRAC	**Vranov**	**2.23**	**173**	*e*Pn	**Pn**	**05 32 44.9**	**+0.1**
VRAC				*e*Sg	**Sb**	**05 33 15.5**	**-0.4**
	comp=Z,45nm,0.4s						
KRUC	**Moravsky**	**2.46**	**177**	*e*Pn	**Pn**	**05 32 48.2**	**+0.2**
KRUC				*e*Sg	**Sb**	**05 33 23.3**	**+0.7**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**05 32 57.2**	**+0.3**
OJC				*e*Sg	**Sg**	**05 33 32.2**	**+1.3**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**05 32 57.2**	**+0.3**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**05 32 57.2**	**+0.3**
OJC				*e*Sg	**Sg**	**05 33 32.2**	**+1.3**
OJC	**Ojcow**	**2.62**	**118**	Pg	**Pg**	**05 32 57.2**	**+0.3**
OJC				Sg	**Sg**	**05 33 32.2**	**+1.3**
WERD	**Werda**	**2.69**	**248**	*e*Sg	**Sg**	**05 33 32.1**	**-0.7**
WERD	**Werda**	**2.69**	**248**	Sg	**Sg**	**05 33 32.1**	**-0.7**
NKC	**Novy Kostel**	**2.70**	**243**	*e*PN	**Pn**	**05 32 52.1**	**+0.7**
NKC				*e*SG	**Sg**	**05 33 34.8**	**+1.4**
	comp=Z,48nm,0.3s						
NKC	**Novy Kostel**	**2.70**	**243**	Pn	**Pn**	**05 32 52.1**	**+0.7**
NKC				Sg	**Sg**	**05 33 34.8**	**+1.4**
	comp=Z,48nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**216**	*e*PN	**Pn**	**05 32 54.4**	**0.0**
KHC				*e*PG	**Pb**	**05 33 00.7**	**+1.1**
KHC				*e*SN	**Sn**	**05 33 29.5**	**-0.7**
KHC				*e*SG	**Sb**	**05 33 38.1**	**+2.2**
	comp=Z,35nm,0.7s						
KHC	**Kasperske Hory**	**2.92**	**216**	Pn	**Pn**	**05 32 54.4**	**0.0**
MANZ	**Manzenberg**	**3.02**	**241**	*e*Pn	**Pn**	**05 32 56.6**	**+0.9**
MANZ				*e*Sg	**Sg**	**05 33 43.4**	**-0.1**
MANZ	**Manzenberg**	**3.02**	**241**	Pn	**Pn**	**05 32 56.6**	**+0.9**
MANZ				Sg	**Sg**	**05 33 43.4**	**-0.1**
MOX	**Moxa**	**3.02**	**255**	*e*Pg	**Pg**	**05 33 04.4**	**-0.1**
MOX				*e*Sg	**Sg**	**05 33 43.7**	**+0.1**
MOX	**Moxa**	**3.02**	**255**	Pg	**Pg**	**05 33 04.4**	**-0.1**
MOX				Sg	**Sg**	**05 33 43.7**	**+0.1**
ROTZ	**Rotzenmuhle**	**3.09**	**237**	*e*Pn	**Pn**	**05 32 57.6**	**+1.0**
ROTZ	**Rotzenmuhle**	**3.09**	**237**	Pn	**Pn**	**05 32 57.6**	**+1.0**
SMOL	**Smolenice**	**3.11**	**165**	*e*SG	**Sg**	**05 33 45.9**	**-0.6**
GEC2	**GERESS Array S**	**3.12**	**212**	*e*Pg	**Pb**	**05 33 03.9**	**+0.9**
GERES	**GERESS Array B**	**3.12**	**212**	Pn	**Pn**	**05 32 57.8**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=35,slow=14,SNR=24						
GERES				Pg	**Pb**	**05 33 04.0**	**+0.9**
	comp=Z,7.6nm,0.3s,baz=33,slow=18,SNR=81						
GERES				Lg	Lg	05 33 43.6	
	comp=Z,6.6nm,0.3s,baz=34,slow=29,SNR=7.6						
LANS	**Liptovska Anna**	**3.16**	**137**	*e*Pg	**Pg**	**05 33 06.3**	**-0.9**
LANS				*e*Sg	**Sg**	**05 33 46.7**	**-1.5**
LANS	**Liptovska Anna**	**3.16**	**137**	*e*PG	**Pg**	**05 33 06.3**	**-0.9**
LANS				*e*SG	**Sg**	**05 33 46.7**	**-1.5**
VYHS	**Vyhne**	**3.47**	**150**	*e*Pg	**Pg**	**05 33 13.1**	**-0.1**
VYHS				*e*Sg	**Sg**	**05 33 58.4**	**+0.2**
VYHS	**Vyhne**	**3.47**	**150**	*e*PG	**Pg**	**05 33 13.1**	**-0.1**
VYHS				*e*SG	**Sg**	**05 33 58.4**	**+0.2**
CONA	**Conrad Observa**	**3.60**	**184**	Pn	**Pn**	**05 33 04.6**	**+0.8**
	comp=Z,1.1nm,0.4s						
CONA	**Conrad Observa**	**3.60**	**184**	*i* Pn	**Pn**	**05 33 04.6**	**+0.8**
	comp=Z,1.1nm,0.4s						
CONA				*e*Pg	**Pg**	**05 33 13.9**	**-1.7**
	comp=Z,4.1nm,0.3s						
CONA				*i* Sn	**Sn**	**05 33 50.1**	**+3.1**
	comp=Z,7.8nm,0.4s						
CONA				*i* Sg	**Sg**	**05 34 00.6**	**-1.7**
	comp=Z,14nm,0.3s						
BSD	**Bornholm Skovb**	**3.68**	**348**	*i* P	**Pn**	**05 33 04.5**	**-0.3**
BSD				*i* S	**Sn**	**05 33 47.1**	**-1.7**
BSD	**Bornholm Skovb**	**3.68**	**348**	*i* P	**Pn**	**05 33 04.5**	**-0.3**
BSD				*i* S	**Sn**	**05 33 47.1**	**-1.7**
STHS	**Stebnicka Huta**	**3.85**	**121**	*e*Pg	**Pg**	**05 33 21.9**	**+1.5**
STHS				*e*Sg	**Sg**	**05 34 11.5**	**+1.3**
STHS	**Stebnicka Huta**	**3.85**	**121**	*e*PG	**Pg**	**05 33 21.9**	**+1.5**
STHS				*e*SG	**Sg**	**05 34 11.5**	**+1.3**
STHS				*e*LG	Lg	05 34 17.1	

MOA	**Molln**	**3.88**	**200**	Pn		**Pn**	**05 33 07.9**	**+0.4**
	comp=Z,1.5nm,0.2s							
MOA	**Molln**	**3.88**	**200**	*i* Pn		**Pn**	**05 33 07.9**	**+0.4**
	comp=Z,1.5nm,0.2s							
MOA				*e*Pg		**Pg**	**05 33 21.2**	**+0.2**
	comp=Z,6.8nm,0.3s							
MOA				Sg		**Sg**	**05 34 09.1**	**-2.2**
	comp=Z,23nm,0.5s							
KECS	**Kecovo**	**4.11**	**136**	*e*Pg		**Pg**	**05 33 27.1**	**+1.8**
KECS				*e*Sg		**Sb**	**05 34 12.7**	**+2.8**
KECS	**Kecovo**	**4.11**	**136**	*e*PG		**Pg**	**05 33 27.1**	**+1.8**
KECS				*e*SG		**Sb**	**05 34 12.7**	**+2.8**
KECS				*e*LG		Lg	05 34 23.2	
ARSA	**Arzberg**	**4.30**	**186**	Pn		**Pn**	**05 33 16.4**	**+3.1**
	comp=Z,1.3nm,0.3s							
ARSA				Sg		**Sg**	**05 34 21.6**	**-3.0**
	comp=Z,22nm,0.7s							
ARSA	**Arzberg**	**4.30**	**186**	*e*Pn		**Pn**	**05 33 16.4**	**+3.1**
	comp=Z,1.3nm,0.3s							
ARSA				Sg		**Sg**	**05 34 21.6**	**-3.0**
	comp=Z,22nm,0.7s							
KBA	**Koelnbreinsper**	**4.82**	**204**	Pn		**Pn**	**05 33 21.8**	**+1.2**
	comp=Z,1.5nm,0.4s							
KBA				Sg		**Sg**	**05 34 41.5**	**0.0**
	comp=Z,12nm,0.5s							
KBA	**Koelnbreinsper**	**4.82**	**204**	*i* Pn		**Pn**	**05 33 21.8**	**+1.2**
	comp=Z,1.5nm,0.4s							
KBA				*e*Sg		**Sg**	**05 34 41.5**	**0.0**
	comp=Z,12nm,0.5s							
DEL	**Delary**	**5.15**	**345**	P		**Pn**	**05 33 25.6**	**+0.7**
DEL				S		**Sn**	**05 34 21.8**	**-3.1**
DEL	**Delary**	**5.15**	**345**	P		**Pn**	**05 33 25.6**	**+0.7**
DEL				S		**Sn**	**05 34 21.8**	**-3.1**
MYKA	**Terra Mystica**	**5.17**	**200**	Sg		**Sg**	**05 34 53.9**	**+1.2**
	comp=Z,4.0nm,0.4s							
MYKA	**Terra Mystica**	**5.17**	**200**	*e*Sg		**Sg**	**05 34 53.9**	**+1.2**
	comp=Z,4.0nm,0.4s							
ABTA	**Abfaltersbach**	**5.35**	**208**	Pn		**Pn**	**05 33 29.6**	**+1.8**
	comp=Z,1.2nm,0.5s							
ABTA				Sg		**Sg**	**05 35 01.7**	**+3.2**
	comp=Z,14nm,0.7s							
ABTA	**Abfaltersbach**	**5.35**	**208**	*e*Pn		**Pn**	**05 33 29.6**	**+1.8**
	comp=Z,1.2nm,0.5s							
ABTA				Sg		**Sg**	**05 35 01.7**	**+3.2**
	comp=Z,14nm,0.7s							
VXJU	**Vaexsjoe**	**5.46**	**353**	P		**Pn**	**05 33 30.5**	**+1.3**
VXJU	**Vaexsjoe**	**5.46**	**353**	P		**Pn**	**05 33 30.5**	**+1.3**
OSKU	**Oskarshamn**	**5.69**	**359**	P		**Pn**	**05 33 34.0**	**+1.7**
OSKU	**Oskarshamn**	**5.69**	**359**	P		**Pn**	**05 33 34.0**	**+1.7**
BYXU	**Byxelkrok**	**5.80**	**4**	P		**Pn**	**05 33 35.6**	**+1.8**
BYXU	**Byxelkrok**	**5.80**	**4**	P		**Pn**	**05 33 35.6**	**+1.8**
FABU	**Falkenberg**	**5.86**	**341**	P		**Pn**	**05 33 35.5**	**+0.9**
FABU	**Falkenberg**	**5.86**	**341**	P		**Pn**	**05 33 35.5**	**+0.9**
ASPU	**Aespoe**	**5.92**	**2**	P		**Pn**	**05 33 37.4**	**+2.0**
ASPU	**Aespoe**	**5.92**	**2**	P		**Pn**	**05 33 37.4**	**+2.0**
GNOU	**Gnosjoe**	**5.96**	**347**	P		**Pn**	**05 33 36.9**	**+0.9**
GNOU	**Gnosjoe**	**5.96**	**347**	P		**Pn**	**05 33 36.9**	**+0.9**
EKSU	**Eksjoe**	**6.09**	**355**	P		**Pn**	**05 33 39.1**	**+1.3**
EKSU				S		**Sn**	**05 34 45.0**	**-3.1**
EKSU	**Eksjoe**	**6.09**	**355**	P		**Pn**	**05 33 39.1**	**+1.3**
EKSU				S		**Sn**	**05 34 45.0**	**-3.1**
BORU	**Boraas**	**6.44**	**343**	P		**Pn**	**05 33 44.3**	**+1.7**
LNKU	**Linkoeping**	**6.73**	**357**	P		**Pn**	**05 33 47.8**	**+1.2**
FKPU	**Falk**	**6.81**	**349**	P		**Pn**	**05 33 49.7**	**+2.1**
FKPU	**Falk**	**6.81**	**349**	P		**Pn**	**05 33 49.7**	**+2.1**
VIKU	**Vikbolandet**	**7.00**	**2**	P		**Pn**	**05 33 52.0**	**+1.6**
VIKU	**Vikbolandet**	**7.00**

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.82**	**200**	P	P	06 05 44.5	-0.2
	0.5nm,0.7s,baz=20,slow=9.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**46.31**	**280**	P	P	06 06 46.0	+0.2
	0.4nm,0.3s,baz=72,slow=6.4,SNR=4.5						
MKAR	**Makanchi Array**	**61.07**	**314**	P	P	06 08 33.6	0.0
	0.2nm,0.5s,baz=90,slow=7.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**63.92**	**319**	P	P	06 08 52.4	-0.2
	0.5nm,0.6s,baz=92,slow=7.5,SNR=5.1						
YKA	**Yellowknife Ar**	**78.76**	**28**	P	P	06 10 22.1	+0.1
	0.1nm,0.5s,baz=284,slow=5.7,SNR=4.3						

*DDA **23** 06:05:20.7,37.65N×36.85E,h3km,Ml2.7*
*ISCJB **23** 06:05:21.4±0.6,37.66N±0.03×36.87E±0.04,h2km±7km,*
Error ellipse: s-maj=5.1km s-min=4.6km az=35.4
*CSEM **23** 06:05:21.6±0.3,37.66N×36.86E,h8km,ML2.0,Error*
ellipse: s-maj=7.5km s-min=5.9km az=176.0
*ISK **23** 06:05:21.0,37.62N×36.90E,h15km,ML2.0/4*
ISC 23 06:05:21.2±1.0,37.66N±0.03×36.86E±0.03,h9km±8km,
n20,σ0966/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.16**	**168**	P	**Pg**	**06 05 24.6**	**0.0**
KMRS				SG	**Sg**	**06 05 27.2**	**+0.2**
KMRS	**Kahramanmaras**	**0.16**	**168**	*e*Pg	**Pg**	**06 05 24.6**	**0.0**
KMRS				*e*Sg	**Sg**	**06 05 27.2**	**+0.2**
HCB	**Kahramanmara¯**	**0.32**	**173**	*i* P	**Pg**	**06 05 27.8**	**+0.2**
HCB				*i* S	**Sg**	**06 05 32.0**	**+0.2**
ANDN	**Andirin**	**0.42**	**259**	*i* P	**Pg**	**06 05 28.2**	**-1.2**
ANDN				*i* S	**Sg**	**06 05 35.2**	**+0.3**
ANDN	**Andirin**	**0.42**	**259**	P	**Pg**	**06 05 28.2**	**-1.2**
ANDN				S	**Sg**	**06 05 35.2**	**+0.3**
KAMA	**Osmaniye**	**0.50**	**198**	*i* P	**Pg**	**06 05 30.2**	**-0.7**
KAMA				*i* S	**Sg**	**06 05 37.8**	**+0.3**
KOZT	**Kozan**	**0.84**	**258**	PG	**Pb**	**06 05 38.2**	**+0.2**
KOZT				SG	**Sn**	**06 05 50.8**	**-0.9**
KOZT	**Kozan**	**0.84**	**258**	*e*Pg	**Pb**	**06 05 38.2**	**+0.2**
KOZT				*e*Sg	**Sn**	**06 05 50.8**	**-0.9**
KUZU	**Kuzuini**	**0.90**	**169**	*i* P	**Pn**	**06 05 39.8**	**-0.3**
KUZU				*i* S	**Sn**	**06 05 54.7**	**+1.4**
KUZU	**Kuzuini**	**0.90**	**169**	P	**Pn**	**06 05 39.8**	**-0.3**
KUZU				S	**Sn**	**06 05 54.7**	**+1.4**
DARE	**Darende-Malaty**	**1.03**	**28**	PG	**Pn**	**06 05 41.8**	**-0.2**
DARE				SG	**Sn**	**06 05 56.9**	**+0.3**
DARE	**Darende-Malaty**	**1.03**	**28**	*e*Pg	**Pn**	**06 05 41.8**	**-0.2**
DARE				*e*Sg	**Sn**	**06 05 56.9**	**+0.3**
YAHY	**KAYSERI_Yahyal**	**1.26**	**291**	*i* P	**Pg**	**06 05 46.1**	**+0.7**
YAHY				*i* S	**Sn**	**06 06 02.9**	**+0.6**
YAHY	**KAYSERI_Yahyal**	**1.26**	**291**	P	**Pg**	**06 05 46.1**	**+0.7**
YAHY				S	**Sn**	**06 06 02.9**	**+0.6**
MALT	**Malatya**	**1.40**	**62**	PN	**Pn**	**06 05 46.6**	**-0.4**
MALT	**Malatya**	**1.40**	**62**	*e*Pn	**Pn**	**06 05 46.6**	**-0.4**
URFA	**Urfa**	**1.57**	**97**	PN	**Pn**	**06 05 48.6**	**-0.8**
URFA	**Urfa**	**1.57**	**97**	*e*Pn	**Pn**	**06 05 48.6**	**-0.8**
SURC	**SANLIURFA_SURC**	**1.60**	**119**	*i* P	**Pg**	**06 05 51.5**	**-0.4**
SURC				*i* S	**Sg**	**06 06 12.3**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.60**	**119**	P	**Pg**	**06 05 51.5**	**-0.4**
SURC				S	**Sg**	**06 06 12.3**	**-0.4**

*ISN **23** 06:15:52.6±1.1,39.02N×43.98E,h5km±117km,ML3.7*
*ISK **23** 06:15:58.6,38.91N×43.64E,h5km,ML3.4/12*
*CSEM **23** 06:15:59.6±0.2,38.93N×43.67E,h2km,ML3.4,Error*
ellipse: s-maj=5.4km s-min=3.7km az=121.0
*DDA **23** 06:15:59.3,38.92N×43.64E,h9km,Ml3.6*
ISC 23 06:15:59.6±1.0,38.92N±0.02×43.65E±0.02,h6km±9km,
n64,σ1937/98,1C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.27**	**293**	PG	**Pg**	**06 16 04.3**	**-0.6**
ERCV				SG	**Sg**	**06 16 09.6**	**+1.2**
ERCV	**ERCIS-VAN**	**0.27**	**293**	*e*Pg	**Pg**	**06 16 04.3**	**-0.6**
ERCV				*e*Sg	**Sg**	**06 16 09.6**	**+1.2**
CLDR	**Caldiran**	**0.30**	**42**	P	**Pg**	**06 16 05.1**	**-0.5**
CLDR	**Caldiran**	**0.30**	**42**	*i* P	**Pg**	**06 16 05.1**	**-0.5**
CLDR				*i* S	**Sb**	**06 16 11.6**	**-1.4**
CLDR	**Caldiran**	**0.30**	**42**	P	**Pg**	**06 16 05.1**	**-0.5**
CLDR				S	**Sb**	**06 16 11.6**	**-1.4**
VANB	**Van**	**0.38**	**213**	PG	**Pb**	**06 16 08.0**	**-0.8**
VANB	**Van**	**0.38**	**213**	*e*Pg	**Pb**	**06 16 08.0**	**-0.8**
TVAN	**Van**	**0.43**	**207**	*i* P	**Pg**	**06 16 08.0**	**0.0**
TVAN				*i* S	**Sg**	**06 16 15.2**	**+1.5**
TVAN	**Van**	**0.43**	**207**	P	**Pg**	**06 16 08.0**	**0.0**
TVAN				S	**Sg**	**06 16 15.2**	**+1.5**
DYDN	**Diyadin**	**0.63**	**2**	*i* P	**Pg**	**06 16 11.1**	**-0.6**
DYDN				*i* S	**Sb**	**06 16 21.2**	**-1.0**
DYDN	**Diyadin**	**0.63**	**2**	P	**Pg**	**06 16 11.1**	**-0.6**
DYDN				S	**Sb**	**06 16 21.2**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.73**	**262**	*i* P	**Pg**	**06 16 13.0**	**-0.6**
ADCV				*i* S	**Sg**	**06 16 24.0**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.73**	**262**	S	**Sg**	**06 16 24.0**	**+0.8**
GEVA	**Gevas**	**0.76**	**218**	*i* P	**Pg**	**06 16 12.9**	**-1.3**
GEVA				*i* S	**Sg**	**06 16 24.8**	**+0.7**
GEVA	**Gevas**	**0.76**	**218**	P	**Pg**	**06 16 12.9**	**-1.3**
GEVA				S	**Sg**	**06 16 24.8**	**+0.7**
AGRB	**Hanur-Agry**	**0.83**	**322**	PG	**Pg**	**06 16 15.0**	**-0.6**
AGRB				SG	**Sb**	**06 16 28.4**	**+0.2**
AGRB	**Hanur-Agry**	**0.83**	**322**	*e*Pg	**Pg**	**06 16 15.0**	**-0.6**
AGRB				*e*Sg	**Sb**	**06 16 28.4**	**+0.2**
IGDI	**IGDIR**	**1.00**	**19**	*i* P	**Pb**	**06 16 18.8**	**-0.7**
IGDI				*i* S	**Sn**	**06 16 37.0**	**+2.2**
TASB	**TASBURUN-IGDIR**	**1.16**	**23**	PN	**Pn**	**06 16 21.9**	**-0.5**
TASB				SN	**Sn**	**06 16 39.8**	**+1.2**
TASB	**TASBURUN-IGDIR**	**1.16**	**23**	*e*Pn	**Pn**	**06 16 21.9**	**-0.5**
TASB				*e*Sn	**Sn**	**06 16 39.8**	**+1.2**
EKAR	**Karacoban**	**1.28**	**286**	*i* P	**Pg**	**06 16 21.8**	**-2.4**
EKAR				*i* S	**Sn**	**06 16 42.2**	**+0.3**
EKAR	**Karacoban**	**1.28**	**286**	P	**Pg**	**06 16 21.8**	**-2.4**
EKAR				S	**Sn**	**06 16 42.2**	**+0.3**
EATA	**Eleskirt**	**1.30**	**317**	*i* P	**Pg**	**06 16 23.7**	**-0.9**
EATA				*i* S	**Sn**	**06 16 42.7**	**+0.1**
EATA	**Eleskirt**	**1.30**	**317**	P	**Pg**	**06 16 23.7**	**-0.9**
EATA				S	**Sn**	**06 16 42.7**	**+0.1**
GURO	**Guroymak-BITLI**	**1.32**	**254**	PN	**Pn**	**06 16 23.7**	**-1.0**
GURO	**Guroymak-BITLI**	**1.32**	**254**	*e*Pn	**Pn**	**06 16 23.7**	**-1.0**
HAKT	**HAKKARI**	**1.36**	**178**	*i* P	**Pn**	**06 16 23.6**	**-1.7**
HAKT				*i* S	**Sn**	**06 16 46.0**	**+2.3**
HAKT	**HAKKARI**	**1.36**	**178**	S	**Sn**	**06 16 46.0**	**+2.3**
YOVA	**Hakkari_Y¨…kse**	**1.42**	**159**	*i* P	**Pn**	**06 16 25.9**	**-0.2**
YOVA				*i* S	**Sn**	**06 16 46.8**	**+1.6**
DIGO	**Kars**	**1.51**	**352**	*i* P	**Pb**	**06 16 27.6**	**-0.6**
DIGO				*i* S	**Sg**	**06 16 52.5**	**+4.3**
DIGO	**Kars**	**1.51**	**352**	P	**Pb**	**06 16 27.6**	**-0.6**
DIGO				S	**Sg**	**06 16 52.5**	**+4.3**
SRTM	**Siirt_Merkez**	**1.64**	**236**	*i* P	**Pn**	**06 16 29.8**	**+0.7**
SRTM				*i* S	**Sg**	**06 16 53.5**	**+1.1**
SRTM	**Siirt_Merkez**	**1.64**	**236**	P	**Pn**	**06 16 29.8**	**+0.7**
SRTM				S	**Sg**	**06 16 53.5**	**+1.1**
SIRT	**Sirnak**	**1.71**	**214**	PN	**Pb**	**06 16 30.8**	**-0.6**
SIRT	**Sirnak**	**1.71**	**214**	*e*Pn	**Pb**	**06 16 30.8**	**-0.6**
HOMI	**Horasan**	**1.76**	**310**	*i* P	**Pn**	**06 16 30.7**	**-0.1**
HOMI				*i* S	**Sg**	**06 16 59.3**	**+3.1**
KARS	**Kars**	**1.77**	**346**	PN	**Pb**	**06 16 31.7**	**-0.7**
KARS	**Kars**	**1.77**	**346**	*e*Pn	**Pb**	**06 16 31.7**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.93**	**329**	PN	**Pb**	**06 16 34.3**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.93**	**329**	*e*Pn	**Pb**	**06 16 34.3**	**-0.9**
ERZM	**Erzurum**	**2.03**	**300**	*i* P	**Pn**	**06 16 35.4**	**+0.8**
ERZM				*i* S	**Sg**	**06 17 05.0**	**+0.2**
ERZM	**Erzurum**	**2.03**	**300**	P	**Pn**	**06 16 35.4**	**+0.8**
ERZM				S	**Sg**	**06 17 05.0**	**+0.2**
ECAT	**Cat-ERZURUM**	**2.19**	**289**	*i* P	**Pb**	**06 16 38.2**	**-1.5**
ECAT				*i* S	**Sg**	**06 17 09.8**	**-0.2**
ECAT	**Cat-ERZURUM**	**2.19**	**289**	P	**Pb**	**06 16 38.2**	**-1.5**
ECAT				S	**Sg**	**06 17 09.8**	**-0.2**
BGD	**Bogdanovka**	**2.34**	**359**	P	**Pg**	**06 16 43.3**	**-1.2**
GDB	**GEDABAY**	**2.42**	**41**	⇑P	**Pn**	**06 16 39.6**	**-0.3**
	SNR=10						
GDB				⇓S	**Sb**	**06 17 14.0**	**+0.2**
AKH	**Akhalkalaki**	**2.49**	**357**	PN	**Pn**	**06 16 41.9**	**+1.0**
AKH	**Akhalkalaki**	**2.49**	**357**	P	**Pg**	**06 16 46.4**	**-1.0**
AKH	**Akhalkalaki**	**2.49**	**357**	*e*Pn	**Pn**	**06 16 41.9**	**+1.0**
QZX	**Qazax, Azerbai**	**2.51**	**31**	⇓P	**Pn**	**06 16 39.9**	**-1.1**
	SNR=14						
QZX				⇓S	**Sb**	**06 17 14.6**	**-1.7**
GANJ	**Ganja**	**2.69**	**49**	⇓P	**Pn**	**06 16 43.5**	**+0.1**
	SNR=13						
GANJ				⇓S	**Sb**	**06 17 21.0**	**-0.3**
DGRG	**David-gareji**	**2.85**	**27**	P	**Pb**	**06 16 49.7**	**-1.2**
MAZI	**Mazidag**	**2.92**	**241**	PN	**Pn**	**06 16 47.7**	**+1.1**
MAZI	**Mazidag**	**2.92**	**241**	*e*Pn	**Pn**	**06 16 47.7**	**+1.1**
BRDA	**Brd**	**3.04**	**63**	⇓P	**Pn**	**06 16 48.8**	**+0.7**
	SNR=3.3						
BAYT	**Ayd¨–ntepe-Bay**	**3.09**	**300**	PN	**Pn**	**06 16 50.8**	**+1.8**
BAYT	**Ayd¨–ntepe-Bay**	**3.09**	**300**	*e*Pn	**Pn**	**06 16 50.8**	**+1.8**
DUS	**Dusheti**	**3.27**	**14**	P	**Pg**	**06 16 59.7**	**-2.5**
PTK	**Pertek**	**3.33**	**271**	PN	**Pn**	**06 16 53.8**	**+1.5**
PTK	**Pertek**	**3.33**	**271**	*e*Pn	**Pn**	**06 16 53.8**	**+1.5**
GUDG	**Gudauri**	**3.60**	**10**	P	**Pg**	**06 17 06.2**	**-2.3**
ONI	**Oni**	**3.67**	**358**	P	**Pg**	**06 17 07.3**	**-2.6**
MALT	**Malatya**	**4.14**	**263**	PN	**Pn**	**06 17 05.7**	**+2.3**
MALT	**Malatya**	**4.14**	**263**	*e*Pn	**Pn**	**06 17 05.7**	**+2.3**

*ISN **23** 06:42:00.9±1.3,36.88N×40.95E,h0km±16km,ML3.5*
*DDA **23** 06:42:02.4,36.37N×40.96E,h8km,Ml3.5*
*CSEM **23** 06:42:07.1±0.2,36.62N×41.19E,h2km,ML3.5,Error*
ellipse: s-maj=6.7km s-min=5.0km az=34.0
*ISK **23** 06:42:07.1,36.73N×41.09E,h2km,ML3.5/15*
ISC 23 06:42:03.8±1.4,36.45N±0.03×40.95E±0.03,h4km±12km,
n44,σ1961/62,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.88**	**351**	*i* P	**Pb**	**06 42 20.9**	**-0.8**
MARD				*i* S	**Sb**	**06 42 34.2**	**+0.4**
MAZI	**Mazidag**	**1.09**	**338**	PG	**Pn**	**06 42 25.5**	**-0.5**
MAZI				SG	**Sg**	**06 42 38.1**	**-0.7**
MAZI	**Mazidag**	**1.09**	**338**	*e*Pg	**Pn**	**06 42 25.5**	**-0.5**
BTMN	**Batman**	**1.46**	**10**	*i* P	**Pg**	**06 42 32.1**	**+0.2**
BTMN				*i* S	**Sg**	**06 42 52.8**	**+1.9**
BTMN	**Batman**	**1.46**	**10**	P	**Pg**	**06 42 32.1**	**+0.2**
BTMN				S	**Sg**	**06 42 52.8**	**+1.9**
DIY	**Diyarbakir**	**1.56**	**338**	*e*Pn	**Pg**	**06 42 34.9**	**+1.2**
DIY				*e*Sn	**Sg**	**06 42 55.4**	**+1.5**
SIRT	**Sirnak**	**1.59**	**48**	PN	**Pb**	**06 42 32.9**	**-0.9**
SIRT				SN	**Sn**	**06 42 52.6**	**-1.3**
SIRT	**Sirnak**	**1.59**	**48**	*e*Pn	**Pb**	**06 42 32.9**	**-0.9**
SIRT				*e*Sn	**Sn**	**06 42 52.6**	**-1.3**
DYBB	**Diyarbakir**	**1.64**	**337**	PN	**Pg**	**06 42 34.9**	**-0.3**
DYBB				SN	**Sb**	**06 42 55.4**	**-0.3**
SRTM	**Siirt_Merkez**	**1.72**	**26**	*i* P	**Pb**	**06 42 35.7**	**-0.5**
SRTM				*i* S	**Sg**	**06 43 00.2**	**+0.9**
SRTM	**Siirt_Merkez**	**1.72**	**26**	P	**Pb**	**06 42 35.7**	**-0.5**
SRTM				S	**Sg**	**06 43 00.2**	**+0.9**
SURC	**SANLIURFA_SURC**	**1.93**	**284**	*i* P	**Pb**	**06 42 38.7**	**-0.9**
SURC				*i* S	**Sg**	**06 43 05.2**	**-0.6**
SURC	**SANLIURFA_SURC**	**1.93**	**284**	P	**Pb**	**06 42 38.7**	**-0.9**
SURC				S	**Sg**	**06 43 05.2**	**-0.6**
URFA	**Urfa**	**1.98**	**301**	PN	**Pg**	**06 42 41.7**	**0.0**
URFA	**Urfa**	**1.98**	**301**	*e*Pn	**Pg**	**06 42 41.7**	**0.0**
HANI	**Diyarbakir_Han**	**2.01**	**348**	*i* P	**Pb**	**06 42 39.6**	**-1.4**
HANI				*i* S	**Sg**	**06 43 09.0**	**+0.5**
HANI	**Diyarbakir_Han**	**2.01**	**348**	P	**Pb**	**06 42 39.6**	**-1.4**
HANI				S	**Sg**	**06 43 09.0**	**+0.5**
GURO	**Guroymak-BITLI**	**2.27**	**22**	PN	**Pn**	**06 42 42.3**	**0.0**
GURO	**Guroymak-BITLI**	**2.27**	**22**	*e*Pn	**Pn**	**06 42 42.3**	**0.0**
HAKT	**HAKKARI**	**2.47**	**62**	*i* P	**Pn**	**06 42 45.4**	**+0.3**
HAKT				*i* S	**Sb**	**06 43 17.7**	**-2.0**
HAKT	**HAKKARI**	**2.47**	**62**	P	**Pb**	**06 42 45.4**	**+0.3**
HAKT				S	**Sb**	**06 43 17.7**	**-2.0**
ELZG	**Elazig**	**2.58**	**323**	*e*P	**Pb**	**06 42 48.6**	**-2.1**
ELZG				*i* S	**Sg**	**06 43 27.1**	**+0.5**
ELZG	**Elazig**	**2.58**	**323**	P	**Pb**	**06 42 48.6**	**-2.1**
PTK	**Pertek**	**2.74**	**334**	PN	**Pb**	**06 42 50.9**	**-2.6**
PTK	**Pertek**	**2.74**	**334**	*e*Pn	**Pb**	**06 42 50.9**	**-2.6**
MALT	**Malatya**	**2.74**	**314**	PN	**Pb**	**06 42 52.1**	**-1.4**
MALT	**Malatya**	**2.74**	**314**	*e*Pn	**Pb**	**06 42 52.1**	**-1.4**
GAZ	**Gaziantep**	**3.09**	**285**	PN	**Pb**	**06 42 59.9**	**+0.5**
GAZ	**Gaziantep**	**3.09**	**285**	*e*Pn	**Pb**	**06 42 59.9**	**+0.5**
ERZN	**Erzincan**	**3.28**	**343**	PN	**Pn**	**06 42 57.5**	**+1.3**
KMRS	**Kahramanmaras**	**3.41**	**289**	PN	**Pb**	**06 43 03.4**	**-1.5**
KMRS	**Kahramanmaras**	**3.41**	**289**	*e*Pn	**Pb**	**06 43 03.4**	**-1.5**
RTB	**Rutbah**	**3.45**	**189**	*e*Pn	**Pb**	**06 43 03.2**	**-2.3**
	SNR=39						
RTB				*i* Sn	**Sb**	**06 43 47.0**	**-0.9**
	SNR=3.0						
DARE	**Darende-Malaty**	**3.48**	**309**	PN	**Pb**	**06 43 03.7**	**-2.4**
DARE	**Darende-Malaty**	**3.48**	**309**	*e*Pn	**Pb**	**06 43 03.7**	**-2.4**
AGRB	**Hanur-Agry**	**3.51**	**27**	PN	**Pn**	**06 43 00.7**	**+1.3**
AGRB	**Hanur-Agry**	**3.51**	**27**	*e*Pn	**Pn**	**06 43 00.7**	**+1.3**
YAYL	**Yayladag**	**3.94**	**265**	PN	**Pb**	**06 43 12.9**	**-1.0**
YAYL	**Yayladag**	**3.94**	**265**	*e*Pn	**Pb**	**06 43 12.9**	**-1.0**
KOZT	**Kozan**	**4.23**	**286**	PN	**Pb**	**06 43 16.5**	**-2.4**
KOZT	**Kozan**	**4.23**	**286**	*e*Pn	**Pb**	**06 43 16.5**	**-2.4**
SVSK	**Karacayir**	**4.66**	**319**	PN	**Pn**	**06 43 18.7**	**+3.7**
SVSK	**Karacayir**	**4.66**	**319**	*e*Pn	**Pn**	**06 43 18.7**	**+3.7**
NSR	**Nassriya**	**6.93**	**140**	*e*Pn	Pn	**06 43 51.7**	**+5.5**
	SNR=39						
NSR				*e*Sn	**Sn**	**06 45 09.7**	**+4.2**
	SNR=39						

*ISK **23** 06:43:13.8,40.50N×26.06E,h24km,ML1.6/9*
*ISCJB **23** 06:43:14.3±0.4,40.52N±0.02×26.02E±0.03,h9km±4km,*
Error ellipse: s-maj=3.7km s-min=3.6km az=13.9
*CSEM **23** 06:43:14.5±0.1,40.52N×26.03E,h15km,ML1.6,Error*
ellipse: s-maj=2.8km s-min=2.6km az=124.0
*ATH **23** 06:43:14.1,40.51N×25.97E,h24km±2km,ML1.7/5,Error*
ellipse: s-maj=3.1km s-min=1.0km az=306.0
*DDA **23** 06:43:15.9,40.44N×26.18E,h7km,Ml2.7*
ISC 23 06:43:14.2±0.9,40.51N±0.02×26.02E±0.02,h17km±7km,
n47,σ0946/72,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.24**	**24**	PG	**Pb**	**06 43 20.3**	**+0.1**
ENEZ	**Enez**	**0.24**	**24**	*e*Pg	**Pb**	**06 43 20.3**	**+0.1**
GADA	**Gvkgeada**	**0.34**	**197**	PG	**Pg**	**06 43 21.6**	**+0.4**
GADA	**Gvkgeada**	**0.34**	**197**	*e*Pg	**Pg**	**06 43 21.6**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.36**	**108**	PG	**Pg**	**06 43 21.9**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.36**	**108**	*e*Pg	**Pg**	**06 43 21.9**	**+0.2**
SMTH	**Samothraki Isl**	**0.38**	**264**	P	**Pg**	**06 43 22.0**	**-0.1**
SMTH				S	**Sg**	**06 43 25.9**	**-1.4**
SMTH				AML	AML	06 43 28.8	
	comp=E,362μm,0.1s						
SMTH				AML	AML	06 43 29.0	
	comp=N,399μm,0.1s						
SMTH	**Samothraki Isl**	**0.38**	**264**	P	**Pg**	**06 43 21.9**	**-0.1**
SMTH				S	**Sg**	**06 43 26.6**	**-0.7**
ALN	**Alexandroupoli**	**0.39**	**3**	PG	**Pb**	**06 43 23.0**	**+0.4**
ALN	**Alexandroupoli**	**0.39**	**3**	P	**Pb**	**06 43 22.9**	**+0.4**
ALN				S	**Sg**	**06 43 27.8**	**+0.3**
ALN				AML	AML	06 43 28.3	
	comp=E,129μm,0.3s						
ALN				AML	AML	06 43 28.6	
	comp=N,127μm,0.3s						
ALN	**Alexandroupoli**	**0.39**	**3**	P	**Pb**	**06 43 22.7**	**+0.1**
ALN	**Alexandroupoli**	**0.39**	**3**	*e*Pg	**Pb**	**06 43 23.0**	**+0.4**
ALN				S	**Sb**	**06 43 28.2**	**-0.1**
ERIK	**Erikli-Kesan**	**0.41**	**67**	PG	**Pb**	**06 43 22.9**	**0.0**
ERIK				SG	**Sb**	**06 43 28.7**	**-0.2**
ERIK	**Erikli-Kesan**	**0.41**	**67**	*e*Pg	**Pb**	**06 43 22.9**	**0.0**
ERIK				*e*Sg	**Sb**	**06 43 28.7**	**-0.2**
LPK	**Lapseki**	**0.58**	**104**	PG	**Pg**	**06 43 25.9**	**+0.2**
LPK	**Lapseki**	**0.58**	**104**	*e*Pg	**Pg**	**06 43 25.9**	**+0.2**
KESN	**Edirne-Kesan**	**0.59**	**58**	*i* P	**Pb**	**06 43 26.6**	**+0.2**
KESN				*i* S	**Sg**	**06 43 34.1**	**+0.2**
KESN	**Edirne-Kesan**	**0.59**	**58**	P	**Pb**	**06 43 26.6**	**+0.2**
KESN				S	**Sg**	**06 43 34.1**	**+0.2**
BOZC	**Bozcaada**	**0.67**	**178**	PG	**Pg**	**06 43 27.4**	**+0.1**
BOZC	**Bozcaada**	**0.67**	**178**	*i* P	**Pg**	**06 43 27.6**	**+0.3**
BOZC				*i* S	**Sb**	**06 43 36.7**	**+0.3**
BOZC	**Bozcaada**	**0.67**	**178**	*e*Pg	**Pg**	**06 43 27.4**	**+0.1**
RDO	**Rodhopi**	**0.73**	**330**	P	**Pg**	**06 43 29.0**	**+0.5**
RDO				S	**Sb**	**06 43 37.8**	**-0.5**
RDO				AML	AML	06 43 41.2	
	comp=N,109μm,0.2s						
RDO				AML	AML	06 43 43.0	
	comp=E,93μm,0.2s						
RDO	**Rodhopi**	**0.73**	**330**	P	**Pb**	**06 43 28.6**	**+0.1**
RDO				S	**Sb**	**06 43 38.1**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.87**	**152**	*i* P	**Pn**	**06 43 31.9**	**+0.2**
BAYC				*i* S	**Sn**	**06 43 43.6**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.87**	**152**	P	**Pn**	**06 43 31.9**	**+0.2**
BAYC				S	**Sn**	**06 43 43.6**	**-0.4**
LIA	**Limnos Island**	**0.89**	**227**	P	**Pg**	**06 43 31.7**	**+0.2**
LIA				S	**Sg**	**06 43 44.0**	**+0.9**
LIA				AML	AML	06 43 45.6	
	comp=N,58μm,0.1s						
LIA				AML	AML	06 43 45.7	
	comp=E,71μm,0.3s						
LIA	**Limnos Island**	**0.89**	**227**	P	**Pb**	**06 43 31.3**	**+0.1**
LIA				S	**Sg**	**06 43 43.5**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.90**	**78**	PG	**Pb**	**06 43 31.1**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.90**	**78**	*e*Pg	**Pb**	**06 43 31.1**	**-0.3**
SART	**Tekirdag**	**0.90**	**78**	*i* P	**Pb**	**06 43 31.1**	**-0.3**
SART				*i* S	**Sb**	**06 43 43.4**	**+0.2**
SART	**Tekirdag**	**0.90**	**78**	P	**Pb**	**06 43 31.1**	**-0.3**
SART				S	**Sb**	**06 43 43.4**	**+0.2**
KRBG	**Karabiga-Canak**	**0.98**	**97**	PG	**Pb**	**06 43 31.9**	**-0.8**
KRBG	**Karabiga-Canak**	**0.98**	**97**	*e*Pg	**Pb**	**06 43 31.9**	**-0.8**
KAVA	**Kavala**	**1.25**	**293**	P	**Pg**	**06 43 38.5**	**+0.3**
KAVA				S	**Sb**	**06 43 53.0**	**0.0**
KAVA	**Kavala**	**1.25**	**293**	P	**Pb**	**06 43 37.8**	**+0.5**
KAVA				S	**Sn**	**06 43 53.5**	**+0.2**
PRK	**Paraskevi**	**1.28**	**171**	P	**Pg**	**06 43 39.0**	**+0.1**
PRK				S	**Sg**	**06 43 55.6**	**+0.1**
PRK				AML	AML	06 43 57.0	
	comp=N,140μm,0.4s						
PRK				AML	AML	06 43 57.1	
	comp=E,150μm,1.0s						
PRK	**Paraskevi**	**1.28**	**171**	P	**Pg**	**06 43 38.7**	**-0.2**
PRK				S	**Sg**	**06 43 55.9**	**+0.4**
SIGR	**SIGRI**	**1.31**	**186**	PN	**Pn**	**06 43 36.6**	**-1.1**
SIGR	**SIGRI**	**1.31**	**186**	P	**Pb**	**06 43 38.4**	**+0.2**
SIGR				S	**Sb**	**06 43 55.3**	**+0.6**
SIGR	**SIGRI**	**1.31**	**186**	*e*Pn	**Pn**	**06 43 36.6**	**-1.1**
SIGR	**SIGRI**	**1.31**	**186**	P	**Pb**	**06 43 38.5**	**+0.2**
SIGR				S	**Sg**	**06 43 56.0**	**-0.4**
EDRB	**Edirne**	**1.44**	**22**	PN	**Pn**	**06 43 39.1**	**-0.5**
EDRB	**Edirne**	**1.44**	**22**	*e*Pn	**Pn**	**06 43 39.1**	**-0.5**
BALY	**Balya**	**1.45**	**122**	*i* P	**Pb**	**06 43 41.2**	**+0.5**
BALY				*i* S	**Sb**	**06 43 59.5**	**+0.6**
BALY	**Balya**	**1.45**	**122**	P	**Pb**	**06 43 41.2**	**+0.5**
BALY				S	**Sb**	**06 43 59.5**	**+0.6**
NVR	**Nevrokopi**	**1.84**	**298**	P	**Pb**	**06 43 46.6**	**-0.9**
NVR	**Nevrokopi**	**1.84**	**298**	P	**Pn**	**06 43 46.2**	**+1.1**

*IDC **23** 06:54:55.2±1.5,16.43N×98.39W,h0km,mb3.7/3,*
mb1 3.9/6,mb1mx3.6/52,mbtmp3.5/6,ML3.3/3,MS3.4/15,
Ms1 3.4/15,ms1mx3.1/48,Error ellipse: s-maj=37.3km
s-min=22.8km az=54.0
*MEX **23** 06:54:58.2±0.6,16.36N×98.52W,h5km±5km,MD4.0*
*NEIC **23** 06:54:58.3±0.0,16.36N×98.52W,h5km,mb4.2/41,*
MD4.5(MEX),After MEX.

	baz=217							
U39A	**Green Forest**	20.41	12	P		P	06 59 32.3	0.0
	baz=194							
X47A	**Russelville**	20.44	26	P		P	06 59 30.4	-2.2
	baz=210							
U40A	**Yellville**	20.52	13	P		P	06 59 33.6	+0.1
	baz=196,SNR=6.4							
Y49A	**Blount Mountai**	20.53	30	P		P	06 59 31.9	-1.8
	baz=215							
X48A	**Hartselle**	20.73	28	P		P	06 59 33.9	-1.9
	baz=212							
PLAL	**Pickwick Lake**	20.75	25	*e*P		P	06 59 36.1	+0.1
	16nm,1.3s							
254A	**Abbeville**	20.77	39	P		P	06 59 33.2	-3.0
	baz=225							
X18A	**Snowflake**	20.77	333	*e*P		Pn	06 59 41.1	+2.3
	9.5nm,1.1s							
T38A	**Diamond**	20.91	10	P		P	06 59 38.1	+0.4
	baz=191							
U42A	**Revenden**	20.91	17	P		P	06 59 37.6	-0.2
	baz=200							
T39A	**Clever**	21.06	12	P		P	06 59 39.8	+0.5
	baz=194							
X49A	**Woodville**	21.11	29	P		P	06 59 37.4	-2.5
	baz=214							
W47A	**Westpoint**	21.18	25	P		P	06 59 39.0	-1.6
	baz=210							
T25A	**Trinidad**	21.32	347	P		P	06 59 44.4	+2.1
	baz=164							
T25A	**Trinidad**	21.32	347	*e*P		P	06 59 44.5	+2.1
	11nm,1.1s							
T40A	**Mansfield**	21.36	13	P		P	06 59 42.1	-0.4
	baz=196							
W48A	**Pulaski**	21.36	27	P		P	06 59 41.5	-1.1
	baz=212							
MHTCO	**State Highway**	21.37	346	*e*P		P	06 59 45.5	+2.6
	5.3nm,1.1s							
X16A	**Lo Mia Camp, P**	21.38	330	*e*P		P	06 59 47.5	+4.5
	5.9nm,0.9s							
T41A	**Mountain View**	21.43	15	P		P	06 59 42.3	-1.0
	baz=198,SNR=6.5							
V46A	**Holladay**	21.45	24	P		P	06 59 42.8	-0.7
	baz=208,SNR=5.1							
PBMO	**Poplar Bluff**	21.54	18	*e*P		P	06 59 48.4	+3.9
	9.7nm,0.9s							
T42A	**Van Buren**	21.59	16	P		P	06 59 43.8	-1.2
	baz=200,SNR=5.4							
V47A	**Nunnelly**	21.71	25	P		P	06 59 44.1	-2.2
	baz=210							
S39A	**Bolivar**	21.71	11	P		P	06 59 46.9	+0.5
	baz=194							
GOGA	**Godfrey**	21.72	36	P		P	06 59 42.8	-3.7
	baz=222							
GOGA	**Godfrey**	21.72	36	*e*P		P	06 59 46.6	+0.1
	5.6nm,0.8s							
S40A	**Lebanon**	21.79	13	P		P	06 59 47.2	0.0
	baz=196							
WVT	**Waverly**	21.85	24	P		P	06 59 46.6	-1.2
	baz=208							
WVT	**Waverly**	21.85	24	*e*P		P	06 59 47.3	-0.5
SWET	**Sewanee**	21.87	29	*e*P		P	06 59 48.1	-0.1
	3.5nm,1.0s							
V48A	**Smith Brothers**	21.92	26	P		P	06 59 47.0	-1.6
	baz=211							
S41A	**Jillco Farms,**	21.95	15	P		P	06 59 48.1	-0.8
	baz=198,SNR=6.2							
SDCO	**Great Sand Dun**	22.15	345	P		P	06 59 53.8	+2.5
	baz=162							
SDCO	**Great Sand Dun**	22.15	345	*e*P		P	06 59 55.0	+3.6
	5.0nm,1.4s							
WUAZ	**Wupatki**	22.24	331	P		P	06 59 54.9	+2.7
	baz=146							
WUAZ	**Wupatki**	22.24	331	*e*P		P	06 59 56.2	+4.0
	12nm,1.3s							
U47A	**Clarksville**	22.33	24	P		P	06 59 51.6	-1.4
	baz=209							
S42A	**Caledonia**	22.37	16	P		P	06 59 53.8	+0.4
	baz=200							
R39A	**Chumby, Stover**	22.37	11	P		P	06 59 53.2	-0.3
	baz=194							
S22A	**4UR Ranch, Cre**	22.50	343	P		P	06 59 57.4	+2.2
	baz=159							
S22A	**4UR Ranch, Cre**	22.50	343	*e*P		P	06 59 58.7	+3.5
	12nm,1.6s							
R40A	**Maddies Statio**	22.50	13	P		P	06 59 54.6	-0.2
	baz=196,SNR=6.0							
MVCO	**Mesa Verde**	22.54	339	P		P	06 59 57.8	+2.3
	baz=154,SNR=5.9							
MVCO	**Mesa Verde**	22.54	339	*e*P		P	06 59 57.9	+2.3
	28nm,1.6s							
U48A	**Cassie Pea, Po**	22.70	26	P		P	06 59 55.9	-1.0
	baz=211							
R41A	**Rosebud**	22.71	15	P		P	06 59 56.7	-0.4
	baz=198							
CPCT	**Cooper Cave**	22.73	31	*e*P		P	06 59 57.2	-0.1
S44A	**Carbondale**	22.75	19	P		P	06 59 56.8	-0.6
	baz=203							
SIUC	**Southern Illin**	22.78	19	*e*P		P	06 59 59.0	+1.2
	17nm,1.3s							
KSCO	**Kaye Shedlock'**	22.83	352	P		P	06 59 59.0	+0.6
	baz=170							
T47A	**Sharon Grove**	22.88	24	P		P	06 59 57.3	-1.5
	baz=209,SNR=5.6							
Q38A	**Cooks Store, C**	22.90	10	P		P	06 59 58.1	-0.9
	baz=192							
PV01	**Paradox Valley**	23.40	340	*e*P		P	07 00 07.8	+3.4
U15A	**North Rim**	23.41	331	*e*P		P	07 00 08.5	+3.9
	6.5nm,1.3s							
NHSC	**New Hope**	23.49	42	*e*P		P	06 59 59.6	-5.5
	133nm,1.9s							
P39B	**Salisbury**	23.56	11	P		P	07 00 05.6	-0.1
	baz=194							
P40A	**Paris**	23.74	13	P		P	07 00 07.4	-0.1
	baz=196,SNR=6.1							
O34A	**Beatrice**	23.77	3	P		P	07 00 08.7	+1.0
	baz=184							
SMCO	**Snowmass**	23.88	344	*e*P		P	07 00 11.4	+2.1
	5.7nm,1.1s							
O38A	**Galt**	24.05	10	P		P	07 00 10.2	-0.2
	baz=192							
ISCO	**Idaho Springs**	24.13	347	P		P	07 00 12.2	+0.7
	baz=163,SNR=7.2							
ISCO	**Idaho Springs**	24.13	347	*e*P		P	07 00 13.3	+1.7
	20nm,1.6s							
P42A	**Winchester**	24.19	16	P		P	07 00 10.7	-1.1
	baz=199							
Q45A	**Warren Harvey,**	24.20	20	P		P	07 00 11.2	-0.5
	baz=205							
R47A	**Wooly Knot Far**	24.24	23	P		P	07 00 12.6	+0.3
	baz=209,SNR=6.1							
WCI	**Wyandotte Cave**	24.27	24	P		P	07 00 10.3	-2.2
	baz=210							
WCI	**Wyandotte Cave**	24.27	24	*e*P		P	07 00 11.5	-1.0
	13nm,1.0s							
O39A	**Kirksville**	24.34	11	P		P	07 00 12.4	-0.7
	baz=194							
O40A	**La Belle**	24.35	12	P		P	07 00 12.9	-0.2
	baz=196,SNR=5.5							
O41A	**Passleys Farm,**	24.56	14	P		P	07 00 13.8	-1.3
	baz=198							
OGNE	**Ogallala**	24.66	354	P		P	07 00 16.9	+0.8
	baz=172							
OGNE	**Ogallala**	24.66	354	*e*P		P	07 00 18.1	+2.0
	12nm,0.8s							
MTPU	**Mount Pierson**	24.70	333	*e*P		P	07 00 20.5	+3.7
	9.4nm,0.9s							
N38A	**Joes South For**	24.75	10	P		P	07 00 17.1	+0.3
	baz=192							
N39A	**Derby Farms, D**	24.96	11	P		P	07 00 17.5	-1.2
	baz=194							
SRU	**San Rafael Swe**	24.96	337	*e*P		P	07 00 22.4	+3.5
	6.4nm,1.1s							
MSU	**Marysvale**	25.09	334	*e*P		P	07 00 24.9	+4.7
O20A	**White River Ci**	25.13	342	P		P	07 00 20.9	+0.5
	baz=158							
M37A	**Trindle Farm,**	25.23	8	P		P	07 00 20.7	-0.4
	baz=190							
N23A	**Red Feather La**	25.25	347	P		P	07 00 23.2	+1.5
	baz=163							
N23A	**Red Feather La**	25.25	347	*e*P		P	07 00 25.5	+3.8
	9.5nm,1.3s							
P18A	**Preston Nutter**	25.32	338	*e*P		P	07 00 26.7	+4.4
	20nm,1.5s							
M38A	**Pleasantville**	25.36	9	P		P	07 00 21.0	-1.4
	baz=192							
M39A	**Webster**	25.60	11	P		P	07 00 24.4	0.0
	baz=194							
SCIA	**State Center**	25.84	9	P		P	07 00 27.4	+0.7
	baz=192							
SCIA	**State Center**	25.84	9	*e*P		P	07 00 27.6	+0.9
	13nm,0.9s							
SFIN	**Lafayette**	25.89	20	P		P	07 00 26.0	-1.1
	baz=206							
L37A	**Phoenix Point,**	25.98	8	P		P	07 00 28.3	+0.4
	baz=190							
L38A	**Oak Wood Farm,**	26.11	9	P		P	07 00 29.5	+0.4
	baz=192							
NLU	**North Lily Min**	26.28	336	*e*P		P	07 00 33.9	+2.9
	8.8nm,1.3s							
L41A	**Preston**	26.52	13	P		P	07 00 32.1	-0.7
	baz=197							
K37A	**Belmond**	26.62	8	P		P	07 00 33.7	-0.1
	baz=190							
K39A	**Oelwein**	26.84	11	P		P	07 00 35.6	-0.1
	baz=194							
K22A	**Casper**	27.06	347	P		P	07 00 39.0	+1.1
	baz=163							
J36A	**Seneca 1, Swea**	27.09	7	P		P	07 00 38.3	+0.3
	baz=189							
J37A	**Redenius Farm,**	27.17	8	P		P	07 00 38.0	-0.6
	baz=190							
J38A	**Wedel Dairy, R**	27.34	10	P		P	07 00 39.6	-0.6
	baz=193							
NV11	**Mina Array Sit**	27.92	326	*e*P		P	07 00 45.5	-0.1
	0.7nm,1.6s							
BW06	**Boulder Array**	27.94	342	*e*P		P	07 00 47.7	+1.8
	2.3nm,0.8s							
PDAR	**Pinedale Array**	27.94	342	P		P	07 00 47.1	+1.3
	2.0nm,1.1s,baz=142,slow=4.6,SNR=4.9							
PDAR					LR	LR	07 12 52.3	
	comp=Z,128nm,20.9s,baz=166,slow=39							
PDAR	**Pinedale Array**	27.94	342	*e*P		P	07 00 48.0	+2.2
NV01	**Mina Array Sit**	28.00	326	*e*P		P	07 00 46.9	+0.4
NVAR	**Mina Array Bea**	28.00	326	LR		LR	07 13 45.2	
	comp=Z,75nm,18.1s,baz=253,slow=40							
SDV	**Santo Domingo**	28.19	102	LR		LR	07 13 44.9	
	comp=Z,40nm,18.0s,baz=320,slow=40							
RYN	**Ryan**	28.26	326	*e*P		P	07 00 52.1	+3.4
	8.0nm,1.0s							
MCWV	**Mont Chateau**	28.33	31	*e*P		P	07 00 46.1	-3.1
	33nm,1.8s							
LOHW	**Long Hollow**	29.02	342	*e*P		P	07 00 57.9	+2.5
	3.3nm,0.9s							
IMW	**Indian Meadow**	29.38	342	*e*P		P	07 00 59.2	+0.5
	6.9nm,1.0s							
G39A	**Holcombe**	29.47	11	P		P	07 00 58.4	-0.8
	baz=194							
G40A	**Rib Lake**	29.63	12	P		P	07 01 00.0	-0.6
	baz=196							
F40A	**Park Falls**	30.27	12	P		P	07 01 06.3	0.0
	baz=196							
ATAH	**Atahualpa**	30.71	138	LR		LR	07 10 34.3	
	comp=Z,45nm,18.9s,baz=280,slow=31							
F43A	**Flat Rock, Esc**	30.86	16	P		P	07 01 11.0	-0.4
	baz=202							
BOZ	**Bozeman (W)**	31.13	342	P		P	07 01 15.6	+1.6
	baz=155							
DLMT	**Dillon**	31.21	341	*e*P		P	07 01 17.3	+2.5
	4.7nm,1.0s							
MDND	**Maddock**	31.39	359	P		P	07 01 15.8	-0.3
	baz=178							
C36A	**Pine Crest Far**	31.63	7	P		P	07 01 17.2	-1.0
	baz=190							
AGMN	**Agassiz Nation**	31.90	3	P		P	07 01 20.3	-0.3
	baz=185							
C39A	**Grand Marais**	32.10	11	P		P	07 01 21.1	-1.2
	baz=195							
YBH	**Yreka Blue Hor**	32.72	325	LR		LR	07 15 39.5	
	comp=Z,42nm,21.5s,baz=141,slow=38							
ULM	**Lac du Bonnet**	33.85	3	LR		LR	07 16 31.9	
	comp=Z,77nm,18.6s,baz=74,slow=38							
FFC	**Flin Flon**	38.35	357	*e*P		P	07 02 16.9	+0.8
	4.1nm,0.9s							
LPAZ	**La Paz**	44.19	136	LR		LR	07 19 16.9	
	comp=Z,35nm,21.4s,baz=288,slow=33							
RPN	**Rapa Nui**	44.51	194	LR		LR	07 18 01.2	
	comp=Z,24nm,21.1s,baz=322,slow=31							
SCHQ	**Schefferville**	45.47	25	LR		LR	07 23 42.6	
	comp=Z,40nm,21.9s,baz=28,slow=38							
YKA	**Yellowknife Ar**	47.42	350	P		P	07 03 30.6	+1.1
	0.6nm,1.1s,baz=157,slow=7.6,SNR=4.5							
SFJD	**Kangerlussuaq**	59.29	20	LR		LR	07 35 15.0	
	comp=Z,26nm,19.2s,baz=207,slow=41							
PPT	**Papeete**	60.56	238	LR		LR	07 23 27.7	
	comp=Z,51nm,21.4s,baz=311,slow=28							
PLCA	**Paso Flores**	62.48	156	P		P	07 05 20.6	+1.7
	2.5nm,0.9s,baz=338,slow=8.6,SNR=5.2							
SPITS	**Spitsbergen Ar**	78.99	11	LR		LR	07 43 43.5	
	comp=Z,34nm,18.2s,baz=235,slow=37							

ISK ***23*** *06:57:47.8,39˚.16N×41˚.16E,h5km,ML1.7/4*
CSEM ***23*** *06:57:49.5±0.3,39˚.15N×41˚.15E,h5km,ML2.8,Error ellipse: s-maj=6.6km s-min=5.0km az=36.0*
ISCJB ***23*** *06:57:50.1±0.7,39˚.15N±0˚.04×41˚.16E±0˚.04,h10km,Error ellipse: s-maj=6.0km s-min=4.4km az=29.0*
DDA ***23*** *06:57:50.5,39˚.20N×41˚.17E,h7km,Ml2.8*

ISC 23 06:57:49.3±0.9,39˚.17N±0˚.03×41˚.15E±0˚.03,h10km,n16, σ0s70/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAT	**Cat-ERZURUM**	**0.46**	**343**	*i* P	**Pb**	**06 57 59.7**	**+0.1**
ECAT				*i* S	**Sb**	**06 58 07.1**	**+0.5**
ECAT	**Cat-ERZURUM**	**0.46**	**343**	P	**Pb**	**06 57 59.7**	**+0.1**
ECAT				S	**Sb**	**06 58 07.1**	**+0.5**
EKAR	**Karacoban**	**0.71**	**83**	*i* P	**Pb**	**06 58 04.2**	**+0.2**
EKAR				*i* S	**Sn**	**06 58 15.6**	**-1.3**
EKAR	**Karacoban**	**0.71**	**83**	P	**Pb**	**06 58 04.2**	**+0.2**
ERZM	**Erzurum**	**0.76**	**13**	*i* P	**Pg**	**06 58 03.9**	**0.0**
ERZM				*i* S	**Sg**	**06 58 13.4**	**-0.4**
ERZM	**Erzurum**	**0.76**	**13**	P	**Pg**	**06 58 03.9**	**0.0**
ERZM				S	**Sg**	**06 58 13.4**	**-0.4**
GURO	**Guroymak-BITLI**	**0.92**	**132**	PG	**Pg**	**06 58 06.6**	**-0.5**
GURO				SG	**Sb**	**06 58 20.1**	**+0.3**
GURO	**Guroymak-BITLI**	**0.92**	**132**	*e*Pg	**Pg**	**06 58 06.6**	**-0.5**
GURO				*e*Sg	**Sb**	**06 58 20.1**	**+0.3**
TUTA	**Tutak**	**1.31**	**79**	*i* P	**Pg**	**06 58 15.1**	**+0.6**
TUTA				*i* S	**Sb**	**06 58 31.3**	**+0.2**
TUTA	**Tutak**	**1.31**	**79**	P	**Pg**	**06 58 15.1**	**+0.6**
TUTA				S	**Sb**	**06 58 31.3**	**+0.2**
PTK	**Pertek**	**1.40**	**259**	PN	**Pg**	**06 58 15.3**	**-0.8**
PTK				SN	**Sg**	**06 58 35.9**	**+1.6**
PTK	**Pertek**	**1.40**	**259**	*e*Pn	**Pg**	**06 58 15.3**	**-0.8**
PTK				*e*Sn	**Sg**	**06 58 35.9**	**+1.6**
AGRB	**Hanur-Agry**	**1.48**	**73**	PN	**Pb**	**06 58 16.5**	**-0.6**
AGRB				SN	**Sg**	**06 58 37.9**	**+0.9**
AGRB	**Hanur-Agry**	**1.48**	**73**	*e*Pn	**Pb**	**06 58 16.5**	**-0.6**
AGRB				*e*Sn	**Sg**	**06 58 37.9**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.67**	**33**	PN	**Pb**	**06 58 19.9**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.67**	**33**	*e*Pn	**Pb**	**06 58 19.9**	**-0.4**

ISCJB ***23*** *07:02:20.8±0.2,10˚.07S±0˚.05×161˚.25E±0˚.05,h100km, mb4.7/94,Error ellipse: s-maj=7.1km s-min=6.0km az=44.0*
BJI ***23*** *07:02:23.3,9˚.78S×161˚.88E,h137km,mb4.7/22,mB5.0/12*
IDC ***23*** *07:02:24.2±5.6,10˚.19S×161˚.18E,h126km±52km, mb4.1/12,mb1 4.4/13,mb1mx4.0/44,mbtmp4.5/13,MS3.3/6, Ms1 3.3/6,ms1mx2.9/44,Error ellipse: s-maj=21.5km s-min=18.9km az=87.0*
NEIC ***23*** *07:02:26.4±2.0,10˚.10S×161˚.22E,h140km±19km, mb4.7/80,Error ellipse: s-maj=8.5km s-min=7.3km az=170.0*

ISC 23 07:02:21.8±0.4,10˚.13S±0˚.06×161˚.34E±0˚.07,h100km, n120,σ1s16/122,mb4.8/93,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.54**	**297**	*i* P	**Pn**	**07 02 47.0**	**-1.6**
HNR				*i* S	**Sn**	**07 03 08.5**	**-0.4**
DZM	**Mont Dzumac**	**12.85**	**158**	P	**Pn**	**07 05 22.3**	**+1.5**
	3.4nm,0.3s,baz=314,slow=12,SNR=44						
DZM				S	**Sn**	**07 07 36.7**	**-5.5**
	0.7nm,0.3s,baz=128,slow=22,SNR=4.9						
DZM				LR	LR	07 08 48.0	
	comp=Z,101nm,19.7s,baz=12,slow=30						
DZM	**Mont Dzumac**	**12.85**	**158**	*e*Pn	**Pn**	**07 05 22.1**	**+1.3**
DZM				*e*Sn	**Sn**	**07 07 40.8**	**-1.4**
PMG	**Port Moresby**	**14.00**	**272**	LR	LR	07 10 20.9	
	comp=Z,187nm,18.6s,baz=259,slow=34						

CTA	**Charters Tower**	17.60	234	P		Pn	07 06 22.4	+1.6
	0.4nm,0.3s,baz=58,slow=12,SNR=14							
CTAO	**Charters Tower**	17.60	234	*e*P		Pn	07 06 21.7	+0.8
	13nm,0.8s							
EIDS	**Eidsvold**	18.02	211	*e*P		Pn	07 06 27.6	+1.8
	76nm,1.9s							
COEN	**Coen**	18.17	256	*e*P		Pn	07 06 29.5	+1.8
	29nm,1.2s							
CAN	**Canberra**	27.49	202	*e*P		P	07 08 00.1	+1.3
	72nm,1.6s							
WRA	**Warramunga Arr**	27.80	246	P		P	07 08 00.6	-1.2
	7.4nm,0.7s,baz=75,slow=9.3,SNR=26							
WRA				pP		pP	07 08 25.1	+1.0
	7.4nm,0.6s,baz=75,slow=9.4,SNR=10							
STKA	**Stephens Creek**	28.33	217	LR		LR	07 19 06.5	
	comp=Z,125nm,18.4s,baz=201,slow=36							
AS01	**Alice Springs**	29.39	239	*e*P		P	07 08 17.0	+1.1
ASAR	**Alice Springs**	29.43	239	P		P	07 08 14.1	-2.1
	2.5nm,0.7s,baz=69,slow=9.0,SNR=16							
ASAR				pP		pP	07 08 38.6	-0.1
	4.8nm,0.9s,baz=70,slow=9.5,SNR=8.1							
BKZ	**Black Stump Fm**	31.93	157	*e*P		P	07 08 38.2	+0.2
	16nm,1.4s							
BBOO	**Buckleboo**	32.44	222	*e*P		P	07 08 41.8	-0.8
	70nm,1.6s							
KHZ	**Kahutara**	33.89	164	*e*P		P	07 08 56.2	+1.2
	131nm,1.7s							
DAV	**Davao City (W)**	39.50	294	LR		LR	07 25 15.5	
	comp=Z,19nm,20.9s,baz=331,slow=35							
MBWA	**Marble Bar**	41.42	250	*e*P		P	07 09 58.4	-0.4
	77nm,1.8s							
MCQ	**Macquarie Isla**	44.30	182	*e*P		P	07 10 23.9	+2.4
	762nm,2.0s							
MJAR	**Matsushiro Arr**	51.27	336	P		P	07 11 14.9	-0.7
	2.7nm,0.7s,baz=171,slow=8.6,SNR=6.0							
MJAR				LR		LR	07 36 42.7	
	comp=Z,8.6nm,18.5s,baz=155,slow=40							
HMH	**Humu'ula Sheep**	51.78	55	*e*P		P	07 11 21.1	+1.1
	490nm,1.8s							
SSLB	**Suanglung**	51.91	311	*e*P		P	07 11 19.9	-0.7
	69nm,1.9s							
ASAJ	**Asahikawa**	56.61	344	*e*P		P	07 11 54.8	+0.6
	21nm,1.3s							
NJ2	**Nanjing**	58.38	318	*e*P		P	07 12 06.8	-0.2
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
USRK	**Ussuriysk Ar.**	60.27	336	P		P	07 12 19.9	+0.1
	6.6nm,0.9s,baz=98,slow=5.8,SNR=10							
VNDA	**Vanda**	67.38	180	P		P	07 13 05.3	-0.6
	1.7nm,0.7s,baz=347,slow=6.7,SNR=15							
VNDA	**Vanda**	67.38	180	*e*P		P	07 13 05.5	-0.4
	11nm,1.6s							
HHC	**Hu-ho-hao-te**	68.38	321	*e*P		P	07 13 15.1	+2.2
HHC				pmax		pmax		
	comp=Z,14nm,0.6s							
HHC				pmax		pmax		
	comp=Z,140nm,6.3s							
CD2	**Chengdu**	68.63	309	*e*P		P	07 13 14.6	0.0
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
LZH	**Lanzhou**	70.97	314	*e*P		P	07 13 30.1	+1.1
LZH				pP		sP	07 14 04.9	-0.3
LZH				sP		pP	07 14 20.8	+26
LZH				*e*PP		PP	07 16 12.0	+4.3
LZH				pmax		pmax		
	comp=Z,16nm,1.0s							
LZH				pmax		pmax		
	comp=Z,140nm,5.1s							
LZH				LR		LR		
	comp=N,260nm,16.3s							
LZH				LR		LR		
	comp=E,300nm,15.7s							
LZH				LR		LR		
	comp=Z,250nm,18.4s							
ULN	**Ulaanbaatar**	75.06	326	*e*P		P	07 13 52.8	-0.1
	8.3nm,0.8s							
GTA	**Gaotai**	75.33	315	*e*P		P	07 13 54.6	0.0
GTA				pP		sP	07 14 29.5	-1.5
GTA				sP		pP	07 14 47.3	+27
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	75.41	325	P		P	07 13 54.7	-0.2
	7.9nm,0.6s,baz=143,slow=5.9,SNR=57							
SONA1	**Songino Array**	75.41	325	*e*P		P	07 13 54.8	-0.1
OHAK	**Old Harbor**	76.72	23	*e*P		P	07 14 02.1	+0.2
	95nm,1.9s							
KDAK	**Kodiak Island**	77.39	23	LR		LR	07 46 28.5	
	comp=Z,29nm,19.6s,baz=320,slow=34							
KDAK	**Kodiak Island**	77.39	23	*e*P		P	07 14 06.0	+0.4
	71nm,1.8s							
SVW2	**Sparrevohn**	78.66	20	*e*P		P	07 14 13.5	+0.9
	18nm,0.7s							
BRLK	**Bradley Lake**	79.38	22	*e*P		P	07 14 16.8	+0.2
	60nm,1.9s							
SUA	**Susitna One**	80.58	21	*e*P		P	07 14 22.4	-0.7
	42nm,1.9s							
RC01	**Rabbit Creek A**	80.69	22	*e*P		P	07 14 22.8	-0.8
	10nm,1.1s							
PPLA	**Purkeypile**	81.06	20	*e*P		P	07 14 24.5	-1.2
	33nm,1.8s							
PMR	**Palmer**	81.25	22	*e*P		P	07 14 26.3	-0.2
	5.1nm,0.7s							
CAST	**Castle Rocks**	81.46	19	*e*P		P	07 14 27.3	-0.4
	10nm,0.7s							
SML	**Sawmill**	81.67	22	*e*P		P	07 14 28.8	-0.1
	29nm,1.6s							
KTH	**Kantishna Hill**	81.93	20	*e*P		P	07 14 29.1	-1.1
	6.7nm,0.8s							
SCM	**Sheep Creek Mo**	82.06	22	*e*P		P	07 14 31.2	+0.4
	42nm,1.9s							
TRF	**Thorofare Moun**	82.08	20	*e*P		P	07 14 30.0	-1.0
	8.1nm,1.0s							
BPAW	**Bear Paw Mtn.**	82.29	19	*e*P		P	07 14 31.3	-0.7
	17nm,1.5s							
KLU	**Klutina**	82.37	23	*e*P		P	07 14 32.7	+0.2
	5.0nm,1.0s							
RND	**Reindeer**	82.53	20	*e*P		P	07 14 33.0	-0.3
	19nm,1.4s							
BMRM	**Bremner River**	82.56	23	*e*P		P	07 14 33.4	-0.1
	29nm,1.6s							
MCK	**McKinley**	82.72	20	*e*P		P	07 14 33.8	-0.4
	19nm

	8.9nm,1.1s							
YBH	**Yreka Blue Hor**	**86.38**	**47**	*e*P		**P**	**07 14 54.3**	**+1.0**
	4.1nm,0.8s							
HUMO	**Hull Mountain**	**86.46**	**46**	*e*P		**P**	**07 14 54.4**	**+0.9**
	7.7nm,1.0s							
AFDM	**Forest Hills D**	**86.88**	**50**	*e*P		**P**	**07 14 56.5**	**+0.8**
	4.4nm,1.0s							
CMB	**Columbia Colle**	**87.08**	**51**	*e*P		**P**	**07 14 57.2**	**+0.5**
	3.3nm,0.9s							
PINE	**Pine Mountain**	**88.21**	**45**	*e*P		**P**	**07 15 04.0**	**+1.8**
	4.1nm,0.8s							
PAHR	**Pah Rah Range**	**88.27**	**49**	*e*P		**P**	**07 15 04.0**	**+1.5**
	12nm,1.7s							
NV01	**Mina Array Sit**	**88.77**	**51**	*e*P		**P**	**07 15 05.9**	**+0.9**
NVAR	**Mina Array Bea**	**88.77**	**51**	P		**P**	**07 15 05.8**	**+0.9**
	3.7nm,0.7s,baz=236,slow=7.0,SNR=19							
DAC	**Darwin (Calif)**	**88.81**	**53**	*e*P		**P**	**07 15 05.9**	**+0.7**
	5.8nm,0.9s							
NV11	**Mina Array Sit**	**88.89**	**51**	*e*P		**P**	**07 15 05.7**	**+0.3**
	1.6nm,1.8s							
KVN	**Kaiserville**	**89.07**	**50**	*e*P		**P**	**07 15 07.0**	**+0.7**
	4.3nm,1.0s							
LTY	**Liberty**	**89.33**	**42**	*e*P		**P**	**07 15 07.4**	**+0.2**
	27nm,1.9s							
WVOR	**Wild Horse Val**	**89.49**	**47**	*e*P		**P**	**07 15 08.9**	**+0.8**
	11nm,1.4s							
J08A	**Circle Bar Ran**	**89.83**	**46**	*e*P		**P**	**07 15 10.8**	**+1.1**
	18nm,1.4s							
MK01	**Makanchi Array**	**89.90**	**318**	*e*P		**P**	**07 15 08.1**	**-1.7**
MK31	**Makanchi Array**	**89.91**	**318**	*e*P		**P**	**07 15 08.5**	**-1.3**
MKAR	**Makanchi Array**	**89.91**	**318**	P		**P**	**07 15 08.5**	**-1.3**
	1.1nm,0.7s,baz=94,slow=5.7,SNR=12							
MKAR	**Makanchi Array**	**89.91**	**318**	*e*P		**P**	**07 15 08.5**	**-1.3**
	14nm,0.6s							
BMN	**Battle Mountai**	**90.05**	**49**	*e*P		**P**	**07 15 12.1**	**+1.3**
	5.5nm,0.9s							
INK	**Inuvik**	**90.47**	**20**	*e*P		**P**	**07 15 11.6**	**-0.3**
	17nm,1.9s							
B08A	**Colville Reser**	**90.49**	**41**	*e*P		**P**	**07 15 12.6**	**+0.1**
	3.9nm,0.8s							
SHPR	**Sheep Range**	**90.78**	**53**	*e*P		**P**	**07 15 15.3**	**+1.0**
	5.8nm,0.8s							
R11A	**Troy Canyon, C**	**90.83**	**51**	*e*P		**P**	**07 15 14.5**	**-0.1**
	4.1nm,0.9s							
BMO	**Blue Mountains**	**91.00**	**45**	*e*P		**P**	**07 15 15.8**	**+0.7**
	11nm,1.5s							
F10A	**Beach Ranch, E**	**91.31**	**44**	*e*P		**P**	**07 15 15.6**	**-0.9**
	6.3nm,0.8s							
MFID	**Camas Ranch**	**91.72**	**46**	*e*P		**P**	**07 15 17.9**	**-0.5**
	2.7nm,0.8s							
NEW	**Newport**	**91.90**	**41**	*e*P		**P**	**07 15 19.3**	**+0.2**
	4.7nm,0.8s							
CCUT	**Cedar City**	**92.40**	**52**	*e*P		**P**	**07 15 22.1**	**+0.2**
	7.0nm,1.7s							
KNB	**Kanab**	**92.72**	**53**	*e*P		**P**	**07 15 24.6**	**+1.2**
	19nm,2.0s							
HLID	**Hailey**	**92.76**	**46**	*e*P		**P**	**07 15 24.6**	**+1.3**
	7.0nm,1.2s							
KSH	**Kashi**	**92.82**	**309**	*e*P		**P**	**07 15 23.9**	**+0.3**
SLBS	**Sierra La Lagu**	**92.84**	**67**	*e*P		**P**	**07 15 24.7**	**+0.8**
	12nm,0.7s							
U15A	**North Rim**	**93.03**	**54**	*e*P		**P**	**07 15 26.9**	**+2.0**
	2.6nm,0.8s							
HVU	**Hansel Valley**	**93.62**	**48**	*e*P		**P**	**07 15 28.1**	**+0.8**
	4.8nm,1.1s							
WALA	**Waterton Lakes**	**94.14**	**41**	*e*P		**P**	**07 15 30.2**	**+0.7**
	14nm,1.8s							
BOZ	**Bozeman (W)**	**95.08**	**45**	*e*P		**P**	**07 15 34.6**	**+0.7**
	12nm,1.9s							
PDAR	**Pinedale Array**	**96.13**	**48**	P		**P**	**07 15 39.2**	**+0.4**
	0.7nm,0.8s,baz=228,slow=5.8,SNR=4.4							
YKA	**Yellowknife Ar**	**96.16**	**28**	P		**P**	**07 15 37.1**	**-1.1**
	1.2nm,0.5s,baz=260,slow=4.7,SNR=55							
ANMO	**Albuquerque**	**97.51**	**56**	*e*P		**P**	**07 15 45.3**	**+0.1**
	6.9nm,1.8s							
TXAR	**Lajitas Array**	**99.20**	**62**	P		**Pdif**	**07 15 53.8**	**+0.9**
	0.2nm,0.7s,baz=226,slow=5.0,SNR=3.6							
O56A	**Blue Knob Stat**	**119.35**	**49**	*e*PKPdf		**PKPdf**	**07 20 58.1**	**-1.8**
SSPA	**Standing Stone**	**119.78**	**49**	*e*PKPdf		**PKPdf**	**07 20 59.4**	**-1.3**
BR131	**Keskin Array S**	**125.14**	**312**	*e*PKPdf		**PKPdf**	**07 21 09.1**	**-2.1**
TORD	**Torodi Ar. Bea**	**159.84**	**281**	PKP		**PKPdf**	**07 22 07.9**	**-2.2**
	0.4nm,0.7s,baz=47,slow=2.5,SNR=2.8							

IDC ***23*** *07:03:15.8±16.0, 7.˝14S×128.˝83E, h103km±167km, mb3.2/1, mb1 3.7/4, mb1mx3.3/51, mbtmp4.0/4, ML4.2/3, Error ellipse: s-maj=188.5km s-min=33.8km az=43.0*

ISCJB ***23*** *07:03:18.4±1.6, 7.˝4S±0.˝2×128.˝6E±0.˝1, h151km, mb3.4/1, Error ellipse: s-maj=25.3km s-min=17.3km az=33.9*

DJA ***23*** *07:04:11.6±0.7, 9.˝S±6.˝×12.˝5E±.˝, h36km±8km, M3.8/4, mB5.5/1, mb5.2/2, MLv3.1/4, Mw(mB)5.0/1*

ISC 23 07:03:20.3±1.7, 7.˝5S±0.˝2×128.˝6E±0.˝2, h151km, n6, σ1°50/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.86**	**242**	P	**Pn**	**07 04 31.7**	**-0.3**
BATI	**Baumata**	**5.60**	**240**	P	**Pn**	**07 04 41.7**	**0.0**
	23nm,0.3s,baz=125,slow=3.6,SNR=11						
BATI				S	Sn	07 05 40.5	-4.8
	15nm,0.3s,baz=351,slow=15,SNR=5.9						
BATI	**Baumata**	**5.60**	**240**	P	**Pn**	**07 04 41.7**	**0.0**
WRA	**Warramunga Arr**	**13.61**	**156**	P	**Pn**	**07 06 26.0**	**-1.3**
	0.6nm,0.3s,baz=331,slow=14,SNR=32						
ASAR	**Alice Springs**	**16.91**	**163**	P	**P**	**07 07 09.8**	**+2.2**
	0.7nm,0.3s,baz=340,slow=11,SNR=45						
MKAR	**Makanchi Array**	**67.85**	**328**	P	**P**	**07 14 02.2**	**0.0**
	0.2nm,0.3s,baz=127,slow=8.4,SNR=6.8						

ISCJB ***23*** *07:05:48.9±0.5, 50.˝24N±0.˝04×18.˝74E±0.˝03, h0km, Error ellipse: s-maj=5.1km s-min=2.6km az=4.1*

CSEM ***23*** *07:05:49.6±0.4, 50.˝25N×18.˝77E, h2km, ML2.5/6, Error ellipse: s-maj=7.8km s-min=3.7km az=10.0*

PRU ***23*** *07:05:50.5, 50.˝24N×18.˝77E, h0km*

WAR ***23*** *07:05:50.6, 50.˝25N×18.˝83E, h1km, Mw2.4*

ISC 23 07:05:49.6±0.8, 50.˝19N±0.˝04×18.˝77E±0.˝02, h0km, n28, σ0°26/50, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.17**	**55**	*e*Pg	**Pg**	**07 05 52.8**	**-0.1**
CHZP				*e*Sg	**Sg**	**07 05 54.9**	**-0.3**
CHZP	**Chorzow**	**0.17**	**55**	*e*Pg	**Pg**	**07 05 52.8**	**-0.1**
CHZP				*e*Sg	**Sg**	**07 05 54.9**	**-0.3**
OKC	**Ostrava-Krasne**	**0.54**	**229**	*e*PG	**Pb**	**07 06 01.9**	**0.0**
OKC				*e*SG	**Sb**	**07 06 10.1**	**-0.1**
	comp=Z,13nm,0.4s						
OKC	**Ostrava-Krasne**	**0.54**	**229**	Pg	**Pb**	**07 06 01.9**	**0.0**
OKC				Sg	**Sb**	**07 06 10.1**	**-0.1**
	13nm,0.4s						
OJC	**Ojcow**	**0.66**	**87**	*e*Pg	**Pg**	**07 06 02.3**	**0.0**
OJC				*e*Sg	**Sg**	**07 06 11.0**	**+0.1**
OJC	**Ojcow**	**0.66**	**87**	*e*Pg	**Pg**	**07 06 02.3**	**0.0**
OJC				*e*Sg	**Sg**	**07 06 11.0**	**+0.1**
OJC	**Ojcow**	**0.66**	**87**	*e*Pg	**Pg**	**07 06 02.3**	**0.0**
OJC				*e*Sg	**Sg**	**07 06 11.0**	**+0.1**
MORC	**Moravsky Berou**	**0.90**	**243**	*e*Pg	**Pb**	**07 06 07.9**	**-0.2**
MORC				*e*Sg	**Sb**	**07 06 20.6**	**0.0**
LANS	**Liptovska Anna**	**1.14**	**156**	*e*Pg	**Pn**	**07 06 13.1**	**+0.2**
LANS				*e*Sg	**Sn**	**07 06 28.9**	**-0.3**
LANS	**Liptovska Anna**	**1.14**	**156**	*e*PG	**Pn**	**07 06 13.1**	**+0.2**
LANS				*e*SG	**Sn**	**07 06 28.9**	**-0.3**
NIE	**Niedzica**	**1.26**	**127**	*e*Pg	**Pn**	**07 06 14.7**	**+0.2**
NIE				*e*Sg	**Sn**	**07 06 32.3**	**+0.2**
NIE	**Niedzica**	**1.26**	**127**	*e*Pg	**Pn**	**07 06 14.7**	**+0.2**
NIE				*e*Sg	**Sn**	**07 06 32.3**	**+0.2**
NIE	**Niedzica**	**1.26**	**127**	*e*Pg	**Pn**	**07 06 14.7**	**+0.2**
NIE				*e*Sg	**Sn**	**07 06 32.3**	**+0.2**
KRLC	**Kraliky**	**1.28**	**266**	*e*PG	**Pg**	**07 06 14.1**	**-0.2**
KRLC				*e*SG	**Sg**	**07 06 30.9**	**0.0**
	comp=Z,3.6nm,0.3s						
KRLC	**Kraliky**	**1.28**	**266**	Pg	**Pg**	**07 06 14.1**	**-0.2**
KRLC				Sg	**Sg**	**07 06 30.9**	**0.0**
	3.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.58**	**277**	*e*PG	**Pn**	**07 06 18.9**	**0.0**
DPC				*e*SG	**Sg**	**07 06 40.8**	**+0.5**
	comp=Z,8.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.58**	**277**	Pg	**Pn**	**07 06 18.9**	**0.0**
DPC				Sg	**Sg**	**07 06 40.8**	**+0.5**
	8.9nm,0.3s						
VRAC	**Vranov**	**1.67**	**239**	*e*Pn	**Pb**	**07 06 21.4**	**+0.2**
VRAC				*e*Sg	**Sg**	**07 06 43.7**	**+0.6**
VYHS	**Vyhne**	**1.70**	**179**	*e*Pg	**Pb**	**07 06 21.5**	**-0.3**
VYHS				*e*Sg	**Sb**	**07 06 43.9**	**+0.2**
VYHS	**Vyhne**	**1.70**	**179**	*e*PG	**Pb**	**07 06 21.5**	**-0.3**
VYHS				*e*SG	**Sb**	**07 06 43.9**	**+0.2**
VYHS				*e*LG	Lg	07 06 47.8	
KSP	**Ksiaz**	**1.71**	**293**	*e*Pg	**Pg**	**07 06 22.4**	**0.0**
KSP				*e*Sg	**Sg**	**07 06 45.1**	**+0.5**
KSP	**Ksiaz**	**1.71**	**293**	*e*Pg	**Pg**	**07 06 22.4**	**0.0**
KSP				*e*Sg	**Sg**	**07 06 45.1**	**+0.5**
GOPC	**GO Pecny, Ondr**	**2.58**	**265**	*e*SG	**Sg**	**07 07 12.5**	**-0.1**
	comp=Z,5.6nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.58**	**265**	Sg	**Sg**	**07 07 12.5**	**-0.1**
	5.6nm,0.5s						
PRU	**Pruhonice**	**2.73**	**267**	*e*SG	**Sg**	**07 07 17.2**	**-0.1**
	comp=Z,3.7nm,0.5s						
PRU	**Pruhonice**	**2.73**	**267**	Sg	**Sg**	**07 07 17.2**	**-0.1**
	3.7nm,0.5s						
KHC	**Kasperske Hory**	**3.54**	**255**	*e*SG	**Sg**	**07 07 42.6**	**-0.6**
	comp=Z,9.4nm,1.0s						
KHC	**Kasperske Hory**	**3.54**	**255**	Sg	**Sg**	**07 07 42.6**	**-0.6**
	9.4nm,1.0s						

JMA 23 07:11:40.1, 36.˝53N×138.˝06E, h4km±2km, M0.0, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.12**	**84**	⇓P	Pg	07 11 42.5	0.0
MAT				S	Sg	07 11 44.4	+0.3
MAT	**Matsushiro**	**0.12**	**84**	P	Pg	07 11 42.5	0.0
MAT				*e*S	Sg	07 11 44.4	+0.3
JNG	**Nsakai**	**0.13**	**165**	P	Pg	07 11 42.7	0.0
JNG				S	Sg	07 11 44.8	+0.4

TRN 23 07:19:56.9, 16.˝70N×62.˝17W, h15km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.46**	**41**	*e*P	Pn	07 20 08.6	-0.5
BPA				*e*S	Sn	07 20 17.0	-0.1
NEV	**Hard Times**	**0.58**	**319**	*e*P	Pn	07 20 10.9	+0.2
NEV				*e*S	Sn	07 20 20.6	+0.5
TBG	**Guadaloupe-3**	**0.98**	**149**	*e*P	Pn	07 20 17.4	+1.2
TBG				*e*S	Sn	07 20 34.1	+4.4
ANWB	**Willy Bob**	**1.04**	**21**	*e*P	Pn	07 20 18.6	+1.7
ANWB				*e*S	Sn	07 20 34.0	+2.7
MGG	**Marie-Galante**	**1.13**	**133**	*e*P	Pg	07 20 20.1	+1.5
DEG	**La Desirade**	**1.13**	**109**	*e*P	Pg	07 20 19.3	+0.5
DEG				*e*S	Sn	07 20 37.1	+3.4
MDVC	**Dominica, Viel**	**1.30**	**145**	*e*P	Pg	07 20 21.9	-0.1
MDVC				*e*S	Sg	07 20 41.5	+2.5
MDPO	**Dominica; Chan**	**1.31**	**148**	*e*P	Pg	07 20 22.4	+0.3
MDPO				*e*S	Sg	07 20 42.0	+2.7
MDMP	**Dominica, Moor**	**1.31**	**146**	*e*P	Pg	07 20 21.9	-0.3
MDMP				*e*S	Sg	07 20 40.5	+1.1
BBL	**Barber's Block**	**1.34**	**150**	*e*P	Pg	07 20 23.0	+0.2
BBL				*e*S	Sg	07 20 42.9	+2.6
SABA	**Saba**	**1.38**	**312**	*e*P	Pg	07 20 23.7	+0.3
SABA				*e*S	Sg	07 20 43.0	+1.6

KRSC 23 07:21:36.2±1.6, 50.˝70N×157.˝27E, h61km±21km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.73**	**269**	*e*P	Pn	07 21 51.3	+0.5
SKR				*e*S	Sn	07 22 01.9	+0.3
PAU	**Pauzhetka**	**0.82**	**340**	*e*P	Pn	07 21 53.6	+1.6
PAU				*e*S	Sn	07 22 06.0	+2.4
KDTR	**Khodutka, Kamc**	**1.22**	**24**	*e*P	Pn	07 21 58.7	+1.5
KDTR				*e*S	Sn	07 22 14.8	+2.0
ASAK	**Asacha**	**1.73**	**13**	*e*P	Pn	07 22 06.8	+2.7
ASAK				*e*S	Sn	07 22 28.6	+3.4
MTVR	**Mutnovka**	**1.88**	**17**	*e*P	Pn	07 22 08.5	+2.4
MTVR				*e*S	Sn	07 22 31.6	+2.8
RUS	**Russkaya**	**1.90**	**24**	*e*P	Pn	07 22 07.8	+1.5
RUS				*e*S	Sn	07 22 30.6	+1.4
KRMR	**Karymshinskiy**	**2.20**	**14**	*e*P	Pn	07 22 12.1	+1.8
KRMR				*e*S	Sn	07 22 37.7	+1.3
PET	**Petropavlovsk**	**2.48**	**20**	*e*S	Sn	07 22 47.0	+3.7
DALK	**Dalny**	**2.51**	**21**	*e*P	Pn	07 22 17.2	+2.6
DALK				*e*S	Sn	07 22 46.8	+2.8
UGLR	**Uglovaya**	**2.69**	**20**	*e*P	Pn	07 22 20.3	+3.1
AVH	**Avacha**	**2.73**	**19**	*e*P	Pn	07 22 21.2	+3.6
AVH				*e*S	Sn	07 22 53.8	+4.4
SMAR	**Somma**	**2.74**	**20**	*e*P	Pn	07 22 21.3	+3.4
SDLR	**Sedlovina**	**2.77**	**21**	*e*P	Pn	07 22 20.9	+2.7
NLC	**Nalytchevo**	**2.79**	**27**	*e*S	Sn	07 22 51.3	+0.5
SPN	**Mys Shipunski**	**2.95**	**34**	*e*S	Sn	07 22 57.0	+2.3
GNL	**Ganaly**	**3.03**	**8**	*e*P	Pn	07 22 24.7	+2.9

IDC ***23*** *07:48:24.2±2.8, 36.˝35N×70.˝96E, h202km±24km, mb3.5/11, mb1 3.5/17, mb1mx3.2/77, mbtmp4.1/17, Error ellipse: s-maj=19.4km s-min=15.7km az=10.0*

MOS ***23*** *07:48:25.6±0.9, 36.˝54N×70.˝99E, h216km, mb4.2/9, Error ellipse: s-maj=14.0km s-min=5.3km az=78.0*

ISCJB ***23*** *07:48:27.8±0.3, 36.˝63N±0.˝02×71.˝06E±0.˝05, h250km, mb4.2/23, Error ellipse: s-maj=5.4km s-min=3.1km az=167.3*

NEIC ***23*** *07:48:27.6±0.7, 36.˝61N×71.˝05E, h222km±6km, mb4.4/10, Error ellipse: s-maj=13.7km s-min=8.4km az=133.0*

NNC ***23*** *07:48:31.5±2.6, 36.˝99N×70.˝88E, h235km±25km, mb3.1, mpv4.3, Error ellipse: s-maj=26.2km s-min=25.5km az=48.0*

ISC 23 07:48:26.6±0.5, 36.˝56N±0.˝04×70.˝96E±0.˝05, h250km, n118, σ25°57/120, mb4.3/23, 7C-22D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.55**	**218**	*e*PN	**Pn**	**07 49 14.7**	**+0.1**
KBL				*e*S	**S**	**07 49 49.9**	**-2.6**
KBL	**Kabul**	**2.55**	**218**	*e*Pn	**Pn**	**07 49 14.7**	**+0.1**
KBL				*e*S	**S**	**07 49 49.9**	**-2.6**
CEP	**Cherat**	**2.84**	**164**	⇓P	**Pn**	**07 49 18.8**	**+1.2**
CEP				S	**S**	**07 49 57.0**	**-0.8**
CHCP	**Chirah Chowk**	**3.46**	**146**	⇓P	**Pn**	**07 49 25.8**	**+1.6**
THW	**Thamme Wali**	**3.81**	**170**	⇓P	**Pn**	**07 49 29.5**	**+1.2**
SFK	**Sufi-Kurgan**	**3.99**	**29**	⇓P	**Pn**	**07 49 30.5**	**+0.1**
	39nm,0.6s						
SFK				⇓S	**S**	**07 50 18.4**	**-2.7**
	151nm,0.5s						
SFK	**Sufi-Kurgan**	**3.99**	**29**	PN	**Pn**	**07 49 30.5**	**+0.1**
SFK				S	**S**	**07 50 18.4**	**-2.7**
SFK				pmax	pmax		
	comp=Z,39nm,0.6s						
SFK				smax	smax		
	comp=N,151nm,0.5s						
SARP	**Sargodha**	**4.84**	**162**	⇓P	**Pn**	**07 49 41.5**	**+1.0**
KSH	**Kashi**	**4.94**	**52**	P	**Pn**	**07 49 37.4**	**-4.3**
KSH				S	S	07 50 28.4	-13
KSH				smax	smax		
	comp=N,120nm,0.5s						
KSH				smax	smax		
	comp=N,160nm,0.7s						
AML	**Almayashu**	**5.96**	**20**	P	**Pn**	**07 49 54.5**	**0.0**
	SNR=170						
MNAS	**Manas**	**6.04**	**11**	⇑P	**Pn**	**07 49 55.4**	**+0.1**
	comp=N,19nm,0.5s						
MNAS				⇑S	**S**	**07 51 01.6**	**-4.6**
	comp=N,70nm,0.6s						
MNAS	**Manas**	**6.04**	**11**	PN	**Pn**	**07 49 55.0**	**-0.2**
MNAS				S	**S**	**07 51 01.1**	**-5.1**
MNAS				pmax	pmax		
	comp=Z,19nm,0.5s						
MNAS				smax	smax		
	comp=N,70nm,0.6s						
DHRM	**DHARAMSHALA**	**6.16**	**133**	*e*P	**Pn**	**07 49 57.5**	**+0.6**
DHRM				*e*S	**S**	**07 51 06.3**	**-3.0**
NRN	**Naryn**	**6.25**	**37**	PN	**Pn**	**07 49 57.3**	**-0.8**
NRN				S	**S**	**07 51 07.7**	**-3.6**
UCH	**Uchtor**	**6.29**	**25**	P	**Pn**	**07 49 59.1**	**+0.4**
	SNR=92						
KZA	**Kyzart**	**6.44**	**30**	P	**Pn**	**07 50 00.6**	**+0.1**
	SNR=37						
EKS2	**Erkin-Say**	**6.47**	**19**	P	**Pn**	**07 50 01.2**	**+0.5**
	SNR=34						
KK31	**Karatay Array**	**6.55**	**357**	⇓P	**Pn**	**07 50 01.3**	**-0.1**
	comp=N,4.1nm,0.4s,baz=174,slow=12,SNR=91						
KK31				⇓S	**S**	**07 51 12.2**	**-5.3**
	comp=N,8.0nm,0.3s,baz=184,slow=20,SNR=6.0						
KK31	**Karatay Array**	**6.55**	**357**	*e*PN	**Pn**	**07 50 01.5**	**+0.1**
KK31				pmax	pmax		
	comp=Z,13nm,0.7s						
KKAR	**Karatay Array**	**6.55**	**357**	*e*PN	**Pn**	**07 50 01.4**	**-0.1**
KKAR	**Karatay Array**	**6.55**	**357**	*e*Pn	**Pn**	**07 50 01.4**	**-0.1**
KKAR				*e*S	**S**	**07 51 08.9**	**-8.6**
AAK	**Ala-Archa**	**6.66**	**23**	P	**Pn**	**07 50 03.6**	**+0.7**
	comp=Z,19nm,0.3s,baz=187,slow=6.6,SNR=190						
AAK				S	**S**	**07 51 17.6**	**-2.6**
	comp=Z,2.0nm,0.3s,baz=295,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.66**	**23**	⇓P	**Pn**	**07 50 03.6**	**+0.7**
	comp=Z,24nm,0.3s						
AAK				⇓S	**S**	**07 51 17.7**	**-2.6**
	comp=Z,13nm,0.5s						
AAK	**Ala-Archa**	**6.66**	**23**	*d i* PN	**Pn**	**07 50 03.4**	**+0.4**
AAK				pmax	pmax		
	comp=Z,50nm,0.7s						
AAK	**Ala-Archa**	**6.66**	**23**	P	**Pn**	**07 50 03.7**	**+0.7**
	SNR=76						
KBK	**Karagaybulak**	**6.82**	**26**	P	**Pn**	**07 50 05.9**	**+0.8**
	SNR=27						
FRU1	**Bishkek**	**6.86**	**23**	PN	**Pn**	**07 50 06.5**	**+1.1**
ULHL	**Ulahol**	**7.00**	**34**	P	**Pn**	**07 50 07.9**	**+0.6**
	SNR=33						
CHMS	**Chumysh**	**7.06**	**23**	P	**Pn**	**07 50 08.3**	**+0.3**
	SNR=17						
USP	**Ospenovka**	**7.23**	**21**	P	**Pn**	**07 50 09.9**	**-0.2**
	SNR=25						
TKM2	**Tokmak 2**	**7.29**	**28**	⇓P	**Pn**	**07 50 11.6**	**+0.6**
	comp=Z,17nm,0.5s						
TKM2				⇓S	**S**	**07 51 29.9**	**-5.0**
	comp=Z,15nm,0.8s						
TKM2	**Tokmak 2**	**7.29**	**28**	PN	**Pn**	**07 50 11.6**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,17nm,0.5s						
TKM2	**Tokmak 2**	**7.29**	**28**	P	**Pn**	**07 50 11.6**	**+0.6**
	SNR=64						
KDJ	**Kajisay**	**7.36**	**39**	PN	**Pn**	**07 50 12.4**	**+0.5**
SMLA	**Simla**	**7.48**	**135**	*e*P	**Pn**	**07 50 14.8**	**+1.4**
SMLA				*e*S	**S**	**07 51 35.2**	**-4.0**
SMLA				IAML		07 51 38.6	
	comp=E,233nm,0.7s						
SMLA				IAML		07 51 39.5	
	comp=N,209nm,0.4s						
JOSI	**Joshimath**	**9.34**	**127**	*e*P	**Pn**	**07 50 38.6**	**+1.5**
JOSI				*e*S	**S**	**07 52 17.7**	**-5.0**
JOSI				IAML		07 52 23.1	
	comp=N,230nm,0.9s						
JOSI				IAML		07 52 27.4	
	comp=E,102nm,0.5s						
KHET	**Khetri**	**9.40**	**153**	*e*P	**Pn**	**07 50 37.5**	**-0.2**
KHET				*e*S	**S**	**07 52 18.7**	**-5.1**
PDGK	**Podgornoye**	**9.41**	**41**	⇓P	**Pn**	**07 50 37.6**	**-0.1**
	comp=E,2.9nm,0.6s						
PDGK	**Podgornoye**	**9.41**	**41**	P	**Pn**	**07 50 37.6**	**-0.1**
PDGK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KUDL	**Kundal**	**9.60**	**149**	*e*P	**P**	**07 50 42.2**	**-4.3**
KUDL				*e*S	**S**	**07 52 22.1**	**-6.4**
GEYT	**Alibeck**	**10.33**	**281**	P	**Pn**	**07 50 48.8**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=90,slow=13,SNR=3.9						
MAKZ	**Makanchi**	**13.13**	**35**	⇓P	**P**	**07 51 24.7**	**-0.9**
	comp=Z,16nm,0.6s						
MAKZ	**Makanchi**	**13.13**	**35**	*e*P	**P**	**07 51 24.9**	**-0.7**
MAKZ	**Makanchi**	**13.13**	**35**	*e*Pn	**P**	**07 51 24.9**	**-0.7**
PYUN	**Piuthan**	**13.21**	**126**	*e*P	**P**	**07 51 26.4**	**-0.4**
	comp=Z,32nm,0.3s						
MK01	**Makanchi Array**	**13.25**	**36**	*e*Pn	**P**	**07 51 26.1**	**-0.9**
MK31	**Makanchi Array**	**13.26**	**36**	⇑P	**P**	**07 51 26.6**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=221,slow=10,SNR=36						
MK31	**Makanchi Array**	**13.26**	**36**	*e*P	**P**	**07 51 26.6**	**-0.5**
MK31	**Makanchi Array**	**13.26**	**36**	*e*Pn	**P**	**07 51 26.6**	**-0.5**
MKAR	**Makanchi Array**	**13.26**	**36**	P	**P**	**07 51 26.3**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=223,slow=14,SNR=44						
MKAR	**Makanchi Array**	**13.26**	**36**	*i* P	**P**	**07 51 26.5**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**13.26**	**36**	*e*Pn	**P**	**07 51 26.6**	**-0.5**
KOLN	**Koldanda**	**13.83**	**126**	*e*P	**P**	**07 51 34.7**	**+1.0**
	comp=Z,19nm,0.5s						
GKN	**Gorkha**	**14.36**	**123**	*e*P	**P**	**07 51 41.3**	**+1.7**
	comp=Z,46nm,0.4s						
BHPL	**Bhopal**	**14.40**	**155**	*e*P	P	07 51 43.7	+3.8
WMQ	**Urumqi**	**14.69**	**55**	P	**Pn**	**07 51 44.5**	**+1.5**
WMQ				sP	sP	07 52

comp=Z,140nm,4.0s
ANN Anapa 26.58 298 *e*P **P** **07 53 42.6 +0.9**
ANN *e**PP **pP** **07 54 25.5 -5.0**
ANN *e* 07 54 40.4
ANN *e*S **S** **07 58 00.8 +3.5**
ANN *e**SS **sS** **07 59 18.6 -7.1**
ANN pmax pmax
comp=Z,39nm,1.4s
TLY Talaya 27.62 46⇑ *e*P **P** **07 53 53.1 +2.1**
TLY pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 28.77 56 *de*P **P** **07 54 01.7 +0.3**
ULN pmax pmax
comp=Z,20nm,0.6s
ULN Ulaanbaatar 28.77 56 *e*P **P** **07 54 02.2 +0.8**
comp=Z,209nm,1.2s
HHC Hu-ho-hao-te 31.77 70 *e*P P 07 54 31.8 +4.1
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.6s
FIA1 FINESS Array S 37.41 326 *e*P P 07 55 18.9 +3.5
comp=Z,65nm,1.8s
FINES FINESS Array B 37.42 326 P P 07 55 19.1 +3.6
comp=Z,1.0nm,0.5s,baz=124,slow=9.5,SNR=8.2
NJ2 Nanjing 39.50 82 *e*P P 07 55 37.8 +4.6
NJ2 pmax pmax
comp=Z,13nm,0.5s
KEV Kevo 40.73 338 *e*P P 07 55 46.3 +3.6
KEV pmax pmax
comp=Z,33nm,1.7s
KEV Kevo 40.73 338 *e*P P 07 55 46.3 +3.6
comp=Z,33nm,1.7s
ARCES ARCESS Array B 41.08 338 P P 07 55 49.3 +3.8
comp=Z,2.3nm,0.6s,baz=113,slow=7.8,SNR=30
ARCES ARCESS Array B 41.08 338 *e*P P 07 55 49.2 +3.6
ARCES ARCESS Array B 41.08 338 *e*P P 07 55 49.2 +3.6
ARE0 ARCESS Array S 41.08 338 *e*P P 07 55 49.4 +3.9
comp=Z,67nm,1.8s
HFS Hagfors 43.00 322 P P 07 56 04.9 +3.7
comp=Z,2.2nm,0.9s,baz=88,slow=15,SNR=3.6
YAK Yakutsk 43.94 36⇓ *e*P **P** **07 56 11.3 +2.7**
YAK pmax pmax
comp=Z,9.0nm,0.6s
TIXI Tiksi 45.73 22 P P 07 56 26.3 +3.7
comp=Z,2.7nm,0.3s,baz=280,slow=4.2,SNR=6.1
TIXI Tiksi 45.73 22⇓ *e*P P 07 56 26.0 +3.5
TIXI pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 45.73 22 *e*P P 07 56 26.1 +3.6
comp=Z,3.0nm,0.3s
TORD Torodi Ar. Bea 65.68 269 P **P** **07 58 46.6 +1.9**
comp=Z,0.3nm,0.5s,baz=51,slow=6.7,SNR=3.4
TOLK Toolik Lake Re 70.87 15 *e*P P 07 59 20.2 +4.2
comp=Z,18nm,2.0s
INK Inuvik 73.85 9 P P 07 59 37.8 +4.4
comp=Z,0.7nm,0.6s,baz=339,slow=4.0,SNR=7.1
INK Inuvik 73.85 9 *e*P P 07 59 37.8 +4.4
comp=Z,7.8nm,1.6s
YKA Yellowknife Ar 81.19 3 P P 08 00 18.2 +4.2
comp=Z,0.1nm,0.5s,baz=348,slow=5.2,SNR=5.1
WRA Warramunga Arr 82.05 122 P **P** **08 00 21.6 +2.4**
comp=Z,0.6nm,0.6s,baz=324,slow=5.0,SNR=13
WRA Warramunga Arr 82.05 122 *i* P **P** **08 00 21.0 +1.8**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 84.32 125 P **P** **08 00 33.3 +2.6**
comp=Z,0.5nm,0.7s,baz=312,slow=4.7,SNR=7.5
PGC Sidney 94.20 10 *e*P P 08 01 19.9 +3.0
comp=Z,50nm,1.4s
CHRN Cochrane 151.09 237 *e*PKPbc **PKPab** **08 07 54.9 -3.3**

*TEH **23** 07:50:07.6,27.84N×51.65E,h5km,ML3.7*
*IDC **23** 07:50:07.7±1.1,28.03N×51.80E,h0km,mb4.2/15,*
mb1 4.2/19,mb1mx3.9/70,mbtmp4.1/19,ML3.6/4,MS2.7/1,
Ms1 2.7/1,ms1mx2.1/65,Error ellipse: s-maj=24.6km
s-min=17.7km az=166.0
*ISCJB **23** 07:50:09.3±0.2,27.97N±0.03×51.78E±0.03,h26km,*
mb4.3/31,Error ellipse: s-maj=4.2km s-min=3.1km
az=38.2
*THR **23** 07:50:09.8±0.4,27.99N×51.79E,h39km±2km,ML3.7*
*NEIC **23** 07:50:09.1±0.3,27.99N×51.78E,h10km,mb4.5/15,*
ML3.7(THR),MN3.7(TEH),Error ellipse: s-maj=5.7km
s-min=4.5km az=171.0
*CSEM **23** 07:50:11.8±0.1,28.01N×51.81E,h30km,mb4.5/19,Error*
ellipse: s-maj=4.9km s-min=3.6km az=27.0
*DSN **23** 07:50:13.9±1.0,27.93N×52.09E,h15km,ML3.7/6,Error*
ellipse: s-maj=20.0km s-min=6.1km az=13.0
ISC 23 07:50:11.4±0.5,**28.00N**±0.04×**51.80E**±0.04,**h26**km,**n139,**
σ0.83/153,mb4.4/31,Persian Gulf

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.97**	**333**	*e*Pg			**Pn**	**07 50 28.2**	**-1.2**
AHBU				*e*Sg			**Sn**	**07 50 41.7**	**-0.6**
GHIR	**Ghir-Karzin**	**1.09**	**74**	Pg			**Pn**	**07 50 30.0**	**-1.1**
GHIR				Sg			**Sn**	**07 50 45.0**	**-0.4**
GHIR	**Ghir-Karzin**	**1.09**	**74**	*e*Pg			**Pn**	**07 50 30.5**	**-0.6**
GHIR				*e*Sg			**Sb**	**07 50 45.5**	**0.0**
GHIR	**Ghir-Karzin**	**1.09**	**74**	*e*Pg			**Pn**	**07 50 30.5**	**-0.6**
GHIR				*e*Sg			**Sb**	**07 50 45.5**	**0.0**
GHIR				AML			AML	07 50 51.8	
	comp=N,1μm,0.4s								
GHIR				AML			AML	07 50 53.5	
	comp=E,1μm,0.3s								
IRAM	**Ramesheh**	**3.83**	**7**	*e*Pn			**Pn**	**07 51 08.8**	**-0.2**
IRAM				*e*AMB			AMB	07 52 18.5	
	comp=Z,829nm,0.3s								
IRAM	**Ramesheh**	**3.83**	**7**	Pn			**Pn**	**07 51 08.7**	**-0.2**
IRAM	**Ramesheh**	**3.83**	**7**	Pn			**Pn**	**07 51 08.7**	**-0.2**
GENO	**Geno**	**3.92**	**98**	*e*Pn			**Pn**	**07 51 09.1**	**-1.1**
GENO	**Geno**	**3.92**	**98**	*e*Pn			**Pn**	**07 51 09.1**	**-1.1**
IMEH	**Mehriz**	**4.18**	**35**	*e*Pn			**Pn**	**07 51 15.0**	**+1.3**
IMEH				*e*AMB			AMB	07 52 07.8	
	comp=Z,826nm,0.3s								
IMEH	**Mehriz**	**4.18**	**35**	Pn			**Pn**	**07 51 15.0**	**+1.3**
SHME	**Shamm**	**4.33**	**116**	*i* P			**Pn**	**07 51 15.0**	**-0.7**
	SNR=16								
IGAR	**Gharneh**	**4.40**	**3**	*e*Pn			**Pn**	**07 51 16.8**	**+0.1**
IGAR				*e*Sn			**Sn**	**07 52 08.2**	**+1.0**
IGAR				*e*AMB			AMB	07 52 09.7	
	comp=Z,1μm,0.2s								
NIAN	**Nian**	**4.49**	**94**	*e*Pn			**Pn**	**07 51 17.3**	**-0.4**
NIAN	**Nian**	**4.49**	**94**	*e*Pn			**Pn**	**07 51 17.3**	**-0.4**
BANOM	**Banah**	**4.52**	**116**	P			**Pn**	**07 51 18.4**	**+0.2**
	SNR=34								
BANOM				S			**Sn**	**07 52 08.5**	**-1.4**
BANOM	**Banah**	**4.52**	**116**	*i* P			**Pn**	**07 51 18.4**	**+0.2**
	SNR=34								
BANOM				S			**Sn**	**07 52 08.5**	**-1.4**
MSFE	**Esma-Masafi**	**4.70**	**123**	*i* P			**Pn**	**07 51 21.3**	**+0.5**
	SNR=11								
ICHK	**Chekchek**	**4.80**	**27**	*e*Pn			**Pn**	**07 51 22.3**	**+0.1**
ICHK				*e*Sn			**Sn**	**07 52 17.5**	**+0.3**
ICHK				*e*AMB			AMB	07 52 19.2	
	comp=Z,843nm,0.2s								
ICHK	**Chekchek**	**4.80**	**27**	Pn			**Pn**	**07 51 22.3**	**+0.1**
ICHK				Sn			**Sn**	**07 52 17.4**	**+0.3**
ICHK	**Chekchek**	**4.80**	**27**	*e*Pn			**Pn**	**07 51 22.3**	**+0.1**
ICHK				Sn			**Sn**	**07 52 17.4**	**+0.3**
KHSK	**Kohestak**	**4.83**	**104**	*e*Pn			**Pn**	**07 51 22.2**	**-0.3**
KHSK	**Kohestak**	**4.83**	**104**	*e*Pn			**Pn**	**07 51 22.2**	**-0.3**
MDH	**Madha**	**4.84**	**123**	*i* P			**Pn**	**07 51 23.0**	**+0.4**
	SNR=8.0								
IBAF	**Bafgh**	**4.85**	**42**	*e*AMB			AMB	07 52 22.6	
	comp=Z,359nm,0.4s								
NASN	**Na'in**	**4.87**	**10**	Pn			**Pn**	**07 51 22.0**	**-1.2**
NASN	**Na'in**	**4.87**	**10**	*e*Pn			**Pn**	**07 51 22.8**	**-0.4**
NASN	**Na'in**	**4.87**	**10**	*e*Pn			**Pn**	**07 51 22.8**	**-0.4**
IZEF	**Zefreh**	**4.91**	**5**	*e*Pn			**Pn**	**07 51 23.9**	**+0.2**
IZEF				*e*AMB			AMB	07 52 24.9	
	comp=Z,374nm,0.3s								
IZEF	**Zefreh**	**4.91**	**5**	Pn			**Pn**	**07 51 23.9**	**+0.2**
IZEF	**Zefreh**	**4.91**	**5**	*e*Pn			**Pn**	**07 51 23.9**	**+0.2**
UOSS	**Minazif**	**4.98**	**127**	*e*Pn			**Pn**	**07 51 24.7**	**+0.1**
UOSS				*e*Sn			**Sn**	**07 52 24.6**	**+3.2**
UOSS	**Minazif**	**4.98**	**127**	P			**Pn**	**07 51 24.7**	**+0.1**
	SNR=13								
UOSS				*e*Sn			**Sn**	**07 52 24.6**	**+3.2**
UOSS	**Minazif**	**4.98**	**127**	*i* P			**Pn**	**07 51 24.7**	**+0.1**
	SNR=13								
HATD	**Hatta, Dubai**	**5.01**	**128**	P			**Pn**	**07 51 25.5**	**+0.6**
	SNR=11								
HATD	**Hatta, Dubai**	**5.01**	**128**	*i* P			**Pn**	**07 51 25.5**	**+0.6**
	SNR=11								
ASHO	**Ashiyiah**	**5.05**	**130**	P			**Pn**	**07 51 26.0**	**+0.5**
	SNR=17								
ASHO	**Ashiyiah**	**5.05**	**130**	*i* P			**Pn**	**07 51 26.0**	**+0.5**
	SNR=17								
ALNE	**Al Ain**	**5.30**	**137**	*i* P			**Pn**	**07 51 29.3**	**+0.5**
	SNR=8.8								
IKLH	**Kolahrood**	**5.31**	**358**	*e*Pn			**Pn**	**07 51 29.0**	**-0.3**
IKLH				*e*AMB			AMB	07 52 10.6	
	comp=Z,335nm,0.2s								
IKLH	**Kolahrood**	**5.31**	**358**	Pn			**Pn**	**07 51 28.9**	**-0.3**
IKLH	**Kolahrood**	**5.31**	**358**	*e*Pn			**Pn**	**07 51 29.0**	**-0.3**
SOHO	**SOHO**	**5.74**	**131**	*i* P			**Pn**	**07 51 35.0**	**0.0**
	SNR=18								
KHMZ	**Khomeyn**	**5.94**	**345**	Pn			**Pn**	**07 51 37.0**	**-0.9**
KHMZ	**Khomeyn**	**5.94**	**345**	*e*Pn			**Pn**	**07 51 37.7**	**-0.2**
KHMZ	**Khomeyn**	**5.94**	**345**	*e*Pn			**Pn**	**07 51 37.7**	**-0.2**
ASAO	**Ashtian**	**6.71**	**347**	Pn			**Pn**	**07 51 47.0**	**-1.4**
ASAO	**Ashtian**	**6.71**	**347**	*e*Pn			**Pn**	**07 51 47.9**	**-0.5**
ASAO	**Ashtian**	**6.71**	**347**	*e*Pn			**Pn**	**07 51 47.9**	**-0.5**
RAYN	**Ar Rayn**	**7.21**	**233**	*e*Pn			**Pn**	**07 51 54.9**	**-0.3**
RAYN				*e*Sn			**Sn**	**07 53 15.6**	**-0.8**
RAYN	**Ar Rayn**	**7.21**	**233**	*e*Pn			**Pn**	**07 51 54.9**	**-0.3**
RAYN				*e*Sn			**Sn**	**07 53 15.6**	**-0.8**
TABS	**Tabas**	**7.26**	**38**	Pn			**Pn**	**07 51 55.0**	**-0.9**
TABS	**Tabas**	**7.26**	**38**	*e*Pn			**Pn**	**07 51 55.5**	**-0.4**
TABS	**Tabas**	**7.26**	**38**	*e*Pn			**Pn**	**07 51 55.5**	**-0.4**
WSAR	**Wadi Sarin**	**7.78**	**126**	Pn			**Pn**	**07 52 02.6**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=319,slow=12,SNR=20								
WSAR				Sn			**Sn**	**07 53 27.6**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=106,slow=11,SNR=2.7								
GEYT	**Alibeck**	**11.23**	**27**	LR			LR	07 57 37.5	
	comp=Z,42nm,21.4s,baz=65,slow=40								
ASF	**Jabal al Asfar**	**13.55**	**291**	Pn			**Pn**	**07 53 20.3**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=320,slow=3.1,SNR=4.7								
AKH	**Akhalkalaki**	**15.01**	**335**	*e*Pn			**Pn**	**07 53 43.7**	**+1.7**
	comp=Z,3.4nm,0.7s								
AKH	**Akhalkalaki**	**15.01**	**335**	*e*Pn			**Pn**	**07 53 43.7**	**+1.7**
	comp=Z,3.4nm,0.7s								
KBZ	**Khabaz**	**17.26**	**338**	Pn			**P**	**07 54 12.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=177,slow=10,SNR=5.4								
BR101	**Keskin Array S**	**19.05**	**313**	*e*P			**Pn**	**07 54 32.2**	**-0.4**
BR101	**Keskin Array S**	**19.05**	**313**	*e*P			**Pn**	**07 54 32.2**	**-0.4**
BR131	**Keskin Array S**	**19.05**	**313**	*e*P			**Pn**	**07 54 32.0**	**-0.6**
BR131	**Keskin Array S**	**19.05**	**313**	*e*P			**Pn**	**07 54 32.0**	**-0.6**
BRTR	**Keskin Array B**	**19.05**	**313**	P			**Pn**	**07 54 32.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=15								
ISP	**Isparta**	**20.33**	**304**	*e*P			**P**	**07 54 45.8**	**0.0**
	comp=Z,11nm,0.8s								
ISP	**Isparta**	**20.33**	**304**	*e*P			**P**	**07 54 45.8**	**0.0**
	comp=Z,11nm,0.8s								
ABKAR	**Akbulak array**	**22.14**	**14**	*e*P			**P**	**07 55 05.2**	**+0.3**
	comp=Z,27nm,0.6s								
ABKAR	**Akbulak array**	**22.14**	**14**	*e*P			**P**	**07 55 05.2**	**+0.3**
	comp=Z,27nm,0.6s								
IDI	**Anoyia**	**23.99**	**294**	P			**P**	**07 55 25.1**	**+1.2**
	comp=Z,9.2nm,0.7s,baz=69,slow=6.6,SNR=5.1								
IDI	**Anoyia**	**23.99**	**294**	*e*P			**P**	**07 55 25.1**	**+1.2**
	comp=Z,25nm,1.1s								
IDI	**Anoyia**	**23.99**	**294**	*e*P			**P**	**07 55 25.1**	**+1.2**
	comp=Z,25nm,1.1s								
BUR04	**Bucovina Ar. S**	**28.49**	**321**	*e*P			**P**	**07 56 06.1**	**+1.5**
BUR04	**Bucovina Ar. S**	**28.49**	**321**	*e*P			**P**	**07 56 06.1**	**+1.5**
BUR08	**Bucovina Ar. S**	**28.52**	**321**	*e*P			**P**	**07 56 06.3**	**+1.5**
BUR08	**Bucovina Ar. S**	**28.52**	**321**	*e*P			**P**	**07 56 06.3**	**+1.5**
BVAR	**Borovoye Array**	**28.55**	**24**	P			**P**	**07 56 04.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=202,slow=15,SNR=3.9								
BVAR				PcP			**PcP**	**07 59 15.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=220,slow=3.6,SNR=5.5								
MAKZ	**Makanchi**	**30.18**	**43**	*e*P			**P**	**07 56 19.8**	**+0.3**
	comp=Z,2.0nm,0.7s								
MAKZ	**Makanchi**	**30.18**	**43**	*e*P			**P**	**07 56 19.8**	**+0.3**
	comp=Z,2.0nm,0.7s								
MK01	**Makanchi Array**	**30.36**	**44**	*e*P			**P**	**07 56 21.1**	**+0.1**
MK01	**Makanchi Array**	**30.36**	**44**	*e*P			**P**	**07 56 21.1**	**+0.1**
MK31	**Makanchi Array**	**30.37**	**44**	*e*P			**P**	**07 56 21.6**	**+0.4**
MK31	**Makanchi Array**	**30.37**	**44**	*e*P			**P**	**07 56 21.5**	**+0.4**
MK32	**Makanchi Array**	**30.37**	**44**	*e*P			**P**	**07 56 21.1**	**0.0**
MK32	**Makanchi Array**	**30.37**	**44**	*e*P			**P**	**07 56 21.1**	**0.0**
MKAR	**Makanchi Array**	**30.37**	**44**	P			**P**	**07 56 21.1**	**0.0**
	comp=Z,0.7nm,0.4s,baz=250,slow=7.7,SNR=7.8								
MKAR	**Makanchi Array**	**30.37**	**44**	*e*P			**P**	**07 56 21.6**	**+0.4**
	comp=Z,15nm,1.0s								
MKAR	**Makanchi Array**	**30.37**	**44**	*e*P			**P**	**07 56 21.5**	**+0.4**
	comp=Z,15nm,1.1s								
MORC	**Moravsky Berou**	**33.97**	**319**	*e*P			**P**	**07 56 52.5**	**-0.2**
	comp=Z,5.8nm,0.6s								
MORC	**Moravsky Berou**	**33.97**	**319**	*e*P			**P**	**07 56 52.5**	**-0.2**
	comp=Z,5.8nm,0.6s								
CONA	**Conrad Observa**	**34.20**	**315**	P			**P**	**07 56 56.0**	**+1.3**
	comp=Z,3.3nm,0.7s								
CONA	**Conrad Observa**	**34.20**	**315**	*e*pP			**P**	**07 56 56.0**	**+1.3**
	comp=Z,3.3nm,0.7s								
ZALV	**Zalesovo Beam**	**35.42**	**34**	P			**P**	**07 57 04.5**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=245,slow=13,SNR=4.9								
ZAA1	**Zalesovo Array**	**35.42**	**34**	*e*P			**P**	**07 57 04.5**	**-0.6**
ZAA1	**Zalesovo Array**	**35.42**	**34**	*e*P			**P**	**07 57 04.5**	**-0.6**
KBA	**Koelnbreinsper**	**35.49**	**313**	P			**P**	**07 57 06.9**	**+0.8**
	comp=Z,4.2nm,0.8s								
KBA	**Koelnbreinsper**	**35.49**	**313**	*i* pP			**P**	**07 57 06.9**	**+0.8**
	comp=Z,4.2nm,0.8s								
ABTA	**Abfaltersbach**	**35.94**	**312**	P			**P**	**07 57 10.1**	**+0.4**
	comp=Z,2.3nm,0.7s								
ABTA	**Abfaltersbach**	**35.94**	**312**	*e*pP			**P**	**07 57 10.1**	**+0.4**
	comp=Z,2.3nm,0.7s								
WTTA	**Wattenberg**	**36.66**	**313**	P			**P**	**07 57 16.4**	**+0.3**
	comp=Z,2.9nm,0.5s								
WTTA	**Wattenberg**	**36.66**	**313**	*i* pP			**P**	**07 57 16.4**	**+0.3**
	comp=Z,2.9nm,0.5s								
FETA	**Feichten**	**37.19**	**312**	P			**P**	**07 57 20.5**	**0.0**
	comp=Z,4.2nm,0.7s								
FETA	**Feichten**	**37.19**	**312**	*e*pP			**P**	**07 57 20.5**	**0.0**
	comp=Z,4.2nm,0.7s								
FIA0	**FINESS Array S**	**37.60**	**340**	*e*P			**P**	**07 57 22.9**	**-0.6**
FIA1	**FINESS Array S**	**37.60**	**340**	*e*P			**P**	**07 57 22.9**	**-0.6**
	comp=Z,9.4nm,1.1s								
FINES	**FINESS Array B**	**37.60**	**340**	P			**P**	**07 57 22.9**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=146,slow=8.5,SNR=27								
GRFO	**Grafenberg**	**37.70**	**316**	*e*P			**P**	**07 57 24.9**	**+0.3**
	comp=Z,8.4nm,0.5s								
GRFO	**Grafenberg**	**37.70**	**316**	*e*P			**P**	**07 57 24.9**	**+0.3**
	comp=Z,8.4nm,0.5s								
DAVA	**Damuels**	**37.81**	**312**	P			**P**	**07 57 25.5**	**-0.3**
	comp=Z,9.6nm,0.5s								
DAVA	**Damuels**	**37.81**	**312**	*i* pP			**P**	**07 57 25.5**	**-0.3**
	comp=Z,9.6nm,0.5s								
HFS	**Hagfors**	**41.19**	**332**	P			**P**	**07 57 53.1**	**-0.5**
	comp=Z,2.8nm,0.3s,baz=125,slow=9.0,SNR=27								
NC405	**NORSAR Array S**	**42.55**	**332**	*e*P			**P**	**07 58 02.9**	**-1.8**
NB201	**NORSAR Array S**	**42.68**	**332**	*e*P			**P**	**07 58 03.7**	**-2.1**
NB2	**NORSAR Subarra**	**42.71**	**332**	P			**P**	**07 58 04.8**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=122,slow=8.6								
NB200	**NORSAR Array S**	**42.71**	**332**	*e*P			**P**	**07 58 05.0**	**-1.0**
NOA	**NORSAR Array B**	**42.71**	**332**	P			**P**	**07 58 05.0**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=128,slow=9.1,SNR=8.3								
NAO01	**NORSAR Array S**	**42.74**	**332**	*e*P			**P**	**07 58 05.7**	**-0.6**
NBO02	**NORSAR Array S**	**42.86**	**332**	*e*P			**P**	**07 58 06.7**	**-0.5**
NBO00	**NORSAR Array S**	**42.89**	**332**	*e*P			**P**	**07 58 06.9**	**-0.5**
KEV	**Kevo**	**44.18**	**348**	*e*P			**P**	**07 58 17.8**	**+0.2**
	comp=Z,9.4nm,1.2s								
ARA0	**ARCESS Array S**	**44.28**	**347**	*e*P			**P**	**07 58 18.4**	**-0.1**
ARCES	**ARCESS Array B**	**44.28**	**347**	P			**P**	**07 58 18.4**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=145,slow=6.3,SNR=15								
ARCES	**ARCESS Array B**	**44.28**	**347**	*e*P			**P**	**07 58 18.2**	**-0.3**
ARE0	**ARCESS Array S**	**44.28**	**347**	*e*P			**P**	**07 58 18.2**	**-0.3**
	comp=Z,8.4nm,1.4s								
EKA	**Eskdalemuir Ar**	**47.67**	**321**	P			**P**	**07 58 45.0**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=98,slow=8.0,SNR=4.3								
TOA0	**Torodi Ar. Sit**	**48.85**	**263**	*e*P			**P**	**07 58 55.0**	**0.0**
	comp=Z,2.2nm,0.8s								
TORD	**Torodi Ar. Bea**	**48.85**	**263**	P			**P**	**07 58 55.0**	**0.0**
	comp=Z,2.4nm,0.7s,baz=56,slow=7.6,SNR=16								
TOA1	**Torodi Ar. Sit**	**48.85**	**263**	*e*P			**P**	**07 58 55.0**	**0.0**
SPITS	**Spitsbergen Ar**	**52.73**	**351**	P			**P**	**07 59 23.8**	**+0.3**
	comp=Z,9.3nm,0.9s,baz=115,slow=9.7,SNR=9.8								
KOWA	**Kowa**	**53.32**	**268**	*e*P			**P**	**07 59 28.9**	**+0.2**
	comp=Z,5.6nm,0.7s								
DBIC	**Dimbokro**	**57.54**	**260**	P			**P**	**07 59 59.5**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=68,slow=5.8,SNR=5.9								
DBIC	**Dimbokro**	**57.54**	**260**	*e*P			**P**	**07 59 59.5**	**+0.4**
	comp=Z,24nm,1.5s								
TIXI	**Tiksi**	**59.63**	**21**	P			**P**	**08 00 14.2**	**+1.4**
	comp=Z,2.5nm,0.3s,baz=287,slow=9.7,SNR=7.5								
SCHQ	**Schefferville**	**82.20**	**329**	*e*P			**P**	**08 02 30.1**	**+0.1**
	comp=Z,3.6nm,1.0s								
ILAR	**Eielson Array**	**86.39**	**8**	P			**P**	**08 02 50.5**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=339,slow=4.4,SNR=4.1								
YKA	**Yellowknife Ar**	**89.17**	**354**	P			**P**	**08 03 04.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=9.5,slow=4.9,SNR=8.8								
TRQA	**Tornquist**	**124.62**	**241**	*e*PKPdf			**PKPdf**	**08 09 08.5**	**-0.1**
KHLU	**Kahalu'u**	**125.63**	**33**	*e*PKPdf			**PKPdf**	**08 09 10.1**	**-1.2**
CRLZ	**Canterbury Las**	**130.55**	**125**	*e*PKPdf			**PKPdf**	**08 09 20.0**	**+0.3**

JMA 23 08:32:35.5,35.13N×136.96E,h38km,M3.2,3C-1D
Broadband fault plane solution: P waves. NP1:
ϕ_s325.00000°,δ49.00000°,λ-114.00000°. NP2:
ϕ_s179.00000°,δ47.00000°,λ-65.00000°. Principal axes:
T Plg1.0000°, Azm72.0000°; N Plg18.0000°,
Azm342.0000°; P Plg72.0000°, Azm165.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.28**	**61**	⇓P			Pn	08 32 43.4	-0.4
JAO				S			Sn	08 32 49.0	-1.9
TSUJ	**Tsu 2**	**0.61**	**227**	⇑P			Pn	08 32 47.7	-0.1
TSUJ				S			Sn	08 32 56.7	+0.3
JIE	**Ise**	**0.77**	**196**	P			Pn	08 32 50.1	+0.3
JIE				S			Sn	08 33 00.3	+0.2
SHZ3	**Shizuoka 3**	**1.03**	**93**	⇑P			Pn	08 32 53.5	+0.1
JKN2	**Miekihoku**	**1.05**	**213**	⇑P			Pn	08 32 53.6	-0.1
JKN2				S			Sn	08 33 07.4	+0.3
TK04	**Tokai 4**	**1.06**	**134**	P			Pn	08 32 54.0	+0.3
JHE	**Heguri**	**1.15**	**246**	P			Pn	08 32 55.3	+0.2
MAT	**Matsushiro**	**1.74**	**35**	P			Pn	08 33 04.2	+1.1
MAT				S			Sn	08 33 26.7	+2.7

IDC 23 08:57:40.3±1.6,54.67N×83.78E,h0km,mb1 2.8/3,
mb1mx2.7/79,mbtmp2.8/3,ML2.6/3 Error ellipse:
s-maj=15.2km s-min=9.9km az=12.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**140**	*i*				09 03 19.5	
	baz=319,slow=332,SNR=2.4								
ZALV	**Zalesovo Beam**	**0.95**	**140**	Pg			Pg	08 57 57.8	-0.6
	3.5nm,0.3s,baz=327,slow=17,SNR=15								
ZALV				Lg			Lg	08 58 12.2	
	7.2nm,0.3s,baz=320,slow=29,SNR=23								
ZALV				Rg			Rg	08 58 17.5	
	8.7nm,0.3s,baz=320,slow=36,SNR=16								
KURBB	**Kurchatov Arra**	**5.16**	**220**	Pn			Pn	08 58 59.4	+0.6
	0.1nm,0.3s,baz=39,slow=13,SNR=5.2								
KURBB				Lg			Lg	09 00 26.5	
	0.1nm,0.3s,baz=46,slow=31,SNR=5.7								
MKAR	**Makanchi Array**	**7.95**	**187**	Pn			Pn	08 59 37.1	+0.1
	0.1nm,0.3s,baz=9.7,slow=11,SNR=5.8								
MKAR				Lg			Lg	09 01 51.3	
	0.1nm,0.3s,baz=13,slow=27,SNR=2.9								
BVAR	**Borovoye Array**	**8.09**	**264**	Pn			Pn	08 59 37.7	-1.3
	0.3nm,0.3s,baz=69,slow=13,SNR=5.8								

*UPP **23** 09:00:26.1,64.36N×31.48E,h0km,ML1.6,Suspected*
Mining explosion.
*IDC **23** 09:00:28.7±3.3,64.62N×31.94E,h0km,mb1 3.2/4,*
mb1mx2.9/77,mbtmp3.2/4,ML2.7/4,Error ellipse:
s-maj=46.1km s-min=12.1km az=100.0
*ISCJB **23** 09

DUNU Dundret 4.82 305 P **Pn** 09 01 45.0 +0.7
LANU Lannavaara 4.86 317 P **Pn** 09 01 45.3 +0.5
LANU Lannavaara 4.86 317 P **Pn** 09 01 45.3 +0.5
ARCES ARCESS Array B 5.25 339 Pn **Pn** 09 01 50.1 -0.2
comp=Z,0.5nm,0.3s,baz=155,slow=13,SNR=75
ARCES Sn **Sn** 09 02 50.0 -1.5
comp=Z,0.5nm,0.3s,baz=155,slow=24,SNR=3.7
RATU Laukkuluspa 5.48 310 P **Pn** 09 01 54.4 +1.1
RATU Laukkuluspa 5.48 310 P **Pn** 09 01 54.4 +1.1
HFS Hagfors 9.13 248 Pn **Pn** 09 02 43.1 -0.3
comp=Z,0.3nm,0.3s,baz=58,slow=14,SNR=7.1
NOA NORSAR Array B 9.63 257 Pn **Pn** 09 02 51.0 +0.7
comp=Z,0.2nm,0.3s,baz=54,slow=13,SNR=9.4

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*ISCJB **23** 09:03:33.1±0.4,57.35N±0.03×152.19W±0.04,h31km, mb3.4/2,MS3.1/1,Error ellipse: s-maj=4.9km s-min=3.0km az=172.9*
*IDC **23** 09:03:36.9±2.0,57.59N×152.63W,h43km±12km,mb3.3/2, mb1 3.8/5,mb1mx3.2/79,mbtmp3.6/5,ML3.4/3,MS3.0/2, Ms1 3.0/2,ms1mx2.5/28,Error ellipse: s-maj=32.7km s-min=28.9km az=43.0*
*NEIC **23** 09:03:36.8±0.0,57.40N×152.36W,h38km,ML3.6(AEIC), After AEIC.*
NEIC Felt at Kodiak.

ISC 23 09:03:35.9±0.8,57.50N±0.05×152.35W±0.05,h31km,n96, σ1§40/108,mb3.9/4,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**0.31**	**336**	P		**Pn**	**09 03 45.5**	**+1.3**
KDAK	1μm,0.3s,baz=184,slow=6.2			S		**Sn**	**09 03 52.4**	**+2.6**
	705nm,0.3s,baz=269,slow=24,SNR=56							
OHAK	**Old Harbor**	**0.58**	**242**	P		**Pb**	**09 03 46.7**	**-0.9**
FOSS	**Fourpeaked Sta**	**1.49**	**332**	P		**Pb**	**09 04 01.5**	**-1.4**
FONW	**Fourpeaked Sta**	**1.58**	**329**	P		**Pb**	**09 04 02.9**	**-1.5**
FONW				S		**Sn**	**09 04 22.0**	**+0.8**
CDD	**Cape Douglas**	**1.59**	**335**	P		**Pb**	**09 04 03.6**	**-1.0**
KARR	**Katmai Rainbow**	**1.61**	**310**	P		**Pb**	**09 04 03.7**	**-1.1**
KABU	**Katmai Buttres**	**1.75**	**298**	P		**Pn**	**09 04 04.9**	**+0.8**
KABU				S		**Sn**	**09 04 26.1**	**+0.8**
AUI	**Augustine Isla**	**1.93**	**343**	P		**Pb**	**09 04 08.5**	**-1.8**
AUI				S		**Sb**	**09 04 32.0**	**-2.0**
AUW	**Augustine West**	**1.97**	**343**	P		**Pb**	**09 04 09.2**	**-1.8**
AUNW	**Augustine NWes**	**1.98**	**343**	P		**Pb**	**09 04 09.2**	**-2.0**
MCNL	**McNeil River**	**1.99**	**329**	P		**Pn**	**09 04 08.7**	**+1.3**
KELA	**Mount Kelaz**	**2.04**	**299**	P		**Pn**	**09 04 08.4**	**+0.3**
HOM	**Homer**	**2.20**	**9**	P		**Pn**	**09 04 11.9**	**+1.8**
BRLK	**Bradley Lake**	**2.40**	**18**	P		**Pn**	**09 04 13.6**	**+0.6**
ILS	**Iliamna Low So**	**2.50**	**352**	P		**Pn**	**09 04 16.0**	**+1.6**
IVE	**Iliamna Volcan**	**2.55**	**352**	P		**Pn**	**09 04 16.5**	**+1.3**
ILW	**Iliamna West**	**2.60**	**351**	P		**Pn**	**09 04 17.4**	**+1.5**
RDWB	**Redoubt West**	**3.01**	**355**	P		**Pn**	**09 04 22.7**	**+1.2**
RDJH	**Redoubt Jeurge**	**3.11**	**356**	P		**Pn**	**09 04 24.6**	**+1.7**
SLKM	**Skilak Lake**	**3.21**	**19**	P		**Pn**	**09 04 24.7**	**+0.5**
ANPK	**Aniakchak Peak**	**3.21**	**261**	P		**Pn**	**09 04 23.0**	**-1.2**
ANNW	**Aniakchak Nort**	**3.23**	**263**	P		**Pn**	**09 04 23.9**	**-0.6**
CHGN	**Chignik**	**3.54**	**253**	P		**Pn**	**09 04 26.8**	**-1.8**
MID	**Middleton Isla**	**3.70**	**56**	P		**Pn**	**09 04 30.2**	**-0.6**
CKL	**Chakachamna La**	**3.71**	**0**	P		**Pn**	**09 04 32.6**	**+1.5**
SPCP	**Crater Peak Br**	**3.78**	**1**	P		**Pn**	**09 04 33.4**	**+1.3**
SPWE	**Spurr West**	**3.79**	**358**	P		**Pn**	**09 04 33.9**	**+1.8**
RC01	**Rabbit Creek A**	**3.84**	**19**	P		**Pn**	**09 04 33.2**	**+0.5**
FIB	**Fire Island**	**3.84**	**16**	P		**Pn**	**09 04 34.0**	**+1.3**
VNHG	**Veniaminof 1**	**3.96**	**254**	P		**Pn**	**09 04 33.5**	**-0.9**
SVW2	**Sparrevohn**	**3.97**	**337**	P		**Pn**	**09 04 35.3**	**+0.7**
STLK	**Strandline Lak**	**4.02**	**4**	P		**Pn**	**09 04 36.8**	**+1.5**
SUA	**Susitna One**	**4.06**	**11**	P		**Pn**	**09 04 36.3**	**+0.4**
GLI	**Glacier Island**	**4.33**	**36**	P		**Pn**	**09 04 39.1**	**-0.4**
KNK	**Knik Glacier**	**4.40**	**25**	P		**Pn**	**09 04 40.6**	**+0.1**
PMR	**Palmer**	**4.42**	**20**	P		**Pn**	**09 04 40.7**	**+0.1**
SKT	**Skwentna**	**4.52**	**5**	P		**Pn**	**09 04 42.6**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.58**	**45**	P		**Pn**	**09 04 43.0**	**+0.1**
GHO	**Glory Hole Cre**	**4.62**	**21**	P		**Pn**	**09 04 43.9**	**+0.3**
JPK	**Jack Peak**	**4.63**	**37**	P		**Pn**	**09 04 43.9**	**+0.2**
SML	**Sawmill**	**4.78**	**24**	P		**Pn**	**09 04 46.1**	**+0.5**
DIV	**Divide**	**4.96**	**40**	*e*Pn		**Pn**	**09 04 48.3**	**+0.1**
	47nm,0.5s							
DIV				*e*Sn		**Sn**	**09 05 41.8**	**-2.7**
SDPT	**Sand Point**	**5.00**	**248**	P		**Pn**	**09 04 47.0**	**-1.7**
SCM	**Sheep Creek Mo**	**5.04**	**28**	P		**Pn**	**09 04 50.2**	**+0.9**
NICHA	**Nichawak Mount**	**5.14**	**54**	P		**Pn**	**09 04 51.2**	**+0.6**
SUCK	**Suckling Hills**	**5.15**	**56**	P		**Pn**	**09 04 51.3**	**+0.5**
KLU	**Klutina**	**5.17**	**37**	P		**Pn**	**09 04 51.5**	**+0.4**
BMRM	**Bremner River**	**5.28**	**46**	P		**Pn**	**09 04 52.9**	**+0.3**
PPLA	**Purkeypile**	**5.42**	**1**	*e*Pn		**Pn**	**09 04 55.5**	**+1.0**
	12nm,0.6s							
PPLA				*e*Sn		**Sn**	**09 05 58.0**	**+2.2**
KHIT	**Khitrov Hills**	**5.55**	**54**	P		**Pn**	**09 04 56.5**	**+0.1**
KULT	**Kultieth River**	**5.70**	**57**	P		**Pn**	**09 04 58.8**	**+0.4**
TT01	**Tatalina**	**5.73**	**343**	P		**Pn**	**09 04 59.2**	**+0.5**
PS11	**TAPS Pump St11**	**5.76**	**34**	P		**Pn**	**09 05 00.7**	**+1.7**
VRDI	**Verde Repeater**	**5.89**	**47**	P		**Pn**	**09 05 01.4**	**+0.3**
DT1	**Dutton Round H**	**6.03**	**251**	P		**Pn**	**09 05 01.7**	**-1.1**
ISLE	**Juniper Island**	**6.03**	**55**	P		**Pn**	**09 05 03.3**	**+0.4**
MESA	**MESA**	**6.03**	**59**	P		**Pn**	**09 05 03.0**	**0.0**
TRF	**Thorofare Moun**	**6.06**	**9**	P		**Pn**	**09 05 04.1**	**+0.8**
BAGL	**Bagley Icefiel**	**6.09**	**56**	P		**Pn**	**09 05 04.1**	**+0.5**
HARP	**HAARP**	**6.11**	**33**	P		**Pn**	**09 05 05.0**	**+1.2**
DHY	**Denali Highway**	**6.12**	**22**	P		**Pn**	**09 05 04.8**	**+0.6**
KTH	**Kantishna Hill**	**6.12**	**6**	P		**Pn**	**09 05 05.3**	**+1.3**
KIAG	**Kiagna River**	**6.17**	**52**	P		**Pn**	**09 05 05.1**	**+0.2**
RND	**Reindeer**	**6.17**	**15**	P		**Pn**	**09 05 05.5**	**+0.7**
BALM	**Baldy**	**6.23**	**51**	P		**Pn**	**09 05 06.1**	**+0.4**
RKAV	**Rock Avalanche**	**6.35**	**59**	P		**Pn**	**09 05 07.9**	**+0.5**
PAX	**Paxson**	**6.47**	**29**	P		**Pn**	**09 05 09.5**	**+0.6**
MCK	**McKinley**	**6.48**	**14**	P		**Pn**	**09 05 10.0**	**+1.1**
BARN	**Barnard Glacie**	**6.54**	**52**	P		**Pn**	**09 05 10.5**	**+0.6**
SAMH	**Samovar Hills**	**6.56**	**61**	P		**Pn**	**09 05 10.9**	**+0.8**
BPAW	**Bear Paw Mtn.**	**6.66**	**5**	*e*Pn		**Pn**	**09 05 13.8**	**+2.3**
	2.3nm,0.6s							
BPAW				*e*Sn		**Sn**	**09 06 23.9**	**-2.3**
ISLZ	**Isanotski Laza**	**6.94**	**251**	P		**Pn**	**09 05 13.9**	**-1.3**
MENT	**Mentasta**	**6.94**	**35**	P		**Pn**	**09 05 16.6**	**+1.2**
BCPM	**Bancas Point**	**7.06**	**64**	P		**Pn**	**09 05 17.2**	**+0.2**
RIDG	**Independ'e Rid**	**7.26**	**27**	P		**Pn**	**09 05 20.7**	**+0.9**
WRH	**Wood River Hil**	**7.29**	**15**	P		**Pn**	**09 05 21.6**	**+1.4**
DOT	**Dot Lake**	**7.39**	**30**	*e*Pn		**Pn**	**09 05 23.3**	**+1.8**
	24nm,0.8s							
DOT				*e*Sn		**Sn**	**09 06 51.2**	**+7.0**
CCB	**Clear Creek Bu**	**7.50**	**15**	P		**Pn**	**09 05 23.1**	**+0.2**
BCA3	**Beaver Creek A**	**7.66**	**39**	P		**Pn**	**09 05 25.9**	**+0.8**
ILAR	**Eielson Array**	**7.76**	**18**	P		**Pn**	**09 05 26.1**	**-0.4**
	1.3nm,0.3s,baz=204,slow=14,SNR=71							
ILAR				S		**Sn**	**09 06 49.2**	**-4.0**
	2.1nm,0.3s,baz=210,slow=23,SNR=7.5							
ILAR						LR	09 08 59.0	
	comp=Z,68nm,18.8s,baz=224,slow=42							
ILB	**Eielson Array**	**7.76**	**18**	P		**Pn**	**09 05 26.7**	**+0.2**
IM3	**Indian Mountai**	**8.54**	**356**	P		**Pn**	**09 05 38.0**	**+0.8**
PLBC	**Pleasant Camp**	**8.60**	**70**	P		**Pn**	**09 05 38.6**	**+0.6**
PRP	**Porcupine Dome**	**8.68**	**19**	P		**Pn**	**09 05 40.1**	**+0.9**
EGAK	**Eagle**	**9.07**	**32**	*e*Pn		**Pn**	**09 05 45.7**	**+1.2**
	4.7nm,0.4s							
EGAK				*e*Sn		**Sn**	**09 07 27.5**	**+2.1**
DAWY	**Dawson**	**9.12**	**38**	*e*Pn		**Pn**	**09 05 46.2**	**+1.0**
	2.5nm,0.6s							
DAWY				*e*Sn		**Sn**	**09 07 27.2**	**+0.5**
DAWY				*e*Sn		**Sn**	**09 07 27.2**	**+0.5**
SKAG	**Skagway**	**9.13**	**70**	*e*Pn		**Pn**	**09 05 46.1**	**+0.9**
	27nm,0.4s							
SKAG				*e*Sn		**Sn**	**09 07 28.8**	**+2.1**
DLBC	**Dease Lake**	**11.88**	**76**	*e*Pn		**Pn**	**09 06 24.0**	**+1.0**
	2.7nm,0.5s							
DLBC				*e*Sn		**Sn**	**09 08 33.5**	**-0.8**
INK	**Inuvik**	**13.74**	**30**	P		**Pn**	**09 06 48.4**	**+0.2**
	0.1nm,0.3s,baz=250,slow=12,SNR=9.0							
INK	**Inuvik**	**13.74**	**30**	*e*Pn		**Pn**	**09 06 49.1**	**+0.9**
	2.1nm,0.6s							
YKA	**Yellowknife Ar**	**19.31**	**59**	P		**P**	**09 07 58.3**	**+0.3**
	0.2nm,0.3s,baz=269,slow=11,SNR=58							
MA2	**Magadan**	**28.99**	**298**	LR		LR	09 22 45.3	
	comp=Z,42nm,18.3s,baz=84,slow=40							
TXAR	**Lajitas Array**	**43.82**	**109**	P		**P**	**09 11 40.4**	**+1.5**
	0.2nm,0.7s,baz=299,slow=5.2,SNR=3.7							
ARCES	**ARCESS Array B**	**53.26**	**1**	P		**P**	**09 12 49.9**	**-1.0**
	1.2nm,0.9s,baz=30,slow=7.4,SNR=3.0							
ARCES				pP		**pP**	**09 13 02.0**	**+1.8**
	2.0nm,1.0s,baz=3.6,slow=7.2,SNR=2.0							
BVAR	**Borovoye Array**	**64.45**	**333**	pP		pP	09 14 19.9	+1.6
	1.2nm,0.7s,baz=44,slow=4.5,SNR=4.8							
AKASG	**Malin Array Be**	**72.16**	**359**	pP		pP	09 15 08.4	+1.7
	0.3nm,0.3s,baz=1.2,slow=5.9,SNR=2.4							

IDC 23 09:20:06.6±1.4,15.83S×176.34W,h332km±21km, mb3.3/4,mb1 3.6/6,mb1mx3.2/46,mbtmp4.2/6,Error ellipse: s-maj=85.5km s-min=15.3km az=150.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**4.81**	**67**	P		Pn	09 21 24.3	+0.9
	31nm,0.3s,baz=121,slow=12,SNR=40							
AFI				S		S	09 22 25.1	-0.2
	3.1nm,0.3s,baz=231,slow=14,SNR=2.9							
DZM	**Mont Dzumac**	**17.42**	**246**	P		P	09 23 48.8	+0.2
	1.0nm,0.3s,baz=68,slow=20,SNR=23							
CTA	**Charters Tower**	**35.78**	**258**	P		P	09 26 35.5	-0.1
	2.7nm,0.6s,baz=99,slow=13,SNR=4.4							
STKA	**Stephens Creek**	**41.37**	**240**	P		P	09 27 20.9	-0.6
	3.5nm,0.4s,baz=84,slow=11,SNR=5.7							
TXAR	**Lajitas Array**	**83.21**	**57**	P		P	09 31 57.1	+0.3
	0.2nm,0.7s,baz=244,slow=7.9,SNR=3.3							
ILAR	**Eielson Array**	**83.44**	**12**	P		P	09 31 56.7	-0.3
	0.4nm,0.6s,baz=218,slow=5.7,SNR=10							
BRTR	**Keskin Array B**	**144.64**	**318**	PKP		PKPbc	09 39 04.2	0.0
	1.5nm,0.8s,baz=128,slow=2.0,SNR=8.0							

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*AUST **23** 09:25:13.6±0.0,26.16S×131.95E,h7km,Error ellipse: s-maj=0.2km s-min=0.1km az=237.0*
*NEIC **23** 09:25:14.0±0.0,26.16S×131.96E,h7km,mb5.6/86, MS5.3/290,ML5.7(AUST),After AUST.*
NEIC Felt widely in the Ernaballa area.
*GCMT **23** 09:25:14.0±0.1,26.11S×132.08E,h12km,MW5.3/129, Moment Tensor Solution. s80,c112; s129,c226; Duration: 1§1 Moment tensor: Scale 10^17^Nm; Mrr=1.10±.01; Mθθ=0.46±.01; Mφφ=0.63±.01; Mrθ=0.05±.04; Mθφ=0.53±.01; Mφr=0.05±.04; Best double couple: M0=1.09400×10^17^ NP1:φs143.00000°,δ45.00000°, λ95.00000°. NP2:φs316.00000°,δ45.00000°,λ85.00000°. Principal axes: T 1.1040, Plg87.0000°, Azm137.0000°; N -0.0150, Plg3.0000°, Azm319.0000°; P -1.0840, Plg0.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **23** 09:25:15.2±0.1,26.18S±0.02×132.17E±0.03,h9km, mb5.5/192,MS5.2/334 Error ellipse: s-maj=3.7km s-min=2.7km az=136.2*
*BJI **23** 09:25:15.6,26.12S×132.49E,h18km,mb5.3/70,mB5.3/41, Ms5.0/44,Ms7 4.7/30*
*MOS **23** 09:25:16.1±1.1,26.17S×132.33E,h16km,mb5.5/57, MS5.0/41,Error ellipse: s-maj=9.6km s-min=6.2km az=96.0*
*IDC **23** 09:25:17.6±1.4,26.15S×132.17E,h13km±7km,mb5.2/24, mb1 5.2/28,mb1mx5.0/45,mbtmp5.3/28,ML5.4/4,MS4.8/42, Ms1 4.8/42,ms1mx4.8/47,Error ellipse: s-maj=14.4km s-min=10.9km az=82.0*

ISC 23 09:25:17.6±0.5,26.15S±0.03×132.18E±0.04,h13km±2km, h13km:pP-P,n1126,σ1§43/974,mb5.5/201,MS5.3/335, 10C-27D,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**2.93**	**33**	Pn		**Pn**	**09 26 04.5**	**+0.7**
	158nm,0.3s,baz=214,slow=12,SNR=5863							
ASAR				Sn		**Sn**	**09 26 41.7**	**+2.8**
	298nm,0.3s,baz=218,slow=22,SNR=6.6							
ASAR				LR		LR	09 27 32.7	
	comp=Z,51μm,18.0s,baz=225,slow=46							
AS31	**Alice Springs**	**2.93**	**33**	*e*Pn		**Pn**	**09 26 04.5**	**+0.7**
AS31				*e*Sn		**Sn**	**09 26 41.4**	**+2.4**
AS02	**Alice Springs**	**2.93**	**33**	P		**Pn**	**09 26 04.5**	**+0.5**
	baz=3.1							
AS01	**Alice Springs**	**2.95**	**33**	*e*Pn		**Pn**	**09 26 03.9**	**-0.2**
WR1	**Warramunga Arr**	**6.49**	**18**	*e*Pn		**Pn**	**09 26 52.0**	**-0.8**
WR1				*e*Sn		**Sn**	**09 28 03.5**	**-3.4**
WRA	**Warramunga Arr**	**6.49**	**18**	Pn		**Pn**	**09 26 52.0**	**-0.8**
	61nm,0.3s,baz=197,slow=14,SNR=1423							
WRA				Sn		**Sn**	**09 28 03.5**	**-3.4**
	91nm,0.3s,baz=203,slow=24,SNR=9.8							
WRA				LR		LR	09 29 33.9	
	comp=Z,34μm,19.4s,baz=200,slow=40							
WB2	**Warramunga Ar**	**6.49**	**18**	*e*Pn		**Pn**	**09 26 51.6**	**-1.3**
WRAB	**Tennant Creek**	**6.50**	**18**	*d*iP		**Pn**	**09 26 52.1**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,1μm,2.5s							
WRAB	**Tennant Creek**	**6.50**	**18**	*e*Pn		**Pn**	**09 26 52.2**	**-0.8**
WRAB				*e*Sn		**Sn**	**09 28 05.8**	**-1.3**
WR8	**Warramunga Arr**	**6.53**	**20**	P		**Pn**	**09 26 52.7**	**-0.7**
	baz=6.6							
BBOO	**Buckleboo**	**7.45**	**154**	P		**Pn**	**09 27 05.6**	**-0.3**
	baz=7.5,SNR=396							
BBOO	**Buckleboo**	**7.45**	**154**	*e*Pn		**Pn**	**09 27 05.7**	**-0.2**
BBOO				*e*Sn		**Sn**	**09 28 28.2**	**-2.0**
QIS	**Mount Isa**	**8.80**	**52**	P		**Pn**	**09 27 24.3**	**-0.3**
	baz=9.0,SNR=531							
HTT	**Hallett**	**9.32**	**143**	P		**Pn**	**09 27 31.2**	**-0.4**
	baz=9.4,SNR=59							
STKA	**Stephens Creek**	**10.02**	**127**	Pn		**Pn**	**09 27 40.1**	**-1.1**
	comp=Z,50nm,0.3s,baz=303,slow=12,SNR=72							
STKA				Sn		**Sn**	**09 29 28.0**	**-5.5**
	comp=Z,60nm,0.3s,baz=319,slow=19,SNR=6.3							
STKA				Lg		Lg	09 30 30.5	
	comp=Z,16nm,0.3s,baz=24,slow=24,SNR=4.8							
STKA	**Stephens Creek**	**10.02**	**127**	P		**Pn**	**09 27 40.3**	**-0.9**
	baz=10							
STKA	**Stephens Creek**	**10.02**	**127**	*e*Pn		**Pn**	**09 27 40.0**	**-1.2**
STKA				*e*Sn		**Sn**	**09 29 34.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**10.05**	**322**	Pn		**Pn**	**09 27 39.6**	**-2.0**
	comp=Z,19nm,0.3s,baz=158,slow=15,SNR=261							
FITZ				Sn		**Sn**	**09 29 25.4**	**-8.8**
	comp=Z,14nm,0.3s,baz=235,slow=22,SNR=6.3							
FITZ				Lg		Lg	09 30 30.8	
	comp=Z,16nm,0.3s,baz=246,slow=20,SNR=3.3							
KMBL	**Kambalda**	**10.42**	**238**	P		**Pn**	**09 27 43.4**	**-3.4**
	baz=10,SNR=273							
QLP	**Quilpie**	**10.82**	**95**	P		**Pn**	**09 27 52.6**	**+0.4**
	baz=11,SNR=394							
KNRA	**Kununurra**	**10.90**	**342**	P		**Pn**	**09 27 50.9**	**-2.4**
	baz=11,SNR=249							
MEEK	**Meekatharra**	**12.17**	**265**	P		**Pn**	**09 28 07.2**	**-3.6**
	baz=12							
MBWA	**Marble Bar**	**12.44**	**291**	*e*Pn		Pn	09 28 09.2	-5.2
MBWA	**Marble Bar**	**12.44**	**291**	Pn		**Pn**	**09 28 09.7**	**-4.7**
	SNR=56							
CMSA	**Cobar Meteorol**	**13.00**	**118**	P		**Pn**	**09 28 20.0**	**-1.9**
	baz=13							
MTN	**Manton Dam**	**13.28**	**356**	*e*Pn		Pn	09 28 19.6	-6.2
KLBR	**Kellerberrin**	**13.75**	**243**	P		Pn	09 28 25.3	-6.9
	baz=14,SNR=1000							
CTA	**Charters Tower**	**14.28**	**68**	Pn		**Pn**	**09 28 36.4**	**-3.2**
	comp=Z,11nm,0.3s,baz=242,slow=16,SNR=63							
CTA				Sn		**Sn**	**09 31 09.3**	**-8.6**
	comp=Z,5.1nm,0.3s,baz=242,slow=15,SNR=3.6							
CTA				LR		LR	09 34 21.0	
	comp=Z,21μm,18.4s,baz=236,slow=38							
CTAO	**Charters Tower**	**14.28**	**68**	*e*P		**Pn**	**09 28 36.1**	**-3.5**
CTAO				*e*			09 31 18.6	
CTAO	**Charters Tower**	**14.28**	**68**	*e*Pn		**Pn**	**09 28 36.0**	**-3.5**
CTAO				*e*Sn		**Sn**	**09 31 18.6**	**+0.7**
NWAO	**Narrogin (SRO)**	**14.65**	**239**	Pn		Pn	09 28 38.1	-6.5
	comp=Z,31nm,0.3s,baz=290,slow=11,SNR=76							
NWAO				Sn		Sn	09 31 09.3	-17
	comp=Z,25nm,0.3s,baz=349,slow=4.2,SNR=6.8							
NWAO				LR		LR	09 34 19.8	
	comp=Z,28μm,18.4s,baz=308,slow=37							
NWAO	**Narrogin (SRO)**	**14.65**	**239**	*e*Pn		Pn	09 28 37.3	-7.2
NWAO				*e*Sn		Sn	09 31 09.3	-17
NWAO	**Narrogin (SRO)**	**14.65**	**239**	Pn		Pn	09 28 38.7	-5.9
	SNR=10.0							
COEN	**Coen**	**15.92**	**42**	*e*Pn		**Pn**	**09 28 55.6**	**-5.7**
	comp=Z,1μm,1.9s							
EIDS	**Eidsvold**	**17.05**	**92**	*e*Pn		**Pn**	**09 29 13.9**	**-1.8**
	comp=Z,380nm,1.4s							
CAN	**Canberra**	**17.09**	**126**	*e*P		**Pn**	**09 29 14.6**	**-1.6**
CAN				pmax		pmax		
	comp=Z,350nm,1.2s							
CAN	**Canberra**	**17.09**	**126**	*e*Pn		**Pn**	**09 29 14.6**	**-1.6**
	comp=Z,350nm,1.2s							
ARMA	**Armidale**	**17.65**	**108**	*e*Pn		**Pn**	**09 29 20.1**	**-3.2**
	comp=Z,86nm,0.8s							
ARMA				*e*Sn		**Sn**	**09 32 39.8**	**+0.1**
H01W1	**Cape Leeuwin H**	**17.79**	**236**	P		**Pn**	**09 29 20.4**	**-4.3**
BATI	**Baumata**	**17.79**	**331**	P		**Pn**	**09 29 21.6**	**-3.5**
	comp=Z,6.6nm,0.3s,baz=125,slow=1.6,SNR=6.4							
BATI				LR		LR	09 37 05.2	
	comp=Z,2μm,20.6s,baz=178,slow=40							
BATI	**Baumata**	**17.79**	**331**	P		**Pn**	**09 29 23.5**	**-1.5**
H01W3	**Cape Leeuwin H**	**17.80**	**236**	P		**Pn**	**09 29 20.5**	**-4.3**
H01W2	**Cape Leeuwin H**	**17.81**	**236**	P		**Pn**	**09 29 20.7**	**-4.1**
SOEI	**Soe**	**17.95**	**334**	P		**Pn**	**09 29 24.6**	**-2.5**
SOEI	**Soe**	**17.95**	**334**	*e*Pn		**Pn**	**09 29 25.2**	**-1.9**
	comp=Z,676nm,1.2s							
SOEI				*e*Sn		**Sn**	**09 32 44.6**	**-2.7**
SAUI	**Saumlaki**	**18.09**	**357**	*e*Pn		**Pn**	**09 29 24.6**	**-4.0**
	comp=Z,1μm,1.4s							
SAUI				*e*Sn		**Sn**	**09 32 48.6**	**-1.8**
MMPI	**Merauke**	**19.24**	**25**	P		**Pn**	**09 29 42.4**	**-0.2**
	comp=Z,553nm,1.3s							
BASI	**Baing, Sumba**	**19.28**	**323**	P		**Pn**	**09 29 43.4**	**+0.2**
	comp=Z,373nm,0.9s,comp=Z,5μm							
EDFI	**Ende, Flores**	**19.97**	**328**	P		**Pn**	**09 29 55.8**	**+4.3**
	comp=Z,66nm,0.9s,comp=Z,7μm							
WBSI	**Waikabubak, Su**	**20.41**	**321**	P		**P**	**09 29 55.2**	**+0.7**
TAU	**Tasmania Unive**	**20.80**	**147**	*e*P		**P**	**09 29 56.8**	**-1.7**
TAU				pmax		pmax		
	comp=Z,275nm,1.1s							
TAU				MLR		MLR		
	comp=Z,5μm,21.0s							
TAU	**Tasmania Unive**	**20.80**	**147**	*e*P		**P**	**09 29 56.8**	**-1.7**
	comp=Z,275nm,1.1s							
TAU				LR		LR		
	comp=Z,5μm,21.0s							
PMG	**Port Moresby**	**21.89**	**43**	P		**P**	**09 30 11.2**	**+0.7**
	comp=Z,182nm,1.0s,baz=229,slow=4.9,SNR=23							
PMG				LR		LR	09 39 00.0	
	comp=Z,15μm,18.2s,baz=220,slow=38							
PMG	**Port Moresby**	**21.89**	**43**	*d*iP		**P**	**09 30 11.1**	**+0.7**
PMG				pmax		pmax		
	comp=Z,4μm,1.7s							
PMG	**Port Moresby**	**21.89**	**43**	*e*P		**P**	**09 30 09.9**	**-0.5**
	comp=Z,764nm,1.3s							
PMG				LR		LR		
	comp=Z,15μm,18.0s							
PLAI	**Plampang**	**22.00**	**319**	P		**P**	**09 30 11.1**	**-0.5**
KMPI	**Kaimana, Papua**	**22.41**	**4**	P		**P**	**09 30 18.2**	**+2.2**
BBSI	**Bau Bau**	**22.51**	**334**	P		**P**	**09 30 19.0**	**+1.9**
	comp=Z,78nm,1.1s,comp=Z,2μm							
AAI	**Ambon**	**22.66**	**350**	P		**P**	**09 30 18.8**	**+0.1**
	comp=Z,204nm,1.3s,comp=Z,3μm							
AAI	**Ambon**	**22.66**	**350**	P		**P**	**09 30 19.5**	**+0.8**
AAI				pmax		pmax		
	comp=Z,203nm,1.3s							
BSSI	**Bau Bau, Buton**	**22.81**	**329**	P		**P**	**09 30 18.6**	**-1.7**
	comp=Z,249nm,1.1s,comp=Z,2μm							
MSAI	**Masohi**	**22.89**	**352**	P		**P**	**09 30 19.1**	**-2.0**
	comp=Z,62nm,1.3s,comp=Z,2μm							
FAKI	**Fak Fak**	**23.10**	**0**	P		**P**	**09 30 23.9**	**+0.7**
FAKI	**Fak Fak**	**23.10**	**0**	*e*P		**P**	**09 30 22.4**	**-0.9**
	comp=Z,173nm,0.8s							
FAKI				LR		LR		
	comp=Z,2μm,19.0s							
NLAI	**Namlea**	**23.30**	**347**	P		**P**	**09 30 26.9**	**+1.7**
	comp=Z,267nm,

comp=Z,127nm,1.1s
STKI Sintang 32.83 319 P P 09 31 52.7 +1.7
comp=Z,90nm,1.3s
BLSI Bandar Lampung 33.01 304 P P 09 31 53.9 +1.3
comp=Z,396nm,0.7s
TSM Tawau 33.29 333 ⇓P P 09 31 56.1 +1.1
KASI Kota Agung 33.47 303 P P 09 31 57.8 +1.2
comp=Z,123nm,0.8s,comp=Z,1μm
DAV Davao City (W) 33.64 348 LR LR 09 47 41.0
comp=Z,1μm,19.5s,baz=136,slow=40
MYLDM Lahad Datu 33.85 335 *eP* **P 09 31 58.4 -1.5**
comp=Z,73nm,1.3s
DCZ Deep Cove 33.93 134 *eP* **P 09 32 01.8 +1.5**
comp=Z,54nm,1.3s
LWLI Liwa 34.13 303 P **P 09 32 03.9 +1.4**
comp=Z,188nm,0.8s
SBUM Sibu 34.37 323 ⇓P **P 09 32 05.3 +0.9**
SBUM Sibu 34.37 323 *eP* **P 09 32 05.2 +0.9**
SBUM comp=Z,30nm,1.0s
LR LR
comp=Z,1μm,21.0s
MDSI Maura Dua 34.39 304 P **P 09 32 04.3 -0.3**
comp=Z,110nm,1.1s,comp=Z,970nm
MCQ Macquarie Isla 34.50 152 *eP* **P 09 32 06.1 +1.0**
MCQ pmax pmax
comp=Z,461nm,1.8s
MCQ Macquarie Isla 34.50 152 *eP* **P 09 32 06.1 +1.0**
comp=Z,461nm,1.8s
MLZ Mavora Lakes 34.52 133 *eP* **P 09 32 05.6 +0.1**
comp=Z,152nm,1.7s
WHZ Wether Hill Ro 34.60 134 *eP* **P 09 32 07.0 +0.8**
comp=Z,170nm,1.8s
KSM Kuching 34.65 319 ⇓P **P 09 32 07.3 +0.4**
KSM Kuching 34.65 319 *eP* **P 09 32 06.7 -0.2**
comp=Z,62nm,1.0s
WKZ Wanaka 34.93 132 *eP* **P 09 32 09.9 +0.8**
comp=Z,235nm,1.3s
MNAI Manna 35.39 303 *eP* **P 09 32 12.7 -0.6**
comp=Z,225nm,0.9s
MNAI LR LR
comp=Z,1μm,21.0s
KKM Kota Kinabalu 35.56 332 *eP* **P 09 32 14.4 -0.4**
comp=Z,56nm,1.4s
KKM LR LR
comp=Z,400nm,19.0s
LBZ Lake Benmore 35.57 131 *eP* **P 09 32 14.9 +0.3**
comp=Z,116nm,1.2s
RPZ Rata Peaks 35.98 129 P **P 09 32 17.8 -0.2**
comp=Z,26nm,0.8s,baz=258,slow=3.5,SNR=8.9
RPZ LR LR 09 46 52.8
comp=Z,1μm,18.8s,baz=302,slow=36
RPZ Rata Peaks 35.98 129 *eP* **P 09 32 18.7 +0.6**
COCO West Island 36.02 286 PFAKE 09 32 30.0 +11
COCO LR LR
comp=Z,2μm,19.0s
ODZ Otahua Downs 36.09 132 *eP* **P 09 32 18.9 0.0**
comp=Z,84nm,1.4s
OUZ Omahuta 36.53 115 *eP* **P 09 32 22.8 0.0**
comp=Z,36nm,1.2s
OUZ LR LR
comp=Z,3μm,19.0s
OXZ Oxford 36.56 128 *eP* **P 09 32 23.3 +0.3**
comp=Z,49nm,0.6s
OXZ LR LR
comp=Z,2μm,19.0s
LTZ Lake Taylor 36.59 127 *eP* **P 09 32 23.7 +0.3**
comp=Z,150nm,1.6s
MASI Maura Aman, Be 36.72 304 P **P 09 32 25.9 +1.2**
comp=Z,354nm,1.1s,comp=Z,4μm
MSLP Maasin 36.76 348 *eP* **P 09 32 25.5 +0.6**
THZ Tophouse 36.83 125 *eP* **P 09 32 26.8 +1.4**
comp=Z,224nm,2.0s
THZ LR LR
comp=Z,1μm,18.0s
CRLZ Canterbury Las 37.04 128 *eP* **P 09 32 29.4 +2.4**
comp=Z,270nm,1.6s
MQZ McQueen's Vall 37.09 129 *eP* **P 09 32 27.4 -0.1**
comp=Z,63nm,1.1s
KHZ Kahutara 37.42 126 *eP* **P 09 32 29.8 -0.5**
comp=Z,282nm,1.8s
HIZ Hauiti 37.79 120 PFAKE 09 32 40.0 +6.4
HIZ LR LR
comp=Z,2μm,19.0s
TPRI Tanjung Pinang 37.90 311 P **P 09 32 35.9 +1.2**
PPSI Pulau Pagai 38.66 302 P **P 09 32 43.5 +2.5**
comp=Z,212nm,1.0s,comp=Z,3μm
MYKOM Kota Tinggi 39.00 311 ⇓P **P 09 32 44.2 +0.3**
BFZ Birch Farm 39.12 123 PFAKE 09 33 00.0 +15
BFZ LR LR
comp=Z,2μm,20.0s
BKZ Black Stump Fm 39.13 121 *eP* **P 09 32 44.0 -0.9**
comp=Z,20nm,0.7s
BKZ LR LR
comp=Z,2μm,19.0s
PDSI Padang 39.52 304 P **P 09 32 47.9 -0.4**
comp=Z,68nm,0.7s,comp=Z,2μm
KGM Kluang 39.52 311 ⇓P **P 09 32 48.6 +0.3**
URZ Urewera 39.53 119 PFAKE 09 33 00.0 +12
URZ LR LR
comp=Z,2μm,18.0s
BKNI Bangkinang 39.93 306 PFAKE 09 33 00.0 +8.3
BKNI LR LR
comp=Z,700nm,21.0s
SISI Saibi 40.28 302 P **P 09 32 58.2 +3.6**
comp=Z,69nm,0.9s
MNSI Mandailing Nat 41.32 305 P **P 09 33 01.5 -1.7**
comp=Z,30nm,0.5s
GUMO Guam 41.38 19 LR LR 09 51 39.1
comp=Z,1μm,18.8s,baz=188,slow=38
TGY Tagaytay City 41.48 343 LR LR 09 53 00.2
comp=Z,235nm,21.1s,baz=180,slow=40
CASY Casey 42.37 193 *eP* **P 09 33 11.5 +0.4**
comp=Z,315nm,1.4s
CASY LR LR
comp=Z,3μm,20.0s
IPM Ipoh 42.88 311 *eP* **P 09 33 15.3 -0.6**
comp=Z,36nm,1.0s
IPM LR LR
comp=Z,1μm,18.0s
GSI Gunungsitoli 43.14 304 P **P 09 33 19.5 +1.5**
comp=Z,106nm,1.1s
GSI Gunungsitoli 43.14 304 *eP* **P 09 33 17.8 -0.3**
comp=Z,155nm,1.3s
PSI Prapat 43.16 307 LR LR 09 52 37.1
comp=Z,1μm,20.3s,baz=139,slow=38
PSI Prapat 43.16 307 *eP* **P 09 33 16.9 -1.5**
PSI pmax pmax
comp=Z,21nm,1.2s
PSI MLR MLR
comp=Z,2μm,20.0s
PSI Prapat 43.16 307 *eP* **P 09 33 16.9 -1.5**
comp=Z,21nm,1.2s
PSI LR LR
comp=Z,2μm,20.0s
MSVF Nonsavu 43.18 88 *eP* **P 09 33 18.4 -0.1**
MSVF pmax pmax
comp=Z,161nm,1.1s
MSVF MLR MLR
comp=Z,5μm,19.0s
MSVF Nonsavu 43.18 88 *eP* **P 09 33 18.4 -0.1**
comp=Z,161nm,1.1s
MSVF LR LR
comp=Z,5μm,19.0s
KULM Kulim 43.72 311 *eP* **P 09 33 21.1 -1.6**
comp=Z,34nm,1.1s
KULM LR LR
comp=Z,1μm,19.0s
KCSI Kotacane, Aceh 44.49 306 P **P 09 33 27.6 -1.3**
comp=Z,38nm,1.3s
TPTI 44.74 306 P **P 09 33 31.9 +1.0**
comp=Z,77nm,0.9s
MLSI Meulaboh, Aceh 45.99 306 P **P 09 33 41.5 +0.7**
comp=Z,104nm,1.3s
TRTT Trang 46.23 313 P **P 09 33 41.2 -1.5**
comp=Z,42nm,1.0s,comp=Z,355nm
LHMI Lhok Sumawe 46.26 307 P **P 09 33 44.1 +1.2**
comp=Z,342nm,1.1s,comp=Z,3μm
LHMI Lhok Sumawe 46.26 307 *eP* **P 09 33 42.5 -0.4**
comp=Z,268nm,0.9s
LHMI LR LR
comp=Z,1μm,21.0s
PKDT Phuket 47.18 311 P **P 09 33 49.0 -1.1**
comp=Z,36nm,1.1s,comp=Z,554nm
SURT Suratani 47.65 313 P **P 09 33 52.6 -1.2**
comp=Z,18nm,1.0s,comp=Z,267nm
SRAK Srakaew 49.53 320 P **P 09 34 05.3 -2.9**
comp=Z,150nm,0.7s,comp=Z,1μm
YULB Yu-li 50.37 347 *eP* **P 09 34 12.9 -1.5**
comp=Z,16nm,0.9s
TPUB Ta-pu 50.42 346 *eP* **P 09 34 13.9 -0.9**
comp=Z,114nm,1.2s
SSLB Suanglung 50.82 347 *eP* **P 09 34 15.9 -1.9**
comp=Z,34nm,1.2s
SSLB LR LR
comp=Z,400nm,21.0s
YHNB Yeheng 51.59 347 *eP* **P 09 34 23.4 -0.3**
comp=Z,47nm,1.0s
JOW Kunigami 52.81 356 LR LR 09 55 28.4
comp=Z,470nm,21.8s,baz=150,slow=34
JOW Kunigami 52.81 356 *eP* **P 09 34 34.1 +1.5**
comp=Z,173nm,1.3s
VNDA Vanda 53.29 172 P **P 09 34 35.4 -0.3**
comp=Z,60nm,1.1s,baz=326,slow=8.1,SNR=73
VNDA LR LR 09 56 16.6
comp=Z,1μm,18.3s,baz=331,slow=35
VNDA Vanda 53.29 172 *eP* **P 09 34 35.2 -0.5**
AFI Afiamalu 53.68 88 LR LR 09 55 46.2
comp=Z,2μm,21.8s,baz=249,slow=34
AFI Afiamalu 53.68 88 *eP* **P** 09 34 33.9 -5.6
AFI pmax pmax
comp=Z,529nm,2.0s
AFI Afiamalu 53.68 88 *eP* **P** 09 34 33.9 -5.6
comp=Z,529nm,2.0s
SBA Scott Base 54.19 171 *eP* **P 09 34 43.1 +0.9**
SBA pmax pmax
comp=Z,156nm,1.4s
SBA Scott Base 54.19 171 *eP* **P 09 34 43.1 +0.9**
comp=Z,156nm,1.4s
CM01 Chiang Mai Arr 54.82 320 *eP* **P 09 34 47.5 0.0**
CM31 Chiang Mai Arr 54.86 320 *eP* **P 09 34 48.9 +1.0**
CM31 *e*PcP **PcP 09 35 51.3 +1.3**
CMAR Chiang Mai Arr 54.86 320 P **P 09 34 47.9 +0.1**
comp=Z,13nm,0.9s,baz=151,slow=5.7,SNR=49
CMAR PcP **PcP 09 35 51.3 +1.3**
comp=Z,4.5nm,0.9s,baz=161,slow=4.5,SNR=3.1
CMAR LR LR 10 01 26.8
comp=Z,471nm,19.0s,baz=163,slow=40
CMAR PKP2bc 10 05 10.7
comp=Z,0.5nm,0.4s,baz=309,slow=3.4,SNR=5.8
CMMT Chiang Mai 55.14 321 P **P 09 34 49.1 -0.7**
comp=Z,57nm,1.0s
CHTO Chiang Mai 55.14 321 P **P 09 34 50.1 +0.2**
comp=Z,250nm,1.0s
CHTO Chiang Mai 55.14 321 *eP* **P 09 34 49.9 +0.1**
CHTO pmax pmax
comp=Z,40nm,0.9s
CHTO MLR MLR
comp=Z,400nm,19.0s
CHTO Chiang Mai 55.14 321 *eP* **P 09 34 49.9 +0.1**
comp=Z,40nm,0.9s
CHTO LR LR
comp=Z,400nm,19.0s
CHTO Chiang Mai 55.14 321 pP **P 09 34 50.6 +0.8**
SNR=20
CHTO Chiang Mai 55.14 321 P **P 09 34 50.6 +0.8**
SNR=20
GYA Guiyang 57.80 333 ⇑*i*P **P 09 35 09.8 +1.0**
GYA PcP **PcP 09 36 03.0 +1.6**
GYA PP **PP 09 37 21.4 +4.2**
GYA ScP **ScP 09 40 02.8 +1.6**
GYA S **S 09 43 10.8 +2.8**
GYA SS **SS 09 47 02.5 +3.4**
GYA pmax pmax
comp=Z,50nm,1.1s
GYA pmax pmax
comp=Z,160nm,5.6s
GYA LR LR
comp=Z,4μm,18.2s
GYA LR LR
comp=Z,3μm,19.0s
MAW Mawson 58.23 205 P **P 09 35 11.2 0.0**
comp=Z,32nm,0.9s,baz=96,slow=6.7,SNR=22
MAW LR LR 09 57 11.1
comp=Z,705nm,18.9s,baz=67,slow=33
MAW Mawson 58.23 205 *eP* **P 09 35 11.2 0.0**
comp=Z,66nm,1.7s
KMI Kunming 58.37 328 P **P 09 35 14.6 +1.6**
KMI pP sP 09 35 18.8 0.0
KMI S **S 09 43 17.9 +2.2**
KMI SS **SS 09 47 13.4 +5.1**
KMI pmax pmax
comp=Z,64nm,1.2s
KMI pmax pmax
comp=Z,160nm,3.1s
KMI LR LR
comp=Z,280nm,18.3s
KMI LR LR
comp=Z,450nm,19.2s
WHN Wuhan 58.90 342 ⇓P **P 09 35 17.1 +0.9**
JNU Nakatsue 58.96 359 LR LR 09 59 46.8
comp=Z,530nm,21.8s,baz=123,slow=35
JNU Nakatsue 58.96 359 *eP* **P 09 35 15.4 -1.2**
comp=Z,105nm,1.4s
NJ2 Nanjing 59.26 347 *eP* **P 09 35 18.8 +0.1**
NJ2 pmax pmax
comp=Z,24nm,0.7s
JHJ Hachijo jima 2 59.38 7 LR LR 09 59 14.3
comp=Z,442nm,21.8s,baz=65,slow=34
H08S2 Diego Garcia H 59.50 277 P **P 09 35 22.3 +1.8**
H08S3 Diego Garcia H 59.51 277 P **P 09 35 22.4 +1.8**
H08S1 Diego Garcia H 59.51 277 P **P 09 35 22.4 +1.8**
DGAR Diego Garcia 59.63 277 *de*P **P 09 35 23.0 +1.2**
DGAR Diego Garcia 59.63 277 PFAKE 09 35 30.0 +8.2
DGAR LR LR
comp=Z,5μm,20.0s
PALK Pallekele 59.99 296 P **P 09 35 24.4 +0.2**
comp=Z,30nm,0.8s,baz=116,slow=6.4,SNR=25
PALK Pallekele 59.99 296 *i* P **P 09 35 25.4 +1.2**
PALK Pallekele 59.99 296 *eP* **P 09 35 24.4 +0.2**
comp=Z,43nm,0.8s
PALK LR LR
comp=Z,2μm,20.0s
PALK Pallekele 59.99 296 pP **P 09 35 25.4 +1.2**
SNR=9.5
PALK Pallekele 59.99 296 P **P 09 35 25.4 +1.2**
SNR=9.5
PALK Pallekele 59.99 296 *i* P **P 09 35 24.6 +0.4**
SNR=15
ENH Enshi 60.17 337 *eP* **P 09 35 24.9 -0.2**
comp=Z,78nm,0.9s
ENH LR LR
comp=Z,500nm,18.0s
INU Inuyama 61.34 5 *eP* **P 09 35 34.0 +1.1**
comp=Z,66nm,1.3s
INU LR LR
comp=Z,800nm,21.0s
H08N1 Diego Garcia H 61.38 277 P **P 09 35 30.9 -2.4**
baz=159,slow=5.6,SNR=23
H08N3 Diego Garcia H 61.40 277 P **P 09 35 31.2 -2.3**
baz=159,slow=5.6,SNR=24
H08N2 Diego Garcia H 61.40 277 P **P 09 35 31.3 -2.2**
baz=159,slow=5.6,SNR=26
RAR Rarotonga 61.89 101 LR LR 09 58 59.3
comp=Z,423nm,21.6s,baz=254,slow=33
TJN Taejon 62.36 356 ⇓*eP* **P 09 35 38.3 -1.4**
MJAR Matsushiro Arr 62.62 5 P **P 09 35 40.8 -0.7**
comp=Z,18nm,0.9s,baz=191,slow=8.1,SNR=30
MJAR LR LR 10 00 31.3
comp=Z,337nm,21.1s,baz=170,slow=34
MJAR PKP2bc 10 04 54.8
comp=Z,6.9nm,1.1s,baz=277,slow=3.3,SNR=10
MAJO Matsushiro 62.62 5 *di*P **P 09 35 40.6 -0.9**
MAJO pmax pmax
comp=Z,97nm,1.5s
MAJO MLR MLR
comp=Z,259nm,19.0s
MAJO Matsushiro 62.62 5 *eP* **P 09 35 41.2 -0.3**
comp=Z,144nm,1.5s
MAJO LR LR
comp=Z,600nm,20.0s
MAT Matsushiro 62.62 5 P **P 09 35 40.8 -0.7**
MAT *S* **S 09 44 02.2 -7.0**
MJB9 Matsu-Tunnel 62.62 5 *eP* **P 09 35 41.2 -0.3**
comp=Z,147nm,1.5s
MJB9 LR LR
comp=Z,700nm,20.0s
CD2 Chengdu 62.91 333 P **P 09 35 44.0 +0.4**
CD2 pP pP 09 35 47.5 -0.4
CD2 PcS **PcS 09 40 20.1 -5.2**
CD2 S **S 09 44 15.6 +2.3**
CD2 SS **SS 09 48 22.8 +3.6**
CD2 pmax pmax
comp=Z,210nm,4.2s
CD2 LR LR
comp=Z,660nm,18.5s
CD2 LR LR
comp=Z,650nm,15.9s
CD2 LR LR
comp=Z,580nm,14.1s
KS15 Wonju Array Si 63.38 356 *eP* **P 09 35 45.6 -0.9**
KSRS Korea Array 63.39 356 P **P 09 35 46.7 +0.1**
comp=Z,31nm,1.0s,baz=176,slow=8.1,SNR=42
KSRS LR LR 10 03 54.3
comp=Z,245nm,20.6s,baz=160,slow=37
KSRS PKP2bc 10 04 51.4
comp=Z,1.9nm,0.8s,baz=330,slow=1.7,SNR=4.7
KS01 Wonju Array Si 63.42 356 *eP* **P 09 35 45.9 -0.9**
TIA Tai'an 63.63 346 P **P 09 35 48.1 -0.1**
TIA pmax pmax
comp=Z,30nm,1.3s
XAN Xi'an 63.80 339 P **P 09 35 49.3 -0.2**
XAN pP pP 09 35 53.3 -0.4
XAN S **S 09 44 23.9 -0.3**
XAN pmax pmax
comp=Z,65nm,1.1s
XAN LR LR
comp=Z,200nm,22.1s
XAN LR LR
comp=Z,370nm,18.6s
QSPA South Pole Qui 63.93 180 P **P 09 35 50.1 0.0**
comp=Z,100nm,1.1s,baz=355,slow=1.0,SNR=5.9
QSPA LR LR 10 02 51.0
comp=Z,2μm,18.5s,baz=349,slow=35
QSPA South Pole Qui 63.93 180 *eP* **P 09 35 50.0 -0.1**
comp=Z,255nm,1.4s
QSPA LR LR
comp=Z,2μm,19.0s
SHL Shillong 64.47 320 ⇑*i*P **P 09 35 56.0 +1.8**
SHL *eS* **S 09 44 35.0 +1.9**
SKHT Srikalahasti 64.62 301 *eP* **P 09 35 54.5 -0.7**
SKHT IAmb IAmb 09 35 56.8
comp=Z,34nm,1.0s
SKHT IVMs_BB IVMs_BB 10 01 06.2
comp=Z,492nm,20.9s
PVM Polavaram 65.39 306 *eP* **P 09 35 59.0 -1.1**
PVM IAmb IAmb 09 36 01.1
comp=Z,17nm,0.9s
PVM IVMs_BB IVMs_BB 09 58 11.0
comp=Z,136nm,4.3s
DL2 Dalian 65.47 351 P **P 09 36 01.3 +1.2**
DL2 *eS* **S 09 44 47.3 +2.9**
DL2 pmax pmax
comp=Z,32nm,0.9s
DL2 LR LR
comp=Z,750nm,35.5s
DL2 LR LR
comp=Z,490nm,25.5s
DL2 LR LR
comp=Z,360nm,18.1s
ADKI Addanki 65.72 303 *eP* **P 09 36 01.6 -0.7**
ADKI IAmb IAmb 09 36 04.0
comp=Z,41nm,1.1s
ADKI IVMs_BB IVMs_BB 10 01 57.1
comp=Z,320nm,16.6s
NJS Nagarjunasagar 66.66 304 *eP* **P 09 36 07.4 -0.9**
NJS IAmb IAmb 09 36 08.8
comp=Z,56nm,1.5s
NJS IVMs_BB IVMs_BB 10 06 21.1
comp=Z,268nm,21.3s
SRLM Srisailam 66.69 303 *eP* **P 09 36 08.0 -0.6**
SRLM IAmb IAmb 09 36 10.0
comp=Z,50nm,0.9s
SRLM IVMs_BB IVMs_BB 10 01 31.9
comp=Z,284nm,4.3s
SYO Syowa Base 66.78 203 ⇓*eP* **P 09 36 06.5 -1.8**
SYO Syowa Base 66.78 203 ⇓*iP* **P 09 36 09.2 +0.9**
URV Uravakonda 67.24 301 *eP* **P 09 36 11.3 -0.7**
URV IAmb IAmb 09 36 12.7
comp=Z,45nm,1.4s
URV IVMs_BB IVMs_BB 10 04 18.3
comp=Z,411nm,24.9s
LZH Lanzhou 67.44 335 ⇑P **P 09 36 14.1 +1.1**
LZH pP sP 09 36 19.3 +0.4
LZH sP pP 09 36 23.4 +6.1
LZH PP **PP 09 38 45.3 +3.2**
LZH S **S 09 45 09.0 +0.2**
LZH sS sS 09 45 17.1 +1.2
LZH SS **SS 09 49 33.0 +3.3**
LZH pmax pmax
comp=Z,69nm,1.2s
LZH pmax pmax
comp=Z,310nm,5.2s
LZH LR LR
comp=Z,690nm,18.8s
LZH LR LR
comp=Z,360nm,18.2s
LZH LR LR
comp=Z,500nm,17.8s
BJT Baijiatuau 67.50 347 *eP* **P 09 36 14.2 +1.0**
BJT pmax pmax
comp=Z,44nm,1.1s
BJT MLR MLR
comp=Z,600nm,20.0s
BJT Baijiatuau 67.50 347 *eP* **P 09 36 14.2 +1.0**
comp=Z,44nm,1.1s
BJT LR LR
comp=Z,600nm,20.0s
BJI Beijing 67.52 347 P **P 09 36 14.3 +1.1**
BJI S **S 09 45 06.5 -2.8**
BJI pmax pmax
comp=Z,50nm,1.2s
BJI LR LR
comp=Z,290nm,5.7s
BJI LR LR
comp=Z,2μm,21.1s
HYB Hyderabad 67.76 304 *i* P **P 09 36 13.0 -2.3**
HYB *eP*cP **PcP 09 36 40.0 -2.1**
HYB *eS* **S 09 45 08.0 -5.2**
HYBB Hyderabad (bro 67.76 304 *eP* **P 09 36 14.4 -1.0**
HYBB IAmb IAmb 09 36 16.6
comp=Z,54nm,0.9s
HYBB IVMs_BB IVMs_BB 10 09 03.5
comp=Z,237nm,19.5s
LSA Lhasa 68.05 322 P **P 09 36 18.3 +0.9**
LSA pmax pmax
comp=Z,55nm,1.2s
LSA Lhasa 68.05 322 *eP* **P 09 36 18.8 +1.3**
LSA pmax pmax
comp=Z,81nm,0.8s
LSA Lhasa 68.05 322 *eP* **P 09 36 18.8 +1.3**
comp=Z,81nm,0.8s
LSA Lhasa 68.05 322 P **P 09 36 18.1 +0.6**
ODAN Odare 68.11 317 *eP* **P 09 36 17.7 +0.1**
comp=Z,135nm,0.8s
RPR Rampur 68.12 306 *eP* **P 09 36 16.5 -1.0**
RPR IAmb IAmb 09 36 17.6
comp=Z,66nm,1.7s
RPR IVMs_BB IVMs_BB 10 07 35.9
comp=Z,304nm,5.0s
TAPN Taplejung 68.27 318 *eP* **P 09 36 19.1 +0.4**
comp=Z,326nm,0.9s
RAMN Ramite 68.66 317 *eP* **P 09 36 21.3 +0.3**
comp=Z,204nm,0.7s
SRSP Sriramsagar 68.86 305 *eP* **P 09 36 21.0 -1.2**
SRSP IAmb IAmb 09 36 22.4
comp=Z,89nm,1.6s
SRSP IVMs_BB IVMs_BB 10 06 24.1
comp=Z,268nm,20.0s
VLA Vladivostok 68.93 360 ⇓*eP* **P 09 36 23.8 +1.8**
VLA pmax pmax
comp=Z,68nm,2.2s
HHC Hu-ho-hao-te 69.36 343 *eP* **P 09 36 26.6 +1.7**
HHC PP **PP 09 39 02.5 +3.9**
HHC S **S 09 45 33.0 +1.6**
HHC SS **SS 09 50 02.4 +3.3**
HHC pmax pmax
comp=Z,43nm,0.8s
HHC pmax pmax
comp=Z,71nm,5.2s
HHC LR LR
comp=Z,220nm,16.2s
HHC LR LR
comp=Z,290nm,21.1s
HHC LR LR
comp=Z,270nm,17.4s
JIRN Jiri 69.42 317 *eP* **P 09 36 25.9 0.0**
comp=Z,348nm,1.2s
KLRI Killari 69.63 303 *eP* **P 09 36 25.4 -1.6**
KLRI IAmb IAmb 09 36 28.1
comp=Z,24nm,0.8s
KLRI IVMs_BB IVMs_BB 10 03 52.2

comp=Z,702nm,22.1s
GUN Gumba 69.79 317 *e*P **P** 09 36 28.3 +0.1
comp=Z,172nm,0.7s
PKI Pulchoki 69.84 316 *e*P **P** 09 36 28.2 -0.3
comp=Z,107nm,0.7s
PKIN Phulchoki 69.85 316 *e*P **P** 09 36 28.6 +0.1
comp=Z,80nm,0.6s
CN2 Changchun 69.88 355 *e*P **P** 09 36 28.3 +0.4
CN2 *es*P sP 09 36 35.3 +1.5
CN2 *e*S **S** 09 45 38.0 +0.8
CN2 pmax pmax
comp=Z,50nm,1.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,200nm,19.0s
USRK Ussuriysk Ar. 70.01 360 P **P** 09 36 28.6 0.0
comp=Z,13nm,0.8s,baz=180,slow=5.7,SNR=42
USRK PKiKP **PKiKP** 09 42 44.1 +2.2
comp=Z,4.2nm,0.8s,baz=121,slow=2.4,SNR=6.3
USRK PKP2bc 10 04 31.0
comp=Z,4.7nm,0.8s,baz=69,slow=7.9,SNR=4.7
USRK LR LR 10 05 49.0
comp=Z,750nm,20.8s,baz=153,slow=35
DMN Daman 70.06 316 *e*P **P** 09 36 29.6 -0.1
comp=Z,156nm,0.8s
KKN Kakani 70.08 317 *e*P **P** 09 36 29.8 0.0
comp=Z,211nm,0.8s
MDJ Mudanjiang 70.46 358 P **P** 09 36 30.9 -0.6
MDJ PP **PP** 09 39 06.6 -1.3
MDJ S **S** 09 45 44.8 +0.8
MDJ SS **SS** 09 50 16.6 +0.8
MDJ pmax pmax
comp=Z,36nm,1.2s
MDJ pmax pmax
comp=Z,210nm,5.5s
MDJ LR LR
comp=Z,470nm,10.9s
MDJ LR LR
comp=Z,240nm,4.6s
MDJ LR LR
comp=Z,610nm,21.5s
MDJ Mudanjiang 70.46 358 *e*P **P** 09 36 32.4 +1.0
comp=Z,68nm,1.4s
MDJ LR LR
comp=Z,500nm,21.0s
ASAJ Asahikawa 70.57 8 P **P** 09 36 33.5 +1.3
comp=Z,9.7nm,0.8s,baz=212,slow=9.3,SNR=13
ASAJ PKPPKP **P'P'df** 10 04 32.0 +6.5
comp=Z,8.9nm,1.0s,baz=334,slow=11,SNR=4.2
ASAJ Asahikawa 70.57 8 *e*P **P** 09 36 31.8 -0.3
comp=Z,13nm,0.9s
GKN Gorkha 70.63 316 *e*P **P** 09 36 33.0 -0.1
comp=Z,280nm,0.9s
KOLN Koldanda 71.11 315 *e*P **P** 09 36 35.7 -0.4
comp=Z,107nm,0.7s
DANN Dangsing 71.42 316 *e*P **P** 09 36 38.0 0.0
comp=Z,15nm,0.8s
GTA Gaotai 71.88 334 P **P** 09 36 41.3 +0.9
GTA pP sP 09 36 46.0 -0.3
GTA sP pP 09 36 48.4 +3.7
GTA S **S** **09 46 04.8 +3.8**
GTA sS sS 09 46 11.4 +3.3
GTA SKS **SKSac** **09 46 41.3 -2.7**
GTA SS **SS** **09 50 42.3 +4.2**
GTA pmax pmax
comp=Z,62nm,1.4s
GTA pmax pmax
comp=Z,140nm,4.5s
GTA LR LR
comp=Z,310nm,19.5s
GTA LR LR
comp=Z,270nm,20.4s
GTA LR LR
comp=Z,250nm,20.4s
POO Poona 71.99 302 ‖ *i*P P 09 36 31.0 -10
comp=Z,5.0nm,1.2s
PAE Paea 72.13 101 *e*P **P** 09 36 43.4 +1.2
comp=Z,16nm,1.3s
PPT2 Papeete2 72.16 101 *e*P **P** 09 36 44.0 +1.5
comp=Z,70nm,1.3s
PPT2 Papeete2 72.16 101 *e*LQ LQ 09 55 36.3
comp=Z,814nm,27.0s
PPT2 *e*LR LR 09 58 40.2
comp=Z,1µm,25.0s
PPT Papeete 72.17 101 LR LR 10 03 54.8
comp=Z,241nm,21.5s,baz=196,slow=32
TVO Taravao 72.37 102 *e*P **P** 09 36 44.7 +0.9
comp=Z,28nm,1.2s
TIAR Tiarei 72.38 101 *e*P **P** 09 36 45.2 +1.4
comp=Z,41nm,1.0s
YSS Yuzh-Sakhalins 73.39 8 *e*P **P** 09 36 49.3 +0.4
YSS *e* 09 36 58.4
YSS *e*S **S** **09 46 17.4 -0.1**
YSS pmax pmax
comp=Z,30nm,1.4s
PMOR Pomariorio Ree 74.65 99 *e*P **P** 09 36 58.1 +1.0
comp=Z,265nm,1.4s
NVL N'lazarevskaya 74.75 197 *e*P **P** 09 36 56.3 -0.5
NVL pmax pmax
comp=Z,136nm,1.6s
VAH Vaihoa 74.79 100 *e*P **P** 09 36 59.0 +1.0
comp=Z,123nm,1.0s
KLR Kul'dur 75.04 360 LR LR 10 09 05.7
comp=Z,63nm,20.8s,baz=158,slow=35
KLR Kul'dur 75.04 360 ‖ *i*P **P** 09 36 58.9 +0.3
HIA Hailar 75.89 352 *e*P **P** 09 37 04.2 +0.7
HIA pmax pmax
comp=Z,44nm,1.2s
HIA MLR MLR
comp=Z,500nm,21.0s
HIA Hailar 75.89 352 *e*P **P** 09 37 04.2 +0.7
comp=Z,44nm,1.2s
HIA LR LR
comp=Z,500nm,21.0s
GRNR Gornyy 76.67 3 *e*P **P** 09 37 08.6 +0.7
GRNR pmax pmax
comp=Z,52nm,1.0s
ULN Ulaanbaatar 77.06 343 *c i*P **P** 09 37 10.7 +0.3
ULN pmax pmax
comp=Z,109nm,1.7s
ULN Ulaanbaatar 77.06 343 *e*P **P** 09 37 10.8 +0.5
comp=Z,72nm,1.2s
ULN LR LR
comp=Z,400nm,21.0s
ULN Ulaanbaatar 77.06 343 P **P** 09 37 11.6 +1.2
SNR=38
ULN Ulaanbaatar 77.06 343 P **P** 09 37 11.6 +1.2
SNR=38
SONA0 Songino Array 77.21 343 *e*P **P** 09 37 11.6 +0.5
SONM Songino Array 77.21 343 P **P** 09 37 11.6 +0.5
comp=Z,49nm,1.1s,baz=167,slow=5.0,SNR=124
SONM PKKPbc **PKKPbc** 09 56 20.9 +0.8
comp=Z,0.7nm,0.9s,baz=225,slow=0.6,SNR=3.7
SONM PKPPKP **P'P'df** 10 04 21.6 +6.9
comp=Z,0.4nm,0.5s,baz=259,slow=0.7,SNR=4.2
SONM LR LR 10 12 52.9
comp=Z,305nm,21.3s,baz=148,slow=37
SONA1 Songino Array 77.22 343 *e*P **P** 09 37 11.6 +0.4
TYV Tymovskoe 77.23 7 *e*P **P** 09 37 12.5 +1.5
TYV pmax pmax
comp=Z,28nm,1.1s
ABPO Ambohimpanom 77.48 255 *e*P **P** 09 37 14.4 +0.9
ABPO pmax pmax
comp=Z,65nm,1.3s
ABPO MLR MLR
comp=Z,1µm,18.0s
ABPO Ambohimpanom 77.48 255 *e*P **P** 09 37 14.4 +0.9
comp=Z,65nm,1.3s
ABPO LR LR
comp=Z,1µm,18.0s
SNAA Sanae 77.60 193 P **P** 09 37 13.1 0.0
SNAA Sanae 77.60 193 P **P** 09 37 13.1 0.0
comp=Z,95nm,1.0s,baz=195,slow=5.7,SNR=76
SNAA LR LR 10 09 29.8
comp=Z,2µm,19.1s,baz=146,slow=34
SNAA Sanae 77.60 193 *d i*P **P** 09 37 13.7 +0.6
SNAA Sanae 77.60 193 *e*P **P** 09 37 13.2 0.0
comp=Z,152nm,1.1s
SNAA LR LR
comp=Z,2µm,20.0s
OPO Ambohidratompo 77.69 255 LR LR 10 05 27.2
comp=Z,1µm,21.7s,baz=134,slow=31

VNA2 Neumayer--Watz 79.10 193 P **P** 09 37 22.3 +1.0
baz=136,slow=5.1
VNA3 Neumayer Olymp 79.27 192 P **P** 09 37 22.8 +0.5
NKL Nikolayevsk 79.31 5 *e*P **P** 09 37 24.0 +1.6
NKL pmax pmax
comp=Z,43nm,1.0s
VNA1 Neumayer--Stat 79.50 192 P **P** 09 37 24.1 +0.7
ZEA Zeya 79.67 357 *e*P **P** 09 37 25.8 +1.4
ZEA pmax pmax
comp=Z,74nm,1.4s
ZAK Zakamensk 80.39 342 *e*P **P** 09 37 28.0 -0.5
ZAK pmax pmax
comp=Z,27nm,1.4s
WMQ Urumqi 80.70 329 P **P** 09 37 31.0 +0.7
WMQ pP pP 09 37 35.4 +0.7
WMQ sP PcP 09 37 37.5 +0.5
WMQ pmax pmax
comp=Z,250nm,1.1s
WMQ pmax pmax
comp=Z,670nm,3.6s
WMQ LR LR
comp=Z,480nm,23.5s
WMQ LR LR
comp=Z,490nm,28.7s
WMQ LR LR
comp=Z,520nm,27.3s
TLY Talaya 81.45 342 *e*P **P** 09 37 33.6 -0.5
TLY *e*S **S** 09 47 42.3 -2.7
TLY *e*SS **SS** 09 53 06.5 +4.2
TLY pmax pmax
comp=Z,16nm,1.1s
TLY MLR MLR
comp=Z,230nm,19.0s
TLY Talaya 81.45 342 *e*P **P** 09 37 34.0 0.0
comp=Z,12nm,1.0s
TLY Talaya 81.45 342 P **P** 09 37 35.1 +1.0
SNR=11
TLY Talaya 81.45 342 P **P** 09 37 35.1 +1.0
SNR=11
IRK Irkutsk 81.80 343 *e*P **P** 09 37 35.7 -0.1
IRK pmax pmax
comp=Z,69nm,1.9s
PETK Petropavlovsk- 81.99 15 P **P** 09 37 37.3 +0.5
comp=Z,32nm,1.0s,baz=156,slow=2.0,SNR=16
PETK LR LR 10 13 47.3
comp=Z,376nm,20.5s,baz=199,slow=36
PETK Petropavlovsk- 81.99 15 *e*P **P** 09 37 37.9 +1.0
PETK Petropavlovsk- 81.99 15 *e*P **P** 09 37 37.9 +1.0
PEA1 Petropavlovsk- 82.00 15 *e*P **P** 09 37 37.3 +0.5
PET Petropavlovsk 82.14 16 *e*P **P** 09 37 38.7 +1.1
PET pmax pmax
comp=Z,143nm,1.7s
PET Petropavlovsk 82.14 16 *e*P **P** 09 37 38.7 +1.1
comp=Z,143nm,1.7s
MOY Mondy 82.19 341 *e*P **P** 09 37 39.0 +0.9
MOY pmax pmax
comp=Z,96nm,2.1s
KNGR Kungurtug, Tuv 82.34 339 ‖ *e*P **P** 09 37 39.6 +0.7
RKT Rikitea 82.53 112 *e*LR LR 10 03 31.1
comp=Z,814nm,23.0s
CLNS Chul'man 82.89 356 *e*P **P** 09 37 42.0 +0.5
CLNS pmax pmax
comp=Z,28nm,1.1s
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.3s
KSH Kashi 83.75 320 P **P** 09 37 46.3 -0.2
KSH pP pP 09 37 51.4 +0.5
KSH sP sP 09 37 53.3 +0.9
KSH S **S** **09 48 05.4 -3.8**
KSH pmax pmax
comp=E,81nm,2.1s
KSH pmax pmax
comp=E,60nm,6.5s
KSH LR LR
comp=E,150nm,9.2s
KSH LR LR
comp=E,110nm,9.9s
KSH LR LR
comp=E,270nm,8.0s
TAOE Nuku Hiva Isla 84.08 97 *e*P **P** 09 37 49.5 +0.7
comp=E,140nm,1.5s
TAOE Nuku Hiva Isla 84.08 97 *e*S **S** 09 48 14.0 +0.4
comp=E,121nm,23.0s
TAOE Nuku Hiva Isla 84.08 97 *e*LR LR 10 04 19.6
comp=E,789nm,25.3s
HVS Khovu-Aksy 84.09 337 ‖ *e*P **P** 09 37 49.7 +1.8
HVS pmax pmax
comp=Z,26nm,0.9s
TARG Taragay, Kyrgy 84.19 322 *e*P **P** 09 37 48.6 -0.4
comp=Z,13nm,0.8s
TARG LR LR
comp=Z,300nm,20.0s
PDGK Podgornoye 84.39 324 P **P** 09 37 48.4 -1.2
PDGK pmax pmax
comp=Z,57nm,1.3s
UZB Uzynbulak 84.51 324 *e*P **P** 09 37 50.0 -0.3
comp=Z,454nm,1.4s
UZB *e*S **S** 09 48 12.7 -4.0
ZSN Zaisan 84.74 330 *i*P **P** 09 37 52.3 +1.1
comp=Z,50nm,1.2s
KDJ Kajisay 84.81 322 *e*P **P** 09 37 51.3 -0.6
KDJ Kajisay 84.81 322 *e*P **P** 09 37 51.3 -0.6
comp=Z,34nm,0.8s
KDJ LR LR
comp=Z,300nm,22.0s
KPKS Kokpek 84.91 324 *e*P **P** 09 37 52.8 +0.5
comp=Z,82nm,0.8s
KPKS *e*S **S** 09 48 16.0 -4.5
KBL Kabul 84.96 312 *e*P **P** 09 37 52.6 -0.2
KBL pmax pmax
comp=Z,23nm,0.8s
KBL MLR MLR
comp=Z,400nm,20.0s
KBL Kabul 84.96 312 *e*P **P** 09 37 52.6 -0.2
comp=Z,23nm,0.8s
KBL LR LR
comp=Z,400nm,20.0s
BOD Bodaibo 85.03 350 *e*P **P** 09 37 51.6 -0.7
BOD pmax pmax
comp=Z,36nm,1.5s
DGZ Jazzator, Alta 85.35 333 *d i*P **P** 09 37 54.4 +0.1
DGZ pmax pmax
comp=Z,13nm,1.0s
ULHL Ulahol 85.40 322 P **P** 09 37 55.6 +0.8
SNR=11
MK01 Makanchi Array 85.43 328 *e*P **P** 09 37 54.0 -0.7
MK31 Makanchi Array 85.45 328 *i*P **P** 09 37 54.2 -0.6
MK31 pmax pmax
comp=Z,32nm,1.0s
MK31 Makanchi Array 85.45 328 *e*P **P** 09 37 54.2 -0.6
MK32 Makanchi Array 85.45 328 *e*P **P** 09 37 54.1 -0.6
MKAR Makanchi Array 85.45 328 P **P** 09 37 54.1 -0.6
comp=Z,15nm,0.8s,baz=146,slow=5.4,SNR=70
MKAR PKKPbc **PKKPbc** 09 55 59.8 -0.9
comp=Z,0.7nm,0.7s,baz=354,slow=2.9,SNR=5.6
MKAR PKPPKP **P'P'df** 10 04 05.7 +4.7
comp=Z,0.9nm,1.0s,baz=267,slow=2.2,SNR=5.1
MKAR LR LR 10 21 48.5
comp=Z,105nm,18.1s,baz=133,slow=40
MKAR Makanchi Array 85.45 328 *e*P **P** 09 37 54.3 -0.5
MKAR pmax pmax
comp=Z,129nm,0.9s
MKAR Makanchi Array 85.45 328 *e*P **P** 09 37 54.3 -0.5
comp=Z,129nm,0.9s
SFK Sufi-Kurgan 85.52 319 P **P** 09 37 54.8 -0.8
SFK pmax pmax
comp=Z,21nm,0.9s
MDOK Medeo 85.58 323 *i*P **P** 09 37 55.3 -0.3
comp=Z,71nm,1.4s
MDOK LR LR 10 17 54.0
comp=Z,111nm,20.2s
MAKZ Makanchi 85.61 328 *e*P **P** 09 37 54.5 -1.0
MAKZ pmax pmax
comp=Z,112nm,1.9s
MAKZ Makanchi 85.61 328 *e*P **P** 09 37 54.5 -1.0
comp=Z,112nm,1.9s
KZA Kyzart 85.85 321 P **P** 09 37 57.2 -0.1
SNR=48
TDK Taldyqorghan 86.11 325 *i*P **P** 09 37 58.0 -0.1
comp=Z,842nm,1.0s
TDK LR LR 10 18 42.0
comp=Z,168nm,18.2s
TKM2 Tokmak 2 86.21 322 P **P** 09 37 57.7 -1.2
TKM2 pmax pmax
comp=Z,29nm,1.5s
TKM2 Tokmak 2 86.21 322 P **P** 09 37 58.1 -0.7
SNR=20
BMNS Besmoynak 86.29 322 *i*P **P** 09 37 58.7 -0.5
comp=Z,294nm,1.2s
UCH Uchtor 86.36 321 P **P** 09 37 59.7 -0.3
SNR=45
KBK Karagaybulak 86.39 322 P **P** 09 38 00.5 +0.7
SNR=18
WSAR Wadi Sarin 86.44 298 LR LR 10 12 33.3
comp=Z,1µm,21.3s,baz=176,slow=33
KUU Kurty 86.45 323 *i*P **P** 09 37 59.1 -0.7
comp=Z,255nm,1.5s
KUU *e*S **SKSac** 09 48 24.7 -1.1
AAK Ala-Archa 86.64 321 LR LR 10 19 29.8
comp=Z,233nm,21.4s,baz=126,slow=38
AAK Ala-Archa 86.64 321 *c i*P **P** 09 38 00.6 -0.3
AAK pmax pmax
comp=Z,56nm,1.0s
AAK Ala-Archa 86.64 321 ⇑P **P** 09 38 00.7 -0.3
comp=Z,23nm,0.6s,SNR=52
AAK Ala-Archa 86.64 321 *e*P **P** 09 38 00.7 -0.3
comp=Z,44nm,0.9s
AAK LR LR
comp=Z,500nm,22.0s
AAK Ala-Archa 86.64 321 P **P** 09 38 01.1 +0.2
SNR=29
AAK Ala-Archa 86.64 321 P **P** 09 38 01.1 +0.2
SNR=29
AAK Ala-Archa 86.64 321 *i*P **P** 09 38 00.6 -0.3
SNR=64
FRU Bishkek 86.69 322 *e*P **P** 09 38 01.0 0.0
FRU pmax pmax
comp=Z,70nm,1.8s
CHMS Chumysh 86.73 322 P **P** 09 38 00.5 -0.7
SNR=7.0
AML Almayashu 86.76 321 P **P** 09 38 01.6 -0.3
SNR=81
MA2 Magadan 86.78 9 LR LR 10 15 30.5
comp=Z,381nm,21.8s,baz=184,slow=35
MA2 Magadan 86.78 9 ⇑ *e*P **P** 09 38 00.3 -0.6
BIDO Bidbid 86.98 298 pP **P** 09 38 05.0 +2.1
SNR=7.1
BIDO Bidbid 86.98 298 P **P** 09 38 05.0 +2.1
SNR=7.1
USP Ospenovka 87.04 322 P **P** 09 38 02.3 -0.5
SNR=36
EKS2 Erkin-Say 87.06 321 P **P** 09 38 04.5 +1.6
SNR=13
MNAS Manas 87.67 320 P **P** 09 38 04.9 -1.0
MNAS pmax pmax
comp=Z,38nm,0.9s
YAK Yakutsk 87.89 359 LR LR 10 16 22.4
comp=Z,387nm,21.8s,baz=100,slow=35
YAK Yakutsk 87.89 359 *e*P **P** 09 38 03.7 -2.5
YAK *e* 09 38 09.4
YAK *e*PP **sP** 09 38 13.6 +1.4
YAK *e* 09 41 29.6
YAK *e*PPP PPP 09 43 34.0
YAK *e*S **SKSac** **09 48 27.9 -5.8**
YAK *e* 09 48 47.1
YAK *e*SS **SS** **09 54 35.4 -1.3**
YAK *e*SSS SSS 09 58 11.3
YAK pmax pmax
comp=Z,41nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=Z,95nm,2.9s
YAK pmax pmax
comp=N,71nm,2.5s
YAK pmax pmax
comp=E,36nm,2.7s
YAK smax smax
comp=N,59nm,1.7s
YAK smax smax
comp=E,62nm,2.0s
YAK Yakutsk 87.89 359 *e*P **P** 09 38 06.7 +0.5
comp=E,58nm,0.9s
YAK LR LR
comp=Z,700nm,19.0s
BTLS Baital 88.44 323 *i*P **P** 09 38 09.0 -0.3
comp=Z,228nm,1.2s
BTLS *e*S **SKSac** 09 48 37.2 -0.7
SOHO SOHO 88.55 298 *i*P **P** 09 38 09.3 -1.0
SNR=24
DZA Taraz 88.60 320 *e*P **P** 09 38 10.9 +0.7
comp=Z,313nm,0.8s
IUG Iuzhnay 88.90 319 *i*P **P** 09 38 11.5 -0.2
comp=Z,478nm,1.3s
SEM Semipalatinsk 88.98 330 *e*P **P** 09 38 11.1 -0.9
comp=Z,436nm,1.2s
ALNE Al Ain 89.14 297 *i*P **P** 09 38 11.5 -1.6
SNR=9.9
KK06 Karatay Array 89.19 320 *e*P **P** 09 38 11.8 -1.1
ASHO Ashiyiah 89.19 298 PcP **P** 09 38 13.7 +0.3
SNR=25
ASHO Ashiyiah 89.19 298 P **P** 09 38 13.7 +0.3
SNR=25
ASHO Ashiyiah 89.19 298 *i*P **P** 09 38 12.6 -0.9
SNR=50
KK07 Karatay Array 89.20 320 *e*P **P** 09 38 12.2 -0.8
KK02 Karatay Array 89.20 320 *e*P **P** 09 38 12.1 -0.9
KK31 Karatay Array 89.20 320 *i*P **P** 09 38 11.9 -1.1
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 89.20 320 *e*P **P** 09 38 12.5 -0.5
KKAR Karatay Array 89.20 320 *e*P **P** 09 38 12.5 -0.5
KKAR Karatay Array 89.20 320 *e*P **P** 09 38 12.5 -0.5
KK05 Karatay Array 89.20 320 *e*P **P** 09 38 12.2 -0.8
HATD Hatta, Dubai 89.21 298 PcP **P** 09 38 14.0 +0.5
SNR=14
HATD Hatta, Dubai 89.21 298 P **P** 09 38 14.0 +0.5
SNR=14
HATD Hatta, Dubai 89.21 298 *i*P **P** 09 38 12.6 -0.8
SNR=25
KK01 Karatay Array 89.21 320 *e*P **P** 09 38 11.7 -1.3
UOSS Minazif 89.21 298 *e*P **P** 09 38 12.2 -1.2
comp=Z,36nm,0.9s
UOSS LR LR
comp=Z,400nm,19.0s
UOSS Minazif 89.21 298 *i*P **P** 09 38 12.0 -1.4
SNR=7.1
KK03 Karatay Array 89.21 320 *e*P **P** 09 38 12.2 -0.8
KK04 Karatay Array 89.21 320 *e*P **P** 09 38 11.8 -1.2
KK08 Karatay Array 89.22 320 *e*P **P** 09 38 12.0 -1.1
KK09 Karatay Array 89.22 320 *e*P **P** 09 38 12.5 -0.6
CHM Chimkent 89.26 319 *e*P **P** 09 38 14.3 +1.1
comp=Z,1µm,0.8s
MSFE Esma-Masafi 89.44 299 *i*P **P** 09 38 13.9 -0.7
SNR=26
BRLS Borolday 89.55 319 *e*P **P** 09 38 15.0 +0.3
BRLS *e*S **SKSac** 09 48 44.6 0.0
BANOM Banah 89.61 299 PcP **P** 09 38 15.7 +0.4
SNR=14
BANOM Banah 89.61 299 P **P** 09 38 15.7 +0.4
SNR=14
BANOM Banah 89.61 299 *i*P **P** 09 38 14.7 -0.6
SNR=26
ZAA0 Zalesovo Array 89.64 334 *e*P **P** 09 38 13.3 -1.4
comp=Z,32nm,1.3s
ZALV Zalesovo Beam 89.64 334 P **P** 09 38 13.5 -1.2
comp=Z,9.6nm,0.8s,baz=132,slow=2.2,SNR=32
ZALV PKKPbc **PKKPbc** 09 55 49.0 -1.6
comp=Z,3.9nm,0.7s,baz=314,slow=3.9,SNR=14
ZALV PKPPKP **P'P'df** 10 03 58.7 +6.0
comp=Z,0.5nm,0.3s,baz=250,slow=3.0,SNR=5.4
ZALV Zalesovo Beam 89.64 334 *e*P **P** 09 38 13.1 -1.6
ZALV Zalesovo Beam 89.64 334 *e*P **P** 09 38 13.1 -1.6
ZAA1 Zalesovo Array 89.64 334 *e*P **P** 09 38 13.5 -1.3
NAZ Nazwa, Dubai 89.66 298 PcP **P** 09 38 16.0 +0.5
SNR=14
NAZ Nazwa, Dubai 89.66 298 P **P** 09 38 16.0 +0.5
SNR=14
NAZ Nazwa, Dubai 89.66 298 *i*P **P** 09 38 14.4 -1.1
SNR=19
KURBB Kurchatov Arra 89.92 329 P **P** 09 38 15.2 -0.9
comp=Z,21nm,0.9s,baz=136,slow=3.7,SNR=59
KURBB PKKPbc **PKKPbc** 09 55 49.9 +0.1
comp=Z,1.0nm,0.7s,baz=327,slow=3.1,SNR=4.2
KURK Kurchatov 89.94 329 *d i*P **P** 09 38 15.9 -0.3
KURK pmax pmax
comp=Z,47nm,1.1s
KURK Kurchatov 89.94 329 *e*P **P** 09 38 15.6 -0.6
KURK Kurchatov 89.94 329 P **P** 09 38 15.6 -0.6
SNR=16

KURK Kurchatov 89.94 329 P **P** 09 38 15.6 -0.6
SNR=16
SEY Seymchan 90.22 9 *e*P **P** 09 38 17.5 +0.3
NVS Novosibirsk 90.92 334 *i* P **P** 09 38 19.7 -1.0
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,17nm,1.2s
NVS pmax pmax
comp=Z,28nm,1.2s
BOSA Boshof 91.22 237 P **P** 09 38 23.8 +0.8
comp=Z,61nm,0.9s,baz=126,slow=5.4,SNR=60
BOSA LR LR 10 13 17.4
comp=Z,2µm,19.6s,baz=120,slow=32
BOSA Boshof 91.22 237 *e*P **P** 09 38 23.3 +0.3
BOSA pmax pmax
comp=Z,105nm,1.0s
BOSA Boshof 91.22 237 *e*P **P** 09 38 23.3 +0.3
comp=Z,105nm,1.0s
BRZS Berezniki 92.31 326 *e*P **P** 09 38 27.4 +0.1
comp=Z,30nm,1.0s
SUR Sutherland 92.49 232 P **P** 09 38 30.7 +1.7
comp=Z,4.2nm,0.8s,baz=113,slow=8.1,SNR=26
SUR Sutherland 92.49 232 *e*P **P** 09 38 30.9 +1.9
comp=Z,71nm,0.8s
LBTB Lobatse 92.78 241 *e*P **P** 09 38 31.4 +1.1
LBTB pmax pmax
comp=Z,29nm,1.2s
LBTB Lobatse 92.78 241 *e*P **P** 09 38 31.4 +1.1
comp=Z,29nm,1.2s
KMBO Kilima Mbogo 93.94 267 P **P** 09 38 36.0 0.0
comp=Z,3.7nm,0.9s,baz=90,slow=5.3,SNR=16
KMBO LR LR 10 16 48.7
comp=Z,921nm,18.9s,baz=94,slow=33
KMBO Kilima Mbogo 93.94 267 P **P** 09 38 36.0 0.0
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 93.94 267 *e*P **P** 09 38 36.9 +0.9
comp=Z,33nm,1.5s
KMBO LR LR
comp=Z,900nm,20.0s
KMBO Kilima Mbogo 93.94 267 pP **P** 09 38 36.7 +0.7
SNR=12
KMBO Kilima Mbogo 93.94 267 P **P** 09 38 36.7 +0.7
SNR=12
KMBO Kilima Mbogo 93.94 267 *i* P **P** 09 38 36.0 0.0
SNR=9.0
GEYT Alibeck 94.20 310 P **P** 09 38 35.8 -0.5
comp=Z,3.0nm,0.7s,baz=108,slow=4.8,SNR=6.2
GEYT LR LR 10 21 35.3
comp=Z,507nm,21.6s,baz=165,slow=36
DAMY Dhamar 94.36 284 PFAKE 09 38 50.0 +12
DAMY LR LR
comp=Z,800nm,20.0s
ATD Arta Tunnel 94.41 281 LR LR 10 19 11.2
comp=Z,481nm,18.3s,baz=126,slow=34
ATD Arta Tunnel 94.41 281 PFAKE 09 38 50.0 +12
ATD LR LR
comp=Z,600nm,18.0s
BVA0 Borovoye Array 95.32 328 *i* P **P** 09 38 39.8 -1.2
BVA0 pmax pmax
comp=Z,18nm,1.9s
BVAR Borovoye Array 95.32 328 P **P** 09 38 39.9 -1.1
comp=Z,2.9nm,0.7s,baz=134,slow=6.2,SNR=9.7
BVAR PKKPbc **PKKPbc** 09 55 35.5 -0.3
comp=Z,0.2nm,0.4s,baz=298,slow=3.2,SNR=5.1
BVAR LR LR 10 25 57.7
comp=Z,278nm,20.8s,baz=136,slow=38
BRVK Borovoye 95.39 328 *de*P **P** 09 38 40.4 -0.9
BRVK pmax pmax
comp=Z,14nm,1.9s
BRVK Borovoye 95.39 328 PFAKE 09 38 50.0 +8.7
BRVK LR LR
comp=Z,400nm,21.0s
LSZ Lusaka 95.45 250 PFAKE 09 38 50.0 +7.3
LSZ LR LR
comp=Z,1µm,20.0s
LSZ Lusaka 95.45 250 pP **P** 09 38 44.0 +1.2
SNR=13
FURI Furi 96.98 276 PFAKE 09 39 00.0 +10
FURI LR LR
comp=Z,1µm,20.0s
RAYN Ar Rayn 97.25 293 *e*P **P** 09 38 50.3 -0.3
comp=Z,5.5nm,1.0s
RAYN LR LR
comp=Z,600nm,22.0s
BILL Bilibino 97.25 12 *i* P **P** 09 38 48.2 -1.2
BILL *i* 09 38 54.5
BILL *i* 09 42 43.5
BILL pmax pmax
comp=Z,4.0nm,0.8s
BILL MLR MLR
comp=Z,294nm,20.0s
TIXI Tiksi 97.56 359 LR LR 10 23 03.7
comp=Z,394nm,20.3s,baz=180,slow=36
TIXI Tiksi 97.56 359 *e*P **P** 09 38 50.5 -0.2
TIXI pmax pmax
comp=Z,6.0nm,1.7s
TIXI Tiksi 97.56 359 PFAKE 09 39 00.0 +9.2
TIXI LR LR
comp=Z,500nm,20.0s
AB07 Akbulak array 98.70 321 *e*P **P** 09 38 55.6 -0.8
AB06 Akbulak array 98.70 321 *e*P **P** 09 38 55.8 -0.6
AB03 Akbulak array 98.71 321 *e*P **P** 09 38 56.4 -0.1
AB02 Akbulak array 98.71 321 *e*P Pdif 09 38 56.6 +0.1
AB01 Akbulak array 98.72 321 *e*P Pdif 09 38 56.5 +0.1
AB08 Akbulak array 98.72 321 *e*P Pdif 09 38 56.6 +0.1
AB31 Akbulak array 98.72 321 *i* P **P** 09 38 56.3 -0.2
AB31 pmax pmax
comp=Z,1.0nm,0.7s
AB31 Akbulak array 98.72 321 *e*P Pdif 09 38 56.9 +0.4
ABKAR Akbulak array 98.72 321 *e*P Pdif 09 38 56.8 +0.3
comp=Z,30nm,1.3s
AB04 Akbulak array 98.72 321 *e*P Pdif 09 38 56.9 +0.4
AB05 Akbulak array 98.72 321 *e*P Pdif 09 38 56.7 +0.2
AB09 Akbulak array 98.73 321 *e*P Pdif 09 38 56.8 +0.2
AKTO Aktyubinsk 100.38 321 P **Pdif** 09 39 03.2 -0.6
comp=Z,2.6nm,0.7s,baz=107,slow=5.9,SNR=9.2
CHGN Chignik 100.82 32 PFAKE 09 39 20.0 +14
CHGN LR LR
comp=Z,800nm,19.0s
TSUM Tsumeb 102.14 242 PFAKE 09 39 20.0 +7.3
TSUM LR LR
comp=Z,2µm,21.0s
KDAK Kodiak Island 104.33 32 PFAKE 09 39 30.0 +8.8
KDAK LR LR
comp=Z,1µm,22.0s
SVW2 Sparrevohn 104.47 29 PFAKE 09 39 30.0 +8.2
SVW2 LR LR
comp=Z,800nm,21.0s
GNI Garni 104.52 308 PFAKE 09 39 30.0 +7.2
GNI LR LR
comp=Z,300nm,21.0s
BRLK Bradley Lake 105.98 31 PFAKE 09 43 50.0
BRLK LR LR
comp=Z,900nm,21.0s
SUA Susitna One 106.74 29 PFAKE 09 43 50.0
SUA LR LR
comp=Z,1µm,22.0s
RC01 Rabbit Creek A 107.03 30 PFAKE 09 43 50.0
RC01 LR LR
comp=Z,900nm,20.0s
PMR Palmer 107.50 29 PFAKE 09 43 50.0
PMR LR LR
comp=Z,1µm,22.0s
KTH Kantishna Hill 107.50 27 PFAKE 09 43 50.0
KTH LR LR
comp=Z,500nm,20.0s
TRF Thorofare Moun 107.72 27 PFAKE 09 43 50.0
TRF LR LR
comp=Z,699nm,20.0s
SML Sawmill 107.93 29 PFAKE 09 43 50.0
SML LR LR
comp=Z,1µm,22.0s
GLI Glacier Island 108.15 31 PFAKE 09 43 50.0
GLI LR LR
comp=Z,700nm,21.0s
MLY Manley 108.16 26 PFAKE 09 43 50.0
MLY LR LR
comp=Z,700nm,21.0s
RND Reindeer 108.30 28 PFAKE 09 43 50.0
RND LR LR
comp=Z,500nm,19.0s
SCM Sheep Creek Mo 108.39 30 PFAKE 09 43 50.0
SCM LR LR
comp=Z,1µm,22.0s

MCK McKinley 108.39 27 PFAKE 09 43 50.0
MCK LR LR
comp=Z,800nm,19.0s
EYAK Cordova Ski Ar 108.65 31 PFAKE 09 43 50.0
EYAK LR LR
comp=Z,800nm,20.0s
DHY Denali Highway 108.81 28 PFAKE 09 44 00.0
DHY LR LR
comp=Z,1µm,21.0s
DIV Divide 108.84 31 PFAKE 09 44 00.0
DIV LR LR
comp=Z,700nm,20.0s
KLU Klutina 108.90 30 PFAKE 09 44 00.0
KLU LR LR
comp=Z,1µm,22.0s
WRH Wood River Hil 109.00 27 PFAKE 09 44 00.0
WRH LR LR
comp=Z,400nm,19.0s
RAGM Ragged Mountai 109.10 31 PFAKE 09 44 00.0
RAGM LR LR
comp=Z,1µm,20.0s
CCB Clear Creek Bu 109.18 27 PFAKE 09 44 00.0
CCB LR LR
comp=Z,500nm,22.0s
COLD Coldfoot 109.19 24 PFAKE 09 44 00.0
COLD LR LR
comp=Z,600nm,21.0s
SOC Sochi 109.22 310 *e*P **Pdif** 09 39 41.0 -2.3
SOC MLR MLR
comp=Z,274nm,19.0s
COLA College 109.24 26 PFAKE 09 44 00.0
COLA LR LR
comp=Z,500nm,22.0s
BMRM Bremner River 109.32 31 PFAKE 09 44 00.0
BMRM LR LR
comp=Z,800nm,20.0s
HDA Harding Lake 109.45 27 PFAKE 09 44 00.0
HDA LR LR
comp=Z,700nm,21.0s
PAX Paxson 109.59 29 PFAKE 09 44 00.0
PAX LR LR
comp=Z,900nm,21.0s
ILAR Eielson Array 109.59 27 PKKPbc PKKPbc 09 54 52.0 -1.7
comp=Z,1.0nm,1.0s,baz=49,slow=1.8,SNR=6.8
ILAR PKKPab **PKKPab** 09 55 03.5 +2.0
comp=Z,3.4nm,1.0s,baz=61,slow=3.1,SNR=16
TOLK Toolik Lake Re 109.93 22 PFAKE 09 44 00.0
TOLK LR LR
comp=Z,700nm,22.0s
RIDG Independ'e Rid 110.10 28 PFAKE 09 44 00.0
RIDG LR LR
comp=Z,1µm,21.0s
MENT Mentasta 110.34 29 PFAKE 09 44 00.0
MENT LR LR
comp=Z,1µm,21.0s
BALM Baldy 110.39 31 PFAKE 09 44 00.0
BALM LR LR
comp=Z,700nm,21.0s
DOT Dot Lake 110.41 28 PFAKE 09 44 00.0
DOT LR LR
comp=Z,2µm,20.0s
SCRK Sand Creek 110.54 28 PFAKE 09 44 00.0
SCRK LR LR
comp=Z,700nm,20.0s
FYU Fort Yukon 110.82 25 PFAKE 09 44 00.0
FYU LR LR
comp=Z,400nm,20.0s
CSS Mathiatis 111.32 299 PFAKE 09 44 00.0
CSS LR LR
comp=Z,100nm,20.0s
EGAK Eagle 111.94 27 PFAKE 09 44 00.0
EGAK LR LR
comp=Z,600nm,20.0s
BR101 Keskin Array S 112.46 304 *e*PKiKP **PKiKP** 09 43 52.7 -0.9
BRTR Keskin Array B 112.46 304 PKiKP **PKiKP** 09 43 52.7 -1.0
comp=Z,0.7nm,0.6s,baz=163,slow=5.2,SNR=4.1
DAWY Dawson 112.51 28 PFAKE 09 44 00.0
DAWY LR LR
comp=Z,1µm,21.0s
ILGA Ilgaz 112.76 306 PFAKE 09 44 00.0
ILGA LR LR
comp=Z,400nm,21.0s
SIT Sitka 112.86 36 PFAKE 09 44 00.0
SIT LR LR
comp=Z,1µm,20.0s
ANTO Ankara 113.12 304 PFAKE 09 44 00.0
ANTO LR LR
comp=Z,401nm,21.0s
SKAG Skagway 113.38 34 PFAKE 09 44 00.0
SKAG LR LR
comp=Z,700nm,20.0s
KLMR Klimovskoe 113.75 328 *e*PP PP 09 44 45.1 -3.4
KLMR AMP 09 44 46.5
comp=Z,7.0nm,1.2s
KLMR *e*PKKPbc **PKKPbc** 09 54 38.0 -1.7
KLMR *e*SKKPbc SKKPbc 09 58 22.8 -4.3
WHY Whitehorse 113.84 33 PFAKE 09 44 10.0
WHY LR LR
comp=Z,700nm,20.0s
OBN Obninsk 114.16 321 *i* PKIKP PKPdf 09 43 56.2 0.0
OBN *e* 09 44 49.8
OBN pmax pmax
comp=Z,3.0nm,0.7s
ISP Isparta 114.30 302 PFAKE 09 44 10.0 +13
ISP LR LR
comp=Z,400nm,22.0s
WRAK Wrangell Islan 114.33 37 PFAKE 09 44 10.0 +14
WRAK LR LR
comp=Z,1µm,20.0s
INK Inuvik 115.59 24 PFAKE 09 44 10.0 +11
INK LR LR
comp=Z,600nm,20.0s
DLBC Dease Lake 115.91 35 PFAKE 09 44 10.0 +10
DLBC LR LR
comp=Z,1µm,20.0s
KARP Karpathos 116.34 298 PFAKE 09 44 10.0 +8.9
KARP LR LR
comp=Z,100nm,21.0s
LVZ Lovozero 116.77 335 *i* PKIKP **PKPdf** 09 44 00.0 -0.9
GDXM Geysers 117.11 58 PFAKE 09 44 10.0 +7.5
GDXM LR LR
comp=Z,900nm,19.0s
APA Apatity 117.22 335 *i* PKIKP **PKPdf** 09 44 03.5 +1.8
APA pmax pmax
comp=Z,2.0nm,0.9s
RDG13 Poverty Ridge 117.61 60 PFAKE 09 44 10.0 +6.4
RDG13 LR LR
comp=Z,900nm,20.0s
HUMO Hull Mountain 117.77 54 *e*PKPdf **PKPdf** 09 44 05.5 +1.9
AKASG Malin Array Ba 117.81 316 PKP **PKPdf** 09 44 02.9 -0.5
comp=Z,0.4nm,0.3s,baz=74,slow=2.6,SNR=7.5
AKASG SKP 09 47 37.4
comp=Z,0.2nm,0.3s,baz=71,slow=2.8,SNR=4.5
KIEV Kiev 117.81 316 *i* PKIKP **PKPdf** 09 44 02.9 -0.5
AK11 Malin Array Si 117.84 315 *e*PKPdf **PKPdf** 09 44 03.4 0.0
GATR Gnd/Air Tx Cnt 117.92 63 *e*PKPdf **PKPdf** 09 44 04.1 -0.1
NLWA Neilton Lookou 117.96 48 PFAKE 09 44 10.0 +6.2
NLWA LR LR
comp=Z,900nm,20.0s
E03A Lebam 118.03 49 PFAKE 09 44 10.0 +6.1
E03A LR LR
comp=Z,1µm,22.0s
IDI Anoyia 118.08 298 PFAKE 09 44 10.0 +5.5
IDI LR LR
comp=Z,300nm,20.0s
PGC Sidney 118.42 47 PFAKE 09 44 10.0 +5.4
PGC LR LR
comp=Z,2µm,21.0s
AFDM Forest Hills D 118.53 58 *e*PKPdf **PKPdf** 09 44 05.9 +0.7
AFDM LR LR
comp=Z,600nm,19.0s
D05A Enumclaw 119.20 49 PFAKE 09 44 20.0 +14
D05A LR LR
comp=Z,1µm,20.0s
LON Longmire 119.26 49 PFAKE 09 44 20.0 +14
LON LR LR
comp=Z,900nm,22.0s
OSI Osito Audit: C 119.37 63 PFAKE 09 44 20.0 +13
OSI LR LR
comp=Z,2µm,21.0s
ARVC Arvin 119.39 63 P **PKPdf** 09 44 08.1 +1.2
baz=257
PINE Pine Mountain 119.42 53 *e*PKPdf **PKPdf** 09 44 07.2 +0.2
MOD Modoc Plateau 119.58 55 *e*PKPdf **PKPdf** 09 44 07.4 +0.1
LLLB Lillooet 119.68 45 PFAKE 09 44 20.0 +13
LLLB LR LR
comp=Z,800nm,20.0s
PASC Pasadena Art C 119.70 64 PFAKE 09 44 20.0 +12
PASC LR LR
comp=Z,1µm,20.0s
B06A Marblemount 119.70 47 PFAKE 09 44 20.0 +13
B06A LR LR
comp=Z,700nm,20.0s
ISA Isabella, Lake 119.79 62 P **PKPdf** 09 44 08.7 +0.9
baz=258
ISA Isabella, Lake 119.79 62 *e*PKIKP **PKPdf** 09 44 08.9 +1.1
ISA MLR MLR
comp=Z,1µm,20.0s
ISA Isabella, Lake 119.79 62 *e*PKPdf **PKPdf** 09 44 08.9 +1.1
ISA LR LR
comp=Z,1µm,20.0s
MWC Mount Wilson 119.81 64 PFAKE 09 44 20.0 +12
MWC LR LR
comp=Z,2µm,21.0s
PAHR Pah Rah Range 119.88 58 *e*PKPdf **PKPdf** 09 44 09.6 +1.6
EDW2 Edwards Air Fo 120.01 63 P **PKPdf** 09 44 09.3 +1.1
baz=258
BUR04 Bucovina Ar. S 120.02 312 *e*PKPdf **PKPdf** 09 44 08.7 +0.8
ARA0 ARCESS Array S 120.07 337 *e*PKPdf **PKPdf** 09 44 06.2 -1.0
ARCES ARCESS Array B 120.07 337 PKP **PKPdf** 09 44 06.2 -1.0
comp=Z,5.0nm,0.9s,baz=171,slow=1.6,SNR=14
LTY Liberty 120.10 49 PFAKE 09 44 20.0 +12
LTY LR LR
comp=Z,700nm,22.0s
FIA1 FINESS Array S 120.28 328 *e*PKPdf **PKPdf** 09 44 06.7 -1.1
FIA0 FINESS Array S 120.28 328 *e*PKIKP **PKPdf** 09 44 06.6 -1.2
FIA0 FINESS Array S 120.28 328 *e*PKPdf **PKPdf** 09 44 06.5 -1.2
FIA0 *e*SKPdf **SKPdf** 09 47 42.3 -0.6
FINES FINESS Array B 120.28 328 PKP **PKPdf** 09 44 06.5 -1.2
comp=Z,4.7nm,0.6s,baz=98,slow=3.9,SNR=14
FINES SKP 09 47 42.3
comp=Z,4.3nm,1.0s,baz=169,slow=3.9,SNR=5.2
NV01 Mina Array Sit 120.47 59 *e*PKPdf **PKPdf** 09 44 09.1 -0.1
NVAR Mina Array Bea 120.47 59 PKP **PKPdf** 09 44 09.1 -0.1
comp=Z,2.6nm,0.7s,baz=228,slow=2.5,SNR=14
NVAR PKKPab **PKKPbc** 09 54 17.3 +1.8
comp=Z,6.1nm,1.1s,baz=98,slow=4.5,SNR=16
E07A Sunnyside 120.57 50 PFAKE 09 44 20.0 +11
E07A LR LR
comp=Z,1µm,22.0s
NV11 Mina Array Sit 120.59 59 *e*PKPdf **PKPdf** 09 44 09.7 +0.4
DAC Darwin (Calif) 120.62 62 *e*PKIKP **PKPdf** 09 44 10.1 +0.6
DAC MLR MLR
comp=Z,1µm,21.0s
DAC Darwin (Calif) 120.62 62 *e*PKPdf **PKPdf** 09 44 10.1 +0.6
DAC LR LR
comp=Z,1µm,21.0s
MPMC Manual Prospec 120.66 62 P **PKPdf** 09 44 10.7 +1.1
baz=258
VTS Vitosha 120.76 306 PFAKE 09 44 20.0 +10
VTS LR LR
comp=Z,400nm,22.0s
HAWA Hanford 120.77 50 PFAKE 09 44 20.0 +11
HAWA LR LR
comp=Z,800nm,20.0s
AGG Agios Georgios 120.84 301 PFAKE 09 44 20.0 +10
AGG LR LR
comp=Z,1µm,20.0s
MONP2 Monument Peak 120.85 66 P **PKPdf** 09 44 11.1 +1.0
baz=257
WVOR Wild Horse Val 120.89 55 *e*PKIKP **PKPdf** 09 44 10.0 +0.3
WVOR MLR MLR
comp=Z,600nm,18.0s
WVOR Wild Horse Val 120.89 55 *e*PKPdf **PKPdf** 09 44 10.0 +0.3
WVOR LR LR
comp=Z,600nm,18.0s
PFO Pinyon Flats O 120.98 65 P **PKPdf** 09 44 11.6 +1.3
baz=258
PFO Pinyon Flats O 120.98 65 *e*PKIKP **PKPdf** 09 44 12.0 +1.8
PFO Pinyon Flats O 120.98 65 *e*PKPdf **PKPdf** 09 44 12.0 +1.8
XPFO Piæon Flat 120.98 65 *e*PKPdf **PKPdf** 09 44 12.1 +1.9
G08A Pilot Rock 121.04 51 *e*PKPdf **PKPdf** 09 44 11.0 +1.1
G08A LR LR
comp=Z,500nm,20.0s
GSC Goldstone, Bar 121.05 63 P **PKPdf** 09 44 11.6 +1.4
baz=258
GSC Goldstone, Bar 121.05 63 PFAKE 09 44 20.0 +10
GSC LR LR
comp=Z,2µm,21.0s
B08A Colville Reser 121.11 48 PFAKE 09 44 20.0 +10
B08A LR LR
comp=Z,800nm,20.0s
J08A Circle Bar Ran 121.13 54 *e*PKPdf **PKPdf** 09 44 10.4 +0.2
D08A Wollman Farm, 121.26 49 *e*PKPdf **PKPdf** 09 44 11.2 +1.1
D08A LR LR
comp=Z,800nm,22.0s
BELC Belle Mtn. Jos 121.44 65 P **PKPdf** 09 44 12.1 +1.0
baz=258,SNR=6.7
SHOC Shoshone, Teco 121.59 62 P **PKPdf** 09 44 12.6 +1.5
baz=259
BMN Battle Mountai 121.64 57 PFAKE 09 44 20.0 +8.7
BMN LR LR
comp=Z,500nm,20.0s
E09A Wood Farm, Sta 121.73 50 PFAKE 09 44 20.0 +8.9
E09A LR LR
comp=Z,800nm,21.0s
C09A Chrisman Ranch 121.77 48 *e*PKPdf **PKPdf** 09 44 11.3 +0.2
C09A LR LR
comp=Z,1µm,22.0s
FNA Florina 121.85 303 PFAKE 09 44 20.0 +8.4
FNA LR LR
comp=Z,400nm,22.0s
GMRC Granite Mounta 121.87 64 P **PKPdf** 09 44 13.2 +1.3
baz=259
BMO Blue Mountains 122.15 52 *e*PKIKP **PKPdf** 09 44 12.4 +0.3
BMO MLR MLR
comp=Z,500nm,21.0s
BMO Blue Mountains 122.15 52 *e*PKPdf **PKPdf** 09 44 12.4 +0.3
BMO LR LR
comp=Z,500nm,21.0s
IRM Iron Mountain 122.16 65 P **PKPdf** 09 44 13.8 +1.4
baz=258
GLA Glamis 122.19 66 PFAKE 09 44 20.0 +7.5
GLA LR LR
comp=Z,800nm,20.0s
R11A Troy Canyon, C 122.56 60 P **PKPdf** 09 44 14.4 +1.3
baz=261
R11A Troy Canyon, C 122.56 60 *e*PKPdf **PKPdf** 09 44 14.3 +1.1
NEW Newport 122.57 48 PFAKE 09 44 20.0 +7.3
NEW LR LR
comp=Z,1µm,22.0s
Y12C Blythe 122.58 65 P **PKPdf** 09 44 14.6 +1.5
baz=258
Y12C Blythe 122.58 65 PFAKE 09 44 20.0 +6.9
Y12C LR LR
comp=Z,600nm,18.0s
SHPR Sheep Range 122.59 62 *e*PKPdf **PKPdf** 09 44 12.6 -0.7
SHPR LR LR
comp=Z,1µm,20.0s
PDMCI Parker Dam,Lak 123.00 65 P **PKPdf** 09 44 15.3 +1.4
baz=259
DIVS Divibare 123.27 307 *e*PKPdf **PKPdf** 09 44 13.8 -0.4
W13A Hualapai Mount 123.36 64 PFAKE 09 44 20.0 +5.1
W13A LR LR
comp=Z,1µm,21.0s
NIE Niedzica 123.42 313 *e*PKP **PKPdf** 09 44 15.7 +1.4
NIE Niedzica 123.42 313 *e*PKIKP **PKPdf** 09 44 15.7 +1.4
YKW3 Yellowknife Ar 123.54 31 *e*PKPdf **PKPdf** 09 44 13.4 -0.6
YKW3 LR LR
comp=Z,500nm,20.0s
YKA Yellowknife Ar 123.55 31 PKP **PKPdf** 09 44 13.3 -0.8
comp=Z,5.5nm,0.7s,baz=283,slow=1.8,SNR=83
YKA PKKPab **PKKPab** 09 54 00.3 -0.4
comp=Z,0.7nm,0.8s,baz=93,slow=5.0,SNR=14
214A Organ Pipe Nat 123.63 68 P **PKPdf** 09 44 16.1 +0.8
baz=258
HLID Hailey 124.09 54 P **PKPdf** 09 44 17.1 +1.1
baz=265
HLID Hailey 124.09 54 *e*PKPdf **PKPdf** 09 44 17.1 +1.1
CCUT Cedar City 124.18 61 *e*PKPdf **PKPdf** 09 44 17.8 +1.4
LCMT Little Creek M 124.19 62 *e*PKPdf **PKPdf** 09 44 17.7 +1.4
LCMT LR LR
comp=Z,1µm,20.0s
JTMT Jette 124.45 49 PFAKE 09 44 30.0 +14
JTMT LR LR
comp=Z,1µm,22.0s
KNB Kanab 124.53 62 *e*PKIKP **PKPdf** 09 44 17.4 +0.4
KNB MLR MLR
comp=Z,1µm,22.0s
KNB Kanab 124.53 62 *e*PKPdf **PKPdf** 09 44 17.4 +0.4

KNB LR LR
comp=Z,1µm,22.0s
MSO Missoula 124.65 50 P **PKPdf 09 44 17.8 +1.0**
baz=268
MSO Missoula 124.65 50 *e*PKPdf **PKPdf 09 44 17.1 +0.3**
MSO LR LR
comp=Z,600nm,21.0s
WALA Waterton Lakes 124.73 47 *e*PKPdf **PKPdf 09 44 15.9 -1.1**
U15A North Rim 124.86 62 *e*PKPdf **PKPdf 09 44 18.8 +1.0**
U15A LR LR
comp=Z,1µm,21.0s
DUG Dugway, Tooele 124.95 58 P **PKPdf 09 44 18.6 +1.0**
baz=264
DUG Dugway, Tooele 124.95 58 *e*PKIKP **PKPdf 09 44 18.2 +0.6**
DUG MLR MLR
comp=Z,500nm,18.0s
DUG Dugway, Tooele 124.95 58 *e*PKPdf **PKPdf 09 44 18.2 +0.6**
DUG LR LR
comp=Z,500nm,18.0s
EDM Edmonton 125.04 42 *e*PKIKP **PKPdf 09 44 17.1 -0.2**
EDM MLR MLR
comp=Z,700nm,19.0s
EDM Edmonton 125.04 42 *e*PKPdf **PKPdf 09 44 17.1 -0.2**
EDM LR LR
comp=Z,700nm,19.0s
HVU Hansel Valley 125.14 56 *e*PKIKP **PKPdf 09 44 19.0 +1.0**
HVU Hansel Valley 125.14 56 *e*PKPdf **PKPdf 09 44 19.0 +1.0**
TIP Timpagrande 125.15 301 *e*PKPdf **PKPdf 09 44 17.1 -0.8**
MORC Moravsky Berou 125.22 314 *e*PKIKP **PKPdf 09 44 18.7 +1.0**
MORC Moravsky Berou 125.22 314 *e*PKPdf **PKPdf 09 44 18.7 +1.0**
X16A Lo Mia Camp, P 125.22 65 *e*PKPdf **PKPdf 09 44 19.5 +1.1**
X16A LR LR
comp=Z,700nm,22.0s
MSU Marysvale 125.24 60 *e*PKIKP **PKPdf 09 44 18.8 +0.4**
MSU Marysvale 125.24 60 *e*PKPdf **PKPdf 09 44 18.8 +0.4**
MCMT McKenzie Canyo 125.31 52 *e*PKPdf **PKPdf 09 44 18.9 +0.6**
BLY Banja Luka 125.32 308 PFAKE 09 44 30.0 +12
BLY LR LR
comp=Z,200nm,20.0s
TUC Tucson 125.39 68 P **PKPdf 09 44 19.6 +0.9**
baz=259
TUC Tucson 125.39 68 *e*PKIKP **PKPdf 09 44 19.8 +1.1**
TUC Tucson 125.39 68 *e*PKPdf **PKPdf 09 44 19.8 +1.1**
WUAZ Wupatki 125.45 64 P **PKPdf 09 44 19.6 +0.8**
baz=261,SNR=9.6
WUAZ Wupatki 125.45 64 *e*PKPdf **PKPdf 09 44 19.4 +0.7**
WUAZ LR LR
comp=Z,1µm,20.0s
NLU North Lily Min 125.48 58 *e*PKPdf **PKPdf 09 44 20.2 +1.4**
DLMT Dillon 125.51 52 *e*PKPdf **PKPdf 09 44 20.1 +1.5**
KRLC Kraliky 125.71 314 *e*PKIKP **PKPdf 09 44 19.7 +1.0**
KRLC Kraliky 125.71 314 *e*PKPdf **PKPdf 09 44 19.7 +1.0**
CTU Camp Tracy 125.81 57 PFAKE 09 44 30.0 +11
CTU LR LR
comp=Z,500nm,21.0s
RES Resolute Bay 125.82 14 *e*PKIKP **PKPdf 09 44 17.1 -1.0**
RES Resolute Bay 125.82 14 *e*PKPdf **PKPdf 09 44 17.1 -1.0**
MPU Maple Canyon 125.83 58 *e*PKPdf **PKPdf 09 44 20.3 +0.9**
CUC Castrocucco 125.96 302 PFAKE 09 44 30.0 +11
CUC LR LR
comp=Z,200nm,19.0s
DPC Dobruska-Polom 126.00 315 *e*PKIKP **PKPdf 09 44 20.4 +1.2**
DPC Dobruska-Polom 126.00 315 *e*PKPdf **PKPdf 09 44 20.4 +1.2**
KSP Ksiaz 126.00 315 *e*PKP **PKPdf 09 44 20.3 +1.2**
KSP Ksiaz 126.00 315 *e*PKIKP **PKPdf 09 44 20.3 +1.2**
JLU Jordanelle 126.02 58 *e*PKPdf **PKPdf 09 44 20.4 +0.6**
HWUT Hardware Ranch 126.03 56 *e*PKPdf **PKPdf 09 44 20.3 +0.5**
TMUT Trail Mountain 126.08 59 *e*PKPdf **PKPdf 09 44 20.9 +0.8**
UPC Upice 126.19 315 AMS AMS 10 51 10.0
comp=Z,300nm,22.3s
BOZ Bozeman (W) 126.20 51 P **PKPdf 09 44 20.9 +1.0**
baz=268
BOZ Bozeman (W) 126.20 51 *e*PKIKP **PKPdf 09 44 20.2 +0.3**
BOZ MLR MLR
comp=Z,500nm,19.0s
BOZ Bozeman (W) 126.20 51 *e*PKPdf **PKPdf 09 44 20.2 +0.3**
BOZ LR LR
comp=Z,500nm,19.0s
CONA Conrad Observa 126.33 312 *es*PKiKP **PKPdf 09 44 20.9 +0.9**
comp=Z,3.5nm,1.0s
P17A Butcher Ranch, 126.46 59 *e*PKPdf **PKPdf 09 44 21.2 +0.6**
319A Douglas 126.47 69 *e*PKPdf **PKPdf 09 44 22.1 +1.3**
WDD Wied Dalam 126.48 296 PFAKE 09 44 30.0 +10
WDD LR LR
comp=Z,300nm,20.0s
YHB Horse Butte 126.48 52 PFAKE 09 44 30.0 +9.4
YHB LR LR
comp=Z,600nm,22.0s
FXWY Fox Creek 126.55 54 *e*PKPdf **PKPdf 09 44 21.6 +0.9**
ARSA Arzberg 126.56 311 *i* pPKiKP **PKPdf 09 44 20.3 -0.1**
comp=Z,5.4nm,1.1s
SRU San Rafael Swe 126.59 59 *e*PKIKP **PKPdf 09 44 21.1 +0.2**
SRU San Rafael Swe 126.59 59 *e*PKPdf **PKPdf 09 44 21.1 +0.2**
TPAW Teton Pass 126.60 54 *e*PKPdf **PKPdf 09 44 21.1 +0.2**
YMR Madison River 126.64 53 PFAKE 09 44 30.0 +9.1
YMR LR LR
comp=Z,600nm,20.0s
REDW Red Top Meadow 126.67 54 *e*PKPdf **PKPdf 09 44 22.2 +1.3**
W18A Petrified Fore 126.72 64 P **PKPdf 09 44 22.1 +0.9**
baz=262
W18A Petrified Fore 126.72 64 PFAKE 09 44 30.0 +8.7
W18A LR LR
comp=Z,702nm,20.0s
YFT Old Faithful 126.73 53 PFAKE 09 44 30.0 +8.9
YFT LR LR
comp=Z,500nm,20.0s
YHH Holmes Hill 126.73 52 *e*PKPdf **PKPdf 09 44 22.8 +1.6**
YHH LR LR
comp=Z,600nm,20.0s
SNOW Snow King Moun 126.74 54 *e*PKPdf **PKPdf 09 44 22.6 +1.5**
MOOW Moose Ponds 126.76 54 *e*PKPdf **PKPdf 09 44 21.7 +0.6**
MOOW LR LR
comp=Z,400nm,20.0s
LOHW Long Hollow 126.86 54 *e*PKPdf **PKPdf 09 44 22.1 +0.8**
LOHW LR LR
comp=Z,900nm,21.0s
SOKA Soboth 126.89 310 *ep*PKPdf **PKPdf 09 44 20.8 -0.3**
comp=Z,8.1nm,1.0s
H17A Grant Village 126.91 53 P **PKPdf 09 44 22.3 +0.9**
baz=268
H17A Grant Village 126.91 53 PFAKE 09 44 30.0 +8.6
H17A LR LR
comp=Z,700nm,21.0s
GOPC GO Pecny, Ondr 127.00 314 AMS AMS 10 48 20.0
comp=Z,200nm,15.8s
CPUP Villa Florida 127.02 169 PKP **PKPdf 09 44 21.8 -0.2**
comp=Z,15nm,0.9s,baz=141,slow=0.9,SNR=14
LKWY Lake 127.04 53 PFAKE 09 44 30.0 +8.3
LKWY LR LR
comp=Z,300nm,20.0s
PVCC Panska Ves 127.11 315 AMS AMS 10 49 20.0
comp=Z,300nm,16.4s
PRU Pruhonice 127.15 314 AMS AMS 10 48 30.0
comp=Z,300nm,17.0s
OBKA Obir 127.22 310 *ep*PKiKP **PKPdf 09 44 21.7 0.0**
comp=Z,4.2nm,0.9s
MOA Mollin 127.40 311 *ep*PKPdf **PKPdf 09 44 21.7 -0.2**
comp=Z,3.6nm,1.0s
NB2 NORSAR Subarra 127.45 328 PKPdf **PKPdf 09 44 21.4 -0.2**
comp=Z,7.9nm,1.1s,baz=76,slow=2.0
NB2 NORSAR Subarra 127.45 328 PKPdf **PKPdf 09 44 21.4 -0.2**
baz=76,slow=2.0
NB200 NORSAR Array S 127.45 328 *e*PKPdf **PKPdf 09 44 21.4 -0.2**
NOA NORSAR Array B 127.45 328 PKP **PKPdf 09 44 21.4 -0.2**
comp=Z,2.4nm,0.8s,baz=261,slow=3.1,SNR=6.1
BRG Berggiesshubel 127.49 315 PKP **PKPdf 09 44 23.1 +1.2**
comp=Z,12nm,1.4s
BRG *e* 09 47 40.8
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 127.49 315 PKIKP **PKPdf 09 44 23.1 +1.2**
BRG pmax pmax
comp=Z,12nm,1.4s
EGMT Eagleton 127.50 48 P **PKPdf 09 44 23.2 +1.0**
baz=272
EGMT Eagleton 127.50 48 *e*PKPdf **PKPdf 09 44 22.9 +0.7**
EGMT LR LR
comp=Z,800nm,21.0s
BW06 Boulder Array 127.59 55 P **PKPdf 09 44 23.5 +0.7**
baz=268
PD31 Pinedale Array 127.59 55 *e*PKPdf **PKPdf 09 44 23.0 +0.3**
PDAR Pinedale Array 127.59 55 PKP **PKPdf 09 44 22.1 -0.6**
comp=Z,0.9nm,0.7s,baz=270,slow=0.9,SNR=10
PV09 Paradox Valley 127.61 60 *e*PKPdf **PKPdf 09 44 23.8 +0.8**
NBO02 NORSAR Array S 127.61 328 *e*PKPdf **PKPdf 09 44 22.0 +0.1**
PV10 Paradox Valley 127.67 60 *e*PKPdf **PKPdf 09 44 24.3 +1.3**

GEA0 GERESS Array S 127.75 313 *e*PKPdf **PKPdf 09 44 21.9 -0.8**
GEC2 GERESS Array S 127.75 313 *e*PKIKP **PKPdf 09 44 22.5 -0.2**
GEC2 GERESS Array S 127.75 313 *e*PKPdf **PKPdf 09 44 22.5 -0.2**
GERES GERESS Array B 127.75 313 PKP **PKPdf 09 44 22.5 -0.2**
comp=Z,2.3nm,0.9s,baz=17,slow=1.4,SNR=10
KHC Kasperske Hory 127.82 313 *e*PKIKP **PKPdf 09 44 23.7 +1.0**
KHC MLR MLR
comp=Z,300nm,20.2s
KHC Kasperske Hory 127.82 313 *e*PKPdf **PKPdf 09 44 23.7 +1.0**
KHC AMS AMS 10 56 30.0
comp=Z,300nm,20.2s
RLMT Red Lodge 127.86 52 P **PKPdf 09 44 24.1 +0.9**
baz=270
RLMT Red Lodge 127.86 52 PFAKE 09 44 30.0 +6.8
RLMT LR LR
comp=Z,600nm,21.0s
121A Cookes Peak, D 127.92 68 P **PKPdf 09 44 24.6 +0.9**
baz=261
MVCO Mesa Verde 127.98 62 P **PKPdf 09 44 24.6 +0.9**
baz=264,SNR=8.3
MVCO Mesa Verde 127.98 62 *e*PKPdf **PKPdf 09 44 24.8 +1.1**
MVCO LR LR
comp=Z,1µm,21.0s
PV01 Paradox Valley 128.01 61 *e*PKPdf **PKPdf 09 44 24.4 +0.7**
KBA Koelnbreinsper 128.04 311 *ep*PKPdf **PKPdf 09 44 22.6 -0.8**
comp=Z,5.5nm,1.1s
O20A White River Ci 128.43 58 P **PKPdf 09 44 25.4 +1.0**
baz=266
O20A White River Ci 128.43 58 *e*PKPdf **PKPdf 09 44 26.0 +1.6**
PB01 IPOC Station P 128.59 154 *e*PKPdf **PKPdf 09 44 25.1 -0.1**
ABTA Abfaltersbach 128.62 310 *ep*PKPdf **PKPdf 09 44 24.2 -0.1**
comp=Z,11nm,1.0s
HPIG 128.65 75 *e*PKPdf **PKPdf 09 44 25.7 +0.5**
EPT El Paso 128.87 69 PFAKE 09 44 30.0 +4.6
EPT LR LR
comp=Z,600nm,20.0s
BNM Barren Site 129.12 66 *e*PKPdf **PKPdf 09 44 26.4 +0.5**
WTTA Wattenberg 129.20 311 *i* sPKiKP **PKPdf 09 44 27.1 +1.5**
comp=Z,12nm,0.8s
WATA Walderalm 129.24 311 *es*PKiKP **PKPdf 09 44 26.4 +0.8**
comp=Z,15nm,1.1s
RWWY Rawlins 129.29 56 *e*PKPdf **PKPdf 09 44 26.1 +0.1**
SMCO Snowmass 129.34 60 *e*PKPdf **PKPdf 09 44 27.3 +0.9**
SMCO LR LR
comp=Z,900nm,21.0s
S22A 4UR Ranch, Cre 129.35 61 P **PKPdf 09 44 27.5 +1.1**
baz=265,SNR=6.8
S22A 4UR Ranch, Cre 129.35 61 *e*PKPdf **PKPdf 09 44 28.2 +1.9**
S22A LR LR
comp=Z,1µm,20.0s
ANMO Albuquerque 129.36 65 P **PKPdf 09 44 27.1 +0.7**
baz=263
ANMO Albuquerque 129.36 65 *e*PKIKP **PKPdf 09 44 27.0 +0.7**
ANMO Albuquerque 129.36 65 *e*PKPdf **PKPdf 09 44 27.0 +0.7**
MOTA Moosalm 129.56 311 *es*PKiKP **PKPdf 09 44 27.4 +1.1**
comp=Z,4.5nm,0.8s
PB11 IPOC Station P 129.68 153 *e*PKPdf **PKPdf 09 44 27.4 0.0**
MNTX Cornudas Mount 129.80 69 P **PKPdf 09 44 28.0 +1.0**
baz=261
MNTX Cornudas Mount 129.80 69 *e*PKPdf **PKPdf 09 44 27.6 +0.6**
K22A Casper 129.82 55 P **PKPdf 09 44 27.7 +0.8**
baz=270
K22A Casper 129.82 55 *e*PKPdf **PKPdf 09 44 27.9 +1.0**
FETA Feichten 129.83 311 *es*PKiKP **PKPdf 09 44 28.4 +1.7**
comp=Z,8.5nm,0.9s
LAO LASA Array 129.95 50 P **PKPdf 09 44 28.1 +1.2**
baz=273
LAO LASA Array 129.95 50 *e*PKPdf **PKPdf 09 44 28.3 +1.5**
LAO LR LR
comp=Z,600nm,22.0s
N23A Red Feather La 130.22 57 P **PKPdf 09 44 29.2 +1.3**
baz=268
N23A Red Feather La 130.22 57 *e*PKPdf **PKPdf 09 44 29.5 +1.7**
MNMC Minye Minye 130.26 153 *e*PKPdf **PKPdf 09 44 29.5 +0.9**
DAVA Damuels 130.40 311 *e*PKPdf **PKPdf 09 44 25.1 -2.7**
comp=Z,16nm,1.2s
SDCO Great Sand Dun 130.40 62 P **PKPdf 09 44 29.6 +1.3**
baz=266,SNR=6.2
SDCO Great Sand Dun 130.40 62 *e*PKPdf **PKPdf 09 44 30.1 +1.8**
SDCO LR LR
comp=Z,900nm,20.0s
ISCO Idaho Springs 130.43 59 P **PKPdf 09 44 29.7 +1.3**
baz=268
ISCO Idaho Springs 130.43 59 *e*PKIKP **PKPdf 09 44 30.1 +1.8**
ISCO MLR MLR
comp=Z,600nm,20.0s
ISCO Idaho Springs 130.43 59 *e*PKPdf **PKPdf 09 44 30.1 +1.8**
ISCO LR LR
comp=Z,600nm,20.0s
SPB Sao Paulo 130.55 180 PFAKE 09 44 40.0 +11
SPB LR LR
comp=Z,800nm,22.0s
PHWY Pilot Hill 130.59 57 PFAKE 09 44 40.0 +11
PHWY LR LR
comp=Z,300nm,19.0s
KEST Kesra 130.65 296 SKPab **SKPab 09 47 53.2 +1.1**
comp=Z,59nm,1.0s,baz=248,slow=0.8,SNR=25
KEST Kesra 130.65 296 PFAKE 09 44 40.0 +11
KEST LR LR
comp=Z,500nm,18.0s
Q24A Divide 130.75 60 PFAKE 09 44 40.0 +11
Q24A LR LR
comp=Z,700nm,20.0s
LTX Lajitas 130.86 73 *e*PKIKP PKPpre 09 44 22.7
LTX *e* 09 44 29.8
LTX Lajitas 130.86 73 *e*PKPpre PKPpre 09 44 22.7
LTX *e*PKPdf **PKiKP 09 44 29.8 -0.3**
TXAR Lajitas Array 130.86 73 PKhKP PKPpre 09 44 22.7
comp=Z,0.7nm,0.8s,baz=212,slow=4.0,SNR=5.9
TXAR PKP **PKPdf 09 44 29.8 +0.6**
comp=Z,9.6nm,1.2s,baz=209,slow=2.3,SNR=19
TXAR SKPab **SKPab 09 47 53.6 +0.3**
comp=Z,13nm,1.1s,baz=225,slow=5.1,SNR=4.7
TXAR Lajitas Array 130.86 73 PKIKP **PKPdf 09 44 29.8 +0.6**
TXAR pmax pmax
comp=Z,9.0nm,1.2s
T25A Trinidad 131.22 62 *e*PKPdf **PKPdf 09 44 30.0 +0.2**
T25A LR LR
comp=Z,800nm,20.0s
FFC Flin Flon 131.48 39 *e*PKIKP **PKPdf 09 44 29.4 0.0**
FFC MLR MLR
comp=Z,900nm,20.0s
FFC Flin Flon 131.48 39 *e*PKPdf **PKPdf 09 44 29.4 0.0**
FFC LR LR
comp=Z,900nm,20.0s
RSSD Black Hills 131.61 53 PFAKE 09 44 40.0 +10
RSSD LR LR
comp=Z,700nm,21.0s
TAM Tamanrasset 131.61 278 PFAKE 09 44 40.0 +9.1
TAM LR LR
comp=Z,400nm,22.0s
TOC3 Torodi Ar. Sit 131.85 264 PFAKE 09 44 40.0 +8.7
TOC3 LR LR
comp=Z,700nm,20.0s
TOC2 Torodi Ar. Sit 131.86 264 PFAKE 09 44 40.0 +8.7
TOC2 LR LR
comp=Z,700nm,19.0s
TOC4 Torodi Ar. Sit 131.86 264 PFAKE 09 44 40.0 +8.7
TOC4 LR LR
comp=Z,700nm,20.0s
TOB3 Torodi Ar. Sit 131.87 264 PFAKE 09 44 40.0 +8.7
TOB3 LR LR
comp=Z,700nm,20.0s
TOB2 Torodi Ar. Sit 131.87 264 PFAKE 09 44 40.0 +8.6
TOB2 LR LR
comp=Z,700nm,19.0s
TOA2 Torodi Ar. Sit 131.87 264 PFAKE 09 44 40.0 +8.6
TOA2 LR LR
comp=Z,700nm,19.0s
TOA3 Torodi Ar. Sit 131.88 264 PFAKE 09 44 40.0 +8.6
TOA3 LR LR
comp=Z,700nm,19.0s
TOA0 Torodi Ar. Sit 131.88 264 *e*PKPdf **PKPdf 09 44 31.4 +0.1**
TOA0 *e*PKPdf **PKiKP 09 44 31.6 -0.7**
TOA0 LR LR
comp=Z,700nm,19.0s
TORD Torodi Ar. Bea 131.88 264 PKhKP PKPpre 09 44 15.4
comp=Z,0.7nm,0.6s,baz=108,slow=4.2,SNR=6.0
TORD PKP **PKPdf 09 44 31.4 0.0**
comp=Z,8.8nm,0.7s,baz=92,slow=2.0,SNR=77
TORD SKPbc **SKPbc 09 47 56.8 -0.3**
comp=Z,12nm,0.9s,baz=105,slow=2.7,SNR=18
TOC1 Torodi Ar. Sit 131.88 264 PFAKE 09 44 40.0 +8.6
TOC1 LR LR
comp=Z,800nm,19.0s

TOA1 Torodi Ar. Sit 131.88 264 *e*PKPpre PKPpre 09 44 15.4
TOA1 *e*PKPdf **PKPdf 09 44 31.4 0.0**
TOA1 LR LR
comp=Z,700nm,19.0s
TOB4 Torodi Ar. Sit 131.88 264 PFAKE 09 44 40.0 +8.6
TOB4 LR LR
comp=Z,700nm,19.0s
TOC5 Torodi Ar. Sit 131.89 264 PFAKE 09 44 40.0 +8.6
TOC5 LR LR
comp=Z,800nm,19.0s
TOB5 Torodi Ar. Sit 131.89 264 PFAKE 09 44 40.0 +8.6
TOB5 LR LR
comp=Z,700nm,19.0s
TOC7 Torodi Ar. Sit 131.90 264 PFAKE 09 44 40.0 +8.6
TOC7 LR LR
comp=Z,700nm,19.0s
TOC6 Torodi Ar. Sit 131.90 264 PFAKE 09 44 40.0 +8.6
TOC6 LR LR
comp=Z,600nm,19.0s
MSTX Muleshoe 132.28 67 *e*PKPdf **PKPdf 09 44 30.7 -1.0**
MSTX LR LR
comp=Z,600nm,21.0s
KSCO Kaye Shedlock' 132.72 60 PFAKE 09 44 40.0 +7.5
KSCO LR LR
comp=Z,1µm,22.0s
NNA Nana 132.73 140 *e*PKIKP **PKPdf 09 44 32.3 -0.8**
NNA Nana 132.73 140 *e*PKPdf **PKPdf 09 44 32.3 -0.8**
OGNE Ogallala 133.18 57 PFAKE 09 44 40.0 +6.8
OGNE LR LR
comp=Z,600nm,20.0s
SUMG Summit 133.25 356 PFAKE 09 44 40.0 +7.2
SUMG LR LR
comp=Z,600nm,19.0s
AMTX Amarillo 133.26 66 PFAKE 09 44 40.0 +6.4
AMTX LR LR
comp=Z,400nm,19.0s
LPAZ La Paz 133.42 153 PKhKP PKPpre 09 44 22.4
comp=Z,1.6nm,0.7s,baz=9.6,slow=3.4,SNR=5.9
LPAZ PKP **PKPdf 09 44 35.0 0.0**
comp=Z,12nm,1.2s,baz=230,slow=1.1,SNR=12
LPAZ SKPbc **SKPbc 09 48 02.8 -0.4**
comp=Z,33nm,1.1s,baz=199,slow=1.7,SNR=22
LPAZ La Paz 133.42 153 *e*PKIKP **PKPdf 09 44 35.1 0.0**
LPAZ *e* 09 44 35.8
LPAZ La Paz 133.42 153 *e*PKPpre **PKPdf 09 44 35.1 0.0**
LPAZ *e*PKPdf **PKiKP 09 44 35.8 -0.5**
LNIG Linares 133.63 80 PFAKE 09 44 40.0 +5.6
LNIG LR LR
comp=Z,800nm,19.0s
FCC Fort Churchill 134.26 32 *e*PKIKP **PKPdf 09 44 34.0 -0.5**
FCC MLR MLR
comp=Z,700nm,21.0s
FCC Fort Churchill 134.26 32 *e*PKPdf **PKPdf 09 44 34.0 -0.5**
FCC LR LR
comp=Z,700nm,21.0s
MDND Maddock 134.31 48 PFAKE 09 44 40.0 +5.0
MDND LR LR
comp=Z,699nm,21.0s
JCT Junction City 134.36 72 P **PKPdf 09 44 37.9 +2.2**
baz=262
833A Chaparral WMA, 134.38 75 P **PKPdf 09 44 36.9 +1.2**
baz=260
DBIC Dimbokro 134.74 252 PKP **PKPdf 09 44 36.2 -0.7**
comp=Z,7.5nm,0.9s,baz=111,slow=3.5,SNR=4.9
DBIC SKPbc **SKPbc 09 48 06.3 -0.5**
comp=Z,5.2nm,0.9s,baz=273,slow=10,SNR=3.8
DBIC Dimbokro 134.74 252 *e*PKIKP **PKPdf 09 44 35.6 -1.2**
DBIC Dimbokro 134.74 252 *e*PKPdf **PKPdf 09 44 35.6 -1.2**
ABTX Abilene, Hawle 134.75 69 P **PKPdf 09 44 37.1 +0.7**
baz=264
ABTX Abilene, Hawle 134.75 69 *e*PKPdf **PKPdf 09 44 37.8 +1.4**
CBKS Cedar Bluff 134.97 60 P **PKPdf 09 44 37.4 +0.8**
baz=270
CBKS Cedar Bluff 134.97 60 PFAKE 09 44 50.0 +13
CBKS LR LR
comp=Z,700nm,20.0s
F31A Hecla 135.53 50 P **PKPdf 09 44 38.6 +1.2**
baz=279
K31A O'Neill 135.55 55 P **PKPdf 09 44 38.9 +1.3**
baz=275
C31A Landman Farms, 135.56 47 P **PKPdf 09 44 38.5 +1.2**
baz=281
WMOK Wichita Mounta 135.63 66 P **PKPdf 09 44 39.1 +1.2**
baz=267,SNR=8.3
WMOK Wichita Mounta 135.63 66 *e*PKIKP **PKPdf 09 44 38.7 +0.8**
WMOK Wichita Mounta 135.63 66 *e*PKPdf **PKPdf 09 44 38.7 +0.8**
BGNE Belgrade 136.09 57 *e*PKPdf **PKPdf 09 44 38.9 +0.3**
BGNE LR LR
comp=Z,700nm,20.0s
L32A Elgin 136.15 56 P **PKPdf 09 44 40.7 +2.0**
baz=275
SIV San Ignacio 136.17 161 PKP **PKPdf 09 44 40.2 +0.7**
comp=Z,6.1nm,0.9s,baz=240,slow=2.7,SNR=11
ULM Lac du Bonnet 136.20 44 PKP **PKPdf 09 44 38.5 0.0**
comp=Z,4.6nm,0.7s,baz=290,slow=2.5,SNR=9.7
ULM SKPbc **SKPbc 09 48 10.1 -0.1**
comp=Z,2.0nm,0.7s,baz=320,slow=7.1,SNR=6.2
ULM SKPab **SKPab 09 48 15.4 -0.2**
comp=Z,7.2nm,1.1s,baz=287,slow=4.1,SNR=7.8
ULM Lac du Bonnet 136.20 44 *e*PKIKP **PKPdf 09 44 38.2 -0.2**
ULM MLR MLR
comp=Z,700nm,21.0s
ULM Lac du Bonnet 136.20 44 *e*PKPdf **PKPdf 09 44 38.2 -0.2**
ULM LR LR
comp=Z,700nm,21.0s
EKA Eskdalemuir Ar 136.47 324 SKPbc **SKPbc 09 48 10.1 -0.7**
comp=Z,9.6nm,1.1s,baz=71,slow=5.3,SNR=8.0
O33A Hebron 136.60 58 P **PKPdf 09 44 41.7 +2.1**
baz=273
AGMN Agassiz Nation 136.68 46 PFAKE 09 44 50.0 +11
AGMN LR LR
comp=Z,600nm,22.0s
ECSD EROS Data Cent 136.98 53 PFAKE 09 44 50.0 +10
ECSD LR LR
comp=Z,600nm,20.0s
KSU1 Kansas State U 137.40 60 *e*PKPdf **PKPdf 09 44 42.8 +1.8**
KSU1 LR LR
comp=Z,900nm,22.0s
KOWA Kowa 137.51 263 *e*PKPdf **PKPdf 09 44 42.0 +0.2**
KOWA LR LR
comp=Z,900nm,21.0s
TUL1 Leonard 138.11 65 *e*PKPdf **PKPdf 09 44 40.7 -1.7**
TUL1 LR LR
comp=Z,400nm,20.0s
SPMN Marine on St. 139.41 50 PFAKE 09 44 50.0 +5.5
SPMN LR LR
comp=Z,600nm,20.0s
EYMN Ely 139.60 46 PFAKE 09 44 50.0 +5.2
EYMN LR LR
comp=Z,500nm,21.0s
HHAR Hobbs 139.61 64 PFAKE 09 44 50.0 +4.8
HHAR LR LR
comp=Z,500nm,19.0s
W40A Ferguson Farm, 140.33 66 PFAKE 09 45 00.0 +14
W40A LR LR
comp=Z,500nm,22.0s
OTAV Otavalo 140.82 126 *e*P PKPpre 09 44 38.4
UALR University of 140.93 66 *e*PKPdf **PKPdf 09 44 47.8 +0.2**
WHAR Wooly Hollow 140.97 66 *e*PKPdf **PKPdf 09 44 48.4 +0.7**
WHAR LR LR
comp=Z,400nm,20.0s
ESDC Sonseca Array 141.16 301 PKP **PKPdf 09 44 45.5 -2.5**
comp=Z,0.2nm,0.3s,baz=44,slow=4.5,SNR=4.5
ESDC SKPbc **SKPbc 09 48 24.4 -0.2**
comp=Z,5.2nm,1.0s,baz=55,slow=2.6,SNR=7.7
TGUH Tegucigalpa,Un 141.19 100 *e*PKPdf **PKPdf 09 44 48.4 -0.2**
COWI Conover 141.68 48 PFAKE 09 45 00.0 +11
COWI LR LR
comp=Z,700nm,21.0s
H41A Junction City 141.73 50 PFAKE 09 45 00.0 +11
H41A LR LR
comp=Z,700nm,21.0s
SAML Samuel 142.05 155 *e*PKPdf **PKPdf 09 44 51.6 +1.4**
SAML Samuel 142.05 155 *e*P PKPpre 09 44 43.7
FVM French Village 142.31 61 *e*PKIKP PKPpre 09 44 44.9
FVM MLR MLR
comp=Z,700nm,22.0s
FVM French Village 142.31 61 *e*PKPpre PKPpre 09 44 44.9
FVM LR LR
comp=Z,700nm,22.0s
SLM Saint Louis 142.40 60 PFAKE 09 45 00.0 +10
SLM LR LR
comp=Z,900nm,21.0s
G42A Mountain 142.40 49 PFAKE 09 45 00.0 +10
G42A LR LR

comp=Z,600nm,20.0s
PBMO Poplar Bluff 142.41 63 *e*PKPpre PKPpre 09 44 44.8
PBMO LR LR

comp=Z,500nm,21.0s
I42A Draeger Farm, 142.43 51 PFAKE 09 45 00.0 +10
I42A LR LR

comp=Z,700nm,22.0s
H42A Shiocton 142.53 50 PFAKE 09 45 00.0 +10
H42A LR LR

comp=Z,800nm,22.0s
HDIL Hopedale 142.84 57 PFAKE 09 45 00.0 +9.2
HDIL LR LR

comp=Z,500nm,19.0s
G43A Wallace 142.90 49 PFAKE 09 45 00.0 +9.2
G43A LR LR

comp=Z,600nm,20.0s
MET Memphis--Engin 142.90 66 PFAKE 09 45 00.0 +8.9
MET LR LR

comp=Z,500nm,21.0s
PVMO Portageville 143.02 64 PFAKE 09 45 00.0 +8.7
PVMO LR LR

comp=Z,600nm,21.0s
H43A Windswept, Lux 143.07 50 PFAKE 09 45 00.0 +8.9
H43A LR LR

comp=Z,600nm,22.0s
SIUC Southern Illin 143.29 61 PFAKE 09 45 00.0 +8.3
SIUC LR LR

comp=Z,600nm,20.0s
OXF Oxford 143.35 67 PFAKE 09 45 00.0 +8.1
OXF LR LR

comp=Z,700nm,21.0s
SOTA Rioblanco 143.46 126 *e*P PKPbc 09 44 51.3 +0.7
146A Union 143.66 70 P PKPbc 09 44 50.2 +0.2
baz=269,SNR=17
POPC Popayan, Colom 143.68 126 *e*P PKPab 09 44 50.3 +0.2
PCON Cinco Dias 143.74 126 *e*P PKPbc 09 44 51.7 +0.2
POLO Lamas de Olo 143.77 305 *e*PKPdf **PKPdf 09 44 51.8 -0.8**
U45A Rockin P Farm, 143.78 64 P PKPbc 09 44 50.0 -0.2
baz=275
S45A Carrier Mills 143.80 61 P PKPbc 09 44 49.9 -0.3
baz=277,SNR=6.1
Y46A Houston 143.83 68 P PKPbc 09 44 50.4 0.0
baz=271,SNR=28
RTC Rabat Centre 143.89 292 PFAKE 09 45 00.0 +7.1
RTC LR LR

comp=Z,3µm,21.0s
R45A Skylar, Fairfi 143.96 60 P PKPbc 09 44 50.5 -0.3
baz=278,SNR=18
Q45A Warren Harvey, 143.97 59 P PKPbc 09 44 50.6 -0.2
baz=279,SNR=17
PGAV Gavieira, Arco 143.99 306 *e*PKPdf **PKPdf 09 44 54.4 +1.4**
247A Quitman 144.03 71 P PKPbc 09 44 51.8 +0.7
baz=269,SNR=10
X46A Booneville 144.03 67 P PKPbc 09 44 50.9 -0.1
baz=272
OLIL Olney 144.04 59 *e*PKPdf PKPbc 09 44 52.0 +1.0
OLIL LR LR

comp=Z,600nm,20.0s
347A Saraland 144.07 72 P PKPbc 09 44 52.0 +0.8
baz=268,SNR=7.7
O45A Potomac 144.08 57 P PKPbc 09 44 51.1 +0.1
baz=281,SNR=9.4
N45A Kentland 144.12 56 P PKPbc 09 44 51.2 0.0
baz=282,SNR=23
W46A Michie 144.18 66 P **PKPab 09 44 51.0 -0.1**
baz=273,SNR=26
P45A Graceland, Par 144.19 58 P PKPbc 09 44 51.5 +0.1
baz=280,SNR=44
E45A Wooded Hills, 144.19 46 P PKPbc 09 44 51.2 0.0
baz=292
M45A Boilermakers S 144.20 55 P **PKPab 09 44 51.2 +0.2**
baz=283
F45A CMU Biological 144.21 47 P PKPbc 09 44 51.1 -0.1
baz=290
U46A Springville 144.25 63 P PKPbc 09 44 51.7 0.0
baz=275,SNR=31
147A Livingston 144.33 70 P PKPbc 09 44 52.1 +0.1
baz=270,SNR=13
V46A Holladay 144.34 64 P **PKPab 09 44 51.5 -0.2**
baz=274,SNR=48
HORQ Saladito 144.35 124 *e*P **PKPab 09 44 52.0 -0.7**
MARP Paez Belalcaza 144.41 126 *e*P **PKPab 09 44 52.7 -0.2**
T46A Princeton 144.41 62 P PKPbc 09 44 52.4 +0.2
baz=276,SNR=44
PLAL Pickwick Lake 144.43 66 PFAKE 09 45 00.0 +6.2
PLAL LR LR

comp=Z,400nm,20.0s
S46A Don Dixon Farm 144.48 61 P **PKPab 09 44 52.0 -0.1**
baz=277,SNR=5.6
USIN University of 144.48 61 *e*PKPdf **PKPdf 09 44 53.5 -0.3**
USIN LR LR

comp=Z,800nm,21.0s
Z47A Carrollton 144.49 69 P PKPbc 09 44 52.5 0.0
baz=271,SNR=41
PMTG Montargil 144.52 301 *e*PKPdf **PKPdf 09 44 53.2 -0.6**
SFIN Lafayette 144.53 56 P PKPbc 09 44 52.8 +0.4
baz=282,SNR=30
SFIN Lafayette 144.53 56 *e*PKPdf PKPbc 09 44 52.5 0.0
WVT Waverly 144.55 64 P **PKPab 09 44 52.5 +0.1**
baz=275
WVT Waverly 144.55 64 *e*PKIKP **PKPab 09 44 51.8 -0.6**
WVT MLR MLR

comp=Z,500nm,19.0s
WVT Waverly 144.55 64 *e*PKPdf **PKPab 09 44 51.8 -0.6**
WVT LR LR

comp=Z,500nm,19.0s
Q46A CEJHS Indians, 144.57 59 P PKPbc 09 44 52.7 +0.1
baz=279,SNR=8.7
R46A Gibon Southern 144.57 60 P **PKPab 09 44 52.4 -0.1**
baz=278
P46A Rosedale 144.58 58 P PKPbc 09 44 52.8 +0.1
baz=280,SNR=16
348A Jackson 144.62 72 P **PKPdf 09 44 53.8 -0.4**
baz=268,SNR=5.8
X47A Russelville 144.63 67 P **PKPab 09 44 52.7 -0.1**
baz=273,SNR=39
448A Bay Minette 144.64 73 P **PKPab 09 44 52.4 -0.5**
baz=268
Y47A UCPARC, Winfie 144.66 68 P PKPbc 09 44 53.1 +0.1
baz=272,SNR=34
F46A Macinaw City C 144.68 47 P PKPbc 09 44 52.7 0.0
baz=291
N46A Monticello 144.69 55 P PKPbc 09 44 52.9 0.0
baz=283
248A Dixon Mills 144.77 71 P PKPbc 09 44 53.5 +0.1
baz=269,SNR=11
W47A Westpoint 144.81 65 P **PKPab 09 44 53.1 -0.4**
baz=274,SNR=43
V47A Nunnelly 144.83 64 P **PKPab 09 44 53.1 -0.4**
baz=275,SNR=23
M46A Old House Fiel 144.86 54 P **PKPab 09 44 53.4 0.0**
baz=284,SNR=5.7
YOTC Yotoco, Valle 144.89 124 *e*P **PKPab 09 44 53.9 -0.6**
PNCL Nicolau / Gran 144.90 300 *e*PKPdf **PKPab 09 44 53.4 -0.3**
148A Greensboro 144.92 70 P PKPbc 09 44 53.9 0.0
baz=270,SNR=13
Z48A Northport 144.92 69 P **PKPab 09 44 53.7 -0.2**
baz=271,SNR=18
IVI Ivigtut 144.96 0 *e*PKPdf **PKPab 09 44 52.0 -1.0**
U47A Clarksville 144.96 63 P PKPbc 09 44 54.0 +0.1
baz=276,SNR=30
T47A Sharon Grove 145.05 62 P **PKPab 09 44 54.3 0.0**
baz=277,SNR=14
GLMI Grayling 145.10 48 P **PKPbc 09 44 54.1 0.0**
baz=290
GLMI Grayling 145.10 48 *e*PKPbc **PKPbc 09 44 54.0 -0.2**
GLMI LR LR

comp=Z,600nm,21.0s
449A Pace 145.18 73 P **PKPab 09 44 55.0 +0.1**
baz=268
BLO Bloomington 145.19 58 *e*PKIKP **PKPbc 09 44 54.4 -0.2**
BLO MLR MLR

comp=Z,900nm,22.0s
BLO Bloomington 145.19 58 *e*PKPbc **PKPbc 09 44 54.4 -0.2**
BLO LR LR

comp=Z,900nm,22.0s
349A Repton 145.22 72 P **PKPdf 09 44 56.0 +0.7**
baz=268,SNR=7.3
Y48A Jasper 145.23 68 P **PKPbc 09 44 54.7 -0.1**
baz=272,SNR=14
O47A Sheridan 145.25 56 P **PKPbc 09 44 54.7 0.0**
baz=282,SNR=69
BCIP Isla Barro Col 145.27 113 *e*PKPbc **PKPbc 09 44 55.1 -0.5**
BCIP Isla Barro Col 145.27 113 *e*P **PKPbc 09 44 50.0 -5.6**
249A Camden 145.29 71 P **PKPdf 09 44 55.7 +0.3**
baz=270
Q47A Bedord North L 145.30 59 P **PKPab 09 44 55.1 0.0**
baz=280,SNR=19
X48A Hartselle 145.31 67 P **PKPbc 09 44 54.8 -0.4**
baz=273,SNR=24
P47A Martinsville 145.32 58 P **PKPab 09 44 55.1 -0.1**
baz=281,SNR=13
R47A Wooly Knot Far 145.33 60 P **PKPbc 09 44 54.8 -0.3**
baz=279,SNR=13
BRAL Brewton 145.34 72 P **PKPab 09 44 55.9 +0.4**
baz=268
PMAFR Mafra 145.35 301 *e*PKPdf **PKPab 09 44 56.5 +1.2**
W48A Pulaski 145.36 65 P **PKPbc 09 44 54.8 -0.4**
baz=274,SNR=16
LRAL Lakeview Retre 145.40 69 P **PKPbc 09 44 55.4 -0.1**
baz=271
LRAL Lakeview Retre 145.40 69 *e*PKPbc **PKPbc 09 44 55.0 -0.5**
LRAL LR LR

comp=Z,500nm,21.0s
V48A Smith Brothers 145.40 64 P **PKPbc 09 44 54.7 -0.7**
baz=275,SNR=23
WCI Wyandotte Cave 145.52 60 P **PKPdf 09 44 55.2 -0.4**
baz=279
WCI Wyandotte Cave 145.52 60 *e*PKIKP **PKPdf 09 44 55.2 -0.4**
WCI MLR MLR

comp=Z,700nm,20.0s
WCI Wyandotte Cave 145.52 60 *e*PKPdf **PKPdf 09 44 55.2 -0.4**
WCI LR LR

comp=Z,700nm,20.0s
U48A Cassie Pea, Po 145.55 63 P **PKPdf 09 44 55.6 -0.1**
baz=276,SNR=22
149A Jones 145.57 70 P **PKPbc 09 44 56.0 0.0**
baz=271,SNR=29
T48A Bowling Green 145.60 62 P **PKPdf 09 44 55.7 -0.1**
baz=278,SNR=21
450A Crestview 145.73 73 P **PKPdf 09 44 56.1 -0.1**
baz=268
PRAC Prado 145.78 126 *e*PKPdf **PKPbc 09 44 57.1 -0.2**
PRAC Prado 145.78 126 *e*P **PKPdf 09 44 55.8 -1.1**
Z49A Columbiana 145.78 69 P **PKPbc 09 44 56.7 0.0**
baz=272,SNR=33
S48A Wiedeman Farm, 145.79 61 P **PKPbc 09 44 56.4 -0.2**
baz=278,SNR=20
R48A Northridge Ran 145.82 60 P **PKPbc 09 44 56.6 0.0**
baz=280,SNR=8.9
Y49A Blount Mountai 145.86 68 P **PKPbc 09 44 56.7 -0.2**
baz=273,SNR=15
X49A Woodville 145.90 66 P **PKPdf 09 44 56.6 +0.3**
baz=274,SNR=30
350A Dozier 145.96 72 P **PKPab 09 44 57.8 0.0**
baz=269,SNR=7.2
250A Grady 146.02 71 P **PKPbc 09 44 57.5 0.0**
baz=270,SNR=16
TOLC Tolima 146.05 124 *e*P **PKPbc 09 44 58.1 -0.3**
SJAC San Juan de Ar 146.15 128 *e*P **PKPbc 09 44 58.1 -0.4**
RCBR Riachuelo 146.17 202 *e*PKPdf **PKPbc 09 44 58.6 +0.1**
150A Eclectic 146.22 70 P **PKPbc 09 44 58.0 -0.1**
baz=271,SNR=24
RREF El Recreo 146.24 124 *e*P **PKPab 09 44 59.8 -0.3**
Z50A Ashland 146.29 69 P **PKPbc 09 44 58.0 -0.3**
baz=272,SNR=17
GUYC Guyana, Colomb 146.42 124 *e*P **PKPdf 09 44 58.8 +0.4**
Y50A Piedmont 146.42 68 P **PKPbc 09 44 58.1 -0.5**
baz=273,SNR=21
X50A Fort Payne 146.46 67 P **PKPdf 09 44 58.0 +0.7**
baz=274
AAM Ann Arbor 146.56 52 P **PKPbc 09 44 58.5 -0.2**
baz=288
AAM Ann Arbor 146.56 52 PFAKE 09 45 10.0 +10
AAM LR LR

comp=Z,900nm,22.0s
251A Midway 146.75 71 P **PKPbc 09 44 59.5 -0.1**
baz=271,SNR=14
151A Opelika 146.81 70 P **PKPbc 09 44 59.8 0.0**
baz=271,SNR=22
552A Lynn Haven 146.81 74 P **PKPbc 09 45 00.2 +0.4**
baz=268
VILC Villavicencio, 146.91 127 *e*P **PKPbc 09 45 00.7 0.0**
CVER Cruz Verde, Cu 146.92 126 *e*P **PKPdf 09 44 59.5 +0.2**
HELC Santa Helena 146.94 122 *e*PKPdf **PKPbc 09 45 00.7 -0.4**
HELC LR LR

comp=Z,500nm,20.0s
HELC Santa Helena 146.94 122 *e*P **PKPdf 09 44 59.5 +0.3**
ROSC El Rosal 146.96 125 PKPbc **PKPbc 09 45 01.3 +0.1**
comp=Z,33nm,0.8s,baz=114,slow=2.5,SNR=25
ROSC El Rosal 146.96 125 *e*PKPbc **PKPbc 09 45 01.1 -0.1**
ROSC El Rosal 146.96 125 *e*P **PKPbc 09 45 00.8 -0.4**
CAPC Capurgana 147.00 117 *e*P **PKPdf 09 44 57.8 -1.0**
NORC Norcasia 147.03 124 *e*P **PKPdf 09 44 58.1 -0.8**
352A Blakely 147.16 72 P **PKPbc 09 45 00.9 +0.2**
baz=270,SNR=7.6
CHIC Chingaza 147.24 126 *e*P **PKPdf 09 44 59.9 +0.1**
252A Lumpkin 147.32 71 P **PKPbc 09 45 01.2 0.0**
baz=271,SNR=9.8
553A Crawfordville 147.56 74 P **PKPbc 09 45 01.8 -0.1**
baz=268
ACSO Alum Creek Sta 147.62 55 P **PKPbc 09 45 01.6 -0.2**
baz=285,SNR=16
ACSO Alum Creek Sta 147.62 55 *e*PKPbc **PKPbc 09 45 01.8 0.0**
453A Whigham 147.68 73 P **PKPbc 09 45 02.4 +0.2**
baz=269,SNR=9.8
353A Camilla 147.77 72 P **PKPbc 09 45 02.5 +0.1**
baz=270,SNR=10
253A Americus 147.84 71 P **PKPbc 09 45 02.5 -0.1**
baz=271
TKL Tuckaleechee C 147.88 64 *e*PKP2 **PKPbc 09 45 03.0 +0.4**
TKL MLR MLR

comp=Z,500nm,20.0s
TKL Tuckaleechee C 147.88 64 *e*PKPbc **PKPbc 09 45 03.0 +0.4**
TKL LR LR

comp=Z,500nm,20.0s
TZTN Tazewell 147.94 62 P **PKPbc 09 45 02.8 0.0**
baz=279
TZTN Tazewell 147.94 62 *e*PKPbc **PKPbc 09 45 03.5 +0.7**
TZTN LR LR

comp=Z,600nm,20.0s
PTBC PUERTO BERRIO 147.98 123 *e*P **PKPdf 09 45 01.1 +0.6**
153A Fort Valley 148.07 70 P **PKPbc 09 45 02.9 -0.3**
baz=272
SCHQ Schefferville 148.12 21 PKPbc **PKPbc 09 45 02.3 -0.4**
comp=Z,28nm,0.7s,baz=308,slow=1.6,SNR=38
554A Perry 148.21 75 P **PKPbc 09 45 03.9 +0.3**
baz=268,SNR=5.1
454A Quitman 148.27 73 P **PKPbc 09 45 03.8 0.0**
baz=269
ZARC Zaragoza, Cauc 148.28 121 *e*P **PKPbc 09 45 02.7 -1.6**
TIGA Tifton 148.30 72 P **PKPbc 09 45 04.1 +0.2**
baz=270,SNR=8.3
TIGA Tifton 148.30 72 *e*PKPbc **PKPbc 09 45 04.2 +0.4**
GOGA Godfrey 148.34 68 P **PKPbc 09 45 03.8 0.0**
baz=274
GOGA Godfrey 148.34 68 *e*PKP2 **PKPbc 09 45 03.9 0.0**
GOGA MLR MLR

comp=Z,500nm,22.0s
GOGA Godfrey 148.34 68 *e*PKPbc **PKPbc 09 45 03.9 0.0**
GOGA LR LR

comp=Z,500nm,22.0s
MOTC Monteria, Cord 148.43 118 *e*P **PKPdf 09 45 01.9 +0.7**
FSCY Frank Sound, G 148.54 96 *e*PKPbc **PKPbc 09 45 04.7 -0.1**
254A Abbeville 148.55 71 P **PKPbc 09 45 04.7 +0.2**
baz=272,SNR=7.0
655A Horseshoe Beac 148.56 76 P **PKPbc 09 45 04.6 0.0**
baz=268
RUSC La Rusia 148.57 125 *e*PKPdf **PKPdf 09 45 01.3 -0.8**
RUSC *e*PKPbc **PKPbc 09 45 05.0 -0.6**
RUSC La Rusia 148.57 125 *e*P **PKPdf 09 45 02.7 +0.7**
BG3 Lake Jocassee 148.64 65 *e*PKPdf **PKPdf 09 45 02.0 +1.0**
BG3 *e*PKPbc **PKPbc 09 45 05.7 +1.0**
BG3 LR LR

comp=Z,500nm,21.0s
154A Montrose 148.68 70 P **PKPbc 09 45 04.8 -0.1**
baz=273
SADO Sadowa 148.71 45 *e*PKPdf **PKPdf 09 45 01.0 +0.3**
SADO *e*PKPbc **PKPbc 09 45 05.3 +0.8**
455A Stateville 148.79 73 P **PKPbc 09 45 05.4 +0.3**
baz=270,SNR=7.2
555A McAlpin 148.83 75 P **PKPbc 09 45 05.5 +0.3**
baz=269,SNR=8.3
BRRC Barranca, Sant 148.91 123 *e*P **PKPbc 09 45 04.3 -1.6**
355A Pearson 148.94 72 P **PKPbc 09 45 05.6 +0.1**
baz=271
BARC Barichara 148.97 124 *e*P **PKPdf 09 45 03.3 +0.9**
656A Willston 149.18 76 P **PKPbc 09 45 06.5 +0.4**
baz=268
ERPA Erie 149.20 51 *e*PKPbc **PKPbc 09 45 05.9 +0.1**
ERPA LR LR

comp=Z,900nm,21.0s
ALLY Alegheny Colle 149.25 52 PFAKE 09 45 10.0 -0.5
ALLY LR LR

comp=Z,800nm,22.0s
HODGE Hodges 149.27 66 *e*PKPbc **PKPbc 09 45 06.1 -0.2**
HODGE LR LR

comp=Z,800nm,20.0s
556A Lake Butler 149.31 75 P **PKPbc 09 45 06.7 +0.3**
baz=269,SNR=9.1
957A Wimauma 149.33 79 P **PKPbc 09 45 06.9 +0.4**
baz=265
BANO Bancroft 149.37 44 P **PKPbc 09 45 06.2 0.0**
baz=298,SNR=16
857A Zephyrhills 149.38 78 P **PKPbc 09 45 06.6 -0.1**
baz=266
SJCC San Jacinto, C 149.47 117 *e*P **PKPdf 09 45 05.0 +2.1**
356A Blackshear 149.56 72 P **PKPbc 09 45 07.1 0.0**
baz=271,SNR=6.7
757A Oxford 149.57 77 P **PKPbc 09 45 07.2 +0.1**
baz=267
PAULI Pauline 149.57 65 PFAKE 09 45 10.0 -2.0
PAULI LR LR

comp=Z,400nm,20.0s
N54A Moraine State 149.59 53 P **PKPbc 09 45 07.0 +0.1**
baz=289,SNR=22
N54A Moraine State 149.59 53 *e*PKPdf **PKPdf 09 45 02.9 +0.7**
N54A *e*PKPbc **PKPbc 09 45 07.3 +0.4**
N54A LR LR

comp=Z,900nm,21.0s
M54A Oil Creek Stat 149.64 52 P **PKPbc 09 45 06.9 -0.1**
baz=290,SNR=8.8
M54A Oil Creek Stat 149.64 52 *e*PKPdf **PKPdf 09 45 02.4 0.0**
M54A *e*PKPbc **PKPbc 09 45 07.2 +0.2**
M54A LR LR

comp=Z,900nm,22.0s
058A Arcadia 149.65 81 P **PKPbc 09 45 08.0 +0.6**
baz=264
456A Hilliard 149.65 73 P **PKPbc 09 45 07.8 +0.5**
baz=270,SNR=6.3
256A Glennville 149.74 71 P **PKPbc 09 45 07.5 0.0**
baz=272
958A Wauchula 149.75 80 P **PKPbc 09 45 08.0 +0.4**
baz=265,SNR=5.8
657A Interlachen 149.77 76 P **PKPbc 09 45 07.8 +0.2**
baz=268,SNR=7.7
DELO Deloro Mine 149.80 45 P **PKPbc 09 45 07.0 -0.2**
baz=298,SNR=11
PAMC Pamplona, Colo 149.82 124 *e*P **PKPdf 09 45 06.0 +1.9**
MEDO Medina 149.84 48 P **PKPbc 09 45 07.1 -0.2**
baz=295,SNR=5.4
059Z Ave Maria 149.89 82 P **PKPbc 09 45 08.9 +0.9**
baz=263
PLVO Plevna 149.89 44 *e*PKPdf **PKPdf 09 45 02.8 +0.2**
PLVO *e*PKPbc **PKPbc 09 45 07.5 +0.1**
557A Orange Park 149.90 75 P **PKPbc 09 45 08.3 +0.4**
baz=269
KMSC Kings Mountain 149.92 65 P **PKPbc 09 45 08.1 +0.3**
baz=278
KMSC Kings Mountain 149.92 65 *e*PKPdf **PKPdf 09 45 03.8 +0.8**
KMSC *e*PKPbc **PKPbc 09 45 07.9 +0.1**
KMSC LR LR

comp=Z,600nm,20.0s
CBCY The Bluff, Cay 149.95 96 *e*PKPbc **PKPbc 09 45 08.6 +0.2**
DWPF Disney Wildern 150.07 79 P **PKPbc 09 45 08.8 +0.4**
baz=266
DWPF Disney Wildern 150.07 79 *e*PKPbc **PKPbc 09 45 08.8 +0.4**
DWPF LR LR

comp=Z,400nm,20.0s
JSC Jenkinsville 150.09 66 *e*PKP2 **PKPbc 09 45 07.9 -0.4**
JSC MLR MLR

comp=Z,700nm,20.0s
JSC Jenkinsville 150.09 66 *e*pPKPdf **PKPbc 09 45 07.8 -0.4**
JSC LR LR

comp=Z,700nm,20.0s
MCWV Mont Chateau 150.10 55 P **PKPbc 09 45 08.3 +0.2**
baz=287
MCWV Mont Chateau 150.10 55 *e*pPKPdf **PKPbc 09 45 08.1 -0.1**
MCWV LR LR

comp=Z,700nm,20.0s
357A Townsend 150.10 72 P **PKPbc 09 45 08.6 +0.2**
baz=272
858A St. Cloud 150.14 78 P **PKPbc 09 45 09.0 +0.4**
baz=266
059A Moore Haven 150.23 81 P **PKPbc 09 45 09.2 +0.5**
baz=264
BLA Blacksburg 150.28 60 P **PKPbc 09 45 08.7 0.0**
baz=283
BLA Blacksburg 150.28 60 *e*PKIKP **PKPdf 09 45 04.4 +0.8**
BLA *e* 09 45 09.5
BLA MLR MLR

comp=Z,600nm,22.0s
BLA Blacksburg 150.28 60 *e*PKPdf **PKPdf 09 45 04.3 +0.8**
BLA *e*PKPbc **PKiKP 09 45 09.5 0.0**
BLA LR LR

comp=Z,600nm,22.0s
658A Bunnell 150.29 76 P **PKPbc 09 45 09.0 +0.1**
baz=268
758A Lake Helen 150.33 77 P **PKPbc 09 45 09.0 +0.1**
baz=267
MMNY Mt. Morris Dam 150.39 48 *e*pPKPdf **pPKPdf 09 45 07.8 -0.2**
MMNY LR LR

comp=Z,500nm,22.0s
257A Skidaway Islan 150.47 71 P **PKPbc 09 45 09.7 +0.5**
baz=273
959A Okeechobee 150.51 80 P **PKPbc 09 45 09.8 +0.4**
baz=265
859A Kempfer Cattle 150.54 79 P **PKPbc 09 45 10.1 +0.6**
baz=266
VWCC Virginia Weste 150.62 60 *e*pPKPdf **PKPbc 09 45 09.1 -0.4**
TRQ Mont Tremblant 150.78 40 *e*PKPdf **PKPdf 09 45 03.4 -0.7**
TRQ *e*PKPbc **pPKPdf 09 45 08.8 +0.2**
O56A Blue Knob Stat 150.84 53 P **PKPbc 09 45 10.2 +0.2**
baz=290
O56A Blue Knob Stat 150.84 53 *e*PKPdf **PKPdf 09 45 04.7 +0.4**
O56A *e*PKPbc **PKPbc 09 45 10.0 +0.1**
O56A LR LR

comp=Z,700nm,22.0s
CODC Agust`>n Codaz 150.87 119 *e*P **PKPbc 09 45 09.1 -1.6**
ALFO Alfred 150.92 41 P **PKPbc 09 45 09.5 -0.3**
baz=303,SNR=7.4
060A Indiantown 150.93 81 P **PKPbc 09 45 10.9 +0.4**
baz=264
NCAT North Carolina 151.02 62 *e*PKPdf **PKPdf 09 45 05.1 +0.4**
NCAT *e*PKPbc **sPKPdf 09 45 10.6 -0.1**
NCAT LR LR

comp=Z,500nm,19.0s
NHSC New Hope 151.11 68 P **PKPbc 09 45 11.2 +0.5**
baz=276
NHSC New Hope 151.11 68 *e*pPKPdf pPKPdf 09 45 09.5 +0.1
SSPA Standing Stone 151.20 52 P **PKPbc 09 45 10.7 0.0**
baz=291
SSPA Standing Stone 151.20 52 *e*PKPdf **PKPdf 09 45 04.8 0.0**
SSPA *e*PKPbc **PKPbc 09 45 10.8 0.0**
SSPA LR LR

comp=Z,600nm,20.0s
MTDJ Mount Denham 151.43 100 *e*PKPbc **PKPbc 09 45 11.6 -0.3**
MTDJ Mount Denham 151.43 100 *e*P **PKPbc 09 45 09.7 -2.2**
LONY Lake Ozonia 151.64 43 P **PKPbc 09 45 11.3 -0.3**
baz=302,SNR=5.3
LONY Lake Ozonia 151.64 43 *e*PKPdf **PKPdf 09 45 05.0 -0.3**
LONY *e*PKPbc **PKPbc 09 45 11.4 -0.3**
LONY LR LR

comp=Z,600nm,21.0s
IP04 Greensprings 151.86 57 *e*pPKPdf **PKPbc 09 45 11.3 -0.9**
IP04 LR LR

comp=Z,1µm,22.0s
BINY Binghamton 151.90 48 P **PKPbc 09 45 12.1 -0.2**
baz=296
BINY Binghamton 151.90 48 PFAKE 09 45 10.0 -2.3
BINY LR LR

comp=Z,500nm,20.0s
IP03 Louisa 151.94 58 *e*PKPbc **PKPbc 09 45 12.3 -0.2**
IP03 LR LR

comp=Z,1µm,22.0s
IP07 Quail 151.95 58 *e*PKPbc **PKPbc 09 45 12.4 -0.1**
IP07 LR LR

comp=Z,1µm,21.0s
IP06 Yanceyville 151.99 58 *e*PKPbc **PKPbc 09 45 12.2 -0.4**
IP01 Cuckoo 152.03 58 *e*PKPbc **PKPbc 09 45 12.7 0.0**
IP01 LR LR

comp=Z,1µm,21.0s
SPRD Spring Road, M 152.04 58 *e*pPKPdf **PKPbc 09 45 11.8 -0.9**
CVRD Centerville Ro 152.08 57 *e*PKPbc **PKPbc 09 45 12.2 -0.6**
FRNY Flat Rock 152.12 41 PFAKE 09 45 10.0 -2.7
FRNY LR LR

comp=Z,700nm,19.0s
PAGS Pennsylvania G 152.18 52 *e*PKPdf **PKPdf 09 45 07.5 +1.3**
PAGS *e*PKPbc **sPKPdf 09 45 12.1 -0.2**

PAGS LR LR
comp=Z,700nm,19.0s
IP05 Hopewell Churc 152.19 58 PFAKE 09 45 20.0 -2.8
IP05 LR LR
comp=Z,1μm,21.0s
NCB Newcomb 152.19 43 PFAKE 09 45 20.0 -2.6
NCB LR LR
comp=Z,900nm,21.0s
SDV Santo Domingo 152.37 124 PKPbc **PKPbc 09 45 13.2 -1.1**
comp=Z,29nm,0.8s,baz=232,slow=2.3,SNR=20
SDV Santo Domingo 152.37 124 *e*PKPdf **PKPdf 09 45 07.7 +0.1**
SDV *e*PKPbc **sPKPdf 09 45 13.7 0.0**
SDV LR LR
comp=Z,600nm,20.0s
SDV Santo Domingo 152.37 124 *e*P **PKPdf 09 45 10.2 +2.6**
CBN Corbin Frederi 152.37 57 P **PKPbc 09 45 13.1 -0.3**
baz=287
CBN Corbin Frederi 152.37 57 *e*PKPbc **PKPbc 09 45 13.2 -0.3**
CBN LR LR
comp=Z,900nm,22.0s
SDMD Soldier's Deli 152.38 54 *e*PKPbc **PKPbc 09 45 13.3 -0.1**
SDMD LR LR
comp=Z,400nm,22.0s
URVA University of 152.42 58 *e*PKPbc **PKPbc 09 45 13.4 -0.2**
N59A State Game Lan 152.58 50 P **PKPbc 09 45 13.8 0.0**
baz=294
N59A State Game Lan 152.58 50 *e*PKPbc **PKPbc 09 45 13.6 -0.3**
N59A LR LR
comp=Z,800nm,22.0s
CNNC Cliffs of the 152.69 63 P **PKPbc 09 45 14.2 0.0**
baz=281
CNNC Cliffs of the 152.69 63 PFAKE 09 45 20.0 -4.9
CNNC LR LR
comp=Z,400nm,20.0s
LUPA Lehigh Univers 152.99 51 PFAKE 09 45 20.0 +5.3
LUPA LR LR
comp=Z,100nm,20.0s
TRY Troy 153.17 45 *e*PKPab **PKPab 09 45 27.7 +1.0**
PSUB Penn St. - Bra 153.20 52 *e*PKPdf **PKPdf 09 45 08.2 +0.4**
PSUB *e*PKPbc **PKiKP 09 45 16.2 +0.9**
ODNJ Ogdensburg 153.32 49 *e*PKPdf **PKPdf 09 45 08.9 +1.0**
ODNJ *e*PKPbc **PKPbc 09 45 15.3 -0.1**
ODNJ LR LR
comp=Z,1μm,21.0s
LBNH Lisbon 153.44 41 P **PKPbc 09 45 15.7 +0.1**
baz=305
LBNH Lisbon 153.44 41 PFAKE 09 45 20.0 +4.4
LBNH LR LR
comp=Z,800nm,21.0s
BRNJ Basking Ridge 153.51 50 PFAKE 09 45 20.0 +4.1
BRNJ LR LR
comp=Z,800nm,20.0s
HNH Hanover 153.52 42 *e*PKPbc **PKPbc 09 45 15.8 +0.1**
PAL Palisades 153.82 49 P **PKPbc 09 45 16.4 -0.1**
baz=257
PAL Palisades 153.82 49 PFAKE 09 45 20.0 +3.5
PAL LR LR
comp=Z,900nm,20.0s
CPNY Central Park 153.88 49 PFAKE 09 45 20.0 +3.4
CPNY LR LR
comp=Z,900nm,19.0s
PQI Presque Isle 153.99 33 *e*PKPbc **PKPbc 09 45 17.1 +0.4**
PKME Peaks-Kenny Pk 154.30 37 P **PKPbc 09 45 17.1 -0.3**
baz=311
PKME Peaks-Kenny Pk 154.30 37 PFAKE 09 45 20.0 +2.6
PKME LR LR
comp=Z,1μm,22.0s
HRV Adam Dziewonsk 154.62 44 PFAKE 09 45 20.0 +1.8
HRV LR LR
comp=Z,600nm,20.0s
WES Weston 154.83 44 *e*PKP2 **PKPab 09 45 34.5 +0.7**
WES Weston 154.83 44 *e*PKPab **PKPab 09 45 34.5 +0.7**
SDD Santo Domingo 158.19 106 PFAKE 09 45 20.0 +5.0
SDD LR LR
comp=Z,400nm,22.0s

IDC ***23*** *09:25:32.0±2.9, 31°.73S×69°.06W, h94km±26km, mb3.7/5, mb1 3.8/9, mb1mx3.6/39, mbtmp3.9/9, Error ellipse: s-maj=29.1km s-min=25.2km az=97.0*
NEIC ***23*** *09:25:31.9±0.5, 31°.69S×69°.03W, h95km±5km, mb4.3/21, MD4.6(SJA), Error ellipse: s-maj=10.3km s-min=5.6km az=90.0*
NEIC Felt [III] at San Juan.
ISCJB ***23*** *09:25:32.6±0.6, 31°.66S±0°.03×69°.11W±0°.04, h115km±2km, mb4.3/25, Error ellipse: s-maj=6.5km s-min=4.1km az=20.8*
SJA ***23*** *09:25:32.6±0.6, 31°.64S×69°.20W, h109km±3km, ML4.4, MW4.6, Fault plane solution: NP1:ϕs5.80000°, δ53.90000°, λ-108.20000°.*
GUC ***23*** *09:25:33.7±0.4, 31°.48S×69°.53W, h97km±54km, ML3.5*

ISC 23 09:25:33.1±0.6, 31°.67S±0°.04×69°.10W±0°.04, h109km±5km, n80, σ1s62/94, mb4.2/25, 8C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.21**	**232**	*i* P		**Pn**	**Pn**	**09 25 49.0**	**+0.2**
RTLS				*i* S		**Sn**	**Sn**	**09 26 01.4**	**+0.8**
RTLS				IAML				09 26 01.7	
	comp=Z,10μm,0.3s								
ZON	**Zonda**	**0.38**	**72**	*i* P		**Pn**	**Pn**	**09 25 49.6**	**+0.5**
ZON				*i* S		**Sn**	**Sn**	**09 26 02.3**	**+1.1**
SJA	**San Juan**	**0.48**	**73**	*i* P		**Pn**	**Pn**	**09 25 50.5**	**+0.8**
SJA				IAML				09 25 50.7	
	comp=Z,5μm,0.3s								
RTCV	**Cerro Valdivia**	**0.52**	**112**	*i* P		**Pn**	**Pn**	**09 25 50.8**	**+0.8**
AUSP	**Uspallata**	**0.61**	**204**	‖ *i* P		**Pn**	**Pn**	**09 25 51.4**	**+0.5**
RTLL	**Cerro Villicun**	**0.63**	**58**	*i* P		**Pn**	**Pn**	**09 25 51.5**	**+0.6**
RTLL				IAML				09 26 05.7	
	comp=Z,11μm,0.4s								
RTLL				*i* S		**Sn**	**Sn**	**09 26 05.8**	**+1.6**
AMOG	**MOGNA**	**0.89**	**36**	‖ *i* P		**Pn**	**Pn**	**09 25 54.2**	**+1.0**
ASAL	**Salagasta**	**0.95**	**166**	‖ *i* P		**Pn**	**Pn**	**09 25 54.7**	**+0.9**
ARCO	**CERRO ARCO**	**1.18**	**173**	*i* P		**Pn**	**Pn**	**09 25 57.5**	**+1.2**
ARCO				*i* S		**Sn**	**Sn**	**09 26 15.5**	**+1.6**
ARCO				IAML				09 26 17.1	
	comp=Z,7μm,0.6s								
AAGR	**Agrelo**	**1.43**	**171**	⇑ *i* P		**Pn**	**Pn**	**09 26 00.0**	**+0.8**
ACAN	**Cantantal**	**1.73**	**111**	⇑ *i* P		**Pn**	**Pn**	**09 26 03.9**	**+1.1**
AVIZ	**Vizcacheras**	**1.87**	**165**	⇑ *i* P		**Pn**	**Pn**	**09 26 05.4**	**+0.9**
FCH	**Farellones**	**1.94**	**211**	*e*P		**Pn**	**Pn**	**09 26 07.4**	**+1.8**
FCH				*e*S		**Sn**	**Sn**	**09 26 33.2**	**+2.9**
FCH				IAML				09 26 42.0	
	comp=E,630nm,0.3s								
PEL	**Peldehue**	**1.99**	**222**	*e*P		**Pn**	**Pn**	**09 26 06.6**	**+0.6**
PEL				*e*S		**Sn**	**Sn**	**09 26 31.1**	**0.0**
PEL				IAML				09 26 36.0	
	comp=E,169nm,0.5s								
ROCH	**El Roble**	**2.08**	**231**	*e*P		**Pn**	**Pn**	**09 26 07.2**	**0.0**
ROCH				*e*S		**Sn**	**Sn**	**09 26 32.8**	**-0.4**
ROCH				IAML				09 26 38.3	
	comp=N,1μm,0.6s								
ROC1	**El Roble**	**2.08**	**231**	*e*Pn		**Pn**	**Pn**	**09 26 07.0**	**-0.3**
ROC1				*e*Sn		**Sn**	**Sn**	**09 26 32.8**	**-0.6**
AGUA	**GUANDACOL**	**2.23**	**14**	‖ *e*P		**Pn**	**Pn**	**09 26 11.0**	**+1.8**
LMEL	**Las Melosas**	**2.37**	**203**	*e*P		**Pn**	**Pn**	**09 26 13.1**	**+2.2**
LMEL				*i* S		**Sn**	**Sn**	**09 26 46.0**	**+6.1**
LMEL				IAML				09 26 57.1	
	comp=N,295nm,0.6s								
APLL	**PUNTA DE LOS L**	**2.55**	**61**	⇑ *i* P		**Pn**	**Pn**	**09 26 14.0**	**+0.8**
MRA	**San Martin**	**2.97**	**106**	⇑ *i* P		**Pn**	**Pn**	**09 26 19.5**	**+0.8**
LCO	**Las Campanas**	**2.99**	**332**	*e*Pn		**Pn**	**Pn**	**09 26 19.1**	**0.0**
LCO				*e*Sn		**Sn**	**Sn**	**09 26 53.8**	**-0.8**
LCO	**Las Campanas**	**2.99**	**332**	‖ *i* P		**Pn**	**Pn**	**09 26 19.2**	**0.0**
VCA	**Vinchina**	**3.02**	**15**	‖ *e*P		**Pn**	**Pn**	**09 26 21.1**	**+1.6**
RFA	**San Rafael**	**3.14**	**170**	‖ *i* P		**Pn**	**Pn**	**09 26 20.8**	**-0.2**
GO05	**HualaæØ**	**4.09**	**215**	*e*Pn		**Pn**	**Pn**	**09 26 31.2**	**-2.4**
CYA	**Choya**	**4.30**	**43**	‖ *i* P		**Pn**	**Pn**	**09 26 36.1**	**-0.5**
FSA	**Cafayete**	**6.17**	**27**	‖ *i* P		**Pn**	**Pn**	**09 27 01.3**	**-0.7**
PB10	**IPOC Station P**	**8.22**	**351**	*e*Pn		**Pn**	**Pn**	**09 27 28.2**	**-1.4**
TRQA	**Tornquist**	**8.65**	**139**	*e*Pn		**Pn**	**Pn**	**09 27 34.8**	**-0.5**
TRQA				*e*Sn		**Sn**	**Sn**	**09 29 08.6**	**-2.6**
PLCA	**Paso Flores**	**9.12**	**187**	P		**Pn**	**Pn**	**09 27 40.6**	**-1.2**
	comp=N,0.2nm,0.3s,baz=39,slow=10,SNR=7.4								
PLCA	**Paso Flores**	**9.12**	**187**	*e*Pn		**Pn**	**Pn**	**09 27 39.4**	**-2.4**
PB04	**IPOC Station P**	**9.34**	**354**	*e*Pn		**Pn**	**Pn**	**09 27 43.4**	**-1.6**
PB01	**IPOC Station P**	**10.59**	**358**	*e*Pn		**Pn**	**Pn**	**09 27 57.0**	**-4.8**
CPUP	**Villa Florida**	**11.59**	**66**	P		**Pn**	**Pn**	**09 28 12.8**	**-2.4**
	comp=N,0.2nm,0.3s,baz=201,slow=13,SNR=3.8								
CPUP	**Villa Florida**	**11.59**	**66**	*e*Pn		**Pn**	**Pn**	**09 28 12.9**	**-2.2**
PB11	**IPOC Station P**	**11.87**	**357**	*e*Pn		**Pn**	**Pn**	**09 28 19.1**	**+0.1**
MNMC	**Minye Minye**	**12.49**	**358**	*e*Pn		**Pn**	**Pn**	**09 28 27.5**	**+0.2**
LPAZ	**La Paz**	**15.34**	**4**	P		**P**		**09 29 06.0**	**-0.7**
	comp=N,0.3nm,0.3s,baz=197,slow=7.1,SNR=17								
LPAZ	**La Paz**	**15.34**	**4**	*e*Pn		**Pn**		**09 29 04.6**	**+0.3**
	comp=N,4.2nm,0.8s								
CHRN	**Cochrane**	**15.79**	**189**	*e*Pn		**Pn**		**09 29 08.2**	**-1.0**
	comp=N,5.7nm,0.7s								
CHRN				*e*Sn		**Sn**		**09 32 01.2**	**-2.7**
SIV	**San Ignacio**	**17.23**	**27**	P		**Pn**		**09 29 27.6**	**+0.5**
	comp=N,0.1nm,0.3s,baz=225,slow=16,SNR=4.9								
NNA	**Nana**	**20.85**	**338**	*e*P		**P**		**09 30 06.0**	**-0.3**
	comp=N,12nm,1.1s								
SAML	**Samuel**	**23.27**	**15**	*e*P		**P**		**09 30 31.8**	**+0.6**
	comp=N,3.8nm,0.6s								
HOPE	**Hope Point**	**32.40**	**144**	*e*P		**P**		**09 31 51.1**	**-1.1**
	comp=N,24nm,0.9s								
OTAV	**Otavalo**	**32.94**	**343**	*e*P		**P**		**09 31 55.6**	**-2.3**
	comp=N,1.6nm,0.9s								
TUMC	**Tumaco**	**34.54**	**343**	*e*P		**P**		**09 32 12.5**	**+1.3**
	comp=N,17nm,0.9s								
PRAC	**Prado**	**35.61**	**350**	*e*P		**P**		**09 32 21.1**	**+0.6**
	comp=N,5.4nm,0.6s								
RUSC	**La Rusia**	**37.54**	**353**	*e*P		**P**		**09 32 38.3**	**+0.9**
	comp=N,6.9nm,0.6s								
HELC	**Santa Helena**	**38.14**	**350**	*e*P		**P**		**09 32 43.1**	**+0.8**
	comp=N,51nm,0.6s								
SNET	**Serv Nac Est T**	**49.06**	**334**	*e*P		**P**		**09 34 10.4**	**+1.0**
	comp=N,43nm,1.1s								
TXAR	**Lajitas Array**	**68.99**	**328**	P		**P**		**09 36 28.0**	**+1.1**
	comp=N,1.2nm,0.6s,baz=154,slow=8.4,SNR=25								
TX31	**Lajitas Ar. Si**	**68.99**	**328**	*e*P		**P**		**09 36 27.6**	**+0.7**
WVT	**Waverly**	**69.69**	**344**	*e*P		**P**		**09 36 30.9**	**0.0**
	comp=N,11nm,0.7s								
UTMT	**University of**	**70.14**	**343**	*e*P		**P**		**09 36 30.4**	**-3.3**
	comp=N,70nm,0.4s								
GDL2	**Guadalupe Moun**	**71.75**	**329**	*e*P		**P**		**09 36 44.0**	**+0.4**
MNTX	**Cornudas Mount**	**71.78**	**328**	*e*P		**P**		**09 36 43.7**	**0.0**
	comp=N,2.3nm,0.8s								
MSTX	**Muleshoe**	**72.59**	**331**	*e*P		**P**		**09 36 49.4**	**+0.8**
	comp=N,6.0nm,0.8s								
MSTX				*e*PcP		**PcP**		**09 37 05.6**	**0.0**
ANMO	**Albuquerque**	**75.00**	**329**	*e*P		**P**		**09 37 03.5**	**+0.8**
	comp=N,1.4nm,0.9s								
T25A	**Trinidad**	**76.00**	**332**	*e*P		**P**		**09 37 09.9**	**+1.5**
	comp=N,3.3nm,0.9s								
MHTCO	**State Highway**	**76.10**	**331**	*e*P		**P**		**09 37 11.2**	**+2.2**
	comp=N,4.1nm,0.8s								
X16A	**Lo Mia Camp, P**	**76.87**	**325**	*e*P		**P**		**09 37 15.2**	**+1.9**
	comp=N,1.8nm,0.8s								
BORC	**Borrego Spring**	**78.52**	**321**	*e*P		**P**		**09 37 26.5**	**+4.2**
SMCO	**Snowmass**	**78.79**	**331**	*e*P		**P**		**09 37 25.6**	**+1.5**
	comp=N,2.1nm,0.8s								
ECSD	**EROS Data Cent**	**79.15**	**340**	*e*P		**P**		**09 37 25.8**	**+0.2**
	comp=N,6.2nm,1.1s								
KNB	**Kanab**	**79.63**	**326**	*e*P		**P**		**09 37 28.8**	**+0.3**
	comp=N,4.3nm,1.1s								
PASC	**Pasadena Art C**	**80.16**	**321**	*e*P		**P**		**09 37 32.8**	**+1.6**
TORD	**Torodi Ar. Bea**	**81.08**	**69**	P		**P**		**09 37 37.1**	**+0.5**
	comp=N,0.8nm,0.7s,baz=275,slow=6.3,SNR=6.8								
TORD				pP		**pP**		**09 38 05.7**	**+1.2**
	comp=N,1.4nm,0.8s,baz=259,slow=4.6,SNR=5.9								
PDAR	**Pinedale Array**	**82.86**	**331**	*e*P		**P**		**09 37 45.9**	**+0.3**
	comp=N,0.6nm,0.7s,baz=129,slow=6.4,SNR=5.6								
NVAR	**Mina Array Bea**	**83.44**	**323**	P		**P**		**09 37 50.0**	**+1.4**
	comp=N,1.1nm,1.0s,baz=142,slow=5.1,SNR=3.7								
ULM	**Lac du Bonnet**	**84.94**	**343**	P		**P**		**09 37 55.5**	**-0.1**
	comp=N,1.3nm,0.6s,baz=184,slow=3.7,SNR=3.2								
J08A	**Circle Bar Ran**	**87.27**	**326**	*e*P		**P**		**09 38 08.9**	**+1.5**
	comp=N,4.1nm,0.8s								
MONO	**Monmouth DOGAM**	**90.68**	**325**	*e*P		**P**		**09 38 23.8**	**+0.6**
STD	**Studebaker Rid**	**91.20**	**326**	*e*P		**P**		**09 38 30.1**	**+4.3**
BEVT	**Boeing Everett**	**92.45**	**327**	*e*P		**P**		**09 38 30.0**	**-1.3**
WRA	**Warramunga Arr**	**123.98**	**207**	PKP		**PKPdf**		**09 44 18.8**	**-0.4**
	comp=N,0.7nm,0.5s,baz=156,slow=1.7,SNR=8.7								
KURBB	**Kurchatov Arra**	**149.48**	**42**	PKPbc		**PKPbc**		**09 45 10.2**	**+1.0**
	comp=N,0.7nm,0.4s,baz=295,slow=3.0,SNR=7.1								
ZALV	**Zalesovo Beam**	**150.94**	**32**	PKPbc		**PKPbc**		**09 45 13.3**	**+0.8**
	comp=N,3.9nm,0.6s,baz=295,slow=3.1,SNR=12								
MKAR	**Makanchi Array**	**153.37**	**47**	PKPab		**PKPab**		**09 45 31.5**	**+0.7**
	comp=N,0.7nm,0.7s,baz=312,slow=1.5,SNR=4.0								
WMQ	**Urumqi**	**158.08**	**50**	P		**PKPdf**		**09 45 16.4**	**-0.7**
LZH	**Lanzhou**	**172.66**	**51**	*e*PKP		**PKPdf**		**09 45 30.0**	**+0.5**
LZH				pPKP		pPKPdf		09 45 57.3	-2.1
LZH				sPKP				09 46 08.3	

MAN 23 09:31:15, 8°.36N×126°.05E, h34km, mb4.1, ML2.8, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.35**	**120**	‖ *e*P			Pn	09 31 24.5	+0.7
BIPH				*i* S			Sb	09 31 29.3	-0.1
BUTP	**Butuan**	**0.74**	**325**	*e*P			Pb	09 31 30.1	+0.5
BUKP	**Musuan**	**1.09**	**244**	*e*P			Pn	09 31 33.8	-0.2
BUKP				*e*S			Sn	09 31 48.5	+0.6

MEX 23 09:35:54.8±0.6, 16°.06N×98°.66W, h16km±10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.61**	**57**	*e*P			Pg	09 36 04.6	-2.3
PNIG				*e*S			Sg	09 36 12.6	-2.3
ACX	**Acapulco**	**1.40**	**305**	*i* P			Pn	09 36 10.7	-9.1
ACX				*i* S			Sn	09 36 28.4	-10
TLIG	**Tlapa**	**1.49**	**3**	*e*P			Pn	09 36 17.8	-3.4
TLIG				*e*S			Sn	09 36 35.4	-5.0
CAIG	**El Cayaco**	**1.82**	**303**	*e*P			Pn	09 36 21.9	-3.6
CAIG				*e*S			Sn	09 36 43.5	-4.9
VHO	**Vista Hermosa**	**2.10**	**61**	*e*P			Pn	09 36 27.1	-2.4
VHO				*e*S			Sn	09 36 52.0	-3.6

ISCJB ***23*** *09:36:20.7±0.5, 50°.02N±0°.04×18°.52E±0°.03, h0km, Error ellipse: s-maj=5.3km s-min=2.4km az=7.9*
CSEM ***23*** *09:36:22.0±0.3, 49°.98N×18°.56E, h2km, ML2.6/9, Error ellipse: s-maj=6.7km s-min=3.0km az=4.0*
IPEC ***23*** *09:36:22.1±0.2, 49°.96N×18°.65E, h0km, ML1.8/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
WAR ***23*** *09:36:22.3, 49°.96N×18°.63E, h1km, Mw2.3*

ISC 23 09:36:21.5±0.8, 49°.98N±0°.03×18°.56E±0°.02, h0km, n30, σ0s51/62, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.30**	**242**	*e*PG			**Pb**	**09 36 29.3**	**-0.4**
OKC				*e*SG			**Sg**	**09 36 32.5**	**+1.4**
	comp=Z,34nm,0.4s								
OKC	**Ostrava-Krasne**	**0.30**	**242**	Pg			**Pb**	**09 36 29.3**	**-0.4**
OKC				Sg			**Sg**	**09 36 32.5**	**+1.4**
	34nm,0.4s								
MORC	**Moravsky Berou**	**0.69**	**253**	*e*Pg			**Pb**	**09 36 36.0**	**-0.3**
MORC				*e*Sg			**Sb**	**09 36 45.2**	**-1.2**
	18nm,0.2s								
OJC	**Ojcow**	**0.83**	**73**	*e*Pg			**Pg**	**09 36 37.4**	**0.0**
OJC				*e*Sg			**Sg**	**09 36 48.3**	**0.0**
OJC	**Ojcow**	**0.83**	**73**	*e*Pg			**Pg**	**09 36 37.4**	**0.0**
OJC				*e*Sg			**Sg**	**09 36 48.3**	**0.0**
OJC	**Ojcow**	**0.83**	**73**	*e*Pg			**Pg**	**09 36 37.4**	**0.0**
OJC				*e*Sg			**Sg**	**09 36 48.3**	**0.0**
LANS	**Liptovska Anna**	**1.02**	**144**	*e*Pg			**Pg**	**09 36 41.3**	**+0.3**
LANS				*e*Sg			**Sb**	**09 36 55.7**	**-0.3**
LANS	**Liptovska Anna**	**1.02**	**144**	*e*PG			**Pg**	**09 36 41.3**	**+0.3**
LANS				*e*SG			**Sb**	**09 36 55.7**	**-0.3**
KRLC	**Kraliky**	**1.15**	**275**	*e*PG			**Pb**	**09 36 44.1**	**-0.1**
KRLC				*e*SG			**Sb**	**09 37 00.0**	**+0.3**
	comp=Z,7.9nm,0.3s								
KRLC	**Kraliky**	**1.15**	**275**	Pg			**Pb**	**09 36 44.1**	**-0.1**
KRLC				Sg			**Sb**	**09 37 00.0**	**+0.3**
	7.9nm,0.3s								
NIE	**Niedzica**	**1.27**	**116**	*e*Pg			**Pg**	**09 36 45.9**	**+0.2**
NIE				*e*Sg			**Sn**	**09 37 04.3**	**+0.1**
NIE	**Niedzica**	**1.27**	**116**	*e*Pg			**Pg**	**09 36 45.9**	**+0.2**
NIE				*e*Sg			**Sn**	**09 37 04.3**	**+0.1**
NIE	**Niedzica**	**1.27**	**116**	*e*Pg			**Pg**	**09 36 45.9**	**+0.2**
NIE				*e*Sg			**Sn**	**09 37 04.3**	**+0.1**
VRAC	**Vranov**	**1.44**	**243**	*e*Pg			**Pb**	**09 36 49.3**	**+0.1**
VRAC				*e*Sg			**Sn**	**09 37 08.6**	**+0.1**
	9.8nm,0.3s								
DPC	**Dobruska-Polom**	**1.48**	**285**	*e*PG			**Pg**	**09 36 49.8**	**-0.1**
DPC				*e*SG			**Sn**	**09 37 10.8**	**+1.3**
	comp=Z,12nm,0.3s								
DPC	**Dobruska-Polom**	**1.48**	**285**	Pg			**Pg**	**09 36 49.8**	**-0.1**
DPC				Sg			**Sn**	**09 37 10.8**	**+1.3**
	12nm,0.3s								
VYHS	**Vyhne**	**1.50**	**173**	*e*Pg			**Pn**	**09 36 49.5**	**-0.1**
VYHS				*e*Sn			**Sg**	**09 37 08.9**	**-0.7**
VYHS	**Vyhne**	**1.50**	**173**	*e*PG			**Pn**	**09 36 49.5**	**-0.1**
VYHS				*e*SN			**Sg**	**09 37 08.9**	**-0.7**
VYHS				eLG			Lg	09 37 14.2	
KRUC	**Moravsky**	**1.68**	**238**	*e*Pg			**Pg**	**09 36 53.5**	**-0.2**
KRUC				*e*Sg			**Sg**	**09 37 15.9**	**+0.4**
	6.6nm,0.2s								
STHS	**Stebnicka Huta**	**1.83**	**107**	*e*Pn			**Pb**	**09 36 55.7**	**-0.2**
STHS				*e*Sn			**Sg**	**09 37 20.7**	**+0.3**
STHS	**Stebnicka Huta**	**1.83**	**107**	*e*PN			**Pb**	**09 36 55.7**	**-0.2**
STHS				*e*SN			**Sg**	**09 37 20.7**	**+0.3**
STHS				eLG			Lg	09 37 26.5	
KECS	**Kecovo**	**1.96**	**139**	*e*Sn			**Sb**	**09 37 23.2**	**+0.2**
KECS	**Kecovo**	**1.96**	**139**	*e*SN			**Sb**	**09 37 23.2**	**+0.2**
KECS				eLG			Lg	09 37 26.6	
GOPC	**GO Pecny, Ondr**	**2.44**	**270**	*e*SG			**Sg**	**09 37 39.3**	**-0.4**
	comp=Z,5.1nm,0.6s								
GOPC	**GO Pecny, Ondr**	**2.44**	**270**	Sg			**Sg**	**09 37 39.3**	**-0.4**
	5.1nm,0.6s								
PRU	**Pruhonice**	**2.59**	**272**	*e*SG			**Sg**	**09 37 44.0**	**-0.7**
	comp=Z,2.5nm,0.3s								
PRU	**Pruhonice**	**2.59**	**272**	Sg			**Sg**	**09 37 44.0**	**-0.7**
	2.5nm,0.3s								
BRG	**Berggiesshubel**	**3.08**	**289**	PG			**Pg**	**09 37 20.0**	**-0.5**
BRG				SG			**Sg**	**09 38 00.3**	**-0.1**
	3.4nm,0.4s								
KHC	**Kasperske Hory**	**3.35**	**257**	*e*SG			**Sg**	**09 38 09.1**	**0.0**
	comp=Z,4.1nm,0.5s								
KHC	**Kasperske Hory**	**3.35**	**257**	Sg			**Sg**	**09 38 09.1**	**0.0**
	4.1nm,0.5s								

MEX 23 09:40:13.3±0.5, 16°.07N×98°.65W, h15km±10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.59**	**57**	*i* P			Pg	09 40 23.0	-2.0
PNIG				*e*S			Sg	09 40 30.9	-2.0
ACX	**Acapulco**	**1.41**	**304**	*i* P			Pn	09 40 29.5	-8.9
ACX				*i* S			Sn	09 40 47.0	-10
TLIG	**Tlapa**	**1.48**	**3**	*e*P			Pn	09 40 36.4	-3.3
TLIG				*e*S			Sn	09 40 53.4	-5.4
CAIG	**El Cayaco**	**1.83**	**302**	*e*P			Pn	09 40 40.5	-3.8
CAIG				*e*S			Sn	09 41 03.0	-4.2
VHO	**Vista Hermosa**	**2.09**	**61**	*e*P			Pn	09 40 45.5	-2.5
VHO				*i* S			Sn	09 41 09.5	-4.3

IDC 23 09:41:52.1±7.9, 7°.36S×130°.15E, h132km±82km, mb3.7/1, mb1 3.5/4, mb1mx3.0/54, mbtmp3.9/4, Error ellipse: s-maj=70.4km s-min=26.3km az=35.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.01**	**246**	P			Pn	09 43 33.1	+0.8
	6.5nm,0.3s,baz=167,slow=0.9,SNR=7.9								
BATI				S			Sn	09 44 51.1	+0.4
	2.4nm,0.3s,baz=278,slow=21,SNR=3.5								
FITZ	**Fitzroy Crossi**	**11.55**	**202**	P			Pn	09 44 32.8	-0.2
FITZ				S			Sn	09 46 31.8	-8.7
WRA	**Warramunga Arr**	**13.15**	**162**	P			Pn	09 44 52.3	-1.7
	0.2nm,0.3s,baz=340,slow=13,SNR=7.5								
WRA				S			Sn	09 47 12.1	-7.2
	1.4nm,0.3s,baz=336,slow=22,SNR=14								
ASAR	**Alice Springs**	**16.61**	**168**	P			P	09 45 39.0	+1.4
	0.2nm,0.3s,baz=341,slow=9.1,SNR=6.3								
ASAR				S			Sn	09 48 37.7	-4.8
	0.3nm,0.3s,baz=347,slow=25,SNR=5.5								
MKAR	**Makanchi Array**	**68.60**	**327**	P			P	09 52 40.8	-0.1
	0.8nm,0.4s,baz=118,slow=7.7,SNR=15								

CSEM ***23*** *09:42:20.2±0.1, 44°.13N×18°.13E, h2km, ML1.7, Error ellipse: s-maj=3.0km s-min=2.5km az=2.0, Mining explosion.*

BEO 23 09:42:17.4±1.3, 44°.18N×17°.79E, h0km, M1.7/4, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.71**	**323**	*e*Pg			Pn	09 42 37.9	+3.1
BLY				*e*Sg			Sn	09 42 50.1	+3.6
HAPS	**Han Pijesak,Bl**	**0.84**

OUL				Sg	**Sg**	**09 56 37.9**	**-3.0**
OUL	**Oulu**	**4.12**	**235**	PN	**Pn**	**09 55 35.4**	**+2.5**
OUL				SG	**Sg**	**09 56 38.0**	**-3.0**
PAJU	**Pajala**	**4.21**	**266**	P	**Pn**	**09 55 34.9**	**+0.8**
PAJU	**Pajala**	**4.21**	**266**	P	**Pn**	**09 55 34.9**	**+0.8**
LANU	**Lannavaara**	**4.51**	**280**	P	**Pn**	**09 55 38.1**	**-0.1**
LANU				S	**Sn**	**09 56 31.4**	**0.0**
KALU	**Kalix**	**4.54**	**251**	P	**Pn**	**09 55 40.7**	**+2.1**
KALU	**Kalix**	**4.54**	**251**	P	**Pn**	**09 55 40.6**	**+2.1**
MASU	**Masugnsbyn**	**4.55**	**273**	P	**Pn**	**09 55 39.1**	**+0.3**
MASU	**Masugnsbyn**	**4.55**	**273**	P	**Pn**	**09 55 39.1**	**+0.3**
DUNU	**Dundret**	**5.16**	**270**	P	**Pn**	**09 55 47.9**	**+0.8**
DUNU	**Dundret**	**5.16**	**270**	P	**Pn**	**09 55 47.9**	**+0.8**
RATU	**Laukkuluspa**	**5.43**	**278**	P	**Pn**	**09 55 50.8**	**0.0**
RATU	**Laukkuluspa**	**5.43**	**278**	P	**Pn**	**09 55 50.8**	**0.0**
NIKU	**Nikkaluokta**	**5.64**	**279**	P	**Pn**	**09 55 54.0**	**+0.4**
LILU	**Lilltraesk**	**6.10**	**254**	P	**Pn**	**09 56 00.3**	**+0.4**
FIA0	**FINESS Array S** SNR=3.1	**7.08**	**212**	Lg	Lg	09 58 06.5	
FIA0	**FINESS Array S** baz=27,slow=22	**7.08**	**212**	Lg	Lg	09 58 06.5	
FIA0	**FINESS Array S** baz=27,slow=22	**7.08**	**212**	Lg	Lg	09 58 06.5	

MOS 23 10:10:15.0±2.1, 51°80'N×96°16'E, h10km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=37.5km az=164.4, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**2.37**	**70**	*e*PN	Pb	10 10 56.8	-1.0
ORL				*e*		10 11 29.0	
ORL	comp=Z,22nm,0.2s			pmax	pmax		
ORL	comp=N,216nm,0.7s			smax	smax		
MOY	**Mondy**	**3.01**	**91**	*e*PN	Pb	10 11 08.1	-0.6
MOY				*e*		10 11 48.7	
MOY	comp=Z,32nm,0.5s			pmax	pmax		
MOY	comp=N,202nm,1.0s			smax	smax		
ARS	**Arshan**	**3.88**	**86**	*e*PN	Pb	10 11 25.4	+1.8
ARS				*e*		10 12 16.6	
ARS	comp=Z,17nm,0.5s			pmax	pmax		
ARS	comp=E,360nm,0.7s			smax	smax		
TLY	**Talaya**	**4.65**	**89**	*e*PN	Pb	10 11 38.8	+2.1
TLY				*e*		10 12 39.7	
TLY	comp=Z,6.0nm,0.4s			pmax	pmax		
TRG	**Tyrgan**	**6.33**	**77**	*e*PN	Pn	10 11 50.1	+1.8
TRG				*e*		10 12 09.1	
TRG				*e*		10 13 30.9	
TRG	comp=Z,4.0nm,0.7s			pmax	pmax		
TRG	comp=N,41nm,1.0s			smax	smax		
OGRR	**Ongureny**	**7.19**	**71**	*e*PN	Pn	10 12 02.6	+2.5
OGRR				*e*		10 12 25.3	
OGRR	comp=Z,3.0nm,0.8s			pmax	pmax		

IDC 23 10:16:34.4±0.9, 3°85'N×126°28'E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/64, mbtmp3.9/7, MS3.7/1, Ms1 3.7/1, ms1mx2.7/56, Error ellipse: s-maj=73.8km s-min=17.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.93**	**162**	P	P	10 21 59.0	-0.5
	0.8nm,0.3s,baz=330,slow=11,SNR=31						
ASAR	**Alice Springs**	**28.34**	**165**	P	P	10 22 30.4	+0.1
	0.6nm,0.5s,baz=339,slow=6.8,SNR=17						
STKA	**Stephens Creek**	**38.40**	**159**	P	P	10 23 57.7	+0.1
	4.8nm,0.7s,baz=340,slow=9.3,SNR=6.2						
SONM	**Songino Array**	**47.05**	**342**	LR	LR	10 45 06.2	
	comp=Z,80nm,19.5s,baz=254,slow=36						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	10 26 23.6	+0.2
	0.4nm,0.4s,baz=119,slow=7.6,SNR=10						
KURBB	**Kurchatov Arra**	**61.40**	**328**	P	P	10 26 51.9	-0.4
	0.6nm,0.6s,baz=128,slow=6.4,SNR=7.3						
VNDA	**Vanda**	**83.60**	**173**	P	P	10 29 04.3	+0.3
	0.6nm,0.5s,baz=343,slow=4.4,SNR=5.0						
ILAR	**Eielson Array**	**85.19**	**25**	P	P	10 29 12.5	0.0
	0.3nm,0.5s,baz=258,slow=5.6,SNR=6.5						

MEX 23 10:24:33.0±0.5, 16°08'N×98°37'W, h6km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**37**	*e*P	Pg	10 24 40.0	-0.6
PNIG				*i* S	Sg	10 24 46.2	+0.5
TLIG	**Tlapa**	**1.49**	**353**	*e*P	Pn	10 24 56.5	-3.9
TLIG				*e*S	Sn	10 25 15.2	-5.0
ACX	**Acapulco**	**1.63**	**299**	*i* P	Pn	10 24 55.3	-7.0
ACX				*i* S	Sn	10 25 16.2	-7.4
VHO	**Vista Hermosa**	**1.86**	**58**	*e*P	Pn	10 25 02.2	-3.3
VHO				*e*S	Sn	10 25 24.4	-5.1
CAIG	**El Cayaco**	**2.06**	**298**	*e*P	Pn	10 25 05.5	-2.6
CAIG				*i* S	Sn	10 25 29.0	-5.1

MAN 23 10:27:49, 10°08'N×123°03'E, h30km, mb4.1, ML2.9, MS2.5, 1C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.69**	**321**	*e*P	Pn	10 28 03.2	+0.4
GUIM				*e*S	Sn	10 28 13.7	+1.1
SNPH	**Sibulan**	**0.76**	**164** ↑	*i* P	Pb	10 28 04.1	+0.3
SNPH				*i* S	Sn	10 28 14.8	+0.5
LLP	**Lapu-Lapu**	**0.95**	**76** ↓	*e*P	Pn	10 28 03.1	-3.2
LLP				*e*S	Sn	10 28 13.8	-5.1
RCP	**Roxas**	**1.50**	**349** ↓	*e*P	Pb	10 28 15.6	-0.6
RCP				*e*S	Sb	10 28 37.6	+2.8
MSLP	**Maasin**	**1.80**	**88**	*e*P	Pn	10 28 18.4	+0.4
MSLP				*e*S	Sn	10 28 41.2	+1.3
OCLP	**Ormoc**	**1.83**	**58**	*e*P	Pn	10 28 18.0	-0.4
OCLP				*e*S	Sn	10 28 41.2	+0.6

ISCJB ***23*** *10:28:13.5±0.6, 34°44'N×0°06'×13°60'E±0°05, h10km, mb3.8/11, Error ellipse: s-maj=8.6km s-min=5.4km az=158.4*
IDC ***23*** *10:28:13.6±1.1, 34°50'N×13°58'E, h0km, mb3.8/11, mb1 3.9/15, mb1mx3.7/65, mbtmp3.8/15, ML3.5/4, Error ellipse: s-maj=23.5km s-min=19.3km az=139.0*
ROM ***23*** *10:28:36.0±1.2, 35°95'N×14°26'E, h10km, MI3.3/20, Error ellipse: s-maj=17.3km s-min=6.5km az=175.0*

ISC 23 10:28:15.1±0.9, 34°49'N±0°09'×13°56'E±0°05, h10km, n61, σ1°72/63, mb3.9/11, 6C-4D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMDC	**Modica**	**2.65**	**22**	Pn	**Pn**	**10 28 56.4**	**-1.6**
	408nm,1.0s						
HAVL	**Avola**	**2.77**	**27**	Pn	**Pn**	**10 28 58.6**	**-1.0**
	322nm,0.6s						
RAFF	**Raffo Rosso**	**2.80**	**13**	Pn	**Pn**	**10 28 59.4**	**-0.6**
	305nm,0.6s						
MEU	**Monte Lauro**	**2.83**	**23**	Pn	**Pn**	**10 28 59.3**	**-1.2**
	136nm,0.2s						
SSY	**Sortino**	**2.93**	**24**	Pn	**Pn**	**10 29 01.4**	**-0.4**
	582nm,0.7s						
HCRL	**Carlentini**	**3.03**	**23**	Pn	**Pn**	**10 29 02.5**	**-0.7**
	684nm,0.7s						
HLNI	**Lentini**	**3.04**	**20**	Pn	**Pn**	**10 29 02.4**	**-0.9**
	376nm,0.8s						
VAE	**Valguarnera**	**3.06**	**13**	Pn	**Pn**	**10 29 04.9**	**+1.2**
	6.0nm,0.3s,baz=172,slow=13,SNR=4.6						
VAE					Sn	**Sn**	**10 29 41.8**	**+1.5**
	11nm,0.3s,baz=88,slow=10,SNR=5.5						
HAGA	**Augusta**	**3.07**	**24**	Pn	**Pn**	**10 29 03.0**	**-0.7**
	329nm,0.6s						
MCT	**Mte Cammarata**	**3.13**	**1**	Pn	**Pb**	**10 29 08.0**	**-3.0**
	270nm,0.9s						
CAGR	**Agira**	**3.22**	**13**	Pn	**Pn**	**10 29 08.0**	**+2.3**
ALJA	**Alia**	**3.25**	**3**	Pn	**Pn**	**10 29 07.4**	**+1.1**
	426nm,1.5s						
GALF	**Gagliano Caste**	**3.31**	**14**	Pn	**Pn**	**10 29 08.2**	**+1.1**
	228nm,0.6s						
GIB	**Gibilmanna**	**3.51**	**6**	Pn	**Pn**	**10 29 10.6**	**+0.7**
	762nm,1.1s						
PLLN	**Pollina**	**3.53**	**7**	Pn	**Pn**	**10 29 10.7**	**+0.7**
MSFR	**San Fratello**	**3.63**	**13**	Pn	**Pn**	**10 29 12.0**	**+0.5**
	247nm,1.3s						
KEST	**Kesra**	**3.67**	**291**	Pn	**Pn**	**10 29 12.7**	**+0.6**
	12nm,0.3s,baz=181,slow=1.4,SNR=44						
KEST					Sn	**Sn**	**10 29 56.9**	**+1.5**
	4.3nm,0.3s,baz=238,slow=24,SNR=13						
MMME	**Mongiuffi-Meli**	**3.70**	**21**	Pn	**Pn**	**10 29 12.1**	**-0.3**
	216nm,0.6s						
MUCR	**Ucria**	**3.70**	**16**	Pn	**Pn**	**10 29 12.7**	**+0.3**
	139nm,0.6s						
MCSR	**Castroreale**	**3.82**	**20**	Pn	**Pn**	**10 29 13.9**	**-0.2**
	237nm,0.5s						
MPNC	**Port Mandanici**	**3.92**	**21**	Pn	**Pn**	**10 29 15.6**	**+0.2**
	523nm,0.8s						
ATN	**Antennamare**	**3.97**	**22**	Pn	**Pn**	**10 29 16.2**	**0.0**
	593nm,1.1s						
MPAZ	**Palizzi**	**3.98**	**29**	Pn	**Pn**	**10 29 15.9**	**-0.3**
	183nm,0.8s						
MSRU	**Castanea**	**4.08**	**22**	Pn	**Pn**	**10 29 17.6**	**0.0**
	473nm,0.8s						
IACL	**Alicudi**	**4.09**	**9**	Pn	**Pn**	**10 29 17.1**	**-0.5**
	222nm,0.8s						
ABSA	**Djebel Ababsia**	**5.28**	**291**	P	**Pn**	**10 29 35.4**	**+1.2**
ABSA	**Djebel Ababsia**	**5.28**	**291**	P	**Sn**	**10 30 39.7**	**+4.6**
ABSA	**Djebel Ababsia**	**5.28**	**291**	P	**Pn**	**10 29 35.4**	**+1.2**
CMAH	**Djebel Manchou**	**5.44**	**295**	P	**Pn**	**10 29 36.9**	**+0.5**
CMAH	**Djebel Manchou**	**5.44**	**295**	P	**Sn**	**10 30 33.9**	**-5.2**
CMAH	**Djebel Manchou**	**5.44**	**295**	P	**Pn**	**10 29 36.9**	**+0.5**
CKFL	**Kef-Lekhel**	**5.90**	**291**	P	**Pn**	**10 29 42.9**	**+0.2**
CKFL	**Kef-Lekhel**	**5.90**	**291**	P	**Pn**	**10 29 42.9**	**+0.2**
CAEH	**'Ain El Ouahch**	**5.92**	**295**	P	**Pn**	**10 29 42.1**	**-0.8**
CAEH	**'Ain El Ouahch**	**5.92**	**295**	P	**Pn**	**10 29 42.1**	**-0.8**
ARR	**Arges**	**13.77**	**35** ↓	*i*P	**P**	**10 31 42.2**	**+3.1**
VOIR		**14.02**	**35** ↑	*i*P	**P**	**10 31 45.9**	**+4.0**
GERES	**GERESS Array B**	**14.34**	**0**	Pn	**Pn**	**10 31 41.0**	**+2.7**
	0.2nm,0.3s,baz=170,slow=14,SNR=5.9						
MLR	**Muntele Rosu**	**14.50**	**37** ↓	*i*P	**P**	**10 31 49.8**	**+2.6**
DOPR	**Dopca**	**14.57**	**35** ↑	*i*P	**P**	**10 31 50.2**	**+2.3**
ESDC	**Sonseca Array**	**14.91**	**295**	Pn	**P**	**10 31 48.5**	**-3.3**
	0.2nm,0.3s,baz=95,slow=14,SNR=4.1						
PLOR	**Plostina**	**15.10**	**37** ↑	*i*P	**P**	**10 31 53.3**	**-0.5**
VRI	**Vrincioaia**	**15.15**	**38** ↑	*i*P	**P**	**10 31 52.7**	**-1.6**
TIRR	**Tirgusor**	**15.16**	**45** ↓	*i*P	**P**	**10 31 57.6**	**+3.2**
CFR	**Carcaliu**	**15.44**	**42** ↓	*i*P	**P**	**10 31 59.8**	**+2.3**
BURAR	**Bucovina Array**	**15.76**	**30** ↑	*i*P	**P**	**10 32 03.7**	**+2.6**
BRTR	**Keskin Array B**	**16.84**	**66**	Pn	**P**	**10 32 12.8**	**-0.4**
	0.1nm,0.3s,baz=256,slow=11,SNR=6.5						
SORM	**Soroca**	**17.51**	**35** ↓	*i*P	**P**	**10 32 22.9**	**+2.2**
AKASG	**Malin Array Be**	**19.82**	**30**	P	**P**	**10 32 45.3**	**-0.4**
	0.5nm,0.3s,baz=223,slow=10,SNR=9.4						
TORD	**Torodi Ar. Bea**	**23.82**	**210**	P	**P**	**10 33 28.8**	**+0.4**
	2.8nm,1.1s,baz=24,slow=9.5,SNR=8.6						
KBZ	**Khabaz**	**24.45**	**59**	P	**P**	**10 33 35.8**	**+1.7**
	2.7nm,0.8s,baz=287,slow=6.2,SNR=7.6						
NB2	**NORSAR Subarra**	**26.61**	**357**	P	**P**	**10 33 53.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=176,slow=11						
NOA	**NORSAR Array B**	**26.61**	**357**	P	**P**	**10 33 52.3**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=182,slow=8.7,SNR=4.3						
FINES	**FINESS Array B**	**28.14**	**13**	P	**P**	**10 34 07.5**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=159,slow=7.4,SNR=5.1						
ARCES	**ARCESS Array B**	**35.72**	**7**	P	**P**	**10 35 12.7**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=184,slow=11,SNR=5.2						
BVAR	**Borovoye Array**	**43.76**	**47**	P	**P**	**10 36 21.0**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=268,slow=4.5,SNR=4.0						
KURBB	**Kurchatov Arra**	**48.92**	**50**	P	**P**	**10 37 00.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=279,slow=8.4,SNR=5.9						
MKAR	**Makanchi Array**	**52.01**	**54**	P	**P**	**10 37 23.9**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=295,slow=5.7,SNR=9.6						
ZALV	**Zalesovo Beam**	**52.30**	**45**	P	**P**	**10 37 26.2**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=283,slow=7.4,SNR=6.8						
SONM	**Songino Array**	**67.11**	**47**	P	**P**	**10 39 08.4**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=264,slow=6.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**76.08**	**77**	P	**P**	**10 40 03.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=315,slow=9.2,SNR=4.4						

ISCJB ***23*** *10:31:12.4±2.7, 14°5S±0°6×74°2W±0°4, h100km, mb3.5/4, Error ellipse: s-maj=93.3km s-min=8.6km az=32.4*
IDC ***23*** *10:31:14.6±2.2, 13°97S×73°86W, h83km±17km, mb3.4/4, mb1 3.9/7, mb1mx3.5/42, mbtmp4.0/7, Error ellipse: s-maj=84.6km s-min=13.8km az=29.0*

ISC 23 10:31:14.1±1.4, 14°3S±0°3×74°0W±0°2, h100km, n10, σ2°23/13, mb3.6/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.60**	**310**	P	**Pn**	**10 32 06.5**	**-1.5**
	101nm,0.3s,baz=142,slow=12,SNR=78						
NNA				S	**Sn**	**10 32 47.9**	**-1.7**
	78nm,0.3s,baz=36,slow=16,SNR=8.7						
LPAZ	**La Paz**	**6.01**	**110**	P	**Pn**	**10 32 43.0**	**+1.9**
	4.9nm,0.3s,baz=310,slow=10.0,SNR=125						
ATAH	**Atahualpa**	**8.34**	**329**	P	**Pn**	**10 33 14.9**	**+2.2**
	1.5nm,0.3s,baz=154,slow=4.8,SNR=7.9						
SIV	**San Ignacio**	**12.62**	**99**	P	**Pn**	**10 34 08.5**	**-1.6**
	0.7nm,0.3s,baz=284,slow=13,SNR=17						
TXAR	**Lajitas Array**	**52.00**	**327**	P	**P**	**10 40 14.7**	**+1.2**
	0.3nm,0.6s,baz=134,slow=8.9,SNR=5.8						
ULM	**Lac du Bonnet**	**67.12**	**345**	P	**P**	**10 41 57.2**	**+0.3**
	0.4nm,0.3s,baz=171,slow=8.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**79.80**	**74**	P	**P**	**10 43 12.1**	**+0.1**
	0.5nm,0.6s,baz=265,slow=5.3,SNR=3.8						
TORD				pP	**pP**	**10 43 32.5**	**-5.4**
	0.3nm,0.5s,baz=262,slow=4.8,SNR=2.4						
YKA	**Yellowknife Ar**	**82.89**	**342**	P	**P**	**10 43 28.1**	**+0.9**
	0.7nm,0.8s,baz=137,slow=5.4,SNR=15						
YKA				pP	**pP**	**10 43 52.9**	**-0.3**
	0.3nm,0.9s,baz=135,slow=5.1,SNR=3.5						
WRA	**Warramunga Arr**	**135.96**	**220**	PKP	**PKPdf**	**10 50 25.9**	**+1.6**
	0.5nm,0.9s,baz=146,slow=2.0,SNR=4.2						
SONM	**Songino Array**	**146.60**	**359**	PKPbc	**PKPab**	**10 50 45.9**	**+0.5**
	1.9nm,0.8s,baz=350,slow=0.8,SNR=11						

ISCJB ***23*** *10:42:07.7±0.9, 15°14S±0°07'×166°9E±0°2, h57km, mb3.9/8, Error ellipse: s-maj=22.8km s-min=9.8km az=180.0*
IDC ***23*** *10:42:10.0±6.8, 15°18S×166°99E, h64km±70km, mb3.6/8, mb1 3.8/9, mb1mx3.6/42, mbtmp3.9/9, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/31, Error ellipse: s-maj=46.6km s-min=27.3km az=163.0*

ISC 23 10:42:09.7±0.9, 15°12S±0°09'×167°0E±0°2, h57km, n11, σ1°63/11, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.93**	**184**	P	**Pn**	**10 43 48.3**	**-0.5**
	1.6nm,0.3s,baz=331,slow=11,SNR=26						
DZM				S	**Sn**	**10 45 07.1**	**+0.8**
	2.6nm,0.3s,baz=154,slow=23,SNR=3.5						
DZM				LR	LR	10 46 05.9	
	comp=Z,237nm,19.0s,baz=12,slow=34						
CTA	**Charters Tower**	**20.34**	**253**	P	**P**	**10 46 41.8**	**+0.3**
	2.4nm,0.6s,baz=76,slow=15,SNR=3.4						
WRA	**Warramunga Arr**	**31.44**	**256**	P	**P**	**10 48 24.4**	**-1.5**
	0.4nm,0.5s,baz=86,slow=9.0,SNR=9.3						
ASAR	**Alice Springs**	**32.26**	**250**	P	**P**	**10 48 31.6**	**-1.5**
	1.2nm,0.9s,baz=72,slow=10,SNR=13						
MJAR	**Matsushiro Arr**	**58.12**	**333**	P	**P**	**10 51 57.2**	**-0.3**
	1.2nm,0.6s,baz=176,slow=8.6,SNR=5.1						
CMAR	**Chiang Mai Arr**	**74.84**	**294**	P	**P**	**10 53 46.0**	**+1.3**
	0.5nm,0.4s,baz=117,slow=4.4,SNR=4.8						
SONM	**Songino Array**	**82.63**	**324**	P	**P**	**10 54 28.1**	**+1.1**
	0.4nm,0.5s,baz=157,slow=7.8,SNR=2.4						
ILAR	**Eielson Array**	**86.99**	**18**	P	**P**	**10 54 46.8**	**-1.6**
	0.5nm,0.4s,baz=236,slow=4.9,SNR=25						
MKAR	**Makanchi Array**	**97.28**	**316**	P	Pdif	10 55 40.6	+4.0
	0.8nm,0.8s,baz=90,slow=7.0,SNR=5.7						
YKA	**Yellowknife Ar**	**98.03**	**27**	P	**P**	**10 55 38.7**	**-0.7**
	0.2nm,0.6s,baz=256,slow=4.8,SNR=6.2						
ARCES	**ARCESS Array B**	**120.55**	**345**	PKP	**PKPdf**	**11 00 57.5**	**+3.1**
	1.4nm,0.6s,baz=46,slow=2.6,SNR=5.1						

CSEM ***23*** *11:13:49.6±0.8, 67°56N×33°94E, h2km, ML2.5, Error ellipse: s-maj=15.5km s-min=7.8km az=98.0, Mining explosion.*
ISCJB ***23*** *11:13:49.4±1.0, 67°52N±0°04×33°7E±0°1, h0km, Error ellipse: s-maj=8.1km s-min=5.3km az=178.2*
HEL ***23*** *11:13:50.5±0.3, 67°59N×33°98E, h0km, ML2.5, Explosion*
UPP ***23*** *11:13:51.5, 67°70N×33°78E, h0km, ML2.2, Suspected Mining explosion.*
KOLA ***23*** *11:13:51.5, 67°63N×33°93E, h0km*
NAO ***23*** *11:13:53.3±1.7, 67°66N×33°48E, ML2.9*

ISC 23 11:13:48.4±1.5, 67°63N±0°04×34°15E±0°08, h0km, n43, σ1°21/65, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.29**	**257**	P	**Pg**	**11 13 55.3**	**+1.3**
APA				S	**Sg**	**11 13 58.0**	**+0.2**
APA0	**Apatity Array**	**0.44**	**267**	P	**Pg**	**11 13 57.9**	**+1.0**
APA0				S	**Sg**	**11 14 02.6**	**0.0**
VRF	**Varrio** baz=90	**1.74**	**276**	PG	**Pb**	**11 14 20.7**	**-0.5**
VRF				MSG		11 14 40.5	
	comp=Z,56nm,0.2s						
VRF				SG	**Sn**	**11 14 42.2**	**-0.4**
KU6	**Riekki**	**2.33**	**228**	Pg	**Pb**	**11 14 30.3**	**-1.0**
KU6				Sg	**Sb**	**11 15 00.5**	**-0.1**
KU6	**Riekki** baz=48	**2.33**	**228**	PG	**Pb**	**11 14 30.3**	**-1.0**
KU6				MSG		11 14 57.4	
	comp=Z,27nm,0.2s						
KU6				SG	**Sb**	**11 15 00.5**	**-0.1**
MSF	**Maaselka**	**2.66**	**232**	Pb	**Pb**	**11 14 35.5**	**-1.4**
MSF				Sg	**Sb**	**11 15 09.8**	**-0.3**
MSF	**Maaselka** baz=51	**2.66**	**232**	PB	**Pb**	**11 14 35.5**	**-1.4**
MSF				SG	**Sb**	**11 15 09.8**	**-0.3**
SGF	**Sodankyl**	**2.93**	**270**	Pn	**Pn**	**11 14 37.3**	**+1.1**
SGF	**Sodankyl**	**2.93**	**270**	PN	**Pn**	**11 14 37.4**	**+1.1**
SGF				SG	**Sb**	**11 15 18.1**	**+0.2**
ARA0	**ARCESS Array S** SNR=504	**3.70**	**305**	Pn	**Pn**	**11 14 48.4**	**+1.6**
ARA0				Sn	**Sn**	**11 15 30.0**	**-1.0**
	SNR=2.4						
ARA0				Lg	Lg	11 15 41.8	
	SNR=3.6						
ARA0	**ARCESS Array S** baz=121,slow=12	**3.70**	**305**	Pn	**Pn**	**11 14 48.4**	**+1.6**
ARA0				Sn	**Sn**	**11 15 29.9**	**-1.0**
	baz=121,slow=28						
ARA0				Lg	Lg	11 15 41.8	
	baz=120,slow=28						
ARA0	**ARCESS Array S** baz=121,slow=12	**3.70**	**305**	Pn	**Pn**	**11 14 48.4**	**+1.6**
ARA0				Sn	**Sn**	**11 15 29.9**	**-1.0**
	baz=121,slow=28						
ARA0				Lg	Lg	11 15 41.8	
	baz=120,slow=28						
ARE0	**ARCESS Array S**	**3.70**	**305**	Pn	**Pn**	**11 14 48.0**	**+1.2**
ARE0				Sn	**Sn**	**11 15 30.7**	**-0.3**
ARE0	**ARCESS Array S**	**3.70**	**305**	PN	**Pn**	**11 14 48.0**	**+1.2**
ARE0				SN	**Sn**	**11 15 30.7**	**-0.3**
HEF	**Hetta**	**4.02**	**286**	Pn	**Pn**	**11 14 52.2**	**+1.1**
HEF				Sn	**Sn**	**11 15 39.2**	**+0.3**
HEF	**Hetta** baz=98	**4.02**	**286**	PN	**Pn**	**11 14 52.2**	**+1.1**
HEF				SN	**Sn**	**11 15 39.2**	**+0.3**
TOF	**Tornio**	**4.18**	**253**	PN	**Pn**	**11 14 54.1**	**+0.8**
OUL	**Oulu**	**4.19**	**236**	Pn	**Pn**	**11 14 57.0**	**+3.5**
OUL	**Oulu**	**4.19**	**236**	PN	**Pn**	**11 14 57.1**	**+3.5**
PAJU	**Pajala**	**4.32**	**267**	P	**Pn**	**11 14 55.7**	**+0.4**
PAJU				S	**Sn**	**11 15 46.0**	**-0.2**
PAJU	**Pajala**	**4.32**	**267**	P	**Pn**	**11 14 55.7**	**+0.4**
PAJU				S	**Sn**	**11 15 46.0**	**-0.2**
LANU	**Lannavaara**	**4.62**	**281**	P	**Pn**	**11 14 59.6**	**+0.1**
LANU				S	**Sn**	**11 15 50.9**	**-2.9**
LANU	**Lannavaara**	**4.62**	**281**	PN	**Pn**	**11 14 59.6**	**+0.1**
LANU				SG	**Sb**	**11 16 08.3**	**+2.4**
KALU	**Kalix**	**4.63**	**252**	S	**Sn**	**11 15 52.5**	**-1.4**
KALU	**Kalix**	**4.63**	**252**	S	**Sn**	**11 15 52.5**	**-1.4**
MASU	**Masugnsbyn**	**4.66**	**273**	P	**Pn**	**11 15 00.3**	**+0.3**
MASU	**Masugnsbyn**	**4.66**	**273**	P	**Pn**	**11 15 00.3**	**+0.3**
ERTU	**Ertsjaerv**	**4.80**	**263**	P	**Pn**	**11 15 02.6**	**+0.8**
ERTU				Sn	**Sn**	**11 15 58.0**	**0.0**
ERTU	**Ertsjaerv**	**4.80**	**263**	P	**Pn**	**11 15 02.6**	**+0.8**
KUA	**Kurravaara**	**5.25**	**280**	P	**Pn**	**11 15 08.6**	**+0.5**
DUNU	**Dundret**	**5.27**	**271**	P	**Pn**	**11 15 08.6**	**+0.3**
DUNU	**Dundret**	**5.27**	**271**	P	**Pn**	**11 15 08.6**	**+0.3**
RATU	**Laukkuluspa**	**5.54**	**279**	P	**Pn**	**11 15 12.3**	**+0.3**
NIKU	**Nikkaluokta**	**5.75**	**279**	P	**Pn**	**11 15 14.2**	**-0.6**
NIKU	**Nikkaluokta**	**5.75**	**279**	P	**Pn**	**11 15 14.2**	**-0.6**
FIA0	**FINESS Array S** baz=24,slow=16	**7.12**	**213**	Pn	**Pn**	**11 15 35.0**	**+1.4**
FIA0				Sn	**Sn**	**11 16 53.8**	**-1.2**
	baz=30,slow=22						
FIA0				Lg	Lg	11 17 26.8	
	baz=11,slow=28						
FIA0	**FINESS Array S** baz=24,slow=16	**7.12**	**213**	Pn	**Pn**	**11 15 35.0**	**+1.4**
FIA0				Sn	**S

TTSI	**Tana Toraja**	**7.32**	**243**	P	Pn	11 34 41.0	+12
MTN	**Manton Dam**	**13.94**	**160**	*e*Pn	**Pn**	**11 35 59.9**	**+0.4**
KSM	**Kuching**	**16.05**	**274**	*e*Pn	**Pn**	**11 36 24.3**	**-2.9**
6.5nm,0.6s							
WRAB	**Tennant Creek**	**21.63**	**159**	*e*P	**P**	**11 37 30.3**	**-0.6**
10nm,0.6s							
WR1	**Warramunga Arr**	**21.63**	**159**	*e*P	**P**	**11 37 30.4**	**-0.5**
16nm,0.5s							
WRA	**Warramunga Arr**	**21.63**	**159**	P	**P**	**11 37 30.4**	**-0.5**
10nm,0.5s,baz=338,slow=11,SNR=174							
WB2	**Warramunga Arr**	**21.64**	**159**	*e*P	**P**	**11 37 29.6**	**-1.4**
COEN	**Coen**	**21.91**	**131**	*e*P	**P**	**11 37 35.4**	**+1.3**
7.9nm,0.8s							
MBWA	**Marble Bar**	**22.31**	**196**	*e*P	**P**	**11 37 34.7**	**-3.5**
19nm,1.3s							
GUMO	**Guam**	**22.60**	**54**	*e*P	**P**	**11 37 43.8**	**+2.4**
166nm,0.9s							
PMG	**Port Moresby**	**22.89**	**116**	*e*P	**P**	**11 37 46.3**	**+1.8**
27nm,1.3s							
TWG	**Pinlang**	**22.93**	**347**	*e*P	**P**	**11 37 45.3**	**+0.6**
95nm,1.0s							
YULB	**Yu-li**	**23.43**	**348**	*e*P	**P**	**11 37 48.7**	**-1.0**
38nm,1.5s							
SSLB	**Suanglung**	**23.89**	**348**	*e*P	**P**	**11 37 53.1**	**-0.9**
75nm,1.8s							
AS31	**Alice Springs**	**24.97**	**163**	*e*P	**P**	**11 38 04.4**	**+0.5**
5.6nm,0.6s							
ASAR	**Alice Springs**	**24.97**	**163**	P	**P**	**11 38 04.1**	**+0.2**
22nm,0.9s,baz=343,slow=11,SNR=128							
AS01	**Alice Springs**	**24.98**	**163**	*e*P	**P**	**11 38 04.2**	**+0.2**
JOW	**Kunigami**	**26.41**	**4**	LR	LR	11 47 28.6	
comp=Z,81nm,21.6s,baz=304,slow=34							
GSI	**Gunungsitoli**	**28.76**	**272**	*e*P	P	11 38 34.0	-4.1
12nm,0.9s							
LHMI	**Lhok Sumawe**	**29.73**	**280**	*e*P	P	11 38 40.8	-5.9
86nm,0.9s							
STKA	**Stephens Creek**	**35.15**	**157**	P	**P**	**11 39 34.5**	**+0.6**
3.8nm,0.6s,baz=340,slow=12,SNR=9.8							
STKA	**Stephens Creek**	**35.15**	**157**	*e*P	**P**	**11 39 34.1**	**+0.2**
6.2nm,1.6s							
KLR	**Kul'dur**	**48.93**	**5**	P	**P**	**11 41 27.1**	**+1.2**
0.1nm,0.4s,baz=172,slow=7.1,SNR=3.3							
SONA0	**Songino Array**	**50.38**	**343**	*e*P	**P**	**11 41 37.7**	**+0.5**
SONM	**Songino Array**	**50.38**	**343**	P	**P**	**11 41 37.7**	**+0.5**
0.5nm,0.6s,baz=153,slow=8.4,SNR=4.9							
PETK	**Petropavlovsk-**	**58.71**	**22**	P	**P**	**11 42 38.5**	**+1.2**
6.5nm,1.0s,baz=194,slow=3.3,SNR=6.5							
PEA1	**Petropavlovsk-**	**58.72**	**22**	*e*P	**P**	**11 42 38.5**	**+1.2**
MK01	**Makanchi Array**	**60.10**	**327**	*e*P	**P**	**11 42 45.6**	**-1.5**
MK32	**Makanchi Array**	**60.12**	**327**	*e*P	**P**	**11 42 46.1**	**-1.1**
MKAR	**Makanchi Array**	**60.12**	**327**	P	**P**	**11 42 46.1**	**-1.2**
1.0nm,0.3s,baz=116,slow=8.2,SNR=20							
MAKZ	**Makanchi**	**60.30**	**326**	*e*P	**P**	**11 42 47.3**	**-1.2**
2.1nm,0.6s							
KURBB	**Kurchatov Arra**	**64.38**	**328**	P	**P**	**11 43 14.2**	**-1.4**
1.8nm,0.6s,baz=129,slow=6.0,SNR=21							
KURK	**Kurchatov**	**64.38**	**329**	*e*P	**P**	**11 43 14.5**	**-1.1**
BVAR	**Borovoye Array**	**69.94**	**328**	P	**P**	**11 43 50.9**	**+0.1**
0.4nm,0.4s,baz=112,slow=11,SNR=4.2							
AB31	**Akbulak array**	**74.52**	**321**	*e*P	**P**	**11 44 17.6**	**-0.7**
ABKAR	**Akbulak array**	**74.52**	**321**	*e*P	**P**	**11 44 17.6**	**-0.6**
52nm,1.8s							
AKTO	**Aktyubinsk**	**76.06**	**322**	P	**P**	**11 44 26.7**	**-0.4**
1.5nm,0.7s,baz=110,slow=8.7,SNR=6.0							
ILAR	**Eielson Array**	**88.33**	**25**	P	**P**	**11 45 31.4**	**+0.5**
0.2nm,0.7s,baz=234,slow=4.7,SNR=4.3							
SYO	**Syowa Base**	**89.13**	**201**⇑	*e*X	P	11 45 45.4	+11

*CSEM **23** 11:47:17.5±0.5, 60.°34N×22.°37E, h0km±6km, ML1.6, Error ellipse: s-maj=8.8km s-min=5.6km az=171.0, Mining explosion.*

*UPP **23** 11:47:21.0, 60.°34N×21.°84E, h0km, ML0.8, Suspected Mining explosion.*

HEL 23 11:47:18.9±0.1, 60.°32N×22.°29E, h0km, ML1.6, ML0.8(UPP)**, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.76**	**340**	S	Sg	11 47 42.1	-1.0
RAF	**Rauma**	**0.76**	**340**	*e*S	Sg	11 47 42.1	-1.0
AAL	**Aland**	**1.16**	**264**	Pb	Pg	11 47 40.2	-0.8
AAL	**Aland**	**1.16**	**264**	*e*PB	Pg	11 47 40.2	-0.8
baz=91							
PVF	**Pernaja**	**1.79**	**81**	Pg	Pn	11 47 51.1	+0.2
PVF	**Pernaja**	**1.79**	**81**	*e*PG	Pn	11 47 51.2	+0.2
baz=273							
PVF				MSG		11 48 12.2	
comp=Z,1.1nm,0.2s							
GRAU	**Graesoe**	**1.87**	**272**	P	Pn	11 47 50.7	-1.4
GRAU				S	Sn	11 48 16.0	-0.3
GRAU	**Graesoe**	**1.87**	**272**	*e*P	Pn	11 47 50.7	-1.4
GRAU				*e*S	Sn	11 48 16.0	-0.3
NRTU	**Norrtaelje**	**1.95**	**252**	P	Pn	11 47 52.6	-0.6
NRTU				S	Sn	11 48 18.3	0.0
NRTU	**Norrtaelje**	**1.95**	**252**	*e*P	Pn	11 47 52.6	-0.6
NRTU				*e*S	Sn	11 48 18.3	0.0
FIA0	**FINESS Array S**	**2.17**	**57**	Pb	Pn	11 47 56.6	+0.4
FIA0				Sg	Sb	11 48 26.9	+0.5
FIA0	**FINESS Array S**	**2.17**	**57**	*e*PB	Pn	11 47 56.6	+0.4
baz=250							
FIA0				*e*SG	Sb	11 48 26.9	+0.5
FLYU	**Flymyra**	**2.21**	**267**	P	Pn	11 47 56.7	0.0
FLYU	**Flymyra**	**2.21**	**267**	*e*P	Pn	11 47 56.7	0.0
KEF	**Keuruu**	**2.24**	**33**	MSG		11 48 24.9	
comp=Z,6.4nm,0.2s							
KEF				*e*SG	Sb	11 48 27.6	-0.7
IGGU	**Iggoen**	**2.52**	**285**	P	Pn	11 48 00.3	-0.7
IGGU	**Iggoen**	**2.52**	**285**	*e*P	Pn	11 48 00.4	-0.6

*ISCJB **23** 11:54:57.0±0.5, 3.°04N±0.°06×97.°77E±0.°07, h100km, mb3.8/9, Error ellipse: s-maj=11.4km s-min=7.1km az=141.2*

*DJA **23** 11:54:58.7±0.4, 3.°N±4.°×9.°8E±.°, h31km±9km, M4.0/5, MLv4.0/5*

*IDC **23** 11:54:59.6±3.5, 3.°22N×98.°02E, h97km±18km, mb3.5/9, mb1 3.6/9, mb1mx3.3/72, mbtmp3.9/9, Error ellipse: s-maj=110.8km s-min=15.0km az=55.0*

ISC 23 11:54:58.1±0.8, 3.°03N±0.°06×97.°70E±0.°06, h100km, n20, σ2s20/22, mb3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.50**	**9**	P	**Pn**	**11 55 11.9**	**-2.0**
KCSI				S	**Sn**	**11 55 20.1**	**-5.6**
TPTI		**0.56**	**294**	P	**Pn**	**11 55 12.7**	**-1.6**
TPTI				S	**Sn**	**11 55 21.5**	**-5.0**
TSI	**Tuntungan**	**0.99**	**61**	P	**Pn**	**11 55 17.3**	**-1.0**
PSI	**Prapat**	**1.25**	**100**	P	**Pn**	**11 55 20.0**	**-1.4**
48nm,0.3s,baz=308,slow=8.6,SNR=118							
PSI				S	**Sn**	**11 55 36.4**	**-2.6**
194nm,0.3s,baz=10.0,slow=19,SNR=59							
GSI	**Gunungsitoli**	**1.72**	**184**	P	**Pn**	**11 55 25.3**	**-1.8**
MLSI	**Meulaboh, Aceh**	**1.78**	**314**	P	**Pn**	**11 55 28.5**	**+0.6**
MNSI	**Mandailing Nat**	**2.91**	**140**	P	**Pn**	**11 55 42.3**	**-0.3**
PKDT	**Phuket**	**4.87**	**7**	P	**Pn**	**11 56 08.5**	**-0.6**
TRTT	**Trang**	**5.17**	**22**	P	**Pn**	**11 56 12.6**	**-0.6**
17nm,0.5s,388nm0.1nm							
SURT	**Suratani**	**5.99**	**10**	P	**Pn**	**11 56 23.4**	**-0.9**
13nm,0.5s,0.1nm							
CMAR	**Chiang Mai Arr**	**15.38**	**4**	sP	sP	11 58 52.9	-11
0.1nm,0.3s,baz=200,slow=11,SNR=2.4							
WRA	**Warramunga Arr**	**42.61**	**124**	P	**P**	**12 02 45.1**	**+0.3**
0.3nm,0.4s,baz=303,slow=8.9,SNR=22							
ASAR	**Alice Springs**	**44.12**	**129**	P	**P**	**12 02 57.4**	**+0.4**
0.2nm,0.4s,baz=297,slow=7.2,SNR=7.2							
MKAR	**Makanchi Array**	**45.61**	**345**	P	**P**	**12 03 09.3**	**+1.0**
1.0nm,0.9s,baz=148,slow=8.4,SNR=6.4							
KURBB	**Kurchatov Arra**	**50.11**	**344**	P	**P**	**12 03 44.3**	**+1.4**
0.4nm,0.5s,baz=165,slow=7.0,SNR=7.2							
ZALV	**Zalesovo Beam**	**51.85**	**350**	P	**P**	**12 03 56.5**	**+0.6**
2.0nm,0.4s,baz=170,slow=6.4,SNR=11							
STKA	**Stephens Creek**	**54.22**	**133**	P	**P**	**12 04 15.0**	**+1.2**
4.4nm,1.0s,baz=268,slow=6.1,SNR=3.6							
BVAR	**Borovoye Array**	**54.70**	**340**	P	**P**	**12 04 17.8**	**+0.9**
0.5nm,0.5s,baz=136,slow=9.7,SNR=4.3							
FINES	**FINESS Array B**	**78.62**	**332**	P	**P**	**12 06 50.7**	**+2.0**
0.7nm,0.5s,baz=108,slow=6.2,SNR=5.3							
ARCES	**ARCESS Array B**	**81.00**	**340**	P	**P**	**12 07 03.3**	**+1.9**
1.7nm,1.0s,baz=103,slow=5.5,SNR=4.9							

*SJA **23** 12:07:08.5±0.6, 33.°61S×72.°98W, h40km±22km, ML3.4, MW3.4*

*GUC **23** 12:07:14.9±0.4, 33.°64S×71.°98W, h29km±11km, ML3.1*

ISC 23 12:07:14.7±1.7, 33.°68S±0.°05×71.°91W±0.°08, h12km±11km**, n19, σ1s03/28, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.71**	**186**	*e*P	**Pg**	**12 07 28.8**	**+0.2**
CHPI				*e*S	**Sb**	**12 07 39.2**	**+0.4**
RCDM	**Rinconada Maip**	**0.94**	**79**	*e*P	**Pb**	**12 07 32.4**	**-0.5**
ROC1	**El Roble**	**1.02**	**47**	*e*P	**Pb**	**12 07 34.4**	**-0.1**
ROC1				*e*S	**Sn**	**12 07 48.9**	**-0.7**
ROCH	**El Roble**	**1.03**	**47**	*e*P	**Pb**	**12 07 34.1**	**-0.5**
ROCH				*e*S	**Sg**	**12 07 48.2**	**+0.2**
ROCH				IAML		12 07 55.8	
comp=N,1μm,0.3s							
CLCH	**Cerro Calan**	**1.18**	**77**	*e*P	**Pn**	**12 07 36.4**	**-0.7**
CLCH				*e*S	**Sg**	**12 07 53.0**	**+0.2**
CLCH				IAML		12 08 01.5	
comp=E,767nm,0.5s							
GO05	**HualaæØ**	**1.33**	**181**	*e*P	**Pn**	**12 07 39.1**	**0.0**
GO05				*e*S	**Sn**	**12 07 57.2**	**+0.4**
GO05	**HualaæØ**	**1.33**	**181**	*e*P	**Pn**	**12 07 38.7**	**-0.4**
GO05				*e*S	**Sb**	**12 07 56.3**	**-0.3**
GO05				IAML		12 08 01.9	
comp=E,367nm,0.1s							
FCH	**Farellones**	**1.40**	**76**	*e*P	**Pn**	**12 07 40.5**	**+0.2**
FCH				*e*S	**Sg**	**12 07 59.8**	**+0.1**
FCH				IAML		12 08 03.7	
comp=E,767nm,0.3s							
LMEL	**Las Melosas**	**1.43**	**97**	*e*P	**Pn**	**12 07 40.7**	**+0.1**
LMEL				*e*S	**Sg**	**12 08 00.7**	**-0.1**
AUSP	**Uspallata**	**2.57**	**56**	*e*P	**Pb**	**12 08 01.0**	**+0.1**
AUSP				*e*S	**Sg**	**12 08 35.3**	**-2.0**
ARCO	**CERRO ARCO**	**2.63**	**72**	*e*P	**Pb**	**12 08 02.7**	**+0.9**
ARCO				IAML		12 08 44.2	
comp=Z,111nm,0.4s							
AAGR	**Agrelo**	**2.65**	**78**	*e*P	**Pb**	**12 08 01.2**	**-0.9**
ASAL	**Salagasta**	**2.80**	**68**	*e*P	**Pb**	**12 08 05.3**	**+0.6**
ASAL				*e*S	**Sg**	**12 08 46.7**	**+2.1**
RTLS	**Leoncito**	**2.89**	**50**	*e*P	**Pb**	**12 08 04.7**	**-1.7**
RTLS				*e*S	**Sg**	**12 08 46.4**	**-1.2**
RTLS				IAML		12 08 50.5	
comp=Z,52nm,0.6s							
RFA	**San Rafael**	**3.05**	**112**	IAML		12 09 00.3	
comp=N,25nm,0.7s							
RTCV	**Cerro Valdivia**	**3.37**	**58**	*e*P	**Pb**	**12 08 12.8**	**-1.6**
AMOG	**MOGNA**	**3.98**	**48**	*e*P	**Pn**	**12 08 17.7**	**+2.1**
AGUA	**GUANDACOL**	**5.09**	**36**	*e*P	**Pn**	**12 08 32.1**	**+1.1**
VCA	**Vinchina**	**5.86**	**34**	IAML		12 10 12.3	
comp=E,23nm,0.4s							

*ISCJB **23** 12:37:53.0±0.3, 39.°60N±0.°01×26.°02E±0.°02, h10km±2km, mb3.3/3, Error ellipse: s-maj=2.1km s-min=1.8km az=153.7*

*IDC **23** 12:37:52.1±1.6, 39.°51N×25.°99E, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.3/61, mbtmp3.5/6, ML3.5/3, MS2.4/2, Ms1 2.4/2, ms1mx2.1/37, Error ellipse: s-maj=24.9km s-min=19.0km az=39.0*

*ISK **23** 12:37:52.8, 39.°60N×26.°05E, h7km, ML4.0/49*

*DDA **23** 12:37:52.5, 39.°61N×26.°07E, h25km, Ml4.0*

*ATH **23** 12:37:53.0, 39.°61N×26.°06E, h26km±1km, ML3.8/10, Error ellipse: s-maj=2.3km s-min=0.8km az=181.0*

*CSEM **23** 12:37:53.8±0.1, 39.°60N×26.°03E, h10km, ML4.0, Error ellipse: s-maj=1.7km s-min=1.5km az=47.0*

*THE **23** 12:37:53.9, 39.°61N×26.°01E, h9km, ML3.6/16, Error ellipse: s-maj=0.8km s-min=0.4km az=87.0*

ISC 23 12:37:53.5±0.9, 39.°61N±0.°01×26.°05E±0.°01, h10km±6km, n341, σ0s96/412, mb3.6/4**, 25C-22D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.16**	**155**	PG	**Pg**	**12 37 56.8**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.16**	**155**	*e*Pg	**Pg**	**12 37 56.8**	**-0.3**
BOZC	**Bozcaada**	**0.24**	**1**	PG	**Pg**	**12 37 58.6**	**+0.2**
BOZC				SG	**Sg**	**12 38 01.9**	**+0.2**
BOZC	**Bozcaada**	**0.24**	**1**⇑	*i*P	**Pg**	**12 37 58.6**	**+0.2**
BOZC	**Bozcaada**	**0.24**	**1**	*e*Pg	**Pg**	**12 37 58.6**	**+0.2**
BOZC				*e*Sg	**Sg**	**12 38 01.9**	**+0.2**
PRK	**Paraskevi**	**0.40**	**154**	P	**Pb**	**12 38 02.1**	**-0.5**
PRK				S	**Sg**	**12 38 06.8**	**+0.1**
PRK				AML	AML	12 38 08.2	
comp=N,79993μm,0.4s							
PRK				AML	AML	12 38 09.7	
PRK	**Paraskevi**	**0.40**	**154**	P	**Pb**	**12 38 01.9**	**-0.7**
PRK				S	**Sg**	**12 38 07.4**	**+0.8**
PRK	**Paraskevi**	**0.40**	**154**	P	**Pb**	**12 38 01.9**	**-0.7**
PRK				S	**Sb**	**12 38 08.0**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.41**	**70**⇓	*i*P	**Pg**	**12 38 01.8**	**+0.2**
BAYC				*i*S	**Sg**	**12 38 07.2**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.41**	**70**	P	**Pg**	**12 38 01.8**	**+0.2**
BAYC				S	**Sg**	**12 38 07.2**	**+0.1**
SIGR	**SIGRI**	**0.42**	**201**	PG	**Pg**	**12 38 01.8**	**0.0**
SIGR	**SIGRI**	**0.42**	**201**	P	**Pg**	**12 38 02.0**	**+0.2**
SIGR				S	**Sg**	**12 38 07.8**	**+0.5**
SIGR				AML	AML	12 38 09.1	
comp=N,34310μm,0.5s							
SIGR				AML	AML	12 38 09.5	
comp=E,26127μm,0.5s							
SIGR	**SIGRI**	**0.42**	**201**	*e*Pg	**Pg**	**12 38 01.8**	**0.0**
SIGR	**SIGRI**	**0.42**	**201**	P	**Pg**	**12 38 02.1**	**+0.3**
SIGR				S	**Sb**	**12 38 08.4**	**-0.9**
SIGR	**SIGRI**	**0.42**	**201**	P	**Pg**	**12 38 02.1**	**+0.3**
SIGR				S	**Sb**	**12 38 08.5**	**-0.9**
AYVA	**Ayvalik**	**0.58**	**120**⇓	*i*P	**Pg**	**12 38 04.8**	**0.0**
AYVA	**Ayvalik**	**0.58**	**120**	P	**Pg**	**12 38 04.8**	**0.0**
GADA	**Gvkgeada**	**0.60**	**349**	PG	**Pg**	**12 38 04.9**	**-0.2**
GADA				SG	**Sg**	**12 38 13.4**	**+0.4**
GADA	**Gvkgeada**	**0.60**	**349**	P	**Pg**	**12 38 04.9**	**-0.2**
GADA				S	**Sg**	**12 38 13.2**	**+0.2**
GADA	**Gvkgeada**	**0.60**	**349**	P	**Pg**	**12 38 04.9**	**-0.2**
GADA				S	**Sg**	**12 38 13.2**	**+0.2**
GOKC	**Gokceada-Canak**	**0.60**	**351**	PG	**Pg**	**12 38 05.2**	**0.0**
GOKC	**Gokceada-Canak**	**0.60**	**351**	*e*Pg	**Pg**	**12 38 05.2**	**0.0**
LIA	**Limnos Island**	**0.73**	**294**	P	**Pg**	**12 38 07.7**	**+0.1**
LIA				S	**Sb**	**12 38 17.6**	**-0.6**
LIA	**Limnos Island**	**0.73**	**294**	P	**Pg**	**12 38 07.7**	**+0.1**
LIA				S	**Sb**	**12 38 17.6**	**-0.6**
EFSA	**Agios Efstrati**	**0.82**	**266**	P	**Pb**	**12 38 09.8**	**0.0**
EFSA				S	**Sb**	**12 38 21.7**	**+0.8**
EFSA				AML	AML	12 38 22.9	
comp=E,13726μm,0.2s							
EFSA				AML	AML	12 38 23.5	
comp=N,19271μm,0.3s							
EFSA	**Agios Efstrati**	**0.82**	**266**	P	**Pb**	**12 38 09.5**	**-0.3**
EFSA				S	**Sb**	**12 38 21.4**	**+0.5**
DKL	**Dikili**	**0.85**	**128**	PG	**Pg**	**12 38 09.3**	**-0.7**
DKL				SG	**Sb**	**12 38 22.1**	**+0.3**
DKL	**Dikili**	**0.85**	**128**	*e*Pg	**Pg**	**12 38 09.3**	**-0.7**
DKL				*e*Sg	**Sb**	**12 38 22.1**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.86**	**22**	PG	**Pg**	**12 38 09.9**	**-0.2**
GELI				SG	**Sb**	**12 38 22.4**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.86**	**22**	*e*Pg	**Pg**	**12 38 09.9**	**-0.2**
GELI				*e*Sg	**Sb**	**12 38 22.4**	**+0.4**
CAND	**Candarli**	**0.88**	**138**	PG	**Pg**	**12 38 10.4**	**0.0**
LPK	**Lapseki**	**0.94**	**35**	PG	**Pg**	**12 38 11.2**	**-0.5**
LPK	**Lapseki**	**0.94**	**35**	*e*Pg	**Pg**	**12 38 11.2**	**-0.5**
SMTH	**Samothraki Isl**	**0.95**	**336**	P	**Pg**	**12 38 11.3**	**-0.5**
SMTH				P	**Sb**	**12 38 24.7**	**0.0**
SMTH	**Samothraki Isl**	**0.95**	**336**	P	**Pg**	**12 38 11.3**	**-0.5**
SMTH				S	**Sb**	**12 38 24.7**	**0.0**
FOCM	**Fo¯ša**	**1.04**	**149**	PG	**Pg**	**12 38 13.1**	**-0.4**
FOCM	**Fo¯ša**	**1.04**	**149**	*e*Pg	**Pg**	**12 38 13.1**	**-0.4**
ERIK	**Erikli-Kesan**	**1.12**	**18**	PN	**Pb**	**12 38 14.3**	**-0.7**
ERIK	**Erikli-Kesan**	**1.12**	**18**	*e*Pn	**Pb**	**12 38 14.3**	**-0.7**
PSRA	**Psara**	**1.13**	**200**	P	**Pb**	**12 38 14.2**	**-0.8**
PSRA				S	**Sn**	**12 38 32.1**	**+1.4**
PSRA				AML	AML	12 38 35.0	
comp=N,14436μm,0.2s							
PSRA				AML	AML	12 38 35.5	
comp=E,19354μm,0.2s							
PSRA	**Psara**	**1.13**	**200**	P	**Pb**	**12 38 14.5**	**-0.5**
PSRA				S	**Sn**	**12 38 31.4**	**+0.7**
ENEZ	**Enez**	**1.13**	**4**	PN	**Pb**	**12 38 14.7**	**-0.5**
ENEZ	**Enez**	**1.13**	**4**	P	**Pb**	**12 38 14.5**	**-0.7**
ENEZ				S	**Sn**	**12 38 31.9**	**+0.9**
ENEZ	**Enez**	**1.13**	**4**	P	**Pb**	**12 38 14.5**	**-0.7**
ENEZ				S	**Sn**	**12 38 31.9**	**+0.9**
CHOS	**Chios island**	**1.22**	**180**	PN	**Pb**	**12 38 16.1**	**-0.6**
CHOS	**Chios island**	**1.22**	**180**	P	**Pb**	**12 38 16.2**	**-0.4**
CHOS				S	**Sn**	**12 38 35.8**	**+2.6**
CHOS				AML	AML	12 38 37.5	
comp=E,12062μm,0.3s							
CHOS				AML	AML	12 38 37.5	
comp=N,7795μm,0.4s							
CHOS	**Chios island**	**1.22**	**180**	P	**Pb**	**12 38 16.2**	**-0.4**
CHOS				S	**Sn**	**12 38 34.1**	**+1.0**
CHOS	**Chios island**	**1.22**	**180**	P	**Pb**	**12 38 16.0**	**-0.6**
CHOS				S	**Sn**	**12 38 34.1**	**+1.0**
BALY	**Balya**	**1.22**	**83**⇓	*i*P	**Pn**	**12 38 15.4**	**-1.3**
BALY				*i*S	**Sb**	**12 38 31.7**	**-0.8**
BALY	**Balya**	**1.22**	**83**	P	**Pn**	**12 38 15.4**	**-1.3**
BALY				S	**Sb**	**12 38 31.7**	**-0.8**
KRBG	**Karabiga-Canak**	**1.24**	**50**	PN	**Pn**	**12 38 16.7**	**-0.2**
KRBG	**Karabiga-Canak**	**1.24**	**50**	*e*Pn	**Pn**	**12 38 16.7**	**-0.2**
ALN	**Alexandroupoli**	**1.29**	**0**	PN	**Pn**	**12 38 16.9**	**-0.6**
ALN	**Alexandroupoli**	**1.29**	**0**	P	**Pn**	**12 38 17.6**	**0.0**
ALN				S	**Sb**	**12 38 34.6**	**+0.2**
ALN				AML	AML	12 38 35.6	
comp=E,6649μm,0.5s							
ALN				AML	AML	12 38 36.6	
comp=N,3648μm,0.6s							
ALN	**Alexandroupoli**	**1.29**	**0**	*e*Pn	**Pn**	**12 38 16.9**	**-0.6**
ALN	**Alexandroupoli**	**1.29**	**0**	P	**Pn**	**12 38 17.4**	**-0.2**
ALN				S	**Sb**	**12 38 34.7**	**+0.2**
ALN	**Alexandroupoli**	**1.29**	**0**	P	**Pn**	**12 38 17.0**	**-0.6**
ALN				S	**Sn**	**12 38 35.0**	**+0.1**
KESN	**Edirne-Kesan**	**1.31**	**22**⇑	*i*P	**Pn**	**12 38 17.2**	**-1.0**
KESN				*i*S	**Sb**	**12 38 35.6**	**+0.1**
KESN	**Edirne-Kesan**	**1.31**	**22**	P	**Pn**	**12 38 17.2**	**-1.0**
KESN				S	**Sb**	**12 38 35.6**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.31**	**99**⇓	*i*P	**Pn**	**12 38 18.0**	**+0.1**
STEP				*i*S	**Sg**	**12 38 35.9**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.31**	**99**	P	**Pn**	**12 38 18.0**	**+0.1**
STEP				S	**Sg**	**12 38 35.9**	**+0.1**
URLA	**Izmir**	**1.31**	**161**	PN	**Pn**	**12 38 17.9**	**0.0**
URLA	**Izmir**	**1.31**	**161**⇓	*i*P	**Pn**	**12 38 16.4**	**-1.5**
URLA				*i*S	**Sb**	**12 38 33.4**	**-1.8**
URLA	**Izmir**	**1.31**	**161**	P	**Pn**	**12 38 16.4**	**-1.5**
URLA	**Izmir**	**1.31**	**161**	*e*Pn	**Pn**	**12 38 17.9**	**0.0**
URLA				S	**Sb**	**12 38 33.4**	**-1.8**
GONE	**Gonen-Balikesi**	**1.34**	**70**	PN	**Pg**	**12 38 19.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.34**	**70**	*e*Pn	**Pg**	**12 38 19.1**	**-0.1**
SKY	**Skiros Island**	**1.37**	**238**	P	**Pn**	**12 38 18.0**	**-0.6**
SKY	**Skiros Island**	**1.37**	**238**	P	**Pn**	**12 38 18.0**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.39**	**38**	PN	**Pn**	**12 38 18.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.39**	**38**	*e*Pn	**Pn**	**12 38 18.8**	**-0.1**
SART	**Tekirdag**	**1.39**	**38**⇑	*i*P	**Pn**	**12 38 17.6**	**-1.4**
SART				*i*S	**Sn**	**12 38 37.0**	**-0.4**
SART	**Tekirdag**	**1.39**	**38**	P	**Pn**	**12 38 17.6**	**-1.4**
SART				S	**Sn**	**12 38 37.0**	**-0.4**
ZEY	**¯zmir**	**1.41**	**165**	*i*P	**Pn**	**12 38 18.6**	**-0.5**
BALB	**Balikesir**	**1.42**	**88**	PN	**Pn**	**12 38 19.3**	**0.0**
BALB	**Balikesir**	**1.42**	**88**	*e*Pn	**Pn**	**12 38 19.3**	**0.0**
AKHS	**Akhisar**	**1.55**	**117**⇓	*i*P	**Pn**	**12 38 21.2**	**0.0**
AKHS	**Akhisar**	**1.55**	**117**	P	**Pn**	**12 38 21.2**	**0.0**
EDC	**Edincik**	**1.58**	**61**	PN	**Pn**	**12 38 22.1**	**+0.5**
EDC	**Edincik**	**1.58**	**61**	*e*Pn	**Pn**	**12 38 22.1**	**+0.5**
RDO	**Rodhopi**	**1.59**	**346**	P	**Pn**	**12 38 21.5**	**-0.1**
RDO				S	**Sn**	**12 38 41.8**	**-0.4**
RDO	**Rodhopi**	**1.59**	**346**	P	**Pn**	**12 38 21.5**	**-0.1**
RDO				S	**Sn**	**12 38 41.8**	**-0.4**
DGB	**¯zmir**	**1.68**	**157**	*i*P	**Pn**	**12 38 22.6**	**-0.3**
DGB				*i*S	**Sg**	**12 38 46.9**	**-0.7**
OUR	**Ouranopolis**	**1.75**	**295**	PN	**Pn

SRS				S	Sn	12 39 03.2	+0.8
SRS				AML	AML	12 39 13.0	
	comp=E,2231μm,0.4s						
SRS				AML	AML	12 39 15.0	
	comp=N,1071μm,0.6s						
SRS	**Serrai**	**2.41**	**310**	P	**Pn**	**12 38 32.9**	**0.0**
SRS				S	**Sn**	**12 39 02.8**	**+0.3**
SRS	**Serrai**	**2.41**	**310**	P	**Pn**	**12 38 32.8**	**-0.1**
SRS				S	**Sn**	**12 39 01.6**	**-0.9**
NVR	**Nevrokopi**	**2.41**	**317**	P	**Pn**	**12 38 33.1**	**+0.1**
NVR				S	**Sn**	**12 39 01.3**	**-1.3**
NVR	**Nevrokopi**	**2.41**	**317**	P	**Pn**	**12 38 33.1**	**+0.1**
NVR				S	**Sn**	**12 39 01.3**	**-1.3**
AYDN	**Tasoluk**	**2.41**	**143**	*i* P	**Pn**	**12 38 31.7**	**-1.4**
AYDN	**Tasoluk**	**2.41**	**143**	P	**Pn**	**12 38 31.7**	**-1.4**
HORT	**Hortiatis**	**2.47**	**295**	PN	**Pn**	**12 38 34.6**	**+0.8**
HORT	**Hortiatis**	**2.47**	**295**	P	**Pn**	**12 38 34.8**	**+1.0**
HORT	**Hortiatis**	**2.47**	**295**	P	**Pn**	**12 38 34.4**	**+0.6**
CTKS	**Kestanelik-??a**	**2.49**	**48**	PN	**Pn**	**12 38 34.7**	**+0.7**
CTKS	**Kestanelik-??a**	**2.49**	**48**	*e*Pn	**Pn**	**12 38 34.7**	**+0.7**
CTYL	**Yalikoy Yolu**	**2.53**	**42**	PN	**Pn**	**12 38 35.5**	**+0.9**
CTYL	**Yalikoy Yolu**	**2.53**	**42**	*e*Pn	**Pn**	**12 38 35.5**	**+0.9**
KIYI	**Yal¯–koy-Catal**	**2.54**	**42**	PN	**Pn**	**12 38 35.7**	**+0.9**
KIYI	**Yal¯–koy-Catal**	**2.54**	**42**	*e*Pn	**Pn**	**12 38 35.7**	**+0.9**
GEMT	**Gemlik**	**2.55**	**70**	PN	**Pn**	**12 38 36.7**	**+1.8**
GEMT	**Gemlik**	**2.55**	**70**	*e*Pn	**Pn**	**12 38 36.7**	**+1.8**
LKR	**Lokris**	**2.55**	**249**	P	**Pn**	**12 38 34.5**	**-0.4**
LKR	**Lokris**	**2.55**	**249**	P	**Pn**	**12 38 34.5**	**-0.4**
APE	**Apeiranthos**	**2.56**	**189**	PN	**Pn**	**12 38 35.3**	**+0.1**
APE	**Apeiranthos**	**2.56**	**189**	⇓*i*P	**Pn**	**12 38 35.2**	**+0.1**
APE	**Apeiranthos**	**2.56**	**189**	P	**Pn**	**12 38 33.9**	**-1.2**
APE	**Apeiranthos**	**2.56**	**189**	*e*Pn	**Pn**	**12 38 35.3**	**+0.1**
APE	**Apeiranthos**	**2.56**	**189**	P	**Pn**	**12 38 33.9**	**-1.2**
BGKT	**Bogazkoy**	**2.61**	**52**	PN	**Pn**	**12 38 37.2**	**+1.5**
BGKT	**Bogazkoy**	**2.61**	**52**	*e*Pn	**Pn**	**12 38 37.2**	**+1.5**
TVSB	**Tavsanli**	**2.65**	**92**	PN	**Pn**	**12 38 36.3**	**0.0**
TVSB	**Tavsanli**	**2.65**	**92**	*e*Pn	**Pn**	**12 38 36.3**	**0.0**
BUY	**Buyukada**	**2.66**	**61**	*i* P	**Pn**	**12 38 36.0**	**-0.4**
BUY	**Buyukada**	**2.66**	**61**	P	**Pn**	**12 38 36.0**	**-0.4**
MLSB	**Milas**	**2.68**	**149**	PN	**Pn**	**12 38 38.1**	**+1.5**
MLSB	**Milas**	**2.68**	**149**	*e*Pn	**Pn**	**12 38 38.1**	**+1.5**
GDZ	**Gediz**	**2.71**	**100**	*i* P	**Pn**	**12 38 36.8**	**-0.5**
GDZ	**Gediz**	**2.71**	**100**	P	**Pn**	**12 38 36.8**	**-0.5**
BODT	**Bodrum**	**2.73**	**158**	PN	**Pn**	**12 38 37.9**	**+0.6**
BODT	**Bodrum**	**2.73**	**158**	*e*Pn	**Pn**	**12 38 37.9**	**+0.6**
LIT	**Litokhoron**	**2.78**	**281**	P	**Pn**	**12 38 39.0**	**+0.9**
LIT	**Litokhoron**	**2.78**	**281**	P	**Pn**	**12 38 39.0**	**+0.9**
KLYT	**Kilyos**	**2.82**	**53**	PN	**Pn**	**12 38 39.7**	**+1.2**
KLYT	**Kilyos**	**2.82**	**53**	*e*Pn	**Pn**	**12 38 39.7**	**+1.2**
KNT	**Kendrikon**	**2.86**	**304**	PN	**Pn**	**12 38 40.2**	**+1.0**
KNT	**Kendrikon**	**2.86**	**304**	P	**Pn**	**12 38 40.2**	**+1.0**
KNT	**Kendrikon**	**2.86**	**304**	P	**Pn**	**12 38 39.7**	**+0.5**
KNT	**Kendrikon**	**2.86**	**304**	*e*Pn	**Pn**	**12 38 40.2**	**+1.0**
KNT	**Kendrikon**	**2.86**	**304**	P	**Pn**	**12 38 39.7**	**+0.5**
LTK	**Loutraki**	**2.88**	**238**	P	**Pn**	**12 38 38.9**	**-0.5**
LTK	**Loutraki**	**2.88**	**238**	P	**Pn**	**12 38 38.9**	**-0.5**
AGG	**Agios Georgios**	**2.94**	**260**	PN	**Pn**	**12 38 41.3**	**+1.0**
AGG	**Agios Georgios**	**2.94**	**260**	P	**Pn**	**12 38 40.2**	**-0.1**
AGG	**Agios Georgios**	**2.94**	**260**	P	**Pn**	**12 38 40.5**	**+0.2**
AGG	**Agios Georgios**	**2.94**	**260**	*e*Pn	**Pn**	**12 38 41.3**	**+1.0**
AGG	**Agios Georgios**	**2.94**	**260**	P	**Pn**	**12 38 40.5**	**+0.2**
ADVT	**Abdulvahap**	**2.95**	**73**	PN	**Pn**	**12 38 41.6**	**+1.2**
ADVT	**Abdulvahap**	**2.95**	**73**	*e*Pn	**Pn**	**12 38 41.6**	**+1.2**
KHAL	**Karahalli**	**2.96**	**114**	⇓*i*P	**Pn**	**12 38 41.5**	**+0.9**
KHAL	**Karahalli**	**2.96**	**114**	P	**Pn**	**12 38 41.5**	**+0.9**
CAVI	**Cavuskoy**	**2.98**	**77**	PN	**Pn**	**12 38 41.5**	**+0.7**
CAVI	**Cavuskoy**	**2.98**	**77**	*e*Pn	**Pn**	**12 38 41.5**	**+0.7**
DSF	**Desfina**	**2.99**	**248**	P	**Pn**	**12 38 40.1**	**-0.9**
DSF	**Desfina**	**2.99**	**248**	P	**Pn**	**12 38 40.1**	**-0.9**
HRT	**Hereke**	**3.03**	**65**	PN	**Pn**	**12 38 42.6**	**+1.1**
HRT	**Hereke**	**3.03**	**65**	*e*Pn	**Pn**	**12 38 42.6**	**+1.1**
YER	**Yerkesik**	**3.03**	**144**	PN	**Pn**	**12 38 42.5**	**+1.0**
YER	**Yerkesik**	**3.03**	**144**	*e*Pn	**Pn**	**12 38 42.5**	**+1.0**
DID	**Didima**	**3.04**	**227**	P	**Pn**	**12 38 41.1**	**-0.5**
DID	**Didima**	**3.04**	**227**	P	**Pn**	**12 38 41.1**	**-0.5**
GRG	**Griva**	**3.10**	**297**	PN	**Pn**	**12 38 44.3**	**+1.9**
GRG	**Griva**	**3.10**	**297**	P	**Pn**	**12 38 44.7**	**+2.2**
GRG	**Griva**	**3.10**	**297**	P	**Pn**	**12 38 43.8**	**+1.4**
GRG	**Griva**	**3.10**	**297**	*e*Pn	**Pn**	**12 38 44.3**	**+1.9**
TAVA	**DENIZLI_Tavas**	**3.10**	**133**	*i* P	**Pn**	**12 38 39.3**	**-3.3**
TAVA	**DENIZLI_Tavas**	**3.10**	**133**	P	**Pn**	**12 38 39.3**	**-3.3**
THL	**Klokotos Trika**	**3.12**	**271**	P	**Pn**	**12 38 43.2**	**+0.6**
THL	**Klokotos Trika**	**3.12**	**271**	P	**Pn**	**12 38 43.2**	**+0.6**
SILT	**Sile**	**3.15**	**59**	PN	**Pn**	**12 38 43.5**	**+0.3**
SILT	**Sile**	**3.15**	**59**	*e*Pn	**Pn**	**12 38 43.5**	**+0.3**
VAY	**Valandovo**	**3.16**	**304**	*i* Pn	**Pn**	**12 38 44.0**	**+0.8**
VAY				*i* Sg	**Sg**	**12 39 34.3**	**-0.6**
MHLO	**Agia Marina, M**	**3.19**	**205**	P	**Pn**	**12 38 42.9**	**-0.7**
MHLO	**Agia Marina, M**	**3.19**	**205**	P	**Pn**	**12 38 42.9**	**-0.7**
THR5	**Thira Island,**	**3.23**	**190**	P	**Pn**	**12 38 44.3**	**+0.1**
THR5	**Thira Island,**	**3.23**	**190**	P	**Pn**	**12 38 44.3**	**+0.1**
THR6	**Thira Island,**	**3.28**	**189**	P	**Pn**	**12 38 45.4**	**+0.5**
THR6	**Thira Island,**	**3.28**	**189**	P	**Pn**	**12 38 45.4**	**+0.5**
SERG	**Sergoula**	**3.33**	**250**	P	**Pn**	**12 38 45.8**	**+0.2**
SERG	**Sergoula**	**3.33**	**250**	P	**Pn**	**12 38 45.8**	**+0.2**
ANX	**Ano Chora**	**3.36**	**254**	P	**Pn**	**12 38 46.6**	**+0.4**
ANX	**Ano Chora**	**3.36**	**254**	P	**Pn**	**12 38 46.6**	**+0.4**
GEYV	**SAKARYA_Geyve**	**3.38**	**74**	*i* P	**Pn**	**12 38 47.1**	**+0.8**
GEYV	**SAKARYA_Geyve**	**3.38**	**74**	P	**Pn**	**12 38 47.1**	**+0.8**
TURN	**Turunc**	**3.39**	**143**	PN	**Pn**	**12 38 46.3**	**-0.1**
TURN	**Turunc**	**3.39**	**143**	*e*Pn	**Pn**	**12 38 46.3**	**-0.1**
BORA	**Eskisehir**	**3.41**	**84**	*i* P	**Pn**	**12 38 47.4**	**+0.6**
BORA	**Eskisehir**	**3.41**	**84**	P	**Pn**	**12 38 47.4**	**+0.6**
KLV	**Kalavryta, Ach**	**3.42**	**244**	P	**Pn**	**12 38 46.9**	**0.0**
KLV	**Kalavryta, Ach**	**3.42**	**244**	P	**Pn**	**12 38 46.9**	**0.0**
SPNC	**Sapanca-Adapaz**	**3.44**	**70**	PN	**Pn**	**12 38 48.4**	**+1.3**
SPNC	**Sapanca-Adapaz**	**3.44**	**70**	*e*Pn	**Pn**	**12 38 48.4**	**+1.3**
DALY	**Dalyan (Mu¯la**	**3.46**	**143**	PN	**Pn**	**12 38 48.4**	**+1.1**
DALY	**Dalyan (Mu¯la**	**3.46**	**143**	*e*Pn	**Pn**	**12 38 48.4**	**+1.1**
KZIL	**AFYON_Kizioren**	**3.47**	**112**	*i* P	**Pn**	**12 38 48.9**	**+1.3**
KZIL	**AFYON_Kizioren**	**3.47**	**112**	P	**Pn**	**12 38 48.9**	**+1.3**
SAUV	**Serdivan-Sakar**	**3.47**	**70**	PN	**Pn**	**12 38 47.9**	**+0.4**
SAUV	**Serdivan-Sakar**	**3.47**	**70**	*e*Pn	**Pn**	**12 38 47.9**	**+0.4**
KAND	**Kocaeli-Kandir**	**3.50**	**64**	*i* P	**Pn**	**12 38 48.8**	**+0.9**
KAND	**Kocaeli-Kandir**	**3.50**	**64**	P	**Pn**	**12 38 48.8**	**+0.9**
GULT	**Gulveren**	**3.53**	**75**	PN	**Pn**	**12 38 50.5**	**+2.1**
GULT	**Gulveren**	**3.53**	**75**	*e*Pn	**Pn**	**12 38 50.5**	**+2.1**
GOLH	**Golhisar**	**3.63**	**129**	*i* P	**Pn**	**12 38 49.8**	**-0.1**
GOLH	**Golhisar**	**3.63**	**129**	P	**Pn**	**12 38 49.8**	**-0.1**
SHUT	**Suhut-Afyon**	**3.66**	**105**	PN	**Pn**	**12 38 52.0**	**+1.7**
SHUT	**Suhut-Afyon**	**3.66**	**105**	*e*Pn	**Pn**	**12 38 52.0**	**+1.7**
VTS	**Vitosha**	**3.67**	**325**	⇓*i*P	**Pn**	**12 38 52.1**	**+1.6**
VTS	**Vitosha**	**3.67**	**325**	⇓*i*P	**Pn**	**12 38 52.1**	**+1.6**
ESKT	**Eskisehir**	**3.71**	**90**	PN	**Pn**	**12 38 52.1**	**+1.1**
ESKT	**Eskisehir**	**3.71**	**90**	*i* P	**Pn**	**12 38 51.1**	**+0.1**
ESKT	**Eskisehir**	**3.71**	**90**	*e*Pn	**Pn**	**12 38 52.1**	**+1.1**
SEYT	**Eskypehyr**	**3.71**	**90**	P	**Pn**	**12 38 51.1**	**+0.1**
FETY	**Fethiye**	**3.81**	**140**	PN	**Pn**	**12 38 53.8**	**+1.6**
FETY	**Fethiye**	**3.81**	**140**	*e*Pn	**Pn**	**12 38 53.8**	**+1.6**
BIA	**Bitola**	**3.88**	**293**	*i* Pn	**Pb**	**12 38 59.3**	**-2.6**
BOLV	**Bolvadin**	**3.91**	**102**	*i* P	**Pn**	**12 38 55.0**	**+1.2**
BOLV	**Bolvadin**	**3.91**	**102**	P	**Pn**	**12 38 55.0**	**+1.2**
ISP	**Isparta**	**3.93**	**116**	PN	**Pn**	**12 38 54.5**	**+0.6**
ISP	**Isparta**	**3.93**	**116**	⇓P	**Pn**	**12 38 54.6**	**+0.6**
ISP	**Isparta**	**3.93**	**116**	*e*Pn	**Pn**	**12 38 54.5**	**+0.6**
MDUB	**Mudurnu**	**4.05**	**76**	PN	**Pn**	**12 38 57.7**	**+2.1**
MDUB	**Mudurnu**	**4.05**	**76**	*e*Pn	**Pn**	**12 38 57.7**	**+2.1**
KRUS	**Krusevo**	**4.06**	**297**	*i* Pn	**Pn**	**12 38 57.1**	**+1.4**
KARP	**Karpathos**	**4.15**	**167**	PN	**Pn**	**12 38 57.8**	**+0.9**
KARP	**Karpathos**	**4.15**	**167**	*e*Pn	**Pn**	**12 38 57.8**	**+0.9**
ELL	**Elmali**	**4.17**	**132**	PN	**Pn**	**12 38 57.9**	**+0.6**
ELL	**Elmali**	**4.17**	**132**	*e*Pn	**Pn**	**12 38 57.9**	**+0.6**
SVRH	**Sivrihisar-ESK**	**4.24**	**90**	PN	**Pn**	**12 38 59.5**	**+1.3**
SVRH	**Sivrihisar-ESK**	**4.24**	**90**	*e*Pn	**Pn**	**12 38 59.5**	**+1.3**
KORT	**Korkueli**	**4.27**	**126**	PN	**Pn**	**12 38 59.6**	**+1.0**
KORT	**Korkueli**	**4.27**	**126**	*e*Pn	**Pn**	**12 38 59.6**	**+1.0**
OHR	**Ohrid**	**4.28**	**292**	*i* Pn	**Pn**	**12 39 03.2**	**+4.5**
AKAS	**Kas**	**4.39**	**139**	PN	**Pn**	**12 39 02.5**	**+2.2**
AKAS	**Kas**	**4.39**	**139**	*e*Pn	**Pn**	**12 39 02.5**	**+2.2**
IDI	**Anoyia**	**4.41**	**192**	Pn	**Pn**	**12 39 00.0**	**-0.4**
	comp=N,0.6nm,0.3s,baz=15,slow=17,SNR=3.2						
IDI				LR	LR	12 40 54.4	
	comp=N,75nm,20.6s,baz=74,slow=42						
SUTC	**Sutluce-Ispart**	**4.43**	**117**	PN	**Pn**	**12 39 02.5**	**+1.7**
SUTC	**Sutluce-Ispart**	**4.43**	**117**	*e*Pn	**Pn**	**12 39 02.5**	**+1.7**
ZKR	**Zakros**	**4.48**	**178**	PN	**Pn**	**12 39 02.8**	**+1.3**
ZKR	**Zakros**	**4.48**	**178**	*e*Pn	**Pn**	**12 39 02.8**	**+1.3**
BARS	**Barje**	**4.53**	**317**	*e*Pn	**Pn**	**12 39 02.8**	**+0.8**
BCAM	**Yenicaga**	**4.76**	**73**	*i* P	**Pn**	**12 39 05.8**	**+0.4**
BCAM	**Yenicaga**	**4.76**	**73**	P	**Pn**	**12 39 05.8**	**+0.4**
CMDR	**Camlidere-ANKA**	**5.01**	**78**	*i* P	**Pn**	**12 39 08.2**	**-0.6**
CMDR	**Camlidere-ANKA**	**5.01**	**78**	P	**Pn**	**12 39 08.2**	**-0.6**
ZAGS	**Zajecar**	**5.08**	**327**	*e*Pn	**Pn**	**12 39 09.7**	**+0.1**
BTIN	**Bart¯–n**	**5.14**	**65**	*i* P	**Pn**	**12 39 10.1**	**-0.3**
BTIN	**Bart¯–n**	**5.14**	**65**	P	**Pn**	**12 39 10.1**	**-0.3**
TIRR	**Tirgusor**	**5.16**	**19**	⇑*i*P	**Pn**	**12 39 11.0**	**+0.3**
TIRR	**Tirgusor**	**5.16**	**19**	⇑*i*P	**Pn**	**12 39 11.0**	**+0.3**
BOVS	**Bovan**	**5.18**	**322**	*e*Pn	**Pn**	**12 39 11.9**	**+0.9**
TLB	**Topalu**	**5.19**	**16**	⇑*i*P	**Pn**	**12 39 11.6**	**+0.4**
TLB	**Topalu**	**5.19**	**16**	⇑*i*P	**Pn**	**12 39 11.6**	**+0.4**
ISR	**Istrita**	**5.52**	**4**	⇑*i*P	**Pn**	**12 39 17.6**	**+1.8**
ISR	**Istrita**	**5.52**	**4**	⇑*i*P	**Pn**	**12 39 17.6**	**+1.8**
CFR	**Carcaliu**	**5.78**	**15**	⇓*i*P	**Pn**	**12 39 19.4**	**+0.2**
CFR	**Carcaliu**	**5.78**	**15**	⇓*i*P	**Pn**	**12 39 19.4**	**+0.2**
KUBS	**Kucevo**	**5.80**	**327**	*e*Pn	**Pn**	**12 39 19.3**	**-0.3**
GRUS	**Gruza**	**5.85**	**319**	*e*Pn	**Pn**	**12 39 20.4**	**+0.2**
ARR	**Arges**	**5.85**	**350**	⇑*i*P	**Pn**	**12 39 21.2**	**+0.9**
ARR	**Arges**	**5.85**	**350**	⇑*i*P	**Pn**	**12 39 21.2**	**+0.9**
BRTR	**Keskin Array B**	**5.86**	**86**	Pn	**Pn**	**12 39 21.6**	**+1.1**
	comp=N,4.2nm,0.3s,baz=263,slow=12,SNR=162						
BRTR				Sn	**Sn**	**12 40 25.2**	**-2.6**
	comp=N,1.0nm,0.3s,baz=261,slow=23,SNR=3.5						
BRTR				Lg	Lg	12 41 00.7	
	baz=282,slow=20,SNR=5.1						
VOIR		**5.88**	**353**	⇑*i*P	**Pn**	**12 39 21.4**	**+0.8**
VOIR		**5.88**	**353**	⇑*i*P	**Pn**	**12 39 21.4**	**+0.8**
MLR	**Muntele Rosu**	**5.88**	**359**	Pn	**Pn**	**12 39 22.9**	**+2.1**
	comp=N,0.9nm,0.3s,baz=204,slow=6.9,SNR=25						
MLR				LR	LR	12 42 08.4	
	comp=N,25nm,19.2s,baz=150,slow=43						
MLR	**Muntele Rosu**	**5.88**	**359**	⇑*i*P	**Pn**	**12 39 22.3**	**+1.5**
MLR	**Muntele Rosu**	**5.88**	**359**	⇑*i*P	**Pn**	**12 39 22.3**	**+1.5**
LOT	**Lotru**	**6.08**	**345**	⇑*i*P	**Pn**	**12 39 24.3**	**+0.9**
LOT	**Lotru**	**6.08**	**345**	⇑*i*P	**Pn**	**12 39 24.3**	**+0.9**
PLOR	**Plostina**	**6.26**	**4**	⇓*i*P	**Pn**	**12 39 28.1**	**+2.2**
PLOR	**Plostina**	**6.26**	**4**	⇓*i*P	**Pn**	**12 39 28.1**	**+2.2**
VRI	**Vrincioaia**	**6.28**	**4**	⇑*i*P	**Pn**	**12 39 28.2**	**+2.1**
VRI	**Vrincioaia**	**6.28**	**4**	⇑*i*P	**Pn**	**12 39 28.2**	**+2.1**
DOPR	**Dopca**	**6.38**	**356**	⇑*i*P	**Pn**	**12 39 29.6**	**+2.1**
DOPR	**Dopca**	**6.38**	**356**	⇑*i*P	**Pn**	**12 39 29.6**	**+2.1**
BZS	**Buzias**	**6.84**	**333**	⇓*i*P	**Pn**	**12 39 34.4**	**+0.6**
BZS	**Buzias**	**6.84**	**333**	⇓*i*P	**Pn**	**12 39 34.4**	**+0.6**
TESR	**Tescani**	**6.92**	**3**	⇓*i*P	**Pn**	**12 39 35.1**	**+0.2**
TESR	**Tescani**	**6.92**	**3**	⇓*i*P	**Pn**	**12 39 35.1**	**+0.2**
TIP	**Timpagrande**	**7.21**	**270**	⇑*i*P	**Pn**	**12 39 40.5**	**+1.6**
TIP	**Timpagrande**	**7.21**	**270**	⇑*i*P	**Pn**	**12 39 40.5**	**+1.6**
SIRR	**Siria**	**7.39**	**336**	⇑*i*P	**Pn**	**12 39 41.5**	**+0.1**
SIRR	**Siria**	**7.39**	**336**	⇑*i*P	**Pn**	**12 39 41.5**	**+0.1**
BURAR	**Bucovina Array**	**8.03**	**356**	⇓*i*P	**Pn**	**12 39 52.5**	**+2.3**
BURAR	**Bucovina Array**	**8.03**	**356**	⇓*i*P	**Pn**	**12 39 52.5**	**+2.3**
NB2	**NORSAR Subarra**	**23.34**	**342**	P	**P**	**12 43 01.0**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=148,slow=10						
NOA	**NORSAR Array B**	**23.34**	**342**	P	**P**	**12 43 01.3**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=145,slow=9.3,SNR=4.5						
EKA	**Eskdalemuir Ar**	**24.99**	**319**	P	**P**	**12 43 17.5**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=118,slow=9.7,SNR=5.5						
MKAR	**Makanchi Array**	**40.86**	**61**	P	**P**	**12 45 36.7**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=284,slow=8.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**41.51**	**50**	pP	pP	12 45 45.0	+1.2
	comp=Z,1.2nm,0.6s,baz=273,slow=10,SNR=4.5						

NIED ***23*** *12:44:00,35˚.20N×135˚.20E,h14km,Mw3.3 Best double couple: M₀1.16000×10¹⁴ NP1:φ₈158.00000°,δ40.00000°, λ68.00000°. NP2:φ₈6.00000°,δ53.00000°,λ108.00000°.*

IDC ***23*** *12:44:17.2±1.2,35˚.10N×135˚.30E,h0km,mb3.4/3, mb1 3.6/5,mb1mx3.3/68,mbtmp3.3/5,ML3.3/2,Error ellipse: s-maj=28.8km s-min=13.3km az=149.0*

ISCJB ***23*** *12:44:18.3±0.5,35˚.24N±0˚.03×135˚.23E±0˚.04,h12km±4km, mb3.5/3,Error ellipse: s-maj=5.8km s-min=5.6km az=136.4*

JMA ***23*** *12:44:18.6,35˚.25N×135˚.24E,h13km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φ₈349.00000°,δ53.00000°,λ100.00000°. NP2: φ₈153.00000°,δ39.00000°,λ77.00000°. Principal axes: T Plg79.0000°, Azm301.0000°; N Plg8.0000°, Azm163.0000°; P Plg7.0000°, Azm72.0000°;*

JMA Felt II J1.

ISC 23 12:44:18.5±0.9,35˚.24N±0˚.03×135˚.26E±0˚.03,h12km±7km, n13,σ0˚93/20,mb3.4/3,1C-4D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JWT	**Wachi**	**0.13**	**68**	⇓P	**Pg**	**12 44 22.0**	**+0.2**
JWT				S	**Sg**	**12 44 24.2**	**+0.1**
JKY	**Yasaka**	**0.41**	**342**	⇑P	**Pg**	**12 44 26.6**	**-0.1**
JKY				S	**Sg**	**12 44 32.2**	**0.0**
JKS	**Kasai**	**0.42**	**233**	P	**Pg**	**12 44 26.8**	**-0.1**
JKS				S	**Sg**	**12 44 32.5**	**0.0**
JKSM	**Kasumi**	**0.60**	**306**	⇓P	**Pg**	**12 44 29.8**	**-0.4**
JKSM				S	**Sg**	**12 44 37.6**	**-0.5**
JHE	**Heguri**	**0.68**	**149**	P	**Pg**	**12 44 31.7**	**0.0**
JHE				S	**Sb**	**12 44 40.9**	**-0.8**
JAJ2	**Tsuna**	**0.87**	**201**	⇓P	**Pg**	**12 44 35.0**	**-0.3**
JAD	**Aida**	**0.94**	**252**	⇓P	**Pg**	**12 44 35.7**	**-1.0**
MAT	**Matsushiro**	**2.73**	**61**	P	**Pb**	**12 45 05.9**	**-1.4**
MAT				S	**Sg**	**12 45 45.5**	**-0.7**
MJAR	**Matsushiro Arr**	**2.73**	**61**	Pn	**Pn**	**12 45 04.3**	**+2.1**
	9.0nm,0.3s,baz=252,slow=16,SNR=74						
MJAR				Pg	**Pg**	**12 45 09.8**	**-1.0**
	9.0nm,0.3s,baz=237,slow=18,SNR=84						
MJAR				Lg	Lg	12 45 45.6	
	3.9nm,0.3s,baz=239,slow=30,SNR=8.4						
JNU	**Nakatsue**	**4.20**	**241**	Pn	**Pn**	**12 45 23.8**	**+1.4**
	1.9nm,0.3s,baz=102,slow=5.2,SNR=4.6						
JNU				Lg	Lg	12 46 29.5	
	1.2nm,0.3s,baz=212,slow=8.6,SNR=4.1						
SONM	**Songino Array**	**24.84**	**309**	P	**P**	**12 49 42.2**	**+1.3**
	0.7nm,0.8s,baz=118,slow=6.7,SNR=6.1						
ILAR	**Eielson Array**	**53.65**	**31**	P	**P**	**12 53 39.5**	**0.0**
	0.4nm,0.9s,baz=261,slow=5.4,SNR=4.9						
WRA	**Warramunga Arr**	**54.88**	**181**	P	**P**	**12 53 48.4**	**-0.6**
	0.5nm,0.6s,baz=358,slow=7.8,SNR=5.8						

DDA ***23*** *12:49:16.6,37˚.33N×41˚.74E,h7km,Ml2.6*

ISK ***23*** *12:49:17.6,37˚.40N×41˚.78E,h5km,ML2.3/5*

CSEM ***23*** *12:49:18.2±0.3,37˚.45N×41˚.79E,h2km,ML2.3,Error ellipse: s-maj=10.8km s-min=4.4km az=5.0*

ISC 23 12:49:18.0±1.2,37˚.38N±0˚.06×41˚.77E±0˚.03,h12km±10km, n17,σ0˚93/27,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.55**	**77**	PG	**Pg**	**12 49 28.2**	**-0.6**
SIRT				SG	**Sb**	**12 49 36.4**	**-1.2**
SIRT	**Sirnak**	**0.55**	**77**	*e*Pg	**Pg**	**12 49 28.2**	**-0.6**
SIRT				*e*Sg	**Sb**	**12 49 36.4**	**-1.2**
BTMN	**Batman**	**0.65**	**323**	*i* P	**Pg**	**12 49 29.7**	**-0.9**
BTMN	**Batman**	**0.65**	**323**	P	**Pg**	**12 49 29.7**	**-0.9**
MARD	**Mardin**	**0.79**	**266**	*i* P	**Pg**	**12 49 31.5**	**-1.8**
MAZI	**Mazidag**	**1.05**	**275**	PG	**Pg**	**12 49 38.3**	**0.0**
MAZI				SG	**Sn**	**12 49 53.8**	**+0.4**
MAZI	**Mazidag**	**1.05**	**275**	*e*Pg	**Pg**	**12 49 38.3**	**0.0**
MAZI				*e*Sg	**Sn**	**12 49 53.8**	**+0.4**
GURO	**Guroymak-BITLI**	**1.19**	**10**	PN	**Pn**	**12 49 41.2**	**+0.6**
GURO				SN	**Sn**	**12 49 56.8**	**0.0**
GURO	**Guroymak-BITLI**	**1.19**	**10**	*e*Pn	**Pn**	**12 49 41.2**	**+0.6**
GURO				*e*Sn	**Sn**	**12 49 56.8**	**0.0**
DIY	**Diyarbakir**	**1.33**	**293**	*e*Pn	**Pg**	**12 49 44.9**	**+1.4**
DYBB	**Diyarbakir**	**1.41**	**294**	PN	**Pg**	**12 49 44.3**	**+0.9**
HANI	**Diyarbakir_Han**	**1.50**	**314**	*i* P	**Pn**	**12 49 45.2**	**+0.4**
HANI				*i* S	**Sg**	**12 50 06.6**	**+0.4**
HANI	**Diyarbakir_Han**	**1.50**	**314**	P	**Pn**	**12 49 45.2**	**+0.4**
HANI				S	**Sg**	**12 50 06.6**	**+0.4**
HAKT	**HAKKARI**	**1.56**	**83**	*i* P	**Pb**	**12 49 46.4**	**-0.5**
HAKT				*i* S	**Sg**	**12 50 10.0**	**+1.9**
HAKT	**HAKKARI**	**1.56**	**83**	P	**Pb**	**12 49 46.4**	**-0.5**
HAKT				S	**Sg**	**12 50 10.0**	**+1.9**
BINT	**Bingol**	**1.80**	**326**	*e*Pn	**Pn**	**12 49 49.5**	**+0.4**
BNGB	**Bing¶l**	**1.82**	**332**	PN	**Pn**	**12 49 49.5**	**+0.2**

IDC 23 12:51:28.4±999.0,46˚.90N×9˚.13E,h0km,Error ellipse: s-maj=1381.0km s-min=77.8km az=56.0,Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**3.65**	**56**	*i*			13 14 40.0	
	baz=241,slow=330,SNR=1.6							
I43RU	**DUBNA INFRASON**	**19.81**	**50**	*i*			14 56 30.0	
	baz=248,slow=330,SNR=0.6							
I31KZ	**AKTYUBINSK INF**	**32.03**	**65**	*i*			16 06 30.0	
	baz=278,slow=328,SNR=1.1							

IDC 23 12:57:18.3±4.0,22˚.64S×176˚.38W,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.7/44,mbtmp3.9/4,MS3.7/2,Ms1 3.7/2, ms1mx2.8/44,Error ellipse: s-maj=237.6km s-min=30.2km az=156.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.90**	**269**	*e*P	P	13 01 17.2

LIA					S	**Sb**	**13 17 08.7**	**+1.0**
LIA					AML	AML	13 17 08.9	
	comp=N,68μm,0.4s							
LIA					AML	AML	13 17 11.3	
	comp=E,76μm,0.3s							
LIA	**Limnos Island**	**0.74**	**294**		P	**Pg**	**13 16 58.0**	**+0.2**
LIA					S	**Sg**	**13 17 07.5**	**-0.1**
LIA	**Limnos Island**	**0.74**	**294**		P	**Pg**	**13 16 58.2**	**+0.3**
LIA					S	**Sg**	**13 17 07.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.86**	**22**		PG	**Pb**	**13 16 59.7**	**-0.2**
GELI					SG	**Sg**	**13 17 12.0**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.86**	**22**	*e*Pg	P	**Pb**	**13 16 59.7**	**-0.2**
GELI				*e*Sg		**Sg**	**13 17 12.0**	**+0.6**
LPK	**Lapseki**	**0.94**	**35**		PG	**Pb**	**13 17 01.5**	**+0.1**
LPK	**Lapseki**	**0.94**	**35**	*e*Pg	P	**Pb**	**13 17 01.5**	**+0.1**
SMTH	**Samothraki Isl**	**0.96**	**335**		P	**Pb**	**13 17 01.6**	**-0.1**
SMTH					S	**Sn**	**13 17 15.3**	**-0.3**
SMTH					AML	AML	13 17 17.9	
	comp=N,26μm,0.1s							
SMTH					AML	AML	13 17 19.0	
	comp=E,18μm,0.1s							
SMTH	**Samothraki Isl**	**0.96**	**335**		P	**Pb**	**13 17 01.8**	**+0.1**
SMTH					S	**Sg**	**13 17 14.6**	**0.0**
SMTH	**Samothraki Isl**	**0.96**	**335**		P	**Pb**	**13 17 01.8**	**+0.1**
SMTH					S	**Sg**	**13 17 14.6**	**0.0**
ERIK	**Erikli-Kesan**	**1.12**	**18**		PN	**Pn**	**13 17 04.3**	**-0.2**
ERIK					SN	**Sg**	**13 17 20.6**	**+0.8**
ERIK	**Erikli-Kesan**	**1.12**	**18**	*e*Pn	P	**Pn**	**13 17 04.3**	**-0.2**
ERIK				*e*Sn		**Sg**	**13 17 20.6**	**+0.8**
BALY	**Balya**	**1.21**	**83**	*i* P		**Pb**	**13 17 06.2**	**+0.1**
BALY	**Balya**	**1.21**	**83**	P		**Pb**	**13 17 06.2**	**+0.1**
CHOS	**Chios island**	**1.22**	**180**		PN	**Pg**	**13 17 07.8**	**+0.9**
CHOS	**Chios island**	**1.22**	**180**	*e*Pn		**Pg**	**13 17 07.8**	**+0.9**
ALN	**Alexandroupoli**	**1.29**	**360**		PN	**Pb**	**13 17 07.2**	**-0.2**
ALN	**Alexandroupoli**	**1.29**	**360**	P		**Pb**	**13 17 07.8**	**+0.4**
ALN	**Alexandroupoli**	**1.29**	**360**	*e*Pn		**Pb**	**13 17 07.2**	**-0.2**
ALN	**Alexandroupoli**	**1.29**	**360**	P		**Pb**	**13 17 07.9**	**+0.5**
ALN				S		**Sg**	**13 17 25.4**	**+0.1**
ALN	**Alexandroupoli**	**1.29**	**360**	P		**Pg**	**13 17 08.3**	**-0.1**
ALN				S		**Sg**	**13 17 25.4**	**+0.1**
URLA	**Izmir**	**1.31**	**161**		PN	**Pb**	**13 17 07.7**	**0.0**
URLA	**Izmir**	**1.31**	**161**	*e*Pn		**Pb**	**13 17 07.7**	**0.0**
KESN	**Edirne-Kesan**	**1.31**	**21**	*i* P		**Pn**	**13 17 07.3**	**-0.1**
KESN	**Edirne-Kesan**	**1.31**	**21**	P		**Pn**	**13 17 07.3**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.38**	**38**		PN	**Pb**	**13 17 09.1**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.38**	**38**	*e*Pn		**Pb**	**13 17 09.1**	**+0.2**
SART	**Tekirdag**	**1.38**	**38**	*i* P		**Pb**	**13 17 08.6**	**-0.4**
SART				*i* S		**Sb**	**13 17 26.9**	**+0.4**
SART	**Tekirdag**	**1.38**	**38**	P		**Pb**	**13 17 08.6**	**-0.4**
SART				S		**Sb**	**13 17 26.9**	**+0.4**

*NNC **23** 13:22:34.0±4.5, 43°.95N×84°.64E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=35.6km s-min=14.9km az=116.0*
*SOME **23** 13:22:37.2, 44°.12N×84°.28E, h0km*
ISC 23 13:22:39.6±3.5, **44°.0N**±0°.1×**84°.7E**±0°.1, **h25**km, **n9,** σ**2^{s}07**/13, **4C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.29**	**331**	⇑Pg	**Pb**	**13 23 35.2**	**-2.2**
	0.5nm,0.2s,baz=141,slow=17,SNR=62						
MK31				Lg	Lg	13 24 16.4	
	2.7nm,0.3s,baz=149,slow=29,SNR=8.1						
MAKZ	**Makanchi**	**3.42**	**328**	⇑Pg	**Pb**	**13 23 37.5**	**-2.0**
	0.8nm,0.3s						
MAKZ				⇓Lg	Lg	13 24 20.6	
	5.6nm,0.5s						
ZSN	**Zaisan**	**3.50**	**2**	*e*P	**Pb**	**13 23 40.2**	**-0.7**
	1.2nm,0.3s						
ZSN				*e*S	**Sb**	**13 24 25.5**	**+2.5**
	5.8nm,0.5s						
PDGK	**Podgornoye**	**3.80**	**262**	⇑Pn	Pn	13 23 32.1	-4.5
	0.8nm,0.3s						
PDGK				⇑Sn	**Sn**	**13 24 21.2**	**+0.7**
	9.0nm,0.7s						
PDGK				⇓Lg	Lg	13 24 33.7	
	8.9nm,0.6s						
KAPS	**Kapalarasan**	**4.01**	**291**	*e*P	**Pb**	**13 23 47.6**	**-1.9**
	0.6nm,0.2s						
KAPS				*e*S	**Sb**	**13 24 38.1**	**+0.6**
	2.8nm,0.4s						
MNBS	**Baschi**	**4.51**	**274**	*e*P	**Pb**	**13 23 55.8**	**-2.3**
	1.6nm,0.2s						
MNBS				*e*S	**Sb**	**13 24 52.0**	**+0.1**
	12nm,0.3s						
KURS	**Kuram**	**4.72**	**267**	*e*P	**Pb**	**13 24 00.5**	**-1.1**
KURS				*e*S	**Sb**	**13 25 00.6**	**+2.6**
ARXS	**Arharly**	**4.92**	**275**	*e*P	**Pb**	**13 24 04.1**	**-1.0**
	1.4nm,0.3s						
ARXS				*e*S	**Sb**	**13 25 06.9**	**+3.0**
	8.7nm,0.4s						
KURK	**Kurchatov**	**7.91**	**331**	⇓Lg	Lg	13 26 44.8	
	4.1nm,1.0s						

IDC 23 13:26:52.9±5.2, **3°.95S×151°.01E, h75**km±47km, **mb3.4**/5, **mb1 3.6**/6, **mb1mx3.3**/47, **mbtmp3.8**/6, **ML1.7**/1, **MS3.1**/2, **Ms1 3.1**/2, **ms1mx2.6**/28, **Error ellipse: s-maj=30.4km s-min=30.0km az=102.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.64**	**215**	P	Pn	13 28 28.3	+0.5
	0.8nm,0.3s,baz=360,slow=5.2,SNR=6.2						
PMG				LR	LR	13 30 41.1	
	comp=Z,84nm,21.2s,baz=349,slow=34						
HNR	**Honiara**	**10.41**	**122**	LR	LR	13 33 38.2	
	comp=Z,162nm,18.0s,baz=228,slow=39						
WRA	**Warramunga Arr**	**22.74**	**224**	P	P	13 31 48.6	-0.4
	2.9nm,0.7s,baz=50,slow=10,SNR=14						
DZM	**Mont Dzumac**	**23.42**	**142**	P	P	13 31 55.4	-0.3
	5.3nm,0.9s,baz=312,slow=15,SNR=3.9						
ASAR	**Alice Springs**	**25.64**	**219**	P	P	13 32 16.6	+1.0
	0.9nm,0.9s,baz=54,slow=9.3,SNR=7.7						
CMAR	**Chiang Mai Arr**	**55.90**	**295**	P	P	13 36 24.2	+0.7
	1.1nm,0.9s,baz=115,slow=7.0,SNR=5.8						
MKAR	**Makanchi Array**	**78.52**	**319**	P	P	13 38 45.5	-0.6
	0.6nm,0.9s,baz=99,slow=8.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**148.35**	**289**	PKPbc	PKPbc	13 46 30.7	-1.1
	0.2nm,0.5s,baz=70,slow=3.0,SNR=2.8						

*CSEM **23** 13:37:28.9±0.4, 36°.97N×38°.59E, h5km, ML2.1, Error ellipse: s-maj=10.8km s-min=7.1km az=146.0*
*ISK **23** 13:37:28.3, 36°.96N×38°.62E, h6km, ML2.1/7*
*ISCJB **23** 13:37:29.5±0.7, 36°.99N±0°.05×38°.57E±0°.06, h9km±6km, Error ellipse: s-maj=8.8km s-min=6.2km az=139.7*
*DDA **23** 13:37:29.6, 37°.00N×38°.50E, h7km, Ml2.9*
ISC 23 13:37:29.8±0.9, **37°.01N**±0°.04×**38°.58E**±0°.04, **h11**km±8km, **n20,** σ**1^{s}07**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURC	**SANLIURFA_SURC**	**0.13**	**168**	*i* P	**Pg**	**13 37 31.8**	**-1.1**
SURC				*i* S	**Sg**	**13 37 36.8**	**+1.6**
SURC	**SANLIURFA_SURC**	**0.13**	**168**	P	**Pg**	**13 37 31.8**	**-1.1**
SURC				S	**Sg**	**13 37 36.8**	**+1.6**
URFA	**Urfa**	**0.47**	**24**	PG	**Pg**	**13 37 37.6**	**-1.6**
URFA				SG	**Sb**	**13 37 46.9**	**-0.5**
URFA	**Urfa**	**0.47**	**24**	*e*Pg	**Pg**	**13 37 37.6**	**-1.6**
URFA				*e*Sg	**Sb**	**13 37 46.9**	**-0.5**
GAZ	**Gaziantep**	**1.11**	**279**	PN	**Pg**	**13 37 49.8**	**-1.3**
GAZ				SN	**Sn**	**13 38 07.2**	**+0.5**
GAZ	**Gaziantep**	**1.11**	**279**	*e*Pn	**Pg**	**13 37 49.8**	**-1.3**
GAZ				*e*Sn	**Sn**	**13 38 07.2**	**+0.5**
MALT	**Malatya**	**1.31**	**355**	PN	**Pn**	**13 37 54.3**	**+0.1**
MALT				SN	**Sn**	**13 38 13.1**	**+1.3**
MALT	**Malatya**	**1.31**	**355**	*e*Pn	**Pn**	**13 37 54.3**	**+0.1**
MALT				*e*Sn	**Sn**	**13 38 13.1**	**+1.3**
HCB	**Kahramanmara˜**	**1.38**	**285**	*i* P	**Pn**	**13 37 54.4**	**-0.6**
AKCD	**Akcadag**	**1.39**	**338**	*i* P	**Pg**	**13 37 56.4**	**-0.1**
AKCD	**Akcadag**	**1.39**	**338**	P	**Pg**	**13 37 56.4**	**-0.1**
KMRS	**Kahramanmaras**	**1.43**	**291**	PN	**Pn**	**13 37 55.7**	**-0.1**
KMRS	**Kahramanmaras**	**1.43**	**291**	*e*Pn	**Pn**	**13 37 55.7**	**-0.1**
KAMA	**Osmaniye**	**1.54**	**277**	*i* P	**Pn**	**13 37 54.9**	**-2.5**
MAZI	**Mazidag**	**1.56**	**73**	PN	**Pn**	**13 37 57.1**	**-0.5**
MAZI				SN	**Sb**	**13 38 18.2**	**-0.3**
MAZI	**Mazidag**	**1.56**	**73**	*e*Pn	**Pn**	**13 37 57.1**	**-0.5**
MAZI				*e*Sn	**Sb**	**13 38 18.2**	**-0.3**
PTK	**Pertek**	**1.99**	**19**	PN	**Pn**	**13 38 04.1**	**+0.5**
PTK	**Pertek**	**1.99**	**19**	*e*Pn	**Pn**	**13 38 04.1**	**+0.5**
YAYL	**Yayladag**	**2.22**	**245**	PN	**Pn**	**13 38 07.5**	**+0.8**
YAYL	**Yayladag**	**2.22**	**245**	*e*Pn	**Pn**	**13 38 07.5**	**+0.8**

*ISCJB **23** 13:37:45.8±0.6, 41°.00N±0°.04×36°.06E±0°.06, h0km, Error ellipse: s-maj=7.8km s-min=4.6km az=136.7*
*ISK **23** 13:37:45.4, 41°.08N×36°.19E, h8km, ML2.1/7*
*CSEM **23** 13:37:46.0±0.3, 40°.99N×36°.07E, h1km, ML2.1, Error ellipse: s-maj=9.0km s-min=6.0km az=48.0, Suspected Mining explosion.*
*DDA **23** 13:37:46.9, 41°.01N×36°.03E, h7km, Ml2.6, Suspected Mining explosion.*
ISC 23 13:37:45.7±0.9, **41°.00N**±0°.03×**36°.07E**±0°.03, **h0**km, **n28,** σ**0^{s}46**/34, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KVT	**Kavak**	**0.08**	**349**	PG	**Pg**	**13 37 48.0**	**+0.8**
KVT	**Kavak**	**0.08**	**349**	*e*Pg	**Pg**	**13 37 48.0**	**+0.8**
HAVZ	**Havza**	**0.27**	**285**	*i* P	**Pb**	**13 37 52.7**	**-0.8**
HAVZ	**Havza**	**0.27**	**285**	P	**Pb**	**13 37 52.7**	**-0.8**
SAMS	**Samsun-Alacam**	**0.37**	**14**	*i* P	**Pb**	**13 37 54.8**	**-0.4**
SAMS	**Samsun-Alacam**	**0.37**	**14**	P	**Pb**	**13 37 54.8**	**-0.4**
ERBA	**Erbaa**	**0.61**	**121**	*i* P	**Pb**	**13 37 59.3**	**0.0**
ERBA	**Erbaa**	**0.61**	**121**	P	**Pb**	**13 37 59.3**	**0.0**
DIKM	**Dikmen**	**0.89**	**317**	PG	**Pb**	**13 38 03.5**	**-0.5**
DIKM				SG	**Sb**	**13 38 16.7**	**+0.3**
DIKM	**Dikmen**	**0.89**	**317**	*e*Pg	**Pb**	**13 38 03.5**	**-0.5**
DIKM				*e*Sg	**Sb**	**13 38 16.7**	**+0.3**
BOYT	**Boyabat**	**0.97**	**296**	*i* P	**Pg**	**13 38 04.3**	**0.0**
BOYT				*i* S	**Sg**	**13 38 17.5**	**+0.6**
BOYT	**Boyabat**	**0.97**	**296**	P	**Pg**	**13 38 04.3**	**0.0**
BOYT				S	**Sg**	**13 38 17.5**	**+0.6**
CTAK	**Corum_Osmancik**	**1.03**	**250**	*i* P	**Pb**	**13 38 06.2**	**-0.4**
CTAK	**Corum_Osmancik**	**1.03**	**250**	P	**Pb**	**13 38 06.2**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.13**	**122**	PN	**Pg**	**13 38 07.2**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.13**	**122**	*e*Pn	**Pg**	**13 38 07.2**	**-0.2**
SNOP	**Sinop**	**1.20**	**328**	PN	**Pb**	**13 38 08.9**	**-0.5**
SNOP				SN	**Sb**	**13 38 25.1**	**-0.4**
SNOP	**Sinop**	**1.20**	**328**	*e*Pn	**Pb**	**13 38 08.9**	**-0.5**
SNOP				*e*Sn	**Sb**	**13 38 25.1**	**-0.4**
SINO	**SINOP_Merkez**	**1.20**	**328**	*i* P	**Pb**	**13 38 09.2**	**-0.2**
SINO	**SINOP_Merkez**	**1.20**	**328**	P	**Pb**	**13 38 09.2**	**-0.2**
SVSK	**Karacayir**	**1.30**	**146**	PN	**Pg**	**13 38 10.3**	**-0.3**
SVSK	**Karacayir**	**1.30**	**146**	*e*Pn	**Pg**	**13 38 10.3**	**-0.3**
CORM	**Corum**	**1.37**	**233**	PN	**Pb**	**13 38 12.2**	**-0.1**
CORM	**Corum**	**1.37**	**233**	*e*Pn	**Pb**	**13 38 12.2**	**-0.1**
YOZ	**Yozgat**	**1.48**	**203**	PN	**Pb**	**13 38 14.8**	**+0.7**
YOZ	**Yozgat**	**1.48**	**203**	*e*Pn	**Pb**	**13 38 14.8**	**+0.7**
BZK	**Bozkurt**	**1.82**	**302**	PN	**Pn**	**13 38 18.1**	**-0.2**
BZK	**Bozkurt**	**1.82**	**302**	*e*Pn	**Pn**	**13 38 18.1**	**-0.2**

*IDC **23** 13:38:07.2±1.5, 29°.42S×175°.97W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.8/47, mbtmp4.1/4, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/39, Error ellipse: s-maj=49.1km s-min=25.9km az=165.0*
*NEIC **23** 13:38:12.1±1.2, 29°.57S×176°.01W, h35km, mb4.1/1, Error ellipse: s-maj=26.5km s-min=20.5km az=134.0*
ISC 23 13:38:11.1±1.2, **29°.5S**±0°.1×**176°.1W**±0°.1, **h28**km, **n13,** σ**1^{s}06**/14, **mb4.2/4, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.65**	**276**	Pn	**Pb**	**13 38 40.1**	**-0.6**
	136nm,0.3s,baz=73,slow=20,SNR=4.7						
RAO				Sn	**Sb**	**13 39 01.5**	**+0.4**
	548nm,0.3s,baz=117,slow=23,SNR=7.4						
URZ	**Urewera**	**10.46**	**211**	Pn	**Pn**	**13 40 38.2**	**-0.9**
	0.3nm,0.3s,baz=283,slow=6.8,SNR=4.9						
URZ				Sn	**Sn**	**13 42 35.8**	**+0.4**
	2.3nm,0.3s,baz=272,slow=21,SNR=14						
DZM	**Mont Dzumac**	**17.39**	**291**	LR	LR	13 48 12.2	
	comp=Z,56nm,18.9s,baz=278,slow=35						
CTAO	**Charters Tower**	**35.35**	**277**	P	**P**	**13 45 03.3**	**-1.0**
STKA	**Stephens Creek**	**36.35**	**255**	P	**P**	**13 45 15.5**	**+2.7**
	1.8nm,0.6s,baz=92,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**44.87**	**265**	P	**P**	**13 46 22.9**	**-0.3**
	1.6nm,0.6s,baz=104,slow=6.9,SNR=38						
WRAB	**Tennant Creek**	**45.77**	**270**	*e*P	**P**	**13 46 29.8**	**-0.6**
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**45.77**	**270**	P	**P**	**13 46 29.8**	**-0.6**
	2.8nm,0.5s,baz=109,slow=7.9,SNR=48						
FINES	**FINESS Array B**	**144.81**	**342**	PKP	**PKPdf**	**13 57 44.0**	**-0.6**
	1.1nm,0.7s,baz=29,slow=3.2,SNR=4.5						
FINES	**FINESS Array B**	**144.81**	**342**	PKP	**PKPdf**	**13 57 44.0**	**-0.6**
NB2	**NORSAR Subarra**	**148.04**	**353**	PKP	**PKPbc**	**13 57 53.9**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=8.2,slow=2.8						
NOA	**NORSAR Array B**	**148.04**	**353**	PKPbc	**PKPbc**	**13 57 53.9**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=13,slow=4.5,SNR=5.1						
HFS	**Hagfors**	**148.62**	**351**	PKPbc	**PKPbc**	**13 57 55.5**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=60,slow=3.5,SNR=4.9						

*IDC **23** 13:40:10.5±1.3, 37°.40N×82°.19E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.4/72, mbtmp3.6/9, ML3.4/3, MS2.4/1, Ms1 2.4/1, ms1mx2.1/55, Error ellipse: s-maj=32.5km s-min=22.3km az=44.0*
*ISCJB **23** 13:40:11.5±0.8, 37°.66N±0°.06×82°.33E±0°.10, h10km, mb3.5/5, Error ellipse: s-maj=11.9km s-min=7.9km az=156.7*
*BJI **23** 13:40:11.1, 37°.54N×82°.19E, h8km, ML3.7/7*
*NNC **23** 13:40:18.3±3.8, 37°.92N×82°.03E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=33.3km s-min=27.6km az=50.0*
ISC 23 13:40:11.9±1.1, **37°.52N**±0°.09×**82°.21E**±0°.08, **h10**km, **n17,** σ**1^{s}59**/20, **mb3.6/5, 2C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**5.29**	**294**	Pg	**Pg**	**13 41 50.9**	**-2.2**
KSH				*s*max	*s*max		
	comp=N,190nm,0.5s						
KSH				*s*max	*s*max		
	comp=E,170nm,0.5s						
PDGK	**Podgornoye**	**6.16**	**341**	⇓Pn	**Pn**	**13 41 45.8**	**+2.7**
	2.1nm,0.2s						
PDGK				⇓Sn	**Sn**	**13 42 54.1**	**+0.5**
	16nm,0.6s						
MDOK	**Medeo**	**6.88**	**327**	⇓Pn	**Pn**	**13 41 55.4**	**+2.5**
	0.6nm,0.2s						
MDOK				Sn	**Sn**	**13 43 09.2**	**-2.1**
	3.1nm,0.6s						
WMQ	**Urumqi**	**7.55**	**32**	Pn	**Pn**	**13 42 03.5**	**+1.5**
WMQ				*s*max	*s*max		
	comp=N,40nm,0.9s						
WMQ				*s*max	*s*max		
	comp=E,37nm,0.9s						
AAK	**Ala-Archa**	**7.82**	**313**	Lg	Lg	13 44 17.4	
	0.4nm,0.3s,baz=295,slow=23,SNR=5.6						
AAK				LR	LR	13 44 52.6	
	comp=Z,25nm,19.1s,baz=158,slow=36						
MK31	**Makanchi Array**	**9.27**	**0**	Pn	**Pn**	**13 42 26.9**	**+1.4**
	0.9nm,0.5s,baz=182,slow=12,SNR=56						
MK31				⇑Sn	**Sn**	**13 44 08.6**	**-1.2**
	0.2nm,0.2s,baz=189,slow=24,SNR=5.1						
MKAR	**Makanchi Array**	**9.27**	**0**	Pn	**Pn**	**13 42 27.2**	**+1.7**
	0.8nm,0.3s,baz=185,slow=12,SNR=44						
MKAR				Sn	**Sn**	**13 44 07.6**	**-2.2**
	0.7nm,0.3s,baz=192,slow=22,SNR=5.7						
MAKZ	**Makanchi**	**9.28**	**359**	⇑Pn	**Pn**	**13 42 27.0**	**+1.3**
	2.0nm,0.6s						
MAKZ				⇓Sn	**Sn**	**13 44 09.6**	**-0.7**
	1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**16.53**	**5**	Pn	**P**	**13 44 06.0**	**-0.2**
	0.2nm,0.3s,baz=192,slow=19,SNR=3.3						
LZH	**Lanzhou**	**17.38**	**88**	*e*P	**Pn**	**13 44 13.0**	**-1.7**
LZH				pP	pP	13 44 17.6	-1.2
LZH				sP	sP	13 44 20.9	+0.8
BVAR	**Borovoye Array**	**17.56**	**336**	P	**P**	**13 44 17.8**	**+0.2**
	0.2nm,0.3s,baz=139,slow=10,SNR=10						
SONM	**Songino Array**	**20.47**	**52**	P	Pn	13 44 51.0	-0.9
	0.6nm,0.8s,baz=248,slow=7.8,SNR=4.6						
AKTO	**Aktyubinsk**	**21.56**	**314**	P	**P**	**13 45 01.6**	**+0.3**
	0.6nm,0.5s,baz=152,slow=10,SNR=3.9						
BRTR	**Keskin Array B**	**37.65**	**289**	P	**P**	**13 47 27.7**	**+0.5**
	1.0nm,0.6s,baz=105,slow=8.2,SNR=6.6						
FINES	**FINESS Array B**	**41.86**	**323**	P	**P**	**13 48 02.4**	**+0.6**
	0.6nm,0.6s,baz=97,slow=10,SNR=3.3						
ARCES	**ARCESS Array B**	**43.84**	**335**	P	**P**	**13 48 18.7**	**+0.9**
	1.8nm,0.9s,baz=94,slow=8.4,SNR=3.0						
WRA	**Warramunga Arr**	**75.31**	**130**	P	**P**	**13 51 55.2**	**-0.2**
	0.3nm,0.6s,baz=323,slow=5.5,SNR=4.3						

*CSEM **23** 13:40:32.6, 38°.15N×22°.59E, h13km, ML1.3/5, After ATH*
ATH 23 13:40:32.6, 38°.15N×22°.59E, h13km±3km, **ML1.3**/5, **Error ellipse: s-maj=3.5km s-min=0.9km az=146.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THAL	**Thalero**	**0.13**	**153**	P	Pg	13 40 35.8	-0.2
THAL				S	Sg	13 40 38.7	+0.4
THAL				AML	AML	13 40 38.7	
	comp=N,873μm,0.2s						
THAL				AML	AML	13 40 39.8	
	comp=E,563μm,0.2s						
THAL	**Thalero**	**0.13**	**153**	P	Pg	13 40 35.9	-0.1
THAL				S	Sg	13 40 38.6	+0.3
DSF	**Desfina**	**0.26**	**349**	P	Pg	13 40 37.8	-0.4
DSF				S	Sg	13 40 42.1	+0.1
DSF				AML	AML	13 40 42.3	
	comp=N,272μm,0.1s						
DSF				AML	AML	13 40 42.4	
	comp=E,302μm,0.3s						
DSF	**Desfina**	**0.26**	**349**	P	Pg	13 40 38.0	-0.2
DSF				S	Sg	13 40 42.1	+0.1
PROD	**Prodromos**	**0.27**	**66**	P	Pg	13 40 38.0	-0.3
PROD				S	Sg	13 40 42.5	+0.4
PROD				AML	AML	13 40 42.9	
	comp=E,242μm,0.3s						
PROD				AML	AML	13 40 43.1	
	comp=N,330μm,0.2s						
PROD	**Prodromos**	**0.27**	**66**	P	Pg	13 40 38.1	-0.2
PROD				S	Sg	13 40 42.4	+0.3
GUR	**Goura**	**0.29**	**222**	P	Pg	13 40 39.0	+0.2
GUR				S	Sg	13 40 42.5	-0.3
GUR				AML	AML	13 40 43.2	
	comp=N,149μm,0.2s						
GUR				AML	AML	13 40 44.3	
	comp=E,135μm,0.2s						
GUR	**Goura**	**0.29**	**222**	P	Pg	13 40 38.8	+0.1
GUR				S	Sg	13 40 42.8	0.0
LTK	**Loutraki**	**0.32**	**113**	P	Pg	13 40 39.0	-0.3
LTK				S	Sg	13 40 44.4	+0.6
LTK				AML	AML	13 40 45.1	
	comp=E,42μm,0.3s						
LTK				AML	AML	13 40 46.0	
	comp=N,51μm,0.2s						
LTK	**Loutraki**	**0.32**	**113**	P	Pg	13 40 39.1	-0.2
LTK				S	Sg	13 40 44.2	+0.5
KLV	**Kalavryta, Ach**	**0.36**	**253**	P	Pg	13 40 40.3	+0.3
KLV				S	Sg	13 40 44.6	-0.3
KLV	**Kalavryta, Ach**	**0.36**	**253**	P	Pg	13 40 40.1	+0.1
KLV				S	Sg	13 40 44.9	0.0
KALE	**Kalithea**	**0.43**	**304**	P	Pb	13 40 41.8	-0.3
KALE	**Kalithea**	**0.43**	**304**	P	Pg	13 40 41.4	+0.2
SERG	**Sergoula**	**0.49**	**302**	P	Pb	13 40 42.8	-0.3
SERG	**Sergoula**	**0.49**	**302**	P	Pg	13 40 42.5	+0.1
AGG	**Agios Georgios**	**0.89**	**347**	P	Pg	13 40 49.3	-0.6
AGG	**Agios Georgios**	**0.89**	**347**	P	Pg	13 40 49.4	-0.5

MEX 23 13:42:34.5±0.7, **16°.30N×97°.98W, h2**km±7km, **MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**304**	*i* P	Pg	13 42 37.4	-0.5
PNIG				*i* S	Sg	13 42 40.6	+0.4
TLIG	**Tlapa**	**1.38**	**336**	*e*P	Pn	13 42 57.2	-3.7
TLIG				*e*S	Sg	13 43 14.2	-4.7
VHO	**Vista Hermosa**	**1.42**	**57**	*e*P	Pn	13 42 57.6	-3.9
VHO				*e*S	Sg	13 43 16.6	-3.6
ACX	**Acapulco**	**1.89**	**288**	*e*P	Pn	13 43 02.0	-5.8
ACX				*i* S	Sn	13 43 25.8	-6.4
CAIG	**El Cayaco**	**2.32**	**289**	*e*P	Pn	13 43 11.0	-2.6
CAIG				*e*S	Sn	13 43 38.6	-4.1

*ISCJB **23** 13:44:02.1±0.6, 0°.50N±0°.06×122°.52E±0°.08, h114km, mb4.0/7, Error ellipse: s-maj=11.1km s-min=8.4km az=168.5*
*DJA **23** 13:44:04.2±0.7, 0°.N±4°.×12°.2E±°., h121km±6km, M4.2/6, MLv4.2/6*
*IDC **23** 13:44:12.9±6.6, 0°.22N×122°.47E, h212km±67km, mb3.5/7, mb1 3.6/8, mb1mx3.2/62, mbtmp4.0/8, MS3.5/2, Ms1 3.5/2, ms1mx2.6/39, Error ellipse: s-maj=58.7km s-min=14.9km az=64.0*
ISC 23 13:44:03.5±0.7, **0°.39N**±0°.07×**122°.43E**±

EMIJ					S	Sn	13 47 30.2	-4.2
	19nm,0.2s,SNR=10								
EMIJ	**Mijas**	**1.45**	**327**	P	Pn	13 47 13.0	-2.6
	1.5nm,0.1s,SNR=15								
EMIJ					S	Sn	13 47 30.2	-4.2
	19nm,0.2s,SNR=10								
ELGU	**Los Guajares,**	**1.52**	**5**	P	Pn	13 47 13.9	-2.6
	0.9nm,0.1s,SNR=7.9								
ELGU					S	Sn	13 47 31.6	-4.6
	42nm,0.1s,SNR=7.9								
ELGU	**Los Guajares,**	**1.52**	**5**	P	Pn	13 47 13.9	-2.6
	0.9nm,0.1s,SNR=7.9								
ELGU					S	Sn	13 47 31.6	-4.5
	42nm,0.1s,SNR=7.9								
EBER	**Berja**	**1.71**	**25**	P	Pn	13 47 17.1	-2.2
	1.0nm,0.1s,SNR=50								
EBER					S	Sn	13 47 37.8	-3.1
	98nm,0.4s,SNR=5.8								
EBER	**Berja**	**1.71**	**25**	P	Pn	13 47 17.1	-2.1
	1.0nm,0.1s,SNR=50								
EBER					S	Sn	13 47 37.8	-3.1
	98nm,0.4s,SNR=5.8								
EGOR	**Sierra Gorda,**	**1.78**	**352**	P	Pn	13 47 19.1	-1.0
	0.6nm,0.1s,SNR=7.9								
EGOR					S	Sn	13 47 40.7	-1.9
	15nm,0.3s,SNR=7.9								
EGOR	**Sierra Gorda,**	**1.78**	**352**	P	Pn	13 47 19.1	-1.0
	0.6nm,0.1s,SNR=7.9								
EGOR					S	Sn	13 47 40.7	-1.8
	15nm,0.3s,SNR=7.9								
EQUE	**Quentar**	**1.87**	**8**	P	Pn	13 47 20.6	-0.8
	2.0nm,0.1s,SNR=21								
EQUE					S	Sn	13 47 42.0	-2.9
	40nm,0.3s,SNR=8.6								
EQUE	**Quentar**	**1.87**	**8**	P	Pn	13 47 20.6	-0.8
	2.0nm,0.1s,SNR=21								
EQUE					S	Sn	13 47 42.0	-2.9
	40nm,0.3s,SNR=8.6								
ENIJ	**Nijar**	**2.06**	**38**	P	Pn	13 47 21.5	-2.5
	3.5nm,0.2s,SNR=7.9								
ENIJ					S	Sn	13 47 44.8	-4.6
	37nm,0.3s,SNR=7.9								
ENIJ	**Nijar**	**2.06**	**38**	P	Pn	13 47 21.5	-2.4
	3.5nm,0.2s,SNR=7.9								
ENIJ					S	Sn	13 47 44.8	-4.6
	37nm,0.3s,SNR=7.9								
GORA	**Gorafe**	**2.21**	**16**	P	Pn	13 47 26.1	+0.1
	13nm,0.2s,SNR=4.0								
GORA					S	Sn	13 47 51.2	-1.9
	27nm,0.3s,SNR=4.0								
GORA	**Gorafe**	**2.21**	**16**	P	Pn	13 47 26.1	+0.1
	13nm,0.2s,SNR=4.0								
GORA					S	Sn	13 47 51.2	-1.9
	27nm,0.3s,SNR=4.0								
ESPR	**Espera**	**2.26**	**313**	P	Pn	13 47 27.4	+0.8
	1.3nm,0.2s,SNR=7.9								
ESPR					S	Sn	13 47 54.9	+0.6
	5.5nm,0.2s,SNR=7.9								
ESPR	**Espera**	**2.26**	**313**	P	Pn	13 47 27.4	+0.8
	1.3nm,0.2s,SNR=7.9								
ESPR					S	Sn	13 47 54.9	+0.6
	5.5nm,0.2s,SNR=7.9								
EQES	**Quesada**	**2.52**	**13**	P	Pn	13 47 31.1	+0.9
	6.3nm,0.2s,SNR=29								
EQES					S	Sn	13 48 00.6	-0.2
	46nm,0.3s,SNR=13								
EQES	**Quesada**	**2.52**	**13**	P	Pn	13 47 31.1	+0.8
	6.3nm,0.2s,SNR=29								
EQES					S	Sn	13 48 00.6	-0.1
	46nm,0.3s,SNR=13								
EADA	**Adamuz**	**2.88**	**347**	P	Pn	13 47 35.3	+0.1
	1.0nm,0.1s,SNR=20								
EADA					S	Sn	13 48 07.6	-2.1
	2.9nm,0.1s								
EADA	**Adamuz**	**2.88**	**347**	P	Pn	13 47 35.3	+0.1
	1.0nm,0.1s,SNR=20								
EADA					S	Sn	13 48 07.6	-2.1
	2.9nm,0.1s								
SESP	**Santiago Espad**	**2.94**	**19**	P	Pn	13 47 37.2	+1.1
	9.0nm,0.2s,SNR=7.9								
SESP					S	Sn	13 48 11.1	-0.2
	47nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**2.94**	**19**	P	Pn	13 47 37.2	+1.1
	9.0nm,0.2s,SNR=7.9								
SESP					S	Sn	13 48 11.1	-0.2
	47nm,0.3s,SNR=7.9								
ECAB	**El Cabril**	**3.02**	**335**	P	Pn	13 47 37.0	-0.2
	0.0nm,0.1s,SNR=7.1								
ECAB					S	Sn	13 48 11.5	-1.6
	4.1nm,0.2s,SNR=5.7								
ECAB	**El Cabril**	**3.02**	**335**	P	Pn	13 47 37.0	-0.1
	SNR=7.1								
ECAB					S	Sn	13 48 11.5	-1.6
	4.1nm,0.2s,SNR=5.7								
EMUR	**La Murta**	**3.22**	**39**	P	Pn	13 47 38.2	-1.7
	0.4nm,0.2s,SNR=7.9								
EMUR					S	Sn	13 48 13.4	-4.6
	6.5nm,0.4s,SNR=7.2								
EMUR	**La Murta**	**3.22**	**39**	P	Pn	13 47 38.2	-1.7
	0.4nm,0.2s,SNR=7.9								
EMUR					S	Sn	13 48 13.4	-4.7
	6.5nm,0.4s,SNR=7.2								
EMIN	**Mina Concepcio**	**3.35**	**317**	P	Pn	13 47 40.5	-1.1
	0.6nm,0.1s,SNR=13								
EMIN					S	Sn	13 48 17.3	-3.8
	4.8nm,0.3s,SNR=5.8								
EMIN	**Mina Concepcio**	**3.35**	**317**	P	Pn	13 47 40.5	-1.1
	0.6nm,0.1s,SNR=13								
EMIN					S	Sn	13 48 17.3	-3.9
	4.8nm,0.3s,SNR=5.8								
EGRO	**El Granado**	**3.69**	**307**	P	Pn	13 47 45.5	-0.8
	1.0nm,0.1s,SNR=5.0								
EGRO					S	Sn	13 48 25.5	-4.1
	10nm,0.3s,SNR=9.4								
EGRO	**El Granado**	**3.69**	**307**	P	Pn	13 47 45.5	-0.8
	1.0nm,0.1s,SNR=5.0								
EGRO					S	Sn	13 48 25.5	-4.1
	10nm,0.3s,SNR=9.4								
ETOB	**Tobarra**	**3.75**	**28**	P	Pn	13 47 47.6	+0.5
	2.9nm,0.2s,SNR=57								
ETOB					S	Sn	13 48 28.1	-2.9
	9.1nm,0.5s								
ETOB	**Tobarra**	**3.75**	**28**	P	Pn	13 47 47.6	+0.5
	2.9nm,0.2s,SNR=57								
ETOB					S	Sn	13 48 28.1	-2.9
	9.1nm,0.5s								
PVAQ	**Vaqueiros**	**3.78**	**304**	*e*Pn	Pn	13 47 46.6	-0.9
PVAQ	**Vaqueiros**	**3.78**	**304**	P	Pn	13 47 46.6	-0.9
PVAQ	**Vaqueiros**	**3.78**	**304**	P	Pn	13 47 46.6	-0.9
PBAR	**Barrancos**	**3.84**	**318**	*e*Pn	Pn	13 47 47.5	-0.9
PBAR				*e*Sn	Sn	13 48 29.6	-3.7
PBAR				A	A	13 48 31.7	
	9.4nm,0.3s								
PBAR	**Barrancos**	**3.84**	**318**	P	Pn	13 47 47.5	-0.9
PBAR				S	Sn	13 48 29.6	-3.7
	9.4nm,0.3s								
PBAR	**Barrancos**	**3.84**	**318**	P	Pn	13 47 47.5	-0.9
PBAR				S	Sn	13 48 29.6	-3.7
	9.4nm,0.3s								
PBDV	**Barranco-do-Ve**	**3.84**	**301**	*e*Pn	Pn	13 47 48.1	-0.4
PBDV				*e*Sn	Sn	13 48 29.6	-3.8
PBDV	**Barranco-do-Ve**	**3.84**	**301**	P	Pn	13 47 48.1	-0.4
PBDV				S	Sn	13 48 29.6	-3.8
PBDV	**Barranco-do-Ve**	**3.84**	**301**	P	Pn	13 47 48.1	-0.4
PBDV				S	Sn	13 48 29.6	-3.8
PCVE	**Castro Verde**	**4.12**	**305**	*e*Pn	Pn	13 47 52.0	-0.1
PCVE	**Castro Verde**	**4.12**	**305**	P	Pn	13 47 52.0	-0.1
PCVE	**Castro Verde**	**4.12**	**305**	P	Pn	13 47 52.0	-0.1
PAB	**San Pablo**	**4.21**	**354**	P	Pn	13 47 53.2	-0.3
	0.8nm,0.2s,SNR=7.9								
PAB					S	Sn	13 48 39.7	-2.8
	0.9nm,0.4s,SNR=7.9								
PAB	**San Pablo**	**4.21**	**354**	P	Pn	13 47 53.2	-0.4
	0.8nm,0.2s,SNR=7.9								
PAB					S	Sn	13 48 39.7	-2.9
	0.9nm,0.4s,SNR=7.9								
PBEJ	**Beja**	**4.23**	**310**	*e*Sn	Sn	13 48 38.5	-4.4
PBEJ				A	A	13 48 41.7	
	4.7nm,0.3s								
PBEJ	**Beja**	**4.23**	**310**	S	Sn	13 48 38.5	-4.4
	2.3nm,0.3s								
PBEJ	**Beja**	**4.23**	**310**	S	Sn	13 48 38.5	-4.4
	2.3nm,0.3s								
EBAD	**Badajoz**	**4.27**	**324**	P	Pn	13 47 53.3	-0.9
	1.1nm,0.1s,SNR=8.0								
EBAD					S	Sn	13 48 40.0	-3.8
	2.5nm,0.4s								
EBAD	**Badajoz**	**4.27**	**324**	P	Pn	13 47 53.3	-0.9
	1.1nm,0.1s,SNR=8.0								
EBAD					S	Sn	13 48 40.0	-3.8
	2.5nm,0.4s								
ESDC	**Sonseca Array**	**4.32**	**358**	P	Pn	13 47 55.1	+0.1
	baz=174,slow=13,SNR=3.6								
ESDC					S	Sn	13 48 40.4	-4.7
	0.5nm,0.3s,baz=174,slow=22,SNR=3.9								
ESDC	**Sonseca Array**	**4.32**	**358**	P	Pn	13 47 55.1	+0.1
	SNR=3.6								
ESDC					S	Sn	13 48 40.4	-4.8
	0.5nm,0.3s,SNR=3.9								
PESTR	**Estremoz**	**4.64**	**320**	*e*Pn	Pn	13 48 00.3	+0.9
PESTR				*e*Sn	Sn	13 48 48.6	-4.5
PESTR	**Estremoz**	**4.64**	**320**	*e*Pn	Pn	13 48 00.3	+0.9
PNCL	**Nicolau / Gran**	**4.70**	**307**	*e*Pn	Pn	13 47 59.6	-0.6
PNCL				*e*Sn	Sn	13 48 50.6	-3.9
PNCL	**Nicolau / Gran**	**4.70**	**307**	*e*Pn	Pn	13 47 59.6	-0.6
PNCL				*e*Sn	Sn	13 48 50.6	-3.9
	4.4nm,0.4s								
PMRV	**Marv??o**	**4.98**	**326**	*e*Pn	Pn	13 48 04.1	0.0
PMRV				*e*Sn	Sn	13 48 57.1	-4.3
PMRV				A	A	13 49 12.6	
	2.5nm,0.7s								
PMRV	**Marv??o**	**4.98**	**326**	P	Pn	13 48 04.1	0.0
PMRV				S	Sn	13 48 57.1	-4.3
	2.5nm,0.7s								
PMRV	**Marv??o**	**4.98**	**326**	P	Pn	13 48 04.1	0.0
PMRV				S	Sn	13 48 57.1	-4.3
	2.5nm,0.7s								
PMTG	**Montargil**	**5.13**	**318**	*e*Pn	Pn	13 48 06.0	-0.1
PMTG				*e*Sn	Sn	13 49 00.9	-4.2
PMTG				A	A	13 49 01.9	
	3.1nm,0.6s								
PMTG	**Montargil**	**5.13**	**318**	*e*Pn	Pn	13 48 06.0	-0.1
GUD	**Guadarrama**	**5.29**	**357**	P	Pn	13 48 07.8	-0.6
	0.6nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**5.29**	**357**	P	Pn	13 48 07.8	-0.7
	0.6nm,0.2s,SNR=7.9								
PCBR	**Castelo Branco**	**5.36**	**328**	*e*Pn	Pn	13 48 08.2	-1.0
PCBR	**Castelo Branco**	**5.36**	**328**	P	Pn	13 48 08.2	-1.0
PCBR	**Castelo Branco**	**5.36**	**328**	P	Pn	13 48 08.2	-1.0
EIBI	**Ibiza**	**5.50**	**47**	P	Pn	13 48 10.1	-1.0
	0.9nm,0.1s,SNR=7.9								
EIBI					S	Sn	13 49 09.0	-5.1
	1.6nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**5.50**	**47**	P	Pn	13 48 10.1	-1.0
	0.9nm,0.1s,SNR=7.9								
EIBI					S	Sn	13 49 09.0	-5.1
	1.6nm,0.2s,SNR=7.9								
ETOR	**Torete**	**5.63**	**14**	P	Pn	13 48 13.0	0.0
	0.5nm,0.2s,SNR=7.9								
ETOR					S	Sn	13 49 12.0	-5.5
	0.4nm,0.2s,SNR=7.9								
ETOR	**Torete**	**5.63**	**14**	P	Pn	13 48 13.0	0.0
	0.5nm,0.2s,SNR=7.9								
ETOR					S	Sn	13 49 12.0	-5.5
	0.4nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**6.34**	**337**	*e*Pn	Pn	13 48 23.1	+0.3
MVO				*e*Sn	Sn	13 49 28.2	-6.8
MVO				A	A	13 49 29.6	
	3.3nm,0.5s								
MVO	**Moncorvo**	**6.34**	**337**	P	Pn	13 48 22.6	-0.2
	0.3nm,0.2s,SNR=7.9								
MVO				S	Sn	13 49 28.0	-7.0
	0.3nm,0.3s,SNR=7.9								
MVO	**Moncorvo**	**6.34**	**337**	P	Pn	13 48 22.6	-0.2
	0.3nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**6.34**	**337**	*e*Pn	Pn	13 48 23.1	+0.3
MVO				S	Sn	13 49 28.0	-7.0
	0.3nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**6.97**	**342**	P	Pn	13 48 31.5	0.0
	0.7nm,0.2s,SNR=4.0								
ECAL	**Calabor**	**6.97**	**342**	P	Pn	13 48 31.5	0.0
	0.7nm,0.2s,SNR=4.0								

SCB 23 13:46:55.2±0.9, 21°.71S×67°.19W, h160km, Ml3.5/1, Error ellipse: s-maj=28.2km s-min=5.3km az=28.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.52**	**73**	*e*Pn	Pn	13 47 30.7	+4.5
MOCB				*e*Sn	Sn	13 47 56.6	+6.6
	140nm,0.5s						
BBOJ	**La Paz, Jacaqu**	**4.81**	**349**	*e*Pn	Pn	13 48 12.6	+5.8
BBOE	**La Paz, Chanca**	**4.93**	**351**	*e*Pn	Pn	13 48 13.9	+5.4
BBOD	**La Paz, Gloria**	**5.22**	**345**	*e*Pn	Pn	13 48 17.8	+5.5
LPAZ	**La Paz**	**5.47**	**351**	*e*Pn	Pn	13 48 20.6	+5.0
BBOB	**La Paz, Bander**	**5.61**	**351**	*e*Pn	Pn	13 48 22.7	+5.3
SIV	**San Ignacio**	**8.12**	**47**	*e*P	Pn	13 48 51.2	+0.9

*IGIL **23** 13:48:03.9, 36°.81N×7°.68W, h25km, ML1.3*
*CSEM **23** 13:48:04.4, 36°.83N×7°.70W, h27km, ML1.5, After INMG*
INMG 23 13:48:04.4±0.8, 36°.83N×7°.70W, h27km±3km, ML1.5, 4D, Error ellipse: s-maj=6.3km s-min=4.5km az=106.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.45**	**336**	*e*Pg	Pb	13 48 13.6	-0.3
PBDV				*e*Sg	Sb	13 48 20.3	-0.1
PBDV				A	A	13 48 21.3	
	13nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.45**	**336**	*e*Pg	Pb	13 48 13.6	-0.3
PBDV				*e*Sg	Sb	13 48 20.3	-0.1
	13nm,0.3s						
PVAQ	**Vaqueiros**	**0.57**	**359**	*e*Pg	Pb	13 48 15.0	-0.9
PVAQ				*e*Sg	Sb	13 48 23.0	-0.7
PVAQ				A	A	13 48 24.0	
	31nm,0.4s						
PVAQ	**Vaqueiros**	**0.57**	**359**	*e*Pg	Pb	13 48 15.0	-0.9
PVAQ				*e*Sg	Sb	13 48 23.0	-0.7
	31nm,0.4s						
PCVE	**Castro Verde**	**0.84**	**342**	*e*P	Pb	13 48 19.3	-1.2
PCVE				*e*S	Sb	13 48 30.7	-0.7
PCVE				A	A	13 48 31.9	
	2.8nm,0.1s						
PCVE	**Castro Verde**	**0.84**	**342**	*e*P	Pb	13 48 19.3	-1.2
PCVE				*e*S	Sb	13 48 30.7	-0.7
	2.8nm,0.1s						
MORF	**Marmelete**	**0.89**	**302**	*e*P	Pn	13 48 19.8	-1.5
MORF				*e*S	Sb	13 48 31.5	-1.4
MORF				AML	AML	13 48 32.5	
	comp=N,9.8nm,0.1s						
MORF	**Marmelete**	**0.89**	**302**	*e*P	Pn	13 48 20.0	-1.3
MORF				*e*S	Sb	13 48 31.6	-1.3
MORF	**Marmelete**	**0.89**	**302**	*e*P	Pn	13 48 20.0	-1.3
MORF				*e*S	Sb	13 48 31.6	-1.3
PFVI	**Vila Bisbo**	**0.95**	**289**	*e*S	Sb	13 48 32.4	-2.0
PFVI	**Vila Bisbo**	**0.95**	**289**	S	Sb	13 48 32.5	-1.9
	comp=N,6.1nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**0.95**	**289**	*e*S	Sb	13 48 32.4	-2.0
PFVI	**Vila Bisbo**	**0.95**	**289**	S	Sb	13 48 32.5	-1.9
	comp=N,6.1nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.08**	**312**	*e*S	Sn	13 48 36.0	-2.0
PTEO	**Sao Teotonio**	**1.08**	**312**	*e*S	Sn	13 48 36.0	-2.0
MESJ	**Messejana**	**1.09**	**338**	*e*P	Pn	13 48 22.5	-1.4
MESJ				*e*S	Sn	13 48 35.9	-2.2
MESJ				AML	AML	13 48 37.3	
	comp=E,3.5nm,0.3s						
MESJ	**Messejana**	**1.09**	**338**	*e*P	Pn	13 48 22.5	-1.4
MESJ				*e*S	Sn	13 48 35.9	-2.2
MESJ	**Messejana**	**1.09**	**338**	*e*P	Pn	13 48 22.5	-1.4
MESJ				*e*S	Sn	13 48 35.9	-2.2
PNCL	**Nicolau / Gran**	**1.44**	**333**	*e*P	Pn	13 48 27.3	-1.4
PNCL				*e*S	Sn	13 48 46.4	-0.3
PNCL				A	A	13 48 55.8	
	comp=E,4.4nm,0.4s						
PNCL	**Nicolau / Gran**	**1.44**	**333**	*e*P	Pn	13 48 27.3	-1.4
PNCL				*e*S	Sn	13 48 46.4	-0.3
	comp=E,4.4nm,0.4s						

*GUC **23** 13:51:47.6±0.5, 22°.39S×68°.57W, h116km±4km, ML3.4*
*ISCJB **23** 13:51:48.0±1.2, 22°.41S±0°.08×68°.6W±0°.2, h118km±13km, mb3.4/2, Error ellipse: s-maj=27.9km s-min=11.1km az=16.5*
*IDC **23** 13:52:25.6±9.0, 18°.49S×67°.02W, h313km±35km, mb2.8/2, mb1 2.9/4, mb1mx2.7/38, mbtmp3.3/4, Error ellipse: s-maj=218.7km s-min=31.2km az=13.0*

ISC 23 13:51:47.8±1.4, 22°.40S±0°.09×68°.4W±0°.1, h105km±13km, n12, σ1°.08/18, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.96**	**309**	*e*P	**Pn**	**13 52 08.7**	**+0.3**
PB09				*e*S	**Sn**	**13 52 24.6**	**+0.7**
PB09				IAML		13 52 28.4	
	comp=N,2μm,0.4s						
PB06	**IPOC Station P**	**1.09**	**254**	*i*P	**Pn**	**13 52 09.8**	**0.0**
PB06				*e*S	**Sn**	**13 52 26.3**	**0.0**
PB06				IAML		13 52 28.6	
	comp=N,708nm,0.1s						
PB07	**IPOC Station P**	**1.50**	**296**	*i*P	**Pn**	**13 52 14.3**	**-0.2**
PB07				*e*S	**Sn**	**13 52 34.5**	**-0.3**
PB07				IAML		13 52 35.4	
	comp=N,1μm,0.1s						
PB04	**IPOC Station P**	**1.59**	**272**	*e*P	**Pn**	**13 52 15.1**	**-0.5**
PB04				*e*S	**Sn**	**13 52 36.5**	**-0.1**
PB04				IAML		13 52 41.2	
	comp=N,611nm,0.5s						
PB01	**IPOC Station P**	**1.67**	**324**	*e*P	**Pn**	**13 52 16.4**	**-0.1**
PB01				*e*S	**Sn**	**13 52 38.7**	**+0.4**
PB01				IAML		13 52 42.2	
	comp=N,269nm,0.1s						
PB02	**IPOC Station P**	**1.73**	**308**	*e*P	**Pn**	**13 52 17.1**	**-0.2**
PB02				*e*S	**Sn**	**13 52 39.1**	**-0.7**
PB02				IAML		13 52 42.7	
	comp=E,536nm,0.2s						
PB10	**IPOC Station P**	**2.24**	**240**	*e*P	**Pn**	**13 52 23.6**	**-0.2**
PB08	**IPOC Station P**	**2.35**	**343**	*e*P	**Pn**	**13 52 26.4**	**+0.9**
LPAZ	**La Paz**	**6.09**	**3**	P	**Pn**	**13 53 17.8**	**+1.8**
	comp=E,0.4nm,0.3s,baz=176,slow=6.0,SNR=5.1						
SIV	**San Ignacio**	**9.44**	**49**	P	**Pn**	**13 53 57.7**	**-3.2**
	comp=E,0.8nm,0.3s,baz=271,slow=11,SNR=19						
TORD	**Torodi Ar. Bea**	**77.25**	**70**	P	**P**	**14 03 31.7**	**+0.8**
	comp=E,0.3nm,0.4s,baz=258,slow=5.8,SNR=7.1						
YKA	**Yellowknife Ar**	**92.18**	**340**	P	**P**	**14 04 44.9**	**-0.1**
	comp=E,0.1nm,0.4s,baz=154,slow=4.6,SNR=3.6						

*ISCJB **23** 13:55:21.7±0.7, 51°.41N±0°.04×16°.09E±0°.04, h0km, Error ellipse: s-maj=5.4km s-min=2.9km az=15.7*
*CSEM **23** 13:55:23.2±0.5, 51°.41N×16°.08E, h2km, ML2.9/9, Error ellipse: s-maj=7.3km s-min=4.2km az=6.0*
*VIE **23** 13:55:25.4±0.9, 51°.22N×16°.10E, h0km, mb2.0/3, ML2.3/5, Error ellipse: s-maj=7.9km s-min=7.1km az=67.0, Suspected Mining induced.*
ISC 23 13:55:23.9±1.1, 51°.39N±0°.05×16°.04E±0°.03, h0km, n34, σ0°.95/63, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.57**	**163**	*e*Pg	**Pg**	**13 55 34.9**	**+0.1**
KSP				*e*Sg	**Sg**	**13 55 43.5**	**+1.3**
KSP	**Ksiaz**	**0.57**	**163**	*e*Pg	**Pg**	**13 55 34.9**	**+0.1**
KSP				*e*Sg	**Sg**	**13 55 43.5**	**+1.3**
UPC	**Upice**	**0.89**	**181**	*e*PG	**Pg**	**13 55 41.0**	**+0.2**
UPC				*e*SG	**Sb**	**13 55 54.0**	**-0.4**
	comp=Z,22nm,0.4s						
UPC	**Upice**	**0.89**	**181**	Pg	**Pg**	**13 55 41.0**	**+0.2**
UPC				Sg	**Sb**	**13 55 54.0**	**-0.4**
	22nm,0.4s						
DPC	**Dobruska-Polom**	**1.06**	**170**	*e*PG	**Pg**	**13 55 43.9**	**-0.2**
DPC	**Dobruska-Polom**	**1.06**	**170**	Pg	**Pg**	**13 55 43.9**	**-0.2**
PVCC	**Panska Ves**	**1.27**	**228**	*e*PG	**Pb**	**13 55 48.5**	**-0.1**
PVCC				*e*SG	**Sn**	**13 56 07.2**	**+0.7**
	comp=Z,60nm,0.2s						
PVCC	**Panska Ves**	**1.27**	**228**	Pg	**Pb**	**13 55 48.5**	**-0.1**
PVCC				Sg	**Sn**	**13 56 07.2**	**+0.7**
	60nm,0.2s						
KRLC	**Kraliky**	**1.40**	**160**	*e*PG	**Pn**	**13 55 49.4**	**-1.3**
KRLC				*e*SG	**Sg**	**13 56 08.8**	**0.0**
KRLC	**Kraliky**	**1.40**	**160**	Pg	**Pn**	**13 55 49.4**	**-1.3**
KRLC				Sg	**Sg**	**13 56 08.8**	**0.0**
BRG	**Berggiesshubel**	**1.42**	**249**	PG	**Pn**	**13 55 50.9**	**0.0**
BRG				SG	**Sn**	**13 56 10.8**	**+0.5**
	33nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.68**	**209**	*e*PG	**Pb**	**13 55 55.6**	**0.0**
GOPC				*e*SG	**Sg**	**13 56 19.4**	**+1.6**
	comp=Z,7.7nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.68**	**209**	Pg	**Pb**	**13 55 55.6**	**0.0**
GOPC				Sg	**Sg**	**13 56 19.4**	**+1.6**
	7.7nm,0.3s						
PRU	**Pruhonice**	**1.70**	**215**	*e*PG	**Pb**	**13 55 55.9**	**0.0**
PRU				*e*SG	**Sg**	**13 56 19.1**	**+0.8**
	comp=Z,12nm,0.3s						
PRU	**Pruhonice**	**1.70**	**215**	Pg	**Pb**	**13 55 55.9**	**0.0**
PRU				Sg	**Sg**	**13 56 19.1**	**+0.8**
	12nm,0.3s						
MORC	**Moravsky Berou**	**1.88**	**149**	*e*Pn	**Pn**	**13 55 55.7**	**-1.6**
MORC				*e*Sg	**Sb**	**13 56 22.7**	**-0.4**
CLL	**Collm**	**1.90**	**269**	*e*Pn	**Pn**	**13 55 56.0**	**-1.6**
CLL				*e*Pg	**Pb**	**13 55 59.0**	**-0.5**
CLL				*e*Sg	**Sg**	**13 56 25.0**	**0.0**
	comp=Z,11nm,0.8s						
OKC	**Ostrava-Krasne**	**2.06**	**138**	*e*PG	**Pb**	**13 56 02.2**	**+0.2**
OKC				*e*SG	**Sb**	**13 56 27.6**	**-0.5**
OKC	**Ostrava-Krasne**	**2.06**	**138**	Pg	**Pb**	**13 56 02.2**	**+0.2**
OKC				Sg	**Sb**	**13 56 27.6**	**-0.5**
VRAC	**Vranov**

JCN	**Nagara**	**0.66**	**238**	⇑P	**Pn**	**13 56 01.6 -1.7**
JYT	**Yasato**	**0.72**	**309**	⇓P	**Pb**	**13 56 01.9 -0.6**
JYT				S	**Sb**	**13 56 12.2 -0.4**
JHO	**Hitachi**	**0.88**	**343**	⇓P	**Pg**	**13 56 04.2 -0.3**
BSO4	**Boso 4**	**0.90**	**210**	P	**Pb**	**13 56 05.0 -0.4**
BSO3	**Boso 3**	**1.01**	**198**	⇓P	**Pb**	**13 56 06.2 -1.1**
BSO1	**Boso 1**	**1.12**	**176**	P	**Pb**	**13 56 06.5 -2.4**
MJAR	**Matsushiro Arr**	**2.30**	**290**	Pn	**Pn**	**13 56 25.3 -0.6**
	3.6nm,0.3s,baz=91,slow=8.5,SNR=27					
MJAR				Sn	**Sb**	**13 56 55.4 -2.6**
	5.8nm,0.3s,baz=143,slow=15,SNR=5.7					
MAT	**Matsushiro**	**2.30**	**290**	P	**Pn**	**13 56 25.7 -0.2**
MAT				S	**Sb**	**13 56 58.2 +0.2**
ASAJ	**Asahikawa**	**8.44**	**8**	Pn	**Pn**	**13 57 49.0 -1.3**
	0.8nm,0.3s,baz=238,slow=7.0,SNR=14					
ASAJ				Sn	**Sn**	**13 59 25.1 -0.6**
	0.1nm,0.3s,baz=58,slow=29,SNR=3.4					
JNU	**Nakatsue**	**8.68**	**255**	LR	LR	14 01 11.5
	comp=Z,35nm,20.1s,baz=119,slow=37					
KSRS	**Korea Array**	**10.55**	**283**	LR	LR	14 01 28.4
	comp=Z,13nm,18.2s,baz=30,slow=32					
H11N2	**WAKE ISLAND Hy**	**27.90**	**118**	T	T	14 30 36.1
	baz=312					
H11N1	**WAKE ISLAND Hy**	**27.91**	**118**	T	T	14 30 36.7
	baz=312					
H11N3	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	14 30 37.5
	baz=312					
H11S3	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	14 31 24.1
	baz=310					
H11S1	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	14 31 21.9
	baz=310					
H11S2	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	14 31 23.1
	baz=310					
ZALV	**Zalesovo Beam**	**42.46**	**313**	P	**P**	**14 03 44.7 +1.7**
	0.4nm,0.4s,baz=77,slow=9.0,SNR=2.3					
MKAR	**Makanchi Array**	**44.44**	**303**	P	**P**	**14 03 58.9 -0.1**
	0.4nm,0.7s,baz=85,slow=9.4,SNR=4.6					
ILAR	**Eielson Array**	**50.79**	**32**	P	**P**	**14 04 48.6 +0.5**
	0.5nm,0.8s,baz=270,slow=6.6,SNR=6.2					
WRA	**Warramunga Arr**	**55.75**	**187**	P	**P**	**14 05 27.6 +2.6**
	1.1nm,1.0s,baz=4.8,slow=7.5,SNR=5.2					

*IDC **23** 13:57:14.1±0.7,4.°63N×128.°17E,h0km,mb3.9/12, mb1 4.1/12,mb1mx3.8/57,mbtmp3.9/12,MS3.0/4, Ms1 3.0/4,ms1mx2.6/54,Error ellipse: s-maj=49.2km s-min=14.5km az=67.0*

*ISCJB **23** 13:57:20.5±0.4,4.°55N±0.°04×128.°02E±0.°05,h66km, mb4.0/21,Error ellipse: s-maj=7.4km s-min=5.5km az=165.9*

*DJA **23** 13:57:20.3±1.9,5.°N±6.°×12.°8E±.°,h15km±17km,M4.3/6, mB5.1/1,mb4.5/6,MLv4.2/3,Mw(mB)4.4/1*

*NEIC **23** 13:57:22.6±2.5,4.°55N×128.°22E,h72km±23km,mb4.3/11, Error ellipse: s-maj=29.1km s-min=7.3km az=63.0*

ISC 23 13:57:22.4±0.6,4.°55N±0.°08×127.°99E±0.°08,h66km,n46, σ1♀22/45,mb4.1/21,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.60**	**251**	P	**Pn**	**13 58 01.3**	**-0.9**
SGSI				S	**Sn**	**13 58 33.3**	**+0.6**
DAV	**Davao City (W)**	**3.47**	**316**	LR	LR	13 59 49.2
	comp=Z,168nm,18.5s,baz=2.0,slow=44					
TNTI	**Ternate**	**3.80**	**190**	*e*Pn	**Pn**	**13 58 20.3 +1.8**
LBMI	**Labuha**	**5.17**	**185**	P	**Pn**	**13 58 38.1 +0.8**
KMSI	**Cibinong**	**5.62**	**226**	P	**Pn**	**13 58 43.1 -0.4**
SWI	**Sorong**	**6.29**	**149**	P	**Pn**	**13 58 53.0 +0.4**
	26nm,0.6s,0.2nm					
SANI	**Sanana**	**6.85**	**197**	P	**Pn**	**13 59 00.7 +0.4**
MRSI	**Marisa**	**7.27**	**236**	P	**Pn**	**13 59 05.3 -0.8**
LUWI	**Luwuk**	**7.62**	**223**	P	**Pn**	**13 59 10.7 -0.1**
LUWI	**Luwuk**	**7.62**	**223**	*e*Pn	**Pn**	**13 59 12.7 +1.9**
NLAI	**Namlea**	**7.79**	**187**	P	**Pn**	**13 59 13.5 +0.4**
APSI	**Ampana**	**8.34**	**230**	P	**Pn**	**13 59 21.8 +1.1**
	107nm,0.6s,988nm					
FAKI	**Fak Fak**	**8.55**	**150**	P	**Pn**	**13 59 24.5 +1.0**
	21nm,1.1s					
MPSI	**Mapaga**	**9.10**	**243**	P	**Pn**	**13 59 30.8 -0.3**
MTN	**Manton Dam**	**17.56**	**170**	*e*Pn	**Pn**	**14 01 20.8 -2.0**
	23nm,1.3s					
GUMO	**Guam**	**18.92**	**61**	LR	LR	14 08 01.5
	comp=Z,46nm,18.4s,baz=54,slow=35					
WRAB	**Tennant Creek**	**25.12**	**166**	*e*P	**P**	**14 02 42.0 +0.7**
	21nm,1.3s					
WRA	**Warramunga Arr**	**25.12**	**166**	P	**P**	**14 02 41.2 -0.2**
	2.6nm,0.5s,baz=344,slow=10.0,SNR=21					
WR1	**Warramunga Arr**	**25.12**	**166**	*e*P	**P**	**14 02 41.2 -0.2**
	21nm,1.4s					
WB2	**Warramunga Arr**	**25.13**	**166**	*e*P	**P**	**14 02 39.1 -2.3**
	1.9nm,0.6s					
MBWA	**Marble Bar**	**26.80**	**197**	*e*P	**P**	**14 02 57.6 +1.1**
	6.4nm,0.9s					
AS31	**Alice Springs**	**28.63**	**169**	*e*P	**P**	**14 03 12.6 -0.3**
	2.2nm,1.3s					
ASAR	**Alice Springs**	**28.63**	**169**	P	**P**	**14 03 12.6 -0.3**
	0.5nm,0.4s,baz=355,slow=7.5,SNR=28					
ASAR				PcP	**PcP**	**14 06 23.5 +0.9**
	0.5nm,0.6s,baz=5.6,slow=2.2,SNR=6.1					
AS01	**Alice Springs**	**28.64**	**169**	*e*P	**P**	**14 03 12.9 0.0**
CMAR	**Chiang Mai Arr**	**31.57**	**298**	P	**P**	**14 03 39.7 +0.8**
	0.5nm,0.5s,baz=107,slow=6.9,SNR=4.3					
CHTO	**Chiang Mai**	**31.71**	**299**	*e*P	**P**	**14 03 37.7 -2.5**
	1.5nm,0.6s					
KSRS	**Korea Array**	**32.75**	**360**	LR	LR	14 16 32.3
	comp=Z,15nm,20.2s,baz=185,slow=36					
STKA	**Stephens Creek**	**38.47**	**161**	P	**P**	**14 04 38.6 +0.5**
	0.9nm,0.4s,baz=344,slow=10,SNR=4.4					
STKA	**Stephens Creek**	**38.47**	**161**	*e*P	**P**	**14 04 38.6 +0.5**
	3.3nm,1.3s					
ARMA	**Armidale**	**41.48**	**148**	*e*P	**P**	**14 05 00.1 -3.0**
	8.8nm,1.1s					
CAN	**Canberra**	**44.30**	**155**	*e*P	**P**	**14 05 22.3 -3.6**
	31nm,1.2s					
SONA0	**Songino Array**	**46.95**	**340**	*e*P	**P**	**14 05 47.2 +0.5**
SONM	**Songino Array**	**46.95**	**340**	P	**P**	**14 05 47.2 +0.5**
	0.5nm,0.6s,baz=146,slow=7.7,SNR=3.5					
MK01	**Makanchi Array**	**57.60**	**324**	*e*P	**P**	**14 07 06.0 +0.4**
MK31	**Makanchi Array**	**57.62**	**324**	*e*P	**P**	**14 07 06.5 +0.8**
MK32	**Makanchi Array**	**57.62**	**324**	*e*P	**P**	**14 07 06.5 +0.7**
MKAR	**Makanchi Array**	**57.62**	**324**	P	**P**	**14 07 06.5 +0.7**
	1.1nm,0.5s,baz=111,slow=7.5,SNR=19					
MAKZ	**Makanchi**	**57.81**	**324**	*e*P	**P**	**14 07 07.8 +0.8**
	3.4nm,0.8s					
ZALV	**Zalesovo Beam**	**60.45**	**332**	P	**P**	**14 07 25.2 +0.1**
	0.5nm,0.4s,baz=114,slow=9.6,SNR=2.8					
ZAA1	**Zalesovo Array**	**60.45**	**332**	*e*P	**P**	**14 07 25.2 +0.1**
KURK	**Kurchatov**	**61.74**	**327**	*e*P	**P**	**14 07 34.0 0.0**
KURBB	**Kurchatov Arra**	**61.74**	**327**	P	**P**	**14 07 34.0 0.0**
	1.3nm,0.6s,baz=125,slow=6.3,SNR=20					
BVAR	**Borovoye Array**	**67.33**	**326**	P	**P**	**14 08 10.9 +0.5**
	0.6nm,0.5s,baz=137,slow=9.3,SNR=5.1					
BVAR				LR	LR	14 41 02.7
	comp=Z,19nm,18.4s,baz=245,slow=39					
GEYT	**Alibeck**	**71.37**	**308**	P	**P**	**14 08 37.8 +2.1**
	1.7nm,0.7s,baz=198,slow=4.2,SNR=4.6					
ILAR	**Eielson Array**	**83.85**	**25**	P	**P**	**14 09 45.1 +0.7**
	0.3nm,0.5s,baz=239,slow=5.3,SNR=5.3					
ARCES	**ARCESS Array B**	**90.12**	**340**	P	**P**	**14 10 14.0 -1.0**
	1.2nm,0.7s,baz=82,slow=6.5,SNR=2.8					

*ISCJB **23** 14:01:12.2±1.0,40.°96N±0.°05×145.°13E±0.°08,h10km, mb3.4/5,Error ellipse: s-maj=8.7km s-min=6.0km az=25.5*

*JMA **23** 14:01:13.0±0.2,40.°89N×145.°32E,h65km±3km,M3.4*

*IDC **23** 14:01:24.0±2.4,41.°53N×144.°55E,h0km,mb3.4/5, mb1 3.5/6,mb1mx3.3/61,mbtmp3.3/6,ML2.9/1,Error ellipse: s-maj=52.4km s-min=28.1km az=1.0*

ISC 23 14:01:09.5±1.9,40.°82N±0.°06×145.°31E±0.°09,h10km,n24, σ2♀00/34,mb3.5/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**2.01**	**307**	P	**Pn**	**14 01 45.0 +1.5**
JEM				*e*S	**Sn**	**14 02 07.4 -1.3**
JAK	**Akkeshi**	**2.22**	**348**	P	**Pn**	**14 01 47.4 +1.0**
JAK				*e*S	**Sn**	**14 02 12.6 -1.3**
JCH	**Churui**	**2.31**	**322**	P	**Pn**	**14 01 48.9 +1.3**
JCH				S	**Sn**	**14 02 14.2 -1.9**
JOB	**Onbets**	**2.36**	**333**	P	**Pn**	**14 01 49.8 +1.6**
JOB				S	**Sn**	**14 02 16.6 -0.6**
JNBK	**Urakawa-nobuka**	**2.41**	**308**	P	**Pn**	**14 01 51.3 +2.3**
JNBK				S	**Sn**	**14 02 18.5 0.0**
NEM2	**Nemuro 2**	**2.56**	**7**	P	**Pn**	**14 01 52.4 +1.3**
NEM2				S	**Sn**	**14 02 20.6 -1.8**
JAR	**Ashorobuto**	**2.73**	**336**	P	**Pn**	**14 01 54.2 +0.8**
JAR				*e*S	**Sn**	**14 02 23.7 -2.7**
JNK	**Nakash**	**2.80**	**351**	P	**Pn**	**14 01 55.0 +0.6**
JNK				S	**Sn**	**14 02 25.8 -2.4**
JANG	**Nango**	**2.92**	**262**	*e*S	**Sn**	**14 02 27.9 -3.3**
JBT2	**Biratori 2**	**2.94**	**313**	P	**Pn**	**14 01 57.7 +1.3**
JBT2				S	**Sn**	**14 02 31.9 +0.1**
JFR	**Furan**	**3.10**	**320**	P	**Pn**	**14 01 59.9 +1.5**
JOT	**Ohata**	**3.27**	**281**	P	**Pn**	**14 02 02.4 +1.6**
JOT				S	**Sn**	**14 02 36.7 -3.0**
JTKR	**Abashiri--Toko**	**3.32**	**342**	P	**Pn**	**14 02 03.5 +2.1**
JTKR				*e*S	**Sn**	**14 02 39.8 -1.1**
JOM	**Ohasama**	**3.36**	**248**	P	**Pn**	**14 02 03.9 +1.9**
JOM				*e*S	**Sn**	**14 02 39.9 -2.0**
JKB	**Kayabe**	**3.39**	**290**	P	**Pn**	**14 02 04.0 +1.6**
JEW	**Eniwo**	**3.52**	**306**	P	**Pn**	**14 02 07.0 +2.8**
JEW				*e*S	**Sn**	**14 02 44.9 -1.0**
JKK2	**Kamakawa 2**	**3.59**	**329**	P	**Pn**	**14 02 07.4 +2.1**
JMK	**Ichinoseki**	**3.66**	**241**	P	**Pn**	**14 02 08.1 +2.0**
JMK				*e*S	**Sn**	**14 02 46.5 -2.8**
ASAJ	**Asahikawa**	**3.86**	**330**	Pn	**Pn**	**14 02 11.3 +2.4**
	1.1nm,0.3s,baz=189,slow=11,SNR=17					
ASAJ				Sn	**Sn**	**14 02 50.6 -3.6**
	0.7nm,0.3s,baz=122,slow=19,SNR=2.9					
ILAR	**Eielson Array**	**44.67**	**34**	P	P	14 09 35.6 +14
	0.3nm,0.7s,baz=278,slow=6.3,SNR=3.5					
MKAR	**Makanchi Array**	**44.79**	**300**	P	P	14 09 32.4 +9.1
	0.3nm,0.5s,baz=90,slow=7.4,SNR=2.9					
KURBB	**Kurchatov Arra**	**46.16**	**306**	P	P	14 09 42.6 +8.5
	0.3nm,0.4s,baz=73,slow=9.0,SNR=4.5					
YKA	**Yellowknife Ar**	**59.00**	**32**	P	P	14 11 22.8 +14
	0.1nm,0.5s,baz=266,slow=7.9,SNR=4.3					
FINES	**FINESS Array B**	**66.86**	**333**	P	P	14 12 12.6 +11
	0.5nm,0.4s,baz=53,slow=7.4,SNR=3.7					

*CSEM **23** 14:04:35.4,60.°71N×5.°54E,h0km,ML1.0,Suspected Mining explosion. After BER*

BER 23 14:04:35.4±2.4,60.°71N×5.°54E,h0km,ML1.0,Suspected explosion,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASK	**Askoy**	**0.28**	**217**	*e*P	Pg	14 04 40.0	-0.8
ASK				*e*S	Sg	14 04 43.6	-0.8
ASK				IAML		14 04 46.4	
	comp=Z,7.5nm,0.4s						
SUE	**Sulen**	**0.52**	**313**	*e*P	Pg	14 04 44.2	-1.1
	SNR=90						
SUE				*e*S	Sg	14 04 51.5	-0.4
	SNR=90						
SUE	**Sulen**	**0.52**	**313**	*e*P	Pg	14 04 44.1	-1.1
SUE				*e*S	Sg	14 04 51.5	-0.4
SUE				IAML		14 04 54.5	
	comp=Z,4.3nm,0.2s						
HYA	**Hoyanger**	**0.56**	**34**	*e*P	Pg	14 04 44.2	-1.9
	SNR=90						
HYA				*e*S	Sg	14 04 53.1	-0.2
	SNR=90						
HYA	**Hoyanger**	**0.56**	**34**	*e*P	Pg	14 04 44.2	-1.9
HYA				*e*S	Sg	14 04 53.1	-0.2
FOO	**Floro**	**0.92**	**345**	*e*S	Sg	14 05 03.4	-1.7
	SNR=90						
FOO	**Floro**	**0.92**	**345**	*e*S	Sg	14 05 03.4	-1.7
BLS5	**Blasjo**	**1.37**	**160**	*e*S	Sg	14 05 19.5	+0.2
	SNR=50						
BLS5	**Blasjo**	**1.37**	**160**	*e*S	Sg	14 05 19.5	+0.2
BLS5				IAML		14 05 20.4	
	comp=Z,5.3nm,0.3s						
KMY	**Karmoy**	**1.51**	**186**	*e*S	Sg	14 05 22.1	-1.7
	SNR=50						
KMY	**Karmoy**	**1.51**	**186**	*e*S	Sg	14 05 22.1	-1.7
AKN	**Aaknes**	**1.63**	**25**	*e*P	Pn	14 05 04.1	-1.3
	SNR=50						
AKN				*e*S	Sn	14 05 25.9	-1.2
	SNR=50						
AKN	**Aaknes**	**1.63**	**25**	*e*P	Pn	14 05 04.1	-1.3
AKN				*e*S	Sn	14 05 25.9	-1.3
AKN				IAML		14 05 28.6	
	comp=Z,8.6nm,0.5s						
KONO	**Kongsberg**	**2.29**	**116**	*e*Sg	Sn	14 05 44.8	+1.5
	SNR=90						
KONO	**Kongsberg**	**2.29**	**116**	*e*Sg	Sb	14 05 44.8	-1.6

IDC 23 14:05:28.1±881.0,52.°08N×6.°82E,h0km,Error ellipse: s-maj=378.4km s-min=111.3km az=118.0,The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**5.46**	**124**	*i*		14 37 30.0	
	baz=310,slow=330,SNR=1.3						
I43RU	**DUBNA INFRASON**	**18.20**	**63**	*i*		15 59 34.7	
	baz=272,slow=330,SNR=2.4						
I31KZ	**AKTYUBINSK INF**	**31.56**	**72**	*i*		17 20 40.0	
	baz=290,slow=327,SNR=0.4						

*ISCJB **23** 14:20:57.4±0.8,6.°85N±0.°05×73.°15W±0.°05,h148km±6km, mb3.6/2,Error ellipse: s-maj=8.5km s-min=7.6km az=30.1*

*RSNC **23** 14:20:58.8±1.0,6.°81N×73.°15W,h143km±6km,ML2.7*

*IDC **23** 14:20:59.1±0.9,6.°52N×72.°62W,h118km±11km,mb3.4/2, mb1 3.5/4,mb1mx3.0/44,mbtmp3.6/4,Error ellipse: s-maj=26.6km s-min=7.6km az=131.0*

ISC 23 14:20:57.4±1.2,6.°85N±0.°05×73.°11W±0.°05,h148km±8km, n18,σ0♀88/27,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**195**	*e*P	**Pn**	**14 21 18.0**	**+0.1**
BARC				*e*S	**Sn**	**14 21 33.0**	**-0.6**
BARC				*i*		14 21 34.0	
	comp=Z,123nm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**40**	*e*P	**Pn**	**14 21 20.8**	**+0.9**
PAMC				*e*S	**Sn**	**14 21 37.7**	**+0.7**
BRRC	**Barranca, Sant**	**0.65**	**293**	*e*P	**Pn**	**14 21 19.9**	**+0.5**
BRRC				*e*S	**Sn**	**14 21 36.5**	**+0.4**
BRRC				*i*		14 21 41.0	
	comp=Z,170nm,0.1s						
RUSC	**La Rusia**	**0.95**	**178**	*e*P	**Pn**	**14 21 22.1**	**-0.2**
RUSC				*e*S	**Sn**	**14 21 40.3**	**-0.8**
RUSC				*i*		14 21 41.7	
	comp=Z,67nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	*e*P	**Pn**	**14 21 24.6**	**-0.9**
PTBC				*e*S	**Sn**	**14 21 45.9**	**-1.1**
PTBC				*i*		14 21 50.0	
	comp=Z,48nm,0.1s						
YOPC	**Yopal, Colombi**	**1.64**	**155**	*e*S	**Sn**	**14 21 52.6**	**+0.3**
YOPC				*i*		14 21 53.1	
	comp=Z,51nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*e*P	**Pn**	**14 21 30.9**	**+0.3**
ZARC				*e*S	**Sn**	**14 21 56.0**	**-0.1**
ZARC				*i*		14 22 01.9	
	comp=Z,49nm,0.1s						
CTAU	**Tausa, Cundina**	**1.88**	**210**	*e*P	**Pn**	**14 21 32.1**	**+0.4**
CTAU				*i*		14 22 05.2	
	comp=Z,48nm,0.4s						
NORC	**Norcasia**	**2.17**	**234**	*e*P	**Pn**	**14 21 34.1**	**-0.4**
NORC				*e*S	**Sn**	**14 22 01.3**	**-1.6**
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**14 21 36.2**	**-0.2**
CHIC				*e*S	**Sn**	**14 22 05.9**	**-0.4**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**14 21 37.8**	**+0.9**
	comp=Z,4.7nm,0.3s,baz=38,slow=18,SNR=5.9						
ROSC				S	**Sn**	**14 22 07.6**	**+0.5**
	comp=Z,12nm,0.3s,baz=50,slow=19,SNR=7.6						
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**	**14 21 39.7**	**+1.0**
HELC				*i*		14 22 16.8	
	comp=Z,38nm,0.5s						
TOLC	**Tolima**	**3.15**	**224**	*e*P	**Pn**	**14 21 47.6**	**+0.6**
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**14 21 47.7**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=217,slow=5.0,SNR=11						
SDV				S	**Sn**	**14 22 23.1**	**-2.6**
	comp=Z,3.2nm,0.3s,baz=233,slow=20,SNR=16						
SDV	**Santo Domingo**	**3.18**	**50**	*e*P	**Pn**	**14 21 47.6**	**+0.4**
SDV				*i*		14 22 29.4	
	comp=Z,14nm,0.4s						
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**14 21 52.8**	**+0.5**
CPUP	**Villa Florida**	**36.37**	**156**	P	**P**	**14 27 47.7**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=322,slow=2.2,SNR=4.7						
PDAR	**Pinedale Array**	**48.06**	**324**	P	P	14 29 30.9	+8.7
	comp=Z,0.2nm,0.4s,baz=140,slow=12,SNR=2.5						

*IDC **23** 14:25:19.3±2.8,5.°88S×149.°78E,h0km,mb4.2/4, mb1 4.4/5,mb1mx3.8/47,mbtmp4.3/5,ML2.1/1,MS2.5/1, Ms1 2.5/1,ms1mx2.2/46,Error ellipse: s-maj=68.4km s-min=40.1km az=108.0*

*NEIC **23** 14:25:23.6±1.8,5.°97S×149.°98E,h35km,mb4.1/1,Error ellipse: s-maj=47.2km s-min=25.1km az=117.0*

ISC 23 14:25:26.8±2.2,6.°1S±0.°3×149.°8E±0.°4,h52km,n7,σ0♀59/8, mb4.0/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.19**	**218**	Pn	**Pn**	**14 26 28.9**	**+0.6**
	6.7nm,0.3s,baz=32,slow=11,SNR=31						
PMG				Sn	**Sn**	**14 27 15.5**	**-0.6**
	9.6nm,0.3s,baz=120,slow=17,SNR=8.5						
PMG				LR	LR	14 27 24.2	
	comp=Z,47nm,18.5s,baz=62,slow=29						
WRAB	**Tennant Creek**	**20.35**	**226**	*e*P	**P**	**14 29 59.7**	**+0.5**
	5.4nm,0.6s						
WRA	**Warramunga Arr**	**20.37**	**226**	P	**P**	**14 29 59.3**	**0.0**
	18nm,0.8s,baz=50,slow=11,SNR=16						
ASAR	**Alice Springs**	**23.21**	**220**	P	**P**	**14 30 28.9**	**-0.7**
	1.1nm,0.4s,baz=50,slow=9.3,SNR=9.3						
FITZ	**Fitzroy Crossi**	**26.42**	**241**	P	**P**	**14 30 59.2**	**+0.4**
	5.4nm,0.7s,baz=70,slow=8.6,SNR=17						
STKA	**Stephens Creek**	**26.76**	**196**	P	**P**	**14 31 01.9**	**+0.1**
	2.4nm,0.6s,baz=14,slow=9.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**147.81**	**285**	PKPbc	**PKPbc**	**14 45 06.7**	**-0.5**
	0.5nm,0.4s,baz=87,slow=2.5,SNR=8.5						

*DDA **23** 14:25:34.0,39.°13N×29.°05E,h7km,Ml2.6*

*ISK **23** 14:25:33.8,39.°07N×29.°10E,h5km,ML2.2/13*

*CSEM **23** 14:25:34.5±0.1,39.°10N×29.°08E,h2km,ML2.2,Error ellipse: s-maj=3.0km s-min=2.7km az=126.0*

ISC 23 14:25:34.4±0.9,39.°10N±0.°02×29.°07E±0.°02,h6km±8km, n38,σ0♀68/52,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.07**	**260**	PG	**Pg**	**14 25 36.1**	**0.0**
SIMA	**Simav-Kutahya**	**0.07**	**260**	*e*Pg	**Pg**	**14 25 36.1**	**0.0**
DEMI	**Demirci**	**0.28**	**259**	*i* P	**Pg**	**14 25 40.1**	**+0.3**
DEMI				*i* S	**Sg**	**14 25 43.4**	**-0.1**
DEMI	**Demirci**	**0.28**	**259**	P	**Pg**	**14 25 40.1**	**+0.3**
DEMI				S	**Sg**	**14 25 43.4**	**-0.1**
GDZ	**Gediz**	**0.32**	**91**	*i* P	**Pg**	**14 25 40.5**	**-0.2**
GDZ				*i* S	**Sg**	**14 25 45.5**	**+0.6**
GDZ	**Gediz**	**0.32**	**91**	P	**Pg**	**14 25 40.5**	**-0.2**
GDZ				S	**Sg**	**14 25 45.5**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**41**	PG	**Pg**	**14 25 42.7**	**-0.7**
TVSB	**Tavsanli**	**0.47**	**41**	*e*Pg	**Pg**	**14 25 42.7**	**-0.7**
KULA	**Kula-Manisa**	**0.66**	**209**	PG	**Pg**	**14 25 47.2**	**+0.1**
KULA				SG	**Sg**	**14 25 55.8**	**+0.1**
KULA	**Kula-Manisa**	**0.66**	**209**	*e*Pg	**Pg**	**14 25 47.2**	**+0.1**
KULA				*e*Sg	**Sg**	**14 25 55.8**	**+0.1**
KHAL	**Karahalli**	**0.80**	**155**	*i* P	**Pb**	**14 25 50.3**	**-0.4**
KHAL				*i* S	**Sb**	**14 26 01.4**	**-0.4**
KHAL	**Karahalli**	**0.80**	**155**	P	**Pb**	**14 25 50.3**	**-0.4**
KHAL				S	**Sb**	**14 26 01.4**	**-0.4**
AKS	**Akhisar**	**1.00**	**258**	PG	**Pb**	**14 25 53.8**	**-0.3**
AKS	**Akhisar**	**1.00**	**258**	*e*Pg	**Pb**	**14 25 53.8**	**-0.3**
KZIL	**AFYON_Kizioren**	**1.19**	**135**	*i* P	**Pn**	**14 25 57.9**	**+0.3**
KZIL				*i* S	**Sn**	**14 26 14.8**	**+0.7**
KZIL	**AFYON_Kizioren**	**1.19**	**135**	P	**Pn**	**14 25 57.9**	**+0.3**
KZIL				S	**Sn**	**14 26 14.8**	**+0.7**
CAVI	**Cavuskoy**	**1.26**	**28**	PN	**Pn**	**14 25 59.0**	**+0.5**
CAVI				SN	**Sn**	**14 26 16.6**	**+0.8**
CAVI	**Cavuskoy**	**1.26**	**28**	*e*Pn	**Pn**	**14 25 59.0**	**+0.5**
CAVI				*e*Sn	**Sn**	**14 26 16.6**	**+0.8**
SHUT	**Suhut-Afyon**	**1.28**	**115**	PN	**Pg**	**14 25 58.2**	**-0.7**
SHUT	**Suhut-Afyon**	**1.28**	**115**	*e*Pn	**Pg**	**14 25 58.2**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	PN	**Pb**	**14 26 00.1**	**+1.2**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*Pn	**Pb**	**14 26 00.1**	**+1.2**
KCTX	**Karacabey (Bur**	**1.29**	**335**	PN	**Pb**	**14 25 59.9**	**+0.8**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*Pn	**Pb**	**14 25 59.9**	**+0.8**
BORA	**Eskisehir**	**1.33**	**53**	*i* P	**Pg**	**14 25 59.5**	**-0.4**
BORA				*i* S	**Sn**	**14 26 18.1**	**+0.5**
BORA	**Eskisehir**	**1.33**	**53**	P	**Pg**	**14 25 59.5**	**-0.4**
BORA				S	**Sn**	**14 26 18.1**	**+0.5**
ADVT	**Abdulvahap**	**1.43**	**21**	PN	**Pg**	**14 26 01.3**	**-0.5**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*Pn	**Pg**	**14 26 01.3**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**219**	PN	**Pg**	**14 26 02.4**	**-0.2**
AYDB	**Zeytinko

*MOS **23** 14:35:29.3±1.3, 16°.16S×174°.30W, h111km, mb4.9/16, Error ellipse: s-maj=11.7km s-min=9.2km az=49.9*
*BJI **23** 14:35:29.4, 16°.19S×173°.90W, h118km, mb4.8/16, mB5.3/10*
*IDC **23** 14:35:31.0±2.2, 16°.14S×174°.27W, h121km±19km, mb4.4/19, mb1 4.6/22, mb1mx4.4/45, mbtmp4.8/22, MS3.4/3, Ms1 3.4/3, ms1mx3.0/48, Error ellipse: s-maj=15.7km s-min=10.3km az=137.0*
*WEL **23** 14:35:31.0, 16°.26S×174°.26W, h129km*
*NEIC **23** 14:35:31.9±0.9, 16°.26S×174°.26W, h129km±8km, mb4.9/70, Error ellipse: s-maj=6.8km s-min=3.8km az=128.0*
*GCMT **23** 14:35:31.9±0.3, 16°.13S×173°.98W, h151km±2km, MW5.0/87, Moment Tensor Solution. s34,c40; s87,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.43±.11; $M_{\theta\theta}$-1.84±.17; $M_{\phi\phi}$-1.59±.15; $M_{r\theta}$-1.61±.12; $M_{\theta\phi}$-1.90±.12; $M_{\phi r}$0.08±.12; Best double couple: M_o3.87700×10^{16} NP1:ϕ244.00000°, δ56.00000°, λ110.00000°. NP2: ϕ31.00000°, δ39.00000°, λ63.00000°. Principal axes: T 3.9530, Plg71.0000°, Azm201.0000°; N -0.1510, Plg16.0000°, Azm52.0000°; P -3.8010, Plg9.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 14:35:31.7±0.3, 16°.28S±0°.05×174°.14W±0°.05, h127km±3km, h127km; pP-P, n418, σ1s77/450, mb4.9/101, 13C-19D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.28**	**44**	P	**Pn**	**14 36 21.3**	**-0.6**
	356nm,0.3s,baz=235,slow=18,SNR=278						
AFI				S	**Sn**	**14 36 55.8**	**-5.0**
	1μm,0.3s,baz=41,slow=19,SNR=14						
AFI				LR	LR	14 37 37.6	
	comp=Z,221nm,19.4s,baz=282,slow=39						
AFI	**Afiamalu**	**3.28**	**44**	*eP*	**Pn**	**14 36 21.3**	**-0.6**
AFI				*e*		14 36 56.1	
MSVF	**Nonsavu**	**7.62**	**258**	*eP*	Pn	14 37 26.7	+6.7
MSVF	**Nonsavu**	**7.62**	**258**	*ePn*	Pn	14 37 26.7	+6.7
FUNA	**Funafuti**	**10.09**	**319**	*ePn*	**Pn**	**14 37 53.7**	**+0.4**
GLKZ	**Green Lake**	**13.38**	**194**	P	**Pn**	**14 38 33.9**	**-2.6**
GLKZ	**Green Lake**	**13.38**	**194**	S	**Sn**	**14 40 58.2**	**-5.9**
RAR	**Rarotonga**	**14.46**	**112**	P	**Pn**	**14 38 52.7**	**+2.3**
	2.5nm,0.3s,baz=244,slow=3.0,SNR=8.4						
RAR				S	**Sn**	**14 41 28.7**	**-1.5**
	2.2nm,0.3s,baz=126,slow=22,SNR=3.1						
RAR				LR	LR	14 43 28.9	
	comp=Z,150nm,19.2s,baz=288,slow=33						
RAR	**Rarotonga**	**14.46**	**112**	*eP*	**Pn**	**14 38 50.1**	**-0.3**
RAR				S	**Sn**	**14 41 28.7**	**-1.5**
RAR	**Rarotonga**	**14.46**	**112**	*ePn*	**Pn**	**14 38 50.1**	**-0.3**
RAR				S	**Sn**	**14 41 28.7**	**-1.5**
DZM	**Mont Dzumac**	**19.22**	**250**	P	**P**	**14 39 46.0**	**-0.1**
	0.8nm,0.3s,baz=80,slow=20,SNR=18						
DZM	**Mont Dzumac**	**19.22**	**250**	*eP*	**Pn**	**14 39 48.0**	**-0.3**
	224nm,1.1s						
DZM				*e*LR	LR	14 44 02.0	
	538nm,24.4s						
DZM	**Mont Dzumac**	**19.22**	**250**	*eP*	**Pn**	**14 39 46.8**	**-1.6**
	80nm,0.9s						
TARA	**Tarawa**	**21.69**	**323**	*eP*	**P**	**14 40 13.9**	**+1.3**
	61nm,0.9s						
OUZ	**Omahuta**	**21.82**	**208**	*eP*	**P**	**14 40 16.0**	**+2.2**
	17nm,0.7s						
MXZ	**Matakaoa Point**	**22.22**	**196**	*eP*	**P**	**14 40 19.8**	**+2.0**
	98nm,1.3s						
KUZ	**Kuaotunu**	**22.28**	**202**	P	**P**	**14 40 20.5**	**+2.1**
WMGZ	**Waiomatatini S**	**22.44**	**196**	P	**P**	**14 40 20.7**	**+0.7**
WMGZ	**Waiomatatini S**	**22.44**	**196**	S	**S**	**14 44 20.8**	**+3.7**
HAZ	**Te Kaha**	**22.55**	**197**	P	**P**	**14 40 21.3**	**+0.3**
HAZ	**Te Kaha**	**22.55**	**197**	S	**S**	**14 44 23.2**	**+4.3**
PKGZ	**Pakihiroa**	**22.59**	**196**	P	**P**	**14 40 24.2**	**+2.6**
PKGZ	**Pakihiroa**	**22.59**	**196**	S	**S**	**14 44 23.2**	**+3.4**
PUZ	**Puketiti**	**22.71**	**196**	P	**P**	**14 40 22.7**	**0.0**
PUZ	**Puketiti**	**22.71**	**196**	S	**S**	**14 44 25.6**	**+3.9**
RUGZ	**Raukumara Rang**	**22.77**	**197**	P	**P**	**14 40 24.6**	**+1.2**
RUGZ	**Raukumara Rang**	**22.77**	**197**	S	**S**	**14 44 25.6**	**+2.8**
MWZ	**Matawai**	**23.16**	**197**	P	**P**	**14 40 27.5**	**+0.5**
MWZ	**Matawai**	**23.16**	**197**	S	**S**	**14 44 34.1**	**+5.3**
URZ	**Urewera**	**23.21**	**198**	P	**P**	**14 40 25.9**	**-1.4**
	49nm,0.8s,baz=41,slow=2.8,SNR=30						
URZ				S	**S**	**14 44 29.2**	**-0.3**
	4.3nm,0.8s,baz=144,slow=19,SNR=3.0						
URZ	**Urewera**	**23.21**	**198**	P	**P**	**14 40 26.1**	**-1.3**
URZ	**Urewera**	**23.21**	**198**	S	**S**	**14 44 32.7**	**+3.2**
PAE	**Paea**	**23.52**	**97**	*eT*	T	15 04 17.9	
	4.4nm,0.3s						
PPT2	**Papeete2**	**23.53**	**97**	*e*LQ	LQ	14 45 28.5	
	416nm,26.5s						
PPT2				*e*LR	LR	14 45 58.7	
	77nm,26.5s						
PPT2	**Papeete2**	**23.53**	**97**	*eT*	T	15 04 18.6	
	6.2nm,0.4s						
RTZ	**Ruatahuna**	**23.58**	**198**	P	**P**	**14 40 31.3**	**+0.5**
SNGZ	**Shannon Statio**	**23.63**	**197**	P	**P**	**14 40 32.7**	**+1.5**
SNGZ	**Shannon Statio**	**23.63**	**197**	S	S	14 44 47.8	+11
TVO	**Taravao**	**23.84**	**97**	*eT*	T	15 04 41.2	
	1.9nm,0.3s						
HIZ	**Hauiti**	**24.16**	**201**	*eP*	**P**	**14 40 36.9**	**+0.8**
	153nm,1.0s						
BKZ	**Black Stump Fm**	**24.23**	**198**	*eP*	**P**	**14 40 36.6**	**-0.1**
	15nm,0.6s						
BKZ	**Black Stump Fm**	**24.23**	**198**	P	**P**	**14 40 36.0**	**-0.7**
MCHZ	**McNeill Hill**	**24.43**	**197**	P	**P**	**14 40 39.3**	**+0.9**
MCHZ	**McNeill Hill**	**24.43**	**197**	S	S	14 45 00.6	+11
KAHZ	**Kahuranaki**	**24.70**	**197**	P	**P**	**14 40 42.1**	**+1.2**
PXZ	**Pawanui**	**24.93**	**197**	P	**P**	**14 40 45.0**	**+2.1**
PMOR	**Pomariorio Ree**	**25.30**	**91**	*eT*	T	15 06 28.0	
	3.1nm,0.2s						
VAH	**Vaihoa**	**25.53**	**91**	*eT*	T	15 06 45.2	
	9.3nm,0.3s						
BFZ	**Birch Farm**	**25.70**	**197**	*eP*	**P**	**14 40 51.1**	**+1.1**
	45nm,0.8s						
SNZO	**South Karori**	**26.74**	**199**	*eP*	**P**	**14 41 00.5**	**+1.2**
	149nm,1.4s						
THZ	**Tophouse**	**27.73**	**201**	*eP*	**P**	**14 41 08.0**	**-0.2**
	22nm,0.7s						
KHZ	**Kahutara**	**28.11**	**200**	*eP*	**P**	**14 41 11.0**	**-0.4**
	100nm,1.4s						
LTZ	**Lake Taylor**	**28.86**	**201**	*eP*	**P**	**14 41 15.7**	**-2.5**
	90nm,1.3s						
OXZ	**Oxford**	**29.42**	**201**	*eP*	**P**	**14 41 20.6**	**-2.4**
	50nm,0.8s						
MQZ	**McQueen's Vall**	**29.55**	**200**	*eP*	**P**	**14 41 24.6**	**+0.3**
	71nm,1.4s						
RPZ	**Rata Peaks**	**30.10**	**202**	P	**P**	**14 41 28.7**	**-0.5**
	22nm,0.7s,baz=356,slow=2.1,SNR=13						
RPZ	**Rata Peaks**	**30.10**	**202**	*eP*	**P**	**14 41 29.3**	**+0.1**
FOZ	**Fox Glacier**	**30.40**	**203**	*eP*	**P**	**14 41 30.1**	**-1.7**
	101nm,1.5s						
LBZ	**Lake Benmore**	**30.99**	**202**	*eP*	**P**	**14 41 35.3**	**-1.7**
	72nm,1.6s						
ODZ	**Otahua Downs**	**31.40**	**201**	*eP*	**P**	**14 41 38.0**	**-2.6**
	112nm,2.0s						
WKZ	**Wanaka**	**31.80**	**203**	*eP*	**P**	**14 41 43.1**	**-1.0**
	234nm,1.9s						
MLZ	**Mavora Lakes**	**32.60**	**204**	*eP*	**P**	**14 41 50.9**	**-0.2**
	48nm,0.8s						
DCZ	**Deep Cove**	**33.06**	**204**	*eP*	**P**	**14 41 54.8**	**-0.2**
	108nm,1.3s						
WHZ	**Wether Hill Ro**	**33.11**	**203**	*eP*	**P**	**14 41 54.8**	**-0.7**
	98nm,1.1s						
EIDS	**Eidsvold**	**33.66**	**249**	P	**P**	**14 41 59.6**	**-0.9**
	baz=33,SNR=5.7						
EIDS	**Eidsvold**	**33.66**	**249**	*eP*	**P**	**14 41 58.4**	**-2.2**
	16nm,0.8s						
TAOE	**Nuku Hiva Isla**	**33.95**	**82**	*e*LR	LR	14 50 38.9	
	115nm,45.0s						
TAOE	**Nuku Hiva Isla**	**33.95**	**82**	*eT*	T	15 17 12.3	
	41nm,0.2s						
ARMA	**Armidale**	**34.28**	**240**	P	**P**	**14 42 06.0**	**+0.1**
	baz=34,SNR=14						
ARMA	**Armidale**	**34.28**	**240**	*eP*	**P**	**14 42 06.1**	**+0.1**
	50nm,1.5s						
MGCD	**Mangrove Creek**	**35.57**	**235**	P	**P**	**14 42 17.7**	**+0.8**
	baz=35						
RMQ	**Roma**	**35.90**	**247**	P	**P**	**14 42 19.7**	**-0.1**
	baz=36,SNR=8.0						
CNB	**Canberra Magne**	**37.65**	**233**	P	**P**	**14 42 34.7**	**+0.1**
	baz=37,SNR=9.2						
CTA	**Charters Tower**	**37.76**	**258**	P	**P**	**14 42 34.2**	**-1.5**
	5.5nm,0.7s,baz=100,slow=12,SNR=6.5						
CTA	**Charters Tower**	**37.76**	**258**	P	**P**	**14 42 34.9**	**-0.8**
	baz=37						
CAN	**Canberra**	**37.94**	**233**	P	**P**	**14 42 37.1**	**+0.2**
	baz=38						
YNG	**Young**	**38.06**	**235**	P	**P**	**14 42 38.6**	**+0.6**
	baz=38						
PMG	**Port Moresby**	**38.30**	**275**	*eP*	**P**	**14 42 38.8**	**-1.4**
PMG				pmax	pmax		
	comp=Z,85nm,1.3s						
CMSA	**Cobar Meteorol**	**39.50**	**240**	P	**P**	**14 42 49.6**	**-0.4**
	baz=39,SNR=50						
MTSU	**Mount Surprise**	**39.67**	**261**	P	**P**	**14 42 53.1**	**+1.5**
	baz=39,SNR=4.0						
QLP	**Quilpie**	**39.93**	**248**	P	**P**	**14 42 52.7**	**-0.9**
	baz=40,SNR=12						
COEN	**Coen**	**41.23**	**267**	P	**P**	**14 43 04.9**	**+0.5**
	baz=41,SNR=19						
TOO	**Toolangi**	**41.36**	**231**	P	**P**	**14 43 05.2**	**-0.1**
	baz=41,SNR=4.7						
TOO	**Toolangi**	**41.36**	**231**	P	**P**	**14 43 06.5**	**+1.2**
TOO				pmax	pmax		
	comp=Z,47nm,1.6s						
STKA	**Stephens Creek**	**42.99**	**241**	P	**P**	**14 43 18.6**	**+0.1**
	comp=Z,54nm,0.8s,baz=83,slow=8.7,SNR=55						
STKA	**Stephens Creek**	**42.99**	**241**	P	**P**	**14 43 18.6**	**+0.1**
	baz=42,SNR=26						
STKA	**Stephens Creek**	**42.99**	**241**	*eP*	**P**	**14 43 18.5**	**0.0**
STKA				pmax	pmax		
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**42.99**	**241**	*eP*	**P**	**14 43 18.5**	**0.0**
	comp=Z,12nm,0.8s						
HTT	**Hallett**	**45.48**	**239**	P	**P**	**14 43 38.5**	**+0.1**
	baz=45,SNR=8.4						
BBOO	**Buckleboo**	**47.76**	**240**	P	**P**	**14 43 55.8**	**-0.3**
	baz=47,SNR=12						
BBOO	**Buckleboo**	**47.76**	**240**	*eP*	**P**	**14 43 55.9**	**-0.2**
	comp=Z,62nm,0.8s						
WB2	**Warramunga Arr**	**48.95**	**258**	*eP*	**P**	**14 44 03.8**	**-1.6**
WRAB	**Tennant Creek**	**48.95**	**258**	*eP*	**P**	**14 44 05.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,22nm,1.2s						
WRAB	**Tennant Creek**	**48.95**	**258**	*eP*	**P**	**14 44 03.8**	**-1.6**
	comp=Z,25nm,1.1s						
WR1	**Warramunga Arr**	**48.96**	**258**	*eP*	**P**	**14 44 04.1**	**-1.4**
	comp=Z,17nm,1.0s						
WR1				*e*PcP	**PcP**	**14 45 27.9**	**0.0**
WRA	**Warramunga Arr**	**48.96**	**258**	P	**P**	**14 44 04.1**	**-1.4**
	comp=Z,5.1nm,0.5s,baz=91,slow=6.9,SNR=20						
WRA				PcP	**PcP**	**14 45 27.9**	**0.0**
	comp=Z,4.1nm,0.8s,baz=88,slow=4.0,SNR=5.5						
AS01	**Alice Springs**	**49.13**	**253**	*eP*	**P**	**14 44 05.6**	**-1.2**
AS31	**Alice Springs**	**49.17**	**253**	*eP*	**P**	**14 44 06.3**	**-0.8**
	comp=Z,5.5nm,0.8s						
ASAR	**Alice Springs**	**49.17**	**253**	P	**P**	**14 44 06.2**	**-0.9**
	comp=Z,23nm,0.7s,baz=88,slow=7.8,SNR=113						
MTN	**Manton Dam**	**52.96**	**266**	P	**P**	**14 44 35.4**	**-0.1**
	baz=53,SNR=11						
MTN	**Manton Dam**	**52.96**	**266**	*eP*	**P**	**14 44 35.2**	**-0.2**
	comp=Z,35nm,0.9s						
WRKA	**Warakurna**	**54.23**	**251**	P	**P**	**14 44 44.0**	**-0.7**
	baz=54,SNR=40						
KNRA	**Kununurra**	**54.74**	**262**	P	**P**	**14 44 47.8**	**-0.6**
	baz=54,SNR=5.8						
KMBL	**Kambalda**	**59.69**	**243**	P	**P**	**14 45 22.1**	**-0.9**
	baz=59						
SOEI	**Soe**	**60.19**	**268**	P	**P**	**14 45 26.9**	**+0.1**
SOEI	**Soe**	**60.19**	**268**	*eP*	**P**	**14 45 27.5**	**+0.7**
	comp=Z,86nm,1.2s						
SBA	**Scott Base**	**62.32**	**184**	*eP*	**P**	**14 45 42.9**	**+2.9**
SBA				pmax	pmax		
	comp=Z,30nm,0.9s						
SBA	**Scott Base**	**62.32**	**184**	*eP*	**P**	**14 45 42.9**	**+2.9**
	comp=Z,30nm,0.9s						
VNDA	**Vanda**	**62.43**	**186**	P	**P**	**14 45 42.8**	**+2.2**
	comp=Z,12nm,0.9s,baz=10,slow=6.6,SNR=52						
VNDA	**Vanda**	**62.43**	**186**	*eP*	**P**	**14 45 42.9**	**+2.2**
VNDA				pmax	pmax		
	comp=Z,22nm,1.0s						
VNDA	**Vanda**	**62.43**	**186**	*eP*	**P**	**14 45 42.9**	**+2.2**
	comp=Z,22nm,1.0s						
MBWA	**Marble Bar**	**62.44**	**254**	*eP*	**P**	**14 45 41.7**	**-0.1**
	comp=Z,31nm,0.8s						
MEEK	**Meekatharra**	**62.83**	**248**	P	**P**	**14 45 43.9**	**-0.4**
	baz=62,SNR=12						
SGSI	**Sangihe**	**62.84**	**283**	P	**P**	**14 45 44.8**	**+0.3**
KLBR	**Kellerberrin**	**63.20**	**243**	P	**P**	**14 45 46.4**	**-0.3**
	baz=63,SNR=11						
RKGY	**Rocky Gully**	**63.71**	**239**	P	**P**	**14 45 50.4**	**+0.4**
	baz=63						
BLDU	**Ballidu**	**64.16**	**244**	P	**P**	**14 45 52.6**	**-0.4**
	baz=64,SNR=11						
MUN	**Mundaring**	**64.49**	**242**	P	**P**	**14 45 55.2**	**+0.1**
	baz=64,SNR=14						
MORW	**Morawa**	**64.87**	**245**	P	**P**	**14 45 57.2**	**-0.4**
	baz=64,SNR=4.2						
APSI	**Ampana**	**65.03**	**277**	P	**P**	**14 45 59.5**	**+0.6**
BNSI	**Bone**	**65.52**	**273**	P	**P**	**14 46 01.5**	**-0.5**
KAPI	**Kappang**	**65.69**	**272**	*eP*	**P**	**14 46 01.9**	**-1.2**
KAPI				pmax	pmax		
	comp=Z,13nm,1.1s						
KAPI	**Kappang**	**65.69**	**272**	*eP*	**P**	**14 46 01.9**	**-1.2**
	comp=Z,13nm,1.1s						
PLAI	**Plampang**	**66.63**	**267**	P	**P**	**14 46 08.3**	**-0.8**
	comp=Z,71nm,1.0s						
MPSI	**Mapaga**	**67.08**	**277**	P	**P**	**14 46 11.5**	**-0.4**
SRBI	**Singaraja**	**69.27**	**267**	P	**P**	**14 46 25.2**	**-0.4**
	comp=Z,33nm,1.1s						
MYLDM	**Lahad Datu**	**69.93**	**282**	*eP*	**P**	**14 46 28.5**	**-1.2**
	comp=Z,24nm,1.2s						
JAGI	**Jajag, Banyuwa**	**70.19**	**267**	P	**P**	**14 46 29.7**	**-1.6**
	comp=Z,102nm,0.9s						
JAGI	**Jajag, Banyuwa**	**70.19**	**267**	*eP*	**P**	**14 46 30.4**	**-0.9**
	comp=Z,71nm,0.8s						
ABJI	**Asem Bagus**	**70.28**	**267**	P	**P**	**14 46 31.5**	**-0.3**
	comp=Z,34nm,1.3s,comp=Z,1μm						
KMMI	**Kalianget**	**70.72**	**268**	P	**P**	**14 46 35.0**	**+0.5**
	comp=Z,43nm,1.0s						
BLJI	**Banyuglugur**	**70.91**	**267**	P	**P**	**14 46 36.0**	**+0.4**
ASAJ	**Asahikawa**	**71.92**	**329**	P	**P**	**14 46 38.2**	**-2.8**
	comp=Z,2.9nm,0.8s,baz=148,slow=9.5,SNR=2.6						
PWJI	**Pagerwojo**	**72.55**	**267**	P	**P**	**14 46 48.3**	**+2.8**
PCJI	**Pacitan**	**73.11**	**266**	P	**P**	**14 46 49.9**	**+1.1**
PETK	**Petropavlovsk-**	**73.26**	**343**	P	**P**	**14 46 47.4**	**-1.3**
	comp=Z,12nm,0.8s,baz=144,slow=6.9,SNR=7.2						
PEA1	**Petropavlovsk-**	**73.26**	**343**	*eP*	**P**	**14 46 47.4**	**-1.3**
EDW2	**Edwards Air Fo**	**73.66**	**45**	P	**P**	**14 46 52.2**	**+0.5**
	baz=236						
QSPA	**South Pole Qui**	**73.76**	**180**	P	**P**	**14 46 53.1**	**+1.2**
	comp=Z,35nm,1.0s,baz=48,slow=1.9,SNR=54						
IKP	**In-Ko-Pah, Jac**	**73.78**	**48**	P	**P**	**14 46 52.8**	**+0.4**
	baz=238						
YSS	**Yuzh-Sakhalins**	**73.90**	**331**	*eP*	**P**	**14 46 53.2**	**+0.6**
YSS				*e*		14 47 32.7	
PBKI	**Pangkalan Bun**	**74.08**	**272**	P	**P**	**14 46 57.1**	**+2.7**
O03D	**Paynes Creek**	**74.37**	**39**	P	**P**	**14 46 56.4**	**+0.7**
	baz=232						
MPMC	**Manual Prospec**	**74.66**	**45**	P	**P**	**14 46 58.1**	**+0.5**
	baz=236						
YBH	**Yreka Blue Hor**	**74.73**	**37**	P	**P**	**14 46 58.3**	**+0.6**
	comp=Z,5.6nm,1.0s,baz=191,slow=18,SNR=7.6						
YBH	**Yreka Blue Hor**	**74.73**	**37**	P	**P**	**14 46 58.3**	**+0.6**
YBH				*e*PP	**sP**	**14 47 37.5**	**-5.5**
YBH	**Yreka Blue Hor**	**74.73**	**37**	P	**P**	**14 46 58.3**	**+0.6**
YBH				*ep*P	**sP**	**14 47 37.5**	**-5.5**
BEKR	**Beckworth**	**75.00**	**40**	*eP*	**P**	**14 46 59.9**	**+0.5**
	comp=Z,11nm,1.0s						
BEKR				*ep*P	**pP**	**14 47 38.4**	**+7.3**
SBUM	**Sibu**	**75.03**	**277**	*eP*	**P**	**14 47 00.7**	**+0.8**
	comp=Z,7.4nm,0.9s						
STKI	**Sintang**	**75.04**	**275**	P	**P**	**14 47 02.0**	**+2.0**
GMRC	**Granite Mounta**	**75.22**	**47**	P	**P**	**14 47 01.5**	**+0.8**
	baz=238						
IRM	**Iron Mountain**	**75.25**	**47**	P	**P**	**14 47 01.3**	**+0.5**
	baz=238						
GRAC	**Grapevine Rang**	**75.26**	**44**	P	**P**	**14 47 01.5**	**+0.7**
	baz=236						
TUQ	**Turquoise Moun**	**75.39**	**46**	P	**P**	**14 47 01.7**	**0.0**
	baz=238						
NV01	**Mina Array Sit**	**75.45**	**42**	*eP*	**P**	**14 47 02.5**	**+0.4**
NV01				*ep*P	**pP**	**14 47 41.2**	**+7.4**
NVAR	**Mina Array Bea**	**75.45**	**42**	P	**P**	**14 47 02.4**	**+0.3**
	comp=Z,7nm,0.8s,baz=226,slow=8.6,SNR=7.3						
KPJI	**Karang Pucung**	**75.48**	**266**	P	**P**	**14 47 03.4**	**+0.9**
NV11	**Mina Array Sit**	**75.55**	**42**	*eP*	**P**	**14 47 03.4**	**+0.8**
	comp=Z,1.1nm,1.0s						
NV11				*ep*P	**pP**	**14 47 40.2**	**+5.8**
SHPR	**Sheep Range**	**76.48**	**45**	*eP*	**P**	**14 47 09.0**	**+1.1**
	comp=Z,16nm,1.3s						
SHPR				*ep*P	**pP**	**14 47 47.4**	**+7.6**
J05D	**Fort Rock, OR**	**76.55**	**37**	P	**P**	**14 47 08.9**	**+0.8**
	baz=232						
KSM	**Kuching**	**76.56**	**276**	*eP*	**P**	**14 47 08.2**	**-0.5**
	comp=Z,41nm,1.2s						
PINE	**Pine Mountain**	**77.03**	**37**	*eP*	**P**	**14 47 12.0**	**+1.1**
PINE				*ep*P	**pP**	**14 47 48.9**	**+6.2**
R11A	**Troy Canyon, C**	**77.19**	**43**	P	**P**	**14 47 12.2**	**+0.4**
	baz=237						
R11A	**Troy Canyon, C**	**77.19**	**43**	*eP*	**P**	**14 47 12.2**	**+0.4**
	comp=Z,6.0nm,1.3s						
TUC	**Tucson**	**77.49**	**51**	P	**P**	**14 47 14.9**	**+1.3**
	baz=242						
TUC	**Tucson**	**77.49**	**51**	P	**P**	**14 47 14.9**	**+1.3**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TUC	**Tucson**	**77.49**	**51**	*eP*	**P**	**14 47 14.9**	**+1.3**
	comp=Z,11nm,1.1s						
TUC				*ep*P	**pP**	**14 47 52.3**	**+6.9**
WVOR	**Wild Horse Val**	**77.56**	**39**	*eP*	**P**	**14 47 14.6**	**+0.8**
WVOR				*e*PP	**sP**	**14 47 53.8**	**-5.5**
WVOR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WVOR	**Wild Horse Val**	**77.56**	**39**	*eP*	**P**	**14 47 14.6**	**+0.8**
	comp=Z,8.6nm,0.9s						
WVOR				*ep*P	**sP**	**14 47 53.8**	**-5.5**
X16A	**Lo Mia Camp, P**	**78.03**	**49**	*eP*	**P**	**14 47 17.9**	**+1.3**
LCMT	**Little Creek M**	**78.06**	**46**	*eP*	**P**	**14 47 16.3**	**-0.4**
	comp=Z,11nm,1.3s						
LCMT				*ep*P	**sP**	**14 47 56.8**	**-5.4**
BRLK	**Bradley Lake**	**78.10**	**12**	*eP*	**P**	**14 47 16.4**	**+0.2**
	comp=Z,28nm,1.2s						
CCUT	**Cedar City**	**78.25**	**45**	*eP*	**P**	**14 47 15.2**	**-2.7**
	comp=Z,7.7nm,1.1s						
KNB	**Kanab**	**78.35**	**46**	*eP*	**P**	**14 47 19.6**	**+1.3**
KNB				pmax	pmax		
	comp=Z,20nm,1.5s						
KNB	**Kanab**	**78.35**	**46**	*eP*	**P**	**14 47 19.6**	**+1.3**
	comp=Z,20nm,1.5s						
LON	**Longmire**	**78.39**	**34**	*eP*	**P**	**14 47 19.9**	**+1.8**
LON	**Longmire**	**78.39**	**34**	*eP*	**P**	**14 47 19.9**	**+1.8**
U15A	**North Rim**	**78.42**	**47**	*eP*	**P**	**14 47 16.1**	**-2.7**
	comp=Z,14nm,1.1s						
U15A				*ep*P	**sP**	**14 47 58.7**	**-5.7**
WUAZ	**Wupatki**	**78.61**	**48**	P	**P**	**14 47 20.6**	**+0.8**
	baz=241						
WUAZ	**Wupatki**	**78.61**	**48**	*eP*	**P**	**14 47 21.2**	**+1.4**
	comp=Z,13nm,1.1s						
CGJI	**Cibinong**	**78.77**	**266**	P	**P**	**14 47 20.6**	**-0.3**
G08A	**Pilot Rock**	**79.06**	**36**	*eP*	**P**	**14 47 22.5**	**+0.5**
	comp=Z,7.4nm,1.1s						
G08A				*ep*P	**sP**	**14 48 01.8**	**-5.8**
X18A	**Snowflake**	**79.16**	**49**	*eP*	**P**	**14 47 24.2**	**+1.4**
SPU	**Mount Spurr**	**79.20**	**11**	*eP*	**P**	**14 47 21.6**	**-0.6**
MTPU	**Mount Pierson**	**79.31**	**45**	*eP*	**P**	**14 47 25.6**	**+1.9**
	comp=Z,22nm,1.5s						
NKL	**Nikolayevsk**	**79.33**	**334**	*eP*	**P**	**14 47 21.2**	**-1.8**
RC01	**Rabbit Creek A**	**79.55**	**12**	*eP*	**P**	**14 47 24.2**	**+0.1**
	comp=Z,18nm,1.2s						
MSU	**Marysvale**	**79.55**	**45**	*eP*	**P**	**14 47 26.5**	**+1.6**
MSU	**Marysvale**	**79.55**	**45**	*eP*	**P**	**14 47 26.5**	**+1.6**
SUA	**Susitna One**	**79.70**	**11**	*eP*	**P**	**14 47 24.8**	**-0.2**
	comp=Z,10nm,0.8s						
MFID	**Camas Ranch**	**79.81**	**39**	*eP*	**P**	**14 47 26.6**	**+0.5**
	comp=Z,6.0nm,1.1s						
121A	**Cookes Peak, D**	**79.85**	**52**	P	**P**	**14 47 27.6**	**+1.0**
	baz=243						
DUG	**Dugway, Tooele**	**79.99**	**43**	P	**P**	**14 47 27.1**	**0.0**
	baz=239						
PMR	**Palmer**	**80.13**	**12**	*eP*	**P**	**14 47 26.7**	**-0.4**
PMR				pmax	pmax		
	comp=Z,17nm,1.4s						
PMR	**Palmer**	**80.13**	**12**	*eP*	**P**	**14 47 26.7**	**-0.4**
	comp=Z,17nm,1.4s						
NJ2	**Nanjing**	**80.14**	**307**	*eP*	**P**	**14 47 29.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
D08A	**Wollman Farm,**	**80.14**	**35**	*eP*	**P**	**14 47 28.4**	**+0.8**
KASI	**Kota Agung**	**80.21**	**267**	P	**P**	**14 47 30.2**	**+1.5**
DIV	**Divide**	**80.42**	**14**	*eP*	**P**	**14 47 28.9**	**+0.1**
	comp=Z,25nm,1.0s						
BMRM

YHB	Horse Butte	83.35	40	*e*P		P		14 47 46.1	+1.3
COLA	College	83.36	11	*e*P		P		14 47 43.6	-0.4
COLA	College	83.36	11	*e*P		P		14 47 43.6	-0.4
MDM	Murphy Dome	83.37	11	*e*P		P		14 47 43.4	-0.8
	comp=Z,22nm,1.2s								
BW06	Boulder Array	83.39	42	P		P		14 47 44.8	-0.3
	baz=241								
BW06	Boulder Array	83.39	42	*e*P		P		14 47 44.7	-0.3
	comp=Z,7.6nm,1.0s								
PD31	Pinedale Array	83.39	42	*e*P		P		14 47 44.8	-0.4
PD31				*ep*P		pP		14 48 20.8	+3.4
PDAR	Pinedale Array	83.39	42	P		P		14 47 44.6	-0.4
	comp=Z,4.5nm,0.9s,baz=214,slow=3.6,SNR=28								
PDAR	Pinedale Array	83.39	42	*e*P		P		14 47 44.6	-0.4
PDAR				*ep*P		pP		14 48 19.7	+2.4
SMCO	Snowmass	83.43	46	*e*P		P		14 47 46.3	+0.8
IL1	Eielson Array	83.45	11	*e*P		P		14 47 44.1	-0.4
IL1				*ep*P		pP		14 48 22.9	+6.0
ILAR	Eielson Array	83.45	11	P		P		14 47 43.8	-0.7
	comp=Z,6.3nm,1.1s,baz=210,slow=5.5,SNR=24								
ILB	Eielson Array	83.45	11	*e*P		P		14 47 43.8	-0.7
YMR	Madison River	83.45	40	*e*P		P		14 47 46.6	+1.3
LNIG	Linares	83.46	62	*e*P		P		14 47 45.6	+0.1
BOZ	Bozeman (W)	83.52	39	P		P		14 47 45.7	+0.1
	baz=239								
BOZ	Bozeman (W)	83.52	39	*e*P		P		14 47 45.8	+0.3
BOZ	Bozeman (W)	83.52	39	*e*P		P		14 47 45.8	+0.3
H17A	Grant Village	83.55	40	*e*P		P		14 47 47.5	+1.6
YHH	Holmes Hill	83.58	40	*e*P		P		14 47 47.1	+1.0
SDCO	Great Sand Dun	83.83	48	P		P		14 47 47.8	+0.4
	baz=244								
MSTX	Muleshoe	84.26	52	P		P		14 47 49.4	-0.1
	baz=246								
MSTX	Muleshoe	84.26	52	*e*P		P		14 47 50.0	+0.5
T25A	Trinidad	84.35	49	P		P		14 47 50.6	+0.5
	baz=245								
DAWY	Dawson	84.45	15	*e*P		P		14 47 50.0	+0.3
	comp=Z,12nm,1.1s								
DAWY				*ep*P		pP		14 48 28.2	+6.1
EGAK	Eagle	84.64	14	*e*P		P		14 47 51.0	+0.4
	comp=Z,8.1nm,1.0s								
RLMT	Red Lodge	84.72	40	P		P		14 47 52.0	+0.3
	baz=241								
COLD	Coldfoot	85.12	9	*e*P		P		14 47 52.5	-0.4
	comp=Z,7.7nm,1.1s								
BILL	Bilibino	85.29	353	*i* P		P		14 47 51.0	-2.7
BILL				*i*				14 48 36.4	
BILL					pmax	pmax			
	comp=Z,3.0nm,1.0s								
ABTX	Abilene, Hawle	86.15	55	P		P		14 47 59.0	+0.1
	baz=248								
ABTX	Abilene, Hawle	86.15	55	*e*P		P		14 47 59.4	+0.6
IPM	Ipoh	86.30	276	*e*P		P		14 48 01.1	+1.1
TOLK	Toolik Lake Re	86.52	9	*e*P		P		14 48 00.2	+0.3
MAW	Mawson	86.73	199	P		P		14 48 01.3	+0.3
	comp=Z,4.8nm,0.8s,baz=110,slow=11,SNR=4.7								
LAO	LASA Array	87.34	40	P		P		14 48 04.9	+0.5
	baz=243								
RSSD	Black Hills	87.59	43	P		P		14 48 05.0	-0.8
	baz=245								
GYA	Guiyang	87.83	298	*e*P		P		14 48 08.0	+0.8
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
XAN	Xi'an	88.57	306	P		P		14 48 11.3	+0.8
XAN				pP		pP		14 48 44.3	+1.2
XAN					pmax	pmax			
	comp=Z,6.0nm,1.1s								
GSI	Gunungsitoli	88.72	272	*e*P		P		14 48 12.8	+1.2
HHC	Hu-ho-hao-te	89.11	313	*e*P		P		14 48 13.6	+0.7
HHC				PP		PP		14 51 48.8	+3.8
HHC				S		S		14 58 46.8	-4.4
HHC				SS		SS		15 04 47.9	-0.3
HHC				pmax	pmax				
	comp=Z,29nm,0.6s								
HHC				pmax	pmax				
	comp=Z,89nm,5.6s								
HHC				LR		LR			
	comp=Z,400nm,13.7s								
HHC				LR		LR			
	comp=Z,390nm,11.2s								
HHC				LR		LR			
	comp=Z,180nm,14.9s								
YKA	Yellowknife Ar	91.19	24	P		P		14 48 21.4	-0.4
	comp=Z,1.5nm,1.0s,baz=242,slow=4.2,SNR=17								
CD2	Chengdu	91.67	302	P		P		14 48 25.3	+0.3
CD2				SKS		SKSac		14 58 42.6	-3.6
CD2				S		S		14 59 12.4	-2.5
CD2				SS		SS		15 05 24.6	-0.8
CD2				pmax	pmax				
	comp=Z,20nm,0.5s								
CD2				pmax	pmax				
	comp=Z,160nm,5.0s								
CD2				LR		LR			
	comp=Z,900nm,18.4s								
CD2				LR		LR			
	comp=Z,710nm,21.8s								
CD2				LR		LR			
	comp=Z,590nm,21.4s								
V39A	Pettigrew	91.92	53	P		P		14 48 26.6	+0.5
	baz=251								
JTS	JuntasAbangare	92.06	80	P		P		14 48 28.4	+1.3
	comp=Z,7.0nm,0.7s,baz=351,slow=18,SNR=5.3								
SNAA	Sanae	92.06	177	P		P		14 48 26.2	+0.1
SNAA	Sanae	92.06	177	P		P		14 48 26.2	+0.1
	comp=Z,8.9nm,1.0s,baz=202,slow=9.9,SNR=4.3								
SNAA	Sanae	92.06	177⇑	*e*P		P		14 48 27.5	+1.4
SNAA	Sanae	92.06	177	*e*P		P		14 48 26.2	+0.1
	comp=Z,17nm,1.2s								
U39A	Green Forest	92.22	53	P		P		14 48 27.3	-0.1
	baz=252								
CMAR	Chiang Mai Arr	92.22	288	P		P		14 48 27.5	-0.3
	comp=Z,1.8nm,0.8s,baz=97,slow=2.5,SNR=9.6								
R38A	Fenwick Farm,	92.47	51	P		P		14 48 27.9	-0.6
	baz=251								
VNA2	Neumayer--Watz	92.53	176	P		P		14 48 28.8	+0.7
	baz=178,slow=3.4								
V40A	Witts Springs	92.54	54	P		P		14 48 28.5	-0.4
	baz=252								
U40A	Yellville	92.69	53	P		P		14 48 29.8	+0.3
	baz=252								
VNA1	Neumayer--Stat	92.73	175	P		P		14 48 29.6	+0.5
S39A	Bolivar	92.75	52	P		P		14 48 29.7	0.0
	baz=252								
R39A	Chumby, Stover	93.16	51	P		P		14 48 31.2	-0.4
	baz=252								
LZH	Lanzhou	93.18	307	*e*P		P		14 48 33.4	+1.4
LZH				pP		pP		14 49 05.5	+0.8
LZH				sP		sP		14 49 19.4	+1.3
LZH				*e*PP		PP		14 52 18.0	+0.7
LZH				pmax	pmax				
	comp=Z,33nm,1.2s								
LZH				pmax	pmax				
	comp=Z,120nm,4.0s								
LZH				LR		LR			
	comp=Z,260nm,16.3s								
LZH				LR		LR			
	comp=Z,300nm,15.7s								
LZH				LR		LR			
	comp=Z,250nm,18.4s								
T40A	Mansfield	93.19	52	P		P		14 48 31.8	0.0
	baz=252								
S40A	Lebanon	93.34	52	P		P		14 48 32.5	0.0
	baz=252								
U41A	Viola	93.41	53	P		P		14 48 32.4	-0.4
	baz=252								
Q39A	Willow Grove F	93.43	50	P		P		14 48 32.6	-0.2
	baz=252								
V42A	Cord	93.65	54	P		P		14 48 33.8	-0.1
	baz=253								
R40A	Maddies Statio	93.73	51	P		P		14 48 34.0	-0.3
	baz=252								
P39B	Salisbury	93.73	50	P		P		14 48 33.6	-0.6
	baz=252								
S41A	Jillco Farms,	93.91	52	P		P		14 48 34.4	-0.7
	baz=253								
M38A	Pleasantville	94.01	48	P		P		14 48 34.7	-0.8
	baz=252								
B32A	Ashes, Strandq	94.03	41	P		P		14 48 34.3	-1.0
	baz=250								
K37A	Belmond	94.11	47	P		P		14 48 35.7	-0.2
	baz=252								
O39A	Kirksville	94.12	49	P		P		14 48 35.0	-1.0
	baz=252								
P40A	Paris	94.27	50	P		P		14 48 35.8	-0.8
	baz=253								
N39A	Derby Farms, D	94.34	49	P		P		14 48 36.2	-0.8
	baz=252								
AGMN	Agassiz Nation	94.42	41	P		P		14 48 35.5	-1.6
	baz=251								
AGMN	Agassiz Nation	94.42	41	*e*P		P		14 48 36.1	-1.0
F35A	Swanville	94.46	44	P		P		14 48 37.5	+0.1
	baz=251								
O40A	La Belle	94.57	50	P		P		14 48 37.6	-0.5
	baz=253								
A33A	Warroad	94.93	40	P		P		14 48 38.4	-1.1
	baz=251								
L39A	Vinton	95.07	48	P		P		14 48 39.7	-0.6
	baz=253								
F36A	Milaca	95.16	44	P		P		14 48 40.2	-0.4
	baz=252								
D35A	Remer	95.19	43	P		P		14 48 39.4	-1.3
	baz=252								
B34A	Aery, Baudette	95.25	41	P		P		14 48 39.8	-1.1
	baz=252								
I38A	Scanlan Farm,	95.41	46	P		P		14 48 41.5	-0.3
	baz=253								
C35A	Jirik Farms, M	95.43	42	P		P		14 48 40.0	-1.8
	baz=252								
TIXI	Tiksi	95.66	345⇑	*e*P		P		14 48 43.1	+0.8
TIXI					pmax	pmax			
	comp=Z,2.0nm,1.1s								
J40A	Soldiers Grove	96.33	47	P		P		14 48 44.9	-1.1
	baz=254								
F39A	Loretta	96.91	44	P		P		14 48 48.0	-0.6
	baz=254								
H40A	Chili	96.91	46	P		P		14 48 48.0	-0.6
	baz=254								
E39A	Mellen	97.28	44	P		P		14 48 49.5	-0.7
	baz=254								
TLY	Talaya	97.88	321⇑	*e*P		Pdif		14 48 54.7	+1.8
TLY					pmax	pmax			
	comp=Z,1.0nm,0.8s								
KSH	Kashi	115.43	306	*e*PKP		PKPdf		14 53 59.8	+0.9
BVAR	Borovoye Array	118.14	322	PKP		PKPdf		14 54 01.5	-2.0
	comp=Z,1.4nm,0.8s,baz=78,slow=2.1,SNR=8.2								
BRVK	Borovoye	118.20	322	*i* PKIKP		PKPdf		14 54 03.1	-0.5
ARA0	ARCESS Array S	125.38	352	*e*PKPdf		PKPdf		14 54 15.6	-1.4
ARCES	ARCESS Array B	125.38	352	PKP		PKPdf		14 54 15.6	-1.4
	comp=Z,3.2nm,0.9s,baz=29,slow=2.1,SNR=8.5								
KLMR	Klimovskoe	129.37	339	*e*PKIKP		PKPdf		14 54 22.3	-2.4
KLMR					pmax	pmax			
	comp=Z,10.0nm,1.5s								
KLMR	Klimovskoe	129.37	339	*e*PKPdf		PKPdf		14 54 22.3	-2.4
KLMR				AMP				14 54 25.7	
	comp=Z,10.0nm,1.5s								
FIA0	FINESS Array S	132.65	347	*e*PKIKP		PKPdf		14 54 29.8	-1.1
FIA0	FINESS Array S	132.65	347	*e*PKPdf		PKPdf		14 54 29.8	-1.1
FINES	FINESS Array B	132.65	347	PKP		PKPdf		14 54 29.8	-1.1
	comp=Z,2.5nm,1.0s,baz=45,slow=0.2,SNR=3.9								
OBN	Obninsk	134.63	336⇑	*e*PKIKP		PKPdf		14 54 35.1	+0.3
OBN				*e*				14 57 09.6	
OBN					pmax	pmax			
	comp=Z,6.0nm,1.3s								
KIEV	Kiev	140.88	336⇑	*e*PKIKP		PKPdf		14 54 46.9	+0.4
KMBO	Kilima Mbogo	144.51	244	PKP		PKPdf		14 54 54.2	-0.2
	comp=Z,20nm,0.9s,baz=73,slow=5.2,SNR=35								
STHS	Stebnicka Huta	144.66	343	*e*PKIKP		PKPdf		14 54 53.1	-0.2
STHS				*e*				14 55 35.0	
STHS	Stebnicka Huta	144.66	343	*e*PKP		PKPdf		14 54 53.1	-0.2
STHS				*e*				14 55 35.0	
BURAR	Bucovina Array	144.91	337	*e*PKIKP		PKPab		14 54 52.6	-0.8
BURAR	Bucovina Array	144.91	337	*i* P		PKPab		14 54 52.6	-0.8
NIE	Niedzica	144.93	344	*e*PKP		PKPdf		14 54 53.5	-0.3
NIE	Niedzica	144.93	344	*e*PKIKP		PKPdf		14 54 53.5	-0.3
UZH	Uzhgorod	145.05	341	*e*PKIKP		PKPbc		14 54 53.4	-0.2
UZH				*e*				14 55 34.6	
CRVS	Cervenica-Dubn	145.06	342	*e*PKIKP		PKPdf		14 54 54.5	+0.5
CRVS	Cervenica-Dubn	145.06	342	*e*PKP		PKPdf		14 54 54.5	+0.5
MORC	Moravsky Berou	145.28	347	*e*PKP2		PKPbc		14 54 52.1	-2.3
MORC	Moravsky Berou	145.28	347	*e*PKPbc		PKPbc		14 54 52.1	-2.3
ILGA	Ilgaz	145.54	321	*e*PKPdf		PKPdf		14 54 53.0	-2.4
CFR	Carcaliu	145.65	332	⇓PKP2		PKPab		14 54 56.5	+0.5
KECS	Kecovo	145.72	343	*e*PKP2		PKPab		14 54 56.6	+0.4
KECS	Kecovo	145.72	343	*e*PKP		PKPab		14 54 56.6	+0.4
KECS				*e*				14 55 36.7	
VRI	Vrincioaia	145.73	334	⇓PKP2		PKPbc		14 54 55.7	-0.2
VRI	Vrincioaia	145.73	334	⇓*i* P		PKPbc		14 54 55.7	-0.2
MEM	Membach	145.76	360	⇓PKP		PKPbc		14 54 55.8	0.0
BCLA	Clavier	145.95	1	⇓PKP		PKPbc		14 54 56.6	+0.2
TLB	Topalu	146.14	331	⇑PKP2		PKPab		14 54 57.3	-0.6
VYHS	Vyhne	146.16	344	*e*PKP2		PKPab		14 54 57.3	-0.6
VYHS	Vyhne	146.16	344	*e*PKP		PKPab		14 54 57.3	-0.6
VYHS				*e*				14 55 35.3	
DOPR	Dopca	146.21	335⇑	*i* P		PKPab		14 54 59.2	+1.0
DOU	Dourbes	146.26	1	⇑PKP		PKPbc		14 54 57.0	-0.3
MLR	Muntele Rosu	146.36	334	⇓PKP2		PKPab		14 54 58.6	-0.3
MLR	Muntele Rosu	146.36	334	⇓*i* P		PKPab		14 54 58.6	-0.3
BR101	Keskin Array S	146.38	320	*e*PKPdf		PKPbc		14 54 58.2	+0.1
BRTR	Keskin Array B	146.38	320	PKPbc		PKPbc		14 54 58.2	+0.1
	comp=Z,5.7nm,0.9s,baz=24,slow=0.1,SNR=12								
DRGR		146.51	339	⇓PKP2		PKPbc		14 54 58.2	0.0
DRGR		146.51	339	⇓*i* P		PKPbc		14 54 58.2	0.0
KHC	Kasperske Hory	146.64	351	*e*PKP		PKPbc		14 54 58.5	0.0
WLF	Walferdange	146.71	360	⇑PKP		PKPab		14 54 59.5	-0.5
VOIR		146.78	335	⇓PKP2		PKPab		14 54 59.6	-0.9
VOIR		146.78	335	⇓*i* P		PKPab		14 54 59.6	-0.9
CONA	Conrad Observa	147.39	347	*e*PKPbc		PKPdf		14 54 58.8	+0.7
	comp=Z,16nm,1.5s,SNR=7.1								
CONA				*es*PKPdf		sPKPdf		14 55 41.8	-3.5
	comp=Z,12nm,1.2s								
MOA	Molln	147.77	349	*e*PKiKP		PKiKP		14 55 02.5	-1.0
	comp=Z,2.6nm,0.6s								
MOA				*es*PKPdf		sPKPdf		14 55 42.4	-3.6
	comp=Z,10nm,1.2s								
BZS	Buzias	147.91	339	⇓PKP2		PKPbc		14 55 02.6	+0.6
BZS	Buzias	147.91	339	⇓*i* P		PKPbc		14 55 02.6	+0.6
ARSA	Arzberg	148.10	348	*e*PKPbc		PKPdf		14 55 00.5	+1.4
	comp=Z,5.5nm,1.4s								
MMAI	Mount Meron Ar	148.56	307	PKPbc		PKPbc		14 55 03.4	-0.8
	comp=Z,7.8nm,0.9s,baz=81,slow=4.7,SNR=6.4								
RETA	Reutte	148.62	354	*e*PKiKP		PKiKP		14 55 04.8	-0.6
	comp=Z,1.9nm,0.4s								
RETA				*es*PKPdf		sPKPdf		14 55 44.7	-2.7
	comp=Z,8.7nm,1.1s								
KBA	Koelnbreinsper	148.67	350	*e*PKiKP		PKPbc		14 55 04.5	+0.3
	comp=Z,7.9nm,1.5s								
KBA				*es*PKPdf		pPKPab		14 55 44.3	+3.0
	comp=Z,3.5nm,1.1s								
WATA	Walderalm	148.68	353	*e*PKPab		PKPbc		14 55 06.0	+1.8
	comp=Z,2.8nm,0.4s								
MOTA	Moosalm	148.73	353	*es*PKPdf		sPKPdf		14 55 44.8	-2.9
	comp=Z,4.6nm,0.7s								
WTTA	Wattenberg	148.74	352	*e*PKiKP		PKiKP		14 55 05.1	-0.7
	comp=Z,10nm,1.3s								
WTTA				*es*PKPdf		pPKPab		14 55 44.9	+3.3
	comp=Z,7.0nm,1.3s								
SOKA	Soboth	148.75	348	*e*PKPbc		PKPbc		14 55 04.0	-0.3
	comp=Z,12nm,1.3s,SNR=6.9								
SOKA				*es*PKPdf		pPKPab		14 55 43.6	+2.1
	comp=Z,6.8nm,1.0s								
DAVA	Damuels	148.91	355	*e*PKiKP		PKPbc		14 55 04.6	-0.1
	comp=Z,6.8nm,0.8s								
DAVA				*es*PKPdf		pPKPab		14 55 43.7	+1.5
	comp=Z,9.2nm,0.9s								
OBKA	Obir	149.01	348	*e*PKPdf		PKPdf		14 55 00.6	-0.2
	comp=Z,3.8nm,1.1s								
OBKA				*es*PKPdf		pPKPab		14 55 45.0	+2.4
	comp=Z,4.2nm,1.1s								
MYKA	Terra Mystica	149.06	350	*i* sPKPdf		sPKPdf		14 55 45.0	-3.2
	comp=Z,2.5nm,0.6s								
FETA	Feichten	149.09	354	*e*PKPdf		PKPdf		14 55 01.4	+0.4
	comp=Z,15nm,1.2s								
FETA				*es*PKPdf		pPKPab		14 55 45.2	+2.3
	comp=Z,7.2nm,0.9s								
ABTA	Abfaltersbach	149.13	351	*e*PKPdf		PKPdf		14 55 00.8	-0.2
	comp=Z,17nm,1.5s,SNR=6.0								
ABTA				*es*PKPdf		pPKPab		14 55 45.4	+2.4
	comp=Z,10nm,1.0s								
JAVS	Javornik	149.69	349	*i* PKPbc		PKPbc		14 55 05.2	-1.4
JAVS				*ep*PKPbc		pPKPab		14 55 47.0	+1.7
DIVS	Divibare	149.80	340	*e*PKPdf		PKPdf		14 54 59.8	-2.3
BOJS	Bojanci	149.82	347	*i* PKPbc		PKPbc		14 54 06.7	-0.1
BOJS				*ep*PKPbc		pPKPab		14 55 47.7	+2.0
BOJS				*e*				15 01 18.0	
VTS	Vitosha	149.87	334	⇑PKP2		PKPbc		14 55 07.1	-0.2
SKDS	Skadanscina	150.04	348	*i* PKPbc		PKPbc		14 55 07.0	-0.4
SKDS				*ep*PKPbc		pPKPab		14 55 47.8	+1.2
ESDC	Sonseca Array	155.17	18	PKP		PKPdf		14 55 10.7	+0.6
	comp=Z,0.7nm,0.4s,baz=187,slow=24,SNR=8.2								
ESDC				PKPab		PKPab		14 55 34.7	-0.6
	comp=Z,0.2nm,0.4s,baz=322,slow=4.1,SNR=6.8								
TORD	Torodi Ar. Bea	174.90	127	PKP		PKPdf		14 55 25.5	-1.8
	comp=Z,3.2nm,1.0s,baz=298,slow=1.0,SNR=12								
TORD				PKPab		PKPab		14 57 01.5	-1.1
	comp=Z,3.2nm,0.9s,baz=253,slow=3.9,SNR=11								
TOA1	Torodi Ar. Sit	174.90	127	*e*PKPdf		PKPdf		14 55 25.5	-1.8
TOA1				*e*PKPab		PKPab		14 57 01.5	-1.1

*ISCJB **23** 14:37:05.3±1.2, 6.8S±0.3×155.3E±0.2, h41km, mb3.7/6, Error ellipse: s-maj=41.1km s-min=11.5km az=149.6*
*IDC **23** 14:37:10.5±6.2, 6.8S×155.2E, h75km±52km, mb3.5/6, mb1 3.8/7, mb1mx3.4/47, mbtmp3.8/7, ML2.2/1, Error ellipse: s-maj=49.0km s-min=30.4km az=131.0*

ISC 23 14:37:06.6±1.6, 6.8S±0.3×155.4E±0.2, h41km, n10, σ1§43/8, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	Port Moresby	8.58	252	P		Pn	14 39 09.5	+1.2
	1.5nm,0.3s,baz=78,slow=4.9,SNR=6.6							
PMG				S		Sn	14 40 43.9	0.0
	0.4nm,0.3s,baz=156,slow=20,SNR=2.3							
WRA	Warramunga Arr	24.28	235	P		P	14 42 20.1	-0.2
	0.9nm,0.4s,baz=59,slow=5,SNR=26							
ASAR	Alice Springs	26.62	229	P		P	14 42 40.0	-1.6
	0.3nm,0.4s,baz=58,slow=9.3,SNR=5.8							
H11S3	WAKE ISLAND Hy	27.47	24	T		T	15 11 06.2	
	baz=203,slow=74,SNR=30							
H11S2	WAKE ISLAND Hy	27.49	24	T		T	15 11 12.9	
	baz=203,slow=74,SNR=16							
H11S1	WAKE ISLAND Hy	27.49	24	T		T	15 11 18.2	
	baz=203,slow=74,SNR=11							
CMAR	Chiang Mai Arr	61.07	295	P		P	14 47 17.0	+0.1
	1.9nm,0.7s,baz=125,slow=5.4,SNR=12							
ILAR	Eielson Array	83.03	21	P		P	14 49 27.6	+0.2
	0.5nm,0.6s,baz=245,slow=5.3,SNR=2.8							
MKAR	Makanchi Array	83.52	319	P		P	14 49 28.3	-2.0
	0.4nm,0.9s,baz=108,slow=4.7,SNR=3.4							
YKA	Yellowknife Ar	95.96	28	P		P	14 50 30.4	+1.4
	0.2nm,0.6s,baz=269,slow=4.6,SNR=3.7							

IDC 23 14:39:11.4±18.0, 16.2S×175.8W, h284km±181km, mb3.3/5, mb1 3.7/5, mb1mx3.2/44, mbtmp3.9/5, MS3.8/1, Ms1 3.8/1, ms1mx2.9/14, Error ellipse: s-maj=108.0km s-min=38.6km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	47.37	258	P		P	14 47 17.6	-0.3
	1.6nm,0.7s,baz=91,slow=7.1,SNR=7.4							
ASAR	Alice Springs	47.52	253	P		P	14 47 19.8	0.0
	4.8nm,0.5s,baz=88,slow=7.8,SNR=13							
FITZ	Fitzroy Crossi	55.74	259	LR		LR	15 10 32.8	
	comp=Z,97nm,20.4s,slow=34							
TXAR	Lajitas Array	83.04	57	P		P	14 51 05.2	-0.6
	0.4nm,0.9s,baz=234,slow=5.5,SNR=2.8							
ILAR	Eielson Array	83.75	12	P		P	14 51 08.2	-0.2
	0.8nm,0.7s,baz=214,slow=5.1,SNR=11							
PDAR	Pinedale Array	84.48	43	P		P	14 51 13.8	+0.9
	0.1nm,0.3s,baz=243,slow=5.8,SNR=3.0							
ARCES	ARCESS Array B	125.11	351	PKP		PKPdf	14 57 37.2	-0.3
	1.4nm,0.9s,baz=343,slow=1.9,SNR=4.6							

*IDC **23** 14:41:42.5±1.1, 17.3S×167.7E, h0km, mb4.4/10, mb1 4.4/12, mb1mx4.1/49, mbtmp4.4/12, ML4.1/2, MS3.7/4, Ms1 3.6/4, ms1mx3.1/44, Error ellipse: s-maj=27.4km s-min=19.0km az=80.0*
*ISCJB **23** 14:41:44.3±0.7, 17.4S±0.05×167.6E±0.1, h19km, mb4.2/13, MS3.6/3, Error ellipse: s-maj=14.6km s-min=7.8km az=177.8*
*NEIC **23** 14:41:48.3±0.5, 17.39S×167.62E, h35km, mb4.3/4, Error ellipse: s-maj=13.7km s-min=9.9km az=84.0*

ISC 23 14:41:46.1±0.7, 17.42S±0.07×167.6E±0.1, h19km, n43, σ1§48/38, mb4.5/13, MS3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	Mont Dzumac	4.75	193	Pn		Pn	14 42 55.8	-1.0
	2.8nm,0.3s,baz=356,slow=9.1,SNR=28							
DZM				Sn		Sn	14 43 50.7	-0.8
	3.6nm,0.3s,baz=140,slow=23,SNR=6.6							
DZM				LR		LR	14 44 32.8	
	comp=Z,347nm,20.2s,baz=40,slow=35							
HNR	Honiara	10.88	316	Pn		Pn	14 44 20.8	0.0
	3.5nm,0.3s,baz=147,

*MDD **23** 14:42:01.9±2.3, 32°.60N×6°.08W, h0km, mb3.4/9, Error ellipse: s-maj=20.9km s-min=19.3km az=41.0, PRXIMO*
*CNRM **23** 14:42:01.4, 32°.33N×6°.03W, h6km, MD3.6*
*CSEM **23** 14:42:02.4±0.4, 32°.70N×5°.94W, h10km, MD3.6, Error ellipse: s-maj=12.4km s-min=7.7km az=72.0*
*INMG **23** 14:42:02.9±0.7, 32°.49N×6°.12W, h31km±13km, ML2.7, Error ellipse: s-maj=6.3km s-min=4.5km az=157.0*
*IGIL **23** 14:42:04.0, 32°.68N×6°.08W, h5km*

ISC 23 14:42:01.2±1.4, 32°.50N±0°.08×6°.05W±0°.06, h26km±7km, n56, σ1s75/103, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIB	**El Ksiba**	**0.07**	**6**	*i* P	**Pb**	**14 42 05.0**	**-1.0**
KIB				*i* S	**Sb**	**14 42 10.0**	**+0.8**
ZFT	**Errachidia**	**1.51**	**108**	*i* P	**Pn**	**14 42 27.0**	**+0.3**
ZFT				*i* S	**Sn**	**14 42 45.0**	**-0.7**
RTC	**Rabat Centre**	**1.63**	**336**	*e*P	**Pb**	**14 42 32.0**	**+1.5**
RTC				*i* S	**Sb**	**14 42 53.0**	**+2.4**
EMIJ	**Mijas**	**4.18**	**14**	P	**Pn**	**14 43 04.9**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**14 43 50.8**	**-0.6**
	2.8nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**4.18**	**14**	P	**Pn**	**14 43 04.9**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**14 43 50.8**	**-0.6**
	2.8nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**4.79**	**24**	P	**Pn**	**14 43 13.1**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**14 44 05.5**	**-0.8**
	2.8nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**4.79**	**24**	P	**Pn**	**14 43 13.1**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**14 44 05.5**	**-0.8**
	2.8nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.97**	**342**	*e*Pn	**Pn**	**14 43 15.3**	**+1.1**
PBDV				*e*Sn	**Sn**	**14 44 09.0**	**-1.9**
PBDV	**Barranco-do-Ve**	**4.97**	**342**	P	**Pn**	**14 43 15.3**	**+1.1**
PBDV				S	**Sn**	**14 44 09.0**	**-1.9**
PBDV	**Barranco-do-Ve**	**4.97**	**342**	P	**Pn**	**14 43 15.3**	**+1.1**
PBDV				*e*Sn	**Sn**	**14 44 09.0**	**-1.9**
PVAQ	**Vaqueiros**	**5.08**	**345**	*e*Pn	**Pn**	**14 43 16.3**	**+0.7**
PVAQ				*e*Sn	**Sn**	**14 44 12.0**	**-1.3**
PVAQ				A	A	14 44 16.8	
	6.2nm,0.7s						
PVAQ	**Vaqueiros**	**5.08**	**345**	P	**Pn**	**14 43 16.3**	**+0.7**
PVAQ				S	**Sn**	**14 44 12.0**	**-1.3**
	6.2nm,0.7s						
PVAQ	**Vaqueiros**	**5.08**	**345**	P	**Pn**	**14 43 16.3**	**+0.7**
PVAQ				S	**Sn**	**14 44 12.0**	**-1.3**
	6.2nm,0.7s						
PFVI	**Vila Bisbo**	**5.15**	**334**	P	**Pn**	**14 43 17.6**	**+1.0**
	0.1nm,0.0s,SNR=7.9						
PFVI				S	**Sn**	**14 44 11.9**	**-3.3**
	5.0nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.15**	**334**	P	**Pn**	**14 43 17.6**	**+1.0**
	0.1nm,0.0s,SNR=7.9						
PFVI				S	**Sn**	**14 44 11.9**	**-3.3**
	5.0nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**14 44 13.3**	**-1.9**
EGRO	**El Granado**	**5.16**	**347**	P	**Pn**	**14 43 17.7**	**+1.1**
	0.1nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**14 44 12.3**	**-2.9**
	3.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**5.16**	**347**	P	**Pn**	**14 43 17.7**	**+1.1**
	0.1nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**14 44 12.3**	**-2.9**
	3.8nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**5.25**	**337**	*e*P	**Pn**	**14 43 18.7**	**+0.7**
MORF	**Marmelete**	**5.25**	**337**	*e*Sn	**Sn**	**14 44 17.2**	**-0.4**
MORF	**Marmelete**	**5.25**	**337**	P	**Pn**	**14 43 18.7**	**+0.7**
MORF				S	**Sn**	**14 44 17.2**	**-0.4**
MORF	**Marmelete**	**5.25**	**337**	P	**Pn**	**14 43 18.7**	**+0.7**
EMIN	**Mina Concepcio**	**5.28**	**355**	P	**Pn**	**14 43 19.4**	**+1.1**
	0.3nm,0.1s,SNR=7.2						
EMIN				S	**Sn**	**14 44 16.1**	**-2.2**
	0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.28**	**355**	P	**Pn**	**14 43 19.4**	**+1.1**
	0.3nm,0.1s,SNR=7.2						
EMIN				S	**Sn**	**14 44 16.1**	**-2.2**
	0.7nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**5.37**	**343**	*e*Pn	**Pn**	**14 43 20.7**	**+1.1**
PCVE				*e*Sn	**Sn**	**14 44 18.5**	**-2.1**
PCVE				A	A	14 44 20.8	
	5.8nm,0.2s						
PCVE	**Castro Verde**	**5.37**	**343**	P	**Pn**	**14 43 20.7**	**+1.1**
PCVE				S	**Sn**	**14 44 18.5**	**-2.1**
	5.8nm,0.2s						
PCVE	**Castro Verde**	**5.37**	**343**	P	**Pn**	**14 43 20.7**	**+1.1**
PCVE				S	**Sn**	**14 44 18.5**	**-2.1**
	5.8nm,0.2s						
PTEO	**Sao Teotonio**	**5.49**	**337**	*e*Pn	**Pn**	**14 43 22.7**	**+1.5**
PTEO				*e*Sn	**Sn**	**14 44 20.8**	**-2.7**
PTEO	**Sao Teotonio**	**5.49**	**337**	P	**Pn**	**14 43 22.7**	**+1.5**
PTEO				S	**Sn**	**14 44 20.8**	**-2.7**
PTEO	**Sao Teotonio**	**5.49**	**337**	P	**Pn**	**14 43 22.7**	**+1.5**
PTEO				S	**Sn**	**14 44 20.8**	**-2.7**
ECAB	**El Cabril**	**5.58**	**5**	P	**Pn**	**14 43 23.7**	**+1.1**
	0.0nm,0.0s,SNR=8.4						
ECAB				S	**Sn**	**14 44 23.5**	**-2.4**
	1.5nm,0.1s,SNR=6.5						
ECAB	**El Cabril**	**5.58**	**5**	P	**Pn**	**14 43 23.7**	**+1.1**
	SNR=8.4						
ECAB				S	**Sn**	**14 44 23.5**	**-2.4**
	1.5nm,0.1s,SNR=6.5						
MESJ	**Messejana**	**5.61**	**342**	*e*P	**Pn**	**14 43 23.6**	**+0.7**
MESJ	**Messejana**	**5.61**	**342**	*e*P	**Pn**	**14 43 23.6**	**+0.7**
MESJ	**Messejana**	**5.61**	**342**	P	**Pn**	**14 43 23.6**	**+0.7**
MESJ	**Messejana**	**5.61**	**342**	*e*P	**Pn**	**14 43 23.6**	**+0.7**
PBEJ	**Beja**	**5.71**	**345**	*e*Sn	**Sn**	**14 44 27.2**	**-1.7**
PBEJ	**Beja**	**5.71**	**345**	S	**Sn**	**14 44 27.2**	**-1.7**
PBEJ	**Beja**	**5.71**	**345**	S	**Sn**	**14 44 27.2**	**-1.7**
PBAR	**Barrancos**	**5.72**	**352**	*e*Pn	**Pn**	**14 43 25.3**	**+1.0**
PBAR				*e*Sn	**Sn**	**14 44 26.5**	**-2.6**
PBAR				A	A	14 44 30.5	
	7.6nm,0.4s						
PBAR	**Barrancos**	**5.72**	**352**	P	**Pn**	**14 43 25.3**	**+1.0**
PBAR				S	**Sn**	**14 44 26.5**	**-2.6**
	7.6nm,0.4s						
PBAR	**Barrancos**	**5.72**	**352**	P	**Pn**	**14 43 25.3**	**+1.0**
PBAR				S	**Sn**	**14 44 26.5**	**-2.6**
	7.6nm,0.4s						
EADA	**Adamuz**	**5.78**	**12**	P	**Pn**	**14 43 25.9**	**+0.7**
	0.1nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**14 44 27.8**	**-2.9**
	1.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.78**	**12**	P	**Pn**	**14 43 25.9**	**+0.7**
	0.1nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**14 44 27.8**	**-2.9**
	1.4nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.95**	**341**	*e*Pn	**Pn**	**14 43 28.3**	**+0.7**
PNCL				*e*Sn	**Sn**	**14 44 32.6**	**-2.3**
PNCL				A	A	14 44 37.4	
	4.5nm,0.2s						
PNCL	**Nicolau / Gran**	**5.95**	**341**	*e*Pn	**Pn**	**14 43 28.3**	**+0.7**
PNCL				*e*Sn	**Sn**	**14 44 32.6**	**-2.3**
	4.5nm,0.2s						
EBAD	**Badajoz**	**6.29**	**353**	P	**Pn**	**14 43 33.5**	**+1.3**
	0.1nm,0.0s,SNR=10						
EBAD				S	**Sn**	**14 44 41.2**	**-2.0**
	1.9nm,0.1s,SNR=5.8						
EBAD	**Badajoz**	**6.29**	**353**	P	**Pn**	**14 43 33.5**	**+1.3**
	0.1nm,0.0s,SNR=10						
EBAD				S	**Sn**	**14 44 41.2**	**-2.0**
	1.9nm,0.1s,SNR=5.8						
PESTR	**Estremoz**	**6.47**	**349**	*e*Pn	**Pn**	**14 43 36.0**	**+1.3**
PESTR				*e*Sn	**Sn**	**14 44 45.8**	**-1.9**
PESTR	**Estremoz**	**6.47**	**349**	*e*Pn	**Pn**	**14 43 36.0**	**+1.3**
PESTR				*e*Sn	**Sn**	**14 44 45.8**	**-1.9**
PMTG	**Montargil**	**6.79**	**346**	*e*Pn	**Pn**	**14 43 39.9**	**+0.9**
PMTG				*e*Sn	**Sn**	**14 44 53.5**	**-1.9**
PMTG	**Montargil**	**6.79**	**346**	*e*Pn	**Pn**	**14 43 39.9**	**+0.9**
PMTG				*e*Sn	**Sn**	**14 44 53.5**	**-1.9**
PMRV	**Marv??o**	**7.00**	**351**	*e*Pn	**Pn**	**14 43 43.2**	**+1.3**
PMRV				*e*Sn	**Sn**	**14 44 58.2**	**-2.4**
PMRV				A	A	14 44 59.6	
	4.6nm,0.6s						
PMRV	**Marv??o**	**7.00**	**351**	P	**Pn**	**14 43 43.2**	**+1.3**
PMRV				S	**Sn**	**14 44 58.2**	**-2.4**
	4.6nm,0.6s						
PMRV	**Marv??o**	**7.00**	**351**	P	**Pn**	**14 43 43.2**	**+1.3**
PMRV				S	**Sn**	**14 44 58.2**	**-2.4**
	4.6nm,0.6s						
PAB	**San Pablo**	**7.16**	**11**	P	**Pn**	**14 43 45.6**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**14 45 01.3**	**-3.5**
	1.4nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**7.16**	**11**	P	**Pn**	**14 43 45.6**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**14 45 01.3**	**-3.5**
	1.4nm,0.2s,SNR=7.9						

IDC 23 14:44:55.4±2.3, 4°.26N×127°.38E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/61, mbtmp3.5/4, Error ellipse: s-maj=216.1km s-min=21.3km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
						h m s	ISC
WRA	**Warramunga Arr**	**25.01**	**164**	P	P	14 50 21.3	+0.1
	0.6nm,0.4s,baz=344,slow=9.7,SNR=10.0						
ASAR	**Alice Springs**	**28.48**	**167**	P	P	14 50 52.3	-0.1
	0.2nm,0.4s,baz=355,slow=6.9,SNR=3.1						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	14 54 46.5	+0.1
	0.2nm,0.3s,baz=111,slow=8.0,SNR=6.8						
KURBB	**Kurchatov Arra**	**61.65**	**327**	P	P	14 55 14.8	-0.2
	1.4nm,0.7s,baz=127,slow=6.2,SNR=7.3						

*NIED **23** 14:53:00, 37°.40N×141°.40E, h38km, Mw3.9 Best double couple: M0 6.76000×10^14 NP1:φs48.00000°, δ16.00000°, λ-78.00000°. NP2:φs216.00000°, δ74.00000°, λ-94.00000°.*
*ISCJB **23** 14:53:14.2±0.8, 37°.36N±0°.03×141°.48E±0°.06, h35km±7km, mb3.8/17, MS4.4/1, Error ellipse: s-maj=8.4km s-min=4.7km az=11.6*
*JMA **23** 14:53:15.6±0.1, 37°.40N×141°.37E, h34km±1km, M4.0*
JMA Felt III J1.
*IDC **23** 14:53:19.7±2.2, 37°.35N×141°.31E, h68km±20km, mb3.5/16, mb1 3.6/19, mb1mx3.4/75, mbtmp3.8/19, MS2.9/1, Ms1 2.9/1, ms1mx2.3/61, Error ellipse: s-maj=16.8km s-min=13.6km az=99.0*

ISC 23 14:53:13.2±1.6, 37°.34N±0°.04×141°.36E±0°.05, h15km±9km, n40, σ1s44/46, mb3.8/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.39**	**275**	P	**Pn**	**14 53 24.4**	**+0.1**
JFK				S	**Sn**	**14 53 30.3**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.51**	**243**	P	**Pn**	**14 53 26.4**	**+0.5**
ONAJ				S	**Sn**	**14 53 33.8**	**-0.5**
JMM	**Marumori**	**0.69**	**320**	P	**Pn**	**14 53 27.9**	**-0.6**
JMM				S	**Sb**	**14 53 36.8**	**+0.4**
JFT	**Otama**	**0.83**	**283**	P	**Pn**	**14 53 31.4**	**+1.0**
JFT				S	**Sn**	**14 53 42.5**	**+0.1**
JHO	**Hitachi**	**0.96**	**221**	P	**Pn**	**14 53 32.7**	**+0.6**
JHO				S	**Sn**	**14 53 46.2**	**+0.7**
JIO	**Ouri**	**1.12**	**360**	P	**Pb**	**14 53 33.9**	**-0.3**
JIO				S	**Sb**	**14 53 47.1**	**-1.4**
JOU	**Okura**	**1.17**	**332**	P	**Pg**	**14 53 35.3**	**-0.4**
JOU				S	**Sn**	**14 53 50.2**	**-0.4**
JFY	**Yanaizu**	**1.32**	**274**	P	**Pg**	**14 53 38.7**	**+0.1**
JFY				S	**Sg**	**14 53 55.7**	**-0.2**
JYS	**Shirataka**	**1.35**	**311**	P	**Pg**	**14 53 38.7**	**-0.6**
JYS				S	**Sg**	**14 53 56.3**	**-0.6**
MJAR	**Matsushiro Arr**	**2.65**	**254**	P	**Pn**	**14 53 57.7**	**+2.4**
	8.4nm,0.3s,baz=77,slow=17,SNR=79						
MJAR				S	**Sb**	**14 54 31.3**	**-1.3**
	11nm,0.3s,baz=71,slow=17,SNR=5.7						
MAT	**Matsushiro**	**2.65**	**254**	P	**Pb**	**14 53 58.2**	**-2.1**
MAT				S	**Sb**	**14 54 32.5**	**-0.1**
JHJ	**Hachijo jima 2**	**4.40**	**198**	P	**Pn**	**14 54 22.0**	**+2.6**
	20nm,0.3s,baz=0.0,slow=20,SNR=2.9						
JHJ				S	**Sn**	**14 55 11.2**	**+0.8**
	28nm,0.3s,baz=73,slow=19,SNR=2.0						
ASAJ	**Asahikawa**	**6.84**	**8**	P	**Pn**	**14 54 52.8**	**-0.1**
	1.1nm,0.3s,baz=228,slow=8.7,SNR=22						
ASAJ				S	**Sn**	**14 56 09.3**	**-1.1**
	baz=105,slow=20,SNR=2.8						
JNU	**Nakatsue**	**9.55**	**247**	LR	LR	14 58 56.4	
	comp=Z,59nm,18.3s,baz=118,slow=35						
USRK	**Ussuriysk Ar.**	**9.87**	**317**	P	**Pn**	**14 55 38.7**	**+4.2**
	0.3nm,0.3s,baz=122,slow=14,SNR=4.1						
JCJ	**Chichijima**	**10.23**	**176**	P	**Pn**	**14 55 40.1**	**+0.6**
	2.4nm,0.3s,baz=12,slow=20,SNR=5.3						
JCJ				S	**Sn**	**14 57 28.1**	**-5.9**
	baz=180,slow=20						
MA2	**Magadan**	**23.07**	**12**	P	**P**	**14 58 17.8**	**-0.1**
	2.3nm,0.7s,baz=192,slow=9.3,SNR=4.9						
YAK	**Yakutsk**	**25.77**	**347**	P	**P**	**14 58 44.0**	**+1.0**
	11nm,0.3s,baz=288,slow=0.7,SNR=4.0						
SEY	**Seymchan**	**26.50**	**11**	P	**P**	**14 58 51.2**	**+1.5**
	1.1nm,0.9s,baz=204,slow=19,SNR=3.6						
SONM	**Songino Array**	**27.58**	**303**	P	**P**	**14 58 59.0**	**-0.7**
	1.2nm,0.8s,baz=105,slow=8.5,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	15 29 14.6	
	baz=314,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**28.35**	**121**	T	T	15 29 17.2	
	baz=314,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	15 29 19.4	
	baz=314,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	15 29 33.6	
	baz=316,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	15 29 33.7	
	baz=316,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**29.08**	**123**	T	T	15 29 36.5	
	baz=316,slow=76,SNR=42						
ZALV	**Zalesovo Beam**	**41.68**	**312**	P	**P**	**15 01 00.8**	**-0.1**
	1.8nm,0.6s,baz=86,slow=6.8,SNR=11						
NRIK	**Noril'sk**	**42.98**	**335**	LR	LR	15 22 28.2	
	comp=Z,455nm,19.0s,baz=60,slow=41						
MKAR	**Makanchi Array**	**43.92**	**302**	P	**P**	**15 01 19.1**	**-0.2**
	1.6nm,0.6s,baz=87,slow=9.9,SNR=21						
KURBB	**Kurchatov Arra**	**45.78**	**308**	P	**P**	**15 01 33.6**	**-0.4**
	1.5nm,0.4s,baz=82,slow=8.3,SNR=19						
ILAR	**Eielson Array**	**49.26**	**32**	P	**P**	**15 02 01.0**	**+0.2**
	0.3nm,0.6s,baz=266,slow=6.1,SNR=5.2						
BVAR	**Borovoye Array**	**50.34**	**312**	P	**P**	**15 02 08.7**	**-0.4**
	0.5nm,0.5s,baz=78,slow=7.2,SNR=4.3						
WRA	**Warramunga Arr**	**57.35**	**188**	P	**P**	**15 03 00.5**	**-0.2**
	0.7nm,0.6s,baz=6.0,slow=7.4,SNR=22						
ASAR	**Alice Springs**	**61.08**	**188**	P	**P**	**15 03 27.2**	**+0.7**
	0.3nm,0.4s,baz=359,slow=5.3,SNR=6.8						
YKA	**Yellowknife Ar**	**63.57**	**30**	P	**P**	**15 03 43.5**	**+0.8**
	0.1nm,0.4s,baz=304,slow=7.0,SNR=3.6						
FINES	**FINESS Array B**	**68.53**	**332**	P	**P**	**15 04 14.3**	**-0.3**
	1.8nm,0.8s,baz=40,slow=9.9,SNR=4.8						
HFS	**Hagfors**	**73.80**	**336**	P	**P**	**15 04 46.3**	**-0.3**
	0.4nm,0.4s,baz=74,slow=7.7,SNR=3.7						
AKASG	**Malin Array Be**	**74.03**	**322**	P	**P**	**15 04 47.3**	**-0.8**
	0.3nm,0.3s,baz=46,slow=5.4,SNR=6.6						
PDAR	**Pinedale Array**	**77.48**	**45**	P	**P**	**15 05 08.5**	**+0.1**
	0.2nm,0.5s,baz=284,slow=3.6,SNR=2.5						
TXAR	**Lajitas Array**	**89.97**	**52**	P	**P**	**15 06 13.0**	**+0.7**
	0.2nm,0.6s,baz=295,slow=3.4,SNR=5.1						

*CSEM **23** 14:53:50.4±0.6, 51°.49N×16°.11E, h1km, ML2.7/6, Error ellipse: s-maj=8.3km s-min=4.7km az=13.0*

PRU 23 14:53:51.9, 51°.44N×16°.13E, h0km, 2C, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
						h m s	ISC
KSP	**Ksiaz**	**0.61**	**170**	*e*Pg	Pg	14 54 04.0	+0.5
KSP				*e*Sg	Sg	14 54 12.8	+1.5
KSP	**Ksiaz**	**0.61**	**170**	*e*Pg	Pg	14 54 04.0	+0.5
KSP				*e*Sg	Sg	14 54 12.8	+1.5
UPC	**Upice**	**0.94**	**185**	*e*PG	Pg	14 54 10.2	+0.4
UPC				*e*SG	Sg	14 54 22.4	+0.5
	comp=Z,27nm,0.3s						
UPC	**Upice**	**0.94**	**185**	Pg	Pg	14 54 10.2	+0.4
UPC				Sg	Sg	14 54 22.4	+0.5
	27nm,0.3s						
DPC	**Dobruska-Polom**	**1.10**	**174**	*e*PG	Pg	14 54 12.5	-0.4
DPC				*e*SG	Sb	14 54 27.9	-0.7
	comp=Z,9.9nm,0.5s						
DPC	**Dobruska-Polom**	**1.10**	**174**	Pg	Pg	14 54 12.5	-0.4
DPC				Sg	Sb	14 54 27.9	-0.7
	9.9nm,0.5s						
PVCC	**Panska Ves**	**1.34**	**228**	*e*PG	Pg	14 54 17.2	-0.4
PVCC				*e*SG	Sg	14 54 35.3	+0.3
PVCC	**Panska Ves**	**1.34**	**228**	Pg	Pg	14 54 17.2	-0.4
PVCC				Sg	Sg	14 54 35.3	+0.3
KRLC	**Kraliky**	**1.43**	**163**	*e*PG	Pn	14 54 18.8	-0.3
KRLC				*e*SG	Sg	14 54 36.1	-1.6
	comp=Z,2.9nm,0.5s						
KRLC	**Kraliky**	**1.43**	**163**	Pg	Pn	14 54 18.8	-0.3
KRLC				Sg	Sg	14 54 36.1	-1.6
	2.9nm,0.5s						
BRG	**Berggiesshubel**	**1.49**	**248**	PG	Pn	14 54 19.7	-0.2
BRG				SG	Sg	14 54 39.2	-0.5
	15nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.75**	**210**	*e*PG	Pb	14 54 24.4	-0.5
GOPC				*e*SG	Sg	14 54 48.0	-0.1
	comp=Z,3.7nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.75**	**210**	Pg	Pb	14 54 24.4	-0.5
GOPC				Sg	Sg	14 54 48.0	-0.1
	3.7nm,0.2s						
PRU	**Pruhonice**	**1.77**	**215**	*e*PG	Pb	14 54 24.5	-0.7
PRU				*e*SG	Sg	14 54 48.6	-0.1
	comp=Z,7.2nm,0.4s						
PRU	**Pruhonice**	**1.77**	**215**	Pg	Pb	14 54 24.5	-0.7
PRU				Sg	Sg	14 54 48.6	-0.1
	7.2nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**151**	*i*P	Pn	14 54 24.7	-0.8
MORC	**Moravsky Berou**	**1.89**	**151**	*e*Pn	Pn	14 54 24.2	-1.3
MORC	**Moravsky Berou**	**1.89**	**151**	*i*P	Pn	14 54 24.7	-0.8
CLL	**Collm**	**1.96**	**267**	*e*Pg	Pn	14 54 27.0	+0.6
CLL				*e*Sg	Sb	14 54 53.0	-0.5
	comp=Z,8.0nm,0.5s						
OKC	**Ostrava-Krasne**	**2.06**	**141**	*e*SG	Sg	14 54 57.4	-0.5
OKC	**Ostrava-Krasne**	**2.06**	**141**	Sg	Sg	14 54 57.4	-0.5
VRAC	**Vranov**	**2.15**	**172**	*e*Sg	Sg	14 55 00.2	-0.9
NKC	**Novy Kostel**	**2.63**	**244**	*e*PG	Pb	14 54 40.9	+1.0
NKC				*e*SG	Sg	14 55 16.4	+0.1
	comp=Z,10nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**244**	Pg	Pb	14 54 40.9	+1.0
NKC				Sg	Sg	14 55 16.4	+0.1
	comp=Z,10nm,0.3s						
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	Pn	14 54 37.6	-0.8
KHC				*e*PG	Pb	14 54 43.6	+0.3
KHC				*e*SN	Sn	14 55 10.5	-2.7
KHC				*e*SG	Sg	14 55 22.1	-0.7
KHC	**Kasperske Hory**	**2.83**	**216**	Pn	Pn	14 54 37.6	-0.8

*IDC **23** 15:03:58.4±0.6, 17°.58S×167°.52E, h0km, mb4.4/22, mb1 4.6/24, mb1mx4.4/51, mbtmp4.5/24, ML4.6/2, MS4.5/35, Ms1 4.5/35, ms1mx4.4/42, Error ellipse: s-maj=19.1km s-min=14.2km az=97.0*
*ISCJB **23** 15:03:59.9±0.3, 17°.65S±0°.04×167°.51E±0°.05, h19km, mb4.7/63, MS4.5/44, Error ellipse: s-maj=6.9km s-min=6.0km az=0.2*
*MOS **23** 15:04:02.5±1.4, 17°.60S×167°.43E, h33km, mb5.1/23, MS4.6/5, Error ellipse: s-maj=10.5km s-min=8.8km az=130.6*
*GCMT **23** 15:04:03.5±0.1, 17°.42S×167°.39E, h12km, MW5.2/109, Moment Tensor Solution. s90,c132; s109,c180; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.69±.02; Mθθ0.06±.01; Mφφ0.62±.01; Mrθ0.18±.04; Mθφ0.17±.01; Mφ0.53±.04; Best double couple: M0 0.88300×10^17 NP1:φs198.00000°, δ65.00000°, λ-89.00000°. NP2:φs14.00000°, δ25.00000°, λ-93.00000°. Principal axes: T 0.8760, Plg20.0000°, Azm287.0000°; N 0.0130, Plg1.0000°, Azm17.0000°; P -0.8900, Plg70.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 15:04:03.5±0.3, 17°.64S×167°.56E, h35km, mb4.8/14 Error ellipse: s-maj=9.6km s-min=7.7km az=86.0*
*BJI **23** 15:04:04.5, 17°.70S×167°.50E, h49km, mb4.7/41, mB5.2/32, Ms5.0/30, Ms7 4.7/32*

ISC 23 15:04:01.6±0.3, 17°.70S±0°.05×167°.48E±0°.07, h19km, n181, σ2s13/180, mb4.8/61, MS4.5/46, 12C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.46**	**192**	Pn	**Pn**	**15 05 08.0**	**-0.3**
	9.9nm,0.3s,baz=183,slow=16,SNR=72						
DZM				Sn	**Sn**	**15 05 57.3**	**-2.4**
	21nm,0.3s,baz=316,slow=21,SNR=14						
DZM				LR	LR	15 06 48.1	
	comp=Z,7μm,18.6s,baz=28,slow=37						
DZM	**Mont Dzumac**	**4.46**	**192**	*e*Pn	**Pn**	**15 05 08.2**	**-0.1**
	69nm,0.3s						
DZM				*e*Sn	**Sn**	**15 05 54.2**	**-5.5**
	129nm,0.2s						
MSVF	**Nonsavu**	**10.07**	**92**	*e*P	Pn	15 06 28.8	+3.4
MSVF	**Nonsavu**	**10.07**	**92**	*e*Pn	Pn	15 06 28.8	+3.4
HNR	**Honiara**	**11.00**	**317**	Pn	**Pn**	**15 06 36.7**	**-1.4**
	14nm,0.3s,baz=90,slow=20,SNR=8.5						
HNR				LR	LR	15 10 02.7	
	comp=Z,4μm,21.7s,baz=162,slow=33						
HNR	**Honiara**	**11.00**	**317**	P	Pn	15 06 31.0	-7.1
HNR	**Honiara**	**11.00**	**317**	*e*P	**Pn**	**15 06 38.1**	**0.0**

WR1	**Warramunga Arr**	**31.42 261**	*e*P		**P**	**15 10 21.8**	**-0.1**
	comp=Z,20nm,1.3s							
WRA	**Warramunga Arr**	**31.42 261**	P		**P**	**15 10 21.8**	**-0.1**
	comp=Z,10nm,1.2s,baz=89,slow=8.9,SNR=13							
WRA			LR		LR	15 21 41.6		
	comp=Z,2μm,21.7s,baz=80,slow=34							
ASAR	**Alice Springs**	**31.92 254**	P		**P**	**15 10 26.0**	**-0.2**
	comp=Z,7.8nm,0.8s,baz=81,slow=8.8,SNR=26							
ASAR			LR		LR	15 22 14.3		
	comp=Z,2μm,21.6s,baz=87,slow=34							
KNRA	**Kununurra**	**37.10 267**	P		**P**	**15 11 11.4**	**+0.3**
	baz=37,SNR=3.6							
GUMO	**Guam**	**38.27 323**	LR		LR	15 25 32.9		
	comp=Z,1μm,19.9s,baz=123,slow=34							
PPT2	**Papeete2**	**40.86 97**	*e*S		**S**	**15 17 58.4**	**+5.0**
	comp=Z,518nm,23.8s							
PPT2			*e*LQ		LQ	15 21 31.2		
	comp=Z,978nm,26.5s							
PPT2			*e*LR		LR	15 23 14.9		
	comp=Z,3μm,27.8s							
PPT	**Papeete**	**40.86 97**	LR		LR	15 24 51.4		
	comp=Z,478nm,19.9s,baz=268,slow=31							
NLAI	**Namlea**	**42.10 285**	P		**P**	**15 11 51.9**	**-0.9**
SOEI	**Soe**	**42.63 275**	P		**P**	**15 11 55.3**	**-2.0**
	comp=Z,41nm,1.3s							
BATI	**Baumata**	**43.09 274**	LR		LR	15 29 21.8		
	comp=Z,744nm,21.2s,baz=125,slow=35							
BATI	**Baumata**	**43.09 274**	P		**P**	**15 11 58.2**	**-2.7**
SANI	**Sanana**	**43.59 286**	P		**P**	**15 12 03.9**	**-1.0**
MBWA	**Marble Bar**	**45.03 258**	*e*P		**P**	**15 12 15.9**	**-0.5**
	comp=Z,43nm,1.4s							
APSI	**Ampana**	**48.02 285**	P		**P**	**15 12 39.4**	**-0.5**
DAV	**Davao City (W)**	**48.14 297**	LR		LR	15 32 41.6		
	comp=Z,251nm,18.8s,baz=139,slow=36							
TTSI	**Tana Toraja**	**48.92 282**	P		**P**	**15 12 45.7**	**-1.2**
MPSI	**Mapaga**	**50.12 286**	P		**P**	**15 12 55.2**	**-0.8**
TAOE	**Nuku Hiva Isla**	**51.59 87**	*e*S		**S**	**15 20 30.4**	**+2.9**
	comp=Z,597nm,24.7s							
TAOE			*e*LQ		LQ	15 25 57.9		
	comp=Z,677nm,23.8s							
TAOE			*e*LR		LR	15 28 13.1		
	comp=Z,2μm,27.3s							
STKI	**Sintang**	**57.81 282**	P		**P**	**15 13 52.1**	**-0.2**
JOW	**Kunigami**	**58.37 318**	LR		LR	15 37 16.4		
	comp=Z,404nm,21.1s,baz=75,slow=34							
LEM	**Lembang**	**59.27 273**	LR		LR	15 40 16.6		
	comp=Z,537nm,20.6s,baz=97,slow=37							
VNDA	**Vanda**	**59.92 181**	P		**P**	**15 14 06.2**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=7.2,slow=7.9,SNR=5.5							
VNDA			LR		LR	15 38 44.1		
	comp=Z,198nm,18.2s,baz=8.0,slow=35							
CBJI	**Citeko**	**60.12 273**	P		**P**	**15 14 06.0**	**-2.3**
SBA	**Scott Base**	**60.19 180**	*e*P		**P**	**15 14 07.7**	**0.0**
SBA			pmax		pmax			
	comp=Z,16nm,1.2s							
SBA	**Scott Base**	**60.19 180**	*e*P		**P**	**15 14 07.7**	**0.0**
	comp=Z,16nm,1.2s							
MJAR	**Matsushiro Arr**	**60.62 333**	P		**P**	**15 14 08.9**	**-2.3**
	comp=Z,5.0nm,1.2s,baz=146,slow=6.0,SNR=4.4							
MJAR			LR		LR	15 39 50.2		
	comp=Z,119nm,19.5s,baz=180,slow=36							
MAJO	**Matsushiro**	**60.62 333**	*e*P		**P**	**15 14 08.9**	**-2.4**
MAJO	**Matsushiro**	**60.62 333**	*e*P		**P**	**15 14 08.9**	**-2.4**
CGJI	**Cibinong**	**61.17 272**	P		**P**	**15 14 13.0**	**-2.4**
JNU	**Nakatsue**	**61.45 325**	LR		LR	15 38 16.4		
	comp=Z,152nm,20.7s,baz=120,slow=34							
MDSI	**Maura Dua**	**63.23 274**	P		**P**	**15 14 26.2**	**-3.1**
ASAJ	**Asahikawa**	**65.59 341**	*e*P		**P**	**15 14 45.4**	**+1.3**
	comp=Z,14nm,1.3s							
KSRS	**Korea Array**	**66.30 326**	LR		LR	15 43 49.8		
	comp=Z,225nm,18.4s,baz=144,slow=36							
NJ2	**Nanjing**	**67.95 317**	*e*P		**P**	**15 15 00.3**	**+0.9**
NJ2			pmax		pmax			
	comp=Z,14nm,0.5s							
YSS	**Yuzh-Sakhalins**	**68.10 342**⇑	*e*P		**P**	**15 15 00.6**	**+0.6**
YSS			*e*			15 15 11.0		
YSS			*e**SP		**PcP**	**15 15 21.9**	**-4.0**
YSS			*e*S		**S**	**15 23 55.8**	**-2.9**
YSS			pmax		pmax			
	comp=Z,20nm,1.2s							
YSS			pmax		pmax			
	comp=Z,200nm,3.0s							
YSS			MLR		MLR			
	comp=Z,500nm,15.0s							
YSS			MLR		MLR			
	comp=N,300nm,14.0s							
VLA	**Vladivostok**	**68.79 333***d*	*i*P		**P**	**15 15 07.2**	**+2.8**
VLA			pmax		pmax			
	comp=Z,30nm,1.6s							
MNSI	**Mandailing Nat**	**69.24 278**	P		**P**	**15 15 05.4**	**-2.5**
USRK	**Ussuriysk Ar.**	**69.61 334**	P		**P**	**15 15 08.6**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=73,slow=6.6,SNR=14							
WHN	**Wuhan**	**70.08 313**	⇑P		**P**	**15 15 13.0**	**+0.3**
WHN			S		**S**	**15 24 20.1**	**-2.7**
WHN			LR		LR			
	comp=Z,1μm,12.8s							
PETK	**Petropavlovsk-**	**71.02 354**	P		**P**	**15 15 17.6**	**-0.3**
	comp=Z,15nm,1.1s,baz=134,slow=8.5,SNR=5.0							
PETK			LR		LR	15 44 08.5		
	comp=Z,164nm,18.6s,baz=168,slow=34							
PEA1	**Petropavlovsk-**	**71.02 354**	*e*P		**P**	**15 15 17.6**	**-0.4**
TRTT	**Trang**	**71.57 285**	P		**P**	**15 15 24.7**	**+2.6**
	comp=Z,5.7nm,1.1s							
TYV	**Tymovskoe**	**71.67 344**	*e*P		**P**	**15 15 22.1**	**+0.3**
TYV			*e*S		**S**	**15 24 40.2**	**-0.2**
TYV			pmax		pmax			
	comp=Z,300nm,5.3s							
TYV			pmax		pmax			
	comp=Z,8.0nm,1.6s							
TYV			smax		smax			
	comp=E,4.0nm,1.5s							
CN2	**Changchun**	**72.28 329**	*e*P		**P**	**15 15 30.4**	**+4.7**
CN2			*es*P		PcP	15 15 48.8	+5.1
CN2			*e*S		**S**	**15 24 50.6**	**+2.7**
CN2			pmax		pmax			
	comp=E,10.0nm,0.6s							
CN2			pmax		pmax			
	comp=E,200nm,3.0s							
CN2			LR		LR			
	comp=E,300nm,17.0s							
CN2			LR		LR			
	comp=E,200nm,17.0s							
CN2			LR		LR			
	comp=E,200nm,18.0s							
QSPA	**South Pole Qui**	**72.35 180**	P		**P**	**15 15 26.1**	**+0.1**
	comp=E,15nm,1.0s,baz=6.2,slow=3.7,SNR=23							
QSPA			LR		LR	15 46 12.0		
	comp=E,309nm,18.1s,baz=28,slow=35							
NAYO	**Nakonayok**	**72.59 292**	P		**P**	**15 15 31.5**	**+3.4**
	comp=E,15nm,0.8s,comp=E,2μm							
GRNR	**Gornyy**	**73.43 340**	*e*P		**P**	**15 15 32.9**	**+0.5**
GRNR			pmax		pmax			
	comp=Z,80nm,1.5s							
GYA	**Guiyang**	**73.57 305**	*e*P		**P**	**15 15 36.0**	**+2.1**
GYA			pmax		pmax			
	comp=Z,10.0nm,1.0s							
KLR	**Kul'dur**	**73.79 337***c*	*i*P		**P**	**15 15 35.3**	**+0.8**
NKL	**Nikolayevsk**	**74.26 344**	*e*P		**P**	**15 15 36.8**	**-0.3**
NKL			*e*			15 15 57.0		
NKL			pmax		pmax			
	comp=Z,21nm,1.0s							
PHIT	**Phitsanulok**	**74.55 294**	P		**P**	**15 15 43.1**	**+3.5**
	comp=Z,8.5nm,1.2s							
NANT	**Nan**	**74.97 296**	P		**P**	**15 15 45.4**	**+3.3**
	comp=Z,3.4nm,1.4s							
LAMP	**Lampang**	**75.78 295**	P		**P**	**15 15 51.0**	**+4.3**
	comp=Z,4.0nm,1.2s							
XAN	**Xi'an**	**75.84 313**	P		**P**	**15 15 47.1**	**+0.3**
XAN			pP		PcP	15 16 01.8	+2.5
XAN			S		**S**	**15 25 28.8**	**+0.4**
XAN			SS		**SS**	**15 30 21.8**	**+0.6**
XAN			pmax		pmax			
	comp=Z,9.0nm,1.6s							
XAN			pmax		pmax			
	comp=Z,280nm,7.8s							
XAN			LR		LR			
	comp=Z,370nm,18.1s							
XAN			LR		LR			
	comp=Z,340nm,19.1s							
XAN			LR		LR			
	comp=Z,360nm,22.1s							
KMI	**Kunming**	**76.04 302**	P		**P**	**15 15 50.6**	**+2.2**
KMI			S		**S**	**15 25 34.6**	**+3.2**
KMI			SS		**SS**	**15 30 23.5**	**-1.4**
KMI			pmax		pmax			
	comp=Z,25nm,1.3s							
KMI			LR		LR			
	comp=Z,220nm,21.0s							
KMI			LR		LR			
	comp=Z,280nm,23.1s							
KMI			LR		LR			
	comp=Z,400nm,30.1s							
RPN	**Rapa Nui**	**76.24 114**	LR		LR	15 43 14.3		
	comp=Z,215nm,18.2s,baz=263,slow=31							
CM31	**Chiang Mai Arr**	**76.35 295**	*e*P		**P**	**15 15 50.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**76.35 295**	P		**P**	**15 15 50.5**	**+0.5**
	comp=Z,3.6nm,1.0s,baz=126,slow=3.7,SNR=22							
CMAR			LR		LR	15 52 31.8		
	comp=Z,71nm,18.2s,baz=121,slow=38							
CMMT	**Chiang Mai**	**76.49 295**	P		**P**	**15 15 51.5**	**+0.7**
	comp=Z,12nm,1.6s							
CHTO	**Chiang Mai**	**76.49 295**	P		**P**	**15 15 52.5**	**+1.7**
	comp=Z,135nm,1.1s							
CMAI	**Chiengmai2**	**76.86 296**	P		**P**	**15 15 54.9**	**+1.8**
	comp=Z,128nm,1.0s							
HHC	**Hu-ho-hao-te**	**77.97 320**	*e*P		**P**	**15 16 01.4**	**+2.6**
HHC			PP		**PP**	**15 19 00.5**	**+5.3**
HHC			S		**S**	**15 25 51.3**	**-0.2**
HHC			SS		**SS**	**15 30 56.8**	**+3.5**
HHC			pmax		pmax			
	comp=Z,11nm,0.8s							
HHC			pmax		pmax			
	comp=Z,110nm,5.4s							
HHC			LR		LR			
	comp=Z,260nm,16.2s							
HHC			LR		LR			
	comp=Z,310nm,21.1s							
HHC			LR		LR			
	comp=Z,250nm,18.7s							
CD2	**Chengdu**	**77.98 308**	*e*P		**P**	**15 15 59.8**	**+0.9**
CD2			pmax		pmax			
	comp=Z,10.0nm,0.5s							
CD2			pmax		pmax			
	comp=Z,120nm,5.0s							
MA2	**Magadan**	**78.19 351**	P		**P**	**15 15 59.6**	**+0.2**
	comp=Z,4.7nm,1.0s,baz=183,slow=10.0,SNR=4.0							
MA2	**Magadan**	**78.19 351**⇑	*e*P		**P**	**15 16 00.1**	**+0.7**
ZEA	**Zeya**	**79.09 337**	*e*P		**P**	**15 16 04.8**	**+0.3**
ZEA			*e*S		**S**	**15 26 08.0**	**+5.3**
ZEA			*e*			15 26 24.0		
ZEA			pmax		pmax			
	comp=Z,37nm,1.4s							
ZEA			smax		smax			
	comp=N,600nm,10.0s							
ZEA			MLR		MLR			
	comp=Z,400nm,16.0s							
MAW	**Mawson**	**79.22 202**	LR		LR	15 46 39.7		
	comp=Z,242nm,19.8s,baz=68,slow=32							
LZH	**Lanzhou**	**80.46 313**	⇑P		**P**	**15 16 14.6**	**+2.0**
LZH			pP		sP	15 16 30.0	+8.9
LZH			sP		PcP	15 16 34.3	+15
LZH			*e*PP		**PP**	**15 19 19.0**	**+2.9**
LZH			S		**S**	**15 26 17.0**	**-1.3**
LZH			sS		ScS	15 26 41.0	+2.9
LZH			pmax		pmax			
	comp=Z,45nm,1.4s							
LZH			pmax		pmax			
	comp=Z,200nm,4.7s							
LZH			LR		LR			
	comp=Z,330nm,16.0s							
LZH			LR		LR			
	comp=Z,290nm,15.6s							
LZH			LR		LR			
	comp=Z,320nm,15.1s							
SEY	**Seymchan**	**81.24 353**	P		**P**	**15 16 13.9**	**-1.9**
	comp=Z,10nm,1.1s,baz=154,slow=5.1,SNR=21							
SEY	**Seymchan**	**81.24 353**⇓	*e*P		**P**	**15 16 15.1**	**-0.7**
ULN	**Ulaanbaatar**	**84.64 324**⇓	*e*P		**P**	**15 16 34.0**	**-0.1**
ULN			pmax		pmax			
	comp=Z,15nm,1.7s							
GTA	**Gaotai**	**84.86 314**	*e*P		**P**	**15 16 35.4**	**+0.1**
GTA			SKS		**S**	**15 26 55.9**	**-7.2**
GTA			S		**SKSac**	**15 26 58.5**	**-0.5**
GTA			pmax		pmax			
	comp=Z,4.0nm,1.2s							
GTA			pmax		pmax			
	comp=Z,130nm,6.9s							
GTA			LR		LR			
	comp=Z,300nm,20.0s							
GTA			LR		LR			
	comp=Z,350nm,18.3s							
GTA			LR		LR			
	comp=Z,450nm,21.4s							
YAK	**Yakutsk**	**84.91 343**	P		**P**	**15 16 34.0**	**-0.9**
	comp=Z,4.3nm,0.3s,baz=77,slow=0.2,SNR=12							
YAK	**Yakutsk**	**84.91 343**	*e*P		**P**	**15 16 34.7**	**-0.1**
YAK			*e**PP		**sP**	**15 16 46.8**	**+3.4**
YAK			*e*			15 19 48.1		
YAK			*e*PPP		PPP	15 21 42.4		
YAK			*e*S		**S**	**15 26 55.6**	**-6.6**
YAK			pmax		pmax			
	comp=Z,9.0nm,0.6s							
YAK			pmax		pmax			
	comp=N,7.0nm,1.1s							
YAK			pmax		pmax			
	comp=E,4.0nm,1.1s							
YAK			pmax		pmax			
	comp=Z,121nm,3.8s							
YAK			pmax		pmax			
	comp=N,48nm,3.4s							
YAK			pmax		pmax			
	comp=E,36nm,3.8s							
YAK			smax		smax			
	comp=N,263nm,5.3s							
YAK			smax		smax			
	comp=E,86nm,4.7s							
SONA0	**Songino Array**	**84.99 324**	*e*P		**P**	**15 16 34.3**	**-1.6**
SONM	**Songino Array**	**84.99 324**	P		**P**	**15 16 34.3**	**-1.6**
	comp=E,1.8nm,1.0s,baz=140,slow=4.0,SNR=9.2							
SONM			LR		LR	15 55 45.8		
	comp=E,163nm,18.6s,baz=120,slow=37							
BILL	**Bilibino**	**85.50 360**	*i* P		**P**	**15 16 37.0**	**-0.7**
BILL			*i*			15 16 43.4		
BILL			pmax		pmax			
	comp=Z,37nm,1.4s							
SYO	**Syowa Base**	**85.93 197**⇓	*e*P		**P**	**15 16 38.0**	**-2.0**
SML	**Sawmill**	**86.63 19**	*e*P		**P**	**15 16 41.4**	**-2.1**
SML			pmax		pmax			
	comp=Z,14nm,1.3s							
SML	**Sawmill**	**86.63 19**	*e*P		**P**	**15 16 41.4**	**-2.1**
	comp=Z,14nm,1.3s							
BAKC	**Calstate**	**87.22 52**	*e*P		**P**	**15 16 43.8**	**-3.2**
BOD	**Bodaibo**	**87.23 334**	*e*P		**P**	**15 16 45.5**	**-0.9**
BOD			pmax		pmax			
	comp=Z,16nm,1.7s							
YBH	**Yreka Blue Hor**	**87.37 45**	LR		LR	15 46 45.3		
	comp=Z,192nm,22.0s,baz=248,slow=29							
EML	**El Monte Cty P**	**87.99 55**	*e*P		**P**	**15 16 51.8**	**+1.1**
ZAK	**Zakamensk**	**88.08 325**	*e*P		**P**	**15 16 49.6**	**-1.2**
ZAK			pmax		pmax			
	comp=Z,6.0nm,1.4s							
BBRC	**Big Bear Solar**	**88.45 53**	*e*P		**P**	**15 16 51.3**	**-1.9**
TLY	**Talaya**	**88.55 326**	P		**P**	**15 16 52.9**	**0.0**
	comp=Z,0.7nm,0.4s,baz=110,slow=5.7,SNR=3.9							
TLY	**Talaya**	**88.55 326**	*e*P		**P**	**15 16 52.7**	**-0.2**
TLY			*e*S		**SKSac**	**15 27 16.0**	**-5.0**
TLY			pmax		pmax			
	comp=Z,9.0nm,1.8s							
TLY			MLR		MLR			
	comp=Z,132nm,14.0s							
NV01	**Mina Array Sit**	**89.05 49**	*e*P		**P**	**15 16 55.1**	**-0.7**
NVAR	**Mina Array Bea**	**89.05 49**	P		**P**	**15 16 55.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=216,slow=9.0,SNR=3.8							
COLA	**College**	**89.07 17**⇑	*e*P		**P**	**15 16 56.2**	**+1.2**
COLA			pmax		pmax			
	comp=Z,3.0nm,1.4s							
ILAR	**Eielson Array**	**89.27 18**	P		**P**	**15 16 56.1**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=233,slow=5.2,SNR=6.8							
ILAR			LR		LR	15 53 51.9		
	comp=Z,217nm,18.3s,baz=238,slow=34							
ILB	**Eielson Array**	**89.27 18**	*e*P		**P**	**15 16 56.1**	**+0.2**
LPIG	**La Paz**	**90.27 65**	LR		LR	15 48 31.8		
	comp=Z,195nm,20.9s,baz=220,slow=30							
SNAA	**Sanae**	**90.61 183**	LR		LR	15 56 42.1		
	comp=Z,355nm,18.3s,baz=160,slow=35							
SNAA	**Sanae**	**90.61 183**⇑	*i*P		**P**	**15 17 01.5**	**-0.9**
TIXI	**Tiksi**	**92.90 349**⇓	*i*P		**P**	**15 17 10.6**	**-2.1**
TIXI			pmax		pmax			
	comp=Z,8.0nm,1.4s							
WMQ	**Urumqi**	**94.94 314**	P		**P**	**15 17 22.8**	**0.0**
WMQ			pP		sP	15 17 36.4	+5.0
WMQ			SKS		**SKSac**	**15 27 53.5**	**-4.1**
WMQ			SS		**SS**	**15 35 01.0**	**-0.9**
WMQ			pmax		pmax			
	comp=Z,17nm,0.9s							
WMQ			LR		LR			
	comp=Z,710nm,18.1s							
WMQ			LR		LR			
	comp=Z,560nm,24.3s							
WMQ			LR		LR			
	comp=Z,710nm,25.5s							
PDAR	**Pinedale Array**	**96.80 47**	LR		LR	15 54 12.2		
	comp=Z,67nm,20.4s,baz=262,slow=31							
DGZ	**Jazzator, Alta**	**97.05 320**⇓	*e*P		Pdif	15 17 33.1	+0.6
DGZ			pmax		pmax			
	comp=Z,2.0nm,1.3s							
TXAR	**Lajitas Array**	**97.50 62**	LR		LR	15 54 57.3		
	comp=Z,124nm,18.8s,baz=0.0,slow=31							
MKAR	**Makanchi Array**	**99.47 316**	P		**Pdif**	**15 17 42.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=97,slow=7.4,SNR=4.8							
MKAR			LR		LR	16 03 27.0		
	comp=Z,100nm,20.3s,baz=100,slow=36							
MKAR	**Makanchi Array**	**99.47 316***ce*	P		**Pdif**	**15 17 44.7**	**+1.5**
ZALV	**Zalesovo Beam**	**99.89 323**	P		**Pdif**	**15 17 44.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=109,slow=8.3,SNR=2.1							
ZALV			LR		LR	16 02 19.1		
	comp=Z,126nm,20.8s,baz=70,slow=35							
YKA	**Yellowknife Ar**	**100.08 27**	P		**Pdif**	**15 17 43.9**	**-1.5**
	comp=Z,0.1nm,0.5s,baz=251,slow=4.5,SNR=7.5							
YKA			LR		LR	15 56 10.6		
	comp=Z,12nm,20.7s,baz=180,slow=31							
ARCES	**ARCESS Array B**	**123.16 345**	PKP		**PKPdf**	**15 22 56.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=74,slow=1.8,SNR=6.7							
KLMR	**Klimovskoe**	**123.40 332**	*e*PKIKP		**PKPdf**	**15 22 54.0**	**-3.0**
KLMR			pmax		pmax			
	comp=Z,9.0nm,1.6s							
KLMR	**Klimovskoe**	**123.40 332**	*e*PKPdf		**PKPdf**	**15 22 54.0**	**-3.0**
KLMR			AMP			15 23 00.2		
	comp=Z,9.0nm,1.6s							
MAK	**Makhachkala**	**123.70 310**	*i* PKIKP		**PKPdf**	**15 22 58.2**	**+0.1**
MAK			*e*			15 24 43.9		
MAK			pmax		pmax			
	comp=Z,364nm,1.4s							
KIV	**Kislovodsk**	**127.00 312**	*i* PKIKP		**PKPdf**	**15 23 04.5**	**-0.1**
KIV			pmax		pmax			
	comp=Z,7.0nm,1.0s							
KIV			MLR		MLR			
	comp=Z,134nm,22.0s							
FINES	**FINESS Array B**	**128.53 337**	PKP		**PKPdf**	**15 23 08.8**	**+1.9**
	comp=Z,3.6nm,1.2s,baz=75,slow=5.9,SNR=3.9							
AKASG	**Malin Array Be**	**133.27 324**	PKP		**PKPdf**	**15 23 17.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=298,slow=8.3,SNR=2.6							
NB2	**NORSAR Subarra**	**133.52 344**	PKPdf		**PKPdf**	**15 23 18.8**	**+2.4**
	comp=Z,1.8nm,1.1s,baz=39,slow=1.9							
NOA	**NORSAR Array B**	**133.52 344**	PKP		**PKPdf**	**15 23 17.5**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=54,slow=2.2,SNR=4.4							
HFS	**Hagfors**	**133.60 342**	PKP		**PKPdf**	**15 23 18.2**	**+1.8**
	comp=Z,1.7nm,0.9s,baz=131,slow=6.1,SNR=2.9							
BRTR	**Keskin Array B**	**134.55 309**	PKP		**PKPdf**	**15 23 18.2**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=190,slow=2.1,SNR=4.4							
BRTR	**Keskin Array B**	**134.55 309**	*i* PKIKP		**PKPdf**	**15 23 20.3**	**+1.2**
BRTR			pmax		pmax			
	comp=Z,1.0nm,0.8s							
CLL	**Collm**	**140.82 335**	*e*PKIKP		**PKPdf**	**15 23 33.0**	**+2.9**
CLL			*e*			15 23 43.0		
CLL	**Collm**	**140.82 335**	*e*PKiKP		**PKPdf**	**15 23 33.0**	**+2.9**
CLL			*ep*PKiKP		**pPKiKP**	**15 23 43.0**	**+3.8**
CLL			*e*PP		**PP**	**15 26 30.0**	**+0.1**
CLL			*e*PKSdf		**PKSdf**	**15 27 06.0**	**+0.2**
CLL			*e*SKKSac		SKKSac	15 33 24.0	+1.0
CLL			*e*			15 34 25.0		
CLL			*e*PSKS			15 36 39.0		
CLL			*e*			15 38 24.0		
CLL			*e*SS		**SS**	**15 44 54.0**	**-1.1**
CLL			*e*SKSSKSac		**S'S'ac**	**15 46 36.0**	**+2.8**
CLL			*e*SSS		SSS	15 50 12.0		
CLL			Lm		MLR	16 26 00.0		
	comp=N,200nm,22.0s							
CLL			Lm		MLR	16 26 00.0		
	comp=E,100nm,20.4s							
KHC	**Kasperske Hory**	**142.20 332**	*e*PKIKP		**PKPdf**	**15 23 29.5**	**-3.2**
KHC	**Kasperske Hory**	**142.20 332**	*e*PKP		**PKPdf**	**15 23 29.5**	**-3.2**
GERES	**GERESS Array B**	**142.35 331**	PKP		**PKPdf**	**15 23 30.0**	**-3.1**
	comp=E,0.5nm,0.7s,baz=320,slow=4.0,SNR=5.9							
GERES	**GERESS Array B**	**142.35 331**	PKIKP		**PKPdf**	**15 23 30.0**	**-3.1**
SOKA	**Soboth**	**143.23 328**	*e*PKPdf		PKPbc	15 23 32.5	+0.8
	comp=E,3.4nm,1.3s							
KBA	**Koelnbreinsper**	**143.78 330**	*e*PKPdf		PKPab	15 23 32.9	+0.2
	comp=E,8.5nm,1.3s							
BOJS	**Bojanci**	**143.90 326**	*i* PKPdf		PKPbc	15 23 34.4	+0.9
MYKA	**Terra Mystica**	**143.96 329**	*e*PKPdf		PKPbc	15 23 34.4	+0.7
	comp=E,2.0nm,0.7s							
CADS	**Cadrg**	**144.19 328**	*e*PKPdf		**PKPab**	**15 23 33.8**	**-0.3**
ABTA	**Abfaltersbach**	**144.42 330**	*e*PKPdf		**PKPab**	**15 23 33.7**	**-1.2**
	comp=E,17nm,1.2s,SNR=7.7							
WATA	**Walderalm**	**144.43 331**	*e*PKPdf		PKPbc	15 23 36.2	+0.9
	comp=E,1.8nm,0.5s							
WTTA	**Wattenberg**	**144.45 331**	*e*PKPdf		PKPbc	15 23 35.7	+0.3
	comp=E,5.8nm,1.1s							
MOTA	**Moosalm**	**144.63 332**	*e*PKPdf		**PKPab**	**15 23 35.9**	**+0.1**
	comp=E,12nm,1.1s							
RETA	**Reutte**	**144.68 332**	*e*PKPdf		**PKPab**	**15 23 36.2**	**+0.3**
	comp=E,5.8nm,0.9s							
WLF	**Walferdange**	**144.73 339**	⇑PKP		PKPbc	15 23 36.6	+0.6
DOU	**Dourbes**	**144.87 341**	⇑PKP		**PKPab**	**15 23 36.5**	**+0.1**
BFO	**Black Forest**	**145.03 336**	*i* PKIKP		**PKPbc**	**15 23 37.3**	**+0.2**
FETA	**Feichten**	**145.04 332**	*e*PKPdf		**PKPbc**	**15 23 36.9**	**-0.4**
	comp=E,22nm,1.1s,SNR=10							
DAVA	**Damuels**	**145.22 333**	*e*PKPdf		**PKPbc**	**15 23 38.2**	**+0.4**
	comp=E,21nm,1.0s,SNR=6.9							
SFI	**Santa Sofia**	**146.77 327**	PKP2		**PKPab**	**15 23 44.0**	**+0.3**
SFI			pmax		pmax			
	comp=Z,1.0nm,3.0s							
ESDC	**Sonseca Array**	**156.88 343**	PKPab		**PKPab**	**15 24 24.9**

1.8nm,1.1s,baz=107,slow=1.3,SNR=4.6

*SOME **23** 15:17:22.8,40.˚17N×77.˚17E,h0km*
*IDC **23** 15:17:22.2±1.3,39.˚89N×77.˚39E,h0km,mb3.5/11,*
mb1 3.7/17,mb1mx3.5/71,mbtmp3.5/17,ML3.0/6,MS2.5/2,
Ms1 2.5/2,ms1mx2.3/62,Error ellipse: s-maj=24.1km
s-min=15.5km az=157.0
*KRNET **23** 15:17:26.4±0.1,40.˚28N×77.˚25E,h14km,mb3.9*
*BJI **23** 15:17:26.6,40.˚20N×77.˚33E,h5km,mb3.9/3,ML3.8/9*
*NNC **23** 15:17:28.9±1.3,40.˚33N×77.˚28E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=11.2km s-min=7.5km az=162.0

ISC 23 15:17:26.9±1.6,40.˚28N±0.˚05×77.˚32E±0.˚03,h5km±10km, n87,σ2=16/106,mb3.6/11,38C-23D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.28**	**234**	*eP*	Pn	15 17 59.3	+7.6
KSH	**Kashi**	**1.28**	**234**	Pg	**Pn**	**15 17 56.1**	**+4.4**
KSH				Sg	Sn	15 18 19.8	+10
KSH	comp=N,1μm,0.4s			smax	smax		
KSH	comp=E,2μm,0.5s			smax	smax		
TARG	**Taragay, Kyrgy**	**1.50**	**14**	⇑*iP*	**Pg**	**15 17 55.4**	**-0.2**
TARG	baz=16			⇑*iS*	**Sb**	**15 18 16.5**	**+1.6**
NRN	**Naryn**	**1.53**	**320**	⇑*iP*	**Pn**	**15 17 54.0**	**-1.2**
NRN	baz=20			⇑*iS*	**Sg**	**15 18 15.4**	**-0.7**
KDJ	**Kajisay**	**1.85**	**357**	⇓*iP*	**Pn**	**15 18 01.0**	**+1.4**
KDJ	baz=59			⇓*iS*	**Sb**	**15 18 26.0**	**+1.0**
ULHL	**Ulahol**	**2.13**	**338**	P	**Pn**	**15 18 05.9**	**+2.5**
ULHL	SNR=99 **Ulahol**	**2.13**	**338**	⇑*eP*	**Pn**	**15 18 05.3**	**+1.9**
ULHL	baz=39			⇑*iS*	**Sb**	**15 18 33.8**	**+0.9**
PRZ	**Przheval'sk**	**2.35**	**20**	⇑*iP*	**Pn**	**15 18 08.6**	**+2.2**
PRZ	baz=21			⇑*iS*	**Sb**	**15 18 39.8**	**+0.5**
KZA	**Kyzart**	**2.38**	**320**	P	**Pn**	**15 18 09.3**	**+2.2**
KZA	SNR=52 **Kyzart**	**2.38**	**320**	⇑*iP*	**Pn**	**15 18 08.7**	**+1.7**
KZA	baz=21			⇑*iS*	**Sn**	**15 18 39.5**	**+2.7**
BOOM	**Boomskoye usch**	**2.44**	**335**	⇓*eP*	**Pn**	**15 18 10.1**	**+2.5**
BOOM	baz=36			⇓*iS*	**Sb**	**15 18 41.8**	**-0.1**
TNSS	**Tian-Shan**	**2.77**	**354**	*eP*	**Pb**	**15 18 17.6**	**+0.4**
TNSS	167nm,0.7s			*eS*	**Sg**	**15 18 56.8**	**+0.8**
IZV	240nm,0.8s **Izvestkoviy**	**2.81**	**349**	*eP*	**Pb**	**15 18 17.2**	**-0.4**
IZV	154nm,0.6s			*eS*	**Sg**	**15 18 56.6**	**-0.5**
UCH	410nm,0.5s **Uchtor**	**2.88**	**314**	P	**Pn**	**15 18 16.0**	**+2.2**
UCH	SNR=12 **Uchtor**	**2.88**	**314**	⇑*eP*	**Pn**	**15 18 15.8**	**+1.9**
UCH	baz=14			⇑*iS*	**Sn**	**15 18 51.2**	**+2.1**
MDOK	**Medeo**	**2.89**	**356**	⇑Pn	**Pn**	**15 18 16.5**	**+2.7**
MDOK	12nm,0.6s			⇓Pg	**Pb**	**15 18 20.3**	**+1.2**
MDOK	84nm,0.9s			⇑Lg	Lg	15 18 59.2	
MDOK	575nm,0.7s **Medeo**	**2.89**	**356**	*eP*	**Pb**	**15 18 20.4**	**+1.2**
MDOK	54nm,0.8s			*eS*	**Sg**	**15 19 00.5**	**+0.7**
SFK	340nm,0.7s **Sufi-Kurgan**	**2.94**	**266**	⇑*iP*	**Pn**	**15 18 15.4**	**+0.9**
SFK	baz=66			⇑*iS*	**Sn**	**15 18 52.5**	**+2.2**
TKM2	**Tokmak 2**	**2.94**	**335**	⇓Pn	**Pn**	**15 18 17.4**	**+2.9**
TKM2	8.4nm,0.6s			⇑Lg	Lg	15 19 01.1	
TKM2	212nm,0.6s **Tokmak 2**	**2.94**	**335**	P	**Pn**	**15 18 17.6**	**+3.1**
TKM2	SNR=23 **Tokmak 2**	**2.94**	**335**	⇓*iP*	**Pn**	**15 18 16.6**	**+2.1**
TKM2	baz=35			⇓*iS*	**Sn**	**15 18 53.1**	**+2.8**
KST	**Kastek**	**2.94**	**340**	*eP*	**Pb**	**15 18 20.4**	**+0.4**
KST	4.7nm,0.4s			*eS*	**Sg**	**15 19 00.5**	**-1.1**
KNDC	238nm,0.8s **Almaty**	**2.95**	**355**	⇑Pg	**Pb**	**15 18 21.5**	**+1.5**
KNDC	65nm,0.5s			⇑Lg	Lg	15 19 02.6	
KOTS	1μm,0.7s **Kotyrbulak**	**2.96**	**357**	*eP*	**Pb**	**15 18 20.6**	**+0.3**
KOTS				*eS*	**Sg**	**15 19 01.3**	**-0.6**
KBK	**Karagaybulak**	**2.97**	**324**	P	**Pn**	**15 18 18.1**	**+3.1**
KBK	SNR=130 **Karagaybulak**	**2.97**	**324**	⇓*iP*	**Pn**	**15 18 16.9**	**+2.0**
KBK	baz=25			⇓*iS*	**Sn**	**15 18 53.8**	**+2.8**
AAK	**Ala-Archa**	**3.17**	**319**	Pn	**Pn**	**15 18 20.1**	**+2.4**
AAK	5.3nm,0.3s,baz=132,slow=9.4,SNR=141			Lg	Lg	15 19 07.2	
AAK	9.4nm,0.3s,baz=20,slow=23,SNR=19			LR	LR	15 19 50.4	
AAK	comp=Z,96nm,21.3s,baz=139,slow=42 **Ala-Archa**	**3.17**	**319**	⇓Pn	**Pn**	**15 18 20.3**	**+2.6**
AAK	14nm,0.5s			⇓Lg	Lg	15 19 07.4	
AAK	161nm,0.7s **Ala-Archa**	**3.17**	**319**	P	**Pn**	**15 18 20.6**	**+2.9**
AAK	SNR=14 **Ala-Archa**	**3.17**	**319**	⇑*iP*	**Pn**	**15 18 19.9**	**+2.2**
AAK	baz=20			⇑*iS*	**Sn**	**15 18 57.9**	**+1.9**
DGS	**Degeres**	**3.18**	**339**	*eP*	**Pb**	**15 18 24.0**	**+0.1**
DGS	66nm,0.7s			*eS*	**Sg**	**15 19 07.5**	**-1.6**
KURS	232nm,0.9s **Kuram**	**3.27**	**11**	*eP*	**Pb**	**15 18 25.7**	**+0.2**
KURS				*eS*	**Sg**	**15 19 10.1**	**-1.9**
AML	**Almayashu**	**3.30**	**305**	P	**Pn**	**15 18 22.2**	**+2.6**
AML	SNR=43 **Almayashu**	**3.30**	**305**	⇓*eP*	**Pn**	**15 18 21.4**	**+1.7**
AML	baz=6.0			⇓*iS*	**Sn**	**15 19 01.8**	**+2.3**
CHMS	baz=6.0 **Chumysh**	**3.33**	**326**	P	**Pn**	**15 18 22.8**	**+3.1**
CHMS	SNR=10.0 **Chumysh**	**3.33**	**326**	⇑*iP*	**Pn**	**15 18 21.9**	**+2.2**
CHMS	baz=26			⇑*iS*	**Sn**	**15 19 01.7**	**+2.0**
PDGK	baz=26 **Podgornoye**	**3.45**	**27**	⇑Pn	**Pn**	**15 18 23.8**	**+2.3**
PDGK	4.0nm,0.4s			⇓Pg	**Pb**	**15 18 30.1**	**+1.4**
PDGK	34nm,0.5s			⇑Lg	Lg	15 19 17.9	
PDGK	69nm,0.9s **Podgornoye**	**3.45**	**27**	⇑*iP*	**Pn**	**15 18 23.9**	**+2.4**
PDGK	baz=28			⇑*iS*	**Sn**	**15 19 06.2**	**+3.3**
EKS2	baz=28 **Erkin-Say**	**3.57**	**313**	P	**Pn**	**15 18 26.1**	**+3.0**
EKS2	SNR=83 **Erkin-Say**	**3.57**	**313**	⇑*iP*	**Pn**	**15 18 24.8**	**+1.7**
EKS2	baz=14			⇑*iS*	**Sn**	**15 19 07.3**	**+1.5**
CHKK	baz=14 **Chushkaly**	**3.58**	**356**	*eP*	**Pb**	**15 18 31.5**	**+0.7**
CHKK	103nm,0.5s			*eS*	**Sg**	**15 19 20.3**	**-1.7**
USP	384nm,0.5s **Ospenovka**	**3.66**	**326**	P	**Pn**	**15 18 27.0**	**+2.8**
	SNR=14						
USP	**Ospenovka**	**3.66**	**326**	⇓*iP*	**Pn**	**15 18 26.4**	**+2.2**
USP	baz=26			⇓*iS*	**Sn**	**15 19 09.7**	**+2.0**
MRKS	**Merke**	**3.94**	**310**	*eP*	**Pb**	**15 18 36.9**	**0.0**
MRKS	38nm,0.6s			*eS*	**Sb**	**15 19 29.1**	**+4.2**
ARXS	54nm,0.9s **Arharly**	**3.95**	**5**	*eP*	**Pb**	**15 18 39.2**	**+2.1**
ARXS	55nm,0.7s			*eS*	**Sg**	**15 19 32.9**	**-0.9**
MNAS	314nm,0.6s **Manas**	**4.24**	**303**	⇑Pn	**Pn**	**15 18 33.6**	**+1.3**
MNAS	2.7nm,0.5s			⇑Pg	**Pb**	**15 18 46.3**	**+4.2**
MNAS	3.3nm,0.4s			⇓Lg	Lg	15 19 40.5	
MNAS	68nm,1.2s **Manas**	**4.24**	**303**	⇑*iP*	**Pn**	**15 18 34.4**	**+2.1**
MNAS	baz=3.0			⇑*iS*	**Sn**	**15 19 23.9**	**+1.6**
IUG	baz=3.0 **luzhnay**	**5.80**	**291**	*eP*	**Pb**	**15 19 11.4**	**+2.8**
IUG	12nm,0.5s			*eS*	**Sg**	**15 20 29.4**	**-3.9**
KK31	19nm,0.7s **Karatay Array**	**5.83**	**301**	⇑Pn	**Pn**	**15 18 55.9**	**+2.0**
KK31	0.3nm,0.4s			⇑Pg	**Pb**	**15 19 11.6**	**+2.6**
KK31	1.3nm,0.4s			⇓Lg	Lg	15 20 28.9	
MAKZ	20nm,0.8s,baz=116,slow=26,SNR=92 **Makanchi**	**7.35**	**26**	⇓Pg	**Pb**	**15 19 37.3**	**+2.3**
MAKZ	1.0nm,0.6s			⇑Lg	Lg	15 21 20.2	
CHCP	3.9nm,0.8s **Chirah Chowk**	**7.36**	**207**	P	**Pn**	**15 19 14.0**	**-1.1**
MK31	**Makanchi Array**	**7.45**	**27**	Pn	**Pn**	**15 19 17.4**	**+1.2**
MK31	0.3nm,0.3s,baz=194,slow=13,SNR=12 0.5nm,0.5s,baz=198,slow=16,SNR=4.5			⇑Pg	Pb	15 19 44.6	+8.0
MK31	5.2nm,0.8s,baz=210,slow=27,SNR=3.9			⇓Lg	Lg	15 21 24.5	
MKAR	**Makanchi Array**	**7.45**	**27**	Pn	**Pn**	**15 19 17.8**	**+1.5**
MKAR	0.2nm,0.3s,baz=200,slow=15,SNR=12 0.3nm,0.3s,baz=193,slow=18,SNR=5.1			Sn	**Sn**	**15 20 45.5**	**+4.4**
MKAR	0.6nm,0.3s,baz=221,slow=27,SNR=5.4			Lg	Lg	15 21 23.4	
MKAR	comp=Z,28nm,18.7s,baz=203,slow=37			LR	LR	15 22 10.3	
CEP	**Cherat**	**7.76**	**216**	P	Pn	15 19 18.6	-2.0
CEP				S	Sn	15 20 42.0	-6.9
WMQ	**Urumqi**	**8.49**	**62**	P	**Pn**	**15 19 31.0**	**+0.4**
WMQ	comp=N,33nm,1.1s			smax	smax		
WMQ	comp=E,41nm,1.1s			smax	smax		
THW	**Thamme Wali**	**8.71**	**213**	P	**Pn**	**15 19 32.3**	**-1.3**
OTUK	**Ortayu**	**8.73**	**338**	⇓Lg	Lg	15 22 00.1	
KURBB	27nm,1.1s **Kurchatov Arra**	**10.38**	**4**	Pn	**Pn**	**15 19 57.3**	**+0.9**
KURBB	0.1nm,0.3s,baz=192,slow=12,SNR=12			Sn	**Sn**	**15 21 50.3**	**-2.7**
KURBB	0.0nm,0.3s,baz=180,slow=29,SNR=5.2			Lg	Lg	15 22 54.5	
KURK	0.1nm,0.3s,baz=192,slow=28,SNR=7.6 **Kurchatov**	**10.48**	**5**	⇓Lg	Lg	15 22 56.1	
PYUN	16nm,1.1s **Piuthan**	**13.02**	**157**	*eP*	Pn	15 20 26.6	-6.2
KOLN	8.9nm,0.3s **Koldanda**	**13.51**	**155**	*eP*	Pn	15 20 33.7	-5.8
BVAR	4.8nm,0.3s **Borovoye Array**	**13.60**	**342**	Pn	**Pn**	**15 20 39.8**	**-0.6**
BVAR	0.1nm,0.3s,baz=158,slow=12,SNR=6.0 0.1nm,0.3s,baz=116,slow=30,SNR=8.2			Lg	Lg	15 24 39.6	
GKN	**Gorkha**	**13.65**	**151**	*eP*	Pn	15 20 35.7	-5.7
KKN	7.2nm,0.4s **Kakani**	**14.09**	**150**	*eP*	Pn	15 20 41.6	-5.8
DMN	9.9nm,0.6s **Daman**	**14.18**	**151**	*eP*	Pn	15 20 42.6	-6.1
GUN	3.0nm,0.3s **Gumba**	**14.22**	**148**	*eP*	Pn	15 20 43.9	-5.4
PKIN	9.4nm,0.3s **Phulchoki**	**14.32**	**150**	*eP*	Pn	15 20 44.3	-6.3
PKI	7.9nm,0.5s **Pulchoki**	**14.33**	**150**	*eP*	Pn	15 20 44.8	-6.0
JIRN	8.1nm,0.5s **Jiri**	**14.57**	**147**	*eP*	Pn	15 20 48.2	-5.9
ZALV	15nm,0.4s **Zalesovo Beam**	**14.59**	**18**	Pn	**Pn**	**15 20 53.7**	**-0.1**
AB31	0.1nm,0.3s,baz=212,slow=13,SNR=3.1 **Akbulak array**	**15.23**	**312**	P	**Pn**	**15 21 02.2**	**-0.4**
RAMN	0.3nm,0.5s,baz=118,slow=13,SNR=8.9 **Ramite**	**15.36**	**147**	*eP*	Pn	15 20 56.2	-8.5
AKTO	8.5nm,0.5s **Aktyubinsk**	**16.90**	**313**	P	**Pn**	**15 21 22.8**	**-1.3**
AKTO	0.1nm,0.3s,baz=121,slow=12,SNR=5.5 **Aktyubinsk**	**16.90**	**313**	⇑P	**Pn**	**15 21 23.5**	**-0.6**
GTA	3.1nm,1.0s **Gaotai**	**17.30**	**86**	*eP*	**P**	**15 21 37.1**	**+6.4**
GTA				pP	Pn	15 21 42.3	+13
GTA				sP	sP	15 21 45.3	+13
SONM	**Songino Array**	**22.13**	**60**	P	**P**	**15 22 20.7**	**-2.7**
BRTR	0.4nm,0.5s,baz=243,slow=9.9,SNR=2.4 **Keskin Array B**	**33.21**	**283**	P	**P**	**15 24 02.6**	**-2.3**
FINES	0.6nm,0.8s,baz=61,slow=8.9,SNR=3.2 **FINESS Array B**	**37.35**	**322**	P	**P**	**15 24 39.1**	**-1.0**
KLR	1.1nm,0.7s,baz=115,slow=8.6,SNR=6.8 **Kul'dur**	**38.92**	**58**	P	**P**	**15 24 51.9**	**-1.5**
ARCES	0.1nm,0.6s,baz=310,slow=17,SNR=3.8 **ARCESS Array B**	**39.72**	**334**	P	**P**	**15 24 58.3**	**-1.6**
HFS	1.4nm,0.8s,baz=99,slow=7.9,SNR=4.1 **Hagfors**	**43.31**	**319**	P	**P**	**15 25 28.0**	**-1.4**
NB2	0.5nm,0.5s,baz=182,slow=12,SNR=2.9 **NORSAR Subarra**	**44.49**	**321**	P	**P**	**15 25 36.8**	**-2.1**
NOA	comp=Z,0.9nm,0.7s,baz=88,slow=7.9 **NORSAR Array B**	**44.49**	**321**	P	**P**	**15 25 37.0**	**-1.9**
GERES	comp=Z,0.4nm,0.5s,baz=93,slow=7.6,SNR=2.9 **GERESS Array B**	**44.92**	**303**	P	**P**	**15 25 41.0**	**-1.6**
ILAR	comp=Z,0.3nm,0.6s,baz=72,slow=6.3,SNR=3.0 **Eielson Array**	**69.71**	**19**	P	P	15 28 34.4	-3.0
TORD	comp=Z,0.3nm,0.8s,baz=316,slow=6.2,SNR=4.1 **Torodi Ar. Bea**	**70.70**	**271**	P	P	15 28 41.0	-3.1
YKA	comp=Z,0.7nm,0.7s,baz=50,slow=3.7,SNR=3.6 **Yellowknife Ar**	**77.13**	**6**	P	**P**	**15 29 18.9**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=347,slow=5.6,SNR=15						

*CSEM **23** 15:20:35.1,63.˚70N×26.˚10E,h0km,ML1.4,Mining explosion. After HEL*

HEL 23 15:20:35.1±0.1,63.˚70N×26.˚10E,h0km,ML1.4, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUF	**Merijarvi**	**0.90**	**319**	Pb	Pg	15 20 51.9	-0.5
OUF	**Merijarvi**	**0.90**	**319**	PB	Pg	15 20 51.9	-0.5
SUF	baz=134 **Sumiainen**	**0.98**	**179**	Pg	Pg	15 20 53.1	-0.8
SUF				Sg	Sg	15 21 05.0	-1.5
SUF	**Sumiainen**	**0.98**	**179**	PG	Pg	15 20 53.1	-0.8
SUF				SG	Sg	15 21 05.0	-1.5
OUL	**Oulu**	**1.40**	**356**	Pn	Pn	15 21 01.4	-0.4
OUL	**Oulu**	**1.40**	**356**	PN	Pn	15 21 01.5	-0.3
KAF	**Kangasniemi**	**1.59**	**177**	Pg	Pn	15 21 03.9	-0.6
KAF				Sg	Sn	15 21 24.4	-1.3
KAF	**Kangasniemi**	**1.59**	**177**	PG	Pn	15 21 03.9	-0.5
KAF	baz=357 comp=Z,1.0nm,0.2s			MSG		15 21 22.8	
KAF				SG	Sn	15 21 24.4	-1.3
KEF	**Keuruu**	**1.64**	**201**	Pg	Pn	15 21 04.0	-1.1
KEF				Sg	Sn	15 21 25.1	-1.7
KEF	**Keuruu**	**1.64**	**201**	PG	Pn	15 21 04.0	-1.1
KEF	comp=Z,5.4nm,0.2s			MSG		15 21 24.1	
KEF				SG	Sn	15 21 25.1	-1.7
VAF	**Ylistaro**	**1.68**	**249**	Pg	Pn	15 21 05.5	-0.2
VAF				Sg	Sn	15 21 27.3	-0.5
VAF	**Ylistaro**	**1.68**	**249**	PG	Pn	15 21 05.6	-0.1
VAF	comp=Z,2.0nm,0.2s			MSG		15 21 25.4	
VAF				SG	Sn	15 21 27.3	-0.5
BURU	**Burvik**	**2.25**	**295**	Pg	Pb	15 21 15.7	-0.9
BURU				Sg	Sb	15 21 45.7	+0.7
BURU	**Burvik**	**2.25**	**295**	PG	Pb	15 21 15.7	-0.9
BURU				SG	Sb	15 21 45.7	+0.7
FIA0	**FINESS Array S**	**2.26**	**180**	Pg	Pn	15 21 14.9	+1.2
FIA0				Sb	Sn	15 21 43.0	+0.8
FIA0	**FINESS Array S**	**2.26**	**180**	PG	Pn	15 21 14.9	+1.2
FIA0	baz=360			SB	Sn	15 21 43.0	+0.8
UMAU	**Umeaa**	**2.41**	**277**	Pg	Pb	15 21 17.7	-1.6
UMAU				Sg	Sb	15 21 48.9	-0.7
UMAU	**Umeaa**	**2.41**	**277**	PG	Pb	15 21 17.8	-1.6
UMAU				SG	Sb	15 21 48.9	-0.7
JOF	**Joensuu**	**2.48**	**106**	Pg	Pb	15 21 20.0	-0.5
JOF				Sg	Sb	15 21 51.7	+0.2
JOF	**Joensuu**	**2.48**	**106**	PG	Pb	15 21 20.1	-0.4
JOF				SG	Sb	15 21 51.7	+0.2
TOF	**Tornio**	**2.51**	**343**	MSG		15 21 49.2	
TOF	comp=Z,2.4nm,0.2s			SG	Sg	15 21 54.5	-1.2
MSF	**Maaselka**	**2.56**	**28**	Pg	Pb	15 21 20.7	-1.1
MSF	**Maaselka**	**2.56**	**28**	PG	Pb	15 21 20.7	-1.0
KU6	**Riekki**	**2.84**	**33**	Pg	Pb	15 21 24.8	-1.9
KU6				Sg	Sb	15 22 02.0	0.0
KU6	**Riekki**	**2.84**	**33**	PG	Pb	15 21 24.8	-1.9
KU6	comp=Z,0.5nm,0.2s			MSG		15 21 58.8	
KU6				SG	Sb	15 22 02.0	0.0

*ISK **23** 15:21:37.2,37.˚35N×28.˚29E,h5km,ML2.2/10*
*ISCJB **23** 15:21:38.8±0.5,37.˚30N±0.˚04×28.˚22E±0.˚04,h0km,Error ellipse: s-maj=6.4km s-min=3.9km az=36.2*
*CSEM **23** 15:21:39.3±0.3,37.˚26N×28.˚23E,h1km,ML2.2,Error ellipse: s-maj=9.0km s-min=4.7km az=32.0,Suspected Mining explosion.*
*DDA **23** 15:21:40.0,37.˚27N×28.˚24E,h7km,Ml2.5,Suspected Mining explosion.*

ISC 23 15:21:37.8±0.8,37.˚32N±0.˚03×28.˚33E±0.˚03,h0km,n26, σ0=73/32,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.19**	**190**	PG	**Pg**	**15 21 41.8**	**+0.4**
YER	**Yerkesik**	**0.19**	**190**	*ePg*	**Pg**	**15 21 41.8**	**+0.4**
MLSB	**Milas**	**0.44**	**267**	PG	**Pg**	**15 21 46.5**	**+0.3**
MLSB	**Milas**	**0.44**	**267**	*ePg*	**Pg**	**15 21 46.5**	**+0.3**
TAVA	**DENIZLI_Tavas**	**0.49**	**73**	*iP*	**Pn**	**15 21 51.6**	**-0.5**
TAVA				*iS*	**Sb**	**15 21 59.2**	**+2.1**
TAVA	**DENIZLI_Tavas**	**0.49**	**73**	P	**Pn**	**15 21 51.6**	**-0.5**
TAVA				S	**Sb**	**15 21 59.2**	**+2.1**
AYDN	**Tasoluk**	**0.49**	**314**	*iP*	**Pb**	**15 21 49.3**	**0.0**
AYDN				*iS*	**Sg**	**15 21 52.6**	**-0.9**
AYDN	**Tasoluk**	**0.49**	**314**	P	**Pb**	**15 21 49.3**	**0.0**
AYDN				S	**Sg**	**15 21 52.7**	**-0.9**
TURN	**Turunc**	**0.50**	**154**	PG	**Pb**	**15 21 49.3**	**-0.2**
TURN	**Turunc**	**0.50**	**154**	*ePg*	**Pb**	**15 21 49.3**	**-0.2**
DALY	**Dalyan (Mu˘la**	**0.57**	**152**	PG	**Pb**	**15 21 50.3**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.57**	**152**	*ePg*	**Pb**	**15 21 50.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**331**	PG	**Pg**	**15 21 51.3**	**-0.2**
BODT	**Bodrum**	**0.85**	**253**	PG	**Pg**	**15 21 54.6**	**+0.5**
BODT	**Bodrum**	**0.85**	**253**	*ePg*	**Pg**	**15 21 54.6**	**+0.5**
FETY	**Fethiye**	**0.92**	**138**	PG	**Pb**	**15 21 56.9**	**+0.3**
FETY				SG	**Sn**	**15 22 10.9**	**-1.0**
FETY	**Fethiye**	**0.92**	**138**	*ePg*	**Pb**	**15 21 56.9**	**+0.3**
FETY				*eSg*	**Sn**	**15 22 10.9**	**-1.0**
GCAM	**G?zelcaml?**	**0.95**	**294**	PG	**Pg**	**15 21 55.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.95**	**294**	*iP*	**Pb**	**15 21 57.7**	**+0.6**
GCAM	**G?zelcaml?**	**0.95**	**294**	*ePg*	**Pg**	**15 21 55.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.95**	**294**	P	**Pb**	**15 21 57.7**	**+0.6**
AKAS	**Kas**	**1.50**	**136**	PN	**Pn**	**15 22 05.9**	**-0.1**
AKAS	**Kas**	**1.50**	**136**	*ePn*	**Pn**	**15 22 05.9**	**-0.1**
KORT	**Korkueli**	**1.65**	**101**	PN	**Pg**	**15 22 09.3**	**-0.1**
KORT	**Korkueli**	**1.65**	**101**	*ePn*	**Pg**	**15 22 09.3**	**-0.1**
KARP	**Karpathos**	**2.01**	**208**	PN	**Pb**	**15 22 14.7**	**-0.5**

MEX 23 15:22:25.8±0.7,16.˚32N×98.˚63W,h16km±12km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.48**	**82**	*eP*	Pg	15 22 33.7	-1.7
PNIG				*eS*	Sg	15 22 40.6	-1.4
TLIG	**Tlapa**	**1.23**	**3**	*eP*	Pn	15 22 44.5	-4.0
TLIG				*eS*	Sb	15 22 59.2	-5.4
ACX	**Acapulco**	**1.30**	**295**	*eP*	Pn	15 22 41.5	-8.0
ACX				*iS*	Sb	15 22 58.0	-8.5
CAIG	**El Cayaco**	**1.73**	**295**	*eP*	Pn	15 22 52.5	-2.8
CAIG				*eS*	Sn	15 23 11.8	-5.3
VHO	**Vista Hermosa**	**1.96**	**67**	*eP*	Pn	15 22 56.2	-2.4
VHO				*eS*	Sn	15 23 17.9	-5.1

MEX 23 15:27:45.4±0.5,16.˚21N×98.˚23W,h10km±3km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**29**	*eP*	Pg	15 27 49.1	-0.7
PNIG				*eS*	Sg	15 27 52.8	0.0
TLIG	**Tlapa**	**1.38**	**347**	*eP*	Pn	15 28 07.4	-3.6
TLIG				*eS*	Sb	15 28 24.0	-5.3
VHO	**Vista Hermosa**	**1.68**	**59**	*eP*	Pn	15 28 11.7	-3.4
VHO				*eS*	Sn	15 28 31.7	-4.9
ACX	**Acapulco**	**1.69**	**293**	*iP*	Pn	15 28 08.4	-6.7
ACX				*iS*	Sn	15 28 28.9	-8.0
CAIG	**El Cayaco**	**2.12**	**293**	*eP*	Pn	15 28 18.2	-2.8
CAIG				*eS*	Sn	15 28 43.2	-4.2

MAN 23 15:31:27,8.˚57N×126.˚62E,h1km,mb4.0,ML2.8,MS2.4, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.46**	**213**	⇓*iP*	Pb	15 31 37.1	-0.8
BIPH				*iS*	Sg	15 31 43.2	+1.4
BUTP	**Butuan**	**1.06**	**292**	*eP*	Pn	15 31 49.0	0.0
BUTP				*eS*	Sn	15 32 06.8	+2.4
BUKP	**Musuan**	**1.68**	**246**	*eP*	Pb	15 31 58.3	-0.6
BUKP				*eS*	Sg	15 32 24.0	+2.8

*BJI **23** 15:34:39.0,17.˚50S×167.˚60E,h5km,mb4.8/37,mB5.2/22,*
Ms4.9/15,Ms7 4.6/16
*IDC **23** 15:34:40.3±0.6,17.˚62S×167.˚37E,h0km,mb4.4/16,*
mb1 4.5/18,mb1mx4.4/44,mbtmp4.4/18,ML4.4/2,MS4.1/32,
Ms1 4.2/32,ms1mx4.1/41,Error ellipse: s-maj=20.8km
s-min=14.6km az=88.0
*ISCJB **23** 15:34:40.8±0.3,17.˚67S±0.˚04×167.˚56E±0.˚06,h19km,*
mb4.6/45,MS4.3/37,Error ellipse: s-maj=8.7km
s-min=5.3km az=172.7
*MOS **23** 15:34:43.3±1.4,17.˚66S×167.˚41E,h33km,mb5.0/15,Error ellipse: s-maj=11.8km s-min=11.4km az=23.3*
*NEIC **23** 15:34:44.7±0.4,17.˚68S×167.˚55E,h35km,mb4.9/14,Error ellipse: s-maj=10.0km s-min=8.4km az=62.0*
*GCMT **23** 15:34:44.7±0.2,17.˚48S×167.˚36E,h17km,MW5.1/82,*
Moment Tensor Solution. s42,c58; s82,c118; Duration:
0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.51±.20;
$M_{\theta\theta}$0.58±.12; $M_{\phi\phi}$2.93±.13; $M_{r\theta}$0.96±.35; $M_{\phi\theta}$1.43±.08;
$M_{\theta r}$3.08±.35; Best double couple: $M_0$4.80300×10^{16}
NP1:ϕ_s200.00000°,δ66.00000°,λ-94.00000°. NP2:
ϕ_s31.00000°,δ24.00000°,λ-80.00000°. Principal axes: T
4.8350, Plg21.0000°, Azm293.0000°; N -0.0640,
*Plg4.0000°, Azm202.0000°;

DZM eSn **Sn** **15 36 40.9 -1.6**
51nm,0.3s
DZM **Mont Dzumac** **4.53 193** *e*Pn **Pn** **15 35 49.5 -0.8**
DZM Sn **Sn** **15 36 41.5 -0.9**
MSVF **Nonsavu** **10.05 92** *e*P **Pn** **15 37 04.7 -1.4**
MSVF **Nonsavu** **10.05 92** *e*Pn **Pn** **15 37 04.7 -1.4**
HNR **Honiara** **10.97 317** Pn **Pn** **15 37 16.3 -2.4**
7.1nm,0.3s,baz=239,slow=4.8,SNR=7.2
HNR LR LR 15 40 43.7
comp=Z,2μm,21.6s,baz=174,slow=33
HNR **Honiara** **10.97 317** P **Pn** **15 37 18.0 -0.7**
EIDS **Eidsvold** **17.10 240** *e*Pn **P** **15 38 41.7 -0.7**
OUZ **Omahuta** **18.34 164** *e*P **P** **15 38 55.5 -0.4**
33nm,1.3s
CTA **Charters Tower** **20.26 260** P **P** **15 39 17.6 +0.4**
8.1nm,1.0s,baz=86,slow=9.7,SNR=7.5
CTAO **Charters Tower** **20.26 260** *e*P **P** **15 39 16.9 -0.2**
CTAO pmax pmax
comp=Z,27nm,1.1s
CTAO **Charters Tower** **20.26 260** *e*P **P** **15 39 16.9 -0.2**
comp=Z,27nm,1.1s
AFI **Afiamalu** **20.27 82** *e*P **P** **15 39 12.2 -5.1**
AFI pmax pmax
comp=Z,174nm,1.4s
AFI **Afiamalu** **20.27 82** *e*P **P** **15 39 12.2 -5.1**
comp=Z,174nm,1.4s
PMG **Port Moresby** **21.39 290** LR LR 15 46 26.2
comp=Z,1μm,19.7s,baz=116,slow=33
PMG **Port Moresby** **21.39 290**⇑ *e*P **P** **15 39 31.6 +2.3**
MXZ **Matakaoa Point** **22.01 157** *e*P **P** **15 39 33.8 -1.9**
comp=Z,71nm,1.0s
URZ **Urewera** **22.20 160** P **P** **15 39 39.3 +1.5**
comp=Z,17nm,0.7s,baz=333,slow=6.1,SNR=16
URZ LR LR 15 47 04.1
comp=Z,1μm,18.8s,baz=348,slow=33
URZ **Urewera** **22.20 160** *e*P **P** **15 39 39.0 +1.1**
comp=Z,108nm,1.5s
BKZ **Black Stump Fm** **22.84 162** *e*P **P** **15 39 46.0 +1.4**
comp=Z,28nm,1.1s
COEN **Coen** **23.69 275** *e*P **P** **15 39 55.4 +2.0**
comp=Z,61nm,1.5s
CAN **Canberra** **24.11 219** *e*P **P** **15 39 57.9 +0.6**
CAN pmax pmax
comp=Z,46nm,1.2s
CAN **Canberra** **24.11 219** *e*P **P** **15 39 57.9 +0.6**
comp=Z,46nm,1.2s
BFZ **Birch Farm** **24.18 164** *e*P **P** **15 39 57.9 +0.1**
comp=Z,31nm,0.9s
SNZO **South Karori** **24.39 167** *e*P **P** **15 39 58.3 -1.4**
comp=Z,90nm,1.1s
THZ **Tophouse** **24.49 170** *e*P **P** **15 39 59.2 -1.5**
comp=Z,22nm,0.9s
LTZ **Lake Taylor** **25.39 172** *e*P **P** **15 40 07.3 -1.5**
comp=Z,32nm,0.9s
RPZ **Rata Peaks** **26.17 174** LR LR 15 50 30.2
comp=Z,948nm,18.8s,baz=348,slow=36
STKA **Stephens Creek** **27.38 234** P **P** **15 40 27.0 +0.1**
comp=Z,6.4nm,0.9s,baz=66,slow=8.4,SNR=9.3
STKA LR LR 15 51 46.9
comp=Z,553nm,18.1s,baz=55,slow=38
STKA **Stephens Creek** **27.38 234** P **P** **15 40 27.0 +0.1**
RAR **Rarotonga** **31.03 102** LR LR 15 51 54.9
comp=Z,113nm,21.2s,baz=258,slow=33
WRAB **Tennant Creek** **31.45 261**⇑ *e*P **P** **15 41 02.9 -0.2**
WRAB pmax pmax
comp=Z,11nm,1.7s
WRA **Warramunga Arr** **31.46 260** P **P** **15 41 01.8 -1.5**
comp=Z,3.7nm,0.9s,baz=91,slow=9.0,SNR=14
WRA LR LR 15 52 23.2
comp=Z,755nm,20.2s,baz=95,slow=34
ASAR **Alice Springs** **31.96 253** P **P** **15 41 05.5 -2.2**
comp=Z,5.5nm,0.6s,baz=80,slow=8.0,SNR=102
ASAR LR LR 15 52 44.7
comp=Z,838nm,21.0s,baz=84,slow=34
GUMO **Guam** **38.23 323** LR LR 15 56 03.8
comp=Z,661nm,21.4s,baz=124,slow=34
PPT2 **Papeete2** **40.84 97** *e*S **S** **15 48 41.7 +7.6**
comp=Z,258nm,23.5s
PPT2 *e*LQ LQ 15 52 12.8
comp=Z,664nm,25.5s
PPT2 *e*LR LR 15 53 52.8
comp=Z,926nm,28.0s
PPT **Papeete** **40.84 97** LR LR 15 54 14.9
comp=Z,213nm,21.2s,baz=276,slow=29
DAV **Davao City (W)** **48.14 297** LR LR 16 03 32.2
comp=Z,114nm,18.3s,baz=130,slow=36
TAOE **Nuku Hiva Isla** **51.55 87** *e*S **S** **15 51 12.2 +4.0**
comp=Z,278nm,24.4s
TAOE *e*LQ LQ 15 56 37.9
comp=Z,297nm,24.1s
TAOE *e*LR LR 15 58 49.6
comp=Z,609nm,27.9s
JOW **Kunigami** **58.34 318** LR LR 16 07 35.5
comp=Z,161nm,21.4s,baz=32,slow=34
LEM **Lembang** **59.30 272** LR LR 16 11 18.4
comp=Z,155nm,19.9s,baz=124,slow=37
VNDA **Vanda** **59.98 181** P **P** **15 44 48.8 +1.5**
comp=Z,4.4nm,0.6s,baz=43,slow=5.2,SNR=22
VNDA LR LR 16 06 29.2
comp=Z,103nm,21.0s,baz=360,slow=32
SBA **Scott Base** **60.25 180** *e*P **P** **15 44 48.3 -0.9**
SBA pmax pmax
comp=Z,20nm,1.3s
SBA **Scott Base** **60.25 180** *e*P **P** **15 44 48.3 -0.9**
comp=Z,20nm,1.3s
MJAR **Matsushiro Arr** **60.58 333** P **P** **15 44 53.3 +1.3**
comp=Z,3.0nm,1.1s,baz=117,slow=7.0,SNR=2.9
MJAR LR LR 16 09 19.5
comp=Z,63nm,22.0s,baz=200,slow=34
JNU **Nakatsue** **61.41 325** LR LR 16 06 51.7
comp=Z,149nm,21.6s,baz=121,slow=32
ASAJ **Asahikawa** **65.54 341** P **P** **15 45 25.7 +0.9**
comp=Z,4.1nm,0.8s,baz=76,slow=15,SNR=5.7
ASAJ **Asahikawa** **65.54 341** *e*P **P** **15 45 22.4 -2.3**
comp=Z,7.8nm,1.0s
KSRS **Korea Array** **66.26 326** LR LR 16 11 43.9
comp=Z,126nm,21.1s,baz=144,slow=34
NJ2 **Nanjing** **67.92 317** *e*P **P** **15 45 38.5 -1.7**
NJ2 pmax pmax
comp=Z,12nm,0.5s
YSS **Yuzh-Sakhalins** **68.04 342** *e*P **P** **15 45 41.6 +0.9**
YSS *e* 15 45 51.3
YSS MLR MLR
comp=Z,400nm,13.0s
YSS MLR MLR
comp=N,300nm,15.0s
USRK **Ussuriysk Ar.** **69.57 334** P **P** **15 45 51.0 +0.8**
comp=N,0.8nm,0.6s,baz=99,slow=6.0,SNR=5.9
PSI **Prapat** **70.54 280** LR LR 16 18 30.2
comp=N,176nm,19.0s,baz=133,slow=37
PETK **Petropavlovsk-** **70.95 354** LR LR 16 14 48.3
comp=N,114nm,18.7s,baz=161,slow=34
TYV **Tymovskoe** **71.61 344** *e*P **P** **15 46 00.4 -2.1**
TYV *e*S **S** **15 55 15.4 -5.4**
TYV pmax pmax
comp=Z,300nm,4.9s
TYV pmax pmax
comp=Z,7.0nm,1.8s
TYV smax smax
comp=E,600nm,11.9s
CN2 **Changchun** **72.24 329** *e*P **P** **15 46 07.5 +1.0**
CN2 *e*sP sP 15 46 14.5 -0.5
CN2 *e*S **S** **15 55 29.5 +1.1**
CN2 pmax pmax
comp=E,10.0nm,0.6s
CN2 pmax pmax
comp=E,200nm,3.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=E,200nm,17.0s
QSPA **South Pole Qui** **72.41 180** P **P** **15 46 08.0 +0.6**
comp=E,11nm,0.8s,baz=25,slow=1.2,SNR=30
QSPA LR LR 16 16 53.4
comp=E,181nm,18.1s,baz=6.0,slow=35
GRNR **Gornyy** **73.38 340** *e*P **P** **15 46 14.9 +1.8**
GRNR pmax pmax
comp=Z,14nm,0.9s
GYA **Guiyang** **73.56 305** *e*P **P** **15 46 16.0 +1.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
KLR **Kul'dur** **73.74 336***c* *i*P **P** **15 46 16.6 +1.3**
XAN **Xi'an** **75.82 313** P **P** **15 46 28.4 +0.7**
XAN pP pP 15 46 29.9 -4.1
XAN pmax pmax
comp=Z,7.0nm,0.7s
KMI **Kunming** **76.03 302** P **P** **15 46 31.3 +1.9**
KMI pmax pmax
comp=Z,16nm,1.6s
RPN **Rapa Nui** **76.24 114** LR LR 16 13 56.3
comp=Z,86nm,18.6s,baz=240,slow=31
CMAR **Chiang Mai Arr** **76.35 295** P **P** **15 46 30.8 -0.2**
comp=Z,2.2nm,0.8s,baz=122,slow=4.3,SNR=13
CMAR LR LR 16 22 02.8
comp=Z,60nm,18.7s,baz=132,slow=37
HHC **Hu-ho-hao-te** **77.94 320** *e*P **P** **15 46 39.0 -0.6**
HHC PP **PP** **15 49 37.3 +1.3**
HHC S **S** **15 56 30.9 -1.3**
HHC SS **SS** **16 01 34.9 +1.1**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,180nm,5.2s
HHC LR LR
comp=Z,130nm,18.7s
HHC LR LR
comp=Z,160nm,12.4s
HHC LR LR
comp=Z,170nm,17.4s
CD2 **Chengdu** **77.96 308** *e*P **P** **15 46 39.0 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
MA2 **Magadan** **78.14 351**⇑ *e*P **P** **15 46 38.4 -1.7**
ZEA **Zeya** **79.04 337** *e*P **P** **15 46 47.0 +1.8**
ZEA pmax pmax
comp=Z,14nm,1.2s
MAW **Mawson** **79.30 202** LR LR 16 18 03.6
comp=Z,93nm,19.2s,baz=64,slow=33
LZH **Lanzhou** **80.44 313**⇑ P **P** **15 46 54.0 +0.5**
LZH pP pP 15 46 58.4 -1.4
LZH sP sP 15 47 01.8 -0.2
LZH *e*PP **PP** **15 49 58.0 +1.0**
LZH S **S** **15 56 59.0 -0.1**
LZH sS pS 15 57 06.0 -1.0
LZH SS **SS** **16 02 15.4 +3.8**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,92nm,4.4s
LZH LR LR
comp=Z,210nm,13.3s
LZH LR LR
comp=Z,220nm,15.6s
LZH LR LR
comp=Z,220nm,16.7s
SEY **Seymchan** **81.18 353**‖ *e*P **P** **15 46 57.0 +0.5**
ULN **Ulaanbaatar** **84.60 324**‖ *e*P **P** **15 47 15.3 +0.4**
ULN pmax pmax
comp=Z,12nm,2.0s
GTA **Gaotai** **84.83 314** P **P** **15 47 17.1 +0.8**
GTA pP sP 15 47 25.1 +0.3
GTA sP pP 15 47 28.6 +6.0
GTA SKS **SKSac** **15 57 39.4 -0.5**
GTA S **SKKSac** **15 57 48.8 +2.9**
GTA pmax pmax
comp=Z,5.0nm,1.8s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=Z,170nm,20.4s
GTA LR LR
comp=Z,230nm,20.0s
GTA LR LR
comp=Z,330nm,20.9s
YAK **Yakutsk** **84.86 343** *e*P **P** **15 47 15.8 +0.2**
YAK *e**PP **sP** **15 47 27.1 +2.9**
YAK *e*PPP PPP 15 52 26.6
YAK *e*S **S** **15 57 36.6 -6.1**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,147nm,3.8s
YAK pmax pmax
comp=N,75nm,3.8s
YAK pmax pmax
comp=E,83nm,3.6s
YAK smax smax
comp=N,61nm,4.3s
YAK smax smax
comp=E,110nm,4.4s
YAK MLR MLR
comp=Z,199nm,15.0s
YAK MLR MLR
comp=N,183nm,16.0s
YAK MLR MLR
comp=E,126nm,16.0s
SONM **Songino Array** **84.96 324** P **P** **15 47 16.4 -0.3**
comp=E,1.0nm,0.8s,baz=154,slow=7.1,SNR=8.5
SONM LR LR 16 26 27.5
comp=E,96nm,18.5s,baz=122,slow=37
BILL **Bilibino** **85.43 360** *i*P **P** **15 47 17.0 -1.4**
BILL *i* 15 47 27.0
BILL pmax pmax
comp=Z,14nm,1.3s
SYO **Syowa Base** **86.00 197**‖ *e*pP pP 15 47 33.2 +5.4
BOD **Bodaibo** **87.18 334** *e*P **P** **15 47 24.9 -2.3**
BOD pmax pmax
comp=Z,15nm,1.7s
YBH **Yreka Blue Hor** **87.31 45** LR LR 16 21 39.8
comp=Z,102nm,18.2s,baz=253,slow=32
ZAK **Zakamensk** **88.04 325** *e*P **P** **15 47 30.8 -0.9**
ZAK pmax pmax
comp=Z,9.0nm,1.6s
TIN **Tinemaha, Big** **88.49 50** *e*P **P** **15 47 32.4 -1.8**
TIN **Tinemaha, Big** **88.49 50** *e*P **P** **15 47 32.4 -1.8**
TLY **Talaya** **88.51 326**⇑ *e*P **P** **15 47 35.1 +1.3**
TLY pmax pmax
comp=Z,6.0nm,1.1s
NVAR **Mina Array Bea** **88.98 49** P **P** **15 47 37.2 +0.7**
comp=Z,0.5nm,0.5s,baz=205,slow=6.6,SNR=3.7
ILAR **Eielson Array** **89.20 18** P **P** **15 47 36.8 +0.1**
comp=Z,0.8nm,0.8s,baz=236,slow=5.2,SNR=7.0
ILAR LR LR 16 25 10.0
comp=Z,156nm,18.8s,baz=236,slow=34
LPIG **La Paz** **90.22 65** LR LR 16 19 25.2
comp=Z,82nm,20.5s,baz=223,slow=30
SNAA **Sanae** **90.68 183** LR LR 16 27 14.9
comp=Z,192nm,18.4s,baz=140,slow=35
SNAA **Sanae** **90.68 183**‖ *e*P **P** **15 47 44.0 +0.2**
TIXI **Tiksi** **92.85 349**‖ *e*P **P** **15 47 53.4 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
WMQ **Urumqi** **94.91 314** P **P** **15 48 04.1 +0.4**
WMQ pP pP 15 48 07.5 -2.6
WMQ sP sP 15 48 09.8 -2.6
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ LR LR
comp=Z,320nm,22.3s
WMQ LR LR
comp=Z,300nm,24.3s
WMQ LR LR
comp=Z,330nm,24.3s
ANMO **Albuquerque** **96.75 56**⇑ *e*P **P** **15 48 12.0 -0.5**
TXAR **Lajitas Array** **97.45 62** LR LR 16 26 06.7
comp=Z,70nm,19.2s,baz=0.0,slow=32
MKAR **Makanchi Array** **99.45 316** P **Pdif** **15 48 24.2 +0.1**
comp=Z,0.4nm,0.7s,baz=93,slow=6.3,SNR=5.2
MKAR LR LR 16 33 46.4
comp=Z,40nm,20.5s,baz=107,slow=36
ZALV **Zalesovo Beam** **99.85 323** P **Pdif** **15 48 25.8 +0.2**
comp=Z,0.6nm,0.6s,baz=132,slow=2.1,SNR=2.2
ZALV LR LR 16 32 27.6
comp=Z,75nm,21.5s,baz=70,slow=35
YKA **Yellowknife Ar** **100.01 27** P **Pdif** **15 48 25.6 -0.5**
comp=Z,0.3nm,0.8s,baz=250,slow=4.3,SNR=4.4
KSH **Kashi** **102.16 308** *e*P **Pdif** **15 48 37.9 +1.4**
KSH pmax pmax
comp=Z,69nm,7.0s
KBS **Kingsbay** **117.60 355**⇑ *e*PKIKP **PKPdf** **15 53 26.9 +0.4**
ARCES **ARCESS Array B** **123.10 345** PKP **PKPdf** **15 53 37.1 -0.2**
comp=Z,3.8nm,0.7s,baz=48,slow=1.8,SNR=9.8
KLMR **Klimovskoe** **123.36 332** *e*PKIKP **PKPdf** **15 53 37.6 -0.4**
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR **Klimovskoe** **123.36 332** *e*PKPdf **PKPdf** **15 53 37.7 -0.3**
KLMR AMP 15 53 55.4
comp=Z,18nm,1.4s
FINES **FINESS Array B** **128.48 337** PKP **PKPdf** **15 53 49.2 +1.4**
comp=Z,2.2nm,0.9s,baz=344,slow=3.0,SNR=4.9
VSU **Vasula** **130.12 334**‖ *e*PKIKP **PKPdf** **15 53 49.6 -1.4**
NB2 **NORSAR Subarra** **133.47 344** PKPdf **PKPdf** **15 53 57.6 +0.3**
comp=Z,12nm,2.0s,baz=31,slow=1.9
NB2 **NORSAR Subarra** **133.47 344** PKPdf **PKPdf** **15 53 57.6 +0.3**
baz=31,slow=1.9
NOA **NORSAR Array B** **133.47 344** PKP **PKPdf** **15 53 56.4 -0.9**
comp=Z,1.2nm,0.8s,baz=29,slow=1.9,SNR=6.6
HFS **Hagfors** **133.55 342** PKP **PKPdf** **15 53 56.8 -0.6**
comp=Z,1.6nm,0.8s,baz=52,slow=2.4,SNR=3.9
BRTR **Keskin Array B** **134.53 309** PKP **PKPdf** **15 54 01.6 +1.5**
comp=Z,0.3nm,0.5s,baz=147,slow=2.9,SNR=3.4
BRG **Berggiesshubel** **140.71 334** *e*PKP PKPdf 15 54 22.0 +11
comp=Z,5.8nm,1.2s
BRG **Berggiesshubel** **140.71 334** *e*PKIKP PKPdf 15 54 22.0 +11
BRG pmax pmax
comp=Z,6.0nm,1.3s
CLL **Collm** **140.77 335** *e*PKIKP **PKPdf** **15 54 14.0 +3.0**
CLL *e* 15 54 27.0
CLL **Collm** **140.77 335** *e*PKiKP **PKPdf** **15 54 14.0 +3.0**
CLL *es*PKiKP **sPKiKP** **15 54 27.0 +4.6**
CLL *e*PPS PPS 16 09 30.0
CLL Lm MLR 16 56 00.0
comp=Z,200nm,20.5s
CLL Lm MLR 22 31 00.0
comp=Z,100nm,21.1s
CLL Lm MLR 22 39 00.0
comp=Z,100nm,20.7s
KHC **Kasperske Hory** **142.15 332** *e*PKIKP **PKPdf** **15 54 10.0 -3.7**
KHC **Kasperske Hory** **142.15 332** *e*PKP **PKPdf** **15 54 10.0 -3.7**
GERES **GERESS Array B** **142.31 332** PKP **PKPdf** **15 54 13.3 -0.7**
comp=Z,1.0nm,0.7s,baz=64,slow=3.1,SNR=7.3
SOKA **Soboth** **143.19 328** *e*PKPdf **PKPdf** **15 54 15.6 -0.1**
comp=Z,7.8nm,1.2s
KBA **Koelnbreinsper** **143.74 330** *e*PKPdf **PKPdf** **15 54 15.8 -1.0**
comp=Z,9.4nm,1.4s
BOJS **Bojanci** **143.86 326** *e*PKPdf PKPbc 15 54 15.5 +1.1
MYKA **Terra Mystica** **143.91 329** *e*PKPdf **PKPdf** **15 54 16.0 -0.9**
comp=Z,17nm,1.5s
KNDS **Knezji Dol** **144.30 327** *e*PKPdf PKPbc 15 54 16.3 +0.4
ABTA **Abfaltersbach** **144.38 330** *e*PKPdf **PKPab** **15 54 15.8 -0.1**
comp=Z,12nm,1.0s
WTTA **Wattenberg** **144.41 331** *e*PKPdf **PKPdf** **15 54 18.5 +0.6**
comp=Z,12nm,1.2s
MOTA **Moosalm** **144.59 332** *e*PKPdf PKPbc 15 54 17.3 +0.4
comp=Z,8.7nm,0.8s
RETA **Reutte** **144.63 332** *e*PKPdf **PKPdf** **15 54 19.0 +0.8**
comp=Z,23nm,1.6s
BFO **Black Forest** **144.99 336** *i* PKIKP **PKPdf** **15 54 19.7 +1.0**
FETA **Feichten** **145.00 332** *e*PKPdf **PKPdf** **15 54 19.0 +0.1**
comp=Z,20nm,1.1s,SNR=8.2
DAVA **Damuels** **145.17 333** *e*PKPdf **PKPdf** **15 54 19.4 +0.2**
comp=Z,16nm,0.9s,SNR=7.1
ESDC **Sonseca Array** **156.82 343** PKPab **PKPab** **15 55 08.1 +1.5**
comp=Z,0.2nm,0.3s,baz=81,slow=3.4,SNR=4.1
TORD **Torodi Ar. Bea** **165.61 254** PKP **PKPdf** **15 54 47.7 +0.7**
comp=Z,1.3nm,1.0s,baz=134,slow=1.3,SNR=4.8
TORD PKPab **PKPab** **15 55 47.7 +2.0**
comp=Z,0.5nm,0.8s,baz=86,slow=4.5,SNR=2.8

MEX 23 15:37:00.8±0.4, 16°.53N×98°.46W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**113**	*e*P	Pg	15 37 07.3	-0.3
PNIG				*e*S	Sg	15 37 12.2	-0.1
TLIG	**Tlapa**	**1.03**	**355**	*e*P	Pg	15 37 18.0	-2.6
TLIG				*i* S	Sg	15 37 30.8	-3.2
ACX	**Acapulco**	**1.38**	**284**	*i* P	Pn	15 37 19.9	-6.8
ACX				*i* S	Sb	15 37 38.6	-6.4
VHO	**Vista Hermosa**	**1.74**	**72**	*e*P	Pn	15 37 28.5	-3.4
VHO				*e*S	Sn	15 37 50.4	-4.2
CAIG	**El Cayaco**	**1.80**	**287**	*e*P	Pn	15 37 29.2	-3.3
CAIG				*i* S	Sn	15 37 51.7	-4.1

IDC 23 15:43:04.8±5.5, 61°.42S×154°.22E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.7/38, mbtmp3.8/3, ML4.1/1, MS3.8/2, Ms1 3.9/2, ms1mx3.2/34, Error ellipse: s-maj=366.4km s-min=39.0km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.37**	**174**	Pn	Pn	15 46 55.6	+0.1
	0.7nm,0.3s,baz=348,slow=13,SNR=23						
VNDA				Sn	Sn	15 49 51.6	-5.9
	0.1nm,0.3s,baz=234,slow=17,SNR=2.8						
VNDA				LR	LR	15 52 33.3	
	comp=Z,263nm,18.3s,baz=3.0,slow=35						
H01W1	**Cape Leeuwin H**	**36.70**	**298**	T	T	16 29 23.8	
	baz=148,slow=75,SNR=24						
H01W2	**Cape Leeuwin H**	**36.70**	**298**	T	T	16 29 14.4	
	baz=148,slow=75,SNR=25						
H01W3	**Cape Leeuwin H**	**36.71**	**298**	T	T	16 29 15.5	
	baz=149,slow=75,SNR=31						
ASAR	**Alice Springs**	**40.23**	**330**	P	P	15 50 43.2	+0.3
	0.8nm,0.9s,baz=167,slow=9.8,SNR=4.6						
WRA	**Warramunga Arr**	**43.72**	**332**	P	P	15 51 11.0	-0.5
	0.4nm,0.6s,baz=164,slow=7.1,SNR=5.3						
H08S2	**Diego Garcia H**	**79.37**	**274**	T	T	17 22 47.3	
	baz=151,slow=76,SNR=9.6						
H08S1	**Diego Garcia H**	**79.38**	**274**	T	T	17 22 47.0	
	baz=151,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**79.39**	**274**	T	T	17 22 47.9	
	baz=151,slow=76,SNR=9.5						
H08N1	**Diego Carcia H**	**81.22**	**273**	T	T	17 25 10.1	
	baz=161						
H08N3	**Diego Garcia H**	**81.22**	**273**	T	T	17 25 12.6	
	baz=161,slow=74,SNR=3.9						
H08N2	**Diego Garcia H**	**81.24**	**273**	T	T	17 25 07.8	
	baz=161,slow=74,SNR=3.2						
LPAZ	**La Paz**	**95.56**	**139**	LR	LR	16 33 05.3	
	comp=Z,58nm,18.6s,baz=194,slow=31						

*ISN **23** 15:43:27.5±1.2, 39°.38N×43°.73E, h0km±64km, ML4.4*
*ATA **23** 15:43:35.2±0.8, 38°.89N×43°.70E, h0km±7km, ML5.0, MW4.8*
*NEIC **23** 15:43:37.0±0.0, 38°.94N×43°.62E, h5km, mb4.2/8, ML4.5(ISK), After ISK.*
*ISK **23** 15:43:37.9, 38°.92N×43°.67E, h5km, ML4.2/15*
*DDA **23** 15:43:37.3, 38°.90N×43°.61E, h6km, Ml4.4*
*ISCJB **23** 15:43:37.6±0.4, 38°.90N±0°.02×43°.70E±0°.02, h1km±3km, mb4.1/33, MS3.3/4, Error ellipse: s-maj=2.7km s-min=2.1km az=159.1*
*TEH **23** 15:43:38.1, 39°.20N×43°.67E, h10km, ML4.1*
*CSEM **23** 15:43:38.6±0.1, 38°.94N×43°.66E, h2km, mb4.2/17, Error ellipse: s-maj=3.6km s-min=2.8km az=156.0*
*IDC **23** 15:43:38.0±0.6, 38°.92N×43°.59E, h0km, mb3.9/21, mb1 4.0/30, mb1mx3.9/65, mbtmp3.8/30, ML3.2/8, MS3.5/9, Ms1 3.5/9, ms1mx3.2/58, Error ellipse: s-maj=11.3km s-min=8.1km az=153.0*
*MOS **23** 15:43:39.1±1.6, 38°.86N×43°.64E, h17km, mb4.3/22, Error ellipse: s-maj=7.1km s-min=4.5km az=90.0*
ISC 23 15:43:38.4±1.0, 38°.92N±0°.01×43°.65E±0°.02, h2km±7km, n293, σ1§63/344, mb4.1/33, MS3.3/4, 43C-46D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERCV	**ERCIS-VAN**	**0.26**	**294**	PG	**Pg**	**15 43 43.9**	**+0.5**
ERCV	**ERCIS-VAN**	**0.26**	**294**	*e*Pg	**Pg**	**15 43 43.9**	**+0.5**
CLDR	**Caldiran**	**0.31**	**43**	PG	**Pg**	**15 43 44.6**	**+0.2**
CLDR				SG	**Sg**	**15 43 50.2**	**+1.7**
CLDR	**Caldiran**	**0.31**	**43**	⇑ *i*P	**Pg**	**15 43 43.6**	**-0.8**
CLDR				*i* S	**Sg**	**15 43 49.5**	**+1.0**
CLDR	**Caldiran**	**0.31**	**43**	P	**Pg**	**15 43 43.6**	**-0.8**
CLDR	**Caldiran**	**0.31**	**43**	*e*Pg	**Pg**	**15 43 44.6**	**+0.2**
CLDR				*S*	**Sg**	**15 43 49.5**	**+1.0**
CLDR				*e*Sg	**Sg**	**15 43 50.2**	**+1.7**
VANB	**Van**	**0.38**	**212**	PG	**Pb**	**15 43 47.5**	**-0.4**
VANB	**Van**	**0.38**	**212**	*e*Pg	**Pb**	**15 43 47.5**	**-0.4**
TVAN	**Van**	**0.43**	**206**	‖ *i*P	**Pg**	**15 43 46.5**	**-0.1**
TVAN				*i* S	**Sg**	**15 43 53.9**	**+1.7**
TVAN	**Van**	**0.43**	**206**	P	**Pg**	**15 43 46.5**	**-0.1**
TVAN				S	**Sg**	**15 43 53.9**	**+1.7**
DYDN	**Diyadin**	**0.63**	**3**	‖ *i*P	**Pg**	**15 43 49.7**	**-0.7**
DYDN				IAML		15 44 01.6	

comp=Z,3µm,0.3s
DYDN Diyadin 0.63 3 ⇓*i*P Pg 15 43 49.8 -0.7
DYDN *i*S Sg 15 43 59.8 +1.2
DYDN Diyadin 0.63 3 P Pg 15 43 49.8 -0.6
DYDN S Sg 15 43 59.8 +1.2
ADCV BITLIS_Adilcev 0.73 262 ⇑*i*P Pg 15 43 51.6 -0.7
ADCV *i*S Sg 15 44 02.1 +0.4
ADCV BITLIS_Adilcev 0.73 262 P Pg 15 43 51.6 -0.7
ADCV S Sg 15 44 02.1 +0.4
GEVA Gevas 0.76 218 ⇑*i*P Pg 15 43 51.5 -1.4
GEVA IAML 15 44 10.8
comp=Z,3µm,0.6s
GEVA Gevas 0.76 218 ⇑*i*P Pg 15 43 51.5 -1.4
GEVA *i*S Sg 15 44 03.8 +1.1
GEVA Gevas 0.76 218 P Pg 15 43 51.5 -1.4
GEVA S Sg 15 44 03.8 +1.1
TUTA Tutak 0.81 307 ⇓*i*P Pg 15 43 52.5 -1.3
TUTA IAML 15 44 13.9
comp=Z,4µm,0.5s
TUTA Tutak 0.81 307 ⇓*i*P Pg 15 43 52.6 -1.3
TUTA *i*S Sg 15 44 05.4 +1.0
TUTA Tutak 0.81 307 P Pg 15 43 52.6 -1.3
TUTA S Sg 15 44 05.4 +1.0
AGRB Hanur-Agry 0.83 323 PG Pg 15 43 54.4 +0.1
AGRB Hanur-Agry 0.83 323 *e*Pg Pg 15 43 54.4 +0.1
IGDI IGDIR 1.01 19 ⇓*i*P Pg 15 43 57.2 -0.6
IGDI *i*S Sb 15 44 11.6 -0.8
TASB TASBURUN-IGDIR 1.16 23 PN Pb 15 44 01.1 -0.1
TASB SN Sn 15 44 18.5 +0.2
TASB TASBURUN-IGDIR 1.16 23 *e*Pn Pb 15 44 01.1 -0.1
TASB *e*Sn Sn 15 44 18.5 +0.2
HYR Heyderabad 1.23 49 ⇑P Pg 15 44 01.5 -0.5
EKAR Karacoban 1.28 286 *i*P Pg 15 44 01.5 -1.3
EKAR *e*S Sn 15 44 22.3 +1.0
EKAR IAML 15 44 32.9
comp=Z,2µm,0.6s
EKAR Karacoban 1.28 286 ⇑*i*P Pg 15 44 00.7 -2.2
EKAR *i*S Sn 15 44 21.7 +0.4
EKAR Karacoban 1.28 286 P Pg 15 44 00.7 -2.2
EKAR S Sn 15 44 21.7 +0.4
EATA Eleskirt 1.30 317 ⇓*i*P Pg 15 44 01.8 -1.6
EATA *e*S Sn 15 44 23.7 +1.6
EATA IAML 15 44 28.4
comp=Z,401nm,0.5s
EATA Eleskirt 1.30 317 ⇓*i*P Pg 15 44 01.8 -1.6
EATA *i*S Sn 15 44 22.0 -0.1
EATA Eleskirt 1.30 317 P Pg 15 44 01.8 -1.6
GURO Guroymak-BITLI 1.31 254 PN Pg 15 44 03.7 +0.2
GURO Guroymak-BITLI 1.31 254 *e*Pn Pg 15 44 03.7 +0.2
HAKT HAKKARI 1.36 178 ⇓*i*P Pn 15 44 02.1 -2.5
HAKT *i*S Sn 15 44 26.5 +3.2
HAKT HAKKARI 1.36 178 P Pn 15 44 02.1 -2.5
HAKT S Sn 15 44 26.5 +3.2
YOVA Hakkari_Y˙...kse 1.42 159 ⇓*i*P Pn 15 44 03.6 -1.8
YOVA *i*S Sn 15 44 26.4 +1.6
YOVA Hakkari_Y˙...kse 1.42 159 P Pn 15 44 03.6 -1.8
YOVA S Sn 15 44 26.4 +1.6
NAX Nakhchivan 1.46 79 ⇓P Pn 15 44 06.3 -0.1
GNI Garni 1.50 34 Pn Pn 15 44 06.5 +0.1
comp=Z,147nm,0.3s,baz=269,slow=2.5,SNR=183
GNI Lg Lg 15 44 27.7
comp=Z,134nm,0.3s,baz=102,slow=20,SNR=13
GNI LR LR 15 44 48.2
comp=Z,475nm,20.1s,baz=212,slow=46
GNI Garni 1.50 34 *de*P Pn 15 44 06.1 -0.3
GNI Garni 1.50 34 *e*Pn Pn 15 44 06.4 0.0
GNI Garni 1.50 34 *e*P Pn 15 44 06.1 -0.3
GNI Garni 1.50 34 *e*Pn Pn 15 44 06.4 0.0
DIGO Kars 1.51 352 ⇓*i*P Pn 15 44 05.7 -1.1
DIGO IAML 15 44 21.8
comp=Z,465nm,0.5s
DIGO Kars 1.51 352 ⇓*i*P Pn 15 44 05.7 -1.1
DIGO *i*S Sg 15 44 28.6 +1.6
DIGO Kars 1.51 352 P Pn 15 44 05.7 -1.1
DIGO S Sg 15 44 28.6 +1.6
SBZ Shahbuz 1.56 71 ⇑P Pn 15 44 07.2 -0.1
SNR=1000
SBZ ⇓S Sg 15 44 32.5 +4.0
IMRD Marand 1.62 97 *e*Sg Sn 15 44 29.7 0.0
IMRD *e*Pn Pn 15 44 07.4 -0.7
IMRD *e*AMB AMB 15 44 39.9
comp=Z,67µm,0.3s
SRTM Siirt_Merkez 1.64 236 ⇑*i*P Pn 15 44 06.9 -1.4
SRTM *i*S Sg 15 44 31.4 +0.4
SRTM Siirt_Merkez 1.64 236 P Pn 15 44 06.9 -1.4
SRTM S Sg 15 44 31.4 +0.4
ISHB Shabestar 1.67 112 *e*AMB AMB 15 44 17.4
comp=Z,27µm,0.3s
ISHB *e*Pn Pn 15 44 08.0 -0.9
SIRT Sirnak 1.70 214 PN Pn 15 44 09.8 +0.6
SIRT SN Sg 15 44 33.9 +0.8
SIRT Sirnak 1.70 214 *e*Pn Pn 15 44 09.8 +0.6
SIRT *e*Sn Sg 15 44 33.9 +0.8
HOMI Horasan 1.76 311 *e*P Pn 15 44 10.1 0.0
HOMI IAML 15 44 14.9
comp=Z,774nm,0.5s
HOMI *e*S Sg 15 44 38.2 +3.4
HOMI Horasan 1.76 311 ⇓*i*P Pn 15 44 08.9 -1.2
HOMI *i*S Sg 15 44 38.6 +3.8
KARS Kars 1.77 346 PN Pn 15 44 10.7 +0.6
KARS Kars 1.77 346 *e*Pn Pn 15 44 10.7 +0.6
ORD Ordubad 1.83 89 ⇓P Pn 15 44 11.9 +0.9
SNR=913
SENK Senkaya-Erzuru 1.92 329 PN Pb 15 44 13.7 -0.6
SENK Senkaya-Erzuru 1.92 329 *e*Pn Pb 15 44 13.7 -0.6
ERZM Erzurum 2.02 300 *e*P Pn 15 44 12.6 -1.2
ERZM Erzurum 2.02 300 *i*P Pn 15 44 13.4 -0.4
ERZM Erzurum 2.02 300 P Pn 15 44 13.4 -0.4
ITBZ Tabriz 2.08 108 *e*Pn Pn 15 44 15.1 +0.7
ITBZ *e*AMB AMB 15 44 25.7
comp=Z,7µm,0.3s
ITBZ Tabriz 2.08 108 *e*Pn Pn 15 44 15.1 +0.7
BTMN Batman 2.13 242 *i*P Pn 15 44 16.2 +1.2
BTMN *i*S Sg 15 44 47.9 +1.1
BTMN Batman 2.13 242 P Pn 15 44 16.2 +1.2
ECAT Cat-ERZURUM 2.19 289 ⇑*e*P Pn 15 44 17.1 +1.2
ECAT IAML 15 44 21.9
comp=Z,378nm,0.5s
ECAT *e*S Sg 15 44 50.2 +1.6
ECAT Cat-ERZURUM 2.19 289 ⇑*i*P Pn 15 44 16.4 +0.5
ECAT *i*S Sg 15 44 50.1 +1.6
ECAT Cat-ERZURUM 2.19 289 P Pn 15 44 16.4 +0.5
BNGB Bing ¶‖ 2.31 273 PN Pn 15 44 18.8 +1.2
GDB GEDABAY 2.43 41 ⇑P Pn 15 44 16.5 -2.7
SNR=295
GDB ⇓S Sn 15 44 48.4 -1.2
DDEM Demirkent 2.45 324 *i*P Pb 15 44 22.8 -0.5
DDEM Demirkent 2.45 324 P Pb 15 44 22.8 -0.5
BINT Bingol 2.46 270 P Pn 15 44 18.8 -0.9
BINT S Sn 15 44 47.8 -2.6
BINT Bingol 2.46 270 *e*Pn Pn 15 44 18.8 -0.9
BINT *e*S Sn 15 44 47.8 -2.6
AKH Akhalkalaki 2.49 357 PN Pn 15 44 21.7 +1.5
AKH Akhalkalaki 2.49 357 P Pb 15 44 24.3 +0.3
AKH S Sg 15 44 59.7 +1.2
AKH Akhalkalaki 2.49 357 *e*P Pb 15 44 24.3 +0.3
AKH *e*S Sg 15 44 59.7 +1.2
AKH Akhalkalaki 2.49 357 *e*Pn Pn 15 44 21.1 +0.9
AKH Akhalkalaki 2.49 357 *e*Pn Pn 15 44 21.1 +0.9
AKH Akhalkalaki 2.49 357 *e*P Pb 15 44 24.3 +0.3
QZX Qazax, Azerbai 2.52 31 ⇓P Pn 15 44 16.3 -4.1
SNR=115
QZX ⇓S Sn 15 44 48.0 -3.6
ARTV Artvin 2.62 330 ⇓*e*P Pn 15 44 23.3 +1.3
ARTV IAML 15 44 33.8
comp=Z,89nm,0.5s
KOPT Kop Dagi 2.67 295 *e*PN12 Pn 15 44 24.1 +1.3
KOPT IAML 15 44 44.4
comp=Z,334nm,0.6s
KOPT *e*SN12 15 45 02.1
GANJ Ganja 2.69 49 ⇑P Pn 15 44 20.8 -1.9
SNR=136
GANJ ⇓S Sn 15 44 56.2 +0.3
IBST Bostanabad 2.83 114 *e*Pn Pn 15 44 25.2 +0.4
IBST *e*AMB AMB 15 44 35.4
comp=Z,3µm,0.3s
IBST *e*Sg Sg 15 45 10.1 +0.9
IBST Bostanabad 2.83 114 *e*Pn Pn 15 44 25.2 +0.4
DGRG David-gareji 2.86 27 *e*PN12 Pn 15 44 25.4 +0.3
DGRG IAML 15 44 45.7
comp=Z,160nm,0.6s
DGRG David-gareji 2.86 27 P Pb 15 44 28.3 -1.8
DGRG David-gareji 2.86 27 *e*P Pb 15 44 28.3 -1.8
DIY Diyarbakir 2.87 250 *e*Pn Pn 15 44 27.7 +2.4
BTNK Botanikuri 2.90 17 P Pn 15 44 26.6 +0.9
MAZI Mazidag 2.91 241 PN Pn 15 44 28.1 +2.3
MAZI Mazidag 2.91 241 *e*Pn Pn 15 44 28.1 +2.3
DYBB Diyarbakir 2.92 252 PN Pn 15 44 27.7 +1.8
TBLG Delisi 2.93 16 PN Pn 15 44 27.5 +1.5
TBLG Delisi 2.93 16 *e*P Pn 15 44 26.6 +0.6
TBLG IAML 15 44 36.5
comp=Z,39nm,0.5s
TBLG Delisi 2.93 16 P Pb 15 44 31.2 -0.2
TBLG S Sg 15 45 12.7 +0.1
TBLG Delisi 2.93 16 *e*P Pn 15 44 27.6 +1.5
TBLG Delisi 2.93 16 *e*Pn Pn 15 44 27.6 +1.5
TBLG Delisi 2.93 16 *e*Pn Pn 15 44 27.5 +1.5
BAYB BAYBURT 2.94 298 ⇑*e*PN12 Pn 15 44 27.3 +1.0
BAYB IAML 15 44 39.3
comp=Z,107nm,0.6s
BAYB *e*SN12 15 45 08.6
BRDA Brd 3.04 63 ⇓P Pn 15 44 26.8 -0.7
SNR=11
BRDA ⇑S Sn 15 45 06.8 +2.3
BAYT Ayd¯-ntepe-Bay 3.08 300 PN Pn 15 44 29.7 +1.5
BAYT Ayd¯-ntepe-Bay 3.08 300 *e*Pn Pn 15 44 29.7 +1.5
CHOM Cayeli-Rize 3.11 315 *e*Pn Pn 15 44 30.2 +1.8
ERZN Erzincan 3.12 284 PN Pn 15 44 30.5 +1.8
DDFL Dedoflistskaro 3.16 36 P Pg 15 44 38.0 -0.9
EUZM Uzumlu 3.16 286 ⇓*e*P Pn 15 44 31.2 +1.9
EUZM IAML 15 44 39.8
comp=Z,53nm,0.5s
TNCL Tunceli-Merkez 3.20 275 *e*P Pn 15 44 31.2 +1.3
TNCL IAML 15 44 45.7
comp=Z,144nm,0.6s
MNGR Mingechevir, A 3.23 54 ⇓P Pn 15 44 28.5 -1.6
SNR=16
MNGR ⇑S Sn 15 45 10.0 +0.8
DUS Dusheti 3.27 14 P Pn 15 44 32.8 +2.0
DUS S Sg 15 45 32.4 +8.9
DUS Dusheti 3.27 14 *e*P Pn 15 44 32.8 +2.0
DUS Dusheti 3.27 14 *e*P Pn 15 44 32.8 +2.0
PTK Pertek 3.32 271 PN Pn 15 44 33.7 +2.2
PTK Pertek 3.32 271 *e*Pn Pn 15 44 33.7 +2.2
ZRD Zardab 3.40 65 ⇑P Pn 15 44 31.9 -0.6
SNR=20
ZRD ⇑S Sn 15 45 16.0 +2.6
EZC Erzincan 3.43 285 P Pn 15 44 30.4 -2.6
EZC Erzincan 3.43 285 P Pn 15 44 30.4 -2.6
SEKA Sheki 3.56 49 ⇑P Pn 15 44 33.4 -1.3
SNR=19
SEKA ⇑S Sn 15 45 18.8 +1.4
GUDG Gudauri 3.60 10 P Pb 15 44 43.5 +0.5
KELT Kelkit 3.61 291 *e*PN12 Pn 15 44 37.1 +1.5
KELT IAML 15 44 54.3
comp=Z,59nm,0.5s
ONI Oni 3.67 358 P Pb 15 44 45.1 +1.0
ONI Oni 3.67 358 *e*P Pb 15 44 45.1 +1.0
LRK Lerik 3.68 93 ⇓P Pn 15 44 37.4 +1.0
SNR=49
GLBA Clilabad 3.71 83 ⇑P Pn 15 44 37.3 +0.6
SNR=11
GLBA ⇓S Sb 15 45 25.8 -4.2
QBL Gabala 3.81 56 ⇓P Pn 15 44 36.6 -1.5
SNR=60
QBL ⇑S Sn 15 45 24.5 +1.0
ZEI Tsey 3.87 3 *e*P Pn 15 44 40.5 +1.3
ZEI pmax pmax
comp=Z,73nm,0.8s
ILIC ilic-Erzincan 3.98 279 PN Pn 15 44 42.6 +2.0
ILIC ilic-Erzincan 3.98 279 *e*Pn Pn 15 44 42.6 +2.0
LKRN Lenkeran, Azer 4.01 91 ⇑P Pn 15 44 41.9 +1.0
LKRN ⇑S Sb 15 45 34.0 -4.8
KEMA Kemaliye 4.02 277 *e*PN12 Pn 15 44 42.6 +1.5
KEMA IAML 15 45 00.7
comp=Z,13nm,0.6s
ASTR Astara 4.04 93 ⇓P Pn 15 44 42.3 +1.1
URFA Urfa 4.08 250 PN Pn 15 44 44.6 +2.8
URFA Urfa 4.08 250 *e*Pn Pn 15 44 44.6 +2.8
XNQ Khinaliq 4.12 55 ⇑P Pn 15 44 41.0 -1.6
XNQ ⇓S Sn 15 45 32.1 +0.7
MALT Malatya 4.13 263 PN Pn 15 44 45.4 +2.8
MALT Malatya 4.13 263 P Pn 15 44 45.3 +2.7
MALT Malatya 4.13 263 P Pn 15 44 45.3 +2.7
NCK Nalchik 4.58 360 ⇑*e*P Pn 15 44 53.5 +4.9
GROC Groznyy 4.58 20 *e*P Pb 15 44 59.7 +0.2
GROC pmax pmax
comp=Z,85nm,1.2s
ILIN Lien 4.79 145 *e*Pn Pn 15 44 42.3 -10
ILIN *e*AMB AMB 15 46 28.5
comp=Z,1µm,0.5s
DARE Darende-Malaty 4.83 268 PN Pn 15 44 54.9 +2.7
DARE Darende-Malaty 4.83 268 *e*Pn Pn 15 44 54.9 +2.7
KBZ Khabaz 4.84 354 Pn Pn 15 44 55.5 +3.3
comp=Z,0.1nm,0.3s,baz=170,slow=11,SNR=8.1
KBZ LR LR 15 47 10.6
comp=Z,413nm,19.3s,baz=184,slow=44
MAK Makhachkala 4.99 35 *e*P Pn 15 44 54.0 -0.2
MAK *e*S Sn 15 45 50.4 -2.0
MAK pmax pmax
comp=Z,553nm,1.4s
MAK MLR MLR
comp=Z,310nm,12.0s
MAK Makhachkala 4.99 35 *e*P Pn 15 44 54.0 -0.2
comp=Z,553nm,1.4s
MAK *e*S Sn 15 45 50.4 -2.0
comp=Z,310nm,12.0s
IVIS Veis 5.08 149 *e*Pn Pn 15 44 56.8 +1.1
IVIS *e*AMB AMB 15 45 20.6
comp=Z,951nm,0.3s
IVIS Veis 5.08 149 *e*Pn Pn 15 44 56.8 +1.1
KVAR Kislovodsk Arr 5.09 352 Pn Pn 15 44 57.8 +2.1
baz=166,slow=6.1,SNR=2.7
KVAR LR LR 15 47 29.2
comp=Z,429nm,19.9s,baz=178,slow=46
KIV Kislovodsk 5.09 352 *e*P Pn 15 44 55.3 -0.4
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,72nm,7.0s
KIV Kislovodsk 5.09 352 *e*P Pn 15 44 55.3 -0.4
comp=Z,72nm,7.0s
IGHG Ghaleghazi 5.14 152 *e*Pn Pn 15 44 58.1 +1.4
IGHG *e*AMB AMB 15 46 48.3
comp=Z,6µm,1.0s
IGHG Ghaleghazi 5.14 152 *e*Pn Pn 15 44 58.1 +1.4
SVSK Karacayir 5.24 283 PN Pn 15 45 01.3 +3.5
SOC Sochi 5.52 329 *e*P Pn 15 44 57.4 -4.2
SOC *e* 15 45 58.2
SOC pmax pmax
comp=Z,14nm,0.6s
SOC MLR MLR
comp=Z,241nm,8.0s
GOF Gofitskoye 6.15 356 ⇑*e*P Pb 15 45 23.4 -2.9
GOF pmax pmax
comp=Z,32nm,0.5s
IKFM Kafar-mosalman 6.36 146 *e*Pn Pn 15 45 14.0 +0.9
IKFM *e*AMB AMB 15 47 27.2
comp=Z,99nm,1.1s
IKFM Kafar-mosalman 6.36 146 *e*Pn Pn 15 45 14.0 +0.9
ANN Anapa 7.49 324 *e*P Pn 15 45 21.1 -7.4
ANN pmax pmax
comp=Z,87nm,1.1s
BR101 Keskin Array S 7.80 279 *e*Pn Pn 15 45 33.7 +0.7
BR101 Keskin Array S 7.80 279 *e*Pn Pn 15 45 33.7 +0.7
BRTR Keskin Array B 7.80 279 Pn Pn 15 45 33.7 +0.7
comp=Z,0.1nm,0.3s,baz=111,slow=14,SNR=2.8
BRTR LR LR 15 49 03.9
comp=Z,216nm,22.0s,baz=98,slow=42
ASF Jabal al Asfar 8.69 221 Pn Pn 15 45 46.1 +1.0
comp=Z,0.2nm,0.3s,baz=18,slow=6.1,SNR=4.5
MMAI Mount Meron Ar 8.90 231 Pn Pn 15 45 49.2 +1.2
comp=Z,0.6nm,0.3s,baz=66,slow=19,SNR=3.1
MMAI LR LR 15 49 29.8
comp=Z,498nm,18.5s,baz=45,slow=40
GEYT Ailibeck 11.40 90 Pn Pn 15 46 21.9 -0.3
comp=Z,0.4nm,0.3s,baz=282,slow=14,SNR=6.4
EIL Elat 11.69 221 LR LR 15 51 35.0
comp=Z,464nm,18.5s,baz=55,slow=41
VSR Storozhevoye 12.70 347 ⇑*e*P Pn 15 46 38.5 -1.4
PLOR Plostina 14.33 304 ⇓P P 15 47 08.5 -1.1
PLOR Plostina 14.33 304 ⇓*i*P P 15 47 08.5 -1.1
PLOR Plostina 14.33 304 P P 15 47 08.5 -1.1
SORM Soroca 14.40 315 ⇓P P 15 47 10.1 -0.2
SORM Soroca 14.40 315 ⇓*i*P P 15 47 10.1 -0.2
SORM Soroca 14.40 315 P P 15 47 10.1 -0.2
TESR Tescani 14.60 307 ⇑*i*P P 15 47 10.7 -1.9
MLR Muntele Rosu 14.66 302 Pn Pn 15 47 07.9 +1.0
comp=Z,0.0nm,0.3s,baz=150,slow=18,SNR=2.0
MLR Muntele Rosu 14.66 302 ⇓*i*P P 15 47 11.1 -2.2
DOPR Dopca 15.19 304 ⇓*i*P P 15 47 19.5 +0.4
DOPR Dopca 15.19 304 ⇓*i*P P 15 47 19.5 +0.4
VOIR 15.23 301 ⇑P P 15 47 19.5 -0.2
VOIR 15.23 301 ⇑*i*P P 15 47 19.5 -0.2
VOIR 15.23 301 P P 15 47 19.5 -0.2
AKTO Aktyubinsk 15.37 37 Pn Pn 15 47 15.4 -0.8
comp=Z,0.3nm,0.3s,baz=222,slow=13,SNR=9.9
RAYN Ar Rayn 15.43 174 *e*Pn Pn 15 47 12.0 -5.1
comp=Z,11nm,0.8s
ARR Arges 15.49 301 ⇑*i*P P 15 47 22.9 +0.4
ARR Arges 15.49 301 ⇑*i*P P 15 47 22.9 +0.4
AKASG Malin Array Be 15.57 324 Pn Pn 15 47 18.1 -0.7
baz=132,slow=12,SNR=8.7
AKBB Malin Array Si 15.57 324 *e*P Pn 15 47 18.1 -0.8
AKBB Malin Array Si 15.57 324 *e*Pn Pn 15 47 18.1 -0.8
AKBB Malin Array Si 15.57 324 *e*Pn Pn 15 47 18.1 -0.8
KIEV Kiev 15.57 324 ⇓*e*P Pn 15 47 18.7 -0.2
VTS Vitosha 15.91 290 ⇑P P 15 47 31.8 +4.5
VTS Vitosha 15.91 290 ⇑*i*P P 15 47 31.8 +4.5
BURAR Bucovina Array 15.96 309 ⇑P P 15 47 28.9 +1.1
BURAR Bucovina Array 15.96 309 ⇑*i*P P 15 47 28.9 +1.1
LOT Lotru 16.09 300 ⇑*i*P P 15 47 27.9 -1.4
LOT Lotru 16.09 300 ⇑*i*P P 15 47 27.9 -1.4
OBN Obninsk 16.89 346 Pn Pn 15 47 35.0 -0.8
comp=Z,4.6nm,0.3s,baz=122,slow=16,SNR=4.9
OBN Obninsk 16.89 346 ⇑*e*P Pn 15 47 36.4 +0.7
OBN *e*S Sn 15 50 40.8 -3.0
OBN pmax pmax
comp=Z,35nm,1.7s
OBN MLR MLR
comp=Z,126nm,15.0s
OBN Obninsk 16.89 346 Pn Pn 15 47 35.0 -0.8
OBN Obninsk 16.89 346 *e*P Pn 15 47 36.4 +0.7
comp=Z,126nm,15.0s
DRGR 17.22 304 ⇓P P 15 47 45.9 +4.3
DRGR 17.22 304 ⇓*i*P P 15 47 45.9 +4.3
UZH Uzhgorod 18.17 309 *e*P P 15 47 52.0 0.0
UZH Uzhgorod 18.17 309 *e*P P 15 47 52.0 0.0
CRVS Cervenica-Dubn 18.78 309 *e*P Pn 15 48 03.1 +3.9
CRVS Cervenica-Dubn 18.78 309 *e*P Pn 15 48 03.1 +3.9
STHS Stebnicka Huta 19.12 311 *e*P Pn 15 48 04.4 +1.0
STHS pmax pmax
comp=Z,3.0nm,1.1s
STHS Stebnicka Huta 19.12 311 *e*P Pn 15 48 04.4 +1.0
ARU Arti 20.12 25 P P 15 48 13.8 +0.5
comp=Z,9.9nm,0.7s,baz=214,slow=8.2,SNR=13
ARU LR LR 15 58 06.7
comp=Z,128nm,18.2s,baz=222,slow=43
ARU Arti 20.12 25 *c*P P 15 48 13.9 +0.5
ARU 15 48 29.8
ARU S S 15 51 58.7 -1.1
ARU pmax pmax
comp=Z,35nm,1.7s
ARU Arti 20.12 25 *e*P P 15 48 13.7 +0.4
comp=Z,18nm,0.9s
WSAR Wadi Sarin 20.18 136 P Pn 15 48 16.4 +0.3
comp=Z,3.8nm,0.8s,baz=324,slow=9.4,SNR=4.8
VYHS Vyhne 20.25 306 *e*P Pn 15 48 19.6 +2.8
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 20.25 306 *e*P Pn 15 48 19.6 +2.8
KKAR Karatay Array 20.66 70 *e*P P 15 48 18.3 -1.1
KKAR Karatay Array 20.66 70 *e*P P 15 48 18.3 -1.1
KKAR Karatay Array 20.66 70 *e*P P 15 48 18.3 -1.1
TIP Timpagrande 20.86 279 *e*P P 15 48 21.5 -0.1
comp=Z,10nm,1.1s
TIP Timpagrande 20.86 279 *e*P P 15 48 21.5 -0.1
comp=Z,10nm,1.1s
SVE Sverdlovsk 21.13 26 *e*P P 15 48 26.7 +2.4
SVE pmax pmax
comp=Z,32nm,1.2s
MODS Modra-Piesok 21.20 305 *e*P P 15 48 33.0 +7.8
MODS Modra-Piesok 21.20 305 *e*P P 15 48 33.0 +7.8
VRAC Vranov 21.91 307 P P 15 48 33.1 +0.2
comp=Z,1.2nm,0.3s,baz=195,slow=4.9,SNR=3.2
VRAC LR LR 15 58 02.5
comp=Z,73nm,18.2s,baz=94,slow=40
KLMR Klimovskoe 22.11 355 *e*P P 15 48 33.4 -1.4
KLMR pmax pmax
comp=Z,29nm,1.3s
KLMR Klimovskoe 22.11 355 *e*P P 15 48 33.5 -1.4
KLMR AMP 15 48 41.7
comp=Z,29nm,1.3s
SOKR Solikamsk 22.32 18 *e*P P 15 48 37.6 +0.6
SOKR pmax pmax
comp=Z,12nm,1.2s
VSU Vasula 22.40 336 ⇑*e*P P 15 48 38.8 +0.9
VSU pmax pmax
comp=Z,47nm,1.1s
DPC Dobruska-Polom 22.42 310 *e*P P 15 48 48.7 +10
DPC *e* 15 48 54.9
BRVK Borovoye 23.12 44 *e*P P 15 48 45.2 -0.3
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 23.12 44 *e*P P 15 48 45.2 -0.3
comp=Z,6.5nm,1.0s
BVAR Borovoye Array 23.16 44 P P 15 48 46.1 +0.1
comp=Z,0.8nm,0.6s,baz=227,slow=9.9,SNR=6.0
AAK Ala-Archa 23.59 71 P P 15 48 51.7 +1.1
comp=Z,2.1nm,0.8s,baz=184,slow=6.1,SNR=7.5
AAK LR LR 15 58 03.9
comp=Z,112nm,20.3s,baz=92,slow=37
AAK Ala-Archa 23.59 71 ⇓*e*P P 15 48 52.2 +1.6
AAK pmax pmax
comp=Z,6.0nm,1.3s
GERES GERESS Array B 23.62 305 P P 15 48 51.4 +0.6
comp=Z,1.7nm,0.7s,baz=104,slow=9.7,SNR=12
KHC Kasperske Hory 23.77 305 *e*P P 15 48 51.8 -0.3
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 23.77 305 *e*P P 15 48 52.4 +0.3
KHC *ex* x 15 48 59.0
KHC Kasperske Hory 23.77 305 *e*P P 15 48 51.8 -0.3
comp=Z,1.6nm,0.8s
CLL Collm 24.73 310 *e*P P 15 49 03.0 +2.1
CLL *e* 15 49 10.0
CLL Collm 24.73 310 *e*(sP) P 15 49 03.0 +2.1
CLL *e* 15 49 10.0
comp=Z,5.0nm,1.1s
CLL *e* 15 49 24.0
CLL *e*PPP PPP 15 49 40.0
FIA0 FINESS Array S 25.04 340 *e*P P 15 49 03.0 -0.6
FIA0 FINESS Array S 25.04 340 *e*P P 15 49 03.0 -0.6
FINES FINESS Array B 25.04 340 P P 15 49 03.0 -0.6
comp=Z,1.6nm,0.6s,baz=142,slow=9.6,SNR=4.3
FINES FINESS Array B 25.04 340 P P 15 49 03.0 -0.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
KURBB Kurchatov Arra 27.14 53 P P 15 49 23.8 +1.1
comp=Z,1.3nm,0.7s,baz=264,slow=9.0,SNR=12
KURK Kurchatov 27.21 53 ⇓*e*P P 15 49 24.2 +0.8
KURK pmax pmax
comp=Z,7.0nm,1.9s
KURK Kurchatov 27.21 53 *e*P P 15 49 23.8 +0.4
HFS Hagfors 28.37 328 P P 15 49 32.9 -0.7
comp=Z,2.6nm,0.7s,baz=127,slow=9.4,SNR=7.1
MAKZ Makanchi 28.95 62 *e*P P 15 49 39.4 +0.4
MAKZ pmax pmax
comp=Z,6.0nm,1.5s
MAKZ Makanchi 28.95 62 *e*P P 15 49 39.4 +0.4
comp=Z,5.7nm,1.5s
MK32 Makanchi Array 29.17 62 *e*P P 15 49 40.5 -0.5
MKAR Makanchi Array 29.17 62 P P 15 49 40.5 -0.5
comp=Z,1.5nm,0.7s,baz=270,slow=6.7,SNR=8.9
MKAR Makanchi Array 29.17 62 *e*P P 15 49 41.2 +0.2
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 29.17 62 *e*P P 15 49 41.2 +0.2
comp=Z,9.3nm,0.8s
LVZ Lovozero 29.46 353 ⇓*e*P P 15 49 42.8 -0.5
LVZ pmax pmax
comp=Z,17nm,1.2s
NB2 NORSAR Subarra 29.89 328 P P 15 49 45.7 -1.5
comp=Z,0.7nm,0.7s,baz=127,slow=9.3
NB200 NORSAR Array S 29.89 328 *e*P P 15 49 46.0 -1.1
NOA NORSAR Array B 29.89 328 P P 15 49 46.0 -1.1
comp=Z,0.8nm,0.7s,baz=126,slow=9.0,SNR=5.1
NOA LR LR 16 03 13.0
comp=Z,74nm,20.2s,baz=50,slow=39

PYUN	**Piuthan**	**34.30**	**96**	*e*P		**P**	**15 50 27.2**	**+0.8**
	comp=Z,21nm,1.0s							
KOLN	**Koldanda**	**34.93**	**96**	*e*P		**P**	**15 50 32.7**	**+0.8**
	comp=Z,5.6nm,0.7s							
EKA	**Eskdalemuir Ar**	**35.06**	**314**	P		**P**	**15 50 31.7**	**-0.8**
	comp=Z,3.9nm,0.7s,baz=105,slow=8.2,SNR=13							
GKN	**Gorkha**	**35.62**	**95**	*e*P		**P**	**15 50 38.5**	**+0.7**
	comp=Z,12nm,0.7s							
DMN	**Daman**	**36.17**	**95**	*e*P		**P**	**15 50 42.9**	**+0.2**
	comp=Z,15nm,0.9s							
PKI	**Pulchoki**	**36.43**	**95**	*e*P		**P**	**15 50 45.0**	**+0.1**
	comp=Z,14nm,0.9s							
ESDC	**Sonseca Array**	**36.51**	**287**	P		**P**	**15 50 44.1**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=67,slow=9.1,SNR=12							
GUN	**Gumba**	**36.63**	**94**	*e*P		**P**	**15 50 47.7**	**+1.0**
	comp=Z,19nm,0.9s							
JIRN	**Jiri**	**36.99**	**95**	*e*P		**P**	**15 50 49.9**	**+0.1**
	comp=Z,27nm,0.8s							
TAPN	**Taplejung**	**38.33**	**94**	*e*P		**P**	**15 51 01.4**	**+0.4**
	comp=Z,13nm,0.8s							
TOA1	**Torodi Ar. Sit**	**45.04**	**247**	*e*P		**P**	**15 51 53.7**	**-2.1**
TORD	**Torodi Ar. Bea**	**45.04**	**247**	P		**P**	**15 51 53.7**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=37,slow=6.0,SNR=6.3							
SONA0	**Songino Array**	**45.33**	**57**	*e*P		**P**	**15 51 57.7**	**-0.2**
SONM	**Songino Array**	**45.33**	**57**	P		**P**	**15 51 57.7**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=197,slow=1.5,SNR=2.1							
ULN	**Ulaanbaatar**	**45.76**	**57**⇑	*e*P		**P**	**15 52 02.1**	**+0.8**
ULN				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BOD	**Bodaibo**	**48.02**	**43**	*e*P		**P**	**15 52 19.7**	**+1.1**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.8s							
CM31	**Chiang Mai Arr**	**51.80**	**97**	*e*P		**P**	**15 52 46.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**51.80**	**97**	P		**P**	**15 52 46.4**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=298,slow=7.9,SNR=11							
TIXI	**Tiksi**	**52.12**	**24**⇑	*e*P		**P**	**15 52 51.6**	**+2.1**
TIXI				pmax	pmax			
	comp=Z,5.0nm,2.4s							
DBIC	**Dimbokro**	**54.15**	**247**	P		**P**	**15 53 04.5**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=183,slow=15,SNR=3.3							
DBIC	**Dimbokro**	**54.15**	**247**	*e*P		**P**	**15 53 04.5**	**-0.7**
	comp=Z,21nm,1.4s							
YAK	**Yakutsk**	**54.75**	**35**⇓	*e*P		**P**	**15 53 11.8**	**+2.8**
YAK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KLR	**Kul'dur**	**60.70**	**49**⇓	*e*P		**P**	**15 53 53.0**	**+1.9**
SEY	**Seymchan**	**63.79**	**29**⇓	*e*P		**P**	**15 54 14.9**	**+3.4**
BILL	**Bilibino**	**65.07**	**20**	*i* P		**P**	**15 54 20.0**	**+0.1**
BILL				*i*			15 54 57.1	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s							
BOSA	**Boshof**	**69.34**	**197**	P		**P**	**15 54 49.4**	**+1.9**
	comp=Z,3.3nm,0.8s,baz=358,slow=6.2,SNR=4.2							
ILAR	**Eielson Array**	**76.32**	**5**	P		**P**	**15 55 29.4**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=327,slow=6.5,SNR=2.8							
ILB	**Eielson Array**	**76.32**	**5**	*e*P		**P**	**15 55 29.4**	**+1.0**
YKA	**Yellowknife Ar**	**77.43**	**350**	P		**P**	**15 55 34.6**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=18,slow=6.3,SNR=8.2							
YKB5	**Yellowknife Ar**	**77.43**	**350**	*e*P		**P**	**15 55 34.6**	**-0.1**
ULM	**Lac du Bonnet**	**84.33**	**335**	P		**P**	**15 56 12.8**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=70,slow=5.2,SNR=3.9							

MEX 23 15:44:46.5±0.8, 16°20'N×98°57'W, h15km±14km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.46**	**66**	*e*P		Pg	15 44 54.1	-1.7
PNIG				*e*S		Sg	15 45 01.0	-1.0
TLIG	**Tlapa**	**1.35**	**360**	*e*P		Pn	15 45 07.2	-3.7
TLIG				*e*S		Sn	15 45 22.9	-5.8
ACX	**Acapulco**	**1.41**	**298**	*e*P		Pn	15 45 05.9	-5.7
ACX				*i* S		Sn	15 45 23.5	-6.4
CAIG	**El Cayaco**	**1.83**	**297**	*e*P		Pn	15 45 14.7	-2.8
CAIG				*e*S		Sn	15 45 35.5	-4.9
VHO	**Vista Hermosa**	**1.96**	**64**	*e*P		Pn	15 45 16.9	-2.5
VHO				*e*S		Sn	15 45 39.2	-4.6

*ISCJB **23** 15:45:45.7±0.8,20.0°S±0.2°×177.6°W±0.1, h550km, mb3.7/6, Error ellipse: s-maj=22.8km s-min=13.6km az=143.4*
*IDC **23** 15:45:47.1±1.8,19.98°S×177.64°W, h548km±23km, mb3.2/6, mb1 3.4/8, mb1mx3.1/42, mbtmp4.2/8, Error ellipse: s-maj=26.4km s-min=15.3km az=146.0*

ISC 23 15:45:46.7±0.9, 20.0°S±0.2°×177.6°W±0.1, h550km, n11, σ0s92/12, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**8.17**	**44**	P		**P**	**15 47 45.4**	**-0.9**
	4.9nm,0.3s,baz=44,slow=7.4,SNR=8.2							
URZ	**Urewera**	**18.82**	**193**	P		**P**	**15 49 30.8**	**-1.0**
	0.7nm,0.3s,baz=272,slow=1.8,SNR=6.2							
STKA	**Stephens Creek**	**38.39**	**244**	P		**P**	**15 52 22.0**	**+0.6**
	3.3nm,0.6s,baz=92,slow=9.7,SNR=8.1							
ASAR	**Alice Springs**	**45.04**	**256**	P		**P**	**15 53 14.4**	**+0.4**
	1.9nm,0.5s,baz=91,slow=7.8,SNR=20							
ASAR				S		**S**	**15 59 12.4**	**-0.8**
	0.7nm,0.8s,baz=96,slow=15,SNR=7.2							
WRA	**Warramunga Arr**	**45.08**	**261**	P		**P**	**15 53 14.2**	**-0.1**
	1.1nm,0.5s,baz=95,slow=8.0,SNR=45							
WRA				S		**S**	**15 59 12.2**	**-1.6**
	0.6nm,0.9s,baz=94,slow=13,SNR=3.5							
QSPA	**South Pole Qui**	**70.11**	**180**	P		**P**	**15 56 04.1**	**+0.4**
	1.4nm,0.9s,baz=60,slow=1.1,SNR=3.9							
ILAR	**Eielson Array**	**87.70**	**13**	P		**P**	**15 57 36.5**	**-0.1**
	0.4nm,0.6s,baz=216,slow=6.0,SNR=5.8							
SONM	**Songino Array**	**95.61**	**319**	P		**P**	**15 58 14.2**	**+0.7**
	0.5nm,0.9s,baz=145,slow=5.3,SNR=2.8							
AKASG	**Malin Array Be**	**142.73**	**332**	PKhKP		PKPpre	16 04 14.6	
	0.7nm,0.5s,baz=43,slow=4.8,SNR=6.7							
BRTR	**Keskin Array B**	**146.77**	**313**	PKPbc		**PKPbc**	**16 04 27.7**	**0.0**
	0.4nm,0.4s,baz=114,slow=3.4,SNR=3.4							
GERES	**GERESS Array B**	**149.78**	**345**	PKPbc		**PKPbc**	**16 04 36.0**	**+1.2**
	0.3nm,0.4s,baz=57,slow=3.7,SNR=5.0							

*IDC **23** 15:50:21.0±2.0, 17.67°S×167.51°E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/41, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=44.6km s-min=29.0km az=84.0*
*ISCJB **23** 15:50:23.0±1.8, 17.73°S±0.09°×167.4°E±0.3, h19km, mb3.7/5, Error ellipse: s-maj=38.2km s-min=13.0km az=177.1*

ISC 23 15:50:24.2±1.9, 17.7°S±0.1°×167.5°E±0.3, h19km, n6, σ0s89/7, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**4.45**	**193**	Pn		**Pn**	**15 51 30.2**	**-0.6**
	3.5nm,0.3s,baz=327,slow=6.2,SNR=17							
DZM				Sn		**Sn**	**15 52 22.2**	**0.0**
	2.1nm,0.3s,baz=275,slow=22,SNR=7.9							
STKA	**Stephens Creek**	**27.33**	**234**	P		**P**	**15 56 09.5**	**+1.5**
	0.7nm,0.4s,baz=52,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**31.44**	**261**	P		**P**	**15 56 43.9**	**-0.7**
	0.2nm,0.4s,baz=81,slow=6.0,SNR=5.3							
ASAR	**Alice Springs**	**31.93**	**254**	P		**P**	**15 56 48.8**	**-0.2**
	1.5nm,0.6s,baz=79,slow=8.3,SNR=23							
QSPA	**South Pole Qui**	**72.33**	**190**	P		**P**	**16 01 48.9**	**+0.3**
	1.8nm,0.8s,baz=125,slow=4.8,SNR=4.8							
SONM	**Songino Array**	**85.01**	**324**	P		**P**	**16 02 58.4**	**-0.2**
	0.3nm,0.7s,baz=134,slow=4.2,SNR=2.5							

IDC 23 15:55:24.0±14.0, 17.66°S×167.50°E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/42, mbtmp3.8/4, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/38, Error ellipse: s-maj=240.0km s-min=39.9km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**4.50**	**193**	Pn		Pn	15 56 33.8	+0.3
	4.8nm,0.3s,baz=185,slow=7.9,SNR=22							
DZM				Sn		Sn	15 57 25.2	-1.5
	3.3nm,0.3s,baz=82,slow=18,SNR=6.3							
STKA	**Stephens Creek**	**27.36**	**234**	P		P	16 01 11.1	+0.1
	3.1nm,1.0s,baz=48,slow=15,SNR=3.0							
WRA	**Warramunga Arr**	**31.45**	**261**	P		P	16 01 47.3	-0.2
	0.4nm,0.8s,baz=86,slow=8.4,SNR=4.4							
ASAR	**Alice Springs**	**31.95**	**253**	P		P	16 01 52.0	+0.1
	1.0nm,0.5s,baz=80,slow=8.3,SNR=21							
DAV	**Davao City (W)**	**48.15**	**297**	LR		LR	16 23 31.0	
	comp=Z,49nm,19.6s,baz=296,slow=35							

*IDC **23** 15:59:20.9±0.8, 8.82°S×160.19°E, h83km±5km, mb3.8/9, mb1 4.0/10, mb1mx3.7/45, mbtmp4.1/10, MS3.3/2, Ms1 3.3/2, ms1mx2.9/39, Error ellipse: s-maj=26.1km s-min=13.1km az=108.0*
*ISCJB **23** 15:59:21.4±0.8, 9.05°S±0.1°×160.2°E±0.2, h100km, mb3.8/10, Error ellipse: s-maj=26.6km s-min=13.1km az=24.4*
*NEIC **23** 15:59:22.0±1.2, 8.94°S×160.26°E, h92km±10km, mb4.0/2, Error ellipse: s-maj=27.9km s-min=14.3km az=125.0*

ISC 23 15:59:21.8±0.9, 8.9°S±0.1°×160.2°E±0.2, h100km, n21, σ2s32/18, mb3.9/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**0.59**	**209**	P		**Pn**	**15 59 37.4**	**-0.9**
	2μm,0.3s,baz=149,slow=1.9,SNR=762							
HNR				S		**Sn**	**15 59 49.8**	**-0.7**
	8μm,0.3s,baz=73,slow=19,SNR=64							
CTA	**Charters Tower**	**17.49**	**229**	P		**Pn**	**16 03 21.4**	**+1.9**
	0.5nm,0.3s,baz=49,slow=12,SNR=11							
CTAO	**Charters Tower**	**17.49**	**229**	*e*P		**Pn**	**16 03 21.7**	**+2.2**
	9.2nm,0.5s							
WRAB	**Tennant Creek**	**27.31**	**244**	*e*P		**P**	**16 04 57.5**	**+0.1**
	1.3nm,0.5s							
WRA	**Warramunga Arr**	**27.33**	**244**	P		**P**	**16 04 57.5**	**0.0**
	4.4nm,0.9s,baz=70,slow=9.7,SNR=37							
WRA				pP		**pP**	**16 05 16.7**	**-3.1**
	1.8nm,0.6s,baz=69,slow=9.6,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**27.97**	**13**	T		T	16 33 43.3	
	baz=194,slow=76,SNR=299							
H11S3	**WAKE ISLAND Hy**	**27.97**	**13**	T		T	16 33 43.8	
	baz=194,slow=76,SNR=179							
H11S1	**WAKE ISLAND Hy**	**27.99**	**13**	T		T	16 33 48.5	
	baz=194,slow=76,SNR=202							
STKA	**Stephens Creek**	**28.66**	**215**	P		**P**	**16 05 09.7**	**+0.4**
	1.8nm,0.7s,baz=54,slow=15,SNR=4.5							
ASAR	**Alice Springs**	**29.14**	**237**	P		**P**	**16 05 13.5**	**-0.2**
	2.6nm,0.8s,baz=64,slow=9.7,SNR=27							
ASAR				pP		**pP**	**16 05 33.7**	**-2.3**
	0.8nm,0.8s,baz=59,slow=9.5,SNR=3.2							
H11N1	**WAKE ISLAND Hy**	**29.20**	**13**	T		T	16 35 13.7	
	baz=194,slow=76,SNR=265							
H11N3	**WAKE ISLAND Hy**	**29.20**	**13**	T		T	16 35 15.7	
	baz=194,slow=76,SNR=236							
H11N2	**WAKE ISLAND Hy**	**29.21**	**13**	T		T	16 35 16.5	
	baz=194,slow=76,SNR=210							
URZ	**Urewera**	**32.93**	**155**	LR		LR	16 17 03.1	
	comp=Z,39nm,19.3s,baz=306,slow=32							
JNU	**Nakatsue**	**50.29**	**328**	LR		LR	16 28 07.6	
	comp=Z,38nm,19.4s,baz=119,slow=34							
CMAR	**Chiang Mai Arr**	**66.30**	**295**	P		**P**	**16 10 01.7**	**+1.7**
	0.7nm,0.9s,baz=124,slow=5.8,SNR=4.9							
VNDA	**Vanda**	**68.58**	**180**	P		**P**	**16 10 14.2**	**+0.8**
	2.4nm,0.8s,baz=332,slow=7.0,SNR=14							
SONM	**Songino Array**	**73.80**	**325**	P		**P**	**16 10 47.0**	**+1.5**
	0.8nm,0.7s,baz=195,slow=8.8,SNR=6.1							
ILAR	**Eielson Array**	**83.31**	**20**	P		**P**	**16 11 38.1**	**+1.0**
	0.8nm,0.5s,baz=244,slow=5.2,SNR=16							
ILAR				pP		**pP**	**16 11 59.0**	**-4.3**
	0.4nm,0.5s,baz=240,slow=5.6,SNR=3.5							
MKAR	**Makanchi Array**	**88.29**	**318**	P		**P**	**16 12 03.1**	**+0.9**
	0.7nm,0.7s,baz=98,slow=6.0,SNR=8.6							
MKAR				pP		**pP**	**16 12 23.4**	**-5.1**
	0.7nm,0.6s,baz=94,slow=6.3,SNR=5.5							
YKA	**Yellowknife Ar**	**95.61**	**28**	P		**P**	**16 12 37.3**	**+1.7**
	0.4nm,0.7s,baz=258,slow=4.6,SNR=8.7							

*IDC **23** 16:04:07.9±1.4, 22.87°N×95.07°E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/68, mbtmp3.4/4, ML3.4/1, MS4.2/1, Ms1 4.2/1, ms1mx2.9/51, Error ellipse: s-maj=49.0km s-min=16.6km az=57.0*

ISC 23 16:04:10.4±0.9, 23.0°N±0.2°×95.2°E±0.2, h10km, n13, σ2s47/20, mb3.4/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**5.77**	**141**	Pn		**Pn**	**16 05 34.6**	**-1.5**
	0.3nm,0.3s,baz=316,slow=13,SNR=5.6							
CMAR				Pg		**Pb**	**16 05 52.2**	**+1.0**
	1.0nm,0.3s,baz=317,slow=17,SNR=16							
CMAR				Lg		Lg	16 07 05.4	
	0.5nm,0.3s,baz=317,slow=29,SNR=4.1							
TAPN	**Taplejung**	**7.99**	**304**	*e*Pn		**Pn**	**16 06 09.4**	**+2.5**
TAPN				*e*Sn		**Sn**	**16 07 35.1**	**-2.4**
	7.0nm,0.4s							
ODAN	**Odare**	**8.01**	**300**	*e*Pn		**Pn**	**16 06 10.1**	**+3.1**
ODAN				*e*Sn		**Sn**	**16 07 36.4**	**-1.4**
	8.5nm,0.4s							
JIRN	**Jiri**	**9.32**	**301**	*e*Pn		**Pn**	**16 06 27.8**	**+2.6**
JIRN				*e*Sn		**Sn**	**16 08 08.1**	**-2.2**
	9.3nm,0.3s							
GUN	**Gumba**	**9.68**	**302**	*e*Pn		**Pn**	**16 06 32.5**	**+2.4**
GUN				*e*Sn		**Sn**	**16 08 15.7**	**-3.4**
	13nm,0.7s							
PKI	**Pulchoki**	**9.90**	**299**	*e*Pn		**Pn**	**16 06 36.6**	**+3.5**
PKI				*e*Sn		**Sn**	**16 08 22.9**	**-1.6**
	3.0nm,0.4s							
PKIN	**Phulchoki**	**9.91**	**299**	*e*Pn		**Pn**	**16 06 36.4**	**+3.2**
PKIN				*e*Sn		**Sn**	**16 08 22.4**	**-2.3**
KKN	**Kakani**	**10.10**	**300**	*e*Pn		**Pn**	**16 06 38.7**	**+3.0**
KKN				*e*Sn		**Sn**	**16 08 27.3**	**-1.9**
	3.2nm,0.5s							
KOLN	**Koldanda**	**11.45**	**297**	*e*Sn		**Sn**	**16 09 00.4**	**-2.0**
MKAR	**Makanchi Array**	**25.88**	**339**	P		**P**	**16 09 42.5**	**+0.2**
	1.0nm,0.6s,baz=146,slow=12,SNR=17							
KURBB	**Kurchatov Arra**	**30.44**	**339**	P		**P**	**16 10 22.6**	**-0.3**
	0.2nm,0.3s,baz=155,slow=9.3,SNR=3.8							
JCJ	**Chichijima**	**42.61**	**74**	LR		LR	16 29 37.0	
	comp=Z,317nm,21.8s,baz=96,slow=36							
WRA	**Warramunga Arr**	**57.33**	**135**	P		**P**	**16 13 57.9**	**-1.0**
	0.3nm,0.9s,baz=323,slow=7.5,SNR=3.8							

*JMA **23** 16:04:41.1±0.1, 23.20°N×120.54°E, h0km*
*TAP **23** 16:04:41.8, 23.14°N×120.56°E, h13km, ML3.5, B*
*ISCJB **23** 16:04:42.9±0.2, 23.140°N±0.009°×120.55°E±0.01°, h12km±1km, Error ellipse: s-maj=2.1km s-min=1.5km az=176.0*

ISC 23 16:04:42.6±0.7, 23.17°N±0.01°×120.55°E±0.02, h17km±4km, n107, σ1s105/191, 10C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHN1	**Nanshi**	**0.03**	**311**⇑	*i*P		**Pg**	**16 04 44.9**	**-0.9**
	baz=325							
CHN1				*i* S		**Sg**	**16 04 47.0**	**-0.9**
	baz=325							
SGST	**Jiashian**	**0.09**	**161**⇑	*i*P		**Pg**	**16 04 45.1**	**-1.0**
	baz=157							
SGST				*i* S		**Sg**	**16 04 47.4**	**-1.0**
	baz=157							
WTP	**Ta-pu**	**0.10**	**35**	⇓P		**Pg**	**16 04 45.7**	**-0.6**
	baz=28							
WTP				S		**Sg**	**16 04 48.5**	**-0.2**
	baz=28							
TWK	**Hsinying**	**0.12**	**330**	⇓*i*P		**Pg**	**16 04 46.0**	**-0.5**
	baz=336							
TWK				S		**Sg**	**16 04 49.1**	**+0.1**
	baz=336							
TPUB	**Ta-pu**	**0.15**	**28**⇑	*e*P		**Pg**	**16 04 46.4**	**-0.5**
	baz=21							
TPUB				S		**Sg**	**16 04 49.6**	**-0.1**
	baz=21							
STYT	**Tauyuan**	**0.19**	**91**	⇓*i*P		**Pg**	**16 04 46.9**	**-0.5**
	baz=84							
STYT				*i* S		**Sg**	**16 04 50.6**	**0.0**
	baz=84							
CHN4	**Tsaushan**	**0.19**	**11**	*e*P		**Pg**	**16 04 47.1**	**-0.2**
	baz=8.0							
CHN4				S		**Sg**	**16 04 51.2**	**+0.6**
	baz=8.0							
SLGT	**Liugui**	**0.19**	**153**	⇓*i*P		**Pg**	**16 04 46.6**	**-0.8**
	baz=145							
SLGT				S		**Sg**	**16 04 49.6**	**-1.0**
	baz=145							
CHN3	**Shinhua**	**0.19**	**243**	P		**Pg**	**16 04 47.6**	**+0.2**
	baz=257							
CHN3				*e*S		**Sg**	**16 04 52.3**	**+1.6**
	baz=257							
TAI1	**Yung-k'ang**	**0.32**	**247**	*e*P		**Pb**	**16 04 49.5**	**-0.4**
	baz=264							
SCLT	**Jiali**	**0.33**	**272**	*e*P		**Pb**	**16 04 49.8**	**-0.3**
	baz=288							
SCLT				*e*S		**Sb**	**16 04 56.7**	**+1.6**
	baz=288							
CHY	**Chiayi**	**0.35**	**340**	*e*P		**Pb**	**16 04 50.5**	**+0.1**
	baz=342							
CHY				*e*S		**Sb**	**16 04 57.0**	**+1.3**
	baz=342							
TWM1	**Shoushan**	**0.36**	**199**	*e*P		**Pb**	**16 04 50.8**	**+0.3**
	baz=189							
CHN8	**Yiju**	**0.36**	**300**	*e*P		**Pb**	**16 04 50.4**	**-0.2**
	baz=305							
CHN8				*e*S		**Sb**	**16 04 57.5**	**+1.6**
	baz=305							
CHN2	**Minshiung**	**0.37**	**349**⇓	*i*P		**Pb**	**16 04 51.0**	**+0.2**
	baz=349							
CHN2				S		**Sb**	**16 04 57.9**	**+1.6**
	baz=349							
WLGB	**Puzi**	**0.39**	**323**	*e*P		**Pb**	**16 04 51.0**	**0.0**
	baz=326							
WLGB				*e*S		**Sb**	**16 04 58.2**	**+1.5**
	baz=326							
ALS	**Alishan**	**0.41**	**34**	P		**Pb**	**16 04 51.1**	**-0.5**
	baz=32							
ALS				*e*S		**Sb**	**16 04 58.0**	**+0.2**
	baz=32							
SSD	**Sandimen**	**0.42**	**170**⇓	*i*P		**Pb**	**16 04 50.9**	**-0.7**
	baz=159							
SSD				S		**Sb**	**16 04 57.3**	**-0.4**
	baz=159							
ELDTW	**Lidau**	**0.43**	**87**⇓	*i*P		**Pb**	**16 04 51.1**	**-0.6**
	baz=82							
ELDTW				*e*S		**Sb**	**16 04 57.6**	**-0.4**
	baz=82							
SGLT	**Jiouru**	**0.44**	**187**	*e*P		**Pb**	**16 04 52.5**	**+0.5**
	baz=187							
CHN5	**Tsauling**	**0.45**	**15**	*e*P		**Pb**	**16 04 51.6**	**-0.4**
	baz=14							
CHN5				S		**Sb**	**16 04 59.5**	**+1.0**
	baz=14							
YUS	**Yu-Shan**	**0.49**	**49**	*e*P		**Pb**	**16 04 52.7**	**-0.4**
	baz=46							
YUS				*e*S		**Sb**	**16 04 59.8**	**-0.3**
	baz=46							
WGK	**Gukeng**	**0.52**	**1**	*e*P		**Pb**	**16 04 53.6**	**+0.3**
	baz=2.0							
WGK				*e*S		**Sn**	**16 05 02.7**	**-0.9**
	baz=2.0							
WDLH	**Douliu**	**0.52**	**359**	*e*P		**Pb**	**16 04 53.8**	**+0.5**
	baz=359							
WDLH				S		**Sb**	**16 05 02.4**	**+1.8**
	baz=359							
MASBT	**Mashibuluo**	**0.56**	**172**	⇓P		**Pb**	**16 04 53.1**	**-0.8**
	baz=164							
MASBT				*e*S		**Sb**	**16 05 01.1**	**-0.5**
	baz=164							
WSF	**Szhu**	**0.56**	**327**	P		**Pb**	**16 04 53.9**	**-0.1**
	baz=329							
WSF				S		**Sb**	**16 05 03.2**	**+1.5**
	baz=329							
WSSB	**Gushan**	**0.59**	**207**	*e*P		**Pn**	**16 04 55.3**	**-0.9**
	baz=209							
TWG	**Pinlang**	**0.59**	**126**	⇓P		**Pb**	**16 04 54.1**	**-0.4**
	baz=123							
TWG				S		**Sb**	**16 05 02.8**	**+0.3**
	baz=123							
TWGBT	**Beinan**	**0.60**	**125**⇓	*e*P		**Pb**	**16 04 54.1**	**-0.5**
	baz=123							
TWGBT				*e*S		**Sb**	**16 05 02.6**	**-0.2**
	baz=123							
KAU	**Kaohsiung**	**0.64**	**201**	*e*P		**Pb**	**16 04 55.3**	**0.0**
	baz=215							
WJS	**Zhushan**	**0.67**	**14**⇑	*e*P		**Pb**	**16 04 56.2**	**+0.3**
	baz=13							
WJS				*e*S		**Sn**	**16 05 06.7**	**-0.8**
	baz=13							
ECL	**Taimali**	**0.68**	**147**	*e*P		**Pb**	**16 04 55.3**	**-0.6**
	baz=145							
ECL				*e*S		**Sb**	**16 05 04.5**	**-0.5**
	baz=145							
SSPT	**Xinbi**	**0.68**	**179**	*e*P		**Pb**	**16 04 56.4**	**+0.4**
	baz=166							
SSPT				*e*S		**Sn**	**16 05 07.8**	**+0.2**
	baz=166							
FULB	**Fuli**	**0.68**	**87**⇓	*e*P		**Pb**	**16 04 56.2**	**+0.1**
	baz=77							
FULB				*e*S		**Sb**	**16 05 05.9**	**+0.6**
	baz=77							
TTN	**Taitung**	**0.68**	**127**	*e*P		**Pb**	**16 04 56.7**	**+0.6**
	baz=124							
TWF1	**Yuli**	**0.71**	**75**	⇑P		**Pb**	**16 04 56.2**	**-0.3**
	baz=72							
TWF1				S		**Sb**	**16 05 05.6**	**-0.4**
	baz=72							
WNT	**Mingjian**	**0.72**	**10**	P		**Pb**	**16 04 57.0**	**+0.3**
	baz=10.0							
WNT				S		**Sn**	**16 05 08.4**	**-0.2**
	baz=10.0							
SSLB	**Suanglung**	**0.72**	**31**⇑	*e*P		**Pb**	**16 04 56.2**	**-0.5**
	baz=37							
SSLB				*e*S		**Sb**	**16 05 07.0**	**+0.6**
	baz=37							
YULB	**Yu-li**	**0.72**	**72**	⇑P		**Pb**	**16 04 56.2**	**-0.6**
	baz=69							
YULB				*e*S		**Sg**	**16 05 05.5**	**-0.9**
	baz=69							
WTCT

PHUB					*e*S		**Sg**	**16 05 12.7**	**-1.5**
	baz=294								
OWD	**Renai**	**0.97**	**36**		*e*P		**Pb**	**16 05 01.0**	**-0.1**
	baz=35								
OWD					*e*S		**Sn**	**16 05 15.1**	**0.0**
	baz=35								
TCU	**Taichung**	**0.98**	**7**		*e*P		**Pb**	**16 05 01.2**	**-0.1**
	baz=356								
TCU					*e*S		**Sn**	**16 05 15.2**	**+0.1**
	baz=356								
PNG	**Penghu**	**1.00**	**294**		*e*P		**Pg**	**16 05 00.3**	**-1.8**
	baz=297								
PNG					*e*S		**Sg**	**16 05 13.9**	**-1.3**
	baz=297								
ESL	**Shilin**	**1.03**	**51**		*e*P		**Pn**	**16 05 02.1**	**-0.2**
	baz=49								
ESL					*e*S		**Sn**	**16 05 16.8**	**+0.4**
	baz=49								
CHGB	**Renai**	**1.06**	**32**		*e*P		**Pb**	**16 05 02.3**	**-0.3**
	baz=32								
CHGB					*e*S		**Sn**	**16 05 17.4**	**+0.1**
	baz=32								
HEN	**Hengchun**	**1.17**	**172**		*e*P		**Pg**	**16 05 03.8**	**-1.4**
	baz=159								
HEN					*e*S		**Sn**	**16 05 21.7**	**+2.0**
	baz=159								
WHF	**Hehuan Shan**	**1.17**	**34**		P		**Pn**	**16 05 04.7**	**+0.1**
	baz=33								
WHF					*e*S		**Sn**	**16 05 21.6**	**+1.1**
	baz=33								
TWQ1	**Liyutan**	**1.20**	**10**		⇑P		**Pn**	**16 05 04.8**	**+0.3**
	baz=10.0								
TWQ1					*e*S		**Sn**	**16 05 22.2**	**+1.8**
	baz=10.0								
ENLB	**Shoufeng**	**1.21**	**52**		*e*P		**Pn**	**16 05 05.1**	**+0.3**
	baz=41								
ENLB					*e*S		**Sn**	**16 05 22.4**	**+1.7**
	baz=41								
TDCB	**Techi**	**1.22**	**27**		*e*P		**Pn**	**16 05 05.2**	**+0.2**
	baz=26								
TDCB					*e*S		**Sn**	**16 05 22.2**	**+1.1**
	baz=26								
TWT	**Tachien**	**1.23**	**28**		*e*P		**Pn**	**16 05 05.4**	**+0.3**
	baz=18								
TWT					*e*S		**Sn**	**16 05 22.2**	**+0.8**
	baz=18								
TWK1	**Hengchun**	**1.24**	**169**		*e*P		**Pg**	**16 05 05.8**	**-0.8**
	baz=167								
TWKBT	**Hengchun**	**1.24**	**169**	⇑	*e*P		**Pb**	**16 05 04.7**	**-0.9**
TWKBT					*e*S		**Sn**	**16 05 22.2**	**+0.7**
	baz=167								
HWA	**Hwalien**	**1.26**	**50**		*e*P		**Pg**	**16 05 06.6**	**-0.3**
	baz=48								
HWA					*e*S		**Sn**	**16 05 23.6**	**+1.7**
	baz=48								
NSY	**Sanyi**	**1.26**	**9**		*e*P		**Pg**	**16 05 06.3**	**-0.7**
	baz=358								
NSY					*e*S		**Sn**	**16 05 24.1**	**+2.1**
	baz=358								
PTSB	**Yuanli**	**1.28**	**6**		*e*P		**Pg**	**16 05 06.1**	**-1.3**
	baz=7.0								
PTSB					*e*S		**Sn**	**16 05 24.6**	**+2.0**
	baz=7.0								
SANB	**Taian**	**1.29**	**18**		*e*P		**Pg**	**16 05 06.3**	**-1.3**
	baz=18								
SANB					*e*S		**Sn**	**16 05 25.1**	**+2.1**
	baz=18								
TWD	**Chiawan**	**1.32**	**46**		*e*P		**Pg**	**16 05 07.1**	**-1.1**
	baz=45								
TWD					*e*S		**Sn**	**16 05 25.2**	**+1.7**
	baz=45								
NMLH	**Miaoli**	**1.38**	**9**		*e*P		**Pg**	**16 05 07.9**	**-1.4**
	baz=9.0								
NMLH					*e*S		**Sg**	**16 05 27.9**	**+0.5**
	baz=9.0								
NACB	**Ninganchiao**	**1.39**	**43**		*e*P		**Pg**	**16 05 07.9**	**-1.5**
	baz=42								
NACB					*e*S		**Sg**	**16 05 26.9**	**-0.6**
	baz=42								
NNSB	**Datong**	**1.47**	**31**		*e*P		**Pb**	**16 05 09.0**	**-0.6**
	baz=30								
NNSB					*e*S		**Sg**	**16 05 30.0**	**-0.1**
	baz=30								
NNSH	**Datong**	**1.47**	**31**		*e*P		**Pb**	**16 05 08.9**	**-0.7**
	baz=30								
NNSH					*e*S		**Sg**	**16 05 29.6**	**-0.5**
	baz=30								
NNS	**Nan Shan**	**1.48**	**30**		*e*P		**Pg**	**16 05 09.6**	**-1.5**
	baz=30								
NNS					S		**Sg**	**16 05 30.3**	**-0.1**
	baz=30								
NSTT	**Nanjuang**	**1.52**	**16**		*e*P		**Pn**	**16 05 09.3**	**+0.4**
	baz=16								
NSTT					*e*S		**Sg**	**16 05 30.6**	**-1.1**
	baz=16								
LIOB	**Emei**	**1.53**	**16**		*e*P		**Pn**	**16 05 09.6**	**+0.4**
	baz=16								
LIOB					*e*S		**Sg**	**16 05 30.7**	**-1.5**
	baz=16								
ENA	**Nanau**	**1.66**	**41**		*e*P		**Pb**	**16 05 12.1**	**-0.7**
	baz=55								
ENA					*e*S		**Sg**	**16 05 34.8**	**-1.5**
	baz=55								
NANB	**Nanao**	**1.67**	**41**		*e*P		**Pb**	**16 05 11.9**	**-0.9**
	baz=55								
NANB					*e*S		**Sg**	**16 05 35.2**	**-1.2**
	baz=55								
YHNB	**Yeheng**	**1.68**	**27**		*e*P		**Pn**	**16 05 11.8**	**+0.5**
	baz=37								
YHNB					*e*S		**Sb**	**16 05 34.3**	**+0.4**
	baz=37								
ENAH	**Nanao**	**1.72**	**42**		*e*P		**Pb**	**16 05 13.5**	**-0.3**
	baz=57								
ENTT	**Nioudou**	**1.74**	**32**		*e*P		**Pb**	**16 05 13.3**	**-0.8**
	baz=20								
WLTB	**Daxi**	**1.80**	**21**		*e*P		**Pn**	**16 05 13.2**	**+0.4**
	baz=5.0								
NWLT	**Wulai**	**1.82**	**28**		*e*P		**Pn**	**16 05 14.0**	**+0.7**
	baz=28								
TWE	**Neicheng**	**1.85**	**33**		*e*P		**Pb**	**16 05 15.7**	**-0.3**
	baz=33								
TWE					*e*S		**Sg**	**16 05 41.2**	**-1.2**
	baz=33								
TWC	**Suao**	**1.86**	**39**		*e*P		**Pb**	**16 05 15.4**	**-0.8**
	baz=53								
TWC					*e*S		**Sg**	**16 05 40.9**	**-1.8**
	baz=53								
SLBB	**Yuanshan**	**1.87**	**32**		*e*P		**Pb**	**16 05 15.8**	**-0.5**
	baz=32								
SLBB					*e*S		**Sg**	**16 05 41.6**	**-1.2**
	baz=32								
EOS1	**EOS1**	**2.00**	**46**		*e*P		**Pb**	**16 05 17.4**	**-1.0**
	baz=45								
TATO	**Taipei**	**2.00**	**25**		*e*P		**Pn**	**16 05 16.1**	**+0.6**
	baz=10.0								
TWA	**Mucha**	**2.04**	**27**		*e*P		**Pb**	**16 05 17.6**	**-1.6**
	baz=13								
TIPB	**Shuangxi**	**2.14**	**33**		*e*P		**Pn**	**16 05 17.9**	**+0.3**
	baz=15								
YM04	**YM04**	**2.17**	**24**		*e*P		**Pn**	**16 05 18.2**	**+0.2**
	baz=7.0								
YM10	**YM10**	**2.19**	**25**		*e*P		**Pn**	**16 05 18.1**	**-0.1**
	baz=11								
YM05	**YM05**	**2.19**	**25**		*e*P		**Pn**	**16 05 18.0**	**-0.4**
	baz=11								
YM03	**YM03**	**2.20**	**24**		*e*P		**Pn**	**16 05 18.3**	**-0.1**
	baz=7.0								
YM07	**YM07**	**2.23**	**26**		*e*P		**Pn**	**16 05 18.0**	**-0.8**
	baz=26								
KNMB	**Chin-men Tao**	**2.37**	**304**		*e*P		**Pn**	**16 05 19.6**	**-1.0**
	baz=309								
MATB	**Ma-tsu**	**3.02**	**350**		*e*P		**Pn**	**16 05 28.1**	**-1.6**
	baz=338								
HATJ	**Hateruma jima**	**3.11**	**73**		P		**Pn**	**16 05 32.5**	**+1.6**
HATJ					S		**Sn**	**16 06 10.9**	**+3.2**
IRIF	**Iriomote-Funau**	**3.13**	**68**		P		**Pn**	**16 05 33.5**	**+2.3**
IRIF					S		**Sn**	**16 06 12.3**	**+4.0**
JKRS	**Kuro-shima**	**3.34**	**71**		P		**Pn**	**16 05 36.0**	**+1.9**
JKRS					S		**Sn**	**16 06 16.8**	**+3.4**
JIJ	**Ishigaki jima**	**3.50**	**69**		P		**Pn**	**16 05 37.2**	**+1.0**
JIJ					S		**Sn**	**16 06 19.1**	**+1.9**
JISG	**Ishigakijimahi**	**3.72**	**67**		P		**Pn**	**16 05 40.1**	**+0.8**
JISG					S		**Sn**	**16 06 22.8**	**+0.1**

*DDA **23** 16:06:40.1,38.2°N×38.2°E,h24km,Ml2.5*

*ISCJB **23** 16:06:41.9±0.7,38.2°27N±0.0°05×38.2°16E±0.0°04,h9km±6km, Error ellipse: s-maj=8.9km s-min=4.9km az=16.4*
*ISK **23** 16:06:41.9,38.2°29N×38.2°16E,h6km,ML1.4/3*
*CSEM **23** 16:06:42.0±0.3,38.2°33N×38.2°18E,h5km,ML2.5, Error ellipse: s-maj=7.2km s-min=4.7km az=33.0*

ISC 23 16:06:42.2±1.0,38.2°30N±0.0°04×38.2°16E±0.02,h9km±8km, n18,σ0.9 71/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.19**	**269**	*i* P	**Pg**	**16 06 45.6**	**-0.5**
AKCD				*i* S	**Sg**	**16 06 49.1**	**+0.3**
AKCD	**Akcadag**	**0.19**	**269**	P	**Pg**	**16 06 45.6**	**-0.5**
AKCD				S	**Sg**	**16 06 49.1**	**+0.3**
MALT	**Malatya**	**0.21**	**86**	PG	**Pg**	**16 06 46.3**	**-0.3**
MALT				SG	**Sg**	**16 06 50.1**	**+0.6**
MALT	**Malatya**	**0.21**	**86**	*e*Pg	**Pg**	**16 06 46.3**	**-0.3**
MALT				*e*Sg	**Sg**	**16 06 50.1**	**+0.6**
DARE	**Darende-Malaty**	**0.60**	**297**	PG	**Pg**	**16 06 53.6**	**-0.1**
DARE				SG	**Sb**	**16 07 03.2**	**-0.2**
DARE	**Darende-Malaty**	**0.60**	**297**	*e*Pg	**Pg**	**16 06 53.6**	**-0.1**
DARE				*e*Sg	**Sb**	**16 07 03.2**	**-0.2**
HEKM	**Malatya_Hekimh**	**0.60**	**345**	*i* P	**Pg**	**16 06 53.6**	**-0.2**
HEKM				*i* S	**Sb**	**16 07 03.0**	**-0.6**
HEKM	**Malatya_Hekimh**	**0.60**	**345**	P	**Pg**	**16 06 53.6**	**-0.2**
HEKM				S	**Sb**	**16 07 03.0**	**-0.6**
KEMA	**Kemaliye**	**1.00**	**15**	*i* P	**Pg**	**16 06 59.7**	**-1.7**
KEMA				*i* S	**Sb**	**16 07 16.1**	**+1.0**
KEMA	**Kemaliye**	**1.00**	**15**	P	**Pg**	**16 06 59.7**	**-1.7**
URFA	**Urfa**	**1.00**	**148**	PG	**Pn**	**16 07 02.1**	**-0.4**
URFA	**Urfa**	**1.00**	**148**	*e*Pg	**Pn**	**16 07 02.1**	**-0.4**
PTK	**Pertek**	**1.13**	**58**	PN	**Pg**	**16 07 03.7**	**-0.2**
PTK				SN	**Sn**	**16 07 20.5**	**+0.3**
PTK	**Pertek**	**1.13**	**58**	*e*Pn	**Pg**	**16 07 03.7**	**-0.2**
PTK				*e*Sn	**Sn**	**16 07 20.5**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.15**	**332**	*i* P	**Pg**	**16 07 03.9**	**-0.3**
CUKAN				*i* S	**Sg**	**16 07 18.6**	**-0.6**
CUKAN	**kangal_SIVAS**	**1.15**	**332**	P	**Pg**	**16 07 03.9**	**-0.3**
CUKAN				S	**Sg**	**16 07 18.6**	**-0.6**
SVSK	**Karacayir**	**1.85**	**331**	PN	**Pn**	**16 07 15.2**	**+1.2**
SVSK	**Karacayir**	**1.85**	**331**	*e*Pn	**Pn**	**16 07 15.2**	**+1.2**

IDC 23 16:09:59.6±1.7,3.5°55S×150.9°99E,h0km,mb3.6/4, mb1 4.0/5,mb1mx3.6/47,mbtmp3.8/5,ML1.7/1,Error ellipse: s-maj=61.0km s-min=24.3km az=119.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.95**	**213**	Pn	Pn	16 11 44.3	+1.6
	0.8nm,0.3s,baz=56,slow=8.2,SNR=4.0						
WRA	**Warramunga Arr**	**23.00**	**224**	P	P	16 15 06.4	+0.2
	2.5nm,0.7s,baz=51,slow=10,SNR=15						
ASAR	**Alice Springs**	**25.93**	**218**	P	P	16 15 33.5	-0.3
	0.8nm,0.9s,baz=54,slow=9.6,SNR=6.4						
CMAR	**Chiang Mai Arr**	**55.71**	**295**	P	P	16 19 38.2	-0.2
	0.7nm,0.9s,baz=114,slow=5.3,SNR=4.4						
ILAR	**Eielson Array**	**81.70**	**23**	P	P	16 22 19.6	0.0
	0.6nm,0.9s,baz=248,slow=5.1,SNR=4.1						

MEX 23 16:20:22.1±0.9,16.4°0N×98.3°8W,h8km±11km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.24**	**93**	*e*P	Pg	16 20 26.4	-0.6
PNIG				*e*S	Sg	16 20 30.2	-0.1
TLIG	**Tlapa**	**1.17**	**351**	*i* P	Pg	16 20 40.9	-3.6
TLIG				*e*S	Sg	16 20 55.0	-4.7
ACX	**Acapulco**	**1.49**	**288**	*i* P	Pn	16 20 42.3	-7.0
ACX				*i* S	Sn	16 21 01.0	-7.9
VHO	**Vista Hermosa**	**1.71**	**67**	*e*P	Pn	16 20 49.5	-3.0
VHO				*e*S	Sn	16 21 09.1	-5.6
CAIG	**El Cayaco**	**1.92**	**290**	*e*P	Pn	16 20 51.4	-3.7
CAIG				*i* S	Sn	16 21 15.2	-4.3

*ISCJB **23** 16:24:39.9±0.7,33.3°19S±0.0°05×138.8°84E±0.0°06,h10km, Error ellipse: s-maj=8.3km s-min=6.5km az=37.3*
*AUST **23** 16:24:41.8±0.0,33.3°34S×138.8°76E,h9km,Error ellipse: s-maj=0.2km s-min=0.1km az=18.0*
*IDC **23** 16:24:47.9±6.3,32.5°56S×138.7°7E,h0km,mb1 3.2/3, mb1mx3.0/44,mbtmp2.9/3,ML2.8/3,Error ellipse: s-maj=79.5km s-min=20.7km az=12.0*

ISC 23 16:24:40.2±0.9,33.2°3S±0.0°07×138.7°1E±0.0°05,h10km,n7, σ1.9 70/11,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**0.27**	**139**	P	**Pg**	**16 24 45.4**	**-0.3**
	baz=0.2						
HTT				S	**Sg**	**16 24 47.8**	**-1.7**
	baz=0.2						
BBOO	**Buckleboo**	**2.26**	**280**	P	**Pb**	**16 25 21.0**	**-0.1**
	baz=2.3						
BBOO				S	**Sb**	**16 25 49.2**	**+0.1**
	baz=2.3						
STKA	**Stephens Creek**	**2.79**	**62**	Pn	**Pb**	**16 25 29.8**	**-0.3**
	1.1nm,0.3s,baz=247,slow=13,SNR=16						
STKA				Lg	Lg	16 26 07.0	
	3.3nm,0.3s,baz=327,slow=6.1,SNR=9.1						
STKA	**Stephens Creek**	**2.79**	**62**	P	**Pb**	**16 25 29.2**	**-0.9**
	baz=2.8						
CMSA	**Cobar Meteorol**	**6.14**	**76**	P	**Pn**	**16 26 13.5**	**+2.5**
	baz=6.1						
CMSA				S	**Sn**	**16 27 21.3**	**-0.1**
	baz=6.1						
ASAR	**Alice Springs**	**10.42**	**335**	Pn	**Pn**	**16 27 11.2**	**+1.5**
	0.1nm,0.3s,baz=176,slow=8.6,SNR=19						
ASAR				Sn	**Sn**	**16 29 03.2**	**-3.3**
	0.1nm,0.3s,baz=158,slow=22,SNR=4.4						
WRA	**Warramunga Arr**	**13.79**	**343**	Pn	**Pn**	**16 27 55.8**	**0.0**
	0.0nm,0.3s,baz=157,slow=12,SNR=3.8						

*NIED **23** 16:38:00,40.8°0N×145.1°0E,h5km,Mw3.6 Best double couple: M0 2.64000×10^14 NP1:φ=277.00000°,δ38.00000°, λ-94.00000°. NP2:φ=102.00000°,δ52.00000°, λ-87.00000°.*
*IDC **23** 16:38:02.9±1.1,40.7°6N×145.0°0E,h0km,mb3.5/9, mb1 3.7/11,mb1mx3.5/61,mbtmp3.5/11,ML3.0/2,Error ellipse: s-maj=25.2km s-min=22.9km az=139.0*
*ISCJB **23** 16:38:03.1±0.6,40.8°9N±0.0°3×144.8°8E±0.0°5,h10km, mb3.5/9,Error ellipse: s-maj=5.6km s-min=4.0km az=20.5*
*JMA **23** 16:38:03.9±0.1,40.8°2N×145.1°1E,h64km±4km,M3.7*

ISC 23 16:38:04.2±0.8,40.9°0N±0.0°4×144.9°2E±0.0°6,h10km,n35, σ1.9 72/45,mb3.5/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.73**	**311**	P	**Pb**	**16 38 34.9**	**-1.1**
JEM				*e*S	**Sn**	**16 38 56.1**	**-0.3**
JCH	**Churui**	**2.07**	**326**	P	**Pn**	**16 38 39.2**	**+0.2**
JCH				*e*S	**Sn**	**16 39 03.2**	**-1.7**
JAK	**Akkeshi**	**2.10**	**356**	P	**Pn**	**16 38 38.7**	**-0.7**
JAK				S	**Sn**	**16 39 04.2**	**-1.4**
JNBK	**Urakawa-nobuka**	**2.13**	**311**	P	**Pb**	**16 38 41.3**	**-1.6**
JNBK				S	**Sb**	**16 39 07.1**	**-2.2**
JOB	**Onbets**	**2.16**	**338**	P	**Pb**	**16 38 40.6**	**-2.8**
JOB				S	**Sn**	**16 39 06.6**	**-0.4**
JTH	**Tanohata**	**2.52**	**249**	P	**Pn**	**16 38 44.7**	**-0.5**
JTH				S	**Sn**	**16 39 12.8**	**-3.1**
NEM2	**Nemuro 2**	**2.54**	**14**	P	**Pn**	**16 38 44.2**	**-1.2**
NEM2				S	**Sn**	**16 39 13.1**	**-3.3**
JAR	**Ashorobuto**	**2.54**	**341**	P	**Pn**	**16 38 45.0**	**-0.5**
JAR				S	**Sn**	**16 39 15.1**	**-1.4**
JANG	**Nango**	**2.64**	**260**	P	**Pn**	**16 38 46.7**	**-0.1**
JANG				S	**Sn**	**16 39 17.6**	**-1.3**
JFR	**Furan**	**2.85**	**323**	S	**Sn**	**16 39 23.1**	**-1.0**
JOT	**Ohata**	**2.96**	**281**	P	**Pn**	**16 38 52.0**	**+0.8**
JOT				*e*S	**Sn**	**16 39 25.6**	**-1.2**
JRA	**Rausu**	**3.04**	**3**	P	**Pn**	**16 38 51.3**	**-1.0**
JRA				*e*S	**Sn**	**16 39 24.9**	**-3.9**
JKB	**Kayabe**	**3.08**	**290**	S	**Sn**	**16 39 29.5**	**-0.3**
JOM	**Ohasama**	**3.12**	**244**	P	**Pn**	**16 38 53.6**	**+0.2**
JOM				S	**Sn**	**16 39 28.1**	**-2.6**
JTKR	**Abashiri--Toko**	**3.16**	**347**	P	**Pn**	**16 38 54.2**	**+0.2**
JTKR				*e*S	**Sn**	**16 39 30.5**	**-1.2**
JEW	**Eniwo**	**3.23**	**308**	P	**Pb**	**16 38 57.2**	**-4.5**
JEW				S	**Sn**	**16 39 34.0**	**+0.4**
JKK2	**Kamakawa 2**	**3.38**	**332**	S	**Sn**	**16 39 38.5**	**+1.4**
JMK	**Ichinoseki**	**3.44**	**237**	P	**Pn**	**16 38 57.8**	**0.0**
JMK				S	**Sn**	**16 39 35.3**	**-3.4**
ASAJ	**Asahikawa**	**3.65**	**333**	Pn	**Pn**	**16 39 01.9**	**+1.3**
	0.8nm,0.3s,baz=196,slow=17,SNR=23						
ASAJ				Sn	**Sn**	**16 39 44.1**	**+0.5**
	1.7nm,0.3s,baz=98,slow=21,SNR=6.0						
MJAR	**Matsushiro Arr**	**6.81**	**232**	Pn	**Pn**	**16 39 44.5**	**+0.3**
	0.4nm,0.3s,baz=36,slow=13,SNR=4.6						
SONM	**Songino Array**	**28.17**	**297**	P	**P**	**16 43 58.3**	**+1.6**
	0.8nm,1.1s,baz=90,slow=7.2,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.23**	**132**	T	T	17 13 28.5	
	baz=324,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.24**	**132**	T	T	17 13 29.2	
	baz=324,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	17 13 29.7	
	baz=324,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**29.10**	**134**	T	T	17 14 32.4	
	baz=325,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.11**	**134**	T	T	17 14 34.1	
	baz=325,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy**	**29.12**	**134**	T	T	17 14 34.2	
	baz=325,slow=74,SNR=12						
MKAR	**Makanchi Array**	**44.49**	**299**	P	**P**	**16 46 16.8**	**+1.2**
	0.2nm,0.5s,baz=88,slow=8.9,SNR=4.4						
ILAR	**Eielson Array**	**44.77**	**34**	P	**P**	**16 46 18.4**	**+0.8**
	0.3nm,0.8s,baz=259,slow=4.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**45.88**	**306**	P	**P**	**16 46 27.4**	**+0.9**
	0.2nm,0.4s,baz=77,slow=9.6,SNR=3.9						
YKA	**Yellowknife Ar**	**59.09**	**32**	P	**P**	**16 48 05.3**	**+1.0**
	0.3nm,0.7s,baz=304,slow=6.6,SNR=4.5						
WRA	**Warramunga Arr**	**61.32**	**191**	P	**P**	**16 48 18.9**	**-1.0**
	0.7nm,0.7s,baz=9.7,slow=6.9,SNR=6.2						
FINES	**FINESS Array B**	**66.65**	**333**	P	**P**	**16 48 55.4**	**+0.8**
	0.9nm,0.8s,baz=66,slow=14,SNR=2.5						
KBZ	**Khabaz**	**70.44**	**311**	P	**P**	**16 49 20.5**	**+2.0**
	1.3nm,0.8s,baz=98,slow=7.1,SNR=3.2						
TXAR	**Lajitas Array**	**85.63**	**55**	P	**P**	**16 50 44.2**	**+0.9**
	0.2nm,0.6s,baz=351,slow=1.6,SNR=3.4						

*CSEM **23** 17:06:06.0,37.3°19N×22.1°01E,h3km,ML1.2/6,After ATH*

ATH 23 17:06:06.0,37.3°19N×22.1°01E,h3km±1km,ML1.2/6,Error ellipse: s-maj=1.1km s-min=0.7km az=244.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.07**	**265**	P	Pg	17 06 07.4	-0.1
ITM				S	Sg	17 06 08.9	+0.4
ITM				AML	AML	17 06 09.1	
	comp=N,1032μm,0.1s						
ITM				AML	AML	17 06 09.5	
	comp=E,2340μm,0.4s						
ITM	**Ithomi**	**0.07**	**265**	P	Pg	17 06 07.4	-0.1
ITM				S	Sg	17 06 08.8	+0.3
ITM				AML	AML	17 06 09.1	
	comp=N,1032μm,0.1s						
ITM				AML	AML	17 06 09.5	
	comp=E,2340μm,0.4s						
ITM	**Ithomi**	**0.07**	**265**	P	Pg	17 06 07.5	0.0
ITM				S	Sg	17 06 08.8	+0.3
VLX	**Vlachokerasia**	**0.34**	**58**	P	Pg	17 06 12.8	+0.2
VLX				S	Sg	17 06 17.7	+0.5
VLX				AML	AML	17 06 18.1	
	comp=E,149μm,0.3s						
VLX				AML	AML	17 06 18.9	
	comp=N,122μm,0.4s						
VLX	**Vlachokerasia**	**0.34**	**58**	P	Pg	17 06 12.7	+0.1
VLX				S	Sg	17 06 17.7	+0.5
VLX				AML	AML	17 06 18.2	
	comp=E,149μm,0.3s						
VLX				AML	AML	17 06 18.9	
	comp=N,122μm,0.4s						
VLX	**Vlachokerasia**	**0.34**	**58**	P	Pg	17 06 12.8	+0.1
VLX				S	Sg	17 06 17.7	+0.5
PYL	**PYLOS**	**0.36**	**217**	P	Pg	17 06 12.6	-0.4
PYL				S	Sg	17 06 18.8	+1.1
PYL				AML	AML	17 06 19.9	
	comp=E,111μm,0.3s						
PYL				AML	AML	17 06 20.6	
	comp=N,83μm,0.2s						
PYL	**PYLOS**	**0.36**	**217**	P	Pg	17 06 12.8	-0.2
PYL				S	Sg	17 06 18.9	+1.2
PYL				AML	AML	17 06 20.1	
	comp=E,111μm,0.3s						
PYL				AML	AML	17 06 20.6	
	comp=N,83μm,0.2s						
PYL	**PYLOS**	**0.36**	**217**	P	Pg	17 06 13.0	0.0
PYL				S	Sg	17 06 18.6	+0.9
TRIP	**Tripoli**	**0.40**	**31**	P	Pg	17 06 14.1	+0.4
TRIP				S	Sg	17 06 19.7	+0.8
TRIP				AML	AML	17 06 20.7	
	comp=N,31μm,0.5s						
TRIP				AML	AML	17 06 21.3	
	comp=E,40μm,0.3s						
TRIP	**Tripoli**	**0.40**	**31**	P	Pg	17 06 13.9	+0.2
TRIP				S	Sg	17 06 19.5	+0.6
AMT	**Artemida-Makis**	**0.42**	**325**	P	Pg	17 06 14.6	+0.4
AMT				AML	AML	17 06 22.4	
	comp=N,512μm,0.2s						
AMT				AML	AML	17 06 22.6	
	comp=E,312μm,0.2s						
AMT	**Artemida-Makis**	**0.42**	**325**	P	Pg	17 06 14.9	+0.7
AMT				S	Sg	17 06 20.6	+0.9
AMT				AML	AML	17 06 22.4	
	comp=N,512μm,0.2s						
AMT				AML	AML	17 06 22.5	
	comp=E,312μm,0.2s						
AMT	**Artemida-Makis**	**0.42**	**325**	P	Pg	17 06 14.6	+0.4
AMT				S	Sg	17 06 20.4	+0.7
DYR	**Agios Nikonas**	**0.49**	**149**	P	Pg	17 06 15.1	-0.4
DYR	**Agios Nikonas**	**0.49**	**149**	P	Pg	17 06 14.9	-0.6
DYR				S	Sg	17 06 22.6	+0.7
DYR	**Agios Nikonas**	**0.49**	**149**	P	Pg	17 06 15.3	-0.2
DYR				S	Sg	17 06 22.6	+0.7
DRO	**Drossia**	**0.80**	**343**	P	Pg	17 06

	310nm,1.9s								
DZM	**Mont Dzumac**	**16.82**	**283**		LR	LR	17 15 45.8		
	comp=Z,193nm,21.4s,baz=166,slow=32								
DZM	**Mont Dzumac**	**16.82**	**283**	*e*	LR	LR	17 14 26.9		
	316nm,26.1s								
DZM	**Mont Dzumac**	**16.82**	**283**	*e*	Pn	**Pn**	**17 10 29.3**	**-4.5**	
	25nm,1.4s								
THZ	**Tophouse**	**17.48**	**209**	*e*	Pn	**Pn**	**17 10 39.1**	**-2.7**	
	93nm,1.8s								
KHZ	**Kahutara**	**17.76**	**207**	*e*	Pn	**Pn**	**17 10 43.0**	**-2.1**	
	151nm,2.0s								
LTZ	**Lake Taylor**	**18.58**	**208**	*e*	P	**Pn**	**17 10 55.4**	**0.0**	
	60nm,1.9s								
OXZ	**Oxford**	**19.13**	**208**	*e*	P	**P**	**17 10 54.4**	**-6.4**	
	77nm,1.7s								
PPT2	**Papeete2**	**25.97**	**75**	*e*	LR	LR	17 18 13.3		
	257nm,26.5s								
PPT	**Papeete**	**25.98**	**75**		LR	LR	17 20 07.3		
	comp=Z,55nm,18.3s,baz=186,slow=31								
HNR	**Honiara**	**28.73**	**303**		LR	LR	17 22 07.0		
	comp=Z,113nm,19.6s,baz=151,slow=32								
STKA	**Stephens Creek**	**37.25**	**252**		LR	LR	17 26 10.2		
	comp=Z,111nm,19.7s,baz=195,slow=31								
TAOE	**Nuku Hiva Isla**	**38.22**	**69**	*e*	LR	LR	17 23 50.8		
	96nm,26.0s								
PMG	**Port Moresby**	**39.03**	**289**		LR	LR	17 27 46.2		
	comp=Z,95nm,21.6s,baz=179,slow=32								
AS31	**Alice Springs**	**45.32**	**263**	*e*	P	**P**	**17 14 55.5**	**-0.3**	
	1.8nm,1.4s								
ASAR	**Alice Springs**	**45.32**	**263**		P	**P**	**17 14 57.5**	**+1.6**	
	0.3nm,0.5s,baz=96,slow=7.1,SNR=18								
ASAR					LR	LR	17 32 49.3		
	comp=Z,85nm,18.0s,baz=162,slow=35								
WR1	**Warramunga Arr**	**46.01**	**268**	*e*	P	**P**	**17 15 02.2**	**+1.0**	
	9.2nm,0.7s								
WRA	**Warramunga Arr**	**46.01**	**268**		P	**P**	**17 15 02.2**	**+1.0**	
	3.4nm,0.7s,baz=106,slow=7.6,SNR=29								
GUMO	**Guam**	**55.46**	**312**		LR	LR	17 38 46.3		
	comp=Z,21nm,18.1s,baz=116,slow=35								
BATI	**Baumata**	**59.19**	**274**		LR	LR	17 43 48.8		
	comp=Z,110nm,18.2s,baz=144,slow=38								
QSPA	**South Pole Qui**	**63.20**	**180**		P	**P**	**17 17 08.0**	**+2.6**	
	3.0nm,0.7s,baz=184,slow=3.9,SNR=9.9								
PT2	**Point Dume**	**81.18**	**45**	*e*	P	**P**	**17 18 52.4**	**-0.7**	
OAT	**Oat Mountain**	**81.53**	**45**	*e*	P	**P**	**17 18 52.6**	**-2.5**	
PASC	**Pasadena Art C**	**81.68**	**45**	*e*	P	**P**	**17 18 56.3**	**+0.5**	
BAKC	**Calstate**	**81.87**	**44**	*e*	P	**P**	**17 18 55.1**	**-1.6**	
BBRC	**Big Bear Solar**	**82.55**	**46**	*e*	P	**P**	**17 19 02.0**	**+1.4**	
CCCA	**Chr Cany lake**	**83.07**	**44**	*e*	P	**P**	**17 19 02.8**	**-0.2**	
NV01	**Mina Array Sit**	**84.38**	**42**	*e*	P	**P**	**17 19 08.7**	**-1.2**	
NVAR	**Mina Array Bea**	**84.38**	**42**		P	**P**	**17 19 08.7**	**-1.2**	
	0.4nm,0.5s,baz=238,slow=8.5,SNR=3.7								
NEWO	**Newport DOGAMI**	**85.44**	**34**	*e*	P	**P**	**17 19 11.7**	**-3.1**	
LTX	**Lajitas**	**88.89**	**56**	*e*	P	**P**	**17 19 32.0**	**0.0**	
TXAR	**Lajitas Array**	**88.89**	**56**		P	**P**	**17 19 32.0**	**0.0**	
	1.1nm,0.9s,baz=206,slow=8.3,SNR=4.5								
WRW	**Wenatchee Ridg**	**89.27**	**33**	*e*	P	**P**	**17 19 37.2**	**+3.9**	
PD31	**Pinedale Array**	**92.28**	**42**	*e*	P	**P**	**17 19 48.1**	**+0.4**	
PDAR	**Pinedale Array**	**92.28**	**42**		P	**P**	**17 19 48.1**	**+0.4**	
	0.4nm,0.7s,baz=187,slow=2.4,SNR=3.2								
CM31	**Chiang Mai Arr**	**94.07**	**289**	*e*	P	**P**	**17 19 58.2**	**+2.1**	
CMAR	**Chiang Mai Arr**	**94.07**	**289**		P	**P**	**17 19 58.2**	**+2.1**	
	0.4nm,0.9s,baz=161,slow=3.2,SNR=4.1								
ILAR	**Eielson Array**	**94.11**	**12**		P	**P**	**17 19 54.3**	**-0.9**	
	0.7nm,0.8s,baz=211,slow=5.9,SNR=6.1								
ILB	**Eielson Array**	**94.11**	**12**	*e*	P	**P**	**17 19 54.3**	**-0.9**	
MK32	**Makanchi Array**	**116.94**	**311**	*e*	PKPdf	**PKPdf**	**17 25 22.2**	**+0.4**	
MKAR	**Makanchi Array**	**116.94**	**311**		PKP	**PKPdf**	**17 25 22.2**	**+0.4**	
	0.2nm,0.6s,baz=146,slow=0.9,SNR=3.6								
FIA0	**FINESS Array S**	**142.44**	**343**	*e*	PKPpre	PKPpre	17 26 06.5		
FINES	**FINESS Array B**	**142.44**	**343**		PKhKP	PKPpre	17 26 06.5		
	1.5nm,1.0s,baz=137,slow=4.7,SNR=3.6								
AKH	**Akhalkalaki**	**144.69**	**304**	*e*	PKPdf	**PKPdf**	**17 26 15.6**	**+1.3**	
NB2	**NORSAR Subarra**	**145.53**	**354**		PKP	**PKPab**	**17 26 16.1**	**+0.8**	
	comp=Z,13nm,1.2s,baz=4.2,slow=3.2								
NB200	**NORSAR Array S**	**145.53**	**354**	*e*	PKPbc	**PKPab**	**17 26 15.3**	**+0.1**	
NOA	**NORSAR Array B**	**145.53**	**354**		PKPbc	**PKPab**	**17 26 15.3**	**+0.1**	
	comp=Z,4.0nm,0.8s,baz=3.8,slow=2.4,SNR=16								
HFS	**Hagfors**	**146.13**	**351**		PKPbc	**PKPab**	**17 26 17.9**	**+0.3**	
	comp=Z,6.0nm,0.7s,baz=58,slow=3.7,SNR=18								
AKASG	**Malin Array Be**	**149.50**	**328**		PKPbc	**PKPbc**	**17 26 26.2**	**0.0**	
	comp=Z,1.0nm,0.6s,baz=41,slow=3.0,SNR=6.2								
AKASG					PKPab	**pPKPdf**	**17 26 31.9**	**0.0**	
	comp=Z,0.1nm,0.3s,baz=45,slow=4.6,SNR=6.3								
AKBB	**Malin Array Si**	**149.50**	**328**	*e*	PKPbc	**PKPbc**	**17 26 26.2**	**0.0**	
AKBB				*e*	PKPab	**pPKPdf**	**17 26 31.9**	**-0.1**	
BR101	**Keskin Array S**	**152.38**	**305**	*e*	PKPbc	**PKPbc**	**17 26 34.2**	**+0.7**	
BR101				*e*	PKPab	**sPKPbc**	**17 26 45.9**	**-1.4**	
BRTR	**Keskin Array B**	**152.38**	**305**		PKPbc	**PKPbc**	**17 26 34.2**	**+0.7**	
	comp=Z,0.4nm,0.8s,baz=88,slow=2.8,SNR=4.4								
BRTR					PKPab	**sPKPbc**	**17 26 45.9**	**-1.5**	
	comp=Z,0.7nm,0.9s,baz=92,slow=3.2,SNR=4.6								
TORD	**Torodi Ar. Bea**	**166.13**	**170**		PKPab	**PKPab**	**17 27 44.0**	**+0.6**	
	comp=Z,0.9nm,0.7s,baz=184,slow=4.2,SNR=5.1								
TOA1	**Torodi Ar. Sit**	**166.13**	**170**	*e*	PKPab	**PKPab**	**17 27 44.0**	**+0.6**	

ISCJB ***23*** *17:13:56.4±0.4, 16°.17N±0°.05×97°.83W±0°.03, h10km, mb4.5/128, MS3.8/24, Error ellipse: s-maj=6.8km s-min=3.7km az=9.2*

MEX ***23*** *17:13:56.1±0.5, 15°.90N×98°.17W, h1km±3km, MD4.6*

GCMT ***23*** *17:13:56.5±0.7, 16°.10N×97°.85W, h20km±1km, MW4.8/65, Moment Tensor Solution. s18,c21; s65,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.90±.16; Mθθ-1.54±.10; Mϕϕ-0.35±.10; Mrθ0.92±.17; Mrϕ0.45±.07; Mθϕ-0.31±.23; Best double couple: Mo2.04100×10^16 NP1:ϕs289.00000°,δ31.00000°,λ90.00000°. NP2: ϕs289.00000°,δ31.00000°,λ90.00000°. Principal axes: T 2.1450, Plg76.0000°, Azm18.0000°; N -0.2060, Plg0.0000°, Azm109.0000°; P -1.9360, Plg14.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *17:13:56.5±0.0, 15°.88N×98°.17W, h10km, mb4.6/142, MD4.7(MEX), After MEX.*

IDC ***23*** *17:14:00.8±1.3, 16°.82N×97°.55W, h0km, mb4.1/9, mb1 4.3/13, mb1mx4.0/49, mbtmp4.1/13, ML3.7/3, MS3.8/26, Ms1 3.8/26, ms1mx3.6/45, Error ellipse: s-maj=34.6km s-min=16.8km az=45.0*

ISC 23 17:13:55.5±1.8, 15°.90N±0°.07×98°.13W±0°.04, h6km±9km, n366, σ1°63/347, mb4.6/129, MS3.8/24, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**0**	*e*P		**Pg**	**17 14 05.1**	**+0.1**
PNIG				*i* S		**Sg**	**17 14 12.6**	**+1.2**
PNIG	**Pinotepa**	**0.49**	**0**	*e*P		**Pg**	**17 14 05.1**	**+0.1**
PNIG				*i* S		**Sg**	**17 14 12.6**	**+1.2**
TLIG	**Tlapa**	**1.71**	**346**	*e*P		**Pn**	**17 14 23.6**	**-2.3**
TLIG				*e*S		**Sn**	**17 14 44.5**	**-3.7**
TLIG	**Tlapa**	**1.71**	**346**	*e*P		**Pn**	**17 14 23.6**	**-2.3**
TLIG				*e*S		**Sn**	**17 14 44.5**	**-3.7**
VHO	**Vista Hermosa**	**1.78**	**49**	*e*P		**Pn**	**17 14 25.0**	**-2.0**
VHO				*i* S		**Sn**	**17 14 47.2**	**-2.8**
VHO	**Vista Hermosa**	**1.78**	**49**	*e*P		**Pn**	**17 14 25.0**	**-2.0**
VHO				*e*S		**Sn**	**17 14 49.1**	**-0.9**
ACX	**Acapulco**	**1.92**	**300**	*e*P		**Pn**	17 14 22.1	-6.7
ACX				*i* S		**Sn**	**17 14 45.4**	**-7.9**
CAIG	**El Cayaco**	**2.35**	**299**	*e*P		**Pn**	**17 14 31.9**	**-2.8**
CAIG				*i* S		**Sn**	**17 14 59.9**	**-3.9**
CAIG	**El Cayaco**	**2.35**	**299**	*e*P		**Pn**	**17 14 32.0**	**-2.7**
CAIG				*e*S		**Sn**	**17 15 05.3**	**+1.5**
CMIG	**Matias Romero**	**3.33**	**69**	Pn		**Pn**	**17 14 45.6**	**-2.6**
	15nm,0.3s,baz=232,slow=12,SNR=148							
CMIG					LR	LR	17 15 20.7	
	comp=Z,634nm,19.2s,baz=99,slow=31							
CMIG					Lg	Lg	17 15 36.6	
	25nm,0.3s,baz=249,slow=20,SNR=3.7							
UNM	**Universidad Na**	**3.55**	**344**	*e*Pn		**Pb**	**17 14 58.3**	**-0.7**
UNM				*e*Lg		Lg	17 15 51.9	
LVIG	**Laguna Verde**	**4.14**	**23**	*e*Pn		Pn	17 15 04.4	+5.1
LVIG				*e*Lg		Lg	17 16 07.9	
MOIG	**Morelia**	**4.75**	**323**	*e*Pn		**Pn**	**17 15 12.1**	**+4.1**
MOIG				*e*Sg		**Sb**	**17 16 22.9**	**+5.8**
ZAIG	**Zacatecas**	**8.01**	**329**	*e*Pn		**Pn**	**17 15 55.2**	**+2.4**
ZAIG				*e*Lg		Lg	17 18 13.8	
LNIG	**Linares**	**9.04**	**352**	*e*Pn		**Pn**	**17 16 07.1**	**+0.4**
833A	**Chaparral WMA,**	**12.42**	**355**	P		**Pn**	**17 16 51.9**	**-1.1**
	baz=174							
H06E1	**SOCORRO T-PHAS**	**12.55**	**285**	T		T	17 29 36.7	
	SNR=35							
HPIG		**13.03**	**329**	*e*Pn		**Pn**	**17 17 03.5**	**+2.1**
SLBS	**Sierra La Lagu**	**13.54**	**307**	*e*Pn		**Pn**	**17 17 10.7**	**+2.3**
JTS	**JuntasAbangare**	**13.99**	**112**	Pn		**Pn**	**17 17 18.6**	**+4.2**
	0.9nm,0.3s,baz=358,slow=14,SNR=4.7							
TXAR	**Lajitas Array**	**14.31**	**340**	Pn		**Pn**	**17 17 17.9**	**-1.0**
	baz=163,slow=14,SNR=6.6							
TXAR					Lg	Lg	17 21 13.6	
	0.0nm,0.3s,baz=156,slow=33,SNR=2.6							
TXAR					LR	LR	17 23 26.5	
	comp=Z,772nm,18.2s,baz=0.0,slow=41							
JCT	**Junction City**	**14.59**	**354**	P		**Pn**	**17 17 22.2**	**-0.5**
	baz=174							
JCT	**Junction City**	**14.59**	**354**	*e*Pn		**Pn**	**17 17 20.6**	**-2.1**
WHTX	**Lake Whitney,**	**16.03**	**2**	P		**Pn**	**17 17 41.7**	**0.0**
	baz=182							
WHTX	**Lake Whitney,**	**16.03**	**2**	*e*Pn		**Pn**	**17 17 42.7**	**+1.0**
	18nm,0.9s							
NATX	**Nacogdoches**	**16.10**	**11**	P		**Pn**	**17 17 42.2**	**-0.4**
	baz=192							
NATX	**Nacogdoches**	**16.10**	**11**	*e*Pn		**Pn**	**17 17 42.1**	**-0.4**
	18nm,0.6s							
ABTX	**Abilene, Hawle**	**16.71**	**356**	P		**Pn**	**17 17 50.6**	**+0.3**
	baz=175							
ABTX	**Abilene, Hawle**	**16.71**	**356**	*e*Pn		**Pn**	**17 17 51.1**	**+0.7**
	44nm,0.9s							
MNTX	**Cornudas Mount**	**17.06**	**338**	P		**Pn**	**17 17 55.8**	**+1.0**
	baz=156							
MNTX	**Cornudas Mount**	**17.06**	**338**	*e*Pn		**Pn**	**17 17 55.2**	**+0.4**
	14nm,1.3s							
GDL2	**Guadalupe Moun**	**17.19**	**342**	*e*Pn		**Pn**	**17 17 57.1**	**+0.6**
346A	**Big Creek Wild**	**17.33**	**26**	P		**Pn**	**17 17 55.9**	**-2.2**
	baz=209							
244A	**Avery, Jackson**	**17.44**	**22**	P		**Pn**	**17 17 57.4**	**-2.1**
	baz=205							
EPT	**El Paso**	**17.55**	**336**	*e*Pn		**Pn**	**17 18 02.4**	**+1.4**
	10nm,0.6s							
HSIG		**17.61**	**320**	*e*Pn		**Pn**	**17 18 00.7**	**-1.0**
Z40A	**Long Farm, Mag**	**17.81**	**13**	P		**Pn**	**17 18 04.0**	**0.0**
	baz=195							
CBCY	**The Bluff, Cay**	**17.90**	**75**	*e*Pn		**Pn**	**17 18 02.7**	**-2.6**
	127nm,1.0s							
WLAR	**White Oak Lake**	**18.28**	**13**	*e*Pn		**Pn**	**17 18 08.5**	**-1.4**
	15nm,0.7s							
319A	**Douglas**	**18.46**	**329**	*e*P		**P**	**17 18 13.9**	**+1.7**
	15nm,1.0s							
MSTX	**Muleshoe**	**18.47**	**348**	P		**P**	**17 18 11.6**	**-0.7**
	baz=166							
MSTX	**Muleshoe**	**18.47**	**348**	*e*P		**P**	**17 18 11.8**	**-0.5**
	17nm,1.1s							
Y40A	**Okolona**	**18.56**	**13**	P		**P**	**17 18 11.4**	**-1.6**
	baz=195							
121A	**Cookes Peak, D**	**18.74**	**334**	P		**Pn**	**17 18 16.6**	**+1.0**
	baz=150							
WMOK	**Wichita Mounta**	**18.77**	**358**	P		**P**	**17 18 13.4**	**-2.1**
	baz=178,SNR=8.2							
WMOK	**Wichita Mounta**	**18.77**	**358**	*e*P		**P**	**17 18 13.8**	**-1.7**
	27nm,1.7s							
X39A	**Fountain Ranch**	**18.88**	**10**	P		**P**	**17 18 15.6**	**-1.1**
	baz=192							
AMTX	**Amarillo**	**19.17**	**351**	P		**P**	**17 18 19.2**	**-0.7**
	baz=170							
AMTX	**Amarillo**	**19.17**	**351**	*e*P		**P**	**17 18 19.2**	**-0.7**
	17nm,0.9s							
Z47A	**Carrollton**	**19.48**	**26**	P		**P**	**17 18 22.2**	**-1.1**
	baz=210							
UALR	**University of**	**19.50**	**14**	*e*P		**P**	**17 18 22.4**	**-1.1**
	34nm,1.6s							
W39A	**Magazine**	**19.61**	**11**	P		**P**	**17 18 22.9**	**-1.7**
	baz=193							
DWPF	**Disney Wildern**	**19.65**	**49**	*e*P		**P**	**17 18 25.3**	**+0.1**
	100nm,0.3s							
BNM	**Barren Site**	**19.72**	**339**	*e*P		**Pn**	**17 18 28.1**	**+0.6**
W40A	**Ferguson Farm,**	**19.74**	**12**	*e*P		**P**	**17 18 25.9**	**-0.2**
	23nm,0.7s							
Y46A	**Houston**	**19.76**	**23**	P		**P**	**17 18 25.3**	**-1.0**
	baz=207,SNR=5.4							
LRAL	**Lakeview Retre**	**19.82**	**29**	*e*P		**P**	**17 18 25.9**	**-1.0**
	6.1nm,0.6s							
Z48A	**Northport**	**19.86**	**27**	P		**P**	**17 18 26.2**	**-1.2**
	baz=211							
LPM	**Los Pinos Moun**	**19.87**	**339**	*e*P		**P**	**17 18 27.9**	**+0.2**
W41B	**Gary Mavity, V**	**19.91**	**14**	P		**P**	**17 18 26.4**	**-1.4**
	baz=197							
150A	**Eclectic**	**19.93**	**31**	P		**P**	**17 18 26.6**	**-1.6**
	baz=216							
TUC	**Tucson**	**19.98**	**327**	P		**Pn**	**17 18 30.8**	**+0.3**
	baz=142							
TUC	**Tucson**	**19.98**	**327**	*e*P		**Pn**	**17 18 31.0**	**+0.5**
	14nm,1.4s							
WHAR	**Wooly Hollow**	**20.01**	**14**	*e*P		**P**	**17 18 27.9**	**-1.1**
	23nm,1.4s							
TUL1	**Leonard**	**20.04**	**6**	P		**P**	**17 18 27.6**	**-1.7**
	baz=187							
TUL1	**Leonard**	**20.04**	**6**	*e*P		**P**	**17 18 27.6**	**-1.7**
	21nm,0.8s							
OXF	**Oxford**	**20.12**	**21**	*e*P		**P**	**17 18 29.1**	**-1.1**
	28nm,1.1s							
LAZ	**Ladron**	**20.13**	**338**	*e*P		**P**	**17 18 28.8**	**-1.7**
W42A	**Bald Knob**	**20.18**	**16**	P		**P**	**17 18 29.0**	**-1.9**
	baz=199							
Y47A	**UCPARC, Winfie**	**20.18**	**25**	P		**P**	**17 18 29.7**	**-1.2**
	baz=210							
V39A	**Pettigrew**	**20.26**	**11**	P		**P**	**17 18 30.6**	**-1.2**
	baz=193,SNR=7.1							
TIGA	**Tifton**	**20.38**	**38**	*e*P		**P**	**17 18 32.2**	**-0.8**
	38nm,1.3s							
V40A	**Witts Springs**	**20.38**	**12**	P		**P**	**17 18 31.8**	**-1.3**
	baz=195							
ANMO	**Albuquerque**	**20.39**	**340**	P		**P**	**17 18 33.2**	**-0.1**
	0.1nm,0.3s,baz=333,slow=12,SNR=17							
ANMO	**Albuquerque**	**20.39**	**340**	P		**P**	**17 18 34.0**	**+0.7**
	baz=157							
ANMO	**Albuquerque**	**20.39**	**340**	*e*P		**P**	**17 18 34.4**	**+1.1**
	15nm,1.1s							
V41A	**Mountainview**	**20.51**	**14**	P		**P**	**17 18 32.9**	**-1.6**
	baz=197							
HHAR	**Hobbs**	**20.64**	**10**	*e*P		**P**	**17 18 36.4**	**+0.5**
	15nm,0.9s							
V42A	**Cord**	**20.72**	**16**	P		**P**	**17 18 35.4**	**-1.3**
	baz=199							
U39A	**Green Forest**	**20.82**	**11**	P		**P**	**17 18 36.5**	**-1.3**
	baz=193,SNR=7.4							
214A	**Orran Pipe Nat**	**20.83**	**323**	P		Pn	17 18 40.3	-0.1
	baz=137							
U40A	**Yellville**	**20.91**	**12**	P		**P**	**17 18 37.5**	**-1.3**
	baz=194,SNR=14							
PLAL	**Pickwick Lake**	**21.04**	**24**	*e*P		**P**	**17 18 39.4**	**-0.8**
	17nm,1.3s							
U41A	**Viola**	**21.10**	**14**	P		**P**	**17 18 39.1**	**-1.7**
	baz=197							
U42A	**Revenden**	**21.27**	**15**	P		**P**	**17 18 41.3**	**-1.4**
	baz=199,SNR=9.5							
T38A	**Diamond**	**21.33**	**8**	P		**P**	**17 18 41.1**	**-2.1**
	baz=190,SNR=11							
X18A	**Snowflake**	**21.38**	**332**	*e*P		**P**	**17 18 46.0**	**+1.9**
	26nm,1.1s							
T39A	**Clever**	**21.46**	**10**	P		**P**	**17 18 42.5**	**-2.1**
	baz=193,SNR=14							
T40A	**Mansfield**	**21.74**	**12**	P		**P**	**17 18 46.0**	**-1.8**
	baz=195,SNR=6.2							
V46A	**Holladay**	**21.74**	**22**	P		**P**	**17 18 46.2**	**-1.6**
	baz=207							
T41A	**Mountain View**	**21.80**	**14**	P		**P**	**17 18 47.0**	**-1.4**
	baz=197,SNR=7.7							
T25A	**Trinidad**	**21.88**	**346**	P		**P**	**17 18 50.6**	**+1.2**
	baz=164,SNR=23							
T25A	**Trinidad**	**21.88**	**346**	*e*P		**P**	**17 18 50.6**	**+1.2**
	96nm,1.4s							
PBMO	**Poplar Bluff**	**21.89**	**17**	*e*P		**P**	**17 18 50.0**	**+0.6**
	31nm,0.9s							
GOGA	**Godfrey**	**21.90**	**35**	*e*P		**P**	**17 18 48.0**	**-1.5**
	15nm,1.3s							
MHTCO	**State Highway**	**21.93**	**346**	*e*P		**P**	**17 18 50.8**	**+0.8**
	84nm,1.6s							
T42A	**Van Buren**	**21.95**	**15**	P		**P**	**17 18 48.1**	**-1.9**
	baz=198,SNR=7.6							
113A	**Mohawk Valley,**	**21.98**	**323**	*e*P		**P**	**17 18 52.4**	**+2.2**
	67nm,2.0s							
X16A	**Lo Mia Camp, P**	**21.98**	**329**	*e*P		**P**	**17 18 52.6**	**+2.0**
	22nm,0.9s							
S39A	**Bolivar**	**22.12**	**10**	P		**P**	**17 18 50.8**	**-1.0**
	baz=192,SNR=24							
WVT	**Waverly**	**22.14**	**23**	P		**P**	**17 18 51.5**	**-0.6**
	baz=207							
WVT	**Waverly**	**22.14**	**23**	*e*P		**P**	**17 18 51.4**	**-0.6**
	12nm,1.0s							
S40A	**Lebanon**	**22.18**	**12**	P		**P**	**17 18 51.4**	**-1.1**
	baz=194,SNR=11							
V48A	**Smith Brothers**	**22.19**	**25**	P		**P**	**17 18 51.3**	**-1.3**
	baz=210							
S41A	**Jillco Farms,**	**22.33**	**13**	P		**P**	**17 18 51.9**	**-2.1**
	baz=196							
R38A	**Fenwick Farm,**	**22.51**	**9**	P		**P**	**17 18 54.1**	**-1.9**
	baz=191							
SDCO	**Great Sand Dun**	**22.72**	**345**	P		**P**	**17 18 58.6**	**+0.1**
	baz=162,SNR=15							
SDCO	**Great Sand Dun**	**22.72**	**345**	*e*P		**P**	**17 18 58.9**	**+0.5**
	14nm,1.4s							
S42A	**Caledonia**	**22.73**	**15**	P		**P**	**17 18 56.6**	**-1.7**
	baz=198							
R39A	**Chumby, Stover**	**22.77**	**10**	P		**P**	**17 18 56.8**	**-1.9**
	baz=193,SNR=11							
GLA	**Glamis**	**22.80**	**321**	*e*P		**P**	**17 19 01.9**	**+2.7**
	74nm,1.8s							
WUAZ	**Wupatki**	**22.85**	**331**	P		**P**	**17 19 01.2**	**+1.4**
	baz=146,SNR=13							
WUAZ	**Wupatki**	**22.85**	**331**	*e*P		**P**	**17 19 02.4**	**+2.6**
	68nm,1.4s							
CBKS	**Cedar Bluff**	**22.87**	**357**	P		**P**	**17 18 59.2**	**-0.6**
	baz=176							
CBKS	**Cedar Bluff**	**22.87**	**357**	*e*P		**P**	**17 18 59.7**	**-0.1**
	70nm,1.9s							
R40A	**Maddies Statio**	**22.90**	**12**	P		**P**	**17 18 58.4**	**-1.6**
	baz=195,SNR=16							
T46A	**Pinnacle**	**22.93**	**21**	P		**P**	**17 18 58.9**	**-1.6**
	baz=206							
FVM	**French Village**	**23.03**	**16**	*e*P		**P**	**17 19 00.2**	**-1.1**
	18nm,1.1s							
S22A	**4UR Ranch, Cre**	**23.08**	**342**	P		**P**	**17 19 02.2**	**-0.1**
	baz=158,SNR=15							
S22A	**4UR Ranch, Cre**	**23.08**	**342**	*e*P		**P**	**17 19 02.6**	**+0.3**
	9.0nm,0.9s							
R41A	**Rosebud**	**23.09**	**14**	P		**P**	**17 19 00.4**	**-1.6**
	baz=197							
SIUC	**Southern Illin**	**23.11**	**18**	*e*P		**P**	**17 19 00.6**	**-1.7**
	28nm,1.0s							
Y12C	**Blythe**	**23.12**	**323**	*e*P		**P**	**17 19 04.5**	**+2.1**
	27nm,1.5s							
MVCO	**Mesa Verde**	**23.13**	**339**	P		**P**	**17 19 02.8**	**+0.1**
	baz=154,SNR=8.0							
MVCO	**Mesa Verde**	**23.13**	**339**	*e*P		**P**	**17 19 03.7**	**+0.9**
	81nm,1.8s							
KSU1	**Kansas State U**	**23.15**	**3**	*e*P		**P**	**17 19 01.8**	**-0.9**
	15nm,1.0s							
YUH	**Yuha Desert**	**23.20**	**319**	*e*Sn		Sn	17 23 26.6	-6.1
R42A	**Luebbering**	**23.21**	**15**	P		**P**	**17 19 01.5**	**-1.8**
	baz=198							
S45A	**Carrier Mills**	**23.28**	**19**	P		**P**	**17 19 02.8**	**-1.1**
	baz=204							
PDMCI	**Parker Dam,Lak**	**23.31**	**325**	P		**P**	**17 19 06.5**	**+2.2**
	baz=138							
Q38A	**Cooks Store, C**	**23.31**	**9**	P		**P**	**17 19 03.0**	**-1.3**
	baz=191,SNR=5.8							
IKP	**In-Ko-Pah, Jac**	**23.32**	**319**	P		**P**	**17 19 06.0**	**+1.4**
	baz=132							
KSCO	**Kaye Shedlock'**	**23.36**	**351**	P		**P**	**17 19 04.5**	**-0.4**
	baz=169							
KSCO	**Kaye Shedlock'**	**23.36**	**351**	*e*P		**P**	**17 19 04.8**	**-0.1**
	21nm,1.0s							
R43A	**Red Bud**	**23.43**	**16**	P		**P**	**17 19 04.6**	**-0.9**
	baz=200,SNR=5.9							
TKL	**Tuckaleechee C**	**23.49**	**30**	P		**P**	**17 19 00.7**	**-5.4**
	3.3nm,0.5s,baz=228,slow=12,SNR=3.2							
Q39A	**Willow Grove F**	**23.50**	**10**	P		**P**	**17 19 05.3**	**-0.9**
	baz=193							
T48A	**Bowling Green**	**23.55**	**24**	P		**P**	**17 19 05.6**	**-1.1**
	baz=209							
BC3	**Big Chuckawall**	**23.60

N37A	Lee Faris, Mou baz=189	25.00	7	P	P	17 19 19.7	-0.5		
TUQ	Turquoise Moun baz=136,SNR=7.1	25.14	324	P	P	17 19 23.7	+2.1		
N38A	Joes South For baz=191	25.17	9	P	P	17 19 21.4	-0.3		
OGNE	Ogallala baz=171	25.18	353	P	P	17 19 21.0	-0.9		
OGNE	Ogallala 154nm,1.9s	25.18	353	eP	P	17 19 21.4	-0.5		
MTPU	Mount Pierson 18nm,1.0s	25.30	333	eP	P	17 19 24.7	+1.4		
BLO	Bloomington 72nm,1.8s	25.32	21	eP	P	17 19 21.3	-1.7		
SZCU	Shurtz Canyon 24nm,1.6s	25.34	331	eP	P	17 19 23.3	-0.2		
N39A	Derby Farms, D baz=193,SNR=6.0	25.36	10	P	P	17 19 22.0	-1.4		
BGNE	Belgrade 30nm,0.4s	25.42	360	eP	P	17 19 22.2	-1.7		
CCUT	Cedar City 3.1nm,0.8s	25.43	331	eP	P	17 19 25.0	+0.7		
P46A	Rosedale baz=205	25.49	20	P	P	17 19 23.3	-1.3		
SHPR	Sheep Range 7.9nm,1.3s	25.51	327	eP	P	17 19 27.0	+2.1		
GSC	Goldstone, Bar baz=135	25.55	323	P	P	17 19 25.9	+0.5		
GSC	Goldstone, Bar 13nm,1.5s	25.55	323	eP	P	17 19 25.8	+0.5		
SRU	San Rafael Swe 32nm,2.0s	25.55	337	eP	P	17 19 26.5	+1.2		
MWC	Mount Wilson 32nm,1.7s	25.58	319	eP	P	17 19 27.1	+1.3		
PASC	Pasadena Art C 18nm,1.1s	25.63	319	eP	P	17 19 28.0	+2.1		
M37A	Trindle Farm, baz=189	25.66	7	P	P	17 19 25.8	-0.3		
O20A	White River Ci baz=157	25.70	342	P	P	17 19 26.5	-0.3		
O20A	White River Ci 27nm,1.3s	25.70	342	eP	P	17 19 28.1	+1.4		
HDIL	Hopedale baz=200	25.74	16	P	P	17 19 26.3	-0.6		
HDIL	Hopedale 15nm,0.7s	25.74	16	eP	P	17 19 26.2	-0.6		
M38A	Pleasantville baz=191	25.78	9	P	P	17 19 25.6	-1.7		
N23A	Red Feather La baz=163	25.81	346	P	P	17 19 27.5	-0.3		
N23A	Red Feather La 12nm,1.1s	25.81	346	eP	P	17 19 28.6	+0.7		
O45A	Potomac baz=203,SNR=5.6	25.90	18	P	P	17 19 26.9	-1.3		
P18A	Preston Nutter 36nm,1.8s	25.90	338	eP	P	17 19 30.8	+2.0		
NCAT	North Carolina 14nm,0.8s	25.92	36	eP	P	17 19 28.2	-0.4		
P17A	Butcher Ranch, 12nm,1.4s	25.95	337	eP	P	17 19 29.0	0.0		
TMUT	Trail Mountain 39nm,1.9s	25.97	336	eP	P	17 19 30.6	+1.2		
M39A	Webster baz=193	26.00	10	P	P	17 19 28.3	-0.9		
M40A	Post Highland baz=195	26.05	11	P	P	17 19 28.6	-1.1		
PHWY	Pilot Hill 18nm,1.5s	26.09	347	eP	P	17 19 31.1	+0.6		
N43A	Stutzman Famil baz=200	26.13	16	P	P	17 19 28.9	-1.5		
SFIN	Lafayette 22nm,1.3s	26.21	19	eP	P	17 19 30.4	-0.7		
SCIA	State Center baz=191,SNR=5.9	26.26	8	P	P	17 19 29.7	-1.9		
SCIA	State Center 26nm,0.8s	26.26	8	eP	P	17 19 30.8	-0.8		
N44A	Piper City baz=202	26.28	17	P	P	17 19 30.2	-1.6		
BLA	Blacksburg 31nm,1.3s	26.40	33	eP	P	17 19 30.8	-2.1		
L37A	Phoenix Point, baz=190	26.41	7	P	P	17 19 32.4	-0.5		
MPMC	Manual Prospec baz=134	26.47	323	P	P	17 19 35.6	+1.8		
RUSC	La Rusia 9.3nm,1.3s	26.50	109	eP	P	17 19 34.4	-0.1		
L38A	Oak Wood Farm, baz=191,SNR=6.7	26.53	9	P	P	17 19 33.0	-1.0		
M43A	Waltham Townsh baz=200	26.66	15	P	P	17 19 33.9	-1.2		
L39A	Vinton baz=193	26.66	10	P	P	17 19 33.8	-1.3		
L40A	Anamosa baz=195	26.74	11	P	P	17 19 34.8	-1.1		
MPU	Maple Canyon 7.4nm,1.1s	26.76	337	eP	P	17 19 36.9	+0.6		
ISA	Isabella, Lake baz=132	26.79	321	P	P	17 19 38.8	+2.3		
ISA	Isabella, Lake 22nm,2.0s	26.79	321	eP	P	17 19 36.0	-0.5		
M44A	Midewin, Midew baz=202	26.86	17	P	P	17 19 35.4	-1.6		
RWWY	Rawlins 26nm,1.4s	26.87	345	eP	P	17 19 35.9	-1.4		
NLU	North Lily Min 11nm,1.1s	26.88	336	eP	P	17 19 36.8	-0.6		
L41A	Preston baz=196	26.90	13	P	P	17 19 34.8	-2.6		
K37A	Belmond baz=190	27.05	7	P	P	17 19 37.8	-0.9		
R11A	Troy Canyon, C 9.8nm,1.5s	27.13	329	eP	P	17 19 40.0	+0.2		
K39A	Oelwein baz=193	27.25	10	P	P	17 19 39.6	-0.9		
K40A	Colesburg baz=195	27.38	11	P	P	17 19 40.7	-0.9		
DUG	Dugway, Tooele 12nm,1.4s	27.38	335	eP	P	17 19 41.9	0.0		
K41A	Shullsburg baz=196	27.45	13	P	P	17 19 41.0	-1.3		
J36A	Seneca 1, Swea baz=188	27.53	6	P	P	17 19 41.9	-1.1		
J37A	Redenius Farm, baz=190	27.60	7	P	P	17 19 42.3	-1.3		
K22A	Casper 12nm,1.2s	27.62	347	eP	P	17 19 42.8	-1.1		
SDV	Santo Domingo 4.1nm,0.7s,baz=304,slow=4.9,SNR=8.0	27.72	101	P	P	17 19 46.8	+1.5		
SDV				LR	LR	17 31 43.7			
	comp=Z,178nm,18.2s,baz=22,slow=39								
SDV	Santo Domingo 36nm,1.8s	27.72	101	eP	P	17 19 45.9	+0.6		
J38A	Wedel Dairy, R baz=192	27.75	9	P	P	17 19 43.9	-1.1		
JFWS	Jewell Farm baz=196	27.76	12	P	P	17 19 43.3	-1.7		
JFWS	Jewell Farm 6.2nm,0.7s	27.76	12	eP	P	17 19 44.2	-0.8		
ECSD	EROS Data Cent 5.7nm,1.0s	27.77	2	eP	P	17 19 43.9	-1.2		
BGU	Big Grassy Mou 22nm,1.5s	28.08	336	eP	P	17 19 46.9	-1.3		
HWUT	Hardware Ranch 7.6nm,1.2s	28.12	338	eP	P	17 19 48.6	+0.1		
URVA	University of	28.24	36	eP	P	17 19 47.8	-1.5		
J41A	Loganville baz=197	28.24	13	P	P	17 19 48.0	-1.3		
IP04	Greensprings 7.4nm,0.9s	28.29	35	eP	P	17 19 49.1	-0.7		
IP05	Hopewell Churc 17nm,1.1s	28.30	36	eP	P	17 19 49.2	-0.7		
IP01	Cuckoo 6.5nm,0.9s	28.30	35	eP	P	17 19 48.9	-1.0		
CVRD	Centerville Ro 14nm,1.3s	28.43	35	eP	P	17 19 50.1	-1.0		
I38A	Scanlan Farm, baz=192	28.48	9	P	P	17 19 50.1	-1.4		
MDPB	Devils Postpil 13nm,1.6s	28.48	323	eP	P	17 19 51.6	-0.2		
PDAR	Pinedale Array 1.1nm,0.9s,baz=145,slow=8.4,SNR=8.0	28.51	342	P	P	17 19 52.8	+0.8		
PDAR				LR	LR	17 31 34.5			
	comp=Z,354nm,20.0s,baz=172,slow=38								
BW06	Boulder Array 16nm,1.6s	28.51	342	eP	P	17 19 51.9	-0.1		
RSSD	Black Hills 13nm,1.6s	28.57	351	eP	P	17 19 51.4	-1.2		
NVAR	Mina Array Bea 1.6nm,0.8s,baz=137,slow=12,SNR=5.9	28.61	326	P	P	17 19 55.0	+2.0		
NVAR				LR	LR	17 32 36.8			
	comp=Z,260nm,18.6s,baz=252,slow=40								
HVU	Hansel Valley 14nm,1.4s	28.72	337	eP	P	17 19 55.1	+1.4		
KVN	Kaiserville 24nm,2.0s	28.95	327	eP	P	17 19 57.2	+1.3		
I42A	Draeger Farm, baz=198	28.98	14	P	P	17 19 54.2	-1.7		
I42A	Draeger Farm, 11nm,1.2s	28.98	14	eP	P	17 19 54.5	-1.4		
SAO	San Andreas Ge 11nm,1.0s	29.33	320	eP	P	17 20 00.7	+1.6		
H40A	Chili baz=195	29.37	11	P	P	17 19 58.3	-1.0		
REDW	Red Top Meadow 8.2nm,1.2s	29.45	341	eP	P	17 20 01.1	+0.8		
SNOW	Snow King Moun 11nm,0.5s	29.51	341	eP	P	17 20 01.0	0.0		
BMN	Battle Mountai 17nm,1.8s	29.55	330	eP	P	17 20 01.2	+0.1		
SPMN	Marine on St. 7.6nm,0.9s	29.58	8	eP	P	17 19 59.7	-1.5		
TPAW	Teton Pass 8.6nm,1.1s	29.59	341	eP	P	17 20 02.9	+1.2		
LOHW	Long Hollow 19nm,1.8s	29.60	341	eP	P	17 20 01.6	-0.1		
FXWY	Fox Creek 8.2nm,1.5s	29.75	341	eP	P	17 20 03.7	+0.6		
MOOW	Moose Ponds 4.4nm,1.2s	29.76	341	eP	P	17 20 03.6	+0.5		
IMW	Indian Meadow 18nm,1.9s	29.96	341	eP	P	17 20 04.5	-0.4		
G40A	Rib Lake baz=195	30.03	11	P	P	17 20 03.2	-2.0		
F36A	Milaca baz=189	30.12	6	P	P	17 20 04.6	-1.4		
BGH	Bear Gulch	30.25	320	eP	P	17 20 09.7	+2.5		
F40A	Park Falls baz=195	30.67	11	P	P	17 20 09.3	-1.6		
HLID	Hailey baz=148	30.87	337	P	P	17 20 13.7	+0.8		
HLID	Hailey 14nm,1.8s	30.87	337	eP	P	17 20 13.7	+0.8		
E40A	Wakefield baz=195	31.22	11	P	P	17 20 14.0	-1.7		
D35A	Remer baz=188	31.27	5	P	P	17 20 14.7	-1.5		
MFID	Camas Ranch 26nm,1.9s	31.30	335	eP	P	17 20 17.4	+0.8		
GCMT	Greycliff	31.33	344	eP	P	17 20 15.6	-1.3		
MCMT	McKenzie Canyo	31.40	340	eP	P	17 20 18.4	+0.8		
E41A	Kenton baz=197	31.42	12	P	P	17 20 16.2	-1.2		
GDXM	Geysers 24nm,1.5s	31.45	321	eP	P	17 20 20.6	+2.7		
LUPA	Lehigh Univers 3.0nm,1.8s	31.56	34	eP	P	17 20 15.4	-3.3		
BOZ	Bozeman (W) 13nm,1.6s	31.70	342	eP	P	17 20 22.1	+1.9		
WVOR	Wild Horse Val 23nm,1.6s	31.76	330	eP	P	17 20 22.6	+1.8		
STVI	Saint Thomas 54nm,1.1s	31.77	81	eP	P	17 20 19.8	-1.1		
E43A	Lone Tree Farm baz=201	31.78	15	P	P	17 20 19.6	-1.0		
DLMT	Dillon 20nm,1.5s	31.79	340	eP	P	17 20 22.4	+1.4		
MDND	Maddock baz=177	31.88	358	P	P	17 20 20.0	-1.5		
MDND	Maddock 31nm,1.1s	31.88	358	eP	P	17 20 21.7	+0.2		
C35A	Jirik Farms, M baz=188	31.90	5	P	P	17 20 19.6	-2.0		
C36A	Pine Crest Far baz=190	32.07	7	P	P	17 20 21.3	-1.9		
AGMN	Agassiz Nation baz=184	32.36	3	P	P	17 20 24.1	-1.6		
AGMN	Agassiz Nation 7.7nm,1.0s	32.36	3	eP	P	17 20 24.9	-0.9		
J08A	Circle Bar Ran 11nm,1.0s	32.40	332	eP	P	17 20 27.9	+1.7		
B34A	Aery, Baudette baz=186	32.62	4	P	P	17 20 26.6	-1.4		
N02D	Trinity Center baz=133	32.81	324	P	P	17 20 31.1	+1.2		
A33A	Warroad baz=185	33.02	3	P	P	17 20 31.0	-0.5		
BMO	Blue Mountains 15nm,1.5s	33.09	335	eP	P	17 20 33.2	+0.9		
PCRV	Puerto La Cruz comp=Z,123nm,18.6s,baz=284,slow=41	33.09	96	LR	LR	17 36 15.2			
YBH	Yreka Blue Hor comp=Z,180nm,19.3s,baz=148,slow=38	33.33	325	LR	LR	17 34 41.6			
EGMT	Eagleton 36nm,1.8s	33.44	346	eP	P	17 20 36.0	+0.8		
MSO	Missoula baz=152	33.53	340	P	P	17 20 36.5	+0.4		
F10A	Beach Ranch, E 30nm,1.7s	33.98	336	eP	P	17 20 40.4	+0.3		
G08A	Pilot Rock	34.14	333	eP	P	17 20 41.5	+0.1		
ULM	Lac du Bonnet 1.8nm,0.8s,baz=183,slow=5.7,SNR=4.7	34.31	3	P	P	17 20 42.5	-0.2		
ULM				LR	LR	17 35 06.5			
	comp=Z,138nm,20.1s,baz=190,slow=38								
WALA	Waterton Lakes 21nm,1.8s	35.50	342	eP	P	17 20 53.5	+0.3		
NEW	Newport baz=148	35.86	338	P	P	17 20 56.8	+0.7		
B08A	Colville Reser 24nm,1.8s	36.76	336	eP	P	17 21 04.6	+0.8		
FFC	Flin Flon 7.8nm,1.0s	38.86	356	eP	P	17 21 20.9	-0.5		
FCC	Fort Churchill 17nm,1.5s	42.90	3	eP	P	17 21 54.4	-0.3		
LPAZ	La Paz comp=Z,150nm,21.2s,baz=312,slow=33	43.58	136	LR	LR	17 37 59.5			
SCHQ	Schefferville comp=Z,111nm,18.3s,baz=8.0,slow=43	45.75	25	LR	LR	17 45 55.5			
YKA	Yellowknife Ar 2.1nm,0.9s,baz=156,slow=7.4,SNR=24	47.97	350	P	P	17 22 34.7	-0.1		
YKA				LR	LR	17 46 22.8			
	comp=Z,11nm,20.0s,baz=180,slow=41								
TAOE	Nuku Hiva Isla 137nm,25.2s	48.33	242	eLR	LR	17 36 17.2			
TAOE	Nuku Hiva Isla 126nm,0.3s	48.33	242	eT	T	18 14 17.2			
INK	Inuvik 7.8nm,1.0s	57.02	345	eP	P	17 23 41.9	+0.1		
RIDG	Independ'e Rid 34nm,1.6s	57.50	337	eP	P	17 23 46.3	+0.9		
CPUP	Villa Florida comp=Z,44nm,19.1s,baz=352,slow=35	57.75	136	LR	LR	17 47 53.5			
PMOR	Pomariorio Ree 1.2nm,0.3s	57.95	240	eT	T	18 26 21.0			
KDAK	Kodiak Island comp=Z,67nm,18.3s,baz=109,slow=38	58.02	329	LR	LR	17 50 27.8			
HDA	Harding Lake 7.7nm,1.1s	58.64	337	eP	P	17 23 56.1	+2.8		
SUA	Susitna One 9.9nm,0.8s	58.71	333	eP	P	17 23 54.3	+0.3		
ILAR	Eielson Array 2.5nm,1.1s,baz=141,slow=5.3,SNR=18	58.81	338	P	P	17 23 55.1	+0.6		
ILAR				LR	LR	17 51 46.7			
	comp=Z,168nm,18.2s,baz=132,slow=39								
RND	Reindeer 14nm,1.1s	58.85	336	eP	P	17 23 55.7	+0.8		
TRF	Thorofare Moun 13nm,0.9s	59.44	336	eP	P	17 23 59.5	+0.4		
SFJD	Kangerlussuaq comp=Z,48nm,18.4s,baz=227,slow=38	59.62	20	LR	LR	17 51 29.2			
KTH	Kantishna Hill 6.4nm,1.0s	59.74	336	eP	P	17 24 01.6	+0.5		
CAST	Castle Rocks 5.1nm,0.9s	60.14	335	eP	P	17 24 03.3	-0.4		
MLY	Manley 6.6nm,1.1s	60.36	337	eP	P	17 24 05.8	+0.5		
PPT	Papeete comp=Z,97nm,21.8s,baz=13,slow=28	60.63	239	LR	LR	17 42 18.4			
PPT2	Papeete2 130nm,26.2s	60.64	239	eLR	LR	17 41 43.8			
TOLK	Toolik Lake Re baz=121	61.77	341	P	P	17 24 15.1	+0.4		
PLCA	Paso Flores 1.9nm,0.9s,baz=290,slow=6.3,SNR=3.1	61.89	156	P	P	17 24 27.9	+12		
PLCA				LR	LR	17 45 01.3			
	comp=Z,90nm,19.4s,baz=338,slow=30								
BORG	Borgarnes comp=Z,41nm,18.1s,baz=177,slow=38	70.11	26	LR	LR	17 57 54.6			
RAR	Rarotonga comp=Z,114nm,19.0s,baz=134,slow=31	70.82	240	LR	LR	17 51 12.0			
SPITS	Spitsbergen Ar comp=Z,93nm,18.1s,baz=335,slow=38	79.39	11	LR	LR	18 04 12.8			
EKA	Eskdalemuir Ar 1.6nm,0.8s,baz=273,slow=4.8,SNR=3.5	79.88	35	P	P	17 26 04.3	-0.7		
NOA	NORSAR Array B comp=Z,28nm,21.9s,baz=300,slow=36	85.26	27	LR	LR	18 03 55.4			
HFS	Hagfors comp=Z,36nm,21.9s,baz=292,slow=35	86.75	28	LR	LR	18 03 52.9			
FINES	FINESS Array B comp=Z,28nm,20.3s,baz=316,slow=36	91.21	23	LR	LR	18 08 51.1			
DBIC	Dimbokro comp=Z,24nm,21.7s,baz=239,slow=32	91.33	83	LR	LR	18 03 09.0			
GERES	GERESS Array B comp=Z,44nm,18.2s,baz=284,slow=38	91.83	38	LR	LR	18 10 42.3			
TORD	Tordi Ar. Bea comp=Z,50nm,20.0s,baz=35,slow=34	95.65	75	LR	LR	18 07 16.4			
LZH	Lanzhou	124.27	338	ePKP	PKPdf	17 32 54.8	-1.3		
LZH				pPKP	sPKPdf	17 33 04.6	+5.8		
LZH				sPKP		17 33 09.3			
KSH	Kashi	124.60	6	ePKP	PKPdf	17 32 55.6	-0.9		
CMAR	Chiang Mai Arr 0.7nm,0.8s,baz=315,slow=1.8,SNR=4.5	141.94	333	PKP	PKPdf	17 33 31.9	+2.5		

*IDC **23** 17:19:38.3±2.4, 16°.62N×98°.33W, h0km, mb4.1/7, mb1 4.3/11, mb1mx3.9/49, mbtmp4.0/11, ML3.5/4, Error ellipse: s-maj=59.2km s-min=26.6km az=30.0*
*MEX **23** 17:19:38.8±0.4, 16°.22N×98°.50W, h3km±7km, MD4.3*
*NEIC **23** 17:19:38.9±0.0, 16°.23N×98°.50W, h2km, mb4.4/121, MD4.4(MEX), After MEX.*

ISC 23 17:19:37.6±1.6, 16°.22N±0°.06×98°.48W±0°.03, h15km±9km, n360, σ1°$38/365, mb4.5/113, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.38	63	eP		Pg		17 19 46.1	+0.7
PNIG				*i* S		Sb		17 19 52.2	+0.2
PNIG	Pinotepa	0.38	63	eP		Pg		17 19 46.1	+0.7
PNIG				*i* S		Sb		17 19 52.2	+0.2
TLIG	Tlapa	1.34	357	eP		Pn		17 20 00.8	-1.1
TLIG				*e*S		Sn		17 20 17.7	-1.8
TLIG	Tlapa	1.34	357	eP		Pn		17 20 00.8	-1.1
TLIG				*e*S		Sn		17 20 17.7	-1.8
ACX	Acapulco	1.47	296	*i* P		Pn		17 20 00.3	-3.3
ACX				*i* S		Sn		17 20 19.8	-2.8
VHO	Vista Hermosa	1.88	63	eP		Pn		17 20 08.9	-0.5
VHO				*i* S		Sn		17 20 32.1	-1.0
VHO	Vista Hermosa	1.88	63	eP		Pn		17 20 08.9	-0.5
VHO				*e*S		Sn		17 20 30.3	-2.8
CAIG	El Cayaco	1.90	296	eP		Pn		17 20 07.8	-1.6
CAIG				*i* S		Sn		17 20 32.1	-1.1
CAIG	El Cayaco	1.90	296	eP		Pn		17 20 07.4	-2.1
CAIG				*i* S		Sn		17 20 32.1	-1.1
UNM	Universidad Na	3.16	348	eP	n	Pb		17 20 32.4	-1.3
UNM				*e*S	n	Sb		17 21 14.6	+2.4
CMIG	Matias Romero 6.4nm,0.3s,baz=239,slow=12,SNR=65	3.56	75	P	n	Pn		17 20 31.6	-0.8
CMIG				Lg		Lg		17 21 29.8	
	190nm,0.3s,baz=147,slow=21,SNR=13								
LVIG	Laguna Verde	4.00	29	eP	n	Pn		17 20 36.9	-1.5
LVIG				*e*Sg		Sb		17 21 39.0	+2.9
MOIG	Morelia	4.30	324	eP	n	Pb		17 20 48.1	-4.9
MOIG				*e*S	n	Sb		17 21 46.6	+1.8
JRQG	Juriquilla Cam	4.83	338	eP	n	Pn		17 20 54.9	+4.8
ZAIG	Zacatecas	7.57	330	eP	n	Pn		17 21 35.9	+8.1
LNIG	Linares	8.68	354	eP	n	Pn		17 21 50.6	+7.8
H06E1	SOCORRO T-PHAS SNR=120	12.14	284	T		T		17 34 41.8	
SLBS	Sierra La Lagu	13.08	306	eP	n	Pn		17 22 44.2	+1.1
TXAR	Lajitas Array 0.0nm,0.3s,baz=158,slow=13,SNR=2.6	13.90	341	P	n	Pn		17 22 52.2	-2.0
TXAR				Lg		Lg		17 26 55.4	
	0.0nm,0.3s,baz=163,slow=25,SNR=3.2								
JTS	JuntasAbangare 0.7nm,0.3s,baz=285,slow=20,SNR=2.0	14.43	112	P	n	P		17 23 06.2	-2.1
WHTX	Lake Whitney, baz=184	15.73	3	P	n	Pn		17 23 19.3	+0.6
WHTX	Lake Whitney, 21nm,0.8s	15.73	3	eP	n	P		17 23 21.9	-0.8
NATX	Nacogdoches 20nm,0.8s	15.86	12	eP	n	P		17 23 22.7	-1.3
444A	Pine Grove baz=208	16.07	25	P		Pn		17 23 23.2	+0.1
ABTX	Abilene, Hawle baz=176,SNR=5.7	16.37	357	P		P		17 23 29.9	+0.1
ABTX	Abilene, Hawle 31nm,0.9s	16.37	357	eP	n	P		17 23 31.3	+1.6
MNTX	Cornudas Mount baz=156	16.64	339	P		P		17 23 32.9	+0.1
MNTX	Cornudas Mount	16.64	339	eP	n	Pn		17 23 20.2	-10
446A	Poplarville baz=212	16.73	28	P		Pn		17 23 31.9	+0.4
140A	Cam and Jess, baz=196	16.94	14	P		Pn		17 23 34.0	-0.2
EPT	El Paso 69nm,1.8s	17.12	336	eP	n	Pn		17 23 36.6	+0.1
HSIG		17.15	320	eP	n	Pn		17 23 35.5	-1.3
244A	Avery, Jackson baz=206	17.27	23	P		Pn		17 23 37.1	-1.2
Z40A	Long Farm, Mag baz=196	17.58	14	P		Pn		17 23 41.9	-0.2
319A	Douglas 52nm,1.5s	18.01	329	eP	n	Pn		17 23 46.1	-1.5
WLAR	White Oak Lake 17nm,0.7s	18.05	15	eP	n	Pn		17 23 45.8	-2.3
MSTX	Muleshoe baz=167	18.09	348	P		P		17 23 48.7	-0.2
MSTX	Muleshoe 14nm,1.0s	18.09	348	eP	n	Pn		17 23 48.6	0.0
121A	Cookes Peak, D baz=150	18.30	334	P		P		17 23 52.3	+1.0
Y40A	Okolona baz=196	18.33	14	P		Pn		17 23 50.8	-0.5
Y41A	Eaglette Beard baz=198	18.36	16	P		P		17 23 50.6	-1.2
552A	Lynn Haven baz=224	18.38	39	P		P		17 23 47.8	-4.2
WMOK	Wichita Mounta baz=179	18.44	359	P		P		17 23 52.1	-0.6
WMOK	Wichita Mounta 5.4nm,1.0s	18.44	359	eP		P		17 23 51.9	-0.8
451A	Vernon baz=222	18.47	37	P		P		17 23 51.0	-2.0
X39A	Fountain Ranch baz=193	18.63	11	P		P		17 23 53.2	-1.6
AMTX	Amarillo baz=170	18.81	352	P		Pn		17 23 57.0	-0.3
AMTX	Amarillo 17nm,1.1s	18.81	352	eP		P		17 23 56.0	-0.8
147A	Livingston baz=212	18.82	28	P		P		17 23 55.1	-1.7
452A	Marianna baz=223	18.97	38	P		P		17 23 55.3	-3.1
UALR	University of 48nm,1.8s	19.28	15	eP		P		17 24 00.9	-0.9
BNM	Barren Site	19.30	339	eP		Pn		17 24 03.1	-0.3
W39A	Magazine baz=194,SNR=6.7	19.36	12	P		P		17 24 02.8	0.0
LPM	Los Pinos Moun	19.45	339	eP		P		17 24 03.0	-0.9
TUC	Tucson baz=142	19.52	327	P		Pn		17 24 06.6	+0.6
TUC	Tucson 8.2nm,1.4s	19.52	327	eP		Pn		17 24 05.8	-0.1
Y46A	Houston baz=209,SNR=5.0	19.61	24	P		P		17 24 04.2	-1.2
W41B	Gary Mavity, V baz=198	19.68	15	P		P		17 24 05.7	-0.5
LRAL	Lakeview Retre 15nm,1.4s	19.70	30	eP		P		17 24 04.3	-2.2
TUL1	Leonard baz=188	19.76	6	P		P		17 24 06.5	-0.6
TUL1	Leonard 16nm,0.9s	19.76	6	eP		P		17 24 05.6	-1.5
WHAR	Wooly Hollow 7.6nm,0.9s	19.78	15	eP		P		17 24 04.7	-2.7
150A	Eclectic baz=218	19.84	32	P		P		17 24 06.4	-1.6
ANMO	Albuquerque 0.2nm,0.3s,baz=338,slow=12,SNR=11	19.97	341	P		P		17 24 09.8	+0.2
ANMO	Albuquerque baz=157	19.97	341	P		Pn		17 24 11.3	0.0
ANMO	Albuquerque 5.4nm,0.8s	19.97	341	eP		Pn		17 24 11.0	-0.4

V39A	Pettigrew baz=194,SNR=18	20.01	12	P	P	17 24 09.0	-0.9		
Y47A	UCPARC, Winfie baz=211	20.04	27	P	P	17 24 08.9	-1.3		
Z49A	Columbiana baz=215	20.06	30	P	P	17 24 09.4	-1.0		
V40A	Witts Springs baz=196,SNR=11	20.15	13	P	P	17 24 10.7	-0.6		
V41A	Mountainview baz=198,SNR=5.5	20.29	15	P	P	17 24 12.0	-0.9		
HHAR	Hobbs 6.1nm,0.7s	20.39	11	eP	P	17 24 12.3	-1.6		
Z50A	Ashland baz=217	20.41	32	P	P	17 24 12.1	-2.1		
V42A	Cord baz=200	20.51	17	P	P	17 24 14.6	-0.7		
X47A	Russelville baz=210	20.57	26	P	P	17 24 14.1	-1.8		
U39A	Green Forest baz=194	20.57	12	P	P	17 24 14.6	-1.3		
Y49A	Blount Mountai baz=215	20.66	30	P	P	17 24 15.6	-1.3		
U40A	Yellville baz=196,SNR=9.1	20.67	13	P	P	17 24 16.4	-0.7		
X48A	Hartselle baz=212	20.86	27	P	P	17 24 18.0	-1.0		
U41A	Viola baz=198	20.88	15	P	P	17 24 18.5	-0.7		
PLAL	Pickwick Lake 13nm,0.9s	20.88	25	eP	P	17 24 17.2	-2.1		
X18A	Snowflake 10nm,0.9s	20.94	333	eP	Pn	17 24 22.4	-0.4		
Y50A	Piedmont baz=216	21.01	31	P	P	17 24 18.8	-1.9		
U42A	Revenden baz=200,SNR=12	21.06	16	P	P	17 24 19.9	-1.4		
T38A	Diamond baz=191,SNR=6.5	21.06	9	P	P	17 24 20.8	-0.4		
T39A	Clever baz=194,SNR=7.0	21.21	11	P	P	17 24 22.6	-0.3		
X49A	Woodville baz=214	21.24	29	P	P	17 24 21.7	-1.4		
W47A	Westpoint baz=210	21.31	25	P	P	17 24 22.5	-1.5		
T25A	Trinidad baz=164,SNR=6.6	21.49	347	P	P	17 24 27.5	+1.5		
T25A	Trinidad 13nm,0.9s	21.49	347	eP	P	17 24 27.6	+1.5		
W48A	Pulaski baz=212,SNR=6.1	21.49	27	P	P	17 24 24.2	-1.7		
T40A	Mansfield baz=196	21.51	13	P	P	17 24 25.0	-1.0		
113A	Mohawk Valley, 3.7nm,0.8s	21.52	323	eP	P	17 24 28.5	+2.3		
X16A	Lo Mia Camp, P 11nm,1.0s	21.54	330	eP	P	17 24 28.9	+2.3		
MHTCO	State Highway 10nm,1.2s	21.54	346	eP	P	17 24 25.1	-1.5		
T41A	Mountain View baz=198,SNR=11	21.58	15	P	P	17 24 25.9	-1.0		
V46A	Holladay baz=208,SNR=7.9	21.58	23	P	P	17 24 25.2	-1.7		
PBMO	Poplar Bluff 30nm,0.8s	21.69	18	eP	P	17 24 28.4	+0.4		
T42A	Van Buren baz=200,SNR=10	21.74	16	P	P	17 24 27.6	-0.9		
GOGA	Godfrey 6.5nm,0.9s	21.84	36	eP	P	17 24 26.1	-3.5		
V47A	Nunnelly baz=209	21.84	25	P	P	17 24 28.1	-1.5		
S39A	Bolivar baz=193,SNR=6.0	21.87	11	P	P	17 24 29.3	-0.6		
S40A	Lebanon baz=196,SNR=8.6	21.94	13	P	P	17 24 30.2	-0.5		
WVT	Waverly baz=208	21.98	24	P	P	17 24 29.8	-1.3		
WVT	Waverly 21nm,0.8s	21.98	24	eP	P	17 24 30.8	-0.4		
T43A	Greenville baz=201,SNR=5.4	22.01	18	P	P	17 24 29.9	-1.5		
V48A	Smith Brothers baz=211	22.05	26	P	P	17 24 29.9	-2.0		
S41A	Jillco Farms, baz=197,SNR=10	22.10	14	P	P	17 24 31.0	-1.4		
R38A	Fenwick Farm, baz=192	22.25	10	P	P	17 24 32.7	-1.3		
SDCO	Great Sand Dun baz=162,SNR=5.6	22.32	345	P	P	17 24 35.7	+0.6		
SDCO	Great Sand Dun 5.1nm,1.1s	22.32	345	eP	P	17 24 35.7	+0.6		
GLA	Glamis 7.7nm,0.8s	22.34	322	eP	P	17 24 38.2	+3.1		
WUAZ	Wupatki baz=146,SNR=9.1	22.40	331	P	P	17 24 37.4	+1.6		
WUAZ	Wupatki 12nm,0.8s	22.40	331	eP	P	17 24 38.6	+2.7		
U47A	Clarksville baz=209,SNR=5.1	22.46	24	P	P	17 24 34.8	-1.5		
S42A	Caledonia baz=200,SNR=12	22.51	16	P	P	17 24 36.3	-0.5		
R39A	Chumby, Stover baz=194,SNR=6.5	22.52	11	P	P	17 24 35.9	-1.1		
CBKS	Cedar Bluff 15nm,1.1s	22.54	357	eP	P	17 24 37.8	+0.7		
R40A	Maddies Statio baz=196,SNR=17	22.66	13	P	P	17 24 36.5	-1.8		
Y12C	Blythe 3.6nm,0.8s	22.66	323	eP	P	17 24 42.2	+3.8		
S22A	4UR Ranch, Cre baz=159,SNR=9.2	22.67	343	P	P	17 24 39.8	+1.0		
S22A	4UR Ranch, Cre 5.2nm,0.8s	22.67	343	eP	P	17 24 39.9	+1.0		
MVCO	Mesa Verde baz=154	22.71	339	P	P	17 24 40.9	+1.7		
MVCO	Mesa Verde 32nm,1.4s	22.71	339	eP	P	17 24 40.7	+1.5		
T46A	Princeton baz=207	22.76	22	P	P	17 24 38.2	-1.3		
FVM	French Village 18nm,1.3s	22.81	17	eP	P	17 24 38.1	-1.9		
U48A	Cassie Pea, Po baz=211,SNR=5.1	22.83	25	P	P	17 24 38.5	-1.7		
PDMCI	Parker Dam,Lak baz=138	22.85	325	P	P	17 24 43.3	+2.8		
KSU1	Kansas State U 7.1nm,0.6s	22.85	4	eP	P	17 24 39.3	-1.1		
SWSC	Sam W. Stewart baz=133	22.86	320	P	P	17 24 43.9	+3.4		
SWSC	Sam W. Stewart	22.86	320	eP	P	17 24 44.4	+3.8		
R41A	Rosebud baz=198	22.86	15	P	P	17 24 40.4	-0.1		
S44A	Carbondale baz=203,SNR=5.3	22.89	19	P	P	17 24 40.2	-0.6		
SIUC	Southern Illin 19nm,0.8s	22.92	19	eP	P	17 24 38.3	-2.8		
KSCO	Kaye Shedlock' baz=170	22.99	352	P	P	17 24 42.7	+0.7		
KSCO	Kaye Shedlock' 14nm,0.8s	22.99	352	eP	P	17 24 42.6	+0.5		
T47A	Sharon Grove baz=209,SNR=6.7	23.01	24	P	P	17 24 42.5	+0.4		
Q38A	Cooks Store, C baz=192	23.05	10	P	P	17 24 42.2	-0.3		
S45A	Carrier Mills baz=205	23.09	20	P	P	17 24 42.9	0.0		
HODGE	Hodges 5.2nm,0.8s	23.12	36	eP	P	17 24 43.0	-0.2		
MONP2	Monument Peak baz=132	23.21	319	P	P	17 24 46.0	+1.6		
R43A	Red Bud baz=201,SNR=5.9	23.23	17	P	P	17 24 44.3	+0.1		
Q39A	Willow Grove F baz=194	23.25	11	P	P	17 24 44.7	+0.3		
BG3	Lake Jocassee 6.8nm,0.9s	23.31	34	eP	P	17 24 42.8	-2.4		
IRM	Iron Mountain baz=136	23.31	323	P	P	17 24 47.3	+2.1		
W13A	Hualapai Mount 3.5nm,0.9s	23.31	327	eP	P	17 24 47.4	+2.0		
Q40A	Laux Farm, Aux baz=196	23.37	13	P	P	17 24 45.1	-0.6		
Q24A	Divide baz=164	23.40	347	P	P	17 24 47.0	+0.7		
Q24A	Divide 6.0nm,1.0s	23.40	347	eP	P	17 24 45.2	-1.2		
T48A	Bowling Green baz=210,SNR=6.8	23.40	25	P	P	17 24 44.8	-1.2		
R44A	Waltonville baz=203,SNR=7.0	23.45	19	P	P	17 24 46.1	-0.4		
Q41A	Truxton baz=198,SNR=6.0	23.52	14	P	P	17 24 46.6	-0.6		
P37A	Lathrop baz=190	23.56	8	P	P	17 24 46.4	-1.1		
PV01	Paradox Valley	23.57	340	eP	P	17 24 49.4	+1.4		
U15A	North Rim 4.4nm,1.0s	23.57	331	eP	P	17 24 50.3	+2.2		
CSU	Charleston Sou	23.58	42	eP	P	17 24 47.3	-0.5		
NHSC	New Hope 33nm,0.7s	23.59	41	eP	P	17 24 46.9	-1.0		
Q42A	Golden Eagle baz=199	23.66	16	P	P	17 24 48.4	-0.1		
USIN	University of 27nm,0.8s	23.67	22	eP	P	17 24 48.0	-0.6		
PV05	Paradox Valley	23.70	339	eP	P	17 24 49.9	+0.7		
P38A	Dawn baz=192	23.72	10	P	P	17 24 48.2	-0.8		
P39B	Salisbury baz=194	23.72	11	P	P	17 24 48.0	-1.1		
PFO	Pinyon Flats O baz=133	23.72	320	P	P	17 24 51.9	+2.6		
JSC	Jenkinsville 12nm,1.3s	23.73	38	eP	P	17 24 47.3	-1.9		
R45A	Skylar, Fairfi baz=205	23.75	20	P	P	17 24 48.8	-0.6		
PAULI	Pauline 23nm,1.6s	23.80	36	eP	P	17 24 48.1	-1.8		
P40A	Paris baz=195,SNR=10.0	23.89	12	P	P	17 24 49.9	-0.8		
Q43A	New Douglas baz=201	23.91	17	P	P	17 24 49.9	-1.0		
O34A	Beatrice baz=184	23.93	3	P	P	17 24 51.0	-0.1		
PV10	Paradox Valley	23.95	339	eP	P	17 24 52.6	+1.1		
LDFC	Landfair 22nm,0.4s	23.96	325	eP	P	17 24 52.5	+0.8		
S48A	Wiedeman Farm, baz=210	24.01	25	P	P	17 24 50.4	-1.5		
SMCO	Snowmass 8.5nm,0.9s	24.05	344	eP	P	17 24 53.6	+0.9		
GMRC	Granite Mounta baz=136	24.06	323	P	P	17 24 54.0	+1.4		
PV09	Paradox Valley	24.09	339	eP	P	17 24 54.7	+1.8		
O37A	Wolven Farm, M baz=190	24.16	8	P	P	17 24 52.6	-0.6		
OLIL	Olney 12nm,0.9s	24.21	20	eP	P	17 24 52.5	-1.2		
O38A	Galt baz=192	24.21	9	P	P	17 24 52.9	-0.9		
P41A	Barry, Barry baz=198	24.25	14	P	P	17 24 52.8	-1.3		
KNB	Kanab 6.8nm,0.9s	24.30	331	eP	P	17 24 56.3	+1.4		
ISCO	Idaho Springs baz=163,SNR=9.2	24.30	347	P	P	17 24 55.8	+0.8		
ISCO	Idaho Springs 7.8nm,0.8s	24.30	347	eP	P	17 24 55.5	+0.6		
P42A	Winchester baz=199,SNR=6.4	24.34	15	P	P	17 24 54.2	-0.7		
R47A	Wooly Knot Far baz=209,SNR=7.9	24.38	23	P	P	17 24 53.9	-1.4		
WCI	Wyandotte Cave baz=209	24.41	24	P	P	17 24 53.8	-1.8		
WCI	Wyandotte Cave 21nm,1.1s	24.41	24	eP	P	17 24 52.7	-2.9		
LCMT	Little Creek M 3.7nm,1.0s	24.49	331	eP	P	17 24 58.6	+2.1		
O39A	Kirksville baz=194	24.50	11	P	P	17 24 55.8	-0.6		
O40A	La Belle baz=196,SNR=6.6	24.50	12	P	P	17 24 55.5	-0.9		
N35A	Tabor baz=187	24.68	5	P	P	17 24 58.1	+0.2		
TUQ	Turquoise Moun baz=137	24.68	324	P	P	17 25 00.6	+2.4		
O41A	Passleys Farm, baz=198	24.71	14	P	P	17 24 57.6	-0.6		
P44A	Sand Creek, Wi baz=203	24.71	18	P	P	17 24 57.8	-0.5		
R48A	Northridge Ran baz=210	24.72	24	P	P	17 24 57.5	-0.9		
OGNE	Ogallala baz=172	24.83	354	P	P	17 25 00.3	+0.8		
OGNE	Ogallala 34nm,1.0s	24.83	354	eP	P	17 25 00.9	+1.4		
MTPU	Mount Pierson 15nm,1.2s	24.86	334	eP	P	17 25 01.8	+1.7		
SZCU	Shurtz Canyon 24nm,1.5s	24.89	332	eP	P	17 24 59.9	-0.3		
N38A	Joes South For baz=192,SNR=6.7	24.91	9	P	P	17 24 59.4	-0.6		
Q47A	Bedord North L baz=208	24.98	23	P	P	17 25 00.0	-0.7		
CCUT	Cedar City 3.1nm,0.9s	24.98	331	eP	P	17 25 00.9	-0.2		
SHPR	Sheep Range 9.4nm,1.6s	25.05	327	eP	P	17 25 02.2	+0.5		
N39A	Derby Farms, D baz=194,SNR=9.0	25.11	11	P	P	17 25 01.4	-0.5		
SRU	San Rafael Swe 7.1nm,0.9s	25.12	338	eP	P	17 25 03.4	+1.1		
BLO	Bloomington 19nm,1.1s	25.15	22	eP	P	17 25 01.0	-1.3		
PASC	Pasadena Art C 13nm,0.4s	25.16	319	eP	P	17 25 03.8	+1.4		
MSU	Marysvale	25.26	334	eP	P	17 25 06.3	+2.8		
N40A	Mertquake, Sal baz=196	25.29	12	P	P	17 25 03.2	-0.3		
O20A	White River Ci baz=158	25.30	342	P	P	17 25 05.9	+2.1		
O20A	White River Ci 16nm,1.4s	25.30	342	eP	P	17 25 06.6	+2.8		
P46A	Rosedale baz=206	25.31	21	P	P	17 25 03.2	-0.4		
M37A	Trindle Farm, baz=190	25.38	8	P	P	17 25 04.6	+0.3		
N23A	Red Feather La baz=163,SNR=7.2	25.42	347	P	P	17 25 06.6	+1.6		
N23A	Red Feather La 9.9nm,0.8s	25.42	347	eP	P	17 25 06.2	+1.2		
TCRU	Three Creeks R 12nm,0.3s	25.45	334	eP	P	17 25 05.8	+0.4		
P18A	Preston Nutter 12nm,1.0s	25.48	339	eP	P	17 25 07.2	+1.6		
EDW2	Edwards Air Fo baz=132	25.51	320	P	P	17 25 07.5	+1.9		
M38A	Pleasantville baz=192,SNR=12	25.52	9	P	P	17 25 05.3	-0.3		
P17A	Butcher Ranch, 6.0nm,1.1s	25.52	338	eP	P	17 25 06.3	+0.4		
HDIL	Hopedale baz=201	25.53	16	P	P	17 25 05.2	-0.5		
HDIL	Hopedale 16nm,0.8s	25.53	16	eP	P	17 25 04.2	-1.5		
TMUT	Trail Mountain 31nm,1.5s	25.54	337	eP	P	17 25 07.8	+1.7		
N42A	Yates City baz=199	25.59	15	P	P	17 25 05.4	-0.8		
O45A	Potomac baz=204,SNR=8.8	25.71	19	P	P	17 25 07.5	+0.2		
PHWY	Pilot Hill 4.6nm,0.7s	25.71	348	eP	P	17 25 08.5	+0.9		
M39A	Webster baz=194,SNR=5.4	25.75	11	P	P	17 25 07.2	-0.6		
M40A	Post Highland baz=196	25.81	12	P	P	17 25 07.5	-0.8		
NCAT	North Carolina 8.6nm,0.8s	25.86	37	eP	P	17 25 07.8	-0.9		
N43A	Stutzman Famil baz=201,SNR=6.8	25.92	16	P	P	17 25 08.6	-0.6		
M41A	Milan baz=198	25.99	14	P	P	17 25 09.0	-0.8		
SCIA	State Center baz=192,SNR=8.7	26.00	9	P	P	17 25 09.5	-0.5		
SCIA	State Center 34nm,0.8s	26.00	9	eP	P	17 25 09.7	-0.2		
MPMC	Manual Prospec baz=135	26.01	323	P	P	17 25 12.4	+2.1		
SFIN	Lafayette 8.7nm,0.9s	26.03	20	eP	P	17 25 09.4	-0.8		
N44A	Piper City baz=203	26.08	18	P	P	17 25 09.8	-0.9		
L37A	Phoenix Point, baz=190	26.13	8	P	P	17 25 11.1	-0.1		
O47A	Sheridan baz=208	26.21	22	P	P	17 25 11.4	-0.5		
DAC	Darwin (Calif)	26.23	323	eP	P	17 25 14.8	+2.5		
L38A	Oak Wood Farm, baz=192,SNR=9.4	26.27	9	P	P	17 25 12.7	+0.3		
BLA	Blacksburg baz=222	26.32	34	P	P	17 25 11.5	-1.4		
BLA	Blacksburg 11nm,0.9s	26.32	34	eP	P	17 25 12.2	-0.7		
N45A	Kentland baz=204	26.32	19	P	P	17 25 12.2	-0.7		
ISA	Isabella, Lake 19nm,2.0s	26.32	321	eP	P	17 25 15.4	+2.3		
MPU	Maple Canyon 5.5nm,1.0s	26.33	337	eP	P	17 25 14.6	+1.4		
L39A	Vinton baz=194	26.41	11	P	P	17 25 13.4	-0.3		
M43A	Waltham Townsh baz=201	26.44	16	P	P	17 25 13.5	-0.4		
NLU	North Lily Min 3.6nm,0.7s	26.45	336	eP	P	17 25 14.7	+0.4		
RWWY	Rawlins 19nm,1.0s	26.47	345	eP	P	17 25 16.2	+1.7		
L40A	Anamosa baz=196,SNR=5.3	26.50	12	P	P	17 25 14.5	0.0		
K36A	Gilmore City baz=189	26.55	7	P	P	17 25 14.6	-0.3		
M44A	Midewin, Midew baz=203	26.65	18	P	P	17 25 15.6	-0.2		
L41A	Preston baz=197,SNR=6.9	26.67	13	P	P	17 25 15.1	-0.8		
R11A	Troy Canyon, C baz=141	26.68	329	P	P	17 25 17.8	+1.4		
K37A	Belmond baz=190,SNR=12	26.78	8	P	P	17 25 16.0	-1.0		
L42A	Oliver, Polo baz=199	26.79	15	P	P	17 25 16.5	-0.6		
DUG	Dugway, Tooele baz=148	26.94	335	P	P	17 25 20.9	+2.2		
DUG	Dugway, Tooele 3.7nm,0.8s	26.94	335	eP	P	17 25 19.0	+0.3		
K39A	Oelwein baz=194	26.99	11	P	P	17 25 18.1	-0.8		
K40A	Colesburg baz=196,SNR=5.6	27.13	12	P	P	17 25 19.5	-0.7		
K41A	Shullsburg baz=197	27.22	13	P	P	17 25 20.0	-0.9		
K22A	Casper baz=163	27.23	347	P	P	17 25 22.3	+1.1		
J36A	Seneca 1, Swea baz=189,SNR=6.5	27.25	7	P	P	17 25 20.7	-0.5		
J37A	Redenius Farm, baz=190	27.33	8	P	P	17 25 21.3	-0.6		
ECSD	EROS Data Cent 3.9nm,1.0s	27.47	3	eP	P	17 25 23.1	-0.1		
J38A	Wedel Dairy, R baz=193	27.49	10	P	P	17 25 22.4	-1.0		
JFWS	Jewell Farm baz=197	27.52	13	P	P	17 25 23.1	-0.6		
JFWS	Jewell Farm 7.7nm,0.9s	27.52	13	eP	P	17 25 22.4	-1.3		
K42A	Prairie Point, baz=199	27.60	15	P	P	17 25 23.4	-1.0		
HWUT	Hardware Ranch 23nm,2.0s	27.70	339	eP	P	17 25 25.7	+0.2		
I35A	Creekview Farm baz=187	27.71	5	P	P	17 25 24.6	-0.7		
K43A	Burlington baz=201	27.79	16	P	P	17 25 25.1	-0.9		
PSMM	Smith Mountain	27.89	319	eP	P	17 25 31.6	+4.4		
J41A	Loganville baz=198	28.00	13	P	P	17 25 26.8	-1.2		
MDPB	Devils Postpil	28.02	324	eP	P	17 25 30.5	+2.0		
I37A	Lemond, Waseca baz=190	28.04	8	P	P	17 25 27.4	-0.9		
BW06	Boulder Array baz=157	28.10	343	P	P	17 25 29.9	+0.7		
BW06	Boulder Array 20nm,1.9s	28.10	343	eP	P	17 25 30.0	+0.9		
PDAR	Pinedale Array 1.3nm,0.8s,baz=133,slow=11,SNR=11	28.10	343	P	P	17 25 29.5	+0.3		
NVAR	Mina Array Bea 1.2nm,0.7s,baz=129,slow=12,SNR=4.9	28.16	326	P	P	17 25 31.6	+1.9		
J42A	Columbus baz=199	28.16	15	P	P	17 25 28.8	-0.6		
I39A	Houston baz=194	28.17	11	P	P	17 25 28.6	-0.9		
URVA	University of	28.18	37	eP	P	17 25 26.8	-2.9		
H32A	Carlson Farm, baz=182	28.21	2	P	P	17 25 29.8	0.0		
I38A	Scanlan Farm, baz=193	28.22	9	P	P	17 25 29.0	-0.9		
IP05	Hopewell Churc 4.8nm,0.8s	28.24	36	eP	P	17 25 26.8	-3.3		
HVU	Hansel Valley 4.7nm,0.9s	28.29	337	eP	P	17 25 32.5	+1.8		
J43A	Natural Harves baz=201	28.40	16	P	P	17 25 30.5	-1.0		
H36A	Jessenland, He baz=189	28.53	7	P	P	17 25 32.1	-0.5		
G33A	Ortonville baz=184	28.94	3	P	P	17 25 36.0	-0.2		
SNOW	Snow King Moun 12nm,0.4s	29.10	341	eP	P	17 25 37.7	-0.3		
H40A	Chili baz=196	29.13	12	P	P	17 25 36.6	-1.4		
TPAW	Teton Pass 18nm,1.9s	29.18	341	eP	P	17 25 39.4	+0.7		
LOHW	Long Hollow 4.4nm,1.0s	29.19	342	eP	P	17 25 40.0	+1.3		
H41A	Junction City baz=198	29.27	13	P	P	17 25 38.3	-0.9		
H41A	Junction City 7.1nm,0.8s	29.27	13	eP	P	17 25 38.5	-0.8		
SPMN	Marine on St. baz=191	29.31	8	P	P	17 25 39.2	-0.3		
SPMN	Marine on St. 6.4nm,0.8s	29.31	8	eP	P	17 25 39.3	-0.3		
FXWY	Fox Creek 5.7nm,1.3s	29.34	341	eP	P	17 25 41.5	+1.4		
MOOW	Moose Ponds 1.9nm,0.8s	29.35	342	eP	P	17 25 41.8	+1.5		
IMW	Indian Meadow 5.2nm,1.3s	29.55	342	eP	P	17 25 43.3	+1.3		
G39A	Holcombe baz=194	29.62	10	P	P	17 25 41.5	-0.9		
G40A	Rib Lake baz=196	29.79	12	P	P	17 25 42.8	-1.0		
F36A	Milaca baz=190	29.84	7	P	P	17 25 43.4	-0.8		
G41A	Antigo baz=198	29.94	13	P	P	17 25 45.0	-0.2		
M54A	Oil Creek Stat 21nm,1.4s	29.97	29	eP	P	17 25 43.1	-2.5		
MPR	Mayaguez 78nm,1.5s	29.99	82	eP	P	17 25 45.8	-0.1		
G42A	Mountain baz=200	30.14	14	P	P	17 25 46.1	-0.9		
G42A	Mountain 6.0nm,0.8s	30.14	14	eP	P	17 25 45.8	-1.1		
RLMT	Red Lodge baz=159	30.21	345	P	P	17 25 47.1	-0.7		
RLMT	Red Lodge 7.0nm,1.2s	30.21	345	eP	P	17 25 49.0	+1.2		
YMR	Madison River 11nm,1.3s	30.25	342	eP	P	17 25 49.3	+1.0		
G43A	Wallace baz=201	30.34	15	P	P	17 25 48.0	-0.6		
F40A	Park Falls baz=196	30.43	12	P	P	17 25 48.2	-1.3		
GSGM	Seigler Mounta	30.97	322	eP	P	17 25 54.2	-0.1		
E40A	Wakefield baz=196	30.97	12	P	P	17 25 52.1	-2.1		
D35A	Remer baz=188	30.99	6	P	P	17 25 53.6	-0.8		
F43A	Flat Rock, Esc baz=201	31.01	15	P	P	17 25 52.3	-2.3		
D36A	Goodland baz=190	31.18	7	P	P	17 25 55.5	-0.6		
E41A	Kenton baz=198	31.18	13	P	P	17 25 55.6	-0.5		
F44A	Big Bay de Noc baz=203	31.33	16	P	P	17 25 56.9	-0.6		
DLMT	Dillon 6.1nm,0.6s	31.38	341	eP	P	17 25 58.2	+0.2		
C31A	Landman Farms, baz=181	31.49	1	P	P	17 25 58.7	-0.1		
N59A	State Game Lan 28nm,1.8s	31.49	34	eP	P	17 25 58.7	-0.3		
MDND	Maddock	31.55	359	P	P	17 25 59.6	+0.2		

	baz=178									
MDND	**Maddock**	**31.55**	**359**	*eP*		**P**		**17 25 59.1**	**-0.2**	
	20nm,0.8s									
E43A	**Lone Tree Farm**	**31.56**	**15**	P		**P**		**17 25 59.0**	**-0.4**	
	baz=201									
C35A	**Jirik Farms, M**	**31.61**	**6**	P		**P**		**17 25 58.6**	**-1.2**	
	baz=188									
MMNY	**Mt. Morris Dam**	**31.75**	**29**	*eP*		**P**		**17 25 58.0**	**-3.1**	
	26nm,1.5s									
C36A	**Pine Crest Far**	**31.79**	**7**	P		**P**		**17 26 01.0**	**-0.5**	
	baz=190									
D41A	**Chassel**	**31.83**	**13**	P		**P**		**17 26 00.9**	**-0.9**	
	baz=198									
J08A	**Circle Bar Ran**	**31.96**	**332**	*eP*		**P**		**17 26 05.0**	**+1.9**	
	7.2nm,0.8s									
AGMN	**Agassiz Nation**	**32.06**	**3**	P		**P**		**17 26 03.6**	**-0.2**	
	baz=185									
AGMN	**Agassiz Nation**	**32.06**	**3**	*eP*		**P**		**17 26 03.5**	**-0.2**	
	5.9nm,0.8s									
B35A	**Bob, Littlefor**	**32.29**	**6**	P		**P**		**17 26 04.7**	**-1.1**	
	baz=189									
F10A	**Beach Ranch, E**	**33.55**	**336**	*eP*		**P**		**17 26 18.1**	**+1.1**	
	5.8nm,0.8s									
G08A	**Pilot Rock**	**33.70**	**334**	*eP*		**P**		**17 26 19.4**	**+1.0**	
	19nm,1.9s									
ULM	**Lac du Bonnet**	**34.01**	**3**	P		**P**		**17 26 19.8**	**-1.0**	
	1.9nm,0.7s,baz=195,slow=9.8,SNR=4.8									
C09A	**Chrisman Ranch**	**35.47**	**337**	*eP*		**P**		**17 26 34.8**	**+1.3**	
	4.4nm,0.8s									
B06A	**Marblemount**	**37.31**	**335**	*eP*		**P**		**17 26 49.4**	**+0.2**	
	17nm,1.4s									
FFC	**Flin Flon**	**38.52**	**357**	*eP*		**P**		**17 26 59.7**	**+0.4**	
	6.0nm,0.9s									
EDM	**Edmonton**	**38.73**	**346**	*eP*		**P**		**17 27 01.9**	**+0.8**	
	11nm,0.9s									
LLLB	**Lilooet**	**39.13**	**336**	*eP*		**P**		**17 27 05.6**	**+1.0**	
	25nm,2.0s									
FCC	**Fort Churchill**	**42.60**	**3**	*eP*		**P**		**17 27 33.0**	**+0.1**	
	2.8nm,0.8s									
YKA	**Yellowknife Ar**	**47.59**	**350**	P		**P**		**17 28 12.9**	**+0.3**	
	1.0nm,0.8s,baz=157,slow=7.5,SNR=14									
PB10	**IPOC Station P**	**48.01**	**145**	*eP*		**P**		**17 28 17.6**	**+1.3**	
	25nm,0.5s									
UWE	**Uwekahuna**	**53.98**	**282**	*eP*		**P**		**17 29 03.4**	**+1.8**	
	642nm,1.3s									
EGAK	**Eagle**	**56.39**	**340**	*eP*		**P**		**17 29 19.7**	**+1.5**	
	18nm,1.9s									
INK	**Inuvik**	**56.62**	**345**	*eP*		**P**		**17 29 20.6**	**+0.9**	
	3.4nm,0.8s									
SCRK	**Sand Creek**	**56.90**	**338**	*eP*		**P**		**17 29 25.1**	**+3.2**	
	5.8nm,1.4s									
DHY	**Denali Highway**	**57.67**	**336**	*eP*		**P**		**17 29 28.2**	**+0.8**	
	4.6nm,1.0s									
SUA	**Susitna One**	**58.27**	**333**	*eP*		**P**		**17 29 32.8**	**+1.1**	
	26nm,0.5s									
ILAR	**Eielson Array**	**58.39**	**338**	P		**P**		**17 29 33.5**	**+1.3**	
	0.9nm,0.8s,baz=146,slow=5.8,SNR=11									
RND	**Reindeer**	**58.42**	**336**	*eP*		**P**		**17 29 34.0**	**+1.4**	
	5.9nm,1.0s									
RES	**Resolute Bay**	**58.50**	**1**	*eP*		**P**		**17 29 32.3**	**-0.6**	
	7.6nm,1.8s									
TRF	**Thorofare Moun**	**59.01**	**336**	*eP*		**P**		**17 29 38.0**	**+1.3**	
	6.3nm,0.9s									
KTH	**Kantishna Hill**	**59.30**	**336**	*eP*		**P**		**17 29 39.1**	**+0.4**	
	32nm,1.9s									
PPLA	**Purkeypile**	**59.52**	**335**	*eP*		**P**		**17 29 39.9**	**-0.3**	
	22nm,1.6s									
CAST	**Castle Rocks**	**59.71**	**335**	*eP*		**P**		**17 29 42.3**	**+0.8**	
	4.4nm,1.0s									
PETK	**Petropavlovsk-**	**85.23**	**324**	P		**P**		**17 32 15.1**	**+1.4**	
	10nm,1.0s,baz=72,slow=0.5,SNR=3.0									
TIXI	**Tiksi**	**86.72**	**347**	P		**P**		**17 32 21.0**	**+0.4**	
	0.4nm,0.3s,baz=63,slow=6.8,SNR=3.1									

RSNC 23 17:24:38.3±1.3,9.72N×73.24W,h0km±14km,ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CODC	**Agust`n Codaz**	**0.29**	**316**	*eP*		Pg	17 24 43.6	-0.3
CODC				*eS*		Sg	17 24 49.4	+1.6
URIC	**Uribia, Colomb**	**2.32**	**32**	*eP*		Pn	17 25 17.5	-0.3
URIC				*i*			17 26 00.7	
	comp=Z,18nm,0.6s							
PAMC	**Pamplona, Colo**	**2.43**	**167**	*eP*		Pn	17 25 18.2	-1.5
PAMC				*eS*		Sn	17 25 49.6	-0.7
MOTC	**Monteria, Cord**	**2.57**	**249**	*eS*		Sn	17 25 53.5	+0.2
MOTC				*i*			17 26 05.9	
	comp=Z,6.6nm,0.7s							
SDV	**Santo Domingo**	**2.70**	**108**	*eP*		Pn	17 25 22.4	-0.9
SDV	**Santo Domingo**	**2.70**	**108**	*eP*		Pn	17 25 22.4	-0.8
SDV				*i*			17 26 13.5	
	comp=Z,17nm,0.9s							
PTBC	**PUERTO BERRIO,**	**3.38**	**201**	*eP*		Pn	17 25 31.5	-0.9
PTBC				*i*			17 26 24.5	
	comp=Z,14nm,0.6s							

*ISCJB **23** 17:38:22.6±0.5,25.15N±0.07×123.29E±0.05, h141km±5km,mb3.4/8,Error ellipse: s-maj=12.9km s-min=7.1km az=159.1*
*IDC **23** 17:38:23.2±2.6,25.20N×123.34E,h133km±25km,mb3.3/8, mb1 3.4/10,mb1mx3.1/64,mbtmp3.7/10,Error ellipse: s-maj=19.4km s-min=14.1km az=75.0*
*JMA **23** 17:38:24.3±0.2,25.01N×123.31E,h140km±3km,M4.0*
ISC 23 17:38:23.5±0.8,25.18N±0.09×123.28E±0.06,h137km±8km, n22,σ0°74/36,mb3.6/8,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.75**	**199**	P		**Pn**	**17 38 45.3**	**+0.3**
YOJ				S		**Sn**	**17 39 01.2**	**0.0**
JYNG	**Yonagunijimaku**	**0.78**	**203**	P		**Pn**	**17 38 45.6**	**+0.4**
JYNG				S		**Sn**	**17 39 01.8**	**+0.2**
IRIF	**Iriomote-Funau**	**0.94**	**154**	P		**Pn**	**17 38 46.2**	**-0.2**
IRIF				*eS*		**Sn**	**17 39 03.3**	**-0.5**
JISG	**Ishigakijimahi**	**1.11**	**122**	P		**Pn**	**17 38 48.0**	**0.0**
JISG				S		**Sn**	**17 39 06.0**	**-0.6**
JIJ	**Ishigaki jima**	**1.13**	**136**	P		**Pn**	**17 38 48.1**	**-0.1**
JIJ				S		**Sn**	**17 39 05.0**	**-2.0**
JKRS	**Kuro-shima**	**1.15**	**144**	P		**Pn**	**17 38 48.6**	**+0.2**
JKRS				S		**Sn**	**17 39 06.3**	**-1.1**
HATJ	**Hateruma jima**	**1.22**	**157**	P		**Pn**	**17 38 49.2**	**+0.1**
HATJ				*eS*		**Sn**	**17 39 08.0**	**-0.5**
JTJ	**Tarama**	**1.40**	**112**	P		**Pn**	**17 38 51.4**	**+0.5**
JTJ				S		**Sn**	**17 39 12.1**	**+0.2**
JIRB	**Irabujima**	**1.76**	**101**	P		**Pn**	**17 38 55.6**	**+0.7**
JIRB				S		**Sn**	**17 39 19.7**	**+0.7**
JIKM	**Ikemajima**	**1.81**	**98**	P		**Pn**	**17 38 56.5**	**+1.0**
JIKM				S		**Sn**	**17 39 20.3**	**+0.3**
JMJ	**Miyako jima 2**	**1.87**	**101**	P		**Pn**	**17 38 57.1**	**+0.9**
JMJ				S		**Sn**	**17 39 21.4**	**+0.1**
JOGS	**Gusukube**	**1.98**	**102**	P		**Pn**	**17 38 58.7**	**+1.2**
JOGS				S		**Sn**	**17 39 24.2**	**+0.6**
JOW	**Kunigami**	**4.79**	**69**	P		**Pn**	**17 39 33.4**	**-0.5**
	9.6nm,0.3s,baz=326,slow=29,SNR=18							
JOW				S		**Sn**	**17 40 26.6**	**-2.0**
	17nm,0.3s,baz=292,slow=26,SNR=7.8							
KSRS	**Korea Array**	**12.86**	**17**	P		**Pn**	**17 41 21.5**	**+0.3**
	0.1nm,0.3s,baz=192,slow=12,SNR=3.5							
CMAR	**Chiang Mai Arr**	**23.54**	**258**	P		**P**	**17 43 21.9**	**+0.4**
	0.6nm,0.5s,baz=62,slow=7.7,SNR=6.2							
ASAJ	**Asahikawa**	**24.58**	**35**	P		**P**	**17 43 29.8**	**-0.9**
	1.1nm,0.4s,baz=224,slow=4.9,SNR=6.3							
KLR	**Kul'dur**	**24.91**	**13**	P		**P**	**17 43 34.1**	**+0.6**
	0.1nm,0.5s,baz=217,slow=9.0,SNR=7.3							
MKAR	**Makanchi Array**	**38.98**	**314**	P		**P**	**17 45 36.2**	**-0.1**
	0.5nm,0.3s,baz=99,slow=9.4,SNR=20							
WRA	**Warramunga Arr**	**46.12**	**165**	P		**P**	**17 46 34.1**	**-0.1**
	1.6nm,0.4s,baz=348,slow=8.8,SNR=33							
BVAR	**Borovoye Array**	**48.13**	**320**	P		**P**	**17 46 49.4**	**0.0**
	0.2nm,0.6s,baz=96,slow=8.9,SNR=2.3							
ASAR	**Alice Springs**	**49.64**	**167**	P		**P**	**17 47 01.6**	**+0.4**
	0.3nm,0.3s,baz=353,slow=7.2,SNR=25							
ASAR					PcP	**PcP**	**17 48 20.5**	**-0.1**
	0.2nm,0.4s,baz=348,slow=3.6,SNR=6.1							
YKA	**Yellowknife Ar**	**81.31**	**23**	P		**P**	**17 50 24.1**	**-0.1**
	0.8nm,0.6s,baz=309,slow=5.2,SNR=20							

*KRNET **23** 17:45:43.1±0.1,41.84N×80.17E,h5km,mb2.6*
*SOME **23** 17:45:43.7,41.83N×80.10E,h10km*
ISC 23 17:45:46.0±2.1,41.81N±0.08×80.04E±0.08,h10km,n16, σ1°48/31,11C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.39**	**299**	⇑*eP*		**Pn**	**17 46 11.0**	**-0.6**
	baz=97							
PRZ				⇑*iS*		**Sg**	**17 46 30.6**	**-0.1**
	baz=97							
PDGK	**Podgornoye**	**1.57**	**345**	⇑*iP*		**Pn**	**17 46 12.8**	**-1.2**
	baz=42							
PDGK				⇑*iS*		**Sg**	**17 46 34.8**	**-1.6**
	baz=42							
TARG	**Taragay, Kyrgy**	**1.67**	**268**	⇑*iP*		**Pn**	**17 46 16.0**	**+0.3**
	baz=67							
TARG				⇑*iS*		**Sg**	**17 46 41.2**	**+1.4**
	baz=67							
KDJ	**Kajisay**	**2.15**	**279**	⇑*iP*		**Pb**	**17 46 23.7**	**-1.5**
	baz=78							
KDJ				⇑*iS*		**Sb**	**17 46 53.5**	**+1.5**
	baz=78							
KURS	**Kuram**	**2.17**	**321**	*eP*		**Pb**	**17 46 23.7**	**-1.7**
KURS				*eS*		**Sb**	**17 46 52.7**	**+0.5**
MNBS	**Baschi**	**2.56**	**333**	*eP*		**Pb**	**17 46 30.2**	**-1.9**
	6.1nm,0.4s							
MNBS				*eS*		**Sb**	**17 47 04.0**	**+0.3**
	24nm,0.3s							
TNSS	**Tian-Shan**	**2.59**	**299**	*eP*		**Pb**	**17 46 31.8**	**-1.0**
IZV	**Izvestkoviy**	**2.81**	**297**	*eP*		**Pb**	**17 46 35.6**	**-0.8**
	2.2nm,0.5s							
IZV				*eS*		**Sb**	**17 47 12.9**	**+1.9**
	20nm,0.5s							
ULHL	**Ulahol**	**2.86**	**280**	⇓*eP*		**Pn**	**17 46 33.6**	**+1.7**
	baz=79							
ULHL				⇓*eS*		**Sb**	**17 47 10.3**	**-2.1**
	baz=79							
ARXS	**Arharly**	**2.89**	**327**	*eP*		**Pb**	**17 46 36.8**	**-1.0**
	0.9nm,0.2s							
ARXS				*eS*		**Sb**	**17 47 14.8**	**+1.6**
	32nm,0.5s							
CHKK	**Chushkaly**	**3.03**	**313**	*eP*		**Pb**	**17 46 39.7**	**-0.3**
	0.7nm,0.2s							
CHKK				*eS*		**Sb**	**17 47 19.1**	**+2.0**
	15nm,0.3s							
KTBS	**Karatobe**	**3.11**	**309**	*eP*		**Pb**	**17 46 40.9**	**-0.6**
KTBS				*eS*		**Sb**	**17 47 21.7**	**+2.1**
BOOM	**Boomskoye usch**	**3.12**	**284**	⇑*eP*		**Pn**	**17 46 36.5**	**+1.1**
	baz=83							
BOOM				⇑*eS*		**Sb**	**17 47 17.1**	**-2.7**
	baz=83							
DGS	**Degeres**	**3.46**	**296**	*eP*		**Pb**	**17 46 45.7**	**-1.7**
	0.8nm,0.3s							
DGS				*eS*		**Sb**	**17 47 29.3**	**-0.2**
	4.6nm,0.8s							
KAPS	**Kapalarasan**	**3.50**	**352**	*eP*		**Pb**	**17 46 47.4**	**-0.8**
	0.6nm,0.2s							
KAPS				*eS*		**Sb**	**17 47 32.8**	**+2.0**
	2.7nm,0.3s							
MK31	**Makanchi Array**	**5.23**	**17**	⇑Pn		**Pn**	**17 47 04.9**	**+0.6**
	0.1nm,0.2s,baz=198,slow=13,SNR=19							
MK31				⇓Sn		**Sn**	**17 48 05.8**	**+1.1**
	0.1nm,0.2s,baz=206,slow=24,SNR=4.6							
MK31				⇓Lg		Lg	17 48 25.8	
	0.7nm,0.5s							

*ISCJB **23** 17:49:08.6±1.0,38.42N±0.04×142.1E±0.1,h66km±8km, mb3.5/3,Error ellipse: s-maj=14.0km s-min=6.4km az=15.6*
*IDC **23** 17:49:08.1±3.3,38.50N×142.55E,h70km±27km,mb3.3/3, mb1 3.2/5,mb1mx2.9/63,mbtmp3.4/5,Error ellipse: s-maj=31.1km s-min=18.8km az=109.0*
*JMA **23** 17:49:09.6,38.44N×142.02E,h63km±1km,M3.3*
JMA Felt I J1.
ISC 23 17:49:07.8±1.7,38.43N±0.05×142.2E±0.1,h53km±15km, n17,σ1°78/29,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**0.70**	**272**	P		**Pn**	**17 49 22.1**	**+0.5**
JIO				S		**Sn**	**17 49 30.9**	**-0.8**
OFUJ	**Ofunato**	**0.79**	**326**	P		**Pn**	**17 49 24.1**	**+1.3**
OFUJ				S		**Sn**	**17 49 34.6**	**+0.8**
JMK	**Ichinoseki**	**0.95**	**304**	P		**Pn**	**17 49 25.6**	**+0.6**
JMK				S		**Sn**	**17 49 37.3**	**-0.3**
JOU	**Okura**	**1.24**	**268**	P		**Pn**	**17 49 28.8**	**0.0**
JOU				S		**Sn**	**17 49 42.9**	**-1.6**
JMM	**Marumori**	**1.27**	**244**	P		**Pn**	**17 49 29.0**	**-0.2**
JMM				S		**Sn**	**17 49 43.2**	**-2.0**
JOM	**Ohasama**	**1.28**	**325**	P		**Pn**	**17 49 30.5**	**+1.1**
JOM				S		**Sn**	**17 49 45.8**	**+0.4**
JFK	**Kawauchi**	**1.51**	**226**	P		**Pn**	**17 49 32.7**	**+0.1**
JFK				S		**Sn**	**17 49 50.1**	**-1.1**
JYK	**Kaneyama**	**1.55**	**289**	P		**Pn**	**17 49 33.1**	**+0.1**
JYK				S		**Sn**	**17 49 50.8**	**-1.2**
JRG	**Rokugo**	**1.58**	**308**	P		**Pn**	**17 49 34.0**	**+0.5**
JRG				S		**Sn**	**17 49 51.9**	**-0.9**
JYS	**Shirataka**	**1.72**	**264**	P		**Pn**	**17 49 35.4**	**0.0**
JYS				S		**Sn**	**17 49 54.8**	**-1.4**
JFT	**Otama**	**1.75**	**239**	P		**Pn**	**17 49 36.4**	**+0.5**
JFT				S		**Sn**	**17 49 56.1**	**-1.0**
MJAR	**Matsushiro Arr**	**3.71**	**241**	P		**Pn**	**17 50 04.3**	**+1.6**
	1.6nm,0.3s,baz=57,slow=10,SNR=22							
MJAR				S		**Sn**	**17 50 52.5**	**+7.3**
	0.4nm,0.3s,baz=51,slow=40,SNR=2.8							
MAT	**Matsushiro**	**3.72**	**241**	P		**Pn**	**17 50 04.2**	**+1.5**
ASAJ	**Asahikawa**	**5.69**	**3**	P		**Pn**	**17 50 29.6**	**-0.1**
	0.2nm,0.3s,baz=243,slow=14,SNR=4.0							
MKAR	**Makanchi Array**	**43.95**	**301**	P		**P**	**17 57 10.3**	**+0.9**
	0.4nm,0.7s,baz=77,slow=8.8,SNR=5.3							
KURBB	**Kurchatov Arra**	**45.67**	**307**	P		**P**	**17 57 22.8**	**-0.3**
	0.7nm,0.3s,baz=80,slow=8.5,SNR=3.4							
WRA	**Warramunga Arr**	**58.53**	**189**	P		**P**	**17 58 57.4**	**-1.5**
	0.4nm,1.0s,baz=5.5,slow=7.4,SNR=2.9							

JMA 23 18:05:05.3±0.3,36.92N×144.31E,h43km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**2.78**	**280**	*eS*		Sn	18 06 20.4	+0.7
JMM	**Marumori**	**2.96**	**290**	P		Pn	18 05 51.6	+1.9
JMM				*eS*		Sn	18 06 25.9	+2.0
JMK	**Ichinoseki**	**3.17**	**311**	*eS*		Sn	18 06 31.9	+2.6
JOM	**Ohasama**	**3.48**	**318**	P		Pn	18 05 58.8	+1.8
JOM				*eS*		Sn	18 06 38.8	+1.8
JCH	**Churui**	**5.73**	**353**	P		Pn	18 06 27.7	-0.1
JCH				*eS*		Sn	18 07 30.4	-1.9
NEM2	**Nemuro 2**	**6.53**	**9**	P		Pn	18 06 36.1	-2.6
JTKR	**Abashiri--Toko**	**7.05**	**358**	P		Pn	18 06 45.5	-0.4

*JMA **23** 18:09:49.6±0.1,38.44N×142.84E,h23km±3km,M3.4*
*IDC **23** 18:09:54.2±3.5,38.41N×142.89E,h54km±31km,mb3.2/6, mb1 3.2/8,mb1mx3.0/65,mbtmp3.4/8,ML2.9/2,Error ellipse: s-maj=36.3km s-min=23.2km az=97.0*
ISC 23 18:09:54.3±1.8,38.7N±0.1×142.5E±0.1,h24km,n20, σ1°15/14,mb3.4/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**0.77**	**304**	P		**Pn**	**18 10 09.8**	**+0.2**
JIO	**Ouri**	**0.91**	**258**	P		**Pb**	**18 10 10.5**	**-0.9**
JIO				*eS*		**Sn**	**18 10 25.2**	**+1.2**
JMK	**Ichinoseki**	**1.03**	**287**	P		**Pb**	**18 10 13.6**	**+0.1**
JOM	**Ohasama**	**1.24**	**312**	P		**Pb**	**18 10 17.2**	**+0.2**
JOU	**Okura**	**1.46**	**259**	P		**Pb**	**18 10 19.1**	**-1.6**
JYK	**Kaneyama**	**1.68**	**280**	P		**Pb**	**18 10 23.2**	**-1.4**
MJAR	**Matsushiro Arr**	**4.00**	**239**	P		**Pn**	**18 10 56.2**	**+2.1**
	0.4nm,0.3s,baz=51,slow=32,SNR=4.7							
ASAJ	**Asahikawa**	**5.46**	**1**	P		**Pn**	**18 11 15.1**	**+1.0**
	0.4nm,0.3s,baz=236,slow=13,SNR=8.3							
SEY	**Seymchan**	**25.04**	**11**	P		**P**	**18 15 15.5**	**-0.8**
	0.7nm,0.6s,baz=230,slow=11,SNR=3.8							
SONM	**Songino Array**	**27.63**	**301**	P		**P**	**18 15 39.3**	**-0.7**
	0.4nm,0.7s,baz=89,slow=6.2,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**28.31**	**125**	T		T	18 44 51.0	
	baz=317,slow=75,SNR=25							
H11N1	**WAKE ISLAND Hy**	**28.32**	**125**	T		T	18 44 51.7	
	baz=317,slow=75,SNR=22							
H11N3	**WAKE ISLAND Hy**	**28.33**	**125**	T		T	18 44 52.6	
	baz=317,slow=75,SNR=30							
H11S1	**WAKE ISLAND Hy**	**29.09**	**127**	T		T	18 45 48.8	
	baz=319,slow=76,SNR=7.3							
H11S3	**WAKE ISLAND Hy**	**29.09**	**127**	T		T	18 45 52.5	
	baz=319,slow=76,SNR=7.4							
H11S2	**WAKE ISLAND Hy**	**29.11**	**127**	T		T	18 45 51.9	
	baz=319,slow=76,SNR=7.1							
ZALV	**Zalesovo Beam**	**41.47**	**311**	P		**P**	**18 17 38.7**	**-0.3**
	0.2nm,0.3s,baz=76,slow=6.1,SNR=2.6							
MKAR	**Makanchi Array**	**44.00**	**301**	P		**P**	**18 17 59.0**	**-0.7**
	0.2nm,0.6s,baz=83,slow=10,SNR=2.6							
KURBB	**Kurchatov Arra**	**45.69**	**307**	P		**P**	**18 18 13.6**	**+0.5**
	0.4nm,0.2s,baz=81,slow=8.2,SNR=7.1							
WRA	**Warramunga Arr**	**58.78**	**189**	P		P	18 19 45.0	-5.5
	0.2nm,0.4s,baz=6.9,slow=7.1,SNR=4.7							

IDC 23 18:22:39.2±9.2,3.00S×139.37E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.2/45,mbtmp3.2/3,ML3.3/1,MS3.8/1, Ms1 3.8/1,ms1mx2.6/19,Error ellipse: s-maj=378.5km s-min=29.7km az=87.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.54**	**196**	P		Pn	18 26 45.2	-0.2
	0.1nm,0.3s,baz=15,slow=12,SNR=8.0							
ASAR	**Alice Springs**	**21.22**	**194**	P		P	18 27 26.9	+0.1
	0.4nm,0.5s,baz=23,slow=10,SNR=17							
NWAO	**Narrogin (SRO)**	**36.28**	**212**	LR		LR	18 45 08.5	
	comp=Z,116nm,18.1s,baz=5.0,slow=37							
MKAR	**Makanchi Array**	**70.42**	**322**	P		P	18 33 55.5	0.0
	0.2nm,0.5s,baz=112,slow=6.9,SNR=4.0							

DJA 23 18:23:59.7±0.7,4.3S±6.2×12.9E±.,h107km±6km,M2.9/6, MLv2.9/6,Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAI	**Ambon**	**0.46**	**273**	P		Pn	18 24 16.7	+0.8
MSAI	**Masohi**	**0.46**	**38**	P		Pn	18 24 16.5	+0.5
MSAI				S		Sn	18 24 31.4	+3.3
NLAI	**Namlea**	**1.62**	**287**	P		Pn	18 24 28.2	+0.5
NLAI				S		Sn	18 24 50.2	+1.1
SANI	**Sanana**	**3.13**	**302**	P		Pn	18 24 48.1	+0.8
LBMI	**Labuha**	**3.26**	**339**	P		Pn	18 24 48.3	-0.8
LBMI				S		Pn	18 24 48.6	-0.5
FAKI	**Fak Fak**	**3.68**	**78**	P		Pn	18 24 55.2	+0.5
FAKI				S		Sn	18 25 38.1	+0.8
SWI	**Sorong**	**3.85**	**43**	P		Pn	18 24 57.4	+0.4

GUC 23 18:24:31.6±0.5,18.41S×71.05W,h39km±3km,ML3.6,3C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB12	**IPOC Station P**	**0.71**	**107**	⇑*iP*		Pn	18 24 45.4	+0.1
PB12				*eS*		Sn	18 24 55.5	+0.4
PB12				IAML			18 24 55.7	
	comp=N,9μm,0.2s							
PSGC	**Pisagua**	**1.47**	**144**	*eP*		Pn	18 24 57.4	+1.7
PSGC				*eS*		Sn	18 25 17.0	+3.2
PSGC				IAML			18 25 21.6	
	comp=E,634nm,0.8s							
MNMC	**Minye Minye**	**1.55**	**118**	*eP*		Pn	18 24 58.4	+1.4
MNMC				*eS*		Sn	18 25 19.0	+3.0
MNMC				IAML			18 25 24.4	
	comp=E,2μm,0.2s							
PB11	**IPOC Station P**	**1.88**	**136**	⇑*iP*		Pn	18 25 03.1	+1.7
PB11				*eS*		Sn	18 25 27.2	+3.2
PB08	**IPOC Station P**	**2.48**	**134**	*eP*		Pn	18 25 12.0	+2.1
PB08				*eS*		Sn	18 25 42.4	+3.2
PB08				IAML			18 25 47.0	
	comp=E,275nm,0.2s							
PB01	**IPOC Station P**	**3.00**	**151**	*eP*		Pn	18 25 18.4	+1.6
PB02	**IPOC Station P**	**3.09**	**160**	⇑*iP*		Pn	18 25 20.0	+2.0
PB04	**IPOC Station P**	**4.00**	**168**	*eP*		Pn	18 25 31.8	+1.3

*IDC **23** 18:25:48.4±2.2,16.78S×177.26E,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.7/42,mbtmp3.9/4,MS3.2/5,Ms1 3.2/5, ms1mx2.9/42,Error ellipse: s-maj=126.9km s-min=27.9km az=152.0*
*ISCJB **23** 18:25:49.9±0.7,16.5S±0.1×177.1E±0.1,h14km,mb4.3/8, MS3.1/3,Error ellipse: s-maj=17.5km s-min=14.4km az=29.1*
*NEIC **23** 18:25:54.2±0.5,16.56S×177.11E,h35km,mb4.5/3,Error ellipse: s-maj=11.9km s-min=10.7km az=205.0*
ISC 23 18:25:50.9±0.9,16.6S±0.1×177.2E±0.2,h14km,n19, σ0°68/11,mb4.2/8,MS3.1/3,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**1.42**	**144**	*ePn*		**Pg**	**18 26 17.7**	**-0.7**
DZM	**Mont Dzumac**	**11.51**	**240**	LR		LR	18 32 33.4	
	comp=Z,101nm,18.3s,baz=139,slow=35							
DZM	**Mont Dzumac**	**11.51**	**240**

SGSI	**Sangihe**	**0.85**	**299**	P	**Pg**	**19 13 36.6 +0.7**
SGSI				S	**Sb**	**19 13 47.7 -0.1**
GSPH	**General Santos**	**3.09**	**335**	*eP*	**Pn**	**19 14 08.8 +0.2**
LBMI	**Labuha**	**4.07**	**162**	P	**Pn**	**19 14 23.0 +1.1**
BUKP	**Musuan**	**4.74**	**345**	*eP*	**Pn**	**19 14 32.7 +1.6**
MRSI	**Marisa**	**5.14**	**237**	P	**Pn**	**19 14 36.9 +0.3**
MRSI				S	**Sn**	**19 15 36.9 +0.9**
SANI	**Sanana**	**5.29**	**183**	P	**Pn**	**19 14 40.4 +1.7**
APSI	**Ampana**	**6.21**	**228**	P	**Pn**	**19 14 51.7 +0.4**
NLAI	**Namlea**	**6.52**	**173**	P	**Pn**	**19 14 57.3 +1.7**
MPSI	**Mapaga**	**7.00**	**246**	P	**Pn**	**19 15 02.6 +0.4**
FITZ	**Fitzroy Crossi**	**21.24**	**182**	P	**Pn**	**19 18 03.9 -2.0**
	0.8nm,0.8s,baz=13,slow=9.6,SNR=2.3					
WRA	**Warramunga Arr**	**24.39**	**161**	P	**P**	**19 18 35.7 -2.5**
	1.0nm,0.6s,baz=340,slow=10,SNR=12					
ASAR	**Alice Springs**	**27.79**	**165**	P	**P**	**19 19 07.0 -1.9**
	0.3nm,0.5s,baz=344,slow=7.7,SNR=7.9					
MKAR	**Makanchi Array**	**57.67**	**326**	P	P	19 23 23.9 +14
	0.2nm,0.6s,baz=124,slow=8.7,SNR=2.9					

*IDC **23** 19:16:50.3±1.8, 10.16°N×91.84°E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.5/66, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=63.7km s-min=17.7km az=67.0*
*ISCJB **23** 19:16:53.4±0.8, 10.19°N±0.10°×92.10°E±0.2, h33km, mb4.0/10, Error ellipse: s-maj=25.9km s-min=9.0km az=154.0*
*NEIC **23** 19:16:55.3±0.5, 10.16°N×91.87°E, h35km, mb4.3/6, Error ellipse: s-maj=18.1km s-min=6.4km az=65.0*

ISC 23 19:16:55.3±1.3, 10.2°N±0.1°×91.8°E±0.2°, h35km, n24, σ0§60/21, mb4.1/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**10.74**	**39**	Pn		**Pn**	**19 19 27.3**	**+0.5**
	0.1nm,0.3s,baz=234,slow=14,SNR=3.2							
LSA	**Lhasa**	**19.46**	**358**	*eP*		**P**	**19 21 19.9**	**+0.4**
	12nm,1.8s							
H08S3	**Diego Garcia H**	**26.15**	**228**	T		T	19 50 14.2	
	baz=47,slow=76,SNR=20							
H08S2	**Diego Garcia H**	**26.15**	**228**	T		T	19 50 16.3	
	baz=47,slow=76,SNR=23							
H08S1	**Diego Garcia H**	**26.16**	**228**	T		T	19 50 20.4	
	baz=47,slow=76,SNR=12							
MK01	**Makanchi Array**	**37.38**	**349**	*eP*		**P**	**19 24 04.2**	**-0.6**
MK31	**Makanchi Array**	**37.41**	**349**	*eP*		**P**	**19 24 04.9**	**0.0**
MK32	**Makanchi Array**	**37.41**	**349**	*eP*		**P**	**19 24 05.2**	**+0.2**
MKAR	**Makanchi Array**	**37.41**	**349**	P		**P**	**19 24 05.2**	**+0.2**
	0.3nm,0.7s,baz=169,slow=7.4,SNR=3.6							
MKAR	**Makanchi Array**	**37.41**	**349**	*eP*		**P**	**19 24 05.7**	**+0.8**
	4.5nm,0.7s							
MAKZ	**Makanchi**	**37.48**	**349**	*eP*		**P**	**19 24 05.1**	**-0.4**
	6.1nm,1.8s							
KK08	**Karatay Array**	**37.74**	**334**	*eP*		**P**	**19 24 08.8**	**+1.0**
SONA0	**Songino Array**	**39.51**	**15**	*eP*		**P**	**19 24 21.6**	**-1.2**
SONM	**Songino Array**	**39.51**	**15**	P		**P**	**19 24 21.6**	**-1.2**
	0.4nm,0.6s,baz=199,slow=12,SNR=3.5							
KURBB	**Kurchatov Arra**	**41.81**	**347**	P		**P**	**19 24 41.8**	**+0.3**
	0.3nm,0.3s,baz=156,slow=6.9,SNR=3.3							
KURK	**Kurchatov**	**41.88**	**347**	*eP*		**P**	**19 24 41.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**43.61**	**130**	P		**P**	**19 24 56.6**	**0.0**
	0.9nm,0.4s,baz=347,slow=6.4,SNR=6.6							
WR1	**Warramunga Arr**	**51.43**	**126**	*eP*		**P**	**19 25 57.1**	**-0.2**
	5.8nm,0.5s							
WRA	**Warramunga Arr**	**51.43**	**126**	P		**P**	**19 25 57.1**	**-0.2**
	3.0nm,0.6s,baz=306,slow=8.4,SNR=110							
AS31	**Alice Springs**	**53.11**	**130**	*eP*		**P**	**19 26 09.7**	**-0.1**
	3.3nm,1.6s							
ASAR	**Alice Springs**	**53.11**	**130**	P		**P**	**19 26 10.1**	**+0.2**
	1.5nm,0.6s,baz=307,slow=6.9,SNR=31							
AS01	**Alice Springs**	**53.15**	**130**	*eP*		**P**	**19 26 10.2**	**+0.1**
STKA	**Stephens Creek**	**63.31**	**133**	P		**P**	**19 27 21.8**	**+0.8**
	2.5nm,0.9s,baz=297,slow=6.8,SNR=3.4							
STKA	**Stephens Creek**	**63.31**	**133**	*eP*		**P**	**19 27 20.8**	**-0.3**
	8.3nm,1.8s							

*NIED **23** 19:20:00, 40.90N×145.40E, h5km, Mw3.5 Best double couple: M₀2.04000×10¹⁴ NP1:φ₀234.00000°, δ43.00000°, λ-107.00000°. NP2:φ₀77.00000°, δ49.00000°, λ-74.00000°.*
*IDC **23** 19:20:26.5±1.3, 40.91N×145.24E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.3/61, mbtmp3.4/7, ML2.7/2, Error ellipse: s-maj=34.6km s-min=23.4km az=93.0*
*JMA **23** 19:20:28.6±0.2, 40.92N×145.35E, h58km±3km, M3.6*

ISC 23 19:20:27.3±3.5, 40.95N±0.06°×145.21E±0.07°, h8km±22km, n24, σ1§46/38, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JEM	**Erimo**	**1.87**	**305**	P		**Pb**	**19 21 00.9**	**-0.8**
JEM				*eS*		**Sn**	**19 21 22.6**	**-0.8**
JAK	**Akkeshi**	**2.08**	**350**	P		**Pn**	**19 21 02.7**	**+0.3**
JAK				*eS*		**Sn**	**19 21 26.7**	**-1.8**
JCH	**Churui**	**2.16**	**321**	P		**Pn**	**19 21 04.6**	**+1.1**
JCH				*eS*		**Sn**	**19 21 29.5**	**-1.0**
JOB	**Onbets**	**2.21**	**333**	P		**Pn**	**19 21 05.4**	**+1.3**
JOB				*eS*		**Sn**	**19 21 30.9**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.27**	**307**	P		**Pb**	**19 21 06.9**	**-1.6**
JNBK				*eS*		**Sn**	**19 21 33.5**	**+0.3**
NEM2	**Nemuro 2**	**2.44**	**9**	P		**Pn**	**19 21 07.5**	**+0.1**
NEM2				*eS*		**Sn**	**19 21 35.2**	**-2.3**
JAR	**Ashorobuto**	**2.58**	**336**	P		**Pn**	**19 21 09.7**	**+0.4**
JAR				*eS*		**Sn**	**19 21 39.8**	**-1.0**
JNK	**Nakash**	**2.66**	**352**	P		**Pn**	**19 21 10.2**	**-0.2**
JNK				*eS*		**Sn**	**19 21 39.6**	**-3.2**
JBT2	**Biratori 2**	**2.80**	**312**	P		**Pn**	**19 21 13.8**	**+1.4**
JBT2				*eS*		**Sn**	**19 21 47.4**	**+1.1**
JANG	**Nango**	**2.87**	**260**	P		**Pn**	**19 21 13.4**	**+0.1**
JANG				*eS*		**Sn**	**19 21 44.4**	**-3.6**
JFR	**Furan**	**2.95**	**319**	P		**Pn**	**19 21 15.4**	**+1.0**
JFR				*eS*		**Sn**	**19 21 47.8**	**-2.1**
JRA	**Rausu**	**2.99**	**359**	P		**Pn**	**19 21 15.2**	**+0.3**
JRA				*eS*		**Sn**	**19 21 49.7**	**-1.1**
JTM	**Tenmabayashi**	**3.14**	**268**	P		**Pn**	**19 21 18.0**	**+1.0**
JTM				*eS*		**Sn**	**19 21 51.7**	**-3.0**
JTKR	**Abashiri--Toko**	**3.17**	**343**	P		**Pn**	**19 21 18.7**	**+1.3**
JTKR				S		**Sn**	**19 21 54.5**	**-0.8**
JOT	**Ohata**	**3.17**	**279**	P		**Pn**	**19 21 18.6**	**+1.2**
JAH	**Hinai**	**3.56**	**259**	P		**Pn**	**19 21 23.6**	**+0.8**
ASAJ	**Asahikawa**	**3.71**	**329**	Pn		**Pn**	**19 21 26.1**	**+1.3**
	0.5nm,0.3s,baz=149,slow=9.0,SNR=17							
JRG	**Rokugo**	**3.83**	**248**	P		**Pn**	**19 21 27.1**	**+0.6**
MJAR	**Matsushiro Arr**	**7.02**	**233**	Pn		**Pn**	**19 22 12.1**	**+1.7**
	0.1nm,0.3s,baz=79,slow=14,SNR=3.7							
ILAR	**Eielson Array**	**44.60**	**34**	P		**P**	**19 28 40.6**	**+1.1**
	0.5nm,0.8s,baz=244,slow=6.2,SNR=5.2							
KURBB	**Kurchatov Arra**	**46.03**	**306**	P		**P**	**19 28 52.0**	**+0.9**
	0.3nm,0.5s,baz=72,slow=9.0,SNR=3.6							
BVAR	**Borovoye Array**	**50.20**	**311**	P		**P**	**19 29 23.3**	**0.0**
	0.2nm,0.4s,baz=74,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**61.42**	**192**	P		**P**	**19 30 44.0**	**0.0**
	0.4nm,0.4s,baz=8.5,slow=6.9,SNR=10							
FINES	**FINESS Array B**	**66.71**	**333**	P		**P**	**19 31 19.0**	**+0.7**
	0.6nm,0.8s,baz=48,slow=6.2,SNR=2.6							

MEX 23 19:27:14.0±0.7, 16.42N×98.33W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.20**	**98**	*eP*		Pg	19 27 17.1	-0.9
PNIG				*i* S		Sg	19 27 21.1	+0.5
ACX	**Acapulco**	**1.53**	**287**	*eP*		Pn	19 27 35.5	-6.5
ACX				*i* S		Sn	19 27 54.0	-8.2
VHO	**Vista Hermosa**	**1.67**	**67**	*eP*		Pn	19 27 40.8	-3.3
VHO				*eS*		Sn	19 28 01.4	-4.5
CAIG	**El Cayaco**	**1.95**	**289**	*eP*		Pn	19 27 44.7	-3.2
CAIG				*eS*		Sn	19 28 08.4	-4.4
HUIG	**Huatulco**	**2.24**	**107**	*eP*		Pn	19 27 49.0	-2.7
HUIG				*i* S		Sn	19 28 15.6	-4.2

*IDC **23** 19:34:35.1±0.9, 34.05°N×25.41°E, h0km, mb3.7/13, mb1 3.8/20, mb1mx3.7/61, mbtmp3.7/20, ML4.0/6, MS2.9/4, Ms1 2.9/4, ms1mx2.5/57, Error ellipse: s-maj=17.0km s-min=14.5km az=172.0*
*ISCJB **23** 19:34:37.8±0.3, 33.90N±0.03°×25.49E±0.03°, h44km±5km, mb3.6/13, MS3.3/2, Error ellipse: s-maj=5.1km s-min=3.0km az=43.8*

*HLW **23** 19:34:37.3, 34.08N×25.62E, h22km±22km, Md4.0, Ml3.9*
*CSEM **23** 19:34:38.1±0.2, 33.90N×25.40E, h20km, ML3.6, Error ellipse: s-maj=5.2km s-min=2.9km az=40.0*
*THE **23** 19:34:39.3, 34.03N×25.30E, h0km±1km, ML3.5/6, Error ellipse: s-maj=3.2km s-min=0.7km az=179.0*
*ISK **23** 19:34:40.5, 34.04N×25.42E, h30km, ML3.5/8*
*ATH **23** 19:34:41.1, 34.15N×25.29E, h41km±9km, ML3.6/6, Error ellipse: s-maj=9.9km s-min=1.3km az=170.0*
*GII **23** 19:34:45.0±0.0, 33.86N×26.28E, h1km, MD3.3/3*
*DDA **23** 19:35:10.3, 33.95N×25.30E, h11km, Ml3.6*

ISC 23 19:34:39.7±0.9, 33.98N±0.04°×25.40E±0.04°, h38km±2km, n220, σ1§60/241, mb3.5/13, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIVA	**Sivas**	**1.14**	**335**	P		**Pn**	**19 34 59.7**	**+0.5**
SIVA				S		**Sn**	**19 35 13.6**	**0.0**
SIVA					AML	AML	19 35 26.6	
	comp=N,11854μm,0.6s							
SIVA					AML	AML	19 35 30.6	
	comp=E,10670μm,0.6s							
SIVA	**Sivas**	**1.14**	**335**	P		**Pn**	**19 34 59.7**	**+0.5**
SIVA				S		**Sn**	**19 35 15.4**	**+1.9**
SIVA	**Sivas**	**1.14**	**335**	P		**Pn**	**19 34 59.7**	**+0.5**
SIVA				S		**Sn**	**19 35 15.4**	**+1.9**
LAST	**Lasithi**	**1.18**	**3**	P		**Pn**	**19 35 01.2**	**+1.4**
LAST				S		**Sn**	**19 35 15.1**	**+0.5**
LAST					AML	AML	19 35 37.1	
	comp=E,2451μm,0.7s							
LAST					AML	AML	19 35 37.5	
	comp=N,1565μm,0.7s							
LAST	**Lasithi**	**1.18**	**3**	P		**Pn**	**19 35 00.8**	**+1.0**
LAST				S		**Sn**	**19 35 14.8**	**+0.2**
LAST	**Lasithi**	**1.18**	**3**	P		**Pn**	**19 35 01.1**	**+1.3**
NPS	**Neapolis**	**1.29**	**8**	P		**Pn**	**19 35 02.7**	**+1.4**
NPS	**Neapolis**	**1.29**	**8**	P		**Pn**	**19 35 02.4**	**+1.2**
NPS	**Neapolis**	**1.29**	**8**	P		**Pn**	**19 35 02.9**	**+1.7**
ZKR	**Zakros**	**1.32**	**31**	PN		**Pn**	**19 35 03.5**	**+1.9**
ZKR	**Zakros**	**1.32**	**31**	P		**Pn**	**19 35 03.5**	**+1.9**
ZKR	**Zakros**	**1.32**	**31**	P		**Pn**	**19 35 03.4**	**+1.9**
ZKR				S		**Sn**	**19 35 23.0**	**+5.1**
ZKR	**Zakros**	**1.32**	**31**	P		**Pn**	**19 35 03.6**	**+1.9**
ZKR				S		**Sn**	**19 35 23.0**	**+5.1**
IACM	**Heraklion**	**1.35**	**349**	P		**Pn**	**19 35 04.0**	**+2.0**
IACM				S		**Sn**	**19 35 17.8**	**-0.9**
IACM					AML	AML	19 35 43.1	
	comp=E,15493μm,1.2s							
IACM					AML	AML	19 35 44.1	
	comp=N,15355μm,0.8s							
IACM	**Heraklion**	**1.35**	**349**	P		**Pn**	**19 35 03.2**	**+1.2**
IACM				S		**Sn**	**19 35 17.9**	**-0.7**
IDI	**Anoyia**	**1.37**	**342**	Pn		**Pn**	**19 35 02.6**	**+0.3**
	comp=N,14nm,0.3s,baz=165,slow=16,SNR=65							
IDI				Sn		**Sn**	**19 35 20.8**	**+1.6**
	comp=N,20nm,0.3s,baz=216,slow=19,SNR=9.2							
GVD	**Gavdhos**	**1.38**	**309**	PN		**Pn**	**19 35 03.5**	**+1.1**
GVD	**Gavdhos**	**1.38**	**309**	P		**Pn**	**19 35 03.0**	**+0.6**
GVD				S		**Sn**	**19 35 18.4**	**-1.1**
GVD					AML	AML	19 35 36.0	
	comp=N,4206μm,0.6s							
GVD					AML	AML	19 35 41.0	
	comp=E,3814μm,0.5s							
GVD	**Gavdhos**	**1.38**	**309**	P		**Pn**	**19 35 03.0**	**+0.6**
GVD	**Gavdhos**	**1.38**	**309**	*eP*		**Pn**	**19 35 03.5**	**+1.1**
GVD				S		**Sn**	**19 35 22.1**	**+2.7**
GVD	**Gavdhos**	**1.38**	**309**	P		**Pn**	**19 35 03.0**	**+0.6**
GVD				S		**Sn**	**19 35 22.1**	**+2.7**
IMMV	**Iera Moni Meta**	**1.88**	**322**	PN		**Pn**	**19 35 11.2**	**+1.9**
IMMV				SN		**Sn**	**19 35 32.8**	**+1.0**
IMMV	**Iera Moni Meta**	**1.88**	**322**	P		**Pn**	**19 35 09.9**	**+0.6**
IMMV				S		**Sn**	**19 35 31.7**	**-0.1**
IMMV					AML	AML	19 35 53.5	
	comp=E,1852μm,0.6s							
IMMV					AML	AML	19 35 59.3	
	comp=N,1813μm,0.9s							
IMMV	**Iera Moni Meta**	**1.88**	**322**	P		**Pn**	**19 35 09.9**	**+0.6**
IMMV	**Iera Moni Meta**	**1.88**	**322**	*eP*		**Pn**	**19 35 11.2**	**+1.9**
IMMV				*eS*		**Sn**	**19 35 32.8**	**+1.0**
IMMV				S		**Sn**	**19 35 33.8**	**+2.0**
IMMV	**Iera Moni Meta**	**1.88**	**322**	P		**Pn**	**19 35 10.6**	**+1.3**
IMMV				S		**Sn**	**19 35 33.8**	**+2.0**
KARP	**Karpathos**	**2.13**	**42**	PN		**Pn**	**19 35 16.6**	**+3.8**
KARP	**Karpathos**	**2.13**	**42**	P		**Pn**	**19 35 15.8**	**+2.9**
KARP	**Karpathos**	**2.13**	**42**	P		**Pn**	**19 35 15.5**	**+2.7**
KARP	**Karpathos**	**2.13**	**42**	*eP*		**Pn**	**19 35 16.6**	**+3.8**
KARP				S		**Sn**	**19 35 43.3**	**+5.2**
KARP	**Karpathos**	**2.13**	**42**	P		**Pn**	**19 35 15.5**	**+2.7**
KARP				S		**Sn**	**19 35 43.3**	**+5.2**
THR6	**Thira Island,**	**2.37**	**360**	P		**Pn**	**19 35 16.7**	**+0.7**
THR6	**Thira Island,**	**2.37**	**360**	P		**Pn**	**19 35 16.9**	**+0.9**
THR6	**Thira Island,**	**2.37**	**360**	P		**Pn**	**19 35 17.0**	**+0.9**
SANT	**Santorini**	**2.38**	**1**	P		**Pn**	**19 35 16.9**	**+0.6**
SANT	**Santorini**	**2.38**	**1**	P		**Pn**	**19 35 17.1**	**+0.8**
ANAF	**Anafi Island**	**2.39**	**7**	P		**Pn**	**19 35 16.8**	**+0.4**
ANAF				S		**Sn**	**19 35 44.9**	**+0.5**
ANAF					AML	AML	19 35 50.7	
	comp=N,1759μm,0.4s							
ANAF					AML	AML	19 36 04.8	
	comp=E,1001μm,0.4s							
ANAF	**Anafi Island**	**2.39**	**7**	P		**Pn**	**19 35 17.1**	**+0.8**
ANAF				S		**Sn**	**19 35 44.5**	**+0.1**
THT1	**Athinios (Pele**	**2.40**	**1**	P		**Pn**	**19 35 16.4**	**0.0**
THT1	**Athinios (Pele**	**2.40**	**1**	P		**Pn**	**19 35 17.1**	**+0.7**
THT1	**Athinios (Pele**	**2.40**	**1**	P		**Pn**	**19 35 17.1**	**+0.7**
THR8	**Santorini-Mono**	**2.42**	**2**	P		**Pn**	**19 35 16.3**	**-0.4**
THR8	**Santorini-Mono**	**2.42**	**2**	P		**Pn**	**19 35 17.1**	**+0.4**
THR3	**Thira Island,**	**2.42**	**0**	P		**Pn**	**19 35 17.6**	**+0.9**
THR3	**Thira Island,**	**2.42**	**0**	P		**Pn**	**19 35 17.7**	**+0.9**
THR3	**Thira Island,**	**2.42**	**0**	P		**Pn**	**19 35 18.1**	**+1.4**
THR5	**Thira Island,**	**2.43**	**359**	P		**Pn**	**19 35 17.6**	**+0.8**
THR5	**Thira Island,**	**2.43**	**359**	P		**Pn**	**19 35 17.7**	**+0.8**
THR5	**Thira Island,**	**2.43**	**359**	P		**Pn**	**19 35 17.9**	**+1.0**
THR2	**Thira Island,**	**2.46**	**1**	P		**Pn**	**19 35 17.6**	**+0.3**
THR2	**Thira Island,**	**2.46**	**1**	P		**Pn**	**19 35 17.9**	**+0.6**
SLUM	**Salum**	**2.49**	**184**	P		**Pn**	**19 35 17.9**	**+0.2**
	baz=188							
SLUM	**Salum**	**2.49**	**184**	P		**Pn**	**19 35 17.9**	**+0.2**
ANKY	**Antikythira Is**	**2.55**	**318**	P		**Pn**	**19 35 20.2**	**+1.7**
ANKY	**Antikythira Is**	**2.55**	**318**	P		**Pn**	**19 35 19.5**	**+1.0**
ANKY				S		**Sn**	**19 35 50.7**	**+2.4**
ANKY	**Antikythira Is**	**2.55**	**318**	P		**Pn**	**19 35 19.5**	**+1.0**
ANKY				S		**Sn**	**19 35 50.7**	**+2.4**
MHLO	**Agia Marina, M**	**2.82**	**344**	P		**Pn**	**19 35 22.6**	**+0.4**
MHLO	**Agia Marina, M**	**2.82**	**344**	P		**Pn**	**19 35 23.0**	**+0.7**
MHLO	**Agia Marina, M**	**2.82**	**344**	P		**Pn**	**19 35 23.0**	**+0.7**
KYTH	**Kithira**	**2.98**	**320**	P		**Pn**	**19 35 25.9**	**+1.4**
KYTH	**Kithira**	**2.98**	**320**	P		**Pn**	**19 35 25.9**	**+1.4**
APE	**Apeiranthos**	**3.08**	**2**	PN		**Pn**	**19 35 28.1**	**+2.2**
APE				SN		**Sn**	**19 36 02.0**	**+0.5**
APE	**Apeiranthos**	**3.08**	**2**	P		**Pn**	**19 35 26.5**	**+0.6**
APE				S		**Sn**	**19 36 00.6**	**-0.9**
APE	**Apeiranthos**	**3.08**	**2**	P		**Pn**	**19 35 26.8**	**+0.9**
APE	**Apeiranthos**	**3.08**	**2**	*eP*		**Pn**	**19 35 28.1**	**+2.2**
APE				S		**Sn**	**19 36 00.6**	**-0.9**
APE				*eS*		Sn	19 36 02.0	+0.5
APE	**Apeiranthos**	**3.08**	**2**	P		**Pn**	**19 35 26.4**	**+0.5**
ARG	**Arkhangelos**	**3.16**	**44**	P		**Pn**	**19 35 29.0**	**+2.1**
ARG	**Arkhangelos**	**3.16**	**44**	P		**Pn**	**19 35 29.4**	**+2.5**
ARG	**Arkhangelos**	**3.16**	**44**	P		**Pn**	**19 35 29.4**	**+2.5**
VLI	**Veliai**	**3.39**	**324**	P		**Pn**	**19 35 31.1**	**+1.0**
VLI	**Veliai**	**3.39**	**324**	P		**Pn**	**19 35 30.9**	**+0.8**
VLI	**Veliai**	**3.39**	**324**	P		**Pn**	**19 35 30.9**	**+0.8**
BODT	**Bodrum**	**3.45**	**26**	PN		**Pn**	**19 35 32.2**	**+1.3**
BODT	**Bodrum**	**3.45**	**26**	*eP*		**Pn**	**19 35 32.2**	**+1.3**
DYR	**Agios Nikonas**	**3.74**	**319**	P		**Pn**	**19 35 36.1**	**+1.2**
DYR	**Agios Nikonas**	**3.74**	**319**	P		**Pn**	**19 35 36.0**	**+1.2**
KRND	**KRANIDI**	**3.85**	**332**	P		**Pn**	**19 35 36.4**	**0.0**
KRND	**KRANIDI**	**3.85**	**332**	P		**Pn**	**19 35 37.0**	**+0.5**
DALY	**Dalyan (Mu˘la**	**3.88**	**42**	PN		**Pn**	**19 35 39.0**	**+2.2**
DALY	**Dalyan (Mu˘la**	**3.88**	**42**	*i P*		**Pn**	**19 35 38.3**	**+1.5**
DALY	**Dalyan (Mu˘la**	**3.88**	**42**	P		**Pn**	**19 35 38.3**	**+1.5**
DALY	**Dalyan (Mu˘la**	**3.88**	**42**	*eP*		**Pn**	**19 35 39.0**	**+2.2**
TURN	**Turunc**	**3.89**	**41**	PN		**Pn**	**19 35 35.3**	**-1.7**
TURN				SN		**Sn**	**19 36 15.6**	**-5.8**
TURN	**Turunc**	**3.89**	**41**	*i P*		**Pn**	**19 35 33.8**	**-3.2**
TURN	**Turunc**	**3.89**	**41**	P		**Pn**	**19 35 33.8**	**-3.2**
TURN	**Turunc**	**3.89**	**41**	*eP*		**Pn**	**19 35 35.3**	**-1.7**
SMG	**Samos**	**3.90**	**17**	P		**Pn**	**19 35 36.0**	**-1.1**
SMG	**Samos**	**3.90**	**17**	P		**Pn**	**19 35 37.5**	**+0.4**
YER	**Yerkesik**	**3.93**	**36**	PN		**Pn**	**19 35 39.4**	**+1.9**
YER	**Yerkesik**	**3.93**	**36**	P		**Pn**	**19 35 39.0**	**+1.5**
YER	**Yerkesik**	**3.93**	**36**	*eP*		**Pn**	**19 35 39.4**	**+1.9**
YER	**Yerkesik**	**3.93**	**36**	P		**Pn**	**19 35 39.0**	**+1.5**
DID	**Didima**	**3.93**	**334**	P		**Pn**	**19 35 36.2**	**-1.4**
DID	**Didima**	**3.93**	**334**	P		**Pn**	**19 35 37.4**	**-0.1**
FETY	**Fethiye**	**4.01**	**48**	PN		**Pn**	**19 35 40.4**	**+1.8**
FETY	**Fethiye**	**4.01**	**48**	P		**Pn**	**19 35 36.7**	**-1.9**
FETY	**Fethiye**	**4.01**	**48**	*eP*		**Pn**	**19 35 40.4**	**+1.8**
VLY	**Voula,Athens**	**4.08**	**342**	P		**Pn**	**19 35 37.8**	**-1.7**
VLY	**Voula,Athens**	**4.08**	**342**	P		**Pn**	**19 35 39.3**	**-0.2**
AKAS	**Kas**	**4.12**	**56**	PN		**Pn**	**19 35 42.0**	**+1.8**
AKAS	**Kas**	**4.12**	**56**	*i P*		**Pn**	**19 35 40.0**	**-0.2**
AKAS	**Kas**	**4.12**	**56**	P		**Pn**	**19 35 40.0**	**-0.2**
AKAS	**Kas**	**4.12**	**56**	*eP*		**Pn**	**19 35 42.0**	**+1.8**
PYL	**PYLOS**	**4.17**	**315**	P		**Pn**	**19 35 40.1**	**-0.6**
PYL	**PYLOS**	**4.17**	**315**	P		**Pn**	**19 35 41.1**	**+0.3**
PYL	**PYLOS**	**4.17**	**315**	P		**Pn**	**19 35 41.0**	**+0.3**
ATHU	**Athens Univers**	**4.18**	**342**	P		**Pn**	**19 35 40.7**	**-0.3**
ATHU	**Athens Univers**	**4.18**	**342**	P		**Pn**	**19 35 41.5**	**+0.5**
AYDN	**Tasoluk**	**4.19**	**28**	*i P*		**Pn**	**19 35 42.3**	**+1.2**
AYDN	**Tasoluk**	**4.19**	**28**	P		**Pn**	**19 35 42.3**	**+1.2**
PTL	**Penteli**	**4.24**	**343**	P		**Pn**	**19 35 41.1**	**-0.8**
PTL	**Penteli**	**4.24**	**343**	P		**Pn**	**19 35 42.1**	**+0.3**
ITM	**Ithomi**	**4.26**	**319**	P		**Pn**	**19 35 43.2**	**+1.1**
ITM	**Ithomi**	**4.26**	**319**	P		**Pn**	**19 35 43.3**	**+1.2**
ITM	**Ithomi**	**4.26**	**319**	P		**Pn**	**19 35 43.3**	**+1.2**
CHOS	**Chios island**	**4.43**	**7**	P		**Pn**	**19 35 43.8**	**-0.6**
CHOS	**Chios island**	**4.43**	**7**	P		**Pn**	**19 35 45.0**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**4.44**	**26**	PN		**Pn**	**19 35 46.6**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**4.44**	**26**	*eP*		**Pn**	**19 35 46.6**	**+1.9**
LTK	**Loutraki**	**4.49**	**335**	P		**Pn**	**19 35 45.0**	**-0.1**
LTK	**Loutraki**	**4.49**	**335**	P		**Pn**	**19 35 45.7**	**+0.5**
TAVA	**DENIZLI_Tavas**	**4.50**	**38**	*i P*		**Pn**	**19 35 45.2**	**-0.2**
TAVA	**DENIZLI_Tavas**	**4.50**	**38**	P		**Pn**	**19 35 45.2**	**-0.2**
ELL	**Elmali**	**4.60**	**52**	PN		**Pn**	**19 35 49.9**	**+3.0**
ELL	**Elmali**	**4.60**	**52**	*eP*		**Pn**	**19 35 49.9**	**+3.0**
AMT	**Artemida-Makis**	**4.64**	**321**	P		**Pn**	**19 35 49.5**	**+2.2**
AMT	**Artemida-Makis**	**4.64**	**321**	P		**Pn**	**19 35 49.5**	**+2.2**
GUR	**Goura**	**4.66**	**329**	P		**Pn**	**19 35 46.9**	**-0.7**
GUR	**Goura**	**4.66**	**329**	P		**Pn**	**19 35 47.9**	**+0.3**
GUR	**Goura**	**4.66**	**329**	P		**Pn**	**19 35 47.9**	**+0.3**
GOLH	**Golhisar**	**4.70**	**45**	*i P*		**Pn**	**19 35 48.4**	**+0.3**
GOLH	**Golhisar**	**4.70**	**45**	P		**Pn**	**19 35 48.4**	**+0.3**
SWA2		**4.72**	**179**	P		**Pn**	**19 35 48.6**	**+0.2**
	baz=182			

comp=Z,0.4nm,0.5s,baz=107,slow=9.3,SNR=3.5

TORD	**Torodi Ar. Bea**	**29.90**	**232**	P		**P**	**19 40 46.0**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=34,slow=8.6,SNR=6.3							
KOWA	**Kowa**	**32.92**	**241**	P		**P**	**19 41 11.4**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=31,slow=5.9,SNR=2.3							
ARCES	**ARCESS Array B**	**35.60**	**0**	P		**P**	**19 41 31.6**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=171,slow=8.6,SNR=5.2							
KURBB	**Kurchatov Arra**	**41.72**	**50**	P		**P**	**19 42 25.9**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=268,slow=8.3,SNR=8.7							
MKAR	**Makanchi Array**	**44.27**	**56**	P		**P**	**19 42 47.0**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=266,slow=7.8,SNR=18							
ZALV	**Zalesovo Beam**	**45.68**	**45**	P		**P**	**19 42 57.3**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=270,slow=8.5,SNR=14							
SONM	**Songino Array**	**60.08**	**50**	P		**P**	**19 44 44.0**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=292,slow=5.5,SNR=3.2							
YKA	**Yellowknife Ar**	**78.63**	**342**	P		**P**	**19 46 37.4**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=29,slow=5.8,SNR=4.7							
ANMO	**Albuquerque**	**97.94**	**322**	LR	LR		20 34 08.6	
	comp=Z,28nm,18.2s,baz=62,slow=36							

*ISCJB **23** 19:35:35.4±0.4, 37.10N±0.07×135.24E±0.08, h375km, mb3.1/8, Error ellipse: s-maj=10.4km s-min=7.9km az=43.0.*

*IDC **23** 19:35:36.0±0.8, 37.04N×135.26E, h370km±8km, mb2.8/8, mb1 3.0/12, mb1mx2.8/68, mbtmp3.6/12, Error ellipse: s-maj=17.4km s-min=13.2km az=73.0*

*JMA **23** 19:35:35.8±0.1, 37.05N×135.27E, h375km, M3.3*

ISC 23 19:35:36.2±0.7, 37.06N±0.09×135.31E±0.08, h375km, n20, σ0§67/23, mb2.9/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.13**	**133**	P		P	**Pn**	**19 36 24.8**	**-0.4**
JWT	**Wachi**	**1.77**	**178**	P		P	**Pn**	**19 36 27.5**	**-1.0**
JWT				S		S		**19 37 09.8**	**-0.8**
JOI	**OKI**	**1.83**	**246**	P		P	**Pn**	**19 36 28.7**	**-0.1**
MAT	**Matsushiro**	**2.38**	**102**	P		P	**Pn**	**19 36 32.6**	**0.0**
MAT				S		S		**19 37 18.0**	**0.0**
MAT	**Matsushiro**	**2.38**	**102**	P		P	**Pn**	**19 36 32.6**	**0.0**
MJAR	**Matsushiro Arr**	**2.38**	**102**	P		P	**Pn**	**19 36 33.0**	**+0.4**
	1.6nm,0.3s,baz=273,slow=10,SNR=27								
MJAR				S		S		**19 37 18.1**	**+0.1**
	0.1nm,0.3s,baz=321,slow=20,SNR=3.5								
JIE	**Ise**	**2.89**	**156**	P		P	**Pn**	**19 36 37.2**	**+0.5**
JRY	**Ryogami san**	**3.07**	**109**	S		S		**19 37 27.4**	**-0.8**
KSRS	**Korea Array**	**5.91**	**276**	P		P	**Pn**	**19 37 07.6**	**+0.8**
	0.4nm,0.3s,baz=94,slow=12,SNR=11								
USRK	**Ussuriysk Ar.**	**7.57**	**342**	P		P		**19 37 26.0**	**-0.5**
	0.5nm,0.3s,baz=170,slow=12,SNR=12								
ASAJ	**Asahikawa**	**8.96**	**36**	P		P	**Pn**	**19 37 41.0**	**-0.9**
	8.9nm,0.3s,baz=243,slow=12,SNR=96								
KLR	**Kul'dur**	**12.44**	**349**	P		P	**Pn**	**19 38 21.9**	**-0.7**
	0.0nm,0.3s,baz=155,slow=19,SNR=3.0								
BVAR	**Borovoye Array**	**46.92**	**311**	P		P		**19 43 29.9**	**-0.6**
	0.2nm,0.3s,baz=118,slow=7.4,SNR=4.8								
ILAR	**Eielson Array**	**51.08**	**32**	P		P		**19 44 09.8**	**+1.0**
	0.2nm,0.5s,baz=272,slow=7.0,SNR=5.8								
WRA	**Warramunga Arr**	**56.70**	**181**	P		P		**19 44 42.2**	**0.0**
	0.2nm,0.4s,baz=357,slow=7.5,SNR=6.6								
ASAR	**Alice Springs**	**60.41**	**181**	P		P		**19 45 07.4**	**-0.1**
	0.4nm,0.9s,baz=14,slow=8.0,SNR=3.1								
YKA	**Yellowknife Ar**	**66.18**	**28**	P		P		**19 45 44.5**	**+0.2**
	0.1nm,0.5s,baz=296,slow=5.9,SNR=2.8								
FINES	**FINESS Array B**	**66.45**	**330**	P		P		**19 45 45.9**	**-0.1**
	0.6nm,0.4s,baz=57,slow=7.0,SNR=8.3								
HFS	**Hagfors**	**71.97**	**33**	P		P		**19 46 19.2**	**-0.4**
	0.6nm,0.5s,baz=32,slow=3.9,SNR=7.0								
TXAR	**Lajitas Array**	**93.87**	**49**	P		P		**19 48 13.8**	**+1.5**
	0.2nm,0.5s,baz=29,slow=2.1,SNR=3.5								

*ISCJB **23** 19:48:11.6±0.4, 5.28S±0.05×145.83E±0.07, h64km, mb4.3/15, Error ellipse: s-maj=10.1km s-min=7.6km az=6.5*

*IDC **23** 19:48:13.6±3.7, 5.24S×145.74E, h73km±33km, mb3.8/8, mb1 4.0/11, mb1mx3.5/55, mbtmp4.1/11, ML4.2/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/32, Error ellipse: s-maj=27.1km s-min=18.9km az=99.0*

*NEIC **23** 19:48:14.7±1.8, 5.21S×145.76E, h82km±16km, mb4.8/7, Error ellipse: s-maj=13.2km s-min=10.3km az=176.0*

ISC 23 19:48:12.8±0.6, 5.27S±0.06×145.80E±0.10, h64km, n33, σ1§23/35, mb4.2/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.33**	**162**	P		P	**Pn**	**19 49 16.9**	**+0.7**
	16nm,0.3s,baz=322,slow=7.4,SNR=38								
PMG				S		S	**Sn**	**19 50 03.6**	**-1.8**
	64nm,0.3s,baz=107,slow=16,SNR=16								
PMG				LR		LR		19 50 51.8	
	comp=Z,121nm,19.1s,baz=338,slow=36								
PMG	**Port Moresby**	**4.33**	**162**	*e*Pn		P	**Pn**	**19 49 16.8**	**+0.6**
PMG				*e*				19 50 02.5	
PMG				*e*Sn		S	**Sn**	**19 50 03.6**	**-1.8**
PMG				*e*				19 50 51.8	
COEN	**Coen**	**9.01**	**196**	*e*Pn		P	**Pn**	**19 50 23.1**	**+2.8**
COEN				*e*Sn		S	**Sn**	**19 51 56.8**	**-3.6**
CTA	**Charters Tower**	**14.74**	**178**	P		P	**Pn**	**19 51 39.9**	**+2.0**
	1.2nm,0.3s,baz=358,slow=15,SNR=6.8								
CTAO	**Charters Tower**	**14.74**	**178**	*e*Pn		P		**19 51 42.5**	**+0.2**
MTN	**Manton Dam**	**16.31**	**242**	*e*Pn		P		**19 52 00.3**	**+0.4**
	27nm,0.6s								
WR1	**Warramunga Arr**	**18.36**	**216**	*e*P		P		**19 52 22.0**	**-0.5**
	18nm,1.6s								
WRA	**Warramunga Arr**	**18.36**	**216**	P		P		**19 52 22.0**	**-0.5**
	0.5nm,0.3s,baz=34,slow=11,SNR=33								
AS31	**Alice Springs**	**21.59**	**211**	*e*P		P		**19 52 58.3**	**+0.8**
	1.2nm,0.6s								
ASAR	**Alice Springs**	**21.59**	**211**	P		P		**19 52 57.1**	**-0.4**
	1.8nm,0.7s,baz=38,slow=7.5,SNR=17								
SOEI	**Soe**	**21.80**	**257**	*e*P		P		**19 53 00.8**	**+0.9**
	22nm,0.7s								
LUWI	**Luwuk**	**23.36**	**280**	*e*P		P		**19 53 15.0**	**-1.1**
	62nm,0.6s								
FITZ	**Fitzroy Crossi**	**23.46**	**235**	P		P		**19 53 17.4**	**+0.4**
	6.3nm,0.8s,baz=53,slow=8.4,SNR=16								
DZM	**Mont Dzumac**	**25.08**	**132**	P		P		**19 53 41.8**	**+1.4**
	1.8nm,0.5s,baz=275,slow=11,SNR=3.5								
DZM	**Mont Dzumac**	**26.04**	**132**	*e*P		P		**19 53 41.6**	**+1.1**
	53nm,2.0s								
STKA	**Stephens Creek**	**26.76**	**188**	P		P		**19 53 46.5**	**-0.2**
	1.6nm,0.5s,baz=9.6,slow=8.7,SNR=5.7								
OUZ	**Omahuta**	**39.32**	**143**	*e*P		P		**19 55 37.4**	**+1.6**
	76nm,1.9s								
BFZ	**Birch Farm**	**44.59**	**147**	*e*P		P		**19 56 19.0**	**+0.2**
	46nm,1.6s								
KLR	**Kul'dur**	**55.64**	**349**	P		P		**19 57 42.7**	**+0.6**
	0.1nm,0.8s,baz=206,slow=3.0,SNR=4.2								
SEY	**Seymchan**	**68.19**	**3**	P		P		**19 59 06.0**	**-0.1**
	0.3nm,0.3s,baz=134,slow=6.9,SNR=3.7								
VNDA	**Vanda**	**72.71**	**176**	P		P		**19 59 33.8**	**+0.2**
	1.7nm,0.6s,baz=332,slow=7.1,SNR=15								
VNDA	**Vanda**	**72.71**	**176**	*e*P		P		**19 59 33.3**	**-0.3**
QSPA	**South Pole Qui**	**84.70**	**180**	P		P		**20 00 39.2**	**-0.5**
	1.6nm,0.7s,baz=172,slow=1.2,SNR=8.2								
ILAR	**Eielson Array**	**85.28**	**23**	P		P		**20 00 41.0**	**-1.5**
	1.2nm,0.7s,baz=255,slow=5.1,SNR=12								
ILB	**Eielson Array**	**85.28**	**23**	*e*P		P		**20 00 41.0**	**-1.5**
ALVY	**Alvey**	**94.47**	**46**	*e*P		P		**20 01 26.8**	**+0.6**
LON	**Longmire**	**95.44**	**44**	*e*P		P		**20 01 30.4**	**-0.3**
BCH	**Branch Mountai**	**96.37**	**55**	*e*P		P		**20 01 34.5**	**-0.8**
YERR	**Yerington**	**97.14**	**51**	*e*P		Pdif		20 01 39.8	+1.0
	14nm,0.7s								
RCWM	**Renegade Canyo**	**98.37**	**55**	*e*P		P		**20 01 43.6**	**-0.6**
BBRC	**Big Bear Solar**	**98.95**	**56**	*e*P		P		**20 01 46.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**143.75**	**285**	PKP		**PKPdf**		**20 07 41.5**	**-0.2**
	0.3nm,0.6s,baz=68,slow=1.7,SNR=2.5								
TOA1	**Torodi Ar. Sit**	**143.75**	**285**	*e*PKPdf		**PKPdf**		**20 07 41.5**	**-0.3**

*IDC **23** 20:12:30.9±0.8, 17.57S×167.60E, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.2/46, mbtmp4.4/15, ML4.1/2, MS3.3/2, Ms1 3.4/2, ms1mx2.7/39, Error ellipse: s-maj=22.4km s-min=19.4km az=88.0*

*ISCJB **23** 20:12:33.7±0.4, 17.60S±0.05×167.27E±0.06, h19km, mb4.5/20, MS3.2/2, Error ellipse: s-maj=8.5km s-min=7.1km az=17.4*

*NEIC **23** 20:12:37.8±1.2, 17.60S×167.32E, h38km±11km, mb4.7/10, Error ellipse: s-maj=9.8km s-min=8.7km az=155.0*

ISC 23 20:12:34.6±0.5, 17.63S±0.06×167.4E±0.1, h19km, n63, σ1§22/62, mb4.7/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.51**	**191**	Pn		**Pn**		**20 13 40.7**	**-1.2**
	2.2nm,0.3s,baz=38,slow=6.7,SNR=38								
DZM				Sn		**Sn**		**20 14 32.8**	**-1.1**
	4.4nm,0.3s,baz=308,slow=22,SNR=6.1								
DZM	**Mont Dzumac**	**4.51**	**191**	*e*Pn		**Pn**		**20 13 41.2**	**-0.8**
DZM				*e*Sn		**Sn**		**20 14 32.5**	**-1.4**
MSVF	**Nonsavu**	**10.15**	**92**	*e*Pn		Pn		20 15 04.0	+4.6
HNR	**Honiara**	**10.91**	**317**	Pn		**Pn**		**20 15 09.1**	**-0.7**
	5.7nm,0.3s,baz=165,slow=6.7,SNR=4.7								
HNR	**Honiara**	**10.91**	**317**	*e*Pn		**Pn**		**20 15 09.4**	**-0.4**
ARMA	**Armidale**	**19.20**	**226**	*e*P		P		**20 16 58.1**	**+0.6**
	30nm,1.4s								
TARA	**Tarawa**	**19.64**	**17**	*e*P		**Pn**		**20 17 03.5**	**-0.2**
	217nm,1.8s								
CTA	**Charters Tower**	**20.16**	**260**	P		Pn		20 17 10.1	+0.1
	5.0nm,0.7s,baz=78,slow=12,SNR=7.0								
CTAO	**Charters Tower**	**20.16**	**260**	*e*P		Pn		20 17 10.5	+0.6
	16nm,1.1s								
AFI	**Afiamalu**	**20.37**	**82**	LR		LR		20 23 21.1	
	comp=Z,50nm,21.6s,baz=302,slow=32								
URZ	**Urewera**	**22.24**	**159**	P		P		**20 17 30.6**	**+0.4**
	8.9nm,0.9s,baz=28,slow=3.0,SNR=5.1								
BKZ	**Black Stump Fm**	**22.87**	**162**	*e*P		P		**20 17 39.8**	**+2.8**
	32nm,1.7s								
COEN	**Coen**	**23.59**	**275**	*e*P		P		**20 17 46.0**	**+1.5**
	18nm,1.3s								
CAN	**Canberra**	**24.05**	**219**	*e*P		P		**20 17 49.4**	**+0.7**
	52nm,1.5s								
BFZ	**Birch Farm**	**24.20**	**163**	*e*P		P		**20 17 52.9**	**+2.9**
	27nm,1.1s								
STKA	**Stephens Creek**	**27.30**	**234**	P		P		**20 18 19.4**	**+1.2**
	6.5nm,0.9s,baz=67,slow=11,SNR=10								
WB2	**Warramunga Arr**	**31.35**	**260**	*e*P		P		**20 18 52.9**	**-1.4**
WR1	**Warramunga Arr**	**31.36**	**260**	*e*P		P		**20 18 54.0**	**-0.4**
	25nm,1.8s								
WR1				*e*PcP		**PcP**		**20 21 47.1**	**-1.0**
WRA	**Warramunga Arr**	**31.36**	**260**	P		P		**20 18 54.0**	**-0.4**
	2.1nm,0.8s,baz=91,slow=8.9,SNR=13								
WRA				PcP		**PcP**		**20 21 47.1**	**-1.0**
	0.7nm,0.9s,baz=91,slow=3.3,SNR=3.5								
ASAR	**Alice Springs**	**31.87**	**253**	P		P		**20 18 58.8**	**-0.1**
	7.2nm,0.7s,baz=79,slow=8.3,SNR=108								
ASAR				PcP		**PcP**		**20 21 49.2**	**-0.2**
	0.6nm,0.9s,baz=79,slow=5.0,SNR=3.2								
JOHN	**Johnston Islan**	**41.02**	**35**	*e*P		P		**20 20 17.5**	**+0.7**
	264nm,1.0s								
BATI	**Baumati**	**43.01**	**274**	P		P		**20 20 34.8**	**+1.4**
	25nm,0.9s,baz=7.8,slow=4.0,SNR=6.0								
MBWA	**Marble Bar**	**44.98**	**258**	*e*P		P		**20 20 49.5**	**+0.5**
	34nm,1.6s								
LEM	**Lembang**	**59.20**	**273**	P		P		**20 22 36.5**	**+1.3**
	9.3nm,0.4s,baz=315,slow=20,SNR=4.0								
PETK	**Petropavlovsk-**	**70.95**	**354**	P		P		**20 23 49.2**	**-1.3**
	19nm,1.2s,baz=131,slow=6.1,SNR=3.6								
PEA1	**Petropavlovsk-**	**70.95**	**354**	*e*P		P		**20 23 49.2**	**-1.3**
QSPA	**South Pole Qui**	**72.41**	**180**	P		P		**20 23 59.3**	**-0.2**
	6.8nm,0.9s,baz=5.3,slow=5.5,SNR=12								
CM01	**Chiang Mai Arr**	**76.23**	**295**	*e*P		P		**20 24 21.5**	**-0.8**
CM31	**Chiang Mai Arr**	**76.26**	**295**	*e*P		P		**20 24 23.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**76.26**	**295**	P		P		**20 24 24.1**	**+1.6**
	5.2nm,1.1s,baz=128,slow=4.2,SNR=18								
CHTO	**Chiang Mai**	**76.40**	**295**	*e*P		P		**20 24 23.4**	**+0.1**
	16nm,1.5s								
SONA0	**Songino Array**	**84.90**	**324**	*e*P		P		**20 25 07.5**	**-0.8**
SONM	**Songino Array**	**84.90**	**324**	P		P		**20 25 07.5**	**-0.8**
	0.6nm,0.7s,baz=134,slow=5.2,SNR=4.3								
PASC	**Pasadena Art C**	**87.47**	**53**	*e*P		P		**20 25 22.5**	**+1.3**
EDW2	**Edwards Air Fo**	**87.89**	**52**	*e*P		P		**20 25 24.6**	**+1.3**
BBOR	**Butler Butte**	**87.91**	**44**	*e*P		P		**20 25 26.3**	**+3.0**
DPP	**Dos Picos Cty**	**87.97**	**55**	*e*P		P		**20 25 20.6**	**-3.1**
CLC	**China Lake**	**88.56**	**52**	*e*P		P		**20 25 29.1**	**+2.7**
ILAR	**Eielson Array**	**89.23**	**18**	P		P		**20 25 27.3**	**-1.6**
	0.4nm,0.8s,baz=246,slow=4.5,SNR=3.6								
ILAR				LR		LR		21 01 19.1	
	comp=Z,22nm,18.5s,baz=7.5,slow=33								
MK32	**Makanchi Array**	**99.38**	**316**	*e*P		**Pdif**		**20 26 16.4**	**+0.6**
MKAR	**Makanchi Array**	**99.38**	**316**	P		**Pdif**		**20 26 16.4**	**+0.6**
	0.3nm,0.7s,baz=103,slow=6.2,SNR=3.4								
ARA0	**ARCESS Array S**	**123.08**	**345**	*e*PKPdf		**PKPdf**		**20 31 29.0**	**-0.3**
ARCES	**ARCESS Array B**	**123.08**	**345**	PKP		**PKPdf**		**20 31 29.0**	**-0.3**
	1.1nm,0.7s,baz=94,slow=1.6,SNR=6.0								
GERES	**GERESS Array B**	**142.26**	**331**	PKP		**PKPdf**		**20 32 04.1**	**-1.9**
	0.6nm,0.9s,baz=54,slow=5.0,SNR=4.0								
OBKA	**Obir**	**143.50**	**328**	*e*PKPdf		**PKPdf**		**20 32 06.8**	**-1.4**
	2.5nm,0.9s								
KBA	**Koelnbreinsper**	**143.69**	**330**	*e*PKPdf		PKPbc		20 32 06.5	+0.4
	5.7nm,1.2s								
ABTA	**Abfaltersbach**	**144.33**	**330**	*e*PKPdf		PKPbc		20 32 08.3	+0.3
	14nm,1.1s,SNR=6.0								
WATA	**Walderalm**	**144.34**	**331**	*i* PKPdf		**PKPdf**		**20 32 09.9**	**+0.2**
WTTA	**Wattenberg**	**144.36**	**331**	*e*PKPdf		**PKPdf**		**20 32 10.5**	**+0.7**
	5.7nm,1.5s								
MOTA	**Moosalm**	**144.54**	**332**	*i* PKPdf		**PKPdf**		**20 32 09.2**	**-0.9**
	8.3nm,1.0s								
RETA	**Reutte**	**144.59**	**332**	*e*PKPdf		**PKPdf**		**20 32 09.8**	**-0.3**
	4.9nm,0.9s								
WLF	**Walferdange**	**144.65**	**339**	*e*PKPdf		PKPbc		20 32 08.7	-0.1
BFO	**Black Forest**	**144.95**	**335**	*e*PKPbc		PKPbc		20 32 09.8	+0.1
FETA	**Feichten**	**144.96**	**332**	*e*PKPdf		**PKPdf**		**20 32 10.6**	**-0.2**
	14nm,1.2s,SNR=6.4								
DAVA	**Damuels**	**145.13**	**333**	*e*PKPdf		**PKPdf**		**20 32 11.1**	**0.0**
	16nm,1.1s,SNR=5.5								
FUORN	**Ofenpass-Fuorn**	**145.47**	**332**	*e*PKPdf		**PKPab**		**20 32 12.6**	**+0.6**
ECH	**Echery**	**145.50**	**336**	*e*PKPdf		**PKPbc**		**20 32 11.2**	**-0.4**
TUE	**Stuetta**	**145.99**	**333**	*e*PKPdf		**PKPab**		**20 32 13.6**	**-0.3**
TIP	**Timpagrande**	**146.66**	**316**	*e*PKPdf		**PKPbc**		**20 32 15.4**	**-0.1**
SENIN	**Lac Senin/Sane**	**146.95**	**334**	*e*PKPdf		**PKPbc**		**20 32 16.3**	**+0.1**
BNI	**Bardonecchia**	**148.26**	**334**	*e*PKPbc		**PKPbc**		**20 32 18.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**165.52**	**254**	PKP		**PKPdf**		**20 32 38.3**	**-0.6**
	0.7nm,0.9s,baz=293,slow=2.1,SNR=3.4								
TORD				PKPab		**PKPab**		**20 33 36.5**	**-0.9**
	0.5nm,0.8s,baz=98,slow=3.1,SNR=2.8								
TOA1	**Torodi Ar. Sit**	**165.52**	**254**	*e*PKPdf		**PKPdf**		**20 32 38.3**	**-0.6**
TOA1				*e*PKPab		**PKPab**		**20 33 36.5**	**-0.9**

MEX 23 20:20:43.3±0.3, 16.22N×98.45W, h10km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**61**	*i* P		Pg		20 20 49.8	-0.5
PNIG				*e*S		Sg		20 20 55.2	+0.2
TLIG	**Tlapa**	**1.34**	**355**	*e*P		Pn		20 21 04.4	-3.9
TLIG				*i* S		Sb		20 21 21.1	-4.8
ACX	**Acapulco**	**1.50**	**296**	*i* P		Pn		20 21 02.9	-7.4
ACX				*i* S		Sn		20 21 21.8	-8.2
VHO	**Vista Hermosa**	**1.85**	**63**	*e*P		Pn		20 21 12.1	-3.3
VHO				*e*S		Sn		20 21 34.2	-4.7
CAIG	**El Cayaco**	**1.93**	**296**	*e*P		Pn		20 21 13.6	-2.6
CAIG				*e*S		Sn		20 21 36.2	-4.4

IDC 23 20:35:31.5±3.3, 4.49N×96.31E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.2/60, mbtmp3.5/4, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/57, Error ellipse: s-maj=129.8km s-min=31.1km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.10**	**123**	Sn		Sn		20 36 56.9	-2.8
	1.4nm,0.3s,baz=303,slow=15,SNR=2.9								
CMAR	**Chiang Mai Arr**	**14.12**	**10**	Pn		Pn		20 38 52.9	-0.1
	0.2nm,0.3s,baz=200,slow=13,SNR=4.0								
MKAR	**Makanchi Array**	**43.86**	**346**	P		P		20 43 38.7	-0.9
	0.2nm,0.5s,baz=170,slow=9.5,SNR=7.3								
WRA	**Warramunga Arr**	**44.56**	**124**	P		P		20 43 45.4	-0.3
	0.5nm,1.0s,baz=307,slow=8.3,SNR=3.0								
ZALV	**Zalesovo Beam**	**50.19**	**351**	P		P		20 44 29.9	+0.9
	0.6nm,0.4s,baz=176,slow=6.8,SNR=5.0								
KMBO	**Kilima Mbogo**	**59.27**	**266**	LR		LR		21 09 42.7	
	comp=Z,29nm,18.0s,baz=94,slow=35								
ARCES	**ARCESS Array B**	**79.16**	**340**	LR		LR		21 25 41.9	
	comp=Z,39nm,21.2s,baz=82,slow=38								

*ISCJB **23** 20:54:33.9±0.4, 38.34N±0.03×30.20E±0.03, h11km±3km, Error ellipse: s-maj=4.8km s-min=3.4km az=3.8*

*DDA **23** 20:54:33.1, 38.36N×30.21E, h7km, Ml2.5*

*CSEM **23** 20:54:33.6±0.2, 38.35N×30.21E, h8km, ML2.5, Error ellipse: s-maj=4.3km s-min=3.4km az=1.0*

*ISK **23** 20:54:33.7, 38.34N×30.21E, h15km, ML2.2/8*

ISC 23 20:54:33.4±0.9, 38.35N±0.02×30.21E±0.02, h9km±7km, n34, σ0§47/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZIL	**AFYON_Kizioren**	**0.11**	**211**	*i* P		P	**Pg**	**20 54 35.9**	**-0.1**
KZIL				*i* S		S	**Sg**	**20 54 37.7**	**-0.2**
KZIL	**AFYON_Kizioren**	**0.11**	**211**	P		P	**Pg**	**20 54 35.9**	**-0.1**
KZIL				S		S	**Sg**	**20 54 37.7**	**-0.2**
SHUT	**Suhut-Afyon**	**0.34**	**53**	PG		P	**Pg**	**20 54 40.8**	**+0.7**
SHUT				SG		S	**Sb**	**20 54 46.7**	**-0.6**
SHUT	**Suhut-Afyon**	**0.34**	**53**	*e*Pg		P	**Pg**	**20 54 40.8**	**+0.7**
SHUT				*e*Sg		S	**Sb**	**20 54 46.7**	**-0.6**
KHL	**Karahalli**	**0.54**	**268**	PG		P	**Pb**	**20 54 45.4**	**+0.2**
KHL				SG		S	**Sb**	**20 54 53.1**	**0.0**
KHL	**Karahalli**	**0.54**	**268**	*e*Pg		P	**Pb**	**20 54 45.4**	**+0.2**
KHL				*e*Sg		S	**Sb**	**20 54 53.1**	**0.0**
KHAL	**Karahalli**	**0.56**	**272**	*i* P		P	**Pg**	**20 54 44.0**	**-0.4**
KHAL				*i* S		S	**Sb**	**20 54 53.6**	**-0.2**
KHAL	**Karahalli**	**0.56**	**272**	P		P	**Pg**	**20 54 44.0**	**-0.4**
KHAL				S		S	**Sb**	**20 54 53.6**	**-0.2**
BAGO	**Egridir - ISPA**	**0.58**	**128**	*i* P		P	**Pg**	**20 54 44.5**	**-0.1**
BAGO				*i* S		S	**Sb**	**20 54 54.1**	**-0.1**
ISP	**Isparta**	**0.58**	**155**	PG		P	**Pg**	**20 54 45.4**	**+0.7**
ISP				SG		S	**Sb**	**20 54 53.6**	**-0.6**
ISP	**Isparta**	**0.58**	**155**	*e*Pg		P	**Pg**	**20 54 45.4**	**+0.7**
ISP				*e*Sg		S	**Sb**	**20 54 53.6**	**-0.6**
BRDR	**BURDUR-Merkez**	**0.66**	**190**	*i* P		P	**Pg**	**20 54 45.5**	**-0.7**
BRDR				*i* S		S	**Sb**	**20 54 56.7**	**+0.1**
BRDR	**BURDUR-Merkez**	**0.66**	**190**	P		P	**Pg**	**20 54 45.5**	**-0.7**
BRDR				S		S	**Sb**	**20 54 56.7**	**+0.1**
BOLV	**Bolvadin**	**0.69**	**57**	*i* P		P	**Pg**	**20 54 46.2**	**-0.5**
BOLV				*i* S		S	**Sb**	**20 54 57.4**	**0.0**
BOLV	**Bolvadin**	**0.69**	**57**	P		P	**Pg**	**20 54 46.2**	**-0.5**
BOLV				S		S	**Sb**	**20 54 57.4**	**0.0**
GDZ	**Gediz**	**0.93**	**323**	*i* P		P	**Pg**	**20 54 50.5**	**-0.9**
GDZ	**Gediz**	**0.93**	**323**	P		P	**Pg**	**20 54 50.5**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.07**	**144**	PG		P	**Pn**	**20 54 54.9**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.07**	**144**	*e*Pg		P	**Pn**	**20 54 54.9**	**+0.1**
DOGA	**KONYA_Doganhis**	**1.17**	**101**	*i* P		P	**Pg**	**20 54 55.2**	**-0.8**
DOGA	**KONYA_Doganhis**	**1.17**	**101**	P		P	**Pg**	**20 54 55.2**	**-0.8**
SIMA	**Simav-Kutahya**	**1.21**	**308**	PN		P	**Pn**	**20 54 57.6**	**+1.0**
SIMA				SN		S	**Sn**	**20 55 13.5**	**+0.3**
SIMA	**Simav-Kutahya**	**1.21**	**308**	*e*Pn		P	**Pn**	**20 54

*IDC **23** 21:22:55.1±6.0,23˚.96N×122˚.31E,h88km±57km,mb3.4/13, mb1 3.5/14,mb1mx3.3/63,mbtmp3.8/14,ML4.0/1,MS2.9/2, Ms1 2.9/2,ms1mx2.4/44,Error ellipse: s-maj=27.5km s-min=15.3km az=64.0*

ISC 23 21:22:48.1±1.0,23˚.93N±0˚.02×122˚.50E±0˚.02,h29km±8km, n106,σ0§90/191,mb3.7/13,3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.66**	**38**	P	**Pb**	**21 23 00.5**	**-0.6**
JYNG				*e*S	**Sb**	**21 23 08.5**	**-1.5**
YOJ	**Yonaguni jima**	**0.70**	**41**	P	**Pb**	**21 23 01.2**	**-0.7**
	baz=48						
YOJ				S	**Sb**	**21 23 10.6**	**-0.7**
	baz=48						
YOJ	**Yonaguni jima**	**0.70**	**41**	P	**Pb**	**21 23 01.2**	**-0.7**
YOJ				S	**Sb**	**21 23 10.3**	**-1.0**
EOS1	**EOS1**	**0.71**	**331**	*e*P	**Pn**	**21 23 01.9**	**-0.1**
	baz=326						
EOS1				*e*S	**Sn**	**21 23 12.3**	**+0.3**
	baz=326						
ENAH	**Nanao**	**0.82**	**309**	P	**Pb**	**21 23 03.6**	**-0.1**
	baz=304						
ENAH				S	**Sn**	**21 23 15.6**	**+0.8**
	baz=304						
HWA	**Hwalien**	**0.82**	**274**	P	**Pb**	**21 23 04.2**	**+0.4**
	baz=256						
HWA				S	**Sn**	**21 23 16.1**	**+1.2**
	baz=256						
ENLB	**Shoufeng**	**0.83**	**268**	P	**Pn**	**21 23 04.0**	**+0.3**
	baz=253						
ENLB				*i* S	**Sn**	**21 23 16.2**	**+1.2**
	baz=253						
TWD	**Chiawan**	**0.84**	**280**	P	**Pn**	**21 23 03.8**	**-0.2**
	baz=276						
TWD				S	**Sn**	**21 23 15.4**	**0.0**
	baz=276						
NANB	**Nanao**	**0.85**	**306**	P	**Pn**	**21 23 04.1**	**0.0**
	baz=301						
NANB				S	**Sn**	**21 23 16.4**	**+0.9**
	baz=301						
ENA	**Nanau**	**0.86**	**306**	⇓*i*P	**Pn**	**21 23 04.2**	**0.0**
	baz=301						
ENA				S	**Sn**	**21 23 16.2**	**+0.4**
	baz=301						
NACB	**Ninganchiao**	**0.87**	**287**	P	**Pn**	**21 23 04.2**	**-0.1**
	baz=268						
NACB				*e*S	**Sb**	**21 23 16.5**	**+0.7**
	baz=268						
TWC	**Suao**	**0.90**	**319**	⇓*i*P	**Pn**	**21 23 04.6**	**-0.2**
	baz=304						
TWC				*i* S	**Sb**	**21 23 16.9**	**0.0**
	baz=304						
ESL	**Shilin**	**0.99**	**264**	*e*P	**Pn**	**21 23 05.4**	**-0.6**
	baz=250						
ESL				*e*S	**Sn**	**21 23 19.2**	**+0.3**
	baz=250						
EGFH	**Guangfu**	**1.02**	**256**	*e*P	**Pn**	**21 23 06.6**	**+0.2**
	baz=252						
EGFH				*e*S	**Sb**	**21 23 20.5**	**+0.3**
	baz=252						
EGS		**1.05**	**330**	P	**Pb**	**21 23 07.8**	**+0.1**
	baz=314						
EGS				S	**Sb**	**21 23 22.1**	**+1.0**
	baz=314						
HGSD	**Ruisui**	**1.08**	**247**	*e*P	**Pn**	**21 23 07.4**	**+0.2**
	baz=244						
HGSD				*e*S	**Sb**	**21 23 23.7**	**+1.8**
	baz=244						
ILA	**Ilan**	**1.08**	**321**	*i* P	**Pb**	**21 23 08.4**	**+0.2**
	baz=306						
ILA				S	**Sb**	**21 23 23.6**	**+1.6**
	baz=306						
TWE	**Neicheng**	**1.10**	**316**	P	**Pb**	**21 23 08.3**	**-0.2**
	baz=302						
TWE				S	**Sb**	**21 23 23.2**	**+0.7**
	baz=302						
NTC	**Toucheng**	**1.11**	**326**	*e*S	**Sb**	**21 23 22.5**	**-0.2**
	baz=323						
ENTT	**Nioudou**	**1.11**	**310**	P	**Pb**	**21 23 08.6**	**-0.1**
	baz=292						
ENTT				*i* S	**Sb**	**21 23 24.2**	**+1.3**
	baz=292						
NNSB	**Datong**	**1.14**	**296**	P	**Pn**	**21 23 08.7**	**+0.5**
	baz=281						
NNSB				S	**Sb**	**21 23 24.0**	**+0.2**
	baz=281						
NNSH	**Datong**	**1.14**	**296**	*e*P	**Pn**	**21 23 08.4**	**+0.2**
	baz=281						
NNSH				*e*S	**Sb**	**21 23 24.1**	**+0.3**
	baz=281						
NNS	**Nan Shan**	**1.15**	**296**	*i* P	**Pb**	**21 23 09.1**	**-0.4**
	baz=282						
NNS				*i* S	**Sb**	**21 23 24.4**	**+0.2**
	baz=282						
WHF	**Hehuan Shan**	**1.15**	**281**	*i* P	**Pn**	**21 23 08.9**	**+0.2**
	baz=265						
WHF				S	**Sn**	**21 23 23.8**	**+0.1**
	baz=265						
EHY	**Hungye**	**1.16**	**249**	P	**Pn**	**21 23 08.7**	**+0.3**
	baz=246						
EHY				*e*S	**Sn**	**21 23 23.6**	**+0.3**
	baz=246						
TWB1	**Santiao Chiao**	**1.17**	**336**	P	**Pn**	**21 23 08.7**	**+0.1**
	baz=349						
TWB1				*e*S	**Sb**	**21 23 24.9**	**+0.3**
	baz=349						
IRIF	**Iriomote-Funau**	**1.19**	**70**	P	**Pn**	**21 23 09.5**	**+0.7**
IRIF				*e*S	**Sb**	**21 23 25.0**	**-0.1**
HATJ	**Hateruma jima**	**1.20**	**84**	P	**Pn**	**21 23 09.6**	**+0.7**
HATJ				S	**Sb**	**21 23 25.1**	**-0.2**
TIPB	**Shuangxi**	**1.21**	**329**	P	**Pn**	**21 23 09.0**	**-0.1**
	baz=326						
TIPB				*i* S	**Sb**	**21 23 24.9**	**-0.7**
	baz=326						
OWD	**Renai**	**1.22**	**271**	P	**Pn**	**21 23 09.8**	**+0.5**
	baz=268						
OWD				S	**Sn**	**21 23 24.9**	**0.0**
	baz=268						
CHGB	**Renai**	**1.22**	**276**	P	**Pn**	**21 23 10.0**	**+0.5**
	baz=263						
CHGB				S	**Sb**	**21 23 26.0**	**-0.2**
	baz=263						
YULB	**Yu-li**	**1.23**	**244**	*e*P	**Pn**	**21 23 09.8**	**+0.5**
	baz=231						
YULB				*e*S	**Sn**	**21 23 25.7**	**+0.7**
	baz=231						
NWLT	**Wulai**	**1.24**	**313**	P	**Pb**	**21 23 10.9**	**-0.1**
	baz=297						
NWLT				*e*S	**Sb**	**21 23 28.6**	**+1.9**
	baz=297						
TWF1	**Yuli**	**1.25**	**243**	P	**Pn**	**21 23 10.1**	**+0.6**
	baz=240						
TWF1				S	**Sn**	**21 23 26.5**	**+1.1**
	baz=240						
TWT	**Tachien**	**1.26**	**285**	P	**Pb**	**21 23 11.1**	**-0.2**
	baz=270						
TWT				*e*S	**Sn**	**21 23 26.4**	**+0.6**
	baz=270						
YHNB	**Yeheng**	**1.27**	**306**	*e*P	**Pb**	**21 23 10.7**	**-0.7**
	baz=288						
YHNB				*e*S	**Sb**	**21 23 26.4**	**-0.9**
	baz=288						
TDCB	**Techi**	**1.27**	**285**	*e*P	**Pb**	**21 23 10.9**	**-0.6**
	baz=271						
TDCB				*e*S	**Sb**	**21 23 27.7**	**+0.1**
	baz=271						
NWF	**Wu-fen Shan**	**1.31**	**330**	*e*P	**Pn**	**21 23 11.0**	**+0.4**
	baz=327						
NWF				S	**Sb**	**21 23 29.9**	**+1.2**
	baz=327						
WFSB	**Wu-fen Shan**	**1.31**	**330**	*e*P	**Pb**	**21 23 11.1**	**-1.0**
	baz=327						
FULB	**Fuli**	**1.33**	**237**	*e*P	**Pn**	**21 23 11.2**	**+0.5**
	baz=225						
FULB				*e*S	**Sn**	**21 23 25.4**	**-2.0**
	baz=225						
CHKT	**Chengkung**	**1.33**	**232**	*e*P	**Pn**	**21 23 11.9**	**+1.2**
	baz=219						
CHKT				*e*S	**Sn**	**21 23 26.8**	**-0.7**
	baz=219						
TWA	**Mucha**	**1.34**	**321**	P	**Pb**	**21 23 11.9**	**-0.7**
	baz=336						
TWA				S	**Sb**	**21 23 31.0**	**+1.6**
	baz=336						
TATO	**Taipei**	**1.39**	**319**	P	**Pb**	**21 23 13.2**	**-0.3**
	baz=333						
TATO				*e*S	**Sb**	**21 23 29.9**	**-1.0**
	baz=333						
JKRS	**Kuro-shima**	**1.41**	**77**	P	**Pb**	**21 23 14.2**	**+0.4**
JKRS				S	**Sb**	**21 23 32.1**	**+0.7**
SSLB	**Suanglung**	**1.43**	**265**	*e*P	**Pn**	**21 23 13.0**	**+0.9**
	baz=262						
SSLB				*e*S	**Sb**	**21 23 31.2**	**-0.6**
	baz=262						
DPDB	**Guoxing**	**1.45**	**274**	P	**Pn**	**21 23 13.5**	**+1.1**
	baz=272						
SANB	**Taian**	**1.46**	**289**	P	**Pb**	**21 23 14.3**	**-0.5**
	baz=274						
SANB				*e*S	**Sb**	**21 23 32.9**	**-0.2**
	baz=274						
WLTB	**Daxi**	**1.47**	**309**	*e*P	**Pb**	**21 23 14.2**	**-0.5**
	baz=294						
WLTB				*e*S	**Sb**	**21 23 32.6**	**-0.3**
	baz=294						
SMLT	**Sun Moon Lake**	**1.47**	**269**	*e*P	**Pb**	**21 23 14.1**	**-0.7**
	baz=265						
SMLT				*e*S	**Sn**	**21 23 32.2**	**+1.2**
	baz=265						
YM07	**YM07**	**1.48**	**327**	*e*P	**Pn**	**21 23 13.2**	**+0.3**
	baz=325						
YM07				*e*S	**Sn**	**21 23 31.1**	**-0.1**
	baz=325						
YUS	**Yu-Shan**	**1.49**	**253**	P	**Pn**	**21 23 14.2**	**+0.9**
	baz=250						
YUS				*e*S	**Sn**	**21 23 32.4**	**+0.3**
	baz=250						
YM10	**YM10**	**1.49**	**325**	*e*P	**Pn**	**21 23 13.7**	**+0.7**
	baz=323						
YM10				*e*S	**Sn**	**21 23 31.9**	**+0.3**
	baz=323						
TYC	**Yuchr**	**1.51**	**269**	*e*P	**Pn**	**21 23 14.4**	**+1.2**
	baz=266						
TYC				*e*S	**Sn**	**21 23 33.0**	**+1.2**
	baz=266						
TWS1	**Kuangyinshan**	**1.53**	**320**	*e*P	**Pn**	**21 23 14.2**	**+0.8**
	baz=334						
TWS1				*e*S	**Sb**	**21 23 34.2**	**-0.6**
	baz=334						
LIOB	**Emei**	**1.53**	**298**	*i* P	**Pb**	**21 23 15.6**	**-0.3**
	baz=295						
LIOB				S	**Sn**	**21 23 33.2**	**+0.6**
	baz=295						
TWH	**Lutao**	**1.54**	**218**	P	**Pn**	**21 23 13.2**	**-0.3**
	baz=216						
TWH				*e*S	**Sn**	**21 23 32.0**	**-0.5**
	baz=216						
NSTT	**Nanjuang**	**1.54**	**297**	⇓*i*P	**Pb**	**21 23 15.8**	**-0.2**
	baz=294						
NSTT				S	**Sb**	**21 23 35.4**	**+0.3**
	baz=294						
ELDTW	**Lidau**	**1.55**	**242**	*e*P	**Pn**	**21 23 13.9**	**0.0**
	baz=239						
ELDTW				*e*S	**Sn**	**21 23 32.4**	**-0.6**
	baz=239						
JIJ	**Ishigaki jima**	**1.56**	**74**	P	**Pn**	**21 23 14.5**	**+0.7**
JIJ				S	**Sn**	**21 23 33.6**	**+0.5**
NCU	**National Centr**	**1.59**	**311**	*e*P	**Pb**	**21 23 15.5**	**-1.3**
	baz=308						
NCU				*e*S	**Sb**	**21 23 35.8**	**-0.6**
	baz=308						
ALS	**Alishan**	**1.61**	**255**	*e*P	**Pn**	**21 23 16.1**	**+1.3**
	baz=253						
ALS				S	**Sn**	**21 23 36.2**	**+1.4**
	baz=253						
WJS	**Zhushan**	**1.63**	**267**	*e*P	**Pb**	**21 23 17.8**	**+0.3**
	baz=264						
WJS				*e*S	**Sb**	**21 23 40.4**	**+2.7**
	baz=264						
TWQ1	**Liyutan**	**1.64**	**285**	*i* P	**Pb**	**21 23 17.3**	**-0.3**
	baz=282						
TWQ1				*e*S	**Sb**	**21 23 36.6**	**-1.2**
	baz=282						
HSN	**Hsinchu**	**1.65**	**302**	*e*P	**Pb**	**21 23 17.1**	**-0.7**
	baz=301						
HSN				*e*S	**Sn**	**21 23 35.8**	**+0.5**
	baz=301						
NSY	**Sanyi**	**1.66**	**287**	P	**Pb**	**21 23 18.1**	**-0.1**
	baz=284						
NSY				*e*S	**Sb**	**21 23 40.1**	**+1.4**
	baz=284						
WNT	**Mingjian**	**1.67**	**269**	*e*P	**Pb**	**21 23 18.2**	**+0.1**
	baz=265						
WNT				*e*S	**Sb**	**21 23 39.3**	**+0.6**
	baz=265						
NMLH	**Miaoli**	**1.68**	**292**	*e*P	**Pb**	**21 23 17.5**	**-0.8**
	baz=288						
NMLH				*e*S	**Sb**	**21 23 41.5**	**+2.5**
	baz=288						
TCU	**Taichung**	**1.69**	**278**	*e*P	**Pb**	**21 23 18.7**	**+0.3**
	baz=275						
TCU				S	**Sb**	**21 23 40.5**	**+1.2**
	baz=275						
CHN5	**Tsauling**	**1.71**	**259**	P	**Pb**	**21 23 18.2**	**-0.6**
	baz=247						
CHN5				*e*S	**Sb**	**21 23 39.5**	**-0.4**
	baz=247						
TWG	**Pinlang**	**1.72**	**230**	*e*P	**Pn**	**21 23 16.7**	**+0.7**
	baz=220						
TWG				*e*S	**Sn**	**21 23 36.5**	**-0.5**
	baz=220						
PTSB	**Yuanli**	**1.72**	**288**	*e*P	**Pb**	**21 23 18.3**	**-0.8**
	baz=285						
PTSB				*e*S	**Sb**	**21 23 40.7**	**+0.4**
	baz=285						
JISG	**Ishigakijimahi**	**1.77**	**68**	P	**Pn**	**21 23 17.2**	**+0.4**
JISG				S	**Sn**	**21 23 38.4**	**0.0**
STYT	**Tauyuan**	**1.77**	**245**	*e*P	**Pn**	**21 23 18.7**	**+1.8**
	baz=234						
STYT				S	**Sn**	**21 23 40.2**	**+1.7**
	baz=234						
WCHH	**Zhanghua**	**1.79**	**275**	*e*P	**Pb**	**21 23 19.4**	**-0.8**
	baz=272						
WCHH				*e*S	**Sb**	**21 23 43.7**	**+1.5**
	baz=272						
WGK	**Gukeng**	**1.79**	**263**	*e*P	**Pb**	**21 23 20.1**	**-0.2**
	baz=260						
WGK				*e*S	**Sb**	**21 23 42.4**	**0.0**
	baz=260						
WDLH	**Douliu**	**1.82**	**263**	*e*P	**Pb**	**21 23 19.7**	**-1.0**
	baz=260						
WDLH				*e*S	**Sb**	**21 23 45.3**	**+2.3**
	baz=260						
CHN4	**Tsaushan**	**1.84**	**252**	*e*P	**Pb**	**21 23 20.5**	**-0.7**
	baz=250						
CHN4				*i* S	**Sb**	**21 23 44.6**	**+0.8**
	baz=250						
WTP	**Ta-pu**	**1.86**	**249**	*e*P	**Pb**	**21 23 20.7**	**-0.8**
	baz=237						
WTP				S	**Sb**	**21 23 45.1**	**+0.7**
	baz=237						
SLGT	**Liugui**	**1.94**	**242**	*e*P	**Pb**	**21 23 22.2**	**-0.6**
	baz=233						
SLGT				*e*S	**Sb**	**21 23 45.6**	**-1.1**
	baz=233						
ECL	**Taimali**	**1.95**	**227**	*e*P	**Pn**	**21 23 19.5**	**+0.3**
	baz=236						
ECL				*e*S	**Sn**	**21 23 42.4**	**-0.2**
	baz=236						
CHY	**Chiayi**	**1.95**	**258**	*e*P	**Pb**	**21 23 21.9**	**-1.2**
	baz=255						
CHY				*e*S	**Sb**	**21 23 46.8**	**-0.1**
	baz=255						
SGST	**Jiashian**	**1.96**	**245**	*e*P	**Pb**	**21 23 22.7**	**-0.3**
	baz=234						
SGST				S	**Sb**	**21 23 47.2**	**+0.2**
	baz=234						
CHN1	**Nanshi**	**1.96**	**248**	P	**Pb**	**21 23 22.5**	**-0.6**
	baz=246						
CHN1				*e*S	**Sb**	**21 23 46.9**	**-0.2**
	baz=246						
TWK	**Hsinying**	**1.96**	**251**	*e*P	**Pb**	**21 23 22.3**	**-1.0**
	baz=248						
TWK				S	**Sb**	**21 23 47.6**	**+0.3**
	baz=248						
WTCT	**Ta-ch'eng**	**2.04**	**269**	*e*P	**Pb**	**21 23 22.7**	**-1.7**
	baz=279						
WTCT				*e*S	**Sb**	**21 23 49.2**	**-0.1**
	baz=279						
WLGB	**Puzi**	**2.07**	**258**	*e*P	**Pb**	**21 23 23.4**	**-1.5**
	baz=255						
WLGB				*e*S	**Sb**	**21 23 49.7**	**-0.6**
	baz=255						
SSD	**Sandimen**	**2.08**	**236**	*e*P	**Pb**	**21 23 24.1**	**-1.1**
	baz=228						
SSD				*e*S	**Sb**	**21 23 50.1**	**-0.7**
	baz=228						
WSF	**Szhu**	**2.11**	**263**	*e*P	**Pb**	**21 23 24.5**	**-1.2**
	baz=259						
WSF				*e*S	**Sb**	**21 23 51.6**	**+0.1**
	baz=259						
JTJ	**Tarama**	**2.13**	**70**	P	**Pn**	**21 23 23.8**	**+2.1**
JTJ				S	**Sn**	**21 23 48.8**	**+1.7**
CHN3	**Shinhua**	**2.14**	**247**	*e*S	**Sb**	**21 23 53.6**	**+1.3**
	baz=244						
CHN8	**Yiju**	**2.18**	**255**	S	**Sb**	**21 23 52.4**	**-1.1**
	baz=252						
KSRS	**Korea Array**	**14.26**	**18**	P	**P**	**21 26 13.9**	**-1.0**
	0.6nm,0.3s,baz=198,slow=11,SNR=15						
KSRS				LR	LR	21 32 28.8	
	comp=Z,32nm,18.8s,baz=185,slow=40						
USRK	**Ussuriysk Ar.**	**21.66**	**19**	LR	LR	21 37 07.5	
	comp=Z,37nm,18.4s,baz=150,slow=39						
ASAJ	**Asahikawa**	**26.00**	**34**	P	**P**	**21 28 21.6**	**+3.1**
	2.2nm,0.5s,baz=24,slow=20,SNR=4.4						
SONM	**Songino Array**	**27.08**	**336**	P	**P**	**21 28 27.2**	**-1.1**
	0.8nm,0.9s,baz=152,slow=9.6,SNR=4.8						
MKAR	**Makanchi Array**	**39.36**	**316**	P	**P**	**21 30 15.2**	**+0.2**
	0.8nm,0.6s,baz=100,slow=10,SNR=23						
ZALV	**Zalesovo Beam**	**41.12**	**327**	P	**P**	**21 30 27.1**	**-2.2**
	0.8nm,0.4s,baz=117,slow=5.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**43.08**	**320**	P	**P**	**21 30 44.9**	**-0.5**
	0.3nm,0.3s,baz=111,slow=9.9,SNR=6.1						
WRA	**Warramunga Arr**	**45.11**	**164**	P	**P**	**21 31 02.4**	**+0.4**
	0.8nm,0.6s,baz=346,slow=8.6,SNR=9.4						
ASAR	**Alice Springs**	**48.59**	**166**	P	**P**	**21 31 31.0**	**+1.9**
	0.4nm,0.5s,baz=354,slow=14,SNR=8.2						
BVAR	**Borovoye Array**	**48.63**	**321**	P	**P**	**21 31 28.8**	**-0.4**
	0.6nm,0.5s,baz=107,slow=7.9,SNR=6.6						
GEYT	**Alibeck**	**55.97**	**301**	P	**P**	**21 32 23.5**	**-0.5**
	0.7nm,0.5s,baz=64,slow=3.4,SNR=3.6						
FINES	**FINESS Array B**	**72.27**	**330**	P	**P**	**21 34 10.3**	**-0.2**
	0.3nm,0.4s,baz=57,slow=4.7,SNR=7.5						
BRTR	**Keskin Array B**	**74.29**	**307**	P	**P**	**21 34 23.1**	**+0.1**
	0.4nm,0.6s,baz=80,slow=1.4,SNR=4.5						
HFS	**Hagfors**	**78.38**	**331**	P	**P**	**21 34 45.4**	**-0.2**
	0.7nm,0.6s,baz=42,slow=14,SNR=3.8						
YKA	**Yellowknife Ar**	**82.73**	**23**	P	**P**	**21 35 07.8**	**-1.1**
	0.4nm,0.6s,baz=312,slow=5.0,SNR=10						

*ISCJB **23** 21:30:15.0±0.3,58˚.00S±0˚.06×25˚.3W±0˚.1,h49km, mb4.7/24,MS4.2/25,Error ellipse: s-maj=10.1km s-min=7.0km az=148.7*

*IDC **23** 21:30:17.7±4.3,58˚.06S×25˚.47W,h61km±37km,mb4.3/11, mb1 4.3/12,mb1mx4.1/28,mbtmp4.6/12,ML4.7/1,MS4.1/24, Ms1 4.1/24,ms1mx4.0/28,Error ellipse: s-maj=17.5km s-min=14.8km az=25.0*

*GCMT **23** 21:30:17.4±0.3,58˚.29S×24˚.79W,h34km,MW5.0/59, Moment Tensor Solution. s42,c54; s59,c71; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_T3.72±.19; $M_{\theta\theta}$0.65±.15; $M_{\phi\phi}$-4.36±.13; $M_{r\theta}$-0.59±.19; $M_{\theta\phi}$0.27±.12; $M_{\phi r}$1.41±.17; Best double couple: $M_0$4.33300×10^{16} NP1:ϕ_s349.00000°,δ55.00000°,λ80.00000°. NP2: ϕ_s186.00000°,δ36.00000°,λ104.00000°. Principal axes: T 4.0430, Plg77.0000°, Azm226.0000°; N 0.5860, Plg8.0000°, Azm355.0000°; P -4.6240, Plg10.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **23** 21:30:17.4±1.4,57˚.97S×25˚.26W,h52km±11km,mb4.8/15 Error ellipse: s-maj=10.1km s-min=7.7km az=222.0*

ISC 23 21:30:16.5±0.4,58˚.19S±0˚.07×25˚.27W±0˚.09,h49km,n131, σ1§68/115,mb4.7/24,MS4.2/25,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.37**	**297**	*e*Pn	**Pn**	**21 32 01.1**	**-0.3**
VNA1	**Neumayer--Stat**	**14.41**	**157**	P	**Pn**	**21 33 39.4**	**+2.1**
VNA3	**Neumayer Olymp**	**14.62**	**160**	P	**Pn**	**21 33 41.8**	**+1.7**
VNA3				S	**Sn**	**21 36 15.2**	**-5.2**
VNA2	**Neumayer--Watz**	**14.81**	**157**	P	**Pn**	**21 33 43.5**	**+1.0**
	baz=324,slow=12						
VNA2				S	**Sn**	**21 36 19.3**	**-5.7**
SNAA	**Sanae**	**16.35**	**155**	P	**P**	**21 34 04.8**	**+0.2**
SNAA	**Sanae**	**16.35**	**155**	P	**P**	**21 34 04.3**	**-0.3**
	2.6nm,0.3s,baz=319,slow=15,SNR=60						
SNAA				S	**Sn**	**21 36 56.3**	**-6.3**
	0.2nm,0.3s,baz=353,slow=18,SNR=2.7						
SNAA				LR	LR	21 39 07.4	
	comp=Z,518nm,19.5s,baz=302,slow=32						
SNAA	**Sanae**	**16.35**	**155**	*e*Pn	**P**	**21 34 05.6**	**+1.0**
	28nm,1.2s						
SNAA				S	**Sn**	**21 36 56.3**	**-6.3**
PMSA	**Palmer Station**	**19.38**	**234**	*e*P	**Pn**	**21 34 39.8**	**+0.5**
	272nm,0.6s						
QSPA	**South Pole Qui**	**32.05**	**180**	P	**P**	**21 36 40.5**	**+2.3**
	4.4nm,0.5s,baz=220,slow=1.2,SNR=35						
QSPA				LR	LR	21 49 38.5	
	comp=Z,368nm,19.0s,baz=180,slow=36						
QSPA	**South Pole Qui**	**32.05**	**180**	*e*P	**P**	**21 36 41.0**	**+2.7**
PLCA	**Paso Flores**	**33.43**	**281**	P	**P**	**21 36 49.4**	**-1.0**
	7.1nm,0.9s,baz=179,slow=4.9,SNR=16						
PLCA				LR	LR	21 50 15.3	
	comp=Z,384nm,19.0s,baz=154,slow=36						
PLCA	**Paso Flores**	**33.43**	**281**	*e*P	**P**	**21 36 50.0**	**-0.4**
	17nm,1.2s						
MAW	**Mawson**	**37.81**	**141**	LR	LR	21 51 30.4	
	comp=Z,250nm,18.6s,baz=244,slow=34						
SPB	**Sao Paulo**	**38.04**	**326**	*e*P	**P**	**21 37 29.4**	**-0.6**
	36nm,1.1s						
GO05	**Hualaze0**	**38.48**	**286**	*e*P	**P**	**21 37 34.1**	**+0.5**
	24nm,1.0s						
CPUP	**Villa Florida**	**39.01**	**311**	P	**P**	**21 37 35.3**	**-2.7**
	1.7nm,0.3s,baz=150,slow=8.3,SNR=8.9						
CPUP				LR	LR	21 53 17.5	
	comp=Z,151nm,19.4s,baz=160,slow=36						
CPUP	**Villa Florida**	**39.01**	**311**	*e*P	**P**	**21 37 37.0**	**-1.0**
	5.4nm,1.0s						
SUR	**Sutherland**	**40.28**	**71**	P	**P**	**21 37 48.8**	**0.0**
	0.7nm,0.9s,baz=68,slow=5.4,SNR=2.8						
LCO	**Las Campanas**	**42.71**	**293**	*e*P	**P**	**21 38 08.2**	**-0.6**
	23nm,1.3s						
SBA	**Scott Base**	**44.01**	**184**	*e*P	**P**	**21 38 22.1**	**+3.8**
	73nm,1.8s						
VNDA	**Vanda**	**44.47**	**182**	P	**P**	**21 38 25.6**	**+3.5**
	3.3nm,0.5s,baz=181,slow=7.9,SNR=30						
VNDA				LR	LR	21 55 53.5	
	comp=Z,146nm,21.1s,baz=185,slow=34						
VNDA	**Vanda**	**44.47**	**182**	*e*P	**P**	**21 38 25.6**	**+3.5**
	8.1nm,0.6s						
BOSA	**Boshof**	**45.56**	**72**	P	**P**	**21 38 31.4**	**-0.1**
	3.1nm,0.9s,baz=222,slow=16,SNR=3.1						
BOSA				LR	LR	21 53 29.9	
	comp=Z,401nm,21.6s,baz=220,slow=30						
H10S2	**ASCENSION HYDR**	**49.80**	**14**	T	T	22 32 45.5	
	baz=189						
H10S3	**ASCENSION HYDR**	**49.80**	**14**	T	T	22 32 45.3	
	baz=189						
H10S1	**ASCENSION HYDR**	**49.81**	**14**	T	T	22 32 56.3	
	baz=189						
H10N1	**ASCENSION HYDR**	**50.91**	**14**	T	T	22 34 07.3	
	baz=195						
H10N3	**ASCENSION HYDR**	**50.92**	**14**	T	T	22 34 09.3	
	baz=195						
H10N2	**ASCENSION HYDR**	**50.93**	**14**	T	T	22 34 16.5	
	baz=195						
LPAZ	**La Paz**	**52.46**	**305**	P	**P**	**21 39 23.5**	**-1.4**
	3.7nm,0.3s,baz=126,slow=5.0,SNR=20						
LPAZ				LR	LR	22 01 54.5	
	comp=Z,60nm,21.0s,baz=184,slow=36						
LPAZ	**La Paz**	**52.46**	**305**	*e*P	**P**	**21 39 23.6**	**-1.4**
	6.6nm,0.7s						
SAML

OTAV	**Otavalo**	**71.70**	**303**	*e*P		**P**	**21 41 33.5**	**-0.2**
	25nm,1.6s							
BBTS	**Babate**	**72.94**	**9**	LR		LR	22 05 58.1	
	comp=Z,82nm,19.8s,baz=226,slow=29							
ROSC	**El Rosal**	**74.05**	**308**	LR		LR	22 15 48.6	
	comp=Z,63nm,19.7s,baz=80,slow=37							
TOA0	**Torodi Ar. Sit**	**74.45**	**27**	*e*P		**P**	**21 41 48.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**74.45**	**27**	P		**P**	**21 41 48.9**	**-0.4**
	3.2nm,0.5s,baz=199,slow=6.3,SNR=76							
TORD				LR		LR	22 07 42.2	
	comp=Z,147nm,21.1s,baz=145,slow=30							
RUSC	**La Rusia**	**74.50**	**310**	*e*P		**P**	**21 41 48.4**	**-1.9**
	6.6nm,1.3s							
KOWA	**Kowa**	**74.51**	**21**	P		**P**	**21 41 49.7**	**0.0**
	1.0nm,0.4s,baz=8.2,slow=18,SNR=4.4							
KOWA				LR		LR	22 07 24.8	
	comp=Z,151nm,21.2s,baz=200,slow=30							
KMBO	**Kilima Mbogo**	**74.88**	**67**	LR		LR	22 12 31.3	
	comp=Z,230nm,18.6s,baz=170,slow=34							
PCRV	**Puerto La Cruz**	**75.27**	**320**	P		**P**	**21 41 54.0**	**-0.1**
	18nm,0.4s,baz=69,slow=8.0,SNR=15							
SDV	**Santo Domingo**	**76.26**	**314**	P		**P**	**21 41 58.8**	**-1.2**
	5.8nm,0.8s,baz=315,slow=4.3,SNR=6.2							
SDV				LR		LR	22 16 57.4	
	comp=Z,160nm,20.2s,baz=194,slow=37							
SDV	**Santo Domingo**	**76.26**	**314**	*e*P		**P**	**21 41 59.6**	**-0.4**
	14nm,1.3s							
ATD	**Arta Tunnel**	**88.57**	**65**	LR		LR	22 20 58.2	
	comp=Z,239nm,19.2s,baz=153,slow=34							
STKA	**Stephens Creek**	**89.60**	**169**	LR		LR	22 23 00.4	
	comp=Z,163nm,18.1s,baz=204,slow=35							
PPT2	**Papeete2**	**91.72**	**232**	*e*LR		LR	22 12 51.5	
	296nm,23.0s							
PPT	**Papeete**	**91.73**	**232**	P		**P**	**21 43 17.0**	**-1.7**
	20nm,0.5s,baz=255,slow=20,SNR=3.3							
PPT				LR		LR	22 16 22.8	
	comp=Z,136nm,19.4s,baz=180,slow=30							
RAR	**Rarotonga**	**92.36**	**222**	LR		LR	22 21 41.6	
	comp=Z,70nm,18.8s,baz=172,slow=33							
TAOE	**Nuku Hiva Isla**	**95.19**	**244**	*e*LR		LR	22 14 26.0	
	159nm,28.1s							
ASAR	**Alice Springs**	**96.62**	**161**	P		**P**	**21 43 41.5**	**+0.4**
	0.5nm,0.5s,baz=187,slow=4.0,SNR=4.2							
KEST	**Kesra**	**97.97**	**28**	LR		LR	22 23 45.7	
	comp=Z,91nm,19.1s,baz=230,slow=33							
ESDC	**Sonseca Array**	**99.12**	**17**	LR		LR	22 24 23.2	
	comp=Z,28nm,18.9s,baz=265,slow=33							
DZM	**Mont Dzumac**	**99.45**	**191**	LR		LR	22 26 21.5	
	comp=Z,76nm,19.3s,baz=230,slow=34							
WRA	**Warramunga Arr**	**100.34**	**161**	P		**Pdif**	**21 43 58.8**	**+1.0**
	0.3nm,0.8s,baz=194,slow=4.0,SNR=3.4							
HFS	**Hagfors**	**121.89**	**22**	PKP		**PKPdf**	**21 49 01.7**	**-1.9**
	0.8nm,0.7s,baz=230,slow=3.4,SNR=3.3							
NOA	**NORSAR Array B**	**122.26**	**20**	PKP		**PKPdf**	**21 49 03.0**	**-1.5**
	0.3nm,0.8s,baz=199,slow=2.0,SNR=2.6							
PDAR	**Pinedale Array**	**122.35**	**300**	PKP		**PKPdf**	**21 49 04.1**	**-1.3**
	0.3nm,0.4s,baz=110,slow=3.6,SNR=7.6							
HWUT	**Hardware Ranch**	**122.37**	**298**	*e*PKPdf		**PKPdf**	**21 49 06.0**	**+0.6**
ULM	**Lac du Bonnet**	**122.51**	**314**	PKP		**PKPdf**	**21 49 04.0**	**-1.1**
	1.1nm,0.5s,baz=105,slow=4.2,SNR=4.4							
NVAR	**Mina Array Bea**	**123.16**	**290**	PKP		**PKPdf**	**21 49 04.5**	**-2.6**
	0.2nm,0.3s,baz=79,slow=4.7,SNR=2.8							
CMAR	**Chiang Mai Arr**	**123.34**	**110**	PKP		**PKPdf**	**21 49 06.6**	**-1.2**
	0.5nm,0.3s,baz=235,slow=4.1							
MOOW	**Moose Ponds**	**123.66**	**300**	*e*PKPdf		**PKPdf**	**21 49 08.2**	**+0.3**
FXWY	**Fox Creek**	**123.70**	**300**	*e*PKPdf		**PKPdf**	**21 49 08.5**	**+0.5**
FINES	**FINESS Array B**	**125.80**	**28**	PKP		**PKPdf**	**21 49 10.2**	**-0.9**
	1.0nm,0.4s,baz=159,slow=2.5,SNR=27							
MSO	**Missoula**	**127.46**	**300**	*e*PKPdf		**PKPdf**	**21 49 16.3**	**+1.3**
BMO	**Blue Mountains**	**127.56**	**296**	*e*PKPdf		**PKPdf**	**21 49 16.3**	**+1.1**
ABKAR	**Akbulak array**	**127.72**	**56**	*e*PKPdf		**PKPdf**	**21 49 15.3**	**+0.1**
KSH	**Kashi**	**128.13**	**75**	*e*PKP		**PKPdf**	**21 49 16.8**	**+0.3**
G08A	**Pilot Rock**	**128.67**	**296**	*e*PKPdf		**PKPdf**	**21 49 19.1**	**+1.8**
ARCES	**ARCESS Array B**	**132.55**	**22**	PKP		**PKPdf**	**21 49 22.9**	**-0.8**
	1.3nm,0.6s,baz=216,slow=1.7,SNR=9.7							
BVAR	**Borovoye Array**	**135.04**	**58**	PKP		**PKPdf**	**21 49 29.5**	**+0.5**
	0.6nm,0.5s,baz=205,slow=3.0,SNR=5.7							
CD2	**Chengdu**	**136.07**	**106**	PKP		**PKPdf**	**21 49 33.0**	**+1.4**
MKAR	**Makanchi Array**	**136.56**	**72**	PKP		**PKPdf**	**21 49 31.8**	**-0.2**
	0.3nm,0.6s,baz=229,slow=3.1,SNR=4.8							
KURBB	**Kurchatov Arra**	**137.26**	**66**	PKP		**PKPdf**	**21 49 32.4**	**-0.7**
	0.3nm,0.6s,baz=230,slow=2.8,SNR=4.3							
WMQ	**Urumqi**	**137.30**	**79**	PKP		**PKPdf**	**21 49 35.4**	**+1.9**
WMQ				LR		LR		
	comp=N,77nm,24.7s							
WMQ				LR		LR		
	comp=E,160nm,21.7s							
WMQ				LR		LR		
	comp=Z,130nm,24.7s							
KURK	**Kurchatov**	**137.36**	**66**	PKP		**PKPdf**	**21 49 32.4**	**-0.9**
YKA	**Yellowknife Ar**	**138.45**	**316**	PKP		**PKPdf**	**21 49 34.9**	**0.0**
	1.1nm,0.4s,baz=134,slow=2.0,SNR=22							
YKW3	**Yellowknife Ar**	**138.50**	**316**	*e*PKPdf		**PKPdf**	**21 49 35.5**	**+0.5**
LZH	**Lanzhou**	**140.18**	**101**	*e*PKP		**PKPdf**	**21 49 43.5**	**+4.3**
LZH				sPKP			21 49 57.5	
LZH				LR		LR		
	comp=N,220nm,18.5s							
LZH				LR		LR		
	comp=E,290nm,18.0s							
LZH				LR		LR		
	comp=Z,400nm,20.0s							
RES	**Resolute Bay**	**140.24**	**337**	*e*PKPdf		**PKPdf**	**21 49 39.6**	**+1.8**
ZALV	**Zalesovo Beam**	**142.35**	**65**	PKhKP		PKPpre	21 49 35.9	
	0.5nm,0.4s,baz=212,slow=4.2,SNR=3.7							
NJ2	**Nanjing**	**144.33**	**121**	*e*PKP		**PKPdf**	**21 49 48.3**	**+1.9**
WHY	**Whitehorse**	**145.67**	**305**	*e*PKPdf		**PKPbc**	**21 49 48.6**	**+0.1**
HYT	**Haines Junctio**	**146.89**	**304**	*e*PKPdf		**PKPbc**	**21 49 51.9**	**-0.2**
HHC	**Hu-ho-hao-te**	**147.75**	**103**	*e*PKPbc		**PKPab**	**21 49 56.8**	**-0.8**
INK	**Inuvik**	**148.11**	**318**	*e*PKPbc		**PKPbc**	**21 49 54.9**	**-0.1**
	6.2nm,0.6s,baz=165,slow=1.2,SNR=15							
INK	**Inuvik**	**148.11**	**318**	*e*PKPdf		**PKPbc**	**21 49 54.5**	**-0.5**
DAWY	**Dawson**	**148.98**	**309**	*e*PKPbc		**PKPbc**	**21 49 57.5**	**0.0**
SONM	**Songino Array**	**149.77**	**89**	PKPbc		**PKPbc**	**21 49 60.0**	**-0.1**
	1.4nm,0.4s,baz=220,slow=3.6,SNR=16							
SONA1	**Songino Array**	**149.78**	**89**	*e*PKPbc		**PKPbc**	**21 50 00.0**	**-0.1**
RAGM	**Ragged Mountai**	**149.92**	**300**	*e*PKPbc		**PKPbc**	**21 50 00.9**	**+1.1**
EGAK	**Eagle**	**149.94**	**310**	*e*PKPbc		**PKPbc**	**21 50 00.2**	**+0.6**
BMRM	**Bremner River**	**150.11**	**301**	*e*PKPbc		**PKPbc**	**21 50 01.2**	**+0.9**
MENT	**Mentasta**	**150.42**	**305**	*e*PKPbc		**PKPbc**	**21 50 01.7**	**+0.7**
DIV	**Divide**	**150.70**	**301**	*e*PKPbc		**PKPbc**	**21 50 02.8**	**+1.0**
DOT	**Dot Lake**	**150.80**	**307**	*e*PKPbc		**PKPbc**	**21 50 02.4**	**+0.6**
SCRK	**Sand Creek**	**150.87**	**307**	*e*PKPbc		**PKPbc**	**21 50 02.4**	**+0.3**
KLU	**Klutina**	**150.90**	**302**	*e*PKPbc		**PKPbc**	**21 50 03.3**	**+1.1**
RIDG	**Independ'e Rid**	**151.19**	**305**	*e*PKPbc		**PKPbc**	**21 50 03.4**	**+0.7**
PAX	**Paxson**	**151.19**	**305**	*e*PKPdf		**PKPdf**	**21 49 55.9**	**-0.9**
PAX				*e*PKPbc		**PKiKP**	**21 50 03.6**	**+0.2**
SCM	**Sheep Creek Mo**	**151.65**	**302**	*e*PKPbc		**PKPbc**	**21 50 04.4**	**+0.5**
FYU	**Fort Yukon**	**152.03**	**312**	*e*PKPbc		**PKPbc**	**21 50 06.1**	**+1.6**
DHY	**Denali Highway**	**152.05**	**305**	*e*PKPbc		**PKPbc**	**21 50 06.0**	**+1.1**
SML	**Sawmill**	**152.09**	**302**	*e*PKPbc		**PKPbc**	**21 50 05.3**	**+0.4**
IL1	**Eielson Array**	**152.30**	**308**	*e*PKPbc		**PKPbc**	**21 50 05.1**	**-0.1**
ILAR	**Eielson Array**	**152.30**	**308**	PKPbc		**PKPbc**	**21 50 04.9**	**-0.3**
	2.9nm,0.4s,baz=136,slow=2.8,SNR=44							
ILB	**Eielson Array**	**152.30**	**308**	*e*PKPbc		**PKPbc**	**21 50 04.9**	**-0.3**
RC01	**Rabbit Creek A**	**152.50**	**300**	*e*PKPbc		**PKPbc**	**21 50 07.0**	**+1.2**
CCB	**Clear Creek Bu**	**152.65**	**308**	*e*PKPbc		**PKPbc**	**21 50 05.5**	**-0.4**
COLA	**College**	**152.72**	**308**	*e*PKPbc		**PKPbc**	**21 50 05.9**	**-0.2**
COLA				*e*pPKPdf		**PKPab**	**21 50 17.0**	**-0.2**
WRH	**Wood River Hil**	**152.73**	**307**	*e*PKPbc		**PKPbc**	**21 50 06.3**	**+0.2**
RND	**Reindeer**	**152.79**	**305**	*e*PKPbc		**PKPbc**	**21 50 07.1**	**+0.7**
MDM	**Murphy Dome**	**152.90**	**308**	*e*PKPbc		**PKPbc**	**21 50 06.5**	**0.0**
MCK	**McKinley**	**152.91**	**306**	*e*PKPbc		**PKPbc**	**21 50 07.1**	**+0.5**
SUA	**Susitna One**	**153.08**	**300**	*e*PKPbc		**PKPbc**	**21 50 08.6**	**+1.4**
TRF	**Thorofare Moun**	**153.42**	**305**	*e*PKPbc		**PKPbc**	**21 50 08.1**	**+0.2**
KTH	**Kantishna Hill**	**153.72**	**305**	*e*PKPbc		**PKPbc**	**21 50 09.3**	**+0.9**
BPAW	**Bear Paw Mtn.**	**153.87**	**306**	*e*PKPbc		**PKPbc**	**21 50 08.8**	**0.0**
TOLK	**Toolik Lake Re**	**153.97**	**316**	*e*PKPbc		**PKPbc**	**21 50 09.4**	**+0.5**
COLD	**Coldfoot**	**154.07**	**313**	*e*PKPdf		**PKPdf**	**21 50 02.2**	**+1.3**
COLD				*e*PKPbc		**PKiKP**	**21 50 10.0**	**+0.9**
PPLA	**Purkeypile**	**154.12**	**303**	*e*PKPbc		**PKPbc**	**21 50 10.7**	**+1.3**
CAST	**Castle Rocks**	**154.20**	**304**	*e*PKPbc		**PKPbc**	**21 50 11.5**	**+2.1**
IM3	**Indian Mountai**	**155.34**	**310**	*e*PKPbc		PKPbc	21 50 12.9	
KLR	**Kul'dur**	**163.78**	**114**	PKPab		**PKPab**	**21 51 05.0**	**-0.6**
	0.1nm,0.5s,baz=270,slow=3.0,SNR=3.3							

*ISCJB **23** 21:48:52.4±0.8, 10°.1N±0°.1×93°.3E±0°.1, h25km, mb3.7/15, MS3.6/3, Error ellipse: s-maj=21.9km s-min=15.2km az=144.6*
*IDC **23** 21:49:02.9±6.2, 10°.37N×93°.61E, h95km±54km, mb3.4/15, mb1 3.5/16, mb1mx3.3/63, mbtmp3.7/16, MS3.3/4, Ms1 3.3/4, ms1mx2.7/41, Error ellipse: s-maj=47.2km s-min=18.3km az=51.0*

ISC 23 21:48:54.5±1.1, 10°.1N±0°.2×93°.3E±0°.2, h25km, n20, σ1819/16, mb3.7/15, MS3.7/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.96**	**33**	P		**Pn**	**21 51 17.6**		**+1.4**
	0.1nm,0.3s,baz=232,slow=16,SNR=4.8								
PALK	**Pallekele**	**12.75**	**258**	LR		LR	21 56 36.1		
	comp=Z,33nm,19.9s,baz=116,slow=35								
MKAR	**Makanchi Array**	**37.76**	**348**	P		**P**	**21 56 07.4**		**-1.1**
	0.7nm,0.7s,baz=167,slow=8.8,SNR=9.6								
SONM	**Songino Array**	**39.22**	**14**	P		**P**	**21 56 19.6**		**-1.3**
	0.3nm,0.5s,baz=193,slow=6.5,SNR=2.6								
GEYT	**Alibeck**	**42.00**	**317**	P		**P**	**21 56 46.7**		**+2.7**
	1.4nm,0.4s,baz=148,slow=8.2,SNR=6.6								
KURBB	**Kurchatov Arra**	**42.21**	**346**	P		**P**	**21 56 43.5**		**-1.8**
	0.5nm,0.7s,baz=169,slow=7.3,SNR=6.7								
ZALV	**Zalesovo Beam**	**44.27**	**353**	P		**P**	**21 57 01.3**		**-0.6**
	2.4nm,0.3s,baz=184,slow=9.2,SNR=15								
BVAR	**Borovoye Array**	**46.63**	**341**	P		**P**	**21 57 20.1**		**-0.6**
	0.5nm,0.5s,baz=147,slow=9.6,SNR=2.4								
AKTO	**Aktyubinsk**	**49.61**	**331**	P		**P**	**21 57 44.5**		**+0.7**
	1.1nm,0.4s,baz=108,slow=8.7,SNR=3.8								
WRA	**Warramunga Arr**	**50.24**	**127**	P		**P**	**21 57 48.9**		**-0.1**
	0.2nm,0.6s,baz=303,slow=9.1,SNR=3.9								
ASAR	**Alice Springs**	**51.98**	**131**	P		**P**	**21 58 02.5**		**+0.5**
	0.2nm,0.4s,baz=310,slow=7.2,SNR=2.7								
MMAI	**Mount Meron Ar**	**57.71**	**303**	LR		LR	22 28 36.0		
	comp=Z,87nm,19.4s,baz=160,slow=41								
BRTR	**Keskin Array B**	**60.36**	**310**	P		**P**	**21 59 01.4**		**-0.5**
	0.3nm,0.5s,baz=123,slow=9.0,SNR=4.5								
MLR	**Muntele Rosu**	**67.01**	**315**	LR		LR	22 34 15.9		
	comp=Z,14nm,20.0s,baz=208,slow=40								
HNR	**Honiara**	**69.11**	**104**	LR		LR	22 34 50.4		
	comp=Z,37nm,18.3s,baz=127,slow=40								
FINES	**FINESS Array B**	**70.37**	**332**	P		**P**	**22 00 05.4**		**-0.7**
	0.6nm,0.7s,baz=74,slow=4.9,SNR=3.2								
ARCES	**ARCESS Array B**	**72.91**	**340**	P		**P**	**22 00 20.7**		**-0.6**
	0.8nm,0.6s,baz=88,slow=6.2,SNR=9.8								
GERES	**GERESS Array B**	**75.62**	**318**	P		**P**	**22 00 37.8**		**+0.2**
	0.2nm,0.6s,baz=84,slow=6.8,SNR=2.5								
HFS	**Hagfors**	**76.13**	**330**	P		**P**	**22 00 39.9**		**-0.3**
	0.9nm,0.8s,baz=108,slow=6.0,SNR=3.0								
SPITS	**Spitsbergen Ar**	**77.51**	**348**	P		**P**	**22 00 47.1**		**-0.6**
	2.8nm,0.8s,baz=46,slow=6.2,SNR=4.0								

MEX 23 22:01:59.3±0.8, 16°.13N×98°.57W, h3km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**59**	*i* P		**P**	Pg	22 02 08.7	-0.1
PNIG				*i* S			Sg	22 02 15.1	-0.1
TLIG	**Tlapa**	**1.42**	**360**	*e*P		**P**	Pn	22 02 22.7	-3.5
TLIG				*e*S			Sg	22 02 40.5	-4.5
ACX	**Acapulco**	**1.44**	**301**	*i* P		**P**	Pn	22 02 20.2	-6.2
ACX				*i* S			Sb	22 02 38.7	-7.0
CAIG	**El Cayaco**	**1.87**	**299**	*e*P		**P**	Pn	22 02 28.3	-3.9
CAIG				*i* S			Sn	22 02 52.6	-3.8
VHO	**Vista Hermosa**	**1.99**	**62**	*e*P		**P**	Pn	22 02 31.0	-3.1
VHO				*e*S			Sn	22 02 54.8	-4.9
HUIG	**Huatulco**	**2.39**	**98**	*e*P		**P**	Pn	22 02 36.5	-3.0
HUIG				*e*S			Sn	22 03 05.1	-4.2

*ISCJB **23** 22:18:46.8±0.8, 33°.6N±0°.1×38°.9W±0°.1, h10km, mb3.6/15, MS3.3/18, Error ellipse: s-maj=21.9km s-min=13.2km az=20.7*
*IDC **23** 22:18:47.0±0.9, 33°.57N×38°.88W, h0km, mb3.7/15, mb1 3.8/15, mb1mx3.6/68, mbtmp3.7/15, MS3.3/18, Ms1 3.3/18, ms1mx3.1/61, Error ellipse: s-maj=27.9km s-min=16.2km az=16.0*

ISC 23 22:18:48.5±1.0, 33°.6N±0°.2×38°.9W±0°.1, h10km, n31, σ0984/16, mb3.6/15, MS3.3/18, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SJG	**San Juan**	**28.86**	**245**	LR		LR		22 33 36.1	
	comp=Z,18nm,20.8s,baz=66,slow=31								
EKA	**Eskdalemuir Ar**	**32.96**	**38**	P		**P**		**22 25 22.8**	**-0.3**
	0.2nm,0.4s,baz=247,slow=4.4,SNR=2.4								
KOWA	**Kowa**	**36.83**	**113**	P		**P**		**22 25 56.2**	**-0.7**
	1.4nm,0.7s,baz=30,slow=12,SNR=4.8								
KOWA				LR		LR		22 39 19.9	
	comp=Z,49nm,18.8s,baz=203,slow=34								
DBIC	**Dimbokro**	**41.33**	**123**	P		**P**		**22 26 34.5**	**-0.1**
	2.6nm,0.7s,baz=278,slow=11,SNR=4.0								
DBIC				LR		LR		22 43 28.2	
	comp=Z,30nm,18.4s,baz=287,slow=36								
GERES	**GERESS Array B**	**41.55**	**52**	LR		LR		22 40 52.7	
	comp=Z,37nm,19.2s,baz=244,slow=32								
TORD	**Torodi Ar. Bea**	**42.08**	**109**	P		**P**		**22 26 40.6**	**-0.2**
	1.3nm,1.0s,baz=301,slow=6.8,SNR=5.4								
TORD				LR		LR		22 41 47.0	
	comp=Z,33nm,20.4s,baz=250,slow=33								
NOA	**NORSAR Array B**	**42.14**	**34**	P		**P**		**22 26 41.2**	**+0.5**
	0.3nm,0.6s,baz=254,slow=8.4,SNR=2.6								
VAE	**Valguarnera**	**43.07**	**69**	LR		LR		22 43 01.8	
	comp=Z,84nm,19.6s,baz=131,slow=34								
ULM	**Lac du Bonnet**	**44.44**	**310**	P		**P**		**22 26 59.1**	**-0.4**
	1.6nm,0.5s,baz=104,slow=3.2,SNR=6.1								
ULM				LR		LR		22 43 00.3	
	comp=Z,62nm,21.7s,baz=111,slow=33								
H10N2	**ASCENSION HYDR**	**47.24**	**146**	T		T		23 17 39.9	
	baz=332,slow=75,SNR=73								
H10N3	**ASCENSION HYDR**	**47.25**	**146**	T		T		23 17 46.1	
	baz=332,slow=75,SNR=109								
H10N1	**ASCENSION HYDR**	**47.26**	**146**	T		T		23 17 41.3	
	baz=332,slow=75,SNR=142								
H10S1	**ASCENSION HYDR**	**48.15**	**147**	T		T		23 18 53.5	
	baz=333,slow=75,SNR=45								
H10S3	**ASCENSION HYDR**	**48.15**	**147**	T		T		23 18 53.7	
	baz=333,slow=75,SNR=46								
H10S2	**ASCENSION HYDR**	**48.16**	**147**	T		T		23 18 54.6	
	baz=333,slow=75,SNR=54								
FINES	**FINESS Array B**	**49.26**	**35**	P		**P**		**22 27 36.7**	**-0.3**
	0.5nm,0.7s,baz=259,slow=4.4,SNR=2.2								
AKASG	**Malin Array Be**	**51.48**	**49**	P		**P**		**22 27 54.1**	**+0.3**
	0.2nm,0.2s,baz=273,slow=7.8,SNR=4.3								
AKASG				LR		LR		22 47 28.9	
	comp=Z,41nm,20.1s,baz=245,slow=33								
YKA	**Yellowknife Ar**	**54.33**	**326**	P		**P**		**22 28 13.0**	**-1.8**
	0.2nm,0.7s,baz=82,slow=7.5,SNR=3.4								
YKA				PcP		**PcP**		**22 29 17.9**	**-0.8**
	0.3nm,0.9s,baz=82,slow=5.7,SNR=2.4								
YKA				LR		LR		22 50 25.7	
	comp=Z,9.9nm,19.3s,baz=180,slow=35								
TXAR	**Lajitas Array**	**54.63**	**284**	P		**P**		**22 28 18.2**	**+0.5**
	0.4nm,0.9s,baz=88,slow=6.4,SNR=3.6								
TXAR				LR		LR		22 49 20.2	
	comp=Z,27nm,21.5s,baz=0.0,slow=34								
PDAR	**Pinedale Array**	**54.84**	**302**	P		**P**		**22 28 20.3**	**+1.1**
	1.0nm,0.8s,baz=72,slow=9.5,SNR=7.6								
LPAZ	**La Paz**	**56.90**	**214**	LR		LR		22 50 21.0	
	comp=Z,32nm,21.5s,baz=53,slow=33								
BRTR	**Keskin Array B**	**57.05**	**61**	P		**P**		**22 28 34.9**	**0.0**
	0.6nm,0.8s,baz=322,slow=7.8,SNR=4.6								
BRTR				LR		LR		22 50 16.9	
	comp=Z,26nm,20.0s,baz=218,slow=33								
CPUP	**Villa Florida**	**62.10**	**199**	LR		LR		22 54 29.8	
	comp=Z,27nm,18.3s,baz=161,slow=34								
NVAR	**Mina Array Bea**	**62.55**	**300**	LR		LR		22 55 03.0	
	comp=Z,33nm,19.4s,baz=264,slow=35								
YBH	**Yreka Blue Hor**	**64.40**	**304**	LR		LR		22 57 54.5	
	comp=Z,17nm,19.1s,baz=140,slow=36								
BVAR	**Borovoye Array**	**74.20**	**36**	P		**P**		**22 30 26.0**	**+0.7**
	0.2nm,0.7s,baz=347,slow=5.9,SNR=2.2								
KURBB	**Kurchatov Arra**	**79.66**	**35**	P		**P**		**22 30 56.7**	**+0.7**
	0.8nm,0.2s,baz=311,slow=5.7,SNR=2.7								
LSZ	**Lusaka**	**80.22**	**116**	LR		LR		23 05 27.9	
	comp=Z,47nm,19.5s,baz=140,slow=35								
MKAR	**Makanchi Array**	**84.08**	**36**	P		**P**		**22 31 20.9**	**+1.4**
	0.4nm,0.8s,baz=324,slow=6.0,SNR=4.6								
LBTB	**Lobatse**	**84.55**	**125**	LR		LR		23 06 09.2	
	comp=Z,21nm,18.1s,baz=228,slow=34								
KLR	**Kul'dur**	**97.14**	**6**	LR		LR		23 15 46.7	
	comp=Z,5.1nm,18.0s,baz=6.0,slow=35								

*IDC **23** 22:31:36.4±1.4, 55°.36N×113°.39E, h0km, mb3.3/5, mb1 3.4/8, mb1mx3.2/70, mbtmp3.3/8, ML2.8/3, MS2.5/2, Ms1 2.5/2, ms1mx2.3/47, Error ellipse: s-maj=29.5km s-min=18.9km az=168.0*
*MOS **23** 22:31:36.9±0.8, 55°.27N×113°.33E, h15km, mb3.9/4, Error ellipse: s-maj=10.2km s-min=6.7km az=68.2*
*BYKL **23** 22:31:38.2±0.2, 55°.32N×113°.22E, h24km±3km*

ISC 23 22:31:37.8±0.9, 55°.31N±0°.02×113°.39E±0°.03, h10km±7km, n78, σ2895/117, mb3.5/7, 10C-15D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.23**	**36**	⇓*i* Pg		**Pg**		**22 31 44.9**	**+2.4**
UKT				Pmax				22 31 45.1	
	374nm,0.1s								
UKT				*i* Sg		**Sg**		**22 31 49.6**	**+3.9**
UKT				Smax				22 31 49.8	
	6μm,0.2s								
UKT	**Uakit**	**0.23**	**36**	*e*PG		**Pg**		**22 31 44.9**	**+2.4**
UKT				*e*				22 31 49.4	
UKT				pmax	pmax				
	comp=Z,1μm,0.1s								
UKT				smax	smax				
	comp=N,12μm,0.2s								
SVKR	**Severomuysk**	**0.82**	**7**	⇓*i* Pg		**Pn**		**22 31 54.9**	**-0.5**
SVKR				*e*Pb		**Pb**		**22 31 56.5**	**+2.4**
SVKR				max				22 31 56.7	
	comp=N,8μm,0.2s								
SVKR				*e*Sg		**Sn**		**22 32 07.0**	**-0.6**
SVKR				*e*Sb		**Sb**		**22 32 10.5**	**+5.3**
SVKR				max				22 32 10.7	
	comp=N,29μm,0.4s								
SVKR	**Severomuysk**	**0.82**	**7**	⇓*i* PG		**Pn**		**22 31 54.8**	**-0.6**
SVKR				*e*				22 32 06.4	
SVKR				pmax	pmax				
	comp=Z,8μm,0.2s								
SVKR				smax	smax				
	comp=N,29μm,0.6s								
YOA	**Uoyan**	**1.25**	**312**	⇑*i* Pg		**Pn**		**22 32 00.3**	**-1.1**
YOA				Pmax				22 32 00.6	
	comp=N,8μm,0.2s								
YOA				*e*Sg		**Sb**		**22 32 17.1**	**-0.6**
YOA				*e*Sb		**Sn**		**22 32 18.9**	**+0.6**
YOA				max				22 32 19.6	
	comp=N,9μm,0.5s								
YOA	**Uoyan**	**1.25**	**312**	⇑*i* PG		**Pn**		**22 32 00.4**	**-1.0**
YOA				*i*				22 32 17.0	
YOA				pmax	pmax				
	comp=Z,8μm,0.1s								
YOA				smax	smax				
	comp=E,9

TUP				*e*			22 32 42.0	
TUP				*e*Pg		**Pg**	**22 32 50.0**	**-2.3**
TUP				Pmax			22 32 50.6	
	comp=E,140nm,0.6s							
TUP				*e*Sg		**Sg**	**22 33 42.6**	**-0.1**
TUP				Smax			22 33 45.6	
	comp=E,2μm,1.0s							
TUP				*e*			22 33 54.6	
TUP	**Tupik**	**3.89**	**100**	*e*PN		**Pn**	**22 32 38.7**	**+1.1**
TUP				*e*			22 32 49.0	
TUP				*e*			22 33 42.4	
TUP				pmax	pmax			
	comp=Z,140nm,0.6s							
TUP				smax	smax			
	comp=N,2μm,1.0s							
KHNR	**Khani**	**4.03**	**64**	*i*Pn		**Pn**	**22 32 40.1**	**+0.7**
KHNR				*e*Pg		**Pb**	**22 32 50.7**	**+2.0**
KHNR				*e*Sg		**Sg**	**22 33 44.3**	**-2.6**
VTMR	**Vitim**	**4.17**	**354**	*e*Pn		**Pn**	**22 32 39.8**	**-1.5**
VTMR				*e*Pg		**Pb**	**22 32 51.4**	**+0.3**
VTMR				*e*Sn		**Sn**	**22 33 25.6**	**-4.5**
VTMR				*e*Sg		**Sg**	**22 33 46.6**	**-4.9**
YKLR	**Yuktali**	**4.82**	**71**	*e*Pn		**Pn**	**22 32 49.7**	**-0.6**
YKLR				*e*			22 33 00.5	
YKLR				*e*Pg		**Pg**	**22 33 05.8**	**-4.2**
YKLR				*e*Sg		**Sg**	**22 34 10.5**	**-1.8**
YKLR				*e*			22 34 18.7	
UUDB	**Ulan-Yde**	**4.85**	**227**	*e*Pn		**Pn**	**22 32 49.3**	**-1.4**
UUDB				*e*			22 32 55.3	
UUDB				*e*Pg		**Pb**	**22 33 04.1**	**+1.4**
UUDB				*e*			22 33 07.0	
UUDB				max			22 33 07.6	
	comp=N,79nm,0.5s							
UUDB				*e*Sg		**Sg**	**22 34 07.7**	**-5.6**
UUDB				Smax			22 34 21.1	
	comp=N,591nm,0.9s							
TRG	**Tyrgan**	**4.87**	**241**	*e*Pn		**Pn**	**22 32 51.6**	**+0.5**
TRG				*e*			22 32 55.9	
TRG				Pg		**Pb**	**22 33 03.1**	**0.0**
TRG				Pmax			22 33 25.8	
	comp=N,14nm,0.4s							
TRG				*e*Sg		**Sb**	**22 34 05.4**	**+3.6**
TRG				Smax			22 34 11.3	
	comp=N,226nm,0.5s							
KAB	**Kabansk**	**5.17**	**234**	*e*Pn		**Pn**	**22 32 56.1**	**+1.0**
KAB				Pg		**Pb**	**22 33 10.9**	**+2.8**
KAB				*e*			22 33 24.5	
KAB				max			22 33 25.3	
	comp=N,116nm,0.8s							
KAB				*e*Sg		**Sg**	**22 34 18.3**	**-5.1**
KAB				*e*			22 34 24.8	
KAB				max			22 34 44.3	
	comp=N,965nm,0.9s							
KAB	**Kabansk**	**5.17**	**234**	*e*PN		**Pg**	**22 33 12.6**	**-4.0**
KAB				*e*			22 34 17.0	
KAB				pmax	pmax			
	comp=Z,98nm,1.0s							
KAB				smax	smax			
	comp=E,1μm,1.4s							
KPC	**Khapcheranga**	**5.65**	**187**	*e*Pn		**Pn**	**22 33 00.9**	**-0.8**
KPC				*e*			22 33 07.1	
KPC				*e*			22 33 16.8	
KPC				*e*Pg		**Pb**	**22 33 19.5**	**+3.2**
KPC				Pmax			22 33 42.1	
	comp=E,12nm,0.5s							
KPC				*e*Sg		**Sg**	**22 34 33.7**	**-5.2**
KPC				*e*			22 34 39.1	
KPC				max			22 34 39.9	
	comp=E,526nm,1.0s							
KPC	**Khapcheranga**	**5.65**	**187**	*e*PN		**Pn**	**22 33 01.5**	**-0.2**
KPC				*e*			22 33 19.7	
KPC				*e*			22 34 32.7	
KPC				pmax	pmax			
	comp=Z,12nm,0.5s							
KPC				smax	smax			
	comp=E,527nm,1.0s							
BGT	**Bolshoye Golou**	**5.76**	**239**	*e*		**Pn**	**22 33 07.7**	**+4.5**
BGT				max			22 33 34.4	
	comp=E,10.0nm,0.4s							
BGT				*e*Sg		**Sb**	**22 34 33.8**	**+6.5**
BGT				Smax			22 34 44.9	
	comp=E,147nm,1.0s							
LSTR	**Listvyanka**	**6.15**	**239**	*e*		**Pn**	**22 33 12.9**	**+4.3**
LSTR				*e*			22 33 22.8	
LSTR				*e*Pg		**Pb**	**22 33 26.3**	**+1.4**
LSTR				*e*			22 33 40.5	
LSTR				max			22 33 41.0	
	comp=E,7.0nm,0.5s							
LSTR				*e*Sg		**Sb**	**22 34 45.1**	**+6.6**
LSTR				*e*			22 34 56.1	
LSTR				max			22 34 59.0	
	comp=E,140nm,1.8s							
IRK	**Irkutsk**	**6.22**	**244**	*e*Sg		**Sb**	**22 34 47.8**	**+7.4**
IRK				Smax			22 35 03.4	
	comp=E,255nm,0.4s							
IRK	**Irkutsk**	**6.22**	**244**	*e*PN		**Pb**	**22 33 27.6**	**+1.6**
IRK				*e*			22 34 48.2	
IRK				pmax	pmax			
	comp=Z,143nm,0.1s							
IRK				smax	smax			
	comp=N,268nm,0.4s							
IVK	**Ivanovka**	**6.40**	**240**	*e*		Pb	22 33 22.2	-6.9
IVK				*e*Pg		Pg	22 33 31.0	-9.2
IVK				Pmax			22 33 47.2	
	comp=N,7.0nm,1.1s							
IVK				*e*Sg		**Sb**	**22 34 54.1**	**+8.5**
IVK				*e*			22 34 58.6	
IVK				max			22 35 10.2	
	comp=N,138nm,1.6s							
IENR	**Iengra**	**6.54**	**77**	*e*Pn		**Pn**	**22 33 13.9**	**0.0**
IENR				*e*			22 33 23.7	
IENR				*e*Pg		Pb	22 33 36.7	+5.2
IENR				*e*Sg		**Sg**	**22 35 02.8**	**-4.6**
IENR				*e*			22 35 06.4	
CLNS	**Chul'man**	**6.62**	**72**	*e*PG		**Pg**	**22 33 47.6**	**+3.2**
CLNS				*e*S		**Sg**	**22 35 04.2**	**-5.8**
CLNS				pmax	pmax			
	comp=N,5.0nm,1.0s							
CLNS				pmax	pmax			
	comp=Z,6.0nm,0.8s							
CLNS				pmax	pmax			
	comp=E,5.0nm,0.9s							
CLNS				pmax	pmax			
	comp=N,4.0nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,5.0nm,0.7s							
CLNS				pmax	pmax			
	comp=E,3.0nm,0.6s							
CLNS				smax	smax			
	comp=E,157nm,0.8s							
CLNS				smax	smax			
	comp=N,383nm,0.9s							
CLNS				MLR	MLR			
	comp=N,34nm,11.0s							
CLNS				MLR	MLR			
	comp=E,215nm,12.0s							
CLNS				MLR	MLR			
	comp=Z,32nm,11.0s							
TLY	**Talaya**	**6.86**	**242**	Pg		Pb	22 33 31.1	-5.7
	comp=Z,0.0nm,0.3s,baz=53,slow=10,SNR=2.7							
TLY				Lg	Lg		22 35 06.6	
	comp=Z,0.1nm,0.3s,baz=80,slow=23,SNR=6.3							
TLY				LR	LR		22 35 49.7	
	comp=Z,31nm,21.3s,baz=140,slow=37							
TLY	**Talaya**	**6.86**	**242**	*e*		Pn	22 33 23.9	+5.6
TLY				*e*Pg		**Pb**	**22 33 37.5**	**+0.6**
TLY				Pmax			22 33 52.4	
	comp=Z,7.0nm,0.4s							
TLY				*e*Sg		**Sb**	**22 35 06.6**	**+7.9**
TLY				*e*			22 35 10.3	
TLY				max			22 35 13.8	
	comp=Z,111nm,1.0s							
TLY	**Talaya**	**6.86**	**242**	*e*PG		**Pb**	**22 33 38.7**	**+1.8**
TLY				*e*			22 35 06.2	
TLY				pmax	pmax			
	comp=Z,4.0nm,0.3s							
TLY				smax	smax			
	comp=E,36nm,0.5s							
ARS	**Arshan**	**7.35**	**247**	*e*		Pn	22 33 35.3	+10
ARS				*e*Pg		**Pb**	**22 33 47.5**	**+2.1**
ARS				Pmax			22 33 52.9	
	comp=E,17nm,0.5s							
ARS				*e*Sg		**Sb**	**22 35 21.1**	**+8.0**
ARS				*e*			22 35 30.6	
ARS				max			22 35 31.7	
	comp=E,473nm,1.0s							
ARS	**Arshan**	**7.35**	**247**	*e*PN		Pb	22 33 36.3	-9.1
ARS				*e*			22 33 51.7	
ARS				*e*			22 35 21.4	
ZAK	**Zakamensk**	**7.86**	**235**	*e*		**Pb**	**22 33 57.0**	**+3.0**
ZAK				Pg		Pg	22 33 58.0	-10
ZAK				Pmax			22 34 47.4	
	comp=E,6.0nm,0.6s							
ZAK				*e*Sg		Sg	22 35 39.5	-10
ZAK				*e*			22 35 51.8	
ZAK				max			22 35 53.6	
	comp=E,75nm,1.2s							
ZAK	**Zakamensk**	**7.86**	**235**	*e*PG		Pb	22 33 59.9	+5.9
ZAK				*e*			22 35 40.5	
ZAK				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ZAK				smax	smax			
	comp=N,75nm,1.0s							
ZEA	**Zeya**	**8.22**	**95**	*i* PN		Pn	22 33 46.8	+10
ZEA				*e*S		**Sn**	**22 35 07.1**	**-2.6**
ZEA				*e*			22 35 57.6	
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.4s							
ZEA				smax	smax			
	comp=E,20nm,0.6s							
ZEA				smax	smax			
	comp=N,120nm,1.0s							
ZEA				smax	smax			
	comp=E,180nm,1.0s							
ZEA				smax	smax			
	comp=Z,93nm,1.0s							
MOY	**Mondy**	**8.24**	**249**	max			11 34 10.8	
	comp=Z,10.0nm,0.8s							
MOY				*e*		Pb	22 33 51.1	-9.4
MOY				*e*			22 34 03.2	
MOY				*e*			22 34 07.6	
MOY				*e*Sg		Sb	22 35 50.3	+12
MOY				Smax			22 36 08.5	
	comp=Z,162nm,1.5s							
MOY				*e*			11 35 21.2	
MOY	**Mondy**	**8.24**	**249**	*e*PN		Pn	22 33 42.8	+5.4
MOY				*e*			22 35 50.0	
ULN	**Ulaanbaatar**	**8.43**	**210**	*e*		Pn	22 33 45.4	+5.4
ULN				*e*Pg		Pb	22 34 09.4	+5.7
ULN				*e*			22 35 40.6	
ULN				*e*Sg		**Sg**	**22 36 00.1**	**-8.0**
ULN	**Ulaanbaatar**	**8.43**	**210**	*e*PN		**Pn**	**22 33 40.6**	**+0.6**
ORL	**Orlik**	**8.48**	**257**	*i*Pn		**Pn**	**22 33 39.5**	**-1.2**
ORL				*e*			22 33 50.9	
ORL				*e*Pg		**Pb**	**22 34 08.0**	**+3.4**
ORL				Pmax			22 34 16.2	
	comp=Z,8.0nm,0.6s							
ORL				*e*			22 35 22.5	
ORL				*e*Sg		Sg	22 35 57.9	-12
ORL				Smax			22 36 07.9	
	comp=E,138nm,1.6s							
ORL	**Orlik**	**8.48**	**257**	*e*PN		**Pn**	**22 33 40.1**	**-0.6**
ORL				*e*			22 34 08.5	
ORL				*e*			22 35 57.0	
ORL				pmax	pmax			
	comp=Z,3.0nm,0.4s							
ORL				smax	smax			
	comp=N,137nm,1.4s							
SONM	**Songino Array**	**8.65**	**213**	Pn		**Pn**	**22 33 44.9**	**+1.9**
	comp=N,0.4nm,0.3s,baz=25,slow=13,SNR=15							
SONM				Pg	Pg		22 34 14.4	-8.9
	comp=N,1.2nm,0.3s,baz=22,slow=15,SNR=7.5							
SONM				Lg	Lg		22 36 06.1	
	comp=N,2.4nm,0.3s,baz=24,slow=26,SNR=6.1							
SONM				LR	LR		22 37 26.9	
	comp=N,52nm,20.8s,baz=62,slow=40							
KNGR	**Kungurtug, Tuv**	**10.66**	**250**	*e*P		**Pn**	**22 34 10.7**	**+0.2**
YAK	**Yakutsk**	**10.81**	**45**	Lg	Lg		22 37 12.3	
	comp=N,0.0nm,0.3s,baz=20,slow=23,SNR=11							
YAK	**Yakutsk**	**10.81**	**45**	*e*P		**Pn**	**22 34 13.1**	**+0.8**
KZLR	**Kyzyl**	**11.83**	**260**	*e*		**Sn**	**22 36 47.0**	**+8.6**
KZLR				*e*Sg			22 37 39.3	
HVS	**Khovu-Aksy**	**12.50**	**259**	*e*P		**Pn**	**22 34 36.5**	**+0.8**
KLR	**Kul'dur**	**12.76**	**111**	Pn		**Pn**	**22 34 39.6**	**+0.5**
	comp=N,0.0nm,0.3s,baz=306,slow=13,SNR=5.7							
KLR				Lg	Lg		22 38 19.2	
	comp=N,0.0nm,0.3s,baz=217,slow=22,SNR=4.0							
KLR	**Kul'dur**	**12.76**	**111**	*e*P		**Pn**	**22 34 40.3**	**+1.2**
USRK	**Ussuriysk Ar.**	**16.31**	**125**	Lg	Lg		22 40 17.6	
	comp=N,0.1nm,0.3s,baz=329,slow=27,SNR=3.9							
ZALV	**Zalesovo Beam**	**16.55**	**277**	Pn		**Pn**	**22 35 29.5**	**-0.2**
	comp=N,0.1nm,0.3s,baz=71,slow=10,SNR=2.3							
DGZ	**Jazzator, Alta**	**16.72**	**261**	*e*P		**Pn**	**22 35 31.6**	**-0.4**
TIXI	**Tiksi**	**17.69**	**16**	Lg	Lg		22 40 53.1	
	baz=318,slow=17,SNR=3.7							
TIXI	**Tiksi**	**17.69**	**16**	*e*P		**P**	**22 35 44.7**	**0.0**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.4s							
YSS	**Yuzh-Sakhalins**	**20.11**	**102**	*e*P		Pn	22 36 13.1	-0.1
YSS				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MA2	**Magadan**	**20.37**	**63**	*e*P		Pn	22 36 15.2	-1.0
SEY	**Seymchan**	**21.12**	**53**	P		**P**	**22 36 22.3**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=268,slow=12,SNR=6.9							
SEY				Lg	Lg		22 42 41.5	
	comp=Z,0.8nm,0.2s,baz=358,slow=12,SNR=3.9							
SEY	**Seymchan**	**21.12**	**53**	*e*P		**P**	**22 36 25.0**	**+2.8**
MKAR	**Makanchi Array**	**21.18**	**259**	P		**P**	**22 36 21.7**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=60,slow=9.8,SNR=4.6							
KURK	**Kurchatov**	**21.27**	**272**	*e*P		**P**	**22 36 24.7**	**+0.8**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KURBB	**Kurchatov Arra**	**21.36**	**272**	P		**P**	**22 36 26.8**	**+1.9**
	comp=Z,2.5nm,0.8s,baz=68,slow=12,SNR=15							
KURBB				Lg	Lg		22 42 49.2	
	comp=Z,0.3nm,0.3s,baz=74,slow=31,SNR=4.7							
BVAR	**Borovoye Array**	**24.99**	**283**	P		**P**	**22 37 00.1**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=64,slow=9.4,SNR=4.1							
BRVK	**Borovoye**	**25.03**	**283**	*e*P		**P**	**22 37 00.8**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
FINES	**FINESS Array B**	**42.91**	**315**	P		**P**	**22 39 35.9**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=40,slow=7.3,SNR=2.8							

*NEIC **23** 22:51:29.6±0.0, 36.°10S×177.°71E, h205km, ML4.0(WEL), After WEL.*

WEL 23 22:51:29.0, 36.°S±10.°×177.°8E±1.°3, h225km±10km, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.41**	**164**	Pn	Pn	22 52 04.0	-0.2
MXZ	**Matakaoa Point**	**1.41**	**164**	P	Pn	22 52 04.0	-0.2
MXZ	**Matakaoa Point**	**1.41**	**164**	S	S	22 52 29.8	-2.0
HAZ	**Te Kaha**	**1.55**	**181**	P	Pn	22 52 05.3	0.0
HAZ	**Te Kaha**	**1.55**	**181**	S	S	22 52 32.0	-1.7
WMGZ	**Waiomatatini S**	**1.68**	**164**	Pn	Pn	22 52 06.6	+0.2
WMGZ				Sn	S	22 52 34.5	-1.2
WMGZ	**Waiomatatini S**	**1.68**	**164**	P	Pn	22 52 06.6	+0.2
WMGZ	**Waiomatatini S**	**1.68**	**164**	S	S	22 52 34.6	-1.1
PKGZ	**Pakihiroa**	**1.69**	**173**	P	Pn	22 52 06.7	+0.1
PKGZ	**Pakihiroa**	**1.69**	**173**	S	S	22 52 34.2	-1.8
RUGZ	**Raukumara Rang**	**1.76**	**184**	P	Pn	22 52 07.0	-0.3
PUZ	**Puketiti**	**1.89**	**170**	Pn	Pn	22 52 08.4	0.0
PUZ	**Puketiti**	**1.89**	**170**	P	Pn	22 52 08.5	+0.1
PUZ	**Puketiti**	**1.89**	**170**	S	S	22 52 37.5	-1.8
GRZ	**Great Barrier**	**1.92**	**268**	P	Pn	22 52 09.7	+1.0
TWGZ	**Tauwhareparae**	**1.97**	**177**	Pn	Pn	22 52 10.2	+1.1
TWGZ				Sn	S	22 52 40.5	-0.2
TWGZ	**Tauwhareparae**	**1.97**	**177**	P	Pn	22 52 10.3	+1.2
TWGZ	**Tauwhareparae**	**1.97**	**177**	S	S	22 52 40.3	-0.3
MARZ	**Manawahe**	**2.00**	**207**	P	Pn	22 52 09.1	-0.4
URZ	**Urewera**	**2.13**	**195**	Pn	Pn	22 52 11.2	+0.6
URZ				Sn	S	22 52 42.2	-1.0
URZ	**Urewera**	**2.13**	**195**	P	Pn	22 52 11.2	+0.6
URZ	**Urewera**	**2.13**	**195**	S	S	22 52 42.3	-0.9
MWZ	**Matawai**	**2.14**	**186**	Pn	Pn	22 52 11.2	+0.5
MWZ	**Matawai**	**2.14**	**186**	P	Pn	22 52 11.2	+0.5
MWZ	**Matawai**	**2.14**	**186**	S	S	22 52 42.9	-0.6
TKGZ	**Te Karaka**	**2.23**	**180**	Pn	Pn	22 52 12.1	+0.5
TKGZ				Sn	S	22 52 43.9	-1.1
TKGZ	**Te Karaka**	**2.23**	**180**	P	Pn	22 52 12.2	+0.6
CNGZ	**Carnagh Statio**	**2.29**	**173**	Pn	Pn	22 52 13.0	+0.7
CNGZ	**Carnagh Statio**	**2.29**	**173**	P	Pn	22 52 13.1	+0.8
MUGZ	**Murupara**	**2.42**	**200**	P	Pn	22 52 14.5	+0.8
RIGZ	**Rimuhau**	**2.50**	**181**	P	Pn	22 52 14.9	+0.5
PRGZ	**Paritu Road**	**2.71**	**179**	P	Pn	22 52 17.5	+0.7
RAHZ	**Arahi**	**2.77**	**192**	P	Pn	22 52 18.1	+0.7
TLZ	**Tolley Road**	**2.80**	**220**	P	Pn	22 52 20.7	+2.9
KNZ	**Kokohu**	**2.81**	**183**	Pn	Pn	22 52 17.8	0.0
KNZ	**Kokohu**	**2.81**	**183**	P	Pn	22 52 17.8	0.0
MRHZ	**Matea Rd**	**2.85**	**203**	P	Pn	22 52 19.0	+0.6
WHHZ	**Waihua**	**2.90**	**189**	P	Pn	22 52 19.7	+0.8
MHGZ	**Mahia Peninsul**	**2.94**	**179**	Pn	Pn	22 52 19.9	+0.6
MHGZ	**Mahia Peninsul**	**2.94**	**179**	P	Pn	22 52 19.8	+0.6
NMHZ	**Naumai**	**3.00**	**195**	P	Pn	22 52 21.3	+1.3
ARHZ	**Aropaoanui**	**3.12**	**192**	Pn	Pn	22 52 21.8	+0.5
ARHZ	**Aropaoanui**	**3.12**	**192**	P	Pn	22 52 21.9	+0.6
HIZ	**Hauiti**	**3.31**	**225**	P	Pn	22 52 26.3	+2.8
MCHZ	**McNeill Hill**	**3.35**	**195**	Pn	Pn	22 52 24.7	+0.7
KWHZ	**Kaweka Forest**	**3.40**	**199**	P	Pn	22 52 24.7	+0.1
CKHZ	**Cape Kidnapper**	**3.50**	**190**	P	Pn	22 52 25.7	0.0
BHHZ	**Black Hill Sta**	**3.56**	**203**	Pn	Pn	22 52 26.3	-0.2
BHHZ	**Black Hill Sta**	**3.56**	**203**	P	Pn	22 52 26.4	-0.1
WNVZ	**Wahianoa**	**3.58**	**209**	Pn	Pn	22 52 27.4	+0.5
KRHZ	**Kereru**	**3.62**	**198**	P	Pn	22 52 26.9	-0.3
KAHZ	**Kahuranaki**	**3.66**	**192**	Pn	Pn	22 52 27.7	0.0
KAHZ	**Kahuranaki**	**3.66**	**192**	P	Pn	22 52 27.7	+0.1
PXZ	**Pawanui**	**3.89**	**191**	Pn	Pn	22 52 30.0	-0.4
PXZ	**Pawanui**	**3.89**	**191**	P	Pn	22 52 29.9	-0.5
PNHZ	**Pukenui**	**3.92**	**199**	Pn	Pn	22 52 30.2	-0.5
DVHZ	**Dannevirke**	**4.29**	**197**	Pn	Pn	22 52 34.4	-0.8
BFZ	**Birch Farm**	**4.64**	**195**	Pn	Pn	22 52 38.4	-1.0
MRZ	**Mangatainoka R**	**4.79**	**201**	Pn	Pn	22 52 39.8	-1.5
HOWZ	**Holdsworth Sta**	**5.02**	**200**	Pn	Pn	22 52 42.6	-1.7
OGWZ	**Otaki Gorge**	**5.05**	**204**	Pn	Pn	22 52 43.3	-1.4
KIW	**Kapiti Island**	**5.18**	**205**	Pn	Pn	22 52 44.7	-1.5
MTW	**Mount Morrison**	**5.27**	**200**	Pn	Pn	22 52 45.6	-1.7
CAW	**Cannon Point**	**5.35**	**203**	Pn	Pn	22 52 46.5	-1.8
TUWZ	**Tuamarina**	**6.03**	**209**	Pn	Pn	22 52 54.8	-2.2
THZ	**Tophouse**	**6.74**	**213**	Pn	Pn	22 53 04.4	-1.7
KHZ	**Kahutara**	**7.04**	**207**	Pn	Pn	22 53 07.4	-2.3

*IDC **23** 23:01:57.3±0.5, 16.°98S×173.°46W, h0km, mb4.0/12, mb1 4.2/13, mb1mx3.9/52, mbtmp4.0/13, ML4.1/1, MS3.7/15, Ms1 3.7/15, ms1mx3.4/51, Error ellipse: s-maj=27.4km s-min=15.3km az=125.0*

*NEIC **23** 23:01:58.8±0.3, 16.°97S×173.°49W, h10km, mb4.1/4, Error ellipse: s-maj=11.3km s-min=6.8km az=115.0*

ISC 23 23:02:04.5±0.5, 17.°2S±0.°1×173.°4W±0.°2, h52km, n47, σ0.92/32, mb4.0/16, MS3.8/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.59**	**27**	Pn	Pn	23 02 52.8	-4.9
	19nm,0.3s,baz=69,slow=7.6,SNR=4.4						
AFI				Sn	Sn	23 03 23.9	-15
	126nm,0.3s,baz=54,slow=23,SNR=10						
AFI				LR	LR	23 04 16.3	
	comp=Z,575nm,18.3s,baz=202,slow=40						
FUNA	**Funafuti**	**11.18**	**319**	Pn	Pn	23 04 35.3	-6.5
RAO	**Raoul Island**	**12.73**	**198**	*e*Pn	**Pn**	**23 05 01.0**	**-1.9**
RAR	**Rarotonga**	**13.52**	**110**	LR	LR	23 09 02.3	
	comp=Z,208nm,20.4s,baz=271,slow=31						
DZM	**Mont Dzumac**	**19.58**	**252**	LR	LR	23 12 47.0	
	comp=Z,150nm,19.5s,baz=38,slow=33						
DZM	**Mont Dzumac**	**19.58**	**252**	*e*LR	LR	23 11 33.0	
	178nm,23.9s						
URZ	**Urewera**	**22.61**	**200**	P	**P**	**23 07 01.6**	**+0.8**
	12nm,0.5s,baz=351,slow=2.2,SNR=20						
URZ				S	**S**	**23 11 03.9**	**-1.1**
	1.7nm,0.3s,baz=108,slow=20,SNR=5.0						
PPT2	**Papeete2**	**22.77**	**95**	*e*LR	LR	23 12 09.5	
	215nm,24.8s						
PPT	**Papeete**	**22.77**	**95**	LR	LR	23 13 15.7	
	comp=Z,84nm,21.6s,baz=239,slow=30						
HNR	**Honiara**	**27.00**	**283**	LR	LR	23 16 45.0	
	comp=Z,336nm,21.6s,baz=131,slow=33						
TAOE	**Nuku Hiva Isla**	**33.41**	**80**	*e*LR	LR	23 17 03.0	
	94nm,23.5s						
STKA	**Stephens Creek**	**43.16**	**242**	P	**P**	**23 10 01.2**	**+0.9**
	1.5nm,0.5s,baz=66,slow=13,SNR=2.2						
STKA				LR	LR	23 26 30.0	
	comp=Z,161nm,18.0s,baz=199,slow=34						
WRAB	**Tennant Creek**	**49.43**	**258**	P	**P**	**23 10 50.0**	**+0.3**
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**49.44**	**258**	P	**P**	**23 10 48.4**	**-1.4**
	0.9nm,0.7s,baz=97,slow=7.0,SNR=8.2						
ASAR	**Alice Springs**	**49.56**	**253**	P	**P**	**23 10 49.7**	**-1.0**
	3.2nm,0.6s,baz=90,slow=8.2,SNR=24						
VNDA	**Vanda**	**61.65**	**186**	P	**P**	**23 12 18.0**	**+1.6**
	1.1nm,0.8s,baz=21,slow=9.1,SNR=3.6						
DAV	**Davao City (W)**	**64.89**	**287**	LR	LR	23 40 05.1	
	comp=Z,32nm,18.0s,baz=26,slow=35						
MJAR	**Matsushiro Arr**	**70.25**	**320**	LR	LR	23 38 35.5	
	comp=Z,45nm,21.7s,baz=130,slow=31						
QSPA	**South Pole Qui**	**72.91**	**180**	P	**P**	**23 13 29.2**	**+1.2**
	3.5nm,0.9s,baz=132,slow=1.2,SNR=7.3						
QSPA				LR	LR	23 40 48.3	
	comp=Z,42nm,20.9s,baz=353,slow=32						
JNU	**Nakatsue**	**72.97**	**314**	LR	LR	23 38 31.6	
	comp=Z,48nm,20.3s,baz=118,slow=30						
NVAR	**Mina Array Bea**	**75.64**	**42**	P	**P**	**23 13 44.6**	**+0.1**
	0.3nm,0.4s,baz=228,slow=9.5,SNR=2.5						
KSRS	**Korea Array**	**77.38**	**316**	LR	LR	23 45 45.3	
	comp=Z,23nm,18.7s,baz=124,slow=34						
USRK	**Ussuriysk Ar.**	**78.76**	**323**	LR	LR	23 41 29.2	
	comp=Z,60nm,21.0s,baz=121,slow=30						
PMR	**Palmer**	**80.83**	**11**	P	**P**	**23 14 11.5**	**-0.8**
	1.7nm,0.2s						
TXAR	**Lajitas Array**	**81.61**	**56**	P	**P**	**23 14 17.7**	**+0.3**

PFVI Vila Bisbo 0.69 5 *eP* **Pb 23 06 31.3 -1.5**
PFVI *eS* **Sb 23 06 41.9 -0.2**
PFVI A A 23 06 46.8
345nm,0.6s
PFVI Vila Bisbo 0.69 5 ⇑Pg **Pb 23 06 31.3 -1.5**
76nm,0.1s,SNR=18
PFVI Lg Lg 23 06 40.7
570nm,0.2s,SNR=7.9
PFVI Vila Bisbo 0.69 5 *eP* **Pb 23 06 31.3 -1.5**
PFVI Lg Lg 23 06 40.7
570nm,0.2s,SNR=7.9
PFVI *eS* **Sb 23 06 41.9 -0.2**
345nm,0.6s
MORF Marmelete 0.89 13 *eP* **Pn 23 06 34.5 -1.2**
MORF *eS* **Sb 23 06 47.7 +0.1**
MORF AML AML 23 06 49.1
comp=E,294nm,0.3s
MORF Marmelete 0.89 13⇑ *eP* **Pn 23 06 34.5 -1.2**
MORF *eS* **Sb 23 06 48.0 +0.4**
MORF A A 23 06 49.6
comp=E,358nm,0.2s
MORF Marmelete 0.89 13 Pg **Pn 23 06 34.5 -1.2**
MORF Lg Lg 23 06 48.0
comp=E,358nm,0.2s
MORF Marmelete 0.89 13⇑ *eP* **Pn 23 06 34.5 -1.2**
MORF *eS* **Sb 23 06 48.0 +0.4**
comp=E,358nm,0.2s
PTEO Sao Teotonio 1.11 7⇑ *eP* **Pn 23 06 37.5 -1.2**
PTEO *eS* **Sb 23 06 53.5 -0.4**
PTEO A A 23 06 56.3
comp=E,215nm,0.3s
PTEO Sao Teotonio 1.11 7 Pg **Pn 23 06 37.5 -1.2**
PTEO Lg Lg 23 06 53.5
comp=E,108nm,0.3s
PTEO Sao Teotonio 1.11 7⇑ *eP* **Pn 23 06 37.5 -1.2**
PTEO *eS* **Sb 23 06 53.5 -0.4**
comp=E,215nm,0.3s
PBDV Barranco-do-Ve 1.12 44⇑ *eP* **Pn 23 06 38.0 -0.8**
PBDV *eS* **Sb 23 06 54.1 0.0**
PBDV A A 23 06 57.8
comp=E,166nm,0.2s
PBDV Barranco-do-Ve 1.12 44 Pg **Pn 23 06 38.0 -0.8**
PBDV Lg Lg 23 06 54.1
comp=E,166nm,0.2s
PBDV Barranco-do-Ve 1.12 44⇑ *eP* **Pn 23 06 38.0 -0.8**
PBDV *eS* **Sb 23 06 54.1 0.0**
comp=E,166nm,0.2s
PVAQ Vaqueiros 1.35 44 *eP* **Pn 23 06 41.2 -0.8**
PVAQ *eS* **Sn 23 06 59.7 +0.8**
PVAQ A A 23 07 05.3
comp=E,148nm,0.2s
PVAQ Vaqueiros 1.35 44 Pg **Pn 23 06 41.2 -0.8**
PVAQ Lg Lg 23 06 59.7
comp=E,148nm,0.2s
PVAQ Vaqueiros 1.35 44 *eP* **Pn 23 06 41.2 -0.8**
PVAQ *eS* **Sn 23 06 59.7 +0.8**
comp=E,148nm,0.2s
PCVE Castro Verde 1.37 30⇑ *ePn* **Pn 23 06 41.6 -0.7**
PCVE Castro Verde 1.37 30 *ePg* **Pb 23 06 43.5 -0.8**
PCVE *eSn* **Sn 23 07 00.1 +0.6**
PCVE *eSg* **Sb 23 07 03.1 +1.7**
PCVE A A 23 07 06.1
comp=E,130nm,0.4s
PCVE Castro Verde 1.37 30 Pn **Pn 23 06 41.6 -0.7**
PCVE Pg **Pb 23 06 43.5 -0.8**
PCVE Sn **Sn 23 07 00.1 +0.6**
PCVE Lg Lg 23 07 03.1
comp=E,130nm,0.4s
PCVE Castro Verde 1.37 30 Pn **Pn 23 06 41.6 -0.7**
PCVE Castro Verde 1.37 30 Pg **Pb 23 06 43.5 -0.8**
PCVE Sn **Sn 23 07 00.1 +0.6**
PCVE *eSg* **Sb 23 07 03.1 +1.7**
comp=E,130nm,0.4s
MESJ Messejana 1.50 21 *eP* **Pn 23 06 43.1 -0.9**
MESJ Messejana 1.50 21 *eP* **Pn 23 06 43.1 -0.9**
MESJ Messejana 1.50 21 Pn **Pn 23 06 43.1 -0.9**
MESJ Messejana 1.50 21 *eP* **Pn 23 06 43.1 -0.9**
EGRO El Granado 1.57 46 ⇑Pn **Pn 23 06 44.3 -0.8**
comp=E,4.6nm,0.1s,SNR=18
EGRO ⇑Pg **Pb 23 06 47.6 -0.1**
comp=E,40nm,0.2s,SNR=18
EGRO Sn **Sn 23 07 03.8 -0.7**
comp=E,36nm,0.2s,SNR=4.0
EGRO Lg Lg 23 07 07.7
comp=E,142nm,0.2s,SNR=7.9
EGRO El Granado 1.57 46 Pn **Pn 23 06 44.3 -0.8**
comp=E,4.6nm,0.1s,SNR=18
PNCL Nicolau / Gran 1.69 10 *ePn* **Pn 23 06 45.3 -1.4**
PNCL Nicolau / Gran 1.69 10 *ePg* **Pb 23 06 49.1 -0.6**
PNCL *eSn* **Sn 23 07 07.3 -0.1**
PNCL *eSg* **Sb 23 07 12.1 +1.5**
PNCL A A 23 07 15.9
comp=E,120nm,0.5s
PNCL Nicolau / Gran 1.69 10 *ePn* **Pn 23 06 45.3 -1.4**
PNCL Nicolau / Gran 1.69 10 *ePg* **Pb 23 06 49.1 -0.6**
PNCL *eSn* **Sn 23 07 07.3 -0.1**
PNCL *eSg* **Sb 23 07 12.1 +1.5**
comp=E,120nm,0.5s
PBEJ Beja 1.78 27⇑ *ePn* **Pn 23 06 46.7 -1.3**
PBEJ Beja 1.78 27 *ePg* **Pb 23 06 51.5 +0.3**
PBEJ *eSn* **Sn 23 07 09.4 -0.2**
PBEJ *eSg* **Sb 23 07 15.1 +1.9**
PBEJ A A 23 07 23.2
comp=E,59nm,0.6s
PBEJ Beja 1.78 27 Pn **Pn 23 06 46.7 -1.3**
PBEJ Pg **Pb 23 06 51.5 +0.3**
PBEJ Sn **Sn 23 07 09.4 -0.2**
PBEJ Lg Lg 23 07 15.1
comp=E,29nm,0.6s
PBEJ Beja 1.78 27 Pn **Pn 23 06 46.7 -1.3**
PBEJ Beja 1.78 27 Pg **Pb 23 06 51.5 +0.3**
PBEJ Sn **Sn 23 07 09.4 -0.2**
PBEJ *eSg* **Sb 23 07 15.1 +1.9**
comp=E,59nm,0.6s
EVO Evora 2.20 18⇓ *ePn* **Pn 23 06 49.5 -4.2**
EVO Evora 2.20 18 *ePg* **Pn 23 06 52.5 -1.2**
EVO *eSn* **Sn 23 07 20.0 0.0**
EVO *eSg* **Sb 23 07 28.4 +3.2**
EVO A A 23 07 33.6
comp=E,36nm,0.3s
EVO Evora 2.20 18 Pn **Pn 23 06 49.5 -4.2**
EVO Pg Pb 23 06 52.5 -5.8
EVO Sn **Sn 23 07 20.0 0.0**
EVO Lg Lg 23 07 28.4
comp=E,36nm,0.3s
EVO Evora 2.20 18⇓ *ePn* **Pn 23 06 49.5 -4.2**
EVO Sn **Sn 23 07 20.0 0.0**
EVO *eSg* **Sb 23 07 28.4 +3.2**
comp=E,36nm,0.3s
EMIN Mina Concepcio 2.22 53 Pn **Pn 23 06 52.7 -1.3**
comp=E,2.7nm,0.2s,SNR=42
EMIN Pg **Pb 23 06 58.5 -0.1**
comp=E,5.3nm,0.1s,SNR=24
EMIN Sn **Sn 23 07 19.8 -0.6**
comp=E,6.9nm,0.2s,SNR=7.9
EMIN Lg Lg 23 07 27.8
comp=E,40nm,0.3s,SNR=7.9
EMIN Mina Concepcio 2.22 53 Pn **Pn 23 06 52.7 -1.3**
comp=E,2.7nm,0.2s,SNR=42
PBAR Barrancos 2.28 40 *ePn* **Pn 23 06 53.6 -1.2**
PBAR Barrancos 2.28 40 *ePg* **Pb 23 07 01.0 +1.4**
PBAR *eSn* **Sn 23 07 23.1 +1.2**
PBAR *eSg* **Sb 23 07 30.9 +3.5**
PBAR A A 23 07 36.6
comp=E,87nm,0.4s
PBAR Barrancos 2.28 40 Pn **Pn 23 06 53.6 -1.2**
PBAR Pg **Pb 23 07 01.0 +1.4**
PBAR Sn **Sn 23 07 23.1 +1.2**
PBAR Lg Lg 23 07 30.9
comp=E,87nm,0.4s
PBAR Barrancos 2.28 40 Pn **Pn 23 06 53.6 -1.2**
PBAR Barrancos 2.28 40 Pg **Pb 23 07 01.0 +1.4**
PBAR Sn **Sn 23 07 23.1 +1.2**
PBAR *eSg* **Sb 23 07 30.9 +3.5**
comp=E,87nm,0.4s
PMST Lisbon--Monsan 2.30 355 *ePn* **Pn 23 06 55.0 -0.1**
PMST *eSn* **Sn 23 07 21.8 -0.6**
PMST *eSg* **Sb 23 07 32.9 +4.9**
PMST A A 23 07 33.2
comp=E,40nm,0.2s
PMST Lisbon--Monsan 2.30 355 *ePn* **Pn 23 06 55.0 -0.1**
PMST *eSn* **Sn 23 07 21.8 -0.6**
PMST *eSg* **Sb 23 07 32.9 +4.9**
comp=E,40nm,0.2s

ESPR Espera 2.48 79 Pn **Pn 23 06 56.4 -1.2**
comp=E,21nm,0.2s,SNR=40
ESPR Sn **Sn 23 07 26.5 -0.4**
comp=E,106nm,0.3s,SNR=7.9
ESPR Espera 2.48 79 Pn **Pn 23 06 56.4 -1.2**
comp=E,21nm,0.2s,SNR=40
ESPR Sn **Sn 23 07 26.5 -0.4**
comp=E,106nm,0.3s,SNR=7.9
PMAFR Mafra 2.53 353 *ePn* **Pn 23 06 57.1 -1.1**
PMAFR *eSn* **Sn 23 07 26.1 -1.9**
PMAFR *eSg* **Sb 23 07 40.7 +6.2**
PMAFR A A 23 07 54.0
comp=E,52nm,0.6s
PMAFR Mafra 2.53 353 Pn **Pn 23 06 57.1 -1.1**
comp=E,20nm,0.1s,SNR=16
PMAFR Sn **Sn 23 07 27.1 -0.9**
comp=E,70nm,0.2s,SNR=7.9
PMAFR Mafra 2.53 353 Pn **Pn 23 06 57.1 -1.1**
comp=E,20nm,0.1s,SNR=16
PMAFR Sn **Sn 23 07 27.1 -0.9**
comp=E,70nm,0.2s,SNR=7.9
PMAFR *eSg* **Sb 23 07 40.7 +6.2**
comp=E,52nm,0.6s
PESTR Estremoz 2.63 23 *ePn* **Pn 23 06 58.4 -1.3**
PESTR Estremoz 2.63 23 *ePg* **Pb 23 07 06.9 +1.2**
PESTR *eSn* **Sn 23 07 30.0 -0.7**
PESTR *eSg* **Sb 23 07 40.7 +3.1**
PESTR A A 23 07 44.6
comp=E,27nm,0.2s
PESTR Estremoz 2.63 23 *ePn* **Pn 23 06 58.4 -1.3**
PESTR Estremoz 2.63 23 *ePg* **Pb 23 07 06.9 +1.2**
PESTR *eSn* **Sn 23 07 30.0 -0.7**
PESTR *eSg* **Sb 23 07 40.7 +3.1**
comp=E,27nm,0.2s
PMTG Montargil 2.68 11 *ePn* **Pn 23 06 58.8 -1.4**
PMTG *eP* Pb 23 07 00.4 -6.0
PMTG Montargil 2.68 11 *ePg* **Pb 23 07 07.8 +1.4**
PMTG *eSn* **Sn 23 07 30.6 -1.0**
PMTG *eSg* **Sb 23 07 42.2 +3.4**
PMTG A A 23 07 44.0
comp=E,47nm,0.6s
PMTG Montargil 2.68 11 *ePn* **Pn 23 06 58.8 -1.4**
PMTG Montargil 2.68 11 *ePg* **Pb 23 07 07.8 +1.4**
PMTG *eSn* **Sn 23 07 30.6 -1.0**
PMTG *eSg* **Sb 23 07 42.2 +3.4**
comp=E,47nm,0.6s
ALMR Almeirim 2.72 5 *eP* **Pn 23 06 59.5 -1.3**
ALMR *eS* **Sn 23 07 30.9 -1.8**
ALMR AML AML 23 07 34.4
comp=N,33nm,0.4s
ALMR Almeirim 2.72 5 *ePn* **Pn 23 06 59.5 -1.3**
ALMR *eSn* **Sn 23 07 33.2 +0.5**
ALMR *eSg* **Sb 23 07 45.8 +5.7**
ALMR A A 23 07 48.9
comp=N,37nm,0.6s
ALMR Almeirim 2.72 5 Pn **Pn 23 06 59.7 -1.1**
ALMR Sn **Sn 23 07 33.2 +0.5**
ALMR Lg Lg 23 07 45.8
comp=N,19nm,0.6s
ALMR Almeirim 2.72 5 Pn **Pn 23 06 59.7 -1.1**
ALMR Sn **Sn 23 07 33.2 +0.5**
ALMR *eSg* **Sb 23 07 45.8 +5.7**
comp=N,37nm,0.6s
EBAD Badajoz 2.75 32 Pn **Pn 23 06 59.8 -1.5**
comp=N,10nm,0.1s,SNR=107
EBAD Pg **Pb 23 07 08.2 +0.5**
comp=N,7.0nm,0.1s,SNR=7.9
EBAD Sn **Sn 23 07 33.5 0.0**
comp=N,36nm,0.2s,SNR=7.9
EBAD Lg Lg 23 07 45.2
comp=N,60nm,0.2s,SNR=7.9
EBAD Badajoz 2.75 32 Pn **Pn 23 06 59.8 -1.5**
comp=N,10nm,0.1s,SNR=107
EJIF Jimena Fronter 2.77 89 Pn **Pn 23 07 01.4 -0.1**
comp=N,6.3nm,0.4s,SNR=7.9
EJIF Jimena Fronter 2.77 89 Pn **Pn 23 07 01.4 -0.1**
comp=N,6.3nm,0.4s,SNR=7.9
ECEU Ceuta 2.90 100 Pn **Pn 23 07 03.1 -0.3**
comp=N,6.8nm,0.2s
ECEU Ceuta 2.90 100 Pn **Pn 23 07 03.1 -0.3**
comp=N,6.8nm,0.2s
PTOM Tomar 3.19 7 *ePn* **Pn 23 07 06.2 -1.2**
PTOM *eSn* **Sn 23 07 43.2 -1.2**
PTOM A A 23 07 47.3
comp=N,32nm,0.4s
PTOM *eSg* **Sb 23 07 57.5 +3.8**
PTOM Tomar 3.19 7 Pn **Pn 23 07 06.2 -1.2**
PTOM Sn **Sn 23 07 43.2 -1.2**
comp=N,16nm,0.4s
PTOM Lg Lg 23 07 57.5
PTOM Tomar 3.19 7 Pn **Pn 23 07 06.2 -1.2**
PTOM *eSn* **Sn 23 07 43.2 -1.2**
comp=N,32nm,0.4s
PTOM *eSg* **Sb 23 07 57.5 +3.8**
PMRV Marv??o 3.21 21⇑ *ePn* **Pn 23 07 06.2 -1.4**
PMRV *eSn* **Sn 23 07 43.8 -1.1**
PMRV *eSg* **Sb 23 07 57.9 +3.7**
PMRV A A 23 08 01.7
comp=N,41nm,0.9s
PMRV Marv??o 3.21 21 Pn **Pn 23 07 06.2 -1.4**
PMRV Sn **Sn 23 07 43.8 -1.1**
PMRV Lg Lg 23 07 57.9
comp=N,41nm,0.9s
PMRV Marv??o 3.21 21 Pn **Pn 23 07 06.2 -1.4**
PMRV Sn **Sn 23 07 43.8 -1.1**
PMRV *eSg* **Sb 23 07 57.9 +3.7**
comp=N,41nm,0.9s
ECAB El Cabril 3.22 59 Pn **Pn 23 07 06.7 -1.1**
comp=N,12nm,0.3s,SNR=86
ECAB Sn **Sn 23 07 45.5 +0.4**
comp=N,7.4nm,0.2s,SNR=7.9
ECAB Lg Lg 23 07 58.3
comp=N,19nm,0.3s,SNR=7.9
ECAB El Cabril 3.22 59 Pn **Pn 23 07 06.7 -1.1**
comp=N,12nm,0.3s,SNR=86
ECAB Sn **Sn 23 07 45.5 +0.4**
comp=N,7.4nm,0.2s,SNR=7.9
ECAB Lg Lg 23 07 58.3
comp=N,19nm,0.3s,SNR=7.9
EMIJ Mijas 3.33 87 Pn **Pn 23 07 08.0 -1.2**
comp=N,1.5nm,0.2s,SNR=7.9
EMIJ Sn **Sn 23 07 47.8 0.0**
comp=N,6.1nm,0.4s,SNR=7.9
EMIJ Mijas 3.33 87 Pn **Pn 23 07 08.0 -1.2**
comp=N,1.5nm,0.2s,SNR=7.9
EMIJ Sn **Sn 23 07 47.8 0.0**
comp=N,6.1nm,0.4s,SNR=7.9
PCBR Castelo Branco 3.57 18 *ePn* **Pn 23 07 11.4 -1.2**
PCBR *eSn* **Sn 23 07 53.3 -0.5**
PCBR A A 23 08 18.8
comp=N,16nm,1.1s
PCBR Castelo Branco 3.57 18 Pn **Pn 23 07 11.4 -1.2**
PCBR Sn **Sn 23 07 53.3 -0.5**
comp=N,7.9nm,1.1s
PCBR Castelo Branco 3.57 18 Pn **Pn 23 07 11.4 -1.2**
PCBR *eSn* **Sn 23 07 53.3 -0.5**
comp=N,16nm,1.1s
PCAS Casmilo, Conde 3.62 5 *ePn* **Pn 23 07 12.3 -0.9**
PCAS *eSn* **Sn 23 07 54.0 -0.9**
PCAS *eSg* **Sb 23 08 12.3 +6.4**
PCAS A A 23 08 19.6
comp=N,16nm,0.7s
PCAS Casmilo, Conde 3.62 5 *ePn* **Pn 23 07 12.3 -0.9**
PCAS *eSn* **Sn 23 07 54.0 -0.9**
PCAS *eSg* **Sb 23 08 12.3 +6.4**
comp=N,16nm,0.7s
EADA Adamuz 3.85 62 ⇑Pn **Pn 23 07 15.4 -1.1**
comp=N,10nm,0.1s,SNR=18
EADA Sn **Sn 23 07 59.0 -1.8**
comp=N,4.3nm,0.1s,SNR=7.9
EADA Lg Lg 23 08 19.2
comp=N,11nm,0.2s,SNR=7.9
EADA Adamuz 3.85 62 Pn **Pn 23 07 15.4 -1.1**
comp=N,10nm,0.1s,SNR=18
EADA Sn **Sn 23 07 59.0 -1.8**
comp=N,4.3nm,0.1s,SNR=7.9
EADA Lg Lg 23 08 19.2
comp=N,11nm,0.2s,SNR=7.9
EGOR Sierra Gorda, 3.90 79 Pn **Pn 23 07 17.0 -0.3**
comp=N,1.3nm,0.2s,SNR=7.9
EGOR Sn **Sn 23 08 02.5 +0.4**
comp=N,4.5nm,0.2s,SNR=7.9
EGOR Sierra Gorda, 3.90 79 Pn **Pn 23 07 17.0 -0.3**
comp=N,1.3nm,0.2s,SNR=7.9
EGOR Sn **Sn 23 08 02.5 +0.4**
comp=N,4.5nm,0.2s,SNR=7.9

MTE Manteigas 4.09 15 *ePn* **Pn 23 07 18.5 -1.3**
MTE *eSn* **Sn 23 08 04.6 -2.1**
MTE *eSg* **Sb 23 08 27.4 +7.8**
MTE A A 23 08 37.5
comp=N,19nm,0.6s
MTE Manteigas 4.09 15 Pn **Pn 23 07 18.5 -1.3**
MTE Sn **Sn 23 08 04.6 -2.1**
MTE Lg Lg 23 08 27.4
comp=N,9.4nm,0.6s
MTE Manteigas 4.09 15 Pn **Pn 23 07 18.5 -1.3**
MTE Sn **Sn 23 08 04.6 -2.1**
MTE *eSg* **Sb 23 08 27.4 +7.8**
comp=N,19nm,0.6s
EPLA Plasencia 4.24 31 Pn **Pn 23 07 19.4 -2.4**
comp=N,0.5nm,0.1s,SNR=6.5
EPLA Sn **Sn 23 08 08.2 -2.2**
comp=N,4.6nm,0.2s,SNR=7.9
EPLA Lg Lg 23 08 34.4
comp=N,8.4nm,0.4s,SNR=4.0
EPLA Plasencia 4.24 31 Pn **Pn 23 07 19.4 -2.4**
comp=N,0.5nm,0.1s,SNR=6.5
EPLA Sn **Sn 23 08 08.2 -2.2**
comp=N,4.6nm,0.2s,SNR=7.9
EPLA Lg Lg 23 08 34.4
comp=N,8.4nm,0.4s,SNR=4.0
ELGU Los Guajares, 4.26 83 Pn **Pn 23 07 21.1 -1.0**
comp=N,4.4nm,0.2s,SNR=7.9
ELGU Sn **Sn 23 08 09.8 -1.1**
comp=N,3.3nm,0.2s,SNR=7.9
ELGU Los Guajares, 4.26 83 Pn **Pn 23 07 21.1 -1.0**
comp=N,4.4nm,0.2s,SNR=7.9
ELGU Sn **Sn 23 08 09.8 -1.1**
comp=N,3.3nm,0.2s,SNR=7.9
PVIS Viseu 4.34 10 *ePn* **Pn 23 07 21.9 -1.2**
PVIS *eSn* **Sn 23 08 10.4 -2.3**
PVIS *eSg* **Sb 23 08 35.1 +8.4**
PVIS A A 23 08 44.9
comp=N,12nm,0.5s
PVIS Viseu 4.34 10 Pn **Pn 23 07 21.9 -1.2**
PVIS Sn **Sn 23 08 10.4 -2.3**
PVIS Lg Lg 23 08 35.1
comp=N,6.2nm,0.5s
PVIS Viseu 4.34 10 Pn **Pn 23 07 21.9 -1.2**
PVIS Sn **Sn 23 08 10.4 -2.3**
PVIS *eSg* **Sb 23 08 35.1 +8.4**
comp=N,12nm,0.5s
EQUE Quentar 4.45 79 Pn **Pn 23 07 24.3 -0.4**
comp=N,4.9nm,0.3s,SNR=14
EQUE Sn **Sn 23 08 13.9 -1.6**
comp=N,3.7nm,0.3s,SNR=7.9
EQUE Quentar 4.45 79 Pn **Pn 23 07 24.3 -0.4**
comp=N,4.9nm,0.3s,SNR=14
EQUE Sn **Sn 23 08 13.9 -1.6**
comp=N,3.7nm,0.3s,SNR=7.9
PAB San Pablo 4.75 48 Pn **Pn 23 07 27.9 -0.9**
comp=N,1.2nm,0.1s,SNR=7.9
PAB Sn **Sn 23 08 20.7 -2.1**
comp=N,3.6nm,0.2s,SNR=7.9
PAB Lg Lg 23 08 45.9
comp=N,12nm,0.4s,SNR=7.9
PAB San Pablo 4.75 48 Pn **Pn 23 07 27.9 -0.9**
comp=N,1.2nm,0.1s,SNR=7.9
PAB Sn **Sn 23 08 20.7 -2.1**
comp=N,3.6nm,0.2s,SNR=7.9
PAB Lg Lg 23 08 45.9
comp=N,12nm,0.4s,SNR=7.9
GORA Gorafe 4.80 76 Pn **Pn 23 07 28.0 -1.6**
comp=N,7.2nm,0.2s,SNR=4.0
GORA Sn **Sn 23 08 21.5 -2.8**
comp=N,6.9nm,0.3s,SNR=7.9
GORA Gorafe 4.80 76 Pn **Pn 23 07 28.0 -1.6**
comp=N,7.2nm,0.2s,SNR=4.0
EQES Quesada 4.85 72 Pn **Pn 23 07 28.6 -1.7**
comp=N,1.2nm,0.2s,SNR=9.4
EQES Sn **Sn 23 08 24.9 -0.6**
comp=N,2.9nm,0.2s,SNR=7.9
EQES Quesada 4.85 72 Pn **Pn 23 07 28.6 -1.7**
comp=N,1.2nm,0.2s,SNR=9.4
EQES Sn **Sn 23 08 24.9 -0.6**
comp=N,2.9nm,0.2s,SNR=7.9
EBER Berja 4.85 83 Pn **Pn 23 07 29.0 -1.4**
comp=N,0.9nm,0.2s,SNR=7.9
EBER Sn **Sn 23 08 24.2 -1.4**
comp=N,2.8nm,0.4s,SNR=5.0
EBER Berja 4.85 83 Pn **Pn 23 07 29.0 -1.4**
comp=N,0.9nm,0.2s,SNR=7.9
EBER Sn **Sn 23 08 24.2 -1.4**
comp=N,2.8nm,0.4s,SNR=5.0
PVRL Vila Real 4.91 10 *ePn* **Pn 23 07 30.3 -0.7**
PVRL *eSn* **Sn 23 08 24.6 -2.3**
PVRL A A 23 08 58.2
comp=N,9.5nm,0.3s
PVRL Vila Real 4.91 10 Pn **Pn 23 07 30.3 -0.7**
PVRL Sn **Sn 23 08 24.6 -2.3**
comp=N,4.8nm,0.3s
PVRL Vila Real 4.91 10 Pn **Pn 23 07 30.3 -0.7**
PVRL *eSn* **Sn 23 08 24.6 -2.3**
comp=N,9.5nm,0.3s
MVO Moncorvo 4.94 17 *ePn* **Pn 23 07 30.2 -1.2**
MVO *eSn* **Sn 23 08 24.8 -2.7**
MVO A A 23 09 00.0
comp=N,10nm,0.5s
MVO Moncorvo 4.94 17 Pn **Pn 23 07 29.9 -1.5**
comp=N,3.0nm,0.1s,SNR=14
MVO Sn **Sn 23 08 24.5 -3.0**
comp=N,3.9nm,0.2s,SNR=7.9
MVO Moncorvo 4.94 17 *ePn* **Pn 23 07 30.2 -1.2**
MVO *eSn* **Sn 23 08 24.8 -2.7**
comp=N,10nm,0.5s
POLO Lamas de Olo 5.00 10 *ePn* **Pn 23 07 31.1 -1.2**
POLO *eSn* **Sn 23 08 26.6 -2.5**
POLO A A 23 09 09.4
comp=N,4.1nm,0.6s
POLO Lamas de Olo 5.00 10 *ePn* **Pn 23 07 31.1 -1.2**
POLO *eSn* **Sn 23 08 26.6 -2.5**
comp=N,4.1nm,0.6s
ESDC Sonseca Array 5.06 49 Pn **Pn 23 07 32.0 -1.0**
comp=N,9.8nm,0.1s,baz=233,slow=13,SNR=23
ESDC Sn **Sn 23 08 28.2 -2.3**
comp=N,3.1nm,0.1s,baz=234,slow=24,SNR=15
ESDC Lg Lg 23 08 55.7
comp=N,3.9nm,0.3s,baz=232,slow=26,SNR=7.2
ESDC Sonseca Array 5.06 49 Pn **Pn 23 07 32.0 -1.0**
comp=N,9.8nm,0.1s,SNR=23
ESDC Sn **Sn 23 08 28.2 -2.3**
comp=N,3.1nm,0.1s,SNR=15
ESDC Lg Lg 23 08 55.7
comp=N,3.9nm,0.3s,SNR=7.2
PCAB Cabril 5.30 7 *ePn* **Pn 23 07 35.4 -1.0**
PCAB *eSn* **Sn 23 08 33.2 -3.3**
PCAB Cabril 5.30 7 Pn **Pn 23 07 35.4 -1.0**
PCAB Sn **Sn 23 08 33.2 -3.3**
PCAB Cabril 5.30 7 Pn **Pn 23 07 35.4 -1.0**
PCAB *eSn* **Sn 23 08 33.2 -3.3**
SESP Santiago Espad 5.34 70 Pn **Pn 23 07 35.2 -1.8**
comp=N,0.9nm,0.1s,SNR=7.9
SESP Sn **Sn 23 08 35.3 -2.2**
comp=N,3.8nm,0.2s,SNR=7.9
SESP Santiago Espad 5.34 70 Pn **Pn 23 07 35.2 -1.8**
comp=N,0.9nm,0.1s,SNR=7.9
SESP Sn **Sn 23 08 35.3 -2.2**
comp=N,3.8nm,0.2s,SNR=7.9
ELOB Lobios 5.46 7 Pn **Pn 23 07 37.1 -1.4**
comp=N,2.9nm,0.2s,SNR=19
ELOB Sn **Sn 23 08 37.5 -2.8**
comp=N,5.1nm,0.3s,SNR=7.9
ELOB Lobios 5.46 7 Pn **Pn 23 07 37.1 -1.4**
comp=N,2.9nm,0.2s,SNR=19
ELOB Sn **Sn 23 08 37.5 -2.8**
comp=N,5.1nm,0.3s,SNR=7.9
PGAV Gavieira, Arco 5.54 5 *ePn* **Pn 23 07 38.5 -1.1**
PGAV *eSn* **Sn 23 08 39.1 -3.2**
PGAV A A 23 09 18.9
comp=N,4.5nm,0.6s
PGAV Gavieira, Arco 5.54 5 *ePn* **Pn 23 07 38.5 -1.1**
GUD Guadarrama 5.61 40 Pn **Pn 23 07 39.5 -1.2**
comp=N,0.8nm,0.1s,SNR=9.1
GUD Sn **Sn 23 08 41.8 -2.3**
comp=N,1.3nm,0.2s,SNR=7.9
GUD Lg Lg 23 09 13.6
comp=N,8.3nm,0.4s,SNR=7.9
GUD Guadarrama 5.61 40 Pn **Pn 23 07 39.5 -1.2**
comp=N,0.8nm,0.1s,SNR=9.1
GUD Sn **Sn 23 08 41.8 -2.3**
comp=N,1.3nm,0.2s,SNR=7.9
GUD Lg Lg 23 09 13.6
comp=N,8.3nm,0.4s,SNR=7.9

PBRG	**Braganca**	**5.61**	**17**	*e*Pn		**Pn**	**23 07 39.5**	**-1.1**
PBRG				*e*Sn		**Sn**	**23 08 42.2**	**-1.9**
PBRG				A		A	23 09 20.7	
	comp=N,4.1nm,0.9s							
PBRG	**Braganca**	**5.61**	**17**	Pn		**Pn**	**23 07 39.5**	**-1.1**
PBRG				Sn		**Sn**	**23 08 42.2**	**-1.9**
	comp=N,2.0nm,0.9s							
PBRG	**Braganca**	**5.61**	**17**	Pn		**Pn**	**23 07 39.5**	**-1.1**
PBRG				*e*Sn		**Sn**	**23 08 42.2**	**-1.9**
	comp=N,4.1nm,0.9s							
ECAL	**Calabor**	**5.74**	**16**	Pn		**Pn**	**23 07 41.2**	**-1.2**
	comp=N,1.9nm,0.2s,SNR=12							
ECAL				Sn		**Sn**	**23 08 45.0**	**-2.3**
	comp=N,2.9nm,0.2s,SNR=7.9							
ECAL				Lg		Lg	23 09 17.4	
	comp=N,19nm,0.5s,SNR=7.9							
ECAL	**Calabor**	**5.74**	**16**	Pn		**Pn**	**23 07 41.2**	**-1.2**
	comp=N,1.9nm,0.2s,SNR=12							
ECAL				Sn		**Sn**	**23 08 45.0**	**-2.3**
	comp=N,2.9nm,0.2s,SNR=7.9							
ECAL				Lg		Lg	23 09 17.4	
	comp=N,19nm,0.5s,SNR=7.9							
ETOB	**Tobarra**	**6.24**	**67**	Pn		**Pn**	**23 07 47.2**	**-2.1**
	comp=N,0.8nm,0.1s,SNR=14							
ETOB				Sn		**Sn**	**23 08 56.5**	**-3.2**
	comp=N,1.4nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**6.24**	**67**	Pn		**Pn**	**23 07 47.2**	**-2.1**
	comp=N,0.8nm,0.1s,SNR=14							
EMUR	**La Murta**	**6.28**	**75**	Pn		**Pn**	**23 07 48.5**	**-1.2**
	comp=N,0.7nm,0.2s,SNR=7.9							
EMUR				Sn		**Sn**	**23 08 56.1**	**-4.4**
	comp=N,2.2nm,0.4s,SNR=7.9							
EMUR	**La Murta**	**6.28**	**75**	Pn		**Pn**	**23 07 48.5**	**-1.2**
	comp=N,0.7nm,0.2s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.38**	**5**	Pn		**Pn**	**23 07 50.1**	**-1.1**
	comp=N,0.2nm,0.2s,SNR=7.9							
EAGO				Sn		**Sn**	**23 08 58.0**	**-5.0**
	comp=N,1.4nm,0.2s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.38**	**5**	Pn		**Pn**	**23 07 50.1**	**-1.1**
	comp=N,0.2nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.50**	**360**	Pn		**Pn**	**23 07 50.7**	**-2.1**
	comp=N,0.9nm,0.4s,SNR=7.9							
EMAZ				Sn		**Sn**	**23 08 59.1**	**-6.7**
	comp=N,3.8nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.50**	**360**	Pn		**Pn**	**23 07 50.7**	**-2.1**
	comp=N,0.9nm,0.4s,SNR=7.9							
ETOR	**Torete**	**6.91**	**49**	Pn		**Pn**	**23 07 57.8**	**-0.8**
	comp=N,1.5nm,0.2s,SNR=7.9							
ETOR				Sn		**Sn**	**23 09 11.8**	**-4.4**
	comp=N,2.0nm,0.3s,SNR=9.4							
ETOR				Lg		Lg	23 09 56.0	
	comp=N,0.8nm,0.3s,SNR=7.9							
ETOR	**Torete**	**6.91**	**49**	Pn		**Pn**	**23 07 57.8**	**-0.8**
	comp=N,1.5nm,0.2s,SNR=7.9							
ETOR				Lg		Lg	23 09 56.0	
	comp=N,0.8nm,0.3s,SNR=7.9							
EPON	**Pontenova**	**7.01**	**11**	Pn		**Pn**	**23 07 58.4**	**-1.4**
	comp=N,0.1nm,0.2s,SNR=7.9							
EPON				Sn		**Sn**	**23 09 12.8**	**-5.6**
	comp=N,0.6nm,0.3s,SNR=7.9							
EPON	**Pontenova**	**7.01**	**11**	Pn		**Pn**	**23 07 58.4**	**-1.4**
	comp=N,0.1nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**7.42**	**21**	Pn		**Pn**	**23 08 05.4**	**0.0**
	comp=N,0.3nm,0.2s,SNR=7.9							
EARI				Sn		**Sn**	**23 09 25.1**	**-3.3**
	comp=N,0.6nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**7.42**	**21**	Pn		**Pn**	**23 08 05.4**	**0.0**
	comp=N,0.3nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**7.69**	**57**	Pn		**Pn**	**23 08 09.1**	**-0.2**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMOS				Sn		**Sn**	**23 09 33.9**	**-1.5**
	comp=N,0.5nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**7.69**	**57**	Pn		**Pn**	**23 08 09.1**	**-0.2**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMOS				Sn		**Sn**	**23 09 33.9**	**-1.5**
	comp=N,0.5nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**8.51**	**55**	Pn		**Pn**	**23 08 20.1**	**-0.3**
	comp=N,0.2nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**8.51**	**55**	Pn		**Pn**	**23 08 20.1**	**-0.3**
	comp=N,0.2nm,0.1s,SNR=7.9							
EORO	**Oroz-Betelu**	**8.70**	**40**	Pn		**Pn**	**23 08 21.2**	**-1.8**
	comp=N,0.3nm,0.1s,SNR=7.9							
EORO	**Oroz-Betelu**	**8.70**	**40**	Pn		**Pn**	**23 08 21.2**	**-1.8**
	comp=N,0.3nm,0.1s,SNR=7.9							
IELO	**Elcoad**	**8.70**	**40**	Pn		**Pn**	**23 08 22.0**	**-1.1**
	comp=N,0.5nm,0.2s,SNR=7.9							
IELO				Sn		**Sn**	**23 09 55.4**	**-4.8**
	comp=N,1.6nm,0.4s,SNR=7.9							
IELO	**Elcoad**	**8.70**	**40**	Pn		**Pn**	**23 08 22.0**	**-1.1**
	comp=N,0.5nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**8.90**	**39**	*e*Pn		**Pn**	**23 08 25.2**	**-0.5**
SJPF				*e*Sn		**Sn**	**23 10 00.4**	**-4.6**
	comp=N,1.2nm,0.4s							
SJPF	**Ste Jean**	**8.90**	**39**	*e*Pn		**Pn**	**23 08 25.2**	**-0.5**
ETSF	**Etsaut**	**9.10**	**42**	*e*Pn		**Pn**	**23 08 27.5**	**-1.1**
ETSF				*e*Sn		**Sn**	**23 10 05.4**	**-4.6**
	comp=N,0.6nm,0.3s							
ETSF	**Etsaut**	**9.10**	**42**	*e*Pn		**Pn**	**23 08 27.5**	**-1.1**
ATE	**Arette**	**9.16**	**41**	Pn		**Pn**	**23 08 29.0**	**-0.2**
	comp=N,0.3nm,0.2s,SNR=7.9							
ATE				Sn		**Sn**	**23 10 05.5**	**-5.7**
	comp=N,0.5nm,0.2s,SNR=7.9							
ATE	**Arette**	**9.16**	**41**	Pn		**Pn**	**23 08 29.0**	**-0.2**
	comp=N,0.3nm,0.2s,SNR=7.9							
ECHI	**Chisagues Biel**	**9.38**	**46**	Pn		**Pn**	**23 08 31.8**	**-0.5**
	comp=N,0.1nm,0.1s,SNR=7.9							
ECHI				Sn		**Sn**	**23 10 11.7**	**-5.0**
	comp=N,0.2nm,0.1s,SNR=7.9							
ECHI	**Chisagues Biel**	**9.38**	**46**	Pn		**Pn**	**23 08 31.8**	**-0.5**
	comp=N,0.1nm,0.1s,SNR=7.9							
EPF	**Esparros**	**9.69**	**44**	*e*Pn		**Pn**	**23 08 35.9**	**-0.6**
EPF				*e*Sn		**Sn**	**23 10 19.5**	**-4.8**
	comp=N,1.3nm,0.4s							
EPF	**Esparros**	**9.69**	**44**	*e*Pn		**Pn**	**23 08 35.9**	**-0.6**
CSOR	**Sort**	**9.76**	**50**	Pn		**Pn**	**23 08 37.2**	**-0.4**
	comp=N,0.2nm,0.1s,SNR=7.9							
CSOR	**Sort**	**9.76**	**50**	Pn		**Pn**	**23 08 37.2**	**-0.4**
	comp=N,0.2nm,0.1s,SNR=7.9							
MFF	**Saint Martin d**	**12.08**	**30**	*e*Pn		**Pn**	**23 09 07.0**	**-2.2**
MFF	**Saint Martin d**	**12.08**	**30**	*e*Pn		**Pn**	**23 09 07.0**	**-2.2**

*ISCJB **23** 23:15:03.9±0.9, 51°.33N±0°.04×16°.07E±0°.04, h0km, Error ellipse: s-maj=6.0km s-min=3.2km az=27.0*
*CSEM **23** 23:15:04.7±0.5, 51°.37N×16°.12E, h2km, ML2.8/11, Error ellipse: s-maj=8.3km s-min=4.7km az=18.0*
*VIE **23** 23:15:07.9±1.1, 51°.15N×16°.24E, h0km, mb2.0/4, ML2.3/5, Error ellipse: s-maj=9.2km s-min=6.9km az=109.0, Suspected Mining induced.*

ISC 23 23:15:03.8±1.4, 51°.44N±0°.06×16°.15E±0°.03, h0km, n34, σ1s00/61, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**171**	*e*Pg	**Pg**	**23 15 15.5**	**+0.1**
KSP				*e*Sg	**Sg**	**23 15 23.6**	**+0.4**
KSP	**Ksiaz**	**0.60**	**171**	*e*Pg	**Pg**	**23 15 15.5**	**+0.1**
KSP				*e*Sg	**Sg**	**23 15 23.6**	**+0.4**
UPC	**Upice**	**0.94**	**185**	*e*PG	**Pg**	**23 15 21.7**	**0.0**
UPC				*e*SG	**Sg**	**23 15 33.7**	**-0.1**
	comp=Z,26nm,0.4s						
UPC	**Upice**	**0.94**	**185**	Pg	**Pg**	**23 15 21.7**	**0.0**
UPC				Sg	**Sg**	**23 15 33.7**	**-0.1**
	26nm,0.4s						
DPC	**Dobruska-Polom**	**1.09**	**174**	*e*PG	**Pg**	**23 15 24.4**	**-0.4**
DPC				*e*SG	**Sg**	**23 15 38.5**	**-0.4**
	comp=Z,11nm,0.3s						
DPC	**Dobruska-Polom**	**1.09**	**174**	Pg	**Pg**	**23 15 24.4**	**-0.4**
DPC				Sg	**Sg**	**23 15 38.5**	**-0.4**
	11nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**228**	*e*PG	**Pn**	**23 15 29.9**	**0.0**
PVCC				*e*SG	**Sb**	**23 15 48.2**	**+0.4**
	comp=Z,49nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**228**	Pg	**Pn**	**23 15 29.9**	**0.0**
PVCC				Sg	**Sb**	**23 15 48.2**	**+0.4**
	49nm,0.4s						
KRLC	**Kraliky**	**1.42**	**163**	*e*PG	**Pn**	**23 15 30.6**	**-0.4**
KRLC				*e*SG	**Sg**	**23 15 48.5**	**-1.0**
	comp=Z,3.5nm,0.4s						
KRLC	**Kraliky**	**1.42**	**163**	Pg	**Pn**	**23 15 30.6**	**-0.4**
KRLC				Sg	**Sg**	**23 15 48.5**	**-1.0**
	3.5nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**249**	PG	**Pn**	**23 15 31.5**	**-0.4**
BRG				SG	**Sn**	**23 15 52.5**	**+0.3**
	21nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.75**	**210**	*e*PN	**Pn**	**23 15 36.2**	**+0.7**
GOPC				*e*PG	**Pg**	**23 15 37.4**	**0.0**
GOPC				*e*SG	**Sn**	**23 15 58.8**	**+0.3**
	comp=Z,5.1nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.75**	**210**	Pn	**Pn**	**23 15 36.2**	**+0.7**
PRU	**Pruhonice**	**1.77**	**216**	*e*PG	**Pn**	**23 15 36.3**	**+0.6**
PRU				*e*SG	**Sb**	**23 16 00.1**	**+0.1**
	comp=Z,17nm,0.4s						
PRU	**Pruhonice**	**1.77**	**216**	Pg	**Pn**	**23 15 36.3**	**+0.6**
PRU				Sg	**Sb**	**23 16 00.1**	**+0.1**
	17nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**151**	*e*Pn	**Pn**	**23 15 36.6**	**-0.7**
MORC				*e*Sg	**Sb**	**23 16 03.6**	**+0.4**
CLL	**Collm**	**1.98**	**267**	*e*Pg	**Pb**	**23 15 41.0**	**+0.4**
CLL				*e*		23 16 03.0	
CLL				*e*Sg	**Sg**	**23 16 07.0**	**-0.2**
	comp=Z,7.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*SG	**Sb**	**23 16 07.3**	**-0.5**
OKC	**Ostrava-Krasne**	**2.05**	**141**	Sg	**Sb**	**23 16 07.3**	**-0.5**
VRAC	**Vranov**	**2.15**	**172**	*e*Pn	**Pn**	**23 15 41.6**	**+0.7**
VRAC				*e*Sg	**Sb**	**23 16 10.7**	**-0.1**
NKC	**Novy Kostel**	**2.64**	**244**	*e*PG	**Pg**	**23 15 54.3**	**0.0**
NKC				*e*SG	**Sg**	**23 16 28.0**	**-0.5**
	comp=Z,14nm,0.4s						
NKC	**Novy Kostel**	**2.64**	**244**	Pg	**Pg**	**23 15 54.3**	**0.0**
NKC				Sg	**Sg**	**23 16 28.0**	**-0.5**
	comp=Z,14nm,0.4s						
KHC	**Kasperske Hory**	**2.84**	**217**	*e*PN	**Pn**	**23 15 50.8**	**+0.4**
KHC				*e*PG	**Pb**	**23 15 55.9**	**+0.6**
KHC				*e*SN	**Sn**	**23 16 22.4**	**-2.9**
KHC				*e*SG	**Sb**	**23 16 32.6**	**+2.0**
	comp=Z,3.3nm,0.4s						
KHC	**Kasperske Hory**	**2.84**	**217**	Pn	**Pn**	**23 15 50.8**	**+0.4**
LANS	**Liptovska Anna**	**3.13**	**136**	*e*Sg	**Sg**	**23 16 44.6**	**+0.4**
LANS	**Liptovska Anna**	**3.13**	**136**	*e*SG	**Sg**	**23 16 44.6**	**+0.4**
MODS	**Modra-Piesok**	**3.15**	**166**	*e*Sg	**Sg**	**23 16 48.6**	**+3.5**
MODS	**Modra-Piesok**	**3.15**	**166**	*e*SG	**Sg**	**23 16 48.6**	**+3.5**
CONA	**Conrad Observa**	**3.52**	**183**	Pg	**Pg**	**23 16 10.0**	**-1.2**
	comp=Z,0.2nm,0.1s						
CONA				Sg	**Sg**	**23 16 55.4**	**-1.4**
	comp=Z,2.3nm,0.3s						
CONA	**Conrad Observa**	**3.52**	**183**	Pg	**Pg**	**23 16 10.0**	**-1.2**
	comp=Z,0.2nm,0.1s						
CONA				Sg	**Sg**	**23 16 55.4**	**-1.4**
	comp=Z,2.3nm,0.3s						
MOA	**Molln**	**3.79**	**200**	Pn	**Pn**	**23 16 04.3**	**+0.8**
	comp=Z,0.3nm,0.2s						
MOA				Sg	**Sg**	**23 17 04.4**	**-1.2**
	comp=Z,1.8nm,0.3s						
MOA	**Molln**	**3.79**	**200**	*i* Pn	**Pn**	**23 16 04.3**	**+0.8**
	comp=Z,0.3nm,0.2s						
MOA				*e*Sg	**Sg**	**23 17 04.4**	**-1.2**
	comp=Z,1.8nm,0.3s						
ARSA	**Arzberg**	**4.21**	**186**	Sg	**Sg**	**23 17 19.3**	**+0.3**
	comp=Z,2.0nm,0.4s						
ARSA	**Arzberg**	**4.21**	**186**	Sg	**Sg**	**23 17 19.3**	**+0.3**
	comp=Z,2.0nm,0.4s						

MEX 23 23:16:54.7±0.5, 16°.53N×98°.48W, h7km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**111**	*i* P	Pg	23 17 01.3	-0.4
PNIG				*i* S	Sg	23 17 06.6	+0.1
TLIG	**Tlapa**	**1.04**	**355**	*e*P	Pg	23 17 11.8	-2.9
TLIG				*i* S	Sg	23 17 25.0	-3.1
ACX	**Acapulco**	**1.37**	**285**	*i* P	Pn	23 17 14.7	-5.5
ACX				*i* S	Sb	23 17 31.9	-6.5
VHO	**Vista Hermosa**	**1.76**	**72**	*e*P	Pn	23 17 22.8	-2.9
VHO				*i* S	Sn	23 17 43.8	-4.6
CAIG	**El Cayaco**	**1.79**	**287**	*e*P	Pn	23 17 23.0	-3.1
CAIG				*i* S	Sn	23 17 44.4	-4.7

*ATA **23** 23:33:08.8±1.5, 38°.92N×43°.65E, h0km±8km, ML2.8, MW3.1*
*ISK **23** 23:33:09.7, 38°.92N×43°.64E, h5km, ML2.2/7*
*ISCJB **23** 23:33:10.8±0.6, 38°.92N±0°.02×43°.64E±0°.04, h0km±5km, Error ellipse: s-maj=5.4km s-min=3.7km az=24.8*
*CSEM **23** 23:33:10.6±0.3, 38°.92N×43°.63E, h2km, ML2.2, Error ellipse: s-maj=5.9km s-min=4.2km az=109.0*
*DDA **23** 23:33:10.6, 38°.93N×43°.62E, h7km, Ml2.7*

ISC 23 23:33:10.6±1.1, 38°.92N±0°.02×43°.64E±0°.02, h6km±9km, n44, σ0s94/66, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERCV	**ERCIS-VAN**	**0.25**	**292**	PG	**Pg**	**23 33 15.6**	**-0.1**
ERCV				SG	**Sb**	**23 33 20.9**	**-1.5**
ERCV	**ERCIS-VAN**	**0.25**	**292**	*e*Pg	**Pg**	**23 33 15.6**	**-0.1**
ERCV				*e*Sg	**Sb**	**23 33 20.9**	**-1.5**
CLDR	**Caldiran**	**0.31**	**45**	PG	**Pg**	**23 33 16.5**	**-0.2**
CLDR				SG	**Sb**	**23 33 22.5**	**-1.6**
CLDR	**Caldiran**	**0.31**	**45**	*i* P	**Pg**	**23 33 16.4**	**-0.2**
CLDR				*i* S	**Sg**	**23 33 21.7**	**+0.9**
CLDR	**Caldiran**	**0.31**	**45**	P	**Pg**	**23 33 16.5**	**-0.2**
CLDR				S	**Sg**	**23 33 21.7**	**+0.9**
CLDR				*e*Sg	**Sb**	**23 33 22.5**	**-1.6**
VANB	**Van**	**0.38**	**211**	PG	**Pb**	**23 33 19.6**	**-0.3**
VANB	**Van**	**0.38**	**211**	*e*Pg	**Pb**	**23 33 19.6**	**-0.3**
TVAN	**Van**	**0.43**	**205**	*i* P	**Pg**	**23 33 19.2**	**+0.1**
TVAN				*i* S	**Sb**	**23 33 27.7**	**0.0**
TVAN	**Van**	**0.43**	**205**	P	**Pg**	**23 33 19.2**	**+0.1**
TVAN				S	**Sb**	**23 33 27.7**	**0.0**
DYDN	**Diyadin**	**0.62**	**4**	*e*P	**Pg**	**23 33 21.0**	**-1.6**
DYDN				*e*S	**Sb**	**23 33 32.6**	**-0.4**
DYDN	**Diyadin**	**0.62**	**4**	*i* P	**Pg**	**23 33 23.1**	**+0.5**
DYDN				*i* S	**Sb**	**23 33 32.4**	**-0.6**
DYDN	**Diyadin**	**0.62**	**4**	P	**Pg**	**23 33 23.1**	**+0.5**
DYDN				S	**Sb**	**23 33 32.4**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.72**	**261**	*i* P	**Pg**	**23 33 24.5**	**0.0**
ADCV				*i* S	**Sg**	**23 33 35.0**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.72**	**261**	P	**Pg**	**23 33 24.5**	**0.0**
ADCV				S	**Sg**	**23 33 35.0**	**+1.1**
GEVA	**Gevas**	**0.76**	**217**	*e*P	**Pg**	**23 33 24.5**	**-0.7**
GEVA				IAML		23 33 40.5	
	comp=Z,26nm,0.4s						
TUTA	**Tutak**	**0.80**	**307**	*i* P	**Pg**	**23 33 25.4**	**-0.6**
TUTA				*e*S	**Sb**	**23 33 38.3**	**+0.1**
TUTA				IAML		23 33 40.6	
	comp=Z,55nm,0.2s						
TUTA	**Tutak**	**0.80**	**307**	*i* S	**Sg**	**23 33 37.3**	**+0.9**
TUTA	**Tutak**	**0.80**	**307**	S	**Sg**	**23 33 37.3**	**+0.9**
AGRB	**Hanur-Agry**	**0.82**	**323**	PG	**Pg**	**23 33 26.4**	**0.0**
AGRB	**Hanur-Agry**	**0.82**	**323**	*e*Pg	**Pg**	**23 33 26.4**	**0.0**
IGDI	**IGDIR**	**1.00**	**20**	*e*P	**Pg**	**23 33 30.1**	**+0.2**
IGDI				IAML		23 33 53.3	
	comp=Z,14nm,0.6s						
IGDI	**IGDIR**	**1.00**	**20**	*i* P	**Pb**	**23 33 30.3**	**-0.1**
IGDI				*i* S	**Sn**	**23 33 46.2**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.16**	**23**	PN	**Pn**	**23 33 33.6**	**+0.2**
TASB				SN	**Sn**	**23 33 50.2**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.16**	**23**	*e*Pn	**Pn**	**23 33 33.6**	**+0.2**
TASB				*e*Sn	**Sn**	**23 33 50.2**	**+0.7**
EKAR	**Karacoban**	**1.27**	**286**	*e*P	**Pg**	**23 33 34.4**	**-0.6**
EKAR				*e*S	**Sn**	**23 33 54.9**	**+2.3**
EKAR				IAML		23 34 06.7	
	comp=Z,14nm,0.5s						
EKAR	**Karacoban**	**1.27**	**286**	*i* P	**Pg**	**23 33 33.8**	**-1.2**
EKAR				*i* S	**Sn**	**23 33 54.7**	**+2.2**
EKAR	**Karacoban**	**1.27**	**286**	P	**Pg**	**23 33 33.8**	**-1.2**
EKAR				S	**Sn**	**23 33 54.7**	**+2.2**
EATA	**Eleskirt**	**1.29**	**317**	*e*P	**Pg**	**23 33 34.7**	**-0.7**
EATA				IAML		23 33 46.3	
	comp=Z,2.9nm,0.4s						
EATA	**Eleskirt**	**1.29**	**317**	*i* P	**Pg**	**23 33 34.9**	**-0.5**
EATA	**Eleskirt**	**1.29**	**317**	P	**Pg**	**23 33 34.9**	**-0.5**
GURO	**Guroymak-BITLI**	**1.31**	**254**	PN	**Pn**	**23 33 34.9**	**-0.7**
GURO	**Guroymak-BITLI**	**1.31**	**254**	*e*Pn	**Pn**	**23 33 34.9**	**-0.7**
HAKT	**HAKKARI**	**1.36**	**178**	*i* P	**Pn**	**23 33 35.0**	**-1.4**
HAKT				*i* S	**Sn**	**23 33 56.5**	**+1.6**
HAKT	**HAKKARI**	**1.36**	**178**	P	**Pn**	**23 33 35.0**	**-1.4**
HAKT				S	**Sn**	**23 33 56.5**	**+1.6**
DIGO	**Kars**	**1.50**	**352**	*e*P	**Pn**	**23 33 38.5**	**+0.2**
DIGO				IAML		23 33 49.6	
	comp=Z,3.9nm,0.4s						
SIRT	**Sirnak**	**1.71**	**214**	PN	**Pb**	**23 33 42.1**	**-0.3**
SIRT	**Sirnak**	**1.71**	**214**	*e*Pn	**Pb**	**23 33 42.1**	**-0.3**
HOMI	**Horasan**	**1.75**	**310**	*i* P	**Pb**	**23 33 42.7**	**-0.5**
HOMI				IAML		23 33 46.6	
	comp=Z,6.6nm,0.4s						
HOMI	**Horasan**	**1.75**	**310**	*i* P	**Pb**	**23 33 42.6**	**-0.6**
KARS	**Kars**	**1.75**	**346**	PN	**Pb**	**23 33 43.2**	**-0.1**
KARS	**Kars**	**1.75**	**346**	*e*Pn	**Pb**	**23 33 43.2**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.91**	**329**	PN	**Pb**	**23 33 45.5**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.91**	**329**	*e*Pn	**Pb**	**23 33 45.5**	**-0.5**
ERZM	**Erzurum**	**2.02**	**300**	*e*PN12	**Pb**	**23 33 45.9**	**-1.9**

*CSEM **23** 23:36:35.1±0.4, 44°.48N×12°.71E, h10km, ML2.6/6, Error ellipse: s-maj=6.5km s-min=4.4km az=136.0*
*ROM **23** 23:36:36.5±0.3, 44°.44N×12°.73E, h24km±3km, Md2.2/9, Ml1.5/8, Error ellipse: s-maj=3.8km s-min=3.1km az=90.0*

ISC 23 23:36:35.9±1.6, 44°.46N±0°.06×12°.70E±0°.05, h17km±9km, n26, σ0s39/48, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PESA	**Pesaro**	**0.53**	**169**	Pg	**Pb**	**23 36 46.9**	**+0.2**
PESA				Sg	**Sb**	**23 36 54.9**	**+0.9**
PESA	**Pesaro**	**0.53**	**169**	Pg	**Pb**	**23 36 46.9**	**+0.2**
PESA				Sg	**Sb**	**23 36 54.9**	**+0.9**
FSSB	**Fossombrone**	**0.77**	**176**	Pg	**Pb**	**23 36 50.3**	**-0.5**
FSSB				Sg	**Sg**	**23 37 01.3**	**+0.2**
FSSB	**Fossombrone**	**0.77**	**176**	Pg	**Pb**	**23 36 50.3**	**-0.5**
FSSB				Sg	**Sg**	**23 37 01.3**	**+0.2**
SFI	**Santa Sofia**	**0.83**	**228**	Pg	**Pg**	**23 36 52.4**	**+0.4**
SFI				Sg	**Sn**	**23 37 04.3**	**-0.4**
SFI	**Santa Sofia**	**0.83**	**228**	Pg	**Pg**	**23 36 52.4**	**+0.4**
SFI				Sg	**Sn**	**23 37 04.3**	**-0.4**
MPAG	**Monte Paganucc**	**0.83**	**177**	Pg	**Pb**	**23 36 51.6**	**-0.3**
MPAG				Sg	**Sg**	**23 37 02.9**	**-0.2**
	23nm,0.2s						
MPAG	**Monte Paganucc**	**0.83**	**177**	Pg	**Pb**	**23 36 51.6**	**-0.3**
MPAG				Sg	**Sg**	**23 37 02.9**	**-0.2**
	23nm,0.2s						
PIEI	**Pieia**	**0.93**	**188**	Pg	**Pb**	**23 36 53.0**	**-0.6**
PIEI				Sg	**Sg**	**23 37 06.5**	**+0.3**
	11nm,0.3s						
PIEI	**Pieia**	**0.93**	**188**	Pg	**Pb**	**23 36 53.0**	**-0.6**
PIEI				Sg	**Sg**	**23 37 06.5**	**+0.3**
	11nm,0.3s						
FRON	**Frontone**	**0.94**	**179**	Pg	**Pb**	**23 36 53.4**	**-0.4**
FRON				Sg	**Sg**	**23 37 06.3**	**-0.2**
	26nm,0.7s						
FRON	**Frontone**	**0.94**	**179**	Pg	**Pb**	**23 36 53.4**	**-0.4**
FRON				Sg	**Sg**	**23 37 06.3**	**-0.2**
	26nm,0.7s						
ARVD	**Arcevia**	**0.98**	**170**	Pg	**Pg**	**23 36 54.7**	**-0.1**
ARVD				Sg	**Sg**	**23 37 07.2**	**-0.4**
	5.0nm,0.3s						
ARVD	**Arcevia**	**0.98**	**170**	Pg	**Pg**	**23 36 54.7**	**-0.1**
ARVD				Sg	**Sg**	**23 37 07.2**	**-0.4**
	5.0nm,0.3s						
ATPC	**Poggio Castell**	**1.00**	**190**	Pg	**Pb**	**23 36 54.3**	**-0.4**
ATPC				Sg	**Sn**	**23 37 08.8**	**0.0**
	84nm,2.2s						
ATPC	**Poggio Castell**	**1.00**	**190**	Pg	**Pb**	**23 36 54.3**	**-0.4**
ATPC				Sg	**Sn**	**23 37 08.8**	**0.0**
	84nm,2.2s						
BADI	**Badiali**	**1.01**	**199**	Pg	**Pb**	**23 36 54.5**	**-0.3**
	9.0nm,0.7s						
BADI	**Badiali**	**1.01**	**199**	Pg	**Pb**	**23 36 54.5**	**-0.3**
	9.0nm,0.7s						
ATVO	**AVT- Monte Val**	**1.10**	**191**	Pg	**Pb**	**23 36 56.0**	**-0.4**
ATVO				Sg	**Sn**	**23 37 11.0**	**-0.3**
	72nm,2.5s						
ATVO	**AVT- Monte Val**	**1.10**	**191**	Pg	**Pb**	**23 36 56.0**	**-0.4**
ATVO				Sg	**Sn**	**23 37 11.0**	**-0.3**
	72nm,2.5s						
AOI	**Ancona**	**

41nm,1.1s
121A Cookes Peak, D 18.11 336 P P 23 41 54.3 +0.5
baz=153
121A Cookes Peak, D 18.11 336 eP P 23 41 55.1 +1.3
11nm,0.9s
WMOK Wichita Mounta 18.49 1 P Pn 23 41 58.1 +0.1
baz=181
WMOK Wichita Mounta 18.49 1 eP Pn 23 41 58.3 +0.4
7.0nm,1.1s
AMTX Amarillo 18.78 353 P P 23 42 00.9 -0.2
baz=173
AMTX Amarillo 18.78 353 eP P 23 42 00.6 -0.5
29nm,0.9s
X39A Fountain Ranch 18.79 13 P Pn 23 42 01.2 -0.3
baz=195
MIAR Mount Ida 18.94 14 eP P 23 42 01.7 -1.0
9.4nm,0.8s
BNM Barren Site 19.16 341 eP Pn 23 42 08.1 +1.8
TUC Tucson 19.28 329 P Pn 23 42 08.4 +0.8
baz=144
TUC Tucson 19.28 329 eP Pn 23 42 09.0 +1.4
11nm,1.2s
W39A Magazine 19.52 13 P Pn 23 42 10.0 -0.3
baz=196
LAZ Ladron 19.56 340 eP Pn 23 42 10.6 -0.4
Z47A Carrollton 19.64 28 P Pn 23 42 11.4 -0.4
baz=213
X43A Marvell 19.69 20 P P 23 42 11.4 +0.6
baz=204
149A Jones 19.77 32 P P 23 42 11.5 -0.2
baz=217
ANMO Albuquerque 19.84 342 P P 23 42 13.2 +0.4
0.3nm,0.3s,baz=336,slow=12,SNR=8.6
ANMO LR LR 23 50 33.8
comp=Z,255nm,20.2s,baz=340,slow=39
ANMO Albuquerque 19.84 342 P P 23 42 13.0 +0.3
baz=159
ANMO Albuquerque 19.84 342 eP Pn 23 42 13.9 -0.5
11nm,1.1s
TUL1 Leonard 19.87 8 P P 23 42 12.1 -0.8
baz=190
TUL1 Leonard 19.87 8 eP P 23 42 12.2 -0.7
21nm,0.9s
W41B Gary Mavity, V 19.88 17 P P 23 42 12.3 -0.6
baz=200,SNR=6.2
Y46A Houston 19.88 26 P P 23 42 12.4 -0.6
baz=210
352A Blakely 19.94 38 P P 23 42 13.1 -0.6
baz=223
WHAR Wooly Hollow 19.98 16 eP Pn 23 42 16.9 +1.1
56nm,1.6s
LRAL Lakeview Retre 20.02 31 P P 23 42 13.7 -0.8
baz=216
LRAL Lakeview Retre 20.02 31 eP Pn 23 42 20.6 +4.3
17nm,1.3s
Z48A Northport 20.03 29 P P 23 42 13.7 -0.8
baz=214,SNR=5.3
214A Organ Pipe Nat 20.09 324 P P 23 42 14.8 -0.5
baz=139
214A Organ Pipe Nat 20.09 324 eP Pn 23 42 17.3 +0.1
42nm,1.1s
251A Midway 20.12 36 P P 23 42 14.2 -1.4
baz=221
X45A UM Field Stati 20.14 24 P P 23 42 15.0 -0.7
baz=208
V39A Pettigrew 20.17 13 P P 23 42 15.4 -0.8
baz=196,SNR=7.6
150A Eclectic 20.18 33 P P 23 42 15.2 -1.0
baz=219
454A Quitman 20.20 42 P P 23 42 14.5 -2.0
baz=228
OXF Oxford 20.21 24 eP P 23 42 15.9 -0.7
24nm,0.9s
353A Camilla 20.27 39 P P 23 42 15.8 -1.5
baz=225
V40A Witts Springs 20.33 15 P P 23 42 16.8 -1.1
baz=198
Y47A UCPARC, Winfie 20.33 28 P P 23 42 16.8 -1.1
baz=213
Z49A Columbiana 20.38 31 P P 23 42 17.3 -1.1
baz=217
252A Lumpkin 20.43 37 P P 23 42 17.8 -1.1
baz=223
V41A Mountainview 20.48 16 P P 23 42 18.4 -1.1
baz=200,SNR=10
151A Opelika 20.49 35 P P 23 42 18.3 -1.4
baz=221
HHAR Hobbs 20.54 12 eP P 23 42 20.6 +0.5
7.0nm,1.0s
X46A Booneville 20.58 25 P P 23 42 19.6 -1.0
baz=210,SNR=5.1
Y48A Jasper 20.65 29 P P 23 42 20.6 -0.7
baz=214
V42A Cord 20.71 18 P P 23 42 20.3 -1.7
baz=201
U39A Green Forest 20.73 13 P P 23 42 20.8 -1.5
baz=196,SNR=10.0
Z50A Ashland 20.73 33 P P 23 42 20.8 -1.5
baz=218
X18A Snowflake 20.74 334 eP Pn 23 42 25.2 +0.3
18nm,1.0s
U40A Yellville 20.84 14 P P 23 42 22.0 -1.4
baz=197,SNR=8.1
W45A Hickory Valley 20.86 23 P P 23 42 22.0 -1.6
baz=208
Y49A Blount Mountai 20.97 31 P P 23 42 23.8 -1.1
baz=216
U41A Viola 21.07 16 P P 23 42 24.4 -1.5
baz=200,SNR=7.2
PLAL Pickwick Lake 21.15 26 eP P 23 42 28.1 +1.3
30nm,0.9s
X48A Hartselle 21.16 28 P P 23 42 25.5 -1.3
baz=214
W18A Petrified Fore 21.16 335 eP P 23 42 27.9 +0.8
11nm,1.1s
W46A Michie 21.16 25 P P 23 42 26.6 -0.3
baz=210,SNR=7.3
T38A Diamond 21.20 11 P P 23 42 26.0 -1.4
baz=193
113A Mohawk Valley, 21.23 324 eP P 23 42 29.5 +1.9
28nm,1.2s
254A Abbeville 21.25 40 P P 23 42 26.7 -1.2
baz=226,SNR=5.4
U42A Revenden 21.27 18 P P 23 42 26.8 -1.1
baz=201,SNR=6.1
X16A Lo Mia Camp, P 21.31 331 eP P 23 42 30.7 +2.0
42nm,1.4s
T39A Clever 21.37 13 P P 23 42 28.2 -0.9
baz=195
T25A Trinidad 21.42 348 P P 23 42 30.4 +0.6
baz=166,SNR=9.4
T25A Trinidad 21.42 348 eP P 23 42 31.5 +1.7
34nm,1.0s
U43A Rector 21.54 19 P P 23 42 29.9 -0.9
baz=203
X49A Woodville 21.54 30 P P 23 42 30.6 -0.4
baz=215,SNR=12
356A Blackshear 21.57 43 P P 23 42 29.3 -2.0
baz=230
W47A Westpoint 21.59 26 P P 23 42 30.9 -0.6
baz=211,SNR=14
T40A Mansfield 21.68 14 P P 23 42 31.4 -1.1
baz=197,SNR=13
W48A Pulaski 21.78 28 P P 23 42 32.5 -1.1
baz=213,SNR=9.0
X50A Fort Payne 21.83 31 P P 23 42 34.7 +0.7
baz=217,SNR=6.0
V46A Holladay 21.84 24 P P 23 42 32.8 -1.4
baz=209,SNR=9.5
T42A Van Buren 21.94 17 P P 23 42 34.5 -0.7
baz=201,SNR=8.4
S39A Bolivar 22.02 12 P P 23 42 35.0 -1.1
baz=195
GLA Glamis 22.05 323 P P 23 42 37.5 +1.1
baz=136,SNR=5.5
GLA Glamis 22.05 323 eP P 23 42 37.8 +1.3
64nm,1.4s
V47A Nunnelly 22.11 26 P P 23 42 36.3 -0.7
baz=211,SNR=12
S40A Lebanon 22.11 14 P P 23 42 36.1 -1.0
baz=197
GOGA Godfrey 22.19 36 P P 23 42 37.4 -0.6
baz=223,SNR=10
GOGA Godfrey 22.19 36 eP P 23 42 38.0 +0.1
20nm,1.0s
WUAZ Wupatki 22.19 333 P P 23 42 37.8 -0.3
baz=148,SNR=9.5
WUAZ Wupatki 22.19 333 eP P 23 42 40.1 +2.0
31nm,1.1s
T43A Greenville 22.23 19 P P 23 42 36.8 -1.5
baz=203,SNR=9.1
SDCO Great Sand Dun 22.23 346 P P 23 42 38.9 +0.2
baz=164,SNR=22
SDCO Great Sand Dun 22.23 346 eP P 23 42 39.3 +0.6
19nm,1.2s
WVT Waverly 22.25 25 P P 23 42 37.0 -1.5
baz=210
WVT Waverly 22.25 25 eP P 23 42 38.9 +0.4
23nm,0.9s
S41A Jillco Farms, 22.29 15 P P 23 42 37.7 -1.3
baz=199
SWET Sewanee 22.30 29 eP P 23 42 39.4 +0.2
4.6nm,1.0s
U46A Springville 22.31 24 P P 23 42 37.3 -1.9
baz=209
V48A Smith Brothers 22.33 27 P P 23 42 38.6 -0.9
baz=212
Y12C Blythe 22.38 324 P P 23 42 39.0 -1.0
baz=138
Y12C Blythe 22.38 324 eP P 23 42 41.7 +1.7
37nm,1.3s
R38A Fenwick Farm, 22.39 11 P P 23 42 39.4 -0.6
baz=193
IKP In-Ko-Pah, Jac 22.54 320 P P 23 42 40.9 -0.9
baz=133
SWSC Sam W. Stewart 22.55 321 P P 23 42 41.8 -0.1
baz=134,SNR=5.0
S22A 4UR Ranch, Cre 22.56 344 P P 23 42 42.6 +0.4
baz=161,SNR=13
S22A 4UR Ranch, Cre 22.56 344 eP P 23 42 43.4 +1.2
19nm,1.3s
CBKS Cedar Bluff 22.57 359 eP P 23 42 42.8 +0.8
18nm,0.9s
MVCO Mesa Verde 22.57 340 P P 23 42 41.4 -0.8
baz=156
MVCO Mesa Verde 22.57 340 eP P 23 42 43.0 +0.8
46nm,1.5s
PDMCI Parker Dam,Lak 22.59 326 P P 23 42 41.2 -1.0
baz=140
R39A Chumby, Stover 22.68 12 P P 23 42 41.0 -2.1
baz=195
S42A Caledonia 22.71 17 P P 23 42 41.6 -1.9
baz=201,SNR=7.8
U47A Clarksville 22.73 25 P P 23 42 41.4 -2.3
baz=211,SNR=8.8
S43A Fulton Ridge, 22.74 19 P P 23 42 43.3 -0.5
baz=203
R40A Maddies Statio 22.83 14 P P 23 42 42.8 -1.9
baz=197,SNR=9.4
BC3 Big Chuckawall 22.85 323 P P 23 42 45.1 0.0
baz=136
KSU1 Kansas State U 22.94 5 P P 23 42 44.4 -1.4
baz=186
KSU1 Kansas State U 22.94 5 eP P 23 42 47.0 +1.1
15nm,0.8s
KSCO Kaye Shedlock' 22.97 353 P P 23 42 46.0 -0.3
baz=172
KSCO Kaye Shedlock' 22.97 353 eP P 23 42 47.0 +0.7
27nm,0.9s
T46A Princeton 23.02 23 P P 23 42 45.1 -1.6
baz=208
FVM French Village 23.02 18 eP P 23 42 47.1 +0.4
17nm,0.7s
IRM Iron Mountain 23.03 324 P P 23 42 47.5 +0.6
baz=138,SNR=9.0
R41A Rosebud 23.05 16 P P 23 42 45.4 -1.6
baz=199,SNR=6.8
W13A Hualapai Mount 23.06 328 eP P 23 42 49.0 +1.6
11nm,1.1s
U48A Cassie Pea, Po 23.11 26 P P 23 42 46.6 -1.0
baz=212,SNR=12
S44A Carbondale 23.12 20 P P 23 42 46.9 -0.8
baz=205,SNR=5.3
SIUC Southern Illin 23.15 20 eP P 23 42 48.5 +0.5
73nm,1.4s
CPCT Cooper Cave 23.17 31 eP P 23 42 48.5 +0.2
R42A Luebbering 23.19 17 P P 23 42 47.3 -1.1
baz=201
Q38A Cooks Store, C 23.20 11 P P 23 42 48.3 -0.2
baz=194
T47A Sharon Grove 23.28 25 P P 23 42 48.6 -0.7
baz=210,SNR=9.8
Q24A Divide 23.33 348 P P 23 42 50.5 +0.3
baz=166
Q24A Divide 23.33 348 eP P 23 42 51.6 +1.5
11nm,1.0s
S45A Carrier Mills 23.33 21 P P 23 42 49.0 -0.8
baz=206,SNR=7.7
U15A Non Rim 23.36 332 eP P 23 42 52.2 +1.7
21nm,1.0s
Q39A Willow Grove F 23.40 12 P P 23 42 50.2 -0.3
baz=195,SNR=6.7
BELC Belle Mtn. Jos 23.41 322 P P 23 42 51.0 +0.2
baz=136
PFO Pinyon Flats O 23.41 321 P P 23 42 51.5 +0.6
baz=134
PFO Pinyon Flats O 23.41 321 eP P 23 42 52.5 +1.7
13nm,1.3s
PV01 Paradox Valley 23.43 341 eP P 23 42 52.4 +1.3
R43A Red Bud 23.44 18 P P 23 42 50.8 -0.1
baz=203,SNR=8.2
HODGE Hodges 23.48 37 eP P 23 42 52.0 +0.7
20nm,1.2s
Q40A Laux Farm, Aux 23.54 14 P P 23 42 51.0 -0.9
baz=197,SNR=6.3
BG3 Lake Jocassee 23.66 35 eP P 23 42 54.0 +1.0
9.3nm,0.9s
T48A Bowling Green 23.68 26 P P 23 42 52.5 -0.8
baz=212,SNR=10
R44A Waltonville 23.68 20 P P 23 42 52.5 -0.7
baz=205,SNR=7.4
P37A Lathrop 23.69 9 P P 23 42 52.5 -0.8
baz=192
Q41A Truxton 23.71 15 P P 23 42 52.5 -1.0
baz=199,SNR=9.1
TKL Tuckaleechee C 23.72 32 P P 23 42 53.2 -0.5
6.8nm,0.9s,baz=191,slow=11,SNR=8.9
TKL Tuckaleechee C 23.72 32 eP P 23 42 53.5 -0.1
15nm,0.9s
PV04 Paradox Valley 23.78 341 eP P 23 42 54.7 +0.3
GMRC Granite Mounta 23.78 324 P P 23 42 54.9 +0.5
baz=138,SNR=5.7
Q42A Golden Eagle 23.85 17 P P 23 42 54.0 -0.9
baz=201,SNR=8.0
P38A Dawn 23.86 11 P P 23 42 53.7 -1.3
baz=194
P39B Salisbury 23.87 12 P P 23 42 54.3 -0.7
baz=195
USIN University of 23.92 23 eP P 23 42 55.9 +0.4
64nm,1.1s
SMCO Snowmass 23.95 345 eP P 23 42 58.0 +1.7
28nm,1.1s
R45A Skylar, Fairfi 23.99 21 P P 23 42 55.1 -1.1
baz=206
O34A Beatrice 24.01 4 P P 23 42 56.0 -0.4
baz=186,SNR=7.4
P40A Paris 24.06 13 P P 23 42 56.3 -0.6
baz=197,SNR=5.7
KNB Kanab 24.09 332 eP P 23 42 59.8 +2.4
18nm,1.3s
JSC Jenkinsville 24.10 38 eP P 23 42 58.4 +1.1
41nm,1.7s
Q43A New Douglas 24.12 18 P P 23 42 56.6 -0.8
baz=203,SNR=7.2
R46A Gibson Southern 24.19 23 P P 23 42 57.3 -0.7
baz=208
ISCO Idaho Springs 24.23 348 P P 23 42 59.1 +0.3
baz=165,SNR=10
ISCO Idaho Springs 24.23 348 eP P 23 42 59.9 +1.1
36nm,1.5s
LCMT Little Creek M 24.27 331 eP P 23 43 01.2 +2.1
12nm,1.5s
S48A Wiedeman Farm, 24.28 26 P P 23 42 58.3 -0.7
baz=212
Q44A Meyer Farm, Va 24.29 19 P P 23 42 58.4 -0.6
baz=204
TUQ Turquoise Moun 24.40 325 P P 23 43 00.7 +0.5
baz=138
P41A Barry, Barry 24.43 15 P P 23 42 59.4 -0.9
baz=199
OLIL Olney 24.45 21 eP P 23 43 00.8 +0.4
28nm,1.0s
TZTN Tazewell 24.52 31 P P 23 42 59.9 -1.3
baz=218
TZTN Tazewell 24.52 31 eP P 23 43 02.6 +1.5
29nm,1.3s
P42A Winchester 24.53 16 P P 23 43 00.9 -0.4
baz=201
BFSC Mount Baldy Ra 24.57 321 P P 23 43 01.5 -0.3
baz=133
Q45A Warren Harvey, 24.57 21 P P 23 43 00.8 -0.7
baz=206
R47A Wooly Knot Far 24.64 24 P P 23 43 01.8 -0.4
baz=210,SNR=16
O39A Kirksville 24.65 12 P P 23 43 01.5 -0.8
baz=195
KMSC Kings Mountain 24.66 37 P P 23 43 01.6 -0.8
baz=224
KMSC Kings Mountain 24.66 37 eP P 23 43 03.0 +0.6
27nm,1.2s
O40A La Belle 24.67 13 P P 23 43 01.7 -0.7
baz=197,SNR=5.8
MTPU Mount Pierson 24.67 335 eP P 23 43 05.2 +2.3
24nm,1.2s
WCI Wyandotte Cave 24.67 25 P P 23 43 01.3 -1.2
baz=211
WCI Wyandotte Cave 24.67 25 eP P 23 43 02.8 +0.3
29nm,0.9s
N34A Lincoln 24.68 5 P P 23 43 02.1 -0.4
baz=186
N35A Tabor 24.78 6 P P 23 43 03.5 +0.1
baz=188
GSC Goldstone, Bar 24.80 324 eP P 23 43 06.5 +2.7
4.8nm,1.2s
SHPR Sheep Range 24.80 328 eP P 23 43 05.9 +2.0
14nm,1.2s
P43A Skaggs, Pawnee 24.82 18 P P 23 43 03.6 -0.2
baz=202
OGNE Ogallala 24.82 355 P P 23 43 04.0 +0.1
baz=174,SNR=9.2
OGNE Ogallala 24.82 355 eP P 23 43 03.9 0.0
77nm,1.3s
O41A Passleys Farm, 24.89 15 P P 23 43 04.2 -0.2
baz=199
P44A Sand Creek, Wi 24.93 19 P P 23 43 04.2 -0.6
baz=204
SRU San Rafael Swe 24.97 338 eP P 23 43 07.6 +2.2
35nm,1.3s
R48A Northridge Ran 24.99 25 P P 23 43 04.2 -1.2
baz=211
N38A Joes South For 25.05 10 P P 23 43 05.3 -0.5
baz=194
MSU Marysvale 25.07 335 eP P 23 43 09.6 +3.2
O20A White River Ci 25.18 343 P P 23 43 07.9 +0.5
baz=159,SNR=10
O20A White River Ci 25.18 343 eP P 23 43 09.3 +1.9
48nm,1.2s
Q47A Bedord North L 25.23 24 P P 23 43 07.6 +0.1
baz=210,SNR=5.2
N39A Derby Farms, D 25.26 12 P P 23 43 07.1 -0.7
baz=195,SNR=6.4
P45A Graceland, Par 25.28 21 P P 23 43 07.7 -0.2
baz=206
M34A Aspy Farms, Fr 25.33 4 P P 23 43 08.4 0.0
baz=186
P18A Preston Nutter 25.33 339 eP P 23 43 11.3 +2.5
45nm,1.1s
N23A Red Feather La 25.35 348 P P 23 43 09.2 +0.3
baz=165,SNR=5.7
N23A Red Feather La 25.35 348 eP P 23 43 11.0 +2.1
9.1nm,0.8s
P17A Butcher Ranch, 25.37 339 eP P 23 43 12.0 +3.1
15nm,1.1s
TMUT Trail Mountain 25.38 338 eP P 23 43 10.3 +1.1
48nm,1.2s
BLO Bloomington 25.40 23 eP P 23 43 09.4 +0.4
16nm,0.8s
N40A Mertquake, Sal 25.46 13 P P 23 43 09.2 -0.4
baz=192
N41A Harden Midland 25.46 15 P P 23 43 09.3 -0.2
baz=199
O43A Sugar Creek Fa 25.47 17 P P 23 43 08.6 -1.1
baz=202
M37A Trindle Farm, 25.51 9 P P 23 43 09.3 -0.7
baz=192
O44A Mansfield 25.61 19 P P 23 43 10.5 -0.4
baz=204
PHWY Pilot Hill 25.65 349 eP P 23 43 12.5 +0.9
18nm,1.3s
M38A Pleasantville 25.66 10 P P 23 43 10.9 -0.5
baz=193
HDIL Hopedale 25.73 17 P P 23 43 11.9 -0.1
baz=202,SNR=6.0
HDIL Hopedale 25.73 17 eP P 23 43 12.2 +0.2
52nm,1.0s
MPMC Manual Prospec 25.73 324 P P 23 43 13.8 +1.5
baz=138,SNR=7.3
P47A Martinsville 25.77 23 P P 23 43 12.1 -0.3
baz=209
N42A Yates City 25.78 16 P P 23 43 12.4 -0.1
baz=200
O45A Potomac 25.93 20 P P 23 43 13.9 +0.1
baz=206,SNR=14
DAC Darwin (Calif) 25.95 324 eP P 23 43 18.2 +3.9
19nm,1.5s
ISA Isabella, Lake 26.03 322 eP P 23 43 18.1 +3.2
23nm,1.5s
N43A Stutzman Famil 26.12 17 P P 23 43 15.0 -0.5
baz=202
MPU Maple Canyon 26.17 338 eP P 23 43 17.2 +1.0
14nm,1.4s
M41A Milan 26.17 15 P P 23 43 15.0 -1.0
baz=199
L37A Phoenix Point, 26.26 9 P P 23 43 15.8 -1.1
baz=192
SFIN Lafayette 26.26 21 P P 23 43 15.6 -1.2
baz=207
SFIN Lafayette 26.26 21 eP P 23 43 17.2 +0.4
14nm,0.8s
NLU North Lily Min 26.28 337 eP P 23 43 19.2 +2.0
17nm,1.3s
N44A Piper City 26.30 19 P P 23 43 15.4 -1.7
baz=204
K32A Verdigre 26.41 2 P P 23 43 17.5 -0.7
baz=183
R11A Troy Canyon, C 26.45 330 P P 23 43 18.6 -0.2
baz=143,SNR=7.1
R11A Troy Canyon, C 26.45 330 eP P 23 43 22.9 +4.1
13nm,1.3s
O47A Sheridan 26.46 22 P P 23 43 17.1 -1.6
baz=209,SNR=6.2
N45A Kentland 26.54 20 P P 23 43 18.0 -1.4
baz=206
L39A Vinton 26.56 12 P P 23 43 17.8 -1.7
baz=196
M43A Waltham Townsh 26.64 17 P P 23 43 19.8 -0.5
baz=202
BLA Blacksburg 26.66 35 P P 23 43 18.1 -2.5
baz=223
BLA Blacksburg 26.66 35 eP P 23 43 21.4 +0.8
18nm,0.8s
K35A Storm Lake 26.66 6 P P 23 43 19.8 -0.7
baz=188
L40A Anamosa 26.66 13 P P 23 43 19.6 -0.8
baz=197
ROSC El Rosal 26.75 112 P P 23 43 22.2 +0.2
3.1nm,0.3s,baz=197,slow=19,SNR=2.1
DUG Dugway, Tooele 26.77 336 eP P 23 43 23.2 +1.6
12nm,1.1s
L41A Preston 26.84 14 P P 23 43 21.3 -0.7
baz=199
N46A Monticello 26.84 21 P P 23 43 22.1 0.0
baz=207
M44A Midewin, Midew 26.86 19 P P 23 43 21.7 -0.6
baz=204,SNR=7.8
K37A Belmond 26.91 9 P P 23 43 21.7 -0.9
baz=192,SNR=6.3
L42A Oliver, Polo 26.98 16 P P 23 43 22.3 -1.0
baz=200,SNR=8.8
J31A Geddes 27.03 0 P P 23 43 23.7 -0.1
baz=181
J33A Davis 27.11 3 P P 23 43 24.0 -0.5
baz=185
J32A Parkston 27.13 2 P P 23 43 24.6 -0.1
baz=183
K39A Oelwein 27.14 12 P P 23 43 23.3 -1.5
baz=195
K40A Colesburg 27.29 13 P P 23 43 25.6 -0.6
baz=197
J36A Seneca 1, Swea 27.36 7 P P 23 43 25.9 -0.9
baz=190,SNR=6.2
J37A Redenius Farm, 27.45 9 P P 23 43 26.5 -1.0
baz=192
ECSD EROS Data Cent 27.55 4 P P 23 43 27.5 -0.9

baz=185
ECSD **EROS Data Cent** 27.55 4 *e*P P 23 43 27.7 -0.7
14nm,1.4s
HWUT **Hardware Ranch** 27.55 339 *e*P P 23 43 30.1 +1.4
11nm,1.3s
J38A **Wedel Dairy, R** 27.63 10 P P 23 43 28.5 -0.7
baz=194
ACSO **Alum Creek Sta** 27.75 27 P P 23 43 29.4 -0.8
baz=215
J39A **Decorah** 27.79 12 P P 23 43 29.5 -1.1
baz=196
K42A **Prairie Point,** 27.79 15 P P 23 43 29.5 -1.0
baz=200
NV11 **Mina Array Sit** 27.82 327 *e*P P 23 43 35.5 +4.4
1.0nm,1.1s
NV01 **Mina Array Sit** 27.89 326 *e*P P 23 43 34.0 +2.2
NVAR **Mina Array Bea** 27.89 326 P P 23 43 32.6 +0.8
2.3nm,1.0s,baz=165,slow=6.2,SNR=4.3
K43A **Burlington** 27.99 17 P P 23 43 31.0 -1.4
baz=202
BW06 **Boulder Array** 27.99 343 P P 23 43 32.8 +0.1
baz=158
BW06 **Boulder Array** 27.99 343 *e*P P 23 43 33.5 +0.8
18nm,1.2s
PD31 **Pinedale Array** 27.99 343 *e*P P 23 43 33.5 +0.8
PDAR **Pinedale Array** 27.99 343 P P 23 43 33.4 +0.7
2.8nm,0.8s,baz=137,slow=9.5,SNR=21
I36A **Fitzsimmons Fa** 28.08 8 P P 23 43 32.6 -0.6
baz=191
HVU **Hansel Valley** 28.13 338 *e*P P 23 43 35.9 +2.1
16nm,1.3s
J41A **Loganville** 28.18 14 P P 23 43 33.0 -1.0
baz=199
RSSD **Black Hills** 28.18 352 *e*P P 23 43 35.8 +1.4
12nm,1.3s
KVN **Kaiserville** 28.25 328 *e*P P 23 43 36.0 +1.1
10nm,1.2s
H32A **Carlson Farm,** 28.27 2 P P 23 43 34.6 -0.3
baz=184
I39A **Houston** 28.32 12 P P 23 43 34.6 -0.7
baz=196
J42A **Columbus** 28.35 15 P P 23 43 34.7 -0.8
baz=201
I38A **Scanlan Farm,** 28.36 10 P P 23 43 34.2 -1.5
baz=194
H33A **Prehn Over Nor** 28.49 3 P P 23 43 35.6 -1.2
baz=185
SDV **Santo Domingo** 28.64 101 P P 23 43 38.5 -0.2
2.7nm,0.7s,baz=37,slow=23,SNR=3.9
H36A **Jessenland, He** 28.64 8 P P 23 43 36.9 -1.3
baz=191
H35A **Sunnyside Ranc** 28.66 6 P P 23 43 37.5 -0.8
baz=189
REDW **Red Top Meadow** 28.91 342 *e*P P 23 43 42.0 +1.1
11nm,1.4s
I42A **Draeger Farm,** 28.94 15 *e*P P 23 43 43.0 +2.2
13nm,1.0s
H38A **Maiden Rock** 28.98 10 P P 23 43 40.1 -1.1
baz=194
G33A **Ortonville** 29.02 4 P P 23 43 41.4 -0.1
baz=185
G32A **Webster** 29.02 2 P P 23 43 41.1 -0.5
baz=183,SNR=6.5
LOHW **Long Hollow** 29.07 343 *e*P P 23 43 43.4 +1.2
6.8nm,1.0s
I43A **Langenfeld Bro** 29.13 16 P P 23 43 42.1 -0.5
baz=202
FXWY **Fox Creek** 29.21 342 *e*P P 23 43 44.5 +1.0
5.8nm,1.1s
MOOW **Moose Ponds** 29.23 342 *e*P P 23 43 44.6 +0.9
6.9nm,1.1s
IMW **Indian Meadow** 29.43 342 *e*P P 23 43 47.4 +1.9
3.1nm,0.7s
H41A **Junction City** 29.45 14 *e*P P 23 43 45.6 +0.3
13nm,1.1s
F31A **Hecla** 29.61 1 P P 23 43 45.6 -1.1
baz=182
F33A **5 Mile Ranch,** 29.67 4 P P 23 43 46.0 -1.3
baz=186
F34A **Alexandria** 29.70 5 P P 23 43 46.6 -0.9
baz=188
G39A **Holcombe** 29.77 11 P P 23 43 47.9 -0.3
baz=196
O56A **Blue Knob Stat** 29.89 32 P P 23 43 47.5 -1.9
baz=222
G40A **Rib Lake** 29.95 13 P P 23 43 49.0 -0.8
baz=197
RLMT **Red Lodge** 30.12 345 P P 23 43 52.0 +0.5
baz=161
RLMT **Red Lodge** 30.12 345 *e*P P 23 43 52.9 +1.4
12nm,1.3s
HLID **Hailey** 30.27 338 P P 23 43 52.5 -0.4
baz=150
HLID **Hailey** 30.27 338 *e*P P 23 43 54.6 +1.8
3.6nm,1.1s
M54A **Oil Creek Stat** 30.28 30 P P 23 43 52.8 0.0
baz=219
F38A **Pierce - Schro** 30.30 10 P P 23 43 52.4 -0.5
baz=194
F41A **Three Lakes** 30.63 14 P P 23 43 54.6 -1.2
baz=199
E36A **McGregor** 30.64 8 P P 23 43 54.6 -1.3
baz=191
ATAH **Atahualpa** 30.89 137 LR LR 23 53 58.3
comp=Z,49nm,18.2s,baz=340,slow=32
D33A **AnnSam, Waubun** 30.99 4 P P 23 43 58.0 -0.9
baz=186
D35A **Remer** 31.10 7 P P 23 43 59.1 -0.8
baz=190
E40A **Wakefield** 31.13 12 P P 23 43 59.6 -0.6
baz=197
BOZ **Bozeman (W)** 31.18 343 P P 23 44 01.2 +0.4
baz=157,SNR=5.3
BOZ **Bozeman (W)** 31.18 343 *e*P P 23 44 02.4 +1.6
6.6nm,1.3s
D36A **Goodland** 31.30 8 P P 23 44 00.3 -1.4
baz=191
MOD **Modoc Plateau** 31.49 329 *e*P P 23 44 05.2 +1.5
9.6nm,1.3s
F44A **Big Bay de Noc** 31.53 17 P P 23 44 03.0 -0.8
baz=204
C31A **Landman Farms,** 31.55 2 P P 23 44 02.8 -1.1
baz=183,SNR=11
MDND **Maddock** 31.59 359 P P 23 44 04.0 -0.2
baz=179
MDND **Maddock** 31.59 359 *e*P P 23 44 05.3 +1.1
133nm,1.3s
LRM **Limekiln Ridge** 31.62 342 *e*P P 23 44 06.2 +1.4
C35A **Jirik Farms, M** 31.72 7 P P 23 44 04.9 -0.4
baz=190
E43A **Lone Tree Farm** 31.75 16 P P 23 44 05.1 -0.5
baz=203
J08A **Circle Bar Ran** 31.75 333 *e*P P 23 44 06.5 +0.7
10nm,1.0s
C36A **Pine Crest Far** 31.91 8 P P 23 44 06.4 -0.6
baz=192
D41A **Chassel** 32.00 14 P P 23 44 06.6 -1.2
baz=199
B33A **Robert and Kas** 32.14 4 P P 23 44 08.7 -0.3
baz=186
AGMN **Agassiz Nation** 32.14 4 P P 23 44 08.5 -0.6
baz=186,SNR=20
AGMN **Agassiz Nation** 32.14 4 *e*P P 23 44 08.8 -0.3
20nm,0.8s
B32A **Ashes, Strandq** 32.20 3 P P 23 44 08.6 -0.9
baz=185,SNR=6.8
B35A **Bob, Littlefor** 32.40 7 P P 23 44 10.1 -1.2
baz=190
B34A **Aery, Baudette** 32.43 5 P P 23 44 09.8 -1.8
baz=188
BINY **Binghamton** 32.62 33 P P 23 44 11.3 -2.1
baz=224
A31A **Linda, St. Vin** 32.71 2 P P 23 44 13.7 -0.3
baz=184
A32A **Rocking H Ranc** 32.72 3 P P 23 44 14.0 -0.1
baz=185
A33A **Warroad** 32.81 4 P P 23 44 14.3 -0.7
baz=187,SNR=7.1
EGMT **Eagleton** 32.97 347 P P 23 44 17.6 +1.3
14nm,1.4s
MSO **Missoula** 32.98 341 P P 23 44 16.6 +0.1
baz=153
MSO **Missoula** 32.98 341 *e*P P 23 44 17.4 +0.8
13nm,1.6s
F10A **Beach Ranch, E** 33.38 337 *e*P P 23 44 20.7 +0.7
11nm,0.9s
G08A **Pilot Rock** 33.51 334 *e*P P 23 44 21.4 +0.3
4.9nm,0.9s

PCRV **Puerto La Cruz** 34.00 96 LR LR 23 59 15.4
comp=Z,88nm,19.7s,baz=269,slow=38
ULM **Lac du Bonnet** 34.09 4 P P 23 44 25.6 -0.5
8.6nm,0.8s,baz=183,slow=9.0,SNR=16
ULM **Lac du Bonnet** 34.09 4 *e*P P 23 44 25.5 -0.5
25nm,1.2s
H04A **Detroit Lake** 34.48 330 *e*P P 23 44 29.9 +0.4
15nm,1.1s
WALA **Waterton Lakes** 34.97 343 *e*P P 23 44 35.0 +1.1
8.6nm,1.2s
NEW **Newport** 35.28 339 P P 23 44 37.3 +0.9
baz=149
NEW **Newport** 35.28 339 *e*P P 23 44 37.1 +0.7
8.7nm,1.4s
C09A **Chrisman Ranch** 35.30 337 *e*P P 23 44 37.9 +1.3
7.3nm,0.8s
B08A **Colville Reser** 36.16 337 *e*P P 23 44 44.4 +0.5
5.5nm,1.0s
FFC **Flin Flon** 38.54 357 *e*P P 23 45 04.3 +0.3
6.9nm,0.8s
BBB **Bella Bella** 42.67 334 LR LR 00 06 11.3
comp=Z,41nm,20.6s,baz=142,slow=40
FCC **Fort Churchill** 42.68 4 *e*P P 23 45 38.4 +0.3
20nm,1.5s
SCHQ **Schefferville** 45.88 25 P P 23 46 04.0 +0.2
7.0nm,0.8s,baz=239,slow=5.0,SNR=6.0
YKA **Yellowknife Ar** 47.55 350 P P 23 46 16.7 -0.1
0.1nm,0.4s,baz=161,slow=7.0,SNR=5.6
YKW3 **Yellowknife Ar** 47.61 350 *e*P P 23 46 17.2 0.0
5.8nm,1.0s
EGAK **Eagle** 56.25 340 *e*P P 23 47 22.4 +0.8
7.5nm,0.9s
INK **Inuvik** 56.53 345 P P 23 47 24.2 +0.6
3.3nm,0.8s,baz=129,slow=9.2,SNR=18
INK **Inuvik** 56.53 345 *e*P P 23 47 24.1 +0.6
14nm,1.0s
RIDG **Independ'e Rid** 56.91 338 *e*P P 23 47 28.4 +1.9
16nm,1.2s
IL1 **Eielson Array** 58.23 338 *e*P P 23 47 35.7 +0.1
ILAR **Eielson Array** 58.23 338 P P 23 47 36.2 +0.6
1.5nm,0.9s,baz=142,slow=5.7,SNR=15
ILB **Eielson Array** 58.23 338 *e*P P 23 47 36.8 +1.2
RND **Reindeer** 58.24 336 *e*P P 23 47 37.6 +1.7
18nm,1.2s
WRH **Wood River Hil** 58.51 337 *e*P P 23 47 39.5 +2.0
5.6nm,1.0s
SPU **Mount Spurr** 58.52 333 *e*P P 23 47 42.6 +4.8
CPUP **Villa Florida** 58.56 136 P P 23 47 38.0 -0.4
1.2nm,0.7s,baz=338,slow=12,SNR=2.7
TRF **Thorofare Moun** 58.83 336 *e*P P 23 47 41.3 +1.3
24nm,1.2s
BPAW **Bear Paw Mtn.** 59.41 336 *e*P P 23 47 45.9 +2.0
9.8nm,1.2s
CAST **Castle Rocks** 59.53 335 *e*P P 23 47 44.9 +0.2
10nm,1.0s
MLY **Manley** 59.77 337 *e*P P 23 47 47.1 +0.7
8.8nm,1.0s
COLD **Coldfoot** 60.69 340 *e*P P 23 47 54.4 +1.9
5.9nm,1.0s
TOLK **Toolik Lake Re** 61.23 341 *e*P P 23 47 56.5 +0.2
6.6nm,0.9s
NOA **NORSAR Array B** 85.42 27 P P 23 50 20.2 +1.2
0.5nm,0.8s,baz=294,slow=4.3,SNR=2.9
ARCES **ARCESS Array B** 86.13 17 P P 23 50 22.4 +0.1
1.7nm,0.9s,baz=301,slow=7.3,SNR=2.8
TIXI **Tiksi** 86.64 346 *e*P P 23 50 25.1 +0.4
12nm,1.3s
FINES **FINESS Array B** 91.31 23 P P 23 50 46.5 -0.5
0.8nm,0.8s,baz=353,slow=10,SNR=3.2
HHC **Hu-ho-hao-te** 116.55 334 *e*P **PKPdf** 23 56 22.3 -3.8
LZH **Lanzhou** 123.69 338 *e*PKP **PKPdf** 23 56 37.8 -2.2
LZH pPKP **sPKPdf** 23 56 47.3 -0.4
LZH sPKP 23 56 51.4
KSH **Kashi** 124.41 5 *e*PKP **PKPdf** 23 56 44.8 +3.6
KSH PP **PP** 23 58 25.9 +0.4
WRA **Warramunga Arr** 129.28 257 PKP **PKPdf** 23 56 49.7 -1.2
0.5nm,0.7s,baz=34,slow=2.2,SNR=4.0
ASAR **Alice Springs** 129.89 253 PKP **PKPdf** 23 56 52.1 +0.2
0.5nm,0.9s,baz=133,slow=3.9,SNR=3.5

MEX 23 23:39:37.9±0.4, 16.26N×98.29W, h2km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**51**	*i* P		Pg	23 39 41.7	-0.2
PNIG				*i* S		Sg	23 39 44.8	+0.2
TLIG	**Tlapa**	**1.32**	**349**	*e*P		Pg	23 39 59.9	-3.3
TLIG				*i* S		Sg	23 40 16.4	-4.0
ACX	**Acapulco**	**1.62**	**292**	*i* P		Pn	23 40 01.9	-5.6
ACX				*i* S		Sn	23 40 23.0	-5.9
VHO	**Vista Hermosa**	**1.70**	**61**	*i* P		Pn	23 40 05.2	-3.5
VHO				*e*S		Sn	23 40 26.4	-4.8
CAIG	**El Cayaco**	**2.05**	**293**	*e*P		Pn	23 40 09.6	-3.8
CAIG				*e*S		Sn	23 40 35.4	-4.1

MAN 23 23:46:00, 9.39N×123.43E, h24km, mb3.7, ML2.4, MS1.9, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.20**	**257**	*i* P		Pn	23 46 07.3	-0.2
SNPH				*i* S		Sb	23 46 14.0	+4.6
TBP	**Tagbilaran**	**0.52**	**54**	*e*P		Pb	23 46 11.0	+0.5
TBP				*i* S		Sn	23 46 21.7	+1.7
DCPH	**Dipolog City**	**0.80**	**186**	*e*P		Pn	23 46 20.2	+4.3
DCPH				*e*S		Sn	23 46 38.0	+11
MSLP	**Maasin**	**1.59**	**62**	*e*P		Pn	23 46 26.2	-0.4
MSLP				*e*S		Sb	23 46 49.4	+1.1

*ISCJB **23** 23:47:44.3±0.7, 16.59N±0.04×97.93W±0.02, h15km±5km, mb4.5/137, MS3.7/25, Error ellipse: s-maj=6.5km s-min=4.0km az=177.0*
*NEIC **23** 23:47:44.3±0.0, 16.23N×98.27W, h1km, mb4.6/143, MD4.4(MEX), After MEX.*
*MEX **23** 23:47:44.7±0.6, 16.24N×98.29W, h5km, MD4.4*
*IDC **23** 23:47:48.7±4.5, 16.64N×98.07W, h33km±29km, mb4.0/16, mb1 4.2/20, mb1mx4.0/49, mbtmp4.2/20, ML3.8/4, MS3.7/28, Ms1 3.8/28, ms1mx3.6/47, Error ellipse: s-maj=35.1km s-min=14.4km az=41.0*

ISC 23 23:47:45.3±0.7, 16.48N±0.07×98.25W±0.04, h16km±4km, n506, σ1°40/490, mb4.6/137, MS3.7/25, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**124**	*e*P		**Pg**	**23 47 48.6**	**-0.7**
PNIG				*e*S		**Sg**	**23 47 51.5**	**-0.5**
PNIG	**Pinotepa**	**0.15**	**124**	*e*P		**Pg**	**23 47 48.6**	**-0.7**
PNIG				*e*S		**Sg**	**23 47 51.5**	**-0.5**
VHO	**Vista Hermosa**	**1.57**	**68**	*e*P		**Pn**	**23 48 12.0**	**-0.7**
VHO				*i* S		**Sn**	**23 48 33.6**	**+0.7**
VHO	**Vista Hermosa**	**1.57**	**68**	*e*P		**Pn**	**23 48 12.0**	**-0.7**
VHO				*i* S		**Sb**	**23 48 34.0**	**+0.1**
ACX	**Acapulco**	**1.59**	**285**	*e*P		Pn	23 48 05.9	-6.8
ACX				*i* S		**Sn**	**23 48 27.1**	**-5.8**
CAIG	**El Cayaco**	**2.01**	**287**	*e*P		**Pn**	**23 48 16.4**	**-2.1**
CAIG				*e*S		**Sn**	**23 48 41.8**	**-1.6**
UNM	**Universidad Na**	**2.97**	**343**	*e*Pn		**Pn**	**23 48 33.5**	**+1.4**
CMIG	**Matias Romero**	**3.29**	**79**	Pn		**Pn**	**23 48 34.4**	**-1.7**
	19nm,0.3s,baz=246,slow=13,SNR=172							
CMIG				Pg		**Pb**	**23 48 44.8**	**+1.6**
	63nm,0.3s,baz=257,slow=14,SNR=82							
CMIG				Sn		**Sn**	**23 49 13.9**	**-0.9**
	99nm,0.3s,baz=52,slow=14,SNR=5.6							
CMIG				Lg		Lg	23 49 28.1	
	383nm,0.3s,baz=355,slow=18,SNR=12							
MOIG	**Morelia**	**4.24**	**319**	*e*Pn		**Pn**	**23 48 51.7**	**+2.3**
JRQG	**Juriquilla Cam**	**4.69**	**334**	*e*Pn		**Pn**	**23 48 57.8**	**+2.1**
ZAIG	**Zacatecas**	**7.46**	**328**	*e*Pn		**Pn**	**23 49 36.4**	**+2.6**
LNIG	**Linares**	**8.46**	**352**	*e*Pn		Pn	23 49 52.6	+5.4
833A	**Chaparral WMA,**	**11.84**	**355**	P		**Pn**	**23 50 33.4**	**-0.1**
	baz=175,SNR=5.5							
H06E1	**SOCORRO T-PHAS**	**12.30**	**283**	T		T	00 02 53.6	
	SNR=19							
SLBS	**Sierra La Lagu**	**13.11**	**305**	*e*Pn		**Pn**	**23 50 55.2**	**+4.2**
LPIG	**La Paz**	**13.61**	**306**	LR		LR	23 55 15.6	
	comp=Z,204nm,19.7s,baz=52,slow=33							
TXAR	**Lajitas Array**	**13.73**	**340**	Pn		**Pn**	**23 51 02.3**	**+2.9**
	0.0nm,0.3s,baz=160,slow=15,SNR=9.3							
TXAR				LR		LR	23 56 54.4	

comp=Z,1μm,18.4s,baz=0.0,slow=40
TX31 **Lajitas Ar. Si** 13.73 340 *e*Pn **Pn** 23 51 01.8 +2.3
JCT **Junction City** 14.01 354 P **Pn** 23 51 04.1 +0.9
baz=174
JCT **Junction City** 14.01 354 *e*Pn **Pn** 23 51 05.3 +2.0
JTS **JuntasAbangare** 14.32 114 Pn **Pn** 23 51 08.1 +0.5
0.6nm,0.3s,baz=24,slow=20,SNR=2.3
JTS **JuntasAbangare** 14.32 114 *e*Pn **Pn** 23 51 06.4 -1.2
37nm,1.0s
WHTX **Lake Whitney,** 15.46 3 P **Pn** 23 51 22.2 -0.6
baz=183,SNR=8.3
WHTX **Lake Whitney,** 15.46 3 *e*Pn **P** 23 51 28.1 +0.9
62nm,1.0s
NATX **Nacogdoches** 15.56 11 *e*Pn **Pn** 23 51 24.3 +0.2
16nm,0.6s
ABTX **Abilene, Hawle** 16.13 356 P **Pn** 23 51 32.0 +0.6
baz=175,SNR=18
ABTX **Abilene, Hawle** 16.13 356 *e*Pn **P** 23 51 34.1 -0.5
148nm,1.3s
344A **Westbrook Farm** 16.41 23 P **Pn** 23 51 34.0 -0.9
baz=206
MNTX **Cornudas Mount** 16.48 338 P **Pn** 23 51 37.1 +1.2
baz=156
MNTX **Cornudas Mount** 16.48 338 *e*Pn **Pn** 23 51 37.4 +1.5
8.9nm,0.9s
244A **Avery, Jackson** 16.95 23 P **Pn** 23 51 41.2 -0.6
baz=205
VBMS **Vicksburg** 17.18 23 *e*Pn **P** 23 51 45.6 -0.5
175nm,1.4s
Z40A **Long Farm, Mag** 17.28 14 P **Pn** 23 51 46.3 +0.4
baz=196
143A **Socs Landing,** 17.31 20 P **Pn** 23 51 46.7 +0.4
baz=202
Z41A **Richland Creek** 17.42 15 P **Pn** 23 51 47.9 +0.2
baz=198
Z42A **Norrel Spur, H** 17.67 18 P **Pn** 23 51 51.3 +0.6
baz=207
145A **Houston Renfro** 17.74 24 P **Pn** 23 51 51.3 -0.3
baz=207
247A **Quitman** 17.81 28 P **Pn** 23 51 51.1 -1.4
baz=211
MSTX **Muleshoe** 17.89 348 P **Pn** 23 51 53.9 +0.3
baz=166,SNR=7.6
MSTX **Muleshoe** 17.89 348 *e*Pn **Pn** 23 51 53.8 +0.2
29nm,0.9s
319A **Douglas** 17.91 328 *e*Pn **P** 23 51 56.0 +1.5
21nm,0.8s
Y40A **Okolona** 18.03 13 P **Pn** 23 51 54.1 -1.0
baz=195
Y41A **Eaglette Beard** 18.06 15 P **Pn** 23 51 55.2 -0.3
baz=198
121A **Cookes Peak, D** 18.17 333 P **Pn** 23 51 56.8 -0.3
baz=150,SNR=6.2
121A **Cookes Peak, D** 18.17 333 *e*Pn **P** 23 51 59.6 +2.2
22nm,1.0s
121A *e* 23 52 08.3
WMOK **Wichita Mounta** 18.19 359 P **Pn** 23 51 56.1 -1.1
baz=178,SNR=9.2
WMOK **Wichita Mounta** 18.19 359 *e*Pn **Pn** 23 51 56.4 -0.8
54nm,1.8s
X39A **Fountain Ranch** 18.34 11 P **P** 23 51 57.5 -1.6
baz=193,SNR=7.4
Z45A **Winona** 18.51 23 P **P** 23 51 59.2 -1.7
baz=206
X40A **Basin Creek Fa** 18.59 14 P **P** 23 52 00.9 -0.8
baz=196
AMTX **Amarillo** 18.59 351 P **P** 23 52 01.9 0.0
baz=170
AMTX **Amarillo** 18.59 351 *e*P **P** 23 52 01.9 0.0
54nm,1.1s
Z46A **Louisville** 18.65 25 P **P** 23 52 01.1 -1.4
baz=209
X41A **Kaden, Bauxite** 18.67 15 P **P** 23 52 02.1 -0.5
baz=197
148A **Greensboro** 18.78 29 P **P** 23 52 02.2 -1.7
baz=213
Y44A **Strider, Charl** 18.86 21 P **P** 23 52 04.2 -0.5
baz=204
UALR **University of** 18.98 15 *e*P **Pn** 23 52 06.9 +0.2
14nm,0.8s
Y45A **Yeager Farm, C** 19.01 23 P **P** 23 52 05.0 -1.4
baz=206
554A **Perry** 19.02 42 P **P** 23 52 04.9 -1.6
baz=227
W39A **Magazine** 19.07 11 P **P** 23 52 06.4 -0.6
baz=193,SNR=6.9
BNM **Barren Site** 19.14 338 *e*P **Pn** 23 52 10.4 +1.3
Y46A **Houston** 19.29 24 P **P** 23 52 07.9 -1.5
baz=208,SNR=9.0
LRAL **Lakeview Retre** 19.37 30 P **P** 23 52 08.5 -1.9
baz=214
LRAL **Lakeview Retre** 19.37 30 *e*P **P** 23 52 10.2 -0.2
14nm,1.0s
LRAL *e*Sn **Sn** 23 55 43.2 -5.4
W41B **Gary Mavity, V** 19.38 15 P **P** 23 52 09.9 -0.5
baz=197
Z48A **Northport** 19.40 28 P **P** 23 52 09.3 -1.4
baz=212
TUC **Tucson** 19.43 326 P **Pn** 23 52 13.1 +0.7
baz=142
TUC **Tucson** 19.43 326 *e*P **Pn** 23 52 13.9 +1.6
9.5nm,1.0s
251A **Midway** 19.43 35 P **P** 23 52 09.1 -2.0
baz=219
TUL1 **Leonard** 19.48 6 P **P** 23 52 10.5 -1.0
baz=187,SNR=10.0
TUL1 **Leonard** 19.48 6 *e*P **P** 23 52 10.8 -0.7
37nm,0.8s
WHAR **Wooly Hollow** 19.48 15 *e*P **P** 23 52 11.4 -0.1
23nm,0.9s
150A **Eclectic** 19.51 32 P **P** 23 52 10.0 -1.8
baz=217
LAZ **Ladron** 19.55 338 *e*P **Pn** 23 52 15.5 +1.6
2.9nm,0.9s
353A **Camilla** 19.56 38 P **P** 23 52 10.4 -2.0
baz=224
X45A **UM Field Stati** 19.56 22 P **P** 23 52 11.1 -1.4
baz=206
OXF **Oxford** 19.64 22 *e*P **Pn** 23 52 18.6 +4.0
36nm,1.0s
V39A **Pettigrew** 19.72 11 P **P** 23 52 13.8 -0.4
baz=193,SNR=27
Y47A **UCPARC, Winfie** 19.72 26 P **P** 23 52 12.9 -1.3
baz=210
Z49A **Columbiana** 19.73 30 P **P** 23 52 13.1 -1.1
baz=215,SNR=5.7
556A **Lake Butler** 19.80 44 P **P** 23 52 12.9 -2.1
baz=230
ANMO **Albuquerque** 19.81 340 P **Pn** 23 52 17.2 +0.3
0.5nm,0.3s,baz=341,slow=12,SNR=21
ANMO LR LR 00 00 47.6
comp=Z,744nm,18.7s,baz=341,slow=40
ANMO **Albuquerque** 19.81 340 P **Pn** 23 52 16.7 -0.2
baz=157
ANMO **Albuquerque** 19.81 340 *e*P **Pn** 23 52 17.3 +0.3
11nm,0.9s
151A **Opelika** 19.81 34 P **P** 23 52 13.3 -1.9
baz=219,SNR=6.5
V40A **Witts Springs** 19.85 13 P **P** 23 52 14.5 -1.1
baz=195,SNR=14
V41A **Mountainview** 19.99 15 P **P** 23 52 16.4 -0.7
baz=197
X46A **Booneville** 19.99 24 P **P** 23 52 16.1 -1.0
baz=208,SNR=6.0
TIGA **Tifton** 20.00 39 *e*P **P** 23 52 17.9 +0.6
50nm,0.8s
Y48A **Jasper** 20.03 28 P **P** 23 52 16.1 -1.3
baz=212
Z50A **Ashland** 20.08 31 P **P** 23 52 17.2 -0.9
baz=216,SNR=7.9
HHAR **Hobbs** 20.10 10 *e*P **P** 23 52 17.4 -0.8
17nm,0.9s
V42A **Cord** 20.20 16 P **P** 23 52 18.4 -1.0
baz=199
X47A **Russelville** 20.25 26 P **P** 23 52 18.8 -1.0
baz=210,SNR=6.7
U39A **Green Forest** 20.28 11 P **P** 23 52 18.9 -1.3
baz=193,SNR=16
214A **Organ Pipe Nat** 20.31 322 P Pn 23 52 22.1 -0.5
baz=137
214A **Organ Pipe Nat** 20.31 322 *e*P Pn 23 52 23.4 +0.7
46nm,1.0s
Y49A **Blount Mountai** 20.33 29 P **P** 23 52 19.4 -1.4
baz=214
U40A **Yellville** 20.38 13 P **P** 23 52 20.3 -1.0
baz=195,SNR=18
X48A **Hartselle** 20.54 27 P **P** 23 52 21.7 -1.3
baz=212

254A	Abbeville baz=224	20.54	39	P	P	23 52 20.9	-2.2
PLAL	Pickwick Lake 30nm,0.8s	20.56	24	eP	P	23 52 22.3	-1.0
PLAL				eS	S	23 56 11.5	-1.2
U41A	Viola baz=197,SNR=9.8	20.57	15	P	P	23 52 22.5	-0.9
Y50A	Piedmont baz=216	20.68	31	P	P	23 52 22.6	-2.0
U42A	Revenden baz=199,SNR=17	20.76	16	P	P	23 52 24.5	-0.9
T38A	Diamond baz=191,SNR=11	20.78	9	P	P	23 52 24.7	-1.0
X18A	Snowflake 35nm,1.1s	20.82	332	eP	Pn	23 52 29.1	+0.3
X49A	Woodville baz=213	20.91	29	P	P	23 52 25.4	-1.6
T39A	Clever baz=193,SNR=5.2	20.92	11	P	P	23 52 26.2	-1.0
W47A	Westpoint baz=209,SNR=5.3	20.99	25	P	P	23 52 26.1	-1.8
W48A	Pulaski baz=211,SNR=6.4	21.17	26	P	P	23 52 28.2	-1.6
X50A	Fort Payne baz=215	21.18	30	P	P	23 52 28.6	-1.5
T40A	Mansfield baz=195,SNR=21	21.21	13	P	P	23 52 29.0	-1.3
W18A	Petrified Fore baz=149	21.22	333	P	P	23 52 30.7	+0.1
W18A	Petrified Fore 15nm,1.0s	21.22	333	eP	P	23 52 32.7	+2.1
V46A	Holladay baz=207,SNR=15	21.26	23	P	P	23 52 29.1	-1.8
T25A	Trinidad baz=164,SNR=29	21.29	346	P	P	23 52 32.5	+1.1
T25A	Trinidad 44nm,1.0s	21.29	346	eP	P	23 52 34.1	+2.7
MHTCO	State Highway 89nm,1.8s	21.35	346	eP	P	23 52 33.9	+1.9
X16A	Lo Mia Camp, P 31nm,0.9s	21.43	329	eP	P	23 52 35.5	+2.5
T42A	Van Buren baz=199,SNR=12	21.43	16	P	P	23 52 31.9	-0.8
113A	Mohawk Valley, 17nm,0.9s	21.45	322	eP	P	23 52 35.5	+2.6
GOGA	Godfrey baz=221,SNR=9.6	21.50	36	P	P	23 52 31.3	-2.2
GOGA	Godfrey 19nm,0.8s	21.50	36	eP	P	23 52 32.2	-1.3
V47A	Nunnelly baz=209,SNR=13	21.52	24	P	P	23 52 31.7	-1.9
S39A	Bolivar baz=193,SNR=11	21.58	11	P	P	23 52 32.8	-1.5
S40A	Lebanon baz=195,SNR=21	21.65	12	P	P	23 52 33.6	-1.4
WVT	Waverly baz=208	21.66	23	P	P	23 52 33.6	-1.6
SWET	Sewanee 12nm,0.9s	21.67	28	eP	P	23 52 34.4	-1.0
SWET				e		23 52 43.3	
T43A	Greenville baz=201,SNR=13	21.70	17	P	P	23 52 33.6	-2.0
V48A	Smith Brothers baz=211	21.73	26	P	P	23 52 33.9	-1.9
S41A	Jillco Farms, baz=197,SNR=21	21.80	14	P	P	23 52 35.5	-1.2
R38A	Fenwick Farm, baz=191	21.96	9	P	P	23 52 37.3	-1.1
SDCO	Great Sand Dun baz=162	22.13	345	P	P	23 52 40.8	+0.2
SDCO	Great Sand Dun 25nm,1.2s	22.13	345	eP	P	23 52 41.8	+1.2
U47A	Clarksville baz=209	22.14	24	P	P	23 52 38.6	-1.7
S42A	Caledonia baz=199,SNR=13	22.21	16	P	P	23 52 40.1	-1.0
S43A	Fulton Ridge, baz=201	22.22	17	P	P	23 52 39.6	-1.6
R39A	Chumby, Stover baz=193,SNR=21	22.23	11	P	P	23 52 39.6	-1.7
GLA	Glamis baz=134	22.28	321	P	P	23 52 43.2	+1.3
GLA	Glamis 13nm,0.9s	22.28	321	eP	P	23 52 45.5	+3.6
WUAZ	Wupatki baz=145,SNR=12	22.29	331	P	P	23 52 42.9	+0.8
WUAZ	Wupatki 33nm,1.2s	22.29	331	eP	P	23 52 44.9	+2.8
CBKS	Cedar Bluff baz=176	22.29	357	P	P	23 52 42.0	0.0
CBKS	Cedar Bluff 101nm,1.4s	22.29	357	eP	P	23 52 44.1	+2.1
R40A	Maddies Statio baz=195,SNR=12	22.36	12	P	P	23 52 41.6	-1.1
T46A	Princeton baz=207,SNR=8.6	22.45	22	P	P	23 52 42.4	-1.2
S22A	4UR Ranch, Cre baz=158	22.50	342	P	P	23 52 44.9	+0.4
S22A	4UR Ranch, Cre 10.0nm,0.9s	22.50	342	eP	P	23 52 46.2	+1.7
U48A	Cassie Pea, Po baz=210,SNR=5.5	22.50	25	P	P	23 52 42.4	-1.8
FVM	French Village 22nm,1.0s	22.51	16	eP	P	23 52 45.0	+0.7
CPCT	Cooper Cave	22.53	30	eP	P	23 52 43.4	-1.1
MVCO	Mesa Verde baz=154,SNR=13	22.55	338	P	P	23 52 45.3	+0.3
MVCO	Mesa Verde 16nm,0.8s	22.55	338	eP	P	23 52 46.5	+1.5
Q37A	Longview Farm, baz=190	22.57	8	P	P	23 52 44.7	-0.1
R41A	Rosebud baz=197,SNR=9.1	22.57	14	P	P	23 52 43.6	-1.2
S44A	Carbondale baz=203	22.58	19	P	P	23 52 44.5	-0.5
KSU1	Kansas State U baz=184	22.59	3	P	P	23 52 44.6	-0.5
KSU1	Kansas State U 34nm,1.3s	22.59	3	eP	P	23 52 45.5	+0.4
Y12C	Blythe baz=136	22.59	323	P	P	23 52 45.7	+0.5
Y12C	Blythe 11nm,1.0s	22.59	323	eP	P	23 52 46.9	+1.7
SIUC	Southern Illin 46nm,1.1s	22.61	19	eP	P	23 52 46.1	+0.8
R42A	Luebbering baz=199	22.69	15	P	P	23 52 44.1	-2.0
T47A	Sharon Grove baz=208,SNR=11	22.69	24	P	P	23 52 44.7	-1.5
Q38A	Cooks Store, C baz=192,SNR=6.5	22.77	9	P	P	23 52 45.2	-1.7
PDMCI	Parker Dam,Lak baz=138	22.77	324	P	P	23 52 47.6	+0.5
KSCO	Kaye Shedlock' baz=169	22.78	351	P	P	23 52 47.1	-0.1
KSCO	Kaye Shedlock' 31nm,1.0s	22.78	351	eP	P	23 52 47.7	+0.5
S45A	Carrier Mills baz=204,SNR=5.8	22.78	20	P	P	23 52 45.5	-1.6
SWSC	Sam W. Stewart baz=132	22.81	319	P	P	23 52 48.3	+0.9
R43A	Red Bud baz=201,SNR=8.9	22.92	17	P	P	23 52 47.3	-1.2
Q39A	Willow Grove F baz=193,SNR=7.5	22.96	11	P	P	23 52 47.3	-1.6
BG3	Lake Jocassee 11nm,0.7s	22.98	34	eP	P	23 52 48.6	-0.7
TKL	Tuckaleechee C 8.6nm,0.9s,baz=196,slow=9.7,SNR=11	23.06	31	P	P	23 52 49.4	-0.7
TKL				LR	LR	00 02 19.0	
	comp=Z,77nm,21.8s,baz=234,slow=38						
TKL	Tuckaleechee C 39nm,1.4s	23.06	31	eP	P	23 52 50.5	+0.4
T48A	Bowling Green baz=210,SNR=11	23.08	25	P	P	23 52 48.2	-2.0
BC3	Big Chuckawall baz=134	23.08	321	P	P	23 52 51.1	+0.7
Q40A	Laux Farm, Aux baz=195	23.08	12	P	P	23 52 47.9	-2.3
R44A	Waltonville baz=203,SNR=6.2	23.14	19	P	P	23 52 48.9	-1.9
MONP2	Monument Peak baz=131	23.17	318	P	P	23 52 52.2	+0.7
SLM	Saint Louis 23nm,0.9s	23.17	16	eP	P	23 52 51.1	-0.1
Q24A	Divide baz=163	23.20	346	P	P	23 52 50.9	-0.9
Q24A	Divide	23.20	346	eP	P	23 52 52.5	+0.7
	17nm,1.1s						
Q41A	Truxton baz=197,SNR=11	23.23	14	P	P	23 52 50.2	-1.5
W13A	Hualapai Mount 9.4nm,1.0s	23.23	326	eP	P	23 52 54.5	+2.5
CSU	Charleston Sou	23.24	42	eP	P	23 52 51.0	-0.9
IRM	Iron Mountain baz=136	23.25	322	P	P	23 52 53.2	+1.2
NHSC	New Hope baz=228,SNR=6.1	23.25	41	P	P	23 52 50.8	-1.2
NHSC	New Hope 177nm,1.2s	23.25	41	eP	P	23 52 52.4	+0.4
P37A	Lathrop baz=189,SNR=6.2	23.28	8	P	P	23 52 50.7	-1.5
USIN	University of 128nm,1.5s	23.35	21	eP	P	23 52 53.6	+0.6
Q42A	Golden Eagle baz=199	23.36	15	P	P	23 52 52.0	-1.0
JSC	Jenkinsville 14nm,0.7s	23.39	38	eP	P	23 52 52.3	-1.2
PV01	Paradox Valley	23.41	339	eP	P	23 52 55.5	+1.7
P39B	Salisbury baz=193,SNR=7.3	23.43	11	P	P	23 52 52.6	-1.1
P38A	Dawn baz=191,SNR=8.2	23.43	9	P	P	23 52 52.9	-0.9
R45A	Skylar, Fairfi baz=204,SNR=5.5	23.44	20	P	P	23 52 53.1	-0.7
U15A	North Rim 23nm,1.1s	23.46	331	eP	P	23 52 56.9	+2.5
PAULI	Pauline 10nm,1.1s	23.46	36	eP	P	23 52 53.7	-0.4
O33A	Hebron baz=182	23.52	1	P	P	23 52 53.9	-0.8
P40A	Paris baz=195,SNR=17	23.60	12	P	P	23 52 53.6	-1.8
Q43A	New Douglas baz=201	23.60	17	P	P	23 52 53.7	-1.7
R46A	Gibon Southern baz=206	23.63	21	P	P	23 52 53.2	-2.4
BELC	Belle Mtn. Jos baz=134	23.64	321	P	P	23 52 56.7	+0.7
O34A	Beatrice baz=184,SNR=16	23.66	3	P	P	23 52 55.2	-0.8
XPFO	Piæon Flat 43nm,1.9s	23.66	319	eP	P	23 52 58.0	+1.7
PFO	Pinyon Flats O comp=Z,204nm,18.2s,baz=150,slow=35	23.67	319	LR	LR	00 01 31.8	
PFO	Pinyon Flats O baz=132	23.67	319	P	P	23 52 56.7	+0.5
PFO	Pinyon Flats O 40nm,1.9s	23.67	319	eP	P	23 52 58.0	+1.7
S48A	Wiedeman Farm, baz=210	23.69	25	P	P	23 52 53.9	-2.4
Q44A	Meyer Farm, Va baz=202	23.77	18	P	P	23 52 55.4	-1.6
PV10	Paradox Valley	23.79	339	eP	P	23 52 58.4	+0.9
PV10				eSn	Sn	23 57 24.7	-10
SMCO	Snowmass 25nm,1.2s	23.87	343	eP	P	23 53 00.3	+1.8
TZTN	Tazewell baz=217	23.87	30	P	P	23 52 55.9	-2.2
TZTN	Tazewell 39nm,1.4s	23.87	30	eP	P	23 52 57.9	-0.2
O37A	Wolven Farm, M baz=190	23.88	8	P	P	23 52 57.7	-0.4
OLIL	Olney 21nm,0.9s	23.90	20	eP	P	23 52 58.6	+0.4
O38A	Galt baz=191	23.93	9	P	P	23 52 57.6	-1.0
PV09	Paradox Valley	23.93	339	eP	P	23 53 00.5	+1.5
P41A	Barry, Barry baz=197	23.95	14	P	P	23 52 57.1	-1.7
KMSC	Kings Mountain baz=225	23.97	36	P	P	23 52 57.6	-1.4
KMSC	Kings Mountain 17nm,1.0s	23.97	36	eP	P	23 52 58.7	-0.3
GMRC	Granite Mounta baz=136	23.99	323	P	P	23 53 00.7	+1.4
Q45A	Warren Harvey, baz=204	24.02	20	P	P	23 52 57.6	-1.9
P42A	Winchester baz=199,SNR=9.2	24.04	15	P	P	23 52 58.5	-1.1
R47A	Wooly Knot Far baz=208,SNR=17	24.06	23	P	P	23 52 58.3	-1.5
WCI	Wyandotte Cave	24.09	24	P	P	23 52 59.0	-1.1
WCI	Wyandotte Cave 29nm,0.8s	24.09	24	eP	P	23 52 59.3	-0.8
ISCO	Idaho Springs baz=163,SNR=31	24.11	346	P	P	23 53 01.2	+0.6
ISCO	Idaho Springs 20nm,0.8s	24.11	346	eP	P	23 53 01.6	+1.0
KNB	Kanab 19nm,1.1s	24.19	331	eP	P	23 53 03.3	+2.1
O40A	La Belle baz=195,SNR=7.1	24.21	12	P	P	23 52 60.0	-1.1
O39A	Kirksville baz=193	24.21	11	P	P	23 53 00.3	-0.8
PKCU	Pink Cliffs 19nm,1.1s	24.30	332	eP	P	23 53 03.6	+1.2
P43A	Skaggs, Pawnee baz=200	24.31	17	P	P	23 53 01.0	-1.1
N34A	Lincoln baz=184	24.32	3	P	P	23 53 01.7	-0.5
LCMT	Little Creek M 12nm,1.4s	24.38	330	eP	P	23 53 04.8	+1.8
R48A	Northridge Ran baz=210	24.40	24	P	P	23 53 01.5	-1.4
P44A	Sand Creek, Wi baz=203	24.40	18	P	P	23 53 02.1	-0.9
O41A	Paseleys Farm, baz=197,SNR=7.3	24.41	14	P	P	23 53 01.7	-1.4
N36A	Muff Farm, Cla baz=188	24.42	6	P	P	23 53 02.4	-0.7
HELC	Santa Helena 32nm,1.4s	24.48	112	eP	P	23 53 03.2	-1.1
OGNE	Ogallala baz=171	24.60	353	P	P	23 53 05.2	+0.3
OGNE	Ogallala 100nm,1.4s	24.60	353	eP	P	23 53 06.1	+1.2
TUQ	Turquoise Moun baz=136	24.60	323	P	P	23 53 07.3	+2.3
N38A	Joes South For baz=192,SNR=12	24.62	9	P	P	23 53 04.0	-0.9
Q47A	Bedord North L baz=208	24.66	23	P	P	23 53 04.2	-1.1
P45A	Graceland, Par baz=204	24.73	20	P	P	23 53 05.3	-0.6
MTPU	Mount Pierson 24nm,0.8s	24.74	333	eP	P	23 53 08.8	+2.4
SZCU	Shurtz Canyon 8.2nm,1.0s	24.78	331	eP	P	23 53 08.5	+1.9
N39A	Derby Farms, D baz=193,SNR=7.0	24.82	10	P	P	23 53 05.8	-0.9
BLO	Bloomington 178nm,1.9s	24.83	22	eP	P	23 53 06.5	-0.4
BGNE	Belgrade 10nm,0.4s	24.85	0	P	P	23 53 06.3	-0.7
CCUT	Cedar City 3.8nm,1.0s	24.87	330	eP	P	23 53 10.0	+2.5
SHPR	Sheep Range 10.0nm,1.2s	24.96	326	eP	P	23 53 10.1	+1.8
SRU	San Rafael Swe 13nm,0.8s	24.98	337	eP	P	23 53 11.0	+2.6
M34A	Aspy Farms, Fr baz=184	24.98	3	P	P	23 53 08.2	+0.1
N41A	Harden Midland baz=197	24.98	13	P	P	23 53 07.0	-1.2
P46A	Rosedale baz=206	24.99	21	P	P	23 53 07.3	-1.0
N40A	Mertquake, Sal baz=195,SNR=5.3	25.00	12	P	P	23 53 07.1	-1.2
M35A	Neola baz=186	25.00	5	P	P	23 53 07.9	-0.4
GSC	Goldstone, Bar baz=134	25.02	322	P	P	23 53 10.3	+1.6
GSC	Goldstone, Bar 14nm,1.2s	25.02	322	eP	P	23 53 11.4	+2.7
M36A	Felix, Anita baz=188	25.07	6	P	P	23 53 07.9	-1.1
MWC	Mount Wilson 12nm,1.0s	25.07	319	eP	P	23 53 11.8	+2.5
M37A	Trindle Farm, baz=190,SNR=14	25.10	7	P	P	23 53 08.7	-0.6
O20A	White River Ci baz=157,SNR=15	25.12	342	P	P	23 53 10.9	+1.2
O20A	White River Ci 26nm,1.0s	25.12	342	eP	P	23 53 11.8	+2.1
MSU	Marysvale	25.13	334	eP	P	23 53 13.6	+3.8
HDIL	Hopedale baz=200	25.22	16	P	P	23 53 09.6	-0.7
HDIL	Hopedale 26nm,0.9s	25.22	16	eP	P	23 53 10.2	-0.1
N23A	Red Feather La baz=163,SNR=11	25.23	346	P	P	23 53 11.4	+0.7
N23A	Red Feather La 23nm,1.1s	25.23	346	eP	P	23 53 12.2	+1.5
M38A	Pleasantville baz=191,SNR=21	25.24	9	P	P	23 53 09.7	-0.8
N42A	Yates City baz=199,SNR=5.7	25.29	15	P	P	23 53 09.8	-1.2
OTAV	Otavalo 4.6nm,1.0s	25.33	128	eP	P	23 53 12.8	+0.7
P18A	Preston Nutter 27nm,1.1s	25.33	338	eP	P	23 53 13.7	+2.0
P17A	Butcher Ranch, 6.8nm,0.9s	25.37	337	eP	P	23 53 14.1	+2.2
O45A	Potomac baz=204	25.39	19	P	P	23 53 11.6	-0.3
TMUT	Trail Mountain 10nm,0.9s	25.40	336	eP	P	23 53 14.3	+1.9
L34A	Svendsen Farm, baz=184	25.46	3	P	P	23 53 11.5	-1.0
M39A	Webster baz=194,SNR=8.7	25.46	11	P	P	23 53 11.4	-1.2
PHWY	Pilot Hill 14nm,1.1s	25.51	347	eP	P	23 53 14.6	+1.2
M40A	Post Highland baz=195,SNR=5.6	25.52	12	P	P	23 53 11.7	-1.4
M41A	Milan baz=197	25.69	13	P	P	23 53 13.3	-1.2
SCIA	State Center baz=191,SNR=6.0	25.71	9	P	P	23 53 14.2	-0.6
SCIA	State Center 5.3nm,0.4s	25.71	9	eP	P	23 53 14.5	-0.3
SFIN	Lafayette baz=205,SNR=6.2	25.71	20	P	P	23 53 13.4	-1.4
SFIN	Lafayette 57nm,1.5s	25.71	20	eP	P	23 53 14.4	-0.4
OSI	Osito Audit: C 16nm,0.3s	25.74	318	eP	P	23 53 18.2	+2.9
N44A	Piper City baz=203,SNR=5.2	25.77	18	P	P	23 53 13.9	-1.4
SDDR	Presa de Saban 22nm,0.9s	25.80	80	eP	P	23 53 16.0	+0.2
L37A	Phoenix Point, baz=190	25.85	8	P	P	23 53 14.9	-1.2
O47A	Sheridan baz=207,SNR=8.7	25.90	22	P	P	23 53 14.4	-2.1
MPMC	Manual Prospec baz=134	25.95	322	P	P	23 53 18.4	+1.2
M42A	Sheffield baz=199	25.95	15	P	P	23 53 16.3	-0.7
L38A	Oak Wood Farm, baz=192,SNR=9.0	25.98	9	P	P	23 53 16.6	-0.6
BLA	Blacksburg baz=222	25.98	34	P	P	23 53 15.2	-2.2
BLA	Blacksburg 16nm,0.8s	25.98	34	eP	P	23 53 16.6	-0.8
N45A	Kentland baz=204	26.01	19	P	P	23 53 16.6	-0.9
CNNC	Cliffs of the 56nm,1.0s	26.08	40	eP	P	23 53 17.6	-0.5
L39A	Vinton baz=194,SNR=5.7	26.12	11	P	P	23 53 17.2	-1.3
M43A	Waltham Townsh baz=200	26.14	16	P	P	23 53 17.9	-0.7
DAC	Darwin (Calif) 13nm,1.4s	26.16	323	eP	P	23 53 20.8	+1.6
ROSC	El Rosal comp=Z,53nm,20.8s,baz=20,slow=36	26.17	114	LR	LR	00 03 35.8	
MPU	Maple Canyon 4.6nm,0.7s	26.19	336	eP	P	23 53 21.1	+1.8
L40A	Anamosa baz=195,SNR=11	26.21	12	P	P	23 53 17.8	-1.5
ISA	Isabella, Lake baz=132	26.27	321	P	P	23 53 19.7	-0.3
K36A	Gilmore City baz=188	26.28	6	P	P	23 53 19.0	-1.0
RWWY	Rawlins 19nm,0.9s	26.29	345	eP	P	23 53 21.3	+1.0
K35A	Storm Lake baz=186	26.29	5	P	P	23 53 19.7	-0.3
N46A	Monticello baz=205	26.30	20	P	P	23 53 19.2	-0.9
NLU	North Lily Min 9.7nm,0.9s	26.31	336	eP	P	23 53 22.5	+2.1
M44A	Midewin, Midew baz=202	26.34	17	P	P	23 53 20.0	-0.5
L41A	Preston baz=197,SNR=8.9	26.37	13	P	P	23 53 19.5	-1.2
L42A	Oliver, Polo baz=199	26.49	14	P	P	23 53 20.9	-1.0
K37A	Belmond baz=190,SNR=12	26.50	8	P	P	23 53 20.2	-1.8
K38A	Parkersburg baz=192	26.50	9	P	P	23 53 21.0	-1.0
R11A	Troy Canyon, C baz=141	26.58	328	P	P	23 53 24.1	+1.2
R11A	Troy Canyon, C 6.0nm,1.3s	26.58	328	eP	P	23 53 25.0	+2.0
K39A	Oelwein baz=194,SNR=10	26.70	10	P	P	23 53 22.2	-1.6
VES	Vestal, Richgr baz=131	26.76	320	P	P	23 53 26.6	+2.3
RUSC	La Rusia 5.2nm,1.1s	26.80	110	eP	P	23 53 24.3	-1.2
DUG	Dugway, Tooele baz=148	26.81	335	P	P	23 53 26.5	+1.6
DUG	Dugway, Tooele 8.4nm,0.9s	26.81	335	eP	P	23 53 26.8	+1.9
K40A	Colesburg baz=195,SNR=7.9	26.84	12	P	P	23 53 23.8	-1.2
L43A	Garden Prairie baz=200	26.89	16	P	P	23 53 24.9	-0.6
J36A	Seneca 1, Swea baz=188,SNR=8.4	26.97	6	P	P	23 53 25.1	-1.1
K22A	Casper baz=163	27.03	346	P	P	23 53 27.6	+0.7
K22A	Casper 45nm,1.4s	27.03	346	eP	P	23 53 28.5	+1.5
J37A	Redenius Farm, baz=190,SNR=8.4	27.05	8	P	P	23 53 25.4	-1.5
TCUT	Toone Canyon 39nm,1.0s	27.06	338	eP	P	23 53 28.2	+0.9
ACSO	Alum Creek Sta baz=213	27.14	26	P	P	23 53 26.0	-1.7
ACSO	Alum Creek Sta 23nm,1.0s	27.14	26	eP	P	23 53 26.9	-0.8
J38A	Wedel Dairy, R baz=192,SNR=7.2	27.21	9	P	P	23 53 26.7	-1.5
ECSD	EROS Data Cent baz=183	27.21	3	P	P	23 53 27.3	-1.0
ECSD	EROS Data Cent 21nm,1.5s	27.21	3	eP	P	23 53 27.9	-0.4
JFWS	Jewell Farm baz=197	27.23	13	P	P	23 53 27.6	-0.8
JFWS	Jewell Farm 14nm,0.8s	27.23	13	eP	P	23 53 28.4	-0.1
K42A	Prairie Point, baz=199	27.30	14	P	P	23 53 28.0	-1.2
J39A	Decorah baz=194	27.35	10	P	P	23 53 28.3	-1.3
I35A	Creekview Farm baz=187	27.43	5	P	P	23 53 29.3	-1.1
K43A	Burlington baz=201	27.49	16	P	P	23 53 29.6	-1.2
BGU	Big Grassy Mou 13nm,1.6s	27.51	335	eP	P	23 53 32.9	+1.6
HWUT	Hardware Ranch 7.7nm,1.1s	27.55	338	eP	P	23 53 33.1	+1.5
J40A	Soldiers Grove baz=196	27.59	12	P	P	23 53 30.4	-1.3
J41A	Loganville baz=197,SNR=7.4	27.71	13	P	P	23 53 31.7	-1.1
I37A	Lemond, Waseca baz=190	27.76	8	P	P	23 53 31.8	-1.5
URVA	University of	27.85	37	eP	P	23 53 34.1	+0.1
J42A	Columbus baz=199	27.86	14	P	P	23 53 33.5	-0.6
I39A	Houston baz=194	27.88	10	P	P	23 53 33.4	-1.0
BW06	Boulder Array baz=157	27.93	342	P	P	23 53 35.4	+0.4
BW06	Boulder Array 33nm,1.5s	27.93	342	eP	P	23 53 36.3	+1.2

PD31	Pinedale Array	27.93	342	*eP*	P	P	23 53 36.2	+1.1
PDAR	Pinedale Array	27.93	342	P	P	P	23 53 35.3	+0.2
	1.7nm,0.7s,baz=136,slow=8.9,SNR=14							
PDAR				LR	LR	LR	00 05 41.0	
	comp=Z,310nm,19.0s,baz=172,slow=38							
PDAR	Pinedale Array	27.93	342	*eP*	P	P	23 53 35.6	+0.6
I38A	Scanlan Farm,	27.93	9	P	P	P	23 53 33.9	-0.9
	baz=192,SNR=7.3							
H32A	Carlson Farm,	27.95	1	P	P	P	23 53 34.8	-0.1
	baz=182							
MDPB	Devils Postpil	27.95	323	*eP*	P	P	23 53 37.5	+2.2
	5.0nm,1.0s							
SDV	Santo Domingo	27.96	102	P	P	P	23 53 35.7	+0.1
	8.9nm,0.7s,baz=302,slow=4.1,SNR=19							
SDV				LR	LR	LR	00 06 26.1	
	comp=Z,138nm,19.0s,baz=53,slow=40							
SDV	Santo Domingo	27.96	102	*eP*	P	P	23 53 35.9	+0.4
	9.0nm,0.8s							
NV11	Mina Array Sit	27.99	325	*eP*	P	P	23 53 38.1	+2.5
	0.9nm,1.1s							
NV01	Mina Array Sit	28.07	325	*eP*	P	P	23 53 38.4	+2.0
NVAR	Mina Array Bea	28.07	325	P	P	P	23 53 37.9	+1.5
	4.6nm,0.9s,baz=151,slow=10,SNR=15							
NVAR				LR	LR	LR	00 05 25.3	
	comp=Z,150nm,20.1s,baz=268,slow=38							
I40A	Norwalk	28.09	12	P	P	P	23 53 35.3	-0.9
	baz=196							
J43A	Natural Harves	28.10	15	P	P	P	23 53 35.3	-0.9
	baz=200							
MCWV	Mont Chateau	28.12	31	P	P	P	23 53 35.1	-1.4
	baz=220							
HVU	Hansel Valley	28.14	337	*eP*	P	P	23 53 38.8	+1.9
	5.6nm,0.9s							
H34A	Spellman Lake,	28.18	4	P	P	P	23 53 36.3	-0.7
	baz=185							
H36A	Jessenland, He	28.25	7	P	P	P	23 53 36.8	-0.8
	baz=189,SNR=5.7							
H35A	Sunnyside Ranc	28.28	5	P	P	P	23 53 36.9	-1.0
	baz=187							
H37A	Dierke Farm, C	28.38	8	P	P	P	23 53 37.6	-1.1
	baz=191							
I41A	Arkdale	28.40	13	P	P	P	23 53 37.9	-1.1
	baz=197							
I42A	Draeger Farm,	28.45	14	P	P	P	23 53 38.5	-0.9
	baz=199							
I42A	Draeger Farm,	28.45	14	*eP*	P	P	23 53 39.0	-0.4
	31nm,1.5s							
H38A	Maiden Rock	28.56	9	P	P	P	23 53 39.2	-1.2
	baz=192							
I43A	Langenfeld Bro	28.64	15	P	P	P	23 53 39.7	-1.3
	baz=200							
G33A	Ortonville	28.67	3	P	P	P	23 53 40.7	-0.7
	baz=184							
G32A	Webster	28.70	1	P	P	P	23 53 41.0	-0.6
	baz=182							
H39A	Augusta	28.73	10	P	P	P	23 53 41.1	-0.7
	baz=194							
G34A	Benson	28.76	4	P	P	P	23 53 41.3	-0.8
	baz=185							
H40A	Chili	28.83	12	P	P	P	23 53 41.5	-1.3
	baz=196,SNR=6.6							
REDW	Red Top Meadow	28.87	341	*eP*	P	P	23 53 44.6	+1.2
	13nm,1.1s							
H41A	Junction City	28.98	13	P	P	P	23 53 43.3	-0.8
	baz=197							
H41A	Junction City	28.98	13	*eP*	P	P	23 53 43.8	-0.3
	97nm,1.9s							
TPAW	Teton Pass	29.01	341	*eP*	P	P	23 53 46.6	+1.9
	19nm,1.3s							
LOHW	Long Hollow	29.02	341	*eP*	P	P	23 53 46.2	+1.5
	9.7nm,1.0s							
SPMN	Marine on St.	29.03	8	P	P	P	23 53 43.4	-1.1
	baz=191							
SPMN	Marine on St.	29.03	8	*eP*	P	P	23 53 44.0	-0.5
	14nm,0.8s							
G38A	Ridgeland	29.11	9	P	P	P	23 53 44.3	-0.9
	baz=193							
FXWY	Fox Creek	29.17	341	*eP*	P	P	23 53 47.5	+1.4
	2.9nm,0.9s							
MOOW	Moose Ponds	29.18	341	*eP*	P	P	23 53 47.5	+1.3
	19nm,1.9s							
G39A	Holcombe	29.33	10	P	P	P	23 53 45.8	-1.4
	baz=194,SNR=5.2							
IMW	Indian Meadow	29.38	341	*eP*	P	P	23 53 49.5	+1.5
	10nm,1.4s							
G40A	Rib Lake	29.49	12	P	P	P	23 53 47.2	-1.5
	baz=196,SNR=6.1							
F36A	Milaca	29.57	7	P	P	P	23 53 48.3	-0.9
	baz=189							
G42A	Mountain	29.84	14	P	P	P	23 53 50.6	-1.1
	baz=199							
SSPA	Standing Stone	29.85	32	P	P	P	23 53 49.7	-2.1
	baz=222							
F38A	Pierce - Schro	29.88	9	P	P	P	23 53 50.8	-1.2
	baz=192							
ERPA	Erie	29.98	28	P	P	P	23 53 51.0	-2.0
	baz=217							
F39A	Loretta	29.99	10	P	P	P	23 53 52.6	-0.5
	baz=194							
RLMT	Red Lodge	30.02	344	P	P	P	23 53 54.9	+1.2
	baz=159							
RLMT	Red Lodge	30.02	344	*eP*	P	P	23 53 54.9	+1.2
	64nm,2.0s							
G43A	Wallace	30.04	15	P	P	P	23 53 52.3	-1.1
	baz=200							
E34A	Wadena	30.06	4	P	P	P	23 53 53.2	-0.5
	baz=186							
F40A	Park Falls	30.13	11	P	P	P	23 53 53.3	-1.0
	baz=196							
YHH	Holmes Hill	30.16	342	*eP*	P	P	23 53 57.3	+2.4
	5.3nm,1.2s							
E35A	Pequot Lakes	30.16	5	P	P	P	23 53 53.8	-0.8
	baz=187							
F41A	Three Lakes	30.16	13	P	P	P	23 53 53.5	-1.1
	baz=198							
E36A	McGregor	30.24	7	P	P	P	23 53 54.4	-0.8
	baz=190							
HLID	Hailey	30.29	336	P	P	P	23 53 56.9	+0.9
	baz=148							
HLID	Hailey	30.29	336	*eP*	P	P	23 53 57.6	+1.6
	3.2nm,0.9s							
E39A	Mellen	30.50	11	P	P	P	23 53 56.8	-0.7
	baz=195							
COWI	Conover	30.50	13	*eP*	P	P	23 53 57.6	0.0
	11nm,1.1s							
E40A	Wakefield	30.68	11	P	P	P	23 53 58.3	-0.9
	baz=196,SNR=11							
F43A	Flat Rock, Esc	30.70	15	P	P	P	23 53 58.7	-0.7
	baz=201							
D35A	Remer	30.72	6	P	P	P	23 53 58.7	-0.7
	baz=188							
MFID	Camas Ranch	30.73	334	*eP*	P	P	23 54 01.9	+2.1
	14nm,1.4s							
GCMT	Greycliff	30.75	344	*eP*	P	P	23 54 03.2	+3.3
MCMT	McKenzie Canyo	30.82	340	*eP*	P	P	23 54 02.7	+2.0
E41A	Kenton	30.89	13	P	P	P	23 54 00.2	-0.8
	baz=197							
D36A	Goodland	30.90	7	P	P	P	23 54 00.0	-1.1
	baz=190							
E42A	Champion	31.09	14	P	P	P	23 54 01.8	-1.0
	baz=199							
BOZ	Bozeman (W)	31.12	342	P	P	P	23 54 04.1	+0.9
	baz=155							
BOZ	Bozeman (W)	31.12	342	*eP*	P	P	23 54 05.1	+1.9
	15nm,1.6s							
WVOR	Wild Horse Val	31.21	330	*eP*	P	P	23 54 05.8	+1.7
	12nm,1.2s							
DLMT	Dillon	31.21	340	*eP*	P	P	23 54 06.4	+2.3
	14nm,1.1s							
C31A	Landman Farms,	31.23	1	P	P	P	23 54 03.5	-0.5
	baz=181							
E43A	Lone Tree Farm	31.25	15	P	P	P	23 54 03.4	-0.8
	baz=201							
C35A	Jirik Farms, M	31.34	6	P	P	P	23 54 03.9	-1.1
	baz=188							
C36A	Pine Crest Far	31.51	7	P	P	P	23 54 05.4	-1.1
	baz=190							
D41A	Chassel	31.54	13	P	P	P	23 54 06.1	-0.6
	baz=198							
C37A	Embarrass	31.57	8	P	P	P	23 54 06.3	-0.7
	baz=191							
LRM	Limekiln Ridge	31.58	341	*eP*	P	P	23 54 09.2	+1.9
MOD	Modoc Plateau	31.64	328	*eP*	P	P	23 54 09.7	+1.8
	7.7nm,1.0s							
C38A	Sawbill Land.	31.68	9	P	P	P	23 54 07.6	-0.4
	baz=193							
E44A	Grand Marais A	31.76	16	P	P	P	23 54 07.8	-0.9
	baz=203							
AGMN	Agassiz Nation	31.80	3	P	P	P	23 54 08.3	-0.7
	baz=184,SNR=12							
AGMN	Agassiz Nation	31.80	3	*eP*	P	P	23 54 08.7	-0.2
	15nm,0.8s							
J08A	Circle Bar Ran	31.84	331	*eP*	P	P	23 54 11.4	+1.8
	11nm,0.8s							
B32A	Ashes, Strandq	31.86	2	P	P	P	23 54 09.0	-0.5
	baz=183,SNR=10							
EYMN	Ely	31.87	9	P	P	P	23 54 08.7	-0.9
	baz=192							
EYMN	Ely	31.87	9	*eP*	P	P	23 54 08.8	-0.9
	3.7nm,0.8s							
BINY	Binghamton	31.96	32	P	P	P	23 54 09.0	-1.5
	baz=223							
B35A	Bob, Littlefor	32.02	6	P	P	P	23 54 09.3	-1.5
	baz=188							
B34A	Aery, Baudette	32.06	5	P	P	P	23 54 09.7	-1.5
	baz=186							
HRY	Holter Researc	32.19	342	*eP*	P	P	23 54 13.9	+1.3
	4.6nm,0.7s							
A32A	Rocking H Ranc	32.39	2	P	P	P	23 54 13.7	-0.4
	baz=183							
A33A	Warroad	32.46	4	P	P	P	23 54 13.5	-1.3
	baz=185							
SADO	Sadowa	32.48	26	P	P	P	23 54 15.8	+0.9
	5.0nm,1.0s,baz=249,slow=8.6,SNR=2.5							
BMO	Blue Mountains	32.52	334	*eP*	P	P	23 54 16.3	+0.8
	4.7nm,1.2s							
YBH	Yreka Blue Hor	32.80	325	LR	LR	LR	00 07 35.2	
	comp=Z,96nm,18.3s,baz=164,slow=36							
EGMT	Eagleton	32.85	346	P	P	P	23 54 17.2	-1.1
	baz=160							
EGMT	Eagleton	32.85	346	*eP*	P	P	23 54 19.6	+1.2
	16nm,1.2s							
MSO	Missoula	32.95	340	P	P	P	23 54 19.7	+0.5
	baz=152							
F10A	Beach Ranch, E	33.41	336	*eP*	P	P	23 54 23.8	+0.6
	16nm,1.3s							
G08A	Pilot Rock	33.57	333	*eP*	P	P	23 54 25.8	+1.1
	5.4nm,0.9s							
G08A				*es*P		sP	23 54 31.9	+0.2
ULM	Lac du Bonnet	33.74	3	P	P	P	23 54 24.9	-1.1
	5.2nm,0.9s,baz=180,slow=9.9,SNR=8.3							
ULM				LR	LR	LR	00 08 56.7	
	comp=Z,127nm,18.1s,baz=199,slow=38							
ULM	Lac du Bonnet	33.74	3	*eP*	P	P	23 54 24.9	-1.1
	24nm,1.7s							
H04A	Detroit Lake	34.60	329	*eP*	P	P	23 54 34.8	+1.2
	19nm,1.1s							
NEW	Newport	35.28	338	P	P	P	23 54 39.7	+0.4
	2.6nm,0.8s,baz=142,slow=7.9,SNR=5.4							
NEW	Newport	35.28	338	P	P	P	23 54 40.1	+0.7
	baz=148							
NEW	Newport	35.28	338	*eP*	P	P	23 54 40.6	+1.2
	10nm,0.9s							
LON	Longmire	35.96	332	*eP*	P	P	23 54 46.8	+1.6
	10nm,1.4s							
FFC	Flin Flon	38.28	357	*eP*	P	P	23 55 04.6	-0.1
	13nm,0.9s							
EDM	Edmonton	38.54	345	*eP*	P	P	23 55 07.6	+0.6
	12nm,0.4s							
LLLB	Lillooet	38.99	336	*eP*	P	P	23 55 12.0	+1.2
	7.1nm,0.9s							
FCC	Fort Churchill	42.33	3	*eP*	P	P	23 55 38.4	+0.1
	15nm,1.4s							
LPAZ	La Paz	44.08	136	LR	LR	LR	00 12 14.6	
	comp=Z,124nm,21.9s,baz=319,slow=33							
RPN	Rapa Nui	44.66	194	LR	LR	LR	00 10 02.2	
	comp=Z,84nm,21.4s,baz=302,slow=30							
SCHQ	Schefferville	45.28	25	P	P	P	23 56 00.5	-1.6
	4.9nm,0.8s,baz=225,slow=5.6,SNR=7.1							
SCHQ				LR	LR	LR	00 18 16.1	
	comp=Z,82nm,18.1s,baz=16,slow=41							
YKA	Yellowknife Ar	47.38	350	P	P	P	23 56 17.9	-0.5
	1.8nm,0.8s,baz=158,slow=7.3,SNR=21							
YKW3	Yellowknife Ar	47.45	350	*eP*	P	P	23 56 18.7	-0.2
	8.1nm,1.5s							
DLBC	Dease Lake	48.03	338	*eP*	P	P	23 56 26.2	+2.6
	7.1nm,1.0s							
TAOE	Nuku Hiva Isla	48.49	242	*e*LR	LR	LR	00 09 59.1	
	183nm,25.5s							
TAOE	Nuku Hiva Isla	48.49	242	*eT*	T	T	00 47 49.1	
	29nm,0.2s							
SIV	San Ignacio	48.85	129	P	P	P	23 56 32.2	+1.8
	1.0nm,0.8s,baz=314,slow=6.5,SNR=4.1							
RKT	Rikitea	53.27	223	*e*LR	LR	LR	00 12 23.0	
	305nm,31.5s							
RKT	Rikitea	53.27	223	*eT*	T	T	00 53 53.0	
	21nm,0.3s							
INK	Inuvik	56.44	345	*eP*	P	P	23 57 26.2	+0.4
	7.1nm,0.8s							
KDAK	Kodiak Island	57.47	329	LR	LR	LR	00 22 21.3	
	comp=Z,144nm,18.4s,baz=113,slow=36							
PMOR	Pomariorio Ree	58.13	240	*eT*	T	T	00 59 51.8	
	2.8nm,0.2s							
IL1	Eielson Array	58.24	338	*eP*	P	P	23 57 38.8	+0.1
ILAR	Eielson Array	58.24	338	P	P	P	23 57 39.2	+0.6
	3.4nm,1.0s,baz=133,slow=4.7,SNR=4.9							
ILAR				LR	LR	LR	00 25 22.7	
	comp=Z,202nm,18.0s,baz=130,slow=39							
TRF	Thorofare Moun	58.87	336	*eP*	P	P	23 57 44.0	+0.8
	3.7nm,0.6s							
KTH	Kantishna Hill	59.17	336	*eP*	P	P	23 57 45.6	+0.4
	10nm,1.0s							
CAST	Castle Rocks	59.57	335	*eP*	P	P	23 57 48.2	+0.3
	7.5nm,0.8s							
MLY	Manley	59.79	337	*eP*	P	P	23 57 50.0	+0.6
	8.0nm,1.1s							
PPT	Papeete	60.83	239	LR	LR	LR	00 17 45.7	
	comp=Z,73nm,21.0s,baz=136,slow=29							
PPT2	Papeete2	60.84	239	*e*LR	LR	LR	00 15 43.4	
	144nm,24.8s							
PLCA	Paso Flores	62.46	157	LR	LR	LR	00 20 21.2	
	comp=Z,108nm,18.2s,baz=336,slow=31							
RAR	Rarotonga	71.00	240	LR	LR	LR	00 23 41.9	
	comp=Z,78nm,19.4s,baz=230,slow=30							
DAG	Danmarks Havn	71.69	14	*i* P	P	P	23 59 04.9	-1.0
	7.1nm,1.0s							
SPITS	Spitsbergen Ar	78.85	11	LR	LR	LR	00 36 16.7	
	comp=Z,96nm,21.1s,baz=20,slow=37							
EKA	Eskdalemuir Ar	79.48	35	P	P	P	23 59 49.9	-1.0
	1.0nm,0.6s,baz=289,slow=6.7,SNR=4.7							
EKA				LR	LR	LR	00 33 29.2	
	comp=Z,42nm,21.6s,baz=25,slow=35							
NOA	NORSAR Array B	84.80	27	LR	LR	LR	00 38 44.1	
	comp=Z,17nm,20.7s,baz=295,slow=36							
ARCES	ARCESS Array B	85.62	17	P	P	P	00 00 21.2	-1.5
	3.4nm,0.9s,baz=312,slow=8.0,SNR=5.0							
MA2	Mayadan	86.11	332	LR	LR	LR	00 37 25.0	
	comp=Z,14nm,22.0s,baz=114,slow=35							
HFS	Hagfors	86.30	28	P	P	P	00 00 25.1	-1.1
	1.5nm,0.9s,baz=335,slow=6.4,SNR=2.8							
HFS				LR	LR	LR	00 37 44.1	
	comp=Z,26nm,21.9s,baz=290,slow=35							
TIXI	Tiksi	86.53	347	LR	LR	LR	00 42 22.6	
	comp=Z,15nm,21.6s,baz=11,slow=38							
FINES	FINESS Array B	90.73	23	P	P	P	00 00 45.1	-2.2
	1.1nm,0.9s,baz=324,slow=6.9,SNR=3.6							
FINES				LR	LR	LR	00 43 04.9	
	comp=Z,56nm,18.8s,baz=316,slow=37							
GERES	GERESS Array B	91.45	38	P	P	P	00 00 52.5	+1.4
	0.1nm,0.3s,baz=337,slow=4.8,SNR=2.2							
GERES				LR	LR	LR	00 42 25.0	
	comp=Z,54nm,19.9s,baz=294,slow=36							
TORD	Torodi Ar. Bea	95.61	75	LR	LR	LR	00 43 22.0	
	comp=Z,36nm,18.8s,baz=290,slow=35							
NJ2	Nanjing	120.06	324	*eP*		PKPdf	00 06 37.3	+1.5
KSH	Kashi	124.04	5	*e*PKP		PKPdf	00 06 46.4	+2.9
OPO	Ambohidratompo	147.01	99	PKPbc		PKPbc	00 07 27.3	-1.1
	3.5nm,0.8s,baz=247,slow=7.4,SNR=3.5							

IDC 23 23:47:48.5±2.4, 7.60S×128.27E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.1/47, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=287.7km s-min=32.0km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	13.61	155	Pn		Pn	23 51 03.2	+0.3
	0.2nm,0.3s,baz=334,slow=13,SNR=5.9							
WRA				Sn		Sn	23 53 26.1	-8.9
	0.3nm,0.3s,baz=332,slow=24,SNR=6.5							
ASAR	Alice Springs	16.86	162	Pn		Pn	23 51 45.9	-0.3
	0.1nm,0.3s,baz=340,slow=12,SNR=2.9							
ASAR				Sn		Sn	23 54 47.2	-7.1
	0.1nm,0.3s,baz=333,slow=22,SNR=4.4							
MKAR	Makanchi Array	67.80	328	P		P	23 58 48.4	0.0
	0.2nm,0.5s,baz=117,slow=7.7,SNR=7.3							

MEX 23 23:57:51.5±0.5, 16.13N×98.48W, h3km±14km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	Pinotepa	0.43	53	*i* P		Pg	23 57 59.7	-0.1
PNIG				*i* S		Sg	23 58 05.6	+0.2
TLIG	Tlapa	1.43	357	*e*P		Pn	23 58 14.4	-4.0
TLIG				*e*S		Sg	23 58 33.0	-4.4
ACX	Acapulco	1.51	299	*i* P		Pn	23 58 12.9	-6.5
ACX				*i* S		Sn	23 58 32.5	-7.2
VHO	Vista Hermosa	1.92	61	*e*P		Pn	23 58 21.4	-3.8
CAIG	El Cayaco	1.94	298	*e*P		Pn	23 58 22.8	-2.6
CAIG				*e*S		Sn	23 58 45.8	-4.4

MEX 23 23:59:48.4±0.7, 16.56N×98.41W, h12km±10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	Pinotepa	0.31	122	*i* P		Pg	23 59 54.0	-0.8
PNIG				*i* S		Sg	23 59 59.4	+0.3
TLIG	Tlapa	1.01	351	*e*P		Pg	00 00 04.5	-3.5
TLIG				*i* S		Sg	00 00 17.7	-3.4
ACX	Acapulco	1.43	283	*i* P		Pn	00 00 06.2	-8.0
ACX				*i* S		Sn	00 00 24.1	-8.9
VHO	Vista Hermosa	1.68	72	*e*P		Pn	00 00 14.9	-3.0
CAIG	El Cayaco	1.85	286	*e*P		Pn	00 00 17.2	-2.8
CAIG				*e*S		Sn	00 00 38.4	-5.0
HUIG	Huatulco	2.34	109	*e*P		Pn	00 00 23.0	-3.8
HUIG				*i* S		Sn	00 00 50.9	-4.6

*ISCJB **24** 00:01:03.5±0.5, 23.79N±0.05×142.8E±0.1, h29km, mb3.9/26, MS3.9/4, Error ellipse: s-maj=14.0km s-min=6.5km az=174.8*
*NEIC **24** 00:01:04.8±3.5, 23.76N×142.88E, h27km±24km, mb4.3/2, Error ellipse: s-maj=13.9km s-min=9.6km az=101.0*
*IDC **24** 00:01:05.6±5.8, 23.77N×142.93E, h31km±41km, mb3.8/22, mb1 3.9/25, mb1mx3.8/61, mbtmp4.0/25, ML3.8/3, MS3.3/5, Ms1 3.3/5, ms1mx2.7/67, Error ellipse: s-maj=19.4km s-min=12.7km az=97.0*

ISC 24 00:01:05.2±0.6, 23.78N±0.07×142.8E±0.1, h29km, n38, σ0.94/39, mb4.0/26, MS3.8/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	Chichi jima	3.35	350	Pn		**Pn**	**00 01 56.8**	**+1.0**
CBIJ				Sn		**Sn**	**00 02 33.9**	**-0.8**
JCJ	Chichijima	3.35	350	Pn		**Pn**	**00 01 56.8**	**+1.0**
	22nm,0.3s,baz=233,slow=20,SNR=14							
JCJ				Sn		**Sn**	**00 02 33.9**	**-0.8**
	90nm,0.3s,baz=280,slow=23,SNR=19							
MJAR	Matsushiro Arr	13.33	344	Pn		**Pn**	**00 04 12.2**	**-0.4**
	0.4nm,0.3s,baz=158,slow=9.9,SNR=4.5							
JNU	Nakatsue	14.04	314	LR		LR	00 09 10.2	
	comp=Z,40nm,18.9s,baz=118,slow=34							
ERM	Erimo	18.19	1	*e*Pn		**Pn**	**00 05 15.4**	**-0.2**
	41nm,1.2s							
KSRS	Korea Array	18.69	320	P		**P**	**00 05 20.3**	**-0.9**
	0.1nm,0.3s,baz=138,slow=11,SNR=3.4							
KSRS				LR		LR	00 12 24.8	
	comp=Z,35nm,18.6s,baz=155,slow=36							
KSAR	Wonju Array Be	18.70	320	P		**P**	**00 05 20.2**	**-1.1**
DAV	Davao City (W)	23.46	228	P		**P**	**00 06 12.6**	**+0.1**
	134nm,0.3s,baz=45,slow=13,SNR=2.4							
KLR	Kul'dur	26.86	344	P		**P**	**00 06 44.5**	**+1.2**
	0.1nm,0.7s,baz=138,slow=11,SNR=4.0							
SONM	Songino Array	37.55	319	P		**P**	**00 08 14.8**	**-2.2**
	0.5nm,1.1s,baz=128,slow=4.0,SNR=3.5							
SONM				PcP		**PcP**	**00 10 35.0**	**+0.4**
	0.2nm,0.6s,baz=119,slow=2.8,SNR=3.0							
SEY	Seymchan	39.66	7	P		**P**	**00 08 35.8**	**+1.5**
	0.5nm,0.3s,baz=217,slow=8.6,SNR=4.9							
WRA	Warramunga Arr	44.24	191	P		**P**	**00 09 12.2**	**0.0**
	1.4nm,0.3s,baz=7.7,slow=7.9,SNR=26							
WRA				PcP		**PcP**	**00 10 56.9**	**+0.4**
	1.8nm,0.6s,baz=6.3,slow=3.5,SNR=13							
ASAR	Alice Springs	47.95	191	P		**P**	**00 09 41.4**	**0.0**
	0.6nm,0.6s,baz=13,slow=12,SNR=6.7							
ZALV	Zalesovo Beam	52.40	321	P		**P**	**00 10 16.7**	**+1.9**
	0.4nm,0.3s,baz=70,slow=4.7,SNR=2.3							
MKAR	Makanchi Array	53.07	312	P		**P**	**00 10 21.5**	**+1.6**
	0.1nm,0.4s,baz=85,slow=8.8,SNR=6.0							
MKAR				PcP		**PcP**	**00 11 29.0**	**+0.9**
	0.1nm,0.4s,baz=94,slow=2.4,SNR=3.6							
STKA	Stephens Creek	55.35	181	P		**P**	**00 10 36.0**	**-0.5**
	2.9nm,0.7s,baz=22,slow=4.7,SNR=3.1							
KURK	Kurchatov	55.75	316	P		**P**	**00 10 39.1**	**-0.2**
KURBB	Kurchatov Arra	55.80	316	P		**P**	**00 10 39.1**	**-0.6**
	0.3nm,0.4s,baz=94,slow=7.3,SNR=3.2							
KDAK	Kodiak Island	56.69	35	P		**P**	**00 10 45.7**	**-0.1**
	9.4nm,0.9s,baz=252,slow=6.4,SNR=2.9							
AAK	Ala-Archa	58.66	307	LR		LR	00 38 27.6	
	comp=Z,30nm,18.4s,baz=154,slow=38							
ILAR	Eielson Array	60.34	28	P		**P**	**00 11 10.5**	**-0.7**
	1.3nm,0.8s,baz=261,slow=5.5,SNR=12							
BVAR	Borovoye Array	60.90	319	P		**P**	**00 11 16.0**	**+0.8**
	0.5nm,0.4s,baz=78,slow=7.6,SNR=7.8							
RAO	Raoul Island	64.84	142	LR		LR	00 37 24.6	
	comp=Z,436nm,18.6s,baz=163,slow=34							
INK	Inuvik	65.80	24	P		**P**	**00 11 47.2**	**-0.2**
	0.8nm,0.5s,baz=309,slow=8.6,SNR=3.3							
YKA	Yellowknife Ar	74.77	28	P		**P**	**00 12 42.3**	**0.0**
	1.2nm,0.7s,baz=291,slow=5.8,SNR=19							
ARCES	ARCESS Array B	75.86	341	P		**P**	**00 12 53.8**	**-0.4**
	2.1nm,0.8s,baz=74,slow=8.9,SNR=8.4			

	1.0nm,0.7s,baz=90,slow=7.5,SNR=6.0							
BATI	**Baumata**	**57.42**	**271**	P	**P**	**00**	**28**	**27.4 +0.6**
	10nm,0.4s,baz=90,slow=9.1,SNR=3.1							
QSPA	**South Pole Qui**	**69.22**	**180**	P	**P**	**00**	**29**	**45.0 +2.8**
	1.2nm,0.7s,baz=40,slow=0.1,SNR=3.3							
BVAR	**Borovoye Array**	**119.66**	**320**	PKP	**PKPdf**	**00**	**37**	**19.3 -0.2**
	0.3nm,0.4s,baz=96,slow=1.4,SNR=3.9							
FINES	**FINESS Array B**	**136.24**	**343**	PKP	**PKPdf**	**00**	**37**	**52.9 +2.2**
	3.0nm,1.1s,baz=63,slow=3.7,SNR=3.5							
AKASG	**Malin Array Be**	**143.55**	**331**	PKP	**PKPdf**	**00**	**38**	**03.1 -1.1**
	0.3nm,0.2s,baz=38,slow=3.5,SNR=4.1							
EKA	**Eskdalemuir Ar**	**145.30**	**6**	PKPbc	**PKPab**	**00**	**38**	**08.5 -0.3**
	0.2nm,0.4s,baz=316,slow=3.0,SNR=2.8							
BRTR	**Keskin Array B**	**147.43**	**312**	PKPbc	**PKPbc**	**00**	**38**	**15.0 +0.3**
	0.6nm,0.6s,baz=96,slow=2.5,SNR=4.3							
MMAI	**Mount Meron Ar**	**148.41**	**299**	PKPbc	**PKPab**	**00**	**38**	**18.6 -3.6**
	0.6nm,0.4s,baz=75,slow=4.4,SNR=5.6							
GERES	**GERESS Array B**	**150.66**	**345**	PKPbc	**PKPbc**	**00**	**38**	**23.6 +1.4**
	0.1nm,0.4s,baz=20,slow=3.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**172.30**	**174**	PKPab	**PKPab**	**00**	**40**	**07.1 +1.1**
	0.3nm,0.9s,baz=220,slow=3.8,SNR=3.1							

*NIED **24** 00:26:00,40.90N×145.40E,h5km,Mw4.0 Best double couple: M0 1.16000×10^15 NP1:φ=256.00000°,δ=43.00000°, λ=-72.00000°. NP2:φ=53.00000°,δ=50.00000°, λ=-106.00000°.*

*IDC **24** 00:26:13.5±0.7,40.85N×145.18E,h0km,mb3.8/20, mb1 4.0/22,mb1mx3.8/72,mbtmp3.8/22,ML3.5/2,MS2.8/6, Ms1 2.8/6,ms1mx2.6/61,Error ellipse: s-maj=19.3km s-min=14.3km az=112.0*

*ISCJB **24** 00:26:15.0±1.3,40.93N±0.03×145.14E±0.04, h22km±10km,mb3.8/22,MS3.5/2,Error ellipse: s-maj=5.4km s-min=4.7km az=5.2*

*JMA **24** 00:26:15.0±0.2,40.93N×145.36E,h62km±2km,M4.1*

*NEIC **24** 00:26:18.7±0.3,40.87N×145.10E,h35km,mb4.5/2,Error ellipse: s-maj=8.4km s-min=6.0km az=125.0*

ISC 24 00:26:13.6±3.5,40.93N±0.05×145.21E±0.06,h3km±22km, n52,σ1s62/67,mb3.9/22,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.89**	**306**	*e*Pn		**Pb**	**00 26 47.4**	**-1.4**
ERM				*e*Sn		**Sn**	**00 27 09.5**	**-1.6**
JEM	**Erimo**	**1.89**	**306**	P		**Pn**	**00 26 47.1**	**+0.3**
JEM				S		**Sn**	**00 27 09.3**	**-1.8**
JAK	**Akkeshi**	**2.10**	**350**	P		**Pn**	**00 26 48.8**	**-0.9**
JAK				S		**Sn**	**00 27 13.7**	**-2.6**
JCH	**Churui**	**2.18**	**321**	P		**Pn**	**00 26 50.7**	**-0.1**
JCH				S		**Sn**	**00 27 15.8**	**-2.5**
JOB	**Onbets**	**2.23**	**333**	P		**Pn**	**00 26 51.2**	**-0.2**
JOB				S		**Sn**	**00 27 17.3**	**-2.1**
JNBK	**Urakawa-nobuka**	**2.29**	**307**	P		**Pn**	**00 26 53.3**	**+1.0**
JNBK				S		**Sn**	**00 27 20.7**	**-0.2**
NEM2	**Nemuro 2**	**2.46**	**9**	P		**Pn**	**00 26 54.1**	**-0.6**
NEM2				S		**Sn**	**00 27 21.8**	**-3.5**
JAR	**Ashorobuto**	**2.60**	**336**	P		**Pn**	**00 26 55.9**	**-0.7**
JAR				S		**Sn**	**00 27 25.7**	**-2.9**
JNK	**Nakash**	**2.68**	**352**	P		**Pn**	**00 26 56.5**	**-1.2**
JNK				S		**Sn**	**00 27 25.8**	**-4.8**
JBT2	**Biratori 2**	**2.82**	**312**	P		**Pn**	**00 26 59.6**	**0.0**
JBT2				*e*S		**Sn**	**00 27 33.9**	**-0.2**
JANG	**Nango**	**2.87**	**260**	P		**Pn**	**00 26 59.2**	**-1.1**
JANG				*e*S		**Sn**	**00 27 31.8**	**-3.5**
JFR	**Furan**	**2.96**	**320**	P		**Pn**	**00 27 02.0**	**+0.4**
JFR				*e*S		**Sn**	**00 27 34.8**	**-2.9**
JRA	**Rausu**	**3.01**	**359**	P		**Pn**	**00 27 00.8**	**-1.4**
JRA				S		**Sn**	**00 27 36.0**	**-2.7**
JOT	**Ohata**	**3.18**	**280**	P		**Pn**	**00 27 05.1**	**+0.6**
JOT				S		**Sn**	**00 27 39.2**	**-3.7**
JTKR	**Abashiri--Toko**	**3.19**	**343**	P		**Pn**	**00 27 04.9**	**+0.2**
JTKR				S		**Sn**	**00 27 41.1**	**-2.1**
JKB	**Kayabe**	**3.29**	**288**	P		**Pn**	**00 27 06.8**	**+0.8**
JKB				S		**Sn**	**00 27 43.4**	**-2.2**
JOM	**Ohasama**	**3.34**	**245**	P		**Pn**	**00 27 06.1**	**-0.6**
JOM				*e*S		**Sn**	**00 27 43.6**	**-3.3**
JEW	**Eniwo**	**3.40**	**305**	P		**Pn**	**00 27 08.5**	**+1.0**
JEW				S		**Sn**	**00 27 48.2**	**-0.1**
JKK2	**Kamakawa 2**	**3.46**	**329**	P		**Pn**	**00 27 09.6**	**+1.2**
ASAJ	**Asahikawa**	**3.73**	**330**	Pn		**Pn**	**00 27 12.2**	**+0.1**
ASAJ	3.0nm,0.3s,baz=154,slow=11,SNR=11							
				Sn		**Sn**	**00 27 55.2**	**-1.2**
	4.8nm,0.3s,baz=102,slow=19,SNR=3.8							
ASAJ	**Asahikawa**	**3.73**	**330**	*e*Pn		**Pn**	**00 27 12.9**	**+0.8**
ASAJ				Sn		**Sn**	**00 27 55.2**	**-1.2**
MJAR	**Matsushiro Arr**	**7.01**	**234**	Pn		**Pn**	**00 27 57.9**	**+0.7**
	0.7nm,0.3s,baz=35,slow=13,SNR=4.4							
MJAR				LR		LR	00 30 33.8	
	comp=Z,63nm,18.4s,baz=45,slow=38							
MAJO	**Matsushiro**	**7.01**	**234**	*e*Pn		**Pn**	**00 27 55.9**	**-1.3**
MAT	**Matsushiro**	**7.01**	**234**	P		**Pn**	**00 27 56.6**	**-0.6**
KLR	**Kul'dur**	**12.61**	**316**	LR		LR	00 34 18.1	
	comp=Z,6.3nm,18.3s,baz=128,slow=38							
KSRS	**Korea Array**	**13.85**	**261**	LR		LR	00 34 02.1	
	comp=Z,22nm,21.2s,baz=65,slow=34							
PETK	**Petropavlovsk-**	**14.83**	**31**	LR		LR	00 35 33.7	
	comp=Z,40nm,19.2s,baz=152,slow=38							
SEY	**Seymchan**	**22.45**	**9**	P		**P**	**00 31 14.6**	**+1.1**
	0.5nm,0.3s,baz=156,slow=5.4,SNR=4.6							
SONM	**Songino Array**	**28.36**	**297**	P		**P**	**00 32 09.5**	**+0.5**
	0.6nm,0.6s,baz=90,slow=8.6,SNR=2.9							
ZALV	**Zalesovo Beam**	**41.61**	**309**	P		**P**	**00 34 03.7**	**+1.0**
	0.4nm,0.4s,baz=132,slow=11,SNR=3.0							
KDAK	**Kodiak Island**	**42.24**	**45**	P		**P**	**00 34 08.5**	**+0.8**
	14nm,1.0s,baz=301,slow=12,SNR=3.8							
COLA	**College**	**44.20**	**34**	*e*P		**P**	**00 34 24.4**	**+0.9**
	2.2nm,0.5s							
ILAR	**Eielson Array**	**44.62**	**34**	P		**P**	**00 34 28.2**	**+1.3**
	1.0nm,0.8s,baz=257,slow=6.6,SNR=10							
MKAR	**Makanchi Array**	**44.67**	**300**	P		**P**	**00 34 28.4**	**+0.8**
	0.4nm,0.9s,baz=88,slow=12,SNR=4.0							
CMAR	**Chiang Mai Arr**	**45.37**	**255**	P		**P**	**00 34 33.9**	**+0.4**
	0.9nm,0.3s,baz=49,slow=21,SNR=3.3							
KURK	**Kurchatov**	**45.96**	**306**	P		**P**	**00 34 37.9**	**+0.2**
	5.7nm,0.6s							
KURBB	**Kurchatov Arra**	**46.04**	**306**	P		**P**	**00 34 39.1**	**+0.8**
	0.7nm,0.5s,baz=77,slow=8.6,SNR=4.2							
INK	**Inuvik**	**49.56**	**29**	P		**P**	**00 35 07.1**	**+1.8**
	1.2nm,0.5s,baz=276,slow=5.5,SNR=12							
BVAR	**Borovoye Array**	**50.22**	**311**	P		**P**	**00 35 11.7**	**+1.1**
	0.3nm,0.4s,baz=90,slow=8.1,SNR=6.7							
SPITS	**Spitsbergen Ar**	**57.28**	**349**	LR		LR	01 02 59.0	
	comp=Z,26nm,18.4s,baz=195,slow=38							
YKA	**Yellowknife Ar**	**58.95**	**32**	P		**P**	**00 36 14.7**	**+0.9**
	0.4nm,0.8s,baz=296,slow=6.5,SNR=5.5							
WRA	**Warramunga Arr**	**61.40**	**192**	P		**P**	**00 36 30.4**	**-0.7**
	1.5nm,0.4s,baz=8.4,slow=6.9,SNR=19							
FITZ	**Fitzroy Crossi**	**61.48**	**201**	P		**P**	**00 36 31.4**	**-0.2**
	2.3nm,1.0s,baz=19,slow=9.2							
ASAR	**Alice Springs**	**65.12**	**191**	P		**P**	**00 36 55.1**	**-0.6**
	0.3nm,0.3s,baz=11,slow=6.0,SNR=4.6							
FINES	**FINESS Array B**	**66.73**	**333**	P		**P**	**00 37 05.3**	**-0.4**
	0.4nm,0.3s,baz=66,slow=6.5,SNR=7.6							
NOA	**NORSAR Array B**	**71.70**	**338**	P		**P**	**00 37 37.2**	**+0.6**
	0.5nm,0.7s,baz=37,slow=6.4,SNR=2.5							
HFS	**Hagfors**	**71.72**	**337**	P		**P**	**00 37 36.6**	**0.0**
	1.8nm,1.1s,baz=45,slow=8.4,SNR=3.4							
AKASG	**Malin Array Be**	**77.59**	**329**	P		**P**	**00 37 44.5**	**+0.1**
	0.4nm,0.4s,baz=50,slow=6.4,SNR=2.3							
CLL	**Collm**	**79.14**	**332**	*e*P		**P**	**00 38 18.0**	**-1.4**
EKA	**Eskdalemuir Ar**	**80.39**	**342**	P		**P**	**00 38 26.5**	**+0.3**
	0.8nm,0.8s,baz=19,slow=7.5,SNR=2.7							
GERES	**GERESS Array B**	**80.90**	**330**	LR		LR	01 16 30.3	
	comp=Z,31nm,18.5s,baz=60,slow=37							
TXAR	**Lajitas Array**	**85.43**	**55**	P		**P**	**00 38 53.7**	**+0.8**
	0.3nm,0.8s,baz=270,slow=2.5,SNR=4.1							

IDC 24 00:27:42.9±2.5,0.97N×126.12E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.0/61,mbtmp3.1/3,Error ellipse: s-maj=246.7km s-min=28.2km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**159**	P		P	00 32 40.1	-2.0
	0.5nm,0.6s,baz=336,slow=11,SNR=4.1							
ASAR	**Alice Springs**	**25.63**	**163**	P		P	00 33 15.7	+1.3
	0.1nm,0.3s,baz=350,slow=11,SNR=3.1							
MKAR	**Makanchi Array**	**59.48**	**326**	P		P	00 37 47.7	-0.2
	0.1nm,0.4s,baz=123,slow=5.3,SNR=3.3							

*IDC **24** 00:47:22.1±2.8,6.53S×149.14E,h77km±20km,mb3.3/4, mb1 3.6/6,mb1mx3.3/48,mbtmp3.7/6,MS2.8/2,Ms1 2.8/2, ms1mx2.5/22,Error ellipse: s-maj=64.9km s-min=16.1km az=119.0*

ISC 24 00:47:20.2±1.8,6.3S±0.2×148.9E±0.5,h53km,n8,σ1s08/9, mb3.6/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.55**	**209**	P		**Pn**	**00 48 13.6**	**+0.7**
	27nm,0.3s,baz=35,slow=7.5,SNR=28							
PMG				S		**Sn**	**00 48 54.4**	**+0.8**
	56nm,0.3s,baz=135,slow=7.1,SNR=10							
PMG				LR		LR	00 49 27.9	
	comp=Z,82nm,21.7s,baz=342,slow=36							
WRA	**Warramunga Arr**	**19.62**	**225**	P		**P**	**00 51 43.7**	**-0.8**
	0.4nm,0.3s,baz=51,slow=11,SNR=11							
WRA				S		S	00 55 14.6	-8.6
	0.1nm,0.3s,baz=51,slow=22,SNR=3.3							
ASAR	**Alice Springs**	**22.52**	**218**	P		**P**	**00 52 15.2**	**-0.5**
	1.4nm,0.4s,baz=58,slow=9.4,SNR=21							
ASAR				S		**S**	**00 56 17.3**	**-2.1**
	1.3nm,0.9s,baz=39,slow=22,SNR=4.1							
FITZ	**Fitzroy Crossi**	**25.57**	**241**	P		**P**	**00 52 44.9**	**+0.4**
	2.1nm,0.7s,baz=62,slow=11,SNR=4.6							
MJAR	**Matsushiro Arr**	**43.78**	**347**	LR		LR	01 12 27.8	
	comp=Z,17nm,19.9s,baz=175,slow=34							
MKAR	**Makanchi Array**	**78.95**	**320**	P		**P**	**00 59 18.9**	**+0.6**
	0.1nm,0.4s,baz=120,slow=5.7,SNR=3.0							
ILAR	**Eielson Array**	**85.00**	**23**	P		**P**	**00 59 49.4**	**-0.2**
	0.3nm,0.6s,baz=251,slow=4.7,SNR=4.6							
TORD	**Torodi Ar. Bea**	**147.02**	**284**	PKPbc		**PKPbc**	**01 06 57.7**	**-0.5**
	0.3nm,0.5s,baz=67,slow=3.3,SNR=11							

IDC 24 01:11:43.9±2.1,19.66S×176.60W,h0km,mb3.8/5, mb1 4.2/5,mb1mx3.8/44,mbtmp3.8/5,Error ellipse: s-maj=130.9km s-min=23.8km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.99**	**256**	P		P	01 20 09.9	+0.5
	2.4nm,0.7s,baz=86,slow=8.6,SNR=21							
WRA	**Warramunga Arr**	**46.02**	**261**	P		P	01 20 08.6	-1.0
	1.4nm,0.6s,baz=97,slow=7.7,SNR=18							
NVAR	**Mina Array Bea**	**79.52**	**43**	P		P	01 23 52.1	-0.8
	0.2nm,0.4s,baz=237,slow=6.3,SNR=3.1							
TXAR	**Lajitas Array**	**85.50**	**57**	P		P	01 24 24.2	0.0
	0.4nm,0.7s,baz=216,slow=6.2,SNR=5.6							
ILAR	**Eielson Array**	**87.22**	**12**	P		P	01 24 33.0	+1.3
	0.4nm,0.9s,baz=209,slow=8.3,SNR=2.9							

GUC 24 01:13:04.4±0.5,23.31S×70.60W,h32km±2km,ML3.7,5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**0.21**	**168**	↓*i*P		Pb	01 13 10.9	-0.2
PB10				*i* S		Sb	01 13 15.1	-0.5
PB04	**IPOC Station P**	**1.05**	**24**	↓*i*P		Pn	01 13 23.0	-0.1
PB04				*i* S		Sb	01 13 37.6	-0.2
PB04				IAML			01 13 39.9	
	comp=N,3μm,0.3s							
PB06	**IPOC Station P**	**1.12**	**58**	↓*i*P		Pn	01 13 24.5	+0.5
PB06				*i* S		Sb	01 13 39.5	-0.2
PB06				IAML			01 13 42.1	
	comp=N,3μm,0.2s							
PB14	**IPOC Station P**	**1.33**	**172**	↓*i*P		Pb	01 13 28.2	-0.8
PB14				*i* S		Sb	01 13 45.7	-0.1
PB14				IAML			01 13 47.2	
	comp=E,716nm,0.6s							
PB07	**IPOC Station P**	**1.71**	**23**	↓*i*P		Pn	01 13 32.7	+0.6
PB07				*i* S		Sb	01 13 55.4	-1.0
PB07				IAML			01 13 58.2	
	comp=E,1μm,0.3s							
PB09	**IPOC Station P**	**1.96**	**40**	*e*P		Pb	01 13 37.6	-1.9
PB09				*i* S		Sb	01 14 02.9	-0.8
PB09				IAML			01 14 08.2	
	comp=N,4μm,0.3s							
PB02	**IPOC Station P**	**2.08**	**18**	*e*P		Pn	01 13 37.7	+0.5

*ISCJB **24** 01:22:37.7±0.8,56.1S±0.1×27.5W±0.3,h112km,mb4.2/8, Error ellipse: s-maj=23.2km s-min=16.0km az=176.4*

*IDC **24** 01:22:38.6±0.8,56.09S×27.64W,h105km±7km,mb3.9/7, mb1 4.1/8,mb1mx3.7/29,mbtmp4.3/8,Error ellipse: s-maj=23.9km s-min=15.7km az=84.0*

*NEIC **24** 01:22:39.4±4.1,56.075×27.61W,h114km±35km,mb4.2/1, Error ellipse: s-maj=17.0km s-min=15.6km az=98.0*

ISC 24 01:22:39.0±0.6,56.0S±0.1×27.6W±0.2,h112km,n26, σ0s97/29,mb4.2/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.86**	**156**	P		**P**	**01 26 50.2**	**+0.2**
	5.3nm,0.3s,baz=308,slow=10.0,SNR=169							
QSPA	**South Pole Qui**	**34.22**	**180**	P		**P**	**01 29 14.4**	**+0.8**
	3.3nm,0.6s,baz=211,slow=4.0,SNR=20							
QSPA	**South Pole Qui**	**34.22**	**180**	*e*P		**P**	**01 29 14.2**	**+0.6**
	39nm,1.1s							
MAW	**Mawson**	**40.31**	**144**	P		**P**	**01 30 05.1**	**+0.5**
	5.0nm,0.6s,baz=227,slow=14,SNR=4.5							
VNDA	**Vanda**	**46.58**	**183**	P		**P**	**01 30 53.2**	**-1.7**
	1.8nm,0.6s,baz=186,slow=6.4,SNR=17							
LBTB	**Lobatse**	**49.23**	**74**	P		**P**	**01 31 16.1**	**+0.1**
	1.9nm,0.8s,baz=236,slow=7.3,SNR=2.7							
LPAZ	**La Paz**	**50.17**	**306**	P		**P**	**01 31 24.4**	**+0.6**
	1.0nm,0.6s,baz=189,slow=4.6,SNR=3.5							
LPAZ				pP		**pP**	**01 31 49.6**	**-0.6**
	1.9nm,0.7s,baz=193,slow=5.9,SNR=4.4							
LSZ	**Lusaka**	**58.59**	**69**	*e*P		**P**	**01 32 22.8**	**-1.4**
	1.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**73.16**	**30**	P		**P**	**01 33 58.4**	**+1.2**
	2.2nm,0.6s,baz=200,slow=6.3,SNR=39							
TORD				pP		**pP**	**01 34 23.9**	**-1.5**
	0.6nm,0.6s,baz=202,slow=7.0,SNR=2.9							
ASAR	**Alice Springs**	**99.08**	**163**	P		**Pdif**	**01 36 06.8**	**-0.5**
	0.6nm,0.8s,baz=184,slow=3.9,SNR=5.4							
FINES	**FINESS Array B**	**124.48**	**28**	PKP		**PKPdf**	**01 41 22.8**	**-0.6**
	0.7nm,0.6s,baz=180,slow=1.9,SNR=4.4							
ABKAR	**Akbulak array**	**127.56**	**56**	*e*PKPdf		**PKPdf**	**01 41 29.8**	**+0.2**
AAK	**Ala-Archa**	**130.20**	**71**	*e*PKPdf		**PKPdf**	**01 41 35.8**	**+0.6**
ARCES	**ARCESS Array B**	**131.01**	**22**	PKP		**PKPdf**	**01 41 35.5**	**-0.1**
	0.7nm,0.7s,baz=191,slow=0.5,SNR=4.4							
YKA	**Yellowknife Ar**	**136.00**	**318**	PKP		**PKPdf**	**01 41 45.0**	**-0.1**
	0.6nm,0.5s,baz=128,slow=2.2,SNR=13							
MKAR	**Makanchi Array**	**137.11**	**72**	PKhKP		PKPpre	01 41 41.9	
MKAR	0.1nm,0.5s,baz=251,slow=4.4,SNR=3.9			PKP		**PKiKP**	**01 41 49.5**	**-0.2**
	0.3nm,0.6s,baz=219,slow=1.6,SNR=4.4							
KURBB	**Kurchatov Arra**	**137.51**	**65**	PKP		**PKPdf**	**01 41 50.6**	**+2.2**
	0.2nm,0.3s,baz=250,slow=1.9,SNR=4.2							
KURK	**Kurchatov**	**137.61**	**65**	PKP		**PKPdf**	**01 41 50.6**	**+2.1**
ZALV	**Zalesovo Beam**	**142.57**	**64**	PKhKP		PKPpre	01 41 53.3	
	0.6nm,0.4s,baz=244,slow=5.9,SNR=3.9							
INK	**Inuvik**	**145.63**	**321**	*e*PKPdf		**PKPdf**	**01 42 02.9**	**+0.5**
ILAR	**Eielson Array**	**149.92**	**312**	PKPbc		**PKPbc**	**01 42 14.8**	**+0.3**
	4.0nm,0.7s,baz=135,slow=3.0,SNR=52							
ILAR				pPKPbc		**pPKPbc**	**01 42 43.1**	**-1.6**
	1.7nm,1.0s,baz=125,slow=1.1,SNR=4.0							
COLA	**College**	**150.35**	**312**	*e*PKPbc		**PKPbc**	**01 42 15.0**	**-0.5**
COLA				*e*PKPab		**PKPab**	**01 42 21.9**	**-0.5**
MCK	**McKinley**	**150.57**	**309**	*e*PKPbc		**PKPbc**	**01 42 16.4**	**+0.2**
SONM	**Songino Array**	**150.97**	**87**	PKPbc		**PKPbc**	**01 42 17.8**	**+0.1**
	4.3nm,0.5s,baz=214,slow=3.3,SNR=33							
ULN	**Ulaanbaatar**	**151.35**	**87**	*e*PKPbc		**PKPbc**	**01 42 19.4**	**+0.8**
BPAW	**Bear Paw Mtn.**	**151.53**	**310**	*e*PKPbc		**PKPbc**	**01 42 18.3**	**-0.1**

*ATH **24** 01:39:12.9,39.60N×26.05E,h25km±1km,ML1.5/3,Error ellipse: s-maj=3.0km s-min=1.0km az=252.0*

*DDA **24** 01:39:12.9,39.63N×26.11E,h6km,Ml2.6*

*ISK **24** 01:39:12.8,39.60N×26.11E,h8km,ML2.4/7*

*ISCJB **24** 01:39:13.1±0.4,39.61N±0.02×26.07E±0.03,h7km±3km, Error ellipse: s-maj=4.2km s-min=3.1km az=172.5*

*CSEM **24** 01:39:13.2±0.1,39.61N×26.08E,h10km,ML2.4, Error ellipse: s-maj=2.8km s-min=1.9km az=91.0*

ISC 24 01:39:13.1±0.9,39.60N±0.02×26.08E±0.02,h13km±6km, n54,σ0s52/90,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.15**	**165**	PG		**Pg**	**01 39 16.7**	**0.0**
BOZC	**Bozcaada**	**0.24**	**354**	PG		**Pg**	**01 39 18.5**	**+0.2**
BOZC				SG		**Sg**	**01 39 22.2**	**+0.4**
BOZC	**Bozcaada**	**0.24**	**354**	*e*Pg		**Pg**	**01 39 18.5**	**+0.2**
BOZC				*e*Sg		**Sg**	**01 39 22.2**	**+0.4**
PRK	**Paraskevi**	**0.38**	**158**	P		**Pb**	**01 39 21.7**	**0.0**
PRK				S		**Sb**	**01 39 26.9**	**-0.6**
PRK				AML		AML	01 39 27.5	
	comp=N,413μm,0.3s							
PRK				AML		AML	01 39 29.0	
	comp=E,423μm,0.7s							
PRK	**Paraskevi**	**0.38**	**158**	P		**Pb**	**01 39 21.5**	**-0.2**
PRK				S		**Sb**	**01 39 27.2**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.39**	**68**	*i* P		**Pb**	**01 39 21.3**	**-0.5**
BAYC				*i* S		**Sb**	**01 39 26.8**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**0.39**	**68**	P		**Pb**	**01 39 21.3**	**-0.5**
BAYC				S		**Sb**	**01 39 26.8**	**-0.9**
SIGR	**SIGRI**	**0.42**	**205**	PG		**Pg**	**01 39 21.7**	**+0.2**
SIGR				SG		**Sb**	**01 39 28.3**	**-0.5**
SIGR	**SIGRI**	**0.42**	**205**	P		**Pg**	**01 39 21.3**	**-0.2**
SIGR				S		**Sg**	**01 39 26.4**	**-0.8**
SIGR				AML		AML	01 39 29.1	
	comp=N,170μm,0.3s							
SIGR				AML		AML	01 39 29.2	
	comp=E,130μm,0.2s							
SIGR	**SIGRI**	**0.42**	**205**	P		**Pg**	**01 39 21.5**	**0.0**
SIGR	**SIGRI**	**0.42**	**205**	*e*Pg		**Pg**	**01 39 21.7**	**+0.2**
SIGR				S		**Sg**	**01 39 27.3**	**+0.1**
SIGR				*e*Sg		**Sb**	**01 39 28.3**	**-0.5**
AYVA	**Ayvalik**	**0.55**	**121**	*i* P		**Pg**	**01 39 23.9**	**0.0**
AYVA				*i* S		**Sn**	**01 39 36.3**	**+0.6**
AYVA	**Ayvalik**	**0.55**	**121**	P		**Pg**	**01 39 23.9**	**0.0**
AYVA				S		**Sn**	**01 39 36.3**	**+0.6**
GADA	**Gvkgeada**	**0.61**	**346**	PG		**Pg**	**01 39 24.5**	**-0.5**
GADA	**Gvkgeada**	**0.61**	**346**	*e*Pg		**Pg**	**01 39 24.5**	**-0.5**
LIA	**Limnos Island**	**0.76**	**294**	P		**Pg**	**01 39 28.1**	**+0.3**
LIA				S		**Sg**	**01 39 37.8**	**+0.1**
LIA	**Limnos Island**	**0.76**	**294**	P		**Pg**	**01 39 27.7**	**-0.1**
LIA				S		**Sg**	**01 39 37.9**	**+0.2**
DKL	**Dikili**	**0.83**	**129**	PG		**Pg**	**01 39 29.0**	**-0.1**
DKL	**Dikili**	**0.83**	**129**	*e*Pg		**Pg**	**01 39 29.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.85**	**20**	PG		**Pg**	**01 39 29.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.85**	**20**	*e*Pg		**Pg**	**01 39 29.5**	**-0.1**
LPK	**Lapseki**	**0.93**	**34**	PG		**Pg**	**01 39 30.4**	**-0.7**
LPK	**Lapseki**	**0.93**	**34**	*e*Pg		**Pg**	**01 39 30.4**	**-0.7**
SMTH	**Samothraki Isl**	**0.97**	**334**	P		**Pg**	**01 39 31.7**	**-0.1**
SMTH				S		**Sb**	**01 39 44.9**	**+0.4**
SMTH				AML		AML	01 39 47.6	
	comp=N,22μm,0.2s							
SMTH				AML		AML	01 39 48.5	
	comp=E,24μm,0.2s							
SMTH	**Samothraki Isl**	**0.97**	**334**	P		**Pg**	**01 39 31.6**	**-0.2**
SMTH				S		**Sb**	**01 39 44.9**	**+0.4**
ERIK	**Erikli-Kesan**	**1.12**	**17**	PN		**Pb**	**01 39 34.2**	**-0.1**
ERIK				SN		**Sg**	**01 39 49.4**	**+0.1**
ERIK	**Erikli-Kesan**	**1.12**	**17**	*e*Pn		**Pb**	**01 39 34.2**	**-0.1**
ERIK				*e*Sn		**Sg**	**01 39 49.4**	**+0.1**
PSRA	**Psara**	**1.13**	**201**	P		**Pb**	**01 39 33.9**	**-0.6**
PSRA	**Psara**	**1.13**	**201**	P		**Pb**	**01 39 34.1**	**-0.4**
ENEZ	**Enez**	**1.14**	**3**	PN		**Pg**	**01 39 34.9**	**-0.1**
ENEZ				SN		**Sn**	**01 39 51.2**	**+1.0**
ENEZ	**Enez**	**1.14**	**3**	*e*Pn		**Pg**	**01 39 34.9**	**-0.1**
ENEZ				*e*Sn		**S

0.9nm,0.3s,baz=117,slow=18,SNR=3.7
H08S2 Diego Garcia H 24.00 242 T T 02 25 28.1
baz=61,slow=75,SNR=44
H08S3 Diego Garcia H 24.00 242 T T 02 25 30.6
baz=61,slow=75,SNR=44
H08S1 Diego Garcia H 24.01 242 T T 02 25 29.3
baz=61,slow=75,SNR=54
MKAR Makanchi Array 43.96 349 P **P 02 03 26.9 -1.0**
0.4nm,0.7s,baz=167,slow=7.1,SNR=3.8
SONM Songino Array 45.23 12 P **P 02 03 39.8 +1.7**
0.1nm,0.3s,baz=180,slow=5.8,SNR=5.9
WRA Warramunga Arr 46.38 122 P **P 02 03 48.1 +0.6**
0.5nm,0.7s,baz=300,slow=8.9,SNR=2.8
KURBB Kurchatov Arra 48.38 347 P **P 02 04 01.5 -1.2**
0.5nm,0.8s,baz=147,slow=5.5,SNR=2.9

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*ISCJB **24** 01:58:33.9±0.2, 16°.56N±0'.02×97°.99W±0'.02, h10km, mb4.7/201,MS4.0/30,Error ellipse: s-maj=3.3km s-min=2.6km az=16.2*
*MOS **24** 01:58:34.1±1.1, 16°.62N×97°.98W, h11km, mb5.0/49,Error ellipse: s-maj=9.9km s-min=4.7km az=97.4*
*GCMT **24** 01:58:35.5±0.7, 16°.46N×98°.05W, h31km±1km, MW4.9/61, Moment Tensor Solution. s21,c23; s61,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.76±.17; Mθθ-1.60±.11; Mφφ-0.15±.11; Mrθ1.36±.11; Mrφ0.45±.09; Mθφ-1.02±.13; Best double couple: M◎2.43300×10^16 NP1:ϕs120.00000°,δ67.00000°,λ101.00000°. NP2: ϕs274.00000°,δ25.00000°,λ66.00000°. Principal axes: T 2.5020, Plg66.0000°, Azm49.0000°; N -0.1320, Plg10.0000°, Azm296.0000°; P -2.3630, Plg22.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **24** 01:58:35.3±0.8, 16°.46N×98°.22W, h18km±4km, mb4.4/19, mb1 4.5/22,mb1mx4.4/39,mbtmp4.5/22, ML4.0/3, MS3.9/32, Ms1 3.9/32,ms1mx3.8/45 Error ellipse: s-maj=17.4km s-min=12.6km az=21.0*
*NEIC **24** 01:58:35.5±0.0, 16°.26N×98°.29W, h10km, mb4.8/205, MD4.6(MEX),After MEX.*
NEIC Felt at Jamiltepec and Ometepec.
*MEX **24** 01:58:35.0±0.6, 16°.24N×98°.29W, h6km±4km, MD4.5*
*BJI **24** 01:58:36.9, 16°.60N×98°.00W, h20km, Ms5.1/2, Ms7 4.7/2*
ISC 24 01:58:35.9±0.5, 16°.47N±0'.04×98°.15W±0'.03, h19km±2km, h19km:pP-P,n787,σ1§10/784,mb4.8/201,MS4.0/30,6C-4D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.08**	**166**	*e*P		**Pg**	**01 58 39.0**	**-0.6**
PNIG				*i* S		**Sg**	**01 58 42.2**	**+0.2**
PNIG	**Pinotepa**	**0.08**	**166**	*e*P		**Pg**	**01 58 38.9**	**-0.6**
PNIG				*i* S		**Sg**	**01 58 42.2**	**+0.2**
VHO	**Vista Hermosa**	**1.48**	**66**	*e*P		**Pg**	**01 59 02.5**	**-2.0**
VHO				*i* S		**Sg**	**01 59 22.3**	**-1.5**
VHO	**Vista Hermosa**	**1.48**	**66**	*e*P		**Pg**	**01 59 02.5**	**-2.0**
VHO				*e*S		**Sg**	**01 59 24.4**	**+0.5**
ACX	**Acapulco**	**1.69**	**284**	*e*P		Pn	01 59 58.7	-5.7
ACX				*i* S		**Sn**	**01 59 19.6**	**-5.9**
HUIG	**Huatulco**	**2.08**	**109**	*e*P		**Pn**	**01 59 08.3**	**-1.4**
HUIG				*i* S		**Sn**	**01 59 34.2**	**-0.9**
HUIG	**Huatulco**	**2.08**	**109**	*e*P		**Pn**	**01 59 08.3**	**-1.4**
HUIG				*e*S		**Sb**	**01 59 35.1**	**-3.4**
CAIG	**El Cayaco**	**2.11**	**286**	*e*P		Pn	01 59 06.2	-4.0
CAIG				*i* S		**Sn**	**01 59 32.0**	**-3.9**
CAIG	**El Cayaco**	**2.11**	**286**	*e*P		Pn	01 59 06.2	-4.0
PLIG	**Platanillo**	**2.31**	**326**	*e*P		**Pn**	**01 59 12.7**	**-0.3**
PLIG				*i* S		**Sn**	**01 59 41.2**	**+0.2**
PLIG	**Platanillo**	**2.31**	**326**	*e*P		**Pn**	**01 59 12.7**	**-0.3**
UNM	**Universidad Na**	**3.01**	**341**	*e*P		**Pb**	**01 59 28.7**	**-0.3**
UNM	**Universidad Na**	**3.01**	**341**	*e*P		**Pn**	**01 59 23.5**	**+0.7**
UNM				*i* S		**Sn**	**02 00 00.0**	**+1.5**
UNM	**Universidad Na**	**3.01**	**341**	*e*Pn		**Pb**	**01 59 28.7**	**-0.3**
PBVM	**Pinon**	**3.09**	**343**	*e*P		**Pn**	**01 59 24.6**	**+1.0**
PBVM				*i* S		**Sn**	**02 00 02.0**	**+2.0**
CMIG	**Matias Romero**	**3.19**	**78**	Pn		**Pn**	**01 59 25.4**	**+0.4**
	32nm,0.3s,baz=261,slow=11,SNR=187							
CMIG				Pg		**Pg**	**01 59 36.0**	**-1.0**
	105nm,0.3s,baz=252,slow=17,SNR=77							
CMIG				Sn		**Sn**	**02 00 03.4**	**+0.9**
	109nm,0.3s,baz=246,slow=10,SNR=4.7							
CMIG				Lg		Lg	02 00 19.7	
	356nm,0.3s,baz=178,slow=23,SNR=15							
CMIG				LR		LR	02 01 04.8	
	comp=Z,3μm,18.4s,baz=224,slow=46							
LVIG	**Laguna Verde**	**3.63**	**27**	*e*Pn		**Pn**	**01 59 29.9**	**-1.2**
MOIG	**Morelia**	**4.31**	**318**	*e*Pn		**Pn**	**01 59 41.7**	**+1.0**
JRQG	**Juriquilla Cam**	**4.74**	**333**	*e*Pn		Pn	01 59 51.9	+5.3
ZAIG	**Zacatecas**	**7.52**	**327**	*e*Pn		**Pn**	**02 00 26.3**	**+1.4**
LNIG	**Linares**	**8.48**	**352**	*e*Pn		**Pn**	**02 00 38.8**	**+1.1**
TGUH	**Tegucigalpa,Un**	**10.76**	**101**	*e*Pn		**Pn**	**02 01 11.2**	**+2.2**
833A	**Chaparral WMA,**	**11.85**	**355**	P		**Pn**	**02 01 26.2**	**+2.3**
	baz=175,SNR=20							
LPIG	**La Paz**	**13.70**	**306**	LR		LR	02 05 55.6	
	comp=Z,193nm,21.9s,baz=40,slow=32							
TX31	**Lajitas Ar. Si**	**13.77**	**339**	*e*Pn		**Pn**	**02 01 52.0**	**+1.7**
TXAR	**Lajitas Array**	**13.77**	**339**	Pn		**Pn**	**02 01 51.9**	**+1.6**
	0.1nm,0.3s,baz=159,slow=15,SNR=22							
TXAR				LR		LR	02 07 44.6	
	comp=Z,2μm,18.1s,baz=0.0,slow=40							
JCT	**Junction City**	**14.03**	**354**	P		**Pn**	**02 01 54.6**	**+0.8**
	baz=174							
JCT	**Junction City**	**14.03**	**354**	*e*P		**Pn**	**02 01 54.5**	**+0.8**
JCT	**Junction City**	**14.03**	**354**	*e*Pn		**Pn**	**02 01 54.5**	**+0.8**
JTS	**JuntasAbangare**	**14.23**	**114**	Pn		**P**	**02 01 59.8**	**-4.0**
	3.4nm,0.3s,baz=20,slow=8.9,SNR=12							
JTS	**JuntasAbangare**	**14.23**	**114**	*e*P		**Pn**	**02 01 59.1**	**+2.6**
JTS				pmax		pmax		
	comp=Z,51nm,1.0s							
JTS	**JuntasAbangare**	**14.23**	**114**	*e*Pn		**Pn**	**02 01 59.0**	**+2.6**
	comp=Z,51nm,1.0s							
435B	**Jarrell**	**14.26**	**2**	P		**P**	**02 02 02.1**	**-1.9**
	baz=183							
441A	**DeRidder**	**14.92**	**17**	P		**P**	**02 02 10.3**	**-1.0**
	baz=199							
WHTX	**Lake Whitney,**	**15.47**	**2**	*e*Pn		**Pn**	**02 02 12.9**	**-0.1**
	comp=Z,77nm,0.9s							
WHTX				*e*P		**P**	**02 02 17.5**	**+0.1**
341A	**Kurthwood**	**15.48**	**16**	P		**P**	**02 02 16.0**	**-1.5**
	baz=198							
NATX	**Nacogdoches**	**15.55**	**11**	P		**Pn**	**02 02 15.5**	**+1.4**
	baz=193							
NATX	**Nacogdoches**	**15.55**	**11**	*e*Pn		**Pn**	**02 02 13.4**	**-0.7**
	comp=Z,31nm,0.5s							
NATX				*e*P		**P**	**02 02 18.7**	**+0.4**
342A	**Flagon Creek P**	**15.76**	**19**	P		**P**	**02 02 20.6**	**0.0**
	baz=201							
240A	**Hunter Patters**	**16.00**	**14**	P		**Pn**	**02 02 20.9**	**+1.0**
	baz=196							
ABTX	**Abilene, Hawle**	**16.14**	**355**	P		**Pn**	**02 02 22.7**	**+0.9**
	baz=175,SNR=25							
ABTX	**Abilene, Hawle**	**16.14**	**355**	*e*Pn		**Pn**	**02 02 22.2**	**+0.4**
	comp=Z,98nm,1.0s							
ABTX				*e*P		**P**	**02 02 25.3**	**+0.4**
241A	**Mo Tay, Goldon**	**16.20**	**16**	P		**Pn**	**02 02 23.3**	**+0.9**
	baz=198							
446A	**Poplarville**	**16.36**	**28**	P		**Pn**	**02 02 25.4**	**+0.9**
	baz=211							
344A	**Westbrook Farm**	**16.37**	**23**	P		**Pn**	**02 02 24.4**	**-0.3**
	baz=206							
242A	**Grayson**	**16.45**	**18**	P		**P**	**02 02 28.5**	**+0.2**
	baz=201							
MNTX	**Cornudas Mount**	**16.53**	**338**	P		**Pn**	**02 02 27.6**	**+0.9**
	baz=156,SNR=23							
MNTX	**Cornudas Mount**	**16.53**	**338**	*e*Pn		**Pn**	**02 02 27.3**	**+0.6**
	comp=Z,14nm,0.9s							
140A	**Cam and Jess,**	**16.62**	**14**	P		**P**	**02 02 29.2**	**-1.0**
	baz=196,SNR=8.9							
GDL2	**Guadalupe Moun**	**16.65**	**341**	*e*P		**P**	**02 02 31.7**	**+1.1**
	comp=Z,20nm,0.8s							
141A	**Papa Simpson,**	**16.75**	**16**	P		**Pn**	**02 02 30.4**	**+0.9**
	baz=198							
244A	**Avery, Jackson**	**16.92**	**22**	P		**P**	**02 02 33.0**	**-0.6**
	baz=205,SNR=9.3							
VBMS	**Vicksburg**	**17.14**	**22**	P		**P**	**02 02 35.1**	**-0.9**
	baz=206							
VBMS	**Vicksburg**	**17.14**	**22**	*e*Pn		**P**	**02 02 36.1**	**+0.2**
	comp=Z,114nm,1.3s							
HSIG		**17.17**	**319**	*e*Pn		**P**	**02 02 36.8**	**+0.5**
347A	**Saraland**	**17.25**	**29**	P		**P**	**02 02 36.6**	**-0.6**
	baz=213							
Z40A	**Long Farm, Mag**	**17.26**	**14**	P		**P**	**02 02 37.9**	**+0.7**
	baz=196,SNR=15							
143A	**Socs Landing,**	**17.28**	**19**	P		**P**	**02 02 36.9**	**-0.6**
	baz=202							
CPRX	**Cap Rock**	**17.28**	**344**	*e*Pn		**P**	**02 02 37.9**	**+0.2**
	comp=Z,6.7nm,0.7s							
Z41A	**Richland Creek**	**17.40**	**15**	P		**P**	**02 02 38.7**	**-0.1**
	baz=198							
144A	**Alexander Plac**	**17.55**	**22**	P		**P**	**02 02 41.3**	**+0.9**
	baz=205							
145A	**Houston Renfro**	**17.70**	**23**	P		**Pn**	**02 02 41.4**	**0.0**
	baz=207							
247A	**Quitman**	**17.77**	**27**	P		**P**	**02 02 42.9**	**0.0**
	baz=211							
MSTX	**Muleshoe**	**17.92**	**347**	P		**Pn**	**02 02 44.2**	**+0.1**
	baz=166,SNR=24							
MSTX	**Muleshoe**	**17.92**	**347**	*e*Pn		**Pn**	**02 02 44.0**	**-0.1**
	comp=Z,56nm,1.0s							
319A	**Douglas**	**17.97**	**328**	*e*Pn		**P**	**02 02 46.9**	**+1.6**
	comp=Z,44nm,1.0s							
Y40A	**Okolona**	**18.01**	**13**	P		**P**	**02 02 45.4**	**-0.1**
	baz=196,SNR=8.7							
146A	**Union**	**18.08**	**25**	P		**Pn**	**02 02 45.6**	**-0.4**
	baz=209							
Z44A	**Pea Ridge, Bel**	**18.13**	**21**	P		**P**	**02 02 51.6**	**+4.8**
	baz=204,SNR=6.0							
248A	**Dixon Mills**	**18.20**	**29**	P		**P**	**02 02 47.7**	**+0.1**
	baz=214							
WMOK	**Wichita Mounta**	**18.20**	**358**	P		**Pn**	**02 02 46.4**	**-1.1**
	baz=178,SNR=13							
WMOK	**Wichita Mounta**	**18.20**	**358**	*e*P		**Pn**	**02 02 45.8**	**-1.8**
WMOK				pmax		pmax		
	comp=Z,27nm,1.1s							
WMOK	**Wichita Mounta**	**18.20**	**358**	*e*Pn		**Pn**	**02 02 45.8**	**-1.8**
	comp=Z,27nm,1.1s							
Y42A	**Garnett, Star**	**18.22**	**17**	P		**P**	**02 02 48.2**	**+0.4**
	baz=200							
121A	**Cookes Peak, D**	**18.22**	**333**	P		**P**	**02 02 49.4**	**+1.3**
	baz=150,SNR=13							
121A	**Cookes Peak, D**	**18.22**	**333**	*e*Pn		**Pn**	**02 02 48.6**	**+0.6**
	comp=Z,27nm,0.9s							
CCAR	**Cane Creek**	**18.30**	**17**	*e*Pn		**P**	**02 02 49.9**	**+1.2**
	comp=Z,49nm,1.0s							
X39A	**Fountain Ranch**	**18.33**	**11**	P		**Pn**	**02 02 48.3**	**-0.8**
	baz=193,SNR=15							
350A	**Dozier**	**18.36**	**34**	P		**P**	**02 02 49.6**	**+0.2**
	baz=218							
249A	**Camden**	**18.40**	**31**	P		**P**	**02 02 49.4**	**-0.4**
	baz=216							
147A	**Livingston**	**18.45**	**27**	P		**P**	**02 02 50.1**	**-0.3**
	baz=211							
058A	**Arcadia**	**18.46**	**52**	P		**P**	**02 02 49.9**	**-0.6**
	baz=238							
MIAR	**Mount Ida**	**18.46**	**12**	*e*P		**P**	**02 02 49.4**	**-1.1**
MIAR				pmax		pmax		
	comp=Z,74nm,1.2s							
MIAR	**Mount Ida**	**18.46**	**12**	*e*P		**P**	**02 02 49.4**	**-1.1**
	comp=Z,74nm,1.2s							
Y43A	**Makayla and Ka**	**18.54**	**19**	P		Pn	02 02 58.8	+7.1
	baz=202							
553A	**Crawfordville**	**18.55**	**40**	P		**Pn**	**02 02 56.3**	**+4.5**
	baz=225							
X40A	**Basin Creek Fa**	**18.57**	**14**	P		**P**	**02 02 51.3**	**-0.4**
	baz=196							
AMTX	**Amarillo**	**18.61**	**351**	P		**P**	**02 02 52.4**	**+0.2**
	baz=170							
AMTX	**Amarillo**	**18.61**	**351**	*e*P		**P**	**02 02 52.1**	**-0.1**
	comp=Z,43nm,0.9s							
Z46A	**Louisville**	**18.61**	**25**	P		**P**	**02 02 52.1**	**-0.1**
	baz=209							
X41A	**Kaden, Bauxite**	**18.65**	**15**	P		**P**	**02 02 52.0**	**-0.6**
	baz=197,SNR=7.7							
351A	**Pinckard**	**18.65**	**36**	P		**P**	**02 02 51.8**	**-0.9**
	baz=220							
148A	**Greensboro**	**18.74**	**29**	P		**Pn**	**02 02 54.1**	**+0.1**
	baz=213							
250A	**Grady**	**18.84**	**33**	P		**Pn**	**02 02 60.0**	**+4.7**
	baz=218							
X42A	**Stuttgart**	**18.93**	**17**	P		**Pn**	**02 02 56.6**	**+0.2**
	baz=200							
UALR	**University of**	**18.96**	**15**	*e*P		**P**	**02 02 55.0**	**-0.9**
	comp=Z,23nm,0.9s							
Y45A	**Yeager Farm, C**	**18.98**	**23**	P		**P**	**02 02 56.2**	**0.0**
	baz=206							
Z47A	**Carrollton**	**18.98**	**27**	P		**Pn**	**02 02 56.9**	**-0.1**
	baz=211							
W39A	**Magazine**	**19.05**	**11**	P		**P**	**02 02 57.3**	**+0.3**
	baz=193,SNR=16							
149A	**Jones**	**19.07**	**31**	P		**Pn**	**02 02 59.5**	**+1.4**
	baz=215							
X43A	**Marvell**	**19.12**	**19**	P		**Pn**	**02 02 58.7**	**0.0**
	baz=202							
352A	**Blakely**	**19.19**	**36**	P		**Pn**	**02 02 58.9**	**-0.5**
	baz=222							
BNM	**Barren Site**	**19.19**	**338**	*e*P		**Pn**	**02 03 00.7**	**+1.0**
W40A	**Ferguson Farm,**	**19.19**	**13**	P		**Pn**	**02 02 59.6**	**+0.1**
	baz=195							
W40A	**Ferguson Farm,**	**19.19**	**13**	*e*P		**Pn**	**02 02 59.4**	**-0.1**
	comp=Z,172nm,1.8s							
656A	**Willston**	**19.25**	**45**	P		**Pn**	**02 03 04.0**	**+3.8**
	baz=231							
Y46A	**Houston**	**19.25**	**24**	P		**P**	**02 02 59.5**	**+0.3**
	baz=208,SNR=26							
LRAL	**Lakeview Retre**	**19.33**	**29**	P		**P**	**02 03 00.2**	**+0.2**
	baz=214,SNR=5.6							
LRAL	**Lakeview Retre**	**19.33**	**29**	*e*P		**P**	**02 03 00.2**	**+0.2**
	comp=Z,25nm,0.9s							
LRAL				*e*Sn		**S**	**02 06 37.2**	**-0.9**
LPM	**Los Pinos Moun**	**19.33**	**338**	*e*P		**Pn**	**02 03 03.0**	**+1.5**
X44A	**Crenshaw**	**19.34**	**20**	P		Pn	02 03 08.4	+7.1
	baz=204,SNR=6.8							
Z48A	**Northport**	**19.36**	**28**	P		**P**	**02 03 00.4**	**0.0**
	baz=212,SNR=9.3							
W41B	**Gary Mavity, V**	**19.36**	**15**	P		**P**	**02 03 00.6**	**+0.2**
	baz=198							
251A	**Midway**	**19.38**	**34**	P		**P**	**02 03 00.7**	**+0.1**
	baz=220,SNR=7.9							
454A	**Quitman**	**19.41**	**41**	P		**P**	**02 03 00.9**	**-0.1**
	baz=226							
150A	**Eclectic**	**19.46**	**32**	P		**P**	**02 03 01.5**	**0.0**
	baz=217,SNR=7.3							
WHAR	**Wooly Hollow**	**19.46**	**15**	*e*P		**P**	**02 03 02.1**	**+0.6**
	comp=Z,66nm,1.4s							
TUL1	**Leonard**	**19.48**	**6**	P		**P**	**02 03 01.3**	**-0.4**
	baz=187,SNR=22							
TUL1	**Leonard**	**19.48**	**6**	*e*P		**P**	**02 03 01.1**	**-0.5**
	comp=Z,60nm,0.8s							
TUC	**Tucson**	**19.50**	**326**	P		**Pn**	**02 03 03.7**	**+0.4**
	baz=142							
TUC	**Tucson**	**19.50**	**326**	P		**Pn**	**02 03 04.0**	**+0.7**
TUC				pmax		pmax		
	comp=Z,29nm,1.6s							
TUC	**Tucson**	**19.50**	**326**	*e*P		**P**	**02 03 03.0**	**+1.0**
	comp=Z,19nm,1.0s							
X45A	**UM Field Stati**	**19.53**	**22**	P		**P**	**02 03 01.8**	**-0.5**
	baz=206							
LAZ	**Ladron**	**19.60**	**337**	*e*P		**Pn**	**02 03 05.9**	**+1.3**
OXF	**Oxford**	**19.60**	**22**	P		**P**	**02 03 02.5**	**-0.5**
	baz=206,SNR=8.5							
OXF	**Oxford**	**19.60**	**22**	*e*P		**P**	**02 03 03.0**	**0.0**
OXF				pmax		pmax		
	comp=Z,49nm,0.9s							
OXF	**Oxford**	**19.60**	**22**	*e*P		**P**	**02 03 03.0**	**0.0**
	comp=Z,49nm,0.9s							
W42A	**Bald Knob**	**19.64**	**16**	P		**P**	**02 03 03.7**	**+0.3**
	baz=199							
Y47A	**UCPARC, Winfie**	**19.68**	**26**	P		**P**	**02 03 03.9**	**0.0**
	baz=211,SNR=7.6							
252A	**Lumpkin**	**19.68**	**36**	P		**P**	**02 03 04.0**	**+0.1**
	baz=221,SNR=6.1							
Z49A	**Columbiana**	**19.68**	**30**	P		**P**	**02 03 04.2**	**+0.3**
	baz=215,SNR=9.5							
V39A	**Pettigrew**	**19.70**	**11**	P		**P**	**02 03 04.0**	**-0.2**
	baz=193,SNR=46							
MTDJ	**Mount Denham**	**19.75**	**82**	*e*P		**Pn**	**02 03 04.9**	**-1.6**
	comp=Z,57nm,0.9s							
151A	**Opelika**	**19.76**	**34**	P		**P**	**02 03 04.7**	**-0.1**
	baz=219,SNR=12							
455A	**Stateville**	**19.81**	**42**	P		**P**	**02 03 04.7**	**-0.6**
	baz=227							
V40A	**Wills Springs**	**19.83**	**13**	P		**P**	**02 03 05.3**	**-0.3**
	baz=195,SNR=19							
ANMO	**Albuquerque**	**19.85**	**340**	P		**P**	**02 03 05.8**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=333,slow=12,SNR=55							
ANMO				LR		LR	02 11 58.5	
	comp=Z,278nm,18.4s,baz=341,slow=40							
ANMO	**Albuquerque**	**19.85**	**340**	P		**P**	**02 03 07.2**	**+1.3**
	baz=157							
ANMO	**Albuquerque**	**19.85**	**340**	*c i*P		**Pn**	**02 03 08.0**	**+0.4**
ANMO				pmax		pmax		
	comp=Z,24nm,1.0s							
ANMO	**Albuquerque**	**19.85**	**340**	*e*P		**P**	**02 03 07.3**	**+1.3**
	comp=Z,21nm,0.9s							
TIGA	**Tifton**	**19.94**	**39**	P		**Pn**	**02 03 10.5**	**+2.0**
	baz=225							
X46A	**Booneville**	**19.95**	**24**	P		**P**	**02 03 06.9**	**+0.1**
	baz=208,SNR=13							
V41A	**Mountainview**	**19.96**	**14**	P		**P**	**02 03 06.6**	**-0.4**
	baz=197,SNR=16							
Y48A	**Jasper**	**19.98**	**28**	P		**P**	**02 03 06.4**	**-0.8**
	baz=212							
Z50A	**Ashland**	**20.03**	**31**	P		**P**	**02 03 07.8**	**+0.1**
	baz=216,SNR=17							
HHAR	**Hobbs**	**20.09**	**10**	*e*P		**P**	**02 03 07.5**	**-0.8**
	comp=Z,22nm,0.8s							
V42A	**Cord**	**20.18**	**16**	P		**P**	**02 03 08.5**	**-0.8**
	baz=199,SNR=20							
X47A	**Russelville**	**20.21**	**25**	P		**P**	**02 03 08.8**	**-0.8**
	baz=210,SNR=17							
U39A	**Green Forest**	**20.26**	**11**	P		**P**	**02 03 09.7**	**-0.6**
	baz=193,SNR=30							
W45A	**Hickory Valley**	**20.26**	**22**	P		**P**	**02 03 10.3**	**+0.1**
	baz=206,SNR=8.1							
Y49A	**Blount Mountai**	**20.28**	**29**	P		**P**	**02 03 10.2**	**-0.3**
	baz=214,SNR=8.6							
U40A	**Yellville**	**20.36**	**12**	P		**P**	**02 03 10.9**	**-0.4**
	baz=195,SNR=43							
214A	**Organ Pipe Nat**	**20.37**	**322**	P		**P**	**02 03 12.5**	**+1.0**
	baz=137,SNR=11							
214A	**Organ Pipe Nat**	**20.37**	**322**	*e*P		**P**	**02 03 12.4**	**+0.9**
	comp=Z,53nm,0.9s							
254A	**Abbeville**	**20.48**	**39**	P		**P**	**02 03 11.8**	**-0.9**
	baz=224							
X48A	**Hartselle**	**20.49**	**27**	P		**P**	**02 03 11.8**	**-0.9**
	baz=212,SNR=13							
PLAL	**Pickwick Lake**	**20.52**	**24**	*e*P		**P**	**02 03 12.3**	**-0.7**
	comp=Z,34nm,0.9s							
PLAL				*e*S		Sn	02 07 04.2	-2.0
W46A	**Michie**	**20.54**	**23**	P		**P**	**02 03 12.9**	**-0.3**
	baz=208,SNR=6.5							
U41A	**Viola**	**20.55**	**14**	P		**P**	**02 03 13.2**	**-0.2**
	baz=197,SNR=18							
GNAR	**Gosnell**	**20.72**	**19**	*e*P		**P**	**02 03 14.3**	**-0.9**
	comp=Z,3μm,1.4s							
U42A	**Revenden**	**20.73**	**16**	P		**P**	**02 03 14.8**	**-0.5**
	baz=199,SNR=31							
T38A	**Diamond**	**20.77**	**9**	P		**P**	**02 03 15.2**	**-0.5**
	baz=191,SNR=39							
X49A	**Woodville**	**20.86**	**28**	P		**P**	**02 03 16.1**	**-0.6**
	baz=213,SNR=19							
V45A	**Humboldt**	**20.87**	**21**	P		**P**	**02 03 16.3**	**-0.5**
	baz=206							
X18A	**Snowflake**	**20.87**	**332**	*e*P		Pn	02 03 19.2	-0.4
	comp=Z,54nm,1.0s							
T39A	**Clever**	**20.91**	**11**	P		**P**	**02 03 16.8**	**-0.4**
	baz=193,SNR=34							
W47A	**Westpoint**	**20.95**	**25**	P		**P**	**02 03 16.9**	**-0.8**
	baz=209,SNR=26							
U43A	**Rector**	**20.98**	**18**	P		Pn	02 03 21.1	+0.5
	baz=201,SNR=5.2							
154A	**Montrose**	**21.07**	**38**	P		**P**	**02 03 18.1**	**-0.9**
	baz=224,SNR=6.2							
W48A	**Pulaski**	**21.12**	**26**	P		**P**	**02 03 18.7**	**-0.9**
	baz=211,SNR=19							
X50A	**Fort Payne**	**21.14**	**30**	P		**P**	**02 03 18.9**	**-0.9**
	baz=215,SNR=13							
T40A	**Mansfield**	**21.19**	**13**	P		**P**	**02 03 19.6**	**-0.7**
	baz=195,SNR=57							
V46A	**Holladay**	**21.23**	**23**	P		**P**	**02 03 20.0**	**-0.7**
	baz=208,SNR=29							
GLAT	**Glass**	**21.24**	**20**	*e*P		**P**	**02 03 21.0**	**+0.3**
T41A	**Mountain View**	**21.26**	**14**	P		**P**	**02 03 20.7**	**-0.3**
	baz=197,SNR=33							
W18A	**Petrified Fore**	**21.27**	**333**	P		**P**	**02 03 22.7**	**+1.4**
	baz=149,SNR=16							
W18A	**Petrified Fore**	**21.27**	**333**	*e*P		**P**	**02 03 22.5**	**+1.2**
	comp=Z,26nm,0.9s							
T25A	**Trinidad**	**21.32**	**346**	P		**P**	**02 03 23.6**	**+1.6**
	baz=164,SNR=42							
T25A	**Trinidad**	**21.32**	**346**	*e*P		**P**	**02 03 23.5**	**+1.6**
	comp=Z,78nm,0.9s							
MHTCO	**State Highway**	**21.38**	**346**	*e*P		**P**	**02 03 23.9**	**+1.3**
	comp=Z,43nm,1.1s							
T42A	**Van Buren**	**21.41**	**16**	P		**P**	**02 03 22.1**	**-0.5**
	baz=199,SNR=39							
GOGA	**Godfrey**	**21.45**	**35**	P		**P**	**02 03 22.0**	**-1.0**
	baz=222,SNR=19							
GOGA	**Godfrey**	**21.45**	**35**	*e*P		**P**	**02 03 22.3**	**-0.7**
GOGA				pmax		pmax		
	comp=Z,38nm,0.7s							
GOGA	**Godfrey**	**21.45**	**35**	*e*P		**P**	**02 03 22.2**	**-0.7**
	comp=Z,38nm,0.7s							
V47A	**Nunnelly**	**21.48**	**24**	P		**P**	**02 03 22.6**	**-0.8**
	baz=209,SNR=34							
X16A	**Lo Mia Camp, P**	**21.49**	**329**	*e*P		**P**	**02 03 25.5**	**+1.8**
	comp=Z,42nm,0.8s							
113A	**Mohawk Valley,**	**21.52**	**322**	*e*P		**P

baz=197,SNR=22
S44A **Carbondale** 22.55 19 P P 02 03 34.8 0.0
baz=203,SNR=9.0
Q37A **Longview Farm,** 22.56 8 P P 02 03 34.6 -0.3
baz=190,SNR=11
SIUC **Southern Illin** 22.58 19 eP P 02 03 35.5 +0.4
comp=Z,50nm,0.9s
KSU1 **Kansas State U** 22.59 3 P P 02 03 35.1 -0.1
baz=184
KSU1 **Kansas State U** 22.59 3 eP P 02 03 35.1 -0.1
comp=Z,26nm,0.8s
MVCO **Mesa Verde** 22.60 338 P P 02 03 36.0 +0.4
baz=154,SNR=40
MVCO **Mesa Verde** 22.60 338 eP P 02 03 36.3 +0.7
comp=Z,47nm,0.9s
T47A **Sharon Grove** 22.66 23 P P 02 03 35.4 -0.6
baz=208,SNR=28
Y12C **Blythe** 22.66 322 P P 02 03 37.0 +1.0
baz=136,SNR=5.3
Y12C **Blythe** 22.66 322 eP P 02 03 37.5 +1.4
comp=Z,12nm,0.8s
R42A **Luebbering** 22.67 15 P P 02 03 35.3 -0.8
baz=199
HODGE **Hodges** 22.73 36 eP P 02 03 35.8 -1.0
comp=Z,36nm,0.8s
S45A **Carrier Mills** 22.75 20 P P 02 03 36.4 -0.5
baz=204,SNR=12
Q38A **Cooks Store, C** 22.76 9 P P 02 03 36.5 -0.5
baz=192,SNR=16
KSCO **Kaye Shedlock'** 22.80 351 P P 02 03 38.0 +0.4
baz=169
KSCO **Kaye Shedlock'** 22.80 351 eP P 02 03 38.3 +0.7
comp=Z,62nm,0.9s
PDMCI **Parker Dam,Lak** 22.84 324 P P 02 03 38.9 +1.0
baz=138,SNR=13
SWSC **Sam W. Stewart** 22.88 319 P P 02 03 39.7 +1.2
baz=132
R43A **Red Bud** 22.89 17 P P 02 03 38.0 -0.5
baz=201,SNR=22
BG3 **Lake Jocassee** 22.93 34 eP P 02 03 38.6 -0.3
comp=Z,35nm,1.1s
BG3 eSn Sn 02 08 17.7 +14
Q39A **Willow Grove F** 22.94 10 P P 02 03 38.8 -0.2
baz=193,SNR=20
TKL **Tuckaleechee C** 23.01 31 P P 02 03 38.5 -1.2
comp=Z,16nm,0.9s,baz=200,slow=8.6,SNR=20
TKL LR LR 02 16 15.9
comp=Z,106nm,18.4s,baz=204,slow=46
TKL **Tuckaleechee C** 23.01 31 eP P 02 03 39.3 -0.4
TKL pmax pmax
comp=Z,34nm,0.9s
TKL **Tuckaleechee C** 23.01 31 eP P 02 03 39.3 -0.4
comp=Z,34nm,0.9s
T48A **Bowling Green** 23.04 25 P P 02 03 38.9 -1.1
baz=210,SNR=32
S46A **Don Dixon Farm** 23.05 22 P P 02 03 39.0 -1.0
baz=206
Q40A **Laux Farm, Aux** 23.06 12 P P 02 03 38.7 -1.5
baz=195,SNR=12
R44A **Waltonville** 23.11 18 P P 02 03 40.8 +0.1
baz=203,SNR=12
BC3 **Big Chuckawall** 23.15 321 P P 02 03 42.5 +1.2
baz=134,SNR=16
CSU **Charleston Sou** 23.18 41 eP P 02 03 41.7 +0.3
NHSC **New Hope** 23.19 41 P P 02 03 41.8 +0.3
baz=228,SNR=12
NHSC **New Hope** 23.19 41 eP P 02 03 41.6 +0.1
comp=Z,258nm,1.1s
Q41A **Truxton** 23.20 14 P P 02 03 40.2 -1.4
baz=197,SNR=34
Q24A **Divide** 23.23 346 P P 02 03 43.2 +0.9
baz=163,SNR=5.9
Q24A **Divide** 23.23 346 eP P 02 03 44.2 +1.9
comp=Z,43nm,1.2s
MONP2 **Monument Peak** 23.24 318 P P 02 03 43.3 +0.9
baz=131
P37A **Lathrop** 23.27 7 P P 02 03 41.2 -1.1
baz=190,SNR=13
W13A **Hualapai Mount** 23.29 326 eP P 02 03 44.5 +1.7
comp=Z,12nm,0.8s
IRM **Iron Mountain** 23.31 322 P P 02 03 43.9 +1.1
baz=136,SNR=9.9
USIN **University of** 23.32 21 eP P 02 03 43.5 +0.7
comp=Z,91nm,1.0s
Q42A **Golden Eagle** 23.33 15 P P 02 03 42.5 -0.4
baz=199,SNR=21
JSC **Jenkinsville** 23.34 37 eP P 02 03 42.2 -0.8
JSC pmax pmax
comp=Z,32nm,0.9s
JSC **Jenkinsville** 23.34 37 eP P 02 03 42.1 -0.8
comp=Z,32nm,0.9s
R45A **Skylar, Fairfi** 23.41 20 P P 02 03 44.3 +0.6
baz=204,SNR=7.0
PAULI **Pauline** 23.41 36 eP P 02 03 44.6 +0.9
comp=Z,16nm,1.0s
P39B **Salisbury** 23.41 11 P P 02 03 42.4 -1.3
baz=193,SNR=23
P38A **Dawn** 23.42 9 P P 02 03 43.6 -0.2
baz=191,SNR=14
PV01 **Paradox Valley** 23.45 339 eP P 02 03 45.8 +1.4
U15A **North Rim** 23.52 330 eP P 02 03 45.6 +0.5
comp=Z,68nm,1.3s
O33A **Hebron** 23.53 1 P P 02 03 44.8 -0.1
baz=182,SNR=7.3
Q43A **New Douglas** 23.58 17 P P 02 03 44.7 -0.6
baz=201,SNR=9.9
P40A **Paris** 23.59 12 P P 02 03 44.6 -0.8
baz=195,SNR=27
PV05 **Paradox Valley** 23.59 338 eP P 02 03 46.7 +1.0
R46A **Gibson Southern** 23.59 21 P P 02 03 45.4 -0.1
baz=206,SNR=6.6
S48A **Wiedeman Farm,** 23.65 24 P P 02 03 45.2 -0.9
baz=210,SNR=11
O34A **Beatrice** 23.66 3 P P 02 03 46.2 +0.1
baz=184,SNR=43
BELC **Belle Mtn. Jos** 23.71 321 P P 02 03 47.8 +0.9
baz=134,SNR=10
XPFO **Pæon Flat** 23.73 319 eP P 02 03 48.1 +1.1
comp=Z,60nm,1.9s
PFO **Pinyon Flats O** 23.74 319 P P 02 03 48.1 +1.0
baz=132
PFO **Pinyon Flats O** 23.74 319 eP P 02 03 48.1 +1.0
PFO pmax pmax
comp=Z,60nm,2.0s
PFO **Pinyon Flats O** 23.74 319 eP P 02 03 48.1 +1.0
comp=Z,60nm,2.0s
Q44A **Meyer Farm, Va** 23.74 18 P P 02 03 45.5 -1.4
baz=202,SNR=8.2
O35A **Humboldt** 23.79 4 P P 02 03 47.3 -0.1
baz=186,SNR=7.2
PV04 **Paradox Valley** 23.80 339 eP P 02 03 48.2 +0.5
TZTN **Tazewell** 23.83 30 P P 02 03 47.3 -0.5
baz=217,SNR=8.8
TZTN **Tazewell** 23.83 30 eP P 02 03 47.9 +0.1
comp=Z,30nm,0.8s
PV10 **Paradox Valley** 23.83 338 eP P 02 03 48.1 0.0
O37A **Wolven Farm, M** 23.87 8 P P 02 03 47.7 -0.4
baz=190,SNR=14
OLIL **Olney** 23.87 20 eP P 02 03 47.5 -0.7
comp=Z,41nm,0.9s
SMCO **Snowmass** 23.91 343 eP P 02 03 50.7 +1.7
comp=Z,78nm,1.5s
KMSC **Kings Mountain** 23.91 36 P P 02 03 47.7 -0.9
baz=223,SNR=6.0
KMSC **Kings Mountain** 23.91 36 eP P 02 03 47.8 -0.8
comp=Z,22nm,0.9s
O38A **Galt** 23.91 9 P P 02 03 48.4 -0.2
baz=191,SNR=21
P41A **Barry, Barry** 23.93 14 P P 02 03 47.8 -0.9
baz=197,SNR=11
LDFC **Landfair** 23.95 324 eP P 02 03 50.3 +1.2
comp=Z,26nm,1.0s
PV09 **Paradox Valley** 23.97 338 eP P 02 03 50.4 +0.9
Q45A **Warren Harvey,** 24.00 19 P P 02 03 48.6 -0.8
baz=204,SNR=12
P42A **Winchester** 24.02 15 P P 02 03 48.9 -0.6
baz=199,SNR=36
R47A **Wooly Knot Far** 24.02 23 P P 02 03 48.8 -0.8
baz=208,SNR=45
WCI **Wyandotte Cave** 24.05 23 P P 02 03 49.0 -0.9
baz=209
WCI **Wyandotte Cave** 24.05 23 eP P 02 03 49.1 -0.8
WCI pmax pmax
comp=Z,62nm,0.9s
WCI **Wyandotte Cave** 24.05 23 eP P 02 03 49.1 -0.8
comp=Z,62nm,0.9s
GMRC **Granite Mounta** 24.05 323 P P 02 03 51.0 +0.9
baz=136,SNR=12

ISCO **Idaho Springs** 24.14 346 P P 02 03 52.0 +1.0
baz=163,SNR=62
ISCO **Idaho Springs** 24.14 346 eP P 02 03 51.2 +0.2
ISCO pmax pmax
comp=Z,40nm,0.8s
ISCO **Idaho Springs** 24.14 346 eP P 02 03 51.2 +0.2
comp=Z,40nm,0.8s
O40A **La Belle** 24.19 12 P P 02 03 50.5 -0.6
baz=195,SNR=26
N33A **J Bar K, Exete** 24.19 1 P P 02 03 51.0 -0.1
baz=182
MURC **Murrieta** 24.19 318 P P 02 03 52.5 +1.2
baz=131
O39A **Kirksville** 24.20 11 P P 02 03 51.2 +0.1
baz=193,SNR=15
KNB **Kanab** 24.24 330 eP P 02 03 53.5 +1.6
KNB pmax pmax
comp=Z,65nm,1.4s
KNB **Kanab** 24.24 330 eP P 02 03 53.5 +1.6
comp=Z,65nm,1.4s
P43A **Skaggs, Pawnee** 24.28 16 P P 02 03 51.5 -0.5
baz=201,SNR=7.9
N34A **Lincoln** 24.32 3 P P 02 03 52.3 -0.1
baz=184,SNR=8.2
PKCU **Pink Cliffs** 24.35 332 eP P 02 03 55.5 +2.4
comp=Z,36nm,1.2s
R48A **Northridge Ran** 24.36 24 P P 02 03 52.2 -0.5
baz=210,SNR=16
P44A **Sand Creek, Wi** 24.38 18 P P 02 03 52.6 -0.3
baz=203,SNR=10.0
O41A **Passleys Farm,** 24.39 14 P P 02 03 52.4 -0.6
baz=197,SNR=37
N35A **Tabor** 24.40 5 P P 02 03 53.0 -0.1
baz=186,SNR=8.6
N36A **Muff Farm, Cla** 24.42 6 P P 02 03 52.8 -0.4
baz=188,SNR=7.1
LCMT **Little Creek M** 24.44 330 eP P 02 03 54.6 +0.9
comp=Z,14nm,1.0s
N37A **Lee Faris, Mou** 24.44 7 P P 02 03 53.6 +0.1
baz=189,SNR=7.0
HEC **Hector,Ludlow** 24.48 322 P P 02 03 55.0 +1.0
baz=134,SNR=9.7
N38A **Joes South For** 24.61 9 P P 02 03 55.0 +0.1
baz=192,SNR=23
OGNE **Ogallala** 24.62 353 P P 02 03 56.1 +0.9
baz=171,SNR=6.5
OGNE **Ogallala** 24.62 353 eP P 02 03 56.6 +1.5
comp=Z,116nm,1.3s
Q47A **Bedord North L** 24.62 22 P P 02 03 54.8 -0.3
baz=208,SNR=13
O42A **Bath** 24.66 15 P P 02 03 55.4 0.0
baz=199
TUQ **Turquoise Moun** 24.67 323 P P 02 03 56.7 +1.0
baz=136,SNR=16
P45A **Graceland, Par** 24.70 20 P P 02 03 55.5 -0.3
baz=205
YOTC **Yotoco, Valle** 24.75 118 eP P 02 03 54.2 -2.3
MTPU **Mount Pierson** 24.79 333 eP P 02 03 58.5 +1.5
comp=Z,55nm,0.9s
BLO **Bloomington** 24.80 22 eP P 02 03 56.5 -0.2
BLO pmax pmax
comp=Z,28nm,0.8s
BLO **Bloomington** 24.80 22 eP P 02 03 56.5 -0.2
comp=Z,28nm,0.8s
N39A **Derby Farms, D** 24.81 10 P P 02 03 56.7 0.0
baz=193,SNR=23
SZCU **Shurtz Canyon** 24.83 331 eP P 02 03 59.2 +1.9
comp=Z,16nm,1.1s
BFSC **Mount Baldy Ra** 24.90 319 P P 02 03 58.8 +1.0
baz=131
CCUT **Cedar City** 24.93 330 eP P 02 03 59.1 +0.9
comp=Z,8.7nm,0.9s
O43A **Sugar Creek Fa** 24.94 16 P P 02 03 57.7 -0.3
baz=201
P46A **Rosedale** 24.96 20 P P 02 03 57.9 -0.2
baz=206
N41A **Harden Midland** 24.97 13 P P 02 03 58.2 0.0
baz=197
M34A **Aspy Farms, Fr** 24.98 3 P P 02 03 59.4 +1.1
baz=184
N40A **Mertquake, Sal** 24.98 12 P P 02 03 58.2 -0.1
baz=195,SNR=10
M35A **Neola** 25.00 4 P P 02 03 58.5 0.0
baz=196,SNR=12
SRU **San Rafael Swe** 25.02 337 eP P 02 04 00.0 +1.1
SRU pmax pmax
comp=Z,29nm,0.9s
SRU **San Rafael Swe** 25.02 337 eP P 02 03 60.0 +1.1
comp=Z,29nm,0.9s
SHPR **Sheep Range** 25.02 326 eP P 02 04 00.3 +1.3
comp=Z,9.3nm,1.0s
O44A **Mansfield** 25.05 18 P P 02 03 58.8 -0.1
baz=202,SNR=6.0
M36A **Felix, Anita** 25.06 6 P P 02 03 59.1 0.0
baz=188,SNR=6.9
GSC **Goldstone, Bar** 25.09 322 P P 02 04 00.4 +0.9
baz=134
GSC **Goldstone, Bar** 25.09 322 eP P 02 04 00.2 +0.7
GSC pmax pmax
comp=Z,18nm,1.3s
GSC **Goldstone, Bar** 25.09 322 eP P 02 04 00.2 +0.7
comp=Z,18nm,1.3s
M37A **Trindle Farm,** 25.10 7 P P 02 03 59.4 0.0
baz=190,SNR=24
Q16A **Castle Valley** 25.11 336 eP P 02 04 01.1 +1.4
RREF **El Recreo** 25.14 115 eP P 02 04 01.9 +1.1
O20A **White River Ci** 25.16 342 P P 02 04 01.5 +1.3
baz=157,SNR=39
O20A **White River Ci** 25.16 342 eP P 02 04 01.6 +1.3
comp=Z,47nm,0.9s
P47A **Martinsville** 25.17 22 P P 02 03 59.8 -0.2
baz=208
MSU **Marysvale** 25.18 333 eP P 02 04 02.0 +1.6
MSU **Marysvale** 25.18 333 eP P 02 04 02.0 +1.6
PTBC **PUERTO BERRIO,** 25.20 110 eP P 02 03 59.9 -0.7
HDIL **Hopedale** 25.20 16 P P 02 04 00.1 -0.2
baz=200,SNR=11
HDIL **Hopedale** 25.20 16 eP P 02 04 00.6 +0.3
comp=Z,42nm,0.9s
M38A **Pleasantville** 25.23 9 P P 02 04 00.4 -0.1
baz=191,SNR=36
OTAV **Otavalo** 25.24 128 eP P 02 04 03.2 +1.8
comp=Z,10nm,1.1s
N23A **Red Feather La** 25.26 346 P P 02 04 01.9 +0.7
baz=163,SNR=23
N23A **Red Feather La** 25.26 346 eP P 02 04 02.5 +1.4
comp=Z,40nm,1.0s
N42A **Yates City** 25.27 15 P P 02 04 01.0 0.0
baz=199,SNR=8.8
O45A **Potomac** 25.37 19 P P 02 04 01.7 -0.1
baz=204,SNR=16
P18A **Preston Nutter** 25.37 338 eP P 02 04 03.6 +1.4
comp=Z,51nm,0.9s
P17A **Butcher Ranch,** 25.42 337 eP P 02 04 03.8 +1.3
comp=Z,14nm,1.0s
TMUT **Trail Mountain** 25.45 336 eP P 02 04 04.0 +1.1
comp=Z,17nm,0.9s
L32A **Elgin** 25.45 0 P P 02 04 03.1 +0.6
baz=181
M39A **Webster** 25.45 10 P P 02 04 02.3 -0.3
baz=194,SNR=25
L34A **Svendsen Farm,** 25.46 3 P P 02 04 02.8 +0.2
baz=184,SNR=10
M40A **Post Highland** 25.50 12 P P 02 04 02.8 -0.2
baz=195,SNR=24
EDW2 **Edwards Air Fo** 25.53 320 P P 02 04 04.5 +1.1
baz=132,SNR=6.4
PHWY **Pilot Hill** 25.54 347 eP P 02 04 04.8 +1.1
comp=Z,18nm,0.9s
SOTA **Rioblanco** 25.54 122 eP P 02 04 04.5 +0.3
N43A **Stutzman Famil** 25.59 16 P P 02 04 03.8 0.0
baz=200,SNR=23
PCON **Cinco Dias** 25.60 121 eP P 02 04 06.5 +1.7
L33A **Hoskins** 25.62 2 P P 02 04 04.8 +0.7
baz=182
L35A **Bielow Farm, R** 25.65 4 P P 02 04 04.4 0.0
baz=186
M41A **Milan** 25.67 13 P P 02 04 04.3 -0.2
baz=197,SNR=12
SFIN **Lafayette** 25.68 20 P P 02 04 04.3 -0.3
baz=205,SNR=16
SFIN **Lafayette** 25.68 20 eP P 02 04 04.5 -0.2
comp=Z,46nm,1.0s
SDDR **Presa de Saban** 25.70 80 eP P 02 04 06.6 +1.5
comp=Z,36nm,0.8s
SCIA **State Center** 25.70 9 P P 02 04 04.9 +0.1
baz=191,SNR=16
SCIA **State Center** 25.70 9 eP P 02 04 04.9 +0.1
comp=Z,99nm,0.8s
BLG **Laguna Peak, P** 25.72 317 P P 02 04 06.2 +1.0
baz=129
N44A **Piper City** 25.75 18 P P 02 04 05.2 -0.1
baz=203,SNR=12
L37A **Phoenix Point,** 25.84 8 P P 02 04 05.7 -0.4
baz=190,SNR=10
O47A **Sheridan** 25.87 21 P P 02 04 05.7 -0.7
baz=207,SNR=17
BLA **Blacksburg** 25.93 34 P P 02 04 06.4 -0.7
baz=222,SNR=6.3
BLA **Blacksburg** 25.93 34 eP P 02 04 06.7 -0.4
BLA pmax pmax
comp=Z,25nm,0.9s
BLA **Blacksburg** 25.93 34 eP P 02 04 06.7 -0.4
comp=Z,25nm,0.9s
L38A **Oak Wood Farm,** 25.97 9 P P 02 04 07.2 -0.1
baz=192,SNR=30
N45A **Kentland** 25.98 19 P P 02 04 07.1 -0.2
baz=204,SNR=6.7
MPMC **Manual Prospec** 26.01 322 P P 02 04 08.9 +0.9
baz=134,SNR=18
CNNC **Cliffs of the** 26.02 40 P P 02 04 07.9 +0.1
baz=229,SNR=5.7
CNNC **Cliffs of the** 26.02 40 eP P 02 04 08.5 +0.7
comp=Z,45nm,0.7s
K33A **Hardington** 26.07 2 P P 02 04 09.6 +1.4
baz=183
ROSC **El Rosal** 26.07 114 P P 02 04 12.9 +4.0
comp=Z,2.6nm,0.4s,baz=346,slow=15,SNR=6.6
K32A **Verdigre** 26.10 0 P P 02 04 08.8 +0.3
baz=181
L39A **Vinton** 26.11 10 P P 02 04 08.0 -0.5
baz=194,SNR=11
M43A **Waltham Townsh** 26.11 16 P P 02 04 08.5 -0.1
baz=200,SNR=12
K34A **Le Mars** 26.19 3 P P 02 04 09.5 +0.2
baz=185
L40A **Anamosa** 26.19 12 P P 02 04 09.0 -0.3
baz=195,SNR=13
VWCC **Virginia Weste** 26.20 34 eP P 02 04 09.0 -0.4
DAC **Darwin (Calif)** 26.22 322 eP P 02 04 10.3 +0.4
DAC pmax pmax
comp=Z,12nm,1.3s
DAC **Darwin (Calif)** 26.22 322 eP P 02 04 10.3 +0.4
comp=Z,12nm,1.3s
MPU **Maple Canyon** 26.23 336 eP P 02 04 10.0 +0.1
comp=Z,14nm,0.9s
N46A **Monticello** 26.27 20 P P 02 04 09.6 -0.4
baz=206,SNR=6.3
K36A **Gilmore City** 26.27 6 P P 02 04 09.7 -0.3
baz=188,SNR=6.6
K35A **Storm Lake** 26.28 5 P P 02 04 10.0 -0.1
baz=187,SNR=9.5
RWWY **Rawlins** 26.32 345 eP P 02 04 12.0 +1.3
comp=Z,66nm,1.3s
M44A **Midewin, Midew** 26.32 17 P P 02 04 10.4 0.0
baz=202,SNR=11
BARC **Barichara** 26.32 109 eP P 02 04 09.8 -1.2
ISA **Isabella, Lake** 26.34 320 P P 02 04 11.9 +1.1
baz=132,SNR=6.3
ISA **Isabella, Lake** 26.34 320 eP P 02 04 12.4 +1.6
ISA pmax pmax
comp=Z,11nm,1.1s
ISA **Isabella, Lake** 26.34 320 eP P 02 04 12.4 +1.6
comp=Z,11nm,1.1s
L41A **Preston** 26.35 13 P P 02 04 10.7 -0.1
baz=197,SNR=20
NLU **North Lily Min** 26.35 335 eP P 02 04 12.8 +1.7
comp=Z,22nm,1.0s
L42A **Oliver, Polo** 26.47 14 P P 02 04 11.8 0.0
baz=199,SNR=18
PAMC **Pamplona, Colo** 26.47 107 eP P 02 04 12.5 -0.2
K37A **Belmond** 26.49 7 P P 02 04 11.2 -0.8
baz=190,SNR=38
K38A **Parkersburg** 26.49 9 P P 02 04 11.6 -0.4
baz=192,SNR=8.5
M45A **Boilermakers S** 26.55 19 P P 02 04 13.0 +0.5
baz=204
GRAC **Grapevine Rang** 26.59 324 P P 02 04 14.3 +1.2
baz=136
CWC **Cottonwood Cre** 26.62 322 P P 02 04 14.4 +1.0
baz=134
R11A **Troy Canyon, C** 26.64 328 P P 02 04 14.6 +0.9
baz=141,SNR=7.7
R11A **Troy Canyon, C** 26.64 328 eP P 02 04 15.2 +1.6
comp=Z,14nm,1.4s
JLU **Jordanelle** 26.67 337 eP P 02 04 14.3 +0.4
comp=Z,14nm,1.3s
CHIC **Chingaza** 26.69 113 eP P 02 04 16.5 +2.0
K39A **Oelwein** 26.69 10 P P 02 04 13.0 -0.8
baz=194,SNR=19
RUSC **La Rusia** 26.70 110 eP P 02 04 15.4 +0.7
comp=Z,5.0nm,0.8s
RUSC **La Rusia** 26.70 110 eP P 02 04 13.2 -1.6
J31A **Geddes** 26.74 359 P P 02 04 14.6 +0.3
baz=179,SNR=5.4
J33A **Davis** 26.78 2 P P 02 04 14.9 +0.3
baz=183
J34A **George** 26.79 4 P P 02 04 14.8 0.0
baz=185,SNR=8.1
J32A **Parkston** 26.82 0 P P 02 04 15.3 +0.4
baz=181
K40A **Colesburg** 26.82 12 P P 02 04 14.4 -0.5
baz=195,SNR=25
VES **Vestal, Richgr** 26.83 320 P P 02 04 16.4 +1.3
baz=131
M46A **Old House Fiel** 26.85 20 P P 02 04 15.1 -0.2
baz=206,SNR=7.5
DUG **Dugway, Tooele** 26.86 335 P P 02 04 16.4 +0.9
baz=148,SNR=22
DUG **Dugway, Tooele** 26.86 335 eP P 02 04 17.0 +1.5
DUG pmax pmax
comp=Z,14nm,0.8s
DUG **Dugway, Tooele** 26.86 335 eP P 02 04 17.0 +1.5
comp=Z,14nm,0.8s
CTU **Camp Tracy** 26.86 337 eP P 02 04 17.1 +1.5
comp=Z,6.8nm,0.9s
L43A **Garden Prairie** 26.87 16 P P 02 04 15.1 -0.2
baz=200,SNR=6.5
K41A **Shullsburg** 26.90 13 P P 02 04 15.5 -0.2
baz=197,SNR=8.9
J35A **Milford** 26.93 5 P P 02 04 15.6 -0.3
baz=186,SNR=6.2
J36A **Seneca 1, Swea** 26.97 6 P P 02 04 15.9 -0.4
baz=188,SNR=39
J37A **Redenius Farm,** 27.04 7 P P 02 04 16.4 -0.6
baz=190,SNR=14
K22A **Casper** 27.06 346 P P 02 04 18.7 +1.4
baz=163,SNR=9.9
K22A **Casper** 27.06 346 eP P 02 04 18.7 +1.4
comp=Z,48nm,1.1s
L44A **Lake County Fo** 27.09 17 P P 02 04 17.9 +0.6
baz=202
ACSO **Alum Creek Sta** 27.10 26 P P 02 04 16.9 -0.6
baz=213
ACSO **Alum Creek Sta** 27.10 26 eP P 02 04 17.3 -0.2
comp=Z,30nm,0.9s
TCUT **Toone Canyon** 27.10 338 eP P 02 04 19.6 +1.8
comp=Z,30nm,1.1s
J38A **Wedel Dairy, R** 27.20 9 P P 02 04 17.3 -1.0
baz=192,SNR=13
ECSD **EROS Data Cent** 27.21 2 P P 02 04 18.2 -0.2
baz=184,SNR=6.0
ECSD **EROS Data Cent** 27.21 2 eP P 02 04 18.3 -0.1
comp=Z,9.8nm,0.9s
JFWS **Jewell Farm** 27.21 13 P P 02 04 17.8 -0.6
baz=197,SNR=12
JFWS **Jewell Farm** 27.21 13 eP P 02 04 18.3 -0.2
JFWS pmax pmax
comp=Z,25nm,0.8s
JFWS **Jewell Farm** 27.21 13 eP P 02 04 18.3 -0.2
comp=Z,25nm,0.8s
K42A **Prairie Point,** 27.28 14 P P 02 04 18.8 -0.3
baz=199,SNR=8.8
J39A **Decorah** 27.34 10 P P 02 04 18.5 -1.0
baz=194,SNR=5.3
I35A **Creekview Farm** 27.43 5 P P 02 04 20.1 -0.3
baz=187,SNR=11
K43A **Burlington** 27.46 16 P P 02 04 20.3 -0.4
baz=201
I34A **Hadley** 27.55 4 P P 02 04 21.3 -0.2
baz=185
BGU **Big Grassy Mou** 27.56 335 eP P 02 04 23.4 +1.6
comp=Z,20nm,1.3s
J40A **Soldiers Grove** 27.57 12 P P 02 04 21.2 -0.5
baz=196,SNR=8.9
HWUT **Hardware Ranch** 27.59 338 eP P 02 04 23.2 +1.1

comp=Z,10nm,0.8s
I36A **Fitzsimmons Fa** 27.68 6 P P 02 04 22.2 -0.5
baz=189,SNR=8.0
J41A **Loganville** 27.69 13 P P 02 04 22.2 -0.5
baz=197,SNR=14
I37A **Lemond, Waseca** 27.75 7 P P 02 04 22.4 -0.9
baz=190,SNR=6.6
IP06 **Yanceyville** 27.79 36 eP P 02 04 24.6 +0.9
comp=Z,6.6nm,0.9s
IP03 **Louisa** 27.83 36 eP P 02 04 24.9 +0.9
comp=Z,11nm,1.0s
IP04 **Greensprings** 27.84 35 eP P 02 04 25.1 +1.0
comp=Z,13nm,1.1s
J42A **Columbus** 27.84 14 P P 02 04 24.0 -0.1
baz=199,SNR=11
IP05 **Hopewell Churc** 27.84 36 eP P 02 04 19.0 -5.2
comp=Z,21nm,1.0s
IP01 **Cuckoo** 27.85 36 eP P 02 04 24.4 +0.2
comp=Z,15nm,1.0s
SDV **Santo Domingo** 27.86 102 P P 02 04 26.4 +1.6
comp=Z,18nm,0.8s,baz=304,slow=4.3,SNR=32
SDV LR LR 02 17 17.6
comp=Z,163nm,19.8s,baz=42,slow=40
SDV **Santo Domingo** 27.86 102 eP P 02 04 25.6 +0.8
comp=Z,17nm,0.7s
SDV **Santo Domingo** 27.86 102 eP P 02 04 24.8 0.0
I39A **Houston** 27.87 10 P P 02 04 24.0 -0.4
baz=194,SNR=6.6
SPRD **Spring Road, M** 27.91 36 eP P 02 04 25.7 +0.9
comp=Z,14nm,1.1s
I38A **Scanlan Farm,** 27.92 9 P P 02 04 24.3 -0.6
baz=192,SNR=14
H32A **Carlson Farm,** 27.95 1 P P 02 04 24.8 -0.3
baz=182,SNR=16
BW06 **Boulder Array** 27.97 342 P P 02 04 25.5 0.0
baz=157
BW06 **Boulder Array** 27.97 342 eP P 02 04 25.9 +0.3
comp=Z,65nm,1.9s
PD31 **Pinedale Array** 27.97 342 eP P 02 04 26.4 +0.8
PDAR **Pinedale Array** 27.97 342 P P 02 04 26.4 +0.8
comp=Z,4.1nm,0.8s,baz=136,slow=10,SNR=36
PDAR LR LR 02 16 31.0
comp=Z,437nm,19.5s,baz=170,slow=38
PDAR **Pinedale Array** 27.97 342 eP P 02 04 25.5 0.0
RSSD **Black Hills** 28.01 351 P P 02 04 26.2 +0.3
baz=168
RSSD **Black Hills** 28.01 351 eP P 02 04 27.0 +1.1
RSSD pmax pmax
comp=Z,10.0nm,1.1s
RSSD **Black Hills** 28.01 351 eP P 02 04 27.0 +1.1
comp=Z,10.0nm,1.1s
MDPB **Devils Postpil** 28.02 323 eP P 02 04 27.8 +1.7
comp=Z,9.0nm,1.0s
NV11 **Mina Array Sit** 28.06 325 eP P 02 04 28.2 +1.9
comp=Z,1.0nm,1.0s
J43A **Natural Harves** 28.07 15 P P 02 04 25.9 -0.3
baz=200,SNR=6.6
MCWV **Mont Chateau** 28.08 31 P P 02 04 25.8 -0.5
baz=220
MCWV **Mont Chateau** 28.08 31 eP P 02 04 26.0 -0.3
comp=Z,35nm,1.2s
NV01 **Mina Array Sit** 28.14 325 eP P 02 04 28.6 +1.5
NVAR **Mina Array Bea** 28.14 325 P P 02 04 27.8 +0.7
comp=Z,8.5nm,0.9s,baz=150,slow=10,SNR=39
NVAR PcP PcP 02 07 40.1 -0.9
comp=Z,0.8nm,0.6s,baz=156,slow=4.7,SNR=4.4
NVAR LR LR 02 16 11.4
comp=Z,251nm,18.3s,baz=254,slow=38
H33A **Prehn Over Nor** 28.15 2 P P 02 04 26.4 -0.4
baz=183
H34A **Spellman Lake,** 28.18 4 P P 02 04 26.8 -0.3
baz=185
HVU **Hansel Valley** 28.19 336 eP P 02 04 28.1 +0.7
HVU pmax pmax
comp=Z,13nm,0.9s
HVU **Hansel Valley** 28.19 336 eP P 02 04 28.1 +0.7
comp=Z,13nm,0.9s
H36A **Jessenland, He** 28.25 6 P P 02 04 27.3 -0.4
baz=189,SNR=12
H35A **Sunnyside Ranc** 28.28 5 P P 02 04 27.5 -0.5
baz=187,SNR=6.3
H37A **Dierke Farm, C** 28.37 8 P P 02 04 28.6 -0.2
baz=191,SNR=6.5
I41A **Arkdale** 28.38 13 P P 02 04 29.0 0.0
baz=197,SNR=5.3
I42A **Draeger Farm,** 28.43 14 P P 02 04 29.2 -0.2
baz=199,SNR=5.9
I42A **Draeger Farm,** 28.43 14 eP P 02 04 29.4 +0.1
comp=Z,18nm,1.0s
H38A **Maiden Rock** 28.55 9 P P 02 04 30.3 -0.1
baz=192
AAM **Ann Arbor** 28.59 23 eP P 02 04 30.4 -0.4
AAM pmax pmax
comp=Z,24nm,1.0s
AAM **Ann Arbor** 28.59 23 eP P 02 04 30.4 -0.4
comp=Z,24nm,1.0s
I43A **Langenfeld Bro** 28.61 15 P P 02 04 30.8 -0.2
baz=200,SNR=6.8
G33A **Ortonville** 28.67 3 P P 02 04 30.9 -0.6
baz=184,SNR=8.4
G32A **Webster** 28.70 1 P P 02 04 31.4 -0.4
baz=182,SNR=13
H39A **Augusta** 28.71 10 P P 02 04 31.8 -0.1
baz=194
G34A **Benson** 28.76 4 P P 02 04 32.0 -0.2
baz=185,SNR=12
H40A **Chili** 28.82 12 P P 02 04 32.4 -0.5
baz=196,SNR=12
REDW **Red Top Meadow** 28.91 341 eP P 02 04 35.2 +1.3
comp=Z,32nm,1.3s
G36A **St. Michael** 28.91 6 P P 02 04 33.2 -0.5
baz=189
H41A **Junction City** 28.96 13 P P 02 04 33.8 -0.2
baz=197
SNOW **Snow King Moun** 28.97 341 eP P 02 04 36.0 +1.5
comp=Z,15nm,0.8s
SPMN **Marine on St.** 29.02 8 P P 02 04 33.9 -0.7
baz=191,SNR=11
SPMN **Marine on St.** 29.02 8 eP P 02 04 33.9 -0.7
comp=Z,24nm,0.8s
N54A **Moraine State** 29.02 29 eP P 02 04 37.5 +2.9
comp=Z,13nm,1.0s
TPAW **Teton Pass** 29.05 341 eP P 02 04 35.8 +0.6
comp=Z,17nm,1.0s
LOHW **Long Hollow** 29.05 341 eP P 02 04 36.5 +1.3
comp=Z,22nm,1.2s
G38A **Ridgeland** 29.10 9 P P 02 04 34.8 -0.5
baz=193
H42A **Shiocton** 29.11 14 P P 02 04 35.0 -0.3
baz=199
H42A **Shiocton** 29.11 14 eP P 02 04 35.4 0.0
comp=Z,14nm,0.9s
O56A **Blue Knob Stat** 29.18 32 P P 02 04 35.6 -0.5
baz=221
O56A **Blue Knob Stat** 29.18 32 eP P 02 04 36.2 +0.1
comp=Z,11nm,0.9s
FXWY **Fox Creek** 29.21 341 eP P 02 04 37.8 +1.3
comp=Z,8.2nm,1.0s
MOOW **Moose Ponds** 29.22 341 eP P 02 04 37.5 +0.8
comp=Z,38nm,1.8s
MOOW ePcP PcP 02 07 43.4 -0.2
H43A **Windswept, Lux** 29.26 15 P P 02 04 36.3 -0.4
baz=201
G39A **Holcombe** 29.32 10 P P 02 04 37.0 -0.3
baz=194,SNR=7.6
F33A **5 Mile Ranch,** 29.32 3 P P 02 04 37.1 -0.2
baz=184
F34A **Alexandria** 29.34 4 P P 02 04 36.9 -0.5
baz=186
IMW **Indian Meadow** 29.41 341 eP P 02 04 39.2 +0.7
comp=Z,4.9nm,0.7s
F35A **Swanville** 29.45 5 P P 02 04 38.6 +0.2
baz=187
G40A **Rib Lake** 29.48 11 P P 02 04 38.4 -0.3
baz=196,SNR=11
F37A **Hinrichs Farm,** 29.53 8 P P 02 04 39.0 -0.1
baz=191
F36A **Milaca** 29.56 7 P P 02 04 38.9 -0.4
baz=189,SNR=11
M54A **Oil Creek Stat** 29.60 29 P P 02 04 38.5 -1.3
baz=218
M54A **Oil Creek Stat** 29.60 29 eP P 02 04 39.8 -0.1
comp=Z,15nm,0.6s
G41A **Antigo** 29.63 13 P P 02 04 39.5 -0.5
baz=198,SNR=7.2
SSPA **Standing Stone** 29.80 32 P P 02 04 41.1 -0.4
baz=222
SSPA **Standing Stone** 29.80 32 eP P 02 04 41.5 0.0
comp=Z,12nm,1.0s
G42A **Mountain** 29.82 14 P P 02 04 41.4 -0.3
baz=199,SNR=5.7
G42A **Mountain** 29.82 14 eP P 02 04 41.5 -0.2
comp=Z,17nm,0.8s
G42A epP pP 02 04 47.1 -0.4
F38A **Pierce - Schro** 29.86 9 P P 02 04 41.7 -0.4
baz=192
F39A **Loretta** 29.97 10 P P 02 04 42.6 -0.4
baz=194
E33A **Westby DABS, E** 30.00 3 P P 02 04 43.3 0.0
baz=184
G43A **Wallace** 30.02 15 P P 02 04 42.8 -0.6
baz=200
RLMT **Red Lodge** 30.06 344 P P 02 04 45.3 +1.2
baz=159,SNR=12
RLMT **Red Lodge** 30.06 344 eP P 02 04 45.1 +1.0
comp=Z,46nm,1.4s
F40A **Park Falls** 30.12 11 P P 02 04 44.1 -0.3
baz=196,SNR=20
YMR **Madison River** 30.12 342 eP P 02 04 45.6 +1.0
comp=Z,17nm,1.2s
F41A **Three Lakes** 30.15 13 P P 02 04 44.1 -0.5
baz=198
E35A **Pequot Lakes** 30.16 5 P P 02 04 44.6 -0.1
baz=187,SNR=11
YHH **Holmes Hill** 30.19 342 eP P 02 04 47.0 +1.7
comp=Z,8.5nm,1.1s
E36A **McGregor** 30.24 7 P P 02 04 45.0 -0.4
baz=190
BEKR **Beckworth** 30.28 325 eP P 02 04 48.4 +2.4
BEKR epP pP 02 04 53.7 +1.8
HLID **Hailey** 30.34 336 P P 02 04 47.2 +0.7
baz=148,SNR=9.7
HLID **Hailey** 30.34 336 eP P 02 04 47.5 +1.0
comp=Z,6.3nm,1.0s
F42A **Maple Grove Fa** 30.38 14 P P 02 04 46.5 -0.2
baz=199
GLMI **Grayling** 30.48 19 P P 02 04 47.4 -0.1
baz=206
GLMI **Grayling** 30.48 19 eP P 02 04 47.5 -0.1
comp=Z,55nm,0.8s
E39A **Mellen** 30.48 10 P P 02 04 47.3 -0.3
baz=195,SNR=9.0
COWI **Conover** 30.49 12 eP P 02 04 47.5 -0.1
comp=Z,10nm,0.8s
D31A **Mcclaflin, Tow** 30.49 1 P P 02 04 47.3 -0.3
baz=181
ATAH **Atahualpa** 30.53 139 P P 02 04 55.2 +6.5
comp=Z,6.9nm,0.6s,baz=6.8,slow=4.3,SNR=5.7
E38A **The Farm, Brul** 30.55 9 P P 02 04 47.7 -0.4
baz=193
D33A **AnnSam, Waubun** 30.64 3 P P 02 04 48.3 -0.6
baz=185
E40A **Wakefield** 30.67 11 P P 02 04 48.7 -0.4
baz=196,SNR=16
F43A **Flat Rock, Esc** 30.68 15 P P 02 04 49.2 -0.1
baz=201,SNR=8.2
D35A **Remer** 30.71 5 P P 02 04 49.0 -0.5
baz=188,SNR=6.7
GCMT **Greycliff** 30.78 344 eP P 02 04 51.3 +1.0
MFID **Camas Ranch** 30.78 334 eP P 02 04 50.9 +0.5
comp=Z,25nm,1.8s
BASO **Ashfield** 30.80 24 P P 02 04 49.4 -1.0
baz=212
MCMT **McKenzie Canyo** 30.87 339 eP P 02 04 53.4 +2.2
E41A **Kenton** 30.87 12 P P 02 04 50.4 -0.5
baz=198
D36A **Goodland** 30.90 7 P P 02 04 50.5 -0.7
baz=190,SNR=8.1
D37A **Cotton** 30.97 8 P P 02 04 51.0 -0.8
baz=191
F44A **Big Bay de Noc** 31.01 16 P P 02 04 51.8 -0.3
baz=202,SNR=5.5
E42A **Champion** 31.07 14 P P 02 04 52.4 -0.3
baz=199,SNR=6.1
BOZ **Bozeman (W)** 31.16 342 P P 02 04 54.9 +1.1
baz=155,SNR=10
BOZ **Bozeman (W)** 31.16 342 eP P 02 04 55.3 +1.6
BOZ pmax pmax
comp=Z,16nm,1.4s
BOZ **Bozeman (W)** 31.16 342 eP P 02 04 55.3 +1.6
comp=Z,16nm,1.4s
E43A **Lone Tree Farm** 31.23 15 P P 02 04 53.7 -0.4
baz=201,SNR=8.6
C31A **Landman Farms,** 31.24 1 P P 02 04 54.1 0.0
baz=181,SNR=6.8
DLMT **Dillon** 31.25 340 eP P 02 04 56.6 +2.1
comp=Z,15nm,0.9s
WVOR **Wild Horse Val** 31.26 330 eP P 02 04 56.0 +1.3
WVOR pmax pmax
comp=Z,15nm,1.0s
WVOR **Wild Horse Val** 31.26 330 eP P 02 04 56.0 +1.3
comp=Z,15nm,1.0s
F46A **Macinaw City C** 31.29 18 P P 02 04 54.6 0.0
baz=205
MDND **Maddock** 31.31 358 P P 02 04 55.3 +0.5
baz=178
MDND **Maddock** 31.31 358 eP P 02 04 55.5 +0.6
comp=Z,85nm,1.1s
C35A **Jirik Farms, M** 31.33 5 P P 02 04 54.6 -0.4
baz=188,SNR=7.0
C36A **Pine Crest Far** 31.51 7 P P 02 04 56.7 +0.1
baz=190
D41A **Chassel** 31.52 13 P P 02 04 56.6 -0.1
baz=198,SNR=8.6
LRM **Limekiln Ridge** 31.62 341 eP P 02 04 59.0 +1.2
MOD **Modoc Plateau** 31.70 328 eP P 02 04 59.7 +1.2
comp=Z,8.1nm,0.8s
B33A **Robert and Kas** 31.79 3 P P 02 04 59.0 0.0
baz=185
AGMN **Agassiz Nation** 31.80 3 P P 02 04 58.7 -0.4
baz=184,SNR=26
AGMN **Agassiz Nation** 31.80 3 eP P 02 04 59.0 -0.1
comp=Z,24nm,0.8s
PKRO **Pickering** 31.82 27 P P 02 04 58.6 -0.8
baz=216
EYMN **Ely** 31.86 8 P P 02 04 58.8 -0.9
baz=192
B32A **Ashes, Strandq** 31.87 2 P P 02 04 59.6 -0.1
baz=183,SNR=25
B31A **Grousbush Farm** 31.87 1 P P 02 04 59.9 +0.2
baz=181
TOBO **Tobermory, Bru** 31.89 23 P P 02 04 59.8 -0.1
baz=211
DRWO **Darlington Wes** 31.89 27 P P 02 04 59.5 -0.5
baz=217
J08A **Circle Bar Ran** 31.90 331 eP P 02 05 01.6 +1.4
comp=Z,30nm,0.9s
BINY **Binghamton** 31.91 32 P P 02 04 59.7 -0.5
baz=223
BINY **Binghamton** 31.91 32 eP P 02 04 58.7 -1.5
comp=Z,10nm,0.9s
C39A **Grand Marais** 31.95 10 P P 02 05 00.4 -0.1
baz=195
B35A **Bob, Littlefor** 32.01 6 P P 02 05 00.5 -0.4
baz=188,SNR=12
B34A **Aery, Baudette** 32.06 4 P P 02 05 01.1 -0.3
baz=187,SNR=6.0
PAL **Palisades** 32.19 36 eP P 02 05 00.4 -2.2
PAL pmax pmax
comp=Z,24nm,1.0s
PAL **Palisades** 32.19 36 eP P 02 05 00.4 -2.2
comp=Z,24nm,1.0s
HRY **Holter Researc** 32.23 342 eP P 02 05 04.3 +1.3
A32A **Rocking H Ranc** 32.39 2 P P 02 05 04.4 +0.1
baz=183,SNR=9.0
BMO **Blue Mountains** 32.57 334 eP P 02 05 06.5 +0.5
BMO pmax pmax
comp=Z,5.0nm,0.9s
BMO **Blue Mountains** 32.57 334 eP P 02 05 06.5 +0.5
comp=Z,4.6nm,0.9s
YBH **Yreka Blue Hor** 32.86 325 LR LR 02 20 53.4
comp=Z,248nm,18.1s,baz=161,slow=41
EGMT **Eagleton** 32.88 346 P P 02 05 09.4 +0.6
baz=160
EGMT **Eagleton** 32.88 346 eP P 02 05 09.8 +1.0
comp=Z,83nm,1.8s
BUKO **Buck Lake** 32.89 25 P P 02 05 07.9 -0.8
baz=215
DELO **Deloro Mine** 32.89 28 P P 02 05 09.4 +0.7
baz=218
MSO **Missoula** 32.99 340 P P 02 05 10.4 +0.7
baz=152
MSO **Missoula** 32.99 340 eP P 02 05 10.7 +0.9
comp=Z,34nm,1.8s
BANO **Bancroft** 33.16 27 P P 02 05 09.9 -1.1
baz=217
PINE **Pine Mountain** 33.40 329 eP P 02 05 14.8 +1.3
comp=Z,7.1nm,0.9s
F10A **Beach Ranch, E** 33.45 336 eP P 02 05 14.7 +0.9
comp=Z,12nm,0.9s
G08A **Pilot Rock** 33.62 333 eP P 02 05 15.9 +0.6
comp=Z,10nm,0.8s
ULM **Lac du Bonnet** 33.74 3 P P 02 05 15.0 -1.1
comp=Z,11nm,0.9s,baz=184,slow=10.0,SNR=17
ULM LR LR 02 19 38.7
comp=Z,108nm,18.1s,baz=184,slow=37
ULM **Lac du Bonnet** 33.74 3 eP P 02 05 15.0 -1.1
ULM pmax pmax
comp=Z,13nm,1.0s
ULM **Lac du Bonnet** 33.74 3 eP P 02 05 15.0 -1.1
comp=Z,12nm,1.0s
I05D **Terrebonne, OR** 33.99 330 P P 02 05 19.4 +1.0
baz=138
H04A **Detroit Lake** 34.66 329 eP P 02 05 24.6 +0.4
comp=Z,32nm,1.0s
WALA **Waterton Lakes** 34.95 342 eP P 02 05 27.5 +0.8
comp=Z,6.9nm,0.8s
ALFO **Alfred** 34.99 29 P P 02 05 26.3 -0.6
baz=221
E07A **Sunnyside** 35.01 334 eP P 02 05 28.2 +1.1
comp=Z,6.3nm,0.8s
NEW **Newport** 35.32 338 P P 02 05 30.0 +0.2
baz=148,SNR=6.2
NEW **Newport** 35.32 338 eP P 02 05 30.4 +0.5
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW **Newport** 35.32 338 eP P 02 05 30.4 +0.5
comp=Z,5.5nm,0.9s
C09A **Chrisman Ranch** 35.37 336 eP P 02 05 31.1 +0.8
comp=Z,9.7nm,0.8s
TRQ **Mont Tremblant** 35.58 29 eP P 02 05 32.6 +0.4
FDF **Fort de France** 35.65 88 P P 02 05 32.1 -0.9
LTY **Liberty** 35.90 334 eP P 02 05 35.3 +0.4
comp=Z,12nm,0.8s
LON **Longmire** 36.01 332 eP P 02 05 37.0 +1.2
LON pmax pmax
comp=Z,10.0nm,0.8s
LON **Longmire** 36.01 332 eP P 02 05 37.0 +1.2
comp=Z,9.7nm,0.8s
B08A **Colville Reser** 36.23 336 eP P 02 05 38.0 +0.3
comp=Z,12nm,1.3s
D05A **Enumclaw** 36.43 332 eP P 02 05 40.6 +1.4
comp=Z,25nm,0.9s
E03A **Lebam** 36.67 330 eP P 02 05 43.4 +2.0
comp=Z,35nm,1.1s
B05A **Bryant** 37.29 333 P P 02 05 46.8 +0.2
baz=140
NLWA **Neilton Lookou** 37.43 331 eP P 02 05 48.7 +0.8
comp=Z,13nm,1.0s
FFC **Flin Flon** 38.29 356 eP P 02 05 55.0 0.0
FFC pmax pmax
comp=Z,24nm,0.8s
FFC **Flin Flon** 38.29 356 eP P 02 05 55.0 0.0
comp=Z,24nm,0.8s
EDM **Edmonton** 38.57 345 eP P 02 05 57.5 +0.1
EDM pmax pmax
comp=Z,27nm,0.8s
EDM **Edmonton** 38.57 345 eP P 02 05 57.5 +0.1
comp=Z,27nm,0.8s
LLLB **Lillooet** 39.03 336 eP P 02 06 02.2 +0.9
comp=Z,12nm,0.9s
FCC **Fort Churchill** 42.33 3 eP P 02 06 28.4 +0.1
FCC pmax pmax
comp=Z,23nm,1.3s
FCC **Fort Churchill** 42.33 3 eP P 02 06 28.4 +0.1
comp=Z,23nm,1.3s
LPAZ **La Paz** 44.00 136 P P 02 06 46.8 +3.7
comp=Z,2.9nm,0.8s,baz=310,slow=6.3,SNR=7.6
LPAZ LR LR 02 23 05.1
comp=Z,148nm,21.8s,baz=313,slow=33
LPAZ **La Paz** 44.00 136 eP P 02 06 47.8 +4.7
LPAZ pmax pmax
comp=Z,4.0nm,0.9s
LPAZ **La Paz** 44.00 136 eP P 02 06 47.8 +4.7
comp=Z,3.8nm,0.9s
RPN **Rapa Nui** 44.68 194 LR LR 02 20 51.8
comp=Z,117nm,21.7s,baz=33,slow=30
SCHQ **Schefferville** 45.24 25 P P 02 06 51.6 -0.3
comp=Z,15nm,0.9s,baz=233,slow=4.9,SNR=16
SCHQ LR LR 02 28 30.7
comp=Z,120nm,20.7s,baz=287,slow=40
SCHQ **Schefferville** 45.24 25 eP P 02 06 51.7 -0.2
comp=Z,20nm,1.0s
YKA **Yellowknife Ar** 47.41 350 P P 02 07 08.0 -0.7
comp=Z,3.9nm,0.9s,baz=158,slow=7.5,SNR=44
YKA pP pP 02 07 14.2 -0.5
comp=Z,6.7nm,1.0s,baz=157,slow=7.4,SNR=13
YKW3 **Yellowknife Ar** 47.47 350 eP P 02 07 08.3 -0.9
comp=Z,20nm,1.6s
DLBC **Dease Lake** 48.07 338 eP P 02 07 16.4 +2.4
comp=Z,14nm,1.1s
TAOE **Nuku Hiva Isla** 48.58 242 eS S 02 14 18.0 -1.8
comp=Z,69nm,24.5s
TAOE eLR LR 02 20 49.9
comp=Z,282nm,24.7s
TAOE **Nuku Hiva Isla** 48.58 242 eT T 02 58 36.9
comp=Z,42nm,0.2s
WHY **Whitehorse** 51.40 338 eP P 02 07 40.9 +1.5
comp=Z,29nm,2.0s
HYT **Haines Junctio** 52.47 337 eP P 02 07 48.8 +1.4
comp=Z,15nm,1.3s
RKT **Rikitea** 53.34 223 eLR LR 02 23 28.3
comp=Z,298nm,25.0s
RKT **Rikitea** 53.34 223 eT T 03 04 37.6
comp=Z,54nm,0.3s
DAWY **Dawson** 55.23 339 eP P 02 08 08.0 +0.6
comp=Z,5.3nm,0.9s
KLU **Klutina** 56.18 335 eP P 02 08 15.8 +1.4
comp=Z,15nm,1.2s
EGAK **Eagle** 56.27 339 eP P 02 08 14.9 +0.1
comp=Z,7.1nm,0.8s
INK **Inuvik** 56.47 345 LR LR 02 32 42.9
comp=Z,147nm,19.4s,baz=154,slow=36
INK **Inuvik** 56.47 345 eP P 02 08 16.2 +0.1
INK pmax pmax
comp=Z,14nm,0.8s
INK **Inuvik** 56.47 345 eP P 02 08 16.2 +0.1
comp=Z,14nm,0.8s
DOT **Dot Lake** 56.63 337 eP P 02 08 18.8 +1.3
comp=Z,29nm,1.0s
PAX **Paxson** 56.78 336 eP P 02 08 19.2 +0.5
PAX pmax pmax
comp=Z,9.0nm,0.9s
PAX **Paxson** 56.78 336 eP P 02 08 19.2 +0.5
comp=Z,8.9nm,0.9s
SCRK **Sand Creek** 56.79 338 eP P 02 08 19.9 +1.2
comp=Z,9.3nm,0.9s
RIDG **Independ'e Rid** 56.97 337 eP P 02 08 20.9 +1.0
comp=Z,24nm,1.0s
KDAK **Kodiak Island** 57.53 329 LR LR 02 33 11.8
comp=Z,210nm,18.3s,baz=118,slow=36
CPUP **Villa Florida** 58.17 136 P P 02 08 30.1 +1.3
comp=Z,3.8nm,1.1s,baz=335,slow=6.3,SNR=5.7
CPUP LR LR 02 32 18.8
comp=Z,59nm,21.2s,baz=328,slow=35
SUA **Susitna One** 58.20 333 eP P 02 08 29.7 +1.0
comp=Z,24nm,0.7s
PMOR **Pomariorio Ree** 58.22 240 eT T 03 10 39.4
comp=Z,7.8nm,0.2s
RES **Resolute Bay** 58.25 1 eP P 02 08 28.1 -0.5
RES pmax pmax
comp=Z,4.0nm,1.0s
RES **Resolute Bay** 58.25 1 eP P 02 08 28.1 -0.5
comp=Z,3.7nm,1.0s
IL1 **Eielson Array** 58.28 338 eP P 02 08 29.0 -0.1
ILAR **Eielson Array** 58.28 338 P P 02 08 29.1 0.0
comp=Z,5.3nm,0.9s,baz=136,slow=5.2,SNR=45
ILAR PcP PcP 02 09 18.8 -1.3
comp=Z,1.4nm,0.7s,baz=138,slow=3.1,SNR=5.3
ILAR LR LR 02 36 12.5
comp=Z,264nm,18.3s,baz=130,slow=39
ILB **Eielson Array** 58.28 338 eP P 02 08 29.4 +0.4
RND **Reindeer** 58.33 336 eP P 02 08 30.5 +1.0
RND pmax pmax
comp=Z,20nm,0.9s
RND **Reindeer** 58.33 336 eP P 02 08 30.5 +1.0
comp=Z,20nm,0.9s
MCK **McKinley** 58.52 336 eP P 02 08 31.5 +0.8
MCK pmax pmax
comp=Z,14nm,0.8s
MCK **McKinley** 58.52 336 eP P 02 08 31.5 +0.8
comp=Z,14nm,0.8s
CCB **Clear Creek Bu** 58.55 337 eP P 02 08 30.7 -0.2
comp=Z,3.8nm,0.8s

WRH	**Wood River Hil**	**58.57**	**337**	*e*P		**P**	**02 08 31.1**	**0.0**
	comp=Z,5.4nm,0.9s								
SPU	**Mount Spurr**	**58.65**	**333**	*e*P		**P**	**02 08 32.3**	**+0.6**
COLA	**College**	**58.69**	**338**	*e*P		**P**	**02 08 32.6**	**+0.8**
COLA					pmax	pmax			
	comp=Z,10.0nm,0.6s								
COLA	**College**	**58.69**	**338**	*e*P		**P**	**02 08 32.6**	**+0.8**
	comp=Z,10nm,0.6s								
TRF	**Thorofare Moun**	**58.91**	**336**	*e*P		**P**	**02 08 33.5**	**-0.2**
	comp=Z,32nm,0.8s								
SFJD	**Kangerlussuaq**	**59.09**	**20**	P		**P**	**02 08 34.4**	**-0.1**
	comp=Z,11nm,0.9s,baz=15,slow=15,SNR=4.2								
SFJD					LR	LR	02 36 30.4		
	comp=Z,100nm,18.5s,baz=238,slow=38								
SFJD	**Kangerlussuaq**	**59.09**	**20**	*i* P		**P**	**02 08 34.7**	**+0.1**
SFJD					pmax	pmax			
	comp=Z,13nm,0.9s								
SFJD	**Kangerlussuaq**	**59.09**	**20**	*i* P		**P**	**02 08 34.7**	**+0.1**
	comp=Z,13nm,0.9s								
KTH	**Kantishna Hill**	**59.21**	**335**	*e*P		**P**	**02 08 36.0**	**+0.3**
	comp=Z,13nm,0.8s								
BPAW	**Bear Paw Mtn.**	**59.49**	**336**	*e*P		**P**	**02 08 37.6**	**+0.2**
	comp=Z,8.3nm,0.9s								
CAST	**Castle Rocks**	**59.62**	**335**	*e*P		**P**	**02 08 38.1**	**-0.3**
	comp=Z,16nm,0.8s								
MLY	**Manley**	**59.83**	**337**	*e*P		**P**	**02 08 40.4**	**+0.5**
	comp=Z,11nm,0.9s								
COLD	**Coldfoot**	**60.71**	**339**	*e*P		**P**	**02 08 46.8**	**+1.1**
	comp=Z,5.1nm,1.0s								
PPT	**Papeete**	**60.91**	**239**	LR		LR	02 29 08.8		
	comp=Z,142nm,21.8s,baz=76,slow=30								
PPT2	**Papeete2**	**60.92**	**239**	*e*LR		LR	02 26 30.4		
	comp=Z,195nm,25.0s								
TOLK	**Toolik Lake Re**	**61.23**	**341**	P		**P**	**02 08 49.5**	**+0.2**
	baz=121,SNR=6.4								
TOLK	**Toolik Lake Re**	**61.23**	**341**	*e*P		**P**	**02 08 49.5**	**+0.2**
	comp=Z,5.1nm,0.7s								
PLCA	**Paso Flores**	**62.42**	**157**	P		**P**	**02 09 02.3**	**+4.6**
	comp=Z,6.2nm,0.9s,baz=350,slow=8.1,SNR=14								
PLCA					LR	LR	02 31 11.0		
	comp=Z,160nm,18.3s,baz=338,slow=31								
PLCA	**Paso Flores**	**62.42**	**157**	*e*P		P	02 09 02.4	+4.7	
PLCA					pmax	pmax			
	comp=Z,9.0nm,0.9s								
PLCA	**Paso Flores**	**62.42**	**157**	*e*P		P	02 09 02.4	+4.7	
	comp=Z,8.9nm,0.9s								
TRQA	**Tornquist**	**63.99**	**149**	*e*P		**P**	**02 09 11.9**	**+3.8**
TRQA					pmax	pmax			
	comp=Z,6.0nm,0.9s								
TRQA	**Tornquist**	**63.99**	**149**	*e*P		**P**	**02 09 11.9**	**+3.8**
	comp=Z,5.6nm,0.9s								
SUMG	**Summit**	**65.51**	**17**	*i* P		**P**	**02 09 17.7**	**-0.3**
SUMG					pmax	pmax			
	comp=Z,9.0nm,0.8s								
SUMG	**Summit**	**65.51**	**17**	*i* P		**P**	**02 09 17.7**	**-0.3**
	comp=Z,9.2nm,0.8s								
SUMG	**Summit**	**65.51**	**17**	*e*P		**P**	**02 09 18.2**	**+0.2**
	comp=Z,9.8nm,0.8s								
BORG	**Borgarnes**	**69.61**	**26**	LR		LR	02 42 09.7		
	comp=Z,43nm,18.0s,baz=223,slow=38								
RAR	**Rarotonga**	**71.09**	**240**	LR		LR	02 35 55.9		
	comp=Z,137nm,18.6s,baz=104,slow=32								
DAG	**Danmarks Havn**	**71.67**	**14**	*i* P		**P**	**02 09 54.8**	**-1.1**
DAG					pmax	pmax			
	comp=Z,13nm,0.8s								
DAG	**Danmarks Havn**	**71.67**	**14**	*i* P		**P**	**02 09 54.8**	**-1.1**
	comp=Z,13nm,0.8s								
BILL	**Bilibino**	**76.94**	**337**	*i* P		**P**	**02 10 23.6**	**-3.2**
BILL					pmax	pmax			
	comp=Z,6.0nm,1.0s								
SPITS	**Spitsbergen Ar**	**78.84**	**11**	LR		LR	02 47 06.9		
	comp=Z,135nm,20.7s,baz=5.0,slow=37								
ESK	**Eskdalemuir**	**79.40**	**35**	*e*P		**P**	**02 10 39.6**	**-1.1**
ESK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
ESK	**Eskdalemuir**	**79.40**	**35**	*e*P		**P**	**02 10 39.5**	**-1.1**
	comp=Z,5.0nm,0.8s								
EKA	**Eskdalemuir Ar**	**79.42**	**35**	P		**P**	**02 10 40.6**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=293,slow=4.5,SNR=9.6								
EKA					LR	LR	02 44 20.9		
	comp=Z,58nm,21.4s,baz=240,slow=34								
ESDC	**Sonseca Array**	**82.81**	**51**	P		**P**	**02 10 58.5**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=292,slow=4.7,SNR=8.3								
ESDC					LR	LR	02 43 32.6		
	comp=Z,48nm,21.4s,baz=285,slow=32								
ES19	**SONSECA Array**	**82.85**	**51**	*e*P		**P**	**02 10 58.6**	**-0.8**
SEY	**Seymchan**	**84.02**	**334**	↑ *i*P		**P**	**02 11 04.5**	**-0.3**
KONO	**Kongsberg**	**84.59**	**29**	↓ *i*P		**P**	**02 11 08.5**	**+0.7**
KONO					pmax	pmax			
	comp=Z,145nm,2.5s								
KONO	**Kongsberg**	**84.59**	**29**	*e*P		**P**	**02 11 08.8**	**+0.9**
	comp=Z,12nm,1.0s								
NBO02	**NORSAR Array S**	**84.60**	**28**	*e*P		**P**	**02 11 08.8**	**+0.9**
NB2	**NORSAR Subarra**	**84.76**	**27**	P		**P**	**02 11 09.1**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=295,slow=5.1								
NOA	**NORSAR Array B**	**84.76**	**27**	P		**P**	**02 11 09.5**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=298,slow=5.0,SNR=9.3								
NOA					LR	LR	02 51 11.5		
	comp=Z,22nm,19.1s,baz=290,slow=37								
PETK	**Petropavlovsk-**	**85.22**	**324**	P		**P**	**02 11 11.4**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=79,slow=10,SNR=3.6								
ARCES	**ARCESS Array B**	**85.60**	**17**	P		**P**	**02 11 12.1**	**-0.6**
	comp=Z,5.7nm,0.8s,baz=324,slow=6.0,SNR=11								
BCLA	**Clavier**	**85.77**	**39**	↓P		**P**	**02 11 13.9**	**0.0**
MEM	**Membach**	**86.12**	**38**	↑P		**P**	**02 11 16.3**	**+0.7**
MA2	**Magadan**	**86.17**	**332**	↓*e*P		**P**	**02 11 16.6**	**+0.9**
HFS	**Hagfors**	**86.26**	**28**	P		**P**	**02 11 15.5**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=171,slow=2.8,SNR=5.4								
HFS					LR	LR	02 52 40.2		
	comp=Z,45nm,18.1s,baz=272,slow=38								
TIXI	**Tiksi**	**86.56**	**347**	↓ *i*P		**P**	**02 11 16.8**	**-0.6**
TIXI					pmax	pmax			
	comp=Z,16nm,2.5s								
TIXI	**Tiksi**	**86.56**	**347**	*e*P		**P**	**02 11 16.4**	**-1.0**
	comp=Z,9.3nm,0.3s								
KOWA	**Kowa**	**89.82**	**75**	P		**P**	**02 11 33.3**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=306,slow=13,SNR=4.7								
KOWA					LR	LR	02 47 27.8		
	comp=Z,69nm,21.4s,baz=242,slow=33								
CLL	**Collm**	**89.88**	**36**	*e*P		**P**	**02 11 38.0**	**+4.4**
CLL	**Collm**	**89.88**	**36**	*e*P		**P**	**02 11 38.0**	**+4.4**
FINES	**FINESS Array B**	**90.70**	**23**	P		**P**	**02 11 35.6**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=288,slow=1.8,SNR=7.6								
FINES					LR	LR	02 53 14.0		
	comp=Z,99nm,21.9s,baz=295,slow=36								
DBIC	**Dimbokro**	**91.27**	**83**	LR		LR	02 46 31.7		
	comp=Z,50nm,21.6s,baz=265,slow=32								
GERES	**GERESS Array B**	**91.40**	**38**	P		**P**	**02 11 40.2**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=319,slow=2.9,SNR=4.1								
GERES					LR	LR	02 53 15.4		
	comp=Z,79nm,19.8s,baz=280,slow=36								
VSU	**Vasula**	**92.79**	**26**	↑ *e*P		**P**	**02 11 50.5**	**+3.6**
VSU					pmax	pmax			
	comp=Z,16nm,1.6s								
TORD	**Torodi Ar. Bea**	**95.51**	**75**	LR		LR	02 51 23.1		
	comp=Z,86nm,21.9s,baz=275,slow=33								
KLMR	**Klimovskoe**	**95.83**	**19**	*e*P		**P**	**02 11 58.3**	**-2.5**
KLMR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KLMR	**Klimovskoe**	**95.83**	**19**	*e*P		**P**	**02 11 58.4**	**-2.4**
KLMR					AMP		02 12 00.1		
	comp=Z,5.0nm,0.8s								
DZM	**Mont Dzumac**	**100.90**	**250**	*e*LR		LR	02 45 30.2		
	comp=Z,103nm,24.4s								
HHC	**Hu-ho-hao-te**	**116.65**	**335**	*e*PKP		**PKPdf**	**02 17 17.4**	**-1.9**
MKAR	**Makanchi Array**	**117.03**	**360**	PKP		**PKPdf**	**02 17 17.9**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=31,slow=3.4,SNR=3.9								
WMQ	**Urumqi**	**119.77**	**355**	PKP		**PKPdf**	**02 17 25.8**	**+0.7**
WMQ					LR	LR			
	comp=Z,120nm,27.3s								
WMQ					LR	LR			
	comp=Z,94nm,21.7s								
WMQ					LR	LR			
	comp=Z,100nm,27.3s								
NJ2	**Nanjing**	**120.12**	**324**	*e*PKP		**PKPdf**	**02 17 27.3**	**+1.3**
LZH	**Lanzhou**	**123.74**	**339**	*e*PKP		**PKPdf**	**02 17 32.6**	**-0.5**
LZH					LR	LR			
	comp=Z,220nm,18.5s								
LZH					LR	LR			
	comp=Z,290nm,18.0s								
LZH					LR	LR			
	comp=Z,400nm,20.0s								
STKA	**Stephens Creek**	**124.01**	**242**	PKP		**PKPdf**	**02 17 31.7**	**-1.8**
	comp=Z,1.9nm,0.9s,baz=0.0,slow=6.1,SNR=2.9								
STKA					pPKP	**pPKPdf**	**02 17 38.0**	**-2.0**	
	comp=Z,2.5nm,0.7s,baz=76,slow=4.2,SNR=2.6								
KSH	**Kashi**	**124.04**	**5**	*e*PKP		**PKPdf**	**02 17 34.1**	**+0.5**
CD2	**Chengdu**	**128.40**	**336**	PKP		**PKPdf**	**02 17 41.6**	**-0.4**
WRA	**Warramunga Arr**	**130.18**	**258**	PKP		**PKPdf**	**02 17 44.2**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=87,slow=1.3,SNR=6.6								
WRA					pPKP	**pPKPdf**	**02 17 50.5**	**-1.6**	
	comp=Z,2.5nm,1.0s,baz=77,slow=1.7,SNR=9.6								
WRA	**Warramunga Arr**	**130.18**	**258**	*c i*PKIKP		**PKPdf**	**02 17 45.7**	**+0.1**
WRA					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ASAR	**Alice Springs**	**130.80**	**253**	PKP		**PKPdf**	**02 17 45.5**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=107,slow=1.3,SNR=5.1								
ASAR					pPKP	**pPKPdf**	**02 17 51.0**	**-2.2**	
	comp=Z,2.0nm,1.0s,baz=105,slow=2.5,SNR=5.5								
KKM	**Kota Kinabalu**	**139.31**	**301**	*e*PKPdf		**PKPdf**	**02 18 03.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**141.43**	**333**	PKP		**PKPdf**	**02 18 06.0**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=338,slow=1.4,SNR=4.7								
CMAR					pPKP	**pPKPdf**	**02 18 12.8**	**-0.3**	
	comp=Z,1.7nm,0.4s,baz=343,slow=2.8,SNR=2.5								
CMAR	**Chiang Mai Arr**	**141.43**	**333**	*c i*PKIKP		**PKPdf**	**02 18 08.5**	**+2.0**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MBWA	**Marble Bar**	**143.90**	**257**	*e*PKPdf		**PKPdf**	**02 18 12.3**	**+1.5**
OPO	**Ambohidratompo**	**146.91**	**99**	PKPbc		**PKPbc**	**02 18 17.5**	**-0.6**
	comp=Z,9.6nm,0.7s,baz=260,slow=3.0,SNR=9.3								
KULM	**Kulim**	**151.48**	**318**	*e*PKPdf		**PKPdf**	**02 18 25.4**	**+1.8**

NNC ***24*** *02:14:35.4±2.2, 38.58N×70.02E, h1km±10km, mb3.9, mpv3.5, Error ellipse: s-maj=17.7km s-min=12.6km az=3.0*
ISC 24 02:14:34.2±2.7, 38.3N±0.2×69.90E±0.09, h27km, n14, σ1s97/23, 15C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.29**	**57**	⇓Pn	**Pn**	**02 15 24.1**	**-0.1**
	3.7nm,0.5s						
SFK				⇑Pg	**Pb**	**02 15 30.6**	**-1.5**
	17nm,0.5s						
SFK				⇑Lg	Lg	02 16 12.2	
	46nm,0.4s						
MNAS	**Manas**	**4.65**	**24**	⇑Pn	**Pn**	**02 15 43.9**	**+1.1**
	9.6nm,0.3s						
MNAS				⇑Sn	**Sn**	**02 16 36.1**	**+0.2**
	10nm,0.5s						
MNAS				⇑Lg	Lg	02 16 52.7	
	32nm,1.3s						
AML	**Almayashu**	**4.82**	**36**	P	**Pn**	**02 15 44.6**	**-0.8**
	SNR=31						
KK31	**Karatay Array**	**4.84**	**5**	⇑Pn	**Pn**	**02 15 46.6**	**+1.3**
	1.2nm,0.3s,baz=185,slow=13,SNR=20						
KK31				⇑Pg	**Pb**	**02 15 59.4**	**+1.1**
	2.3nm,0.4s,baz=187,slow=15,SNR=7.6						
KK31				⇑Sn	**Sn**	**02 16 39.8**	**-0.6**
	4.9nm,0.5s,baz=180,slow=26,SNR=5.0						
KK31				⇑Lg	Lg	02 16 58.1	
	8.7nm,0.5s,baz=189,slow=30,SNR=4.4						
UCH	**Uchtor**	**5.29**	**40**	P	**Pn**	**02 15 51.8**	**-0.1**
	SNR=11						
KZA	**Kyzart**	**5.58**	**46**	P	**Pn**	**02 15 59.4**	**+3.6**
	SNR=27						
AAK	**Ala-Archa**	**5.58**	**37**	⇑Pn	**Pn**	**02 15 57.7**	**+2.0**
	4.9nm,0.8s						
AAK				⇑Pg	**Pb**	**02 16 11.8**	**+0.7**
	6.4nm,0.7s						
AAK				⇑Sn	**Sn**	**02 16 56.0**	**-3.0**
	5.2nm,0.6s						
AAK				⇑Lg	Lg	02 17 22.6	
	12nm,0.7s						
AAK	**Ala-Archa**	**5.58**	**37**	P	**Pn**	**02 15 57.8**	**+2.2**
	SNR=9.4						
KBK	**Karagaybulak**	**5.82**	**40**	P	**Pn**	**02 16 02.3**	**+3.3**
	SNR=6.4						
USP	**Ospenovka**	**6.08**	**34**	P	**Pn**	**02 16 03.9**	**+1.5**
	SNR=7.0						
TKM2	**Tokmak 2**	**6.34**	**41**	⇓Pn	**Pn**	**02 16 08.1**	**+2.0**
	3.8nm,0.5s						
TKM2				⇓Sn	**Sn**	**02 17 18.4**	**+0.6**
	6.5nm,0.8s						
TKM2				⇓Lg	Lg	02 17 45.9	
	5.2nm,0.7s						
TKM2	**Tokmak 2**	**6.34**	**41**	P	**Pn**	**02 16 08.9**	**+2.7**
	SNR=5.4						
AB31	**Akbulak array**	**13.11**	**330**	⇓Pn	**Pn**	**02 17 38.0**	**-0.6**
	1.6nm,0.6s						
AB31				⇑Sn	**Sn**	**02 19 59.6**	**-3.7**
	0.9nm,0.5s,baz=152,slow=23,SNR=5.2						
AKTO	**Aktyubinsk**	**14.81**	**329**	⇓Pn	**Pn**	**02 18 01.5**	**-0.1**
	3.3nm,0.9s						
AKTO				⇑Sn	**Sn**	**02 20 45.2**	**+0.5**
	1.3nm,0.8s						

NNC ***24*** *02:24:24.6±1.1, 44.17N×79.34E, h1km±9km, mb2.7, mpv2.4, Error ellipse: s-maj=10.3km s-min=5.3km az=119.0*
SOME ***24*** *02:24:25.7, 44.18N×79.28E, h15km*
ISC 24 02:24:24.9±1.3, 44.17N±0.04×79.32E±0.03, h3km±13km, n19, σ0s43/36, 8C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNBS	**Baschi**	**0.67**	**263**	*e*P	**Pb**	**02 24 38.9**	**-0.4**
	56nm,0.2s						
MNBS				*e*S	**Sb**	**02 24 48.5**	**-0.4**
	201nm,0.3s						
PDGK	**Podgornoye**	**0.85**	**171**	⇑P	**Pg**	**02 24 41.5**	**+0.2**
	2.1nm,0.4s						
PDGK				⇑S	**Sg**	**02 24 53.0**	**+0.8**
	28nm,0.4s						
KTMS	**Ketmen**	**1.04**	**134**	*e*P	**Pg**	**02 24 44.3**	**-0.5**
	32nm,0.2s						
KTMS				*e*S	**Sg**	**02 24 57.8**	**-0.5**
	94nm,0.3s						
ARXS	**Arharly**	**1.07**	**273**	*e*P	**Pg**	**02 24 45.6**	**+0.1**
	21nm,0.1s						
ARXS				*e*S	**Sb**	**02 25 00.4**	**-0.3**
	61nm,0.2s						
KURS	**Kuram**	**1.07**	**231**	*e*P	**Pg**	**02 24 45.8**	**+0.3**
	2.5nm,0.2s						
KURS				*e*S	**Sb**	**02 25 00.3**	**-0.4**
	17nm,0.4s						
KAPS	**Kapalarasan**	**1.12**	**1**	*e*P	**Pb**	**02 24 46.8**	**-0.1**
	4.1nm,0.1s						
KAPS				*e*S	**Sb**	**02 25 01.6**	**-0.3**
	28nm,0.2s						
CHKK	**Chushkaly**	**1.71**	**260**	*e*P	**Pn**	**02 24 55.9**	**+0.2**
	16nm,0.2s						
CHKK				*e*S	**Sn**	**02 25 17.8**	**-0.2**
	83nm,0.2s						
KOTS	**Kotyrbulak**	**1.85**	**240**	*e*P	**Pb**	**02 24 59.5**	**0.0**
	4.2nm,0.1s						
KOTS				*e*S	**Sg**	**02 25 23.8**	**-0.7**
	36nm,0.3s						
MDOK	**Medeo**	**1.93**	**239**	Pn	**Pn**	**02 24 59.2**	**+0.4**
	4.1nm,0.5s						
MDOK				Sn	**Sb**	**02 25 25.3**	**-0.1**
	11nm,0.5s						
MDOK	**Medeo**	**1.93**	**239**	*e*P	**Pb**	**02 25 00.3**	**-0.6**
	3.3nm,0.3s						
MDOK				*e*S	**Sb**	**02 25 25.4**	**+0.1**
	23nm,0.2s						
KTBS	**Karatobe**	**1.96**	**257**	*e*P	**Pb**	**02 25 01.0**	**-0.2**
	1.8nm,0.2s						
KTBS				*e*S	**Sb**	**02 25 26.4**	**+0.4**
	32nm,0.3s						
TNSS	**Tian-Shan**	**2.06**	**238**	*e*P	**Pb**	**02 25 03.4**	**+0.2**
	3.2nm,0.1s						
TNSS				*e*S	**Sb**	**02 25 30.0**	**+0.6**
	9.8nm,0.3s						
IZV	**Izvestkoviy**	**2.27**	**241**	*e*P	**Pb**	**02 25 06.1**	**-0.6**
	2.1nm,0.2s						
IZV				*e*S	**Sb**	**02 25 34.8**	**-0.4**
	12nm,0.3s						
MTBS	**Maitube**	**2.34**	**245**	*e*P	**Pb**	**02 25 07.4**	**-0.4**
	2.6nm,0.2s						
MTBS				*e*S	**Sb**	**02 25 37.6**	**+0.5**
	13nm,0.3s						
DGS	**Degeres**	**2.73**	**251**	*e*P	**Pb**	**02 25 14.3**	**-0.2**
	2.6nm,0.2s						
DGS				*e*S	**Sb**	**02 25 48.6**	**+0.2**
	17nm,0.4s						
TKM2	**Tokmak 2**	**2.98**	**247**	⇑Pg	**Pb**	**02 25 18.8**	**+0.1**
	1.3nm,0.5s						
TKM2				⇑Lg	Lg	02 25 56.8	
	3.6nm,0.4s						
MAKZ	**Makanchi**	**3.23**	**34**	⇑Pg	**Pb**	**02 25 23.0**	**0.0**
	0.6nm,0.7s						
MAKZ				⇑Lg	Lg	02 26 04.2	
	1.9nm,0.5s						
MK31	**Makanchi Array**	**3.36**	**38**	Pn	**Pn**	**02 25 19.1**	**+0.9**
	0.1nm,0.3s,baz=24,slow=45,SNR=7.5						
MK31				Pg	**Pg**	**02 25 29.2**	**0.0**
	0.3nm,0.3s,baz=210,slow=15,SNR=12						
MK31				⇓Sn	**Sn**	**02 25 58.1**	**-0.5**
	0.6nm,0.5s,baz=215,slow=27,SNR=4.6						
MK31				⇓Lg	Lg	02 26 09.2	
	1.0nm,0.5s,baz=210,slow=27,SNR=9.8						
AAK	**Ala-Archa**	**3.83**	**248**	⇑Pg	**Pb**	**02 25 32.9**	**-0.4**
	1.3nm,0.7s						
AAK				⇑Lg	Lg	02 26 26.5	
	2.1nm,0.6s						

ISCJB ***24*** *02:25:17.3±0.7, 17.75S×178.26W, h495km±45km, mb3.4/10, mb1 3.7/11, mb1mx3.4/45, mbtmp4.2/11, Error ellipse: s-maj=31.4km s-min=19.0km az=163.0*
ISC 24 02:25:18.0±0.8, 17.7S±0.2×178.3W±0.2, h500km, n15, σ0s73/17, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.01**	**251**	P	**P**	**02 28 28.9**	**+0.4**
	0.1nm,0.3s,baz=93,slow=18,SNR=2.6						
URZ	**Urewera**	**20.84**	**190**	P	**P**	**02 29 23.3**	**-0.8**
	3.9nm,0.4s,baz=300,slow=2.3,SNR=7.3						
STKA	**Stephens Creek**	**38.83**	**241**	P	**P**	**02 32 00.3**	**+0.9**
	4.3nm,0.5s,baz=96,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	**44.79**	**259**	P	**P**	**02 32 46.4**	**-0.5**
	1.9nm,0.5s,baz=96,slow=7.0,SNR=54						
WRA				PcP	**PcP**	**02 34 18.2**	**-0.3**
	0.8nm,0.5s,baz=91,slow=3.8,SNR=6.0						
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**02 32 48.1**	**-0.1**
	20nm,0.4s,baz=89,slow=8.2,SNR=289						
ASAR				PcP	**PcP**	**02 34 18.5**	**-0.6**
	1.6nm,0.5s,baz=119,slow=3.3,SNR=7.0						
NVAR	**Mina Array Bea**	**79.21**	**44**	P	**P**	**02 36 31.2**	**+0.1**
	0.6nm,0.6s,baz=217,slow=7.6,SNR=4.5						
ILAR	**Eielson Array**	**85.70**	**13**	P	**P**	**02 37 01.7**	**-1.4**
	0.4nm,0.4s,baz=224,slow=5.1,SNR=12						
TXAR	**Lajitas Array**	**85.80**	**58**	P	**P**	**02 37 06.0**	**+1.5**
	0.8nm,0.7s,baz=218,slow=5.5,SNR=16						
PDAR	**Pinedale Array**	**87.14**	**43**	P	**P**	**02 37 10.6**	**-0.1**
	0.2nm,0.5s,baz=205,slow=3.1,SNR=3.6						
CMAR	**Chiang Mai Arr**	**88.95**	**290**	P	**P**	**02 37 19.4**	**0.0**
	1.2nm,0.3s,baz=115,slow=2.5,SNR=7.5						
SONM	**Songino Array**	**93.52**	**319**	P	**P**	**02 37 40.7**	**+0.7**
	0.3nm,0.6s,baz=106,slow=5.1,SNR=2.6						
BRTR	**Keskin Array B**	**144.76**	**315**	PKP	**PKPdf**	**02 43 57.8**	**-0.1**
	1.9nm,0.8s,baz=115,slow=3.3,SNR=11						
MLR	**Muntele Rosu**	**145.76**	**329**	PKPbc	**PKPbc**	**02 44 00.3**	**-0.7**
	0.2nm,0.6s,baz=122,slow=3.5,SNR=3.6						
MMAI	**Mount Meron Ar**	**146.16**	**303**	PKPbc	**PKPbc**	**02 44 02.3**	**-0.1**
	2.6nm,0.5s,baz=60,slow=5.7,SNR=16						
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKPbc**	**02 44 05.2**	**-0.3**
	1.0nm,0.5s,baz=20,slow=2.7,SNR=14						

IDC ***24*** *02:34:35.3±1.4, 16.36N×98.59W, h0km, mb4.0/9, mb1 4.2/12, mb1mx3.9/46, mbtmp4.0/12, ML3.9/2, MS3.3/9, Ms1 3.3/9, ms1mx3.1/40, Error ellipse: s-maj=28.2km s-min=14.7km az=22.0*
NEIC ***24*** *02:34:39.3±0.0, 16.33N×98.62W, h12km, mb4.3/80, MD4.2(MEX), After MEX.*
MEX ***24*** *02:34:39.2±0.6, 16.33N×98.62W, h12km±10km, MD3.9*
ISC 24 02:34:36.5±0.8, 16.23N±0.08×98.62W±0.04, h17km, n280, σ1s37/283, mb4.3/68, MS3.3/6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.51**	**71**	*e*P	**Pb**	**02 34 47.4**	**+0.5**
PNIG				*i* S	**Sb**	**02 34 54.5**	**+0.5**
PNIG	**Pinotepa**	**0.51**	**71**	*e*P	**Pb**	**02 34 47.4**	**+0.5**
PNIG				*i* S	**Sb**	**02 34 54.5**	**+0.5**
ACX	**Acapulco**	**1.34**	**299**	*e*P	Pn	02 34 53.5	-7.0
ACX				*i* S	**Sn**	**02 35 10.7**	**-7.3**
CAIG	**El Cayaco**	**1.77**	**298**	*e*P	**Pn**	**02 35 05.9**	**-0.5**
CAIG				*i* S	**Sn**	**02 35 26.1**	**-2.5**
CAIG	**El Cayaco**	**1.77**	**298**	*e*P	**Pn**	**02 35 05.9**	**-0.5**
VHO	**Vista Hermosa**	**2.00**	**65**	*e*P	**Pn**	**02 35 09.8**	**+0.2**
VHO				*e*S	**Sn**	**02 35 32.8**	**-1.6**
VHO	**Vista Hermosa**	**2.00**	**65**	*e*P	**Pn**	**02 35 09.8**	**+0.2**
VHO				*e*S	**Sn**	**02 35 32.8**	**

	baz=207						
W39A	Magazine	19.38	12	P	P	02 39 01.6	+0.1
	baz=194						
TUC	Tucson	19.45	328	P	Pn	02 39 04.4	+0.8
	baz=142						
TUC	Tucson	19.45	328	*e*P	Pn	02 39 04.8	+1.2
	18nm,1.9s						
149A	Jones	19.51	31	P	P	02 39 02.0	-1.0
	baz=216						
LAZ	Ladron	19.65	339	*e*P	Pn	02 39 06.6	+0.5
	1.8nm,1.0s						
Y46A	Houston	19.66	25	P	P	02 39 03.9	-0.7
	baz=209,SNR=9.0						
W41B	Gary Mavity, V	19.71	16	P	P	02 39 04.1	-1.0
	baz=198						
LRAL	Lakeview Retre	19.77	30	P	P	02 39 05.3	-0.4
	baz=215						
LRAL	Lakeview Retre	19.77	30	*e*P	P	02 39 05.7	0.0
	12nm,1.3s						
TUL1	Leonard	19.77	7	P	P	02 39 04.2	-1.6
	baz=188,SNR=5.4						
TUL1	Leonard	19.77	7	*e*P	P	02 39 04.4	-1.4
	11nm,0.7s						
DWPF	Disney Wildern	19.80	50	*e*P	P	02 39 02.8	-3.4
	56nm,1.3s						
WHAR	Wooly Hollow	19.81	15	*e*P	P	02 39 05.8	-0.4
	15nm,1.0s						
150A	Eclectic	19.91	33	P	P	02 39 06.7	-0.6
	baz=218						
ANMO	Albuquerque	19.92	341	P	P	02 39 08.6	+1.0
	0.4nm,0.3s,baz=334,slow=12,SNR=20						
ANMO				LR	LR	02 47 36.8	
	comp=Z,274nm,19.5s,baz=339,slow=40						
ANMO	Albuquerque	19.92	341	P	P	02 39 08.6	+1.0
	baz=157						
ANMO	Albuquerque	19.92	341	*e*P	P	02 39 08.6	+1.0
	4.4nm,0.7s						
V39A	Pettigrew	20.03	12	P	P	02 39 07.0	-1.7
	baz=194,SNR=16						
Z49A	Columbiana	20.12	31	P	P	02 39 07.9	-1.7
	baz=216,SNR=7.5						
252A	Lumpkin	20.14	36	P	P	02 39 09.8	-0.1
	baz=222						
V40A	Witts Springs	20.17	14	P	P	02 39 09.3	-0.9
	baz=196						
151A	Opelika	20.22	34	P	P	02 39 10.3	-0.4
	baz=220						
214A	Organ Pipe Nat	20.29	323	*e*P	Pn	02 39 13.5	0.0
	13nm,0.7s						
V41A	Mountainview	20.32	15	P	P	02 39 10.4	-1.4
	baz=198,SNR=7.8						
X46A	Booneville	20.36	24	P	P	02 39 11.2	-0.9
	baz=209,SNR=6.2						
Y48A	Jasper	20.41	28	P	P	02 39 11.6	-1.1
	baz=213						
TIGA	Tifton	20.42	39	P	P	02 39 12.3	-0.5
	baz=226						
Z50A	Ashland	20.47	32	P	P	02 39 12.8	-0.7
	baz=217,SNR=7.5						
V42A	Cord	20.54	17	P	P	02 39 12.2	-1.9
	baz=200						
U39A	Green Forest	20.59	12	P	P	02 39 13.0	-1.8
	baz=194,SNR=14						
X47A	Russelville	20.62	26	P	P	02 39 14.1	-1.0
	baz=211						
U40A	Yellville	20.70	13	P	P	02 39 14.5	-1.3
	baz=196,SNR=6.4						
Y49A	Blount Mountai	20.72	30	P	P	02 39 14.9	-1.2
	baz=215						
X18A	Snowflake	20.87	333	*e*P	Pn	02 39 20.2	-0.2
	13nm,1.4s						
X48A	Hartselle	20.92	28	P	P	02 39 16.9	-1.3
	baz=213						
PLAL	Pickwick Lake	20.93	25	*e*P	P	02 39 17.2	-1.2
	9.9nm,0.8s						
W46A	Michie	20.94	24	P	P	02 39 19.0	+0.5
	baz=209						
254A	Abbeville	20.96	39	P	P	02 39 16.7	-1.9
	baz=225						
T38A	Diamond	21.08	10	P	P	02 39 19.8	-0.2
	baz=192,SNR=6.7						
U42A	Revenden	21.09	17	P	P	02 39 18.2	-1.9
	baz=200,SNR=12						
T39A	Clever	21.23	12	P	P	02 39 19.7	-1.9
	baz=194,SNR=5.7						
W18A	Petrified Fore	21.28	334	P	P	02 39 20.8	-1.6
	baz=149						
W18A	Petrified Fore	21.28	334	*e*P	P	02 39 24.3	+1.9
	5.2nm,0.8s						
X49A	Woodville	21.30	29	P	P	02 39 21.0	-1.4
	baz=214,SNR=6.2						
W47A	Westpoint	21.36	25	P	P	02 39 21.2	-1.8
	baz=210,SNR=5.5						
113A	Mohawk Valley,	21.43	323	*e*P	P	02 39 25.9	+2.1
	3.1nm,0.6s						
T25A	Trinidad	21.45	347	P	P	02 39 25.4	+1.2
	baz=165,SNR=13						
T25A	Trinidad	21.45	347	*e*P	P	02 39 25.8	+1.6
	13nm,1.0s						
X16A	Lo Mia Camp, P	21.46	330	*e*P	P	02 39 26.2	+1.8
	11nm,0.9s						
T40A	Mansfield	21.53	13	P	P	02 39 23.6	-1.2
	baz=196						
W48A	Pulaski	21.55	27	P	P	02 39 23.9	-1.1
	baz=212						
X50A	Fort Payne	21.57	30	P	P	02 39 23.4	-1.9
	baz=216						
T41A	Mountain View	21.61	15	P	P	02 39 24.4	-1.3
	baz=198,SNR=8.6						
V46A	Holladay	21.63	24	P	P	02 39 27.3	+1.5
	baz=208,SNR=12						
T42A	Van Buren	21.77	16	P	P	02 39 26.0	-1.4
	baz=200						
U45A	Rockin P Farm,	21.88	22	P	P	02 39 29.8	+1.3
	baz=206						
S39A	Bolivar	21.89	11	P	P	02 39 27.4	-1.3
	baz=194,SNR=12						
V47A	Nunnelly	21.89	25	P	P	02 39 29.6	+0.9
	baz=210,SNR=9.4						
GOGA	Godfrey	21.91	36	P	P	02 39 27.1	-1.8
	baz=222,SNR=6.7						
GOGA	Godfrey	21.91	36	*e*P	P	02 39 27.8	-1.2
	8.6nm,0.8s						
155A	Kite	21.93	39	P	P	02 39 27.4	-1.7
	baz=226						
S40A	Lebanon	21.97	13	P	P	02 39 28.4	-1.1
	baz=196,SNR=6.1						
WVT	Waverly	22.03	24	P	P	02 39 29.5	-0.7
	baz=209						
WVT	Waverly	22.03	24	*e*P	P	02 39 30.1	-0.1
	16nm,0.8s						
T43A	Greenville	22.05	18	P	P	02 39 28.4	-2.0
	baz=202,SNR=12						
SWET	Sewanee	22.06	29	*e*P	P	02 39 28.4	-2.2
	2.6nm,0.7s						
V48A	Smith Brothers	22.10	26	P	P	02 39 29.3	-1.7
	baz=212						
S41A	Jillco Farms,	22.13	15	P	P	02 39 29.5	-1.7
	baz=198,SNR=9.9						
T44A	Benton	22.27	19	P	P	02 39 34.3	+1.6
	baz=203						
SDCO	Great Sand Dun	22.28	346	P	P	02 39 33.4	+0.2
	baz=162,SNR=5.6						
SDCO	Great Sand Dun	22.28	346	*e*P	P	02 39 33.2	+0.1
	2.4nm,0.6s						
WUAZ	Wupatki	22.33	332	P	P	02 39 35.2	+1.6
	baz=146,SNR=10						
WUAZ	Wupatki	22.33	332	*e*P	P	02 39 35.7	+2.1
	11nm,1.0s						
U47A	Clarksville	22.52	24	P	P	02 39 33.8	-1.6
	baz=210,SNR=6.8						
CBKS	Cedar Bluff	22.52	358	*e*P	P	02 39 36.2	+0.6
	18nm,1.2s						
R39A	Chumby, Stover	22.55	12	P	P	02 39 33.9	-1.8
	baz=194,SNR=9.1						
S42A	Caledonia	22.55	16	P	P	02 39 38.4	+2.7
	baz=200,SNR=15						
S43A	Fulton Ridge,	22.57	18	P	P	02 39 36.0	+0.1
	baz=202						
S22A	4UR Ranch, Cre	22.63	343	P	P	02 39 38.1	+1.1
	baz=159,SNR=7.1						
S22A	4UR Ranch, Cre	22.63	343	*e*P	P	02 39 38.0	+1.1
	3.9nm,0.8s						
MVCO	Mesa Verde	22.66	339	P	P	02 39 37.7	+0.6
	baz=155						
MVCO	Mesa Verde	22.66	339	*e*P	P	02 39 37.8	+0.6
	9.1nm,1.0s						
R40A	Maddies Statio	22.68	13	P	P	02 39 36.9	-0.2
	baz=196,SNR=15						
T46A	Princeton	22.81	23	P	P	02 39 38.5	0.0
	baz=208						
FVM	French Village	22.85	17	*e*P	P	02 39 37.4	-1.5
	6.6nm,0.9s						
U48A	Cassie Pea, Po	22.88	26	P	P	02 39 38.4	-0.9
	baz=211						
R41A	Rosebud	22.89	15	P	P	02 39 39.0	-0.4
	baz=198						
CPCT	Cooper Cave	22.92	31	*e*P	P	02 39 38.1	-1.6
S44A	Carbondale	22.93	19	P	P	02 39 40.1	+0.4
	baz=204						
SIUC	Southern Illin	22.96	19	*e*P	P	02 39 40.2	+0.2
	18nm,0.8s						
KSCO	Kaye Shedlock'	22.97	352	*e*P	P	02 39 41.8	+1.5
T47A	Sharon Grove	23.06	24	P	P	02 39 40.7	-0.4
	baz=209,SNR=8.8						
Q38A	Cooks Store, C	23.07	10	P	P	02 39 40.8	-0.4
	baz=192						
S45A	Carrier Mills	23.14	21	P	P	02 39 40.1	-1.8
	baz=205						
HODGE	Hodges	23.19	36	*e*P	P	02 39 41.2	-1.2
	12nm,0.8s						
IRM	Iron Mountain	23.23	323	P	P	02 39 44.2	+1.3
	baz=136,SNR=5.0						
R43A	Red Bud	23.26	18	P	P	02 39 43.3	+0.2
	baz=202						
Q39A	Willow Grove F	23.27	11	P	P	02 39 42.2	-0.9
	baz=194,SNR=5.0						
BG3	Lake Jocassee	23.38	34	*e*P	P	02 39 44.1	-0.3
	20nm,1.2s						
Q40A	Laux Farm, Aux	23.40	13	P	P	02 39 43.5	-1.0
	baz=196						
T48A	Bowling Green	23.45	25	P	P	02 39 44.4	-0.7
	baz=211,SNR=5.8						
TKL	Tuckaleechee C	23.46	32	P	P	02 39 44.8	-0.4
	6.1nm,1.0s,baz=184,slow=10,SNR=8.5						
TKL				LR	LR	02 50 55.5	
	comp=Z,59nm,19.7s,baz=189,slow=42						
TKL	Tuckaleechee C	23.46	32	*e*P	P	02 39 44.7	-0.4
	17nm,1.1s						
U15A	North Rim	23.50	331	*e*P	P	02 39 47.1	+1.2
	6.5nm,1.1s						
PV01	Paradox Valley	23.52	340	*e*P	P	02 39 47.4	+1.5
Q41A	Truxton	23.55	15	P	P	02 39 44.9	-1.1
	baz=198,SNR=7.3						
NHSC	New Hope	23.67	41	P	P	02 39 45.6	-1.7
	baz=229						
NHSC	New Hope	23.67	41	*e*P	P	02 39 45.8	-1.5
	38nm,1.0s						
Q42A	Golden Eagle	23.69	16	P	P	02 39 46.8	-0.5
	baz=200						
USIN	University of	23.71	22	*e*P	P	02 39 46.9	-0.7
	13nm,0.8s						
P39B	Salisbury	23.74	11	P	P	02 39 45.3	-2.5
	baz=194						
O33A	Hebron	23.78	2	P	P	02 39 47.7	-0.6
	baz=182						
JSC	Jenkinsville	23.81	38	*e*P	P	02 39 47.6	-0.9
	9.2nm,0.7s						
LDFC	Landfair	23.88	325	*e*P	P	02 39 52.3	+2.9
	12nm,1.1s						
P40A	Paris	23.92	13	P	P	02 39 48.3	-1.2
	baz=196,SNR=10						
O34A	Beatrice	23.93	4	P	P	02 39 49.5	-0.1
	baz=185,SNR=5.2						
GMRC	Granite Mounta	23.97	324	P	P	02 39 51.6	+1.3
	baz=136						
SMCO	Snowmass	24.01	344	*e*P	P	02 39 52.2	+1.3
	7.6nm,1.1s						
PV09	Paradox Valley	24.03	339	*e*P	P	02 39 51.1	+0.1
O38A	Galt	24.23	10	P	P	02 39 51.7	-0.7
	baz=192						
ISCO	Idaho Springs	24.27	347	P	P	02 39 54.0	+0.9
	baz=164,SNR=8.3						
ISCO	Idaho Springs	24.27	347	*e*P	P	02 39 54.0	+0.9
	3.7nm,0.7s						
TZTN	Tazewell	24.27	31	P	P	02 39 52.5	-0.3
	baz=217						
TZTN	Tazewell	24.27	31	*e*P	P	02 39 52.4	-0.4
	68nm,1.9s						
P42A	Winchester	24.37	16	P	P	02 39 52.7	-1.0
	baz=200,SNR=10						
KMSC	Kings Mountain	24.38	36	P	P	02 39 52.8	-1.1
	baz=224						
KMSC	Kings Mountain	24.38	36	*e*P	P	02 39 54.3	+0.5
	35nm,1.6s						
LCMT	Little Creek M	24.42	331	*e*P	P	02 39 55.8	+1.4
	1.8nm,0.8s						
R47A	Wooly Knot Far	24.43	24	P	P	02 39 53.7	-0.5
	baz=209,SNR=10						
WCI	Wyandotte Cave	24.46	24	P	P	02 39 53.9	-0.6
	baz=210						
WCI	Wyandotte Cave	24.46	24	*e*P	P	02 39 54.1	-0.4
	16nm,0.9s						
O39A	Kirksville	24.52	11	P	P	02 39 54.2	-0.8
	baz=194,SNR=5.3						
O40A	La Belle	24.52	13	P	P	02 39 54.1	-1.0
	baz=196,SNR=14						
O41A	Passleys Farm,	24.74	14	P	P	02 39 56.1	-1.0
	baz=198,SNR=8.0						
MTPU	Mount Pierson	24.80	334	*e*P	P	02 40 00.3	+2.2
	10nm,1.0s						
OGNE	Ogallala	24.81	354	P	P	02 39 58.7	+0.9
	baz=172						
OGNE	Ogallala	24.81	354	*e*P	P	02 39 58.0	+0.3
	40nm,1.3s						
N38A	Joes South For	24.92	10	P	P	02 39 58.2	-0.5
	baz=192,SNR=9.0						
Q47A	Bedord North L	25.02	23	P	P	02 39 58.9	-0.7
	baz=209						
SRU	San Rafael Swe	25.07	338	*e*P	P	02 40 02.2	+1.9
	8.4nm,1.0s						
N39A	Derby Farms, D	25.13	11	P	P	02 39 59.9	-0.7
	baz=194,SNR=11						
Q16A	Castle Valley	25.14	336	*e*P	P	02 40 02.8	+1.9
	9.4nm,0.7s						
MSU	Marysvale	25.19	334	*e*P	P	02 40 05.0	+3.6
O20A	White River Ci	25.25	343	P	P	02 40 03.4	+1.4
	baz=158						
O20A	White River Ci	25.25	343	*e*P	P	02 40 03.8	+1.9
	6.8nm,0.9s						
N40A	Mertquake, Sal	25.32	13	P	P	02 40 01.2	-1.0
	baz=196						
N23A	Red Feather La	25.39	347	P	P	02 40 04.1	+0.8
	baz=163,SNR=5.2						
N23A	Red Feather La	25.39	347	*e*P	P	02 40 04.3	+1.1
	8.3nm,1.0s						
M37A	Trindle Farm,	25.40	8	P	P	02 40 03.0	0.0
	baz=190						
P18A	Preston Nutter	25.43	339	*e*P	P	02 40 06.3	+2.6
	9.5nm,0.8s						
P17A	Butcher Ranch,	25.47	338	*e*P	P	02 40 07.4	+3.6
	3.8nm,0.8s						
TMUT	Trail Mountain	25.48	337	*e*P	P	02 40 07.2	+3.0
	5.1nm,1.0s						
M38A	Pleasantville	25.54	9	P	P	02 40 03.4	-0.9
	baz=192,SNR=7.3						
HDIL	Hopedale	25.56	17	P	P	02 40 04.1	-0.4
	baz=201						
HDIL	Hopedale	25.56	17	*e*P	P	02 40 03.4	-1.1
	11nm,0.8s						
PHWY	Pilot Hill	25.68	348	*e*P	P	02 40 07.2	+1.3
	4.8nm,0.6s						
O45A	Potomac	25.75	19	P	P	02 40 05.9	-0.3
	baz=205						
M39A	Webster	25.77	11	P	P	02 40 05.3	-1.1
	baz=194						
M40A	Post Highland	25.83	12	P	P	02 40 05.9	-1.1
	baz=196						
MPMC	Manual Prospec	25.93	323	P	P	02 40 09.3	+1.2
	baz=135						
N43A	Stutzman Famil	25.95	17	P	P	02 40 07.4	-0.6
	baz=201						
L36A	Harm Buss Farm	26.01	7	P	P	02 40 08.8	+0.2
	baz=189						
SCIA	State Center	26.01	9	P	P	02 40 08.1	-0.4
	baz=192						
SCIA	State Center	26.01	9	*e*P	P	02 40 08.6	0.0
	23nm,0.9s						
M41A	Milan	26.02	14	P	P	02 40 07.7	-0.9
	baz=198						
SFIN	Lafayette	26.07	20	P	P	02 40 08.4	-0.7
	baz=206						
N44A	Piper City	26.12	18	P	P	02 40 08.6	-0.9
	baz=203						
L37A	Phoenix Point,	26.15	8	P	P	02 40 09.1	-0.7
	baz=191						
O47A	Sheridan	26.26	22	P	P	02 40 09.7	-1.1
	baz=208						
L38A	Oak Wood Farm,	26.28	10	P	P	02 40 10.9	-0.1
	baz=192,SNR=9.2						
BLA	Blacksburg	26.39	34	P	P	02 40 10.9	-1.3
	baz=222						
BLA	Blacksburg	26.39	34	*e*P	P	02 40 10.5	-1.6
	32nm,1.4s						
L39A	Vinton	26.43	11	P	P	02 40 11.2	-1.2
	baz=194						
M43A	Waltham Townsh	26.47	16	P	P	02 40 12.3	-0.4
	baz=201						
L40A	Anamosa	26.52	12	P	P	02 40 11.9	-1.3
	baz=196						
M44A	Midewin, Midew	26.69	18	P	P	02 40 13.6	-1.1
	baz=203						
L41A	Preston	26.69	14	P	P	02 40 14.1	-0.7
	baz=198						
K37A	Belmond	26.79	8	P	P	02 40 14.1	-1.5
	baz=191,SNR=5.1						
L42A	Oliver, Polo	26.82	15	P	P	02 40 14.6	-1.2
	baz=199,SNR=5.8						
J31A	Geddes	26.98	360	P	P	02 40 17.2	-0.1
	baz=180						
K39A	Oelwein	27.01	11	P	P	02 40 16.4	-1.2
	baz=194						
K22A	Casper	27.19	347	P	P	02 40 20.6	+1.2
	baz=163						
K41A	Shullsburg	27.24	13	P	P	02 40 18.7	-0.9
	baz=198						
J37A	Redenius Farm,	27.34	8	P	P	02 40 19.3	-1.2
	baz=191						
ECSD	EROS Data Cent	27.47	3	P	P	02 40 21.0	-0.8
	baz=184						
ECSD	EROS Data Cent	27.47	3	*e*P	P	02 40 21.2	-0.6
	3.8nm,0.9s						
J38A	Wedel Dairy, R	27.51	10	P	P	02 40 20.5	-1.6
	baz=193						
ACSO	Alum Creek Sta	27.52	27	P	P	02 40 20.4	-1.8
	baz=214						
BGU	Big Grassy Mou	27.59	336	*e*P	P	02 40 24.0	+1.0
	3.4nm,1.1s						
HWUT	Hardware Ranch	27.64	339	*e*P	P	02 40 26.6	+3.0
	2.9nm,0.9s						
J39A	Decorah	27.66	11	P	P	02 40 21.9	-1.4
	baz=194						
J41A	Loganville	28.03	13	P	P	02 40 26.0	-0.7
	baz=198						
BW06	Boulder Array	28.06	343	*e*P	P	02 40 27.5	+0.2
	11nm,1.6s						
PD31	Pinedale Array	28.06	343	*e*P	P	02 40 28.4	+1.2
PDAR	Pinedale Array	28.06	343	P	P	02 40 28.1	+0.8
	2.4nm,1.0s,baz=153,slow=10.0,SNR=10						
PDAR				LR	LR	02 52 53.8	
	comp=Z,87nm,21.2s,baz=169,slow=39						
PDAR	Pinedale Array	28.06	343	*e*P	P	02 40 27.6	+0.3
NV01	Mina Array Sit	28.07	326	*e*P	P	02 40 29.4	+1.9
NVAR	Mina Array Bea	28.07	326	P	P	02 40 29.5	+2.0
	1.4nm,0.8s,baz=146,slow=9.1,SNR=8.1						
J42A	Columbus	28.19	15	P	P	02 40 27.9	-0.2
	baz=200						
I38A	Scanlan Farm,	28.23	10	P	P	02 40 27.5	-1.0
	baz=193						
SDV	Santo Domingo	28.25	102	P	P	02 40 32.0	+2.8
	4.1nm,0.8s,baz=315,slow=4.5,SNR=6.3						
SDV	Santo Domingo	28.25	102	*e*P	P	02 40 28.6	-0.6
	4.1nm,0.8s						
RYN	Ryan	28.34	326	*e*P	P	02 40 28.4	-1.3
	4.1nm,1.1s						
H33A	Prehn Over Nor	28.41	3	P	P	02 40 30.1	0.0
	baz=184						
MCWV	Mont Chateau	28.52	31	*e*P	P	02 40 28.6	-2.5
	54nm,1.8s						
FXWY	Fox Creek	29.29	341	*e*P	P	02 40 39.7	+1.5
	6.9nm,1.5s						
MOOW	Moose Ponds	29.30	342	*e*P	P	02 40 39.6	+1.3
	1.9nm,0.9s						
RLMT	Red Lodge	30.17	345	*e*P	P	02 40 46.9	+0.9
	4.5nm,1.0s						
F40A	Park Falls	30.45	12	P	P	02 40 47.5	-0.7
	baz=196						
COWI	Conover	30.82	13	*e*P	P	02 40 49.0	-2.5
	9.2nm,1.3s						
GCMT	Greycliff	30.89	345	*e*P	P	02 40 51.8	-0.5
E40A	Wakefield	31.00	12	P	P	02 40 52.1	-0.9
	baz=196						
MDND	Maddock	31.54	359	*e*P	P	02 40 58.0	+0.2
	24nm,1.0s						
D41A	Chassel	31.86	13	P	P	02 41 00.4	-0.2
	baz=198						
AGMN	Agassiz Nation	32.06	3	P	P	02 41 01.2	-1.2
	baz=185						
B32A	Ashes, Strandq	32.13	3	P	P	02 41 02.2	-0.7
	baz=184						
A33A	Warroad	32.73	4	P	P	02 41 07.9	-0.3
	baz=186						
YBH	Yreka Blue Hor	32.80	326	LR	LR	02 56 32.5	
	comp=Z,76nm,18.6s,baz=186,slow=40						
F10A	Beach Ranch, E	33.49	336	*e*P	P	02 41 16.0	+1.0
	6.3nm,0.9s						
SABA	Saba	33.85	82	*e*P	P	02 41 15.9	-2.5
	81nm,1.0s						
ULM	Lac du Bonnet	34.01	3	P	P	02 41 18.3	-1.0
	1.1nm,0.5s,baz=177,slow=6.1,SNR=3.7						
FFC	Flin Flon	38.51	357	*e*P	P	02 41 57.7	0.0
	7.7nm,0.9s						
EDM	Edmonton	38.69	346	*e*P	P	02 41 59.7	+0.3
	10nm,0.8s						
RPN	Rapa Nui	44.33	194	LR	LR	02 57 22.8	
	comp=Z,41nm,20.5s,baz=288,slow=31						
SCHQ	Schefferville	45.66	25	P	P	02 42 55.5	-0.6
	2.2nm,0.6s,baz=248,slow=11,SNR=4.2						
YKA	Yellowknife Ar	47.56	350	P	P	02 43 10.4	-0.5
	1.3nm,0.8s,baz=157,slow=7.3,SNR=20						
YKA				LR	LR	03 04 27.8	
	comp=Z,6.0nm,18.1s,baz=180,slow=38						
EGAK	Eagle	56.34	340	*e*P	P	02 44 17.1	+0.8
	12nm,1.6s						
INK	Inuvik	56.58	345	*e*P	P	02 44 18.0	+0.1
	2.6nm,1.0s						
CPUP	Villa Florida	58.32	136	P	P	02 44 31.8	+1.1
	1.0nm,0.8s,baz=5.1,slow=9.3,SNR=3.5						
IL1	Eielson Array	58.33	338	*e*P	P	02 44 30.6	+0.3
ILAR	Eielson Array	58.33	338	P	P	02 44 31.4	+1.1
	1.2nm,1.0s,baz=136,slow=4.9,SNR=9.1						
TRF	Thorofare Moun	58.95	336	*e*P	P	02 44 35.2	+0.4
	3.9nm,0.8s						
KTH	Kantishna Hill	59.24	336	*e*P	P	02 44 37.5	+0.7
	3.5nm,0.9s						
SFJD	Kangerlussuaq	59.47	20	LR	LR	03 15 08.3	
	comp=Z,44nm,18.1s,baz=207,slow=41						

IDC 24 02:54:47.0±2.2**, 3°.58N**×**128°.94E, h0**km**, mb3.8**/6**, mb1 3.9**/6**, mb1mx3.5**/57**, mbtmp3.8**/6**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.2**/52**, Error ellipse: s-maj=227.8km s-min=17.7km az=68.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	18.61	57	LR	LR	03 05 14.9	
	comp=Z,36nm,20.9s,baz=112,slow=34						
WRA	Warramunga Arr	23.97	167	P	P	03 00 03.5	+0.2
	0.6nm,0.4s,baz=348,slow=10,SNR=9.9						
ASAR	Alice Springs	27.51	170	P	P	03 00 35.2	-0.2
	0.2nm,0.5s,baz=356,slow=7.4,SNR=2.9						
ASAR				PcP	PcP	03 03 53.6	-0.3
	0.3nm,0.5s,baz=341,slow=1.7,SNR=5.1						
STKA	Stephens Creek	37.26	162	P	P	03 02 00.6	0.0
	1.0nm,0.4s,baz=329,slow=5.9,SNR=3.2						
MKAR	Makanchi Array	58.95	324	P	P	03 04 48.5	+0.3
	0.9nm,0.6s,baz=117,slow=8.7,SNR=13						
KURBB	Kurchatov Arra	63.06	327	P	P	03 05 16.1	+0.1
	1.3nm,0.6s,baz=127,slow=6.2,SNR=20						
BVAR	Borovoye Array	68.65	326	P	P	03 05 51.5	-0.5
	0.7nm,0.5s,baz=123,slow=5.3,SNR=5.8						

*IDC **24** 03:14:38.7±1.8, 22°.29S×172°.90E, h0km, mb4.0/5, mb1 4.3/7, mb1mx3.9/39, mbtmp4.2/7, ML4.3/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/40, Error ellipse: s-maj=42.2km s-min=28.1km az=31.0*

*ISCJB **24** 03:14:42.1±2.0, 22°.3S±0°.3×172°.8E±0°.2, h33km, mb4.2/7, MS3.5/2, Error ellipse: s-maj=40.6km s-min=11.5km az=25.8*

*NEIC **24** 03:14:45.5±2.6, 22°.35S×172°.83E, h48km±18km, mb4.2/1, Error ellipse: s-maj=30.6km s-min=12.5km az=220.0*

ISC 24 03:14:43.4±1.7, 22°25'S±0'2×172°9'E±0'1, h35km, n19, σ0§77/12, mb4.2/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.00**	**270**	Pn	**Pn**	**03 16 10.8**	**+1.0**
	21nm,0.3s,baz=140,slow=14,SNR=248						
DZM				Sn	**Sn**	**03 17 16.3**	**-1.1**
	baz=138,slow=9.2,SNR=2.2						
URZ	**Urewera**	**16.38**	**168**	Pn	**Pn**	**03 18 30.8**	**+0.3**
	0.3nm,0.3s,baz=328,slow=7.5,SNR=5.4						
AFI	**Afiamalu**	**16.73**	**63**	LR	LR	03 23 15.8	
	comp=Z,105nm,18.5s,baz=197,slow=31						
HNR	**Honiara**	**17.80**	**314**	LR	LR	03 24 45.1	
	comp=Z,99nm,19.3s,baz=47,slow=34						
CTA	**Charters Tower**	**24.94**	**270**	P	**P**	**03 20 03.6**	**-0.1**
	2.5nm,0.6s,baz=34,slow=7.3,SNR=5.4						
CTAO	**Charters Tower**	**24.94**	**270**	*eP*	**P**	**03 20 04.1**	**+0.4**
	22nm,0.8s						
STKA	**Stephens Creek**	**29.41**	**244**	P	**P**	**03 20 44.5**	**+0.9**
	1.6nm,0.5s,baz=86,slow=12,SNR=5.1						
STKA				LR	LR	03 30 53.9	
	comp=Z,148nm,18.8s,baz=49,slow=33						
BBOO	**Buckleboo**	**34.19**	**244**	*eP*	**P**	**03 21 26.1**	**+0.4**
	6.6nm,0.8s						
ASAR	**Alice Springs**	**35.88**	**260**	P	**P**	**03 21 40.1**	**-0.2**
	2.9nm,0.9s,baz=88,slow=8.7,SNR=21						
WRAB	**Tennant Creek**	**35.99**	**266**	*eP*	**P**	**03 21 40.6**	**-0.8**
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**36.00**	**266**	P	**P**	**03 21 40.6**	**-0.8**
	0.9nm,0.4s,baz=94,slow=8.4,SNR=25						
WRA				LR	LR	03 35 40.2	
	comp=Z,60nm,20.9s,baz=140,slow=35						
H11S2	**WAKE ISLAND Hy**	**40.93**	**351**	T	T	04 06 11.6	
	baz=171,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**40.93**	**351**	T	T	04 06 10.8	
	baz=171,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**40.95**	**351**	T	T	04 06 12.9	
	baz=171,slow=76,SNR=36						
H11N1	**WAKE ISLAND Hy**	**42.10**	**352**	T	T	04 07 38.8	
	baz=172,slow=76,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**42.10**	**352**	T	T	04 07 39.1	
	baz=172,slow=76,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**42.12**	**352**	T	T	04 07 39.6	
	baz=172,slow=76,SNR=7.0						
VNDA	**Vanda**	**55.60**	**183**	P	**P**	**03 24 14.3**	**-0.8**
	0.8nm,0.7s,baz=30,slow=6.9,SNR=5.1						
EKA	**Eskdalemuir Ar**	**146.81**	**356**	PKPbc	**PKPab**	**03 34 22.8**	**-0.1**
	0.6nm,0.7s,baz=359,slow=2.8,SNR=4.9						

*ISCJB **24** 03:28:58.2±0.6, 18°7S±0'2×172°4W±0'1, h10km, mb4.5/19, MS3.6/14, Error ellipse: s-maj=26.4km s-min=10.5km az=147.7*
*IDC **24** 03:28:58.5±0.9, 18°60S×172°42W, h0km, mb4.3/10, mb1 4.6/10, mb1mx4.2/44, mbtmp4.3/10, MS3.6/15, Ms1 3.6/15, ms1mx3.4/44, Error ellipse: s-maj=46.7km s-min=16.3km az=146.0*
*NEIC **24** 03:28:59.1±0.4, 18°83S×172°17W, h10km, mb4.6/9, Error ellipse: s-maj=18.0km s-min=8.9km az=159.0*

ISC 24 03:28:59.1±0.5, 18°9S±0'2×172°07W±0'09, h10km, n64, σ1§14/45, mb4.6/19, MS3.7/14, 1C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.98**	**3**	Pn	Pn	03 30 03.9	-10
	9.7nm,0.3s,baz=126,slow=8.7,SNR=2.0						
AFI				Sn	Sn	03 30 49.5	-22
	16nm,0.3s,baz=354,slow=18,SNR=3.8						
MSVF	**Nonsavu**	**9.46**	**276**	*e*Pn	**Pn**	**03 31 18.1**	**+2.5**
	22nm,0.9s						
RAR	**Rarotonga**	**11.78**	**103**	Pn	**Pn**	**03 31 46.4**	**-0.8**
	3.7nm,0.3s,baz=236,slow=7.9,SNR=9.2						
RAR				LR	LR	03 35 20.2	
	comp=Z,305nm,19.7s,baz=276,slow=31						
DZM	**Mont Dzumac**	**20.37**	**257**	P	**P**	**03 33 34.8**	**-1.4**
	9.6nm,0.9s,baz=83,slow=17,SNR=8.4						
DZM				LR	LR	03 40 02.8	
	comp=Z,299nm,20.3s,baz=180,slow=33						
DZM	**Mont Dzumac**	**20.37**	**257**	*e*P	Pn	03 33 36.4	-1.8
	50nm,1.6s						
DZM	**Mont Dzumac**	**20.37**	**257**	*e*P	**P**	**03 33 35.5**	**-0.6**
	8.1nm,0.6s						
PAE	**Paea**	**21.39**	**90**	*e*T	T	03 55 48.0	
	19nm,0.3s						
PPT2	**Papeete2**	**21.40**	**90**	*e*LQ	LQ	03 37 57.2	
	250nm,26.5s						
PPT2				*e*LR	LR	03 38 50.8	
	525nm,26.0s						
PPT2	**Papeete2**	**21.40**	**90**	*e*T	T	03 55 49.5	
	13nm,0.3s						
PPT	**Papeete**	**21.40**	**90**	LR	LR	03 39 43.8	
	comp=Z,172nm,21.4s,baz=232,slow=30						
URZ	**Urewera**	**21.47**	**204**	P	**P**	**03 33 49.2**	**+1.5**
	6.7nm,0.7s,baz=333,slow=6.8,SNR=3.0						
TVO	**Taravao**	**21.68**	**91**	*e*T	T	03 56 05.7	
	4.0nm,0.3s						
HNR	**Honiara**	**28.68**	**285**	LR	LR	03 44 33.1	
	comp=Z,125nm,18.2s,baz=112,slow=33						
TAOE	**Nuku Hiva Isla**	**32.50**	**77**	*e*LR	LR	03 43 55.0	
	186nm,23.9s						
RKT	**Rikitea**	**34.82**	**103**	*e*T	T	04 12 57.5	
	3.1nm,0.4s						
CAN	**Canberra**	**38.04**	**237**	*e*P	**P**	**03 36 19.1**	**+1.2**
	9.0nm,0.8s						
CTA	**Charters Tower**	**39.24**	**261**	P	**P**	**03 36 25.8**	**-2.2**
	9.8nm,0.6s,baz=96,slow=11,SNR=14						
CTAO	**Charters Tower**	**39.24**	**261**	*e*P	**P**	**03 36 25.9**	**-2.2**
	72nm,0.8s						
PMG	**Port Moresby**	**40.56**	**278**	LR	LR	03 50 58.4	
	comp=Z,133nm,18.1s,baz=101,slow=33						
PMG	**Port Moresby**	**40.56**	**278**	*e*P	**P**	**03 36 38.0**	**-1.1**
	20nm,1.0s						
COEN	**Coen**	**43.13**	**270**	*e*P	**P**	**03 36 58.6**	**-1.5**
	4.8nm,0.7s						
STKA	**Stephens Creek**	**43.50**	**243**	P	**P**	**03 37 03.2**	**+0.3**
	6.6nm,0.9s,baz=79,slow=11,SNR=6.3						
STKA				LR	LR	03 52 17.0	
	comp=Z,115nm,18.9s,baz=44,slow=32						
BBOO	**Buckleboo**	**48.25**	**243**	*e*P	**P**	**03 37 39.7**	**-0.7**
	12nm,1.0s						
ASAR	**Alice Springs**	**50.33**	**255**	P	**P**	**03 37 55.6**	**-0.9**
	16nm,0.8s,baz=91,slow=8.0,SNR=95						
WRAB	**Tennant Creek**	**50.36**	**259**	*e*P	**P**	**03 37 54.9**	**-1.9**
	5.3nm,0.8s						
WRA	**Warramunga Arr**	**50.37**	**259**	P	**P**	**03 37 55.0**	**-1.8**
	3.9nm,0.6s,baz=95,slow=7.6,SNR=80						
GUMO	**Guam**	**53.32**	**304**	LR	LR	03 58 47.8	
	comp=Z,31nm,19.1s,baz=108,slow=34						
RPN	**Rapa Nui**	**57.82**	**111**	LR	LR	03 57 12.3	
	comp=Z,67nm,19.8s,baz=270,slow=29						
SOEI	**Soe**	**62.08**	**269**	*e*P	**P**	**03 39 20.8**	**+0.1**
	18nm,0.8s						
BATI	**Baumata**	**62.53**	**268**	LR	LR	04 06 28.2	
	comp=Z,53nm,19.5s,baz=300,slow=36						
NWAO	**Narrogin (SRO)**	**64.06**	**242**	LR	LR	04 06 05.6	
	comp=Z,64nm,18.0s,slow=35						
DAV	**Davao City (W)**	**66.63**	**287**	LR	LR	04 07 29.7	
	comp=Z,13nm,18.6s,baz=152,slow=35						
MJAR	**Matsushiro Arr**	**72.43**	**320**	LR	LR	04 07 00.6	
	comp=Z,20nm,21.8s,baz=240,slow=32						
NVAR	**Mina Array Bea**	**76.10**	**41**	P	**P**	**03 40 47.2**	**-0.2**
	0.7nm,0.8s,baz=234,slow=9.0,SNR=4.6						
KSM	**Kuching**	**78.78**	**275**	*e*P	**P**	**03 41 03.8**	**+1.1**
	50nm,1.3s						
MNTX	**Cornudas Mount**	**81.31**	**52**	*e*P	**P**	**03 41 16.9**	**+0.8**
	1.2nm,0.9s						
TXAR	**Lajitas Array**	**81.53**	**55**	P	**P**	**03 41 19.7**	**+2.4**
	0.9nm,0.8s,baz=213,slow=9.0,SNR=11						
PDAR	**Pinedale Array**	**84.03**	**41**	P	**P**	**03 41 30.6**	**+0.4**
	1.0nm,0.8s,baz=226,slow=3.9,SNR=8.4						
BOZ	**Bozeman (W)**	**84.34**	**38**	*e*P	**P**	**03 41 32.1**	**+0.5**
	6.4nm,1.3s						
COLA	**College**	**85.56**	**10**	*e*P	**P**	**03 41 35.8**	**-1.2**
	7.6nm,1.1s						
ILAR	**Eielson Array**	**85.63**	**11**	P	**P**	**03 41 36.5**	**-0.9**
	1.2nm,1.0s,baz=223,slow=5.5,SNR=11						
CMAR	**Chiang Mai Arr**	**94.91**	**288**	LR	LR	04 24 44.8	
	comp=Z,16nm,18.4s,baz=185,slow=35						
ULM	**Lac du Bonnet**	**95.85**	**39**	LR	LR	04 20 50.0	
	comp=Z,47nm,18.3s,baz=1.0,slow=32						
LPAZ	**La Paz**	**97.42**	**110**	LR	LR	04 16 56.5	
	comp=Z,33nm,20.1s,baz=278,slow=29						
BVAR	**Borovoye Array**	**121.41**	**321**	PKP	**PKPdf**	**03 47 53.3**	**+0.8**
	0.5nm,0.6s,baz=174,slow=1.4,SNR=4.4						
KMBO	**Kilima Mbogo**	**144.99**	**239**	PKP	**PKPdf**	**03 48 38.9**	**+0.9**
	4.0nm,0.9s,baz=72,slow=4.4,SNR=9.6						
KMBO	**Kilima Mbogo**	**144.99**	**239**	PKP	**PKPdf**	**03 48 38.9**	**+0.9**
KMBO				*e*PKPdf	PKPbc	03 48 39.2	+2.0
CLL	**Collm**	**147.42**	**354**	*i* PKPbc	**PKPbc**	**03 48 43.5**	**+0.4**
	comp=Z,12nm,1.5s						
CLL				*i*		03 48 50.1	
KHC	**Kasperske Hory**	**149.50**	**353**	*e*PKP	**PKPbc**	**03 48 49.0**	**+0.3**
BRTR	**Keskin Array B**	**149.64**	**319**	PKPbc	**PKPbc**	**03 48 49.9**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=127,slow=2.6,SNR=17						
GERES	**GERESS Array B**	**149.77**	**352**	PKPbc	**PKPbc**	**03 48 50.1**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=4.1,slow=1.9,SNR=8.8						
CONA	**Conrad Observa**	**150.34**	**349**	*e*PKiKP	**PKiKP**	**03 48 51.9**	**+0.3**
	comp=Z,4.1nm,1.1s						
MOA	**Molln**	**150.67**	**351**	*e*PKiKP	**PKiKP**	**03 48 52.2**	**0.0**
	comp=Z,0.9nm,0.7s						
ARSA	**Arzberg**	**151.05**	**349**	*ep*PKPbc	pPKPbc	03 48 54.0	-1.9
	comp=Z,1.4nm,0.9s						
RETA	**Reutte**	**151.40**	**356**	*i* PKiKP	**PKiKP**	**03 48 53.9**	**+0.1**
	comp=Z,3.4nm,1.4s						
WATA	**Walderalm**	**151.49**	**355**	*i* PKiKP	**PKiKP**	**03 48 54.7**	**+0.7**
	comp=Z,1.5nm,0.6s						
MOTA	**Moosalm**	**151.52**	**355**	*i* PKiKP	**PKiKP**	**03 48 54.2**	**0.0**
	comp=Z,3.2nm,0.8s						
KBA	**Koelnbreinsper**	**151.55**	**352**	*e*PKPbc	**PKPbc**	**03 48 52.0**	**-1.8**
	comp=Z,3.4nm,1.4s						
WTTA	**Wattenberg**	**151.55**	**355**	*i* PKiKP	**PKiKP**	**03 48 54.6**	**+0.4**
	comp=Z,3.3nm,0.6s						
SOKA	**Soboth**	**151.69**	**350**	*i* PKiKP	**PKiKP**	**03 48 54.2**	**-0.2**
	comp=Z,3.0nm,1.2s						
FETA	**Feichten**	**151.87**	**356**	*e*PKiKP	**PKiKP**	**03 48 55.4**	**+0.5**
	comp=Z,4.6nm,1.1s						
ABTA	**Abfaltersbach**	**151.98**	**353**	*i* PKiKP	**PKiKP**	**03 48 54.8**	**-0.2**
	comp=Z,4.6nm,0.7s						
SSB	**Saint Sauveur**	**153.55**	**5**	*e*PKPdf	**PKPdf**	**03 48 49.4**	**-1.0**
SSB				*e*PKPbc	**PKPbc**	**03 48 57.9**	**-0.2**
SSB				*e*PKPab	**PKPab**	**03 49 10.8**	**+0.4**
TIP	**Timpagrande**	**158.40**	**341**	*e*PKPab	**PKPab**	**03 49 30.6**	**-0.8**

*SOME **24** 03:32:33.6, 39°.55N×72°.33E, h5km*
*KRNET **24** 03:32:35.2±0.1, 39°.21N×73°.02E, mb3.1*
*NNC **24** 03:32:37.3±2.4, 39°.39N×72°.83E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=21.4km s-min=9.7km az=154.0*

ISC 24 03:32:33.0±2.3, 39°47N±0'10×72°49E±0'04, h2km±12km, n24, σ2§41/40, 21C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.96**	**55**	⇓P	**Pg**	**03 32 52.3**	**+0.9**
	28nm,0.3s						
SFK				⇓S	**Sg**	**03 33 04.8**	**+1.1**
	111nm,0.4s						
SFK	**Sufi-Kurgan**	**0.96**	**55**	⇑*i*P	**Pg**	**03 32 52.3**	**+0.9**
	baz=25						
SFK				⇑*i*S	**Sg**	**03 33 04.5**	**+0.7**
	baz=25						
ARSB	**Arslanbob**	**1.89**	**11**	⇑*e*P	**Pg**	**03 33 12.4**	**+3.1**
	baz=59						
ARSB				⇑*i*S	**Sg**	**03 33 40.3**	**+6.4**
	baz=59						
ARK	**Arkit**	**2.36**	**350**	⇓*e*P	**Pg**	**03 33 21.1**	**+2.8**
	baz=43						
ARK				⇓*i*S	**Sg**	**03 33 54.2**	**+5.3**
	baz=43						
AML	**Almayashu**	**2.81**	**19**	P	**Pg**	**03 33 26.0**	**-0.9**
	SNR=27						
AML	**Almayashu**	**2.81**	**19**	⇓*i*P	**Pg**	**03 33 25.4**	**-1.6**
	baz=10.0						
AML				⇓*i*S	**Sg**	**03 34 01.0**	**-2.5**
	baz=10.0						
MNAS	**Manas**	**3.02**	**0**	⇑Pn	**Pg**	**03 33 29.1**	**-1.7**
	4.3nm,0.5s						
MNAS				⇑Lg	Lg	03 34 14.8	
	30nm,0.6s						
MNAS	**Manas**	**3.02**	**0**	⇑*i*P	**Pg**	**03 33 29.3**	**-1.5**
	baz=53						
MNAS				⇑*i*S	**Sg**	**03 34 08.5**	**-1.5**
	baz=53						
UCH	**Uchtor**	**3.16**	**29**	P	**Pb**	**03 33 30.6**	**+0.4**
	SNR=14						
UCH	**Uchtor**	**3.16**	**29**	⇑*i*P	**Pb**	**03 33 29.0**	**-1.2**
	baz=20						
UCH				⇑*i*S	**Sb**	**03 34 07.7**	**-1.6**
	baz=20						
IUG	**Iuzhnay**	**3.26**	**326**	*e*P	**Pg**	**03 33 33.8**	**-1.8**
	3.7nm,0.2s						
IUG				*e*S	**Sg**	**03 34 15.8**	**-2.0**
	26nm,0.4s						
MRKS	**Merke**	**3.32**	**9**	⇑*i*P	**Pg**	**03 33 34.8**	**-1.9**
	19nm,0.7s						
MRKS				*e*S	**Sg**	**03 34 17.5**	**-2.2**
	28nm,0.5s						
NRN	**Naryn**	**3.32**	**53**	⇑*e*P	**Pn**	**03 33 28.7**	**+2.3**
	baz=45						
NRN				⇑*i*S	**Sn**	**03 34 06.5**	**-0.2**
	baz=45						
EKS2	**Erkin-Say**	**3.34**	**17**	⇑*i*P	**Pb**	**03 33 32.7**	**-0.3**
	baz=9.0						
EKS2				⇑*i*S	**Sb**	**03 34 14.3**	**+0.1**
	baz=9.0						
KZA	**Kyzart**	**3.35**	**38**	P	**Pb**	**03 33 32.7**	**-0.6**
	SNR=9.2						
KZA	**Kyzart**	**3.35**	**38**	⇓*i*P	**Pb**	**03 33 31.0**	**-2.4**
	baz=30						
KZA				⇓*i*S	**Sb**	**03 34 10.8**	**-3.9**
	baz=30						
AAK	**Ala-Archa**	**3.51**	**25**	⇑Pn	**Pb**	**03 33 35.8**	**-0.3**
	7.8nm,0.5s						
AAK				⇑Lg	Lg	03 34 26.2	
	20nm,0.6s						
AAK	**Ala-Archa**	**3.51**	**25**	P	**Pb**	**03 33 36.0**	**-0.1**
	SNR=17						
AAK	**Ala-Archa**	**3.51**	**25**	⇑*i*P	**Pb**	**03 33 33.9**	**-2.1**
	baz=18						
AAK				⇑*i*S	**Sb**	**03 34 16.9**	**-2.3**
	baz=18						
KK31	**Karatay Array**	**3.93**	**338**	Pn	**Pb**	**03 33 42.2**	**-0.8**
	1.6nm,0.3s,baz=147,slow=12,SNR=19						
KK31				⇓Sn	**Sb**	**03 34 30.0**	**-0.9**
	7.9nm,0.5s,baz=146,slow=18,SNR=3.8						
KK31				⇓Lg	Lg	03 34 44.5	
	7.6nm,0.5s,baz=157,slow=29,SNR=4.3						
ULHL	**Ulahol**	**3.98**	**45**	P	**Pb**	**03 33 40.9**	**-3.1**
	SNR=10						
ULHL	**Ulahol**	**3.98**	**45**	⇑*i*P	**Pn**	**03 33 38.4**	**+3.1**
	baz=38						
ULHL				⇑*i*S	**Sn**	**03 34 24.4**	**+1.8**
	baz=38						
TKM2	**Tokmak 2**	**4.17**	**33**	Pn	**Pb**	**03 33 43.0**	**-4.3**
	2.3nm,0.5s						
TKM2				Lg	Lg	03 34 46.7	
	8.2nm,0.7s						
KST	**Kastek**	**4.43**	**35**	*e*P	**Pg**	**03 33 56.7**	**-1.2**
	2.2nm,0.4s						
KST				*e*S	**Sg**	**03 34 56.0**	**+0.7**
	9.0nm,0.6s						

MEX 24 03:36:16.6±0.5, 16°49N×98°55W, h16km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.42**	**103**	*e*P	Pg	03 36 23.9	-1.2
PNIG				*i* S	Sg	03 36 29.9	-1.0
TLIG	**Tlapa**	**1.07**	**359**	*e*P	Pb	03 36 33.2	-3.6
TLIG				*i* S	Sb	03 36 45.9	-4.7
ACX	**Acapulco**	**1.31**	**287**	*i* P	Pn	03 36 32.7	-7.6
ACX				*i* S	Sb	03 36 48.5	-8.8
CAIG	**El Cayaco**	**1.73**	**289**	*e*P	Pn	03 36 43.0	-3.1
CAIG				*i* S	Sn	03 37 03.2	-4.7
VHO	**Vista Hermosa**	**1.84**	**71**	*e*P	Pn	03 36 45.0	-2.8
VHO				*i* S	Sn	03 37 06.8	-4.0
HUIG	**Huatulco**	**2.46**	**107**	*i* P	Pn	03 36 52.5	-3.6
HUIG				*i* S	Sn	03 37 21.0	-4.8

*ATA **24** 03:46:05.8±1.1, 38°.62N×43°.33E, h15km±21km, ML2.8, MW3.1*
*CSEM **24** 03:46:06.9±0.2, 38°.60N×43°.22E, h12km, ML2.6, Error ellipse: s-maj=5.2km s-min=4.9km az=89.0*
*DDA **24** 03:46:06.3, 38°.64N×43°.31E, h6km, Ml2.6*
*ISK **24** 03:46:06.3, 38°.56N×43°.21E, h15km, ML2.5/3*
*ISCJB **24** 03:46:07.6±0.4, 38°.61N±0'.02×43°.21E±0'.03, h8km±5km, Error ellipse: s-maj=4.6km s-min=3.9km az=163.7*

ISC 24 03:46:07.1±0.9, 38°62N±0'02×43°26E±0'02, h17km±6km, n29, σ1§03/48, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.11**	**104**	PG	**Pg**	**03 46 10.7**	**-0.2**
VANB	**Van**	**0.11**	**104**	*e*Pg	**Pg**	**03 46 10.7**	**-0.2**
TVAN	**Van**	**0.15**	**128**	*i* P	**Pb**	**03 46 11.3**	**-0.3**
TVAN				*i* S	**Sb**	**03 46 15.8**	**+1.3**
TVAN	**Van**	**0.15**	**128**	P	**Pb**	**03 46 11.3**	**-0.3**
TVAN				S	**Sb**	**03 46 15.8**	**+1.3**
GEVA	**Gevas**	**0.35**	**207**	*i* P	**Pg**	**03 46 13.8**	**-0.8**
GEVA				*e*S	**Sb**	**03 46 20.3**	**+0.1**
GEVA				IAML		03 46 21.6	
	comp=Z,118nm,0.4s						
GEVA	**Gevas**	**0.35**	**207**	*i* P	**Pg**	**03 46 13.7**	**-0.8**
GEVA				*i* S	**Sb**	**03 46 19.7**	**-0.5**
GEVA	**Gevas**	**0.35**	**207**	P	**Pg**	**03 46 13.7**	**-0.8**
GEVA				S	**Sb**	**03 46 19.7**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.46**	**294**	*i* P	**Pg**	**03 46 15.7**	**-0.8**
ADCV				*i* S	**Sg**	**03 46 23.2**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.46**	**294**	P	**Pg**	**03 46 15.7**	**-0.8**
ADCV				S	**Sg**	**03 46 23.2**	**+0.4**
CLDR	**Caldiran**	**0.73**	**44**	PG	**Pn**	**03 46 21.5**	**-1.4**
CLDR				SG	**Sn**	**03 46 34.1**	**+0.3**
CLDR	**Caldiran**	**0.73**	**44**	*e*Pg	**Pn**	**03 46 21.5**	**-1.4**
CLDR				*e*Sg	**Sn**	**03 46 34.1**	**+0.3**
TUTA	**Tutak**	**0.85**	**336**	*i* P	**Pg**	**03 46 23.1**	**-0.7**
TUTA				*e*S	**Sn**	**03 46 36.1**	**-0.6**
TUTA				IAML		03 46 37.2	
	comp=Z,27nm,0.2s						
TUTA	**Tutak**	**0.85**	**336**	*i* P	**Pg**	**03 46 22.8**	**-1.0**
TUTA	**Tutak**	**0.85**	**336**	P	**Pg**	**03 46 22.8**	**-1.0**
GURO	**Guroymak-BITLI**	**0.96**	**266**	PG	**Pb**	**03 46 24.3**	**-1.1**
GURO				SG	**Sb**	**03 46 37.9**	**0.0**
GURO	**Guroymak-BITLI**	**0.96**	**266**	*e*Pg	**Pb**	**03 46 24.3**	**-1.1**
GURO				*e*Sg	**Sb**	**03 46 37.9**	**0.0**
AGRB	**Hanur-Agry**	**0.97**	**348**	PG	**Pn**	**03 46 26.3**	**+0.1**
AGRB				SG	**Sn**	**03 46 41.1**	**+1.4**
AGRB	**Hanur-Agry**	**0.97**	**348**	*e*Pg	**Pn**	**03 46 26.3**	**+0.1**
AGRB				*e*Sg	**Sn**	**03 46 41.1**	**+1.4**
DYDN	**Diyadin**	**0.98**	**20**	*e*P	**Pg**	**03 46 25.1**	**-1.1**
DYDN				IAML		03 46 56.4	
	comp=Z,6.7nm,0.5s						
HAKT	**HAKKARI**	**1.12**	**161**	*i* P	**Pg**	**03 46 28.4**	**-0.5**
HAKT				*i* S	**Sn**	**03 46 43.7**	**+0.4**
HAKT	**HAKKARI**	**1.12**	**161**	P	**Pg**	**03 46 28.4**	**-0.5**
HAKT				S	**Sn**	**03 46 43.7**	**+0.4**
EKAR	**Karacoban**	**1.13**	**305**	*e*P	**Pg**	**03 46 28.8**	**-0.2**
EKAR				*e*S	**Sn**	**03 46 47.2**	**+3.8**
EKAR				IAML		03 46 52.4	
	comp=Z,12nm,0.4s						
SRTM	**Siirt_Merkez**	**1.23**	**240**	*i* P	**Pg**	**03 46 30.9**	**+0.1**
SRTM				*i* S	**Sg**	**03 46 49.1**	**+2.2**
SRTM	**Siirt_Merkez**	**1.23**	**240**	P	**Pg**	**03 46 30.9**	**+0.1**
SIRT	**Sirnak**	**1.29**	**210**	PN	**Pn**	**03 46 29.4**	**-1.0**
SIRT	**Sirnak**	**1.29**	**210**	*i* Pn	**Pn**	**03 46 29.4**	**-1.0**
EATA	**Eleskirt**	**1.38**	**335**	*e*P	**Pg**	**03 46 32.8**	**-0.9**
EATA				*e*S	**Sg**	**03 46 53.1**	**+1.4**
EATA				IAML		03 46 55.5	
	comp=Z,2.9nm,0.4s						
DIGO	**Kars**	**1.79**	**3**	*e*P	**Pb**	**03 46 39.8**	**+0.1**
ERZM	**Erzurum**	**1.95**	**312**	*e*P	**Pb**	**03 46 41.8**	**-0.5**

IDC 24 03:55:47.3±1.7, 10°.05S×124°.74E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.1/53, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=28.5km s-min=14.8km az=178.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.07**	**261**	Pg	Pb	03 56 08.5	-0.2
	17nm,0.3s,baz=168,slow=13,SNR=7.5						
BATI				Lg	Lg	03 56 22.2	
	36nm,0.3s,baz=45,slow=18,SNR=17						
FITZ	**Fitzroy Crossi**	**8.06**	**174**	Pn	Pn	03 57 44.2	-1.5
	0.2nm,0.3s,baz=355,slow=14,SNR=6.4						
FITZ				Sn	Sn	03 59 06.0	-11
	0.4nm,0.3s,baz=108,slow=6.4,SNR=4.7						
WRA	**Warramunga Arr**	**13.51**	**138**	Pn	Pn	03 59 01.9	+1.5
	0.1nm,0.3s,baz=313,slow=14,SNR=4.6						
WRA				Sn	Sn	04 01 25.2	-6.3
	0.1nm,0.3s,baz=317,slow=28,SNR=3.9						
ASAR	**Alice Springs**	**16.13**	**148**	Pn	Pn	03 59 36.0	+0.4
	0.2nm,0.3s,baz=319,slow=11,SNR=12						
MKAR	**Makanchi Array**	**68.08**	**330**	P	P	04 06 48.6	-0.2
	0.3nm,0.9s,baz=123,slow=7.1,SNR=3.0						

*ISK **24** 04:08:47.7, 40°.36N×25°.18E, h19km, ML2.4/4*
*ATH **24** 04:08:48.6, 40°.31N×25°.21E, h14km±6km, ML1.8/6, Error ellipse: s-maj=7.0km s-min=0.9km az=111.0*
*ISCJB **24** 04:08:48.1±0.4, 40°.31N±0'.02×25°.20E±0'.02, h9km±4km, Error ellipse: s-maj=4.1km s-min=3.0km az=172.1*
*THE **24** 04:08:48.6

KAVA				S	**Sb**	**04 09 16.9**	**+0.5**
RDO	**Rodhopi**	**0.86**	**17**	P	**Pg**	**04 09 04.8**	**-0.5**
RDO				S	**Sb**	**04 09 17.3**	**+0.9**
RDO				AML	AML	04 09 20.3	
	comp=N,76μm,0.2s						
RDO				AML	AML	04 09 20.4	
	comp=E,58μm,0.3s						
RDO	**Rodhopi**	**0.86**	**17**	P	**Pg**	**04 09 04.8**	**-0.5**
RDO				S	**Sb**	**04 09 17.2**	**+0.7**
RDO	**Rodhopi**	**0.86**	**17**	P	**Pg**	**04 09 04.8**	**-0.5**
RDO				S	**Sb**	**04 09 17.6**	**+1.1**
KVLA	**Kavala**	**0.88**	**315**	P	**Pn**	**04 09 07.3**	**+1.0**
KVLA	**Kavala**	**0.88**	**315**	P	**Pn**	**04 09 06.4**	**+0.1**
OUR	**Ouranopolis**	**0.94**	**271**	PG	**Pb**	**04 09 06.2**	**-0.3**
OUR				SG	**Sg**	**04 09 19.1**	**0.0**
OUR	**Ouranopolis**	**0.94**	**271**	P	**Pb**	**04 09 06.2**	**-0.3**
OUR				S	**Sg**	**04 09 19.4**	**+0.3**
OUR				AML	AML	04 09 21.5	
	comp=E,245μm,0.3s						
OUR				AML	AML	04 09 21.5	
	comp=N,296μm,0.2s						
OUR	**Ouranopolis**	**0.94**	**271**	P	**Pb**	**04 09 06.0**	**-0.5**
OUR				*e*Sg	**Sg**	**04 09 19.1**	**0.0**
OUR	**Ouranopolis**	**0.94**	**271**	P	**Pb**	**04 09 06.0**	**-0.5**
OUR				S	**Sb**	**04 09 18.9**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.97**	**85**	PG	**Pb**	**04 09 06.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.97**	**85**	*e*Pg	**Pb**	**04 09 06.9**	**-0.1**
ERIK	**Erikli-Kesan**	**1.05**	**70**	PG	**Pb**	**04 09 07.8**	**-0.6**
ERIK	**Erikli-Kesan**	**1.05**	**70**	*e*Pg	**Pb**	**04 09 07.8**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**1.18**	**119**	*i* P	**Pn**	**04 09 10.5**	**+0.1**
BAYC				*i* S	**Sn**	**04 09 26.3**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.18**	**119**	P	**Pn**	**04 09 10.5**	**+0.1**
BAYC				S	**Sn**	**04 09 26.3**	**+0.2**
LPK	**Lapseki**	**1.19**	**87**	PN	**Pn**	**04 09 09.3**	**-1.2**
LPK	**Lapseki**	**1.19**	**87**	*e*Pn	**Pn**	**04 09 09.3**	**-1.2**
SIGR	**SIGRI**	**1.21**	**156**	PN	**Pn**	**04 09 10.4**	**-0.5**
SIGR	**SIGRI**	**1.21**	**156**	*e*Pn	**Pn**	**04 09 10.4**	**-0.5**
KESN	**Edirne-Kesan**	**1.23**	**65**	*i* P	**Pg**	**04 09 12.2**	**-0.1**
KESN				*i* S	**Sb**	**04 09 27.8**	**+0.4**
KESN	**Edirne-Kesan**	**1.23**	**65**	P	**Pg**	**04 09 12.2**	**-0.1**
KESN				S	**Sb**	**04 09 27.8**	**+0.4**
PAIG	**Paliouri**	**1.24**	**252**	P	**Pn**	**04 09 09.6**	**-1.6**
PAIG	**Paliouri**	**1.24**	**252**	P	**Pn**	**04 09 10.7**	**-0.5**
PAIG	**Paliouri**	**1.24**	**252**	P	**Pn**	**04 09 10.3**	**-0.9**
SOH	**Sokhos**	**1.50**	**290**	P	**Pn**	**04 09 15.7**	**+0.8**
SOH	**Sokhos**	**1.50**	**290**	P	**Pb**	**04 09 16.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.54**	**76**	PN	**Pn**	**04 09 15.3**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.54**	**76**	*e*Pn	**Pn**	**04 09 15.3**	**-0.2**
SART	**Tekirdag**	**1.55**	**76**	*i* P	**Pn**	**04 09 14.5**	**-1.0**
SART				*i* S	**Sb**	**04 09 36.7**	**+0.4**
SART	**Tekirdag**	**1.55**	**76**	P	**Pn**	**04 09 14.5**	**-1.0**
SART				S	**Sb**	**04 09 36.7**	**+0.4**
KRBG	**Karabiga-Canak**	**1.60**	**87**	PN	**Pn**	**04 09 16.1**	**-0.1**
KRBG	**Karabiga-Canak**	**1.60**	**87**	*e*Pn	**Pn**	**04 09 16.1**	**-0.1**
HORT	**Hortiatis**	**1.63**	**280**	PN	**Pn**	**04 09 16.0**	**-0.8**
HORT	**Hortiatis**	**1.63**	**280**	*e*Pn	**Pn**	**04 09 16.0**	**-0.8**
EDRB	**Edirne**	**1.92**	**37**	PN	**Pn**	**04 09 20.2**	**-0.4**
EDRB	**Edirne**	**1.92**	**37**	*e*Pn	**Pn**	**04 09 20.2**	**-0.4**
KNT	**Kendrikon**	**1.95**	**296**	PN	**Pn**	**04 09 20.6**	**-0.4**
KNT	**Kendrikon**	**1.95**	**296**	*e*Pn	**Pn**	**04 09 20.6**	**-0.4**

WEL 24 04:09:38.5, 44°S±1°×17°3E±°, h11km±1km, ML3.9/24, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.14**	**238**	P	**Pb**	04 09 43.6	+0.5
CRLZ	**Canterbury Las**	**0.14**	**238**	S	**Sg**	04 09 46.3	+2.2
MQZ	**McQueen's Vall**	**0.22**	**205**	P	**Pb**	04 09 44.6	0.0
MQZ	**McQueen's Vall**	**0.22**	**205**	S	**Sg**	04 09 48.3	+1.9
EYCZ	**Eyrewell**	**0.32**	**284**	P	**Pb**	04 09 46.3	+0.1
OXZ	**Oxford**	**0.57**	**288**	P	**Pb**	04 09 50.8	+0.4
OXZ	**Oxford**	**0.57**	**288**	S	**Sb**	04 09 59.3	+0.7
LTZ	**Lake Taylor**	**0.81**	**332**	P	**Pn**	04 09 55.4	-0.4
LTZ	**Lake Taylor**	**0.81**	**332**	S	**Sn**	04 10 07.0	-0.9
KHZ	**Kahutara**	**1.22**	**27**	P	**Pn**	04 10 01.1	-0.3
INZ	**Inchbonnie**	**1.25**	**308**	P	**Pb**	04 10 02.3	+0.2
RPZ	**Rata Peaks**	**1.27**	**260**	P	**Pb**	04 10 02.5	0.0
WVZ	**Waitaha Valley**	**1.56**	**285**	P	**Pb**	04 10 07.2	0.0
THZ	**Tophouse**	**1.74**	**3**	P	**Pn**	04 10 08.8	+0.1
DSZ	**Denniston Nort**	**1.90**	**337**	P	**Pn**	04 10 11.8	+1.0
BSWZ	**Blackbirch Sta**	**1.96**	**25**	P	**Pn**	04 10 12.0	+0.4
LBZ	**Lake Benmore**	**2.07**	**244**	P	**Pn**	04 10 14.3	+1.1
FOZ	**Fox Glacier**	**2.16**	**268**	P	**Pb**	04 10 16.5	-1.1
ODZ	**Otahua Downs**	**2.18**	**224**	P	**Pn**	04 10 15.1	+0.6
TUWZ	**Tuamarina**	**2.24**	**23**	P	**Pn**	04 10 15.4	0.0
NNZ	**Nelson**	**2.33**	**11**	P	**Pn**	04 10 16.6	0.0
TCW	**Tory Channel**	**2.54**	**26**	P	**Pn**	04 10 20.1	+0.5
BHW	**Baring Head**	**2.60**	**37**	P	**Pn**	04 10 20.1	-0.3
PLWZ	**Palliser**	**2.66**	**44**	P	**Pn**	04 10 20.4	-0.8
QRZ	**Quartz Range**	**2.68**	**356**	P	**Pn**	04 10 22.6	+1.1
MSWZ	**Moikau Station**	**2.77**	**42**	P	**Pn**	04 10 21.7	-1.0
HHSZ	**Highcliff Hill**	**2.85**	**212**	P	**Pn**	04 10 24.2	+0.4
CAW	**Cannon Point**	**2.93**	**36**	P	**Pn**	04 10 24.4	-0.5
JCZ	**Jackson Bay**	**2.95**	**257**	P	**Pn**	04 10 27.6	+2.3
JCZ	**Jackson Bay**	**2.95**	**257**	P	**Pn**	04 10 27.6	+2.3
TRWZ	**Traveller**	**3.01**	**47**	P	**Pn**	04 10 25.0	-1.0
TRWZ	**Traveller**	**3.01**	**47**	P	**Pn**	04 10 25.0	-1.0
WKZ	**Wanaka**	**3.02**	**243**	P	**Pn**	04 10 27.0	+0.8
EAZ	**Earnscleugh**	**3.03**	**234**	P	**Pn**	04 10 26.9	+0.6
KIW	**Kapiti Island**	**3.08**	**32**	P	**Pn**	04 10 26.6	-0.4
MTW	**Mount Morrison**	**3.09**	**42**	P	**Pn**	04 10 26.1	-1.0
OGWZ	**Otaki Gorge**	**3.22**	**34**	P	**Pn**	04 10 28.3	-0.7
TMWZ	**Te Maipa**	**3.32**	**45**	P	**Pn**	04 10 30.6	+0.2
TUZ	**Tuapeka**	**3.33**	**221**	P	**Pn**	04 10 30.9	+0.6
MRZ	**Mangatainoka R**	**3.52**	**37**	P	**Pn**	04 10 32.0	-1.1
PRWZ	**Pori Road**	**3.78**	**40**	P	**Pn**	04 10 35.8	-0.8
BFZ	**Birch Farm**	**3.82**	**44**	P	**Pn**	04 10 35.8	-1.4
MLZ	**Mavora Lakes**	**3.83**	**239**	P	**Pn**	04 10 37.4	+0.2
SYZ	**Scrubby Hill**	**3.98**	**219**	P	**Pn**	04 10 40.6	+1.2
SYZ	**Scrubby Hill**	**3.98**	**219**	P	**Pn**	04 10 40.7	+1.3
DVHZ	**Dannevirke**	**4.08**	**39**	P	**Pn**	04 10 39.2	-1.5
ANWZ	**Angora Road**	**4.10**	**43**	P	**Pn**	04 10 41.5	+0.5
TSZ	**Takapari Road**	**4.18**	**36**	P	**Pn**	04 10 42.1	-0.1
WHZ	**Wether Hill Ro**	**4.20**	**234**	P	**Pn**	04 10 41.9	-0.4
PRHZ	**Porangahau**	**4.33**	**43**	P	**Pn**	04 10 43.0	-1.2
PNHZ	**Pukenui**	**4.40**	**37**	P	**Pn**	04 10 44.1	-1.2
VRZ	**Vera Road**	**4.62**	**19**	P	**Pn**	04 10 49.5	+1.4
KRHZ	**Kereru**	**4.70**	**36**	P	**Pn**	04 10 48.1	-1.2
BHHZ	**Black Hill Sta**	**4.71**	**33**	P	**Pn**	04 10 48.8	-0.6
WHVZ	**Whangaehu Hut**	**4.71**	**28**	P	**Pn**	04 10 51.1	+1.4
FWVZ	**Far West T-bar**	**4.73**	**27**	P	**Pn**	04 10 50.9	+1.1
APZ	**The Paps**	**4.75**	**224**	P	**Pn**	04 10 50.5	+0.5
COVZ	**Chateau Observ**	**4.77**	**27**	P	**Pn**	04 10 51.8	+1.4
WTVZ	**West Tongariro**	**4.87**	**27**	P	**Pn**	04 10 52.4	+0.7
HIZ	**Hauiti**	**5.22**	**18**	P	**Pn**	04 10 57.2	+0.7

MEX 24 04:11:55.1±0.9, 16°21N×98°34W, h1km±8km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.27**	**48**	*e*P	Pg	04 12 00.0	-0.3
PNIG				*e*S	Sg	04 12 04.5	+0.7
TLIG	**Tlapa**	**1.36**	**351**	*e*P	Pg	04 12 16.8	-4.5
TLIG				*i* S	Sg	04 12 35.6	-3.3
ACX	**Acapulco**	**1.60**	**294**	*e*P	Pn	04 12 14.1	-10
ACX				*i* S	Sn	04 12 34.5	-11
VHO	**Vista Hermosa**	**1.76**	**61**	*e*P	Pn	04 12 23.5	-3.4
VHO				*e*S	Sn	04 12 46.0	-4.0
CAIG	**El Cayaco**	**2.03**	**294**	*e*P	Pn	04 12 27.9	-2.6
CAIG				*i* S	Sn	04 12 52.3	-4.2
HUIG	**Huatulco**	**2.19**	**101**	*i* P	Pn	04 12 28.6	-4.0
HUIG				*i* S	Sn	04 12 56.0	-4.3

JMA 24 04:34:32.4±0.4, 33°48N×142°30E, h74km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.60**	**317**	P	Pn	04 34 59.2	+0.9
BSO1				*e*S	Sn	04 35 19.8	+1.7
BSO3	**Boso 3**	**1.98**	**312**	P	Pn	04 35 04.9	+1.2
JHJ2	**Mitsune**	**2.11**	**261**	P	Pn	04 35 06.4	+0.8
BSO4	**Boso 4**	**2.22**	**313**	P	Pn	04 35 08.5	+1.6
JOD2	**Odawara 2**	**3.20**	**305**	P	Pn	04 35 21.1	+0.8
JOD2				*e*S	Sn	04 35 59.0	+1.7
JHU	**Hanno**	**3.43**	**314**	P	Pn	04 35 24.7	+1.2
JHU				*e*S	Sn	04 36 05.6	+2.5
JYN	**Shimob**	**3.70**	**304**	P	Pn	04 35 29.1	+1.9
JYN				*e*S	Sn	04 36 10.3	+0.7
JAG	**Ashikaga**	**3.75**	**322**	P	Pn	04 35 29.1	+1.2
JRY	**Ryogami san**	**3.77**	**313**	P	Pn	04 35 30.6	+2.4
JFT	**Otama**	**4.34**	**339**	P	Pn	04 35 36.6	+0.8
JFT				*e*S	Sn	04 36 24.6	-0.5

MEX 24 04:36:42.1±0.6, 16°07N×98°22W, h5km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**16**	*i* P	Pg	04 36 48.2	-0.4
PNIG				*i* S	Sg	04 36 53.5	+0.4
TLIG	**Tlapa**	**1.52**	**348**	*e*P	Pn	04 37 06.2	-4.0
TLIG				*i* S	Sn	04 37 25.3	-5.1
VHO	**Vista Hermosa**	**1.74**	**55**	*e*P	Pn	04 37 09.9	-3.4
VHO				*e*S	Sn	04 37 31.8	-4.1
ACX	**Acapulco**	**1.76**	**297**	*e*P	Pn	04 37 06.2	-7.1
ACX				*i* S	Sn	04 37 28.9	-7.2
HUIG	**Huatulco**	**2.06**	**98**	*i* P	Pn	04 37 14.1	-3.3
HUIG				*i* S	Sn	04 37 38.3	-5.1
CAIG	**El Cayaco**	**2.19**	**297**	*i* P	Pn	04 37 16.3	-2.9
CAIG				*i* S	Sn	04 37 43.1	-3.6
PLIG	**Platanillo**	**2.61**	**332**	*e*P	Pn	04 37 22.2	-3.0
PLIG				*e*S	Sn	04 37 52.6	-4.7

IDC 24 04:37:32.9±3.1, 32°57S×178°28W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.9/39, mbtmp4.1/3, ML3.6/1, MS3.2/2, Ms1 3.1/2, ms1mx2.6/40, Error ellipse: s-maj=72.1km s-min=46.3km az=124.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.81**	**212**	Pn	Pn	04 39 13.4	-0.7
	1.2nm,0.3s,baz=293,slow=1.9,SNR=5.3						
URZ				Sn	Sn	04 40 28.4	-4.1
	2.0nm,0.3s,baz=30,slow=20,SNR=5.2						
PPT	**Papeete**	**29.86**	**67**	LR	LR	04 54 08.6	
	comp=Z,32nm,19.3s,baz=244,slow=33						
STKA	**Stephens Creek**	**33.82**	**260**	LR	LR	04 57 53.4	
	comp=Z,42nm,19.4s,baz=201,slow=36						
ASAR	**Alice Springs**	**42.80**	**269**	P	P	04 45 32.8	0.0
	2.2nm,0.6s,baz=112,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**43.99**	**275**	P	P	04 45 42.1	-0.1
	2.1nm,0.5s,baz=114,slow=7.8,SNR=31						
FINES	**FINESS Array B**	**147.08**	**339**	PKPbc	PKPbc	04 57 16.2	-0.8
	1.6nm,0.6s,baz=64,slow=2.8,SNR=5.8						

*IDC **24** 04:43:50.2±0.4, 20°.13S×14°.44E, h0km, mb4.6/30, mb1 4.7/33, mb1mx4.5/54, mbtmp4.6/33, ML3.1/3, MS4.2/23, Ms1 4.2/23, ms1mx4.0/54, Error ellipse: s-maj=12.7km s-min=11.8km az=120.0*

*MOS **24** 04:43:50.6±0.9, 20°.00S×14°.23E, h10km, mb4.9/57, Error ellipse: s-maj=16.4km s-min=5.2km az=85.4*

*GCMT **24** 04:43:51.7±0.3, 20°.19S×14°.46E, h17km±1km, MW5.0/71, Moment Tensor Solution. s27,c30; s71,c102; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.48±.21; Mθθ=0.12±.14; Mφφ=2.60±.17; Mrθ=1.05±.37; Mrφ=-1.84±.09; Mθφ=0.84±.35; Best double couple: M0=3.32700×10^16 NP1:φs=138.00000°, δs8.00000°, λ=-109.00000°. NP2: φs=351.00000°, δs37.00000°, λ=-62.00000°. Principal axes: T 3.7710, Plg11.0000°, Azm242.0000°; N -0.8880, Plg16.0000°, Azm149.0000°; P -2.8840, Plg70.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **24** 04:43:51.5±0.5, 20°.12S±0°.03×14°.43E±0°.03, h19km±3km, mb4.7/131, MS4.3/26 Error ellipse: s-maj=5.1km s-min=4.2km az=166.8*

*NEIC **24** 04:43:51.7±0.2, 20°.18S×14°.45E, h10km, mb4.8/52, Error ellipse: s-maj=6.3km s-min=4.8km az=72.0*

NEIC Felt [III] at Swakopmund. Also felt at Hentiesbaai and Walvis Bay.

*BUL **24** 04:43:55.8±1.0, 19°.71S×15°.67E, h0km±32km, MD5.0*

*NAM **24** 04:43:59.7±1.7, 20°.13S×15°.54E, h15km, MD4.0*

ISC 24 04:43:51.7±0.9, 20°.13S±0°.02×14°.48E±0°.02, h10km±5km, n329, σ1°37/347, mb4.9/131, MS4.3/26, 25C-17D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WP05	**e3371**	**0.41**	**182**	*i* P	**Pg**	**04 43 59.2**	**-0.7**
WP05	**e3371**	**0.41**	**182**	*i* S	**Sg**	**04 44 05.2**	**-0.2**
WP05	**e3371**	**0.41**	**182**	*i* P	**Pg**	**04 43 59.8**	**-0.1**
WP05				*i* Pg	**Pb**	**04 44 00.3**	**-0.9**
WP05				AMPG		04 44 00.3	
	412μm,0.2s						
WP05	**e3371**	**0.41**	**182**	*i* S	**Sg**	**04 44 05.4**	**0.0**
WP05				IAML		04 44 06.8	
WP05				*i* Sg	**Sb**	**04 44 07.1**	**-0.5**
WP05				AMSG		04 44 07.3	
	1456μm,0.2s						
WP06	**e3382**	**0.51**	**100**	*i* P	**Pg**	**04 44 01.4**	**-0.2**
WP06				*i* S	**Sg**	**04 44 09.0**	**+0.6**
WP06	**e3382**	**0.51**	**100**	*i* P	**Pg**	**04 44 01.8**	**+0.2**
WP06				AMPG		04 44 03.2	
	74μm,0.2s						
WP06				*i* Pg	**Pb**	**04 44 03.4**	**+0.5**
WP06				*i* S	**Sg**	**04 44 08.8**	**+0.5**
WP06				IAML		04 44 10.6	
	562μm,3.9s						
WP06				AMSG		04 44 11.3	
	486μm,0.6s						
WP06				*i* Sg	**Sb**	**04 44 11.5**	**+1.1**
WP22	**e3183**	**0.56**	**296**	*i* P	**Pg**	**04 44 02.0**	**-0.7**
WP22				*i* S	**Sg**	**04 44 09.0**	**-0.9**
WP22	**e3183**	**0.56**	**296**	*i* P	**Pg**	**04 44 01.9**	**-0.7**
WP22				AMPG		04 44 03.7	
	259μm,0.1s						
WP22				*i* Pg	**Pb**	**04 44 03.7**	**0.0**
WP22				*i* S	**Sg**	**04 44 08.9**	**-1.1**
WP22				IAML		04 44 10.6	
WP22				*i* Sg	**Sn**	**04 44 14.0**	**-1.3**
WP22				AMSG		04 44 14.2	
	799μm,0.4s						
WP21	**e3376**	**0.61**	**34**	*i* P	**Pg**	**04 44 02.6**	**-1.1**
WP21	**e3376**	**0.61**	**34**	*i* P	**Pg**	**04 44 03.5**	**-0.1**
WP21				AMPG		04 44 04.4	
	117μm,0.3s						
WP21				*i* Pg	**Pb**	**04 44 04.6**	**-0.1**
WP21	**e3376**	**0.61**	**34**	IAML		04 44 10.6	
	791μm,5.8s						
WP21				*i* S	**Sg**	**04 44 12.4**	**+0.7**
WP21				AMSG		04 44 14.6	
	326μm,0.3s						
WP21				*i* Sg	**Sb**	**04 44 14.8**	**+1.3**
KJAB	**KAMANJAB**	**0.61**	**34**	*i* P	**Pg**	**04 44 03.3**	**-0.4**
KJAB	**KAMANJAB**	**0.61**	**34**	*i* P	**Pg**	**04 44 03.4**	**-0.2**
KJAB	**KAMANJAB**	**0.61**	**34**	*i* P	**Pg**	**04 44 03.3**	**-0.4**
WP02	**e3380**	**1.17**	**180**	*i* P	**Pb**	**04 44 12.4**	**-1.8**
WP02				*i* S	**Sb**	**04 44 29.0**	**-0.4**
WP02	**e3380**	**1.17**	**180**	*i* P	**Pb**	**04 44 13.3**	**-0.9**
WP02				AMPG		04 44 18.3	
	49μm,0.4s						
WP02				*i* Pg	**Pn**	**04 44 18.5**	**+4.2**
WP02				*i* S	**Sb**	**04 44 29.4**	**0.0**
WP02				IAML		04 44 31.9	
WP02				*i* Sg	**Sn**	**04 44 36.3**	**+5.9**
WP02				AMSG		04 44 36.4	
	543μm,0.1s						
WP08	**e3372**	**1.44**	**280**	*i* P	**Pn**	**04 44 16.9**	**-1.0**
WP08				*i* S	**Sb**	**04 44 37.1**	**+0.1**
WP08	**e3372**	**1.44**	**280**	*i* P	**Pn**	**04 44 17.6**	**-0.3**
WP08				*i* Pg	**Pg**	**04 44 21.0**	**+1.7**
WP08				*i* S	**Sb**	**04 44 37.5**	**+0.5**
WP08				AMPG		04 44 39.8	
	323μm,0.1s						
WP08				*i* Sg	**Sg**	**04 44 40.0**	**+2.0**
WP08				IAML		04 44 44.5	
	389μm,1.9s						
I35NA	**TSUMEB INFRASO**	**3.06**	**73**	Pn	**Pn**	**04 44 40.2**	**-0.2**
	baz=254,slow=13						
I35NA				Pg	**Pb**	**04 44 47.9**	**+1.4**
	baz=235,slow=25,SNR=1.9						
I35NA				Lg	Lg	04 45 27.5	
	baz=236,slow=29						
TSUM	**Tsumeb**	**3.07**	**73**	Pn	**Pn**	**04 44 39.1**	**-1.3**
	91nm,0.3s,baz=104,slow=5.9,SNR=1276						
TSUM				Pg	**Pb**	**04 44 47.3**	**+0.8**
	656nm,0.3s,baz=232,slow=15,SNR=59						
TSUM				Lg	Lg	04 45 26.6	
	391nm,0.3s,baz=343,slow=7.3,SNR=9.5						
TSUM	**Tsumeb**	**3.07**	**73**	*e*P	**Pn**	**04 44 39.3**	**-1.2**
TSUM	**Tsumeb**	**3.07**	**73**	*e*Pn	**Pn**	**04 44 39.1**	**-1.3**
TSUM				*e*Pg	**Pb**	**04 44 48.1**	**+1.6**
TSUM				*e*Sn	**Sn**	**04 45 17.5**	**+0.2**
TSUM				*e*Sg	**Sb**	**04 45 27.1**	**+3.0**
WIN	**Windhoek**	**3.44**	**135**	*i* P	**Pn**	**04 44 46.3**	**+0.7**
WIN	**Windhoek**	**3.44**	**135**	*i* P	**Pn**	**04 44 46.7**	**+1.0**
WIN	**Windhoek**	**3.44**	**135**	*i* P	**Pn**	**04 44 46.3**	**+0.7**
ARMS	**Ukamas**	**9.22**	**150**	*i* P	Pn	04 45 58.6	-6.4
ARMS	**Ukamas**	**9.22**	**150**	*i* P	**Pn**	**04 46 06.3**	**+1.3**
ARMS	**Ukamas**	**9.22**	**150**	*i* P	Pn	04 45 58.6	-6.4
AUGR	**Augrabies**	**9.97**	**149**	*e*S	**Sn**	**04 48 12.0**	**+4.7**
AUGR				AML	AML	04 49 19.2	
	comp=Z,675nm,0.7s						
KOMG	**Komaggas**	**10.00**	**165**	*e*P	**Pn**	**04 46 17.2**	**+1.6**
KOMG				AML	AML	04 49 14.3	
	comp=Z,831nm,0.7s						
LBTB	**Lobatse**	**11.36**	**117**	Pn	**Pn**	**04 46 33.2**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=293,slow=13,SNR=33						
LBTB				Lg	Lg	04 49 41.7	
	comp=Z,25nm,0.3s,baz=202,slow=22,SNR=12						
LBTB	**Lobatse**	**11.36**	**117**	*e*P	**Pn**	**04 46 32.9**	**-1.4**
LBTB				*e*S	**Sn**	**04 48 38.5**	**-2.9**
LBTB				AML	AML	04 49 56.7	
	comp=Z,403nm,0.8s						
SWZ	**Schweizer**	**12.17**	**127**	*e*P	**Pn**	**04 46 42.7**	**-2.7**
CVNA	**Calvinia**	**12.26**	**158**	*e*P	**Pn**	**04 46 49.7**	**+3.1**
CVNA				*e*S	**Sn**	**04 49 01.9**	**-1.6**
CVNA				AML	AML	04 50 21.8	
	comp=Z,887nm,0.8s						
BOSA	**Boshof**	**12.94**	**133**	*i* P	**Pn**	**04 46 54.5**	**-1.6**
BOSA	**Boshof**	**12.94**	**133**	Pn	**Pn**	**04 46 54.4**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=310,slow=13,SNR=33						
BOSA				Lg	Lg	04 50 35.0	
	comp=Z,9.7nm,0.3s,baz=221,slow=22,SNR=6.1						
BOSA				LR	LR	04 52 14.3	
	comp=Z,2μm,19.8s,baz=306,slow=39						
BOSA	**Boshof**	**12.94**	**133**	*e*P	**Pn**	**04 46 54.6**	**-1.4**
BOSA	**Boshof**	**12.94**	**133**	*e*P	**Pn**	**04 46 55.2**	**-0.8**
BOSA	**Boshof**	**12.94**	**133**	*i* P	**Pn**	**04 46 54.5**	**-1.6**
SUR	**Sutherland**	**13.45**	**156**	Pn	**Pn**	**04 47 02.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=326,slow=16,SNR=12						
SUR				Lg	Lg	04 50 48.2	
	comp=Z,1.8nm,0.3s,baz=227,slow=24,SNR=15						
SUR	**Sutherland**	**13.45**	**156**	*e*P	**Pn**	**04 47 06.0**	**+3.0**
SUR	**Sutherland**	**13.45**	**156**	*e*Pn	**Pn**	**04 47 02.9**	**0.0**
SUR				Lg	Lg	04 50 48.2	
PRYS	**Parys**	**13.61**	**122**	*e*P	**P**	**04 47 10.8**	**-3.3**
LSZ	**Lusaka**	**13.92**	**72**	Pn	**Pn**	**04 47 05.5**	**-3.9**
	comp=Z,4.4nm,0.3s,baz=242,slow=9.5,SNR=34						
LSZ				Sn	Sn	04 49 33.8	-10
	comp=Z,9.3nm,0.3s,baz=268,slow=9.7,SNR=4.6						
LSZ				Lg	Lg	04 51 09.8	
	comp=Z,3.0nm,0.3s,baz=310,slow=21,SNR=3.8						
LSZ				LR	LR	04 51 47.3	
	comp=Z,851nm,18.4s,baz=246,slow=34						
LSZ	**Lusaka**	**13.92**	**72**	*e*P	**Pn**	**04 47 05.2**	**-4.2**
LSZ	**Lusaka**	**13.92**	**72**	*e*Pn	**Pn**	**04 47 05.2**	**-4.2**
LSZ				*e*Sn	**Sn**	**04 49 35.9**	**-8.4**
LSZ				*e*Lg	Lg	04 51 14.5	
MSNA	**Messina**	**14.66**	**101**	*e*P	**Pn**	**04 47 16.4**	**-3.0**
SOE	**Somerset East**	**15.97**	**144**	*e*P	**P**	**04 47 41.3**	**+1.0**
CNG	**Changalane**	**17.39**	**114**	*e*P	**P**	**04 47 59.5**	**+3.6**
ZOMB	**Zomba**	**20.42**	**80**	*i* P	**P**	**04 48 29.2**	**-0.3**
ZOMB	**Zomba**	**20.42**	**80**	*i* P	**P**	**04 48 29.2**	**-0.3**
MBAR	**Mbarara**	**25.09**	**41**	P	**P**	**04 49 18.0**	**+1.0**
	comp=Z,35nm,0.9s,baz=209,slow=9.2,SNR=18						
MBAR				Lg	Lg	04 56 51.2	
	comp=Z,4.8nm,0.4s,ba

FNA pmax pmax
comp=Z,6.0nm,0.7s
TIR Tirane 61.37 5⇑P P 04 54 09.1 +1.3
TIR Tirane 61.37 5⇑iP P 04 54 09.1 +1.3
TIR Tirane 61.37 5 eP P 04 54 08.8 +1.0
comp=Z,19nm,0.7s
PBEJ Beja 61.55 340 eP P 04 54 10.3 +1.2
comp=Z,23nm,1.7s
PAB San Pablo 61.92 344 eP P 04 54 12.6 +0.9
PAB pmax pmax
comp=Z,9.0nm,1.0s
PAB San Pablo 61.92 344 eP P 04 54 12.6 +0.9
comp=Z,9.3nm,1.0s
ESLA Sonseca Array 61.94 344 eP P 04 54 13.2 +1.4
comp=Z,8.8nm,1.0s
ESDC Sonseca Array 61.94 344 P P 04 54 12.2 +0.4
comp=Z,3.7nm,0.7s,baz=166,slow=6.5,SNR=27
ESDC LR LR 05 23 33.3
comp=Z,79nm,18.1s,baz=255,slow=38
ES19 SONSECA Array 61.95 344 eP P 04 54 12.2 +0.3
EVO Evora 62.05 340 eP P 04 54 13.1 +0.6
comp=Z,19nm,1.7s
BR231 Keskin MP Arra 62.06 16 eP P 04 54 14.3 +1.7
ANTO Ankara 62.09 16 eP P 04 54 13.7 +0.8
comp=Z,4.9nm,0.8s
BR131 Keskin Array S 62.17 17 eP P 04 54 14.0 +0.5
BRTR Keskin Array B 62.17 17 P P 04 54 13.9 +0.5
comp=Z,2.1nm,0.7s,baz=179,slow=9.5,SNR=10
BRTR Keskin Array B 62.17 17 P P 04 54 14.0 +0.5
AQU L'Aquila 62.18 359 eP P 04 54 13.6 +0.3
AQU pmax pmax
comp=Z,17nm,0.8s
AQU L'Aquila 62.18 359 eP P 04 54 13.6 +0.3
comp=Z,17nm,0.8s
PESTR Estremoz 62.23 341 eP P 04 54 14.7 +1.0
comp=Z,26nm,2.2s
PESTR Estremoz 62.23 341 eP P 04 54 14.8 +1.1
comp=Z,8.0nm,0.9s
PDG Podgorica 62.40 4⇓iP P 04 54 15.6 +0.8
TTG Podgorica 62.40 4 eP P 04 54 15.5 +0.8
TTG pmax pmax
comp=Z,5.0nm,1.0s
TTG Podgorica 62.40 4 eP P 04 54 15.5 +0.8
comp=Z,4.7nm,1.0s
PGF Pioggiola 62.57 355 eP P 04 54 18.1 +2.1
PGF pmax pmax
comp=Z,22nm,0.9s
PMTG Montargil 62.61 340 eP P 04 54 17.4 +1.2
comp=Z,28nm,1.6s
PMRV Marv??o 62.68 341 eP P 04 54 18.1 +1.4
comp=Z,41nm,1.5s
ALMR Almeirim 62.80 340 eP P 04 54 19.3 +1.8
comp=Z,61nm,1.0s
VTS Vitosha 62.92 7⇑P P 04 54 19.3 +0.8
VTS Vitosha 62.92 7⇑iP P 04 54 19.3 +0.8
VTS Vitosha 62.92 7 eP P 04 54 18.9 +0.4
comp=Z,4.4nm,0.9s
PCBR Castelo Branco 63.08 341 eP P 04 54 20.1 +0.7
comp=Z,29nm,1.4s
PCAS Casmilo, Conde 63.59 340 eP P 04 54 23.4 +0.6
comp=Z,42nm,1.9s
MTE Manteigas 63.62 341 eP P 04 54 23.9 +0.9
comp=Z,37nm,1.2s
MTE Manteigas 63.62 341 eP P 04 54 23.4 +0.4
comp=Z,16nm,0.8s
FRF La Foret Royal 63.78 354 eP P 04 54 23.6 -0.3
FRF pmax pmax
comp=Z,9.0nm,1.0s
SBF Sospel 64.00 354 eP P 04 54 24.9 -0.6
SBF pmax pmax
comp=Z,12nm,0.6s
PVIS Viseu 64.01 341 eP P 04 54 26.4 +0.8
comp=Z,29nm,2.1s
VLC Villacollemand 64.08 357 eP P 04 54 27.0 +1.0
comp=Z,6.9nm,1.0s
DIVS Divibare 64.11 4 eP P 04 54 27.1 +0.9
comp=Z,4.6nm,0.9s
MVO Moncorvo 64.17 342 eP P 04 54 27.7 +1.1
comp=Z,40nm,1.8s
EPF Esparros 64.18 349 eP P 04 54 27.4 +0.8
EPF pmax pmax
comp=Z,9.0nm,1.0s
PVRL Vila Real 64.47 342 eP P 04 54 29.7 +1.1
comp=Z,28nm,2.1s
PCAB Cabril 64.96 342 eP P 04 54 31.0 -0.8
comp=Z,44nm,2.0s
ORIF Oris-en-Rattie 65.21 353 eP P 04 54 33.5 +0.1
ORIF pmax pmax
comp=Z,5.0nm,0.6s
BNI Bardonecchia 65.25 354 eP P 04 54 33.9 +0.2
BNI pmax pmax
comp=Z,5.0nm,0.9s
BNI Bardonecchia 65.25 354 eP P 04 54 33.9 +0.2
comp=Z,4.8nm,0.9s
PGAV Gavieira, Arco 65.27 341 eP P 04 54 35.6 +1.8
comp=Z,37nm,1.7s
BOJS Bojanci 65.32 1 eP P 04 54 34.0 0.0
CPUP Villa Florida 65.53 250 P P 04 54 36.9 +1.0
comp=Z,1.7nm,0.8s,baz=116,slow=5.3,SNR=4.9
CPUP LR LR 05 19 15.8
comp=Z,44nm,18.8s,baz=116,slow=32
VISS Visnje 65.62 0 iP P 04 54 36.0 +0.1
LPG La Plagne 65.69 354 eP P 04 54 37.0 +0.3
LPG pmax pmax
comp=Z,9.0nm,0.6s
JAVS Javornik 65.71 360 iP P 04 54 36.3 -0.3
LPL La Plagne 65.71 354 eP P 04 54 37.0 +0.2
LPL pmax pmax
comp=Z,8.0nm,0.6s
SSB Saint Sauveur 65.72 352 eP P 04 54 36.6 0.0
SSB pmax pmax
comp=Z,6.0nm,0.7s
SSB Saint Sauveur 65.72 352 eP P 04 54 36.6 0.0
comp=Z,5.5nm,0.7s
CAF Calviac 65.72 350 eP P 04 54 36.3 -0.3
CAF pmax pmax
comp=Z,6.0nm,0.7s
BZS Buzias 65.75 5⇓P P 04 54 37.5 +0.8
BZS Buzias 65.75 5⇓iP P 04 54 37.5 +0.8
LOT Lotru 65.81 7⇓iP P 04 54 38.2 +0.9
VOIR 65.96 8⇓P P 04 54 38.3 +0.1
VOIR 65.96 8⇓iP P 04 54 38.3 +0.1
MLR Muntele Rosu 66.13 9 P P 04 54 39.7 +0.4
comp=Z,1.5nm,0.7s,baz=70,slow=7.9,SNR=18
MLR Muntele Rosu 66.13 9⇓iP P 04 54 39.8 +0.4
MLR Muntele Rosu 66.13 9 eP P 04 54 39.4 0.0
comp=Z,8.4nm,0.8s
RJF Les Rejaudoux 66.18 350 eP P 04 54 39.0 -0.5
RJF pmax pmax
comp=Z,11nm,1.1s
GNI Garni 66.27 25⇑eP P 04 54 42.5 +2.1
GNI pmax pmax
comp=Z,43nm,2.2s
GNI Garni 66.27 25 eP P 04 54 41.4 +1.0
comp=Z,9.7nm,1.3s
OBKA Obir 66.32 0 iP P 04 54 41.0 +0.5
comp=Z,2.5nm,0.7s
MYKA Terra Mystica 66.45 359 eP P 04 54 41.6 +0.3
comp=Z,2.2nm,0.5s
TUE Stuetta 66.45 356 eP P 04 54 42.5 +1.1
comp=Z,4.7nm,0.7s
PERS Pernice 66.45 0 iP P 04 54 43.5 +2.2
SOKA Soboth 66.49 0 eP P 04 54 42.3 +0.7
comp=Z,8.3nm,1.1s,SNR=8.3
SENIN Lac Senin/Sane 66.50 355 eP P 04 54 41.5 -0.2
comp=Z,14nm,0.7s
FUORN Ofenpass-Fuorn 66.54 357 eP P 04 54 42.2 +0.1
comp=Z,9.4nm,0.6s
ABTA Abfaltersbach 66.58 359 eP P 04 54 43.2 +1.0
comp=Z,3.2nm,0.6s
PLOR Plostina 66.59 9⇑P P 04 54 42.7 +0.5
PLOR Plostina 66.59 9⇑iP P 04 54 42.7 +0.5
VRI Vrincioaia 66.62 9⇑P P 04 54 42.3 0.0
VRI Vrincioaia 66.62 9⇑iP P 04 54 42.3 0.0
KBA Koelnbreinsper 66.90 359 P P 04 54 45.5 +1.2
KBA pmax pmax
comp=Z,22nm,1.1s
KBA Koelnbreinsper 66.90 359 eP P 04 54 44.7 +0.4
comp=Z,9.4nm,0.6s,SNR=12
FETA Feichten 66.92 357 eP P 04 54 44.8 +0.4
comp=Z,3.9nm,0.7s
DRGR 67.02 6⇓P P 04 54 45.5 +0.6
DRGR 67.02 6⇓iP P 04 54 45.5 +0.6
WTTA Wattenberg 67.13 358 eP P 04 54 45.5 -0.3
comp=Z,6.4nm,0.5s
WATA Walderalm 67.20 358 eP P 04 54 45.8 -0.3
comp=Z,6.6nm,0.7s
BGF Bois d'Agland 67.20 351 eP P 04 54 45.5 -0.5
BGF pmax pmax
comp=Z,7.0nm,0.7s
MOTA Moosalm 67.23 358 eP P 04 54 45.8 -0.6
comp=Z,4.5nm,0.9s
DAVA Damuels 67.23 357 eP P 04 54 45.8 -0.6
comp=Z,4.7nm,0.5s,SNR=5.9
AVF Avril sur Loir 67.36 352 eP P 04 54 46.4 -0.6
AVF pmax pmax
comp=Z,7.0nm,0.7s
RETA Reutte 67.38 357 iP P 04 54 46.6 -0.6
comp=Z,6.7nm,0.5s,SNR=5.3
TRQA Tornquist 67.44 236 eP P 04 54 47.2 -0.7
TRQA pmax pmax
comp=Z,7.0nm,1.2s
TRQA Tornquist 67.44 236 eP P 04 54 47.2 -0.7
comp=Z,6.7nm,1.2s
MOA Molln 67.66 360 eP P 04 54 48.9 0.0
comp=Z,10nm,0.5s,SNR=14
CONA Conrad Observa 67.75 1 eP P 04 54 50.3 +0.7
comp=Z,7.4nm,1.2s
PSZ Piszkesteto 67.91 4⇑P P 04 54 50.1 -0.4
PSZ Piszkesteto 67.91 4⇑iP P 04 54 50.1 -0.4
PSZ Piszkesteto 67.91 4 eP P 04 54 50.0 -0.6
comp=Z,3.0nm,0.7s
HINF Hinteralfeld 67.98 354 eP P 04 54 49.8 -1.1
HINF pmax pmax
comp=Z,5.0nm,0.7s
KIS Kishinev 68.06 11 eP P 04 54 50.0 -1.4
KIS Kishinev 68.06 11 eP P 04 54 50.0 -1.4
BURAR Bucovina Array 68.12 8⇓P P 04 54 53.5 +1.6
BURAR Bucovina Array 68.12 8⇓iP P 04 54 53.5 +1.6
BUR04 Bucovina Ar. S 68.12 8 eP P 04 54 52.5 +0.6
BUR08 Bucovina Ar. S 68.14 8 eP P 04 54 53.5 +1.4
ECH Echery 68.35 355 eP P 04 54 53.1 -0.1
comp=Z,6.0nm,0.9s
BFO Black Forest 68.37 356 eP P 04 54 52.5 -0.8
BFO pmax pmax
comp=Z,21nm,1.7s
BFO Black Forest 68.37 356 eP P 04 54 52.5 -0.8
comp=Z,20nm,1.7s
VYHS Vyhne 68.42 3 eP P 04 54 53.7 0.0
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 68.42 3 eP P 04 54 53.7 0.0
CDF Champ du Feu 68.53 355 eP P 04 54 53.2 -1.3
CDF pmax pmax
comp=Z,4.0nm,0.8s
GEA0 GERESS Array S 68.66 359 eP P 04 54 54.6 -0.6
GEC2 GERESS Array S 68.66 359 eP P 04 54 55.4 +0.1
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 68.66 359 eP P 04 54 55.4 +0.1
comp=Z,3.6nm,0.8s
GERES GERESS Array B 68.66 359 P P 04 54 55.2 -0.1
comp=Z,1.9nm,0.6s,baz=177,slow=4.2,SNR=27
KBZ Khabaz 68.69 22 P P 04 54 56.7 +1.4
comp=Z,4.4nm,0.8s,baz=203,slow=4.4,SNR=11
STU Stuttgart 68.75 356 eP P 04 54 55.4 -0.3
STU pmax pmax
comp=Z,10.0nm,0.6s
STU Stuttgart 68.75 356 eP P 04 54 55.4 -0.3
comp=Z,10nm,0.6s
UZH Uzhgorod 68.80 6 eP P 04 54 56.8 +0.8
UZH e 04 55 01.8
KIV Kislovodsk 68.81 21 eP P 04 54 57.3 +1.0
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 68.81 21 eP P 04 54 56.6 +0.2
KHC Kasperske Hory 68.95 359 eP P 04 54 56.9 -0.1
KHC pmax pmax
comp=Z,1.0nm,1.1s
KHC Kasperske Hory 68.95 359 eP P 04 54 56.5 -0.5
KHC AMS AMS 05 27 20.0
comp=Z,300nm,18.0s
KHC Kasperske Hory 68.95 359 eP P 04 54 56.9 -0.1
comp=Z,1.4nm,1.1s
CRVS Cervenica-Dubn 69.00 5 eP P 04 54 57.8 +0.5
CRVS Cervenica-Dubn 69.00 5 eP P 04 54 57.8 +0.5
SORM Soroca 69.08 10⇓P P 04 54 57.2 -0.5
SORM Soroca 69.08 10⇓iP P 04 54 57.2 -0.5
LANS Liptovska Anna 69.11 4 eP P 04 54 59.3 +1.3
LANS Liptovska Anna 69.11 4 eP P 04 54 59.3 +1.3
QUIF Quistinic 69.56 347 eP P 04 55 00.3 -0.4
GRFO Grafenberg 69.57 358 eP P 04 55 00.9 +0.1
comp=Z,9.8nm,0.8s
GRF Grafenberg Arr 69.57 358 eP P 04 55 00.8 0.0
GRF pmax pmax
comp=Z,11nm,0.8s
GRR Gorron 69.57 349 eP P 04 55 01.0 +0.2
GRR pmax pmax
comp=Z,7.0nm,0.7s
MORC Moravsky Berou 69.65 2 eP P 04 55 00.7 -0.6
MORC pmax pmax
comp=Z,25nm,1.2s
MORC Moravsky Berou 69.65 2⇑iP P 04 55 01.6 +0.3
MORC Moravsky Berou 69.65 2 eP P 04 55 00.7 -0.6
comp=Z,25nm,1.2s
MAK Makhachkala 69.75 25 eP P 04 54 58.5 -3.5
MAK eS S 05 04 07.9 -3.2
MAK pmax pmax
comp=Z,24nm,0.3s
MAK MLR MLR
comp=Z,344nm,15.0s
PRU Pruhonice 69.81 0 eP P 04 55 02.3 +0.1
PRU MLR MLR
comp=Z,300nm,18.2s
PRU Pruhonice 69.81 0 eP P 04 55 02.3 +0.1
PRU AMS AMS 05 28 00.0
comp=Z,300nm,18.2s
FLN La Foliniere 69.87 350 eP P 04 55 01.6 -1.0
FLN pmax pmax
comp=Z,43nm,1.8s
WLF Walferdange 69.87 354 ⇑P P 04 55 04.0 +1.4
WLF Walferdange 69.87 354 eP P 04 55 02.5 -0.2
WLF pmax pmax
comp=Z,8.0nm,0.7s
WLF Walferdange 69.87 354 eP P 04 55 02.5 -0.2
comp=Z,7.7nm,0.7s
QSPA South Pole Qui 70.04 180 P P 04 55 04.2 +0.5
comp=Z,7.0nm,0.6s,baz=252,slow=2.8,SNR=26
QSPA LR LR 05 23 05.1
comp=Z,192nm,18.2s,baz=228,slow=34
QSPA South Pole Qui 70.04 180 eP P 04 55 04.0 +0.2
OJC Ojcow 70.19 4 eP P 04 55 03.1 -1.5
OJC pmax pmax
comp=Z,4.0nm,0.7s
OJC Ojcow 70.19 4 eP P 04 55 03.1 -1.5
comp=Z,4.1nm,0.7s
DOU Dourbes 70.46 353 ⇓P P 04 55 05.7 -0.5
BAIF Baives 70.47 353 eP P 04 55 05.4 -0.8
PALK Pallekele 70.56 74 eP P 04 55 07.9 +0.2
PALK pmax pmax
comp=Z,5.0nm,0.8s
PALK Pallekele 70.56 74 eP P 04 55 07.9 +0.2
comp=Z,5.0nm,0.8s
BCLA Clavier 70.70 354 ⇑P P 04 55 07.7 0.0
comp=Z,12nm,2.2s
MEM Membach 70.82 354 ⇑P P 04 55 08.9 +0.5
GEYT Alibeck 70.83 35 P P 04 55 09.5 +0.6
comp=Z,3.7nm,0.7s,baz=255,slow=5.8,SNR=5.3
SNF Seneffe 70.90 353 ⇑P P 04 55 08.8 -0.1
CLL Collm 71.14 359 eS S 05 04 31.0 +4.1
CLL eSSSS 05 14 06.0
CLL LmH 05 25 00.0
comp=Z,200nm,20.7s
KIEV Kiev 71.70 10⇑iP P 04 55 13.1 -0.6
KIEV pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 71.70 10 eP P 04 55 13.2 -0.6
comp=Z,3.7nm,0.7s
AKASG Malin Array Be 71.71 10 P P 04 55 13.1 -0.7
comp=Z,3.4nm,0.7s,baz=197,slow=6.2,SNR=16
AKBB Malin Array Si 71.71 10 eP P 04 55 13.3 -0.5
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 71.71 10 eP P 04 55 13.2 -0.5
comp=Z,4.0nm,0.8s
PLCA Paso Flores 73.49 232 LR LR 05 23 04.0
comp=Z,65nm,18.8s,baz=146,slow=32
VSR Storozhevoye 74.28 16 eP P 04 55 27.8 -1.2
VSR pmax pmax
comp=Z,6.0nm,0.5s
VRH Novokhopyorsk 74.95 17 eP P 04 55 31.6 -1.3
VRH pmax pmax
comp=Z,7.0nm,0.5s
SAML Samuel 75.45 266 eP P 04 55 36.1 -0.6
SAML pmax pmax
comp=Z,5.0nm,0.9s
SAML Samuel 75.45 266 eP P 04 55 36.1 -0.6
comp=Z,4.6nm,0.9s
LPSR Galich'ya Gora 75.48 15 eP P 04 55 38.1 +2.2
LPSR pmax pmax
comp=Z,9.0nm,0.7s
LCO Las Campanas 76.46 244 eP P 04 55 41.9 -0.7
LCO pmax pmax
comp=Z,8.0nm,0.8s
LCO Las Campanas 76.46 244 eP P 04 55 41.9 -0.7
comp=Z,8.3nm,0.8s
ESK Eskdalemuir 76.64 350 eP P 04 55 41.9 -0.6
ESK pmax pmax
comp=Z,8.0nm,0.8s
ESK Eskdalemuir 76.64 350 eP P 04 55 41.9 -0.6
comp=Z,7.9nm,0.8s
EKA Eskdalemuir Ar 76.65 350 P P 04 55 42.0 -0.5
comp=Z,5.4nm,0.6s,baz=162,slow=7.2,SNR=34
OBN Obninsk 77.28 13 iP P 04 55 48.4 +2.4
OBN i 04 56 02.6
OBN i 04 58 38.9
OBN pmax pmax
comp=Z,5.0nm,0.7s
LPAZ La Paz 77.80 257 P P 04 55 49.3 -1.3
comp=Z,2.4nm,0.8s,baz=107,slow=8.8,SNR=6.9
LPAZ LR LR 05 28 29.3
comp=Z,59nm,18.1s,baz=108,slow=34
LPAZ La Paz 77.80 257 eP P 04 55 49.4 -1.3
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
LPAZ La Paz 77.80 257 eP P 04 55 49.4 -1.3
comp=Z,4.4nm,1.0s
VSU Vasula 78.95 7⇓eP P 04 55 55.3 +0.1
VSU pmax pmax
comp=Z,12nm,0.4s
KONO Kongsberg 79.59 357⇑eP P 04 55 58.6 -0.1
HFS Hogfore 79.97 360 P P 04 56 00.3 -0.5
comp=Z,2.9nm,0.7s,baz=157,slow=4.7,SNR=13
ABKAR Akbulak array 80.02 28 eP P 04 56 00.6 -0.7
VNDA Vanda 80.69 173 P P 04 56 05.3 +0.6
comp=Z,2.2nm,0.7s,baz=247,slow=6.2,SNR=9.6
VNDA LR LR 05 30 35.6
comp=Z,194nm,18.8s,baz=209,slow=35
NB2 NORSAR Subarra 80.92 358 P P 04 56 05.5 -0.5
comp=Z,2.8nm,0.7s,baz=177,slow=5.6
NOA NORSAR Array B 80.92 358 P P 04 56 05.9 -0.1
comp=Z,2.3nm,0.7s,baz=180,slow=6.6,SNR=14
KKAR Karatay Array 81.28 38 eP P 04 56 09.0 +0.7
KKAR Karatay Array 81.28 38 eP P 04 56 09.0 +0.7
FINES FINESS Array B 81.82 6 P P 04 56 10.9 +0.3
comp=Z,5.1nm,0.7s,baz=178,slow=5.5,SNR=23
FINES FINESS Array B 81.82 6 iP P 04 56 10.8 +0.2
FINES pmax pmax
comp=Z,5.0nm,0.7s
FIA1 FINESS Array S 81.82 6 eP P 04 56 11.1 +0.4
comp=Z,18nm,1.4s
KSH Kashi 82.53 43 eP P 04 56 15.8 +0.7
SUF Sumiainen 83.08 5 P P 04 56 18.9 +1.7
SUF pmax pmax
comp=Z,12nm,1.4s
VAF Ylistaro 83.14 4 P P 04 56 19.5 +2.0
VAF pmax pmax
comp=Z,14nm,1.0s
KLMR Klimovskoe 83.20 12 eP P 04 56 16.8 -1.0
KLMR pmax pmax
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 83.20 12 eP P 04 56 16.9 -0.9
KLMR AMP 04 56 19.2
comp=Z,4.0nm,0.9s
AAK Ala-Archa 83.36 40 P P 04 56 20.8 +1.5
comp=Z,2.4nm,0.6s,baz=211,slow=2.7,SNR=8.6
AAK Ala-Archa 83.36 40⇓eP P 04 56 20.6 +1.2
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 83.36 40 eP P 04 56 20.9 +1.5
comp=Z,3.0nm,0.8s
KDJ Kajisay 84.72 42 P P 04 56 27.6 +1.2
ARU Arti 84.81 23 P P 04 56 26.9 +0.7
comp=Z,3.9nm,0.6s,baz=270,slow=13,SNR=5.5
ARU Arti 84.81 23c iP P 04 56 26.8 +0.7
ARU 04 59 39.4
ARU S S 05 06 51.0 -3.1
ARU pmax pmax
comp=Z,18nm,2.5s
ARU Arti 84.81 23 eP P 04 56 26.2 0.0
comp=Z,5.3nm,0.8s
BRVK Borovoye 87.36 30⇑eP P 04 56 39.5 +0.6
BRVK pmax pmax
comp=Z,4.0nm,1.4s
BVAR Borovoye Array 87.39 30 P P 04 56 39.0 -0.1
comp=Z,1.0nm,0.6s,baz=243,slow=0.7,SNR=6.7
BVAR Borovoye Array 87.39 30 P P 04 56 39.0 -0.1
SDV Santo Domingo 88.48 280 P P 04 56 44.9 -0.4
comp=Z,3.5nm,0.8s,baz=337,slow=13,SNR=5.3
SDV LR LR 05 33 53.0
comp=Z,126nm,18.6s,baz=133,slow=34
ARCES ARCESS Array B 89.76 4 P P 04 56 49.2 -0.7
comp=Z,3.7nm,0.7s,baz=197,slow=3.8,SNR=12
MAKZ Makanchi 90.09 39 eP P 04 56 52.5 +0.5
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
MAKZ Makanchi 90.09 39 eP P 04 56 52.5 +0.5
comp=Z,1.9nm,0.9s
KURBB Kurchatov Arra 90.10 35 P P 04 56 52.0 +0.1
comp=Z,0.9nm,0.7s,baz=245,slow=5.6,SNR=7.8
KURK Kurchatov 90.20 35⇑eP P 04 56 53.7 +1.4
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURK Kurchatov 90.20 35 eP P 04 56 53.1 +0.8
comp=Z,11nm,0.8s
MK31 Makanchi Array 90.27 40 eP P 04 56 53.5 +0.7
MK31 Makanchi Array 90.27 40 eP P 04 56 53.5 +0.7
MKAR Makanchi Array 90.27 40 P P 04 56 52.8 -0.1
comp=Z,0.6nm,0.7s,baz=232,slow=5.7,SNR=6.2
MKAR Makanchi Array 90.27 40 eP P 04 56 53.5 +0.7
ROSC El Rosal 90.52 275 LR LR 05 35 09.8
comp=Z,302nm,18.8s,baz=166,slow=34
LEM Lembang 90.61 97 LR LR 05 33 42.8
comp=Z,100nm,19.7s,baz=238,slow=33
CMAR Chiang Mai Arr 91.24 71 LR LR 05 36 00.5
comp=Z,68nm,18.6s,baz=258,slow=34
WMQ Urumqi 92.27 44 P P 04 57 02.8 +0.6
WMQ pP sP 04 57 07.5 +0.9
WMQ sP pP 04 57 09.8 +4.4
WMQ LR LR
comp=Z,310nm,27.9s
JMIC Jan Mayen 92.28 353 LR LR 05 42 40.8
comp=Z,63nm,18.3s,baz=236,slow=38
GTA Gaotai 99.04 51 eP Pdif 04 57 36.3 +3.0
GTA pP sP 04 57 43.3 +5.7
LZH Lanzhou 101.08 56 eP Pdif 04 57 43.8 +1.3
LZH pP sPdif 04 57 50.3 +3.5
LZH ePP PP **05 01 58.8 +7.4**
LZH LR LR
comp=Z,250nm,18.4s
ULM Lac du Bonnet 118.17 317 PKP PKPdf 05 02 38.2 -0.8
comp=Z,0.9nm,0.6s,baz=76,slow=4.0,SNR=4.6
URZ Urewera 119.67 164 PKP PKPdf 05 02 41.3 -1.2
comp=Z,6.1nm,0.7s,baz=0.0,slow=1.0,SNR=4.1
TXAR Lajitas Array 123.63 292 PKP PKPdf 05 02 50.1 -0.2
comp=Z,0.7nm,0.6s,baz=127,slow=3.6,SNR=12
YKA Yellowknife Ar 125.31 334 PKP PKPdf 05 02 51.6 -0.8
comp=Z,1.9nm,0.7s,baz=53,slow=1.7,SNR=43
ANMO Albuquerque 126.30 299⇓iPKIKP PKPdf 05 02 56.1 +0.7
INK Inuvik 127.87 346 PKP PKPdf 05 02 56.5 -0.6
comp=Z,0.8nm,0.8s,baz=1.4,slow=5.5,SNR=4.0
MVCO Mesa Verde 127.91 302 ePKPdf PKPdf 05 02 58.3 -0.2
PDAR Pinedale Array 128.23 309 PKP PKPdf 05 02 58.2 -0.7
comp=Z,1.7nm,0.6s,baz=102,slow=3.8,SNR=18
HRY Holter Researc 129.13 314 ePKPdf PKPdf 05 03 01.4 +1.0
QLMT Earthquake Lak 129.24 312 ePKPdf PKPdf 05 03 02.2 +1.4
TMUT Trail Mountain 129.88 305 ePKPdf PKPdf 05 03 01.7 -0.6
ILAR Eielson Array 133.69 349 PKHKP PKPpre 05 03 00.7
comp=Z,0.2nm,0.6s,baz=340,slow=4.1,SNR=3.3
ILAR PKP **PKPdf 05 03 08.1 -0.2**
comp=Z,0.9nm,0.7s,baz=335,slow=3.1,SNR=13
COLA College 133.76 350 ePKIKP PKPdf 05 03 08.2 -0.2
COLA College 133.76 350 ePKPdf PKPdf 05 03 08.2 -0.2
NVAR Mina Array Bea 135.48 305 PKhKP PKPpre 05 03 04.2
comp=Z,0.2nm,0.4s,baz=54,slow=3.6,SNR=2.1
NVAR PKP **PKPdf 05 03 13.2 +0.4**
comp=Z,0.5nm,0.6s,baz=97,slow=2.3,SNR=4.3

NIED **24** *05:14:00.3, 35.70N×141.00E, h20km, Mw3.7 Best double couple: M₀4.00000×10¹⁴ NP1:φ₈174.00000°, δ40.00000°, λ-81.00000°. NP2:φ₈342.00000°, δ50.00000°, λ-97.00000°.*

IDC **24** *05:14:02.0±1.3, 35.66N×140.92E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/68, mbtmp3.5/6, ML3.4/2, MS3.4/2, Ms1 3.5/2, ms1mx2.6/57, Error ellipse: s-maj=30.4km s-min=25.8km az=83.0*

ISCJB **24** *05:14:03.1±1.1, 35.72N±0.04×141.0E±0.1, h20km±6km, mb3.6/4, MS4.0/1, Error ellipse: s-maj=15.8km s-min=6.4km az=176.0*

JMA **24** *05:14:03.9±0.1, 35.71N×140.93E, h14km±1km, M3.9*

JMA Felt II J1.

ISC 24 05:14:04.1±0.9, 35.70N±0.05×140.86E±0.07, h16km±5km, n20, σ0.85/17, mb3.6/4, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CHOJ	**Chosi**	**0.00**	**72**	⇓P		**Pg**	**05 14 06.7**	**-0.1**
CHOJ				S		**Sg**	**05 14 08.7**	**0.0**
JYT	**Yasato**	**0.75**	**315**	⇑P		**Pg**	**05 14 18.6**	**-0.2**
JYT				S		**Sg**	**05 14 29.5**	**+0.8**
BSO4	**Boso 4**	**0.83**	**211**	⇓P		**Pn**	**05 14 21.0**	**0.0**
JHO	**Hitachi**	**0.94**	**346**	P		**Pg**	**05 14 21.6**	**-0.7**
JHO				S		**Sg**	**05 14 34.3**	**-0.3**
BSO3	**Boso 3**	**0.94**	**198**	P		**Pn**	**05 14 22.0**	**-0.4**
BSO3				S		**Sn**	**05 14 35.0**	**-0.4**
MJAR	**Matsushiro Arr**	**2.30**	**292**	Pn		**Pn**	**05 14 41.6**	**+0.2**
	6.6nm,0.3s,baz=106,slow=6.4,SNR=31							
MAT	**Matsushiro**	**2.30**	**292**	P		**Pn**	**05 14 42.1**	**+0.7**
MAT				*e*S		**Sn**	**05 15 07.1**	**-2.4**
ASAJ	**Asahikawa**	**8.51**	**9**	Pn		**Pn**	**05 16 07.0**	**+0.3**
	0.7nm,0.3s,baz=53,slow=20,SNR=3.1							
JNU	**Nakatsue**	**8.64**	**256**	LR		LR	05 20 05.7	
	comp=Z,68nm,19.9s,baz=124,slow=42							
H11N2	**WAKE ISLAND Hy 27.89**	**118**		T		T	05 48 45.6	
	baz=311,slow=75,SNR=100							
H11N1	**WAKE ISLAND Hy 27.90**	**118**		T		T	05 48 48.2	
	baz=311,slow=75,SNR=78							
H11N3	**WAKE ISLAND Hy 27.91**	**118**		T		T	05 48 50.8	
	baz=312,slow=75,SNR=84							
H11S3	**WAKE ISLAND Hy 28.55**	**120**		T		T	05 49 39.1	
	baz=312,slow=75,SNR=309							
H11S1	**WAKE ISLAND Hy 28.55**	**120**		T		T	05 49 39.2	
	baz=312,slow=75,SNR=381							
H11S2	**WAKE ISLAND Hy 28.57**	**120**		T		T	05 49 41.4	
	baz=312,slow=75,SNR=258							
MKAR	**Makanchi Array**	**44.46**	**303**	P		**P**	**05 22 15.5**	**+1.1**
	0.5nm,0.7s,baz=88,slow=9.5,SNR=7.3							
KURBB	**Kurchatov Arra**	**46.48**	**309**	P		**P**	**05 22 30.7**	**+0.4**
	0.4nm,0.4s,baz=84,slow=8.0,SNR=7.7							
ILAR	**Eielson Array**	**50.86**	**32**	P		**P**	**05 23 04.2**	**+0.4**
	0.3nm,0.7s,baz=270,slow=6.4,SNR=3.7							
WRA	**Warramunga Arr**	**55.68**	**187**	P		**P**	**05 23 39.8**	**+0.1**
	0.8nm,0.7s,baz=6.5,slow=8.1,SNR=9.1							
NVAR	**Mina Array Bea**	**76.15**	**53**	LR		LR	05 53 53.2	
	comp=Z,87nm,21.2s,baz=272,slow=31							

MEX 24 05:16:00.4±0.6, 16.53N×98.31W, h6km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
PNIG	**Pinotepa**	**0.22**	**128**	*i* P		Pg	05 16 04.2	-0.6
PNIG				*e*S		Sg	05 16 08.2	+0.4
TLIG	**Tlapa**	**1.06**	**347**	*e*P		Pg	05 16 18.2	-2.5
TLIG				*i* S		Sg	05 16 32.0	-2.5
ACX	**Acapulco**	**1.52**	**283**	*i* P		Pn	05 16 21.8	-6.4
ACX				*i* S		Sn	05 16 41.7	-6.6
VHO	**Vista Hermosa**	**1.60**	**70**	*e*P		Pn	05 16 26.2	-3.3
VHO				*e*S		Sn	05 16 45.6	-5.1
CAIG	**El Cayaco**	**1.94**	**286**	*i* P		Pn	05 16 30.3	-3.6
CAIG				*i* S		Sn	05 16 54.2	-4.5
PLIG	**Platanillo**	**2.17**	**329**	*i* P		Pn	05 16 34.5	-2.8
PLIG				*e*S		Sn	05 17 00.1	-4.5

ISN **24** *05:25:28.6±4.1, 32.44N×47.05E, h0km, ML4.8*

BJI **24** *05:25:29.9, 32.64N×46.55E, h10km, mb4.7/39, mB5.0/35, Ms4.6/20, Ms7 4.2/17*

IDC **24** *05:25:32.3±0.5, 32.53N×47.05E, h0km, mb4.4/32, mb1 4.4/42, mb1mx4.3/66, mbtmp4.3/42, ML3.6/7, MS4.0/38, Ms1 4.0/38, ms1mx3.8/66, Error ellipse: s-maj=11.9km s-min=9.0km az=174.0*

OMAN **24** *05:25:35.4±1.5, 32.35N×46.69E, h17km, Error ellipse: s-maj=33.0km s-min=9.3km az=73.0*

ISCJB **24** *05:25:35.9±0.3, 32.45N±0.02×46.95E±0.02, h37km±3km, mb4.7/155, MS4.0/39, Error ellipse: s-maj=3.8km s-min=2.2km az=13.9*

THR **24** *05:25:36.7±0.6, 32.46N×46.99E, h44km±6km, ML4.2*

TEH **24** *05:25:37.2, 32.53N×46.94E, h17km, ML4.8*

GII **24** *05:25:37.2±0.8, 32.57N×47.05E, h40km*

MOS **24** *05:25:38.2±2.5, 32.60N×47.00E, h33km, mb4.8/70, Error ellipse: s-maj=4.8km s-min=2.9km az=108.7*

GCMT **24** *05:25:38.2±0.3, 32.59N×46.84E, h12km, MW4.9/85, Moment Tensor Solution. s23,c24; s85,c123; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.43±.07; Mθθ-1.71±.07; Mφφ-0.71±.07; Mrθ0.69±.26; Mrφ1.35±.06; Mθφ0.15±.27; Best double couple: M₀2.64200×10¹⁶ NP1:φ₈113.00000°, δ52.00000°, λ74.00000°. NP2: φ₈317.00000°, δ41.00000°, λ109.00000°. Principal axes: T 2.5870, Plg77.0000°, Azm328.0000°; N 0.1130, Plg12.0000°, Azm123.0000°; P -2.6980, Plg5.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CSEM **24** *05:25:38.3±0.1, 32.56N×47.00E, h40km, mb4.7/99 Error ellipse: s-maj=3.8km s-min=2.3km az=13.0*

NEIC **24** *05:25:38.2±0.3, 32.55N×46.98E, h38km±3km, mb4.9/77, ML4.2(THR), MN4.8(TEH), Error ellipse: s-maj=4.0km s-min=2.4km az=188.0*

DSN **24** *05:25:45.3±1.2, 32.49N×48.37E, h15km, Error ellipse: s-maj=48.3km s-min=8.1km az=35.0*

ISC 24 05:25:38.1±0.7, 32.56N±0.04×46.97E±0.03, h35km±6km, n748, σ1.9/36/751, mb4.7/158, MS4.1/38, 36C-25D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
IKFM	**Kafar-mosalman**	**1.21**	**37**	*e*Pg		**Pn**	**05 25 56.9**	**-1.6**
IKFM				*e*Sg		**Sn**	**05 26 16.7**	**+3.0**
IKFM				*e*AMB		AMB	05 26 24.3	
	comp=Z,99nm,0.3s							
IKFM	**Kafar-mosalman**	**1.21**	**37**	*e*Pg		**Pn**	**05 25 56.9**	**-1.6**
SHGR	**Shooshtar-Gavs**	**1.61**	**106**	Pg		**Pn**	**05 26 05.0**	**+0.9**
SHGR	**Shooshtar-Gavs**	**1.61**	**106**	Pg		**Pn**	**05 26 05.0**	**+0.9**
SHGR	**Shooshtar-Gavs**	**1.61**	**106**	*e*Pg		**Pn**	**05 26 05.3**	**+1.3**
IKOM	**Komasi**	**1.67**	**15**	*e*AMB		AMB	05 26 38.4	
	comp=Z,78μm,0.2s							
IKOM				*e*Pn		**Pn**	**05 26 06.3**	**+1.2**
IGHG	**Ghaleghazi**	**1.80**	**349**	*e*AMB		AMB	05 26 45.3	
	comp=Z,71μm,0.3s							
IGHG				*e*Pn		**Pn**	**05 26 07.8**	**+0.9**
IVIS	**Veis**	**1.96**	**357**	*e*AMB		AMB	05 26 46.1	
	comp=Z,26μm,0.2s							
IVIS				*e*Pn		**Pn**	**05 26 09.6**	**+0.6**
BHD	**Baghdad**	**2.29**	**289**	*e*Pn		**Pn**	**05 26 12.9**	**-0.5**
	SNR=39							
BHD				*e*Sn		**Sn**	**05 26 36.5**	**-3.9**
	SNR=3.0							
ILIN	**Lien**	**2.35**	**360**	*e*Pn		**Pn**	**05 26 16.1**	**+1.6**
ILIN				*e*AMB		AMB	05 26 57.7	
	comp=Z,14μm,0.5s							
ILIN	**Lien**	**2.35**	**360**	Pn		**Pn**	**05 26 16.1**	**+1.6**
ILIN	**Lien**	**2.35**	**360**	*e*Pn		**Pn**	**05 26 16.1**	**+1.6**
SNGE	**Sanandaj**	**2.55**	**7**	Pn		**Pn**	**05 26 18.0**	**+0.9**
SNGE	**Sanandaj**	**2.55**	**7**	Pn		**Pn**	**05 26 18.0**	**+0.9**
SNGE	**Sanandaj**	**2.55**	**7**	*e*Pn		**Pn**	**05 26 18.3**	**+1.2**
KHMZ	**Khomeyn**	**2.77**	**64**	Pn		**Pn**	**05 26 20.0**	**-0.2**
KHMZ	**Khomeyn**	**2.77**	**64**	*e*Pn		**Pn**	**05 26 20.9**	**+0.7**
KHMZ	**Khomeyn**	**2.77**	**64**	*e*Pn		**Pn**	**05 26 20.9**	**+0.7**
KHMZ				AML		AML	05 27 09.1	
	comp=E,1μm,0.5s							
KHMZ				AML		AML	05 27 15.5	
	comp=N,939nm,0.6s							
ASAO	**Ashtian**	**3.23**	**51**	Pn		**Pn**	**05 26 27.0**	**+0.4**
ASAO	**Ashtian**	**3.23**	**51**	*e*Pn		**Pn**	**05 26 27.5**	**+1.0**
ASAO				AML		AML	05 27 22.9	
	comp=N,530nm,0.5s							
ASAO				AML		AML	05 27 25.9	
	comp=E,535nm,0.6s							
IRAZ	**Razeghan**	**3.75**	**40**	*e*Pn		**Pn**	**05 26 35.8**	**+2.0**
IRAZ				*e*AMB		AMB	05 26 52.7	
	comp=Z,10μm,0.3s							
IRAZ	**Razeghan**	**3.75**	**40**	Pn		**Pn**	**05 26 35.7**	**+2.0**
IRAZ	**Razeghan**	**3.75**	**40**	Pn		**Pn**	**05 26 35.7**	**+2.0**
QAM	**Ghamsar**	**3.93**	**71**	*e*Pn		**Pn**	**05 26 37.8**	**+1.6**
QAM				*e*AMB		AMB	05 27 30.9	
	comp=Z,17μm,0.2s							
IKLH	**Kolahrood**	**3.95**	**78**	*e*Pn		**Pn**	**05 26 37.1**	**+0.6**
IKLH				*e*AMB		AMB	05 27 56.7	
	comp=Z,24μm,0.6s							
IKLH	**Kolahrood**	**3.95**	**78**	Pn		**Pn**	**05 26 37.0**	**+0.6**
IKLH	**Kolahrood**	**3.95**	**78**	Pn		**Pn**	**05 26 37.0**	**+0.6**
IR5	**Iran Long-Peri**	**4.00**	**48**	*e*Pn		**Pn**	**05 26 38.7**	**+1.6**
IR5	**Iran Long-Peri**	**4.00**	**48**	*e*Pn		**Pn**	**05 26 38.7**	**+1.6**
IGAR	**Gharneh**	**4.29**	**91**	*e*Pn		**Pn**	**05 26 41.7**	**+0.6**
IGAR				*e*AMB		AMB	05 27 57.8	
	comp=Z,13μm,0.4s							
ZNJK	**Zanjan**	**4.34**	**19**	Pn		**Pn**	**05 26 43.0**	**+1.3**
ZNJK	**Zanjan**	**4.34**	**19**	Pn		**Pn**	**05 26 43.0**	**+1.3**
ZNJK	**Zanjan**	**4.34**	**19**	*e*Pn		**Pn**	**05 26 43.1**	**+1.3**
IZEF	**Zefreh**	**4.53**	**84**	*e*Pn		**Pn**	**05 26 44.5**	**+0.1**
IZEF				*e*AMB		AMB	05 28 15.1	
	comp=Z,6μm,0.6s							
IZEF	**Zefreh**	**4.53**	**84**	Pn		**Pn**	**05 26 44.4**	**+0.1**
IZEF	**Zefreh**	**4.53**	**84**	*e*Pn		**Pn**	**05 26 44.5**	**+0.1**
IVRN	**Varamin**	**4.65**	**57**	*e*Pn		**Pn**	**05 26 46.5**	**+0.6**
IVRN				*e*AMB		AMB	05 28 19.8	
	comp=Z,13μm,0.6s							
IVRN	**Varamin**	**4.65**	**57**	Pn		**Pn**	**05 26 46.4**	**+0.6**
IVRN	**Varamin**	**4.65**	**57**	Pn		**Pn**	**05 26 46.4**	**+0.6**
IRAM	**Ramesheh**	**4.65**	**98**	*e*Pn		**Pn**	**05 26 46.1**	**+0.1**
IRAM				*e*AMB		AMB	05 28 19.7	
	comp=Z,18μm,0.5s							
IRAM	**Ramesheh**	**4.65**	**98**	Pn		**Pn**	**05 26 46.0**	**+0.1**
IRAM	**Ramesheh**	**4.65**	**98**	*e*Pn		**Pn**	**05 26 46.1**	**+0.1**
THKV	**Tehran--Karaj**	**4.66**	**43**	Pn		**Pn**	**05 26 47.0**	**+0.9**
THKV	**Tehran--Karaj**	**4.66**	**43**	Pn		**Pn**	**05 26 47.0**	**+0.9**
THKV	**Tehran--Karaj**	**4.66**	**43**	*e*Pn		**Pn**	**05 26 47.3**	**+1.2**
IGZV	**Ghazvin**	**4.67**	**34**	*e*Pn		**Pn**	**05 26 46.4**	**+0.1**
IGZV				*e*AMB		AMB	05 27 07.8	
	comp=Z,3μm,0.3s							
IGZV	**Ghazvin**	**4.67**	**34**	Pn		**Pn**	**05 26 46.4**	**+0.1**
IGZV	**Ghazvin**	**4.67**	**34**	*e*Pn		**Pn**	**05 26 46.4**	**+0.1**
CHTH	**Charan**	**4.80**	**45**	Pn		**Pn**	**05 26 48.0**	**-0.1**
CHTH	**Charan**	**4.80**	**45**	Pn		**Pn**	**05 26 48.0**	**-0.1**
CHTH	**Charan**	**4.80**	**45**	*e*Pn		**Pn**	**05 26 48.6**	**+0.5**
NASN	**Na'in**	**4.93**	**86**	Pn		**Pn**	**05 26 49.0**	**-1.0**
NASN	**Na'in**	**4.93**	**86**	*e*Pn		**Pn**	**05 26 49.9**	**-0.1**
NASN	**Na'in**	**4.93**	**86**	*e*Pn		**Pn**	**05 26 49.9**	**-0.1**
DAMV	**Damavand**	**5.16**	**52**	Pn		**Pn**	**05 26 53.0**	**0.0**
DAMV	**Damavand**	**5.16**	**52**	*e*Pn		**Pn**	**05 26 53.4**	**+0.4**
DAMV	**Damavand**	**5.16**	**52**	*e*Pn		**Pn**	**05 26 53.4**	**+0.4**
IDMV	**Damavand**	**5.17**	**53**	*e*Pn		**Pn**	**05 26 53.2**	**0.0**
IDMV				*e*AMB		AMB	05 28 35.2	
	comp=Z,51μm,1.4s							
IDMV	**Damavand**	**5.17**	**53**	Pn		**Pn**	**05 26 53.2**	**0.0**
IDMV	**Damavand**	**5.17**	**53**	*e*Pn		**Pn**	**05 26 53.2**	**0.0**
AHBU	**AHRAM**	**5.24**	**134**	*e*Pn		**Pn**	**05 26 53.0**	**-0.9**
IFIR	**Firoozkooh**	**5.70**	**56**	*e*Pn		**Pn**	**05 27 00.8**	**+0.3**
IFIR				*e*AMB		AMB	05 27 44.9	
	comp=Z,937nm,0.2s							
IFIR	**Firoozkooh**	**5.70**	**56**	Pn		**Pn**	**05 27 00.8**	**+0.3**
IFIR	**Firoozkooh**	**5.70**	**56**	*e*Pn		**Pn**	**05 27 00.8**	**+0.3**
IPAR	**Pars**	**5.87**	**116**	*e*Pn		**Pn**	**05 27 03.2**	**+0.3**
IPAR				*e*AMB		AMB	05 28 54.9	
	comp=Z,6μm,0.4s							
IPAR	**Pars**	**5.87**	**116**	Pn		**Pn**	**05 27 03.2**	**+0.3**
IPAR	**Pars**	**5.87**	**116**	*e*Pn		**Pn**	**05 27 03.2**	**+0.3**
ISRV	**Sarvestan**	**6.15**	**119**	*e*Pn		**Pn**	**05 27 07.1**	**+0.3**
ISRV				*e*AMB		AMB	05 29 39.6	
	comp=N,25μm,0.6s							
ISRV	**Sarvestan**	**6.15**	**119**	Pn		**Pn**	**05 27 07.0**	**+0.3**
ISRV	**Sarvestan**	**6.15**	**119**	*e*Pn		**Pn**	**05 27 07.1**	**+0.3**
VANB	**Van**	**6.69**	**335**	*e*P		**Pn**	**05 27 14.8**	**+0.8**
GHIR	**Ghir-Karzin**	**6.72**	**128**	Pn		**Pn**	**05 27 13.0**	**-1.4**
GHIR	**Ghir-Karzin**	**6.72**	**128**	*e*Pn		**Pn**	**05 27 13.2**	**-1.1**
GHIR	**Ghir-Karzin**	**6.72**	**128**	*e*Pn		**Pn**	**05 27 13.2**	**-1.1**
GURO	**Guroymak-BITLI**	**7.21**	**327**	*e*P		**Pn**	**05 27 21.4**	**+0.3**
AGRB	**Hanur-Agry**	**7.71**	**336**	*e*P		**Pn**	**05 27 32.5**	**+4.5**
DYBB	**Diyarbakir**	**7.76**	**316**	*e*P		**Pn**	**05 27 27.7**	**-0.9**
GNI	**Garni**	**7.79**	**347**	Pn		**Pn**	**05 27 31.4**	**+2.3**
	comp=N,0.4nm,0.3s,baz=300,slow=20,SNR=2.2							
GNI				LR		LR	05 31 03.5	
	comp=N,734nm,19.6s,baz=164,slow=42							
GNI	**Garni**	**7.79**	**347**	*e*Pn		**Pn**	**05 27 26.5**	**-2.5**
BNGB	**Bing˜ll**	**8.20**	**323**	P		**Pn**	**05 27 33.4**	**-1.3**
SHRO	**Shahrood**	**8.22**	**63**	*e*Pn		**Pn**	**05 27 35.6**	**+0.6**
SHRO	**Shahrood**	**8.22**	**63**	*e*Pn		**Pn**	**05 27 35.6**	**+0.6**
URFA	**Urfa**	**8.27**	**308**	*e*P		**Pn**	**05 27 37.8**	**+2.2**
ASF	**Jabal al Asfar**	**8.53**	**270**	Pn		**Pn**	**05 27 37.8**	**-1.4**
	comp=N,1.2nm,0.3s,baz=37,slow=11,SNR=8.6							
ASF				Sn		**Sn**	**05 29 10.4**	**-3.9**
	comp=N,2.0nm,0.3s,baz=16,slow=6.1,SNR=3.6							
ASF				Lg		Lg	05 30 06.1	
	comp=N,1.5nm,0.3s,baz=30,slow=21,SNR=3.6							
ASF				LR		LR	05 31 36.9	
	comp=N,496nm,18.5s,baz=42,slow=42							
TABS	**Tabas**	**8.58**	**80**	Pn		**Pn**	**05 27 39.0**	**-0.9**
TABS	**Tabas**	**8.58**	**80**	*e*Pn		**Pn**	**05 27 39.8**	**-0.2**
TABS	**Tabas**	**8.58**	**80**	*e*Pn		**Pn**	**05 27 39.8**	**-0.2**
KRBR	**Kerman**	**8.76**	**104**	Pn		**Pn**	**05 27 42.0**	**-0.6**
KRBR	**Kerman**	**8.76**	**104**	*e*Pn		**Pn**	**05 27 42.4**	**-0.2**
KRBR	**Kerman**	**8.76**	**104**	*e*Pn		**Pn**	**05 27 42.4**	**-0.2**
SENK	**Senkaya-Erzuru**	**8.81**	**336**	*e*P		**Pn**	**05 27 46.6**	**+3.5**
PTK	**Pertek˜**	**8.82**	**318**	P		**Pn**	**05 27 41.3**	**-2.0**
MALT	**Malatya**	**9.03**	**312**	*e*P		Pn	05 27 54.6	+8.6
BAYT	**Ayd˜–ntepe-Bay**	**9.56**	**327**	*e*P		**Pn**	**05 27 56.8**	**+3.5**
HMDT	**Nahal Hemdat**	**9.68**	**271**	Pn		**Pn**	**05 27 56.1**	**+1.2**
MMAI	**Mount Meron Ar**	**9.75**	**276**	Pn		**Pn**	**05 27 54.6**	**-1.3**
	comp=N,0.6nm,0.3s,baz=94,slow=16,SNR=2.7							
MMAI				Lg		Lg	05 30 43.1	
	comp=N,2.1nm,0.3s,baz=45,slow=33,SNR=4.3							
MMAI				LR		LR	05 32 28.5	
	comp=N,281nm,21.7s,baz=290,slow=42							
BLGI	**Bet Lehem HaGe**	**9.94**	**274**	Pn		**Pn**	**05 27 58.9**	**+0.5**
SLTI	**Sal'it**	**10.09**	**271**	Pn		**Pn**	**05 28 01.1**	**+0.6**
ZFRI	**Zfri**	**10.26**	**262**	Pn		**Pn**	**05 28 03.6**	**+0.8**
SHME	**Shamm**	**10.30**	**127**	P		**Pn**	**05 28 01.6**	**-1.8**
	SNR=15							
SHME	**Shamm**	**10.30**	**127**	*i* P		Pn	05 27 59.6	-3.8
	SNR=15							
ONI	**Oni**	**10.39**	**345**	P		**Pn**	**05 28 08.5**	**+3.8**
ONI	**Oni**	**10.39**	**345**	*e*P		**Pn**	**05 28 08.5**	**+3.8**
PRNI	**Paran**	**10.46**	**261**	Pn		**Pn**	**05 28 06.0**	**+0.5**
BANOM	**Banah**	**10.49**	**127**	Pn		**Pn**	**05 28 03.7**	**-2.3**
	SNR=38							
BANOM	**Banah**	**10.49**	**127**	P		**Pn**	**05 28 03.7**	**-2.3**
	SNR=38							
BANOM	**Banah**	**10.49**	**127**	P		**Pn**	**05 28 03.7**	**-2.3**
	SNR=38							
BANOM	**Banah**	**10.49**	**127**	*i* P		**Pn**	**05 28 02.7**	**-3.4**
	SNR=15							
BANOM				S		Sn	05 29 50.2	-12
ZEI	**Tsey**	**10.50**	**348**	*e*P		Pn	05 28 14.7	+8.5
ZEI				pmax		pmax		
	comp=Z,9.0nm,1.2s							
HRFI	**Mount Harif**	**10.52**	**259**	Pn		**Pn**	**05 28 06.8**	**+0.4**
GEYT	**Alibeck**	**10.57**	**56**	Pn		**Pn**	**05 28 06.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=251,slow=14,SNR=7.9							
GEYT				LR		LR	05 32 56.0	
	comp=Z,2μm,18.5s,baz=250,slow=42							
AJN	**Ajban**	**10.63**	**137**	*i* P		**Pn**	**05 28 06.8**	**-1.1**
	SNR=8.9							
MBRI	**Mt Berech**	**10.69**	**258**	Pn		**Pn**	**05 28 09.0**	**+0.2**
EIL	**Elat**	**10.70**	**258**	Pn		**Pn**	**05 28 08.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=39,slow=18,SNR=6.1							
EIL				Lg		Lg	05 31 17.8	
	comp=Z,1.3nm,0.3s,baz=270,slow=3.7,SNR=3.8							
EIL				LR		LR	05 32 59.2	
	comp=Z,684nm,20.9s,baz=78,slow=42							
EIL	**Elat**	**10.70**	**258**	Pn		**Pn**	**05 28 07.9**	**-0.9**
NAZ	**Nazwa, Dubai**	**10.72**	**133**	Pn		**Pn**	**05 28 08.0**	**-1.2**
	SNR=18							
NAZ	**Nazwa, Dubai**	**10.72**	**133**	P		**Pn**	**05 28 08.0**	**-1.2**
	SNR=18							
NAZ	**Nazwa, Dubai**	**10.72**	**133**	*i* P		**Pn**	**05 28 07.0**	**-2.2**
	SNR=18							
MSFE	**Esma-Masafi**	**10.77**	**129**	*i* P		Pn	05 28 06.2	-3.7
	SNR=14							
UOSS	**Minazif**	**11.09**	**131**	*e*Pn		**Pn**	**05 28 11.4**	**-2.9**
UOSS	**Minazif**	**11.09**	**131**	*i* P		**Pn**	**05 28 11.0**	**-3.2**
	SNR=15							
HATD	**Hatta, Dubai**	**11.13**	**131**	Pn		**Pn**	**05 28 12.6**	**-2.2**
	SNR=7.3							
HATD	**Hatta, Dubai**	**11.13**	**131**	P		**Pn**	**05 28 12.6**	**-2.2**
	SNR=7.3							
HATD	**Hatta, Dubai**	**11.13**	**131**	P		**Pn**	**05 28 12.6**	**-2.2**
	SNR=7.3							
HATD	**Hatta, Dubai**	**11.13**	**131**	*i* P		**Pn**	**05 28 12.1**	**-2.8**
	SNR=20							
ASHO	**Ashiyiah**	**11.19**	**132**	Pn		**Pn**	**05 28 12.9**	**-2.7**
	SNR=22							
ASHO	**Ashiyiah**	**11.19**	**132**	P		**Pn**	**05 28 12.9**	**-2.7**
	SNR=22							
ASHO	**Ashiyiah**	**11.19**	**132**	*i* P		**Pn**	**05 28 12.5**	**-3.1**
	SNR=22							
ALNE	**Al Ain**	**11.46**	**135**	*i* P		**Pn**	**05 28 16.8**	**-2.6**
	SNR=8.1							
KBZ	**Khabaz**	**11.60**	**345**	Pn		**Pn**	**05 28 24.3**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=2.6							
KVAR	**Kislovodsk Arr**	**11.86**	**345**	LR		LR	05 32 44.0	
	comp=Z,294nm,19.5s,baz=148,slow=36							
KIV	**Kislovodsk**	**11.86**	**345**	*e*P		**Pn**	**05 28 24.0**	**-0.8**
KIV				pmax		pmax		
	comp=Z,16nm,1.1s							
KIV				MLR		MLR		
	comp=Z,155nm,9.0s							
KIV	**Kislovodsk**	**11.86**	**345**	pPn		**Pn**	**05 28 26.6**	**+1.8**
	SNR=5.1							
KIV	**Kislovodsk**	**11.86**	**345**	P		**Pn**	**05 28 26.6**	**+1.8**
	SNR=5.1							
KIV	**Kislovodsk**	**11.86**	**345**	*e*P		**Pn**	**05 28 24.0**	**-0.8**
	comp=Z,155nm,9.0s							
SOHO	**SOHO**	**11.88**	**133**	*i* P		**Pn**	**05 28 21.5**	**-3.5**
	SNR=16							
SOC	**Sochi**	**12.39**	**335**	*e*P		**Pn**	**05 28 30.2**	**-1.8**
SOC				*e*SS		Sn	05 31 00.1	+11
SOC				pmax		pmax		
	comp=Z,14nm,0.4s							
SOC				MLR		MLR		
	comp=Z,446nm,11.0s							
SOC	**Sochi**	**12.39**	**335**	*e*P		**Pn**	**05 28 30.2**	**-1.8**
	comp=Z,446nm,11.0s							
ARQ	**Araqi**	**12.47**	**135**	pPn		**Pn**	**05 28 34.0**	**+0.9**
	SNR=15							
ARQ	**Araqi**	**12.47**	**135**	P		**Pn**	**05 28 34.0**	**+0.9**
	SNR=15							
ARQ	**Araqi**	**12.47**	**135**	P		**Pn**	**05 28 34.0**	**+0.9**
	SNR=15							
GOF	**Gofitskoye**	**12.85**	**347**	⇑*e*P		**P**	**05 28 50.3**	**+1.8**
GOF				pmax		pmax		
	comp=Z,43nm,1.2s							
BR131	**Keskin Array S**	**12.93**	**307**	*e*Pn		**Pn**	**05 28 40.0**	**+0.6**
BR131	**Keskin Array S**	**12.93**	**307**	*e*Pn		**Pn**	**05 28 40.0**	**+0.6**
BRTR	**Keskin Array B**	**12.93**	**307**	Pn		**Pn**	**05 28 41.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=9.2							
BRTR	**Keskin Array B**	**12.93**	**307**	*ce*P		**Pn**	**05 28 41.5**	**+2.1**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BSY	**Bisya**	**13.32**	**135**	pPn		**Pn**	**05 28 47.3**	**+2.5**
	SNR=6.4							
BSY	**Bisya**	**13.32**	**135**	P		**Pn**	**05 28 47.3**	**+2.5**
	SNR=6.4							
BSYO	**Bisya**	**13.36**	**135**	P		**Pn**	**05 28 47.3**	**+2.1**
	S

comp=Z,6.0nm,0.6s
AB31 Akbulak array 19.30 26 *e*P P 05 29 59.2 -0.7
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 19.30 26 *e*P P 05 29 59.6 -0.3
comp=Z,97nm,0.5s
ABKAR Akbulak array 19.30 26 *e*P P 05 29 59.6 -0.3
comp=Z,97nm,0.5s
VSR Storozhevoye 19.51 345 *e*P P 05 30 00.6 -1.5
VSR *e*S S 05 33 35.7 -4.7
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR smax smax
comp=N,130nm,3.7s
VSR Storozhevoye 19.51 345 *e*P P 05 30 00.6 -1.5
comp=N,10.0nm,0.5s
AKTK Aktyubinsk 19.64 21 P P 05 30 02.0 -1.6
comp=N,15nm,0.9s
AKTO Aktyubinsk 19.64 21 P P 05 30 02.1 -1.5
comp=N,0.7nm,0.3s,baz=209,slow=11,SNR=12
AKTO LR LR 05 40 03.2
comp=N,481nm,18.2s,baz=225,slow=44
AKTO Aktyubinsk 19.64 21 P P 05 30 02.0 -1.6
AKTO pmax pmax
comp=Z,15nm,0.9s
SZH Strazhica 19.69 309 P P 05 30 05.0 +0.8
ANKY Antikythira Is 19.84 286 P P 05 30 06.2 +0.3
ANKY Antikythira Is 19.84 286 P P 05 30 06.2 +0.3
ANKY Antikythira Is 19.84 286 P P 05 30 06.2 +0.3
KIS Kishinev 20.00 321 *e*P P 05 30 07.0 -0.5
KIS LRM MLR 05 42 04.0
comp=Z,300nm,15.0s
KIS Kishinev 20.00 321 *e*P P 05 30 07.0 -0.5
KIS MLR MLR
comp=Z,300nm,15.0s
KIS Kishinev 20.00 321 *e*P P 05 30 07.0 -0.5
comp=Z,300nm,15.0s
DID Didima 20.04 291 P P 05 30 07.7 -0.4
DID Didima 20.04 291 P P 05 30 07.7 -0.4
DID Didima 20.04 291 P P 05 30 07.7 -0.4
VILL Villia 20.07 293 P P 05 30 08.5 +0.1
VILL Villia 20.07 293 P P 05 30 08.5 +0.1
KYTH Kithira 20.07 287 P P 05 30 08.0 -0.4
KYTH Kithira 20.07 287 P P 05 30 08.0 -0.4
KRND KRANIDI 20.09 290 P P 05 30 09.0 +0.4
KRND KRANIDI 20.09 290 P P 05 30 09.0 +0.4
SKIA Skiathos 20.13 296 P P 05 30 09.5 +0.4
SKIA Skiathos 20.13 296 P P 05 30 09.5 +0.4
PAIG Paliouri 20.14 298 P P 05 30 09.9 +0.8
PAIG Paliouri 20.14 298 P P 05 30 09.9 +0.8
PAIG Paliouri 20.14 298 P P 05 30 09.9 +0.8
PAIG Paliouri 20.14 298 P P 05 30 09.9 +0.8
VLI Veliai 20.19 289 P P 05 30 08.1 -1.6
VLI Veliai 20.19 289 P P 05 30 08.1 -1.6
VLI Veliai 20.19 289 P P 05 30 08.1 -1.6
ISR Istrita 20.19 314⇑ *i*P P 05 30 11.4 +1.7
ISR Istrita 20.19 314⇑ *i*P P 05 30 11.4 +1.7
LTK Loutraki 20.32 292 P P 05 30 11.3 +0.2
LTK Loutraki 20.32 292 P P 05 30 11.3 +0.2
LTK Loutraki 20.32 292 P P 05 30 11.3 +0.2
XOR Xorichti 20.38 296 P P 05 30 11.8 0.0
XOR Xorichti 20.38 296 P P 05 30 11.8 0.0
XOR Xorichti 20.38 296 P P 05 30 11.8 0.0
NVR Nevrokopi 20.40 302 P P 05 30 11.9 -0.1
NVR Nevrokopi 20.40 302 P P 05 30 11.9 -0.1
NVR Nevrokopi 20.40 302 P P 05 30 11.9 -0.1
VRI Vrincioaia 20.48 316⇑ *i*P P 05 30 14.3 +1.5
VRI Vrincioaia 20.48 316⇑ *i*P P 05 30 14.3 +1.5
PLOR Plostina 20.52 316⇓ *i*P P 05 30 14.3 +1.0
PLOR Plostina 20.52 316⇓ *i*P P 05 30 14.3 +1.0
SRS Serrai 20.52 301 P P 05 30 13.0 -0.3
SRS Serrai 20.52 301 P P 05 30 13.0 -0.3
SRS Serrai 20.52 301 P P 05 30 13.0 -0.3
SRS Serrai 20.52 301 P P 05 30 13.0 -0.3
MMB Musomiste 20.57 303 P P 05 30 13.0 -0.9
PGB Panagyurishte 20.59 305 P P 05 30 14.2 +0.1
SOH Sokhos 20.61 300 P P 05 30 14.2 -0.1
SOH Sokhos 20.61 300 P P 05 30 14.2 -0.1
SOH Sokhos 20.61 300 P P 05 30 14.2 -0.1
SOH Sokhos 20.61 300 P P 05 30 14.2 -0.1
VLX Vlachokerasia 20.70 290 P P 05 30 13.9 -1.4
VLX Vlachokerasia 20.70 290 P P 05 30 13.9 -1.4
VLX Vlachokerasia 20.70 290 P P 05 30 13.9 -1.4
DSF Desfina 20.72 293 P P 05 30 14.6 -0.9
DSF Desfina 20.72 293 P P 05 30 14.6 -0.9
DSF Desfina 20.72 293 P P 05 30 14.6 -0.9
MLR Muntele Rosu 20.75 315 P P 05 30 17.3 +1.5
comp=Z,4.0nm,1.1s,baz=89,slow=3.1,SNR=14
MLR Muntele Rosu 20.75 315⇑ *i*P P 05 30 17.8 +2.0
MLR Muntele Rosu 20.75 315 *e*P P 05 30 16.6 +0.8
comp=Z,39nm,1.4s
MLR Muntele Rosu 20.75 315 *e*P P 05 30 16.6 +0.8
comp=Z,39nm,1.4s
GUR Goura 20.79 292 P P 05 30 16.4 0.0
GUR Goura 20.79 292 P P 05 30 16.4 0.0
GUR Goura 20.79 292 P P 05 30 16.4 0.0
THE Thessaloniki 20.85 300 P P 05 30 16.5 -0.3
THE Thessaloniki 20.85 300 P P 05 30 16.5 -0.3
THE Thessaloniki 20.85 300 P P 05 30 16.5 -0.3
THE Thessaloniki 20.85 300 P P 05 30 16.5 -0.3
LPSR Galich'ya Gora 20.86 346 *e*P P 05 30 14.8 -2.0
LPSR *e*S S 05 34 04.0 -3.4
LPSR pmax pmax
comp=Z,90nm,0.7s
LPSR smax smax
comp=N,90nm,2.0s
LPSR Galich'ya Gora 20.86 346 *e*P P 05 30 14.8 -2.0
comp=N,90nm,0.7s
TESR Tescani 20.89 318⇑ *i*P P 05 30 17.0 -0.2
TESR Tescani 20.89 318⇑ *i*P P 05 30 17.0 -0.2
KLV Kalavryta, Ach 20.96 292 P P 05 30 17.6 -0.5
KLV Kalavryta, Ach 20.96 292 P P 05 30 17.6 -0.5
AGG Agios Georgios 20.97 295 *e*P P 05 30 18.6 +0.4
AGG pmax pmax
comp=Z,216nm,1.2s
AGG Agios Georgios 20.97 295 *e*P P 05 30 18.6 +0.4
comp=Z,216nm,1.2s
AGG Agios Georgios 20.97 295 *e*P P 05 30 18.6 +0.4
comp=Z,216nm,1.2s
AGG Agios Georgios 20.97 295 P P 05 30 20.0 +1.8
SORM Soroca 20.97 323⇑ *i*P P 05 30 17.9 -0.2
SORM Soroca 20.97 323⇑ *i*P P 05 30 17.9 -0.2
KNT Kendrikon 21.04 301 P P 05 30 18.8 -0.1
KNT Kendrikon 21.04 301 P P 05 30 18.8 -0.1
KNT Kendrikon 21.04 301 P P 05 30 18.8 -0.1
KNT Kendrikon 21.04 301 P P 05 30 18.8 -0.1
LIT Litokhoron 21.07 298 P P 05 30 18.8 -0.4
LIT Litokhoron 21.07 298 P P 05 30 18.8 -0.4
LAKA Lakka 21.12 293 P P 05 30 19.1 -0.7
LAKA Lakka 21.12 293 P P 05 30 19.1 -0.7
LAKA Lakka 21.12 293 P P 05 30 19.1 -0.7
MTUR Matau 21.15 313⇓ *i*P P 05 30 20.5 +0.4
MTUR Matau 21.15 313⇓ *i*P P 05 30 20.5 +0.4
EFP Efpalio 21.20 293 P P 05 30 20.7 +0.1
EFP Efpalio 21.20 293 P P 05 30 20.7 +0.1
ANX Ano Chora 21.21 294 P P 05 30 20.7 -0.2
ANX Ano Chora 21.21 294 P P 05 30 20.7 -0.2
AMT Artemida-Makis 21.24 291 P P 05 30 20.3 -0.8
AMT Artemida-Makis 21.24 291 P P 05 30 20.3 -0.8
VOIR 21.26 314⇓ *i*P P 05 30 22.5 +1.2
VOIR 21.26 314⇓ *i*P P 05 30 22.5 +1.2
VTS Vitosha 21.27 305 *e*P P 05 30 20.8 -0.7
VTS pmax pmax
comp=Z,5.0nm,0.8s
VTS Vitosha 21.27 305⇑ *i*P P 05 30 24.0 +2.5
VTS Vitosha 21.27 305 *e*P P 05 30 20.8 -0.7
comp=Z,5.1nm,0.8s
VTS Vitosha 21.27 305 *e*P P 05 30 20.8 -0.7
comp=Z,5.1nm,0.8s
ATD Arta Tunnel 21.27 191 LR LR 05 38 51.7
comp=Z,369nm,18.4s,baz=7.0,slow=38
DRO Drossia 21.29 292 P P 05 30 21.3 -0.3
DRO Drossia 21.29 292 P P 05 30 21.3 -0.3
KK31 Karatay Array 21.30 54 *e*P P 05 30 19.8 -1.9
KK31 pmax pmax
comp=Z,31nm,1.0s
KK31 Karatay Array 21.30 54 *e*P P 05 30 19.8 -1.9
comp=Z,31nm,1.0s
KKAR Karatay Array 21.30 54 *e*P P 05 30 20.5 -1.1
KKAR Karatay Array 21.30 54 *e*P P 05 30 20.5 -1.1
KKAR Karatay Array 21.30 54 *e*P P 05 30 20.5 -1.1
THL Klokotos Trika 21.31 296 P P 05 30 21.7 -0.1
THL Klokotos Trika 21.31 296 P P 05 30 21.7 -0.1

VAY Valandovo 21.32 301 *i*P P 05 30 22.8 +0.9
DOPR Dopca 21.33 315⇑ *i*P P 05 30 23.0 +1.1
DOPR Dopca 21.33 315⇑ *i*P P 05 30 23.0 +1.1
EVR Evrytania 21.35 294 P P 05 30 23.4 +1.0
EVR Evrytania 21.35 294 P P 05 30 23.4 +1.0
EVR Evrytania 21.35 294 P P 05 30 23.4 +1.0
PDO Prodromos 21.79 293 P P 05 30 26.8 -0.1
PDO Prodromos 21.79 293 P P 05 30 26.8 -0.1
DSL Palaion Diasel 21.94 295 P P 05 30 27.3 -1.2
DSL Palaion Diasel 21.94 295 P P 05 30 27.3 -1.2
DSL Palaion Diasel 21.94 295 P P 05 30 27.3 -1.2
KFL Anninata 22.03 292 P P 05 30 27.6 -2.0
KFL Anninata 22.03 292 P P 05 30 27.6 -2.0
FNA Florina 22.05 299 P P 05 30 29.0 -0.8
FNA Florina 22.05 299 P P 05 30 29.0 -0.8
FNA Florina 22.05 299 P P 05 30 29.0 -0.8
FNA Florina 22.05 299 P P 05 30 29.0 -0.8
LOT Lotru 22.06 312⇑ *i*P P 05 30 30.0 +0.1
LOT Lotru 22.06 312⇑ *i*P P 05 30 30.0 +0.1
PENT Pentalofos 22.10 297 P P 05 30 30.4 0.0
PENT Pentalofos 22.10 297 P P 05 30 30.4 0.0
VLS Valsamata 22.20 292 P P 05 30 28.9 -2.4
VLS Valsamata 22.20 292 P P 05 30 28.9 -2.4
VLS Valsamata 22.20 292 P P 05 30 28.9 -2.4
VLS Valsamata 22.20 292 P P 05 30 28.9 -2.4
LKD2 Lefkada island 22.22 294 P P 05 30 29.8 -1.8
LKD2 Lefkada island 22.22 294 P P 05 30 29.8 -1.8
LKD2 Lefkada island 22.22 294 P P 05 30 29.8 -1.8
KRUS Krusevo 22.29 301 *i*P P 05 30 35.8 +3.4
BARS Barje 22.31 305 *e*P P 05 30 31.1 -1.4
SKO Skopje 22.32 302 *i*P P 05 30 34.1 +1.5
BURAR Bucovina Array 22.32 319⇑ *i*P P 05 30 33.4 +0.7
BURAR Bucovina Array 22.32 319⇑ *i*P P 05 30 33.4 +0.7
BUR04 Bucovina Ar. S 22.33 319 *e*P P 05 30 31.7 -1.0
BUR04 Bucovina Ar. S 22.33 319 *e*P P 05 30 31.7 -1.0
BUR08 Bucovina Ar. S 22.35 319 *e*P P 05 30 32.0 -1.0
BUR08 Bucovina Ar. S 22.35 319 *e*P P 05 30 32.0 -1.0
AKASG Malin Array Be 22.36 329 P P 05 30 30.9 -2.1
comp=Z,3.6nm,0.6s,baz=137,slow=10.0,SNR=24
AKASG Malin Array Be 22.36 329 *ce*P P 05 30 32.0 -0.9
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 22.36 329 *e*P P 05 30 32.0 -0.9
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 22.36 329 *e*P P 05 30 32.0 -0.9
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 22.36 329 *e*P P 05 30 32.0 -0.9
comp=Z,14nm,0.8s
AKBB Malin Array Si 22.36 329 *e*P P 05 30 32.0 -0.9
comp=Z,14nm,0.8s
KIEV Kiev 22.36 329⇑ *i*P P 05 30 32.7 -0.2
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 22.36 329 *e*P P 05 30 31.8 -1.1
comp=Z,14nm,0.8s
KIEV Kiev 22.36 329 *i*P P 05 30 32.7 -0.2
comp=Z,8.0nm,0.8s
AK11 Malin Array Si 22.37 329 *e*P P 05 30 32.1 -0.9
ZAGS Zajecar 22.37 307 *e*P P 05 30 31.6 -1.5
ARCR ARCALIA 22.52 317⇑ *i*P P 05 30 36.0 +1.3
ARCR ARCALIA 22.52 317⇑ *i*P P 05 30 36.0 +1.3
OHR Ohrid 22.56 300 *i*P P 05 30 35.9 +0.7
IGT Igoumenitsa 22.59 295 P P 05 30 33.0 -2.5
IGT Igoumenitsa 22.59 295 P P 05 30 33.0 -2.5
IGT Igoumenitsa 22.59 295 P P 05 30 33.0 -2.5
IGT Igoumenitsa 22.59 295 P P 05 30 33.0 -2.5
BOVS Bovan 22.66 306 *e*P P 05 30 36.8 +0.5
AML Almayashu 23.21 58 P P 05 30 42.5 +0.1
SNR=14
TIR Tirane 23.30 300 *e*P P 05 30 42.0 -0.8
TIR pmax pmax
comp=Z,33nm,1.0s
TIR Tirane 23.30 300⇓ *i*P P 05 30 42.8 0.0
TIR Tirane 23.30 300 *e*P P 05 30 42.0 -0.8
comp=Z,33nm,1.0s
TIR Tirane 23.30 300 *e*P P 05 30 42.0 -0.8
comp=Z,33nm,1.0s
DRGR 23.34 315⇓ *i*P P 05 30 43.2 -0.1
DRGR 23.34 315⇓ *i*P P 05 30 43.2 -0.1
EKS2 Erkin-Say 23.42 57 P P 05 30 43.9 -0.2
SNR=22
GRUS Gruza 23.43 306⇑ *i*P P 05 30 43.5 -0.5
OBN Obninsk 23.71 345 LR LR 05 40 46.7
comp=Z,264nm,20.2s,baz=148,slow=38
OBN Obninsk 23.71 345 *d i*P P 05 30 46.1 -0.5
OBN pmax pmax
comp=Z,50nm,1.1s
OBN MLR MLR
comp=Z,212nm,16.0s
OBN Obninsk 23.71 345 *e*P P 05 30 46.0 -0.5
comp=Z,185nm,1.6s
OBN Obninsk 23.71 345 *i*P P 05 30 46.1 -0.5
comp=Z,212nm,16.0s
SIRR Siria 23.75 313⇑ *i*P P 05 30 47.3 +0.2
SIRR Siria 23.75 313⇑ *i*P P 05 30 47.3 +0.2
TRUS Trudelj 23.75 307 *e*P P 05 30 48.5 +1.4
AAK Ala-Archa 23.92 57 P P 05 30 48.6 -0.4
comp=Z,4.1nm,0.6s,baz=233,slow=10,SNR=15
AAK Ala-Archa 23.92 57 *i*P P 05 30 47.0 -1.9
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 23.92 57 P P 05 30 50.3 +1.4
SNR=6.1
AAK Ala-Archa 23.92 57 *e*P P 05 30 50.1 +1.2
comp=Z,26nm,1.4s
AAK Ala-Archa 23.92 57 pP P 05 30 51.8 +2.8
SNR=9.7
AAK Ala-Archa 23.92 57 P P 05 30 51.8 +2.8
SNR=9.7
AAK Ala-Archa 23.92 57 *e*P P 05 30 50.1 +1.2
comp=Z,26nm,1.4s
DIVS Divibare 23.99 306 *e*P P 05 30 49.4 0.0
comp=Z,9.5nm,1.2s
DIVS Divibare 23.99 306 *e*P P 05 30 49.4 0.0
comp=Z,9.5nm,1.2s
PDG Podgorica 24.00 302⇓ *i*P P 05 30 49.1 -0.4
PDG Podgorica 24.00 302⇓ *i*P P 05 30 49.1 -0.4
TTG Podgorica 24.00 302 *e*P P 05 30 48.8 -0.7
TTG pmax pmax
comp=Z,10.0nm,0.9s
TTG Podgorica 24.00 302 *e*P P 05 30 48.8 -0.7
comp=Z,10nm,0.9s
TTG Podgorica 24.00 302 *e*P P 05 30 48.8 -0.7
comp=Z,10nm,0.9s
FRU Bishkek 24.06 57 *e*P P 05 30 50.0 -0.1
FRU *e* 05 31 28.0
FRU *e* 05 35 10.0
FRU pmax pmax
comp=Z,120nm,2.0s
FRU Bishkek 24.06 57 *e*P P 05 30 50.0 -0.1
comp=Z,120nm,2.0s
MOS Moscow 24.08 347 *e*P P 05 30 49.5 -0.5
MOS *e*S S 05 35 05.8 +0.8
MOS pmax pmax
comp=Z,65nm,1.2s
MOS Moscow 24.08 347 *e*P P 05 30 49.5 -0.5
comp=Z,65nm,1.2s
MOS *e*S S 05 35 05.8 +0.8
USP Ospenovka 24.10 56 P P 05 30 50.7 +0.2
SNR=13
TRPA Tarpa 24.12 317 *e*P P 05 30 51.7 +1.3
CHMS Chumysh 24.20 57 P P 05 30 52.1 +0.7
SNR=7.2
LVV L'vov 24.25 322 *e*P P 05 30 52.8 +1.2
KBK Karagaybulak 24.25 57 P P 05 30 53.3 +1.3
SNR=23
KZA Kyzart 24.32 59 P P 05 30 53.8 +0.9
SNR=14
KSH Kashi 24.39 65 P P 05 30 49.8 -3.4
KSH PP PnPn 05 31 25.1 +0.8
KSH S S 05 35 00.5 -10
KSH sS sS 05 35 19.4 -7.7
KSH SS SnSn 05 35 54.4 -1.3
KSH pmax pmax
comp=Z,54nm,1.4s
KSH pmax pmax
comp=Z,280nm,3.5s
KSH LR LR
comp=Z,910nm,14.7s
KSH LR LR
comp=Z,430nm,12.9s
KSH LR LR
comp=Z,720nm,17.8s

FGSL Fruska Gora 24.48 309⇑ *i*P P 05 30 54.8 +0.9
UZH Uzhgorod 24.52 318 *e*P P 05 30 54.0 -0.1
UZH *i* 05 31 04.4
UZH Uzhgorod 24.52 318 *e*P P 05 30 54.0 -0.1
TKM2 Tokmak 2 24.78 57 P P 05 30 57.2 +0.3
SNR=35
KWP Kalwaria Pacla 24.84 320 *e*P P 05 30 59.0 +2.0
KWP Kalwaria Pacla 24.84 320 *e*P P 05 30 57.3 +0.3
KWP pmax pmax
comp=Z,965nm,1.7s
KWP Kalwaria Pacla 24.84 320 *e*P P 05 30 57.2 +0.3
comp=Z,965nm,1.7s
ULHL Ulahol 25.08 59 P P 05 31 00.4 +0.9
SNR=26
CRVS Cervenica-Dubn 25.13 318 *e*P P 05 31 00.3 +0.6
CRVS Cervenica-Dubn 25.13 318 *e*P P 05 31 00.3 +0.6
CRVS Cervenica-Dubn 25.13 318 *e*P P 05 31 00.3 +0.6
ARU Arti 25.19 15 P P 05 30 59.6 -0.5
comp=Z,12nm,0.7s,baz=213,slow=6.2,SNR=14
ARU LR LR 05 43 24.3
comp=Z,304nm,19.0s,baz=124,slow=42
ARU Arti 25.19 15 *d i*P P 05 31 01.0 +0.9
ARU 05 31 37.5
ARU 05 34 33.9
ARU S S 05 35 28.4 +5.6
ARU SS SnSn 05 36 17.3 +2.6
ARU pmax pmax
comp=Z,45nm,1.7s
ARU Arti 25.19 15 *e*P P 05 30 59.4 -0.6
comp=Z,78nm,1.6s
STON Ston 25.23 303 P P 05 30 59.5 -1.1
STON Ston 25.23 303 *i*P P 05 30 59.5 -1.1
TIP Timpagrande 25.29 294⇑ *i*P P 05 31 01.8 +0.5
TIP Timpagrande 25.29 294 *e*P P 05 31 01.1 -0.2
comp=Z,25nm,0.9s
TIP Timpagrande 25.29 294 *e*P P 05 31 01.1 -0.2
comp=Z,25nm,0.9s
TIP Timpagrande 25.29 294 P P 05 31 00.7 -0.6
KECS Kecovo 25.48 316 *e*P P 05 31 04.5 +1.6
KECS pmax pmax
comp=Z,13nm,0.8s
KECS Kecovo 25.48 316 *e*P P 05 31 04.4 +1.6
MATE Matera 25.51 297⇓ *i*P P 05 31 03.8 +0.6
MATE Matera 25.51 297⇓ *i*P P 05 31 03.8 +0.6
STHS Stebnicka Huta 25.52 319 *e*P P 05 31 05.0 +1.8
STHS pmax pmax
comp=Z,15nm,1.4s
STHS Stebnicka Huta 25.52 319 *e*P P 05 31 05.0 +1.8
PSZ Piszkesteto 25.57 315 *e*P P 05 31 04.9 +1.2
PSZ pmax pmax
comp=Z,13nm,1.1s
PSZ Piszkesteto 25.57 315 *e*P P 05 31 05.2 +1.5
PSZ Piszkesteto 25.57 315 *e*P P 05 31 04.9 +1.2
comp=Z,13nm,1.1s
MORH M¯ŧr¡gy, Hung 25.63 310 *e*P P 05 31 04.5 +0.3
CEL Celeste 25.89 291 *e*P P 05 31 07.1 +0.4
comp=Z,41nm,1.1s
SVE Sverdlovsk 26.04 17 *e*P P 05 31 07.8 0.0
SVE pmax pmax
comp=Z,43nm,1.4s
NIE Niedzica 26.05 318 *e*P P 05 31 07.7 -0.4
NIE Niedzica 26.05 318 *e*P P 05 31 07.7 -0.4
CUC Castrocucco 26.10 295 *e*P P 05 31 09.3 +0.7
comp=Z,12nm,0.7s
BLY Banja Luka 26.10 306 *e*P P 05 31 09.5 +1.0
comp=Z,27nm,1.3s
NDI New Delhi 26.27 90 *e*P P 05 31 10.0 -0.2
LANS Liptovska Anna 26.39 317 *e*P P 05 31 11.8 +0.6
LANS Liptovska Anna 26.39 317 *e*P P 05 31 11.8 +0.6
VYHS Vyhne 26.46 315 *e*P P 05 31 13.5 +1.8
VYHS pmax pmax
comp=Z,8.0nm,1.7s
VYHS Vyhne 26.46 315 *e*P P 05 31 13.5 +1.8
BRVK Borovoye 26.48 32 *d i*P P 05 31 12.8 +1.0
BRVK pmax pmax
comp=Z,18nm,1.4s
BRVK Borovoye 26.48 32 *e*P P 05 31 11.1 -0.7
comp=Z,19nm,1.1s
BRVK Borovoye 26.48 32 P P 05 31 14.4 +2.6
SNR=8.3
BRVK Borovoye 26.48 32 P P 05 31 14.4 +2.6
SNR=8.3
NACGM Naroch 26.49 333 *e* P 05 31 13.0 +1.1
BVA0 Borovoye Array 26.50 33 *i*P P 05 31 11.5 -0.5
BVA0 pmax pmax
comp=Z,17nm,1.2s
BVAR Borovoye Array 26.50 33 P P 05 31 11.8 -0.2
comp=Z,4.8nm,0.5s,baz=222,slow=7.8,SNR=23
BVAR PcP **PcP** 05 34 35.9 -0.2
comp=Z,0.8nm,0.4s,baz=191,slow=5.3,SNR=5.0
BVAR ScP **ScP** 05 38 15.4 +2.0
comp=Z,0.6nm,0.5s,baz=197,slow=1.5,SNR=4.3
BVAR LR LR 05 44 11.1
comp=Z,631nm,21.0s,baz=248,slow=42
OJC Ojcow 26.74 319 *e*P P 05 31 15.4 +1.2
OJC Ojcow 26.74 319 *e*P P 05 31 14.5 +0.3
OJC pmax pmax
comp=Z,63nm,1.8s
OJC Ojcow 26.74 319 *e*P P 05 31 14.5 +0.3
comp=Z,63nm,1.8s
IDID Didziasalis 26.82 334 *e*P P 05 31 15.2 +0.4
IDID IAmb IAmb 05 31 22.6
comp=Z,10nm,1.1s
UDBI Udbina 27.01 305 P P 05 31 15.5 -1.3
IIGN Ignalina 27.04 334 *e*P P 05 31 17.4 +0.5
IIGN IAmb IAmb 05 31 22.9
comp=Z,11nm,0.7s
ISAL Salakas 27.25 334 *e*P P 05 31 19.1 +0.5
ISAL IAmb IAmb 05 31 24.8
comp=Z,12nm,0.8s
SUW Suwalki 27.32 329 *e*P P 05 31 19.6 +0.1
SUW Suwalki 27.32 329 *e*P P 05 31 19.5 +0.1
SUW pmax pmax
comp=Z,36nm,1.0s
SUW Suwalki 27.32 329 *e*P P 05 31 19.5 +0.1
comp=Z,36nm,1.0s
SUW Suwalki 27.32 329 *e*P P 05 31 19.5 +0.1
comp=Z,36nm,1.0s
IZAR Zarasai 27.34 334 *e*P P 05 31 20.0 +0.5
IZAR IAmb IAmb 05 31 25.6
comp=Z,18nm,0.9s
OKC Ostrava-Krasne 27.48 317 AMS AMS 05 46 50.0
comp=Z,300nm,16.7s
NVLJ Novalja 27.64 305 P P 05 31 20.9 -1.4
NVLJ Novalja 27.64 305 *i*P P 05 31 20.9 -1.4
MORC Moravsky Berou 27.80 317 *e*P P 05 31 24.7 +1.0
MORC pmax pmax
comp=Z,107nm,2.0s
MORC Moravsky Berou 27.80 317 *e*P P 05 31 24.7 +1.0
comp=Z,107nm,2.0s
POO Poona 27.89 114 *ex* P 05 31 19.0 -5.8
CONA Conrad Observa 28.04 312 P P 05 31 28.1 +2.1
comp=Z,3.6nm,1.2s
CONA Conrad Observa 28.04 312 *e*P P 05 31 28.1 +2.1
comp=Z,3.6nm,1.2s
SOKA Soboth 28.14 309 P P 05 31 28.8 +1.9
comp=Z,4.8nm,1.3s
SOKA Soboth 28.14 309 *e*P P 05 31 28.8 +1.9
comp=Z,4.8nm,1.3s
VRAC Vranov 28.14 315 P P 05 31 29.1 +2.3
comp=Z,1.1nm,0.6s,baz=149,slow=9.1,SNR=4.8
AQU L'Aquila 28.23 300 *e*P P 05 31 29.8 +2.1
AQU pmax pmax
comp=Z,15nm,1.0s
AQU L'Aquila 28.23 300 *e*P P 05 31 29.8 +2.1
comp=Z,15nm,1.0s
AQU L'Aquila 28.23 300 *e*P P 05 31 29.8 +2.1
comp=Z,15nm,1.0s
KRLC Kraliky 28.37 317 *e*P P 05 31 27.3 -1.6
KRLC Kraliky 28.37 317 *e*P P 05 31 27.3 -1.6
OBKA Obir 28.40 309 P P 05 31 30.6 +1.4
comp=Z,10nm,1.4s
OBKA Obir 28.40 309 *e*P P 05 31 30.6 +1.4
comp=Z,10nm,1.4s
KLMR Klimovskoe 28.73 352 *e*P P 05 31 29.3 -2.5
KLMR pmax pmax
comp=Z,22nm,1.1s
KLMR Klimovskoe 28.73 352 *e*P P 05 31 29.3 -2.5
KLMR AMP 05 31 35.8
comp=Z,22nm,1.1s
KLMR LQ LQ 05 40 44.5
KLMR LQ LQ 05 40 44.5
DPC Dobruska-Polom 28.76 317 *e*P P 05 31 32.6 +0.3
DPC Dobruska-Polom 28.76 317 *e*P P 05 31 32.6 +0.3
KSP Ksiaz 29.00 318 *e*P P 05 31 35.7 +1.3

KSP **Ksiaz** 29.00 318 *e*P P 05 31 35.7 +1.3
MOA **Molln** 29.02 311 *e*P P 05 31 34.9 +0.3
comp=Z,3.7nm,0.7s
KLNR **Kaliningrad** 29.04 327⇓*e*P P 05 31 35.4 +0.8
VSU **Vasula** 29.30 338*ce*P P 05 31 36.3 -0.6
VSU pmax pmax
comp=Z,56nm,1.2s
KBA **Koelnbreinsper** 29.36 309 P P 05 31 36.8 -1.1
comp=Z,3.7nm,0.6s
KBA **Koelnbreinsper** 29.36 309 *e*P P 05 31 36.8 -1.1
comp=Z,3.7nm,0.6s
KURBB **Kurchatov Arra** 29.40 43 P P 05 31 38.0 0.0
comp=Z,7.6nm,1.1s,baz=247,slow=9.3,SNR=17
KURBB PcP **PcP** 05 34 43.0 -0.2
comp=Z,2.5nm,1.1s,baz=254,slow=3.3,SNR=4.8
KURBB ScP **ScP** 05 38 24.0 +1.7
comp=Z,0.5nm,0.8s,baz=245,slow=4.1,SNR=5.4
KURK **Kurchatov** 29.49 43 P P 05 31 37.0 -1.7
KURK pmax pmax
comp=Z,19nm,1.4s
KURK **Kurchatov** 29.49 43 *e*P P 05 31 38.8 +0.1
comp=Z,18nm,1.2s
KURK PcP **PcP** 05 34 43.0 -0.5
KURK ScP **ScP** 05 38 24.0 +1.4
KURK **Kurchatov** 29.49 43 P P 05 31 39.0 +0.3
SNR=6.9
KURK **Kurchatov** 29.49 43 P P 05 31 39.0 +0.3
SNR=6.9
KURK **Kurchatov** 29.49 43 *e*P P 05 31 38.8 +0.1
comp=Z,18nm,1.2s
PRU **Pruhonice** 29.64 316 AMS AMS 05 46 00.0
comp=Z,200nm,15.5s
GEA0 **GERESS Array S** 29.71 313 *e*PcP **PcP** 05 34 44.6 +0.4
GEA0 **GERESS Array S** 29.71 313 *e*PcP **PcP** 05 34 44.6 +0.4
GERES **GERESS Array B** 29.71 313 P P 05 31 39.6 -1.3
comp=Z,0.3nm,0.5s,baz=96,slow=8.0,SNR=3.4
GERES PcP **PcP** 05 34 44.9 +0.6
comp=Z,0.5nm,0.6s,baz=116,slow=3.1,SNR=4.6
GERES LR LR 05 45 26.9
comp=Z,106nm,18.9s,baz=116,slow=40
ABTA **Abfaltersbach** 29.81 308 P P 05 31 41.0 -0.8
comp=Z,3.8nm,1.0s
ABTA **Abfaltersbach** 29.81 308 *e*P P 05 31 41.0 -0.8
comp=Z,3.8nm,1.0s
KHC **Kasperske Hory** 29.89 313 *e*P P 05 31 43.5 +1.1
KHC **Kasperske Hory** 29.89 313 *e*P P 05 31 43.5 +1.1
KHC **Kasperske Hory** 29.89 313 *e*P P 05 31 43.5 +1.1
MAKZ **Makanchi** 30.19 52 P P 05 31 42.9 -2.1
MAKZ pmax pmax
comp=Z,11nm,1.5s
MAKZ **Makanchi** 30.19 52 *e*P P 05 31 44.5 -0.5
comp=Z,38nm,1.9s
MAKZ **Makanchi** 30.19 52 *e*P P 05 31 44.5 -0.5
comp=Z,38nm,1.9s
BRG **Berggiesshubel** 30.35 317 *e*P P 05 31 50.2 +3.9
comp=Z,3.9nm,1.3s
BRG **Berggiesshubel** 30.35 317 *e*P P 05 31 50.2 +3.9
BRG pmax pmax
comp=Z,4.0nm,1.3s
MK31 **Makanchi Array** 30.39 52 *i* P P 05 31 46.6 -0.2
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 **Makanchi Array** 30.39 52 *e*P P 05 31 46.8 -0.1
MK31 **Makanchi Array** 30.39 52 *i* P P 05 31 46.6 -0.2
comp=Z,7.0nm,0.8s
MKAR **Makanchi Array** 30.39 52 P P 05 31 46.6 -0.2
comp=Z,3.8nm,0.6s,baz=248,slow=7.1,SNR=39
MKAR PcP **PcP** 05 34 45.5 -0.5
comp=Z,0.7nm,0.8s,baz=227,slow=3.1,SNR=3.0
MKAR LR LR 05 45 47.1
comp=Z,361nm,18.5s,baz=260,slow=40
MKAR **Makanchi Array** 30.39 52 *i* P P 05 31 47.0 +0.2
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR **Makanchi Array** 30.39 52 *e*P P 05 31 46.8 0.0
comp=Z,82nm,1.3s
MKAR PcP **PcP** 05 34 45.5 -0.5
MKAR **Makanchi Array** 30.39 52 *e*P P 05 31 46.8 0.0
comp=Z,82nm,1.3s
MK01 **Makanchi Array** 30.39 52 *e*P P 05 31 46.6 -0.2
MK01 **Makanchi Array** 30.39 52 *e*P P 05 31 46.6 -0.2
WATA **Walderalm** 30.59 309 P P 05 31 49.6 +0.9
comp=Z,3.6nm,0.6s
WATA **Walderalm** 30.59 309 *e*P P 05 31 49.6 +0.9
comp=Z,3.6nm,0.6s
VLC **Villacollemand** 30.70 303 *e*P P 05 31 49.3 -0.3
comp=Z,12nm,1.0s
VLC **Villacollemand** 30.70 303 *e*P P 05 31 49.3 -0.3
comp=Z,12nm,1.0s
MOTA **Moosalm** 30.90 309 P P 05 31 50.4 -1.0
comp=Z,5.2nm,0.8s
MOTA **Moosalm** 30.90 309 *i* P P 05 31 50.4 -1.0
comp=Z,5.2nm,0.8s
FETA **Feichten** 31.06 308 *e*P P 05 31 53.1 +0.2
comp=Z,7.0nm,1.2s
CLL **Collm** 31.07 317 *e*P P 05 31 53.0 +0.3
CLL **Collm** 31.07 317 *e*P P 05 31 53.0 +0.3
RETA **Reutte** 31.16 309 P P 05 31 53.0 -0.7
comp=Z,1.6nm,0.5s
RETA **Reutte** 31.16 309 *e*P P 05 31 53.0 -0.7
comp=Z,1.6nm,0.5s
KEST **Kesra** 31.18 286 P P 05 31 55.0 +1.0
comp=Z,7.6nm,0.9s,baz=360,slow=3.8,SNR=6.1
KEST LR LR 05 47 10.2
comp=Z,77nm,21.5s,baz=206,slow=42
KEST **Kesra** 31.18 286 *e*P P 05 31 56.1 +2.2
comp=Z,13nm,1.1s
KEST **Kesra** 31.18 286 *e*P P 05 31 56.1 +2.2
comp=Z,13nm,1.1s
PYUN **Piuthan** 31.31 89 *e*P P 05 31 55.2 -0.1
comp=Z,76nm,1.1s
DAVA **Damuels** 31.69 309 P P 05 31 57.6 -0.8
comp=Z,6.5nm,0.7s
DAVA **Damuels** 31.69 309 *i* P P 05 31 57.6 -0.8
comp=Z,6.5nm,0.7s
DANN **Dangsing** 31.89 88 *e*P P 05 32 01.0 +0.5
comp=Z,11nm,1.1s
FIA1 **FINESS Array S** 31.92 341 *e*P P 05 31 59.6 -0.4
comp=Z,24nm,1.4s
FINES **FINESS Array B** 31.92 341 P P 05 31 59.4 -0.6
comp=Z,3.5nm,0.7s,baz=146,slow=9.7,SNR=25
FINES LR LR 05 46 18.7
comp=Z,220nm,18.5s,baz=141,slow=39
KOLN **Koldanda** 31.92 89 *e*P P 05 32 00.5 -0.2
comp=Z,16nm,0.7s
HYB **Hyderabad** 32.20 110 *i* P P 05 32 03.5 +0.5
GKN **Gorkha** 32.73 88 *e*P P 05 32 07.3 -0.4
comp=Z,46nm,0.5s
SENIN **Lac Senin/Sane** 33.23 306 *e*P P 05 32 11.5 -0.5
comp=Z,5.8nm,0.8s
SENIN **Lac Senin/Sane** 33.23 306 *e*P P 05 32 11.5 -0.5
comp=Z,5.8nm,0.8s
DMN **Daman** 33.24 88 *e*P P 05 32 11.9 -0.4
comp=Z,138nm,1.1s
KKN **Kakani** 33.34 88 *e*P P 05 32 12.8 -0.3
comp=Z,57nm,0.7s
BNI **Bardonecchia** 33.45 304 *e*P P 05 32 13.5 -0.3
BNI pmax pmax
comp=Z,13nm,0.8s
BNI **Bardonecchia** 33.45 304 *e*P P 05 32 13.5 -0.3
comp=Z,13nm,0.8s
BNI **Bardonecchia** 33.45 304 *e*P P 05 32 13.5 -0.3
comp=Z,13nm,0.8s
PKIN **Phulchoki** 33.50 88 *e*P P 05 32 14.5 -0.1
comp=Z,33nm,0.5s
WMQ **Urumqi** 33.61 59 P P 05 32 16.6 +1.4
WMQ pP pP 05 32 26.3 +1.0
WMQ pmax pmax
comp=Z,41nm,1.1s
WMQ pmax pmax
comp=Z,330nm,5.5s
WMQ LR LR
comp=Z,670nm,21.1s
WMQ LR LR
comp=Z,530nm,24.3s
WMQ LR LR
comp=Z,500nm,25.5s
GUN **Gumba** 33.80 87 *e*P P 05 32 17.1 -0.2
comp=Z,71nm,0.7s
NVS **Novosibirsk** 33.82 38 *e*P P 05 32 16.9 +0.2
NVS pmax pmax
comp=N,16nm,1.5s
NVS pmax pmax
comp=E,9.0nm,1.5s
NVS pmax pmax
comp=Z,22nm,1.5s
JIRN **Jiri** 34.14 88 *e*P P 05 32 19.8 -0.5
comp=Z,62nm,0.6s
ZAA0 **Zalesovo Array** 34.29 40 *e*P P 05 32 20.6 -0.2
comp=Z,6.8nm,0.9s
ZALV **Zalesovo Beam** 34.29 40 P P 05 32 20.0 -0.8
comp=Z,4.3nm,0.6s,baz=259,slow=9.3,SNR=23
ZALV LR LR 05 48 21.5
comp=Z,166nm,19.2s,baz=250,slow=40
ZALV **Zalesovo Beam** 34.29 40 *e*P P 05 32 21.0 +0.1
RAMN **Ramite** 34.71 89 *e*P P 05 32 24.0 -1.1
comp=Z,36nm,0.7s
KMBO **Kilima Mbogo** 34.74 197 P P 05 32 26.4 +1.1
comp=Z,2.5nm,1.0s,baz=40,slow=13,SNR=4.6
KMBO LR LR 05 46 19.3
comp=Z,316nm,20.4s,baz=70,slow=36
KMBO **Kilima Mbogo** 34.74 197 *i* P P 05 32 29.2 +3.9
KMBO pmax pmax
comp=Z,3.0nm,1.0s
HFS **Hagfors** 35.21 332 P P 05 32 28.2 -0.5
comp=Z,4.4nm,0.5s,baz=120,slow=9.0,SNR=32
HFS LR LR 05 47 06.5
comp=Z,124nm,21.9s,baz=126,slow=37
BCLA **Clavier** 35.39 313 ⇑P P 05 32 29.7 -0.6
ODAN **Odare** 35.41 88 *e*P P 05 32 30.1 -1.0
comp=Z,12nm,0.5s
TAPN **Taplejung** 35.52 88 *e*P P 05 32 31.9 -0.2
comp=Z,147nm,1.3s
APA **Apatity** 35.94 351 ⇓ *i* P P 05 32 36.0 +1.2
APA MLR MLR
comp=Z,400nm,11.0s
KONO **Kongsberg** 36.66 329⇑*e*P P 05 32 41.0 -0.1
NB2 **NORSAR Subarra** 36.73 332 P P 05 32 40.5 -1.3
comp=Z,2.6nm,0.8s,baz=124,slow=8.6
NOA **NORSAR Array B** 36.73 332 P P 05 32 40.9 -0.9
comp=Z,1.3nm,0.6s,baz=125,slow=8.6,SNR=7.7
NOA LR LR 05 49 18.3
comp=Z,132nm,18.7s,baz=125,slow=39
TAM **Tamanrasset** 37.77 266 *e*P P 05 32 51.8 +0.6
TAM pmax pmax
comp=Z,36nm,1.4s
TAM **Tamanrasset** 37.77 266 *e*P P 05 32 51.8 +0.6
comp=Z,36nm,1.4s
ARCES **ARCESS Array B** 38.94 348 P P 05 32 59.5 -0.8
comp=Z,2.2nm,0.9s,baz=162,slow=8.9,SNR=6.1
SHL **Shillong** 39.64 88 *ex* P 05 33 05.0 -1.9
PALK **Pallekele** 40.17 121 *e*P P 05 33 10.9 -0.3
PALK pmax pmax
comp=Z,26nm,1.4s
PALK **Pallekele** 40.17 121 *e*P P 05 33 10.9 -0.3
comp=Z,26nm,1.4s
ES19 **SONSECA Array** 41.24 295 *e*P P 05 33 20.6 +0.8
ES19 **SONSECA Array** 41.24 295 *e*P P 05 33 20.6 +0.8
ESDC **Sonseca Array** 41.30 295 P P 05 33 20.1 -0.2
comp=Z,1.5nm,0.7s,baz=73,slow=8.6,SNR=11
EKA **Eskdalemuir Ar** 41.51 319 P P 05 33 21.4 -0.3
comp=Z,4.1nm,0.8s,baz=104,slow=7.9,SNR=10
EKA PcP **PcP** 05 35 19.1 +0.4
comp=Z,0.6nm,0.6s,baz=125,slow=5.4,SNR=3.4
GTA **Gaotai** 42.79 65 *e*P P 05 33 34.3 +1.8
GTA pP pP 05 33 38.3 -4.5
GTA sP sP 05 33 40.8 -6.2
GTA S **S** 05 39 58.4 +4.0
GTA SS **SS** 05 43 07.1 +1.2
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,4.8s
GTA LR LR
comp=Z,380nm,20.9s
GTA LR LR
comp=Z,440nm,21.4s
DSB **Dublin** 43.03 315 *e*P P 05 33 25.8 -8.2
comp=Z,73nm,1.6s
PBRG **Braganca** 43.17 298 *e*P P 05 33 35.3 -0.2
comp=Z,29nm,1.8s
PBRG **Braganca** 43.17 298 *e*P P 05 33 35.3 -0.2
comp=Z,29nm,1.8s
PBAR **Barrancos** 43.88 293 *e*P P 05 33 41.0 -0.2
comp=Z,43nm,1.6s
PBAR **Barrancos** 43.88 293 *e*P P 05 33 41.0 -0.2
comp=Z,43nm,1.6s
PVRL **Vila Real** 43.95 298 *e*P P 05 33 40.9 -0.9
comp=Z,71nm,1.7s
PVRL **Vila Real** 43.95 298 *e*P P 05 33 40.9 -0.9
comp=Z,71nm,1.7s
PCBR **Castelo Branco** 43.96 296 *e*P P 05 33 41.9 +0.1
comp=Z,21nm,1.7s
PCBR **Castelo Branco** 43.96 296 *e*P P 05 33 41.9 +0.1
comp=Z,21nm,1.7s
POLO **Lamas de Olo** 44.00 298 *e*P P 05 33 42.5 +0.3
comp=Z,23nm,1.6s
POLO **Lamas de Olo** 44.00 298 *e*P P 05 33 42.5 +0.3
comp=Z,23nm,1.6s
PCAB **Cabril** 44.13 298 *e*P P 05 33 41.9 -1.3
comp=Z,25nm,2.1s
PCAB **Cabril** 44.13 298 *e*P P 05 33 41.9 -1.3
comp=Z,25nm,2.1s
PVIS **Viseu** 44.16 297 *e*P P 05 33 43.8 +0.4
comp=Z,21nm,1.7s
PVIS **Viseu** 44.16 297 *e*P P 05 33 43.8 +0.4
comp=Z,21nm,1.7s
PGAV **Gavieira, Arco** 44.29 299 *e*P P 05 33 44.7 +0.2
comp=Z,32nm,2.1s
PGAV **Gavieira, Arco** 44.29 299 *e*P P 05 33 44.7 +0.2
comp=Z,32nm,2.1s
ZAK **Zakamensk** 44.66 49 *e*P P 05 33 47.0 -0.3
ZAK pmax pmax
comp=Z,5.0nm,1.8s
PTOM **Tomar** 44.71 295 *e*P P 05 33 47.6 -0.2
comp=Z,26nm,1.5s
TOA0 **Torodi Ar. Sit** 45.58 256 *e*P P 05 33 54.6 -0.3
comp=Z,65nm,1.8s
TORD **Torodi Ar. Bea** 45.58 256 P P 05 33 54.6 -0.4
comp=Z,6.3nm,0.6s,baz=72,slow=7.0,SNR=51
TORD LR LR 05 54 02.5
comp=Z,210nm,19.2s,baz=50,slow=38
LZH **Lanzhou** 46.53 69 ⇓P P 05 34 04.0 +1.5
LZH pP pP 05 34 09.3 -3.6
LZH sP sP 05 34 11.8 -5.2
LZH *e*PP **PP** 05 35 53.5 +1.4
LZH pmax pmax
comp=Z,26nm,0.9s
LZH pmax pmax
comp=Z,220nm,5.7s
LZH LR LR
comp=Z,380nm,15.0s
LZH LR LR
comp=Z,250nm,14.8s
LZH LR LR
comp=Z,330nm,16.0s
SONM **Songino Array** 46.75 53 P P 05 34 03.9 -0.1
comp=Z,1.0nm,0.5s,baz=273,slow=9.5,SNR=15
SONM PcP **PcP** 05 35 36.6 -0.3
comp=Z,1.1nm,0.9s,baz=278,slow=3.9,SNR=3.3
SONM LR LR 05 56 54.4
comp=Z,191nm,19.3s,baz=310,slow=40
SONA1 **Songino Array** 46.75 53 *e*P P 05 34 04.3 +0.3
ULN **Ulaanbaatar** 47.19 53⇑*e*P P 05 34 07.3 -0.1
ULN pmax pmax
comp=Z,16nm,1.2s
ULN **Ulaanbaatar** 47.19 53 *e*P P 05 34 07.6 +0.2
comp=Z,15nm,1.2s
ULN **Ulaanbaatar** 47.19 53 pP P 05 34 09.5 +2.1
SNR=8.9
ULN **Ulaanbaatar** 47.19 53 P P 05 34 09.5 +2.1
SNR=8.9
SPITS **Spitsbergen Ar** 47.63 352 P P 05 34 10.4 +0.2
comp=Z,14nm,0.9s,baz=150,slow=6.8,SNR=15
CD2 **Chengdu** 47.83 76 *e*P P 05 34 11.0 -1.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CHTO **Chiang Mai** 48.36 93 P P 05 34 16.7 +0.1
comp=Z,46nm,1.6s
CHTO **Chiang Mai** 48.36 93 *e*P P 05 34 15.9 -0.8
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO **Chiang Mai** 48.36 93 *e*P P 05 34 15.9 -0.8
comp=Z,7.2nm,0.9s
CMMT **Chiang Mai** 48.36 93 P P 05 34 15.6 -1.1
comp=Z,10nm,1.6s
CMAR **Chiang Mai Arr** 48.52 94 P P 05 34 16.9 -1.0
comp=Z,2.9nm,0.6s,baz=289,slow=7.1,SNR=9.1
CMAR LR LR 05 57 19.7
comp=Z,95nm,18.8s,baz=260,slow=39
KMI **Kunming** 48.95 84 P P 05 34 22.3 +0.9
KMI S **S** 05 41 17.5 -5.9
KMI pmax pmax
comp=Z,15nm,1.5s
KMI LR LR
comp=Z,390nm,21.9s
KMI LR LR
comp=Z,170nm,13.4s
KMI LR LR
comp=Z,200nm,20.1s
LAMP **Lampang** 49.07 93 P P 05 34 25.7 +3.6
comp=Z,3.5nm,1.1s
KOWA **Kowa** 49.60 261 P P 05 34 26.0 -0.2
comp=Z,5.9nm,0.6s,baz=66,slow=11,SNR=19
KOWA LR LR 05 58 56.1
comp=Z,236nm,19.5s,baz=46,slow=40
KOWA **Kowa** 49.60 261 *e*P P 05 34 25.8 -0.4
comp=Z,15nm,0.9s
NANT **Nan** 49.85 92 P P 05 34 28.1 +0.1
comp=Z,3.9nm,0.9s
PHIT **Phitsanulok** 50.35 94 P P 05 34 32.5 +0.7
comp=Z,8.3nm,1.0s
OPO **Ambohidratompo** 50.84 180 LR LR 05 55 44.5
comp=Z,316nm,20.8s,baz=11,slow=36
LSZ **Lusaka** 50.85 204 *e*P P 05 34 36.4 +0.8
LSZ pmax pmax
comp=Z,26nm,1.4s
LSZ **Lusaka** 50.85 204 *e*P P 05 34 36.4 +0.8
comp=Z,26nm,1.4s
BOD **Bodaibo** 51.04 39 *e*P P 05 34 35.1 -1.4
BOD pmax pmax
comp=Z,14nm,1.8s
XAN **Xi'an** 51.08 70 P P 05 34 37.6 +0.3
XAN pP pP 05 34 43.8 -4.0
XAN pmax pmax
comp=Z,12nm,1.2s
XAN LR LR
comp=Z,370nm,16.7s
XAN LR LR
comp=Z,390nm,18.6s
XAN LR LR
comp=Z,200nm,15.7s
HHC **Hu-ho-hao-te** 51.40 61 *e*P P 05 34 39.9 +0.2
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,110nm,7.4s
GYA **Guiyang** 51.73 80 *e*P P 05 34 43.3 +1.0
GYA pmax pmax
comp=Z,10.0nm,0.9s
PHET **Kaeng Krachan** 51.80 99 P P 05 34 42.7 -0.1
comp=Z,7.5nm,0.8s
BORG **Borgarnes** 51.85 330 LR LR 05 59 37.2
comp=Z,81nm,18.1s,baz=70,slow=39
NAYO **Nakonayok** 52.50 97 P P 05 34 48.0 0.0
comp=Z,12nm,1.1s,comp=Z,850nm
SCO **Scoresbysund** 52.66 337 *e*P P 05 34 49.2 +0.8
SCO pmax pmax
comp=Z,29nm,1.8s
SCO **Scoresbysund** 52.66 337 *e*P P 05 34 49.2 +0.8
comp=Z,29nm,1.8s
SURT **Suratani** 53.23 104 P P 05 34 57.2 +3.8
comp=Z,5.0nm,0.9s
SRAK **Srakaew** 53.26 97 P P 05 34 57.1 +3.5
comp=Z,54nm,0.9s,comp=Z,1μm
DBIC **Dimbokro** 54.53 253 P P 05 35 01.9 -1.0
comp=Z,6.1nm,0.9s,baz=359,slow=7.7,SNR=5.1
DBIC LR LR 05 59 38.0
comp=Z,225nm,19.6s,baz=30,slow=38
DBIC **Dimbokro** 54.53 253 P P 05 35 01.9 -1.0
DBIC pmax pmax
comp=Z,7.0nm,0.9s
DBIC MLR MLR
comp=Z,225nm,19.6s
DBIC **Dimbokro** 54.53 253 *e*P P 05 35 01.8 -1.1
comp=Z,26nm,1.5s
TRTT **Trang** 54.59 105 P P 05 35 02.2 -1.1
comp=Z,7.0nm,1.3s
KIC **Kosan Boka** 54.62 253 *e*PKIKP P 05 35 03.8 +0.3
comp=Z,45nm,1.2s
TIC **Toumodi** 54.68 254 *e*PKIKP P 05 35 03.8 -0.2
LIC **Lamto** 54.93 253 *e*PKIKP P 05 35 03.6 -2.2
comp=Z,88nm,1.6s
KCSI **Kotacane, Aceh** 55.57 110 P P 05 35 08.3 -2.1
SKLT **Songkhla** 55.73 105 P P 05 35 10.1 -1.4
comp=Z,16nm,1.4s
TSI **Tuntungan** 56.21 110 P P 05 35 27.9 +13
WHN **Wuhan** 56.56 73 P P 05 35 20.1 +2.8
KULM **Kulim** 56.83 107 *e*P P 05 35 17.9 -1.5
comp=Z,24nm,1.2s
PSI **Prapat** 56.92 110 P P 05 35 17.6 -2.6
comp=Z,5.4nm,0.7s,baz=316,slow=12,SNR=7.7
PSI **Prapat** 56.92 110 *e*P P 05 35 20.4 +0.3
PSI pmax pmax
comp=Z,34nm,1.5s
PSI **Prapat** 56.92 110 *e*P P 05 35 20.4 +0.3
comp=Z,34nm,1.5s
TIXI **Tiksi** 56.93 22 LR LR 06 04 45.1
comp=Z,140nm,19.8s,baz=280,slow=41
TIXI **Tiksi** 56.93 22 ⇑ *i* P P 05 35 19.7 +0.5
TIXI pmax pmax
comp=Z,9.0nm,2.5s
SUMG **Summit** 57.93 339 *e*P P 05 35 26.8 0.0
SUMG pmax pmax
comp=Z,18nm,1.2s
SUMG **Summit** 57.93 339 *e*P P 05 35 26.8 0.0
comp=Z,18nm,1.2s
YAK **Yakutsk** 58.48 33 LR LR 06 04 55.8
comp=Z,164nm,20.1s,baz=262,slow=40
NJ2 **Nanjing** 59.61 69 *e*P P 05 35 38.8 +0.2
NJ2 pmax pmax
comp=Z,13nm,0.5s
BBTS **Babate** 60.04 269 LR LR 06 03 03.5
comp=Z,102nm,20.3s,baz=68,slow=38
CN2 **Changchun** 60.56 55 *e*P P 05 35 53.3 +8.4
LBTB **Lobatse** 60.77 202 *e*P P 05 35 48.2 +1.6
LBTB pmax pmax
comp=Z,48nm,1.7s
LBTB **Lobatse** 60.77 202 *e*P P 05 35 48.2 +1.6
comp=Z,48nm,1.7s
KLR **Kul'dur** 62.95 47⇑*e*P P 05 35 59.5 -1.4
MASI **Maura Aman, Be** 63.17 113 P P 05 36 02.2 -0.8
SFJD **Kangerlussuaq** 63.34 334 LR LR 06 03 50.5
comp=Z,143nm,19.0s,baz=66,slow=36
BOSA **Boshof** 64.24 201 P P 05 36 09.9 +0.2
comp=Z,10nm,1.0s,baz=22,slow=6.8,SNR=6.4
BOSA **Boshof** 64.24 201 *e*P P 05 36 09.7 0.0
BOSA pmax pmax
comp=Z,55nm,1.5s
BOSA **Boshof** 64.24 201 *e*P P 05 36 09.7 0.0
comp=Z,55nm,1.5s
KSAR **Wonju Array Be** 64.51 61 P P 05 36 10.3 -1.1
KSAR **Wonju Array Be** 64.51 61 P P 05 36 10.2 -1.1
KSRS **Korea Array** 64.53 61 P P 05 36 10.2 -1.3
comp=Z,3.4nm,0.7s,baz=284,slow=6.7,SNR=9.1
KSRS LR LR 06 08 49.1
comp=Z,135nm,19.2s,baz=294,slow=40
YHNB **Yeheng** 64.60 76 *e*P P 05 36 13.2 +0.9
comp=Z,251nm,2.0s
USRK **Ussuriysk Ar.** 64.86 52 P P 05 36 12.3 -1.3
comp=Z,5.0nm,0.6s,baz=287,slow=5.8,SNR=9.0
USRK LR LR 06 07 31.9
comp=Z,181nm,18.5s,baz=274,slow=39
PMBI **Palembang** 65.02 111 P P 05 36 13.5 -1.5
MDSI **Maura Dua** 65.52 113 P P 05 36 15.1 -3.1
LWLI **Liwa** 65.76 113 P P 05 36 18.8 -1.1
NKL **Nikolayevsk** 66.76 41 *e*P P 05 36 19.8 -5.8
SEY **Seymchan** 68.06 28⇓*e*P P 05 36 33.9 +0.2
JNU **Nakatsue** 68.50 64 LR LR 06 09 13.2
comp=Z,123nm,19.7s,baz=120,slow=38
SUR **Sutherland** 69.15 204 *e*P P 05 36 42.1 +1.0
comp=Z,160nm,1.8s
BILL **Bilibino** 70.07 20 *i* P P 05 36 45.2 -0.9
BILL *i* 05 37 09.2
BILL pmax pmax
comp=Z,5.0nm,1.2s
YSS **Yuzh-Sakhalins** 70.62 46⇓*e*P P 05 36 50.0 +0.2
YSS *e* 05 37 05.1
YSS *e* 05 37 12.4
YSS pmax pmax
comp=Z,10.0nm,1.2s
MJB9 **Matsu-Tunnel** 72.37 58 *e*P P 05 36 59.7 -1.0
comp=Z,106nm,1.9s
MAJO **Matsushiro** 72.37 58 *e*P P 05 36 59.6 -1.0
MAJO pmax pmax
comp=Z,112nm,1.9s
MAJO **Matsushiro** 72.37 58 *e*P P 05 36 59.6 -1.0
comp=Z,112nm,1.9s

MJAR	**Matsushiro Arr**	**72.37**	**58**	LR		LR		06 12 57.4	
	comp=Z,89nm,18.1s,baz=80,slow=39								
ERM	**Erimo**	**73.18**	**51**	*e*P		**P**		**05 37 04.5**	**-0.8**
ERM				pmax		pmax			
	comp=Z,207nm,1.7s								
ERM	**Erimo**	**73.18**	**51**	*e*P		**P**		**05 37 04.5**	**-0.8**
	comp=Z,207nm,1.7s								
PETK	**Petropavlovsk-**	**75.69**	**36**	LR		LR		06 14 25.2	
	comp=Z,117nm,19.9s,baz=306,slow=39								
SCHQ	**Schefferville**	**76.14**	**327**	P		**P**		**05 37 22.1**	**-0.1**
	comp=Z,10nm,0.9s,baz=75,slow=4.0,SNR=9.3								
SCHQ	**Schefferville**	**76.14**	**327**	*e*P		**P**		**05 37 22.4**	**+0.2**
	comp=Z,70nm,1.8s								
TOLK	**Toolik Lake Re**	**78.36**	**6**	*e*P		**P**		**05 37 34.7**	**+0.2**
	comp=Z,17nm,1.3s								
INK	**Inuvik**	**79.44**	**0**	*e*P		**P**		**05 37 39.7**	**-0.6**
INK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
INK	**Inuvik**	**79.44**	**0**	*e*P		**P**		**05 37 39.7**	**-0.6**
	comp=Z,7.0nm,1.3s								
IM3	**Indian Mountai**	**80.48**	**8**	*e*P		**P**		**05 37 45.7**	**-0.3**
MLY	**Manley**	**81.75**	**7**	*e*P		**P**		**05 37 52.5**	**-0.4**
	comp=Z,34nm,1.9s								
MDM	**Murphy Dome**	**82.08**	**6**	*e*P		**P**		**05 37 54.8**	**+0.2**
	comp=Z,9.7nm,1.0s								
IL1	**Eielson Array**	**82.38**	**6**	*e*P		**P**		**05 37 55.1**	**-1.0**
ILAR	**Eielson Array**	**82.39**	**6**	P		**P**		**05 37 55.4**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=343,slow=5,5,SNR=9.1								
CCB	**Clear Creek Bu**	**82.42**	**6**	*e*P		**P**		**05 37 55.4**	**-0.9**
	comp=Z,11nm,1.6s								
BPAW	**Bear Paw Mtn.**	**82.62**	**8**	*e*P		**P**		**05 37 57.1**	**-0.3**
	comp=Z,9.1nm,1.1s								
EGAK	**Eagle**	**82.78**	**4**	*e*P		**P**		**05 37 57.8**	**-0.4**
	comp=Z,9.5nm,1.3s								
CAST	**Castle Rocks**	**83.15**	**9**	*e*P		**P**		**05 38 00.4**	**+0.3**
	comp=Z,12nm,1.2s								
MCK	**McKinley**	**83.21**	**7**	*e*P		**P**		**05 38 00.8**	**+0.4**
MCK				pmax		pmax			
	comp=Z,9.0nm,1.2s								
MCK	**McKinley**	**83.21**	**7**	*e*P		**P**		**05 38 00.8**	**+0.4**
	comp=Z,8.7nm,1.2s								
SCRK	**Sand Creek**	**83.40**	**5**	*e*P		**P**		**05 38 01.7**	**+0.1**
	comp=Z,10nm,1.2s								
FCC	**Fort Churchill**	**83.41**	**341**	*e*P		**P**		**05 38 02.2**	**+0.7**
FCC				pmax		pmax			
	comp=Z,22nm,1.6s								
FCC	**Fort Churchill**	**83.41**	**341**	*e*P		**P**		**05 38 02.2**	**+0.7**
	comp=Z,22nm,1.6s								
DAWY	**Dawson**	**83.57**	**3**	*e*P		**P**		**05 38 01.9**	**-0.5**
	comp=Z,6.3nm,1.3s								
RIDG	**Independ'e Rid**	**83.57**	**5**	*e*P		**P**		**05 38 03.4**	**+1.1**
	comp=Z,12nm,1.2s								
PPLA	**Purkeypile**	**83.64**	**9**	*e*P		**P**		**05 38 03.7**	**+0.8**
	comp=Z,43nm,1.7s								
DOT	**Dot Lake**	**83.72**	**5**	*e*P		**P**		**05 38 03.4**	**+0.3**
	comp=Z,27nm,1.4s								
YKW3	**Yellowknife Ar**	**84.06**	**352**	*e*P		**P**		**05 38 04.3**	**-0.5**
	comp=Z,6.9nm,1.3s								
YKA	**Yellowknife Ar**	**84.12**	**352**	P		**P**		**05 38 04.4**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=13,slow=5.1,SNR=22								
SML	**Sawmill**	**85.15**	**7**	*e*P		**P**		**05 38 10.0**	**-0.4**
SML				pmax		pmax			
	comp=Z,34nm,1.6s								
SML	**Sawmill**	**85.15**	**7**	*e*P		**P**		**05 38 10.0**	**-0.4**
	comp=Z,34nm,1.6s								
SUA	**Susitna One**	**85.21**	**8**	*e*P		**P**		**05 38 10.3**	**-0.4**
	comp=Z,80nm,1.9s								
BALM	**Baldy**	**86.43**	**5**	*e*P		**P**		**05 38 17.3**	**+0.5**
BALM				pmax		pmax			
	comp=Z,27nm,1.5s								
BALM	**Baldy**	**86.43**	**5**	*e*P		**P**		**05 38 17.3**	**+0.5**
	comp=Z,27nm,1.5s								
FFC	**Flin Flon**	**89.05**	**343**	*e*P		**P**		**05 38 29.5**	**+0.2**
FFC				pmax		pmax			
	comp=Z,15nm,1.5s								
FFC	**Flin Flon**	**89.05**	**343**	*e*P		**P**		**05 38 29.5**	**+0.2**
	comp=Z,16nm,1.5s								
DLBC	**Dease Lake**	**89.32**	**358**	*e*P		**P**		**05 38 32.2**	**+1.6**
	comp=Z,9.2nm,1.3s								
ULM	**Lac du Bonnet**	**91.23**	**337**	P		**P**		**05 38 38.8**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=84,slow=3.9,SNR=3.9								
ULM				LR		LR		06 20 19.6	
	comp=Z,65nm,18.2s,baz=6.0,slow=36								
WRA	**Warramunga Arr**	**98.34**	**108**	P		**P**		**05 39 11.5**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=312,slow=3.9,SNR=3.3								
ASAR	**Alice Springs**	**99.92**	**112**	PP		PP		05 43 26.6	+1.4
	comp=Z,1.0nm,1.0s,baz=326,slow=8.1,SNR=6.0								
QSPA	**South Pole Qui**	**122.39**	**180**	PKP		**PKPdf**		**05 44 28.0**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=195,slow=1.1,SNR=8.1								
TRQA	**Tornquist**	**123.04**	**243**	*e*PKPdf		**PKPdf**		**05 44 31.0**	**+0.2**
PLCA	**Paso Flores**	**130.14**	**242**	PKP		**PKPdf**		**05 44 44.8**	**+0.4**
	comp=Z,4.2nm,1.1s,baz=84,slow=2.5,SNR=3.2								

CSEM ***24*** *05:28:32.4, 36.48N×3.14W, h17km, ML1.6, After MDD*
MDD 24 05:28:32.4±1.2, 36.48N×3.14W, h17km±13km, mb3.7/1, mbLg1.6/7, 1C, Error ellipse: s-maj=11.6km s-min=5.2km az=1.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.46**	**25**	Pg	Pg	05 28 40.9	-1.0
	0.4nm,0.1s,SNR=16						
EBER				Lg	Lg	05 28 46.2	
	18nm,0.2s,SNR=4.5						
EBER	**Berja**	**0.46**	**25**	Pg	Pg	05 28 40.9	-1.0
	0.4nm,0.1s,SNR=16						
EBER				Lg	Lg	05 28 46.2	
	18nm,0.2s,SNR=4.5						
ELGU	**Los Guajares,**	**0.56**	**315**	⇑Pg	Pg	05 28 42.8	-0.7
	1.4nm,0.1s,SNR=18						
ELGU				Lg	Lg	05 28 49.6	
	70nm,0.1s,SNR=7.9						
ELGU	**Los Guajares,**	**0.56**	**315**	Pg	Pg	05 28 42.8	-0.7
	1.4nm,0.1s,SNR=18						
ELGU				Lg	Lg	05 28 49.6	
	70nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**0.77**	**341**	Pg	Pb	05 28 46.9	-0.6
	0.7nm,0.1s,SNR=18						
EQUE				Lg	Lg	05 28 55.5	
	4.9nm,0.2s,SNR=13						
EQUE	**Quentar**	**0.77**	**341**	Pg	Pb	05 28 46.9	-0.5
	0.7nm,0.1s,SNR=18						
EQUE				Lg	Lg	05 28 55.5	
	4.9nm,0.2s,SNR=13						
ENIJ	**Nijar**	**0.89**	**56**	Pg	Pb	05 28 48.6	-1.0
	0.6nm,0.1s,SNR=7.9						
ENIJ				Lg	Lg	05 29 00.6	
	6.1nm,0.5s,SNR=7.9						
ENIJ	**Nijar**	**0.89**	**56**	Pg	Pb	05 28 48.6	-0.9
	0.6nm,0.1s,SNR=7.9						
ENIJ				Lg	Lg	05 29 00.6	
	6.1nm,0.5s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.01**	**309**	Lg	Lg	05 29 04.5	
	2.6nm,0.2s,SNR=4.0						
EGOR	**Sierra Gorda,**	**1.01**	**309**	Lg	Lg	05 29 04.5	
	2.6nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**1.32**	**274**	Pn	Pn	05 28 53.8	-2.4
	0.5nm,0.3s,SNR=4.0						
EMIJ				Sn	Sn	05 29 10.9	-2.6
	2.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.32**	**274**	Pn	Pn	05 28 53.8	-2.4
	0.5nm,0.3s,SNR=4.0						
EMIJ				Sn	Sn	05 29 10.9	-2.6
	2.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.32**	**2**	Pg	Pg	05 28 57.6	-0.4
	0.2nm,0.2s,SNR=4.0						
EQES				Lg	Lg	05 29 16.0	
	2.1nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.32**	**2**	Pg	Pg	05 28 57.6	-0.4
	0.2nm,0.2s,SNR=4.0						
EQES				Lg	Lg	05 29 16.0	
	2.1nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**1.71**	**16**	Pg	Pb	05 29 04.2	+0.7
	0.9nm,0.2s,SNR=7.9						
SESP				Lg	Lg	05 29 25.5	
	3.8nm,0.5s,SNR=7.9						
SESP	**Santiago Espad**	**1.71**	**16**	Pg	Pb	05 29 04.2	+0.7
	0.9nm,0.2s,SNR=7.9						
SESP				Lg	Lg	05 29 25.5	
	3.8nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**2.04**	**326**	Pg	Pg	05 29 10.7	-0.9
	0.2nm,0.2s,SNR=7.9						
EADA				Lg	Lg	05 29 35.3	
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.04**	**326**	Pg	Pg	05 29 10.7	-0.9
	0.2nm,0.2s,SNR=7.9						
EADA				Lg	Lg	05 29 35.3	
	0.4nm,0.2s,SNR=7.9						

NSSC 24 05:29:14.4±1.0, 35.03N×38.88E, h38km±999km, ML2.8, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLMH	**Al Salmeh**	**1.42**	**327**	*e*P	Pn	05 29 37.2	-0.4
SLMH				*e*S	Sn	05 29 55.1	+0.1
SLMH				AML	AML	05 30 19.6	
	comp=N,138nm,0.7s						
SLMH				AML	AML	05 30 27.4	
	comp=E,72nm,0.7s						
QASN	**Qassioun**	**2.62**	**236**	*e*P	Pn	05 29 55.5	+1.3
QASN				*e*S	Sn	05 30 23.4	-1.4
QASN				AML	AML	05 30 45.9	
	comp=E,192nm,0.7s						
QASN				AML	AML	05 30 47.6	
	comp=N,236nm,0.6s						
TOTH	**TOTAH**	**2.62**	**231**	*e*P	Pn	05 29 55.4	+1.1
TOTH				*e*S	Sn	05 30 23.4	-1.4
TOTH				AML	AML	05 30 48.5	
	comp=N,84nm,0.6s						
TOTH				AML	AML	05 31 18.8	
	comp=E,89nm,0.7s						
BRBR	**Barbar**	**2.91**	**237**	*e*P	Pn	05 29 58.8	+0.4
BRBR				*e*S	Sn	05 30 31.2	-1.0
BRBR				AML	AML	05 30 49.8	
	comp=E,81nm,0.7s						
BRBR				AML	AML	05 31 24.4	
	comp=N,124nm,0.7s						

CSEM ***24*** *05:30:10.3, 36.91N×22.20E, h19km, ML1.2/3, After ATH*
ATH 24 05:30:10.3, 36.91N×22.20E, h19km±5km, ML1.2/3, Error ellipse: s-maj=6.0km s-min=1.2km az=133.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.18**	**142**	P	Pb	05 30 14.3	+0.1
DYR				S	Sg	05 30 18.9	+0.5
DYR				AML	AML	05 30 21.9	
	comp=E,171μm,0.8s						
DYR				AML	AML	05 30 22.6	
	comp=N,132μm,0.8s						
DYR	**Agios Nikonas**	**0.18**	**142**	P	Pg	05 30 14.7	-0.4
DYR				S	Sg	05 30 18.7	+0.3
ITM	**Ithomi**	**0.35**	**322**	P	Pb	05 30 18.1	+0.2
ITM				S	Sg	05 30 22.8	-0.1
ITM				AML	AML	05 30 28.0	
	comp=E,101μm,0.7s						
ITM				AML	AML	05 30 28.0	
	comp=N,97μm,0.7s						
ITM	**Ithomi**	**0.35**	**322**	P	Pg	05 30 17.6	-0.2
ITM	**Ithomi**	**0.35**	**322**	P	Pb	05 30 17.9	0.0
ITM				S	Sg	05 30 22.9	+0.1
ITM	**Ithomi**	**0.35**	**322**	P	Pg	05 30 17.6	-0.2
PYL	**PYLOS**	**0.36**	**269**	P	Pb	05 30 18.2	+0.1
PYL				S	Sg	05 30 23.2	0.0
PYL				AML	AML	05 30 40.5	
	comp=E,130μm,0.7s						
PYL				AML	AML	05 30 42.4	
	comp=N,60μm,1.0s						
PYL	**PYLOS**	**0.36**	**269**	P	Pg	05 30 17.9	-0.1
PYL	**PYLOS**	**0.36**	**269**	P	Pb	05 30 18.1	-0.1
PYL				S	Sb	05 30 23.4	-0.1
PYL	**PYLOS**	**0.36**	**269**	P	Pg	05 30 17.9	-0.1
MES2	**Methoni**	**0.40**	**258**	P	Pb	05 30 19.0	+0.2
MES2	**Methoni**	**0.40**	**258**	P	Pb	05 30 18.8	0.0

TRN 24 05:47:14.1, 15.68N×60.58W, h19km, MD3.6, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.75**	**288**	*e*P	Pn	05 47 31.8	+2.0
MGG				*e*S	Sn	05 47 43.3	+2.7
DEG	**La Desirade**	**0.78**	**323**	*e*P	Pn	05 47 31.5	+1.2
DEG				*e*S	Sn	05 47 43.4	+2.0
MDVC	**Dominica, Viel**	**0.80**	**265**	*e*S	Sn	05 47 45.0	+3.1
MDMP	**Dominica, Moor**	**0.81**	**264**	*e*P	Pn	05 47 32.7	+2.1
MDMP				*e*S	Sn	05 47 46.3	+4.2
MDPV	**Dominica, Penn**	**0.82**	**266**	*e*S	Sn	05 47 45.3	+3.0
DSTT	**Stowe**	**0.83**	**238**	*e*S	Sn	05 47 46.2	+3.7
MDPO	**Dominica; Chan**	**0.85**	**263**	*e*P	Pn	05 47 33.1	+2.0
MDPO				*e*S	Sn	05 47 45.4	+2.3
MDN	**Morne-Daniel**	**0.87**	**245**	*e*S	Sn	05 47 46.7	+3.2
BBL	**Barber's Block**	**0.88**	**260**	*e*P	Pn	05 47 33.5	+2.0
BBL				*e*S	Sn	05 47 46.6	+2.8
CXM	**Morne La Croix**	**1.04**	**214**	⇑*i*P	Pg	05 47 35.1	+0.8
CXM				*e*S	Sg	05 47 49.2	+1.1
TBG	**Guadaloupe-3**	**1.04**	**279**	*e*P	Pg	05 47 36.1	+1.7
TBG				*e*S	Sg	05 47 50.9	+2.7
PCM	**Pelee Case Pet**	**1.06**	**215**	*e*P	Pg	05 47 35.0	+0.3
PCM	**Pelee Case Pet**	**1.06**	**215**	*e*P	Pg	05 47 35.0	+0.3
PML	**Morne Lenard**	**1.07**	**213**	*e*P	Pg	05 47 35.6	+0.7
FDF	**Fort de France**	**1.10**	**211**	*e*P	Pg	05 47 35.9	+0.5
FDF				*e*S	Sg	05 47 51.7	+1.8
SSG	**Sans Toucher**	**1.14**	**291**	⇑*i*P	Pg	05 47 37.3	+1.1
LPMF	**Morne Lapointe**	**1.17**	**199**	*e*P	Pg	05 47 36.9	+0.2

ISCJB ***24*** *05:50:00.9±0.5, 36.58N±0.02×0.85E±0.02, h19km±6km, mb3.7/10, MS2.7/2, Error ellipse: s-maj=3.9km s-min=2.6km az=169.2*
IDC ***24*** *05:50:00.6±1.2, 36.52N×0.93E, h0km, mb3.5/8, mb1 3.7/12, mb1mx3.5/73, mbtmp3.6/12, ML3.8/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/47, Error ellipse: s-maj=23.6km s-min=22.1km az=33.0*
CRAAG ***24*** *05:50:00.7, 36.44N×0.97E, Ml3.9*
NEIC ***24*** *05:50:01.9±0.4, 36.45N×0.86E, h10km, mb4.1/7, ML3.9(ALG), Error ellipse: s-maj=6.6km s-min=5.8km az=62.0*
NEIC Felt at Crevillente and Torrevieja, Spain.
INMG ***24*** *05:50:01.6±0.9, 36.56N×0.85E, h0km, ML2.9, Error ellipse: s-maj=6.3km s-min=4.3km az=102.0*
LDG ***24*** *05:50:02.4±0.2, 36.38N×0.73E, h30km, Ml3.4/11, Error ellipse: s-maj=4.4km s-min=3.4km az=164.0*
CSEM ***24*** *05:50:02.2±0.2, 36.56N×0.86E, h10km, ML3.9, Error ellipse: s-maj=4.9km s-min=3.1km az=164.0*
IGIL ***24*** *05:50:02.6, 36.47N×0.81E, h2km*
MDD ***24*** *05:50:02.3±0.9, 36.44N×0.90E, h11km±11km, mbLg3.1/39, Error ellipse: s-maj=6.9km s-min=4.4km az=151.0, PRXIMO*
ISC 24 05:50:01.8±1.5, 36.52N±0.05×0.94E±0.03, h11km±10km, n312, σ2.57/433, mb3.8/10, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHF	**Ech Chlef**	**0.49**	**138**	P	**Pg**	**05 50 10.5**	**-0.8**
ECHF	**Ech Chlef**	**0.49**	**138**	P	**Pg**	**05 50 10.5**	**-0.8**
ECHA	**Ech Chlef**	**0.51**	**137**	P	**Pg**	**05 50 10.5**	**-1.1**
EBNR	**Beni Rached**	**0.53**	**116**	P	**Pg**	**05 50 12.4**	**+0.3**
EBNR	**Beni Rached**	**0.53**	**116**	P	**Pg**	**05 50 12.4**	**+0.3**
OKGL	**Djebel Kef Gue**	**0.54**	**207**	P	**Pg**	**05 50 11.0**	**-1.3**
OKGL	**Djebel Kef Gue**	**0.54**	**207**	P	**Pg**	**05 50 12.1**	**-0.2**
OKGL	**Djebel Kef Gue**	**0.54**	**207**	P	**Pg**	**05 50 12.1**	**-0.2**
EANR	**'Ain N'Sour**	**0.58**	**167**	P	**Pg**	**05 50 12.2**	**-0.9**
EANR	**'Ain N'Sour**	**0.58**	**167**	P	**Pg**	**05 50 12.2**	**-0.9**
EANR	**'Ain N'Sour**	**0.58**	**167**	P	**Pg**	**05 50 12.3**	**-0.9**
OJGS	**Djebel Guires**	**1.03**	**189**	P	**Pb**	**05 50 19.8**	**-1.8**
OJGS	**Djebel Guires**	**1.03**	**189**	P	**Pb**	**05 50 19.8**	**-1.8**
ETRT	**Tiaret**	**1.17**	**165**	P	**Pb**	**05 50 22.0**	**-2.0**
ETRT	**Tiaret**	**1.17**	**165**	P	**Pb**	**05 50 22.0**	**-2.0**
ETRT	**Tiaret**	**1.17**	**165**	P	**Pb**	**05 50 22.0**	**-2.0**
ETRT	**Tiaret**	**1.17**	**165**	P	**Pb**	**05 50 22.0**	**-2.0**
USTO	**Oran**	**1.44**	**237**	P	**Pg**	**05 50 31.0**	**+1.6**
USTO	**Oran**	**1.44**	**237**	P	**Pg**	**05 50 31.0**	**+1.6**
ODJA	**Bouhanifia**	**1.48**	**217**	P	**Pn**	**05 50 26.0**	**-2.4**
ODJA	**Bouhanifia**	**1.48**	**217**	P	**Pn**	**05 50 26.0**	**-2.4**
ODJA	**Bouhanifia**	**1.48**	**217**	P	**Pn**	**05 50 26.0**	**-2.4**
ODJA	**Bouhanifia**	**1.48**	**217**	P	**Pn**	**05 50 26.0**	**-2.4**
EMHD	**Djebel Mahouad**	**1.66**	**101**	P	**Pb**	**05 50 32.6**	**+0.2**
EMHD	**Djebel Mahouad**	**1.66**	**101**	P	**Pb**	**05 50 32.6**	**+0.2**
EMHD	**Djebel Mahouad**	**1.66**	**101**	P	**Pb**	**05 50 32.6**	**+0.2**
OTSS	**Djebel Tessala**	**1.87**	**229**	P	Pn	05 50 13.0	-21
OTSS	**Djebel Tessala**	**1.87**	**229**	P	Pn	05 50 13.0	-21

CART	**Cartagena**	**1.88**	**305**	*e*Pn		**Pn**		**05 50 32.6**	**-1.3**
CART				*e*Sn		**Sn**		**05 50 54.8**	**-2.9**
CART	**Cartagena**	**1.88**	**305**	*e*Pn		**Pn**		**05 50 32.6**	**-1.3**
CART				*e*Sn		**Sn**		**05 50 54.8**	**-2.9**
EMUR	**La Murta**	**2.19**	**308**	P		**Pn**		**05 50 36.8**	**-1.3**
	9.2nm,0.2s,SNR=46								
EMUR				S		**Sn**		**05 51 03.1**	**-2.1**
	83nm,0.4s,SNR=7.6								
EMUR	**La Murta**	**2.19**	**308**	P		**Pn**		**05 50 36.8**	**-1.3**
	9.2nm,0.2s,SNR=46								
EMUR				S		**Sn**		**05 51 03.1**	**-2.1**
	83nm,0.4s,SNR=7.6								
OLHC	**Oulhaca**	**2.30**	**237**	P		Pn		05 50 22.0	-18
OLHC	**Oulhaca**	**2.30**	**237**	P		Pn		05 50 22.0	-18
AFON	**Font Roja**	**2.44**	**332**	P		**Pn**		**05 50 42.1**	**+0.4**
	8.4nm,0.2s,SNR=12								
AFON				S		**Sn**		**05 51 10.4**	**-1.2**
	48nm,0.3s,SNR=13								
AFON	**Font Roja**	**2.44**	**332**	P		**Pn**		**05 50 42.1**	**+0.4**
	8.4nm,0.2s,SNR=12								
AFON				S		**Sn**		**05 51 10.4**	**-1.2**
	48nm,0.3s,SNR=13								
EIBI	**Ibiza**	**2.52**	**7**	P		**Pn**		**05 50 43.1**	**+0.4**
	41nm,0.2s,SNR=7.9								
EIBI				S		**Sn**		**05 51 13.7**	**+0.3**
	48nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**2.52**	**7**	P		**Pn**		**05 50 43.1**	**+0.4**
	41nm,0.2s,SNR=7.9								
EIBI				S		**Sn**		**05 51 13.7**	**+0.3**
	48nm,0.2s,SNR=7.9								
ENIJ	**Nijar**	**2.57**	**281**	P		**Pn**		**05 50 41.7**	**-1.7**
	20nm,0.3s,SNR=7.9								
ENIJ				S		**Sn**		**05 51 08.8**	**-5.8**
	91nm,0.3s,SNR=7.9								
ENIJ	**Nijar**	**2.57**	**281**	P		**Pn**		**05 50 41.7**	**-1.7**
	20nm,0.3s,SNR=7.9								
ENIJ				S		**Sn**		**05 51 08.8**	**-5.8**
	91nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**2.90**	**318**	P		**Pn**		**05 50 48.3**	**+0.3**
	24nm,0.3s,SNR=70								
ETOB				S		**Sn**		**05 51 21.2**	**-1.7**
	51nm,0.3s,SNR=4.7								
ETOB	**Tobarra**	**2.90**	**318**	P		**Pn**		**05 50 48.3**	**+0.3**
	24nm,0.3s,SNR=70								
ETOB				S		**Sn**		**05 51 21.2**	**-1.7**
	51nm,0.3s,SNR=4.7								
EBER	**Berja**	**3.10**	**278**	P		**Pn**		**05 50 49.3**	**-1.6**
	8.6nm,0.2s,SNR=73								
EBER				S		**Sn**		**05 51 25.0**	**-3.0**
	40nm,0.2s,SNR=7.9								
EBER	**Berja**	**3.10**	**278**	P		**Pn**		**05 50 49.3**	**-1.6**
	8.6nm,0.2s,SNR=73								
EBER				S		**Sn**		**05 51 25.0**	**-3.0**
	40nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**3.21**	**301**	P		**Pn**		**05 50 52.9**	**+0.6**
	38nm,0.2s,SNR=7.9								
SESP				S		**Sn**		**05 51 29.8**	**-0.7**
	142nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**3.21**	**301**	P		**Pn**		**05 50 52.9**	**+0.6**
	38nm,0.2s,SNR=7.9								
SESP				S		**Sn**		**05 51 29.8**	**-0.7**
	142nm,0.3s,SNR=7.9								
GORA	**Gorafe**	**3.33**	**288**	P		**Pn**		**05 50 53.9**	**0.0**
	21nm,0.2s,SNR=7.9								
GORA				S		**Sn**		**05 51 33.2**	**-0.3**
	68nm,0.3s,SNR=4.0								
GORA	**Gorafe**	**3.33**	**288**	P		**Pn**		**05 50 53.9**	**0.0**
	21nm,0.2s,SNR=7.9								
GORA				S		**Sn**		**05 51 33.2**	**-0.3**
	68nm,0.3s,SNR=4.0								
EQES	**Quesada**	**3.45**	**293**	P		**Pn**		**05 50 55.7**	**+0.1**
	33nm,0.2s,SNR=229								
EQES				S		**Sn**		**05 51 35.8**	**-0.7**
	58nm,0.4s,SNR=5.0								
EQES	**Quesada**	**3.45**	**293**	P		**Pn**		**05 50 55.7**	**+0.1**
	33nm,0.2s,SNR=229								
EQES				S		**Sn**		**05 51 35.8**	**-0.7**
	58nm,0.4s,SNR=5.0								
ETOS	**Mallorca**	**3.56**	**24**	P		**Pn**		**05 50 56.1**	**-1.0**
	13nm,0.3s,SNR=59								
ETOS				S		**Sn**		**05 51 37.0**	**-2.2**
	7.0nm,0.2s								
ETOS	**Mallorca**	**3.56**	**24**	P		**Pn**		**05 50 56.1**	**-1.0**
	13nm,0.3s,SNR=59								
ETOS				S		**Sn**		**05 51 37.0**	**-2.2**
	7.0nm,0.2s								
EQUE	**Quentar**	**3.58**	**282**	P		**Pn**		**05 50 57.0**	**-0.3**
	12nm,0.3s,SNR=53								
EQUE				S		**Sn**		**05 51 39.1**	**-0.5**
	29nm,0.4s								
EQUE	**Quentar**	**3.58**	**282**	P		**Pn**		**05 50 57.0**	**-0.3**
	12nm,0.3s,SNR=53								
EQUE				S		**Sn**		**05 51 39.1**	**-0.5**
	29nm,0.4s								
ELGU	**Los Guajares,**	**3.69**	**277**	P		**Pn**		**05 50 57.9**	**-0.9**
	9.5nm,0.1s,SNR=7.9								
ELGU				S		**

PAB **San Pablo** 5.15 307 P Pn 05 51 18.6 -0.4
1.1nm,0.2s,SNR=7.9
PAB S Sn 05 52 14.7 -3.8
4.0nm,0.3s,SNR=7.9
PAB San Pablo 5.15 307 *e*Pn Pn 05 51 18.8 -0.2
PAB San Pablo 5.15 307 P Pn 05 51 18.6 -0.4
1.1nm,0.2s,SNR=7.9
PAB S Sn 05 52 14.7 -3.8
4.0nm,0.3s,SNR=7.9
ECAB El Cabril 5.30 289 P Pn 05 51 19.1 -1.9
2.3nm,0.2s,SNR=32
ECAB S Sn 05 52 18.3 -3.7
7.1nm,0.4s,SNR=7.9
ECAB El Cabril 5.30 289 P Pn 05 51 19.1 -1.9
2.3nm,0.2s,SNR=32
ECAB S Sn 05 52 18.3 -3.7
7.1nm,0.4s,SNR=7.9
ESAC San Caprasio 5.31 349 P Pn 05 51 23.7 +2.6
9.1nm,0.3s,SNR=10
ESAC S Sn 05 52 22.2 -0.1
44nm,0.3s,SNR=7.9
ESAC San Caprasio 5.31 349 P Pn 05 51 23.7 +2.6
9.1nm,0.3s,SNR=10
ESAC S Sn 05 52 22.2 -0.1
44nm,0.3s,SNR=7.9
CFON Fontmartina 5.36 12 P Pn 05 51 22.2 +0.4
32nm,0.2s,SNR=152
CFON S Sn 05 52 17.6 -6.0
11nm,0.2s,SNR=5.6
CFON Fontmartina 5.36 12 P Pn 05 51 22.2 +0.4
32nm,0.2s,SNR=152
CFON S Sn 05 52 17.6 -6.0
11nm,0.2s,SNR=5.6
EMIR Miracle 5.41 5 P Pn 05 51 24.2 +1.8
22nm,0.2s,SNR=47
EMIR S Sn 05 52 22.9 -1.8
30nm,0.3s,SNR=5.7
EMIR Miracle 5.41 5 P Pn 05 51 24.2 +1.8
22nm,0.2s,SNR=47
EMIR S Sn 05 52 22.9 -1.8
30nm,0.3s,SNR=5.7
GUD Guadarrama 5.73 317 P Pn 05 51 27.2 +0.2
1.2nm,0.2s,SNR=9.1
GUD S Sn 05 52 29.9 -2.9
2.2nm,0.3s,SNR=5.6
GUD Guadarrama 5.73 317 P Pn 05 51 27.2 +0.2
1.2nm,0.2s,SNR=9.1
GUD S Sn 05 52 29.9 -2.9
2.2nm,0.3s,SNR=5.6
CSOR Sort 5.85 1 P Pn 05 51 30.0 +1.4
7.8nm,0.2s,SNR=73
CSOR S Sn 05 52 34.9 -0.8
5.0nm,0.2s,SNR=7.9
CSOR Sort 5.85 1 P Pn 05 51 30.0 +1.4
7.8nm,0.2s,SNR=73
CSOR S Sn 05 52 34.8 -0.8
5.0nm,0.2s,SNR=7.9
CLLI Llivia 6.00 7 P Pn 05 51 32.4 +1.7
2.4nm,0.2s,SNR=33
CLLI S Sn 05 52 36.9 -2.6
2.0nm,0.3s,SNR=7.9
CLLI Llivia 6.00 7 P Pn 05 51 32.4 +1.7
2.4nm,0.2s,SNR=33
CLLI S Sn 05 52 36.9 -2.6
2.0nm,0.3s,SNR=7.9
EJON La Jonquera 6.11 14 P Pn 05 51 33.1 +1.0
4.2nm,0.2s,SNR=10
EJON S Sn 05 52 38.4 -3.5
2.7nm,0.2s,SNR=7.9
EJON La Jonquera 6.11 14 P Pn 05 51 33.1 +1.0
4.2nm,0.2s,SNR=10
EJON S Sn 05 52 38.4 -3.5
2.7nm,0.2s,SNR=7.9
SJAF Saint Jean de 6.14 14 P Pn 05 51 33.2 +0.7
1.9nm,0.2s,SNR=7.9
SJAF S Sn 05 52 39.2 -3.5
1.1nm,0.2s,SNR=7.9
SJAF Saint Jean de 6.14 14 P Pn 05 51 33.2 +0.7
1.9nm,0.2s,SNR=7.9
SJAF S Sn 05 52 39.2 -3.5
1.1nm,0.2s,SNR=7.9
ECHI Chisagues Biel 6.16 355 P Pn 05 51 35.8 +3.0
0.3nm,0.1s,SNR=7.9
EMIN Mina Concepcio 6.21 284 P Pn 05 51 31.5 -1.8
1.0nm,0.1s,SNR=22
EMIN S Sn 05 52 38.1 -6.2
2.5nm,0.3s,SNR=7.9
EMIN Mina Concepcio 6.21 284 P Pn 05 51 31.5 -1.8
1.0nm,0.1s,SNR=22
ETSF Etsaut 6.47 350 *e*P Pn 05 51 40.1 +3.0
SNR=1.0
ETSF *e*Sn Sn 05 52 44.4 -6.6
7.3nm,0.5s
ETSF Etsaut 6.47 350 P Pn 05 51 40.1 +3.0
ETSF S Sn 05 52 44.4 -6.6
3.7nm,0.5s
EPF Esparros 6.52 356 *e*Pn Pn 05 51 37.1 -0.6
SNR=1.0
EPF *e*Sn Sn 05 52 45.9 -6.1
9.2nm,0.6s,SNR=1.0
EPF Esparros 6.52 356 P Pn 05 51 37.1 -0.6
EPF S Sn 05 52 45.9 -6.1
4.6nm,0.6s
EPF Esparros 6.52 356 P Pn 05 51 37.1 -0.6
IELO Elcoad 6.53 346 P Pn 05 51 38.7 +0.8
1.8nm,0.2s,SNR=7.9
IELO S Sn 05 52 48.5 -4.0
1.5nm,0.2s,SNR=7.9
IELO Elcoad 6.53 346 P Pn 05 51 38.7 +0.8
1.8nm,0.2s,SNR=7.9
IELO S Sn 05 52 48.5 -4.0
1.5nm,0.2s,SNR=7.9
PBAR Barrancos 6.57 287 *e*Pn Pn 05 51 37.8 -0.5
PBAR *e*Sn Sn 05 52 47.0 -6.2
PBAR A A 05 53 13.9
8.1nm,0.5s
PBAR Barrancos 6.57 287 P Pn 05 51 37.8 -0.5
PBAR S Sn 05 52 47.0 -6.2
8.1nm,0.5s
PBAR Barrancos 6.57 287 P Pn 05 51 37.8 -0.5
EORO Oroz-Betelu 6.60 345 P Pn 05 51 40.0 +1.3
0.8nm,0.2s,SNR=7.9
EORO S Sn 05 52 49.3 -4.7
4.1nm,0.3s,SNR=7.9
EORO Oroz-Betelu 6.60 345 P Pn 05 51 40.0 +1.3
0.8nm,0.2s,SNR=7.9
ATE Arette 6.68 350 P Pn 05 51 41.8 +2.0
4.5nm,0.4s,SNR=7.9
ATE S Sn 05 52 53.0 -2.9
3.6nm,0.3s,SNR=7.9
ATE Arette 6.68 350 P Pn 05 51 41.8 +2.0
4.5nm,0.4s,SNR=7.9
ATE S Sn 05 52 53.0 -2.9
3.6nm,0.3s,SNR=7.9
EBAD Badajoz 6.69 292 P Pn 05 51 38.7 -1.4
0.8nm,0.1s,SNR=6.8
EBAD S Sn 05 52 50.2 -6.1
5.0nm,0.2s,SNR=4.6
EBAD Badajoz 6.69 292 P Pn 05 51 38.7 -1.4
0.8nm,0.1s,SNR=6.8
SJPF Ste Jean 6.79 346 *e*P Pn 05 51 44.1 +2.7
SNR=1.0
SJPF *e*Sn Sn 05 52 52.2 -6.5
6.8nm,0.5s,SNR=1.0
SJPF Ste Jean 6.79 346 P Pn 05 51 44.1 +2.7
SJPF S Sn 05 52 52.2 -6.5
3.4nm,0.5s
EGRO El Granado 6.81 281 P Pn 05 51 41.0 -0.7
1.5nm,0.2s,SNR=7.9
EGRO S Sn 05 52 49.8 -9.5
0.9nm,0.2s,SNR=7.9
EGRO El Granado 6.81 281 P Pn 05 51 41.0 -0.7
1.5nm,0.2s,SNR=7.9
KEST Kesra 6.85 94 Pn Pn 05 51 42.7 +0.5
1.8nm,0.3s,baz=132,slow=12,SNR=32
KEST Sn Sn 05 52 58.6 -1.7
baz=88,slow=18,SNR=1.3
KEST Kesra 6.85 94 *e*Pn Pn 05 51 43.7 +1.4
KEST Sn Sn 05 52 58.6 -1.7
KEST Kesra 6.85 94 *e*Pn Pn 05 51 43.7 +1.4
MTLF Montolieu 6.88 8 *e*Pn Pn 05 51 42.9 +0.3
SNR=1.0
MTLF Montolieu 6.88 8 P Pn 05 51 42.9 +0.3
MTLF Montolieu 6.88 8 P Pn 05 51 42.9 +0.3
EALK Alkurruntz 6.95 345 P Pn 05 51 45.7 +2.1
1.9nm,0.2s,SNR=4.0
EALK S Sn 05 53 00.1 -2.6
16nm,0.4s,SNR=7.9
EALK Alkurruntz 6.95 345 P Pn 05 51 45.7 +2.1
1.9nm,0.2s,SNR=4.0
EALK S Sn 05 53 00.1 -2.6
16nm,0.4s,SNR=7.9
PVAQ Vaqueiros 6.99 280 *e*Pn Pn 05 51 43.3 -0.8
PVAQ *e*Sn Sn 05 52 58.9 -4.6
PVAQ A A 05 53 02.6
6.4nm,0.6s
PVAQ Vaqueiros 6.99 280 P Pn 05 51 43.3 -0.8
PVAQ S Sn 05 52 58.9 -4.6
6.4nm,0.6s
PVAQ Vaqueiros 6.99 280 P Pn 05 51 43.3 -0.8
PVAQ S Sn 05 52 58.9 -4.6
6.4nm,0.6s
PBDV Barranco-do-Ve 7.15 278 *e*Pn Pn 05 51 46.1 -0.2
PBDV *e*Sn Sn 05 53 04.2 -3.3
PBDV A A 05 53 10.7
6.5nm,0.6s
PBDV Barranco-do-Ve 7.15 278 P Pn 05 51 46.1 -0.2
PBDV S Sn 05 53 04.2 -3.3
6.5nm,0.6s
PBDV Barranco-do-Ve 7.15 278 P Pn 05 51 46.1 -0.2
PBDV S Sn 05 53 04.2 -3.3
6.5nm,0.6s
PESTR Estremoz 7.16 292 *e*Pn Pn 05 51 46.4 0.0
PESTR *e*Sn Sn 05 53 02.6 -5.1
PESTR Estremoz 7.16 292 *e*Pn Pn 05 51 46.5 0.0
PESTR Estremoz 7.16 292 *e*Pn Pn 05 51 46.4 0.0
PBEJ Beja 7.18 285 *e*Pn Pn 05 51 46.2 -0.5
PBEJ Beja 7.18 285 P Pn 05 51 46.2 -0.5
PBEJ Beja 7.18 285 P Pn 05 51 46.2 -0.5
PMRV Marv??o 7.19 296 *e*Pn Pn 05 51 47.2 +0.3
PMRV *e*Sn Sn 05 53 04.2 -4.4
PMRV Marv??o 7.19 296 P Pn 05 51 47.2 +0.3
PMRV S Sn 05 53 04.2 -4.4
PMRV Marv??o 7.19 296 P Pn 05 51 47.2 +0.3
PMRV S Sn 05 53 04.2 -4.4
PCVE Castro Verde 7.26 281 *e*Pn Pn 05 51 46.3 -1.6
PCVE Castro Verde 7.26 281 P Pn 05 51 46.3 -1.6
PCVE Castro Verde 7.26 281 P Pn 05 51 46.3 -1.6
VSL Villasalto 7.29 63 *e*Pn Pn 05 51 47.3 -1.0
VSL Villasalto 7.29 63 *e*Pn Pn 05 51 47.3 -1.0
EVO Evora 7.39 288 *e*Pn Pn 05 51 49.5 -0.1
EVO *e*Sn Sn 05 53 09.1 -4.4
EVO Evora 7.39 288 P Pn 05 51 49.5 -0.1
EVO S Sn 05 53 09.1 -4.4
EVO Evora 7.39 288 P Pn 05 51 49.5 -0.1
EVO S Sn 05 53 09.1 -4.4
PCBR Castelo Branco 7.41 299 *e*Pn Pn 05 51 50.4 +0.5
PCBR *e*Sn Sn 05 53 11.1 -2.8
PCBR Castelo Branco 7.41 299 P Pn 05 51 50.4 +0.5
PCBR S Sn 05 53 11.1 -2.8
PCBR Castelo Branco 7.41 299 P Pn 05 51 50.4 +0.5
PCBR S Sn 05 53 11.1 -2.8
MESJ Messejana 7.43 283 *e*P Pn 05 51 47.7 -2.4
MESJ Messejana 7.43 283 *e*P Pn 05 51 47.7 -2.4
MESJ Messejana 7.43 283 P Pn 05 51 47.7 -2.4
MESJ Messejana 7.43 283 P Pn 05 51 47.7 -2.4
ELAN Lanestosa 7.50 335 P Pn 05 51 53.0 +1.9
2.0nm,0.2s,SNR=34
ELAN S Sn 05 53 13.5 -2.6
22nm,0.7s,SNR=7.9
ELAN Lanestosa 7.50 335 P Pn 05 51 53.0 +1.9
2.0nm,0.2s,SNR=34
ELAN S Sn 05 53 13.5 -2.6
22nm,0.7s,SNR=7.9
PMTG Montargil 7.69 292 *e*Pn Pn 05 51 53.4 -0.3
PMTG *e*Sn Sn 05 53 15.1 -5.7
PMTG Montargil 7.69 292 *e*Pn Pn 05 51 53.4 -0.3
MTE Manteigas 7.70 303 *e*Pn Pn 05 51 55.5 +1.6
MTE Manteigas 7.70 303 P Pn 05 51 55.5 +1.6
MTE Manteigas 7.70 303 P Pn 05 51 55.5 +1.6
PNCL Nicolau / Gran 7.71 285 *e*Pn Pn 05 51 53.3 -0.7
PNCL Nicolau / Gran 7.71 285 *e*Pn Pn 05 51 53.3 -0.7
MORF Marmelete 7.72 279 *e*Pn Pn 05 51 53.4 -0.8
MORF *e*Sn Sn 05 53 17.0 -4.7
MORF Marmelete 7.72 279 P Pn 05 51 53.4 -0.8
MORF S Sn 05 53 17.0 -4.7
MORF Marmelete 7.72 279 P Pn 05 51 53.4 -0.8
MVO Moncorvo 7.76 309 *e*Pn Pn 05 51 55.0 +0.3
MVO *e*Sn Sn 05 53 18.2 -4.3
MVO Moncorvo 7.76 309 P Pn 05 51 54.7 0.0
2.5nm,0.2s,SNR=10.0
MVO S Sn 05 53 19.0 -3.5
4.6nm,0.3s,SNR=7.9
MVO Moncorvo 7.76 309 P Pn 05 51 54.7 0.0
2.5nm,0.2s,SNR=10.0
MVO Moncorvo 7.76 309 *e*Pn Pn 05 51 55.0 +0.3
MVO *e*Sn Sn 05 53 18.2 -4.3
MVO S Sn 05 53 19.0 -3.5
4.6nm,0.3s,SNR=7.9
PTEO Sao Teotonio 7.80 280 *e*Sn Sn 05 53 18.3 -5.1
PTEO Sao Teotonio 7.80 280 S Sn 05 53 18.3 -5.1
LASF Ste Croix 7.87 16 *e*Pn Pn 05 51 56.6 +0.4
SNR=1.0
LASF Ste Croix 7.87 16 P Pn 05 51 56.6 +0.4
LASF Ste Croix 7.87 16 P Pn 05 51 56.6 +0.4
PBRG Braganca 7.96 314 *e*Pn Pn 05 51 57.9 +0.4
PBRG Braganca 7.96 314 P Pn 05 51 57.9 +0.4
PBRG Braganca 7.96 314 P Pn 05 51 57.9 +0.4
LMR La Mourre 8.04 30 *e*Pn Pn 05 51 58.8 +0.4
SNR=1.0
LMR *e*Sn Sn 05 53 23.7 -5.6
2.8nm,0.3s,SNR=1.0
LMR La Mourre 8.04 30 P Pn 05 51 58.8 +0.4
LMR S Sn 05 53 23.7 -5.6
1.4nm,0.3s
LMR La Mourre 8.04 30 P Pn 05 51 58.8 +0.4
ECAL Calabor 8.05 315 P Pn 05 51 58.5 -0.2
3.7nm,0.3s,SNR=15
ECAL S Sn 05 53 24.4 -5.3
2.8nm,0.3s,SNR=7.9
ECAL Calabor 8.05 315 P Pn 05 51 58.5 -0.2
3.7nm,0.3s,SNR=15
PVIS Viseu 8.08 304 *e*Pn Pn 05 51 59.1 -0.1
PVIS Viseu 8.08 304 P Pn 05 51 59.1 -0.1
PVIS Viseu 8.08 304 P Pn 05 51 59.1 -0.1
PCAS Casmilo, Conde 8.22 298 *e*Pn Pn 05 52 02.0 +1.1
PCAS Casmilo, Conde 8.22 298 *e*Pn Pn 05 52 02.0 +1.1
SMRF Simiane la Rot 8.24 24 *e*P Pn 05 52 04.1 +2.7
SNR=1.0
SMRF *e*Sn Sn 05 53 29.2 -5.3
1.6nm,0.4s
SMRF Simiane la Rot 8.24 24 P Pn 05 52 04.1 +2.7
SMRF S Sn 05 53 29.2 -5.3
1.6nm,0.4s
SMRF Simiane la Rot 8.24 24 *e*P Pn 05 52 04.1 +2.7
SNR=1.0
PVRL Vila Real 8.25 308 *e*Pn Pn 05 52 01.9 +0.5
PVRL *e*Sn Sn 05 53 30.6 -4.0
PVRL Vila Real 8.25 308 P Pn 05 52 01.9 +0.5
PVRL S Sn 05 53 30.6 -4.0
PVRL Vila Real 8.25 308 P Pn 05 52 01.9 +0.5
PVRL S Sn 05 53 30.6 -4.0
EARI Arriondas 8.26 327 P Pn 05 52 03.2 +1.7
1.0nm,0.3s,SNR=117
EARI S Sn 05 53 33.3 -1.5
0.9nm,0.4s,SNR=7.9
EARI Arriondas 8.26 327 P Pn 05 52 03.2 +1.7
1.0nm,0.3s,SNR=117
EARI S Sn 05 53 33.3 -1.5
0.9nm,0.4s,SNR=7.9
FRF La Foret Royal 8.28 30 *e*Pn Pn 05 52 02.5 +0.7
SNR=1.0
FRF *e*Sn Sn 05 53 29.7 -5.6
2.3nm,0.2s,SNR=1.0
FRF La Foret Royal 8.28 30 P Pn 05 52 02.5 +0.7
FRF S Sn 05 53 29.7 -5.6
1.2nm,0.2s
FRF La Foret Royal 8.28 30 P Pn 05 52 02.5 +0.7
POLO Lamas de Olo 8.35 308 *e*Pn Pn 05 52 03.6 +0.7
POLO *e*Sn Sn 05 53 34.9 -2.3
POLO Lamas de Olo 8.35 308 *e*Pn Pn 05 52 03.6 +0.7
POLO *e*Sn Sn 05 53 34.9 -2.3
LFF La Frestale 8.41 359 *e*Pn Pn 05 52 02.3 -1.3
SNR=1.0
LFF *e*Sn Sn 05 53 32.2 -6.3
4.8nm,0.5s
LFF La Frestale 8.41 359 P Pn 05 52 02.3 -1.3
LFF S Sn 05 53 32.2 -6.3
2.4nm,0.5s
LFF La Frestale 8.41 359 P Pn 05 52 02.3 -1.3
CAF Calviac 8.44 5 *e*Pn Pn 05 52 05.1 +1.1
SNR=1.0
CAF *e*Sn Sn 05 53 32.6 -6.7
3.5nm,0.4s
CAF Calviac 8.44 5 P Pn 05 52 05.1 +1.1
CAF S Sn 05 53 32.6 -6.7
1.8nm,0.4s
CAF Calviac 8.44 5 P Pn 05 52 05.1 +1.1
PMAFR Mafra 8.46 290 *e*Pn Pn 05 52 04.7 +0.5
PMAFR Mafra 8.46 290 P Pn 05 52 02.5 -1.7
3.6nm,0.2s,SNR=4.0
PMAFR Mafra 8.46 290 P Pn 05 52 02.5 -1.7
3.6nm,0.2s,SNR=4.0
PMAFR Mafra 8.46 290 *e*Pn Pn 05 52 04.7 +0.5
PGF Pioggiola 8.66 43 *e*Pn Pn 05 52 06.5 -0.6
SNR=1.0
PGF *e*Sn Sn 05 53 37.2 -7.5
3.4nm,0.3s,SNR=1.0
PGF Pioggiola 8.66 43 P Pn 05 52 06.5 -0.6
PGF S Sn 05 53 37.2 -7.5
1.7nm,0.3s
PGF Pioggiola 8.66 43 P Pn 05 52 06.5 -0.6
RJF Les Rejaudoux 8.79 3 *e*Pn Pn 05 52 08.2 -0.5
SNR=1.0
RJF *e*Sn Sn 05 53 41.5 -6.2
1.7nm,0.3s
RJF Les Rejaudoux 8.79 3 P Pn 05 52 08.2 -0.5
RJF S Sn 05 53 41.5 -6.2
0.9nm,0.3s
RJF Les Rejaudoux 8.79 3 P Pn 05 52 08.2 -0.5
ELOB Lobios 8.79 310 P Pn 05 52 07.9 -1.0
0.8nm,0.2s,SNR=6.4
ELOB S Sn 05 53 42.7 -5.3
1.6nm,0.4s,SNR=7.9
ELOB Lobios 8.79 310 P Pn 05 52 07.9 -1.0
0.8nm,0.2s,SNR=6.4
VIVF Saint-Julien-l 8.79 18 *e*Pn Pn 05 52 08.8 -0.1
VIVF Saint-Julien-l 8.79 18 P Pn 05 52 08.8 -0.1
VIVF Saint-Julien-l 8.79 18 P Pn 05 52 08.8 -0.1
SBF Sospel 8.86 32 *e*Pn Pn 05 52 08.7 -1.1
SNR=1.0
SBF *e*Sn Sn 05 53 41.7 -7.8
2.1nm,0.3s
SBF Sospel 8.86 32 P Pn 05 52 08.7 -1.1
SBF S Sn 05 53 41.7 -7.8
1.1nm,0.3s
SBF Sospel 8.86 32 P Pn 05 52 08.7 -1.1
PGAV Gavieira, Arco 8.98 310 *e*Pn Pn 05 52 11.6 +0.2
PGAV Gavieira, Arco 8.98 310 *e*Pn Pn 05 52 11.6 +0.2
ORIF Oris-en-Rattie 9.19 23 *e*Pn Pn 05 52 14.1 -0.2
ORIF Oris-en-Rattie 9.19 23 P Pn 05 52 14.1 -0.2
ORIF Oris-en-Rattie 9.19 23 P Pn 05 52 14.1 -0.2
EPON Pontenova 9.21 320 P Pn 05 52 14.5 0.0
1.4nm,0.3s,SNR=8.1
EPON Pontenova 9.21 320 P Pn 05 52 14.5 0.0
1.4nm,0.3s,SNR=8.1
MBDF Montbardon 9.32 27 *e*Pn Pn 05 52 16.0 -0.1
MBDF Montbardon 9.32 27 P Pn 05 52 16.0 -0.1
MBDF Montbardon 9.32 27 P Pn 05 52 16.0 -0.1
EAGO Agolada(Pontev 9.37 315 P Pn 05 52 15.9 -0.9
1.2nm,0.3s,SNR=7.9
EAGO Agolada(Pontev 9.37 315 P Pn 05 52 15.9 -0.9
1.2nm,0.3s,SNR=7.9
TCF Toulx Ste Croi 9.81 5 *e*Pn Pn 05 52 21.4 -1.3
TCF Toulx Ste Croi 9.81 5 P Pn 05 52 21.4 -1.3
TCF Toulx Ste Croi 9.81 5 P Pn 05 52 21.4 -1.3
LPG La Plagne 9.98 24 *e*P Pn 05 52 29.7 +4.3
SNR=1.0
LPG La Plagne 9.98 24 P Pn 05 52 29.7 +4.3
LPL La Plagne 9.99 24 *e*P Pn 05 52 29.6 +4.1
SNR=1.0
LPL La Plagne 9.99 24 P Pn 05 52 29.6 +4.1
MFF Saint Martin d 10.11 356 *e*Pn Pn 05 52 25.2 -1.6
SNR=1.0
MFF Saint Martin d 10.11 356 P Pn 05 52 25.2 -1.6
MFF Saint Martin d 10.11 356 P Pn 05 52 25.2 -1.6
BGF Bois d'Agland 10.13 7 *e*Pn Pn 05 52 26.3 -0.8
SNR=1.0
BGF Bois d'Agland 10.13 7 P Pn 05 52 26.3 -0.8
BGF Bois d'Agland 10.13 7 P Pn 05 52 26.3 -0.8
SMF Signal de Mont 10.35 11 *e*Pn Pn 05 52 28.6 -1.5
SNR=1.0
SMF Signal de Mont 10.35 11 P Pn 05 52 28.6 -1.5
SMF Signal de Mont 10.35 11 P Pn 05 52 28.6 -1.5
AVF Avril sur Loir 10.42 9 *e*Pn Pn 05 52 30.1 -1.0
SNR=1.0
AVF Avril sur Loir 10.42 9 P Pn 05 52 30.1 -1.0
AVF Avril sur Loir 10.42 9 P Pn 05 52 30.1 -1.0
SSF Saint Saulge 10.71 9 *e*Pn Pn 05 52 33.6 -1.4
SSF Saint Saulge 10.71 9 P Pn 05 52 33.6 -1.4
SSF Saint Saulge 10.71 9 P Pn 05 52 33.6 -1.4
CABF La Chapelle 10.79 19 *e*Pn Pn 05 52 36.8 +0.5
CABF La Chapelle 10.79 19 P Pn 05 52 36.8 +0.5
CABF La Chapelle 10.79 19 P Pn 05 52 36.8 +0.5
LOR Lormes 10.96 11 *e*Pn Pn 05 52 37.1 -1.4
LOR Lormes 10.96 11 P Pn 05 52 37.1 -1.4
LOR Lormes 10.96 11 P Pn 05 52 37.1 -1.4
LDF La Druitiere 12.09 357 *e*Pn Pn 05 52 52.9 -1.0
LDF La Druitiere 12.09 357 *e*Pn Pn 05 52 52.9 -1.0
HINF Hinteralfeld 12.11 19 *e*Pn Pn 05 52 53.1 -1.1
HINF Hinteralfeld 12.11 19 P Pn 05 52 53.1 -1.1
HINF Hinteralfeld 12.11 19 P Pn 05 52 53.1 -1.1
DAVA Damuels 12.64 29 *e*Pn Pn 05 53 05.8 +4.1
6.8nm,1.1s
MOA Molln 15.00 37 *e*Pn P 05 53 36.9 -2.3
4.6nm,1.3s
ARSA Arzberg 15.23 41 *e*Pn P 05 53 40.8 -0.9
3.1nm,0.8s
TTG Podgorica 15.31 62 *e*Pn P 05 53 43.5 +0.9
6.1nm,1.0s
GEA0 GERESS Array S 15.45 33 *e*Pn Pn 05 53 40.5 +0.8
GEA0 GERESS Array S 15.45 33 *e*Pn Pn 05 53 40.5 +0.8
GERES GERESS Array B 15.46 33 Pn Pn 05 53 38.8 -0.9
0.1nm,0.3s,baz=228,slow=10,SNR=5.0
GERES LR LR 05 59 40.7
comp=Z,64nm,18.3s,baz=118,slow=38
CONA Conrad Observa 15.85 39 Pn P 05 53 47.7 -0.9
4.5nm,1.3s
CONA Conrad Observa 15.85 39 *e*Pn P 05 53 47.7 -0.9
4.5nm,1.3s
VRAC Vranov 17.12 37 LR LR 06 01 19.9
comp=Z,76nm,18.4s,baz=255,slow=40
PSZ Piszkesteto 18.02 45 *e*Pn P 05 54 15.2 +2.5
11nm,1.2s
CRVS Cervenica-Dubn 19.43 44 *e*P Pn 05 54 31.5 +2.2
IDI Anoyia 19.43 87 P P 05 54 28.4 +0.2
0.2nm,0.3s,baz=269,slow=8.6,SNR=3.5
MLR Muntele Rosu 20.82 57 P P 05 54 43.3 -0.1
0.6nm,0.7s,baz=265,slow=11,SNR=5.0
MLR LR LR 06 03 08.1
comp=Z,28nm,18.7s,baz=258,slow=38
MLR Muntele Rosu 20.82 57 *e*P Pn 05 54 45.7 -0.1
4.9nm,0.8s
MLR Muntele Rosu 20.82 57 *e*P Pn 05 54 45.7 -0.1
4.9nm,0.8s
BUR04 Bucovina Ar. S 21.07 51 *e*P P 05 54 49.5 +3.5
TOA0 Torodi Ar. Sit 23.28 178 *e*P P 05 55 13.0 +3.4
4.0nm,1.0s
TORD Torodi Ar. Bea 23.28 178 P P 05 55 09.3 -0.2
0.7nm,0.7s,baz=347,slow=8.9,SNR=5.2
AKASG Malin Array Be 24.72 46 P P 05 55 22.3 -0.6
0.7nm,0.6s,baz=245,slow=10.0,SNR=3.8
HFS Hagfors 25.01 15 P P 05 55 26.5 +1.0
1.2nm,0.3s,baz=219,slow=11,SNR=3.3
NOA NORSAR Array B 25.39 12 LR LR 06 06 03.9
comp=Z,22nm,18.4s,baz=115,slow=38
BRTR Keskin Array B 25.84 73 P P 05 55 35.5 +2.1
0.4nm,0.7s,baz=329,slow=7.0,SNR=3.4
CSS Mathiatis 26.27 84 *e*P P 05 55 41.0 +3.8
8.8nm,1.2s
FIA1 FINESS Array S 29.54 24 *e*P P 05 56 07.0 +1.0
KURBB Kurchatov Arra 55.46 49 P P 05 59 37.1 +0.9
1.7nm,0.6s,baz=290,slow=7.9,SNR=3.7
KURK Kurchatov 55.48 49 P P 05 59 37.1 +0.7
MK31 Makanchi Array 59.09 52 *e*P P 06 00 03.0 +1.0
MKAR Makanchi Array 59.09 52 P P 06 00 02.0 0.0
0.9nm,0.5s,baz=288,slow=6.1,SNR=10
MKAR Makanchi Array 59.09 52 *e*P P 06 00 03.0 +1.0
7.1nm,0.6s
MK01 Makanchi Array 59.10 52 *e*P P 06 00 02.7 +0.5
WMQ Urumqi 63.78 54 *e*P P 06 00 37.8 +3.9
YKA Yellowknife Ar 68.69 333 P P 06 01 05.9 +1.0
0.2nm,0.7s,baz=55,slow=6.3,SNR=3.4
GTA Gaotai 73.83 53 *e*P P 06 01 35.3 -1.4
GTA pP pP 06 01 39.4 -0.9
GTA sP sP 06 01 42.3 +0.7

DAWY	**Dawson**	**74.96**	**343**	*e*P	**P**	**06 01 45.3**	**+2.6**
	7.9nm,1.5s						
HHC	**Hu-ho-hao-te**	**80.16**	**46**	*e*P	**P**	**06 02 13.4**	**+1.1**
STKA	**Stephens Creek**	**147.29**	**94**	PKPbc	**PKPbc**	**06 09 46.0**	**+0.6**
	1.5nm,0.8s,baz=277,slow=4.9,SNR=3.1						
STKA	**Stephens Creek**	**147.29**	**94**	*e*PKPdf	**PKPbc**	**06 09 46.1**	**+0.6**

IDC 24 05:50:46.2±7.1, 5.74S×148.22E, h96km±62km, mb3.1/2, mb1 3.4/4, mb1mx3.0/51, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=90.0km s-min=51.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.80**	**196**	P	Pn	05 51 44.6	+2.0
	3.7nm,0.3s,baz=311,slow=11,SNR=5.3						
PMG				S	Sn	05 52 25.8	-0.5
	2.6nm,0.3s,baz=264,slow=18,SNR=4.9						
WRA	**Warramunga Arr**	**19.54**	**222**	P	P	05 55 07.0	+0.7
	0.3nm,0.3s,baz=44,slow=12,SNR=21						
ASAR	**Alice Springs**	**22.54**	**216**	P	P	05 55 39.0	+0.6
	0.2nm,0.4s,baz=52,slow=9.2,SNR=6.6						
FITZ	**Fitzroy Crossi**	**25.24**	**239**	P	P	05 56 04.0	+0.4
	1.3nm,0.7s,baz=56,slow=15,SNR=4.4						
TORD	**Torodi Ar. Bea**	**146.20**	**285**	PKPbc	PKPdf	06 10 14.7	-0.7
	0.2nm,0.3s,baz=90,slow=2.3,SNR=2.7						

*HLW **24** 05:55:06.0, 36.00N×23.97E, h25km±16km, Md4.5, MI3.7*
*MOS **24** 05:55:07.8±1.1, 35.76N×23.89E, h50km, mb4.0/9, Error ellipse: s-maj=9.1km s-min=3.9km az=94.2*
*IDC **24** 05:55:08.0±3.5, 35.97N×24.04E, h33km±29km, mb3.7/14, mb1 3.7/16, mb1mx3.5/69, mbtmp3.8/16, ML4.1/2, MS4.1/1, Ms1 4.1/1, ms1mx2.5/61, Error ellipse: s-maj=17.0km s-min=13.7km az=45.0*
*ISCJB **24** 05:55:09.5±0.2, 35.91N±0.02×24.01E±0.02, h58km±2km, mb4.0/24, MS4.2/1, Error ellipse: s-maj=3.5km s-min=2.2km az=30.6*
*NEIC **24** 05:55:09.4±0.0, 35.92N×24.05E, h44km, mb4.4/14, ML3.9(THE), ML3.9(ATH), After ATH.*
NEIC Felt at Chania.
*ATH **24** 05:55:09.5, 35.92N×24.05E, h44km±1km, ML3.9/15, Error ellipse: s-maj=2.1km s-min=0.7km az=212.0*
*ISK **24** 05:55:09.9, 35.94N×24.12E, h27km, ML3.6/8*
*CSEM **24** 05:55:10.4±0.1, 35.87N×24.02E, h53km±1km, mb4.3/15, Error ellipse: s-maj=3.5km s-min=2.1km az=30.0*
*THE **24** 05:55:11.1, 35.94N×24.05E, h31km±41km, ML3.9/20, Error ellipse: s-maj=41.3km s-min=0.8km az=212.0*
*DDA **24** 05:56:02.2, 35.81N×23.85E, h1km, MI3.7*

ISC 24 05:55:09.7±0.8, 35.93N±0.02×24.04E±0.02, h38km±2km, n473, σ1.987/543, mb4.1/24, 9C-8D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMMV	**Iera Moni Meta**	**0.47**	**186**	PG	**Pn**	**05 55 20.7**	**+0.9**
IMMV				SG	**Sn**	**05 55 28.3**	**+1.4**
IMMV	**Iera Moni Meta**	**0.47**	**186**	P	**Pn**	**05 55 21.4**	**+1.6**
IMMV				S	**Sn**	**05 55 27.1**	**+0.2**
IMMV				AML	AML	05 55 28.2	
	comp=E,41305μm,0.3s						
IMMV				AML	AML	05 55 29.3	
	comp=N,46844μm,0.3s						
IMMV	**Iera Moni Meta**	**0.47**	**186**	P	**Pn**	**05 55 20.9**	**+1.1**
IMMV				S	**Sn**	**05 55 27.8**	**+0.9**
IMMV				*e*Sg	**Sn**	**05 55 28.3**	**+1.4**
IMMV	**Iera Moni Meta**	**0.47**	**186**	P	**Pn**	**05 55 20.9**	**+1.1**
IMMV				S	**Sn**	**05 55 27.6**	**+0.7**
ANKY	**Antikythira Is**	**0.60**	**264**	P	**Pn**	**05 55 23.0**	**+1.1**
ANKY				S	**Sn**	**05 55 31.3**	**+0.9**
ANKY				AML	AML	05 55 32.7	
	comp=N,10554μm,0.4s						
ANKY				AML	AML	05 55 38.4	
	comp=E,9554μm,0.4s						
ANKY	**Antikythira Is**	**0.60**	**264**	P	**Pn**	**05 55 22.8**	**+0.9**
ANKY				S	**Sn**	**05 55 31.7**	**+1.3**
ANKY	**Antikythira Is**	**0.60**	**264**	P	**Pn**	**05 55 22.8**	**+0.9**
ANKY				S	**Sn**	**05 55 29.9**	**-0.5**
MHLO	**Agia Marina, M**	**0.81**	**21**	P	**Pn**	**05 55 26.2**	**+1.6**
MHLO				S	**Sn**	**05 55 36.5**	**+1.0**
MHLO				AML	AML	05 55 38.5	
	comp=E,53209μm,0.4s						
MHLO				AML	AML	05 55 39.0	
	comp=N,44899μm,0.4s						
MHLO	**Agia Marina, M**	**0.81**	**21**	P	**Pn**	**05 55 25.9**	**+1.3**
MHLO				S	**Sn**	**05 55 36.9**	**+1.4**
MHLO	**Agia Marina, M**	**0.81**	**21**	P	**Pn**	**05 55 25.8**	**+1.2**
MHLO				S	**Sn**	**05 55 36.8**	**+1.3**
MHLA	**Plaka, Milos I**	**0.87**	**21**	P	**Pn**	**05 55 27.3**	**+1.9**
MHLA				S	**Sn**	**05 55 38.7**	**+1.8**
MHLA				AML	AML	05 55 39.3	
	comp=N,14962μm,0.8s						
MHLA				AML	AML	05 55 43.2	
	comp=E,15257μm,0.5s						
MHLA	**Plaka, Milos I**	**0.87**	**21**	P	**Pn**	**05 55 26.9**	**+1.5**
MHLA				S	**Sn**	**05 55 38.7**	**+1.8**
KYTH	**Kithira**	**0.87**	**293**	P	**Pn**	**05 55 25.9**	**+0.4**
KYTH				S	**Sn**	**05 55 37.2**	**+0.2**
KYTH				AML	AML	05 55 39.4	
	comp=E,17115μm,0.2s						
KYTH				AML	AML	05 55 43.5	
	comp=N,16028μm,0.3s						
KYTH	**Kithira**	**0.87**	**293**	P	**Pn**	**05 55 26.3**	**+0.9**
KYTH				S	**Sn**	**05 55 37.2**	**+0.2**
IDI	**Anoyia**	**0.94**	**132**	Pn	**Pn**	**05 55 26.1**	**-0.3**
	comp=N,42nm,0.3s,baz=272,slow=8.1,SNR=212						
IDI				Sn	**Sn**	**05 55 36.8**	**-1.8**
	comp=N,365nm,0.3s,baz=133,slow=19,SNR=40						
IDI				LR	LR	05 55 58.6	
	comp=N,294nm,20.0s,baz=354,slow=52						
IDI	**Anoyia**	**0.94**	**132**	*e*Pn	**Pn**	**05 55 26.8**	**+0.4**
IDI				*e*Sn	**Sn**	**05 55 35.4**	**-3.4**
IDI	**Anoyia**	**0.94**	**132**	*e*Pn	**Pn**	**05 55 26.8**	**+0.4**
IDI				*e*Sn	**Sn**	**05 55 35.3**	**-3.4**
IACM	**Heraklion**	**1.04**	**126**	P	**Pn**	**05 55 28.0**	**+0.3**
IACM	**Heraklion**	**1.04**	**126**	P	**Pn**	**05 55 28.4**	**+0.7**
GVD	**Gavdhos**	**1.09**	**178**	PN	**Pn**	**05 55 30.8**	**+2.5**
GVD	**Gavdhos**	**1.09**	**178**	P	**Pn**	**05 55 31.0**	**+2.7**
GVD				AML	AML	05 55 51.1	
	comp=N,7213μm,0.4s						
GVD				AML	AML	05 55 51.8	
	comp=E,7507μm,0.5s						
GVD	**Gavdhos**	**1.09**	**178**	P	**Pn**	**05 55 30.2**	**+1.9**
GVD	**Gavdhos**	**1.09**	**178**	*e*Pn	**Pn**	**05 55 30.8**	**+2.5**
GVD	**Gavdhos**	**1.09**	**178**	P	**Pn**	**05 55 30.2**	**+1.9**
SIVA	**Sivas**	**1.10**	**145**	P	**Pn**	**05 55 30.9**	**+2.4**
SIVA				S	**Sn**	**05 55 43.1**	**+0.6**
SIVA				AML	AML	05 55 49.2	
	comp=E,17270μm,0.6s						
SIVA				AML	AML	05 55 51.3	
	comp=N,10612μm,0.4s						
SIVA	**Sivas**	**1.10**	**145**	P	**Pn**	**05 55 30.0**	**+1.4**
SIVA				S	**Sn**	**05 55 43.7**	**+1.2**
SIVA	**Sivas**	**1.10**	**145**	P	**Pn**	**05 55 30.0**	**+1.4**
MNVA	**Monemvasia**	**1.11**	**313**	P	**Pn**	**05 55 29.7**	**+1.1**
MNVA	**Monemvasia**	**1.11**	**313**	P	**Pn**	**05 55 29.8**	**+1.2**
THR5	**Thira Island,**	**1.17**	**65**	P	**Pn**	**05 55 30.7**	**+1.3**
THR5	**Thira Island,**	**1.17**	**65**	P	**Pn**	**05 55 30.7**	**+1.3**
THR6	**Thira Island,**	**1.18**	**68**	P	**Pn**	**05 55 31.0**	**+1.4**
THR6	**Thira Island,**	**1.18**	**68**	P	**Pn**	**05 55 31.0**	**+1.4**
VLI	**Veliai**	**1.19**	**312**	P	**Pn**	**05 55 30.7**	**+1.0**
VLI	**Veliai**	**1.19**	**312**	P	**Pn**	**05 55 30.8**	**+1.0**
VLI				S	**Sn**	**05 55 44.0**	**-0.7**
VLI	**Veliai**	**1.19**	**312**	P	**Pn**	**05 55 30.8**	**+1.0**
VLI				S	**Sn**	**05 55 44.0**	**-0.7**
THR3	**Thira Island,**	**1.20**	**66**	P	**Pn**	**05 55 31.2**	**+1.3**
THR3	**Thira Island,**	**1.20**	**66**	P	**Pn**	**05 55 31.2**	**+1.3**
SAP4	**Santorini-Oia**	**1.21**	**63**	P	**Pn**	**05 55 32.1**	**+2.1**
SAP4				S	**Sn**	**05 55 47.2**	**+2.2**
THT1	**Athinios (Pele**	**1.21**	**67**	P	**Pn**	**05 55 31.3**	**+1.2**
THT1				AML	AML	05 55 46.9	
	comp=E,3827μm,0.5s						
THT1				AML	AML	05 55 47.1	
	comp=N,5811μm,0.5s						
THT1	**Athinios (Pele**	**1.21**	**67**	P	**Pn**	**05 55 31.2**	**+1.2**
THT1	**Athinios (Pele**	**1.21**	**67**	P	**Pn**	**05 55 31.1**	**+1.1**
THR7	**Fira-Santorini**	**1.23**	**66**	P	**Pn**	**05 55 31.7**	**+1.4**
THR7	**Fira-Santorini**	**1.23**	**66**	P	**Pn**	**05 55 31.7**	**+1.4**
THT2	**Imerovigli**	**1.23**	**65**	P	**Pn**	**05 55 33.3**	**+3.0**
THT2				S	**Sn**	**05 55 47.4**	**+1.7**
THT2				AML	AML	05 55 52.9	
	comp=N,12738μm,0.7s						
THT2				AML	AML	05 55 54.4	
	comp=E,13124μm,0.6s						
THT2	**Imerovigli**	**1.23**	**65**	P	**Pn**	**05 55 32.2**	**+1.9**
THT2				S	**Sn**	**05 55 47.3**	**+1.7**
THT2	**Imerovigli**	**1.23**	**65**	P	**Pn**	**05 55 32.2**	**+1.9**
SANT	**Santorini**	**1.23**	**69**	P	**Pn**	**05 55 31.9**	**+1.6**
SANT				S	**Sn**	**05 55 46.0**	**+0.2**
SANT				AML	AML	05 55 47.6	
	comp=N,8742μm,0.3s						
SANT				AML	AML	05 55 52.0	
	comp=E,11648μm,0.2s						
SANT	**Santorini**	**1.23**	**69**	*e*Pn	**Pn**	**05 55 31.8**	**+1.5**
SANT				*e*Sn	**Sn**	**05 55 46.7**	**+1.0**
SANT	**Santorini**	**1.23**	**69**	*e*Pn	**Pn**	**05 55 31.8**	**+1.5**
SANT				S	**Sn**	**05 55 46.7**	**+1.0**
SANT	**Santorini**	**1.23**	**69**	P	**Pn**	**05 55 30.7**	**+0.4**
SANT				S	**Sn**	**05 55 46.3**	**+0.6**
SAP2K	**Karterados**	**1.23**	**67**	P	**Pn**	**05 55 33.0**	**+2.6**
SAP2K				S	**Sn**	**05 55 46.9**	**+1.1**
SAP2K	**Karterados**	**1.23**	**67**	P	**Pn**	**05 55 32.1**	**+1.8**
THR2	**Thira island,**	**1.24**	**65**	P	**Pn**	**05 55 32.6**	**+2.1**
THR2	**Thira island,**	**1.24**	**65**	P	**Pn**	**05 55 31.8**	**+1.4**
THR2	**Thira island,**	**1.24**	**65**	P	**Pn**	**05 55 31.8**	**+1.4**
THR8	**Santorini-Mono**	**1.26**	**67**	P	**Pn**	**05 55 32.0**	**+1.3**
THR8	**Santorini-Mono**	**1.26**	**67**	P	**Pn**	**05 55 31.8**	**+1.1**
THR8	**Santorini-Mono**	**1.26**	**67**	P	**Pn**	**05 55 31.8**	**+1.1**
IOSP	**Ios island**	**1.28**	**51**	P	**Pn**	**05 55 32.3**	**+1.3**
IOSP				S	**Sn**	**05 55 47.1**	**+0.2**
IOSP	**Ios island**	**1.28**	**51**	P	**Pn**	**05 55 32.2**	**+1.2**
IOSP				S	**Sn**	**05 55 47.9**	**+0.9**
LAST	**Lasithi**	**1.40**	**123**	P	**Pn**	**05 55 32.9**	**+0.2**
LAST				AML	AML	05 55 50.3	
	comp=E,3779μm,0.4s						
LAST				AML	AML	05 55 52.1	
	comp=N,8321μm,0.5s						
LAST	**Lasithi**	**1.40**	**123**	P	**Pn**	**05 55 33.3**	**+0.6**
LAST				S	**Sn**	**05 55 49.5**	**-0.5**
LAST	**Lasithi**	**1.40**	**123**	P	**Pn**	**05 55 32.9**	**+0.2**
LAST				S	**Sn**	**05 55 49.5**	**-0.5**
NPS	**Neapolis**	**1.44**	**117**	P	**Pn**	**05 55 32.8**	**-0.4**
NPS	**Neapolis**	**1.44**	**117**	P	**Pn**	**05 55 32.5**	**-0.7**
NPS				AML	AML	05 55 52.0	
	comp=N,9049μm,0.3s						
NPS				AML	AML	05 55 52.2	
	comp=E,7999μm,0.3s						
NPS	**Neapolis**	**1.44**	**117**	P	**Pn**	**05 55 33.4**	**+0.2**
NPS				S	**Sn**	**05 55 50.1**	**-0.8**
NPS	**Neapolis**	**1.44**	**117**	P	**Pn**	**05 55 33.3**	**+0.1**
NPS				S	**Sn**	**05 55 50.1**	**-0.8**
ANAF	**Anafi Island**	**1.47**	**73**	P	**Pn**	**05 55 35.1**	**+1.6**
ANAF				AML	AML	05 55 54.2	
	comp=N,13104μm,0.2s						
ANAF				AML	AML	05 55 54.9	
	comp=E,16005μm,0.2s						
ANAF	**Anafi Island**	**1.47**	**73**	P	**Pn**	**05 55 34.9**	**+1.4**
YDRA	**Hydra**	**1.49**	**342**	P	**Pn**	**05 55 35.3**	**+1.4**
YDRA	**Hydra**	**1.49**	**342**	P	**Pn**	**05 55 35.2**	**+1.4**
DYR	**Agios Nikonas**	**1.61**	**302**	P	**Pn**	**05 55 38.8**	**+3.3**
DYR	**Agios Nikonas**	**1.61**	**302**	P	**Pn**	**05 55 37.9**	**+2.4**
KRND	**KRANIDI**	**1.62**	**334**	P	**Pn**	**05 55 37.2**	**+1.5**
KRND				AML	AML	05 56 02.9	
	comp=E,8808μm,0.6s						
KRND				AML	AML	05 56 04.5	
	comp=N,6054μm,0.3s						
KRND	**KRANIDI**	**1.62**	**334**	P	**Pn**	**05 55 37.1**	**+1.5**
KRND				S	**Sn**	**05 55 56.4**	**+1.2**
KRND	**KRANIDI**	**1.62**	**334**	P	**Pn**	**05 55 36.9**	**+1.3**
KRND				S	**Sn**	**05 55 56.4**	**+1.2**
APE	**Apeiranthos**	**1.65**	**46**	PN	**Pn**	**05 55 38.2**	**+2.0**
APE				SN	**Sn**	**05 55 56.7**	**+0.5**
APE	**Apeiranthos**	**1.65**	**46**	*d* P	**Pn**	**05 55 36.9**	**+0.8**
APE				*i* S	**Sn**	**05 55 56.5**	**+0.3**
APE	**Apeiranthos**	**1.65**	**46**	P	**Pn**	**05 55 37.0**	**+0.8**
APE				AML	AML	05 55 57.9	
	comp=E,2437μm,0.2s						
APE				AML	AML	05 55 57.9	
	comp=N,3834μm,0.2s						
APE	**Apeiranthos**	**1.65**	**46**	P	**Pn**	**05 55 37.2**	**+1.0**
APE	**Apeiranthos**	**1.65**	**46**	*e*Pn	**Pn**	**05 55 38.2**	**+2.0**
APE				*e*Sn	**Sn**	**05 55 56.7**	**+0.5**
APE	**Apeiranthos**	**1.65**	**46**	P	**Pn**	**05 55 37.0**	**+0.8**
APE				S	**Sn**	**05 55 56.1**	**-0.1**
DID	**Didima**	**1.70**	**338**	P	**Pn**	**05 55 37.7**	**+0.8**
DID	**Didima**	**1.70**	**338**	P	**Pn**	**05 55 37.9**	**+1.1**
DID				S	**Sn**	**05 55 57.6**	**+0.2**
DID	**Didima**	**1.70**	**338**	P	**Pn**	**05 55 37.8**	**+1.0**
DID				S	**Sn**	**05 55 57.6**	**+0.2**
TNSA	**Tinos**	**1.84**	**29**	P	**Pn**	**05 55 39.9**	**+1.1**
TNSA	**Tinos**	**1.84**	**29**	P	**Pn**	**05 55 40.0**	**+1.3**
VLY	**Voula,Athens**	**1.93**	**354**	P	**Pn**	**05 55 41.1**	**+1.2**
VLY				S	**Sn**	**05 56 03.4**	**+0.4**
VLY	**Voula,Athens**	**1.93**	**354**	P	**Pn**	**05 55 41.3**	**+1.4**
VLY				S	**Sn**	**05 56 04.0**	**+1.1**
VLY	**Voula,Athens**	**1.93**	**354**	P	**Pn**	**05 55 40.5**	**+0.6**
ZKR	**Zakros**	**1.95**	**114**	PN	**Pn**	**05 55 41.2**	**+1.0**
ZKR				SN	**Sn**	**05 56 03.6**	**+0.1**
ZKR	**Zakros**	**1.95**	**114**	P	**Pn**	**05 55 41.3**	**+1.0**
ZKR	**Zakros**	**1.95**	**114**	*e*Pn	**Pn**	**05 55 41.2**	**+1.0**
ZKR				*e*Sn	**Sn**	**05 56 03.6**	**+0.1**
ZKR	**Zakros**	**1.95**	**114**	P	**Pn**	**05 55 41.4**	**+1.2**
VLX	**Vlachokerasia**	**1.96**	**318**	P	**Pn**	**05 55 42.4**	**+1.9**
VLX				S	**Sn**	**05 56 04.1**	**+0.2**
VLX	**Vlachokerasia**	**1.96**	**318**	P	**Pn**	**05 55 42.1**	**+1.6**
VLX				S	**Sn**	**05 56 04.8**	**+0.9**
VLX	**Vlachokerasia**	**1.96**	**318**	P	**Pn**	**05 55 42.1**	**+1.6**
ATH	**Athens Observa**	**2.06**	**353**	P	**Pn**	**05 55 42.7**	**+1.1**
ATH	**Athens Observa**	**2.06**	**353**	P	**Pn**	**05 55 42.8**	**+1.2**
ATH				S	**Sn**	**05 56 05.9**	**-0.1**
ATH	**Athens Observa**	**2.06**	**353**	P	**Pn**	**05 55 43.0**	**+1.4**
ATH				S	**Sn**	**05 56 06.8**	**+0.8**
PYL	**PYLOS**	**2.09**	**298**	P	**Pn**	**05 55 43.3**	**+2.2**
PYL	**PYLOS**	**2.09**	**298**	P	**Pn**	**05 55 43.8**	**+1.7**
PYL	**PYLOS**	**2.09**	**298**	P	**Pn**	**05 55 43.8**	**+1.7**
PTL	**Penteli**	**2.12**	**356**	P	**Pn**	**05 55 43.8**	**+1.3**
PTL				S	**Sn**	**05 56 07.7**	**0.0**
PTL	**Penteli**	**2.12**	**356**	P	**Pn**	**05 55 43.9**	**+1.3**
PTL				S	**Sn**	**05 56 08.5**	**+0.8**
PTL	**Penteli**	**2.12**	**356**	P	**Pn**	**05 55 43.9**	**+1.3**
PTL				S	**Sn**	**05 56 08.1**	**+0.4**
KARY	**Karystos**	**2.12**	**8**	P	**Pn**	**05 55 44.1**	**+1.5**
KARY				S	**Sn**	**05 56 08.4**	**+0.7**
KARY	**Karystos**	**2.12**	**8**	P	**Pn**	**05 55 44.1**	**+1.5**
KARY				S	**Sn**	**05 56 08.4**	**+0.7**
LOUT	**Loutraki**	**2.23**	**338**	P	**Pn**	**05 55 45.6**	**+1.6**
LOUT	**Loutraki**	**2.23**	**338**	P	**Pn**	**05 55 45.6**	**+1.6**
LTK	**Loutraki**	**2.26**	**338**	P	**Pn**	**05 55 46.1**	**+1.6**
LTK	**Loutraki**	**2.26**	**338**	P	**Pn**	**05 55 46.1**	**+1.6**
LTK				S	**Sn**	**05 56 11.1**	**0.0**
LTK	**Loutraki**	**2.26**	**338**	P	**Pn**	**05 55 46.1**	**+1.6**
LTK				S	**Sn**	**05 56 11.1**	**0.0**
VILL	**Villia**	**2.31**	**346**	P	**Pn**	**05 55 46.7**	**+1.6**
VILL				S	**Sn**	**05 56 12.9**	**+0.6**
VILL	**Villia**	**2.31**	**346**	P	**Pn**	**05 55 46.7**	**+1.6**
VILL				S	**Sn**	**05 56 12.9**	**+0.6**
THAL	**Thalero**	**2.38**	**333**	P	**Pn**	**05 55 47.7**	**+1.7**
THAL	**Thalero**	**2.38**	**333**	P	**Pn**	**05 55 47.7**	**+1.7**
GUR	**Goura**	**2.42**	**326**	P	**Pn**	**05 55 48.3**	**+1.5**
GUR	**Goura**	**2.42**	**326**	P	**Pn**	**05 55 48.3**	**+1.5**
GUR	**Goura**	**2.42**	**326**	P	**Pn**	**05 55 48.3**	**+1.5**
AMT	**Artemida-Makis**	**2.46**	**311**	P	**Pn**	**05 55 50.3**	**+3.0**
AMT	**Artemida-Makis**	**2.46**	**311**	P	**Pn**	**05 55 50.3**	**+3.0**
KARP	**Karpathos**	**2.57**	**98**	PN	**Pn**	**05 55 49.8**	**+1.0**
KARP	**Karpathos**	**2.57**	**98**	P	**Pn**	**05 55 48.4**	**-0.3**
KARP	**Karpathos**	**2.57**	**98**	*e*Pn	**Pn**	**05 55 49.6**	**+1.0**
KARP				*e*Sn	**Sn**	**05 56 19.0**	**+0.3**
KARP	**Karpathos**	**2.57**	**98**	P	**Pn**	**05 55 49.6**	**+0.6**
KARP	**Karpathos**	**2.57**	**98**	*e*Pn	**Pn**	**05 55 49.7**	**+1.0**
KARP				*e*Sn	**Sn**	**05 56 19.0**	**+0.3**
KARP	**Karpathos**	**2.57**	**98**	P	**Pn**	**05 55 49.1**	**+0.4**
KARP				S	**Sn**	**05 56 18.9**	**+0.2**
NISR	**Nisiros**	**2.59**	**74**	P	**Pn**	**05 55 49.2**	**+0.3**
NISR	**Nisiros**	**2.59**	**74**	P	**Pn**	**05 55 49.8**	**+0.9**
KLV	**Kalavryta, Ach**	**2.60**	**325**	P	**Pn**	**05 55 51.1**	**+2.0**
KLV	**Kalavryta, Ach**	**2.60**	**325**	P	**Pn**	**05 55 50.9**	**+1.7**
KLV	**Kalavryta, Ach**	**2.60**	**325**	P	**Pn**	**05 55 50.9**	**+1.7**
DRO	**Drossia**	**2.75**	**318**	P	**Pn**	**05 55 54.2**	**+3.0**
DRO	**Drossia**	**2.75**	**318**	P	**Pn**	**05 55 53.6**	**+2.4**
DRO	**Drossia**	**2.75**	**318**	P	**Pn**	**05 55 54.2**	**+3.0**
DSF	**Desfina**	**2.76**	**334**	P	**Pn**	**05 55 52.7**	**+1.4**
DSF	**Desfina**	**2.76**	**334**	P	**Pn**	**05 55 52.7**	**+1.4**
DLFA	**Delphi**	**2.83**	**335**	P	**Pn**	**05 55 53.5**	**+1.1**
DLFA	**Delphi**	**2.83**	**335**	P	**Pn**	**05 55 53.7**	**+1.4**
LAKA	**Lakka**	**2.84**	**325**	P	**Pn**	**05 55 54.1**	**+1.7**
LAKA	**Lakka**	**2.84**	**325**	P	**Pn**	**05 55 54.1**	**+1.7**
LKR	**Lokris**	**2.84**	**343**	P	**Pn**	**05 55 53.8**	**+1.4**
LKR	**Lokris**	**2.84**	**343**	P	**Pn**	**05 55 54.0**	**+1.6**
LKR				S	**Sn**	**05 56 26.0**	**+0.6**
LKR	**Lokris**	**2.84**	**343**	P	**Pn**	**05 55 54.1**	**+1.6**
LKR				S	**Sn**	**05 56 26.0**	**+0.6**
SMG	**Samos**	**2.86**	**51**	P	**Pn**	**05 55 52.6**	**-0.1**
SMG	**Samos**	**2.86**	**51**	P	**Pn**	**05 55 53.5**	**+0.8**
BODT	**Bodrum**	**2.87**	**66**	PN	**Pn**	**05 55 53.9**	**+1.1**
BODT	**Bodrum**	**2.87**	**66**	P	**Pn**	**05 55 53.5**	**+0.7**
BODT	**Bodrum**	**2.87**	**66**	*e*Pn	**Pn**	**05 55 53.9**	**+1.1**
BODT	**Bodrum**	**2.87**	**66**	P	**Pn**	**05 55 53.5**	**+0.7**
KALE	**Kalithea**	**2.89**	**329**	P	**Pn**	**05 55 54.5**	**+1.3**
KALE	**Kalithea**	**2.89**	**329**	P	**Pn**	**05 55 54.5**	**+1.3**
CHOS	**Chios island**	**2.93**	**33**	PN	**Pn**	**05 55 55.7**	**+1.9**
CHOS	**Chios island**	**2.93**	**33**	P	**Pn**	**05 55 54.6**	**+0.8**
CHOS	**Chios island**	**2.93**	**33**	P	**Pn**	**05 55 55.2**	**+1.4**
CHOS	**Chios island**	**2.93**	**33**	*e*Pn	**Pn**	**05 55 55.7**	**+1.9**
CHOS	**Chios island**	**2.93**	**33**	P	**Pn**	**05 55 55.2**	**+1.4**
RLS	**Riolos of Patr**	**2.96**	**317**	P	**Pn**	**05 55 57.9**	**+3.8**
RLS	**Riolos of Patr**	**2.96**	**317**	P	**Pn**	**05 55 57.9**	**+3.8**
BDRM	**Kayabasi**	**2.97**	**67**	*i* P	**Pn**	**05 55 55.4**	**+1.2**
BDRM	**Kayabasi**	**2.97**	**67**	P	**Pn**	**05 55 54.4**	**+1.2**
SKY	**Skiros Island**	**2.97**	**8**	P	**Pn**	**05 55 55.6**	**+1.4**
SKY	**Skiros Island**	**2.97**	**8**	P	**Pn**	**05 55 55.7**	**+1.5**
SKY	**Skiros Island**	**2.97**	**8**	P	**Pn**	**05 55 55.7**	**+1.5**
SMIA	**Simia**	**3.02**	**348**	P	**Pn**	**05 55 57.0**	**+2.1**
SMIA	**Simia**	**3.02**	**348**	P	**Pn**	**05 55 57.0**	**+2.1**
EFP	**Efpalio**	**3.02**	**326**	P	**Pn**	**05 55 56.7**	**+1.8**
EFP	**Efpalio**	**3.02**	**326**	P	**Pn**	**05 55 56.7**	**+1.8**
EFP	**Efpalio**	**3.02**	**326**	P	**Pn**	**05 55 56.7**	**+1.8**
GCAM	**G?zelcaml?**	**3.11**	**54**	PN	**Pn**	**05 55 57.1**	**+0.9**
GCAM	**G?zelcaml?**	**3.11**	**54**	*e*Pn	**Pn**	**05 55 57.1**	**+0.9**
ANX	**Ano Chora**	**3.15**	**328**	P	**Pn**	**05 55 57.9**	**+1.1**
ANX	**Ano Chora**	**3.15**	**328**	P	**Pn**	**05 55 58.2**	**+1.4**
ANX	**Ano Chora**	**3.15**	**328**	P	**Pn**	**05 55 58.5**	**+1.7**
URLA	**Izmir**	**3.17**	**39**	PN	**Pn**	**05 55 57.1**	**+0.1**
URLA	**Izmir**	**3.17**	**39**	*e*Pn	**Pn**	**05 55 57.1**	**+0.1**
SKIA	**Skiathos**	**3.26**	**352**	P	**Pn**	**05 56 00.1**	**+1.8**
SKIA				S	**Sn**	**05 56 35.9**	**+0.1**
SKIA	**Skiathos**	**3.26**	**352**	P	**Pn**	**05 56 00.1**	**+1.8**
SKIA				S	**Sn**	**05 56 35.9**	**+0.1**
MLSB	**Milas**	**3.30**	**64**	PN	**Pn**	**05 56 00.5**	**+1.7**
MLSB	**Milas**	**3.30**	**64**	*e*Pn	**Pn**	**05 56 00.5**	**+1.7**
ARG	**Arkhangelos**	**3.32**	**84**	P	**Pn**	**05 56 02.0**	**+3.0**
ARG	**Arkhangelos**	**3.32**	**84**	P	**Pn**	**05 55 59.7**	**+0.7**
ARG	**Arkhangelos**	**3.32**	**84**	P	**Pn**	**05 56 02.2**	**+1.2**
AGG	**Agios Georgios**	**3.38**	**337**	PN	**Pn**	**05 56 01.9**	**+2.1**
AGG	**Agios Georgios**	**3.38**	**337**	*e*P	**Pn**	**05 56 02.1**	**+2.3**
AGG	**Agios Georgios**	**3.38**	**337**	*e*Pn	**Pn**	**05 56 02.1**	**+2.3**
AGG	**Agios Georgios**	**3.38**	**337**	P	**Pn**	**05 56 01.7**	**+1.9**
AGG	**Agios Georgios**	**3.38**	**337**	P	**Pn**	**05 56 01.7**	**+1.9**
NEO	**Neokhori**	**3.43**	**349**	P	**P

ALN	Alexandroupoli	5.21	17	P		Pn	05 56 26.0	+1.1	
FNA	Florina	5.28	337	P		Pn	05 56 28.4	+2.4	
FNA				pmax		pmax			
	comp=Z,11nm,0.8s								
FNA	Florina	5.28	337	P		Pn	05 56 27.9	+1.9	
FNA	Florina	5.28	337	P		Pn	05 56 27.9	+1.9	
MATC	Matruh	5.29	149	P		Pn	05 56 23.8	-2.3	
	baz=148								
KNT	Kendrikon	5.30	351	P		Pn	05 56 28.9	+2.6	
KNT				pmax		pmax			
	comp=Z,42nm,0.5s								
KNT	Kendrikon	5.30	351	P		Pn	05 56 28.9	+2.6	
KNT	Kendrikon	5.30	351	P		Pn	05 56 28.9	+2.6	
NVR	Nevrokopi	5.42	359	P		Pn	05 56 29.8	+2.0	
NVR	Nevrokopi	5.42	359	P		Pn	05 56 29.8	+2.0	
VAY	Valandovo	5.51	348	P		Pn	05 56 32.0	+3.0	
VAY	Valandovo	5.51	348	P		Pn	05 56 32.0	+3.0	
VAY	Valandovo	5.51	348	*i* Pn		Pn	05 56 31.9	+2.8	
KRUS	Krusevo	5.86	339	*e*Pn		Pn	05 56 37.5	+3.6	
TIP	Timpagrande	6.63	301	*e*Pn		Pn	05 56 45.1	+0.5	
TIP	Timpagrande	6.63	301	P		Pn	05 56 44.6	0.0	
TIP	Timpagrande	6.63	301	*e*Pn		Pn	05 56 45.1	+0.5	
TIP	Timpagrande	6.63	301	P		Pn	05 56 44.6	0.0	
VTS	Vitosha	6.69	355	*e*P		Pn	05 56 48.6	+3.2	
VTS	Vitosha	6.69	355	⇑*i*P		Pn	05 56 47.9	+2.5	
VTS	Vitosha	6.69	355	*e*Pn		Pn	05 56 48.5	+3.2	
VTS	Vitosha	6.69	355	P		Pn	05 56 48.4	+3.0	
VTS	Vitosha	6.69	355	P		Pn	05 56 48.4	+3.0	
SWA2		6.77	169	P		Pn	05 56 43.9	-2.6	
	baz=169								
SWA2				AMP			05 58 00.0		
	baz=169								
SWA2		6.77	169	P		Pn	05 56 43.9	-2.6	
TAR1	Taranto	7.02	313	*e*Pn		Pn	05 56 49.5	-0.4	
ULC	Ulcinj	7.09	330	P		Pn	05 56 52.0	+1.2	
ULC	Ulcinj	7.09	330	P		Pn	05 56 52.0	+1.2	
BARS	Barje	7.09	347	*e*Pn		Pn	05 56 53.4	+2.6	
FASA	Fasano	7.17	315	*e*Pn		Pn	05 56 52.2	+0.3	
MASS	Massafra	7.17	313	*e*Pn		Pn	05 56 51.6	-0.3	
DRME	Dracevica, Mon	7.39	330	*e*Pn		Pn	05 56 53.0	-0.1	
PDG	Podgorica	7.48	332	*e*Pn		Pn	05 56 55.9	-0.2	
TTG	Podgorica	7.48	332	*e*P		Pn	05 56 56.2	+0.1	
TTG	Podgorica	7.48	332	*e*Pn		Pn	05 56 56.2	+0.1	
TTG	Podgorica	7.48	332	*e*P		Pn	05 56 56.2	+0.1	
SG1	Sgolgore (BA)	7.58	313	*e*Pn		Pn	05 56 57.6	+0.1	
BAI	Bari	7.63	315	*e*Pn		Pn	05 56 58.2	0.0	
CSS	Mathiatis	7.64	95	*e*Pn		Pn	05 56 57.6	-0.8	
CSS	Mathiatis	7.64	95	*e*Pn		Pn	05 56 57.6	-0.8	
CUC	Castrocucco	7.66	304	*e*Pn		Pn	05 56 59.6	+0.9	
CUC	Castrocucco	7.66	304	*e*Pn		Pn	05 56 59.6	+0.9	
WDD	Wied Dalam	7.73	272	*e*Sn		Sn	05 58 21.8	-3.9	
HCY	Herceg Novi	7.80	328	P		Pn	05 57 01.5	+0.9	
HCY	Herceg Novi	7.80	328	P		Pn	05 57 01.5	+0.9	
VAE	Valguarnera	7.89	284	Sn		Sn	05 58 26.9	-2.9	
	comp=Z,2.1nm,0.3s,baz=352,slow=15,SNR=2.5								
NKY	Niksic	7.91	332	P		Pn	05 57 02.5	+0.4	
NKY	Niksic	7.91	332	P		Pn	05 57 02.5	+0.4	
BR231	Keskin MP Arra	7.93	58	*e*Pn		Pn	05 57 04.0	+1.6	
BR231	Keskin MP Arra	7.93	58	*e*Pn		Pn	05 57 04.1	+1.6	
ZAGS	Zajecar	8.00	351	*e*Pn		Pn	05 57 05.2	+2.0	
BR131	Keskin Array S	8.49	61	*e*Pn		Pn	05 57 15.0	+4.9	
BRTR	Keskin Array B	8.49	61	Pn		Pn	05 57 14.8	+4.8	
	comp=Z,0.9nm,0.3s,baz=245,slow=16,SNR=22								
STON	Ston	8.49	327	*e*Pn		Pn	05 57 07.0	-2.9	
STON				Sn		Sn	05 58 37.4	-7.1	
MS1	Monte Sant'Ang	8.55	315	*e*Pn		Pn	05 57 10.9	0.0	
KUBS	Kucevo	8.66	349	*e*Pn		Pn	05 57 13.0	+0.6	
BBLS	Lazići	8.69	337	*e*Pn		Pn	05 57 13.9	+1.1	
DIVS	Divibare	8.73	340	*e*Pn		Pn	05 57 15.1	+1.7	
DIVS	Divibare	8.73	340	*e*Pn		Pn	05 57 15.1	+1.7	
GLL	Jalalah	9.04	132	P		Pn	05 57 15.8	-1.8	
	baz=132								
HFRF	Wahat Farafira	9.48	156	P		Pn	05 57 21.7	-1.9	
	baz=156								
HFRF	Wahat Farafira	9.48	156	P		Pn	05 57 21.7	-1.9	
VOIR		9.53	4	⇑P		Pn	05 57 26.3	+2.0	
VOIR		9.53	4	⇑*i*P		Pn	05 57 26.3	+2.0	
VOIR		9.53	4	P		Pn	05 57 26.3	+2.0	
MLR	Muntele Rosu	9.66	8	Pn		Pn	05 57 28.8	+2.7	
	comp=Z,0.1nm,0.3s,baz=205,slow=4.3,SNR=8.2								
MLR	Muntele Rosu	9.66	8	*e*P		Pn	05 57 29.2	+3.0	
MLR	Muntele Rosu	9.66	8	⇓*i*P		Pn	05 57 29.1	+3.0	
MLR	Muntele Rosu	9.66	8	*e*Pn		Pn	05 57 29.2	+3.0	
MLR	Muntele Rosu	9.66	8	*e*P		Pn	05 57 29.2	+3.0	
MMAI	Mount Meron Ar	9.82	104	Pn		Pn	05 57 25.6	-2.8	
	comp=Z,4.8nm,0.3s,baz=351,slow=16,SNR=14								
MMAI				Sn		Sn	05 59 09.4	-8.0	
	comp=Z,3.3nm,0.3s,baz=299,slow=28,SNR=5.7								
BZS	Buzias	9.85	350	⇑P		Pn	05 57 29.3	+0.7	
BZS	Buzias	9.85	350	⇑*i*P		Pn	05 57 29.3	+0.7	
BZS	Buzias	9.85	350	P		Pn	05 57 29.3	+0.7	
PLOR	Plostina	10.11	10	⇓P		Pn	05 57 34.5	+2.3	
PLOR	Plostina	10.11	10	⇓*i*P		Pn	05 57 34.5	+2.3	
PLOR	Plostina	10.11	10	P		Pn	05 57 34.5	+2.3	
VRI	Vrincioaia	10.13	11	⇓P		Pn	05 57 35.0	+2.5	
VRI	Vrincioaia	10.13	11	⇓*i*P		Pn	05 57 35.0	+2.5	
VRI	Vrincioaia	10.13	11	P		Pn	05 57 35.0	+2.5	
UDBI	Udbina	10.66	326	*e*Pn		Pn	05 57 39.4	-0.5	
UDBI	Udbina	10.66	326	*e*Pn		Pn	05 57 39.3	-0.5	
EIL	Elat	11.10	121	Pn		Pn	05 57 52.5	+6.7	
	comp=Z,0.8nm,0.3s,baz=318,slow=3.3,SNR=33								
EIL				Sn		Sn	05 59 46.2	-2.3	
	comp=Z,0.8nm,0.3s,baz=317,slow=18,SNR=4.4								
NVLJ	Novalja	11.11	324	*e*Pn		Pn	05 57 44.7	-1.0	
NVLJ	Novalja	11.11	324	*e*Pn		Pn	05 57 44.7	-1.0	
ASF	Jabal al Asfar	11.30	106	Pn		Pn	05 57 53.4	+4.8	
	comp=Z,1.1nm,0.3s,baz=304,slow=4.4,SNR=9.7								
ASF				Sn		Sn	05 59 48.0	-5.7	
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=2.1								
BOJS	Bojanci	11.65	328	*i* Pn		Pn	05 57 52.6	-0.7	
BOJS				*i* Sn		Sn	05 59 53.8	-8.2	
BOJS	Bojanci	11.65	328	Pn		Pn	05 57 52.6	-0.7	
BURAR	Bucovina Array	11.71	4	⇓P		Pn	05 57 58.3	+4.2	
BURAR	Bucovina Array	11.71	4	⇓*i*P		Pn	05 57 58.3	+4.2	
BUR04	Bucovina Ar. S	11.71	4	*e*Pn		Pn	05 57 57.3	+3.1	
BUR04	Bucovina Ar. S	11.71	4	*e*Pn		Pn	05 57 57.3	+3.1	
BUR08	Bucovina Ar. S	11.74	4	*e*Pn		Pn	05 57 58.5	+4.0	
CRES	Cresnjev	11.82	329	*e*Pn		Pn	05 57 54.4	-1.2	
JAVS	Javornik	12.48	326	*i* Pn		Pn	05 58 02.6	-2.1	
JAVS				*i* Sn		Sn	06 00 13.7	-8.7	
ABTA	Abfaltersbach	13.83	325	P		P	05 58 31.8	+0.9	
	comp=Z,2.1nm,0.7s								
ABTA	Abfaltersbach	13.83	325	*e*P		P	05 58 31.8	+0.9	
	comp=Z,2.1nm,0.7s								
WTTA	Wattenberg	14.62	325	P		P	05 58 41.2	+1.4	
	comp=Z,3.6nm,0.8s								
WTTA	Wattenberg	14.62	325	*e*P		P	05 58 41.2	+1.4	
	comp=Z,3.6nm,0.8s								
WATA	Walderalm	14.70	325	Pn		Pn	05 58 37.1	+2.2	
	comp=Z,3.3nm,0.6s								
WATA	Walderalm	14.70	325	*e*Pn		Pn	05 58 37.1	+2.2	
	comp=Z,3.3nm,0.6s								
MOTA	Moosalm	14.93	324	Pn		Pn	05 58 38.5	+0.5	
	comp=Z,1.4nm,0.5s								
MOTA	Moosalm	14.93	324	*e*Pn		Pn	05 58 38.5	+0.5	
	comp=Z,1.4nm,0.5s								
GEA0	GERESS Array S	14.97	333	*e*Pn		P	05 58 44.1	+0.5	
GEC2	GERESS Array S	14.98	333	*e*P		P	05 58 44.7	+1.1	
GEC2	GERESS Array S	14.98	333	*e*Pn		P	05 58 44.7	+1.1	
GEC2	GERESS Array S	14.98	333	*e*P		P	05 58 44.7	+1.1	
GERES	GERESS Array B	14.98	333	Pn		P	05 58 41.2	-2.4	
	comp=Z,0.3nm,0.3s,baz=146,slow=12,SNR=23								
GERES	GERESS Array B	14.98	333	*e*P		P	05 58 44.2	+0.6	
GERES	GERESS Array B	14.98	333	*e*P		P	05 58 44.2	+0.6	
RETA	Reutte	15.20	324	Pn		Pn	05 58 42.0	+0.5	
	comp=Z,3.1nm,0.8s								
RETA	Reutte	15.20	324	*e*Pn		Pn	05 58 42.0	+0.5	
	comp=Z,3.1nm,0.8s								
AK11	Malin Array Si	15.20	13	*e*Pn		P	05 58 44.4	-1.6	
KIEV	Kiev	15.22	13	⇑*e*P		Pn	05 58 43.9	+2.2	
KIEV	Kiev	15.22	13	*e*Pn		P	05 58 46.2	0.0	
	comp=Z,5.1nm,1.3s								
AKASG	Malin Array Be	15.23	13	Pn		Pn	05 58 37.9	-3.9	
	comp=Z,0.3nm,0.3s,baz=205,slow=13,SNR=3.1								
AKASG	Malin Array Be	15.23	13	*e*P		P	05 58 44.7	-1.6	
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.3s								
AKASG	Malin Array Be	15.23	13	*e*P		P	05 58 44.7	-1.6	
	comp=Z,1.0nm,0.3s								
AKBB	Malin Array Si	15.23	13	*e*P		P	05 58 45.9	-0.4	
AKBB				pmax		pmax			
	comp=Z,5.0nm,1.3s								
AKBB	Malin Array Si	15.23	13	*e*Pn		P	05 58 45.9	-0.4	
	comp=Z,5.2nm,1.3s								
AKBB	Malin Array Si	15.23	13	*e*P		P	05 58 45.9	-0.4	
	comp=Z,5.0nm,1.3s								
KHC	Kasperske Hory	15.26	333	*e*P		P	05 58 47.5	+0.8	
KHC	Kasperske Hory	15.26	333	*e*P		P	05 58 47.5	+0.8	
KHC	Kasperske Hory	15.26	333	*e*P		P	05 58 47.5	+0.8	
WET	Wettzell	15.54	332	P		P	05 58 50.6	+0.9	
WET				pmax		pmax			
	comp=Z,4.0nm,0.9s								
WET	Wettzell	15.54	332	P		P	05 58 50.6	+0.9	
	comp=Z,4.0nm,0.9s								
SENIN	Lac Senin/Sane	16.33	315	*e*P		P	05 59 00.0	+1.3	
	comp=Z,14nm,1.8s								
SENIN	Lac Senin/Sane	16.33	315	*e*P		P	05 59 00.0	+1.3	
	comp=Z,14nm,1.8s								
BRG	Berggiesshubel	16.62	337	*e*P		P	05 59 01.6	0.0	
	comp=Z,3.0nm,0.8s								
BRG	Berggiesshubel	16.62	337	*e*P		P	05 59 01.6	0.0	
BRG				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BRG	Berggiesshubel	16.62	337	*e*P		P	05 59 01.6	0.0	
	comp=Z,3.0nm,0.9s								
CLL	Collm	17.29	336	*e*P		P	05 59 10.0	+0.9	
CLL	Collm	17.29	336	Lm		MLR	05 59 00.0		
	comp=Z,100nm,20.0s								
CLL	Collm	17.29	336	*e*P		P	05 59 10.0	+0.9	
KLNR	Kaliningrad	18.86	353	⇑*e*P		Pn	05 59 27.8	+0.7	
KLNR				pmax		pmax			
	comp=Z,12nm,1.0s								
KLNR	Kaliningrad	18.86	353	*e*P		Pn	05 59 27.8	+0.7	
	comp=Z,12nm,1.0s								
RGN	Rugen	20.05	342	*e*P		P	05 59 38.8	-0.5	
	comp=Z,18nm,1.0s								
RGN	Rugen	20.05	342	*e*P		P	05 59 38.8	-0.5	
	comp=Z,18nm,1.0s								
ESDC	Sonseca Array	22.40	288	P		P	06 00 03.8	-1.1	
	comp=Z,1.1nm,0.7s,baz=81,slow=9.8,SNR=12								
HFS	Hagfors	25.13	348	P		P	06 00 28.9	-1.9	
	comp=Z,0.8nm,0.4s,baz=146,slow=11,SNR=9.4								
KONO	Kongsberg	25.53	343	*e*P		P	06 00 35.5	+1.1	
KONO				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KONO	Kongsberg	25.53	343	*e*P		P	06 00 35.5	+1.1	
	comp=Z,5.7nm,1.0s								
FINES	FINESS Array B	25.57	2	P		P	06 00 31.9	-2.9	
	comp=Z,0.4nm,0.4s,baz=165,slow=11,SNR=4.7								
FINES	FINESS Array B	25.57	2	*e*P		P	06 00 32.5	-2.2	
FIA1	FINESS Array S	25.57	2	*e*P		P	06 00 32.2	-2.5	
NC602	NORSAR Array S	26.09	346	*e*P		P	06 00 39.7	+0.2	
NB201	NORSAR Array S	26.42	346	*e*P		P	06 00 42.6	+0.1	
NB2	NORSAR Subarra	26.43	346	P		P	06 00 41.6	-1.0	
	comp=Z,0.2nm,0.4s,baz=156,slow=9.3								
NOA	NORSAR Array B	26.43	346	P		P	06 00 39.6	-3.0	
	comp=Z,0.5nm,0.9s,baz=324,slow=16,SNR=7.6								
EKA	Eskdalemuir Ar	26.89	325	P		P	06 00 45.8	-1.0	
	comp=Z,0.8nm,0.5s,baz=122,slow=10,SNR=10								
ESK	Eskdalemuir	26.90	325	*e*P		P	06 00 46.6	-0.3	
ESK				pmax		pmax			
	comp=Z,26nm,1.6s								
ESK	Eskdalemuir	26.90	325	*e*P		P	06 00 46.6	-0.3	
	comp=Z,26nm,1.6s								
TOA0	Torodi Ar. Sit	30.31	227	*e*P		P	06 01 16.8	-0.8	
	comp=Z,12nm,1.8s								
TORD	Torodi Ar. Bea	30.31	227	P		P	06 01 16.6	-1.0	
	comp=Z,2.0nm,0.6s,baz=35,slow=9.4,SNR=31								
ARU	Arti	30.99	38	⇑*i*P		P	06 01 23.4	+0.2	
ARU				pmax		pmax			
	comp=Z,1.0nm,0.9s								
ARCES	ARCESS Array B	33.67	1	P		P	06 01 45.6	-0.9	
	comp=Z,5nm,1.0s,baz=183,slow=9.0,SNR=3.0								
ARCES	ARCESS Array B	33.67	1	*e*P		P	06 01 52.4	+5.8	
ARCES				pmax		pmax			
	comp=Z,1.0nm,0.8s								
KSH	Kashi	40.77	69	*e*P		P	06 02 45.8	-1.4	
KURBB	Kurchatov Arra	41.35	52	P		P	06 02 50.5	-1.2	
	comp=Z,1.3nm,0.5s,baz=271,slow=7.4,SNR=22								
KURK	Kurchatov	41.41	52	⇑*e*P		P	06 02 52.3	+0.1	
KURK				pmax		pmax			
	comp=Z,4.0nm,1.7s								
KURK	Kurchatov	41.41	52	P		P	06 02 50.5	-1.7	
SCO	Scoresbysund	42.29	339	*e*P		P	06 02 59.9	+0.8	
SCO				pmax		pmax			
	comp=Z,27nm,1.8s								
SCO	Scoresbysund	42.29	339	*e*P		P	06 02 59.9	+0.8	
	comp=Z,27nm,1.8s								
SPITS	Spitsbergen Ar	42.48	358	P		P	06 03 00.2	-0.4	
	comp=Z,3.7nm,0.8s,baz=185,slow=14,SNR=2.9								
MK31	Makanchi Array	44.12	57	*e*P		P	06 03 13.3	-0.9	
MK31	Makanchi Array	44.12	57	*e*P		P	06 03 13.3	-0.9	
MKAR	Makanchi Array	44.12	57	P		P	06 03 13.2	-1.1	
	comp=Z,1.0nm,0.5s,baz=271,slow=7.9,SNR=16								
MKAR	Makanchi Array	44.12	57	*e*P		P	06 03 13.3	-0.9	
	comp=Z,13nm,0.4s								
MK01	Makanchi Array	44.13	57	*e*P		P	06 03 13.3	-1.0	
ZALV	Zalesovo Beam	45.14	47	P		P	06 03 20.9	-1.3	
	comp=Z,1.0nm,0.3s,baz=239,slow=11,SNR=3.6								
WMQ	Urumqi	48.41	60	P		P	06 03 48.6	+0.5	
SONM	Songino Array	59.70	51	P		P	06 05 09.9	-0.6	
	comp=Z,0.2nm,0.5s,baz=306,slow=7.2,SNR=3.3								
SCHQ	Schefferville	62.01	319	P		P	06 05 25.0	-0.8	
	comp=Z,2.8nm,0.5s,baz=64,slow=6.8,SNR=12								
SCHQ	Schefferville	62.01	319	*e*P		P	06 05 24.9	-0.9	
	comp=Z,2.1nm,0.9s								
LZH	Lanzhou	62.68	64	*e*P		P	06 05 31.8	+1.0	
LZH				pP		pP	06 05 42.6	+0.5	
LZH				sP		sP	06 05 49.1	+2.6	
HHC	Hu-ho-hao-te	65.97	56	*e*P		P	06 05 52.8	+0.6	
CN2	Changchun	73.34	48	*e*P		P	06 06 38.0	+0.6	
NJ2	Nanjing	75.48	61	*e*P		P	06 06 50.3	+0.3	
YKA	Yellowknife Ar	76.44	342	P		P	06 06 53.6	-1.3	
	comp=Z,0.4nm,0.5s,baz=33,slow=5.4,SNR=8.5								
DAWY	Dawson	79.48	353	*e*P		P	06 07 11.5	-0.4	
	comp=Z,4.7nm,1.5s								
GAMB	Gambell	79.84	7	*e*P		P	06 07 14.8	+1.0	
	comp=Z,9.8nm,1.8s								
PPLA	Purkeypile	81.47	358	*e*P		P	06 07 22.9	+0.1	
	comp=Z,21nm,1.6s								
ECSD	EROS Data Cent	84.12	321	*e*P		P	06 07 36.1	-0.6	
	comp=Z,6.3nm,1.4s								
CPUP	Villa Florida	98.54	244	LR		LR	06 52 43.7		
	comp=Z,91nm,21.7s,baz=125,slow=35								
WRA	Warramunga Arr	117.58	95	PKP		PKPdf	06 13 49.5	-2.4	
	comp=Z,2.2nm,0.7s,baz=321,slow=1.8,SNR=3.0								
ASAR	Alice Springs	119.08	99	PKP		PKPdf	06 13 53.0	-1.8	
	comp=Z,0.4nm,0.8s,baz=309,slow=1.8,SNR=3.0								
ASAR	Alice Springs	119.08	99	PKIKP		PKPdf	06 13 53.0	-1.8	
OXZ	Oxford	154.38	117	*e*PKPbc		PKPbc	06 15 04.9	-0.8	

NIED ***24*** *05:56:00, 35.80N× 140.90E, h32km, Mw3.6 Best double couple: M0 3.02000×10^14 NP1:φs 32.00000°, δ54.00000°, λ-27.00000°. NP2:φs 138.00000°, δ69.00000°, λ-141.00000°.*

IDC ***24*** *05:56:06.9± 1.4, 35.67N× 140.95E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/69, mbtmp3.2/4, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/24, Error ellipse: s-maj=32.0km s-min=26.4km az=39.0*

ISCJB ***24*** *05:56:08.7± 1.0, 35.77N× 0.05× 141.00E± 0.09, h21km± 5km, mb3.3/3, MS3.1/1, Error ellipse: s-maj=12.1km s-min=7.3km az=162.6*

JMA ***24*** *05:56:09.6± 0.1, 35.78N× 140.94E, h13km± 1km, M3.7*

JMA Felt I J1.

ISC 24 05:56:09.2±1.2, 35.78N±0.05×140.94E±0.09, h15km±6km, n19, σ0 972/16, mb3.3/3, 3C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.10	223	⇑P	Pg	05 56 12.4	0.0
CHOJ				S	Sg	05 56 14.6	+0.1
JCN	Nagara	0.70	240	⇑P	Pn	05 56 24.1	-0.5
JYT	Yasato	0.76	307	⇑P	Pg	05 56 23.6	-0.3
JYT				S	Sg	05 56 33.8	-0.1
JHO	Hitachi	0.89	340	P	Pg	05 56 25.8	-0.6
JHO				S	Sg	05 56 38.1	+0.1
BSO4	Boso 4	0.93	212	P	Pn	05 56 27.6	0.0
BSO3	Boso 3	1.03	200	P	Pn	05 56 28.7	-0.2
MJAR	Matsushiro Arr	2.34	290	Pn	Pn	05 56 47.1	0.0
	2.6nm,0.3s,baz=93,slow=8.4,SNR=19						
MJAR				Sn	Sn	05 57 17.4	+1.7
	4.4nm,0.3s,baz=131,slow=14,SNR=5.7						
MAT	Matsushiro	2.34	290	P	Pn	05 56 47.4	+0.2
MAT				*e*S	Sn	05 57 14.6	-1.1
H11N2	WAKE ISLAND Hy	27.86	118	T	T	06 30 57.7	
	baz=311,slow=75,SNR=42						
H11N1	WAKE ISLAND Hy	27.87	118	T	T	06 30 57.1	
	baz=311,slow=75,SNR=27						
H11N3	WAKE ISLAND Hy	27.88	118	T	T	06 30 59.0	
	baz=311,slow=75,SNR=38						
TGY	Tagaytay City	28.08	225	LR	LR	06 11 36.8	
	comp=Z,47nm,21.0s,baz=130,slow=33						
H11S1	WAKE ISLAND Hy	28.53	120	T	T	06 31 51.1	
	baz=312,slow=75,SNR=53						
H11S3	WAKE ISLAND Hy	28.53	120	T	T	06 31 48.0	
	baz=312,slow=75,SNR=40						
H11S2	WAKE ISLAND Hy	28.54	120	T	T	06 31 48.0	
	baz=312,slow=75,SNR=34						
LZH	Lanzhou	29.93	282	*e*P	P	06 02 11.0	-5.8
LZH				pP	pP	06 02 16.5	-4.8
LZH				sP	sP	06 02 19.5	-3.6
KURBB	Kurchatov Arra	46.48	309	P	P	06 04 35.9	+0.3
	0.3nm,0.6s,baz=83,slow=7.8,SNR=3.3						
ILAR	Eielson Array	50.76	32	P	P	06 05 08.9	+0.7
	0.3nm,0.8s,baz=287,slow=6.3,SNR=3.3						
WRA	Warramunga Arr	55.77	188	P	P	06 05 44.8	-0.7
	0.1nm,0.4s,baz=7.2,slow=7.8,SNR=4.3						

IDC 24 05:58:09.8±13.0, 27.32S×75.37E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/63, mbtmp3.5/3, Error ellipse: s-maj=447.7km s-min=38.7km az=46.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	52.55	100	P	P	06 07 24.4	-1.0
	0.4nm,0.7s,baz=254,slow=6.5,SNR=5.5						
WRA	Warramunga Arr	54.11	96	P	P	06 07 37.7	+0.8
	0.9nm,0.7s,baz=253,slow=7.4,SNR=7.4						
MKAR	Makanchi Array	74.03	5	P	P	06 09 47.2	0.0
	0.2nm,0.7s,baz=173,slow=2.5,SNR=2.1						

GCMT ***24*** *05:58:40.0± 0.3, 28.29S× 74.15E, h12km± 1km, MW4.9/79, Moment Tensor Solution. s20,c22; s79,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.92±.17; Mθθ 0.66±.10; Mθφ 1.26±.11; Mrθ 1.50±.40; Mφφ -0.94±.06; Mφr 1.77±.39; Best double couple: M0 2.79000×10^16 NP1:φs 185.00000°, δ68.00000°, λ-60.00000°. NP2: φs 308.00000°, δ37.00000°, λ-141.00000°. Principal axes: T 2.1220, Plg17.0000°, Azm253.0000°; N 1.3350, Plg28.0000°, Azm352.0000°; P -3.4570, Plg56.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***24*** *05:58:43.4± 0.7, 28.85S× 0.2× 74.3E± 0.1, h10km, mb3.9/13, MS4.2/11 Error ellipse: s-maj=25.1km s-min=15.9km az=30.9*

IDC ***24*** *05:58:43.5± 0.9, 28.79S× 74.20E, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.9/63, mbtmp4.0/13, MS4.1/11, Ms1 4.1/11, ms1mx3.7/33, Error ellipse: s-maj=29.6km s-min=18.9km az=31.0*

ISC 24 05:58:45.1±0.9, 28.85S±0.2× 74.2E±0.2, h10km, n29, σ0 979/14, mb4.0/13, MS4.1/11, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

BER	**Bergen**	**0.52**	**114**	⇓	*i*	P	**Pn**	**06 05 29.2**	**+1.4**
	SNR=97								
BER					*e*	S	**Sb**	**06 05 35.7**	**+2.7**
BER	**Bergen**	**0.52**	**114**	⇓	*i*	P	**Pn**	**06 05 29.2**	**+1.4**
BER					*e*	S	**Sb**	**06 05 35.5**	**+2.5**
BER						IAML		06 05 36.3	
	comp=Z,3μm,0.1s								
BER	**Bergen**	**0.52**	**114**			Pg	**Pn**	**06 05 29.3**	**+1.4**
BER						Lg		06 05 35.8	
BER	**Bergen**	**0.52**	**114**	⇓	*i*	P	**Pn**	**06 05 29.2**	**+1.4**
BER					*e*	S	**Sb**	**06 05 35.7**	**+2.7**
BER						AML	AML	06 05 36.1	
	comp=E,606nm,0.3s								
BER						AML	AML	06 05 36.8	
	comp=N,814nm,0.2s								
HYA	**Hoyanger**	**1.05**	**56**		*i*	P	**Pn**	**06 05 35.9**	**+0.9**
HYA					*e*	S	**Sg**	**06 05 48.1**	**-0.9**
HYA	**Hoyanger**	**1.05**	**56**		*i*	P	**Pn**	**06 05 35.9**	**+0.9**
	SNR=92								
HYA					*e*	S	**Sg**	**06 05 48.1**	**-0.9**
	SNR=92								
HYA	**Hoyanger**	**1.05**	**56**		*i*	P	**Pn**	**06 05 35.9**	**+0.9**
HYA					*e*	S	**Sg**	**06 05 48.1**	**-0.9**
HYA						IAML		06 05 48.8	
	comp=Z,336nm,0.1s								
HYA					*i*			06 06 59.6	
FOO	**Floro**	**1.05**	**18**		*e*	P	**Pn**	**06 05 36.3**	**+1.2**
FOO	**Floro**	**1.05**	**18**		*e*	P	**Pn**	**06 05 36.3**	**+1.2**
	SNR=92								
FOO	**Floro**	**1.05**	**18**		*e*	P	**Pn**	**06 05 36.3**	**+1.2**
FOO	**Floro**	**1.05**	**18**		*e*	P	**Pn**	**06 05 36.3**	**+1.2**
ODD1	**Odda**	**1.32**	**121**	⇓	*i*	P	**Pn**	**06 05 40.7**	**+1.9**
	SNR=55								
ODD1	**Odda**	**1.32**	**121**	⇓	*i*	P	**Pn**	**06 05 40.7**	**+1.9**
ODD1					*e*			06 05 46.6	
ODD1					*i*			06 05 51.2	
ODD1					*i*			06 05 56.0	
ODD1					*e*			06 06 05.9	
KMY	**Karmoy**	**1.46**	**162**	⇑	*i*	P	**Pn**	**06 05 43.1**	**+2.4**
	SNR=55								
KMY					*e*	S	**Sg**	**06 05 59.6**	**-2.4**
	SNR=55								
KMY	**Karmoy**	**1.46**	**162**	⇑	*i*	P	**Pn**	**06 05 43.1**	**+2.4**
KMY					*i*			06 05 49.2	
KMY					*e*	S	**Sg**	**06 05 59.6**	**-2.4**
KMY						IAML		06 06 01.0	
	comp=Z,193nm,0.2s								
BLS5	**Blasjo**	**1.57**	**138**		*e*	P	**Pn**	**06 05 44.6**	**+2.3**
	SNR=55								
BLS5					*e*	S	**Sn**	**06 06 02.3**	**-0.1**
	SNR=55								
BLS5	**Blasjo**	**1.57**	**138**		*e*	P	**Pn**	**06 05 44.6**	**+2.3**
BLS5					*e*	S	**Sn**	**06 06 02.3**	**-0.1**
BLS5						IAML		06 06 02.5	
	comp=Z,276nm,0.1s								
STAV	**Stavanger**	**1.80**	**158**		*e*	P	**Pn**	**06 05 47.3**	**+1.9**
	SNR=55								
STAV					*e*	S	**Sn**	**06 06 07.5**	**-0.3**
	SNR=55								
STAV	**Stavanger**	**1.80**	**158**		*e*	P	**Pn**	**06 05 47.3**	**+1.9**
STAV					*e*			06 05 52.5	
STAV					*e*	S	**Sn**	**06 06 07.5**	**-0.3**
AKN	**Aaknes**	**2.02**	**37**	⇑	*i*	P	**Pn**	**06 05 49.9**	**+1.4**
	SNR=55								
AKN						Lg	Lg	06 06 12.1	
AKN	**Aaknes**	**2.02**	**37**	⇑	*i*	P	**Pn**	**06 05 49.9**	**+1.4**
AKN					*e*	S	**Sn**	**06 06 12.5**	**-0.9**
AKN						IAML		06 06 13.2	
	comp=Z,265nm,0.1s								
AKN	**Aaknes**	**2.02**	**37**			Pg	**Pn**	**06 05 49.9**	**+1.4**
AKN						Lg	Lg	06 06 12.2	
MOL	**Molde**	**2.49**	**36**		*e*	P	**Pn**	**06 05 55.5**	**+0.7**
	SNR=55								
MOL					*e*	S	**Sn**	**06 06 22.9**	**-2.0**
MOL	**Molde**	**2.49**	**36**		*e*	P	**Pn**	**06 05 55.5**	**+0.7**
MOL					*e*	S	**Sn**	**06 06 22.7**	**-2.2**
MOL						IAML		06 06 23.7	
	comp=Z,135nm,0.1s								
MOL	**Molde**	**2.49**	**36**		*e*	P	**Pn**	**06 05 55.5**	**+0.7**
MOL					*e*	S	**Sn**	**06 06 22.9**	**-2.0**
MOL						AML	AML	06 06 23.9	
	comp=N,248nm,0.1s								
MOL						AML	AML	06 06 24.2	
	comp=E,172nm,0.2s								
DOMB	**Dombas**	**2.68**	**55**		*e*	P	**Pn**	**06 05 59.4**	**+1.9**
	SNR=55								
DOMB	**Dombas**	**2.68**	**55**		*e*	P	**Pn**	**06 05 59.4**	**+1.9**
DOMB					*e*			06 06 07.0	
DOMB					*i*			06 06 12.1	
DOMB					*i*			06 06 28.2	
DOMB					*e*			06 06 41.3	
SNART	**Snartemo**	**2.69**	**146**		*e*	P	**Pn**	**06 05 59.8**	**+2.2**
	SNR=55								
SNART					*e*	S	**Sn**	**06 06 28.8**	**-1.0**
	SNR=55								
SNART	**Snartemo**	**2.69**	**146**		*e*	P	**Pn**	**06 05 59.8**	**+2.2**
SNART					*e*	S	**Sn**	**06 06 28.8**	**-1.0**
KONO	**Kongsberg**	**2.78**	**108**		*e*	Pn	**Pn**	**06 06 00.2**	**+1.4**
KONO	**Kongsberg**	**2.78**	**108**		*e*	P	**Pn**	**06 06 00.2**	**+1.4**
KONO	**Kongsberg**	**2.78**	**108**		*e*	P	**Pn**	**06 06 00.3**	**+1.4**
KONO	**Kongsberg**	**2.78**	**108**		*e*	P	**Pn**	**06 06 00.2**	**+1.4**
LRW	**Lerwick**	**2.80**	**263**		*e*	P	**Pn**	**06 06 02.0**	**+2.9**
	SNR=55								
LRW					*e*	S	**Sn**	**06 06 32.2**	**-0.4**
	comp=E,15nm,0.3s,SNR=55								
LRW	**Lerwick**	**2.80**	**263**		*e*	P	**Pn**	**06 06 01.9**	**+2.9**
LRW					*e*	S	**Sn**	**06 06 32.1**	**-0.4**
LRW						AML	AML	06 06 34.0	
	comp=E,22nm,0.4s								
LRW						AML	AML	06 06 43.3	
	comp=N,15nm,0.3s								
LRW	**Lerwick**	**2.80**	**263**		*e*	P	**Pn**	**06 06 01.9**	**+2.9**
LRW					*e*	S	**Sn**	**06 06 32.1**	**-0.4**
LRW						AML	AML	06 06 34.0	
	comp=E,22nm,0.4s								
LRW						AML	AML	06 06 43.3	
	comp=N,15nm,0.3s								
SAN1	**Sandwick**	**2.86**	**261**		*e*	P	**Pn**	**06 06 02.0**	**+2.1**
	SNR=55								
SAN1	**Sandwick**	**2.86**	**261**		*e*	P	**Pn**	**06 06 02.0**	**+2.1**
SAN1	**Sandwick**	**2.86**	**261**		*e*	P	**Pn**	**06 06 02.0**	**+2.1**
HOMB	**Homborsund**	**3.15**	**136**		*e*	P	**Pn**	**06 06 06.0**	**+2.1**
	SNR=55								
HOMB	**Homborsund**	**3.15**	**136**		*e*	P	**Pn**	**06 06 06.0**	**+2.1**
NBO	**NORSAR Subarra**	**3.16**	**79**			Pn	**Pn**	**06 06 05.3**	**+1.2**
NBO						Sn	**Sn**	**06 06 39.2**	**-2.3**
NBO	**NORSAR Subarra**	**3.16**	**79**			Pn	**Pn**	**06 06 05.3**	**+1.2**
NBO						Sn	**Sn**	**06 06 39.2**	**-2.3**
NBO00	**NORSAR Array S**	**3.16**	**79**		*e*	Pn	**Pn**	**06 06 05.8**	**+1.7**
NBO00					*e*	Sn	**Sn**	**06 06 39.5**	**-2.0**
NBO00	**NORSAR Array S**	**3.16**	**79**		*e*	P	**Pn**	**06 06 05.8**	**+1.7**
	SNR=55								
NBO00					*e*	Sn	**Sn**	**06 06 39.5**	**-2.0**
NBO00	**NORSAR Array S**	**3.16**	**79**		*e*	P	**Pn**	**06 06 05.8**	**+1.7**
NAO	**NORSAR Subarra**	**3.18**	**83**			Pn	**Pn**	**06 06 05.3**	**+1.0**
NAO						Sn	**Sn**	**06 06 40.0**	**-1.9**
NAO	**NORSAR Subarra**	**3.18**	**83**			Pn	**Pn**	**06 06 05.3**	**+1.0**
NAO						Sn	**Sn**	**06 06 40.0**	**-1.9**
NC204	**NORSAR Array S**	**3.19**	**75**		*e*	Pn	**Pn**	**06 06 05.7**	**+1.2**
NC204					*e*	Sn	**Sn**	**06 06 39.7**	**-2.5**
NC204	**NORSAR Array S**	**3.19**	**75**		*e*	P	**Pn**	**06 06 05.7**	**+1.2**
	SNR=55								
NC204					*e*	Sn	**Sn**	**06 06 39.7**	**-2.5**
NC204	**NORSAR Array S**	**3.19**	**75**		*e*	P	**Pn**	**06 06 05.7**	**+1.2**
NBO02	**NORSAR Array S**	**3.20**	**79**		*e*	Pn	**Pn**	**06 06 05.7**	**+1.0**
NBO02	**NORSAR Array S**	**3.20**	**79**		*e*	Pn	**Pn**	**06 06 05.7**	**+1.0**
NAO01	**NORSAR Array S**	**3.21**	**83**		*e*	Pn	**Pn**	**06 06 06.3**	**+1.7**
NAO01					*e*	Sn	**Sn**	**06 06 41.1**	**-1.5**
NAO01	**NORSAR Array S**	**3.21**	**83**		*e*	P	**Pn**	**06 06 06.4**	**+1.7**
	SNR=55								
NAO01					*e*	Sn	**Sn**	**06 06 41.1**	**-1.5**
NAO01	**NORSAR Array S**	**3.21**	**83**		*e*	P	**Pn**	**06 06 06.4**	**+1.7**
NC2	**NORSAR Subarra**	**3.22**	**75**			Pn	**Pn**	**06 06 05.6**	**+0.6**
NC2						Sn	**Sn**	**06 06 40.9**	**-2.2**
NC2	**NORSAR Subarra**	**3.22**	**75**			Pn	**Pn**	**06 06 05.6**	**+0.6**
NC2						Sn	**Sn**	**06 06 40.9**	**-2.2**
OSL	**Oslo**	**3.23**	**99**		*e*	P	**Pn**	**06 06 06.7**	**+1.7**
	SNR=55								
OSL	**Oslo**	**3.23**	**99**		*e*	P	**Pn**	**06 06 06.7**	**+1.7**
NB2	**NORSAR Subarra**	**3.38**	**80**			Pn	**Pn**	**06 06 07.4**	**+0.3**
	SNR=676								
NB2						Sn	**Sn**	**06 06 43.2**	**-3.6**
	SNR=4.6								
NB2	**NORSAR Subarra**	**3.38**	**80**			Pn	**Pn**	**06 06 07.4**	**+0.3**
	baz=272,slow=12								
NB2						Sn	**Sn**	**06 06 43.2**	**-3.6**
	baz=265,slow=28								
NOA	**NORSAR Array B**	**3.38**	**80**			Pn	**Pn**	**06 06 07.9**	**+0.9**
	comp=N,3.5nm,0.3s,baz=261,slow=11,SNR=336								
NOA						Sn	**Sn**	**06 06 40.6**	**-6.2**
	comp=N,8.0nm,0.3s,baz=84,slow=13,SNR=7.1								
NOA						Lg	Lg	06 06 55.5	
	comp=N,8.2nm,0.3s,baz=93,slow=19,SNR=4.3								
NB201	**NORSAR Array S**	**3.42**	**79**		*e*	Pn	**Pn**	**06 06 07.6**	**0.0**
NB201					*e*	Sn	**Sn**	**06 06 43.5**	**-4.2**
NB201	**NORSAR Array S**	**3.42**	**79**		*e*	P	**Pn**	**06 06 07.6**	**0.0**
	SNR=55								
NB201					*e*	Sn	**Sn**	**06 06 43.5**	**-4.2**
NB201	**NORSAR Array S**	**3.42**	**79**		*e*	P	**Pn**	**06 06 07.5**	**0.0**
NC303	**NORSAR Array S**	**3.47**	**77**		*e*	Pn	**Pn**	**06 06 09.2**	**+0.9**
NC303					*e*	Pg	**Pg**	**06 06 19.9**	**-1.4**
NC303					*e*	Sn	**Sn**	**06 06 46.0**	**-3.0**
NC303	**NORSAR Array S**	**3.47**	**77**		*e*	P	**Pn**	**06 06 09.2**	**+0.9**
	SNR=55								
NC303	**NORSAR Array S**	**3.47**	**77**		*e*	P	**Pn**	**06 06 09.2**	**+0.9**
NC6	**NORSAR Subarra**	**3.48**	**85**			Pn	**Pn**	**06 06 08.9**	**+0.4**
NC6	**NORSAR Subarra**	**3.48**	**85**			Pn	**Pn**	**06 06 08.9**	**+0.4**
NC3	**NORSAR Subarra**	**3.50**	**76**			Pn	**Pn**	**06 06 08.9**	**+0.2**
NC3						Sn	**Sn**	**06 06 46.7**	**-3.0**
NC3	**NORSAR Subarra**	**3.50**	**76**			Pn	**Pn**	**06 06 08.8**	**+0.2**
NC3						Sn	**Sn**	**06 06 46.7**	**-3.0**
NC602	**NORSAR Array S**	**3.53**	**85**		*e*	Pn	**Pn**	**06 06 10.1**	**+1.0**
NC602	**NORSAR Array S**	**3.53**	**85**		*e*	Pn	**Pn**	**06 06 10.1**	**+1.0**
NC602	**NORSAR Array S**	**3.53**	**85**		*e*	P	**Pn**	**06 06 10.0**	**+1.0**
NRA0	**NORESS Array S**	**3.53**	**85**			Pn	**Pn**	**06 06 09.0**	**-0.1**
	SNR=861								
NRA0						Sn	**Sn**	**06 06 46.3**	**-4.1**
	SNR=1.6								
NRA0	**NORESS Array S**	**3.53**	**85**			Pn	**Pn**	**06 06 09.0**	**-0.1**
	baz=275,slow=12								
NRA0						Pg	**Pb**	**06 06 19.7**	**+2.7**
	baz=280,slow=16								
NRA0						Sn	**Sn**	**06 06 46.3**	**-4.1**
	baz=285,slow=22								
NC4	**NORSAR Subarra**	**3.62**	**79**			Pn	**Pn**	**06 06 11.0**	**+0.6**
NC4						Sn	**Sn**	**06 06 49.5**	**-3.4**
NC4	**NORSAR Subarra**	**3.62**	**79**			Pn	**Pn**	**06 06 11.0**	**+0.6**
NC4						Sn	**Sn**	**06 06 49.5**	**-3.4**
NC405	**NORSAR Array S**	**3.62**	**79**		*e*	Pn	**Pn**	**06 06 10.3**	**-0.2**
NC405					*e*	Sn	**Sn**	**06 06 48.9**	**-4.0**
NC405	**NORSAR Array S**	**3.62**	**79**		*e*	Pn	**Pn**	**06 06 10.3**	**-0.2**
NC405					*e*	Sn	**Sn**	**06 06 48.9**	**-4.0**
STRU	**Stroemstad**	**3.78**	**112**			P	**Pn**	**06 06 13.2**	**+0.7**
STRU						S	**Sn**	**06 06 52.5**	**-4.0**
STRU	**Stroemstad**	**3.78**	**112**			P	**Pn**	**06 06 13.2**	**+0.7**
STRU						S	**Sn**	**06 06 52.5**	**-4.0**
VANU	**Vaenersborg**	**4.45**	**115**			P	**Pn**	**06 06 22.6**	**+0.9**
VANU						S	**Sn**	**06 07 08.9**	**-4.2**
VANU	**Vaenersborg**	**4.45**	**115**			P	**Pn**	**06 06 22.6**	**+0.9**
VANU						S	**Sn**	**06 07 08.9**	**-4.2**
MLA1	**Latheron**	**4.57**	**243**		*e*	S	**Sn**	**06 07 14.1**	**-2.1**
MLA1	**Latheron**	**4.57**	**243**		*e*	S	**Sn**	**06 07 14.1**	**-2.1**
MLA1	**Latheron**	**4.57**	**243**		*e*	S	**Sn**	**06 07 14.1**	**-2.1**
UDD	**Uddeholm**	**4.61**	**92**			P	**Pn**	**06 06 24.9**	**+0.9**
UDD						S	**Sn**	**06 07 13.3**	**-3.9**
UDD	**Uddeholm**	**4.61**	**92**			P	**Pn**	**06 06 24.9**	**+0.9**
UDD						S	**Sn**	**06 07 13.3**	**-3.9**
HFS	**Hagfors**	**4.65**	**92**			Pn	**Pn**	**06 06 25.4**	**+0.9**
	comp=N,2.6nm,0.3s,baz=275,slow=12,SNR=177								
HFS						Sn	**Sn**	**06 07 13.8**	**-4.4**
	comp=N,4.5nm,0.3s,baz=274,slow=22,SNR=12								
HFS						Lg	Lg	06 07 40.1	
	comp=N,1.9nm,0.3s,baz=279,slow=27,SNR=3.1								
HFS	**Hagfors**	**4.65**	**92**			Pn	**Pn**	**06 06 25.2**	**+0.7**
	baz=275,slow=11								
HFS						Sn	**Sn**	**06 07 13.7**	**-4.4**
	baz=281,slow=22								
HFS						Lg	Lg	06 07 39.9	
	baz=275,slow=28								
BIGH	**Upper Bighouse**	**4.72**	**247**		*e*	P	**Pn**	**06 06 28.0**	**+2.6**
BIGH					*e*	S	**Sn**	**06 07 17.1**	**-2.7**
BIGH						AML	AML	06 07 19.1	
	comp=E,50nm,0.2s								
BIGH						AML	AML	06 07 19.3	
	comp=N,91nm,0.4s								
BIGH	**Upper Bighouse**	**4.72**	**247**		*e*	P	**Pn**	**06 06 28.0**	**+2.6**
BIGH					*e*	S	**Sn**	**06 07 17.1**	**-2.7**
BIGH						AML	AML	06 07 19.1	
	comp=E,50nm,0.2s								
BIGH						AML	AML	06 07 19.3	
	comp=N,91nm,0.4s								
NASU	**Vaermlandsnaes**	**4.76**	**107**			P	**Pn**	**06 06 26.4**	**+0.4**
NASU						S	**Sn**	**06 07 15.9**	**-4.8**
NASU	**Vaermlandsnaes**	**4.76**	**107**			P	**Pn**	**06 06 26.4**	**+0.4**
NASU						S	**Sn**	**06 07 15.9**	**-4.8**
MCD	**Coleburn Disti**	**4.96**	**236**		*e*	P	**Pn**	**06 06 30.9**	**+2.0**
MCD					*e*	S	**Sn**	**06 07 23.4**	**-2.5**
MCD						AML	AML	06 07 24.3	
	comp=E,40nm,0.4s								
MCD						AML	AML	06 07 24.5	
	comp=N,33nm,0.4s								
MCD	**Coleburn Disti**	**4.96**	**236**		*e*	P	**Pn**	**06 06 30.9**	**+2.0**
MCD					*e*	S	**Sn**	**06 07 23.4**	**-2.5**
MCD						AML	AML	06 07 24.3	
	comp=E,40nm,0.4s								
MCD						AML	AML	06 07 24.5	
	comp=N,33nm,0.4s								
MME1	**Meikle Cairn**	**5.03**	**232**		*e*	S	**Sn**	**06 07 24.8**	**-2.8**
MME1	**Meikle Cairn**	**5.03**	**232**		*e*	S	**Sn**	**06 07 24.8**	**-2.8**
MME1	**Meikle Cairn**	**5.03**	**232**		*e*	S	**Sn**	**06 07 24.8**	**-2.8**
DRUM	**Mains of Drumt**	**5.14**	**227**		*e*	P	**Pn**	**06 06 33.8**	**+2.5**
DRUM					*e*	S	**Sn**	**06 07 27.5**	**-2.8**
DRUM						AML	AML	06 07 30.2	
	comp=E,35nm,0.6s								
DRUM						AML	AML	06 07 30.4	
	comp=N,47nm,0.3s								
DRUM	**Mains of Drumt**	**5.14**	**227**		*e*	P	**Pn**	**06 06 33.8**	**+2.5**
DRUM					*e*	S	**Sn**	**06 07 27.5**	**-2.8**
DRUM						AML	AML	06 07 30.2	
	comp=E,35nm,0.6s								
DRUM						AML	AML	06 07 30.4	
	comp=N,47nm,0.3s								
FKPU	**Falk**	**5.37**	**113**			P	**Pn**	**06 06 34.8**	**+0.5**
FKPU						S	**Sn**	**06 07 31.1**	**-4.7**
FKPU	**Falk**	**5.37**	**113**			P	**Pn**	**06 06 34.8**	**+0.5**
FKPU						S	**Sn**	**06 07 31.1**	**-4.7**
NRAU	**Nora**	**5.43**	**96**			P	**Pn**	**06 06 36.2**	**+0.9**
NRAU	**Nora**	**5.43**	**96**			P	**Pn**	**06 06 36.2**	**+0.9**
ASKU	**Askersund**	**5.55**	**103**			P	**Pn**	**06 06 37.4**	**+0.5**
ASKU	**Askersund**	**5.55**	**103**			P	**Pn**	**06 06 37.4**	**+0.5**
KAC	**Achnashellach**	**5.88**	**242**		*e*	P	**Pn**	**06 06 43.5**	**+2.1**
	SNR=53								
KAC	**Achnashellach**	**5.88**	**242**		*e*	P	**Pn**	**06 06 43.5**	**+2.1**
KAC	**Achnashellach**	**5.88**	**242**		*e*	P	**Pn**	**06 06 43.5**	**+2.1**
KPL	**Plockton**	**6.13**	**242**		*e*	P	**Pn**	**06 06 47.0**	**+2.2**
	SNR=53								
KPL	**Plockton**	**6.13**	**242**		*e*	P	**Pn**	**06 06 47.0**	**+2.2**
KPL					*e*	S	**Sn**	**06 07 50.3**	**-4.3**
KPL						AML	AML	06 07 53.2	
	comp=N,6.9nm,0.2s								
KPL						AML	AML	06 07 55.2	
	comp=E,6.6nm,0.4s								
KPL	**Plockton**	**6.13**	**242**		*e*	P	**Pn**	**06 06 47.0**	**+2.2**
KPL					*e*	S	**Sn**	**06 07 50.3**	**-4.3**
KPL						AML	AML	06 07 53.2	
	comp=N,6.9nm,0.2s								
KPL						AML	AML	06 07 55.2	
	comp=E,6.6nm,0.4s								
EKA	**Eskdalemuir Ar**	**6.63**	**221**			Pn	**Pn**	**06 06 53.7**	**+2.0**
	baz=28,slow=12,SNR=6.3								
EKA						Sn	**Sn**	**06 08 03.1**	**-3.7**
	baz=24,slow=23,SNR=16								
ESK	**Eskdalemuir**	**6.66**	**221**		*e*	Pn	**Pn**	**06 06 54.0**	**+1.9**
ESK					*e*	Sn	**Sn**	**06 08 03.8**	**-3.7**
ESK	**Eskdalemuir**	**6.66**	**221**		*e*	S	Sn	06 08 02.4	-5.1
LLD	**Lille Linde**	**6.72**	**138**		*i*	P	**Pn**	**06 06 54.2**	**+1.2**
MOR8	**Moi Rana**	**7.18**	**35**		*e*	P	Pn	06 07 04.3	+5.1
MOR8					*e*	S	**Sn**	**06 08 22.6**	**+2.3**
BSD	**Bornholm Skovb**	**7.86**	**130**		*i*	P	**Pn**	**06 07 08.4**	**-0.1**
BSD	**Bornholm Skovb**	**7.86**	**130**		*e*	P	**Pn**	**06 07 08.7**	**+0.2**
	SNR=55								
RAF	**Rauma**	**8.51**	**80**		*e*	P	**Pn**	**06 07 17.2**	**-0.2**
	SNR=55								
LOF	**Lofoten**	**8.53**	**24**		*e*		Sn	06 08 40.3	-13
FIA0	**FINESS Array S**	**10.55**	**76**			Pn	**Pn**	**06 07 44.8**	**-0.5**
	baz=280,slow=12								
FIA0						Sn	Sn	06 09 34.1	-8.9
	baz=274,slow=22								
FINES	**FINESS Array B**	**10.55**	**76**			Pn	**Pn**	**06 07 44.3**	**-1.0**
	comp=E,0.3nm,0.3s,baz=270,slow=12,SNR=12								
FINES						Sn	Sn	06 09 34.3	-8.7
	comp=E,0.3nm,0.3s,baz=274,slow=23,SNR=4.6								
FINES						Lg	Lg	06 10 41.8	
	comp=E,0.3nm,0.3s,baz=267,slow=23,SNR=7.3								
FIA1	**FINESS Array S**	**10.55**	**76**		*e*	Pn	**Pn**	**06 07 46.4**	**+1.0**
ARA0	**ARCESS Array S**	**12.55**	**36**			Pn	**Pn**	**06 08 11.5**	**-1.2**
	baz=229,slow=14								
ARA0						Sn	Sn	06 10 21.9	-10
	baz=224,slow=22								
ARCES	**ARCESS Array B**	**12.55**	**36**			Pn	**Pn**	**06 08 11.5**	**-1.2**
	comp=E,0.1nm,0.3s,baz=229,slow=13,SNR=5.9								
ARCES						Sn	Sn	06 10 21.8	-10
	comp=E,0.2nm,0.3s,baz=229,slow=22,SNR=3.2								

MEX 24 06:28:20.6±0.7, 16°32N×98°25W, h10km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**57**		*i*	P	Pg	06 28 23.0	-0.8
PNIG					*e*	S	Sg	06 28 26.0	-0.1
TLIG	**Tlapa**	**1.27**	**346**		*e*	P	Pn	06 28 40.6	-3.9
TLIG					*i*	S	Sb	06 28 56.6	-4.6
VHO	**Vista Hermosa**	**1.63**	**62**		*e*	P	Pn	06 28 46.1	-3.5
VHO					*e*	S	Sn	06 29 06.0	-4.8
ACX	**Acapulco**	**1.64**	**290**		*e*	P	Pn	06 28 41.5	-7.9
ACX					*i*	S	Sn	06 29 02.4	-8.2
CAIG	**El Cayaco**	**2.07**	**291**		*e*	P	Pn	06 28 52.8	-2.5
CAIG					*e*	S	Sn	06 29 17.5	-3.7
HUIG	**Huatulco**	**2.13**	**105**		*i*	P	Pn	06 28 53.3	-2.9
HUIG					*i*	S	Sn	06 29 18.6	-4.0
PLIG	**Platanillo**	**2.39**	**330**		*e*	P	Pn	06 28 56.6	-3.2
PLIG					*e*	S	Sn	06 29 24.6	-4.6

IDC ***24*** *06:52:10.8±3.2, 6°37S×80°05W, h80km±33km, mb3.2/5, mb1 3.5/7, mb1mx3.3/39, mbtmp3.6/7, MS2.7/1, Ms1 2.7/1, ms1mx2.3/13, Error ellipse: s-maj=43.0km s-min=21.0km az=60.0*

ISCJB ***24*** *06:52:11.5±0.7, 6°36S±0°06×80°00W±0°09, h100km, mb3.4/4, Error ellipse: s-maj=13.0km s-min=6.4km az=155.5*

NEIC ***24*** *06:52:13.0±1.7, 6°30S×79°91W, h82km±22km, mb4.0/4, ML4.4(ARE), Error ellipse: s-maj=31.7km s-min=10.9km az=72.0*

NEIC Felt [II] at Lambayeque and Olmos. Also felt at Chiclayo.

ISC 24 06:52:12.7±0.7, 6°38S±0°06×79°9W±0°1, h100km, n21, σ2§10/23, mb3.3/4, 1C-1D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.67**	**117**			P	**Pn**	**06 52 39.9**	**-1.7**
	24nm,0.3s,baz=36,slow=5.1,SNR=135								
ATAH						S	**Sn**	**06 53 03.8**	**+0.3**
	118nm,0.3s,baz=3.5,slow=19,SNR=28								
ATAH						LR	LR	06 53 35.3	
	comp=Z,239nm,20.0s,baz=282,slow=47								
NNA	**Nana**	**6.34**	**152**			P	**Pn**	**06 53 41.2**	**-2.4**
	1.6nm,0.3s,baz=297,slow=4.5,SNR=3.5								
NNA						S	**Sn**	**06 54 49.0**	**-5.7**
	2.9nm,0.3s,baz=171,slow=19,SNR=2.1								
NNA	**Nana**	**6.34**	**152**		*e*	Pn	**Pn**	**06 53 45.2**	**+1.5**
NNA					*e*	Sn	**Sn**	**06 54 59.1**	**+4.4**
OTAV	**Otavalo**	**6.73**	**12**		*e*	Pn	**Pn**	**06 53 47.2**	**-2.3**
OTAV					*e*	Sn	**Sn**	**06 55 07.3**	**+2.3**
TUMC	**Tumaco**	**8.23**	**8

comp=Z,4µm,0.2s
DYDN Diyadin 0.64 5 ⇓*i*P Pg 06 57 58.8 -1.9
DYDN *i* S Sg 06 58 08.8 -0.3
DYDN Diyadin 0.64 5 P Pg 06 57 58.8 -1.9
DYDN S Sg 06 58 08.8 -0.3
ADCV BITLIS_Adilcev 0.71 263 ⇑*i*P Pg 06 58 00.8 -1.1
ADCV *i* S Sg 06 58 11.9 +0.8
ADCV BITLIS_Adilcev 0.71 263 P Pg 06 58 00.8 -1.1
ADCV S Sg 06 58 11.9 +0.8
GEVA Gevas 0.74 217 *e*P Pg 06 58 00.7 -1.6
GEVA *e*S Sb 06 58 13.2 -0.7
GEVA IAML 06 58 20.7
comp=Z,903nm,0.5s
GEVA Gevas 0.74 217 ⇓*i*P Pg 06 58 00.8 -1.6
GEVA *i* S Sb 06 58 15.7 +1.8
GEVA Gevas 0.74 217 P Pg 06 58 00.8 -1.6
TUTA Tutak 0.80 309 *e*P Pg 06 58 01.7 -2.0
TUTA *e*S Sg 06 58 15.1 +0.9
TUTA IAML 06 58 18.6
comp=Z,2µm,0.3s
TUTA Tutak 0.80 309 ⇓*i*P Pg 06 58 01.7 -2.0
TUTA *i* S Sg 06 58 14.0 -0.2
AGRB Hanur-Agry 0.83 324 PG Pg 06 58 02.7 -1.6
AGRB SG Sg 06 58 15.2 +0.1
AGRB Hanur-Agry 0.83 324 *e*Pg Pg 06 58 02.7 -1.6
AGRB *e*Sg Sg 06 58 15.2 +0.1
IGDI IGDIR 1.03 20 *e*P Pg 06 58 06.7 -1.3
IGDI *e*S Sg 06 58 21.4 0.0
IGDI IAML 06 58 29.6
comp=Z,1µm,0.7s
IGDI IGDIR 1.03 20 ⇓*i*P Pg 06 58 06.2 -1.8
IGDI *i* S Sg 06 58 21.5 +0.2
TASB TASBURUN-IGDIR 1.18 24 PN Pg 06 58 09.8 -1.1
TASB SN Sn 06 58 27.5 -0.3
TASB TASBURUN-IGDIR 1.18 24 *e*Pn Pg 06 58 09.8 -1.1
TASB *e*Sn Sn 06 58 27.5 -0.3
HYR Heyderabad 1.25 49 ⇑P Pg 06 58 10.5 -1.8
SNR=292
HYR ⇑S Sn 06 58 31.4 +1.8
EKAR Karacoban 1.26 287 *e*P Pg 06 58 10.2 -2.3
EKAR *e*S Sn 06 58 32.2 +2.1
EKAR IAML 06 58 44.0
comp=Z,801nm,0.7s
EKAR Karacoban 1.26 287 ⇓*i*P Pg 06 58 09.9 -2.6
EKAR *i* S Sn 06 58 31.1 +1.1
GURO Guroymak-BITLI 1.29 255 PN Pg 06 58 10.5 -2.5
GURO SN Sg 06 58 27.9 -1.9
GURO Guroymak-BITLI 1.29 255 *e*Pn Pg 06 58 10.5 -2.5
GURO *e*Sn Sg 06 58 27.9 -1.9
EATA Eleskirt 1.30 318 *e*P Pg 06 58 10.9 -2.3
EATA IAML 06 58 36.8
comp=Z,287nm,0.5s
EATA Eleskirt 1.30 318 ⇓*i*P Pg 06 58 10.9 -2.3
EATA *i* S Sn 06 58 31.3 +0.2
HAKT HAKKARI 1.34 177 ⇓*i*P Pg 06 58 11.2 -2.8
HAKT *i* S Sn 06 58 34.9 +2.9
HAKT HAKKARI 1.34 177 P Pg 06 58 11.2 -2.8
YOVA Hakkari_Y˜…kse 1.41 158 ⇓*i*P Pn 06 58 13.2 -1.4
YOVA *i* S Sn 06 58 35.7 +2.1
YOVA Hakkari_Y˜…kse 1.41 158 P Pn 06 58 13.2 -1.4
NAX Nakhchivan 1.48 79 P Pb 06 58 15.7 -0.5
NAX Nakhchivan 1.48 79 ⇑P Pb 06 58 15.7 -0.5
SNR=64
GNI Garni 1.52 34 Pg Pn 06 58 15.6 -0.4
comp=Z,167nm,0.3s,baz=228,slow=2.8,SNR=234
GNI Lg Lg 06 58 39.3
comp=Z,191nm,0.3s,baz=128,slow=19,SNR=20
GNI LR LR 06 58 58.4
comp=Z,634nm,21.6s,baz=218,slow=46
GNI Garni 1.52 34 *c*P Pn 06 58 15.5 -0.6
GNI *e*S Sb 06 58 29.6 -6.8
GNI pmax pmax
comp=Z,5µm,0.8s
GNI Garni 1.52 34 *e*Pn Pn 06 58 15.7 -0.4
GNI *e*Sn Sg 06 58 40.9 +3.8
GNI Garni 1.52 34 *e*Pn Pn 06 58 15.7 -0.4
GNI *e*Sn Sg 06 58 40.8 +3.8
DIGO Kars 1.52 353 *e*P Pn 06 58 15.8 -0.4
DIGO *e*S Sg 06 58 38.5 +1.2
DIGO IAML 06 58 49.0
comp=Z,231nm,0.6s
DIGO Kars 1.52 353 ⇓*i*P Pn 06 58 14.8 -1.4
DIGO *i* S Sg 06 58 37.6 +0.3
DIGO Kars 1.52 353 P Pn 06 58 14.8 -1.4
DIGO S Sg 06 58 37.6 +0.3
SBZ Shahbuz 1.58 71 ⇑P Pn 06 58 16.7 -0.2
SNR=1000
SRTM Siirt_Merkez 1.61 236 ⇓*i*P Pn 06 58 17.9 +0.6
SRTM *i* S Sg 06 58 40.8 +0.6
SRTM Siirt_Merkez 1.61 236 P Pn 06 58 17.9 +0.6
SRTM S Sg 06 58 40.8 +0.6
SIRT Sirnak 1.68 214 PN Pn 06 58 17.3 -0.9
SIRT Sirnak 1.68 214 *e*Pn Pn 06 58 17.3 -0.9
HOMI Horasan 1.75 311 *e*P Pn 06 58 19.3 -1.1
HOMI *i* Pg Pg 06 58 21.5 -0.4
HOMI *e*S Sg 06 58 48.4 +3.8
HOMI IAML 06 58 53.1
comp=Z,412nm,0.6s
HOMI Horasan 1.75 311 ⇓*i*P Pn 06 58 18.2 -1.1
HOMI *i* S Sg 06 58 46.9 +2.3
KARS Kars 1.77 346 PN Pn 06 58 19.1 -0.5
KARS Kars 1.77 346 *e*P Pb 06 58 21.3 0.0
KARS Kars 1.77 346 *e*Pn Pb 06 58 21.3 0.0
KARS Kars 1.77 346 *e*Pn Pn 06 58 19.1 -0.5
KARS Kars 1.77 346 *e*P Pb 06 58 21.3 0.0
ORD Ordubad 1.85 88 ⇑P Pn 06 58 20.9 +0.4
SNR=643
SENK Senkaya-Erzuru 1.93 330 PN Pn 06 58 20.9 -0.8
SENK Senkaya-Erzuru 1.93 330 *e*Pn Pn 06 58 20.9 -0.8
ERZM Erzurum 2.02 301 *e*P Pn 06 58 22.7 -0.3
ERZM Erzurum 2.02 301 *i*P Pn 06 58 22.3 -0.7
ERZM *i* S Sn 06 58 49.4 +0.8
ERZM Erzurum 2.02 301 P Pn 06 58 22.3 -0.7
ERZM S Sn 06 58 49.4 +0.8
SVAN Silvan-Diyarba 2.04 249 *i*P Pn 06 58 24.2 +1.0
SVAN *i* S Sn 06 58 50.3 +1.3
SVAN Silvan-Diyarba 2.04 249 P Pn 06 58 24.2 +1.0
SVAN S Sn 06 58 50.3 +1.3
BTMN Batman 2.11 242 *i*P Pb 06 58 26.3 -0.5
BTMN *i* S Sg 06 58 56.4 +0.5
BTMN Batman 2.11 242 P Pb 06 58 26.3 -0.5
ECAT Cat-ERZURUM 2.17 290 *e*P Pn 06 58 26.6 +1.5
ECAT *e*S Sg 06 58 59.5 +1.4
ECAT IAML 06 59 02.4
comp=Z,109nm,0.5s
ECAT Cat-ERZURUM 2.17 290 *i*P Pn 06 58 26.6 +1.5
ECAT *i* S Sg 06 58 57.3 -0.8
ECAT Cat-ERZURUM 2.17 290 P Pn 06 58 26.6 +1.5
BNGB Bing˜ll 2.30 273 PN Pn 06 58 25.6 -1.1
BINT Bingol 2.45 270 P Pn 06 58 27.7 -1.1
BINT Bingol 2.45 270 *e*Pn Pn 06 58 25.6 -3.2
BINT Bingol 2.45 270 P Pn 06 58 27.7 -1.1
GDB GEDABAY 2.45 41 ⇓P Pn 06 58 25.8 -3.1
SNR=176
GDB ⇑S Sn 06 58 59.1 -0.1
DDEM Demirkent 2.46 325 *i*P Pn 06 58 30.1 +1.2
DDEM Demirkent 2.46 325 P Pn 06 58 30.1 +1.2
AKH Akhalkalaki 2.51 358 PN Pn 06 58 30.3 +0.6
AKH Akhalkalaki 2.51 358 P Pb 06 58 32.2 -1.6
AKH Akhalkalaki 2.51 358 *e*P Pb 06 58 32.1 -1.7
AKH Akhalkalaki 2.51 358 *e*Pn Pb 06 58 32.0 -1.7
AKH Akhalkalaki 2.51 358 *e*Pn Pn 06 58 30.3 +0.6
AKH Akhalkalaki 2.51 358 *e*P Pb 06 58 32.1 -1.7
QZX Qazax, Azerbai 2.54 31 ⇑P Pn 06 58 25.7 -4.3
SNR=103
QZX ⇑S Sn 06 58 59.0 -2.2
DBAD Bademkaya 2.58 326 *i*P Pb 06 58 34.0 -1.0
DBAD *i* S Sg 06 59 12.0 +0.8
DBAD Bademkaya 2.58 326 P Pb 06 58 34.0 -1.0
ARTV Artvin 2.63 331 *e*P Pb 06 58 33.9 -1.9
ARTV IAML 06 59 20.4
comp=Z,17nm,0.6s
ARTV Artvin 2.63 331 *i*P Pn 06 58 31.2 -0.2
ARTV Artvin 2.63 331 P Pn 06 58 31.2 -0.2
KOPT Kop Dagi 2.67 296 *e*P Pb 06 58 34.8 -1.7
KOPT IAML 06 59 19.4
comp=Z,63nm,0.5s
KOPT Kop Dagi 2.67 296 *i*P Pb 06 58 35.3 -1.2
KOPT *i* S Sg 06 59 15.3 +1.5
KOPT Kop Dagi 2.67 296 P Pb 06 58 35.3 -1.2
GANJ Ganja 2.71 49 P Pn 06 58 30.1 -2.3
SNR=32
GANJ ⇑S Sn 06 59 06.8 +1.3
MARD Mardin 2.75 236 *i*P Pn 06 58 33.6 +0.6
MARD *i* S Sg 06 59 15.4 -1.0
DIY Diyarbakir 2.85 250 *e*Pn Pn 06 58 34.8 +0.5
DGRG David-gareji 2.88 27 *e*P Pn 06 58 35.6 +0.9
DGRG *e*S Sg 06 59 20.9 +0.3
DGRG IAML 06 59 39.3
comp=Z,46nm,0.6s
DGRG David-gareji 2.88 27 P Pn 06 58 35.6 +0.9
DGRG David-gareji 2.88 27 *e*P Pn 06 58 35.6 +0.9
DGRG David-gareji 2.88 27 *e*P Pn 06 58 35.6 +0.9
MAZI Mazidag 2.89 241 PN Pn 06 58 33.4 -1.4
MAZI Mazidag 2.89 241 *e*Pn Pn 06 58 33.4 -1.4
DYBB Diyarbakir 2.90 252 PN Pn 06 58 34.8 -0.1
BAYB BAYBURT 2.93 299 ⇓*e*P Pb 06 58 41.0 0.0
BAYB IAML 06 59 29.7
comp=Z,18nm,0.7s
BAYB BAYBURT 2.93 299 *i*P Pb 06 58 40.5 -0.6
BAYB *i* S Sg 06 59 22.9 +0.4
TBLG Delisi 2.95 16 PN Pn 06 58 36.4 +0.7
TBLG Delisi 2.95 16 *e*P Pn 06 58 36.7 +1.0
TBLG *e*S Sb 06 59 19.8 +2.2
TBLG IAML 06 59 25.3
comp=Z,24nm,0.6s
TBLG Delisi 2.95 16 P Pb 06 58 38.5 -2.7
TBLG Delisi 2.95 16 *e*P Pb 06 58 38.5 -2.7
TBLG Delisi 2.95 16 *e*Pn Pn 06 58 38.3 +2.7
TBLG Delisi 2.95 16 *e*Pn Pn 06 58 36.4 +0.7
TBLG Delisi 2.95 16 *e*P Pb 06 58 38.5 -2.7
SEAG Tbilisi Sea 3.00 17 P Pg 06 58 44.6 -1.1
BRDA Brd 3.07 63 ⇑P Pn 06 58 35.9 -1.3
BRDA ⇑S Sn 06 59 17.3 +3.2
BAYT Ayd˜–ntepe-Bay 3.07 300 PN Pn 06 58 37.1 -0.4
BAYT Ayd˜–ntepe-Bay 3.07 300 *e*Pn Pn 06 58 37.1 -0.4
CHOM Cayeli-Rize 3.10 316 *e*Pn Pn 06 58 37.6 -0.1
ERZN Erzincan 3.11 284 PN Pn 06 58 37.1 -0.8
EUZM Uzumlu 3.15 286 *e*P Pn 06 58 38.8 +0.3
DDFL Dedoflistskaro 3.18 36 P Pb 06 58 46.4 +1.2
TNCL Tunceli-Merkez 3.19 275 *e*P Pb 06 58 44.0 -1.3
TNCL *e*S Sg 06 59 29.5 -1.1
TNCL IAML 06 59 47.8
comp=Z,30nm,0.6s
TNCL Tunceli-Merkez 3.19 275 *i*P Pb 06 58 44.3 -1.0
TNCL *i* S Sb 06 59 27.6 +3.2
MNGR Mingechevir, A 3.25 54 P Pn 06 58 37.7 -2.0
MNGR Mingechevir, A 3.25 54 ⇑P Pn 06 58 37.8 -2.0
SNR=4.5
MNGR ⇓S Sn 06 59 20.6 +1.8
DUS Dusheti 3.29 14 P Pb 06 58 46.8 -0.2
DUS Dusheti 3.29 14 *e*P Pb 06 58 46.8 -0.2
PTK Pertek 3.30 271 PN Pn 06 58 39.9 -0.7
ZRD Zardab 3.43 65 ⇑P Pn 06 58 41.0 -1.1
SNR=10
ZRD ⇓S Sn 06 59 26.4 +3.4
ZKTA Zakatala 3.57 39 P Pn 06 58 40.7 -3.4
ZKTA Zakatala 3.57 39 P Pn 06 58 40.7 -3.4
SEKA Sheki 3.58 49 P Pn 06 58 42.6 -1.8
SEKA Sheki 3.58 49 ⇑P Pn 06 58 42.7 -1.7
SNR=36
SEKA ⇑S Sn 06 59 29.3 +2.3
KELT Kelkit 3.60 292 *e*P Pb 06 58 52.4 0.0
KELT IAML 06 59 52.8
comp=Z,7.3nm,0.6s
GUDG Gudauri 3.62 10 P Pb 06 58 53.6 +0.9
KTUT Trabzon 3.62 306 PN Pn 06 58 45.4 +0.6
KTUT Trabzon 3.62 306 *e*Pn Pn 06 58 45.4 +0.6
ONI Oni 3.69 358 P Pb 06 58 50.1 -3.7
ONI Oni 3.69 358 *e*P Pb 06 58 50.1 -3.7
ONI Oni 3.69 358 *e*P Pb 06 58 50.1 -3.7
LRK Lerik 3.69 93 ⇓P Pn 06 58 46.4 +0.4
SNR=31
GLBA Clilabad 3.73 83 ⇓P Pn 06 58 46.4 +0.1
SNR=12
KDMR Kurdemir 3.82 66 ⇑P Pn 06 58 46.4 -1.1
SNR=3.0
KDMR ⇓S Sn 06 59 36.1 +3.5
QBL Gabala 3.83 56 ⇑P Pn 06 58 45.8 -1.9
SNR=4.5
QBL ⇑S Sn 06 59 35.0 +1.9
SAAT Saatly 3.84 74 ⇑P Pn 06 58 46.9 -0.9
SNR=4.7
ZEI Tsey 3.89 3 *e*P Pn 06 58 51.9 +3.2
ZEI pmax pmax
comp=Z,44nm,0.6s
ILIC ilic-Erzincan 3.97 280 PN Pn 06 58 49.5 -0.2
ILIC ilic-Erzincan 3.97 280 *e*Pn Pn 06 58 49.5 -0.2
IML Ismayilli 3.98 60 ⇓P Pn 06 58 48.2 -1.7
SNR=6.5
IML ⇓S Sn 06 59 39.5 +2.6
KEMA Kemaliye 4.01 277 *e*P Pn 06 58 52.7 +2.5
KEMA IAML 07 00 13.2
comp=Z,2.3nm,0.6s
LKRN Lenkeran, Azer 4.03 91 P Pn 06 58 50.9 +0.5
LKRN Lenkeran, Azer 4.03 91 ⇑P Pn 06 58 50.9 +0.5
SNR=27
URFA Urfa 4.05 250 PN Pn 06 58 51.5 +0.6
URFA Urfa 4.05 250 *e*Pn Pn 06 58 51.5 +0.6
ASTR Astara 4.06 93 ⇑P Pn 06 58 51.3 +0.5
SNR=6.9
MALT Malatya 4.11 263 PN Pn 06 58 51.5 -0.2
MALT Malatya 4.11 263 *e*P Pn 06 58 53.8 +2.1
MALT Malatya 4.11 263 *e*Pn Pn 06 58 53.8 +2.1
MALT Malatya 4.11 263 *e*Pn Pn 06 58 51.5 -0.2
MALT Malatya 4.11 263 *e*P Pn 06 58 53.8 +2.1
XNQ Khinaliq 4.14 55 ⇓P Pn 06 58 50.1 -2.1
SNR=25
XNQ ⇑S Sn 06 59 42.7 +1.7
PQL Pirkuli 4.26 62 ⇓P Pn 06 58 52.3 -1.5
SNR=4.8
PQL ⇓S Sn 06 59 46.6 +2.7
ALIB Äli-Bayra 4.30 74 ⇑P Pn 06 58 53.6 -0.5
QSAR Qusar 4.41 52 ⇓P Pn 06 58 53.3 -2.4
SNR=6.9
QSAR ⇑S Sn 06 59 48.5 +1.2
GBS Qobustan 4.41 67 ⇑P Pn 06 58 54.6 -1.2
SNR=3.0
GBS ⇓S Sn 06 59 50.8 +3.3
QUBA Quba, Azerbaij 4.46 55 ⇑P Pn 06 58 54.4 -2.1
SNR=10
QUBA ⇑S Sn 06 59 50.4 +1.7
NCK Nalchik 4.59 360 P Pn 06 58 58.6 +0.4
NCK Nalchik 4.59 360 P Pn 06 58 58.6 +0.4
SIZA Siyzn 4.60 60 ⇑P Pn 06 58 56.6 -1.7
GROC Groznyy 4.60 20 P Pb 06 59 09.8 +0.5
GROC pmax pmax
comp=Z,69nm,1.0s
KBZ Khabaz 4.85 354 Pn Pb 06 59 08.5 -5.1
comp=Z,0.1nm,0.3s,baz=180,slow=14,SNR=3.3
GOBA Gobu 4.95 70 ⇓P Pn 06 59 02.3 -0.7
MAK Makhachkala 5.01 35 *e*P Pn 06 59 04.2 +0.4
MAK *e*S Sn 07 00 02.1 +0.1
MAK pmax pmax
comp=Z,39nm,0.4s
MAK MLR MLR
comp=Z,497nm,13.0s
MAK Makhachkala 5.01 35 *e*P Pn 06 59 04.2 +0.4
comp=Z,39nm,0.4s
KVAR Kislovodsk Arr 5.10 352 Pn Pn 06 59 08.9 +3.7
baz=256,slow=5.2,SNR=4.0
KVAR LR LR 07 01 38.8
comp=Z,194nm,19.8s,baz=198,slow=45
KIV Kislovodsk 5.10 352 *e*P Pn 06 59 06.9 +1.7
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,29nm,7.0s
KIV Kislovodsk 5.10 352 *e*Pn Pn 06 59 10.9 +5.7
KIV *e*Pg Pg 06 59 27.7 +1.8
KIV Kislovodsk 5.10 352 *e*P Pn 06 59 06.9 +1.7
comp=Z,29nm,7.0s
KIV Kislovodsk 5.10 352 *e*Pn Pn 06 59 10.9 +5.7
NDR Nardaran 5.18 69 ⇑P Pn 06 59 05.4 -0.9
GALA Gala 5.26 71 ⇑P Pn 06 59 06.6 -0.7
SOC Sochi 5.53 329 *e*P Pn 06 59 11.8 +0.8
SOC *e* 07 00 17.7
SOC MLR MLR
comp=Z,86nm,7.0s
BHD Baghdad 5.65 174 *e*Pn Pn 06 59 11.0 -1.7
SNR=3.0
ANN Anapa 7.49 324 *e*P Pn 06 59 39.9 +2.0
ANN *e*S Sn 07 01 06.9 +3.9
ANN pmax pmax
comp=Z,184nm,1.3s
ANN Anapa 7.49 324 *e*P Pn 06 59 39.9 +2.0
comp=Z,184nm,1.3s
BR131 Keskin Array S 7.79 279 *e*Pn Pn 06 59 45.1 +3.0
BR131 Keskin Array S 7.79 279 *e*Pn Pn 06 59 45.1 +3.0
BRTR Keskin Array B 7.79 279 Pn Pn 06 59 44.9 +2.8
comp=Z,0.1nm,0.3s,baz=102,slow=14,SNR=3.1
BR231 Keskin MP Arra 8.46 280 *e*Pn Pn 06 59 50.7 -0.6
BR231 Keskin MP Arra 8.46 280 *e*Pn Pn 06 59 50.7 -0.6
MMAI Mount Meron Ar 8.88 231 LR LR 07 03 58.1
comp=Z,272nm,18.8s,baz=40,slow=42
EIL Elat 11.66 220 LR LR 07 05 43.9
comp=Z,293nm,18.5s,baz=54,slow=41
VRI Vrincioaia 14.28 305 ⇓P P 07 01 24.0 +5.7
VRI Vrincioaia 14.28 305 ⇓*i*P P 07 01 24.0 +5.7
PLOR Plostina 14.33 304 ⇓P P 07 01 20.5 +1.7
PLOR Plostina 14.33 304 ⇓*i*P P 07 01 20.5 +1.7
PLOR Plostina 14.33 304 P P 07 01 20.5 +1.7
APE Apeiranthos 14.39 268 ⇓*i*P P 07 01 21.2 +1.7
APE pmax pmax
comp=Z,25nm,1.2s
APE Apeiranthos 14.39 268 *i*P P 07 01 21.2 +1.7
comp=Z,25nm,1.2s
SORM Soroca 14.40 315 ⇓P Pn 07 01 12.3 -0.1
SORM Soroca 14.40 315 ⇓*i*P Pn 07 01 12.3 -0.1
MLR Muntele Rosu 14.65 302 ⇑P P 07 01 28.2 +5.7
MLR Muntele Rosu 14.65 302 ⇑*i*P P 07 01 28.2 +5.7
DOPR Dopca 15.19 304 ⇓*i*P P 07 01 30.5 +2.2
VOIR 15.23 301 ⇑P P 07 01 33.1 +4.3
VOIR 15.23 301 ⇑*i*P P 07 01 33.1 +4.3
IDI Anoyia 15.38 262 LR LR 07 08 39.2
comp=Z,90nm,20.1s,baz=84,slow=42
AKTO Aktyubinsk 15.39 37 Pn Pn 07 01 24.3 -1.5
comp=Z,0.1nm,0.3s,baz=232,slow=13,SNR=9.0
RAYN Ar Rayn 15.41 173 P Pn 07 01 22.8 -3.5
RAYN pmax pmax
comp=Z,11nm,1.4s
RAYN Ar Rayn 15.41 173 *e*Pn Pn 07 01 22.8 -3.5
comp=Z,11nm,1.4s
RAYN Ar Rayn 15.41 173 *e*Pn Pn 07 01 22.8 -3.5
comp=Z,11nm,1.4s
AKASG Malin Array Be 15.57 324 Pn Pn 07 01 27.6 -0.6
comp=Z,0.3nm,0.3s,baz=132,slow=11,SNR=4.2
AKBB Malin Array Si 15.57 324 *e*P Pn 07 01 30.3 +2.1
AKBB pmax pmax
comp=Z,5.0nm,1.0s
AKBB Malin Array Si 15.57 324 *e*Pn Pn 07 01 30.2 +2.1
comp=Z,5.0nm,1.0s
AKBB Malin Array Si 15.57 324 *e*Pn Pn 07 01 30.2 +2.1
comp=Z,5.0nm,1.0s
KIEV Kiev 15.58 324 *e*P P 07 01 30.8 -1.8
KIEV pmax pmax
comp=Z,5.0nm,1.1s
KIEV Kiev 15.58 324 *e*Pn P 07 01 30.8 -1.8
comp=Z,5.4nm,1.1s
AK11 Malin Array Si 15.59 324 *e*Pn P 07 01 32.0 -0.7
AK11 Malin Array Si 15.59 324 *e*Pn P 07 01 32.0 -0.7
ABKAR Akbulak array 15.61 43 *e*Pn Pn 07 01 29.4 +0.7
comp=Z,21nm,0.8s
ABKAR Akbulak array 15.61 43 *e*Pn Pn 07 01 29.4 +0.7
comp=Z,21nm,0.8s
VTS Vitosha 15.90 290 *e*P Pn 07 01 33.4 +0.8
VTS pmax pmax
comp=Z,6.0nm,1.1s
VTS Vitosha 15.90 290 *e*Pn Pn 07 01 33.4 +0.8
comp=Z,6.2nm,1.1s
VTS Vitosha 15.90 290 *e*Pn Pn 07 01 33.4 +0.8
comp=Z,6.2nm,1.1s
BURAR Bucovina Array 15.96 309 ⇑P P 07 01 36.2 -0.8
BURAR Bucovina Array 15.96 309 ⇑*i*P P 07 01 36.2 -0.8
BUR04 Bucovina Ar. S 15.96 309 *e*Pn P 07 01 37.1 +0.1
BUR04 Bucovina Ar. S 15.96 309 *e*Pn P 07 01 37.1 +0.1
BUR08 Bucovina Ar. S 15.98 309 *e*Pn P 07 01 37.7 +0.5
OBN Obninsk 16.90 346 *c*e P 07 01 46.7 -0.5
OBN pmax pmax
comp=Z,26nm,1.2s
OBN Obninsk 16.90 346 *e*Pn P 07 01 47.8 +0.6
comp=Z,19nm,0.5s
DRGR 17.21 304 ⇑P P 07 01 53.4 +2.6
DRGR 17.21 304 ⇑*i*P P 07 01 53.4 +2.6
DRGR 17.21 304 P P 07 01 53.4 +2.6
MOS Moscow 17.32 349 *e*P P 07 01 52.0 +0.2
KWP Kalwaria Pacla 18.36 313 *e*P P 07 02 05.2 +1.8
KWP pmax pmax
comp=Z,321nm,0.5s
KWP Kalwaria Pacla 18.36 313 *e*P P 07 02 05.2 +1.8
comp=Z,321nm,0.5s
KWP Kalwaria Pacla 18.36 313 *e*P P 07 02 05.2 +1.8
comp=Z,321nm,0.5s
DIVS Divibare 18.42 294 *e*P P 07 02 05.6 +1.4
comp=Z,4.9nm,1.2s
DIVS Divibare 18.42 294 *e*P P 07 02 05.6 +1.4
comp=Z,4.9nm,1.2s
PSZ Piszkesteto 19.39 305 *e*P Pn 07 02 16.8 +0.9
PSZ pmax pmax
comp=Z,7.0nm,1.0s
PSZ Piszkesteto 19.39 305 *e*P Pn 07 02 16.8 +0.9
comp=Z,7.1nm,1.0s
PSZ Piszkesteto 19.39 305 *e*P Pn 07 02 16.8 +0.9
comp=Z,7.1nm,1.0s
ARU Arti 20.14 25 P P 07 02 23.1 +0.3
comp=Z,3.6nm,0.6s,baz=219,slow=8.0,SNR=9.5
ARU LR LR 07 12 25.3
comp=Z,73nm,19.2s,baz=190,slow=44
ARU Arti 20.14 25 *d*iP P 07 02 23.2 +0.4
ARU 07 02 38.8
ARU S Sn 07 06 11.1 -0.2
ARU pmax pmax
comp=Z,19nm,1.2s
ARU Arti 20.14 25 *e*P P 07 02 22.9 +0.1
comp=Z,20nm,1.2s
ARU Arti 20.14 25 *e*P P 07 02 22.9 +0.1
comp=Z,20nm,1.2s
VYHS Vyhne 20.25 306 *e*P Pn 07 02 29.3 +3.3
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 20.25 306 *e*P Pn 07 02 29.3 +3.3
SUW Suwalki 20.55 324 *e*P Pn 07 02 29.6 +0.2
SUW pmax pmax
comp=Z,27nm,0.8s
SUW Suwalki 20.55 324 *e*P Pn 07 02 29.6 +0.2
comp=Z,27nm,0.8s
SUW Suwalki 20.55 324 *e*P Pn 07 02 29.6 +0.2
comp=Z,27nm,0.8s
KKAR Karatay Array 20.68 70 *e*P P 07 02 29.5 +0.6
KKAR Karatay Array 20.68 70 *e*P P 07 02 29.5 +0.6
KKAR Karatay Array 20.68 70 *e*P P 07 02 29.5 +0.6
SVE Sverdlovsk 21.15 26 ⇓*e*P P 07 02 37.7 +3.9
SVE pmax pmax
comp=Z,17nm,1.2s
VRAC Vranov 21.91 307 LR LR 07 12 42.9
comp=Z,30nm,18.1s,baz=324,slow=41
KLMR Klimovskoe 22.13 355 *e*P P 07 02 44.6 +0.4
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR Klimovskoe 22.13 355 *e*P P 07 02 44.6 +0.4
KLMR AMP 07 03 00.7
comp=Z,27nm,1.4s
KLMR LQ LQ 07 08 21.4
KLMR LQ LQ 07 08 21.4
AML Almayashu 23.03 72 P P 07 02 56.3 +1.9
SNR=5.9
EKS2 Erkin-Say 23.08 71 P P 07 02 57.2 +2.6
SNR=11
BRVK Borovoye 23.14 44 *c*iP P 07 02 57.2 +2.2
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 23.18 44 P P 07 02 55.3 -0.2
comp=Z,2.3nm,0.9s,baz=234,slow=7.1,SNR=5.4
BVAR LR LR 07 13 36.6
comp=Z,64nm,18.6s,baz=260,slow=41
AAK Ala-Archa 23.61 71 P P 07 02 59.2 -0.8
comp=Z,4.9nm,1.2s,baz=245,slow=12,SNR=5.1
AAK LR LR 07 12 41.0
comp=Z,39nm,20.4s,baz=270,slow=38
AAK Ala-Archa 23.61 71 ⇓*i*P P 07 03 02.0 +2.0
AAK *i* *PP sP 07 03 03.8 +1.1
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 23.61 71 *e*P P 07 02 59.6 -0.4
comp=Z,24nm,1.8s
AAK Ala-Archa 23.61 71 *e*P P 07 02 59.6 -0.4
comp=Z,24nm,1.8s
GEA0 GERESS Array S 23.61 305 *e*P P 07 03 01.2 +1.4

GEA0 **GERESS Array S** 23.61 305 *e*P P 07 03 01.2 +1.4
GERES **GERESS Array B** 23.61 305 P P 07 03 00.5 +0.6
comp=Z,0.8nm,0.7s,baz=96,slow=9.5,SNR=8.6
FRU Bishkek 23.70 70 *e*P P 07 03 02.0 +1.3
FRU *e* 07 03 26.0
KHC Kasperske Hory 23.76 305 *e*P P 07 03 02.0 +0.7
KHC Kasperske Hory 23.76 305 *e*P P 07 03 02.0 +0.7
KHC Kasperske Hory 23.76 305 *e*P P 07 03 02.0 +0.7
KBK Karagaybulak 23.94 71 P P 07 03 05.1 +1.9
SNR=5.8
KZA Kyzart 24.19 72 P P 07 03 07.6 +1.8
SNR=8.8
CLL Collm 24.72 310 *e*P P 07 03 13.0 +2.9
CLL Collm 24.72 310 *e*(sP) P 07 03 13.0 +2.9
CLL *e* 07 03 25.0
CLL *e* 07 03 33.0
CLL *e*PPP PPP 07 03 51.0
CLL LmV 07 15 00.0
comp=Z,100nm,18.7s
NRN Naryn 24.79 74 P P 07 03 12.4 +1.2
NRN pmax pmax
comp=Z,4.0nm,0.8s
ULHL Ulahol 24.92 72 P P 07 03 13.5 +1.3
SNR=12
KSH Kashi 25.01 78 *e*P P 07 03 12.1 -0.8
KSH S S 07 07 31.9 -5.4
FINES FINESS Array B 25.05 340 P P 07 03 12.3 -0.6
comp=Z,0.5nm,0.6s,baz=134,slow=16,SNR=2.9
FINES LR LR 07 13 31.5
comp=Z,74nm,18.7s,baz=160,slow=38
KDJ Kajisay 25.62 72 P P 07 03 20.2 +1.7
KDJ pmax pmax
comp=Z,24nm,2.0s
KURBB **Kurchatov Arra** 27.16 53 P P 07 03 32.8 +0.7
comp=Z,3.2nm,0.8s,baz=264,slow=9.2,SNR=14
KURK Kurchatov 27.24 53 ⇓*i*P P 07 03 34.1 +1.3
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 27.24 53 *e*P P 07 03 33.3 +0.5
comp=Z,16nm,0.2s
HFS Hagfors 28.37 328 P P 07 03 42.5 -0.4
comp=Z,3.1nm,1.0s,baz=47,slow=6.7,SNR=5.2
HFS LR LR 07 14 53.3
comp=Z,60nm,18.4s,baz=104,slow=36
MK31 Makanchi Array 29.19 62 *e*P P 07 03 50.9 +0.6
MK31 Makanchi Array 29.19 62 *e*P P 07 03 50.9 +0.6
MKAR Makanchi Array 29.19 62 P P 07 03 51.1 +0.8
comp=Z,1.7nm,0.7s,baz=268,slow=6.4,SNR=22
MKAR LR LR 07 17 20.4
comp=Z,62nm,20.0s,baz=264,slow=40
MKAR Makanchi Array 29.19 62 *e*P P 07 03 50.8 +0.5
comp=Z,11nm,0.8s
MK01 Makanchi Array 29.20 62 *e*P P 07 03 50.8 +0.5
NOA NORSAR Array B 29.89 328 P P 07 03 55.4 -1.0
comp=Z,0.7nm,0.9s,baz=107,slow=7.0,SNR=2.5
NOA LR LR 07 16 46.8
comp=Z,43nm,19.8s,baz=125,slow=38
ZALV Zalesovo Beam 31.62 48 P P 07 04 11.9 +0.2
comp=Z,1.1nm,0.7s,baz=266,slow=10,SNR=4.3
ZALV LR LR 07 19 01.2
comp=Z,56nm,20.8s,baz=250,slow=40
WMQ Urumqi 33.14 67 P P 07 04 26.9 +1.7
EKA Eskdalemuir Ar 35.06 314 P P 07 04 39.9 -1.7
comp=Z,2.2nm,0.9s,baz=99,slow=9.4,SNR=4.6
EKA Eskdalemuir Ar 35.06 314 P P 07 04 39.9 -1.7
EKA pmax pmax
comp=Z,1.0nm,0.8s
ESDC Sonseca Array 36.50 287 P P 07 04 52.8 -1.5
comp=Z,1.1nm,0.7s,baz=65,slow=9.0,SNR=9.4
GTA Gaotai 42.96 71 *e*P P 07 05 48.9 +0.8
GTA pP sP 07 05 52.4 +1.5
GTA sP pP 07 05 55.0 +4.9
TORD Torodi Ar. Bea 45.02 247 P P 07 06 03.1 -1.6
comp=Z,1.0nm,1.0s,baz=55,slow=7.8,SNR=3.7
SONM Songino Array 45.36 57 P P 07 06 07.0 -0.3
comp=Z,0.2nm,0.3s,baz=280,slow=8.6,SNR=5.7
SONM Songino Array 45.36 57 P P 07 06 07.0 -0.3
ULN Ulaanbaatar 45.78 57 ⇓*i*P P 07 06 12.1 +1.5
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 45.78 57 *e*P P 07 06 11.4 +0.8
comp=Z,5.6nm,1.0s
LZH Lanzhou 47.10 74 *e*P P 07 06 21.4 +0.2
LZH pP sP 07 06 25.6 +1.6
LZH sP pP 07 06 27.8 +4.6
KOWA Kowa 48.33 253 LR LR 07 29 41.7
comp=Z,31nm,18.1s,baz=25,slow=40
XAN Xi'an 51.74 74 P P 07 06 56.9 +0.4
CMAR Chiang Mai Arr 51.81 97 P P 07 06 56.5 -0.6
comp=Z,1.8nm,0.3s,baz=295,slow=7.4,SNR=4.1
CMAR Chiang Mai Arr 51.81 97 *i*P P 07 06 56.5 -0.6
CMAR pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 52.14 24 ⇓*i*P P 07 07 00.0 +1.2
TIXI pmax pmax
comp=Z,7.0nm,2.5s
BBTS Babate 57.78 263 LR LR 07 35 43.2
comp=Z,47nm,18.1s,baz=98,slow=39
CN2 Changchun 59.22 57 *e*P P 07 07 55.0 +4.9
SEY Seymchan 63.81 29 P P 07 08 20.3 -0.5
comp=Z,2.5nm,0.9s,baz=272,slow=6.0,SNR=9.6
SEY Seymchan 63.81 29 ⇓*i*P P 07 08 22.2 +1.4
KSAR Wonju Array Be 63.85 62 P P 07 08 21.3 -0.2
KSAR Wonju Array Be 63.85 62 P P 07 08 21.3 -0.2
KSRS Korea Array 63.87 62 P P 07 08 21.3 -0.3
comp=Z,2.1nm,0.8s,baz=284,slow=7.9,SNR=4.8
MA2 Magadan 65.08 32 LR LR 07 41 33.2
comp=Z,39nm,18.3s,baz=33,slow=40
BILL Bilibino 65.09 20 *i*P P 07 08 29.2 +0.1
BILL pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 77.44 350 P P 07 09 43.5 -0.4
comp=Z,0.4nm,0.9s,baz=16,slow=6.6,SNR=5.9

NIED ***24*** *06:59:00,40.90N×145.20E,h8km,Mw3.7 Best double couple: M₀3.43000×10¹⁴ NP1:φs183.00000°,δ27.00000°, λ-70.00000°. NP2:φs341.00000°,δ65.00000°, λ-100.00000°.*
IDC ***24*** *06:59:53.9±1.1,40.79N×145.13E,h0km,mb3.7/9, mb1 3.7/11,mb1mx3.5/67,mbtmp3.6/11,ML3.1/2,MS2.6/1, Ms1 2.6/1,ms1mx2.2/65,Error ellipse: s-maj=31.0km s-min=19.8km az=77.0*
JMA ***24*** *06:59:55.2±0.2,40.87N×145.24E,h60km±4km,M3.6*
ISCJB ***24*** *06:59:56.7±0.6,40.88N±0.03×145.02E±0.07,h33km, mb3.6/9,Error ellipse: s-maj=7.2km s-min=4.6km az=7.9*
ISC 24 06:59:58.5±0.9,40.87N±0.05×145.09E±0.08,h35km,n34,
σ1s73/37,mb3.6/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.85**	**309**			P	**Pn**	**07 00 26.5**	**-1.2**
JEM						*e*S	**Sn**	**07 00 47.8**	**-2.1**
JAK	**Akkeshi**	**2.14**	**352**			P	**Pn**	**07 00 29.7**	**-2.0**
JAK						*e*S	**Sn**	**07 00 54.1**	**-3.0**
JCH	**Churui**	**2.17**	**324**			P	**Pn**	**07 00 30.6**	**-1.5**
JCH						*e*S	**Sn**	**07 00 55.3**	**-2.5**
JOB	**Onbets**	**2.24**	**336**			P	**Pn**	**07 00 32.5**	**-0.5**
JOB						*e*S	**Sn**	**07 00 58.1**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.25**	**309**			P	**Pn**	**07 00 32.9**	**-0.3**
JNBK						*e*S	**Sn**	**07 00 59.7**	**0.0**
NEM2	**Nemuro 2**	**2.54**	**11**			P	**Pn**	**07 00 34.9**	**-2.3**
JAR	**Ashorobuto**	**2.62**	**338**			P	**Pn**	**07 00 36.0**	**-2.2**
JAR						*e*S	**Sn**	**07 01 05.0**	**-3.8**
JANG	**Nango**	**2.77**	**261**			P	**Pn**	**07 00 38.5**	**-1.9**
JANG						*e*S	**Sn**	**07 01 08.8**	**-3.8**
JBT2	**Biratori 2**	**2.79**	**314**			*e*S	**Sn**	**07 01 13.6**	**+0.5**
JFR	**Furan**	**2.95**	**322**			P	**Pn**	**07 00 41.5**	**-1.4**
JOT	**Ohata**	**3.10**	**281**			P	**Pn**	**07 00 44.1**	**-0.8**
JTKR	**Abashiri--Toko**	**3.22**	**345**			P	**Pn**	**07 00 45.7**	**-0.8**
JTKR						*e*S	**Sn**	**07 01 21.2**	**-2.4**
JKB	**Kayabe**	**3.22**	**290**			P	**Pn**	**07 00 45.7**	**-0.8**
JOM	**Ohasama**	**3.23**	**246**			P	**Pn**	**07 00 45.4**	**-1.3**
JOM						*e*S	**Sn**	**07 01 20.9**	**-3.0**
JEW	**Eniwo**	**3.36**	**307**			P	**Pn**	**07 00 48.9**	**+0.5**
JMK	**Ichinoseki**	**3.54**	**238**			P	**Pn**	**07 00 49.6**	**-1.4**
ASAJ	**Asahikawa**	**3.73**	**331**			Pn	**Pn**	**07 00 53.3**	**-0.3**
	0.9nm,0.3s,baz=31,slow=34,SNR=4.2								
ASAJ						Sn	**Sn**	**07 01 36.1**	**-0.2**
	1.5nm,0.3s,baz=130,slow=32,SNR=4.4								
MJAR	**Matsushiro Arr**	**6.90**	**233**			Pn	**Pn**	**07 01 36.5**	**-0.7**
	0.5nm,0.3s,baz=35,slow=13,SNR=5.8								
KSRS	**Korea Array**	**13.75**	**261**			LR	LR	07 07 32.4	
	comp=Z,26nm,19.8s,baz=50,slow=33								
H11N2	**WAKE ISLAND Hy**	**28.11**	**132**			T	T	07 35 20.8	
	baz=324,slow=75,SNR=7.8								
H11N1	**WAKE ISLAND Hy**	**28.12**	**132**			T	T	07 35 23.0	
	baz=324,slow=75,SNR=6.1								
H11N3	**WAKE ISLAND Hy**	**28.13**	**132**			T	T	07 35 21.1	
	baz=324,slow=75,SNR=6.8								
SONM	**Songino Array**	**28.30**	**297**			P	**P**	**07 05 49.8**	**+1.1**
	1.0nm,0.8s,baz=95,slow=8.9,SNR=5.9								
H11S1	**WAKE ISLAND Hy**	**28.99**	**134**			T	T	07 36 27.7	
	baz=325,slow=76,SNR=6.2								
H11S3	**WAKE ISLAND Hy**	**28.99**	**134**			T	T	07 36 27.2	
	baz=325,slow=76,SNR=6.6								
H11S2	**WAKE ISLAND Hy**	**29.01**	**134**			T	T	07 36 30.2	
	baz=325,slow=76,SNR=5.3								
ZALV	**Zalesovo Beam**	**41.58**	**309**			P	**P**	**07 07 43.7**	**+1.1**
	0.4nm,0.3s,baz=90,slow=8.6,SNR=2.5								
MKAR	**Makanchi Array**	**44.62**	**300**			P	**P**	**07 08 08.1**	**+0.7**
	0.3nm,0.6s,baz=87,slow=8.6,SNR=3.6								
ILAR	**Eielson Array**	**44.72**	**34**			P	**P**	**07 08 08.9**	**+1.1**
	0.3nm,0.8s,baz=269,slow=7.0,SNR=4.9								
KURBB	**Kurchatov Arra**	**46.00**	**306**			P	**P**	**07 08 19.0**	**+0.8**
	1.8nm,0.7s,baz=77,slow=8.6,SNR=7.2								
BVAR	**Borovoye Array**	**50.18**	**311**			P	**P**	**07 08 51.6**	**+1.2**
	0.5nm,0.5s,baz=41,slow=7.7,SNR=3.6								
WRA	**Warramunga Arr**	**61.32**	**192**			P	**P**	**07 10 10.7**	**+0.2**
	0.4nm,0.4s,baz=9.4,slow=6.7,SNR=8.3								
ASAR	**Alice Springs**	**65.05**	**191**			P	**P**	**07 10 35.2**	**0.0**
	0.4nm,0.7s,baz=9.6,slow=6.0,SNR=4.5								
AKASG	**Malin Array Be**	**72.98**	**323**			P	**P**	**07 11 25.4**	**+1.2**
	0.6nm,0.5s,baz=36,slow=5.4,SNR=4.1								

DDA ***24*** *07:18:09.5,35.84N×29.74E,h8km,Ml2.7*
CSEM ***24*** *07:18:12.0±1.5,35.94N×29.74E,h2km,ML2.3, Error ellipse: s-maj=30.4km s-min=18.7km az=2.0*
ISK ***24*** *07:18:12.2,36.05N×29.73E,h5km,ML2.3/3*
ISC 24 07:18:06.6±2.8,35.7N±0.1×29.72E±0.06,h3km±13km,n14,
σ1s89/23,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.52**	**349**			PG	**Pg**	**07 18 16.8**	**+0.2**
AKAS						SG	**Sg**	**07 18 20.6**	**-2.7**
AKAS	**Kas**	**0.52**	**349**	*i*	P	**Pg**	**07 18 16.8**	**+0.2**
AKAS				*i*	S	**Sg**	**07 18 20.7**	**-2.6**
AKAS	**Kas**	**0.52**	**349**		P	**Pg**	**07 18 16.8**	**+0.2**
AKAS				*e*	Sg	**Sg**	**07 18 20.6**	**-2.7**
ELL	**Elmali**	**1.03**	**8**		PG	**Pb**	**07 18 27.4**	**+0.2**
ELL	**Elmali**	**1.03**	**8**	*e*	Pg	**Pb**	**07 18 27.4**	**+0.2**
FETY	**Fethiye**	**1.05**	**331**		PG	**Pb**	**07 18 28.5**	**+1.1**
FETY					SG	**Sn**	**07 18 40.9**	**-2.4**
FETY	**Fethiye**	**1.05**	**331**		P	**Pb**	**07 18 28.4**	**+1.1**
FETY					S	**Sn**	**07 18 41.6**	**-1.7**
GOLH	**Golhisar**	**1.52**	**355**	*i*	P	**Pg**	**07 18 38.4**	**+2.7**
GOLH				*i*	S	**Sn**	**07 18 58.6**	**+3.6**
GOLH	**Golhisar**	**1.52**	**355**		P	**Pg**	**07 18 38.4**	**+2.7**
YER	**Yerkesik**	**1.83**	**321**		PN	**Pg**	**07 18 42.3**	**+0.7**
YER	**Yerkesik**	**1.83**	**321**	*e*	Pn	**Pg**	**07 18 42.3**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.86**	**340**	*i*	P	**Pg**	**07 18 43.1**	**+1.0**
TAVA				*i*	S	**Sg**	**07 19 07.1**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.86**	**340**		P	**Pg**	**07 18 43.2**	**+1.0**
TAVA					S	**Sg**	**07 19 07.1**	**+0.8**
KEPZ	**Antalya-Kepez**	**1.92**	**52**	*i*	P	**Pn**	**07 18 39.1**	**-1.1**
KEPZ				*i*	S	**Sg**	**07 19 07.1**	**-1.2**

JMA 24 07:18:39.4±0.2,40.91N×145.07E,h69km±3km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.81**	**308**			P	Pn	07 19 08.9	+0.4
JEM						*e*S	Sn	07 19 29.6	-0.9
JAK	**Akkeshi**	**2.10**	**353**			P	Pn	07 19 12.8	+0.4
JAK						*e*S	Sn	07 19 37.2	-0.3
JCH	**Churui**	**2.13**	**324**			P	Pn	07 19 13.4	+0.7
JCH						*e*S	Sn	07 19 36.9	-1.3
JOB	**Onbets**	**2.19**	**336**			P	Pn	07 19 14.8	+1.2
JOB						*e*S	Sn	07 19 40.4	+0.7
JNBK	**Urakawa-nobuka**	**2.21**	**309**			P	Pn	07 19 15.2	+1.3
JNBK						*e*S	Sn	07 19 40.6	+0.4
NEM2	**Nemuro 2**	**2.50**	**11**			*e*S	Sn	07 19 47.4	+0.2
JAR	**Ashorobuto**	**2.57**	**338**			P	Pn	07 19 19.1	+0.3
JAR						*e*S	Sn	07 19 48.5	-0.5
JNK	**Nakash**	**2.69**	**355**			P	Pn	07 19 20.5	+0.2
JNK						*e*S	Sn	07 19 49.9	-1.8
JBT2	**Biratori 2**	**2.75**	**314**			P	Pn	07 19 23.3	+2.1
JBT2						*e*S	Sn	07 19 54.5	+1.2
JANG	**Nango**	**2.76**	**260**			P	Pn	07 19 20.7	-0.6
JANG						*e*S	Sn	07 19 50.4	-3.1
JFR	**Furan**	**2.91**	**321**			*e*S	Sn	07 19 55.7	-1.5
JRA	**Rausu**	**3.03**	**1**			*e*S	Sn	07 19 59.2	-0.7
JOT	**Ohata**	**3.07**	**280**			P	Pn	07 19 26.0	+0.5
JOT						*e*S	Sn	07 19 58.8	-2.3
JTKR	**Abashiri--Toko**	**3.18**	**345**			P	Pn	07 19 28.6	+1.7
JTKR						*e*S	Sn	07 20 04.3	+0.7
JOM	**Ohasama**	**3.23**	**245**			P	Pn	07 19 29.2	+0.5
JOM						*e*S	Sn	07 20 03.1	-1.9
JEW	**Eniwo**	**3.32**	**307**			P	Pn	07 19 31.0	+2.1
JEW						*e*S	Sn	07 20 07.4	+0.2
JMK	**Ichinoseki**	**3.55**	**238**			*e*S	Sn	07 20 10.3	-2.4

JMA 24 07:19:58.4,36.82N×138.61E,h7km±2km,M0.8,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.43**	**230**			P	Pg	07 20 06.7	0.0
MAT						S	Sg	07 20 12.1	-0.2
MAT	**Matsushiro**	**0.43**	**230**			P	Pg	07 20 06.9	+0.2
MAT						*e*S	Sg	07 20 12.3	0.0

NIED ***24*** *07:20:00,36.40N×141.00E,h47km,Mw3.6 Best double couple: M₀3.23000×10¹⁴ NP1:φs130.00000°,δ35.00000°, λ13.00000°. NP2:φs29.00000°,δ82.00000°,λ124.00000°.*
IDC ***24*** *07:20:06.8±1.1,36.26N×140.98E,h0km,mb3.5/10, mb1 3.6/11,mb1mx3.4/63,mbtmp3.4/11,ML3.3/1,MS2.2/2, Ms1 2.2/2,ms1mx2.0/46,Error ellipse: s-maj=27.8km s-min=21.7km az=177.0*
ISCJB ***24*** *07:20:10.2±1.1,36.32N±0.05×141.02E±0.06,h33km±6km, mb3.4/10,Error ellipse: s-maj=9.0km s-min=7.3km az=44.3*
JMA ***24*** *07:20:11.5±0.1,36.34N×140.92E,h42km±1km,M3.5*
JMA Felt I J1.
ISC 24 07:20:10.4±1.3,36.35N±0.07×140.99E±0.08,h22km±7km,
n26,σ0s85/28,mb3.5/10,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.43**	**308**			P	**Pn**	**07 20 20.6**	**-0.7**
JHO						S	**Sb**	**07 20 27.0**	**+1.6**
JYT	**Yasato**	**0.66**	**260**			P	**Pb**	**07 20 23.5**	**+0.3**
JYT						*e*S	**Sb**	**07 20 31.8**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.77**	**348**			P	**Pb**	**07 20 25.4**	**+0.3**
ONAJ						S	**Sb**	**07 20 35.0**	**-0.2**
JFK	**Kawauchi**	**1.02**	**355**			P	**Pb**	**07 20 28.8**	**-0.6**
JFK						S	**Sb**	**07 20 40.9**	**-1.5**
JSB	**Shiboa**	**1.06**	**306**			P	**Pn**	**07 20 30.1**	**+0.1**
JSB						S	**Sb**	**07 20 43.5**	**-0.1**
JAG	**Ashikaga**	**1.25**	**274**			P	**Pn**	**07 20 31.9**	**-0.6**
JAG						S	**Sn**	**07 20 46.6**	**-2.0**
JFT	**Otama**	**1.28**	**336**			P	**Pn**	**07 20 33.7**	**+0.7**
JFT						S	**Sn**	**07 20 49.3**	**-0.2**
JKT	**Katashina**	**1.47**	**287**			P	**Pn**	**07 20 35.8**	**+0.2**
JKT						S	**Sn**	**07 20 53.4**	**-0.8**
MJAR	**Matsushiro Arr**	**2.25**	**276**			Pn	**Pn**	**07 20 46.4**	**0.0**
	8.8nm,0.3s,baz=122,slow=8.0,SNR=81								
MJAR						Sn	**Sn**	**07 21 14.9**	**+1.3**
	9.5nm,0.3s,baz=84,slow=19,SNR=9.7								
MJAR						LR	LR	07 21 35.8	
	comp=Z,43nm,19.8s,baz=110,slow=40								
KSRS	**Korea Array**	**10.53**	**280**			LR	LR	07 25 49.1	
	comp=Z,14nm,18.8s,baz=95,slow=32								
SONM	**Songino Array**	**27.90**	**305**			P	**P**	**07 25 58.2**	**-0.6**
	0.3nm,0.5s,baz=102,slow=9.9,SNR=2.9								
H11N2	**WAKE ISLAND Hy**	**28.10**	**119**			T	T	07 55 23.0	
	baz=312,slow=75,SNR=6.9								
H11N1	**WAKE ISLAND Hy**	**28.11**	**119**			T	T	07 55 23.0	
	baz=312,slow=75,SNR=7.9								
H11N3	**WAKE ISLAND Hy**	**28.12**	**119**			T	T	07 55 23.0	
	baz=312,slow=75,SNR=6.5								
H11S1	**WAKE ISLAND Hy**	**28.78**	**121**			T	T	07 56 14.6	
	baz=314,slow=75,SNR=25								
H11S3	**WAKE ISLAND Hy**	**28.78**	**121**			T	T	07 56 13.1	
	baz=314,slow=75,SNR=20								
H11S2	**WAKE ISLAND Hy**	**28.80**	**121**			T	T	07 56 11.5	
	baz=314,slow=75,SNR=15								
ZALV	**Zalesovo Beam**	**42.13**	**313**			P	**P**	**07 28 01.3**	**+0.5**
	0.5nm,0.4s,baz=71,slow=6.4,SNR=3.5								
MKAR	**Makanchi Array**	**44.20**	**303**			P	**P**	**07 28 18.2**	**+0.5**
	0.4nm,0.8s,baz=92,slow=9.9,SNR=3.5								
KURBB	**Kurchatov Arra**	**46.16**	**308**			P	**P**	**07 28 32.6**	**-0.5**
	0.4nm,0.3s,baz=85,slow=8.0,SNR=6.0								
ILAR	**Eielson Array**	**50.25**	**32**			P	**P**	**07 29 05.2**	**+0.6**
	0.2nm,0.5s,baz=262,slow=5.3,SNR=4.4								
WRA	**Warramunga Arr**	**56.34**	**188**			P	**P**	**07 29 48.9**	**-0.9**
	0.2nm,0.4s,baz=4.1,slow=7.2,SNR=6.1								
YKA	**Yellowknife Ar**	**64.57**	**30**			P	**P**	**07 30 46.4**	**+1.0**
	0.1nm,0.6s,baz=309,slow=8.1,SNR=3.3								
FINES	**FINESS Array B**	**69.26**	**332**			P	**P**	**07 31 16.1**	**+0.7**
	0.9nm,0.9s,baz=46,slow=10.0,SNR=3.2								
AKASG	**Malin Array Be**	**74.63**	**322**			P	**P**	**07 31 47.3**	**-0.5**
	0.1nm,0.3s,baz=45,slow=6.3,SNR=3.1								
NOA	**NORSAR Array B**	**74.69**	**337**			P	**P**	**07 31 48.3**	**+0.3**
	0.3nm,0.5s,baz=39,slow=5.9,SNR=2.9								

KRSC 24 07:22:43.5±0.5,52.85N×159.47E,h74km±4km,ML3.8,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.33**	**346**			*e*P	**Pn**	**07 22 56.3**	**+1.1**
NLC						*e*S	Sn	07 23 05.1	+1.2
SPN	**Mys Shipunski**	**0.41**	**53**			*e*P	**Pn**	**07 22 56.9**	**+1.0**
SPN						*e*S	Sn	07 23 06.2	+1.2
DALK	**Dalny**	**0.47**	**293**			*e*P	**Pn**	**07 22 57.0**	**+0.7**
DALK						*e*S	Sn	07 23 06.3	+0.5
PET	**Petropavlovsk**	**0.53**	**289**			*e*P	**Pn**	**07 22 57.6**	**+0.8**
PET						*e*S	Sn	07 23 07.2	+0.5
UGLR	**Uglovaya**	**0.53**	**313**	*i*	P	Pn	**Pn**	**07 22 58.1**	**+1.0**
UGLR						*e*S	Sn	07 23 09.3	+2.2
SDLR	**Sedlovina**	**0.56**	**320**	*i*	P	Pn	**Pn**	**07 22 58.2**	**+0.9**
SDLR						*e*S	Sn	07 23 09.5	+2.0
SMAR	**Somma**	**0.58**	**316**	*i*	P	Pn	**Pn**	**07 22 58.4**	**+0.8**
AVH	**Avacha**	**0.61**	**313**	*i*	P	Pn	**Pn**	**07 22 59.1**	**+1.3**
AVH						*e*S	Sn	07 23 10.5	+2.2
KOK	**Koryaka**	**0.67**	**311**			*e*P	**Pn**	**07 22 59.6**	**+1.2**
KOK						*e*S	Sn	07 23 11.3	+1.8
KRX	**Arik**	**0.71**	**316**			*e*P	**Pn**	**07 22 59.9**	**+1.0**
KRX						*e*S	Sn	07 23 12.0	+1.6
RUS	**Russkaya**	**0.72**	**235**	*i*	P	Pn	**Pn**	**07 22 59.8**	**+1.0**
RUS						*e*S	Sn	07 23 11.1	+0.9
MTVR	**Mutnovka**	**0.87**	**245**			*e*P	**Pn**	**07 23 02.0**	**+1.3**
MTVR						*e*S	Sn	07 23 15.1	+1.6
ASAK	**Asacha**	**1.07**	**245**	*i*	P	Pn	**Pn**	**07 23 04.8**	**+1.7**
ASAK						*e*S	Sn	07 23 20.3	+2.6
KII	**Karymskiy**	**1.19**	**359**			*e*P	**Pn**	**07 23 05.7**	**+1.1**
KII						*e*S	Sn	07 23 21.9	+1.5
GNL	**Ganaly**	**1.25**	**313**	*i*	P	Pn	**Pn**	**07 23 06.0**	**+0.6**
GNL						*e*S	Sn	07 23 22.2	+0.4
KDTR	**Khodutka, Kamc**	**1.35**	**220**			*e*P	**Pn**	**07 23 08.1**	**+1.5**
KDTR						*e*S	Sn	07 23 25.5	+1.6
PAU	**Pauzhetka**	**2.15**	**231**			*e*P	**Pn**	**07 23 19.8**	**+2.7**
KZK	**Kizimen**	**2.32**	**12**			*e*P	**Pn**	**07 23 21.5**	**+1.9**
TUMD	**Tumrok D**	**2.42**	**13**			*e*P	**Pn**	**07 23 22.9**	**+2.1**
TUMD						*e*S	Sn	07 23 51.8	+2.4
TUMR	**Tumrok**	**2.47**	**9**			*e*P	**Pn**	**07 23 24.1**	**+2.5**
KMNR	**Kamenistaya**	**2.94**	**8**			*e*P	**Pn**	**07 23 31.2**	**+3.2**
SKR	**Severo-Kuril's**	**3.01**	**225**			*e*S	Sn	**07 24 06.2**	**+2.5**
KBTR	**Krutoberegovo**	**3.89**	**29**	*i*	P	Pn	**Pn**	**07 23 43.0**	**+2.3**
SMKR	**Semkarok**	**3.91**	**16**			*e*P	**Pn**	**07 23 44.0**	**+2.9**
SRKR	**Sorokina**	**3.94**	**14**			*e*P	**Pn**	**07 23 44.0**	**+2.6**

SJA ***24*** *07:28:30.9±1.4,33.07S×71.36W,h78km±8km,ML5.2, MW5.2*
MOS ***24*** *07:28:31.3±1.1,33.02S×70.95W,h59km,mb5.2/31,Error ellipse: s-maj=14.8km s-min=6.2km az=101.2*
ISCJB ***24*** *07:28:32.9±0.2,32.99S±0.02×70.92W±0.04,h77km±2km, mb5.0/182,Error ellipse: s-maj=5.4km s-min=3.2km az=1.7*
GUC ***24*** *07:28:33.2±0.5,33.05S×71.06W,h69km±2km,ML5.2*
GCMT ***24*** *07:28:33.0±0.3,33.04S×71.21W,h91km±2km,MW5.1/73, Moment Tensor Solution. s51,c63; s73,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.45±.17; Mθθ-4.12±.18; Mφφ3.67±.21; Mrθ-1.06±.14; Mrφ3.87±.16; Mθφ2.41±.14; Best double couple: M₀6.09400×10¹⁶ NP1:φs337.00000°,δ88.00000°,λ154.00000°. NP2: φs68.00000°,δ64.00000°,λ2.00000°. Principal axes: T 5.9120, Plg19.0000°, Azm289.0000°; N 0.3650, Plg64.0000°, Azm152.0000°; P -6.2760, Plg16.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *07:28:33.0±0.0,33.05S×71.06W,h69km,mb5.0/148, ML5.2(GUC),After GUC.*
*NEIC Felt [V] northwest to Canela, northeast to Salamanca, southeast to Paine and southwest to San Antonio; [IV] at Colina, Penaflor, Quilpue, Rancagua and Quintero; [III] at Buin, Illapel, Navidad, Pichilemu, San Fernando and Santa Cruz; [II] at Constitucion, Curico, Iloca, La Serena, Paredones and San

SJA IAML 07 30 23.6
comp=Z,5µm,0.6s
RFA San Rafael 2.77 130 *e*P **Pn 07 29 16.7 +1.3**
RTLL Cerro Villicun 2.77 53 *e*P **Pn 07 29 18.1 +2.6**
RTLL IAML 07 30 04.6
comp=Z,4µm,0.5s
RTLL Cerro Villicun 2.77 53 IAML 07 30 15.5
comp=N,21µm,0.4s
GO04 Tololo Observa 2.86 4 ǁ *i*P **Pn 07 29 17.6 +0.7**
GO04 *i* S **Sn 07 29 50.8 +0.4**
TLL Tololo Astrono 2.87 4 ǁ *i*P **Pn 07 29 17.8 +0.8**
TLL *i* S **Sn 07 29 51.7 +1.2**
AMOG MOGNA 3.02 47 *e*P **Pn 07 29 21.4 +2.5**
ACAN Cantantal 3.35 78 *e*P **Pn 07 29 25.4 +2.0**
COCH Cobquecura 3.41 204 *e*P **Pn 07 29 21.3 -2.7**
COCH Cobquecura 3.41 204 IAML 07 30 22.2
comp=E,3µm,0.9s
CCHI Chillan 3.66 193 *e*P **Pn 07 29 26.0 -1.5**
LCO Las Campanas 4.02 4 *e*P **Pn 07 29 32.4 -0.4**
LCO Las Campanas 4.02 4 *e*Pn **Pn 07 29 33.0 +0.1**
LCO *e*Sn **Sn 07 30 20.2 +1.4**
LCO Las Campanas 4.02 4 *e*P **Pn 07 29 32.9 +0.1**
LCO Las Campanas 4.02 4 ǁ *i*P **Pn 07 29 32.9 +0.1**
LCO *i* S **Sn 07 30 18.4 -0.3**
AGUA GUANDACOL 4.16 33 *e*P **Pn 07 29 36.8 +2.2**
VACH Vallenar 4.45 3 ǁ *i*P Pn 07 29 49.8 +11
VACH *i* S Sn 07 30 40.0 +11
APLL PUNTA DE LOS L 4.67 57 *e*P **Pn 07 29 42.0 +0.6**
APLL IAML 07 31 17.7
comp=Z,573nm,0.6s
CANA Caviahue 4.84 180 *e*P **Pn 07 29 43.1 -0.8**
VCA Vinchina 4.93 31 *e*P **Pn 07 29 46.6 +1.5**
VCA IAML 07 30 06.7
comp=Z,3µm,0.5s
CYA Choya 6.43 46 *e*P **Pn 07 30 04.2 -1.4**
CYA IAML 07 30 05.0
comp=Z,767nm,0.5s
PLCA Paso Flores 7.70 177 P **Pn 07 30 22.2 -0.6**
comp=Z,10nm,0.3s,baz=6.5,slow=12,SNR=473
PLCA S **Sn 07 31 52.5 +4.1**
baz=346,slow=22,SNR=1.4
PLCA Paso Flores 7.70 177 *e*P **Pn 07 30 22.1 -0.7**
PLCA Paso Flores 7.70 177 *e*P **Pn 07 30 21.9 -0.9**
AHML Horco Molle 7.96 40 *e*P **Pn 07 30 23.8 -2.7**
AHML *e*P **Pn 07 30 23.8 -2.7**
FSA Cafayete 8.19 34 *e*P **Pn 07 30 27.4 -2.4**
FSA IAML 07 30 36.6
comp=Z,176nm,0.5s
PB14 IPOC Station P 8.40 4 *e*P **Pn 07 30 28.4 -4.3**
TRQA Tornquist 8.93 127 *e*P **Pn 07 30 40.0 +0.3**
TRQA Tornquist 8.93 127 *e*Pn **Pn 07 30 39.5 -0.1**
PB10 IPOC Station P 9.49 3 *e*Pn Pn 07 30 42.4 -5.0
SLA San Lorenzo 9.60 32 *e*P **Pn 07 30 47.3 -1.7**
SLA IAML 07 31 11.9
comp=Z,128nm,0.6s
AZAP Zapla 10.23 32 *e*P **Pn 07 30 54.8 -2.9**
PB04 IPOC Station P 10.69 5 *e*Pn Pn 07 30 57.8 -6.1
ASTB Santa Barbara 10.75 34 *e*P **Pn 07 31 01.4 -3.3**
HJA Humahuaca 10.98 28 *e*P **Pn 07 31 06.0 -2.0**
HJA IAML 07 31 56.7
comp=Z,45nm,0.6s
ALOL LOMAS DE OLMED 11.09 36 *e*P **Pn 07 31 06.1 -3.1**
YJA Yavi 11.88 26 *e*P **Pn 07 31 18.3 -2.0**
YJA IAML 07 31 22.7
comp=Z,18nm,0.7s
PB01 IPOC Station P 12.02 7 *e*Pn Pn 07 31 15.5 -6.5
PB11 IPOC Station P 13.28 6 *e*Pn **Pn 07 31 38.0 -1.1**
CPUP Villa Florida 13.67 64 P **Pn 07 31 42.4 -1.7**
comp=Z,1.1nm,0.3s,baz=243,slow=9.9,SNR=32
CPUP S **Sn 07 34 13.2 -1.1**
comp=Z,0.3nm,0.3s,baz=303,slow=14,SNR=3.3
CPUP LR LR 07 37 34.2
comp=Z,917nm,21.0s,baz=242,slow=40
CPUP Villa Florida 13.67 64 *e*P **Pn 07 31 40.6 -3.5**
CPUP S **Sn 07 34 13.2 -1.1**
CPUP Villa Florida 13.67 64 *e*Pn **Pn 07 31 40.6 -3.5**
CPUP S **Sn 07 34 13.2 -1.1**
MNMC Minye Minye 13.91 6 *e*Pn **Pn 07 31 48.2 +0.6**
CHRN Cochrane 14.25 184 *e*Pn **Pn 07 31 49.2 -2.4**
LPAZ La Paz 16.88 10 P **Pn 07 32 26.0 +0.1**
comp=Z,2.5nm,0.3s,baz=179,slow=8.2,SNR=125
LPAZ S **Sn 07 35 34.1 +1.0**
baz=360,slow=6.5,SNR=1.5
LPAZ La Paz 16.88 10 *e*P **Pn 07 32 26.4 +0.5**
LPAZ La Paz 16.88 10 *e*Pn **Pn 07 32 25.5 -0.4**
comp=Z,287nm,0.9s
LPAZ S **Sn 07 35 34.1 +1.0**
GO09 Cerro Castillo 18.25 183 *e*P **P 07 32 41.0 -0.2**
comp=Z,159nm,1.0s
SIV San Ignacio 19.23 30 P **P 07 32 51.6 -0.6**
comp=Z,14nm,0.3s,baz=225,slow=11,SNR=769
SIV S **Sn 07 36 29.3 +0.5**
comp=Z,0.1nm,0.3s,baz=53,slow=21,SNR=1.6
EFI East Falkland 20.90 157 ǁ *i*P **P 07 33 09.3 -0.7**
EFI pmax pmax
comp=Z,62nm,1.2s
EFI East Falkland 20.90 157 *e*P **P 07 33 09.0 -0.9**
comp=Z,379nm,1.8s
NNA Nana 21.61 344 P **P 07 33 18.8 +0.9**
comp=Z,28nm,0.7s,baz=177,slow=14,SNR=12
NNA Nana 21.61 344 *ce*P **P 07 33 19.1 +1.2**
NNA Nana 21.61 344 *e*P **P 07 33 18.6 +0.7**
comp=Z,36nm,0.8s
SPB Sao Paulo 22.78 72 *e*P **P 07 33 28.8 -1.6**
comp=Z,171nm,0.9s
SAML Samuel 25.05 19 *e*P **P 07 33 50.9 -0.5**
comp=Z,122nm,0.8s
ATAH Atahualpa 26.66 344 P **P 07 34 06.9 +0.5**
comp=Z,11nm,0.9s,baz=129,slow=6.1,SNR=4.7
RPN Rapa Nui 33.51 270 LR LR 07 44 26.3
comp=Z,286nm,19.1s,baz=118,slow=28
OTAV Otavalo 33.82 347 *e*P **P 07 35 11.9 +2.2**
OTAV Otavalo 33.82 347 *e*P **P 07 35 10.3 +0.6**
comp=Z,19nm,0.9s
GCUF Volcan Galeras 34.59 349 *e*P **P 07 35 18.6 +2.2**
FLOC Florencia 34.70 352 *e*P **P 07 35 17.3 +0.4**
CRUC La Cruz 34.86 350 *e*P **P 07 35 21.0 +2.3**
SOTA Rioblanco 35.37 350 *e*P **P 07 35 24.3 +1.1**
PCON Cinco Dias 35.53 351 *e*P **P 07 35 26.9 +2.3**
POPC Popayan, Colom 35.78 350 *e*P **P 07 35 26.9 +0.6**
GRGC Isla de Gorgon 36.47 348 *e*P **P 07 35 31.6 -0.4**
HORQ Saladito 36.70 351 *e*P **P 07 35 30.9 -3.3**
PRAC Prado 36.73 354 *e*P **P 07 35 36.1 +1.9**
comp=Z,53nm,0.7s
PRAC Prado 36.73 354 *e*P **P 07 35 34.2 0.0**
VILC Villavicencio, 37.03 356 *e*P **P 07 35 35.5 -1.3**
YOTC Yotoco, Valle 37.15 351 *e*P **P 07 35 37.5 -0.4**
CHIC Chingaza 37.54 356 *e*P **P 07 35 40.7 -0.8**
TOLC Tolima 37.63 353 *e*P **P 07 35 44.2 +2.0**
ROSC El Rosal 37.79 355 P **P 07 35 44.1 +0.5**
comp=Z,25nm,0.6s,baz=168,slow=4.2,SNR=9.8
ROSC El Rosal 37.79 355 *e*P **P 07 35 46.2 +2.5**
comp=Z,22nm,0.6s
ROSC El Rosal 37.79 355 *e*P **P 07 35 47.2 +3.6**
RREF El Recreo 37.95 353 *e*P **P 07 35 47.2 +2.0**
PLMC San Jos˜ del 38.05 352 *e*P **P 07 35 46.1 +0.6**
GUYC Guyana, Colomb 38.27 353 *e*P **P 07 35 48.3 +0.6**
NORC Norcasia 38.55 354 *e*P **P 07 35 50.3 +0.6**
RUSC La Rusia 38.76 357 *e*P **P 07 35 52.9 +1.0**
comp=Z,39nm,0.9s
RUSC La Rusia 38.76 357 *e*P **P 07 35 51.0 -0.8**
HELC Santa Helena 39.24 353 *e*P **P 07 35 56.3 +0.6**
comp=Z,213nm,0.7s
HELC Santa Helena 39.24 353 *e*P **P 07 35 55.6 -0.1**
BARC Barichara 39.46 357 *e*P **P 07 35 55.0 -2.4**
PTBC PUERTO BERRIO, 39.49 355 *e*P **P 07 35 54.9 -2.5**
BRRC Barranca, Sant 40.00 356 *e*P **P 07 35 59.7 -1.9**
PAMC Pamplona, Colo 40.18 357 *e*P **P 07 36 01.8 -1.9**
ZARC Zaragoza, Cauc 40.46 354 *e*P **P 07 36 02.8 -2.7**
OCAC Ocana 41.10 357 *e*P **P 07 36 08.8 -2.1**
SDV Santo Domingo 41.69 1 P **P 07 36 15.0 -0.7**
comp=Z,15nm,0.8s,baz=182,slow=9.0,SNR=20
SDV Santo Domingo 41.69 1 *e*P **P 07 36 14.2 -1.5**
comp=Z,15nm,0.8s
SDV Santo Domingo 41.69 1 *e*P **P 07 36 15.9 +0.2**
MOTC Monteria, Cord 41.81 353 *e*P **P 07 36 15.2 -1.4**
RCBR Riachuelo 42.44 58 *e*P **P 07 36 21.3 -0.5**
comp=Z,34nm,0.9s
PCRV Puerto La Cruz 43.40 9 P **P 07 36 29.2 -0.2**
comp=Z,26nm,0.6s,baz=176,slow=4.9,SNR=16
PCRV LR LR 07 56 21.8
comp=Z,328nm,21.3s,baz=160,slow=38
HDC Heredia 44.57 342 *e*P **P 07 36 40.5 +1.6**
comp=Z,30nm,0.8s

JTS JuntasAbangare 45.07 340 P **P 07 36 44.2 +1.4**
comp=Z,4.6nm,0.8s,baz=223,slow=21,SNR=4.1
GRGR Grenville 45.80 13 *e*P **P 07 36 48.0 -0.5**
comp=Z,284nm,1.0s
SVB Belmont 46.99 13 *e*P **P 07 36 56.8 -1.1**
comp=Z,229nm,0.4s
FDF Fort de France 48.43 13 *e*P **P 07 37 07.7 -1.3**
FDF pmax pmax
comp=Z,98nm,1.3s
FDF Fort de France 48.43 13 *e*P **P 07 37 07.7 -1.3**
comp=Z,98nm,1.3s
VNA3 Neumayer Olymp 49.95 158 P **P 07 37 19.8 -0.2**
VNA1 Neumayer--Stat 50.24 157 P **P 07 37 23.9 +1.7**
VNA2 Neumayer--Watz 50.59 158 P **P 07 37 25.6 +0.8**
baz=288,slow=8.0
SABA Saba 50.92 10 *e*P **P 07 37 27.1 -0.8**
comp=Z,250nm,0.8s
SJG San Juan 51.07 6 *e*P **P 07 37 27.8 -1.1**
SJG pmax pmax
comp=Z,101nm,1.4s
SJG San Juan 51.07 6 *e*P **P 07 37 27.8 -1.1**
comp=Z,101nm,1.4s
MPR Mayaguez 51.09 5 *e*P **P 07 37 29.7 +0.6**
comp=Z,151nm,1.7s
HUMP Col San Antoni 51.13 6 *e*P **P 07 37 28.4 -1.0**
comp=Z,43nm,1.2s
ANWB Willy Bob 51.19 11 *e*P **P 07 37 28.5 -1.3**
comp=Z,83nm,0.8s
CBYP Canas 51.26 6 *e*P **P 07 37 29.3 -1.1**
comp=Z,52nm,0.7s
MTDJ Mount Denham 51.34 352 *e*P **P 07 37 31.0 -0.2**
comp=Z,137nm,1.6s
SMRT St. Maarten 51.37 10 *e*P **P 07 37 29.5 -1.6**
comp=Z,120nm,1.3s
ABVI Anegada Island 51.87 8 *e*P **P 07 37 35.3 +0.4**
comp=Z,141nm,0.7s
SNAA Sanae 52.17 158 P **P 07 37 36.8 +0.1**
SNAA Sanae 52.17 158 P **P 07 37 36.5 -0.2**
comp=Z,11nm,1.0s,baz=214,slow=7.1,SNR=18
SNAA pP **pP 07 37 53.6 -0.5**
comp=Z,26nm,0.7s,baz=279,slow=5.7,SNR=12
SNAA Sanae 52.17 158 *e*P **P 07 37 36.9 +0.1**
SNAA *e**PP **pP 07 37 53.6 -0.5**
SNAA Sanae 52.17 158 *e*P **P 07 37 36.9 +0.1**
SNAA *ep*P **pP 07 37 53.6 -0.5**
GTBY Guantanamo Bay 52.80 355 *e*P **P 07 37 42.0 +0.2**
comp=Z,62nm,1.0s
FSCY Frank Sound, G 52.94 348 *e*P **P 07 37 43.1 +0.3**
comp=Z,140nm,0.8s
RKT Rikitea 56.51 263 *e*LR LR 07 54 46.0
comp=Z,265nm,29.2s
RKT Rikitea 56.51 263 *e*T T 08 38 48.2
comp=Z,4.0nm,0.3s
QSPA South Pole Qui 57.20 180 P **P 07 38 13.4 +0.1**
comp=Z,5.6nm,0.7s,baz=164,slow=1.8,SNR=15
QSPA pP **pP 07 38 31.6 +0.8**
comp=Z,42nm,1.0s,baz=146,slow=4.9,SNR=23
QSPA South Pole Qui 57.20 180 *e*P **P 07 38 13.7 +0.4**
QSPA *ep*P **pP 07 38 31.4 +0.6**
059Z Ave Maria 59.86 349 P **P 07 38 32.1 +0.1**
baz=170
060A Indiantown 60.39 350 P **P 07 38 35.8 +0.2**
baz=171
059A Moore Haven 60.44 350 P **P 07 38 36.0 +0.2**
baz=170
058A Arcadia 60.63 349 P **P 07 38 37.2 0.0**
baz=170
859A Kempfer Cattle 61.47 350 P **P 07 38 43.0 +0.2**
baz=171
857A Zephyrhills 61.88 349 P **P 07 38 45.5 -0.1**
baz=169
757A Oxford 62.52 349 P **P 07 38 49.9 +0.1**
baz=170
656A Willston 63.01 349 P **P 07 38 53.2 +0.1**
baz=169
657A Interlachen 63.12 349 P **P 07 38 53.6 -0.2**
baz=170
557A Orange Park 63.52 350 P **P 07 38 56.4 0.0**
baz=170
556A Lake Butler 63.61 349 P **P 07 38 56.6 -0.5**
baz=169
555A McAlpin 63.82 349 P **P 07 38 58.4 -0.1**
baz=169
SBA Scott Base 64.19 191 *e*P **P 07 39 01.3 +0.9**
SBA pmax pmax
comp=Z,44nm,1.4s
SBA Scott Base 64.19 191 *e*P **P 07 39 01.2 +0.9**
comp=Z,44nm,1.4s
VNDA Vanda 65.21 191 P **P 07 39 08.1 +1.1**
comp=Z,2.9nm,0.8s,baz=129,slow=5.6,SNR=10
VNDA pP **pP 07 39 26.1 +1.2**
comp=Z,12nm,0.9s,baz=136,slow=5.0,SNR=15
TIGA Tifton 65.21 348 P **P 07 39 07.6 +0.1**
baz=168
TIGA Tifton 65.21 348 *e*P **P 07 39 07.4 -0.1**
comp=Z,26nm,0.8s
TIGA *e*S **S 07 47 45.2 -0.3**
353A Camilla 65.23 348 P **P 07 39 07.5 -0.1**
baz=168
351A Pinckard 65.42 346 P **P 07 39 08.8 -0.1**
baz=167
256A Glennville 65.47 350 P **P 07 39 09.0 -0.2**
baz=170
352A Blakely 65.49 347 P **P 07 39 08.9 -0.4**
baz=167,SNR=5.6
254A Abbeville 65.66 349 P **P 07 39 09.8 -0.5**
baz=169
350A Dozier 65.71 346 P **P 07 39 10.5 -0.3**
baz=166
349A Repton 65.83 345 P **P 07 39 11.1 -0.4**
baz=165
253A Americus 65.91 348 P **P 07 39 11.6 -0.4**
baz=168
252A Lumpkin 65.96 347 P **P 07 39 11.4 -1.0**
baz=168
444A Pine Grove 66.08 341 P **P 07 39 14.7 +1.5**
baz=162
RGRS Roger Stewart 66.15 352 *e*P **P 07 39 13.9 +0.3**
comp=Z,243nm,0.6s
251A Midway 66.18 347 P **P 07 39 13.3 -0.4**
baz=167,SNR=5.5
347A Saraland 66.18 344 P **P 07 39 14.5 +0.8**
baz=164
154A Montrose 66.28 349 P **P 07 39 13.9 -0.4**
baz=165
NHSC New Hope 66.35 352 P **P 07 39 14.3 -0.4**
baz=172
NHSC New Hope 66.35 352 *e*P **P 07 39 15.0 +0.2**
comp=Z,106nm,1.4s
346A Big Creek Wild 66.39 343 P **P 07 39 16.0 +0.9**
baz=163
249A Camden 66.42 345 P **P 07 39 15.4 +0.2**
baz=165,SNR=5.3
SYO Syowa Base 66.46 158 ǁ *e*X P 07 39 26.2 +11
SYO Syowa Base 66.46 158 ǁ *ep*P pP 07 39 37.4 +4.3
151A Opelika 66.58 347 P **P 07 39 16.0 -0.4**
baz=167,SNR=5.6
248A Dixon Mills 66.67 345 P **P 07 39 16.9 +0.1**
baz=165
833A Chaparral WMA, 66.69 333 P **P 07 39 18.5 +1.5**
baz=154
344A Westbrook Farm 66.78 342 P **P 07 39 18.7 +1.1**
baz=162
150A Eclectic 66.80 346 P **P 07 39 17.4 -0.3**
baz=166,SNR=9.2
247A Quitman 66.83 344 P **P 07 39 18.7 +0.8**
baz=164
149A Jones 66.95 346 P **P 07 39 18.4 -0.2**
baz=166
245A Little AP, Sta 67.12 343 P **P 07 39 20.9 +1.2**
baz=163,SNR=9.8
GOGA Godfrey 67.12 349 P **P 07 39 19.3 -0.4**
baz=169,SNR=5.8
GOGA Godfrey 67.12 349 *e*P **P 07 39 19.3 -0.4**
GOGA pmax pmax
comp=Z,9.0nm,0.8s
GOGA Godfrey 67.12 349 *e*P **P 07 39 19.3 -0.4**
comp=Z,9.4nm,0.8s
342A Flagon Creek P 67.14 340 P **P 07 39 21.0 +1.2**
baz=161
148A Greensboro 67.16 345 P **P 07 39 20.1 +0.2**
baz=165
244A Avery, Jackson 67.33 342 P **P 07 39 22.0 +1.0**
baz=162,SNR=5.8
341A Kurthwood 67.34 340 P **P 07 39 22.1 +1.0**
baz=160,SNR=8.0
Z50A Ashland 67.41 347 P **P 07 39 21.4 -0.1**
baz=167,SNR=7.4

LRAL Lakeview Retre 67.41 346 P **P 07 39 21.5 0.0**
baz=166,SNR=5.4
LRAL Lakeview Retre 67.41 346 *e*P **P 07 39 21.6 0.0**
LRAL *ep*P **pP 07 39 40.0 +0.4**
VBMS Vicksburg 67.45 342 P **P 07 39 22.9 +1.1**
baz=162
Z49A Columbiana 67.47 346 P **P 07 39 21.7 -0.3**
baz=166
146A Union 67.49 344 P **P 07 39 22.9 +0.8**
baz=164
SLBS Sierra La Lagu 67.50 321 *e*P **P 07 39 24.3 +1.9**
comp=Z,38nm,1.7s
JSC Jenkinsville 67.64 351 *e*P **P 07 39 22.8 -0.2**
JSC pmax pmax
comp=Z,15nm,1.0s
JSC Jenkinsville 67.64 351 *e*P **P 07 39 22.8 -0.2**
comp=Z,15nm,1.0s
145A Houston Renfro 67.67 343 P **P 07 39 23.3 +0.2**
baz=163
TAOE Nuku Hiva Isla 67.71 274 *e*P **P 07 39 25.1 +1.0**
comp=Z,169nm,1.5s
TAOE Nuku Hiva Isla 67.71 274 *e*LR LR 08 00 01.8
comp=Z,196nm,26.8s
242A Grayson 67.74 341 P **P 07 39 24.1 +0.5**
baz=161
Z47A Carrollton 67.80 345 P **P 07 39 24.3 +0.4**
baz=165,SNR=9.4
Z48A Northport 67.86 345 P **P 07 39 24.4 +0.1**
baz=165,SNR=6.1
Y50A Piedmont 67.99 347 P **P 07 39 24.8 -0.4**
baz=167,SNR=6.9
Z46A Louisville 68.00 344 P **P 07 39 25.6 +0.4**
baz=164,SNR=5.8
Y49A Blount Mountai 68.09 346 P **P 07 39 25.7 -0.1**
baz=166
HPIG 68.11 327 *e*P **P 07 39 26.6 +0.2**
comp=Z,15nm,1.0s
143A Socs Landing, 68.14 342 P **P 07 39 27.5 +1.4**
baz=162
240A Hunter Patters 68.18 339 P **P 07 39 27.9 +1.5**
baz=160
NATX Nacogdoches 68.19 338 P **P 07 39 27.8 +1.3**
baz=159
NATX Nacogdoches 68.19 338 *e*P **P 07 39 27.6 +1.1**
comp=Z,28nm,0.8s
CNNC Cliffs of the 68.22 354 P **P 07 39 27.0 +0.4**
baz=174
CNNC Cliffs of the 68.22 354 *e*P **P 07 39 26.6 0.0**
comp=Z,46nm,1.1s
435B Jarrell 68.25 336 P **P 07 39 28.1 +1.2**
baz=156
Y48A Jasper 68.30 346 P **P 07 39 26.7 -0.3**
baz=166
Z45A Winona 68.34 343 P **P 07 39 28.4 +1.0**
baz=163
Y47A UCPARC, Winfie 68.43 345 P **P 07 39 28.1 +0.2**
baz=165,SNR=8.2
Z44A Pea Ridge, Bel 68.44 343 P **P 07 39 29.0 +1.0**
baz=163
141A Papa Simpson, 68.46 340 P **P 07 39 29.4 +1.3**
baz=160
KMSC Kings Mountain 68.50 351 P **P 07 39 28.3 -0.1**
baz=171,SNR=6.1
KMSC Kings Mountain 68.50 351 *e*P **P 07 39 27.9 -0.5**
comp=Z,15nm,1.0s
X50A Fort Payne 68.52 347 P **P 07 39 28.3 -0.2**
baz=167,SNR=7.0
BG3 Lake Jocassee 68.58 350 *e*P **P 07 39 29.0 +0.1**
comp=Z,16nm,1.0s
Y46A Houston 68.64 344 P **P 07 39 29.6 +0.3**
baz=164,SNR=7.8
X49A Woodville 68.70 347 P **P 07 39 29.5 -0.1**
baz=166,SNR=5.2
JCT Junction City 68.78 334 P **P 07 39 30.9 +0.7**
baz=154,SNR=7.6
JCT Junction City 68.78 334 *e*P **P 07 39 31.3 +1.0**
JCT *e**PP **pP 07 39 50.8 +2.5**
JCT Junction City 68.78 334 *e*P **P 07 39 31.2 +1.0**
JCT *ep*P **pP 07 39 50.8 +2.5**
Y45A Yeager Farm, C 68.78 344 P **P 07 39 30.8 +0.7**
baz=164,SNR=7.7
X48A Hartselle 68.79 346 P **P 07 39 30.2 +0.1**
baz=166,SNR=14
X47A Russellville 69.02 345 P **P 07 39 31.4 -0.3**
baz=165,SNR=9.2
Y43A Makayla and Ka 69.17 342 P **P 07 39 33.4 +1.0**
baz=162
X45A UM Field Stati 69.28 344 P **P 07 39 33.2 0.0**
baz=164
CPCT Cooper Cave 69.28 348 *e*P **P 07 39 32.6 -0.6**
TX31 Lajitas Ar. Si 69.30 330 *e*P **P 07 39 34.8 +1.2**
TX31 *ep*P **pP 07 39 53.1 +1.4**
TXAR Lajitas Array 69.30 330 P **P 07 39 34.5 +0.9**
comp=Z,4.1nm,0.8s,baz=152,slow=8.4,SNR=41
TXAR pP **pP 07 39 51.4 -0.3**
comp=Z,2.8nm,0.6s,baz=144,slow=9.0,SNR=7.6
WHTX Lake Whitney, 69.31 336 P **P 07 39 34.0 +0.6**
baz=157
WHTX Lake Whitney, 69.31 336 *e*P **P 07 39 34.2 +0.7**
WHTX *ep*P **pP 07 39 53.6 +2.1**
SWET Sewanee 69.31 347 *e*P **P 07 39 33.1 -0.3**
comp=Z,7.4nm,0.9s
Y42A Garnett, Star 69.32 342 P **P 07 39 34.2 +0.8**
baz=162
TKL Tuckaleechee C 69.36 349 P **P 07 39 33.3 -0.4**
comp=Z,7.5nm,0.6s,baz=165,slow=8.4,SNR=19
TKL Tuckaleechee C 69.36 349 *e*P **P 07 39 33.3 -0.4**
TKL *e**PP **pP 07 39 53.5 +1.7**
TKL Tuckaleechee C 69.36 349 *e*P **P 07 39 33.3 -0.4**
TKL *ep*P **pP 07 39 53.5 +1.7**
OXF Oxford 69.37 344 P **P 07 39 33.6 -0.2**
baz=164,SNR=7.7
OXF Oxford 69.37 344 *e*P **P 07 39 33.5 -0.2**
OXF *e**PP **pP 07 39 53.5 +1.7**
OXF Oxford 69.37 344 *e*P **P 07 39 33.5 -0.2**
OXF *ep*P **pP 07 39 53.5 +1.7**
W48A Pulaski 69.43 346 P **P 07 39 34.3 +0.2**
baz=166
PLAL Pickwick Lake 69.52 345 *e*P **P 07 39 34.2 -0.4**
PLAL *ep*P **pP 07 39 54.8 +2.1**
X44A Crenshaw 69.53 343 P **P 07 39 35.1 +0.4**
baz=163
WLAR White Oak Lake 69.54 340 *e*P **P 07 39 35.7 +0.9**
comp=Z,24nm,0.8s
Y41A Eaglette Beard 69.58 341 P **P 07 39 35.6 +0.6**
baz=161,SNR=7.0
W47A Westpoint 69.68 346 P **P 07 39 35.5 -0.2**
baz=165,SNR=7.2
W45A Hickory Valley 69.93 344 P **P 07 39 37.5 +0.3**
baz=164
X42A Stuttgart 69.95 342 P **P 07 39 37.8 +0.4**
baz=162
V48A Smith Brothers 69.99 346 P **P 07 39 37.3 -0.3**
baz=166,SNR=14
TZTN Tazewell 70.20 349 P **P 07 39 38.3 -0.5**
baz=169
TZTN Tazewell 70.20 349 *e*P **P 07 39 38.5 -0.3**
comp=Z,36nm,1.5s
V47A Nunnelly 70.22 346 P **P 07 39 38.5 -0.4**
baz=165,SNR=15
V46A Holladay 70.32 345 P **P 07 39 38.9 -0.6**
baz=165,SNR=15
UALR University of 70.35 341 *e*P **P 07 39 38.7 -1.1**
comp=Z,21nm,1.1s
BBTS Babate 70.40 57 P **P 07 39 40.5 0.0**
comp=Z,23nm,0.7s,baz=6.4,slow=1.5,SNR=4.8
BBTS LR LR 08 10 58.9
comp=Z,133nm,18.2s,baz=232,slow=36
BLA Blacksburg 70.43 352 P **P 07 39 39.8 -0.5**
baz=172
V45A Humboldt 70.44 345 P **P 07 39 40.2 -0.1**
baz=164
URVA University of 70.50 355 *e*P **P 07 39 41.2 +0.6**
WVT Waverly 70.57 346 P **P 07 39 40.9 -0.2**
baz=165
X39A Fountain Ranch 70.59 340 P **P 07 39 41.7 +0.5**
baz=160
ABTX Abilene, Hawle 70.65 335 P **P 07 39 42.0 +0.3**
baz=155
ABTX Abilene, Hawle 70.65 335 *e*P **P 07 39 42.1 +0.4**
ABTX *ep*P **PcP 07 40 01.8 -0.5**
U48A Cassie Pea, Po 70.68 347 P **P 07 39 41.7 -0.1**
baz=166
W41B Gary Mavity, V 70.70 342 P **P 07 39 41.8 -0.1**
baz=161
VAH Vaihoa 70.73 264 *e*P **P 07 39 43.9 +1.3**
comp=Z,86nm,1.1s

U47A	Clarksville baz=166,SNR=15	70.76	346	P		P	07 39 41.9 -0.3
IP05	Hopewell Churc comp=Z,35nm,0.7s	70.78	354	*eP*		P	07 39 43.0 +0.8
WHAR	Wooly Hollow comp=Z,32nm,1.3s	70.82	342	*eP*		P	07 39 43.0 +0.3
TVO	Taravao comp=Z,24nm,1.1s	70.83	261	*eP*		P	07 39 44.9 +1.6
TVO	Taravao comp=Z,1.0nm,0.2s	70.83	261	*eT*		T	08 56 37.7
V43A	Jonesboro baz=163	70.85	343	P		P	07 39 43.8 +1.0
U46A	Springville baz=165,SNR=27	70.87	345	P		P	07 39 42.9 0.0
IP07	Quail comp=Z,29nm,1.0s	70.89	354	*eP*		P	07 39 43.2 +0.3
IP06	Yanceyville comp=Z,14nm,0.9s	70.90	354	*eP*		P	07 39 43.6 +0.6
IP01	Cuckoo comp=Z,30nm,1.3s	70.92	354	*eP*		P	07 39 43.8 +0.6
W40A	Ferguson Farm, baz=161	70.94	341	P		P	07 39 43.9 +0.6
SPRD	Spring Road, M comp=Z,74nm,1.7s	70.98	354	*eP*		P	07 39 44.2 +0.7
U45A	Rockin P Farm, baz=164,SNR=8.3	70.98	345	P		P	07 39 43.7 +0.1
IP03	Louisa comp=Z,20nm,0.8s	70.99	354	*eP*		P	07 39 44.3 +0.7
UTMT	University of comp=Z,120nm,0.9s	71.00	345	*eP*		P	07 39 42.6 -1.1
TIAR	Tiarei comp=Z,12nm,0.9s	71.02	261	*eP*		P	07 39 45.8 +1.4
TIAR	Tiarei comp=Z,3.9nm,0.2s	71.02	261	*eT*		T	08 56 56.5
CVRD	Centerville Ro comp=Z,60nm,1.8s	71.02	354	*eP*		P	07 39 44.5 +0.7
IP04	Greensprings comp=Z,26nm,0.8s	71.07	354	*eP*		P	07 39 45.1 +1.0
PMOR	Pomariorio Ree comp=Z,105nm,1.2s	71.07	264	*eP*		P	07 39 45.4 +0.7
V42A	Cord baz=162	71.08	343	P		P	07 39 43.8 -0.3
CBN	Corbin Frederi comp=Z,19nm,0.4s	71.12	355	*eP*		P	07 39 45.2 +0.9
W39A	Magazine baz=160,SNR=10	71.14	340	P		P	07 39 45.2 +0.7
PAE	Paea comp=Z,20nm,1.0s	71.16	261	*eP*		P	07 39 46.7 +1.5
PPTF	Pamatai, Papee comp=Z,180nm,1.1s	71.18	261	*eP*		P	07 39 47.2 +1.8
PPT2	Papeete2 comp=Z,130nm,1.1s	71.19	261	*eP*		P	07 39 46.8 +1.3
PPT2	comp=Z,63nm,1.1s			*epP*		PcP	07 40 04.9 -0.3
PPT2	Papeete2 comp=Z,418nm,30.5s	71.19	261	*eLR*		LR	08 01 29.6
PPT	Papeete comp=Z,122nm,0.9s,baz=123,slow=1.9,SNR=13	71.20	261	P		P	07 39 47.1 +1.6
T48A	Bowling Green baz=166,SNR=6.5	71.24	347	P		P	07 39 44.8 -0.3
PVMO	Portageville comp=Z,185nm,0.3s	71.25	344	*eP*		P	07 39 46.0 +0.8
T47A	Sharon Grove baz=166,SNR=7.5	71.25	346	P		P	07 39 44.9 -0.3
V41A	Mountainview baz=162,SNR=9.3	71.25	342	P		P	07 39 45.2 0.0
U44A	Portageville baz=164	71.34	344	P		P	07 39 46.2 +0.5
U43A	Rector baz=163	71.38	344	P		P	07 39 45.9 -0.1
V40A	Witts Springs baz=161	71.45	341	P		P	07 39 46.5 0.0
T46A	Princeton baz=165,SNR=11	71.47	346	P		P	07 39 46.2 -0.2
U42A	Revenden baz=162,SNR=6.8	71.56	343	P		P	07 39 46.8 -0.2
V39A	Pettigrew baz=160,SNR=10	71.70	341	P		P	07 39 48.2 +0.1
S48A	Wiedeman Farm, baz=167,SNR=10	71.71	348	P		P	07 39 47.0 -0.9
U41A	Viola baz=162	71.72	342	P		P	07 39 48.2 +0.1
PBMO	Poplar Bluff comp=Z,32nm,1.2s	71.77	344	*eP*		P	07 39 48.2 -0.1
T44A	Benton baz=164	71.87	344	P		P	07 39 49.5 +0.6
U40A	Yellville baz=161,SNR=8.7	71.98	342	P		P	07 39 49.5 -0.1
T43A	Greenville baz=163,SNR=12	72.03	344	P		P	07 39 49.4 -0.4
S46A	Don Dixon Farm baz=165	72.05	346	P		P	07 39 49.3 -0.7
MNTX	Cornudas Mount baz=150,SNR=12	72.08	330	P		P	07 39 50.2 -0.2
MNTX	Cornudas Mount comp=Z,19nm,0.8s	72.08	330	*eP*		P	07 39 50.4 0.0
GDL2	Guadalupe Moun	72.09	331	*eP*		P	07 39 51.8 +1.3
T42A	Van Buren baz=162	72.17	343	P		P	07 39 50.3 -0.4
U39A	Green Forest baz=160,SNR=7.3	72.17	341	P		P	07 39 50.7 -0.1
HHAR	Hobbs comp=Z,18nm,0.9s	72.20	341	*eP*		P	07 39 50.9 0.0
S45A	Carrier Mills baz=165	72.22	345	P		P	07 39 53.1 +2.1
WMOK	Wichita Mounta baz=156	72.27	336	P		P	07 39 53.0 +1.7
WMOK WMOK	Wichita Mounta comp=Z,11nm,1.2s	72.27	336	*eP* pmax		P pmax	07 39 50.6 -0.8
WMOK	Wichita Mounta comp=Z,11nm,1.2s	72.27	336	*eP*		P	07 39 50.6 -0.8
SDMD	Soldier's Deli comp=Z,10nm,1.1s	72.28	355	*eP*		P	07 39 50.2 -1.1
WCI	Wyandotte Cave baz=167	72.30	347	P		P	07 39 50.9 -0.6
WCI WCI	Wyandotte Cave comp=Z,12nm,0.8s	72.30	347	*eP* pmax		P pmax	07 39 50.6 -0.9
WCI	Wyandotte Cave comp=Z,12nm,0.8s	72.30	347	*eP*		P	07 39 50.6 -0.9
USIN	University of comp=Z,34nm,0.9s	72.31	346	*eP*		P	07 39 50.6 -0.9
T41A	Mountain View baz=162,SNR=12	72.35	343	P		P	07 39 51.7 -0.1
S44A	Carbondale baz=164	72.38	345	P		P	07 39 51.6 -0.3
HSIG		72.39	324	*eP*		P	07 39 52.9 +0.7
TUL1	Leonard baz=158	72.39	339	P		P	07 39 52.1 0.0
TUL1	Leonard comp=Z,25nm,0.9s	72.39	339	*eP*		P	07 39 52.2 +0.2
SIUC	Southern Illin comp=Z,18nm,0.7s	72.39	345	*eP*		P	07 39 51.6 -0.4
R48A	Northridge Ran baz=167,SNR=5.6	72.39	348	P		P	07 39 51.3 -0.8
R47A	Wooly Knot Far baz=166	72.41	347	P		P	07 39 52.1 0.0
S43A	Fulton Ridge, baz=163,SNR=15	72.45	344	P		P	07 39 52.0 -0.3
R46A	Gibon Southern baz=166	72.52	346	P		P	07 39 52.7 -0.1
EPT	El Paso comp=Z,20nm,0.9s	72.63	329	*eP*		P	07 39 54.5 +0.8
T40A	Mansfield baz=161	72.64	342	P		P	07 39 52.8 -0.7
T39A	Clever baz=161	72.75	341	P		P	07 39 54.4 +0.2
R45A	Skylar, Fairfi baz=165	72.75	346	P		P	07 39 53.5 -0.7
MCWV	Mont Chateau baz=172	72.78	353	P		P	07 39 53.8 -0.5
MCWV	Mont Chateau comp=Z,17nm,1.1s	72.78	353	*eP*		P	07 39 54.0 -0.3
S42A	Caledonia baz=163,SNR=9.1	72.80	344	P		P	07 39 53.9 -0.6
MVL	Millersville comp=Z,38nm,1.7s	72.83	356	*eP*		P	07 39 54.7 +0.1
S41A	Jillco Farms, baz=162,SNR=18	72.86	343	P		P	07 39 54.7 -0.1
R44A	Waltonville baz=164	72.88	345	P		P	07 39 54.1 -0.7
FVM FVM	French Village comp=Z,35nm,1.0s	72.92	344	*eP* pmax		P pmax	07 39 55.2 0.0
FVM	French Village comp=Z,35nm,1.0s	72.92	344	*eP*		P	07 39 55.2 0.0
T38A	Diamond baz=160	73.01	341	P		P	07 39 55.8 +0.1
MSTX	Muleshoe baz=153,SNR=6.4	73.02	333	P		P	07 39 57.0 +1.1
MSTX	Muleshoe comp=Z,25nm,0.8s	73.02	333	*eP*		P	07 39 56.7 +0.8
S40A	Lebanon baz=161,SNR=10	73.06	342	P		P	07 39 56.0 +0.1
R43A	Red Bud baz=164	73.09	345	P		P	07 39 55.4 -0.7
OLIL	Olney comp=Z,13nm,0.9s	73.14	346	*eP*		P	07 39 56.1 -0.3
BLO BLO	Bloomington comp=Z,14nm,0.8s	73.26	347	*eP* pmax		P pmax	07 39 56.3 -0.8
BLO	Bloomington comp=Z,14nm,0.8s	73.26	347	*eP*		P	07 39 56.3 -0.8
O56A	Blue Knob Stat baz=173	73.27	354	P		P	07 39 57.4 +0.3
O56A	Blue Knob Stat comp=Z,10nm,0.9s	73.27	354	*eP*		P	07 39 57.5 +0.3
R42A	Luebbering baz=163	73.29	344	P		P	07 39 57.4 +0.1
Q45A	Warren Harvey, baz=165	73.31	346	P		P	07 39 56.9 -0.5
S39A	Bolivar baz=161,SNR=10	73.36	342	P		P	07 39 57.5 -0.2
AMTX	Amarillo baz=154	73.42	334	P		P	07 39 59.3 +1.0
AMTX	Amarillo comp=Z,21nm,0.9s	73.42	334	*eP*		P	07 39 58.6 +0.4
BRNJ	Basking Ridge comp=Z,26nm,1.1s	73.42	357	*eP*		P	07 39 59.3 +1.3
R41A	Rosebud baz=162,SNR=17	73.44	343	P		P	07 39 58.0 -0.2
SLM SLM	Saint Louis comp=Z,26nm,0.6s	73.50	344	*eP* pmax		P pmax	07 39 58.7 +0.2
SLM	Saint Louis comp=Z,26nm,0.6s	73.50	344	*eP*		P	07 39 58.7 +0.2
P47A	Martinsville baz=167	73.52	348	P		P	07 39 57.9 -0.7
319A	Douglas comp=Z,20nm,0.9s	73.54	327	*eP*		P	07 39 59.8 +0.6
SSPA	Standing Stone baz=174	73.58	355	P		P	07 39 59.0 +0.1
SSPA	Standing Stone comp=Z,49nm,1.7s	73.58	355	*eP*		P	07 39 59.2 +0.3
R40A	Maddies Statio baz=162,SNR=20	73.66	343	P		P	07 39 59.2 -0.3
Q43A	New Douglas baz=164,SNR=6.2	73.67	345	P		P	07 39 59.2 -0.3
LIC	Lamto comp=Z,36nm,0.7s	73.69	71	*eP*		P	07 39 59.8 -0.5
N59A	State Game Lan baz=176,SNR=5.8	73.71	356	P		P	07 40 00.4 +0.6
N59A	State Game Lan comp=Z,12nm,0.8s	73.71	356	*eP*		P	07 40 00.5 +0.7
ACSO	Alum Creek Sta baz=170,SNR=11	73.73	351	P		P	07 39 59.5 -0.3
ACSO ACSO	Alum Creek Sta	73.73	351	*eP* *epP*		P pP	07 39 59.6 -0.3 07 40 18.5 +0.4
P46A	Rosedale baz=166	73.82	347	P		P	07 39 59.9 -0.5
ODNJ	Ogdensburg comp=Z,12nm,0.9s	73.82	357	*eP*		P	07 40 00.9 +0.6
Q42A	Golden Eagle baz=163,SNR=7.6	73.83	344	P		P	07 40 00.5 0.0
P45A	Graceland, Par baz=166	73.84	347	P		P	07 40 00.1 -0.4
121A	Cookes Peak, D baz=149,SNR=7.2	73.84	328	P		P	07 40 02.4 +1.5
121A	Cookes Peak, D comp=Z,33nm,0.9s	73.84	328	*eP*		P	07 40 02.0 +1.0
MAW	Marion comp=Z,11nm,0.7s,baz=198,slow=6.6,SNR=7.5	73.87	163	pP		pP	07 40 18.4 -0.3
R39A	Chumby, Stover baz=161,SNR=9.5	73.87	342	P		P	07 40 00.7 -0.1
TIC	Toumodi	73.94	71	*eP*		P	07 40 01.1 -0.7
P44A	Sand Creek, Wi baz=165	73.95	346	P		P	07 40 00.5 -0.7
R38A	Fenwick Farm, baz=160,SNR=5.2	73.98	341	P		P	07 40 00.8 -0.6
KIC	Kosan Boka comp=Z,116nm,1.2s	74.00	71	*eP*		P	07 40 01.8 -0.3
Q41A	Truxton baz=162,SNR=8.2	74.03	344	P		P	07 40 01.5 -0.2
N54A	Moraine State baz=172,SNR=6.4	74.09	353	P		P	07 40 01.9 -0.1
N54A N54A	Moraine State	74.09	353	*eP* *epP*		P pP	07 40 02.0 0.0 07 40 20.7 +0.5
DBIC	Dimbokro comp=Z,26nm,1.0s,baz=209,slow=5.6,SNR=26	74.09	71	P		P	07 40 02.4 -0.2
DBIC	comp=Z,8.4nm,0.7s,baz=226,slow=5.6,SNR=3.6			*pP*		pP	07 40 20.6 -0.2
DBIC	comp=Z,58nm,19.5s,baz=212,slow=35			LR		LR	08 11 47.6
DBIC DBIC DBIC	Dimbokro comp=Z,74nm,1.4s	74.09	71	*eP* *PP pmax		P pP pmax	07 40 02.7 +0.1 07 40 20.6 -0.2 pmax
DBIC	Dimbokro comp=Z,74nm,1.4s	74.09	71	*eP*		P	07 40 02.7 +0.1
DBIC				*pP		pP	07 40 20.6 -0.2
O47A	Sheridan baz=167,SNR=7.4	74.23	348	P		P	07 40 01.8 -1.0
Q40A	Laux Farm, Aux baz=162,SNR=7.9	74.27	343	P		P	07 40 03.1 0.0
P43A	Skaggs, Pawnee baz=164	74.31	345	P		P	07 40 03.0 -0.2
P42A	Winchester baz=163,SNR=6.5	74.43	345	P		P	07 40 03.5 -0.5
O45A	Potomac baz=166	74.53	347	P		P	07 40 03.7 -0.8
Q39A	Willow Grove F baz=161	74.55	342	P		P	07 40 04.4 -0.2
O44A	Mansfield baz=165	74.58	346	P		P	07 40 04.0 -0.8
BRYW	Bryant College comp=Z,19nm,0.8s	74.59	360	*eP*		P	07 40 05.6 +0.8
M54A	Oil Creek Stat baz=172	74.60	353	P		P	07 40 04.4 -0.5
M54A M54A	Oil Creek Stat comp=Z,11nm,0.6s	74.60	353	*eP* *epP		P pP	07 40 04.5 -0.4 07 40 23.4 +0.2
Q38A	Cooks Store, C baz=161,SNR=8.6	74.63	342	P		P	07 40 05.0 -0.1
P41A	Barry, Barry baz=163,SNR=6.2	74.68	344	P		P	07 40 04.9 -0.5
P40A	Paris baz=162,SNR=12	74.78	343	P		P	07 40 05.9 -0.1
LPM	Los Pinos Moun comp=Z,0.9nm,1.0s	74.86	330	*eP*		P	07 40 08.6 +1.7
O43A	Sugar Creek Fa baz=164	74.88	346	P		P	07 40 05.8 -0.8
P39B	Salisbury baz=161,SNR=5.7	74.91	343	P		P	07 40 06.4 -0.4
O42A	Bath baz=164	74.96	345	P		P	07 40 06.7 -0.3
N46A	Monticello baz=166	74.97	348	P		P	07 40 05.9 -1.1
BINY	Binghamton baz=176	75.00	356	P		P	07 40 07.1 -0.1
TUC	Tucson baz=146	75.02	326	P		P	07 40 08.4 +0.8
TUC TUC	Tucson comp=Z,9.0nm,1.3s	75.02	326	*eP* pmax		P pmax	07 40 08.5 +0.8 pmax
TUC	Tucson comp=Z,8.8nm,1.3s	75.02	326	*eP*		P	07 40 08.5 +0.8
WES WES	Weston comp=Z,73nm,2.0s	75.05	360	*eP* pmax		P pmax	07 40 08.6 +1.2 pmax
WES	Weston comp=Z,73nm,2.0s	75.05	360	*eP*		P	07 40 08.6 +1.2
O41A	Passleys Farm, baz=163,SNR=7.0	75.06	344	P		P	07 40 07.2 -0.4
N45A	Kentland baz=166	75.07	347	P		P	07 40 06.8 -0.8
N44A	Piper City baz=165	75.14	347	P		P	07 40 07.2 -0.8
HDIL	Hopedale baz=164	75.14	346	P		P	07 40 07.2 -0.8
HDIL	Hopedale comp=Z,22nm,0.8s	75.14	346	*eP*		P	07 40 07.8 -0.2
LAZ	Ladron comp=Z,5.6nm,1.0s	75.16	330	*eP*		P	07 40 09.8 +1.3
HRV	Adam Dziewonsk baz=180	75.17	360	P		P	07 40 08.6 +0.4
HRV HRV	Adam Dziewonsk comp=Z,21nm,0.9s	75.17	360	*eP* pmax		P pmax	07 40 08.8 +0.6 pmax
HRV	Adam Dziewonsk comp=Z,21nm,0.9s	75.17	360	*eP*		P	07 40 08.8 +0.6
P38A	Dawn baz=161	75.23	342	P		P	07 40 08.2 -0.4
O40A	La Belle baz=162	75.30	344	P		P	07 40 08.6 -0.3
ANMO	Albuquerque baz=150	75.34	331	P		P	07 40 11.3 +1.8
ANMO ANMO ANMO	Albuquerque comp=Z,6.0nm,1.2s	75.34	331	||*iP *e pmax		P 07 40 24.4 pmax	07 40 11.4 +1.8 pmax
ANMO	Albuquerque comp=Z,7.7nm,0.9s	75.34	331	*eP*		P	07 40 09.9 +0.3
P37A	Lathrop baz=160	75.41	342	P		P	07 40 09.1 -0.5
TRY	Troy comp=Z,26nm,0.9s	75.44	358	*eP*		P	07 40 10.6 +1.0
N43A	Stutzman Famil baz=164	75.48	346	P		P	07 40 09.7 -0.3
N42A	Yates City baz=164,SNR=5.7	75.56	345	P		P	07 40 09.9 -0.5
O39A	Kirksville baz=162	75.58	343	P		P	07 40 10.5 -0.1
KSU1	Kansas State U baz=158	75.59	340	P		P	07 40 10.3 -0.3
KSU1	Kansas State U comp=Z,14nm,0.9s	75.59	340	*eP*		P	07 40 10.1 -0.6
MMNY	Mt. Morris Dam comp=Z,18nm,1.0s	75.66	355	*eP*		P	07 40 10.6 -0.4
O38A	Galt baz=161	75.69	342	P		P	07 40 11.1 -0.1
M44A	Midewin, Midew baz=165	75.69	347	P		P	07 40 10.5 -0.6
214A	Organ Pipe Nat baz=145	75.70	324	P		P	07 40 12.6 +1.1
214A	Organ Pipe Nat comp=Z,30nm,1.2s	75.70	324	*eP*		P	07 40 12.6 +1.1
O37A	Wolven Farm, M baz=160,SNR=9.2	75.90	342	P		P	07 40 12.3 -0.1
M43A	Waltham Townsh baz=165	75.92	346	P		P	07 40 12.2 -0.3
N40A	Mertquake, Sal baz=162	75.95	344	P		P	07 40 12.1 -0.6
ACCN	Adirondack Com comp=Z,53nm,1.9s	76.09	358	*eP*		P	07 40 14.0 +0.6
MEDO	Medina baz=174	76.13	354	P		P	07 40 15.3 +1.7
FFD	Franklin Falls comp=Z,26nm,0.7s	76.14	360	*eP*		P	07 40 15.2 +1.6
N39A	Derby Farms, D baz=162,SNR=5.4	76.16	343	P		P	07 40 13.7 -0.2
M41A	Milan baz=163	76.19	345	P		P	07 40 13.5 -0.5
TYNO	Tyneside baz=172	76.19	353	P		P	07 40 13.6 -0.4
STCO	Saint Catharin baz=173	76.24	354	P		P	07 40 14.2 0.0
N38A	Joes South For baz=161	76.26	343	P		P	07 40 14.2 -0.2
CBKS CBKS	Cedar Bluff comp=Z,21nm,0.8s	76.29	337	*eP* pmax		P pmax	07 40 16.3 +1.6 pmax
CBKS	Cedar Bluff comp=Z,21nm,0.8s	76.29	337	*eP*		P	07 40 16.3 +1.6
HNH	Hanover comp=Z,98nm,2.0s	76.38	359	*eP*		P	07 40 16.5 +1.5
L44A	Lake County Fo baz=166	76.43	347	P		P	07 40 16.8 +1.4
M40A	Post Highland baz=162	76.43	344	P		P	07 40 15.0 -0.4
T25A	Trinidad baz=152,SNR=10	76.44	333	P		P	07 40 16.0 +0.2
T25A	Trinidad comp=Z,32nm,0.9s	76.44	333	*eP*		P	07 40 17.7 +1.9
N37A	Lee Faris, Mou baz=160	76.47	342	P		P	07 40 15.7 0.0
MHTCO	State Highway comp=Z,27nm,0.9s	76.53	333	*eP*		P	07 40 17.7 +1.4
L43A	Garden Prairie baz=165	76.59	347	P		P	07 40 16.2 -0.1
L42A	Oliver, Polo baz=164	76.61	346	P		P	07 40 16.0 -0.3
O34A	Beatrice baz=158	76.61	340	P		P	07 40 16.5 0.0
NCB	Newcomb comp=Z,29nm,1.8s	76.69	358	*eP*		P	07 40 17.1 +0.3
N36A	Muff Farm, Cla baz=160	76.73	342	P		P	07 40 17.2 +0.1
O33A	Hebron baz=157	76.78	339	P		P	07 40 17.7 +0.4
M38A	Pleasantville baz=161,SNR=5.5	76.84	343	P		P	07 40 17.3 -0.3
L41A	Preston baz=163	76.85	345	P		P	07 40 17.3 -0.4
W18A	Petrified Fore baz=148	76.89	328	P		P	07 40 20.0 +1.6
LBNH	Lisbon baz=179	76.91	359	P		P	07 40 18.6 +0.6
LBNH LBNH	Lisbon comp=Z,18nm,0.8s	76.91	359	*eP* pmax		P pmax	07 40 18.9 +0.9 pmax
LBNH	Lisbon comp=Z,18nm,0.8s	76.91	359	*eP*		P	07 40 18.9 +0.9
N35A	Tabor baz=159,SNR=5.6	76.95	341	P		P	07 40 18.0 -0.4
PKRO	Pickering baz=173	76.98	354	P		P	07 40 18.4 +0.1
L40A	Anamosa baz=163,SNR=5.3	77.00	345	P		P	07 40 18.1 -0.4
K43A	Burlington baz=165	77.02	347	P		P	07 40 18.4 -0.2
M37A	Trindle Farm, baz=160,SNR=7.3	77.04	342	P		P	07 40 18.9 0.0
X16A	Lo Mia Camp, P comp=Z,16nm,1.0s	77.07	327	*eP*		P	07 40 21.1 +1.6
N34A	Lincoln baz=158,SNR=6.6	77.17	340	P		P	07 40 19.7 +0.1
L39A	Vinton baz=162	77.23	344	P		P	07 40 19.4 -0.4
WVL	Waterville comp=Z,120nm,2.0s	77.24	1	*eP*		P	07 40 22.0 +2.2
M36A	Felix, Anita baz=160,SNR=5.1	77.28	342	P		P	07 40 20.2 0.0
K42A	Prairie Point, baz=164,SNR=6.0	77.29	346	P		P	07 40 20.0 -0.1
K41A	Shullsburg baz=164,SNR=6.5	77.32	346	P		P	07 40 20.0 -0.3
N33A	J Bar K, Exete baz=158	77.35	340	P		P	07 40 20.9 +0.4
LONY	Lake Ozonia baz=177	77.35	357	P		P	07 40 20.5 0.0
LONY	Lake Ozonia comp=Z,16nm,1.1s	77.35	357	*eP*		P	07 40 20.9 +0.4
SDCO	Great Sand Dun baz=151	77.38	333	P		P	07 40 22.5 +1.4
SDCO	Great Sand Dun comp=Z,13nm,0.8s	77.38	333	*eP*		P	07 40 22.6 +1.4
EMMW	East Machias comp=Z,34nm,0.8s	77.44	3	*eP*		P	07 40 21.8 +0.9
L38A	Oak Wood Farm, baz=161	77.47	343	P		P	07 40 21.0 -0.2
FRNY	Flat Rock comp=Z,14nm,0.8s	77.53	358	*eP*		P	07 40 22.2 +0.7
K40A	Colesburg baz=163,SNR=7.9	77.58	345	P		P	07 40 21.3 -0.6
JFWS	Jewell Farm baz=164,SNR=5.6	77.60	346	P		P	07 40 21.5 -0.4
JFWS JFWS	Jewell Farm	77.60	346	*eP *e*PP		P pP	07 40 21.9 0.0 07 40 40.9 +0.6
JFWS JFWS	Jewell Farm	77.60	346	*eP *epP		P pP	07 40 21.9 0.0 07 40 40.9 +0.6
L37A	Phoenix Point, baz=161	77.65	343	P		P	07 40 21.8 -0.4
J43A	Natural Harves baz=165	77.69	347	P		P	07 40 22.3 -0.1
RAR	Rarotonga comp=Z,26nm,21.2s,baz=128,slow=30	77.72	253	LR		LR	08 07 33.5
K39A	Oelwein baz=162	77.76	344	P		P	07 40 22.5 -0.3
J42A	Columbus baz=165	77.76	347	P		P	07 40 22.6 -0.2
SADO	Sadowa comp=Z,34nm,1.4s	77.78	354	*eP*		P	07 40 22.8 -0.1
WESC	Westside Schoo	77.81	323	*eP*		P	07 40 23.8 +0.5

PLVO **Plevna** 77.90 356 P P 07 40 23.7 +0.2
baz=175
S22A **4UR Ranch, Cre** 77.91 332 P P 07 40 25.3 +1.2
baz=150
S22A **4UR Ranch, Cre** 77.91 332 eP P 07 40 25.6 +1.4
comp=Z,8.0nm,0.8s
PKME **Peaks-Kenny Pk** 77.95 1 P P 07 40 24.8 +1.0
baz=182
PKME **Peaks-Kenny Pk** 77.95 1 eP P 07 40 24.7 +1.0
comp=Z,25nm,0.8s
WUAZ **Wupatki** 77.95 327 P P 07 40 26.0 +1.7
baz=146
WUAZ **Wupatki** 77.95 327 eP P 07 40 25.1 +0.9
comp=Z,11nm,0.9s
J41A **Loganville** 77.98 346 P P 07 40 23.9 -0.2
baz=164,SNR=5.3
Y12C **Blythe** 78.00 324 P P 07 40 26.3 +2.0
baz=144
L35A **Bielow Farm, R** 78.09 342 P P 07 40 24.8 +0.1
baz=159,SNR=7.6
I43A **Langenfeld Bro** 78.12 347 P P 07 40 24.5 -0.2
baz=165
MVCO **Mesa Verde** 78.13 330 P P 07 40 26.6 +1.4
baz=149
MVCO **Mesa Verde** 78.13 330 eP P 07 40 26.2 +1.0
comp=Z,11nm,0.9s
J40A **Soldiers Grove** 78.17 345 P P 07 40 24.6 -0.4
baz=163,SNR=11
CBKC **Canebrake** 78.19 322 eP P 07 40 26.0 +0.6
MONP2 **Monument Peak** 78.27 322 P P 07 40 27.7 +1.6
baz=142
I42A **Draeger Farm,** 78.27 347 P P 07 40 25.6 0.0
baz=165
I42A **Draeger Farm,** 78.27 347 eP P 07 40 25.6 0.0
comp=Z,20nm,0.9s
K36A **Gilmore City** 78.30 343 P P 07 40 25.8 0.0
baz=160
J39A **Decorah** 78.31 345 P P 07 40 25.3 -0.6
baz=162
Q24A **Divide** 78.31 333 P P 07 40 27.6 +1.2
baz=151
Q24A **Divide** 78.31 333 eP P 07 40 27.6 +1.2
comp=Z,22nm,0.8s
ALFO **Alfred** 78.37 357 P P 07 40 26.0 0.0
baz=177
BC3 **Big Chuckawall** 78.38 323 P P 07 40 27.8 +1.2
baz=143
KLBO **Killbear Provi** 78.46 353 P P 07 40 26.3 -0.3
baz=172
J38A **Wedel Dairy, R** 78.47 344 P P 07 40 27.0 +0.3
baz=162
BUKO **Buck Lake** 78.47 354 P P 07 40 25.7 -1.0
baz=173
PEMO **Pembroke** 78.54 356 P P 07 40 27.2 +0.2
baz=175
IRM **Iron Mountain** 78.63 324 P P 07 40 29.2 +1.3
baz=144
J37A **Redenius Farm,** 78.72 343 P P 07 40 27.9 -0.2
baz=161
I39A **Houston** 78.77 345 P P 07 40 28.3 -0.1
baz=163
K34A **Le Mars** 78.78 341 P P 07 40 29.4 +0.9
baz=159
H42A **Shiocton** 78.80 347 P P 07 40 28.5 0.0
baz=165
H42A **Shiocton** 78.80 347 eP P 07 40 28.5 0.0
comp=Z,15nm,0.8s
XPFO **Piæon Flat** 78.86 323 eP P 07 40 30.0 +0.8
XPFO epP pP 07 40 50.0 +2.4
PFO **Pinyon Flats O** 78.86 323 P P 07 40 30.0 +0.7
baz=143,SNR=5.6
PFO **Pinyon Flats O** 78.86 323 eP P 07 40 29.9 +0.7
PFO e*PP pP 07 40 50.0 +2.3
PFO **Pinyon Flats O** 78.86 323 eP P 07 40 29.9 +0.7
PFO epP pP 07 40 50.0 +2.3
J36A **Seneca 1, Swea** 78.92 343 P P 07 40 29.1 -0.1
baz=160
BELC **Belle Mtn. Jos** 78.93 323 P P 07 40 31.1 +1.4
baz=143
PV01 **Paradox Valley** 78.94 331 eP P 07 40 30.5 +0.7
comp=Z,618nm,0.9s
K33A **Hardington** 78.95 341 P P 07 40 29.6 +0.2
baz=158
TRQ **Mont Tremblant** 78.95 358 eP P 07 40 29.6 +0.2
H41A **Junction City** 79.11 347 P P 07 40 30.4 +0.2
baz=164
U15A **North Rim** 79.12 327 eP P 07 40 30.9 0.0
comp=Z,7.9nm,1.0s
I38A **Scanlan Farm,** 79.12 345 P P 07 40 29.7 -0.6
baz=162
J35A **Milford** 79.18 342 P P 07 40 30.5 -0.1
baz=160
ISCO **Idaho Springs** 79.22 334 P P 07 40 32.2 +0.9
baz=151
ISCO **Idaho Springs** 79.22 334 eP P 07 40 31.0 -0.3
ISCO pmax pmax
comp=Z,8.0nm,0.8s
ISCO **Idaho Springs** 79.22 334 eP P 07 40 31.0 -0.3
comp=Z,7.7nm,0.8s
MURC **Murrieta** 79.22 322 P P 07 40 31.3 +0.2
baz=142
H40A **Chili** 79.27 346 P P 07 40 31.3 +0.2
baz=164
J34A **George** 79.30 342 P P 07 40 31.2 0.0
baz=159
PV04 **Paradox Valley** 79.30 331 eP P 07 40 31.9 +0.2
PV10 **Paradox Valley** 79.34 331 eP P 07 40 32.2 +0.3
I37A **Lemond, Waseca** 79.35 344 P P 07 40 31.7 +0.2
baz=161
PQI **Presque Isle** 79.38 2 eP P 07 40 32.2 +0.6
comp=Z,93nm,1.8s
GMRC **Granite Mounta** 79.39 324 P P 07 40 33.6 +1.5
baz=143,SNR=5.2
K31A **O'Neill** 79.46 340 P P 07 40 32.8 +0.6
baz=157
G42A **Mountain** 79.49 348 P P 07 40 32.0 -0.2
baz=165
G42A **Mountain** 79.49 348 eP P 07 40 32.0 -0.2
G42A epP pP 07 40 50.7 0.0
KOWA **Kowa** 79.49 65 P P 07 40 33.0 0.0
comp=Z,17nm,0.6s,baz=242,slow=5.3,SNR=51
KOWA pP pP 07 40 51.3 -0.1
KOWA comp=Z,7.6nm,0.6s,baz=188,slow=2.5,SNR=4.6
LR LR 08 13 51.1
comp=Z,307nm,20.6s,baz=211,slow=34
KOWA **Kowa** 79.49 65 eP P 07 40 33.0 0.0
comp=Z,24nm,0.8s
KOWA pP pP 07 40 51.3 -0.1
I36A **Fitzsimmons Fa** 79.50 343 P P 07 40 32.2 -0.1
baz=161
H39A **Augusta** 79.51 345 P P 07 40 33.1 +0.7
baz=163
I35A **Creekview Farm** 79.58 343 P P 07 40 32.7 -0.1
baz=160,SNR=11
J33A **Davis** 79.60 341 P P 07 40 32.7 -0.2
baz=158,SNR=6.6
BBRC **Big Bear Solar** 79.61 323 P P 07 40 35.3 +1.9
baz=142
CIS **Catalina Islan** 79.70 321 P P 07 40 35.1 +1.4
baz=141
HEC **Hector,Ludlow** 79.76 324 P P 07 40 35.7 +1.6
baz=143
BOSA **Boshof** 79.79 117 P P 07 40 34.6 -0.1
comp=Z,5.8nm,1.0s,baz=260,slow=6.7,SNR=5.7
BOSA pP pP 07 40 53.0 -0.1
comp=Z,15nm,0.8s,baz=245,slow=4.5,SNR=7.5
BOSA LR LR 08 12 22.0
comp=Z,73nm,19.5s,baz=210,slow=33
BOSA **Boshof** 79.79 117 eP P 07 40 33.9 -0.8
BOSA *PP pP 07 40 53.0 -0.1
BOSA pmax pmax
comp=Z,20nm,1.0s
BOSA **Boshof** 79.79 117 eP P 07 40 33.9 -0.8
comp=Z,20nm,1.0s
BOSA pP pP 07 40 53.0 -0.1
F43A **Flat Rock, Esc** 79.84 349 P P 07 40 33.9 -0.2
baz=166
G40A **Rib Lake** 79.85 346 P P 07 40 36.1 +1.8
baz=164
ECSD **EROS Data Cent** 79.89 341 P P 07 40 34.7 +0.2
baz=158,SNR=12
ECSD **EROS Data Cent** 79.89 341 eP P 07 40 34.5 0.0
comp=Z,15nm,0.8s
J32A **Parkston** 79.89 340 P P 07 40 34.3 -0.1
baz=158
F42A **Maple Grove Fa** 79.94 348 P P 07 40 34.8 +0.2
baz=166

BFSC **Mount Baldy Ra** 79.96 322 P P 07 40 36.8 +1.5
baz=142
I34A **Hadley** 79.97 342 P P 07 40 37.2 +2.2
baz=159
H36A **Jessenland, He** 80.00 344 P P 07 40 35.5 +0.4
baz=161
LCMT **Little Creek M** 80.04 327 eP P 07 40 37.6 +2.0
comp=Z,5.9nm,1.1s
F41A **Three Lakes** 80.09 347 P P 07 40 35.9 +0.3
baz=165
G38A **Ridgeland** 80.09 345 P P 07 40 36.7 +1.1
baz=162
MWC **Mount Wilson** 80.16 322 eP P 07 40 37.4 +1.0
MWC pmax pmax
comp=Z,10.0nm,0.9s
MWC **Mount Wilson** 80.16 322 eP P 07 40 37.4 +1.0
comp=Z,10nm,0.9s
I33A **Coleman** 80.23 341 P P 07 40 36.6 +0.3
baz=158
N23A **Red Feather La** 80.30 334 P P 07 40 38.3 +1.2
baz=151
H35A **Sunnyside Ranc** 80.33 343 P P 07 40 36.5 -0.3
baz=160,SNR=17
SPMN **Marine on St.** 80.36 345 P P 07 40 36.3 -0.6
baz=162
SPMN **Marine on St.** 80.36 345 eP P 07 40 36.5 -0.4
comp=Z,10nm,0.7s
GSC **Goldstone, Bar** 80.37 324 P P 07 40 38.9 +1.5
baz=142
F40A **Park Falls** 80.46 347 P P 07 40 37.7 +0.2
baz=164
O20A **White River Ci** 80.52 332 P P 07 40 39.8 +1.6
baz=149
CCUT **Cedar City** 80.53 327 eP P 07 40 39.6 +1.2
comp=Z,8.4nm,1.0s
H34A **Spellman Lake,** 80.54 342 P P 07 40 37.8 -0.1
baz=159,SNR=9.2
E42A **Champion** 80.55 348 P P 07 40 38.3 +0.3
baz=166
SHOC **Shoshone, Teco** 80.58 324 P P 07 40 39.3 +0.9
baz=143
SRU **San Rafael Swe** 80.58 330 eP P 07 40 39.8 +1.3
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU **San Rafael Swe** 80.58 330 eP P 07 40 39.8 +1.3
comp=Z,6.7nm,0.7s
BLG **Laguna Peak, P** 80.59 321 P P 07 40 38.5 0.0
baz=141
F39A **Loretta** 80.61 346 P P 07 40 37.9 -0.4
baz=163
EDW2 **Edwards Air Fo** 80.64 322 P P 07 40 39.7 +0.9
baz=142
Q16A **Castle Valley** 80.69 329 eP P 07 40 41.0 +1.9
comp=Z,10nm,0.9s
G35A **Watkins** 80.74 343 P P 07 40 39.4 +0.4
baz=160
E41A **Kenton** 80.77 348 P P 07 40 39.8 +0.7
baz=165
F37A **Hinrichs Farm,** 80.79 345 P P 07 40 38.9 -0.4
baz=162
MSU **Marysvale** 80.79 328 eP P 07 40 41.1 +1.4
MSU **Marysvale** 80.79 328 eP P 07 40 41.1 +1.4
H33A **Prehn Over Nor** 80.80 342 P P 07 40 39.4 0.0
baz=158
SCZ2 **Santa Cruz Isl** 80.81 321 P P 07 40 40.0 +0.4
baz=140
H32A **Carlson Farm,** 80.82 341 P P 07 40 41.1 +1.6
baz=158
F38A **Pierce - Schro** 80.85 345 P P 07 40 39.5 -0.1
baz=162
P18A **Preston Nutter** 80.90 330 eP P 07 40 40.3 -0.1
comp=Z,12nm,0.8s
E40A **Wakefield** 80.92 347 P P 07 40 40.2 +0.2
baz=164
P17A **Butcher Ranch,** 80.98 330 eP P 07 40 41.1 +0.5
comp=Z,14nm,1.2s
E39A **Mellen** 80.98 346 P P 07 40 40.2 0.0
baz=164
G34A **Benson** 81.04 343 P P 07 40 40.4 -0.2
baz=159
H31A **Wolsey** 81.09 341 P P 07 40 41.3 +0.5
baz=157
F36A **Milaca** 81.12 344 P P 07 40 40.4 -0.6
baz=161,SNR=6.6
G33A **Ortonville** 81.20 342 P P 07 40 42.8 +1.4
baz=159
ARVC **Arvin** 81.26 322 P P 07 40 44.0 +2.0
baz=141
D41A **Chassel** 81.27 348 P P 07 40 41.9 +0.2
baz=165
MPMC **Manual Prospec** 81.31 324 P P 07 40 43.4 +0.9
baz=142
FURC **Furnace Creek,** 81.32 324 P P 07 40 44.2 +2.0
baz=143
F35A **Swanville** 81.36 344 P P 07 40 42.7 +0.4
baz=160
F34A **Alexandria** 81.47 343 P P 07 40 44.8 +2.0
baz=160
ISA **Isabella, Lake** 81.49 323 P P 07 40 45.1 +1.8
baz=141
ISA **Isabella, Lake** 81.49 323 eP P 07 40 45.1 +1.8
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA **Isabella, Lake** 81.49 323 eP P 07 40 45.1 +1.8
comp=Z,8.1nm,0.9s
DAC **Darwin (Calif)** 81.53 324 eP P 07 40 45.1 +1.4
DAC e*PP pP 07 41 04.1 +1.9
DAC **Darwin (Calif)** 81.53 324 eP P 07 40 45.1 +1.4
DAC epP pP 07 41 04.1 +1.9
PKM **Mcpherson Peak** 81.59 321 P P 07 40 45.3 +1.3
baz=140
E36A **McGregor** 81.68 345 P P 07 40 43.5 -0.5
baz=161,SNR=6.7
MPU **Maple Canyon** 81.81 330 eP P 07 40 46.5 +1.5
comp=Z,7.9nm,1.0s
CWC **Cottonwood Cre** 81.90 323 P P 07 40 46.5 +1.0
baz=142
VES **Vestal, Richgr** 81.94 322 P P 07 40 47.1 +1.5
baz=141
NLU **North Lily Min** 81.94 329 eP P 07 40 46.0 +0.2
comp=Z,7.1nm,1.1s
LBTB **Lobatse** 81.96 114 eP P 07 40 46.3 0.0
LBTB pmax pmax
comp=Z,13nm,0.8s
LBTB **Lobatse** 81.96 114 eP P 07 40 46.3 0.0
comp=Z,13nm,0.8s
E35A **Pequot Lakes** 81.98 344 P P 07 40 45.3 -0.2
baz=160
SMMC **Simmler** 82.01 321 P P 07 40 48.0 +2.0
baz=140
K22A **Casper** 82.04 334 P P 07 40 48.4 +2.3
baz=151
K22A **Casper** 82.04 334 eP P 07 40 46.1 0.0
comp=Z,15nm,1.0s
D37A **Cotton** 82.11 345 P P 07 40 46.1 -0.1
baz=162
R11A **Troy Canyon, C** 82.21 326 P P 07 40 48.6 +1.4
baz=144
R11A **Troy Canyon, C** 82.21 326 eP P 07 40 47.1 0.0
R11A epP pP 07 41 07.6 +1.9
C39A **Grand Marais** 82.28 347 P P 07 40 46.6 -0.5
baz=164
D36A **Goodland** 82.29 345 P P 07 40 47.0 -0.1
baz=162
F31A **Hecla** 82.30 341 P P 07 40 47.5 +0.3
baz=157
E33A **Westby DABS, E** 82.31 343 P P 07 40 47.2 -0.1
baz=159
D35A **Remer** 82.39 344 P P 07 40 47.7 0.0
baz=161,SNR=6.2
C38A **Sawbill Land.** 82.41 346 P P 07 40 47.4 -0.3
baz=163
TIN **Tinemaha, Big** 82.46 324 P P 07 40 49.5 +1.1
baz=142
DUG **Dugway, Tooele** 82.46 329 P P 07 40 49.6 +1.2
baz=146
DUG **Dugway, Tooele** 82.46 329 eP P 07 40 48.9 +0.5
DUG pmax pmax
comp=Z,8.0nm,1.0s
DUG **Dugway, Tooele** 82.46 329 eP P 07 40 48.9 +0.5
comp=Z,8.1nm,1.0s
RSSD **Black Hills** 82.47 337 P P 07 40 49.0 +0.5
baz=153
RSSD **Black Hills** 82.47 337 eP P 07 40 48.9 +0.5
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD **Black Hills** 82.47 337 eP P 07 40 48.9 +0.5
comp=Z,8.3nm,0.8s

C37A **Embarrass** 82.60 346 P P 07 40 48.6 -0.2
baz=162
EYMN **Ely** 82.67 346 P P 07 40 48.8 -0.3
baz=163
EYMN **Ely** 82.67 346 eP P 07 40 49.8 +0.7
comp=Z,14nm,1.0s
E31A **Nome** 82.84 342 P P 07 40 50.2 +0.2
baz=158
D33A **AnnSam, Waubun** 82.87 343 P P 07 40 50.2 +0.1
baz=159
C35A **Jirik Farms, M** 82.96 345 P P 07 40 50.3 -0.3
baz=161
HWUT **Hardware Ranch** 83.11 331 eP P 07 40 52.5 +0.8
comp=Z,9.2nm,0.9s
TOA0 **Torodi Ar. Sit** 83.11 70 eP P 07 40 52.0 -0.2
comp=Z,39nm,1.0s
TOA0 epP pP 07 41 10.7 0.0
TORD **Torodi Ar. Bea** 83.11 70 P P 07 40 51.9 -0.3
comp=Z,26nm,0.9s,baz=259,slow=4.6,SNR=88
TORD pP pP 07 41 10.8 +0.1
comp=Z,19nm,0.9s,baz=257,slow=4.3,SNR=8.0
TORD LR LR 08 15 25.7
comp=Z,97nm,21.6s,baz=230,slow=34
C34A **RKJ Ranch, Bem** 83.13 344 P P 07 40 51.1 -0.4
baz=160
D32A **Dogwood Acres,** 83.15 342 P P 07 40 51.7 +0.1
baz=158
D31A **Mcclaflin, Tow** 83.25 342 P P 07 40 52.0 -0.1
baz=158
BW06 **Boulder Array** 83.28 333 P P 07 40 51.7 -1.0
baz=148
PD31 **Pinedale Array** 83.28 333 eP P 07 40 53.3 +0.6
PDAR **Pinedale Array** 83.28 333 P P 07 40 52.8 +0.2
comp=Z,1.0nm,0.7s,baz=139,slow=4.3,SNR=10
PDAR pP pP 07 41 11.1 -0.2
comp=Z,1.6nm,0.7s,baz=129,slow=5.9,SNR=6.3
PDAR **Pinedale Array** 83.28 333 eP P 07 40 52.4 -0.2
PDAR pP pP 07 41 11.1 -0.2
C33A **Trail** 83.43 344 P P 07 40 52.8 -0.2
baz=159
B35A **Bob, Littlefor** 83.53 345 P P 07 40 52.8 -0.7
baz=161
NV01 **Mina Array Sit** 83.57 325 eP P 07 40 54.3 +0.1
NV01 epP pP 07 41 14.1 +1.2
NVAR **Mina Array Bea** 83.57 325 P P 07 40 55.5 +1.2
comp=Z,4.1nm,0.9s,baz=154,slow=5.2,SNR=20
NVAR pP pP 07 41 13.8 +1.0
comp=Z,3.9nm,0.7s,baz=164,slow=4.1,SNR=9.4
HVU **Hansel Valley** 83.75 330 eP P 07 40 55.9 +0.9
HVU pmax pmax
comp=Z,9.0nm,0.7s
HVU **Hansel Valley** 83.75 330 eP P 07 40 55.9 +0.9
comp=Z,9.3nm,0.7s
B34A **Aery, Baudette** 83.85 344 P P 07 40 54.6 -0.5
baz=160
B33A **Robert and Kas** 83.87 344 P P 07 40 54.9 -0.4
baz=160
C31A **Landman Farms,** 83.95 342 P P 07 40 55.8 +0.1
baz=158,SNR=7.7
AGMN **Agassiz Nation** 83.96 344 P P 07 40 55.4 -0.3
baz=159
AGMN **Agassiz Nation** 83.96 344 eP P 07 40 55.4 -0.3
comp=Z,7.4nm,0.7s
KVN **Kaiserville** 83.96 325 eP P 07 40 57.3 +1.1
KVN e*PP pP 07 41 15.7 +0.9
KVN **Kaiserville** 83.96 325 eP P 07 40 57.3 +1.1
KVN epP pP 07 41 15.7 +0.9
ODZ **Otahua Downs** 84.24 219 eP P 07 40 58.4 +0.8
ODZ epP pP 07 41 16.4 +0.2
A33A **Warroad** 84.44 344 P P 07 40 57.8 -0.4
baz=160,SNR=6.2
MDND **Maddock** 84.49 341 P P 07 40 58.4 -0.1
baz=156
MDND **Maddock** 84.49 341 eP P 07 40 58.8 +0.4
comp=Z,51nm,1.0s
B31A **Greenbush Farm** 84.51 343 P P 07 40 58.0 -0.5
baz=158
FXWY **Fox Creek** 84.59 332 eP P 07 40 59.9 +0.6
comp=Z,32nm,0.8s
IMW **Indian Meadow** 84.77 332 eP P 07 41 00.5 +0.2
comp=Z,6.6nm,0.9s
LTZ **Lake Taylor** 84.86 221 eP P 07 41 02.1 +1.3
LTZ epP pP 07 41 20.3 +0.9
URZ **Urewera** 84.92 227 P P 07 41 01.6 +0.6
comp=Z,4.5nm,0.8s,baz=198,slow=23,SNR=2.5
URZ pP pP 07 41 20.8 +1.1
comp=Z,5.3nm,0.8s,baz=63,slow=17,SNR=2.8
LBZ **Lake Benmore** 84.93 219 eP P 07 41 01.5 +0.5
LBZ epP pP 07 41 20.4 +0.8
RLMT **Red Lodge** 85.17 334 P P 07 41 02.8 +0.6
baz=149
RLMT **Red Lodge** 85.17 334 eP P 07 41 03.0 +0.8
RLMT epP pP 07 41 21.2 +0.4
YHH **Holmes Hill** 85.49 333 eP P 07 41 05.2 +1.3
comp=Z,9.6nm,0.8s
ULM **Lac du Bonnet** 85.79 344 P P 07 41 04.3 -0.4
comp=Z,5.0nm,0.8s,baz=180,slow=4.9,SNR=12
ULM pP pP 07 41 24.1 +0.6
comp=Z,6.2nm,0.7s,baz=163,slow=3.1,SNR=6.7
ULM **Lac du Bonnet** 85.79 344 eP P 07 41 04.4 -0.4
ULM *PP pP 07 41 24.1 +0.6
ULM pmax pmax
comp=Z,13nm,1.0s
ULM **Lac du Bonnet** 85.79 344 eP P 07 41 04.4 -0.4
comp=Z,12nm,1.0s
ULM pP pP 07 41 24.1 +0.6
HLID **Hailey** 85.91 330 P P 07 41 07.3 +1.4
baz=145
HLID **Hailey** 85.91 330 eP P 07 41 06.5 +0.7
comp=Z,9.7nm,1.0s
ORV **Oroville** 86.02 323 eP P 07 41 05.6 -0.7
ORV pmax pmax
comp=Z,17nm,1.1s
ORV **Oroville** 86.02 323 eP P 07 41 05.6 -0.7
comp=Z,17nm,1.1s
MCMT **McKenzie Canyo** 86.30 332 eP P 07 41 09.2 +1.4
BOZ **Bozeman (W)** 86.47 333 P P 07 41 09.2 +0.7
baz=147
BOZ **Bozeman (W)** 86.47 333 eP P 07 41 09.2 +0.7
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ **Bozeman (W)** 86.47 333 eP P 07 41 09.2 +0.7
comp=Z,3.8nm,0.8s
LRM **Limekiln Ridge** 86.97 332 eP P 07 41 11.4 +0.3
LRM epP pP 07 41 30.1 +0.3
WDC **Whiskeytown Da** 87.31 323 eP P 07 41 12.4 -0.1
WDC e*PP pP 07 41 31.4 +0.1
WDC **Whiskeytown Da** 87.31 323 eP P 07 41 12.4 -0.1
WDC epP pP 07 41 31.4 +0.1
J08A **Circle Bar Ran** 87.51 327 eP P 07 41 14.9 +1.4
comp=Z,21nm,0.8s
SCHQ **Schefferville** 87.58 2 P P 07 41 13.2 -0.3
comp=Z,5.8nm,0.7s,baz=187,slow=3.8,SNR=12
SCHQ **Schefferville** 87.58 2 eP P 07 41 13.2 -0.3
comp=Z,71nm,1.6s
N02D **Trinity Center** 87.69 324 P P 07 41 16.1 +1.7
baz=139
EGMT **Eagleton** 87.82 335 P P 07 41 16.2 +1.3
baz=148
M04C **Macdoel** 87.88 325 P P 07 41 16.1 +0.8
baz=140
BMO **Blue Mountains** 88.18 329 eP P 07 41 17.3 +0.6
BMO pmax pmax
comp=Z,7.0nm,1.1s
BMO **Blue Mountains** 88.18 329 eP P 07 41 17.3 +0.6
comp=Z,7.1nm,1.1s
YBH **Yreka Blue Hor** 88.27 324 P P 07 41 17.2 +0.1
comp=Z,3.4nm,0.9s,baz=244,slow=2.7,SNR=4.0
YBH pP pP 07 41 36.8 +0.8
comp=Z,4.5nm,0.8s,baz=160,slow=11,SNR=4.7
NEW **Newport** 90.81 331 P P 07 41 28.8 0.0
comp=Z,0.5nm,0.4s,baz=97,slow=8.2,SNR=2.3
NEW pP pP 07 41 48.4 +0.7
comp=Z,2.2nm,0.9s,baz=127,slow=4.1,SNR=3.6
AFI **Afiamalu** 91.27 253 LR LR 08 12 52.6
comp=Z,36nm,18.6s,baz=62,slow=29
TAM **Tamanrasset** 91.67 64 P P 07 41 34.8 +1.2
TAM pmax pmax
comp=Z,6.0nm,1.4s
FCC **Fort Churchill** 93.45 348 eP P 07 41 40.6 -0.1
FCC pmax pmax
comp=Z,7.0nm,0.9s
FCC **Fort Churchill** 93.45 348 eP P 07 41 40.6 -0.1
comp=Z,6.8nm,0.9s
ESDC **Sonseca Array** 95.32 46 P P 07 41 48.9 -1.0
comp=Z,0.1nm,0.3s,baz=239,slow=4.1,SNR=5.7

ESDC					LR	LR	08 24 40.1		
	comp=Z,44nm,18.6s,baz=165,slow=35								
MSVF	**Nonsavu**	**96.97**	**244**	*d*	iP	**P**	**07 41 58.1**	**+0.1**
MSVF					pmax	pmax			
	comp=Z,7.0nm,1.1s								
YKA	**Yellowknife Ar**	**101.41**	**341**		P	**Pdif**	**07 42 15.8**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=144,slow=4.8,SNR=11								
YKA					pP	**pPdif**	**07 42 33.9**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=145,slow=4.5,SNR=6.0								
YKA					PP	**PP**	**07 46 28.7**	**+1.3**
	comp=Z,0.3nm,0.9s,baz=140,slow=8.7,SNR=4.1								
STKA	**Stephens Creek**	**108.46**	**209**		PKKP	**PKKPdf**	**07 58 15.2**	**-2.1**
	comp=Z,2.7nm,1.0s,baz=326,slow=5.2,SNR=5.0								
GERES	**GERESS Array B**	**110.89**	**45**		PKKPab	PKKPab	07 58 05.3	+0.9	
	comp=Z,0.2nm,0.2s,baz=20,slow=3.1,SNR=3.5								
CLL	**Collm**	**111.58**	**42**	*e*	PS	PS	07 57 18.0	+3.0	
CLL					Lm	MLR	08 30 00.0		
	comp=Z,100nm,20.4s								
VRAC	**Vranov**	**112.81**	**45**		PKiKP	**PKiKP**	**07 47 01.5**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=260,slow=2.4,SNR=4.3								
ILAR	**Eielson Array**	**113.71**	**333**		pPKP	pPKiKP	07 47 22.7	-0.1	
	comp=Z,0.6nm,0.8s,baz=119,slow=0.3,SNR=4.4								
NOA	**NORSAR Array B**	**114.77**	**32**		pPKP	**pPKiKP**	**07 47 23.8**	**-1.1**	
	comp=Z,0.7nm,0.7s,baz=247,slow=1.7,SNR=3.2								
NOA					PKKPab	**PKKPab**	**07 57 47.3**	**+0.7**	
	comp=Z,1.1nm,0.8s,baz=66,slow=4.5,SNR=4.0								
NOA					PKKP	**PKKPdf**	**07 58 06.8**	**-1.3**	
	comp=Z,1.2nm,0.8s,baz=68,slow=4.4,SNR=3.6								
TOLK	**Toolik Lake Re**	**116.33**	**336**		P	**PKPdf**	**07 47 09.0**	**+0.8**	
	baz=113								
TOLK	**Toolik Lake Re**	**116.33**	**336**	*e*	PKPdf	**PKPdf**	**07 47 08.5**	**+0.3**	
IM3	**Indian Mountai**	**116.83**	**333**	*e*	PKPdf	**PKPdf**	**07 47 09.6**	**+0.5**	
AS01	**Alice Springs**	**118.78**	**206**	*e*	PKPdf	**PKPdf**	**07 47 13.0**	**-1.4**	
ASAR	**Alice Springs**	**118.80**	**206**		PKP	**PKPdf**	**07 47 12.9**	**-1.5**	
	comp=Z,0.6nm,0.6s,baz=146,slow=2.0,SNR=9.0								
ASAR					pPKP	**pPKPdf**	**07 47 32.9**	**-1.1**	
	comp=Z,1.1nm,0.7s,baz=155,slow=2.2,SNR=7.2								
ASAR					PKKPbc	**PKKPbc**	**07 57 29.2**	**-0.1**	
	comp=Z,1.0nm,0.9s,baz=345,slow=3.2,SNR=7.2								
BRTR	**Keskin Array B**	**120.64**	**60**		PKP	**PKPdf**	**07 47 16.6**	**-0.9**	
	comp=Z,0.4nm,0.6s,baz=185,slow=3.2,SNR=3.3								
BRTR					pPKP	**pPKPdf**	**07 47 35.5**	**-1.5**	
	comp=Z,0.7nm,0.6s,baz=190,slow=6.3,SNR=4.0								
AKASG	**Malin Array Be**	**120.93**	**47**		PKP	**PKPdf**	**07 47 16.6**	**-0.9**	
	comp=Z,0.6nm,0.5s,baz=261,slow=2.6,SNR=7.9								
AKASG					pPKP	**pPKPdf**	**07 47 35.4**	**-1.6**	
	comp=Z,2.5nm,0.7s,baz=264,slow=2.6,SNR=6.1								
FINES	**FINESS Array B**	**121.73**	**34**		PKP	**PKPdf**	**07 47 17.5**	**-1.2**	
	comp=Z,0.6nm,0.7s,baz=158,slow=21,SNR=3.0								
FINES					pPKP	**pPKPdf**	**07 47 37.2**	**-0.9**	
	comp=Z,4.4nm,1.0s,baz=226,slow=3.6,SNR=4.5								
WB2	**Warramunga Arr**	**122.00**	**208**	*e*	PKPdf	**PKPdf**	**07 47 19.4**	**-1.2**	
WB2				*e*	pPKPdf	**pPKPdf**	**07 47 39.6**	**-0.6**	
WRA	**Warramunga Arr**	**122.00**	**208**		PKP	**PKPdf**	**07 47 19.4**	**-1.2**	
	comp=Z,1.5nm,0.5s,baz=160,slow=1.7,SNR=40								
WRA					pPKP	**pPKPdf**	**07 47 39.5**	**-0.7**	
	comp=Z,3.4nm,0.7s,baz=162,slow=1.6,SNR=9.5								
WRA					PKKPbc	**PKKPbc**	**07 57 17.7**	**+0.3**	
	comp=Z,0.7nm,0.7s,baz=345,slow=4.2,SNR=9.2								
WRAB	**Tennant Creek**	**122.00**	**208**	‖	iPKIKP	**PKPdf**	**07 47 19.7**	**-1.0**	
WRAB	**Tennant Creek**	**122.00**	**208**	*e*	PKPdf	**PKPdf**	**07 47 19.5**	**-1.2**	
ARCES	**ARCESS Array B**	**122.80**	**25**		PKP	**PKPdf**	**07 47 20.1**	**-0.5**	
	comp=Z,3.5nm,1.0s,baz=235,slow=4.6,SNR=6.4								
ARCES					pPKP	**pPKPdf**	**07 47 39.8**	**-0.2**	
	comp=Z,2.2nm,0.6s,baz=282,slow=1.1,SNR=3.1								
PUL	**Pulkovo**	**123.49**	**37**	⇑	iPKIKP	**PKPdf**	**07 47 24.5**	**+2.4**	
LVZ	**Lovozero**	**126.03**	**27**	*e*	PKIKP	**PKPdf**	**07 47 26.7**	**-0.2**	
LVZ	**Lovozero**	**126.03**	**27**	*e*	PKPdf	**PKPdf**	**07 47 26.7**	**-0.2**	
H11S2	**WAKE ISLAND Hy**	**126.60**	**269**		T	T	10 06 53.2		
	baz=118,slow=75,SNR=871								
H11S1	**WAKE ISLAND Hy**	**126.62**	**269**		T	T	10 06 35.3		
	baz=118,slow=75,SNR=1211								
H11S3	**WAKE ISLAND Hy**	**126.62**	**269**		T	T	10 06 42.3		
	baz=118,slow=75,SNR=744								
H11N3	**WAKE ISLAND Hy**	**126.99**	**271**		T	T	10 07 04.2		
	baz=119,slow=77,SNR=96								
H11N1	**WAKE ISLAND Hy**	**127.01**	**271**		T	T	10 07 09.1		
	baz=119,slow=77,SNR=60								
H11N2	**WAKE ISLAND Hy**	**127.01**	**271**		T	T	10 07 16.2		
	baz=119,slow=77,SNR=306								
KLMR	**Klimovskoe**	**128.14**	**36**	*e*	PKIKP	**PKPdf**	**07 47 29.7**	**-1.2**	
KLMR				*e*			07 47 48.9		
KLMR					pmax	pmax			
	comp=Z,9.0nm,1.4s								
KLMR	**Klimovskoe**	**128.14**	**36**	*e*	PKPdf	**PKPdf**	**07 47 29.8**	**-1.2**	
KLMR					AMP		07 47 36.1		
	comp=Z,9.0nm,1.4s								
KLMR				*e*	pPKPdf	**pPKPdf**	**07 47 48.9**	**-1.6**	
KIV	**Kislovodsk**	**128.28**	**57**	*i*	PKIKP	**PKPdf**	**07 47 33.0**	**+1.0**	
KIV					pmax	pmax			
	comp=Z,6.0nm,1.1s								
KIV					MLR	MLR			
	comp=Z,64nm,22.0s								
KBZ	**Khabaz**	**128.39**	**58**		pPKP	pPKPdf	07 47 52.3	+0.8	
	comp=Z,3.2nm,0.9s,baz=339,slow=1.6,SNR=4.3								
BILL	**Bilibino**	**132.32**	**335**	*i*	PKIKP	**PKPdf**	**07 47 37.4**	**-1.4**	
BILL				*i*			07 50 12.5		
BILL					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ARU	**Arti**	**138.48**	**40**		pPKP	pPKPdf	07 48 10.4	+0.3	
	comp=Z,2.9nm,0.6s,baz=283,slow=7.2,SNR=2.4								
ARU	**Arti**	**138.48**	**40**	*i*	PKIKP	**PKPdf**	**07 47 52.2**	**+1.6**	
ARU							07 50 41.9		
ARU					SS	SS	08 08 43.6	-6.3	
GEYT	**Alibeck**	**138.74**	**68**		PKP	**PKPdf**	**07 47 51.4**	**-0.3**	
	comp=Z,1.4nm,0.6s,baz=353,slow=4.9,SNR=2.6								
AKTO	**Aktyubinsk**	**139.09**	**49**		pPKP	pPKPdf	07 48 11.2	-0.2	
	comp=Z,2.5nm,0.8s,baz=300,slow=1.7,SNR=4.2								
SEY	**Seymchan**	**139.59**	**331**		PKP	**PKPdf**	**07 47 52.4**	**0.0**	
	comp=Z,4.1nm,0.7s,baz=90,slow=1.8,SNR=20								
SEY					pPKP	**pPKPdf**	**07 48 12.0**	**+0.1**	
	comp=Z,9.4nm,0.8s,baz=146,slow=3.2,SNR=11								
SEY	**Seymchan**	**139.59**	**331**	⇑	iPKIKP	**PKPdf**	**07 47 53.8**	**+1.4**	
TIXI	**Tiksi**	**139.89**	**350**		pPKP	pPKPdf	07 48 11.1	-1.1	
	comp=Z,2.0nm,0.6s,baz=21,slow=3.9,SNR=3.1								
ABKAR	**Akbulak array**	**140.44**	**51**	*e*	PKPpre	PKPpre	07 47 47.2		
BRVK	**Borovoye**	**145.94**	**42**	‖	*i* PKP2	**PKPab**	**07 48 05.4**	**0.0**	
BRVK	**Borovoye**	**145.94**	**42**	*e*	PKPdf	**PKPbc**	**07 48 05.0**	**+0.2**	
BVAR	**Borovoye Array**	**146.01**	**42**		PKPbc	**PKPbc**	**07 48 05.2**	**+0.2**	
	comp=Z,8.1nm,0.6s,baz=296,slow=3.7,SNR=50								
BVAR					pPKPbc	pPKPbc	07 48 24.2	-0.1	
	comp=Z,15nm,0.8s,baz=266,slow=4.3,SNR=13								
YAK	**Yakutsk**	**148.09**	**342**		PKPbc	**PKPbc**	**07 48 11.0**	**+0.6**	
	comp=Z,14nm,0.4s,baz=208,slow=2.1,SNR=4.3								
YAK					pPKPbc	**pPKPbc**	**07 48 29.5**	**-0.4**	
	comp=Z,9.5nm,0.3s,baz=333,slow=0.4,SNR=2.0								
YAK	**Yakutsk**	**148.09**	**342**	*e*	PKP2	**PKPbc**	**07 48 09.8**	**-0.7**	
YAK					pmax	pmax			
	comp=Z,23nm,1.0s								
YAK					pmax	pmax			
	comp=N,2.0nm,0.9s								
YAK					pmax	pmax			
	comp=E,2.0nm,1.0s								
YAK					pmax	pmax			
	comp=Z,49nm,1.0s								
YAK					pmax	pmax			
	comp=E,3.0nm,1.1s								
YAK					pmax	pmax			
	comp=N,4.0nm,1.0s								
YAK					pmax	pmax			
	comp=Z,34nm,0.9s								
YAK					pmax	pmax			
	comp=E,4.0nm,1.0s								
YAK					pmax	pmax			
	comp=N,5.0nm,1.4s								
KKAR	**Karatay Array**	**148.36**	**60**	*e*	PKP2	**PKPbc**	**07 48 11.0**	**-0.9**	
KKAR	**Karatay Array**	**148.36**	**60**	*e*	PKPbc	**PKPbc**	**07 48 11.0**	**-0.9**	
PSI	**Prapat**	**148.49**	**161**		PKPbc	**PKPbc**	**07 48 12.4**	**-0.8**	
	comp=N,12nm,0.8s,baz=271,slow=2.8,SNR=7.0								
PSI					pPKPbc	**pPKPbc**	**07 48 32.0**	**-0.6**	
	comp=N,21nm,0.9s,baz=206,slow=6.5,SNR=5.5								
SBUM	**Sibu**	**149.42**	**186**	*e*	PKPbc	**PKPbc**	**07 48 15.6**	**+0.2**	
NKL	**Nikolayevsk**	**149.70**	**321**	*e*	PKP2	**PKPbc**	**07 48 15.2**	**+0.4**	
NKL					pmax	pmax			
	comp=N,6.0nm,0.9s								
NKL					pmax	pmax			
	comp=Z,24nm,0.9s								
IPM	**Ipoh**	**150.65**	**164**	*e*	PKPbc	**PKPbc**	**07 48 17.5**	**-0.9**	
YSS	**Yuzh-Sakhalins**	**150.85**	**308**	‖	*i* PKIKP	**PKPbc**	**07 48 17.8**	**0.0**	
YSS				*e*			07 48 37.2		
YSS					pmax	pmax			
	comp=Z,20nm,0.8s								
YSS	**Yuzh-Sakhalins**	**150.85**	**308**	*e*	PKPbc	**PKPbc**	**07 48 17.4**	**-0.4**	
AAK	**Ala-Archa**	**151.32**	**60**		PKPbc	**PKPbc**	**07 48 19.9**	**+0.6**	
	comp=Z,5.9nm,0.6s,baz=179,slow=4.3,SNR=22								
AAK					pPKPbc	**pPKPbc**	**07 48 38.8**	**+0.1**	
	comp=Z,17nm,0.9s,baz=196,slow=1.2,SNR=8.9								
AAK	**Ala-Archa**	**151.32**	**60**	‖	*i* PKIKP	**PKPbc**	**07 48 16.4**	**-2.9**	
KULM	**Kulim**	**151.33**	**163**	*e*	PKPbc	**PKPbc**	**07 48 19.5**	**-0.5**	
FRU	**Bishkek**	**151.38**	**60**	*e*	PKIKP	**PKPbc**	**07 48 20.0**	**+0.7**	
FRU				*e*			07 48 38.0		
KURBB	**Kurchatov Arra**	**151.60**	**43**		PKPbc	**PKPbc**	**07 48 19.8**	**+0.4**	
	comp=Z,6.9nm,0.6s,baz=301,slow=2.9,SNR=20								
KURBB					PKPab	**PKPab**	**07 48 28.3**	**0.0**	
	comp=Z,5.4nm,0.8s,baz=296,slow=4.3,SNR=8.4								
KURBB					pPKPbc	**pPKPbc**	**07 48 38.6**	**-0.3**	
	comp=Z,24nm,0.8s,baz=299,slow=3.0,SNR=22								
KURK	**Kurchatov**	**151.61**	**42**	*e*	PKIKP	**PKPbc**	**07 48 19.6**	**+0.1**	
KURK							07 48 28.3		
KURK							07 48 38.6		
KURK	**Kurchatov**	**151.61**	**42**	*e*	PKPbc	**PKPbc**	**07 48 19.6**	**+0.1**	
KURK					PKPab	**PKPab**	**07 48 28.3**	**-0.1**	
KURK					pPKPbc	**pPKPbc**	**07 48 38.6**	**-0.3**	
ASAJ	**Asahikawa**	**151.64**	**303**		PKPbc	**PKPbc**	**07 48 19.9**	**+0.1**	
	comp=Z,9.3nm,0.8s,baz=222,slow=9.9,SNR=6.1								
ASAJ					pPKPbc	**sPKPdf**	**07 48 39.8**	**-0.3**	
	comp=Z,18nm,0.9s,baz=271,slow=8.5,SNR=6.4								
ASAJ	**Asahikawa**	**151.64**	**303**	*e*	PKPbc	**PKPbc**	**07 48 20.2**	**+0.5**	
ASAJ				*e*	pPKPbc	**sPKPdf**	**07 48 39.8**	**-0.3**	
NVS	**Novosibirsk**	**151.69**	**32**	*e*	PKIKP	**PKPbc**	**07 48 19.6**	**+0.1**	
NVS				*e*			07 48 38.5		
NVS					pmax	pmax			
	comp=N,3.0nm,0.7s								
NVS					pmax	pmax			
	comp=E,3.0nm,0.7s								
NVS					pmax	pmax			
	comp=Z,14nm,0.7s								
KSH	**Kashi**	**152.75**	**67**	*e*	PKPbc	**PKPdf**	**07 48 15.5**	**+0.1**	
KSH					pPKP	PKPab	07 48 32.8	-0.9	
KSH					sPKP		07 48 40.9		
KSH					PKS	**PKSdf**	**07 51 44.1**	**-5.8**	
KSH					PP	**PP**	**07 52 04.8**	**-2.5**	
KSH					SS	SS	08 11 25.8	-8.1	
KSH					AMB	AMB			
	comp=Z,94nm,6.8s								
KSH					LR	LR			
	comp=Z,130nm,11.6s								
KSH					LR	LR			
	comp=Z,120nm,8.3s								
KSH					LR	LR			
	comp=Z,64nm,7.8s								
ZAA0	**Zalesovo Array**	**152.97**	**32**	*e*	PKPbc	**PKPbc**	**07 48 22.6**	**+0.2**	
ZALV	**Zalesovo Beam**	**152.97**	**32**	*e*	PKPbc	**PKPbc**	**07 48 22.5**	**+0.1**	
	comp=Z,14nm,0.6s,baz=302,slow=3.2,SNR=42								
ZALV					PKPab	**PKPab**	**07 48 34.1**	**+0.2**	
	comp=Z,8.7nm,0.6s,baz=293,slow=5.7,SNR=8.2								
ZALV					pPKPbc	**sPKPdf**	**07 48 41.2**	**-0.6**	
	comp=Z,41nm,0.7s,baz=298,slow=3.2,SNR=20								
ZALV					pPKPab	**pPKPab**	**07 48 51.4**	**-1.4**	
	comp=Z,19nm,0.6s,baz=305,slow=3.6,SNR=4.6								
BOD	**Bodaibo**	**154.97**	**354**	*e*	PKP2	**PKPab**	**07 48 40.4**	**-1.9**	
BOD					pmax	pmax			
	comp=Z,8.0nm,1.2s								
BOD					pmax	pmax			
	comp=Z,15nm,1.2s								
MAKZ	**Makanchi**	**155.31**	**48**	*e*	PKIKP	**PKPdf**	**07 48 18.8**	**+0.1**	
MAKZ				*e*			07 48 43.7		
MAKZ	**Makanchi**	**155.31**	**48**	*e*	PKPdf	**PKPdf**	**07 48 18.8**	**+0.1**	
MAKZ				*e*	PKPbc	PKPbc	07 48 27.4		
MAKZ				*e*	PKPab	**PKPab**	**07 48 43.6**	**-0.5**	
MK31	**Makanchi Array**	**155.51**	**48**	*e*	PKIKP	**PKPdf**	**07 48 18.8**	**-0.2**	
MK31				*e*			07 48 45.0		
MK31	**Makanchi Array**	**155.51**	**48**	*e*	PKPdf	**PKPdf**	**07 48 18.8**	**-0.2**	
MK31				*e*	PKPab	**PKPab**	**07 48 45.0**	**-0.1**	
MKAR	**Makanchi Array**	**155.51**	**48**		PKPbc	PKPdf	07 48 27.6	+8.7	
	comp=Z,0.8nm,0.6s,baz=321,slow=1.7,SNR=3.9								
MKAR					PKPab	**PKPab**	**07 48 44.9**	**-0.1**	
	comp=Z,4.0nm,1.0s,baz=305,slow=4.3,SNR=3.6								
MKAR	**Makanchi Array**	**155.51**	**48**	*e*	PKIKP	**PKPdf**	**07 48 18.5**	**-0.4**	
MKAR	**Makanchi Array**	**155.51**	**48**	*e*	PKPdf	**PKPdf**	**07 48 18.5**	**-0.4**	
MKAR				*e*	PKPbc	PKPbc	07 48 27.6		
MKAR				*e*	PKPab	**PKPab**	**07 48 45.2**	**+0.1**	
MK01	**Makanchi Array**	**155.53**	**48**	*e*	PKPbc	PKPbc	07 48 27.8		
MK01				*e*	PKPab	**PKPab**	**07 48 45.1**	**0.0**	
ZEA	**Zeya**	**155.53**	**333**	*i*	PKP2	**PKPab**	**07 48 43.2**	**-1.6**	
MJAR	**Matsushiro Arr**	**155.75**	**287**		PKPab	**PKPab**	**07 48 46.9**	**+0.4**	
	comp=Z,3.5nm,0.8s,baz=151,slow=2.9,SNR=5.7								
MAJO	**Matsushiro**	**155.76**	**287**	*e*	PKIKP	**PKPdf**	**07 48 21.5**	**+1.9**	
MAJO	**Matsushiro**	**155.76**	**287**	*e*	PKPdf	**PKPdf**	**07 48 21.5**	**+1.9**	
MJB9	**Matsu-Tunnel**	**155.76**	**287**	*e*	PKPdf	**PKPdf**	**07 48 21.2**	**+1.6**	
KLR	**Kul'dur**	**156.54**	**320**		PKPab	**PKPab**	**07 48 48.9**	**-0.3**	
	comp=Z,0.2nm,0.7s,baz=16,slow=5.3,SNR=5.5								
KLR					pPKPab	**pPKPab**	**07 49 09.6**	**+1.4**	
	comp=Z,0.2nm,0.7s,baz=55,slow=8.0,SNR=2.7								
KLR	**Kul'dur**	**156.54**	**320**		PKP2	**PKPab**	**07 48 49.0**	**-0.3**	
USRK	**Ussuriysk Ar.**	**158.89**	**309**		PKPab	**PKPab**	**07 49 00.0**	**+0.4**	
	comp=Z,4.2nm,0.8s,baz=142,slow=44,SNR=3.9								
WMQ	**Urumqi**	**160.23**	**51**		PKP	**PKPdf**	**07 48 24.0**	**-0.9**	
WMQ					LR	LR			
	comp=Z,130nm,21.3s								
WMQ					LR	LR			
	comp=Z,200nm,28.5s								
WMQ					LR	LR			
	comp=Z,150nm,30.7s								
TLY	**Talaya**	**160.97**	**10**		PKPab	**PKPab**	**07 49 09.5**	**+1.1**	
	comp=Z,2.4nm,0.5s,baz=357,slow=6.3,SNR=5.7								
TLY	**Talaya**	**160.97**	**10**	*e*	PKP2	**PKPab**	**07 49 09.2**	**+0.8**	
TLY					pmax	pmax			
	comp=Z,6.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**162.93**	**146**		pPKP	**pPKPdf**	**07 48 47.4**	**-0.5**	
	comp=Z,2.1nm,0.4s,baz=235,slow=3.2,SNR=4.0								
CMAR					PKPab	**PKPab**	**07 49 18.0**	**+0.1**	
	comp=Z,1.2nm,0.3s,baz=242,slow=1.9,SNR=3.5								
CMAR					pPKPab	pPKPab	07 49 37.5	+0.7	
	comp=Z,1.1nm,0.3s,baz=217,slow=4.3,SNR=1.6								
CN2	**Changchun**	**163.21**	**315**	*e*	PKP	**PKPdf**	**07 48 28.8**	**+0.9**	
KSRS	**Korea Array**	**163.88**	**291**		pPKP	**pPKPdf**	**07 48 47.6**	**-0.7**	
	comp=Z,4.6nm,1.0s,baz=80,slow=1.7,SNR=5.6								
KSRS					PKPab	**PKPab**	**07 49 23.2**	**+1.5**	
	comp=Z,4.4nm,0.9s,baz=103,slow=4.0,SNR=5.9								
KSAR	**Wonju Array Be**	**163.91**	**291**		pPKP	**pPKPdf**	**07 48 47.6**	**-0.7**	
KSAR					PKPab	**PKPab**	**07 49 23.2**	**+1.3**	
SONA1	**Songino Array**	**165.08**	**7**	*e*	PKPdf	**PKPdf**	**07 48 30.9**	**+1.3**	
SONA1				*e*	PKPab	**PKPab**	**07 49 27.3**	**+0.6**	
SONM	**Songino Array**	**165.09**	**7**		PKPab	**PKPab**	**07 49 27.2**	**+0.5**	
	comp=Z,2.1nm,0.7s,baz=329,slow=4.4,SNR=8.5								
SONM					pPKPab	**pPKPab**	**07 49 47.0**	**+1.4**	
	comp=Z,1.5nm,0.8s,baz=340,slow=5.4,SNR=3.5								
ULN	**Ulaanbaatar**	**165.12**	**5**	*e*	PKP2	**PKPab**	**07 49 27.8**	**+0.9**	
ULN	**Ulaanbaatar**	**165.12**	**5**	*e*	PKPab	**PKPab**	**07 49 27.8**	**+0.9**	
ULN	**Ulaanbaatar**	**165.12**	**5**	*e*	PKPbc	**PKPab**	**07 49 27.8**	**+0.9**	
NJ2	**Nanjing**	**171.58**	**266**	*e*	PKP	**PKPdf**	**07 48 35.3**	**+1.1**	
HHC	**Hu-ho-hao-te**	**171.92**	**346**	*e*	PKP	**PKPdf**	**07 48 29.9**	**-4.4**	
GYA	**Guiyang**	**173.16**	**163**	*e*	PKP	**PKPdf**	**07 48 35.3**	**0.0**	
GYA					sPKP		07 49 01.0		
GYA					PKPab	**PKPab**	**07 50 04.3**	**+1.4**	
GYA					PKS	**PKSdf**	**07 52 06.4**	**-1.4**	
GYA					PP	**PP**	**07 53 55.9**	**+2.2**	
GYA					AMB	AMB			
	comp=Z,130nm,8.3s								
LZH	**Lanzhou**	**174.81**	**53**	*e*	PKP	**PKPdf**	**07 48 32.1**	**-3.5**	
LZH					LR	LR			
	comp=Z,220nm,18.5s								
LZH					LR	LR			
	comp=Z,290nm,18.0s								
LZH					LR	LR			
	comp=Z,400nm,20.0s								
CD2	**Chengdu**	**175.11**	**114**		PKP	**PKPdf**	**07 48 34.8**	**-0.9**	
ENH	**Enshi**	**177.21**	**190**	*e*	PKPab	PKPab	07 50 19.1	-1.5	
PLCA	**Paso Flores**	**34.95**	**88**		LR	LR	07 47 28.3		
	comp=Z,151nm,18.7s,baz=246,slow=31								
PLCA	**Paso Flores**	**34.95**	**88**	*e*	P	**P**	**07 36 27.3**	**-1.3**	
	23nm,0.9s								
VNDA	**Vanda**	**35.46**	**202**		P	**P**	**07 36 31.0**	**-1.4**	
	1.8nm,1.0s,baz=96,slow=8.1,SNR=5.1								
VNDA	**Vanda**	**35.46**	**202**	*e*	P	**P**	**07 36 34.1**	**+1.7**	
	2.2nm,1.1s								
QSPA	**South Pole Qui**	**36.02**	**180**		P	**P**	**07 36 36.5**	**-1.1**	
	4.2nm,1.0s,baz=100,slow=8.0,SNR=7.1								
QSPA					LR	LR	07 50 02.7		
	comp=Z,254nm,18.2s,baz=127,slow=34								
QSPA	**South Pole Qui**	**36.02**	**180**	*e*	P	**P**	**07 36 36.6**	**-0.9**	
	8.7nm,1.1s								
PPT2	**Papeete2**	**43.29**	**316**	*e*	LR	LR	07 49 42.5		
	560nm,26.5s								
PPT	**Papeete**	**43.31**	**316**		LR	LR	07 51 27.2		
	comp=Z,185nm,19.4s,baz=151,slow=30								
VAH	**Vaihoa**	**44.65**	**320**	*e*	T	T	08 25 49.8		
	17nm,0.3s								
PMOR	**Pomoriorio Ree**	**44.97**	**319**	*e*	T	T	08 26 14.1		
	7.5nm,0.3s								
TAOE	**Nuku Hiva Isla**	**48.16**	**332**	*e*	S	**S**	**07 45 14.5**	**-1.4**	
	64nm,24.1s								
TAOE				*e*	LR	LR	07 51 54.3		
	383nm,28.0s								
CPUP	**Villa Florida**	**52.86**	**84**		LR	LR	07 58 33.1		
	comp=Z,255nm,18.3s,baz=222,slow=33								
CPUP	**Villa Florida**	**52.86**	**84**	*e*	P	**P**	**07 38 53.5**	**+1.2**	
	21nm,1.0s								
LPAZ	**La Paz**	**54.65**	**67**		LR	LR	07 56 45.6		
	comp=Z,60nm,18.6s,baz=208,slow=30								
LPAZ	**La Paz**	**54.65**	**67**	*e*	P	**P**	**07 39 06.7**	**+0.5**	
DZM	**Mont Dzumac**	**63.17**	**269**	*e*	LR	LR	07 59 01.3		
	144nm,22.6s								
OTAV	**Otavalo**	**63.86**	**47**	*e*	P	**P**	**07 40 10.4**	**+0.7**	
	3.9nm,1.1s								
AS01	**Alice Springs**	**80.29**	**243**	*e*	P	**P**	**07 41 49.3**	**+1.6**	
AS31	**Alice Springs**	**80.31**	**243**	*e*	P	**P**	**07 41 50.6**	**+2.7**	
	0.9nm,1.0s								
ASAR	**Alice Springs**	**80.31**	**243**		P	**P**	**07 41 47.7**	**-0.1**	
	1.4nm,1.0s,baz=148,slow=5.4,SNR=5.8								
WB2	**Warramunga Arr**	**83.12**	**245**	*e*	P	**P**	**07 42 04.0**	**+1.3**	
WR1	**Warramunga Arr**	**83.13**	**245**	*e*	P	**P**	**07 42 02.6**	**-0.1**	
	8.7nm,0.9s								
WRA	**Warramunga Arr**	**83.13**	**245**		P	**P**	**07 42 02.6**	**-0.1**	
	4.0nm,0.9s,baz=146,slow=4.4,SNR=20								
NVAR	**Mina Array Bea**	**92.24**	**1**		LR	LR	08 17 02.1		
	comp=Z,91nm,18.3s,baz=266,slow=31								
H11S2	**WAKE ISLAND Hy**	**95.74**	**294**		T	T	09 30 05.1		
	baz=147,slow=76,SNR=47								
H11S3	**WAKE ISLAND Hy**	**95.74**	**294**		T	T	09 29 56.9		
	baz=147,slow=76,SNR=33								
H11S1	**WAKE ISLAND Hy**	**95

CCHI				IAML			08 48 22.0	
	comp=E,1μm,0.8s							
TMU	**Temuco**	**2.04**	**141**	*eP*	**Pn**	**08 47 49.1**	**-2.3**	
TMU				*i* S	**Sn**	**08 48 17.5**	**-0.1**	
CANA	**Caviahue**	**2.64**	**107**	*eP*	**Pn**	**08 47 59.8**	**0.0**	
CANA				IAML		08 48 42.2		
	comp=Z,202nm,0.6s							
GO05	**HualaæØ**	**2.85**	**42**	*eP*	**Pn**	**08 48 02.4**	**-0.1**	
GO05				*i* S	**Sn**	**08 48 35.9**	**-1.6**	
GO05				IAML		08 48 42.2		
	comp=E,91nm,0.3s							
GO06	**Curarrehue**	**3.26**	**139**	*eP*	**Pn**	**08 48 06.6**	**-1.7**	
GO06				*i* S	**Sn**	**08 48 51.1**	**+3.2**	
PLCA	**Paso Flores**	**4.59**	**142**	*eP*	**Pn**	**08 48 27.7**	**+1.2**	
PLCA				IAML		08 49 51.3		
	comp=Z,27nm,0.7s							
ROC1	**El Roble**	**4.94**	**33**	*eP*	**Pn**	**08 48 31.2**	**-0.3**	
AUSP	**Uspallata**	**6.34**	**41**	*eP*	**Pn**	**08 48 51.7**	**+0.9**	

MEX 24 09:06:14.2±0.4, 16°.34N×98°.31W, h13km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.18**	**73**	*eP*	Pg	09 06 17.7	-0.7
PNIG				*i* S	Sg	09 06 20.8	-0.5
TLIG	**Tlapa**	**1.24**	**349**	*eP*	Pn	09 06 33.7	-3.8
TLIG				*eS*	Sb	09 06 49.1	-4.5
ACX	**Acapulco**	**1.58**	**290**	*i* P	Pb	09 06 42.6	-0.6
ACX				*i* S	Sn	09 07 02.7	+0.4
VHO	**Vista Hermosa**	**1.68**	**64**	*eP*	Pn	09 06 40.2	-3.3
VHO				*eS*	Sn	09 07 00.4	-4.6
CAIG	**El Cayaco**	**2.01**	**291**	*eP*	Pn	09 06 44.6	-3.2
CAIG				*i* S	Sn	09 07 08.1	-4.7
HUIG	**Huatulco**	**2.19**	**105**	*i* P	Pn	09 06 47.4	-2.9
HUIG				*i* S	Sn	09 07 12.0	-5.3
PLIG	**Platanillo**	**2.34**	**331**	*eP*	Pn	09 06 49.8	-2.7
PLIG				*eS*	Sn	09 07 16.7	-4.4

*CSEM **24** 09:06:50.1±0.3, 44°.52N×22°.33E, h2km, ML1.7, Error ellipse: s-maj=5.8km s-min=3.8km az=101.0*
*BUC **24** 09:06:50.1±0.2, 44°.52N×22°.01E, h5km, MD2.5/1, Error ellipse: s-maj=2.7km s-min=0.7km az=40.0*
*BEO **24** 09:06:50.7±0.3, 44°.53N×22°.34E, h5km×4km, M1.7/1*
ISC 24 09:06:49.8±1.1, 44°.54N±0°.02×22°.34E±0°.03, h3km±11km, n34, σ0°.46/58, 9D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJES	**Djerdap**	**0.18**	**45**	*eP*g	**Pg**	**09 06 52.7**	**-0.6**
KUBS	**Kucevo**	**0.49**	**255**	*eP*g	**Pg**	**09 06 58.5**	**-0.8**
KUBS				*eS*g	**Sg**	**09 07 05.7**	**0.0**
KUBS	**Kucevo**	**0.49**	**255**	*eP*g	**Pg**	**09 06 58.5**	**-0.8**
KUBS				*eS*g	**Sg**	**09 07 05.7**	**0.0**
ZAGS	**Zajecar**	**0.73**	**186**	*eP*g	**Pg**	**09 07 04.3**	**+0.5**
ZAGS				*eS*g	**Sg**	**09 07 13.7**	**+0.4**
ZAGS	**Zajecar**	**0.73**	**186**	*eP*g	**Pg**	**09 07 04.3**	**+0.5**
ZAGS				*eS*g	**Sg**	**09 07 13.7**	**+0.4**
SVIS	**Svilajnac**	**0.85**	**252**	*eP*g	**Pg**	**09 07 06.2**	**+0.1**
SVIS				*eS*g	**Sb**	**09 07 18.2**	**-0.8**
SVIS	**Svilajnac**	**0.85**	**252**	*eP*g	**Pg**	**09 07 06.2**	**+0.1**
SVIS				*eS*g	**Sb**	**09 07 18.2**	**-0.8**
BOVS	**Bovan**	**1.01**	**207**	*eP*g	**Pb**	**09 07 09.9**	**-0.1**
BOVS				*eS*g	**Sb**	**09 07 23.1**	**-0.6**
BOVS	**Bovan**	**1.01**	**207**	*eP*g	**Pb**	**09 07 09.9**	**-0.1**
BOVS				*eS*g	**Sb**	**09 07 23.1**	**-0.6**
NISS		**1.17**	**194**	*eS*g	**Sb**	**09 07 28.0**	**-0.3**
NISS		**1.17**	**194**	*eS*g	**Sb**	**09 07 28.0**	**-0.3**
BZS	**Buzias**	**1.19**	**335**	*eP*g	**Pg**	**09 07 13.0**	**+0.3**
BZS				*eS*g	**Sg**	**09 07 28.8**	**+0.7**
BZS	**Buzias**	**1.19**	**335**	||*i*P	**Pg**	**09 07 12.4**	**-0.3**
BZS				S	**Sg**	**09 07 28.6**	**+0.5**
BZS	**Buzias**	**1.19**	**335**	||*i*P	**Pg**	**09 07 12.4**	**-0.3**
BZS				*i* S	**Sg**	**09 07 28.6**	**+0.5**
BZS	**Buzias**	**1.19**	**335**	||*i*P	**Pg**	**09 07 12.4**	**-0.3**
BZS	**Buzias**	**1.19**	**335**	*eP*g	**Pg**	**09 07 13.0**	**+0.3**
BZS				S	**Sg**	**09 07 28.6**	**+0.5**
ZAPS	**Zavoj**	**1.28**	**170**	*eP*g	**Pn**	**09 07 14.6**	**0.0**
ZAPS				*eS*g	**Sg**	**09 07 30.9**	**-0.1**
GRUS	**Gruza**	**1.34**	**241**	*eP*g	**Pg**	**09 07 16.0**	**+0.6**
GRUS				*eS*g	**Sn**	**09 07 34.1**	**+0.5**
GRUS	**Gruza**	**1.34**	**241**	*eP*g	**Pg**	**09 07 16.0**	**+0.6**
GRUS				*eS*g	**Sn**	**09 07 34.1**	**+0.5**
TRUS	**Trudelj**	**1.42**	**258**	*eP*g	**Pg**	**09 07 16.7**	**-0.3**
TRUS				*eS*g	**Sg**	**09 07 36.2**	**+0.7**
TRUS	**Trudelj**	**1.42**	**258**	*eP*g	**Pb**	**09 07 16.7**	**-0.3**
TRUS				*eS*g	**Sg**	**09 07 36.2**	**+0.7**
SELS	**Selova**	**1.59**	**214**	*eP*g	**Pb**	**09 07 19.3**	**-0.5**
SELS				*eS*g	**Sn**	**09 07 39.2**	**-0.7**
DIVS	**Divibare**	**1.74**	**256**	*eP*g	**Pn**	**09 07 21.0**	**0.0**
DIVS				*eS*g	**Sg**	**09 07 45.7**	**-0.1**
BARS	**Barje**	**1.77**	**193**	*eP*g	**Pn**	**09 07 21.8**	**+0.6**
BARS				*eS*g	**Sb**	**09 07 44.6**	**-0.7**
BARS	**Barje**	**1.77**	**193**	*eP*g	**Pn**	**09 07 21.8**	**+0.6**
BARS				*eS*g	**Sb**	**09 07 44.6**	**-0.7**
SIRR	**Siria**	**1.79**	**345**	S	**Sb**	**09 07 46.3**	**+0.1**
SIRR	**Siria**	**1.79**	**345**	*i* S	**Sb**	**09 07 46.3**	**+0.1**
SIRR	**Siria**	**1.79**	**345**	S	**Sb**	**09 07 46.3**	**+0.1**
VOIR		**2.12**	**64**	||*i*P	**Pg**	**09 07 30.4**	**0.0**
VOIR		**2.12**	**64**	||*i*P	**Pg**	**09 07 30.4**	**0.0**
VOIR		**2.12**	**64**	||*i*P	**Pg**	**09 07 30.4**	**0.0**
DRGR		**2.27**	**6**	||*i*P	**Pb**	**09 07 31.4**	**0.0**
DRGR		**2.27**	**6**	||*i*P	**Pb**	**09 07 31.4**	**0.0**
DRGR				*i* S	**Sb**	**09 07 59.7**	**-0.1**
DRGR		**2.27**	**6**	||*i*P	**Pb**	**09 07 31.4**	**0.0**
DRGR				S	**Sb**	**09 07 59.7**	**-0.1**
DRGR				*eS*g	**Sg**	**09 08 01.7**	**-0.9**

*ISCJB **24** 09:12:14.8±1.1, 28°.7S±0°.2×74°.2E±0°.3, h10km, mb4.0/10, MS3.3/2, Error ellipse: s-maj=37.5km s-min=18.6km az=149.2*
*IDC **24** 09:12:15.0±1.3, 28°.61S×74°.11E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.7/68, mbtmp4.0/8, MS3.3/2, Ms1 3.3/2, ms1mx2.7/52, Error ellipse: s-maj=46.0km s-min=23.5km az=62.0*
*NEIC **24** 09:12:16.6±0.8, 28°.62S×74°.12E, h10km, mb4.2/2, Error ellipse: s-maj=27.3km s-min=14.0km az=59.0*
ISC 24 09:12:16.7±1.3, 28°.6S±0°.2×74°.2E±0°.3, h10km, n16, σ0°.50/13, mb4.0/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.94**	**355**	T	T	09 38 24.9	
	baz=177,slow=76,SNR=24						
H08S1	**Diego Garcia H**	**20.94**	**355**	T	T	09 38 27.5	
	baz=177,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**20.96**	**355**	T	T	09 38 39.4	
	baz=177,slow=76,SNR=21						
BOSA	**Boshof**	**42.67**	**258**	LR	LR	09 34 36.5	
	comp=Z,32nm,18.7s,baz=182,slow=32						
CMAR	**Chiang Mai Arr**	**52.60**	**30**	P	**P**	**09 21 31.4**	**+0.4**
	0.7nm,0.3s,baz=212,slow=7.2,SNR=5.6						
CMAR				LR	LR	09 41 04.5	
	comp=Z,29nm,18.4s,baz=200,slow=33						
ASAR	**Alice Springs**	**53.40**	**99**	P	**P**	**09 21 36.9**	**-0.1**
	1.1nm,0.8s,baz=246,slow=6.6,SNR=11						
ASAR				PcP	**PcP**	**09 22 44.0**	**-0.3**
	0.8nm,0.9s,baz=242,slow=2.8,SNR=6.0						
WRA	**Warramunga Arr**	**55.06**	**95**	P	**P**	**09 21 49.1**	**0.0**
	3.2nm,0.8s,baz=252,slow=7.1,SNR=15						
WRAB	**Tennant Creek**	**55.07**	**95**	*eP*	**P**	**09 21 49.1**	**0.0**
	2.3nm,0.9s						
VNDA	**Vanda**	**61.77**	**166**	P	**P**	**09 22 35.4**	**+0.3**
	0.8nm,0.9s,baz=282,slow=10,SNR=4.6						
KKAR	**Karatay Array**	**71.47**	**357**	*eP*	**P**	**09 23 37.8**	**+0.5**
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**75.44**	**6**	P	**P**	**09 23 59.8**	**-0.8**
	1.4nm,1.0s,baz=186,slow=4.9,SNR=7.4						
KURBB	**Kurchatov Arra**	**79.01**	**3**	P	**P**	**09 24 20.7**	**+0.3**
	0.7nm,0.9s,baz=193,slow=6.8,SNR=4.1						
KURK	**Kurchatov**	**79.10**	**3**	P	**P**	**09 24 20.7**	**-0.3**
BVAR	**Borovoye Array**	**81.38**	**358**	P	**P**	**09 24 33.2**	**0.0**
	1.2nm,0.8s,baz=155,slow=7.4,SNR=6.8						
ZALV	**Zalesovo Beam**	**82.76**	**6**	P	**P**	**09 24 39.7**	**-0.8**
	0.4nm,0.3s,baz=202,slow=3.2,SNR=4.1						
YKA	**Yellowknife Ar**	**145.66**	**7**	PKPbc	**PKPdf**	**09 31 54.0**	**-0.6**
	1.1nm,1.0s,baz=334,slow=4.3,SNR=16						

*CSEM **24** 09:33:13.9±0.2, 44°.19N×18°.12E, h1km, ML1.4, Error ellipse: s-maj=4.1km s-min=3.1km az=8.0, Mining explosion.*
BEO 24 09:33:15.5±1.0, 44°.18N×18°.13E, h0km, M1.4/4, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAPS	**Han Pijesak,Bl**	**0.60**	**99**	*eP*g	Pg	09 33 25.4	-1.6
HAPS				*eS*g	Sg	09 33 34.2	-0.5
BLY	**Banja Luka**	**0.89**	**310**	*eP*g	Pg	09 33 30.1	-2.4
BLY				*eS*g	Sg	09 33 43.7	-0.2
BBLS	**Lazići**	**0.97**	**108**	*eP*g	Pg	09 33 32.5	-1.6
BBLS				*eS*g	Sg	09 33 46.0	-0.7
TEKS	**Tekeris**	**1.07**	**69**	*eP*g	Pg	09 33 34.2	-1.8
TEKS				*eS*g	Sg	09 33 50.5	+0.7
TEKS	**Tekeris**	**1.07**	**69**	*eP*g	Pg	09 33 34.4	-1.6
TEKS				*eS*g	Sg	09 33 48.8	-1.0
DIVS	**Divibare**	**1.34**	**93**	*eP*g	Pg	09 33 39.7	-1.5
DIVS				*eS*g	Sg	09 33 58.6	0.0
DIVS	**Divibare**	**1.34**	**93**	*eP*g	Pg	09 33 39.7	-1.5
DIVS				*eS*g	Sg	09 33 58.1	-0.5
STON	**Ston**	**1.34**	**194**	*eP*g	Pg	09 33 40.0	-1.3
STON				*eS*g	Sg	09 33 58.4	-0.3
STON	**Ston**	**1.34**	**194**	*eP*g	Pg	09 33 40.0	-1.3
STON				*eS*g	Sg	09 33 58.4	-0.3
UDBI	**Udbina**	**1.73**	**282**	Sn	Sb	09 34 10.8	+0.2
UDBI	**Udbina**	**1.73**	**282**	Sn	Sb	09 34 10.7	+0.1
DRME	**Dracevica, Mon**	**2.14**	**158**	*eP*n	Pn	09 33 50.9	-1.5
DRME				*eS*n	Sn	09 34 16.5	-3.1

WEL 24 09:33:33.8, 44°.S±1°.×17°.3E±°, h11km±1km, ML3.0/2, ML3.5/19, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.13**	**234**	P	Pb	09 33 38.9	+0.6
CRLZ	**Canterbury Las**	**0.13**	**234**	S	Sg	09 33 41.1	+2.1
MQZ	**McQueen's Vall**	**0.22**	**201**	P	Pb	09 33 39.9	0.0
MQZ	**McQueen's Vall**	**0.22**	**201**	S	Sg	09 33 43.5	+2.0
EYCZ	**Eyrewell**	**0.31**	**285**	P	Pb	09 33 41.6	+0.3
OXZ	**Oxford**	**0.56**	**288**	P	Pb	09 33 46.1	+0.5
OXZ	**Oxford**	**0.56**	**288**	S	Sb	09 33 54.5	+0.9
LTZ	**Lake Taylor**	**0.80**	**333**	P	Pn	09 33 50.7	-0.4
LTZ	**Lake Taylor**	**0.80**	**333**	P	Pn	09 33 50.7	-0.4
LTZ	**Lake Taylor**	**0.80**	**333**	S	Sn	09 34 02.2	-0.9
KHZ	**Kahutara**	**1.22**	**28**	P	Pn	09 33 56.3	-0.5
INZ	**Inchbonnie**	**1.24**	**308**	P	Pg	09 33 58.3	+0.7
RPZ	**Rata Peaks**	**1.26**	**260**	P	Pg	09 33 58.2	+0.2
WVZ	**Waitaha Valley**	**1.54**	**285**	P	Pg	09 34 03.4	0.0
THZ	**Tophouse**	**1.74**	**3**	P	Pn	09 34 04.1	+0.1
DSZ	**Denniston Nort**	**1.89**	**338**	P	Pn	09 34 07.0	+0.9
BSWZ	**Blackbirch Sta**	**1.96**	**25**	P	Pn	09 34 07.3	+0.3
LBZ	**Lake Benmore**	**2.06**	**244**	P	Pn	09 34 09.5	+1.1
FOZ	**Fox Glacier**	**2.15**	**268**	P	Pb	09 34 11.8	-0.8
ODZ	**Otahua Downs**	**2.17**	**224**	P	Pn	09 34 10.4	+0.6
TUWZ	**Tuamarina**	**2.25**	**23**	P	Pn	09 34 10.7	-0.2
NNZ	**Nelson**	**2.33**	**11**	P	Pn	09 34 12.6	+0.6
TCW	**Tory Channel**	**2.55**	**27**	P	Pn	09 34 14.8	-0.2
QRZ	**Quartz Range**	**2.68**	**356**	P	Pn	09 34 18.0	+1.2
HHSZ	**Highcliff Hill**	**2.84**	**212**	P	Pn	09 34 19.7	+0.6
CAW	**Cannon Point**	**2.94**	**36**	P	Pn	09 34 19.4	-1.0
JCZ	**Jackson Bay**	**2.94**	**257**	P	Pn	09 34 22.6	+2.1
WKZ	**Wanaka**	**3.01**	**243**	P	Pn	09 34 22.3	+0.9
EAZ	**Earnscleugh**	**3.02**	**234**	P	Pn	09 34 22.3	+0.7
MTW	**Mount Morrison**	**3.10**	**42**	P	Pn	09 34 21.4	-1.2
OGWZ	**Otaki Gorge**	**3.22**	**35**	P	Pn	09 34 23.6	-0.7
TUZ	**Tuapeka**	**3.32**	**221**	P	Pn	09 34 26.3	+0.7
MRZ	**Mangatainoka R**	**3.53**	**37**	P	Pn	09 34 27.4	-1.1
MLZ	**Mavora Lakes**	**3.82**	**239**	P	Pn	09 34 33.6	+1.0
BFZ	**Birch Farm**	**3.83**	**44**	P	Pn	09 34 31.1	-1.5
SYZ	**Scrubby Hill**	**3.98**	**219**	P	Pn	09 34 36.1	+1.4
ANWZ	**Angora Road**	**4.11**	**44**	P	Pn	09 34 35.0	-1.5
WHZ	**Wether Hill Ro**	**4.19**	**233**	P	Pn	09 34 38.8	+1.3
TSZ	**Takapari Road**	**4.19**	**36**	P	Pn	09 34 37.3	-0.3
VRZ	**Vera Road**	**4.62**	**20**	P	Pn	09 34 45.0	+1.4
BHHZ	**Black Hill Sta**	**4.71**	**33**	P	Pn	09 34 44.3	-0.5
WTVZ	**West Tongariro**	**4.87**	**27**	P	Pn	09 34 47.6	+0.5
BKZ	**Black Stump Fm**	**5.16**	**34**	P	Pn	09 34 50.7	-0.3
HIZ	**Hauiti**	**5.23**	**18**	P	Pn	09 34 52.3	+0.4

*DDA **24** 09:35:31.8, 39°.91N×27°.07E, h7km, Ml2.4*
*CSEM **24** 09:35:33.0±0.2, 39°.93N×26°.97E, h10km, ML2.4, Error ellipse: s-maj=4.6km s-min=3.9km az=19.0*
ISK 24 09:35:32.4, 39°.92N×26°.98E, h5km, MD2.6/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYC	**CANAKKALE_Bayr**	**0.37**	**242**	*i* P	Pb	09 35 40.7	-0.8
BAYC				*i* S	Sb	09 35 47.1	-0.6
BAYC	**CANAKKALE_Bayr**	**0.37**	**242**	P	Pb	09 35 40.7	-0.8
BAYC				S	Sb	09 35 47.1	-0.5
LPK	**Lapseki**	**0.48**	**340**	PG	Pg	09 35 41.5	-0.2
LPK	**Lapseki**	**0.48**	**340**	*eP*g	Pg	09 35 41.5	-0.2
BALY	**Balya**	**0.53**	**109**	*i* P	Pg	09 35 42.4	-0.1
BALY	**Balya**	**0.53**	**109**	P	Pg	09 35 42.4	-0.1
KRBG	**Karabiga-Canak**	**0.54**	**27**	PG	Pg	09 35 43.2	+0.5
KRBG				SG	Sb	09 35 51.1	-1.2
KRBG	**Karabiga-Canak**	**0.54**	**27**	*eP*g	Pg	09 35 43.2	+0.5
GONE	**Gonen-Balikesi**	**0.56**	**76**	PG	Pg	09 35 43.8	+0.6
GONE	**Gonen-Balikesi**	**0.56**	**76**	*eP*g	Pg	09 35 43.8	+0.6
GELI	**Tayfur-Gelibol**	**0.62**	**322**	PG	Pg	09 35 44.9	+0.7
GELI	**Tayfur-Gelibol**	**0.62**	**322**	*eP*g	Pg	09 35 44.9	+0.7
BOZC	**Bozcaada**	**0.71**	**264**	PG	Pg	09 35 46.1	0.0
BOZC	**Bozcaada**	**0.71**	**264**	*i* P	Pg	09 35 46.1	0.0
BOZC	**Bozcaada**	**0.71**	**264**	*eP*g	Pg	09 35 46.1	0.0
BALB	**Balikesir**	**0.75**	**111**	PG	Pg	09 35 47.3	+0.5
BALB	**Balikesir**	**0.75**	**111**	*eP*g	Pg	09 35 47.3	+0.5
RKY	**Sarkoy-Tekirda**	**0.79**	**11**	PG	Pb	09 35 48.1	-0.5
RKY	**Sarkoy-Tekirda**	**0.79**	**11**	*eP*g	Pb	09 35 48.1	-0.5
STEP	**BALIKESIR_Sava**	**0.79**	**133**	*i* P	Pn	09 35 50.2	+0.1
STEP				*i* S	Sn	09 36 02.6	+0.2
STEP	**BALIKESIR_Sava**	**0.79**	**133**	P	Pn	09 35 50.2	0.0
SART	**Tekirdag**	**0.79**	**11**	*i* P	Pg	09 35 46.8	-0.7
SART				*i* S	Sb	09 35 59.3	-0.4
SART	**Tekirdag**	**0.79**	**11**	P	Pg	09 35 46.8	-0.7
SART				S	Sb	09 35 59.3	-0.3
ERIK	**Erikli-Kesan**	**0.83**	**335**	PG	Pb	09 35 49.2	-0.1
ERIK	**Erikli-Kesan**	**0.83**	**335**	*eP*g	Pb	09 35 49.2	-0.1
GADA	**Gvkgeada**	**0.87**	**289**	PG	Pg	09 35 49.5	+0.4
GADA	**Gvkgeada**	**0.87**	**289**	*eP*g	Pg	09 35 49.5	+0.4
KESN	**Edirne-Kesan**	**0.94**	**346**	*i* P	Pn	09 35 52.2	-0.3
KESN	**Edirne-Kesan**	**0.94**	**346**	P	Pn	09 35 52.2	-0.4
ENEZ	**Enez**	**1.03**	**323**	PG	Pb	09 35 52.9	+0.2
ENEZ	**Enez**	**1.03**	**323**	*eP*g	Pb	09 35 52.9	+0.2
KCTX	**Karacabey (Bur**	**1.12**	**71**	PN	Pb	09 35 54.0	-0.2
KCTX	**Karacabey (Bur**	**1.12**	**71**	*eP*n	Pb	09 35 54.0	-0.2
SIGR	**SIGRI**	**1.12**	**231**	PN	Pb	09 35 54.2	+0.1
SIGR	**SIGRI**	**1.12**	**231**	*eP*n	Pb	09 35 54.2	+0.1
ALN	**Alexandroupoli**	**1.21**	**324**	PN	Pn	09 35 56.4	+0.4
ALN	**Alexandroupoli**	**1.21**	**324**	*eP*n	Pn	09 35 56.4	+0.4
SBT3	**Marmara-Eregli**	**1.23**	**38**	PN	Pg	09 35 56.0	0.0
SBT3	**Marmara-Eregli**	**1.23**	**38**	*eP*n	Pg	09 35 56.0	0.0
ARMT	**Armutlu**	**1.58**	**65**	PN	Pb	09 36 02.2	0.0
ARMT	**Armutlu**	**1.58**	**65**	*eP*n	Pb	09 36 02.2	0.0

*IDC **24** 09:38:18.3±1.0, 52°.10N×166°.43W, h0km, mb3.6/13, mb1 3.8/14, mb1mx3.6/76, mbtmp3.6/14, ML3.1/1, Error ellipse: s-maj=27.1km s-min=15.9km az=2.0*
*ISCJB **24** 09:38:19.2±2.1, 52°.13N±0°.05×166°.35W±0°.09, h17km±15km, mb3.6/13, Error ellipse: s-maj=9.5km s-min=8.1km az=145.8*
*NEIC **24** 09:38:21.7±0.0, 52°.18N×166°.49W, h60km, ML3.1(AEIC), After AEIC.*
ISC 24 09:38:19.0±3.8, 52°.20N±0°.08×166°.42W±0°.07, h4km±23km, n33, σ0°.75/33, mb3.6/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**1.55**	**314**	P	**Pn**	**09 38 47.3**	**-0.2**
OKER	**Okmok East Rim**	**1.60**	**322**	P	**Pn**	**09 38 48.4**	**+0.2**
OKER				S	**Sb**	**09 39 09.9**	**+0.1**
MGOD	**Makushin Gods**	**1.62**	**350**	P	**Pb**	**09 38 49.6**	**0.0**
UNV	**Unalaska Valle**	**1.65**	**358**	P	**Pn**	**09 38 48.2**	**-0.6**
UNV				S	**Sn**	**09 39 09.6**	**-0.9**
MSW	**Makushin Switc**	**1.73**	**353**	P	**Pn**	**09 38 49.9**	**0.0**
MSW				S	**Sb**	**09 39 13.0**	**-0.6**
AKRB	**Akutan Reef Bi**	**1.95**	**6**	P	**Pn**	**09 38 53.4**	**+0.5**
AKRB				S	**Sn**	**09 39 17.5**	**-0.3**
WESP	**Westdahl Peak**	**2.52**	**23**	P	**Pn**	**09 39 01.6**	**+0.8**
WESP				S	**Sn**	**09 39 31.8**	**-0.1**
WESN	**West Dahl Nort**	**2.62**	**24**	P	**Pn**	**09 39 03.5**	**+1.4**
SSLW	**Shishaldin Wes**	**2.92**	**27**	P	**Pn**	**09 39 06.8**	**+0.5**
ISLZ	**Isanotski Laza**	**3.01**	**32**	P	**Pn**	**09 39 07.3**	**-0.2**
FALS	**False Pass**	**3.21**	**33**	P	**Pn**	**09 39 09.8**	**-0.4**
DT1	**Dutton Round H**	**3.82**	**39**	P	**Pn**	**09 39 18.3**	**-0.2**
KDAK	**Kodiak Island**	**9.71**	**49**	Pn	**Pn**	**09 40 38.4**	**-1.0**
	0.6nm,0.3s,baz=220,slow=7.9,SNR=10						
KDAK				Sn	Sn	09 42 19.6	-9.2
	0.2nm,0.3s,baz=122,slow=20,SNR=2.4						
ILAR	**Eielson Array**	**16.12**	**31**	Pn	**Pn**	**09 42 06.0**	**-0.2**
	0.1nm,0.3s,baz=228,slow=11,SNR=4.4						
PETK	**Petropavlovsk-**	**21.65**	**287**	P	**P**	**09 43 09.1**	**-1.1**
	2.4nm,1.0s,baz=76,slow=15,SNR=2.8						
INK	**Inuvik**	**22.52**	**32**	P	**P**	**09 43 18.8**	**-0.6**
	1.5nm,0.6s,baz=246,slow=11,SNR=12						
YKA	**Yellowknife Ar**	**28.99**	**49**	P	**P**	**09 44 20.5**	**+1.1**
	0.2nm,0.8s,baz=268,slow=7.7,SNR=3.7						
YKA				PcP	**PcP**	**09 47 26.9**	**-0.8**
	0.0nm,0.5s,baz=279,slow=2.0,SNR=4.6						
NVAR	**Mina Array Bea**	**35.85**	**93**	P	**P**	**09 45 20.8**	**+0.9**
	0.6nm,0.7s,baz=302,slow=8.5,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**38.50**	**223**	T	T	10 26 32.6	
	baz=26,slow=76,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**38.51**	**223**	T	T	10 26 33.8	
	baz=26,slow=76,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**38.51**	**223**	T	T	10 26 36.2	
	baz=26,slow=76,SNR=5.6						
PDAR	**Pinedale Array**	**38.65**	**81**	P	**P**	**09 45 43.7**	**0.0**
	0.1nm,0.4s,baz=349,slow=3.7,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**39.68**	**222**	T	T	10 28 02.8	
	baz=26,slow=76,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**39.69**	**222**	T	T	10 28 03.5	
	baz=26,slow=76,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**39.70**	**222**	T	T	10 28 04.1	
	baz=26,slow=76,SNR=5.4						
ULM	**Lac du Bonnet**	**42.62**	**63**	P	**P**	**09 46 15.3**	**-0.7**
	5.4nm,1.4s,baz=241,slow=4.1,SNR=2.9						
TXAR	**Lajitas Array**	**50.94**	**91**	P	**P**	**09 47 21.0**	**-0.5**
	0.8nm,0.7s,baz=292,slow=5.3,SNR=14						
SONM	**Songino Array**	**52.93**	**303**	P	**P**	**09 47 37.3**	**+1.1**
	0.2nm,0.6s,baz=72,slow=4.7,SNR=2.3						
BVAR	**Borovoye Array**	**64.88**	**326**	P	**P**	**09 48 60.0**	**+1.0**
	0.6nm,0.6s,baz=54,slow=7.3,SNR=4.4						
MKAR	**Makanchi Array**	**65.22**	**315**	P	**P**	**09 49 01.5**	**+0.2**
	0.2nm,0.6s,baz=49,slow=5.5,SNR=3.8						
FINES	**FINESS Array B**	**66.27**	**353**	P	**P**	**09 49 07.7**	**-0.1**
	0.7nm,0.6s,baz=17,slow=8.0,SNR=3.8						
EKA	**Eskdalemuir Ar**	**71.94**	**10**	P	**P**	**09 49 44.2**	**+1.1**
	1.0nm,0.6s,baz=358,slow=5.2,SNR=4.0						
ASAR	**Alice Springs**	**91.70**	**232**	P	**P**	**09 51 26.1**	**-1.4**
	0.4nm,0.7s,baz=35,slow=5.8,SNR=5.7						

*PDG **24** 09:47:44.5±0.3, 41°.30N×19°.69E, h12km, ML2.6/9, Error ellipse: s-maj=0.6km s-min=1.1km az=0.0*
*CSEM **24** 09:

SJES	**Sjenica**	**1.92**	**5**	*e*Pn	**Pb**	**09 48 20.2**	**+0.2**
SJES				*e*Sg	**Sg**	**09 48 46.8**	**-0.3**
GRG	**Griva**	**2.05**	**100**	P	**Pn**	**09 48 20.2**	**+0.9**
GRG	**Griva**	**2.05**	**100**	P	**Pn**	**09 48 20.2**	**+0.9**
NOCI	**Noci**	**2.09**	**255**	*i* PN	**Pb**	**09 48 22.6**	**-0.4**
NOCI				*i* SN	**Sb**	**09 48 48.2**	**-0.5**
NOCI	**Noci**	**2.09**	**255**	*i* Pn	**Pb**	**09 48 22.6**	**-0.4**
NOCI				*i* Sn	**Sb**	**09 48 48.2**	**-0.5**
SELS	**Selova**	**2.13**	**28**	*e*Pn	**Pb**	**09 48 22.1**	**-1.5**
VAY	**Valandovo**	**2.14**	**90**	*e*Pn	**Pn**	**09 48 19.5**	**-0.9**
VAY	comp=E,18nm,0.7s			*e*Lg	Lg	09 48 49.5	
VAY	comp=N,17nm,0.6s			*e*Lg	Lg	09 48 49.9	
STON	**Ston**	**2.14**	**316**	*e*Pn	**Pn**	**09 48 19.4**	**-1.1**
STON				Sn	**Sn**	**09 48 45.0**	**-1.6**
STON	**Ston**	**2.14**	**316**	*e*Pn	**Pn**	**09 48 19.3**	**-1.1**
GRUS	**Gruza**	**2.64**	**16**	*e*Pn	**Pb**	**09 48 30.0**	**-2.2**
GRUS	**Gruza**	**2.64**	**16**	*e*Pn	**Pb**	**09 48 30.0**	**-2.2**
DIVS	**Divibare**	**2.75**	**4**	*e*Pn	**Pb**	**09 48 32.7**	**-1.5**
DIVS	**Divibare**	**2.75**	**4**	*e*Pn	**Pb**	**09 48 32.7**	**-1.5**
ZAPS	**Zavoj**	**2.88**	**47**	*e*Pn	**Pb**	**09 48 33.6**	**-2.9**
ZAPS	**Zavoj**	**2.88**	**47**	*e*Pn	**Pb**	**09 48 33.6**	**-2.9**
ZAGS	**Zajecar**	**3.07**	**36**	*e*Pn	**Pn**	**09 48 34.1**	**+0.8**
ZAGS	**Zajecar**	**3.07**	**36**	*e*Pn	**Pn**	**09 48 34.1**	**+0.8**
UDBI	**Udbina**	**4.31**	**319**	*e*Pn	**Pn**	**09 48 50.7**	**+0.4**
UDBI				Sn	**Sn**	**09 49 38.8**	**-1.4**
UDBI	**Udbina**	**4.31**	**319**	*e*Pn	**Pn**	**09 48 50.7**	**+0.4**

NNC 24 09:51:05.3±5.9, 36°82N×70°54E, h0km, mb3.6, mpv3.2, 3C-5D, Error ellipse: s-maj=48.6km s-min=42.0km az=132.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.94**	**35**	⇑Pn	Pn	09 52 05.8	-1.6
	4.0nm,0.5s						
SFK				⇑Sn	Sn	09 52 57.2	+2.7
	13nm,0.5s						
MNAS	**Manas**	**5.86**	**14**	⇓Pn	Pn	09 52 35.7	+2.1
	0.6nm,0.3s						
MNAS				⇓Sn	Sn	09 53 43.0	+1.6
	4.6nm,0.6s						
KK31	**Karatay Array**	**6.27**	**360**	⇑Pn	Pn	09 52 41.4	+2.3
	0.8nm,0.3s,baz=182,slow=13,SNR=26						
KK31				⇓Sn	Sn	09 53 51.7	+0.1
	2.8nm,0.3s,baz=188,slow=22,SNR=25						
AAK	**Ala-Archa**	**6.56**	**26**	⇓Pn	Pn	09 52 41.6	-1.5
	3.0nm,1.1s						
AAK				⇓Sn	Sn	09 53 57.0	-1.8
	2.1nm,0.8s						

GUC 24 09:54:23.7±0.7, 21°.00S×69°.83W, h83km±4km, ML3.6, 7C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.32**	**99**	⇓*i*P	Pn	09 54 37.1	+0.5
PB01				*i* S	Sn	09 54 46.6	+0.5
PB01				IAML		09 54 47.1	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**0.33**	**191**	⇓*i*P	Pn	09 54 38.3	+1.6
PB02				*i* S	Sn	09 54 48.6	+2.3
PB02				IAML		09 54 49.2	
	comp=E,11μm,0.4s						
PB07	**IPOC Station P**	**0.73**	**184**	⇑*i*P	Pn	09 54 41.4	+1.2
PB07				*i* S	Sn	09 54 53.8	+1.5
PB07				IAML		09 54 54.7	
	comp=E,3μm,0.2s						
PB09	**IPOC Station P**	**0.97**	**146**	⇑*i*P	Pn	09 54 43.4	+0.7
PB09				*i* S	Sn	09 54 57.8	+0.8
PB09				IAML		09 54 58.8	
	comp=E,3μm,0.5s						
PB08	**IPOC Station P**	**1.06**	**37**	⇑*i*P	Pn	09 54 44.5	+0.4
PB08				*i* S	Sn	09 54 59.4	+0.1
PB08				IAML		09 54 59.7	
	comp=E,4μm,0.3s						
PB11	**IPOC Station P**	**1.24**	**8**	*e*P	Pn	09 54 46.5	+0.5
PB11				*i* S	Sn	09 55 03.6	+0.9
PB04	**IPOC Station P**	**1.36**	**193**	⇑*i*P	Pn	09 54 48.5	+0.9
PB04				*i* S	Sn	09 55 06.5	+0.9
PB04				IAML		09 55 10.2	
	comp=N,515nm,0.4s						
PSGC	**Pisagua**	**1.42**	**349**	⇓*i*P	Pn	09 54 48.7	+0.4
PSGC				IAML		09 55 09.1	
	comp=N,554nm,0.2s						
GO01	**Chusmiza**	**1.45**	**24**	⇑*i*P	Pn	09 54 49.5	+0.5
GO01				*i* S	Sn	09 55 08.5	+0.5
GO01				IAML		09 55 08.9	
	comp=N,1μm,0.3s						
PB06	**IPOC Station P**	**1.72**	**172**	⇑*i*P	Pn	09 54 52.6	+0.4
PB06				*i* S	Sn	09 55 13.6	-0.1
PB06				IAML		09 55 16.4	
	comp=N,369nm,0.5s						
MNMC	**Minye Minye**	**1.87**	**7**	⇑*i*P	Pn	09 54 54.9	+0.7
MNMC				*i* S	Sn	09 55 18.6	+1.2
MNMC				IAML		09 55 20.4	
	comp=N,1μm,0.4s						

MEX 24 10:08:46.7±0.5, 16°.56N×98°.41W, h15km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**122**	*i* P	Pg	10 08 52.5	-0.8
PNIG				*e*S	Sg	10 08 57.6	-0.3
TLIG	**Tlapa**	**1.01**	**351**	*e*P	Pn	10 09 02.7	-3.2
TLIG				*i* S	Sb	10 09 15.3	-3.8
ACX	**Acapulco**	**1.42**	**283**	*i* P	Pn	10 09 09.2	-2.8
ACX				*i* S	Sn	10 09 28.2	-2.3
VHO	**Vista Hermosa**	**1.69**	**72**	*e*P	Pn	10 09 12.8	-3.1
VHO				*i* S	Sn	10 09 32.0	-5.2
CAIG	**El Cayaco**	**1.84**	**285**	*e*P	Pn	10 09 13.8	-4.0
CAIG				*i* S	Sn	10 09 36.3	-4.6
PLIG	**Platanillo**	**2.10**	**330**	*e*P	Pn	10 09 18.2	-3.2
PLIG				*i* S	Sn	10 09 42.7	-4.6

NIED ***24*** *10:10:00, 23°.80N×124°.90E, h32km, Mw4.0 Best double couple: M₀1.27000×10¹⁵ NP1:φ=24.00000°, δ58.00000°, λ178.00000°. NP2:φ=115.00000°, δ89.00000°, λ32.00000°.*
IDC ***24*** *10:10:55.9±0.8, 23°.88N×124°.89E, h0km, mb3.9/15, mb1 3.9/16, mb1mx3.7/66, mbtmp3.9/16, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.5/66, Error ellipse: s-maj=25.0km s-min=17.7km az=69.0*
JMA ***24*** *10:10:59.8±0.1, 23°.83N×124°.90E, h58km, M3.8*
NEIC ***24*** *10:11:00.6±0.5, 23°.80N×124°.88E, h35km, mb4.2/2, Error ellipse: s-maj=9.6km s-min=7.5km az=165.0*

ISC 24 10:10:56.2±2.4, 23°.76N±0°.06×124°.91E±0°.04, h6km±14km, n40, σ1¶15/54, mb4.1/17, MS3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.90**	**348**	P	**Pn**	**10 11 15.6**	**+0.3**
JTJ				S	**Sb**	**10 11 26.9**	**+0.4**
JIJ	**Ishigaki jima**	**0.93**	**311**	P	**Pn**	**10 11 16.1**	**+0.4**
JIJ				*e*S	**Sn**	**10 11 28.5**	**-0.8**
JKRS	**Kuro-shima**	**0.96**	**300**	P	**Pn**	**10 11 17.0**	**+0.9**
JKRS				*e*S	**Sn**	**10 11 29.5**	**-0.5**
JISG	**Ishigakijimahi**	**0.99**	**327**	P	**Pn**	**10 11 16.6**	**0.0**
JISG				*e*S	**Sn**	**10 11 30.2**	**-0.7**
HATJ	**Hateruma jima**	**1.06**	**287**	P	**Pn**	**10 11 18.5**	**+1.0**
HATJ				S	**Sb**	**10 11 31.5**	**+0.6**
JIRB	**Irabujima**	**1.09**	**12**	P	**Pn**	**10 11 18.1**	**+0.1**
JIRB				S	**Sg**	**10 11 31.4**	**0.0**
JOGS	**Gusukube**	**1.10**	**24**	P	**Pn**	**10 11 18.5**	**+0.5**
JOGS				S	**Sb**	**10 11 32.2**	**+0.1**
JMJ	**Miyako jima 2**	**1.11**	**18**	P	**Pn**	**10 11 18.6**	**+0.4**
JMJ				*e*S	**Sb**	**10 11 32.5**	**0.0**
JIKM	**Ikemajima**	**1.20**	**15**	P	**Pn**	**10 11 19.8**	**+0.3**
JIKM				S	**Sg**	**10 11 34.7**	**-0.2**
IRIF	**Iriomote-Funau**	**1.23**	**298**	P	**Pn**	**10 11 20.7**	**+0.9**
IRIF				*e*S	**Sn**	**10 11 36.2**	**-0.4**
YOJ	**Yonaguni jima**	**1.88**	**292**	P	**Pn**	**10 11 29.8**	**-1.0**
YOJ				*e*S	**Sn**	**10 11 51.6**	**-1.1**
YOJ	**Yonaguni jima**	**1.88**	**292**	*e*Pn	**Pn**	**10 11 29.2**	**+0.5**
JYNG	**Yonagunijimaku**	**1.93**	**291**	P	**Pn**	**10 11 30.4**	**+1.0**
JYNG				S	**Sn**	**10 11 52.5**	**-1.4**
YULB	**Yu-li**	**3.34**	**265**	*e*Pn	**Pn**	**10 11 48.9**	**+0.1**
YULB				*e*Sn	**Sn**	**10 12 24.6**	**-4.2**
YHNB	**Yeheng**	**3.35**	**286**	*e*Pn	**Pn**	**10 11 51.1**	**+1.9**
YHNB				*e*Sn	**Sn**	**10 12 28.6**	**-0.8**
SSLB	**Suanglung**	**3.63**	**271**	*e*Pn	**Pn**	**10 11 54.3**	**+1.4**
TWG	**Pinlang**	**3.65**	**256**	*e*Pn	**Pn**	**10 11 52.8**	**-0.4**
TWG				*e*Sn	**Sn**	**10 12 32.4**	**-4.1**
TPUB	**Ta-pu**	**3.96**	**264**	*e*Pn	**Pn**	**10 11 59.1**	**+1.7**
TPUB				*e*Sn	**Sn**	**10 12 44.0**	**-0.1**
JOW	**Kunigami**	**4.32**	**44**	Pn	**Pn**	**10 12 02.4**	**0.0**
	8.0nm,0.3s,baz=168,slow=12,SNR=9.7						
JOW				Sn	**Sn**	**10 12 52.0**	**-1.0**
	3.6nm,0.3s,baz=202,slow=16,SNR=2.1						
CMAR	**Chiang Mai Arr**	**24.78**	**263**	LR	LR	10 26 03.1	
	comp=Z,15nm,18.7s,baz=290,slow=37						
SONM	**Songino Array**	**28.19**	**333**	P	**P**	**10 16 48.8**	**-0.8**
	0.7nm,0.6s,baz=156,slow=10.0,SNR=6.4						
MKAR	**Makanchi Array**	**41.04**	**315**	P	**P**	**10 18 40.1**	**-0.1**
	2.4nm,0.5s,baz=101,slow=9.5,SNR=32						
ZALV	**Zalesovo Beam**	**42.49**	**326**	P	**P**	**10 18 50.7**	**-1.2**
	3.7nm,0.5s,baz=108,slow=8.2,SNR=20						
SEY	**Seymchan**	**43.27**	**18**	P	**P**	**10 18 57.7**	**-0.5**
	0.3nm,0.4s,baz=74,slow=18						
WRAB	**Tennant Creek**	**44.39**	**167**	*e*P	**P**	**10 19 06.9**	**-0.7**
	2.0nm,0.9s						
WRA	**Warramunga Arr**	**44.39**	**167**	P	**P**	**10 19 08.8**	**+1.1**
	0.4nm,0.9s,baz=347,slow=8.8,SNR=3.3						
KURK	**Kurchatov**	**44.63**	**319**	P	**P**	**10 19 09.1**	**-0.1**
KURBB	**Kurchatov Arra**	**44.65**	**319**	P	**P**	**10 19 09.1**	**-0.3**
	1.2nm,0.4s,baz=110,slow=8.5,SNR=8.6						
ASAR	**Alice Springs**	**47.94**	**169**	P	**P**	**10 19 37.5**	**+1.9**
	0.2nm,0.6s,baz=352,slow=11,SNR=5.9						
BVAR	**Borovoye Array**	**50.17**	**320**	P	**P**	**10 19 52.9**	**+0.4**
	1.0nm,0.4s,baz=98,slow=8.3,SNR=9.0						
ABKAR	**Akbulak array**	**56.18**	**314**	*e*P	**P**	**10 20 37.6**	**+0.9**
	2.4nm,0.6s						
ARU	**Arti**	**57.50**	**323**	P	**P**	**10 20 45.9**	**-0.1**
	2.2nm,0.5s,baz=250,slow=5.1,SNR=5.1						
GEYT	**Alibeck**	**57.95**	**301**	P	**P**	**10 20 50.1**	**+0.6**
	1.9nm,0.6s,baz=72,slow=4.7,SNR=3.7						
FINES	**FINESS Array B**	**73.52**	**330**	P	**P**	**10 22 29.4**	**0.0**
	1.0nm,0.5s,baz=68,slow=7.1,SNR=8.2						
BRTR	**Keskin Array B**	**76.16**	**307**	P	**P**	**10 22 45.6**	**+0.2**
	0.6nm,0.7s,baz=35,slow=9.9,SNR=3.3						
HFS	**Hagfors**	**79.58**	**332**	P	**P**	**10 23 04.1**	**+0.3**
	2.0nm,0.9s,baz=49,slow=12,SNR=4.1						
NOA	**NORSAR Array B**	**80.17**	**333**	P	**P**	**10 23 07.0**	**-0.1**
	0.7nm,0.7s,baz=58,slow=5.2,SNR=3.4						
YKA	**Yellowknife Ar**	**82.01**	**24**	P	**P**	**10 23 17.7**	**+0.9**
	0.2nm,0.6s,baz=302,slow=5.4,SNR=5.3						
IDI	**Anoyia**	**84.27**	**306**	LR	LR	11 04 52.7	
	comp=Z,14nm,18.3s,baz=30,slow=38						
KEST	**Kesra**	**95.10**	**313**	LR	LR	11 15 22.6	
	comp=Z,32nm,19.6s,baz=242,slow=41						

JMA 24 10:13:18.4±0.9, 45°.31N×150°.97E, h30km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.22**	**244**	P	Pn	10 14 20.0	-0.7
NEM2				*e*S	Sn	10 15 05.8	-3.1
JRA	**Rausu**	**4.39**	**254**	P	Pn	10 14 25.2	+2.2
JNK	**Nakash**	**4.80**	**251**	P	Pn	10 14 29.5	+0.9
JAK	**Akkeshi**	**5.07**	**245**	P	Pn	10 14 31.4	-0.9
JTKR	**Abashiri--Toko**	**5.21**	**258**	P	Pn	10 14 35.9	+1.6
JAR	**Ashorobuto**	**5.54**	**251**	P	Pn	10 14 39.8	+1.0
JAR				*e*S	Sn	10 15 40.2	-1.3
JMP	**Maruseppu**	**5.58**	**259**	P	Pn	10 14 41.8	+2.4
JOB	**Onbets**	**5.67**	**247**	P	Pn	10 14 40.2	-0.4
JKK2	**Kamakawa 2**	**6.04**	**259**	P	Pn	10 14 50.3	+4.6
JCH	**Churui**	**6.12**	**247**	P	Pn	10 14 46.2	-0.5
JCH				*e*S	Sn	10 15 51.1	-4.5
JNBK	**Urakawa-nobuka**	**6.67**	**246**	P	Pn	10 14 53.4	-0.9
JNBK				*e*S	Sn	10 16 03.4	-5.9
JBT2	**Biratori 2**	**6.70**	**251**	P	Pn	10 14 54.6	-0.1
JKB	**Kayabe**	**7.98**	**248**	P	Pn	10 15 11.6	-0.7
JYM2	**Yakumo 2**	**8.31**	**251**	P	Pn	10 15 16.7	-0.1

WEL 24 10:18:52.9±1.2, 46°S±7°×16°6E±°, h5km, ML3.7/9, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.53**	**65**	P	Pg	10 19 03.7	+0.5
PYZ	**Puysegur Point**	**0.53**	**65**	S	Sg	10 19 11.4	+1.3
DCZ	**Deep Cove**	**1.23**	**42**	P	Pg	10 19 12.6	-4.0
APZ	**The Paps**	**1.45**	**108**	P	Pn	10 19 19.1	-0.7
APZ	**The Paps**	**1.45**	**108**	S	Sg	10 19 40.5	+0.9
WHZ	**Wether Hill Ro**	**1.46**	**71**	P	Pn	10 19 17.9	-1.9
WHZ	**Wether Hill Ro**	**1.46**	**71**	S	Sb	10 19 38.3	-0.9
MLZ	**Mavora Lakes**	**1.81**	**56**	P	Pn	10 19 24.2	-0.6
MLZ	**Mavora Lakes**	**1.81**	**56**	S	Sb	10 19 49.2	-0.3
SYZ	**Scrubby Hill**	**2.19**	**95**	P	Pn	10 19 30.7	+0.8
TUZ	**Tuapeka**	**2.57**	**82**	P	Pn	10 19 35.2	0.0
TUZ	**Tuapeka**	**2.57**	**82**	S	Sn	10 20 06.4	-0.5
EAZ	**Earnscleugh**	**2.60**	**65**	P	Pn	10 19 35.8	+0.2
EAZ	**Earnscleugh**	**2.60**	**65**	S	Sn	10 20 08.8	+1.3
WKZ	**Wanaka**	**2.64**	**55**	P	Pn	10 19 37.4	+1.2
WKZ	**Wanaka**	**2.64**	**55**	S	Sn	10 20 09.6	+1.0
JCZ	**Jackson Bay**	**3.05**	**42**	P	Pn	10 19 43.2	+1.3
HHSZ	**Highcliff Hill**	**3.25**	**83**	P	Pn	10 19 42.8	-1.8
ODZ	**Otahua Downs**	**3.53**	**69**	P	Pn	10 19 47.0	-1.4

ISCJB ***24*** *10:22:29.6±0.8, 6°.89S±0°.08×126°.8E±0°.1, h400km, mb3.3/3, Error ellipse: s-maj=17.4km s-min=10.6km az=14.4*
IDC ***24*** *10:22:30.2±3.7, 6°.87S×126°.66E, h385km±39km, mb3.0/3, mb1 2.8/7, mb1mx2.6/60, mbtmp3.6/7, Error ellipse: s-maj=67.7km s-min=13.2km az=63.0*
DJA ***24*** *10:22:35.5±1.1, 8°S±8°×12°8E±1°3, h246km±14km, M4.5/5, mB5.6/1, mb4.8/1, MLv4.3/5, Mw(mB)5.1/1*

ISC 24 10:22:31.5±0.9, 6°.98S±0°.07×126°.6E±0°.1, h400km, n12, σ2¶99/16, mb3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.61**	**220**	P	**Pn**	**10 23 39.0**	**-1.1**
SOEI				S	**S**	**10 24 37.1**	**+1.5**
NLAI	**Namlea**	**3.75**	**7**	P	**Pn**	**10 23 43.2**	**+1.9**
NLAI				S	**S**	**10 24 40.6**	**+2.8**
MSAI	**Masohi**	**4.28**	**33**	S	**S**	**10 24 39.7**	**-7.3**
BATI	**Baumata**	**4.34**	**222**	P	**Pn**	**10 23 47.0**	**+0.2**
	10nm,0.3s,baz=92,slow=5.7,SNR=3.8						
BATI				S	**S**	**10 24 46.7**	**-1.3**
	8.4nm,0.3s,baz=151,slow=4.8,SNR=4.0						
BATI	**Baumata**	**4.34**	**222**	P	**Pn**	**10 23 49.1**	**+2.2**
BATI				S	**S**	**10 24 42.4**	**-5.6**
EDFI	**Ende, Flores**	**5.19**	**250**	P	Pn	10 24 06.0	+10
EDFI				S	S	10 24 48.8	-15
FITZ	**Fitzroy Crossi**	**11.09**	**185**	P	**Pn**	**10 25 02.3**	**+0.2**
	0.2nm,0.3s,baz=5.2,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**14.90**	**151**	P	**P**	**10 25 42.7**	**-0.3**
	0.1nm,0.3s,baz=324,slow=12,SNR=9.7						
ASAR	**Alice Springs**	**18.00**	**158**	P	**P**	**10 26 16.5**	**+0.4**
	0.2nm,0.3s,baz=347,slow=15,SNR=11						
ASAR				S	**S**	**10 29 24.8**	**+2.9**
	0.1nm,0.3s,baz=215,slow=26,SNR=6.0						
MKAR	**Makanchi Array**	**66.42**	**328**	P	**P**	**10 32 39.2**	**0.0**
	0.3nm,0.5s,baz=126,slow=9.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**70.12**	**335**	P	**P**	**10 33 00.9**	**-0.8**
	0.9nm,0.6s,baz=134,slow=4.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**70.78**	**330**	P	**P**	**10 33 05.5**	**-0.2**
	0.3nm,0.5s,baz=132,slow=5.0,SNR=3.5						

IDC ***24*** *10:28:59.6±2.0, 1°.86N×125°.89E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.3/65, mbtmp3.7/3, Error ellipse: s-maj=180.6km s-min=25.4km az=65.0*
DJA ***24*** *10:29:04.0±2.8, 2°N±5°×12°6E±°, h17km±24km, M3.4/4, MLv3.4/4*
ISCJB ***24*** *10:29:05.2±0.8, 1°.67N±0°.06×125°.8E±0°.1, h35km, mb3.7/3, Error ellipse: s-maj=20.0km s-min=8.5km az=168.8*

ISC 24 10:29:06.2±1.1, 1°.75N±0°.06×125°.8E±0°.1, h35km, n7, σ2¶06/8, mb3.9/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.94**	**352**	P	**Pn**	**10 29 37.6**	**+0.8**
SGSI				S	**Sn**	**10 30 02.2**	**+2.2**
KMSI	**Cibinong**	**2.16**	**237**	P	**Pn**	**10 29 39.8**	**+0.1**
LBMI	**Labuha**	**2.92**	**144**	P	**Pn**	**10 29 50.0**	**-0.2**
SANI	**Sanana**	**3.78**	**177**	P	**Pn**	**10 30 05.2**	**+3.2**
WRA	**Warramunga Arr**	**23.13**	**159**	P	**P**	**10 34 08.0**	**-1.4**
	1.9nm,0.4s,baz=338,slow=11,SNR=31						
ASAR	**Alice Springs**	**26.46**	**163**	P	**P**	**10 34 39.5**	**-0.8**
	1.1nm,0.3s,baz=347,slow=12,SNR=26						
MKAR	**Makanchi Array**	**58.66**	**326**	P	**P**	**10 38 58.5**	**-1.6**
	0.1nm,0.3s,baz=110,slow=7.5,SNR=5.0						

ISCJB ***24*** *10:29:30.6±0.6, 20°.3S±0°.1×67°.4E±0°.1, h10km, mb4.1/19, MS3.7/22, Error ellipse: s-maj=17.8km s-min=13.5km az=32.1*
IDC ***24*** *10:29:30.9±0.7, 20°.26S×67°.31E, h0km, mb3.9/15, mb1 4.0/15, mb1mx3.8/73, mbtmp3.9/15, MS3.6/23, Ms1 3.6/23, ms1mx3.4/56, Error ellipse: s-maj=23.8km s-min=19.2km az=34.0*
NEIC ***24*** *10:29:32.4±0.4, 20°.26S×67°.34E, h10km, mb4.4/2, Error ellipse: s-maj=15.4km s-min=11.4km az=211.0*

ISC 24 10:29:32.6±0.7, 20°.3S±0°.1×67°.3E±0°.1, h10km, n42, σ0¶97/23, mb4.1/19, MS3.7/22, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.51**	**22**	T	T	10 46 33.7	
	baz=202,slow=76,SNR=42						
H08S2	**Diego Garcia H**	**13.52**	**22**	T	T	10 46 30.8	
	baz=202,slow=76,SNR=41						
H08S3	**Diego Garcia H**	**13.53**	**22**	T	T	10 46 43.5	
	baz=202,slow=76,SNR=52						
H08N3	**Diego Garcia H**	**14.30**	**15**	T	T	10 47 38.3	
	baz=194,slow=76,SNR=23						
H08N1	**Diego Garcia H**	**14.31**	**15**	T	T	10 47 34.0	
	baz=194,slow=76,SNR=19						
H08N2	**Diego Garcia H**	**14.32**	**15**	T	T	10 47 34.0	
	baz=194,slow=76,SNR=21						
OPO	**Ambohidratompo**	**19.06**	**272**	LR	LR	10 39 29.2	
	comp=Z,320nm,21.8s,baz=76,slow=31						
KMBO	**Kilima Mbogo**	**35.01**	**299**	LR	LR	10 48 16.5	
	comp=Z,140nm,19.2s,baz=91,slow=32						
BOSA	**Boshof**	**39.02**	**249**	P	**P**	**10 36 59.1**	**-0.6**
	1.5nm,0.7s,baz=94,slow=13,SNR=2.9						
BOSA				LR	LR	10 51 51.2	
	comp=Z,40nm,18.1s,baz=193,slow=34						
LEM	**Lembang**	**41.27**	**77**	LR	LR	10 50 54.3	
	comp=Z,78nm,19.5s,baz=218,slow=31						
MBWA	**Marble Bar**	**48.84**	**101**	*e*P	**P**	**10 38 16.9**	**-1.7**
	16nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.43**	**41**	P	**P**	**10 38 23.1**	**+0.1**
	1.3nm,0.3s,baz=249,slow=7.6,SNR=3.7						
CMAR				LR	LR	10 58 16.4	
	comp=Z,47nm,18.0s,baz=205,slow=35						
FITZ	**Fitzroy Crossi**	**54.88**	**98**	P	**P**	**10 39 03.4**	**-0.2**
	0.7nm,0.7s,baz=229,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**61.34**	**106**	P	**P**	**10 39 49.0**	**0.0**
	2.8nm,1.0s,baz=268,slow=6.2,SNR=15						
ASAR				LR	LR	11 02 29.7	
	comp=Z,162nm,21.1s,baz=310,slow=32						
WRA	**Warramunga Arr**	**62.51**	**102**	P	**P**	**10 39 56.0**	**-0.9**
	0.7nm,0.9s,baz=261,slow=5.8,SNR=6.8						
WRAB	**Tennant Creek**	**62.52**	**102**	*e*P	**P**	**10 39 57.8**	**+0.8**
	5.2nm,1.0s						
AAK	**Ala-Archa**	**62.95**	**6**	P	**P**	**10 40 00.0**	**+0.7**
	1.3nm,0.7s,baz=166,slow=9.3,SNR=2.2						
GNI	**Garni**	**63.69**	**341**	LR	LR	11 05 22.3	
	comp=Z,14nm,19.4s,baz=174,slow=34						
STKA	**Stephens Creek**	**66.58**	**117**	LR	LR	11 05 09.4	
	comp=Z,131nm,19.5s,baz=206,slow=32						
BRTR	**Keskin Array B**	**67.47**	**332**	P	**P**	**10 40 28.5**	**-0.3**
	0.9nm,0.8s,baz=180,slow=9.6,SNR=3.3						
BRTR				LR	LR	11 06 56.2	
	comp=Z,15nm,20.7s,baz=112,slow=33						
MKAR	**Makanchi Array**	**68.11**	**11**	P	**P**	**10 40 30.7**	**-1.8**
	0.5nm,0.8s,baz=181,slow=8.6,SNR=3.9						
MKAR				LR	LR	11 08 44.1	
	comp=Z,38nm,19.9s,baz=219,slow=35						
ABKAR	**Akbulak array**	**69.53**	**355**	*e*P	**P**	**10 40 40.5**	**-0.7**
	1.4nm,0.8s						
QSPA	**South Pole Qui**	**69.83**	**180**	P	**P**	**10 40 44.5**	**+1.3**
	4.2nm,1.0s,baz=331,slow=2.7,SNR=4.5						
QSPA				LR	LR	11 08 20.8	
	comp=Z,74nm,18.2s,baz=314,slow=33						
AKTO	**Aktyubinsk**	**70.88**	**354**	P	**P**	**10 40 50.2**	**+0.7**
	0.8nm,0.5s,baz=159,slow=8.8,SNR=2.9						
AKTO				LR	LR	11 10 48.1	
	comp=Z,27nm,19.5s,baz=149,slow=35						
TORD	**Torodi Ar. Bea**	**72.57**	**292**	P	**P**	**10 40 59.7**	**-0.8**
	1.1nm,1.1s,baz=124,sl

WMGZ	Waiomatatini S	4.45	211	S	Sn	10 52 46.4	+3.1
PKGZ	Pakihiroa	4.65	213	P	Pn	10 51 55.8	+0.3
PKGZ	Pakihiroa	4.65	213	S	Sn	10 52 49.9	+1.5
HAZ	Te Kaha	4.68	216	P	Pn	10 51 56.3	+0.4
HAZ	Te Kaha	4.68	216	S	Sn	10 52 50.9	+1.8
PUZ	Puketiti	4.72	210	P	Pn	10 51 56.8	+0.2
PUZ	Puketiti	4.72	210	S	Sn	10 52 50.4	+0.2
GLKZ	Green Lake	4.79	8	P	Pn	10 51 58.3	+0.8
GLKZ	Green Lake	4.79	8	S	Sn	10 52 50.9	-0.9
WIZ	White Island	4.82	222	P	Pn	10 51 59.1	+1.3
RUGZ	Raukumara Rang	4.90	215	P	Pn	10 51 58.5	-0.4
TWGZ	Tauwhareparae	4.93	212	P	Pn	10 51 59.6	+0.3
TWGZ	Tauwhareparae	4.93	212	S	Sn	10 52 55.5	+0.4
TKGZ	Te Karaka	5.21	211	P	Pn	10 52 02.9	-0.1
TKGZ	Te Karaka	5.21	211	S	Sn	10 53 02.3	+0.5
MWZ	Matawai	5.26	214	P	Pn	10 52 03.0	-0.8
MWZ	Matawai	5.26	214	S	Sn	10 53 03.1	-0.1
URZ	Urewera	5.41	217	P	Pn	10 52 05.6	-0.2
	83nm,0.3s,baz=279,slow=2.6,SNR=347						
URZ				S	Sn	10 53 03.2	-3.4
	30nm,0.3s,baz=196,slow=12,SNR=8.0						
URZ	Urewera	5.41	217	P	Pn	10 52 04.7	-1.0
URZ	Urewera	5.41	217	S	Sn	10 53 04.8	-1.9
LIRZ	Lichensteins R	5.61	223	P	Pn	10 52 10.5	+2.0
OMRZ	Omania	5.69	223	P	Pn	10 52 11.1	+1.5
TARZ	Mount Tarawera	5.71	221	P	Pn	10 52 10.9	+1.0
SNGZ	Shannon Statio	5.71	213	P	Pn	10 52 10.6	+0.7
SNGZ	Shannon Statio	5.71	213	S	Sn	10 53 13.7	-0.5
RRRZ	Republican Roa	5.78	220	P	Pn	10 52 11.7	+0.9
NGRZ	Ngongotaha	5.79	224	P	Pn	10 52 13.0	+2.0
HLRZ	Highlands Stat	5.80	222	P	Pn	10 52 12.2	+1.0
UTU	Utuhina	5.84	223	P	Pn	10 52 14.4	+2.8
HSRZ	Hossack Road	5.91	222	P	Pn	10 52 14.6	+2.1
RAHZ	Arahi	5.94	213	P	Pn	10 52 13.4	+0.4
HRRZ	Handcock Road	5.94	221	P	Pn	10 52 14.1	+1.1
PRRZ	Plateau Road	5.96	220	P	Pn	10 52 13.1	-0.1
MTHZ	Maungataniwha	6.00	215	P	Pn	10 52 14.3	+0.5
WHHZ	Waihua	6.00	212	P	Pn	10 52 13.3	-0.5
GRRZ	Galatos Road	6.01	223	P	Pn	10 52 15.2	+1.2
ALRZ	Allen Road	6.03	220	P	Pn	10 52 13.7	-0.5
WPRZ	Whakapapatarin	6.10	221	P	Pn	10 52 15.8	+0.7
MRHZ	Matea Rd	6.20	218	P	Pn	10 52 15.4	-1.1
NMHZ	Naumai	6.21	214	P	Pn	10 52 16.6	-0.1
ARHZ	Aropaoanui	6.26	212	P	Pn	10 52 16.0	-1.3
KUTZ	Kaahu Road	6.27	223	P	Pn	10 52 18.1	+0.7
WHTZ	Whakaora	6.32	221	P	Pn	10 52 19.3	+1.2
TLZ	Tolley Road	6.32	226	P	Pn	10 52 19.0	+0.8
HATZ	Hinemaiaia	6.41	219	P	Pn	10 52 19.0	-0.4
BKZ	Black Stump Fm	6.42	215	P	Pn	10 52 18.4	-1.1
WATZ	Wairara	6.47	222	P	Pn	10 52 20.0	-0.2
MCHZ	McNeill Hill	6.54	213	P	Pn	10 52 20.2	-1.0
CKHZ	Cape Kidnapper	6.56	210	P	Pn	10 52 20.6	-0.7
RATZ	Rangitukua	6.56	221	P	Pn	10 52 21.9	+0.5
RITZ	Rihia Road	6.59	220	P	Pn	10 52 21.1	-0.8
KWHZ	Kaweka Forest	6.65	214	P	Pn	10 52 21.7	-1.0
KATZ	Kakaramea	6.68	221	P	Pn	10 52 23.1	-0.1
KAHZ	Kahuranaki	6.75	210	P	Pn	10 52 23.3	-0.8
KRVZ	Karewarewa	6.79	220	P	Pn	10 52 24.0	-0.7
WTVZ	West Tongariro	6.84	220	P	Pn	10 52 24.4	-0.9
KRHZ	Kereru	6.85	214	P	Pn	10 52 23.6	-1.8
HIZ	Hauiti	6.85	227	P	Pn	10 52 25.4	0.0
NGZ	Ngauruhoe	6.88	220	P	Pn	10 52 25.8	0.0
BHHZ	Black Hill Sta	6.88	216	P	Pn	10 52 23.6	-2.1
TWVZ	Taurewa	6.89	221	P	Pn	10 52 25.8	-0.2
COVZ	Chateau Observ	6.92	220	P	Pn	10 52 26.1	-0.4
FWVZ	Far West T-bar	6.96	220	P	Pn	10 52 26.2	-0.9
PXZ	Pawanui	6.96	209	P	Pn	10 52 25.0	-1.8
WHVZ	Whangaehu Hut	6.96	219	P	Pn	10 52 26.3	-0.7
MOVZ	Moawhango	6.97	218	P	Pn	10 52 26.0	-1.0
MTVZ	Mangateitei	7.10	219	P	Pn	10 52 27.9	-0.8
PNHZ	Pukenui	7.15	213	P	Pn	10 52 26.8	-2.6
WPHZ	Waipukurau	7.16	211	P	Pn	10 52 28.4	-1.2
PRHZ	Porangahau	7.25	209	P	Pn	10 52 28.6	-2.2
VRZ	Vera Road	7.31	224	P	Pn	10 52 31.0	-0.6
TSZ	Takapari Road	7.37	214	P	Pn	10 52 29.5	-3.0
DVHZ	Dannevirke	7.47	212	P	Pn	10 52 31.5	-2.4
ANWZ	Angora Road	7.48	209	P	Pn	10 52 31.6	-2.3
WAZ	Wanganui	7.62	220	P	Pn	10 52 34.1	-1.7
POWZ	Post Office Ro	7.73	213	P	Pn	10 52 35.5	-1.7
LREZ	Lake Rotokare	7.74	223	P	Pn	10 52 36.6	-0.8
BFZ	Birch Farm	7.77	210	P	Pn	10 52 35.7	-2.0
PRWZ	Pori Road	7.77	211	P	Pn	10 52 36.1	-1.8
OHWZ	Ohakea	7.79	216	P	Pn	10 52 36.1	-2.0
CPWZ	Castlepoint	7.97	209	P	Pn	10 52 39.6	-1.0
TIWZ	Tintock	7.99	211	P	Pn	10 52 38.7	-2.2
RPZ	Rata Peaks	12.52	216	P	Pn	10 53 35.4	-6.6
	1.3nm,0.3s,baz=295,slow=2.3,SNR=7.1						
RPZ				S	Sn	10 55 43.0	-17
	1.2nm,0.3s,baz=324,slow=19,SNR=9.2						
DZM	Mont Dzumac	17.67	309	LR	LR	10 59 41.4	
	comp=Z,106nm,20.0s,baz=194,slow=32						
ASAR	Alice Springs	42.43	271	P	P	10 58 29.0	-3.6
	0.2nm,0.4s,baz=112,slow=7.3,SNR=8.8						
WRA	Warramunga Arr	43.75	276	P	P	10 58 41.5	-1.7
	0.6nm,0.3s,baz=115,slow=8.1,SNR=50						
MKAR	Makanchi Array	119.58	309	PKP	PKPdf	11 09 26.4	+1.2
	0.2nm,0.7s,baz=108,slow=4.7,SNR=2.1						
KURBB	Kurchatov Arra	123.09	312	PKP	PKPdf	11 09 33.0	+1.2
	0.2nm,0.3s,baz=121,slow=1.9,SNR=2.7						
TORD	Torodi Ar. Bea	159.22	181	PKPab	PKPab	11 11 17.4	+5.5
	0.3nm,0.7s,baz=168,slow=3.5,SNR=4.5						

MAN 24 10:56:59.9±0.69N×122.90E,h32km±3km,mb3.9,ML2.6,MS2.2, 1C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	Sibulan	0.48	136	⇑*iP*	Pn	10 57 11.0	+1.3
SNPH				*i*S	Sn	10 57 18.4	+1.4
TBP	Tagbilaran	0.95	90	*e*P	Pn	10 57 16.4	+0.3
TBP				*i*S	Sn	10 57 28.3	-0.2
GUIM	Jordan	0.98	342	*e*P	Pn	10 57 16.7	+0.1
DCPH	Dipolog City	1.19	158	⇓*e*P	Pb	10 57 24.9	+4.0
DCPH				*e*S	Sb	10 57 37.3	+1.2
LLP	Lapu-Lapu	1.22	59	*e*P	Pn	10 57 18.2	-1.6
LLP				*e*S	Sn	10 57 30.6	-4.6
MSLP	Maasin	1.98	77	*e*P	Pn	10 57 31.3	+1.0
MSLP				*e*S	Sn	10 57 55.5	+1.5

MEX 24 10:58:37.2±0.6,16.41N×98.57W,h16km±7km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.42	92	*i*P	Pg	10 58 44.3	-1.5
PNIG				*e*S	Sg	10 58 50.8	-0.8
TLIG	Tlapa	1.15	0	*i*P	Pn	10 58 55.1	-3.7
TLIG				*e*S	Sb	10 59 08.9	-4.7
ACX	Acapulco	1.32	291	*i*P	Pn	10 58 58.9	-2.1
ACX				*e*S	Sn	10 59 13.9	-4.5
CAIG	El Cayaco	1.75	292	*e*P	Pn	10 59 03.0	-3.9
CAIG				*i*S	Sn	10 59 24.4	-4.5
VHO	Vista Hermosa	1.88	69	*e*P	Pn	10 59 06.1	-2.8
VHO				*e*S	Sn	10 59 27.6	-4.9
PLIG	Platanillo	2.17	336	*e*P	Pn	10 59 31.0	-2.8
PLIG				*e*S	Sn	10 59 34.7	-4.7

ISCJB ***24*** *11:06:26.7±0.2,60.69N±0.02×6.65E±0.03,h10km,Error ellipse: s-maj=2.6km s-min=2.0km az=162.4*
IDC ***24*** *11:06:26.4±2.1,60.69N×6.14E,h0km,mb1 3.4/5, mb1mx3.0/71,mbtmp3.3/5,ML3.2/5,Error ellipse: s-maj=22.2km s-min=19.2km az=167.0*
CSEM ***24*** *11:06:27.5±0.1,60.66N×6.54E,h5km,ML3.0,Error ellipse: s-maj=3.1km s-min=2.5km az=161.0*
NAO ***24*** *11:06:28.4±0.7,60.65N×6.55E,ML3.2*
HEL ***24*** *11:06:29.4±0.1,60.62N×6.54E,h15km,ML3.0, ML2.5(UPP),ML3.0(BER)*
BGS ***24*** *11:06:30.9±0.9,60.60N×6.36E,h24km±9km,ML3.3*
BER ***24*** *11:06:30.5±1.6,60.63N×6.40E,h15km±4km,ML3.0, ML3.2(NAO),Fault plane solution: NP1:φ≈53.10000°, δ76.90000°,λ170.40000°.*
UPP ***24*** *11:06:32.6,60.38N×7.09E,h0km,ML2.5*
ISC 24 11:06:26.2±0.6,60.59N±0.02×6.32E±0.02,h10km,n212, σ2s11/342,13C-15D,Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BER	Bergen	0.53	247	P	Pn	11 06 41.1	+1.4
BER				*e*S	Sn	11 06 48.8	0.0
	SNR=96						
BER	Bergen	0.53	247	⇓*i*P	Pn	11 06 41.2	+1.4
BER				*e*S	Sn	11 06 48.8	0.0
BER				IAML		11 06 49.1	
	comp=Z,2μm,0.2s						
BER	Bergen	0.53	247	Pg	Pn	11 06 41.2	+1.4
BER				Lg	Lg	11 06 48.9	
BER	Bergen	0.53	247	⇓*i*P	Pn	11 06 41.2	+1.4
BER				*e*S	Sn	11 06 48.8	0.0
BER				IAML		11 06 49.1	
	comp=Z,2μm,0.2s						
BER	Bergen	0.53	247	⇓*i*P	Pn	11 06 41.2	+1.4
BER				*e*S	Sn	11 06 48.8	0.0
BER				AML	AML	11 06 49.1	
	comp=N,2μm,0.2s						
BER				AML	AML	11 06 49.5	
	comp=E,1μm,0.1s						
ASK	Askoy	0.57	259	⇓*i*P	Pn	11 06 41.7	+1.4
ASK				*e*S	Sn	11 06 50.0	+0.3
ASK				IAML		11 06 50.4	
	comp=Z,2μm,0.1s						
ASK	Askoy	0.57	259	⇓*i*P	Pn	11 06 41.7	+1.4
ASK				*e*S	Sn	11 06 50.0	+0.3
ASK				IAML		11 06 50.4	
	comp=Z,2μm,0.1s						
HYA	Hoyanger	0.58	354	⇑*i*P	Pn	11 06 40.5	+0.1
	SNR=96						
HYA				S	Sb	11 06 48.2	+1.6
HYA	Hoyanger	0.58	354	⇑*i*P	Pn	11 06 40.5	+0.1
HYA				*e*S	Sb	11 06 48.3	+1.6
HYA				IAML		11 06 48.5	
	comp=Z,2μm,0.1s						
HYA	Hoyanger	0.58	354	⇑*i*P	Pn	11 06 40.5	+0.1
HYA				*e*S	Sb	11 06 48.3	+1.6
HYA				IAML		11 06 48.5	
	comp=Z,2μm,0.1s						
ODD1	Odda	0.70	167	P	Pn	11 06 43.6	+1.4
ODD1				*e*S	Sn	11 06 53.2	+0.1
	SNR=94						
ODD1	Odda	0.70	167	⇑*i*P	Pn	11 06 43.7	+1.4
ODD1				*e*S	Sn	11 06 53.2	+0.1
ODD1				IAML		11 06 53.4	
	comp=Z,1μm,0.1s						
ODD1	Odda	0.70	167	⇑*i*P	Pn	11 06 43.7	+1.4
ODD1				*e*S	Sn	11 06 53.2	+0.1
ODD1				IAML		11 06 53.4	
	comp=Z,1μm,0.1s						
SUE	Sulen	0.89	302	⇓*i*P	Pn	11 06 46.5	+1.7
	SNR=93						
SUE				*e*S	Sn	11 06 58.7	+0.9
	SNR=93						
SUE	Sulen	0.89	302	⇓*i*P	Pn	11 06 46.5	+1.7
SUE				*e*S	Sn	11 06 58.7	+0.9
SUE				IAML		11 06 59.2	
	comp=Z,1μm,0.3s						
SUE	Sulen	0.89	302	⇓*i*P	Pn	11 06 46.5	+1.7
SUE				*e*S	Sn	11 06 58.7	+0.9
SUE				IAML		11 06 59.2	
	comp=Z,1μm,0.3s						
BLS5	Blasjo	1.18	177	⇑*e*P	Pg	11 06 51.7	+2.9
	SNR=55						
BLS5				*e*S	Sn	11 07 07.2	+2.4
	SNR=55						
BLS5	Blasjo	1.18	177	⇑*e*P	Pg	11 06 51.7	+2.9
BLS5				*e*S	Sn	11 07 07.2	+2.4
BLS5				IAML		11 07 09.1	
	comp=Z,569nm,0.4s						
BLS5	Blasjo	1.18	177	⇑*e*P	Pg	11 06 51.7	+2.9
BLS5				*e*S	Sn	11 07 07.2	+2.4
BLS5				IAML		11 07 09.1	
	comp=Z,569nm,0.4s						
FOO	Floro	1.18	329	P	Pg	11 06 50.8	+1.9
FOO				*e*S	Sn	11 07 05.9	+1.0
	SNR=55						
FOO	Floro	1.18	329	⇓*e*P	Pg	11 06 50.9	+1.9
FOO				*e*S	Sn	11 07 05.9	+1.0
FOO				IAML		11 07 07.5	
	comp=Z,2μm,0.2s						
FOO	Floro	1.18	329	⇓*e*P	Pg	11 06 50.9	+1.9
FOO				*e*S	Sn	11 07 05.9	+1.0
FOO				IAML		11 07 07.5	
	comp=Z,2μm,0.2s						
FOO	Floro	1.18	329	*e*P	Pg	11 06 50.9	+1.9
FOO				*e*S	Sn	11 07 05.8	+1.0
FOO				AML	AML	11 07 07.6	
	comp=N,658nm,0.2s						
FOO				AML	AML	11 07 07.7	
	comp=E,406nm,0.4s						
KMY	Karmoy	1.49	202	P	Pg	11 06 55.7	+1.1
KMY	Karmoy	1.49	202	*i*P	Pg	11 06 55.8	+1.1
KMY				IAML		11 07 18.8	
	comp=Z,358nm,0.2s						
KMY	Karmoy	1.49	202	*i*P	Pg	11 06 55.8	+1.1
KMY				IAML		11 07 18.8	
	comp=Z,358nm,0.2s						
AKN	Aaknes	1.62	11	⇑*e*P	Pb	11 06 56.6	+0.4
	SNR=55						
AKN	Aaknes	1.62	11	*e*Pg	Pb	11 06 57.6	+1.4
	SNR=91						
AKN				Lg	Lg	11 07 18.0	
AKN	Aaknes	1.62	11	⇑*e*P	Pb	11 06 56.6	+0.4
AKN				*e*Pg	Pb	11 06 57.6	+1.4
AKN				*e*Sg	Sg	11 07 18.6	+0.2
AKN	Aaknes	1.62	11	Pg	Pb	11 06 56.7	+0.4
AKN				Lg	Lg	11 07 18.0	
AKN	Aaknes	1.62	11	⇑*e*P	Pb	11 06 56.6	+0.4
AKN				*e*PG	Pb	11 06 57.6	+1.4
AKN				*e*SG	Sg	11 07 18.6	+0.2
STAV	Stavanger	1.69	191	*e*P	Pb	11 06 58.3	+0.9
	SNR=55						
STAV	Stavanger	1.69	191	*e*P	Pb	11 06 58.3	+0.9
STAV				IAML		11 07 24.0	
	comp=Z,212nm,0.1s						
STAV	Stavanger	1.69	191	*e*P	Pb	11 06 58.3	+0.9
STAV				IAML		11 07 24.0	
	comp=Z,212nm,0.1s						
KONO	Kongsberg	1.90	119	P	Pn	11 07 00.3	+1.8
KONO	Kongsberg	1.90	119	⇓*e*P	Pn	11 07 00.4	+1.8
KONO				IAML		11 07 27.1	
	comp=Z,242nm,0.2s						
KONO	Kongsberg	1.90	119	⇓*e*P	Pn	11 07 00.4	+1.8
KONO				IAML		11 07 27.1	
	comp=Z,242nm,0.2s						
KONO	Kongsberg	1.90	119	*e*P	Pn	11 07 00.7	+2.1
DOMB	Dombas	1.97	41	P	Pn	11 07 01.7	+2.1
DOMB				Sg	Sb	11 07 28.7	+2.1
DOMB	Dombas	1.97	41	⇑*e*P	Pn	11 07 01.8	+2.1
DOMB				*e*Sg	Sb	11 07 28.8	+2.1
DOMB				IAML		11 07 29.6	
	comp=Z,335nm,0.2s						
DOMB	Dombas	1.97	41	⇑*e*P	Pn	11 07 01.8	+2.1
DOMB				*e*SG	Sb	11 07 28.8	+2.1
DOMB				IAML		11 07 29.6	
	comp=Z,335nm,0.2s						
MOL	Molde	2.07	16	*e*P	Pn	11 07 01.9	+0.9
MOL	Molde	2.07	16	*e*Pg	Pb	11 07 04.1	+0.3
	SNR=91						
MOL				*e*S	Sn	11 07 25.4	-1.4
MOL				*e*Sg	Sb	11 07 31.1	+1.6
	SNR=91						
MOL	Molde	2.07	16	*e*P	Pn	11 07 02.0	+1.1
MOL				*e*Pg	Pb	11 07 04.1	+0.3
MOL				*e*Sg	Sb	11 07 31.1	+1.6
MOL	Molde	2.07	16	*e*P	Pn	11 07 02.0	+1.1
MOL				*e*PB	Pb	11 07 04.1	+0.3
MOL				*e*SG	Sb	11 07 31.1	+1.6
MOL	Molde	2.07	16	*e*P	Pn	11 07 01.9	+0.9
MOL				*e*S	Sn	11 07 25.4	-1.4
MOL				AML	AML	11 07 35.8	
	comp=N,167nm,0.3s						
MOL				AML	AML	11 07 36.1	
	comp=E,252nm,0.3s						
NBO	NORSAR Subarra	2.23	77	Pb	Pn	11 07 05.2	+2.1
NBO	NORSAR Subarra	2.23	77	Pn	Pn	11 07 05.3	+2.1
NBO				Pg	Pb	11 07 07.8	+1.2
NBO				Sg	Sb	11 07 35.1	+0.9
NBO	NORSAR Subarra	2.23	77	Pn	Pn	11 07 05.3	+2.1
NBO				Pg	Pb	11 07 07.8	+1.2
NBO				Lg	Lg	11 07 35.1	
NBO	NORSAR Subarra	2.23	77	*e*PB	Pn	11 07 05.3	+2.1
NBO				*e*PG	Pb	11 07 07.8	+1.2
NBO				*e*SG	Sb	11 07 35.1	+0.9
NAO	NORSAR Subarra	2.23	82	Pb	Pn	11 07 05.4	+2.2
NAO	NORSAR Subarra	2.23	82	Pn	Pn	11 07 05.4	+2.2
NAO				Pg	Pb	11 07 07.8	+1.2
NAO				Sg	Sb	11 07 35.2	+1.0
NAO	NORSAR Subarra	2.23	82	Pn	Pn	11 07 05.4	+2.2
NAO				Pg	Pb	11 07 07.8	+1.2
NAO				Lg	Lg	11 07 35.2	
NAO	NORSAR Subarra	2.23	82	*e*PB	Pn	11 07 05.4	+2.2
NAO				*e*PG	Pb	11 07 07.8	+1.2
NAO				*e*SG	Sb	11 07 35.2	+1.0
OSL	Oslo	2.29	105	P	Pn	11 07 06.4	+2.4
OSL	Oslo	2.29	105	*e*P	Pn	11 07 06.5	+2.4
OSL				IAML		11 07 47.0	
	comp=Z,127nm,0.2s						
OSL	Oslo	2.29	105	*e*P	Pn	11 07 06.5	+2.4
OSL				IAML		11 07 47.0	
	comp=Z,127nm,0.2s						
SNART	Snartemo	2.31	168	*e*P	Pn	11 07 06.8	+2.6
	SNR=55						
SNART	Snartemo	2.31	168	*e*P	Pn	11 07 06.8	+2.6
SNART				IAML		11 07 40.6	
	comp=Z,414nm,0.2s						
SNART	Snartemo	2.31	168	*e*P	Pn	11 07 06.8	+2.6
SNART				IAML		11 07 40.6	
	comp=Z,414nm,0.2s						
NC2	NORSAR Subarra	2.31	71	P	Pn	11 07 06.2	+1.9
NC2	NORSAR Subarra	2.31	71	Pn	Pn	11 07 06.2	+1.9
NC2				Pg	Pb	11 07 09.0	+1.1
NC2				Sg	Sb	11 07 37.2	+0.6
NC2	NORSAR Subarra	2.31	71	Pn	Pn	11 07 06.2	+1.9
NC2				Pg	Pb	11 07 09.0	+1.1
NC2				Lg	Lg	11 07 37.2	
NC2	NORSAR Subarra	2.31	71	*e*P	Pn	11 07 06.2	+1.9
NC2				*e*PG	Pb	11 07 09.0	+1.1
NC2				*e*SG	Sb	11 07 37.2	+0.6
NB2	NORSAR Subarra	2.44	77	P	Pn	11 07 07.6	+1.5
NB2	NORSAR Subarra	2.44	77	Pn	Pn	11 07 07.7	+1.5
	baz=265,slow=12						
NB2				Pg	Pb	11 07 11.2	+1.1
NB2				Sg	Sb	11 07 41.4	+1.1
	baz=262,slow=37						
NB2	NORSAR Subarra	2.44	77	Pn	Pn	11 07 07.7	+1.5
	baz=265,slow=12						
NB2				Pg	Pb	11 07 11.2	+1.1
NB2				Lg	Lg	11 07 41.4	
	baz=262,slow=37						
NB2	NORSAR Subarra	2.44	77	*e*P	Pn	11 07 07.7	+1.5
NB2				*e*PG	Pb	11 07 11.2	+1.1
NB2				*e*SG	Sb	11 07 41.4	+1.1
NOA	NORSAR Array B	2.44	77	Pn	Pn	11 07 07.0	+0.9
	comp=Z,6.0nm,0.3s,baz=291,slow=14,SNR=99						
NOA				Pg	Pb	11 07 11.1	+0.9
	comp=Z,16nm,0.3s,baz=261,slow=14,SNR=124						
NOA				Sn	Sn	11 07 38.7	+2.6
	comp=Z,72nm,0.3s,baz=277,slow=16,SNR=15						
NC6	NORSAR Subarra	2.54	84	P	Pn	11 07 08.9	+1.6
NC6	NORSAR Subarra	2.54	84	Pn	Pn	11 07 08.9	+1.6
NC6				Pg	Pb	11 07 13.0	+1.3
NC6				Sg	Sb	11 07 43.9	+0.9
NC6	NORSAR Subarra	2.54	84	Pn	Pn	11 07 08.9	+1.6
NC6				Pg	Pb	11 07 13.0	+1.3
NC6				Lg	Lg	11 07 43.9	
NC6	NORSAR Subarra	2.54	84	*e*P	Pn	11 07 08.9	+1.6
NC6				*e*PG	Pb	11 07 13.0	+1.3
NC6				*e*SG	Sb	11 07 43.9	+0.9
NC602	NORSAR Array S	2.58	85	⇓*e*P	Pn	11 07 09.2	+1.3
	SNR=55						
NC602	NORSAR Array S	2.58	85	⇓*e*P	Pn	11 07 09.2	+1.3
NC602				IAML		11 07 47.2	
	comp=Z,2μm,0.1s						
NC602	NORSAR Array S	2.58	85	⇓*e*P	Pn	11 07 09.2	+1.3
NC602				IAML		11 07 47.2	
	comp=Z,2μm,0.1s						
NRA0	NORESS Array S	2.58	85	P	Pn	11 07 08.3	+0.4
NRA0	NORESS Array S	2.58	85	Pn	Pn	11 07 08.4	+0.4
	SNR=55						
NRA0	NORESS Array S	2.58	85	Pg	Pb	11 07 12.6	+0.2
	SNR=91						
NRA0				S	Sn	11 07 37.9	-1.3
NRA0				Sn	Sn	11 07 38.0	-1.3
	SNR=55						
NRA0				Sg	Sb	11 07 44.5	+0.4
	SNR=91						
NRA0	NORESS Array S	2.58	85	Pn	Pn	11 07 08.4	+0.4
	baz=274,slow=12						
NRA0				Pg	Pb	11 07 12.7	+0.2
	baz=276,slow=18						
NRA0				Sn	Sn	11 07 38.0	-1.3
	baz=276,slow=28						
NRA0				Sg	Sb	11 07 44.5	+0.4
	baz=283,slow=28						
NRA0	NORESS Array S	2.58	85	Pn	Pn	11 07 08.4	+0.4
	baz=274,slow=12						
NRA0				Pg	Pb	11 07 12.7	+0.2
	baz=276,slow=18						
NRA0				Sn	Sn	11 07 38.0	-1.3
	baz=276,slow=28						
NRA0				Lg	Lg	11 07 44.5	
	baz=283,slow=28						
NRA0	NORESS Array S	2.58	85	*e*P	Pn	11 07 08.4	+0.4
NRA0				*e*PG	Pb	11 07 12.7	+0.2
NRA0				*e*S	Sn	11 07 38.0	-1.3
NRA0				*e*SG	Sb	11 07 44.5	+0.4
NC3	NORSAR Subarra	2.58	73	P	Pn	11 07 09.5	+1.5
NC3	NORSAR Subarra	2.58	73	Pn	Pn	11 07 09.5	+1.5
NC3				Pg	Pb	11 07 13.7	+1.3
NC3				Sg	Sb	11 07 45.2	+1.1
NC3	NORSAR Subarra	2.58	73

	baz=278,slow=28							
HFS					Sg	Sb	11 08 21.3	+5.1
	baz=278,slow=37							
HFS	**Hagfors**	**3.69**	**94**		Pn	**Pn**	**11 07 24.8**	**+1.5**
	baz=271,slow=16							
HFS					Sn	**Sn**	**11 08 05.5**	**-1.3**
	baz=278,slow=28							
HFS					Lg	Lg	11 08 21.3	
	baz=278,slow=37							
HFS	**Hagfors**	**3.69**	**94**	*eP*	**Pn**	**Pn**	**11 07 24.8**	**+1.5**
HFS				*eS*	**Sn**	**Sn**	**11 08 05.5**	**-1.3**
HFS				*eSG*	**Sb**	**Sb**	**11 08 21.3**	**+5.1**
LRW	**Lerwick**	**3.75**	**266**	*eP*	**Pn**	**Pn**	**11 07 25.9**	**+1.8**
	SNR=53							
LRW	**Lerwick**	**3.75**	**266**	*eP*	**Pn**		**11 07 25.9**	**+1.8**
LRW				*eS*	**Sn**		**11 08 06.4**	**-1.8**
LRW				IAML			11 08 11.4	
	comp=Z,16nm,0.3s							
LRW				AML	AML		11 08 11.4	
	comp=E,21nm,0.3s							
LRW				AML	AML		11 08 13.2	
	comp=N,21nm,0.4s							
LRW	**Lerwick**	**3.75**	**266**	*eP*	**Pn**	**Pn**	**11 07 25.9**	**+1.8**
LRW				*eS*	**Sn**	**Sn**	**11 08 06.4**	**-1.8**
LRW				AML	AML		11 08 11.4	
	comp=E,21nm,0.3s							
LRW				AML	AML		11 08 13.2	
	comp=N,21nm,0.4s							
SAN1	**Sandwick**	**3.80**	**265**	*eP*	**Pn**	**Pn**	**11 07 26.5**	**+1.7**
	SNR=53							
SAN1	**Sandwick**	**3.80**	**265**	*eP*	**Pn**		**11 07 26.5**	**+1.7**
SAN1	**Sandwick**	**3.80**	**265**	*eP*	**Pn**		**11 07 26.5**	**+1.7**
SAN1	**Sandwick**	**3.80**	**265**	*eP*	**Pn**		**11 07 26.5**	**+1.7**
NASU	**Vaermlandsnaes**	**3.85**	**113**	*i* P	**Pn**		**11 07 26.7**	**+1.2**
NASU	**Vaermlandsnaes**	**3.85**	**113**	P	**Pn**		**11 07 26.7**	**+1.2**
NASU	**Vaermlandsnaes**	**3.85**	**113**	*eP*	**Pn**		**11 07 26.7**	**+1.2**
ONSU	**Onsala**	**4.32**	**135**	P	**Pn**		**11 07 33.4**	**+1.5**
ONSU				S	**Sn**		**11 08 19.2**	**-3.0**
ONSU	**Onsala**	**4.32**	**135**	P	**Pn**		**11 07 33.4**	**+1.5**
ONSU				S	**Sn**		**11 08 19.2**	**-3.0**
ONSU	**Onsala**	**4.32**	**135**	*eP*	**Pn**		**11 07 33.4**	**+1.5**
ONSU				*eS*	**Sn**		**11 08 19.2**	**-3.0**
MUD	**Monsted U'grnd**	**4.41**	**159**	*i* P	**Pn**		**11 07 36.9**	**+3.8**
MUD	**Monsted U'grnd**	**4.41**	**159**	*eP*	**Pn**		**11 07 36.9**	**+3.8**
BORU	**Boraas**	**4.46**	**129**	P	**Pn**		**11 07 35.0**	**+1.2**
BORU	**Boraas**	**4.46**	**129**	P	**Pn**		**11 07 35.0**	**+1.2**
BORU	**Boraas**	**4.46**	**129**	*eP*	**Pn**		**11 07 35.0**	**+1.2**
NRAU	**Nora**	**4.49**	**99**	P	**Pn**		**11 07 35.7**	**+1.6**
NRAU	**Nora**	**4.49**	**99**	*eP*	**Pn**		**11 07 35.7**	**+1.6**
FKPU	**Falk**	**4.51**	**120**	P	**Pn**		**11 07 35.5**	**+1.1**
FKPU	**Falk**	**4.51**	**120**	P	**Pn**		**11 07 35.5**	**+1.1**
FKPU	**Falk**	**4.51**	**120**	*eP*	**Pn**		**11 07 35.5**	**+1.1**
ASKU	**Askersund**	**4.63**	**108**	P	**Pn**		**11 07 37.5**	**+1.4**
ASKU	**Askersund**	**4.63**	**108**	P	**Pn**		**11 07 37.6**	**+1.4**
ASKU	**Askersund**	**4.63**	**108**	*eP*	**Pn**		**11 07 37.6**	**+1.4**
FABU	**Falkenberg**	**4.90**	**134**	P	**Pn**		**11 07 41.3**	**+1.4**
FABU	**Falkenberg**	**4.90**	**134**	P	**Pn**		**11 07 41.3**	**+1.4**
FABU	**Falkenberg**	**4.90**	**134**	*eP*	**Pn**		**11 07 41.3**	**+1.4**
GNOU	**Gnosjoe**	**5.08**	**127**	P	**Pn**		**11 07 43.8**	**+1.5**
GNOU	**Gnosjoe**	**5.08**	**127**	P	**Pn**		**11 07 43.9**	**+1.5**
GNOU	**Gnosjoe**	**5.08**	**127**	*eP*	**Pn**		**11 07 43.9**	**+1.5**
ESKU	**Eskilstuna**	**5.25**	**101**	P	**Pn**		**11 07 46.5**	**+1.9**
ESKU	**Eskilstuna**	**5.25**	**101**	P	**Pn**		**11 07 46.5**	**+1.9**
ESKU	**Eskilstuna**	**5.25**	**101**	*eP*	**Pn**		**11 07 46.5**	**+1.9**
LNKU	**Linkoeping**	**5.26**	**113**	P	**Pn**		**11 07 46.1**	**+1.4**
LNKU	**Linkoeping**	**5.26**	**113**	P	**Pn**		**11 07 46.2**	**+1.4**
LNKU	**Linkoeping**	**5.26**	**113**	*eP*	**Pn**		**11 07 46.2**	**+1.4**
OSTU	**Oestervaala**	**5.37**	**89**	P	**Pn**		**11 07 47.9**	**+1.6**
OSTU	**Oestervaala**	**5.37**	**89**	P	**Pn**		**11 07 48.0**	**+1.6**
OSTU	**Oestervaala**	**5.37**	**89**	*eP*	**Pn**		**11 07 48.0**	**+1.6**
IGGU	**Iggoen**	**5.41**	**82**	P	**Pn**		**11 07 48.4**	**+1.7**
IGGU	**Iggoen**	**5.41**	**82**	P	**Pn**		**11 07 48.4**	**+1.7**
IGGU	**Iggoen**	**5.41**	**82**	*eP*	**Pn**		**11 07 48.4**	**+1.7**
BACU	**Backbrunna**	**5.43**	**93**	P	**Pn**		**11 07 48.8**	**+1.7**
BACU	**Backbrunna**	**5.43**	**93**	P	**Pn**		**11 07 48.8**	**+1.7**
BACU	**Backbrunna**	**5.43**	**93**	*eP*	**Pn**		**11 07 48.8**	**+1.7**
MLA1	**Latheron**	**5.45**	**249**	*eS*	**Sn**		**11 08 46.7**	**-3.2**
MLA1	**Latheron**	**5.45**	**249**	*eS*	**Sn**		**11 08 46.7**	**-3.2**
BIGH	**Upper Bighouse**	**5.61**	**252**	*eP*	**Pn**		**11 07 51.5**	**+1.9**
	SNR=53							
BIGH	**Upper Bighouse**	**5.61**	**252**	*eP*	**Pn**		**11 07 51.5**	**+1.9**
BIGH				*eS*	**Sn**		**11 08 50.2**	**-3.8**
BIGH				AML	AML		11 08 53.1	
	comp=N,42nm,0.5s							
BIGH				AML	AML		11 08 54.0	
	comp=E,30nm,0.2s							
BIGH	**Upper Bighouse**	**5.61**	**252**	*eP*	**Pn**		**11 07 51.5**	**+1.9**
BIGH				AML	AML		11 08 53.1	
	comp=N,42nm,0.5s							
BIGH				AML	AML		11 08 54.0	
	comp=E,30nm,0.2s							
BIGH	**Upper Bighouse**	**5.61**	**252**	*eP*	**Pn**		**11 07 51.5**	**+1.9**
BIGH				*eS*	**Sn**		**11 08 50.2**	**-3.8**
BIGH				AML	AML		11 08 53.1	
	comp=N,42nm,0.5s							
BIGH				AML	AML		11 08 54.0	
	comp=E,30nm,0.2s							
MCD	**Coleburn Disti**	**5.78**	**243**	*eP*	**Pn**		**11 07 54.4**	**+2.4**
MCD				*eS*	**Sn**		**11 08 54.9**	**-3.4**
MCD				AML	AML		11 09 03.2	
	comp=N,12nm,0.6s							
MCD				AML	AML		11 09 10.6	
	comp=E,12nm,0.3s							
MCD	**Coleburn Disti**	**5.78**	**243**	*eP*	**Pn**		**11 07 54.4**	**+2.4**
MCD				AML	AML		11 09 03.2	
	comp=N,12nm,0.6s							
MCD				AML	AML		11 09 10.6	
	comp=E,12nm,0.3s							
MCD	**Coleburn Disti**	**5.78**	**243**	*eP*	**Pn**		**11 07 54.4**	**+2.4**
MCD				*eS*	**Sn**		**11 08 54.9**	**-3.4**
MCD				AML	AML		11 09 03.2	
	comp=N,12nm,0.6s							
MCD				AML	AML		11 09 10.6	
	comp=E,12nm,0.3s							
MME1	**Meikle Cairn**	**5.82**	**240**	*eP*	**Pn**		**11 07 54.3**	**+1.8**
	SNR=53							
MME1	**Meikle Cairn**	**5.82**	**240**	*eP*	**Pn**		**11 07 54.3**	**+1.8**
MME1				*eS*	**Sn**		**11 08 55.3**	**-3.9**
MME1	**Meikle Cairn**	**5.82**	**240**	*eP*	**Pn**		**11 07 54.3**	**+1.8**
MME1	**Meikle Cairn**	**5.82**	**240**	*eP*	**Pn**		**11 07 54.3**	**+1.8**
MME1				*eS*	**Sn**		**11 08 55.3**	**-3.9**
DRUM	**Mains of Drumt**	**5.88**	**235**	*eP*	**Pn**		**11 07 55.4**	**+2.1**
	SNR=53							
DRUM	**Mains of Drumt**	**5.88**	**235**	*eP*	**Pn**		**11 07 55.4**	**+2.1**
DRUM				AML	AML		11 09 07.9	
	comp=E,15nm,0.3s							
DRUM				AML	AML		11 09 12.9	
	comp=N,20nm,0.6s							
DRUM	**Mains of Drumt**	**5.88**	**235**	*eP*	**Pn**		**11 07 55.4**	**+2.1**
DRUM				AML	AML		11 09 07.9	
	comp=E,15nm,0.3s							
DRUM				AML	AML		11 09 12.9	
	comp=N,20nm,0.6s							
LLD	**Lille Linde**	**6.14**	**147**	*i* P	**Pn**		**11 07 59.1**	**+2.3**
AAL	**Aland**	**6.79**	**88**	*eP*	**Pn**		**11 08 06.5**	**+0.7**
AAL				*eS*	**Sn**		**11 09 17.8**	**-5.3**
BSD	**Bornholm Skovb**	**7.15**	**136**	*i* P	**Pn**		**11 08 11.5**	**+0.8**
BSD	**Bornholm Skovb**	**7.15**	**136**	*eP*	**Pn**		**11 08 11.5**	**+0.8**
EKA	**Eskdalemuir Ar**	**7.29**	**228**	Pn	**Pn**		**11 08 12.9**	**+0.3**
	baz=33,slow=12,SNR=4.0							
EKA					Sn		**11 09 30.8**	**-4.5**
	baz=18,slow=23,SNR=3.2							
RAF	**Rauma**	**7.57**	**80**	P	**Pn**		**11 08 17.1**	**+0.8**
RAF				S	**Sn**		**11 09 36.4**	**-5.6**
	comp=N,3.2nm,0.2s							
RAF	**Rauma**	**7.57**	**80**	*eP*	**Pn**		**11 08 17.2**	**+0.8**
RAF				*eS*	**Sn**		**11 09 36.5**	**-5.6**
RAF				MSN			11 09 43.1	
	comp=Z,3.2nm,0.2s							
VAF	**Ylistaro**	**8.12**	**65**	*eP*	**Pn**		**11 08 25.1**	**+1.2**
VAF				*eS*	**Sn**		**11 09 49.4**	**-6.2**
VAF	**Ylistaro**	**8.12**	**65**	*eP*	**Pn**		**11 08 25.1**	**+1.2**
VAF				*eS*	**Sn**		**11 09 49.4**	**-6.2**
MEF	**Metsahovi**	**8.95**	**85**	*eP*	**Pn**		**11 08 35.6**	**+0.2**
MEF				S	**Sn**		**11 10 10.0**	**-6.1**
	comp=Z,2.5nm,0.2s							
MEF	**Metsahovi**	**8.95**	**85**	*eP*	**Pn**		**11 08 35.6**	**+0.2**
MEF				*eS*	**Sn**		**11 10 10.0**	**-6.1**
MEF				MSN			11 10 26.5	
	comp=Z,2.5nm,0.2s							
KEF	**Keuruu**	**9.04**	**72**	*eP*	**Pn**		**11 08 37.5**	**+0.9**
KEF				*eS*	**Sn**		**11 10 11.0**	**-7.2**
KEF				MSG			11 10 16.8	
	comp=Z,2.1nm,0.1s							
KEF	**Keuruu**	**9.04**	**72**	*eP*	**Pn**		**11 08 37.5**	**+0.9**
KEF				*eS*	**Sn**		**11 10 11.0**	**-7.2**
KEF				MSN			11 10 16.8	
	comp=Z,2.1nm,0.1s							
MTSE	**Matsula**	**9.05**	**94**	*eP*	**Pn**		**11 08 37.6**	**+0.9**
	SNR=50							
MTSE				S	**Sn**		**11 10 11.4**	**-7.2**
MTSE	**Matsula**	**9.05**	**94**	*eP*	**Pn**		**11 08 37.7**	**+1.0**
MTSE				*eS*	**Sn**		**11 10 11.4**	**-7.2**
OUF	**Merijarvi**	**9.31**	**58**	*eP*	**Pn**		**11 08 40.2**	**-0.1**
OUF				*eS*	Sn		11 10 16.4	-8.5
OUF				MSN			11 10 21.4	
	comp=Z,1.7nm,0.1s							
PVF	**Pernaja**	**9.62**	**82**	*eP*	**Pn**		**11 08 44.3**	**-0.2**
	SNR=51							
PVF				S	Sn		11 10 24.8	-7.6
PVF	**Pernaja**	**9.62**	**82**	*eP*	**Pn**		**11 08 44.3**	**-0.2**
PVF				*eS*	Sn		11 10 24.8	-7.6
FIA0	**FINESS Array S**	**9.62**	**76**	*eP*	**Pn**		**11 08 45.4**	**+0.8**
FIA0				*eS*	Sn		11 10 24.4	-8.1
FIA0	**FINESS Array S**	**9.62**	**76**	Pn	**Pn**		**11 08 45.2**	**+0.6**
	baz=277,slow=14							
FIA0				Lg	Lg		11 11 23.8	
	baz=264,slow=28							
FIA0	**FINESS Array S**	**9.62**	**76**	*eP*	**Pn**		**11 08 45.4**	**+0.8**
FIA0				*eS*	Sn		11 10 24.4	-8.1
FINES	**FINESS Array B**	**9.62**	**76**	Pn	**Pn**		**11 08 45.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=272,slow=12,SNR=9.4							
FINES				Sn	**Sn**		**11 10 27.9**	**-4.7**
	comp=Z,0.4nm,0.3s,baz=279,slow=18,SNR=6.8							
FINES				Lg	Lg		11 11 24.8	
	comp=Z,2.7nm,0.3s,baz=282,slow=24,SNR=11							
FIA1	**FINESS Array S**	**9.62**	**76**	*eP*	**Pn**		**11 08 45.4**	**+0.8**
FIA1				*eS*	Sn		11 10 24.4	-8.2
SUF	**Sumiainen**	**9.66**	**69**	*eP*	**Pn**		**11 08 45.4**	**+0.3**
SUF				*eS*	Sn		11 10 25.9	-7.6
SUF	**Sumiainen**	**9.66**	**69**	*eP*	**Pn**		**11 08 45.4**	**+0.3**
SUF				*eS*	Sn		11 10 25.9	-7.6
TOF	**Tornio**	**9.76**	**48**	*eP*	**Pn**		**11 08 46.5**	**+0.1**
TOF				*eS*	Sn		11 10 28.0	-7.9
OUL	**Oulu**	**10.00**	**55**	*eP*	**Pn**		**11 08 49.3**	**-0.4**
OUL				*eS*	Sn		11 10 33.1	-8.6
OUL	**Oulu**	**10.00**	**55**	*eP*	**Pn**		**11 08 49.3**	**-0.4**
OUL				*eS*	Sn		11 10 33.1	-8.6
LANU	**Lannavaara**	**10.07**	**35**	*eP*	**Pn**		**11 08 51.4**	**+0.6**
LANU				*eS*	**Sn**		**11 10 37.3**	**-6.4**
LANU	**Lannavaara**	**10.07**	**35**	*eP*	**Pn**		**11 08 51.4**	**+0.6**
LANU				*eS*	**Sn**		**11 10 37.3**	**-6.4**
KIF	**Kilpisjarvi**	**10.42**	**30**	*eP*	**Pn**		**11 08 56.0**	**+0.6**
KIF				*eS*	**Sn**		**11 10 46.9**	**-5.2**
KIF	**Kilpisjarvi**	**10.42**	**30**	*eP*	**Pn**		**11 08 56.0**	**+0.6**
KIF				*eS*	**Sn**		**11 10 46.9**	**-5.2**
MSF	**Maaselka**	**11.49**	**53**	*eP*	**Pn**		**11 09 09.3**	**-0.9**
MSF				*eS*	Sn		11 11 08.1	-10
MSF	**Maaselka**	**11.49**	**53**	*eP*	**Pn**		**11 09 09.3**	**-0.9**
MSF				*eS*	Sn		11 11 08.1	-10
KU6	**Riekki**	**11.86**	**53**	*eP*	**Pn**		**11 09 13.9**	**-1.3**
KU6				*eS*	Sn		11 11 17.4	-10
KU6	**Riekki**	**11.86**	**53**	*eP*	**Pn**		**11 09 13.9**	**-1.3**
KU6				*eS*	Sn		11 11 17.4	-10
ARA0	**ARCESS Array S**	**12.01**	**34**	Pn	**Pn**		**11 09 15.8**	**-1.5**
	baz=224,slow=14							
ARA0	**ARCESS Array S**	**12.01**	**34**	Pn			**11 09 15.8**	**-1.5**
	baz=224,slow=14							
ARCES	**ARCESS Array B**	**12.01**	**34**	Pn	**Pn**		**11 09 15.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=223,slow=13,SNR=9.1							
ARCES				Sn	Sn		11 11 22.9	-8.2
	comp=Z,0.2nm,0.3s,baz=216,slow=20,SNR=2.6							
ARCES				Lg	Lg		11 12 40.7	
	comp=Z,0.3nm,0.3s,baz=211,slow=28,SNR=5.4							
LOT	**Lotru**	**18.35**	**138**	S	**Sn**		**11 14 07.6**	**+2.1**

*IDC **24** 11:06:49.3±0.9,50.°84N×176.°23E,h0km,mb3.4/11, mb1 3.7/12,mb1mx3.5/70,mbtmp3.5/12,ML2.8/1, Error ellipse: s-maj=25.7km s-min=17.8km az=167.0*
*ISCJB **24** 11:06:51.3±0.8,50.°8N±0.°1×176.°2E±0.°1,h25km,mb3.5/12, Error ellipse: s-maj=20.2km s-min=12.7km az=176.1*
ISC 24 11:06:53.5±1.0,50.°9N±0.°2×176.°06E±0.°08,h25km,n14, σ1§85/15,mb3.6/12,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**11.52**	**288**	Pn		**Pn**	**11 09 37.7**	**+1.5**
	0.3nm,0.3s,baz=103,slow=18,SNR=5.1							
PETK				Sn		**Sn**	**11 11 39.1**	**-4.8**
	0.2nm,0.3s,baz=56,slow=26,SNR=7.6							
SEY	**Seymchan**	**17.52**	**322**	P		**P**	**11 10 58.9**	**+2.3**
	0.1nm,0.3s,baz=102,slow=22,SNR=4.8							
ILAR	**Eielson Array**	**23.65**	**40**	P		**P**	**11 12 00.5**	**-2.0**
	0.1nm,0.5s,baz=239,slow=8.2,SNR=5.2							
KLR	**Kul'dur**	**28.17**	**284**	P		**P**	**11 12 44.5**	**+1.0**
	0.1nm,0.7s,baz=67,slow=8.7,SNR=7.8							
YKA	**Yellowknife Ar**	**37.87**	**45**	P		**P**	**11 14 06.8**	**-1.0**
	0.1nm,0.6s,baz=282,slow=7.9,SNR=5.3							
PDAR	**Pinedale Array**	**49.51**	**69**	P		**P**	**11 15 41.4**	**-0.6**
	0.6nm,0.8s,baz=354,slow=1.5,SNR=4.3							
SPITS	**Spitsbergen Ar**	**50.56**	**355**	P		**P**	**11 15 50.0**	**+0.8**
	16nm,1.1s,baz=46,slow=4.4,SNR=4.7							
KURBB	**Kurchatov Arra**	**57.04**	**311**	P		**P**	**11 16 37.5**	**+0.6**
	0.3nm,0.4s,baz=42,slow=6.9,SNR=4.5							
BVAR	**Borovoye Array**	**59.09**	**317**	P		**P**	**11 16 51.8**	**+0.6**
	0.5nm,0.5s,baz=45,slow=8.4,SNR=4.4							
TXAR	**Lajitas Array**	**61.92**	**77**	P		**P**	**11 17 11.3**	**+0.3**
	0.2nm,0.7s,baz=328,slow=3.2,SNR=3.5							
AKTO	**Aktyubinsk**	**66.11**	**322**	P		**P**	**11 17 39.5**	**+1.4**
	1.4nm,0.6s,baz=40,slow=7.9,SNR=6.0							
EKA	**Eskdalemuir Ar**	**74.11**	**360**	P		**P**	**11 18 26.6**	**-0.4**
	0.3nm,0.5s,baz=2.3,slow=7.1,SNR=3.0							
WRA	**Warramunga Arr**	**79.52**	**220**	P		**P**	**11 18 57.1**	**-0.8**
	0.4nm,0.8s,baz=33,slow=5.8,SNR=4.8							
ASAR	**Alice Springs**	**83.04**	**218**	P		**P**	**11 19 16.3**	**-0.3**
	0.4nm,0.8s,baz=25,slow=4.6,SNR=3.9							

*ATA **24** 11:19:36.6±0.3,38.°76N×38.°93E,h29km±2km, ML2.0, MW2.1*
*ISK **24** 11:19:36.9,38.°75N×38.°87E,h10km, MD2.6/3*
*DDA **24** 11:19:36.9,38.°74N×38.°90E,h7km,Ml2.4*
*ISCJB **24** 11:19:37.4±0.5,38.°74N±0.°03×38.°91E±0.°04,h10km±5km, Error ellipse: s-maj=5.5km s-min=4.0km az=27.7*
*CSEM **24** 11:19:37.0±0.3,38.°73N×38.°91E,h10km,ML2.4, Error ellipse: s-maj=5.9km s-min=4.5km az=138.0*
ISC 24 11:19:37.1±0.9,38.°74N±0.°02×38.°90E±0.°02,h16km±7km, n28,σ0§68/47,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.25**	**165**	*i* P		**Pg**	**11 19 42.4**	**-0.4**
ELZG				*i* S		**Sg**	**11 19 47.2**	**+0.5**
ELZG	**Elazig**	**0.25**	**165**	P		**Pg**	**11 19 42.4**	**-0.4**
ELZG				S		**Sg**	**11 19 47.2**	**+0.5**
PTK	**Pertek**	**0.41**	**68**	PG		**Pb**	**11 19 45.9**	**-0.2**
PTK				SG		**Sb**	**11 19 52.2**	**0.0**
PTK	**Pertek**	**0.41**	**68**	*ePg*		**Pb**	**11 19 45.9**	**-0.2**
PTK				*eSg*		**Sb**	**11 19 52.2**	**0.0**
MALT	**Malatya**	**0.57**	**221**	PG		**Pg**	**11 19 48.4**	**0.0**
MALT				SG		**Sg**	**11 19 56.5**	**+0.6**
KEMA	**Kemaliye**	**0.62**	**329**	*eP*		**Pg**	**11 19 49.4**	**0.0**
KEMA				*eS*		**Sb**	**11 19 59.2**	**+1.1**
KEMA				IAML			11 20 00.8	
	comp=Z,5.1nm,0.2s							
KEMA	**Kemaliye**	**0.62**	**329**	*i* P		**Pg**	**11 19 49.0**	**-0.4**
KEMA				*i* S		**Sb**	**11 19 59.2**	**+1.1**
KEMA	**Kemaliye**	**0.62**	**329**	P		**Pg**	**11 19 49.0**	**-0.4**
KEMA				S		**Sb**	**11 19 59.2**	**+1.1**
TNCL	**Tunceli-Merkez**	**0.62**	**53**	*eP*		**Pg**	**11 19 49.1**	**-0.3**
TNCL				*eS*		**Sb**	**11 19 58.9**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.62**	**53**	*i* P		**Pg**	**11 19 48.7**	**-0.7**
TNCL				*i* S		**Sb**	**11 19 58.7**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.62**	**53**	P		**Pg**	**11 19 48.7**	**-0.7**
TNCL				S		**Sb**	**11 19 58.7**	**+0.5**
HEKM	**Malatya_Hekimh**	**0.75**	**281**	*i* P		**Pb**	**11 19 52.0**	**+0.1**
HEKM				*i* S		**Sn**	**11 20 04.5**	**+0.1**
HEKM	**Malatya_Hekimh**	**0.75**	**281**	P		**Pb**	**11 19 52.0**	**+0.1**
HEKM				S		**Sn**	**11 20 04.5**	**+0.1**
ILIC	**ilic-Erzincan**	**0.76**	**340**	PG		**Pb**	**11 19 51.1**	**-0.9**
ILIC				SG		**Sg**	**11 20 02.2**	**+0.2**
ILIC	**ilic-Erzincan**	**0.76**	**340**	*ePg*		**Pb**	**11 19 51.1**	**-0.9**
ILIC				*eSg*		**Sg**	**11 20 02.2**	**+0.2**
AKCD	**Akcadag**	**0.89**	**240**	*i* P		**Pb**	**11 19 53.1**	**-1.1**
AKCD				*i* S		**Sn**	**11 20 07.2**	**-0.4**
AKCD	**Akcadag**	**0.89**	**240**	P		**Pb**	**11 19 53.1**	**-1.1**
AKCD				S		**Sn**	**11 20 07.2**	**-0.4**
ERZN	**Erzincan**	**1.06**	**37**	PG		**Pg**	**11 19 58.2**	**+0.6**
EZC	**Erzincan**	**1.07**	**19**	*ePg*		**Pg**	**11 19 58.2**	**+0.3**
DARE	**Darende-Malaty**	**1.12**	**262**	PN		**Pg**	**11 19 58.9**	**0.0**
DARE	**Darende-Malaty**	**1.12**	**262**	*ePn*		**Pg**	**11 19 58.9**	**0.0**
URFA	**Urfa**	**1.30**	**183**	PN		**Pb**	**11 20 01.7**	**+0.6**
URFA	**Urfa**	**1.30**	**183**	*ePn*		**Pb**	**11 20 01.7**	**+0.6**
KELT	**Kelkit**	**1.43**	**11**	*eP*		**Pb**	**11 20 03.0**	**-0.5**
KELT	**Kelkit**	**1.43**	**11**	*i* P		**Pn**	**11 20 01.9**	**-0.7**
KELT				*i* S		**Sg**	**11 20 25.0**	**+1.5**
KELT	**Kelkit**	**1.43**	**11**	P		**Pn**	**11 20 01.9**	**-0.7**
KELT				S		**Sg**	**11 20 25.0**	**+1.5**
SVSK	**Karacayir**	**1.89**	**309**	PN		**Pb**	**11 20 10.4**	**-0.8**
SVSK	**Karacayir**	**1.89**	**309**	*ePn*		**Pb**	**11 20 10.4**	**-0.8**

MEX 24 11:27:22.7±0.4,16.°30N×98.°22W,h15km±1km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.12**	**43**	*i* P		Pg	11 27 25.4	-0.9
PNIG				*i* S		Sg	11 27 28.3	-0.4
TLIG	**Tlapa**	**1.30**	**345**	*eP*		Pn	11 27 42.9	-3.5
TLIG				*i* S		Sb	11 27 58.0	-5.4
VHO	**Vista Hermosa**	**1.61**	**61**	*eP*		Pn	11 27 47.4	-3.5
VHO				*eS*		Sn	11 28 06.7	-4.8
ACX	**Acapulco**	**1.67**	**290**	*i* P		Pn	11 27 48.5	-3.0
ACX				*i* S		Sn	11 28 09.8	-2.9
CAIG	**El Cayaco**	**2.10**	**291**	*eP*		Pn	11 27 54.2	-3.2
CAIG				*eS*		Sn	11 28 18.7	-4.5
PLIG	**Platanillo**	**2.42**	**330**	*eP*		Pn	11 27 58.8	-3.0
PLIG				*eS*		Sn	11 28 27.1	-4.0

*ISCJB **24** 11:46:22.5±0.2,17.°89S±0.°02×69.°46W±0.°03,h161km±2km, mb4.4/43,Error ellipse: s-maj=5.5km s-min=3.6km az=169.0*
*GUC **24** 11:46:23.9±0.5,18.°05S×69.°74W,h165km±4km,ML4.8*
*SCB **24** 11:46:23.0±0.3,17.°76S×69.°07W,h149km,Ml4.1/2,Error ellipse: s-maj=10.1km s-min=3.0km az=79.0*
*NEIC **24** 11:46:23.0±0.0,18.°05S×69.°74W,h165km,mb4.5/21, ML4.8(GUC),After GUC.*
*IDC **24** 11:46:24.5±0.6,17.°77S×69.°28W,h152km±5km,mb4.0/20, mb1 4.2/21,mb1mx4.0/41,mbtmp4.5/21,MS3.6/1, Ms1 3.6/1,ms1mx2.7/39,Error ellipse: s-maj=14.6km s-min=10.3km az=54.0*
ISC 24 11:46:23.3±0.5,17.°88S±0.°03×69.°43W±0.°05,h148km±4km, n244,σ1§40/273,mb4.4/43,6C-4D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**1.12**	**229**	⇑*iP*		**Pn**	**11 46 49.2**	**+0.1**
PB12				*i* S		**Sn**	**11 47 08.5**	**-0.4**
MNMC	**Minye Minye**	**1.25**	**187**	*ePn*		**Pn**	**11 46 51.8**	**+1.2**
MNMC				*eSn*		**Sn**	**11 47 12.4**	**+0.9**
MNMC	**Minye Minye**	**1.25**	**187**	⇑*iP*		**Pn**	**11 46 51.7**	**+1.1**
MNMC				*i* S		**Sn**	**11 47 12.5**	**+1.0**
MNMC				IAML			11 47 16.0	
	comp=N,15μm,0.4s							
**B

comp=Z,0.5nm,0.3s,baz=314,slow=10,SNR=11
ROC1 El Roble 15.10 185 *e*Pn **Pn 11 49 49.5 +0.3**
comp=Z,16nm,0.6s
OTAV Otavalo 20.07 333 *e*P Pn 11 50 49.6 +0.4
TRQA Tornquist 21.13 164 *e*P **P 11 50 57.2 +0.7**
comp=Z,10nm,0.8s
SPB Sao Paulo 21.33 109 *e*P **P 11 50 57.2 -1.6**
comp=Z,18nm,0.8s
PRAC Prado 22.12 345 *e*P **P 11 51 07.2 +0.2**
comp=Z,4.6nm,0.6s
PLCA Paso Flores 22.79 182 P **P 11 51 14.8 +1.5**
comp=Z,12nm,0.7s,baz=26,slow=11,SNR=38
PLCA Paso Flores 22.79 182 *e*P **P 11 51 14.5 +1.2**
comp=Z,17nm,0.8s
RUSC La Rusia 23.90 351 *e*P **P 11 51 23.8 -0.2**
comp=Z,3.1nm,1.0s
JTS JuntasAbangare 31.91 330 P **P 11 52 36.3 +1.2**
comp=Z,3.2nm,0.7s,baz=153,slow=18,SNR=3.1
CMIG Matias Romero 42.84 323 P **P 11 54 07.4 +0.4**
comp=Z,3.0nm,0.8s,baz=111,slow=8.6,SNR=3.3
LNIG Linares 51.62 325 *e*P **P 11 55 14.7 -0.1**
comp=Z,6.6nm,1.1s
ZAIG Zacatecas 51.79 320 *e*P **P 11 55 18.3 +1.9**
comp=Z,5.0nm,1.0s
Y47A UCPARC, Winfie 54.41 341 P **P 11 55 34.8 -0.3**
baz=159
X48A Hartselle 54.68 342 P **P 11 55 36.8 -0.2**
baz=160
Z44A Pea Ridge, Bel 54.68 338 P **P 11 55 36.8 -0.3**
baz=156
TKL Tuckaleechee C 54.95 346 P **P 11 55 38.8 -0.2**
comp=Z,1.5nm,0.5s,baz=126,slow=8.7,SNR=3.4
W48A Pulaski 55.28 343 P **P 11 55 41.0 -0.3**
baz=160
140A Cam and Jess, 55.29 335 P **P 11 55 42.6 +1.2**
baz=152
W47A Westpoint 55.58 342 P **P 11 55 42.4 -1.1**
baz=159
Z40A Long Farm, Mag 55.77 336 P **P 11 55 46.0 +1.2**
baz=153
JCT Junction City 56.27 328 P **P 11 55 49.1 +0.6**
baz=145
JCT Junction City 56.27 328 *e*P **P 11 55 47.7 -0.9**
comp=Z,6.4nm,1.1s
WHTX Lake Whitney, 56.40 331 P **P 11 55 50.0 +0.6**
baz=148
WVT Waverly 56.47 342 P **P 11 55 48.6 -1.1**
baz=159
WVT Waverly 56.47 342 *e*P **P 11 55 48.6 -1.1**
comp=Z,3.0nm,0.6s
W41B Gary Mavity, V 57.04 338 P **P 11 55 53.3 -0.5**
baz=154
T47A Sharon Grove 57.06 343 P **P 11 55 53.7 -0.2**
baz=160
X39A Fountain Ranch 57.15 336 P **P 11 55 55.4 +0.8**
baz=152
V42A Cord 57.30 339 P **P 11 55 55.5 -0.2**
baz=156
T46A Princeton 57.34 342 P **P 11 55 55.6 -0.3**
baz=160
TXAR Lajitas Array 57.40 324 P **P 11 55 57.0 +0.4**
comp=Z,0.7nm,0.6s,baz=152,slow=8.6,SNR=12
TX31 Lajitas Ar. Si 57.41 324 *e*P **P 11 55 55.8 -0.8**
U43A Rector 57.49 340 P **P 11 55 56.7 -0.1**
baz=157
V41A Mountainview 57.55 338 P **P 11 55 57.1 -0.4**
baz=155,SNR=6.1
W39A Magazine 57.63 336 P **P 11 55 58.6 +0.7**
baz=153
LPIG La Paz 57.72 315 P **P 11 55 58.1 -0.6**
comp=Z,14nm,0.3s,baz=164,slow=7.1,SNR=3.4
U42A Revenden 57.75 339 P **P 11 55 58.3 -0.4**
baz=156,SNR=6.8
V40A Witts Springs 57.81 338 P **P 11 55 59.0 -0.2**
baz=154
PBMO Poplar Bluff 57.87 340 *e*P **P 11 55 59.1 -0.4**
comp=Z,21nm,0.6s
ABTX Abilene, Hawle 57.95 330 P **P 11 56 00.7 +0.5**
baz=146
ABTX Abilene, Hawle 57.95 330 *e*P **P 11 56 00.8 +0.5**
comp=Z,9.3nm,1.0s
U41A Viola 57.97 339 P **P 11 55 59.8 -0.5**
baz=155,SNR=5.8
T43A Greenville 58.10 340 P **P 11 56 00.7 -0.5**
baz=157,SNR=9.6
V39A Pettigrew 58.14 337 P **P 11 56 01.5 -0.1**
baz=153,SNR=6.9
T42A Van Buren 58.31 340 P **P 11 56 02.0 -0.6**
baz=156,SNR=5.3
U40A Yellville 58.31 338 P **P 11 56 02.3 -0.3**
baz=154
S44A Carbondale 58.34 342 P **P 11 56 02.4 -0.5**
baz=158,SNR=9.3
SIUC Southern Illin 58.35 342 *e*P **P 11 56 02.8 -0.1**
comp=Z,18nm,0.7s
S43A Fulton Ridge, 58.48 341 P **P 11 56 03.2 -0.6**
baz=157,SNR=7.3
T41A Mountain View 58.55 339 P **P 11 56 03.8 -0.5**
baz=155
U39A Green Forest 58.56 337 P **P 11 56 03.9 -0.6**
baz=153
R45A Skylar, Fairfi 58.61 343 P **P 11 56 04.0 -0.7**
baz=159
S42A Caledonia 58.89 340 P **P 11 56 05.9 -0.8**
baz=157,SNR=5.0
T40A Mansfield 58.91 339 P **P 11 56 07.3 +0.5**
baz=155
FVM French Village 58.97 341 *e*P **P 11 56 07.2 0.0**
comp=Z,22nm,0.6s
S41A Jillco Farms, 59.04 339 P **P 11 56 07.4 -0.3**
baz=156,SNR=7.6
CCM Cathedral Cave 59.30 340 *e*P **P 11 56 08.9 -0.5**
comp=Z,34nm,0.8s
S40A Lebanon 59.30 339 P **P 11 56 08.7 -0.8**
baz=155
R42A Luebbering 59.36 341 P **P 11 56 09.2 -0.6**
baz=157,SNR=12
T38A Diamond 59.44 337 P **P 11 56 10.3 -0.1**
baz=153
R41A Rosebud 59.56 340 P **P 11 56 10.8 -0.4**
baz=156,SNR=11
S39A Bolivar 59.67 338 P **P 11 56 11.6 -0.4**
baz=154,SNR=7.0
R40A Maddies Statio 59.85 339 P **P 11 56 12.6 -0.6**
baz=155
Q42A Golden Eagle 59.85 341 P **P 11 56 12.7 -0.5**
baz=157
GDL2 Guadalupe Moun 60.00 326 *e*P **P 11 56 15.6 +1.1**
comp=Z,2.5nm,0.2s
Q41A Truxton 60.11 340 P **P 11 56 14.4 -0.5**
baz=156,SNR=6.5
R39A Chumby, Stover 60.13 339 P **P 11 56 15.1 0.0**
baz=154
MNTX Cornudas Mount 60.16 325 P **P 11 56 15.1 -0.4**
baz=140
MNTX Cornudas Mount 60.16 325 *e*P **P 11 56 15.5 0.0**
comp=Z,3.3nm,1.0s
SFIN Lafayette 60.25 345 P **P 11 56 14.4 -1.4**
baz=161
O45A Potomac 60.29 344 P **P 11 56 14.7 -1.5**
baz=160
R38A Fenwick Farm, 60.32 338 P **P 11 56 16.1 -0.3**
baz=154
P42A Winchester 60.41 342 P **P 11 56 16.3 -0.7**
baz=157
P41A Barry, Barry 60.72 341 P **P 11 56 18.4 -0.7**
baz=157
Q39A Willow Grove F 60.77 339 P **P 11 56 18.7 -0.7**
baz=155
P40A Paris 60.90 340 P **P 11 56 19.7 -0.6**
baz=156
Q38A Cooks Store, C 60.91 339 P **P 11 56 20.9 +0.5**
baz=154
P39B Salisbury 61.09 340 P **P 11 56 21.2 -0.4**
baz=155
N43A Stutzman Famil 61.33 343 P **P 11 56 22.3 -0.9**
baz=159,SNR=7.2
N42A Yates City 61.47 342 P **P 11 56 23.1 -1.0**
baz=158
P37A Lathrop 61.73 338 P **P 11 56 25.2 -0.7**
baz=153
M43A Waltham Townsh 61.73 343 P **P 11 56 24.6 -1.2**
baz=159
M40A Post Highland 62.44 341 P **P 11 56 29.9 -0.7**
baz=157
M39A Webster 62.70 341 P **P 11 56 31.7 -0.7**
baz=156
L41A Preston 62.75 342 P **P 11 56 31.8 -0.8**
baz=158
M38A Pleasantville 62.98 340 P **P 11 56 33.5 -0.6**
baz=155
N36A Muff Farm, Cla 63.03 338 P **P 11 56 34.2 -0.3**
baz=153
K42A Prairie Point, 63.08 344 P **P 11 56 34.3 -0.5**
baz=159
O34A Beatrice 63.10 337 P **P 11 56 35.4 +0.3**
baz=151
CBKS Cedar Bluff 63.14 334 *e*P **P 11 56 35.9 +0.5**
comp=Z,2.5nm,0.4s
K41A Shullsburg 63.19 343 P **P 11 56 35.2 -0.3**
baz=158
ANMO Albuquerque 63.22 326 P **P 11 56 36.0 -0.2**
baz=140
O33A Hebron 63.35 336 P **P 11 56 36.6 -0.1**
baz=150
J43A Natural Harves 63.41 345 P **P 11 56 36.7 -0.3**
baz=160
JFWS Jewell Farm 63.46 343 P **P 11 56 37.1 -0.3**
baz=158,SNR=5.9
JFWS Jewell Farm 63.46 343 *e*P **P 11 56 37.0 -0.3**
comp=Z,12nm,0.5s
K40A Colesburg 63.51 342 P **P 11 56 37.2 -0.5**
baz=157,SNR=5.0
M36A Felix, Anita 63.54 339 P **P 11 56 38.0 +0.1**
baz=153
K39A Oelwein 63.74 342 P **P 11 56 38.5 -0.7**
baz=156
J41A Loganville 63.81 343 P **P 11 56 39.1 -0.5**
baz=158
I43A Langenfeld Bro 63.81 345 P **P 11 56 39.0 -0.5**
baz=160
K38A Parkersburg 63.95 341 P **P 11 56 40.2 -0.3**
baz=156
I42A Draeger Farm, 64.01 344 P **P 11 56 40.2 -0.6**
baz=160
J40A Soldiers Grove 64.04 343 P **P 11 56 40.5 -0.6**
baz=158
J39A Decorah 64.26 342 P **P 11 56 41.9 -0.7**
baz=157,SNR=10
L35A Bielow Farm, R 64.38 339 P **P 11 56 43.5 +0.1**
baz=153
I41A Arkdale 64.42 344 P **P 11 56 43.2 -0.3**
baz=159
I40A Norwalk 64.46 343 P **P 11 56 43.6 -0.3**
baz=158
K36A Gilmore City 64.48 340 P **P 11 56 44.2 +0.2**
baz=154,SNR=7.1
H42A Shiocton 64.49 345 P **P 11 56 43.8 -0.2**
baz=160
M33A Taylor Creek F 64.50 337 P **P 11 56 44.2 0.0**
baz=151
L34A Svensen Farm, 64.55 338 P **P 11 56 44.6 +0.2**
baz=152
I39A Houston 64.68 342 P **P 11 56 45.0 -0.2**
baz=157
BGNE Belgrade 64.72 336 P **P 11 56 45.9 +0.3**
baz=150
BGNE Belgrade 64.72 336 *e*P **P 11 56 45.9 +0.3**
comp=Z,56nm,0.7s
J37A Redenius Farm, 64.80 341 P **P 11 56 45.8 -0.2**
baz=158
H41A Junction City 64.88 344 P **P 11 56 46.1 -0.4**
baz=159
SDCO Great Sand Dun 64.90 329 P **P 11 56 48.0 +0.8**
baz=142
SDCO Great Sand Dun 64.90 329 *e*P **P 11 56 46.8 -0.4**
comp=Z,4.1nm,0.9s
J36A Seneca 1, Swea 65.06 340 P **P 11 56 47.3 -0.5**
baz=154
H40A Chili 65.08 344 P **P 11 56 47.6 -0.2**
baz=158,SNR=5.6
K34A Le Mars 65.08 339 P **P 11 56 47.8 -0.1**
baz=152
I38A Scanlan Farm, 65.09 342 P **P 11 56 47.6 -0.2**
baz=156,SNR=5.2
G42A Mountain 65.15 345 P **P 11 56 47.9 -0.4**
baz=160
K33A Hardington 65.33 338 P **P 11 56 49.9 +0.3**
baz=151
H39A Augusta 65.37 343 P **P 11 56 48.8 -1.0**
baz=158
I37A Lemond, Waseca 65.39 341 P **P 11 56 49.6 -0.3**
baz=155
F43A Flat Rock, Esc 65.42 346 P **P 11 56 49.4 -0.5**
baz=162
J34A George 65.56 339 P **P 11 56 51.2 +0.3**
baz=153
S22A 4UR Ranch, Cre 65.56 328 P **P 11 56 52.2 +0.7**
baz=141
G40A Rib Lake 65.62 344 P **P 11 56 51.2 -0.1**
baz=159
I35A Creekview Farm 65.74 340 P **P 11 56 52.2 0.0**
baz=154
F41A Three Lakes 65.79 345 P **P 11 56 52.6 +0.2**
baz=160,SNR=6.0
SNAA Sanae 65.85 161 P **P 11 56 53.7 +1.2**
comp=Z,1.2nm,0.5s,baz=271,slow=3.2,SNR=7.4
G39A Holcombe 65.90 343 P **P 11 56 53.1 0.0**
baz=158
J33A Davis 65.94 338 P **P 11 56 53.5 +0.1**
baz=152
G38A Ridgeland 65.98 343 P **P 11 56 53.4 -0.2**
baz=157
MVCO Mesa Verde 66.01 327 P **P 11 56 55.0 +0.7**
baz=139
H36A Jessenland, He 66.06 341 P **P 11 56 54.3 +0.2**
baz=157
COWI Conover 66.13 345 *e*P **P 11 56 54.4 -0.2**
F40A Park Falls 66.21 344 P **P 11 56 55.1 0.0**
baz=159,SNR=13
J32A Parkston 66.30 338 P **P 11 56 55.9 +0.2**
baz=151
SPMN Marine on St. 66.31 342 P **P 11 56 55.1 -0.5**
baz=156
WUAZ Wupatki 66.34 323 P **P 11 56 57.8 +1.5**
baz=136
F39A Loretta 66.41 344 P **P 11 56 56.4 0.0**
baz=158
H35A Sunnyside Ranc 66.45 341 P **P 11 56 56.6 0.0**
baz=154
E40A Wakefield 66.64 345 P **P 11 56 57.9 +0.1**
baz=159,SNR=6.8
F37A Hinrichs Farm, 66.71 343 P **P 11 56 58.5 +0.3**
baz=156
F38A Pierce - Schro 66.71 343 P **P 11 56 58.3 0.0**
baz=157
H34A Spellman Lake, 66.73 340 P **P 11 56 58.5 +0.1**
baz=153
I32A Karley and Nic 66.73 338 P **P 11 56 59.2 +0.7**
baz=151
E39A Mellen 66.75 344 P **P 11 56 58.6 +0.1**
baz=158
H33A Prehn Over Nor 67.06 339 P **P 11 57 01.2 +0.7**
baz=152
F36A Bear 67.10 342 P **P 11 57 00.6 -0.1**
baz=156,SNR=5.6
H32A Carlson Farm, 67.14 339 P **P 11 57 01.3 +0.2**
baz=151
E38A The Farm, Brul 67.22 344 P **P 11 57 01.3 -0.2**
baz=158
BC3 Big Chuckawall 67.47 319 P **P 11 57 05.1 +1.7**
baz=133
IRM Iron Mountain 67.61 320 P **P 11 57 05.4 +1.1**
baz=133
LIC Lamto 67.91 75 *e*P **P 11 57 05.3 -1.1**
comp=Z,77nm,1.2s
F33A 5 Mile Ranch, 67.93 340 P **P 11 57 05.6 -0.3**
baz=153
C39A Grand Marais 67.98 345 P **P 11 57 06.0 -0.1**
baz=159
TIC Toumodi 68.07 75 *e*P **P 11 57 06.3 -1.2**
KIC Kosan Boka 68.22 75 *e*P **P 11 57 07.5 -0.9**
comp=Z,68nm,0.9s
DBIC Dimbokro 68.23 75 P **P 11 57 07.8 -0.7**
comp=Z,28nm,0.7s,baz=226,slow=6.0,SNR=29
GMRC Granite Mounta 68.35 320 P **P 11 57 10.8 +1.9**
baz=133
EYMN Ely 68.44 344 *e*P **P 11 57 08.3 -0.8**
comp=Z,2.4nm,0.2s
F31A Hecla 68.61 339 P **P 11 57 10.4 +0.2**
baz=151
C36A Pine Crest Far 68.63 343 P **P 11 57 10.2 -0.1**
baz=156
MSU Marysvale 68.94 325 *e*P **P 11 57 14.4 +1.7**
comp=Z,1.0nm,1.2s
C34A RKJ Ranch, Bem 69.12 342 P **P 11 57 12.9 -0.4**
baz=154
GSC Goldstone, Bar 69.39 320 P **P 11 57 17.2 +1.9**
baz=132
B35A Bob, Littlefor 69.42 343 P **P 11 57 15.0 -0.1**
baz=156
FURC Furnace Creek, 70.20 321 P **P 11 57 22.0 +1.9**
baz=132
B32A Ashes, Strandq 70.28 341 P **P 11 57 19.7 -0.6**
baz=153
MPMC Manual Prospec 70.31 320 P **P 11 57 22.4 +1.3**
baz=132
A33A Warroad 70.42 342 P **P 11 57 21.4 +0.2**
baz=154
ISA Isabella, Lake 70.66 319 P **P 11 57 25.2 +2.1**
baz=131
R11A Troy Canyon, C 70.72 323 P **P 11 57 25.2 +1.6**
baz=134
PDAR Pinedale Array 70.75 330 P **P 11 57 24.3 +0.7**
comp=Z,0.5nm,0.6s,baz=119,slow=7.0,SNR=6.0
ULM Lac du Bonnet 71.73 342 P **P 11 57 28.7 -0.3**
comp=Z,3.9nm,0.5s,baz=150,slow=6.1,SNR=17
KOWA Kowa 72.07 68 P **P 11 57 31.3 -0.5**
comp=Z,7.8nm,0.5s,baz=239,slow=6.9,SNR=22
QSPA South Pole Qui 72.29 180 P **P 11 57 33.7 +1.2**
comp=Z,2.6nm,0.6s,baz=166,slow=4.0,SNR=11
LAO LASA Array 72.32 334 P **P 11 57 33.5 +0.7**
baz=144
NVAR Mina Array Bea 72.36 322 P **P 11 57 35.4 +2.0**
comp=Z,1.8nm,0.8s,baz=156,slow=6.3,SNR=9.9
RLMT Red Lodge 72.41 332 P **P 11 57 34.1 +0.6**
baz=141
HLID Hailey 73.73 328 P **P 11 57 42.9 +1.6**
baz=136
BOZ Bozeman (W) 73.86 331 P **P 11 57 42.9 +1.0**
baz=139
EGMT Eagleton 74.86 333 P **P 11 57 48.3 +0.7**
baz=141
TORD Torodi Ar. Bea 76.64 71 P **P 11 57 57.3 -1.0**
comp=Z,20nm,0.6s,baz=250,slow=5.9,SNR=72
TORD pP **pP 11 58 36.4 +1.6**
comp=Z,3.4nm,0.8s,baz=255,slow=4.9,SNR=2.1
TORD LR LR 12 31 13.5
comp=Z,38nm,18.6s,baz=315,slow=35
YBH Yreka Blue Hor 77.07 322 P **P 11 58 00.2 -0.1**
comp=Z,1.3nm,0.7s,baz=0.0,slow=4.0,SNR=3.4
VNDA Vanda 80.31 190 P **P 11 58 19.1 +1.8**
comp=Z,0.7nm,0.9s,baz=118,slow=5.6,SNR=4.5
B05A Bryant 80.86 327 P **P 11 58 21.2 +0.6**
baz=130
TSUM Tsumeb 81.57 107 P **P 11 58 25.8 +0.6**
comp=Z,4.1nm,0.7s,baz=240,slow=7.6,SNR=6.8
ESDC Sonseca Array 83.62 45 P **P 11 58 36.1 +0.9**
comp=Z,1.0nm,0.8s,baz=265,slow=4.1,SNR=7.1
BOSA Bosnof 85.59 118 P **P 11 58 45.9 +0.3**
comp=Z,3.5nm,1.0s,baz=276,slow=9.2,SNR=2.8
YKA Yellowknife Ar 87.63 341 P **P 11 58 54.9 +0.5**
comp=Z,4.6nm,0.5s,baz=133,slow=4.9,SNR=171
YKA pP **pP 11 59 34.4 +2.5**
comp=Z,1.7nm,0.7s,baz=134,slow=4.9,SNR=3.7
ASAR Alice Springs 132.84 210 PKP **PKPdf 12 05 22.2 +0.6**
comp=Z,0.5nm,0.6s,baz=131,slow=2.0,SNR=13
ASAR SKPbc **SKPbc 12 08 36.7 +1.2**
comp=Z,0.8nm,1.0s,baz=157,slow=6.8,SNR=4.7
WRA Warramunga Arr 135.76 213 PKP **PKPdf 12 05 28.1 +1.0**
comp=Z,1.1nm,0.7s,baz=143,slow=1.8,SNR=15
WRA pPKP **pPKPdf 12 06 08.2 +1.7**
comp=Z,0.6nm,0.9s,baz=180,slow=1.7,SNR=2.7
ZALV Zalesovo Beam 138.87 23 PKP **PKPdf 12 05 32.9 +1.1**
comp=Z,0.8nm,0.6s,baz=357,slow=3.0,SNR=4.3
ZALV pPKP **pPKPdf 12 06 12.7 +1.5**
comp=Z,1.0nm,0.7s,baz=298,slow=3.2,SNR=3.2
ZALV SKPbc **SKPbc 12 08 53.9 +0.9**
comp=Z,0.8nm,0.5s,baz=320,slow=3.9,SNR=6.9
MKAR Makanchi Array 142.94 33 PKP **PKPdf 12 05 38.6 -0.8**
comp=Z,0.3nm,0.6s,baz=307,slow=2.8,SNR=3.8
MKAR SKPbc **SKPbc 12 09 02.7 -1.2**
comp=Z,0.5nm,0.9s,baz=320,slow=3.6,SNR=4.2
USRK Ussuriysk Ar. 148.17 330 PKPbc **PKPbc 12 05 53.1 +1.3**
comp=Z,3.2nm,0.7s,baz=46,slow=4.2,SNR=3.2
MJAR Matsushiro Arr 149.35 313 PKPbc **PKPbc 12 05 55.8 +0.7**
comp=Z,0.6nm,0.4s,baz=86,slow=0.7,SNR=1.8
SONM Songino Array 149.93 6 PKPbc **PKPbc 12 05 57.4 +1.2**
comp=Z,0.9nm,0.5s,baz=304,slow=0.6,SNR=6.9
SONM pPKPbc **pPKPbc 12 06 35.3 -0.1**
comp=Z,1.4nm,0.7s,baz=318,slow=1.9,SNR=4.5

*IDC **24** 11:50:19.8±1.4,2°92S×120°21E,h0km,mb3.8/4,*
mb1 4.0/4,mb1mx3.5/54,mbtmp3.8/4,MS2.4/1,Ms1 2.4/1,
ms1mx2.1/53,Error ellipse: s-maj=290.7km s-min=23.6km
az=58.0
*DJA **24** 11:50:23.5±0.3,2°S×2°×12°1E±°,h10km,M4.1/3,MLv4.1/3*
ISC 24 11:50:22.7±1.9,**2°33S**±0.05×**121°04E**±0.07,**h17**km±13km,
n11,σ0.8**77**/16,**mb3.8/4**,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tsi Toraja**	**1.42**	**240**	P	**Pb**	**11 50 48.3**	**-0.4**
TTSI				S	**Sg**	**11 51 08.8**	**+0.2**
APSI	**Ampana**	**1.53**	**23**	P	**Pn**	**11 50 49.2**	**-0.1**
APSI				S	**Sg**	**11 51 12.2**	**0.0**
LUWI	**Luwuk**	**2.15**	**54**	P	**Pn**	**11 50 58.7**	**+0.9**
BNSI	**Bone**	**2.26**	**204**	P	**Pn**	**11 51 00.5**	**+1.1**
BNSI				S	**Sb**	**11 51 31.1**	**+0.2**
MPSI	**Mapaga**	**2.88**	**337**	P	**Pn**	**11 51 08.2**	**+0.3**
MPSI				S	**Sn**	**11 51 42.2**	**0.0**
MRSI	**Marisa**	**2.92**	**18**	P	**Pn**	**11 51 08.9**	**+0.4**
MRSI				S	**Sn**	**11 51 44.7**	**+1.4**
WRA	**Warramunga Arr**	**21.80**	**144**	P	**P**	**11 55 13.2**	**-1.0**
	1.6nm,0.9s,baz=323,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.60**	**151**	P	**P**	**11 55 41.6**	**-0.7**
	1.7nm,0.8s,baz=320,slow=8.3,SNR=18						
ASAR				PcP	**PcP**	**11 59 19.4**	**-0.7**
	0.2nm,0.5s,baz=350,slow=2.1,SNR=8.1						
STKA	**Stephens Creek**	**35.20**	**149**	P	**P**	**11 57 15.7**	**-0.5**
	3.3nm,0.8s,baz=320,slow=12,SNR=6.8						
MJAR	**Matsushiro Arr**	**41.85**	**21**	LR	LR	12 17 23.4	
	comp=Z,4.8nm,19.0s,baz=290,slow=38						
MKAR	**Makanchi Array**	**59.60**	**330**	P	**P**	**12 00 26.2**	**+0.5**
	0.7nm,0.8s,baz=136,slow=7.9,SNR=6.2						

*HLW **24** 12:01:07.8,33°25N×34°67E,h10km±12km,Md3.2,Ml3.2*
*GII **24** 12:01:08.4±0.2,33°26N×34°59E,h10km,MD3.2/4*
*ISCJB **24** 12:01:08.6±0.6,33°31N±0°02×34°60E±0°03,h32km±5km,*
Error ellipse: s-maj=3.8km s-min=3.0km az=162.7
*CSEM **24** 12:01:09.5±0.1,33°31N×34°66E,h30km,MD3.2,Error*
ellipse: s-maj=2.6km s-min=1.8km az=74.0
*GRAL **24** 12:01:09.9±0.3,33°28N×34°63E,h24km±1km,MD3.3*
*NIC **24** 12:01:12.9±0.3,33°52N×34°64E,h25km,ML3.2*
*DDA **24** 12:01:56.8,33°54N×34°58E,h31km,Ml3.8*
ISC 24 12:01:08.8±1.1,**33°30N**±0°02×**34°63E**±0°03,**h28**km±11km,
n83,σ0.8**84**/116,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNTI	**Hanita**	**0.51**	**115**	Pg	**Pb**	**12 01 19.5**	**+0.2**
HNTI				Sg	**Sb**	**12 01 26.3**	**-0.1**
HNTI	**Hanita**	**0.51**	**115**	Pg	**Pb**	**12 01 19.5**	**+0.2**
HNTI				Sg	**Sb**	**12 01 26.3**	**-0.1**
MMA0B	**Mount Meron ar**	**0.71**	**114**	Pg	**Pb**	**12 01 22.4**	**-0.3**
MMA0B				Sg	**Sb**	**12 01 32.3**	**+0.1**
MMA0B	**Mount Meron ar**	**0.71**	**114**	Pg	**Pb**	**12 01 22.4**	**-0.3**
MMA0B				Sg	**Sb**	**12 01 32.3**	**+0.1**
BLGI	**Bet Lehem HaGe**	**0.74**	**140**	Pg	**Pb**	**12 01 22.8**	**-0.3**
OFRI	**'Ofer**	**0.74**	**156**	Pg	**Pb**	**12 01 22.7**	**-0.5**
OFRI				Sg	**Sb**	**12 01 32.4**	**-0.7**
KSDI	**Kefar Szold**	**0.87**	**97**	Pg	**Pn**	**12 01 25.3**	**+0.1**
KSDI				Sg	**Sb**	**12 01 36.9**	**+0.2**
DQRL	**Deir Qamar**	**0.88**	**63**	*e*P	**Pn**	**12 01 25.6**	**+0.1**
DQRL				*e*S	**Sb**	**12 01 37.1**	**0.0**
DQRL	**Deir Qamar**	**0.88**	**63**	*e*P	**Pn**	**12 01 25.5**	**+0.1**
QRWL	**Qaraoun**	**0.92**	**74**	*e*P	**Pn**	**12 01 25.9**	**0.0**
QRWL				*e*S	**Sb**	**12 01 37.9**	**-0.1**
QRWL	**Qaraoun**	**0.92**	**74**	*e*P	**Pn**	**12 01 25.9**	**0.0**
BEYL	**Beirut**	**0.92**	**52**	*e*P	**Pb**	**12 01 26.2**	**0.0**
BEYL	**Beirut**	**0.92**	**52**	*e*P	**Pb**	**12 01 26.2**	**0.0**
SHBL	**Chebaa**	**0.94**	**87**	*e*P	**Pn**	**12 01 26.2**	**0.0**
SHBL				*e*S	**Sb**	**12 01 38.3**	**-0.3**
SHBL	**Chebaa**	**0.94**	**87**	*e*P	**Pn**	**12 01 26.2**	**0.0**
SHBL				*e*S	**Sb**	**12 01 38.3**	**-0.3**
RCY	**Rachaya**	**1.03**	**79**	*e*P	**Pn**	**12 01 27.8**	**+0.2**
RCY				*e*S	**Sn**	**12 01 41.1**	**+0.1**
KSHT	**Keshet**	**1.04**	**108**	Pg	**Pb**	**12 01 28.4**	**+0.1**

KSHT	**Keshet**	**1.04**	**108**	Pg	**Pb**	**12 01 28.4**	**+0.1**
BHL	**Bhannes**	**1.05**	**55**	*e*P	**Pb**	**12 01 28.2**	**-0.2**
BHL	**Bhannes**	**1.05**	**55**	*e*P	**Pb**	**12 01 28.2**	**-0.2**
MMLI	**Mount Malkishu**	**1.09**	**142**	Pg	**Pn**	**12 01 28.0**	**-0.3**
MMLI	**Mount Malkishu**	**1.09**	**142**	Pg	**Pn**	**12 01 28.0**	**-0.3**
SLTI	**Sal'it**	**1.11**	**162**	Pg	**Pn**	**12 01 27.8**	**-0.8**
SLTI				Sg	**Sn**	**12 01 42.3**	**-0.7**
HMDT	**Nahal Hemdat**	**1.29**	**144**	Pg	**Pn**	**12 01 31.3**	**+0.3**
HMDT	**Nahal Hemdat**	**1.29**	**144**	Pg	**Pn**	**12 01 31.3**	**+0.3**
HWQ	**Hawqa**	**1.47**	**48**	*e*P	**Pn**	**12 01 34.3**	**+0.8**
HWQ				*e*S	**Sn**	**12 01 52.2**	**+0.4**
HWQ	**Hawqa**	**1.47**	**48**	*e*P	**Pn**	**12 01 34.3**	**+0.8**
HWQ				*e*S	**Sn**	**12 01 52.2**	**+0.4**
PHNC	**Paralimni**	**1.77**	**344**	P	**Pn**	**12 01 37.3**	**-0.2**
	baz=161						
PHNC				S	**Sn**	**12 01 56.8**	**-2.3**
PHNC	**Paralimni**	**1.77**	**344**	P	**Pn**	**12 01 37.3**	**-0.2**
PHNC				S	**Sn**	**12 01 56.8**	**-2.3**
DSI	**Dead Sea**	**1.84**	**160**	Pn	**Pn**	**12 01 39.0**	**+0.4**
DSI	**Dead Sea**	**1.84**	**160**	Pn	**Pn**	**12 01 39.0**	**+0.4**
CSS	**Mathiatis**	**1.97**	**327**	P	**Pn**	**12 01 40.9**	**+0.5**
	baz=142						
CSS				S	**Sn**	**12 02 02.3**	**-1.9**
CSS	**Mathiatis**	**1.97**	**327**	Pn	**Pn**	**12 01 41.1**	**+0.7**
CSS				S	**Sn**	**12 02 02.3**	**-1.9**
CSS	**Mathiatis**	**1.97**	**327**	Pn	**Pn**	**12 01 41.1**	**+0.7**
YTIR	**Yattir**	**1.98**	**168**	Pn	**Pn**	**12 01 41.4**	**+0.9**
YTIR	**Yattir**	**1.98**	**168**	Pn	**Pn**	**12 01 41.4**	**+0.9**
SZAC	**Souni**	**2.05**	**315**	P	**Pn**	**12 01 42.0**	**+0.6**
	baz=129						
SZAC				S	**Sn**	**12 02 05.6**	**-0.5**
SZAC	**Souni**	**2.05**	**315**	P	**Pn**	**12 01 42.0**	**+0.6**
SZAC				S	**Sn**	**12 02 05.6**	**-0.5**
MAMC	**Mammari**	**2.20**	**328**	P	**Pn**	**12 01 44.1**	**+0.6**
	baz=144						
MAMC	**Mammari**	**2.20**	**328**	P	**Pn**	**12 01 44.1**	**+0.6**
LEF	**Lefka**	**2.31**	**322**	P	**Pn**	**12 01 46.2**	**+1.2**
LEF				S	**Sn**	**12 02 15.0**	**+2.4**
KZIT	**Kziot**	**2.40**	**185**	Pn	**Pn**	**12 01 47.1**	**+0.9**
KZIT	**Kziot**	**2.40**	**185**	Pn	**Pn**	**12 01 47.1**	**+0.9**
RSH		**2.46**	**198**	P	**Pn**	**12 01 47.4**	**+0.3**
	baz=200						
RSH		**2.46**	**198**	P	**Pn**	**12 01 47.4**	**+0.3**
PPCY	**Paphos**	**2.46**	**310**	P	**Pn**	**12 01 48.4**	**+1.3**
	baz=124						
PPCY	**Paphos**	**2.46**	**310**	P	**Pn**	**12 01 48.4**	**+1.3**
ALFC	**Alefka**	**2.50**	**318**	P	**Pn**	**12 01 49.1**	**+1.5**
	baz=133						
ALFC				S	**Sn**	**12 02 16.3**	**-0.9**
ALFC	**Alefka**	**2.50**	**318**	P	**Pn**	**12 01 49.1**	**+1.5**
ALFC				S	**Sn**	**12 02 16.3**	**-0.9**
AKMC	**Akamas**	**2.57**	**313**	P	**Pn**	**12 01 49.5**	**+1.0**
	baz=127						
AKMC	**Akamas**	**2.57**	**313**	P	**Pn**	**12 01 49.5**	**+1.0**
ZFRI	**Zfri**	**2.78**	**170**	Pn	**Pn**	**12 01 52.3**	**+0.9**
ZFRI	**Zfri**	**2.78**	**170**	Pn	**Pn**	**12 01 52.3**	**+0.9**
PRNI	**Paran**	**2.96**	**174**	Pn	**Pn**	**12 01 54.6**	**+0.6**
PRNI	**Paran**	**2.96**	**174**	Pn	**Pn**	**12 01 54.6**	**+0.6**
YAYL	**Yayladag**	**2.98**	**24**	*i* P	**Pn**	**12 01 55.6**	**+1.2**
YAYL				*i* S	**Sn**	**12 02 29.5**	**+0.2**
YAYL	**Yayladag**	**2.98**	**24**	P	**Pn**	**12 01 55.6**	**+1.2**
YAYL				S	**Sn**	**12 02 29.5**	**+0.2**
GULN	**MERSIN_Gulnar**	**3.01**	**343**	*i* P	**Pn**	**12 01 54.6**	**0.0**
GULN				*i* S	**Sn**	**12 02 29.2**	**-0.5**
GULN	**MERSIN_Gulnar**	**3.01**	**343**	P	**Pn**	**12 01 54.6**	**0.0**
GULN				S	**Sn**	**12 02 29.2**	**-0.5**
KRMI	**Paran Flat**	**3.18**	**178**	Pn	**Pn**	**12 01 57.6**	**+0.6**
KRMI	**Paran Flat**	**3.18**	**178**	Pn	**Pn**	**12 01 57.6**	**+0.6**
HRFI	**Mount Harif**	**3.27**	**174**	Pn	**Pn**	**12 01 59.7**	**+1.4**
HRFI	**Mount Harif**	**3.27**	**174**	Pn	**Pn**	**12 01 59.7**	**+1.4**
HNKL	**Nakhl**	**3.41**	**189**	P	**Pn**	**12 02 00.7**	**+0.6**
	baz=191						
HNKL	**Nakhl**	**3.41**	**189**	P	**Pn**	**12 02 00.7**	**+0.6**
MBRI	**Mt Berech**	**3.51**	**176**	Pn	**Pn**	**12 02 02.0**	**+0.5**
MBRI	**Mt Berech**	**3.51**	**176**	Pn	**Pn**	**12 02 02.0**	**+0.5**
YURE	**YUREGIR**	**3.61**	**13**	*i* P	**Pn**	**12 02 02.7**	**-0.2**
YURE				*i* S	**Sn**	**12 02 45.4**	**+0.8**
YURE	**YUREGIR**	**3.61**	**13**	P	**Pn**	**12 02 02.7**	**-0.2**
YURE				S	**Sn**	**12 02 45.4**	**+0.8**
EIL	**Elat**	**3.63**	**176**	Pn	**Pn**	**12 02 03.6**	**+0.4**
EIL	**Elat**	**3.63**	**176**	Pn	**Pn**	**12 02 03.6**	**+0.4**
DED	**Mersin**	**3.65**	**2**	*i* P	**Pn**	**12 02 04.3**	**+0.8**
DED				*i* S	**Sn**	**12 02 46.0**	**+0.4**
SUZ	**Suez**	**3.78**	**204**	P	**Pn**	**12 02 06.1**	**+0.9**
	baz=206						
SUZ	**Suez**	**3.78**	**204**	P	**Pn**	**12 02 06.1**	**+0.9**
HBST	**Basata**	**4.08**	**179**	P	**Pn**	**12 02 09.9**	**+0.6**
	baz=179						
HBST				S	**Sn**	**12 02 55.1**	**-1.0**
	baz=179						
HBST				AMP		12 03 00.0	
	baz=179						
HBST	**Basata**	**4.08**	**179**	P	**Pn**	**12 02 09.9**	**+0.6**
ZNM	**Zenema**	**4.19**	**201**	P	**Pn**	**12 02 11.7**	**+0.8**
	baz=203						
ZNM	**Zenema**	**4.19**	**201**	P	**Pn**	**12 02 11.7**	**+0.8**
KAMA	**Osmaniye**	**4.22**	**23**	*i* P	**Pn**	**12 02 12.1**	**+0.7**
KAMA				*i* S	**Sn**	**12 02 58.3**	**-1.4**
NUB		**4.26**	**180**	P	**Pn**	**12 02 13.1**	**+1.2**
	baz=181						
HKAT	**Jabal Katrina**	**4.80**	**187**	P	**Pn**	**12 02 19.6**	**+0.3**
	baz=188						
HKAT	**Jabal Katrina**	**4.80**	**187**	P	**Pn**	**12 02 19.7**	**+0.3**
TAVA	**DENIZLI_Tavas**	**6.25**	**313**	*i* P	**Pn**	**12 02 39.9**	**+0.7**
TAVA				*i* S	**Sn**	**12 03 46.8**	**-2.9**

*ISCJB **24** 12:19:14.3±0.9,36°.96N±0°.08×34°.50E±0°.06,h10km±2.8km, Error ellipse: s-maj=14.7km s-min=6.6km az=158.0*
*CSEM **24** 12:19:14.7±0.5,36°.94N×34°.49E,h10km,ML2.5, Error ellipse: s-maj=18.5km s-min=6.1km az=155.0*
*ISK **24** 12:19:14.8,37°.01N×34°.49E,h20km, ML2.5/2*
*DDA **24** 12:19:15.2,36°.92N×34°.62E,h7km, Ml1.8*
ISC 24 12:19:14.3±1.3**, 36°.87N**±0°.07×**34°.54E**±0°.04**, h0**km±12km**, n19**, σ0**82**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DED	**Mersin**	**0.23**	**65**	*i* P	**Pg**	**12 19 17.9**	**-0.8**
DED				*i* S	**Sg**	**12 19 21.6**	**0.0**
KARA	**Karaisali**	**0.57**	**46**	PG	**Pg**	**12 19 26.1**	**+0.9**
KARA				SG	**Sg**	**12 19 33.1**	**+0.5**
KARA	**Karaisali**	**0.57**	**46**	*e*Pg	**Pg**	**12 19 26.1**	**+0.9**
KARA				*e*Sg	**Sg**	**12 19 33.1**	**+0.5**
YURE	**YUREGIR**	**0.88**	**92**	PG	**Pn**	**12 19 33.5**	**-0.4**
YURE				SG	**Sn**	**12 19 46.9**	**-0.4**
YURE	**YUREGIR**	**0.88**	**92**	*i* P	**Pg**	**12 19 31.3**	**+0.2**
YURE				*i* S	**Sn**	**12 19 48.2**	**+0.9**
YURE	**YUREGIR**	**0.88**	**92**	P	**Pg**	**12 19 31.3**	**+0.2**
YURE	**YUREGIR**	**0.88**	**92**	*e*Pg	**Pn**	**12 19 33.5**	**-0.4**
YURE				*e*Sg	**Sn**	**12 19 46.9**	**-0.4**
YURE				S	**Sn**	**12 19 48.2**	**+0.9**
CEYT	**Ceyhan**	**0.98**	**81**	PG	**Pg**	**12 19 34.1**	**+1.0**
CEYT	**Ceyhan**	**0.98**	**81**	*e*Pg	**Pg**	**12 19 34.1**	**+1.0**
TEVE	**Tevekalti-Mers**	**0.98**	**244**	PG	**Pn**	**12 19 35.1**	**-0.3**
TEVE	**Tevekalti-Mers**	**0.98**	**244**	*e*Pg	**Pn**	**12 19 35.1**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.05**	**230**	*i* P	**Pg**	**12 19 33.9**	**-0.6**
GULN				*i* S	**Sn**	**12 19 53.3**	**+1.6**
GULN	**MERSIN_Gulnar**	**1.05**	**230**	P	**Pg**	**12 19 33.9**	**-0.6**
GULN				S	**Sn**	**12 19 53.3**	**+1.6**
AKKU	**Akkuyu-Mersin**	**1.07**	**229**	PN	**Pb**	**12 19 35.8**	**+0.2**
AKKU				SN	**Sn**	**12 19 51.6**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.07**	**229**	*e*Pn	**Pb**	**12 19 35.8**	**+0.2**
AKKU				*e*Sn	**Sn**	**12 19 51.6**	**-0.3**
KOZT	**Kozan**	**1.20**	**59**	PN	**Pb**	**12 19 36.5**	**-1.3**
KOZT	**Kozan**	**1.20**	**59**	*e*Pn	**Pb**	**12 19 36.5**	**-1.3**
YAYL	**Yayladag**	**1.51**	**123**	PN	**Pn**	**12 19 42.8**	**+0.1**
YAYL	**Yayladag**	**1.51**	**123**	*e*Pn	**Pn**	**12 19 42.8**	**+0.1**

*IDC **24** 12:22:50.2±1.5,30°.22S×176°.66W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.6/41,mbtmp3.7/3,ML3.2/1,MS3.3/5, Ms1 3.3/5,ms1mx2.9/35,Error ellipse: s-maj=31.8km s-min=26.8km az=70.0*
*ISCJB **24** 12:22:51.4±2.7,30°.25S±0°.07×176°.6W±0°.3,h24km, mb3.5/2,MS3.2/4, Error ellipse: s-maj=31.8km s-min=9.8km az=171.8*
ISC 24 12:22:53.1±1.6**, 30°.21S**±0°.09×**176°.6W**±0°.2**, h24**km**, n15,** σ1**9**35**/10**, MS3.2/4, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.50**	**309**	Pn	**Pn**	**12 23 18.2**	**-0.3**
	192nm,0.3s,baz=13,slow=22,SNR=15						
RAO				Sn	**Sn**	**12 23 37.1**	**-0.1**
	2μm,0.3s,baz=90,slow=23,SNR=6.8						
URZ	**Urewera**	**9.57**	**211**	Pn	**Pn**	**12 25 07.0**	**-2.4**
	0.2nm,0.3s,baz=344,slow=18,SNR=1.2						
URZ				Sn	**Sn**	**12 26 58.5**	**+2.3**
	2.7nm,0.3s,baz=214,slow=18,SNR=8.1						
DZM	**Mont Dzumac**	**17.24**	**294**	*e*LR	LR	12 31 09.7	
	99nm,21.4s						
RAR	**Rarotonga**	**17.59**	**63**	LR	LR	12 32 33.5	
	comp=Z,103nm,18.7s,baz=274,slow=33						
PPT2	**Papeete2**	**27.63**	**69**	*e*LR	LR	12 35 19.3	
	60nm,23.8s						
PPT	**Papeete**	**27.64**	**69**	LR	LR	12 37 23.2	
	comp=Z,43nm,18.5s,baz=266,slow=32						
PMG	**Port Moresby**	**39.63**	**294**	LR	LR	12 44 27.1	
	comp=Z,37nm,18.1s,baz=164,slow=33						
ASAR	**Alice Springs**	**44.34**	**266**	P	**P**	**12 31 02.5**	**+0.8**
	0.5nm,0.7s,baz=105,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**45.31**	**271**	P	**P**	**12 31 09.4**	**0.0**
	0.5nm,0.4s,baz=110,slow=8.1,SNR=15						
RPN	**Rapa Nui**	**58.31**	**105**	LR	LR	12 53 57.1	
	comp=Z,14nm,19.5s,baz=354,slow=32						
BATI	**Baumata**	**58.84**	**276**	LR	LR	12 58 53.0	
	comp=Z,39nm,18.2s,baz=196,slow=37						
FINES	**FINESS Array B**	**145.37**	**341**	PKPbc	**PKPbc**	**12 42 28.3**	**+0.2**
	21nm,1.1s,baz=53,slow=4.1,SNR=36						
NB2	**NORSAR Subarra1**	**148.73**	**353**	PKP	**PKPbc**	**12 42 38.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=11,slow=2.7						
NOA	**NORSAR Array B**	**148.73**	**353**	PKPbc	**PKPbc**	**12 42 38.1**	**+0.3**
AKASG	**Malin Array Be**	**151.87**	**324**	PKPbc	**PKPbc**	**12 42 46.5**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=52,slow=2.9,SNR=3.3						

*ISCJB **24** 12:23:48.4±0.6,33°.49N±0°.06×139°.02E±0°.08, h234km±5km,mb3.0/4, Error ellipse: s-maj=11.0km s-min=9.7km az=17.4*
*JMA **24** 12:23:48.8±0.5,33°.45N×139°.02E,h228km±5km,M3.1*
*IDC **24** 12:23:49.8±1.1,33°.56N×139°.13E,h236km±21km,mb2.9/4, mb1 2.9/5,mb1mx2.6/69,mbtmp3.3/5, Error ellipse: s-maj=114.5km s-min=11.9km az=69.0*
ISC 24 12:23:48.7±0.9**, 33°.41N**±0°.06×**139°.02E**±0°.07**, h233**km±8km**, n23,** σ1**9**74**/29, mb3.0/4, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.70**	**114**	P	**Pn**	**12 24 20.9**	**+0.5**
	30nm,0.3s,baz=46,slow=17,SNR=1.9						
JHJ				S	**Sn**	**12 24 48.4**	**+3.3**
	14nm,0.3s,baz=294,slow=18,SNR=1.3						
JHJ2	**Mitsune**	**0.73**	**114**	P	**Pn**	**12 24 20.6**	**+0.1**
TK02	**Tokai 2**	**1.18**	**297**	P	**Pn**	**12 24 22.8**	**+0.1**
TK01	**Tokai 1**	**1.24**	**287**	P	**Pn**	**12 24 22.8**	**-0.2**
JIZS	**Izushimoda**	**1.31**	**355**	P	**Pn**	**12 24 23.7**	**-0.1**
TK04	**Tokai 4**	**1.36**	**316**	P	**Pn**	**12 24 24.3**	**+0.2**
TTO2	**TONANKAI O.B.S**	**1.69**	**281**	P	**Pn**	**12 24 26.7**	**+0.1**
JOD2	**Odawara 2**	**1.85**	**2**	P	**Pn**	**12 24 28.6**	**+0.3**
JOD2				*e*S	**S**	**12 24 58.3**	**-1.1**
TTO1	**TONANKAI O.B.S**	**1.88**	**277**	P	**Pn**	**12 24 28.2**	**0.0**
BSO1	**Boso 1**	**2.04**	**52**	P	**Pn**	**12 24 29.6**	**+0.1**
BSO1				*e*S	**S**	**12 25 00.8**	**-0.7**
JYN	**Shimob**	**2.12**	**349**	P	**Pn**	**12 24 31.0**	**+0.2**
JIE	**Ise**	**2.16**	**298**	P	**Pn**	**12 24 30.8**	**-0.4**
JRY	**Ryogami san**	**2.60**	**358**	P	**Pn**	**12 24 36.3**	**+0.6**
JRY				*e*S	**S**	**12 25 12.3**	**-0.4**
JWZ	**Kozaga**	**2.76**	**273**	P	**Pn**	**12 24 36.9**	**-0.6**
JWY	**Kouya**	**2.96**	**287**	P	**Pn**	**12 24 39.6**	**-0.1**
JAG	**Ashikaga**	**3.03**	**7**	P	**Pn**	**12 24 39.9**	**-0.4**
JAG				S	**S**	**12 25 17.4**	**-3.6**
MJAR	**Matsushiro Arr**	**3.19**	**348**	P	**Pn**	**12 24 42.0**	**-0.2**
	0.5nm,0.3s,baz=170,slow=11,SNR=6.3						
MJAR				S	**S**	**12 25 22.6**	**-1.8**
	0.4nm,0.3s,baz=138,slow=13,SNR=1.8						
JWT	**Wachi**	**3.52**	**303**	P	**Pn**	**12 24 46.0**	**0.0**
JCJ	**Chichijima**	**6.87**	**156**	S	**S**	**12 26 40.5**	**-6.0**
	5.8nm,0.3s,baz=278,slow=19,SNR=1.3						
MKAR	**Makanchi Array**	**44.48**	**305**	P	**P**	**12 31 38.3**	**+1.4**
	0.3nm,0.5s,baz=79,slow=7.8,SNR=5.0						
KURBB	**Kurchatov Arra**	**46.77**	**310**	P	**P**	**12 31 55.8**	**+1.2**
	0.4nm,0.2s,baz=77,slow=6.7,SNR=4.9						
WRA	**Warramunga Arr**	**53.24**	**185**	P	**P**	**12 32 44.8**	**+1.3**
	0.2nm,0.3s,baz=1.1,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**56.97**	**186**	P	**P**	**12 33 11.9**	**+1.9**
	0.1nm,0.5s,baz=7.9,slow=9.4,SNR=5.8						

*ISCJB **24** 12:46:19.3±0.4,60°.07N±0°.03×152°.89W±0°.09, h113km±4km,mb2.9/1,Error ellipse: s-maj=7.3km s-min=4.4km az=10.7*
*IDC **24** 12:46:21.5±1.3,59°.67N×150°.78W,h0km,mb3.2/1, mb1 3.8/4,mb1mx3.2/80,mbtmp3.5/4,ML3.4/3,Error ellipse: s-maj=39.9km s-min=14.0km az=113.0*
*NEIC **24** 12:46:21.5±0.0,60°.08N×152°.98W,h102km,ML3.0(AEIC), After AEIC.*
ISC 24 12:46:19.8±1.2**, 60°.06N**±0°.04×**152°.93W**±0°.05**, h108**km±7km**, n65,** σ0**84**/75**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.06**	**221**	P	**Pn**	**12 46 34.8**	**-0.1**
ILW	**Iliamna West**	**0.10**	**268**	P	**Pn**	**12 46 34.8**	**-0.1**
ILW				S	**Sn**	**12 46 46.2**	**-0.1**
ILS	**Iliamna Low So**	**0.13**	**212**	P	**Pn**	**12 46 34.8**	**-0.1**
RSO	**Redoubt South**	**0.41**	**13**	*e*Pn	**Pn**	**12 46 36.3**	**+0.1**
RSO				*e*Sn	**Sn**	**12 46 47.5**	**-0.8**
RDWB	**Redoubt West**	**0.43**	**6**	P	**Pn**	**12 46 36.0**	**-0.2**
RDWB				S	**Sn**	**12 46 47.5**	**-0.9**
NCT	**North Crescent**	**0.50**	**0**	P	**Pn**	**12 46 36.6**	**+0.1**
RDJH	**Redoubt Jeurge**	**0.53**	**7**	P	**Pn**	**12 46 37.0**	**+0.1**
RDJH				S	**Sn**	**12 46 48.9**	**-0.7**
AUNW	**Augustine NWes**	**0.74**	**202**	P	**Pn**	**12 46 39.1**	**+0.8**
HOM	**Homer**	**0.77**	**121**	P	**Pn**	**12 46 39.4**	**+0.9**
HOM				S	**Sn**	**12 46 54.0**	**+1.4**
BRLK	**Bradley Lake**	**1.07**	**105**	P	**Pn**	**12 46 42.0**	**+0.3**
CKL	**Chakachamna La**	**1.17**	**14**	P	**Pn**	**12 46 43.2**	**+0.4**
SPWE	**Spurr West**	**1.23**	**9**	P	**Pn**	**12 46 44.2**	**+0.8**
BGL	**Barrier Glacie**	**1.23**	**12**	P	**Pn**	**12 46 44.1**	**+0.6**
SPCP	**Crater Peak Br**	**1.27**	**17**	P	**Pn**	**12 46 44.4**	**+0.5**
SPCP				S	**Sn**	**12 47 02.7**	**+0.6**
FONW	**Fourpeaked Sta**	**1.33**	**203**	P	**Pn**	**12 46 45.3**	**+0.7**
SLKM	**Skilak Lake**	**1.42**	**71**	P	**Pn**	**12 46 45.9**	**+0.3**
STLK	**Strandline Lak**	**1.54**	**20**	P	**Pn**	**12 46 47.7**	**+0.7**
SVW2	**Sparrevohn**	**1.67**	**310**	P	**Pn**	**12 46 48.6**	**+0.1**
FIB	**Fire Island**	**1.75**	**50**	P	**Pn**	**12 46 51.3**	**+1.8**
SUA	**Susitna One**	**1.77**	**36**	P	**Pn**	**12 46 50.5**	**+0.6**
SUA				S	**Sn**	**12 47 14.0**	**+1.2**
KARR	**Katmai Rainbow**	**1.81**	**211**	P	**Pn**	**12 46 51.6**	**+1.2**
RC01	**Rabbit Creek A**	**1.88**	**56**	P	**Pn**	**12 46 51.6**	**+0.5**
SKT	**Skwentna**	**2.04**	**19**	P	**Pn**	**12 46 53.6**	**+0.4**
KABU	**Katmai Buttres**	**2.17**	**155**	P	**Pn**	**12 46 56.3**	**+1.3**
KDAK	**Kodiak Island**	**2.30**	**175**	Pn	**Pn**	**12 46 56.2**	**-0.2**
	16nm,0.3s,baz=13,slow=13,SNR=97						
KDAK				Sn	**Sn**	**12 47 23.3**	**-1.1**
	21nm,0.3s,baz=143,slow=24,SNR=21						
PMR	**Palmer**	**2.41**	**49**	P	**Pn**	**12 46 57.6**	**-0.3**
KNK	**Knik Glacier**	**2.58**	**56**	P	**Pn**	**12 46 59.9**	**-0.3**
GHO	**Glory Hole Cre**	**2.60**	**47**	P	**Pn**	**12 47 00.3**	**-0.2**
SML	**Sawmill**	**2.85**	**50**	P	**Pn**	**12 47 03.5**	**-0.2**
OHAK	**Old Harbor**	**2.86**	**184**	P	**Pn**	**12 47 03.5**	**-0.3**
PPLA	**Purkeypile**	**2.87**	**7**	*e*Pn	**Pn**	**12 47 05.6**	**+1.6**
PPLA				*e*Sn	**Sn**	**12 47 38.2**	**+0.1**
TT01	**Tatalina**	**3.21**	**334**	P	**Pn**	**12 47 08.8**	**+0.2**
SCM	**Sheep Creek Mo**	**3.26**	**55**	P	**Pn**	**12 47 09.0**	**-0.2**
CAST	**Castle Rocks**	**3.39**	**6**	P	**Pn**	**12 47 12.1**	**+1.2**
MID	**Middleton Isla**	**3.40**	**98**	P	**Pn**	**12 47 11.6**	**+0.6**
TRF	**Thorofare Moun**	**3.62**	**19**	P	**Pn**	**12 47 14.7**	**+0.6**
KTH	**Kantishna Hill**	**3.63**	**14**	P	**Pn**	**12 47 14.7**	**+0.6**
KLU	**Klutina**	**3.73**	**64**	P	**Pn**	**12 47 14.7**	**-0.7**
RND	**Reindeer**	**3.88**	**28**	P	**Pn**	**12 47 17.8**	**+0.4**
DHY	**Denali Highway**	**4.03**	**39**	P	**Pn**	**12 47 19.8**	**+0.3**
MCK	**McKinley**	**4.14**	**25**	P	**Pn**	**12 47 22.2**	**+1.3**
BPAW	**Bear Paw Mtn.**	**4.15**	**12**	P	**Pn**	**12 47 21.3**	**+0.2**
HARP	**HAARP**	**4.43**	**55**	P	**Pn**	**12 47 25.0**	**+0.1**
PAX	**Paxson**	**4.61**	**48**	P	**Pn**	**12 47 27.7**	**+0.3**
WRH	**Wood River Hil**	**4.97**	**25**	P	**Pn**	**12 47 32.1**	**+0.1**
MLY	**Manley**	**5.09**	**11**	P	**Pn**	**12 47 33.9**	**+0.2**
HDA	**Harding Lake**	**5.18**	**30**	P	**Pn**	**12 47 35.3**	**+0.4**
CCB	**Clear Creek Bu**	**5.18**	**25**	P	**Pn**	**12 47 34.8**	**-0.1**
RIDG	**Independ'e Rid**	**5.31**	**43**	P	**Pn**	**12 47 37.4**	**+0.6**
PS08	**TAPS Pump Stn8**	**5.32**	**30**	P	**Pn**	**12 47 37.2**	**+0.4**
COLA	**College**	**5.37**	**24**	P	**Pn**	**12 47 38.1**	**+0.7**
MDM	**Murphy Dome**	**5.37**	**22**	P	**Pn**	**12 47 37.9**	**+0.4**
ILAR	**Eielson Array**	**5.50**	**28**	Pn	**Pn**	**12 47 39.4**	**+0.2**
	2.2nm,0.3s,baz=209,slow=13,SNR=100						
ILAR				Sn	**Sn**	**12 48 36.6**	**-4.4**
	1.4nm,0.3s,baz=216,slow=16,SNR=5.5						
ILB	**Eielson Array**	**5.50**	**28**	P	**Pn**	**12 47 39.2**	**0.0**
MESA	**MESA**	**5.50**	**84**	P	**Pn**	**12 47 39.9**	**+0.5**
DOT	**Dot Lake**	**5.53**	**46**	*e*Pn	**Pn**	**12 47 39.9**	**+0.3**
	11nm,0.4s						
DOT				*e*Sn	**Sn**	**12 48 42.7**	**+0.9**
BARN	**Barnard Glacie**	**5.65**	**75**	P	**Pn**	**12 47 42.0**	**+0.5**
SCRK	**Sand Creek**	**5.75**	**43**	P	**Pn**	**12 47 42.2**	**-0.6**
IM3	**Indian Mountai**	**5.95**	**357**	P	**Pn**	**12 47 46.3**	**+0.9**
PNL	**Peninsula**	**6.83**	**87**	P	**Pn**	**12 47 57.4**	**+0.1**
EGAK	**Eagle**	**7.22**	**44**	P	**Pn**	**12 48 02.2**	**-0.3**
DAWY	**Dawson**	**7.51**	**52**	P	**Pn**	**12 48 06.8**	**+0.2**
INK	**Inuvik**	**11.77**	**37**	Pn	**Pn**	**12 49 03.9**	**0.0**
	0.1nm,0.3s,baz=221,slow=9.3,SNR=3.3						
YKA	**Yellowknife Ar**	**18.39**	**66**	P	**Pn**	**12 50 27.4**	**+0.1**
	0.1nm,0.3s,baz=276,slow=9.8,SNR=37						
PDAR	**Pinedale Array**	**31.38**	**104**	P	P	12 52 33.8	+3.4
	0.1nm,0.4s,baz=354,slow=6.4,SNR=2.5						

*ISCJB **24** 12:46:19.8±0.6,39°.14N±0°.03×39°.89E±0°.04,h10km±6km, Error ellipse: s-maj=5.3km s-min=4.8km az=20.8*
*CSEM **24** 12:46:19.6±0.3,39°.15N×39°.86E,h10km,ML2.6,Error ellipse: s-maj=7.0km s-min=6.2km az=152.0*
*DDA **24** 12:46:19.3,39°.14N×39°.83E,h7km, Ml2.2*
*ISK **24** 12:46:19.1,39°.13N×39°.92E,h9km,ML2.6/2*
ISC 24 12:46:19.8±1.2**, 39°.14N**±0°.03×**39°.87E**±0°.03**, h7**km±11km**, n27,** σ1**9**23**/39, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.45**	**237**	PG	**Pg**	**12 46 28.6**	**+0.1**
PTK				SG	**Sb**	**12 46 36.1**	**-1.0**
PTK	**Pertek**	**0.45**	**237**	*e*Pg	**Pg**	**12 46 28.6**	**+0.1**
PTK				*e*Sg	**Sb**	**12 46 36.1**	**-1.0**
ERZN	**Erzincan**	**0.46**	**346**	PG	**Pb**	**12 46 29.1**	**-1.3**
ERZN				SG	**Sb**	**12 46 36.5**	**-1.0**
BINT	**Bingol**	**0.55**	**118**	*e*Pg	**Pg**	**12 46 30.6**	**+0.2**
BINT				*e*Sg	**Sb**	**12 46 40.5**	**+0.6**
BNGB	**Bing˜¶l**	**0.65**	**103**	PG	**Pg**	**12 46 30.6**	**-1.7**
BNGB				SG	**Sg**	**12 46 40.5**	**-0.2**
HANI	**Diyarbakir_Han**	**0.83**	**150**	*i* P	**Pb**	**12 46 35.9**	**-0.7**
HANI				*i* S	**Sb**	**12 46 48.5**	**+0.5**
HANI	**Diyarbakir_Han**	**0.83**	**150**	P	**Pb**	**12 46 35.9**	**-0.7**
HANI				S	**Sb**	**12 46 48.5**	**+0.5**
ELZG	**Elazig

MKAR	**Makanchi Array**	**47.97**	**307**	P	**P**	**12 58 10.4**	**-0.6**
	0.2nm,0.6s,baz=86,slow=10,SNR=3.7							
KURBB	**Kurchatov Arra**	**50.28**	**312**	P	**P**	**12 58 28.0**	**-0.5**
	0.2nm,0.3s,baz=89,slow=7.3,SNR=4.9							
WRA	**Warramunga Arr**	**51.28**	**189**	P	**P**	**12 58 33.9**	**-2.4**
	0.5nm,0.4s,baz=5.7,slow=7.7,SNR=15							
ILAR	**Eielson Array**	**54.27**	**30**	P	**P**	**12 58 57.2**	**-0.8**
	0.5nm,0.6s,baz=263,slow=5.7,SNR=9.3							
ASAR	**Alice Springs**	**55.01**	**189**	P	**P**	**12 59 00.9**	**-2.8**
	0.4nm,0.5s,baz=5.6,slow=5.8,SNR=5.6							
BVAR	**Borovoye Array**	**55.12**	**316**	P	**P**	**12 59 04.2**	**-0.1**
	0.3nm,0.4s,baz=107,slow=9.2,SNR=3.1							
INK	**Inuvik**	**59.45**	**25**	P	**P**	**12 59 35.4**	**+0.8**
	0.6nm,0.7s,baz=285,slow=7.7,SNR=4.0							
SPITS	**Spitsbergen Ar**	**66.46**	**349**	LR	LR	13 32 52.5		
	comp=Z,18nm,18.7s,baz=335,slow=39							
YKA	**Yellowknife Ar**	**68.68**	**29**	P	**P**	**13 00 35.9**	**+0.6**
	0.3nm,0.8s,baz=295,slow=6.3,SNR=5.9							
NVAR	**Mina Array Bea**	**78.12**	**52**	P	**P**	**13 01 33.1**	**+1.5**
	0.8nm,0.7s,baz=280,slow=5.7,SNR=6.1							
HFS	**Hagfors**	**79.75**	**337**	P	**P**	**13 01 41.6**	**+1.7**
	1.0nm,0.7s,baz=56,slow=5.4,SNR=2.5							
TXAR	**Lajitas Array**	**93.26**	**53**	P	**P**	**13 02 48.8**	**+1.5**
	0.5nm,0.7s,baz=303,slow=2.8,SNR=9.7							

JMA 24 12:50:45.8, 36.72N×138.15E, h2km±1km, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.18**	**165**	P	Pg	12 50 49.2	-0.1
MAT				S	Sg	12 50 52.2	+0.5
MAT	**Matsushiro**	**0.18**	**165**	P	Pg	12 50 49.3	0.0
MAT				S	Sg	12 50 52.0	+0.3
JNG	**Nsakai**	**0.32**	**187**	P	Pg	12 50 51.8	-0.1
JNG				S	Sg	12 50 56.6	+0.6

GUC 24 12:53:11.2±0.5, 20.50S×68.85W, h104km±3km, ML3.9, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.46**	**321**	↑*i* P	Pn	12 53 28.1	+0.6
PB08				*i* S	Sn	12 53 49.9	+1.1
PB08				IAML		12 53 41.2	
	comp=E,7μm,0.3s						
PB01	**IPOC Station P**	**0.81**	**228**	↑*e* P	Pn	12 53 30.1	+0.1
PB01				*e* S	Sn	12 53 44.7	+0.5
PB01				IAML		12 53 45.6	
	comp=N,6μm,0.2s						
GO01	**Chusmiza**	**0.89**	**338**	↓*e* P	Pn	12 53 32.1	+0.8
GO01				*e* S	Sn	12 53 47.9	+1.6
PB11	**IPOC Station P**	**1.06**	**314**	↑*e* P	Pn	12 53 32.9	+0.2
PB11				*e* S	Sn	12 53 49.6	+0.8
PB02	**IPOC Station P**	**1.27**	**230**	↑*e* P	Pn	12 53 35.0	-0.1
PB02				*e* S	Sn	12 53 53.9	+0.7
PB02				IAML		12 53 55.2	
	comp=E,3μm,0.4s						
PB09	**IPOC Station P**	**1.34**	**196**	*e* P	Pn	12 53 36.5	+0.6
PB09				*e* S	Sn	12 53 55.6	+0.9
PB09				IAML		12 53 57.4	
	comp=N,2μm,0.4s						
PSGC	**Pisagua**	**1.50**	**307**	↑*i* P	Pn	12 53 37.6	-0.1
PSGC				*e* S	Sn	12 53 58.2	+0.3
MNMC	**Minye Minye**	**1.53**	**333**	*e* P	Pn	12 53 39.1	+0.7
MNMC				*e* S	Sn	12 54 00.9	+2.0
PB07	**IPOC Station P**	**1.56**	**218**	*e* P	Pn	12 53 38.4	-0.2
PB07				*e* S	Sn	12 53 58.9	-0.4

*IDC **24** 13:00:27.0±0.8, 16.91S×173.53W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/46, mbtmp3.8/8, ML4.0/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/44, Error ellipse: s-maj=39.3km s-min=19.0km az=138.0*

*ISCJB **24** 13:00:32.7±0.8, 16.8S±0.2×173.7W±0.2, h52km, mb3.8/7, MS3.2/2, Error ellipse: s-maj=37.4km s-min=13.4km az=41.5*

ISC 24 13:00:33.9±0.9, 16.9S±0.2×173.5W±0.2, h52km, n16, σ0s80/10, mb3.7/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.39**	**30**	Pn	**Pn**	**13 01 23.1**	**-1.3**
	15nm,0.3s,baz=139,slow=12,SNR=1.7						
AFI				Sn	Sn	13 01 55.6	-7.7
	36nm,0.3s,baz=80,slow=22,SNR=7.3						
AFI				LR	LR	13 02 32.9	
	comp=Z,325nm,20.2s,baz=256,slow=37						
RAR	**Rarotonga**	**13.72**	**111**	Pn	Pn	13 03 37.4	-8.3
	1.4nm,0.3s,baz=292,slow=5.4,SNR=5.1						
RAR				LR	LR	13 07 39.2	
	comp=Z,93nm,19.8s,baz=257,slow=32						
DZM	**Mont Dzumac**	**19.57**	**251**	LR	LR	13 11 34.8	
	comp=Z,114nm,19.3s,baz=45,slow=34						
DZM	**Mont Dzumac**	**19.57**	**251**	*e*LR	LR	13 10 09.6	
	139nm,24.3s						
URZ	**Urewera**	**22.85**	**199**	P	**P**	**13 05 32.0**	**-0.8**
	2.8nm,0.4s,baz=352,slow=7.1,SNR=5.0						
PPT2	**Papeete2**	**22.90**	**95**	*e*LR	LR	13 10 36.8	
	80nm,25.0s						
PPT	**Papeete**	**22.90**	**95**	LR	LR	13 11 52.4	
	comp=Z,26nm,21.1s,baz=302,slow=30						
TAOE	**Nuku Hiva Isla**	**33.47**	**80**	*e*LR	LR	13 15 26.9	
	49nm,25.7s						
WRA	**Warramunga Arr**	**49.40**	**258**	P	**P**	**13 09 18.6**	**-0.3**
	0.8nm,0.5s,baz=96,slow=7.0,SNR=34						
ASAR	**Alice Springs**	**49.55**	**253**	P	**P**	**13 09 20.1**	**+0.1**
	2.9nm,0.7s,baz=88,slow=8.8,SNR=37						
NVAR	**Mina Array Bea**	**75.50**	**42**	P	**P**	**13 12 13.9**	**+0.9**
	0.4nm,0.5s,baz=242,slow=7.8,SNR=3.5						
NVAR				LR	LR	13 38 00.2	
	comp=Z,43nm,18.9s,baz=300,slow=30						
TXAR	**Lajitas Array**	**81.53**	**56**	P	**P**	**13 12 46.9**	**+0.5**
	0.4nm,0.9s,baz=216,slow=6.2,SNR=4.2						
PDAR	**Pinedale Array**	**83.43**	**42**	P	**P**	**13 12 56.9**	**+0.7**
	0.6nm,0.7s,baz=210,slow=5.1,SNR=5.5						
ILAR	**Eielson Array**	**83.89**	**11**	P	**P**	**13 12 58.3**	**+0.6**
	0.1nm,0.5s,baz=206,slow=5.1,SNR=4.3						
BRTR	**Keskin Array B**	**147.18**	**319**	PKPbc	**PKPbc**	**13 20 11.8**	**0.0**
	0.7nm,0.7s,baz=48,slow=2.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**174.10**	**128**	PKPab	**PKPab**	**13 22 09.7**	**-0.4**
	0.4nm,0.8s,baz=243,slow=3.7,SNR=4.3						

MEX 24 13:01:47.9±0.4, 16.38N×98.39W, h22km±8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.25**	**87**	*i* P	Pb	13 01 52.8	-1.3
PNIG				*e*S	Sb	13 01 57.0	-1.3
TLIG	**Tlapa**	**1.19**	**352**	*e*P	Pn	13 02 06.4	-3.0
TLIG				*i* S	Sb	13 02 21.0	-3.8
ACX	**Acapulco**	**1.49**	**289**	*e*P	Pb	13 02 16.3	+1.4
ACX				*i* S	Sb	13 02 34.5	+1.1
VHO	**Vista Hermosa**	**1.73**	**66**	*e*P	Pn	13 02 14.0	-2.9
VHO				*e*S	Sn	13 02 34.3	-4.1
CAIG	**El Cayaco**	**1.92**	**290**	*e*P	Pn	13 02 16.6	-2.6
CAIG				*e*S	Sn	13 02 38.8	-4.0
PLIG	**Platanillo**	**2.27**	**332**	*e*P	Pn	13 02 21.9	-2.3
PLIG				*e*S	Sn	13 02 47.8	-3.7
HUIG	**Huatulco**	**2.28**	**105**	*e*P	Pn	13 02 22.0	-2.2

*IDC **24** 13:09:05.5±2.6, 33.34N×141.33E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.2/69, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=52.7km s-min=27.9km az=44.0*

*ISCJB **24** 13:09:09.9±0.9, 33.50N±0.05×141.12E±0.08, h48km, mb3.9/2, Error ellipse: s-maj=10.0km s-min=6.2km az=24.0*

*JMA **24** 13:09:11.3±0.2, 33.65N×140.92E, h17km, M3.0*

ISC 24 13:09:11.2±1.5, 33.51N±0.06×141.1E±0.1, h48km, n14, σ0s71/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.13**	**250**	P	**Pn**	**13 09 30.9**	**+0.2**
JHJ2				*e*S	**Sn**	**13 09 45.1**	**0.0**
BSO1	**Boso 1**	**1.15**	**356**	P	**Pn**	**13 09 29.9**	**-0.5**
JHJ	**Hachijo jima 2**	**1.15**	**251**	Pn	**Pn**	**13 09 31.1**	**+0.1**
	196nm,0.3s,baz=108,slow=23,SNR=40						
JHJ				Sn	**Sn**	**13 09 45.2**	**-0.5**
	213nm,0.3s,baz=75,slow=23,SNR=31						
JHCJ	**Hachijojimakas**	**1.16**	**248**	P	**Pn**	**13 09 31.5**	**+0.4**
JHCJ				S	**Sn**	**13 09 45.6**	**-0.2**
BSO3	**Boso 3**	**1.38**	**340**	P	**Pn**	**13 09 33.6**	**-0.2**
BSO4	**Boso 4**	**1.60**	**338**	P	**Pn**	**13 09 37.5**	**+0.5**
KTJJ	**Kamata 2**	**2.19**	**311**	P	**Pn**	**13 09 45.1**	**-0.1**
KTJJ				*e*S	**Sn**	**13 10 09.2**	**-1.9**
JIZS	**Izushimoda**	**2.19**	**304**	P	**Pn**	**13 09 45.4**	**+0.2**
JOD2	**Odawara 2**	**2.41**	**317**	P	**Pn**	**13 09 48.0**	**-0.1**
JHU	**Hanno**	**2.77**	**328**	P	**Pn**	**13 09 53.2**	**+0.1**
JYT	**Yasato**	**2.81**	**345**	P	**Pn**	**13 09 54.4**	**+0.7**
MJAR	**Matsushiro Arr**	**3.84**	**323**	Pn	**Pn**	**13 10 08.8**	**+1.0**
	1.1nm,0.3s,baz=142,slow=14,SNR=15						
MJAR				Sn	**Sn**	**13 10 53.0**	**+1.4**
	0.3nm,0.3s,baz=136,slow=46,SNR=2.9						
WRA	**Warramunga Arr**	**53.54**	**188**	P	**P**	**13 18 26.9**	**-0.2**
	0.8nm,0.3s,baz=5.6,slow=7.7,SNR=30						
ASAR	**Alice Springs**	**57.27**	**188**	P	**P**	**13 18 54.0**	**0.0**
	0.3nm,0.5s,baz=13,slow=12,SNR=8.6						

*CRAAG **24** 13:17:16.4, 36.40N×1.00E, Ml3.9*

*CSEM **24** 13:17:19.8±0.2, 36.41N×0.84E, h10km, ML2.6, Error ellipse: s-maj=5.5km s-min=3.7km az=31.0*

*MDD **24** 13:17:20.1±0.4, 36.47N×0.87E, h0km, mbLg2.6/28, Error ellipse: s-maj=6.1km s-min=3.7km az=48.0, PRXIMO*

ISC 24 13:17:19.9±1.3, 36.39N±0.06×0.95E±0.05, h29km±17km, n99, σ1s90/147, 2D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECHF	**Ech Chlef**	**0.39**	**126**	P	**Pb**	**13 17 28.2**	**-0.4**
ECHF	**Ech Chlef**	**0.39**	**126**	P	**Pb**	**13 17 28.2**	**-0.4**
ECHA	**Ech Chlef**	**0.41**	**125**	P	**Pb**	**13 17 28.2**	**-0.7**
ECHA	**Ech Chlef**	**0.41**	**125**	P	**Pb**	**13 17 28.2**	**-0.7**
EANR	**'Ain N'Sour**	**0.46**	**164**	P	**Pb**	**13 17 30.1**	**+0.5**
EANR	**'Ain N'Sour**	**0.46**	**164**	P	**Pb**	**13 17 30.1**	**+0.5**
EANR	**'Ain N'Sour**	**0.46**	**164**	P	**Pb**	**13 17 30.1**	**+0.5**
EBNR	**Beni Rached**	**0.48**	**102**	P	**Pb**	**13 17 30.5**	**+0.5**
EBNR	**Beni Rached**	**0.48**	**102**	P	**Pb**	**13 17 30.5**	**+0.5**
ETRT	**Tiaret**	**1.04**	**164**	P	**Pn**	**13 17 41.3**	**+2.7**
ETRT	**Tiaret**	**1.04**	**164**	P	**Pn**	**13 17 41.3**	**+2.7**
ETRT	**Tiaret**	**1.04**	**164**	P	**Pn**	**13 17 41.3**	**+2.7**
EMHD	**Djebel Mahouad**	**1.63**	**96**	P	**Pb**	**13 17 51.4**	**+2.0**
EMHD	**Djebel Mahouad**	**1.63**	**96**	P	**Pb**	**13 17 51.4**	**+2.0**
EMHD	**Djebel Mahouad**	**1.63**	**96**	P	**Pb**	**13 17 51.4**	**+2.0**
EMUR	**La Murta**	**2.27**	**310**	P	**Pn**	**13 17 55.4**	**-0.1**
	2.9nm,0.2s,SNR=26						
EMUR				S	**Sn**	**13 18 21.8**	**-0.8**
	21nm,0.3s,SNR=5.9						
EMUR	**La Murta**	**2.27**	**310**	P	**Pn**	**13 17 55.4**	**-0.1**
	2.9nm,0.2s,SNR=26						
EMUR				S	**Sn**	**13 18 21.8**	**-0.8**
	21nm,0.3s,SNR=5.9						
AFON	**Font Roja**	**2.56**	**333**	P	**Pn**	**13 18 00.1**	**+0.6**
	2.2nm,0.1s,SNR=5.6						
AFON				S	**Sn**	**13 18 29.9**	**+0.1**
	5.9nm,0.2s,SNR=6.6						
AFON	**Font Roja**	**2.56**	**333**	P	**Pn**	**13 18 00.2**	**+0.6**
	2.2nm,0.1s,SNR=5.6						
AFON				S	**Sn**	**13 18 29.9**	**+0.1**
	5.9nm,0.2s,SNR=6.6						
ENIJ	**Nijar**	**2.60**	**284**	P	**Pn**	**13 18 01.3**	**+1.3**
	2.0nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**13 18 27.5**	**-3.1**
	25nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.60**	**284**	P	**Pn**	**13 18 01.3**	**+1.3**
	2.0nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.65**	**7**	P	**Pn**	**13 18 01.2**	**+0.5**
	8.9nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**13 18 29.4**	**-2.5**
	16nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.65**	**7**	P	**Pn**	**13 18 01.2**	**+0.5**
	8.9nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.00**	**319**	↓P	**Pn**	**13 18 06.6**	**+1.0**
	7.5nm,0.1s,SNR=18						
ETOB				S	**Sn**	**13 18 40.2**	**-0.4**
	12nm,0.2s						
ETOB	**Tobarra**	**3.00**	**319**	P	**Pn**	**13 18 06.6**	**+1.0**
	7.5nm,0.1s,SNR=18						
ETOB				S	**Sn**	**13 18 40.2**	**-0.4**
	12nm,0.2s						
EBER	**Berja**	**3.13**	**280**	P	**Pn**	**13 18 08.7**	**+1.3**
	2.8nm,0.2s,SNR=22						
EBER				S	**Sn**	**13 18 43.3**	**-0.6**
	18nm,0.3s,SNR=9.7						
EBER	**Berja**	**3.13**	**280**	P	**Pn**	**13 18 08.7**	**+1.3**
	2.8nm,0.2s,SNR=22						
EBER				S	**Sn**	**13 18 43.3**	**-0.6**
	18nm,0.3s,SNR=9.7						
SESP	**Santiago Espad**	**3.28**	**303**	P	**Pn**	**13 18 11.6**	**+2.1**
	20nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**13 18 48.4**	**+0.8**
	35nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.28**	**303**	P	**Pn**	**13 18 11.6**	**+2.1**
	20nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**13 18 48.4**	**+0.8**
	35nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.51**	**295**	P	**Pn**	**13 18 14.4**	**+1.8**
	35nm,0.3s,SNR=70						
EQES				S	**Sn**	**13 18 54.5**	**+1.3**
	25nm,0.3s						
EQES	**Quesada**	**3.51**	**295**	P	**Pn**	**13 18 14.4**	**+1.8**
	35nm,0.3s,SNR=70						
EQES				S	**Sn**	**13 18 54.5**	**+1.3**
	25nm,0.3s						
EQUE	**Quentar**	**3.62**	**284**	P	**Pn**	**13 18 15.5**	**+1.5**
	3.8nm,0.2s,SNR=22						
EQUE				S	**Sn**	**13 18 56.2**	**+0.4**
	4.4nm,0.3s						
EQUE	**Quentar**	**3.62**	**284**	P	**Pn**	**13 18 15.5**	**+1.5**
	3.8nm,0.2s,SNR=22						
EQUE				S	**Sn**	**13 18 56.2**	**+0.4**
	4.4nm,0.3s						
ETOS	**Mallorca**	**3.68**	**23**	P	**Pn**	**13 18 14.3**	**-0.6**
	1.7nm,0.1s,SNR=16						
ETOS				S	**Sn**	**13 18 55.3**	**-2.0**
	2.4nm,0.1s						
ELGU	**Los Guajares,**	**3.71**	**279**	P	**Pn**	**13 18 15.9**	**+0.6**
	1.6nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**13 18 57.3**	**-0.8**
	6.1nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**3.71**	**279**	P	**Pn**	**13 18 15.9**	**+0.6**
	1.6nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**13 18 57.3**	**-0.8**
	6.1nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.12**	**345**	↓P	**Pn**	**13 18 22.6**	**+1.5**
	1.4nm,0.1s,SNR=18						
EMOS				S	**Sn**	**13 19 07.1**	**-1.4**
	10.0nm,0.3s						
EMOS	**Mosqueruela**	**4.12**	**345**	P	**Pn**	**13 18 22.6**	**+1.5**
	1.4nm,0.1s,SNR=18						
EGOR	**Sierra Gorda,**	**4.12**	**282**	P	**Pn**	**13 18 24.3**	**+3.2**
	1.3nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**13 19 09.6**	**+1.2**
	2.4nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**4.12**	**282**	P	**Pn**	**13 18 24.3**	**+3.2**
	1.3nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**13 19 09.6**	**+1.2**
	2.4nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.59**	**354**	P	**Pn**	**13 18 29.0**	**+1.7**
	1.3nm,0.2s,SNR=7.0						
ERTA				S	**Sn**	**13 19 16.7**	**-2.9**
	2.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.59**	**354**	P	**Pn**	**13 18 29.0**	**+1.7**
	1.3nm,0.2s,SNR=7.0						
EMIJ	**Mijas**	**4.61**	**274**	P	**Pn**	**13 18 27.2**	**-0.5**
	0.8nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**13 19 17.2**	**-3.1**
	1.7nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**4.61**	**274**	P	**Pn**	**13 18 27.2**	**-0.5**
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.75**	**294**	P	**Pn**	**13 18 29.9**	**+0.3**
	1.7nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**13 19 21.1**	**-2.6**
	2.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.75**	**294**	P	**Pn**	**13 18 29.9**	**+0.3**
	1.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.96**	**1**	P	**Pn**	**13 18 33.2**	**+0.7**
	1.0nm,0.1s,SNR=8.3						
EPOB				S	**Sn**	**13 19 25.3**	**-3.5**
	4.3nm,0.2s,SNR=6.0						
EPOB	**Poblet**	**4.96**	**1**	P	**Pn**	**13 18 33.2**	**+0.7**
	1.0nm,0.1s,SNR=8.3						
ETOR	**Torete**	**5.01**	**333**	P	**Pn**	**13 18 36.8**	**+3.6**
	0.3nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**13 19 31.3**	**+1.1**
	2.5nm,0.4s,SNR=7.9						
ETOR	**Torete**	**5.01**	**333**	P	**Pn**	**13 18 36.8**	**+3.6**
	0.3nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**13 19 31.3**	**+1.1**
	2.5nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**5.08**	**312**	P	**Pn**	**13 18 34.8**	**+0.7**
	0.5nm,0.1s,baz=120,slow=13,SNR=10						
ESDC				S	**Sn**	**13 19 31.4**	**-0.4**
	1.1nm,0.6s,baz=122,slow=24,SNR=7.7						
ESDC	**Sonseca Array**	**5.08**	**312**	P	**Pn**	**13 18 34.8**	**+0.7**
	0.5nm,0.1s,SNR=10						
ESDC				S	**Sn**	**13 19 31.4**	**-0.4**
	1.1nm,0.6s,SNR=7.7						
PAB	**San Pablo**	**5.24**	**309**	P	**Pn**	**13 18 36.7**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**13 19 34.0**	**-1.8**
	1.2nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**5.24**	**309**	P	**Pn**	**13 18 36.7**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**13 19 34.0**	**-1.8**
	1.2nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**5.35**	**290**	P	**Pn**	**13 18 37.5**	**-0.3**
	2.4nm,0.2s,SNR=20						
ECAB				S	**Sn**	**13 19 36.7**	**-1.8**
	1.1nm,0.2s						
ECAB	**El Cabril**	**5.35**	**290**	P	**Pn**	**13 18 37.5**	**-0.3**
	2.4nm,0.2s,SNR=20						
ECAB				S	**Sn**	**13 19 36.7**	**-1.8**
	1.1nm,0.2s						
ESAC	**San Caprasio**	**5.44**	**349**	P	Pn	13 18 43.9	+4.9
	7.9nm,0.3s,SNR=7.9						
ESAC				S	**Sn**	**13 19 43.4**	**+2.8**
	SNR=4.0						
CFON	**Fontmartina**	**5.49**	**12**	P	**Pn**	**13 18 40.5**	**+0.7**
	3.4nm,0.1s,SNR=13						
CFON				S	**Sn**	**13 19 38.9**	**-3.0**
	3.6nm,0.2s						
CFON	**Fontmartina**	**5.49**	**12**	P	**Pn**	**13 18 40.5**	**+0.7**
	3.4nm,0.1s,SNR=13						
EMIR	**Miracle**	**5.54**	**4**	P	**Pn**	**13 18 42.4**	**+2.0**
	2.6nm,0.1s,SNR=12						
EMIR				S	**Sn**	**13 19 41.9**	**-1.1**
	11nm,0.3s						
EMIR	**Miracle**	**5.54**	**4**	P	**Pn**	**13 18 42.4**	**+2.0**
	2.6nm,0.1s,SNR=12						
GUD	**Guadarrama**	**5.83**	**318**	P	**Pn**	**13 18 45.5**	**+0.9**
	0.6nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**13 19 48.0**	**-2.6**
	1.1nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**5.83**	**318**	P	**Pn**	**13 18 45.5**	**+0.9**
	0.6nm,0.2s,SNR=7.9						
CSOR	**Sort**	**5.98**	**1**	P	**Pn**	**13 18 48.3**	**+1.8**
	1.8nm,0.2s,SNR=10						
CSOR				S	**Sn**	**13 19 51.4**	**-2.7**
	2.1nm,0.3s						
CSOR	**Sort**	**5.98**	**1**	P	**Pn**	**13 18 48.3**	**+1.8**
	1.8nm,0.2s,SNR=10						
CLLI	**Llivia**	**6.13**	**7**	P	**Pn**	**13 18 50.6**	**+1.9**
	0.4nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**6.13**	**7**	P	**Pn**	**13 18 50.6**	**+1.9**
	0.4nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**6.24**	**13**	P	**Pn**	**13 18 48.6**	**-1.4**
	1.8nm,0.4s,SNR=7.9						
EJON				S	**Sn**	**13 19 55.2**	**-5.0**
	1.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.25**	**285**	P	**Pn**	**13 18 50.3**	**+0.2**
	1.2nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**13 19 57.0**	**-3.5**
	0.9nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.25**	**285**	P	**Pn**	**13 18 50.3**	**+0.2**
	1.2nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**6.61**	**288**	*e*Pn	**Pn**	**13 18 56.0**	**+0.9**
PBAR				*e*Sn	**Sn**	**13 20 06.7**	**-2.8**
PBAR	**Barrancos**	**6.61**	**288**	P	**Pn**	**13 18 56.0**	**+0.9**
PBAR				S	**Sn**	**13 20 06.7**	**-2.8**
PBAR	**Barrancos**	**6.61**	**288**	P	**Pn**	**13 18 56.0**	**+0.9**
IELO	**Elcoad**	**6.66**	**346**	P	**Pn**	**13 18 57.7**	**+1.8**
	0.2nm,0.1s,SNR=7.9						
IELO				S	**Sn**	**13 20 06.5**	**-4.3**
	1.4nm,0.4s,SNR=7.9						
IELO	**Elcoad**	**6.66**	**346**	P	**Pn**	**13 18 57.7**	**+1.8**
	0.2nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**6.72**	**346**	S	**Sn**	**13 20 07.8**	**-4.5**
	0.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.75**	**293**	S	**Sn**	**13 20 08.8**	**-4.0**
	1.6nm,0.4s,SNR=7.9						
ATE	**Arette**	**6.81**	**350**	P	**Pn**	**13 18 59.9**	**+2.1**
	1.8nm,0.3s,SNR=7.9						
ATE				S	**Sn**	**13 20 11.8**	**-2.6**
	0.9nm,0.3s,SNR=7.9						
ATE	**Arette**	**6.81**	**350**	P	**Pn**	**13 18 59.9**	**+2.1**
	1.8nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**7.02**	**281**	*e*Pn	**Pn**	**13 19 01.

JRY	**Ryogami san**	**3.25**	**260**	P		**Pn**	**13 24 52.1**	**-1.4**
JRY				*e*S		**Sn**	**13 25 29.1**	**-2.1**
JOD2	**Odawara 2**	**3.35**	**247**	P		**Pn**	**13 24 53.6**	**-1.2**
JOD2				*e*S		**Sn**	**13 25 31.4**	**-2.2**
JYN	**Shimob**	**3.67**	**253**	P		**Pn**	**13 24 59.0**	**-0.3**
MJAR	**Matsushiro Arr**	**3.74**	**270**	Pn		**Pn**	**13 25 00.0**	**-0.1**
	4.6nm,0.3s,baz=89,slow=15,SNR=60							
MJAR				LR		LR	13 26 44.4	
	comp=Z,122nm,21.6s,baz=95,slow=43							
MAJO	**Matsushiro**	**3.74**	**270**	*o*	*iP*	**Pn**	**13 25 00.4**	**+0.3**
MAJO	**Matsushiro**	**3.74**	**270**	*e*	Pn	**Pn**	**13 25 00.5**	**+0.3**
MAT	**Matsushiro**	**3.74**	**270**	P		**Pn**	**13 25 00.3**	**+0.1**
MAT				*e*S		**Sn**	**13 25 40.7**	**-2.6**
MJB9	**Matsu-Tunnel**	**3.74**	**270**	*e*Pn		**Pn**	**13 25 00.5**	**+0.3**
JANG	**Nango**	**3.88**	**345**	*e*S		**Sn**	**13 25 42.6**	**-4.0**
JHJ	**Hachijo jima 2**	**4.32**	**217**	Pn		**Pn**	**13 25 08.0**	**-0.2**
	21nm,0.3s,baz=72,slow=20,SNR=3.6							
JHJ				Sn		**Sn**	**13 25 52.5**	**-5.1**
	21nm,0.3s,baz=72,slow=20,SNR=4.2							
ERM	**Erimo**	**5.38**	**2**	⇓	*iP*	**Pn**	**13 25 22.2**	**-0.4**
ASAJ	**Asahikawa**	**7.48**	**359**	Pn		**Pn**	**13 25 49.7**	**-1.8**
	1.6nm,0.3s,baz=242,slow=12,SNR=19							
ASAJ				Sn		**Sn**	**13 27 11.8**	**-3.4**
	0.8nm,0.3s,baz=1.1,slow=32,SNR=4.1							
YUK	**Yuzh-Kuril'sk**	**7.74**	**16**	P		Pn	13 25 48.6	-6.5
SHO	**Shikotan**	**7.84**	**22**	P		Pn	13 25 51.2	-5.2
KUR	**Kuril'sk**	**9.39**	**22**	P		Pn	13 26 12.6	-5.0
YSS	**Yuzh-Sakhalins**	**10.31**	**360**	⇑	*eP*	**Pn**	**13 26 29.6**	**-0.7**
YSS					pmax	pmax		
	comp=Z,10.0nm,0.6s							
YSS					MLR	MLR		
	comp=Z,140nm,16.0s							
JNU	**Nakatsue**	**10.44**	**254**		LR	LR	13 30 09.9	
	comp=Z,64nm,18.6s,baz=101,slow=35							
KSRS	**Korea Array**	**11.96**	**278**	Pn		**Pn**	**13 26 55.3**	**+2.4**
	baz=80,slow=14,SNR=3.5							
KSRS					LR	LR	13 30 49.8	
	comp=Z,34nm,20.0s,baz=105,slow=34							
KS15	**Wonju Array Si**	**11.99**	**278**	*e*Pn		**Pn**	**13 26 55.3**	**+1.9**
KSAR	**Wonju Array Be**	**11.99**	**278**	P		**Pn**	**13 26 55.3**	**+1.9**
KSAR	**Wonju Array Be**	**11.99**	**278**	Pn		**Pn**	**13 26 55.3**	**+1.9**
GRNR	**Gornyy**	**14.87**	**344**	*e*P		**P**	**13 27 38.8**	**+0.9**
GRNR					pmax	pmax		
	comp=Z,26nm,1.0s							
KLR	**Kul'dur**	**14.96**	**331**	LR		LR	13 32 54.9	
	comp=Z,4.3nm,19.6s,baz=247,slow=36							
KLR	**Kul'dur**	**14.96**	**331**	⇑	*iP*	**P**	**13 27 37.8**	**-1.2**
NKL	**Nikolayevsk**	**16.58**	**355**	*e*P		**Pn**	**13 27 50.5**	**-4.1**
ZEA	**Zeya**	**20.25**	**333**	*i* P		**P**	**13 28 36.7**	**-0.5**
MA2	**Magadan**	**23.52**	**10**	P		**P**	**13 29 11.2**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=177,slow=7.7,SNR=3.9							
MA2	**Magadan**	**23.52**	**10**	⇑	*iP*	**P**	**13 29 10.4**	**-1.4**
YAK	**Yakutsk**	**26.72**	**346**	P		**P**	**13 29 40.6**	**-0.4**
	comp=Z,3.8nm,0.4s,baz=218,slow=2.4,SNR=3.9							
YAK	**Yakutsk**	**26.72**	**346**	⇑	*iP*	**P**	**13 29 40.8**	**-0.2**
YAK				*e*AP		**pP**	**13 29 49.9**	**+0.5**
YAK				*i* PP		**PnPn**	**13 30 23.8**	**+1.2**
YAK					pmax	pmax		
	comp=Z,9.0nm,0.9s							
YAK	**Yakutsk**	**26.72**	**346**	*e*P		**P**	**13 29 40.6**	**-0.4**
	comp=Z,9.1nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**26.95**	**122**	T		T	13 57 52.3	
	baz=314,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**26.96**	**122**	T		T	13 57 58.9	
	baz=314,slow=75,SNR=8.5							
H11N3	**WAKE ISLAND Hy**	**26.97**	**122**	T		T	13 57 54.3	
	baz=314,slow=75,SNR=9.5							
SEY	**Seymchan**	**26.97**	**10**	P		**P**	**13 29 43.9**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=74,slow=22,SNR=7.4							
BOD	**Bodaibo**	**28.48**	**327**	*e*P		**P**	**13 29 59.6**	**+2.8**
BOD					pmax	pmax		
	comp=Z,6.0nm,1.3s							
ULN	**Ulaanbaatar**	**28.53**	**304**	*ce*P		**P**	**13 29 59.0**	**+1.4**
ULN					pmax	pmax		
	comp=Z,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**28.53**	**304**	*e*P		**P**	**13 29 58.4**	**+0.9**
	comp=Z,10nm,1.4s							
SONA1	**Songino Array**	**28.96**	**304**	*e*P		**P**	**13 30 02.4**	**+1.0**
SONA0	**Songino Array**	**28.96**	**304**	*e*P		**P**	**13 30 02.7**	**+1.4**
SONM	**Songino Array**	**28.96**	**304**	P		**P**	**13 30 02.7**	**+1.4**
	comp=Z,5.0nm,1.2s,baz=112,slow=8.3,SNR=13							
ZAK	**Zakamensk**	**31.42**	**309**	*e*P		**P**	**13 30 22.6**	**-0.4**
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.6s							
TLY	**Talaya**	**31.46**	**311**	LR		LR	13 42 23.1	
	comp=Z,12nm,19.2s,baz=115,slow=35							
TLY	**Talaya**	**31.46**	**311**	*e*P		**P**	**13 30 27.6**	**+4.3**
TLY					pmax	pmax		
	comp=Z,4.0nm,0.7s							
TLY					MLR	MLR		
	comp=Z,61nm,13.0s							
TIXI	**Tiksi**	**35.83**	**352**	LR		LR	13 45 39.2	
	comp=Z,20nm,18.2s,baz=180,slow=36							
ZAA1	**Zalesovo Array**	**43.03**	**313**	*e*P		**P**	**13 32 02.0**	**+0.8**
ZALV	**Zalesovo Beam**	**43.03**	**313**	P		**P**	**13 32 02.0**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=69,slow=8.2,SNR=3.4							
NVS	**Novosibirsk**	**43.95**	**314**	*e*P		**P**	**13 32 10.7**	**+2.2**
MK01	**Makanchi Array**	**45.30**	**303**	*e*P		**P**	**13 32 17.9**	**-1.6**
MK31	**Makanchi Array**	**45.31**	**303**	*e*P		**P**	**13 32 19.4**	**-0.1**
MK31	**Makanchi Array**	**45.31**	**303**	*e*P		**P**	**13 32 19.4**	**-0.1**
MK32	**Makanchi Array**	**45.31**	**303**	*e*P		**P**	**13 32 19.7**	**+0.2**
MKAR	**Makanchi Array**	**45.31**	**303**	P		**P**	**13 32 19.7**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=90,slow=9.6,SNR=11							
KURK	**Kurchatov**	**47.08**	**309**	*ce*P		**P**	**13 32 33.7**	**+0.3**
KURK					pmax	pmax		
	comp=Z,19nm,1.2s							
KURK	**Kurchatov**	**47.08**	**309**	*e*P		**P**	**13 32 34.6**	**+1.2**
KURBB	**Kurchatov Arra**	**47.15**	**308**	P		**P**	**13 32 34.6**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=83,slow=7.9,SNR=6.9							
ILAR	**Eielson Array**	**49.21**	**32**	P		**P**	**13 32 49.5**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=264,slow=5.3,SNR=5.7							
BVAR	**Borovoye Array**	**51.69**	**313**	P		**P**	**13 33 09.4**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=81,slow=4.5,SNR=3.4							
BRVK	**Borovoye**	**51.75**	**313**	*ce*P		**P**	**13 33 09.8**	**+0.8**
BRVK					pmax	pmax		
	comp=Z,13nm,2.5s							
WRA	**Warramunga Arr**	**56.84**	**190**	P		**P**	**13 33 45.8**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=7.3,slow=6.9,SNR=4.5							
ARU	**Arti**	**57.42**	**319**	*c*	*iP*	**P**	**13 33 50.4**	**+0.3**
ARU							13 35 53.8	
ARU				S		**S**	**13 41 47.8**	**+2.9**
ARU				SS		**SS**	**13 45 39.8**	**+5.6**
ARU					pmax	pmax		
	comp=Z,5.0nm,1.2s							
AKTO	**Aktyubinsk**	**59.80**	**313**	P		**P**	**13 34 07.9**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=66,slow=9.4,SNR=4.0							
ASAR	**Alice Springs**	**60.57**	**189**	P		**P**	**13 34 12.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=8.7,slow=6.7,SNR=3.3							
PALK	**Pallekele**	**63.42**	**259**	*i* P		**P**	**13 34 30.8**	**-0.9**
YKA	**Yellowknife Ar**	**63.57**	**30**	P		**P**	**13 34 31.9**	**0.0**
	comp=Z,0.1nm,0.5s,baz=300,slow=6.6,SNR=4.9							

BJI ***24*** *13:24:09.8,9.˚28S×156.˚76E,h7km,mb4.9/42,mB5.1/29, Ms4.6/7,Ms7 4.2/7*

IDC ***24*** *13:24:09.0±0.5,9.˚57S×156.˚92E,h0km,mb4.5/23, mb1 4.5/24,mb1mx4.4/48,mbtmp4.4/24,ML3.6/2,MS3.4/18, Ms1 3.4/18,ms1mx3.2/38,Error ellipse: s-maj=19.2km s-min=13.3km az=104.0*

NEIC ***24*** *13:24:10.1±0.3,9.˚51S×156.˚88E,h10km,mb4.7/19,Error ellipse: s-maj=9.3km s-min=6.5km az=130.0*

ISCJB ***24*** *13:24:11.7±0.3,9.˚60S±0.˚05×157.˚02E±0.˚04,h33km, mb4.6/69,MS3.5/18,Error ellipse: s-maj=7.2km s-min=5.6km az=157.5*

MOS ***24*** *13:24:12.1±1.1,9.˚57S×156.˚97E,h37km,mb4.9/22,Error ellipse: s-maj=10.1km s-min=8.3km az=89.5*

ISC 24 13:24:13.3±0.3,9.˚65S±0.˚07×157.˚02E±0.˚06,h35km,n162, σ1s24/163,mb4.7/67,MS3.6/19,11C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
HNR	**Honiara**	**2.89**	**86**	Pn		**Pn**	**13 24 56.6**	**-0.3**
	11nm,0.3s,baz=98,slow=5.6,SNR=6.5							
HNR				Sn		**Sn**	**13 25 28.4**	**-2.1**
	20nm,0.3s,baz=324,slow=14,SNR=4.7							
HNR	**Honiara**	**2.89**	**86**	*e*P		**Pn**	**13 24 56.0**	**-0.9**
HNR	**Honiara**	**2.89**	**86**	*e*P		**Pn**	**13 24 55.5**	**-1.4**
HNR							13 25 28.4	
HNR	**Honiara**	**2.89**	**86**	*e*Pn		**Pn**	**13 24 55.5**	**-1.4**
HNR				Sn		**Sn**	**13 25 28.4**	**-2.1**
PMG	**Port Moresby**	**9.73**	**271**	LR		LR	13 29 56.4	
	comp=Z,399nm,21.3s,baz=102,slow=36							

COEN	**Coen**	**14.21**	**251**	*e*Pn		**Pn**	**13 27 32.8**	**+0.6**
CTA	**Charters Tower**	**14.69**	**224**	Pn		**Pn**	**13 27 37.2**	**-1.5**
	0.1nm,0.3s,baz=39,slow=16,SNR=3.4							
CTA				Sn		Sn	13 30 14.7	-5.8
	0.2nm,0.3s,baz=311,slow=19,SNR=5.1							
CTAO	**Charters Tower**	**14.69**	**224**	*e*P		**Pn**	**13 27 37.7**	**-1.0**
CTAO	**Charters Tower**	**14.69**	**224**	*e*Pn		**Pn**	**13 27 37.7**	**-1.0**
DZM	**Mont Dzumac**	**15.31**	**145**	Pn		**P**	**13 27 51.2**	**-0.2**
	0.0nm,0.3s,baz=331,slow=19,SNR=2.7							
DZM				LR		LR	13 33 04.0	
	comp=Z,217nm,19.9s,baz=323,slow=35							
EIDS	**Eidsvold**	**16.63**	**199**	*e*Pn		**Pn**	**13 28 00.2**	**-3.5**
	24nm,1.3s							
ARMA	**Armidale**	**21.27**	**193**	*e*P		**P**	**13 28 57.7**	**+0.8**
	15nm,0.8s							
MSVF	**Nonsavu**	**21.94**	**114**	⇓	*iP*	**P**	**13 29 04.9**	**+0.8**
MSVF					pmax	pmax		
	comp=Z,14nm,1.1s							
WRAB	**Tennant Creek**	**24.16**	**242**	⇑	*iP*	**P**	**13 29 26.8**	**+0.3**
WRAB					pmax	pmax		
	comp=Z,19nm,1.0s							
WRAB	**Tennant Creek**	**24.16**	**242**	*e*P		**P**	**13 29 26.9**	**+0.5**
	comp=Z,15nm,0.8s							
WRA	**Warramunga Arr**	**24.17**	**242**	P		**P**	**13 29 27.1**	**+0.5**
	comp=Z,9.6nm,0.6s,baz=70,slow=9.8,SNR=72							
WRA				PcP		**PcP**	**13 33 08.3**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=68,slow=2.3,SNR=7.3							
FAKI	**Fak Fak**	**25.50**	**284**	*e*P		**P**	**13 29 35.3**	**-3.4**
	comp=Z,27nm,1.1s							
MTN	**Manton Dam**	**25.59**	**260**	*e*P		**P**	**13 29 36.8**	**-2.7**
	comp=Z,10nm,0.8s							
GUMO	**Guam**	**26.05**	**332**	LR		LR	13 39 13.4	
	comp=Z,12nm,20.3s,baz=127,slow=35							
AS01	**Alice Springs**	**26.07**	**235**	*e*P		**P**	**13 29 44.2**	**+0.3**
AS31	**Alice Springs**	**26.11**	**235**	*e*P		**P**	**13 29 44.1**	**-0.1**
	comp=Z,3.0nm,0.8s							
ASAR	**Alice Springs**	**26.11**	**235**	P		**P**	**13 29 43.8**	**-0.4**
	comp=Z,3.7nm,0.4s,baz=61,slow=10,SNR=41							
ASAR				PcP		**PcP**	**13 33 12.5**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=78,slow=2.3,SNR=5.6							
ASAR				LR		LR	13 38 51.9	
	comp=Z,190nm,21.5s,baz=60,slow=34							
STKA	**Stephens Creek**	**26.34**	**211**	P		**P**	**13 29 46.8**	**+0.6**
	comp=Z,8.6nm,0.6s,baz=50,slow=14,SNR=22							
STKA				LR		LR	13 39 38.0	
	comp=Z,273nm,19.0s,baz=26,slow=35							
STKA	**Stephens Creek**	**26.34**	**211**	*e*P		**P**	**13 29 47.8**	**+1.6**
STKA					pmax	pmax		
	comp=Z,3.0nm,0.9s							
STKA	**Stephens Creek**	**26.34**	**211**	*e*P		**P**	**13 29 47.8**	**+1.6**
	comp=Z,2.6nm,0.9s							
BBOO	**Buckleboo**	**30.10**	**217**	*e*P		**P**	**13 30 18.7**	**-1.0**
	comp=Z,40nm,1.5s							
FITZ	**Fitzroy Crossi**	**31.57**	**251**	*e*P		**P**	**13 30 32.6**	**-0.1**
	comp=Z,4.8nm,0.7s							
BATI	**Baumata**	**32.86**	**266**	LR		LR	13 44 35.8	
	comp=Z,101nm,18.6s,baz=116,slow=38							
MBWA	**Mathe Bar**	**37.63**	**248**	*e*P		**P**	**13 31 23.7**	**-1.5**
	comp=Z,9.6nm,1.1s							
KSM	**Kuching**	**47.81**	**281**	*e*P		**P**	**13 32 45.2**	**-2.7**
	comp=Z,18nm,1.0s							
MJAR	**Matsushiro Arr**	**49.23**	**340**	P		**P**	**13 32 58.0**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=174,slow=8.3,SNR=15							
MJAR				LR		LR	13 52 42.0	
	comp=Z,12nm,20.6s,baz=130,slow=35							
MAJO	**Matsushiro**	**49.23**	**340**	⇑	*eP*	**P**	**13 32 56.4**	**-2.1**
MAJO					pmax	pmax		
	comp=Z,6.0nm,1.1s							
MAT	**Matsushiro**	**49.23**	**340**	P		**P**	**13 32 57.5**	**-1.0**
JNU	**Nakatsue**	**49.29**	**331**	LR		LR	13 51 32.2	
	comp=Z,13nm,20.9s,baz=123,slow=33							
KSRS	**Korea Array**	**54.21**	**332**	P		**P**	**13 33 36.0**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=148,slow=7.2,SNR=16							
KSRS				LR		LR	13 57 10.7	
	comp=Z,7.3nm,18.0s,baz=146,slow=37							
KSAR	**Wonju Array Be**	**54.22**	**331**	P		**P**	**13 33 36.0**	**+0.4**
KSAR	**Wonju Array Be**	**54.22**	**331**	P		**P**	**13 33 36.0**	**+0.4**
NJ2	**Nanjing**	**55.22**	**320**	*e*P		**P**	**13 33 40.1**	**-2.9**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.7s							
YSS	**Yuzh-Sakhalins**	**57.77**	**348**	*e*P		**P**	**13 34 01.1**	**+0.3**
YSS				*e*			13 34 13.8	
YSS					pmax	pmax		
	comp=Z,10.0nm,1.2s							
USRK	**Ussuriysk Ar.**	**58.20**	**339**	P		**P**	**13 34 04.6**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=111,slow=11,SNR=5.3							
TIA	**Tai'an**	**59.08**	**323**	P		**P**	**13 34 10.4**	**+0.2**
TIA					pmax	pmax		
	comp=Z,12nm,0.8s							
NAYO	**Nakonayok**	**60.15**	**293**	P		**P**	**13 34 20.6**	**+2.6**
	comp=Z,7.7nm,1.1s,comp=Z,1μm							
CN2	**Changchun**	**60.43**	**334**	*e*P		**P**	**13 34 20.1**	**+0.7**
NANT	**Nan**	**62.31**	**297**	P		**P**	**13 34 33.1**	**+0.5**
	comp=Z,5.1nm,0.8s							
PET	**Petropavlovsk**	**62.44**	**1**	*e*P		**P**	**13 34 31.1**	**-1.6**
PET					pmax	pmax		
	comp=Z,10.0nm,1.3s							
PETK	**Petropavlovsk-**	**62.51**	**0**	P		**P**	**13 34 33.9**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=178,slow=6.9,SNR=4.0							
PETK				LR		LR	13 57 52.2	
	comp=Z,73nm,21.9s,baz=144,slow=32							
KLR	**Kul'dur**	**62.69**	**342**	*d*	*iP*	**P**	**13 34 33.2**	**-1.3**
XAN	**Xi'an**	**63.00**	**316**	P		**P**	**13 34 37.0**	**+0.1**
XAN					pP	pP	13 34 42.0	-5.7
XAN					pmax	pmax		
	comp=Z,9.0nm,0.7s							
LAMP	**Lampang**	**63.15**	**296**	P		**P**	**13 34 41.0**	**+2.8**
	comp=Z,4.2nm,0.8s							
CM01	**Chiang Mai Arr**	**63.71**	**296**	*e*P		**P**	**13 34 41.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**63.74**	**296**	P		**P**	**13 34 42.8**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=116,slow=4.9,SNR=18							
CMAR				PcP		**PcP**	**13 35 19.8**	**+1.8**
	comp=Z,1.5nm,0.9s,baz=128,slow=2.9,SNR=4.1							
CMMT	**Chiang Mai**	**63.86**	**296**	P		**P**	**13 34 42.7**	**-0.2**
	comp=Z,7.0nm,1.0s							
CHTO	**Chiang Mai**	**63.87**	**296**	P		**P**	**13 34 44.0**	**+1.1**
	comp=Z,30nm,1.3s							
NKL	**Nikolayevsk**	**64.09**	**349**	*e*P		**P**	**13 34 44.2**	**+0.6**
NKL					pmax	pmax		
	comp=Z,9.0nm,0.9s							
CD2	**Chengdu**	**65.05**	**311**	*e*P		**P**	**13 34 49.0**	**-1.5**
HHC	**Hu-ho-hao-te**	**65.41**	**324**	*e*P		**P**	**13 34 53.3**	**+0.6**
HHC					pmax	pmax		
	comp=Z,20nm,0.7s							
HHC					pmax	pmax		
	comp=Z,99nm,7.4s							
LZH	**Lanzhou**	**67.60**	**315**	*e*P		**P**	**13 35 07.3**	**+0.4**
LZH					pP	pP	13 35 11.4	-6.3
LZH					sP	sP	13 35 14.9	-6.9
LZH					pmax	pmax		
	comp=Z,45nm,1.2s							
LZH					pmax	pmax		
	comp=Z,270nm,4.0s							
LZH					LR	LR		
	comp=Z,190nm,18.8s							
LZH					LR	LR		
	comp=Z,160nm,18.2s							
LZH					LR	LR		
	comp=Z,100nm,17.8s							
VNDA	**Vanda**	**67.90**	**179**	P		**P**	**13 35 09.7**	**+1.8**
	comp=Z,1.4nm,0.9s,baz=356,slow=5.9,SNR=6.7							
VNDA				LR		LR	13 59 28.8	
	comp=Z,76nm,18.7s,baz=310,slow=31							
ZEA	**Zeya**	**68.00**	**341**	*e*P		**P**	**13 35 09.7**	**+0.9**
ZEA					pmax	pmax		
	comp=Z,29nm,1.0s							
MA2	**Magadan**	**69.17**	**357**	P		**P**	**13 35 15.9**	**-0.1**
	comp=Z,1.1nm,0.2s,baz=177,slow=17,SNR=3.0							
MA2	**Magadan**	**69.17**	**357**	*e*P		**P**	**13 35 15.5**	**-0.5**
GTA	**Gaotai**	**72.03**	**317**	⇑	P	**P**	**13 35 35.3**	**+1.2**
GTA					pP	pP	13 35 40.0	-5.0
GTA					sP	sP	13 35 42.4	-6.6
GTA					S	**S**	**13 44 56.6**	**+3.0**
GTA					pmax	pmax		
	comp=Z,14nm,1.2s							
GTA					pmax	pmax		
	comp=Z,71nm,4.5s							
GTA					LR	LR		
	comp=Z,150nm,19.0s							
GTA					LR	LR		
	comp=Z,200nm,22.8s							
GTA					LR	LR		
	comp=Z,98nm,18.5s							
ULN	**Ulaanbaatar**	**72.30**	**327**	⇑	*iP*	**P**	**13 35 35.5**	**0.0**

ULN					pmax	pmax			
	comp=Z,11nm,1.0s								
SEY	**Seymchan**	**72.45**	**358**	P		**P**	**13 35 36.1**	**+0.3**	
	comp=Z,3.2nm,1.0s,baz=184,slow=7.5,SNR=6.9								
SEY	**Seymchan**	**72.45**	**358**	⇑	*iP*	**P**	**13 35 35.9**	**+0.1**	
SONM	**Songino Array**	**72.64**	**327**	P		**P**	**13 35 38.7**	**+1.2**	
	comp=Z,7.5nm,1.0s,baz=138,slow=6.0,SNR=28								
SONM				LR		LR	14 06 54.5		
	comp=Z,14nm,20.2s,baz=130,slow=35								
SONA1	**Songino Array**	**72.64**	**327**	*e*P		**P**	**13 35 35.6**	**-1.9**	
YAK	**Yakutsk**	**74.57**	**347**	P		**P**	**13 35 49.4**	**+1.1**	
	comp=Z,5.2nm,0.4s,baz=216,slow=0.8,SNR=3.7								
YAK				LR		LR	14 05 24.7		
	comp=Z,10.0nm,20.1s,baz=75,slow=33								
YAK	**Yakutsk**	**74.57**	**347**	⇑	*iP*	**P**	**13 35 47.8**	**-0.5**	
YAK					pmax	pmax			
	comp=Z,9.0nm,0.9s								
ZAK	**Zakamensk**	**75.79**	**328**	*e*P		**P**	**13 35 53.8**	**-2.0**	
ZAK					pmax	pmax			
	comp=Z,8.0nm,1.2s								
BOD	**Bodaibo**	**75.81**	**338**	*e*P		**P**	**13 35 54.7**	**-0.8**	
BOD					pmax	pmax			
	comp=Z,8.0nm,1.5s								
TLY	**Talaya**	**76.35**	**329**	*e*P		**P**	**13 35 58.4**	**-0.4**	
TLY					pmax	pmax			
	comp=Z,7.0nm,1.1s								
TAPN	**Taplejung**	**76.48**	**301**	*e*P		**P**	**13 36 00.8**	**+0.3**	
	comp=Z,31nm,1.0s								
ODAN	**Odare**	**76.60**	**301**	*e*P		**P**	**13 36 01.4**	**+0.3**	
	comp=Z,37nm,1.0s								
RAMN	**Ramite**	**77.30**	**300**	*e*P		**P**	**13 36 05.0**	**0.0**	
	comp=Z,7.3nm,0.7s								
MOY	**Mondy**	**77.71**	**328**	*e*P		**P**	**13 36 07.7**	**+1.1**	
MOY					pmax	pmax			
	comp=Z,13nm,1.3s								
BILL	**Bilibino**	**77.77**	**4**	*c*	*iP*	**P**	**13 36 07.0**	**+0.6**	
BILL					*i*		13 36 18.3		
BILL					pmax	pmax			
	comp=Z,13nm,1.1s								
JIRN	**Jiri**	**77.86**	**301**	*e*P		**P**	**13 36 08.1**	**-0.2**	
	comp=Z,13nm,0.7s								
GUN	**Gumba**	**78.20**	**301**	*e*P		**P**	**13 36 10.5**	**+0.4**	
	comp=Z,31nm,0.8s								
PKI	**Pulchoki**	**78.50**	**301**	*e*P		**P**	**13 36 11.8**	**0.0**	
	comp=Z,24nm,1.0s								
PKIN	**Phulchoki**	**78.51**	**301**	*e*P		**P**	**13 36 11.9**	**+0.1**	
	comp=Z,14nm,0.6s								
KKN	**Kakani**	**78.67**	**301**	*e*P		**P**	**13 36 12.7**	**+0.1**	
	comp=Z,18nm,0.8s								
KDAK	**Kodiak Island**	**78.69**	**25**	LR		LR	14 04 29.8		
	comp=Z,30nm,21.0s,baz=299,slow=31								
DMN	**Daman**	**78.76**	**301**	*e*P		**P**	**13 36 13.5**	**+0.4**	
	comp=Z,56nm,1.0s								
GKN	**Gorkha**	**79.28**	**301**	*e*P		**P**	**13 36 16.1**	**+0.3**	
	comp=Z,63nm,0.9s								
KOLN	**Koldanda**	**80.09**	**300**	*e*P		**P**	**13 36 20.2**	**-0.1**	
	comp=Z,32nm,0.8s								
DANN	**Dangsing**	**80.12**	**301**	*e*P		**P**	**13 36 20.9**	**+0.3**	
	comp=Z,3.8nm,1.0s								
QSPA	**South Pole Qui**	**80.35**	**180**	P		**P**	**13 36 22.9**	**+2.0**	
	comp=Z,6.9nm,0.8s,baz=319,slow=6.3,SNR=18								
QSPA				LR		LR	14 09 14.4		
	comp=Z,30nm,18.8s,baz=359,slow=34								
QSPA	**South Pole Qui**	**80.35**	**180**	*e*P		**P**	**13 36 22.0**	**+1.1**	
	comp=Z,9.9nm,0.9s								
PYUN	**Piuthan**	**80.70**	**301**	*e*P		**P**	**13 36 23.2**	**-0.4**	
	comp=Z,52nm,1.0s								
WMQ	**Urumqi**	**82.12**	**317**	P		**P**	**13 36 30.1**	**-0.5**	
WMQ				pP		PcP	13 36 34.8	-1.1	
WMQ				sP		pP	13 36 36.3	-5.3	
WMQ					pmax	pmax			
	comp=Z,23nm,1.3s		

HFS	**Hagfors**	**122.68**	**339**	PKP	**PKPdf**	**13 43 04.2**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=96,slow=6.0,SNR=4.3						
NB2	**NORSAR Subarra**	**122.85**	**341**	PKPdf	**PKPdf**	**13 43 05.9**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**122.85**	**341**	PKP	**PKPdf**	**13 43 05.8**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=45,slow=2.0,SNR=6.1						
LPAZ	**La Paz**	**128.42**	**120**	PKP	**PKPdf**	**13 43 20.3**	**+2.1**
	comp=Z,2.9nm,0.9s,baz=324,slow=4.4,SNR=6.7						
BRG	**Berggiesshubel**	**128.92**	**331**	*e*PKP	**PKPdf**	**13 43 19.0**	**+1.7**
	comp=Z,9.1nm,1.5s						
BRG	**Berggiesshubel**	**128.92**	**331**	*e*PKIKP	**PKPdf**	**13 43 19.0**	**+1.7**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CLL	**Collm**	**129.08**	**332**	*e*PKIKP	**PKPdf**	**13 43 19.0**	**+1.4**
CLL	**Collm**	**129.08**	**332**	*e*PKPdf	**PKPdf**	**13 43 19.0**	**+1.4**
GERES	**GERESS Array B**	**130.34**	**329**	PKP	**PKPdf**	**13 43 21.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=64,slow=3.1,SNR=6.9						
SDV	**Santo Domingo**	**132.99**	**87**	PKP	**PKPdf**	**13 43 27.8**	**+1.5**
	comp=Z,7.4nm,0.7s,baz=282,slow=7.5,SNR=10.0						
PBRG	**Bragança**	**144.92**	**339**	*e*PKP	**PKPdf**	**13 43 47.4**	**+0.2**
PGAV	**Gavieira, Arco**	**145.30**	**341**	*e*PKP	**PKPdf**	**13 43 49.1**	**+1.2**
PCAB	**Cabril**	**145.45**	**340**	*e*PKP	**PKPab**	**13 43 49.5**	**+1.2**
MVO	**Moncorvo**	**145.59**	**338**	*e*PKP	**PKPab**	**13 43 49.9**	**+1.1**
ESDC	**Sonseca Array**	**145.62**	**334**	PKPbc	**PKPab**	**13 43 49.5**	**+0.5**
	comp=Z,5.1nm,0.9s,baz=27,slow=3.6,SNR=24						
POLO	**Lamas de Olo**	**145.67**	**340**	*e*PKP	**PKPab**	**13 43 50.3**	**+1.1**
PVRL	**Vila Real**	**145.73**	**339**	*e*PKP	**PKPab**	**13 43 50.8**	**+1.5**
PVIS	**Viseu**	**146.29**	**339**	*e*PKP	**PKPab**	**13 43 52.2**	**+0.7**
MTE	**Manteigas**	**146.44**	**338**	*e*PKP	**PKPab**	**13 43 52.8**	**+0.7**
MTE	**Manteigas**	**146.44**	**338**	*e*PKPdf	**PKPdf**	**13 43 49.9**	**+0.1**
PCBR	**Castelo Branco**	**146.91**	**338**	*e*PKP	**PKPab**	**13 43 54.1**	**+0.3**
PCAS	**Casmilo, Conde**	**147.09**	**339**	*e*PKP	**PKPab**	**13 43 54.5**	**0.0**
PMRV	**Marv??o**	**147.24**	**337**	*e*PKP	**PKPab**	**13 43 54.9**	**-0.2**
PTOM	**Tomar**	**147.45**	**339**	*e*PKP	**PKPab**	**13 43 55.8**	**-0.1**
PMTG	**Montargil**	**147.86**	**338**	*e*PKP	**PKPbc**	**13 43 56.4**	**+1.3**
PBAR	**Barrancos**	**148.18**	**336**	*e*PKP	**PKPab**	**13 43 57.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**155.57**	**281**	PKP	**PKPdf**	**13 44 05.3**	**+0.9**
	comp=Z,1.0nm,1.1s,baz=79,slow=2.2,SNR=3.1						
TORD				PKPbc	**pPKPdf**	**13 44 13.6**	**-2.4**
	comp=Z,1.4nm,0.7s,baz=46,slow=2.4,SNR=7.2						
TORD				PKPab	**PKPab**	**13 44 31.1**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=44,slow=1.9,SNR=3.9						

IDC 24 14:01:22.2±1.9, **1°.93S**×**138°.99E**, **h0**km, **mb3.7**/5, **mb1 4.0**/6, **mb1mx3.6**/43, **mbtmp3.8**/6, **ML4.1**/1, **MS2.9**/2, **Ms1 2.9**/2, **ms1mx2.4**/38, **Error ellipse: s-maj=97.9km s-min=21.0km az=81.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.48**	**21**	LR	LR	14 11 33.0	
	comp=Z,16nm,19.4s,baz=84,slow=37						
WRA	**Warramunga Arr**	**18.47**	**194**	P	Pn	14 05 39.8	0.0
	0.6nm,0.3s,baz=18,slow=13,SNR=18						
ASAR	**Alice Springs**	**22.16**	**192**	P	P	14 06 20.6	+0.7
	2.3nm,0.6s,baz=22,slow=9.7,SNR=30						
STKA	**Stephens Creek**	**29.89**	**176**	LR	LR	14 20 24.6	
	comp=Z,68nm,20.0s,baz=197,slow=38						
H11S3	**WAKE ISLAND Hy**	**33.98**	**52**	T	T	14 43 42.6	
	baz=236,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**33.99**	**52**	T	T	14 43 45.4	
	baz=236,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**34.00**	**52**	T	T	14 43 46.1	
	baz=236,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**34.83**	**51**	T	T	14 44 48.2	
	baz=229,slow=74						
H11N2	**WAKE ISLAND Hy**	**34.84**	**51**	T	T	14 44 50.0	
	baz=229,slow=74						
H11N3	**WAKE ISLAND Hy**	**34.84**	**51**	T	T	14 44 49.7	
	baz=229						
MKAR	**Makanchi Array**	**69.34**	**322**	P	P	14 12 32.4	+0.6
	0.3nm,0.6s,baz=114,slow=5.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**73.25**	**325**	P	P	14 12 55.2	0.0
	0.3nm,0.6s,baz=110,slow=6.0,SNR=3.0						
VNDA	**Vanda**	**76.53**	**175**	P	P	14 13 13.7	0.0
	0.6nm,0.5s,baz=326,slow=7.4,SNR=7.2						
BVAR	**Borovoye Array**	**78.83**	**325**	P	P	14 13 26.3	-0.7
	0.6nm,0.6s,baz=101,slow=5.2,SNR=3.8						

*ISK **24** 14:23:22.8, 38°.52N×28°.63E, h9km, ML2.2/3*
*CSEM **24** 14:23:23.0±0.2, 38°.58N×28°.64E, h2km, ML2.2, Error ellipse: s-maj=4.5km s-min=3.5km az=106.0*
*DDA **24** 14:23:23.0, 38°.59N×28°.67E, h7km, Ml2.7*
ISC 24 14:23:23.2±1.0, **38°.56N**±0°.03×**28°.65E**±0°.03, **h7**km±5km, **n18**, σ**0**1**46**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.05**	**173**	PG	**Pg**	**14 23 24.7**	**-0.2**
KULA				SG	**Sg**	**14 23 26.1**	**+0.1**
KULA	**Kula-Manisa**	**0.05**	**173**	*e*Pg	**Pg**	**14 23 24.7**	**-0.2**
KULA				*e*Sg	**Sg**	**14 23 26.1**	**+0.1**
DEMI	**Demirci**	**0.48**	**6**	*i* P	**Pg**	**14 23 32.9**	**+0.3**
DEMI				*i* S	**Sg**	**14 23 38.8**	**-0.1**
DEMI	**Demirci**	**0.48**	**6**	P	**Pg**	**14 23 32.8**	**+0.3**
DEMI				S	**Sg**	**14 23 38.8**	**-0.1**
KHAL	**Karahalli**	**0.69**	**106**	*i* P	**Pg**	**14 23 36.7**	**+0.2**
KHAL				*i* S	**Sg**	**14 23 45.9**	**+0.5**
KHAL	**Karahalli**	**0.69**	**106**	P	**Pg**	**14 23 36.7**	**+0.2**
KHAL				S	**Sg**	**14 23 45.9**	**+0.5**
GDZ	**Gediz**	**0.83**	**51**	*i* P	**Pg**	**14 23 38.0**	**-1.2**
GDZ				*i* S	**Sg**	**14 23 50.2**	**+0.1**
GDZ	**Gediz**	**0.83**	**51**	P	**Pg**	**14 23 38.0**	**-1.2**
GDZ				S	**Sg**	**14 23 50.2**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**224**	PG	**Pg**	**14 23 39.4**	**-0.4**
AYDB				SG	**Sg**	**14 23 50.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**224**	*e*Pg	**Pg**	**14 23 39.4**	**-0.4**
AYDB				*e*Sg	**Sg**	**14 23 50.7**	**-0.3**
TVSB	**Tavsanli**	**1.08**	**35**	PN	**Pn**	**14 23 44.7**	**-0.3**
TVSB	**Tavsanli**	**1.08**	**35**	*e*Pn	**Pn**	**14 23 44.7**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.12**	**169**	*i* P	**Pg**	**14 23 44.3**	**-0.4**
TAVA				*i* S	**Sn**	**14 24 01.2**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.12**	**169**	P	**Pg**	**14 23 44.3**	**-0.4**
TAVA				S	**Sn**	**14 24 01.2**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.21**	**104**	*i* P	**Pn**	**14 23 46.7**	**0.0**
KZIL				*i* S	**Sn**	**14 24 03.8**	**+0.4**
KZIL	**AFYON_Kizioren**	**1.21**	**104**	P	**Pn**	**14 23 46.7**	**0.0**
KZIL				S	**Sn**	**14 24 03.8**	**+0.4**
BALB	**Balikesir**	**1.23**	**331**	PN	**Pn**	**14 23 47.5**	**+0.6**
BALB	**Balikesir**	**1.23**	**331**	*e*Pn	**Pn**	**14 23 47.5**	**+0.6**

*ISCJB **24** 14:36:34.2±0.8, 5°.4S±0°.1×150°.7E±0°.2, h35km, mb3.6/9, MS3.2/4, Error ellipse: s-maj=30.0km s-min=9.3km az=29.2*
*IDC **24** 14:36:35.2±8.8, 5°.47S×150°.80E, h33km±65km, mb3.6/9, mb1 3.9/11, mb1mx3.5/48, mbtmp3.9/11, ML3.2/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/33, Error ellipse: s-maj=43.8km s-min=26.1km az=111.0*
ISC 24 14:36:35.8±1.0, **5°.4S**±0°.2×**150°.8E**±0°.3, **h35**km, **n16**, σ**1**5**23**/15, **mb3.6**/9, **MS3.1**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**222**	Pn	**Pn**	**14 37 53.7**	**+0.8**
	22nm,0.3s,baz=52,slow=6.2,SNR=72						
PMG				Sn	**Sn**	**14 38 52.2**	**-0.8**
	30nm,0.3s,baz=58,slow=19,SNR=8.9						
CTA	**Charters Tower**	**15.22**	**196**	Pn	**Pn**	**14 40 09.1**	**+0.8**
	0.2nm,0.3s,baz=16,slow=15,SNR=2.3						
GUMO	**Guam**	**19.77**	**343**	LR	LR	14 47 34.4	
	comp=Z,37nm,20.0s,baz=176,slow=33						
WRA	**Warramunga Arr**	**21.52**	**226**	P	**P**	**14 41 20.8**	**-1.3**
	1.1nm,0.5s,baz=53,slow=10,SNR=41						
WRA				PcP	**PcP**	**14 45 23.9**	**-0.1**
	0.9nm,0.6s,baz=56,slow=2.1,SNR=6.0						
DZM	**Mont Dzumac**	**22.46**	**139**	LR	LR	14 49 00.7	
	comp=Z,55nm,18.6s,baz=239,slow=33						
ASAR	**Alice Springs**	**24.34**	**220**	P	**P**	**14 41 49.5**	**-1.1**
	1.3nm,0.8s,baz=55,slow=9.2,SNR=25						
ASAR				PcP	**PcP**	**14 45 29.4**	**-0.4**
	0.4nm,0.6s,baz=70,slow=1.9,SNR=4.8						
FITZ	**Fitzroy Crossi**	**27.57**	**241**	P	**P**	**14 42 19.3**	**-0.6**
	2.1nm,0.7s,baz=63,slow=6.2,SNR=10						
STKA	**Stephens Creek**	**27.58**	**197**	P	**P**	**14 42 20.4**	**-0.3**
	1.0nm,0.4s,baz=20,slow=9.7,SNR=2.8						
STKA				LR	LR	14 52 32.3	
	comp=Z,92nm,18.4s,baz=23,slow=35						
DAV	**Davao City (W)**	**28.02**	**296**	LR	LR	14 53 53.4	
	comp=Z,43nm,18.0s,baz=61,slow=37						
USRK	**Ussuriysk Ar.**	**52.21**	**343**	LR	LR	15 06 29.8	
	comp=Z,22nm,19.8s,baz=163,slow=34						

MKAR	**Makanchi Array**	**79.46**	**319**	P	**P**	**14 48 39.5**	**+0.8**
	0.4nm,0.7s,baz=115,slow=5.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**80.54**	**327**	P	**P**	**14 48 44.5**	**+0.1**
	0.4nm,0.3s,baz=100,slow=7.7,SNR=2.2						
KURBB	**Kurchatov Arra**	**83.03**	**322**	P	**P**	**14 48 57.7**	**+0.1**
	0.3nm,0.9s,baz=96,slow=2.8,SNR=3.0						
ILAR	**Eielson Array**	**83.50**	**22**	P	**P**	**14 48 58.7**	**-1.0**
	0.5nm,0.7s,baz=252,slow=4.9,SNR=7.4						
YKA	**Yellowknife Ar**	**96.92**	**28**	P	**P**	**14 50 02.7**	**-0.6**
	0.1nm,0.5s,baz=268,slow=4.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**148.54**	**286**	PKPbc	**PKPdf**	**14 56 19.7**	**+3.3**
	2.0nm,0.8s,baz=69,slow=2.7,SNR=13						

*IDC **24** 14:39:28.4±2.4, 29°.76N×138°.91E, h384km±75km, mb3.0/5, mb1 3.1/7, mb1mx2.7/63, mbtmp3.8/7, Error ellipse: s-maj=183.5km s-min=13.9km az=69.0*
*JMA **24** 14:39:28.2±0.1, 29°.96N×139°.78E, h410km, M3.7*
ISC 24 14:39:27.8±0.9, **29°.95N**±0°.08×**139°.5E**±0°.1, **h388**km, **n18**, σ**2**8**12**/21, **mb3.3**/5, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.17**	**4**	P	**Pn**	**14 40 34.9**	**+3.5**
	19nm,0.3s,baz=210,slow=20,SNR=13						
CBIJ	**Chichi jima**	**3.71**	**140**	P	**Pn**	**14 40 37.1**	**+0.7**
CBIJ				*e*S	**S**	**14 41 31.7**	**-0.2**
BSO1	**Boso 1**	**4.86**	**15**	P	**Pn**	**14 40 49.7**	**+2.7**
BSO3	**Boso 3**	**4.91**	**10**	P	**Pn**	**14 40 50.3**	**+2.4**
JIE	**Ise**	**5.01**	**333**	P	**Pn**	**14 40 52.9**	**+3.7**
JOD2	**Odawara 2**	**5.31**	**356**	P	**Pn**	**14 40 54.5**	**+2.2**
JNY	**Yasuok**	**5.56**	**346**	P	**Pn**	**14 40 58.0**	**+2.9**
JHU	**Hanno**	**5.89**	**358**	P	**Pn**	**14 40 59.9**	**+1.3**
JHU				*e*S	**S**	**14 42 10.2**	**-2.4**
JRY	**Ryogami san**	**6.07**	**355**	P	**Pn**	**14 41 02.7**	**+2.1**
JYT	**Yasato**	**6.29**	**5**	S	**S**	**14 42 17.8**	**-2.8**
JAG	**Ashikaga**	**6.46**	**360**	P	**Pn**	**14 41 05.8**	**+0.9**
MJAR	**Matsushiro Arr**	**6.66**	**351**	P	**P**	**14 41 07.9**	**-0.1**
	0.7nm,0.3s,baz=168,slow=11,SNR=12						
JHO	**Hitachi**	**6.70**	**7**	P	**P**	**14 41 09.3**	**+0.9**
JHO				S	**S**	**14 42 28.2**	**-0.9**
MKAR	**Makanchi Array**	**46.84**	**308**	P	**P**	**14 47 18.6**	**-1.9**
	0.1nm,0.3s,baz=93,slow=8.7,SNR=5.3						
KURBB	**Kurchatov Arra**	**49.36**	**313**	P	**P**	**14 47 38.5**	**-0.8**
	0.3nm,0.3s,baz=91,slow=7.7,SNR=8.1						
WRA	**Warramunga Arr**	**49.85**	**186**	P	**P**	**14 47 42.4**	**-1.0**
	1.2nm,0.6s,baz=7.1,slow=8.3,SNR=96						
ASAR	**Alice Springs**	**53.58**	**186**	P	**P**	**14 48 09.8**	**-0.8**
	0.7nm,0.5s,baz=3.4,slow=7.3,SNR=26						
BVAR	**Borovoye Array**	**54.34**	**316**	P	**P**	**14 48 15.7**	**0.0**
	0.8nm,0.4s,baz=93,slow=7.7,SNR=4.9						

*NEIC **24** 14:39:25.7±0.6, 15°.54S×70°.65W, h164km±7km, mb4.6/33, Error ellipse: s-maj=10.2km s-min=6.5km az=67.0*
*ISCJB **24** 14:39:26.0±0.1, 15°.69S±0°.02×70°.60W±0°.05, h200km, mb4.3/50, Error ellipse: s-maj=6.8km s-min=2.7km az=160.9*
*IDC **24** 14:39:26.9±0.9, 15°.43S×70°.64W, h170km±7km, mb4.0/18, mb1 4.1/22, mb1mx3.9/48, mbtmp4.4/22, MS3.3/2, Ms1 3.3/2, ms1mx2.6/41, Error ellipse: s-maj=14.0km s-min=8.9km az=47.0*
*GUC **24** 14:39:28.5±0.6, 16°.24S×71°.10W, h235km±7km, ML5.5*
ISC 24 14:39:27.4±0.4, **15°.76S**±0°.04×**70°.79W**±0°.06, **h200**km, **n357**, σ**1**6**60**/358, **mb4.5**/49, **8C**, **Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.61**	**102**	P	**Pn**	**14 40 12.4**	**-0.9**
	114nm,0.3s,baz=293,slow=10,SNR=2276						
LPAZ				S	**Sn**	**14 40 45.5**	**-3.4**
	37nm,0.3s,baz=198,slow=24,SNR=13						
LPAZ				LR	LR	14 41 03.8	
	comp=Z,250nm,18.8s,baz=185,slow=38						
ARCH	**Arica**	**2.76**	**170**	*e*P	**Pn**	**14 40 13.8**	**-0.5**
ARCH				*e*S	**Sn**	**14 40 48.5**	**-2.5**
PB12	**IPOC Station P**	**2.88**	**171**	*i* P	**Pn**	**14 40 14.9**	**-0.9**
PB12				*e*S	**Sn**	**14 40 50.7**	**-3.0**
PB12				IAML		14 40 52.5	
	comp=E,13μm,0.7s						
MNMC	**Minye Minye**	**3.55**	**161**	*e*Pn	**Pn**	**14 40 24.0**	**+0.1**
MNMC				*e*Sn	**Sn**	**14 41 06.0**	**-2.3**
MNMC	**Minye Minye**	**3.55**	**161**	*i* P	**Pn**	**14 40 24.1**	**+0.1**
MNMC				*e*S	**Sn**	**14 41 06.5**	**-1.8**
MNMC				IAML		14 41 09.5	
	comp=N,6μm,0.6s						
PSGC	**Pisagua**	**3.87**	**171**	*i* P	**Pn**	**14 40 26.7**	**-1.1**
PSGC				*e*S	**Sn**	**14 41 10.6**	**-4.6**
PSGC				IAML		14 41 13.8	
	comp=E,1μm,0.5s						
PB11	**IPOC Station P**	**4.13**	**165**	*e*Pn	**Pn**	**14 40 30.3**	**-0.7**
PB11				*e*Sn	**Sn**	**14 41 19.0**	**-2.0**
PB11	**IPOC Station P**	**4.13**	**165**	*i* P	**Pn**	**14 40 30.3**	**-0.7**
GO01	**Chusmiza**	**4.18**	**159**	IAML		14 41 24.6	
	comp=E,2μm,0.8s						
PB08	**IPOC Station P**	**4.63**	**161**	*i* P	**Pn**	**14 40 37.8**	**+0.2**
PB08				*e*S	**Sn**	**14 41 30.3**	**-2.5**
PB08				IAML		14 41 33.8	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**5.40**	**167**	*e*Pn	**Pn**	**14 40 45.9**	**-1.2**
PB01				*e*Sn	**Sn**	**14 41 45.4**	**-4.7**
PB01	**IPOC Station P**	**5.40**	**167**	*i* P	**Pn**	**14 40 46.0**	**-1.2**
PB01				*e*S	**Sn**	**14 41 44.9**	**-5.2**
PB02	**IPOC Station P**	**5.60**	**171**	*i* P	**Pn**	**14 40 48.8**	**-0.9**
PB04	**IPOC Station P**	**6.57**	**175**	*e*Pn	**Pn**	**14 41 00.5**	**-1.8**
PB04				*e*Sn	**Sn**	**14 42 12.5**	**-5.0**
NNA	**Nana**	**6.97**	**302**	P	**Pn**	**14 41 05.8**	**-1.6**
	comp=E,5.1nm,0.3s,baz=141,slow=10,SNR=8.8						
NNA				S	**Sn**	**14 42 19.8**	**-6.9**
	comp=E,5.4nm,0.3s,baz=205,slow=12,SNR=4.0						
NNA	**Nana**	**6.97**	**302**	*e*Pn	**Pn**	**14 41 05.5**	**-1.9**
NNA				*e*Sn	**Sn**	**14 42 21.5**	**-5.2**
PB10	**IPOC Station P**	**7.72**	**178**	*e*Pn	**Pn**	**14 41 15.7**	**-1.4**
PB10				*e*Sn	**Sn**	**14 42 40.4**	**-3.9**
SIV	**San Ignacio**	**9.36**	**93**	P	**Pn**	**14 41 35.5**	**-3.0**
	comp=E,2.6nm,0.3s,baz=288,slow=11,SNR=28						
SIV				S	**Sn**	**14 43 14.5**	**-8.8**
	comp=E,1.0nm,0.3s,baz=291,slow=9.0,SNR=5.9						
SAML	**Samuel**	**10.05**	**49**	*e*Pn	Pn	14 41 41.7	-5.7
LCO	**Las Campanas**	**13.19**	**180**	*e*Pn	**P**	**14 42 29.6**	**-0.9**
LCO				*e*Sn	**S**	**14 44 53.6**	**-1.3**
CPUP	**Villa Florida**	**16.38**	**132**	P	**Pn**	**14 43 07.8**	**+1.5**
	comp=E,0.2nm,0.3s,baz=322,slow=13,SNR=7.6						
OTAV	**Otavalo**	**17.60**	**334**	*e*P	**Pn**	**14 43 21.6**	**+0.2**
	comp=E,37nm,1.3s						
OTAV	**Otavalo**	**17.60**	**334**	*e*P	**Pn**	**14 43 24.6**	**+3.3**
GCUF	**Volcan Galeras**	**18.07**	**338**	*e*P	**Pn**	**14 43 26.6**	**-0.3**
CRUC	**La Cruz**	**18.26**	**340**	*e*P	**Pn**	**14 43 28.6**	**-0.3**
SOTA	**Rioblanco**	**18.68**	**342**	*e*P	**Pn**	**14 43 32.0**	**-2.2**
PCON	**Cinco Dias**	**18.80**	**342**	*e*P	**Pn**	**14 43 32.6**	**-3.0**
POPC	**Popayan, Colom**	**19.09**	**342**	*e*P	**Pn**	**14 43 36.0**	**-2.7**
YOTC	**Yotoco, Valle**	**20.37**	**344**	*e*P	**P**	**14 43 47.9**	**-1.1**
RREF	**El Recreo**	**21.01**	**347**	*e*P	**P**	**14 43 53.9**	**-2.6**
GUYC	**Guyana, Colomb**	**21.34**	**347**	*e*P	**P**	**14 43 58.5**	**-1.1**
RUSC	**La Rusia**	**21.63**	**354**	*e*P	**P**	**14 43 59.2**	**-3.4**
HELC	**Santa Helena**	**22.30**	**348**	*e*P	**P**	**14 44 06.5**	**-2.6**
PTBC	**PUERTO BERRIO,**	**22.45**	**350**	*e*P	**P**	**14 44 05.6**	**-4.4**
PAMC	**Pamplona, Colo**	**23.02**	**355**	*e*P	**P**	**14 44 12.9**	**-2.8**
ZARC	**Zaragoza, Cauc**	**23.45**	**350**	*e*P	**P**	**14 44 15.2**	**-3.8**
SDV	**Santo Domingo**	**24.48**	**0**	P	**P**	**14 44 26.7**	**-1.9**
	comp=E,8.7nm,0.4s,baz=159,slow=17,SNR=14						
SDV	**Santo Domingo**	**24.48**	**0**	*e*P	**P**	**14 44 28.2**	**-0.4**
	comp=E,13nm,0.8s						
SDV	**Santo Domingo**	**24.48**	**0**	*e*P	**P**	**14 44 26.4**	**-2.2**
PLCA	**Paso Flores**	**24.89**	**180**	P	**P**	**14 44 36.0**	**+4.1**
	comp=E,2.9nm,0.5s,baz=13,slow=9.9,SNR=21						
PLCA				PP	**PnPn**	**14 45 16.8**	**-2.0**
	comp=E,2.7nm,0.9s,baz=347,slow=9.2,SNR=3.5						
MTP	**Monte Pirata**	**34.03**	**9**	*e*P	**P**	**14 45 51.0**	**-1.6**
	comp=E,36nm,0.4s						
CMIG	**Matias Romero**	**40.37**	**323**	P	**P**	**14 46 46.3**	**+0.2**
	comp=E,2.4nm,0.7s,baz=321,slow=8.2,SNR=2.0						
059A	**Moore Haven**	**43.64**	**347**	P	**P**	**14 47 12.8**	**+0.4**
	baz=165						
058A	**Arcadia**	**43.88**	**346**	P	**P**	**14 47 14.7**	**+0.5**
	baz=164						
859A	**Kempfer Cattle**	**44.64**	**347**	P	**P**	**14 47 20.8**	**+0.6**
	baz=166						
DWPF	**Disney Wildern**	**44.81**	**347**	P	**P**	**14 47 22.2**	**+0.6**
	baz=165						
556A	**Lake Butler**	**46.85**	**346**	P	**P**	**14 47 38.1**	**+0.6**
	baz=164						
555A	**McAlpin**	**47.09**	**346**	P	**P**	**14 47 40.0**	**+0.7**
	baz=164						
455A	**Stateville**	**47.70**	**346**	P	**P**	**14 47 45.5**	**+1.5**
	baz=164						
454A	**Quitman**	**47.83**	**345**	P	**P**	**14 47 46.0**	**+1.0**
	baz=163						
453A	**Whigham**	**48.13**	**344**	P	**P**	**14 47 48.3**	**+0.9**
	baz=162						
TIGA	**Tifton**	**48.51**	**345**	P	**P**	**14 47 50.9**	**+0.7**
	baz=163						
353A	**Camilla**	**48.58**	**345**	P	**P**	**14 47 51.1**	**+0.3**
	baz=162						
256A	**Glennville**	**48.64**	**347**	P	**P**	**14 47 51.7**	**+0.5**
	baz=166						
352A	**Blakely**	**48.89**	**344**	P	**P**	**14 47 53.6**	**+0.5**
	baz=162						
254A	**Abbeville**	**48.92**	**346**	P	**P**	**14 47 54.0**	**+0.6**
	baz=164						
LNIG	**Linares**	**49.14**	**325**	*e*P	**P**	**14 47 57.3**	**+2.1**
	comp=E,4.4nm,0.9s						
350A	**Dozier**	**49.22**	**342**	P	**P**	**14 47 56.3**	**+0.7**
	baz=160						
252A	**Lumpkin**	**49.33**	**344**	P	**P**	**14 47 56.7**	**+0.3**
	baz=162						
NHSC	**New Hope**	**49.41**	**350**	P	**P**	**14 47 57.5**	**+0.5**
	baz=168						
349A	**Repton**	**49.41**	**341**	P	**P**	**14 47 57.9**	**+0.8**
	baz=159,SNR=6.1						
154A	**Montrose**	**49.52**	**346**	P	**P**	**14 47 58.4**	**+0.5**
	baz=164						
251A	**Midway**	**49.60**	**344**	P	**P**	**14 47 58.8**	**+0.3**
	baz=161,SNR=18						
153A	**Fort Valley**	**49.72**	**346**	P	**P**	**14 47 59.7**	**+0.3**
	baz=163						
250A	**Grady**	**49.73**	**343**	P	**P**	**14 47 59.8**	**+0.4**
	baz=160,SNR=7.5						
347A	**Saraland**	**49.89**	**340**	P	**P**	**14 48 01.4**	**+0.8**
	baz=157,SNR=7.0						
249A	**Camden**	**49.98**	**342**	P	**P**	**14 48 02.1**	**+0.8**
	baz=159,SNR=9.7						
151A	**Opelika**	**49.98**	**344**	P	**P**	**14 48 01.7**	**+0.3**
	baz=161						
346A	**Big Creek Wild**	**50.19**	**339**	P	**P**	**14 48 03.8**	**+0.9**
	baz=156						
150A	**Eclectic**	**50.25**	**343**	P	**P**	**14 48 04.0**	**+0.7**
	baz=161,SNR=5.8						
248A	**Dixon Mills**	**50.27**	**341**	P	**P**	**14 48 04.6**	**+1.0**
	baz=158						
GOGA	**Godfrey**	**50.37**	**346**	P	**P**	**14 48 04.3**	**+0.1**
	baz=164						
149A	**Jones**	**50.46**	**342**	P	**P**	**14 48 05.2**	**+0.2**
	baz=160,SNR=5.5						
247A	**Quitman**	**50.51**	**340**	P	**P**	**14 48 06.2**	**+0.9**
	baz=157						
Z50A	**Ashland**	**50.83**	**344**	P	**P**	**14 48 08.0**	**+0.3**
	baz=161,SNR=10						
HODGE	**Hodges**	**50.89**	**348**	*e*P	**P**	**14 48 08.7**	**+0.6**
	comp=E,5.8nm,0.8s						
245A	**Little AP, Sta**	**50.92**	**339**	P	**P**	**14 48 09.6**	**+1.2**
	baz=156						
LRAL	**Lakeview Retre**	**50.93**	**342**	P	**P**	**14 48 08.7**	**+0.2**
	baz=160						
LRAL	**Lakeview Retre**	**50.93**	**342**	*e*P	**P**	**14 48 08.5**	**+0.1**
	comp=E,7.0nm,0.6s						
Z49A

S46A	Don Dixon Farm baz=160	55.49	344	P	P	14 48 41.3	-0.2
U41A	Viola baz=155,SNR=15	55.53	339	P	P	14 48 42.1	+0.2
WCI	Wyandotte Cave baz=162	55.63	345	P	P	14 48 42.0	-0.7
WCI	Wyandotte Cave comp=E,10nm,0.6s	55.63	345	eP	P	14 48 41.9	-0.7
T43A	Greenville baz=157,SNR=13	55.68	341	P	P	14 48 43.1	+0.2
V39A	Pettigrew baz=153,SNR=16	55.69	338	P	P	14 48 44.1	+1.0
S45A	Carrier Mills baz=159	55.72	343	P	P	14 48 43.2	-0.1
R47A	Wooly Knot Far baz=161	55.76	345	P	P	14 48 43.2	-0.3
U40A	Yellville baz=154,SNR=12	55.87	339	P	P	14 48 45.1	+0.7
T42A	Van Buren baz=156,SNR=14	55.88	340	P	P	14 48 44.4	+0.1
S44A	Carbondale baz=158,SNR=24	55.93	342	P	P	14 48 45.1	+0.4
R46A	Gibon Southern baz=160	55.93	344	P	P	14 48 44.2	-0.5
SIUC	Southern Illin comp=E,57nm,0.6s	55.94	342	eP	P	14 48 44.8	0.0
S43A	Fulton Ridge, baz=157	56.06	342	P	P	14 48 45.8	+0.1
T41A	Mountain View baz=155,SNR=6.3	56.11	340	P	P	14 48 46.2	+0.1
U39A	Green Forest baz=153,SNR=6.1	56.11	338	P	P	14 48 46.6	+0.5
R45A	Skylar, Fairfi baz=160,SNR=5.9	56.21	343	P	P	14 48 46.4	-0.3
Q47A	Bedord North L baz=162	56.34	345	P	P	14 48 47.4	-0.2
S42A	Caledonia baz=157,SNR=9.3	56.47	341	P	P	14 48 48.3	-0.2
T40A	Mansfield baz=154,SNR=10	56.47	339	P	P	14 48 49.2	+0.6
TUL1	Leonard baz=151	56.57	336	P	P	14 48 50.8	+1.5
TUL1	Leonard comp=E,10nm,0.8s	56.57	336	eP	P	14 48 48.8	-0.5
S41A	Jillco Farms, baz=156,SNR=14	56.60	340	P	P	14 48 50.2	+0.7
T39A	Clever baz=154	56.65	338	P	P	14 48 50.5	+0.6
R43A	Red Bud baz=158,SNR=6.8	56.67	342	P	P	14 48 50.4	+0.5
P47A	Martinsville baz=162	56.82	346	P	P	14 48 50.5	-0.5
WMOK	Wichita Mounta baz=147,SNR=5.9	56.83	332	P	P	14 48 53.0	+1.8
WMOK	Wichita Mounta comp=E,3.3nm,0.6s	56.83	332	eP	P	14 48 53.3	+2.1
ACSO	Alum Creek Sta baz=166	56.84	349	P	P	14 48 51.1	0.0
S40A	Lebanon baz=155,SNR=11	56.87	339	P	P	14 48 52.0	+0.6
R42A	Luebbering baz=157,SNR=14	56.93	341	P	P	14 48 52.4	+0.6
Q44A	Meyer Farm, Va baz=159	56.98	343	P	P	14 48 51.7	-0.4
T38A	Diamond baz=153,SNR=8.6	56.99	338	P	P	14 48 53.3	+1.0
R41A	Rosebud baz=156,SNR=19	57.13	341	P	P	14 48 53.5	+0.3
P46A	Rosedale baz=161	57.18	345	P	P	14 48 53.7	+0.2
Q43A	New Douglas baz=158	57.22	343	P	P	14 48 53.6	-0.2
S39A	Bolivar baz=154,SNR=21	57.23	339	P	P	14 48 54.3	+0.4
P44A	Sand Creek, Wi baz=159	57.40	344	P	P	14 48 54.9	-0.1
R40A	Maddies Statio baz=155,SNR=18	57.41	340	P	P	14 48 55.5	+0.3
Q42A	Golden Eagle baz=157	57.43	342	P	P	14 48 55.7	+0.4
O47A	Sheridan baz=162,SNR=5.3	57.51	346	P	P	14 48 55.3	-0.5
MNTX	Cornudas Mount baz=140	57.68	325	P	P	14 48 58.4	+1.2
Q41A	Truxton baz=156,SNR=12	57.69	341	P	P	14 48 57.3	+0.3
R39A	Chumby, Stover baz=154,SNR=9.8	57.69	339	P	P	14 48 57.5	+0.4
BINY	Binghamton baz=174	57.86	355	P	P	14 48 57.9	-0.4
SFIN	Lafayette baz=161	57.87	345	P	P	14 48 57.4	-0.9
R38A	Fenwick Farm, baz=153,SNR=11	57.88	339	P	P	14 48 59.0	+0.6
O45A	Potomac baz=160,SNR=7.3	57.90	345	P	P	14 48 57.5	-1.0
Q40A	Laux Farm, Aux baz=156	57.99	341	P	P	14 48 59.5	+0.4
P42A	Winchester baz=158	58.00	342	P	P	14 48 59.2	0.0
MSTX	Muleshoe baz=143	58.08	329	P	P	14 49 02.1	+2.0
ERPA	Erie baz=169	58.20	352	P	P	14 49 00.8	+0.2
P41A	Barry, Barry baz=157,SNR=6.2	58.30	342	P	P	14 49 01.5	+0.2
Q39A	Willow Grove F baz=155	58.33	340	P	P	14 49 02.1	+0.5
P40A	Paris baz=156,SNR=11	58.47	341	P	P	14 49 02.7	+0.3
Q38A	Cooks Store, C baz=154,SNR=12	58.47	339	P	P	14 49 03.3	+0.8
HDIL	Hopedale baz=159	58.60	344	P	P	14 49 02.9	-0.5
O41A	Passleys Farm, baz=157	58.65	342	P	P	14 49 03.5	-0.2
P39B	Salisbury baz=155,SNR=10	58.66	340	P	P	14 49 04.2	+0.4
O40A	La Belle baz=156,SNR=7.6	58.95	341	P	P	14 49 05.8	+0.1
P38A	Dawn baz=154,SNR=8.3	59.04	340	P	P	14 49 06.9	+0.5
P37A	Lathrop baz=153,SNR=5.7	59.28	339	P	P	14 49 08.7	+0.6
O39A	Kirksville baz=155	59.28	341	P	P	14 49 08.6	+0.5
M43A	Waltham Townsh baz=159	59.34	344	P	P	14 49 07.7	-0.6
O38A	Galt baz=154	59.47	340	P	P	14 49 09.9	+0.6
N40A	Mertquake, Sal baz=156	59.56	342	P	P	14 49 10.0	0.0
KSU1	Kansas State U baz=151	59.67	337	P	P	14 49 12.1	+1.4
KSU1	Kansas State U comp=E,29nm,1.0s	59.67	337	eP	P	14 49 10.9	+0.2
O37A	Wolven Farm, M baz=154	59.73	339	P	P	14 49 12.2	+1.1
N39A	Derby Farms, D baz=156	59.84	341	P	P	14 49 11.9	+0.1
L43A	Garden Prairie baz=160	59.98	345	P	P	14 49 12.6	-0.2
N38A	Joes South For baz=155	59.99	340	P	P	14 49 13.0	+0.1
M40A	Post Highland baz=157	60.02	342	P	P	14 49 13.0	-0.1
L42A	Oliver, Polo baz=159	60.05	344	P	P	14 49 13.1	-0.2
BNM	Barren Site	60.23	326	eP	P	14 49 15.8	+0.8
N37A	Lee Faris, Mou baz=154	60.28	340	P	P	14 49 15.5	+0.6
M39A	Webster baz=156	60.28	342	P	P	14 49 14.8	0.0
L41A	Preston baz=158	60.35	343	P	P	14 49 14.9	-0.4
K43A	Burlington baz=160	60.37	345	P	P	14 49 15.1	-0.3
L40A	Anamosa baz=157	60.54	343	P	P	14 49 18.7	+2.1
M38A	Pleasantville baz=155	60.55	341	P	P	14 49 16.7	+0.1
N36A	Muff Farm, Cla baz=153	60.59	339	P	P	14 49 17.9	+0.9
O34A	Beatrice baz=151	60.65	337	P	P	14 49 18.5	+1.2
CBKS	Cedar Bluff baz=148,SNR=5.4	60.67	334	P	P	14 49 19.7	+2.2
CBKS	Cedar Bluff comp=E,23nm,1.0s	60.67	334	eP	P	14 49 19.2	+1.6
K42A	Prairie Point, baz=159,SNR=5.9	60.69	344	P	P	14 49 17.6	0.0
ANMO	Albuquerque baz=140	60.74	327	P	P	14 49 20.2	+1.9
ANMO	Albuquerque comp=E,3.0nm,1.1s	60.74	327	eP	P	14 49 20.7	+2.4
K41A	Shullsburg baz=158	60.79	344	P	P	14 49 18.5	+0.3
L39A	Vinton baz=156	60.82	342	P	P	14 49 18.4	-0.1
N35A	Tabor baz=152	60.87	339	P	P	14 49 19.6	+0.8
O33A	Hebron baz=150,SNR=7.0	60.89	337	P	P	14 49 20.7	+1.7
JFWS	Jewell Farm baz=158	61.06	344	P	P	14 49 20.1	0.0
K40A	Colesburg baz=157	61.10	343	P	P	14 49 20.3	0.0
M36A	Felix, Anita baz=153	61.10	340	P	P	14 49 21.2	+0.8
L38A	Oak Wood Farm, baz=155	61.13	341	P	P	14 49 21.0	+0.5
J42A	Columbus baz=160	61.14	345	P	P	14 49 20.8	+0.2
N34A	Lincoln baz=151	61.15	338	P	P	14 49 21.4	+0.7
K39A	Oelwein baz=157	61.32	342	P	P	14 49 21.9	+0.1
L37A	Phoenix Point, baz=154	61.36	341	P	P	14 49 22.3	+0.2
BUKO	Buck Lake baz=170	61.40	353	P	P	14 49 22.3	-0.1
T25A	Trinidad baz=142	61.41	330	P	P	14 49 24.6	+1.8
N33A	J Bar K, Exete baz=150	61.41	337	P	P	14 49 24.4	+1.9
J41A	Loganville baz=159	61.42	344	P	P	14 49 22.6	+0.2
K38A	Parkersburg baz=156	61.53	342	P	P	14 49 23.7	+0.5
J40A	Soldiers Grove baz=158	61.64	344	P	P	14 49 24.2	+0.2
L36A	Harm Buss Farm baz=154,SNR=6.7	61.64	340	P	P	14 49 24.6	+0.6
J39A	Decorah baz=157,SNR=7.9	61.85	343	P	P	14 49 25.3	0.0
K37A	Belmond baz=155	61.91	341	P	P	14 49 25.7	-0.1
L35A	Bielow Farm, R baz=153,SNR=12	61.94	339	P	P	14 49 26.9	+0.9
M33A	Taylor Creek F baz=151	62.05	338	P	P	14 49 27.6	+0.9
K36A	Elmore City baz=154,SNR=6.2	62.05	340	P	P	14 49 27.3	+0.6
L34A	Svendsen Farm, baz=152,SNR=8.0	62.10	339	P	P	14 49 28.3	+1.2
H42A	Shiocton baz=160	62.12	346	P	P	14 49 27.2	+0.2
214A	Organ Pipe Nat baz=133	62.23	320	P	P	14 49 29.9	+1.8
BGNE	Belgrade baz=150	62.26	337	P	P	14 49 30.0	+1.8
I39A	Houston baz=157	62.28	343	P	P	14 49 28.8	+0.6
J37A	Redenius Farm, baz=155	62.37	341	P	P	14 49 29.5	+0.6
K35A	Storm Lake baz=153	62.38	340	P	P	14 49 29.7	+0.8
SDCO	Great Sand Dun baz=142,SNR=14	62.42	329	P	P	14 49 31.8	+2.2
SDCO	Great Sand Dun comp=E,6.2nm,0.8s	62.42	329	eP	P	14 49 31.0	+1.4
J36A	Seneca 1, Swea baz=154	62.64	341	P	P	14 49 31.3	+0.7
K34A	Le Mars baz=152	62.64	339	P	P	14 49 31.5	+0.9
I38A	Scanlan Farm, baz=156	62.68	343	P	P	14 49 30.8	0.0
H40A	Chili baz=158	62.69	344	P	P	14 49 31.2	+0.3
L32A	Elgin baz=150	62.72	337	P	P	14 49 32.7	+1.5
I37A	Lemond, Waseca baz=155	62.97	342	P	P	14 49 33.4	+0.7
I35A	Creekview Farm baz=154,SNR=9.6	63.31	341	P	P	14 49 36.0	+1.0
F41A	Three Lakes baz=160	63.41	346	P	P	14 49 35.7	+0.1
OGNE	Ogallala baz=146	63.42	334	P	P	14 49 37.8	+1.9
OGNE	Ogallala comp=E,20nm,0.6s	63.42	334	eP	P	14 49 37.8	+1.9
J33A	Davis baz=152,SNR=7.3	63.50	339	P	P	14 49 37.7	+1.5
G39A	Holcombe baz=158	63.51	344	P	P	14 49 36.4	+0.2
H36A	Jessenland, He baz=155,SNR=5.4	63.64	342	P	P	14 49 38.1	+1.0
ECSD	EROS Data Cent baz=152,SNR=9.0	63.74	339	P	P	14 49 38.9	+1.1
ECSD	EROS Data Cent comp=E,13nm,1.3s	63.74	339	eP	P	14 49 39.0	+1.1
F40A	Park Falls baz=159,SNR=5.6	63.83	345	P	P	14 49 38.6	+0.3
H35A	Sunnyside Ranc baz=154,SNR=9.0	64.02	341	P	P	14 49 40.3	+0.6
I33A	Coleman baz=152,SNR=14	64.08	339	P	P	14 49 41.5	+1.5
ISCO	Idaho Springs baz=142	64.09	331	P	P	14 49 42.5	+1.9
PV01	Paradox Valley	64.26	328	eP	P	14 49 43.9	+2.3
E40A	Wakefield baz=159	64.27	345	P	P	14 49 41.7	+0.5
H34A	Spellman Lake, baz=153,SNR=7.5	64.30	340	P	P	14 49 42.4	+1.0
H33A	Prehn Over Nor baz=152,SNR=6.4	64.62	340	P	P	14 49 45.1	+1.5
F36A	Milaca baz=156,SNR=5.8	64.69	343	P	P	14 49 44.6	+0.7
H32A	Carlson Farm, baz=151,SNR=8.2	64.70	339	P	P	14 49 45.7	+1.6
G33A	Ortonville baz=152,SNR=6.9	64.98	340	P	P	14 49 46.9	+1.1
F35A	Swanville baz=154	64.99	342	P	P	14 49 47.0	+1.1
MONP2	Monument Peak baz=130	65.12	318	P	P	14 49 50.4	+3.2
F34A	Alexandria baz=154,SNR=5.3	65.14	341	P	P	14 49 48.1	+1.2
E36A	McGregor baz=156	65.21	343	P	P	14 49 48.1	+0.9
F33A	5 Mile Ranch, baz=153,SNR=15	65.50	341	P	P	14 49 50.3	+1.1
E35A	Pequot Lakes baz=155	65.57	342	P	P	14 49 50.7	+1.1
KNB	Kanab comp=E,3.8nm,0.7s	65.75	324	eP	P	14 49 54.0	+2.9
E34A	Wadena baz=154,SNR=5.6	65.76	342	P	P	14 49 51.8	+1.0
E33A	Westby DABS, E baz=153	66.01	341	P	P	14 49 53.5	+1.1
SRU	San Rafael Swe comp=E,3.3nm,0.7s	66.01	327	eP	P	14 49 54.9	+2.1
EYMN	Ely baz=158	66.06	345	P	P	14 49 53.1	+0.4
F31A	Hecla baz=151,SNR=9.1	66.17	339	P	P	14 49 55.2	+1.8
C36A	Pine Crest Far baz=157	66.23	344	P	P	14 49 54.2	+0.4
C35A	Jirik Farms, M baz=155	66.49	343	P	P	14 49 56.3	+0.9
D33A	AnnSam, Waubun baz=154	66.53	342	P	P	14 49 56.7	+1.0
E31A	Nome baz=151	66.66	340	P	P	14 49 57.8	+1.3
C34A	RKJ Ranch, Bem baz=154,SNR=8.7	66.71	342	P	P	14 49 57.5	+0.7
BFSC	Mount Baldy Ra baz=130	66.78	319	P	P	14 50 01.1	+3.4
RSSD	Black Hills baz=145	66.87	335	P	P	14 50 01.0	+2.8
RSSD	Black Hills comp=E,5.8nm,0.5s	66.87	335	eP	P	14 50 00.7	+2.5
D32A	Dogwood Acres, baz=152	66.89	341	P	P	14 49 59.2	+1.3
B35A	Bob, Littlefor baz=156,SNR=5.7	67.02	344	P	P	14 49 59.2	+0.4
C33A	Trail baz=154	67.06	342	P	P	14 50 00.1	+1.1
B34A	Aery, Baudette baz=155	67.39	343	P	P	14 50 01.9	+0.8
AGMN	Agassiz Nation baz=154,SNR=8.9	67.57	342	P	P	14 50 03.3	+1.1
AGMN	Agassiz Nation comp=E,14nm,0.8s	67.57	342	eP	P	14 50 03.1	+0.9
C31A	Landman Farms, baz=152,SNR=11	67.69	341	P	P	14 50 04.4	+1.3
FURC	Furnace Creek, baz=131	67.74	321	P	P	14 50 06.7	+3.2
B32A	Ashes, Strandq baz=153,SNR=5.2	67.86	342	P	P	14 50 05.1	+1.1
DUG	Dugway, Tooele baz=136	68.01	326	P	P	14 50 07.4	+2.1
A33A	Warroad baz=154	68.01	343	P	P	14 50 05.9	+1.0
ISA	Isabella, Lake baz=130	68.21	320	P	P	14 50 08.9	+2.4
R11A	Troy Canyon, C baz=133	68.25	323	P	P	14 50 09.9	+3.0
SNAA	Sanae comp=E,2.7nm,0.6s,baz=292,slow=7.8,SNR=14	68.26	162	P	P	14 50 10.1	+3.7
PDAR	Pinedale Array comp=E,0.9nm,0.5s,baz=119,slow=7.8,SNR=10	68.27	330	P	P	14 50 08.9	+1.9
MDND	Maddock baz=150	68.36	340	P	P	14 50 09.6	+2.5
LIC	Lamto comp=E,21nm,0.8s	68.66	77	eP	P	14 50 09.3	-0.4
TIC	Toumodi	68.81	76	eP	P	14 50 10.2	-0.5
DBIC	Dimbokro comp=E,9.8nm,0.6s,baz=222,slow=6.5,SNR=14	68.97	76	P	P	14 50 11.8	+0.2
KIC	Kosan Boka comp=E,22nm,0.6s	68.97	77	eP	P	14 50 11.4	-0.3
ULM	Lac du Bonnet comp=E,14nm,0.7s,baz=153,slow=5.8,SNR=35	69.33	343	P	P	14 50 13.8	+0.8
NVAR	Mina Array Bea comp=E,0.5nm,0.7s,baz=130,slow=6.2,SNR=3.5	69.89	322	P	P	14 50 20.5	+3.4
RLMT	Red Lodge baz=140	69.93	332	P	P	14 50 19.3	+2.1
RLMT	Red Lodge comp=E,2.7nm,0.7s	69.93	332	P	P	14 50 16.3	-0.9
GCMT	Greycliff	70.63	332	eP	P	14 50 25.0	+3.8
HLID	Hailey baz=135	71.25	328	P	P	14 50 27.2	+2.1
BOZ	Bozeman (W) baz=138	71.38	331	P	P	14 50 28.3	+2.5
EGMT	Eagleton baz=140	72.39	334	P	P	14 50 33.8	+2.1
EGMT	Eagleton comp=E,6.2nm,0.9s	72.39	334	eP	P	14 50 33.8	+2.1
KOWA	Kowa comp=E,8.2nm,0.6s,baz=247,slow=6.1,SNR=27	72.50	69	P	P	14 50 33.2	+0.4
KOWA	Kowa comp=E,9.0nm,0.6s	72.50	69	eP	P	14 50 33.3	+0.4
QSPA	South Pole Qui comp=E,3.7nm,0.8s,baz=324,slow=8.4,SNR=8.5	74.40	180	P	P	14 50 48.0	+4.7
QSPA	South Pole Qui	74.40	180	P	P	14 50 48.0	+4.7
TORD	Torodi Ar. Bea comp=E,16nm,0.7s,baz=265,slow=4.8,SNR=100	77.22	72	P	P	14 51 00.1	+0.2
EDM	Edmonton	77.83	335	eP	P	14 51 04.8	+2.3
VNDA	Vanda comp=E,1.1nm,0.8s,baz=128,slow=3.6,SNR=5.8	82.17	190	P	P	14 51 30.6	+5.1
SYO	Syowa Base	82.48	160	eP	P	14 51 29.6	+2.4
ESDC	Sonsca Array comp=E,0.6nm,0.4s,baz=248,slow=5.4,SNR=15	83.06	46	P	P	14 51 32.0	+1.3
TSUM	Tsumeb comp=E,2.1nm,0.9s,baz=262,slow=9.0,SNR=5.3	83.45	108	P	P	14 51 36.1	+2.8
RAR	Rarotonga comp=E,38nm,21.5s,baz=266,slow=29	83.51	250	LR	LR	15 19 39.0	
YKA	Yellowknife Ar comp=E,4.7nm,0.5s,baz=135,slow=5.1,SNR=108	85.20	341	P	P	14 51 42.8	+1.9
DLBC	Dease Lake	88.31	333	eP	P	14 51 59.5	+3.4
ILAR	Eielson Array comp=E,0.2nm,0.6s,baz=103,slow=2.9,SNR=3.3	98.32	335	P	Pdif	14 52 44.3	+2.5
ILAR				PP	PP	14 56 39.8	-4.8
TIXI	comp=E,0.5nm,1.0s,baz=121,slow=6.5,SNR=4.3 Tiksi	122.90	353	PKP	PKPdf	14 58 01.0	+1.9
ARU	comp=E,0.8nm,0.3s,baz=342,slow=0.3,SNR=5.3 Arti	124.30	31	PKP	PKPdf	14 58 03.7	+1.5
AKTO	comp=E,1.5nm,0.3s,baz=288,slow=6.4,SNR=3.8 Aktyubinsk	126.40	38	PKP	PKPdf	14 58 09.6	+3.2
BVAR	comp=E,1.2nm,0.7s,baz=28,slow=4.5,SNR=4.8 Borovoye Array	131.93	31	PKP	PKPdf	14 58 19.8	+3.0
BVAR	comp=E,0.8nm,0.8s,baz=270,slow=1.5,SNR=5.5			SKPbc	SKiKP	15 01 30.4	-4.6
ASAR	comp=E,0.7nm,0.5s,baz=318,slow=2.0,SNR=5.1 Alice Springs	133.98	212	PKP	PKPdf	14 58 23.9	+2.1
WRA	comp=E,0.7nm,0.6s,baz=129,slow=1.7,SNR=8.4 Warramunga Arr	136.77	216	PKhKP	PKPpre	14 58 16.2	
WRA	comp=E,0.4nm,0.7s,baz=140,slow=2.9,SNR=8.0			PKP	PKiKP	14 58 30.1	+1.4
WRA	comp=E,1.0nm,0.5s,baz=141,slow=1.7,SNR=18			SKPbc	SKPab	15 01 46.5	-0.8
KURK	comp=E,1.1nm,0.7s,baz=145,slow=2.5,SNR=13 Kurchatov	137.33	29	PKP	PKPdf	14 58 27.6	+0.6
KURBB	Kurchatov Arra comp=E,1.2nm,0.6s,baz=314,slow=2.4,SNR=7.8	137.35	29	PKP	PKPdf	14 58 27.6	+0.6
ZALV	Zalesovo Beam comp=E,7.1nm,0.7s,baz=288,slow=2.8,SNR=24	137.40	21	PKP	PKPdf	14 58 27.9	+0.9
ZALV				SKPbc	SKPab	15 01 47.4	-1.6
MKAR	comp=E,1.3nm,0.7s,baz=323,slow=3.7,SNR=6.6 Makanchi Array	141.81	30	PKhKP	PKPpre	14 58 32.5	
MKAR	comp=E,0.4nm,0.4s,baz=311,slow=3.5,SNR=11			PKP	PKiKP	14 58 37.6	-0.7
MKAR	comp=E,0.5nm,0.5s,baz=333,slow=1.2,SNR=6.4			SKPbc	SKPab	15 01 59.9	-8.9
USRK	comp=E,1.1nm,0.7s,baz=334,slow=2.3,SNR=11 Ussuriysk Ar.	145.69	330	PKPbc	PKPab	14 58 44.0	+0.6
MJAR	comp=E,1.5nm,0.5s,baz=2.6,slow=0.9,SNR=3.1 Matsushiro Arr	146.95	314	PKPbc	PKPab	14 58 50.0	+1.3
SONM	comp=E,1.6nm,0.8s,baz=114,slow=1.5,SNR=17 Songino Array	147.93	4	PKPbc	PKPab	14 58 52.3	0.0
LZH	comp=E,4.8nm,0.5s,baz=333,slow=1.9,SNR=40 Lanzhou	159.19	12	ePKP	PKPdf	14 59 03.8	+1.5
LZH				pPKP	pPKPdf	14 59 45.3	-9.2
LZH				sPKP		15 00 02.3	
CMAR	Chiang Mai Arr comp=E,1.5nm,1.1s,baz=280,slow=6.3,SNR=6.0	169.82	73	PKPab	PKPab	15 00 29.1	+1.5

IDC 24 14:40:19.2±11.0, 20.92S×176.78W, h170km±116km, mb3.8/6, mb1 3.8/6, mb1mx3.4/39, mbtmp4.2/6, Error ellipse: s-maj=132.0km s-min=17.7km az=171.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PPT	Papeete	25.88	87	P	P	P	14 45 35.4	-0.1
	16nm,0.5s,baz=276,slow=9.2,SNR=6.4							
CTA	Charters Tower	34.59	265	P	P	P	14 46 53.5	+1.3
	3.6nm,1.1s,baz=74,slow=7.4,SNR=2.8							
STKA	Stephens Creek	38.64	245	P	P	P	14 47 27.4	+1.2
	0.7nm,0.6s,baz=66,slow=7.7,SNR=2.8							
ASAR	Alice Springs	45.54	257	P	P	P	14 48 21.8	-0.4
	2.4nm,0.6s,baz=96,slow=8.0,SNR=42							
WRA	Warramunga Arr	45.68	262	P	P	P	14 48 22.6	-0.7
	0.8nm,0.3s,baz=95,slow=7.8,SNR=31							
FITZ	Fitzroy Crossi	54.11	262	P	P	P	14 49 25.6	-1.3
	0.5nm,0.3s,baz=106,slow=10,SNR=5.2							
HFS	Hagfors	140.12	352	PKP		PKPdf	14 59 25.3	-1.7
	1.0nm,0.8s,baz=28,slow=3.9,SNR=3.7							
AKASG	Malin Array Be	143.93	332	PKP		PKPdf	14 59 34.6	+0.5
	0.1nm,0.3s,baz=45,slow=4.4,SNR=7.7							
BRTR	Keskin Array B	147.97	313	PKPbc		PKPbc	14 59 44.7	-0.1
	0.4nm,0.7s,baz=9.4,slow=2.3,SNR=2.9							

NNC 24 14:57:34.3±5.0, 37.16N×70.76E, h0km, mb3.9, mpv3.5, 6C-3D, Error ellipse: s-maj=39.4km s-min=33.1km az=151.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.57	36	⇑Pn	Pn	Pn	14 58 32.3	+1.1
	9.6nm,0.5s							
SFK				⇑Sn	Sn	Sn	14 59 17.3	+3.0
	14nm,0.6s							
KSH	Kashi	4.73	59	Pn	Pn	Pn	14 58 39.1	-7.9
KSH				Sn	Sn	Sn	14 59 28.0	-15
AML	Almayashu	5.46	24	P	Pn	Pn	14 58 56.6	-0.7
	SNR=43							
MNAS	Manas	5.49	14	⇓Pn	Pn	Pn	14 58 57.8	+0.3
	2.0nm,0.4s							
MNAS				⇑Sn	Sn	Sn	15 00 02.9	+1.5
	11nm,0.7s							
UCH	Uchtor	5.83	29	P	Pn	Pn	14 59 01.3	-1.2

	SNR=11							
KK31	**Karatay Array**	**5.94**	**358**	Pn	Pn	14 59 04.4	+0.8	
	0.4nm,0.3s,baz=177,slow=12,SNR=45							
KK31				⇑Sn	Sn	15 00 14.1	+1.7	
	1.0nm,0.3s,baz=178,slow=21,SNR=8.6							
EKS2	**Erkin-Say**	**5.97**	**22**	P	Pn	14 59 03.7	-0.3	
	SNR=15							
KZA	**Kyzart**	**6.01**	**34**	P	Pn	14 59 02.5	-2.5	
	SNR=6.7							
AAK	**Ala-Archa**	**6.18**	**27**	⇑Pn	Pn	14 59 05.4	-1.6	
	4.3nm,0.7s							
AAK				⇓Sn	Sn	15 00 18.0	-0.5	
	2.1nm,0.5s							
AAK	**Ala-Archa**	**6.18**	**27**	P	Pn	14 59 06.0	-1.0	
	SNR=8.4							
KBK	**Karagaybulak**	**6.37**	**29**	P	Pn	14 59 08.6	-1.0	
	SNR=7.1							
TKM2	**Tokmak 2**	**6.85**	**31**	⇓Pn	Pn	14 59 13.6	-2.6	
	4.7nm,0.5s							
TKM2				⇑Sn	Sn	15 00 31.8	-3.2	
	3.1nm,0.8s							
TKM2	**Tokmak 2**	**6.85**	**31**	P	Pn	14 59 14.0	-2.2	
	SNR=11							

*IDC **24** 15:03:00.8±0.8,23°.94N×120°.98E,h0km,mb3.9/15, mb1 4.0/16,mb1mx3.7/62,mbtmp3.9/16,ML3.3/1,MS2.9/4, Ms1 3.0/4,ms1mx2.5/58,Error ellipse: s-maj=45.2km s-min=17.1km az=64.0*

*TAP **24** 15:03:01.0,24°.37N×121°.49E,h6km,ML4.2,C*

*NIED **24** 15:03:00,24°.40N×121°.50E,h5km,Mw3.9 Best double couple: M0 7.88000×10^14 NP1:φs340.00000°,δ38.00000°, λ-81.00000°. NP2:φs149.00000°,δ53.00000°, λ-97.00000°.*

*NEIC **24** 15:03:01.6±0.6,24°.32N×121°.57E,h8km±3km,mb4.4/6, ML4.2(TAP),Error ellipse: s-maj=8.5km s-min=4.4km az=84.0*

NEIC Recorded [4 TAP] in Yilan; [2 TAP] in Hualien, Nantou and Taichung; [1 TAP] in Changhua, Miaoli and Taoyuan.

*ISCJB **24** 15:03:01.7±0.2,24°.39N±0°.01×121°.52E±0°.01,h4km±1km, mb4.0/20,MS2.8/3,Error ellipse: s-maj=2.1km s-min=1.4km az=41.2*

*JMA **24** 15:03:02.5±0.2,24°.42N×121°.47E,h46km±2km,M3.5*

ISC 24 15:03:01.6±0.9,24°.37N±0°.01×121°.50E±0°.01,h5km±6km, n161,σ0 79/223,mb4.1/20,MS2.9/3,40C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	**0.12**	**300**	⇑P	**Pg**	**15 03 04.1**	**-0.1**
	baz=303						
NNSB				*i* S	**Sg**	**15 03 05.6**	**-0.3**
	baz=303						
NNSH	**Datong**	**0.12**	**300**	P	**Pg**	**15 03 04.1**	**-0.1**
	baz=302						
NNSH				S	**Sg**	**15 03 05.7**	**-0.2**
	baz=302						
NNS	**Nan Shan**	**0.14**	**303**	⇑*i*P	**Pg**	**15 03 04.3**	**-0.1**
	baz=307						
NNS				*i* S	**Sg**	**15 03 06.0**	**-0.2**
	baz=307						
NACB	**Ninganchiao**	**0.21**	**155**	⇓P	**Pg**	**15 03 06.5**	**+0.7**
	baz=153						
NACB	**Ninganchiao**	**0.21**	**155**	*e*Pg	**Pg**	**15 03 06.3**	**+0.6**
ENA	**Nanau**	**0.23**	**74**	⇑*i*P	**Pg**	**15 03 06.4**	**+0.3**
	baz=75						
NANB	**Nanao**	**0.24**	**75**	⇑P	**Pg**	**15 03 06.4**	**+0.1**
	baz=74						
ENTT	**Nioudou**	**0.28**	**13**	⇑*i*P	**Pg**	**15 03 07.3**	**+0.2**
	baz=6.0						
ENTT				S	**Sg**	**15 03 11.0**	**+0.3**
	baz=6.0						
ENAH	**Nanao**	**0.30**	**74**	⇑P	**Pg**	**15 03 07.4**	**+0.1**
	baz=73						
ENAH				*e*S	**Sg**	**15 03 11.5**	**+0.3**
	baz=73						
TWD	**Chiawan**	**0.30**	**163**	⇑P	**Pg**	**15 03 08.0**	**+0.6**
	baz=159						
TWD				S	**Sg**	**15 03 12.3**	**+1.0**
	baz=159						
WHF	**Hehuan Shan**	**0.31**	**224**	⇑*i*P	**Pg**	**15 03 07.6**	**-0.1**
	baz=222						
TWT	**Tachien**	**0.32**	**249**	⇑*i*P	**Pg**	**15 03 08.0**	**+0.3**
	baz=237						
TWT				*e*S	**Sg**	**15 03 12.7**	**+0.7**
	baz=237						
YHNB	**Yeheng**	**0.32**	**340**	⇑P	**Pg**	**15 03 08.2**	**+0.3**
	baz=341						
YHNB				*e*S	**Sg**	**15 03 11.7**	**-0.5**
	baz=341						
YHNB	**Yeheng**	**0.32**	**340**	*e*Pg	**Pg**	**15 03 07.8**	**-0.1**
TWE	**Neicheng**	**0.39**	**23**	⇑*i*P	**Pg**	**15 03 09.4**	**+0.4**
	baz=41						
TWE				S	**Sg**	**15 03 14.5**	**+0.3**
	baz=41						
HWA	**Hwalien**	**0.40**	**166**	*e*P	**Pb**	**15 03 10.4**	**-0.7**
	baz=163						
TWC	**Suao**	**0.40**	**53**	⇑*i*P	**Pg**	**15 03 09.4**	**+0.1**
	baz=43						
TWC				*e*S	**Sg**	**15 03 15.2**	**+0.6**
	baz=43						
SLBB	**Yuanshan**	**0.41**	**18**	⇑P	**Pg**	**15 03 09.8**	**+0.3**
	baz=30						
NWLT	**Wulai**	**0.41**	**0**	*e*P	**Pg**	**15 03 09.8**	**+0.3**
	baz=350						
CHGB	**Renai**	**0.42**	**224**	⇑P	**Pg**	**15 03 09.8**	**-0.1**
	baz=224						
CHGB				*e*S	**Sg**	**15 03 15.5**	**+0.1**
	baz=224						
ILA	**Ilan**	**0.46**	**30**	*e*P	**Pg**	**15 03 10.7**	**+0.3**
	baz=29						
ENLB	**Shoufeng**	**0.47**	**168**	*e*P	**Pb**	**15 03 11.6**	**-0.7**
	baz=167						
ENLB				*e*S	**Sb**	**15 03 18.7**	**-0.9**
	baz=167						
OWD	**Renai**	**0.51**	**216**	⇑*i*P	**Pg**	**15 03 11.0**	**-0.3**
	baz=215						
LIOB	**Emei**	**0.52**	**302**	⇑*i*P	**Pb**	**15 03 12.5**	**-0.7**
	baz=304						
LIOB				*e*S	**Sg**	**15 03 19.2**	**+0.8**
	baz=304						
NSTT	**Nanjuang**	**0.52**	**300**	⇑P	**Pb**	**15 03 12.4**	**-0.9**
	baz=302						
NSTT				*e*S	**Sg**	**15 03 18.9**	**+0.4**
	baz=302						
WLTB	**Daxi**	**0.53**	**335**	*e*P	**Pb**	**15 03 13.0**	**-0.5**
	baz=336						
ESL	**Shilin**	**0.55**	**186**	⇑*i*P	**Pg**	**15 03 12.4**	**+0.2**
	baz=174						
ESL				*e*S	**Sg**	**15 03 19.9**	**+0.5**
	baz=174						
EOS1	**EOS1**	**0.60**	**72**	*e*P	**Pg**	**15 03 13.8**	**+0.6**
	baz=72						
EOS1				*e*S	**Sb**	**15 03 22.8**	**-0.6**
	baz=72						
TATO	**Taipei**	**0.61**	**359**	*e*P	**Pb**	**15 03 14.0**	**-0.7**
	baz=14						
TATO				*e*S	**Sg**	**15 03 21.7**	**+0.5**
	baz=14						
TATO	**Taipei**	**0.61**	**359**	*e*Pg	**Pg**	**15 03 13.9**	**+0.6**
TATO				*e*Sg	**Sg**	**15 03 21.6**	**+0.5**
TWA	**Mucha**	**0.62**	**7**	*e*P	**Pg**	**15 03 14.1**	**+0.6**
	baz=8.0						
TWA				*e*S	**Sg**	**15 03 21.8**	**+0.3**
	baz=8.0						
DPDB	**Guoxing**	**0.62**	**238**	⇑*i*P	**Pg**	**15 03 13.8**	**+0.3**
	baz=238						
EGS		**0.62**	**40**	⇑P	**Pg**	**15 03 13.7**	**+0.2**
	baz=39						
SBCB	**Hsinchu**	**0.63**	**312**	*e*P	**Pb**	**15 03 15.1**	**-0.1**
	baz=314						
HSN	**Hsinchu**	**0.65**	**312**	*e*P	**Pb**	**15 03 15.3**	**-0.1**
	baz=318						
TWQ1	**Liyutan**	**0.66**	**269**	⇑*i*P	**Pb**	**15 03 15.4**	**-0.3**
	baz=269						
TWQ1				*e*S	**Sb**	**15 03 24.2**	**-1.0**
	baz=269						
NCUH	**Zhongli**	**0.66**	**335**	*e*P	**Pb**	**15 03 16.0**	**+0.3**
	baz=335						
NCU	**National Centr**	**0.67**	**335**	*e*P	**Pb**	**15 03 15.9**	**+0.2**
	baz=336						
NCU				*e*S	**Sb**	**15 03 25.7**	**+0.4**
	baz=336						
NMLH	**Miaoli**	**0.67**	**285**	⇑P	**Pb**	**15 03 16.0**	**+0.3**
	baz=287						
TIPB	**Shuangxi**	**0.67**	**26**	⇑*e*P	**Pg**	**15 03 13.6**	**-1.0**
	baz=10.0						
NSY	**Sanyi**	**0.67**	**274**	⇑*i*P	**Pb**	**15 03 16.0**	**+0.1**
	baz=275						
NSY				*e*S	**Sb**	**15 03 25.1**	**-0.5**
	baz=275						
PTSB	**Yuanli**	**0.73**	**277**	⇑P	**Pb**	**15 03 17.2**	**+0.5**
	baz=278						
PTSB				S	**Sb**	**15 03 26.7**	**-0.3**
	baz=278						
SMLT	**Sun Moon Lake**	**0.73**	**229**	⇑*i*P	**Pg**	**15 03 15.7**	**+0.1**
	baz=229						
SMLT				*e*S	**Sg**	**15 03 24.6**	**-0.5**
	baz=229						
TWS1	**Kuangyinshan**	**0.73**	**354**	*e*P	**Pb**	**15 03 17.4**	**+0.5**
	baz=354						
TYC	**Yuchr**	**0.74**	**232**	⇑*i*P	**Pg**	**15 03 15.9**	**0.0**
	baz=223						
TYC				*e*S	**Sg**	**15 03 24.9**	**-0.7**
	baz=223						
NWF	**Wu-fen Shan**	**0.75**	**20**	*e*P	**Pg**	**15 03 16.3**	**+0.3**
	baz=19						
WFSB	**Wu-fen Shan**	**0.75**	**20**	*e*P	**Pg**	**15 03 16.3**	**+0.3**
	baz=20						
WFSB				*e*S	**Sg**	**15 03 26.2**	**+0.5**
	baz=20						
SSLB	**Suanglung**	**0.76**	**221**	⇑P	**Pg**	**15 03 15.6**	**-0.6**
	baz=221						
SSLB				*e*S	**Sg**	**15 03 25.6**	**-0.5**
	baz=221						
SSLB	**Suanglung**	**0.76**	**221**	*e*Pg	**Pg**	**15 03 15.7**	**-0.6**
TWB1	**Santiao Chiao**	**0.78**	**35**	*e*P	**Pg**	**15 03 16.5**	**-0.1**
	baz=34						
TCU	**Taichung**	**0.78**	**254**	*e*P	**Pn**	**15 03 18.2**	**-1.1**
	baz=255						
YM04	**YM04**	**0.79**	**2**	*e*P	**Pb**	**15 03 17.5**	**-0.3**
	baz=2.0						
YM10	**YM10**	**0.79**	**4**	*e*P	**Pb**	**15 03 17.5**	**-0.4**
	baz=3.0						
NTST	**Danshui**	**0.80**	**357**	*e*P	**Pb**	**15 03 18.1**	**+0.2**
	baz=8.0						
NTST				*e*S	**Sb**	**15 03 29.6**	**+0.6**
	baz=8.0						
YM05	**YM05**	**0.80**	**4**	*e*P	**Pb**	**15 03 17.6**	**-0.4**
	baz=3.0						
YM03	**YM03**	**0.81**	**3**	*e*P	**Pb**	**15 03 18.0**	**-0.2**
	baz=2.0						
YM07	**YM07**	**0.81**	**8**	*e*P	**Pg**	**15 03 16.7**	**-0.5**
	baz=7.0						
YM07				*e*S	**Sg**	**15 03 28.2**	**+0.4**
	baz=7.0						
YM08	**YM08**	**0.82**	**6**	*e*P	**Pg**	**15 03 17.9**	**+0.5**
	baz=5.0						
EHY	**Hungye**	**0.87**	**191**	*e*P	**Pg**	**15 03 17.9**	**-0.5**
	baz=183						
EHY				*e*S	**Sg**	**15 03 30.2**	**+0.6**
	baz=183						
HGSD	**Ruisui**	**0.87**	**185**	⇑P	**Pb**	**15 03 18.8**	**-0.5**
	baz=191						
HGSD				*e*S	**Sb**	**15 03 31.3**	**+0.1**
	baz=191						
WJS	**Zhushan**	**0.89**	**233**	*e*P	**Pb**	**15 03 19.4**	**-0.1**
	baz=224						
WNT	**Mingjian**	**0.89**	**237**	⇑*e*P	**Pb**	**15 03 19.6**	**+0.1**
	baz=230						
WNT				*e*S	**Sn**	**15 03 33.1**	**-1.0**
	baz=230						
WCHH	**Zhanghua**	**0.91**	**252**	*e*P	**Pn**	**15 03 20.3**	**-0.7**
	baz=252						
WCHH				*e*S	**Sn**	**15 03 34.3**	**-0.1**
	baz=252						
TWY	**Chenhua**	**0.91**	**6**	*e*P	**Pn**	**15 03 20.4**	**-0.7**
	baz=5.0						
YULB	**Yu-li**	**0.99**	**191**	*e*P	**Pg**	**15 03 20.3**	**-0.2**
	baz=178						
YULB				*e*S	**Sb**	**15 03 34.0**	**-0.5**
	baz=178						
YULB	**Yu-li**	**0.99**	**191**	*e*Pg	**Pg**	**15 03 20.4**	**-0.1**
YULB				*e*Sn	**Sn**	**15 03 35.1**	**-1.3**
YUS	**Yu-Shan**	**1.01**	**210**	*e*P	**Pg**	**15 03 20.1**	**-0.8**
	baz=210						
YUS				*e*S	**Sb**	**15 03 35.8**	**+0.3**
	baz=210						
TWF1	**Yuli**	**1.03**	**190**	*e*P	**Pg**	**15 03 21.0**	**-0.3**
	baz=179						
TWF1				*e*S	**Sb**	**15 03 35.0**	**-0.6**
	baz=179						
CHN5	**Tsauling**	**1.07**	**225**	⇑P	**Pb**	**15 03 22.6**	**0.0**
	baz=225						
CHN5				*e*S	**Sn**	**15 03 39.0**	**+0.3**
	baz=225						
WGK	**Gukeng**	**1.09**	**232**	*e*P	**Pn**	**15 03 23.4**	**-0.2**
	baz=232						
WGK				*e*S	**Sn**	**15 03 40.1**	**+1.1**
	baz=232						
WDLH	**Douliu**	**1.11**	**233**	*e*P	**Pn**	**15 03 23.8**	**0.0**
	baz=233						
WDLH				*e*S	**Sn**	**15 03 40.0**	**+0.6**
	baz=233						
RLNB	**Erlin**	**1.14**	**246**	⇑P	**Pn**	**15 03 24.5**	**+0.2**
	baz=246						
RLNB				*e*S	**Sn**	**15 03 40.5**	**+0.2**
	baz=246						
FULB	**Fuli**	**1.18**	**189**	*e*P	**Pn**	**15 03 24.6**	**-0.2**
	baz=189						
FULB				*e*S	**Sn**	**15 03 40.6**	**-0.6**
	baz=189						
WTCT	**Ta-ch'eng**	**1.22**	**246**	*e*P	**Pg**	**15 03 24.9**	**-0.1**
	baz=246						
WTCT				*e*S	**Sn**	**15 03 42.0**	**-0.2**
	baz=246						
CHN2	**Minshiung**	**1.25**	**229**	P	**Pg**	**15 03 26.4**	**+0.8**
	baz=229						
CHN2				*e*S	**Sn**	**15 03 44.2**	**+1.2**
	baz=229						
ELDTW	**Lidau**	**1.25**	**201**	*e*P	**Pn**	**15 03 24.3**	**-1.5**
	baz=189						
CHKT	**Chengkung**	**1.27**	**186**	*e*P	**Pb**	**15 03 25.8**	**-0.1**
	baz=185						
CHY	**Chiayi**	**1.31**	**229**	*e*P	**Pg**	**15 03 26.9**	**+0.2**
	baz=229						
CHY				*e*S	**Sn**	**15 03 46.1**	**+1.7**
	baz=229						
TPUB	**Ta-pu**	**1.33**	**217**	⇑P	**Pb**	**15 03 26.8**	**-0.2**
	baz=218						
TPUB				*e*S	**Sn**	**15 03 46.6**	**+1.7**
	baz=218						
TPUB	**Ta-pu**	**1.33**	**217**	*e*Pn	**Pn**	**15 03 26.5**	**-0.3**
TPUB				*e*Sn	**Sn**	**15 03 45.8**	**+0.9**
WSF	**Szhu**	**1.37**	**238**	*e*P	**Pb**	**15 03 27.6**	**-0.2**
	baz=237						
WSF				*e*S	**Sg**	**15 03 47.4**	**+1.6**
	baz=237						
STYT	**Tauyuan**	**1.38**	**210**	⇑P	**Pn**	**15 03 27.2**	**-0.3**
	baz=196						
STYT				*e*S	**Sg**	**15 03 47.1**	**+1.2**
	baz=196						
WTP	**Ta-pu**	**1.38**	**216**	⇑P	**Pg**	**15 03 27.9**	**-0.2**
	baz=217						
WTP				*e*S	**Sg**	**15 03 47.6**	**+1.7**
	baz=217						
YOJ	**Yonaguni jima**	**1.38**	**86**	*e*P	**Pn**	**15 03 27.5**	**-0.1**
	baz=73						
YOJ				*e*S	**Sn**	**15 03 46.0**	**-0.2**
	baz=73						
YOJ	**Yonaguni jima**	**1.38**	**86**	P	**Pn**	**15 03 27.4**	**-0.1**
YOJ				S	**Sb**	**15 03 45.6**	**-0.3**
YOJ	**Yonaguni jima**	**1.38**	**86**	*e*Pn	**Pn**	**15 03 26.8**	**-0.8**
WLGB	**Puzi**	**1.41**	**231**	*e*P	**Pg**	**15 03 28.8**	**+0.2**
	baz=231						
WLGB				*e*S	**Sg**	**15 03 49.1**	**+2.2**
	baz=231						
TWK	**Hsinying**	**1.43**	**220**	⇓*e*P	**Pg**	**15 03 29.0**	**-0.1**
	baz=221						
TWK				*e*S	**Sg**	**15 03 49.9**	**+2.2**
	baz=221						
CHN1	**Nanshi**	**1.47**	**217**	⇑P	**Pg**	**15 03 29.9**	**+0.1**
	baz=218						
CHN1				*e*S	**Sg**	**15 03 50.6**	**+1.6**
	baz=218						
SGST	**Jiashian**	**1.53**	**213**	⇑P	**Pg**	**15 03 30.8**	**-0.1**
	baz=203						
SGST				*e*S	**Sg**	**15 03 52.8**	**+2.0**
	baz=203						
CHN8	**Yiju**	**1.56**	**230**	*e*P	**Pg**	**15 03 31.0**	**-0.4**
	baz=241						
CHN8				*e*S	**Sg**	**15 03 53.3**	**+1.7**
	baz=241						
SLGT	**Liugui**	**1.57**	**210**	*e*P	**Pg**	**15 03 31.5**	**-0.3**
	baz=199						
SLGT				*e*S	**Sg**	**15 03 54.3**	**+2.1**
	baz=199						
TWG	**Pinlang**	**1.59**	**194**	*e*Pn	**Pn**	**15 03 30.5**	**+0.1**
TWGBT	**Beinan**	**1.59**	**194**	*e*P	**Pn**	**15 03 29.9**	**-0.5**
	baz=176						
CHN3	**Shinhua**	**1.65**	**219**	⇑*e*P	**Pg**	**15 03 33.2**	**-0.1**
	baz=220						
CHN3				*e*S	**Sg**	**15 03 56.7**	**+2.0**
	baz=220						
SCLT	**Jiali**	**1.68**	**225**	*e*P	**Pb**	**15 03 32.9**	**-0.2**
	baz=226						
SCLT				*e*S	**Sg**	**15 03 57.1**	**+1.4**
	baz=226						
TAI1	**Yung-k'ang**	**1.76**	**222**	*e*P	**Pb**	**15 03 34.1**	**-0.3**
	baz=221						
SSD	**Sandimen**	**1.80**	**206**	*e*P	**Pb**	**15 03 35.0**	**0.0**
	baz=207						
SSD				*e*S	**Sg**	**15 03 59.9**	**+0.5**
	baz=207						
TWM1	**Shoushan**	**1.83**	**213**	⇑*e*P	**Pg**	**15 03 36.0**	**-0.6**
	baz=212						
ECL	**Taimali**	**1.83**	**196**	*e*P	**Pn**	**15 03 34.3**	**+0.6**
	baz=179						
SGLT	**Jiouru**	**1.88**	**210**	*e*P	**Pb**	**15 03 36.1**	**-0.2**
	baz=209						
MASBT	**Mashibuluo**	**1.92**	**205**	⇑*e*P	**Pb**	**15 03 37.0**	**-0.1**
	baz=221						
MASBT				*e*S	**Sg**	**15 04 02.4**	**-0.9**
	baz=221						
PNG	**Penghu**	**1.95**	**246**	*e*P	**Pb**	**15 03 36.1**	**-1.5**
	baz=245						
PHUB	**P'eng-hu**	**1.96**	**245**	*e*P	**Pn**	**15 03 34.9**	**-0.5**
	baz=244						
WDGT	**Dungji**	**2.01**	**237**	*e*P	**Pb**	**15 03 37.3**	**-1.4**
	baz=236						
WDGT				*e*S	**Sb**	**15 04 04.5**	**+0.4**
	baz=236						
IRIF	**Iriomote-Funau**	**2.04**	**90**	P	**Pn**	**15 03 36.8**	**+0.3**
IRIF				S	**Sb**	**15 04 03.9**	**-0.8**
WSSB	**Gushan**	**2.06**	**214**	*e*P	**Pb**	**15 03 38.4**	**-1.1**
	baz=213						
SSPT	**Xinbi**	**2.06**	**205**	*e*P	**Pg**	**15 03 40.2**	**-0.9**
	baz=224						
EAST	**Anshuo**	**2.06**	**197**	⇓*e*P	**Pb**	**15 03 39.0**	**-0.6**
	baz=179						
HATJ	**Hateruma jima**	**2.13**	**98**	S	**Sn**	**15 04 03.3**	**-1.3**
SCZT	**Fangliau**	**2.14**	**202**	⇓P	**Pb**	**15 03 40.3**	**-0.6**
	baz=222						
SCZT				*e*S	**Sb**	**15 04 08.5**	**+0.7**
	baz=222						
WLCH	**Liuqiu**	**2.25**	**207**	*e*P	**Pb**	**15 03 43.4**	**+0.6**
	baz=225						
TWP	**Hsiaoliuchiu**	**2.27**	**208**	*e*P	**Pb**	**15 03 43.5**	**+0.5**
	baz=225						
MATB	**Ma-tsu**	**2.27**	**322**	*e*P	**Pn**	**15 03 39.1**	**-0.6**
	baz=319						
JKRS	**Kuro-shima**	**2.29**	**93**	P	**Pn**	**15 03 41.1**	**+1.0**
JKRS				S	**Sn**	**15 04 09.2**	**+0.5**
JIJ	**Ishigaki jima**	**2.41**	**90**	P	**Pn**	**15 03 42.2**	**+0.5**
JIJ				S	**Sn**	**15 04 10.0**	**-1.6**
HEN	**Hengchun**	**2.45**	**197**	*e*P	**Pb**	**15 03 45.0**	**-1.2**
	baz=181						
TWK1	**Hengchun**	**2.50**	**195**	*e*P	**Pn**	**15 03 43.8**	**+1.0**
	baz=179						
TWKBT	**Hengchun**	**2.50**	**195**	*e*P	**Pb**	**15 03 44.9**	**-2.0**
	baz=179						
JISG	**Ishigakijimahi**	**2.57**	**85**	P	**Pn**	**15 03 44.2**	**+0.3**
JISG				S	**Sn**	**15 04 16.1**	**+0.5**
KNMB	**Chin-men Tao**	**2.84**	**273**	*e*P	**Pn**	**15 03 46.7**	**-0.9**
	baz=270						
JTJ	**Tarama**	**2.93**	**84**	S	**Sn**	**15 04 26.4**	**+1.9**
KS15	**Wonju Array Si**	**14.13**	**21**	*e*P	**P**	**15 06 31.1**	**+0.9**
KSAR	**Wonju Array Be**	**14.13**	**21**	Pn	**P**	**15 06 31.1**	**+0.9**
KSRS	**Korea Array**	**14.16**	**21**	Pn	**P**	**15 06 31.1**	**+0.7**
	0.1nm,0.3s,baz=200,slow=12,SNR=5.3						
MJAR	**Matsushiro Arr**	**18.80**	**46**	LR	LR	15 14 31.2	
	3.3nm,0.7s,baz=310,slow=36						
CMAR	**Chiang Mai Arr**	**21.79**	**259**	LR	LR	15 16 11.6	
	comp=Z,40nm,18.7s,baz=150,slow=37						
GUMO	**Guam**	**24.52**	**112**	LR	LR	15 18 30.9	
	comp=Z,13nm,18.6s,baz=78,slow=38						
ULN	**Ulaanbaatar**	**26.11**	**338**	*e*P	**P**	**15 08 36.8**	**+0.2**
	4.6nm,0.9s						
SONA0	**Songino Array**	**26.31**	**337**	*e*P	**P**	**15 08 39.8**	**+1.4**
SONM	**Songino Array**	**26.31**	**337**	P	**P**	**15 08 39.8**	**+1.4**
	5.2nm,0.9s,baz=155,slow=10.0,SNR=23						
MK32	**Makanchi Array**	**38.41**	**316**	*e*P	**P**	**15 10 25.0**	**+1.0**
MKAR	**Makanchi Array**	**38.41**	**316**	P	**P**	**15 10 25.0**	**+1.0**
	3.6nm,0.7s,baz=104,slow=11,SNR=40						
MKAR	**Makanchi Array**	**38.41**	**316**	*e*P	**P**	**15 10 24.7**	**+0.7**
	18nm,0.7s						
MAKZ	**Makanchi**	**38.61**	**316**	*e*P	**P**	**15 10 26.4**	**+0.7**
	5.7nm,1.0s						
PETK	**Petropavlovsk-**	**39.56**	**34**	LR	LR	15 28 07.2	
	comp=Z,33nm,18.4s,baz=213,slow=38						
ZALV	**Zalesovo Beam**	**40.25**	**327**	P	**P**	**15 10 39.2**	**0.0**
	3.3nm,0.7s,baz=116,slow=7.8,SNR=18						
ZAA1	**Zalesovo Array**	**40.25**	**327**	*e*P	**P**	**15 10 39.2**	**-0.1**
KURK	**Kurchatov**	**42.14**	**320**	*e*P	**P**	**15 10 55.2**	**+0.4**
	6.0nm,1.3s						
KURBB	**Kurchatov Arra**	**42.16**	**320**	P	**P**	**15 10 55.5**	**+0.5**
	0.7nm,0.4s,baz=110,slow=9.5,SNR=9.4						
KKAR	**Karatay Array**	**45.59**	**307**	*e*P	**P**	**15 11 23.1**	**+0.3**
WRA	**Warramunga Arr**	**45.78**	**163**	P	**P**	**15 11 22.1**	**-2.3**
	0.5nm,0.6s,baz=346,slow=8.7,SNR=7.9						
WR1	**Warramunga Arr**	**45.78**	**163**	*e*P	**P**	**15 11 22.1**	**-2.3**
	20nm,1.8s						
BVAR	**Borovoye Array**	**47.72**	**321**	P	**P**	**15 11 39.9**	**+0.7**
	1.2nm,0.6s,baz=103,slow=8.4,SNR=12						
BRVK	**Borovoye**	**47.79**	**321**	*e*P	**P**	**15 11 40.3**	**+0.5**
	5.0nm,1.1s						
ASAR	**Alice Springs**	**49.24**	**165**	P	**P**	**15 11 49.1**	**-2.1**
	0.3nm,0.8s,baz=343,slow=8.0,SNR=3.5						
ABKAR	**Akbulak array**	**53.52**	**314**	*e*P	**P**	**15 12 23.8**	**+0.7**
AKTO	**Aktyubinsk**	**54.84**	**316**	P	**P**	**15 12 33.7**	**+0.9**
	1.1nm,0.8s,baz=109,slow=5.6,SNR=4.1						
FIA0	**FINESS Array S**	**71.43**	**330**	*e*P	**P**	**15 14 22.6**	**-0.1**
FINES	**FINESS Array B**	**71.43**	**330**	P	**P**	**15 14 22.6**	**-0.1**
	1.1nm,0.7s,baz=29,slow=4.4,SNR=8.4						
AKASG	**Malin Array Be**	**72.92**	**318**	P	**P**	**15 14 31.0**	**-0.9**
	0.9nm,0.6s,baz=58,slow=6.3,SNR=5.2						
AKBB	**Malin Array Si**	**72.92**	**318**	*e*P	**P**	**15 14 31.0**	**-0.9**
BR101	**Keskin Array S**	**73.30**	**306**	*e*P	**P**	**15 14 34.5**	**+0.1**
BRTR	**Keskin Array B**	**73.30**	**306**	P	**P**	**15 14 34.5**	**+0.1**
	1.4nm,0.9s,baz=112,slow=5.5,SNR=6.8						
HFS	**Hagfors**		**77.55**	**331**	P	**P**	**15 14 58.2**	**-0.1**

IDC 24 15:21:46.7±51.0, 14°35S×173°59W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/43, mbtmp3.7/3, Error ellipse: s-maj=976.2km s-min=168.5km az=77.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.41**	**239**	P	P	15 30 00.6	+1.2
	1.4nm,0.8s,baz=89,slow=10.0,SNR=2.7						
WRA	**Warramunga Arr**	**49.91**	**256**	P	P	15 30 42.7	+0.1
	0.3nm,0.5s,baz=94,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**50.27**	**251**	P	P	15 30 43.8	-1.5
	0.7nm,0.4s,baz=90,slow=8.0,SNR=25						

*ISCJB **24** 15:34:12.9±0.7, 84°.52N±0°.06×±°, h10km, mb3.3/8, MS3.1/17, Error ellipse: s-maj=15.2km s-min=7.6km az=159.9*

*IDC **24** 15:34:13.6±0.9, 84°.78N×7°.42E, h0km, mb3.4/8, mb1 3.6/10, mb1mx3.3/69, mbtmp3.5/10, ML3.6/2, MS3.2/19, Ms1 3.2/19, ms1mx3.0/47, Error ellipse: s-maj=31.1km s-min=15.0km az=47.0*

*IEPN **24** 15:34:20.0, 84°.80N×11°.99E, h20km, station ZFI2 has station magnitude of 3.30*

ISC 24 15:34:14.4±0.8, 84°.62N±0°.07×7°.02E±0°.10, h10km, n35, σ1s75/27, mb3.5/8, MS3.1/17, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.77**	**170**	*e*P	**Pn**	**15 35 40.6**	**+0.8**
KBS				*e*S	**Sn**	**15 36 44.9**	**-1.0**
KBS				IAML		15 36 53.3	
	comp=Z,6.1nm,0.6s						
KBS	**Kingsbay**	**5.77**	**170**	Pn	**Pn**	**15 35 41.3**	**+1.5**
KBS				Sn	**Sn**	**15 36 43.8**	**-2.1**
KBS	**Kingsbay**	**5.77**	**170**	*i* P	**Pn**	**15 35 40.6**	**+0.8**
KBS				*i* S	**Sn**	**15 36 44.9**	**-1.0**
ZFI2	**Zemlya Franca-**	**6.23**	**105**	*i* P	**Pn**	**15 35 44.9**	**-1.2**
ZFI2				*i* S	Sn	15 36 48.3	-8.8
	comp=Z,12nm,0.2s						
SPA0	**Spitsbergen Ar**	**6.61**	**163**	*e*P	**Pn**	**15 35 52.0**	**+0.7**
SPA0				*e*S	**Sn**	**15 37 03.9**	**-2.7**
SPA0				IAML		15 37 11.6	
	comp=Z,4.0nm,0.7s						
SPA0	**Spitsbergen Ar**	**6.61**	**163**	Pn	**Pn**	**15 35 51.8**	**+0.4**
	baz=354,slow=16						
SPA0				Sn	**Sn**	**15 37 04.1**	**-2.5**
	baz=347,slow=37						
SPA0	**Spitsbergen Ar**	**6.61**	**163**	*i* P	**Pn**	**15 35 51.9**	**+0.4**
SPA0				*i* S	**Sn**	**15 37 03.5**	**-3.1**
SPITS	**Spitsbergen Ar**	**6.61**	**163**	Pn	**Pn**	**15 35 52.1**	**+0.7**
	baz=357,slow=14,SNR=25						
SPITS				Sn	**Sn**	**15 37 04.0**	**-2.7**
	baz=355,slow=16,SNR=2.3						
SPITS				LR	LR	15 38 16.6	
	comp=Z,166nm,20.8s,baz=320,slow=36						
ARA0	**ARCESS Array S**	**15.54**	**155**	Pn	**Pn**	**15 37 52.6**	**-0.5**
	baz=341,slow=14						
ARA0	**ARCESS Array S**	**15.54**	**155**	Pn	**Pn**	**15 37 52.6**	**-0.5**
	baz=341,slow=4						
ARCES	**ARCESS Array B**	**15.54**	**155**	Pn	**Pn**	**15 37 52.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=353,slow=14,SNR=16						
ARCES				Sn	Sn	15 40 34.6	-11
	comp=Z,0.1nm,0.3s,baz=0.0,slow=22,SNR=2.4						
RES	**Resolute Bay**	**17.34**	**299**	Pn	**Pn**	**15 38 12.0**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=7.1						
RES				LR	LR	15 44 32.1	
	comp=Z,80nm,20.6s,baz=132,slow=36						
FINES	**FINESS Array B**	**23.66**	**157**	P	**P**	**15 39 27.1**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=346,slow=11,SNR=4.1						
INK	**Inuvik**	**26.23**	**328**	P	**P**	**15 39 49.6**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=352,slow=9.6,SNR=3.0						
ILAR	**Eielson Array**	**30.33**	**338**	LR	LR	15 52 26.6	
	comp=Z,34nm,18.6s,baz=202,slow=36						
ARU	**Arti**	**30.64**	**121**	LR	LR	15 55 09.0	
	comp=Z,42nm,18.6s,baz=22,slow=41						
YKA	**Yellowknife Ar**	**30.83**	**310**	P	**P**	**15 40 30.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=9.9,slow=7.5,SNR=3.9						
AKASG	**Malin Array Be**	**34.52**	**155**	P	**P**	**15 41 04.1**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=350,slow=8.9,SNR=2.7						
AKASG				LR	LR	15 55 00.3	
	comp=Z,37nm,19.4s,baz=260,slow=36						
BVAR	**Borovoye Array**	**35.02**	**110**	P	**P**	**15 41 08.5**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=343,slow=9.3,SNR=5.8						
BVAR				LR	LR	15 56 05.0	
	comp=Z,20nm,21.1s,baz=30,slow=37						
GERES	**GERESS Array B**	**35.97**	**172**	LR	LR	15 55 19.2	
	comp=Z,26nm,18.5s,baz=68,slow=35						
AKTO	**Aktyubinsk**	**36.55**	**123**	LR	LR	15 58 51.3	
	comp=Z,50nm,18.6s,baz=1.7,slow=40						
KURBB	**Kurchatov Arra**	**38.14**	**102**	P	**P**	**15 41 33.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=353,slow=7.9,SNR=9.5						
TLY	**Talaya**	**39.44**	**77**	LR	LR	15 58 41.2	
	comp=Z,16nm,18.8s,baz=344,slow=37						
MLR	**Muntele Rosu**	**39.61**	**159**	LR	LR	15 59 25.6	
	comp=Z,14nm,18.0s,baz=15,slow=38						
MKAR	**Makanchi Array**	**42.28**	**99**	P	**P**	**15 42 07.0**	**-0.5**
	comp=Z,0.1nm,0.6s,baz=355,slow=6.2,SNR=3.2						
NEW	**Newport**	**45.15**	**309**	LR	LR	16 03 58.5	
	comp=Z,30nm,19.8s,baz=306,slow=40						
ESDC	**Sonseca Array**	**45.20**	**192**	LR	LR	15 58 53.8	
	comp=Z,35nm,19.7s,baz=190,slow=33						
BRTR	**Keskin Array B**	**45.67**	**151**	LR	LR	16 02 29.6	
	comp=Z,18nm,18.3s,baz=312,slow=37						
GNI	**Garni**	**45.84**	**139**	LR	LR	16 02 57.6	
	comp=Z,22nm,20.5s,baz=346,slow=38						
GEYT	**Alibeck**	**48.98**	**125**	LR	LR	16 07 07.1	
	comp=Z,28nm,19.9s,baz=250,slow=40						
IDI	**Anoyia**	**49.76**	**161**	LR	LR	16 03 57.9	
	comp=Z,19nm,18.9s,baz=297,slow=36						
PDAR	**Pinedale Array**	**50.03**	**301**	LR	LR	16 03 20.0	
	comp=Z,33nm,18.6s,baz=28,slow=35						
YBH	**Yreka Blue Hor**	**52.05**	**313**	LR	LR	16 05 49.2	
	comp=Z,28nm,19.9s,baz=4.5,slow=36						
TKL	**Tuckaleechee C**	**54.72**	**275**	LR	LR	16 05 58.1	
	comp=Z,37nm,18.1s,baz=12,slow=35						
TXAR	**Lajitas Array**	**62.87**	**293**	P	**P**	**15 44 39.6**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=352,slow=5.6,SNR=2.3						

*SOME **24** 15:41:03.5, 40°.22N×79°.10E, h0km*
*KRNET **24** 15:41:06.4±0.1, 40°.36N×78°.91E, mb2.6*

ISC 24 15:41:05.0±3.6, 40°.1N±0°.1×79°.00E±0°.09, h4km±26km, n15, σ1s56/30, 12C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.85**	**331**	⇑*i* P	**Pn**	**15 41 36.4**	**-1.5**
	baz=29						
TARG				⇑*i* S	**Sn**	**15 41 58.5**	**-3.5**
	baz=29						
KDJ	**Kajisay**	**2.44**	**326**	⇑*i* P	**Pn**	**15 41 46.4**	**+0.6**
	baz=24						
KDJ				⇑*i* S	**Sn**	**15 42 15.1**	**-1.1**
	baz=24						
NRN	**Naryn**	**2.63**	**301**	⇓*i* P	**Pn**	**15 41 48.9**	**+0.3**
	baz=96						
NRN				⇓*i* S	**Sn**	**15 42 21.7**	**+0.5**
	baz=96						
SATY	**Saty**	**2.97**	**352**	*e*P	**Pb**	**15 41 57.8**	**-0.9**
	5.8nm,0.2s						
SATY				*e*S	**Sb**	**15 42 36.7**	**+1.4**
	11nm,0.3s						
ULHL	**Ulahol**	**2.98**	**316**	⇑*i* P	**Pn**	**15 41 54.2**	**+0.9**
	baz=14						
ULHL				⇑*i* S	**Sn**	**15 42 28.7**	**-0.8**
	baz=14						
PDGK	**Podgornoye**	**3.23**	**6**	⇑*i* P	**Pn**	**15 41 57.3**	**+0.6**
	baz=8.0						
PDGK				⇑*i* S	**Sn**	**15 42 34.4**	**-1.2**
	baz=8.0						
TNSS	**Tian-Shan**	**3.30**	**333**	*e*P	**Pb**	**15 42 04.0**	**-0.4**
	4.3nm,0.6s						
TNSS				*e*S	**Sb**	**15 42 47.8**	**+2.7**
	9.1nm,0.8s						
BOOM	**Boomskoye usch**	**3.31**	**317**	⇑*e*P	**Pn**	**15 41 59.4**	**+1.6**
	baz=15						
BOOM				⇑*i* S	**Sn**	**15 42 37.4**	**-0.2**
	baz=15						
MDOK	**Medeo**	**3.38**	**335**	*e*P	**Pb**	**15 42 03.9**	**-1.7**
	2.0nm,0.5s						
MDOK				*e*S	**Sb**	**15 42 47.1**	**+0.1**
	9.0nm,0.7s						
IZV	**Izvestkoviy**	**3.42**	**329**	*e*P	**Pb**	**15 42 04.5**	**-1.8**
	2.9nm,0.7s						
IZV				*e*S	**Sb**	**15 42 48.5**	**+0.1**
	6.2nm,0.6s						
KZA	**Kyzart**	**3.45**	**306**	⇑*i* P	**Pn**	**15 42 01.3**	**+1.4**
	baz=3.0						
KZA				⇑*i* S	**Sn**	**15 42 40.7**	**-0.7**
	baz=3.0						
KST	**Kastek**	**3.71**	**323**	*e*P	**Pb**	**15 42 09.9**	**-1.2**
	1.0nm,0.2s						
KST				*e*S	**Sb**	**15 42 57.6**	**+1.2**
	2.4nm,0.6s						
CHKK	**Chushkaly**	**4.02**	**339**	*e*P	**Pb**	**15 42 15.6**	**-0.9**
	0.7nm,0.2s						
CHKK				*e*S	**Sb**	**15 43 07.4**	**+1.9**
	5.3nm,0.4s						
KUU	**Kurty**	**4.26**	**333**	*e*P	**Pb**	**15 42 19.6**	**-1.0**
	1.2nm,0.6s						
KUU				*e*S	**Sb**	**15 43 14.3**	**+2.0**
	2.5nm,0.7s						
KAPS	**Kapalarasan**	**5.17**	**3**	*e*P	**Pb**	**15 42 35.3**	**-0.8**
	0.3nm,0.3s						
KAPS				*e*S	**Sb**	**15 43 41.6**	**+3.1**
	1.0nm,0.5s						

*IDC **24** 15:57:22.1±2.1, 43°.26N×105°.40W, h0km, mb2.6/1, mb1 3.4/3, mb1mx3.1/66, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=41.2km s-min=8.7km az=154.0*

*ISCJB **24** 15:57:24.5±0.8, 43°.54N±0°.06×105°.36W±0°.09, h0km, Error ellipse: s-maj=10.2km s-min=8.3km az=33.5*

*NEIC **24** 15:57:29.2±0.8, 43°.90N×105°.37W, h0km, MN2.9, Error ellipse: s-maj=12.1km s-min=9.0km az=194.0, Suspected Mining explosion.*

NEIC 45 km [28 miles] SSE of Gillette.

ISC 24 15:57:24.5±0.9, 43°.53N±0°.05×105°.48W±0°.05, h0km, n23, σ2s00/22, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.17**	**222**	Pn	Pn	15 57 57.1	+8.8
RSSD	**Black Hills**	**1.20**	**60**	*e*Pg	**Pg**	**15 57 47.1**	**-0.5**
BW06	**Boulder Array**	**3.08**	**257**	*e*Pn	**Pn**	**15 58 16.0**	**+1.3**
PDAR	**Pinedale Array**	**3.08**	**257**	Pn	**Pn**	**15 58 16.4**	**+1.7**
	3.0nm,0.3s,baz=83,slow=15,SNR=30						
PDAR				Pg	**Pb**	**15 58 19.8**	**-0.6**
	5.9nm,0.3s,baz=84,slow=18,SNR=39						
PDAR				Lg	Lg	15 58 59.6	
	10nm,0.3s,baz=81,slow=33,SNR=12						
RLMT	**Red Lodge**	**3.15**	**302**	*e*Pn	**Pn**	**15 58 18.4**	**+2.7**
LAO	**LASA Array**	**3.20**	**351**	*e*Pn	**Pn**	**15 58 17.9**	**+1.7**
OGNE	**Ogallala**	**3.63**	**134**	Pn	**Pb**	**15 58 30.1**	**+0.4**
ISCO	**Idaho Springs**	**3.73**	**182**	Pn	**Pn**	**15 58 25.1**	**+1.5**
GCMT	**Greycliff**	**3.75**	**309**	*e*Pn	**Pn**	**15 58 26.1**	**+2.4**
H17A	**Grant Village**	**3.78**	**285**	Pn	**Pn**	**15 58 28.0**	**+3.7**
O20A	**White River Ci**	**3.97**	**212**	*e*Pn	**Pn**	**15 58 29.2**	**+2.3**
YFT	**Old Faithful**	**3.98**	**285**	Pn	**Pb**	**15 58 34.2**	**-1.4**
YMR	**Madison River**	**4.11**	**288**	*e*Pn	**Pn**	**15 58 31.7**	**+2.9**
BOZ	**Bozeman (W)**	**4.86**	**297**	*e*Pn	**Pn**	**15 58 41.5**	**+2.4**
HWUT	**Hardware Ranch**	**4.89**	**249**	*e*Pn	**Pn**	**15 58 40.5**	**+1.0**
	6.0nm,0.6s						
EGMT	**Eagleton**	**5.40**	**328**	*e*Pn	**Pn**	**15 58 48.0**	**+1.7**
	19nm,0.9s						
SPUT	**South Promonto**	**5.62**	**249**	P	Pb	15 58 59.2	-4.4
	6.5nm,0.8s						
PV04	**Paradox Valley**	**5.75**	**208**	*e*Pn	**Pb**	**15 59 05.7**	**-0.1**
MPU	**Maple Canyon**	**5.79**	**235**	P	**Pb**	**15 59 04.9**	**-1.5**
	18nm,0.6s						
SRU	**San Rafael Swe**	**5.82**	**222**	P	**Pb**	**15 59 05.6**	**-1.5**
	11nm,0.6s						
TMUT	**Trail Mountain**	**6.04**	**227**	Pn	**Pb**	**15 59 09.0**	**-1.8**
ULM	**Lac du Bonnet**	**9.40**	**41**	Pn	**Pn**	**15 59 38.6**	**-2.5**
	0.5nm,0.3s,baz=222,slow=12,SNR=5.0						
ULM				Lg	Lg	16 02 16.9	
	0.3nm,0.3s,baz=127,slow=18,SNR=2.6						
YKA	**Yellowknife Ar**	**19.74**	**347**	P	**Pn**	**16 01 56.6**	**-0.3**
	0.0nm,0.3s,baz=160,slow=12,SNR=5.0						

MEX 24 16:02:28.3±0.5, 16°.66N×101°.36W, h22km±16km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.95**	**354**	*e*P	Pb	16 02 43.1	-3.0
ZIIG				*i* S	Sb	16 02 55.0	-3.3
CAIG	**El Cayaco**	**1.11**	**69**	*e*P	Pn	16 02 45.9	-2.7
CAIG				*i* S	Sb	16 02 58.6	-4.3
ACP2	**Acapulco**	**1.42**	**81**	*e*P	Pn	16 02 49.9	-3.0
ACP2				*i* S	Sn	16 03 06.4	-4.5
ACX	**Acapulco**	**1.45**	**81**	*i* P	Pn	16 02 50.5	-2.8
ACX				*i* S	Sn	16 03 06.7	-5.0
ARIG	**Puente Sto Nin**	**1.88**	**31**	*e*P	Pn	16 02 56.8	-2.5
ARIG				*i* S	Sn	16 03 18.8	-3.5
PLIG	**Platanillo**	**2.47**	**45**	*e*P	Pn	16 03 04.9	-2.5
PLIG				*e*S	Sn	16 03 33.9	-3.1

*IDC **24** 16:11:22.8±1.8, 27°.60N×143°.66E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.3/58, mbtmp3.5/7, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.1/37, Error ellipse: s-maj=45.2km s-min=20.7km az=80.0*

*ISCJB **24** 16:11:25.5±1.0, 27°.75N±0°.06×143°.6E±0°.1, h33km, mb3.5/6, Error ellipse: s-maj=15.5km s-min=6.1km az=27.0*

*JMA **24** 16:11:26.8±0.2, 27°.70N×143°.40E, h83km, M3.0*

ISC 24 16:11:28.2±1.4, 27°.66N±0°.10×143°.5E±0°.2, h35km, n15, σ0s97/17, mb3.5/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.29**	**245**	P	**Pn**	**16 11 49.5**	**-0.3**
CBIJ				*e*S	**Sn**	**16 12 05.5**	**-0.4**
JCJ	**Chichijima**	**1.29**	**245**	Pn	**Pn**	**16 11 49.7**	**-0.1**
	baz=282,slow=20						
JCJ				Sn	**Sn**	**16 12 05.3**	**-0.5**
	75nm,0.3s,baz=253,slow=19,SNR=12						
JHHJ	**Haha-jima-NKT**	**1.56**	**229**	P	**Pn**	**16 11 52.9**	**-0.5**
JHHJ				*e*S	**Sn**	**16 12 12.6**	**+0.2**
BSO3	**Boso 3**	**7.57**	**341**	P	**Pn**	**16 13 14.8**	**-0.9**
JOD2	**Odawara 2**	**8.46**	**335**	P	**Pn**	**16 13 27.2**	**-1.1**
JRY	**Ryogami san**	**9.20**	**336**	P	**Pn**	**16 13 37.9**	**-0.6**
JAG	**Ashikaga**	**9.39**	**340**	P	**Pn**	**16 13 39.2**	**-1.8**
MJAR	**Matsushiro Arr**	**9.93**	**334**	Pn	**Pn**	**16 13 47.2**	**-1.1**
	0.6nm,0.3s,baz=163,slow=12,SNR=11						
JOW	**Kunigami**	**13.57**	**270**	LR	LR	16 18 50.4	
	comp=Z,93nm,19.8s,baz=24,slow=33						
SONM	**Songino Array**	**35.13**	**315**	P	**P**	**16 18 20.3**	**+1.9**
	0.5nm,0.7s,baz=121,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**48.14**	**192**	P	**P**	**16 20 04.5**	**-0.5**
	0.5nm,0.5s,baz=12,slow=8.6,SNR=9.6						
MKAR	**Makanchi Array**	**51.02**	**309**	P	**P**	**16 20 26.7**	**-0.1**
	0.2nm,0.5s,baz=89,slow=8.0,SNR=4.4						
ASAR	**Alice Springs**	**51.86**	**191**	P	**P**	**16 20 32.6**	**-0.5**
	0.2nm,0.6s,baz=1.3,slow=5.3,SNR=4.2						
KURBB	**Kurchatov Arra**	**53.48**	**314**	P	**P**	**16 20 45.9**	**+1.0**
	0.2nm,0.4s,baz=99,slow=6.8,SNR=6.1						
BVAR	**Borovoye Array**	**58.42**	**317**	P	**P**	**16 21 21.1**	**+0.9**
	0.4nm,0.5s,baz=84,slow=6.8,SNR=5.2						

*IDC **24** 16:13:45.5±1.5, 34°.54S×70°.40W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/31, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=55.3km s-min=35.4km az=73.0*

*ISCJB **24** 16:13:55.5±0.7, 35°.07S±0°.06×71°.1W±0°.1, h110km±6km, mb3.6/2, Error ellipse: s-maj=17.9km s-min=7.5km az=28.4*

*GUC **24** 16:13:56.2±0.7, 35°.02S×71°.12W, h113km±4km, ML3.9*

ISC 24 16:13:56.4±1.0, 35°.06S±0°.07×71°.06W±0°.10, h106km±8km, n9, σ0s69/14, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.15**	**292**	⇑*i* P	**Pn**	**16 14 11.1**	**-0.1**
NICH				*e*S	**Sn**	**16 14 22.7**	**+0.3**
NICH				IAML		16 14 23.5	
	comp=E,15μm,0.0s						
GO05	**HualaæØ**	**0.71**	**274**	*e*P	**Pn**	**16 14 14.6**	**0.0**
GO05				*e*S	**Sn**	**16 14 28.4**	**+0.1**
GO05				IAML		16 14 29.4	
	comp=E,3μm,0.4s						
LMEL	**Las Melosas**	**1.40**	**31**	⇑*i* P	**Pn**	**16 14 22.1**	**0.0**
LMEL				*e*S	**Sn**	**16 14 41.5**	**+0.1**
LMEL				IAML		16 14 46.5	
	comp=N,2μm,0.4s						
CCHI	**Chillan**	**1.75**	**208**	*e*P	**Pn**	**16 14 26.4**	**+0.3**
COCH	**Cobquecura**	**1.77**	**232**	*e*P	**Pn**	**16 14 25.7**	**-0.5**
COCH				*e*S	**Sn**	**16 14 48.2**	**-0.8**
ROCH	**El Roble**	**2.08**	**1**	*e*P	**Pn**	**16 14 30.1**	**-0.4**
ROCH				*e*S	**Sn**	**16 14 55.5**	**-1.0**
ROCH				IAML		16 14 58.7	
	comp=N,1μm,0.5s						
PLCA	**Paso Flores**	**5.68**	**176**	Pn	**Pn**	**16 15 18.0**	**-0.4**
	comp=N,0.4nm,0.3s,baz=7.9,slow=13,SNR=18						
TXAR	**Lajitas Array**	**71.05**	**330**	P	**P**	**16 25 04.3**	**+1.3**
	comp=N,0.6nm,0.5s,baz=152,slow=9.0,SNR=12						
TORD	**Torodi Ar. Bea**	**83.82**	**69**	P	**P**	**16 26 13.7**	**-0.6**
	comp=N,0.6nm,0.8s,baz=240,slow=4.3,SNR=3.3						

IDC 24 16:31:41.8±9.0, 11°.44S×165°.08E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/49, mbtmp3.6/3, Error ellipse: s-maj=276.8km s-min=50.3km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.73**	**250**	P	P	16 38 00.2	+1.3
	0.2nm,0.7s,baz=82,slow=9.1,SNR=3.7						
ASAR	**Alice Springs**	**32.03**	**243**	P	P	16 38 09.1	-1.3
	0.3nm,0.6s,baz=66,slow=9.5,SNR=8.1						
MKAR	**Makanchi Array**	**93.36**	**317**	P	P	16 44 58.9	-0.1
	0.9nm,0.6s,baz=91,slow=5.9,SNR=12						

*NIED **24** 16:31:00, 35°.90N×140°.80E, h44km, Mw4.0 Best double couple: M0 1.29000×10^15 NP1:φs250.00000°, δ33.00000°, λ144.00000°. NP2:φs11.00000°, δ72.00000°, λ63.00000°.*

*ISCJB **24** 16:31:56.9±0.6, 35°.86N±0°.05×140°.81E±0°.09, h49km±5km, mb3.9/11, MS3.0/6, Error ellipse: s-maj=11.9km s-min=7.7km az=164.0*

*JMA **24** 16:31:58.2±0.1, 35°.89N×140°.81E, h39km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs345.00000°, δ79.00000°, λ71.00000°. NP2: φs226.00000°, δ21.00000°, λ150.00000°. Principal axes: T Plg52.0000°, Azm233.0000°; N Plg18.0000°, Azm348.0000°; P Plg32.0000°, Azm90.0000°;*

JMA Felt I J1.

*IDC **24** 16:32:00.5±2.2, 35°.78N×140°.61E, h61km±20km, mb3.6/11, mb1 3.7/14, mb1mx3.4/72, mbtmp3.9/14, MS3.0/10, Ms1 3.0/10, ms1mx2.7/60 Error ellipse: s-maj=26.2km s-min=11.3km az=77.0*

ISC 24 16:31:57.3±0.9, 35°.80N±0°.06×140°.90E±0°.09, h40km±8km, n33, σ1s98/25, mb3.9/11, MS3.0/6, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**198**	⇑P	**Pn**	**16 32 05.1**	**+1.2**
CHOJ				S	**Sn**	**16 32 09.4**	**+0.9**
JYT	**Yasato**	**0.71**	**307**	⇑P	**Pn**	**16 32 10.0**	**-0.9**
JHO	**Hitachi**	**0.85**	**342**	⇑P	**Pn**	**16 32 12.1**	**-0.8**
BSO3	**Boso 3**	**1.04**	**198**	P	**Pn**	**16 32 17.2**	**+2.1**
MJAR	**Matsushiro Arr**	**2.30**	**290**	P	**Pn**	**16 32 33.0**	**+0.4**
	15nm,0.3s,baz=102,slow=2.0,SNR=240						
MJAR				LR	LR	16 33 32.2	
	comp=Z,227nm,20.1s,baz=125,slow=45						
MAT	**Matsushiro**	**2.30**	**290**	P	**Pn**	**16 32 33.5**	**+0.8**
MAT				*e*S	**Sn**	**16 32 57.2**	**-2.6**
JHJ	**Hachijo jima 2**	**2.82**	**199**	P	**Pn**	**16 32 41.3**	**+1.4**
	42nm,0.3s,baz=142,slow=21,SNR=8.8						
JHJ				S	**Sn**	**16 33 14.8**	**+2.1**
	83nm,0.3s,baz=119,slow=23,SNR=7.0						
ASAJ	**Asahikawa**	**8.41**	**8**	P	**Pn**	**16 33 55.1**	**-1.4**
	0.8nm,0.3s,baz=208,slow=14,SNR=14						
JNU	**Nakatsue**	**8.69**	**255**	LR	LR	16 37 51.1	
	comp=Z,147nm,18.3s,baz=108,slow=41						
JCJ	**Chichijima**	**8.74**	**172**	P	**Pn**	**16 33 59.6**	**-1.6**
	19nm,0.3s,baz=91,slow=23,SNR=7.2						
JCJ				S	**Sn**	**16 35 31.7**	**-6.7**
	8.8nm,0.3s,baz=287,slow=19,SNR=3.7						
KSRS	**Korea Array**	**10.56**	**283**	LR	LR	16 38 31.7	
	comp=Z,58nm,19.9s,baz=74,slow=38						
USRK	**Ussuriysk Ar.**	**10.81**	**324**	P	**Pn**	**16 34 29.2**	**-0.2**
	0.1nm,0.3s,baz=145,slow=14,SNR=4.0						
USRK				LR	LR	16 38 38.0	
	comp=Z,73nm,19.7s,baz=150,slow=37						
PETK	**Petropavlovsk-**	**20.97**	**29**	LR	LR	16 43 60.0	
	comp=Z,13nm,21.1s,baz=241,slow=34						
MA2	**Magadan**	**24.65**	**12**	LR	LR	16 47 07.7	
	comp=Z,19nm,20.2s,baz=94,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.91**	**118**	T	T	17 06 55.8	
	baz=311,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**27.91**	**118**	T	T	17 06 58.3	
	baz=311,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	17 07 03.8	
	baz=311,slow=75,SNR=21						
SONM	**Songino Array**	**28.15**	**306**	P	**P**	**16 37 45.5**	**-0.2**
	0.8nm,0.7s,baz=105,slow=9.6,SNR=3.9						
SONM				LR	LR	16 48 16.0	
	comp=Z,27nm,20.2s,baz=108,slow=35						
H11S1	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	17 07 43.3	
	baz=312,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	17 07 44.5	
	baz=312,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	17 07 41.3	
	baz=312,slow=75,SNR=20						
CMAR	**Chiang Mai Arr**	**40.79**	**256**	LR	LR	16 57 20.2	
	comp=Z,30nm,20.5s,baz=176,slow=38						
ZALV	**Zalesovo Beam**	**42.45**	**313**	P	**P**	**16 39 47.7**	**-0.3**
	1.0nm,0.5s,baz=98,slow=11,SNR=5.2

0.7nm,0.3s,baz=129,slow=19,SNR=12
URZ Urewera 20.54 191 P P 17 11 52.0 -2.2
6.6nm,0.8s,baz=261,slow=3.1,SNR=7.0
PMG Port Moresby 34.83 280 P P 17 14 00.4 +1.3
16nm,0.8s,baz=98,slow=10,SNR=6.4
STKA Stephens Creek 38.84 241 P P 17 14 33.0 +1.2
3.1nm,0.5s,baz=84,slow=11,SNR=13
WRA Warramunga Arr 44.94 260 P P 17 15 19.4 -0.6
3.3nm,0.5s,baz=96,slow=7.5,SNR=135
ASAR Alice Springs 45.07 254 P P 17 15 21.1 +0.1
15nm,0.6s,baz=87,slow=8.9,SNR=366
ASAR ScP **ScP 17 19 50.6 +0.2**
0.4nm,0.7s,baz=83,slow=4.9,SNR=4.2
ASAR S **S 17 21 17.6 -2.8**
0.5nm,0.6s,baz=85,slow=15,SNR=6.6
VNDA Vanda 60.30 185 P P 17 17 09.7 +1.1
0.6nm,0.8s,baz=5.7,slow=10,SNR=7.3
MJAR Matsushiro Arr 68.26 323 P P 17 17 59.8 +0.1
1.1nm,0.5s,baz=165,slow=5.8,SNR=8.3
QSPA South Pole Qui 71.97 180 P P 17 18 21.9 +0.5
3.9nm,0.8s,baz=342,slow=2.0,SNR=11
NVAR Mina Array Bea 79.32 44 P P 17 19 03.8 +1.1
1.2nm,0.7s,baz=227,slow=10,SNR=4.2
TXAR Lajitas Array 85.80 57 P P 17 19 36.3 +0.9
1.7nm,0.7s,baz=221,slow=6.1,SNR=25
ILAR Eielson Array 85.99 13 P P 17 19 34.5 -0.8
0.2nm,0.4s,baz=223,slow=4.1,SNR=5.7
PDAR Pinedale Array 87.25 43 P P 17 19 41.9 -0.2
0.4nm,0.6s,baz=215,slow=4.7,SNR=5.2
YKA Yellowknife Ar 94.35 25 P P 17 20 13.4 -0.6
0.2nm,0.5s,baz=240,slow=4.2,SNR=5.3
GERES GERESS Array B 147.87 345 PKPbc **PKPbc 17 26 36.5 -0.4**
0.4nm,0.4s,baz=46,slow=5.8,SNR=5.3

MAN 24 17:16:56,10.40N×126.01E,h30km,mb4.4,ML3.3,MS3.1, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.80**	**220**	⇑*e*P		P	Pb	17 17 12.5	+1.1
SCPH				*e*S			Sn	17 17 23.5	+1.3
MSLP	**Maasin**	**1.16**	**257**	*e*P			Pn	17 17 16.8	+0.6
MSLP				*e*S			Sb	17 17 32.6	+0.4
PLP	**Palo**	**1.27**	**307**	*e*P			Pn	17 17 18.4	+0.7
PLP				*i* S			Sb	17 17 34.7	-0.6
BESP	**Borongan**	**1.32**	**335**	*e*P			Pn	17 17 18.4	0.0
BUTP	**Butuan**	**1.47**	**195**	*e*P			Pb	17 17 25.0	+2.2
BUTP				*e*S			Sb	17 17 43.1	+2.1
OCLP	**Ormoc**	**1.52**	**295**	*e*P			Pb	17 17 24.4	+0.7
CNP	**Catarman**	**2.48**	**328**	*e*P			Pb	17 17 37.8	-2.2
BUKP	**Musuan**	**2.67**	**201**	*e*P			Pn	17 17 38.5	+1.4

*ATA **24** 17:20:36.3±1.6,39.27N×42.01E,h19km±4km, ML3.9, MW3.8*
*ISK **24** 17:20:36.6,39.22N×41.96E,h5km,ML3.2/19*
*CSEM **24** 17:20:37.4±0.1,39.22N×42.02E,h5km,ML3.5,Error ellipse: s-maj=2.6km s-min=2.2km az=161.0*
*DDA **24** 17:20:37.0,39.27N×41.99E,h17km,Ml3.5*
ISC 24 17:20:37.9±0.8,39.27N±0.02×42.01E±0.01,h15km±4km, n111,σ1§24/170,4C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.04**	**109**	⇑*i*P			Pg	**17 20 39.7**	**-1.1**
EKAR				*e*S			**Sg**	**17 20 43.8**	**+0.9**
EKAR				IAML				17 20 45.5	
	comp=Z,7μm,0.3s								
EKAR	**Karacoban**	**0.04**	**109**	*i* P			**Pg**	**17 20 39.8**	**-1.1**
EKAR				*i* S			**Sg**	**17 20 43.8**	**+0.9**
EKAR	**Karacoban**	**0.04**	**109**	P			**Pg**	**17 20 39.8**	**-1.1**
VRTB	**Varto-Mus**	**0.45**	**256**	PG			**Pg**	**17 20 45.7**	**-1.2**
VRTB	**Varto-Mus**	**0.45**	**256**	*i* P			**Pg**	**17 20 46.0**	**-0.9**
VRTB				*i* S			**Sg**	**17 20 53.1**	**+0.1**
VRTB	**Varto-Mus**	**0.45**	**256**	*e*Pg			**Pg**	**17 20 45.7**	**-1.2**
VRTB	**Varto-Mus**	**0.45**	**256**	P			**Pg**	**17 20 46.0**	**-0.9**
VRTB				S			**Sg**	**17 20 53.1**	**+0.1**
TUTA	**Tutak**	**0.64**	**78**	⇓*i*P			**Pb**	**17 20 49.9**	**-1.0**
TUTA				*e*S			**Sb**	**17 20 59.7**	**0.0**
TUTA				IAML				17 21 05.0	
	comp=Z,753nm,0.3s								
TUTA	**Tutak**	**0.64**	**78**	*i* P			**Pb**	**17 20 49.9**	**-1.0**
TUTA				*i* S			**Sb**	**17 20 59.9**	**+0.2**
TUTA	**Tutak**	**0.64**	**78**	P			**Pb**	**17 20 49.9**	**-1.0**
TUTA				S			**Sb**	**17 20 59.9**	**+0.2**
EATA	**Eleskirt**	**0.70**	**32**	⇑*e*P			**Pb**	**17 20 51.4**	**-0.7**
EATA				*e*S			**Sb**	**17 21 03.0**	**+1.4**
EATA				IAML				17 21 07.0	
	comp=Z,151nm,0.5s								
EATA	**Eleskirt**	**0.70**	**32**	*i* P			**Pb**	**17 20 51.6**	**-0.4**
EATA				*i* S			**Sn**	**17 21 03.6**	**-0.7**
EATA	**Eleskirt**	**0.70**	**32**	P			**Pb**	**17 20 51.6**	**-0.4**
EATA				S			**Sn**	**17 21 03.6**	**-0.7**
GURO	**Guroymak-BITLI**	**0.72**	**179**	PG			**Pg**	**17 20 49.9**	**-2.0**
GURO				SG			**Sg**	**17 20 59.7**	**-1.7**
GURO	**Guroymak-BITLI**	**0.72**	**179**	*e*Pg			**Pg**	**17 20 49.9**	**-2.0**
GURO				*e*Sg			**Sg**	**17 20 59.7**	**-1.7**
ADCV	**BITLIS_Adilcev**	**0.72**	**130**	*i* P			**Pg**	**17 20 51.1**	**-0.9**
ADCV				*i* S			**Sb**	**17 21 02.8**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.72**	**130**	P			**Pg**	**17 20 51.1**	**-0.9**
HOMI	**Horasan**	**0.78**	**354**	⇓*i*P			**Pg**	**17 20 51.4**	**-1.7**
HOMI				*e*S			**Sb**	**17 21 04.0**	**+0.1**
HOMI				IAML				17 21 08.4	
	comp=Z,1μm,0.5s								
HOMI	**Horasan**	**0.78**	**354**	*i* P			**Pg**	**17 20 51.4**	**-1.7**
HOMI				*i* S			**Sb**	**17 21 04.5**	**+0.6**
ERZM	**Erzurum**	**0.81**	**322**	⇓*i*P			**Pg**	**17 20 51.2**	**-2.4**
ERZM	**Erzurum**	**0.81**	**322**	*i* P			**Pg**	**17 21 03.1**	**-2.5**
ERZM				*i* S			**Sg**	**17 21 00.9**	**-3.5**
AGRB	**Hanur-Agry**	**0.82**	**68**	PG			**Pb**	**17 20 53.6**	**-0.4**
AGRB				SG			**Sn**	**17 21 06.5**	**-0.6**
AGRB	**Hanur-Agry**	**0.82**	**68**	*e*Pg			**Pb**	**17 20 53.6**	**-0.4**
AGRB				*e*Sg			**Sn**	**17 21 06.5**	**-0.6**
BNGB	**Bing˜¶l**	**1.07**	**255**	PG			**Pg**	**17 20 55.7**	**-3.0**
BNGB				SG			**Sg**	**17 21 10.5**	**-2.2**
VMUR	**Van-Muradiye**	**1.24**	**102**	*i* P			**Pb**	**17 21 00.7**	**-0.5**
VMUR				*i* S			**Sn**	**17 21 19.6**	**+2.0**
VMUR	**Van-Muradiye**	**1.24**	**102**	P			**Pb**	**17 21 00.7**	**-0.5**
VMUR				S			**Sn**	**17 21 19.6**	**+2.0**
GEVA	**Gevas**	**1.26**	**139**	⇓*e*P			**Pg**	**17 21 00.4**	**-1.7**
GEVA				*e*S			**Sn**	**17 21 19.9**	**+2.0**
GEVA				IAML				17 21 27.1	
	comp=Z,73nm,0.5s								
GEVA	**Gevas**	**1.26**	**139**	*i* P			**Pg**	**17 21 01.0**	**-1.1**
GEVA				*i* S			**Sn**	**17 21 20.4**	**+2.5**
GEVA	**Gevas**	**1.26**	**139**	P			**Pg**	**17 21 01.0**	**-1.1**
VANB	**Van**	**1.27**	**122**	PN			**Pn**	**17 21 01.7**	**+0.5**
VANB	**Van**	**1.27**	**122**	*e*Pn			**Pn**	**17 21 01.7**	**+0.5**
SRTM	**Siirt_Merkez**	**1.28**	**183**	*i* P			**Pn**	**17 21 01.8**	**+0.4**
SRTM				*i* S			**Sn**	**17 21 23.8**	**+5.5**
SRTM	**Siirt_Merkez**	**1.28**	**183**	P			**Pn**	**17 21 01.8**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.29**	**210**	*i* P			**Pn**	**17 21 00.2**	**-1.2**
SVAN				*i* S			**Sg**	**17 21 18.5**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.29**	**210**	P			**Pn**	**17 21 00.2**	**-1.2**
SVAN				S			**Sg**	**17 21 18.5**	**-0.9**
TVAN	**Van**	**1.31**	**124**	*i* P			**Pb**	**17 21 02.2**	**-0.3**
TVAN				*i* S			**Sn**	**17 21 22.5**	**+3.1**
TVAN	**Van**	**1.31**	**124**	P			**Pb**	**17 21 02.2**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.32**	**11**	PN			**Pb**	**17 21 02.6**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.32**	**11**	*e*Pn			**Pb**	**17 21 02.6**	**+0.1**
DYDN	**Diyadin**	**1.33**	**78**	*e*P			**Pb**	**17 21 02.6**	**-0.1**
DYDN				*e*S			**Sn**	**17 21 20.5**	**+0.8**
DYDN				IAML				17 21 29.9	
	comp=Z,90nm,0.4s								
DYDN	**Diyadin**	**1.33**	**78**	*i* P			**Pn**	**17 21 02.2**	**+0.1**
DYDN				*i* S			**Sn**	**17 21 20.2**	**+0.5**
DYDN	**Diyadin**	**1.33**	**78**	P			**Pn**	**17 21 02.2**	**+0.1**
DYDN				S			**Sn**	**17 21 20.2**	**+0.5**
KOPT	**Kop Dagi**	**1.39**	**303**	⇓*e*P			**Pn**	**17 21 02.5**	**-0.6**
KOPT				*e*S			**Sn**	**17 21 24.8**	**+3.4**
KOPT				IAML				17 21 27.8	
	comp=Z,137nm,0.5s								
KOPT	**Kop Dagi**	**1.39**	**303**	*i* P			**Pn**	**17 21 02.5**	**-0.6**
KOPT				*i* S			**Sn**	**17 21 23.7**	**+2.4**
KOPT	**Kop Dagi**	**1.39**	**303**	P			**Pn**	**17 21 02.5**	**-0.6**
KOPT				S			**Sn**	**17 21 23.7**	**+2.4**
CLDR	**Caldiran**	**1.48**	**94**	PN			**Pn**	**17 21 04.4**	**+0.1**
CLDR	**Caldiran**	**1.48**	**94**	*i* P			**Pn**	**17 21 04.2**	**-0.1**
CLDR	**Caldiran**	**1.48**	**94**	P			**Pn**	**17 21 04.2**	**-0.1**
CLDR	**Caldiran**	**1.48**	**94**	*e*Pn			**Pn**	**17 21 04.4**	**+0.1**
BTMN	**Batman**	**1.49**	**203**	*i* P			**Pn**	**17 21 04.4**	**+0.1**
BTMN				*i* S			**Sn**	**17 21 24.6**	**+1.0**
BTMN	**Batman**	**1.49**	**203**	P			**Pn**	**17 21 04.4**	**+0.1**
BTMN				S			**Sn**	**17 21 24.6**	**+1.0**
HANI	**Diyarbakir_Han**	**1.52**	**236**	*i* P			**Pn**	**17 21 04.4**	**-0.3**
HANI				*i* S			**Sn**	**17 21 23.6**	**-0.7**
HANI	**Diyarbakir_Han**	**1.52**	**236**	P			**Pn**	**17 21 04.4**	**-0.3**
HANI				S			**Sn**	**17 21 23.6**	**-0.7**
DIGO	**Kars**	**1.55**	**42**	⇑*i*P			**Pn**	**17 21 05.8**	**+0.5**
DIGO				IAML				17 21 32.3	
	comp=Z,32nm,0.5s								
DIGO	**Kars**	**1.55**	**42**	*i* P			**Pn**	**17 21 05.8**	**+0.5**
DIGO				*i* S			**Sg**	**17 21 28.9**	**+0.9**
DIGO	**Kars**	**1.55**	**42**	P			**Pn**	**17 21 05.8**	**+0.5**
DIGO				S			**Sg**	**17 21 28.9**	**+0.9**
KARS	**Kars**	**1.58**	**31**	PN			**Pb**	**17 21 06.8**	**-0.2**
KARS	**Kars**	**1.58**	**31**	*e*Pn			**Pb**	**17 21 06.8**	**-0.2**
DDEM	**Demirkent**	**1.63**	**353**	*i* P			**Pb**	**17 21 07.6**	**-0.3**
DDEM				*i* S			**Sg**	**17 21 30.6**	**+0.1**
DDEM	**Demirkent**	**1.63**	**353**	P			**Pb**	**17 21 07.6**	**-0.3**
DDEM				S			**Sg**	**17 21 30.6**	**+0.1**
BAYB	**BAYBURT**	**1.68**	**307**	⇓*e*P			**Pn**	**17 21 07.7**	**+0.7**
BAYB				*e*S			**Sg**	**17 21 33.5**	**+1.6**
BAYB				IAML				17 21 40.1	
	comp=Z,36nm,0.5s								
BAYB	**BAYBURT**	**1.68**	**307**	*i* P			**Pb**	**17 21 09.1**	**+0.5**
BAYB				*i* S			**Sg**	**17 21 31.4**	**-0.5**
BAYB	**BAYBURT**	**1.68**	**307**	P			**Pb**	**17 21 09.1**	**+0.5**
BAYB				S			**Sg**	**17 21 31.4**	**-0.5**
IGDI	**IGDIR**	**1.70**	**69**	*e*P			**Pb**	**17 21 08.1**	**-1.0**
IGDI				*e*S			**Sg**	**17 21 33.0**	**+0.2**
IGDI				IAML				17 21 44.9	
	comp=Z,19nm,0.5s								
IGDI	**IGDIR**	**1.70**	**69**	*i* P			**Pb**	**17 21 08.6**	**-0.4**
IGDI				*i* S			**Sg**	**17 21 31.7**	**-1.1**
DBAD	**Bademkaya**	**1.76**	**352**	*i* P			**Pb**	**17 21 10.0**	**0.0**
DBAD				*i* S			**Sg**	**17 21 34.8**	**+0.1**
DBAD	**Bademkaya**	**1.76**	**352**	P			**Pb**	**17 21 10.0**	**0.0**
DBAD				S			**Sg**	**17 21 34.8**	**+0.1**
SIRT	**Sirnak**	**1.80**	**169**	PN			**Pn**	**17 21 08.6**	**+0.1**
SIRT	**Sirnak**	**1.80**	**169**	*e*Pn			**Pn**	**17 21 08.6**	**+0.1**
ERZN	**Erzincan**	**1.80**	**281**	PN			**Pn**	**17 21 07.3**	**-1.3**
BAYT	**Ayd¨¬ntepe-Bay**	**1.83**	**309**	PN			**Pn**	**17 21 09.5**	**+0.5**
BAYT	**Ayd¨¬ntepe-Bay**	**1.83**	**309**	*e*Pn			**Pn**	**17 21 09.5**	**+0.5**
EUZM	**Uzumlu**	**1.84**	**284**	⇓*e*P			**Pn**	**17 21 09.3**	**+0.1**
EUZM				*e*S			**Sg**	**17 21 37.8**	**+0.5**
EUZM				IAML				17 21 42.7	
	comp=Z,30nm,0.4s								
EUZM	**Uzumlu**	**1.84**	**284**	*i* P			**Pn**	**17 21 10.3**	**+1.1**
EUZM				*i* S			**Sg**	**17 21 37.5**	**+0.3**
EUZM	**Uzumlu**	**1.84**	**284**	P			**Pn**	**17 21 10.3**	**+1.1**
TASB	**TASBURUN-IGDIR**	**1.86**	**67**	PN			**Pb**	**17 21 10.9**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.86**	**67**	*e*Pn			**Pb**	**17 21 10.9**	**-0.8**
EAK	**Akyaka**	**1.87**	**40**	⇑*e*P			**Pn**	**17 21 10.5**	**+0.9**
EAK				IAML				17 21 42.4	
	comp=Z,75nm,0.6s								
ARTV	**Artvin**	**1.92**	**358**	*e*P			**Pn**	**17 21 10.8**	**+0.6**
ARTV				IAML				17 21 42.5	
	comp=Z,19nm,0.5s								
ARTV	**Artvin**	**1.92**	**358**	*i* P			**Pn**	**17 21 11.0**	**+0.7**
ARTV				*i* S			**Sg**	**17 21 37.8**	**-1.7**
ARTV	**Artvin**	**1.92**	**358**	P			**Pn**	**17 21 11.0**	**+0.7**
ARTV				S			**Sg**	**17 21 37.8**	**-1.7**
TNCL	**Tunceli-Merkez**	**1.93**	**266**	*e*P			**Pn**	**17 21 10.7**	**+0.4**
TNCL				*e*S			**Sb**	**17 21 37.0**	**+0.3**
TNCL				IAML				17 21 43.9	
	comp=Z,71nm,0.5s								
TNCL	**Tunceli-Merkez**	**1.93**	**266**	*i* P			**Pb**	**17 21 12.7**	**-0.1**
TNCL				*i* S			**Sg**	**17 21 39.7**	**-0.2**
TNCL	**Tunceli-Merkez**	**1.93**	**266**	P			**Pb**	**17 21 12.7**	**-0.1**
DIY	**Diyarbakir**	**1.96**	**226**	*e*Pn			**Pn**	**17 21 10.9**	**+0.2**
DYBB	**Diyarbakir**	**1.97**	**229**	PN			**Pn**	**17 21 10.9**	**0.0**
DIYA	**Diyarbakir**	**2.00**	**228**	*i* P			**Pn**	**17 21 10.9**	**+1.6**
DIYA				*i* S			**Sb**	**17 21 40.5**	**+1.7**
DIYA	**Diyarbakir**	**2.00**	**228**	P			**Pn**	**17 21 12.9**	**+1.6**
CHOM	**Cayeli-Rize**	**2.06**	**333**	*e*Pn			**Pn**	**17 21 13.6**	**+1.5**
PTK	**Pertek**	**2.08**	**260**	PN			**Pn**	**17 21 12.5**	**+0.1**
PTK	**Pertek**	**2.08**	**260**	*e*Pn			**Pn**	**17 21 12.5**	**+0.1**
MARD	**Mardin**	**2.18**	**207**	*i* P			**Pn**	**17 21 12.8**	**-1.0**
MARD				*i* S			**Sn**	**17 21 43.0**	**+2.3**
MAZI	**Mazidag**	**2.19**	**215**	PN			**Pn**	**17 21 14.2**	**+0.3**
MAZI	**Mazidag**	**2.19**	**215**	*e*Pn			**Pn**	**17 21 14.2**	**+0.3**
KELT	**Kelkit**	**2.30**	**293**	*e*P			**Pb**	**17 21 18.0**	**-1.3**
KELT				IAML				17 22 02.1	
	comp=Z,16nm,0.5s								
KELT	**Kelkit**	**2.30**	**293**	*i* P			**Pn**	**17 21 17.8**	**+2.2**
KELT				*i* S			**Sb**	**17 21 49.2**	**+1.6**
KELT	**Kelkit**	**2.30**	**293**	P			**Pn**	**17 21 17.8**	**+2.2**
KTUT	**Trabzon**	**2.43**	**316**	PN			**Pn**	**17 21 18.3**	**+1.2**
KTUT	**Trabzon**	**2.43**	**316**	*e*Pn			**Pn**	**17 21 18.3**	**+1.2**
ILIC	**ilic-Erzincan**	**2.68**	**275**	PN			**Pn**	**17 21 21.4**	**+0.8**
ILIC	**ilic-Erzincan**	**2.68**	**275**	*e*Pn			**Pn**	**17 21 21.4**	**+0.8**
KEMA	**Kemaliye**	**2.73**	**271**	*e*P			**Pn**	**17 21 21.8**	**+0.5**
KEMA				IAML				17 22 10.1	
	comp=Z,4.8nm,0.6s								
KEMA	**Kemaliye**	**2.73**	**271**	*i* P			**Pb**	**17 21 25.6**	**-0.9**
KEMA				*i* S			**Sb**	**17 22 02.5**	**+2.5**
MALT	**Malatya**	**2.96**	**252**	PN			**Pn**	**17 21 25.0**	**+0.5**
MALT	**Malatya**	**2.96**	**252**	*e*Pn			**Pn**	**17 21 25.0**	**+0.5**
ESPY	**Espiye-Giresun**	**3.01**	**304**	PN			**Pn**	**17 21 26.7**	**+1.6**
ESPY	**Espiye-Giresun**	**3.01**	**304**	*e*Pn			**Pn**	**17 21 26.7**	**+1.6**
SUSE	**Susehri**	**3.08**	**289**	*i* P			**Pb**	**17 21 31.7**	**-0.9**
SUSE				*i* S			**Sg**	**17 22 14.7**	**-2.3**
URFA	**Urfa**	**3.10**	**235**	PN			**Pn**	**17 21 25.8**	**-0.6**
URFA	**Urfa**	**3.10**	**235**	*e*Pn			**Pn**	**17 21 25.8**	**-0.6**
HEKM	**Malatya_Hekimh**	**3.18**	**264**	*i* P			**Pb**	**17 21 33.7**	**-0.6**

*SJA **24** 17:23:55.4±0.8,32.68S×71.92W,h23km±16km, ML3.3, MW3.5*
*GUC **24** 17:23:56.0±0.6,32.40S×71.75W,h31km±3km, ML3.3*
ISC 24 17:23:53.6±2.3,32.61S±0.06×72.0W±0.1,h12km±13km, n21,σ1§62/32,4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.90**	**114**	*e*P			**Pn**	**17 24 12.1**	**-0.3**
ROC1				*e*S			**Sn**	**17 24 23.4**	**-2.0**
ROCH	**El Roble**	**0.90**	**114**	⇓*i*P			**Pn**	**17 24 12.1**	**-0.3**
ROCH				*e*S			**Sn**	**17 24 24.0**	**-1.5**
ROCH				IAML				17 24 26.3	
	comp=E,1μm,0.4s								
PEL	**Peldehue**	**1.22**	**116**	*e*P			**Pb**	**17 24 16.8**	**0.0**
PEL				*e*S			**Sg**	**17 24 32.7**	**-0.4**
TACH	**Talagante**	**1.37**	**140**	*e*P			**Pg**	**17 24 20.5**	**+0.6**
CLCH	**Cerro Calan**	**1.45**	**123**	⇓*i*P			**Pb**	**17 24 21.1**	**+0.4**
CLCH				*e*S			**Sg**	**17 24 40.0**	**-0.5**
CLCH				IAML				17 24 44.9	
	comp=E,818nm,0.6s								
FCH	**Farellones**	**1.60**	**117**	*e*P			**Pb**	**17 24 23.2**	**-0.1**
FCH				*e*S			**Sg**	**17 24 43.7**	**-1.5**
FCH				IAML				17 24 45.9	
	comp=N,526nm,0.1s								
LMEL	**Las Melosas**	**1.94**	**130**	*e*P			**Pb**	**17 24 29.3**	**+0.2**
LMEL				*e*S			**Sg**	**17 24 54.4**	**-1.8**
LMEL				IAML				17 24 57.9	
	comp=N,615nm,0.3s								
AUSP	**Uspallata**	**2.24**	**81**	*e*P			**Pb**	**17 24 33.3**	**-0.9**
AUSP				*e*S			**Sb**	**17 25 00.8**	**-1.1**
RTLS	**Leoncito**	**2.42**	**71**	*e*P			**Pb**	**17 24 36.1**	**-1.2**
RTLS				*e*S			**Sb**	**17 25 07.0**	**-0.4**
RTLS				IAML				17 25 12.9	
	comp=Z,118nm,0.6s								
ARCO	**CERRO ARCO**	**2.59**	**96**	*e*P			**Pb**	**17 24 40.3**	**+0.2**
ARCO				IAML				17 24 43.6	
	comp=Z,67nm,0.3s								
TLL	**Tololo Astrono**	**2.64**	**23**	*e*P			**Pn**	**17 24 35.3**	**-1.0**
ASAL	**Salagasta**	**2.67**	**90**	*e*P			**Pb**	**17 24 40.8**	**-0.6**
ASAL				⇓*e*S			**Sb**	**17 25 15.4**	**+1.3**
AAGR	**Agrelo**	**2.71**	**101**	*e*P			**Pb**	**17 24 42.2**	**+0.1**
ZON	**Zonda**	**3.00**	**70**	*e*P			**Pn**	**17 24 44.5**	**+3.3**
RTCV	**Cerro Valdivia**	**3.02**	**77**	*e*P			**Pn**	**17 24 43.9**	**+2.6**
RTCV				*e*S			**Sb**	**17 25 24.4**	**+0.1**
RTLL	**Cerro Villicun**	**3.25**	**68**	*e*P			**Pn**	**17 24 47.2**	**+2.7**
RTLL				IAML				17 25 35.7	
	comp=Z,120nm,0.4s								
AMOG	**MOGNA**	**3.41**	**62**	*e*P			**Pn**	**17 24 49.8**	**+3.0**
ACAN	**Cantantal**	**4.08**	**87**	*e*P			**Pn**	**17 24 59.0**	**+3.1**
AGUA	**GUANDACOL**	**4.32**	**45**	*e*P			**Pn**	**17 25 01.4**	**+2.0**
AGUA				⇓*e*S			**Sb**	**17 26 00.9**	**-1.0**
VCA	**Vinchina**	**5.05**	**41**	*e*P			**Pn**	**17 25 11.3**	**+1.8**
VCA				IAML				17 26 30.6	
	comp=Z,61nm,0.4s								
APLL	**PUNTA DE LOS L**	**5.16**	**66**	*e*P			**Pn**	**17 25 12.0**	**+1.2**
APLL				IAML				17 26 20.9	
	comp=Z,14nm,0.6s								

MEX 24 17:31:42.9±0.6,16.37N×98.28W,h12km±4km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**80**	*i* P			Pg	17 31 45.7	-0.8
PNIG				*e*S			Sg	17 31 48.7	-0.4
TLIG	**Tlapa**	**1.22**	**347**	*e*P			Pn	17 32 02.2	-3.8
TLIG				*e*S			Sb	17 32 17.3	-4.6
ACX	**Acapulco**	**1.59**	**289**	*i* P			Pg	17 32 17.2	+3.8
ACX				*e*S			Sg	17 32 37.3	+3.2
VHO	**Vista Hermosa**	**1.64**	**64**	*e*P			Pn	17 32 08.6	-3.3
VHO				*e*S			Sn	17 32 28.0	-5.1
CAIG	**El Cayaco**	**2.02**	**290**	*i* P			Pn	17 32 14.1	-2.7
CAIG				*i* S			Sn	17 32 37.4	-4.6

MEX 24 17:34:53.6±0.4,16.55N×98.40W,h14km±4km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**120**	*i* P			Pg	17 34 59.3	-0.6
PNIG				*i* S			Sg	17 35 04.4	+0.1
TLIG	**Tlapa**	**1.02**	**351**	*e*P			Pb	17 35 09.9	-3.3
TLIG				*e*S			Sb	17 35 22.7	-3.9
ACX	**Acapulco**	**1.43**	**283**	*i* P			Pn	17 35 19.5	+0.2
ACX				*i* S			Sn	17 35 37.9	0.0
VHO	**Vista Hermosa**	**1.68**	**72**	*e*P			Pn	17 35 18.9	-3.9
VHO				*e*S			Sn	17 35 39.5	-4.9
CAIG	**El Cayaco**	**1.85**	**286**	*e*P			Pn	17 35 21.5	-3.6
CAIG				*e*S			Sn	17 35 43.7	-4.6
PLIG	**Platanillo**	**2.12**	**330**	*e*P			Pn	17 35 25.6	-3.1
PLIG				*i* S			Sn	17 35 50.2	-4.7

*ISCJB **24** 17:42:45.7±1.2,10.4S±0.1×161.3E±0.1,h62km,mb3.5/5, Error ellipse: s-maj=24.9km s-min=7.9km az=144.0*
*IDC **24** 17:42:49.2±2.6,10.36S×161.09E,h75km±19km,mb3.4/5, mb1 3.5/6,mb1mx3.2/50,mbtmp3.7/6,MS3.0/3,Ms1 3.0/3, ms1mx2.6/21,Error ellipse: s-maj=38.3km s-min=19.5km az=63.0*
ISC 24 17:42:47.7±1.3,10.3S±0.1×161.2E±0.2,h62km,n10, σ1§50/10,mb3.5/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.54**	**306**	P			**Pn**	**17 43 13.0**	**0.0**
	137nm,0.3s,baz=180,slow=11,SNR=140								
HNR				S			**Sn**	**17 43 32.2**	**+0.2**
	140nm,0.3s,baz=0.0,slow=20,SNR=22								
HNR				LR		LR	LR	17 44 03.9	
	comp=Z,190nm,20.8s,baz=149,slow=51								
DZM	**Mont Dzumac**	**12.70**	**157**	P			**Pn**	**17 45 48.0**	**+2.3**
	0.5nm,0.3

STKA	Stephens Creek	27.36	154	P	P	17 52 50.9	+1.2
	14nm,0.6s,baz=323,slow=11,SNR=55						
STKA	Stephens Creek	27.36	154	eP	P	17 52 50.7	+1.0
	2.5nm,0.7s						
IPM	Ipoh	29.21	294	eP	P	17 53 05.4	-1.1
	9.3nm,1.1s						
KULM	Kulim	29.89	295	eP	P	17 53 11.5	-0.9
	7.1nm,0.7s						
PSI	Prapat	30.53	289	eP	P	17 53 17.3	-0.9
	17nm,0.8s						
CAN	Canberra	33.76	148	eP	P	17 53 48.9	+2.8
	77nm,1.9s						
CM01	Chiang Mai Arr	38.41	313	eP	P	17 54 25.5	-0.2
CM31	Chiang Mai Arr	38.45	313	eP	P	17 54 25.7	-0.3
CM31				eS	S	18 00 10.5	+1.2
CMAR	Chiang Mai Arr	38.45	313	P	P	17 54 26.4	+0.5
	1.2nm,0.6s,baz=140,slow=6.7,SNR=14						
CMAR				ScP	ScP	18 00 10.5	+1.6
	1.4nm,0.8s,baz=159,slow=3.6,SNR=10						
CHTO	Chiang Mai	38.67	313	eP	P	17 54 27.2	-0.7
	13nm,1.8s						
TAU	Tasmania Unive	39.13	157	eP	P	17 54 33.5	+2.2
	224nm,1.9s						
DZM	Mont Dzumac	39.96	115	P	P	17 54 39.9	+1.3
	8.0nm,0.8s,baz=240,slow=9.0,SNR=10						
DZM	Mont Dzumac	39.96	115	eP	P	17 54 40.1	+1.4
	37nm,1.6s						
NJ2	Nanjing	40.38	348	eP	P	17 54 41.0	-0.7
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
CD2	Chengdu	44.68	330	eP	P	17 55 18.0	+1.4
KS15	Wonju Array Si	44.86	0	eP	P	17 55 17.9	+0.1
KSAR	Wonju Array Be	44.86	0	P	P	17 55 17.9	+0.1
KSRS	Korea Array	44.88	0	P	P	17 55 17.9	0.0
	1.9nm,0.7s,baz=174,slow=9.3,SNR=6.6						
LZH	Lanzhou	48.95	334	eP	P	17 55 53.3	+3.5
LZH				pP	pP	17 56 31.6	+5.3
LZH				ePP	PP	17 57 49.5	+4.6
LZH				pmax	pmax		
	comp=Z,48nm,1.2s						
LZH				pmax	pmax		
	comp=Z,240nm,4.6s						
LZH				LR	LR		
	comp=N,260nm,16.3s						
LZH				LR	LR		
	comp=E,300nm,15.7s						
LZH				LR	LR		
	comp=Z,250nm,17.4s						
HHC	Hu-ho-hao-te	50.50	344	eP	P	17 56 05.3	+4.0
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,7.4s						
LSA	Lhasa	51.13	318	eP	P	17 56 06.4	-0.2
	3.5nm,0.6s						
ODAN	Odare	51.99	313	eP	P	17 56 12.5	-0.4
	10nm,0.6s						
TAPN	Taplejung	52.05	314	eP	P	17 56 12.4	-0.9
	16nm,0.9s						
RPZ	Rata Peaks	52.14	141	eP	P	17 56 15.1	+1.7
	90nm,1.3s						
ODZ	Otahua Downs	52.58	143	eP	P	17 56 18.2	+1.6
	168nm,1.9s						
RAMN	Ramite	52.62	312	eP	P	17 56 17.5	0.0
	24nm,0.6s						
KHZ	Kahutara	53.11	138	eP	P	17 56 21.9	+1.4
	281nm,1.8s						
JIRN	Jiri	53.32	313	eP	P	17 56 22.4	-0.4
	19nm,0.7s						
GTA	Gaotai	53.48	333	P	P	17 56 23.6	+0.1
GTA				pP	pP	17 57 04.6	+4.1
GTA				sP	sP	17 57 22.6	+4.2
GTA				S	S	18 03 44.5	+0.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,73nm,5.7s						
GTA				LR	LR		
	comp=N,110nm,16.2s						
GTA				LR	LR		
	comp=E,170nm,17.6s						
GTA				LR	LR		
	comp=Z,140nm,17.1s						
GUN	Gumba	53.69	313	eP	P	17 56 25.1	-0.4
BKZ	Black Stump Fm	53.78	134	eP	P	17 56 26.7	+1.0
	76nm,1.8s						
PKI	Pulchoki	53.84	312	eP	P	17 56 25.8	-0.7
	5.1nm,0.3s						
PKIN	Phulchoki	53.85	312	eP	P	17 56 26.4	-0.2
	8.8nm,0.5s						
URZ	Urewera	53.90	132	eP	P	17 56 26.9	+0.6
	41nm,1.4s						
KKN	Kakani	54.06	312	eP	P	17 56 27.4	-0.6
	6.0nm,0.4s						
BFZ	Birch Farm	54.20	135	eP	P	17 56 30.0	+1.4
	173nm,1.7s						
MXZ	Matakaoa Point	54.54	131	eP	P	17 56 32.9	+1.9
	52nm,1.0s						
GKN	Gorkha	54.65	312	eP	P	17 56 31.3	-0.9
	17nm,0.4s						
KOLN	Koldanda	55.29	311	eP	P	17 56 36.2	-0.6
	22nm,0.7s						
PYUN	Piuthan	55.92	311	eP	P	17 56 41.0	-0.3
	30nm,0.7s						
SONA0	Songino Array	58.37	343	eP	P	17 56 58.4	+0.3
SONA0				e		18 25 18.8	
SONM	Songino Array	58.37	343	P	P	17 56 58.4	+0.3
	1.3nm,0.5s,baz=160,slow=8.2,SNR=12						
SONM				LR	LR	18 25 18.7	
	comp=Z,18nm,19.1s,baz=153,slow=39						
SONA1	Songino Array	58.38	343	eP	P	17 56 58.5	+0.4
WMQ	Urumqi	62.72	328	P	P	17 57 29.3	+1.8
PETK	Petropavlovsk-	65.68	19	P	P	17 57 45.9	-0.6
	1.6nm,0.6s,baz=205,slow=2.0,SNR=6.5						
PEA1	Petropavlovsk-	65.68	19	eP	P	17 57 45.9	-0.6
KSH	Kashi	66.98	319	P	P	17 57 55.3	+0.1
KSH				S	S	18 06 27.8	-8.0
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,110nm,6.1s						
KSH				LR	LR		
	comp=N,93nm,9.3s						
KSH				LR	LR		
	comp=E,52nm,7.6s						
KSH				LR	LR		
	comp=Z,64nm,9.3s						
MK01	Makanchi Array	67.52	328	eP	P	17 57 57.7	-0.7
MK32	Makanchi Array	67.54	328	eP	P	17 57 58.2	-0.3
MKAR	Makanchi Array	67.54	328	P	P	17 57 58.2	-0.3
	1.7nm,0.5s,baz=122,slow=7.0,SNR=32						
MKAR	Makanchi Array	67.54	328	eP	P	17 57 58.4	-0.1
	13nm,0.5s						
MKAR				epP	pP	17 58 39.6	+2.4
KDJ	Kajisay	67.64	322	eP	P	17 57 59.3	-0.1
	2.6nm,0.6s						
YAK	Yakutsk	69.50	1	P	P	17 58 10.1	-0.1
	5.5nm,0.3s,baz=325,slow=2.9,SNR=6.4						
YAK	Yakutsk	69.50	1	eP	P	17 58 09.8	-0.4
	22nm,0.5s						
AAK	Ala-Archa	69.59	321	P	P	17 58 11.2	-0.2
	1.6nm,0.5s,baz=132,slow=6.5,SNR=15						
AAK	Ala-Archa	69.59	321	eP	P	17 58 10.8	-0.6
	2.3nm,0.9s						
ZALV	Zalesovo Beam	71.18	335	P	P	17 58 19.6	-1.1
	2.5nm,0.3s,baz=119,slow=4.1,SNR=16						
ZAA1	Zalesovo Array	71.18	335	eP	P	17 58 19.6	-1.1
KURBB	Kurchatov Arra	71.89	330	P	P	17 58 25.3	+0.4
	4.5nm,0.4s,baz=137,slow=5.2,SNR=27						
KURK	Kurchatov	71.90	330	eP	P	17 58 24.3	-0.7
	6.1nm,0.8s						
KURK				epP	pP	17 59 06.0	+1.8
VNDA	Vanda	72.08	173	P	P	17 58 26.9	+1.2
	1.7nm,0.7s,baz=322,slow=7.2,SNR=16						
VNDA	Vanda	72.08	173	eP	P	17 58 26.7	+1.0
	2.7nm,0.8s						
SEY	Seymchan	72.89	12	P	P	17 58 30.5	-0.1
	1.6nm,0.4s,baz=215,slow=5.6,SNR=8.1						
WSAR	Wadi Sarin	74.11	297	P	P	17 58 37.6	-1.0
	1.7nm,0.6s,baz=124,slow=9.6,SNR=3.6						
BVAR	Borovoye Array	77.41	329	P	P	17 58 56.8	+0.1
	1.1nm,0.4s,baz=123,slow=7.4,SNR=16						
BRVK	Borovoye	77.48	329	eP	P	17 58 57.3	+0.2
	14nm,1.7s						
OPO	Ambohidratompo	78.64	253	P	P	17 59 05.1	+0.7
	2.0nm,0.3s,baz=123,slow=4.9,SNR=5.4						
TIXI	Tiksi	79.14	0	eP	P	17 59 04.4	-1.4
	4.2nm,1.3s						
AB07	Akbulak array	81.60	322	eP	P	17 59 18.5	-0.9
AB06	Akbulak array	81.60	322	eP	P	17 59 18.1	-1.3
AB31	Akbulak array	81.61	322	eP	P	17 59 18.6	-0.9
ABKAR	Akbulak array	81.61	322	eP	P	17 59 18.7	-0.7
	22nm,0.4s						
QSPA	South Pole Qui	82.32	180	P	P	17 59 23.9	+0.8
	9.4nm,0.7s,baz=306,slow=1.1,SNR=31						
QSPA	South Pole Qui	82.32	180	eP	P	17 59 23.5	+0.4
	8.7nm,0.9s						
AKTO	Aktyubinsk	83.20	323	P	P	17 59 27.6	-0.1
	1.4nm,0.5s,baz=110,slow=5.5,SNR=7.4						
ARU	Arti	85.06	329	P	P	17 59 36.5	-0.5
	2.1nm,0.4s,baz=96,slow=22,SNR=6.3						
ARU	Arti	85.06	329	eP	P	17 59 36.1	-0.8
	4.9nm,1.1s						
RAYN	Ar Rayn	85.92	294	eP	P	17 59 41.2	-0.9
	3.9nm,0.9s						
SNAA	Sanae	94.49	194	P	P	18 00 22.7	+1.5
	2.9nm,0.9s,baz=180,slow=7.1,SNR=5.6						
SNAA	Sanae	94.49	194	eP	P	18 00 22.5	+1.3
	13nm,1.3s						
ARA0	ARCESS Array S	101.39	339	ePKiKP	PKiKP	18 05 15.2	-0.2
ARCES	ARCESS Array B	101.39	339	PKiKP	PKiKP	18 05 15.2	-0.2
	1.3nm,0.8s,baz=90,slow=0.9,SNR=7.4						
FIA0	FINESS Array S	102.24	331	ePKiKP	PKiKP	18 05 18.1	+1.0
FINES	FINESS Array B	102.24	331	PKiKP	PKiKP	18 05 18.1	+1.0
	0.3nm,0.5s,baz=79,slow=1.7,SNR=5.0						
YKA	Yellowknife Ar	109.34	26	Pdiff	Pdif	18 01 28.8	+1.3
	0.3nm,0.7s,baz=305,slow=7.0,SNR=4.4						
YKA				PKiKP	PKiKP	18 05 29.5	-0.7
	0.2nm,0.4s,baz=278,slow=2.1,SNR=6.2						
GERES	GERESS Array B	111.45	320	PKiKP	PKiKP	18 05 34.5	-0.3
	0.6nm,0.5s,baz=59,slow=3.4,SNR=6.2						
EKA	Eskdalemuir Ar	118.63	331	PKP	PKPdf	18 05 47.5	-0.8
	0.6nm,0.7s,baz=53,slow=3.8,SNR=3.0						
PDAR	Pinedale Array	118.97	45	PKP	PKPdf	18 05 49.5	-0.1
	0.3nm,0.6s,baz=90,slow=3.0,SNR=3.8						
TOA0	Torodi Ar. Sit	126.69	281	ePKPdf	PKPdf	18 06 04.3	-0.5
TORD	Torodi Ar. Bea	126.69	281	PKP	PKPdf	18 06 04.5	-0.3
	2.2nm,0.7s,baz=76,slow=1.8,SNR=13						
TOA1	Torodi Ar. Sit	126.69	281	ePKPdf	PKPdf	18 06 04.5	-0.3
KOWA	Kowa	132.20	283	PKP	PKPdf	18 06 14.7	-0.6
	1.3nm,0.4s,baz=62,slow=2.0,SNR=4.0						
DBIC	Dimbokro	132.93	272	PKP	PKPdf	18 06 17.4	+0.6
	2.9nm,0.8s,baz=90,slow=3.0,SNR=2.7						
CPUP	Villa Florida	145.87	172	PKPbc	PKPab	18 06 41.7	+0.3
	3.1nm,0.4s,baz=182,slow=2.3,SNR=15						
CPUP	Villa Florida	145.87	172	ePKPdf	PKPab	18 06 41.8	+0.5
JTS	JuntasAbangare	147.66	83	PKPbc	PKPbc	18 06 47.2	+1.0
	8.6nm,0.5s,baz=276,slow=3.2,SNR=8.2						
LPAZ	La Paz	151.51	147	PKPbc	PKPbc	18 06 57.5	+1.2
	2.4nm,0.4s,baz=36,slow=3.9,SNR=18						
LPAZ				PKPab	PKPab	18 07 07.3	+2.2
	13nm,0.6s,baz=214,slow=1.5,SNR=39						

MAN 24 17:54:09,9.85N×123.07E,h29km,mb3.5,ML2.1,MS1.5, 1C,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	Sibulan	0.53	162	↑iP	Pn	17 54 22.3	+1.6
SNPH				iS	Sn	17 54 30.4	+1.6
GUIM	Jordan	0.90	328	eP	Pb	17 54 26.6	+0.5
GUIM				eS	Sn	17 54 39.1	+1.3
LLP	Lapu-Lapu	0.99	62	eP	Pn	17 54 26.4	-0.6
LLP				eS	Sn	17 54 37.9	-2.2
MSLP	Maasin	1.78	81	eP	Pb	17 54 40.1	-0.9
MSLP				eS	Sb	17 55 03.4	+0.4
OCLP	Ormoc	1.92	52	eP	Pn	17 54 41.0	+1.2

*IDC **24** 18:03:25.9±10.0, 1.25N×98.69E, h71km±96km, mb3.6/8, mb1 3.6/9, mb1mx3.3/63, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=62.3km s-min=16.6km az=58.0*
*ISCJB **24** 18:03:28.7±0.4, 1.40N±0.04×98.74E±0.05, h111km±4km, mb4.1/14, Error ellipse: s-maj=10.1km s-min=4.6km az=141.2*
*NEIC **24** 18:03:29.1±0.5, 1.30N×98.79E, h101km±4km, mb4.4/7, Error ellipse: s-maj=9.3km s-min=4.7km az=57.0*
*DJA **24** 18:03:30.5±0.4,2°N±3°×9°E±°, h87km±6km, M3.8/9, MLv3.8/9*

ISC 24 18:03:29.4±0.8,1.44N±0.05×98.79E±0.05,h98km±8km, n46,σ1°45/51,mb4.0/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	Mandailing Nat	1.02	129	P	Pn	18 03 51.2	+1.3
MNSI				S	Sn	18 04 06.7	+1.4
GSI	Gunungsitoli	1.22	263	P	Pn	18 03 53.8	+1.6
GSI				S	Sn	18 04 10.7	+1.3
GSI	Gunungsitoli	1.22	263	ePn	Pn	18 03 53.1	+0.9
GSI				eSn	Sn	18 04 08.4	-1.0
PSI	Prapat	1.35	6	ePn	Pn	18 03 51.9	-2.0
KCSI	Kotacane, Aceh	2.30	334	P	Pn	18 04 06.6	+0.7
KCSI				S	Sn	18 04 33.0	-0.8
TPTI		2.42	318	P	Pn	18 04 08.4	+1.1
TPTI				S	Sn	18 04 36.7	+0.3
SISI	Saibi	2.77	174	P	Pn	18 04 13.2	+1.2
PDSI	Padang	2.88	144	P	Pn	18 04 15.6	+2.1
PDSI				S	Sn	18 04 49.0	+1.6
MLSI	Meulaboh, Aceh	3.68	320	P	Pn	18 04 25.5	+1.3
MLSI				S	Sn	18 05 05.7	-1.0
IPM	Ipoh	3.75	36	ePn	Pn	18 04 28.6	+3.3
LHMI	Lhok Sumawe	4.18	334	P	Pn	18 04 32.6	+1.5
LHMI	Lhok Sumawe	4.18	334	ePn	Pn	18 04 33.5	+2.5
KULM	Kulim	4.25	26	ePn	Pn	18 04 33.3	+1.4
MYKOM	Kota Tinggi	5.07	86	ePn	Pn	18 04 44.5	+1.5
MNAI	Manna	7.11	144	ePn	Pn	18 05 08.9	-1.9
MNAI				eSn	Sn	18 06 26.2	-4.0
CISI	Cisompet, Garu	12.69	135	ePn	Pn	18 06 23.6	-2.8
UGM	Wanagama	14.94	129	ePn	Pn	18 06 53.4	-2.3
CM31	Chiang Mai Arr	16.91	0	ePn	Pn	18 07 21.0	+1.0
CMAR	Chiang Mai Arr	16.91	0	P	Pn	18 07 20.6	+0.6
	0.3nm,0.3s,baz=191,slow=11,SNR=7.5						
H08S2	Diego Garcia H	27.74	251	T	T	18 37 07.2	
	baz=71,slow=76,SNR=4.3						
H08S3	Diego Garcia H	27.75	251	T	T	18 36 57.0	
	baz=71,slow=76,SNR=3.6						
H08S1	Diego Carcia H	27.76	251	T	T	18 37 07.7	
	baz=71,slow=76,SNR=2.8						
WRA	Warramunga Arr	40.83	123	P	P	18 11 00.5	-1.3
	1.1nm,0.5s,baz=309,slow=8.8,SNR=21						
WR1	Warramunga Arr	40.83	123	eP	P	18 11 00.5	-1.3
	18nm,1.6s						
WRAB	Tennant Creek	40.83	123	eP	P	18 11 00.8	-1.0
	15nm,1.5s						
AS31	Alice Springs	42.29	128	eP	P	18 11 12.8	-0.9
	1.6nm,1.4s						
ASAR	Alice Springs	42.29	128	P	P	18 11 12.3	-1.3
	0.2nm,0.8s,baz=300,slow=7.8,SNR=9.5						
KSAR	Wonju Array Be	44.73	33	P	P	18 11 33.8	+0.8
KSRS	Korea Array	44.76	33	P	P	18 11 33.8	+0.6
	1.8nm,0.7s,baz=216,slow=9.0,SNR=6.5						
KDJ	Kajisay	44.92	337	eP	P	18 11 35.8	+1.1
	1.7nm,0.8s						
SONA0	Songino Array	46.68	7	eP	P	18 11 49.3	+1.0
SONM	Songino Array	46.68	7	P	P	18 11 49.3	+1.0
	0.9nm,0.6s,baz=187,slow=10.0,SNR=9.9						
SONA1	Songino Array	46.69	7	eP	P	18 11 49.8	+1.4
MK01	Makanchi Array	47.38	345	eP	P	18 11 53.6	-0.1
MK31	Makanchi Array	47.41	345	eP	P	18 11 54.3	+0.4
MK32	Makanchi Array	47.41	345	eP	P	18 11 54.6	+0.7
MKAR	Makanchi Array	47.41	345	P	P	18 11 54.6	+0.7
	0.7nm,0.5s,baz=153,slow=9.4,SNR=17						
MKAR	Makanchi Array	47.41	345	eP	P	18 11 54.5	+0.6
	5.7nm,0.6s						
MAKZ	Makanchi	47.51	344	eP	P	18 11 54.9	+0.3
	8.7nm,1.8s						
ZALV	Zalesovo Beam	53.59	350	P	P	18 12 40.1	0.0
	1.7nm,0.4s,baz=169,slow=7.0,SNR=9.8						
ZALV	Zalesovo Beam	53.59	350	eP	P	18 12 40.5	+0.3
ZAA1	Zalesovo Array	53.59	350	eP	P	18 12 40.1	-0.1
BVAR	Borovoye Array	56.56	340	P	P	18 13 01.6	0.0
	0.7nm,0.5s,baz=131,slow=9.0,SNR=8.1						
AB31	Akbulak array	58.06	331	eP	P	18 13 11.8	-0.5
ABKAR	Akbulak array	58.06	331	eP	P	18 13 12.0	-0.2
	10nm,0.7s						
HFS	Hagfors	86.30	330	P	P	18 16 00.8	+0.6
	1.1nm,0.8s,baz=55,slow=7.6,SNR=3.6						

*NIED **24** 18:24:00,35.90N×139.50E,h98km,Mw4.0 Best double couple: M0 1.17000×10^15 NP1:φs150.00000°,δ15.00000°, λ77.00000°. NP2:φs343.00000°,δ75.00000°,λ93.00000°.*
*ISCJB **24** 18:24:15.8±0.4, 35.87N±0.03×139.52E±0.07, h100km±3km, mb3.6/15, Error ellipse: s-maj=9.8km s-min=5.6km az=170.7*
*IDC **24** 18:24:17.4±0.9, 35.79N×139.43E, h99km±7km, mb3.4/15, mb1 3.6/17, mb1mx3.4/72, mbtmp3.8/17, MS2.5/2, Ms1 2.5/2, ms1mx2.2/35, Error ellipse: s-maj=17.5km s-min=7.0km az=68.0*
*JMA **24** 18:24:17.3±0.1, 35.90N×139.59E, h89km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs337.00000°, δ75.00000°, λ93.00000°. NP2: φs147.00000°, δ15.00000°, λ80.00000°. Principal axes: T Plg60.0000°, Azm251.0000°; N Plg3.0000°, Azm156.0000°; P Plg30.0000°, Azm65.0000°;*
JMA Felt II J1.

ISC 24 18:24:17.0±0.7,35.88N±0.04×139.54E±0.07,h94km±6km, n36,σ0.96/40,mb3.7/15,2C-4D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHU	Hanno	0.21	264	↓P	Pn	18 24 30.8	+0.3
JHU				S	Sn	18 24 40.6	+0.1
TOK	Tokyo	0.26	137	P	Pn	18 24 31.1	+0.5
JRY	Ryogami san	0.54	285	↓P	Pn	18 24 33.0	+0.6
JRY				S	Sn	18 24 44.8	+0.8
JAG	Ashikaga	0.55	353	↑P	Pn	18 24 32.3	-0.2
JAG				S	Sn	18 24 43.2	-0.9
JOD2	Odawara 2	0.71	211	↓P	Pn	18 24 33.5	-0.5
JOD2				S	Sn	18 24 45.9	-0.8
JYN	Shimodo	0.90	245	↓P	Pn	18 24 35.9	0.0
JYN				S	Sn	18 24 50.1	+0.3
JKT	Katashina	0.92	345	↑P	Pn	18 24 36.1	-0.1
JKT				S	Sn	18 24 49.9	-0.6
JIM2	Oshima 3	1.16	184	P	Pn	18 24 38.6	-0.2
JIM2				S	Sn	18 24 54.0	-1.2
MJAR	Matsushiro Arr	1.27	302	P	Pn	18 24 39.6	-0.4
	37nm,0.3s,baz=132,slow=11,SNR=840						
MJAR				S	Sn	18 24 57.5	0.0
	52nm,0.3s,baz=103,slow=26,SNR=23						
MJAR				LR	LR	18 25 15.2	
	comp=Z,75nm,19.2s,baz=110,slow=48						
MAT	Matsushiro	1.27	302	P	Pn	18 24 39.7	-0.4
MAT				S	Sn	18 24 55.4	-2.1
JHJ	Hachijo jima 2	2.76	176	P	Pn	18 24 59.6	+0.2
	88nm,0.3s,baz=78,slow=5.8,SNR=23						
JHJ				S	Sn	18 25 31.3	-0.6
	59nm,0.3s,baz=122,slow=22,SNR=7.8						
JNU	Nakatsue	7.66	251	P	Pn	18 26 05.7	-0.2
	0.4nm,0.3s,baz=142,slow=6.0,SNR=9.7						
ASAJ	Asahikawa	8.56	15	P	Pn	18 26 16.5	-1.5
	1.4nm,0.3s,baz=234,slow=7.4,SNR=24						
KSRS	Korea Array	9.47	283	P	Pn	18 26 33.9	+3.5
	0.3nm,0.3s,baz=96,slow=14,SNR=9.3						
KSRS				LR	LR	18 29 55.2	
	comp=Z,28nm,20.4s,baz=103,slow=36						
KLR	Kul'dur	14.52	339	P	P	18 27 42.4	+0.8
	0.0nm,0.3s,baz=141,slow=7.2,SNR=3.8						
MA2	Magadan	24.82	14	P	P	18 29 30.5	+0.4
	2.4nm,0.5s,baz=215,slow=7.8,SNR=6.7						
MA2				LR	LR	18 39 43.2	
	comp=Z,12nm,18.5s,baz=312,slow=37						
SONM	Songino Array	27.22	306	P	P	18 29 52.1	0.0
	0.2nm,0.6s,baz=98,slow=10,SNR=3.1						
H11N2	WAKE ISLAND Hy	28.92	116	T	T	19 00 37.4	
	baz=314,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	28.93	117	T	T	19 00 40.8	
	baz=314,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	28.94	116	T	T	19 00 43.2	
	baz=314,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy	29.57	119	T	T	19 01 22.6	
	baz=316,slow=75,SNR=4.7						
H11S3	WAKE ISLAND Hy	29.57	119	T	T	19 01 28.0	
	baz=316,slow=75,SNR=5.2						
H11S2	WAKE ISLAND Hy	29.58	119	T	T	19 01 37.9	
	baz=316,slow=75,SNR=3.9						
CMAR	Chiang Mai Arr	39.74	255	P	P	18 31 39.2	-1.4
	0.3nm,0.6s,baz=54,slow=8.6,SNR=3.5						
ZALV	Zalesovo Beam	41.59	313	P	P	18 31 54.5	-0.9
	2.2nm,0.7s,baz=99,slow=6.1,SNR=9.9						
MKAR	Makanchi Array	43.47	303	P	P	18 32 10.3	-0.4
	0.5nm,0.5s,baz=85,slow=10.0,SNR=8.7						
KURBB	Kurchatov Arra	45.53	309	P	P	18 32 26.9	-0.2
	3.4nm,0.6s,baz=84,slow=7.7,SNR=32						
BVAR	Borovoye Array	50.24	313	P	P	18 33 03.7	+0.4
	1.0nm,0.8s,baz=160,slow=4.6,SNR=4.9						
ILAR	Eielson Array	51.27	32	P	P	18 33 11.4	+0.5
	0.4nm,0.8s,baz=260,slow=6.0,SNR=4.6						
WRA	Warramunga Arr	55.73	186	P	P	18 33 42.9	-1.1
	1.0nm,0.6s,baz=1.3,slow=7.7,SNR=20						
AKTO	Aktyubinsk	58.33	312	P	P	18 34 01.7	-0.3
	1.0nm,0.7s,baz=70,slow=12,SNR=2.7						
ASAR	Alice Springs	59.46	186	P	P	18 34 09.7	-0.4
	0.5nm,0.8s,baz=8.0,slow=6.5,SNR=7.4						
YKA	Yellowknife Ar	65.56	29	P	P	18 34 50.9	+0.7
	0.1nm,0.6s,baz=300,slow=6.6,SNR=2.9						
FINES	FINESS Array B	69.13	332	P	P	18 35 12.2	-0.5
	1.4nm,0.9s,baz=46,slow=8.2,SNR=5.4						
NOA	NORSAR Array B	74.66	337	P	P	18 35 45.5	-0.4
	0.9nm,0.7s,baz=171,slow=8.2,SNR=3.4						
TXAR	Lajitas Array	92.02	51	P	P	18 37 17.2	+1.5
	0.3nm,0.8s,baz=316,slow=2.5,SNR=3.1						

JMA 24 18:24:39.8±0.1,37.47N×141.45E,h39km±2km,M3.7, Near east coast of eastern Honshu

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

CAIG				*e*S	Sn	18 34 24.4	-4.1
PLIG	**Platanillo**	**2.42**	**328**	*e*P	Pn	18 34 01.7	-3.1
PLIG				*e*S	Sn	18 34 30.2	-4.8

ISCJB ***24*** *18:38:23.1±0.6, 7.°50S±0.°06×130.°02E±0.°08, h100km, mb3.6/7, Error ellipse: s-maj=11.2km s-min=8.3km az=177.7*

IDC ***24*** *18:38:26.1±6.1, 7.°56S×129.°97E, h114km±66km, mb3.4/7, mb1 3.5/11, mb1mx3.3/57, mbtmp3.9/11, MS2.9/1, Ms1 2.9/1, ms1mx2.3/22, Error ellipse: s-maj=54.2km s-min=24.7km az=28.0*

ISC 24 18:38:24.3±0.8, 7.66S±0.°07×130.°1E±0.°1, h100km, n12, σ2ꬹ18/15, mb3.6/7, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.86**	**248**	P	**Pn**	**18 40 04.3**	**+2.0**
	20nm,0.3s,baz=72,slow=13,SNR=56						
BATI				S	**Sn**	**18 41 18.2**	**-0.8**
	8.8nm,0.3s,baz=86,slow=17,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.25**	**202**	P	**Pn**	**18 41 03.6**	**+1.6**
	1.7nm,0.3s,baz=19,slow=12,SNR=37						
FITZ				S	**Sn**	**18 43 01.9**	**-4.0**
	1.0nm,0.3s,baz=323,slow=5.1,SNR=6.4						
WRA	**Warramunga Arr**	**12.88**	**162**	P	**Pn**	**18 41 26.2**	**+2.5**
	0.6nm,0.3s,baz=345,slow=14,SNR=36						
WRA				S	**Sn**	**18 43 42.5**	**-2.8**
	1.4nm,0.3s,baz=340,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.32**	**168**	P	**Pn**	**18 42 11.6**	**+3.9**
	0.3nm,0.3s,baz=347,slow=8.8,SNR=23						
ASAR				S	**Sn**	**18 45 07.8**	**-0.9**
	0.5nm,0.3s,baz=347,slow=25,SNR=11						
PMG	**Port Moresby**	**16.94**	**97**	LR	LR	18 49 10.4	
	comp=Z,44nm,19.6s,baz=86,slow=38						
SONM	**Songino Array**	**59.10**	**342**	P	**P**	**18 48 13.7**	**-0.6**
	0.3nm,0.6s,baz=141,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**68.84**	**327**	P	**P**	**18 49 17.7**	**-0.3**
	1.3nm,0.5s,baz=119,slow=8.2,SNR=33						
ZALV	**Zalesovo Beam**	**72.22**	**334**	P	**P**	**18 49 37.1**	**-1.3**
	0.4nm,0.4s,baz=139,slow=4.8,SNR=2.9						
SEY	**Seymchan**	**72.43**	**10**	P	**P**	**18 49 39.6**	**+0.2**
	0.4nm,0.5s,baz=232,slow=20,SNR=4.5						
KURBB	**Kurchatov Arra**	**73.13**	**329**	P	**P**	**18 49 42.9**	**-0.9**
	0.7nm,0.6s,baz=126,slow=4.8,SNR=13						
BVAR	**Borovoye Array**	**78.68**	**328**	P	**P**	**18 50 15.1**	**-0.3**
	0.3nm,0.5s,baz=114,slow=6.8,SNR=2.9						
TIXI	**Tiksi**	**79.15**	**360**	P	**P**	**18 50 16.8**	**-0.8**
	0.5nm,0.6s,baz=192,slow=5.0,SNR=4.5						

ISCJB ***24*** *19:03:56.1±0.7, 31.°09S±0.°06×179.°8W±0.°2, h400km, mb2.9/2, Error ellipse: s-maj=19.8km s-min=6.0km az=16.7*

IDC ***24*** *19:03:56.6±13.0, 30.°96S×179.°98W, h374km±160km, mb2.6/2, mb1 3.0/3, mb1mx2.8/38, mbtmp3.7/3, Error ellipse: s-maj=197.4km s-min=34.5km az=4.0*

WEL ***24*** *19:03:60.0±0.9, 31.°5S×23.°×18.°0E±6.°2, h343km±28km*

ISC 24 19:03:57.0±1.0, 31.°20S±0.°09×179.°6W±0.°2, h400km, n37, σ1ꬹ54/38, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.43**	**38**	S	**S**	**19 05 41.0**	**-2.5**
GLKZ	**Green Lake**	**2.43**	**38**	P	**Pn**	**19 04 55.9**	**0.0**
MXZ	**Matakaoa Point**	**6.57**	**195**	P	**Pn**	**19 05 36.8**	**+1.1**
MXZ	**Matakaoa Point**	**6.57**	**195**	S	**S**	**19 06 56.1**	**-0.3**
WMGZ	**Waiomatatini S**	**6.80**	**193**	P	**P**	**19 05 42.7**	**+3.9**
HAZ	**Te Kaha**	**6.88**	**197**	P	**P**	**19 05 40.6**	**+0.8**
HAZ	**Te Kaha**	**6.88**	**197**	S	**S**	**19 07 01.5**	**-1.1**
PKGZ	**Pakihiroa**	**6.94**	**195**	P	**P**	**19 05 42.2**	**+1.7**
PKGZ	**Pakihiroa**	**6.94**	**195**	S	**S**	**19 07 03.6**	**-0.3**
PUZ	**Puketiti**	**7.07**	**194**	P	**P**	**19 05 43.0**	**+1.1**
PUZ	**Puketiti**	**7.07**	**194**	S	**S**	**19 07 05.5**	**-1.2**
RUGZ	**Raukumara Rang**	**7.11**	**198**	P	**P**	**19 05 44.4**	**+2.0**
RUGZ	**Raukumara Rang**	**7.11**	**198**	S	**S**	**19 07 04.9**	**-2.6**
MWZ	**Matawai**	**7.49**	**197**	P	**Pn**	**19 05 46.8**	**+0.7**
MWZ	**Matawai**	**7.49**	**197**	S	**S**	**19 07 14.4**	**-1.0**
URZ	**Urewera**	**7.54**	**200**	P	**Pn**	**19 05 46.9**	**+0.3**
	4.8nm,0.3s,baz=265,slow=2.4,SNR=26						
URZ				S	**S**	**19 07 13.5**	**-2.8**
	7.7nm,0.3s,baz=275,slow=22,SNR=18						
URZ	**Urewera**	**7.54**	**200**	P	**Pn**	**19 05 46.8**	**+0.3**
URZ	**Urewera**	**7.54**	**200**	S	**S**	**19 07 15.8**	**-0.4**
SNGZ	**Shannon Statio**	**7.96**	**197**	P	**P**	**19 05 54.1**	**+2.3**
SNGZ	**Shannon Statio**	**7.96**	**197**	S	**S**	**19 07 24.3**	**-0.9**
KNZ	**Kokohu**	**8.11**	**195**	P	**Pn**	**19 05 53.2**	**+0.1**
KNZ	**Kokohu**	**8.11**	**195**	S	**S**	**19 07 27.8**	**-0.5**
WHHZ	**Waihua**	**8.27**	**197**	P	**P**	**19 05 56.2**	**+1.0**
WHHZ	**Waihua**	**8.27**	**197**	S	**S**	**19 07 30.1**	**-1.5**
ARHZ	**Aropaoanui**	**8.51**	**198**	P	**P**	**19 05 59.2**	**+1.3**
BKZ	**Black Stump Fm**	**8.56**	**201**	P	**P**	**19 05 58.9**	**+0.4**
BKZ	**Black Stump Fm**	**8.56**	**201**	S	**S**	**19 07 36.1**	**-1.7**
HIZ	**Hauiti**	**8.59**	**210**	P	**P**	**19 06 02.7**	**+3.9**
KWHZ	**Kaweka Forest**	**8.82**	**200**	P	**P**	**19 06 02.2**	**+0.8**
BHHZ	**Black Hill Sta**	**8.99**	**202**	P	**Pn**	**19 06 02.8**	**-0.4**
KRHZ	**Kereru**	**9.03**	**200**	P	**Pn**	**19 06 03.6**	**-0.2**
KAHZ	**Kahuranaki**	**9.04**	**197**	P	**P**	**19 06 03.9**	**+0.1**
PXZ	**Pawanui**	**9.26**	**197**	P	**P**	**19 06 05.8**	**-0.5**
ASAR	**Alice Springs**	**41.68**	**269**	P	**P**	**19 11 07.8**	**-1.0**
	0.2nm,0.6s,baz=106,slow=7.0,SNR=4.9						
WRA	**Warramunga Arr**	**42.74**	**274**	P	**P**	**19 11 16.5**	**-0.7**
	0.3nm,0.3s,baz=111,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**145.40**	**338**	PKPbc	**PKPab**	**19 22 49.0**	**0.0**
	1.2nm,0.4s,baz=50,slow=4.4,SNR=27						
HFS	**Hagfors**	**149.73**	**347**	PKPbc	**PKPbc**	**19 23 00.1**	**+0.5**
	1.1nm,0.8s,baz=55,slow=3.2,SNR=3.5						

IDC ***24*** *19:32:16.2±1.8, 5.°37S×150.°93E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.4/52, mbtmp3.6/6, ML1.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=68.2km s-min=21.7km az=120.0*

ISCJB ***24*** *19:32:20.7±1.8, 5.°3S±0.°3×150.°6E±0.°4, h35km, mb3.4/5, Error ellipse: s-maj=69.6km s-min=12.1km az=31.1*

ISC 24 19:32:22.0±1.9, 5.°4S±0.°3×150.°7E±0.°5, h35km, n7, σ1ꬹ15/8, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.37**	**221**	Pn	**Pn**	**19 33 41.0**	**+1.3**
	0.5nm,0.3s,baz=54,slow=14,SNR=3.4						
PMG				Sn	**Sn**	**19 34 38.9**	**-1.5**
	5.0nm,0.3s,baz=178,slow=12,SNR=6.5						
PMG				LR	LR	19 35 51.9	
	comp=Z,77nm,20.8s,baz=344,slow=39						
WRA	**Warramunga Arr**	**21.56**	**226**	P	**P**	**19 37 08.2**	**-0.5**
	0.9nm,0.4s,baz=53,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.39**	**220**	P	**P**	**19 37 36.9**	**-0.4**
	0.8nm,0.5s,baz=56,slow=9.1,SNR=14						
FITZ	**Fitzroy Crossi**	**27.60**	**241**	P	**P**	**19 38 06.8**	**+0.5**
	0.6nm,0.4s,baz=56,slow=8.8,SNR=5.7						
SONM	**Songino Array**	**65.71**	**329**	P	**P**	**19 43 03.0**	**-0.3**
	0.1nm,0.4s,baz=134,slow=6.2,SNR=2.6						
ILAR	**Eielson Array**	**83.44**	**22**	P	**P**	**19 44 44.9**	**-0.8**
	0.3nm,0.6s,baz=225,slow=5.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.51**	**286**	PKPbc	**PKPbc**	**19 52 07.4**	**+1.2**
	1.7nm,0.6s,baz=67,slow=3.3,SNR=12						

NNC 24 19:41:11.7±3.7, 36.°94N×70.°76E, h0km, mb3.7, mpv3.3, 5C-3D, Error ellipse: s-maj=29.5km s-min=25.2km az=150.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.75**	**34**	⇑Pn	Pn	19 42 11.1	0.0
	1.5nm,0.3s						
SFK				⇓Sn	Sn	19 42 58.3	+2.3
	1.7nm,0.3s						
MNAS	**Manas**	**5.70**	**13**	⇑Pn	Pn	19 42 37.8	0.0
	0.9nm,0.5s						
MNAS				⇑Sn	Sn	19 43 44.0	-0.1
	1.1nm,0.4s						
KK31	**Karatay Array**	**6.16**	**358**	⇓Pn	Pn	19 42 45.0	+1.1
	2.5nm,0.4s,baz=176,slow=12,SNR=36						
KK31				⇑Sn	Sn	19 43 57.4	+2.2
	1.9nm,0.7s,baz=178,slow=22,SNR=5.0						
AAK	**Ala-Archa**	**6.38**	**26**	⇓Pn	Pn	19 42 45.6	-1.4
	1.0nm,0.3s						
AAK				⇑Sn	Sn	19 43 59.9	-0.7
	1.7nm,0.8s						

NIED ***24*** *19:41:00, 30.°90N×143.°10E, h11km, Mw4.0 Best double couple: M₀1.05000×10¹⁵ NP1:φ₀86.00000°, δ47.00000°, λ-36.00000°. NP2:φ₀202.00000°, δ65.00000°, λ-131.00000°.*

IDC ***24*** *19:41:45.8±0.6, 30.°66N×142.°89E, h0km, mb3.9/24, mb1 4.1/28, mb1mx4.0/69, mbtmp4.0/28, ML3.7/4, MS2.8/13, Ms1 2.9/13, ms1mx2.7/54, Error ellipse: s-maj=16.5km s-min=13.3km az=90.0*

MOS ***24*** *19:41:47.9±1.1, 30.°71N×142.°89E, h24km, mb4.4/28, Error ellipse: s-maj=12.6km s-min=5.9km az=114.7*

NEIC ***24*** *19:41:47.1±2.5, 30.°70N×142.°86E, h5km±15km, mb4.9/40, Error ellipse: s-maj=5.4km s-min=4.6km az=134.0*

JMA ***24*** *19:41:48.6±0.1, 30.°94N×143.°06E, h42km, M4.5*

BJI ***24*** *19:41:49.7, 30.°77N×142.°71E, h24km, mb4.5/32, mB4.8/24, Ms4.2/11, Ms7 4.2/8*

ISCJB ***24*** *19:41:50.0±0.2, 30.°92N±0.°03×142.°78E±0.°04, h30km, mb4.5/69, MS3.3/11, Error ellipse: s-maj=4.7km s-min=3.3km az=150.1*

ISC 24 19:41:50.8±0.4, 30.°80N±0.°04×142.°90E±0.°06, h30km, n210, σ1ꬹ79/212, mb4.5/70, MS3.1/11, 10C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.49**	**312**	P	**Pn**	**19 42 42.3**	**-0.7**
JHJ2				S	**Sn**	**19 43 22.7**	**-0.6**
JHJ2	**Mitsune**	**3.49**	**312**	*e*Pn	**Pn**	**19 42 41.7**	**-1.3**
JHJ2				*e*Sn	**Sn**	**19 43 21.1**	**-2.2**
JHJ	**Hachijo jima 2**	**3.52**	**312**	Pn	**Pn**	**19 42 41.4**	**-1.9**
	12nm,0.3s,baz=90,slow=20,SNR=5.4						
JHJ				Sn	**Sn**	**19 43 20.2**	**-3.8**
	47nm,0.3s,baz=272,slow=20,SNR=6.6						
CBIJ	**Chichi jima**	**3.74**	**190**	*e*Pn	**Pn**	**19 42 44.3**	**-2.3**
CBIJ				*e*Sn	**Sn**	**19 43 20.8**	**-8.8**
JCJ	**Chichijima**	**3.75**	**190**	Pn	**Pn**	**19 42 43.8**	**-2.8**
	11nm,0.3s,baz=282,slow=20,SNR=4.3						
JCJ				Sn	**Sn**	**19 43 22.0**	**-7.6**
	40nm,0.3s,baz=74,slow=23,SNR=6.6						
BSO1	**Boso 1**	**4.17**	**338**	P	**Pn**	**19 42 50.5**	**-1.4**
BSO1				S	**Sn**	**19 43 37.4**	**-1.9**
JHHJ	**Haha-jima-NKT**	**4.20**	**189**	P	**Pn**	**19 42 54.2**	**+1.3**
JHHJ				S	**Sn**	**19 43 43.7**	**+2.7**
BSO3	**Boso 3**	**4.47**	**334**	P	**Pn**	**19 42 55.1**	**-1.1**
BSO3				S	**Sn**	**19 43 45.4**	**-1.7**
JOD2	**Odawara 2**	**5.48**	**325**	P	**Pn**	**19 43 09.8**	**-0.6**
JOD2				S	**Sn**	**19 44 11.2**	**-1.3**
JYT	**Yasato**	**5.87**	**338**	P	**Pn**	**19 43 15.0**	**-0.6**
JYT				S	**Sn**	**19 44 20.1**	**-1.7**
JHU	**Hanno**	**5.88**	**330**	P	**Pn**	**19 43 15.6**	**-0.2**
JHU				S	**Sn**	**19 44 19.8**	**-2.4**
JHO	**Hitachi**	**6.11**	**342**	P	**Pn**	**19 43 15.7**	**-3.4**
JHO				S	**Sn**	**19 44 22.6**	**-5.3**
JRY	**Ryogami san**	**6.18**	**328**	P	**Pn**	**19 43 19.1**	**-1.0**
JRY				S	**Sn**	**19 44 27.4**	**-2.4**
JAG	**Ashikaga**	**6.30**	**334**	P	**Pn**	**19 43 20.2**	**-1.5**
JAG				S	**Sn**	**19 44 29.0**	**-3.7**
INU	**Inuyama**	**6.70**	**314**	*e*Pn	**Pn**	**19 43 26.8**	**-0.4**
MJA0	**Matsu Arr-Jizo**	**6.92**	**327**	*e*P	**Pn**	**19 43 29.7**	**-0.4**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.93**	**327**	Pn	**Pn**	**19 43 28.9**	**-1.4**
	comp=Z,2.3nm,0.3s,baz=154,slow=10,SNR=33						
MJAR				Sn	**Sn**	**19 44 45.5**	**-2.7**
	comp=Z,1.7nm,0.3s,baz=128,slow=13,SNR=6.6						
MJAR				LR	LR	19 47 47.3	
	comp=Z,26nm,19.0s,baz=140,slow=52						
MAJO	**Matsushiro**	**6.93**	**327**	⇓*i*P	**Pn**	**19 43 29.9**	**-0.5**
MAJO	**Matsushiro**	**6.93**	**327**	*e*Pn	**Pn**	**19 43 29.6**	**-0.8**
MAJO				*e*Sn	**Sn**	**19 44 41.0**	**-7.2**
MAT	**Matsushiro**	**6.93**	**327**	P	**Pn**	**19 43 29.6**	**-0.8**
MAT				*e*S	**Sn**	**19 44 43.5**	**-4.7**
MJB9	**Matsu-Tunnel**	**6.94**	**327**	*e*Pn	**Pn**	**19 43 29.6**	**-0.8**
MJB9				*e*Sn	**Sn**	**19 44 45.1**	**-3.3**
JNU	**Nakatsue**	**10.47**	**286**	LR	LR	19 47 57.5	
	comp=Z,61nm,20.4s,baz=108,slow=35						
ERM	**Erimo**	**11.19**	**1**	*e*P	**Pn**	**19 44 24.1**	**-4.6**
ERM	**Erimo**	**11.19**	**1**	*e*Pn	**Pn**	**19 44 24.1**	**-4.6**
ERM				*e*Sn	Sn	19 46 20.0	-13
ASAJ	**Asahikawa**	**13.29**	**359**	Pn	**Pn**	**19 44 53.6**	**-3.8**
	comp=Z,1.7nm,0.3s,baz=233,slow=5.7,SNR=20						
ASAJ	**Asahikawa**	**13.29**	**359**	*e*Pn	**Pn**	**19 44 53.5**	**-3.9**
ASAJ				*e*Sn	Sn	19 47 10.3	-14
KSRS	**Korea Array**	**14.06**	**302**	Pn	**Pn**	**19 45 09.5**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=114,slow=12,SNR=4.4						
KSRS				LR	LR	19 50 55.6	
	comp=Z,38nm,19.7s,baz=96,slow=39						
KSAR	**Wonju Array Be**	**14.08**	**302**	P	**Pn**	**19 45 09.5**	**+1.3**
KSAR	**Wonju Array Be**	**14.08**	**302**	Pn	**Pn**	**19 45 09.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**15.91**	**330**	LR	LR	19 51 24.4	
	comp=Z,25nm,20.9s,baz=156,slow=36						
YSS	**Yuzh-Sakhalins**	**16.13**	**360**	⇑*i*P	**Pn**	**19 45 33.3**	**-1.9**
YSS				pmax	pmax		
	comp=N,10.0nm,0.9s						
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**16.13**	**360**	*e*Pn	**Pn**	**19 45 32.5**	**-2.7**
	comp=Z,13nm,1.0s						
GUMO	**Gumi**	**17.23**	**174**	LR	LR	19 54 53.1	
	comp=Z,15nm,18.0s,baz=346,slow=46						
CN2	**Changchun**	**18.95**	**318**	*e*P	**Pn**	**19 46 09.1**	**-1.1**
CN2				*es*P	sP	19 46 21.5	+0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TYV	**Tymovskoe**	**20.04**	**360**	*e*P	**P**	**19 46 18.8**	**-2.5**
TYV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLR	**Kul'dur**	**20.25**	**339**	P	Pn	19 46 24.1	-1.5
	comp=Z,0.7nm,0.7s,baz=145,slow=10,SNR=31						
KLR	**Kul'dur**	**20.25**	**339**	⇑*i*P	Pn	19 46 26.8	+1.2
NJ2	**Nanjing**	**20.55**	**280**	*e*P	Pn	19 46 27.4	-1.9
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
YULB	**Yu-li**	**20.58**	**254**	*e*P	**P**	**19 46 25.8**	**-1.6**
	comp=Z,109nm,2.0s						
SSLB	**Suanglung**	**20.70**	**256**	*e*P	Pn	19 46 27.9	-3.1
	comp=Z,122nm,2.0s						
TWG	**Pinlang**	**21.02**	**253**	*e*P	**P**	**19 46 36.6**	**+4.5**
	comp=Z,483nm,1.8s						
NKL	**Nikolayevsk**	**22.39**	**356**	*e*P	**P**	**19 46 47.8**	**+1.3**
NKL				pmax	pmax		
	comp=N,14nm,0.9s						
NKL				pmax	pmax		
	comp=Z,23nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**24.29**	**111**	T	T	20 12 06.0	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**24.29**	**111**	T	T	20 12 13.0	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**24.31**	**111**	T	T	20 12 08.5	
	baz=305						
PETK	**Petropavlovsk-**	**24.76**	**22**	LR	LR	19 58 22.8	
	comp=Z,23nm,19.7s,baz=201,slow=40						
H11S3	**WAKE ISLAND Hy**	**24.79**	**114**	T	T	20 12 49.5	
	baz=306						
H11S1	**WAKE ISLAND Hy**	**24.79**	**114**	T	T	20 12 51.3	
	baz=306						
H11S2	**WAKE ISLAND Hy**	**24.81**	**114**	T	T	20 12 50.7	
	baz=306						
ZEA	**Zeya**	**25.57**	**338**	*e*P	**P**	**19 47 17.8**	**+0.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**27.19**	**300**	*e*P	**P**	**19 47 33.6**	**+1.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,62nm,6.2s						
MA2	**Magadan**	**29.26**	**8**	*e*P	**P**	**19 47 50.1**	**+0.1**
ULN	**Ulaanbaatar**	**32.18**	**312**	⇑*i*P	**P**	**19 48 18.1**	**+2.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ULN	**Ulaanbaatar**	**32.18**	**312**	*e*P	**P**	**19 48 12.1**	**-4.0**
	comp=Z,3.2nm,1.0s						
YAK	**Yakutsk**	**32.41**	**348**	*e*P	**P**	**19 48 17.8**	**+0.1**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YAK	**Yakutsk**	**32.41**	**348**	*e*P	**P**	**19 48 17.8**	**+0.1**
	comp=Z,6.0nm,0.6s						
SONA1	**Songino Array**	**32.59**	**312**	*e*P	**P**	**19 48 21.7**	**+2.0**
SONA0	**Songino Array**	**32.59**	**312**	*e*P	**P**	**19 48 21.5**	**+1.8**
SONM	**Songino Array**	**32.59**	**312**	P	**P**	**19 48 21.5**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=117,slow=8.9,SNR=12						
SONM				LR	LR	20 01 18.0	
	comp=Z,30nm,20.4s,baz=98,slow=36						
SEY	**Seymchan**	**32.72**	**8**	P	**P**	**19 48 21.5**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=187,slow=8.3,SNR=25						
SEY	**Seymchan**	**32.72**	**8**	⇑*i*P	**P**	**19 48 21.7**	**+1.3**
LZH	**Lanzhou**	**32.86**	**290**	*e*P	**P**	**19 48 23.8**	**+1.6**
LZH				pP	sP	19 48 33.5	-1.1
LZH				sP	pP	19 48 37.6	+6.7
LZH				*e*PP	**PP**	**19 49 34.9**	**-1.7**
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
LZH				pmax	pmax		
	comp=Z,230nm,4.6s						
LZH				LR	LR		
	comp=Z,160nm,14.0s						
LZH				LR	LR		
	comp=Z,170nm,13.3s						
LZH				LR	LR		
	comp=Z,200nm,13.7s						
CD2	**Chengdu**	**33.48**	**280**	P	**P**	**19 48 26.5**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
ZAK	**Zakamensk**	**35.34**	**315**	*e*P	**P**	**19 48 45.0**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA	**Gaotai**	**36.00**	**296**	*e*P	**P**	**19 48 51.4**	**+2.1**
GTA				pP	sP	19 48 59.8	-1.9
GTA				sP	pP	19 49 03.8	+5.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LUWI	**Luwuk**	**37.01**	**215**	*e*P	**P**	**19 48 60.0**	**+2.1**
	comp=Z,32nm,1.1s						
BILL	**Bilibino**	**39.72**	**14**	*i* P	P	19 49 12.8	-7.3
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PMG	**Port Moresby**	**40.19**	**173**	⇑*i*P	**P**	**19 49 22.6**	**-1.9**
PMG				pmax	pmax		
	comp=Z,34nm,0.9s						
CHTO	**Chiang Mai**	**41.40**	**264**	*e*P	**P**	**19 49 33.0**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**41.40**	**264**	*e*P	**P**	**19 49 33.0**	**-1.7**
	comp=Z,2.1nm,0.8s						
CM31	**Chiang Mai Arr**	**41.56**	**263**	*e*P	**P**	**19 49 35.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**41.56**	**263**	P	**P**	**19 49 35.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=54,slow=6.6,SNR=6.9						
CMAR				LR	LR	20 07 34.9	
	comp=Z,8.5nm,18.9s,baz=235,slow=37						
CM01	**Chiang Mai Arr**	**41.56**	**263**	*e*P	**P**	**19 49 35.0**	**-0.9**
TIXI	**Tiksi**	**41.61**	**353**	⇑*i*P	**P**	**19 49 35.5**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,16nm,2.8s						
TIXI	**Tiksi**	**41.61**	**353**	*e*P	**P**	**19 49 36.1**	**+0.5**
	comp=Z,3.0nm,0.7s						
GAMB	**Gambell**	**43.54**	**27**	*e*P	**P**	**19 49 51.4**	**-0.1**
	comp=Z,20nm,2.0s						
COEN	**Coen**	**44.50**	**180**	*e*P	**P**	**19 49 59.7**	**+0.1**
	comp=Z,40nm,1.8s						
WMQ	**Urumqi**	**45.01**	**303**	P	**P**	**19 50 04.6**	**+1.0**
WMQ				pP	sP	19 50 13.0	-3.2
WMQ				sP	pP	19 50 19.8	+7.2
WMQ				pmax	pmax		
	comp=Z,24nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,260nm,4.1s						
WMQ				LR	LR		
	comp=Z,63nm,19.3s						
WMQ				LR	LR		
	comp=Z,53nm,19.3s						
ZAA0	**Zalesovo Array**	**47.16**	**317**	*e*P	**P**	**19 50 20.1**	**-0.2**
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**47.16**	**317**	P	**P**	**19 50 19.4**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=82,slow=10,SNR=3.4						
ZALV				PcP	**PcP**	**19 51 51.0**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=109,slow=3.5,SNR=7.3						
ZALV	**Zalesovo Beam**	**47.16**	**317**	*e*P	**P**	**19 50 20.0**	**-0.3**
ZALV				*e*		19 51 51.7	
ZALV	**Zalesovo Beam**	**47.16**	**317**	*e*P	**P**	**19 50 20.0**	**-0.3**
ZALV				*e*PcP	**PcP**	**19 51 51.7**	**+0.2**
ZAA1	**Zalesovo Array**	**47.16**	**317**	*e*P	**P**	**19 50 19.4**	**-0.9**
ZAA1				*e*PcP	**PcP**	**19 51 51.0**	**-0.5**
TAPN	**Taplejung**	**47.95**	**280**	*e*P	**P**	**19 50 27.8**	**+0.6**
	comp=Z,2.2nm,0.3s						
ODAN	**Odare**	**48.37**	**280**	*e*P	**P**	**19 50 30.9**	**+0.5**
	comp=Z,6.6nm,0.7s						
MK01	**Makanchi Array**	**48.67**	**307**	*e*P	**P**	**19 50 32.2**	**+0.1**
MK31	**Makanchi Array**	**48.67**	**307**	*e*P	**P**	**19 50 32.5**	**+0.3**
MK31	**Makanchi Array**	**48.67**	**307**	*e*P	**P**	**19 50 32.5**	**+0.3**
MK32	**Makanchi Array**	**48.67**	**307**	*e*P	**P**	**19 50 32.2**	**+0.1**

comp=Z,110nm,5.7s
KSH LR LR
KLU Klutina 54.53 34 *e*P **P 19 51 17.2 +1.4**
comp=Z,62nm,1.8s
EYAK Cordova Ski Ar 54.63 35 *e*P **P 19 51 15.8 -0.6**
comp=Z,218nm,2.0s
AAK Ala-Archa 54.72 303 P **P 19 51 18.1 +0.6**
comp=Z,0.4nm,0.4s,baz=315,slow=2.9,SNR=4.0
AS31 Alice Springs 54.84 190 *e*P **P 19 51 17.4 -0.9**
comp=Z,1.6nm,1.4s
ASAR Alice Springs 54.84 190 P **P 19 51 16.6 -1.8**
comp=Z,0.6nm,0.4s,baz=9.6,slow=7.3,SNR=20
ASAR Alice Springs 54.84 190 *e*P **P 19 51 17.3 -1.0**
ASAR pmax pmax
comp=Z,1.0nm,0.4s
HARP HAARP 54.90 33 *e*P **P 19 51 20.1 +1.8**
comp=Z,30nm,1.0s
FYU Fort Yukon 54.97 28 *e*P **P 19 51 20.5 +1.8**
comp=Z,31nm,1.6s
RIDG Independ'e Rid 55.04 31 *e*P **P 19 51 21.6 +2.2**
comp=Z,18nm,0.9s
RAGM Ragged Mountai 55.16 35 *e*P **P 19 51 18.6 -1.7**
comp=Z,103nm,0.9s
BMRM Bremner River 55.18 35 *e*P **P 19 51 22.4 +2.0**
comp=Z,67nm,1.6s
DOT Dot Lake 55.39 31 *e*P **P 19 51 22.5 +0.6**
comp=Z,22nm,0.8s
SCRK Sand Creek 55.42 31 *e*P **P 19 51 23.2 +1.0**
comp=Z,11nm,0.8s
MENT Mentasta 55.55 32 *e*P **P 19 51 24.8 +1.8**
comp=Z,17nm,1.3s
BVAR Borovoye Array 55.79 316 P **P 19 51 25.2 +0.3**
comp=Z,0.7nm,0.6s,baz=88,slow=7.6,SNR=6.1
BVAR PcP **PcP 19 52 24.1 +0.5**
comp=Z,0.7nm,0.5s,baz=117,slow=3.2,SNR=5.1
BVAR Borovoye Array 55.79 316 P **P 19 51 25.2 +0.3**
BVAR 19 52 24.1
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 55.85 316⇑ *e*P **P 19 51 25.5 +0.2**
BRVK pmax pmax
comp=Z,9.0nm,3.9s
KK05 Karatay Array 57.47 304 *e*P **P 19 51 37.4 +0.4**
KK06 Karatay Array 57.47 304 *e*P **P 19 51 37.2 +0.1**
KK02 Karatay Array 57.48 304 *e*P **P 19 51 37.8 +0.7**
KK31 Karatay Array 57.48 304 *e*P **P 19 51 37.6 +0.5**
KK31 Karatay Array 57.48 304 *e*P **P 19 51 37.6 +0.5**
KKAR Karatay Array 57.48 304 *e*P **P 19 51 37.4 +0.3**
KKAR Karatay Array 57.48 304 *e*P **P 19 51 37.4 +0.3**
KK04 Karatay Array 57.48 304 *e*P **P 19 51 38.0 +0.9**
KK01 Karatay Array 57.48 304 *e*P **P 19 51 37.5 +0.4**
KK09 Karatay Array 57.48 304 *e*P **P 19 51 37.8 +0.7**
KK03 Karatay Array 57.49 304 *e*P **P 19 51 37.5 +0.4**
KK07 Karatay Array 57.49 304 *e*P **P 19 51 37.7 +0.5**
KK08 Karatay Array 57.50 304 *e*P **P 19 51 38.1 +0.9**
INK Inuvik 59.42 25 P **P 19 51 50.5 +0.3**
comp=Z,0.8nm,0.4s,baz=299,slow=6.0,SNR=4.3
INK Inuvik 59.42 25 *e*P **P 19 51 51.0 +0.9**
INK pmax pmax
comp=Z,9.0nm,1.6s
INK Inuvik 59.42 25 *e*P **P 19 51 51.0 +0.9**
comp=Z,9.4nm,1.6s
ARU Arti 61.91 321 *c i*P **P 19 52 08.1 +0.8**
ARU 19 52 46.7
ARU 19 54 19.9
ARU S **S 20 00 30.3 +1.2**
ARU pmax pmax
comp=Z,9.0nm,2.5s
ARU Arti 61.91 321 *e*P **P 19 52 07.2 -0.1**
comp=Z,12nm,1.7s
AB06 Akbulak array 62.98 313 *e*P **P 19 52 15.1 +0.5**
AB07 Akbulak array 62.99 313 *e*P **P 19 52 15.3 +0.6**
AB05 Akbulak array 62.99 313 *e*P **P 19 52 15.1 +0.5**
AB02 Akbulak array 62.99 313 *e*P **P 19 52 15.0 +0.3**
AB01 Akbulak array 63.00 313 *e*P **P 19 52 14.8 +0.1**
AB31 Akbulak array 63.00 313 *e*P **P 19 52 14.9 +0.2**
AB31 Akbulak array 63.00 313 *e*P **P 19 52 14.9 +0.2**
ABKAR Akbulak array 63.00 313 *e*P **P 19 52 14.7 0.0**
comp=Z,16nm,0.4s
AB03 Akbulak array 63.00 313 *e*P **P 19 52 14.6 -0.1**
AB04 Akbulak array 63.00 313 *e*P **P 19 52 15.1 +0.3**
AB08 Akbulak array 63.01 313 *e*P **P 19 52 15.4 +0.6**
AB09 Akbulak array 63.01 313 *e*P **P 19 52 14.6 -0.2**
AKTO Aktyubinsk 63.84 315 LR LR 20 20 27.6
comp=Z,21nm,19.2s,baz=39,slow=36
SPITS Spitsbergen Ar 66.86 350 LR LR 20 26 34.6
comp=Z,5.5nm,19.3s,baz=185,slow=40
RES Resolute Bay 68.33 14 *e*P **P 19 52 49.5 +0.8**
RES pmax pmax
comp=Z,14nm,2.0s
RES Resolute Bay 68.33 14 *e*P **P 19 52 49.5 +0.8**
comp=Z,14nm,2.0s
YKA Yellowknife Ar 68.60 29 P **P 19 52 50.9 +0.4**
comp=Z,1.5nm,0.6s,baz=293,slow=6.4,SNR=22
YKA Yellowknife Ar 68.60 29 *e*P **P 19 52 51.0 +0.4**
YKB5 Yellowknife Ar 68.60 29 *e*P **P 19 52 50.6 +0.1**
APA Apatity 68.88 337⇑ *i*P **P 19 52 52.2 0.0**
APA MLR MLR
comp=Z,400nm,14.0s
HTW Haystack Looko 71.19 45 *e*P **P 19 53 07.0 +0.1**
BBOR Butler Butte 72.74 50 *e*P P 19 53 19.8 +3.4
FIA0 FINESS Array S 74.91 334 *e*P **P 19 53 29.3 +0.8**
FIA0 FINESS Array S 74.91 334 *e*P **P 19 53 29.3 +0.8**
FINES FINESS Array B 74.91 334 P **P 19 53 29.3 +0.8**
comp=Z,0.8nm,0.8s,baz=64,slow=3.2,SNR=4.2
FINES FINESS Array B 74.91 334 *e*P P 19 53 31.9 +3.4
FINES pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 75.96 313 P **P 19 53 35.8 +1.0**
comp=Z,3.4nm,0.9s,baz=90,slow=3.5,SNR=9.9
GNI Garni 76.49 309 LR LR 20 34 00.7
comp=Z,10.0nm,19.2s,baz=5.5,slow=41
NV01 Mina Array Sit 77.76 53 *e*P **P 19 53 43.8 -1.6**
NVAR Mina Array Bea 77.76 53 P **P 19 53 46.4 +1.0**
comp=Z,1.4nm,0.8s,baz=269,slow=5.3,SNR=3.1
STCC Santa Clara 79.18 57 *e*P **P 19 53 53.5 +0.5**
LRRC Littlerock Res 79.90 56 *e*P **P 19 53 56.6 -0.3**
AKASG Malin Array Be 80.01 324 P **P 19 53 56.4 -0.8**
comp=Z,0.8nm,0.5s,baz=51,slow=6.0,SNR=7.5
AKASG LR LR 20 32 35.5
comp=Z,13nm,18.3s,baz=270,slow=38
AKASG Malin Array Be 80.01 324 *e*P **P 19 53 55.6 -1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
FMP Fort Macarthur 80.11 57 *e*P **P 19 53 59.3 +1.2**
HFS Hagfors 80.28 337 P **P 19 53 58.3 -0.2**
comp=Z,2.4nm,1.0s,baz=54,slow=11,SNR=3.6
NB200 NORSAR Array S 80.41 338 *e*P **P 19 53 59.2 0.0**
NOA NORSAR Array B 80.41 338 P **P 19 53 59.2 0.0**
comp=Z,1.1nm,0.9s,baz=41,slow=5.2,SNR=2.8
NOA LR LR 20 34 21.4
comp=Z,8.9nm,21.9s,baz=180,slow=39
BBSC Beaumont Base 80.95 56 *e*P P 19 54 05.8 +3.2
PD31 Pinedale Array 81.16 45 *e*P **P 19 54 04.0 +0.2**
PDAR Pinedale Array 81.16 45 P **P 19 54 04.6 +0.8**
comp=Z,0.2nm,0.5s,baz=283,slow=4.5,SNR=4.1
BR101 Keskin Array S 83.95 313 *e*P **P 19 54 19.1 +0.8**
BR131 Keskin Array S 83.95 313 *e*P **P 19 54 18.2 -0.1**
BRTR Keskin Array B 83.95 313 P **P 19 54 19.1 +0.8**
comp=Z,2.8nm,0.8s,baz=105,slow=4.1,SNR=17
RAYN Ar Rayn 84.23 294 P **P 19 54 19.4 -0.5**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
RAYN Ar Rayn 84.23 294 *e*P **P 19 54 19.4 -0.5**
comp=Z,6.4nm,1.0s
BR231 Keskin MP Arra 84.42 313 *e*P **P 19 54 20.3 -0.4**
VYHS Vyhne 86.57 326 *e*P **P 19 54 32.3 +1.2**
VYHS Vyhne 86.57 326 *e*P **P 19 54 32.3 +1.2**
LTX Lajitas 92.89 53 *e*P **P 19 55 02.0 +0.7**
LTX Lajitas 92.89 53 *e*P **P 19 55 02.0 +0.7**
TXAR Lajitas Array 92.89 53 P **P 19 55 02.0 +0.7**
comp=Z,0.4nm,0.7s,baz=330,slow=2.9,SNR=6.1
TXAR Lajitas Array 92.89 53 *e*P **P 19 55 02.9 +1.6**

*GUC **24** 20:03:59.7±0.5, 31°.14S×69°.13W, h124km±24km, ML3.9*
*ISCJB **24** 20:04:00.2±0.3, 31°.20S±0°.02×69°.05W±0°.04, h118km±3km, mb3.7/4, Error ellipse: s-maj=5.0km s-min=3.7km az=5.7*
*SJA **24** 20:04:00.2±1.3, 31°.18S×69°.03W, h113km±4km, ML3.9, MW3.8*
*IDC **24** 20:04:00.8±0.7, 31°.39S×69°.03W, h116km±5km, mb3.5/4, mb1 3.6/8, mb1mx3.5/36, mbtmp3.8/8, Error ellipse: s-maj=25.3km s-min=22.7km az=103.0*

ISC 24 20:04:00.9±0.6, 31°.20S±0°.03×69°.02W±0°.04, h117km±5km, n44, σ1ᵗ25/68, mb3.7/4, 2C-7D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.46**	**140**	*e*P	**Pn**	**20 04 17.8**	**-0.6**
ZON				*e*S	**Sn**	**20 04 30.6**	**-0.9**
RTLL	**Cerro Villicun**	**0.49**	**106**	*e*P	**Pn**	**20 04 17.8**	**-0.8**
RTLL				*e*S	**Sn**	**20 04 30.9**	**-0.9**
RTLL				IAML		20 04 32.2	
	comp=Z,3μm,0.5s						
SJA	**San Juan**	**0.52**	**130**	*e*P	**Pn**	**20 04 18.5**	**-0.2**
SJA				*e*S	**Sn**	**20 04 31.8**	**-0.4**
AMOG	**MOGNA**	**0.52**	**61**⇓	*e*P	**Pn**	**20 04 18.4**	**-0.4**
AMOG				*e*S	**Sn**	**20 04 32.0**	**-0.3**
RTLS	**Leoncito**	**0.64**	**201**	IAML		20 04 34.2	
	comp=Z,2μm,0.3s						
RTCV	**Cerro Valdivia**	**0.78**	**148**	*e*P	**Pn**	**20 04 20.6**	**-0.2**
RTCV				*e*S	**Sn**	**20 04 34.3**	**-1.4**
ACDV	**Cuesta del Vie**	**1.03**	**355**	*e*P	**Pn**	**20 04 23.0**	**-0.2**
ACDV				*e*S	**Sn**	**20 04 39.7**	**-0.3**
AUSP	**Uspallata**	**1.07**	**197**	*e*P	**Pn**	**20 04 23.4**	**-0.3**
AUSP				*e*S	**Sn**	**20 04 40.3**	**-0.7**
AROD	**Rodeo**	**1.10**	**339**⇓	*e*P	**Pn**	**20 04 24.1**	**-0.1**
AROD				*e*S	**Sn**	**20 04 41.0**	**-0.5**
ASAL	**Salagasta**	**1.40**	**173**	*e*P	**Pn**	**20 04 27.6**	**+0.4**
ASAL				*e*S	**Sn**	**20 04 48.4**	**+1.4**
ARCO	**CERRO ARCO**	**1.64**	**177**⇓	*e*P	**Pn**	**20 04 30.4**	**+0.4**
ARCO				*e*S	**Sn**	**20 04 53.2**	**+1.1**
ARCO				IAML		20 04 54.8	
	comp=Z,2μm,0.2s						
AGUA	**GUANDACOL**	**1.77**	**15**	*e*P	**Pn**	**20 04 32.2**	**+0.7**
AGUA				*e*S	**Sn**	**20 04 55.8**	**+1.1**
GO04	**Tololo Observa**	**1.84**	**303**⇑	*i*P	**Pn**	**20 04 31.5**	**-1.0**
GO04				*e*S	**Sn**	**20 04 55.4**	**-1.2**
TLL	**Tololo Astrono**	**1.85**	**303**⇑	*e*P	**Pn**	**20 04 31.6**	**-1.0**
TLL				*e*S	**Sn**	**20 04 55.5**	**-1.2**
TLL				IAML		20 05 01.7	
	comp=N,1μm,0.4s						
AAGR	**Agrelo**	**1.89**	**175**	*e*P	**Pn**	**20 04 33.2**	**+0.3**
ACAN	**Cantantal**	**1.90**	**125**	*e*P	**Pn**	**20 04 33.6**	**+0.6**
ACAN				⇓*e*S	**Sn**	**20 04 57.4**	**-0.1**
APLL	**PUNTA DE LOS L**	**2.29**	**70**⇓	*e*P	**Pn**	**20 04 38.3**	**+0.2**
APLL				*e*S	**Sn**	**20 05 03.8**	**-2.6**
APLL				IAML		20 05 07.3	
	comp=Z,200nm,0.5s						
AVIZ	**Vizcacheras**	**2.31**	**169**	*e*P	**Pn**	**20 04 38.5**	**+0.2**
PEL	**Peldehue**	**2.40**	**216**	*e*P	**Pn**	**20 04 38.6**	**-0.7**
PEL				*e*S	**Sn**	**20 05 08.9**	**+0.1**
ROCH	**El Roble**	**2.44**	**223**	*e*P	**Pn**	**20 04 39.0**	**-1.1**
ROCH				*e*S	**Sn**	**20 05 09.7**	**-0.5**
ROC1	**El Roble**	**2.45**	**223**	*e*P	**Pn**	**20 04 39.4**	**-0.8**
CLCH	**Cerro Calan**	**2.54**	**210**	*e*P	**Pn**	**20 04 41.0**	**-0.2**
CLCH				*e*S	**Sn**	**20 05 12.6**	**+0.5**
CLCH				IAML		20 05 19.4	
	comp=E,474nm,0.4s						
VCA	**Vinchina**	**2.55**	**16**	*e*P	**Pn**	**20 04 42.1**	**+0.5**
VCA				IAML		20 05 17.2	
	comp=Z,576nm,0.4s						
LCO	**Las Campanas**	**2.62**	**326**	*e*P	**Pn**	**20 04 41.7**	**-0.7**
LCO	**Las Campanas**	**2.62**	**326**	*e*P	**Pn**	**20 04 41.4**	**-1.0**
LCO				*e*S	**Sn**	**20 05 12.8**	**-1.5**
LCO				IAML		20 05 14.6	
	comp=E,397nm,0.5s						
RCDM	**Rinconada Maip**	**2.74**	**213**	*e*P	**Pn**	**20 04 43.2**	**-0.5**
RCDM				*e*S	**Sn**	**20 05 16.7**	**0.0**
LMEL	**Las Melosas**	**2.82**	**200**	*e*P	**Pn**	**20 04 45.1**	**+0.1**
LMEL				IAML		20 05 27.0	
	comp=N,284nm,0.2s						
MRA	**San Martin**	**3.07**	**114**⇓	*e*P	**Pn**	**20 04 48.3**	**+0.2**
MRA				⇓*e*S	**Sn**	**20 05 17.9**	**-6.6**
MRA				IAML		20 05 27.7	
	comp=Z,556nm,0.3s						
RFA	**San Rafael**	**3.59**	**173**	*e*P	**Pn**	**20 04 54.2**	**-0.9**
RFA				IAML		20 04 54.6	
	comp=Z,295nm,0.2s						
CYA	**Choya**	**3.92**	**46**	*e*P	**Pn**	**20 04 58.5**	**-1.0**
CYA				IAML		20 05 44.7	
	comp=Z,70nm,0.6s						
PLCA	**Paso Flores**	**9.59**	**187**	P	**Pn**	**20 06 13.9**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=37,slow=11,SNR=11						
CPUP	**Villa Florida**	**11.35**	**68**	P	**Pn**	**20 06 42.1**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=209,slow=5.4,SNR=3.1						
LPAZ	**La Paz**	**14.87**	**3**	P	**P**	**20 07 26.9**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=176,slow=7.4,SNR=28						
SIV	**San Ignacio**	**16.79**	**27**	P	**P**	**20 07 49.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=222,slow=17,SNR=3.1						
TXAR	**Lajitas Array**	**68.63**	**328**	P	**P**	**20 14 52.9**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=151,slow=7.9,SNR=9.1						
TXAR				pP	**pP**	**20 15 22.2**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=168,slow=4.6,SNR=2.0						
KOWA	**Kowa**	**77.15**	**64**	P	**P**	**20 15 42.4**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=252,slow=4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**80.84**	**69**	P	**P**	**20 16 02.4**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=265,slow=5.3,SNR=7.6						
TORD				pP	**pP**	**20 16 32.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=263,slow=4.6,SNR=2.4						
PDAR	**Pinedale Array**	**82.48**	**331**	P	**P**	**20 16 10.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=120,slow=8.8,SNR=3.6						
ASAR	**Alice Springs**	**121.19**	**205**	PKP	**PKPdf**	**20 22 39.0**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=128,slow=1.8,SNR=9.7						
WRA	**Warramunga Arr**	**124.42**	**207**	PKP	**PKPdf**	**20 22 46.4**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=159,slow=1.7,SNR=35						
BVAR	**Borovoye Array**	**143.50**	**41**	PKP	PKPbc	20 23 19.3	+0.3
	comp=Z,0.2nm,0.5s,baz=298,slow=3.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**149.09**	**42**	PKPbc	**PKPbc**	**20 23 35.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=302,slow=3.2,SNR=5.6						
KURBB				pPKPbc	**pPKPbc**	**20 24 05.8**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=299,slow=3.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**150.51**	**32**	PKPbc	**PKPbc**	**20 23 39.2**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=292,slow=4.1,SNR=9.6						
ZALV				pPKPbc	**pPKPbc**	**20 24 09.2**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=290,slow=3.1,SNR=6.3						
MKAR	**Makanchi Array**	**153.00**	**47**	PKPbc	**PKPbc**	**20 23 44.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=322,slow=1.8,SNR=7.8						
MKAR				pPKPbc	**pPKPbc**	**20 24 15.2**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=318,slow=2.3,SNR=4.2						

*IDC **24** 20:22:25.4±0.9, 51°.77N×179°.88E, h0km, mb3.7/10, mb1 4.0/10, mb1mx3.6/70, mbtmp3.7/10, MS3.5/3, Ms1 3.5/3, ms1mx2.5/69, Error ellipse: s-maj=28.8km s-min=19.9km az=151.0*
*NEIC **24** 20:22:35.8±1.0, 51°.70N×179°.89E, h86km±6km, mb4.0/44, ML3.5(AEIC), Error ellipse: s-maj=12.3km s-min=10.2km az=49.0*
*ISCJB **24** 20:22:36.5±0.6, 51°.75N±0°.06×179°.91W±0°.09, h100km, mb3.9/32, Error ellipse: s-maj=9.3km s-min=7.4km az=21.6*

ISC 24 20:22:37.1±0.8, 51°.8N±0°.1×179°.99E±0°.06, h100km, n100, σ1ᵗ39/92, mb3.9/33, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.77**	**89**	*e*Pn	**Pn**	**20 22 54.2**	**-1.0**
GALAA				*e*Sn	**Sn**	**20 23 06.7**	**-2.1**
TAPA	**Tanaga Point A**	**1.37**	**87**	*e*Pn	**Pn**	**20 23 00.9**	**-0.9**
TAPA				*e*Sn	**Sn**	**20 23 18.1**	**-2.3**
KIKV	**Kanaga Island**	**1.77**	**85**	*e*Pn	**Pn**	**20 23 05.8**	**-0.9**
KIRH	**Kanaga Island**	**1.82**	**84**	*e*Pn	**Pn**	**20 23 06.6**	**-0.7**
KIRH				*e*Sn	**Sn**	**20 23 29.6**	**-0.7**
ADAG	**Mount Adagdak**	**2.13**	**83**	*e*Pn	**Pn**	**20 23 10.4**	**-0.9**
GSTD	**Great Sitkin T**	**2.41**	**81**	*e*Pn	**Pn**	**20 23 14.0**	**-1.1**
KOWE	**Korovin West**	**3.61**	**78**	*e*Pn	**Pn**	**20 23 30.4**	**-0.6**
SMY	**Shemya**	**3.75**	**287**	*e*Pn	**Pn**	**20 23 30.1**	**-2.7**
UNV	**Unalaska Valle**	**8.45**	**70**	*e*Pn	**Pn**	**20 24 35.6**	**-0.9**
SDPT	**Sand Point**	**12.15**	**65**	*e*Pn	**Pn**	**20 25 24.9**	**-1.7**
GAMB	**Gambell**	**12.83**	**17**	*e*Pn	**Pn**	**20 25 36.6**	**+1.2**
CHGN	**Chignik**	**13.46**	**62**	*e*Pn	**Pn**	**20 25 43.9**	**+0.2**
SVW2	**Sparrevohn**	**16.34**	**46**	*e*Pn	**P**	**20 26 22.8**	**+1.5**
	3.3nm,0.9s						
OHAK	**Old Harbor**	**16.40**	**60**	*e*Pn	**Pn**	**20 26 18.2**	**-2.8**
	19nm,1.2s						
KDAK	**Kodiak Island**	**16.86**	**58**	*e*Pn	**Pn**	**20 26 24.7**	**-1.9**
SPU	**Mount Spurr**	**17.96**	**47**	*e*P	**P**	**20 26 38.6**	**-0.6**
BRLK	**Bradley Lake**	**18.12**	**52**	*e*P	**Pn**	**20 26 42.1**	**+0.2**
MA2	**Magadan**	**18.12**	**307**	LR	LR	20 32 26.1	
	comp=Z,23nm,20.0s,baz=137,slow=33						
PPLA	**Purkeypile**	**18.54**	**42**	*e*P	**Pn**	**20 26 46.8**	**-0.2**
	4.9nm,1.1s						
SUA	**Susitna One**	**18.65**	**47**	*e*P	**Pn**	**20 26 48.3**	**0.0**
	14nm,1.0s						
CAST	**Castle Rocks**	**18.80**	**41**	*e*P	**Pn**	**20 26 50.7**	**+0.7**
	10nm,1.2s						
RC01	**Rabbit Creek A**	**19.00**	**49**	*e*P	**Pn**	**20 26 52.2**	**-0.2**
	12nm,1.2s						
KTH	**Kantishna Hill**	**19.33**	**41**	*e*P	**Pn**	**20 26 56.4**	**+0.1**
	23nm,1.2s						
IM3	**Indian Mountai**	**19.46**	**33**	*e*P	**Pn**	**20 26 57.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**19.53**	**40**	*e*P	**Pn**	**20 26 58.5**	**-0.1**
	6.6nm,0.9s						
TRF	**Thorofare Moun**	**19.55**	**42**	*e*P	**Pn**	**20 26 58.3**	**-0.6**
	10nm,1.0s						
GHO	**Glory Hole Cre**	**19.57**	**47**	*e*P	**P**	**20 26 57.3**	**+0.4**
	13nm,1.1s						
SML	**Sawmill**	**19.85**	**47**	*e*P	**Pn**	**20 27 01.0**	**-1.3**
	2.1nm,0.8s						
MLY	**Manley**	**20.05**	**37**	*e*P	Pn	20 27 04.0	-0.5
	4.5nm,1.0s						
RND	**Reindeer**	**20.13**	**43**	*e*P	Pn	20 27 04.1	-1.5
GLI	**Glacier Island**	**20.20**	**50**	*e*P	**P**	**20 27 04.6**	**+1.0**
	24nm,1.2s						
MCK	**McKinley**	**20.21**	**42**	*e*P	**P**	**20 27 04.2**	**+0.5**
	5.1nm,1.1s						
SCM	**Sheep Creek Mo**	**20.32**	**48**	*e*P	**P**	**20 27 05.2**	**+0.3**
	12nm,1.2s						
DHY	**Denali Highway**	**20.65**	**44**	*e*P	**P**	**20 27 09.2**	**+0.7**
	6.5nm,0.9s						
WRH	**Wood River Hil**	**20.84**	**40**	*e*P	**P**	**20 27 10.1**	**-0.2**
	2.7nm,0.9s						
DIV	**Divide**	**20.89**	**50**	*e*P	**P**	**20 27 09.9**	**-1.1**
	5.2nm,1.0s						
KLU	**Klutina**	**20.89**	**49**	*e*P	**P**	**20 27 11.6**	**+0.5**
	8.0nm,1.1s						
MDM	**Murphy Dome**	**20.98**	**39**	*e*P	**P**	**20 27 11.4**	**-0.4**
	4.9nm,1.0s						
CCB	**Clear Creek Bu**	**21.02**	**40**	*e*P	**P**	**20 27 11.5**	**-0.8**
	1.0nm,0.8s						
HDA	**Harding Lake**	**21.27**	**41**	*e*P	**P**	**20 27 14.8**	**-0.3**
	2.0nm,0.9s						
RAGM	**Ragged Mountai**	**21.29**	**52**	*e*P	**P**	**20 27 15.8**	**+0.5**
	34nm,1.2s						
COLD	**Coldfoot**	**21.33**	**32**	*e*P	**P**	**20 27 17.1**	**+1.5**
	1.9nm,0.8s						
BMRM	**Bremner River**	**21.42**	**51**	*e*P	**P**	**20 27 17.2**	**+0.6**
	16nm,1.2s						
ILAR	**Eielson Array**	**21.43**	**40**	P	**P**	**20 27 15.2**	**-1.6**
	0.4nm,0.3s,baz=235,slow=8.8,SNR=16						
ILB	**Eielson Array**	**21.43**	**40**	*e*P	**P**	**20 27 16.4**	**-0.4**
IL1	**Eielson Array**	**21.43**	**40**	*e*P	**P**	**20 27 16.4**	**-0.4**
HARP	**HAARP**	**21.45**	**47**	*e*P	**P**	**20 27 17.8**	**+0.8**
PAX	**Paxson**	**21.45**	**45**	*e*P	**P**	**20 27 17.6**	**+0.5**
	5.6nm,1.0s						
RIDG	**Independ'e Rid**	**21.94**	**43**	*e*P	**P**	**20 27 21.6**	**-0.5**
	2.9nm,1.0s						
MENT	**Mentasta**	**22.22**	**46**	*e*P	**P**	**20 27 25.4**	**+0.3**
DOT	**Dot Lake**	**22.25**	**44**	*e*P	**P**	**20 27 25.3**	**0.0**
	3.7nm,0.7s						
TOLK	**Toolik Lake Re**	**22.30**	**29**	*e*P	**P**	**20 27 26.1**	**+0.2**
	4.6nm,1.1s						
SCRK	**Sand Creek**	**22.37**	**43**	*e*P	**P**	**20 27 25.9**	**-0.9**
	2.8nm,0.4s						
BALM	**Baldy**	**22.52**	**51**	*e*P	**P**	**20 27 27.9**	**-0.4**
	5.4nm,1.0s						
FYU	**Fort Yukon**	**22.76**	**36**	*e*P	**P**	**20 27 31.8**	**+1.2**
	9.4nm,1.1s						
EGAK	**Eagle**	**23.77**	**42**	*e*P	**P**	**20 27 40.9**	**+0.9**
	5.8nm,0.7s						
DAWY	**Dawson**	**24.36**	**44**	*e*P	**P**	**20 27 47.5**	**+2.2**
	4.3nm,0.8s						
HYT	**Haines Junctio**	**24.85**	**52**	*e*P	**P**	**20 27 50.3**	**+0.3**
	2.5nm,0.9s						
INK	**Inuvik**	**27.59**	**36**	P	**P**	**20 28 13.7**	**-0.7**
	0.4nm,0.4s,baz=251,slow=9.3,SNR=4.5						
INK	**Inuvik**	**27.59**	**36**	*e*P	**P**	**20 28 13.9**	**-0.4**
	2.9nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**33.57**	**203**	T	T	21 04 37.4	
	baz=11,slow=76,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**33.58**	**203**	T	T	21 04 48.6	
	baz=11,slow=76,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**33.59**	**203**	T	T	21 04 48.4	
	baz=11,slow=76,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**34.79**	**202**	T	T	21 07 13.8	
	baz=17						
H11S2	**WAKE ISLAND Hy**	**34.81**	**202**	T	T	21 07 08.9	
	baz=17						
H11S3	**WAKE ISLAND Hy**	**34.81**	**202**	T	T	21 06 32.6	
	baz=17						
YKA	**Yellowknife Ar**	**35.52**	**47**	P	**P**	**20 29 23.9**	**+0.1**
	0.4nm,0.4s,baz=281,slow=8.0,SNR=12						
BMW	**Boistfort Moun**	**36.73**	**75**	*e*P	**P**	**20 29 31.8**	**-2.6**
GSM	**Grass Mountain**	**37.23**	**73**	*e*P	**P**	**20 29 42.4**	**+3.7**
GSM				*e*S	**S**	**20 35 16.8**	**-1.4**
JLK	**June Lake**	**37.54**	**75**	*e*PcP	**PcP**	**20 32 00.1**	**+2.9**
GLK	**Glacier Lake**	**37.65**	**74**	epP	pP	20 29 56.0	-9.2
GULW	**Guler Mountain**	**37.98**	**75**	epP	pP	20 30 01.6	-6.3
H04A	**Detroit Lake**	**38.27**	**77**	*e*P	**P**	**20 29 50.0**	**+2.6**
	4.9nm,0.8s						
KBO	**Bosley Butte**	**38.37**	**82**	*e*P	**P**	**20 29 50.7**	**+2.4**
	17nm,1.0s						
FRIS	**Frissel Point**	**38.57**	**78**	*e*P	**P**	**20 29 47.5**	**-2.6**
FRIS				*e*PcP	**PcP**	**20 32 01.5**	**+1.0**
HUMO	**Hull Mountain**	**38.93**	**80**	*e*P	**P**	**20 29 55.3**	**+2.4**
	1.4nm,0.8s						
PAT2	**Paterson 2**	**39.11**	**74

JFR				*e*S		Sn	20 27 02.1	-1.4	
JRA	**Rausu**	**3.14**	**359**	P		Pn	20 26 29.6	+0.7	
JOT	**Ohata**	**3.21**	**282**	P		Pn	20 26 30.1	+0.3	
JOT				*e*S		Sn	20 27 03.8	-3.0	
JOM	**Ohasama**	**3.29**	**248**	P		Pn	20 26 31.1	+0.1	
JOM				*e*S		Sn	20 27 05.5	-3.4	
JTKR	**Abashiri--Toko**	**3.31**	**343**	P		Pn	20 26 32.9	+1.6	
JTKR				*e*S		Sn	20 27 10.3	+0.9	
JEW	**Eniwo**	**3.48**	**307**	P		Pn	20 26 35.6	+2.1	
JEW				*e*S		Sn	20 27 14.2	+0.7	
JKK2	**Kamakawa 2**	**3.58**	**330**	P		Pn	20 26 37.1	+2.2	
JKK2				*e*S		Sn	20 27 18.6	+2.7	
JMK	**Ichinoseki**	**3.59**	**240**	P		Pn	20 26 35.1	+0.1	
JMK				*e*S		Sn	20 27 12.7	-3.5	

MEX 24 20:26:54.4±0.6, 16°.38N×98°.21W, h12km±3km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.08**	**84**	*i* P	Pg	20 26 56.0	-1.1
PNIG				*e*S	Sg	20 26 58.6	-0.4
TLIG	**Tlapa**	**1.22**	**344**	*e*P	Pg	20 27 13.8	-3.7
TLIG				*e*S	Sb	20 27 28.5	-4.8
VHO	**Vista Hermosa**	**1.57**	**64**	*e*P	Pn	20 27 19.1	-3.3
VHO				*e*S	Sn	20 27 37.6	-5.1
ACX	**Acapulco**	**1.65**	**287**	*e*P	Pn	20 27 23.7	+0.5
ACX				*i* S	Sn	20 27 44.4	0.0
CAIG	**El Cayaco**	**2.08**	**289**	*e*P	Pn	20 27 26.2	-2.9
CAIG				*i* S	Sn	20 27 50.6	-4.3
HUIG	**Huatulco**	**2.11**	**107**	*e*P	Pn	20 27 26.4	-3.2
PLIG	**Platanillo**	**2.35**	**329**	*e*P	Pn	20 27 30.1	-2.8
PLIG				*e*S	Sn	20 27 57.4	-4.3

MEX 24 20:41:42.9±0.4, 16°.58N×98°.43W, h8km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**123**	*e*P	Pg	20 41 49.2	-0.5
PNIG				*i* S	Sg	20 41 54.5	+0.1
TLIG	**Tlapa**	**0.98**	**353**	*e*P	Pg	20 41 59.5	-2.4
TLIG				*e*S	Sg	20 42 12.1	-2.6
ACX	**Acapulco**	**1.40**	**282**	*e*P	Pg	20 42 09.9	+0.2
ACX				*e*S	Sn	20 42 27.6	+0.2
VHO	**Vista Hermosa**	**1.70**	**73**	*e*P	Pn	20 42 09.2	-3.9
VHO				*i* S	Sn	20 42 30.3	-4.9
CAIG	**El Cayaco**	**1.82**	**285**	*i* P	Pn	20 42 33.3	-4.3
CAIG				*i* S	Sn	20 42 33.4	-4.4
PLIG	**Platanillo**	**2.07**	**331**	*e*P	Pn	20 42 14.6	-3.5
PLIG				*e*S	Sn	20 42 39.2	-5.0

*IDC **24** 20:47:10.4±1.3, 20°.02N×155°.13W, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/61, mbtmp4.0/14, MS3.2/9, Ms1 3.2/9, ms1mx2.9/48, Error ellipse: s-maj=39.7km s-min=19.6km az=166.0*

*ISCJB **24** 20:47:13.4±0.4, 19°.93N±0°.04×155°.17W±0°.03, h41km±5km, mb4.5/74, MS3.2/9, Error ellipse: s-maj=7.1km s-min=4.4km az=36.2*

*NEIC **24** 20:47:15.2±0.0, 19°.86N×155°.13W, h43km, mb4.6/62, MD4.4(HVO), After HVO.*

NEIC Felt [IV] at Hakalau, Honomu, Pa'auilo, Papa'ikou, Pepeekeo and Waimea. Felt throughout the Island of Hawai'i, in much of Maui and at Kualapu'u, Moloka'i. Felt [II] at Honolulu, O'ahu. Also felt at at Kailua, Mililani Town and Wahiawa.

ISC 24 20:47:13.7±0.9, 19°.92N±0°.04×155°.22W±0°.04, h28km±6km, n244, σ1s23/253, mb4.5/74, MS3.2/9, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.34**	**242**	*e*Pg	**Pn**	**20 47 23.7**	**+0.8**
HMH	**Humu'ula Sheep**	**0.40**	**219**	*e*Pg	**Pn**	**20 47 24.3**	**+0.5**
MLH	**Mauna Loa**	**0.45**	**201**	*e*Pg	**Pn**	**20 47 24.5**	**0.0**
HPAH	**Hawaii Prepara**	**0.47**	**284**	*e*Pn	**Pn**	**20 47 25.3**	**+0.7**
SBLHI	**Steaming Bluff**	**0.49**	**186**	*e*Pg	**Pb**	**20 47 24.3**	**+0.4**
HATHI	**Halema'uma'u T**	**0.49**	**185**	*e*Pg	**Pb**	**20 47 24.3**	**+0.3**
UWE	**Uwekahuna**	**0.50**	**188**	*e*Pg	**Pn**	**20 47 24.5**	**-0.6**
OBL	**Observatory Le**	**0.50**	**187**	*e*Pg	**Pb**	**20 47 24.5**	**+0.4**
BYL	**Byron's Ledge**	**0.50**	**185**	*e*Pg	**Pb**	**20 47 24.4**	**+0.3**
MLOA	**Mauna Loa Obse**	**0.51**	**222**	*e*Pg	**Pn**	**20 47 25.8**	**+0.3**
MLOA				*e*Sg	**Sn**	**20 47 33.1**	**-0.3**
RIM	**Rim**	**0.52**	**186**	*e*Pg	**Pb**	**20 47 24.8**	**+0.3**
SDHHI	**Sand Hill**	**0.53**	**188**	*e*Pg	**Pb**	**20 47 24.8**	**+0.1**
NPOC	**North of Pu'u**	**0.53**	**169**	*e*Pg	**Pb**	**20 47 24.5**	**-0.1**
STCH	**Steam Cracks**	**0.53**	**171**	*e*Pg	**Pb**	**20 47 24.5**	**-0.2**
PUH	**Pauahi**	**0.54**	**180**	*e*Pg	**Pb**	**20 47 24.8**	**+0.1**
JCUZ	**Jacuzzi**	**0.54**	**168**	*e*Pg	**Pb**	**20 47 24.6**	**-0.2**
HULD	**Heiheiahulu Di**	**0.55**	**155**	*e*Pg	**Pb**	**20 47 24.5**	**-0.4**
MWH	**Moku'aweowe**	**0.56**	**220**	*e*Pg	**Pn**	**20 47 26.2**	**-0.1**
AIN	**Ainahou**	**0.58**	**203**	*e*Pg	**Pn**	**20 47 26.1**	**-0.2**
AIN				*e*Sn	**Sb**	**20 47 33.6**	**-0.1**
HLP	**Hilina Pali**	**0.62**	**188**	*e*Pg	**Pb**	**20 47 25.9**	**-0.2**
HUH	**Hualalai**	**0.62**	**249**	*e*Pg	**Pn**	**20 47 27.6**	**+0.6**
MHA	**Mahukona**	**0.70**	**293**	*e*Pn	**Pn**	**20 47 28.3**	**+0.6**
MHA				*e*Sg	**Sn**	**20 47 38.0**	**+0.4**
KHLU	**Kahalu'u**	**0.71**	**243**	*e*Pn	**Pn**	**20 47 28.3**	**+0.3**
KHLU				*e*Sg	**Sb**	**20 47 37.3**	**+0.1**
I59US	**HAWAII INFRASO**	**0.71**	**243**	Pg	**Pb**	**20 47 27.9**	**+0.2**
I59US	baz=23,slow=6.1,SNR=4.6			Lg	Lg	20 47 36.9	
	baz=19,slow=6.3						
KHU	**Kahuku**	**0.76**	**209**	*e*Pn	**Pb**	**20 47 28.1**	**-0.5**
KKH	**Kailua Kona**	**0.80**	**251**	*e*Pn	**Pn**	**20 47 29.2**	**+0.1**
HLK	**Haleakala**	**1.28**	**311**	*e*Pn	**Pn**	**20 47 35.7**	**-0.2**
HLK				*e*Sn	**Sn**	**20 47 50.5**	**-1.8**
KHLH	**Kahului Airpor**	**1.50**	**311**	*e*Pn	**Pn**	**20 47 39.2**	**+0.5**
KHLH				*e*Sn	**Sn**	**20 47 53.7**	**-3.6**
HON	**Honolulu**	**2.96**	**299**	*e*Pn	**Pn**	**20 47 59.0**	**+0.1**
HON				*e*Sn	**Sn**	**20 48 31.5**	**-2.0**
KIP	**Kipapa**	**3.02**	**300**	*e*Pn	**Pn**	**20 47 59.3**	**-0.3**
KIP				*e*Sn	**Sn**	**20 48 32.3**	**-2.6**
OPA	**Opana**	**3.15**	**305**	*e*Pn	**Pn**	**20 48 01.2**	**-0.3**
OPA				*e*Sn	**Sn**	**20 48 35.6**	**-2.5**
KEKH	**Kekaha**	**4.68**	**297**	*e*Pn	**Pn**	**20 48 21.9**	**-0.6**
KEKH				*e*Sn	**Sn**	**20 49 10.0**	**-5.8**
JOHN	**Johnston Islan**	**13.95**	**259**	*e*Pn	**Pn**	**20 50 26.3**	**-3.3**
XMAS	**Kiritimati**	**17.89**	**187**	*e*Pn	**Pn**	**20 51 17.7**	**-3.0**
	97nm,1.1s						
SAO	**San Andreas Ge**	**33.91**	**53**	*e*P	**P**	**20 53 53.8**	**-0.5**
	27nm,1.1s						
GATR	**Gnd/Air Tx Cnt**	**33.95**	**57**	*e*pP	pP	20 54 01.4	-1.6
SBC	**Santa Barbara**	**34.55**	**58**	*e*pP	**pP**	**20 54 07.8**	**-0.4**
SBC				*e*S	**S**	**20 59 30.8**	**+3.6**
ORV	**Oroville**	**34.93**	**49**	*e*P	**P**	**20 54 03.8**	**+0.6**
	23nm,2.0s						
AFDM	**Forest Hills D**	**35.07**	**50**	*e*P	**P**	**20 54 04.7**	**+0.3**
	29nm,1.9s						
YBH	**Yreka Blue Hor**	**35.07**	**44**	P	**P**	**20 54 04.3**	**-0.1**
	3.1nm,0.9s,baz=252,slow=8.5,SNR=5.7						
YBH				LR	LR	21 04 45.3	
	comp=Z,49nm,21.7s,baz=233,slow=30						
RUBR	**Rubicon Trail**	**35.69**	**50**	*e*P	**P**	**20 54 08.8**	**-1.2**
	109nm,0.9s						
PASC	**Pasadena Art C**	**35.70**	**59**	*e*P	**P**	**20 54 09.2**	**-0.7**
	38nm,1.8s						
MWC	**Mount Wilson**	**35.81**	**59**	*e*P	**P**	**20 54 09.4**	**-1.7**
	55nm,1.8s						
ISA	**Isabella, Lake**	**35.85**	**56**	P	**P**	**20 54 10.6**	**-0.6**
	baz=254,SNR=5.2						
ISA	**Isabella, Lake**	**35.85**	**56**	*e*P	**P**	**20 54 11.1**	**-0.2**
	8.0nm,1.1s						
EDW2	**Edwards Air Fo**	**36.03**	**58**	P	**P**	**20 54 13.7**	**+1.0**
	baz=255						
BFSC	**Mount Baldy Ra**	**36.14**	**59**	P	**P**	**20 54 12.3**	**-1.5**
	baz=256						
CPE	**Camp Elliot**	**36.30**	**61**	*e*P	**P**	**20 54 14.2**	**-0.8**
	16nm,1.0s						
YERR	**Yerington**	**36.33**	**51**	*e*P	**P**	**20 54 15.1**	**-0.4**
	11nm,1.4s						
MURC	**Murrieta**	**36.37**	**60**	P	**P**	**20 54 14.6**	**-1.1**
	baz=258						
LRMC	**Laurel Mtn Rad**	**36.43**	**57**	P	**P**	**20 54 15.9**	**-0.4**
	baz=255						
DPP	**Dos Picos Cty**	**36.46**	**61**	*e*PcP	**PcP**	**20 56 41.8**	**+1.7**
DGR	**Domenigoni Val**	**36.54**	**60**	*e*PcP	**PcP**	**20 56 40.5**	**+0.2**
BBSC	**Beaumont Base**	**36.62**	**60**	*e*PcP	**PcP**	**20 56 40.3**	**-0.3**
BAR	**Barrett**	**36.62**	**62**	*e*P	**P**	**20 54 17.8**	**0.0**
	7.2nm,1.1s						
MPMC	**Manual Prospec**	**36.73**	**56**	P	**P**	**20 54 19.6**	**+0.8**
	baz=254						
RYN	**Ryan**	**36.73**	**51**	*e*P	**P**	**20 54 18.9**	**+0.1**
	35nm,1.3s						
J05D	**Fort Rock, OR**	**36.77**	**43**	P	**P**	**20 54 19.5**	**+0.5**
	baz=241						
FLSC	**Flash Two Peak**	**36.81**	**58**	*e*P	**P**	**20 54 20.1**	**+0.6**
NVAR	**Mina Array Bea**	**36.83**	**52**	P	**P**	**20 54 19.0**	**-0.7**
	0.6nm,0.4s,baz=254,slow=9.2,SNR=2.4						
FRD	**Ford Ranch, An**	**36.84**	**60**	*e*PcP	**PcP**	**20 56 39.4**	**-1.9**
SNDA	**J Saunders Pla**	**36.84**	**60**	*e*PcP	**PcP**	**20 56 41.3**	**-0.1**
MONP2	**Monument Peak**	**36.87**	**61**	P	**P**	**20 54 19.6**	**-0.5**
	baz=259,SNR=7.4						
PFO	**Pinyon Flats O**	**36.98**	**60**	P	**P**	**20 54 21.5**	**+0.5**
	baz=258						
PFO	**Pinyon Flats O**	**36.98**	**60**	*e*P	**P**	**20 54 21.4**	**+0.5**
	4.8nm,1.0s						
TPFO	**Pinon Flats**	**36.98**	**60**	P	**P**	**20 54 21.0**	**0.0**
	baz=258						
XPFO	**Piæon Flat**	**36.98**	**60**	*e*P	**P**	**20 54 21.6**	**+0.6**
	4.7nm,0.9s						
GSC	**Goldstone, Bar**	**37.08**	**57**	P	**P**	**20 54 22.5**	**+0.8**
	baz=256						
GSC	**Goldstone, Bar**	**37.08**	**57**	*e*P	**P**	**20 54 22.4**	**+0.7**
	4.6nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**37.08**	**62**	P	**P**	**20 54 22.7**	**+0.9**
	baz=260						
BELC	**Belle Mtn. Jos**	**37.43**	**60**	P	**P**	**20 54 25.6**	**+0.8**
	baz=258						
JLK	**June Lake**	**37.66**	**38**	*e*P	**P**	**20 54 25.4**	**-1.1**
G05D	**Wamic, OR**	**37.69**	**40**	P	**P**	**20 54 28.0**	**+1.4**
	baz=239						
GMRC	**Granite Mounta**	**37.87**	**59**	P	**P**	**20 54 29.0**	**+0.6**
	baz=257						
IRM	**Iron Mountain**	**38.16**	**60**	P	**P**	**20 54 31.8**	**+1.0**
	baz=258						
SHPR	**Sheep Range**	**38.66**	**56**	*e*P	**P**	**20 54 36.3**	**+1.1**
	4.6nm,1.0s						
R11A	**Troy Canyon, C**	**38.83**	**53**	P	**P**	**20 54 37.8**	**+1.2**
	baz=253						
R11A	**Troy Canyon, C**	**38.83**	**53**	*e*P	**P**	**20 54 37.5**	**+0.9**
	3.1nm,1.0s						
G08A	**Pilot Rock**	**39.16**	**41**	*e*P	**P**	**20 54 40.6**	**+1.5**
	6.5nm,0.8s						
MDW	**Midway**	**39.32**	**39**	*e*P	**P**	**20 54 41.1**	**+0.8**
214A	**Organ Pipe Nat**	**39.74**	**64**	P	**P**	**20 54 44.3**	**+0.2**
	baz=263						
F10A	**Beach Ranch, E**	**40.55**	**41**	*e*P	**P**	**20 54 51.5**	**+0.9**
	10nm,0.9s						
C09A	**Chrisman Ranch**	**40.79**	**38**	*e*P	**P**	**20 54 52.9**	**+0.3**
	5.4nm,0.8s						
U15A	**North Rim**	**40.90**	**57**	*e*P	**P**	**20 54 55.0**	**+1.1**
	2.5nm,0.8s						
X16A	**Lo Mia Camp, P**	**41.22**	**60**	*e*P	**P**	**20 54 57.6**	**+1.1**
	6.5nm,0.8s						
MTPU	**Mont Pierson**	**41.34**	**55**	*e*P	**P**	**20 54 58.8**	**+1.2**
	4.9nm,1.0s						
HLID	**Hailey**	**41.39**	**46**	P	**P**	**20 54 59.1**	**+1.4**
	baz=248,SNR=5.9						
HLID	**Hailey**	**41.39**	**46**	*e*P	**P**	**20 54 58.3**	**+0.6**
	3.0nm,0.8s						
DUG	**Dugway, Tooele**	**41.42**	**51**	P	**P**	**20 54 58.1**	**0.0**
	baz=253						
WUAZ	**Wupatki**	**41.46**	**59**	P	**P**	**20 54 59.3**	**+0.9**
	baz=260						
WUAZ	**Wupatki**	**41.46**	**59**	*e*P	**P**	**20 54 59.3**	**+0.9**
	6.3nm,0.9s						
TUC	**Tucson**	**41.49**	**63**	P	**P**	**20 54 59.0**	**+0.4**
	baz=264						
LPIG	**La Paz**	**41.72**	**76**	LR	LR	21 07 07.9	
	comp=Z,53nm,21.0s,baz=2.5,slow=29						
HVU	**Hansel Valley**	**41.92**	**49**	*e*P	**P**	**20 55 03.0**	**+1.0**
	6.7nm,0.8s						
P17A	**Butcher Ranch,**	**42.77**	**53**	*e*P	**P**	**20 55 09.8**	**+0.7**
	16nm,1.5s						
SRU	**San Rafael Swe**	**42.85**	**54**	*e*P	**P**	**20 55 10.6**	**+0.8**
	6.7nm,0.9s						
JTMT	**Jette**	**43.15**	**40**	*e*P	**P**	**20 55 11.1**	**-0.8**
	16nm,1.6s						
DLMT	**Dillon**	**43.26**	**44**	*e*P	**P**	**20 55 13.1**	**+0.1**
	6.0nm,1.0s						
LRM	**Limekiln Ridge**	**43.52**	**44**	*e*P	**P**	**20 55 15.6**	**+0.4**
KTH	**Kaniohna Hill**	**43.71**	**3**	*e*P	**P**	**20 55 16.4**	**+0.3**
	12nm,0.9s						
TPAW	**Teton Pass**	**43.73**	**47**	*e*P	**P**	**20 55 16.5**	**-0.3**
	6.0nm,1.0s						
WALA	**Waterton Lakes**	**43.95**	**39**	*e*P	**P**	**20 55 19.5**	**+1.1**
	7.1nm,1.1s						
BOZ	**Bozeman (W)**	**43.98**	**44**	P	**P**	**20 55 19.9**	**+1.2**
	baz=249						
BOZ	**Bozeman (W)**	**43.98**	**44**	*e*P	**P**	**20 55 19.4**	**+0.7**
	19nm,1.3s						
MVCO	**Mesa Verde**	**44.04**	**57**	P	**P**	**20 55 20.4**	**+1.0**
	baz=260						
121A	**Cookes Peak, D**	**44.04**	**64**	P	**P**	**20 55 19.4**	**0.0**
	baz=265						
BW06	**Boulder Array**	**44.49**	**49**	P	**P**	**20 55 23.3**	**+0.3**
	baz=254						
PD31	**Pinedale Array**	**44.49**	**49**	*e*P	**P**	**20 55 22.9**	**0.0**
PDAR	**Pinedale Array**	**44.49**	**49**	P	**P**	**20 55 22.8**	**-0.1**
	1.3nm,0.8s,baz=237,slow=5.1,SNR=9.9						
PDAR				LR	LR	21 10 29.1	
	comp=Z,30nm,21.7s,baz=274,slow=32						
PDAR	**Pinedale Array**	**44.49**	**49**	*e*P	**P**	**20 55 22.5**	**-0.5**
ILAR	**Eielson Array**	**45.18**	**5**	P	**P**	**20 55 27.8**	**0.0**
	1.4nm,0.6s,baz=194,slow=7.2,SNR=17						
ILAR				PcP	**PcP**	**20 57 07.8**	**+0.1**
	0.5nm,0.6s,baz=212,slow=4.3,SNR=4.6						
ILB	**Eielson Array**	**45.18**	**5**	*e*P	**P**	**20 55 28.2**	**+0.5**
ANMO	**Albuquerque**	**45.36**	**60**	P	**P**	**20 55 30.4**	**+0.5**
	baz=264						
ANMO	**Albuquerque**	**45.36**	**60**	*e*P	**P**	**20 55 30.5**	**+0.5**
	2.3nm,1.0s						
RLMT	**Red Lodge**	**45.39**	**46**	P	**P**	**20 55 30.0**	**0.0**
	baz=252						
S22A	**4UR Ranch, Cre**	**45.43**	**56**	P	**P**	**20 55 30.6**	**0.0**
	baz=261						
SMCO	**Snowmass**	**45.57**	**54**	*e*P	**P**	**20 55 31.6**	**-0.1**
	4.4nm,1.1s						
MNTX	**Cornudas Mount**	**46.02**	**65**	P	**P**	**20 55 35.6**	**+0.5**
	baz=268,SNR=11						
MNTX	**Cornudas Mount**	**46.02**	**65**	*e*P	**P**	**20 55 35.4**	**+0.4**
	5.4nm,0.7s						
EGMT	**Eagleton**	**46.05**	**42**	P	**P**	**20 55 35.7**	**+0.6**
	baz=248						
EGMT	**Eagleton**	**46.05**	**42**	*e*P	**P**	**20 55 35.0**	**-0.1**
	9.9nm,1.2s						
SDCO	**Great Sand Dun**	**46.48**	**57**	P	**P**	**20 55 38.6**	**-0.2**
	baz=262,SNR=5.1						
SDCO	**Great Sand Dun**	**46.48**	**57**	*e*P	**P**	**20 55 38.6**	**-0.2**
	4.3nm,1.0s						
N23A	**Red Feather La**	**46.67**	**52**	P	**P**	**20 55 40.3**	**+0.1**
	baz=258						
N23A	**Red Feather La**	**46.67**	**52**	*e*P	**P**	**20 55 40.9**	**+0.6**
	19nm,1.3s						
ISCO	**Idaho Springs**	**46.71**	**54**	P	**P**	**20 55 41.2**	**+0.5**
	baz=260						
Q24A	**Divide**	**46.93**	**55**	P	**P**	**20 55 42.0**	**-0.4**
	baz=261						
T25A	**Trinidad**	**47.26**	**57**	P	**P**	**20 55 43.9**	**-0.9**
	baz=263						
TX31	**Lajitas Ar. Si**	**47.47**	**68**	*e*P	**P**	**20 55 47.1**	**+0.6**
TX31				*e*S	**S**	**21 02 34.4**	**-5.3**
LTX	**Lajitas**	**47.48**	**68**	*e*P	**P**	**20 55 47.6**	**+1.1**
TXAR	**Lajitas Array**	**47.48**	**68**	P	**P**	**20 55 47.6**	**+1.1**
	6.5nm,0.7s,baz=257,slow=8.7,SNR=94						
TXAR				LR	LR	21 10 50.1	
	comp=Z,30nm,21.7s,baz=0.0,slow=30						
LAO	**LASA Array**	**47.89**	**44**	P	**P**	**20 55 48.8**	**-0.6**
	baz=253						
MSTX	**Muleshoe**	**48.32**	**62**	P	**P**	**20 55 52.7**	**-0.3**
	baz=267,SNR=6.5						
MSTX	**Muleshoe**	**48.32**	**62**	*e*P	**P**	**20 55 53.0**	**0.0**
	14nm,0.9s						
RSSD	**Black Hills**	**48.72**	**48**	P	**P**	**20 55 56.3**	**+0.2**
	baz=257						
KSCO	**Kaye Shedlock'**	**48.88**	**55**	P	**P**	**20 55 57.3**	**0.0**
	baz=263						
PETK	**Petropavlovsk-**	**48.97**	**324**	P	**P**	**20 55 58.7**	**+1.2**
	2.5nm,0.8s,baz=101,slow=12,SNR=3.2						
PETK				LR	LR	21 14 20.4	
	comp=Z,12nm,20.6s,baz=90,slow=33						
PEA1	**Petropavlovsk-**	**48.98**	**324**	*e*P	**P**	**20 55 58.7**	**+1.2**
INK	**Inuvik**	**50.26**	**10**	P	**P**	**20 56 07.0**	**0.0**
	1.3nm,0.8s,baz=189,slow=9.6,SNR=5.8						
INK	**Inuvik**	**50.26**	**10**	*e*P	**P**	**20 56 07.0**	**0.0**
	7.4nm,1.4s						
YKA	**Yellowknife Ar**	**50.84**	**23**	P	**P**	**20 56 11.6**	**+0.1**
	1.4nm,0.8s,baz=232,slow=7.9,SNR=16						
YKA				PcP	**PcP**	**20 57 27.4**	**-0.6**
	0.3nm,0.6s,baz=235,slow=3.0,SNR=4.8						
ABTX	**Abilene, Hawle**	**50.91**	**64**	P	**P**	**20 56 12.1**	**-0.6**
	baz=270						
ABTX	**Abilene, Hawle**	**50.91**	**64**	*e*P	**P**	**20 56 12.4**	**-0.3**
	17nm,1.4s						
CBKS	**Cedar Bluff**	**51.10**	**56**	*e*P	**P**	**20 56 13.8**	**-0.2**
	15nm,1.3s						
LNIG	**Linares**	**51.49**	**74**	*e*P	**P**	**20 56 16.3**	**-0.8**
	2.4nm,0.8s						
WHTX	**Lake Whitney,**	**52.77**	**65**	*e*P	**P**	**20 56 26.1**	**-0.3**
	12nm,1.3s						
KSU1	**Kansas State U**	**53.56**	**56**	P	**P**	**20 56 30.6**	**-1.6**
	baz=267						
KSU1	**Kansas State U**	**53.56**	**56**	*e*P	**P**	**20 56 31.4**	**-0.8**
	9.3nm,1.0s						
C31A	**Landman Farms,**	**53.77**	**45**	P	**P**	**20 56 32.6**	**-1.0**
	baz=260						
ECSD	**EROS Data Cent**	**53.94**	**50**	P	**P**	**20 56 33.7**	**-1.2**
	baz=263						
ECSD	**EROS Data Cent**	**53.94**	**50**	*e*P	**P**	**20 56 33.7**	**-1.2**
	9.7nm,1.8s						
TUL1	**Leonard**	**54.11**	**60**	*e*P	**P**	**20 56 35.9**	**-0.4**
	7.0nm,1.0s						
T38A	**Diamond**	**55.32**	**58**	P	**P**	**20 56 43.9**	**-1.2**
	baz=270						
H35A	**Sunnyside Ranc**	**55.32**	**49**	P	**P**	**20 56 44.0**	**-0.9**
	baz=264						
P37A	**Lathrop**	**55.33**	**55**	P	**P**	**20 56 44.1**	**-1.0**
	baz=268						
ULM	**Lac du Bonnet**	**55.42**	**42**	P	**P**	**20 56 44.2**	**-1.3**
	0.6nm,0.3s,baz=280,slow=8.2,SNR=5.7						
ULM	**Lac du Bonnet**	**55.42**	**42**	*e*P	**P**	**20 56 44.4**	**-1.1**
	25nm,2.0s						
X39A	**Fountain Ranch**	**55.50**	**61**	P	**P**	**20 56 45.8**	**-0.6**
	baz=272,SNR=5.3						
A33A	**Warroad**	**55.50**	**44**	P	**P**	**20 56 45.0**	**-1.1**
	baz=261						
J36A	**Seneca 1, Swea**	**55.55**	**51**	P	**P**	**20 56 45.6**	**-1.0**
	baz=265						
HHAR	**Hobbs**	**55.61**	**59**	*e*P	**P**	**20 56 45.7**	**-1.5**
	13nm,1.5s						
C34A	**RKJ Ranch, Bem**	**55.62**	**45**	P	**P**	**20 56 46.9**	**-0.2**
	baz=262						
S38A	**Stockton**	**55.63**	**58**	P	**P**	**20 56 46.8**	**-0.5**
	baz=270						
R38A	**Fenwick Farm,**	**55.64**	**57**	P	**P**	**20 56 46.7**	**-0.6**
	baz=269						
V39A	**Pettigrew**	**55.85**	**60**	P	**P**	**20 56 48.3**	**-0.7**
	baz=271						
U39A	**Green Forest**	**55.98**	**59**	P	**P**	**20 56 48.4**	**-1.4**
	baz=271						
K37A	**Belmond**	**56.02**	**51**	P	**P**	**20 56 49.1**	**-0.9**
	baz=266,SNR=6.0						
T39A	**Clever**	**56.05**	**58**	P	**P**	**20 56 49.2**	**-1.1**
	baz=270						
S39A	**Bolivar**	**56.10**	**57**	P	**P**	**20 56 49.5**	**-1.1**
	baz=270						
C35A	**Jirik Farms, M**	**56.26**	**45**	P	**P**	**20 56 49.8**	**-1.8**
	baz=263						
M38A	**Pleasantville**	**56.28**	**53**	P	**P**	**20 56 50.9**	**-0.9**
	baz=267						
R39A	**Chumby, Stover**	**56.32**	**57**	P	**P**	**20 56 51.0**	**-1.2**
	baz=270						
F36A	**Milaca**	**56.36**	**48**	P	**P**	**20 56 51.6**	**-0.8**
	baz=264						
Q39A	**Willow Grove F**	**56.38**	**56**	P	**P**	**20 56 51.7**	**-0.9**
	baz=269						
U40A	**Yellville**	**56.48**	**59**	P	**P**	**20 56 52.7**	**-0.7**
	baz=271						
L38A	**Oak Wood Farm,**	**56.49**	**52**	P	**P**	**20 56 52.2**	**-1.1**
	baz=267						
B35A	**Bob, Littlefor**	**56.51**	**45**	P	**P**	**20 56 51.7**	**-1.6**
	baz=262						
V40A	**Witts Springs**	**56.52**	**60**	P	**P**	**20 56 51.8**	**-1.9**
	baz=271						
YSS	**Yuzh-Sakhalins**	**56.70**	**314**	*e*P	**P**	**20 56 55.9**	**+1.2**
	5.1nm,0.6s						
T40A	**Mansfield**	**56.74**	**58**	P	**P**	**20 56 54.6**	**-0.6**
	baz=271						
D36A	**Goodland**	**56.74**	**46**	P	**P**	**20 56 53.9**	**-1.1**
	baz=264						
S40A	**Lebanon**	**56.75**	**58**	P	**P**	**20 56 54.1**	**-1.2**
	baz=270						
SPMN	**Marine on St.**	**56.80**	**48**	P	**P**	**20 56 54.9**	**-0.6**
	baz=265						
SPMN	**Mar

comp=Z,10nm,18.2s,baz=26,slow=36
KSRS Korea Array 67.96 303 LR LR 21 22 20.2
comp=Z,10nm,21.5s,baz=55,slow=31
CN2 Changchun 68.92 310 *eP* **P 20 58 17.0 +0.8**
NJ2 Nanjing 76.38 299 *eP* **P 20 59 01.0 +0.3**
HHC Hu-ho-hao-te 79.60 310 *eP* **P 20 59 19.0 +0.3**
SONA0 Songino Array 80.92 318 *eP* **P 20 59 26.2 +0.5**
SONM Songino Array 80.92 318 P **P 20 59 26.2 +0.5**
1.3nm,0.7s,baz=62,slow=3.7,SNR=12
ASAR Alice Springs 81.52 241 P **P 20 59 30.7 +1.6**
0.5nm,0.9s,baz=64,slow=6.1,SNR=3.3
LZH Lanzhou 86.91 307 *eP* **P 20 59 56.0 -0.5**
LZH pP sP 21 00 11.0 +2.1
LZH sP pP 21 00 17.8 +12
GYA Guiyang 88.23 297 *eP* **P 21 00 02.0 -1.0**
GYA pP sP 21 00 15.4 +0.1
GYA PP **PP 21 03 32.8 +2.7**
GYA Guiyang 88.23 297 SKS **SKSac 21 10 25.0 -5.4**
BORG Borgarnes 88.51 18 LR LR 21 36 07.9
comp=Z,20nm,20.9s,baz=170,slow=33
CD2 Chengdu 88.94 302 *eP* **P 21 00 08.8 +2.6**
ZAA1 Zalesovo Array 90.27 329 *eP* **P 21 00 12.2 +0.4**
ZALV Zalesovo Beam 90.27 329 P **P 21 00 12.2 +0.4**
0.4nm,0.3s,baz=40,slow=2.5,SNR=4.2
WMQ Urumqi 94.39 320 P **P 21 00 35.8 +4.6**
MK32 Makanchi Array 95.81 324 *eP* **P 21 00 40.2 +2.6**
MKAR Makanchi Array 95.81 324 P **P 21 00 40.2 +2.6**
0.3nm,0.8s,baz=62,slow=3.4,SNR=3.4
BVAR Borovoye Array 97.34 334 LR LR 21 48 08.2
comp=Z,9.8nm,18.4s,baz=94,slow=38
TOA1 Torodi Ar. Sit 140.05 37 *e*PKPdf **PKPdf 21 06 41.9 +1.4**
TORD Torodi Ar. Bea 140.05 37 PKP **PKPdf 21 06 41.9 +1.4**
0.3nm,0.6s,baz=314,slow=2.7,SNR=2.6

*ATA **24** 20:47:48.6±1.3,39°25′N×41°93′E, h17km±7km, ML2.7, MW2.7*
*CSEM **24** 20:47:49.4,39°19′N×41°98′E, h23km, ML2.1, After ISK*
ISK 24 20:47:49.4,39°19′N×41°98′E, h23km, ML2.1/4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.10**	**42**	*e*P	Pb	20 47 52.5	-1.6
EKAR				*e*S	Sb	20 47 56.5	-0.8
EKAR				IAML		20 47 58.0	
	comp=Z,136nm,0.3s						
VRTB	**Varto-Mus**	**0.41**	**267**	PG	Pb	20 47 58.6	+0.4
VRTB				SG	Sb	20 48 05.1	+1.0
VRTB	**Varto-Mus**	**0.41**	**267**	*e*Pg	Pb	20 47 58.6	+0.4
VRTB				*e*Sg	Sb	20 48 05.1	+1.0
GURO	**Guroymak-BITLI**	**0.63**	**176**	PG	Pb	20 48 02.5	+0.6
GURO	**Guroymak-BITLI**	**0.63**	**176**	*e*Pg	Pb	20 48 02.5	+0.6
TUTA	**Tutak**	**0.68**	**71**	*e*P	Pn	20 48 03.4	-0.5
TUTA				*e*S	Sn	20 48 13.0	-0.9
TUTA				IAML		20 48 14.7	
	comp=Z,25nm,0.2s						
EATA	**Eleskirt**	**0.78**	**30**	*e*P	Pb	20 48 04.6	+0.1
EATA				*e*S	Sn	20 48 15.9	-0.6
HOMI	**Horasan**	**0.86**	**356**	*e*P	Pb	20 48 04.2	-1.7
HOMI				*e*S	Sb	20 48 16.7	-0.4
ERZM	**Erzurum**	**0.86**	**327**	*e*P	Pb	20 48 04.3	-1.6
AGRB	**Hanur-Agry**	**0.88**	**63**	PG	Pn	20 48 06.7	+0.2
AGRB				SG	Sn	20 48 19.2	+0.6
AGRB	**Hanur-Agry**	**0.88**	**63**	*e*Pg	Pn	20 48 06.7	+0.2
AGRB				*e*Sg	Sn	20 48 19.2	+0.6
BNGB	**Bing¯¶l**	**1.03**	**260**	PG	Pb	20 48 09.2	+0.5
BNGB				SG	Sn	20 48 23.0	+0.6
BINT	**Bingol**	**1.20**	**256**	*e*Pg	Pn	20 48 09.2	-1.7
BINT				*e*Sg	Sn	20 48 23.0	-3.6

*ISCJB **24** 20:53:12.6±0.2, 15°.26S±0°.05×173°.81W±0°.06, h100km, mb4.7/62, Error ellipse: s-maj=9.2km s-min=5.0km az=39.1*
*IDC **24** 20:53:12.6±2.6, 15°.20S×173°.85W, h85km±23km, mb4.0/14, mb1 4.3/15, mb1mx4.0/42, mbtmp4.4/15, MS3.4/9, Ms1 3.4/9, ms1mx3.0/39, Error ellipse: s-maj=23.4km s-min=12.9km az=126.0*
*BJI **24** 20:53:13.9, 14°.99S×173°.35W, h106km, mb4.8/12, mB5.2/5*
*NEIC **24** 20:53:13.8±0.9, 15°.23S×173°.79W, h98km±8km, mb4.8/44, Error ellipse: s-maj=8.2km s-min=4.4km az=127.0*
ISC 24 20:53:13.7±0.4, 15°.30S±0°.08×173°.61W±0°.08, h100km, n124, σ1§19/121, mb4.7/62, 6C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.25**	**52**	P	**Pn**	**20 53 50.2**	**+0.5**
	382nm,0.3s,baz=56,slow=1.5,SNR=267						
AFI				S	**Sn**	**20 54 15.7**	**-1.4**
	199nm,0.3s,baz=71,slow=22,SNR=7.8						
AFI	**Afiamalu**	**2.25**	**52**	*e*Pn	**Pn**	**20 53 50.1**	**+0.5**
AFI				*e*Sn	**Sn**	**20 54 13.9**	**-3.2**
MSVF	**Nonsavu**	**8.35**	**252**	*e*Pn	Pn	20 55 16.5	+4.4
KNTN	**Kanton**	**12.58**	**9**	*e*Pn	**Pn**	**20 56 10.7**	**+1.5**
RAR	**Rarotonga**	**14.40**	**116**	LR	LR	21 01 21.9	
	comp=Z,77nm,20.0s,baz=279,slow=33						
DZM	**Mont Dzumac**	**20.05**	**247**	P	**Pn**	**20 57 41.3**	**-0.4**
	0.2nm,0.3s,baz=78,slow=20,SNR=4.4						
DZM				LR	LR	21 04 43.9	
	comp=Z,87nm,18.0s,baz=74,slow=35						
DZM	**Mont Dzumac**	**20.05**	**247**	*e*LR	LR	21 02 52.9	
	219nm,30.2s						
TARA	**Tarawa**	**21.24**	**320**	*e*P	**P**	**20 57 52.2**	**+0.4**
	182nm,1.5s						
PPT	**Papeete**	**23.16**	**99**	LR	LR	21 05 34.8	
	comp=Z,40nm,20.0s,baz=195,slow=32						
PPT2	**Papeete2**	**23.16**	**99**	*e*LR	LR	21 03 35.0	
	252nm,35.8s						
MXZ	**Matakaoa Point**	**23.30**	**196**	*e*P	**P**	**20 58 12.6**	**-0.2**
	87nm,1.1s						
XMAS	**Kiritimati**	**23.51**	**44**	*e*P	**P**	**20 58 14.4**	**-0.5**
	74nm,0.9s						
URZ	**Urewera**	**24.30**	**198**	P	**P**	**20 58 22.1**	**+0.4**
	13nm,0.4s,baz=303,slow=3.0,SNR=20						
HIZ	**Hauiti**	**25.26**	**202**	*e*P	**P**	**20 58 32.6**	**+2.0**
	284nm,1.9s						
BKZ	**Black Stump Fm**	**25.32**	**198**	*e*P	**P**	**20 58 30.9**	**-0.2**
	94nm,1.8s						
BFZ	**Birch Farm**	**26.79**	**197**	*e*P	**P**	**20 58 45.0**	**+0.7**
	53nm,1.0s						
SNZO	**South Karori**	**27.83**	**199**	*e*P	**P**	**20 58 54.1**	**+0.6**
	101nm,1.3s						
THZ	**Tophouse**	**28.83**	**201**	*e*P	**P**	**20 59 03.0**	**+0.4**
	115nm,1.6s						
KHZ	**Kahutara**	**29.20**	**200**	*e*P	P	20 59 08.0	+2.3
	240nm,1.9s						
LTZ	**Lake Taylor**	**29.95**	**201**	*e*P	**P**	**20 59 11.4**	**-1.0**
	140nm,1.9s						
JOHN	**Johnston Islan**	**32.08**	**7**	*e*P	**P**	**20 59 30.3**	**-1.0**
	178nm,0.9s						
TAOE	**Nuku Hiva Isla**	**33.32**	**83**	*e*LR	LR	21 08 14.3	
	212nm,32.7s						
MLZ	**Mavora Lakes**	**33.70**	**203**	*e*P	**P**	**20 59 45.5**	**+0.2**
	326nm,2.0s						
WHZ	**Wether Hill Ro**	**34.21**	**203**	*e*P	**P**	**20 59 50.0**	**+0.4**
	93nm,1.5s						
CAN	**Canberra**	**38.93**	**232**	*e*P	**P**	**21 00 28.4**	**-1.5**
	29nm,1.3s						
COEN	**Coen**	**41.78**	**266**	*e*P	**P**	**21 00 52.5**	**-1.2**
	32nm,2.0s						
TAU	**Tasmania Unive**	**43.25**	**223**	*e*P	**P**	**21 01 06.1**	**+0.9**
	222nm,2.0s						
STKA	**Stephens Creek**	**43.91**	**240**	P	**P**	**21 01 09.7**	**-0.9**
	2.4nm,0.9s,baz=84,slow=9.4,SNR=4.6						
STKA	**Stephens Creek**	**43.91**	**240**	*e*P	**P**	**21 01 09.9**	**-0.7**
	4.7nm,1.8s						
BBOO	**Buckleboo**	**48.69**	**240**	*e*P	**P**	**21 01 47.1**	**-0.9**
	51nm,1.6s						
WB2	**Warramunga Arr**	**49.66**	**257**	*e*P	**P**	**21 01 53.9**	**-1.8**
WRAB	**Tennant Creek**	**49.66**	**257**	*e*P	**P**	**21 01 54.6**	**-1.0**
	14nm,1.5s						
WR1	**Warramunga Arr**	**49.67**	**257**	*e*P	**P**	**21 01 53.9**	**-1.8**
WR1				*e*PcP	**PcP**	**21 03 15.7**	**-0.1**
WRA	**Warramunga Arr**	**49.67**	**257**	P	**P**	**21 01 53.9**	**-1.8**
	1.9nm,0.6s,baz=91,slow=6.9,SNR=53						
WRA				PcP	**PcP**	**21 03 15.7**	**-0.1**
	0.5nm,0.6s,baz=88,slow=4.4,SNR=3.2						
AS01	**Alice Springs**	**49.90**	**252**	*e*P	**P**	**21 01 55.6**	**-1.9**
AS31	**Alice Springs**	**49.95**	**252**	*e*P	**P**	**21 01 56.2**	**-1.6**
	2.2nm,0.6s						
ASAR	**Alice Springs**	**49.95**	**252**	P	**P**	**21 01 56.1**	**-1.7**
	6.8nm,0.7s,baz=88,slow=8.1,SNR=65						
ASAR				PcP	**PcP**	**21 03 15.8**	**-0.9**
	0.7nm,0.8s,baz=99,slow=5.7,SNR=2.4						
ASAR				LR	LR	21 20 52.0	
	comp=Z,37nm,21.5s,baz=96,slow=33						
GUMO	**Guam**	**50.10**	**303**	*e*P	**P**	**21 01 57.3**	**-1.7**
	434nm,1.5s						
MTN	**Manton Dam**	**53.53**	**265**	*e*P	**P**	**21 02 23.4**	**-1.2**
	32nm,1.4s						
SOEI	**Soe**	**60.73**	**267**	*e*P	**P**	**21 03 16.0**	**+0.6**
	12nm,0.8s						
BATI	**Baumata**	**61.22**	**267**	LR	LR	21 28 13.4	
	comp=Z,70nm,18.4s,baz=320,slow=34						
MBWA	**Marble Bar**	**63.19**	**254**	*e*P	**P**	**21 03 31.4**	**-0.3**
	42nm,1.5s						
SBA	**Scott Base**	**63.34**	**185**	*e*P	P	21 03 34.3	+2.7
	7.8nm,1.3s						
VNDA	**Vanda**	**63.46**	**186**	P	**P**	**21 03 34.1**	**+1.7**
	3.0nm,0.9s,baz=358,slow=7.7,SNR=13						
VNDA	**Vanda**	**63.46**	**186**	*e*P	**P**	**21 03 34.2**	**+1.7**
	5.0nm,1.1s						
UNV	**Unalaska Valle**	**69.13**	**5**	*e*P	**P**	**21 04 09.3**	**+0.5**
	128nm,1.7s						
PEA0B	**Petropavlovsk-**	**72.47**	**342**	*e*P	**P**	**21 04 30.3**	**+1.1**
	41nm,1.3s						
PETK	**Petropavlovsk-**	**72.47**	**342**	P	**P**	**21 04 29.4**	**+0.3**
	5.3nm,0.8s,baz=128,slow=8.6,SNR=7.1						
PETK	**Petropavlovsk-**	**72.47**	**342**	*e*P	**P**	**21 04 29.9**	**+0.7**
PEA1	**Petropavlovsk-**	**72.47**	**342**	*e*P	**P**	**21 04 29.4**	**+0.2**
RVR	**Riverside**	**72.56**	**46**	*e*P	**P**	**21 04 32.4**	**+2.2**
BORC	**Borrego Spring**	**72.85**	**47**	*e*P	P	21 04 36.2	+4.3
LPIG	**La Paz**	**73.16**	**59**	LR	LR	21 28 15.1	
	comp=Z,46nm,18.9s,baz=18,slow=29						
BBOR	**Butler Butte**	**74.38**	**36**	*e*P	P	21 04 45.6	+4.8
NV01	**Mina Array Sit**	**74.39**	**42**	*e*P	**P**	**21 04 41.8**	**+0.7**
NVAR	**Mina Array Bea**	**74.39**	**42**	P	**P**	**21 04 42.1**	**+1.1**
	2.9nm,0.7s,baz=238,slow=8.1,SNR=6.7						
NV11	**Mina Array Sit**	**74.49**	**42**	*e*P	**P**	**21 04 42.7**	**+1.2**
	0.8nm,1.3s						
QSPA	**South Pole Qui**	**74.75**	**180**	P	**P**	**21 04 43.8**	**+1.2**
	9.1nm,1.0s,baz=57,slow=1.0,SNR=12						
QSPA	**South Pole Qui**	**74.75**	**180**	*e*P	**P**	**21 04 43.4**	**+0.8**
	8.9nm,1.0s						
SHPR	**Sheep Range**	**75.43**	**45**	*e*P	**P**	**21 04 48.4**	**+1.4**
	7.7nm,1.4s						
TUC	**Tucson**	**76.48**	**51**	*e*P	**P**	**21 04 54.0**	**+1.0**
	5.3nm,1.1s						
X16A	**Lo Mia Camp, P**	**77.00**	**49**	*e*P	**P**	**21 04 57.0**	**+1.0**
	2.7nm,0.9s						
LON	**Longmire**	**77.29**	**34**	*e*P	**P**	**21 04 55.3**	**-1.9**
U15A	**North Rim**	**77.38**	**46**	*e*P	**P**	**21 04 59.8**	**+1.6**
	14nm,1.5s						
HLID	**Hailey**	**79.68**	**39**	*e*P	**P**	**21 05 11.6**	**+1.1**
	3.0nm,1.0s						
NJ2	**Nanjing**	**79.94**	**307**	*e*P	**P**	**21 05 12.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
MNTX	**Cornudas Mount**	**80.33**	**53**	*e*P	**P**	**21 05 15.1**	**+1.0**
	5.0nm,1.2s						
TX31	**Lajitas Ar. Si**	**80.73**	**56**	*e*P	**P**	**21 05 17.1**	**+0.7**
LTX	**Lajitas**	**80.73**	**56**	*e*P	**P**	**21 05 17.5**	**+1.1**
LTX				*e*		21 36 34.9	
TXAR	**Lajitas Array**	**80.73**	**56**	P	**P**	**21 05 17.5**	**+1.1**
	1.2nm,0.8s,baz=226,slow=6.6,SNR=7.9						
TXAR				LR	LR	21 36 34.9	
	comp=Z,12nm,18.2s,baz=0.0,slow=32						
ANMO	**Albuquerque**	**80.89**	**50**	*e*P	**P**	**21 05 18.4**	**+1.1**
	4.7nm,1.6s						
S22A	**4UR Ranch, Cre**	**81.85**	**47**	*e*P	**P**	**21 05 23.7**	**+1.3**
	6.6nm,1.3s						
CCB	**Clear Creek Bu**	**82.10**	**11**	*e*P	**P**	**21 05 22.8**	**+0.1**
	4.8nm,0.8s						
BW06	**Boulder Array**	**82.33**	**42**	*e*P	**P**	**21 05 25.2**	**+0.6**
	4.5nm,0.8s						
PD31	**Pinedale Array**	**82.33**	**42**	*e*P	**P**	**21 05 24.6**	**-0.1**
PDAR	**Pinedale Array**	**82.33**	**42**	P	**P**	**21 05 25.0**	**+0.3**
	2.0nm,0.7s,baz=73,slow=32,SNR=9.7						
PDAR				LR	LR	21 33 52.3	
	comp=Z,40nm,20.2s,baz=256,slow=30						
PDAR	**Pinedale Array**	**82.33**	**42**	*e*P	**P**	**21 05 24.4**	**-0.2**
ILAR	**Eielson Array**	**82.39**	**11**	P	**P**	**21 05 23.9**	**-0.2**
	0.8nm,0.6s,baz=230,slow=6.4,SNR=15						
ILB	**Eielson Array**	**82.39**	**11**	*e*P	**P**	**21 05 24.7**	**+0.5**
SMCO	**Snowmass**	**82.39**	**46**	*e*P	**P**	**21 05 26.4**	**+1.1**
	3.2nm,0.8s						
YHH	**Holmes Hill**	**82.51**	**40**	*e*P	**P**	**21 05 26.4**	**+0.8**
	20nm,2.0s						
LNIG	**Linares**	**82.55**	**62**	*e*P	**P**	**21 05 25.7**	**-0.3**
	6.3nm,1.1s						
N23A	**Red Feather La**	**83.86**	**45**	*e*P	**P**	**21 05 31.7**	**-1.0**
	6.5nm,0.7s						
ABTX	**Abilene, Hawle**	**85.17**	**54**	*e*P	**P**	**21 05 39.8**	**+0.7**
	8.9nm,0.9s						
GYA	**Guiyang**	**87.81**	**298**	*e*P	**P**	**21 05 53.3**	**+1.0**
GYA				pP	sP	21 06 21.6	-7.7
GYA				sP	pP	21 06 32.0	+13
GYA				PP	**PP**	**21 09 21.6**	**+1.9**
GYA				SKS	**SKSac**	**21 16 10.3**	**-1.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAW	**Mawson**	**87.82**	**199**	P	**P**	**21 05 51.9**	**+0.5**
	5.0nm,0.7s,baz=146,slow=7.3,SNR=3.6						
MAW	**Mawson**	**87.82**	**199**	*e*P	**P**	**21 05 51.8**	**+0.4**
	9.6nm,1.6s						
HHC	**Hu-ho-hao-te**	**88.81**	**313**	*e*P	**P**	**21 05 56.6**	**-0.1**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,7.4s						
YKA	**Yellowknife Ar**	**90.09**	**23**	P	**P**	**21 06 02.0**	**0.0**
	0.6nm,0.9s,baz=231,slow=4.4,SNR=7.7						
YKA	**Yellowknife Ar**	**90.09**	**23**	P	**P**	**21 06 02.0**	**0.0**
CD2	**Chengdu**	**91.58**	**301**	*e*P	**P**	**21 06 09.8**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CM31	**Chiang Mai Arr**	**92.39**	**288**	*e*P	**P**	**21 06 11.0**	**-2.7**
CMAR	**Chiang Mai Arr**	**92.39**	**288**	P	**P**	**21 06 14.3**	**+0.7**
	0.3nm,0.5s,baz=228,slow=25,SNR=4.4						
CMAR				LR	LR	21 43 53.4	
	comp=Z,8.4nm,21.2s,baz=55,slow=33						
LZH	**Lanzhou**	**93.00**	**306**	*e*P	**P**	**21 06 17.4**	**+1.1**
LZH				pP	pP	21 06 44.0	+1.3
LZH				sP	sP	21 06 54.0	+0.7
LZH				*e*PP	**PP**	**21 10 03.3**	**+2.6**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				LR	LR		
	comp=N,130nm,13.8s						
LZH				LR	LR		
	comp=E,100nm,11.8s						
LZH				LR	LR		
	comp=Z,170nm,15.0s						
PLAL	**Pickwick Lake**	**95.05**	**55**	*e*P	**P**	**21 06 23.0**	**-2.6**
	19nm,1.0s						
KSH	**Kashi**	**115.25**	**307**	*e*PKP	**PKPdf**	**21 11 45.6**	**+1.7**
BVAR	**Borovoye Array**	**117.67**	**322**	PKP	**PKPdf**	**21 11 46.8**	**-1.1**
	0.1nm,0.4s,baz=50,slow=2.3,SNR=3.0						
CLL	**Collm**	**143.69**	**353**	*e*PKPdf	**PKPdf**	**21 12 36.0**	**-0.9**
CLL				*e*PP	**PP**	**21 15 54.0**	**+4.6**
DPC	**Dobruska-Polom**	**144.12**	**349**	*e*PKP	**PKPdf**	**21 12 37.1**	**-0.6**
MORC	**Moravsky Berou**	**144.43**	**348**	⇑*i*P	**PKPdf**	**21 12 37.2**	**-1.1**
PRU	**Pruhonice**	**144.77**	**351**	*e*PKP	**PKPdf**	**21 12 39.5**	**+0.7**
KECS	**Kecovo**	**144.93**	**344**	*e*PKP	**PKPdf**	**21 12 38.6**	**-0.5**
CFR	**Carcaliu**	**145.01**	**333**	⇑*i*P	**PKPdf**	**21 12 39.1**	**-0.2**
VRI	**Vrincioaia**	**145.06**	**335**	⇓*i*P	PKPbc	21 12 30.0	-9.1
VYHS	**Vyhne**	**145.34**	**345**	*e*PKP	**PKPab**	**21 12 41.0**	**+0.9**
TIRR	**Tirgusor**	**145.45**	**332**	⇓*i*P	**PKPab**	**21 12 39.3**	**-1.3**
HARR	**Harsova**	**145.49**	**332**	⇓*i*P	**PKPab**	**21 12 41.3**	**+0.6**
DOPR	**Dopca**	**145.51**	**336**	⇑*i*P	**PKPab**	**21 12 41.6**	**+0.8**
MLR	**Muntele Rosu**	**145.69**	**335**	PKPbc	**PKPab**	**21 12 40.9**	**-0.7**
	0.5nm,0.7s,baz=219,slow=4.0,SNR=11						
MLR	**Muntele Rosu**	**145.69**	**335**	⇑*i*P	**PKPab**	**21 12 42.7**	**+1.1**
MLR	**Muntele Rosu**	**145.69**	**335**	*e*PKPdf	**PKPab**	**21 12 41.6**	**0.0**
WLF	**Walferdange**	**145.72**	**0**	⇑PKP	**PKPab**	**21 12 40.4**	**-1.1**
ISR	**Istrita**	**145.75**	**334**	⇓*i*P	**PKPab**	**21 12 42.8**	**+1.0**
KHC	**Kasperske Hory**	**145.75**	**352**	*e*PKP	**PKPab**	**21 12 41.7**	**+0.1**
KHC	**Kasperske Hory**	**145.75**	**352**	*e*PKPdf	**PKPab**	**21 12 41.8**	**+0.2**
DRGR		**145.77**	**340**	⇓*i*P	**PKPab**	**21 12 41.8**	**0.0**
BR101	**Keskin Array S**	**145.95**	**321**	*e*PKPdf	**PKPab**	**21 12 42.4**	**-0.5**
BR131	**Keskin Array S**	**145.95**	**321**	*e*PKPdf	**PKPab**	**21 12 42.0**	**-0.8**
BRTR	**Keskin Array B**	**145.95**	**321**	PKPbc	**PKPab**	**21 12 42.4**	**-0.5**
	2.0nm,0.7s,baz=82,slow=2.4,SNR=18						
GERES	**GERESS Array B**	**146.01**	**351**	PKPbc	**PKPab**	**21 12 42.4**	**-0.3**
	1.0nm,0.8s,baz=46,slow=3.9,SNR=9.3						
GEA0	**GERESS Array S**	**146.02**	**351**	*e*PKPdf	**PKPab**	**21 12 42.0**	**-0.7**
VOIR		**146.09**	**336**	⇑*i*P	**PKPab**	**21 12 42.9**	**-0.2**
BR231	**Keskin MP Arra**	**146.40**	**322**	*e*PKPdf	**PKPab**	**21 12 42.5**	**-2.0**
FNA	**Florina**	**151.46**	**336**	*e*PKPdf	**PKPdf**	**21 12 50.3**	**+0.2**
FNA				*e*PKPbc	**PKiKP**	**21 12 55.7**	**-1.1**

IDC 24 21:02:12.6±2.1, 5°.75S×151°.09E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.1/47, mbtmp3.1/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/17, Error ellipse: s-maj=139.6km s-min=29.3km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.33**	**227**	Sn	Sn	21 04 32.3	-3.4
	1.2nm,0.3s,baz=111,slow=8.6,SNR=2.7						
HNR	**Honiara**	**9.51**	**113**	LR	LR	21 08 09.3	
	comp=Z,36nm,18.4s,baz=76,slow=38						
WRA	**Warramunga Arr**	**21.55**	**228**	P	P	21 07 03.7	-0.1
	0.3nm,0.4s,baz=54,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**24.32**	**221**	P	P	21 07 32.3	+0.1
	0.3nm,0.6s,baz=57,slow=8.7,SNR=5.6						
ILAR	**Eielson Array**	**83.67**	**22**	P	P	21 14 43.0	+0.1
	0.1nm,0.7s,baz=240,slow=5.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**148.96**	**286**	PKPbc	PKPbc	21 22 02.9	-0.7
	0.8nm,0.6s,baz=80,slow=2.0,SNR=7.2						

IDC 24 21:03:33.6±5.0, 5°.66S×150°.85E, h0km, mb2.9/2, mb1 3.2/2, mb1mx3.0/47, mbtmp3.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/8, Error ellipse: s-maj=239.1km s-min=49.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.43**	**227**	P	P	21 08 23.1	-0.5
	0.4nm,0.9s,baz=55,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**24.22**	**221**	P	P	21 08 52.8	+0.4
	0.4nm,0.9s,baz=50,slow=8.6,SNR=3.1						
MJAR	**Matsushiro Arr**	**43.62**	**345**	LR	LR	21 27 38.2	
	comp=Z,25nm,21.9s,baz=60,slow=33						
TORD	**Torodi Ar. Bea**	**148.70**	**286**	PKPbc	PKPbc	21 23 23.3	-0.7
	0.4nm,0.7s,baz=74,slow=2.9,SNR=3.0						

*ATA **24** 21:08:54.8±0.9, 39°24′N×41°95′E, h19km±3km, ML2.7, MW2.5*
*ISCJB **24** 21:08:56.0±0.5, 39°24′N±0°.03×41°.92E±0°.03, h8km±5km, Error ellipse: s-maj=4.8km s-min=4.2km az=168.8*
*CSEM **24** 21:08:55.4±0.3, 39°23′N×41°91′E, h10km, MD2.6, Error ellipse: s-maj=8.7km s-min=5.7km az=164.0*
*ISK **24** 21:08:55.5, 39°22′N×41°97′E, h12km, ML2.3/3*
*DDA **24** 21:08:56.1, 39°24′N×41°95′E, h10km, Md2.6*
ISC 24 21:08:55.5±0.9, 39°22′N±0°.02×41°92′E±0°.02, h14km±7km, n30, σ0§78/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.12**	**73**	*i* P	**Pg**	**21 08 58.9**	**-0.3**
EKAR				*e*S	**Sb**	**21 09 02.8**	**+0.4**
EKAR				IAML		21 09 04.3	
	comp=Z,223nm,0.3s						
EKAR	**Karacoban**	**0.12**	**73**	*i* P	**Pg**	**21 08 58.9**	**-0.3**
EKAR				*i* S	**Sb**	**21 09 02.8**	**+0.4**
EKAR	**Karacoban**	**0.12**	**73**	P	**Pg**	**21 08 58.8**	**-0.4**
EKAR				S	**Sb**	**21 09 02.8**	**+0.4**
VRTB	**Varto-Mus**	**0.37**	**260**	PG	**Pb**	**21 09 04.3**	**+0.4**
VRTB	**Varto-Mus**	**0.37**	**260**	*i* P	**Pb**	**21 09 04.6**	**+0.7**
VRTB	**Varto-Mus**	**0.37**	**260**	*e*Pg	**Pb**	**21 09 04.3**	**+0.4**
VRTB	**Varto-Mus**	**0.37**	**260**	P	**Pb**	**21 09 04.6**	**+0.7**
GURO	**Guroymak-BITLI**	**0.68**	**173**	PG	**Pg**	**21 09 08.9**	**+0.1**
GURO				SG	**Sb**	**21 09 18.5**	**+0.1**
GURO	**Guroymak-BITLI**	**0.68**	**173**	*e*Pg	**Pg**	**21 09 08.9**	**+0.1**
GURO				*e*Sg	**Sb**	**21 09 18.5**	**+0.1**
TUTA	**Tutak**	**0.72**	**75**	*e*P	**Pg**	**21 09 08.9**	**-0.7**
TUTA				*e*S	**Sg**	**21 09 19.3**	**+0.3**
TUTA				IAML		21 09 21.0	
	comp=Z,43nm,0.2s						
TUTA	**Tutak**	**0.72**	**75**	*i* P	**Pg**	**21 09 09.1**	**-0.5**
TUTA				*i* S	**Sg**	**21 09 19.2**	**+0.3**
TUTA	**Tutak**	**0.72**	**75**	P	**Pg**	**21 09 09.1**	**-0.5**
TUTA				S	**Sg**	**21 09 19.2**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.75**	**123**	*i* P	**Pg**	**21 09 10.0**	**-0.2**
ADCV				*i* S	**Sn**	**21 09 22.1**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.75**	**123**

H04A	**Detroit Lake**	**3.55**	**178**	*e*Pn		**Pb**	**21 17 16.9**	**-2.2**
G08A	**Pilot Rock**	**3.74**	**141**	*e*Pn		**Pb**	**21 17 21.6**	**-0.8**
F10A	**Beach Ranch, E**	**4.15**	**121**	*e*Pn		**Pn**	**21 17 21.3**	**+1.6**
BMO	**Blue Mountains**	**4.84**	**132**	*e*Pn		**Pn**	**21 17 30.5**	**+1.3**
JTMT	**Jette**	**5.42**	**92**	*e*Pn		**Pn**	**21 17 41.5**	**+4.3**
WALA	**Waterton Lakes**	**5.64**	**78**	*e*Pn		**Pn**	**21 17 42.0**	**+1.8**
WALA				*e*Sg		**Sg**	**21 19 11.3**	**-5.9**
MCMT	**McKenzie Canyo**	**7.37**	**114**	*e*Pn		**Pn**	**21 18 06.4**	**+2.3**
MCMT				*e*Sg		**Sg**	**21 20 12.1**	**-0.6**

ISN ***24*** *21:37:21.0±0.3, 32°.51N×47°.09E, h0km, ML2.8*
TEH 24 21:37:26.0, 32°.51N×47°.08E, h10km, ML2.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.21**	**32**	*e*Pg		Pn	21 37 47.6	-1.3
IKFM				*e*AMB		AMB	21 38 15.9	
	comp=Z,99nm,0.4s							
IGHG	**Ghaleghazi**	**1.87**	**347**	*e*Pn		Pn	21 37 58.7	+0.4
IGHG				*e*AMB		AMB	21 38 29.4	
	comp=N,929nm,0.2s							
IVIS	**Veis**	**2.02**	**355**	*e*Pn		Pn	21 38 00.1	-0.2
IVIS				*e*Sg		Sb	21 38 29.2	+0.9
IVIS				*e*AMB		AMB	21 38 33.9	
	comp=Z,481nm,0.2s							
IDHR	**Dehrash**	**2.26**	**345**	*e*Pn		Pn	21 38 02.5	-1.2
IDHR				*e*AMB		AMB	21 38 43.3	
	comp=E,1μm,0.2s							
ILIN	**Lien**	**2.41**	**358**	*e*AMB		AMB	21 38 47.0	
	comp=Z,248nm,0.2s							
ILIN				*e*Pn		Pn	21 38 06.0	+0.3

IDC 24 21:51:00.8±3.0, 6°.33S×146°.93E, h0km, mb2.8/1, mb1 3.3/3, mb1mx3.1/54, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=73.9km s-min=33.3km az=84.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.06**	**176**	Pn		Pn	21 51 50.4	-0.1
	1.8nm,0.3s,baz=329,slow=12,SNR=3.7							
PMG				Sn		Sn	21 52 30.5	+2.6
	4.8nm,0.3s,baz=163,slow=20,SNR=3.0							
WRA	**Warramunga Arr**	**18.24**	**221**	P		Pn	21 55 15.3	-0.2
	0.1nm,0.3s,baz=49,slow=12,SNR=4.2							
ASAR	**Alice Springs**	**21.31**	**215**	P		P	21 55 49.2	-0.2
	0.2nm,0.5s,baz=33,slow=12,SNR=5.5							
TORD	**Torodi Ar. Bea**	**145.10**	**284**	PKPbc		PKPbc	22 10 40.0	-0.8
	0.6nm,0.7s,baz=78,slow=2.4,SNR=9.1							

NIED ***24*** *21:54:00, 42°.70N×145°.00E, h8km, Mw4.5 Best double couple: M0 6.06000×10^15 NP1:φs=254.00000°, δ72.00000°, λ-162.00000°. NP2:φs=159.00000°, δ73.00000°, λ-19.00000°.*
IDC ***24*** *21:54:50.8±0.5, 42°.66N×145°.04E, h0km, mb4.3/33, mb1 4.4/40, mb1mx4.3/72, mbtmp4.3/40, ML4.1/7, MS3.5/26, Ms1 3.6/26, ms1mx3.4/70, Error ellipse: s-maj=13.2km s-min=10.9km az=132.0*
ISCJB ***24*** *21:54:51.3±1.0, 42°.62N±0°.02×145°.08E±0°.03, h10km±6km, mb4.6/130, MS3.8/30, Error ellipse: s-maj=4.2km s-min=2.7km az=139.0*
BJI ***24*** *21:54:51.2, 42°.66N×145°.15E, h7km, mb4.6/46, mB4.9/32, Ms4.3/18, Ms7 4.0/13*
SKHL ***24*** *21:54:53.6±0.4, 42°.50N×145°.20E, h34km±1km, mb4.8/14, ms4.3/5*
NEIC ***24*** *21:54:53.8±2.1, 42°.64N×145°.04E, h15km±13km, mb4.7/59, Error ellipse: s-maj=6.9km s-min=4.1km az=145.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
MOS ***24*** *21:54:53.4±1.4, 42°.62N×145°.12E, h24km, mb4.8/59, Error ellipse: s-maj=6.7km s-min=4.4km az=91.0*
JMA ***24*** *21:54:54.0, 42°.66N×145°.00E, h29km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs=153.00000°, δ86.00000°, λ-16.00000°. NP2: φs=245.00000°, δ74.00000°, λ-176.00000°. Principal axes: T Plg8.0000°, Azm200.0000°; N Plg74.0000°, Azm319.0000°; P Plg14.0000°, Azm108.0000°;*
JMA Felt II J1.
ISC 24 21:54:53.4±0.6, 42°.71N±0°.04×145°.11E±0°.03, h10km±2km, h11km:pP-P, n321, σ1§54/326, mb4.7/137, MS3.8/31, 13C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAK	**Akkeshi**	**0.42**	**314**	⇓P		**Pb**	**21 55 02.6**	**-0.3**
JAK				*e*S		**Sb**	**21 55 09.4**	**+0.1**
NEM2	**Nemuro 2**	**0.80**	**35**	⇑P		**Pn**	**21 55 09.9**	**-0.8**
NEM2				*e*S		**Sn**	**21 55 21.6**	**-1.1**
JNK	**Nakash**	**0.93**	**342**	⇑P		**Pg**	**21 55 10.7**	**-0.5**
JNK				*e*S		**Sb**	**21 55 23.1**	**-0.7**
JOB	**Onbets**	**0.96**	**282**	⇓P		**Pg**	**21 55 10.4**	**-1.5**
JOB				*e*S		**Sg**	**21 55 22.9**	**-1.5**
GLVR	**Golovnino**	**1.07**	**16**	*e*Pn		**Pb**	**21 55 13.6**	**-0.4**
GLVR				*e*S		**Sn**	**21 55 29.1**	**-0.3**
GLVR	**Golovnino**	**1.07**	**16**	*e*P		**Pb**	**21 55 13.6**	**-0.4**
GLVR				*e*S		**Sn**	**21 55 29.1**	**-0.3**
JAR	**Ashorobuto**	**1.15**	**301**	⇓P		**Pb**	**21 55 13.1**	**-2.2**
JAR				*e*S		**Sb**	**21 55 27.4**	**-2.9**
JRA	**Rausu**	**1.23**	**0**	⇑P		**Pb**	**21 55 15.8**	**-0.9**
JRA				*e*S		**Sn**	**21 55 32.1**	**-1.2**
JCH	**Churui**	**1.29**	**267**	⇓P		**Pn**	**21 55 14.7**	**-2.8**
JCH				*e*S		**Sb**	**21 55 30.1**	**-4.3**
GRPR	**Tuman**	**1.37**	**20**	*e*Pn		**Pn**	**21 55 17.7**	**-0.9**
GRPR				*e*S		**Sn**	**21 55 35.5**	**-1.3**
GRPR	**Tuman**	**1.37**	**20**	*e*P		**Pn**	**21 55 17.7**	**-0.9**
GRPR				*e*S		**Sn**	**21 55 35.5**	**-1.3**
LAGR	**Lagunnoye**	**1.44**	**20**	*e*Pn		**Pb**	**21 55 19.2**	**-1.0**
LAGR				*e*S		**Sg**	**21 55 38.3**	**-1.2**
LAGR	**Lagunnoye**	**1.44**	**20**	*e*P		**Pb**	**21 55 19.2**	**-1.0**
LAGR				*e*S		**Sg**	**21 55 38.3**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.44**	**22**	*e*Pn		**Pn**	**21 55 18.7**	**-0.7**
YUK				*e*S		**Sg**	**21 55 37.5**	**-2.1**
YUK				pmax	pmax			
	comp=Z,6μm,0.4s							
YUK				pmax	pmax			
	comp=E,3μm,0.3s							
YUK				pmax	pmax			
	comp=N,983nm,0.1s							
YUK				smax	smax			
	comp=E,11μm,0.4s							
YUK				smax	smax			
	comp=E,6μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.44**	**22**	*e*P		**Pn**	**21 55 18.7**	**-0.7**
YUK				AMB	AMB		21 55 24.7	
	comp=E,984nm,0.4s							
YUK				AMB	AMB		21 55 24.7	
	comp=E,325nm,0.4s							
YUK				AMB	AMB		21 55 24.7	
	comp=E,631nm,0.4s							
YUK				*e*S		**Sg**	**21 55 37.5**	**-2.1**
YUK				A	A		21 55 41.2	
	comp=E,1μm,0.5s							
YUK				A	A		21 55 41.2	
	comp=E,583nm,0.5s							
ERM	**Erimo**	**1.61**	**245**	*c i*PN		**Pn**	**21 55 22.0**	**+0.3**
ERM	**Erimo**	**1.61**	**245**	*e*Pn		**Pn**	**21 55 21.6**	**-0.2**
SHO	**Shikotan**	**1.71**	**47**	*e*PN		**Pn**	**21 55 21.8**	**-1.4**
SHO				*e*S		**Sn**	**21 55 43.0**	**-2.1**
SHO				pmax	pmax			
	comp=N,73nm,0.2s							
SHO				pmax	pmax			
	comp=E,143nm,0.2s							
SHO				pmax	pmax			
	comp=Z,390nm,0.2s							
SHO				smax	smax			
	comp=N,4μm,0.4s							
SHO				smax	smax			
	comp=E,4μm,0.5s							
SHO	**Shikotan**	**1.71**	**47**	*e*P		**Pn**	**21 55 21.8**	**-1.4**
SHO				AMB	AMB		21 55 24.1	
	comp=E,390nm,0.2s							
SHO				*e*S		**Sn**	**21 55 43.0**	**-2.1**
SHO				A	A		21 55 45.6	
	comp=E,4μm,0.4s							
SHO				A	A		21 55 45.6	
	comp=E,4μm,0.4s							
ASAJ	**Asahikawa**	**2.31**	**308**	Pn		**Pn**	**21 55 31.3**	**-0.2**
	comp=E,36nm,0.3s,baz=175,slow=9.1,SNR=170							
ASAJ				Sn		**Sn**	**21 56 00.9**	**+0.9**
	comp=E,246nm,0.3s,baz=225,slow=20,SNR=14							
ASAJ				LR		LR	21 56 38.2	
	comp=E,31nm,20.9s,baz=122,slow=47							
KUR	**Kuril'sk**	**3.21**	**37**	*ce*PN		**Pn**	**21 55 45.2**	**+1.3**
KUR				*i* S		**Sn**	**21 56 23.0**	**+0.8**
KUR				pmax	pmax			
	comp=Z,1μm,0.8s							
KUR				pmax	pmax			
	comp=N,291nm,0.6s							
KUR				pmax	pmax			
	comp=E,127nm,0.3s							
KUR				smax	smax			
	comp=N,1μm,0.6s							
KUR				smax	smax			
	comp=E,927nm,0.6s							
KUR	**Kuril'sk**	**3.21**	**37**	*e*P		**Pn**	**21 55 44.9**	**+1.0**
KUR				AMB	AMB		21 55 47.2	
	comp=E,246nm,0.3s							
KUR				*i* S		**Sn**	**21 56 22.3**	**+0.1**
KUR				A	A		21 56 27.0	
	comp=E,1μm,0.6s							
KUR				A	A		21 56 27.0	
	comp=E,927nm,0.6s							
YSS	**Yuzh-Sakhalins**	**4.57**	**339**	⇑*i*PN		**Pn**	**21 56 03.4**	**+1.0**
YSS				pmax	pmax			
	comp=N,20nm,0.4s							
YSS				pmax	pmax			
	comp=Z,40nm,0.4s							
YSS				MLR	MLR			
	comp=Z,1μm,13.0s							
YSS				MLR	MLR			
	comp=N,2μm,12.0s							
YSS	**Yuzh-Sakhalins**	**4.57**	**339**	*e*P		**Pn**	**21 56 03.2**	**+0.8**
YSS				AMB	AMB		21 56 03.7	
	comp=N,20nm,0.4s							
YSS				AMB	AMB		21 56 03.7	
	comp=N,40nm,0.4s							
YSS				*e*S		**Sn**	**21 56 54.5**	**-1.0**
YSS				AMS	AMS		21 58 34.0	
	comp=N,2μm,15.0s							
YSS				AMS	AMS		21 58 34.0	
	comp=N,5μm,15.0s							
YSS				AMS	AMS		21 58 34.0	
	comp=N,1μm,15.0s							
YSS	**Yuzh-Sakhalins**	**4.57**	**339**	*e*Pn		**Pn**	**21 56 02.7**	**+0.3**
TEY	**Ternei**	**6.58**	**294**	*e*PN		**Pn**	**21 56 34.0**	**+4.0**
TEY	**Ternei**	**6.58**	**294**	*e*P		**Pn**	**21 56 32.0**	**+2.0**
UGL	**Uglegorsk**	**6.72**	**343**	*e*P		**Pn**	**21 56 36.4**	**+4.4**
UGL				AMB	AMB		21 56 38.0	
	comp=N,30nm,0.7s							
UGL				AMS	AMS		21 59 28.0	
	comp=N,3μm,20.0s							
UGL				AMS	AMS		21 59 28.0	
	comp=N,2μm,20.0s							
MJB9	**Matsu-Tunnel**	**8.14**	**223**	*e*Pn		**Pn**	**21 56 50.3**	**-1.3**
MAJO	**Matsushiro**	**8.14**	**223**	*d i*PN		**Pn**	**21 56 50.2**	**-1.4**
MAJO	**Matsushiro**	**8.14**	**223**	*e*P		**Pn**	**21 56 50.2**	**-1.4**
MAJO	**Matsushiro**	**8.14**	**223**	*e*Pn		**Pn**	**21 56 49.9**	**-1.7**
MAT	**Matsushiro**	**8.14**	**223**	P		**Pn**	**21 56 49.6**	**-1.9**
MAT				*e*S		**Sn**	**21 58 23.3**	**-0.3**
MJAR	**Matsushiro Arr**	**8.14**	**223**	Pn		**Pn**	**21 56 49.9**	**-1.6**
	comp=N,4.9nm,0.3s,baz=28,slow=14,SNR=142							
MJAR				LR		LR	22 00 34.6	
	comp=N,618nm,19.4s,baz=40,slow=43							
TYV	**Tymovskoe**	**8.33**	**349**	*e*PN		**Pn**	**21 56 55.6**	**+1.5**
TYV				pmax	pmax			
	comp=Z,18nm,0.9s							
TYV	**Tymovskoe**	**8.33**	**349**	*e*P		**Pn**	**21 56 55.5**	**+1.5**
TYV				AMB	AMB		21 56 57.6	
	comp=Z,15nm,0.7s							
TYV				AMS	AMS		22 01 06.4	
	comp=Z,1μm,16.0s							
TYV				AMS	AMS		22 01 06.4	
	comp=Z,600nm,16.0s							
USRK	**Ussuriysk Ar.**	**9.66**	**283**	Pn		**Pn**	**21 57 13.3**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=84,slow=14,SNR=6.8							
USRK				LR		LR	22 00 52.6	
	comp=Z,182nm,20.1s,baz=109,slow=38							
INU	**Inuyama**	**9.67**	**223**	*e*Pn		**Pn**	**21 57 12.0**	**-0.5**
VLA	**Vladivostok**	**9.72**	**277**	⇑*i*PN		**Pn**	**21 57 13.7**	**+0.6**
VLA				pmax	pmax			
	comp=Z,11nm,0.9s							
VLA	**Vladivostok**	**9.72**	**277**	*e*P		**Pn**	**21 57 13.7**	**+0.6**
GRNR	**Gornyy**	**10.03**	**327**	*e*PN		**Pn**	**21 57 20.0**	**+2.7**
GRNR	**Gornyy**	**10.03**	**327**	*e*P		**Pn**	**21 57 20.0**	**+2.7**
JHJ	**Hachijo jima 2**	**10.45**	**205**	Pn		Pn	21 57 19.3	-3.9
	comp=Z,21nm,0.3s,baz=72,slow=20,SNR=3.7							
JHJ				Sn		Sn	21 59 08.0	-12
	comp=Z,27nm,0.3s,baz=236,slow=23,SNR=6.4							
NKL	**Nikolayevsk**	**10.86**	**346**	*e*PN		**Pn**	**21 57 30.0**	**+1.3**
NKL				pmax	pmax			
	comp=N,18nm,1.0s							
NKL				pmax	pmax			
	comp=Z,25nm,1.0s							
NKL				MLR	MLR			
	comp=N,450nm,12.0s							
NKL	**Nikolayevsk**	**10.86**	**346**	*e*P		**Pn**	**21 57 30.0**	**+1.3**
NKL				AMB	AMB		21 57 31.4	
	comp=N,18nm,1.0s							
NKL				AMB	AMB		21 57 31.4	
	comp=N,25nm,1.0s							
NKL				AMS	AMS		22 04 44.0	
	comp=N,450nm,12.0s							
NKL				AMS	AMS		22 04 44.0	
	comp=N,800nm,12.0s							
SKR	**Severo-Kuril's**	**10.98**	**40**	*e*PN		Pn	21 57 39.9	+10
SKR				pmax	pmax			
	comp=Z,100nm,3.5s							
SKR				pmax	pmax			
	comp=Z,122nm,0.8s							
SKR				pmax	pmax			
	comp=Z,500nm,1.9s							
SKR				MLR	MLR			
	comp=Z,800nm,15.0s							
SKR				MLR	MLR			
	comp=Z,600nm,17.0s							
SKR	**Severo-Kuril's**	**10.98**	**40**	*e*P		**Pn**	**21 57 31.6**	**+1.3**
SKR				AMB	AMB		21 57 42.3	
	comp=Z,122nm,0.8s							
SKR				AMS	AMS		22 03 27.4	
	comp=Z,560nm,16.0s							
KLR	**Kul'dur**	**11.35**	**310**	Pn		**Pn**	**21 57 37.9**	**+2.4**
	comp=Z,0.0nm,0.3s,baz=115,slow=16,SNR=16							
KLR				LR		LR	22 02 24.8	
	comp=Z,34nm,20.5s,baz=122,slow=40							
MDJ	**Mudanjiang**	**11.41**	**285**	P		Pn	21 57 41.8	+5.5
MDJ				pmax	pmax			
	comp=Z,16nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,460nm,3.9s							
MDJ	**Mudanjiang**	**11.41**	**285**	*e*Pn		**Pn**	**21 57 35.8**	**-0.5**
	comp=Z,15nm,1.0s							
EKMR	**Ekimchan**	**13.18**	**326**	*e*P		**Pn**	**21 58 00.0**	**-0.4**
EKMR				AMB	AMB		21 58 11.9	
	comp=Z,13nm,1.0s							
PETK	**Petropavlovsk-**	**13.38**	**35**	Pn		**Pn**	**21 58 04.4**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=192,slow=9.6,SNR=10							
PETK				LR		LR	22 03 14.6	
	comp=Z,151nm,19.6s,baz=194,slow=38							
PET	**Petropavlovsk**	**13.73**	**37**	*e*P		**Pn**	**21 58 07.5**	**-0.4**
PET				*e*S		**Sn**	**22 00 42.3**	**+2.0**
PET				pmax	pmax			
	comp=Z,26nm,1.3s							
PET				MLR	MLR			
	comp=Z,700nm,15.0s							
PET	**Petropavlovsk**	**13.73**	**37**	*e*P		**Pn**	**21 58 08.5**	**+0.6**
PET				AMB	AMB		21 58 25.1	
	comp=Z,26nm,1.0s							
PET				AMS	AMS		22 03 09.4	
	comp=Z,750nm,15.0s							
KSRS	**Korea Array**	**14.16**	**254**	Pn		**Pn**	**21 58 12.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=54,slow=15,SNR=3.7							
KSRS				LR		LR	22 03 13.0	
	comp=Z,137nm,21.9s,baz=70,slow=36							
KSRS	**Korea Array**	**14.16**	**254**	P		**Pn**	**21 58 13.0**	**-0.9**
KSRS				MLR	MLR			
	comp=Z,137nm,21.9s							
KSAR	**Wonju Array Be**	**14.20**	**254**	P		**Pn**	**21 58 13.0**	**-1.4**
KSAR	**Wonju Array Be**	**14.20**	**254**	Pn		**Pn**	**21 58 12.9**	**-1.4**
JNU	**Nakatsue**	**14.74**	**234**	Pn		**Pn**	**21 58 19.0**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=8.1,SNR=2.8							
JCJ	**Chichijima**	**15.76**	**190**	LR		LR	22 04 44.6	
	comp=Z,103nm,21.3s,baz=93,slow=38							
BMKR	**Bomnak**	**16.06**	**324**	*e*P		**Pn**	**21 58 38.0**	**-1.1**
ZEA	**Zeya**	**16.18**	**319**	*e*P		**P**	**21 58 48.0**	**+4.2**
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ZEA				MLR	MLR			
	comp=Z,500nm,13.0s							
ZEA				MLR	MLR			
	comp=E,300nm,14.0s							
ZEA				MLR	MLR			
	comp=N,400nm,12.0s							
ZEA	**Zeya**	**16.18**	**319**	*e*P		**Pn**	**21 58 41.0**	**+0.4**
ZEA				AMB	AMB		21 58 50.9	
	comp=N,10.0nm,0.8s							
ZEA				AMS	AMS		22 05 53.0	
	comp=N,400nm,13.0s							
ZEA				AMS	AMS		22 05 53.0	
	comp=N,300nm,13.0s							
ZEA				AMS	AMS		22 05 53.0	
	comp=N,500nm,13.0s							
KROS	**Kirovskiy**	**16.73**	**321**	*e*P		**Pn**	**21 58 46.0**	**-1.6**
KROS				AMB	AMB		21 59 08.0	
	comp=N,3.0nm,0.5s							
MA2	**Magadan**	**17.25**	**10**	P		**Pn**	**21 58 53.3**	**-0.8**
	comp=N,0.3nm,0.3s,baz=177,slow=11,SNR=4.6							
MA2	**Magadan**	**17.25**	**10**	⇑*e*P		**P**	**21 58 56.0**	**+0.4**
CLNS	**Chul'man**	**19.14**	**325**	*e*P		Pn	21 59 33.4	+16
CLNS				pmax	pmax			
	comp=N,11nm,1.3s							
CLNS				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CLNS				pmax	pmax			
	comp=E,6.0nm,0.9s							
CLNS				MLR	MLR			
	comp=N,305nm,12.0s							
CLNS				MLR	MLR			
	comp=E,391nm,13.0s							
CLNS				MLR	MLR			
	comp=Z,197nm,12.0s							
SEY	**Seymchan**	**20.71**	**9**	P		**P**	**21 59 31.2**	**-2.2**
	comp=Z,1.4nm,0.6s,baz=187,slow=9.2,SNR=7.3							
SEY	**Seymchan**	**20.71**	**9**	P		**P**	**21 59 31.3**	**-2.2**
SEY				pmax	pmax			
	comp=Z,2.0nm,0.5s							
YAK	**Yakutsk**	**21.42**	**340**	*e*P		**P**	**21 59 45.8**	**+4.7**
YAK				*e**PP		sP	21 59 53.9	+8.6
YAK				*e*			22 00 07.8	
YAK				*e*S		Sn	22 03 44.5	-1.7
YAK				*e*			22 11 02.2	
YAK				pmax	pmax			
	comp=Z,14nm,0.9s							
YAK				pmax	pmax			
	comp=E,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,22nm,0.9s							
YAK				pmax	pmax			
	comp=E,12nm,1.2s							
YAK				MLR	MLR			
	comp=Z,129nm,15.0s							
YAK				MLR	MLR			
	comp=E,106nm,16.0s							
YAK				MLR	MLR			
	comp=N,111nm,14.0s							
BJT	**Baijiatuau**	**21.84**	**273**	*e*P		**P**	**21 59 45.9**	**0.0**
BJT				pmax	pmax			
	comp=Z,40nm,1.1s							
BJT	**Baijiatuau**	**21.84**	**273**	*e*P		**P**	**21 59 45.9**	**0.0**
	comp=Z,40nm,1.1s							
NJ2	**Nanjing**	**23.33**	**252**	*e*P		**P**	**21 59 58.8**	**-2.8**
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
BOD	**Bodaibo**	**24.69**	**319**	*e*P		**P**	**22 00 15.4**	**+1.2**
HHC	**Hu-ho-hao-te**	**25.00**	**277**	*e*P		**P**	**22 00 16.8**	**-0.5**
HHC				S		**S**	**22 04 36.1**	**-5.1**
HHC				pmax	pmax			
	comp=Z,10.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,180nm,7.4s							
HHC				LR	LR			
	comp=Z,170nm,9.6s							
HHC				LR	LR			
	comp=Z,200nm,15.3s							
ULN	**Ulaanbaatar**	**27.07**	**294**	*e*P		**P**	**22 00 36.3**	**+0.2**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ULN	**Ulaanbaatar**	**27.07**	**294**	*e*P		**P**	**22 00 36.2**	**+0.2**
	comp=Z,3.5nm,0.7s							
WHN	**Wuhan**	**27.36**	**254**	P		**P**	**22 00 39.3**	**+0.7**
SONA1	**Songino Array**	**27.51**	**294**	*e*P		**P**	**22 00 39.6**	**-0.4**
SONM	**Songino Array**	**27.52**	**294**	P		**P**	**22 00 38.9**	**-1.2**
	comp=Z,3.5nm,0.7s,baz=85,slow=8.1,SNR=16							
SONM				PcP		**PcP**	**22 03 59.1**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=79,slow=3.1,SNR=2.7							
SONM				LR		LR	22 11 50.7	
	comp=Z,136nm,21.4s,baz=85,slow=37							
BILL	**Bilibino**	**27.78**	**17**	*i* P		**P**	**22 00 41.8**	**-0.2**
BILL				*i*			22 01 26.9	
BILL				*i*			22 04 00.5	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.3s							
BILL				MLR	MLR			
	comp=Z,281nm,20.0s							
GUMO	**Guam**	**29.01**	**180**	LR		LR	22 11 38.7	
	comp=Z,45nm,19.3s,baz=80,slow=35							
TLY	**Talaya**	**29.23**	**302**	*e*P		P	22 01 07.7	+13
TLY				pmax	pmax			
	comp=Z,4.0nm,1.6s							
TLY				MLR	MLR			
	comp=Z,213nm,14.0s							
H11N2	**WAKE ISLAND Hy**	**29.36**	**135**	T		T	22 31 57.6	
	baz=326,slow=76,SNR=9295							
H11N1	**WAKE ISLAND Hy**	**29.37**	**135**	T		T	22 31 58.5	
	baz=326,slow=76,SNR=4660							
H11N3	**WAKE ISLAND Hy**	**29.38**	**135**	T		T	22 31 59.0	
	baz=326,slow=76,SNR=4138							
ZAK	**Zakamensk**	**29.45**	**300**	*e*P		**P**	**22 00 53.5**	**-3.7**
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.5s							
XAN	**Xi'an**	**29.48**	**265**	P		P	22 01 02.8	+5.2
XAN				pmax	pmax			
	comp=Z,7.0nm,0.5s							
H11S1	**WAKE ISLAND Hy**	**30.27**	**136**	T		T	22 33 02.6	
	baz=328,slow=76,SNR=6543							
H11S3	**WAKE ISLAND Hy**	**30.28**	**136**	T		T	22 33 01.7	
	baz=328,slow=76,SNR=3462							
H11S2	**WAKE ISLAND Hy**	**30.29**	**136**	T		T	22 33 01.2	
	baz=328,slow=76,SNR=4894							
MOY	**Mondy**	**30.88**	**302**	*e*P		**P**	**22 01 12.5**	**+2.7**
ENH	**Enshi**	**30.99**	**258**	*e*P		**P**	**22 01 10.5**	**-0.4**
	comp=Z,6.7nm,0.6s							
LZH	**Lanzhou**	**32.32**	**272**	⇑P		**P**	**22 01 23.6**	**+0.9**
LZH				pP		sP	22 01 28.9	+1.8
LZH				sP		pP	22 01 31.0	+5.1
LZH				*e*PP		**PnPn**	**22 02 30.8**	**+1.8**
LZH				pmax	pmax			
	comp=Z,49nm,1.3s							
LZH				pmax	pmax			
	comp=Z,270nm,4.0s							
LZH				LR	LR			
	comp=Z,230nm,11.7s							
LZH				LR	LR		

KMI Kunming 38.83 257 P P 22 02 24.9 +6.1
DAV Davao City (W) 39.46 211 LR LR 22 15 52.5
comp=Z,98nm,21.9s,baz=32,slow=32
IM3 Indian Mountai 40.34 34 *eP* **P** **22 02 30.5 -0.1**
ZALV Zalesovo Beam 40.45 308 P **P** **22 02 30.5 -1.2**
comp=Z,1.2nm,0.5s,baz=101,slow=7.6,SNR=6.7
ZALV PcP **PcP** **22 04 34.4 +0.1**
comp=Z,0.8nm,0.4s,baz=75,slow=2.6,SNR=2.9
ZALV LR LR 22 19 51.8
comp=Z,101nm,19.3s,baz=80,slow=37
ZALV Zalesovo Beam 40.45 308 *eP* **P** **22 02 33.7 +2.0**
ZALV 22 04 34.4
ZALV Zalesovo Beam 40.45 308 *eP* **P** **22 02 33.7 +2.0**
ZALV PcP **PcP** **22 04 34.4 +0.1**
CAST Castle Rocks 40.97 38 *eP* **P** **22 02 37.2 +1.3**
comp=Z,7.9nm,0.8s
KDAK Kodiak Island 41.05 46 P **P** **22 02 35.6 -0.9**
comp=Z,6.5nm,0.5s,baz=266,slow=5.3,SNR=16
KDAK Kodiak Island 41.05 46*ce*P **P** **22 02 36.3 -0.2**
KDAK Kodiak Island 41.05 46 *eP* **P** **22 02 36.3 -0.2**
WMQ Urumqi 41.10 292 P P 22 02 31.5 -5.8
WMQ pP sP 22 02 42.3 +0.6
WMQ sP pP 22 02 48.6 +8.1
KTH Kantishna Hill 41.49 37 *eP* **P** **22 02 41.4 +1.2**
comp=Z,13nm,0.8s
MLY Manley 41.56 35 *eP* **P** **22 02 41.2 +0.5**
comp=Z,7.4nm,0.9s
TRF Thorofare Moun 41.77 38 *eP* **P** **22 02 43.4 +0.7**
comp=Z,27nm,1.6s
COLD Coldfoot 41.83 32 *eP* **P** **22 02 43.7 +0.8**
comp=Z,5.9nm,1.0s
TOLK Toolik Lake Re 42.13 30 *eP* **P** **22 02 45.3 -0.1**
comp=Z,10nm,1.3s
MCK McKinley 42.37 37 *eP* **P** **22 02 47.7 +0.3**
MCK pmax pmax
comp=Z,11nm,1.1s
MCK McKinley 42.37 37 *eP* **P** **22 02 47.7 +0.3**
MCK McKinley 42.37 37 *eP* **P** **22 02 47.7 +0.3**
comp=Z,11nm,1.1s
RND Reindeer 42.42 38 *eP* **P** **22 02 48.2 +0.3**
RND pmax pmax
comp=Z,15nm,1.2s
RND Reindeer 42.42 38 *eP* **P** **22 02 48.2 +0.3**
comp=Z,14nm,1.2s
MDM Murphy Dome 42.62 35 *eP* **P** **22 02 50.3 +0.8**
comp=Z,12nm,0.8s
WRH Wood River Hil 42.70 36 *eP* **P** **22 02 50.8 +0.8**
comp=Z,11nm,1.1s
SML Sawmill 42.78 40 *eP* **P** **22 02 51.9 +1.2**
SML pmax pmax
comp=Z,35nm,1.1s
SML Sawmill 42.78 40 *eP* **P** **22 02 51.9 +1.2**
SML Sawmill 42.78 40 *eP* **P** **22 02 51.9 +1.2**
comp=Z,35nm,1.1s
COLA College 42.79 35 *eP* **P** **22 02 51.7 +1.0**
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 42.79 35 *eP* **P** **22 02 51.7 +1.0**
comp=Z,22nm,0.8s
CCB Clear Creek Bu 42.82 36 *eP* **P** **22 02 51.7 +0.7**
comp=Z,8.7nm,1.2s
DHY Denali Highway 43.11 38 *eP* **P** **22 02 53.6 0.0**
comp=Z,15nm,1.2s
HDA Harding Lake 43.20 36 *eP* **P** **22 02 53.7 -0.4**
comp=Z,7.9nm,0.6s
IL1 Eielson Array 43.20 35 *eP* **P** **22 02 54.4 +0.2**
ILAR Eielson Array 43.20 35 P **P** **22 02 54.1 0.0**
comp=Z,4.2nm,0.4s,baz=256,slow=5.6,SNR=74
ILAR LR LR 22 23 03.2
comp=Z,55nm,18.2s,baz=312,slow=39
ILB Eielson Array 43.20 35 *eP* **P** **22 02 54.1 0.0**
MK31 Makanchi Array 43.75 298 *eP* **P** **22 02 57.6 -1.2**
MK31 Makanchi Array 43.75 298 *eP* **P** **22 02 57.6 -1.2**
MKAR Makanchi Array 43.75 298 P **P** **22 02 57.5 -1.2**
comp=Z,2.1nm,0.5s,baz=83,slow=9.2,SNR=30
MKAR LR LR 22 21 09.6
comp=Z,73nm,19.8s,baz=83,slow=36
MKAR Makanchi Array 43.75 298 *eP* **P** **22 02 57.6 -1.2**
comp=Z,40nm,0.6s
MK01 Makanchi Array 43.75 298 *eP* **P** **22 02 57.3 -1.5**
FYU Fort Yukon 43.79 33 *eP* **P** **22 02 59.7 +1.0**
comp=Z,20nm,1.0s
MAKZ Makanchi 43.95 298 *eP* **P** **22 02 59.3 -1.1**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
MAKZ Makanchi 43.95 298 *eP* **P** **22 02 59.3 -1.1**
comp=Z,6.5nm,0.8s
KLU Klutina 43.96 40 *eP* **P** **22 03 01.1 +0.8**
comp=Z,92nm,2.0s
PAX Paxson 43.99 38 *eP* **P** **22 03 01.2 +0.7**
PAX pmax pmax
comp=Z,28nm,1.9s
PAX Paxson 43.99 38 *eP* **P** **22 03 01.2 +0.7**
comp=Z,28nm,1.9s
RIDG Independ'e Rid 44.18 37 *eP* **P** **22 03 02.7 +0.7**
comp=Z,9.1nm,0.8s
SCRK Sand Creek 44.53 36 *eP* **P** **22 03 04.7 -0.2**
comp=Z,10nm,0.6s
DOT Dot Lake 44.54 37 *eP* **P** **22 03 04.6 -0.3**
comp=Z,17nm,0.7s
LSA Lhasa 44.73 271 *eP* **P** **22 03 09.4 +2.0**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 44.73 271 *eP* **P** **22 03 09.4 +2.0**
comp=Z,5.6nm,0.7s
MENT Mentasta 44.78 38 *eP* **P** **22 03 08.2 +1.4**
comp=Z,21nm,1.4s
KURK Kurchatov 44.88 304⇓ *i* P **P** **22 03 06.6 -1.1**
KURK *i* *PP **sP** **22 03 11.9 -0.3**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 44.88 304 *eP* **P** **22 03 06.6 -1.1**
KURK Kurchatov 44.88 304 *eP* **P** **22 03 06.3 -1.4**
comp=Z,8.2nm,1.0s
KURBB Kurchatov Arra 44.96 304 P **P** **22 03 07.0 -1.4**
comp=Z,2.9nm,0.6s,baz=72,slow=8.9,SNR=33
CHTO Chiang Mai 45.56 253 *eP* **P** **22 03 13.2 -0.3**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 45.56 253 *eP* **P** **22 03 13.2 -0.3**
comp=Z,7.4nm,0.9s
EGAK Eagle 45.65 35 *eP* **P** **22 03 13.7 +0.1**
comp=Z,7.8nm,0.8s
CMAR Chiang Mai Arr 45.80 253 P **P** **22 03 14.9 -0.5**
comp=Z,0.6nm,0.4s,baz=42,slow=6.9,SNR=3.9
CMAR LR LR 22 22 14.8
comp=Z,57nm,19.1s,baz=52,slow=36
DAWY Dawson 46.52 36 *eP* **P** **22 03 20.0 -0.5**
comp=Z,8.1nm,1.5s
INK Inuvik 48.05 30 P **P** **22 03 32.2 0.0**
comp=Z,4.6nm,0.4s,baz=290,slow=5.9,SNR=34
INK LR LR 22 25 17.2
comp=Z,60nm,18.8s,baz=308,slow=38
INK Inuvik 48.05 30 *eP* **P** **22 03 32.3 0.0**
INK pmax pmax
comp=Z,6.0nm,0.6s
INK Inuvik 48.05 30 *eP* **P** **22 03 32.3 0.0**
comp=Z,6.5nm,0.6s
HYT Haines Junctio 48.09 40 *eP* **P** **22 03 33.9 +1.0**
comp=Z,22nm,0.8s
TAPN Taplejung 48.55 271 *eP* P 22 03 42.4 +5.3
comp=Z,26nm,0.9s
KDJ Kajisay 48.88 294 P **P** **22 03 38.1 -1.3**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 49.02 309 P **P** **22 03 39.3 -0.7**
comp=Z,1.7nm,0.4s,baz=79,slow=9.3,SNR=28
BVAR LR LR 22 25 52.1
comp=Z,137nm,18.4s,baz=66,slow=38
ODAN Odare 49.05 271 *eP* P 22 03 46.9 +6.0
comp=Z,7.9nm,0.6s
BRVK Borovoye 49.06 310*d* *i*P **P** **22 03 40.0 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 49.06 310 *eP* **P** **22 03 40.0 -0.4**
BRVK Borovoye 49.06 310 *eP* **P** **22 03 40.8 +0.5**
comp=Z,5.4nm,0.8s
WHY Whitehorse 49.37 40 *eP* **P** **22 03 43.4 +0.6**
comp=Z,38nm,1.9s
JIRN Jiri 49.49 272 *eP* P 22 03 49.4 +5.0
comp=Z,26nm,0.9s
OTUK Ortayu 49.57 303 P **P** **22 03 44.5 +0.1**
OTUK pmax pmax
comp=Z,9.0nm,0.8s
GUN Gumba 49.58 273 *eP* P 22 03 50.6 +5.5
comp=Z,26nm,0.6s

RAMN Ramite 49.59 271 *eP* **P** **22 03 49.5 +4.5**
comp=Z,26nm,0.9s
KKN Kakani 50.09 273 *eP* P 22 03 54.4 +5.6
comp=Z,14nm,0.9s
PKI Pulchoki 50.12 273 *eP* P 22 03 54.6 +5.5
comp=Z,7.3nm,0.5s
PKIN Phulchoki 50.12 273 *eP* P 22 03 54.9 +5.8
comp=Z,8.7nm,0.8s
DMN Daman 50.32 273 *eP* P 22 03 56.2 +5.6
comp=Z,20nm,1.0s
GKN Gorkha 50.45 274 *eP* P 22 03 56.8 +5.4
comp=Z,20nm,0.9s
AAK Ala-Archa 50.46 295⇓ *i*P **P** **22 03 51.6 +0.1**
AAK *i* *PP **sP** **22 03 56.6 +0.7**
AAK pmax pmax
comp=Z,3.0nm,1.9s
AAK Ala-Archa 50.46 295 *eP* **P** **22 03 51.5 +0.1**
AAK Ala-Archa 50.46 295 *eP* **P** **22 03 51.5 +0.1**
comp=Z,2.2nm,0.7s
KSH Kashi 50.85 291 *eP* **P** **22 03 58.4 +4.1**
KSH pmax pmax
comp=Z,88nm,4.0s
DANN Dangsing 50.90 275 *eP* P 22 04 00.3 +5.3
comp=Z,5.0nm,0.9s
KOLN Koldanda 51.34 274 *eP* P 22 04 03.9 +5.7
comp=Z,11nm,0.5s
PYUN Piuthan 51.60 275 *eP* P 22 04 05.4 +5.2
comp=Z,21nm,0.7s
MNAS Manas 51.85 296 P **P** **22 04 02.5 +0.7**
MNAS pmax pmax
comp=Z,12nm,0.7s
SFK Sufi-Kurgan 52.31 293 P **P** **22 04 06.6 +1.3**
SFK pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 52.88 298 *eP* **P** **22 04 09.7 +0.4**
KKAR Karatay Array 52.88 298 *eP* **P** **22 04 09.7 +0.4**
ARU Arti 54.09 317*c* *i*P **P** **22 04 15.9 -2.0**
ARU 22 05 16.6
ARU 22 06 18.5
ARU S **S** **22 11 51.8 -2.2**
ARU SS **SKiKP** **22 15 28.6 -1.1**
ARU pmax pmax
comp=Z,7.0nm,1.7s
ARU MLR MLR
comp=Z,115nm,15.0s
ARU Arti 54.09 317 *eP* **P** **22 04 18.3 +0.4**
ARU Arti 54.09 317 *eP* **P** **22 04 19.5 +1.6**
comp=Z,10nm,1.1s
SPITS Spitsbergen Ar 55.52 349 P **P** **22 04 27.3 -0.7**
comp=Z,15nm,1.0s,baz=62,slow=10.0,SNR=4.8
SPITS LR LR 22 30 58.9
comp=Z,58nm,18.2s,baz=330,slow=39
BBB Bella Bella 56.08 48 LR LR 22 26 09.6
comp=Z,35nm,21.2s,baz=304,slow=34
BATI Baumata 56.20 206 P **P** **22 04 30.5 -3.0**
comp=Z,14nm,0.6s,baz=10.0,slow=7.6,SNR=10
RES Resolute Bay 56.39 16 P **P** **22 04 32.9 -1.3**
comp=Z,11nm,0.7s,baz=303,slow=6.0,SNR=57
RES LR LR 22 29 59.8
comp=Z,37nm,20.3s,baz=294,slow=37
RES Resolute Bay 56.39 16 *eP* **P** **22 04 33.2 -1.0**
RES pmax pmax
comp=Z,13nm,0.8s
RES Resolute Bay 56.39 16 *eP* **P** **22 04 33.2 -1.0**
comp=Z,13nm,0.8s
ABKAR Akbulak array 56.55 309 *eP* **P** **22 04 34.5 -1.2**
comp=Z,80nm,0.6s
AKTO Aktyubinsk 57.08 310 LR LR 22 31 28.2
comp=Z,113nm,18.8s,baz=48,slow=38
YKW3 Yellowknife Ar 57.45 33 *eP* **P** **22 04 41.8 -0.1**
comp=Z,20nm,1.9s
YKA Yellowknife Ar 57.49 33 P **P** **22 04 41.4 -0.8**
comp=Z,1.6nm,0.8s,baz=303,slow=7.0,SNR=15
YKA LR LR 22 30 46.0
comp=Z,5.7nm,19.8s,baz=0.0,slow=38
YKA Yellowknife Ar 57.49 33 *i* P **P** **22 04 44.5 +2.3**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 57.49 33 *eP* **P** **22 04 44.5 +2.3**
TULEG Thule 59.09 9 *eP* **P** **22 04 51.8 -1.3**
comp=Z,14nm,0.9s
ARCES ARCESS Array B 59.70 339 P **P** **22 04 56.4 -1.1**
comp=Z,6.0nm,1.0s,baz=29,slow=8.3,SNR=7.5
KLMR Klimovskoe 60.51 327 *eP* **P** **22 05 03.1 0.0**
KLMR *e* 22 07 17.4
KLMR pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 60.51 327 *eP* **P** **22 05 03.1 0.0**
KLMR AMP 22 05 07.5
comp=Z,7.0nm,1.1s
KLMR *e*PP **PP** **22 07 17.5 +1.5**
KLMR LQ LQ 22 27 40.5
KLMR LQ LQ 22 27 40.5
WRAB Tennant Creek 63.11 191⇑ *eP* **P** **22 05 21.4 +0.3**
WRAB pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 63.12 191 P **P** **22 05 18.6 -2.5**
comp=Z,1.5nm,0.7s,baz=11,slow=7.0,SNR=14
GEYT Alibeck 63.63 298 P **P** **22 05 23.6 -0.9**
comp=Z,1.4nm,0.5s,baz=29,slow=3.3,SNR=4.9
GEYT LR LR 22 34 35.2
comp=Z,79nm,19.5s,baz=25,slow=38
YBH Yreka Blue Hor 64.71 56 P **P** **22 05 30.2 -1.5**
comp=Z,1.0nm,0.6s,baz=333,slow=4.5,SNR=2.0
SUMG Summit 64.99 1 *i* P **P** **22 05 32.7 -0.6**
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 64.99 1 *i* P **P** **22 05 32.7 -0.6**
comp=Z,12nm,0.8s
SUMG Summit 64.99 1 *eP* **P** **22 05 32.9 -0.4**
comp=Z,15nm,1.0s
FIA1 FINESS Array S 65.12 332 *eP* **P** **22 05 32.7 -1.1**
FINES FINESS Array B 65.12 332 P **P** **22 05 31.1 -2.7**
comp=Z,2.7nm,0.5s,baz=46,slow=7.1,SNR=24
FINES LR LR 22 37 08.1
comp=Z,117nm,18.5s,baz=45,slow=39
OBN Obninsk 65.27 323 *eP* **P** **22 05 35.1 +0.3**
OBN *i* 22 06 07.1
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,83nm,16.0s
OBN Obninsk 65.27 323 *eP* **P** **22 05 35.1 +0.3**
VRH Novokhopyorsk 65.30 318 *eP* **P** **22 05 37.9 +2.8**
VRH pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 65.78 320 *eP* **P** **22 05 42.1 +3.8**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 66.55 319 *eP* **P** **22 05 41.4 -1.8**
VSR pmax pmax
comp=Z,6.0nm,0.5s
AS01 Alice Springs 66.84 191 *eP* **P** **22 05 44.4 -0.9**
ASAR Alice Springs 66.85 191 P **P** **22 05 44.5 -0.8**
comp=Z,0.9nm,0.7s,baz=7.8,slow=4.9,SNR=14
FFC Flin Flon 67.42 35 *eP* **P** **22 05 48.8 +0.1**
FFC pmax pmax
comp=Z,12nm,1.3s
FFC Flin Flon 67.42 35 *eP* **P** **22 05 49.1 +0.4**
FFC Flin Flon 67.42 35 *eP* **P** **22 05 48.8 +0.1**
comp=Z,12nm,1.3s
FCC Fort Churchill 67.66 29 *eP* **P** **22 05 49.8 -0.3**
FCC pmax pmax
comp=Z,12nm,1.4s
FCC Fort Churchill 67.66 29 *eP* **P** **22 05 49.8 -0.3**
comp=Z,12nm,1.4s
GOF Gofitskoye 68.44 312⇑ *eP* **P** **22 06 00.0 +4.7**
GOF pmax pmax
comp=Z,13nm,1.0s
BOZ Bozeman (W) 68.74 47 *eP* **P** **22 05 58.1 +0.7**
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ Bozeman (W) 68.74 47 *eP* **P** **22 05 58.1 +0.7**
BOZ Bozeman (W) 68.74 47 *eP* **P** **22 05 58.1 +0.7**
comp=Z,5.5nm,0.6s
IZAR Zarasai 69.13 328 *eP* **P** **22 05 59.5 +0.1**
IZAR IAmb IAmb 22 06 02.8
comp=Z,4.4nm,0.6s
IDID Didziasalis 69.25 327 *eP* **P** **22 05 58.7 -1.4**
IDID IAmb IAmb 22 06 06.2
comp=Z,7.8nm,1.2s
ISAL Salakas 69.31 328 *eP* **P** **22 05 59.1 -1.4**
ISAL IAmb IAmb 22 06 06.6
comp=Z,9.9nm,1.1s
KIV Kislovodsk 69.34 311 *eP* **P** **22 06 01.9 +0.9**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,108nm,17.0s
KIV Kislovodsk 69.34 311 *eP* **P** **22 06 01.4 +0.4**
comp=Z,13nm,0.9s
KBZ Khabaz 69.36 311 P **P** **22 06 00.2 -0.8**
comp=Z,1.2nm,0.8s,baz=18,slow=4.4,SNR=4.7
KBZ LR LR 22 40 16.2
comp=Z,112nm,18.1s,baz=30,slow=39
NVAR Mina Array Bea 69.39 56 P **P** **22 06 02.2 +0.6**
comp=Z,0.9nm,0.5s,baz=316,slow=6.2,SNR=4.6
ZEI Tsey 69.40 310 *eP* **P** **22 06 04.3 +2.7**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
IIGN Ignalina 69.43 328 *eP* **P** **22 05 57.8 -3.4**
IIGN IAmb IAmb 22 06 07.4
comp=Z,5.5nm,0.8s
NACGM Naroch 69.53 327 *e* **P** **22 06 06.0 +4.1**
YHH Holmes Hill 69.69 47 *eP* **P** **22 06 04.7 +1.2**
comp=Z,3.2nm,1.1s
NB2 NORSAR Subarra 70.03 338 P **P** **22 06 03.6 -1.3**
comp=Z,1.9nm,0.6s,baz=33,slow=6.5
NOA NORSAR Array B 70.03 338 P **P** **22 06 03.6 -1.3**
comp=Z,2.2nm,0.7s,baz=35,slow=6.2,SNR=10
NOA LR LR 22 41 30.6
comp=Z,84nm,18.4s,baz=10.0,slow=40
HFS Hagfors 70.06 336 P **P** **22 06 04.2 -0.9**
comp=Z,3.4nm,0.7s,baz=45,slow=8.8,SNR=12
H17A Grant Village 70.09 48 *eP* **P** **22 06 07.4 +1.6**
comp=Z,5.3nm,0.9s
TPAW Teton Pass 70.47 49 *eP* **P** **22 06 10.9 +2.7**
comp=Z,7.4nm,1.1s
GNI Garni 70.59 307 LR LR 22 39 27.7
comp=Z,46nm,19.9s,baz=50,slow=38
GNI Garni 70.59 307 *eP* **P** **22 06 09.3 +0.4**
GNI pmax pmax
comp=Z,129nm,1.5s
GNI Garni 70.59 307 *eP* **P** **22 06 09.3 +0.4**
comp=Z,129nm,1.5s
REDW Red Top Meadow 70.61 49 *eP* **P** **22 06 12.1 +3.0**
comp=Z,6.9nm,1.1s
AKASG Malin Array Be 71.53 323 P **P** **22 06 12.8 -1.3**
comp=Z,1.4nm,0.5s,baz=40,slow=6.0,SNR=8.5
KIEV Kiev 71.54 323 *i* P **P** **22 06 14.4 +0.2**
KIEV *i* *PP **sP** **22 06 18.8 0.0**
KIEV pmax pmax
comp=Z,4.0nm,1.7s
KIEV Kiev 71.54 323 *eP* **P** **22 06 14.4 +0.2**
BW06 Boulder Array 71.72 48 *eP* **P** **22 06 17.1 +1.4**
comp=Z,3.4nm,0.7s
PD31 Pinedale Array 71.72 48 *eP* **P** **22 06 16.1 +0.3**
PDAR Pinedale Array 71.72 48 P **P** **22 06 15.6 -0.2**
comp=Z,2.1nm,0.5s,baz=256,slow=2.6,SNR=9.6
PDAR Pinedale Array 71.72 48 *eP* **P** **22 06 15.1 -0.6**
SHPR Sheep Range 72.55 56 *eP* **P** **22 06 23.6 +2.9**
comp=Z,3.7nm,0.9s
LVV L'vov 74.43 325 *eP* P 22 06 36.2 +4.8
LVV *e* 22 06 53.8
KWP Kalwaria Pacla 75.13 325 *eP* **P** **22 06 35.1 -0.4**
KWP pmax pmax
comp=Z,116nm,1.1s
KWP Kalwaria Pacla 75.13 325 *eP* **P** **22 06 35.1 -0.4**
comp=Z,116nm,1.1s
BUR08 Bucovina Ar. S 75.56 323 *eP* **P** **22 06 37.9 -0.3**
BUR04 Bucovina Ar. S 75.58 323 *eP* **P** **22 06 37.5 -0.7**
OJC Ojcow 75.87 327 *eP* **P** **22 06 39.6 0.0**
OJC pmax pmax
comp=Z,14nm,1.1s
OJC Ojcow 75.87 327 *eP* **P** **22 06 39.6 0.0**
OJC Ojcow 75.87 327 *eP* **P** **22 06 39.6 0.0**
comp=Z,14nm,1.1s
STHS Stebnicka Huta 75.91 326 *eP* **P** **22 06 41.9 +2.0**
STHS Stebnicka Huta 75.91 326 *eP* **P** **22 06 41.9 +2.0**
MORC Moravsky Berou 77.11 328 *eP* **P** **22 06 47.7 +1.0**
MORC pmax pmax
comp=Z,82nm,1.9s
MORC Moravsky Berou 77.11 328 *eP* **P** **22 06 47.7 +1.0**
comp=Z,82nm,1.9s
DPC Dobruska-Polom 77.11 329 *eP* **P** **22 06 48.8 +2.0**
DPC *e* 22 06 52.8
DPC Dobruska-Polom 77.11 329 *eP* **P** **22 06 48.8 +2.0**
DPC epP **pP** **22 06 50.6 +0.5**
DPC esP **sP** **22 06 52.8 +1.5**
BRTR Keskin Array B 77.17 313 P **P** **22 06 46.8 -0.6**
comp=Z,0.3nm,0.5s,baz=75,slow=3.6,SNR=2.6
CLL Collm 77.54 332 *eP* **P** **22 06 50.4 +1.4**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 77.54 332 *eP* **P** **22 06 50.4 +1.4**
CLL Collm 77.54 332 *eP* **P** **22 06 48.0 -1.0**
comp=Z,4.0nm,0.8s
CLL *i* pP **sP** **22 06 54.0 +0.4**
CLL LmH 22 40 00.0
comp=N,100nm,20.6s
CLL LmH 22 40 00.0
comp=E,200nm,19.9s
CLL Collm 77.54 332 *eP* **P** **22 06 50.4 +1.4**
comp=E,4.3nm,0.7s
PRU Pruhonice 78.07 330 *eP* **P** **22 06 54.0 +1.9**
PRU *e* 22 06 57.7
PRU MLR MLR
comp=Z,200nm,23.3s
PRU Pruhonice 78.07 330 *eP* **P** **22 06 54.0 +1.9**
PRU epP **sP** **22 06 57.7 +1.1**
PRU AMS AMS 22 44 10.0
comp=Z,200nm,23.3s
EKA Eskdalemuir Ar 78.68 342 P **P** **22 06 55.5 +0.2**
comp=Z,1.3nm,0.5s,baz=28,slow=4.8,SNR=16
SCHQ Schefferville 79.09 18 LR LR 22 45 18.4
comp=Z,31nm,19.0s,baz=336,slow=38
KHC Kasperske Hory 79.13 330 *eP* **P** **22 07 00.1 +2.1**
KHC pmax pmax
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 79.13 330 *eP* **P** **22 06 57.7 -0.3**
KHC *ex* x 22 06 59.9
KHC epP **sP** **22 07 03.5 +0.9**
KHC AMS AMS 22 44 20.0
comp=Z,200nm,20.4s
KHC Kasperske Hory 79.13 330 *eP* **P** **22 07 00.1 +2.1**
comp=Z,1.4nm,0.6s
CONA Conrad Observa 79.25 328 *i* P **P** **22 06 59.2 +0.5**
comp=Z,3.8nm,1.4s
GERES GERESS Array B 79.33 330 P **P** **22 06 58.0 -1.1**
comp=Z,0.6nm,0.5s,baz=30,slow=6.2,SNR=5.8
VTS Vitosha 80.33 321 *eP* **P** **22 07 04.6 -0.1**
VTS pmax pmax
comp=Z,5.0nm,1.1s
VTS Vitosha 80.33 321 *eP* **P** **22 07 04.6 -0.1**
comp=Z,5.3nm,1.1s
SOKA Soboth 80.60 328 *ep*P pP 22 07 09.2 -0.2
comp=Z,5.8nm,1.3s
KBA Koelnbreinsper 80.92 329 *ep*P pP 22 07 10.1 -1.2
comp=Z,5.2nm,0.9s
MMAI Mount Meron Ar 80.93 307 P **P** **22 07 09.6 +1.5**
comp=Z,1.7nm,0.6s,baz=52,slow=7.9,SNR=5.3
RAYN Ar Rayn 81.07 294 P **P** **22 07 09.2 +0.3**
RAYN pmax pmax
comp=Z,5.0nm,1.1s
RAYN Ar Rayn 81.07 294 *eP* **P** **22 07 09.2 +0.3**
comp=Z,4.7nm,1.1s
BAIF Baives 81.49 336 *eP* **P** **22 07 14.9 +4.3**
BAIF pmax pmax
comp=Z,14nm,1.4s
MOTA Moosalm 81.54 330 *i* P **P** **22 07 10.8 -0.3**
comp=Z,3.9nm,1.1s
RETA Reutte 81.54 331 *ep*P **P** **22 07 13.1 +2.1**
comp=Z,4.9nm,1.1s
CDF Champ du Feu 81.96 333 *eP* **P** **22 07 13.9 +0.7**
CDF pmax pmax
comp=Z,85nm,2.9s
SSF Saint Saulge 84.36 335 *eP* **P** **22 07 27.7 +2.1**
SSF pmax pmax
comp=Z,24nm,1.9s
TX31 Lajitas Ar. Si 84.47 55 *eP* **P** **22 07 27.1 +0.6**
TXAR Lajitas Array 84.47 55 P **P** **22 07 26.9 +0.3**
comp=Z,1.0nm,0.7s,baz=291,slow=3.0,SNR=13
SMF Signal de Mont 84.63 334 *eP* **P** **22 07 27.6 +0.7**
SMF pmax pmax
comp=Z,20nm,1.6s
LPL La Plagne 84.66 332 *eP* **P** **22 07 28.4 +1.0**
LPL pmax pmax
comp=Z,22nm,1.8s
LPG La Plagne 84.67 332 *eP* **P** **22 07 29.9 +2.4**
LPG pmax pmax
comp=Z,13nm,1.7s

BGF	**Bois d'Agland**	**85.02**	**335**	*e*P		**P**		**22 07 33.0**	**+4.1**
BGF				pmax		pmax				
	comp=Z,103nm,2.6s									
IDI	**Anoyia**	**85.12**	**315**	P		**P**		**22 07 28.7**	**-0.9**
	comp=Z,4.9nm,0.6s,baz=33,slow=9.1,SNR=17									
IDI	**Anoyia**	**85.12**	**315**	*e*P		**P**		**22 07 28.2**	**-1.5**
	comp=Z,33nm,1.7s									
MBDF	**Montbardon**	**85.33**	**332**	*e*P		**P**		**22 07 32.4**	**+1.7**
MBDF				pmax		pmax				
	comp=Z,2.0nm,0.6s									
SBF	**Sospel**	**85.85**	**331**	*e*P		**P**		**22 07 34.6**	**+1.5**
VIVF	**Saint-Julien-l**	**85.94**	**333**	*e*P		**P**		**22 07 34.6**	**+1.1**
VIVF				pmax		pmax				
	comp=Z,15nm,1.8s									
RJF	**Les Rejaudoux**	**86.56**	**335**	*e*P		**P**		**22 07 37.8**	**+1.3**
RJF				pmax		pmax				
	comp=Z,40nm,2.5s									
CAF	**Calviac**	**86.72**	**335**	*e*P		**P**		**22 07 37.6**	**+0.2**
CAF				pmax		pmax				
	comp=Z,7.0nm,1.1s									
MTLF	**Montolieu**	**88.09**	**334**	*e*P		**P**		**22 07 45.5**	**+1.5**
MTLF				pmax		pmax				
	comp=Z,14nm,1.9s									
ETSF	**Etsaut**	**89.37**	**336**	*e*P		**P**		**22 07 51.2**	**+1.1**
ETSF				pmax		pmax				
	comp=Z,2.0nm,0.8s									
TKL	**Tuckaleechee C**	**90.14**	**38**	P		**P**		**22 07 53.5**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=36,slow=17,SNR=4.6									
ESDC	**Sonseca Array**	**99.34**	**337**	P		**P**		**22 08 08.2**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=0.1,slow=4.5,SNR=4.0									
TORD	**Torodi Ar. Bea**	**115.08**	**320**	PKP		**PKPdf**		**22 13 32.2**	**-2.9**
	comp=Z,0.7nm,1.1s,baz=173,slow=12,SNR=4.6									
SNAA	**Sanae**	**147.01**	**198**	PKPbc		**PKPbc**		**22 14 35.3**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=187,slow=3.1,SNR=6.8									

MEX 24 21:55:45.9±0.5, 16°.04N×98°.30W, h3km±3km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**26**	*i* P	Pg	21 55 53.0	-0.5
PNIG				*i* S	Sg	21 55 59.1	+0.5
TLIG	**Tlapa**	**1.54**	**351**	*e*P	Pn	21 56 10.2	-4.1
TLIG				*e*S	Sn	21 56 29.7	-5.2
ACX	**Acapulco**	**1.71**	**299**	*i* P	Pn	21 56 16.0	-0.5
ACX				*i* S	Sn	21 56 37.6	-1.2
VHO	**Vista Hermosa**	**1.82**	**55**	*e*P	Pn	21 56 15.3	-3.1
VHO				*e*S	Sn	21 56 37.3	-4.8
HUIG	**Huatulco**	**2.13**	**97**	*e*P	Pn	21 56 19.4	-3.0
HUIG				*i* S	Sn	21 56 44.0	-5.3
CAIG	**El Cayaco**	**2.13**	**298**	*i* P	Pn	21 56 19.1	-3.3
CAIG				*e*S	Sn	21 56 45.2	-4.2
PLIG	**Platanillo**	**2.61**	**334**	*e*P	Pn	21 56 26.2	-2.8
PLIG				*i* S	Sn	21 56 57.4	-3.8

IDC ***24*** *22:15:55.8±1.9, 36°.80N×140°.75E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.2/70, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=38.6km s-min=23.6km az=56.0*

ISCJB ***24*** *22:15:57.3±0.8, 36°.79N±0°.04×140°.76E±0°.08, h22km±6km, mb3.5/3, Error ellipse: s-maj=11.2km s-min=6.0km az=22.2*

JMA ***24*** *22:15:58.5, 36°.84N×140°.58E, h7km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs202.00000°, δ72.00000°, λ-83.00000°. NP2: ϕs359.00000°, δ19.00000°, λ-112.00000°. Principal axes: T Plg27.0000°, Azm286.0000°; N Plg7.0000°, Azm20.0000°; P Plg62.0000°, Azm123.0000°;*

JMA Felt II J1.

ISC 24 22:15:57.8±1.2, 36°.82N±0°.04×140°.68E±0°.07, h12km±9km, n17, σ0s67/16, mb3.6/3, 6C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.23**	**202**	↑↑P	**Pg**	**22 16 03.1**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.30**	**19**	↑↑P	**Pb**	**22 16 04.8**	**-0.3**
JFK	**Kawauchi**	**0.57**	**16**	↑↑P	**Pb**	**22 16 09.4**	**-0.3**
JFK				S	**Sb**	**22 16 17.4**	**-0.4**
JSB	**Shiboa**	**0.62**	**284**	↑↑P	**Pb**	**22 16 09.8**	**-0.9**
JYT	**Yasato**	**0.71**	**213**	↑↑P	**Pb**	**22 16 11.4**	**-0.7**
JYT				S	**Sg**	**22 16 20.2**	**-0.6**
JFT	**Otama**	**0.75**	**339**	↑↑P	**Pb**	**22 16 12.1**	**-0.7**
JFT				S	**Sg**	**22 16 21.8**	**-0.2**
MJAR	**Matsushiro Arr**	**2.00**	**263**	Pn	**Pn**	**22 16 32.0**	**+0.5**
	16nm,0.3s,baz=86,slow=15,SNR=190						
MJAR				Sn	**Sn**	**22 16 56.8**	**+0.2**
	14nm,0.3s,baz=78,slow=30,SNR=12						
MAT	**Matsushiro**	**2.00**	**263**	P	**Pn**	**22 16 32.3**	**+0.8**
MAT				S	**Sn**	**22 16 57.4**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**28.55**	**119**	T	T	22 51 39.8	
	baz=312,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy**	**28.56**	**119**	T	T	22 51 42.2	
	baz=312,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	**28.57**	**119**	T	T	22 51 43.4	
	baz=312,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy**	**29.25**	**122**	T	T	22 52 31.6	
	baz=314,slow=75,SNR=116						
H11S3	**WAKE ISLAND Hy**	**29.25**	**122**	T	T	22 52 31.6	
	baz=314,slow=75,SNR=94						
H11S2	**WAKE ISLAND Hy**	**29.26**	**122**	T	T	22 52 32.6	
	baz=314,slow=75,SNR=102						
KURBB	**Kurchatov Arra**	**45.67**	**308**	P	**P**	**22 24 18.5**	**+0.3**
	0.2nm,0.4s,baz=81,slow=8.0,SNR=3.8						
WRA	**Warramunga Arr**	**56.77**	**187**	P	**P**	**22 25 41.9**	**+0.1**
	0.5nm,0.8s,baz=2.1,slow=7.4,SNR=6.1						
ASAR	**Alice Springs**	**60.50**	**187**	P	**P**	**22 26 06.8**	**-1.0**
	0.5nm,1.0s,baz=5.7,slow=6.9,SNR=3.2						

IDC ***24*** *22:18:36.9±0.6, 54°.26S×136°.01W, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.2/35, mbtmp4.2/10, MS4.8/31, Ms1 4.8/31, ms1mx4.7/35, Error ellipse: s-maj=25.9km s-min=17.6km az=158.0*

ISCJB ***24*** *22:18:37.2±0.4, 54°.35S±0°.08×136°.2W±0°.1, h13km, mb4.6/18, MS5.0/117, Error ellipse: s-maj=11.3km s-min=10.8km az=40.8*

GCMT ***24*** *22:18:38.2±0.1, 54°.65S×135°.55W, h24km, MW5.6/133, Moment Tensor Solution. s103,c174; s133,c248; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr-0.41±.04; Mθθ2.37±.04; Mϕϕ-1.95±.03; Mrθ0.32±.06; Mθϕ1.87±.03; Mϕr0.32±.05; Best double couple: M=2.88900×10^17 NP1:ϕs25.00000°, δ89.00000°, λ172.00000°. NP2:ϕs115.00000°, δ82.00000°, λ1.00000°. Principal axes: T 3.1160, Plg7.0000°, Azm339.0000°; N -0.4470, Plg82.0000°, Azm195.0000°; P -2.6620, Plg5.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *22:18:38.2±0.3, 54°.37S×136°.16W, h10km, mb5.0/13, MS5.1/85 Error ellipse: s-maj=17.4km s-min=10.6km az=161.0*

ISC 24 22:18:39.1±0.5, 54°.34S±0°.09×136°.1W±0°.1, h13km, n168, σ1s40/51, mb4.7/18, MS5.0/117, 1C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**30.75**	**200**	*e*P	**P**	**22 24 52.2**	**-1.2**
	60nm,1.9s						
SBA				LR	LR		
	comp=Z,3μm,22.0s						
RKT	**Rikitea**	**31.18**	**2**	*e*LQ	LQ	22 31 45.5	
	comp=Z,2μm,36.8s						
RKT				*e*LR	LR	22 33 05.2	
	comp=Z,5μm,29.2s,baz=181						
RKT	**Rikitea**	**31.18**	**2**	*e*T	T	22 57 48.0	
	comp=Z,11nm,0.3s						
VNDA	**Vanda**	**31.70**	**201**	P	**P**	**22 25 04.0**	**+2.2**
	comp=Z,1.2nm,1.1s,baz=78,slow=6.1,SNR=2.1						
VNDA				LR	LR	22 34 30.1	
	comp=Z,1μm,21.7s,baz=82,slow=30						
VNDA	**Vanda**	**31.70**	**201**	*e*P	**P**	**22 25 00.9**	**-0.9**
	comp=Z,30nm,1.8s						
RPN	**Rapa Nui**	**33.51**	**47**	LR	LR	22 35 34.1	
	comp=Z,2μm,19.8s,baz=208,slow=30						
BFZ	**Birch Farm**	**34.30**	**274**	PFAKE		22 25 40.0	+15
BFZ				LR	LR		
	comp=Z,2μm,20.0s						
MQZ	**McQueen's Vall**	**34.54**	**266**	PFAKE		22 25 40.0	+13
MQZ				LR	LR		
	comp=Z,1μm,18.0s						
SNZO	**South Karori**	**34.80**	**271**	PFAKE		22 25 40.0	+11
SNZO				LR	LR		
	comp=Z,2μm,20.0s						
BKZ	**Black Stump Fm**	**35.14**	**276**	PFAKE		22 25 40.0	+7.8
BKZ				LR	LR		
	comp=Z,2μm,21.0s						
MXZ	**Matakaoa Point**	**35.16**	**279**	PFAKE		22 25 40.0	+7.7
MXZ				LR	LR		
	comp=Z,1μm,22.0s						
URZ	**Urewera**	**35.38**	**277**	PFAKE		22 25 50.0	+16
URZ				LR	LR		
	comp=Z,2μm,21.0s						
RPZ	**Rata Peaks**	**35.47**	**265**	LR	LR	22 36 46.4	
	comp=Z,2μm,19.8s,baz=120,slow=31						
QSPA	**South Pole Qui**	**35.83**	**180**	P	**P**	**22 25 38.3**	**+0.3**
	comp=Z,6.8nm,1.1s,baz=90,slow=7.1,SNR=6.7						
QSPA				LR	LR	22 38 22.4	
	comp=Z,3μm,18.2s,baz=74,slow=33						
QSPA	**South Pole Qui**	**35.83**	**180**	*e*P	**P**	**22 25 38.5**	**+0.4**
	comp=Z,27nm,1.4s						
PMSA	**Palmer Station**	**35.92**	**136**	PFAKE		22 25 50.0	+12
PMSA				LR	LR		
	comp=Z,4μm,20.0s						
HIZ	**Hauiti**	**36.52**	**275**	PFAKE		22 25 50.0	+6.0
HIZ				LR	LR		
	comp=Z,1μm,19.0s						
RAR	**Rarotonga**	**37.64**	**322**	LR	LR	22 36 45.7	
	comp=Z,1μm,21.7s,baz=145,slow=29						
TVO	**Taravao**	**37.88**	**339**	*e*T	T	23 06 15.6	
	comp=Z,2.4nm,0.3s						
PAE	**Paea**	**38.06**	**339**	*e*T	T	23 06 29.3	
	comp=Z,2.7nm,0.2s						
TIAR	**Tiarei**	**38.11**	**339**	*e*T	T	23 06 33.4	
	comp=Z,1.9nm,0.2s						
PPT2	**Papeete2**	**38.13**	**339**	*e*S	**S**	**22 31 50.7**	**+0.1**
	comp=Z,704nm,27.0s						
PPT2				*e*LR	LR	22 36 17.4	
	comp=Z,6μm,26.8s,baz=172						
PPT2	**Papeete2**	**38.13**	**339**	*e*T	T	23 06 34.1	
	comp=Z,10nm,0.3s						
RAO	**Raoul Island**	**39.17**	**293**	LR	LR	22 41 12.0	
	comp=Z,98nm,18.3s,baz=332,slow=35						
VAH	**Vaihoa**	**40.05**	**343**	*e*T	T	23 08 55.5	
	comp=Z,32nm,0.2s						
PMOR	**Pomariorio Ree**	**40.32**	**342**	*e*T	T	23 09 18.0	
	comp=Z,4.3nm,0.3s						
PLCA	**Paso Flores**	**44.66**	**100**	LR	LR	22 41 06.8	
	comp=Z,2μm,19.4s,baz=256,slow=30						
TAOE	**Nuku Hiva Isla**	**45.47**	**354**	*e*S	**S**	**22 33 38.3**	**-0.9**
	comp=Z,497nm,25.9s						
TAOE				*e*LQ	LQ	22 37 48.0	
	comp=Z,4μm,26.8s						
TAOE				*e*LR	LR	22 39 44.6	
	comp=Z,3μm,25.8s,baz=194						
GO05	**HualaæØ**	**47.73**	**93**	PFAKE		22 27 30.0	+15
GO05				LR	LR		
	comp=Z,3μm,21.0s						
AFI	**Afiamalu**	**49.05**	**311**	LR	LR	22 43 24.8	
	comp=Z,477nm,21.5s,baz=98,slow=30						
VNA3	**Neumayer Olymp**	**49.11**	**160**	P	**P**	**22 27 23.5**	**-2.1**
TAU	**Tasmania Unive**	**49.50**	**250**	PFAKE		22 27 40.0	+11
TAU				LR	LR		
	comp=Z,2μm,19.0s						
VNA2	**Neumayer--Watz**	**49.82**	**160**	P	**P**	**22 27 32.5**	**+1.5**
	baz=222,slow=7.9						
VNA1	**Neumayer--Stat**	**49.87**	**160**	P	**P**	**22 27 33.0**	**+1.7**
SNAA	**Sanae**	**50.06**	**163**	P	**P**	**22 27 34.3**	**+1.4**
SNAA	**Sanae**	**50.06**	**163**	P	**P**	**22 27 32.4**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=231,slow=6.6,SNR=4.8						
SNAA				LR	LR	22 46 07.6	
	comp=Z,2μm,21.8s,baz=252,slow=33						
SNAA	**Sanae**	**50.06**	**163**	*e*P	**P**	**22 27 33.1**	**+0.2**
	comp=Z,19nm,1.3s						
TRQA	**Tornquist**	**51.37**	**104**	PFAKE		22 28 00.0	+17
TRQA				LR	LR		
	comp=Z,2μm,20.0s						
LCO	**Las Campanas**	**52.78**	**89**	PFAKE		22 28 10.0	+16
LCO				LR	LR		
	comp=Z,1μm,18.0s						
DZM	**Mont Dzumac**	**53.50**	**283**	LR	LR	22 45 24.1	
	comp=Z,833nm,21.8s,baz=144,slow=30						
DZM	**Mont Dzumac**	**53.50**	**283**	*e*LR	LR	22 43 26.8	
	comp=Z,2μm,25.4s						
SYO	**Syowa Base**	**56.93**	**178↑**	*e*pP	**P**	**22 28 22.2**	**-0.9**
MAW	**Mawson**	**57.56**	**188**	LR	LR	22 52 26.8	
	comp=Z,814nm,18.6s,baz=160,slow=35						
STKA	**Stephens Creek**	**60.50**	**256**	P	**P**	**22 28 49.7**	**+1.1**
	comp=Z,2.4nm,1.1s,baz=117,slow=6.8,SNR=2.9						
STKA				LR	LR	22 51 07.3	
	comp=Z,648nm,19.7s,baz=149,slow=32						
MNMC	**Minye Minye**	**60.98**	**82**	*e*P	**P**	**22 28 52.5**	**+0.2**
	comp=Z,14nm,0.8s						
NNA	**Nana**	**62.58**	**71**	PFAKE		22 29 20.0	+17
NNA				LR	LR		
	comp=Z,2μm,19.0s						
CPUP	**Villa Florida**	**62.60**	**98**	P	**P**	**22 29 02.0**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=256,slow=6.6,SNR=5.9						
CPUP				LR	LR	22 52 01.4	
	comp=Z,2μm,19.3s,baz=220,slow=32						
CPUP	**Villa Florida**	**62.60**	**98**	*e*P	**P**	**22 29 02.4**	**-0.4**
	comp=Z,8.3nm,1.2s						
BBOO	**Buckleboo**	**62.91**	**251**	*e*P	**P**	**22 29 02.5**	**-2.4**
	comp=Z,85nm,1.7s						
BBOO				LR	LR		
	comp=Z,2μm,21.0s						
LPAZ	**La Paz**	**64.07**	**82**	P	**P**	**22 29 12.8**	**-0.6**
	comp=Z,2.0nm,1.0s,baz=186,slow=5.2,SNR=7.0						
LPAZ				LR	LR	22 50 41.0	
	comp=Z,404nm,21.7s,baz=209,slow=30						
LPAZ	**La Paz**	**64.07**	**82**	*e*P	**P**	**22 29 14.2**	**+0.8**
	comp=Z,15nm,1.4s						
CTA	**Charters Tower**	**66.78**	**268**	LR	LR	22 55 55.2	
	comp=Z,386nm,18.3s,baz=152,slow=34						
CTAO	**Charters Tower**	**66.78**	**268**	*e*P	**P**	**22 29 29.5**	**-0.7**
	comp=Z,16nm,1.0s						
HNR	**Honiara**	**67.33**	**286**	LR	LR	22 56 40.5	
	comp=Z,114nm,18.4s,baz=141,slow=34						
SPB	**Sao Paulo**	**70.40**	**103**	PFAKE		22 30 00.0	+7.2
SPB				LR	LR		
	comp=Z,2μm,19.0s						
AS01	**Alice Springs**	**71.11**	**256**	*e*P	**P**	**22 29 55.1**	**-2.0**
ASAR	**Alice Springs**	**71.14**	**256**	P	**P**	**22 29 57.0**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=140,slow=6.5,SNR=20						
ASAR				LR	LR	22 57 51.4	
	comp=Z,751nm,19.0s,baz=152,slow=33						
AS31	**Alice Springs**	**71.14**	**256**	*e*P	**P**	**22 29 57.5**	**+0.2**
	comp=Z,2.9nm,0.9s						
OTAV	**Otavalo**	**71.92**	**63**	*e*P	**P**	**22 30 02.6**	**+0.1**
	comp=Z,6.9nm,1.0s						
OTAV				LR	LR		
	comp=Z,400nm,20.0s						
NWAO	**Narrogin (SRO)**	**72.72**	**238**	LR	LR	22 54 58.8	
	comp=Z,649nm,19.8s,slow=30						
SAML	**Samuel**	**72.81**	**81**	*e*P	**P**	**22 30 06.2**	**-1.1**
	comp=Z,12nm,1.4s						
SAML				LR	LR		
	comp=Z,500nm,20.0s						
TUMC	**Tumaco**	**73.13**	**62**	PFAKE		22 30 20.0	+11
TUMC				LR	LR		
	comp=Z,900nm,19.0s						
WB2	**Warramunga Arr**	**73.81**	**258**	*e*P	**P**	**22 30 13.0**	**-0.2**
WRA	**Warramunga Arr**	**73.82**	**258**	P	**P**	**22 30 12.7**	**-0.6**
	comp=Z,3.5nm,0.9s,baz=145,slow=5.4,SNR=21						
WRA				LR	LR	22 59 53.5	
	comp=Z,758nm,18.8s,baz=150,slow=34						
WRAB	**Tennant Creek**	**73.82**	**258**	*e*P	**P**	**22 30 13.5**	**+0.2**
	comp=Z,29nm,0.9s						
WRAB				LR	LR		
	comp=Z,900nm,19.0s						
PMG	**Port Moresby**	**74.70**	**275**	LR	LR	22 59 15.6	
	comp=Z,444nm,19.5s,baz=167,slow=33						
PRAC	**Prado**	**76.73**	**64**	PFAKE		22 30 40.0	+10
PRAC				LR	LR		
	comp=Z,600nm,21.0s						
JTS	**JuntasAbangare**	**77.41**	**52**	LR	LR	22 56 40.8	
	comp=Z,1μm,21.0s,baz=248,slow=30						
HDC	**Heredia**	**77.55**	**53**	PFAKE		22 30 50.0	+15
HDC				LR	LR		
	comp=Z,1μm,21.0s						
ROSC	**El Rosal**	**77.98**	**64**	P	**P**	**22 30 36.8**	**-0.6**
	comp=Z,5.8nm,0.4s,baz=343,slow=19,SNR=2.7						
ROSC				LR	LR	22 58 27.7	
	comp=Z,584nm,21.7s,baz=216,slow=31						
HELC	**Santa Helena**	**78.49**	**62**	PFAKE		22 30 50.0	+10
HELC				LR	LR		
	comp=Z,800nm,19.0s						
BCIP	**Isla Barro Col**	**78.86**	**57**	PFAKE		22 30 50.0	+8.2
BCIP				LR	LR		
	comp=Z,800nm,21.0s						
RUSC	**La Rusia**	**79.52**	**64**	PFAKE		22 31 00.0	+14
RUSC				LR	LR		
	comp=Z,200nm,18.0s						
MTN	**Manton Dam**	**81.31**	**260**	PFAKE		22 31 10.0	+15
MTN				LR	LR		
	comp=Z,900nm,22.0s						
SDV	**Santo Domingo**	**83.33**	**65**	LR	LR	23 02 17.9	
	comp=Z,342nm,19.9s,baz=211,slow=32						
MYIG	**MØrida**	**84.85**	**43**	PFAKE		22 31 20.0	+6.9
MYIG				LR	LR		
	comp=Z,500nm,18.0s						
H11S2	**WAKE ISLAND Hy**	**87.40**	**307**	T	T	00 08 59.6	
	baz=148,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**87.42**	**307**	T	T	00 08 49.6	
	baz=148,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**87.42**	**307**	T	T	00 08 58.4	
	baz=148,slow=76,SNR=13						
PCRV	**Puerto La Cruz**	**87.63**	**69**	LR	LR	23 05 34.1	
	comp=Z,780nm,19.8s,baz=192,slow=32						
BATI	**Baumata**	**87.71**	**256**	LR	LR	23 09 19.3	
	comp=Z,426nm,18.6s,baz=144,slow=35						
SOEI	**Soe**	**87.73**	**257**	PFAKE		22 31 40.0	+12
SOEI				LR	LR		
	comp=Z,800nm,20.0s						
TXAR	**Lajitas Array**	**87.90**	**28**	P	**P**	**22 31 29.2**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=206,slow=6.0,SNR=2.5						
H11N3	**WAKE ISLAND Hy**	**88.37**	**308**	T	T	00 09 56.1	
	baz=147,slow=75,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**88.38**	**308**	T	T	00 09 56.8	
	baz=147,slow=75,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**88.39**	**308**	T	T	00 09 59.0	
	baz=147,slow=75,SNR=5.1						
FAKI	**Fak Fak**	**88.64**	**267**	PFAKE		22 31 40.0	+8.1
FAKI				LR	LR		
	comp=Z,400nm,22.0s						
GRGR	**Grenville**	**90.88**	**70**	PFAKE		22 31 50.0	+7.7
GRGR				LR	LR		
	comp=Z,800nm,20.0s						
ANMO	**Albuquerque**	**92.52**	**24**	LR	LR	23 04 42.7	
	comp=Z,247nm,21.4s,baz=7.0,slow=30						
FDF	**Fort de France**	**93.29**	**69**	PFAKE		22 32 00.0	+6.5
FDF				LR	LR		
	comp=Z,700nm,20.0s						
SJG	**San Juan**	**93.39**	**63**	LR	LR	23 08 36.6	
	comp=Z,246nm,20.4s,baz=222,slow=32						
NVAR	**Mina Array Bea**	**93.65**	**14**	LR	LR	23 04 59.9	
	comp=Z,527nm,20.1s,baz=178,slow=30						
CBYP	**Canovanas**	**93.68**	**64**	PFAKE		22 32 10.0	+15
CBYP				LR	LR		
	comp=Z,400nm,20.0s						
KAPI	**Kappang**	**94.16**	**256**	PFAKE		22 32 10.0	+12
KAPI				LR	LR		
	comp=Z,300nm,20.0s						
GUMO	**Guam**	**94.66**	**287**	LR	LR	23 06 08.4	
	comp=Z,36nm,20.4s,baz=86,slow=30						
LUWI	**Luwuk**	**95.67**	**260**	PFAKE		22 32 20.0	+16
LUWI				LR	LR		
	comp=Z,300nm,21.0s						
TMUT	**Trail Mountain**	**95.68**	**19**	PFAKE		22 32 20.0	+16
TMUT				LR	LR		
	comp=Z,400nm,20.0s						
BOSA	**Boshof**	**95.83**	**164**	LR	LR	23 09 00.3	
	comp=Z,1μm,21.6s,baz=194,slow=32						
YBH	**Yreka Blue Hor**	**96.38**	**10**	LR	LR	23 07 39.4	
	comp=Z,449nm,18.2s,baz=176,slow=31						
CTU	**Camp Tracy**	**96.93**	**18**	PFAKE		22 32 20.0	+10
CTU				LR	LR		
	comp=Z,600nm,20.0s						
CBKS	**Cedar Bluff**	**97.90**	**28**	PFAKE		22 32 20.0	+6.0
CBKS				LR	LR		
	comp=Z,700nm,22.0s						
CISI	**Cisompet, Garu**	**98.61**	**244**	PFAKE		22 32 30.0	+12
CISI				LR	LR		
	comp=Z,300nm,20.0s						
LEM	**Lembang**	**99.33**	**244**	LR	LR	23 09 40.5	
	comp=Z,167nm,19.7s,baz=152,slow=31						
PDAR	**Pinedale Array**	**99.35**	**19**	LR	LR	23 08 11.3	
	comp=Z,362nm,21.7s,baz=212,slow=30						
NCAT	**North Carolina**	**102.24**	**44**	PFAKE		22 32 40.0	+6.7
NCAT				LR	LR		
	comp=Z,300nm,19.0s						
TSUM	**Tsumeb**	**103.35**	**154**	PFAKE		22 32 50.0	+11
TSUM				LR	LR		
	comp=Z,1μm,21.0s						
SBUM	**Sibu**	**104.53**	**254**	PFAKE		22 32 50.0	+5.9
SBUM				LR	LR		
	comp=Z,500nm,22.0s						
MRIV	**Mauritius Mete**	**104.76**	**193**	PFAKE		22 33 00.0	+15
MRIV				LR	LR		
	comp=Z,1μm,21.0s						
KSM	**Kuching**	**104.79**	**251**	PFAKE		22 33 00.0	+15
KSM				LR	LR		
	comp=Z,300nm,22.0s						
KKM	**Kota Kinabalu**	**105.19**	**259**	PFAKE		22 37 10.0	
KKM				LR	LR		
	comp=Z,300nm,22.0s						
BBSR	**BB Station**	**105.88**	**56**	PFAKE		22 37 10.0	
BBSR				LR	LR		
	comp=Z,300nm,18.0s						
MVL	**Millersville**	**106.98**	**44**	PFAKE		22 37 20.0	
MVL				LR	LR		
	comp=Z,2μm,19.0s						
H02S1	**DAWSON INLET T**	**107.21**	**2**	T	T	00 33 07.7	
CHGN	**Chignik**	**111.78**	**347**	PFAKE		22 37 20.0	
CHGN				LR	LR		
	comp=Z,600nm,22.0s						
IPM	**Ipoh**	**112.34**	**245**	PFAKE		22 37 30.0	
IPM				LR	LR		
	comp=Z,300nm,21.0s						
DLBC	**Dease Lake**	**112.52**	**3**	PFAKE		22 37 30.0	
DLBC				LR	LR		
	comp=Z,500nm,18.0s						
KULM	**Kulim**	**113.22**	**245**	PFAKE		22 37 30.0	
KULM				LR	LR		
	comp=Z,200nm,22.0s						
SKAG	**Skagway**	**113.45**	**0**	PFAKE		22 37 30.0	
SKAG				LR	LR		
	comp=Z,600nm,21.0s						
WHY	**Whitehorse**	**114.65**	**1**	PFAKE		22 37 30.0	+12
WHY				LR	LR		
	comp=Z,700nm,20.0s						
HYT	**Haines Junctio**	**114.82**	**359**	PFAKE		22 37 30.0	+12
HYT				LR	LR		
	comp=Z,800nm,21.0s						
**P

NAI				LR	LR				
	comp=Z,900nm,21.0s								
PALK	**Pallekele**	**124.56**	**226**	PFAKE			22 37 50.0	+12	
PALK				LR	LR				
	comp=Z,300nm,19.0s								
CMAR	**Chiang Mai Arr**	**125.02**	**252**	PKP	**PKPdf**		**22 37 39.8**	**+0.9**	
	comp=Z,0.6nm,0.3s,baz=186,slow=1.8,SNR=2.9								
KOWA	**Kowa**	**125.56**	**118**	*i* PKP	**PKPdf**		**22 37 39.4**	**-0.6**	
	comp=Z,1.1nm,0.8s,baz=249,slow=8.6,SNR=2.1								
GYA	**Guiyang**	**126.85**	**265**	Pdif	**Pdif**		**22 34 23.0**	**-0.2**	
GYA				PKP	**PKiKP**		**22 37 42.8**	**0.0**	
GYA				PP	**PP**		**22 39 44.4**	**+4.3**	
TORD	**Torodi Ar. Bea**	**127.27**	**125**	PKP	**PKPdf**		**22 37 42.5**	**-0.8**	
	comp=Z,0.6nm,0.8s,baz=321,slow=0.8,SNR=2.9								
FURI	**Furi**	**134.49**	**173**	PFAKE			22 38 10.0	+13	
FURI				LR	LR				
	comp=Z,1μm,21.0s								
LSA	**Lhasa**	**138.22**	**253**	PFAKE			22 38 20.0	+16	
LSA				LR	LR				
	comp=Z,200nm,21.0s								
DAMY	**Dhamar**	**140.32**	**181**	PFAKE			22 38 20.0	+12	
DAMY				LR	LR				
	comp=Z,500nm,21.0s								
SONM	**Songino Array**	**141.39**	**287**	PKP	**PKPdf**		**22 38 08.8**	**-0.1**	
	comp=Z,0.7nm,0.9s,baz=166,slow=1.8,SNR=2.6								
SONA1	**Songino Array**	**141.39**	**287**	*e*PKPdf	**PKPdf**		**22 38 08.8**	**0.0**	
ESDC	**Sonseca Array**	**144.93**	**95**	PKP	**PKPdf**		**22 38 14.8**	**-0.5**	
	comp=Z,0.6nm,0.6s,baz=216,slow=3.7,SNR=5.2								
ES19	**SONSECA Array**	**144.99**	**95**	*e*PKPbc	**PKPdf**		**22 38 15.8**	**+0.5**	
RAYN	**Ar Rayn**	**149.21**	**183**	*e*pPKPab	**PKPab**		**22 38 32.5**	**+1.0**	
RAYN				LR	LR				
	comp=Z,500nm,20.0s								
KEST	**Kesra**	**149.72**	**114**	PKPbc	**PKPbc**		**22 38 28.8**	**+0.7**	
	comp=Z,4.9nm,1.1s,baz=304,slow=3.6,SNR=2.0								
WDD	**Wied Dalam**	**152.50**	**120**	PFAKE			22 38 40.0	-4.8	
WDD				LR	LR				
	comp=Z,500nm,18.0s								
EKA	**Eskdalemuir Ar**	**153.26**	**68**	PKPbc	**PKPbc**		**22 38 38.8**	**+3.4**	
	comp=Z,2.6nm,0.9s,baz=264,slow=2.1,SNR=4.2								
MK01	**Makanchi Array**	**154.74**	**268**	*e*PKPbc	**PKPbc**		**22 38 36.0**	**-2.9**	
MKAR	**Makanchi Array**	**154.75**	**268**	PKPbc	**PKPbc**		**22 38 36.9**	**-2.2**	
	comp=Z,0.2nm,0.7s,baz=99,slow=1.6,SNR=3.8								
MAKZ	**Makanchi**	**154.94**	**268**	*e*PKPbc	**PKPbc**		**22 38 37.2**	**-2.2**	
MAKZ				LR	LR				
	comp=Z,200nm,21.0s								
CEL	**Celeste**	**155.06**	**119**	PFAKE			22 38 40.0	+8.9	
CEL				LR	LR				
	comp=Z,300nm,20.0s								
VLC	**Villacollemand**	**156.07**	**101**	PFAKE			22 38 40.0	+7.7	
VLC				LR	LR				
	comp=Z,200nm,19.0s								
TIP	**Timpagrande**	**156.20**	**118**	PFAKE			22 38 40.0	+7.3	
TIP				LR	LR				
	comp=Z,500nm,20.0s								
CUC	**Castrocucco**	**156.31**	**116**	PFAKE			22 38 40.0	+7.3	
CUC				LR	LR				
	comp=Z,300nm,20.0s								
AQU	**L'Aquila**	**156.63**	**108**	PFAKE			22 38 40.0	+6.9	
AQU				LR	LR				
	comp=Z,300nm,20.0s								
AAK	**Ala-Archa**	**156.81**	**252**	PFAKE			22 38 40.0	+6.5	
AAK				LR	LR				
	comp=Z,300nm,21.0s								
KARP	**Karpathos**	**157.88**	**141**	PFAKE			22 38 50.0	+15	
KARP				LR	LR				
	comp=Z,200nm,21.0s								
SANT	**Santorini**	**157.95**	**137**	PFAKE			22 38 50.0	+15	
SANT				LR	LR				
	comp=Z,300nm,20.0s								
CSS	**Mathiatis**	**159.26**	**155**	PFAKE			22 38 50.0	+13	
CSS				LR	LR				
	comp=Z,100nm,22.0s								
TIR	**Tirane**	**159.40**	**119**	PFAKE			22 38 50.0	+14	
TIR				LR	LR				
	comp=Z,300nm,21.0s								
BOJS	**Bojanci**	**159.65**	**104**	*i* PKPdf	PKPdf		22 38 45.5	+8.9	
TTG	**Podgorica**	**159.86**	**116**	PFAKE			22 38 50.0	+13	
TTG				LR	LR				
	comp=Z,300nm,20.0s								
PERS	**Pernice**	**160.22**	**101**	*i* PKPdf	PKPdf		22 38 45.1	+7.8	
GERES	**GERESS Array B**	**160.52**	**94**	PKP	**PKPdf**		**22 38 35.9**	**-1.7**	
	comp=Z,0.1nm,0.3s,baz=281,slow=0.5,SNR=2.7								
BRTR	**Keskin Array B**	**163.81**	**150**	PKP	**PKPdf**		**22 38 43.0**	**+1.8**	
	comp=Z,0.1nm,0.4s,baz=317,slow=40,SNR=3.2								

ISK ***24*** *22:23:54.9,38˚.68N×43˚.22E,h8km,ML2.0/2*
ISCJB ***24*** *22:23:55.6±0.6,38˚.68N±0˚.03×43˚.26E±0˚.05,h15km,Error ellipse: s-maj=5.6km s-min=4.1km az=154.3*
DDA ***24*** *22:23:55.9,38˚.70N×43˚.28E,h7km,Ml2.5*
CSEM ***24*** *22:23:55.7±0.2,38˚.69N×43˚.25E,h5km,ML2.0, Error ellipse: s-maj=5.5km s-min=4.7km az=66.0*

ISC 24 22:23:55.7±1.0,38˚.68N±0˚.03×43˚.26E±0˚.03,h15km,n16, σ0s60/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.13**	**128**	PG	**Pg**	**22 23 59.8**	**+0.3**
VANB	**Van**	**0.13**	**128**	*e*Pg	**Pg**	**22 23 59.8**	**+0.3**
TVAN	**Van**	**0.19**	**142**	*i* P	**Pg**	**22 24 00.1**	**-0.3**
TVAN				*i* S	**Sg**	**22 24 03.9**	**+0.4**
TVAN	**Van**	**0.19**	**142**	P	**Pg**	**22 24 00.1**	**-0.3**
TVAN				S	**Sg**	**22 24 03.9**	**+0.4**
GEVA	**Gevas**	**0.40**	**203**	*i* P	**Pg**	**22 24 03.3**	**-0.5**
GEVA				*i* S	**Sg**	**22 24 10.6**	**+1.2**
GEVA	**Gevas**	**0.40**	**203**	P	**Pg**	**22 24 03.3**	**-0.5**
GEVA				S	**Sg**	**22 24 10.6**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.43**	**287**	*i* P	**Pg**	**22 24 04.7**	**+0.2**
ADCV				*i* S	**Sb**	**22 24 12.1**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.43**	**287**	P	**Pg**	**22 24 04.7**	**+0.2**
ADCV				S	**Sb**	**22 24 12.1**	**+0.5**
CLDR	**Caldiran**	**0.69**	**48**	PG	**Pg**	**22 24 09.1**	**-0.3**
CLDR	**Caldiran**	**0.69**	**48**	*e*Pg	**Pg**	**22 24 09.1**	**-0.3**
TUTA	**Tutak**	**0.80**	**335**	*i* P	**Pg**	**22 24 10.8**	**-0.5**
TUTA				*i* S	**Sb**	**22 24 22.9**	**+0.7**
TUTA	**Tutak**	**0.80**	**335**	P	**Pg**	**22 24 10.9**	**-0.5**
TUTA				S	**Sb**	**22 24 23.0**	**+0.7**
AGRB	**Hanur-Agry**	**0.92**	**347**	PG	**Pb**	**22 24 12.9**	**-0.6**
AGRB				SG	**Sb**	**22 24 26.0**	**+0.4**
AGRB	**Hanur-Agry**	**0.92**	**347**	*e*Pg	**Pb**	**22 24 12.9**	**-0.6**
AGRB				*e*Sg	**Sb**	**22 24 26.0**	**+0.4**
GURO	**Guroymak-BITLI**	**0.97**	**263**	PG	**Pb**	**22 24 13.4**	**-0.9**
GURO				SG	**Sb**	**22 24 26.9**	**0.0**
GURO	**Guroymak-BITLI**	**0.97**	**263**	*e*Pg	**Pb**	**22 24 13.4**	**-0.9**
GURO				*e*Sg	**Sb**	**22 24 26.9**	**0.0**

DJA 24 22:24:29.2±1.5,3˚S±10˚×12˚2E±2˚0,h10km,M3.9/5, MLv3.9/5,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNSI	**Bone**	**2.15**	**239**	P	Pn	22 25 03.8	-1.3
BNSI				S	Pb	22 25 08.7	+0.5
TTSI	**Tana Toraja**	**2.15**	**277**	P	Pg	22 25 20.0	+9.5
LUWI	**Luwuk**	**2.38**	**20**	P	Pn	22 25 03.5	-4.9
APSI	**Ampana**	**2.39**	**353**	P	Pg	22 25 18.1	+3.0
BSSI	**Bau Bau, Buton**	**3.18**	**207**	P	Pn	22 25 08.2	-11
MRSI	**Marisa**	**3.75**	**360**	P	Pn	22 25 28.1	+0.9
MRSI				S	Pg	22 25 40.2	-1.0
MPSI	**Mapaga**	**4.16**	**330**	P	Pn	22 25 33.0	+0.2

ISK ***24*** *22:34:56.7,38˚.70N×43˚.32E,h5km,ML2.6/5*
DDA ***24*** *22:34:57.9,38˚.71N×43˚.32E,h7km,Ml3.0*
CSEM ***24*** *22:34:57.9±0.2,38˚.70N×43˚.30E,h8km,ML2.6, Error ellipse: s-maj=4.6km s-min=3.4km az=118.0*
ATA ***24*** *22:34:57.5±1.0,38˚.71N×43˚.21E,h5km±29km,ML2.6, MW2.8*
ISCJB ***24*** *22:34:58.1±0.4,38˚.71N±0˚.02×43˚.29E±0˚.04,h1km±5km, Error ellipse: s-maj=4.9km s-min=3.5km az=14.4*

ISC 24 22:34:58.4±0.9,38˚.71N±0˚.02×43˚.30E±0˚.02,h11km±7km, n44,σ0s84/69,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.13**	**150**	PG	**Pg**	**22 35 02.0**	**+0.3**
VANB	**Van**	**0.13**	**150**	*e*Pg	**Pg**	**22 35 02.0**	**+0.3**
TVAN	**Van**	**0.20**	**156**	*i* P	**Pg**	**22 35 02.0**	**-0.8**
TVAN				*i* S	**Sg**	**22 35 05.8**	**-0.1**
TVAN	**Van**	**0.20**	**156**	P	**Pg**	**22 35 02.0**	**-0.8**
TVAN				S	**Sg**	**22 35 05.8**	**-0.1**
ERCV	**ERCIS-VAN**	**0.31**	**5**	PG	**Pg**	**22 35 04.3**	**-0.5**
ERCV	**ERCIS-VAN**	**0.31**	**5**	*e*Pg	**Pg**	**22 35 04.3**	**-0.5**
VMUR	**Van-Muradiye**	**0.35**	**37**	*i* P	**Pg**	**22 35 05.5**	**0.0**
VMUR				*i* S	**Sb**	**22 35 12.2**	**-0.1**
VMUR	**Van-Muradiye**	**0.35**	**37**	P	**Pg**	**22 35 05.5**	**0.0**
VMUR				S	**Sb**	**22 35 12.2**	**-0.1**
GEVA	**Gevas**	**0.44**	**206**	*i* P	**Pg**	**22 35 05.9**	**-1.2**
GEVA				*e*S	**Sg**	**22 35 13.4**	**+0.5**
GEVA				IAML		22 35 16.6	
	comp=Z,72nm,0.4s						
GEVA	**Gevas**	**0.44**	**206**	*i* P	**Pg**	**22 35 05.9**	**-1.2**
GEVA				*i* S	**Sg**	**22 35 13.5**	**+0.5**
GEVA	**Gevas**	**0.44**	**206**	P	**Pg**	**22 35 05.9**	**-1.2**
GEVA				S	**Sg**	**22 35 13.5**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.46**	**283**	*i* P	**Pg**	**22 35 07.3**	**-0.3**
ADCV				*i* S	**Sb**	**22 35 15.3**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.46**	**283**	P	**Pg**	**22 35 07.3**	**-0.3**
ADCV				S	**Sb**	**22 35 15.3**	**-0.3**
CLDR	**Caldiran**	**0.65**	**48**	PG	**Pg**	**22 35 09.6**	**-1.4**
CLDR				SG	**Sb**	**22 35 19.9**	**-1.0**
CLDR	**Caldiran**	**0.65**	**48**	*i* P	**Pg**	**22 35 09.8**	**-1.2**
CLDR				*i* S	**Sb**	**22 35 20.3**	**-0.6**
CLDR	**Caldiran**	**0.65**	**48**	P	**Pg**	**22 35 09.8**	**-1.2**
CLDR				*e*Sg	**Sb**	**22 35 19.9**	**-1.0**
CLDR				S	**Sb**	**22 35 20.3**	**-0.6**
TUTA	**Tutak**	**0.79**	**331**	*i* P	**Pg**	**22 35 12.8**	**-0.9**
TUTA				*e*S	**Sg**	**22 35 23.9**	**-0.2**
TUTA				IAML		22 35 26.1	
	comp=Z,43nm,0.2s						
TUTA	**Tutak**	**0.79**	**331**	*i* P	**Pg**	**22 35 12.8**	**-0.9**
TUTA				*i* S	**Sg**	**22 35 24.2**	**+0.1**
TUTA	**Tutak**	**0.79**	**331**	P	**Pg**	**22 35 12.8**	**-0.9**
TUTA				S	**Sg**	**22 35 24.2**	**+0.1**
DYDN	**Diyadin**	**0.89**	**20**	*e*P	**Pb**	**22 35 15.6**	**-0.3**
DYDN				IAML		22 35 43.3	
	comp=Z,5.0nm,0.2s						
AGRB	**Hanur-Agry**	**0.90**	**344**	PG	**Pg**	**22 35 14.9**	**-0.9**
AGRB				SG	**Sb**	**22 35 28.8**	**+0.6**
AGRB	**Hanur-Agry**	**0.90**	**344**	*e*Pg	**Pg**	**22 35 14.9**	**-0.9**
AGRB				*e*Sg	**Sb**	**22 35 28.8**	**+0.6**
GURO	**Guroymak-BITLI**	**1.01**	**261**	PG	**Pg**	**22 35 16.4**	**-1.4**
GURO	**Guroymak-BITLI**	**1.01**	**261**	*e*Pg	**Pg**	**22 35 16.4**	**-1.4**
EKAR	**Karacoban**	**1.11**	**300**	*e*P	**Pg**	**22 35 18.6**	**-1.2**
EKAR				IAML		22 35 43.0	
	comp=Z,8.0nm,0.4s						
SRTM	**Siirt_Merkez**	**1.30**	**237**	*i* P	**Pn**	**22 35 22.6**	**0.0**
SRTM				*i* S	**Sn**	**22 35 42.0**	**+2.0**
SRTM	**Siirt_Merkez**	**1.30**	**237**	P	**Pn**	**22 35 22.6**	**0.0**
SRTM				S	**Sn**	**22 35 42.0**	**+2.0**
IGDI	**IGDIR**	**1.30**	**27**	*e*P	**Pg**	**22 35 23.4**	**0.0**
EATA	**Eleskirt**	**1.31**	**332**	*e*P	**Pn**	**22 35 22.7**	**-0.2**
EATA				*e*S	**Sn**	**22 35 42.2**	**+1.6**
EATA				IAML		22 35 48.4	
	comp=Z,2.8nm,0.4s						
EATA	**Eleskirt**	**1.31**	**332**	*i* P	**Pn**	**22 35 22.7**	**-0.2**
EATA				*i* S	**Sn**	**22 35 42.1**	**+1.5**
EATA	**Eleskirt**	**1.31**	**332**	P	**Pn**	**22 35 22.7**	**-0.2**
EATA				S	**Sn**	**22 35 42.1**	**+1.5**
SIRT	**Sirnak**	**1.39**	**210**	PN	**Pn**	**22 35 23.9**	**+0.2**
SIRT	**Sirnak**	**1.39**	**210**	*e*Pn	**Pn**	**22 35 23.9**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.47**	**29**	PN	**Pb**	**22 35 25.1**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.47**	**29**	*e*Pn	**Pb**	**22 35 25.1**	**-0.6**
VRTB	**Varto-Mus**	**1.51**	**288**	PN	**Pb**	**22 35 26.4**	**-0.1**
VRTB	**Varto-Mus**	**1.51**	**288**	*e*Pn	**Pb**	**22 35 26.4**	**-0.1**
DIGO	**Kars**	**1.71**	**2**	*e*P	**Pb**	**22 35 29.5**	**-0.3**
BTMN	**Batman**	**1.80**	**244**	*i* P	**Pn**	**22 35 29.4**	**+0.1**
BTMN				*i* S	**Sg**	**22 35 55.7**	**-0.5**
BTMN	**Batman**	**1.80**	**244**	P	**Pn**	**22 35 29.4**	**+0.1**
BTMN				S	**Sg**	**22 35 55.7**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.99**	**339**	PN	**Pn**	**22 35 32.7**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.99**	**339**	*e*Pn	**Pn**	**22 35 32.7**	**+0.5**
BNGB	**Bing¶ll**	**2.07**	**279**	PN	**Pn**	**22 35 34.0**	**+0.9**
BINT	**Bingol**	**2.21**	**275**	*e*Pn	**Pn**	**22 35 34.0**	**-1.0**

MEX 24 22:51:19.2±0.4,16˚.26N×98˚.08W,h11km±2km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.14**	**342**	*i* P	Pg	22 51 21.9	-0.6
PNIG				*e*S	Sg	22 51 24.4	-0.4
TLIG	**Tlapa**	**1.38**	**340**	*e*P	Pn	22 51 40.6	-3.9
TLIG				*e*S	Sb	22 51 57.3	-5.4
VHO	**Vista Hermosa**	**1.52**	**58**	*e*P	Pn	22 51 42.3	-4.3
VHO				*i* S	Sn	22 52 01.3	-5.3
PLIG	**Platanillo**	**2.52**	**328**	*e*P	Pn	22 51 57.3	-2.9
PLIG				*e*S	Sn	22 52 27.2	-3.8

SOME ***24*** *22:51:53.0,42˚.28N×81˚.03E,h0km*
ISCJB ***24*** *22:52:15.4±0.8,42˚.23N±0˚.05×77˚.46E±0˚.06,h10km, Error ellipse: s-maj=7.5km s-min=5.4km az=138.2*
KRNET ***24*** *22:52:15.8±0.1,42˚.23N×77˚.48E,h7km,mb1.1*

ISC 24 22:52:15.4±1.3,42˚.28N±0˚.05×77˚.46E±0˚.05,h10km,n6, σ1s73/8,2C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.25**	**235**	⇑*i* P	**Pg**	**22 52 20.9**	**+0.3**
	baz=44						
KDJ				⇑*i* S	**Sg**	**22 52 23.5**	**-0.7**
	baz=44						
TARG	**Taragay, Kyrgy**	**0.60**	**155**	⇓*i* P	**Pg**	**22 52 26.5**	**-0.7**
	baz=54						
TARG				⇓*i* S	**Sg**	**22 52 34.3**	**-0.9**
	baz=54						
PRZ	**Przheval'sk**	**0.73**	**73**	⇓*i* P	**Pg**	**22 52 30.1**	**+0.6**
	baz=70						
PRZ				⇓*i* S	**Sg**	**22 52 40.2**	**+1.2**
	baz=70						
SATY	**Saty**	**1.05**	**41**	*e*P	**Pg**	**22 52 33.0**	**-2.6**
	0.7nm,0.2s						
SATY				*e*S	Sn	22 53 02.0	+11
	3.7nm,0.3s						
MNBS	**Baschi**	**1.93**	**21**	*e*P	Pn	22 52 40.6	-7.8
	0.6nm,0.1s						
MNBS				*e*S	**Sn**	**22 53 14.9**	**+2.1**
	4.5nm,0.4s						
KAPS	**Kapalarasan**	**3.31**	**24**	*e*P	Pn	22 52 52.3	-15
	0.3nm,0.3s						
KAPS				*e*S	Sn	22 53 34.7	-12
	0.9nm,0.2s						

JMA 24 23:01:06.9±0.1,38˚.05N×141˚.96E,h42km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.63**	**310**	P	Pn	23 01 19.6	+0.2
JIO				S	Sn	23 01 28.2	-0.1
JMM	**Marumori**	**0.94**	**259**	P	Pn	23 01 23.7	+0.1
JMM				S	Sn	23 01 35.7	-0.2
JOU	**Okura**	**1.07**	**288**	P	Pn	23 01 26.1	+0.7
JMK	**Ichinoseki**	**1.07**	**327**	P	Pn	23 01 25.8	+0.4
JMK				S	Sn	23 01 39.5	+0.4
JFK	**Kawauchi**	**1.10**	**232**	P	Pn	23 01 25.6	-0.3
JFT	**Otama**	**1.39**	**248**	P	Pn	23 01 30.8	+1.0
JFT				S	Sn	23 01 48.5	+1.3
JYS	**Shirataka**	**1.50**	**277**	P	Pn	23 01 32.7	+1.3
JOM	**Ohasama**	**1.51**	**340**	P	Pn	23 01 32.3	+0.8
JOM				S	Sn	23 01 50.8	+0.8
JYK	**Kaneyama**	**1.53**	**305**	P	Pn	23 01 32.5	+0.8
JRG	**Rokugo**	**1.70**	**323**	P	Pn	23 01 35.2	+1.2
JFY	**Yanaizu**	**1.90**	**251**	S	Sn	23 02 02.8	+3.2

IDC ***24*** *23:02:57.3±1.0,9˚.79N×104˚.29W,h0km,mb3.7/7, mb1 4.0/9,mb1mx3.8/48,mbtmp3.8/9,ML3.6/2,MS3.8/13, Ms1 3.9/13,ms1mx3.5/46,Error ellipse: s-maj=47.5km s-min=16.9km az=65.0*
NEIC ***24*** *23:02:59.8±0.7,9˚.81N×104˚.30W,h10km,mb4.4/24,Error ellipse: s-maj=18.0km s-min=10.9km az=65.0*
ISCJB ***24*** *23:03:00.9±0.7,9˚.78N±0˚.08×104˚.09W±0˚.06,h33km, mb4.3/29,MS3.8/9,Error ellipse: s-maj=11.3km s-min=8.2km az=23.5*

ISC 24 23:03:03.6±0.8,9˚.86N±0˚.10×104˚.1W±0˚.1,h35km,n168, σ0s77/151,mb4.4/29,MS3.8/9,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**11.49**	**50**	Pn	**Pn**	**23 05 46.3**	**+0.9**
	0.7nm,0.3s,baz=224,slow=12,SNR=8.1						
CMIG				LR	LR	23 09 08.3	
	comp=Z,721nm,20.8s,baz=218,slow=32						
ZAIG	**Zacatecas**	**12.93**	**6**	*e*Pn	**Pn**	**23 06 03.9**	**-1.2**
LPIG	**La Paz**	**15.35**	**338**	LR	LR	23 10 53.3	
	comp=Z,688nm,18.8s,baz=189,slow=31						
LNIG	**Linares**	**15.60**	**16**	*e*Pn	**Pn**	**23 06 41.3**	**+0.4**
	19nm,1.5s						
HPIG		**17.05**	**355**	*e*Pn	**Pn**	**23 06 59.7**	**+0.1**
	41nm,1.8s						
JTS	**JuntasAbangare**	**18.87**	**87**	LR	LR	23 12 41.5	
	comp=Z,194nm,20.2s,baz=3.0,slow=31						
833A	**Chaparral WMA,**	**18.90**	**13**	P	**Pn**	**23 07 22.0**	**0.0**
	baz=195						
TX31	**Lajitas Ar. Si**	**19.38**	**1**	*e*P	**P**	**23 07 26.2**	**-0.4**
TXAR	**Lajitas Array**	**19.38**	**1**	P	**P**	**23 07 26.6**	**0.0**
	0.0nm,0.3s,baz=183,slow=7.5,SNR=18						
TXAR				LR	LR	23 13 43.4	
	comp=Z,147nm,21.5s,baz=0.0,slow=33						
JCT	**Junction City**	**20.91**	**10**	P	**P**	**23 07 44.0**	**+0.8**
	baz=192,SNR=9.3						
JCT	**Junction City**	**20.91**	**10**	*e*P	**P**	**23 07 43.2**	**0.0**
	16nm,1.0s						
435B	**Jarrell**	**21.69**	**15**	P	**P**	**23 07 51.8**	**+0.3**
	baz=198						
MNTX	**Cornudas Mount**	**21.77**	**357**	P	**P**	**23 07 52.1**	**-0.2**
	baz=177,SNR=22						
MNTX	**Cornudas Mount**	**21.77**	**357**	*e*P	**P**	**23 07 52.0**	**-0.4**
	24nm,1.3s						
541A	**Lake Charles**	**22.54**	**25**	P	**P**	**23 08 01.0**	**+0.4**
	baz=209						
121A	**Cookes Peak, D**	**22.82**	**352**	P	**P**	**23 08 04.7**	**+1.0**
	baz=171						
WHTX	**Lake Whitney,**	**22.87**	**15**	P	**P**	**23 08 04.5**	**+0.4**
	baz=197						
ABTX	**Abilene, Hawle**	**23.03**	**10**	P	**P**	**23 08 05.7**	**-0.1**
	baz=192,SNR=6.2						
ABTX	**Abilene, Hawle**	**23.03**	**10**	*e*P	**P**	**23 08 04.7**	**-1.1**
	26nm,1.1s						
TUC	**Tucson**	**23.18**	**346**	P	**P**	**23 08 07.4**	**+0.1**
	baz=164						
TUC	**Tucson**	**23.18**	**346**	*e*P	**P**	**23 08 07.1**	**-0.2**
	11nm,1.4s						
214A	**Organ Pipe Nat**	**23.42**	**341**	P	**P**	**23 08 10.6**	**+0.9**
	baz=159						
NATX	**Nacogdoches**	**23.49**	**21**	P	**P**	**23 08 11.0**	**+0.7**
	baz=204						
NATX	**Nacogdoches**	**23.49**	**21**	*e*P	**P**	**23 08 10.7**	**+0.4**
	170nm,1.9s						
341A	**Kurthwood**	**23.66**	**24**	P	**P**	**23 08 12.9**	**+1.0**
	baz=208						
AMTX	**Amarillo**	**25.01**	**5**	P	**P**	**23 08 24.7**	**+0.3**
	baz=186						
ANMO	**Albuquerque**	**25.07**	**355**	P	**P**	**23 08 25.0**	**-0.1**
	0.8nm,0.6s,baz=344,slow=15,SNR=3.4						
ANMO	**Albuquerque**	**25.07**	**355**	P	**P**	**23 08 25.7**	**+0.7**
	baz=175						
ANMO	**Albuquerque**	**25.07**	**355**	*e*P	**P**	**23 08 26.0**	**+0.9**
	6.8nm,1.5s						
GLA	**Glamis**	**25.11**	**338**	P	**P**	**23 08 24.6**	**-0.6**
	baz=155						
GLA	**Glamis**	**25.11**	**338**	*e*P	**P**	**23 08 24.7**	**-0.6**
	9.8nm,0.8s						
WMOK	**Wichita Mounta**	**25.24**	**10**	*e*P	**P**	**23 08 27.1**	**+0.6**
	15nm,1.5s						
X16A	**Lo Mia Camp, P**	**25.35**	**346**	*e*P	**P**	**23 08 28.1**	**+0.5**
	5.4nm,1.0s						
MONP2	**Monument Peak**	**25.59**	**335**	P	**P**	**23 08 29.9**	**+0.1**
	baz=151						
245A	**Little AP, Sta**	**25.69**	**29**	P	**P**	**23 08 31.9**	**+1.4**
	baz=214						
PDMCI	**Parker Dam,Lak**	**26.01**	**341**	P	**P**	**23 08 33.9**	**+0.5**
	baz=158						
Y41A	**Eaglette Beard**	**26.14**	**22**	P	**P**	**23 08 36.7**	**+2.2**
	baz=207						
X39A	**Fountain Ranch**	**26.19**	**19**	P	**P**	**23 08 35.3**	**+0.2**
	baz=203						
XPFO	**Piæon Flat**	**26.23**	**336**	*e*P	**P**	**23 08 35.5**	**-0.1**
	9.3nm,1.4s						
PFO	**Pinyon Flats O**	**26.23**	**336**	P	**P**	**23 08 36.1**	**+0.6**
	baz=152						
PFO	**Pinyon Flats O**	**26.23**	**336**	*e*P	**P**	**23 08 35.5**	**-0.1**
	7.9nm,1.4s						
247A	**Quitman**	**26.34**	**31**	P	**P**	**23 08 37.7**	**+1.3**
	baz=217						
WUAZ	**Wupatki**	**26.39**	**347**	P	**P**	**23 08 36.9**	**-0.1**
	baz=164						
WUAZ	**Wupatki**	**26.39**	**347**	*e*P	**P**	**23 08 37.2**	**+0.2**
	16nm,1.6s						
BELC	**Belle Mtn. Jos**	**26.39**	**337**	P	**P**	**23 08 37.3**	**+0.3**
	baz=153						
147A	**Livingston**	**27.01**	**30**	P	**P**	**23 08 43.5**	**+1.1**

O34A	**Beatrice**	30.91	11	P	P	23 09 17.1	+0.1
	baz=195						
U48A	**Cassie Pea, Po**	30.95	28	P	P	23 09 17.2	-0.2
	baz=216						
Q40A	**Laux Farm, Aux**	30.95	18	P	P	23 09 16.9	-0.4
	baz=204						
NVAR	**Mina Array Bea**	31.17	338	LR	LR	23 19 33.0	
	comp=Z,265nm,21.9s,baz=268,slow=32						
Q41A	**Truxton**	31.18	20	P	P	23 09 19.0	-0.4
	baz=205						
R44A	**Waltonville**	31.33	23	P	P	23 09 20.9	+0.2
	baz=210						
P40A	**Paris**	31.45	18	P	P	23 09 21.4	-0.4
	baz=204						
T48A	**Bowling Green**	31.50	28	P	P	23 09 22.2	-0.1
	baz=215						
Q44A	**Meyer Farm, Va**	31.92	23	P	P	23 09 26.9	+0.9
	baz=209						
O40A	**La Belle**	32.04	18	P	P	23 09 26.8	-0.1
	baz=203,SNR=5.7						
O41A	**Passleys Farm,**	32.35	19	P	P	23 09 29.4	-0.3
	baz=205						
R47A	**Wooly Knot Far**	32.42	26	P	P	23 09 30.8	+0.4
	baz=214						
BMN	**Battle Mountai**	32.60	341	*e*P	P	23 09 32.6	+0.5
	5.7nm,1.2s						
M38A	**Pleasantville**	32.88	15	P	P	23 09 34.4	+0.1
	baz=200						
Q47A	**Bedord North L**	33.00	26	P	P	23 09 35.7	+0.3
	baz=214						
M39A	**Webster**	33.21	16	P	P	23 09 37.4	+0.2
	baz=202						
HDIL	**Hopedale**	33.28	21	P	P	23 09 37.8	0.0
	baz=208						
HDIL	**Hopedale**	33.28	21	*e*P	P	23 09 37.9	+0.1
	28nm,0.9s						
ORV	**Oroville**	33.40	335	*e*P	P	23 09 40.1	+1.2
	13nm,1.3s						
L38A	**Oak Wood Farm,**	33.62	15	P	P	23 09 41.0	+0.2
	baz=200						
N43A	**Stutzman Famil**	33.66	21	P	P	23 09 41.2	+0.1
	baz=208						
SFIN	**Lafayette**	33.94	24	P	P	23 09 44.0	+0.5
	baz=211						
SFIN	**Lafayette**	33.94	24	*e*P	P	23 09 44.0	+0.5
	11nm,0.8s						
K37A	**Belmond**	34.04	14	P	P	23 09 43.8	-0.7
	baz=199,SNR=5.2						
O47A	**Sheridan**	34.19	25	P	P	23 09 45.5	-0.2
	baz=213						
K39A	**Oelwein**	34.43	16	P	P	23 09 47.1	-0.6
	baz=202,SNR=6.5						
J37A	**Redenius Farm,**	34.58	14	P	P	23 09 48.7	-0.3
	baz=199						
BLA	**Blacksburg**	34.63	34	P	P	23 09 49.9	+0.3
	baz=224						
K40A	**Colesburg**	34.63	17	P	P	23 09 49.1	-0.4
	baz=203						
J38A	**Wedel Dairy, R**	34.84	15	P	P	23 09 50.5	-0.9
	baz=201						
J39A	**Decorah**	35.06	16	P	P	23 09 52.3	-0.9
	baz=202						
I37A	**Lemond, Waseca**	35.28	13	P	P	23 09 54.9	-0.2
	baz=199						
M04C	**Macdoel**	35.42	337	P	P	23 09 56.8	+0.3
	baz=149						
K43A	**Burlington**	35.52	20	P	P	23 09 56.7	-0.5
	baz=208						
I38A	**Scanlan Farm,**	35.56	15	P	P	23 09 56.7	-0.8
	baz=200						
J41A	**Loganville**	35.57	18	P	P	23 09 57.1	-0.5
	baz=205						
I39A	**Houston**	35.59	16	P	P	23 09 57.5	-0.3
	baz=202						
ACSO	**Alum Creek Sta**	35.60	28	P	P	23 09 57.8	-0.1
	baz=218						
H36A	**Jessenland, He**	35.70	13	P	P	23 09 58.5	-0.2
	baz=198						
YBH	**Yreka Blue Hor**	35.72	336	LR	LR	23 22 23.0	
	comp=Z,128nm,19.4s,baz=161,slow=33						
J42A	**Columbus**	35.80	19	P	P	23 09 59.0	-0.6
	baz=206						
J43A	**Natural Harves**	36.09	20	P	P	23 10 01.7	-0.3
	baz=207						
H38A	**Maiden Rock**	36.17	14	P	P	23 10 02.1	-0.6
	baz=200						
BOZ	**Bozeman (W)**	36.19	351	*e*P	P	23 10 04.4	+1.3
	9.2nm,1.0s						
I42A	**Draeger Farm,**	36.39	19	P	P	23 10 04.2	-0.4
	baz=206,SNR=6.7						
I42A	**Draeger Farm,**	36.39	19	*e*P	P	23 10 04.0	-0.5
	17nm,1.0s						
H39A	**Augusta**	36.42	15	P	P	23 10 04.6	-0.3
	baz=202						
MCWV	**Mont Chateau**	36.71	32	P	P	23 10 08.2	+0.8
	baz=223						
G39A	**Holcombe**	37.02	15	P	P	23 10 10.0	0.0
	baz=202						
RPN	**Rapa Nui**	37.11	188	LR	LR	23 21 39.7	
	comp=Z,118nm,21.9s,baz=338,slow=30						
F38A	**Pierce - Schro**	37.47	14	P	P	23 10 14.1	+0.3
	baz=200						
F39A	**Loretta**	37.67	15	P	P	23 10 15.0	-0.5
	baz=202						
G42A	**Mountain**	37.75	18	P	P	23 10 16.1	-0.1
	baz=206						
F41A	**Three Lakes**	38.00	17	P	P	23 10 18.8	+0.5
	baz=205						
E39A	**Mellen**	38.19	15	P	P	23 10 19.5	-0.4
	baz=202						
D37A	**Cotton**	38.48	13	P	P	23 10 21.6	-0.7
	baz=199						
E41A	**Kenton**	38.70	17	P	P	23 10 23.6	-0.5
	baz=204						
AGMN	**Agassiz Nation**	38.94	9	P	P	23 10 25.5	-0.6
	baz=193						
C36A	**Pine Crest Far**	38.96	12	P	P	23 10 25.7	-0.6
	baz=198						
E42A	**Champion**	38.98	18	P	P	23 10 26.7	+0.2
	baz=206						
C37A	**Embarrass**	39.07	13	P	P	23 10 27.2	0.0
	baz=199						
B34A	**Aery, Baudette**	39.32	10	P	P	23 10 28.9	-0.4
	baz=195						
D41A	**Chassel**	39.36	17	P	P	23 10 29.5	-0.1
	baz=205						
NEW	**Newport**	39.82	346	LR	LR	23 24 41.1	
	comp=Z,148nm,20.0s,baz=160,slow=33						
TAOE	**Nuku Hiva Isla**	40.41	244	*e*LR	LR	23 21 30.2	
	167nm,24.6s						
TAOE	**Nuku Hiva Isla**	40.41	244	*e*T	T	23 53 19.1	
	101nm,0.3s						
LPAZ	**La Paz**	44.08	126	LR	LR	23 28 13.0	
	comp=Z,124nm,20.8s,baz=339,slow=34						
RKT	**Rikitea**	44.57	222	*e*LR	LR	23 23 30.9	
	272nm,26.0s						
RKT	**Rikitea**	44.57	222	*e*T	T	23 58 45.0	
	3.7nm,0.3s						
FCC	**Fort Churchill**	49.39	7	*e*P	P	23 11 48.8	-0.8
	8.1nm,1.1s						
SIV	**San Ignacio**	49.75	121	P	P	23 11 51.2	-1.8
	0.5nm,0.6s,baz=328,slow=14,SNR=2.1						
PPT	**Papeete**	52.54	239	LR	LR	23 27 53.7	
	comp=Z,67nm,21.8s,baz=162,slow=29						
PPT2	**Papeete2**	52.55	239	*e*LR	LR	23 26 55.9	
	148nm,28.0s						
YKA	**Yellowknife Ar**	53.09	354	P	P	23 12 15.6	-1.8
	0.8nm,1.0s,baz=165,slow=7.6,SNR=9.6						
CPUP	**Villa Florida**	57.96	130	P	P	23 12 52.9	+0.1
	0.7nm,0.7s,baz=286,slow=3.7,SNR=1.9						
PLCA	**Paso Flores**	59.10	151	P	P	23 13 00.7	0.0
	2.0nm,1.0s,baz=350,slow=7.4,SNR=1.7						
PLCA				LR	LR	23 33 10.4	
	comp=Z,107nm,19.2s,baz=16,slow=31						
INK	**Inuvik**	61.51	348	P	P	23 13 15.5	-1.1
	1.4nm,1.0s,baz=147,slow=8.6,SNR=2.2						
IL1	**Eielson Array**	62.38	341	*e*P	P	23 13 21.2	-1.4
ILAR	**Eielson Array**	62.38	341	P	P	23 13 21.8	-0.7
	1.4nm,0.8s,baz=150,slow=4.9,SNR=12						
ILB	**Eielson Array**	62.38	341	*e*P	P	23 13 23.4	+0.8
MKAR	**Makanchi Array**	123.32	355	PKP	PKPdf	23 21 56.2	-1.0
	0.3nm,0.7s,baz=31,slow=6.7,SNR=3.1						
WMQ	**Urumqi**	125.51	350	P	PKPdf	23 22 04.8	+3.3
LZH	**Lanzhou**	127.25	332	*e*PKP	PKPdf	23 22 05.6	+0.4
LZH				pPKP	pPKPdf	23 22 14.4	-2.3
LZH				sPKP		23 22 19.4	
GEYT	**Alibeck**	129.64	18	PKP	PKPdf	23 22 09.3	-0.2
	0.7nm,0.8s,baz=270,slow=4.3,SNR=2.5						
KSH	**Kashi**	130.88	360	*e*PKP	PKPdf	23 22 14.3	+2.3
CMAR	**Chiang Mai Arr**	143.82	321	PKP	PKPbc	23 22 34.4	+0.6
	0.2nm,0.3s,baz=0.0,slow=1.3,SNR=3.1						

ISN ***24*** *23:07:20.4±2.1,38.57N×43.56E,h0km±11km, ML3.2*
ATA ***24*** *23:07:23.7±1.9,38.93N×43.59E,h1km±6km, ML3.5, MW3.6*
ISK ***24*** *23:07:23.7, 38.93N×43.64E, h5km, ML3.2/12*
DDA ***24*** *23:07:24.8, 38.94N×43.63E, h14km, Ml3.5*
CSEM ***24*** *23:07:25.1±0.2, 38.94N×43.63E, h5km, ML3.5, Error ellipse: s-maj=5.5km s-min=3.7km az=107.0*
TEH ***24*** *23:07:25.7, 39.14N×43.67E, h10km, ML2.8*

ISC 24 23:07:25.5±0.9, 38.93N±0.02×43.63E±0.02, h7km±6km, n88, σ1s29/134, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.08**	**321**	*i* P	**Pg**		**23 07 27.4**	**-0.2**
VMUR				*i* S	**Sg**		**23 07 29.8**	**+0.7**
VMUR	**Van-Muradiye**	**0.08**	**321**	P	**Pg**		**23 07 27.4**	**-0.2**
VMUR				S	**Sg**		**23 07 29.8**	**+0.7**
ERCV	**ERCIS-VAN**	**0.25**	**292**	PG	**Pg**		**23 07 29.7**	**-0.7**
ERCV	**ERCIS-VAN**	**0.25**	**292**	*e*Pg	**Pg**		**23 07 29.7**	**-0.7**
CLDR	**Caldiran**	**0.31**	**46**	PG	**Pg**		**23 07 30.6**	**-1.0**
CLDR				SG	**Sg**		**23 07 36.2**	**+0.6**
CLDR	**Caldiran**	**0.31**	**46**	*i* P	**Pg**		**23 07 30.6**	**-1.0**
CLDR				*i* S	**Sg**		**23 07 36.3**	**+0.6**
CLDR	**Caldiran**	**0.31**	**46**	*e*Pg	**Pg**		**23 07 30.6**	**-1.0**
CLDR				S	**Sg**		**23 07 36.3**	**+0.6**
VANB	**Van**	**0.38**	**210**	PG	**Pb**		**23 07 33.9**	**-0.8**
VANB	**Van**	**0.38**	**210**	*e*Pg	**Pb**		**23 07 33.9**	**-0.8**
TVAN	**Van**	**0.44**	**204**	*i* P	**Pg**		**23 07 33.8**	**-0.2**
TVAN				*i* S	**Sb**		**23 07 41.7**	**-0.8**
TVAN	**Van**	**0.44**	**204**	P	**Pg**		**23 07 33.8**	**-0.2**
TVAN				S	**Sb**		**23 07 41.7**	**-0.8**
DYDN	**Diyadin**	**0.62**	**4**	*e*P	**Pg**		**23 07 37.2**	**-0.2**
DYDN				*e*S	**Sb**		**23 07 46.2**	**-1.5**
DYDN				IAML			23 07 47.8	
	comp=Z,264nm,0.2s							
DYDN	**Diyadin**	**0.62**	**4**	*i* P	**Pg**		**23 07 37.2**	**-0.2**
DYDN				*i* S	**Sb**		**23 07 46.7**	**-1.0**
DYDN	**Diyadin**	**0.62**	**4**	P	**Pg**		**23 07 37.2**	**-0.2**
DYDN				S	**Sb**		**23 07 46.7**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.72**	**261**	*i* P	**Pg**		**23 07 38.7**	**-0.6**
ADCV				*i* S	**Sb**		**23 07 49.8**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.72**	**261**	P	**Pg**		**23 07 38.7**	**-0.6**
ADCV				S	**Sb**		**23 07 49.8**	**-0.9**
GEVA	**Gevas**	**0.76**	**216**	*i* P	**Pg**		**23 07 38.6**	**-1.5**
GEVA				*e*S	**Sg**		**23 07 50.6**	**+0.5**
GEVA				IAML			23 07 57.0	
	comp=Z,134nm,0.6s							
GEVA	**Gevas**	**0.76**	**216**	*i* P	**Pg**		**23 07 38.7**	**-1.5**
GEVA				*i* S	**Sb**		**23 07 51.8**	**-0.1**
GEVA	**Gevas**	**0.76**	**216**	P	**Pg**		**23 07 38.7**	**-1.5**
GEVA				S	**Sb**		**23 07 51.8**	**-0.1**
TUTA	**Tutak**	**0.79**	**307**	*i* P	**Pg**		**23 07 39.6**	**-1.2**
TUTA				*e*S	**Sg**		**23 07 50.3**	**-0.8**
TUTA				IAML			23 07 53.4	
	comp=Z,347nm,0.3s							
TUTA	**Tutak**	**0.79**	**307**	*i* P	**Pg**		**23 07 39.7**	**-1.1**
TUTA				*i* S	**Sb**		**23 07 51.4**	**-1.4**
TUTA	**Tutak**	**0.79**	**307**	P	**Pg**		**23 07 39.7**	**-1.1**
TUTA				S	**Sb**		**23 07 51.4**	**-1.4**
AGRB	**Hanur-Agry**	**0.82**	**323**	PG	**Pg**		**23 07 40.6**	**-0.7**
AGRB				SG	**Sb**		**23 07 52.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.82**	**323**	*e*Pg	**Pg**		**23 07 40.5**	**-0.7**
AGRB				*e*Sg	**Sb**		**23 07 52.7**	**-0.7**
IGDI	**IGDIR**	**1.00**	**20**	*e*P	**Pb**		**23 07 44.5**	**-0.7**
IGDI				*e*S	**Sn**		**23 08 00.1**	**-0.4**
IGDI				IAML			23 08 04.5	
	comp=Z,48nm,0.4s							
IGDI	**IGDIR**	**1.00**	**20**	*i* P	**Pb**		**23 07 44.5**	**-0.7**
IGDI				*i* S	**Sn**		**23 08 01.5**	**+1.1**
TASB	**TASBURUN-IGDIR**	**1.15**	**24**	PN	**Pb**		**23 07 47.0**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.15**	**24**	*e*Pn	**Pb**		**23 07 47.0**	**-0.8**
EKAR	**Karacoban**	**1.27**	**285**	*e*P	**Pg**		**23 07 47.8**	**-2.0**
EKAR				*e*S	**Sn**		**23 08 08.9**	**+1.7**
EKAR				IAML			23 08 21.4	
	comp=Z,98nm,0.5s							
EKAR	**Karacoban**	**1.27**	**285**	*i* P	**Pg**		**23 07 47.9**	**-1.9**
EKAR				*i* S	**Sn**		**23 08 08.8**	**+1.7**
EKAR	**Karacoban**	**1.27**	**285**	P	**Pg**		**23 07 47.9**	**-1.9**
EKAR				S	**Sn**		**23 08 08.8**	**+1.7**
EATA	**Eleskirt**	**1.29**	**317**	*e*P	**Pg**		**23 07 48.7**	**-1.4**
EATA				IAML			23 08 12.3	
	comp=Z,20nm,0.3s							
EATA	**Eleskirt**	**1.29**	**317**	*i* P	**Pg**		**23 07 48.8**	**-1.4**
EATA				*i* S	**Sb**		**23 08 06.6**	**-0.5**
EATA	**Eleskirt**	**1.29**	**317**	P	**Pg**		**23 07 48.8**	**-1.4**
EATA				S	**Sb**		**23 08 06.6**	**-0.5**
GURO	**Guroymak-BITLI**	**1.31**	**254**	PN	**Pn**		**23 07 48.4**	**-1.9**
GURO	**Guroymak-BITLI**	**1.31**	**254**	*e*Pn	**Pn**		**23 07 48.4**	**-1.9**
YOVA	**Hakkari_Y˜...kse**	**1.44**	**159**	*i* P	**Pn**		**23 07 51.7**	**-0.4**
YOVA				*i* S	**Sn**		**23 08 14.4**	**+3.1**
YOVA	**Hakkari_Y˜...kse**	**1.44**	**159**	P	**Pn**		**23 07 51.7**	**-0.4**
DIGO	**Kars**	**1.50**	**352**	*e*P	**Pn**		**23 07 52.7**	**-0.3**
DIGO				IAML			23 08 12.2	
	comp=Z,14nm,0.5s							
DIGO				*e*S	**Sg**		**23 08 15.3**	**+1.7**
DIGO	**Kars**	**1.50**	**352**	*i* P	**Pb**		**23 07 52.9**	**-0.9**
DIGO				*i* S	**Sg**		**23 08 15.8**	**+2.1**
DIGO	**Kars**	**1.50**	**352**	P	**Pb**		**23 07 52.9**	**-0.9**
IMRD	**Marand**	**1.63**	**97**	*e*Pn	**Pb**		**23 07 55.1**	**-0.9**
IMRD				*e*AMB	AMB		23 08 00.8	
	comp=Z,3μm,0.2s							
IMRD				*e*Sg	**Sb**		**23 08 16.8**	**0.0**
SRTM	**Siirt_Merkez**	**1.64**	**236**	*i* P	**Pn**		**23 07 55.0**	**+0.2**
SRTM				*i* S	**Sg**		**23 08 19.4**	**+1.3**
SRTM	**Siirt_Merkez**	**1.64**	**236**	P	**Pn**		**23 07 55.0**	**+0.2**
SRTM				S	**Sg**		**23 08 19.4**	**+1.3**
ISHB	**Shabestar**	**1.68**	**112**	*e*Pn	**Pn**		**23 07 55.4**	**-0.1**
ISHB				*e*AMB	AMB		23 08 02.2	
	comp=Z,1μm,0.3s							
ISHB				*e*Sg	**Sg**		**23 08 20.6**	**+1.1**
SIRT	**Sirnak**	**1.71**	**214**	PN	**Pn**		**23 07 56.1**	**+0.3**
SIRT	**Sirnak**	**1.71**	**214**	*e*Pn	**Pn**		**23 07 56.1**	**+0.3**
VRTB	**Varto-Mus**	**1.71**	**278**	PN	**Pb**		**23 07 56.3**	**-1.1**
VRTB	**Varto-Mus**	**1.71**	**278**	*i* P	**Pb**		**23 07 56.8**	**-0.6**
VRTB				*i* S	**Sg**		**23 08 21.9**	**+1.4**
VRTB	**Varto-Mus**	**1.71**	**278**	*e*Pn	**Pb**		**23 07 56.3**	**-1.1**
VRTB	**Varto-Mus**	**1.71**	**278**	P	**Pb**		**23 07 56.8**	**-0.6**
VRTB				S	**Sg**		**23 08 21.9**	**+1.4**
HOMI	**Horasan**	**1.74**	**310**	*e*P	**Pb**		**23 07 56.7**	**-1.2**
HOMI				*e*S	**Sg**		**23 08 25.0**	**+3.5**
HOMI				IAML			23 08 30.2	
	comp=Z,30nm,0.6s							
HOMI	**Horasan**	**1.74**	**310**	*i* P	**Pb**		**23 07 56.7**	**-1.2**
HOMI				*i* S	**Sg**		**23 08 25.4**	**+3.9**
KARS	**Kars**	**1.75**	**346**	PN	**Pn**		**23 07 56.4**	**0.0**
KARS	**Kars**	**1.75**	**346**	*e*Pn	**Pn**		**23 07 56.4**	**0.0**
EAK	**Akyaka**	**1.75**	**359**	*e*P	**Pg**		**23 07 58.5**	**-0.7**
EAK				*e*S	**Sg**		**23 08 24.7**	**+2.8**
EAK				IAML			23 08 45.7	
	comp=Z,21nm,0.6s							
SENK	**Senkaya-Erzuru**	**1.91**	**329**	PN	**Pb**		**23 07 59.1**	**-1.6**
SENK	**Senkaya-Erzuru**	**1.91**	**329**	*e*Pn	**Pb**		**23 07 59.1**	**-1.6**
ERZM	**Erzurum**	**2.01**	**300**	*e*P	**Pn**		**23 08 00.1**	**-0.1**
ERZM	**Erzurum**	**2.01**	**300**	*i* P	**Pn**		**23 08 00.0**	**-0.1**
ERZM				*i* S	**Sn**		**23 08 25.7**	**+0.1**
ERZM	**Erzurum**	**2.01**	**300**	P	**Pn**		**23 08 00.0**	**-0.1**
ERZM				S	**Sn**		**23 08 25.7**	**+0.1**
ITBZ	**Tabriz**	**2.09**	**109**	*e*Pn	**Pn**		**23 08 02.0**	**+0.9**
ITBZ				*e*AMB	AMB		23 08 37.4	
	comp=Z,240nm,0.2s							
BTMN	**Batman**	**2.13**	**242**	*i* P	**Pb**		**23 08 03.6**	**-0.8**
BTMN				*i* S	**Sb**		**23 08 31.9**	**+0.9**
BTMN	**Batman**	**2.13**	**242**	P	**Pb**		**23 08 03.6**	**-0.8**
BTMN				S	**Sb**		**23 08 31.9**	**+0.9**
ECAT	**Cat-ERZURUM**	**2.17**	**289**	*e*P	**Pb**		**23 08 04.4**	**-0.9**
ECAT				IAML			23 08 43.4	
	comp=Z,12nm,0.5s							
BNGB	**Bing˜¶**	**2.31**	**272**	PN	**Pn**		**23 08 04.5**	**+0.5**
BINT	**Bingol**	**2.46**	**270**	*e*Pn	**Pn**		**23 08 04.5**	**-1.6**
AKH	**Akhalkalaki**	**2.48**	**358**	P	**Pg**		**23 08 12.0**	**-1.0**
AKH				S	**Sg**		**23 08 47.5**	**+2.3**
MSL	**Mosul**	**2.56**	**190**	*e*Pg	**Pn**		**23 08 08.0**	**+0.6**
	SNR=9.0							
MSL				*i* Sg	**Sb**		**23 08 42.0**	**-1.4**
	SNR=9.0							
ARTV	**Artvin**	**2.61**	**330**	*e*P	Pn		23 08 03.0	-5.3
ARTV				IAML			23 08 39.9	
	comp=Z,3.8nm,0.9s							
KOPT	**Kop Dagi**	**2.66**	**295**	*e*P	**Pb**		**23 08 13.8**	**+0.2**
KOPT				IAML			23 09 08.7	
	comp=Z,8.7nm,0.8s							
KOPT	**Kop Dagi**	**2.66**	**295**	*i* P	**Pb**		**23 08 14.2**	**+0.6**
KOPT				*i* S	**Sg**		**23 08 54.1**	**+3.1**
IBST	**Bostanabad**	**2.84**	**115**	*e*Pn	**Pn**		**23 08 12.0**	**+0.5**
IBST				*e*AMB	AMB		23 08 24.4	
	comp=Z,112nm,0.2s							
DGRG	**David-gareji**	**2.85**	**27**	*e*P	**Pg**		**23 08 18.0**	**-2.0**
DGRG				IAML			23 09 20.3	
	comp=Z,4.0nm,0.7s							
DGRG	**David-gareji**	**2.85**	**27**	P	**Pg**		**23 08 17.7**	**-2.4**
DGRG				S	**Sg**		**23 08 59.4**	**+2.4**
MAZI	**Mazidag**	**2.91**	**241**	PN	**Pn**		**23 08 12.8**	**+0.5**
MAZI	**Mazidag**	**2.91**	**241**	*e*Pn	**Pn**		**23 08 12.8**	**+0.5**
TBLG	**Delisi**	**2.92**	**16**	PN	**Pn**		**23 08 13.2**	**+0.8**
TBLG	**Delisi**	**2.92**	**16**	*e*Pn	**Pn**		**23 08 13.2**	**+0.8**
BAYB	**BAYBURT**	**2.93**	**298**	*e*P	**Pg**		**23 08 20.4**	**-1.1**
BAYB				IAML			23 09 12.6	
	comp=Z,1.8nm,0.6s							
BAYT	**Ayd˜¨ntepe-Bay**	**3.07**	**300**	PN	**Pn**		**23 08 15.5**	**+1.0**
BAYT	**Ayd˜¨ntepe-Bay**	**3.07**	**300**	*e*Pn	**Pn**		**23 08 15.5**	**+1.0**
EUZM	**Uzumlu**	**3.15**	**286**	*e*P	**Pb**		**23 08 21.9**	**+0.1**
EUZM				IAML			23 09 33.6	
	comp=Z,2.1nm,0.4s							
TNCL	**Tunceli-Merkez**	**3.19**	**275**	*e*P	**Pn**		**23 08 16.8**	**+0.6**
TNCL				IAML			23 08 37.8	
	comp=Z,7.7nm,0.7s							
PTK	**Pertek**	**3.31**	**271**	PN	**Pn**		**23 08 18.8**	**+0.9**
PTK	**Pertek**	**3.31**	**271**	*e*Pn	**Pn**		**23 08 18.8**	**+0.9**
KELT	**Kelkit**	**3.60**	**291**	*e*P	**Pb**		**23 08 29.7**	**+0.1**
KELT				IAML			23 09 06.5	
	comp=Z,0.7nm,0.4s							
KEMA	**Kemaliye**	**4.01**	**276**	*e*P	**Pb**		**23 08 31.9**	**-4.7**
KEMA				IAML			23 09 37.5	
	comp=Z,0.3nm,0.5s							

IDC ***24*** *23:12:42.7±1.0, 75.02N×133.65E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.4/84, mbtmp3.7/7, ML5.7/1, MS4.2/2, Ms1 4.2/2, ms1mx2.8/73, Error ellipse: s-maj=42.8km s-min=20.5km az=140.0*
ISCJB ***24*** *23:12:43.3±0.8, 74.71N±0.05×134.1E±0.2, h10km, mb3.7/6, MS4.2/2, Error ellipse: s-maj=9.7km s-min=7.3km az=162.1*
YARS ***24*** *23:12:49.7±0.0, 74.51N×133.84E, h10km*

ISC 24 23:12:44.4±0.9, 74.81N±0.08×133.81E±0.07, h10km, n14, σ1s34/23, mb3.8/6, Laptev Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**3.48**	**207**	Pn	**Pn**		**23 13 39.5**	**+0.9**
	2.7nm,0.3s,baz=18,slow=7.3,SNR=6.8							
TIXI				Sn	**Sn**		**23 14 18.7**	**-1.1**
	6.1nm,0.3s,baz=145,slow=13,SNR=6.3							
TIXI	**Tiksi**	**3.48**	**207**	*e*P	**Pn**		**23 13 39.6**	**+1.1**
	0.0nm,0.3s							
TIXI				*e*S	**Sn**		**23 14 18.6**	**-1.1**
	0.0nm,0.2s							
TIXI				*e*S	**Sn**		**23 14 18.6**	**-1.1**
TIXI				*e*Lg	Lg		23 14 32.3	
	0.0nm,0.3s							
TIXI				*e*Lg	Lg		23 14 32.3	
DEPR	**Deputatskiy**	**5.75**	**158**	*e*P	**Pn**		**23 14 10.8**	**+1.1**
	0.0nm,0.3s							
DEPR				*e*S	**Sn**		**23 15 14.6**	**-1.1**
	0.0nm,0.2s							
DEPR				*e*S	**Sn**		**23 15 14.6**	**-1.1**
DEPR				*e*Lg	Lg		23 15 44.0	
	0.0nm,0.8s							
DEPR				*e*Lg	Lg		23 15 44.0	
BTGS	**Batagay**	**7.20**	**177**	*e*P	**Pn**		**23 14 30.1**	**+0.6**
	0.0nm,0.2s							
BTGS				*e*S	**Sn**		**23 15 49.3**	**-1.9**
BTGS				*e*S	**Sn**		**23 15 49.3**	**-1.9**
	0.0nm,0.2s							
BTGS				*e*Lg	Lg		23 16 28.6	
	0.0nm,0.4s							
YBGR	**Belaya Gora**	**7.39**	**142**	*e*P	**Pn**		**23 14 33.7**	**+1.6**
	0.0nm,0.2s							
YBGR				*e*S	**Sn**		**23 15 55.0**	**-0.9**
YBGR				*e*S	**Sn**		**23 15 55.0**	**-0.9**
	0.0nm,0.2s							
YBGR				*e*Lg	Lg		23 16 37.0	
YBGR				*e*Lg	Lg		23 16 37.0	
	0.0nm,1.0s							
MOMR	**Moma**	**8.93**	**155**	*e*P	**Pn**		**23 14 55.0**	**+1.8**
	0.0nm,0.2s							
MOMR				*e*S	**Sn**		**23 16 32.4**	**-1.1**
MOMR				*e*S	**Sn**		**23 16 32.4**	**

MOIG	**Morelia**	**4.35**	**319**	Pn		**Pn**	**23 14 51.6**	**+3.2**
TXAR	**Lajitas Array**	**13.84**	**340**	Pn		**P**	**23 17 05.4**	**-1.2**
	0.1nm,0.3s,baz=154,slow=14,SNR=5.6							
TXAR				LR		LR	23 22 51.0	
	comp=Z,278nm,18.3s,baz=0.0,slow=38							
WHTX	**Lake Whitney,**	**15.56**	**2**	*e*Pn		**P**	**23 17 26.6**	**+1.2**
	15nm,0.9s							
ABTX	**Abilene, Hawle**	**16.23**	**356**	*e*Pn		**P**	**23 17 34.7**	**+1.8**
	34nm,1.4s							
MIAR	**Mount Ida**	**18.56**	**12**	*e*Pn		**Pn**	**23 17 59.4**	**+0.4**
	229nm,0.8s							
TUL1	**Leonard**	**19.57**	**6**	*e*P		**Pn**	**23 18 11.9**	**+0.8**
	12nm,0.7s							
LAZ	**Ladron**	**19.66**	**338**	*e*P		**Pn**	**23 18 13.3**	**+0.8**
LAZ				*e*S		Sn	23 22 10.5	+18
ANMO	**Albuquerque**	**19.92**	**340**	P		**Pn**	**23 18 15.6**	**+0.1**
	1.6nm,0.9s,baz=356,slow=11,SNR=5.2							
ANMO				LR		LR	23 27 05.4	
	comp=Z,93nm,18.4s,baz=339,slow=39							
ANMO	**Albuquerque**	**19.92**	**340**	*e*P		**Pn**	**23 18 16.5**	**+1.0**
	12nm,1.9s							
T25A	**Trinidad**	**21.40**	**346**	*e*P		**P**	**23 18 33.1**	**+3.3**
	6.0nm,0.8s							
X16A	**Lo Mia Camp, P**	**21.55**	**329**	*e*P		**P**	**23 18 34.5**	**+3.1**
	5.8nm,0.9s							
WVT	**Waverly**	**21.73**	**23**	*e*P		**P**	**23 18 32.2**	**-0.8**
	8.8nm,0.8s							
SDCO	**Great Sand Dun**	**22.24**	**345**	*e*P		**P**	**23 18 41.3**	**+2.4**
	6.9nm,1.4s							
CCM	**Cathedral Cave**	**22.44**	**14**	*e*P		**P**	**23 18 41.7**	**+0.9**
	20nm,0.9s							
TKL	**Tuckaleechee C**	**23.11**	**31**	P		**P**	**23 18 48.4**	**+0.6**
	2.1nm,0.5s,baz=213,slow=12,SNR=5.3							
PV01	**Paradox Valley**	**23.52**	**339**	*e*P		**P**	**23 18 53.5**	**+1.5**
WCI	**Wyandotte Cave**	**24.15**	**23**	*e*P		**P**	**23 18 55.1**	**-2.7**
	11nm,0.9s							
ISCO	**Idaho Springs**	**24.22**	**346**	*e*P		**P**	**23 19 00.8**	**+2.1**
	7.2nm,1.0s							
MTPU	**Mount Pierson**	**24.85**	**333**	*e*P		**P**	**23 19 08.8**	**+4.2**
	10nm,1.0s							
SZCU	**Shurtz Canyon**	**24.89**	**331**	*e*P		**P**	**23 19 06.9**	**+2.1**
	29nm,0.9s							
SRU	**San Rafael Swe**	**25.09**	**337**	*e*P		**P**	**23 19 08.8**	**+2.3**
	3.7nm,0.8s							
Q16A	**Castle Valley**	**25.17**	**336**	*e*P		**P**	**23 19 10.3**	**+3.0**
	9.7nm,1.2s							
O20A	**White River Ci**	**25.23**	**342**	*e*P		**P**	**23 19 10.9**	**+3.1**
	6.9nm,1.0s							
TMUT	**Trail Mountain**	**25.51**	**336**	*e*P		**P**	**23 19 13.2**	**+2.7**
	7.7nm,0.6s							
SDV	**Santo Domingo**	**27.88**	**102**	P		**P**	**23 19 25.8**	**-6.1**
	1.0nm,0.3s,baz=278,slow=10,SNR=1.6							
PDAR	**Pinedale Array**	**28.04**	**342**	P		**P**	**23 19 34.6**	**+1.4**
	0.5nm,0.7s,baz=127,slow=10,SNR=3.8							
YKA	**Yellowknife Ar**	**47.49**	**350**	P		**P**	**23 22 16.0**	**-0.3**
	0.4nm,0.8s,baz=156,slow=7.6,SNR=8.5							
INK	**Inuvik**	**56.54**	**345**	P		**P**	**23 23 24.4**	**+0.8**
	1.2nm,0.7s,baz=121,slow=7.1,SNR=8.0							
ILAR	**Eielson Array**	**58.35**	**338**	P		**P**	**23 23 36.4**	**-0.1**
	0.3nm,0.6s,baz=141,slow=6.3,SNR=5.2							
ESDC	**Sonseca Array**	**82.90**	**51**	LR		LR	23 59 53.9	
	comp=Z,90nm,22.0s,baz=205,slow=33							

*ISN **24** 23:15:06.7±0.3,37.93N×42.75E,h0km,ML2.9*
*ISK **24** 23:15:07.1,38.12N×42.70E,h5km,ML2.9/11*
*ISCJB **24** 23:15:08.3±0.6,38.10N±0.03×42.72E±0.03,h1km±5km, Error ellipse: s-maj=5.4km s-min=3.4km az=138.7*
*CSEM **24** 23:15:08.2±0.2,38.11N×42.74E,h2km,ML3.0, Error ellipse: s-maj=4.1km s-min=3.4km az=141.0*
*DDA **24** 23:15:08.3,38.12N×42.71E,h7km,Ml3.0*

ISC 24 23:15:08.7±1.0,38.13N±0.03×42.73E±0.02,h11km±9km, n48,σ1§07/71,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.32**	**55**	*i* P		**Pg**	**23 15 15.4**	**+0.2**
GEVA				*i* S		**Sb**	**23 15 20.6**	**-1.1**
GEVA	**Gevas**	**0.32**	**55**	P		**Pg**	**23 15 15.4**	**+0.2**
GEVA				S		**Sb**	**23 15 20.6**	**-1.1**
SRTM	**Siirt_Merkez**	**0.65**	**258**	*i* P		**Pg**	**23 15 20.8**	**-0.7**
SRTM				*i* S		**Sg**	**23 15 30.1**	**-0.1**
SRTM	**Siirt_Merkez**	**0.65**	**258**	P		**Pg**	**23 15 20.8**	**-0.7**
SRTM				S		**Sg**	**23 15 30.0**	**-0.1**
TVAN	**Van**	**0.66**	**53**	*i* P		**Pg**	**23 15 21.8**	**+0.1**
TVAN				*i* S		**Sn**	**23 15 33.5**	**-1.3**
TVAN	**Van**	**0.66**	**53**	P		**Pg**	**23 15 21.8**	**+0.1**
SIRT	**Sirnak**	**0.67**	**200**	PG		**Pg**	**23 15 20.6**	**-1.2**
SIRT				SG		**Sb**	**23 15 31.2**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.68**	**359**	*i* P		**Pb**	**23 15 22.2**	**-0.5**
ADCV				*i* S		**Sb**	**23 15 32.9**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.68**	**359**	P		**Pb**	**23 15 22.2**	**-0.5**
ADCV				S		**Sb**	**23 15 32.9**	**+0.8**
GURO	**Guroymak-BITLI**	**0.69**	**308**	PG		**Pg**	**23 15 21.0**	**-1.2**
GURO				SG		**Sb**	**23 15 31.9**	**-0.6**
GURO	**Guroymak-BITLI**	**0.69**	**308**	*e*Pg		**Pg**	**23 15 21.0**	**-1.2**
GURO				*e*Sg		**Sb**	**23 15 31.9**	**-0.6**
VANB	**Van**	**0.69**	**48**	PG		**Pg**	**23 15 21.6**	**-0.6**
VMUR	**Van-Muradiye**	**1.08**	**37**	*i* P		**Pg**	**23 15 27.9**	**-1.7**
VMUR				*i* S		**Sg**	**23 15 40.6**	**-3.1**
VMUR	**Van-Muradiye**	**1.08**	**37**	P		**Pg**	**23 15 27.9**	**-1.7**
BTMN	**Batman**	**1.18**	**259**	*i* P		**Pb**	**23 15 30.6**	**-0.6**
BTMN				*i* S		**Sn**	**23 15 47.1**	**-0.2**
BTMN	**Batman**	**1.18**	**259**	P		**Pb**	**23 15 30.6**	**-0.6**
BTMN				S		**Sn**	**23 15 47.1**	**-0.2**
EKAR	**Karacoban**	**1.24**	**335**	*i* P		**Pn**	**23 15 31.7**	**-0.5**
EKAR				*i* S		**Sn**	**23 15 50.8**	**+1.8**
EKAR	**Karacoban**	**1.24**	**335**	P		**Pn**	**23 15 31.7**	**-0.5**
EKAR				S		**Sn**	**23 15 50.8**	**+1.8**
TUTA	**Tutak**	**1.27**	**3**	*i* P		**Pn**	**23 15 32.3**	**-0.4**
TUTA				*i* S		**Sn**	**23 15 49.7**	**-0.1**
TUTA	**Tutak**	**1.27**	**3**	P		**Pn**	**23 15 32.3**	**-0.4**
TUTA				S		**Sn**	**23 15 49.7**	**-0.1**
YOVA	**Hakkari_Y`…kse**	**1.35**	**113**	*i* P		**Pg**	**23 15 34.4**	**-0.2**
YOVA				*i* S		**Sg**	**23 15 55.8**	**+3.7**
YOVA	**Hakkari_Y`…kse**	**1.35**	**113**	P		**Pg**	**23 15 34.4**	**-0.2**
CLDR	**Caldiran**	**1.37**	**42**	PN		**Pg**	**23 15 34.8**	**-0.3**
CLDR	**Caldiran**	**1.37**	**42**	*e*Pn		**Pg**	**23 15 34.8**	**-0.3**
VRTB	**Varto-Mus**	**1.43**	**316**	PN		**Pb**	**23 15 35.1**	**-0.5**
VRTB	**Varto-Mus**	**1.43**	**316**	*i* P		**Pb**	**23 15 35.4**	**-0.2**
VRTB				*i* S		**Sg**	**23 15 58.3**	**+3.4**
VRTB	**Varto-Mus**	**1.43**	**316**	*e*Pn		**Pb**	**23 15 35.1**	**-0.5**
VRTB	**Varto-Mus**	**1.43**	**316**	P		**Pb**	**23 15 35.4**	**-0.2**
AGRB	**Hanur-Agry**	**1.46**	**8**	PN		**Pb**	**23 15 35.6**	**-0.4**
AGRB	**Hanur-Agry**	**1.46**	**8**	*e*Pn		**Pb**	**23 15 35.6**	**-0.4**
EATA	**Eleskirt**	**1.74**	**354**	*i* P		**Pb**	**23 15 40.8**	**-0.1**
EATA				*i* S		**Sg**	**23 16 06.0**	**+1.2**
EATA	**Eleskirt**	**1.74**	**354**	P		**Pb**	**23 15 40.8**	**-0.1**
BNGB	**Bing¶‖**	**1.82**	**299**	PN		**Pn**	**23 15 41.0**	**+0.9**
HANI	**Diyarbakir_Han**	**1.86**	**280**	*i* P		**Pn**	**23 15 41.0**	**+0.4**
HANI				*i* S		**Sb**	**23 16 06.2**	**+0.2**
HANI	**Diyarbakir_Han**	**1.86**	**280**	P		**Pn**	**23 15 41.0**	**+0.4**
HANI				S		**Sb**	**23 16 06.2**	**+0.2**
BINT	**Bingol**	**1.91**	**294**	*e*Pn		**Pn**	**23 15 41.0**	**-0.3**
MAZI	**Mazidag**	**1.93**	**250**	PN		**Pn**	**23 15 41.1**	**-0.5**
MAZI	**Mazidag**	**1.93**	**250**	*e*Pn		**Pn**	**23 15 41.1**	**-0.5**
DIY	**Diyarbakir**	**1.99**	**264**	*e*Pn		**Pb**	**23 15 43.9**	**-1.1**
ECAT	**Cat-ERZURUM**	**2.01**	**318**	*i* P		**Pb**	**23 15 45.1**	**-0.4**
ECAT				*i* S		**Sg**	**23 16 14.8**	**+1.2**
ECAT	**Cat-ERZURUM**	**2.01**	**318**	P		**Pb**	**23 15 45.1**	**-0.4**
DYBB	**Diyarbakir**	**2.06**	**266**	PN		**Pn**	**23 15 43.9**	**+0.6**
PTK	**Pertek**	**2.73**	**287**	PN		**Pn**	**23 15 53.7**	**+1.1**
PTK	**Pertek**	**2.73**	**287**	*e*Pn		**Pn**	**23 15 53.7**	**+1.1**
URFA	**Urfa**	**3.17**	**259**	PN		**Pn**	**23 15 59.9**	**+1.2**
URFA	**Urfa**	**3.17**	**259**	*e*Pn		**Pn**	**23 15 59.9**	**+1.2**
MALT	**Malatya**	**3.40**	**274**	PN		**Pn**	**23 16 03.1**	**+1.4**
MALT	**Malatya**	**3.40**	**274**	*e*Pn		**Pn**	**23 16 03.1**	**+1.4**

*ISCJB **24** 23:23:14.8±0.2,51.55N±0.01×16.13E±0.02,h0km, mb3.7/13,Error ellipse: s-maj=1.9km s-min=1.6km az=178.8*
*LDG **24** 23:23:15.4±0.1,51.59N×16.14E,h1km,Ml4.2/22,Error ellipse: s-maj=3.6km s-min=2.4km az=171.0,Suspected Mining induced.*
*MOS **24** 23:23:16.3±0.9,51.59N×16.12E,h11km,mb4.2/8,Error ellipse: s-maj=6.1km s-min=3.6km az=96.7*
*CSEM **24** 23:23:16.7±0.1,51.55N×16.14E,h2km,mb3.9/8,ML4.2/15, Ms3.9,Error ellipse: s-maj=2.1km s-min=1.9km az=168.0*
*IDC **24** 23:23:17.0±0.5,51.53N×16.10E,h0km,mb3.8/12, mb1 3.8/20,mb1mx3.7/68,mbtmp3.7/20,ML3.5/7,Error*

ellipse: s-maj=8.3km s-min=5.3km az=103.0
*BGR **24** 23:23:17.6±0.4,51.52N×16.17E,h1km,ML3.8/15,Error ellipse: s-maj=5.6km s-min=2.2km az=13.0*
*PRU **24** 23:23:17.4,51.53N×16.16E,h0km,Felt In Harrachov*
*VIE **24** 23:23:20.6±0.7,51.28N×16.10E,h0km,mb3.3/17, ML3.6/14,Ms3.9/5,Error ellipse: s-maj=7.8km s-min=5.5km az=176.0,Suspected Mining induced.*
*UPP **24** 23:23:21.7,51.85N×15.44E,h0km,ML2.1,Suspected Mining explosion.*
*BNS **24** 23:23:21.8±0.5,51.47N×15.83E,h5km,ML3.8*

ISC 24 23:23:15.9±0.4,51.54N±0.02×16.11E±0.02,h0km,n317, σ1§88/423,mb3.7/13,17C-19D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*i* Pg		**Pb**	**23 23 30.8**	**-0.3**
KSP				*e*Sg		**Sg**	**23 23 40.1**	**+1.5**
KSP	**Ksiaz**	**0.71**	**170**	‖ *i*P		**Pb**	**23 23 30.8**	**-0.3**
KSP				*e*			23 23 40.1	
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg		**Pb**	**23 23 31.1**	**0.0**
KSP	**Ksiaz**	**0.71**	**170**	*i* P		**Pb**	**23 23 30.8**	**-0.3**
KSP	**Ksiaz**	**0.71**	**170**	Pg		**Pb**	**23 23 31.1**	**0.0**
KSP				*e*S		**Sg**	**23 23 40.1**	**+1.5**
UPC	**Upice**	**1.03**	**183**	*e*P		**Pb**	**23 23 37.0**	**+0.3**
UPC				*e*			23 23 50.6	
UPC				smax	smax			
	comp=N,824nm,0.4s							
UPC				MLR	MLR			
	comp=Z,1μm,2.0s							
UPC	**Upice**	**1.03**	**183**	*e*PG		**Pb**	**23 23 37.0**	**+0.3**
UPC				*e*SG		**Sb**	**23 23 50.6**	**-0.2**
	comp=Z,824nm,0.4s							
UPC				AMS	AMS		23 24 10.0	
	comp=Z,1μm,2.0s							
UPC	**Upice**	**1.03**	**183**	Pg		**Pb**	**23 23 37.0**	**+0.3**
UPC				Sg		**Sb**	**23 23 50.6**	**-0.2**
	comp=Z,824nm,0.4s							
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*P		**Pb**	**23 23 39.7**	**+0.2**
DPC				*e*			23 23 54.4	
DPC				smax	smax			
	comp=N,295nm,0.3s							
DPC				MLR	MLR			
	comp=Z,1μm,2.7s							
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*Pg		**Pb**	**23 23 39.9**	**+0.4**
DPC				*e*Sg		**Sg**	**23 23 55.1**	**+0.8**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG		**Pb**	**23 23 39.7**	**+0.2**
DPC				*e*SG		**Sg**	**23 23 54.4**	**0.0**
	comp=Z,295nm,0.3s							
DPC				AMS	AMS		23 24 10.0	
	comp=Z,1μm,2.7s							
DPC	**Dobruska-Polom**	**1.20**	**173**	Pg		**Pb**	**23 23 39.9**	**+0.4**
DPC				Sg		**Sg**	**23 23 55.1**	**+0.8**
PVCC	**Panska Ves**	**1.40**	**224**	*e*P		**Pb**	**23 23 43.6**	**+0.6**
PVCC				*e*			23 24 03.1	
PVCC				smax	smax			
	comp=N,839nm,0.4s							
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG		**Pb**	**23 23 43.6**	**+0.6**
PVCC				*e*SG		**Sn**	**23 24 03.1**	**+1.2**
	comp=N,839nm,0.4s							
PVCC	**Panska Ves**	**1.40**	**224**	Pg		**Pb**	**23 23 43.6**	**+0.6**
PVCC				Sg		**Sn**	**23 24 03.1**	**+1.2**
	comp=N,839nm,0.4s							
BRG	**Berggiesshubel**	**1.52**	**245**	PN		**Pn**	**23 23 44.7**	**+0.5**
BRG				PG		**Pg**	**23 23 46.6**	**+1.7**
BRG				SG		**Sn**	**23 24 06.9**	**+2.1**
	comp=N,650nm,0.5s							
BRG	**Berggiesshubel**	**1.52**	**245**	P		**Pn**	**23 23 44.7**	**+0.5**
BRG							23 24 06.9	
BRG				smax	smax			
	comp=N,650nm,0.5s							
BRG	**Berggiesshubel**	**1.52**	**245**	*e*Pn		**Pn**	**23 23 44.8**	**+0.5**
BRG				*e*Pg		**Pg**	**23 23 46.7**	**+1.7**
BRG				*e*Sg		**Sn**	**23 24 06.8**	**+2.1**
BRG	**Berggiesshubel**	**1.52**	**245**	Pn		**Pn**	**23 23 44.8**	**+0.5**
KRLC	**Kraliky**	**1.53**	**164**	*e*P		**Pn**	**23 23 45.0**	**+0.5**
KRLC				*e*			23 24 05.0	
KRLC				smax	smax			
	comp=N,117nm,0.7s							
KRLC	**Kraliky**	**1.53**	**164**	*e*PG		**Pn**	**23 23 45.0**	**+0.5**
KRLC				*e*SG		**Sg**	**23 24 05.0**	**+0.1**
	comp=N,116nm,0.7s							
KRLC	**Kraliky**	**1.53**	**164**	Pg		**Pn**	**23 23 45.0**	**+0.5**
KRLC				Sg		**Sg**	**23 24 05.0**	**+0.1**
	comp=N,116nm,0.7s							
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*P		**Pn**	**23 23 49.2**	**+0.6**
GOPC				*e*			23 24 15.5	
GOPC				smax	smax			
	comp=N,189nm,0.5s							
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*PN		**Pn**	**23 23 49.2**	**+0.6**
GOPC				*e*PG		**Pg**	**23 23 51.4**	**+0.4**
GOPC				*e*SG		**Sg**	**23 24 15.5**	**+0.8**
	comp=N,189nm,0.5s							
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	Pn		**Pn**	**23 23 49.2**	**+0.6**
FBE	**Freiberg**	**1.84**	**251**	*e*Pn		**Pn**	**23 23 49.5**	**+0.8**
FBE				*e*Pg		**Pg**	**23 23 52.2**	**+1.0**
FBE				*e*Sg		**Sg**	**23 24 16.2**	**+1.2**
FBE	**Freiberg**	**1.84**	**251**	Pn		**Pn**	**23 23 49.5**	**+0.8**
PRU	**Pruhonice**	**1.84**	**213**	*e*P		**Pn**	**23 23 49.4**	**+0.6**
PRU				*e*			23 24 15.9	
PRU				smax	smax			
	comp=N,435nm,0.3s							
PRU				MLR	MLR			
	comp=Z,700nm,4.3s							
PRU	**Pruhonice**	**1.84**	**213**	*e*PN		**Pn**	**23 23 49.4**	**+0.6**
PRU				*e*PG		**Pg**	**23 23 51.5**	**+0.3**
PRU				*e*SG		**Sg**	**23 24 15.9**	**+0.8**
	comp=Z,435nm,0.3s							
PRU				AMS	AMS		23 24 30.0	
	comp=Z,700nm,4.3s							
PRU	**Pruhonice**	**1.84**	**213**	Pn		**Pn**	**23 23 49.4**	**+0.6**
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*Pn		**Pb**	**23 23 50.5**	**-0.3**
GKP				*e*Pb		**Pg**	**23 23 56.1**	**+4.4**
GKP				*e*Pg		Pn	23 23 58.6	+9.5
GKP				*e*Sg		**Sg**	**23 24 19.6**	**+3.8**
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*P		**Pb**	**23 23 50.5**	**-0.3**
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*P		**Pb**	**23 23 50.5**	**-0.3**
CLL	**Collm**	**1.96**	**264**	*e*P		**Pn**	**23 23 51.0**	**+0.6**
CLL				*i*			23 24 20.8	
CLL	**Collm**	**1.96**	**264**	*e*Pn		**Pn**	**23 23 50.7**	**+0.4**
CLL				*e*Pg		**Pg**	**23 23 54.5**	**+1.1**
CLL				*e*Sg		**Sg**	**23 24 20.9**	**+2.1**
CLL	**Collm**	**1.96**	**264**	*e*Pn		**Pn**	**23 23 51.0**	**+0.6**
CLL				*e*Pg		**Pg**	**23 23 54.0**	**+0.6**
CLL				*i*			23 23 57.9	
CLL				*i* Sg		**Sg**	**23 24 20.8**	**+2.0**
	comp=Z,403nm,0.5s							
CLL	**Collm**	**1.96**	**264**	Pn		**Pn**	**23 23 50.7**	**+0.4**
CLL	**Collm**	**1.96**	**264**	*e*P		**Pn**	**23 23 51.0**	**+0.6**
RAC	**Raciborz**	**1.97**	**137**	*e*P		**Pb**	**23 23 53.1**	**+0.5**
RAC				*e*			23 24 18.0	
RAC	**Raciborz**	**1.97**	**137**	*e*P		**Pb**	**23 23 53.1**	**+0.5**
RAC				*e*S		**Sb**	**23 24 18.0**	**+0.4**
MORC	**Moravsky Berou**	**1.99**	**152**	‖ P		**Pn**	**23 23 51.1**	**+0.3**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn		**Pn**	**23 23 51.3**	**+0.5**
MORC	**Moravsky Berou**	**1.99**	**152**	‖ *i*P		**Pn**	**23 23 51.1**	**+0.3**
MORC	**Moravsky Berou**	**1.99**	**152**	S		**Sg**	**23 24 19.4**	**-0.3**
MORC	**Moravsky Berou**	**1.99**	**152**	Pn		**Pn**	**23 23 51.3**	**+0.5**
MORC				*e*Sg		**Sg**	**23 24 19.9**	**+0.2**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*P		**Pn**	**23 23 52.5**	**-0.4**
OKC				*e*			23 24 23.4	
OKC				smax	smax			
	comp=N,279nm,0.5s							
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*Pn		**Pn**	**23 23 52.5**	**-0.4**
OKC				*e*Pg		**Pg**	**23 23 57.0**	**+0.2**
OKC				*e*Sg		**Sb**	**23 24 23.3**	**+0.8**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PN		**Pn**	**23 23 52.5**	**-0.4**
OKC				*e*PG		**Pg**	**23 23 57.1**	**+0.2**
OKC				*e*SG		**Sb**	**23 24 23.4**	**+0.8**
	comp=N,279nm,0.5s							
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*P		**Pn**	**23 23 52.5**	**-0.4**
CHZP	**Chorzow**	**2.21**	**123**	*e*Pg		**Pg**	**23 23 58.4**	**+0.1**
CHZP				*e*Sn		**Sn**	**23 24 20.9**	**-0.9**
CHZP				*e*Sg		**Sg**	**23 24 27.2**	**+0.3**
VRAC	**Vranov**	**2.25**	**172**	Pn		**Pn**	**23 23 55.3**	**+0.8**
	comp=N,10nm,0.3s,baz=355,slow=14,SNR=39							
VRAC				Lg		Lg	23 24 27.2	
	comp=N,56nm,0.3s,baz=49,slow=20,SNR=14							
VRAC	**Vranov**	**2.25**	**172**	‖ *i*P		**Pn**	**23 23 55.3**	**+0.8**
VRAC	**Vranov**	**2.25**	**172**	S		**Sb**	**23 24 27.0**	**+1.1**
VRAC	**Vranov**	**2.25**	**172**	P		**Pn**	**23 23 55.3**	**+0.8**
	comp=N,10.0nm,0.3s							
VRAC				*e*Sg		**Sg**	**23 24 27.9**	**-0.4**

WERD	**Werda**	**2.64**	**247**	*e*Pn		**Pn**	**23 24 00.7**	**+1.0**
WERD				*e*Pg		**Pg**	**23 24 07.8**	**+1.3**
WERD				*e*Sg		**Sg**	**23 24 41.9**	**+1.3**
WERD	**Werda**	**2.64**	**247**	Pn		**Pn**	**23 24 00.7**	**+1.0**
NKC	**Novy Kostel**	**2.66**	**242**	*e*P		**Pn**	**23 24 01.3**	**+1.2**
NKC				*e*			23 24 42.7	
NKC				smax	smax			
	comp=N,585nm,0.5s							
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN		**Pn**	**23 24 01.3**	**+1.2**
NKC				*e*PG		**Pg**	**23 24 08.0**	**+1.1**
NKC				*e*SG		**Sg**	**23 24 42.7**	**+1.3**
	comp=N,585nm,0.5s							
NKC	**Novy Kostel**	**2.66**	**242**	Pn		**Pn**	**23 24 01.3**	**+1.2**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn		**Pn**	**23 23 59.0**	**-1.4**
OJC				*e*Pg		**Pg**	**23 24 06.5**	**-0.8**
OJC				*e*Sg		**Sg**	**23 24 42.4**	**+0.2**
OJC	**Ojcow**	**2.69**	**118**	*e*P		**Pn**	**23 23 59.0**	**-1.4**
OJC				*e*			23 24 42.4	
OJC	**Ojcow**	**2.69**	**118**	*e*Pn		**Pn**	**23 23 59.0**	**-1.4**
OJC				*e*Pg		**Pg**	**23 24 06.8**	**-0.5**
OJC				*e*Sg		**Sg**	**23 24 42.3**	**+0.2**
OJC	**Ojcow**	**2.69**	**118**	Pn		**Pn**	**23 23 59.0**	**-1.4**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*P		**Pn**	**23 24 04.2**	**+0.8**
KHC				*e*			23 24 40.5	
KHC				smax	smax			
	comp=N,149nm,0.4s							
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN		**Pn**	**23 24 04.2**	**+0.8**
KHC				*e*PG		**Pg**	**23 24 11.0**	**-0.6**
KHC				*e*SN		**Sn**	**23 24 40.5**	**+1.5**
KHC				*e*SG		**Sg**	**23 24 49.3**	**+0.1**
	comp=N,149nm,0.4s							
KHC	**Kasperske Hory**	**2.91**	**215**	Pn		**Pn**	**23 24 04.2**	**+0.8**
BEL	**Belsk**	**2.93**	**82**	*e*Pn		**Pn**	**23 24 05.1**	**+1.4**
BEL				*e*Pg		**Pg**	**23 24 16.2**	**+4.2**
BEL	**Belsk**	**2.93**	**82**	*e*P		**Pn**	**23 24 05.1**	**+1.4**
BEL	**Belsk**	**2.93**	**82**	*e*Pn		**Pn**	**23 24 05.1**	**+1.4**
MOX	**Moxa**	**2.97**	**254**	P		**Pn**	**23 24 06.1**	**+1.8**
MOX	**Moxa**	**2.97**	**254**	*e*Pn		**Pn**	**23 24 05.1**	**+0.8**
MOX				*e*Pg		**Pg**	**23 24 13.7**	**+0.9**
MOX				*e*Sg		**Sg**	**23 24 53.6**	**+2.3**
MOX	**Moxa**	**2.97**	**254**	Pn		**Pn**	**23 24 05.1**	**+0.8**
MOX	**Moxa**	**2.97**	**254**	P		**Pn**	**23 24 06.1**	**+1.8**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn		**Pn**	**23 24 05.9**	**+1.5**
MANZ				*e*Pg		**Pg**	**23 24 14.5**	**+1.5**
MANZ	**Manzenberg**	**2.98**	**240**	Pn		**Pn**	**23 24 05.9**	**+1.5**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn		**Pn**	**23 24 06.4**	**+1.0**
ROTZ				*e*Pg		**Pg**	**23 24 15.8**	**+1.4**
ROTZ				*e*Sg		**Sg**	**23 24 53.5**	**-0.4**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	Pn		**Pn**	**23 24 06.4**	**+1.0**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn		**Pn**	**23 24 07.1**	**+0.8**
GEC2	**GERESS Array S**	**3.11**	**211**	Pn		**Pn**	**23 24 07.1**	**+0.8**
GERES	**GERESS Array B**	**3.11**	**211**	Pn		**Pn**	**23 24 07.3**	**+1.0**
	comp=N,6.8nm,0.3s,baz=31,slow=12,SNR=182							
GERES				Pg		**Pg**	**23 24 14.1**	**-1.3**
	comp=N,13nm,0.3s,baz=30,slow=16,SNR=53							
GERES				Sn		**Sn**	**23 24 44.6**	**+0.4**
	comp=N,8.5nm,0

CSKK	**Cs˙ŧkako**	**4.41**	**161**	⇑	*e*Pn		**Pn**	**23 24 25.1 +1.1**
LLD	**Lille Linde**	**4.46**	**330**		*i* P		**Pn**	**23 24 23.8 -0.8**
LLD	**Lille Linde**	**4.46**	**330**		*i* P		**Pn**	**23 24 23.8 -0.8**
LLD	**Lille Linde**	**4.46**	**330**		*i* P		**Pn**	**23 24 23.8 -0.8**
FUR	**Furstenfeldbru**	**4.60**	**225**		P		**Pn**	**23 24 28.1 +1.4**
FUR	**Furstenfeldbru**	**4.60**	**225**		P		**Pn**	**23 24 28.1 +1.4**
KWP	**Kalwaria Pacla**	**4.62**	**112**		*e*Pn		**Pn**	**23 24 27.1 +0.2**
KWP					*e*Pg		**Pg**	**23 24 41.6 -2.7**
KWP					*e*Sg		**Sg**	**23 25 52.2 +8.0**
KWP					*e*			23 25 54.3
KWP	**Kalwaria Pacla**	**4.62**	**112**		*e*P		**Pn**	**23 24 27.1 +0.2**
KWP	**Kalwaria Pacla**	**4.62**	**112**		*e*P		**Pn**	**23 24 27.1 +0.2**
KBA	**Koelnbreinsper**	**4.82**	**203**		P		**Pn**	**23 24 32.0 +2.2**
KBA	**Koelnbreinsper**	**4.82**	**203**		Pn		**Pn**	**23 24 31.5 +1.7**
	comp=N,27nm,0.5s,SNR=29							
KBA	**Koelnbreinsper**	**4.82**	**203**		P		**Pn**	**23 24 32.0 +2.2**
KBA					Sg		**Sg**	**23 25 50.6 0.0**
	comp=N,37nm,0.6s							
KBA	**Koelnbreinsper**	**4.82**	**203**		*i* Pn		**Pn**	**23 24 31.5 +1.7**
	comp=N,27nm,0.5s,SNR=29							
KBA					Sg		**Sg**	**23 25 50.6 0.0**
	comp=N,37nm,0.6s							
BJUU	**Bjuv**	**4.90**	**339**		P		**Pn**	**23 24 29.5 -1.2**
BJUU	**Bjuv**	**4.90**	**339**		P		**Pn**	**23 24 29.5 -1.2**
BJUU					S		**Sn**	**23 25 20.7 -7.3**
UZH	**Uzhgorod**	**4.93**	**124**		*e*P		**Pn**	**23 24 34.5 +3.3**
UZH					*e*S		**Sn**	**23 25 32.5 +3.6**
UZH					smax	smax		
	comp=N,70nm,1.0s							
UZH					smax	smax		
	comp=E,1µm,1.0s							
UZH					MLR	MLR		
	comp=Z,90nm,1.2s							
PERS	**Pernice**	**4.95**	**188**		*i* Pn		**Pn**	**23 24 34.0 +2.5**
PERS	**Pernice**	**4.95**	**188**		Pn		**Pn**	**23 24 34.0 +2.5**
TNS	**Taunus Mts**	**5.03**	**258**		P		**Pn**	**23 24 34.0 +1.4**
TNS					pmax	pmax		
	comp=Z,42nm,0.8s							
DEL	**Delary**	**5.11**	**346**		P		**Pn**	**23 24 33.2 -0.5**
DEL	**Delary**	**5.11**	**346**		P		**Pn**	**23 24 33.2 -0.5**
DEL					S		**Sn**	**23 25 28.7 -4.6**
OBKA	**Obir**	**5.14**	**192**		Pn		**Pn**	**23 24 35.9 +1.7**
	comp=Z,2.5nm,0.3s,SNR=5.3							
OBKA	**Obir**	**5.14**	**192**		*i* Pn		**Pn**	**23 24 35.9 +1.7**
	comp=Z,2.5nm,0.3s,SNR=5.3							
WATA	**Walderalm**	**5.14**	**217**		Pn		**Pn**	**23 24 36.3 +2.0**
	comp=Z,25nm,0.5s,SNR=39							
WATA	**Walderalm**	**5.14**	**217**		*e*Pn		**Pn**	**23 24 36.3 +2.0**
	comp=Z,25nm,0.5s,SNR=39							
WATA					Sg		**Sg**	**23 26 01.3 +0.4**
	comp=Z,27nm,0.4s							
MYKA	**Terra Mystica**	**5.17**	**199**		*e*Pn		**Pn**	**23 24 35.8 +1.2**
	comp=Z,8.9nm,0.5s							
WTTA	**Wattenberg**	**5.18**	**216**		Pn		**Pn**	**23 24 37.0 +2.2**
	comp=Z,6.8nm,0.3s,SNR=11							
WTTA	**Wattenberg**	**5.18**	**216**		*e*Pn		**Pn**	**23 24 37.0 +2.2**
	comp=Z,6.8nm,0.3s,SNR=11							
WTTA					Sg		**Sg**	**23 26 03.2 +1.0**
	comp=Z,19nm,0.5s							
MOTA	**Moosalm**	**5.32**	**220**		Pn		**Pn**	**23 24 37.5 +0.8**
	comp=Z,9.2nm,0.5s,SNR=24							
MOTA					Sg		**Sg**	**23 26 08.3 +1.7**
	comp=Z,35nm,0.5s							
MOTA	**Moosalm**	**5.32**	**220**		*i* Pn		**Pn**	**23 24 37.5 +0.8**
	comp=Z,9.2nm,0.5s,SNR=24							
MOTA					Sg		**Sg**	**23 26 08.3 +1.7**
	comp=Z,35nm,0.5s							
LVV	**L'vov**	**5.32**	**106**		*e*P		**Pb**	**23 24 45.4 -4.3**
RETA	**Reutte**	**5.34**	**223**		Pn		**Pn**	**23 24 37.6 +0.6**
	comp=Z,3.7nm,0.3s,SNR=5.4							
RETA					Sg		**Sg**	**23 26 06.6 -0.9**
	comp=Z,23nm,0.4s							
RETA	**Reutte**	**5.34**	**223**		*e*Pn		**Pn**	**23 24 37.6 +0.6**
	comp=Z,3.7nm,0.3s,SNR=5.4							
RETA					Sg		**Sg**	**23 26 06.6 -0.9**
	comp=Z,23nm,0.4s							
TRPA	**Tarpa**	**5.38**	**127**	⇑	*e*x		**Pn**	**23 24 37.2 -0.1**
TRPA	**Tarpa**	**5.38**	**127**	⇑	*e*Pn		**Pn**	**23 24 37.2 -0.1**
KOE	**Koeppel**	**5.41**	**261**		*e*Pn		**Pn**	**23 24 39.0 +1.2**
KOE	**Koeppel**	**5.41**	**261**		Pn		**Pn**	**23 24 39.0 +1.2**
VXJU	**Vaexsjoe**	**5.44**	**353**		P		**Pn**	**23 24 38.1 0.0**
VXJU	**Vaexsjoe**	**5.44**	**353**		P		**Pn**	**23 24 38.1 0.0**
VXJU					S		**Sn**	**23 25 37.0 -4.3**
BUG	**Bochum--Univer**	**5.52**	**272**		P		**Pn**	**23 24 41.4 +2.1**
BUG					pmax	pmax		
	comp=Z,41nm,0.5s							
BUG	**Bochum--Univer**	**5.52**	**272**		P		**Pn**	**23 24 41.4 +2.1**
	comp=Z,41nm,0.5s							
MORH	**M˙ŧr˙igy. Hung**	**5.58**	**162**	‖	*e*x		**Pn**	**23 24 41.2 +1.0**
MORH	**M˙ŧr˙igy. Hung**	**5.58**	**162**	‖	*e*Pn		**Pn**	**23 24 41.2 +1.0**
OSKU	**Oskarshamn**	**5.67**	**360**		P		**Pn**	**23 24 41.4 +0.1**
OSKU	**Oskarshamn**	**5.67**	**360**		P		**Pn**	**23 24 41.4 +0.1**
FETA	**Feichten**	**5.73**	**220**		Pn		**Pn**	**23 24 43.8 +1.5**
	comp=Z,2.3nm,0.3s							
FETA					Sg		**Sg**	**23 26 20.0 +0.2**
	comp=Z,15nm,0.6s							
FETA	**Feichten**	**5.73**	**220**		*e*Pn		**Pn**	**23 24 43.8 +1.5**
	comp=Z,2.3nm,0.3s							
FETA					Sg		**Sg**	**23 26 20.0 +0.2**
	comp=Z,15nm,0.6s							
VISS	**Visnje**	**5.80**	**189**		*i* Pn		**Pn**	**23 24 45.0 +1.8**
VISS	**Visnje**	**5.80**	**189**		*i* Pn		**Pn**	**23 24 45.0 +1.8**
FABU	**Falkenberg**	**5.82**	**341**		P		**Pn**	**23 24 42.7 -0.7**
FABU	**Falkenberg**	**5.82**	**341**		P		**Pn**	**23 24 42.6 -0.7**
DAVA	**Damuels**	**5.88**	**226**		Pn		**Pn**	**23 24 45.3 +0.9**
	comp=Z,5.7nm,0.4s							
DAVA					Sg		**Sg**	**23 26 25.8 +1.0**
	comp=Z,42nm,0.6s							
DAVA	**Damuels**	**5.88**	**226**		*i* Pn		**Pn**	**23 24 45.3 +0.9**
	comp=Z,5.7nm,0.4s							
DAVA					Sg		**Sg**	**23 26 25.8 +1.0**
	comp=Z,42nm,0.6s							
ASPU	**Aespoe**	**5.90**	**3**		P		**Pn**	**23 24 45.0 +0.6**
ASPU	**Aespoe**	**5.90**	**3**		P		**Pn**	**23 24 45.0 +0.6**
STB	**Steinbach**	**5.92**	**264**		*e*Pn		**Pn**	**23 24 46.5 +1.7**
STB					*e*Sn		**Sn**	**23 25 50.5 -2.8**
	comp=Z,22nm,2.2s							
STB	**Steinbach**	**5.92**	**264**		Pn		**Pn**	**23 24 46.5 +1.7**
GNOU	**Gnosjoe**	**5.92**	**348**		P		**Pn**	**23 24 44.5 -0.3**
GNOU	**Gnosjoe**	**5.92**	**348**		P		**Pn**	**23 24 44.5 -0.3**
OZLJ	**Ozalj**	**5.94**	**184**		*e*Pn		**Pn**	**23 24 46.4 +1.3**
OZLJ	**Ozalj**	**5.94**	**184**		*e*Pn		**Pn**	**23 24 46.4 +1.3**
BFO	**Black Forest**	**5.96**	**240**		*i* P		**Pn**	**23 24 46.8 +1.4**
BFO	**Black Forest**	**5.96**	**240**		*i* P		**Pn**	**23 24 46.8 +1.4**
EKSU	**Eksjoe**	**6.07**	**356**		P		**Pn**	**23 24 46.9 +0.2**
EKSU	**Eksjoe**	**6.07**	**356**		P		**Pn**	**23 24 46.9 +0.2**
EKSU					S		**Sn**	**23 25 51.1 -5.6**
BOJS	**Bojanci**	**6.07**	**186**		*e*Pn		**Pn**	**23 24 48.5 +1.7**
BOJS	**Bojanci**	**6.07**	**186**		*e*Pn		**Pn**	**23 24 48.5 +1.7**
HILG	**Hillesheim**	**6.09**	**262**		*e*Pn		**Pn**	**23 24 49.0 +1.8**
HILG	**Hillesheim**	**6.09**	**262**		Pn		**Pn**	**23 24 49.0 +1.8**
VSTU	**Vaestervik**	**6.14**	**2**		P		**Pn**	**23 24 48.3 +0.6**
VSTU	**Vaestervik**	**6.14**	**2**		P		**Pn**	**23 24 48.3 +0.6**
BMR	**Baia Mare**	**6.17**	**126**	⇑	‖P		**Pn**	**23 24 49.7 +1.6**
BMR	**Baia Mare**	**6.17**	**126**	⇑	*i*P		**Pn**	**23 24 49.7 +1.6**
BMR	**Baia Mare**	**6.17**	**126**		P		**Pn**	**23 24 49.7 +1.6**
KLL	**Kalltalsperre**	**6.24**	**266**		*e*Pn		**Pn**	**23 24 50.4 +1.2**
KLL	**Kalltalsperre**	**6.24**	**266**		Pn		**Pn**	**23 24 50.4 +1.2**
DRGR		**6.43**	**135**		‖P		**Pn**	**23 24 52.8 +1.0**
DRGR		**6.43**	**135**		‖*i*P		**Pn**	**23 24 52.8 +1.0**
DRGR		**6.43**	**135**		P		**Pn**	**23 24 52.8 +1.0**
MEM	**Membach**	**6.44**	**266**		P		**Pn**	**23 24 54.5 +2.7**
MEM					pmax	pmax		
	comp=Z,29nm,1.0s							
MEM	**Membach**	**6.44**	**266**		P		**Pn**	**23 24 54.5 +2.7**
	comp=Z,29nm,1.0s							
CDF	**Champ du Feu**	**6.50**	**245**		*e*Pn		**Pn**	**23 24 52.0 -0.8**
CDF	**Champ du Feu**	**6.50**	**245**		*e*Pg		**Pg**	**23 25 16.6 -3.8**
CDF					*e*Sg		**Sg**	**23 26 40.7 -3.8**
	comp=Z,107nm,0.9s							
CDF	**Champ du Feu**	**6.50**	**245**		*e*Pn		**Pn**	**23 24 52.0 -0.8**
CJR	**Cluj-Napoca**	**6.89**	**132**		‖P		**Pn**	**23 24 59.5 +1.4**
CJR	**Cluj-Napoca**	**6.89**	**132**		‖*i*P		**Pn**	**23 24 59.5 +1.4**
BZS	**Buzias**	**6.96**	**146**	⇑	‖P		**Pn**	**23 24 59.9 +0.8**
BZS	**Buzias**	**6.96**	**146**	⇑	*i*P		**Pn**	**23 24 59.9 +0.8**
BZS	**Buzias**	**6.96**	**146**		P		**Pn**	**23 24 59.9 +0.8**
UDBI	**Udbina**	**7.02**	**182**		*i* Pn		**Pn**	**23 25 01.6 +1.7**
UDBI	**Udbina**	**7.02**	**182**		*i* Pn		**Pn**	**23 25 01.6 +1.7**
NVLJ	**Novalja**	**7.03**	**187**		*i* Pn		**Pn**	**23 25 01.9 +1.8**
NVLJ	**Novalja**	**7.03**	**187**		*i* Pn		**Pn**	**23 25 01.8 +1.8**
HINF	**Hinteralfeld**	**7.07**	**242**		*e*P		**Pn**	**23 25 00.9 +0.3**
HINF					*e*Sg		**Sg**	**23 26 57.1 -5.6**
	comp=Z,55nm,0.7s							
BURAR	**Bucovina Array**	**7.10**	**120**		‖P		**Pn**	**23 25 02.6 +1.5**
BURAR	**Bucovina Array**	**7.10**	**120**		‖*i*P		**Pn**	**23 25 02.6 +1.5**
IIGN	**Ignalina**	**7.14**	**54**		*e*P		**Pn**	**23 25 02.8 +1.3**
IIGN					IAmb	IAmb		23 25 33.5
	comp=Z,16nm,1.0s							
ISAL	**Salakas**	**7.20**	**52**		*e*P		**Pn**	**23 25 02.6 +0.3**
ISAL					IAmb	IAmb		23 25 38.2
	comp=Z,7.4nm,0.9s							
NACGM	**Naroch**	**7.24**	**58**		*e*P		**Pg**	**23 25 34.0 -0.5**
NACGM					*e*S		**Sg**	**23 27 14.0 +5.8**
HAU	**Haudompre**	**7.24**	**245**		*e*P		**Pn**	**23 25 03.3 +0.3**
HAU					*e*Sg		**Sg**	**23 27 03.1 -5.2**
	comp=Z,85nm,1.0s							
GIVF	**Givet**	**7.29**	**263**		*e*Sg		**Sg**	**23 27 04.9 -5.1**
	comp=Z,55nm,0.8s							
PAGF	**Fort de Pagny**	**7.32**	**250**		*e*P		**Pn**	**23 25 05.3 +1.3**
	baz=63							
PAGF					*e*Sg		**Sg**	**23 27 05.6 -5.3**
	comp=Z,38nm,1.3s							
PAGF	**Fort de Pagny**	**7.32**	**250**		*e*P		**Pn**	**23 25 05.3 +1.3**
	baz=63							
IZAR	**Zarasai**	**7.35**	**51**		*e*P		**Pn**	**23 25 02.1 -2.3**
IZAR					IAmb	IAmb		23 25 38.8
	comp=Z,13nm,0.5s							
IDID	**Didziasalis**	**7.39**	**55**		*e*P		**Pn**	**23 25 03.3 -1.6**
IDID	**Didziasalis**	**7.39**	**55**		*e*P		**Pn**	**23 25 03.4 -1.6**
IDID					IAmb	IAmb		23 25 37.1
	comp=Z,5.6nm,0.7s							
BAIF	**Baives**	**7.69**	**264**		*e*Sg		**Sg**	**23 27 16.3 -6.3**
	comp=Z,56nm,1.0s							
MICGM	**Minsk**	**7.70**	**63**		*e*P		**Pg**	**23 25 46.0 +2.8**
MICGM					*e*S		**Sg**	23 27 38.0 +15
MEZF	**Maizieres J'vi**	**7.74**	**251**		*e*P		**Pn**	**23 25 10.6 +0.8**
	baz=70							
MEZF					*e*Sg		**Sg**	**23 27 19.9 -4.5**
	comp=Z,155nm,1.4s							
MEZF	**Maizieres J'vi**	**7.74**	**251**		*e*P		**Pn**	**23 25 10.6 +0.8**
	baz=70							
SFTF	**Sexfontaines**	**7.89**	**249**		*e*P		**Pn**	**23 25 12.8 +1.0**
	baz=70							
SFTF					*e*Sg		**Sg**	**23 27 24.0 -5.2**
	comp=Z,137nm,1.4s							
SFTF	**Sexfontaines**	**7.89**	**249**		*e*P		**Pn**	**23 25 12.8 +1.0**
	baz=70							
CABF	**La Chapelle**	**8.22**	**237**		*e*P		**Pn**	**23 25 16.9 +0.5**
CABF					*e*Sg		**Sg**	**23 27 34.2 -5.5**
	comp=Z,202nm,1.3s							
KIEV	**Kiev**	**8.29**	**91**	⇑	*i*P		**Pn**	**23 25 18.1 +0.9**
KIEV	**Kiev**	**8.29**	**91**		*i* P		**Pn**	**23 25 18.1 +0.9**
AKASG	**Malin Array Be**	**8.30**	**91**		Pn		**Pn**	**23 25 15.9 -1.5**
	comp=Z,3.7nm,0.3s,baz=280,slow=12,SNR=27							
AKASG					Sn		**Sn**	**23 26 45.1 -6.5**
	comp=Z,1.8nm,0.3s,baz=272,slow=23,SNR=5.4							
AKASG					Lg	Lg		23 27 40.3
	comp=Z,0.6nm,0.3s,baz=273,slow=27,SNR=3.5							
VOIR		**8.51**	**132**		P		Pn	23 25 25.4 +5.0
VOIR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
LPL	**La Plagne**	**8.66**	**230**		*e*P		**Pn**	**23 25 24.1 +1.5**
LPL					*e*Sg		**Sg**	**23 27 50.6 -3.2**
	comp=Z,30nm,1.1s							
LPG	**La Plagne**	**8.66**	**229**		*e*P		**Pn**	**23 25 24.4 +1.7**
LPG					*e*Sg		**Sg**	**23 27 48.5 -5.4**
	comp=Z,87nm,1.4s							
LPG	**La Plagne**	**8.66**	**229**		*e*P		**Pn**	**23 25 24.4 +1.7**
HFS	**Hagfors**	**8.72**	**352**		Pn		**Pn**	**23 25 22.5 -0.6**
	comp=Z,0.3nm,0.3s,baz=166,slow=15,SNR=12							
HFS					Sn		**Sn**	**23 26 56.5 -5.6**
	comp=Z,0.3nm,0.3s,baz=165,slow=19,SNR=2.6							
HFS					Lg	Lg		23 27 50.5
	comp=Z,0.5nm,0.3s,baz=179,slow=28,SNR=4.2							
KONO	**Kongsberg**	**8.92**	**338**	⇑	*i*P		**Pn**	**23 25 26.1 +0.2**
KONO					pmax	pmax		
	comp=Z,8.0nm,1.4s							
KONO	**Kongsberg**	**8.92**	**338**		*i* P		**Pn**	**23 25 26.1 +0.2**
	comp=Z,8.0nm,1.4s							
LOR	**Lormes**	**9.06**	**247**		*e*P		**Pn**	**23 25 27.2 -0.6**
	baz=64							
LOR					*e*Sg		Sn	23 28 00.1 +50
	comp=Z,47nm,1.2s							
LOR	**Lormes**	**9.06**	**247**		*e*P		**Pn**	**23 25 27.2 -0.6**
	baz=64							
MBDF	**Montbardon**	**9.24**	**226**		*e*P		**Pn**	**23 25 34.0 +3.6**
MBDF					*e*Sg		Sn	23 28 07.8 +53
	comp=Z,24nm,0.9s							
SSF	**Saint Saulge**	**9.37**	**246**		*e*P		**Pn**	**23 25 31.8 -0.3**
SSF					*e*Sg		Sn	23 28 10.3 +52
	comp=Z,16nm,0.7s							
SSF	**Saint Saulge**	**9.37**	**246**		*e*P		**Pn**	**23 25 31.8 -0.3**
SMF	**Signal de Mont**	**9.42**	**243**		*e*Pn		**Pn**	**23 25 29.9 -2.9**
SMF					*e*Sg		Sn	23 28 13.0 +54
	comp=Z,53nm,1.1s							
SAOF	**Saorge**	**9.49**	**221**		P		**Pn**	**23 25 36.3 +2.4**
SAOF					pmax	pmax		
	comp=Z,14nm,1.0s							
SAOF	**Saorge**	**9.49**	**221**		P		Pn	**23 25 36.3 +2.4**
	comp=Z,14nm,1.0s							
ORIF	**Oris-en-Rattie**	**9.51**	**230**		*e*P		**Pn**	**23 25 34.9 +0.8**
ORIF					*e*Sg		Sn	23 28 15.1 +54
	comp=Z,30nm,0.9s							
AVF	**Avril sur Loir**	**9.61**	**245**		*e*P		**Pn**	**23 25 34.5 -0.9**
AVF					*e*Sg		Sn	23 28 18.2 +54
	comp=Z,22nm,0.9s							
SBF	**Sospel**	**9.65**	**221**		*e*P		**Pn**	**23 25 36.9 +0.9**
SBF	**Sospel**	**9.65**	**221**		*e*P		**Pn**	**23 25 36.9 +0.9**
NOA	**NORSAR Array B**	**9.90**	**346**		Pn		**Pn**	**23 25 36.6 -2.8**
	comp=Z,0.3nm,0.3s,baz=174,slow=13,SNR=5.9							
NOA					Sn		**Sn**	**23 27 24.6 -6.5**
	comp=Z,0.2nm,0.3s,baz=153,slow=15,SNR=2.8							
NOA					Lg	Lg		23 28 30.6
	comp=Z,0.4nm,0.3s,baz=200,slow=9.8,SNR=3.5							
BGF	**Bois d'Agland**	**10.03**	**245**		*e*Sg		Sn	23 28 31.1 +57
	comp=Z,48nm,1.0s							
VIVF	**Saint-Julien-l**	**10.14**	**233**		*e*Sg		Sn	23 28 35.8 +59
	comp=Z,36nm,1.3s							
PGF	**Pioggiola**	**10.21**	**211**		*e*P		**Pn**	**23 25 46.9 +3.1**
PGF	**Pioggiola**	**10.21**	**211**		*e*P		**Pn**	**23 25 46.9 +3.1**
CFR	**Carcaliu**	**10.22**	**124**	‖	P		**Pn**	**23 25 45.3 +1.6**
CFR	**Carcaliu**	**10.22**	**124**	‖	*i*P		**Pn**	**23 25 45.3 +1.6**
CFR	**Carcaliu**	**10.22**	**124**		P		**Pn**	**23 25 45.3 +1.6**
FRF	**La Foret Royal**	**10.22**	**222**		*e*P		**Pn**	**23 25 45.1 +1.3**
SMRF	**Simiane la Rot**	**10.36**	**227**		*e*P		**Pn**	**23 25 46.6 +0.9**
SMRF	**Simiane la Rot**	**10.36**	**227**		*e*P		**Pn**	**23 25 46.6 +0.9**
LMR	**La Mourre**	**10.46**	**222**		*e*P		**Pn**	**23 25 48.0 +0.9**
TCF	**Toulx Ste Croi**	**10.54**	**246**		*e*Sg		Sn	23 28 46.9 +60
	comp=Z,29nm,1.1s							
FINES	**FINESS Array B**	**11.34**	**25**		Pn		**Pn**	**23 25 57.0 -1.9**
	comp=Z,0.4nm,0.3s,baz=214,slow=12,SNR=18							
FINES					Sn		**Sn**	**23 27 57.5 -8.6**
	comp=Z,0.8nm,0.3s,baz=216,slow=21,SNR=6.5							
FINES					Lg	Lg		23 29 14.8
	baz=240,slow=22,SNR=2.9							
EKA	**Eskdalemuir Ar**	**12.09**	**296**		Pn		**Pn**	**23 26 06.3 -2.9**
	baz=102,slow=13,SNR=13							
EKA					Sn		Sn	23 28 14.1 -11
	baz=90,slow=25,SNR=3.6							
ANN	**Anapa**	**15.71**	**107**		*e*P		**Pn**	**23 26 57.3 -1.1**
ANN					pmax	pmax		
	comp=Z,42nm,1.2s							
KLMR	**Klimovskoe**	**15.93**	**45**		*e*P		Pn	23 26 53.4 -7.8
KLMR					pmax	pmax		
	comp=Z,11nm,1.4s							
KLMR	**Klimovskoe**	**15.93**	**45**		*e*Pn		Pn	23 26 53.4 -7.8
KLMR					AMP			23 26 54.4
	comp=Z,11nm,1.4s							
BRTR	**Keskin Array B**	**16.97**	**127**		Pn		**Pn**	**23 27 15.2 +0.4**
	baz=323,slow=12,SNR=2.7							
ARCES	**ARCESS Array B**	**18.59**	**10**		Pn		**P**	**23 27 30.9 -3.4**
	comp=Z,0.6nm,0.3s,baz=192,slow=11,SNR=17							
ARCES	**ARCESS Array B**	**18.59**	**10**		*e*P		**P**	**23 27 31.5 -2.8**
ARCES					pmax	pmax		
	comp=Z,1.0nm,0.3s							
LVZ	**Lovozero**	**18.74**	**22**	⇑	*e*P		**Pn**	**23 27 37.3 +1.0**
LVZ					pmax	pmax		
	comp=Z,11nm,1.0s							
KIV	**Kislovodsk**	**19.34**	**103**		*e*P		**Pn**	**23 27 43.9 +0.2**
KIV					pmax	pmax		
	comp=Z,3.0nm,1.0s							
NCK	**Nalchik**	**20.14**	**103**	⇑	*e*P		Pn	23 27 53.3 +0.1
NCK					pmax	pmax		
	comp=Z,3.0nm,0.8s							
GNI	**Garni**	**22.82**	**109**		P		**P**	**23 28 20.1 -0.2**
	comp=Z,0.6nm,0.4s,baz=292,slow=16,SNR=1.7							
GNI	**Garni**	**22.82**	**109**	⇑	*i*P		**P**	**23 28 23.0 +2.6**
GNI					pmax	pmax		
	comp=Z,8.0nm,1.4s							
GNI	**Garni**	**22.82**	**109**		*i* P		**P**	**23 28 23.0 +2.6**
	comp=Z,8.0nm,1.4s							
BORG	**Borgarnes**	**23.33**	**319**		P		**P**	**23 28 23.5 -1.8**
ARU	**Arti**	**25.12**	**62**		P		**P**	**23 28 42.0 -0.2**
	comp=Z,2.9nm,0.6s,baz=264,slow=12,SNR=7.1							
ARU	**Arti**	**25.12**	**62**	*c*	*i*P		**P**	**23 28 42.7 +0.5**
ARU								23 29 14.5
ARU					S		**S**	**23 33 08.8 +1.2**
ARU					SS		**SnSn**	**23 34 00.1 +3.9**
ARU					pmax	pmax		
	comp=Z,1.0nm,1.0s							
AKTO	**Aktyubinsk**	**26.15**	**76**		P		**P**	**23 28 51.7 +0.2**
	comp=Z,1.7nm,0.6s,baz=292,slow=9.8,SNR=10							
BVAR	**Borovoye Array**	**32.58**	**66**		P		**P**	**23 29 50.1 +1.5**
	comp=Z,1.2nm,0.5s,baz=292,slow=7.7,SNR=14							
KURBB	**Kurchatov Arra**	**38.16**	**66**		P		**P**	**23 30 37.7 +1.0**
	comp=Z,0.8nm,0.6s,baz=298,slow=9.1,SNR=7.9							
KURK	**Kurchatov**	**38.17**	**66**		P		**P**	**23 30 37.7 +1.0**
KURK					pmax	pmax		
	comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**40.03**	**202**		P		**P**	**23 30 52.9 +0.3**
	comp=Z,1.0nm,0.9s,baz=11,slow=7.8,SNR=4.9							
ZALV	**Zalesovo Beam**	**40.18**	**59**		P		**P**	**23 30 53.5 +0.1**
	comp=Z,0.5nm,0.3s,baz=288,slow=5.9,SNR=2.7							
MKAR	**Makanchi Array**	**42.20**	**69**		P		**P**	**23 31 11.4 +1.1**
	comp=Z,0.4nm,0.6s,baz=300,slow=6.6,SNR=7.9							
MKAR	**Makanchi Array**	**42.20**	**69**		*e*P		**P**	**23 31 10.5 +0.2**
SONM	**Songino Array**	**54.90**	**55**		P		**P**	**23 32 49.9 +1.8**
	comp=Z,0.6nm,0.7s,baz=291,slow=7.8,SNR=5.2							
SONM	**Songino Array**	**54.90**	**55**		*e*P		**P**	**23 32 50.5 +2.4**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**59.83**	**336**		P		**P**	**23 33 23.9 +1.5**
	comp=Z,1.0nm,0.6s,baz=29,slow=6.8,SNR=26							
PDAR	**Pinedale Array**	**74.92**	**322**		P		**P**	**23 35 00.4 +1.7**
	comp=Z,0.5nm,0.5s,baz=62,slow=5.0,SNR=6.5							
TXAR	**Lajitas Array**	**83.69**	**310**		P		**P**	**23 35 47.9 +1.3**
	comp=Z,0.5nm,0.9s,baz=46,slow=5.4,SNR=5.0							
TXAR	**Lajitas Array**	**83.69**	**310**		*e*P		**P**	**23 35 49.6 +3.0**
TXAR					pmax	pmax		
	comp=Z,1.0nm,0.9s							

IDC 24 23:27:11.3±2.0, 0°22N×125°73E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/51, mbtmp3.2/3, Error ellipse: s-maj=220.8km s-min=25.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.74**	**158**	P		P	23 32 03.9	-0.7

STON	**Ston**	**2.03**	**37**	*e*Pg	**Pg**	**23 31 06.5**	**-0.6**
STON				Sg	**Sn**	**23 31 27.6**	**+1.0**
STON	**Ston**	**2.03**	**37**	*e*Pg	**Pg**	**23 31 06.5**	**-0.6**
STON				Sg	**Sn**	**23 31 27.5**	**+1.0**
NVLJ	**Novalja**	**3.41**	**346**	Sn	**Sn**	**23 31 57.8**	**-2.6**
NVLJ	**Novalja**	**3.41**	**346**	Sn	**Sn**	**23 31 57.8**	**-2.6**

*DDA **24** 23:41:04.9, 38.°96N × 43.°63E, h16 km, MI2.9*
*ISK **24** 23:41:04.9, 38.°93N ± 43.°61E, h12 km, ML2.5/4*
*ISCJB **24** 23:41:05.5 ± 0.6, 38.°94N ± 0.°03 × 43.°62E ± 0.°05, h13 km ± 3 km, Error ellipse: s-maj=6.8km s-min=4.5km az=27.4*
*CSEM **24** 23:41:05.1 ± 0.2, 38.°94N × 43.°61E, h10 km, ML2.9, Error ellipse: s-maj=5.4km s-min=3.9km az=113.0*

ISC 24 23:41:04.9 ± 0.9, 38.°93N ± 0.°03 × 43.°62E ± 0.°03, h13 km ± 5 km, n23, σ 0.°60/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**329**	*i* P	**Pg**	**23 41 07.7**	**-0.1**
VMUR				*i* S	**Sg**	**23 41 10.1**	**+0.2**
VMUR	**Van-Muradiye**	**0.07**	**329**	P	**Pg**	**23 41 07.7**	**-0.1**
VMUR				S	**Sg**	**23 41 10.1**	**+0.2**
ERCV	**ERCIS-VAN**	**0.24**	**293**	PG	**Pg**	**23 41 10.1**	**0.0**
ERCV	**ERCIS-VAN**	**0.24**	**293**	*e*Pg	**Pg**	**23 41 10.1**	**0.0**
CLDR	**Caldiran**	**0.32**	**47**	PG	**Pg**	**23 41 11.0**	**-0.5**
CLDR				SG	**Sb**	**23 41 16.9**	**-0.9**
CLDR	**Caldiran**	**0.32**	**47**	*i* P	**Pg**	**23 41 11.0**	**-0.5**
CLDR				*i* S	**Sb**	**23 41 16.9**	**-0.9**
CLDR	**Caldiran**	**0.32**	**47**	P	**Pg**	**23 41 11.0**	**-0.5**
CLDR				S	**Sb**	**23 41 16.9**	**-0.9**
VANB	**Van**	**0.38**	**209**	PG	**Pb**	**23 41 14.3**	**+0.8**
VANB	**Van**	**0.38**	**209**	*e*Pg	**Pb**	**23 41 14.3**	**+0.8**
TVAN	**Van**	**0.43**	**203**	*i* P	**Pb**	**23 41 14.3**	**-0.2**
TVAN				*i* S	**Sb**	**23 41 22.5**	**+1.5**
TVAN	**Van**	**0.43**	**203**	P	**Pb**	**23 41 14.3**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.71**	**261**	*i* P	**Pg**	**23 41 18.0**	**-0.7**
ADCV				*i* S	**Sn**	**23 41 30.5**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.71**	**261**	P	**Pg**	**23 41 18.0**	**-0.7**
GEVA	**Gevas**	**0.75**	**216**	*i* P	**Pg**	**23 41 19.4**	**-0.2**
GEVA				*i* S	**Sg**	**23 41 29.0**	**-0.5**
GEVA	**Gevas**	**0.75**	**216**	P	**Pg**	**23 41 19.4**	**-0.2**
GEVA				S	**Sg**	**23 41 29.0**	**-0.5**
TUTA	**Tutak**	**0.79**	**307**	*i* P	**Pg**	**23 41 20.0**	**-0.2**
TUTA				*i* S	**Sb**	**23 41 31.1**	**-0.2**
TUTA	**Tutak**	**0.79**	**307**	P	**Pg**	**23 41 20.0**	**-0.2**
TUTA				S	**Sb**	**23 41 31.1**	**-0.2**
AGRB	**Hanur-Agry**	**0.81**	**323**	PG	**Pb**	**23 41 20.8**	**-0.2**
AGRB				SG	**Sb**	**23 41 32.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.81**	**323**	*e*Pg	**Pb**	**23 41 20.8**	**-0.2**
AGRB				*e*Sg	**Sb**	**23 41 32.5**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.16**	**24**	PN	**Pg**	**23 41 27.9**	**+0.7**
TASB				SN	**Sn**	**23 41 43.6**	**+0.9**
TASB	**TASBURUN-IGDIR**	**1.16**	**24**	*e*Pn	**Pg**	**23 41 27.9**	**+0.7**
TASB				*e*Sn	**Sn**	**23 41 43.6**	**+0.9**
GURO	**Guroymak-BITLI**	**1.30**	**254**	PN	**Pb**	**23 41 29.4**	**+0.2**
GURO				SN	**Sg**	**23 41 46.8**	**+0.1**
GURO	**Guroymak-BITLI**	**1.30**	**254**	*e*Pn	**Pb**	**23 41 29.4**	**+0.2**
GURO				*e*Sn	**Sg**	**23 41 46.8**	**+0.1**

*ISCJB **24** 23:48:08.6 ± 0.6, 31.°73S ± 0.°03 × 69.°70W ± 0.°04, h123 km ± 6 km, Error ellipse: s-maj=6.0km s-min=4.3km az=23.6*
*GUC **24** 23:48:08.4 ± 0.4, 31.°74S × 70.°00W, h133 km ± 8 km, ML3.0*
*SJA **24** 23:48:08.3 ± 1.3, 31.°75S × 69.°72W, h117 km ± 7 km, ML2.9, MW3.2*

ISC 24 23:48:08.9 ± 1.5, 31.°74S ± 0.°03 × 69.°72W ± 0.°04, h121 km ± 11 km, n27, σ 0.°92/43, 4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.37**	**99**	*e*P	**Pn**	**23 48 26.2**	**-0.4**
RTLS				*e*S	**Sn**	**23 48 38.5**	**-1.4**
RTLS				IAML		23 48 39.7	
	comp=Z,540nm,0.2s						
AUSP	**Uspallata**	**0.56**	**150**	*e*P	**Pn**	**23 48 27.6**	**-0.1**
AUSP				*e*S	**Sn**	**23 48 41.1**	**-0.8**
ZON	**Zonda**	**0.91**	**78**	*e*P	**Pn**	**23 48 30.5**	**+0.3**
ZON				*e*S	**Sn**	**23 48 45.8**	**-0.5**
SJA	**San Juan**	**1.01**	**78**	*e*P	**Pn**	**23 48 31.5**	**+0.3**
SJA				*e*S	**Sn**	**23 48 47.9**	**-0.1**
RTCV	**Cerro Valdivia**	**1.01**	**97**	*e*P	**Pn**	**23 48 31.1**	**-0.1**
RTCV				*e*S	**Sn**	**23 48 47.6**	**-0.5**
ASAL	**Salagasta**	**1.14**	**139**	⇓*e*P	**Pn**	**23 48 32.6**	**+0.1**
ASAL				*e*S	**Sn**	**23 48 51.1**	**+0.8**
RTLL	**Cerro Villicun**	**1.14**	**69**	*e*P	**Pn**	**23 48 32.2**	**-0.2**
RTLL				*e*S	**Sn**	**23 48 49.7**	**-0.7**
RTLL				IAML		23 48 51.1	
	comp=Z,221nm,0.3s						
ARCO	**CERRO ARCO**	**1.29**	**149**	*e*P	**Pn**	**23 48 34.4**	**+0.3**
ARCO				IAML		23 48 34.9	
	comp=Z,82nm,0.4s						
ARCO				*e*S	**Sn**	**23 48 54.6**	**+1.3**
AMOG	**MOGNA**	**1.32**	**53**	⇓*e*P	**Pn**	**23 48 34.6**	**+0.2**
AAGR	**Agrelo**	**1.54**	**151**	*e*P	**Pn**	**23 48 37.3**	**+0.3**
AROD	**Rodeo**	**1.58**	**8**	⇓*e*P	**Pn**	**23 48 38.8**	**+1.1**
AROD				*e*S	**Sn**	**23 49 01.6**	**+2.1**
PEL	**Peldehue**	**1.62**	**210**	*e*P	**Pn**	**23 48 37.5**	**-0.3**
PEL				*e*S	**Sn**	**23 48 59.8**	**-0.1**
ROCH	**El Roble**	**1.64**	**221**	*e*P	**Pn**	**23 48 37.9**	**-0.4**
ROCH				*e*S	**Sn**	**23 49 00.6**	**-0.1**
ROCH				IAML		23 49 01.6	
	comp=N,214nm,0.3s						
ROC1	**El Roble**	**1.65**	**221**	*e*P	**Pn**	**23 48 38.1**	**-0.3**
ROC1				*e*S	**Sn**	**23 49 01.1**	**+0.2**
FCH	**Farellones**	**1.66**	**197**	*e*P	**Pn**	**23 48 39.4**	**+0.8**
FCH				*e*S	**Sn**	**23 49 02.7**	**+1.6**
FCH				IAML		23 49 09.2	
	comp=E,165nm,0.3s						
CLCH	**Cerro Calan**	**1.79**	**202**	*e*S	**Sn**	**23 49 03.9**	**+0.3**
CLCH				IAML		23 49 09.0	
	comp=E,91nm,0.6s						
GO04	**Tololo Observa**	**1.81**	**329**	*e*P	**Pn**	**23 48 40.4**	**0.0**
GO04				*e*S	**Sn**	**23 49 04.3**	**-0.1**
TLL	**Tololo Astrono**	**1.82**	**329**	*e*P	**Pn**	**23 48 40.5**	**0.0**
TLL				*e*S	**Sn**	**23 49 04.5**	**0.0**
TLL				IAML		23 49 05.9	
	comp=N,208nm,0.2s						
AVIZ	**Vizcacheras**	**2.01**	**150**	*e*P	**Pn**	**23 48 42.9**	**+0.3**
LMEL	**Las Melosas**	**2.14**	**191**	*e*P	**Pn**	**23 48 44.8**	**+0.5**
LMEL				*e*S	**Sn**	**23 49 13.9**	**+2.5**
ACAN	**Cantantal**	**2.22**	**105**	*e*P	**Pn**	**23 48 45.2**	**0.0**
AGUA	**GUANDACOL**	**2.48**	**26**	*e*P	**Pn**	**23 48 49.5**	**+0.9**
LCO	**Las Campanas**	**2.85**	**342**	*e*P	**Pn**	**23 48 53.5**	**-0.1**
APLL	**PUNTA DE LOS L**	**3.05**	**65**	*e*P	**Pn**	**23 48 55.5**	**-0.4**
VCA	**Vinchina**	**3.27**	**24**	*e*P	**Pn**	**23 48 59.1**	**+0.2**
VCA				IAML		23 49 37.4	
	comp=Z,20nm,0.3s						
GO05	**HualaæØ**	**3.75**	**209**	*e*P	**Pn**	**23 49 02.4**	**-2.7**
CYA	**Choya**	**4.73**	**47**	*e*P	**Pn**	**23 49 16.6**	**-1.7**
CYA				IAML		23 49 16.9	
	comp=Z,5.8nm,0.3s						

*IDC **24** 23:51:50.7 ± 0.9, 35.°62N × 141.°78E, h0 km, mb3.6/9, mb1 3.8/11, mb1mx3.6/69, mbtmp3.7/11, ML3.6/3, MS3.5/2, Ms1 3.5/2, ms1mx2.6/64, Error ellipse: s-maj=22.4km s-min=17.8km az=85.0*
*ISCJB **24** 23:51:51.9 ± 0.6, 35.°65N ± 0.°05 × 141.°90E ± 0.°06, h22 km, mb3.6/9, MS3.7/1, Error ellipse: s-maj=7.7km s-min=6.9km az=34.6*
*JMA **24** 23:51:54.9 ± 0.2, 35.°64N × 141.°72E, h53 km ± 2 km, M3.4*

ISC 24 23:51:53.3 ± 0.8, 35.°61N ± 0.°05 × 141.°86E ± 0.°07, h22 km, n22, σ 1.°39/26, mb3.5/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.82**	**277**	P	**Pb**	**23 52 08.9**	**+0.1**
CHOJ				S	**Sb**	**23 52 18.7**	**-0.7**
BSO1	**Boso 1**	**1.19**	**217**	P	**Pb**	**23 52 14.9**	**0.0**
BSO3	**Boso 3**	**1.36**	**234**	P	**Pn**	**23 52 17.2**	**+0.4**
JAG	**Ashikaga**	**2.11**	**293**	P	**Pn**	**23 52 27.5**	**+0.2**
JFT	**Otama**	**2.27**	**328**	P	**Pn**	**23 52 30.0**	**+0.6**
JFT				*e*S	**Sn**	**23 52 55.7**	**-1.0**
JOD2	**Odawara 2**	**2.29**	**262**	P	**Pn**	**23 52 29.6**	**-0.1**
JFY	**Yanaizu**	**2.50**	**317**	P	**Pn**	**23 52 33.2**	**+0.6**
JHJ	**Hachijo jima 2**	**3.02**	**215**	Pn	**Pn**	**23 52 39.9**	**+0.1**
	55nm,0.3s,baz=322,slow=23,SNR=11						
JHJ				Sn	**Sn**	**23 53 11.4**	**-3.8**
	193nm,0.3s,baz=86,slow=20,SNR=13						
MJAR	**Matsushiro Arr**	**3.10**	**289**	Pn	**Pn**	**23 52 41.3**	**+0.4**
	1.5nm,0.3s,baz=24,slow=8.0,SNR=19						
MJAR				Sn	**Sn**	**23 53 16.0**	**-1.2**
	2.8nm,0.3s,baz=145,slow=14,SNR=6.3						
MAT	**Matsushiro**	**3.10**	**289**	P	**Pn**	**23 52 42.9**	**+2.0**
MAT				*e*S	**Sn**	**23 53 18.0**	**+0.7**
ASAJ	**Asahikawa**	**8.52**	**4**	Pn	**Pn**	**23 53 53.8**	**-1.5**
	1.2nm,0.3s,baz=206,slow=13,SNR=10						
ASAJ				Sn	**Sn**	**23 55 27.0**	**-3.7**
	0.3nm,0.3s,baz=60,slow=20,SNR=3.2						
JNU	**Nakatsue**	**9.41**	**258**	LR	LR	23 58 20.0	
	comp=Z,185nm,19.2s,baz=118,slow=42						
SONM	**Songino Array**	**28.89**	**306**	P	**P**	**23 57 49.8**	**-0.8**
	0.4nm,0.6s,baz=103,slow=4.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.15**	**314**	P	**P**	**23 59 51.6**	**-0.3**
	0.3nm,0.3s,baz=100,slow=8.1,SNR=2.7						
MKAR	**Makanchi Array**	**45.19**	**303**	P	**P**	**00 00 09.3**	**+0.8**
	0.4nm,0.7s,baz=90,slow=8.3,SNR=3.9						
KURBB	**Kurchatov Arra**	**47.17**	**309**	P	**P**	**00 00 24.1**	**+0.1**
	0.6nm,0.2s,baz=85,slow=7.7,SNR=2.6						
ILAR	**Eielson Array**	**50.51**	**32**	P	**P**	**00 00 51.0**	**+1.6**
	0.8nm,0.8s,baz=267,slow=6.3,SNR=7.8						
BVAR	**Borovoye Array**	**51.80**	**313**	P	**P**	**00 00 59.8**	**+0.6**
	0.1nm,0.3s,baz=91,slow=7.2,SNR=2.5						
WRA	**Warramunga Arr**	**55.70**	**189**	P	**P**	**00 01 28.3**	**+0.2**
	1.3nm,0.7s,baz=6.8,slow=7.3,SNR=6.5						
ASAR	**Alice Springs**	**59.43**	**188**	P	**P**	**00 01 55.1**	**+0.8**
	1.1nm,0.9s,baz=4.3,slow=6.5,SNR=7.9						
DZM	**Mont Dzumac**	**61.92**	**154**	LR	LR	00 23 39.8	
	comp=Z,51nm,20.8s,baz=110,slow=31						
YKA	**Yellowknife Ar**	**64.86**	**30**	P	**P**	**00 02 31.3**	**+1.0**
	0.2nm,0.7s,baz=296,slow=6.5,SNR=4.5						

DJA 25 00:12:29.0 ± 1.2, 2.°S ± 3.°, 12.°9E ±°, h34 km ± 20 km, M3.8/4, MLv3.8/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.54**	**184**	P	Pn	00 12 55.0	+0.9
MSAI				S	Sb	00 13 15.2	-1.0
LBMI	**Labuha**	**1.92**	**307**	P	Pn	00 13 00.4	+1.0
LBMI				S	Sb	00 13 25.7	-1.5
AAI	**Ambon**	**2.06**	**204**	P	Pn	00 13 02.1	+0.9
SWI	**Sorong**	**2.41**	**67**	P	Pn	00 13 05.9	-0.1
SWI				S	Sn	00 13 34.8	+0.5
NLAI	**Namlea**	**2.41**	**234**	P	Pn	00 13 06.2	+0.2
SANI	**Sanana**	**3.06**	**265**	P	Pn	00 13 13.4	-1.6
SANI				S	Sn	00 13 47.3	-3.2
FAKI	**Fak Fak**	**3.39**	**109**	P	Pn	00 13 18.1	-1.5

JMA 25 00:16:13.7 ± 0.1, 38.°85N × 142.°06E, h46 km ± 1 km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.38**	**307**	P	Pn	00 16 23.3	0.0
OFUJ				S	Sn	00 16 30.0	-0.1
JMK	**Ichinoseki**	**0.66**	**279**	P	Pn	00 16 26.8	0.0
JMK				S	Sn	00 16 36.0	-0.2
JIO	**Ouri**	**0.68**	**235**	P	Pn	00 16 26.7	-0.3
JIO				S	Sn	00 16 35.6	-1.1
JOM	**Ohasama**	**0.86**	**316**	P	Pn	00 16 29.6	+0.1
JOM				S	Sn	00 16 40.9	-0.1
JOU	**Okura**	**1.20**	**247**	P	Pn	00 16 34.0	0.0
JOU				S	Sn	00 16 49.1	0.0
JRG	**Rokugo**	**1.24**	**297**	P	Pn	00 16 34.7	+0.2
JYK	**Kaneyama**	**1.33**	**273**	P	Pn	00 16 36.0	+0.2
JMM	**Marumori**	**1.40**	**226**	P	Pn	00 16 36.2	-0.6
JANG	**Nango**	**1.58**	**345**	P	Pn	00 16 39.1	-0.1

*SJA **25** 00:18:11.2 ± 1.3, 23.°97S × 66.°88W, h212 km ± 22 km, ML2.7, MW2.9*
*ISCJB **25** 00:18:12.1 ± 0.6, 23.°89S ± 0.°06 × 66.°93W ± 0.°08, h200 km, mb3.0/3, Error ellipse: s-maj=10.5km s-min=7.8km az=158.6*
*IDC **25** 00:18:19.9 ± 10.0, 23.°25S × 66.°39W, h236 km ± 70 km, mb3.0/3, mb1 3.2/4, mb1mx3.0/38, mbtmp3.4/4, Error ellipse: s-maj=112.7km s-min=37.6km az=22.0*

ISC 25 00:18:13.0 ± 0.9, 23.°85S ± 0.°08 × 66.°88W ± 0.°07, h200 km, n14, σ 1.°37/16, mb3.2/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.49**	**65**	*e*P	**Pn**	**00 18 47.5**	**+0.5**
HJA				IAML		00 18 50.0	
	comp=Z,28nm,0.3s						
HJA				*e*S	**Sn**	**00 19 14.8**	**+1.4**
SLA	**San Lorenzo**	**1.52**	**125**	*e*P	**Pn**	**00 18 47.4**	**+0.3**
SLA				IAML		00 18 48.5	
	comp=Z,93nm,0.7s						
AZAP	**Zapla**	**1.70**	**103**	*e*P	**Pn**	**00 18 48.4**	**-0.4**
ASTB	**Santa Barbara**	**2.22**	**93**	*e*P	**Pn**	**00 18 53.4**	**-0.6**
FSA	**Cafayete**	**2.40**	**160**	*e*P	**Pn**	**00 18 53.5**	**-2.4**
FSA				IAML		00 18 54.1	
	comp=Z,19nm,0.5s						
ALOL	**LOMAS DE OLMED**	**2.65**	**90**	*e*P	**Pn**	**00 18 58.3**	**-0.4**
AHML	**Horco Molle**	**3.24**	**155**	*e*P	**Pn**	**00 19 04.0**	**-1.5**
AHML				IAML		00 19 04.8	
	comp=Z,12nm,0.9s						
PB10	**IPOC Station P**	**3.39**	**275**	*e*P	**Pn**	**00 19 06.8**	**-0.4**
VCA	**Vinchina**	**5.01**	**193**	*e*P	**Pn**	**00 19 27.7**	**+0.1**
VCA				IAML		00 19 27.9	
	comp=Z,5.0nm,0.2s						
LPAZ	**La Paz**	**7.61**	**351**	P	**Pn**	**00 20 02.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=173,slow=8.1,SNR=10						
LPAZ				S	**Sn**	**00 21 25.3**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=307,slow=12,SNR=1.6						
TXAR	**Lajitas Array**	**63.62**	**324**	P	**P**	**00 28 24.3**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=141,slow=5.8,SNR=2.1						
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P	**P**	**00 29 40.0**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=254,slow=5.4,SNR=6.0						
YKA	**Yellowknife Ar**	**94.02**	**340**	P	**P**	**00 31 08.5**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=135,slow=4.2,SNR=5.3						
MKAR	**Makanchi Array**	**146.34**	**39**	PKPbc	**PKPab**	**00 37 31.1**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=283,slow=4.2,SNR=2.2						

MEX 25 00:21:04.3 ± 0.6, 16.°37N × 98.°05W, h14 km ± 2 km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.07**	**285**	*i* P	Pg	00 21 06.0	-1.1
PNIG				*i* S	Sg	00 21 08.7	-0.4
TLIG	**Tlapa**	**1.28**	**338**	*e*P	Pn	00 21 24.4	-3.6
TLIG				*e*S	Sb	00 21 39.7	-5.0
VHO	**Vista Hermosa**	**1.44**	**61**	*e*P	Pn	00 21 27.0	-3.3
VHO				*e*S	Sn	00 21 44.1	-5.1
ACX	**Acapulco**	**1.80**	**286**	*i* P	Pn	00 21 35.8	+0.9
ACX				*i* S	Sn	00 21 58.4	+0.7
HUIG	**Huatulco**	**1.96**	**108**	*e*P	Pn	00 21 34.2	-3.1
HUIG				*i* S	Sn	00 21 57.2	-4.5
CAIG	**El Cayaco**	**2.22**	**288**	*e*P	Pn	00 21 37.0	-3.8
CAIG				*e*S	Sn	00 22 04.1	-4.1
PLIG	**Platanillo**	**2.44**	**326**	*e*P	Pn	00 21 41.0	-2.9
PLIG				*e*S	Sn	00 22 09.4	-4.2

IDC 25 00:32:59.9 ± 11.0, 6.°99S × 129.°11E, h164 km ± 118 km, mb2.9/2, mb1 3.3/5, mb1mx2.9/59, mbtmp3.7/5, Error ellipse: s-maj=135.8km s-min=30.0km az=46.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.26**	**239**	P	Pn	00 34 30.5	+0.2
	7.2nm,0.3s,baz=85,slow=3.3,SNR=17						
BATI				S	Sn	00 35 37.2	-4.0
	7.7nm,0.3s,baz=19,slow=18,SNR=9.8						
WRA	**Warramunga Arr**	**13.84**	**159**	P	Pn	00 36 07.8	-1.6
	0.2nm,0.3s,baz=336,slow=12,SNR=15						
WRA				S	Sn	00 38 31.4	-12
	1.1nm,0.3s,baz=328,slow=22,SNR=8.8						
ASAR	**Alice Springs**	**17.21**	**165**	P	Pn	00 36 50.9	+0.2
	0.8nm,0.3s,baz=338,slow=10,SNR=71						
ASAR				S		00 39 55.4	-5.4
	0.5nm,0.3s,baz=317,slow=15,SNR=8.3						
MKAR	**Makanchi Array**	**67.74**	**327**	P	P	00 43 39.7	-0.1
	0.2nm,0.6s,baz=137,slow=7.1,SNR=4.6						
KURBB	**Kurchatov Arra**	**72.04**	**329**	P	P	00 44 06.1	+0.1
	0.2nm,0.5s,baz=121,slow=5.4,SNR=3.6						

*UPP **25** 00:33:52.8, 67.°82N × 20.°20E, h0 km, ML0.7, Mining explosion.*
*CSEM **25** 00:33:52.5 ± 0.2, 67.°80N × 20.°25E, h2 km, ML0.7, Error ellipse: s-maj=4.4km s-min=3.7km az=39.0, Mining explosion.*

HEL 25 00:33:53.4 ± 0.0, 67.°82N × 20.°20E, h0 km, ML1.4, ML0.7 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**21**	P	Pg	00 33 55.8	-0.4
KUA				S	Sg	00 33 57.8	-0.3
KUA	**Kurravaara**	**0.15**	**21**	*i* P	Pg	00 33 55.8	-0.4
KUA				*i* S	Sg	00 33 57.8	-0.3
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	00 33 57.4	-0.4
RATU				S	Sg	00 34 00.5	-0.2
RATU	**Laukkuluspa**	**0.23**	**272**	*i* P	Pg	00 33 57.4	-0.4
RATU				*i* S	Sg	00 34 00.5	-0.2
NIKU	**Nikkaluokta**	**0.44**	**277**	P	Pg	00 34 01.4	-0.5
NIKU				S	Sg	00 34 07.4	-0.2
NIKU	**Nikkaluokta**	**0.44**	**277**	*i* P	Pg	00 34 01.4	-0.5
NIKU				*i* S	Sg	00 34 07.5	-0.1
DUNU	**Dundret**	**0.71**	**168**	P	Pg	00 34 06.1	-0.9
DUNU	**Dundret**	**0.71**	**168**	*i* P	Pg	00 34 06.1	-0.9
LANU	**Lannavaara**	**0.72**	**70**	P	Pg	00 34 06.2	-0.9
LANU				S	Sg	00 34 15.6	-0.8
LANU	**Lannavaara**	**0.72**	**70**	*e*P	Pg	00 34 06.3	-0.8
LANU				*e*S	Sg	00 34 15.7	-0.7
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 34 07.5	-0.8
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	00 34 07.6	-0.7
KIF	**Kilpisjarvi**	**1.21**	**10**	P	Pg	00 34 16.0	-0.6
KIF				S	Sg	00 34 32.1	-0.2
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 34 15.9	-0.7
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 34 16.1	-0.5
KIF				*e*S	Sg	00 34 32.1	-0.2
HEF	**Hetta**	**1.43**	**64**	P	Pn	00 34 19.0	-1.5
HEF				S	Sg	00 34 37.3	-1.9
	2.0nm,0.2s						
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	00 34 19.1	-1.4
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	00 34 19.1	-1.5
HEF				*e*S	Sg	00 34 37.4	-1.8
HEF				MSG		00 34 43.2	
	comp=Z,2.0nm,0.2s						
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	00 34 19.9	-1.5
ERTU				S	Sg	00 34 40.3	-0.8
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	00 34 20.0	-1.4
ERTU				*e*S	Sg	00 34 40.3	-0.8
KALU	**Kalix**	**2.33**	**146**	P	Pn	00 34 33.1	+0.2
KALU				Sb	Sn	00 35 03.4	+1.2
KALU	**Kalix**	**2.33**	**146**	*e*P	Pn	00 34 33.1	+0.2
KALU				*e*SB	Sn	00 35 03.5	+1.3
TOF	**Tornio**	**2.38**	**135**	Pb	Pn	00 34 34.5	+0.9
TOF				Sb	Sb	00 35 05.4	-1.6
	comp=Z,1.7nm,0.2s						
TOF	**Tornio**	**2.38**	**135**	*e*PB	Pn	00 34 34.6	+0.9
TOF				*e*SB	Sb	00 35 05.4	-1.6
TOF				MSG		00 35 07.1	
	comp=Z,1.7nm,0.2s						
RNF	**Rovaniemi**	**2.57**	**115**	Pb	Pn	00 34 37.3	+1.1
RNF				Sg	Sb	00 35 11.5	-0.9
RNF	**Rovaniemi**	**2.57**	**115**	*e*PB	Pn	00 34 37.3	+1.1
RNF				*e*SG	Sb	00 35 11.6	-0.8

*SOME **25** 00:34:40.6, 39.°30N × 72.°68E, h20 km*
*KRNET **25** 00:34:41.8 ± 0.1, 39.°14N × 73.°09E, mb3.4*
*NNC **25** 00:34:42.9 ± 2.1, 39.°36N × 72.°84E, h0 km, mb3.9, mpv3.5, Error ellipse: s-maj=19.8km s-min=8.9km az=150.0*
*IDC **25** 00:34:42.8 ± 2.3, 38.°99N × 73.°08E, h0 km, mb3.3/3, mb1 3.4/7, mb1mx3.1/68, mbtmp3.3/7, ML2.8/4, Error ellipse: s-maj=46.6km s-min=21.1km az=160.0*
*ISCJB **25** 00:34:43.8 ± 0.7, 39.°26N ± 0.°04 × 72.°96E ± 0.°05, h10 km, mb3.2/3, Error ellipse: s-maj=6.6km s-min=5.0km az=144.3*

ISC 25 00:34:46.1 ± 1.0, 39.°43N ± 0.°06 × 72.°81E ± 0.°04, h10 km, n53, σ 2.°17/85, mb3.3/3, 27C-23D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.79**	**42**	⇑P	**Pg**	**00 34 58.1**	**-3.3**
	43nm,0.4s						
SFK				⇑S	**Sg**	**00 35 11.1**	**-0.6**
	90nm,0.2s						
SFK	**Sufi-Kurgan**	**0.79**	**42**	⇑*i* P	**Pg**	**00 34 58.1**	**-3.3**
	baz=20						
SFK				⇑*i* S	**Sg**	**00 35

FRU1				⇓*i*S		**Sn**	**00 36 27.6**	**+1.9**
	baz=17									
CHM	**Chimkent**	**3.77**	**321**	*e*P		**Pb**	**00 35 51.9**	**-0.9**
	31nm,0.1s									
CHM				*e*S		**Sb**	**00 36 41.0**	**+2.5**
	134nm,0.5s									
ULHL	**Ulahol**	**3.83**	**42**	P		**Pn**	**00 35 46.8**	**+1.4**
	SNR=6.8									
ULHL	**Ulahol**	**3.83**	**42**	⇓*i*P		**Pn**	**00 35 44.1**	**-1.3**
	baz=37									
ULHL				⇓*i*S		**Sn**	**00 36 30.6**	**+0.1**
	baz=37									
CHMS	**Chumysh**	**3.85**	**22**	P		**Pn**	**00 35 46.9**	**+1.4**
	SNR=16									
CHMS	**Chumysh**	**3.85**	**22**	⇓*i*P		**Pn**	**00 35 45.8**	**+0.3**
	baz=18									
CHMS				⇓*i*S		**Sn**	**00 36 32.7**	**+1.9**
	baz=18									
USP	**Ospenovka**	**4.04**	**18**	P		**Pn**	**00 35 49.2**	**+1.2**
	SNR=5.3									
USP	**Ospenovka**	**4.04**	**18**	⇑*i*P		**Pn**	**00 35 48.8**	**+0.8**
	baz=14									
USP				⇑*i*S		**Sn**	**00 36 37.5**	**+2.1**
	baz=14									
KK31	**Karatay Array**	**4.06**	**335**	⇑Pn		**Pn**	**00 35 48.1**	**-0.1**
	1.3nm,0.3s,baz=157,slow=15									
KK31				⇓Sn		**Sn**	**00 36 36.0**	**+0.2**
	11nm,0.5s									
KK31				⇑Lg		Lg	00 36 52.7			
	16nm,0.6s,baz=153,slow=28									
TKM2	**Tokmak 2**	**4.07**	**30**	⇓Pn		**Pn**	**00 35 49.4**	**+0.8**
	2.0nm,0.6s									
TKM2				⇓Pg		**Pb**	**00 35 58.2**	**+0.2**
	6.4nm,0.7s									
TKM2				⇑Lg		Lg	00 36 54.1			
	13nm,0.8s									
TKM2	**Tokmak 2**	**4.07**	**30**	P		**Pn**	**00 35 49.7**	**+1.1**
	SNR=6.3									
TKM2	**Tokmak 2**	**4.07**	**30**	⇑*e*P		**Pn**	**00 35 48.8**	**+0.2**
	baz=26									
TKM2				⇑*i*S		**Sn**	**00 36 37.5**	**+1.0**
	baz=26									
BRLS	**Borolday**	**4.24**	**329**	*e*P		**Pn**	**00 35 53.1**	**+2.3**
	0.8nm,0.4s									
BRLS				*e*S		**Sn**	**00 36 43.3**	**+3.0**
	13nm,0.4s									
KST	**Kastek**	**4.32**	**32**	*e*P		**Pb**	**00 36 02.9**	**+0.7**
	5.3nm,0.6s									
KST				*e*S		**Sg**	**00 37 01.2**	**-3.6**
	16nm,0.7s									
DGS	**Degeres**	**4.41**	**29**	*e*P		**Pb**	**00 36 04.2**	**+0.5**
	13nm,0.8s									
DGS				*e*S		**Sb**	**00 37 02.2**	**+5.1**
	15nm,0.6s									
TNSS	**Tian-Shan**	**4.76**	**40**	*e*P		**Pb**	**00 36 11.9**	**+1.9**
	6.8nm,0.5s									
TNSS				*e*S		**Sg**	**00 37 16.5**	**-2.6**
	11nm,0.9s									
MDOK	**Medeo**	**4.91**	**39**	⇑Pn		**Pn**	**00 36 01.6**	**+1.5**
	7.8nm,0.8s									
MDOK				⇓Pg		**Pb**	**00 36 13.6**	**+1.3**
	12nm,0.7s									
MDOK				⇓Lg		Lg	00 37 19.8			
	14nm,0.9s									
MDOK	**Medeo**	**4.91**	**39**	*e*P		**Pb**	**00 36 13.7**	**+1.5**
	12nm,0.7s									
MDOK				*e*S		**Sg**	**00 37 19.5**	**-4.2**
	7.3nm,0.9s									
KUU	**Kurty**	**5.18**	**30**	*e*P		**Pb**	**00 36 18.3**	**+1.5**
	5.1nm,1.2s									
KUU				⇑*i*S		**Sb**	**00 37 26.1**	**+7.0**
	10nm,0.7s									
CHKK	**Chushkaly**	**5.41**	**34**	*e*P		**Pb**	**00 36 23.8**	**+3.0**
	2.8nm,0.7s									
CHKK				*e*S		**Sg**	**00 37 36.8**	**-3.1**
	8.0nm,0.6s									
ARXS	**Arharly**	**6.07**	**36**	*e*P		**Pb**	**00 36 35.5**	**+3.5**
ARXS				*e*S		**Sg**	**00 37 56.3**	**-4.7**
MKAR	**Makanchi Array**	**10.10**	**40**	Pn		**Pn**	**00 37 13.6**	**+2.4**
	0.0nm,0.3s,baz=221,slow=15,SNR=4.6									
GEYT	**Alibeck**	**11.58**	**267**	Pn		**Pn**	**00 37 33.3**	**+1.8**
	0.1nm,0.3s,baz=93,slow=7.9,SNR=3.0									
KURBB	**Kurchatov Arra**	**11.89**	**18**	Lg		Lg	00 41 03.9			
	0.0nm,0.3s,baz=209,slow=29,SNR=3.9									
BVAR	**Borovoye Array**	**13.70**	**354**	Pn		**P**	**00 38 05.5**	**-3.6**
	0.1nm,0.3s,baz=162,slow=10,SNR=2.9									
AKTO	**Aktyubinsk**	**15.16**	**321**	Pn		**Pn**	**00 38 21.2**	**+1.0**
	0.1nm,0.3s,baz=128,slow=12,SNR=3.0									
ZALV	**Zalesovo Beam**	**16.66**	**25**	Pn		**P**	**00 38 40.4**	**-1.6**
	0.1nm,0.3s,baz=212,slow=9.3,SNR=4.1									
SONM	**Songino Array**	**25.56**	**60**	P		**P**	**00 40 13.5**	**-1.7**
	0.3nm,0.9s,baz=279,slow=9.6,SNR=2.8									
NOA	**NORSAR Array B**	**42.95**	**321**	P		**P**	**00 42 47.5**	**+2.5**
	0.6nm,0.9s,baz=133,slow=26,SNR=1.7									
TORD	**Torodi Ar. Bea**	**67.22**	**268**	P		**P**	**00 45 40.1**	**-0.8**
	0.2nm,0.5s,baz=50,slow=5.2,SNR=1.7									

MEX 25 00:41:38.2±0.4, 16°98N×99°64W, h35km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.24**	**244**	*e*P		Pb	00 41 47.1	+1.7
ACX				*i* S		Sb	00 41 52.5	+2.1
ACP2	**Acapulco**	**0.26**	**247**	*e*P		Pn	00 41 43.7	-1.9
ACP2				*i* S		Sn	00 41 49.1	-1.2
CAIG	**El Cayaco**	**0.61**	**277**	*e*P		Pn	00 41 48.6	-1.8
CAIG				*i* S		Sn	00 41 56.6	-2.4
MEIG	**Mezcala**	**0.95**	**1**	*e*P		Pn	00 41 53.4	-1.7
MEIG				*e*S		Sn	00 42 05.1	-2.3
TLIG	**Tlapa**	**1.18**	**60**	*e*P		Pn	00 41 56.5	-1.8
TLIG				*e*S		Sn	00 42 10.8	-2.4
PLIG	**Platanillo**	**1.42**	**5**	*e*P		Pn	00 41 60.0	-1.6
PLIG				*e*S		Sn	00 42 16.6	-2.5
ARIG	**Puente Sto Nin**	**1.47**	**333**	*e*P		Pn	00 42 00.9	-1.2
ARIG				*e*S		Sn	00 42 17.6	-2.6

ISK ***25*** *00:56:00.7, 38°.93N×43°.61E, h12km, ML3.0/11*
CSEM ***25*** *00:56:01.4±0.3, 38°.95N×43°.61E, h8km, ML3.0, Error ellipse: s-maj=7.1km s-min=4.7km az=104.0*
ISCJB ***25*** *00:56:01.6±0.4, 38°.92N±0°.02×43°.63E±0°.03, h5km±3km, Error ellipse: s-maj=3.5km s-min=3.4km az=161.6*
ATA ***25*** *00:56:01.0±1.5, 38°.93N×43°.60E, h16km±12km, ML3.3, MW3.2*
DDA ***25*** *00:56:01.3, 38°.92N×43°.60E, h11km, Ml3.0*
TEH ***25*** *00:56:01.4, 38°.95N×43°.50E, h10km, ML2.7*
ISC 25 00:56:01.4±0.8, 38°93N±0°.02×43°.60E±0°.02, h11km±5km, n79, σ0°75/99, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.06**	**340**	*i* P		**Pg**	**00 56 03.7**	**-0.2**
VMUR				*i* S		**Sg**	**00 56 06.0**	**+0.3**
VMUR	**Van-Muradiye**	**0.06**	**340**	P		**Pg**	**00 56 03.7**	**-0.2**
VMUR				S		**Sg**	**00 56 06.0**	**+0.3**
ERCV	**ERCIS-VAN**	**0.22**	**293**	PG		**Pg**	**00 56 06.1**	**0.0**
ERCV	**ERCIS-VAN**	**0.22**	**293**	*e*Pg		**Pg**	**00 56 06.1**	**0.0**
CLDR	**Caldiran**	**0.33**	**50**	PG		**Pg**	**00 56 06.9**	**-1.2**
CLDR	**Caldiran**	**0.33**	**50**	*i* P		**Pg**	**00 56 06.9**	**-1.2**
CLDR				*i* S		**Sg**	**00 56 13.1**	**+0.6**
CLDR	**Caldiran**	**0.33**	**50**	P		**Pg**	**00 56 06.9**	**-1.2**
CLDR				S		**Sg**	**00 56 13.1**	**+0.6**
VANB	**Van**	**0.37**	**206**	PG		**Pb**	**00 56 10.3**	**+0.1**
VANB	**Van**	**0.37**	**206**	*e*Pg		**Pb**	**00 56 10.3**	**+0.1**
TVAN	**Van**	**0.43**	**200**	*i* P		**Pg**	**00 56 10.2**	**+0.3**
TVAN				*i* S		**Sb**	**00 56 18.6**	**+0.9**
TVAN	**Van**	**0.43**	**200**	P		**Pg**	**00 56 10.2**	**+0.3**
TVAN				S		**Sb**	**00 56 18.6**	**+0.9**
DYDN	**Diyadin**	**0.61**	**7**	*e*P		**Pg**	**00 56 13.6**	**+0.2**
DYDN				*e*S		**Sb**	**00 56 22.8**	**-0.2**
DYDN				IAML			00 56 24.3	
	comp=Z,214nm,0.2s							
DYDN	**Diyadin**	**0.61**	**7**	*i* P		**Pg**	**00 56 13.3**	**-0.1**
DYDN				*i* S		**Sb**	**00 56 22.9**	**-0.2**
DYDN	**Diyadin**	**0.61**	**7**	P		**Pg**	**00 56 13.3**	**-0.1**
DYDN				S		**Sb**	**00 56 22.9**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.69**	**260**	*i* P		**Pg**	**00 56 15.1**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.69**	**260**	P		**Pg**	**00 56 15.1**	**+0.2**
GEVA	**Gevas**	**0.75**	**214**	*i* P		**Pg**	**00 56 14.9**	**-1.0**
GEVA				*e*S		**Sb**	**00 56 27.9**	**+1.0**
GEVA				IAML			00 56 31.0	
	comp=Z,76nm,0.4s							
GEVA	**Gevas**	**0.75**	**214**	*i* P		**Pg**	**00 56 15.2**	**-0.7**
GEVA	**Gevas**	**0.75**	**214**	P		**Pg**	**00 56 15.2**	**-0.7**
TUTA	**Tutak**	**0.77**	**308**	*i* P		**Pg**	**00 56 15.9**	**-0.4**
TUTA				*e*S		**Sn**	**00 56 28.8**	**-1.4**
TUTA				IAML			00 56 33.2	
	comp=Z,134nm,0.3s							
TUTA	**Tutak**	**0.77**	**308**	*i* P		**Pg**	**00 56 16.0**	**-0.3**
TUTA	**Tutak**	**0.77**	**308**	P		**Pg**	**00 56 16.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.80**	**324**	PG		**Pg**	**00 56 16.8**	**0.0**
AGRB				SG		**Sb**	**00 56 28.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.80**	**324**	*e*Pg		**Pg**	**00 56 16.8**	**0.0**
AGRB				*e*Sg		**Sb**	**00 56 28.0**	**-0.3**
IGDI	**IGDIR**	**1.01**	**22**	*e*P		**Pb**	**00 56 20.0**	**-0.1**
IGDI				*e*S		**Sn**	**00 56 36.0**	**+0.2**
IGDI				IAML			00 56 43.5	
	comp=Z,44nm,0.5s							
IGDI	**IGDIR**	**1.01**	**22**	*i* P		**Pb**	**00 56 20.7**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.16**	**25**	PN		**Pg**	**00 56 23.7**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.16**	**25**	*e*Pn		**Pg**	**00 56 23.7**	**-0.1**
EKAR	**Karacoban**	**1.24**	**286**	*e*P		**Pg**	**00 56 26.5**	**+1.3**
EKAR				IAML			00 56 47.2	
	comp=Z,48nm,0.4s							
EKAR	**Karacoban**	**1.24**	**286**	*i* P		**Pn**	**00 56 24.5**	**-0.4**
EKAR	**Karacoban**	**1.24**	**286**	P		**Pn**	**00 56 24.5**	**-0.4**
EATA	**Eleskirt**	**1.26**	**318**	*e*P		**Pb**	**00 56 25.5**	**0.0**
EATA				IAML			00 56 49.6	
	comp=Z,10nm,0.5s							
EATA	**Eleskirt**	**1.26**	**318**	*i* P		**Pb**	**00 56 25.4**	**0.0**
EATA	**Eleskirt**	**1.26**	**318**	P		**Pb**	**00 56 25.4**	**0.0**
GURO	**Guroymak-BITLI**	**1.28**	**253**	PN		**Pn**	**00 56 24.8**	**-0.6**
GURO				SN		**Sg**	**00 56 42.8**	**+0.1**
GURO	**Guroymak-BITLI**	**1.28**	**253**	*e*Pn		**Pn**	**00 56 24.8**	**-0.6**
GURO				*e*Sn		**Sg**	**00 56 42.8**	**+0.1**
YOVA	**Hakkari_Y`…kse**	**1.45**	**158**	*i* P		**Pb**	**00 56 28.6**	**0.0**
YOVA	**Hakkari_Y`…kse**	**1.45**	**158**	P		**Pb**	**00 56 28.5**	**0.0**
DIGO	**Kars**	**1.49**	**353**	*e*P		**Pg**	**00 56 29.7**	**-0.3**
DIGO				IAML			00 57 02.8	
	comp=Z,14nm,0.6s							
DIGO	**Kars**	**1.49**	**353**	*i* P		**Pg**	**00 56 29.8**	**-0.3**
DIGO	**Kars**	**1.49**	**353**	P		**Pg**	**00 56 29.8**	**-0.3**
SRTM	**Siirt_Merkez**	**1.62**	**235**	*i* P		**Pb**	**00 56 31.6**	**+0.3**
SRTM	**Siirt_Merkez**	**1.62**	**235**	P		**Pb**	**00 56 31.6**	**+0.3**
IMRD	**Marand**	**1.66**	**97**	*e*Pn		**Pb**	**00 56 31.6**	**-0.5**
IMRD				*e*Sg		**Sg**	**00 56 55.7**	**+0.9**
IMRD				*e*AMB	AMB		00 57 03.0	
	comp=Z,2μm,0.3s							
VRTB	**Varto-Mus**	**1.68**	**278**	PN		**Pn**	**00 56 30.7**	**-0.3**
VRTB	**Varto-Mus**	**1.68**	**278**	*i* P		**Pg**	**00 56 33.2**	**-0.5**
VRTB	**Varto-Mus**	**1.68**	**278**	*e*Pn		**Pn**	**00 56 30.7**	**-0.3**
VRTB	**Varto-Mus**	**1.68**	**278**	P		**Pg**	**00 56 33.2**	**-0.5**
SIRT	**Sirnak**	**1.70**	**213**	PN		**Pn**	**00 56 30.8**	**-0.3**
SIRT	**Sirnak**	**1.70**	**213**	*e*Pn		**Pn**	**00 56 30.8**	**-0.3**
ISHB	**Shabestar**	**1.71**	**112**	*e*Pn		**Pn**	**00 56 31.9**	**+0.5**
ISHB				*e*AMB	AMB		00 56 41.3	
	comp=Z,875nm,0.2s							
HOMI	**Horasan**	**1.72**	**311**	*e*P		**Pb**	**00 56 33.6**	**+0.5**
HOMI				*e*S		**Sg**	**00 56 57.5**	**+0.8**
HOMI				IAML			00 57 06.5	
	comp=Z,17nm,0.7s							
HOMI	**Horasan**	**1.72**	**311**	*i* P		**Pb**	**00 56 33.7**	**+0.5**
KARS	**Kars**	**1.74**	**347**	PN		**Pn**	**00 56 31.4**	**-0.3**
KARS	**Kars**	**1.74**	**347**	*e*Pn		**Pn**	**00 56 31.4**	**-0.3**
EAK	**Akyaka**	**1.75**	**0**	*e*P		**Pg**	**00 56 35.0**	**0.0**
EAK				*e*S		**Sg**	**00 57 01.2**	**+3.4**
EAK				IAML			00 57 30.0	
	comp=Z,17nm,0.6s							
SENK	**Senkaya-Erzuru**	**1.89**	**330**	PN		**Pn**	**00 56 34.2**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.89**	**330**	*e*Pn		**Pn**	**00 56 34.2**	**+0.3**
ERZM	**Erzurum**	**1.98**	**300**	*e*P		**Pb**	**00 56 37.5**	**-0.2**
ERZM	**Erzurum**	**1.98**	**300**	*i* P		**Pb**	**00 56 37.7**	**+0.0**
ERZM	**Erzurum**	**1.98**	**300**	P		**Pb**	**00 56 37.7**	**0.0**
SVAN	**Silvan-Diyarba**	**2.04**	**248**	*i* P		**Pb**	**00 56 38.4**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.04**	**248**	P		**Pb**	**00 56 38.4**	**-0.1**
BTMN	**Batman**	**2.10**	**241**	*i* P		**Pb**	**00 56 39.8**	**+0.1**
ITBZ	**Tabriz**	**2.12**	**108**	*e*Pn		**Pb**	**00 56 38.7**	**-1.2**
ITBZ				*e*AMB	AMB		00 56 45.2	
	comp=Z,275nm,0.2s							
ITBZ				*e*Sg		**Sg**	**00 57 09.9**	**+0.5**
ECAT	**Cat-ERZURUM**	**2.15**	**289**	*e*P		**Pb**	**00 56 40.1**	**-0.3**
ECAT				IAML			00 57 01.7	
	comp=Z,8.0nm,0.3s							
BNGB	**Bing ¶ll**	**2.28**	**272**	PN		**Pn**	**00 56 39.3**	**+0.2**
BINT	**Bingol**	**2.43**	**270**	*e*Pn		**Pn**	**00 56 39.3**	**-1.9**
KOPT	**Kop Dagi**	**2.63**	**295**	*e*P		**Pb**	**00 56 48.5**	**-0.3**
KOPT				IAML			00 57 09.5	
	comp=Z,7.1nm,0.5s							
DGRG	**David-gareji**	**2.86**	**28**	*e*P		**Pb**	**00 56 53.2**	**+0.7**
IBST	**Bostanabad**	**2.87**	**114**	*e*Pn		**Pn**	**00 56 48.2**	**+0.9**
IBST				*e*AMB	AMB		00 57 07.7	
	comp=Z,83nm,0.1s							
BAYB	**BAYBURT**	**2.90**	**298**	*e*P		**Pg**	**00 56 56.2**	**-0.8**
BAYB				IAML			00 57 31.2	
	comp=Z,1.3nm,0.6s							
BAYT	**Ayd¯¬ntepe-Bay**	**3.04**	**300**	PN		**Pn**	**00 56 50.6**	**+0.9**
BAYT	**Ayd¯¬ntepe-Bay**	**3.04**	**300**	*e*Pn		**Pn**	**00 56 50.6**	**+0.9**
EUZM	**Uzumlu**	**3.12**	**286**	*e*P		**Pb**	**00 56 57.8**	**+0.8**
EUZM				IAML			00 57 14.9	
	comp=Z,1.3nm,0.4s							
PTK	**Pertek**	**3.28**	**271**	PN		**Pn**	**00 56 53.2**	**+0.2**
PTK	**Pertek**	**3.28**	**271**	*e*Pn		**Pn**	**00 56 53.2**	**+0.2**
KELT	**Kelkit**	**3.57**	**291**	*e*P		**Pb**	**00 57 01.6**	**-3.1**
KEMA	**Kemaliye**	**3.99**	**276**	*e*P		**Pb**	**00 57 09.9**	**-1.8**

ISCJB ***25*** *01:05:32.8±0.2, 54°.77S±0°.06×135°.92W±0°.09, h10km, mb5.1/47, MS5.4/178, Error ellipse: s-maj=8.9km s-min=7.0km az=164.0*
IDC ***25*** *01:05:32.4±0.4, 54°.44S×135°.89W, h0km, mb4.6/11, mb1 4.7/11, mb1mx4.5/33, mbtmp4.6/11, MS5.3/30, Ms1 5.3/30, ms1mx5.2/34, Error ellipse: s-maj=21.9km s-min=15.1km az=165.0*
MOS ***25*** *01:05:33.9±1.4, 54°.62S×135°.87W, h10km, mb5.4/16, MS5.4/23, Error ellipse: s-maj=18.9km s-min=14.0km az=77.1*
GCMT ***25*** *01:05:34.5±0.1, 54°.66S×135°.68W, h15km, MW5.7/136, Moment Tensor Solution. s121,c231; s136,c381; Duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr=0.42±.04; Mθθ 3.63±.04; Mϕϕ -3.20±.04; Mrθ 0.56±.12; Mθϕ 3.55±.04; Mϕr 0.63±.12; Best double couple: Mo 4.99200×10^17 NP1:ϕs 22.00000°, δ88.00000°, λ171.00000°. NP2:ϕs 112.00000°, δ81.00000°, λ2.00000°. Principal axes: T 5.2420, Plg8.0000°, Azm337.0000°; N -0.4960, Plg81.0000°, Azm189.0000°; P -4.7410, Plg5.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***25*** *01:05:34.5±0.2, 54°.58S×135°.92W, h10km, mb5.2/36, MS5.4/149 Error ellipse: s-maj=11.5km s-min=7.4km az=160.0*
ISC 25 01:05:34.7±0.2, 54°44S±0°.07×135°76W±0°.06, h10km, n463, σ2°09/307, mb5.1/47, MS5.4/179, 14C-21D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**30.71**	**200**	*e*P		**P**	**01 11 50.5**	**+1.3**
SBA				pmax		pmax		
	comp=Z,154nm,1.8s							
SBA				MLR		MLR		
	comp=Z,6μm,20.0s							
SBA	**Scott Base**	**30.71**	**200**	*e*P		**P**	**01 11 50.5**	**+1.3**
	comp=Z,154nm,1.8s							
SBA				LR		LR		
	comp=Z,6μm,20.0s							
RKT	**Rikitea**	**31.28**	**1**	*e*S		**S**	**01 16 57.8**	**-3.3**
	comp=Z,2μm,27.2s							
RKT				*e*LQ		LQ	01 18 40.7	
	comp=Z,4μm,31.2s							
RKT				*e*LR		LR	01 20 01.0	
	comp=Z,15μm,28.0s,baz=179							
RKT	**Rikitea**	**31.28**	**1**	*e*T		T	01 44 35.2	
	comp=Z,21nm,0.3s							
VNDA	**Vanda**	**31.67**	**202**	P		**P**	**01 11 58.5**	**+1.0**
	comp=Z,5.6nm,1.1s,baz=112,slow=7.0,SNR=19							
VNDA				LR		LR	01 21 52.6	
	comp=Z,3μm,18.4s,baz=82,slow=31							
VNDA	**Vanda**	**31.67**	**202**	*e*P		**P**	**01 11 58.3**	**+0.7**
VNDA				pmax		pmax		
	comp=Z,75nm,1.7s							
VNDA	**Vanda**	**31.67**	**202**	*e*P		**P**	**01 11 58.3**	**+0.7**
	comp=Z,75nm,1.7s							

RPN	**Rapa Nui**	**33.45**	**46**	LR		LR	01 22 26.1	
	comp=Z,7μm,19.6s,baz=210,slow=30							
RPN	**Rapa Nui**	**33.45**	**46**	PFAKE			01 12 30.0	+16
RPN				LR		LR		
	comp=Z,5μm,20.0s							
SNZO	**South Karori**	**34.98**	**271**	PFAKE			01 12 40.0	+13
SNZO				LR		LR		
	comp=Z,6μm,20.0s							
PMSA	**Palmer Station**	**35.72**	**136**	*e*P		**P**	**01 12 32.1**	**-0.7**
PMSA				LR		LR		
	comp=Z,10μm,20.0s							
QSPA	**South Pole Qui**	**35.73**	**180**	P		**P**	**01 12 32.8**	**-0.4**
	comp=Z,19nm,1.0s,baz=81,slow=5.6,SNR=20							
QSPA				LR		LR	01 25 15.1	
	comp=Z,8μm,18.2s,baz=73,slow=33							
QSPA	**South Pole Qui**	**35.73**	**180**	*e*P		**P**	**01 12 32.5**	**-0.7**
QSPA				LR		LR		
	comp=Z,8μm,20.0s							
RAR	**Rarotonga**	**37.83**	**322**	LR		LR	01 24 36.9	
	comp=Z,5μm,19.7s,baz=157,slow=30							
RAR	**Rarotonga**	**37.83**	**322**	PFAKE			01 13 00.0	+8.8
RAR				LR		LR		
	comp=Z,6μm,19.0s							
TVO	**Taravao**	**38.04**	**339**	*e*T		T	01 53 10.6	
	comp=Z,2.6nm,0.3s							
PAE	**Paea**	**38.23**	**338**	*e*T		T	01 53 18.5	
	comp=Z,4.0nm,0.3s							
TIAR	**Tiarei**	**38.28**	**339**	*e*T		T	01 53 16.4	
	comp=Z,3.3nm,0.2s							
PPT2	**Papeete2**	**38.30**	**338**	*e*S		**S**	**01 18 46.1**	**-3.3**
PPT2	comp=Z,1μm,27.2s							
				*e*LR		LR	01 23 15.3	
	comp=Z,21μm,25.8s,baz=173							
PPT2	**Papeete2**	**38.30**	**338**	*e*T		T	01 53 21.1	
	comp=Z,12nm,0.3s							
PPT	**Papeete**	**38.32**	**338**	LR		LR	01 24 36.3	
	comp=Z,6μm,21.3s,baz=146,slow=30							
RAO	**Raoul Island**	**39.38**	**292**	PFAKE			01 13 20.0	+16
RAO				LR		LR		
	comp=Z,4μm,20.0s							
VAH	**Vaihoa**	**40.20**	**342**	*e*T		T	01 55 51.4	
	comp=Z,57nm,0.2s							
PMOR	**Pomariorio Ree**	**40.48**	**342**	*e*T		T	01 56 12.0	
	comp=Z,6.0nm,0.3s							
PLCA	**Paso Flores**	**44.46**	**100**	P		**P**	**01 13 47.4**	**+1.6**
	comp=Z,5.1nm,1.1s,baz=251,slow=14,SNR=4.0							
PLCA				LR		LR	01 28 00.3	
	comp=Z,5μm,19.4s,baz=256,slow=30							
PLCA	**Paso Flores**	**44.46**	**100**	*e*P		**P**	**01 13 46.8**	**+1.1**
PLCA	**Paso Flores**	**44.46**	**100**	*e*P		**P**	**01 13 46.8**	**+1.1**
	comp=Z,40nm,1.4s							
EFI	**East Falkland**	**44.55**	**120**	PFAKE			01 14 00.0	+14
EFI				LR		LR		
	comp=Z,4μm,20.0s							
TAOE	**Nuku Hiva Isla**	**45.60**	**354**	*e*S		**S**	**01 20 32.3**	**-5.1**
	comp=Z,1μm,26.8s							
TAOE				*e*LQ		LQ	01 24 41.0	
	comp=Z,9μm,26.4s							
TAOE				*e*LR		LR	01 26 38.5	
	comp=Z,12μm,24.9s,baz=187							
VNA3	**Neumayer Olymp**	**48.95**	**160**	P		**P**	**01 14 18.4**	**-2.1**
AFI	**Afiamalu**	**49.26**	**311**	LR		LR	01 29 52.7	
	comp=Z,3μm,21.3s,baz=162,slow=30							
AFI	**Afiamalu**	**49.26**	**311**	PFAKE			01 14 40.0	+17
AFI				LR		LR		
	comp=Z,4μm,22.0s							
ROC1	**El Roble**	**49.52**	**92**	*e*P		**P**	**01 14 27.1**	**+1.6**
	comp=Z,20nm,0.9s							
TAU	**Tasmania Unive**	**49.63**	**250**	PFAKE			01 14 40.0	+14
TAU				LR		LR		
	comp=Z,8μm,22.0s							
VNA2	**Neumayer--Watz**	**49.66**	**160**	P		**P**	**01 14 24.3**	**-1.5**
	baz=216,slow=7.9							
CASY	**Casey**	**49.66**	**209**	*e*P		**P**	**01 14 26.2**	**+0.3**
	comp=Z,54nm,1.3s							
CASY				LR		LR		
	comp=Z,372nm,21.0s							
VNA1	**Neumayer--Stat**	**49.70**	**160**	P		**P**	**01 14 22.9**	**-3.2**
SNAA	**Sanae**	**49.90**	**162**	P		**P**	**01 14 25.8**	**-1.9**
SNAA	**Sanae**	**49.90**	**162**	P		**P**	**01 14 25.7**	**-2.1**
	comp=Z,17nm,1.1s,baz=227,slow=9.1,SNR=9.0							
SNAA				LR		LR	01 33 00.8	
	comp=Z,5μm,21.8s,baz=184,slow=33							
SNAA	**Sanae**	**49.90**

NNA LR LR
comp=Z,4μm,20.0s
BBOO Buckleboo 63.05 251 *e*P **P 01 15 60.0 -1.8**
comp=Z,96nm,1.6s
LPAZ La Paz 63.91 81 P **P 01 16 07.2 -1.3**
comp=Z,2.4nm,1.0s,baz=222,slow=7.5,SNR=10
LPAZ LR LR 01 37 34.5
comp=Z,1μm,21.4s,baz=205,slow=30
LPAZ La Paz 63.91 81 *e*P **P 01 16 08.1 -0.3**
LPAZ pmax pmax
comp=Z,50nm,1.4s
LPAZ La Paz 63.91 81 *e*P **P 01 16 08.1 -0.3**
comp=Z,50nm,1.4s
CTAO Charters Tower 66.96 267 *e*P **P 01 16 26.8 -0.6**
CTAO pmax pmax
comp=Z,37nm,1.1s
CTAO MLR MLR
comp=Z,2μm,19.0s
CTAO Charters Tower 66.96 267 *e*P **P 01 16 26.8 -0.6**
comp=Z,37nm,1.1s
CTAO LR LR
comp=Z,2μm,19.0s
HNR Honiara 67.54 286 LR LR 01 43 30.0
comp=Z,575nm,18.4s,baz=156,slow=34
HNR Honiara 67.54 286 PFAKE 01 16 40.0 +8.9
HNR LR LR
comp=Z,1μm,20.0s
TARA Tarawa 69.76 304 PFAKE 01 17 00.0 +15
TARA LR LR
comp=Z,139nm,20.0s
SPB Sao Paulo 70.20 103 PFAKE 01 17 00.0 +12
SPB LR LR
comp=Z,9μm,19.0s
AS01 Alice Springs 71.26 256 *e*P **P 01 16 51.3 -2.9**
AS31 Alice Springs 71.29 255 *e*P **P 01 16 52.7 -1.6**
comp=Z,9.9nm,1.1s
ASAR Alice Springs 71.29 255 P **P 01 16 51.7 -2.6**
comp=Z,11nm,0.9s,baz=139,slow=6.1,SNR=69
ASAR LR LR 01 44 50.4
comp=Z,4μm,18.6s,baz=146,slow=33
ASAR Alice Springs 71.29 255 *e*P **P 01 16 52.1 -2.2**
ASAR pmax pmax
comp=Z,11nm,0.9s
OTAV Otavalo 71.81 62 P **P 01 16 58.1 +0.1**
OTAV pmax pmax
comp=Z,30nm,1.3s
OTAV Otavalo 71.81 62 *e*P **P 01 16 58.1 +0.1**
comp=Z,30nm,1.3s
OTAV LR LR
comp=Z,1μm,20.0s
OTAV Otavalo 71.81 62 *e*P **P 01 16 59.3 +1.3**
SAML Samuel 72.65 81 *e*P **P 01 17 00.6 -1.9**
comp=Z,17nm,1.3s
SAML LR LR
comp=Z,1μm,22.0s
NWAO Narrogin (SRO) 72.82 237 PFAKE 01 17 10.0 +6.7
NWAO LR LR
comp=Z,2μm,19.0s
GCUF Volcan Galeras 73.22 63 *e*P **P 01 17 05.2 -1.2**
COEN Coen 73.59 269 *e*P **P 01 17 06.6 -1.5**
comp=Z,64nm,1.6s
WB2 Warramunga Arr 73.97 258 *e*P **P 01 17 07.9 -2.4**
WRA Warramunga Arr 73.97 258 P **P 01 17 07.9 -2.4**
comp=Z,9.6nm,0.9s,baz=141,slow=5.4,SNR=9.5
WRA LR LR 01 46 43.1
comp=Z,4μm,18.9s,baz=155,slow=33
WRAB Tennant Creek 73.97 258 ⇑ *i*P **P 01 17 08.5 -1.8**
WRAB pmax pmax
comp=Z,18nm,1.0s
WRAB Tennant Creek 73.97 258 *e*P **P 01 17 08.0 -2.3**
comp=Z,27nm,1.0s
WRAB LR LR
comp=Z,4μm,19.0s
SOTA Rioblanco 74.38 63 *e*P **P 01 17 15.2 +2.0**
FLOC Florencia 74.41 64 *e*P **P 01 17 09.2 -3.6**
PCON Cinco Dias 74.65 63 *e*P **P 01 17 11.9 -3.0**
PMG Port Moresby 74.89 275 LR LR 01 46 05.6
comp=Z,2μm,19.5s,baz=148,slow=32
PMG Port Moresby 74.89 275 *d i*P **P 01 17 17.7 +2.1**
PMG pmax pmax
comp=Z,63nm,1.1s
PMG Port Moresby 74.89 275 PFAKE 01 17 30.0 +14
PMG LR LR
comp=Z,2μm,21.0s
POHA Pohakuloa 75.82 341 PFAKE 01 17 30.0 +9.0
POHA LR LR
comp=Z,6μm,20.0s
YOTC Yotoco, Valle 76.08 62 *e*P P 01 17 15.2 -7.3
JOHN Johnston Islan 76.53 327 PFAKE 01 17 40.0 +15
JOHN LR LR
comp=Z,321nm,19.0s
PRAC Prado 76.61 64 *e*P **P 01 17 27.3 +1.9**
JTS JuntasAbangare 77.33 51 LR LR 01 43 32.9
comp=Z,3μm,20.8s,baz=264,slow=30
JTS JuntasAbangare 77.33 51 *e*P **P 01 17 30.3 +0.9**
JTS pmax pmax
comp=Z,29nm,1.3s
JTS MLR MLR
comp=Z,4μm,21.0s
JTS JuntasAbangare 77.33 51 *e*P **P 01 17 30.3 +0.9**
comp=Z,29nm,1.3s
JTS LR LR
comp=Z,4μm,21.0s
RREF El Recreo 77.38 63 *e*P **P 01 17 31.8 +1.4**
ROSC El Rosal 77.86 64 P **P 01 17 32.9 0.0**
comp=Z,4.5nm,0.6s,baz=22,slow=2.0,SNR=8.9
ROSC LR LR 01 45 09.5
comp=Z,2μm,21.8s,baz=218,slow=30
ROSC El Rosal 77.86 64 *e*P **P 01 17 33.8 +0.9**
comp=Z,66nm,1.6s
KIP Kipapa 77.94 339 ⇑ *i*P **P 01 17 33.9 +1.3**
KIP Kipapa 77.94 339 PFAKE 01 17 40.0 +7.4
KIP LR LR
comp=Z,7μm,21.0s
CHIC Chingaza 77.99 64 *e*P **P 01 17 31.2 -2.5**
HELC Santa Helena 78.38 62 *e*P **P 01 17 36.3 +0.6**
comp=Z,117nm,1.5s
HELC Santa Helena 78.38 62 *e*P **P 01 17 33.2 -2.6**
BCIP Isla Barro Col 78.77 56 PFAKE 01 17 50.0 +13
BCIP LR LR
comp=Z,3μm,21.0s
RUSC La Rusia 79.40 64 *e*P **P 01 17 39.5 -2.0**
comp=Z,8.8nm,1.0s
RUSC La Rusia 79.40 64 *e*P **P 01 17 37.1 -4.3**
MBWA Marble Bar 81.11 246 *e*P **P 01 17 49.2 -0.9**
comp=Z,125nm,1.2s
MBWA LR LR
comp=Z,2μm,20.0s
LPIG La Paz 81.23 23 LR LR 01 44 58.2
comp=Z,873nm,20.7s,baz=199,slow=29
MTN Manton Dam 81.47 260 *e*P **P 01 17 51.7 -0.4**
comp=Z,71nm,1.4s
SDV Santo Domingo 83.21 65 LR LR 01 49 10.5
comp=Z,1μm,19.9s,baz=204,slow=31
SDV Santo Domingo 83.21 65 *e*P **P 01 17 58.5 -2.8**
comp=Z,13nm,1.0s
SDV LR LR
comp=Z,1μm,20.0s
LNIG Linares 84.97 33 *e*P **P 01 18 11.2 +1.5**
comp=Z,14nm,1.3s
HPIG 85.09 27 *e*P **P 01 18 12.4 +1.8**
comp=Z,13nm,1.1s
PCRV Puerto La Cruz 87.50 69 LR LR 01 52 36.2
comp=Z,2μm,18.1s,baz=194,slow=32
H11S2 WAKE ISLAND Hy 87.61 307 T T 02 55 16.5
baz=152,slow=74
H11S3 WAKE ISLAND Hy 87.62 307 T T 02 55 17.5
baz=152,slow=74
H11S1 WAKE ISLAND Hy 87.63 307 T T 02 55 21.6
baz=152
MTDJ Mount Denham 87.70 54 PFAKE 01 18 40.0 +17
MTDJ LR LR
comp=Z,1μm,21.0s
BATI Baumata 87.86 256 LR LR 01 56 18.2
comp=Z,2μm,18.4s,baz=136,slow=35
TX31 Lajitas Ar. Si 87.91 28 *e*P **P 01 18 27.0 +2.8**
TXAR Lajitas Array 87.91 28 P **P 01 18 24.5 +0.3**
comp=Z,2.4nm,1.1s,baz=188,slow=6.3,SNR=9.2
TXAR Lajitas Array 87.91 28 *e*P **P 01 18 26.8 +2.6**
TXAR pmax pmax
comp=Z,2.0nm,1.1s
BAR Barrett 88.31 16 *e*P **P 01 18 27.4 +1.4**
comp=Z,43nm,1.9s
H11N3 WAKE ISLAND Hy 88.58 308 T T 02 56 38.6
baz=149,slow=76,SNR=9.4
H11N1 WAKE ISLAND Hy 88.58 307 T T 02 56 34.1
baz=149,slow=76,SNR=10
H11N2 WAKE ISLAND Hy 88.60 307 T T 02 56 26.8
baz=149,slow=76,SNR=8.1
TUC Tucson 89.05 21 *e*P **P 01 18 31.8 +2.3**
TUC pmax pmax
comp=Z,18nm,1.5s
TUC MLR MLR
comp=Z,3μm,19.0s
TUC Tucson 89.05 21 *e*P **P 01 18 31.8 +2.3**
comp=Z,18nm,1.5s
TUC LR LR
comp=Z,3μm,19.0s
XPFO Piæon Flat 89.26 16 *e*P **P 01 18 31.6 +1.1**
comp=Z,20nm,1.4s
PFO Pinyon Flats O 89.26 16 *e*P **P 01 18 31.9 +1.4**
PFO pmax pmax
comp=Z,19nm,1.4s
PFO MLR MLR
comp=Z,2μm,20.0s
PFO Pinyon Flats O 89.26 16 *e*P **P 01 18 31.9 +1.4**
comp=Z,19nm,1.4s
PFO LR LR
comp=Z,2μm,20.0s
MNTX Cornudas Mount 89.70 26 *e*P **P 01 18 33.4 +0.9**
comp=Z,10nm,1.3s
MNTX LR LR
comp=Z,1μm,21.0s
JCT Junction City 90.08 30 *e*P **P 01 18 35.7 +1.3**
JCT pmax pmax
comp=Z,18nm,1.3s
JCT MLR MLR
comp=Z,639nm,19.0s
JCT Junction City 90.08 30 *e*P **P 01 18 35.7 +1.3**
comp=Z,18nm,1.3s
JCT LR LR
comp=Z,639nm,19.0s
GTBY Guantanamo Bay 90.32 55 PFAKE 01 18 50.0 +14
GTBY LR LR
comp=Z,2μm,19.0s
GRGR Grenville 90.75 70 PFAKE 01 18 50.0 +12
GRGR LR LR
comp=Z,3μm,20.0s
SUR Sutherland 91.20 160 PFAKE 01 18 50.0 +10
SUR LR LR
comp=Z,5μm,20.0s
SDDR Presa de Saban 91.39 59 PFAKE 01 18 50.0 +9.3
SDDR LR LR
comp=Z,937nm,22.0s
WUAZ Wupatki 92.03 20 PFAKE 01 19 00.0 +17
WUAZ LR LR
comp=Z,2μm,20.0s
ABTX Abilene, Hawle 92.14 30 *e*P **P 01 18 44.6 +0.7**
comp=Z,13nm,1.2s
ANMO Albuquerque 92.54 24 LR LR 01 53 12.4
comp=Z,777nm,19.0s,baz=28,slow=31
ANMO Albuquerque 92.54 24 ⇑ *i*P **P 01 18 47.0 +1.2**
ANMO Albuquerque 92.54 24 *e*P **P 01 18 47.1 +1.2**
comp=Z,3.5nm,1.1s
ANMO LR LR
comp=Z,1μm,19.0s
BBGH Gun Hill 92.73 71 PFAKE 01 19 00.0 +13
BBGH LR LR
comp=Z,2μm,21.0s
U15A North Rim 92.73 19 *e*P **P 01 18 49.2 +2.4**
comp=Z,15nm,1.4s
NATX Nacogdoches 92.87 34 PFAKE 01 19 00.0 +13
NATX LR LR
comp=Z,617nm,20.0s
FDF Fort de France 93.16 69 PFAKE 01 19 00.0 +11
FDF LR LR
comp=Z,3μm,19.0s
SJG San Juan 93.28 63 PFAKE 01 19 00.0 +11
SJG LR LR
comp=Z,919nm,21.0s
GRTK Grand Turk 93.60 57 PFAKE 01 19 00.0 +9.2
GRTK LR LR
comp=Z,690nm,19.0s
NVAR Mina Array Bea 93.71 14 LR LR 01 53 07.5
comp=Z,2μm,18.9s,baz=167,slow=30
MVCO Mesa Verde 94.25 22 PFAKE 01 19 10.0 +16
MVCO LR LR
comp=Z,1μm,22.0s
KAPI Kappang 94.31 255 PFAKE 01 19 00.0 +5.6
KAPI LR LR
comp=Z,1μm,19.0s
WMOK Wichita Mounta 94.36 30 PFAKE 01 19 10.0 +16
WMOK LR LR
comp=Z,509nm,19.0s
GUMO Guam 94.86 286 LR LR 01 52 14.6
comp=Z,254nm,21.8s,baz=149,slow=30
GUMO Guam 94.86 286 PFAKE 01 19 10.0 +13
GUMO LR LR
comp=Z,591nm,19.0s
BRAL Brewton 95.02 40 PFAKE 01 19 10.0 +13
BRAL LR LR
comp=Z,921nm,20.0s
ANWB Willy Bob 95.22 67 PFAKE 01 19 10.0 +12
ANWB LR LR
comp=Z,923nm,20.0s
SDCO Great Sand Dun 95.44 24 PFAKE 01 19 10.0 +11
SDCO LR LR
comp=Z,2μm,19.0s
BOSA Boshof 95.68 163 LR LR 01 55 53.7
comp=Z,4μm,21.7s,baz=191,slow=32
MIAR Mount Ida 95.79 34 PFAKE 01 19 10.0 +9.5
MIAR LR LR
comp=Z,400nm,20.0s
DUG Dugway, Tooele 96.30 17 PFAKE 01 19 10.0 +7.1
DUG LR LR
comp=Z,1μm,19.0s
YBH Yreka Blue Hor 96.45 10 LR LR 01 54 47.8
comp=Z,2μm,18.0s,baz=169,slow=31
ISCO Idaho Springs 97.37 23 PFAKE 01 19 20.0 +12
ISCO LR LR
comp=Z,1μm,19.0s
WVOR Wild Horse Val 97.61 13 PFAKE 01 19 20.0 +11
WVOR LR LR
comp=Z,2μm,20.0s
HWUT Hardware Ranch 97.89 18 PFAKE 01 19 20.0 +10
HWUT LR LR
comp=Z,1μm,19.0s
CBKS Cedar Bluff 97.91 28 PFAKE 01 19 20.0 +10
CBKS LR LR
comp=Z,863nm,19.0s
SHEL Horse Pasture 98.02 132 PFAKE 01 19 20.0 +8.7
SHEL LR LR
comp=Z,649nm,21.0s
GOGA Godfrey 98.39 42 PFAKE 01 19 20.0 +7.7
GOGA LR LR
comp=Z,852nm,20.0s
KSU1 Kansas State U 99.05 30 PFAKE 01 19 30.0 +15
KSU1 LR LR
comp=Z,778nm,21.0s
AHID Auburn Hatcher 99.10 18 PFAKE 01 19 30.0 +14
AHID LR LR
comp=Z,1μm,21.0s
OGNE Ogallala 99.31 25 PFAKE 01 19 30.0 +14
OGNE LR LR
comp=Z,1μm,21.0s
HLID Hailey 99.31 16 PFAKE 01 19 30.0 +14
HLID LR LR
comp=Z,2μm,19.0s
BW06 Boulder Array 99.39 19 PFAKE 01 19 30.0 +13
BW06 LR LR
comp=Z,2μm,20.0s
PDAR Pinedale Array 99.39 19 LR LR 01 55 43.8
comp=Z,1μm,20.6s,baz=210,slow=30
NHSC New Hope 99.44 45 PFAKE 01 19 30.0 +13
NHSC LR LR
comp=Z,827nm,19.0s
LEM Lembang 99.45 244 LR LR 01 56 30.6
comp=Z,725nm,20.6s,baz=216,slow=31
H10S3 ASCENSION HYDR 99.94 121 T T 03 11 22.3
baz=207,slow=75
H10S2 ASCENSION HYDR 99.94 121 T T 03 11 18.8
baz=207,slow=75
H10S1 ASCENSION HYDR 99.95 121 T T 03 11 21.2
baz=207,slow=75
BMO Blue Mountains 100.16 13 PFAKE 01 19 30.0 +10
BMO LR LR
comp=Z,2μm,19.0s
COCO West Island 100.18 232 PFAKE 01 19 30.0 +9.2
COCO LR LR
comp=Z,1μm,19.0s
DAV Davao City (W) 100.75 267 PFAKE 01 19 30.0 +6.6
DAV LR LR
comp=Z,478nm,21.0s
ASCN Ascension 100.96 121 PFAKE 01 19 40.0 +16
ASCN LR LR
comp=Z,904nm,19.0s
H10N3 ASCENSION HYDR 100.97 120 T T 03 12 43.1
baz=205,slow=75,SNR=22
LKWY Lake 100.97 18 PFAKE 01 19 40.0 +16
LKWY LR LR
comp=Z,410nm,19.0s
H10N1 ASCENSION HYDR 100.98 120 T T 03 12 43.5
baz=205,slow=75,SNR=23
H10N2 ASCENSION HYDR 100.99 120 T T 03 12 43.2
baz=205,slow=75,SNR=10
HAWA Hanford 101.40 11 PFAKE 01 19 40.0 +15
HAWA LR LR
comp=Z,2μm,19.0s
RLMT Red Lodge 101.72 19 PFAKE 01 19 40.0 +13
RLMT LR LR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 101.75 17 PFAKE 01 19 40.0 +13
BOZ LR LR
comp=Z,1μm,19.0s
NLWA Neilton Lookou 101.95 8 PFAKE 01 19 40.0 +12
NLWA LR LR
comp=Z,1μm,19.0s
CNNC Cliffs of the 102.23 45 PFAKE 01 19 40.0 +11
CNNC LR LR
comp=Z,1μm,19.0s
SCIA State Center 102.64 31 PFAKE 01 19 40.0 +9.0
SCIA LR LR
comp=Z,1μm,19.0s
HDIL Hopedale 102.66 34 PFAKE 01 19 40.0 +8.9
HDIL LR LR
comp=Z,663nm,19.0s
BLA Blacksburg 102.92 42 PFAKE 01 19 40.0 +7.6
BLA LR LR
comp=Z,745nm,19.0s
TSUM Tsumeb 103.18 154 PFAKE 01 19 50.0 +16
TSUM LR LR
comp=Z,3μm,21.0s
ECSD EROS Data Cent 103.34 28 PFAKE 01 19 50.0 +16
ECSD LR LR
comp=Z,1μm,19.0s
NEW Newport 103.53 13 PFAKE 01 19 50.0 +15
NEW LR LR
comp=Z,1μm,19.0s
LAO LASA Array 103.82 20 PFAKE 01 19 50.0 +14
LAO LR LR
comp=Z,1μm,20.0s
RER Riviere de l'E 104.06 191 PFAKE 01 19 50.0 +12
RER LR LR
comp=Z,3μm,22.0s
EGMT Eagleton 104.43 18 PFAKE 01 19 50.0 +11
EGMT LR LR
comp=Z,1μm,19.0s
JFWS Jewell Farm 104.47 33 PFAKE 01 19 50.0 +11
JFWS LR LR
comp=Z,875nm,19.0s
ACSO Alum Creek Sta 104.57 39 PFAKE 01 19 50.0 +10
ACSO LR LR
comp=Z,861nm,21.0s
KSM Kuching 104.93 251 PFAKE 01 19 50.0 +8.0
KSM LR LR
comp=Z,1μm,20.0s
CBN Corbin Frederi 104.99 44 PFAKE 01 24 10.0
CBN LR LR
comp=Z,2μm,20.0s
KKM Kota Kinabalu 105.35 259 PFAKE 01 24 10.0
KKM LR LR
comp=Z,2μm,22.0s
BBSR BB Station 105.78 56 PFAKE 01 24 10.0
BBSR LR LR
comp=Z,395nm,19.0s
AAM Ann Arbor 106.14 38 PFAKE 01 24 10.0
AAM LR LR
comp=Z,875nm,19.0s
ABPO Ambohimpanom 106.80 183 PFAKE 01 24 10.0
ABPO LR LR
comp=Z,2μm,20.0s
COWI Conover 107.68 32 PFAKE 01 24 10.0
COWI LR LR
comp=Z,745nm,19.0s
AGMN Agassiz Nation 107.75 27 PFAKE 01 24 10.0
AGMN LR LR
comp=Z,740nm,22.0s
GLMI Grayling 108.02 36 PFAKE 01 24 10.0
GLMI LR LR
comp=Z,1μm,19.0s
EYMN Ely 108.64 30 PFAKE 01 24 10.0
EYMN LR LR
comp=Z,1μm,20.0s
BINY Binghamton 108.94 43 PFAKE 01 24 20.0
BINY LR LR
comp=Z,2μm,19.0s
LSZ Lusaka 109.22 164 PFAKE 01 24 20.0
LSZ LR LR
comp=Z,3μm,21.0s
WRAK Wrangell Islan 110.53 2 PFAKE 01 24 20.0
WRAK LR LR
comp=Z,2μm,19.0s
LONY Lake Ozonia 111.53 42 PFAKE 01 24 20.0
LONY LR LR
comp=Z,1μm,21.0s
FFC Flin Flon 112.30 20 PFAKE 01 24 20.0
FFC LR LR
comp=Z,2μm,19.0s
KDAK Kodiak Island 112.70 350 PFAKE 01 24 20.0
KDAK LR LR
comp=Z,1μm,19.0s
KULM Kulim 113.34 245 PFAKE 01 24 20.0
KULM LR LR
comp=Z,649nm,19.0s
DGAR Diego Garcia 113.99 211 PFAKE 01 24 30.0
DGAR LR LR
comp=Z,402nm,22.0s
PKME Peaks-Kenny Pk 114.20 45 PFAKE 01 24 30.0 +17
PKME LR LR
comp=Z,610nm,19.0s
SACV Santiago Islan 114.91 99 PFAKE 01 24 30.0 +14
SACV LR LR
comp=Z,488nm,19.0s
MAJO Matsushiro 116.66 296 PFAKE 01 24 30.0 +12
MAJO LR LR
comp=Z,1μm,22.0s
YHNB Yeheng 117.08 275 PFAKE 01 24 30.0 +10
YHNB LR LR
comp=Z,647nm,21.0s
TATO Taipei 117.25 275 PFAKE 01 24 30.0 +10
TATO LR LR
comp=Z,805nm,19.0s
YKA Yellowknife Ar 117.77 11 PKP **PKPdf 01 24 19.1 -0.5**
comp=Z,0.1nm,0.3s,baz=205,slow=1.9,SNR=6.4
YUK Yuzh-Kuril'sk 118.51 306 *i* PKIKP **PKPdf 01 24 22.4 +0.8**
YUK *e*PPP PPP 01 28 07.9
YUK *e*SS SS 01 41 54.9 -1.8
YUK *e* 01 42 15.7
YUK *e*SSS SSS 01 46 19.2
EGAK Eagle 118.96 357 PFAKE 01 24 30.0 +8.2
EGAK LR LR
comp=Z,3μm,20.0s
IL1 Eielson Array 119.19 355 *e*PKPdf **PKPdf 01 24 21.5 -0.8**
ILAR Eielson Array 119.19 355 PKP **PKPdf 01 24 21.4 -1.0**
comp=Z,1.0nm,0.8s,baz=196,slow=1.8,SNR=11
COLA College 119.35 354 PFAKE 01 24 30.0 +7.4
COLA LR LR
comp=Z,2μm,19.0s
QIZ Qiongzhong 119.43 262 PFAKE 01 24 40.0 +16
QIZ LR LR
comp=Z,859nm,22.0s
PET Petropavlovsk 120.07 321 PFAKE 01 24 40.0 +16
PET LR LR
comp=Z,1μm,20.0s
PETK Petropavlovsk- 120.49 320 PKP **PKPdf 01 24 23.4 -1.7**
comp=Z,1.7nm,0.7s,baz=39,slow=22,SNR=3.2
IM3 Indian Mountai 120.88 352 *e*PKPdf **PKPdf 01 24 26.3 +0.8**
YSS Yuzh-Sakhalins 122.15 307 PFAKE 01 24 40.0 +11
YSS LR LR
comp=Z,314nm,20.0s
TOLK Toolik Lake Re 123.19 354 *e*PKPdf **PKPdf 01 24 30.8 +0.9**
INCN Inchon 123.60 289 PFAKE 01 24 40.0 +8.3
INCN LR LR
comp=Z,817nm,21.0s
MBAR Mbarara 124.02 164 PFAKE 01 24 40.0 +6.5
MBAR LR LR
comp=Z,495nm,19.0s
NJ2 Nanjing 124.08 279 *e*PKP **PKPdf 01 24 33.0 +0.3**

KMBO Kilima Mbogo 124.32 172 *e*PKIKP **PKPdf 01 24 33.9 -0.3**
KMBO MLR MLR
comp=Z,2µm,21.0s
KMBO Kilima Mbogo 124.32 172 *e*PKPdf **PKPdf 01 24 33.9 -0.3**
KMBO LR LR
comp=Z,2µm,21.0s
CM01 Chiang Mai Arr 125.12 251 *e*PKPdf **PKPdf 01 24 34.9 -0.2**
CMAR Chiang Mai Arr 125.16 251 PKP **PKPdf 01 24 35.0 -0.2**
comp=Z,1.1nm,0.4s,baz=181,slow=2.4,SNR=10
KOWA Kowa 125.35 118 *e*PKPdf **PKPdf 01 24 37.4 +1.8**
CHTO Chiang Mai 125.44 252 PFAKE 01 24 50.0 +14
CHTO LR LR
comp=Z,776nm,22.0s
MDJ Mudanjiang 127.01 297 PFAKE 01 24 50.0 +12
MDJ LR LR
comp=Z,558nm,20.0s
GYA Guiyang 127.02 264 *e*Pdif **Pdif 01 21 21.0 +1.0**
GYA PKP **PKiKP 01 24 39.8 +0.6**
GYA PP **PP 01 26 41.8 +4.5**
GYA AMB AMB
comp=Z,120nm,8.7s
TOA0 Torodi Ar. Sit 127.06 124 *e*PKPdf **PKPdf 01 24 39.9 +0.9**
TORD Torodi Ar. Bea 127.06 124 PKP **PKPdf 01 24 37.1 -1.9**
comp=Z,0.9nm,0.6s,baz=214,slow=2.1,SNR=11
ENH Enshi 128.22 270 PFAKE 01 24 50.0 +9.2
ENH LR LR
comp=Z,533nm,21.0s
KMI Kunming 128.27 260 PKP **PKPdf 01 24 43.1 +1.8**
KMI sPKP 01 24 46.9
KMI PP **PP 01 26 52.9 +7.2**
KMI SKKS 01 33 40.0
KMI SS **SS 01 44 02.6 +1.7**
KMI AMB AMB
comp=Z,140nm,9.6s
KMI LR LR
comp=Z,340nm,19.1s
KMI LR LR
comp=Z,450nm,22.1s
KMI LR LR
comp=Z,970nm,31.0s
SEY Seymchan 129.68 326 PKP **PKPdf 01 24 39.9 -2.6**
comp=Z,0.6nm,0.4s,baz=306,slow=13,SNR=4.7
BJT Baijiatuau 131.23 284 PFAKE 01 25 00.0 +14
BJT LR LR
comp=Z,664nm,20.0s
RES Resolute Bay 131.69 13 *e*PKIKP **PKPdf 01 24 46.7 +0.7**
RES Resolute Bay 131.69 13 *e*PKPdf **PKPdf 01 24 46.6 +0.7**
CD2 Chengdu 132.03 266 PKP **PKPdf 01 24 47.8 -0.2**
CD2 PP **PP 01 27 09.5 -0.5**
CD2 SKS **SKSdf 01 31 59.3 0.0**
CD2 SKKS **SKKSac 01 34 04.5 -1.2**
CD2 SS **SS 01 44 48.0 +1.1**
CD2 AMB AMB
comp=Z,160nm,5.0s
CD2 LR LR
comp=Z,560nm,17.4s
CD2 LR LR
comp=Z,500nm,15.9s
CD2 LR LR
comp=Z,510nm,17.4s
HHC Hu-ho-hao-te 134.40 282 *e*PKP **PKPdf 01 24 53.5 +1.2**
HHC PP **PP 01 27 30.0 +4.8**
HHC SS SS 01 45 14.8 -0.9
HHC AMB AMB
comp=Z,54nm,9.5s
HHC LR LR
comp=Z,220nm,21.2s
HHC LR LR
comp=Z,340nm,22.0s
HHC LR LR
comp=Z,520nm,21.8s
HIA Hailar 135.16 296 PFAKE 01 25 00.0 +6.7
HIA LR LR
comp=Z,444nm,20.0s
LZH Lanzhou 135.68 271 *e*PKP **PKPdf 01 24 53.4 -1.5**
LZH PP **PP 01 27 38.6 +5.3**
LZH SS SS 01 45 32.1 +1.0
LZH AMB AMB
comp=Z,240nm,5.5s
LZH LR LR
comp=Z,710nm,19.2s
LZH LR LR
comp=Z,620nm,17.8s
LZH LR LR
comp=Z,910nm,20.8s
SFJD Kangerlussuaq 136.62 35 PFAKE 01 25 10.0 +15
SFJD LR LR
comp=Z,1µm,22.0s
TAM Tamanrasset 137.16 122 *e*PKIKP **PKPdf 01 24 55.6 -2.4**
TAM MLR MLR
comp=Z,796nm,20.0s
TAM Tamanrasset 137.16 122 *e*PKPdf **PKPdf 01 24 55.6 -2.4**
TAM LR LR
comp=Z,796nm,20.0s
YAK Yakutsk 137.54 316 PFAKE 01 25 10.0 +13
YAK LR LR
comp=Z,607nm,19.0s
LSA Lhasa 138.36 253 PFAKE 01 25 10.0 +10
LSA LR LR
comp=Z,693nm,22.0s
RTC Rabat Centre 139.15 99 PFAKE 01 25 10.0 +8.9
RTC LR LR
comp=Z,4µm,22.0s
GTA Gaotai 140.27 271 *e*PKP **PKPdf 01 25 04.8 +1.6**
GTA PP **PP 01 28 04.8 +3.0**
GTA SKKS 01 34 55.8
GTA SS **SS 01 46 28.1 +2.6**
GTA AMB AMB
comp=Z,170nm,8.6s
GTA LR LR
comp=Z,190nm,17.6s
GTA LR LR
comp=Z,260nm,18.5s
GTA LR LR
comp=Z,550nm,19.5s
MORF Marmelete 140.43 93 *e*LR LR 02 13 29.1
PVAQ Vaqueiros 141.04 94 *e*LR LR 02 13 29.7
comp=Z,622nm,24.0s
PNCL Nicolau / Gran 141.04 93 *e*PKPdf **PKPdf 01 25 09.5 +5.1**
PNCL Nicolau / Gran 141.04 93 *e*SS SS 01 46 33.8 -0.3
PNCL Nicolau / Gran 141.04 93 *e*LR LR 02 13 39.0
ULN Ulaanbaatar 141.24 287 *e*PKIKP **PKPdf 01 25 04.3 -0.4**
ULN MLR MLR
comp=Z,439nm,19.0s
ULN Ulaanbaatar 141.24 287 *e*PKPdf **PKPdf 01 25 04.3 -0.4**
ULN LR LR
comp=Z,439nm,19.0s
SONM Songino Array 141.59 286 PKP **PKPdf 01 25 03.1 -2.2**
comp=Z,1.3nm,0.8s,baz=141,slow=1.0,SNR=7.0
SONM Songino Array 141.59 286 *e*PKIKP **PKPdf 01 25 03.8 -1.5**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONA1 Songino Array 141.60 286 *e*PKPdf **PKPdf 01 25 07.8 +2.5**
EVO Evora 141.63 93 *e*PKPdf **PKPdf 01 25 07.8 +2.3**
TIXI Tiksi 141.92 329 PFAKE 01 25 20.0 +15
TIXI LR LR
comp=Z,705nm,20.0s
PBAR Barrancos 141.96 94 *e*SS SS 01 46 47.0 +2.2
PBAR Barrancos 141.96 94 *e*LR LR 02 13 51.5
PESTR Estremoz 142.10 92 *e*PKPdf **PKPdf 01 25 10.4 +4.1**
PESTR Estremoz 142.10 92 *e*SS SS 01 46 48.6 +2.2
PTOM Tomar 142.11 91 *e*PKPdf **PKPdf 01 25 07.0 +0.7**
PCAS Casmilo, Conde 142.34 90 *e*PKPdf **PKPdf 01 25 08.2 +1.5**
PCAS Casmilo, Conde 142.34 90 *e*SS SS 01 46 54.1 +4.8
PCAS Casmilo, Conde 142.34 90 *e*LR LR 02 13 12.9
BOD Bodaibo 142.54 304 *e*PKHKP PKPpre 01 24 58.1
BOD pmax pmax
comp=Z,7.0nm,1.5s
PMRV Marv??o 142.58 92 *e*SS SS 01 46 56.1 +4.0
PMRV Marv??o 142.58 92 *e*LQ LQ 02 04 57.2
PMRV *e*LR LR 02 13 29.7
comp=Z,1µm,20.0s
MTE Manteigas 143.12 91 *e*LQ LQ 02 05 08.4
MTE *e*LR LR 02 13 37.2
comp=Z,938nm,22.0s
MTE Manteigas 143.12 91 PFAKE 01 25 20.0 +12
MTE LR LR
comp=Z,1µm,22.0s
POLO Lamas de Olo 143.60 89 *e*PKPdf **PKPdf 01 25 10.6 +1.6**
POLO Lamas de Olo 143.60 89 *e*LR LR 02 13 45.5
PGAV Gavieira, Arco 143.69 88 *e*SS SS 01 47 09.7 +4.6
PGAV Gavieira, Arco 143.69 88 *e*LR LR 02 14 24.6
comp=Z,1µm,20.0s
MVO Moncorvo 143.91 90 *e*PKPdf **PKPdf 01 25 09.3 -0.2**
MVO Moncorvo 143.91 90 *e*SS SS 01 47 12.1 +4.5
MVO Moncorvo 143.91 90 *e*LQ LQ 02 05 27.1
MVO *e*LR LR 02 13 59.6
comp=Z,820nm,22.0s
PAB San Pablo 144.43 94 *e*PKIKP PKPbc 01 25 09.8 +0.8
PAB MLR MLR
comp=Z,831nm,21.0s
PAB San Pablo 144.43 94 *e*PKPdf PKPbc 01 25 09.8 +0.8
PAB LR LR
comp=Z,831nm,21.0s
PBRG Braganca 144.48 89 *e*PKPdf **PKPab 01 25 08.9 +0.1**
ZAK Zakamensk 144.68 288 *e*PKIKP **PKPab 01 25 08.0 -1.4**
ZAK pmax pmax
comp=Z,25nm,1.6s
ESDC Sonseca Array 144.74 95 PKP **PKPdf 01 25 10.9 -0.1**
comp=Z,1.0nm,1.0s,baz=241,slow=3.4,SNR=22
ESLA Sonseca Array 144.74 95 *e*PKPdf **PKPdf 01 25 11.2 +0.2**
ES19 SONSECA Array 144.80 95 *e*PKPdf **PKPab 01 25 09.7 -0.4**
IRK Irkutsk 145.04 292 *e*PKP2 **PKPbc 01 25 08.6 -1.9**
IRK pmax pmax
comp=Z,76nm,2.8s
TLY Talaya 145.11 290 PKPbc **PKPab 01 25 10.9 +0.1**
comp=Z,7.6nm,0.7s,baz=158,slow=2.7,SNR=4.9
TLY Talaya 145.11 290 *e*PKIKP **PKPbc 01 25 10.6 -0.2**
TLY pmax pmax
comp=Z,45nm,2.0s
TLY MLR MLR
comp=Z,386nm,20.0s
TLY Talaya 145.11 290 PKPbc **PKPab 01 25 10.9 +0.1**
TLY LR LR
comp=Z,474nm,21.0s
MOY Mondy 146.56 289 *e*PKP2 **PKPdf 01 25 14.5 +0.7**
MOY pmax pmax
comp=Z,36nm,2.9s
ASHO Ashiyiah 149.00 201 P **PKPbc 01 25 22.3 -0.4**
RAYN Ar Rayn 149.11 182 *e*PKPbc **PKPbc 01 25 21.8 -1.2**
RAYN *e*PKPab **pPKPbc 01 25 26.4 +0.1**
RAYN LR LR
comp=Z,1µm,20.0s
HATD Hatta, Dubai 149.13 201 P **PKPbc 01 25 21.7 -1.2**
UOSS Minazif 149.23 202 *e*PKPbc **PKPbc 01 25 22.6 -0.6**
UOSS Minazif 149.23 202 P **PKPbc 01 25 21.8 -1.3**
KEST Kesra 149.51 113 PKPbc **PKPbc 01 25 23.0 -0.6**
comp=Z,5.0nm,1.0s,baz=180,slow=1.0,SNR=2.9
WMQ Urumqi 150.11 267 PKPbc **PKPbc 01 25 23.4 -1.4**
WMQ LR LR
comp=Z,280nm,39.0s
WMQ LR LR
comp=Z,340nm,25.3s
WMQ LR LR
comp=Z,380nm,27.3s
VSL Villasalto 152.25 108 PFAKE 01 25 30.0 +0.1
VSL LR LR
comp=Z,802nm,20.0s
CLTB Caltabellotta 152.95 116 PFAKE 01 25 40.0 -2.9
CLTB LR LR
comp=Z,118nm,21.0s
ESK Eskdalemuir 153.10 69 PFAKE 01 25 40.0 -2.9
ESK LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 153.10 13 PFAKE 01 25 30.0 -0.6
KBS LR LR
comp=Z,1µm,20.0s
EKA Eskdalemuir Ar 153.13 69 PKPbc **PKPbc 01 25 31.6 +0.4**
comp=Z,5.0nm,0.9s,baz=264,slow=2.1,SNR=4.5
SSB Saint Sauveur 153.14 93 PFAKE 01 25 40.0 -3.5
SSB LR LR
comp=Z,775nm,20.0s
KSH Kashi 153.99 248 *e*PKPbc **PKPdf 01 25 27.1 +1.3**
KSH PP **PP 01 29 26.1 +3.8**
KSH AMB AMB
comp=Z,140nm,6.3s
KSH LR LR
comp=Z,210nm,16.7s
KSH LR LR
comp=Z,81nm,8.4s
KSH LR LR
comp=Z,600nm,20.8s
MK01 Makanchi Array 154.91 268 *e*PKPdf **PKPdf 01 25 25.1 -1.7**
MK01 *e*PKPbc **PKiKP 01 25 36.2 +0.8**
MK31 Makanchi Array 154.93 268 *e*PKIKP **PKPdf 01 25 28.9 +2.1**
MK31 Makanchi Array 154.93 268 *e*PKPdf **PKPdf 01 25 28.9 +2.1**
MKAR Makanchi Array 154.93 268 PKP **PKPdf 01 25 26.6 -0.1**
comp=Z,1.2nm,1.0s,baz=90,slow=1.2,SNR=5.4
MKAR PKPbc **PKiKP 01 25 35.6 +0.1**
comp=Z,5.9nm,1.1s,baz=132,slow=2.1,SNR=10
MKAR PP **PP 01 29 25.1 -2.5**
comp=Z,2.2nm,1.2s,baz=141,slow=4.8,SNR=3.7
MKAR Makanchi Array 154.93 268 *e*PKPdf **PKPdf 01 25 28.9 +2.1**
MKAR PKPbc **PKiKP 01 25 35.6 +0.1**
MKAR PP **PP 01 29 25.1 -2.5**
MAKZ Makanchi 155.12 268 *e*PKIKP **PKPdf 01 25 25.6 -1.4**
MAKZ Makanchi 155.12 268 *e*PKPdf **PKPdf 01 25 25.6 -1.4**
NRN Naryn 155.31 251 PKIKP **PKPdf 01 25 28.0 +0.2**
DOU Dourbes 155.59 84 ⇓PKPab **PKPab 01 25 57.9 +4.2**
TIP Timpagrande 155.99 118 ⇓*i*P **PKPdf 01 25 31.4 +2.9**
TIP Timpagrande 155.99 118 *e*PKPdf **PKPdf 01 25 28.6 +0.1**
TIP *e*PKPab **PKPab 01 25 54.9 -0.9**
CUC Castrocucco 156.10 115 *e*PKPdf **PKPdf 01 25 27.6 -1.0**
CUC *e*PKPab **PKPab 01 25 55.9 -0.3**
ECH Echery 156.22 90 PFAKE 01 25 40.0 +12
ECH LR LR
comp=Z,725nm,20.0s
WLF Walferdange 156.30 86 ⇑APKPab **PKPab 01 26 01.5 +4.8**
WLF Walferdange 156.30 86 PFAKE 01 25 40.0 +12
WLF LR LR
comp=Z,896nm,21.0s
ZALV Zalesovo Beam 156.48 286 PKP **PKPdf 01 25 28.4 -0.1**
comp=Z,0.4nm,0.5s,baz=197,slow=1.5,SNR=2.4
ZALV PKPab **PKPab 01 25 56.7 -0.7**
comp=Z,1.5nm,0.8s,baz=85,slow=3.2,SNR=5.2
TUE Stuetta 156.60 95 PFAKE 01 25 40.0 +11
TUE LR LR
comp=Z,171nm,19.0s
AAK Ala-Archa 156.94 252 PKPab **PKPab 01 25 59.4 -0.5**
comp=Z,9.5nm,1.2s,baz=198,slow=6.4,SNR=12
AAK PP **PP 01 29 37.2 -1.7**
comp=Z,0.5nm,0.4s,baz=96,slow=7.7,SNR=4.4
AAK Ala-Archa 156.94 252 *e*PKP2 **PKPab 01 25 58.7 -1.2**
AAK 01 29 37.2
AAK MLR MLR
comp=Z,1µm,20.0s
AAK Ala-Archa 156.94 252 *e*PKPab **PKPab 01 25 58.7 -1.2**
AAK PP **PP 01 29 37.2 -1.7**
AAK LR LR
comp=Z,1µm,20.0s
BFO Black Forest 156.96 91 *e*PKIKP **PKPdf 01 25 30.1 +0.7**
BFO MLR MLR
comp=Z,970nm,21.0s
BFO Black Forest 156.96 91 *e*PKPdf **PKPdf 01 25 30.1 +0.7**
BFO LR LR
comp=Z,970nm,21.0s
DAVA Damuels 157.34 94 *e*PKPdf **PKPdf 01 25 30.2 +0.1**
comp=Z,10nm,1.1s
NVS Novosibirsk 157.62 287 *e*PKP2 **PKPab 01 26 02.2 -0.1**
FETA Feichten 157.69 96 *e*PKPdf **PKPdf 01 25 31.8 +1.3**
comp=Z,8.3nm,1.2s
RETA Reutte 157.95 95 *e*PKPdf **PKPdf 01 25 31.7 +1.0**
comp=Z,7.5nm,1.2s
MOTA Moosalm 158.08 95 *e*PKPdf **PKPdf 01 25 32.4 +1.4**
comp=Z,2.6nm,0.9s
WTTA Wattenberg 158.35 96 *e*PKPdf **PKPdf 01 25 32.0 +0.7**
comp=Z,6.0nm,1.1s
AGG Agios Georgios 158.61 127 *e*PKIKP **PKPdf 01 25 33.0 +1.3**
AGG Agios Georgios 158.61 127 *e*PKPdf **PKPdf 01 25 33.0 +1.3**
KURK Kurchatov 158.91 274 *e*PKIKP **PKPdf 01 25 30.9 -0.8**
KURK *e* 01 26 07.7
KURK 01 29 48.5
KURK MLR MLR
comp=Z,2µm,20.0s
KURK Kurchatov 158.91 274 *e*PKPdf **PKPdf 01 25 30.9 -0.8**
KURK *e*PKPab **PKPab 01 26 07.7 -0.3**
KURK PP **PP 01 29 48.5 -1.0**
KURK LR LR
comp=Z,2µm,20.0s
KURBB Kurchatov Arra 158.93 274 PKP **PKPdf 01 25 30.1 -1.6**
comp=Z,1.0nm,0.2s,baz=153,slow=1.0,SNR=5.0
KURBB PP **PP 01 29 48.5 -1.1**
comp=Z,0.8nm,0.2s,baz=142,slow=4.0,SNR=4.4
CSS Mathiatis 159.08 154 PFAKE 01 25 40.0 +7.6
CSS LR LR
comp=Z,275nm,21.0s
KBA Koelnbreinsper 159.24 98 *e*PKPdf **PKPdf 01 25 32.4 0.0**
comp=Z,3.4nm,1.0s
GRFO Grafenberg 159.27 90 *e*PKP2 **PKPab 01 26 10.2 +0.6**
GRFO Grafenberg 159.27 90 *e*PKPab **PKPab 01 26 10.2 +0.6**
FNA Florina 159.53 122 PKIKP **PKPdf 01 25 33.5 +0.7**
OBKA Obir 159.62 101 *e*PKPdf **PKPdf 01 25 33.6 +0.9**
comp=Z,12nm,1.4s
PDG Podgorica 159.65 116 ⇓*i*P **PKPdf 01 25 32.6 -0.2**
SOKA Soboth 160.00 101 *e*PKPdf **PKPdf 01 25 34.1 +0.9**
comp=Z,8.4nm,1.1s
BLY Banja Luka 160.07 108 ⇓*i*P **PKPdf 01 25 33.4 +0.2**
MOA Molln 160.18 97 *e*PKPdf **PKPdf 01 25 33.3 +0.1**
comp=Z,3.6nm,1.3s
NKC Novy Kostel 160.22 89 *e*SS SS 01 50 09.3 +2.3
NKC AMS AMS 02 38 40.0
comp=Z,800nm,16.6s
GEA0 GERESS Array S 160.33 94 *e*PKPdf **PKPdf 01 25 33.6 +0.2**
GEC2 GERESS Array S 160.34 94 *e*PKIKP **PKPdf 01 25 34.8 +1.3**
GEC2 GERESS Array S 160.34 94 *e*PKPdf **PKPdf 01 25 34.8 +1.3**
GERES GERESS Array B 160.34 94 PKP **PKPdf 01 25 34.1 +0.6**
comp=Z,6.5nm,1.1s,baz=214,slow=0.5,SNR=14
GERES PP **PP 01 29 59.0 +1.6**
comp=Z,0.2nm,0.6s,baz=247,slow=6.9,SNR=4.5
KHC Kasperske Hory 160.40 93 *e*PKIKP **PKPdf 01 25 33.5 0.0**
KHC Kasperske Hory 160.40 93 *e*PKPDF **PKPdf 01 25 33.7 +0.2**
KHC *e*PKPAB **pPKPab 01 26 17.6 -0.3**
KHC *e*SS SS 01 50 10.5 +1.6
KHC AMS AMS 02 33 10.0
comp=Z,900nm,19.1s
KHC Kasperske Hory 160.40 93 *e*PKPdf **PKPdf 01 25 33.5 0.0**
ARSA Arzberg 160.59 100 *e*PKPdf **PKPdf 01 25 34.0 +0.3**
comp=Z,5.9nm,1.1s
ISP Isparta 160.91 145 PFAKE 01 25 50.0 +15
ISP LR LR
comp=Z,779nm,22.0s
GEYT Alibeck 160.96 216 PKP **PKPdf 01 25 34.1 -0.4**
comp=Z,0.6nm,0.8s,baz=197,slow=1.5,SNR=2.3
GEYT PKPab **PKPab 01 26 15.0 -2.2**
comp=Z,1.6nm,0.9s,baz=172,slow=4.2,SNR=5.9
CLL Collm 160.97 87 *e*PKIKP **PKPdf 01 25 34.0 +0.1**
CLL *e* 01 26 16.0
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL pmax pmax
comp=Z,32nm,2.2s
CLL MLR MLR
comp=Z,800nm,20.0s
CLL Collm 160.97 87 *e*PKPdf **PKPdf 01 25 34.0 +0.1**
comp=Z,8.0nm,1.2s
CLL *e*PKPab **PKPab 01 26 16.0 -1.0**
comp=Z,32nm,2.2s
CLL *i* 01 26 25.7
CLL *e*PP **PP 01 30 05.0 +4.4**
CLL *e*SKKSac SKKSac 01 37 00.0 +12
CLL *e*PSKS 01 40 24.0
CLL *e* 01 42 48.0
CLL *e*PPS PPS 01 43 24.0
CLL *e*SS **SS 01 50 08.0 -6.8**
CLL *e*PSS PSS 01 51 10.0
CLL *e*SSS SSS 01 56 18.0
CLL *e*SSSS 02 00 42.0
CLL LmH 02 49 00.0
comp=N,400nm,18.4s
CLL LmH 02 49 00.0
comp=E,500nm,20.1s
CLL LmV 02 50 00.0
comp=Z,800nm,20.0s
CONA Conrad Observa 161.14 99 *e*PKPdf **PKPdf 01 25 34.4 0.0**
comp=Z,6.6nm,1.0s
DIVS Divibare 161.19 113 *e*PKPdf **PKPdf 01 25 34.8 +0.3**
PRU Pruhonice 161.34 92 *e*PKIKP **PKPdf 01 25 38.3 +3.9**
PRU *e*SS SS 01 50 24.5 +5.8
PRU MLR MLR
comp=Z,800nm,19.8s
PRU Pruhonice 161.34 92 *e*PKPDF **PKPdf 01 25 38.3 +3.9**
PRU *e*PKPAB **pPKPab 01 26 22.3 +0.3**
PRU *e*SS SS 01 50 24.5 +5.8
PRU AMS AMS 02 36 50.0
comp=Z,800nm,19.8s
BRG Berggiesshubel 161.35 89 *e*PKP **PKPdf 01 25 34.8 +0.4**
comp=Z,5.4nm,1.4s
BRG SS SS 01 50 09.0 -10
BRG Berggiesshubel 161.35 89 *e*PKIKP **PKPdf 01 25 34.8 +0.4**
BRG pmax pmax
comp=Z,5.0nm,1.4s
BRG MLR MLR
comp=N,385nm,16.8s
BRG MLR MLR
comp=E,351nm,17.2s
BRG MLR MLR
comp=Z,1µm,19.0s
GOPC GO Pecny, Ondr 161.45 92 *e*SS SS 01 50 28.5 +8.6
GOPC AMS AMS 02 36 50.0
comp=Z,900nm,19.1s
PVCC Panska Ves 161.58 90 AMS AMS 02 31 50.0
comp=Z,800nm,18.6s
VTS Vitosha 161.79 122 ⇑PKIKP **PKPdf 01 25 34.4 -0.9**
VTS Vitosha 161.79 122 ⇑*i*P **PKPdf 01 25 34.4 -0.9**
UPC Upice 162.41 91 *e*SS SS 01 50 36.8 +6.9
UPC AMS AMS 02 40 00.0
comp=Z,600nm,19.4s
DPC Dobruska-Polom 162.53 92 *e*PKIKP **PKPdf 01 25 39.0 +3.3**
DPC *e* 01 26 25.0
DPC MLR MLR
comp=Z,600nm,15.4s
DPC Dobruska-Polom 162.53 92 *e*PKPDF **PKPdf 01 25 39.0 +3.3**
DPC *e*PKPAB **pPKPab 01 26 25.0 +1.1**
DPC *ex* x 01 50 14.7
DPC AMS AMS 02 34 30.0
comp=Z,600nm,15.4s
KEV Kevo 162.76 20 PFAKE 01 25 50.0 +15
KEV LR LR
comp=Z,1µm,20.0s
MORC Moravsky Berou 163.00 95 ⇓PKIKP **PKPdf 01 25 39.2 +3.1**
MORC Moravsky Berou 163.00 95 ⇓*i*P **PKPdf 01 25 39.2 +3.1**
BZS Buzias 163.05 112 ⇓PKIKP **PKPdf 01 25 35.2 -1.1**
BZS Buzias 163.05 112 ⇓*i*P **PKPdf 01 25 35.2 -1.1**
VYHS Vyhne 163.14 100 *e*PKIKP **PKPdf 01 25 36.3 0.0**
VYHS *e* 01 25 39.5
VYHS Vyhne 163.14 100 *e*PKP **PKPdf 01 25 36.3 0.0**
VYHS *e* 01 25 39.5
OKC Ostrava-Krasne 163.38 95 *e*SS SS 01 50 38.2 -1.6
OKC AMS AMS 02 43 30.0
comp=Z,1µm,19.7s
PSZ Piszkesteto 163.45 103 PFAKE 01 25 50.0 +13
PSZ LR LR
comp=Z,928nm,19.0s
BR231 Keskin MP Arra 163.48 147 *e*PKPdf **PKPdf 01 25 35.8 -1.2**
SIRR Siria 163.49 110 ⇓*i*P **PKPdf 01 25 36.8 +0.1**
ANTO Ankara 163.51 147 PFAKE 01 25 50.0 +13
ANTO LR LR
comp=Z,811nm,20.0s
BRTR Keskin Array B 163.63 150 PKP **PKPdf 01 25 37.0 -0.3**
comp=Z,1.9nm,1.0s,baz=197,slow=3.8,SNR=7.3
BRTR PP **PP 01 30 21.8 +7.4**
comp=Z,0.6nm,1.1s,baz=224,slow=4.0,SNR=3.6
BR131 Keskin Array S 163.63 150 *e*PKPdf **PKPdf 01 25 37.5 +0.3**
GKP Gorka Klasztor 164.06 83 *e*PKP **PKPdf 01 25 40.4 +3.5**
GKP Gorka Klasztor 164.06 83 *e*PKIKP **PKPdf 01 25 40.4 +3.5**
LOT Lotru 164.09 116 ⇓*i*P **PKPdf 01 25 39.7 +2.3**
DRGR 164.38 111 ⇑PKIKP **PKPdf 01 25 35.0 -2.6**
DRGR 164.38 111 ⇑*i*P **PKPdf 01 25 35.0 -2.6**
NIE Niedzica 164.43 99 *e*PKP **PKPdf 01 25 38.8 +1.3**
NIE Niedzica 164.43 99 *e*PKIKP **PKPdf 01 25 38.8 +1.3**
BVAR Borovoye Array 164.49 275 PKP **PKPdf 01 25 35.8 -1.5**
comp=Z,0.1nm,0.3s,baz=113,slow=2.2,SNR=4.6
OJC Ojcow 164.50 96 *e*PKP **PKPdf 01 25 41.5 +4.0**
OJC Ojcow 164.50 96 *e*PKIKP **PKPdf 01 25 41.5 +4.0**
BRVK Borovoye 164.56 276 *e*PKIKP **PKPdf 01 25 36.4 -1.0**
BRVK *e* 01 26 32.2
BRVK MLR MLR
comp=Z,654nm,19.0s
BRVK Borovoye 164.56 276 *e*PKPdf **PKPdf 01 25 36.4 -1.0**
BRVK *e*PKPab **PKPab 01 26 32.2 -0.5**
BRVK LR LR
comp=Z,654nm,19.0s
VOIR 164.75 118 ⇓PKIKP **PKPdf 01 25 30.8 -7.1**
VOIR 164.75 118 ⇓*i*P **PKPdf 01 25 30.8 -7.1**
UZH Uzhgorod 165.19 104 *e*PKIKP **PKPdf 01 25 38.3 +0.2**
UZH *e* 01 25 44.1
MLR Muntele Rosu 165.24 120 ⇓PKIKP **PKPdf 01 25 37.7 -0.7**
MLR Muntele Rosu 165.24 120 ⇓*i*P **PKPdf 01 25 37.7 -0.7**
ISR Istrita 165.28 122 ⇓PKIKP **PKPdf 01 25 38.8 +0.4**
ISR Istrita 165.28 122 ⇓*i*P **PKPdf 01 25 38.8 +0.4**
ARCR ARCALIA 165.45 112 ⇑*i*P **PKPdf 01 25 38.3 -0.1**
GNI Garni 165.70 182 PFAKE 01 25 50.0 +11
GNI LR LR

comp=Z,2µm,20.0s
LVZ Lovozero 165.75 15 PFAKE 01 25 50.0 +12
LVZ LR LR
comp=Z,1µm,20.0s
VRI Vrincioaia 165.90 120 ⇓PKIKP **PKPdf 01 25 32.7 -6.1**
VRI Vrincioaia 165.90 120 ⇓*i*P **PKPdf 01 25 32.7 -6.1**
KWP Kalwaria Pacla 165.92 101 *e*PKP **PKPdf 01 25 41.5 +2.8**
KWP Kalwaria Pacla 165.92 101 *e*PKIKP **PKPdf 01 25 41.5 +2.8**
CFR Carcaliu 166.10 125 ⇑PKIKP **PKPdf 01 25 37.0 -1.9**
CFR Carcaliu 166.10 125 ⇑*i*P **PKPdf 01 25 37.0 -1.9**
SUW Suwalki 167.67 83 *e*PKP **PKPdf 01 25 42.2 +2.4**
SUW Suwalki 167.67 83 *e*PKIKP **PKPdf 01 25 42.2 +2.4**
KIS Kishinev 167.73 121 *e*PP PP 01 31 06.0 +30
KIS *e*LR LR 02 30 26.0
comp=Z,1µm,26.0s
KIS Kishinev 167.73 121 *e*PKP2 **PKPab 01 26 50.0 +3.2**
KIS *e* 01 30 32.0
ABKAR Akbulak array 169.00 248 *e*PKPdf **PKPdf 01 25 41.0 +0.1**
ABKAR *e*PKPab **PKPab 01 25 51.6 -0.8**
ANN Anapa 169.39 153 *e*PKIKP PKPdf 01 25 56.8 +16
KIV Kislovodsk 169.46 174 *e*PKIKP **PKPdf 01 25 40.4 -1.1**
KIV *e* 01 26 53.4
KIV *e* 01 30 42.3
KIV *e*SSS SSS 01 58 17.3
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 169.46 174 PFAKE 01 25 50.0 +8.5
KIV LR LR
comp=Z,1µm,22.0s
KIEV Kiev 170.11 106 PFAKE 01 25 50.0 +8.5
KIEV LR LR
comp=Z,1µm,22.0s
AKASG Malin Array Be 170.12 106 PKP **PKPdf 01 25 40.3 -1.2**
comp=Z,0.2nm,0.2s,baz=284,slow=1.1,SNR=5.3
AKTO Aktyubinsk 170.68 250 PKPab **PKPab 01 26 59.8 -0.1**
comp=Z,2.5nm,0.8s,baz=166,slow=1.5,SNR=8.4
AKTO PP **PP 01 30 49.4 -1.5**
comp=Z,1.1nm,0.8s,baz=136,slow=4.2,SNR=3.6
ARU Arti 171.62 290 *e*PKIKP **PKPdf 01 25 42.8 +0.7**
ARU *e* 01 27 03.7
ARU MLR MLR
comp=Z,936nm,20.0s
ARU Arti 171.62 290 *e*PKPdf **PKPdf 01 25 42.8 +0.7**
ARU *e*PKPab **PKPab 01 27 03.7 -0.1**
ARU LR LR
comp=Z,936nm,20.0s
OBN Obninsk 175.50 78⇑ *e*PKP2 **PKPab 01 27 25.3 +4.2**
OBN pmax pmax
comp=Z,17nm,1.4s
OBN Obninsk 175.50 78 PFAKE 01 25 50.0 +6.5
OBN LR LR
comp=Z,1µm,20.0s

*NEIC **25** 01:10:59.2±0.0, 19.88N×66.63W, h112km, MD3.6(RSPR), After RSPR.*
RSPR 25 01:10:59.2, 19.88N×66.63W, h111km±7km, MD3.5/9, 18C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.40**	**176**⇓	*e*P	Pn	01 11 24.6	-0.3
EMPR	**Esperanza - Ma**	**1.40**	**176**⇓	*e*P	Pn	01 11 24.6	-0.3
EMPR				*e*S	Sn	01 11 44.1	-0.2
AOPR	**Arecibo Observ**	**1.53**	**184**⇑	*e*P	Pn	01 11 25.7	-0.7
AOPR	**Arecibo Observ**	**1.53**	**184**⇑	*e*P	Pn	01 11 25.7	-0.7
AOPR				*e*S	Sn	01 11 47.4	+0.2
IDE	**Isla Desecheo**	**1.68**	**208**⇑	*e*P	Pn	01 11 27.8	-0.6
IDE	**Isla Desecheo**	**1.68**	**208**⇑	*e*P	Pn	01 11 27.8	-0.6
IDE				*e*S	Sn	01 11 50.7	+0.2
LSP	**Las Mesas**	**1.75**	**194**⇑	*e*P	Pn	01 11 28.3	-0.8
LSP	**Las Mesas**	**1.75**	**194**⇑	*e*P	Pn	01 11 28.3	-0.8
LSP				*e*S	Sn	01 11 51.5	-0.4
CBYP	**Canovanas**	**1.76**	**155**⇑	*e*P	Pn	01 11 28.7	-0.6
CBYP	**Canovanas**	**1.76**	**155**⇑	*e*P	Pn	01 11 28.7	-0.6
CBYP				*e*S	Sn	01 11 52.3	+0.1
CELP	**Cerrillos**	**1.79**	**178**⇓	*e*P	Pn	01 11 29.8	+0.1
CELP				*e*S	Sn	01 11 53.2	+0.3
CELP	**Cerrillos**	**1.79**	**178**⇓	*e*P	Pn	01 11 29.8	+0.1
SJG	**San Juan**	**1.81**	**165**⇑	*e*P	Pn	01 11 29.6	-0.3
SJG	**San Juan**	**1.81**	**165**⇑	*e*P	Pn	01 11 29.6	-0.3
SJG				*e*S	Sn	01 11 52.7	-0.6
OBIP	**Obispado Ponce**	**1.82**	**179**⇑	*e*P	Pn	01 11 29.4	-0.6
OBIP	**Obispado Ponce**	**1.82**	**179**⇑	*e*P	Pn	01 11 29.4	-0.6
OBIP				*e*S	Sn	01 11 53.3	-0.3
HUMP	**Col San Antoni**	**1.88**	**157**⇑	*e*P	Pn	01 11 30.6	-0.1
HUMP	**Col San Antoni**	**1.88**	**157**⇑	*e*P	Pn	01 11 30.6	-0.1
HUMP				*e*S	Sn	01 11 54.8	+0.1
CRPR	**Cabo Rojo, PR**	**1.92**	**194**⇑	*e*P	Pn	01 11 31.3	+0.1
CRPR	**Cabo Rojo, PR**	**1.92**	**194**⇑	*e*P	Pn	01 11 31.3	+0.1
CRPR				*e*S	Sn	01 11 55.7	+0.1
STVI	**Saint Thomas**	**2.19**	**133**⇓	*e*P	Pn	01 11 34.7	0.0
STVI	**Saint Thomas**	**2.19**	**133**⇓	*e*P	Pn	01 11 34.7	0.0
STVI				*e*S	Sn	01 12 01.7	-0.2
DR12	**Loma Pena Alta**	**2.81**	**248**⇑	*e*P	Pn	01 11 39.8	-3.0
DR12				*e*S	Sn	01 12 13.9	-2.5
DR12	**Loma Pena Alta**	**2.81**	**248**⇑	*e*P	Pn	01 11 39.8	-3.0

*ISK **25** 01:15:49.9, 40.32N×25.22E, h5km, MD2.5/2*
*ISCJB **25** 01:15:50.0±0.5, 40.31N±0.03×25.22E±0.03, h7km±6km, Error ellipse: s-maj=5.5km s-min=3.6km az=150.0*
*CSEM **25** 01:15:50.3±0.1, 40.30N×25.21E, h5km, ML1.5, Error ellipse: s-maj=2.4km s-min=1.9km az=162.0*
*ATH **25** 01:15:50.1, 40.31N×25.22E, h14km±6km, ML1.5/5, Error ellipse: s-maj=6.3km s-min=0.9km az=117.0*
ISC 25 01:15:50.0±1.1, 40.32N±0.03×25.24E±0.02, h14km±10km, n33, σ0.50/49, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.27**	**56**	P	**Pb**	**01 15 56.1**	**-0.5**
SMTH				S	**Sb**	**01 16 00.3**	**-0.7**
SMTH				AML	AML	01 16 00.4	
	comp=N,314µm,0.2s						
SMTH				AML	AML	01 16 00.4	
	comp=E,347µm,0.2s						
SMTH	**Samothraki Isl**	**0.27**	**56**	P	**Pb**	**01 15 56.1**	**-0.5**
SMTH				S	**Sb**	**01 16 00.4**	**-0.7**
LIA	**Limnos Island**	**0.42**	**186**	P	**Pb**	**01 15 58.9**	**-0.4**
LIA				S	**Sg**	**01 16 04.2**	**0.0**
LIA				AML	AML	01 16 05.1	
	comp=N,117µm,0.1s						
LIA				AML	AML	01 16 05.2	
	comp=E,181µm,0.3s						
LIA	**Limnos Island**	**0.42**	**186**	P	**Pb**	**01 15 58.6**	**-0.7**
LIA				S	**Sg**	**01 16 04.2**	**0.0**
GADA	**Gvkgeada**	**0.52**	**104**	PG	**Pb**	**01 16 01.2**	**+0.3**
GADA	**Gvkgeada**	**0.52**	**104**	*e*Pg	**Pb**	**01 16 01.2**	**+0.3**
BOZC	**Bozcaada**	**0.79**	**127**	PG	**Pb**	**01 16 05.7**	**+0.3**
BOZC	**Bozcaada**	**0.79**	**127**	*e*Pg	**Pb**	**01 16 05.7**	**+0.3**
ENEZ	**Enez**	**0.81**	**59**	PG	**Pb**	**01 16 06.3**	**+0.4**
ENEZ				SG	**Sb**	**01 16 18.1**	**+1.5**
ALN	**Alexandroupoli**	**0.84**	**46**	PG	**Pn**	**01 16 07.4**	**0.0**
ALN				SG	**Sn**	**01 16 19.2**	**-0.4**
ALN	**Alexandroupoli**	**0.84**	**46**	P	**Pb**	**01 16 06.3**	**-0.1**
ALN				S	**Sb**	**01 16 18.5**	**+1.0**
ALN				AML	AML	01 16 20.3	
	comp=E,40µm,0.5s						
ALN				AML	AML	01 16 20.9	
	comp=N,34µm,0.6s						
ALN	**Alexandroupoli**	**0.84**	**46**	P	**Pb**	**01 16 06.4**	**0.0**
ALN	**Alexandroupoli**	**0.84**	**46**	*e*Pg	**Pn**	**01 16 07.4**	**0.0**
ALN				S	**Sb**	**01 16 18.5**	**+1.0**
ALN				*e*Sg	**Sn**	**01 16 19.2**	**-0.4**
RDO	**Rodhopi**	**0.85**	**15**	P	**Pb**	**01 16 06.7**	**+0.1**
RDO	**Rodhopi**	**0.85**	**15**	P	**Pb**	**01 16 06.7**	**+0.1**
KAVA	**Kavala**	**0.87**	**321**	P	**Pb**	**01 16 07.4**	**+0.5**
KAVA				S	**Sb**	**01 16 18.7**	**+0.2**
KAVA				AML	AML	01 16 19.9	
	comp=N,42µm,0.3s						
KAVA				AML	AML	01 16 20.5	
	comp=E,48µm,0.2s						
KAVA	**Kavala**	**0.87**	**321**	P	**Pb**	**01 16 07.0**	**+0.1**
KAVA				S	**Sb**	**01 16 18.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.95**	**85**	PG	**Pn**	**01 16 08.6**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.95**	**85**	*e*Pg	**Pn**	**01 16 08.6**	**-0.2**
OUR	**Ouranopolis**	**0.96**	**271**	PG	**Pb**	**01 16 08.6**	**+0.2**
OUR				SG	**Sb**	**01 16 21.8**	**+0.8**
OUR	**Ouranopolis**	**0.96**	**271**	P	**Pb**	**01 16 08.3**	**-0.1**
OUR				S	**Sg**	**01 16 20.4**	**-0.8**
OUR				AML	AML	01 16 23.3	
	comp=N,76µm,0.2s						
OUR				AML	AML	01 16 23.8	
	comp=E,105µm,0.3s						
OUR	**Ouranopolis**	**0.96**	**271**	P	**Pb**	**01 16 08.2**	**-0.2**
OUR	**Ouranopolis**	**0.96**	**271**	*e*Pg	**Pb**	**01 16 08.6**	**+0.2**
OUR				S	**Sb**	**01 16 20.8**	**-0.2**
OUR				*e*Sg	**Sb**	**01 16 21.8**	**+0.8**
ERIK	**Erikli-Kesan**	**1.03**	**70**	PG	**Pb**	**01 16 09.9**	**+0.3**
ERIK				SG	**Sn**	**01 16 24.5**	**+0.2**
SIGR	**SIGRI**	**1.21**	**157**	PN	**Pg**	**01 16 13.8**	**+0.6**
SIGR	**SIGRI**	**1.21**	**157**	P	**Pb**	**01 16 11.9**	**-0.7**
SIGR	**SIGRI**	**1.21**	**157**	P	**Pb**	**01 16 12.3**	**-0.3**
SIGR	**SIGRI**	**1.21**	**157**	*e*Pn	**Pg**	**01 16 13.8**	**+0.6**
PAIG	**Paliouri**	**1.26**	**252**	P	**Pn**	**01 16 13.1**	**-0.1**
PAIG	**Paliouri**	**1.26**	**252**	P	**Pb**	**01 16 13.3**	**-0.2**
KRBG	**Karabiga-Canak**	**1.57**	**87**	PN	**Pg**	**01 16 19.7**	**-0.5**
EDRB	**Edirne**	**1.90**	**36**	PN	**Pb**	**01 16 24.2**	**-0.3**
EDRB	**Edirne**	**1.90**	**36**	*e*Pn	**Pb**	**01 16 24.2**	**-0.3**

*CSEM **25** 01:23:48.6±0.1, 36.05N×25.10E, h15km, ML2.5, Error ellipse: s-maj=1.9km s-min=1.4km az=108.0*
*ATH **25** 01:23:48.2, 36.07N×25.12E, h31km±1km, ML2.5/8, Error ellipse: s-maj=1.6km s-min=0.7km az=77.0*
*ISCJB **25** 01:23:49.0±0.4, 36.06N±0.02×25.13E±0.04, h26km±6km, Error ellipse: s-maj=5.5km s-min=3.7km az=2.9*
*THE **25** 01:23:49.1, 36.06N×25.13E, h19km±1km, ML2.4/6, Error ellipse: s-maj=2.0km s-min=0.5km az=74.0*
ISC 25 01:23:48.6±1.1, 36.06N±0.02×25.11E±0.02, h19km±3km, n62, σ0.35/87, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.38**	**38**	P	**Pb**	**01 23 56.9**	**+0.1**
THR6	**Thira Island,**	**0.38**	**38**	P	**Pb**	**01 23 56.8**	**0.0**
THR6	**Thira Island,**	**0.38**	**38**	P	**Pb**	**01 23 56.7**	**0.0**
THR5	**Thira Island,**	**0.40**	**28**	P	**Pb**	**01 23 57.3**	**0.0**
THR5	**Thira Island,**	**0.40**	**28**	P	**Pb**	**01 23 57.2**	**-0.1**
THT1	**Athinios (Pele**	**0.41**	**39**	P	**Pg**	**01 23 57.0**	**-0.1**
THT1	**Athinios (Pele**	**0.41**	**39**	P	**Pg**	**01 23 57.2**	**0.0**
THT1	**Athinios (Pele**	**0.41**	**39**	P	**Pg**	**01 23 57.2**	**0.0**
SANT	**Santorini**	**0.42**	**42**	P	**Pg**	**01 23 57.1**	**-0.2**
SANT				S	**Sg**	**01 24 02.7**	**-0.4**
SANT				AML	AML	01 24 03.6	
	comp=N,983µm,0.3s						
SANT				AML	AML	01 24 07.2	
	comp=E,1344µm,0.1s						
SANT	**Santorini**	**0.42**	**42**	P	**Pg**	**01 23 57.3**	**0.0**
SANT				S	**Sb**	**01 24 03.4**	**-0.2**
SANT	**Santorini**	**0.42**	**42**	P	**Pg**	**01 23 57.3**	**0.0**
THR3	**Thira Island,**	**0.42**	**34**	P	**Pb**	**01 23 57.7**	**+0.1**
THR3	**Thira Island,**	**0.42**	**34**	P	**Pb**	**01 23 57.5**	**0.0**
THR3	**Thira Island,**	**0.42**	**34**	P	**Pb**	**01 23 57.5**	**0.0**
SAP2K	**Karterados**	**0.44**	**38**	P	**Pb**	**01 23 58.0**	**+0.1**
SAP2K	**Karterados**	**0.44**	**38**	P	**Pb**	**01 23 57.9**	**0.0**
THR7	**Fira-Santorini**	**0.44**	**36**	P	**Pb**	**01 23 58.2**	**+0.2**
THR7	**Fira-Santorini**	**0.44**	**36**	P	**Pb**	**01 23 58.0**	**+0.1**
THR7	**Fira-Santorini**	**0.44**	**36**	P	**Pb**	**01 23 58.0**	**+0.1**
THT2	**Imerovigli**	**0.45**	**34**	P	**Pb**	**01 23 58.7**	**+0.6**
THT2				S	**Sn**	**01 24 06.3**	**-1.5**
THT2				AML	AML	01 24 07.4	
	comp=N,1605µm,0.3s						
THT2				AML	AML	01 24 10.0	
	comp=E,1589µm,0.5s						
THT2	**Imerovigli**	**0.45**	**34**	P	**Pb**	**01 23 58.3**	**+0.2**
THT2				S	**Sb**	**01 24 04.9**	**+0.5**
THT2	**Imerovigli**	**0.45**	**34**	P	**Pb**	**01 23 58.5**	**+0.4**
THT2				S	**Sb**	**01 24 04.9**	**+0.5**
THR8	**Santorini-Mono**	**0.46**	**41**	P	**Pg**	**01 23 57.8**	**-0.1**
THR8	**Santorini-Mono**	**0.46**	**41**	P	**Pg**	**01 23 57.9**	**-0.1**
THR8	**Santorini-Mono**	**0.46**	**41**	P	**Pg**	**01 23 57.9**	**-0.1**
SAP4	**Santorini-Oia**	**0.46**	**27**	P	**Pg**	**01 23 58.0**	**-0.1**
SAP4				S	**Sb**	**01 24 04.9**	**+0.1**
THR2	**Thira island,**	**0.47**	**34**	P	**Pb**	**01 23 58.6**	**+0.3**
THR2	**Thira island,**	**0.47**	**34**	P	**Pb**	**01 23 58.3**	**0.0**
THR2	**Thira island,**	**0.47**	**34**	P	**Pb**	**01 23 58.3**	**0.0**
IOSP	**Ios island**	**0.68**	**12**	P	**Pb**	**01 24 01.7**	**-0.1**
IOSP				S	**Sb**	**01 24 10.8**	**+0.1**
IOSP				AML	AML	01 24 14.1	
	comp=N,2241µm,0.2s						
IOSP				AML	AML	01 24 14.3	
	comp=E,1759µm,0.2s						
IOSP	**Ios island**	**0.68**	**12**	P	**Pb**	**01 24 01.7**	**-0.1**
IOSP				S	**Sg**	**01 24 11.2**	**+0.2**
MHLO	**Agia Marina, M**	**0.85**	**318**	P	**Pb**	**01 24 04.3**	**-0.5**
MHLO				S	**Sg**	**01 24 17.0**	**+0.5**
MHLO				AML	AML	01 24 18.4	
	comp=E,1810µm,0.3s						
MHLO				AML	AML	01 24 18.9	
	comp=N,1046µm,0.2s						
MHLO	**Agia Marina, M**	**0.85**	**318**	P	**Pb**	**01 24 04.6**	**-0.2**
MHLO				S	**Sg**	**01 24 16.8**	**+0.4**
MHLO	**Agia Marina, M**	**0.85**	**318**	P	**Pb**	**01 24 04.4**	**-0.4**
MHLO				S	**Sg**	**01 24 16.8**	**+0.4**
MHLA	**Plaka, Milos I**	**0.88**	**321**	P	**Pn**	**01 24 06.5**	**+0.5**
MHLA				S	**Sn**	**01 24 18.8**	**+0.4**
MHLA				AML	AML	01 24 20.1	
	comp=E,434µm,0.3s						
MHLA				AML	AML	01 24 24.8	
	comp=N,363µm,0.5s						
MHLA	**Plaka, Milos I**	**0.88**	**321**	P	**Pg**	**01 24 06.0**	**+0.2**
MHLA				S	**Sn**	**01 24 18.4**	**+0.1**
NPS	**Neapolis**	**0.90**	**153**	P	**Pb**	**01 24 02.5**	**-0.4**
NPS				S	**Sn**	**01 24 19.4**	**+0.6**
NPS				AML	AML	01 24 21.9	
	comp=N,495µm,0.3s						
NPS				AML	AML	01 24 23.9	
	comp=E,405µm,0.5s						
NPS	**Neapolis**	**0.90**	**153**	P	**Pb**	**01 24 05.5**	**-0.2**
NPS				S	**Sn**	**01 24 19.0**	**+0.2**
NPS	**Neapolis**	**0.90**	**153**	P	**Pb**	**01 24 05.4**	**-0.2**
LAST	**Lasithi**	**0.95**	**161**	P	**Pb**	**01 24 06.5**	**-0.1**
LAST	**Lasithi**	**0.95**	**161**	P	**Pb**	**01 24 06.4**	**-0.1**
LAST				S	**Sb**	**01 24 18.8**	**+0.1**
LAST	**Lasithi**	**0.95**	**161**	P	**Pb**	**01 24 06.4**	**-0.1**
LAST				S	**Sb**	**01 24 18.8**	**+0.1**
APE	**Apeiranthos**	**1.06**	**19**	P	**Pb**	**01 24 07.9**	**-0.5**
APE				S	**Sn**	**01 24 22.7**	**-0.2**
APE				AML	AML	01 24 25.5	
	comp=E,368µm,0.2s						
APE				AML	AML	01 24 28.8	
	comp=N,306µm,0.3s						
APE	**Apeiranthos**	**1.06**	**19**	P	**Pb**	**01 24 08.1**	**-0.3**
APE				S	**Sn**	**01 24 22.4**	**-0.5**
APE	**Apeiranthos**	**1.06**	**19**	P	**Pb**	**01 24 08.0**	**-0.5**
APE				S	**Sn**	**01 24 22.4**	**-0.5**
SIVA	**Sivas**	**1.07**	**193**	P	**Pn**	**01 24 08.9**	**+0.3**
SIVA	**Sivas**	**1.07**	**193**	P	**Pb**	**01 24 08.1**	**-0.4**
SIVA				S	**Sb**	**01 24 22.5**	**+0.3**
SIVA	**Sivas**	**1.07**	**193**	P	**Pb**	**01 24 08.1**	**-0.4**
SIVA				S	**Sb**	**01 24 22.5**	**+0.3**
IMMV	**Iera Moni Meta**	**1.10**	**237**	P	**Pn**	**01 24 08.1**	**-0.9**
IMMV				S	**Sn**	**01 24 24.0**	**+0.3**
IMMV				AML	AML	01 24 26.8	
	comp=E,470µm,0.3s						
IMMV				AML	AML	01 24 30.0	
	comp=N,415µm,0.4s						
IMMV	**Iera Moni Meta**	**1.10**	**237**	P	**Pn**	**01 24 08.6**	**-0.4**
IMMV				S	**Sb**	**01 24 22.9**	**0.0**
IMMV	**Iera Moni Meta**	**1.10**	**237**	P	**Pn**	**01 24 08.4**	**-0.6**
IMMV				S	**Sb**	**01 24 22.9**	**0.0**
TNSA	**Tinos**	**1.48**	**2**	P	**Pb**	**01 24 15.3**	**-0.2**
TNSA	**Tinos**	**1.48**	**2**	P	**Pb**	**01 24 14.9**	**-0.6**
ANKY	**Antikythira Is**	**1.48**	**263**	P	**Pn**	**01 24 14.7**	**+0.3**
ANKY	**Antikythira Is**	**1.48**	**263**	P	**Pn**	**01 24 14.6**	**+0.3**
ANKY	**Antikythira Is**	**1.48**	**263**	P	**Pn**	**01 24 14.6**	**+0.3**
KARP	**Karpathos**	**1.75**	**107**	P	**Pn**	**01 24 18.3**	**+0.3**
KARP	**Karpathos**	**1.75**	**107**	P	**Pn**	**01 24 18.3**	**+0.3**
VLI	**Veliai**	**1.87**	**291**	P	**Pn**	**01 24 19.6**	**0.0**
VLI	**Veliai**	**1.87**	**291**	P	**Pn**	**01 24 19.9**	**+0.2**
VLI	**Veliai**	**1.87**	**291**	P	**Pn**	**01 24 19.9**	**+0.2**

*ISCJB **25** 01:27:48.9±0.5, 5.17S±0.05×133.51E±0.07, h25km, mb4.0/8, Error ellipse: s-maj=9.7km s-min=6.2km az=162.7*
*IDC **25** 01:27:48.7±1.0, 5.07S×133.30E, h0km, mb4.1/5, mb1 4.2/8, mb1mx3.8/52, mbtmp4.2/8, ML4.1/3, Error ellipse: s-maj=45.3km s-min=21.0km az=74.0*

*NEIC **25** 01:27:49.8±0.6, 5.10S×133.41E, h10km, mb4.3/4, Error ellipse: s-maj=12.8km s-min=8.5km az=85.0*
*DJA **25** 01:27:55.8±0.8, 5.5S×133.3E, h11km±8km, M4.6/8, mb4.8/7, mB5.1/4, MLv4.5/8, Mw(mB)4.5/4*
ISC 25 01:27:50.5±0.6, 5.05S±0.05×133.49E±0.07, h25km, n35, σ2.01/38, mb4.1/8, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.39**	**9**	P	**Pb**	**01 28 14.7**	**-1.2**
FAKI	**Fak Fak**	**2.45**	**330**	P	**Pn**	**01 28 29.1**	**+0.2**
FAKI				S	**Sn**	**01 28 55.9**	**-2.1**
FAKI	**Fak Fak**	**2.45**	**330**	*e*Pn	**Pn**	**01 28 28.9**	**0.0**
FAKI				*e*Sn	**Sn**	**01 28 56.6**	**-1.4**
RKPI	**Ransiki, Papua**	**3.58**	**11**	P	**Pn**	**01 28 46.3**	**+1.8**
RKPI				S	**Sn**	**01 29 25.1**	**-0.9**
SAUI	**Saumlaki**	**3.64**	**217**	P	**Pb**	**01 28 54.8**	**+0.6**
SWI	**Sorong**	**4.71**	**332**	P	**Pn**	**01 29 00.6**	**+0.5**
SWI				S	**Sn**	**01 29 51.2**	**-2.8**
MSAI	**Masohi**	**4.85**	**290**	P	**Pn**	**01 29 04.3**	**+2.3**
AAI	**Ambon**	**5.45**	**284**	P	**Pn**	**01 29 12.4**	**+2.2**
	168nm,0.7s,2µm0.6nm						
NLAI	**Namlea**	**6.62**	**285**	P	**Pn**	**01 29 30.2**	**+3.9**
	36nm,0.6s,2µm0.2nm						
LBMI	**Labuha**	**7.41**	**306**	P	**Pn**	**01 29 39.0**	**+1.8**
	80nm,1.0s,0.3nm						
SANI	**Sanana**	**8.05**	**291**	P	**Pn**	**01 29 46.5**	**+0.5**
	60nm,0.8s,776nm0.2nm						
SOEI	**Soe**	**10.27**	**242**	P	Pn	01 30 23.1	+6.6
	43nm,0.8s						
SOEI	**Soe**	**10.27**	**242**	*e*Pn	**Pn**	**01 30 16.4**	**-0.1**
BATI	**Baumata**	**11.00**	**242**	Pn	**Pn**	**01 30 26.7**	**+0.2**
	1.6nm,0.3s,baz=306,slow=16,SNR=3.1						
BATI				Sn	**Sn**	**01 32 23.3**	**-5.5**
	2.1nm,0.3s,baz=74,slow=20,SNR=2.7						
BATI	**Baumata**	**11.00**	**242**	P	Pn	01 30 34.9	+8.4
	14nm,0.7s						
LUWI	**Luwuk**	**11.41**	**290**	P	**Pn**	**01 30 34.3**	**+2.2**
	46nm,1.2s						
LUWI	**Luwuk**	**11.41**	**290**	*e*Pn	**Pn**	**01 30 32.8**	**+0.7**
COEN	**Coen**	**13.02**	**134**	*e*Pn	**Pn**	**01 30 52.6**	**-1.5**
	5.3nm,0.5s						
WRAB	**Tennant Creek**	**14.82**	**177**	*e*Pn	**Pn**	**01 31 16.6**	**-2.1**
	5.5nm,0.6s						
WRA	**Warramunga Arr**	**14.83**	**177**	Pn	**Pn**	**01 31 16.4**	**-2.4**
	0.6nm,0.3s,baz=353,slow=13,SNR=20						
WRA				Sn	Sn	01 33 53.1	-9.3
	2.0nm,0.3s,baz=3.0,slow=22,SNR=9.3						
FITZ	**Fitzroy Crossi**	**15.07**	**210**	Pn	**Pn**	**01 31 19.9**	**-2.1**
	0.7nm,0.3s,baz=13,slow=18,SNR=18						
FITZ				Sn	Sn	01 33 57.5	-11
	1.5nm,0.3s,baz=197,slow=18,SNR=9.3						
ASAR	**Alice Springs**	**18.52**	**179**	Pn	**P**	**01 32 04.7**	**-0.6**
	0.5nm,0.3s,baz=17,slow=6.7,SNR=36						
ASAR				Sn	Sn	01 35 19.1	-13
	0.2nm,0.3s,baz=1.0,slow=25,SNR=7.1						
MBWA	**Marble Bar**	**20.85**	**219**	*e*P	**P**	**01 32 32.7**	**+2.0**
	28nm,0.7s						
STKA	**Stephens Creek**	**27.75**	**165**	P	**P**	**01 33 39.1**	**+1.8**
	1.7nm,0.8s,baz=349,slow=7.8,SNR=3.2						
KULM	**Kulim**	**34.36**	**287**	*e*P	**P**	**01 34 36.8**	**+1.0**
	6.2nm,0.7s						
MKAR	**Makanchi Array**	**68.56**	**325**	P	**P**	**01 38 53.0**	**+1.7**
	1.5nm,0.4s,baz=111,slow=8.1,SNR=28						
AAK	**Ala-Archa**	**71.35**	**318**	*e*P	**P**	**01 39 10.4**	**+1.7**
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**71.43**	**332**	P	**P**	**01 39 09.9**	**+1.2**
	1.7nm,0.9s,baz=98,slow=9.1,SNR=4.8						
KURBB	**Kurchatov Arra**	**72.72**	**327**	P	**P**	**01 39 18.0**	**+1.6**
	1.0nm,0.6s,baz=118,slow=5.6,SNR=9.7						
KURK	**Kurchatov**	**72.72**	**327**	P	P	**01 39 18.0**	**+1.6**
BVAR	**Borovoye Array**	**78.31**	**327**	P	P	**01 39 50.1**	**+1.6**
	1.1nm,0.6s,baz=124,slow=7.7,SNR=8.6						
ABKAR	**Akbulak array**	**83.17**	**321**	*e*P	**P**	**01 40 15.1**	**+0.6**
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**131.79**	**283**	PKP	**PKPdf**	**01 47 05.0**	**+2.4**
	0.2nm,0.5s,baz=53,slow=1.4,SNR=4.5						
CPUP	**Villa Florida**	**147.10**	**162**	PKPbc	**PKPab**	**01 47 34.6**	**+0.9**
	1.4nm,0.7s,baz=175,slow=2.5,SNR=5.1						
LPAZ	**La Paz**	**149.89**	**135**	PKPbc	**PKPab**	**01 47 43.0**	**-2.9**
	2.2nm,1.0s,baz=206,slow=3.0,SNR=6.1						

MEX 25 01:32:45.8±0.7, 16.28N×98.20W, h14km±2km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**34**	*i* P	Pg	01 32 48.5	-0.9
PNIG				*e*S	Sg	01 32 51.5	-0.3
TLIG	**Tlapa**	**1.32**	**345**	*e*P	Pn	01 33 06.1	-3.9
TLIG				*i* S	Sb	01 33 21.4	-6.0
VHO	**Vista Hermosa**	**1.61**	**61**	*e*P	Pn	01 33 10.9	-3.2
VHO				*e*S	Sn	01 33 29.8	-5.1
ACX	**Acapulco**	**1.69**	**290**	*i

CMIG Pg Pb 01 47 20.4 +1.0
74nm,0.3s,baz=258,slow=15,SNR=86
CMIG Lg Lg 01 48 01.9
161nm,0.3s,baz=332,slow=18,SNR=16
LVIG Laguna Verde 3.69 25 *e*Pn **Pn 01 47 19.9 -0.7**
MOIG Morelia 4.43 319 *e*Pn **Pn 01 47 33.3 +2.4**
ZAIG Zacatecas 7.65 327 *e*Pn **Pn 01 48 15.5 +0.3**
ZAIG eLg Lg 01 50 26.5
833A Chaparral WMA, 11.96 354 P **Pn 01 49 17.0 +3.0**
baz=174,SNR=6.2
TXAR Lajitas Array 13.89 339 Pn **Pn 01 49 43.5 +3.0**
0.0nm,0.3s,baz=150,slow=13,SNR=14
TXAR Lg Lg 01 53 52.1
0.0nm,0.3s,baz=163,slow=27,SNR=6.0
TXAR LR LR 01 54 54.8
comp=Z,320nm,18.9s,baz=0.0,slow=37
TX31 Lajitas Ar. Si 13.89 339 *e*Pn **Pn 01 49 44.3 +3.7**
JTS JuntasAbangare 14.12 114 Pn **Pn 01 49 44.9 +1.2**
0.9nm,0.3s,baz=352,slow=14,SNR=5.7
JTS JuntasAbangare 14.12 114 *e*Pn **Pn 01 49 44.0 +0.3**
20nm,0.9s
JCT Junction City 14.14 354 P **Pn 01 49 46.6 +2.8**
baz=173
JCT Junction City 14.14 354 *e*Pn **Pn 01 49 46.0 +2.2**
5.9nm,0.6s
544A White Castle 15.08 24 P **Pn 01 49 58.7 +2.1**
baz=206
341A Kurthwood 15.56 16 P **P 01 50 06.8 -0.4**
baz=198
WHTX Lake Whitney, 15.57 2 P **P 01 50 08.6 +1.3**
baz=182,SNR=7.0
WHTX Lake Whitney, 15.57 2 *e*Pn **Pn 01 50 03.9 +0.9**
44nm,1.3s
NATX Nacogdoches 15.64 11 P **P 01 50 08.2 +0.1**
baz=192
NATX Nacogdoches 15.64 11 *e*Pn **Pn 01 50 04.7 +0.7**
47nm,1.5s
ABTX Abilene, Hawle 16.25 355 P **P 01 50 16.6 +1.6**
baz=175,SNR=14
ABTX Abilene, Hawle 16.25 355 *e*P **P 01 50 16.0 +1.1**
41nm,1.1s
241A Mo Tay, Goldon 16.28 16 P **P 01 50 15.8 +0.6**
baz=198
446A Poplarville 16.42 27 S **Sn 01 53 14.8 -1.5**
baz=211
344A Westbrook Farm 16.44 23 P **P 01 50 17.1 0.0**
baz=206
MNTX Cornudas Mount 16.65 338 P **P 01 50 19.8 +0.4**
baz=155,SNR=8.0
MNTX Cornudas Mount 16.65 338 *e*Pn **P 01 50 19.6 +0.2**
4.3nm,0.9s
140A Cam and Jess, 16.71 13 P **P 01 50 20.5 +0.5**
baz=195
GDL2 Guadalupe Moun 16.77 341 *e*Pn **P 01 50 22.5 +1.7**
346A Big Creek Wild 16.89 26 P **Pn 01 50 19.8 -0.1**
baz=210
244A Avery, Jackson 16.99 22 P **Pn 01 50 22.3 +1.1**
baz=205,SNR=8.0
VBMS Vicksburg 17.21 22 P **Pn 01 50 24.9 +1.0**
baz=205
VBMS Vicksburg 17.21 22 *e*Pn **Pn 01 50 23.6 -0.3**
53nm,1.1s
245A Little AP, Sta 17.28 24 P **Pn 01 50 25.6 +0.8**
baz=207
347A Saraland 17.31 28 P **Pn 01 50 25.5 +0.3**
baz=212
Z40A Long Farm, Mag 17.34 13 P **P 01 50 27.7 +0.7**
baz=195
143A Socs Landing, 17.35 19 P **P 01 50 27.1 0.0**
baz=202
Z41A Richland Creek 17.48 15 P **P 01 50 28.9 +0.4**
baz=197
145A Houston Renfro 17.77 23 P **P 01 50 33.0 +1.2**
baz=206
349A Repton 17.91 32 P **P 01 50 33.6 +0.3**
baz=216
319A Douglas 18.10 328 *e*Pn **P 01 50 38.0 +2.5**
36nm,1.8s
Y41A Eaglette Beard 18.12 15 P **Pn 01 50 35.6 +0.3**
baz=197
146A Union 18.14 25 P **P 01 50 36.5 +0.7**
baz=209
248A Dixon Mills 18.26 29 P **Pn 01 50 36.4 -0.5**
baz=213
WMOK Wichita Mounta 18.31 358 P **Pn 01 50 37.9 +0.4**
baz=178,SNR=5.6
WMOK Wichita Mounta 18.31 358 *e*Pn **Pn 01 50 35.9 -1.7**
26nm,1.9s
121A Cookes Peak, D 18.34 333 P **P 01 50 40.8 +2.5**
baz=149
121A Cookes Peak, D 18.34 333 *e*P **P 01 50 40.1 +1.9**
9.2nm,0.9s
X39A Fountain Ranch 18.42 10 P **P 01 50 39.1 +0.2**
baz=192
Z45A Winona 18.55 23 P **P 01 50 40.6 +0.3**
baz=206
X40A Basin Creek Fa 18.65 14 P **Pn 01 50 43.1 +1.3**
baz=196
Z46A Louisville 18.68 25 P **Pn 01 50 42.4 +0.4**
baz=208
AMTX Amarillo 18.72 351 P **Pn 01 50 44.2 +1.5**
baz=169
148A Greensboro 18.80 29 P **P 01 50 43.3 +0.3**
baz=213
Y44A Strider, Charl 18.90 21 P **P 01 50 43.9 -0.3**
baz=204
Y45A Yeager Farm, C 19.05 22 P **Pn 01 50 46.5 0.0**
baz=206,SNR=5.8
149A Jones 19.12 30 P **P 01 50 46.0 -0.6**
baz=215
W39A Magazine 19.14 11 P **Pn 01 50 48.2 +0.5**
baz=193
X43A Marvell 19.20 18 P **Pn 01 50 49.2 +0.9**
baz=201
W40A Ferguson Farm, 19.28 13 P **Pn 01 50 49.8 +0.5**
baz=195
W40A Ferguson Farm, 19.28 13 *e*P **P 01 50 49.0 +0.7**
42nm,1.4s
BNM Barren Site 19.31 338 *e*P **Pn 01 50 52.4 +2.5**
DWPF Disney Wildern 19.31 50 *e*P **P 01 50 44.8 -3.9**
88nm,1.4s
Y46A Houston 19.32 24 P **P 01 50 48.8 0.0**
baz=208,SNR=13
LRAL Lakeview Retre 19.39 29 P **P 01 50 49.1 -0.4**
baz=214
LRAL Lakeview Retre 19.39 29 *e*P **P 01 50 49.8 +0.3**
35nm,1.7s
Z48A Northport 19.42 27 P **P 01 50 49.6 -0.3**
baz=212
251A Midway 19.43 34 P **P 01 50 49.5 -0.5**
baz=219
W41B Gary Mavity, V 19.44 14 P **Pn 01 50 51.4 +0.2**
baz=197
LPM Los Pinos Moun 19.45 338 *e*P **Pn 01 50 52.9 +1.2**
150A Eclectic 19.51 32 P **P 01 50 50.4 -0.5**
baz=217
WHAR Wooly Hollow 19.55 14 *e*P **P 01 50 51.9 +0.7**
18nm,1.3s
TUL1 Leonard 19.57 6 P **P 01 50 52.3 +0.7**
baz=187
TUL1 Leonard 19.57 6 *e*P **P 01 50 51.1 -0.4**
18nm,0.9s
X45A UM Field Stati 19.60 22 P **P 01 50 51.9 0.0**
baz=206
TUC Tucson 19.62 326 P **Pn 01 50 54.6 +1.1**
baz=141
TUC Tucson 19.62 326 *e*P **Pn 01 50 54.8 +1.3**
4.1nm,0.9s
OXF Oxford 19.68 22 P **P 01 50 52.1 -0.6**
baz=205
LAZ Ladron 19.72 337 *e*P **Pn 01 50 55.0 +0.2**
252A Lumpkin 19.73 36 P **P 01 50 52.4 -0.8**
baz=221
Z49A Columbiana 19.74 30 P **P 01 50 53.1 -0.2**
baz=215,SNR=7.6
Y47A UCPARC, Winfie 19.74 26 P **P 01 50 53.1 -0.3**
baz=210
V39A Pettigrew 19.79 11 P **P 01 50 54.4 +0.4**
baz=193,SNR=16
151A Opelika 19.81 33 P **P 01 50 53.4 -0.7**
baz=219
V40A Witts Springs 19.92 13 P **P 01 50 55.4 +0.1**
baz=195,SNR=8.8
ANMO Albuquerque 19.97 339 P **Pn 01 50 57.8 +0.1**
3.8nm,1.0s,baz=346,slow=13,SNR=10
ANMO Albuquerque 19.97 339 P **Pn 01 50 57.9 +0.1**
baz=156
ANMO Albuquerque 19.97 339 *e*P **Pn 01 50 58.0 +0.2**
12nm,1.3s
X46A Booneville 20.02 23 P **P 01 50 56.3 -0.1**
baz=208,SNR=5.5
Y48A Jasper 20.04 27 P **P 01 50 56.3 -0.3**
baz=212
V41A Mountainview 20.05 14 P **P 01 50 56.5 -0.2**
baz=197,SNR=6.3
Z50A Ashland 20.08 31 P **P 01 50 56.2 -0.9**
baz=216
V42A Cord 20.26 16 P **P 01 50 59.0 0.0**
baz=199
X47A Russelville 20.27 25 P **P 01 50 58.7 -0.5**
baz=209
W45A Hickory Valley 20.34 21 P **P 01 50 59.8 0.0**
baz=205
Y49A Blount Mountai 20.34 29 P **P 01 50 59.5 -0.4**
baz=214
U39A Green Forest 20.35 11 P **P 01 50 59.9 -0.2**
baz=193,SNR=15
U40A Yellville 20.45 12 P **P 01 51 01.1 0.0**
baz=194,SNR=11
214A Organ Pipe Nat 20.50 322 P Pn 01 51 04.4 +0.6
baz=136,SNR=6.6
X48A Hartselle 20.55 27 P **P 01 51 01.7 -0.6**
baz=212
PLAL Pickwick Lake 20.59 24 *e*P **P 01 51 02.0 -0.6**
15nm,0.9s
U41A Viola 20.64 14 P **P 01 51 03.1 0.0**
baz=197
Y50A Piedmont 20.69 30 P **P 01 51 03.2 -0.5**
baz=215
GNAR Gosnell 20.80 19 *e*P **P 01 51 04.2 -0.6**
972nm,1.2s
U42A Revenden 20.82 16 P **P 01 51 04.7 -0.3**
baz=199,SNR=8.3
T38A Diamond 20.86 9 P **P 01 51 06.4 +0.9**
baz=190,SNR=9.4
X49A Woodville 20.93 28 P **P 01 51 05.3 -0.9**
baz=213
V45A Humboldt 20.94 21 P **P 01 51 05.9 -0.5**
baz=205
X18A Snowflake 20.99 332 *e*P **P 01 51 10.2 +3.0**
29nm,1.2s
T39A Clever 21.00 11 P **P 01 51 06.8 -0.2**
baz=193,SNR=6.7
W47A Westpoint 21.02 25 P **P 01 51 06.5 -0.7**
baz=209
W48A Pulaski 21.19 26 P **P 01 51 08.5 -0.6**
baz=211,SNR=8.0
X50A Fort Payne 21.19 29 P **P 01 51 08.0 -1.2**
baz=215
T40A Mansfield 21.28 12 P **P 01 51 09.7 -0.3**
baz=195,SNR=18
V46A Holladay 21.30 23 P **P 01 51 09.6 -0.6**
baz=207,SNR=15
T41A Mountain View 21.34 14 P **P 01 51 10.7 0.0**
baz=197,SNR=9.6
W18A Petrified Fore 21.39 333 P **P 01 51 13.5 +2.1**
baz=148
W18A Petrified Fore 21.39 333 *e*P **P 01 51 13.6 +2.1**
55nm,1.9s
PBMO Poplar Bluff 21.43 17 *e*P **P 01 51 13.3 +1.6**
17nm,0.8s
T25A Trinidad 21.44 346 P **P 01 51 13.8 +1.8**
baz=163,SNR=48
T25A Trinidad 21.44 346 *e*P **P 01 51 14.8 +2.8**
102nm,1.3s
GOGA Godfrey 21.49 35 P **P 01 51 11.3 -1.1**
baz=221,SNR=6.7
GOGA Godfrey 21.49 35 *e*P **P 01 51 10.7 -1.6**
15nm,0.9s
MHTCO State Highway 21.49 345 *e*P **P 01 51 15.0 +2.4**
53nm,1.4s
T42A Van Buren 21.49 15 P **P 01 51 12.1 -0.3**
baz=199,SNR=6.7
S38A Stockton 21.50 9 P **P 01 51 13.0 +0.6**
baz=191,SNR=8.2
UTMT University of 21.52 21 *e*P **P 01 51 12.5 -0.1**
108nm,1.2s
V47A Nunnelly 21.55 24 P **P 01 51 12.0 -1.0**
baz=205,SNR=9.8
U45A Rockin P Farm, 21.56 21 P **P 01 51 12.5 -0.5**
baz=205,SNR=6.0
X16A Lo Mia Camp, P 21.61 329 *e*P **P 01 51 16.6 +2.7**
43nm,1.5s
113A Mohawk Valley, 21.64 322 *e*P **P 01 51 16.4 +2.4**
38nm,1.9s
S39A Bolivar 21.65 10 P **P 01 51 14.4 +0.3**
baz=192,SNR=10.0
WVT Waverly 21.70 23 P **P 01 51 13.7 -0.8**
baz=208
WVT Waverly 21.70 23 *e*P **P 01 51 13.6 -0.9**
35nm,1.2s
S40A Lebanon 21.72 12 P **P 01 51 14.4 -0.3**
baz=195
V48A Smith Brothers 21.75 25 P **P 01 51 14.1 -1.0**
baz=210,SNR=10
T43A Greenville 21.76 17 P **P 01 51 14.7 -0.5**
baz=200,SNR=6.5
U46A Springville 21.77 22 P **P 01 51 15.0 -0.3**
baz=206
S41A Jillco Farms, 21.87 14 P **P 01 51 16.6 +0.2**
baz=196,SNR=12
T44A Benton 21.97 18 P **P 01 51 17.3 -0.1**
baz=202
R38A Fenwick Farm, 22.05 9 P **P 01 51 19.0 +0.7**
baz=191
U47A Clarksville 22.18 24 P **P 01 51 18.7 -0.9**
baz=208,SNR=5.1
S42A Caledonia 22.27 15 P **P 01 51 20.6 -0.1**
baz=199
S43A Fulton Ridge, 22.28 17 P **P 01 51 20.0 -0.7**
baz=201
SDCO Great Sand Dun 22.28 344 P **P 01 51 22.8 +1.7**
baz=161,SNR=18
SDCO Great Sand Dun 22.28 344 *e*P **P 01 51 23.0 +1.9**
17nm,1.3s
R39A Chumby, Stover 22.31 10 P **P 01 51 21.8 +0.7**
baz=193,SNR=6.8
R40A Maddies Statio 22.43 12 P **P 01 51 22.1 -0.3**
baz=195,SNR=8.0
WUAZ Wupatki 22.47 331 P **P 01 51 25.9 +3.0**
baz=145,SNR=15
WUAZ Wupatki 22.47 331 *e*P **P 01 51 26.1 +3.1**
30nm,1.1s
GLA Glamis 22.47 321 P **P 01 51 25.5 +2.6**
baz=134
GLA Glamis 22.47 321 *e*P **P 01 51 26.6 +3.6**
14nm,1.0s
T46A Princeton 22.48 22 P **P 01 51 22.4 -0.6**
baz=206,SNR=7.2
U48A Cassie Pea, Po 22.53 25 P **P 01 51 22.8 -0.7**
baz=210
CPCT Cooper Cave 22.54 30 *e*P **P 01 51 22.4 -1.2**
FVM French Village 22.57 16 *e*P **P 01 51 24.4 +0.5**
30nm,1.4s
S44A Carbondale 22.63 18 P **P 01 51 24.8 +0.3**
baz=202,SNR=8.7
R41A Rosebud 22.63 14 P **P 01 51 24.9 +0.4**
baz=197,SNR=8.5
S22A 4UR Ranch, Cre 22.66 342 P **P 01 51 26.8 +1.7**
baz=158,SNR=11
S22A 4UR Ranch, Cre 22.66 342 *e*P **P 01 51 26.8 +1.7**
7.9nm,0.9s
SIUC Southern Illin 22.66 18 *e*P **P 01 51 24.9 +0.1**
51nm,1.3s
KSU1 Kansas State U 22.69 3 P **P 01 51 26.1 +1.0**
baz=184
KSU1 Kansas State U 22.69 3 *e*P **P 01 51 24.8 -0.3**
15nm,1.1s
MVCO Mesa Verde 22.72 338 P **P 01 51 27.4 +1.7**
baz=154,SNR=21
MVCO Mesa Verde 22.72 338 *e*P **P 01 51 27.2 +1.5**
57nm,1.4s
T47A Sharon Grove 22.73 23 P **P 01 51 25.3 -0.2**
baz=208,SNR=7.5
R42A Luebbering 22.75 15 P **P 01 51 26.3 +0.5**
baz=198
HODGE Hodges 22.77 36 *e*P **P 01 51 25.1 -1.0**
13nm,1.0s
Y12C Blythe 22.78 322 P **P 01 51 28.3 +2.1**
baz=136
Y12C Blythe 22.78 322 *e*P **P 01 51 30.2 +4.0**
12nm,1.4s
S45A Carrier Mills 22.82 20 P **P 01 51 26.6 0.0**
baz=204,SNR=7.1
Q38A Cooks Store, C 22.85 9 P **P 01 51 27.6 +0.8**
baz=191
PDMCI Parker Dam,Lak 22.96 324 P **P 01 51 30.5 +2.5**
baz=137
R43A Red Bud 22.97 17 P **P 01 51 28.1 0.0**
baz=200,SNR=9.7
SWSC Sam W. Stewart 23.00 319 P **P 01 51 31.4 +2.9**
baz=132
IKP In-Ko-Pah, Jac 23.01 318 P **P 01 51 30.9 +2.3**
baz=131
Q39A Willow Grove F 23.03 10 P **P 01 51 29.4 +0.7**
baz=193
TKL Tuckaleechee C 23.07 31 P **P 01 51 28.6 -0.5**
7.5nm,1.0s,baz=191,slow=12,SNR=6.1
TKL Tuckaleechee C 23.07 31 *e*P **P 01 51 29.9 +0.8**
17nm,1.3s
T48A Bowling Green 23.11 24 P **P 01 51 29.3 -0.2**
baz=210,SNR=11
S46A Don Dixon Farm 23.12 21 P **P 01 51 29.9 +0.3**
baz=206
Q40A Laux Farm, Aux 23.15 12 P **P 01 51 30.7 +0.8**
baz=195
R44A Waltonville 23.19 18 P **P 01 51 30.5 +0.2**
baz=202,SNR=8.9
NHSC New Hope 23.22 41 P **P 01 51 29.7 -1.1**
baz=228
BC3 Big Chuckawall 23.27 321 P **P 01 51 33.7 +2.4**
baz=134,SNR=9.7
Q41A Truxton 23.29 14 P **P 01 51 31.6 +0.3**
baz=197,SNR=7.5
Q24A Divide 23.35 346 P **P 01 51 34.2 +1.8**
baz=163
Q24A Divide 23.35 346 *e*P **P 01 51 34.6 +2.3**
28nm,1.5s
MONP2 Monument Peak 23.36 318 P **P 01 51 34.5 +2.1**
baz=131
P37A Lathrop 23.37 7 P **P 01 51 32.7 +0.5**
baz=189
JSC Jenkinsville 23.38 37 *e*P **P 01 51 31.9 -0.4**
28nm,1.4s
BAR Barrett 23.39 317 *e*P **P 01 51 33.2 +0.7**
23nm,1.6s
USIN University of 23.39 21 *e*P **P 01 51 33.2 +0.9**
86nm,1.3s
W13A Hualapai Mount 23.41 326 *e*P **P 01 51 36.0 +3.1**
20nm,1.6s
Q42A Golden Eagle 23.42 15 P **P 01 51 33.0 +0.4**
baz=198
IRM Iron Mountain 23.43 322 P **P 01 51 35.1 +2.2**
baz=135
R45A Skylar, Fairfi 23.48 20 P **P 01 51 33.6 +0.3**
baz=204
P39B Salisbury 23.50 10 P **P 01 51 33.8 +0.4**
baz=193,SNR=5.7
P38A Dawn 23.51 9 P **P 01 51 33.7 +0.1**
baz=191,SNR=5.5
PV01 Paradox Valley 23.57 339 *e*P **P 01 51 37.4 +3.0**
O33A Hebron 23.63 1 P **P 01 51 35.4 +0.7**
baz=181
U15A North Rim 23.64 330 *e*P **P 01 51 38.3 +3.1**
61nm,1.8s
Q43A New Douglas 23.66 16 P **P 01 51 35.7 +0.6**
baz=200
R46A Gibon Southern 23.67 21 P **P 01 51 35.1 0.0**
baz=206
P40A Paris 23.67 12 P **P 01 51 35.2 +0.1**
baz=194,SNR=18
PV05 Paradox Valley 23.71 338 *e*P **P 01 51 37.7 +1.9**
S48A Wiedeman Farm, 23.72 24 P **P 01 51 35.4 -0.2**
baz=210
O34A Beatrice 23.76 3 P **P 01 51 37.0 +1.0**
baz=183,SNR=15
Q44A Meyer Farm, Va 23.82 18 P **P 01 51 37.0 +0.4**
baz=202,SNR=8.4
BELC Belle Mtn. Jos 23.84 321 P **P 01 51 39.1 +2.1**
baz=133
PFO Pinyon Flats O 23.86 319 P **P 01 51 39.1 +2.0**
baz=132
PFO Pinyon Flats O 23.86 319 *e*P **P 01 51 38.7 +1.5**
9.1nm,1.4s
TZTN Tazewell 23.88 30 P **P 01 51 36.3 -1.0**
baz=216
TZTN Tazewell 23.88 30 *e*P **P 01 51 38.3 +1.1**
22nm,1.2s
PV04 Paradox Valley 23.92 339 *e*P **P 01 51 38.2 +0.5**
OLIL Olney 23.94 20 *e*P **P 01 51 37.6 -0.2**
29nm,1.1s
KMSC Kings Mountain 23.96 36 P **P 01 51 37.3 -0.6**
baz=223
O37A Wolven Farm, M 23.96 7 P **P 01 51 38.1 +0.2**
baz=189,SNR=5.0
O38A Galt 24.01 9 P **P 01 51 38.6 +0.3**
baz=191,SNR=5.9
SMCO Snowmass 24.02 343 *e*P **P 01 51 41.0 +2.0**
29nm,1.3s
Q45A Warren Harvey, 24.07 19 P **P 01 51 38.7 -0.2**
baz=204
PV09 Paradox Valley 24.09 338 *e*P **P 01 51 40.9 +1.4**
R47A Wooly Knot Far 24.09 23 P **P 01 51 38.4 -0.7**
baz=208,SNR=14
P42A Winchester 24.10 15 P **P 01 51 38.8 -0.4**
baz=198,SNR=13
WCI Wyandotte Cave 24.12 23 P **P 01 51 39.3 -0.1**
baz=209
WCI Wyandotte Cave 24.12 23 *e*P **P 01 51 39.6 +0.2**
17nm,1.0s
GMRC Granite Mounta 24.18 323 P **P 01 51 42.2 +2.1**
baz=135
ISCO Idaho Springs 24.26 346 P **P 01 51 42.5 +1.5**
baz=162,SNR=24
ISCO Idaho Springs 24.26 346 *e*P **P 01 51 42.8 +1.7**
18nm,1.1s
O40A La Belle 24.28 12 P **P 01 51 40.6 -0.2**
baz=195,SNR=12
O39A Kirksville 24.29 10 P **P 01 51 40.8 -0.1**
baz=193,SNR=6.3
N33A J Bar K, Exete 24.29 1 P **P 01 51 41.9 +0.9**
baz=182
P43A Skaggs, Pawnee 24.36 16 P **P 01 51 42.0 +0.4**
baz=200
KNB Kanab 24.36 330 *e*P **P 01 51 44.7 +2.8**
19nm,1.4s
N34A Lincoln 24.42 3 P **P 01 51 42.7 +0.5**
baz=184
R48A Northridge Ran 24.43 24 P **P 01 51 42.1 -0.2**
baz=209
P44A Sand Creek, Wi 24.45 18 P **P 01 51 42.8 +0.3**
baz=202
O41A Passleys Farm, 24.48 13 P **P 01 51 42.5 -0.2**
baz=197,SNR=9.3
N35A Tabor 24.50 4 P **P 01 51 43.9 +1.0**
baz=186
N37A Lee Faris, Mou 24.54 7 P **P 01 51 43.7 +0.5**
baz=189
Q47A Bedord North L 24.70 22 P **P 01 51 44.3 -0.3**
baz=208
N38A Joes South For 24.70 9 P **P 01 51 45.2 +0.5**
baz=191,SNR=11
OGNE Ogallala 24.73 353 P **P 01 51 46.7 +1.6**
baz=171
OGNE Ogallala 24.73 353 *e*P **P 01 51 46.5 +1.4**
P45A Graceland, Par 24.78 19 P **P 01 51 45.6 +0.2**
baz=204
BLO Bloomington 24.87 22 *e*P **P 01 51 46.8 +0.5**
34nm,1.3s
N39A Derby Farms, D 24.90 10 P **P 01 51 46.8 +0.4**
baz=193,SNR=8.4
MTPU Mount Pierson 24.91 333 *e*P **P 01 50 02.0 +2.9**
27nm,1.1s
BGNE Belgrade 24.96 360 *e*P **P 01 51 47.9 +0.9**
59nm,1.8s
BFSC Mount Baldy Ra 25.02 319 P **P 01 51 50.3 +2.5**
baz=131
O43A Sugar Creek Fa 25.02 16 P **P 01 51 47.9 +0.3**
baz=200
P46A Rosedale 25.04 20 P **P 01 51 47.6 -0.1**
baz=205
CCUT Cedar City 25.05 330 *e*P **P 01 51 51.3 +3.1**
9.0nm,1.4s
N41A Hardin Midland 25.05 13 P **P 01 51 47.9 +0.1**
baz=197
N40A Mertquake, Sal 25.07 12 P **P 01 51 47.9 -0.1**
baz=195
M34A Aspy Farms, Fr 25.08 3 P **P 01 51 49.1 +1.0**
baz=183
M35A Neola 25.10 4 P **P 01 51 48.9 +0.6**
baz=185
OTAV Otavalo 25.13 128 *e*P **P 01 51 50.9 +1.6**
9.7nm,1.4s
O44A Mansfield 25.13 18 P **P 01 51 48.9 +0.3**

	baz=202								
SRU	San Rafael Swe	25.14	337	*e*P		P		01 51 51.6	+2.6
	12nm,1.0s								
SHPR	Sheep Range	25.15	326	*e*P		P		01 51 52.1	+3.2
	13nm,1.6s								
M37A	Trindle Farm,	25.19	7	P		P		01 51 49.8	+0.7
	baz=189,SNR=8.3								
Q16A	Castle Valley	25.23	336	*e*P		P		01 51 52.2	+2.5
	19nm,1.3s								
P47A	Martinsville	25.24	22	P		P		01 51 49.2	-0.4
	baz=207								
O20A	White River Ci	25.28	342	P		P		01 51 52.0	+1.8
	baz=157,SNR=12								
O20A	White River Ci	25.28	342	*e*P		P		01 51 52.4	+2.2
	20nm,1.0s								
HDIL	Hopedale	25.28	16	P		P		01 51 50.5	+0.6
	baz=200,SNR=5.4								
HDIL	Hopedale	25.28	16	*e*P		P		01 51 49.3	-0.6
	47nm,1.3s								
MSU	Marysvale	25.30	333	*e*P		P		01 51 52.4	+2.0
M38A	Pleasantville	25.32	9	P		P		01 51 50.5	+0.3
	baz=191,SNR=14								
SHOC	Shoshone, Teco	25.32	324	P		P		01 51 52.6	+2.2
	baz=136								
N42A	Yates City	25.35	14	P		P		01 51 50.6	0.0
	baz=198								
N23A	Red Feather La	25.37	346	P		P		01 51 53.3	+2.2
	baz=162,SNR=11								
N23A	Red Feather La	25.37	346	*e*P		P		01 51 53.4	+2.2
	19nm,1.0s								
O45A	Potomac	25.44	19	P		P		01 51 51.4	0.0
	baz=204								
P18A	Preston Nutter	25.49	338	*e*P		P		01 51 55.4	+3.2
	22nm,1.1s								
NCAT	North Carolina	25.51	36	*e*P		P		01 51 53.7	+1.6
	28nm,1.4s								
M39A	Webster	25.54	10	P		P		01 51 52.4	+0.1
	baz=193,SNR=7.2								
P17A	Butcher Ranch,	25.54	337	*e*P		P		01 51 55.6	+3.0
TMUT	Trail Mountain	25.57	336	*e*P		P		01 51 56.4	+3.4
	17nm,1.3s								
M40A	Post Highland	25.59	11	P		P		01 51 52.6	-0.1
	baz=195,SNR=6.3								
PHWY	Pilot Hill	25.65	347	*e*P		P		01 51 55.0	+1.3
	20nm,1.3s								
L33A	Hoskins	25.72	1	P		P		01 51 55.0	+1.0
	baz=182								
L35A	Bielow Farm, R	25.75	4	P		P		01 51 54.7	+0.5
	baz=186								
M41A	Milan	25.76	13	P		P		01 51 54.3	0.0
	baz=197								
SFIN	Lafayette	25.76	20	P		P		01 51 54.2	0.0
	baz=205,SNR=8.6								
SFIN	Lafayette	25.76	20	*e*P		P		01 51 53.5	-0.7
	16nm,0.9s								
SCIA	State Center	25.80	8	P		P		01 51 54.7	+0.1
	baz=191,SNR=8.5								
SCIA	State Center	25.80	8	*e*P		P		01 51 54.6	0.0
	64nm,1.3s								
N44A	Piper City	25.82	18	P		P		01 51 55.1	+0.3
	baz=202								
L37A	Phoenix Point,	25.94	7	P		P		01 51 56.3	+0.4
	baz=190,SNR=6.0								
O47A	Sheridan	25.94	21	P		P		01 51 55.6	-0.4
	baz=207,SNR=8.8								
ROSC	El Rosal	25.97	114	LR		LR		02 01 55.3	
	comp=Z,431nm,18.3s,baz=208,slow=36								
BLA	Blacksburg	25.98	34	P		P		01 51 55.5	-0.9
	baz=222								
BLA	Blacksburg	25.98	34	*e*P		P		01 51 56.2	-0.2
	25nm,1.2s								
M42A	Sheffield	26.01	14	P		P		01 51 57.0	+0.4
	baz=198								
N45A	Kentland	26.06	18	P		P		01 51 57.2	+0.3
	baz=204								
L38A	Oak Wood Farm,	26.06	9	P		P		01 51 57.5	+0.5
	baz=191								
MPMC	Manual Prospec	26.13	322	P		P		01 52 00.1	+2.2
	baz=134								
M43A	Waltham Townsh	26.20	16	P		P		01 51 58.0	-0.2
	baz=200,SNR=7.0								
L39A	Vinton	26.20	10	P		P		01 51 58.0	-0.2
	baz=193,SNR=5.5								
L40A	Anamosa	26.28	12	P		P		01 51 59.0	0.0
	baz=195,SNR=6.4								
K34A	Le Mars	26.29	3	P		P		01 52 00.8	+1.7
	baz=184								
N46A	Monticello	26.34	20	P		P		01 51 59.7	+0.1
	baz=205,SNR=6.1								
MPU	Maple Canyon	26.35	336	*e*P		P		01 52 02.4	+2.5
	4.1nm,0.9s								
K35A	Storm Lake	26.38	5	P		P		01 52 00.5	+0.6
	baz=186								
M44A	Midewin, Midew	26.40	17	P		P		01 52 00.3	+0.2
	baz=202								
RWWY	Rawlins	26.43	345	*e*P		P		01 52 03.0	+2.2
	52nm,1.8s								
L41A	Preston	26.44	13	P		P		01 52 00.5	+0.1
	baz=196,SNR=6.7								
NLU	North Lily Min	26.48	335	*e*P		P		01 52 03.3	+2.3
	11nm,1.2s								
L42A	Oliver, Polo	26.55	14	P		P		01 52 01.2	-0.2
	baz=198								
K38A	Parkersburg	26.59	9	P		P		01 52 01.7	0.0
	baz=191								
K37A	Belmond	26.59	7	P		P		01 52 02.2	+0.5
	baz=190,SNR=11								
RUSC	La Rusia	26.61	110	*e*P		P		01 52 03.8	+1.0
	6.3nm,1.3s								
M45A	Boilermakers S	26.63	18	P		P		01 52 02.5	+0.3
	baz=204								
R11A	Troy Canyon, C	26.76	328	P		P		01 52 05.7	+2.1
	baz=140								
K39A	Oelwein	26.78	10	P		P		01 52 03.1	-0.4
	baz=193,SNR=7.2								
K40A	Colesburg	26.91	11	P		P		01 52 04.9	+0.2
	baz=195								
M46A	Old House Fiel	26.93	20	P		P		01 52 04.9	+0.1
	baz=206								
VES	Vestal, Richgr	26.95	320	P		P		01 52 07.7	+2.6
	baz=131								
L43A	Garden Prairie	26.95	15	P		P		01 52 05.1	0.0
	baz=200								
DUG	Dugway, Tooele	26.98	335	P		P		01 52 07.6	+2.1
	baz=148,SNR=6.5								
DUG	Dugway, Tooele	26.98	335	*e*P		P		01 52 07.9	+2.4
	11nm,1.2s								
K41A	Shullsburg	26.99	13	P		P		01 52 05.4	0.0
	baz=197								
J35A	Milford	27.02	5	P		P		01 52 05.4	-0.3
	baz=186								
J36A	Seneca 1, Swea	27.06	6	P		P		01 52 05.9	-0.1
	baz=188,SNR=8.7								
J37A	Redenius Farm,	27.13	7	P		P		01 52 06.4	-0.2
	baz=190								
ACSO	Alum Creek Sta	27.16	26	P		P		01 52 06.4	-0.6
	baz=213								
L44A	Lake County Fo	27.17	17	P		P		01 52 06.5	-0.4
	baz=202								
K22A	Casper	27.18	346	P		P		01 52 08.3	+1.0
	baz=162								
K22A	Casper	27.18	346	*e*P		P		01 52 09.5	+2.2
	33nm,1.4s								
TCUT	Toone Canyon	27.23	338	*e*P		P		01 52 10.6	+2.8
	18nm,1.2s								
J38A	Wedel Dairy, R	27.29	9	P		P		01 52 08.2	+0.2
	baz=192								
JFWS	Jewell Farm	27.29	13	P		P		01 52 08.1	0.0
	baz=197,SNR=5.1								
JFWS	Jewell Farm	27.29	13	*e*P		P		01 52 08.4	+0.3
	16nm,1.0s								
ECSD	EROS Data Cent	27.31	2	P		P		01 52 08.2	-0.1
	baz=183								
ECSD	EROS Data Cent	27.31	2	*e*P		P		01 52 08.2	-0.1
	4.4nm,1.0s								
K42A	Prairie Point,	27.37	14	P		P		01 52 08.5	-0.2
	baz=198								
J39A	Decorah	27.43	10	P		P		01 52 09.8	+0.5
	baz=193								
I35A	Creekview Farm	27.53	5	P		P		01 52 10.4	+0.2
	baz=186								
K43A	Burlington	27.55	16	P		P		01 52 10.5	+0.1
	baz=201								
J40A	Soldiers Grove	27.66	12	P		P		01 52 11.3	-0.1
	baz=195								
BGU	Big Grassy Mou	27.68	335	*e*P		P		01 52 14.6	+2.8
	6.0nm,1.2s								
SDV	Santo Domingo	27.77	102	P		P		01 52 12.5	-0.4
	1.1nm,0.3s,baz=279,slow=5.4,SNR=4.6								
SDV	Santo Domingo	27.77	102	*e*P		P		01 52 13.2	+0.3
	8.9nm,0.9s								
J41A	Loganville	27.78	13	P		P		01 52 12.0	-0.4
	baz=197,SNR=8.3								
I36A	Fitzsimmons Fa	27.78	6	P		P		01 52 12.4	-0.1
	baz=188								
I37A	Lemond, Waseca	27.84	7	P		P		01 52 12.8	-0.3
	baz=190								
J42A	Columbus	27.93	14	P		P		01 52 14.3	+0.5
	baz=199								
I39A	Houston	27.96	10	P		P		01 52 14.1	0.0
	baz=194								
I38A	Scanlan Farm,	28.01	9	P		P		01 52 14.4	-0.2
	baz=192								
BW06	Boulder Array	28.09	342	P		P		01 52 17.0	+1.5
	baz=156								
BW06	Boulder Array	28.09	342	*e*P		P		01 52 17.4	+1.9
	17nm,1.8s								
PD31	Pinedale Array	28.09	342	*e*P		P		01 52 17.2	+1.7
PDAR	Pinedale Array	28.09	342	P		P		01 52 16.5	+1.0
	1.1nm,0.6s,baz=142,slow=7.5,SNR=10								
PDAR	Pinedale Array	28.09	342	*e*P		P		01 52 16.2	+0.7
NV11	Mina Array Sit	28.18	325	*e*P		P		01 52 18.7	+2.4
	1.1nm,1.4s								
NV01	Mina Array Sit	28.26	325	*e*P		P		01 52 19.9	+2.8
NVAR	Mina Array Bea	28.26	325	P		P		01 52 19.4	+2.3
	1.2nm,0.6s,baz=148,slow=7.5,SNR=5.8								
HVU	Hansel Valley	28.31	336	*e*P		P		01 52 19.8	+2.4
	14nm,1.6s								
H36A	Jessenland, He	28.34	6	P		P		01 52 17.4	-0.1
	baz=188,SNR=5.3								
H37A	Dierke Farm, C	28.46	8	P		P		01 52 18.9	+0.4
	baz=190								
I42A	Draeger Farm,	28.52	14	P		P		01 52 19.2	+0.2
	baz=199								
I42A	Draeger Farm,	28.52	14	*e*P		P		01 52 18.4	-0.6
	33nm,1.6s								
H38A	Maiden Rock	28.64	9	P		P		01 52 20.5	+0.4
	baz=192								
I43A	Langenfeld Bro	28.70	15	P		P		01 52 20.6	0.0
	baz=200								
H39A	Augusta	28.80	10	P		P		01 52 21.7	+0.1
	baz=194,SNR=7.7								
H40A	Chili	28.91	11	P		P		01 52 22.3	-0.2
	baz=195,SNR=8.7								
REDW	Red Top Meadow	29.03	341	*e*P		P		01 52 25.5	+1.6
	11nm,1.4s								
H41A	Junction City	29.05	12	*e*P		P		01 52 23.8	+0.1
	12nm,1.1s								
N54A	Moraine State	29.08	29	P		P		01 52 24.0	-0.1
	baz=218								
SPMN	Marine on St.	29.11	8	P		P		01 52 24.4	+0.1
	baz=190								
TPAW	Tejon Pass	29.17	341	*e*P		P		01 52 26.9	+1.7
	19nm,1.8s								
LOHW	Long Hollow	29.17	341	*e*P		P		01 52 26.2	+1.1
	12nm,1.5s								
G38A	Ridgeland	29.19	9	P		P		01 52 25.1	+0.1
	baz=192								
FXWY	Fox Creek	29.33	341	*e*P		P		01 52 30.0	+3.5
	7.2nm,1.5s								
H43A	Windswept, Lux	29.34	15	*e*P		P		01 52 26.0	-0.3
	9.0nm,1.0s								
MOOW	Moose Ponds	29.34	341	*e*P		P		01 52 28.1	+1.4
	17nm,2.0s								
G39A	Holcombe	29.41	10	P		P		01 52 27.0	0.0
	baz=194								
G40A	Rib Lake	29.57	11	P		P		01 52 28.2	-0.2
	baz=196,SNR=8.7								
F36A	Milaca	29.65	6	P		P		01 52 29.0	-0.1
	baz=189								
G42A	Mountain	29.91	14	P		P		01 52 31.2	-0.2
	baz=199								
G42A	Mountain	29.91	14	*e*P		P		01 52 31.4	+0.1
	16nm,1.3s								
F38A	Pierce - Schro	29.96	9	P		P		01 52 32.0	+0.2
	baz=192								
F39A	Loretta	30.07	10	P		P		01 52 32.7	-0.1
	baz=194								
G43A	Wallace	30.10	15	P		P		01 52 33.0	0.0
	baz=200								
G43A	Wallace	30.10	15	*e*P		P		01 52 33.0	0.0
	17nm,1.3s								
RLMT	Red Lodge	30.18	344	P		P		01 52 35.6	+1.6
	baz=158								
RLMT	Red Lodge	30.18	344	*e*P		P		01 52 35.3	+1.3
	39nm,1.9s								
F40A	Park Falls	30.21	11	P		P		01 52 34.2	+0.1
	baz=195,SNR=13								
E36A	McGregor	30.33	7	P		P		01 52 35.9	+0.8
	baz=189								
ATAH	Atahualpa	30.41	139	LR		LR		02 01 55.0	
	comp=Z,331nm,19.1s,baz=307,slow=31								
COWI	Conover	30.57	12	*e*P		P		01 52 37.0	-0.3
E39A	Mellen	30.57	10	P		P		01 52 37.2	0.0
	baz=194,SNR=8.0								
E38A	The Farm, Brul	30.64	9	P		P		01 52 37.9	+0.1
	baz=192								
E40A	Wakefield	30.76	11	P		P		01 52 38.7	-0.1
	baz=195,SNR=12								
LAO	LASA Array	30.98	349	P		P		01 52 41.7	+0.7
	baz=165								
MCMT	McKenzie Canyo	30.99	339	*e*P		P		01 52 43.2	+2.0
D36A	Goodland	30.99	7	P		P		01 52 40.7	-0.2
	baz=189								
D37A	Cotton	31.06	7	P		P		01 52 41.4	-0.1
	baz=191								
F44A	Big Bay de Noc	31.09	16	P		P		01 52 41.4	-0.4
	baz=202,SNR=6.0								
BOZ	Bozeman (W)	31.28	342	P		P		01 52 45.7	+2.0
	baz=154								
E43A	Lone Tree Farm	31.32	15	P		P		01 52 43.6	-0.2
	baz=201								
DLMT	Dillon	31.38	340	*e*P		P		01 52 47.0	+2.5
	14nm,1.3s								
WVOR	Wild Horse Val	31.39	330	*e*P		P		01 52 47.1	+2.5
	20nm,1.4s								
MDND	Maddock	31.42	358	P		P		01 52 45.8	+1.1
	baz=177								
MDND	Maddock	31.42	358	*e*P		P		01 52 45.4	+0.6
	66nm,1.3s								
C35A	Jirik Farms, M	31.43	5	P		P		01 52 45.5	+0.8
	baz=188								
BMRO	Meriville Lake	31.54	23	P		P		01 52 45.1	-0.7
	baz=212								
C36A	Pine Crest Far	31.60	7	P		P		01 52 46.6	+0.3
	baz=190								
D41A	Chassel	31.61	12	P		P		01 52 46.6	+0.3
	baz=198								
C37A	Embarrass	31.65	8	P		P		01 52 47.0	+0.2
	baz=191								
LRM	Limekiln Ridge	31.74	341	*e*P		P		01 52 48.7	+0.9
MOD	Modoc Plateau	31.82	328	*e*P		P		01 52 50.9	+2.4
	20nm,1.6s								
B33A	Robert and Kas	31.89	3	P		P		01 52 48.9	+0.1
	baz=185								
AGMN	Agassiz Nation	31.90	3	P		P		01 52 48.9	0.0
	baz=184,SNR=5.9								
AGMN	Agassiz Nation	31.90	3	*e*P		P		01 52 49.0	+0.2
	12nm,1.1s								
J08A	Circle Bar Ran	32.02	331	*e*P		P		01 52 52.4	+2.2
	21nm,1.4s								
C39A	Grand Marais	32.04	10	P		P		01 52 49.9	-0.2
	baz=194								
B35A	Bob, Littlefor	32.11	5	P		P		01 52 50.6	-0.1
	baz=188								
B34A	Aery, Baudette	32.16	4	P		P		01 52 51.1	-0.1
	baz=186								
A32A	Rocking H Ranc	32.49	2	P		P		01 52 54.2	+0.1
	baz=183								
A33A	Warroad	32.56	3	P		P		01 52 55.4	+0.7
	baz=185								
BMO	Blue Mountains	32.69	334	*e*P		P		01 52 57.1	+1.1
	8.4nm,1.5s								
BUKO	Buck Lake	32.95	24	P		P		01 52 57.1	-1.1
	baz=214								
EGMT	Eagleton	33.00	346	P		P		01 53 00.3	+1.6
	baz=159								
EGMT	Eagleton	33.00	346	*e*P		P		01 53 00.3	+1.6
	24nm,1.5s								
MSO	Missoula	33.11	340	P		P		01 53 00.5	+0.8
	baz=151								
F10A	Beach Ranch, E	33.58	336	*e*P		P		01 53 05.5	+1.7
	30nm,1.6s								
J04D	Umpqua Nationa	33.71	328	P		P		01 53 06.8	+1.8
	baz=135								
G08A	Pilot Rock	33.75	333	*e*P		P		01 53 06.6	+1.3
	14nm,1.6s								
ULM	Lac du Bonnet	33.85	3	P		P		01 53 04.7	-1.2
	7.3nm,1.2s,baz=207,slow=3.4,SNR=5.6								
ULM	Lac du Bonnet	33.85	3	*e*P		P		01 53 05.7	-0.2
	24nm,1.5s								
JTMT	Jette	34.03	340	*e*P		P		01 53 09.6	+1.9
	12nm,1.9s								
NEW	Newport	35.44	338	P		P		01 53 21.5	+1.7
	baz=147								
G03D	McMinnville, O	35.69	329	P		P		01 53 23.5	+1.5
	baz=136								
B08A	Colville Reser	36.35	336	*e*P		P		01 53 28.8	+1.2
	17nm,1.5s								
FFC	Flin Flon	38.40	356	*e*P		P		01 53 44.9	+0.1
	14nm,1.2s								
EDM	Edmonton	38.68	345	*e*P		P		01 53 47.0	-0.3
	24nm,1.4s								
LLLB	Lillooet	39.15	336	*e*P		P		01 53 52.4	+1.1
	7.4nm,1.2s								
FCC	Fort Churchill	42.43	3	*e*P		P		01 54 18.3	+0.2
	21nm,1.6s								
LPAZ	La Paz	43.88	136	P		P		01 54 29.7	-1.3
	1.2nm,0.8s,baz=338,slow=3.0,SNR=4.7								
LPAZ	La Paz	43.88	136	*e*P		P		01 54 30.2	-0.8
	3.3nm,1.1s								
YKA	Yellowknife Ar	47.52	350	P		P		01 54 58.3	-0.3
	1.0nm,0.8s,baz=155,slow=7.6,SNR=6.0								
YKA					PcP	PcP		01 56 27.8	-0.7
	0.3nm,0.7s,baz=149,slow=2.8,SNR=4.0								
LCO	Las Campanas	52.30	149	*e*P		P		01 55 34.3	-1.4
	4.4nm,0.8s								
INK	Inuvik	56.58	345	*e*P		P		01 56 06.3	+0.3
	13nm,1.3s								
DOT	Dot Lake	56.75	337	*e*P		P		01 56 09.5	+2.2
	36nm,1.3s								
SCRK	Sand Creek	56.91	338	*e*P		P		01 56 10.8	+2.3
	8.8nm,1.2s								
RIDG	Independ'e Rid	57.09	337	*e*P		P		01 56 11.5	+1.7
	25nm,1.3s								
RES	Resolute Bay	58.35	1	*e*P		P		01 56 18.3	0.0
	3.3nm,1.2s								
IL1	Eielson Array	58.40	338	*e*P		P		01 56 19.1	+0.3
ILAR	Eielson Array	58.40	338	P		P		01 56 19.4	+0.5
	5.4nm,1.1s,baz=143,slow=4.3,SNR=21								
ILAR					PcP	PcP		01 57 09.6	0.0
	0.5nm,0.6s,baz=161,slow=2.7,SNR=4.8								
ILB	Eielson Array	58.40	338	*e*P		P		01 56 20.3	+1.4
RND	Reindeer	58.45	336	*e*P		P		01 56 20.8	+1.5
	29nm,1.3s								
MCK	McKinley	58.64	336	*e*P		P		01 56 21.3	+0.7
	32nm,1.7s								
TRF	Thorofare Moun	59.03	336	*e*P		P		01 56 23.9	+0.4
	20nm,1.1s								
CAST	Castle Rocks	59.74	335	*e*P		P		01 56 28.7	+0.5
	15nm,1.3s								
MLY	Manley	59.95	337	*e*P		P		01 56 31.2	+1.5
	17nm,1.4s								
TOLK	Toolik Lake Re	61.35	341	P		P		01 56 40.1	+1.0
	baz=121								
TOLK	Toolik Lake Re	61.35	341	*e*P		P		01 56 40.2	+1.0
	24nm,1.6s								
TRQA	Tornquist	63.87	149	*e*P		P		01 56 54.8	-1.5
	15nm,1.6s								
ESDC	Sonseca Array	82.83	51	P		P		01 58 47.2	-1.1
	0.1nm,0.4s,baz=290,slow=4.9,SNR=7.6								
ES19	SONSECA Array	82.87	51	*e*P		P		01 58 48.3	-0.2
NOA	NORSAR Array B	84.82	27	LR		LR		02 36 33.2	
	comp=Z,354nm,20.1s,baz=235,slow=36								
PETK	Petropavlovsk-	85.34	324	P		P		01 59 00.6	-0.2
	2.4nm,0.7s,baz=64,slow=9.8,SNR=5.6								
ASCN	Ascension	86.24	99	*e*P		P		01 59 06.1	+0.2
	54nm,0.8s								
TIXI	Tiksi	86.67	347	*e*P		P		01 59 06.8	-0.1
STKA	Stephens Creek	124.02	242	PKP		PKPdf		02 05 21.6	-0.9
	1.2nm,0.6s,baz=18,slow=9.6,SNR=3.5								
WRAB	Tennant Creek	130.21	258	*e*PKPdf		PKPdf		02 05 34.8	0.0
WRA	Warramunga Arr	130.22	258	PKP		PKPdf		02 05 33.8	-0.9
	1.5nm,0.8s,baz=85,slow=2.5,SNR=13								
ASAR	Alice Springs	130.84	253	PKP		PKPdf		02 05 34.8	-1.0
	0.6nm,0.6s,baz=94,slow=2.2,SNR=7.5								
OPO	Ambohidratompo	146.82	99	PKPbc		PKPbc		02 06 06.7	-0.3
	4.6nm,0.7s,baz=210,slow=3.2,SNR=4.8								
IPM	Ipoh	151.97	316	*e*PKPbc		PKPbc		02 06 19.9	0.0
PALK	Pallekele	156.48	3	*e*PKPab		PKPab		02 06 49.0	+1.0

*IDC **25** 01:55:25.6±0.7, 16°.27N×97°.97W, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.3/44, mbtmp4.3/16, ML3.5/2, MS3.9/4, Ms1 4.0/4, ms1mx3.6/43, Error ellipse: s-maj=21.4km s-min=13.9km az=51.0*

*ISCJB **25** 01:55:27.4±0.2, 16°.45N×0°.03×97°.79W×0°.02, h10km, mb4.7/156, Error ellipse: s-maj=4.1km s-min=2.7km az=24.4*

*MEX **25** 01:55:28.1±0.5, 16°.18N×98°.16W, h9km±7km, MD4.4*

*NEIC **25** 01:55:29.6±0.0, 16°.26N×98°.17W, h15km, mb4.7/165, MD4.5(MEX), After MEX.*

NEIC Felt at Acapulco and Oaxaca.

*BJI **25** 01:55:29.1, 16°.40N×97°.80W, h20km, mB5.4/2, Ms7 5.2/1*

ISC 25 01:55:26.2±1.4, **16°.28N**×0°.04×**97°.98W**×0°.04, **h6**km±8km, **n568**,σ1°**36**/589, **mb4.8**/156, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	Tlapa	1.40	336	*e*P	Pn	01 55 50.5	-1.9
TLIG				*i* S	Sn	01 56 08.7	-2.6
TLIG	Tlapa	1.40	336	*e*P	Pn	01 55 50.5	-1.9
TLIG				*e*S	Sn	01 56 06.4	-4.9
VHO	Vista Hermosa	1.43	56	*e*P	Pg	01 55 53.9	+0.2
VHO				*e*S	Sg	01 56 13.2	+0.9
VHO	Vista Hermosa	1.43	56	*e*P	Pg	01 55 53.9	+0.2
VHO				*e*S	Sg	01 56 13.2	+0.9
PANG	Puerto Angel	1.57	113	*i* P	Pb	01 55 55.3	-0.4
PANG				*i* S	Sg	01 56 15.4	-1.2
HMTT	Tlapaneco	1.61	340	*e*P	Pn	01 55 54.6	-0.7
HMTT				*i* S	Sn	01 56 13.9	-2.7
HUIG	Huatulco	1.87	105	*e*P	Pn	01 55 58.9	+0.1
HUIG				*i* S	Sb	01 56 23.3	-1.1
HUIG	Huatulco	1.87	105	*e*P	Pb	01 55 59.0	-1.7
ACX	Acapulco	1.90	288	*i* P	Pb	01 56 01.1	-0.3
ACX				*i* S	Sn	01 56 22.2	-1.3
CAI

WHTX eP P 01 59 12.2 +0.5
NATX Nacogdoches 15.71 10 P P 01 59 10.9 -1.4
baz=192
NATX Nacogdoches 15.71 10 ePn Pn 01 59 06.9 -1.3
61nm,1.4s
NATX eP P 01 59 12.9 +0.6
342A Flagon Creek P 15.89 18 P Pn 01 59 11.5 +1.0
baz=201
ABTX Abilene, Hawle 16.35 355 ePn Pn 01 59 16.2 -0.3
71nm,1.2s
ABTX eP P 01 59 20.7 +1.3
344A Westbrook Farm 16.49 22 P Pn 01 59 19.2 +1.0
baz=206
344A S Sn 02 02 20.3 -1.3
baz=206
MNTX Cornudas Mount 16.77 338 P P 01 59 24.9 +0.8
baz=155,SNR=8.6
MNTX Cornudas Mount 16.77 338 ePn Pn 01 59 23.1 +1.2
12nm,1.3s
140A Cam and Jess, 16.77 13 P P 01 59 23.4 -0.7
baz=195
244A Avery, Jackson 17.04 22 P P 01 59 26.7 -0.3
baz=205,SNR=8.9
142A Monroe 17.10 18 P P 01 59 27.4 -0.3
baz=201
VBMS Vicksburg 17.26 22 P P 01 59 29.4 -0.1
baz=205,SNR=6.4
VBMS Vicksburg 17.26 22 ePn Pn 01 59 26.3 -1.6
62nm,0.9s
448A Bay Minette 17.27 31 P P 01 59 29.3 -0.3
baz=215
245A Little AP, Sta 17.32 24 P P 01 59 30.3 +0.2
baz=207
143A Socs Landing, 17.41 19 P P 01 59 31.4 +0.3
baz=202
HSIG 17.42 319 ePn P 01 59 31.4 +0.1
MSTX Muleshoe 18.14 347 P Pn 01 59 39.0 0.0
baz=166
MSTX Muleshoe 18.14 347 ePn Pn 01 59 37.8 -1.2
18nm,0.9s
146A Union 18.18 25 P P 01 59 39.6 -0.1
baz=209,SNR=6.6
Y41A Eaglette Beard 18.18 14 P P 01 59 39.9 +0.2
baz=197
319A Douglas 18.22 328 ePn P 01 59 42.4 +2.1
19nm,1.0s
248A Dixon Mills 18.29 29 P P 01 59 41.4 +0.5
baz=213
WMOK Wichita Mounta 18.40 358 P P 01 59 41.4 -0.7
baz=178,SNR=6.7
WMOK Wichita Mounta 18.40 358 ePn P 01 59 41.2 -0.9
28nm,1.8s
CCAR Cane Creek 18.43 17 ePn P 01 59 41.8 -0.6
68nm,1.4s
121A Cookes Peak, D 18.47 333 P Pn 01 59 44.6 +1.5
baz=150
X39A Fountain Ranch 18.49 10 P Pn 01 59 43.1 0.0
baz=192
147A Livingston 18.54 27 P Pn 01 59 44.5 +0.7
baz=211
X40A Basin Creek Fa 18.71 13 P Pn 01 59 45.8 0.0
baz=196
Z46A Louisville 18.72 24 P Pn 01 59 46.4 +0.5
baz=208
X41A Kaden, Bauxite 18.79 14 P Pn 01 59 46.9 0.0
baz=197
AMTX Amarillo 18.82 351 P Pn 01 59 48.0 +0.7
baz=170
AMTX Amarillo 18.82 351 eP Pn 01 59 47.2 -0.1
26nm,1.0s
148A Greensboro 18.83 28 P Pn 01 59 47.1 -0.2
baz=213
Y44A Strider, Charl 18.95 20 P Pn 01 59 48.2 -0.5
baz=204
Z47A Carrollton 19.08 26 P P 01 59 49.0 -0.5
baz=211
Y45A Yeager Farm, C 19.09 22 P Pn 01 59 50.0 -0.4
baz=206,SNR=7.1
UALR University of 19.10 14 eP Pn 01 59 50.8 +0.3
26nm,1.4s
149A Jones 19.15 30 P P 01 59 49.8 -0.5
baz=215
W39A Magazine 19.21 10 P Pn 01 59 51.6 -0.3
baz=193
W40A Ferguson Farm, 19.34 12 P Pn 01 59 53.0 -0.5
baz=195
W40A Ferguson Farm, 19.34 12 eP P 01 59 52.3 -0.2
28nm,1.0s
Y46A Houston 19.36 23 P P 01 59 52.7 +0.1
baz=208,SNR=17
LRAL Lakeview Retre 19.42 29 P P 01 59 53.1 -0.1
baz=214,SNR=6.3
LRAL Lakeview Retre 19.42 29 eP Pn 01 59 53.8 -0.5
12nm,0.9s
LRAL eSn Sn 02 03 23.6 -8.9
BNM Barren Site 19.43 338 eP Pn 01 59 56.7 +2.0
251A Midway 19.45 34 P P 01 59 53.0 -0.6
baz=219
Z48A Northport 19.45 27 P P 01 59 53.5 -0.1
baz=212,SNR=8.4
X44A Crenshaw 19.46 20 P P 01 59 53.8 +0.1
baz=204
W41B Gary Mavity, V 19.50 14 P P 01 59 54.6 +0.4
baz=197
150A Eclectic 19.54 32 P P 01 59 54.3 -0.3
baz=217
353A Camilla 19.55 37 P P 01 59 54.2 -0.6
baz=223
LPM Los Pinos Moun 19.57 338 eP Pn 01 59 57.1 +0.7
WHAR Wooly Hollow 19.61 14 eP Pn 01 59 56.6 -0.1
33nm,1.4s
X45A UM Field Stati 19.65 22 P P 01 59 56.1 +0.3
baz=206
TUL1 Leonard 19.65 5 P Pn 01 59 56.7 -0.5
baz=187
TUL1 Leonard 19.65 5 eP P 01 59 54.8 -1.0
22nm,0.9s
OXF Oxford 19.72 21 P P 01 59 56.8 +0.3
baz=206
OXF Oxford 19.72 21 eP P 01 59 56.7 +0.1
38nm,1.3s
252A Lumpkin 19.74 35 P P 01 59 56.0 -0.8
baz=221
TUC Tucson 19.75 326 P Pn 01 59 59.1 +0.6
baz=142
TUC Tucson 19.75 326 eP Pn 01 59 58.9 +0.5
25nm,1.8s
Z49A Columbiana 19.77 29 P P 01 59 57.0 0.0
baz=215,SNR=12
Y47A UCPARC, Winfie 19.78 26 P P 01 59 56.7 -0.5
baz=210,SNR=11
151A Opelika 19.83 33 P P 01 59 57.9 +0.1
baz=219,SNR=7.0
LAZ Ladron 19.84 337 eP Pn 02 00 00.1 +0.5
V39A Pettigrew 19.86 10 P P 01 59 58.4 +0.2
baz=193,SNR=13
V40A Witts Springs 19.98 12 P P 01 59 59.7 +0.2
baz=195,SNR=11
X46A Booneville 20.06 23 P P 02 00 00.5 +0.2
baz=208,SNR=13
Y48A Jasper 20.08 27 P P 01 59 59.9 -0.5
baz=212
ANMO Albuquerque 20.08 339 P P 02 00 01.6 +0.8
7.6nm,0.9s,baz=331,slow=11,SNR=10
ANMO Albuquerque 20.08 339 P Pn 02 00 02.0 -0.5
baz=156
ANMO Albuquerque 20.08 339 eP Pn 02 00 02.3 -0.3
12nm,1.1s
Z50A Ashland 20.11 31 P P 02 00 00.9 +0.1
baz=216,SNR=6.2
V41A Mountainview 20.11 14 P P 02 00 00.8 0.0
baz=197,SNR=10
HHAR Hobbs 20.25 9 eP P 02 00 03.1 +0.7
39nm,1.3s
X47A Russelville 20.31 25 P P 02 00 02.7 -0.3
baz=209,SNR=7.8
V42A Cord 20.32 16 P P 02 00 02.9 -0.2
baz=199,SNR=8.6
Y49A Blount Mountai 20.37 29 P P 02 00 03.7 0.0
baz=214,SNR=5.6
W45A Hickory Valley 20.38 21 P P 02 00 04.0 +0.2
baz=205
U39A Green Forest 20.42 10 P P 02 00 04.8 +0.6
baz=193,SNR=22
U40A Yellville 20.51 12 P P 02 00 05.3 +0.1
baz=195,SNR=8.8
254A Abbeville 20.53 38 P P 02 00 04.8 -0.6
baz=224
V43A Jonesboro 20.53 17 P P 02 00 05.8 +0.4
baz=201
X48A Hartselle 20.59 26 P P 02 00 05.7 -0.4
baz=212
214A Organ Pipe Nat 20.62 322 P Pn 02 00 08.6 -0.2
baz=136,SNR=8.6
PLAL Pickwick Lake 20.63 24 eP P 02 00 06.0 -0.5
17nm,0.8s
W46A Michie 20.65 23 P P 02 00 06.2 -0.5
baz=207
U41A Viola 20.70 14 P P 02 00 07.1 -0.1
baz=197,SNR=6.7
Y50A Piedmont 20.72 30 P P 02 00 07.1 -0.3
baz=215
GNAR Gosnell 20.85 18 eP P 02 00 09.1 +0.2
2um,1.2s
U42A Revenden 20.87 15 P P 02 00 08.7 -0.3
baz=199,SNR=21
T38A Diamond 20.93 8 P P 02 00 10.3 +0.6
baz=190,SNR=12
X49A Woodville 20.96 28 P P 02 00 09.1 -0.9
baz=213
V45A Humboldt 20.99 21 P P 02 00 09.7 -0.6
baz=205
HALT Halls 21.02 20 eP P 02 00 11.4 +0.8
W47A Westpoint 21.05 24 P P 02 00 11.1 0.0
baz=209,SNR=9.1
T39A Clever 21.06 10 P P 02 00 11.2 0.0
baz=193,SNR=11
X18A Snowflake 21.12 332 eP P 02 00 14.4 +2.5
48nm,1.3s
154A Montrose 21.12 37 P P 02 00 11.2 -0.6
baz=223
X50A Fort Payne 21.22 29 P P 02 00 12.5 -0.4
baz=215
W48A Pulaski 21.23 26 P P 02 00 12.7 -0.2
baz=211,SNR=13
V46A Holladay 21.34 22 P P 02 00 13.9 -0.2
baz=207,SNR=21
T40A Mansfield 21.35 12 P P 02 00 14.0 -0.2
baz=195,SNR=19
T41A Mountain View 21.41 14 P P 02 00 15.0 +0.2
baz=197,SNR=9.0
PBMO Poplar Bluff 21.49 17 eP P 02 00 18.6 +2.9
51nm,1.3s
GOGA Godfrey 21.51 35 P P 02 00 15.5 -0.4
baz=221,SNR=9.0
GOGA Godfrey 21.51 35 eP P 02 00 15.0 -0.9
39nm,1.3s
W18A Petrified Fore 21.51 333 P P 02 00 17.8 +1.6
baz=148,SNR=6.0
W18A Petrified Fore 21.51 333 eP P 02 00 19.6 +3.3
20nm,1.3s
T25A Trinidad 21.55 346 P P 02 00 18.4 +1.8
baz=194,SNR=57
T25A Trinidad 21.55 346 eP P 02 00 18.4 +1.8
146nm,1.3s
T42A Van Buren 21.55 15 P P 02 00 16.0 -0.4
baz=199,SNR=8.0
UTMT University of 21.57 20 eP P 02 00 15.8 -0.8
123nm,0.9s
S38A Stockton 21.57 9 P P 02 00 16.7 +0.1
baz=191,SNR=13
V47A Nulty 21.59 24 P P 02 00 16.4 -0.4
baz=209,SNR=12
MHTCO State Highway 21.60 345 eP P 02 00 20.3 +3.1
88nm,1.4s
U45A Rockin P Farm, 21.61 21 P P 02 00 19.5 +2.6
baz=205,SNR=5.9
S39A Bolivar 21.72 10 P P 02 00 18.0 -0.3
baz=193,SNR=14
X16A Lo Mia Camp, P 21.74 329 eP P 02 00 20.9 +2.3
30nm,1.1s
WVT Waverly 21.74 23 P P 02 00 17.8 -0.6
baz=208
WVT Waverly 21.74 23 eP P 02 00 17.5 -0.9
46nm,1.2s
113A Mohawk Valley, 21.77 322 eP P 02 00 20.8 +2.1
26nm,1.4s
S40A Lebanon 21.78 12 P P 02 00 18.5 -0.4
baz=195,SNR=6.0
V48A Smith Brothers 21.79 25 P P 02 00 18.8 -0.2
baz=210,SNR=11
T43A Greenville 21.82 17 P P 02 00 18.7 -0.5
baz=201,SNR=13
U46A Springville 21.82 22 P P 02 00 18.6 -0.7
baz=206
S41A Jillco Farms, 21.93 13 P P 02 00 20.3 -0.2
baz=197,SNR=21
T44A Benton 22.02 18 P P 02 00 22.1 +0.7
baz=208,SNR=6.5
R38A Fenwick Farm, 22.12 9 P P 02 00 22.4 0.0
baz=191
U47A Clarksville 22.22 23 P P 02 00 22.7 -0.8
baz=208,SNR=11
S42A Caledonia 22.33 15 P P 02 00 24.8 +0.1
baz=199,SNR=9.7
S43A Fulton Ridge, 22.33 17 P P 02 00 24.9 +0.1
baz=201
R39A Chumby, Stover 22.38 10 P P 02 00 24.8 -0.5
baz=193,SNR=5.6
SDCO Great Sand Dun 22.39 344 P P 02 00 26.8 +1.1
baz=161,SNR=31
SDCO Great Sand Dun 22.39 344 eP P 02 00 27.2 +1.5
29nm,1.3s
R40A Maddies Statio 22.50 12 P P 02 00 27.0 +0.5
baz=195,SNR=15
CBKS Cedar Bluff 22.51 356 P P 02 00 27.9 +1.2
baz=176
CBKS Cedar Bluff 22.51 356 eP P 02 00 30.5 +3.8
20nm,0.9s
T46A Princeton 22.53 21 P P 02 00 26.5 -0.3
baz=206,SNR=9.7
CPCT Cooper Cave 22.56 30 eP P 02 00 26.1 -1.2
WUAZ Wupatki 22.59 331 P P 02 00 29.2 +1.4
baz=145,SNR=22
WUAZ Wupatki 22.59 331 eP P 02 00 30.9 +3.2
37nm,1.0s
GLA Glamis 22.60 321 P P 02 00 29.9 +2.1
baz=134
GLA Glamis 22.60 321 eP P 02 00 30.2 +2.4
63nm,1.8s
GLA eS S 02 04 38.5 +2.5
FVM French Village 22.62 16 eP P 02 00 29.2 +1.3
50nm,1.6s
S44A Carbondale 22.68 18 P P 02 00 28.7 +0.3
baz=202,SNR=12
R41A Rosebud 22.69 14 P P 02 00 29.0 +0.4
baz=197,SNR=11
SIUC Southern Illin 22.71 18 eP P 02 00 30.2 +1.4
72nm,1.3s
Q37A Longview Farm, 22.73 7 P P 02 00 29.8 +0.9
baz=189
S22A 4UR Ranch, Cre 22.77 342 P P 02 00 31.0 +1.2
baz=158,SNR=15
S22A 4UR Ranch, Cre 22.77 342 eP P 02 00 31.2 +1.4
11nm,1.0s
T47A Shon Grove 22.77 23 P P 02 00 29.0 -0.4
baz=208,SNR=9.1
KSU1 Kansas State U 22.77 3 P P 02 00 29.8 +0.4
baz=184
KSU1 Kansas State U 22.77 3 eP P 02 00 29.4 0.0
18nm,1.0s
HODGE Hodges 22.79 35 eP P 02 00 29.0 -0.7
18nm,0.8s
R42A Luebbering 22.81 15 P P 02 00 30.0 +0.1
baz=198,SNR=6.2
MVCO Mesa Verde 22.84 338 P P 02 00 31.6 +1.2
baz=154,SNR=27
MVCO Mesa Verde 22.84 338 eP P 02 00 31.5 +1.0
76nm,1.4s
S45A Carrier Mills 22.88 19 P P 02 00 30.1 -0.4
baz=204,SNR=7.0
Y12C Blythe 22.91 322 P P 02 00 32.9 +1.9
baz=136
Y12C Blythe 22.91 322 eP P 02 00 33.0 +2.0
15nm,1.3s
Q38A Cooks Store, C 22.92 9 P P 02 00 31.6 +0.6
baz=191,SNR=5.4
BG3 Lake Jocassee 23.00 33 eP P 02 00 31.6 -0.2
12nm,0.8s
MOTC Monteria, Cord 23.00 106 eP P 02 00 36.5 +4.4
R43A Red Bud 23.03 16 P P 02 00 33.0 +0.8
baz=200,SNR=14
PDMCI Parker Dam,Lak 23.09 324 P P 02 00 35.2 +2.4
baz=198
TKL Tuckaleechee C 23.09 31 P P 02 00 31.4 -1.4
15nm,1.0s,baz=199,slow=11,SNR=8.5
TKL Tuckaleechee C 23.09 31 eP P 02 00 32.8 -0.1
31nm,1.1s
Q39A Willow Grove F 23.10 10 P P 02 00 33.9 +1.0
baz=193
SWSC Sam W. Stewart 23.14 319 P P 02 00 35.8 +2.5
baz=132,SNR=6.1
IKP In-Ko-Pah, Jac 23.14 318 P P 02 00 35.4 +2.0
baz=131
T48A Bowling Green 23.15 24 P P 02 00 33.2 -0.2
baz=210,SNR=19
S46A Don Dixon Farm 23.17 21 P P 02 00 33.9 +0.3
baz=206
Q40A Laux Farm, Aux 23.22 12 P P 02 00 34.3 +0.2
baz=195
NHSC New Hope 23.23 41 P P 02 00 33.7 -0.5
baz=228
R44A Waltonville 23.25 18 P P 02 00 34.9 +0.6
baz=202,SNR=16
SLM Saint Louis 23.29 15 eP P 02 00 35.3 +0.5
30nm,1.0s
Q41A Truxton 23.35 13 P P 02 00 35.9 +0.4
baz=197,SNR=8.5
JSC Jenkinsville 23.39 37 eP P 02 00 35.6 -0.2
32nm,1.2s
BC3 Big Chuckawall 23.40 321 P P 02 00 38.2 +2.1
baz=134,SNR=8.7
USIN University of 23.44 21 eP P 02 00 37.1 +0.8
135nm,1.3s
P37A Lathrop 23.44 7 P P 02 00 37.0 +0.7
baz=189
Q24A Divide 23.46 346 P P 02 00 38.3 +1.4
baz=163
Q24A Divide 23.46 346 eP P 02 00 39.5 +2.6
98nm,1.9s
Q42A Golden Eagle 23.48 15 P P 02 00 37.9 +1.3
baz=199,SNR=6.3
MONP2 Monument Peak 23.50 318 P P 02 00 39.0 +1.8
baz=131
BAR Barrett 23.52 317 eP P 02 00 41.2 +4.0
40nm,1.8s
R45A Skylar, Fairfi 23.53 19 P P 02 00 37.7 +0.5
baz=204,SNR=8.4
W13A Hualapai Mount 23.54 326 eP P 02 00 40.3 +2.7
50nm,2.0s
IRM Iron Mountain 23.56 322 P P 02 00 39.5 +1.9
baz=135,SNR=5.1
P39B Salisbury 23.57 10 P P 02 00 38.2 +0.6
baz=193
P38A Dawn 23.58 9 P P 02 00 38.2 +0.4
baz=191,SNR=8.1
PV01 Paradox Valley 23.69 339 eP P 02 00 41.1 +2.0
R46A Gibon Southern 23.71 21 P P 02 00 39.3 +0.2
baz=206
Q43A New Douglas 23.72 16 P P 02 00 39.4 +0.4
baz=200
P40A Paris 23.74 11 P P 02 00 39.6 +0.3
baz=195,SNR=17
S48A Wiedeman Farm, 23.76 24 P P 02 00 40.0 +0.6
baz=210,SNR=7.0
U15A North Rim 23.76 330 eP P 02 00 42.0 +2.1
77nm,1.7s
TUMC Tumaco 23.78 125 eP P 02 00 43.2 +3.3
268nm,1.1s
PV05 Paradox Valley 23.82 338 eP P 02 00 43.4 +3.0
O34A Beatrice 23.85 2 P P 02 00 41.1 +0.8
baz=184,SNR=21
Q44A Meyer Farm, Va 23.87 17 P P 02 00 40.7 +0.2
baz=202,SNR=11
TZTN Tazewell 23.91 30 P P 02 00 40.5 -0.4
baz=216,SNR=9.3
TZTN Tazewell 23.91 30 eP P 02 00 42.0 +1.0
64nm,1.4s
BELC Belle Mtn. Jos 23.96 321 P P 02 00 43.3 +1.6
baz=134,SNR=6.0
O35A Humboldt 23.97 4 P P 02 00 42.0 +0.5
baz=185
KMSC Kings Mountain 23.97 35 P P 02 00 41.2 -0.4
baz=223
KMSC Kings Mountain 23.97 35 eP P 02 00 40.8 -0.8
30nm,0.6s
XPFO Piæon Flat 23.99 319 eP P 02 00 44.1 +2.3
32nm,1.8s
PFO Pinyon Flats O 23.99 319 P P 02 00 43.6 +1.7
baz=132
PFO Pinyon Flats O 23.99 319 eP P 02 00 44.1 +2.3
30nm,1.8s
OLIL Olney 23.99 19 eP P 02 00 41.8 +0.1
28nm,1.0s
O37A Wolven Farm, M 24.04 7 P P 02 00 42.2 +0.2
baz=190,SNR=8.2
PV04 Paradox Valley 24.04 339 eP P 02 00 43.1 +0.8
O38A Galt 24.08 8 P P 02 00 42.9 +0.4
baz=191,SNR=6.6
P41A Barry, Barry 24.08 13 P P 02 00 42.7 +0.2
baz=197,SNR=8.9
Q45A Warren Harvey, 24.12 19 P P 02 00 43.1 +0.2
baz=204,SNR=7.4
SMCO Snowmass 24.14 343 eP P 02 00 45.2 +1.7
40nm,1.3s
R47A Wooly Knot Far 24.14 22 P P 02 00 43.0 0.0
baz=208,SNR=18
P42A Winchester 24.16 15 P P 02 00 43.5 +0.2
baz=198,SNR=18
HELC Santa Helena 24.16 112 eP P 02 00 47.2 +3.3
78nm,1.6s
WCI Wyandotte Cave 24.16 23 eP P 02 00 43.7 +0.4
106nm,1.7s
PV09 Paradox Valley 24.21 338 eP P 02 00 45.9 +1.8
GMRC Granite Mounta 24.31 323 P P 02 00 46.2 +1.4
baz=135
O40A La Belle 24.34 11 P P 02 00 45.0 +0.1
baz=195,SNR=15
O39A Kirksville 24.35 10 P P 02 00 45.2 +0.1
baz=193,SNR=10
ISCO Idaho Springs 24.36 346 P P 02 00 46.6 +1.0
baz=162,SNR=27
ISCO Idaho Springs 24.36 346 eP P 02 00 46.0 +0.5
34nm,1.3s
N33A J Bar K, Exete 24.38 1 P P 02 00 46.1 +0.8
baz=182
P43A Skaggs, Pawnee 24.42 16 P P 02 00 45.7 +0.1
baz=200,SNR=5.1
R48A Northridge Ran 24.48 23 P P 02 00 46.2 +0.1
baz=209,SNR=6.4
KNB Kanab 24.49 330 eP P 02 00 47.3 +0.8
48nm,1.7s
N34A Lincoln 24.51 3 P P 02 00 47.0 +0.6
baz=184,SNR=5.4
P44A Sand Creek, Wi 24.51 18 P P 02 00 47.1 +0.6
baz=202,SNR=5.1
O41A Passleys Farm, 24.54 13 P P 02 00 47.0 +0.3
baz=197,SNR=9.4
N35A Tabor 24.58 4 P P 02 00 47.9 +0.8
baz=186,SNR=6.1
N37A Lee Faris, Mou 24.61 7 P P 02 00 47.8 +0.5
baz=189
LCMT Little Creek M 24.69 330 eP P 02 00 49.8 +1.6
3.8nm,0.9s
HEC Hector, Ludlow 24.74 322 P P 02 00 50.1 +1.4
baz=134
Q47A Bedord North L 24.74 22 P P 02 00 48.7 +0.2
baz=208,SNR=10
N38A Joes South For 24.77 9 P P 02 00 49.5 +0.6
baz=191,SNR=8.1
P45A Graceland, Par 24.83 19 P P 02 00 49.1 -0.2
baz=204
OGNE Ogallala 24.83 353 P P 02 00 50.7 +1.2
baz=171
OGNE Ogallala 24.83 353 eP P 02 00 51.5 +2.0
79nm,1.4s
BLO Bloomington 24.92 21 eP P 02 00 50.5 +0.3
26nm,0.9s
RREF El Recreo 24.92 114 eP P 02 00 52.5 +1.4
N39A Derby Farms, D 24.97 10 P P 02 00 51.1 +0.5
baz=193,SNR=12
PTBC PUERTO BERRIO, 24.98 110 eP P 02 00 50.5 -0.4
OTAV Otavalo 25.00 128 eP P 02 00 54.3 +2.7
20nm,1.4s
OTAV Otavalo 25.00 128 eP P 02 00 51.8 +0.2
MTPU Mount Pierson 25.03 333 eP P 02 00 53.9 +2.3
36nm,1.1s
BGNE Belgrade 25.04 360 P P 02 00 52.2 +0.9
baz=180
BGNE Belgrade 25.04 360 eP P 02 00 51.5 +0.2
42nm,1.4s
SZCU Shurtz Canyon 25.08 331 eP P 02 00 53.8 +1.9
38nm,1.8s
P46A Rosedale 25.08 20 P P 02 00 51.6 0.0

	baz=205								
N41A	**Harden Midland**	25.12	13	P	P	02 00 52.4	+0.5		
	baz=197								
N40A	**Mertquake, Sal**	25.14	11	P	P	02 00 52.3	+0.2		
	baz=195								
BFSC	**Mount Baldy Ra**	25.15	319	P	P	02 00 54.1	+1.6		
	baz=131								
M34A	**Aspy Farms, Fr**	25.17	2	P	P	02 00 53.4	+1.0		
	baz=184								
CCUT	**Cedar City**	25.17	330	eP	P	02 00 55.5	+2.8		
	7.4nm,1.2s								
M35A	**Neola**	25.18	4	P	P	02 00 53.3	+0.8		
	baz=186								
O44A	**Mansfield**	25.19	17	P	P	02 00 52.8	+0.3		
	baz=202,SNR=5.8								
SRU	**San Rafael Swe**	25.26	337	eP	P	02 00 55.4	+1.9		
	16nm,1.1s								
M37A	**Trindle Farm,**	25.27	7	P	P	02 00 53.7	+0.4		
	baz=189,SNR=12								
SHPR	**Sheep Range**	25.27	326	eP	P	02 00 55.7	+2.1		
	15nm,1.5s								
P47A	**Martinsville**	25.29	22	P	P	02 00 53.8	+0.3		
	baz=207								
GSC	**Goldstone, Bar**	25.34	322	P	P	02 00 55.8	+1.7		
	baz=134								
GSC	**Goldstone, Bar**	25.34	322	eP	P	02 00 56.8	+2.6		
	19nm,1.7s								
HDIL	**Hopedale**	25.34	16	P	P	02 00 54.3	+0.4		
	baz=200,SNR=8.9								
HDIL	**Hopedale**	25.34	16	eP	P	02 00 52.7	-1.2		
	67nm,1.3s								
Q16A	**Castle Valley**	25.35	335	eP	P	02 00 56.2	+1.9		
	16nm,1.0s								
M38A	**Pleasantville**	25.39	8	P	P	02 00 54.7	+0.4		
	baz=191,SNR=17								
O20A	**White River Ci**	25.39	341	P	P	02 00 56.0	+1.3		
	baz=157,SNR=22								
O20A	**White River Ci**	25.39	341	eP	P	02 00 56.6	+1.9		
	33nm,1.1s								
N42A	**Yates City**	25.41	14	P	P	02 00 54.9	+0.3		
	baz=198								
MSU	**Marysvale**	25.42	333	eP	P	02 00 56.0	+1.0		
PASC	**Pasadena Art C**	25.44	318	eP	P	02 00 57.1	+2.1		
	50nm,1.9s								
N23A	**Red Feather La**	25.48	346	P	P	02 00 56.5	+0.9		
	baz=162,SNR=18								
N23A	**Red Feather La**	25.48	346	eP	P	02 00 57.2	+1.6		
	32nm,1.1s								
O45A	**Potomac**	25.50	18	P	P	02 00 55.7	+0.4		
	baz=204								
NCAT	**North Carolina**	25.53	36	eP	P	02 00 57.1	+1.4		
	42nm,1.3s								
SDDR	**Presa de Saban**	25.57	80	eP	P	02 00 59.0	+2.7		
	70nm,1.3s								
M39A	**Webster**	25.61	10	P	P	02 00 56.5	+0.1		
	baz=193,SNR=9.3								
P18A	**Preston Nutter**	25.61	338	eP	P	02 00 59.7	+2.9		
	26nm,1.0s								
M40A	**Post Highland**	25.66	11	P	P	02 00 56.9	+0.1		
	baz=195,SNR=6.1								
P17A	**Butcher Ranch,**	25.66	337	eP	P	02 00 59.3	+2.2		
	19nm,1.3s								
TMUT	**Trail Mountain**	25.69	336	eP	P	02 00 59.8	+2.3		
	10nm,1.0s								
N43A	**Stutzman Famil**	25.73	15	P	P	02 00 57.9	+0.4		
	baz=200								
EDW2	**Edwards Air Fo**	25.78	320	P	P	02 00 59.5	+1.4		
	baz=131								
L33A	**Hoskins**	25.81	1	P	P	02 00 58.8	+0.6		
	baz=182								
SFIN	**Lafayette**	25.81	19	P	P	02 00 58.4	+0.2		
	baz=205,SNR=6.8								
SFIN	**Lafayette**	25.81	19	eP	P	02 00 57.5	-0.7		
	22nm,0.9s								
M41A	**Milan**	25.82	13	P	P	02 00 58.6	+0.3		
	baz=197								
L35A	**Bielow Farm, R**	25.83	4	P	P	02 00 59.0	+0.6		
	baz=186								
SCIA	**State Center**	25.87	8	P	P	02 00 59.2	+0.5		
	baz=191,SNR=8.3								
SCIA	**State Center**	25.87	8	eP	P	02 00 59.3	+0.5		
	74nm,1.1s								
N44A	**Piper City**	25.88	17	P	P	02 00 59.1	+0.3		
	baz=202								
O47A	**Sheridan**	25.99	21	P	P	02 00 59.5	-0.3		
	baz=207,SNR=12								
BLA	**Blacksburg**	26.00	33	P	P	02 00 59.6	-0.4		
	baz=222,SNR=6.3								
BLA	**Blacksburg**	26.00	33	eP	P	02 00 59.8	-0.3		
	68nm,1.4s								
L37A	**Phoenix Point,**	26.01	7	P	P	02 01 00.3	+0.2		
	baz=190,SNR=7.5								
CNNC	**Cliffs of the**	26.06	40	P	P	02 01 00.1	-0.5		
	baz=229								
CNNC	**Cliffs of the**	26.06	40	eP	P	02 01 00.8	+0.3		
	52nm,1.4s								
N45A	**Kentland**	26.11	18	P	P	02 01 01.1	+0.1		
	baz=204								
L38A	**Oak Wood Farm,**	26.14	8	P	P	02 01 01.3	+0.1		
	baz=191,SNR=6.9								
M43A	**Waltham Townsh**	26.25	15	P	P	02 01 02.5	+0.3		
	baz=200,SNR=11								
MPMC	**Manual Prospec**	26.26	322	P	P	02 01 04.1	+1.5		
	baz=134								
L39A	**Vinton**	26.27	10	P	P	02 01 02.5	+0.1		
	baz=193,SNR=8.7								
L40A	**Anamosa**	26.35	11	P	P	02 01 03.2	+0.1		
	baz=195,SNR=8.5								
K34A	**Le Mars**	26.37	3	P	P	02 01 04.6	+1.3		
	baz=184								
N46A	**Monticello**	26.39	19	P	P	02 01 03.9	+0.4		
	baz=205,SNR=6.0								
M44A	**Midewin, Midew**	26.45	17	P	P	02 01 04.4	+0.4		
	baz=202,SNR=5.9								
K35A	**Storm Lake**	26.46	5	P	P	02 01 04.3	+0.2		
	baz=186								
MPU	**Maple Canyon**	26.47	336	eP	P	02 01 07.3	+2.9		
	6.5nm,1.0s								
RUSC	**La Rusia**	26.48	110	eP	P	02 01 07.3	+2.1		
	12nm,1.3s								
RUSC	**La Rusia**	26.48	110	eP	P	02 01 05.1	0.0		
L41A	**Preston**	26.50	13	P	P	02 01 04.6	+0.1		
	baz=197,SNR=14								
RWWY	**Rawlins**	26.55	344	eP	P	02 01 07.5	+2.3		
	26nm,1.3s								
NLU	**North Lily Min**	26.60	335	eP	P	02 01 07.7	+2.0		
	18nm,1.3s								
L42A	**Oliver, Polo**	26.62	14	P	P	02 01 05.6	+0.1		
	baz=198,SNR=11								
K38A	**Parkersburg**	26.66	9	P	P	02 01 06.0	+0.2		
	baz=192,SNR=6.6								
K37A	**Belmond**	26.66	7	P	P	02 01 05.7	-0.2		
	baz=190,SNR=11								
M45A	**Boilermakers S**	26.68	18	P	P	02 01 07.1	+1.0		
	baz=204								
K39A	**Oelwein**	26.85	10	P	P	02 01 07.2	-0.4		
	baz=193,SNR=11								
R11A	**Troy Canyon, C**	26.89	328	P	P	02 01 09.9	+1.7		
	baz=140								
K40A	**Colesburg**	26.98	11	P	P	02 01 08.8	0.0		
	baz=195,SNR=7.0								
M46A	**Old House Fiel**	26.98	20	P	P	02 01 09.0	+0.2		
	baz=206								
L43A	**Garden Prairie**	27.01	15	P	P	02 01 09.5	+0.4		
	baz=200,SNR=6.6								
K41A	**Shullsburg**	27.05	13	P	P	02 01 09.4	-0.1		
	baz=197,SNR=6.0								
VES	**Vestal, Richgr**	27.08	320	P	P	02 01 11.4	+1.6		
	baz=131								
DUG	**Dugway, Tooele**	27.10	334	P	P	02 01 11.0	+0.9		
	baz=148,SNR=7.4								
DUG	**Dugway, Tooele**	27.10	334	eP	P	02 01 12.2	+2.1		
	20nm,1.4s								
J35A	**Milford**	27.10	4	P	P	02 01 09.8	0.0		
	baz=186								
J36A	**Seneca 1, Swea**	27.14	6	P	P	02 01 10.1	-0.2		
	baz=188,SNR=10								
ACSO	**Alum Creek Sta**	27.20	26	P	P	02 01 10.8	0.0		
	baz=213								
J37A	**Redenius Farm,**	27.21	7	P	P	02 01 10.8	0.0		
	baz=190,SNR=6.3								
L44A	**Lake County Fo**	27.22	16	P	P	02 01 11.1	+0.2		
	baz=202								
K22A	**Casper**	27.29	346	P	P	02 01 12.9	+1.2		
	baz=162,SNR=7.0								
K22A	**Casper**	27.29	346	eP	P	02 01 13.7	+2.0		
	46nm,1.4s								
TCUT	**Toone Canyon**	27.34	338	eP	P	02 01 13.3	+0.9		
	45nm,1.4s								
J38A	**Wedel Dairy, R**	27.36	9	P	P	02 01 12.2	0.0		
	baz=192,SNR=11								
JFWS	**Jewell Farm**	27.36	12	P	P	02 01 12.1	0.0		
	baz=197,SNR=8.5								
JFWS	**Jewell Farm**	27.36	12	eP	P	02 01 12.2	0.0		
	19nm,1.0s								
ECSD	**EROS Data Cent**	27.39	2	P	P	02 01 12.9	+0.4		
	baz=183								
ECSD	**EROS Data Cent**	27.39	2	eP	P	02 01 11.2	-1.3		
	12nm,1.2s								
K42A	**Prairie Point,**	27.43	14	P	P	02 01 12.9	+0.1		
	baz=199,SNR=5.4								
J39A	**Decorah**	27.50	10	P	P	02 01 13.0	-0.4		
	baz=194								
K43A	**Burlington**	27.60	15	P	P	02 01 14.7	+0.3		
	baz=201,SNR=6.5								
I35A	**Creekview Farm**	27.61	5	P	P	02 01 14.5	+0.1		
	baz=187								
SDV	**Santo Domingo**	27.66	102	P	P	02 01 15.9	+0.5		
	7.6nm,0.9s,baz=286,slow=4.3,SNR=9.6								
SDV	**Santo Domingo**	27.66	102	eP	P	02 01 15.1	-0.3		
J40A	**Soldiers Grove**	27.73	11	P	P	02 01 15.6	+0.2		
	baz=195,SNR=5.2								
HWUT	**Hardware Ranch**	27.83	338	eP	P	02 01 18.2	+1.6		
	6.4nm,0.9s								
J41A	**Loganville**	27.84	12	P	P	02 01 16.3	-0.2		
	baz=197,SNR=12								
I36A	**Fitzsimmons Fa**	27.86	6	P	P	02 01 16.6	-0.1		
	baz=188								
SPUT	**South Promonto**	27.90	336	eP	P	02 01 18.4	+1.1		
	7.7nm,1.3s								
I37A	**Lemond, Waseca**	27.92	7	P	P	02 01 16.9	-0.3		
	baz=190								
J42A	**Columbus**	27.99	14	P	P	02 01 17.6	-0.3		
	baz=199,SNR=7.0								
I39A	**Houston**	28.03	10	P	P	02 01 18.3	+0.1		
	baz=194								
I38A	**Scanlan Farm,**	28.09	9	P	P	02 01 18.6	-0.1		
	baz=192,SNR=7.7								
H32A	**Carlson Farm,**	28.14	1	P	P	02 01 19.4	+0.2		
	baz=182								
MCWV	**Mont Chateau**	28.16	31	P	P	02 01 19.1	-0.3		
	baz=220								
BW06	**Boulder Array**	28.20	342	P	P	02 01 21.1	+1.1		
	baz=156								
BW06	**Boulder Array**	28.20	342	eP	P	02 01 21.8	+1.8		
	23nm,1.6s								
PD31	**Pinedale Array**	28.20	342	eP	P	02 01 21.6	+1.6		
PDAR	**Pinedale Array**	28.20	342	P	P	02 01 21.0	+1.0		
	2.4nm,0.9s,baz=139,slow=10,SNR=9.5								
PDAR				PcP	PcP	02 04 33.6	-0.1		
PDAR	0.4nm,0.4s,baz=152,slow=4.1,SNR=3.5			LR	LR	02 13 33.2			
	comp=Z,735nm,18.2s,baz=188,slow=39								
PDAR	**Pinedale Array**	28.20	342	eP	P	02 01 20.6	+0.6		
PDAR				PcP	PcP	02 04 33.6	-0.1		
J43A	**Natural Harves**	28.22	15	P	P	02 01 20.4	+0.6		
	baz=200								
I40A	**Norwalk**	28.23	11	P	P	02 01 20.0	+0.1		
	baz=195								
RSSD	**Black Hills**	28.23	351	P	P	02 01 20.6	+0.4		
	baz=168								
RSSD	**Black Hills**	28.23	351	eP	P	02 01 21.0	+0.8		
	7.7nm,1.3s								
MDPB	**Devils Postpil**	28.27	323	eP	P	02 01 22.6	+1.9		
	9.7nm,1.3s								
NV11	**Mina Array Sit**	28.31	325	eP	P	02 01 23.3	+2.4		
	1.6nm,1.5s								
NV01	**Mina Array Sit**	28.39	325	eP	P	02 01 23.2	+1.5		
NVAR	**Mina Array Bea**	28.39	325	P	P	02 01 23.8	+2.1		
	2.7nm,0.8s,baz=159,slow=11,SNR=8.1								
NVAR				LR	LR	02 13 18.4			
	comp=Z,289nm,20.2s,baz=264,slow=38								
H36A	**Jessenland, He**	28.42	6	P	P	02 01 21.6	0.0		
	baz=189,SNR=6.1								
HVU	**Hansel Valley**	28.43	336	eP	P	02 01 23.9	+1.9		
	7.2nm,1.1s								
H35A	**Sunnyside Ranc**	28.46	5	P	P	02 01 22.8	+0.8		
	baz=187								
H37A	**Dierke Farm, C**	28.54	8	P	P	02 01 23.3	+0.6		
	baz=191								
I42A	**Draeger Farm,**	28.58	14	P	P	02 01 23.2	+0.2		
	baz=199								
I42A	**Draeger Farm,**	28.58	14	eP	P	02 01 23.3	+0.2		
	23nm,1.3s								
AHID	**Auburn Hatcher**	28.69	340	eP	P	02 01 25.1	+0.7		
	6.3nm,0.7s								
H38A	**Maiden Rock**	28.71	8	P	P	02 01 24.8	+0.5		
	baz=192								
I43A	**Langenfeld Bro**	28.76	15	P	P	02 01 24.6	0.0		
	baz=200,SNR=6.3								
H39A	**Augusta**	28.87	10	P	P	02 01 25.7	0.0		
	baz=194,SNR=10								
H40A	**Chili**	28.97	11	P	P	02 01 26.4	-0.2		
	baz=196,SNR=16								
G36A	**St. Michael**	29.09	6	P	P	02 01 27.7	+0.2		
	baz=189								
H41A	**Junction City**	29.11	12	P	P	02 01 27.9	+0.1		
	baz=197								
H41A	**Junction City**	29.11	12	eP	P	02 01 28.1	+0.3		
	24nm,1.2s								
REDW	**Red Top Meadow**	29.14	341	eP	P	02 01 30.0	+1.6		
	25nm,1.5s								
SPMN	**Marine on St.**	29.18	8	P	P	02 01 28.3	-0.1		
	baz=191								
SPMN	**Marine on St.**	29.18	8	eP	P	02 01 28.4	-0.1		
	12nm,1.0s								
SNOW	**Snow King Moun**	29.20	341	eP	P	02 01 30.8	+1.9		
	25nm,1.5s								
G38A	**Ridgeland**	29.26	9	P	P	02 01 29.0	-0.1		
	baz=192,SNR=6.5								
LOHW	**Long Hollow**	29.29	341	eP	P	02 01 31.7	+2.0		
	17nm,1.4s								
TPAW	**Teton Pass**	29.29	340	eP	P	02 01 31.8	+2.1		
	22nm,1.7s								
H43A	**Windswept, Lux**	29.40	15	P	P	02 01 30.5	+0.1		
	baz=201								
H43A	**Windswept, Lux**	29.40	15	eP	P	02 01 30.2	-0.2		
	15nm,1.1s								
FXWY	**Fox Creek**	29.45	341	eP	P	02 01 33.1	+2.0		
	8.2nm,1.4s								
MOOW	**Moose Ponds**	29.45	341	eP	P	02 01 32.5	+1.3		
	20nm,1.9s								
MOOW				ePcP	PcP	02 04 37.7	+0.8		
G39A	**Holcombe**	29.48	10	P	P	02 01 31.1	0.0		
	baz=194,SNR=7.3								
G40A	**Rib Lake**	29.63	11	P	P	02 01 32.6	+0.2		
	baz=196,SNR=12								
F36A	**Milaca**	29.73	6	P	P	02 01 33.3	+0.1		
	baz=189								
G41A	**Antigo**	29.78	13	P	P	02 01 33.7	0.0		
	baz=198								
G42A	**Mountain**	29.97	14	P	P	02 01 35.0	-0.4		
	baz=199								
G42A	**Mountain**	29.97	14	eP	P	02 01 34.8	-0.7		
	10nm,1.0s								
F38A	**Pierce - Schro**	30.03	9	P	P	02 01 36.0	+0.1		
	baz=192,SNR=6.6								
F39A	**Loretta**	30.14	10	P	P	02 01 36.8	-0.1		
	baz=194,SNR=5.3								
G43A	**Wallace**	30.16	15	P	P	02 01 37.1	+0.1		
	baz=200,SNR=5.5								
G43A	**Wallace**	30.16	15	eP	P	02 01 36.8	-0.2		
	14nm,1.1s								
F40A	**Park Falls**	30.28	11	P	P	02 01 38.0	-0.2		
	baz=195,SNR=18								
RLMT	**Red Lodge**	30.29	344	P	P	02 01 39.5	+1.0		
	baz=158,SNR=7.0								
RLMT	**Red Lodge**	30.29	344	eP	P	02 01 40.4	+1.9		
	35nm,1.6s								
YHH	**Holmes Hill**	30.43	342	eP	P	02 01 42.3	+2.5		
	8.8nm,1.4s								
HLID	**Hailey**	30.58	336	P	P	02 01 42.2	+1.1		
	baz=148								
HLID	**Hailey**	30.58	336	eP	P	02 01 42.8	+1.7		
	2.4nm,1.0s								
GLMI	**Grayling**	30.61	19	P	P	02 01 41.2	+0.1		
	baz=206								
COWI	**Conover**	30.64	12	eP	P	02 01 42.0	+0.6		
	8.8nm,1.0s								
E39A	**Mellen**	30.64	10	P	P	02 01 41.2	-0.2		
	baz=194,SNR=10								
E38A	**The Farm, Brul**	30.71	9	P	P	02 01 42.2	+0.3		
	baz=192								
E40A	**Wakefield**	30.82	11	P	P	02 01 42.8	-0.2		
	baz=196,SNR=18								
D35A	**Remer**	30.89	5	P	P	02 01 43.3	-0.2		
	baz=188								
E41A	**Kenton**	31.02	12	P	P	02 01 44.4	-0.3		
	baz=197								
MFID	**Camas Ranch**	31.03	334	eP	P	02 01 47.3	+2.4		
	21nm,1.7s								
D36A	**Goodland**	31.07	6	P	P	02 01 44.9	-0.2		
	baz=189								
LAO	**LASA Array**	31.09	349	P	P	02 01 46.2	+0.8		
	baz=165								
LAO	**LASA Array**	31.09	349	eP	P	02 01 46.8	+1.4		
	30nm,1.6s								
MCMT	**McKenzie Canyo**	31.10	339	eP	P	02 01 48.1	+2.4		
D37A	**Cotton**	31.14	7	P	P	02 01 46.1	+0.4		
	baz=191								
F44A	**Big Bay de Noc**	31.15	16	P	P	02 01 45.3	-0.4		
	baz=202,SNR=6.2								
E42A	**Champion**	31.21	13	P	P	02 01 45.9	-0.5		
	baz=199								
E43A	**Lone Tree Farm**	31.38	15	P	P	02 01 47.6	-0.2		
	baz=201,SNR=6.9								
BOZ	**Bozeman (W)**	31.39	341	P	P	02 01 49.7	+1.5		
	baz=155								
BOZ	**Bozeman (W)**	31.39	341	eP	P	02 01 49.4	+1.3		
	17nm,1.6s								
F46A	**Macinaw City C**	31.42	18	P	P	02 01 48.6	+0.4		
	baz=205								
C31A	**Landman Farms,**	31.43	0	P	P	02 01 48.8	+0.5		
	baz=181								
DLMT	**Dillon**	31.49	340	eP	P	02 01 51.3	+2.2		
	26nm,1.4s								
C35A	**Jirik Farms, M**	31.51	5	P	P	02 01 48.8	-0.2		
	baz=188								
WVOR	**Wild Horse Val**	31.51	330	eP	P	02 01 51.0	+1.8		
	26nm,1.3s								
MDND	**Maddock**	31.51	358	P	P	02 01 49.5	+0.5		
	baz=177,SNR=6.5								
MDND	**Maddock**	31.51	358	eP	P	02 01 48.6	-0.4		
	91nm,1.3s								
MEDO	**Medina**	31.55	28	P	P	02 01 48.7	-0.6		
	baz=218								
D41A	**Chassel**	31.67	12	P	P	02 01 50.2	-0.2		
	baz=198								
C36A	**Pine Crest Far**	31.68	7	P	P	02 01 50.4	-0.1		
	baz=190								
LRM	**Limekiln Ridge**	31.85	341	eP	P	02 01 54.7	+2.4		
MOD	**Modoc Plateau**	31.95	328	eP	P	02 01 54.8	+1.8		
	18nm,1.5s								
AGMN	**Agassiz Nation**	31.98	3	P	P	02 01 53.3	+0.2		
	baz=184,SNR=6.9								
AGMN	**Agassiz Nation**	31.98	3	eP	P	02 01 52.5	-0.6		
	12nm,0.8s								
EYMN	**Ely**	32.03	8	P	P	02 01 53.5	-0.1		
	baz=192								
EYMN	**Ely**	32.03	8	eP	P	02 01 53.9	+0.3		
	20nm,1.5s								
C39A	**Grand Marais**	32.11	10	P	P	02 01 54.3	0.0		
	baz=195								
J08A	**Circle Bar Ran**	32.14	331	eP	P	02 01 56.7	+2.0		
	16nm,1.1s								
B35A	**Bob, Littlefor**	32.19	5	P	P	02 01 54.6	-0.3		
	baz=188								
B34A	**Aery, Baudette**	32.24	4	P	P	02 01 55.4	+0.1		
	baz=186								
A32A	**Rocking H Ranc**	32.58	2	P	P	02 01 58.5	+0.2		
	baz=183								
A33A	**Warroad**	32.64	3	P	P	02 01 59.3	+0.4		
	baz=185								
BMO	**Blue Mountains**	32.81	334	eP	P	02 02 01.9	+1.3		
	16nm,1.8s								
MSO	**Missoula**	33.23	340	P	P	02 02 04.8	+0.6		
	baz=152								
MSO	**Missoula**	33.23	340	eP	P	02 02 05.5	+1.3		
	8.6nm,1.3s								
F10A	**Beach Ranch, E**	33.70	336	eP	P	02 02 09.4	+1.1		
	36nm,1.7s								
J04D	**Umpqua Nationa**	33.83	328	P	P	02 02 10.7	+1.1		
	baz=136								
G08A	**Pilot Rock**	33.87	333	eP	P	02 02 11.3	+1.5		
	31nm,1.8s								
ULM	**Lac du Bonnet**	33.93	2	P	P	02 02 09.2	-1.0		
	5.9nm,1.0s,baz=180,slow=9.4,SNR=6.7								
ULM	**Lac du Bonnet**	33.93	2	eP	P	02 02 09.6	-0.5		
	18nm,1.4s								
JTMT	**Jette**	34.14	340	eP	P	02 02 13.5	+1.3		
	17nm,1.5s								
JTMT				ePcP	PcP	02 04 50.4	+1.0		
I05D	**Terrebonne, OR**	34.24	330	P	P	02 02 14.5	+1.5		
	baz=138								
LONY	**Lake Ozonia**	34.47	30	P	P	02 02 14.2	-0.7		
	baz=222								
H04A	**Detroit Lake**	34.91	329	eP	P	02 02 20.3	+1.5		
	69nm,1.5s								
LTY	**Liberty**	36.15	334	eP	P	02 02 30.7	+1.3		
	20nm,1.4s								
LON	**Longmire**	36.26	332	eP	P	02 02 31.9	+1.6		
	22nm,1.5s								
B08A	**Colville Reser**	36.47	336	eP	P	02 02 33.2	+1.1		
	18nm,1.5s								
A04D	**Lummi Island**	38.15	333	P	P	02 02 47.6	+1.3		
	baz=140								
FFC	**Flin Flon**	38.49	356	eP	P	02 02 49.3	+0.2		
	17nm,1.0s								
EDM	**Edmonton**	38.79	345	eP	P	02 02 52.8	+1.1		
	26nm,1.3s								
LLLB	**Lillooet**	39.27	336	eP	P	02 02 57.0	+1.2		
	39nm,1.8s								
FCC	**Fort Churchill**	42.52	3	eP	P	02 03 22.9	+0.6		
	19nm,1.4s								
SAML	**Samuel**	42.59	124	eP	P	02 03 23.1	-0.4		
	6.3nm,1.1s								
LPAZ	**La Paz**	43.75	136	P	P	02 03 34.2	+0.7		
	3.7nm,1.1s,baz=350,slow=7.8,SNR=6.5								
LPAZ	**La Paz**	43.75	136	eP	P	02 03 34.6	+1.1		
	5.8nm,1.1s								
YKA	**Yellowknife Ar**	47.62	350	P	P	02 04 02.5	-0.4		
	2.4nm,1.0s,baz=157,slow=7.6,SNR=22								
YKA				PcP	PcP	02 05 32.1	-0.4		
	1.5nm,1.0s,baz=151,slow=3.9,SNR=7.4								
YKW3	**Yellowknife Ar**	47.69	350	eP	P	02 04 03.4	0.0		
	12nm,1.3s								
DLBC	**Dease Lake**	48.31	338	eP	P	02 04 11.8	+3.4		

ALMR				AMb	AMB	02 07 36.7		
	comp=Z,32nm,0.9s							
ALMR	**Almeirim**	**79.46**	**52**	*e*P	**P**	**02 07 35.0**	**+1.2**	
ESK	**Eskdalemuir**	**79.46**	**35**	*e*P	**P**	**02 07 33.2**	**-0.3**	
	comp=Z,9.4nm,1.0s							
EKA	**Eskdalemuir Ar**	**79.48**	**35**	P	**P**	**02 07 33.9**	**+0.3**	
	comp=Z,1.9nm,0.9s,baz=265,slow=3.9,SNR=4.2							
POLO	**Lamas de Olo**	**79.57**	**50**	*e*P	**P**	**02 07 35.3**	**+0.8**	
PMTG	**Montargil**	**79.74**	**52**	*e*P	**P**	**02 07 36.2**	**+0.8**	
MTE	**Manteigas**	**79.96**	**51**	*e*P	**P**	**02 07 37.1**	**+0.4**	
EVO	**Evora**	**80.02**	**53**	*e*P	**P**	**02 07 37.9**	**+1.0**	
PCBR	**Castelo Branco**	**80.14**	**51**	*e*P	**P**	**02 07 38.5**	**+1.0**	
PESTR	**Estremoz**	**80.27**	**52**	*e*P	**P**	**02 07 39.1**	**+0.8**	
PMRV	**Marv??o**	**80.29**	**52**	*e*P	**P**	**02 07 39.1**	**+0.7**	
PAB	**San Pablo**	**82.55**	**51**	*e*P	**P**	**02 07 51.0**	**+0.5**	
	comp=Z,17nm,1.3s							
ESDC	**Sonseca Array**	**82.81**	**51**	P	**P**	**02 07 52.1**	**+0.3**	
	comp=Z,2.4nm,1.0s,baz=296,slow=5.6,SNR=12							
ES19	**SONSECA Array**	**82.85**	**51**	*e*P	**P**	**02 07 52.6**	**+0.6**	
PETK	**Petropavlovsk-**	**85.47**	**324**	P	**P**	**02 08 05.9**	**+0.9**	
	comp=Z,4.8nm,1.0s,baz=91,slow=12,SNR=4.1							
PETK	**Petropavlovsk-**	**85.47**	**324**	*e*P	**P**	**02 08 06.4**	**+1.4**	
TIXI	**Tiksi**	**86.78**	**347**	*e*P	**P**	**02 08 10.7**	**-0.4**	
	comp=Z,11nm,1.2s							
HHC	**Hu-ho-hao-te**	**116.90**	**335**	*e*PKP	**PKPdf**	**02 14 10.9**	**-1.5**	
WMQ	**Urumqi**	**119.97**	**355**	*e*PKP	**PKPdf**	**02 14 19.3**	**+1.1**	
NJ2	**Nanjing**	**120.38**	**324**	*e*PKP	**PKPdf**	**02 14 20.0**	**+0.8**	
STKA	**Stephens Creek**	**124.07**	**242**	PKP	**PKPdf**	**02 14 25.4**	**-0.8**	
	comp=Z,3.3nm,1.0s,baz=64,slow=4.6,SNR=4.1							
KSH	**Kashi**	**124.21**	**6**	*e*PKP	**PKPdf**	**02 14 24.8**	**-1.7**	
RAYN	**Ar Rayn**	**126.72**	**43**	*e*PKPdf	**PKPdf**	**02 14 31.5**	**-0.1**	
LSZ	**Lusaka**	**128.31**	**97**	*e*PKPdf	**PKPdf**	**02 14 35.3**	**+0.4**	
CD2	**Chengdu**	**128.64**	**336**	PKP	**PKPdf**	**02 14 35.0**	**-0.1**	
WRAB	**Tennant Creek**	**130.29**	**257**	*e*PKPdf	**PKPdf**	**02 14 38.7**	**+0.3**	
WRA	**Warramunga Arr**	**130.30**	**257**	PKP	**PKPdf**	**02 14 38.3**	**-0.1**	
	comp=Z,3.0nm,1.0s,baz=94,slow=1.2,SNR=9.9							
ASAR	**Alice Springs**	**130.90**	**253**	PKP	**PKPdf**	**02 14 39.6**	**+0.1**	
	comp=Z,1.9nm,1.1s,baz=117,slow=1.2,SNR=9.0							
KMBO	**Kilima Mbogo**	**133.41**	**76**	*e*PKPdf	**PKPdf**	**02 14 44.8**	**0.0**	
KSM	**Kuching**	**146.97**	**300**	*e*PKPdf	**PKPbc**	**02 15 10.2**	**-0.7**	
KULM	**Kulim**	**151.74**	**318**	*e*PKPbc	**PKPbc**	**02 15 23.0**	**+0.2**	

MEX 25 02:00:43.9±0.6, 16.49N×98.30W, h11km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**120**	*i* P	Pg	02 00 47.2	-0.8
PNIG				*i* S	Sg	02 00 51.1	+0.2
TLIG	**Tlapa**	**1.10**	**347**	*e*P	Pb	02 01 01.5	-3.5
TLIG				*e*S	Sg	02 01 15.1	-4.3
ACX	**Acapulco**	**1.54**	**284**	*e*P	Pn	02 01 11.1	-0.3
ACX				*e*S	Sn	02 01 29.8	-1.5
VHO	**Vista Hermosa**	**1.61**	**69**	*e*P	Pn	02 01 08.8	-3.7
VHO				*e*S	Sn	02 01 28.4	-5.0
CAIG	**El Cayaco**	**1.96**	**287**	*i* P	Pn	02 01 14.3	-2.8
CAIG				*e*S	Sn	02 01 37.3	-4.5
PLIG	**Platanillo**	**2.21**	**329**	*e*P	Pn	02 01 17.6	-3.0
PLIG				*e*S	Sn	02 01 43.8	-4.3
HUIG	**Huatulco**	**2.23**	**109**	*i* P	Pn	02 01 16.8	-4.0
HUIG				*i* S	Sn	02 01 44.9	-3.4

MEX 25 02:07:23.2±0.3, 16.26N×98.06W, h4km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**334**	*e*P	Pg	02 07 25.8	-0.3
PNIG				*i* S	Sg	02 07 28.0	0.0
TLIG	**Tlapa**	**1.38**	**340**	*e*P	Pn	02 07 45.8	-3.5
TLIG				*e*S	Sg	02 08 03.2	-4.4
VHO	**Vista Hermosa**	**1.51**	**58**	*i* P	Pn	02 07 47.3	-3.9
VHO				*e*S	Sn	02 08 06.4	-4.9
HUIG	**Huatulco**	**1.94**	**104**	*i* P	Pn	02 07 53.3	-3.7
HUIG				*i* S	Sn	02 08 17.9	-3.9
PLIG	**Platanillo**	**2.52**	**327**	*i* P	Pn	02 08 01.4	-3.8
PLIG				*e*S	Sn	02 08 32.1	-4.3

*ISCJB **25** 02:08:04.3±0.6, 5.87N±0.06×126.40E±0.08, h71km, mb3.7/8, Error ellipse: s-maj=12.3km s-min=6.6km az=154.3*
*MAN **25** 02:08:05, 6.12N×126.49E, h99km, mb4.9, ML3.8, MS3.8*
*IDC **25** 02:08:05.1±3.5, 6.11N×126.77E, h71km±32km, mb3.5/8, mb1 3.7/8, mb1mx3.3/53, mbtmp3.8/8, Error ellipse: s-maj=59.9km s-min=13.9km az=69.0*

ISC 25 02:08:05.5±0.8, 5.90N±0.07×126.35E±0.09, h71km, n12, σ1§19/17, mb3.6/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.04**	**355**	*e*P	**Pn**	**02 08 25.3**	**+0.7**
MATI				*e*S	**Sn**	**02 08 39.8**	**+1.0**
DAV	**Davao City (W)**	**1.39**	**327**	P	**Pn**	**02 08 29.5**	**+0.4**
	56nm,0.3s,baz=122,slow=2.4,SNR=4.0						
DAV				S	**Sn**	**02 08 49.4**	**+2.6**
	136nm,0.3s,baz=292,slow=22,SNR=14						
GSPH	**General Santos**	**1.41**	**278**	*e*P	**Pn**	**02 08 29.2**	**-0.1**
GSPH				*e*S	**Sn**	**02 08 47.5**	**+0.2**
BUKP	**Musuan**	**2.34**	**327**	*e*P	**Pn**	**02 08 42.0**	**+0.1**
BUKP				*e*S	**Sn**	**02 09 09.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**23.86**	**182**	P	**P**	**02 13 13.5**	**+1.0**
	1.9nm,0.8s,baz=90,slow=20						
WRA	**Warramunga Arr**	**26.86**	**163**	P	**P**	**02 13 39.5**	**-0.2**
	0.7nm,0.3s,baz=342,slow=10.0,SNR=15						
ASAR	**Alice Springs**	**30.30**	**166**	P	**P**	**02 14 10.9**	**+0.7**
	0.7nm,0.5s,baz=350,slow=7.5,SNR=18						
ASAR				PcP	**PcP**	**02 17 08.5**	**-0.8**
	0.3nm,0.6s,baz=344,slow=2.4,SNR=4.3						
STKA	**Stephens Creek**	**40.28**	**160**	P	**P**	**02 15 37.0**	**+1.2**
	1.9nm,0.6s,baz=327,slow=9.1,SNR=6.6						
MKAR	**Makanchi Array**	**55.57**	**325**	P	**P**	**02 17 34.3**	**+0.5**
	0.2nm,0.5s,baz=125,slow=8.2,SNR=4.7						
KURBB	**Kurchatov Arra**	**59.72**	**327**	P	**P**	**02 18 02.7**	**0.0**
	0.3nm,0.6s,baz=122,slow=7.9,SNR=2.5						
ILAR	**Eielson Array**	**83.32**	**26**	P	**P**	**02 20 22.0**	**-2.4**
	0.3nm,0.6s,baz=248,slow=4.8,SNR=5.7						
ARCES	**ARCESS Array B**	**88.29**	**340**	P	**P**	**02 20 47.7**	**-1.2**
	3.2nm,0.9s,baz=94,slow=3.6,SNR=1.6						

NNC 25 02:14:54.5±4.5, 37.48N×70.64E, h0km, mb3.7, mpv3.4, 7C-3D, Error ellipse: s-maj=35.1km s-min=26.3km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.38**	**41**	⇑P	Pn	02 15 48.6	-0.1
	2.9nm,0.3s						
SFK				⇓S	Sn	02 16 30.5	+0.9
	8.5nm,0.4s						
MNAS	**Manas**	**5.21**	**15**	⇓P	Pn	02 16 14.8	+1.1
	1.3nm,0.4s						
MNAS				⇑S	Sn	02 17 16.0	+1.5
	2.1nm,0.5s						
KK31	**Karatay Array**	**5.62**	**359**	P	Pn	02 16 21.2	+1.9
	1.4nm,0.2s,baz=180,slow=13,SNR=33						
KK31				⇑S	Sn	02 17 26.9	+2.3
	0.9nm,0.2s,baz=186,slow=24						
AAK	**Ala-Archa**	**5.94**	**29**	⇓P	Pn	02 16 23.7	-0.1
	1.6nm,0.3s						
AAK				⇑S	Sn	02 17 31.8	-0.9
	2.3nm,0.7s						
TKM2	**Tokmak 2**	**6.63**	**33**	⇑P	Pn	02 16 31.8	-1.5
	1.7nm,0.5s						
AB31	**Akbulak array**	**14.10**	**330**	⇑P	Pn	02 18 14.7	-0.6
	0.4nm,0.5s,baz=147,slow=12,SNR=16						
AB31				⇑S	Sn	02 20 52.7	+0.4
	0.5nm,0.7s						

MAN 25 02:21:11, 17.42N×120.11E, h31km, mb4.1, ML2.9, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.61**	**68**	*e*P	Pn	02 21 23.9	+0.2
ABRA				*e*S	Sn	02 21 33.6	+1.2
BOLP	**Bolinao**	**1.05**	**190**	*e*P	Pn	02 21 29.4	-0.3
BOLP				*e*S	Sb	02 21 43.8	-0.4
APYP	**Conner**	**1.16**	**68**	*e*P	Pn	02 21 31.2	0.0
APYP				*e*S	Sn	02 21 45.9	-0.1
CAUP	**Cauayan**	**1.70**	**106**	*e*P	Pb	02 21 40.6	-1.1

*IDC **25** 02:24:41.3±1.1, 16.38N×99.37W, h0km, mb4.2/8, mb1 4.3/11, mb1mx4.0/49, mbtmp4.0/11, ML3.2/3, MS3.6/4, Ms1 3.6/4, ms1mx3.2/46, Error ellipse: s-maj=31.8km s-min=17.8km az=50.0*
*NEIC **25** 02:24:42.3±0.0, 16.14N×99.60W, h16km, mb4.3/83, MD4.5(MEX), After MEX.*
*MEX **25** 02:24:42.3±0.6, 16.14N×99.60W, h22km±151km, MD4.2*

ISC 25 02:24:44.4±0.6, 16.47N±0.06×99.51W±0.04, h16km, n328, σ1§22/332, mb4.4/72, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.52**	**320**	*e*P	**Pn**	**02 24 57.7**	**+0.5**
ACX				*i* S	**Sn**	**02 25 06.8**	**+1.1**
CAIG	**El Cayaco**	**0.92**	**308**	*i* P	**Pb**	**02 24 59.3**	**-2.7**
CAIG				*e*S	**Sb**	**02 25 12.9**	**-1.2**
CAIG	**El Cayaco**	**0.92**	**308**	*i* P	**Pb**	**02 24 59.3**	**-2.7**
CAIG				*e*S	**Sb**	**02 25 12.9**	**-1.2**
TLIG	**Tlapa**	**1.41**	**40**	*e*P	**Pn**	**02 25 08.4**	**-1.1**
TLIG				*e*S	**Sg**	**02 25 28.6**	**-1.4**
TLIG	**Tlapa**	**1.41**	**40**	*e*P	**Pn**	**02 25 08.4**	**-1.1**
TLIG				*e*S	**Sg**	**02 25 28.6**	**-1.4**
PLIG	**Platanillo**	**1.91**	**0**	*e*P	**Pn**	**02 25 15.9**	**-0.5**
PLIG				*i* S	**Sb**	**02 25 41.7**	**-0.8**
PLIG	**Platanillo**	**1.91**	**0**	*e*P	**Pn**	**02 25 15.9**	**-0.5**
PLIG				*i* S	**Sb**	**02 25 41.7**	**-0.8**
UNM	**Universidad Na**	**2.86**	**6**	*e*Pn	**Pb**	**02 25 35.4**	**+0.2**
MOIG	**Morelia**	**3.56**	**334**	*e*Pn	**Pn**	**02 25 40.4**	**+1.1**
MOIG				*e*Sn	**Sn**	**02 26 23.2**	**+1.9**
LVIG	**Laguna Verde**	**4.37**	**42**	*e*Pn	**Pn**	**02 25 51.2**	**+1.0**
CMIG	**Matias Romero**	**4.47**	**81**	Pn	**Pn**	**02 25 48.7**	**-2.9**
	2.0nm,0.3s,baz=257,slow=9.2,SNR=14						
CMIG				Pg	**Pb**	**02 26 04.3**	**+1.6**
	3.5nm,0.3s,baz=273,slow=15,SNR=12						
CMIG				Lg	Lg	02 27 04.3	
	7.9nm,0.3s,baz=8.9,slow=22,SNR=4.3						
CMIG				LR	LR	02 27 35.1	
	comp=Z,405nm,20.7s,baz=264,slow=40						
ZAIG	**Zacatecas**	**6.89**	**336**	*e*Pn	**Pn**	**02 26 27.7**	**+2.6**
ZAIG				*e*Lg	Lg	02 28 24.9	
TXAR	**Lajitas Array**	**13.36**	**344**	Pn	**Pn**	**02 27 55.3**	**+1.8**
	0.0nm,0.3s,baz=153,slow=15,SNR=5.4						
TXAR				Lg	Lg	02 32 02.4	
	0.0nm,0.3s,baz=161,slow=31,SNR=5.7						
TXAR				LR	LR	02 34 07.3	
	comp=Z,138nm,19.6s,baz=0.0,slow=42						
JTS	**JuntasAbangare**	**15.44**	**112**	Pn	**P**	**02 28 23.8**	**-2.4**
	0.2nm,0.3s,baz=347,slow=19,SNR=3.0						
JTS	**JuntasAbangare**	**15.44**	**112**	*e*Pn	**Pn**	**02 28 22.6**	**+0.9**
WHTX	**Lake Whitney,**	**15.56**	**7**	*e*Pn	**Pn**	**02 28 23.6**	**+0.4**
	20nm,0.8s						
WHTX				*e*P	**P**	**02 28 27.5**	**+0.1**
341A	**Kurthwood**	**15.88**	**20**	P	**P**	**02 28 29.8**	**-1.2**
	baz=203						
MNTX	**Cornudas Mount**	**16.07**	**342**	P	**P**	**02 28 33.8**	**+0.7**
	baz=160						
ABTX	**Abilene, Hawle**	**16.08**	**360**	P	**P**	**02 28 33.5**	**+0.2**
	baz=180						
ABTX	**Abilene, Hawle**	**16.08**	**360**	*e*Pn	**P**	**02 28 31.2**	**-2.0**
	15nm,1.2s						
342A	**Flagon Creek P**	**16.21**	**23**	P	**P**	**02 28 34.2**	**-0.5**
	baz=205,SNR=5.7						
HSIG		**16.33**	**322**	*e*Pn	**P**	**02 28 37.6**	**+1.6**
344A	**Westbrook Farm**	**16.92**	**27**	P	**P**	**02 28 42.3**	**-0.2**
	baz=210						
319A	**Douglas**	**17.30**	**331**	*e*Pn	**P**	**02 28 46.8**	**0.0**
	9.9nm,0.9s						
244A	**Avery, Jackson**	**17.45**	**26**	P	**P**	**02 28 47.9**	**-0.5**
	baz=209,SNR=5.5						
Z40A	**Long Farm, Mag**	**17.60**	**17**	P	**P**	**02 28 50.1**	**+0.1**
	200						
MSTX	**Muleshoe**	**17.67**	**351**	P	**P**	**02 28 51.6**	**+0.7**
	baz=170,SNR=7.0						
MSTX	**Muleshoe**	**17.67**	**351**	*e*Pn	**P**	**02 28 51.2**	**+0.3**
	12nm,0.9s						
VBMS	**Vicksburg**	**17.67**	**26**	P	**P**	**02 28 50.5**	**-0.3**
	baz=209						
Z41A	**Richland Creek**	**17.78**	**19**	P	**P**	**02 28 51.0**	**-1.0**
	baz=201						
WLAR	**White Oak Lake**	**18.09**	**17**	*e*Pn	**P**	**02 28 54.4**	**-1.0**
	21nm,1.1s						
WMOK	**Wichita Mounta**	**18.20**	**2**	P	**P**	**02 28 56.4**	**-0.3**
	baz=182						
WMOK	**Wichita Mounta**	**18.20**	**2**	*e*Pn	**P**	**02 28 56.4**	**-0.3**
	5.3nm,1.1s						
Y40A	**Okolona**	**18.34**	**17**	P	**Pn**	**02 28 57.3**	**-0.9**
	baz=199						
Y41A	**Eaglette Beard**	**18.41**	**18**	P	**P**	**02 28 58.9**	**-0.1**
	baz=201						
AMTX	**Amarillo**	**18.44**	**354**	P	**Pn**	**02 28 59.2**	**-0.2**
	baz=174						
AMTX	**Amarillo**	**18.44**	**354**	*e*Pn	**P**	**02 28 58.9**	**-0.4**
	23nm,1.4s						
X39A	**Fountain Ranch**	**18.60**	**14**	P	**Pn**	**02 29 01.2**	**-0.1**
	baz=196						
BNM	**Barren Site**	**18.73**	**341**	*e*P	**Pn**	**02 29 03.5**	**+0.4**
MIAR	**Mount Ida**	**18.77**	**15**	*e*P	**P**	**02 29 01.3**	**-1.5**
	11nm,1.2s						
TUC	**Tucson**	**18.79**	**329**	P	**Pn**	**02 29 05.9**	**+2.1**
	baz=145						
TUC	**Tucson**	**18.79**	**329**	*e*P	**Pn**	**02 29 06.3**	**+2.6**
	16nm,1.8s						
249A	**Camden**	**19.10**	**34**	P	**Pn**	**02 29 06.3**	**-1.0**
	baz=218						
LAZ	**Ladron**	**19.12**	**340**	*e*P	**Pn**	**02 29 07.8**	**-0.1**
UALR	**University of**	**19.32**	**18**	*e*P	**P**	**02 29 08.3**	**-0.7**
	20nm,1.4s						
W39A	**Magazine**	**19.34**	**14**	P	**Pn**	**02 29 09.9**	**-0.4**
	baz=197						
148A	**Greensboro**	**19.39**	**32**	P	**P**	**02 29 09.4**	**-0.4**
	baz=216						
ANMO	**Albuquerque**	**19.42**	**343**	P	**Pn**	**02 29 11.4**	**0.0**
	0.1nm,0.3s,baz=342,slow=14,SNR=8.2						
ANMO	**Albuquerque**	**19.42**	**343**	P	**Pn**	**02 29 11.5**	**0.0**
	baz=160						
ANMO	**Albuquerque**	**19.42**	**343**	*e*P	**Pn**	**02 29 11.6**	**+0.1**
	4.4nm,1.2s						
Y45A	**Yeager Farm, C**	**19.50**	**26**	P	**P**	**02 29 10.4**	**-0.5**
	baz=210						
W40A	**Ferguson Farm,**	**19.51**	**16**	*e*P	**Pn**	**02 29 12.1**	**-0.2**
	22nm,1.1s						
250A	**Grady**	**19.57**	**36**	P	**Pn**	**02 29 11.6**	**-1.4**
	baz=220						
214A	**Organ Pipe Nat**	**19.58**	**324**	P	**Pn**	**02 29 14.1**	**+0.9**
	baz=140						
Z47A	**Carrollton**	**19.60**	**30**	P	**P**	**02 29 11.4**	**-0.5**
	baz=214						
TUL1	**Leonard**	**19.64**	**9**	P	**P**	**02 29 12.1**	**-0.3**
	baz=191						
TUL1	**Leonard**	**19.64**	**9**	*e*P	**P**	**02 29 11.7**	**-0.8**
	13nm,1.0s						
W41B	**Gary Mavity, V**	**19.72**	**18**	P	**P**	**02 29 13.2**	**-0.2**
	baz=201						
149A	**Jones**	**19.76**	**33**	P	**P**	**02 29 13.1**	**-0.7**
	baz=218						
Y46A	**Houston**	**19.81**	**27**	P	**Pn**	**02 29 14.5**	**-1.4**
	baz=211,SNR=8.6						
WHAR	**Wooly Hollow**	**19.82**	**18**	*e*P	**Pn**	**02 29 16.2**	**+0.2**
	9.4nm,1.0s						
V39A	**Pettigrew**	**19.98**	**14**	P	**P**	**02 29 15.9**	**-0.3**
	baz=197,SNR=10.0						
352A	**Blakely**	**19.98**	**39**	P	**P**	**02 29 15.8**	**-0.4**
	baz=224						
Z48A	**Northport**	**19.99**	**30**	P	**P**	**02 29 15.5**	**-0.8**
	baz=215						
LRAL	**Lakeview Retre**	**20.00**	**32**	P	**P**	**02 29 15.5**	**-0.9**
	baz=217						
X45A	**UM Field Stati**	**20.05**	**25**	P	**P**	**02 29 16.4**	**-0.6**
	baz=209						
OXF	**Oxford**	**20.12**	**25**	P	**P**	**02 29 16.8**	**-0.9**
	baz=209						
251A	**Midway**	**20.14**	**37**	P	**P**	**02 29 16.6**	**-1.4**
	baz=222						
V40A	**Witts Springs**	**20.16**	**16**	P	**P**	**02 29 17.5**	**-0.6**
	baz=199						
150A	**Eclectic**	**20.18**	**35**	P	**P**	**02 29 17.5**	**-0.9**
	baz=220						
X18A	**Snowflake**	**20.27**	**334**	*e*P	Pn	02 29 22.2	+0.7
	35nm,1.8s						
V41A	**Mountainview**	**20.32**	**17**	P	**P**	**02 29 19.4**	**-0.5**
	baz=201						
353A	**Camilla**	**20.33**	**41**	P	**P**	**02 29 19.0**	**-1.0**
	baz=226						
Z49A	**Columbiana**	**20.36**	**33**	P	**P**	**02 29 19.4**	**-0.9**
	baz=218						
252A	**Lumpkin**	**20.46**	**38**	P	**P**	**02 29 20.5**	**-1.0**
	baz=224						
X46A	**Booneville**	**20.50**	**27**	P	**P**	**02 29 21.1**	**-0.7**
	baz=211,SNR=6.4						
151A	**Opelika**	**20.51**	**36**	P	**P**	**02 29 21.0**	**-0.9**
	baz=222,SNR=5.6						
U39A	**Green Forest**	**20.54**	**14**	P	**P**	**02 29 21.6**	**-0.6**
	baz=197						
V42A	**Cord**	**20.57**	**19**	P	**P**	**02 29 21.6**	**-1.0**
	baz=202,SNR=5.8						
Y48A	**Jasper**	**20.61**	**30**	P	**P**	**02 29 22.3**	**-0.7**
	baz=215						
U40A	**Yellville**	**20.67**	**15**	P	**P**	**02 29 23.0**	**-0.6**
	baz=198,SNR=6.0						
113A	**Mohawk Valley,**	**20.73**	**324**	*e*P	Pn	02 29 27.0	+0.3
	15nm,1.3s						
Z50A	**Ashland**	**20.73**	**34**	P	Pn	02 29 26.4	-0.3
	baz=219,SNR=8.3						
W45A	**Hickory Valley**	**20.77**	**24**	P	**P**	**02 29 23.9**	**-0.9**
	baz=209						
X47A	**Russelville**	**20.79**	**28**	P	**P**	**02 29 23.8**	**-1.1**
	baz=213,SNR=7.0						
X16A	**Lo Mia Camp, P**	**20.83**	**331**	*e*P	Pn	02 29 28.2	+0.1
	9.7nm,1.0s						
U41A	**Viola**	**20.91**	**17**	P	**P**	**02 29 25.6**	**-0.6**
	baz=201						
Y49A	**Blount Mountai**	**20.94**	**32**	P	**P**	**02 29 25.7**	**-1.0**
	baz=217,SNR=5.2						
T38A	**Diamond**	**21.00**	**12**	P	Pn	02 29 29.7	-0.1
	baz=194						
T25A	**Trinidad**	**21.04**	**349**	P	**P**	**02 29 29.4**	**+1.6**
	baz=167,SNR=5.2						
T25A	**Trinidad**	**21.04**	**349**	*e*P	**P**	**02 29 30.1**	**+2.3**
	18nm,1.3s						
W46A	**Michie**	**21.08**	**26**	P	**P**	**02 29 28.5**	**+0.4**
	baz=211						
PLAL	**Pickwick Lake**	**21.08**	**27**	*e*P	**P**	**02 29 26.6**	**-1.5**
	28nm,1.2s						
X48A	**Hartselle**	**21.11**	**30**	P	**P**	**02 29 29.4**	**+1.0**
	baz=215,SNR=9.0						
U42A	**Revenden**	**21.12**	**19**	P	**P**	**02 29 27.5**	**-1.0**
	baz=202,SNR=5.6						
Y50A	**Piedmont**	**21.32**	**33**	P	**P**	**02 29 32.2**	**+1.6**
	baz=218						
T40A	**Mansfield**	**21.50**	**15**	P	**P**	**02 29 32.0**	**-0.7**
	baz=198,SNR=9.6						
X49A	**Woodville**	**21.51**	**31**	P	**P**	**02 29 33.5**	**+0.8**
	baz=216,SNR=11						
W47A	**Westpoint**	**21.52**	**27**	P	**P**	**02 29 31.6**	**-1.2**
	baz=212,SNR=15						
GLA	**Glamis**	**21.54**	**323**	*e*P	**P**	**02 29 34.9**	**+1.8**
	18nm,1.1s						
T41A	**Mountain View**	**21.61**	**17**	P	**P**	**02 29 33.2**	**-0.6**
	baz=200						
S38A	**Stockton**	**21.65**	**12**	P	**P**	**02 29 34.1**	**-0.1**
	baz=195						
WUAZ	**Wupatki**	**21.72**	**333**	P	**P**	**02 29 36.6**	**+1.4**
	baz=148						
WUAZ	**Wupatki**	**21.72**	**333**	*e*P	**P**	**02 29 37.8**	**+2.7**
	19nm,1.2s						
W48A	**Pulaski**	**21.73**	**29**	P	**P**	**02 29 33.8**	**-1.3**
	baz=214,SNR=9.9						
V46A	**Holladay**	**21.76**	**26**	P	**P**	**02 29 33.9**	**-1.5**
	baz=210,SNR=19						
T42A	**Van Buren**	**21.79**	**18**	P	**P**	**02 29 35.1**	**-0.5**
	baz=202						
X50A	**Fort Payne**	**21.81**	**32**	P	**P**	**02 29 36.0**	**0.0**
	baz=218,SNR=6.7						
S39A	**Bolivar**	**21.83**	**13**	P	**P**	**02 29 35.7**	**-0.4**
	baz=196						
SDCO	**Great Sand Dun**	**21.84**	**347**	P	**P**	**02 29 37.4**	**+0.9**
	baz=165						
SDCO	**Great Sand Dun**	**21.84**	**347**	*e*P	**P**	**02 29 37.2**	**+0.7**
	3.5nm,1.1s						
Y12C	**Blythe**	**21.88**	**325**	P	**P**	**02 29 38.8**	**+2.1**
	baz=139,SNR=7.7						
Y12C	**Blythe**	**21.88**	**325**	*e*P	**P**	**02 29 38.7**	**+2.0**
	10nm,0.9s						
S40A	**Lebanon**	**21.93**	**15**	P	**P**	**02 29 36.9**	**-0.3**
	baz=198						
U45A	**Rockin P Farm,**	**21.98**	**24**	P	**P**	**02 29 37.2**	**-0.6**
	baz=208						
IKP	**In-Ko-Pah, Jac**	**22.02**	**320**	P	**P**	**02 29 40.6**	**+2.3**
	baz=134						
SWSC	**Sam W. Stewart**	**22.04**	**321**	P	**P**	**02 29 41.1**	**+2.7**
	baz=135						
V47A	**Nunnelly**	**22.04**	**27**	P	**P**	**02 29 36.9**	**-1.5**
	baz=212,SNR=7.0						
PDMCI	**Parker Dam,Lak**	**22.09**	**326**	P	**P**	**02 29 41.2**	**+2.3**
	baz=141						
T43A	**Greenville**	**22.09**	**20**	P	**P**	**02 29 37.9**	**-1.1**
	baz=204						
S41A	**Jillco Farms,**	**22.12**	**17**	P	**P**	**02 29 38.8**	**-0.5**
	baz=200,SNR=6.2						
MVCO	**Mesa Verde**	**22.13**	**341**	P	**P**	**02 29 40.7**	**+1.0**
	baz=157,SNR=9.5						
MVCO	**Mesa Verde**	**22.13**	**341**	*e*P	**P**	**02 29 40.9**	**+1.3**
	8.9nm,0.9s						
S22A	**4UR Ranch, Cre**	**22.15**	**344**

Q41A	Truxton	23.54	16	P	P	02 29 54.0	0.0	
	baz=200							
SMCO	Snowmass	23.54	345	eP	P	02 29 56.0	+1.6	
	9.3nm,1.0s							
R44A	Waltonville	23.55	21	P	P	02 29 54.1	0.0	
	baz=206,SNR=13							
T48A	Bowling Green	23.61	27	P	P	02 29 54.3	-0.4	
	baz=213,SNR=6.7							
KNB	Kanab	23.61	333	eP	P	02 29 57.1	+2.2	
	19nm,1.3s							
P38A	Dawn	23.65	12	P	P	02 29 55.4	+0.4	
	baz=194							
BG3	Lake Jocassee	23.67	36	eP	P	02 29 55.6	+0.3	
	14nm,0.9s							
HEC	Hector,Ludlow	23.69	324	P	P	02 29 57.9	+2.3	
	baz=137							
Q42A	Golden Eagle	23.70	18	P	P	02 29 55.4	-0.1	
	baz=202							
TKL	Tuckaleechee C	23.71	33	P	P	02 29 55.5	-0.1	
	9.4nm,0.8s,baz=210,slow=9.0,SNR=8.0							
TKL	Tuckaleechee C	23.71	33	eP	P	02 29 55.9	+0.2	
	45nm,1.6s							
LCMT	Little Creek M	23.80	332	eP	P	02 29 59.0	+2.3	
	15nm,1.7s							
USIN	University of	23.82	24	eP	P	02 29 56.3	-0.4	
	33nm,1.0s							
ISCO	Idaho Springs	23.84	348	P	P	02 29 58.3	+1.0	
	baz=166,SNR=8.9							
ISCO	Idaho Springs	23.84	348	eP	P	02 29 58.4	+1.0	
	11nm,1.3s							
R45A	Skylar, Fairfi	23.87	22	P	P	02 29 57.0	-0.2	
	baz=207							
P40A	Paris	23.88	14	P	P	02 29 57.7	+0.4	
	baz=198							
Q43A	New Douglas	23.98	19	P	P	02 29 58.3	+0.2	
	baz=204							
O37A	Wolven Farm, M	24.06	10	P	P	02 29 58.6	-0.4	
	baz=193							
R46A	Gibon Southern	24.09	24	P	P	02 29 58.5	-0.8	
	baz=209							
O38A	Galt	24.14	11	P	P	02 29 59.6	-0.1	
	baz=194							
MTPU	Mount Pierson	24.21	335	eP	P	02 30 03.2	+2.4	
	18nm,0.9s							
S48A	Wiedeman Farm,	24.21	27	P	P	02 29 59.9	-0.5	
	baz=213							
P41A	Barry, Barry	24.26	16	P	P	02 30 00.3	-0.6	
	baz=200							
SHPR	Sheep Range	24.31	328	eP	P	02 30 04.1	+2.6	
	21nm,1.6s							
P42A	Winchester	24.38	17	P	P	02 30 01.6	-0.3	
	baz=202							
N34A	Lincoln	24.42	6	P	P	02 30 02.7	+0.5	
	baz=187							
Q45A	Warren Harvey,	24.45	22	P	P	02 30 02.3	-0.3	
	baz=207							
O39A	Kirksville	24.46	13	P	P	02 30 02.8	+0.2	
	baz=196,SNR=5.2							
O40A	La Belle	24.48	14	P	P	02 30 02.6	-0.2	
	baz=198,SNR=11							
OGNE	Ogallala	24.48	355	P	P	02 30 04.0	+1.0	
	baz=174							
OGNE	Ogallala	24.48	355	eP	P	02 30 03.5	+0.5	
	22nm,1.0s							
TZTN	Tazewell	24.50	32	P	P	02 30 02.8	-0.3	
	baz=219							
SRU	San Rafael Swe	24.52	339	eP	P	02 30 05.1	+1.7	
	9.1nm,1.0s							
N35A	Tabor	24.53	7	P	P	02 30 03.5	+0.2	
	baz=189							
R47A	Wooly Knot Far	24.55	25	P	P	02 30 03.1	-0.4	
	baz=211,SNR=10							
Q16A	Castle Valley	24.58	338	eP	P	02 30 05.8	+1.8	
	21nm,1.6s							
WCI	Wyandotte Cave	24.59	26	P	P	02 30 03.4	-0.5	
	baz=212							
WCI	Wyandotte Cave	24.59	26	eP	P	02 30 02.1	-1.8	
	13nm,0.9s							
SNCC	San Nicolas Is	24.60	316	eP	P	02 30 07.2	+3.2	
	84nm,1.4s							
MSU	Marysvale	24.61	336	eP	P	02 30 06.4	+2.1	
KMSC	Kings Mountain	24.69	38	P	P	02 30 04.4	-0.4	
	baz=225							
O41A	Passleys Farm,	24.72	16	P	P	02 30 05.4	+0.4	
	baz=200							
O20A	White River Ci	24.77	344	P	P	02 30 07.5	+1.8	
	baz=160,SNR=7.5							
O20A	White River Ci	24.77	344	eP	P	02 30 07.5	+1.8	
	9.9nm,1.0s							
P44A	Sand Creek, Wi	24.80	20	P	P	02 30 05.7	0.0	
	baz=205							
N38A	Joes South For	24.84	11	P	P	02 30 06.1	+0.1	
	baz=194							
P18A	Preston Nutter	24.90	340	eP	P	02 30 09.7	+2.7	
	9.8nm,1.0s							
R48A	Northridge Ran	24.91	26	P	P	02 30 06.4	-0.4	
	baz=212,SNR=5.5							
P17A	Butcher Ranch,	24.92	339	eP	P	02 30 09.0	+1.9	
	5.2nm,1.1s							
TMUT	Trail Mountain	24.93	338	eP	P	02 30 07.1	-0.2	
	4.3nm,1.0s							
N23A	Red Feather La	24.96	348	P	P	02 30 08.0	+0.5	
	baz=166,SNR=5.4							
N23A	Red Feather La	24.96	348	eP	P	02 30 08.6	+1.1	
	6.6nm,0.8s							
N39A	Derby Farms, D	25.06	13	P	P	02 30 07.9	-0.2	
	baz=196,SNR=12							
Q47A	Bedord North L	25.14	25	P	P	02 30 08.6	-0.2	
	baz=210,SNR=5.5							
P45A	Graceland, Par	25.16	22	P	P	02 30 08.9	-0.1	
	baz=207							
MPMC	Manual Prospec	25.22	324	P	P	02 30 12.7	+2.9	
	baz=137							
N40A	Mertquake, Sal	25.27	14	P	P	02 30 09.4	-0.6	
	baz=198							
M37A	Trindle Farm,	25.28	10	P	P	02 30 09.8	-0.3	
	baz=192							
BLO	Bloomington	25.31	24	eP	P	02 30 08.9	-1.4	
	7.4nm,0.6s							
DAC	Darwin (Calif)	25.44	324	eP	P	02 30 13.4	+1.7	
	31nm,1.9s							
M38A	Pleasantville	25.45	11	P	P	02 30 11.2	-0.4	
	baz=194,SNR=6.6							
O44A	Mansfield	25.47	20	P	P	02 30 11.0	-0.8	
	baz=205							
ISA	Isabella, Lake	25.51	322	P	P	02 30 14.3	+1.9	
	baz=134							
ISA	Isabella, Lake	25.51	322	eP	P	02 30 15.1	+2.7	
	11nm,1.2s							
N42A	Yates City	25.62	17	P	P	02 30 13.1	0.0	
	baz=201							
M39A	Webster	25.71	13	P	P	02 30 13.4	-0.6	
	baz=196,SNR=6.8							
M40A	Post Highland	25.79	14	P	P	02 30 14.2	-0.4	
	baz=198							
O45A	Potomac	25.81	21	P	P	02 30 15.0	+0.2	
	baz=207,SNR=14							
NLU	North Lily Min	25.83	337	eP	P	02 30 18.9	+3.6	
	8.9nm,1.2s							
CWC	Cottonwood Cre	25.83	324	P	P	02 30 17.8	+2.5	
	baz=136							
R11A	Troy Canyon, C	25.97	330	P	P	02 30 17.8	+1.3	
	baz=143,SNR=7.6							
R11A	Troy Canyon, C	25.97	330	eP	P	02 30 19.6	+3.0	
	5.8nm,0.9s							
N43A	Stutzman Famil	25.97	18	P	P	02 30 16.2	-0.1	
	baz=203							
RWWY	Rawlins	25.99	347	eP	P	02 30 17.7	+0.9	
	18nm,1.4s							
M41A	Milan	25.99	16	P	P	02 30 16.2	-0.4	
	baz=200							
VES	Vestal, Richgr	26.00	322	P	P	02 30 20.3	+3.6	
	baz=134							
SFIN	Lafayette	26.14	22	P	P	02 30 17.6	-0.3	
	baz=208							
SFIN	Lafayette	26.14	22	eP	P	02 30 17.0	-0.9	
	13nm,1.0s							
N44A	Piper City	26.16	20	P	P	02 30 17.7	-0.3	
	baz=205							
L38A	Oak Wood Farm,	26.19	11	P	P	02 30 18.2	-0.1	
	baz=194							
OTAV	Otavalo	26.30	126	eP	P	02 30 23.4	+3.3	
	3.9nm,1.0s							
DUG	Dugway, Tooele	26.31	337	eP	P	02 30 21.3	+1.7	
	13nm,1.4s							
O47A	Sheridan	26.36	23	P	P	02 30 19.1	-0.8	
	baz=210,SNR=5.8							
L39A	Vinton	26.36	13	P	P	02 30 19.4	-0.5	
	baz=196							
N45A	Kentland	26.42	21	P	P	02 30 20.2	-0.2	
	baz=206							
L40A	Anamosa	26.48	14	P	P	02 30 20.5	-0.4	
	baz=198							
M43A	Waltham Townsh	26.49	18	P	P	02 30 21.0	0.0	
	baz=203							
TCUT	Toone Canyon	26.62	340	eP	P	02 30 24.7	+2.2	
	11nm,1.0s							
BLA	Blacksburg	26.67	36	P	P	02 30 22.5	-0.3	
	baz=224							
K37A	Belmond	26.68	10	P	P	02 30 22.3	-0.4	
	baz=193,SNR=9.1							
L42A	Oliver, Polo	26.81	16	P	P	02 30 23.4	-0.5	
	baz=201							
K39A	Oelwein	26.95	12	P	P	02 30 24.1	-1.0	
	baz=196,SNR=8.9							
SDDR	Presa de Saban	26.99	80	eP	P	02 30 26.4	+0.6	
	12nm,0.9s							
HWUT	Hardware Ranch	27.11	340	eP	P	02 30 28.1	+1.3	
	4.6nm,0.9s							
J36A	Seneca 1, Swea	27.13	8	P	P	02 30 26.6	-0.1	
	baz=191							
J37A	Redenius Farm,	27.23	10	P	P	02 30 27.0	-0.6	
	baz=193							
ECSD	EROS Data Cent	27.28	5	P	P	02 30 28.0	-0.2	
	baz=186							
ECSD	EROS Data Cent	27.28	5	eP	P	02 30 28.6	+0.4	
	12nm,1.4s							
NVAR	Mina Array Bea	27.40	327	P	P	02 30 32.1	+2.6	
	3.2nm,0.8s,baz=147,slow=10,SNR=6.6							
J38A	Wedel Dairy, R	27.42	11	P	P	02 30 28.7	-0.7	
	baz=195							
BW06	Boulder Array	27.58	344	P	P	02 30 32.3	+1.2	
	baz=159							
BW06	Boulder Array	27.58	344	eP	P	02 30 30.8	-0.3	
	8.9nm,1.1s							
PD31	Pinedale Array	27.58	344	eP	P	02 30 32.2	+1.1	
PDAR	Pinedale Array	27.58	344	P	P	02 30 31.9	+0.8	
	4.0nm,0.9s,baz=140,slow=9.4,SNR=23							
PDAR				LR	LR	02 41 00.7		
	comp=Z,228nm,19.3s,baz=348,slow=35							
PDAR	Pinedale Array	27.58	344	eP	P	02 30 31.7	+0.7	
J39A	Decorah	27.59	12	P	P	02 30 30.1	-0.7	
	baz=196							
KVN	Kaiserville	27.75	328	eP	P	02 30 34.0	+1.4	
	24nm,2.0s							
RSSD	Black Hills	27.82	353	P	P	02 30 35.0	+1.8	
	baz=171							
RSSD	Black Hills	27.82	353	eP	P	02 30 35.2	+2.0	
	7.6nm,1.3s							
I37A	Lemond, Waseca	27.94	9	P	P	02 30 33.9	-0.1	
	baz=193							
I39A	Houston	28.12	12	P	P	02 30 35.2	-0.5	
	baz=196							
I38A	Scanlan Farm,	28.14	11	P	P	02 30 34.9	-0.9	
	baz=195,SNR=5.7							
J42A	Columbus	28.18	16	P	P	02 30 35.5	-0.7	
	baz=201							
SNOW	Snow King Moun	28.55	343	eP	P	02 30 41.1	+1.3	
	5.4nm,0.8s							
G33A	Ortonville	28.75	5	P	P	02 30 41.2	0.0	
	baz=186							
H38A	Main Rock	28.77	11	P	P	02 30 41.2	-0.1	
	baz=194							
FXWY	Fox Creek	28.79	342	eP	P	02 30 43.4	+1.5	
	6.0nm,1.5s							
MOOW	Moose Ponds	28.81	343	eP	P	02 30 43.8	+1.7	
	10nm,1.6s							
H39A	Augusta	28.96	12	P	P	02 30 42.7	-0.4	
	baz=196							
AAM	Ann Arbor	29.11	25	P	P	02 30 44.3	-0.2	
	baz=212							
SDV	Santo Domingo	29.14	101	P	P	02 30 44.3	-0.9	
	3.6nm,0.8s,baz=304,slow=7.3,SNR=4.5							
H41A	Junction City	29.26	14	P	P	02 30 45.6	-0.1	
	baz=200							
G38A	Ridgeland	29.32	11	P	P	02 30 45.7	-0.6	
	baz=195							
G39A	Holcombe	29.57	12	P	P	02 30 48.1	-0.4	
	baz=196							
RLMT	Red Lodge	29.72	346	eP	P	02 30 52.4	+2.3	
	8.0nm,1.4s							
G40A	Rib Lake	29.75	13	P	P	02 30 49.5	-0.7	
	baz=198							
YHH	Holmes Hill	29.80	344	eP	P	02 30 52.0	+1.1	
	2.5nm,1.1s							
G41A	Antigo	29.94	15	P	P	02 30 51.5	-0.3	
	baz=200							
F38A	Pierce - Schro	30.08	11	P	P	02 30 52.5	-0.5	
	baz=195							
MCMT	McKenzie Canyo	30.42	341	eP	P	02 30 59.1	+2.8	
BOZ	Bozeman (W)	30.76	343	P	P	02 31 00.7	+1.5	
	baz=157							
BOZ	Bozeman (W)	30.76	343	eP	P	02 31 01.1	+1.9	
	5.3nm,1.4s							
DLMT	Dillon	30.82	342	eP	P	02 31 02.1	+2.4	
	8.7nm,0.9s							
GLMI	Grayling	30.92	21	P	P	02 31 00.1	-0.4	
	baz=208							
E40A	Wakefield	30.94	13	P	P	02 31 00.2	-0.4	
	baz=198							
E41A	Kenton	31.17	14	P	P	02 31 02.2	-0.4	
	baz=200							
LRM	Limekiln Ridge	31.20	342	eP	P	02 31 04.3	+1.1	
C31A	Landman Farms,	31.27	2	P	P	02 31 03.5	+0.1	
	baz=183,SNR=5.1							
F44A	Big Bay de Noc	31.38	18	P	P	02 31 04.1	-0.4	
	baz=205							
C35A	Jirik Farms, M	31.47	7	P	P	02 31 05.3	0.0	
	baz=190							
E43A	Lone Tree Farm	31.59	17	P	P	02 31 05.6	-0.6	
	baz=203							
C36A	Pine Crest Far	31.68	9	P	P	02 31 07.0	-0.1	
	baz=192							
F46A	Macinaw City C	31.71	20	P	P	02 31 07.2	-0.2	
	baz=208							
B33A	Robert and Kas	31.88	5	P	P	02 31 09.2	+0.4	
	baz=187							
AGMN	Agassiz Nation	31.88	5	P	P	02 31 08.9	+0.1	
	baz=187,SNR=7.3							
AGMN	Agassiz Nation	31.88	5	eP	P	02 31 09.0	+0.1	
	12nm,0.9s							
B35A	Bob, Littlefor	32.15	7	P	P	02 31 10.9	-0.3	
	baz=190							
B34A	Aery, Baudette	32.17	6	P	P	02 31 11.2	-0.3	
	baz=189							
A33A	Warroad	32.55	5	P	P	02 31 14.7	0.0	
	baz=187							
MSO	Missoula	32.55	341	P	P	02 31 16.4	+1.5	
	baz=154							
EGMT	Eagleton	32.57	347	P	P	02 31 16.4	+1.4	
	baz=162							
EGMT	Eagleton	32.57	347	eP	P	02 31 16.4	+1.4	
	37nm,1.9s							
ULM	Lac du Bonnet	33.82	4	P	P	02 31 24.7	-1.1	
	6.6nm,0.9s,baz=194,slow=8.5,SNR=11							
ULM	Lac du Bonnet	33.82	4	eP	P	02 31 25.1	-0.6	
	7.4nm,0.9s							
FFC	Flin Flon	38.22	358	eP	P	02 32 03.5	+0.1	
	4.4nm,1.0s							
EDM	Edmonton	38.24	347	eP	P	02 32 03.7	0.0	
	5.2nm,0.8s							
LLLB	Lillooet	38.51	337	eP	P	02 32 07.3	+1.4	
	10nm,1.3s							
FCC	Fort Churchill	42.41	4	eP	P	02 32 37.8	-0.2	
	9.5nm,1.3s							
RPN	Rapa Nui	44.38	193	LR	LR	02 47 02.1		
	comp=Z,102nm,19.1s,baz=291,slow=30							
YKA	Yellowknife Ar	47.18	351	P	P	02 33 15.6	-0.3	
	2.6nm,0.8s,baz=159,slow=7.3,SNR=40							
SIV	San Ignacio	49.79	128	P	P	02 33 34.6	-2.2	
	2.5nm,0.9s,baz=327,slow=8.5,SNR=8.1							
INK	Inuvik	56.13	345	eP	P	02 34 23.4	+0.7	
	10nm,1.2s							
IL1	Eielson Array	57.78	338	eP	P	02 34 34.7	+0.1	
ILAR	Eielson Array	57.78	338	P	P	02 34 34.4	-0.2	
	0.6nm,0.8s,baz=168,slow=3.5,SNR=4.5							
RES	Resolute Bay	58.27	1	eP	P	02 34 37.3	-0.5	
	2.9nm,1.1s							
TRF	Thorofare Moun	58.37	336	eP	P	02 34 40.1	+1.1	
WRA	Warramunga Arr	128.90	257	PKP	PKPdf	02 43 51.5	-0.7	
	0.6nm,0.9s,baz=84,slow=2.0,SNR=6.0							
ASAR	Alice Springs	129.56	253	PKP	PKPdf	02 43 52.6	-0.8	
	0.6nm,0.9s,baz=96,slow=1.9,SNR=4.4							

*ISCJB **25** 02:35:55.0±0.8,38.°90N±0.°04×43.°63E±0.°06,h10km±6km,*

Error ellipse: s-maj=9.0km s-min=6.1km az=33.0
*CSEM **25** 02:35:54.4,38.°90N×43.°64E,h13km,ML2.3,After ISK*
*ATA **25** 02:35:54.5±0.8,38.°93N×43.°59E,h21km±9km,ML2.2,*
MW2.7
*ISK **25** 02:35:54.4,38.°90N×43.°64E,h13km,ML2.3/2*

ISC 25 02:35:54.4±1.2,38.°92N±0.°04×43.°65E±0.°04,h13km±10km,
n15,σ0°45/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERCV	ERCIS-VAN	0.26	293	PG	Pg	02 35 59.9	0.0
ERCV	ERCIS-VAN	0.26	293	ePg	Pg	02 35 59.9	0.0
CLDR	Caldiran	0.31	43	PG	Pg	02 36 00.7	-0.1
CLDR				SG	Sb	02 36 06.9	-0.2
CLDR	Caldiran	0.31	43	ePg	Pg	02 36 00.7	-0.1
CLDR				eSg	Sb	02 36 06.9	-0.2
VANB	Van	0.38	212	PG	Pb	02 36 03.9	+0.9
VANB	Van	0.38	212	ePg	Pb	02 36 03.9	+0.9
DYDN	Diyadin	0.63	3	eP	Pb	02 36 07.6	+0.2
DYDN				eS	Sb	02 36 17.1	+0.9
GEVA	Gevas	0.76	218	eP	Pb	02 36 09.2	-0.3
TUTA	Tutak	0.81	307	i P	Pg	02 36 09.7	-0.3
TUTA				eS	Sb	02 36 21.8	+0.3
AGRB	Hanur-Agry	0.83	323	PG	Pg	02 36 10.7	+0.2
AGRB				SG	Sn	02 36 23.8	-0.5
AGRB	Hanur-Agry	0.83	323	ePg	Pg	02 36 10.7	+0.2
AGRB				eSg	Sn	02 36 23.8	-0.5
EKAR	Karacoban	1.28	286	eP	Pg	02 36 18.8	-0.1
EKAR				IAML		02 36 41.0	
	comp=Z,2.1nm,0.4s						
GURO	Guroymak-BITLI	1.31	254	PN	Pg	02 36 19.3	-0.3
GURO				SN	Sg	02 36 36.5	-0.2
GURO	Guroymak-BITLI	1.31	254	ePn	Pg	02 36 19.3	-0.3
GURO				eSn	Sg	02 36 36.5	-0.2
DIGO	Kars	1.51	352	eP	Pb	02 36 22.7	+0.3

*IDC **25** 02:41:43.7±6.1,35.°93N×70.°62E,h121km±45km,mb3.7/2,*
mb1 3.5/7,mb1mx3.0/72,mbtmp4.0/7,Error ellipse:
s-maj=76.2km s-min=24.6km az=149.0
*ISCJB **25** 02:41:49.9±0.6,36.°48N±0.°04×70.°86E±0.°08,h200km,*
mb3.4/1,Error ellipse: s-maj=9.6km s-min=4.3km
az=158.7
*NNC **25** 02:41:49.2±2.2,36.°84N×70.°21E,h0km,mb4.5,mpv4.2,*
Error ellipse: s-maj=18.3km s-min=13.2km az=165.0

ISC 25 02:41:50.5±1.0,36.°49N±0.°07×70.°81E±0.°08,h200km,n38,
σ1°84/46,8C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	Sufi-Kurgan	4.11	30	⇓P	Pn	02 42 53.5	-0.3
	19nm,0.3s						
SFK				⇑S	Sn	02 43 42.9	-0.8
	49nm,0.3s						
KSH	Kashi	5.08	52	Pn	Pn	02 43 02.3	-3.7
KSH				pP		02 43 03.9	
KSH				Sn	Sn	02 43 52.5	-13
AML	Almayashu	6.07	21	P	Pn	02 43 18.4	-0.5
	SNR=96						
MNAS	Manas	6.13	12	⇓P	Pn	02 43 19.0	-0.6
	17nm,0.8s						
MNAS				⇓S	Sn	02 44 27.9	-2.2
	24nm,0.6s						
UCH	Uchtor	6.41	25	P	Pn	02 43 23.2	-0.3
	SNR=34						
KZA	Kyzart	6.56	30	P	Pn	02 43 24.8	-0.6
	SNR=19						
EKS2	Erkin-Say	6.58	19	P	Pn	02 43 25.3	0.0
	SNR=23						
KK31	Karatay Array	6.61	358	⇑P	Pn	02 43 24.5	-1.2
	4.0nm,0.3s,baz=181,slow=12,SNR=104						
KK31				⇑S	Sn	02 44 37.2	-3.9
	35nm,0.8s,baz=188,slow=24,SNR=8.3						
AAK	Ala-Archa	6.77	24	P	Pn	02 43 28.2	+0.3
	5.3nm,0.3s,baz=171,slow=5.3,SNR=75						
AAK				S	Sn	02 44 44.8	-0.3
	4.2nm,0.3s,baz=345,slow=20,SNR=15						
AAK	Ala-Archa	6.77	24	⇓P	Pn	02 43 27.9	+0.1
	9.9nm,0.5s						
AAK				⇑S	Sn	02 44 44.4	-0.6
	31nm,0.7s						
AAK	Ala-Archa	6.77	24	P	Pn	02 43 28.2	+0.3
	SNR=30						
KBK	Karagaybulak	6.94	26	P	Pn	02 43 30.4	+0.3
	SNR=7.7						
ULHL	Ulahol	7.13	35	P	Pn	02 43 33.1	+0.6
	SNR=13						
CHMS	Chumysh	7.18	24	P	Pn	02 43 33.0	0.0
	SNR=15						
USP	Ospenovka	7.34	22	P	Pn	02 43 34.4	-0.7
	SNR=16						
TKM2	Tokmak 2	7.41	28	⇑P	Pn	02 43 36.4	+0.2
	6.7nm,0.5s						
TKM2				⇑S	Sn	02 45 04.5	+4.3
	6.4nm,0.7s						
TKM2	Tokmak 2	7.41	28	P	Pn	02 43 36.4	+0.2
	SNR=24						
GEYT	Aibeck	10.22	282	P	Pn	02 44 07.0	-5.6
	0.4nm,0.3s,baz=97,slow=12,SNR=4.3						
GEYT				S	Sn	02 45 52.4	-14
	0.3nm,0.3s,baz=23,slow=19,SNR=2.9						
PYUN	Piuthan	13.26	126	eP	Pn	02 44 49.0	-2.5
	17nm,0.5s						
MKAR	Makanchi Array	13.39	36	P	P	02 44 55.6	+0.2
	0.2nm,0.3s,baz=229,slow=15,SNR=20						
KOLN	Koldanda	13.88	125	eP	Pn	02 44 57.8	-1.5
	9.2nm,0.4s						
GKN	Gorkha	14.43	122	eP	Pn	02 45 05.2	-0.7
	31nm,0.5s						
DMN	Daman	15.00	122	eP	Pn	02 45 12.1	-0.9
	8.1nm,0.4s						
KKN	Kakani	15.00	121	eP	Pn	02 45 12.5	-0.5
	20nm,0.5s						
AB31	Akbulak array	15.02	332	P	P	02 45 14.3	+0.9
	2.6nm,0.3s,baz=150,slow=12,SNR=190						
AB31				⇑S	S	02 47 55.6	-3.9
	1.0nm,0.4s,baz=151,slow=23,SNR=10						
KURBB	Kurchatov Arra	15.19	19	P	P	02 45 16.0	+0.8
	0.0nm,0.3s,baz=208,slow=10,SNR=4.3						
PKIN	Phulchoki	15.22	122	eP	Pn	02 45 15.1	-0.6
	9.0nm,0.4s						
PKI	Pulchoki	15.23	122	eP	Pn	02 45 15.7	-0.2
	17nm,0.6s						
GUN	Gumba	15.35	120	eP	Pn	02 45 16.8	-0.5
	10nm,0.3s						
JIRN	Jiri	15.72	120	eP	P	02 45 21.7	0.0
	27nm,0.3s						
RAMN	Ramite	16.44	121	eP	Pn	02 45 30.9	+0.4
	19nm,0.5s						
BVAR	Borovoye Array	16.54	359	P	Pn	02 45 33.4	+2.3
	0.5nm,0.3s,baz=176,slow=11,SNR=9.9						
AKTO	Aktyubinsk	16.71	331	P	Pn	02 45 36.5	+3.3
	0.4nm,0.3s,baz=142,slow=13,SNR=9.4						
AKTO				S	S	02 48 30.9	-5.4
	0.1nm,0.3s,baz=330,slow=20,SNR=3.6						
AKTO	Aktyubinsk	16.71	331	⇑P	Pn	02 45 36.8	+3.6
	3.9nm,0.8s						
AKTO				⇓S	S	02 48 37.1	+0.8
	4.0nm,0.8s						
TAPN	Taplejung	16.98	118	eP	Pn	02 45 38.1	+1.2
	10nm,0.3s						

CAIG				*e*S	Sn	02 46 38.8	-4.1
PLIG	**Platanillo**	**2.51**	**328**	*e*P	Pn	02 46 16.1	-3.3
PLIG				*i* S	Sn	02 46 45.1	-5.0

*IDC **25** 03:13:14.9±2.3, 16°.37N×98°.22W, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.7/45, mbtmp3.7/8, ML3.5/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/46, Error ellipse: s-maj=47.8km s-min=17.9km az=17.0*
*NEIC **25** 03:13:20.5±0.0, 16°.40N×98°.23W, h14km, mb4.2/34, MD4.1(MEX), After MEX.*
*MEX **25** 03:13:20.5±0.3, 16°.40N×98°.22W, h14km±4km, MD4.1*
ISC 25 03:13:15.4±1.9,**16°.33N**±0°.06×**98°.21W**±0°.03,**h6**km±13km, **n61**,σ1ş**87**/71,**mb4.2**/28,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
TLIG	**Tlapa**	**1.27**	**344**	*e*P	**Pn**	**03 13 39.1**		**-0.7**
TLIG				*i* S	**Sb**	**03 13 54.0**		**-2.4**
TLIG	**Tlapa**	**1.27**	**344**	*e*P	**Pn**	**03 13 39.0**		**-0.8**
TLIG				*e*S	**Sb**	**03 13 54.0**		**-2.4**
VHO	**Vista Hermosa**	**1.59**	**62**	*e*P	**Pb**	**03 13 44.7**		**-0.7**
VHO				*e*S	**Sn**	**03 14 03.7**		**-1.5**
VHO	**Vista Hermosa**	**1.59**	**62**	*e*P	**Pb**	**03 13 44.7**		**-0.7**
VHO				*e*S	**Sn**	**03 14 03.7**		**-1.5**
ACX	**Acapulco**	**1.67**	**289**	*e*P	**Pb**	**03 13 47.2**		**+0.7**
ACX				*i* S	**Sb**	**03 14 07.1**		**-0.7**
ACP2	**Acapulco**	**1.70**	**289**	*i* P	**Pb**	**03 13 46.2**		**-0.8**
ACP2				*i* S	**Sn**	**03 14 05.5**		**-2.0**
HUIG	**Huatulco**	**2.10**	**105**	*e*P	**Pb**	**03 13 52.4**		**-1.3**
HUIG	**Huatulco**	**2.10**	**105**	*e*P	**Pb**	**03 13 52.4**		**-1.3**
CAIG	**El Cayaco**	**2.10**	**290**	*e*P	**Pn**	**03 13 51.8**		**+0.7**
CAIG				*e*S	**Sn**	**03 14 15.6**		**-1.8**
CAIG	**El Cayaco**	**2.10**	**290**	*e*P	**Pn**	**03 13 49.4**		**-1.6**
CAIG				*e*S	**Sn**	**03 14 15.6**		**-1.8**
PLIG	**Platanillo**	**2.39**	**329**	*e*P	**Pn**	**03 13 55.5**		**+0.3**
PLIG				*e*S	**Sn**	**03 14 22.5**		**-2.3**
PLIG	**Platanillo**	**2.39**	**329**	*e*P	**Pn**	**03 13 55.5**		**+0.3**
PLIG				*e*S	**Sn**	**03 14 22.5**		**-2.3**
UNM	**Universidad Na**	**3.12**	**343**	*e*Pn	**Pb**	**03 14 12.4**		**+1.0**
CMIG	**Matias Romero**	**3.27**	**76**	Pn	**Pn**	**03 14 07.2**		**0.0**
	7.3nm,0.3s,baz=260,slow=13,SNR=115							
CMIG				Pg	**Pg**	**03 14 17.7**		**-0.4**
	17nm,0.3s,baz=254,slow=16,SNR=45							
CMIG				Lg	Lg	03 14 59.2		
	27nm,0.3s,baz=323,slow=11,SNR=7.9							
CMIG				LR	LR	03 15 48.4		
	comp=Z,271nm,21.1s,baz=200,slow=47							
LVIG	**Laguna Verde**	**3.78**	**27**	*e*Pn	**Pn**	**03 14 15.9**		**+1.7**
MOIG	**Morelia**	**4.37**	**320**	*e*Pn	**Pb**	**03 14 28.7**		**-4.0**
MOIG				*e*Sn	**Sb**	**03 15 29.0**		**+3.1**
TXAR	**Lajitas Array**	**13.88**	**340**	Pn	**Pn**	**03 16 35.2**		**+2.5**
	0.0nm,0.3s,baz=157,slow=12,SNR=3.3							
TXAR				Lg	Lg	03 20 43.9		
	0.0nm,0.3s,baz=160,slow=24,SNR=4.3							
WHTX	**Lake Whitney,**	**15.61**	**2**	*e*Pn	**P**	**03 17 00.2**		**0.0**
	10nm,0.8s							
ABTX	**Abilene, Hawle**	**16.27**	**356**	*e*Pn	**P**	**03 17 08.0**		**+0.3**
	15nm,1.0s							
MNTX	**Cornudas Mount**	**16.63**	**338**	*e*Pn	**P**	**03 17 13.4**		**+1.8**
	1.9nm,0.9s							
319A	**Douglas**	**18.06**	**328**	*e*P	**P**	**03 17 30.0**		**+2.4**
	9.4nm,1.0s							
MIAR	**Mount Ida**	**18.61**	**12**	*e*P	**Pn**	**03 17 36.6**		**+3.0**
	16nm,1.3s							
LRAL	**Lakeview Retre**	**19.48**	**29**	*e*P	**P**	**03 17 38.2**		**-4.8**
	26nm,1.9s							
TUL1	**Leonard**	**19.62**	**6**	*e*P	**Pn**	**03 17 46.3**		**+0.5**
	9.2nm,0.8s							
ANMO	**Albuquerque**	**19.95**	**340**	P	**Pn**	**03 17 50.2**		**+0.2**
	0.1nm,0.3s,baz=350,slow=13,SNR=6.4							
ANMO				LR	LR	03 24 50.8		
	comp=Z,75nm,20.1s,baz=250,slow=35							
ANMO	**Albuquerque**	**19.95**	**340**	*e*P	**Pn**	**03 17 50.7**		**+0.7**
	3.0nm,0.9s							
PLAL	**Pickwick Lake**	**20.67**	**24**	*e*P	**P**	**03 17 55.1**		**-0.8**
	24nm,1.7s							
X18A	**Snowflake**	**20.96**	**332**	*e*P	Pn	03 18 02.2		+0.3
	13nm,1.3s							
T25A	**Trinidad**	**21.44**	**346**	*e*P	**P**	**03 18 07.8**		**+3.3**
	12nm,1.0s							
X16A	**Lo Mia Camp, P**	**21.58**	**329**	*e*P	**P**	**03 18 08.6**		**+2.6**
	7.4nm,1.0s							
WVT	**Waverly**	**21.77**	**23**	*e*P	**P**	**03 18 06.5**		**-1.4**
	6.3nm,0.8s							
SDCO	**Great Sand Dun**	**22.28**	**345**	*e*P	**P**	**03 18 15.4**		**+1.8**
	3.3nm,0.9s							
S22A	**4UR Ranch, Cre**	**22.65**	**342**	*e*P	**P**	**03 18 19.1**		**+1.6**
	4.8nm,1.1s							
MVCO	**Mesa Verde**	**22.70**	**338**	*e*P	**P**	**03 18 19.4**		**+1.3**
	6.8nm,0.9s							
PV01	**Paradox Valley**	**23.56**	**339**	*e*P	**P**	**03 18 28.6**		**+1.8**
U15A	**North Rim**	**23.61**	**331**	*e*P	**P**	**03 18 31.2**		**+3.8**
	4.5nm,1.0s							
WCI	**Wyandotte Cave**	**24.20**	**23**	*e*P	**P**	**03 18 32.7**		**0.0**
	9.0nm,0.8s							
ISCO	**Idaho Springs**	**24.26**	**346**	*e*P	**P**	**03 18 33.8**		**+0.2**
	5.8nm,0.8s							
KNB	**Kanab**	**24.33**	**331**	*e*P	**P**	**03 18 36.4**		**+2.3**
	7.1nm,1.1s							
MTPU	**Mount Pierson**	**24.88**	**333**	*e*P	**P**	**03 18 42.5**		**+3.2**
	8.7nm,0.9s							
SRU	**San Rafael Swe**	**25.12**	**337**	*e*P	**P**	**03 18 42.7**		**+1.4**
	3.9nm,0.8s							
Q16A	**Castle Valley**	**25.21**	**336**	*e*P	**P**	**03 18 44.3**		**+2.2**
	5.7nm,0.8s							
MSU	**Marysvale**	**25.27**	**334**	*e*P	**P**	**03 18 46.0**		**+3.2**
N23A	**Red Feather La**	**25.38**	**346**	*e*P	**P**	**03 18 45.6**		**+2.0**
	8.9nm,1.1s							
P18A	**Preston Nutter**	**25.48**	**338**	*e*P	**P**	**03 18 48.1**		**+3.5**
	6.4nm,0.9s							
DUG	**Dugway, Tooele**	**26.95**	**335**	*e*P	**P**	**03 19 00.0**		**+2.2**
	2.1nm,0.8s							
SDV	**Santo Domingo**	**27.88**	**102**	P	**P**	**03 19 07.7**		**+1.2**
	2.3nm,0.7s,baz=337,slow=7.7,SNR=4.4							
PDAR	**Pinedale Array**	**28.08**	**342**	P	**P**	**03 19 08.5**		**+0.6**
	0.7nm,0.8s,baz=129,slow=12,SNR=5.8							
LRM	**Limekiln Ridge**	**31.73**	**341**	*e*P	**P**	**03 19 40.3**		**+0.1**
	2.2nm,1.2s							
AGMN	**Agassiz Nation**	**31.94**	**3**	*e*P	**P**	**03 19 41.6**		**-0.1**
	5.5nm,1.0s							
FFC	**Flin Flon**	**38.43**	**356**	*e*P	**P**	**03 20 37.2**		**-0.3**
	13nm,1.6s							
EDM	**Edmonton**	**38.68**	**345**	*e*P	**P**	**03 20 39.8**		**0.0**
	4.5nm,0.9s							
FCC	**Fort Churchill**	**42.47**	**3**	*e*P	**P**	**03 21 10.8**		**-0.1**
	1.2nm,0.6s							
YKA	**Yellowknife Ar**	**47.53**	**350**	P	**P**	**03 21 50.0**		**-1.2**
	0.5nm,0.8s,baz=159,slow=7.4,SNR=8.6							
YKA	**Yellowknife Ar**	**47.53**	**350**	P	**P**	**03 21 50.0**		**-1.2**
INK	**Inuvik**	**56.58**	**345**	P	**P**	**03 22 58.4**		**-0.1**
	2.1nm,0.8s,baz=120,slow=6.5,SNR=12							
INK	**Inuvik**	**56.58**	**345**	*e*P	**P**	**03 22 58.9**		**+0.4**
	22nm,1.9s							
ILAR	**Eielson Array**	**58.38**	**338**	P	**P**	**03 23 11.7**		**+0.3**
	0.6nm,0.8s,baz=135,slow=4.2,SNR=7.5							
MCK	**McKinley**	**58.62**	**336**	*e*P	**P**	**03 23 11.5**		**-1.5**
	27nm,1.6s							
TRF	**Thorofare Moun**	**59.01**	**336**	*e*P	**P**	**03 23 16.0**		**+0.1**
	5.0nm,0.7s							
AKASG	**Malin Array Be**	**98.94**	**31**	LR	LR	04 12 18.1		
	comp=Z,15nm,20.9s,baz=25,slow=36							

MEX 25 03:31:16.7±0.7,**16°.20N**×**98°.18W**,**h5**km±8km,**MD3.8**,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PNIG	**Pinotepa**	**0.20**	**16**	*e*P	Pg	03 31 17.3		-3.4
PNIG				*i* S	Sg	03 31 19.8		-3.5
TLIG	**Tlapa**	**1.41**	**345**	*i* P	Pn	03 31 39.3		-3.9
TLIG				*e*S	Sb	03 31 57.1		-4.8
VHO	**Vista Hermosa**	**1.64**	**58**	*e*P	Pn	03 31 42.8		-3.7
VHO				*e*S	Sn	03 32 03.5		-4.5
HUIG	**Huatulco**	**2.04**	**102**	*e*P	Pn	03 31 49.0		-2.7
HUIG				*i* S	Sn	03 32 12.9		-4.8
CAIG	**El Cayaco**	**2.17**	**293**	*e*P	Pn	03 31 50.9		-2.7
CAIG				*i* S	Sn	03 32 16.1		-4.7
PLIG	**Platanillo**	**2.52**	**330**	*e*P	Pn	03 31 56.3		-2.1
PLIG				*i* S	Sn	03 32 25.1		-4.6

*MDD **25** 03:32:55.8±1.8, 37°.25N×13°.22W, h0km, mb3.8/7, Error ellipse: s-maj=15.4km s-min=13.4km az=70.0, PRXIMO*
*INMG **25** 03:32:58.5±0.8, 37°.03N×13°.51W, h10km, ML2.3, Error ellipse: s-maj=4.4km s-min=3.4km az=93.0*
*CSEM **25** 03:32:59.2±0.4, 37°.36N×12°.94W, h10km, ML3.0/8, Error ellipse: s-maj=7.7km s-min=6.8km az=59.0*
ISC 25 03:32:56.8±1.0,**37°.35N**±0°.04×**13°.05W**±0°.04,**h10**km,**n101**, σ1ş**29**/125,**Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PMST	**Lisbon--Monsan**	**3.35**	**64**	*e*Sn	**Sn**	**03 34 31.5**		**+2.4**
PMST				A	A	03 34 34.8		
	12nm,0.8s							
PMST	**Lisbon--Monsan**	**3.35**	**64**	*e*Sn	**Sn**	**03 34 31.5**		**+2.4**
	12nm,0.8s							
PMAFR	**Mafra**	**3.37**	**61**	*e*Pn	**Pb**	**03 33 52.3**		**-4.4**
PMAFR				*e*Sn	**Sn**	**03 34 32.2**		**+2.5**
PMAFR				A	A	03 34 36.2		
	16nm,0.4s							
PMAFR	**Mafra**	**3.37**	**61**	P	**Pn**	**03 33 50.8**		**+1.2**
	0.8nm,0.2s,SNR=9.8							
PMAFR				S	**Sn**	**03 34 32.1**		**+2.5**
	2.9nm,0.6s,SNR=7.9							
PMAFR	**Mafra**	**3.37**	**61**	P	**Pn**	**03 33 50.8**		**+1.2**
	0.8nm,0.2s,SNR=9.8							
PMAFR	**Mafra**	**3.37**	**61**	*e*Pn	**Pb**	**03 33 52.3**		**-4.4**
PMAFR				S	**Sn**	**03 34 32.1**		**+2.5**
	2.9nm,0.6s,SNR=7.9							
PFVI	**Vila Bisbo**	**3.38**	**92**	*e*Pn	**Pn**	**03 33 50.0**		**+0.4**
PFVI				*e*Sn	**Sn**	**03 34 29.5**		**-0.3**
PFVI				A	A	03 34 30.1		
	3.4nm,0.1s							
PFVI	**Vila Bisbo**	**3.38**	**92**	P	**Pn**	**03 33 49.7**		**+0.1**
	11nm,0.4s,SNR=7.9							
PFVI				S	**Sn**	**03 34 29.4**		**-0.3**
	41nm,1.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**3.38**	**92**	P	**Pn**	**03 33 49.7**		**+0.1**
	11nm,0.4s,SNR=7.9							
PFVI	**Vila Bisbo**	**3.38**	**92**	*e*Pn	**Pn**	**03 33 50.0**		**+0.4**
PFVI				*e*Sn	**Sn**	**03 34 29.5**		**-0.3**
	3.4nm,0.1s							
PTEO	**Sao Teotonio**	**3.45**	**85**	*e*Pn	Pn	03 33 51.8		+1.2
PTEO				*e*Sn	**Sn**	**03 34 31.9**		**+0.4**
PTEO	**Sao Teotonio**	**3.45**	**85**	P	Pn	03 33 51.8		+1.2
PTEO				S	**Sn**	**03 34 31.9**		**+0.4**
PTEO	**Sao Teotonio**	**3.45**	**85**	P	Pn	03 33 51.8		+1.2
PTEO				S	**Sn**	**03 34 31.9**		**+0.4**
MORF	**Marmelete**	**3.51**	**89**	*e*Pn	**Pn**	**03 33 52.4**		**+1.0**
MORF	**Marmelete**	**3.51**	**89**	P	**Pn**	**03 33 52.4**		**+1.0**
MORF	**Marmelete**	**3.51**	**89**	P	**Pn**	**03 33 52.4**		**+1.0**
PNCL	**Nicolau / Gran**	**3.67**	**77**	*e*Pn	Pn	03 33 55.5		+2.0
PNCL				*e*Sn	**Sn**	**03 34 37.5**		**+0.7**
PNCL				A	A	03 34 42.8		
	2.4nm,0.1s							
PNCL	**Nicolau / Gran**	**3.67**	**77**	*e*Pn	Pn	03 33 55.5		+2.0
PNCL				*e*Sn	**Sn**	**03 34 37.5**		**+0.7**
	2.4nm,0.1s							
ALMR	**Almeirim**	**3.96**	**62**	*e*Sn	**Sn**	**03 34 45.4**		**+1.4**
ALMR				A	A	03 34 48.8		
	7.3nm,0.4s							
ALMR	**Almeirim**	**3.96**	**62**	S	**Sn**	**03 34 45.4**		**+1.4**
	3.7nm,0.4s							
ALMR	**Almeirim**	**3.96**	**62**	S	**Sn**	**03 34 45.4**		**+1.4**
	3.7nm,0.4s							
PCVE	**Castro Verde**	**4.00**	**84**	*e*Pn	Pb	03 34 01.2		-6.1
PCVE				*e*Sn	**Sn**	**03 34 44.7**		**-0.3**
PCVE	**Castro Verde**	**4.00**	**84**	P	Pb	03 34 01.2		-6.1
PCVE				S	**Sn**	**03 34 44.7**		**-0.3**
PCVE	**Castro Verde**	**4.00**	**84**	P	Pb	03 34 01.2		-6.1
PCVE				S	**Sn**	**03 34 44.7**		**-0.3**
PBDV	**Barranco-do-Ve**	**4.08**	**90**	*e*Pn	Pn	03 34 00.5		+1.2
PBDV				*e*Sn	**Sn**	**03 34 47.1**		**-0.1**
PBDV				A	A	03 34 53.3		
	1.8nm,0.1s							
PBDV	**Barranco-do-Ve**	**4.08**	**90**	P	Pn	03 34 00.5		+1.2
PBDV				S	**Sn**	**03 34 47.1**		**-0.1**
	1.8nm,0.1s							
PBDV	**Barranco-do-Ve**	**4.08**	**90**	P	Pn	03 34 00.5		+1.2
PBDV				S	**Sn**	**03 34 47.1**		**-0.1**
	1.8nm,0.1s							
EVO	**Evora**	**4.15**	**72**	*e*Sn	**Sn**	**03 34 50.0**		**+1.1**
EVO				A	A	03 34 52.8		
	7.0nm,0.1s							
EVO	**Evora**	**4.15**	**72**	S	**Sn**	**03 34 50.0**		**+1.1**
	7.0nm,0.1s							
EVO	**Evora**	**4.15**	**72**	S	**Sn**	**03 34 50.0**		**+1.1**
	7.0nm,0.1s							
PBEJ	**Beja**	**4.17**	**79**	*e*Sn	**Sn**	**03 34 49.9**		**+0.7**
PBEJ				A	A	03 34 53.3		
	2.3nm,0.1s							
PBEJ	**Beja**	**4.17**	**79**	S	**Sn**	**03 34 49.9**		**+0.7**
	1.2nm,0.1s							
PBEJ	**Beja**	**4.17**	**79**	S	**Sn**	**03 34 49.9**		**+0.7**
	1.2nm,0.1s							
PMTG	**Montargil**	**4.17**	**64**	*e*Pn	Pn	03 34 02.5		+2.0
PMTG				*e*Sn	**Sn**	**03 34 50.5**		**+1.2**
PMTG				A	A	03 34 54.0		
	2.0nm,0.4s							
PMTG	**Montargil**	**4.17**	**64**	*e*Pn	Pn	03 34 02.5		+2.0
PMTG				*e*Sn	**Sn**	**03 34 50.5**		**+1.2**
	2.0nm,0.4s							
PVAQ	**Vaqueiros**	**4.25**	**88**	*e*Pn	Pn	03 34 02.9		+1.3
PVAQ				*e*Sn	**Sn**	**03 34 50.6**		**-0.6**
PVAQ				A	A	03 34 54.8		
	2.6nm,0.5s							
PVAQ	**Vaqueiros**	**4.25**	**88**	P	Pn	03 34 02.9		+1.3
PVAQ				S	**Sn**	**03 34 50.6**		**-0.6**
	2.6nm,0.5s							
PVAQ	**Vaqueiros**	**4.25**	**88**	P	Pn	03 34 02.9		+1.3
PVAQ				S	**Sn**	**03 34 50.6**		**-0.6**
	2.6nm,0.5s							
PTOM	**Tomar**	**4.29**	**57**	*e*Sn	**Sn**	**03 34 53.6**		**+1.5**
PTOM				A	A	03 34 57.8		
	5.6nm,0.3s							
PTOM	**Tomar**	**4.29**	**57**	S	**Sn**	**03 34 53.6**		**+1.5**
	2.8nm,0.3s							
PTOM	**Tomar**	**4.29**	**57**	S	**Sn**	**03 34 53.6**		**+1.5**
	2.8nm,0.3s							
EGRO	**El Granado**	**4.43**	**86**	P	**Pn**	**03 34 04.8**		**+0.7**
	1.3nm,0.4s,SNR=7.9							
EGRO				S	**Sn**	**03 34 55.0**		**-0.8**
	2.1nm,0.3s,SNR=11							
EGRO	**El Granado**	**4.43**	**86**	P	**Pn**	**03 34 04.8**		**+0.7**
	1.3nm,0.4s,SNR=7.9							
EGRO				S	**Sn**	**03 34 55.0**		**-0.8**
	2.1nm,0.3s,SNR=11							
PCAS	**Casmilo, Conde**	**4.47**	**51**	*e*Pn	Pn	03 34 06.7		+2.1
PCAS				*e*Sn	**Sn**	**03 34 58.4**		**+1.8**
PCAS				A	A	03 35 05.0		
	1.6nm,0.3s							
PCAS	**Casmilo, Conde**	**4.47**	**51**	*e*Pn	Pn	03 34 06.7		+2.1
PCAS				*e*Sn	**Sn**	**03 34 58.4**		**+1.8**
	1.6nm,0.3s							
PESTR	**Estremoz**	**4.56**	**69**	*e*Pn	Pn	03 34 09.6		+3.7
PESTR				*e*Sn	**Sn**	**03 34 59.5**		**+0.4**
PESTR				AnL		03 35 03.9		
PESTR				A	A	03 35 05.1		
	0.7nm,0.1s							
PESTR	**Estremoz**	**4.56**	**69**	*e*Pn	Pn	03 34 09.6		+3.7
PESTR				*e*Sn	**Sn**	**03 34 59.5**		**+0.4**
	0.7nm,0.1s							
PBAR	**Barrancos**	**4.83**	**78**	*e*Pn	Pn	03 34 12.3		+2.7
PBAR				*e*Sn	**Sn**	**03 35 05.3**		**-0.4**
PBAR				A	A	03 35 09.5		
	2.7nm,0.1s							
PBAR	**Barrancos**	**4.83**	**78**	P	Pn	03 34 12.3		+2.7
PBAR				S	**Sn**	**03 35 05.3**		**-0.4**
	2.7nm,0.1s							
PBAR	**Barrancos**	**4.83**	**78**	P	Pn	03 34 12.3		+2.7
PBAR				S	**Sn**	**03 35 05.3**		**-0.4**
	2.7nm,0.1s							
PMRV	**Marv??o**	**4.91**	**63**	*e*Pn	Pn	03 34 12.7		+2.1
PMRV				*e*Sn	**Sn**	**03 35 08.3**		**+0.8**
PMRV				A	A	03 35 10.7		
	2.8nm,0.4s							
PMRV	**Marv??o**	**4.91**	**63**	P	Pn	03 34 12.7		+2.1
PMRV				S	**Sn**	**03 35 08.3**		**+0.8**
	2.8nm,0.4s							
PMRV	**Marv??o**	**4.91**	**63**	P	Pn	03 34 12.7		+2.1
PMRV				S	**Sn**	**03 35 08.3**		**+0.8**
	2.8nm,0.4s							
EBAD	**Badajoz**	**4.97**	**72**	P	**Pn**	**03 34 12.1**		**+0.6**
	1.9nm,0.5s,SNR=7.9							
EBAD				S	**Sn**	**03 35 08.4**		**-0.5**
	1.0nm,0.3s,SNR=10							
PCBR	**Castelo Branco**	**5.02**	**59**	*e*Sn	**Sn**	**03 35 11.8**		**+1.5**
PCBR				A	A	03 35 16.7		
	1.5nm,0.1s							
PCBR	**Castelo Branco**	**5.02**	**59**	S	**Sn**	**03 35 11.8**		**+1.5**
	0.8nm,0.1s							
PCBR	**Castelo Branco**	**5.02**	**59**	S	**Sn**	**03 35 11.8**		**+1.5**
	0.8nm,0.1s							
EMIN	**Mina Concepcio**	**5.08**	**83**	P	**Pn**	**03 34 14.1**		**+1.0**
	3.6nm,0.4s,SNR=7.9							
EMIN				S	**Sn**	**03 35 11.2**		**-0.6**
	2.8nm,0.9s,SNR=8.0							
EMIN	**Mina Concepcio**	**5.08**	**83**	P	**Pn**	**03 34 14.1**		**+1.0**
	3.6nm,0.4s,SNR=7.9							
EMIN				S	**Sn**	**03 35 11.2**		**-0.6**
	2.8nm,0.9s,SNR=8.0							
PVIS	**Viseu**	**5.23**	**49**	*e*Sn	**Sn**	**03 35 16.6**		**+1.0**
PVIS				A	A	03 35 21.1		
	2.6nm,0.2s							
PVIS	**Viseu**	**5.23**	**49**	S	**Sn**	**03 35 16.6**		**+1.0**
	1.3nm,0.2s							
PVIS	**Viseu**	**5.23**	**49**	S	**Sn**	**03 35 16.6**		**+1.0**
	1.3nm,0.2s							
MTE	**Manteigas**	**5.26**	**53**	*e*Pn	Pn	03 34 18.2		+2.6
MTE				*e*Sn	**Sn**	**03 35 17.4**		**+1.0**
MTE				A	A	03 35 23.4		
	2.4nm,0.4s							
MTE	**Manteigas**	**5.26**	**53**	P	Pn	03 34 18.2		+2.6
MTE				S	**Sn**	**03 35 17.4**		**+1.0**
	1.2nm,0.4s							
MTE	**Manteigas**	**5.26**	**53**	P	Pn	03 34 18.2		+2.6
MTE				S	**Sn**	**03 35 17.4**		**+1.0**
	1.2nm,0.4s							
POLO	**Lamas de Olo**	**5.72**	**44**	*e*Pn	**Pn**	**03 34 23.3**		**+1.4**
POLO				*e*Sn	**Sn**	**03 35 27.9**		**+0.3**
POLO				A	A	03 35 32.7		
	0.5nm,0.3s							
POLO	**Lamas de Olo**	**5.72**	**44**	*e*Pn	**Pn**	**03 34 23.3**		**+1.4**
POLO				*e*Sn	**Sn**	**03 35 27.9**		**+0.3**
	0.5nm,0.3s							
ESPR	**Espera**	**5.77**	**93**	P	Pn	03 34 23.9		+1.4
	1.1nm,0.2s,SNR=6.3							
ESPR				S	**Sn**	**03 35 28.4**		**-0.3**
	2.4nm,0.2s,SNR=4.1							
ESPR	**Espera**	**5.77**	**93**	P	Pn	03 34 23.9		+1.4
	1.1nm,0.2s,SNR=6.3							
ESPR				S	**Sn**	**03 35 28.4**		**-0.3**
	2.4nm,0.2s,SNR=4.1							
PCAB	**Cabril**	**5.83**	**40**	*e*Sn	**Sn**	**03 35 30.8**		**+0.5**
PCAB	**Cabril**	**5.83**	**40**	Sn	**Sn**	**03 35 30.8**		**+0.5**
PCAB	**Cabril**	**5.83**	**40**	Sn	**Sn**	**03 35 30.8**		**+0.5**
PGAV	**Gavieira, Arco**	**5.90**	**37**	*e*Pn	Pn	03 34 26.5		+2.1
PGAV				*e*Sn	**Sn**	**03 35 32.0**		**-0.1**
PGAV	**Gavieira, Arco**	**5.90**	**37**	*e*Pn	Pn	03 34 26.5		+2.1
PGAV				*e*Sn	**Sn**	**03 35 32.0**		**-0.1**
ELOB	**Lobios**	**5.93**	**39**	P	**Pn**	**03 34 25.1**		**+0.4**
	1.1nm,0.4s,SNR=7.9							
ELOB				S	**Sn**	**03 35 31.6**		**-1.2**
	1.3nm,0.6s,SNR=6.1							
ELOB	**Lobios**	**5.93**	**39**	P	**Pn**	**03 34 25.1**		**+0.4**
	1.1nm,0.4s,SNR=7.9							
MVO	**Moncorvo**	**6.03**	**49**	*e*Pn	Pn	03 34 28.1		+2.0
MVO				*e*Sn	**Sn**	**03 35 34.8**		**-0.3**
MVO				A	A	03 35 38.4		
	1.2nm,0.1s							
MVO	**Moncorvo**	**6.03**	**49**	P	**Pn**	**03 34 27.3**		**+1.2**
	0.2nm,0.1s,SNR=7.9							
MVO				S	**Sn**	**03 35 35.1**		**0.0**
	1.0nm,0.4s,SNR=6.7							
MVO	**Moncorvo**	**6.03**	**49**	P	**Pn**	**03 34 27.3**		**+1.2**
	0.2nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**6.03**	**49**	*e*Pn	Pn	03 34 28.1		+2.0
MVO				*e*Sn	**Sn**	**03 35 34.8**		**-0.3**
	1.2nm,0.1s							
MVO				S	Sb	03 35 35.1		-19
	1.0nm,0.4s,SNR=6.7							
ECAB	**El Cabril**	**6.09**	**81**	P	**Pn**	**03 34 27.7**		**+0.8**
	0.5nm,0.3s,SNR=7.3							
ECAB				S	**Sn**	**03 35 35.3**		**-1.5**
	1.3nm,0.5s,SNR=5.8							
ECAB	**El Cabril**	**6.09**	**81**	P	**Pn**	**03 34 27.7**		**+0.8**
	0.5nm,0.3s,SNR=7.3							
ECAB		

POPC Popayan, Colom 6.82 32 *e*P Pn 03 45 36.0 +0.6

RSNC 25 03:44:28.3±0.7, 5°.67N×74°.35W, h79km±11km, ML1.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NORC	**Norcasia**	**0.53**	**259**	*e*P	Pn	03 44 41.9	-0.4
NORC				*e*S	Sn	03 44 52.5	-0.1
PTBC	**PUERTO BERRIO,**	**0.87**	**353**	*e*P	Pn	03 44 44.8	-1.1
PTBC				*e*S	Sn	03 44 58.2	-0.7
PTBC				*i*		03 44 58.6	
	comp=Z,7.1nm,0.4s						
RREF	**El Recreo**	**1.25**	**233**	*e*P	Pn	03 44 50.7	-0.3
RREF				*e*S	Sn	03 45 07.7	-0.3
RREF				*i*		03 45 14.4	
	comp=Z,4.2nm,0.2s						
RUSC	**La Rusia**	**1.28**	**80**	*e*P	Pn	03 44 50.8	-0.4
RUSC				*e*S	Sn	03 45 08.8	+0.4
RUSC				*i*		03 45 09.8	
	comp=Z,2.3nm,0.3s						
HELC	**Santa Helena**	**1.28**	**294**	*e*P	Pn	03 44 51.1	-0.1
HELC				*e*S	Sn	03 45 08.8	+0.5
HELC				*i*		03 45 13.6	
	comp=Z,6.7nm,0.6s						
BRRC	**Barranca, Sant**	**1.56**	**24**	*e*P	Pn	03 44 53.7	-0.8
BRRC				*e*S	Sn	03 45 14.3	+0.1
BRRC				*i*		03 45 18.2	
	comp=Z,15nm,0.1s						

*ISCJB **25** 03:59:07.6±0.4, 4°.11S±0°.06×104°.23W±0°.06, h10km, mb4.7/129, MS4.7/39, Error ellipse: s-maj=10.7km s-min=5.7km az=135.2*

*IDC **25** 03:59:08.0±0.7, 3°.94S×104°.27W, h0km, mb4.2/16, mb1 4.5/16, mb1mx4.3/42, mbtmp4.3/16, MS4.6/34, Ms1 4.6/34, ms1mx4.6/40, Error ellipse: s-maj=22.7km s-min=14.0km az=57.0*

*GCMT **25** 03:59:09.2±0.1, 3°.96S×104°.12W, h16km, MW5.3/127, Moment Tensor Solution. s102,c166; s127,c232; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.08±.02; Mθθ 0.28±.01; Mϕϕ -0.20±.02; Mrθ 0.22±.04; Mθϕ 1.04±.01; Mϕr 0.01±.04; Best double couple: M0 1.08900×10^17 NP1:ϕs 97.00000°, δ 89.00000°, λ 11.00000°. NP2:ϕs 6.00000°, δ 79.00000°, λ 179.00000°. Principal axes: T 1.1360, Plg 8.0000°, Azm 322.0000°; N -0.0930, Plg 79.0000°, Azm 100.0000°; P -1.0430, Plg 8.0000°, Azm 231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **25** 03:59:09.2±0.3, 4°.13S×104°.28W, h10km, mb4.8/119 Error ellipse: s-maj=9.1km s-min=4.9km az=55.0*

ISC 25 03:59:09.2±0.5, 4°.07S±0°.08×104°.27W±0°.10, h10km, n214, σ1§15/188, mb4.8/129, MS4.7/39, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**22.98**	**24**	P	**P**	**04 04 14.8**	**+0.6**
	6.6nm,0.9s,baz=190,slow=3.8,SNR=6.2						
CMIG				LR	LR	04 11 07.6	
	comp=Z,3μm,20.0s,baz=198,slow=32						
RPN	**Rapa Nui**	**23.43**	**191**	LR	LR	04 10 50.7	
	comp=Z,832nm,18.9s,baz=12,slow=30						
H06S1	**SOCORRO T**	**23.60**	**344**	T	T	04 28 47.5	
	SNR=5.8						
H06E1	**SOCORRO T-PHAS**	**23.64**	**344**	T	T	04 28 44.9	
	SNR=8.3						
JTS	**JuntasAbangare**	**23.95**	**53**	P	**P**	**04 04 23.7**	**-0.2**
	6.3nm,0.9s,baz=283,slow=9.4,SNR=4.9						
JTS				LR	LR	04 11 12.0	
	comp=Z,5μm,20.7s,baz=336,slow=30						
JTS	**JuntasAbangare**	**23.95**	**53**	*e*P	**P**	**04 04 23.4**	**-0.5**
	28nm,1.3s						
ATAH	**Atahualpa**	**25.93**	**98**	P	**P**	**04 04 43.7**	**+1.3**
	4.7nm,0.6s,baz=277,slow=11,SNR=6.4						
ATAH				LR	LR	04 12 53.4	
	comp=Z,978nm,18.8s,baz=272,slow=32						
OTAV	**Otavalo**	**26.15**	**81**	*e*P	**P**	**04 04 46.7**	**+2.2**
	25nm,1.2s						
OTAV	**Otavalo**	**26.15**	**81**	*e*P	**P**	**04 04 43.1**	**-1.4**
NNA	**Nana**	**28.25**	**108**	LR	LR	04 13 11.4	
	comp=Z,2μm,21.4s,baz=287,slow=30						
NNA	**Nana**	**28.25**	**108**	*e*P	**P**	**04 05 02.7**	**-0.2**
	56nm,1.2s						
SOTA	**Rioblanco**	**28.32**	**78**	*e*P	P	04 04 58.9	-5.2
PCON	**Cinco Dias**	**28.57**	**78**	*e*P	**P**	**04 05 03.6**	**-2.7**
LPIG	**La Paz**	**28.61**	**348**	LR	LR	04 13 34.2	
	comp=Z,2μm,20.8s,baz=178,slow=30						
LNIG	**Linares**	**29.17**	**9**	*e*P	**P**	**04 05 12.8**	**+1.9**
	13nm,1.5s						
RREF	**El Recreo**	**30.24**	**73**	*e*P	**P**	**04 05 20.9**	**-0.3**
PRAC	**Prado**	**30.36**	**76**	*e*P	**P**	**04 05 21.8**	**+0.2**
	47nm,1.9s						
HELC	**Santa Helena**	**30.45**	**71**	*e*P	**P**	**04 05 24.0**	**+1.1**
	62nm,1.9s						
ROSC	**El Rosal**	**31.20**	**74**	LR	LR	04 15 41.0	
	comp=Z,778nm,21.3s,baz=244,slow=32						
MOTC	**Monteria, Cord**	**31.25**	**66**	*e*P	**P**	**04 05 26.9**	**-2.5**
RUSC	**La Rusia**	**32.68**	**73**	*e*P	**P**	**04 05 42.3**	**-0.3**
	9.3nm,1.2s						
RUSC	**La Rusia**	**32.68**	**73**	*e*P	**P**	**04 05 40.2**	**-2.4**
TX31	**Lajitas Ar. Si**	**33.22**	**1**	*e*P	**P**	**04 05 48.6**	**+1.9**
TXAR	**Lajitas Array**	**33.22**	**1**	P	**P**	**04 05 47.1**	**+0.5**
	1.9nm,0.9s,baz=184,slow=8.8,SNR=9.2						
TXAR				PcP	**PcP**	**04 08 30.3**	**+1.0**
	0.4nm,0.8s,baz=172,slow=3.4,SNR=3.7						
TXAR				LR	LR	04 15 31.4	
	comp=Z,174nm,20.6s,baz=0.0,slow=30						
JCT	**Junction City**	**34.62**	**7**	*e*P	**P**	**04 05 59.8**	**+1.1**
	8.8nm,1.0s						
RKT	**Rikitea**	**35.20**	**235**	*e*LR	LR	04 15 30.9	
	3μm,26.8s,baz=57						
RKT	**Rikitea**	**35.20**	**235**	*e*T	T	04 43 09.3	
	4.4nm,0.3s						
319A	**Douglas**	**35.57**	**353**	*e*P	**P**	**04 06 07.4**	**+0.4**
	39nm,1.9s						
MNTX	**Cornudas Mount**	**35.59**	**358**	*e*P	**P**	**04 06 09.3**	**+2.2**
	10nm,1.4s						
SDV	**Santo Domingo**	**35.92**	**69**	P	**P**	**04 06 09.7**	**-0.7**
	6.5nm,0.7s,baz=251,slow=7.9,SNR=12						
SDV				LR	LR	04 18 19.0	
	comp=Z,1μm,20.4s,baz=240,slow=32						
SDV	**Santo Domingo**	**35.92**	**69**	*e*P	**P**	**04 06 09.4**	**-1.0**
	9.4nm,0.9s						
TAOE	**Nuku Hiva Isla**	**35.95**	**261**	*e*LR	LR	04 15 45.9	
	2μm,24.1s,baz=93						
WHTX	**Lake Whitney,**	**36.44**	**10**	*e*P	**P**	**04 06 15.2**	**+0.9**
	35nm,1.6s						
ABTX	**Abilene, Hawle**	**36.76**	**7**	*e*P	**P**	**04 06 16.9**	**-0.2**
	21nm,1.4s						
LPAZ	**La Paz**	**37.51**	**112**	P	**P**	**04 06 25.4**	**+1.0**
	2.6nm,0.9s,baz=311,slow=4.1,SNR=10						
LPAZ				LR	LR	04 19 02.4	
	comp=Z,1μm,20.1s,baz=284,slow=32						
LPAZ	**La Paz**	**37.51**	**112**	*e*P	**P**	**04 06 25.1**	**+0.8**
	14nm,1.4s						
113A	**Mohawk Valley,**	**37.73**	**347**	*e*P	**P**	**04 06 26.7**	**+1.5**
	34nm,1.9s						
MSTX	**Muleshoe**	**37.86**	**2**	*e*P	**P**	**04 06 30.8**	**+4.2**
	57nm,1.8s						
BNM	**Barren Site**	**38.08**	**357**	*e*P	**P**	**04 06 29.5**	**+1.0**
LAZ	**Ladron**	**38.36**	**356**	*e*P	**P**	**04 06 31.9**	**+1.1**
AMTX	**Amarillo**	**38.82**	**3**	*e*P	**P**	**04 06 37.0**	**+2.4**
	9.4nm,0.8s						
Y12C	**Blythe**	**38.85**	**346**	*e*P	**P**	**04 06 35.2**	**+0.6**
	23nm,1.9s						
X16A	**Lo Mia Camp, P**	**38.88**	**351**	*e*P	**P**	**04 06 36.8**	**+1.6**
	9.9nm,1.5s						
XPFO	**Piæon Flat**	**39.21**	**344**	*e*P	**P**	**04 06 38.1**	**+0.2**
	6.8nm,1.1s						
PFO	**Pinyon Flats O**	**39.21**	**344**	*e*P	**P**	**04 06 38.8**	**+0.9**
	7.1nm,1.2s						
LDFC	**Landfair**	**40.25**	**346**	*e*P	**P**	**04 06 46.7**	**+0.2**
	32nm,1.4s						
LCO	**Las Campanas**	**40.36**	**132**	*e*P	**P**	**04 06 48.4**	**+0.7**
	8.1nm,0.8s						
W40A	**Ferguson Farm,**	**40.45**	**14**	*e*P	**P**	**04 06 49.1**	**+1.1**
	44nm,1.5s						
TUL1	**Leonard**	**40.56**	**11**	*e*P	**P**	**04 06 48.4**	**-0.5**
	31nm,1.6s						
U15A	**North Rim**	**40.98**	**350**	*e*P	**P**	**04 06 53.9**	**+1.1**
	13nm,1.5s						
T25A	**Trinidad**	**41.00**	**360**	*e*P	**P**	**04 06 54.8**	**+2.0**
	19nm,1.4s						
SAML	**Samuel**	**41.09**	**99**	*e*P	**P**	**04 06 51.3**	**-2.4**
	18nm,1.0s						
MVCO	**Mesa Verde**	**41.26**	**355**	*e*P	**P**	**04 06 55.4**	**+0.4**
	28nm,1.5s						
SDCO	**Great Sand Dun**	**41.62**	**359**	*e*P	**P**	**04 06 59.9**	**+1.9**
	30nm,1.8s						
SHPR	**Sheep Range**	**41.63**	**347**	*e*P	**P**	**04 06 59.0**	**+1.1**
	11nm,1.2s						
KNB	**Kanab**	**41.65**	**350**	*e*P	**P**	**04 06 59.7**	**+1.6**
	28nm,1.8s						
S22A	**4UR Ranch, Cre**	**41.67**	**357**	*e*P	**P**	**04 06 59.7**	**+1.3**
	33nm,1.8s						
ISA	**Isabella, Lake**	**41.71**	**343**	*e*P	**P**	**04 06 58.7**	**+0.2**
	10nm,1.4s						
LCMT	**Little Creek M**	**41.72**	**349**	*e*P	**P**	**04 06 58.7**	**0.0**
	8.3nm,1.5s						
PLAL	**Pickwick Lake**	**41.73**	**20**	*e*P	**P**	**04 06 57.8**	**-0.7**
	19nm,1.1s						
PCRV	**Puerto La Cruz**	**41.93**	**70**	LR	LR	04 23 39.4	
	comp=Z,1μm,20.4s,baz=258,slow=35						
GOGA	**Godfrey**	**42.16**	**26**	*e*P	**P**	**04 07 02.0**	**-0.1**
	11nm,1.2s						
PV01	**Paradox Valley**	**42.18**	**355**	*e*P	**P**	**04 07 02.7**	**+0.2**
WVT	**Waverly**	**42.85**	**20**	*e*P	**P**	**04 07 08.6**	**+0.9**
	13nm,1.1s						
KSCO	**Kaye Shedlock'**	**42.89**	**2**	*e*P	**P**	**04 07 09.3**	**+1.2**
	41nm,1.7s						
SMCO	**Snowmass**	**43.11**	**357**	*e*P	**P**	**04 07 13.1**	**+2.9**
	21nm,1.8s						
SRU	**San Rafael Swe**	**43.35**	**353**	*e*P	**P**	**04 07 11.8**	**-0.2**
	40nm,1.9s						
R11A	**Troy Canyon, C**	**43.49**	**347**	*e*P	**P**	**04 07 14.4**	**+1.3**
	16nm,1.6s						
KSU1	**Kansas State U**	**43.54**	**9**	*e*P	**P**	**04 07 15.2**	**+2.0**
	50nm,1.8s						
ISCO	**Idaho Springs**	**43.67**	**359**	*e*P	**P**	**04 07 15.0**	**+0.4**
	44nm,2.0s						
BG3	**Lake Jocassee**	**43.73**	**26**	*e*P	**P**	**04 07 16.3**	**+1.5**
	28nm,1.4s						
P17A	**Butcher Ranch,**	**43.74**	**353**	*e*P	**P**	**04 07 16.2**	**+1.2**
	22nm,1.4s						
FVM	**French Village**	**43.77**	**16**	*e*P	**P**	**04 07 14.1**	**-1.0**
	9.2nm,1.0s						
P18A	**Presidio Nutter**	**43.83**	**353**	*e*P	**P**	**04 07 16.0**	**+0.1**
	20nm,1.4s						
TKL	**Tuckaleechee C**	**43.95**	**24**	P	**P**	**04 07 14.4**	**-2.1**
	2.9nm,0.8s,baz=213,slow=8.3,SNR=2.4						
TKL				LR	LR	04 25 50.6	
	comp=Z,529nm,18.4s,baz=208,slow=37						
SIV	**San Ignacio**	**44.05**	**109**	P	**P**	**04 07 17.4**	**-0.3**
	2.6nm,0.9s,baz=288,slow=9.2,SNR=11						
O20A	**White River Ci**	**44.14**	**356**	*e*P	**P**	**04 07 19.0**	**+0.7**
	42nm,1.5s						
NVAR	**Mina Aeray Bea**	**44.24**	**344**	P	**P**	**04 07 18.0**	**-1.1**
	0.5nm,0.2s,baz=165,slow=7.5,SNR=2.4						
NVAR				LR	LR	04 21 54.5	
	comp=Z,984nm,18.9s,baz=222,slow=31						
MPU	**Maple Canyon**	**44.39**	**352**	*e*P	**P**	**04 07 21.3**	**+1.0**
	10nm,1.1s						
KMSC	**Kings Mountain**	**44.56**	**27**	*e*P	**P**	**04 07 22.4**	**+0.9**
	7.1nm,0.8s						
WAKR	**Walker**	**44.63**	**343**	*e*P	**P**	**04 07 24.2**	**+1.9**
	15nm,1.4s						
DUG	**Dugway, Tooele**	**44.74**	**351**	*e*P	**P**	**04 07 24.1**	**+1.0**
	36nm,1.9s						
KVN	**Kaiserville**	**44.77**	**345**	*e*P	**P**	**04 07 23.2**	**-0.1**
	6.3nm,1.0s						
N23A	**Red Feather La**	**44.77**	**358**	*e*P	**P**	**04 07 24.4**	**+1.0**
	17nm,1.3s						
TZTN	**Tazewell**	**44.80**	**24**	*e*P	**P**	**04 07 22.7**	**-0.7**
	9.3nm,0.9s						
JLU	**Jordanelle**	**44.94**	**352**	*e*P	**P**	**04 07 25.9**	**+1.1**
	27nm,1.8s						
YERR	**Yerington**	**45.02**	**343**	*e*P	**P**	**04 07 26.8**	**+1.5**
	18nm,1.5s						
OLIL	**Olney**	**45.14**	**18**	*e*P	**P**	**04 07 26.2**	**+0.2**
VCNR	**Virginia City**	**45.43**	**343**	*e*P	**P**	**04 07 30.0**	**+1.5**
	8.2nm,1.1s						
TCUT	**Toone Canyon**	**45.44**	**352**	*e*P	**P**	**04 07 28.8**	**+0.1**
	10nm,0.9s						
BGU	**Big Grassy Mou**	**45.49**	**351**	*e*P	**P**	**04 07 29.9**	**+0.9**
	26nm,2.0s						
AFDM	**Forest Hills D**	**45.50**	**342**	*e*P	**P**	**04 07 31.4**	**+2.4**
	6.1nm,1.2s						
RWWY	**Rawlins**	**45.62**	**357**	*e*P	**P**	**04 07 29.4**	**-0.7**
	40nm,1.7s						
PAHR	**Pah Rah Range**	**45.73**	**344**	*e*P	**P**	**04 07 32.1**	**+1.3**
	19nm,1.6s						
BMN	**Battle Mountai**	**45.85**	**346**	*e*P	**P**	**04 07 31.1**	**-0.8**
	8.3nm,1.2s						
HWUT	**Hanware Ranch**	**45.95**	**352**	*e*P	**P**	**04 07 32.9**	**+0.3**
	21nm,1.4s						
ORV	**Oroville**	**46.22**	**342**	*e*P	**P**	**04 07 35.8**	**+1.2**
	8.6nm,1.2s						
HVU	**Hansel Valley**	**46.29**	**351**	*e*P	**P**	**04 07 35.7**	**+0.5**
	46nm,2.0s						
PPT	**Papeete**	**46.34**	**250**	LR	LR	04 22 30.3	
	comp=Z,764nm,18.5s,baz=80,slow=30						
PPT2	**Papeete2**	**46.34**	**250**	*e*S	**S**	**04 14 22.4**	**-1.3**
	593nm,25.2s						
PPT2				*e*LQ	LQ	04 18 32.1	
	2μm,31.0s						
PPT2				*e*LR	LR	04 20 37.9	
	2μm,26.5s,baz=75						
BW06	**Boulder Array**	**46.87**	**355**	*e*P	**P**	**04 07 40.0**	**+0.2**
	5.6nm,0.9s						
PD31	**Pinedale Array**	**46.87**	**355**	*e*P	**P**	**04 07 39.5**	**-0.3**
PDAR	**Pinedale Array**	**46.87**	**355**	P	**P**	**04 07 39.0**	**-0.8**
	1.3nm,0.7s,baz=172,slow=7.4,SNR=12						
PDAR				PcP	**PcP**	**04 09 13.2**	**+0.4**
	1.1nm,0.9s,baz=159,slow=5.4,SNR=3.3						
PDAR				LR	LR	04 24 59.2	
	comp=Z,606nm,18.6s,baz=190,slow=33						
PLCA	**Paso Flores**	**47.44**	**145**	P	**P**	**04 07 45.7**	**+1.4**
	5.4nm,1.0s,baz=350,slow=9.8,SNR=5.4						
PLCA				LR	LR	04 23 15.6	
	comp=Z,2μm,18.2s,baz=346,slow=30						
PLCA	**Paso Flores**	**47.44**	**145**	*e*P	**P**	**04 07 44.8**	**+0.6**
	30nm,1.5s						
REDW	**Red Top Meadow**	**47.59**	**353**	*e*P	**P**	**04 07 45.0**	**-0.4**
	17nm,1.4s						
SNOW	**Snow King Moun**	**47.68**	**354**	*e*P	**P**	**04 07 45.5**	**-0.7**
	20nm,1.5s						
TPAW	**Teton Pass**	**47.73**	**353**	*e*P	**P**	**04 07 47.3**	**+0.7**
	7.4nm,1.0s						
LOHW	**Long Hollow**	**47.81**	**354**	*e*P	**P**	**04 07 46.2**	**-0.9**
	8.8nm,1.3s						
FXWY	**Fox Creek**	**47.88**	**353**	*e*P	**P**	**04 07 47.5**	**-0.3**
	12nm,1.4s						
MOOW	**Moose Ponds**	**47.96**	**354**	*e*P	**P**	**04 07 47.8**	**-0.5**
	10nm,1.5s						
RSSD	**Black Hills**	**47.97**	**0**	*e*P	**P**	**04 07 48.5**	**+0.1**
	51nm,2.0s						
MOD	**Modoc Plateau**	**48.03**	**344**	*e*P	**P**	**04 07 49.8**	**+1.0**
	22nm,1.5s						
ECSD	**EROS Data Cent**	**48.08**	**7**	*e*P	**P**	**04 07 49.7**	**+0.7**
	41nm,1.9s						
WVOR	**Wild Horse Val**	**48.09**	**346**	*e*P	**P**	**04 07 49.9**	**+0.6**
	30nm,1.8s						
IMW	**Indian Meadow**	**48.12**	**354**	*e*P	**P**	**04 07 50.7**	**+0.9**
	9.6nm,1.1s						
HLID	**Hailey**	**48.29**	**350**	*e*P	**P**	**04 07 51.4**	**+0.6**
	8.2nm,1.3s						
MFID	**Camas Ranch**	**48.41**	**349**	*e*P	**P**	**04 07 52.2**	**+0.5**
	39nm,2.0s						
YPP	**Pitchstone Pla**	**48.48**	**354**	*e*P	**P**	**04 07 52.7**	**+0.3**
	16nm,1.6s						
YBH	**Yreka Blue Hor**	**48.59**	**342**	LR	LR	04 23 57.3	
	comp=Z,1μm,21.4s,baz=169,slow=31						
YMR	**Madison River**	**48.89**	**354**	*e*P	**P**	**04 07 57.0**	**+1.5**
	32nm,1.7s						
J08A	**Circle Bar Ran**	**48.92**	**346**	*e*P	**P**	**04 07 56.2**	**+0.5**
	9.9nm,1.2s						
MCWV	**Mont Chateau**	**48.98**	**25**	*e*P	**P**	**04 07 55.8**	**-0.2**
	47nm,1.7s						
YHH	**Holmes Hill**	**49.00**	**354**	*e*P	**P**	**04 07 57.3**	**+0.9**
	25nm,1.6s						
YHB	**Horse Butte**	**49.00**	**353**	*e*P	**P**	**04 07 56.9**	**+0.5**
	7.1nm,0.9s						
QLMT	**Earthquake Lak**	**49.10**	**353**	*e*P	**P**	**04 07 57.5**	**+0.3**
RLMT	**Red Lodge**	**49.18**	**355**	*e*P	**P**	**04 07 57.2**	**-0.5**
	6.6nm,0.8s						
MCMT	**McKenzie Canyo**	**49.28**	**352**	*e*P	**P**	**04 07 57.9**	**-0.7**
I07A	**Izee**	**49.85**	**346**	*e*P	**P**	**04 08 04.3**	**+1.5**
	16nm,1.4s						
GCMT	**Greycliff**	**49.88**	**355**	*e*P	**P**	**04 08 02.0**	**-0.9**
PINE	**Pine Mountain**	**49.96**	**344**	*e*P	**P**	**04 08 03.8**	**+0.1**
	11nm,1.2s						
CPUP	**Villa Florida**	**50.04**	**121**	P	**P**	**04 08 04.3**	**0.0**
	5.9nm,0.9s,baz=287,slow=8.4,SNR=15						
CPUP				LR	LR	04 25 53.1	
	comp=Z,864nm,20.6s,baz=288,slow=32						
CPUP	**Villa Florida**	**50.04**	**121**	*e*P	**P**	**04 08 03.8**	**-0.6**
	16nm,1.1s						
LAO	**LASA Array**	**50.57**	**358**	*e*P	**P**	**04 08 08.5**	**+0.4**
	47nm,1.6s						
M54A	**Oil Creek Stat**	**50.61**	**24**	*e*P	**P**	**04 08 09.0**	**+0.6**
	12nm,1.0s						
G08A	**Pilot Rock**	**50.86**	**347**	*e*P	**P**	**04 08 11.3**	**+0.9**
	34nm,1.9s						
HRY	**Holter Researc**	**51.01**	**353**	*e*P	**P**	**04 08 12.0**	**+0.6**
TRQA	**Tornquist**	**51.26**	**137**	*e*P	**P**	**04 08 12.6**	**-0.8**
	3.4nm,0.7s						
HAWA	**Hanford**	**52.04**	**347**	*e*P	**P**	**04 08 20.1**	**+1.0**
	14nm,1.4s						
MMNY	**Mt. Morris Dam**	**52.35**	**24**	*e*P	**P**	**04 08 22.4**	**+1.0**
	14nm,1.0s						
AGMN	**Agassiz Nation**	**52.67**	**7**	*e*P	**P**	**04 08 24.7**	**+1.0**
	20nm,1.4s						
NEW	**Newport**	**53.32**	**349**	*e*P	**P**	**04 08 27.9**	**-0.6**
	28nm,2.0s						
WALA	**Waterton Lakes**	**53.58**	**352**	*e*P	**P**	**04 08 30.9**	**+0.4**
	42nm,1.9s						
ULM	**Lac du Bonnet**	**54.59**	**7**	P	**P**	**04 08 36.1**	**-1.6**
	5.2nm,0.9s,baz=192,slow=7.6,SNR=9.9						
ULM				PcP	**PcP**	**04 09 40.7**	**-0.1**
	4.5nm,0.8s,baz=229,slow=4.8,SNR=5.0						
ULM				LR	LR	04 30 41.6	
	comp=Z,1μm,19.0s,baz=224,slow=35						
ULM	**Lac du Bonnet**	**54.59**	**7**	*e*P	**P**	**04 08 36.6**	**-1.1**
	37nm,1.5s						
ULM				PcP	**PcP**	**04 09 40.7**	**-0.1**
RAR	**Rarotonga**	**56.46**	**247**	LR	LR	04 27 53.3	
	comp=Z,311nm,19.0s,baz=82,slow=30						
EDM	**Edmonton**	**57.59**	**354**	*e*P	**P**	**04 08 58.3**	**-0.9**
	20nm,0.9s						
FFC	**Flin Flon**	**58.62**	**2**	*e*P	**P**	**04 09 05.2**	**-1.2**
	25nm,1.8s						
FCC	**Fort Churchill**	**63.16**	**6**	*e*P	**P**	**04 09 35.5**	**-1.6**
	9.8nm,1.1s						
SCHQ	**Schefferville**	**66.38**	**23**	LR	LR	04 38 13.7	
	comp=Z,919nm,19.4s,baz=230,slow=35						
YKA	**Yellowknife Ar**	**66.85**	**355**	P	**P**	**04 09 59.4**	**-1.6**
	3.6nm,0.8s,baz=163,slow=6.3,SNR=23						
YKA				PcP	**PcP**	**04 10 31.0**	**+1.3**
	1.0nm,0.8s,baz=162,slow=3.9,SNR=5.5						
YKA				LR	LR	04 37 03.9	
	comp=Z,68nm,19.1s,baz=180,slow=34						
YKW3	**Yellowknife Ar**	**66.92**	**355**	*e*P	**P**	**04 10 00.3**	**-1.1**
	5.2nm,0.9s						
AFI	**Afiamalu**	**67.21**	**257**	LR	LR	04 31 08.7	
	comp=Z,355nm,21.2s,baz=4.0,slow=29						
KDAK	**Kodiak Island**	**72.79**	**335**	LR	LR	04 34 41.9	
	comp=Z,1μm,20.9s,baz=132,slow=29						
EGAK	**Eagle**	**73.85**	**344**	*e*P	**P**	**04 10 43.1**	**-0.8**
	16nm,1.4s						
RIDG	**Independ'e Rid**	**74.10**	**342**	*e*P	**P**	**04 10 45.4**	**0.0**
	8.0nm,0.9s						
INK	**Inuvik**	**75.04**	**349**	*e*P	**P**	**04 10 49.1**	**-1.5**
	18nm,1.6s						
RND	**Reindeer**	**75.12**	**341**	*e*P	**P**	**04 10 51.0**	**-0.4**
	43nm,1.7s						
MCK	**McKinley**	**75.37**	**341**	*e*P	**P**	**04 10 52.0**	**-0.8**
	7.6nm,1.1s						
IL1	**Eielson Array**	**75.47**	**343**	*e*P	**P**	**04 10 51.8**	**-1.5**
ILAR	**Eielson Array**	**75.47**	**343**	P	**P**	**04 10 52.3**	**-0.9**
	3.7nm,0.8s,baz=152,slow=4.9,SNR=21						
ILB	**Eielson Array**	**75.47**	**343**	*e*P	**P**	**04 10 52.4**	**-0.9**
WRH	**Wood River Hil**	**75.62**	**342**	*e*P	**P**	**04 10 53.5**	**-0.7**
	30nm,1.7s						
KTH	**Kantishna Hill**	**75.91**	**340**	*e*P	**P**	**04 10 54.8**	**-1.1**
	11nm,1.0s						
CAST	**Castle Rocks**	**76.21**	**340**	*e*P	**P**	**04 10 57.8**	**+0.2**
	20nm,1.6s						
MLY	**Manley**	**76.83**	**342**	*e*P	**P**	**04 11 00.7**	**-0.4**
	7.3nm,0.9s						
COLD	**Coldfoot**	**78.16**	**343**	*e*P	**P**	**04 11 09.1**	**+0.6**
	17nm,1.6s						
IM3	**Indian Mountai**	**78.41**	**341**	*e*P	**P**	**04 11 11.3**	**+1.5**
RES	**Resolute Bay**	**78.84**	**3**	*e*P	**P**	**04 11 11.4**	**-0.6**
	6.3nm,0.8s						
SFJD	**Kangerlussuaq**	**80.36**	**19**	LR	LR	04 45 45.7	
	comp=Z,496nm,21.2s,baz=238,slow=35						
QSPA	**South Pole Qui**	**85.98**	**180**	P	**P**	**04 11 50.9**	**+1.2**
	4.2nm,0.9s,baz=129,slow=6.5,SNR=5.9						
QSPA				LR	LR	04 43 23.1	
	comp=Z,559nm,19.7s,baz=118,slow=31						
QSPA	**South Pole Qui**	**85.98**	**180**	*e*P	**P**	**04 11 50.3**	**+0.6**
VNDA	**Vanda**	**86.89**	**193**	*e*P	P	04 11 58.4	+4.6
	13nm,1.6s						
DZM	**Mont Dzumac**	**87.83**	**248**	LR	LR	04 43 59.4	
	comp=Z,136nm,20.1s,baz=68,slow=31						
DZM	**Mont Dzumac**	**87.83**	**248**	*e*LR	LR	04 39 51.5	
	334nm,24.4s						
SNAA	**Sanae**	**89.75**	**162**	LR	LR	04 44 05.7	

KSH	**Kashi**	**144.72**	**360**	*e*PKPbc	**PKPdf**	**04 18 48.5**	**+1.5**
KSH				PP	PP	04 22 10.5	+8.2
KSH				PKS	**PKSdf**	**04 22 23.1**	**+0.5**
KSH				SKS	**SKSdf**	**04 25 56.3**	**-0.5**
KSH				AMB	AMB		
	comp=Z,160nm,4.5s						
KSH				LR	LR		
	comp=N,180nm,12.2s						
KSH				LR	LR		
	comp=E,160nm,12.6s						
KSH				LR	LR		
	comp=Z,170nm,11.0s						
RAYN	**Ar Rayn**	**145.00**	**54**	*e*PKPdf	**PKPbc**	**04 18 47.0**	**-0.1**
KSM	**Kuching**	**145.37**	**267**	*e*PKPbc	**PKPab**	**04 18 48.1**	**-0.6**
KMI	**Kunming**	**146.66**	**312**	PKPbc	**PKPdf**	**04 18 50.0**	**-0.8**
KMI				pPKP	PKPab	04 18 53.4	0.0
KMI				sPKP		04 18 54.8	
KMI				LR	LR		
	comp=N,210nm,20.5s						
KMI				LR	LR		
	comp=E,330nm,21.2s						
KMI				LR	LR		
	comp=Z,450nm,21.9s						
CMAR	**Chiang Mai Arr**	**153.17**	**304**	PKP	**PKPdf**	**04 19 00.9**	**0.0**
	3.5nm,0.3s,baz=29,slow=2.1,SNR=3.7						
CMAR				PKPbc	**PKPbc**	**04 19 08.0**	**-0.4**
	1.0nm,0.3s,baz=29,slow=2.1,SNR=7.5						

IDC 25 04:17:30.6±7.1, 18°.70S×68°.32W, h131km±68km, mb3.5/2, mb1 3.5/3, mb1mx3.1/39, mbtmp3.8/3, Error ellipse: s-maj=150.9km s-min=74.7km az=106.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.41**	**4**	P	Pn	04 18 10.4	+0.1
	6.6nm,0.3s,baz=198,slow=9.6,SNR=274						
LPAZ				S	Sn	04 18 41.3	+0.6
	0.3nm,0.3s,baz=72,slow=20,SNR=2.0						
KOWA	**Kowa**	**71.41**	**67**	P	P	04 28 37.2	+0.1
	1.3nm,0.8s,baz=252,slow=12,SNR=3.3						
TORD	**Torodi Ar. Bea**	**75.90**	**71**	P	P	04 29 03.3	0.0
	0.3nm,0.4s,baz=252,slow=5.0,SNR=15						
YKA	**Yellowknife Ar**	**88.75**	**340**	pP	pP	04 30 34.4	-8.2
	0.1nm,0.6s,baz=133,slow=5.6,SNR=3.6						
MKAR	**Makanchi Array**	**143.03**	**34**	PKP	PKPdf	04 36 48.6	-0.3
	0.1nm,0.4s,baz=312,slow=3.6,SNR=2.6						

*NIED **25** 04:21:00, 37°.50N×142°.00E, h35km, Mw3.7 Best double couple: M◎3.66000×10^14 NP1:φ=298.00000°,δ=11.00000°, λ=173.00000°. NP2:φ=35.00000°,δ=89.00000°,λ=79.00000°.*
*IDC **25** 04:21:06.9±2.0, 37°.47N×142°.43E, h47km±17km, mb3.4/6, mb1 3.5/10, mb1mx3.2/71, mbtmp3.7/10, ML3.2/4, Error ellipse: s-maj=20.7km s-min=11.3km az=99.0*
*JMA **25** 04:21:06.4±0.1, 37°.53N×141°.97E, h30km±3km, M4.0*
ISC 25 04:21:04.2±3.4, 37°.53N±0°.04×142°.07E±0°.07, h15km±21km, n25, σ1=35/29, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.97**	**261**	P	**Pb**	**04 21 22.6**	**-0.1**
JFK				S	**Sb**	**04 21 33.7**	**-1.6**
JMM	**Marumori**	**1.07**	**289**	P	**Pn**	**04 21 24.4**	**-0.2**
JMM				S	**Sb**	**04 21 37.1**	**-1.1**
JIO	**Ouri**	**1.08**	**328**	P	**Pn**	**04 21 25.0**	**+0.1**
JIO				S	**Sb**	**04 21 37.7**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.10**	**248**	P	**Pb**	**04 21 24.5**	**-0.5**
ONAJ				S	**Sb**	**04 21 37.2**	**-2.0**
JFT	**Otama**	**1.38**	**270**	P	**Pb**	**04 21 29.6**	**-0.1**
JFT				S	**Sn**	**04 21 46.3**	**-0.6**
JOU	**Okura**	**1.39**	**307**	P	**Pb**	**04 21 29.9**	**0.0**
JOU				S	**Sn**	**04 21 46.6**	**-0.6**
JMK	**Ichinoseki**	**1.57**	**335**	P	**Pb**	**04 21 32.5**	**-0.4**
JYK	**Kaneyama**	**1.93**	**316**	P	**Pn**	**04 21 37.6**	**+1.0**
JYK				*e*S	**Sn**	**04 22 01.3**	**+0.7**
MJAR	**Matsushiro Arr**	**3.24**	**253**	P	**Pn**	**04 21 56.8**	**+2.2**
	2.6nm,0.3s,baz=88,slow=15,SNR=26						
MJAR				S	**Sb**	**04 22 40.7**	**-0.1**
	5.0nm,0.3s,baz=92,slow=19,SNR=6.6						
MAT	**Matsushiro**	**3.25**	**253**	P	**Pn**	**04 21 57.2**	**+2.6**
MAT				*e*S	**Sn**	**04 22 36.2**	**+3.2**
JHJ	**Hachijo jima 2**	**4.78**	**204**	P	**Pn**	**04 22 16.6**	**+0.9**
	13nm,0.3s,baz=94,slow=15,SNR=3.4						
JHJ				S	**Sn**	**04 23 10.1**	**-0.8**
	23nm,0.3s,baz=204,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**6.59**	**3**	P	**Pn**	**04 22 43.5**	**+3.0**
	0.7nm,0.3s,baz=275,slow=10,SNR=6.4						
ASAJ				S	**Sn**	**04 23 56.4**	**+1.0**
	0.2nm,0.3s,baz=59,slow=18,SNR=1.9						
USRK	**Ussuriysk Ar.**	**10.13**	**314**	P	Pn	04 23 34.7	+5.7
	0.2nm,0.3s,baz=116,slow=23,SNR=3.1						
SONM	**Songino Array**	**27.95**	**303**	P	**P**	**04 26 53.5**	**-0.6**
	0.5nm,0.5s,baz=108,slow=8.5,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**27.96**	**122**	T	T	04 56 16.7	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**27.97**	**123**	T	T	04 56 26.0	
	baz=314,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.98**	**122**	T	T	04 56 32.6	
	baz=314,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	04 57 21.0	
	baz=318,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	04 57 24.0	
	baz=318,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	04 57 23.3	
	baz=318,slow=75						
MKAR	**Makanchi Array**	**44.30**	**302**	P	**P**	**04 29 13.5**	**+0.2**
	1.2nm,1.0s,baz=89,slow=8.3,SNR=7.8						
KURBB	**Kurchatov Arra**	**46.11**	**308**	P	**P**	**04 29 27.6**	**0.0**
	1.5nm,0.7s,baz=83,slow=8.0,SNR=9.2						
BVAR	**Borovoye Array**	**50.63**	**312**	P	**P**	**04 30 02.3**	**-0.1**
	0.3nm,0.5s,baz=96,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**57.63**	**189**	P	**P**	**04 30 53.0**	**-0.8**
	0.2nm,0.6s,baz=9.4,slow=7.4,SNR=3.9						
ASAR	**Alice Springs**	**61.35**	**189**	P	**P**	**04 31 19.1**	**-0.3**
	0.1nm,0.6s,baz=14,slow=6.9,SNR=5.9						

MAN 25 04:29:46, 16°.16N×119°.90E, h33km, mb4.2, ML3.0, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.22**	**4**	*e*P	Pb	04 29 54.9	+2.1
BOLP				*e*S	Sb	04 30 00.2	+2.8
SCZP	**Santa Cruz**	**0.39**	**178**	*e*P	Pn	04 29 57.4	+2.1
SCZP				*e*S	Sn	04 30 03.8	+2.4
BALP	**Baler**	**1.67**	**104**	*e*P	Pn	04 30 13.2	+0.3
BALP				*e*S	Sb	04 30 41.8	+5.0
APYP	**Conner**	**2.12**	**37**	*e*P	Pn	04 30 20.4	+1.2
APYP				*e*S	Sb	04 30 48.0	-1.8

MEX 25 04:42:18.1±0.6, 16°.57N×98°.51W, h15km±6km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**115**	*i* P	Pg	04 42 25.0	-1.4
PNIG				*i* S	Sg	04 42 31.2	-0.8
TLIG	**Tlapa**	**0.99**	**357**	*e*P	Pb	04 42 33.6	-3.5
TLIG				*e*S	Sb	04 42 45.6	-4.4
ACX	**Acapulco**	**1.32**	**283**	*i* P	Pn	04 42 41.0	-1.1
ACX				*i* S	Sb	04 42 57.6	-1.9
CAIG	**El Cayaco**	**1.75**	**286**	*e*P	Pn	04 42 43.9	-4.0
CAIG				*e*S	Sn	04 43 05.4	-4.5
VHO	**Vista Hermosa**	**1.78**	**73**	*e*P	Pn	04 42 45.4	-3.0
VHO				*e*S	Sn	04 43 06.1	-4.8
PLIG	**Platanillo**	**2.05**	**333**	*e*P	Pn	04 42 49.1	-3.0
PLIG				*e*S	Sn	04 43 12.9	-4.5

*BJI **25** 04:46:47.9, 39°.39N×20°.14E, h10km, mb4.7/39, mB4.9/22, Ms4.7/12, Ms7 4.4/14*
*IDC **25** 04:46:51.5±0.4, 39°.46N×20°.52E, h0km, mb4.5/38, mb1 4.6/52, mb1mx4.4/84, mbtmp4.5/52, ML4.0/12, MS3.9/19, Ms1 3.9/19, ms1mx3.5/72, Error ellipse: s-maj=9.3km s-min=9.1km az=177.0*
*MOS **25** 04:46:51.2±1.3, 39°.38N×20°.40E, h7km, mb4.9/52, Error ellipse: s-maj=3.6km s-min=2.3km az=73.5*
*HLW **25** 04:46:52.9, 39°.67N×21°.37E, h10km±13km, Md4.6, Ml4.3*
*PDG **25** 04:46:53.7±0.6, 39°.45N×20°.44E, h11km±1km, MD4.4/1, ML4.3/8, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*SKO **25** 04:46:54.5, 39°.39N×20°.55E, h0km, M4.1, ML4.6*
*TIR **25** 04:46:54.1, 39°.52N×20°.51E, h25km, ML4.7*
*CSEM **25** 04:46:54.5±0.1, 39°.46N×20°.41E, h10km, mb4.7/32, Error ellipse: s-maj=2.0km s-min=1.5km az=43.0*
*THE **25** 04:46:54.5, 39°.45N×20°.52E, h0km±1km, ML4.3/14, Error ellipse: s-maj=2.0km s-min=0.6km az=302.0*
*ATH **25** 04:46:54.1, 39°.45N×20°.48E, h18km, ML4.3/44, Error ellipse: s-maj=0.8km s-min=0.5km az=267.0*
*NEIC **25** 04:46:54.6±0.0, 39°.46N×20°.53E, h0km, mb4.8/85, ML4.3(THE), After THE.*
NEIC Felt at Igoumenitsa, Kato Korakiana, Kerkyra, Kiapades, Kontokalion, Lefkimmi and Potamos.
*ISCJB **25** 04:46:54.7±0.2, 39°.489N±0°.009×20°.42E±0°.01, h27km±1km, mb4.7/154, MS4.1/20, Error ellipse: s-maj=1.8km s-min=1.3km az=43.6*
*BEO **25** 04:46:56.2±0.4, 39°.57N×20°.26E, h10km±3km, M4.2/2*
ISC 25 04:46:54.0±0.7, 39°.44N±0°.01×20°.49E±0°.01, h18km±4km, n1199, σ1=86/1391, mb4.8/155, MS4.2/20, 61C-38D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.15**	**306**	*i* PG	**Pg**	**04 46 58.2**	**-0.1**
IGT				*i* SG	**Sb**	**04 47 01.3**	**0.0**
IGT	**Igoumenitsa**	**0.15**	**306**	||*i* Pg	**Pg**	**04 46 58.2**	**-0.1**
IGT				*e*Sg	**Sb**	**04 47 01.2**	**0.0**
IGT	**Igoumenitsa**	**0.15**	**306**	P	**Pg**	**04 46 58.2**	**-0.1**
IGT	**Igoumenitsa**	**0.15**	**306**	P	**Pb**	**04 46 58.7**	**+0.3**
IGT				AML	AML	04 47 01.9	
IGT				AML	AML	04 47 02.5	
IGT				S	**Sb**	**04 47 02.7**	**+1.4**
IGT	**Igoumenitsa**	**0.15**	**306**	P	**Pg**	**04 46 58.2**	**-0.1**
IGT	**Igoumenitsa**	**0.15**	**306**	P	**Pb**	**04 46 58.4**	**0.0**
IGT				S	**Sb**	**04 47 01.3**	**0.0**
IGT	**Igoumenitsa**	**0.15**	**306**	P	**Pg**	**04 46 58.2**	**-0.1**
IGT				S	**Sb**	**04 47 01.3**	**0.0**
SGD	**Sagiada**	**0.26**	**311**	P	**Pb**	**04 47 00.9**	**+0.7**
SGD	**Sagiada**	**0.26**	**311**	P	**Pb**	**04 47 00.1**	**-0.2**
SGD	**Sagiada**	**0.26**	**311**	P	**Pb**	**04 47 00.0**	**-0.2**
JAN	**Janina**	**0.35**	**53**	P	**Pg**	**04 47 01.3**	**-0.1**
JAN	**Janina**	**0.35**	**53**	P	**Pg**	**04 47 01.1**	**-0.3**
JAN				S	**Sb**	**04 47 07.8**	**+0.8**
JAN				AML	AML	04 47 08.9	
JAN				AML	AML	04 47 09.1	
JAN	**Janina**	**0.35**	**53**	P	**Pg**	**04 47 01.3**	**-0.1**
JAN	**Janina**	**0.35**	**53**	P	**Pg**	**04 47 01.4**	**0.0**
JAN				S	**Sb**	**04 47 07.3**	**+0.2**
JAN	**Janina**	**0.35**	**53**	P	**Pg**	**04 47 01.3**	**-0.1**
JAN				S	**Sg**	**04 47 06.6**	**+0.1**
KASA	**Kassiopi**	**0.53**	**305**	P	**Pg**	**04 47 04.2**	**-0.3**
KASA				S	**Sg**	**04 47 09.9**	**-1.8**
KASA				AML	AML	04 47 17.4	
KASA				AML	AML	04 47 17.9	
KASA	**Kassiopi**	**0.53**	**305**	P	**Pg**	**04 47 04.3**	**-0.3**
KASA				S	**Sg**	**04 47 10.8**	**-0.8**
DSL	**Palaion Diasel**	**0.56**	**123**	P	**Pg**	**04 47 05.0**	**-0.3**
DSL				S	**Sb**	**04 47 13.3**	**+0.1**
DSL				AML	AML	04 47 16.4	
	comp=N,78211μm,0.5s						
DSL				AML	AML	04 47 16.5	
	comp=E,50097μm,0.4s						
DSL	**Palaion Diasel**	**0.56**	**123**	P	**Pg**	**04 47 04.9**	**-0.4**
DSL				S	**Sg**	**04 47 12.5**	**-0.3**
DSL	**Palaion Diasel**	**0.56**	**123**	P	**Pg**	**04 47 05.2**	**-0.1**
DSL				S	**Sb**	**04 47 14.1**	**+0.9**
DSL	**Palaion Diasel**	**0.56**	**123**	P	**Pg**	**04 47 04.9**	**-0.4**
DSL				S	**Sg**	**04 47 12.5**	**-0.3**
SRN	**Sarande**	**0.58**	**319**	*i* PG	**Pg**	**04 47 05.2**	**-0.3**
SRN				*i* SG	**Sb**	**04 47 13.5**	**0.0**
SRN	**Sarande**	**0.58**	**319**	*i* Pg	**Pg**	**04 47 05.2**	**-0.3**
SRN				*i* Sg	**Sb**	**04 47 13.5**	**0.0**
KEK	**Kerkira**	**0.60**	**297**	P	**Pb**	**04 47 06.3**	**+0.3**
KEK				S	**Sg**	**04 47 14.1**	**+0.2**
KEK				AML	AML	04 47 20.3	
KEK				AML	AML	04 47 23.3	
KEK	**Kerkira**	**0.60**	**297**	P	**Pg**	**04 47 05.7**	**-0.2**
KEK	**Kerkira**	**0.60**	**297**	P	**Pg**	**04 47 05.7**	**-0.2**
KEK				S	**Sg**	**04 47 14.1**	**+0.2**
KEK	**Kerkira**	**0.60**	**297**	P	**Pg**	**04 47 05.7**	**-0.2**
LKD2	**Lefkada island**	**0.67**	**169**	*i* PG	**Pg**	**04 47 07.0**	**-0.2**
LKD2				*i* SG	**Sn**	**04 47 20.5**	**+1.8**
LKD2	**Lefkada island**	**0.67**	**169**	P	**Pg**	**04 47 06.9**	**-0.2**
LKD2				S	**Sn**	**04 47 17.9**	**-0.8**
LKD2				AML	AML	04 47 23.3	
	comp=E,27536μm,0.5s						
LKD2				AML	AML	04 47 27.7	
	comp=N,29702μm,0.6s						
LKD2	**Lefkada island**	**0.67**	**169**	P	**Pg**	**04 47 06.7**	**-0.5**
LKD2				S	**Sn**	**04 47 18.1**	**-0.6**
LKD2	**Lefkada island**	**0.67**	**169**	P	**Pg**	**04 47 07.1**	**-0.1**
LKD2				S	**Sn**	**04 47 17.9**	**-0.8**
LKD2				*i* Sg	**Sn**	**04 47 20.5**	**+1.8**
LKD2	**Lefkada island**	**0.67**	**169**	P	**Pg**	**04 47 06.7**	**-0.5**
LKD2				S	**Sn**	**04 47 18.1**	**-0.6**
MGNA	**Meganis,,,**	**0.82**	**163**	P	**Pb**	**04 47 09.0**	**-0.8**
MGNA				S	**Sn**	**04 47 22.5**	**+0.1**
MGNA				AML	AML	04 47 28.6	
	comp=E,19740μm,0.8s						
MGNA				AML	AML	04 47 32.4	
	comp=N,12970μm,0.6s						
MGNA	**Meganis,,,**	**0.82**	**163**	P	**Pb**	**04 47 09.5**	**-0.3**
MGNA				S	**Sn**	**04 47 22.1**	**-0.3**
KPRO	**Kipourio**	**0.84**	**53**	P	**Pb**	**04 47 09.4**	**-0.9**
KPRO				S	**Sg**	**04 47 20.5**	**-1.3**
KPRO				AML	AML	04 47 32.8	
	comp=E,67178μm,1.0s						
KPRO				AML	AML	04 47 33.6	
	comp=N,41782μm,0.7s						
KPRO	**Kipourio**	**0.84**	**53**	P	**Pb**	**04 47 09.9**	**-0.4**
KPRO				S	**Sg**	**04 47 21.3**	**-0.4**
KPRO	**Kipourio**	**0.84**	**53**	P	**Pb**	**04 47 09.6**	**-0.7**
KPRO				S	**Sg**	**04 47 20.3**	**-1.4**
PENT	**Pentalofos**	**0.90**	**33**	P	**Pg**	**04 47 11.5**	**-0.2**
PENT				S	**Sn**	**04 47 25.2**	**+0.6**
PENT				AML	AML	04 47 30.6	
	comp=E,24351μm,0.6s						
PENT				AML	AML	04 47 34.7	
	comp=N,29600μm,0.6s						
PENT	**Pentalofos**	**0.90**	**33**	P	**Pg**	**04 47 11.4**	**-0.2**
PENT				S	**Sn**	**04 47 24.6**	**-0.1**
PENT	**Pentalofos**	**0.90**	**33**	P	**Pb**	**04 47 10.9**	**-0.4**
PDO	**Prodromos**	**1.00**	**147**	P	**Pb**	**04 47 12.9**	**0.0**
PDO				S	**Sn**	**04 47 27.7**	**+0.8**
PDO				AML	AML	04 47 31.4	
	comp=N,48933μm,0.5s						
PDO				AML	AML	04 47 32.7	
	comp=E,53205μm,0.7s						
PDO	**Prodromos**	**1.00**	**147**	P	**Pb**	**04 47 13.1**	**+0.2**
PDO				S	**Sn**	**04 47 27.7**	**+0.8**
PDO	**Prodromos**	**1.00**	**147**	P	**Pb**	**04 47 12.7**	**-0.2**
PDO				S	**Sn**	**04 47 27.7**	**+0.8**
NEST	**Nestorio**	**1.06**	**24**	P	**Pg**	**04 47 15.1**	**+0.5**
NEST				S	**Sb**	**04 47 28.7**	**+0.2**
NEST				AML	AML	04 47 38.6	
	comp=N,23970μm,0.7s						
NEST				AML	AML	04 47 40.5	
	comp=E,34310μm,1.3s						
NEST	**Nestorio**	**1.06**	**24**	P	**Pg**	**04 47 14.6**	**0.0**
NEST				S	**Sg**	**04 47 28.3**	**-0.3**
NEST	**Nestorio**	**1.06**	**24**	P	**Pb**	**04 47 13.9**	**-0.1**
EVR	**Evrytania**	**1.15**	**117**	P	**Pn**	**04 47 15.1**	**-0.3**
EVR				S	**Sg**	**04 47 33.0**	**+1.6**
EVR				AML	AML	04 47 36.9	
	comp=N,31907μm,0.8s						
EVR				AML	AML	04 47 38.6	
	comp=E,21214μm,0.6s						
EVR	**Evrytania**	**1.15**	**117**	P	**Pn**	**04 47 14.7**	**-0.7**
EVR				S	**Sg**	**04 47 33.2**	**+1.8**
EVR	**Evrytania**	**1.15**	**117**	P	**Pn**	**04 47 15.6**	**+0.2**
EVR				S	**Sg**	**04 47 33.2**	**+1.8**
EVR	**Evrytania**	**1.15**	**117**	P	**Pn**	**04 47 14.7**	**-0.7**
EVR				S	**Sg**	**04 47 33.2**	**+1.8**
PVO	**Paravola**	**1.15**	**135**	P	**Pg**	**04 47 16.2**	**-0.2**
PVO				AML	AML	04 47 39.2	
	comp=E,32174μm,1.0s						
PVO				AML	AML	04 47 42.0	
	comp=N,37720μm,1.0s						
PVO	**Paravola**	**1.15**	**135**	P	**Pg**	**04 47 16.2**	**-0.2**
PVO				S	**Sg**	**04 47 34.0**	**+2.5**
PVO	**Paravola**	**1.15**	**135**	P	**Pn**	**04 47 15.6**	**+0.3**
PVO				S	**Sg**	**04 47 34.0**	**+2.5**
THL	**Klokotos Trika**	**1.19**	**84**	P	**Pn**	**04 47 14.7**	**-1.1**
THL				S	**Sg**	**04 47 33.8**	**+1.3**
THL				AML	AML	04 47 38.6	
	comp=E,14259μm,0.8s						
THL				AML	AML	04 47 39.0	
	comp=N,17109μm,0.8s						
THL	**Klokotos Trika**	**1.19**	**84**	P	**Pn**	**04 47 15.7**	**-0.1**
THL				S	**Sg**	**04 47 33.5**	**+1.0**
THL	**Klokotos Trika**	**1.19**	**84**	P	**Pg**	**04 47 14.4**	**-1.4**
THL				S	**Sg**	**04 47 32.9**	**+0.4**
KBN	**Korca**	**1.20**	**11**	*i* PG	**Pn**	**04 47 16.3**	**+0.2**
KBN				*i* SG	**Sg**	**04 47 38.1**	**+5.1**
KBN	**Korca**	**1.20**	**11**	P	**Pg**	**04 47 16.9**	**-0.4**
KBN				S	**Sg**	**04 47 35.4**	**+2.4**
KBN	**Korca**	**1.20**	**11**	*i* Pg	**Pn**	**04 47 16.3**	**+0.2**
KBN	**Korca**	**1.20**	**11**	P	**Pg**	**04 47 16.9**	**-0.4**
KBN				S	**Sg**	**04 47 35.4**	**+2.4**
KBN				*i* Sg	**Sg**	**04 47 38.1**	**+5.1**
VLS	**Valsamata**	**1.27**	**176**	P	**Pn**	**04 47 17.1**	**+0.2**
VLS	**Valsamata**	**1.27**	**176**	P	**Pb**	**04 47 17.6**	**+0.2**
VLS				S	**Sg**	**04 47 35.5**	**+0.5**
VLS				AML	AML	04 47 38.3	
	comp=E,21996μm,0.9s						
VLS				AML	AML	04 47 41.1	
	comp=N,20757μm,0.7s						
VLS	**Valsamata**	**1.27**	**176**	P	**Pn**	**04 47 17.1**	**+0.2**
VLS	**Valsamata**	**1.27**	**176**	P	**Pb**	**04 47 17.9**	**+0.5**
VLS				S	**Sg**	**04 47 35.6**	**+0.5**
VLS	**Valsamata**	**1.27**	**176**	P	**Pn**	**04 47 17.1**	**+0.2**
KZN	**Kozani**	**1.31**	**48**	P	**Pn**	**04 47 17.4**	**-0.2**
KZN	**Kozani**	**1.31**	**48**	P	**Pn**	**04 47 17.3**	**-0.3**
KZN				S	**Sg**	**04 47 38.1**	**+1.7**
KZN				AML	AML	04 47 43.4	
	comp=E,26287μm,0.7s						
KZN				AML	AML	04 47 48.8	
	comp=N,17535μm,0.8s						
KZN	**Kozani**	**1.31**	**48**	P	**Pn**	**04 47 17.4**	**-0.2**
KZN	**Kozani**	**1.31**	**48**	P	**Pb**	**04 47 18.1**	**-0.1**
KZN				S	**Sg**	**04 47 37.6**	**+1.2**
KZN	**Kozani**	**1.31**	**48**	P	**Pn**	**04 47 17.4**	**-0.2**
KFL	**Anninata**	**1.35**	**170**	P	**Pn**	**04 47 18.1**	**0.0**
KFL				S	**Sg**	**04 47 37.1**	**-0.6**
KFL	**Anninata**	**1.35**	**170**	P	**Pb**	**04 47 18.9**	**0.0**
KFL				S	**Sg**	**04 47 37.8**	**0.0**
KFL	**Anninata**	**1.35**	**170**	P	**Pb**	**04 47 18.8**	**-0.1**
ANX	**Ano Chora**	**1.40**	**127**	P	**Pg**	**04 47 20.7**	**-0.4**
ANX				S	**Sg**	**04 47 41.1**	**+1.7**
ANX				AML	AML	04 47 46.5	
	comp=E,24490μm,0.7s						
ANX				AML	AML	04 47 46.9	
	comp=N,28069μm,0.8s						
ANX	**Ano Chora**	**1.40**	**127**	P	**Pg**	**04 47 20.7**	**-0.4**
ANX				S	**Sg**	**04 47 40.6**	**+1.3**
ANX	**Ano Chora**	**1.40**	**127**	P	**Pb**	**04 47 20.2**	**+0.4**
ANX				S	**Sg**	**04 47 41.1**	**+1.7**
AGG	**Agios Georgios**	**1.49**	**106**	*e*P	**Pb**	**04 47 21.5**	**+0.3**
AGG	**Agios Georgios**	**1.49**	**106**	*e*P	**Pg**	**04 47 22.8**	**+0.1**
AGG				S	**Sg**	**04 47 43.0**	**+0.8**
AGG	**Agios Georgios**	**1.49**	**106**	P	**Pn**	**04 47 20.5**	**+0.5**
AGG				S	**Sg**	**04 47 43.4**	**+1.3**
AGG				AML	AML	04 47 47.8	
	comp=N,48132μm,0.5s						
AGG				AML	AML	04 47 48.8	
	comp=E,45880μm,0.9s						
AGG	**Agios Georgios**	**1.49**	**106**	*e*Pn	**Pg**	**04 47 22.8**	**+0.1**
AGG				S	**Sg**	**04 47 43.0**	**+0.8**
AGG	**Agios Georgios**	**1.49**	**106**	*e*P	**Pg**	**04 47 22.8**	**+0.1**
AGG				S	**Sg**	**04 47 43.0**	**+0.8**
AGG	**Agios Georgios**	**1.49**	**106**	P	**Pn**	**04 47 20.8**	**+0.8**
AGG				S	**Sg**	**04 47 43.0**	**+0.8**
EFP	**Efpalio**	**1.50**	**132**	P	**Pg**	**04 47 23.4**	**+0.5**
EFP				S	**Sg**	**04 47 41.6**	**-0.9**
EFP				AML	AML	04 47 51.1	
	comp=N,16897μm,1.4s						
EFP				AML	AML	04 47 55.7	
	comp=E,16707μm,1.2s						
EFP	**Efpalio**	**1.50**	**132**	P	**Pg**	**04 47 22.6**	**-0.3**
EFP				S	**Sg**	**04 47 42.3**	**-0.2**
EFP	**Efpalio**	**1.50**	**132**	P	**Pg**	**04 47 22.6**	**-0.3**
EFP				S	**Sg**	**04 47 43.5**	**+1.0**
FNA	**Florina**	**1.50**	**27**	*i* PN	**Pb**	**04 47 21.9**	**+0.4**
FNA				*i* SN	**Sg**	**04 47 42.4**	**-0.1**
FNA	**Florina**	**1.50**	**27**	*e*P	**Pg**	**04 47 22.8**	**-0.2**
FNA	**Florina**	**1.50**	**27**	*e*Pg	**Pb**	**04 47 21.9**	**+0.4**
FNA				*e*Sg	**Sg**	**04 47 43.6**	**+1.1**
FNA	**Florina**	**1.50**	**27**	P	**Pb**	**04 47 21.1**	**-0.4**
FNA	**Florina**	**1.50**	**27**	P	**Pg**	**04 47 23.8**	**+0.8**
FNA				S	**Sg**	**04 47 43.7**	**+1.2**
FNA				AML	AML	04 47 48.4	
	comp=E,34213μm,0.6s						
FNA				AML	AML	04 47 56.4	
	comp=N,20622μm,0.6s						
FNA	**Florina**	**1.50**	**27**	P	**Pb**	**04 47 21.1**	**-0.4**
FNA	**Florina**	**1.50**	**27**	P	**Pb**	**04 47 21.1**	**-0.4**
FNA	**Florina**	**1.50**	**27**	*e*Pg	**Pb**	**04 47 21.9**	**+0.4**
FNA				*i* Sn	**Sg**	**04 47 42.4**	**-0.1**
FNA				S	**Sb**	**04 47 43.2**	**+3.0**
FNA	**Florina**	**1.50**	**27**	P	**Pb**	**04 47 21.1**	**-0.4**
UPR	**University Cam**	**1.54**	**138**	P	**Pb**	**04 47 22.6**	**+0.6**
UPR	**University Cam**	**1.54**	**138**	P	**Pb**	**04 47 22.8**	**+0.8**
KTI	**Kastanea**	**1.57**	**52**	P	**Pb**	**04 47 22.9**	**+0.2**
KTI	**

BIA	**Bitola**	**1.70**	**22**	P		**Pb**	**04 47 25.1**	**+0.3**
BIA	**Bitola**	**1.70**	**22**	P		**Pb**	**04 47 25.1**	**+0.3**
BIA	**Bitola**	**1.70**	**22**	*i* Pn		**Pg**	**04 47 25.9**	**-0.9**
BIA				*i* Sn		**Sg**	**04 47 47.7**	**-1.2**
DRO	**Drossia**	**1.77**	**147**	P		**Pb**	**04 47 26.4**	**+0.4**
DRO				S		**Sb**	**04 47 48.1**	**+0.3**
DRO				AML	AML		04 48 17.3	
	comp=E,17057µm,0.7s							
DRO				AML	AML		04 48 17.9	
	comp=N,11259µm,0.7s							
DRO	**Drossia**	**1.77**	**147**	P		**Pb**	**04 47 26.3**	**+0.4**
DRO				S		**Sb**	**04 47 48.8**	**+0.9**
DRO	**Drossia**	**1.77**	**147**	P		**Pb**	**04 47 25.8**	**-0.2**
DLFA	**Delphi**	**1.84**	**121**	P		**Pg**	**04 47 28.7**	**-0.7**
DLFA				S		**Sb**	**04 47 51.3**	**+1.4**
DLFA				AML	AML		04 47 59.5	
	comp=E,10690µm,1.2s							
DLFA				AML	AML		04 48 06.5	
	comp=N,13703µm,1.2s							
DLFA	**Delphi**	**1.84**	**121**	P		**Pb**	**04 47 27.9**	**+0.7**
DLFA				S		**Sb**	**04 47 51.2**	**+1.4**
DSF	**Desfina**	**1.89**	**122**	P		**Pb**	**04 47 29.4**	**+1.2**
DSF	**Desfina**	**1.89**	**122**	P		**Pb**	**04 47 28.2**	**+0.1**
DSF	**Desfina**	**1.89**	**122**	P		**Pb**	**04 47 28.2**	**+0.1**
DSF	**Desfina**	**1.89**	**122**	P		**Pb**	**04 47 28.1**	**+0.1**
FYTO	**Fytoko, Volos**	**1.90**	**90**	P		**Pb**	**04 47 27.4**	**-0.8**
FYTO	**Fytoko, Volos**	**1.90**	**90**	P		**Pb**	**04 47 27.4**	**-0.8**
FYTO	**Fytoko, Volos**	**1.90**	**90**	P		**Pb**	**04 47 27.4**	**-0.8**
KLV	**Kalavryta, Ach**	**1.91**	**137**	P		**Pb**	**04 47 29.0**	**+0.6**
KLV	**Kalavryta, Ach**	**1.91**	**137**	P		**Pb**	**04 47 28.5**	**+0.1**
KLV	**Kalavryta, Ach**	**1.91**	**137**	P		**Pb**	**04 47 28.5**	**+0.1**
KLV	**Kalavryta, Ach**	**1.91**	**137**	P		**Pb**	**04 47 28.5**	**+0.1**
TIR	**Tirane**	**1.96**	**346**	*i* PN		**Pb**	**04 47 29.2**	**0.0**
TIR				*i* SN		**Sb**	**04 47 54.0**	**+0.6**
TIR	**Tirane**	**1.96**	**346**	*e*Pn		**Pb**	**04 47 28.8**	**-0.5**
TIR				*e*Sn		**Sn**	**04 47 51.1**	**+0.5**
TIR	**Tirane**	**1.96**	**346**	P		**Pb**	**04 47 29.2**	**0.0**
TIR				S		**Sb**	**04 47 54.0**	**+0.6**
TIR	**Tirane**	**1.96**	**346**	P		**Pb**	**04 47 29.4**	**+0.1**
TIR				S		**Sb**	**04 47 53.8**	**+0.4**
TIR				AML	AML		04 48 12.1	
	comp=E,18799µm,0.9s							
TIR				AML	AML		04 48 19.2	
	comp=N,17258µm,1.1s							
TIR	**Tirane**	**1.96**	**346**	*e*Pn		**Pb**	**04 47 28.8**	**-0.5**
TIR				*e*Sn		**Sn**	**04 47 51.1**	**+0.5**
TIR				S		**Sb**	**04 47 53.8**	**+0.4**
KRUS	**Krusevo**	**2.01**	**17**	⇓*i* Pn		**Pb**	**04 47 30.1**	**0.0**
KRUS				*i* Sn		**Sb**	**04 47 56.3**	**+1.5**
GUR	**Goura**	**2.09**	**136**	P		**Pb**	**04 47 32.2**	**+0.7**
GUR				AML	AML		04 47 58.3	
	comp=E,8037µm,0.6s							
GUR				S		**Sb**	**04 47 58.7**	**+1.5**
GUR				AML	AML		04 48 10.4	
	comp=N,9800µm,0.8s							
GUR	**Goura**	**2.09**	**136**	P		**Pb**	**04 47 31.3**	**-0.2**
GUR	**Goura**	**2.09**	**136**	P		**Pb**	**04 47 31.3**	**-0.2**
GUR				S		**Sb**	**04 47 58.0**	**+0.8**
GUR	**Goura**	**2.09**	**136**	P		**Pb**	**04 47 31.3**	**-0.2**
XOR	**Xorichti**	**2.09**	**91**	P		**Pb**	**04 47 31.9**	**+0.3**
XOR				AML	AML		04 48 05.3	
	comp=E,6304µm,0.8s							
XOR				AML	AML		04 48 07.1	
	comp=N,12244µm,0.8s							
XOR	**Xorichti**	**2.09**	**91**	P		**Pn**	**04 47 30.1**	**+1.8**
XOR	**Xorichti**	**2.09**	**91**	P		**Pn**	**04 47 30.1**	**+1.8**
XOR	**Xorichti**	**2.09**	**91**	P		**Pn**	**04 47 30.1**	**+1.8**
GRG	**Griva**	**2.10**	**43**	*e*P		**Pb**	**04 47 30.6**	**-1.2**
GRG	**Griva**	**2.10**	**43**	P		**Pb**	**04 47 30.5**	**-1.2**
GRG	**Griva**	**2.10**	**43**	P		**Pn**	**04 47 30.2**	**+1.8**
GRG				S		**Sb**	**04 47 58.9**	**+1.4**
GRG				AML	AML		04 48 09.7	
	comp=N,11945µm,1.4s							
GRG				AML	AML		04 48 11.7	
	comp=E,12343µm,1.3s							
GRG	**Griva**	**2.10**	**43**	P		**Pb**	**04 47 30.5**	**-1.2**
GRG	**Griva**	**2.10**	**43**	P		**Pb**	**04 47 30.5**	**-1.2**
GRG				S		**Sb**	**04 47 58.2**	**+0.7**
GRG	**Griva**	**2.10**	**43**	P		**Pb**	**04 47 30.5**	**-1.2**
LKR	**Lokris**	**2.11**	**111**	P		**Pb**	**04 47 31.1**	**-0.7**
LKR	**Lokris**	**2.11**	**111**	P		**Pb**	**04 47 30.8**	**-1.0**
LKR	**Lokris**	**2.11**	**111**	P		**Pb**	**04 47 30.8**	**-1.0**
LKR	**Lokris**	**2.11**	**111**	P		**Pb**	**04 47 30.8**	**-1.0**
NEO	**Neokhori**	**2.12**	**93**	P		**Pb**	**04 47 31.1**	**-0.9**
NEO				AML	AML		04 48 12.0	
	comp=N,7939µm,0.8s							
NEO				AML	AML		04 48 23.3	
	comp=E,6241µm,0.9s							
NEO	**Neokhori**	**2.12**	**93**	P		**Pb**	**04 47 30.6**	**-1.4**
NEO	**Neokhori**	**2.12**	**93**	P		**Pb**	**04 47 31.1**	**-0.9**
NEO	**Neokhori**	**2.12**	**93**	P		**Pb**	**04 47 30.6**	**-1.4**
AMT	**Artemida-Makis**	**2.13**	**153**	P		**Pb**	**04 47 33.0**	**+0.8**
AMT	**Artemida-Makis**	**2.13**	**153**	P		**Pb**	**04 47 32.1**	**-0.1**
AMT	**Artemida-Makis**	**2.13**	**153**	P		**Pb**	**04 47 32.1**	**-0.1**
SMIA	**Simia**	**2.19**	**104**	P		**Pb**	**04 47 32.0**	**-1.1**
SMIA	**Simia**	**2.19**	**104**	P		**Pb**	**04 47 32.0**	**-1.1**
THAL	**Thalero**	**2.20**	**129**	P		**Pb**	**04 47 32.6**	**-0.8**
THAL	**Thalero**	**2.20**	**129**	P		**Pb**	**04 47 32.4**	**-1.0**
THAL	**Thalero**	**2.20**	**129**	P		**Pb**	**04 47 31.9**	**-1.5**
PROD	**Prodromos**	**2.22**	**121**	P		**Pb**	**04 47 32.4**	**-1.3**
PROD	**Prodromos**	**2.22**	**121**	P		**Pb**	**04 47 32.5**	**-1.3**
PHP	**Peshkopia**	**2.24**	**359**	*i* PN		**Pb**	**04 47 32.8**	**-1.2**
PHP				*i* SN		**Sb**	**04 48 01.5**	**0.0**
PHP	**Peshkopia**	**2.24**	**359**	P		**Pb**	**04 47 32.8**	**-1.2**
PHP				S		**Sb**	**04 48 01.4**	**0.0**
PHP	**Peshkopia**	**2.24**	**359**	*i* Pn		**Pb**	**04 47 32.8**	**-1.2**
PHP				S		**Sb**	**04 48 01.4**	**0.0**
THE	**Thessaloniki**	**2.24**	**57**	P		**Pn**	**04 47 32.0**	**+1.7**
THE	**Thessaloniki**	**2.24**	**57**	P		**Pb**	**04 47 32.7**	**-1.3**
THE	**Thessaloniki**	**2.24**	**57**	P		**Pn**	**04 47 32.0**	**+1.7**
THE	**Thessaloniki**	**2.24**	**57**	P		**Pb**	**04 47 32.7**	**-1.3**
THE	**Thessaloniki**	**2.24**	**57**	P		**Pn**	**04 47 32.0**	**+1.7**
HORT	**Hortiatis**	**2.31**	**59**	*e*P		**Pb**	**04 47 34.1**	**-1.2**
HORT	**Hortiatis**	**2.31**	**59**	P		**Pn**	**04 47 33.2**	**+1.9**
HORT				AML	AML		04 47 47.3	
	comp=E,3416µm,1.3s							
HORT				S		**Sb**	**04 48 04.1**	**+0.6**
HORT				AML	AML		04 48 18.2	
	comp=N,3336µm,0.9s							
HORT	**Hortiatis**	**2.31**	**59**	P		**Pn**	**04 47 32.8**	**+1.4**
HORT	**Hortiatis**	**2.31**	**59**	P		**Pb**	**04 47 33.5**	**-1.8**
HORT				S		**Sb**	**04 48 03.4**	**-0.2**
HORT	**Hortiatis**	**2.31**	**59**	P		**Pn**	**04 47 32.8**	**+1.4**
SKIA	**Skiathos**	**2.33**	**96**	P		**Pb**	**04 47 34.2**	**-1.2**
SKIA	**Skiathos**	**2.33**	**96**	P		**Pb**	**04 47 34.1**	**-1.4**
SKIA	**Skiathos**	**2.33**	**96**	P		**Pn**	**04 47 33.6**	**+2.1**
LTK	**Loutraki**	**2.40**	**125**	P		**Pn**	**04 47 34.4**	**+1.8**
LTK	**Loutraki**	**2.40**	**125**	P		**Pn**	**04 47 34.6**	**+2.1**
LTK	**Loutraki**	**2.40**	**125**	P		**Pn**	**04 47 34.7**	**+2.2**
LTK	**Loutraki**	**2.40**	**125**	P		**Pn**	**04 47 34.6**	**+2.1**
LOUT	**Loutraki**	**2.43**	**126**	P		**Pn**	**04 47 34.8**	**+1.9**
LOUT	**Loutraki**	**2.43**	**126**	P		**Pn**	**04 47 34.8**	**+1.9**
PLG	**Polygyros**	**2.46**	**67**	P		**Pn**	**04 47 34.7**	**+1.4**
PLG	**Polygyros**	**2.46**	**67**	P		**Pn**	**04 47 34.4**	**+1.1**
PLG				S		**Sn**	**04 48 04.3**	**+1.4**
PLG				AML	AML		04 48 15.5	
	comp=E,2775µm,0.7s							
PLG				AML	AML		04 48 18.5	
	comp=N,3954µm,0.7s							
PLG	**Polygyros**	**2.46**	**67**	P		**Pn**	**04 47 34.7**	**+1.4**
PLG	**Polygyros**	**2.46**	**67**	P		**Pn**	**04 47 35.0**	**+1.7**
PLG				S		**Sn**	**04 48 05.2**	**+2.3**
PLG	**Polygyros**	**2.46**	**67**	P		**Pn**	**04 47 34.7**	**+1.4**
VAY	**Valandovo**	**2.46**	**40**	*e*Pn		**Pb**	**04 47 35.9**	**-1.8**
VAY				*e*Sn		**Sb**	**04 48 07.1**	**-0.6**
VAY	**Valandovo**	**2.46**	**40**	P		**Pn**	**04 47 35.1**	**+1.8**
VAY	**Valandovo**	**2.46**	**40**	P		**Pn**	**04 47 35.1**	**+1.8**
VAY	**Valandovo**	**2.46**	**40**	P		**Pn**	**04 47 35.1**	**+1.8**
VAY	**Valandovo**	**2.46**	**40**	*e*Pn		**Pb**	**04 47 35.9**	**-1.8**
VAY				*e*Sn		**Sb**	**04 48 07.1**	**-0.6**
VAY	**Valandovo**	**2.46**	**40**	P		**Pn**	**04 47 35.1**	**+1.8**
VAY	**Valandovo**	**2.46**	**40**	*i* Pn		**Pn**	**04 47 35.6**	**+2.3**
VAY				*i* Pn		Sg	04 48 23.5	+10
	comp=N,3µm,1.1s							
VAY				*e*Lg		Lg	04 48 28.6	
	comp=E,2µm,0.9s							
PAIG	**Paliouri**	**2.51**	**78**	P		**Pn**	**04 47 35.2**	**+1.2**
PAIG	**Paliouri**	**2.51**	**78**	P		**Pn**	**04 47 35.6**	**+1.6**
PAIG				AML	AML		04 48 18.6	
	comp=N,3219µm,0.8s							
PAIG				AML	AML		04 48 20.0	
	comp=E,3457µm,1.2s							
PAIG	**Paliouri**	**2.51**	**78**	P		**Pn**	**04 47 35.2**	**+1.2**
PAIG	**Paliouri**	**2.51**	**78**	P		**Pn**	**04 47 36.1**	**+2.1**
PAIG	**Paliouri**	**2.51**	**78**	P		**Pn**	**04 47 35.2**	**+1.2**
KNT	**Kendrikon**	**2.52**	**46**	*e*P		**Pn**	**04 47 36.2**	**+2.1**
KNT	**Kendrikon**	**2.52**	**46**	P		**Pn**	**04 47 36.2**	**+2.1**
KNT	**Kendrikon**	**2.52**	**46**	P		**Pn**	**04 47 35.6**	**+1.4**
KNT	**Kendrikon**	**2.52**	**46**	P		**Pn**	**04 47 36.2**	**+2.1**
KNT	**Kendrikon**	**2.52**	**46**	P		**Pn**	**04 47 36.1**	**+2.0**
KNT	**Kendrikon**	**2.52**	**46**	P		**Pn**	**04 47 36.2**	**+2.1**
ITM	**Ithomi**	**2.53**	**153**	P		**Pn**	**04 47 36.8**	**+2.5**
ITM	**Ithomi**	**2.53**	**153**	P		**Pn**	**04 47 36.1**	**+1.8**
ITM	**Ithomi**	**2.53**	**153**	P		**Pn**	**04 47 36.8**	**+2.5**
ITM	**Ithomi**	**2.53**	**153**	P		**Pn**	**04 47 36.1**	**+1.8**
VLX	**Vlachokerasia**	**2.55**	**144**	P		**Pb**	**04 47 38.5**	**-0.8**
VLX				S		**Sn**	**04 48 07.8**	**+2.6**
VLX				AML	AML		04 48 31.1	
	comp=E,6085µm,0.9s							
VLX				AML	AML		04 48 36.3	
	comp=N,7528µm,1.1s							
VLX	**Vlachokerasia**	**2.55**	**144**	P		**Pb**	**04 47 37.5**	**-1.8**
VLX	**Vlachokerasia**	**2.55**	**144**	P		**Pb**	**04 47 37.5**	**-1.8**
VLX				S		**Sn**	**04 48 08.2**	**+3.0**
VLX	**Vlachokerasia**	**2.55**	**144**	P		**Pb**	**04 47 37.5**	**-1.8**
SOH	**Sokhos**	**2.59**	**57**	P		**Pn**	**04 47 37.3**	**+2.1**
SOH	**Sokhos**	**2.59**	**57**	P		**Pb**	**04 47 38.6**	**-1.4**
SOH				AML	AML		04 48 13.1	
	comp=N,5357µm,0.7s							
SOH				AML	AML		04 48 20.6	
	comp=E,3776µm,1.2s							
SOH	**Sokhos**	**2.59**	**57**	P		**Pn**	**04 47 37.3**	**+2.1**
SOH	**Sokhos**	**2.59**	**57**	P		**Pn**	**04 47 37.3**	**+2.1**
SOH	**Sokhos**	**2.59**	**57**	P		**Pn**	**04 47 37.3**	**+2.1**
CGL1	**Ceglie Messapi**	**2.61**	**299**	*i* Pn		**Pn**	**04 47 36.1**	**+0.7**
SKO	**Skopje**	**2.63**	**16**	*e*Pn		**Pn**	**04 47 38.1**	**+2.5**
SKO	**Skopje**	**2.63**	**16**	P		**Pn**	**04 47 38.1**	**+2.5**
SKO	**Skopje**	**2.63**	**16**	P		**Pn**	**04 47 38.1**	**+2.5**
SKO	**Skopje**	**2.63**	**16**	P		**Pn**	**04 47 38.1**	**+2.5**
SKO	**Skopje**	**2.63**	**16**	P		**Pn**	**04 47 38.1**	**+2.5**
SKO	**Skopje**	**2.63**	**16**	*i* Pn		**Pb**	**04 47 38.4**	**-2.2**
ALNA	**Alonissos**	**2.64**	**95**	P		**Pb**	**04 47 38.6**	**-2.2**
ALNA	**Alonissos**	**2.64**	**95**	P		**Pb**	**04 47 38.5**	**-2.2**
PUK	**Puka**	**2.64**	**350**	*i* PN		**Pn**	**04 47 38.1**	**+2.3**
PUK				*i* SN		**Sb**	**04 48 10.5**	**-2.4**
PUK	**Puka**	**2.64**	**350**	*i* Pn		**Pn**	**04 47 38.1**	**+2.3**
PUK				*i* Sn		**Sb**	**04 48 10.5**	**-2.4**
TAR1	**Taranto**	**2.69**	**295**	*i* Pn		**Pn**	**04 47 36.2**	**-0.2**
ULC	**Ulcinj**	**2.69**	**340**	⇓*i* PN		**Pn**	**04 47 37.8**	**+1.3**
ULC				*e*Sn		**Sn**	**04 48 11.8**	**+3.2**
ULC	**Ulcinj**	**2.69**	**340**	⇓*i* Pn		**Pn**	**04 47 37.8**	**+1.3**
ULC				*e*Sn		**Sn**	**04 48 11.8**	**+3.2**
PYL	**PYLOS**	**2.73**	**158**	P		**Pn**	**04 47 39.3**	**+2.3**
PYL	**PYLOS**	**2.73**	**158**	P		**Pn**	**04 47 38.1**	**+1.1**
PYL	**PYLOS**	**2.73**	**158**	P		**Pn**	**04 47 39.5**	**+2.5**
PYL	**PYLOS**	**2.73**	**158**	P		**Pn**	**04 47 38.1**	**+1.1**
FASA	**Fasano**	**2.77**	**301**	*i* Pn		**Pn**	**04 47 38.3**	**+0.8**
MASS	**Massafra**	**2.83**	**296**	*i* Pn		**Pn**	**04 47 39.1**	**+0.7**
OUR	**Ouranopolis**	**2.83**	**71**	*e*P		**Pb**	**04 47 41.7**	**-2.3**
OUR	**Ouranopolis**	**2.83**	**71**	P		**Pn**	**04 47 40.6**	**+2.2**
OUR	**Ouranopolis**	**2.83**	**71**	P		**Pn**	**04 47 40.4**	**+2.0**
OUR				AML	AML		04 48 17.9	
	comp=N,3668µm,1.0s							
OUR				AML	AML		04 48 20.2	
	comp=E,4130µm,0.7s							
OUR	**Ouranopolis**	**2.83**	**71**	P		**Pn**	**04 47 40.6**	**+2.2**
OUR	**Ouranopolis**	**2.83**	**71**	P		**Pn**	**04 47 40.6**	**+2.2**
OUR	**Ouranopolis**	**2.83**	**71**	P		**Pn**	**04 47 40.6**	**+2.2**
DID	**Didima**	**2.90**	**131**	P		**Pn**	**04 47 40.6**	**+1.3**
DID	**Didima**	**2.90**	**131**	P		**Pn**	**04 47 40.6**	**+1.3**
DID	**Didima**	**2.90**	**131**	P		**Pn**	**04 47 41.3**	**+2.0**
DID	**Didima**	**2.90**	**131**	P		**Pn**	**04 47 40.6**	**+1.3**
SRS	**Serrai**	**2.90**	**54**	P		**Pn**	**04 47 41.4**	**+2.0**
SRS	**Serrai**	**2.90**	**54**	P		**Pn**	**04 47 40.9**	**+1.5**
SRS				AML	AML		04 48 27.6	
	comp=N,2282µm,0.8s							
SRS				AML	AML		04 48 45.5	
	comp=E,2805µm,1.1s							
SRS	**Serrai**	**2.90**	**54**	P		**Pn**	**04 47 41.4**	**+2.0**
SRS	**Serrai**	**2.90**	**54**	P		**Pn**	**04 47 41.4**	**+2.0**
SRS				*e*Sn		**Sb**	**04 48 19.0**	**-1.5**
SRS	**Serrai**	**2.90**	**54**	P		**Pn**	**04 47 41.4**	**+2.0**
DRME	**Dracevica, Mon**	**2.91**	**341**	⇑*i* Pn		**Pn**	**04 47 41.1**	**+1.5**
DRME				*e*Sn		**Sn**	**04 48 17.5**	**+3.4**
DRME	**Dracevica, Mon**	**2.91**	**341**	⇑*i* Pn		**Pn**	**04 47 41.1**	**+1.5**
DRME				*e*Sn		**Sn**	**04 48 17.5**	**+3.4**
ATH	**Athens Observa**	**2.92**	**119**	P		**Pn**	**04 47 41.9**	**+2.3**
ATH	**Athens Observa**	**2.92**	**119**	P		**Pn**	**04 47 42.0**	**+2.3**
ATH				AML	AML		04 48 32.7	
	comp=N,4257µm,0.8s							
ATH				AML	AML		04 48 48.9	
	comp=E,3598µm,1.1s							
ATH	**Athens Observa**	**2.92**	**119**	P		**Pn**	**04 47 41.9**	**+2.3**
ATH	**Athens Observa**	**2.92**	**119**	P		**Pn**	**04 47 42.2**	**+2.6**
ATH	**Athens Observa**	**2.92**	**119**	P		**Pn**	**04 47 41.9**	**+2.3**
KRND	**KRANIDI**	**2.93**	**134**	P		**Pn**	**04 47 41.2**	**+1.4**
KRND	**KRANIDI**	**2.93**	**134**	P		**Pn**	**04 47 41.9**	**+2.1**
KRND	**KRANIDI**	**2.93**	**134**	P		**Pn**	**04 47 41.7**	**+1.9**
ATHU	**Athens Univers**	**2.97**	**119**	P		**Pn**	**04 47 41.8**	**+1.5**
ATHU				S		**Sn**	**04 48 17.9**	**+2.3**
ATHU				AML	AML		04 48 44.4	
	comp=N,1256µm,1.5s							
ATHU				AML	AML		04 48 48.3	
	comp=E,1282µm,1.0s							
ATHU	**Athens Univers**	**2.97**	**119**	P		**Pn**	**04 47 42.4**	**+2.1**
ATHU				S		**Sn**	**04 48 18.3**	**+2.8**
PTL	**Penteli**	**2.98**	**117**	P		**Pn**	**04 47 42.2**	**+1.6**
PTL	**Penteli**	**2.98**	**117**	P		**Pn**	**04 47 42.9**	**+2.4**
PTL	**Penteli**	**2.98**	**117**	P		**Pn**	**04 47 42.9**	**+2.4**
PTL	**Penteli**	**2.98**	**117**	P		**Pn**	**04 47 42.9**	**+2.4**
VLY	**Voula,Athens**	**3.04**	**121**	P		**Pn**	**04 47 43.1**	**+1.8**
VLY	**Voula,Athens**	**3.04**	**121**	P		**Pn**	**04 47 43.2**	**+2.0**
VLY	**Voula,Athens**	**3.04**	**121**	P		**Pn**	**04 47 43.5**	**+2.3**
VLY	**Voula,Athens**	**3.04**	**121**	P		**Pn**	**04 47 43.2**	**+2.0**
DYR	**Agios Nikonas**	**3.05**	**151**	P		**Pn**	**04 47 43.5**	**+2.1**
DYR	**Agios Nikonas**	**3.05**	**151**	P		**Pn**	**04 47 43.8**	**+2.4**
BUM	**Brajici-Budva**	**3.10**	**338**	⇓*i* Pn		**Pn**	**04 47 43.2**	**+1.0**
BUM				*e*Sn		**Sn**	**04 48 21.1**	**+2.3**
BUM	**Brajici-Budva**	**3.10**	**338**	⇓*i* Pn		**Pn**	**04 47 43.2**	**+1.0**
BUM				*e*Sn		**Sn**	**04 48 21.1**	**+2.3**
PDG	**Podgorica**	**3.13**	**343**	*e*Pn		**Pn**	**04 47 43.8**	**+1.3**
PDG				*e*Sn		**Sn**	**04 48 18.8**	**-0.6**
PDG	**Podgorica**	**3.13**	**343**	*e*Pn		**Pn**	**04 47 43.8**	**+1.3**
PDG				*e*Sn		**Sn**	**04 48 18.8**	**-0.6**
TTG	**Podgorica**	**3.13**	**343**	⇓*i* Pn		**Pn**	**04 47 44.1**	**+1.6**
TTG				*e*Sn		**Sn**	**04 48 22.6**	**+3.2**
PVY	**Plav**	**3.17**	**353**	⇑*i* Pn		**Pn**	**04 47 45.6**	**+2.4**
PVY				*e*Sn		**Sn**	**04 48 23.8**	**+3.1**
PVY	**Plav**	**3.17**	**353**	⇑*i* Pn		**Pn**	**04 47 45.6**	**+2.4**
PVY				*e*Sn		**Sn**	**04 48 23.8**	**+3.1**
NVR	**Nevrokopi**	**3.20**	**52**	P		**Pn**	**04 47 45.1**	**+1.5**
NVR				S		**Sn**	**04 48 23.1**	**+1.8**
NVR				AML	AML		04 48 47.6	
	comp=N,1737µm,1.3s							
NVR				AML	AML		04 48 54.0	
	comp=E,1998µm,1.1s							
NVR	**Nevrokopi**	**3.20**	**52**	P		**Pn**	**04 47 45.7**	**+2.1**
NVR	**Nevrokopi**	**3.20**	**52**	P		**Pn**	**04 47 45.7**	**+2.1**
NVR				S		**Sn**	**04 48 23.7**	**+2.4**
NVR	**Nevrokopi**	**3.20**	**52**	P		**Pn**	**04 47 45.7**	**+2.1**
SKY	**Skiros Island**	**3.21**	**99**	P		**Pn**	**04 47 45.7**	**+2.2**
SKY	**Skiros Island**	**3.21**	**99**	P		**Pn**	**04 47 45.8**	**+2.2**
SKY	**Skiros Island**	**3.21**	**99**	P		**Pn**	**04 47 46.0**	**+2.4**
SKY	**Skiros Island**	**3.21**	**99**	P		**Pn**	**04 47 45.8**	**+2.2**
BAI	**Bari**	**3.22**	**302**	*i* Pn		**Pn**	**04 47 44.5**	**+0.7**
SG1	**Sgolgore (BA)**	**3.24**	**297**	*i* Pn		**Pn**	**04 47 44.8**	**+0.8**
MMB	**Musomiste**	**3.27**	**48**	P		**Pn**	**04 47 44.1**	**-0.4**
MMB				S		**Sn**	**04 48 27.0**	**+4.1**
MMB	**Musomiste**	**3.27**	**48**	P		**Pn**	**04 47 44.1**	**-0.4**
MMB				S		**Sn**	**04 48 27.0**	**+4.1**
CEME	**Cevo**	**3.32**	**340**	⇑*i* Pn		**Pn**	**04 47 46.1**	**+0.9**
CEME				*e*Sn		**Sn**	**04 48 27.1**	**+2.8**
CEME	**Cevo**	**3.32**	**340**	⇑*i* Pn		**Pn**	**04 47 46.1**	**+0.9**
CEME				*e*Sn		**Sn**	**04 48 27.1**	**+2.8**
KVLA	**Kavala**	**3.34**	**62**	P		**Pn**	**04 47 46.6**	**+1.2**
KVLA				AML	AML		04 48 33.0	
	comp=N,2614µm,0.7s							
KVLA				AML	AML		04 49 00.7	
	comp=E,1921µm,2.2s							
KVLA	**Kavala**	**3.34**	**62**	P		**Pn**	**04 47 47.3**	**+2.0**
VLI	**Veliai**	**3.34**	**144**	P		**Pn**	**04 47 47.2**	**+1.9**
VLI	**Veliai**	**3.34**	**144**	P		**Pn**	**04 47 47.7**	**+2.3**
VLI	**Veliai**	**3.34**	**144**	P		**Pn**	**04 47 47.7**	**+2.3**
VLI	**Veliai**	**3.34**	**144**	P		**Pn**	**04 47 47.7**	**+2.3**
HCY	**Herceg Novi**	**3.36**	**334**	⇑*i* Pn		**Pn**	**04 47 46.1**	**+0.4**
HCY				*e*Sn		**Sn**	**04 48 28.0**	**+2.9**
HCY	**Herceg Novi**	**3.36**	**334**	P		**Pn**	**04 47 46.3**	**+0.6**
HCY	**Herceg Novi**	**3.36**	**334**	P		**Pn**	**04 47 46.3**	**+0.6**
HCY				*e*Sn		**Sn**	**04 48 28.0**	**+2.9**
KARY	**Karystos**	**3.39**	**113**	P		**Pn**	**04 47 48.2**	**+2.0**
KARY	**Karystos**	**3.39**	**113**	P		**Pn**	**04 47 48.6**	**+2.4**
KARY	**Karystos**	**3.39**	**113**	P		**Pn**	**04 47 48.5**	**+2.4**
KAVA	**Kavala**	**3.45**	**62**	P		**Pn**	**04 47 48.2**	**+1.3**
KAVA				AML	AML		04 48 41.8	
	comp=N,2801µm,0.8s							
KAVA				AML	AML		04 48 47.6	
	comp=E,1340µm,0.8s							
KAVA	**Kavala**	**3.45**	**62**	P		**Pn**	**04 47 48.3**	**+1.4**
KAVA	**Kavala**	**3.45**	**62**	P		**Pn**	**04 47 48.9**	**+2.0**
KAVA	**Kavala**	**3.45**	**62**	P		**Pn**	**04 47 48.3**	**+1.4**
BEY	**Berane**	**3.45**	**353**	⇓*i* Pn		**Pn**	**04 47 49.2**	**+2.1**
BEY				*e*Sn		**Sn**	**04 48 30.4**	**+2.8**
IVA	**Berane**	**3.45**	**353**	⇓*i* Pn		**Pn**	**04 47 49.2**	**+2.1**
IVA				*e*Sn		**Sn**	**04 48 30.4**	**+2.8**
KOME	**Kolasin**	**3.48**	**348**	⇑*i* Pn		**Pn**	**04 47 50.1**	**+2.6**
KOME				*e*Sn		**Sn**	**04 48 31.2**	**+2.9**
KOME	**Kolasin**	**3.48**	**348**	⇑*i* Pn		**Pn**	**04 47 50.1**	**+2.6**
KOME				*e*Sn		**Sn**	**04 48 31.2**	**+2.9**
BARS	**Barje**	**3.52**	**16**	*e*Pn		**Pn**	**04 47 50.0**	**+2.2**
BARS				*e*Sn		**Sn**	**04 48 30.4**	**+1.4**
BARS	**Barje**	**3.52**	**16**	*e*Pn		**Pn**	**04 47 50.0**	**+2.2**
BARS				*e*Sn		**Sn**	**04 48 30.4**	**+1.4**
NKME	**Niksic**	**3.52**	**341**	⇑*i* Pn		**Pn**	**04 47 49.4**	**+1.5**
NKME				*e*Sn		**Sn**	**04 48 32.1**	**+3.0**
NKME	**Niksic**	**3.52**	**341**	⇑*i* Pn		**

DIVS	Divibare	4.67	356	*e*Pn	Pn	04 48 04.4	+0.7	CRES	Cresnjev	7.38 331 ⇑*i*Pn	Pn	04 48 41.0	+0.1	KIS	Kishinev	9.69 36	*e*P	Pn	04 49 10.0	-2.5
DIVS	Divibare	4.67	356	*e*Pn	Pn	04 48 04.9	+1.2	CRES		*e*Sn	Sn	04 49 59.6	-4.5	KIS			*e*LQ	LQ	04 51 48.0	
GELI	Tayfur-Gelibol	4.70	76	*e*P	Pn	04 48 06.3	+2.2	CRES	Cresnjev	7.38 331 ⇑*i*Pn	Pn	04 48 41.0	+0.1	KIS			LRM	MLR	04 53 50.0	
TRUS	Trudelj	4.78	359	*e*Pn	Pn	04 48 06.4	+1.2	MANR	Mangalia	7.47 52 ⇓*i*P	Pn	04 48 44.4	+2.3		comp=Z,2µm,12.0s					
TRUS	Trudelj	4.78	359	*e*Pn	Pn	04 48 06.4	+1.2	BEHE	Becsehely	7.53 340 *e*Pn	Pn	04 48 43.6	+0.6	KIS	Kishinev	9.69 36	*e*P	Pn	04 49 10.0	-2.5
ERIK	Erikli-Kesan	4.78	73	*e*P	Pn	04 48 07.2	+2.0	BEHE		*ex*	x	04 50 06.5		KIS			MLR	MLR		
IMMV	Iera Moni Meta	4.85	144	P	Pn	04 48 08.0	+1.8	BEHE	Becsehely	7.53 340 *e*Pn	Pn	04 48 43.6	+0.6		comp=Z,2µm,13.0s					
IMMV				AML	AML	04 49 13.8		BEHE		*e*Sn	Sn	04 50 06.5	-1.4	KIS			MLR	MLR		
	comp=E,1192µm,0.9s							CJR	Cluj-Napoca	7.61 16 P	Pn	04 48 48.6	+4.5		comp=N,1µm,14.0s					
IMMV				AML	AML	04 49 17.0		GRER		7.63 37 ⇑*i*P	Pn	04 48 49.4	+5.1	KIS			MLR	MLR		
	comp=N,1614µm,0.8s							TIRR	Tirgusor	7.74 47 *e*P	Pn	04 48 48.3	+2.5		comp=E,2µm,12.0s					
IMMV	Iera Moni Meta	4.85	144	P	Pn	04 48 08.8	+2.6	TIRR	Tirgusor	7.74 47 ⇑*i*P	Pn	04 48 48.7	+2.9	KIS			MLR	MLR		
IMMV	Iera Moni Meta	4.85	144	P	Pn	04 48 06.8	+0.6	TIRR	Tirgusor	7.74 47 *e*Pn	Pn	04 48 48.3	+2.5		comp=Z,2µm,12.0s					
URLA	Izmir	4.88	101	*e*P	Pn	04 48 08.7	+2.0	TIRR	Tirgusor	7.74 47 *e*P	Pn	04 48 48.3	+2.5	LANS	Liptovska Anna	9.73 356	*e*P	Pn	04 49 18.4	+5.2
THR5	Thira Island,	4.89	127	P	Pn	04 48 09.4	+2.7	GULT	Gulveren	7.77 80 *e*P	Pn	04 48 49.2	+2.9	LANS	Liptovska Anna	9.73 356	*e*PN	Pn	04 49 18.4	+5.2
THR5	Thira Island,	4.89	127	P	Pn	04 48 09.4	+2.7	PLOR	Plostina	7.85 33 P	Pn	04 48 51.0	+3.7	LANS			*e*		04 49 29.8	
LPK	Lapseki	4.91	77	*e*P	Pn	04 48 08.3	+1.3	PLOR	Plostina	7.85 33 ⇓*i*P	Pn	04 48 51.0	+3.7	NIE	Niedzica	9.97 359	*e*P	Pn	04 49 19.5	+3.0
THR2	Thira island,	4.92	126	P	Pn	04 48 09.9	+2.7	PLOR	Plostina	7.85 33 ⇑*i*P	Pn	04 48 51.0	+3.7	NIE	Niedzica	9.97 359	*e*P	Pn	04 49 19.5	+3.0
THR2	Thira island,	4.92	126	P	Pn	04 48 09.9	+2.7	VRI	Vrincioaia	7.89 34 P	Pn	04 48 52.0	+4.1	NIE	Niedzica	9.97 359	*e*P	Pn	04 49 19.5	+3.0
THR2	Thira island,	4.92	126	P	Pn	04 48 09.9	+2.7	VRI	Vrincioaia	7.89 34 ⇓*i*P	Pn	04 48 52.1	+4.1	STHS	Stebnicka Huta	9.99 3	*e*P	Pn	04 49 18.4	+1.8
THR3	Thira Island,	4.92	126	P	Pn	04 48 10.1	+2.9	VRI	Vrincioaia	7.89 34 ⇑*i*P	Pn	04 48 52.0	+4.1	STHS	Stebnicka Huta	9.99 3	*e*P	Pn	04 49 18.4	+1.8
THR3	Thira Island,	4.92	126	P	Pn	04 48 10.1	+2.9	KSL	Kastellorizon	7.91 112 P	Pn	04 48 53.5	+5.2	STHS	Stebnicka Huta	9.99 3	*e*PN	Pn	04 49 18.4	+1.8
THR3	Thira Island,	4.92	126	P	Pn	04 48 10.1	+2.9	KSL	Kastellorizon	7.91 112 P	Pn	04 48 53.4	+5.2	WTTA	Wattenberg	10.13 323	Pn	Pn	04 49 20.0	+1.3
THR6	Thira Island,	4.96	127	P	Pn	04 48 10.3	+2.7	KSL	Kastellorizon	7.91 112 P	Pn	04 48 53.4	+5.2		comp=Z,18nm,0.5s					
THR6	Thira Island,	4.96	127	P	Pn	04 48 10.3	+2.7	LJU	Ljubljana	7.92 328 P	Pn	04 48 48.4	+0.1	WTTA	Wattenberg	10.13 323	*e*Pn	Pn	04 49 20.0	+1.3
THR6	Thira Island,	4.96	127	P	Pn	04 48 10.3	+2.7	LJU	Ljubljana	7.92 328 P	Pn	04 48 48.4	+0.1		comp=Z,18nm,0.5s					
THR8	Santorini-Mono	4.97	126	P	Pn	04 48 10.2	+2.4	ODBI	Odobesti	7.96 35 ⇑*i*P	Pn	04 48 53.9	+5.1	BR131	Keskin Array S	10.16 84	*e*Pn	Pn	04 49 23.1	+4.0
THR8	Santorini-Mono	4.97	126	P	Pn	04 48 10.2	+2.4	TRI	Trieste	7.99 324 *e*P	Pn	04 48 48.6	-0.6	BR131	Keskin Array S	10.16 84	Pn	Pn	04 49 19.4	+0.3
SANT	Santorini	4.98	126	P	Pn	04 48 10.4	+2.4	TRI		*e*		04 50 14.0		BR131	Keskin Array S	10.16 84	P	Pn	04 49 19.4	+0.3
SANT	Santorini	4.98	126	P	Pn	04 48 10.4	+2.4	TRI	Trieste	7.99 324 *e*Pn	Pn	04 48 48.6	-0.6	BR131	Keskin Array S	10.16 84	P	Pn	04 49 19.4	+0.3
SANT	Santorini	4.98	126	P	Pn	04 48 10.4	+2.4	TRI		*e*Sn	Sn	04 50 14.0	-5.0	BR131	Keskin Array S	10.16 84	*e*Pn	Pn	04 49 23.1	+4.0
SANT	Santorini	4.98	126	P	Pn	04 48 10.4	+2.4	TRI	Trieste	7.99 324 *e*P	Pn	04 48 48.6	-0.6	BRTR	Keskin Array B	10.16 84	Pn	Pn	04 49 22.1	+3.0
KUBS	Kucevo	5.04	10	*e*Pn	Pn	04 48 09.1	+0.3	PETR	Petresti	8.00 36 ⇑*i*P	Pn	04 48 54.1	+4.7		comp=Z,0.1nm,0.3s,baz=271,slow=14,SNR=24					
KUBS				*e*Sn	Sn	04 49 06.2	-0.4	CFR	Carcaliu	8.05 42 P	Pn	04 48 53.7	+3.6	WATA	Walderalm	10.21 324	Pn	Pn	04 49 20.8	+1.0
KUBS	Kucevo	5.04	10	*e*Pn	Pn	04 48 09.1	+0.3	CFR	Carcaliu	8.05 42 ⇑*i*P	Pn	04 48 53.7	+3.6		comp=Z,11nm,0.3s,SNR=26					
KUBS				*e*Sn	Sn	04 49 06.2	-0.4	CFR	Carcaliu	8.05 42 P	Pn	04 48 53.7	+3.6	WATA	Walderalm	10.21 324	*e*Pn	Pn	04 49 20.8	+1.0
TEKS	Tekeris	5.15	352	*e*Pn	Pn	04 48 11.3	+1.0	CSKK	Cs˙ˇkako	8.08 349 *e*Pn	Pn	04 48 53.3	+2.8		comp=Z,11nm,0.3s,SNR=26					
TEKS				*e*Sn	Sn	04 49 06.3	-3.0	CSKK	Cs˙ˇkako	8.08 349 *e*Pn	Pn	04 48 53.3	+2.8	ILGA	Ilgaz	10.24 77	*e*Pn	Pn	04 49 26.0	+5.7
TEKS	Tekeris	5.15	352	*e*Pn	Pn	04 48 11.3	+1.0	BUD	Budapest	8.11 353 P	Pn	04 48 51.4	+0.6	VRAC	Vranov	10.25 346	Pn	Pn	04 49 20.9	+0.6
VAE	Valguarnera	5.16	250	Pn	Pn	04 48 11.6	+1.1	BUD	Budapest	8.11 353 P	Pn	04 48 51.4	+0.6		comp=Z,0.3nm,0.3s,baz=176,slow=14,SNR=2.8					
	comp=N,1.8nm,0.3s,baz=94,slow=2.6,SNR=14							ARCR	ARCALIA	8.14 19 ⇓*i*P	Pn	04 48 54.5	+3.2	VRAC	Vranov	10.25 346 ⇑*i*P		Pn	04 49 20.8	+0.6
VAE				Sn	Sn	04 49 11.4	+1.8	ARCR	ARCALIA	8.14 19 ⇑*i*P	Pn	04 48 55.6	+4.3	KWP	Kalwaria Pacla	10.31 8	*e*P	Pn	04 49 24.1	+3.1
	comp=N,8.1nm,0.3s,baz=17,slow=20,SNR=3.4							ARCR	ARCALIA	8.14 19 ⇓*i*P	Pn	04 48 54.5	+3.2	KWP	Kalwaria Pacla	10.31 8	*e*P	Pn	04 49 24.1	+3.1
PVL	Pavlikeni	5.24	42	P	Pn	04 48 11.9	+0.4	SOKA	Soboth	8.26 333 Pn	Pn	04 48 53.2	+0.2	KWP	Kalwaria Pacla	10.31 8	*e*P	Pn	04 49 24.1	+3.1
PVL	Pavlikeni	5.24	42	P	Pn	04 48 11.9	+0.4		comp=N,4.1nm,0.2s					FUORN	Ofenpass-Fuorn	10.36 317	*e*Pn	Pn	04 49 24.4	+2.4
SMG	Samos	5.27	107	P	Pn	04 48 14.2	+2.3	SOKA	Soboth	8.26 333 *e*Pn	Pn	04 48 53.2	+0.2	FUORN	Ofenpass-Fuorn	10.36 317	*e*Pn	Pn	04 49 24.4	+2.4
SMG	Samos	5.27	107	P	Pn	04 48 14.6	+2.7		comp=N,4.1nm,0.2s					SORM	Soroca	10.38 31 P		Pn	04 49 24.6	+2.7
SMG	Samos	5.27	107	P	Pn	04 48 14.6	+2.7	SOKA		Sn	Sn	04 50 20.4	-5.5	SORM	Soroca	10.38 31 ⇑*i*P		Pn	04 49 24.6	+2.7
SMG	Samos	5.27	107	P	Pn	04 48 14.6	+2.7		comp=N,36nm,0.5s					SORM	Soroca	10.38 31 P		Pn	04 49 24.6	+2.7
RKY	Sarkoy-Tekirda	5.28	74	*e*P	Pn	04 48 14.4	+2.3	MDUB	Mudurnu	8.29 79 *e*P	Pn	04 48 56.4	+2.9	FETA	Feichten	10.39 320	Pn	Pn	04 49 23.4	+1.1
KRBG	Karabiga-Canak	5.32	78	*e*P	Pn	04 48 15.2	+2.6	OBKA	Obir	8.29 330 Pn	Pn	04 48 54.3	+0.8		comp=Z,6.7nm,0.6s					
EDRB	Edirne	5.33	61	*e*P	Pn	04 48 14.3	+1.6		comp=N,5.6nm,0.2s					FETA	Feichten	10.39 320	*e*Pn	Pn	04 49 23.4	+1.1
GVD	Gavdhos	5.42	147	P	Pn	04 48 17.4	+3.4	OBKA	Obir	8.29 330 *e*Pn	Pn	04 48 54.3	+0.8		comp=Z,6.7nm,0.6s					
GVD	Gavdhos	5.42	147	P	Pn	04 48 15.0	+1.0		comp=N,5.6nm,0.2s					FETA			Sn	Sn	04 51 15.0	-3.3
GVD	Gavdhos	5.42	147	P	Pn	04 48 17.5	+3.5	OBKA		Sn	Sn	04 50 23.7	-3.1		comp=Z,20nm,1.0s					
GVD	Gavdhos	5.42	147	P	Pn	04 48 15.0	+1.0		comp=N,109nm,0.9s					MOTA	Moosalm	10.43 322	Pn	Pn	04 49 23.7	+0.8
IDI	Anoyia	5.43	138	Pn	Pn	04 48 14.2	0.0	TESR	Tescani	8.38 31 ⇓*i*P	Pn	04 48 57.1	+2.5		comp=Z,20nm,0.5s,SNR=36					
	comp=N,1.3nm,0.3s,baz=312,slow=14,SNR=19							TESR	Tescani	8.38 31 ⇑*i*P	Pn	04 48 57.1	+2.5	MOTA	Moosalm	10.43 322	*e*Pn	Pn	04 49 23.7	+0.8
IDI				Sn	Sn	04 49 15.3	-0.9	TLCR		8.42 44 ⇓*i*P	Pn	04 48 58.5	+3.4		comp=Z,20nm,0.5s,SNR=36					
	comp=N,11nm,0.3s,baz=293,slow=23,SNR=11							TLCR		8.42 44 ⇑*i*P	Pn	04 48 58.5	+3.4	OKC	Ostrava-Krasne	10.53 352	*e*P	Pn	04 49 26.3	+2.3
IDI				LR	LR	04 50 44.1		PSZ	Piszkesteto	8.48 357 *e*P	Pn	04 48 56.8	+0.7	OKC			MLR	MLR		
	comp=N,518nm,19.6s,baz=312,slow=43							PSZ	Piszkesteto	8.48 357 *e*Pn	Pn	04 48 57.3	+1.2		comp=Z,600nm,10.8s					
GCAM	G?zelcaml?	5.56	106	*e*P	Pn	04 48 18.9	+3.0	PSZ		*e*Sn	Sn	04 50 28.9	-2.5	OKC	Ostrava-Krasne	10.53 352	*e*P	Pn	04 49 26.3	+2.3
ZIMR		5.58	39 ⇓*i*P		Pn	04 48 19.3	+3.2	PSZ	Piszkesteto	8.48 357 *e*Pn	Pn	04 48 56.8	+0.7	OKC			AMS	AMS	04 54 30.0	
SRE	Strehaia	5.59	20 P		Pn	04 48 19.0	+2.7	PSZ	Piszkesteto	8.48 357 *e*P	Pn	04 48 56.8	+0.7		comp=Z,600nm,10.8s					
SRE	Strehaia	5.59	20 ⇑*i*P		Pn	04 48 19.1	+2.7	BMR	Baia Mare	8.51 14 ⇑*i*P	Pn	04 48 58.8	+2.4	OKC	Ostrava-Krasne	10.53 352	*e*P	Pn	04 49 26.3	+2.3
SRE	Strehaia	5.59	20 P		Pn	04 48 19.0	+2.7	BMR	Baia Mare	8.51 14 ⇑*i*P	Pn	04 48 58.8	+2.4		comp=Z,600nm,10.8s					
SZH	Strazhica	5.60	45 P		Pn	04 48 19.8	+3.3	SVRH	Sivrihisar-ESK	8.54 86 *e*P	Pn	04 49 01.4	+4.5	MORC	Moravsky Berou	10.54 350 *e*P		Pn	04 49 26.2	+2.0
SZH	Strazhica	5.60	45 P		Pn	04 48 19.8	+3.3	VSL	Villasalto	8.60 274 *e*Pn	Pn	04 48 58.2	+0.6	MORC	Moravsky Berou	10.54 350 ⇓*i*P		Pn	04 49 26.2	+2.0
SIVA	Sivas	5.60	141 P		Pn	04 48 20.6	+4.1	VSL	Villasalto	8.60 274 *e*Pn	Pn	04 48 58.2	+0.6	MORC	Moravsky Berou	10.54 350 *e*Pn		Pn	04 49 26.2	+2.0
SIVA	Sivas	5.60	141 P		Pn	04 48 20.4	+3.9	ARSA	Arzberg	8.60 337 Pn	Pn	04 48 57.9	+0.3	MORC	Moravsky Berou	10.54 350 *e*Pn		Pn	04 49 25.8	+1.6
BALB	Balikesir	5.72	86	*e*P	Pn	04 48 21.6	+3.6		comp=N,2.4nm,0.2s					MORC	Moravsky Berou	10.54 350 *e*P		Pn	04 49 26.2	+2.0
FGSL	Fruska Gora	5.73	355	*e*Pn	Pn	04 48 18.9	+0.6	ARSA		Sn	Sn	04 50 34.7	+0.5	GEA0	GERESS Array S	10.58 335 *e*Pn		Pn	04 49 24.1	-0.7
FRGS	Fruska Gora	5.73	355	*e*Pn	Pn	04 48 18.9	+0.6		comp=N,6.8nm,0.6s					GEA0	GERESS Array S	10.58 335 *e*Pn		Pn	04 49 24.1	-0.7
FRGS				*e*Sn	Sn	04 49 21.2	-2.4	ARSA	Arzberg	8.60 337 *e*Pn	Pn	04 48 57.9	+0.3	GEC2	GERESS Array S	10.58 335 *e*P		Pn	04 49 26.1	+1.2
EDC	Edincik	5.74	79	*e*P	Pn	04 48 21.2	+2.8		comp=N,2.4nm,0.2s					GEC2	GERESS Array S	10.58 335 *e*Pn		Pn	04 49 26.1	+1.2
LAST	Lasithi	5.84	136 P		Pn	04 48 20.1	+0.3	ARSA		Sn	Sn	04 50 34.7	+0.5	GEC2	GERESS Array S	10.58 335 *e*P		Pn	04 49 26.1	+1.2
LAST	Lasithi	5.84	136 P		Pn	04 48 20.1	+0.3		comp=N,6.8nm,0.6s					GERES	GERESS Array B	10.58 335 Pn		Pn	04 49 24.3	-0.6
LAST	Lasithi	5.84	136 P		Pn	04 48 20.1	+0.3	GIRR	Girov	8.69 28 ⇑*i*P	Pn	04 49 02.3	+3.4		comp=Z,0.8nm,0.3s,baz=160,slow=14,SNR=23					
BLY	Banja Luka	5.84	336	*e*Pn	Pn	04 48 20.3	+0.5	GIRR	Girov	8.69 28 ⇑*i*P	Pn	04 49 02.3	+3.4	GERES			Sn	Sn	04 51 18.4	-4.6
BLY				*e*Sn	Sn	04 49 23.0	-3.3	SOP	Sopron	8.71 342 *e*Pn	Pn	04 48 58.3	-0.9		comp=Z,2.0nm,0.3s,baz=147,slow=24,SNR=7.7					
BLY	Banja Luka	5.84	336	*e*Pn	Pn	04 48 20.3	+0.5	SOP	Sopron	8.71 342 *e*Pn	Pn	04 48 58.3	-0.9	DAVOX	Davos/Dischmat	10.67 317 P		Pn	04 49 30.6	+4.5
BODT	Bodrum	5.87	112	*e*P	Pn	04 48 22.3	+2.1	MYKA	Terra Mystica	8.76 327 Pn	Pn	04 49 00.8	+0.9	LVV	L'vov	10.67 12	*e*P	Pn	04 49 31.1	+5.1
BODT	Bodrum	5.87	112	P	Pn	04 48 22.1	+1.9		comp=N,3.4nm,0.3s					LVV			MLR	MLR		
BODT	Bodrum	5.87	112	P	Pn	04 48 22.1	+1.9	MYKA	Terra Mystica	8.76 327 *e*Pn	Pn	04 49 00.8	+0.9		comp=N,400nm,12.0s					
BODT	Bodrum	5.87	112	P	Pn	04 48 22.1	+1.9		comp=N,3.4nm,0.3s					LVV			MLR	MLR		
SBT3	Marmara-Eregli	5.91	74	*e*P	Pn	04 48 23.5	+2.9	MYKA		Sn	Sn	04 50 35.7	-2.4		comp=E,300nm,12.0s					
AYDB	Zeytinkoy-Aydi	5.98	102	*e*P	Pn	04 48 25.4	+3.6	TRPA	Tarpa	8.81 9 *e*Pn	Pn	04 49 02.1	+1.7	LVV			MLR	MLR		
HUMR	Humele	6.08	32 ⇓*i*P		Pn	04 48 23.1	0.0	TRPA	Tarpa	8.81 9 *e*Pn	Pn	04 49 02.1	+1.7		comp=Z,500nm,12.0s					
LOT	Lotru	6.47	21 ⇓*i*P		Pn	04 48 30.6	+2.1	SLUM	Salum	8.82 153 P	Pn	04 48 59.0	-1.7	CMAH	Djebel Manchou	10.69 259 P		Pn	04 49 29.7	+3.4
MDNY	Mudanya-Bursa	6.52	79	*e*P	Pn	04 48 31.7	+2.6		baz=157					CMAH	Djebel Manchou	10.69 259 P		Pn	04 49 29.7	+3.4
ARMT	Armutlu	6.52	77	*e*P	Pn	04 48 29.9	+0.4	SLUM		AMP		04 50 00.0		RETA	Reutte	10.70 322 Pn		Pn	04 49 27.7	+1.3
YER	Yerkesik	6.55	108	*e*P	Pn	04 48 33.4	+3.8		baz=157						comp=Z,6.9nm,0.6s					
YER	Yerkesik	6.55	108	P	Pn	04 48 33.3	+3.7	SLUM		S	Sn	04 50 30.1	-9.5	RETA	Reutte	10.70 322 *e*Pn		Pn	04 49 27.7	+1.3
YER	Yerkesik	6.55	108	P	Pn	04 48 33.3	+3.7		baz=157						comp=Z,6.9nm,0.6s					
BGKT	Bogazkoy	6.56	72	*e*P	Pn	04 48 31.6	+1.9	BURAR	Bucovina Array	8.86 21 P	Pn	04 49 04.3	+3.1	RETA			Sn	Sn	04 51 21.6	-4.1
KARP	Karpathos	6.58	124	P	Pn	04 48 33.4	+3.5	BURAR	Bucovina Array	8.86 21 ⇓*i*P	Pn	04 49 04.4	+3.2		comp=Z,10.0nm,0.8s					
KARP	Karpathos	6.58	124	P	Pn	04 48 33.7	+3.8	BURAR	Bucovina Array	8.86 21 ⇑*i*P	Pn	04 49 04.4	+3.2	KHC	Kasperske Hory	10.87 335 *e*P		Pn	04 49 28.6	-0.2
SIMA	Simav-Kutahya	6.60	90	*e*P	Pn	04 48 33.8	+3.5	BUR04	Bucovina Ar. S	8.86 21 *e*Pn	Pn	04 49 04.3	+3.1	KHC	Kasperske Hory	10.87 335 *e*P		Pn	04 49 28.5	-0.2
NVLJ	Novalja	6.61	323	*e*Pn	Pn	04 48 30.9	+0.6	BUR04	Bucovina Ar. S	8.86 21 ⇓*i*P	Pn	04 49 04.4	+3.2	KHC			*ex*	x	04 49 33.0	
NVLJ				Sn	Sn	04 49 42.0	-3.1	BUR04	Bucovina Ar. S	8.86 21 ⇑*i*P	Pn	04 49 04.4	+3.2	KHC			*ex*	x	04 51 22.6	
NVLJ	Novalja	6.61	323	*e*Pn	Pn	04 48 30.9	+0.6	BUR08	Bucovina Ar. S	8.88 21 *e*Pn	Pn	04 49 04.3	+3.1	KHC			AMS	AMS	04 54 40.0	
MTUR	Matau	6.70	29 ⇓*i*P		Pn	04 48 34.5	+2.9	BUR08	Bucovina Ar. S	8.88 21 *e*Pn	Pn	04 49 04.7	+3.2		comp=Z,800nm,9.0s					
ISK	Istanbul-Kandi	6.75	73	*e*P	Pn	04 48 34.3	+2.0	BUR08	Bucovina Ar. S	8.88 21 *e*Pn	Pn	04 49 04.7	+3.2	KHC	Kasperske Hory	10.87 335 *e*Pn		Pn	04 49 28.6	-0.2
ISK	Istanbul-Kandi	6.75	73	P	Pn	04 48 34.3	+2.0	PRAR	RASCA	8.95 26 ⇑*i*P	Pn	04 49 06.3	+3.9	KHC	Kasperske Hory	10.87 335 *e*P		Pn	04 49 28.6	-0.2
ISK	Istanbul-Kandi	6.75	73	P	Pn	04 48 34.3	+2.0	PRAR	RASCA	8.95 26 ⇑*i*P	Pn	04 49 06.3	+3.9	SWA2		10.97 157 P		Pn	04 49 28.4	-1.7
KAVV	Kandilli-Istan	6.75	73	*e*P	Pn	04 48 33.9	+1.6	KECS	Kecovo	9.04 360 *e*P	Pn	04 49 04.9	+1.3		baz=160					
GEMT	Gemlik	6.76	79	*e*P	Pn	04 48 34.5	+2.1	KECS		*e*		04 50 40.1		SWA2			S	Sn	04 51 22.0	-10
SULR		6.76	37 ⇓*i*P		Pn	04 48 36.0	+3.6	KECS	Kecovo	9.04 360 *e*P	Pn	04 49 04.9	+1.3		baz=160					
KLYT	Kilyos	6.78	72	*e*P	Pn	04 48 34.4	+1.8	KECS	Kecovo	9.04 360 *e*Pn	Pn	04 49 04.9	+1.3	SWA2		10.97 157 P		Pn	04 49 28.4	-1.7
ARG	Arkhangelos	6.85	116 P		Pn	04 48 36.8	+3.2	KECS		*e*		04 49 14.3		SWA2			S	Sn	04 51 22.0	-10
ARG	Arkhangelos	6.85	116 P		Pn	04 48 36.8	+3.2	KECS	Kecovo	9.04 360 *e*Sn	Sn	04 50 40.1	-4.8	DAVA	Damuels	11.00 319 Pn		Pn	04 49 31.8	+1.2
ARG	Arkhangelos	6.85	116 P		Pn	04 48 36.8	+3.2	CONA	Conrad Observa	9.12 340 Pn	Pn	04 49 06.2	+1.4		comp=Z,4.3nm,0.4s					
ARG	Arkhangelos	6.85	116 P		Pn	04 48 36.8	+3.2		comp=N,4.1nm,0.5s					DAVA	Damuels	11.00 319 Pn		Pn	04 49 31.8	+1.2
VOIR		6.87	28 P		Pn	04 48 36.7	+2.7	CONA		Sn	Sn	04 50 46.5	-0.5		comp=Z,4.3nm,0.4s					
VOIR		6.87	28 ⇓*i*P		Pn	04 48 36.8	+2.7		comp=N,1.1nm,0.4s					DAVA			Sn	Sn	04 51 29.9	-3.2
VOIR		6.87	28 P		Pn	04 48 36.7	+2.7	CONA	Conrad Observa	9.12 340 *e*Pn	Pn	04 49 06.2	+1.4		comp=Z,38nm,0.6s					
SIRR	Siria	6.87	7 ⇑*i*P		Pn	04 48 35.7	+1.7		comp=N,4.1nm,0.5s					CSS	Mathiatis	11.17 110 *e*Pn		Pn	04 49 33.2	+0.3
TURN	Turunc	6.89	109	*e*P	Pn	04 48 34.1	0.0	CONA		Sn	Sn	04 50 46.5	-0.5	CSS	Mathiatis	11.17 110 *e*Pn		Pn	04 49 33.2	+0.3
MORH	M¨‡r¡gy, Hung	6.90	349	*e*Pn	Pn	04 48 34.5	+0.2		comp=N,1.1nm,0.4s					GOPC	GO Pecny, Ondr	11.22 341 AMS		AMS	04 55 00.0	
MORH				*e*Sn	Sn	04 49 49.0	-3.4	VYHS	Vyhne	9.13 353 *e*P	Pn	04 49 06.3	+1.4		comp=Z,800nm,9.6s					
TVSB	Tavsanli	6.94	87	*e*P	Pn	04 48 37.9	+2.9	VYHS	Vyhne	9.13 353 *e*P	Pn	04 49 06.3	+1.4	DPC	Dobruska-Polom	11.30 346 *e*P		Pn	04 49 39.3	+4.7
DALY	Dalyan (Mu¨la	6.95	110	*e*P	Pn	04 48 38.4	+3.4	VYHS	Vyhne	9.13 353 *e*PN	Pn	04 49 06.2	+1.4	DPC			MLR	MLR		
SECR		6.95	35 ⇑*i*P		Pn	04 48 39.1	+4.1	VYHS		*e*SN	Sn	04 50 41.4	-5.7		comp=Z,600nm,11.1s					
ADVT	Abdulvahap	7.17	79	*e*P	Pn	04 48 40.9	+2.8	VYHS		*e*SG		04 52 04.6		DPC	Dobruska-Polom	11.30 346 *e*P		Pn	04 49 39.3	+4.7
OZLJ	Ozalj	7.20	331	*e*Pn	Pn	04 48 38.5	+0.2	KBA	Koelnbreinsper	9.24 328 Pn	Pn	04 49 07.3	+0.8	DPC			AMS	AMS	04 54 40.0	
OZLJ				Sn	Sn	04 49 55.4	-4.2		comp=N,14nm,0.6s						comp=Z,600nm,11.1s					
OZLJ	Ozalj	7.20	331	*e*Pn	Pn	04 48 38.5	+0.2	KBA	Koelnbreinsper	9.24 328 *e*Pn	Pn	04 49 07.3	+0.8	PRU	Pruhonice	11.36 340 *e*P		Pn	04 49 39.6	+4.3
SILT	Sile	7.20	73	*e*P	Pn	04 48 40.9	+2.5		comp=N,14nm,0.6s					PRU			MLR	MLR		
ISR	Istrita	7.23	36 P		Pn	04 48 42.9	+4.0	KBA		*e*Sn	Sn	04 50 47.0	-3.1		comp=Z,600nm,9.8s					
ISR	Istrita	7.23	36 ⇓*i*P		Pn	04 48 42.9	+4.0		comp=N,16nm,0.5s					PRU	Pruhonice	11.36 340 *e*P		Pn	04 49 39.6	+4.3
ISR	Istrita	7.23	36 P		Pn	04 48 42.9	+4.0	UZH	Uzhgorod	9.28 7 ⇑*i*P	Pn	04 49 09.3	+2.5	PRU			AMS	AMS	04 55 10.0	
CAVI	Cavuskoy	7.24	81	*e*P	Pn	04 48 42.8	+3.8	UZH		*e*S	Sn	04 50 51.9	+1.2		comp=Z,600nm,9.8s					
AMRR	Amara	7.25	42 ⇑*i*P		Pn	04 48 42.7	+3.6	UZH		MLR	MLR			SIM	Simferopol'	11.50 57 *e*P		Pn	04 49 40.2	+2.8
MLR	Muntele Rosu	7.26	32 Pn		Pn	04 48 42.9	+3.5		comp=N,1µm,13.0s					SIM			S	Sn	04 51 58.

BRG MLR MLR
comp=N,448nm,17.5s
BRG MLR MLR
comp=E,683nm,10.6s
BRG MLR MLR
comp=Z,617nm,10.1s
BRG Berggiesshubel 12.32 340 *e*P **Pn 04 49 51.7 +3.2**
comp=Z,617nm,10.1s
STU Stuttgart 12.35 323 *e*P **Pn 04 49 48.3 -0.6**
STU Stuttgart 12.35 323 *e*Pn **Pn 04 49 48.3 -0.6**
STU Stuttgart 12.35 323 *e*P **Pn 04 49 48.3 -0.6**
SET Setif 12.36 260 P **Pn 04 49 52.0 +2.7**
SET Setif 12.36 260 P **Pn 04 49 52.0 +2.7**
BEL Belsk 12.39 1 *e*P **P 04 50 03.1 +1.7**
BEL Belsk 12.39 1 *e*P **P 04 50 03.1 +1.7**
BFO Black Forest 12.47 319 *i* P **Pn 04 49 53.4 +2.8**
BFO Black Forest 12.47 319 *e*Pn **Pn 04 49 51.0 +0.4**
BFO *e*Sn Sn 04 51 59.8 -9.3
BFO Black Forest 12.47 319 *e*Pn **Pn 04 49 51.0 +0.4**
BFO Black Forest 12.47 319 *i* P **Pn 04 49 53.4 +2.8**
CABF La Chapelle 12.73 309 *e*P **Pn 04 49 54.4 +0.2**
CABF La Chapelle 12.73 309 *e*P **Pn 04 49 54.4 +0.2**
KIEV Kiev 12.81 26⇑*i*P **Pn 04 49 57.6 +2.4**
KIEV Kiev 12.81 26 *e*Pn **Pn 04 49 55.0 -0.2**
AKASG Malin Array Be 12.83 26 Pn **Pn 04 49 55.7 +0.4**
comp=Z,0.3nm,0.3s,baz=212,slow=11,SNR=11
AKASG LR LR 04 56 25.1
comp=Z,264nm,18.6s,baz=200,slow=45
AKASG Malin Array Be 12.83 26*ce*P **Pn 04 49 57.0 +1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 12.83 26 *e*P **Pn 04 49 57.0 +1.6**
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 12.83 26 *e*P **Pn 04 49 57.5 +2.1**
AKBB Malin Array Si 12.83 26 *e*Pn **Pn 04 49 57.5 +2.1**
AKBB Malin Array Si 12.83 26 *e*P **Pn 04 49 57.5 +2.1**
CLL Collm 12.97 339 *e*P **P 04 50 05.0 -2.8**
CLL *e* 04 52 18.0
CLL Collm 12.97 339 *e*PP **P 04 50 05.0 -2.8**
CLL *i* 04 50 10.4
comp=Z,16nm,1.3s
CLL *i* (PPPP) 04 50 21.4
CLL *e*(S) **Sn 04 52 18.0 -3.1**
CLL *e* 04 53 09.0
CLL *e* 04 53 40.0
CLL LmH 04 54 06.0
comp=N,400nm,21.0s
CLL LmH 04 54 06.0
comp=E,700nm,20.6s
CLL Lmax 04 56 00.0
ECH Echery 13.00 317 *e*P **Pn 04 49 58.8 +0.9**
ECH Echery 13.00 317 *e*Pn **Pn 04 49 58.8 +0.9**
ECH *e*Sn **Sn 04 52 14.4 -7.7**
ECH Echery 13.00 317 *e*P **Pn 04 49 58.8 +0.9**
CDF Champ du Feu 13.06 318 P **Pn 04 49 59.4 +0.6**
CDF Champ du Feu 13.06 318 P **Pn 04 49 59.4 +0.6**
SSB Saint Sauveur 13.15 301 *e*P **Pn 04 50 01.0 +1.1**
SSB Saint Sauveur 13.15 301 *e*Pn **Pn 04 50 01.0 +1.1**
SSB Saint Sauveur 13.15 301 *e*P **Pn 04 50 01.0 +1.1**
GLL Jalalah 13.49 133 P **Pn 04 50 00.2 -4.4**
baz=136
MMAI Mount Meron Ar 13.63 113 Pn **Pn 04 50 05.5 -1.1**
comp=E,0.8nm,0.3s,baz=290,slow=17,SNR=3.5
MMAI Sn **Sn 04 52 31.2 -6.4**
comp=E,1.1nm,0.3s,baz=20,slow=22,SNR=3.2
MMAI LR LR 04 56 45.9
comp=E,300nm,18.9s,baz=315,slow=44
ANN Anapa 13.66 61 *e*P **Pn 04 50 09.7 +2.9**
ANN MLR MLR
comp=N,161nm,11.0s
ANN MLR MLR
comp=Z,159nm,11.0s
ANN MLR MLR
comp=E,174nm,11.0s
ANN Anapa 13.66 61 *e*P **Pn 04 50 09.7 +2.9**
comp=E,159nm,11.0s
BRBR Barbar 13.82 111 *e*P **Pn 04 50 09.5 +0.2**
QASN Qassioun 14.00 110 *e*P **Pn 04 50 14.3 +2.7**
SMF Signal de Mont 14.13 306 *e*P **Pn 04 50 12.5 -0.7**
TOTH TOTAH 14.19 110 *e*P **Pn 04 50 17.3 +3.1**
WLF Walferdange 14.43 320⇑P **P 04 50 23.1 -1.0**
WLF Walferdange 14.43 320 *e*P **Pn 04 50 16.9 -0.4**
WLF Walferdange 14.43 320 *e*Pn **Pn 04 50 16.9 -0.4**
WLF Walferdange 14.43 320 *e*Pn **Pn 04 50 16.9 -0.4**
WLF Walferdange 14.43 320 P **P 04 50 23.0 -1.0**
AVF Avril sur Loir 14.49 306 *e*P **Pn 04 50 18.0 -0.2**
SOC Sochi 14.98 68 *e*P **Pn 04 50 26.7 +1.9**
SOC *e* 04 53 13.4
SOC pmax pmax
comp=Z,6.0nm,0.5s
SOC MLR MLR
comp=Z,169nm,17.0s
MEM Membach 15.12 322⇑P **P 04 50 31.1 -0.6**
comp=Z,18nm,1.1s
ASF Jabal al Asfar 15.15 114 Pn **Pn 04 50 27.6 +0.4**
comp=Z,0.3nm,0.3s,baz=262,slow=9.1,SNR=4.6
BCLA Clavier 15.33 321⇑P **P 04 50 34.1 0.0**
comp=Z,10nm,2.2s
BCLA Clavier 15.33 321 P **P 04 50 34.1 0.0**
comp=Z,10nm,2.2s
EIL Elat 15.38 125 Pn **P 04 50 38.3 +3.6**
comp=Z,0.7nm,0.3s,baz=326,slow=8.2,SNR=6.5
EIL Sn **Sn 04 53 16.9 -3.2**
comp=Z,1.1nm,0.3s,baz=252,slow=16,SNR=5.5
DOU Dourbes 15.48 319⇑P **Pn 04 50 32.9 +1.4**
SNF Seneffe 15.89 319⇑P **P 04 50 40.2 -0.1**
SNF Seneffe 15.89 319 P **P 04 50 40.2 -0.1**
KBSD Kabsdagh 15.95 92 *e*P **P 04 50 40.3 -0.8**
NACGM Naroch 16.04 13 *e* Pn 04 50 30.0 -8.5
NACGM *e*LR LR 04 57 02.0
IIGN Ignalina 16.37 12 *e*P **Pn 04 50 42.7 -0.1**
IIGN IAmb IAmb 04 50 57.6
comp=Z,32nm,0.8s
MZRK Al-Mazaregh 16.37 96 *e*P **Pn 04 50 40.8 -2.2**
IDID Didziasalis 16.42 13 *e*P **Pn 04 50 43.6 +0.2**
IDID IAmb IAmb 04 51 01.4
comp=Z,22nm,0.9s
ISAL Salakas 16.57 11 *e*P **Pn 04 50 45.1 -0.2**
ISAL IAmb IAmb 04 50 55.4
comp=Z,17nm,0.8s
IZAR Zarasai 16.76 11 *e*P **Pn 04 50 47.3 -0.4**
IZAR IAmb IAmb 04 51 01.9
comp=Z,19nm,0.9s
KIV Kislovodsk 17.16 68 *e*P **P 04 50 55.0 +0.4**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV MLR MLR
comp=Z,127nm,13.0s
KIV Kislovodsk 17.16 68 *e*Pn **P 04 50 55.3 +0.7**
comp=Z,42nm,1.0s
KIV Kislovodsk 17.16 68 Pn **Pn 04 50 53.7 +0.7**
KIV Kislovodsk 17.16 68 P **Pn 04 50 53.7 +0.7**
KIV Kislovodsk 17.16 68 *e*P **P 04 50 55.0 +0.4**
comp=Z,127nm,13.0s
KIV Kislovodsk 17.16 68 *e*Pn **P 04 50 55.3 +0.7**
comp=Z,42nm,1.0s
KVAR Kislovodsk Arr 17.17 68 P **Pn 04 50 53.7 +0.6**
baz=128,slow=1.5,SNR=19
KBZ Khabaz 17.29 68 P **P 04 50 55.9 +0.1**
comp=Z,0.3nm,0.3s,baz=269,slow=10,SNR=47
VSR Storozhevoye 17.58 42 *e*P **Pn 04 50 57.3 -0.6**
VSR pmax pmax
comp=Z,20nm,1.3s
GOF Gofitskoye 17.59 64⇑*e*P **P 04 51 00.0 +0.8**
GOF pmax pmax
comp=Z,66nm,0.8s
ONI Oni 17.60 72 P **P 04 51 00.8 +1.4**
ONI Oni 17.60 72 *e*P **P 04 51 00.8 +1.4**
ONI Oni 17.60 72 *e*P **P 04 51 00.8 +1.4**
AKH Akhalkalaki 17.62 76 *e*P **P 04 51 01.4 +1.7**
AKH pmax pmax
comp=Z,46nm,1.6s
AKH Akhalkalaki 17.62 76⇓*i*P **P 04 51 04.3 +4.6**
AKH Akhalkalaki 17.62 76 *e*Pn **P 04 51 01.4 +1.7**
comp=Z,46nm,1.6s
AKH Akhalkalaki 17.62 76 *e*P **P 04 51 01.4 +1.7**
comp=Z,46nm,1.6s
VORR Voronezh 17.86 41 P **Pn 04 51 01.0 -0.5**
VORR pmax pmax
comp=Z,250nm,1.2s
ZEI Tsey 17.94 72 *e*P **P 04 51 04.3 +1.0**
ZEI pmax pmax
comp=Z,14nm,0.8s
ZEI Tsey 17.94 72 *e*P **P 04 51 04.3 +1.0**
comp=Z,14nm,0.8s
LPSR Galich'ya Gora 18.29 38 *e*P **Pn 04 51 06.1 -0.6**
LPSR pmax pmax
comp=Z,60nm,1.0s
TBLG Delisi 18.55 75 *e*P **Pn 04 51 10.9 +0.9**
TBLG pmax pmax
comp=Z,26nm,1.2s
TBLG Delisi 18.55 75 *e*P **Pn 04 51 10.9 +0.9**
comp=Z,26nm,1.2s
TBLG Delisi 18.55 75 *e*P **Pn 04 51 10.9 +0.9**
comp=Z,26nm,1.2s
GNI Garni 18.64 80 P **Pn 04 51 11.8 +0.5**
comp=Z,0.5nm,0.3s,baz=331,slow=2.1,SNR=20
GNI Garni 18.64 80⇑*i*P **Pn 04 51 12.2 +0.9**
GNI pmax pmax
comp=Z,171nm,1.2s
GNI Garni 18.64 80 *e*P **Pn 04 51 12.8 +1.5**
comp=Z,43nm,1.0s
GNI Garni 18.64 80 P **P 04 51 10.6 -0.4**
GNI Garni 18.64 80 P **P 04 51 10.6 -0.4**
GNI Garni 18.64 80 *e*P **Pn 04 51 12.8 +1.5**
comp=Z,43nm,1.0s
ES19 SONSECA Array 18.80 279 *e*P **Pn 04 51 13.6 +0.5**
ES19 SONSECA Array 18.80 279 *e*P **Pn 04 51 13.6 +0.5**
ESDC Sonseca Array 18.85 279 P **P 04 51 13.4 +0.3**
comp=Z,0.6nm,0.3s,baz=74,slow=11,SNR=70
ESDC LR LR 04 58 41.2
comp=Z,415nm,18.0s,baz=90,slow=38
ESLA Sonseca Array 18.85 279 *e*P **Pn 04 51 14.9 +1.2**
comp=Z,22nm,1.0s
ESLA Sonseca Array 18.85 279 *e*P **Pn 04 51 14.9 +1.2**
comp=Z,22nm,1.0s
GUD Guadarrama 18.89 282 P **Pn 04 51 16.0 +1.7**
GUD pmax pmax
comp=Z,86nm,1.3s
GUD Guadarrama 18.89 282 P **Pn 04 51 16.0 +1.7**
comp=Z,86nm,1.3s
VRH Novokhopyorsk 18.92 45 *e*P **Pn 04 51 15.0 +0.6**
VRH pmax pmax
comp=Z,30nm,1.3s
VRH Novokhopyorsk 18.92 45 *e*P **Pn 04 51 15.0 +0.6**
comp=Z,30nm,1.3s
OBN Obninsk 19.02 29 P **P 04 51 13.5 -1.2**
comp=Z,2.4nm,0.3s,baz=204,slow=12,SNR=9.6
OBN Obninsk 19.02 29*ce*P **P 04 51 13.1 -1.7**
OBN pmax pmax
comp=Z,60nm,1.2s
OBN MLR MLR
comp=Z,799nm,17.0s
OBN Obninsk 19.02 29 *e*P **P 04 51 13.7 -1.1**
comp=Z,94nm,1.4s
DGRG David-gareji 19.03 76 P **Pn 04 51 16.2 +0.3**
DGRG David-gareji 19.03 76 *e*P **Pn 04 51 16.2 +0.3**
DGRG David-gareji 19.03 76 *e*P **Pn 04 51 16.2 +0.3**
PAB San Pablo 19.16 278 *e*P **Pn 04 51 18.2 +0.7**
PAB pmax pmax
comp=Z,40nm,1.0s
PAB San Pablo 19.16 278 *e*P **Pn 04 51 18.2 +0.7**
comp=Z,40nm,1.0s
PAB San Pablo 19.16 278 *e*P **Pn 04 51 18.2 +0.7**
comp=Z,40nm,1.0s
NAX Nakhchivan 19.34 83 P **P 04 51 18.8 +0.3**
NAX Nakhchivan 19.34 83 P **P 04 51 18.8 +0.3**
GROC Groznyy 19.35 71 *e*P **Pn 04 51 20.6 +1.0**
GROC *e*S **S 04 54 59.2 +2.5**
GROC pmax pmax
comp=Z,54nm,1.1s
GROC Groznyy 19.35 71 *e*P **Pn 04 51 20.6 +1.0**
comp=Z,54nm,1.1s
DDFL Dedoflistskaro 19.59 76 P **Pn 04 51 24.1 +1.4**
GANJ Ganja 19.80 78 P **P 04 51 23.7 +0.2**
GANJ Ganja 19.80 78 P **P 04 51 23.7 +0.2**
MOS Moscow 19.89 29 *e*P **P 04 51 22.8 -1.5**
MOS pmax pmax
comp=Z,131nm,1.2s
MOS MLR MLR
comp=Z,1μm,16.0s
ZKTA Zakatala 19.96 75 P **P 04 51 25.5 +0.3**
ZKTA Zakatala 19.96 75 P **P 04 51 25.5 +0.3**
MNGR Mingechevir, A 20.36 78 P **P 04 51 29.8 +0.2**
SEKA Sheki 20.41 76 P **P 04 51 31.2 +1.0**
SEKA Sheki 20.41 76 P **P 04 51 31.2 +1.0**
PBRG Braganca 20.77 285 *e*P **P 04 51 34.9 +0.8**
comp=Z,50nm,1.4s
PBRG Braganca 20.77 285 *e*P **P 04 51 34.9 +0.8**
comp=Z,50nm,1.4s
TAM Tamanrasset 20.92 222 *e*P Pn 04 51 37.7 -0.8
TAM pmax pmax
comp=Z,21nm,0.9s
TAM Tamanrasset 20.92 222 *e*P Pn 04 51 37.7 -0.7
comp=Z,21nm,0.9s
TAM Tamanrasset 20.92 222 *e*P Pn 04 51 37.7 -0.8
comp=Z,21nm,0.9s
MVO Moncorvo 21.03 284 *e*P **P 04 51 37.6 +0.7**
comp=Z,35nm,1.3s
MVO Moncorvo 21.03 284 *e*P **P 04 51 37.6 +0.7**
comp=Z,35nm,1.3s
HFS Hagfors 21.15 351 P **P 04 51 37.4 -0.5**
comp=Z,13nm,0.7s,baz=155,slow=11,SNR=34
PUL Pulkovo 21.27 14⇑*i*P **P 04 51 38.6 -0.6**
PUL pmax pmax
comp=Z,58nm,0.9s
KONO Kongsberg 21.37 345⇓*i*P **P 04 51 40.1 -0.2**
KONO pmax pmax
comp=Z,217nm,1.2s
KONO Kongsberg 21.37 345 *e*P **P 04 51 40.0 -0.2**
comp=Z,30nm,1.0s
PBAR Barrancos 21.46 275 *e*P **P 04 51 41.9 +0.4**
comp=Z,172nm,1.4s
PBAR Barrancos 21.46 275 *e*P **P 04 51 41.9 +0.4**
comp=Z,172nm,1.4s
MTE Manteigas 21.49 282 *e*P **P 04 51 42.5 +0.7**
comp=Z,47nm,1.4s
MTE Manteigas 21.49 282 *e*P **P 04 51 41.4 -0.4**
comp=Z,29nm,1.2s
MTE Manteigas 21.49 282 *e*P **P 04 51 41.4 -0.4**
comp=Z,29nm,1.2s
PMRV Marv??o 21.51 279 *e*P **P 04 51 42.1 +0.1**
comp=Z,45nm,1.5s
PMRV Marv??o 21.51 279 *e*P **P 04 51 42.1 +0.1**
comp=Z,45nm,1.5s
PCBR Castelo Branco 21.51 280 *e*P **P 04 51 43.6 +1.6**
comp=Z,33nm,1.6s
PCBR Castelo Branco 21.51 280 *e*P **P 04 51 43.6 +1.6**
comp=Z,33nm,1.6s
PVRL Vila Real 21.54 284 *e*P **P 04 51 43.4 +1.1**
PVRL Vila Real 21.54 284 *e*P **P 04 51 43.4 +1.1**
POLO Lamas de Olo 21.59 284 *e*P **P 04 51 43.4 +0.5**
comp=Z,22nm,1.3s
POLO Lamas de Olo 21.59 284 *e*P **P 04 51 43.4 +0.5**
comp=Z,22nm,1.3s
PVIS Viseu 21.72 282 *e*P **P 04 51 43.9 -0.4**
comp=Z,41nm,1.5s
PESTR Estremoz 21.75 277 *e*P **P 04 51 44.7 +0.1**
comp=Z,29nm,1.3s
PESTR Estremoz 21.75 277 *e*P **P 04 51 44.8 +0.2**
comp=Z,7.4nm,0.8s
PESTR Estremoz 21.75 277 *e*P **P 04 51 44.8 +0.2**
comp=Z,7.4nm,0.8s
PGAV Gavieira, Arco 21.91 286 *e*P **P 04 51 47.3 +1.0**
comp=Z,42nm,1.8s
PGAV Gavieira, Arco 21.91 286 *e*P **P 04 51 47.3 +1.0**
comp=Z,42nm,1.8s
LKRN Lenkeran, Azer 21.94 83 P **P 04 51 46.9 +0.3**
LKRN Lenkeran, Azer 21.94 83 P **P 04 51 46.9 +0.3**
NC602 NORSAR Array S 22.03 348 *e*P **P 04 51 47.0 -0.4**
PBEJ Beja 22.13 275 *e*P **P 04 51 48.5 -0.2**
comp=Z,60nm,1.0s
PBEJ Beja 22.13 275 *e*P **P 04 51 48.5 -0.2**
comp=Z,60nm,1.0s
EVO Evora 22.14 277 *e*P **P 04 51 48.8 0.0**
comp=Z,37nm,1.5s
EVO Evora 22.14 277 *e*P **P 04 51 48.8 0.0**
comp=Z,37nm,1.5s
PVAQ Vaqueiros 22.16 274 *e*P **P 04 51 48.5 -0.5**
comp=Z,79nm,1.4s
PVAQ Vaqueiros 22.16 274 *e*P **P 04 51 48.5 -0.5**
comp=Z,79nm,1.4s
COI Coimbra 22.17 281 *e*P **P 04 51 50.5 +1.4**
comp=Z,53nm,1.4s
PMTG Montargil 22.20 278 *e*P **P 04 51 49.2 -0.2**
comp=Z,55nm,1.4s
PMTG Montargil 22.20 278 *e*P **P 04 51 49.2 -0.2**
comp=Z,55nm,1.4s
PTO Porto 22.21 284 *e*P **P 04 51 50.6 +1.1**
comp=Z,36nm,1.3s
PTO Porto 22.21 284 *e*P **P 04 51 50.6 +1.1**
comp=Z,36nm,1.3s
NAO01 NORSAR Array S 22.24 348 *e*P **P 04 51 49.2 -0.4**
PTOM Tomar 22.25 280 *e*P **P 04 51 50.6 +0.6**
comp=Z,48nm,1.5s
PTOM Tomar 22.25 280 *e*P **P 04 51 50.6 +0.6**
comp=Z,48nm,1.5s
PCAS Casmilo, Conde 22.26 281 *e*P **P 04 51 50.5 +0.5**
PCAS Casmilo, Conde 22.26 281 *e*P **P 04 51 50.5 +0.5**
FINES FINESS Array B 22.30 7 P **P 04 51 48.3 -1.9**
comp=Z,10nm,0.8s,baz=177,slow=10,SNR=26
FINES FINESS Array B 22.30 7 *i* P **P 04 51 49.5 -0.7**
FINES pmax pmax
comp=Z,11nm,0.8s
FIA1 FINESS Array S 22.30 7 *e*P **P 04 51 50.1 0.0**
comp=Z,28nm,0.9s
PCVE Castro Verde 22.35 274 *e*P **P 04 51 50.7 -0.3**
comp=Z,42nm,1.5s
PCVE Castro Verde 22.35 274 *e*P **P 04 51 50.7 -0.3**
comp=Z,42nm,1.5s
PBDV Barranco-do-Ve 22.36 273 *e*P **P 04 51 51.7 +0.5**
PBDV Barranco-do-Ve 22.36 273 *e*P **P 04 51 51.7 +0.5**
NC405 NORSAR Array S 22.37 349 *e*P **P 04 51 49.5 -1.4**
NB201 NORSAR Array S 22.37 348 *e*P **P 04 51 50.0 -1.0**
NB2 NORSAR Subarra 22.38 348 P **P 04 51 50.4 -0.7**
comp=Z,11nm,0.8s,baz=154,slow=11
NOA NORSAR Array B 22.38 348 P **P 04 51 50.9 -0.2**
comp=Z,24nm,1.0s,baz=163,slow=10,SNR=30
EKA Eskdalemuir Ar 22.39 323 P **P 04 51 51.5 +0.3**
comp=Z,15nm,0.8s,baz=122,slow=11,SNR=35
ESK Eskdalemuir 22.41 323 *e*P **P 04 51 52.2 +0.8**
ESK pmax pmax
comp=Z,41nm,0.9s
ESK Eskdalemuir 22.41 323 *e*P **P 04 51 52.2 +0.8**
comp=Z,41nm,0.9s
NBO00 NORSAR Array S 22.44 348 *e*P **P 04 51 52.0 +0.2**
NBO02 NORSAR Array S 22.44 348 *e*P **P 04 51 51.9 +0.1**
MESJ Messejana 22.45 275 *e*P **P 04 51 51.7 -0.3**
MESJ AMb AMB 04 51 54.2
comp=Z,57nm,1.4s
MESJ Messejana 22.45 275 *e*P **P 04 51 51.7 -0.3**
comp=Z,57nm,1.4s
MESJ Messejana 22.45 275 *e*P **P 04 51 51.7 -0.3**
comp=Z,57nm,1.4s
ALMR Almeirim 22.46 279 *e*P **P 04 51 51.6 -0.5**
ALMR AMb AMB 04 51 53.7
comp=Z,38nm,1.2s
ALMR Almeirim 22.46 279 *e*P **P 04 51 51.6 -0.5**
comp=Z,60nm,1.1s
ALMR Almeirim 22.46 279 *e*P **P 04 51 51.6 -0.5**
comp=Z,60nm,1.1s
NC303 NORSAR Array S 22.53 348 *e*P **P 04 51 51.7 -1.0**
PNCL Nicolau / Gran 22.62 276 *e*P **P 04 51 54.2 +0.3**
comp=Z,77nm,1.2s
PNCL Nicolau / Gran 22.62 276 *e*P **P 04 51 54.2 +0.3**
comp=Z,77nm,1.2s
NC204 NORSAR Array S 22.67 348 *e*P **P 04 51 54.0 -0.3**
PTEO Sao Teotonio 22.90 275 *e*P **P 04 51 56.7 -0.2**
comp=Z,96nm,1.2s
PTEO Sao Teotonio 22.90 275 *e*P **P 04 51 56.7 -0.2**
comp=Z,96nm,1.2s
KLMR Klimovskoe 24.48 23 *e*P **P 04 52 10.1 -1.7**
KLMR *e*S **S 04 56 29.5 -1.5**
KLMR pmax pmax
comp=Z,31nm,1.0s
KLMR Klimovskoe 24.48 23 *e*P **P 04 52 10.2 -1.6**
KLMR AMP 04 52 24.6
comp=Z,31nm,1.0s
KLMR *e*S **S 04 56 29.6 -1.5**
KLMR *e*S **S 04 56 29.6 -1.5**
KLMR LQ LQ 04 59 44.4
KLMR LQ LQ 04 59 44.4
KLMR LR LR 05 01 42.2
RAYN Ar Rayn 26.46 119 P **P 04 52 31.9 +1.6**
RAYN pmax pmax
comp=Z,7.0nm,1.0s
RAYN Ar Rayn 26.46 119 *e*P **P 04 52 31.1 +0.9**
comp=Z,6.9nm,0.9s
RAYN Ar Rayn 26.46 119 P **P 04 52 31.9 +1.6**
comp=Z,7.0nm,1.0s
TMCR Tamitsa 26.84 17 *e*P **P 04 52 33.2 +0.1**
TMCR pmax pmax
comp=Z,15nm,0.6s
AKTO Aktyubinsk 28.45 55 P **P 04 52 47.5 -0.4**
comp=Z,13nm,0.7s,baz=264,slow=9.2,SNR=56
GEYT Alibeck 29.27 81 P **P 04 52 55.8 +0.5**
comp=Z,21nm,0.7s,baz=271,slow=8.3,SNR=40
AB31 Akbulak array 29.57 58 *i* P **P 04 52 57.3 -0.4**
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 29.57 58 *e*P **P 04 52 57.2 -0.4**
comp=Z,5.3nm,0.6s
ARU Arti 30.14 43 P **P 04 53 02.0 -0.7**
comp=Z,5.0nm,0.3s,baz=251,slow=7.7,SNR=20
ARU Arti 30.14 43*c i*P **P 04 53 02.2 -0.5**
ARU 04 53 57.5
ARU 04 56 01.2
ARU S **S 04 58 03.5 +2.9**
ARU SS **SnSn 04 59 35.6 +1.9**
ARU pmax pmax
comp=Z,34nm,1.2s
ARU MLR MLR
comp=Z,515nm,17.0s
ARU Arti 30.14 43 *e*P **P 04 53 00.5 -2.2**
comp=Z,21nm,0.9s
ARCES ARCESS Array B 30.27 3 P **P 04 53 02.6 -1.1**
comp=Z,5.6nm,1.0s,baz=190,slow=11,SNR=12
SOKR Solikamsk 30.43 36 *e*P **P 04 53 03.2 -2.0**
SOKR pmax pmax
comp=Z,12nm,0.7s
SOKR MLR MLR
comp=Z,266nm,15.0s
TOA0 Torodi Ar. Sit 31.01 218 *e*P **P 04 53 11.3 +0.7**
comp=Z,36nm,0.9s
TORD Torodi Ar. Bea 31.01 218 P **P 04 53 11.5 +0.8**
comp=Z,29nm,0.8s,baz=32,slow=9.0,SNR=195
TORD LR LR 05 08 14.7
comp=Z,183nm,18.9s,baz=250,slow=41
KOWA Kowa 32.88 228 P **P 04 53 27.9 +0.7**
comp=Z,5.7nm,0.7s,baz=34,slow=9.1,SNR=19
KOWA LR LR 05 08 18.1
comp=Z,228nm,18.0s,baz=50,slow=39
KOWA Kowa 32.88 228 *e*P **P 04 53 28.2 +1.0**
comp=Z,5.9nm,0.8s
SOHO SOHO 33.97 106 P **P 04 53 37.0 +0.4**
SNR=8.0
WSAR Wadi Sarin 36.06 105 P **P 04 53 54.2 -0.4**
comp=Z,4.2nm,0.8s,baz=301,slow=15,SNR=3.8
BRVK Borovoye 36.27 51*c i*P **P 04 53 56.5 +0.4**
BRVK pmax pmax
comp=Z,23nm,0.9s
BRVK Borovoye 36.27 51 *e*P **P 04 53 56.4 +0.2**
comp=Z,26nm,0.9s
BRVK Borovoye 36.27 51 P **P 04 53 56.7 +0.5**
SNR=10
BRVK Borovoye 36.27 51 P **P 04 53 56.7 +0.5**
SNR=10
BVAR Borovoye Array 36.33 51 P **P 04 53 57.1 +0.4**
comp=Z,10nm,0.9s,baz=267,slow=5.9,SNR=33
KK31 Karatay Array 37.32 68 P **P 04 54 04.4 -0.9**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 37.32 68 *e*P **P 04 54 05.0 -0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 37.32 68 *e*P **P 04 54 05.0 -0.3**
comp=Z,3.8nm,0.6s
SPITS Spitsbergen Ar 38.88 359 P **P 04 54 17.3 -0.7**
comp=Z,3.9nm,0.7s,baz=159,slow=7.2,SNR=5.2
EKS2 Erkin-Say 39.76 68 P **P 04 54 26.3 +0.4**
SNR=21
DBIC Dimbokro 39.81 222 P **P 04 54 26.7 +0.4**
comp=Z,7.7nm,0.8s,baz=13,slow=8.6,SNR=7.2
DBIC LR LR 05 12 20.6
comp=Z,177nm,19.0s,baz=358,slow=38
DBIC Dimbokro 39.81 222 *e*P **P 04 54 27.1 +0.8**
DBIC pmax pmax
comp=Z,21nm,1.3s
DBIC Dimbokro 39.81 222 *e*P **P 04 54 27.1 +0.8**
comp=Z,21nm,1.3s
TIC Toumodi 39.92 222 *e*P **P 04 54 27.0 -0.3**
KIC Kosan Boka 40.02 221 *e*P **P 04 54 28.3 +0.2**
comp=Z,40nm,1.1s
SFK Sufi-Kurgan 40.27 72 *i* P **P 04 54 28.5 -1.7**
SFK pmax pmax
comp=Z,11nm,0.9s

LIC	**Lamto**	**40.28**	**221**	*e*P	**P**	**04 54 30.6**	**+0.4**
	comp=Z,73nm,1.0s						
AAK	**Ala-Archa**	**40.28**	**67**	P	**P**	**04 54 30.3**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=252,slow=8.1,SNR=11						
AAK	**Ala-Archa**	**40.28**	**67***d*	*i*P	**P**	**04 54 30.4**	**+0.1**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AAK	**Ala-Archa**	**40.28**	**67**	P	**P**	**04 54 30.5**	**+0.3**
	SNR=8.2						
AAK	**Ala-Archa**	**40.28**	**67**	*e*P	**P**	**04 54 30.5**	**+0.3**
	comp=Z,11nm,1.0s						
AAK	**Ala-Archa**	**40.28**	**67**	pP	**P**	**04 54 34.4**	**+4.2**
	SNR=9.8						
AAK	**Ala-Archa**	**40.28**	**67**	P	**P**	**04 54 34.4**	**+4.2**
	SNR=9.8						
FRU	**Bishkek**	**40.32**	**67**	*e*P	**P**	**04 54 30.0**	**-0.4**
FRU				*e*		04 54 38.0	
UCH	**Uchtor**	**40.40**	**68**	P	**P**	**04 54 32.0**	**+0.4**
	SNR=7.0						
KBK	**Karagaybulak**	**40.60**	**67**	P	**P**	**04 54 32.5**	**-0.4**
	SNR=5.2						
KZA	**Kyzart**	**40.97**	**68**	P	**P**	**04 54 37.0**	**+0.8**
	SNR=9.4						
KURBB	**Kurchatov Arra**	**41.51**	**55**	P	**P**	**04 54 39.6**	**-0.4**
	comp=Z,20nm,0.9s,baz=283,slow=9.2,SNR=108						
KURBB				PP	**PnPn**	**04 56 18.5**	**-2.1**
	comp=Z,2.5nm,1.0s,baz=282,slow=9.5,SNR=2.9						
KURK	**Kurchatov**	**41.55**	**54***c*	*i*P	**P**	**04 54 40.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,30nm,1.1s						
KURK	**Kurchatov**	**41.55**	**54**	*e*P	**P**	**04 54 39.9**	**-0.4**
	comp=Z,31nm,1.0s						
KURK				PP	**PP**	**04 56 18.5**	**+2.2**
KURK	**Kurchatov**	**41.55**	**54**	P	**P**	**04 54 39.6**	**-0.7**
	SNR=12						
KURK	**Kurchatov**	**41.55**	**54**	P	**P**	**04 54 39.6**	**-0.7**
	SNR=12						
ULHL	**Ulahol**	**41.63**	**67**	P	**P**	**04 54 41.5**	**0.0**
	SNR=7.0						
NRN	**Naryn**	**41.68**	**69**	P	**P**	**04 54 42.5**	**+0.5**
NRN				pmax	pmax		
	comp=Z,11nm,1.1s						
KSH	**Kashi**	**42.23**	**71**	P	**P**	**04 54 45.8**	**-0.5**
KSH				pP	pP	04 54 50.9	-0.8
KSH				S	**S**	**05 01 03.4**	**-2.5**
KSH				sS	pS	05 01 11.0	-1.2
KSH				pmax	pmax		
	comp=Z,12nm,1.3s						
KSH				pmax	pmax		
	comp=Z,100nm,4.1s						
KSH				LR	LR		
	comp=Z,120nm,6.6s						
KSH				LR	LR		
	comp=Z,83nm,7.2s						
KSH				LR	LR		
	comp=Z,140nm,6.1s						
KDJ	**Kajisay**	**42.33**	**67**	P	**P**	**04 54 47.8**	**+0.7**
KDJ				pmax	pmax		
	comp=Z,15nm,1.2s						
PDGK	**Podgornoye**	**43.64**	**65**	*i* P	**P**	**04 54 55.4**	**-2.2**
PDGK				pmax	pmax		
	comp=Z,12nm,1.2s						
NVS	**Novosibirsk**	**43.84**	**48**⇑	*i*P	**P**	**04 54 59.5**	**+0.6**
NVS				pmax	pmax		
	comp=E,14nm,1.1s						
NVS				pmax	pmax		
	comp=Z,34nm,1.1s						
MAKZ	**Makanchi**	**44.46**	**60**	*e*P	**P**	**04 55 03.6**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,13nm,0.9s						
MAKZ	**Makanchi**	**44.46**	**60**	*e*P	**P**	**04 55 03.6**	**-0.4**
	comp=Z,13nm,0.9s						
MK31	**Makanchi Array**	**44.67**	**59**	*e*P	**P**	**04 55 05.3**	**-0.4**
MK31	**Makanchi Array**	**44.67**	**59**	*e*P	**P**	**04 55 05.3**	**-0.4**
MKAR	**Makanchi Array**	**44.67**	**59**	P	**P**	**04 55 05.3**	**-0.4**
	comp=Z,16nm,0.6s,baz=281,slow=6.7,SNR=220						
MKAR				LR	LR	05 16 54.5	
	comp=Z,231nm,19.8s,baz=338,slow=40						
MKAR	**Makanchi Array**	**44.67**	**59**	*e*P	**P**	**04 55 05.3**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,115nm,0.7s						
MKAR	**Makanchi Array**	**44.67**	**59**	*e*P	**P**	**04 55 05.3**	**-0.4**
	comp=Z,115nm,0.7s						
MK01	**Makanchi Array**	**44.68**	**59**	*e*P	**P**	**04 55 05.2**	**-0.6**
ZAA0	**Zalesovo Array**	**44.87**	**49**	*e*P	**P**	**04 55 06.8**	**-0.4**
	comp=Z,29nm,0.8s						
ZALV	**Zalesovo Beam**	**44.87**	**49**	P	**P**	**04 55 06.6**	**-0.5**
	comp=Z,25nm,0.7s,baz=276,slow=8.8,SNR=116						
ZALV	**Zalesovo Beam**	**44.87**	**49**	*e*P	**P**	**04 55 06.5**	**-0.7**
SFJD	**Kangerlussuaq**	**47.13**	**330**	LR	LR	05 15 47.7	
	comp=Z,108nm,18.6s,baz=85,slow=37						
WMQ	**Urumqi**	**49.17**	**62**	P	**P**	**04 55 41.3**	**+0.3**
WMQ				pP	sP	04 55 48.1	-0.6
WMQ				pmax	pmax		
	comp=Z,26nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,320nm,5.1s						
WMQ				LR	LR		
	comp=Z,400nm,22.5s						
WMQ				LR	LR		
	comp=Z,470nm,24.5s						
WMQ				LR	LR		
	comp=Z,600nm,24.5s						
HVS	**Khovu-Aksy**	**50.78**	**51***c*	*i*P	**P**	**04 55 53.6**	**+0.5**
HVS				pmax	pmax		
	comp=Z,31nm,0.9s						
PYUN	**Piuthan**	**52.24**	**82**	*e*P	**P**	**04 56 03.4**	**-1.1**
	comp=Z,58nm,0.8s						
DANN	**Dangsing**	**52.71**	**82**	*e*P	**P**	**04 56 07.5**	**-0.6**
	comp=Z,9.4nm,1.0s						
KOLN	**Koldanda**	**52.87**	**82**	*e*P	**P**	**04 56 07.8**	**-1.4**
	comp=Z,21nm,0.7s						
GKN	**Gorkha**	**53.55**	**82**	*e*P	**P**	**04 56 12.5**	**-1.6**
	comp=Z,40nm,0.8s						
DMN	**Daman**	**54.11**	**82**	*e*P	**P**	**04 56 17.1**	**-1.2**
	comp=Z,40nm,0.8s						
PKIN	**Phulchoki**	**54.34**	**82**	*e*P	**P**	**04 56 18.3**	**-1.8**
	comp=Z,16nm,0.8s						
PKI	**Pulchoki**	**54.36**	**82**	*e*P	**P**	**04 56 18.6**	**-1.6**
	comp=Z,22nm,0.9s						
GUN	**Gumba**	**54.55**	**81**	*e*P	**P**	**04 56 20.1**	**-1.5**
	comp=Z,44nm,0.9s						
JIRN	**Jiri**	**54.91**	**81**	*e*P	**P**	**04 56 23.0**	**-1.3**
	comp=Z,45nm,0.9s						
MOY	**Mondy**	**54.92**	**49**	*e*P	**P**	**04 56 24.3**	**+0.6**
MOY				pmax	pmax		
	comp=Z,11nm,1.1s						
RAMN	**Ramite**	**55.59**	**82**	*e*P	**P**	**04 56 27.3**	**-1.7**
	comp=Z,44nm,0.9s						
TAPN	**Taplejung**	**56.23**	**81**	*e*P	**P**	**04 56 32.1**	**-1.6**
	comp=Z,45nm,0.8s						
TLY	**Talaya**	**56.45**	**48**	P	**P**	**04 56 35.1**	**+0.4**
	comp=Z,12nm,1.1s,baz=299,slow=5.7,SNR=9.1						
TLY	**Talaya**	**56.45**	**48**⇑	*i*P	**P**	**04 56 35.9**	**+1.3**
TLY				pmax	pmax		
	comp=Z,20nm,1.3s						
TLY	**Talaya**	**56.45**	**48**	*e*P	**P**	**04 56 35.0**	**+0.4**
	comp=Z,16nm,1.1s						
TLY	**Talaya**	**56.45**	**48**	pP	**P**	**04 56 36.0**	**+1.5**
	SNR=7.9						
TLY	**Talaya**	**56.45**	**48**	P	**P**	**04 56 36.0**	**+1.5**
	SNR=7.9						
ZAK	**Zakamensk**	**56.75**	**49**	*e*P	P	04 56 31.3	-5.5
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SCHQ	**Schefferville**	**57.52**	**317**	P	**P**	**04 56 42.1**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=358,slow=14,SNR=4.0						
TIXI	**Tiksi**	**58.48**	**21**	P	**P**	**04 56 48.7**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=276,slow=5.8,SNR=5.0						
TIXI	**Tiksi**	**58.48**	**21**⇑	*i*P	**P**	**04 56 49.6**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TIXI	**Tiksi**	**58.48**	**21**	*e*P	**P**	**04 56 48.9**	**+0.4**
	comp=Z,9.6nm,1.4s						
RES	**Resolute Bay**	**58.55**	**344**	*e*P	**P**	**04 56 49.6**	**+0.6**
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RES	**Resolute Bay**	**58.55**	**344**	*e*P	**P**	**04 56 49.6**	**+0.6**
	comp=Z,1.1nm,0.7s						
GTA	**Gaotai**	**59.25**	**62**	*e*P	P	04 56 49.6	-5.0
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,46nm,5.9s						
GTA				LR	LR		
	comp=Z,280nm,17.3s						
GTA				LR	LR		
	comp=Z,260nm,15.7s						
GTA				LR	LR		
	comp=Z,210nm,15.7s						
BOD	**Bodaibo**	**59.39**	**38**	*e*P	**P**	**04 56 53.5**	**-1.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SONA1	**Songino Array**	**59.68**	**51**	*e*P	**P**	**04 56 57.0**	**-0.4**
SONM	**Songino Array**	**59.68**	**51**	P	**P**	**04 56 57.1**	**-0.3**
	comp=Z,12nm,1.1s,baz=285,slow=7.5,SNR=45						
ULN	**Ulaanbaatar**	**60.06**	**51**	*e*P	**P**	**04 56 59.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ULN	**Ulaanbaatar**	**60.06**	**51**	*e*P	**P**	**04 56 59.9**	**-0.2**
	comp=Z,9.5nm,1.1s						
PALK	**Pallekele**	**62.53**	**104**	*e*P	**P**	**04 57 15.7**	**-1.4**
PALK				pmax	pmax		
	comp=Z,25nm,1.3s						
PALK	**Pallekele**	**62.53**	**104**	*e*P	**P**	**04 57 15.7**	**-1.4**
	comp=Z,25nm,1.3s						
OPO	**Ambohidratompo**	**62.88**	**151**	P	**P**	**04 57 18.2**	**-1.1**
	comp=Z,2.2nm,0.4s,baz=90,slow=20,SNR=2.1						
LZH	**Lanzhou**	**63.66**	**64**	*e*P	**P**	**04 57 24.1**	**-0.4**
LZH				pP	pP	04 57 27.3	-2.8
LZH				sP	sP	04 57 30.0	-2.3
LZH				PcP	**PcP**	**04 57 57.1**	**-3.6**
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				pmax	pmax		
	comp=Z,68nm,4.3s						
LZH				LR	LR		
	comp=Z,370nm,14.6s						
LZH				LR	LR		
	comp=Z,320nm,15.9s						
LZH				LR	LR		
	comp=Z,220nm,16.6s						
YAK	**Yakutsk**	**64.02**	**30**⇑	*i*P	**P**	**04 57 26.0**	**-0.2**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CD2	**Chengdu**	**66.33**	**69**	*e*P	**P**	**04 57 42.0**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BOSA	**Boshof**	**67.85**	**175**	P	**P**	**04 57 51.9**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=353,slow=5.9,SNR=2.8						
BOSA				LR	LR	05 30 19.7	
	comp=Z,201nm,18.5s,baz=354,slow=38						
FCC	**Fort Churchill**	**68.15**	**329**	*e*P	**P**	**04 57 53.4**	**+0.7**
FCC				pmax	pmax		
	comp=Z,8.0nm,1.3s						
FCC	**Fort Churchill**	**68.15**	**329**	*e*P	**P**	**04 57 53.4**	**+0.7**
	comp=Z,7.7nm,1.3s						
XAN	**Xi'an**	**68.27**	**63**	P	**P**	**04 57 53.8**	**-0.2**
XAN				pP	sP	04 58 01.3	-0.6
XAN				pmax	pmax		
	comp=Z,12nm,1.2s						
XAN				LR	LR		
	comp=Z,140nm,21.1s						
XAN				LR	LR		
	comp=Z,190nm,17.7s						
XAN				LR	LR		
	comp=Z,240nm,18.6s						
KMI	**Kunming**	**68.79**	**74**	P	**P**	**04 57 56.3**	**-1.3**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**69.74**	**82**	P	**P**	**04 58 01.8**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=303,slow=6.9,SNR=10						
BILL	**Bilibino**	**69.79**	**13**	*i* P	**P**	**04 58 02.5**	**-0.3**
BILL				*i*		04 58 10.4	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.4s						
INK	**Inuvik**	**70.81**	**350**	P	**P**	**04 58 08.8**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=11,slow=8.1,SNR=14						
INK	**Inuvik**	**70.81**	**350**	*e*P	**P**	**04 58 09.0**	**0.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**70.81**	**350**	*e*P	**P**	**04 58 09.0**	**0.0**
	comp=Z,2.2nm,0.7s						
SEY	**Seymchan**	**70.97**	**21**	P	**P**	**04 58 10.6**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=303,slow=5.8,SNR=11						
SEY	**Seymchan**	**70.97**	**21***d*	*i*P	**P**	**04 58 11.5**	**+1.5**
TOLK	**Toolik Lake Re**	**71.98**	**356**	*e*P	**P**	**04 58 18.0**	**+1.9**
	comp=Z,20nm,1.8s						
YKW3	**Yellowknife Ar**	**72.14**	**340**	*e*P	**P**	**04 58 17.2**	**0.0**
	comp=Z,9.8nm,1.4s						
N54A	**Moraine State**	**72.15**	**309**	*e*P	**P**	**04 58 19.7**	**+2.1**
	comp=Z,43nm,1.8s						
YKA	**Yellowknife Ar**	**72.19**	**340**	P	**P**	**04 58 18.0**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=35,slow=5.3,SNR=21						
YKA	**Yellowknife Ar**	**72.19**	**340**	*i* P	**P**	**04 58 18.0**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KLR	**Kul'dur**	**72.92**	**40**	P	**P**	**04 58 21.6**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=282,slow=7.3,SNR=5.7						
KLR				LR	LR	05 34 14.9	
	comp=Z,10nm,19.0s,baz=307,slow=39						
KLR	**Kul'dur**	**72.92**	**40***c*	*i*P	**P**	**04 58 22.2**	**+0.2**
CN2	**Changchun**	**73.04**	**47**	*e*P	**P**	**04 58 22.8**	**0.0**
MA2	**Magadan**	**73.15**	**24**	P	**P**	**04 58 24.1**	**+0.9**
	comp=Z,6.0nm,0.7s,baz=335,slow=6.8,SNR=9.4						
MA2	**Magadan**	**73.15**	**24**⇑	*i*P	**P**	**04 58 24.6**	**+1.4**
COLD	**Coldfoot**	**73.42**	**356**	*e*P	**P**	**04 58 26.2**	**+1.5**
	comp=Z,8.2nm,1.2s						
FYU	**Fort Yukon**	**73.75**	**354**	*e*P	**P**	**04 58 28.5**	**+1.9**
	comp=Z,33nm,1.5s						
FFC	**Flin Flon**	**74.08**	**329**	*e*P	**P**	**04 58 28.8**	**+0.1**
FFC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FFC	**Flin Flon**	**74.08**	**329**	*e*P	**P**	**04 58 28.8**	**+0.1**
	comp=Z,3.7nm,1.0s						
GRNR	**Gornyy**	**74.11**	**36**	*e*P	**P**	**04 58 28.8**	**-0.2**
NKL	**Nikolayevsk**	**74.30**	**33**	*e*P	**P**	**04 58 30.8**	**+0.8**
NKL				pmax	pmax		
	comp=Z,19nm,0.9s						
ULM	**Lac du Bonnet**	**74.67**	**323**	P	**P**	**04 58 32.8**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=48,slow=6.2,SNR=8.4						
ULM	**Lac du Bonnet**	**74.67**	**323**	*e*P	**P**	**04 58 33.2**	**+0.9**
ULM				pmax	pmax		
	comp=Z,15nm,1.4s						
ULM	**Lac du Bonnet**	**74.67**	**323**	*e*P	**P**	**04 58 33.2**	**+0.9**
	comp=Z,15nm,1.4s						
IM3	**Indian Mountai**	**74.81**	**358**	*e*P	**P**	**04 58 34.1**	**+1.3**
DAWY	**Dawson**	**75.61**	**351**	*e*P	**P**	**04 58 38.7**	**+1.2**
	comp=Z,7.6nm,0.8s						
COLA	**College**	**75.62**	**355**	*e*P	**P**	**04 58 38.0**	**+0.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
COLA	**College**	**75.62**	**355**	*e*P	**P**	**04 58 38.0**	**+0.6**
	comp=Z,3.3nm,0.7s						
MLY	**Manley**	**75.64**	**356**	*e*P	**P**	**04 58 39.4**	**+1.7**
	comp=Z,21nm,1.7s						
IL1	**Eielson Array**	**75.65**	**354**	*e*P	**P**	**04 58 38.8**	**+1.1**
ILAR	**Eielson Array**	**75.65**	**354**	P	**P**	**04 58 39.0**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=352,slow=3.4,SNR=16						
ILAR				LR	LR	05 33 33.0	
	comp=Z,29nm,19.7s,baz=332,slow=37						
ILAR	**Eielson Array**	**75.65**	**354**	P	**P**	**04 58 39.0**	**+1.3**
HDA	**Harding Lake**	**76.01**	**354**	*e*P	**P**	**04 58 40.7**	**+0.9**
	comp=Z,8.6nm,0.8s						
WRH	**Wood River Hil**	**76.03**	**355**	*e*P	**P**	**04 58 40.9**	**+1.0**
	comp=Z,8.8nm,1.0s						
SCRK	**Sand Creek**	**76.19**	**353**	*e*P	**P**	**04 58 42.5**	**+1.6**
	comp=Z,27nm,1.8s						
NJ2	**Nanjing**	**76.20**	**60**	*e*P	**P**	**04 58 42.1**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
USRK	**Ussuriysk Ar.**	**76.38**	**44**	P	**P**	**04 58 41.2**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=258,slow=3.7,SNR=4.5						
RIDG	**Independ'e Rid**	**76.50**	**353**	*e*P	**P**	**04 58 45.5**	**+2.9**
	comp=Z,25nm,1.4s						
DOT	**Dot Lake**	**76.52**	**353**	*e*P	**P**	**04 58 44.5**	**+1.8**
	comp=Z,70nm,1.6s						
BPAW	**Bear Paw Mtn.**	**76.58**	**356**	*e*P	**P**	**04 58 43.7**	**+0.8**
	comp=Z,5.0nm,0.9s						
MCK	**McKinley**	**76.82**	**355**	*e*P	**P**	**04 58 44.6**	**+0.2**
MCK				pmax	pmax		
	comp=Z,12nm,1.1s						
MCK	**McKinley**	**76.82**	**355**	*e*P	**P**	**04 58 44.6**	**+0.2**
	comp=Z,12nm,1.1s						
VLA	**Vladivostok**	**77.05**	**44***d*	*i*P	**P**	**04 58 48.1**	**+2.1**
VLA				pmax	pmax		
	comp=Z,21nm,0.9s						
CAST	**Castle Rocks**	**77.31**	**357**	*e*P	**P**	**04 58 48.8**	**+1.6**
	comp=Z,7.8nm,1.0s						
DHY	**Denali Highway**	**77.36**	**354**	*e*P	**P**	**04 58 48.8**	**+1.2**
	comp=Z,9.9nm,0.8s						
WCI	**Wyandotte Cave**	**77.65**	**309**	*e*P	**P**	**04 58 51.0**	**+1.5**
WCI				pmax	pmax		
	comp=Z,14nm,0.6s						
WCI	**Wyandotte Cave**	**77.65**	**309**	*e*P	**P**	**04 58 51.0**	**+1.5**
	comp=Z,14nm,0.6s						
KS01	**Wonju Array Si**	**78.52**	**51**	*e*P	**P**	**04 58 53.1**	**-1.2**
KSAR	**Wonju Array Be**	**78.53**	**51**	P	**P**	**04 58 53.9**	**-0.4**
KSAR	**Wonju Array Be**	**78.53**	**51**	P	**P**	**04 58 53.9**	**-0.4**
KSRS	**Korea Array**	**78.55**	**51**	P	**P**	**04 58 53.9**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=298,slow=4.4,SNR=6.0						
KSRS				LR	LR	05 37 20.5	
	comp=Z,138nm,18.6s,baz=330,slow=39						
SUA	**Susitna One**	**79.19**	**356**	*e*P	**P**	**04 58 59.8**	**+2.1**
	comp=Z,52nm,1.6s						
EDM	**Edmonton**	**79.45**	**334**	*e*P	**P**	**04 58 59.3**	**+0.1**
EDM				pmax	pmax		
	comp=Z,17nm,1.4s						
EDM	**Edmonton**	**79.45**	**334**	*e*P	**P**	**04 58 59.3**	**+0.1**
	comp=Z,17nm,1.4s						
YSS	**Yuzh-Sakhalins**	**79.76**	**36**⇓	*e*P	**P**	**04 59 01.2**	**+0.4**
YSS				*e*		04 59 08.3	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,100nm,12.0s						
YSS	**Yuzh-Sakhalins**	**79.76**	**36**	*e*P	**P**	**04 59 01.3**	**+0.4**
	comp=Z,58nm,1.4s						
PETK	**Petropavlovsk-**	**80.66**	**25**	LR	LR	05 39 06.8	
	comp=Z,111nm,18.4s,baz=329,slow=39						
LRAL	**Lakeview Retre**	**81.50**	**306**	*e*P	**P**	**04 59 11.7**	**+1.3**
	comp=Z,10nm,1.1s						
ASAJ	**Asahikawa**	**81.81**	**38**	P	**P**	**04 59 12.5**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=78,slow=17,SNR=4.9						
LAO	**LASA Array**	**81.94**	**326**	*e*P	**P**	**04 59 16.2**	**+3.5**
	comp=Z,28nm,1.6s						
EGMT	**Eagleton**	**82.35**	**329**	*e*P	**P**	**04 59 16.1**	**+1.3**
	comp=Z,30nm,1.3s						
WALA	**Waterton Lakes**	**83.10**	**332**	*e*P	**P**	**04 59 18.9**	**+0.2**
	comp=Z,16nm,1.5s						
HRY	**Holter Researc**	**84.24**	**329**	*e*P	**P**	**04 59 26.4**	**+1.8**
JTMT	**Jette**	**84.33**	**331**	*e*P	**P**	**04 59 26.8**	**+1.8**
	comp=Z,35nm,1.6s						
LLLB	**Lillooet**	**84.44**	**337**	*e*P	**P**	**04 59 28.6**	**+3.2**
	comp=Z,8.5nm,1.2s						
RLMT	**Red Lodge**	**84.47**	**327**	*e*P	**P**	**04 59 29.2**	**+3.2**
	comp=Z,18nm,1.7s						
NEW	**Newport**	**84.92**	**333**	P	**P**	**04 59 28.7**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=78,slow=8.6,SNR=4.6						
NEW	**Newport**	**84.92**	**333**	*e*P	**P**	**04 59 29.4**	**+1.5**
NEW				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NEW	**Newport**	**84.92**	**333**	*e*P	**P**	**04 59 29.4**	**+1.5**
	comp=Z,3.7nm,1.0s						
MSO	**Missoula**	**84.96**	**331**	*e*P	**P**	**04 59 29.8**	**+1.5**
	comp=Z,5.5nm,1.0s						
BOZ	**Bozeman (W)**	**85.07**	**328**	*e*P	**P**	**04 59 30.3**	**+1.4**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BOZ	**Bozeman (W)**	**85.07**	**328**	*e*P	**P**	**04 59 30.3**	**+1.4**
	comp=Z,3.9nm,0.9s						
MAJO	**Matsushiro**	**85.12**	**46**	*e*P	**P**	**04 59 28.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s						
MAJO	**Matsushiro**	**85.12**	**46**	*e*P	**P**	**04 59 28.9**	**-0.2**
	comp=Z,15nm,0.9s						
MAT	**Matsushiro**	**85.12**	**46**	P	**P**	**04 59 28.9**	**-0.2**
MJAR	**Matsushiro Arr**	**85.12**	**46**	P	**P**	**04 59 29.2**	**+0.1**
	comp=Z,6.8nm,0.8s,baz=316,slow=4.4,SNR=14						
LRM	**Limekiln Ridge**	**85.21**	**329**	*e*P	**P**	**04 59 31.2**	**+1.5**
K22A	**Casper**	**85.22**	**324**	*e*P	**P**	**04 59 33.9**	**+4.1**
	comp=Z,24nm,1.4s						
SDV	**Santo Domingo**	**85.29**	**278**	*e*P	**P**	**04 59 32.6**	**+2.1**
	comp=Z,7.7nm,0.8s						
YHH	**Holmes Hill**	**85.41**	**328**	*e*P	**P**	**04 59 33.9**	**+3.1**
	comp=Z,9.3nm,1.3s						
YMR	**Madison River**	**85.55**	**328**	*e*P	**P**	**04 59 35.1**	**+3.7**
	comp=Z,11nm,1.2s						
DLMT	**Dillon**	**85.65**	**329**	*e*P	**P**	**04 59 33.7**	**+1.9**
	comp=Z,9.0nm,1.1s						
C09A	**Chrisman Ranch**	**85.71**	**334**	*e*P	**P**	**04 59 33.6**	**+1.7**
	comp=Z,22nm,1.4s						
YPP	**Pitchstone Pla**	**85.81**	**327**	*e*P	**P**	**04 59 36.1**	**+3.4**
	comp=Z,11nm,1.3s						
MCMT	**McKenzie Canyo**	**86.19**	**329**	*e*P	**P**	**04 59 35.8**	**+1.2**
PDAR	**Pinedale Array**	**86.49**	**326**	P	**P**	**04 59 36.5**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=45,slow=6.6,SNR=4.0						
PDAR				LR	LR	05 38 44.2	
	comp=Z,69nm,18.7s,baz=47,slow=36						
F10A	**Beach Ranch, E**	**86.91**	**332**	*e*P	**P**	**04 59 39.7**	**+1.8**
	comp=Z,16nm,1.5s						
WMOK	**Wichita Mounta**	**87.30**	**314**	*e*P	**P**	**04 59 43.5**	**+3.6**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WMOK	**Wichita Mounta**	**87.30**	**314**	*e*P	**P**	**04 59 43.5**	**+3.6**
	comp=Z,6.0nm,1.2s						
BMO	**Blue Mountains**	**87.89**	**331**	*e*P	**P**	**04 59 44.9**	**+2.3**
BMO				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BMO	**Blue Mountains**	**87.89**	**331**	*e*P	**P**	**04 59 44.9**	**+2.3**
	comp=Z,7.1nm,1.4s						
HWUT	**Hardware Ranch**	**88.30**	**326**	*e*P	**P**	**04 59 45.7**	**+0.9**
	comp=Z,5.0nm,0.8s						
SDCO	**Great Sand Dun**	**88.57**	**320**	*e*P	**P**	**04 59 48.8**	**+2.5**
	comp=Z,5.5nm,1.4s						
BGU	**Big Grassy Mou**	**89.49**	**327**	*e*P	**P**	**04 59 53.4**	**+3.0**
	comp=Z,8.8nm,1.4s						
PV09	**Paradox Valley**	**89.72**	**323**	*e*P	**P**	**04 59 55.6**	**+3.9**
PV01	**Paradox Valley**	**89.75**	**322**	*e*P	**P**	**04 59 52.2**	**+0.5**
PV10	**Paradox Valley**	**89.78**	**323**	*e*P	**P**	**04 59 54.2**	**+2.3**
SRU	**San Rafael Swe**	**89.87**	**324**	*e*P	**P**	**04 59 52.2**	**0.0**
SRU				pmax	pmax		
	comp=Z,13nm,1.4s						
SRU	**San Rafael Swe**	**89.87**	**324**	*e*P	**P**	**04 59 52.2**	**0.0**
	comp=Z,13nm,1.4s						
DUG	**Dugway, Tooele**	**90.00**	**326**	*e*P	**P**	**04 59 54.4**	**+1.7**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DUG	**Dugway, Tooele**	**90.00**	**326**	*e*P	**P**	**04 59 54.4**	**+1.7**
	comp=Z,5.0nm,0.9s						
TMUT	**Trail Mountain**	**90.03**	**325**	*e*P	**P**	**04 59 56.5**	**+3.4**
	comp=Z,3.2nm,1.0s						
MSU	**Marysvale**	**91.11**	**325**	*e*P	**P**	**04 59 58.9**	**+0.9**
MSU				pmax	pmax		
	comp=Z,1.0nm,1.3s						
MSU	**Marysvale**	**91.11**	**325**	*e*P	**P**	**04 59 58.9**	**+0.9**
	comp=Z,0.8nm,1.3s						
MTPU	**Mount Pierson**	**91.50**	**324**	*e*P	**P**	**05 00 02.9**	**+2.9**
	comp=Z,6.9nm,1.1s						
YBH	**Yreka Blue Hor**	**92.55**	**333**	LR	LR	05 43 31.3	
	comp=Z,66nm,18.7s,baz=9.0,slow=37						
MNTX	**Cornudas Mount**	**93.20**	**316**	*e*P	**P**	**05 00 08.7**	**+1.1**
	comp=Z,7.1nm,1.4s						
TX31	**Lajitas Ar. Si**	**94.08**	**314**	*e*P	**P**	**05 00 14.0**	**+2.3**
TXAR	**Lajitas Array**	**94.08**	**314**	P	**P**	**05 00 13.5**	**+1.7**
	comp=Z,1.4nm,1.0s,baz=68,slow=4.3,SNR=9.4						
CPUP	**Villa Florida**	**97.62**	**242**	LR	LR	05 45 31.9	
	comp=Z,93nm,20.2s,baz=52,slow=36						
WRA	**Warramunga Arr**	**120.60**	**91**	PKP	**PKPdf**	**05 05 44.3**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=330,slow=1.8,SNR=10.0						
WRAB	**Tennant Creek**	**120.61**	**91**	*e*PKIKP	**PKPdf**	**05 05 44.3**	**-0.8**
WRAB	**Tennant Creek**	**120.61**	**91**	*e*PKPdf	**PKPdf**	**05 05 44.3**	**-0.8**
ASAR	**Alice Springs**	**122.32**	**95**	PKP	**PKPdf**	**05 05 47.7**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=330,slow=1.8,SNR=17						
DZM	**Mont Dzumac**	**146.26**	**69**	PKPbc	**PKPab**	**05 06 34.9**	**+0.2**
	comp=Z,6.7nm,0.7s,baz=256,slow=8.3,SNR=7.7						
DZM	**Mont Dzumac**	**146.26**	**69**	*e*PKPbc	**PKPbc**	**05 06 34.5**	**+0.6**

*NIED **25** 04:52:00, 33°.50N×132°.30E, h53km, Mw4.0 Best double couple: M0 9.86000×10^14 NP1:φs246.00000°, δ34.00000°, λ-111.00000°. NP2:φs91.00000°, δ59.00000°, λ-76.00000°.*

*ISCJB **25** 04:52:01.8±0.4, 33°.48N±0°.04×132°.33E±0°.04, h57km±4km, mb3.8/7, Error ellipse: s-maj=6.1km s-min=5.8km az=36.4*

*JMA **25** 04:52:02.9, 33°.49N×132°.33E, h45km, M4.0 Broadband fault plane solution: P waves. NP1:φs32.00000°, δ52.00000°, λ-121.00000°. NP2:φs257.00000°, δ48.00000°, λ-57.00000°. Principal axes: T Plg2.0000°, Azm144.0000°; N Plg24.0000°, Azm53.0000°; P Plg66.0000°, Azm238.0000°;*

JMA Felt II J1.

*IDC **25** 04:52:04.6±1.7, 33°.52N×132°.23E, h66km±16km, mb3.5/7, mb1 3.7/9, mb1mx3.3/74, mbtmp3.7/9 Error ellipse: s-maj=18.8km s-min=12.7km az=95.0*

ISC 25 04:52:02.9±0.8, **33°.47N**±0°.04×**132°.33E**±0°.04, **h45**km±7km, **n21**, σ1s**05**/30, **mb3.7**/7, **5C-3D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.15**	**53**	⇓P	**Pn**	**04 52 10.1**	**-0.2**
JNA				S	**Sn**	**04 52 15.4**	**-0.2**
UWA2	**Uwa jima 2**	**0.35**	**136**	⇑P	**Pn**	**04 52 12.0**	**-0.1**
UWA2				S	**Sn**	**04 52 18.9**	**+0.4**
JKU	**Kubokawa**	**0.63**	**104**	⇑P	**Pn**	**04 52 15.5**	**0.0**
JKU				S	**Sn**	**04 52 25.2**	**+0.6**
JUS	**Usuki**	**0.63**	**231**	⇓P	**Pn**	**04 52 15.4**	**-0.1**
JUS				S	**Sn**	**04 52 24.4**	**-0.1**
JET	**Tanbara**	**0.67**	**62**	⇓P	**Pn**	**04 52 16.0**	**-0.1**
JET				S	**Sn**	**04 52 25.8**	**+0.2**
JHM	**Kurahashi**	**0.69**	**14**	⇑P	**Pn**	**04 52 16.0**	**-0.3**
JHM				S	**Sn**	**04 52 25.7**	**-0.3**
JTO	**Tosashimizu**	**0.72**	**147**	⇑P	**Pn**	**04 52 16.9**	**+0.2**
JTO				S	**Sn**	**04 52 27.6**	**+0.9**
JHT	**Toyohira**	**1.20**	**3**	⇑P	**Pn**	**04 52 23.3**	**+0.1**
JHT				S	**Sn**	**04 52 38.9**	**+0.6**
JNU	**Nakatsue**	**1.27**	**255**	P	**Pn**	**04 52 24.8**	**+0.7**
	60nm,0.3s,baz=34,slow=3.2,SNR=487						
JNU				S	**Sn**	**04 52 41.3**	**+1.3**
	56nm,0.3s,baz=272,slow=17,SNR=20						
JMN	**Monobe**	**1.32**	**78**	P	**Pn**	**04 52 24.7**	**-0.1**
KSRS	**Korea Array**	**5.37**	**319**	P	**Pn**	**04 53 20.9**	**+0.6**
	1.8nm,0.3s,baz=137,slow=14,SNR=14						
KSRS				S	**Sn**	**04 54 21.0**	**+0.2**
	1.8nm,0.3s,baz=140,slow=24,SNR=5.2						
MJAR	**Matsushiro Arr**	**5.71**	**56**	P	**Pn**	**04 53 26.8**	**+1.6**
	1.3nm,0.3s,baz=243,slow=14,SNR=24						
USRK	**Ussuriysk Ar.**	**10.72**	**359**	P	Pn	04 54 38.8	+5.1
	0.2nm,0.3s,baz=157,slow=7.8,SNR=4.1						
KLR	**Kul'dur**	**15.76**	**359**	P	**P**	**04 55 48.6**	**+3.8**
	0.0nm,0.3s,baz=190,slow=6.3,SNR=5.7						
BVAR	**Borovoye Array**	**47.55**	**314**	P	**P**	**05 00 32.2**	**-1.6**
	0.4nm,0.5s,baz=111,slow=7.9,SNR=2.9						
WRA	**Warramunga Arr**	**53.14**	**178**	P	**P**	**05 01 15.7**	**-0.5**
	0.8nm,0.5s,baz=355,slow=8.2,SNR=16						
ILAR	**Eielson Array**	**56.41**	**31**	P	**P**	**05 01 39.3**	**-0.1**
	0.4nm,0.8s,baz=273,slow=5.7,SNR=4.5						
ASAR	**Alice Springs**	**56.83**	**178**	P	**P**	**05 01 42.9**	**0.0**
	0.8nm,0.8s,baz=10,slow=13,SNR=15						
INK	**Inuvik**	**60.85**	**25**	P	**P**	**05 02 10.5**	**+0.2**
	0.6nm,0.9s,baz=289,slow=4.0,SNR=2.6						
FINES	**FINESS Array B**	**68.35**	**330**	P	**P**	**05 02 58.1**	**-1.1**
	3.4nm,1.0s,baz=195,slow=3.7,SNR=4.6						
NOA	**NORSAR Array B**	**74.38**	**334**	P	**P**	**05 03 34.0**	**-1.8**
	0.6nm,0.6s,baz=46,slow=5.7,SNR=3.4						

MEX 25 04:52:47.2±0.4, 17°.28N×101°.32W, h15km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.36**	**337**	*i* P	Pg	04 52 53.7	-0.8
ZIIG				*i* S	Sg	04 52 58.7	-0.9
ARIG	**Puente Sto Nin**	**1.36**	**43**	*e*P	Pn	04 53 07.8	-3.9
ARIG				*e*S	Sn	04 53 24.4	-5.2
ACX	**Acapulco**	**1.45**	**106**	*i* P	Pn	04 53 10.0	-3.0
PLIG	**Platanillo**	**2.06**	**57**	*i* P	Pn	04 53 18.7	-2.6
PLIG				*i* S	Sn	04 53 43.3	-3.5

*OMAN **25** 05:00:08.8±99.0, 27°.40N×56°.27E, h5km, Error ellipse: s-maj=9999.0km s-min=141.9km az=1.0*
*CSEM **25** 05:00:09.5±0.2, 27°.35N×55°.97E, h2km, ML2.8, Error ellipse: s-maj=5.5km s-min=4.6km az=97.0*
*TEH **25** 05:00:10.7, 27°.33N×55°.87E, h11km, ML3.0*
*DSN **25** 05:00:10.9±1.1, 27°.32N×56°.05E, h15km, ML2.9/6, Error ellipse: s-maj=32.0km s-min=7.3km az=77.0*
ISC 25 05:00:10.7±1.1, 27°.32N±0°.03×55°.99E±0°.06, h9km±11km, n26, σ0°.96/32, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.18**	**63**	*e*Pg	**Pg**	**05 00 12.4**	**-2.1**
BNDS				*e*Sg	**Sg**	**05 00 16.9**	**-0.3**
GENO	**Geno**	**0.18**	**63**	*e*Pg	**Pb**	**05 00 15.5**	**+0.9**
GENO				*e*Sg	**Sg**	**05 00 20.1**	**+2.8**
GENO				*e*AMB	AMB	05 00 22.5	
	comp=Z,37μm,0.1s						
NIAN	**Nian**	**0.79**	**72**	*e*Pg	**Pn**	**05 00 27.4**	**-0.6**
NIAN				*e*AMB	AMB	05 00 43.4	
	comp=Z,9μm,0.1s						
KHSK	**Kohestak**	**1.10**	**120**	*e*Pn	**Pn**	**05 00 33.5**	**+1.3**
KHSK				*e*AMB	AMB	05 00 53.0	
	comp=Z,11μm,0.1s						
SHME	**Shamm**	**1.27**	**174**	P	**Pn**	**05 00 34.0**	**-0.7**
	SNR=7.8						
SHME	**Shamm**	**1.27**	**174**	*e*P	**Pn**	**05 00 33.6**	**-1.0**
	SNR=7.8						
SHME				S	**Sb**	**05 00 51.4**	**+0.2**
BANOM	**Banah**	**1.42**	**169**	P	**Pn**	**05 00 36.0**	**-0.7**
	SNR=36						
BANOM	**Banah**	**1.42**	**169**	Pn	**Pn**	**05 00 36.0**	**-0.7**
	SNR=36						
BANOM	**Banah**	**1.42**	**169**	P	**Pn**	**05 00 36.0**	**-0.7**
	SNR=36						
BANOM				S	**Sg**	**05 00 56.4**	**+0.1**
BANOM	**Banah**	**1.42**	**169**	*e*P	**Pn**	**05 00 35.9**	**-0.7**
	SNR=36						
BANOM				S	**Sg**	**05 00 56.4**	**+0.1**
MSFE	**Esma-Masafi**	**1.96**	**176**	P	**Pn**	**05 00 43.9**	**-0.2**
NAZ	**Nazwa, Dubai**	**2.34**	**187**	P	**Pn**	**05 00 49.8**	**+0.5**
NAZ	**Nazwa, Dubai**	**2.34**	**187**	P	**Pn**	**05 00 49.8**	**+0.5**
UOSS	**Minazif**	**2.37**	**175**	P	**Pn**	**05 00 49.7**	**-0.1**
	SNR=6.2						
UOSS	**Minazif**	**2.37**	**175**	*e*P	**Pn**	**05 00 49.7**	**-0.1**
	SNR=6.2						
NGRK	**Negar Kerman**	**2.41**	**16**	*e*Pn	**Pn**	**05 00 49.9**	**-0.7**
NGRK				*e*AMB	AMB	05 00 57.3	
	comp=Z,99nm,0.1s						
HATD	**Hatta, Dubai**	**2.48**	**177**	P	**Pn**	**05 00 51.0**	**-0.4**
HATD	**Hatta, Dubai**	**2.48**	**177**	P	**Pn**	**05 00 51.0**	**-0.4**
ASHO	**Ashiyiah**	**2.62**	**179**	P	**Pn**	**05 00 53.7**	**+0.4**
	SNR=20						
ASHO	**Ashiyiah**	**2.62**	**179**	Pn	**Pn**	**05 00 53.7**	**+0.4**
	SNR=20						
ASHO	**Ashiyiah**	**2.62**	**179**	P	**Pn**	**05 00 53.4**	**+0.1**
	SNR=20						
ASHO	**Ashiyiah**	**2.62**	**179**	Pn	**Pn**	**05 00 53.7**	**+0.4**
	SNR=20						
ASHO	**Ashiyiah**	**2.62**	**179**	*e*P	**Pn**	**05 00 53.4**	**+0.1**
	SNR=20						
KRBR	**Kerman**	**2.74**	**14**	*e*Pn	**Pn**	**05 00 55.1**	**0.0**
GHIR	**Ghir-Karzin**	**2.83**	**291**	*e*Pn	**Pn**	**05 00 55.8**	**-0.4**
GHIR				*e*Sg	**Sb**	**05 01 38.3**	**+2.0**
IMEH	**Mehriz**	**4.23**	**344**	*e*Pn	**Pn**	**05 01 14.6**	**-1.0**
IMEH				*e*AMB	AMB	05 01 25.7	
	comp=Z,124nm,0.2s						

*ISCJB **25** 05:01:51.4±1.2, 52°.78N±0°.05×87°.7E±0°.1, h10km, mb3.4/1, MS4.0/1, Error ellipse: s-maj=12.9km s-min=7.7km az=8.9*
*IDC **25** 05:01:51.0±1.5, 52°.76N×87°.90E, h0km, mb3.2/1, mb1 3.6/5, mb1mx3.2/76, mbtmp3.5/5, ML3.4/4, MS4.0/1, Ms1 4.0/1, ms1mx2.7/39, Error ellipse: s-maj=16.1km s-min=12.7km az=99.0*
*NNC **25** 05:01:54.5±1.5, 52°.77N×87°.44E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=14.4km s-min=6.7km az=82.0*
ISC 25 05:01:52.7±1.6, 52°.85N±0°.08×87°.9E±0°.1, h10km, n12, σ1°54/15, 8C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**2.15**	**302**	⇑Pn	**Pn**	**05 02 28.8**	**+0.2**
	16nm,0.3s						
ZAA0				⇓Lg	Lg	05 02 57.8	
	40nm,1.2s						
ZALV	**Zalesovo Beam**	**2.15**	**302**	Pn	**Pn**	**05 02 28.5**	**-0.1**
	28nm,0.3s,baz=123,slow=14,SNR=255						
ZALV				Lg	Lg	05 02 58.9	
	35nm,0.3s,baz=126,slow=26,SNR=30						
KURK	**Kurchatov**	**6.15**	**253**	⇑Pn	**Pn**	**05 03 22.4**	**-1.1**
	3.3nm,0.8s						
KURK				⇓Pg	**Pb**	**05 03 42.9**	**+3.1**
	1.5nm,0.4s						
KURK				⇓Sn	**Sn**	**05 04 30.5**	**-3.3**
	3.0nm,0.5s						
KURK				⇑Lg	Lg	05 05 02.6	
	25nm,1.0s						
KURBB	**Kurchatov Arra**	**6.24**	**253**	Pn	**Pn**	**05 03 24.4**	**-0.3**
	0.5nm,0.3s,baz=68,slow=15,SNR=32						
KURBB				Sn	**Sn**	**05 04 34.0**	**-2.0**
	0.3nm,0.3s,baz=69,slow=28,SNR=4.4						
KURBB				Lg	Lg	05 05 04.7	
	0.3nm,0.3s,baz=70,slow=35,SNR=8.1						
MK31	**Makanchi Array**	**7.07**	**213**	⇑Pn	**Pn**	**05 03 35.9**	**-0.3**
	4.6nm,0.5s,baz=29,slow=12,SNR=248						
MK31				⇑Sn	**Sn**	**05 04 56.7**	**+0.2**
	2.6nm,0.5s						
MK31				⇑Lg	Lg	05 05 32.3	
	2.8nm,0.5s,baz=25,slow=29						
MKAR	**Makanchi Array**	**7.07**	**213**	Pn	**Pn**	**05 03 35.9**	**-0.3**
	5.7nm,0.3s,baz=27,slow=12,SNR=230						
MKAR				Sn	**Sn**	**05 04 55.7**	**-0.8**
	1.1nm,0.3s,baz=38,slow=22,SNR=5.3						
MKAR				Lg	Lg	05 05 29.2	
	0.5nm,0.3s,baz=29,slow=30,SNR=4.3						
MAKZ	**Makanchi**	**7.16**	**215**	⇓Pn	**Pn**	**05 03 37.0**	**-0.4**
	3.6nm,0.3s						
MAKZ				⇑Sn	**Sn**	**05 04 57.9**	**-0.9**
	1.8nm,0.5s						
MAKZ				⇑Lg	Lg	05 05 33.4	
	11nm,1.1s						
BVAR	**Borovoye Array**	**10.58**	**278**	Pn	**Pn**	**05 04 24.2**	**0.0**
	0.1nm,0.3s,baz=89,slow=13,SNR=2.0						
SONM	**Songino Array**	**12.82**	**106**	Lg	Lg	05 08 38.1	
	baz=284,slow=29,SNR=2.3						
AAK	**Ala-Archa**	**13.61**	**227**	Lg	Lg	05 08 59.3	
	0.1nm,0.3s,baz=183,slow=17,SNR=3.4						
PALK	**Pallekele**	**45.82**	**190**	LR	LR	05 30 23.5	
	comp=Z,171nm,18.5s,baz=115,slow=37						
ILAR	**Eielson Array**	**55.35**	**25**	P	**P**	**05 11 25.3**	**-0.8**
	0.2nm,0.5s,baz=322,slow=4.7,SNR=5.4						

*ISK **25** 05:19:50.8, 38°.95N×43°.60E, h5km, ML2.7/7*
*DDA **25** 05:19:51.3, 38°.94N×43°.58E, h5km, Ml3.1*
*CSEM **25** 05:19:52.1±0.3, 38°.95N×43°.61E, h2km, ML3.1, Error ellipse: s-maj=6.6km s-min=5.0km az=102.0*
*ATA **25** 05:19:52.0±0.7, 38°.96N×43°.51E, h11km±7km, ML3.4, MW3.8*
ISC 25 05:19:52.3±0.9, 38°.95N±0°.02×43°.60E±0°.02, h7km±6km, n69, σ0°75/89, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.04**	**328**	*i* P	**Pg**	**05 19 53.7**	**-0.4**
VMUR	**Van-Muradiye**	**0.04**	**328**	P	**Pg**	**05 19 53.7**	**-0.4**
ERCV	**ERCIS-VAN**	**0.22**	**288**	PG	**Pg**	**05 19 56.3**	**-0.4**
ERCV				SG	**Sg**	**05 20 00.0**	**+0.3**
ERCV	**ERCIS-VAN**	**0.22**	**288**	*e*Pg	**Pg**	**05 19 56.3**	**-0.4**
ERCV				*e*Sg	**Sg**	**05 20 00.0**	**+0.3**
CLDR	**Caldiran**	**0.31**	**52**	PG	**Pg**	**05 19 57.9**	**-0.6**
CLDR	**Caldiran**	**0.31**	**52**	*i* P	**Pg**	**05 19 58.1**	**-0.4**
CLDR				*i* S	**Sb**	**05 20 04.9**	**-0.7**
CLDR	**Caldiran**	**0.31**	**52**	P	**Pg**	**05 19 58.1**	**-0.4**
TVAN	**Van**	**0.45**	**200**	*i* P	**Pg**	**05 20 01.1**	**+0.1**
TVAN	**Van**	**0.45**	**200**	P	**Pg**	**05 20 01.1**	**+0.1**
DYDN	**Diyadin**	**0.59**	**6**	*e*P	**Pg**	**05 20 03.9**	**+0.1**
DYDN				*e*S	**Sb**	**05 20 13.9**	**+0.1**
DYDN	**Diyadin**	**0.59**	**6**	*i* P	**Pg**	**05 20 03.9**	**+0.1**
DYDN				*i* S	**Sb**	**05 20 13.6**	**-0.2**
DYDN	**Diyadin**	**0.59**	**6**	P	**Pg**	**05 20 03.9**	**+0.1**
DYDN				S	**Sb**	**05 20 13.6**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.70**	**258**	*i* P	**Pg**	**05 20 04.9**	**-0.9**
ADCV				*i* S	**Sg**	**05 20 15.1**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.70**	**258**	P	**Pg**	**05 20 04.9**	**-0.9**
ADCV				S	**Sg**	**05 20 15.1**	**+0.2**
TUTA	**Tutak**	**0.76**	**307**	*e*P	**Pg**	**05 20 05.6**	**-1.2**
TUTA				*e*S	**Sg**	**05 20 17.0**	**+0.2**
TUTA	**Tutak**	**0.76**	**307**	*i* P	**Pg**	**05 20 05.7**	**-1.2**
TUTA	**Tutak**	**0.76**	**307**	P	**Pg**	**05 20 05.7**	**-1.2**
GEVA	**Gevas**	**0.77**	**214**	*i* P	**Pg**	**05 20 06.4**	**-0.7**
GEVA				*e*S	**Sb**	**05 20 18.1**	**-0.5**
GEVA	**Gevas**	**0.77**	**214**	*i* P	**Pg**	**05 20 06.3**	**-0.7**
GEVA	**Gevas**	**0.77**	**214**	P	**Pg**	**05 20 06.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.78**	**323**	PG	**Pg**	**05 20 06.7**	**-0.6**
AGRB				SG	**Sb**	**05 20 18.9**	**-0.3**
AGRB	**Hanur-Agry**	**0.78**	**323**	*e*Pg	**Pg**	**05 20 06.7**	**-0.6**
AGRB				*e*Sg	**Sb**	**05 20 18.9**	**-0.3**
IGDI	**IGDIR**	**0.99**	**22**	*e*P	**Pb**	**05 20 11.6**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.14**	**25**	PN	**Pb**	**05 20 14.3**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.14**	**25**	*e*Pn	**Pb**	**05 20 14.3**	**-0.1**
EKAR	**Karacoban**	**1.23**	**285**	*e*P	**Pg**	**05 20 15.2**	**-0.8**
EKAR	**Karacoban**	**1.23**	**285**	*i* P	**Pg**	**05 20 15.2**	**-0.8**
EKAR	**Karacoban**	**1.23**	**285**	P	**Pg**	**05 20 15.2**	**-0.8**
EATA	**Eleskirt**	**1.25**	**317**	*e*P	**Pg**	**05 20 15.1**	**-1.2**
EATA				*e*S	**Sn**	**05 20 33.4**	**-0.3**
EATA	**Eleskirt**	**1.25**	**317**	*i* P	**Pg**	**05 20 15.2**	**-1.2**
EATA				*i* S	**Sn**	**05 20 34.6**	**+0.9**
EATA	**Eleskirt**	**1.25**	**317**	P	**Pg**	**05 20 15.1**	**-1.2**
EATA				S	**Sn**	**05 20 34.6**	**+0.9**
YOVA	**Hakkari_Y`...kse**	**1.47**	**158**	*i* P	**Pb**	**05 20 19.9**	**0.0**
YOVA	**Hakkari_Y`...kse**	**1.47**	**158**	P	**Pb**	**05 20 19.9**	**0.0**
DIGO	**Kars**	**1.47**	**353**	*e*P	**Pb**	**05 20 20.1**	**+0.0**
DIGO	**Kars**	**1.47**	**353**	*i* P	**Pn**	**05 20 19.1**	**-0.3**
DIGO	**Kars**	**1.47**	**353**	P	**Pn**	**05 20 19.1**	**-0.3**
SRTM	**Siirt_Merkez**	**1.63**	**234**	*i* P	**Pb**	**05 20 22.4**	**-0.3**
SRTM	**Siirt_Merkez**	**1.63**	**234**	P	**Pb**	**05 20 22.4**	**-0.3**
VRTB	**Varto-Mus**	**1.68**	**278**	PN	**Pn**	**05 20 22.8**	**+0.6**
VRTB	**Varto-Mus**	**1.68**	**278**	*i* P	**Pb**	**05 20 23.5**	**-0.1**
VRTB	**Varto-Mus**	**1.68**	**278**	*e*Pn	**Pn**	**05 20 22.8**	**+0.6**
VRTB	**Varto-Mus**	**1.68**	**278**	P	**Pb**	**05 20 23.5**	**-0.1**
HOMI	**Horasan**	**1.71**	**310**	*e*P	**Pb**	**05 20 23.3**	**-0.8**
HOMI	**Horasan**	**1.71**	**310**	*i* P	**Pb**	**05 20 23.4**	**-0.7**
HOMI				*i* S	**Sg**	**05 20 49.3**	**+2.1**
SIRT	**Sirnak**	**1.71**	**213**	PN	**Pn**	**05 20 22.6**	**0.0**
SIRT	**Sirnak**	**1.71**	**213**	*e*Pn	**Pn**	**05 20 22.6**	**0.0**
KARS	**Kars**	**1.72**	**347**	PN	**Pn**	**05 20 23.3**	**+0.6**
KARS	**Kars**	**1.72**	**347**	*e*Pn	**Pn**	**05 20 23.3**	**+0.6**
EAK	**Akyaka**	**1.73**	**0**	*e*P	**Pg**	**05 20 26.1**	**+0.6**
EAK				IAML		05 21 01.6	
	comp=Z,16nm,0.6s						
SENK	**Senkaya-Erzuru**	**1.88**	**329**	PN	**Pb**	**05 20 26.2**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.88**	**329**	*e*Pn	**Pb**	**05 20 26.2**	**-0.7**
ERZM	**Erzurum**	**1.98**	**300**	*e*P	**Pb**	**05 20 28.1**	**-0.6**
ERZM				*e*S	**Sg**	**05 20 55.2**	**-0.6**
ERZM	**Erzurum**	**1.98**	**300**	*i* P	**Pb**	**05 20 28.9**	**+0.2**
ERZM	**Erzurum**	**1.98**	**300**	P	**Pb**	**05 20 28.9**	**+0.2**
BTMN	**Batman**	**2.12**	**241**	*i* P	**Pb**	**05 20 30.8**	**-0.2**
BTMN				*i* S	**Sb**	**05 20 56.7**	**-0.7**
BTMN	**Batman**	**2.12**	**241**	P	**Pb**	**05 20 30.8**	**-0.2**
BTMN				S	**Sb**	**05 20 56.7**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.14**	**289**	*e*P	**Pb**	**05 20 30.6**	**-0.9**
ECAT	**Cat-ERZURUM**	**2.14**	**289**	*i* P	**Pb**	**05 20 31.6**	**+0.1**
ECAT				*i* S	**Sg**	**05 21 01.4**	**+0.3**
ECAT	**Cat-ERZURUM**	**2.14**	**289**	P	**Pb**	**05 20 31.6**	**+0.1**
BNGB	**Bing˜ll**	**2.28**	**272**	PN	**Pn**	**05 20 31.3**	**+0.9**
BINT	**Bingol**	**2.43**	**269**	*e*Pn	**Pn**	**05 20 31.3**	**-1.1**
KOPT	**Kop Dagi**	**2.63**	**295**	*e*P	**Pb**	**05 20 39.8**	**0.0**
DGRG	**David-gareji**	**2.84**	**28**	*e*P	**Pb**	**05 20 41.0**	**-2.3**
BAYB	**BAYBURT**	**2.90**	**298**	*e*P	**Pb**	**05 20 45.7**	**+1.4**
MAZI	**Mazidag**	**2.90**	**240**	PN	**Pn**	**05 20 39.8**	**+0.9**
MAZI	**Mazidag**	**2.90**	**240**	*e*Pn	**Pn**	**05 20 39.8**	**+0.9**
BAYT	**Ayd˜–ntepe-Bay**	**3.03**	**299**	PN	**Pn**	**05 20 41.8**	**+1.0**
BAYT	**Ayd˜–ntepe-Bay**	**3.03**	**299**	*e*Pn	**Pn**	**05 20 41.8**	**+1.0**
KELT	**Kelkit**	**3.57**	**291**	*e*P	**Pb**	**05 20 58.0**	**+2.2**

*ISCJB **25** 05:26:42.4±0.2, 39°.42N±0°.02×81°.31E±0°.04, h10km, mb4.1/23, MS3.6/4, Error ellipse: s-maj=4.7km s-min=3.1km az=161.7*
*MOS **25** 05:26:45.6±1.1, 39°.41N×81°.44E, h33km, mb4.3/16, Error ellipse: s-maj=10.6km s-min=6.1km az=102.6*
*BJI **25** 05:26:46.4, 39°.47N×81°.29E, h10km, mb4.1/5, mB4.0/1, ML4.3/9, Ms3.7/1*
*IDC **25** 05:26:47.1±0.6, 39°.36N×81°.34E, h35km±3km, mb3.9/21, mb1 4.0/28, mb1mx3.8/69, mbtmp4.0/28, ML3.6/7, MS3.5/5, Ms1 3.5/5, ms1mx2.9/68, Error ellipse: s-maj=14.5km s-min=10.1km az=22.0*
*NNC **25** 05:26:47.7±2.2, 39°.78N×81°.61E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=18.3km s-min=11.8km az=130.0*
*SOME **25** 05:26:53.5, 40°.00N×80°.15E, h5km*
ISC 25 05:26:44.8±0.4, 39°.43N±0°.03×81°.40E±0°.04, h10km, n94, σ2°33/107, mb4.2/23, MS3.6/4, 22C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**4.12**	**335**	*e*P	Pn	05 27 54.6	+6.7
	82nm,0.3s						
UZB				*e*S	**Sn**	**05 28 36.8**	**+0.5**
	419nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**4.15**	**340**	⇑Pn	**Pn**	**05 27 49.3**	**+0.9**
	13nm,0.5s						
PDGK				⇑Sn	**Sn**	**05 28 36.1**	**-0.8**
	205nm,0.4s						
PDGK				⇑Lg	Lg	05 28 52.2	
	450nm,0.8s						
PDGK	**Podgornoye**	**4.15**	**340**	*e*P	**Pn**	**05 27 49.2**	**+0.9**
KSH	**Kashi**	**4.20**	**273**	Pn	**Pb**	**05 27 59.1**	**+0.3**
KSH				Sn	**Sb**	**05 28 51.8**	**+2.2**
KSH				smax	smax		
	comp=N,660nm,0.6s						
KSH				smax	smax		
	comp=E,650nm,1.0s						
SATY	**Saty**	**4.27**	**329**	*e*P	Pn	05 27 55.8	+5.9
	21nm,0.2s						
SATY				*e*S	**Sn**	**05 28 38.9**	**-0.9**
	284nm,0.1s						
KPKS	**Kokpek**	**4.51**	**334**	*e*P	Pn	05 27 58.9	+5.6
	8.5nm,0.2s						
KPKS				*e*S	**Sn**	**05 28 43.7**	**-2.3**
	406nm,0.4s						
KURS	**Kuram**	**4.72**	**330**	*e*P	Pn	05 28 03.0	+6.9
	2.1nm,0.2s						
KURS				*e*S	**Sn**	**05 28 50.9**	**-0.1**
	126nm,0.6s						
MDOK	**Medeo**	**4.96**	**320**	⇑Pn	**Pn**	**05 28 02.3**	**+2.8**
	16nm,0.5s						
MDOK				⇑Lg	Lg	05 29 21.4	
	176nm,0.6s						
AAA	**Alma-Ata**	**5.06**	**320**	*e*P	**Pb**	**05 28 16.5**	**+3.0**
AAA				pmax	pmax		
	comp=Z,34nm,0.4s						
MTBS	**Maitube**	**5.26**	**316**	*e*P	Pn	05 28 10.1	+6.6
	comp=Z,6.6nm,0.3s						
MTBS				*e*S	**Sn**	**05 29 03.1**	**-1.1**
	comp=Z,48nm,0.5s						
KST	**Kastek**	**5.46**	**313**	*e*P	Pn	05 28 14.1	+7.7
	comp=Z,2.5nm,0.2s						
KST				*e*S	**Sn**	**05 29 09.7**	**+0.6**
	comp=Z,48nm,0.6s						
TKM2	**Tokmak 2**	**5.59**	**310**	⇑Pn	**Pn**	**05 28 09.9**	**+1.7**
	comp=Z,2.9nm,0.3s						
TKM2				⇑Lg	Lg	05 29 43.9	
	comp=Z,80nm,0.9s						
TKM2	**Tokmak 2**	**5.59**	**310**	*e*P	**Pn**	**05 28 08.6**	**+0.3**
SFK	**Sufi-Kurgan**	**6.11**	**278**	⇑Pn	**Pn**	**05 28 17.8**	**+2.4**
	comp=Z,2.0nm,0.4s						
SFK				⇑Pg	**Pg**	**05 28 41.3**	**-0.6**
	comp=Z,15nm,0.4s						
SFK				⇓Lg	Lg	05 30 07.0	
	comp=Z,57nm,0.7s						
SFK	**Sufi-Kurgan**	**6.11**	**278**	P	**Pn**	**05 28 17.8**	**+2.4**
SFK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SFK				pmax	pmax		
	comp=Z,15nm,0.4s						
AAK	**Ala-Archa**	**6.12**	**304**	Pn	**Pn**	**05 28 19.0**	**+3.5**
	comp=Z,0.5nm,0.3s,baz=121,slow=9.3,SNR=6.4						
AAK				Lg	Lg	05 30 00.6	
	comp=Z,2.3nm,0.3s,baz=14,slow=22,SNR=3.6						
AAK	**Ala-Archa**	**6.12**	**304**	⇑Pn	**Pn**	**05 28 19.0**	**+3.5**
	comp=Z,1.9nm,0.5s						
AAK				⇑Pg	**Pg**	**05 28 40.7**	**-1.3**
	comp=Z,15nm,0.5s						
AAK				⇑Lg	Lg	05 30 02.8	
	comp=Z,37nm,0.7s						
AAK	**Ala-Archa**	**6.12**	**304**	⇓P	**Pn**	**05 28 19.5**	**+4.0**
WMQ	**Urumqi**	**6.44**	**45**	Pn	**Pn**	**05 28 23.4**	**+3.6**
WMQ				Sn	**Sn**	**05 29 33.1**	**-0.2**
WMQ				smax	smax		
	comp=Z,650nm,1.5s						
WMQ				smax	smax		
	comp=Z,740nm,1.2s						
MAKZ	**Makanchi**	**7.38**	**3**	⇑Pn	**Pn**	**05 28 34.1**	**+1.4**
	comp=Z,32nm,0.5s						
MAKZ				⇑Pg	**Pb**	**05 28 55.8**	**+2.8**
	comp=Z,53nm,0.8s						
MAKZ				⇓Sn	**Sn**	**05 29 51.9**	**-4.6**
	comp=Z,68nm,0.5s						
MAKZ	**Makanchi**	**7.38**	**3**	P	**Pn**	**05 28 34.1**	**+1.4**
MAKZ				pmax	pmax		

NVS	**Novosibirsk**	**15.46**	**4**	*e*P	P		05 30 40.1	+13
NVS				*e*			05 33 19.0	
NVS				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BVAR	**Borovoye Array**	**15.55**	**335**	Pn	**Pn**		**05 30 23.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=95,slow=4.9,SNR=3.9							
BRVK	**Borovoye**	**15.62**	**334**	*ce*P	**Pn**		**05 30 27.4**	**+2.5**
BRVK				pmax	pmax			
	comp=Z,30nm,0.8s							
GEYT	**Alibeck**	**18.23**	**273**	P	**Pn**		**05 30 55.8**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=72,slow=9.3,SNR=2.9							
ZAK	**Zakamensk**	**18.90**	**47**	*e*P	**P**		**05 31 06.1**	**+0.6**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.9s							
AKTO	**Aktyubinsk**	**19.79**	**311**	P	**P**		**05 31 14.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=294,slow=20,SNR=3.4							
SONM	**Songino Array**	**19.88**	**57**	P	**P**		**05 31 17.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=251,slow=11,SNR=34							
CD2	**Chengdu**	**20.12**	**108**	*e*P	Pn		05 31 23.5	+2.7
ULN	**Ulaanbaatar**	**20.32**	**57**	*i*P	**P**		**05 31 21.7**	**+0.6**
ULN				pmax	pmax			
	comp=Z,6.0nm,1.7s							
ARU	**Arti**	**22.70**	**326**	*d i*P	**P**		**05 31 45.8**	**-0.6**
ARU							05 32 09.2	
ARU				S	**S**		**05 35 53.3**	**-1.3**
ARU				pmax	pmax			
	comp=Z,4.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**25.84**	**139**	P	**P**		**05 32 15.2**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=309,slow=10,SNR=4.1							
BRTR	**Keskin Array B**	**36.46**	**286**	P	**P**		**05 33 49.8**	**-0.3**
	comp=Z,5.6nm,0.6s,baz=96,slow=8.1,SNR=42							
KLR	**Kul'dur**	**36.71**	**58**	*i*P	**P**		**05 33 51.5**	**-0.4**
MMAI	**Mount Meron Ar**	**37.33**	**275**	LR	LR		05 52 42.4	
	comp=Z,74nm,19.0s,baz=140,slow=42							
FINES	**FINESS Array B**	**39.95**	**322**	P	**P**		**05 34 17.8**	**-1.2**
	comp=Z,4.4nm,1.0s,baz=94,slow=7.6,SNR=7.0							
FINES				pP	**sP**		**05 34 28.3**	**+4.9**
	comp=Z,8.8nm,1.2s,baz=99,slow=17,SNR=2.6							
FINES				sP	pP		05 34 32.6	+11
	comp=Z,1.7nm,0.7s,baz=104,slow=12,SNR=1.6							
FINES	**FINESS Array B**	**39.95**	**322**	*ce*P	**P**		**05 34 18.2**	**-0.8**
FINES				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ARCES	**ARCESS Array B**	**41.84**	**334**	P	**P**		**05 34 33.8**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=93,slow=8.0,SNR=18							
ARCES				pP	**sP**		**05 34 43.8**	**+4.9**
	comp=Z,3.1nm,0.9s,baz=106,slow=9.1,SNR=1.2							
NKL	**Nikolayevsk**	**41.99**	**51**	*e*P	**P**		**05 34 35.7**	**-0.2**
NKL				pmax	pmax			
	comp=Z,16nm,0.9s							
IDI	**Anoyia**	**44.48**	**283**	P	**P**		**05 34 54.5**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=18,slow=13,SNR=4.4							
ASAJ	**Asahikawa**	**44.96**	**63**	P	**P**		**05 34 59.2**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=202,slow=19,SNR=3.4							
HFS	**Hagfors**	**45.99**	**320**	P	**P**		**05 35 06.5**	**-1.4**
	comp=Z,3.1nm,0.8s,baz=120,slow=8.5,SNR=15							
NB2	**NORSAR Subarra**	**47.12**	**321**	P	**P**		**05 35 15.4**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=84,slow=7.9							
NB2	**NORSAR Subarra**	**47.12**	**321**	P	**P**		**05 35 15.3**	**-1.5**
NB2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
NOA	**NORSAR Array B**	**47.12**	**321**	P	**P**		**05 35 15.7**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=84,slow=7.9,SNR=6.5							
SEY	**Seymchan**	**47.31**	**36**	*i*P	**P**		**05 35 18.9**	**+0.7**
CLL	**Collm**	**47.82**	**308**	*i* P	**P**		**05 35 21.1**	**-1.2**
CLL	**Collm**	**47.82**	**308**	*i* P	**P**		**05 35 21.1**	**-1.2**
GERES	**GERESS Array B**	**48.00**	**305**	P	**P**		**05 35 23.2**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=69,slow=7.3,SNR=10							
GERES				LR	LR		05 59 55.8	
	comp=Z,59nm,18.6s,baz=102,slow=41							
PETK	**Petropavlovsk-**	**52.03**	**48**	P	**P**		**05 35 53.6**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=271,slow=11,SNR=3.2							
KEST	**Kesra**	**55.80**	**291**	LR	LR		06 04 41.9	
	comp=Z,47nm,18.3s,baz=262,slow=41							
EKA	**Eskdalemuir Ar**	**55.86**	**317**	P	**P**		**05 36 20.3**	**-2.0**
	comp=Z,1.9nm,0.9s,baz=79,slow=8.8,SNR=6.7							
ESDC	**Sonseca Array**	**63.21**	**300**	P	**P**		**05 37 11.9**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=55,slow=6.8,SNR=13							
ESDC				pP	**sP**		**05 37 22.8**	**+5.0**
	comp=Z,0.1nm,0.4s,baz=56,slow=7.0,SNR=2.3							
ILAR	**Eielson Array**	**69.47**	**20**	P	**P**		**05 37 51.5**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=315,slow=5.7,SNR=16							
ILAR				sP	sP		05 38 06.8	+9.5
	comp=Z,0.7nm,0.8s,baz=321,slow=5.2,SNR=4.6							
KDAK	**Kodiak Island**	**73.13**	**27**	*i* P	**P**		**05 38 15.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**73.87**	**274**	P	**P**		**05 38 18.0**	**-2.2**
	comp=Z,1.8nm,0.6s,baz=46,slow=5.4,SNR=19							
TORD				pP	**sP**		**05 38 29.3**	**+4.7**
	comp=Z,0.6nm,0.6s,baz=48,slow=4.6,SNR=3.5							
WRA	**Warramunga Arr**	**77.02**	**130**	P	**P**		**05 38 36.5**	**-1.6**
	comp=Z,1.3nm,0.9s,baz=323,slow=5.2,SNR=9.4							
KOWA	**Kowa**	**77.44**	**278**	P	**P**		**05 38 38.7**	**-1.9**
	comp=Z,1.5nm,0.4s,baz=47,slow=9.8,SNR=5.5							
YKA	**Yellowknife Ar**	**77.60**	**8**	P	**P**		**05 38 39.2**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=341,slow=5.5,SNR=34							
YKA				sP	**PcP**		**05 38 54.9**	**+4.0**
	comp=Z,0.4nm,0.5s,baz=341,slow=5.7,SNR=5.6							
ASAR	**Alice Springs**	**79.65**	**132**	P	**P**		**05 38 51.0**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=317,slow=4.9,SNR=7.5							
ASAR				sP	**PcP**		**05 39 06.5**	**+6.1**
	comp=Z,0.4nm,0.8s,baz=311,slow=5.9,SNR=3.0							
SCHQ	**Schefferville**	**82.24**	**342**	P	**P**		**05 39 03.9**	**-2.1**
	comp=Z,3.6nm,0.9s,baz=207,slow=16,SNR=3.5							
DBIC	**Dimbokro**	**82.92**	**273**	P	**P**		**05 39 08.6**	**-1.6**
	comp=Z,4.4nm,1.1s,baz=56,slow=3.6,SNR=3.1							
HNR	**Honiara**	**87.21**	**104**	LR	LR		06 20 17.8	
	comp=Z,29nm,18.9s,baz=212,slow=37							

MEX 25 05:33:33.0±0.8, 16°06N×98°39W, h3km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**37**	*i* P	Pg	05 33 41.1	+0.1
PNIG				*i* S	Sg	05 33 46.4	-0.1
TLIG	**Tlapa**	**1.51**	**354**	*e*P	Pn	05 33 56.7	-4.4
TLIG				*i* S	Sn	05 34 17.1	-4.2
VHO	**Vista Hermosa**	**1.88**	**57**	*e*P	Pn	05 34 02.7	-3.6
VHO				*e*S	Sn	05 34 26.0	-4.6
CAIG	**El Cayaco**	**2.05**	**299**	*i* P	Pn	05 34 05.2	-3.2
CAIG				*i* S	Sn	05 34 30.3	-4.3
PLIG	**Platanillo**	**2.56**	**336**	*e*P	Pn	05 34 12.2	-3.2
PLIG				*e*S	Sn	05 34 42.1	-5.0

*ISCJB **25** 05:39:40.8±0.8, 38°05N±0°03×20°01E±0°03, h1km±5km, mb3.6/4, Error ellipse: s-maj=5.9km s-min=3.0km az=36.1*
*IDC **25** 05:39:41.1±3.2, 37°95N×19°68E, h0km, mb3.5/4, mb1 3.6/8, mb1mx3.3/60, mbtmp3.4/8, ML3.3/4, Error ellipse: s-maj=54.9km s-min=23.6km az=45.0*
*CSEM **25** 05:39:42.7±0.2, 38°07N×20°12E, h2km, ML3.1, Error ellipse: s-maj=5.6km s-min=2.5km az=35.0*
*ATH **25** 05:39:43.2, 38°07N×20°19E, h20km±1km, ML3.1/18, Error ellipse: s-maj=3.5km s-min=1.1km az=59.0*
*THE **25** 05:39:43.3, 38°05N×20°16E, h0km±3km, ML3.4/4, Error ellipse: s-maj=3.3km s-min=1.3km az=283.0*

ISC 25 05:39:42.6±1.4, 38°07N±0°03×20°10E±0°04, h7km±9km, n165, σ1s27/191, mb3.6/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.40**	**75**	P	**Pg**	**05 39 50.6**	**+0.1**
VLS				S	**Sg**	**05 39 55.6**	**-0.1**
VLS				AML	AML	05 39 55.8	
	comp=N,45290μm,0.2s						
VLS				AML	AML	05 39 55.9	
	comp=E,26152μm,0.2s						
VLS	**Valsamata**	**0.40**	**75**	P	**Pg**	**05 39 50.5**	**+0.1**
VLS				S	**Sg**	**05 39 55.4**	**-0.3**
VLS	**Valsamata**	**0.40**	**75**	P	**Pg**	**05 39 50.5**	**+0.1**
VLS				S	**Sg**	**05 39 55.4**	**-0.3**
KFL	**Anninata**	**0.54**	**86**	P	**Pg**	**05 39 53.0**	**-0.2**
KFL				S	**Sg**	**05 39 59.9**	**-0.4**
KFL	**Anninata**	**0.54**	**86**	P	**Pg**	**05 39 52.9**	**-0.2**
KFL				S	**Sg**	**05 39 59.8**	**-0.4**
KFL	**Anninata**	**0.54**	**86**	P	**Pg**	**05 39 52.9**	**-0.2**
MGNA	**Meganisˌ„**	**0.80**	**43**	P	**Pg**	**05 39 57.4**	**-0.6**
MGNA				AML	AML	05 40 14.9	
	comp=N,11182μm,0.4s						
MGNA				AML	AML	05 40 15.2	
	comp=E,9714μm,0.4s						
MGNA	**Meganisˌ„**	**0.80**	**43**	P	**Pg**	**05 39 57.6**	**-0.4**
LKD2	**Lefkada island**	**0.84**	**31**	P	**Pg**	**05 39 59.2**	**+0.4**
LKD2				S	**Sb**	**05 40 11.4**	**+0.3**
LKD2				AML	AML	05 40 16.4	
	comp=E,8338μm,0.2s						
LKD2				AML	AML	05 40 17.3	
	comp=N,6059μm,0.3s						
LKD2	**Lefkada island**	**0.84**	**31**	P	**Pg**	**05 39 59.0**	**+0.2**
LKD2				S	**Sb**	**05 40 10.8**	**-0.3**
LKD2	**Lefkada island**	**0.84**	**31**	P	**Pg**	**05 39 58.3**	**-0.5**
VTN	**Vitineika**	**0.87**	**100**	P	**Pg**	**05 39 59.6**	**+0.3**
VTN				S	**Sb**	**05 40 11.3**	**-0.7**
VTN	**Vitineika**	**0.87**	**100**	P	**Pg**	**05 39 59.2**	**-0.2**
VTN				S	**Sg**	**05 40 10.6**	**-0.1**
PDO	**Prodromos**	**1.00**	**58**	P	**Pg**	**05 40 00.9**	**-0.9**
PDO	**Prodromos**	**1.00**	**58**	P	**Pg**	**05 40 01.1**	**-0.7**
PDO	**Prodromos**	**1.00**	**58**	P	**Pg**	**05 40 01.0**	**-0.9**
PVO	**Paravola**	**1.25**	**64**	P	**Pg**	**05 40 06.1**	**-0.4**
PVO				AML	AML	05 40 26.7	
	comp=E,1238μm,0.3s						
PVO				AML	AML	05 40 27.9	
	comp=N,3527μm,0.7s						
PVO	**Paravola**	**1.25**	**64**	P	**Pg**	**05 40 05.9**	**-0.6**
PVO				S	**Sn**	**05 40 23.6**	**0.0**
PVO	**Paravola**	**1.25**	**64**	P	**Pg**	**05 40 05.9**	**-0.6**
PVO				S	**Sn**	**05 40 23.6**	**0.0**
DRO	**Drossia**	**1.28**	**95**	P	**Pg**	**05 40 04.6**	**-2.5**
DRO				AML	AML	05 40 32.5	
	comp=E,2294μm,0.6s						
DRO				AML	AML	05 40 39.3	
	comp=N,2338μm,0.5s						
DRO	**Drossia**	**1.28**	**95**	P	**Pg**	**05 40 05.4**	**-1.7**
DSL	**Palaion Diasel**	**1.32**	**36**	P	**Pg**	**05 40 07.3**	**-0.5**
DSL				AML	AML	05 40 29.4	
	comp=E,3885μm,0.7s						
DSL				AML	AML	05 40 31.7	
	comp=N,2023μm,0.6s						
DSL	**Palaion Diasel**	**1.32**	**36**	P	**Pg**	**05 40 07.4**	**-0.5**
DSL				S	**Sn**	**05 40 27.6**	**+2.2**
DSL	**Palaion Diasel**	**1.32**	**36**	P	**Pg**	**05 40 07.0**	**-0.9**
DSL				S	**Sn**	**05 40 27.6**	**+2.2**
AMT	**Artemida-Makis**	**1.38**	**112**	P	**Pg**	**05 40 07.4**	**-1.8**
AMT				S	**Sb**	**05 40 26.7**	**-0.1**
AMT				AML	AML	05 40 32.1	
	comp=N,2701μm,0.9s						
AMT				AML	AML	05 40 33.3	
	comp=E,1995μm,0.5s						
AMT	**Artemida-Makis**	**1.38**	**112**	P	**Pg**	**05 40 07.9**	**-1.3**
AMT				S	**Sg**	**05 40 26.5**	**-0.6**
AMT	**Artemida-Makis**	**1.38**	**112**	P	**Pg**	**05 40 07.9**	**-1.3**
AMT				S	**Sn**	**05 40 28.9**	**+1.9**
EFP	**Efpalio**	**1.47**	**75**	P	**Pn**	**05 40 06.8**	**-2.7**
EFP				AML	AML	05 40 40.4	
	comp=E,1126μm,0.8s						
EFP				AML	AML	05 40 41.7	
	comp=N,1112μm,0.4s						
EFP	**Efpalio**	**1.47**	**75**	P	**Pn**	**05 40 08.2**	**-1.3**
IGT	**Igoumenitsa**	**1.47**	**7**	P	**Pn**	**05 40 10.1**	**+0.6**
IGT	**Igoumenitsa**	**1.47**	**7**	P	**Pn**	**05 40 10.2**	**+0.6**
IGT	**Igoumenitsa**	**1.47**	**7**	P	**Pn**	**05 40 10.2**	**+0.6**
LAKA	**Lakka**	**1.49**	**83**	P	**Pn**	**05 40 09.3**	**-0.6**
LAKA	**Lakka**	**1.49**	**83**	P	**Pn**	**05 40 09.3**	**-0.6**
ANX	**Ano Chora**	**1.52**	**69**	P	**Pn**	**05 40 09.9**	**-0.5**
ANX				AML	AML	05 40 37.5	
	comp=N,2524μm,0.6s						
ANX				AML	AML	05 40 42.5	
	comp=E,1208μm,0.5s						
ANX	**Ano Chora**	**1.52**	**69**	P	**Pn**	**05 40 10.3**	**-0.1**
ANX	**Ano Chora**	**1.52**	**69**	P	**Pn**	**05 40 10.1**	**-0.3**
SGD	**Sagiada**	**1.54**	**4**	P	**Pn**	**05 40 11.7**	**+1.1**
SGD	**Sagiada**	**1.54**	**4**	P	**Pn**	**05 40 11.7**	**+1.1**
SERG	**Sergoula**	**1.58**	**77**	P	**Pn**	**05 40 10.1**	**-1.0**
SERG	**Sergoula**	**1.58**	**77**	P	**Pn**	**05 40 10.7**	**-0.4**
SERG	**Sergoula**	**1.58**	**77**	P	**Pn**	**05 40 10.7**	**-0.4**
TRIZ	**Trizonia**	**1.58**	**79**	P	**Pn**	**05 40 09.9**	**-1.2**
TRIZ	**Trizonia**	**1.58**	**79**	P	**Pn**	**05 40 10.7**	**-0.4**
EVR	**Evrytania**	**1.58**	**57**	P	**Pn**	**05 40 10.7**	**-0.6**
EVR				AML	AML	05 40 43.0	
	comp=N,553μm,0.5s						
EVR				AML	AML	05 40 43.6	
	comp=E,481μm,0.6s						
EVR	**Evrytania**	**1.58**	**57**	P	**Pn**	**05 40 11.1**	**-0.2**
KLV	**Kalavryta, Ach**	**1.62**	**90**	P	**Pn**	**05 40 11.5**	**-0.2**
KLV				AML	AML	05 40 46.3	
	comp=N,514μm,0.7s						
KLV				AML	AML	05 40 47.0	
	comp=E,367μm,0.8s						
KLV	**Kalavryta, Ach**	**1.62**	**90**	P	**Pn**	**05 40 11.7**	**0.0**
KLV	**Kalavryta, Ach**	**1.62**	**90**	P	**Pn**	**05 40 11.2**	**-0.5**
KALE	**Kalithea**	**1.64**	**78**	P	**Pn**	**05 40 10.6**	**-1.4**
KALE				AML	AML	05 40 45.8	
	comp=N,670μm,0.6s						
KALE				AML	AML	05 40 53.6	
	comp=E,555μm,0.8s						
KALE	**Kalithea**	**1.64**	**78**	P	**Pn**	**05 40 11.5**	**-0.5**
KALE	**Kalithea**	**1.64**	**78**	P	**Pn**	**05 40 11.5**	**-0.5**
KEK	**Kerkira**	**1.66**	**352**	P	**Pn**	**05 40 12.7**	**+0.5**
KEK	**Kerkira**	**1.66**	**352**	P	**Pn**	**05 40 13.1**	**+0.9**
KEK	**Kerkira**	**1.66**	**352**	P	**Pn**	**05 40 13.1**	**+0.9**
KASA	**Kassiopi**	**1.68**	**356**	P	**Pn**	**05 40 13.6**	**+1.1**
KASA	**Kassiopi**	**1.68**	**356**	P	**Pn**	**05 40 13.7**	**+1.3**
JAN	**Janina**	**1.69**	**20**	P	**Pg**	**05 40 15.6**	**+0.6**
JAN				AML	AML	05 40 42.4	
	comp=N,586μm,0.4s						
JAN				AML	AML	05 40 47.5	
	comp=E,675μm,0.5s						
JAN	**Janina**	**1.69**	**20**	P	**Pb**	**05 40 14.6**	**+0.5**
ITM	**Ithomi**	**1.70**	**121**	P	**Pn**	**05 40 12.6**	**-0.2**
ITM				AML	AML	05 40 41.5	
	comp=E,672μm,0.4s						
ITM				AML	AML	05 40 44.1	
	comp=N,642μm,0.5s						
ITM	**Ithomi**	**1.70**	**121**	P	**Pn**	**05 40 12.9**	**+0.1**
ITM	**Ithomi**	**1.70**	**121**	P	**Pn**	**05 40 12.6**	**-0.2**
PYL	**PYLOS**	**1.76**	**131**	P	**Pn**	**05 40 12.8**	**-0.7**
PYL	**PYLOS**	**1.76**	**131**	P	**Pn**	**05 40 13.4**	**-0.1**
PYL	**PYLOS**	**1.76**	**131**	P	**Pn**	**05 40 12.8**	**-0.7**
GUR	**Goura**	**1.78**	**94**	P	**Pn**	**05 40 14.2**	**+0.2**
GUR	**Goura**	**1.78**	**94**	P	**Pn**	**05 40 14.1**	**+0.2**
GUR	**Goura**	**1.78**	**94**	P	**Pn**	**05 40 14.1**	**+0.2**
TRIP	**Tripoli**	**1.80**	**107**	P	**Pg**	**05 40 16.9**	**-0.3**
TRIP				AML	AML	05 40 53.7	
	comp=E,518μm,0.6s						
TRIP				AML	AML	05 40 54.5	
	comp=N,449μm,0.7s						
TRIP	**Tripoli**	**1.80**	**107**	P	**Pb**	**05 40 15.7**	**-0.3**
VLX	**Vlachokerasia**	**1.94**	**110**	P	**Pb**	**05 40 18.5**	**+0.1**
VLX	**Vlachokerasia**	**1.94**	**110**	P	**Pn**	**05 40 17.5**	**+1.4**
DSF	**Desfina**	**1.94**	**79**	P	**Pn**	**05 40 16.9**	**+0.8**
DSF	**Desfina**	**1.94**	**79**	P	**Pn**	**05 40 16.6**	**+0.5**
DSF	**Desfina**	**1.94**	**79**	P	**Pn**	**05 40 16.6**	**+0.5**
AGG	**Agios Georgios**	**1.99**	**61**	P	**Pb**	**05 40 19.7**	**+0.5**
AGG	**Agios Georgios**	**1.99**	**61**	P	**Pb**	**05 40 18.5**	**-0.7**
AGG	**Agios Georgios**	**1.99**	**61**	P	**Pb**	**05 40 18.6**	**-0.7**
THAL	**Thalero**	**2.02**	**90**	AML	AML	05 40 58.5	
	comp=Z,565μm,0.4s						
THAL				AML	AML	05 41 00.7	
	comp=N,1033μm,0.5s						
THAL	**Thalero**	**2.02**	**90**	P	**Pn**	**05 40 18.2**	**+1.0**
THAL	**Thalero**	**2.02**	**90**	P	**Pn**	**05 40 18.2**	**+1.0**
THL	**Klokotos Trika**	**2.11**	**44**	P	**Pb**	**05 40 21.1**	**-0.1**
THL				AML	AML	05 40 57.0	
	comp=N,322μm,0.6s						
THL				AML	AML	05 40 57.2	
	comp=E,350μm,0.6s						
THL	**Klokotos Trika**	**2.11**	**44**	P	**Pn**	**05 40 20.1**	**+1.7**
THL	**Klokotos Trika**	**2.11**	**44**	P	**Pn**	**05 40 20.4**	**+2.0**
KPRO	**Kipourio**	**2.12**	**27**	P	**Pn**	**05 40 20.4**	**+1.7**
KPRO				AML	AML	05 41 00.3	
	comp=E,536μm,0.7s						
KPRO				AML	AML	05 41 05.5	
	comp=N,483μm,0.7s						
KPRO	**Kipourio**	**2.12**	**27**	P	**Pn**	**05 40 20.0**	**+1.4**
KPRO	**Kipourio**	**2.12**	**27**	P	**Pb**	**05 40 21.3**	**-0.2**
DYR	**Agios Nikonas**	**2.21**	**126**	P	**Pn**	**05 40 20.4**	**+0.6**
DYR	**Agios Nikonas**	**2.21**	**126**	P	**Pn**	**05 40 20.4**	**+0.6**
PROD	**Prodromos**	**2.21**	**84**	P	**Pn**	**05 40 20.7**	**+0.9**
PROD	**Prodromos**	**2.21**	**84**	P	**Pn**	**05 40 20.5**	**+0.6**
LTK	**Loutraki**	**2.26**	**90**	P	**Pn**	**05 40 21.3**	**+0.7**
LTK	**Loutraki**	**2.26**	**90**	P	**Pn**	**05 40 21.0**	**+0.5**
LTK	**Loutraki**	**2.26**	**90**	P	**Pn**	**05 40 21.0**	**+0.5**
PENT	**Pentalofos**	**2.27**	**21**	P	**Pb**	**05 40 23.9**	**-0.1**
PENT	**Pentalofos**	**2.27**	**21**	P	**Pn**	**05 40 22.8**	**+2.1**
LOUT	**Loutraki**	**2.27**	**91**	P	**Pn**	**05 40 20.8**	**+0.2**
LOUT	**Loutraki**	**2.27**	**91**	P	**Pn**	**05 40 20.9**	**+0.2**
LKR	**Lokris**	**2.35**	**75**	P	**Pn**	**05 40 22.1**	**+0.4**
LKR	**Lokris**	**2.35**	**75**	P	**Pn**	**05 40 22.2**	**+0.5**
LKR	**Lokris**	**2.35**	**75**	P	**Pn**	**05 40 22.2**	**+0.5**
NEST	**Nestorio**	**2.45**	**17**	P	**Pb**	**05 40 26.7**	**-0.5**
NEST	**Nestorio**	**2.45**	**17**	P	**Pn**	**05 40 25.5**	**+2.3**
NEST	**Nestorio**	**2.45**	**17**	P	**Pn**	**05 40 26.0**	**+2.8**
VILL	**Villia**	**2.54**	**87**	P	**Pn**	**05 40 24.8**	**+0.5**
VILL	**Villia**	**2.54**	**87**	P	**Pn**	**05 40 24.8**	**+0.5**
FNA	**Florina**	**2.88**	**20**	P	**Pn**	**05 40 31.7**	**+2.6**
FNA	**Florina**	**2.88**	**20**	P	**Pn**	**05 40 30.8**	**+1.7**
FNA	**Florina**	**2.88**	**20**	P	**Pn**	**05 40 30.8**	**+1.7**
VLY	**Voula,Athens**	**2.93**	**93**	P	**Pn**	**05 40 29.4**	**-0.2**
VLY	**Voula,Athens**	**2.93**	**93**	P	**Pn**	**05 40 29.4**	**-0.2**
KYTH	**Kithira**	**2.96**	**127**	P	**Pn**	**05 40 33.0**	**+2.9**
PTL	**Penteli**	**2.97**	**89**	P	**Pn**	**05 40 30.2**	**-0.1**
PTL	**Penteli**	**2.97**	**89**	P	**Pn**	**05 40 30.6**	**+0.3**
PTL	**Penteli**	**2.97**	**89**	P	**Pn**	**05 40 30.3**	**0.0**
OHR	**Ohrid**	**3.08**	**10**	*e*Pn	**Pn**	**05 40 34.6**	**+2.7**
OHR				*e*Sn	**Sn**	**05 41 10.8**	**+1.8**
PAIG	**Paliouri**	**3.35**	**55**	P	**Pn**	**05 40 34.9**	**-0.5**
PAIG	**Paliouri**	**3.35**	**55**	P	**Pn**	**05 40 35.7**	**+0.3**
ANKY	**Antikythira Is**	**3.38**	**130**	P	**Pn**	**05 40 36.2**	**+0.4**
ANKY	**Antikythira Is**	**3.38**	**130**	P	**Pn**	**05 40 36.6**	**+0.8**
KRUS	**Krusevo**	**3.41**	**15**	*e*Pn	**Pn**	**05 40 37.6**	**+1.3**
KRUS				*e*Sn	**Sn**	**05 41 18.5**	**+1.4**
MASS	**Massafra**	**3.43**	**319**	*e*Pn	**Pn**	**05 40 38.6**	**+2.0**
FASA	**Fasano**	**3.47**	**323**	*e*Pn	**Pn**	**05 40 38.3**	**+1.2**
SG1	**Sgolgore (BA)**	**3.83**	**317**	*e*Pn	**Pn**	**05 40 43.8**	**+1.8**
SG1				Sn	**Sn**	**05 41 27.5**	**+0.2**
BAI	**Bari**	**3.92**	**322**	*e*Pn	**Pn**	**05 40 44.8**	**+1.5**
BAI				Sn	**Sn**	**05 41 29.8**	**+0.2**
DRME	**Dracevica, Mon**	**4.17**	**351**	*e*Pn	**Pn**	**05 40 46.8**	**+0.1**
PDG	**Podgorica**	**4.40**	**352**	*e*Pn	**Pn**	**05 40 50.2**	**+0.3**
HCY	**Herceg Novi**	**4.54**	**345**	*e*Pn	**Pn**	**05 40 50.9**	**-0.9**
IDI	**Anoyia**	**4.75**	**124**	Pn	**Pn**	**05 40 58.0**	**+3.3**
	comp=N,0.6nm,0.3s,baz=286,slow=17,SNR=6.6						
IDI				Sn	**Sn**	**05 41 50.4**	**+0.3**
	comp=N,4.1nm,0.3s,baz=313,slow=23,SNR=32						
TREB	**Trebinje**	**4.83**	**344**	*e*Pn	**Pn**	**05 40 55.1**	**-0.7**
MS1	**Monte Sant'Ang**	**4.84**	**320**	*e*Pn	**Pn**	**05 40 53.3**	**-2.6**
MS1				Sn	**Sn**	**05 41 49.7**	**-2.6**
STON	**Ston**	**5.13**	**340**	*e*Pn	**Pn**	**05 40 58.5**	**-1.4**
STON				Sn	**Sn**	**05 41 54.3**	**-5.1**
STON	**Ston**	**5.13**	**340**	*e*Pn	**Pn**	**05 40 58.5**	**-1.4**
SJES	**Sjenica**	**5.18**	**359**	*e*Pn	**Pn**	**05 41 02.5**	**+1.7**
GRUS	**Gruza**	**5.83**	**4**	*e*Pn	**Pn**	**05 41 09.5**	**0.0**
ZAGS	**Zajecar**	**5.96**	**15**	*e*Pn	**Pn**	**05 41 10.9**	**-0.4**
DIVS	**Divibare**	**6.02**	**359**	*e*Pn	**Pn**	**05 41 12.1**	**-0.1**
TRUS	**Trudelj**	**6.15**	**2**	*e*Pn	**Pn**	**05 41 14.2**	**+0.3**
TEKS	**Tekeris**	**6.49**	**356**	*e*Pn	**Pn**	**05 41 17.4**	**-1.1**
UDBI	**Udbina**	**7.23**	**335**	*e*Pn	**Pn**	**05 41 29.9**	**+1.1**
UDBI				Sn	**Sn**	**05 42 48.3**	**-2.9**
UDBI	**Udbina**	**7.23**	**335**	*e*Pn	**Pn**	**05 41 29.9**	**+1.1**
NVLJ	**Novalja**	**7.58**	**330**	*e*Pn	**Pn**	**05 41 34.2**	**+0.6**
NVLJ				Sn	**Sn**	**05 42 55.7**	**-4.1

TURI	**Tura**	**2.30**	**263**	*e*S	**Sn**	**05 48 01.3 +1.5**
TURI				IAML		05 48 11.6
	comp=E,126nm,0.2s					
TURI				IAML		05 48 11.7
	comp=N,147nm,0.1s					

KRSC 25 05:55:18.5±1.5, 50°.96N×157°.80E, h48km±19km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.80**	**310**	*e*P	Pn	05 55 35.1	+1.6
PAU				*e*S	Sn	05 55 45.9	+1.5
KDTR	**Khodutka, Kamc**	**0.87**	**12**	*e*P	Pn	05 55 36.1	+1.7
KDTR				*e*S	Sn	05 55 47.7	+1.7
SKR	**Severo-Kuril's**	**1.10**	**256**	*e*P	Pn	05 55 38.3	+0.8
SKR				*e*S	Sn	05 55 51.5	0.0
ASAK	**Asacha**	**1.43**	**3**	*e*P	Pn	05 55 44.4	+2.3
ASAK				*e*S	Sn	05 56 01.9	+2.2
MIPR	**Malaya Ipel'ka**	**1.47**	**334**	*e*P	Pn	05 55 44.7	+2.1
MIPR				*e*S	Sn	05 56 02.4	+1.7
RUS	**Russkaya**	**1.54**	**17**	*e*P	Pn	05 55 45.2	+1.7
RUS				*e*S	Sn	05 56 03.4	+1.0
MTVR	**Mutnovka**	**1.55**	**9**	*e*P	Pn	05 55 46.3	+2.6
MTVR				*e*S	Sn	05 56 04.8	+2.1
APC	**Apacha**	**2.01**	**349**	*e*P	Pn	05 55 52.7	+2.8
PET	**Petropavlovsk**	**2.14**	**14**	*e*S	Sn	05 56 19.7	+2.8
DALK	**Dalny**	**2.16**	**16**	*e*P	Pn	05 55 54.4	+2.4
DALK				*e*S	Sn	05 56 19.5	+2.0
UGLR	**Uglovaya**	**2.34**	**15**	*e*P	Pn	05 55 57.9	+3.3
AVH	**Avacha**	**2.38**	**14**	*e*P	Pn	05 55 59.2	+4.1
AVH				*e*S	Sn	05 56 27.7	+4.6
SMAR	**Somma**	**2.39**	**15**	*e*P	Pn	05 55 59.2	+3.8
KOK	**Koryaka**	**2.40**	**12**	*e*P	Pn	05 55 58.2	+2.9
NLC	**Nalytchevo**	**2.42**	**23**	*e*S	Sn	05 56 23.7	0.0
SDLR	**Sedlovina**	**2.42**	**16**	*e*P	Pn	05 55 58.4	+2.7
KRX	**Arik**	**2.46**	**12**	*e*P	Pn	05 55 59.3	+3.0
GNL	**Ganaly**	**2.74**	**2**	*e*P	Pn	05 56 03.3	+3.2
KBTR	**Krutoberegovo**	**6.05**	**28**	*e*P	Pn	05 56 48.5	+3.2

MEX 25 05:56:18.1±0.4, 16°.40N×98°.26W, h14km±2km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**92**	*i* P	Pg	05 56 20.8	-0.8
PNIG				*i* S	Sg	05 56 23.7	-0.4
TLIG	**Tlapa**	**1.19**	**346**	*e*P	Pn	05 56 36.8	-3.7
TLIG				*e*S	Sb	05 56 51.3	-4.7
ACX	**Acapulco**	**1.60**	**287**	*i* P	Pg	05 56 48.6	-0.3
ACX				*i* S	Sb	05 57 08.3	+0.8
VHO	**Vista Hermosa**	**1.61**	**65**	*e*P	Pn	05 56 43.0	-3.3
VHO				*e*S	Sn	05 57 02.0	-4.9
CAIG	**El Cayaco**	**2.03**	**289**	*e*P	Pn	05 56 48.7	-3.1
CAIG				*e*S	Sn	05 57 12.7	-4.3
HUIG	**Huatulco**	**2.16**	**107**	*e*P	Pn	05 56 50.5	-3.2
HUIG				*i* S	Sn	05 57 15.3	-5.0
PLIG	**Platanillo**	**2.31**	**329**	*e*P	Pn	05 56 52.2	-3.6
PLIG				*e*S	Sn	05 57 19.4	-4.7

*ATA **25** 06:14:11.6±1.0, 38°.13N×42°.77E, h21km±12km, ML3.7, MW3.0*
*ISK **25** 06:14:11.3, 38°.14N×42°.71E, h5km, ML2.5/2*
*ISCJB **25** 06:14:12.0±0.8, 38°.09N±0°.04×42°.72E±0°.05, h0km±6km, Error ellipse: s-maj=7.9km s-min=4.2km az=140.3*
*CSEM **25** 06:14:12.1±0.3, 38°.11N×42°.72E, h8km, ML3.0, Error ellipse: s-maj=5.8km s-min=3.6km az=133.0*
*DDA **25** 06:14:12.1, 38°.12N×42°.70E, h7km, Ml3.0*

ISC 25 06:14:11.6±1.4, 38°.11N±0°.03×42°.75E±0°.03, h7km±11km, n34, σ0°93/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.32**	**50**	*i* P	**Pb**	**06 14 18.9**	**-0.9**
GEVA				*e*S	**Sb**	**06 14 24.2**	**-1.0**
GEVA				IAML		06 14 26.2	
	comp=Z,594nm,0.6s						
GEVA	**Gevas**	**0.32**	**50**	*i* P	**Pb**	**06 14 18.8**	**-0.9**
GEVA				*i* S	**Sb**	**06 14 24.7**	**-0.5**
GEVA	**Gevas**	**0.32**	**50**	P	**Pb**	**06 14 18.8**	**-0.9**
GEVA				S	**Sb**	**06 14 24.7**	**-0.5**
SIRT	**Sirnak**	**0.65**	**202**	PG	**Pb**	**06 14 25.5**	**+0.1**
SIRT	**Sirnak**	**0.65**	**202**	*e*Pg	**Pb**	**06 14 25.5**	**+0.1**
SRTM	**Siirt_Merkez**	**0.66**	**260**	*i* P	**Pg**	**06 14 24.5**	**+0.1**
SRTM				*i* S	**Sb**	**06 14 34.0**	**-1.0**
SRTM	**Siirt_Merkez**	**0.66**	**260**	P	**Pg**	**06 14 24.5**	**+0.1**
SRTM				S	**Sb**	**06 14 34.0**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.70**	**358**	*i* P	**Pb**	**06 14 25.8**	**-0.5**
ADCV				*i* S	**Sb**	**06 14 35.9**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.70**	**358**	P	**Pb**	**06 14 25.8**	**-0.5**
ADCV				S	**Sb**	**06 14 35.9**	**-0.2**
GURO	**Guroymak-BITLI**	**0.72**	**308**	PG	**Pg**	**06 14 24.9**	**-0.5**
GURO				SG	**Sb**	**06 14 35.8**	**-0.8**
GURO	**Guroymak-BITLI**	**0.72**	**308**	*e*Pg	**Pg**	**06 14 24.9**	**-0.5**
GURO				*e*Sg	**Sb**	**06 14 35.8**	**-0.8**
BTMN	**Batman**	**1.19**	**260**	*i* P	**Pb**	**06 14 34.2**	**-0.3**
BTMN				*i* S	**Sb**	**06 14 50.2**	**+0.1**
BTMN	**Batman**	**1.19**	**260**	P	**Pb**	**06 14 34.2**	**-0.3**
BTMN				S	**Sb**	**06 14 50.2**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.22**	**272**	*i* P	**Pn**	**06 14 34.4**	**-0.8**
SVAN				*i* S	**Sn**	**06 14 51.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.22**	**272**	P	**Pn**	**06 14 34.4**	**-0.8**
SVAN				S	**Sn**	**06 14 51.6**	**-0.4**
EKAR	**Karacoban**	**1.27**	**335**	*e*P	**Pn**	**06 14 35.0**	**-0.9**
EKAR				*e*S	**Sn**	**06 14 55.3**	**+2.0**
EKAR	**Karacoban**	**1.27**	**335**	*i* P	**Pn**	**06 14 35.1**	**-0.8**
EKAR				*i* S	**Sn**	**06 14 54.3**	**+1.0**
EKAR	**Karacoban**	**1.27**	**335**	P	**Pn**	**06 14 35.1**	**-0.8**
EKAR				S	**Sn**	**06 14 54.3**	**+1.0**
TUTA	**Tutak**	**1.29**	**2**	*e*P	**Pn**	**06 14 36.1**	**-0.2**
TUTA				*e*S	**Sn**	**06 14 54.7**	**+0.7**
TUTA	**Tutak**	**1.29**	**2**	*i* P	**Pn**	**06 14 36.1**	**-0.2**
TUTA				*i* S	**Sn**	**06 14 54.5**	**+0.5**
TUTA	**Tutak**	**1.29**	**2**	P	**Pn**	**06 14 36.1**	**-0.2**
TUTA				S	**Sn**	**06 14 54.5**	**+0.5**
AGRB	**Hanur-Agry**	**1.48**	**7**	PN	**Pb**	**06 14 39.6**	**+0.1**
AGRB				SN	**Sg**	**06 15 00.4**	**+1.2**
AGRB	**Hanur-Agry**	**1.48**	**7**	*e*Pn	**Pb**	**06 14 39.6**	**+0.1**
AGRB				*e*Sn	**Sg**	**06 15 00.4**	**+1.2**
EATA	**Eleskirt**	**1.76**	**354**	*e*P	**Pb**	**06 14 44.8**	**+0.3**
BNGB	**Bing˜ll**	**1.85**	**299**	PN	**Pb**	**06 14 45.5**	**-0.3**
BINT	**Bingol**	**1.93**	**294**	*e*Pn	**Pn**	**06 14 45.5**	**+0.5**
ECAT	**Cat-ERZURUM**	**2.04**	**318**	*e*P	**Pb**	**06 14 48.5**	**-0.6**
HOMI	**Horasan**	**2.04**	**342**	*e*P	**Pb**	**06 14 48.7**	**-0.5**
ERZM	**Erzurum**	**2.09**	**329**	*e*P	**Pb**	**06 14 48.7**	**-1.4**
KOPT	**Kop Dagi**	**2.59**	**318**	*e*P	**Pb**	**06 14 59.5**	**+0.9**
TNCL	**Tunceli-Merkez**	**2.71**	**293**	*e*P	**Pn**	**06 14 55.8**	**+0.2**
BAYB	**BAYBURT**	**2.89**	**319**	*e*P	**Pn**	**06 15 00.7**	**+2.4**
KELT	**Kelkit**	**3.40**	**308**	*e*P	**Pb**	**06 15 09.0**	**-3.2**
KEMA	**Kemaliye**	**3.52**	**291**	*e*P	**Pn**	**06 15 08.0**	**+1.2**

IDC 25 06:17:32.4±8.4, 2°.21N×126°.24E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/58, mbtmp3.6/4, Error ellipse: s-maj=136.8km s-min=104.8km az=133.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.19**	**182**	P	P	06 22 09.2	+0.5
	1.0nm,0.9s,baz=2.8,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**23.40**	**161**	P	P	06 22 42.3	-0.8
	1.0nm,0.3s,baz=338,slow=10,SNR=20						
ASAR	**Alice Springs**	**26.78**	**164**	P	P	06 23 14.4	+0.2
	0.3nm,0.3s,baz=342,slow=8.3,SNR=10						
STKA	**Stephens Creek**	**36.90**	**158**	P	P	06 24 43.1	+1.0
	0.6nm,0.5s,baz=325,slow=11,SNR=4.3						

*IDC **25** 06:22:04.2±2.5, 16°.75N×98°.36W, h0km, mb3.9/7, mb1 4.0/10, mb1mx3.7/51, mbtmp3.8/10, ML3.2/3, MS3.4/7, Ms1 3.4/7, ms1mx3.0/44, Error ellipse: s-maj=54.0km s-min=19.3km az=26.0*
*MEX **25** 06:22:07.4±0.4, 16°.53N×98°.57W, h16km±4km, MD4.0*
*NEIC **25** 06:22:07.4±0.0, 16°.52N×98°.57W, h16km, mb4.2/43, MD4.0(MEX), After MEX.*

ISC 25 06:22:05.8±0.8, 16°.59N±0°.04×98°.53W±0°.03, h19km±2km, n217, σ1°46/227, mb4.2/37, MS3.5/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.44**	**117**	*e*P	**Pb**	**06 22 14.8**	**-0.2**
PNIG				*i* S	**Sb**	**06 22 21.1**	**-0.1**
PNIG	**Pinotepa**	**0.44**	**117**	*e*P	**Pb**	**06 22 14.8**	**-0.2**
PNIG				*i* S	**Sb**	**06 22 20.9**	**-0.2**
TLIG	**Tlapa**	**0.96**	**358**	*i* P	**Pb**	**06 22 23.4**	**-0.6**
TLIG				*e*S	**Sb**	**06 22 35.8**	**-0.6**
TLIG	**Tlapa**	**0.96**	**358**	*i* P	**Pb**	**06 22 23.4**	**-0.6**
TLIG				*e*S	**Sb**	**06 22 35.8**	**-0.6**
ACX	**Acapulco**	**1.30**	**282**	*e*P	**Pb**	**06 22 30.1**	**+0.4**
ACX				*i* S	**Sn**	**06 22 45.6**	**-0.2**
CAIG	**El Cayaco**	**1.72**	**285**	*e*P	**Pn**	**06 22 33.3**	**-1.5**
CAIG				*e*S	**Sn**	**06 22 52.9**	**-3.3**
CAIG	**El Cayaco**	**1.72**	**285**	*e*P	**Pn**	**06 22 33.2**	**-1.5**
CAIG				*e*S	**Sn**	**06 22 52.9**	**-3.3**
VHO	**Vista Hermosa**	**1.79**	**74**	*e*P	**Pn**	**06 22 35.3**	**-0.5**
VHO				*e*S	**Sn**	**06 22 56.5**	**-1.6**
VHO	**Vista Hermosa**	**1.79**	**74**	*e*P	**Pn**	**06 22 35.3**	**-0.5**
VHO				*e*S	**Sn**	**06 22 56.5**	**-1.6**
PLIG	**Platanillo**	**2.02**	**333**	*e*P	**Pn**	**06 22 38.7**	**-0.1**
PLIG				*e*S	**Sn**	**06 23 02.0**	**-1.5**
PLIG	**Platanillo**	**2.02**	**333**	*e*P	**Pn**	**06 22 39.8**	**+0.9**
PLIG				*e*S	**Sn**	**06 23 02.0**	**-1.5**
HUIG	**Huatulco**	**2.47**	**109**	*e*P	**Pn**	**06 22 44.4**	**-0.6**
HUIG				*i* S	**Sn**	**06 23 13.4**	**-1.3**
HUIG	**Huatulco**	**2.47**	**109**	*e*P	**Pb**	**06 22 48.9**	**-0.7**
UNM	**Universidad Na**	**2.79**	**347**	*e*Pn	**Pb**	**06 22 55.3**	**+0.1**
UNM				*e*Sn	Sg	06 23 37.0	+1.3
CMIG	**Matias Romero**	**3.53**	**81**	Pn	**Pn**	**06 22 59.1**	**-0.5**
	2.2nm,0.3s,baz=263,slow=11,SNR=29						
CMIG				Pg	**Pb**	**06 23 06.1**	**-1.5**
	3.2nm,0.3s,baz=137,slow=19,SNR=15						
CMIG				Lg	Lg	06 23 56.6	
	17nm,0.3s,baz=15,slow=16,SNR=13						
CMIG				LR	LR	06 24 19.1	
	comp=Z,90nm,18.2s,baz=236,slow=40						
LVIG	**Laguna Verde**	**3.71**	**33**	*e*Pn	**Pn**	**06 23 01.2**	**-0.8**
MOIG	**Morelia**	**3.98**	**321**	*e*Pn	**Pb**	**06 23 12.8**	**-2.6**
MOIG				*e*Sn	**Sb**	**06 24 06.2**	**+3.0**
JRQG	**Juriquilla Cam**	**4.47**	**336**	*e*Pn	**Pb**	**06 23 21.2**	**-2.7**
JRQG				*e*Sn	**Sb**	**06 24 16.6**	**-1.0**
ZAIG	**Zacatecas**	**7.22**	**329**	Pn	Pn	06 23 58.9	+8.3
ZAIG				*e*Pg	Pg	06 24 25.3	+1.2
TEIG	**Tepich**	**10.38**	**68**	*e*Pn	Pn	06 24 28.2	-5.6
TXAR	**Lajitas Array**	**13.53**	**340**	Pn	**Pn**	**06 25 19.6**	**+2.8**
	0.0nm,0.3s,baz=149,slow=13,SNR=3.3						
TXAR				Lg	Lg	06 29 21.9	
	0.0nm,0.3s,baz=165,slow=28,SNR=4.4						
TXAR				LR	LR	06 30 57.7	
	comp=Z,198nm,19.8s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**13.53**	**340**	*e*Pn	**P**	**06 25 23.2**	**-2.7**
JCT	**Junction City**	**13.87**	**355**	P	**P**	**06 25 29.4**	**-0.2**
	baz=175						
JCT	**Junction City**	**13.87**	**355**	*e*Pn	**P**	**06 25 27.6**	**-2.0**
435B	**Jarrell**	**14.15**	**3**	P	**P**	**06 25 33.1**	**+0.4**
	baz=184						
WHTX	**Lake Whitney,**	**15.36**	**3**	P	**P**	**06 25 47.0**	**+0.9**
	baz=184						
WHTX	**Lake Whitney,**	**15.36**	**3**	*e*Pn	**Pn**	**06 25 43.5**	**+1.9**
WHTX				*es*P	**sP**	**06 25 55.6**	**+1.4**
341A	**Kurthwood**	**15.47**	**17**	P	**P**	**06 25 46.8**	**-0.5**
	baz=200						
NATX	**Nacogdoches**	**15.50**	**12**	P	**P**	**06 25 47.9**	**+0.2**
	baz=194						
NATX	**Nacogdoches**	**15.50**	**12**	*e*Pn	**P**	**06 25 48.0**	**+0.2**
NATX				*ep*P	**sP**	**06 25 54.6**	**-1.1**
342A	**Flagon Creek P**	**15.76**	**20**	P	**P**	**06 25 50.1**	**-0.5**
	baz=202						
ABTX	**Abilene, Hawle**	**15.99**	**357**	P	**P**	**06 25 54.6**	**+1.4**
	baz=176						
ABTX	**Abilene, Hawle**	**15.99**	**357**	*e*Pn	**P**	**06 25 55.0**	**+1.8**
	13nm,0.8s						
ABTX				*es*P	**sP**	**06 26 02.9**	**+1.7**
MNTX	**Cornudas Mount**	**16.28**	**339**	P	**P**	**06 25 58.1**	**+1.8**
	baz=156						
MNTX	**Cornudas Mount**	**16.28**	**339**	*e*Pn	**P**	**06 25 58.8**	**+2.5**
	7.2nm,1.3s						
446A	**Poplarville**	**16.43**	**29**	P	**P**	**06 25 57.8**	**-0.1**
	baz=213						
140A	**Cam and Jess,**	**16.60**	**15**	P	**P**	**06 25 59.6**	**-0.2**
	baz=197						
447A	**Lucedale**	**16.77**	**31**	P	**Pn**	**06 25 59.0**	**-0.6**
	baz=215						
244A	**Avery, Jackson**	**16.95**	**23**	P	**P**	**06 26 02.9**	**-0.8**
	baz=207						
Z40A	**Long Farm, Mag**	**17.23**	**15**	P	**P**	**06 26 07.5**	**+0.7**
	baz=197,SNR=8.3						
347A	**Saraland**	**17.32**	**30**	P	**Pn**	**06 26 06.7**	**+0.2**
	baz=214						
Z41A	**Richland Creek**	**17.38**	**16**	P	**P**	**06 26 08.9**	**+0.4**
	baz=199						
Z42A	**Norrel Spur, H**	**17.64**	**18**	P	**P**	**06 26 11.4**	**0.0**
	baz=201						
319A	**Douglas**	**17.67**	**328**	*e*P	**P**	**06 26 13.7**	**+1.8**
	10.0nm,1.1s						
WLAR	**White Oak Lake**	**17.71**	**15**	*e*Pn	**P**	**06 26 12.5**	**+0.4**
	18nm,0.8s						
MSTX	**Muleshoe**	**17.72**	**348**	P	**P**	**06 26 15.1**	**+2.7**
	baz=167						
MSTX	**Muleshoe**	**17.72**	**348**	*e*P	**P**	**06 26 12.0**	**-0.4**
	10nm,0.9s						
450A	**Crestview**	**17.86**	**35**	P	**Pn**	**06 26 11.7**	**-1.5**
	baz=220						
X39A	**Fountain Ranch**	**18.28**	**12**	P	**P**	**06 26 18.9**	**+0.5**
	baz=194						
CCAR	**Cane Creek**	**18.29**	**18**	*e*P	**P**	**06 26 18.7**	**+0.2**
	17nm,0.7s						
AMTX	**Amarillo**	**18.43**	**352**	P	**Pn**	**06 26 23.0**	**+2.7**
	baz=171						
AMTX	**Amarillo**	**18.43**	**352**	*e*P	**Pn**	**06 26 23.2**	**+2.9**
	36nm,1.8s						
X40A	**Basin Creek Fa**	**18.54**	**15**	P	**Pn**	**06 26 22.5**	**+1.0**
	baz=197						
X41A	**Kaden, Bauxite**	**18.63**	**16**	P	**Pn**	**06 26 23.3**	**+0.7**
	baz=198						
BNM	**Barren Site**	**18.94**	**339**	*e*P	**Pn**	**06 26 28.5**	**+1.9**
UALR	**University of**	**18.94**	**16**	*e*P	**Pn**	**06 26 27.0**	**+0.6**
	16nm,1.0s						
W39A	**Magazine**	**19.01**	**12**	P	**Pn**	**06 26 28.0**	**+0.8**
	baz=194						
TUC	**Tucson**	**19.19**	**327**	P	**Pn**	**06 26 31.3**	**+1.8**
	baz=142						
Y46A	**Houston**	**19.29**	**25**	P	**P**	**06 26 29.2**	**-0.3**
	baz=209						
LAZ	**Ladron**	**19.34**	**338**	*e*P	**Pn**	**06 26 33.7**	**+2.2**
TUL1	**Leonard**	**19.39**	**7**	P	**Pn**	**06 26 31.8**	**-0.1**
	baz=188						
TUL1	**Leonard**	**19.39**	**7**	*e*P	**P**	**06 26 29.8**	**-0.8**
	17nm,0.9s						
LRAL	**Lakeview Retre**	**19.41**	**30**	P	**P**	**06 26 29.4**	**-1.4**
	baz=215						
Z48A	**Northport**	**19.42**	**29**	P	**P**	**06 26 30.3**	**-0.7**
	baz=213						
WHAR	**Wooly Hollow**	**19.44**	**16**	*e*P	**Pn**	**06 26 32.5**	**+0.1**
	6.9nm,0.9s						
X45A	**UM Field Stati**	**19.56**	**23**	P	**P**	**06 26 32.8**	**+0.3**
	baz=207						
ANMO	**Albuquerque**	**19.61**	**340**	P	**Pn**	**06 26 34.6**	**0.0**
	0.1nm,0.3s,baz=327,slow=10,SNR=9.5						
ANMO				LR	LR	06 34 51.3	
	comp=Z,258nm,18.8s,baz=340,slow=39						
ANMO	**Albuquerque**	**19.61**	**340**	P	**Pn**	**06 26 35.4**	**+0.8**
	baz=157						
ANMO	**Albuquerque**	**19.61**	**340**	*e*P	**Pn**	**06 26 34.9**	**+0.3**
	2.9nm,0.7s						
OXF	**Oxford**	**19.63**	**23**	P	**P**	**06 26 33.5**	**+0.3**
	baz=207						
V39A	**Pettigrew**	**19.66**	**12**	P	**Pn**	**06 26 34.4**	**-0.6**
	baz=194,SNR=8.5						
Y47A	**UCPARC, Winfie**	**19.73**	**27**	P	**P**	**06 26 34.9**	**+0.5**
	baz=212						
Z49A	**Columbiana**	**19.76**	**31**	P	**P**	**06 26 33.9**	**-0.8**
	baz=216						
V40A	**Witts Springs**	**19.80**	**14**	P	**P**	**06 26 35.2**	**+0.1**
	baz=196,SNR=5.8						
V41A	**Mountainview**	**19.94**	**15**	P	**P**	**06 26 36.7**	**0.0**
	baz=198						
X46A	**Booneville**	**19.99**	**25**	P	**P**	**06 26 37.3**	**+0.2**
	baz=209						
HHAR	**Hobbs**	**20.03**	**11**	*e*P	Pn	06 26 39.5	+0.1
	8.7nm,0.9s						
214A	**Organ Pipe Nat**	**20.05**	**322**	P	Pn	06 26 39.9	+0.1
	baz=137						
Z50A	**Ashland**	**20.12**	**32**	P	**P**	**06 26 37.5**	**-1.1**
	baz=217						
V42A	**Cord**	**20.17**	**17**	P	**P**	**06 26 38.5**	**-0.5**
	baz=200						
U39A	**Green Forest**	**20.21**	**12**	P	**P**	**06 26 39.2**	**-0.4**
	baz=194						
X47A	**Russelville**	**20.25**	**26**	P	**P**	**06 26 39.4**	**-0.6**
	baz=211						
U40A	**Yellville**	**20.32**	**13**	P	**P**	**06 26 40.3**	**-0.5**
	baz=196						
Y49A	**Blount Mountai**	**20.36**	**30**	P	**P**	**06 26 39.4**	**-1.8**
	baz=215						
U41A	**Viola**	**20.53**	**15**	P	**P**	**06 26 42.9**	**-0.1**
	baz=198						
X48A	**Hartselle**	**20.55**	**28**	P	**P**	**06 26 41.9**	**-1.4**
	baz=213						
PLAL	**Pickwick Lake**	**20.57**	**25**	*e*P	**P**	**06 26 44.1**	**+0.7**
	22nm,1.4s						
254A	**Abbeville**	**20.62**	**39**	P	**P**	**06 26 42.0**	**-2.0**
	baz=226						
T38A	**Diamond**	**20.70**	**10**	P	Pn	06 26 46.7	-0.7
	baz=192						
U42A	**Revenden**	**20.72**	**17**	P	**P**	**06 26 44.7**	**-0.4**
	baz=200						
T39A	**Clever**	**20.86**	**12**	P	**P**	**06 26 46.2**	**-0.4**
	baz=194						
X49A	**Woodville**	**20.93**	**29**	P	**P**	**06 26 45.3**	**-2.1**
	baz=214						
W47A	**Westpoint**	**20.99**	**26**	P	Pn	06 26 49.2	-1.5
	baz=210						
T25A	**Trinidad**	**21.12**	**347**	P	**P**	**06 26 52.0**	**+2.4**
	baz=164,SNR=6.5						
T25A	**Trinidad**	**21.12**	**347**	*e*P	**P**	**06 26 51.8**	**+2.2**
	6.9nm,0.9s						
T40A	**Mansfield**	**21.16**	**13**	P	**P**	**06 26 49.3**	**-0.5**
	baz=196						
MHTCO	**State Highway**	**21.17**	**346**	*e*P	**P**	**06 26 54.4**	**+4.3**
	3.9nm,0.8s						
X16A	**Lo Mia Camp, P**	**21.20**	**329**	*e*P	**P**	**06 26 53.0**	**+2.6**
	13nm,1.0s						
T41A	**Mountain View**	**21.23**	**15**	P	**P**	**06 26 50.4**	**-0.2**
	baz=198,SNR=6.4						
V46A	**Holladay**	**21.26**	**24**	P	**P**	**06 26 50.2**	**-0.7**
	baz=208						
PBMO	**Poplar Bluff**	**21.35**	**18**	*e*P	**P**	**06 26 51.1**	**-0.7**
	9.0nm,0.8s						
S38A	**Stockton**	**21.35**	**10**	P	**P**	**06 26 51.8**	**0.0**
	baz=192						
T42A	**Van Buren**	**21.40**	**16**	P	**P**	**06 26 51.7**	**-0.7**
	baz=200						
U45A	**Rockin P Farm,**	**21.50**	**22**	P	**P**	**06 26 53.3**	**-0.2**
	baz=206						
S39A	**Bolivar**	**21.51**	**11**	P	**P**	**06 26 54.6**	**+0.9**
	baz=194						
V47A	**Nunnelly**	**21.52**	**25**	P	**P**	**06 26 53.7**	**0.0**
	baz=210						
GOGA	**Godfrey**	**21.56**	**36**	P	**P**	**06 26 53.6**	**-0.6**
	baz=222						
S40A	**Lebanon**	**21.59**	**13**	P	**P**	**06 26 54.3**	**-0.2**
	baz=196,SNR=6.0						
WVT	**Waverly**	**21.66**	**24**	P	**P**	**06 26 54.7**	**-0.5**
	baz=209						
WVT	**Waverly**	**21.66**	**24**	*e*P	**P**	**06 26 56.2**	**+1.0**
	6.3nm,0.9s						
T43A	**Greenville**	**21.68**	**18**	P	**P**	**06 26 54.3**	**-1.0**
	baz=202,SNR=7.5						
V48A	**Smith Brothers**	**21.74**	**26**	P	**P**	**06 26 53.9**	**-2.1**
	baz=212						
S41A	**Jillco Farms,**	**21.75**	**15**	P	**P**	**06 26 55.8**	**-0.4**
	baz=198,SNR=7.2						
R38A	**Fenwick Farm,**	**21.89**	**10**	P	**P**	**06 26 58.2**	**+0.5**
	baz=192						
SDCO	**Great Sand Dun**	**21.95**	**345**	P	**P**	**06 27 00.6**	**+2.0**
	baz=162						
SDCO	**Great Sand Dun**	**21.95**	**345**	*e*P	**P**	**06 27 01.7**	**+3.1**
	2.3nm,0.9s						
GLA	**Glamis**	**22.02**	**321**	*e*P	**P**	**06 26 59.7**	**+0.5**
	7.7nm,0.8s						
WUAZ	**Wupatki**	**22.06**	**331**	P	**P**	**06 27 02.2**	**+2.5**
	baz=146						
WUAZ	**Wupatki**	**22.06**	**331**	*e*P	**P**	**06 27 00.2**	**+0.6**
	10nm,0.8s						
U47A	**Clarksville**	**22.15**	**25**	P	**P**	**06 27 00.7**	**+0.2**
	baz=210						
R39A	**Chumby, Stover**	**22.17**	**12**	P	**P**	**06 26 59.4**	**-1.2**
	baz=194						
S42A	**Caledonia**	**22.17**	**16**	P	**P**	**06 27 03.7**	**+3.0**
	baz=200,SNR=13						
S43A	**Fulton Ridge,**	**22.19**	**18**	P	**P**	**06 27 03.5**	**+2.6**
	baz=202						
R40A	**Maddies Statio**	**22.31**	**13**	P	**P**	**06 27 02.7**	**+0.5**
	baz=196						
S22A	**4UR Ranch, Cre**	**22.31**	**342**	P	**P**	**06 27 04.9**	**+2.5**
	baz=159						
S22A	**4UR Ranch, Cre**	**22.31**	**342**	*e*P	**P**	**06 27 05.5**	**+3.1**
	11nm,1.8s						
MVCO	**Mesa Verde**	**22.35**	**339**	P	**P**	**06 27 05.7**	**+2.9**
	baz=154						
MVCO	**Mesa Verde**

N39A	Derby Farms, D baz=194	24.75	11	P	P	06 27 25.9	-0.2
SRU	San Rafael Swe 4.3nm,0.8s	24.77	337	eP	P	06 27 27.8	+1.3
Q16A	Castle Valley 5.2nm,0.9s	24.84	336	eP	P	06 27 29.2	+2.0
MSU	Marysvale	24.91	334	eP	P	06 27 30.9	+3.0
M37A	Trindle Farm, baz=190	25.02	8	P	P	06 27 29.0	+0.4
P18A	Preston Nutter 7.1nm,1.1s	25.12	338	eP	P	06 27 32.9	+3.0
M38A	Pleasantville baz=192	25.16	9	P	P	06 27 29.5	-0.3
P17A	Butcher Ranch, 3.0nm,1.0s	25.16	337	eP	P	06 27 33.4	+3.3
TMUT	Trail Mountain 11nm,1.5s	25.18	336	eP	P	06 27 33.7	+3.3
M39A	Webster baz=194	25.40	11	P	P	06 27 31.4	-0.6
M40A	Post Highland baz=196	25.46	12	P	P	06 27 32.2	-0.3
N43A	Stutzman Famil baz=201	25.58	17	P	P	06 27 33.4	-0.2
SCIA	State Center 13nm,0.8s	25.64	9	eP	P	06 27 34.6	+0.4
M41A	Milan baz=198	25.64	14	P	P	06 27 33.3	-0.8
L37A	Phoenix Point, baz=191	25.77	8	P	P	06 27 35.4	0.0
L38A	Oak Wood Farm, baz=192	25.91	10	P	P	06 27 36.5	-0.1
L39A	Vinton baz=194	26.05	11	P	P	06 27 37.3	-0.6
L40A	Anamosa baz=196	26.15	12	P	P	06 27 37.8	-1.0
L41A	Preston baz=198	26.32	14	P	P	06 27 40.0	-0.3
K37A	Belmond baz=191	26.42	8	P	P	06 27 40.3	-0.9
ROSC	El Rosal comp=Z,158nm,20.3s,baz=309,slow=36	26.46	113	LR	LR	06 38 01.2	
DUG	Dugway, Tooele baz=148	26.59	335	P	P	06 27 44.3	+1.3
K39A	Oelwein baz=194	26.64	11	P	P	06 27 42.1	-1.1
K22A	Casper baz=163	26.86	347	P	P	06 27 47.1	+1.7
ECSD	EROS Data Cent baz=184	27.10	3	P	P	06 27 48.4	+1.0
J38A	Wedel Dairy, R baz=193	27.13	10	P	P	06 27 46.6	-1.1
J39A	Decorah baz=194	27.28	11	P	P	06 27 50.1	+1.1
PD31	Pinedale Array	27.74	342	eP	P	06 27 54.7	+1.4
PDAR	Pinedale Array 0.9nm,0.7s,baz=134,slow=10,SNR=8.7	27.74	342	P	P	06 27 54.6	+1.2
PDAR				LR	LR	06 40 01.2	
	comp=Z,127nm,19.3s,baz=176,slow=39						
PDAR	Pinedale Array	27.74	342	eP	P	06 27 54.0	+0.7
NVAR	Mina Array Bea comp=Z,30nm,20.6s,baz=270,slow=38	27.82	325	LR	LR	06 39 45.2	
I38A	Scanlan Farm, baz=193	27.86	10	P	P	06 27 53.7	-0.5
SDV	Santo Domingo 2.3nm,0.7s,baz=303,slow=4.6,SNR=3.8	28.24	102	P	P	06 27 58.2	+0.1
H40A	Chili baz=196	28.77	12	P	P	06 28 02.4	+0.1
FXWY	Fox Creek 3.4nm,1.2s	28.97	341	eP	P	06 28 06.4	+2.0
G39A	Holcombe baz=195	29.27	11	P	P	06 28 06.6	-0.1
G41A	Antigo baz=198	29.59	13	P	P	06 28 09.3	-0.3
RLMT	Red Lodge baz=159	29.84	345	P	P	06 28 13.0	+1.0
RLMT	Red Lodge 2.4nm,0.9s	29.84	345	eP	P	06 28 14.1	+2.0
F40A	Park Falls baz=196	30.07	12	P	P	06 28 13.5	-0.3
E40A	Wakefield baz=196	30.62	12	P	P	06 28 18.1	-0.6
BOZ	Bozeman (W) baz=155	30.93	342	P	P	06 28 23.2	+1.7
F44A	Big Bay de Noc baz=203	30.99	17	P	P	06 28 21.1	-0.8
DLMT	Dillon 6.6nm,0.9s	31.02	341	eP	P	06 28 25.2	+2.9
E43A	Lone Tree Farm baz=202	31.21	15	P	P	06 28 23.2	-0.6
J08A	Circle Bar Ran 4.8nm,1.0s	31.61	332	eP	P	06 28 30.3	+2.7
G08A	Pilot Rock 4.4nm,1.4s	33.35	333	eP	P	06 28 43.9	+1.1
FFC	Flin Flon 4.0nm,0.8s	38.15	357	eP	P	06 29 23.9	+0.2
EDM	Edmonton 5.5nm,0.8s	38.36	346	eP	P	06 29 26.2	+0.8
SCHQ	Schefferville 3.5nm,0.9s,baz=236,slow=10,SNR=2.9	45.29	25	P	P	06 30 21.0	-1.1
YKA	Yellowknife Ar 0.7nm,0.8s,baz=156,slow=7.3,SNR=13	47.22	350	P	P	06 30 37.0	-0.1
INK	Inuvik 1.3nm,0.8s,baz=112,slow=8.5,SNR=7.5	56.25	345	P	P	06 31 44.4	-0.1
ILAR	Eielson Array 1.0nm,1.0s,baz=136,slow=5.7,SNR=6.7	58.03	338	P	P	06 31 58.0	+0.9
DBIC	Dimbokro comp=Z,17nm,18.0s,baz=285,slow=36	91.62	83	LR	LR	07 17 35.8	

*ISCJB **25** 06:30:19.0±0.5, 10°.82N±0°.06×86°.37W±0°.04, h10km, mb4.5/112, MS3.6/11, Error ellipse: s-maj=8.6km s-min=5.3km az=14.5*

*IDC **25** 06:30:22.0±0.7, 11°.50N×86°.04W, h0km, mb4.2/11, mb1 4.4/13, mb1mx4.0/49, mbtmp4.2/13, ML3.2/2, MS3.6/13, Ms1 3.6/13, ms1mx3.2/53, Error ellipse: s-maj=29.5km s-min=9.5km az=50.0*

*NEIC **25** 06:30:26.2±0.8, 10°.95N×86°.31W, h46km±7km, mb4.6/108, Error ellipse: s-maj=8.3km s-min=5.2km az=208.0*

NEIC Felt at Belen.

ISC 25 06:30:23.0±1.0, 11°.01N±0°.09×86°.26W±0°.09, h15km±5km, n470, σ1=0.03/454, mb4.7/112, MS3.5/11, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	JuntasAbangare 16nm,0.3s,baz=357,slow=22,SNR=90	1.47	119	Pn	Pb	06 30 50.2	+0.2
JTS				Pg	Pg	06 30 52.9	+1.6
	72nm,0.3s,baz=3.7,slow=17,SNR=55						
JTS				Lg	Lg	06 31 14.0	
	86nm,0.3s,baz=36,slow=18,SNR=7.6						
HDC	Heredia	2.34	115	ePn	Pb	06 31 03.1	-1.7
TGUH	Tegucigalpa,Un	3.19	342	ePn	Pn	06 31 15.2	+2.8
CMIG	Matias Romero 1.6nm,0.3s,baz=128,slow=9.4,SNR=18	10.32	307	Pn	Pn	06 32 50.5	0.0
MOTC	Monteria, Cord	10.67	101	eP	Pn	06 32 56.1	+0.7
SOTA	Rioblanco	13.02	132	eP	P	06 33 38.6	+0.2
OCAC	Ocana	13.05	101	eP	P	06 33 39.9	+1.5
PAMC	Pamplona, Colo	13.87	104	eP	P	06 33 48.6	+0.7
RUSC	La Rusia	13.99	110	eP	P	06 33 46.6	-2.6
SDV	Santo Domingo 0.1nm,0.3s,baz=16,slow=18,SNR=2.3	15.54	96	Pn	Pn	06 34 00.5	-1.3
SDV				LR	LR	06 42 21.3	
	comp=Z,180nm,18.6s,baz=241,slow=47						
SDV	Santo Domingo 9.9nm,0.8s	15.54	96	ePn	Pn	06 34 03.3	+1.5
SDV	Santo Domingo	15.54	96	eP	P	06 34 04.8	-1.3
SDDR	Presa de Saban 13nm,1.0s	16.48	60	ePn	Pn	06 34 13.8	0.0
LNIG	Linares 26nm,0.9s	18.65	320	eP	P	06 34 39.9	-0.4
ZAIG	Zacatecas 4.9nm,1.0s	19.48	309	eP	P	06 34 49.1	-0.6
ATAH	Atahualpa comp=Z,239nm,21.5s,baz=335,slow=33	19.65	156	LR	LR	06 41 20.7	
KVTX	Kingsville 23nm,0.7s	19.75	328	eP	P	06 34 52.8	+0.4
447A	Lucedale baz=173	19.81	354	P	Pn	06 34 56.2	+1.6
446A	Poplarville baz=171	19.89	352	P	Pn	06 34 57.1	+1.6
542A	Morse baz=162	19.90	344	P	Pn	06 34 57.0	+1.4
541A	Lake Charles baz=160	20.02	342	P	Pn	06 34 58.3	+1.3
351A	Pinckard	20.18	2	P	Pn	06 35 00.2	+1.4
	baz=182						
349A	Repton baz=178	20.26	358	P	Pn	06 35 01.4	+1.6
350A	Dozier baz=180	20.31	360	P	Pn	06 35 01.9	+1.5
353A	Camilla baz=186	20.33	5	P	Pn	06 35 02.3	+1.7
348A	Jackson baz=176	20.36	356	P	Pn	06 35 02.5	+1.5
347A	Saraland baz=174	20.40	354	P	Pn	06 35 02.1	+0.6
TIGA	Tifton baz=188	20.48	7	P	Pn	06 35 05.0	+2.6
TIGA				S	S	06 38 50.1	+1.1
	baz=188						
TIGA	Tifton 82nm,1.4s	20.48	7	eP	Pn	06 35 07.2	+4.8
441A	DeRidder baz=161	20.67	343	P	Pn	06 35 04.1	-0.6
SJG	San Juan 6.7nm,0.7s,baz=90,slow=20,SNR=2.3	20.69	68	P	P	06 34 58.9	-3.7
344A	Westbrook Farm baz=168,SNR=7.6	20.76	349	P	Pn	06 35 05.1	-0.6
250A	Grady baz=180	20.87	360	P	Pn	06 35 06.1	-0.8
249A	Camden baz=178	20.88	358	P	Pn	06 35 06.6	-0.5
252A	Lumpkin baz=184,SNR=6.6	20.93	4	P	Pn	06 35 08.3	+0.6
251A	Midway baz=182,SNR=5.8	21.00	2	P	P	06 35 07.7	+1.9
248A	Dixon Mills baz=176	21.03	356	P	P	06 35 08.1	+2.0
342A	Flagon Creek P baz=183	21.03	345	P	P	06 35 07.8	+1.6
253A	Americus baz=186	21.04	5	P	P	06 35 09.1	+2.8
247A	Quitman baz=174	21.05	354	P	P	06 35 07.8	+1.3
245A	Little AP, Sta baz=170,SNR=5.3	21.19	351	P	P	06 35 09.5	+1.6
341A	Kurthwood baz=161,SNR=17	21.21	343	P	P	06 35 09.0	+0.9
MTP	Mote Pirata 145nm,2.0s	21.23	68	eP	P	06 35 11.6	+3.0
PCRV	Puerto La Cruz 16nm,1.1s,baz=337,slow=7.7,SNR=2.6	21.27	90	P	P	06 35 10.0	+1.0
244A	Avery, Jackson baz=168,SNR=6.2	21.33	350	P	P	06 35 11.1	+1.7
151A	Opelika baz=183,SNR=7.8	21.43	2	P	P	06 35 13.2	+2.6
VBMS	Vicksburg baz=169	21.47	350	P	P	06 35 14.2	+3.4
VBMS	Vicksburg 32nm,0.8s	21.47	350	eP	P	06 35 14.3	+3.4
149A	Jones baz=179,SNR=11	21.49	359	P	P	06 35 13.4	+2.3
150A	Eclectic baz=181,SNR=22	21.50	1	P	P	06 35 13.6	+2.4
148A	Greensboro baz=177,SNR=5.4	21.57	357	P	P	06 35 13.7	+1.8
147A	Livingston baz=175,SNR=7.3	21.64	355	P	P	06 35 14.8	+2.1
242A	Grayson baz=164	21.64	346	P	P	06 35 14.4	+1.6
153A	Fort Valley baz=187	21.65	6	P	P	06 35 14.7	+1.8
146A	Union baz=173	21.68	354	P	P	06 35 15.0	+1.9
154A	Montrose baz=188,SNR=6.9	21.70	7	P	P	06 35 15.1	+1.8
145A	Houston Renfro baz=170,SNR=5.2	21.75	352	P	P	06 35 15.7	+1.7
LRAL	Lakeview Retre baz=178,SNR=8.2	21.93	358	P	P	06 35 17.0	+1.2
LRAL	Lakeview Retre 19nm,0.8s	21.93	358	eP	P	06 35 17.3	+1.5
NATX	Nacogdoches baz=158	22.06	341	P	P	06 35 18.3	+1.1
NATX	Nacogdoches 28nm,0.8s	22.06	341	eP	P	06 35 17.9	+0.7
Z49A	Columbiana baz=179,SNR=7.9	22.08	359	P	P	06 35 19.9	+2.5
Z50A	Ashland baz=181,SNR=12	22.14	1	P	P	06 35 20.0	+1.9
Z47A	Carrollton baz=175	22.15	356	P	P	06 35 19.3	+1.2
Z46A	Louisville baz=173,SNR=8.2	22.22	354	P	P	06 35 20.9	+2.0
Z48A	Northport baz=177	22.29	357	P	P	06 35 20.9	+1.1
435B	Jarrell baz=150	22.31	334	P	P	06 35 20.5	+0.5
GOGA	Godfrey baz=187,SNR=9.5	22.44	6	P	P	06 35 23.0	+1.7
GOGA	Godfrey 28nm,1.0s	22.44	6	eP	P	06 35 22.8	+1.5
140A	Cam and Jess, baz=161	22.56	344	P	P	06 35 24.0	+1.4
Z43A	Armstrong Fami baz=167	22.57	349	P	P	06 35 23.9	+1.3
Y49A	Blount Mountai baz=180,SNR=9.5	22.74	360	P	P	06 35 25.8	+1.2
Y50A	Piedmont baz=181,SNR=6.3	22.78	1	P	P	06 35 26.7	+1.8
Y48A	Jasper baz=178,SNR=10	22.81	358	P	P	06 35 26.6	+1.4
Y47A	UCPARC, Winfie baz=176,SNR=10	22.83	357	P	P	06 35 26.9	+1.5
Y46A	Houston baz=174,SNR=20	22.89	354	P	P	06 35 27.2	+1.1
Z41A	Richland Creek baz=164	22.94	346	P	P	06 35 27.3	+0.7
Y45A	Yeager Farm, C baz=172	22.95	353	P	P	06 35 27.8	+1.2
Z40A	Long Farm, Mag baz=162	23.09	345	P	P	06 35 29.3	+1.1
JCT	Junction City baz=144	23.10	329	P	P	06 35 28.8	+0.4
JCT	Junction City 8.1nm,1.0s	23.10	329	eP	P	06 35 27.8	-0.6
Y43A	Makayla and Ka baz=168	23.19	350	P	P	06 35 30.3	+1.1
Y42A	Garnett, Star baz=166	23.28	348	P	P	06 35 31.1	+1.1
WHTX	Lake Whitney, baz=152,SNR=8.2	23.30	335	P	P	06 35 31.1	+0.8
WHTX	Lake Whitney, 19nm,0.8s	23.30	335	eP	P	06 35 30.1	-0.1
X48A	Hartselle baz=178,SNR=7.0	23.34	358	P	P	06 35 31.9	+1.2
X50A	Fort Payne baz=182,SNR=9.2	23.35	1	P	P	06 35 32.0	+1.2
CCAR	Cane Creek 24nm,1.0s	23.35	348	eP	P	06 35 31.2	+0.4
X49A	Woodville baz=180	23.39	360	P	P	06 35 32.3	+1.1
HODGE	Hodges 20nm,0.8s	23.40	8	eP	P	06 35 32.4	+1.1
WLAR	White Oak Lake 16nm,0.9s	23.43	346	eP	P	06 35 31.1	-0.4
X47A	Russelville baz=176,SNR=21	23.45	357	P	P	06 35 32.8	+1.0
X45A	UM Field Stati baz=172	23.48	353	P	P	06 35 32.6	+0.5
X46A	Booneville baz=174,SNR=8.8	23.53	355	P	P	06 35 33.4	+0.8
OXF	Oxford baz=172,SNR=12	23.57	353	P	P	06 35 33.2	+0.2
OXF	Oxford 48nm,0.9s	23.57	353	eP	P	06 35 33.0	0.0
JSC	Jenkinsville 19nm,0.8s	23.61	10	eP	P	06 35 34.9	+1.5
Y40A	Okolona baz=163	23.78	345	P	P	06 35 35.4	+0.4
PLAL	Pickwick Lake 18nm,0.8s	23.92	356	eP	P	06 35 36.8	+0.5
X42A	Stuttgart baz=167	23.94	349	P	P	06 35 36.9	+0.4
W48A	Pulaski baz=178,SNR=39	24.03	359	P	P	06 35 38.4	+1.1
X41A	Kaden, Bauxite baz=165	24.07	347	P	P	06 35 38.2	+0.6
BG3	Lake Jocassee 24nm,0.8s	24.07	7	eP	P	06 35 39.2	+1.5
W46A	Michie baz=175,SNR=7.9	24.09	356	P	P	06 35 38.6	+0.7
X40A	Basin Creek Fa baz=164	24.13	347	P	P	06 35 38.7	+0.5
W47A	Westpoint baz=177,SNR=36	24.16	357	P	P	06 35 39.4	+0.8
HPIG		24.18	314	eP	P	06 35 37.7	-1.4
	6.1nm,0.9s						
W45A	Hickory Valley baz=173,SNR=6.2	24.18	354	P	P	06 35 39.0	+0.2
MET	Memphis--Engin 116nm,0.5s	24.23	353	P	P	06 35 43.5	+4.3
UALR	University of 14nm,0.8s	24.30	348	eP	P	06 35 39.2	-0.6
CPCT	Cooper Cave	24.38	3	eP	P	06 35 42.0	+1.4
TXAR	Lajitas Array 7.4nm,0.6s,baz=135,slow=10,SNR=125	24.42	321	P	P	06 35 41.4	+0.3
TXAR				PcP	PcP	06 39 20.8	+0.6
	1.0nm,0.8s,baz=143,slow=6.2,SNR=5.5						
TX31	Lajitas Ar. Si	24.42	321	eP	P	06 35 40.7	-0.5
TX31				ePcP	PcP	06 39 22.1	+2.0
KMSC	Kings Mountain baz=192,SNR=9.1	24.44	10	P	P	06 35 41.6	+0.5
KMSC	Kings Mountain 20nm,0.8s	24.44	10	eP	P	06 35 42.4	+1.3
X39A	Fountain Ranch baz=161,SNR=9.1	24.47	344	P	P	06 35 41.8	+0.4
W42A	Bald Knob baz=168	24.62	350	P	P	06 35 43.0	+0.2
V48A	Smith Brothers baz=179	24.62	359	P	P	06 35 43.5	+0.7
TKL	Tuckaleechee C 6.3nm,0.6s,baz=130,slow=12,SNR=9.9	24.64	5	P	P	06 35 44.1	+1.1
TKL	Tuckaleechee C 22nm,1.3s	24.64	5	eP	P	06 35 44.1	+1.1
TKL				epP	sP	06 35 48.8	-0.8
W41B	Gary Mavity, V baz=166,SNR=7.8	24.66	348	P	P	06 35 43.0	-0.2
V47A	Nunnelly baz=177,SNR=9.7	24.73	358	P	P	06 35 44.2	+0.5
V46A	Holladay baz=176	24.74	356	P	P	06 35 44.1	+0.3
V45A	Humboldt baz=174	24.74	355	P	P	06 35 43.9	+0.1
WHAR	Wooly Hollow 22nm,0.9s	24.79	348	eP	P	06 35 43.5	-0.7
ABTX	Abilene, Hawle baz=148	24.79	332	P	P	06 35 44.5	+0.2
ABTX	Abilene, Hawle 15nm,1.0s	24.79	332	eP	P	06 35 43.8	-0.6
W40A	Ferguson Farm, baz=164,SNR=5.5	24.86	347	P	P	06 35 45.4	+0.5
W40A	Ferguson Farm, 21nm,0.8s	24.86	347	eP	P	06 35 44.7	-0.2
V43A	Jonesboro baz=170	24.97	352	P	P	06 35 46.5	+0.6
W39A	Magazine baz=162,SNR=8.1	25.03	345	P	P	06 35 46.9	+0.4
H06E1	SOCORRO T-PHAS SNR=7.4	25.03	291	T	T	07 01 29.9	
WVT	Waverly baz=176	25.05	357	P	P	06 35 47.4	+0.8
WVT	Waverly 18nm,1.5s	25.05	357	eP	P	06 35 46.4	-0.2
V42A	Cord baz=168,SNR=5.4	25.12	350	P	P	06 35 46.9	-0.4
V41A	Mountainview baz=166,SNR=15	25.24	349	P	P	06 35 48.3	-0.1
U46A	Springville baz=176,SNR=12	25.30	356	P	P	06 35 49.2	+0.3
U45A	Rockin P Farm, baz=174	25.33	355	P	P	06 35 49.6	+0.5
U47A	Clarksville baz=178	25.34	358	P	P	06 35 49.2	0.0
U44B	Burton Farm, H baz=173	25.37	354	P	P	06 35 49.8	+0.3
U48A	Cassie Pea, Po baz=180	25.39	359	P	P	06 35 50.0	+0.3
V40A	Witts Springs baz=165,SNR=11	25.39	347	P	P	06 35 49.7	-0.1
U43A	Rector baz=171,SNR=6.2	25.52	352	P	P	06 35 51.1	+0.2
TZTN	Tazewell baz=186	25.54	5	P	P	06 35 51.9	+0.8
TZTN	Tazewell 26nm,1.4s	25.54	5	eP	P	06 35 51.5	+0.5
V39A	Pettigrew baz=163,SNR=10	25.61	346	P	P	06 35 52.3	+0.5
U42A	Revenden baz=169,SNR=11	25.63	351	P	P	06 35 51.9	+0.1
NCAT	North Carolina 14nm,0.8s	25.64	12	eP	P	06 35 53.5	+1.5
U41A	Viola baz=167	25.74	349	P	P	06 35 52.6	-0.3
T47A	Sharon Grove baz=178,SNR=7.0	25.88	358	P	P	06 35 54.8	+0.7
U40A	Yellville baz=165,SNR=12	25.93	348	P	P	06 35 54.7	0.0
PBMO	Poplar Bluff 8.6nm,0.8s	25.93	352	eP	P	06 35 53.5	-1.1
T46A	Princeton baz=176	25.96	357	P	P	06 35 55.3	+0.4
T48A	Bowling Green baz=180	25.99	360	P	P	06 35 55.9	+0.8
U39A	Green Forest baz=164,SNR=7.5	26.09	347	P	P	06 35 56.0	-0.1
HHAR	Hobbs 6.9nm,0.8s	26.10	346	eP	P	06 35 55.4	-0.8
T44A	Benton baz=173	26.14	354	P	P	06 35 56.8	+0.3
T43A	Greenville baz=171,SNR=8.2	26.21	353	P	P	06 35 57.1	-0.1
WMOK	Wichita Mounta baz=152,SNR=28	26.23	336	P	P	06 35 57.6	+0.1
WMOK	Wichita Mounta 20nm,0.9s	26.23	336	eP	P	06 35 56.7	-0.8
TUL1	Leonard baz=159,SNR=7.7	26.25	342	P	P	06 35 57.3	-0.2
TUL1	Leonard 17nm,0.9s	26.25	342	eP	P	06 35 56.7	-0.8
T42A	Van Buren baz=169,SNR=13	26.27	351	P	P	06 35 57.6	-0.1
LPIG	La Paz comp=Z,100nm,18.3s,baz=18,slow=39	26.31	303	LR	LR	06 47 36.5	
T41A	Mountain View baz=168,SNR=18	26.39	350	P	P	06 35 59.1	+0.3
S48A	Wiedeman Farm, baz=181	26.53	0	P	P	06 36 00.6	+0.5
S46A	Don Dixon Farm baz=177	26.59	357	P	P	06 36 01.0	+0.4
T40A	Mansfield baz=166	26.63	349	P	P	06 36 01.4	+0.4
S43A	Fulton Ridge, baz=172	26.67	353	P	P	06 36 01.2	-0.1
T39A	Clever baz=164,SNR=6.6	26.68	347	P	P	06 36 01.3	-0.2
S44A	Carbondale baz=174,SNR=5.4	26.70	355	P	P	06 36 01.6	0.0
SIUC	Southern Illin 18nm,0.8s	26.72	355	eP	P	06 36 01.9	+0.2
VWCC	Virginia Weste	26.73	11	eP	P	06 36 02.9	+1.1
USIN	University of 23nm,1.0s	26.87	358	eP	P	06 36 03.2	+0.1
T38A	Diamond baz=163,SNR=9.5	26.91	346	P	P	06 36 03.1	-0.4
S41A	Jillco Farms, baz=168	26.92	350	P	P	06 36 03.1	-0.4
S42A	Caledonia baz=170	26.95	352	P	P	06 36 03.2	-0.7
S40A	Lebanon baz=167,SNR=5.7	27.06	349	P	P	06 36 05.0	+0.1
WCI	Wyandotte Cave baz=180	27.10	360	P	P	06 36 05.8	+0.6
WCI	Wyandotte Cave 20nm,0.9s	27.10	360	eP	P	06 36 04.6	-0.6
R46A	Gibon Southern baz=177	27.11	358	P	P	06 36 06.0	+0.8
MNTX	Cornudas Mount baz=135	27.13	322	P	P	06 36 05.1	-0.5
MNTX	Cornudas Mount 2.8nm,1.0s	27.13	322	eP	P	06 36 03.7	-1.9
R47A	Wooly Knot Far baz=180,SNR=5.3	27.17	360	P	P	06 36 06.0	+0.2
R45A	Skylar, Fairfi baz=176	27.23	357	P	P	06 36 06.8	+0.5
R44A	Waltonville baz=174	27.24	355	P	P	06 36 06.8	+0.4
S39A	Bolivar baz=165,SNR=15	27.31	348	P	P	06 36 07.0	-0.1
R43A	Red Bud baz=172	27.35	354	P	P	06 36 07.7	+0.3
S38A	Stockton	27.38	347	P	P	06 36 07.3	-0.4

baz=164,SNR=7.5
MSTX **Muleshoe** 27.40 329 P P 06 36 07.7 -0.3
baz=143
MSTX **Muleshoe** 27.40 329 *e*P P 06 36 07.0 -1.1
16nm,1.3s
R42A **Luebbering** 27.46 352 P P 06 36 08.3 -0.1
baz=170
R41A **Rosebud** 27.56 351 P P 06 36 09.6 +0.3
baz=169
AMTX **Amarillo** 27.61 332 P P 06 36 09.7 -0.2
baz=146
AMTX **Amarillo** 27.61 332 *e*P P 06 36 09.6 -0.3
9.9nm,0.8s
OLIL **Olney** 27.66 357 *e*P P 06 36 10.5 +0.3
17nm,0.8s
R40A **Maddies Statio** 27.69 350 P P 06 36 10.1 -0.4
baz=167
Q47A **Bedord North L** 27.81 360 P P 06 36 11.9 +0.3
baz=180,SNR=6.1
Q45A **Warren Harvey,** 27.82 357 P P 06 36 11.8 +0.2
baz=176,SNR=7.9
R39A **Chumby, Stover** 27.86 349 P P 06 36 11.4 -0.5
baz=166,SNR=6.5
Q44A **Meyer Farm, Va** 27.89 355 P P 06 36 11.9 -0.3
baz=174,SNR=5.6
IP03 **Louisa** 27.89 14 *e*P P 06 36 14.5 +2.2
9.5nm,0.8s
R38A **Fenwick Farm,** 27.92 347 P P 06 36 11.9 -0.6
baz=164,SNR=9.7
IP04 **Greensprings** 27.94 14 *e*P P 06 36 13.3 +0.6
15nm,1.0s
Q43A **New Douglas** 27.98 354 P P 06 36 13.2 +0.1
baz=173
BLO **Bloomington** 28.05 360 *e*P P 06 36 13.8 +0.2
14nm,0.8s
BLO *e*pP sP 06 36 19.6 -0.7
Q42A **Golden Eagle** 28.05 353 P P 06 36 13.6 -0.1
baz=171
PTRD **Partlow Road** 28.08 15 *e*P P 06 36 15.4 +1.4
12nm,0.6s
Q41A **Truxton** 28.18 352 P P 06 36 14.8 0.0
baz=170
CBN **Corbin Frederi** 28.23 15 P P 06 36 16.1 +0.9
baz=199
Q40A **Laux Farm, Aux** 28.35 350 P P 06 36 16.5 +0.2
baz=168
P47A **Martinsville** 28.36 360 P P 06 36 16.7 +0.2
baz=180
P45A **Graceland, Par** 28.43 358 P P 06 36 17.6 +0.6
baz=177
P46A **Rosedale** 28.50 358 P P 06 36 17.9 +0.2
baz=178
Q39A **Willow Grove F** 28.55 349 P P 06 36 17.5 -0.7
baz=166,SNR=5.7
Q38A **Cooks Store, C** 28.60 348 P P 06 36 18.3 -0.2
baz=165
P43A **Skaggs, Pawnee** 28.66 355 P P 06 36 19.3 +0.2
baz=173
Q37A **Longview Farm,** 28.70 347 P P 06 36 18.7 -0.8
baz=163
P41A **Barry, Barry** 28.86 352 P P 06 36 20.3 -0.6
baz=170
P40A **Paris** 28.87 351 P P 06 36 21.3 +0.4
baz=168
P39B **Salisbury** 28.94 350 P P 06 36 21.6 0.0
baz=167
O44A **Mansfield** 29.09 357 P P 06 36 22.8 -0.1
baz=176,SNR=8.5
MCWV **Mont Chateau** 29.09 10 P P 06 36 23.1 +0.2
baz=193
MCWV **Mont Chateau** 29.09 10 *e*P P 06 36 23.0 0.0
11nm,0.7s
O47A **Sheridan** 29.11 0 P P 06 36 22.9 -0.1
baz=180,SNR=6.3
O45A **Potomac** 29.15 358 P P 06 36 23.6 +0.2
baz=177,SNR=5.9
121A **Cookes Peak, D** 29.18 321 P P 06 36 22.7 -1.3
baz=133
P38A **Dawn** 29.22 348 P P 06 36 23.7 -0.4
baz=165,SNR=8.7
ACSO **Alum Creek Sta** 29.25 5 P P 06 36 25.0 +0.6
baz=187,SNR=8.4
ACSO **Alum Creek Sta** 29.25 5 *e*P P 06 36 24.4 0.0
20nm,0.8s
SFIN **Lafayette** 29.26 359 P P 06 36 24.3 -0.1
baz=178,SNR=6.5
SFIN **Lafayette** 29.26 359 *e*P P 06 36 23.6 -0.9
15nm,0.8s
O41A **Passleys Farm,** 29.28 353 P P 06 36 23.7 -0.8
baz=171
O43A **Sugar Creek Fa** 29.28 355 P P 06 36 24.5 -0.1
baz=174
P37A **Lathrop** 29.36 347 P P 06 36 25.5 +0.2
baz=164
O40A **La Belle** 29.42 351 P P 06 36 26.2 +0.4
baz=169
KSU1 **Kansas State U** 29.46 343 P P 06 36 26.1 -0.1
baz=159
KSU1 **Kansas State U** 29.46 343 *e*P P 06 36 25.4 -0.8
12nm,0.8s
HDIL **Hopedale** 29.55 355 P P 06 36 27.1 +0.1
baz=174,SNR=9.5
HDIL **Hopedale** 29.55 355 *e*P P 06 36 26.1 -0.9
29nm,0.8s
BNM **Barren Site** 29.61 324 *e*P P 06 36 26.4 -1.5
O39A **Kirksville** 29.65 350 P P 06 36 28.2 +0.3
baz=168
N44A **Piper City** 29.71 357 P P 06 36 28.2 -0.2
baz=176
Y22D **IRIS PASSCAL I** 29.73 324 P P 06 36 27.8 -1.1
baz=136
Y22E **IRIS PASSCAL I** 29.73 324 P P 06 36 28.9 +0.1
baz=136
N45A **Kentland** 29.74 358 P P 06 36 28.6 0.0
baz=178
N46A **Monticello** 29.77 359 P P 06 36 28.7 -0.2
baz=179,SNR=9.4
LENM **Lemitar** 29.82 324 *e*P P 06 36 27.7 -2.0
O37A **Wolven Farm, M** 29.87 348 P P 06 36 29.3 -0.5
baz=164
N42A **Yates City** 29.89 354 P P 06 36 30.3 +0.3
baz=173
N43A **Stutzman Famil** 29.92 356 P P 06 36 30.1 -0.2
baz=174,SNR=9.3
O56A **Blue Knob Stat** 29.93 12 P P 06 36 31.1 +0.7
baz=195
O56A **Blue Knob Stat** 29.93 12 *e*P P 06 36 30.5 +0.1
13nm,1.0s
ANMO **Albuquerque** 30.10 326 P P 06 36 32.7 +0.5
2.2nm,0.7s,baz=328,slow=7.7,SNR=11
ANMO **Albuquerque** 30.10 326 P P 06 36 32.3 +0.1
baz=138
ANMO **Albuquerque** 30.10 326 *e*P P 06 36 31.6 -0.5
2.9nm,0.9s
N40A **Mertquake, Sal** 30.12 352 P P 06 36 32.1 0.0
baz=170
N39A **Derby Farms, D** 30.25 351 P P 06 36 33.2 0.0
baz=168
M46A **Old House Fiel** 30.28 360 P P 06 36 33.1 -0.4
baz=180
N38A **Joes South For** 30.30 349 P P 06 36 33.1 -0.5
baz=166
PAGS **Pennsylvania G** 30.30 15 *e*P P 06 36 34.8 +1.1
27nm,0.7s
SAML **Samuel** 30.34 130 *e*P P 06 36 33.7 -0.5
4.1nm,0.8s
N54A **Moraine State** 30.34 9 *e*P P 06 36 35.2 +1.2
29nm,1.6s
M43A **Waltham Townsh** 30.40 356 P P 06 36 35.1 +0.6
baz=175
SSPA **Standing Stone** 30.42 13 P P 06 36 35.3 +0.6
baz=196
SSPA **Standing Stone** 30.42 13 *e*P P 06 36 34.8 +0.1
16nm,0.7s
N37A **Lee Faris, Mou** 30.45 348 P P 06 36 34.5 -0.5
baz=165,SNR=6.3
M41A **Milan** 30.48 354 P P 06 36 35.0 -0.2
baz=172
O34A **Beatrice** 30.49 344 P P 06 36 35.2 -0.1
baz=160,SNR=6.3
M40A **Post Highland** 30.63 352 P P 06 36 36.1 -0.4
baz=170
O33A **Hebron** 30.64 343 P P 06 36 36.5 -0.2
baz=158
T25A **Trinidad** 30.72 331 P P 06 36 37.5 -0.2
baz=144
M39A **Webster** 30.79 351 P P 06 36 38.2 +0.2
baz=169
N35A **Tabor** 30.86 346 P P 06 36 38.5 -0.2
baz=162,SNR=6.7
M38A **Pleasantville** 30.90 350 P P 06 36 39.2 +0.3
baz=167
M54A **Oil Creek Stat** 30.93 10 P P 06 36 40.2 +1.0
baz=193
M54A **Oil Creek Stat** 30.93 10 *e*P P 06 36 39.6 +0.4
12nm,1.1s
ALLY **Alegheny Colle** 30.99 9 *e*P P 06 36 40.0 +0.2
12nm,0.8s
L42A **Oliver, Polo** 31.02 355 P P 06 36 39.4 -0.5
baz=174,SNR=16
M37A **Trindle Farm,** 31.04 349 P P 06 36 39.9 -0.3
baz=165
N34A **Lincoln** 31.05 345 P P 06 36 40.3 0.0
baz=160,SNR=5.7
L44A **Lake County Fo** 31.08 358 P P 06 36 40.0 -0.5
baz=177
L43A **Garden Prairie** 31.13 356 P P 06 36 40.6 -0.3
baz=175,SNR=6.0
L41A **Preston** 31.17 354 P P 06 36 40.7 -0.6
baz=172,SNR=7.9
N59A **State Game Lan** 31.19 15 P P 06 36 42.0 +0.4
baz=200,SNR=6.8
N59A **State Game Lan** 31.19 15 *e*P P 06 36 42.9 +1.3
20nm,0.7s
L40A **Anamosa** 31.24 353 P P 06 36 41.8 -0.1
baz=171,SNR=5.1
M35A **Neola** 31.45 346 P P 06 36 43.5 -0.3
baz=162,SNR=11
ERPA **Erie** 31.47 9 P P 06 36 44.5 +0.6
baz=192,SNR=7.8
ERPA **Erie** 31.47 9 *e*P P 06 36 44.1 +0.1
34nm,0.8s
L38A **Oak Wood Farm,** 31.56 350 P P 06 36 44.4 -0.3
baz=168
K43A **Burlington** 31.63 357 P P 06 36 44.8 -0.5
baz=176
K41A **Shullsburg** 31.68 354 P P 06 36 45.4 -0.3
baz=173,SNR=7.4
L37A **Phoenix Point,** 31.68 349 P P 06 36 46.3 +0.5
baz=166
SDCO **Great Sand Dun** 31.73 330 P P 06 36 46.8 +0.1
baz=142,SNR=5.4
SDCO **Great Sand Dun** 31.73 330 *e*P P 06 36 45.8 -0.8
2.6nm,0.7s
K42A **Prairie Point,** 31.76 356 P P 06 36 46.1 -0.4
baz=174,SNR=6.6
K40A **Colesburg** 31.86 353 P P 06 36 46.7 -0.7
baz=171
M33A **Taylor Creek F** 31.92 344 P P 06 36 48.0 0.0
baz=160
K39A **Oelwein** 31.95 352 P P 06 36 47.5 -0.7
baz=176,SNR=10
JFWS **Jewell Farm** 31.97 354 P P 06 36 48.0 -0.4
baz=173,SNR=10
JFWS **Jewell Farm** 31.97 354 *e*P P 06 36 47.1 -1.2
18nm,0.8s
K38A **Parkersburg** 32.03 351 P P 06 36 48.4 -0.4
baz=168
L35A **Bielow Farm, R** 32.03 347 P P 06 36 48.2 -0.7
baz=163
214A **Organ Pipe Nat** 32.16 314 P P 06 36 49.8 -0.4
baz=125
J42A **Columbus** 32.28 356 P P 06 36 50.8 -0.2
baz=175,SNR=7.6
K37A **Belmond** 32.28 350 P P 06 36 50.6 -0.5
baz=166,SNR=16
J43A **Natural Harves** 32.30 357 P P 06 36 50.8 -0.5
baz=176
K36A **Gilmore City** 32.31 349 P P 06 36 51.1 -0.2
baz=156
BINY **Binghamton** 32.34 14 P P 06 36 52.2 +0.5
baz=199,SNR=5.3
BINY **Binghamton** 32.34 14 *e*P P 06 36 52.0 +0.4
17nm,0.8s
ELFO **Elginfield** 32.35 7 P P 06 36 51.2 -0.4
baz=189
S22A **4UR Ranch, Cre** 32.40 329 P P 06 36 51.4 -1.1
baz=140,SNR=5.2
S22A **4UR Ranch, Cre** 32.40 329 *e*P P 06 36 53.2 +0.7
3.4nm,1.0s
S22A *e*PcP PcP 06 39 41.5 +1.5
J41A **Loganville** 32.40 355 P P 06 36 51.9 -0.2
baz=173,SNR=8.0
TYNO **Tyneside** 32.45 9 P P 06 36 52.6 +0.1
baz=192
L33A **Hoskins** 32.50 345 P P 06 36 52.8 -0.2
baz=160
J40A **Soldiers Grove** 32.50 354 P P 06 36 52.3 -0.7
baz=172,SNR=13
LPAZ **La Paz** 32.52 146 LR LR 06 50 12.4
comp=Z,85nm,19.3s,baz=350,slow=36
J39A **Decorah** 32.55 353 P P 06 36 52.6 -0.8
baz=170,SNR=10
J38A **Wedel Dairy, R** 32.64 352 P P 06 36 53.4 -0.8
baz=169,SNR=8.8
K34A **Le Mars** 32.70 347 P P 06 36 54.9 +0.1
baz=162
X16A **Lo Mia Camp, P** 32.72 319 *e*P P 06 36 56.2 +0.9
2.5nm,0.8s
I43A **Langenfeld Bro** 32.80 357 P P 06 36 54.9 -0.6
baz=177,SNR=10
J37A **Redenius Farm,** 32.80 350 P P 06 36 56.1 +0.5
baz=167
I42A **Draeger Farm,** 32.84 356 P P 06 36 55.7 -0.3
baz=175,SNR=10.0
I42A **Draeger Farm,** 32.84 356 *e*P P 06 36 55.3 -0.6
17nm,1.0s
MVCO **Mesa Verde** 32.88 326 P P 06 36 56.6 -0.1
baz=137
ACTO **Acton** 32.92 8 P P 06 36 57.2 +0.6
baz=191,SNR=6.0
J36A **Seneca 1, Swea** 32.96 349 P P 06 36 56.4 -0.6
baz=166,SNR=5.2
I40A **Norwalk** 32.98 354 P P 06 36 56.6 -0.6
baz=172,SNR=7.3
I39A **Houston** 33.04 353 P P 06 36 57.1 -0.6
baz=171,SNR=6.7
I41A **Arkdale** 33.08 355 P P 06 36 57.6 -0.5
baz=174
K32A **Verdigre** 33.15 344 P P 06 36 58.9 +0.3
baz=159
I38A **Scanlan Farm,** 33.33 352 P P 06 36 59.3 -0.9
baz=169
K31A **O'Neill** 33.33 343 P P 06 37 00.6 +0.3
baz=157
H43A **Windswept, Lux** 33.37 358 P P 06 37 00.2 -0.3
baz=177
H43A **Windswept, Lux** 33.37 358 *e*P P 06 36 59.8 -0.7
19nm,1.3s
PKRO **Pickering** 33.42 9 P P 06 37 01.5 +0.5
baz=193
H42A **Shiocton** 33.44 357 P P 06 37 00.7 -0.5
baz=176
H42A **Shiocton** 33.44 357 *e*P P 06 37 00.7 -0.5
9.7nm,0.7s
I37A **Lemond, Waseca** 33.46 351 P P 06 37 00.9 -0.5
baz=167,SNR=7.3
I36A **Fitzsimmons Fa** 33.57 350 P P 06 37 02.2 -0.1
baz=166
I35A **Creekview Farm** 33.59 349 P P 06 37 02.1 -0.4
baz=164
H41A **Junction City** 33.61 356 P P 06 37 02.2 -0.5
baz=174
H41A **Junction City** 33.61 356 *e*P P 06 37 01.8 -0.9
10nm,0.9s
H40A **Chili** 33.68 355 P P 06 37 02.8 -0.5
baz=173,SNR=9.5
GLMI **Grayling** 33.72 2 P P 06 37 03.1 -0.6
baz=183
GLMI **Grayling** 33.72 2 *e*P P 06 37 02.2 -1.5
16nm,0.8s
ECSD **EROS Data Cent** 33.82 346 P P 06 37 03.6 -0.9
baz=162,SNR=8.8
ECSD **EROS Data Cent** 33.82 346 *e*P P 06 37 03.4 -1.1
10nm,1.0s
H39A **Augusta** 33.83 354 P P 06 37 04.0 -0.6
baz=171,SNR=6.6
H38A **Maiden Rock** 33.94 352 P P 06 37 04.8 -0.8
baz=170,SNR=5.9
H36A **Jessenland, He** 34.09 350 P P 06 37 06.4 -0.5
baz=167,SNR=14
G42A **Mountain** 34.16 357 P P 06 37 06.6 -0.8
baz=176,SNR=5.5
G42A **Mountain** 34.16 357 *e*P P 06 37 06.2 -1.2
8.8nm,0.8s
G41A **Antigo** 34.17 356 P P 06 37 06.9 -0.7
baz=175
SADO **Sadowa** 34.19 9 *e*P P 06 37 08.1 +0.4
11nm,0.8s
G40A **Rib Lake** 34.30 355 P P 06 37 08.0 -0.7
baz=173,SNR=6.5
TOBO **Tobermory, Bru** 34.34 6 P P 06 37 08.8 -0.2
baz=188
H35A **Sunnyside Ranc** 34.37 349 P P 06 37 08.5 -0.8
baz=165,SNR=6.6
G38A **Ridgeland** 34.38 353 P P 06 37 08.4 -0.9
baz=170,SNR=5.1
G39A **Holcombe** 34.41 354 P P 06 37 09.2 -0.5
baz=172,SNR=14
PDMCI **Parker Dam,Lak** 34.42 317 P P 06 37 09.7 -0.2
baz=126
SPMN **Marine on St.** 34.55 352 P P 06 37 10.0 -0.9
baz=169,SNR=9.8
SPMN **Marine on St.** 34.55 352 *e*P P 06 37 09.7 -1.2
23nm,1.0s
PHWY **Pilot Hill** 34.58 334 *e*P P 06 37 06.7 -4.8
42nm,1.4s
F46A **Macinaw City C** 34.67 2 P P 06 37 11.0 -0.8
baz=183
F41A **Three Lakes** 34.69 356 P P 06 37 11.4 -0.7
baz=175,SNR=6.3
G36A **St. Michael** 34.70 351 P P 06 37 11.6 -0.6
baz=167
F43A **Flat Rock, Esc** 34.71 359 P P 06 37 11.4 -0.8
baz=178
W13A **Hualapai Mount** 34.72 318 *e*P P 06 37 14.3 +1.6
5.2nm,1.3s
H32A **Carlson Farm,** 34.74 346 P P 06 37 11.8 -0.7
baz=161
H33A **Prehn Over Nor** 34.74 347 P P 06 37 12.1 -0.4
baz=162
BUKO **Buck Lake** 34.81 8 P P 06 37 13.1 0.0
baz=192
F44A **Big Bay de Noc** 34.84 360 P P 06 37 12.7 -0.7
baz=180,SNR=13
O20A **White River Ci** 34.93 330 P P 06 37 14.2 -0.2
baz=140
O20A **White River Ci** 34.93 330 *e*P P 06 37 15.8 +1.4
4.2nm,0.8s
F40A **Park Falls** 34.94 355 P P 06 37 13.5 -0.7
baz=174
BC3 **Big Chuckawall** 34.96 315 P P 06 37 14.0 -0.7
baz=124
LONY **Lake Ozonia** 34.97 15 P P 06 37 15.1 +0.6
baz=200
LONY **Lake Ozonia** 34.97 15 *e*P P 06 37 15.2 +0.7
11nm,0.9s
F39A **Loretta** 35.01 354 P P 06 37 14.0 -0.8
baz=172,SNR=6.3
G34A **Benson** 35.05 348 P P 06 37 15.0 -0.1
baz=164
COWI **Conover** 35.06 357 *e*P P 06 37 14.0 -1.2
7.2nm,0.8s
F38A **Pierce - Schro** 35.16 353 P P 06 37 15.4 -0.7
baz=170,SNR=7.2
G33A **Ortonville** 35.17 347 P P 06 37 15.9 -0.2
baz=163
E43A **Lone Tree Farm** 35.25 359 P P 06 37 16.1 -0.7
baz=179
F36A **Milaca** 35.28 351 P P 06 37 16.0 -1.1
baz=168,SNR=8.9
E42A **Champion** 35.33 358 P P 06 37 17.2 -0.4
baz=177
SRU **San Rafael Swe** 35.35 326 *e*P P 06 37 18.3 +0.2
4.9nm,0.7s
E39A **Mellen** 35.44 355 P P 06 37 18.2 -0.3
baz=173
F35A **Swanville** 35.45 350 P P 06 37 18.1 -0.4
baz=166
E40A **Wakefield** 35.45 356 P P 06 37 17.9 -0.7
baz=174
G32A **Webster** 35.46 346 P P 06 37 19.0 +0.3
baz=161
E44A **Grand Marais A** 35.49 0 P P 06 37 19.3 +0.4
baz=181
Q16A **Castle Valley** 35.57 326 *e*P P 06 37 22.8 +2.8
5.2nm,1.3s
P17A **Butcher Ranch,** 35.73 327 *e*P P 06 37 21.6 +0.3
5.7nm,0.8s
F33A **5 Mile Ranch,** 35.75 348 P P 06 37 20.2 -1.0
baz=163,SNR=7.5
E38A **The Farm, Brul** 35.76 354 P P 06 37 20.5 -0.7
baz=171
ALFO **Alfred** 35.84 14 P P 06 37 22.5 +0.6
baz=199
TMUT **Trail Mountain** 35.86 326 *e*P P 06 37 25.5 +3.0
10nm,1.5s
E36A **McGregor** 35.88 352 P P 06 37 21.9 -0.4
baz=168
MPU **Maple Canyon** 36.60 326 *e*P P 06 37 29.1 +0.3
2.8nm,0.9s
D34A **Park Rapids** 36.74 350 P P 06 37 29.3 -0.3
baz=165
E31A **Nome** 36.78 347 P P 06 37 29.1 -0.8
baz=161
PD31 **Pinedale Array** 37.59 331 *e*P P 06 37 37.5 +0.3
PDAR **Pinedale Array** 37.59 331 P P 06 37 36.1 -1.0
1.4nm,0.6s,baz=121,slow=9.7,SNR=18
PDAR PcP PcP 06 39 53.9 -1.0
0.2nm,0.6s,baz=139,slow=5.9,SNR=3.0
HWUT **Hardware Ranch** 37.70 328 *e*P P 06 37 38.0 -0.1
5.9nm,0.9s
HWUT *e*PcP PcP 06 39 55.7 +0.5
C31A **Landman Farms,** 37.91 347 P P 06 37 38.6 -1.0
baz=162,SNR=5.0
BGU **Big Grassy Mou** 38.00 326 *e*P P 06 37 42.3 +1.7
2.7nm,0.9s
B34A **Aery, Baudette** 38.01 351 P P 06 37 39.5 -0.9
baz=167,SNR=6.1
AGMN **Agassiz Nation** 38.03 350 P P 06 37 39.7 -0.8
baz=165,SNR=7.1
AGMN **Agassiz Nation** 38.03 350 *e*P P 06 37 39.7 -0.8
19nm,1.2s
ARVC **Arvin** 38.10 314 P P 06 37 41.2 -0.1
baz=121,SNR=7.0
B32A **Ashes, Strandq** 38.25 349 P P 06 37 41.9 -0.5
baz=164,SNR=15
B31A **Greenbush Farm** 38.50 348 P P 06 37 43.6 -0.8
baz=162
A33A **Warroad** 38.57 350 P P 06 37 44.3 -0.8
baz=166,SNR=6.1
REDW **Red Top Meadow** 38.65 331 *e*P P 06 37 46.0 -0.1
5.5nm,0.6s
SNOW **Snow King Moun** 38.68 331 *e*P P 06 37 46.8 +0.4
7.7nm,1.0s
A32A **Rocking H Ranc** 38.74 349 P P 06 37 45.7 -0.8
baz=164
TPAW **Teton Pass** 38.80 331 *e*P P 06 37 47.5 +0.1
3.4nm,0.8s
MOOW **Moose Ponds** 38.90 331 *e*P P 06 37 48.2 0.0
4.9nm,1.6s
IMW **Indian Meadow** 39.10 331 *e*P P 06 37 51.9 +1.9
2.4nm,0.7s
NV11 **Mina Array Sit** 39.45 319 *e*P P 06 37 54.6 +1.8
0.5nm,1.0s
NV01 **Mina Array Sit** 39.55 319 *e*P P 06 37 55.5 +1.8
NV01 *e*PcP PcP 06 40 03.2 +2.1
NVAR **Mina Array Bea** 39.55 319 P P 06 37 55.2 +1.5
4.2nm,0.8s,baz=134,slow=7.3,SNR=9.4
NVAR PcP PcP 06 40 01.9 +0.8
2.3nm,0.6s,baz=131,slow=4.8,SNR=5.8
ULM **Lac du Bonnet** 39.92 350 P P 06 37 53.6 -2.8
3.8nm,0.9s,baz=172,slow=8.1,SNR=4.8
ULM LR LR 06 55 47.0
comp=Z,65nm,18.5s,baz=46,slow=39
ULM **Lac du Bonnet** 39.92 350 *e*P P 06 37 54.3 -2.0
8.3nm,1.1s
BMN **Battle Mountai** 40.07 322 *e*P P 06 37 59.1 +1.2
6.3nm,1.1s
YERR **Yerington** 40.47 319 *e*P P 06 38 03.1 +1.9
24nm,1.7s
HLID **Hailey** 40.57 328 P P 06 38 02.1 0.0
baz=135,SNR=5.5
HLID **Hailey** 40.57 328 *e*P P 06 38 02.8 +0.7
2.4nm,1.0s
MCMT **McKenzie Canyo** 40.70 331 *e*P P 06 38 03.9 +0.7
BOZ **Bozeman (W)** 40.71 333 P P 06 38 03.1 0.0
baz=140,SNR=6.1
BOZ **Bozeman (W)** 40.71 333 *e*P P 06 38 03.2 0.0
2.1nm,0.6s
EGMT **Eagleton** 41.83 336 P P 06 38 12.1 -0.2
baz=144
WVOR **Wild Horse Val** 42.15 324 *e*P P 06 38 15.9 +0.9
4.0nm,0.8s

ORV	**Oroville** 4.7nm,1.0s	42.24	318	*e*P	P	06 38 18.1	+2.5
BMO	**Blue Mountains** 3.6nm,1.0s	42.97	327	*e*P	P	06 38 21.0	-0.6
F10A	**Beach Ranch, E** 6.4nm,1.1s	43.69	329	*e*P	P	06 38 26.9	-0.5
RPN	**Rapa Nui** comp=Z,14nm,18.4s,baz=22,slow=28	44.03	210	LR	LR	06 50 56.6	
YBH	**Yreka Blue Hor** comp=Z,102nm,19.1s,baz=142,slow=39	44.20	320	LR	LR	06 58 38.4	
HAWA	**Hanford** 3.4nm,0.7s	45.16	328	*e*P	P	06 38 38.5	-0.6
I04A	**Tendick Farm,** baz=126	45.17	323	P	P	06 38 38.5	-0.8
FFC	**Flin Flon** 7.5nm,1.4s	45.35	347	*e*P	P	06 38 39.9	-0.4
H04A	**Detroit Lake** 22nm,1.8s	45.56	324	*e*P	P	06 38 42.9	+0.6
SCHQ	**Schefferville** 6.2nm,0.7s,baz=219,slow=6.6,SNR=11	46.33	15	P	P	06 38 46.5	-1.6
CPUP	**Villa Florida** comp=Z,47nm,18.5s,baz=318,slow=37	46.57	143	LR	LR	06 59 07.9	
PLCA	**Paso Flores** 1.9nm,1.0s,baz=357,slow=5.7,SNR=3.5	53.49	165	P	P	06 39 47.5	+4.7
FRB	**Frobisher Bay** comp=Z,113nm,19.5s,baz=170,slow=37	54.13	10	LR	LR	07 03 05.8	
YKA	**Yellowknife Ar** 1.8nm,0.9s,baz=137,slow=7.6,SNR=26	55.30	344	P	P	06 39 53.8	-1.7
YKA	0.2nm,0.5s,baz=145,slow=4.1,SNR=5.5			PcP	PcP	06 40 55.4	-0.7
YKW3	**Yellowknife Ar** 6.3nm,1.3s	55.36	344	*e*P	P	06 39 52.9	-3.1
SFJD	**Kangerlussuaq** comp=Z,79nm,18.1s,baz=214,slow=37	60.78	15	LR	LR	07 07 53.9	
INK	**Inuvik** 3.6nm,1.0s	64.92	342	*e*P	P	06 41 00.5	-0.9
IL1	**Eielson Array**	67.80	336	*e*P	P	06 41 18.9	-1.1
ILAR	**Eielson Array** 2.0nm,1.0s,baz=101,slow=4.0,SNR=13	67.80	336	P	P	06 41 18.9	-1.1
ILAR	0.7nm,1.1s,baz=122,slow=8.4,SNR=4.3			PP	PP	06 43 48.1	-1.3
RND	**Reindeer** 11nm,0.9s	68.11	334	*e*P	P	06 41 21.7	-0.4
MLY	**Manley** 7.4nm,1.0s	69.43	336	*e*P	P	06 41 29.4	-0.8
NOA	**NORSAR Array B** comp=Z,18nm,18.7s,baz=305,slow=36	84.05	29	LR	LR	07 19 50.9	
HFS	**Hagfors** comp=Z,28nm,18.6s,baz=304,slow=33	85.45	30	LR	LR	07 17 12.2	
GERES	**GERESS Array B** comp=Z,27nm,20.0s,baz=288,slow=31	88.27	41	LR	LR	07 16 15.7	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=300,slow=2.2,SNR=3.9	121.55	9	PKP	PKPdf	06 49 14.5	-1.7
KSRS	**Korea Array** 1.2nm,0.7s,baz=50,slow=1.0,SNR=4.0	122.11	328	PKP	PKPdf	06 49 17.3	-0.2
KSAR	**Wonju Array Be**	122.13	328	PKP	PKPdf	06 49 17.3	-0.3
KSH	**Kashi**	127.08	17	*e*PKP	PKPdf	06 49 27.5	+0.3
LZH	**Lanzhou**	132.20	349	*e*PKP	PKPdf	06 49 38.5	+1.5
LZH				sPKP		06 49 57.5	
ASAR	**Alice Springs** 0.7nm,0.6s,baz=97,slow=1.9,SNR=9.2	139.79	246	PKhKP	PKPpre	06 49 48.9	
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=92,slow=2.4,SNR=6.7	139.97	252	PKhKP	PKPpre	06 49 49.2	
CMAR	**Chiang Mai Arr** 2.6nm,0.4s,baz=330,slow=3.0,SNR=8.9	150.27	350	PKPbc	PKPbc	06 50 13.6	-0.9

ISCJB ***25*** *06:43:47.6±0.1,20°17S±0°03×176°38W±0°04,h250km, mb4.6/120, Error ellipse: s-maj=5.4km s-min=3.1km az=35.8*

NEIC ***25*** *06:43:51.6±0.8,20°13S×176°38W,h277km±7km,mb4.7/98, Error ellipse: s-maj=5.7km s-min=3.6km az=143.0*

WEL ***25*** *06:43:51.0,21°13S×176°38W,h277km*

IDC ***25*** *06:43:53.4±2.1,20°05S×176°44W,h291km±19km, mb4.2/27,mb1 4.3/28,mb1mx4.1/47,mbtmp4.8/28, Error ellipse: s-maj=11.4km s-min=8.6km az=144.0*

ISC 25 06:43:48.6±0.3, 20°27S±0°05×176°24W±0°06, h250km, n294,σ1s39/310, mb4.6/120, 17C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MSVF	**Nonsavu**	5.96	294	*e*Pn	Pn	06 45 19.8	+3.4
MSVF				*e*Sn	S	06 46 31.5	+4.9
NIUE	**Niue** baz=6.0,SNR=27	6.07	80	P	Pn	06 45 13.6	-4.0
AFI	**Afiamalu** 18nm,0.3s,baz=192,slow=3.0,SNR=24	7.63	35	P	Pn	06 45 30.6	-6.8
AFI	82nm,0.3s,baz=37,slow=22,SNR=11			S	S	06 46 47.2	-18
AFI	**Afiamalu**	7.63	35	*e*Pn	Pn	06 45 29.9	-7.5
AFI				*e*S	S	06 46 45.1	-20
RIZ	**Raoul Island**	9.07	189	P	Pn	06 45 55.6	+0.3
GLKZ	**Green Lake**	9.08	189	P	Pn	06 45 54.8	-0.8
GLKZ	**Green Lake**	9.08	189	S	S	06 47 35.9	-2.3
RAR	**Rarotonga** 0.7nm,0.3s,baz=293,slow=3.6,SNR=3.7	15.44	96	P	P	06 47 14.0	+0.6
DZM	**Mont Dzumac** 13nm,0.3s,baz=90,slow=15,SNR=102	16.25	261	P	Pn	06 47 25.0	+1.1
DZM	**Mont Dzumac** 119nm,0.7s	16.25	261	*e*P	Pn	06 47 24.4	+0.5
OUZ	**Omahuta** 96nm,1.6s	17.38	209	*e*P	P	06 47 36.4	+1.9
KUZ	**Kuaotunu**	17.86	201	P	P	06 47 42.2	+2.6
MXZ	**Matakaoa Point** 208nm,1.4s	17.87	194	*e*P	P	06 47 41.8	+2.1
MXZ	**Matakaoa Point**	17.87	194	P	Pn	06 47 42.5	-0.1
MXZ	**Matakaoa Point**	17.87	194	S	S	06 50 46.3	-5.6
KNTN	**Kanton** 225nm,1.2s	17.94	15	*e*P	P	06 47 38.6	-2.1
WIAZ	**Waiheke Island**	18.11	203	P	Pn	06 47 45.1	-0.3
HAZ	**Te Kaha**	18.18	195	P	P	06 47 43.8	+0.7
HAZ	**Te Kaha**	18.18	195	S	S	06 50 55.7	-2.2
PKGZ	**Pakihiroa**	18.24	194	P	Pn	06 47 47.0	0.0
PUZ	**Puketiti**	18.37	194	P	P	06 47 46.4	+1.2
PUZ	**Puketiti**	18.37	194	S	S	06 50 57.0	-4.7
MKAZ	**Moumakai**	18.38	202	P	P	06 47 47.6	+2.4
RUGZ	**Raukumara Rang**	18.41	195	P	P	06 47 47.0	+1.3
RUGZ	**Raukumara Rang**	18.41	195	S	S	06 50 59.8	-2.8
AWAZ	**Awhitu Peninsu**	18.53	204	P	P	06 47 49.8	+2.9
URZ	**Urewera** 7.6nm,0.3s,baz=284,slow=3.5,SNR=31	18.83	196	P	P	06 47 50.4	+0.3
URZ	3.2nm,0.3s,baz=288,slow=20,SNR=5.2			S	S	06 51 04.8	-5.9
URZ	**Urewera** 50nm,0.6s	18.83	196	*e*P	P	06 47 50.3	+0.3
URZ				S	S	06 51 04.8	-5.9
URZ	**Urewera**	18.83	196	P	P	06 47 50.1	0.0
URZ	**Urewera**	18.83	196	S	S	06 51 12.1	+1.5
HIZ	**Hauiti** 164nm,1.3s	19.75	201	*e*P	P	06 48 02.1	+2.2
BKZ	**Black Stump Fm** 144nm,1.9s	19.85	197	*e*P	P	06 47 59.5	-1.5
BFZ	**Birch Farm** 118nm,1.7s	21.34	196	*e*P	P	06 48 16.3	-0.1
BFZ				*e*S	S	06 52 00.2	+4.0
SNZO	**South Karori** 92nm,1.1s	22.34	198	*e*P	P	06 48 26.7	+1.1
THZ	**Tophouse** 31nm,0.9s	23.32	201	*e*P	P	06 48 36.6	+2.0
KHZ	**Kahutara** 249nm,2.0s	23.70	199	*e*P	P	06 48 43.4	+5.4
LTZ	**Lake Taylor** 38nm,0.6s	24.44	201	*e*P	P	06 48 47.5	+2.7
OXZ	**Oxford** 67nm,1.0s	25.00	201	*e*P	P	06 48 51.8	+2.0
PPT	**Papeete** 24nm,0.7s,baz=205,slow=19,SNR=5.9	25.36	88	P	P	06 48 53.3	+0.1
PPT	**Papeete**	25.36	88	*e*P	P	06 48 54.1	+0.9
RPZ	**Rata Peaks** 18nm,0.4s,baz=12,slow=3.3,SNR=12	25.68	202	P	P	06 48 58.8	+3.0
RPZ	**Rata Peaks** 32nm,0.8s	25.68	202	*e*P	P	06 48 58.9	+3.0
WHZ	**Wether Hill Ro** 94nm,0.6s	28.68	203	*e*P	P	06 49 25.1	+2.6
EIDS	**Eidsvold** baz=31,SNR=19	30.50	254	P	P	06 49 38.9	+0.1
EIDS	**Eidsvold** 36nm,0.6s	30.50	254	*e*P	P	06 49 38.9	+0.1
ARMA	**Armidale** baz=31,SNR=13	30.65	244	P	P	06 49 40.5	+0.3
ARMA	**Armidale** 90nm,1.9s	30.65	244	*e*P	P	06 49 41.0	+0.8
MGCD	**Mangrove Creek** baz=32,SNR=9.5	31.74	239	P	P	06 49 50.6	+1.1
RMQ	**Roma**	32.65	252	P	P	06 49 58.5	+1.0
	baz=33,SNR=6.2						
CNB	**Canberra Magne** baz=34,SNR=15	33.72	236	P	P	06 50 07.5	+0.7
CAN	**Canberra** 28nm,1.0s	34.01	236	*e*P	P	06 50 09.8	+0.6
YNG	**Young** baz=34,SNR=6.1	34.21	238	P	P	06 50 11.5	+0.6
CTAO	**Charters Tower** 62nm,1.0s	35.15	264	*e*P	P	06 50 18.8	-0.3
CMSA	**Cobar Meteorol** baz=36,SNR=23	35.87	244	P	P	06 50 24.9	-0.1
QLP	**Quilpie** baz=37,SNR=26	36.70	252	P	P	06 50 31.7	-0.4
PMG	**Port Moresby** 69nm,0.8s,baz=101,slow=6.3,SNR=18	36.91	282	P	P	06 50 33.1	-0.9
PMG	**Port Moresby** 78nm,0.8s	36.91	282	*e*P	P	06 50 33.6	-0.4
MTSU	**Mount Surprise** baz=37,SNR=64	37.25	266	P	P	06 50 36.7	-0.2
TOO	**Toolangi** baz=38,SNR=19	37.37	234	P	P	06 50 37.5	-0.1
COEN	**Coen** baz=39,SNR=43	39.22	273	P	P	06 50 53.0	-0.2
COEN	**Coen** 54nm,0.8s	39.22	273	*e*P	P	06 50 52.6	-0.6
STKA	**Stephens Creek** 10nm,0.8s,baz=91,slow=10,SNR=23	39.37	244	P	P	06 50 54.5	+0.2
STKA	4.1nm,0.8s,baz=27,slow=3.9,SNR=4.2			PcP	PcP	06 52 57.5	+0.2
STKA	**Stephens Creek** baz=40,SNR=16	39.37	244	P	P	06 50 54.2	-0.1
STKA	**Stephens Creek** 3.1nm,0.9s	39.37	244	*e*P	P	06 50 54.4	0.0
STKA				PcP	PcP	06 52 57.5	+0.2
QIS	**Mount Isa** baz=41,SNR=11	41.28	262	P	P	06 51 09.2	-1.0
HTT	**Hallett** baz=42,SNR=13	41.79	242	P	P	06 51 13.6	-0.5
BBOO	**Buckleboo** baz=44,SNR=21	44.13	243	P	P	06 51 31.7	-0.9
BBOO	**Buckleboo** 34nm,1.1s	44.13	243	*e*P	P	06 51 31.8	-0.9
AS01	**Alice Springs**	46.13	256	*e*P	P	06 51 47.7	-0.9
AS31	**Alice Springs** 18nm,0.6s	46.17	256	*e*P	P	06 51 48.4	-0.6
ASAR	**Alice Springs** 70nm,0.8s,baz=97,slow=8.7,SNR=411	46.18	256	P	P	06 51 48.1	-0.9
ASAR	6.1nm,0.7s,baz=103,slow=3.9,SNR=7.4			PcP	PcP	06 53 19.9	-0.6
ASAR	0.4nm,0.6s,baz=94,slow=15,SNR=4.8			S	S	06 58 13.2	-2.9
WC3	**Warramunga Arr** baz=46	46.23	261	P	P	06 51 48.1	-1.3
WRAB	**Tennant Creek** 31nm,0.6s	46.26	261	*e*P	P	06 51 48.3	-1.3
WRA	**Warramunga Arr** 28nm,0.6s,baz=98,slow=8.7,SNR=263	46.27	261	P	P	06 51 48.4	-1.3
WRA	0.5nm,0.8s,baz=96,slow=14,SNR=4.1			S	S	06 58 12.3	-5.0
MTN	**Manton Dam** baz=51,SNR=30	50.81	270	P	P	06 52 22.8	-1.4
MTN	**Manton Dam** 55nm,0.7s	50.81	270	*e*P	P	06 52 22.9	-1.3
GUMO	**Guam** 56nm,0.6s,baz=161,slow=11,SNR=5.9	50.94	308	P	P	06 52 24.0	-1.1
WRKA	**Warakurna** baz=51,SNR=47	51.11	254	P	P	06 52 25.4	-1.0
KNRA	**Kununurra** baz=52,SNR=6.6	52.32	266	P	P	06 52 34.5	-0.8
FITZ	**Fitzroy Crossi** 3.7nm,0.5s,baz=162,slow=7.7,SNR=19	54.69	262	P	P	06 52 52.2	-0.3
FITZ	**Fitzroy Crossi** baz=55,SNR=7.8	54.69	262	P	P	06 52 51.9	-0.6
FITZ	**Fitzroy Crossi**	54.69	262	*e*P	P	06 52 51.6	-0.9
SOEI	**Soe**	58.14	271	S	P	06 53 17.9	+0.9
SBA	**Scott Base** 9.1nm,0.7s	58.22	184	*e*P	P	06 53 18.5	+2.2
VNDA	**Vanda** 5.0nm,0.7s,baz=7.3,slow=7.0,SNR=31	58.29	185	P	P	06 53 19.5	+2.6
VNDA	**Vanda** 6.3nm,0.8s	58.29	185	*e*P	P	06 53 19.1	+2.3
BATI	**Baumata** 37nm,0.8s,baz=141,slow=6.5,SNR=4.4	58.58	270	P	P	06 53 19.5	-0.4
BATI	**Baumata**	58.58	270	P	P	06 53 19.8	-0.1
MBWA	**Marble Bar** 27nm,0.6s	59.51	257	*e*P	P	06 53 24.8	-1.4
MEEK	**Meekatharra** baz=60,SNR=6.5	59.55	250	P	P	06 53 25.0	-1.4
KLBR	**Kellerberrin** baz=60,SNR=8.2	59.65	245	P	P	06 53 26.0	-1.0
NWAO	**Narrogin (SRO)** 2.6nm,0.5s,baz=9.7,slow=15,SNR=3.4	59.94	243	P	P	06 53 27.6	-1.3
BLDU	**Ballidu** baz=61,SNR=9.6	60.65	246	P	P	06 53 32.7	-1.0
MUN	**Mundaring** baz=61,SNR=3.7	60.91	244	P	P	06 53 34.5	-1.0
MORW	**Morawa** baz=62,SNR=5.5	61.44	247	P	P	06 53 38.1	-1.0
GIRL	**Giralia** baz=64,SNR=3.2	64.20	254	P	P	06 53 57.2	-0.1
CASY	**Casey** 30nm,0.6s	64.88	205	*e*P	P	06 54 02.4	+1.5
QSPA	**South Pole Qui** 14nm,0.8s,baz=68,slow=2.3,SNR=43	69.80	180	P	P	06 54 33.5	+1.6
QSPA	**South Pole Qui** 57nm,0.8s	69.80	180	*e*P	P	06 54 33.7	+1.8
MJAR	**Matsushiro Arr** 2.9nm,0.6s,baz=160,slow=5.7,SNR=9.4	71.02	323	P	P	06 54 37.8	-1.7
KKM	**Kota Kinabalu** 22nm,0.6s	71.30	284	*e*P	P	06 54 41.2	-0.6
ASAJ	**Asahikawa** 2.8nm,1.0s,baz=198,slow=20,SNR=3.1	74.32	331	P	P	06 54 58.3	-0.3
LEM	**Lembang** 55nm,0.7s,baz=23,slow=5.6,SNR=12	74.69	268	P	P	06 55 01.6	-0.2
KSM	**Kuching** 23nm,0.8s	75.02	277	*e*P	P	06 55 02.9	-0.5
PETK	**Petropavlovsk-** 8.4nm,0.7s,baz=122,slow=7.1,SNR=11	76.48	344	P	P	06 55 09.7	-1.0
PETK	**Petropavlovsk-**	76.48	344	*e*P	P	06 55 09.5	-1.3
CMB	**Columbia Colle** 7.3nm,0.8s	78.18	42	*e*P	P	06 55 20.2	-0.4
PFO	**Pinyon Flats O** 10nm,1.3s	78.20	47	*e*P	P	06 55 19.6	-1.2
XPFO	**Piæon Flat** 11nm,1.3s	78.20	47	*e*P	P	06 55 19.6	-1.2
ORV	**Oroville** 5.5nm,1.1s	78.43	40	*e*P	P	06 55 21.4	-0.4
WDC	**Whiskeytown Da** 7.4nm,1.0s	78.45	39	*e*P	P	06 55 20.9	-1.0
MDPB	**Devils Postpil** 9.1nm,0.8s	78.77	43	*e*P	P	06 55 23.7	-0.4
GSC	**Goldstone, Bar** 4.9nm,0.8s	78.91	46	*e*P	P	06 55 24.6	0.0
WAKR	**Walker** 12nm,0.8s	79.06	42	*e*P	P	06 55 25.3	-0.2
YBH	**Yreka Blue Hor** 5.7nm,0.8s,baz=204,slow=2.0,SNR=22	79.09	38	P	P	06 55 25.4	0.0
BEKR	**Beckworth** 6.0nm,0.7s	79.31	40	*e*P	P	06 55 24.5	-2.3
VCNR	**Virginia City** 7.1nm,0.8s	79.40	41	*e*P	P	06 55 27.7	+0.3
YERR	**Yerington** 14nm,0.7s	79.47	42	*e*P	P	06 55 27.3	-0.5
Y12C	**Blythe** 6.9nm,0.8s	79.62	48	*e*P	P	06 55 28.3	0.0
113A	**Mohawk Valley,** 4.4nm,0.9s	79.63	49	*e*P	P	06 55 29.1	+0.7
NV01	**Mina Array Sit**	79.73	43	*e*P	P	06 55 29.4	+0.2
NVAR	**Mina Array Bea** 5.0nm,0.6s,baz=219,slow=7.8,SNR=15	79.73	43	P	P	06 55 29.1	-0.1
PAHR	**Pah Rah Range** 6.5nm,0.8s	79.81	41	*e*P	P	06 55 29.1	-0.4
NV11	**Mina Array Sit** 0.8nm,1.2s	79.83	43	*e*P	P	06 55 29.4	-0.2
LDFC	**Landfair** 16nm,0.8s	79.94	47	*e*P	P	06 55 30.7	+0.5
MOD	**Modoc Plateau** 9.3nm,0.8s	80.60	39	*e*P	P	06 55 33.9	+0.2
SHPR	**Sheep Range** 4.5nm,0.9s	80.69	46	*e*P	P	06 55 35.2	+1.0
NJ2	**Nanjing**	81.01	309	*e*P	P	06 55 36.3	+0.5
H04A	**Detroit Lake** 9.9nm,0.9s	81.27	36	*e*P	P	06 55 35.4	-1.5
PINE	**Pine Mountain** 16nm,0.8s	81.40	37	*e*P	P	06 55 38.5	+0.7
TUC	**Tucson** 6.2nm,0.9s	81.55	51	*e*P	P	06 55 39.9	+1.1
BMN	**Battle Mountai**	81.58	41	*e*P	P	06 55 38.8	0.0
	12nm,1.4s						
WVOR	**Wild Horse Val** 8.9nm,1.0s	81.90	39	*e*P	P	06 55 40.8	+0.4
X16A	**Lo Mia Camp, P**	82.14	49	*e*P	P	06 55 43.2	+1.3
319A	**Douglas** 11nm,1.1s	82.19	53	*e*P	P	06 55 43.2	+1.1
LCMT	**Little Creek M** 5.4nm,1.2s	82.25	46	*e*P	P	06 55 41.4	-1.0
MAW	**Mawson** 8.4nm,0.5s,baz=119,slow=5.8,SNR=9.8	82.33	199	P	P	06 55 43.1	+1.0
CCUT	**Cedar City** 5.5nm,1.1s	82.46	46	*e*P	P	06 55 44.2	+0.6
G06A	**Carlson Farm,** 6.5nm,0.9s	82.47	36	*e*P	P	06 55 42.8	-0.4
KNB	**Kanab** 8.1nm,1.2s	82.54	46	*e*P	P	06 55 44.6	+0.7
J08A	**Circle Bar Ran** 12nm,1.2s	82.55	38	*e*P	P	06 55 44.0	+0.3
U15A	**North Rim** 11nm,0.9s	82.59	47	*e*P	P	06 55 45.5	+1.1
WUAZ	**Wupatki** 13nm,1.2s	82.75	48	*e*P	P	06 55 46.0	+1.0
D05A	**Enumclaw** 28nm,1.4s	82.98	34	*e*P	P	06 55 46.4	+0.7
CN2	**Changchun**	83.13	322	*e*P	P	06 55 45.8	-0.7
X18A	**Snowflake**	83.26	50	*e*P	P	06 55 48.9	+1.2
F07A	**Phinny Hill Vi** 6.9nm,0.8s	83.27	36	*e*P	P	06 55 46.0	-1.2
G08A	**Pilot Rock** 15nm,0.9s	83.44	37	*e*P	P	06 55 48.5	+0.2
MTPU	**Mount Pierson** 6.9nm,0.9s	83.51	46	*e*P	P	06 55 49.8	+0.7
LTY	**Liberty** 4.4nm,0.9s	83.72	34	*e*P	P	06 55 47.6	-1.9
E07A	**Sunnyside** 18nm,1.0s	83.72	35	*e*P	P	06 55 50.4	+0.9
MSU	**Marysvale**	83.77	45	*e*P	P	06 55 51.6	+1.4
HAWA	**Hanford** 13nm,1.0s	83.79	36	*e*P	P	06 55 50.3	+0.4
E08A	**Dider Farm, El** 8.6nm,0.8s	84.11	36	*e*P	P	06 55 52.1	+0.7
BMO	**Blue Mountains** 3.5nm,0.8s	84.12	38	*e*P	P	06 55 51.9	+0.3
MFID	**Camas Ranch** 5.5nm,0.8s	84.15	40	*e*P	P	06 55 52.4	+0.5
D08A	**Sollman Farm,** 12nm,0.9s	84.53	35	*e*P	P	06 55 54.0	+0.4
Q16A	**Castle Valley**	84.65	45	*e*P	P	06 55 56.0	+1.4
IPM	**Ipoh** 31nm,0.6s	84.74	277	*e*P	P	06 55 55.1	-0.3
F10A	**Beach Ranch, E** 14nm,0.9s	84.82	37	*e*P	P	06 55 54.9	-0.2
TMUT	**Trail Mountain** 11nm,0.4s	84.82	45	*e*P	P	06 55 56.8	+1.2
HLID	**Hailey** 4.2nm,0.9s	85.08	40	*e*P	P	06 55 57.4	+0.8
B08A	**Colville Reser** 7.9nm,1.1s	85.11	34	*e*P	P	06 55 55.6	-0.8
SRU	**San Rafael Swe** 23nm,1.7s	85.18	45	*e*P	P	06 55 57.8	+0.6
P17A	**Butcher Ranch,** 12nm,1.5s	85.22	45	*e*P	P	06 55 58.9	+1.5
LLLB	**Lillooet** 7.9nm,1.1s	85.23	31	*e*P	P	06 55 57.0	0.0
MNTX	**Cornudas Mount** 8.8nm,1.1s	85.28	54	*e*P	P	06 55 58.4	+0.8
KULM	**Kulim** 14nm,0.8s	85.38	277	*e*P	P	06 55 58.6	+0.1
TX31	**Lajitas Ar. Si**	85.55	57	*e*P	P	06 55 59.6	+0.5
TXAR	**Lajitas Array** 4.2nm,0.8s,baz=217,slow=8.1,SNR=30	85.55	57	P	P	06 55 60.0	+0.8
PV09	**Paradox Valley**	85.81	46	*e*P	P	06 56 01.1	+0.6
TRF	**Thorofare Moun** 30nm,1.6s	85.89	11	*e*P	P	06 55 59.5	-0.6
ANMO	**Albuquerque** 1.9nm,0.8s,baz=45,slow=7.0,SNR=9.9	85.98	51	P	P	06 56 01.6	+0.4
ANMO	**Albuquerque** 7.7nm,1.3s	85.98	51	*e*P	P	06 56 02.0	+0.8
PV01	**Paradox Valley** 100nm,0.5s	86.02	47	*e*P	P	06 56 01.5	+0.1
GDL2	**Guadalupe Moun** 2.7nm,0.2s	86.28	54	*e*P	P	06 56 03.6	+1.0
MCMT	**McKenzie Canyo**	86.72	40	*e*P	P	06 56 05.2	+0.6
S22A	**4UR Ranch, Cre** 4.3nm,1.1s	87.03	48	*e*P	P	06 56 06.9	+0.5
LNIG	**Linares** 7.1nm,0.7s	87.08	62	*e*P	P	06 56 06.0	-0.5
TRTT	**Trang** 12nm,0.9s,256nm	87.16	279	P	P	06 56 06.8	-0.4
ENH	**Enshi** 16nm,1.0s	87.28	304	*e*P	P	06 56 06.7	-0.7
SYO	**Syowa Base**	87.31	192	⇑ *i*PcP	P	06 56 06.2	-0.6
SMCO	**Snowmass** 14nm,1.8s	87.61	47	*e*P	P	06 56 09.6	+0.3
PDAR	**Pinedale Array** 0.6nm,0.7s,baz=223,slow=2.9,SNR=6.1	87.67	43	P	P	06 56 08.7	-0.6
ILAR	**Eielson Array** 0.5nm,0.5s,baz=222,slow=5.6,SNR=12	87.73	12	P	P	06 56 07.3	-1.3
BOZ	**Bozeman (W)** 6.2nm,1.4s	87.86	39	*e*P	P	06 56 10.5	+0.6
SNAA	**Sanae**	88.19	178	P	P	06 56 11.3	+0.3
SNAA	**Sanae** 5.8nm,1.0s,baz=198,slow=3.5,SNR=9.9	88.19	178	P	P	06 56 11.0	-0.1
SNAA	**Sanae** 372nm,1.0s	88.19	178	*e*P	P	06 56 11.2	+0.1
SNAA				*e*PP	PP	06 59 43.6	+2.4
VNA3	**Neumayer Olymp**	88.25	176	P	P	06 56 11.9	+0.6
HRY	**Holter Researc** 2.2nm,0.7s	88.33	38	*e*P	P	06 56 12.3	+0.2
WALA	**Waterton Lakes** 5.1nm,0.8s	88.43	36	*e*P	P	06 56 12.8	+0.3
VNA2	**Neumayer--Watz** baz=191,slow=3.6	88.72	176	P	P	06 56 14.3	+0.8
VNA1	**Neumayer--Stat**	88.93	176	P	P	06 56 16.1	+1.6
PHET	**Kaeng Krachan** 7.9nm,0.9s	89.02	284	P	P	06 56 17.7	+1.9
XAN	**Xi'an**	89.31	307	P	P	06 56 17.0	+0.1
XAN				pP	PcP	06 56 21.3	+3.2
PHIT	**Phitsanulok** 7.4nm,0.9s,298nm	89.83	288	P	P	06 56 21.2	+1.6
KMI	**Kunming**	90.72	296	P	P	06 56 24.8	+0.9
LAMP	**Lampang** 6.7nm,0.8s	91.01	289	P	P	06 56 25.9	+0.9
CM01	**Chiang Mai Arr**	91.57	289	*e*P	P	06 56 27.9	+0.3
CMAR	**Chiang Mai Arr** 0.7nm,1.1s,baz=123,slow=2.9,SNR=24	91.60	289	P	P	06 56 27.9	+0.2
CMMT	**Chiang Mai** 10.0nm,1.1s	91.72	289	P	P	06 56 27.7	-0.6
CHTO	**Chiang Mai** 50nm,1.2s	91.72	289	P	P	06 56 28.8	+0.5
CHTO	**Chiang Mai** 10.0nm,1.0s	91.72	289	*e*P	P	06 56 28.8	+0.5
RSSD	**Black Hills** 5.5nm,0.9s	91.85	43	*e*P	P	06 56 28.3	-0.4
CMAI	**Chiengmai2** 42nm,1.0s,4μm	92.02	290	P	P	06 56 30.3	+0.4
CD2	**Chengdu**	92.06	302	*e*P	P	06 56 29.0	-0.7
INK	**Inuvik** 2.0nm,0.9s,baz=234,slow=3.7,SNR=8.4	93.63	15	P	P	06 56 35.1	-0.9
LZH	**Lanzhou**	93.94	307	*e*P	P	06 56 37.5	-0.9
LZH				pP	pP	06 57 40.0	+0.9
LZH				sP	sP	06 58 02.8	-2.4
YKA	**Yellowknife Ar** 0.5nm,0.6s,baz=240,slow=4.6,SNR=16	95.62	24	P	P	06 56 44.4	-0.8
ECSD	**EROS Data Cent** 26nm,2.0s	96.59	46	*e*P	P	06 56 49.9	-0.2
SONM	**Songino Array** 0.4nm,0.6s,baz=132,slow=6.2,SNR=3.8	96.67	319	P	P	06 56 49.8	-0.7
LPAZ	**La Paz** 0.5nm,0.7s,baz=135,slow=2.9,SNR=2.2	100.62

AKTO	**Aktyubinsk**	**127.98**	**319**	PKP	**PKPdf**	**07 02 24.2**	**-0.3**
	2.8nm,0.7s,baz=102,slow=4.2,SNR=12						
ARCES	**ARCESS Array B**	**128.98**	**350**	PKP	**PKPdf**	**07 02 25.2**	**-0.7**
	4.6nm,0.9s,baz=336,slow=2.7,SNR=13						
GEYT	**Alibeck**	**130.05**	**303**	PKP	**PKPdf**	**07 02 28.5**	**-0.5**
	2.6nm,0.6s,baz=72,slow=0.5,SNR=5.6						
GEYT				SKP		07 05 29.0	
	2.3nm,0.9s,baz=323,slow=4.5,SNR=4.9						
FINES	**FINESS Array B**	**136.00**	**345**	PKhKP	PKPpre	07 02 32.4	
	4.0nm,1.0s,baz=98,slow=5.8,SNR=4.6						
NB2	**NORSAR Subarra**	**138.93**	**354**	PKP	PKPpre	07 02 39.1	
	comp=Z,0.6nm,0.6s,baz=15,slow=3.3						
NOA	**NORSAR Array B**	**138.93**	**354**	PKhKP	PKPpre	07 02 37.9	
	comp=Z,0.8nm,0.7s,baz=21,slow=3.8,SNR=4.7						
HFS	**Hagfors**	**139.55**	**352**	PKhKP	PKPpre	07 02 38.7	
	comp=Z,1.2nm,0.5s,baz=90,slow=1.5,SNR=16						
AKASG	**Malin Array Be**	**143.59**	**333**	PKhKP	PKPpre	07 02 49.6	
	comp=Z,3.4nm,0.5s,baz=40,slow=4.3,SNR=24						
AKASG				SKPbc	**SKPbc**	**07 06 08.0**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=31,slow=2.6,SNR=9.0						
KIEV	**Kiev**	**143.60**	**333**	*e*PKPdf	PKPab	07 02 49.7	-1.0
EKA	**Eskdalemuir Ar**	**144.60**	**7**	PKP	**PKPab**	**07 02 53.1**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=332,slow=2.7,SNR=15						
SORM	**Soroca**	**145.85**	**330**	⇑*iP*	**PKPdf**	**07 02 57.5**	**+0.1**
KWP	**Kalwaria Pacla**	**147.03**	**337**	*e*PKP	**PKPdf**	**07 03 01.5**	**+2.1**
OJC	**Ojcow**	**147.51**	**341**	*e*PKP	**PKPdf**	**07 03 02.4**	**+2.2**
TLCR		**147.66**	**326**	⇑*iP*	**PKPbc**	**07 03 03.5**	**-0.1**
STHS	**Stebnicka Huta**	**147.74**	**338**	*e*PKP	**PKPbc**	**07 03 03.8**	**+0.1**
STHS				*e*		07 03 06.9	
TESR	**Tescani**	**147.82**	**330**	⇓*iP*	**PKPdf**	**07 03 03.1**	**+2.3**
BRTR	**Keskin Array B**	**147.89**	**314**	PKPbc	**PKPdf**	**07 03 03.6**	**+2.3**
	comp=Z,6.4nm,0.7s,baz=138,slow=4.4,SNR=33						
KSP	**Ksiaz**	**147.92**	**345**	*e*PKP	**PKPbc**	**07 03 04.3**	**+0.1**
CFR	**Carcaliu**	**148.02**	**327**	⇑*iP*	**PKPbc**	**07 03 04.2**	**-0.4**
NIE	**Niedzica**	**148.05**	**339**	*e*PKP	**PKPbc**	**07 03 05.0**	**+0.4**
CRVS	**Cervenica-Dubn**	**148.09**	**338**	*e*PKP	**PKPbc**	**07 03 04.8**	**+0.1**
CRVS				*e*		07 03 08.0	
CLL	**Collm**	**148.18**	**349**	⇓*i*PKPbc	**PKPbc**	**07 03 04.3**	**-0.5**
	comp=Z,10.0nm,0.8s						
CLL				*i* PKPab	**PKiKP**	**07 03 07.8**	**+1.5**
	comp=Z,9.0nm,1.0s						
CLL				*i*		07 03 14.4	
CLL				*ep*PKPab	**pPKPbc**	**07 04 09.0**	**+1.1**
VRI	**Vrincioaia**	**148.25**	**329**	⇓*iP*	**PKPbc**	**07 03 04.7**	**-0.5**
PLOR	**Plostina**	**148.30**	**329**	⇑*iP*	**PKPbc**	**07 03 04.8**	**-0.6**
UPC	**Upice**	**148.30**	**345**	⇑*e*PKP	**PKPbc**	**07 03 05.1**	**-0.1**
OKC	**Ostrava-Krasne**	**148.35**	**342**	⇑*e*PKP	**PKPbc**	**07 03 05.2**	**-0.1**
OKC				*e*PKPAB	**PKPab**	**07 03 09.3**	**+0.1**
TIRR	**Tirgusor**	**148.36**	**325**	⇑*iP*	**PKPbc**	**07 03 05.1**	**-0.4**
TIRR	**Tirgusor**	**148.36**	**325**	*e*PKPbc	**PKPdf**	**07 03 04.7**	**+3.0**
DPC	**Dobruska-Polom**	**148.37**	**345**	⇑*e*PKP	**PKPbc**	**07 03 05.0**	**-0.4**
DPC				*e*PKPAB	**PKiKP**	**07 03 09.1**	**+2.3**
ANTO	**Ankara**	**148.39**	**315**	*e*PKPbc	**PKPbc**	**07 03 05.5**	**-0.3**
ANTO				*e*PKPab	**PKPab**	**07 03 09.9**	**+0.1**
BRG	**Berggiesshubel**	**148.42**	**348**	*e*PKP	**PKPbc**	**07 03 04.8**	**-0.6**
	comp=Z,10nm,1.3s						
TLB	**Topalu**	**148.47**	**326**	⇑*iP*	**PKPbc**	**07 03 05.6**	**-0.1**
KRLC	**Kraliky**	**148.51**	**344**	⇑*e*PKP	**PKPbc**	**07 03 05.9**	**+0.1**
KRLC				*e*PKPAB	**PKPab**	**07 03 10.1**	**+0.2**
LANS	**Liptovska Anna**	**148.56**	**340**	*e*PKP	**PKPbc**	**07 03 06.4**	**+0.5**
LANS				*e*		07 03 10.6	
MORC	**Moravsky Berou**	**148.57**	**343**	*e*PKPbc	**PKPbc**	**07 03 05.7**	**-0.2**
MORC				*e*PKPab	**PKPab**	**07 03 10.1**	**-0.1**
PVCC	**Panska Ves**	**148.61**	**347**	⇑*e*PKP	**PKPbc**	**07 03 05.7**	**-0.2**
PVCC				*ex*	x	07 03 12.3	
KECS	**Kecovo**	**148.79**	**338**	*e*PKP	**PKPbc**	**07 03 06.1**	**-0.4**
KECS				*e*		07 03 10.6	
ISR	**Istrita**	**148.87**	**328**	⇓*iP*	**PKPbc**	**07 03 06.7**	**-0.1**
MLR	**Muntele Rosu**	**148.90**	**329**	PKPbc	**PKPbc**	**07 03 06.1**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=34,slow=2.6,SNR=29						
MMAI	**Mount Meron Ar**	**149.12**	**301**	PKPbc			
	comp=Z,4.2nm,0.5s,baz=94,slow=4.6,SNR=5.6				**PKPbc**	**07 03 07.5**	**-0.4**
PRU	**Pruhonice**	**149.13**	**346**	⇑*e*PKP	**PKPbc**	**07 03 06.7**	**-0.5**
PRU				*e*PKPAB	**PKPab**	**07 03 11.9**	**-0.5**
GOPC	**GO Pecny, Ondr**	**149.14**	**346**	⇑*e*PKP	**PKPbc**	**07 03 07.2**	**-0.1**
GOPC				*e*PKPAB	**PKPab**	**07 03 12.3**	**-0.2**
VRAC	**Vranov**	**149.26**	**343**	PKPbc	**PKPbc**	**07 03 07.0**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=5.1,slow=2.7,SNR=6.0						
NKC	**Novy Kostel**	**149.31**	**349**	⇑*e*PKP	**PKPbc**	**07 03 07.8**	**+0.1**
NKC				*e*PKPAB	**PKPab**	**07 03 12.9**	**-0.2**
VYHS	**Vyhne**	**149.33**	**340**	*e*PKP	**PKPbc**	**07 03 07.6**	**-0.2**
VYHS				*e*		07 03 13.3	
PSZ	**Piszkesteto**	**149.48**	**338**	*e*PKPbc	**PKPbc**	**07 03 07.8**	**-0.5**
PSZ				*e*PKPab	**PKPab**	**07 03 14.4**	**+0.4**
MEM	**Membach**	**149.67**	**357**	⇓PKPbc	**PKPbc**	**07 03 08.0**	**-0.6**
CSS	**Mathiatis**	**150.12**	**306**	*e*PKPbc	**PKPbc**	**07 03 09.2**	**-1.0**
CSS				*e*PKPab	**PKPab**	**07 03 16.2**	**-0.8**
KHC	**Kasperske Hory**	**150.15**	**347**	⇑*e*PKP	**PKPbc**	**07 03 09.6**	**-0.2**
KHC				*e*PKPAB	**PKiKP**	**07 03 14.7**	**+4.2**
KHC	**Kasperske Hory**	**150.15**	**347**	*e*PKPbc	**PKPbc**	**07 03 09.7**	**-0.2**
KHC				*e*PKPab	**PKPab**	**07 03 16.6**	**-0.1**
DOU	**Dourbes**	**150.23**	**359**	⇓PKPbc	**PKPbc**	**07 03 09.4**	**-0.5**
GERES	**GERESS Array B**	**150.39**	**347**	PKPbc	**PKPbc**	**07 03 10.0**	**-0.5**
	comp=Z,5.3nm,0.8s,baz=29,slow=3.0,SNR=53						
WLF	**Walferdange**	**150.61**	**357**	⇑PKPbc	**PKPbc**	**07 03 10.8**	**0.0**
WLF	**Walferdange**	**150.61**	**357**	*e*PKPbc	**PKPbc**	**07 03 11.1**	**+0.3**
WLF				*e*PKPab	**PKPab**	**07 03 17.3**	**-1.2**
CONA	**Conrad Observa**	**150.72**	**343**	*e*PKPbc	**PKPbc**	**07 03 10.5**	**-0.8**
	comp=Z,18nm,1.6s						
MOA	**Molln**	**151.20**	**345**	*e*PKPbc	**PKPbc**	**07 03 11.3**	**-1.0**
	comp=Z,4.1nm,0.8s						
ARSA	**Arzberg**	**151.43**	**343**	*e*PKPbc	**PKPbc**	**07 03 11.6**	**-1.2**
	comp=Z,2.1nm,0.7s						
SOKA	**Soboth**	**152.09**	**343**	*e*PKPbc	**PKPbc**	**07 03 13.0**	**-1.4**
	comp=Z,6.3nm,1.0s						
KBA	**Koelnbreinsper**	**152.14**	**346**	*e*PKPbc	**PKPbc**	**07 03 13.6**	**-1.0**
	comp=Z,5.7nm,1.0s						
RETA	**Reutte**	**152.26**	**350**	*e*PKPbc	**PKPbc**	**07 03 14.0**	**-0.8**
	comp=Z,6.0nm,1.2s						
WATA	**Walderalm**	**152.26**	**349**	*e*PKPbc	**PKPbc**	**07 03 13.9**	**-0.9**
	comp=Z,2.6nm,0.5s						
WTTA	**Wattenberg**	**152.32**	**348**	*i* PKiKP	**PKPbc**	**07 03 14.6**	**-0.5**
	comp=Z,5.7nm,0.7s						
MOTA	**Moosalm**	**152.34**	**349**	*e*PKPbc	**PKPbc**	**07 03 14.0**	**-1.0**
	comp=Z,3.2nm,0.6s						
MYKA	**Terra Mystica**	**152.49**	**345**	*e*PKPbc	**PKPbc**	**07 03 14.0**	**-1.3**
	comp=Z,9.5nm,1.6s						
DAVA	**Damuels**	**152.59**	**351**	*e*PKiKP	**PKPbc**	**07 03 15.2**	**-0.4**
	comp=Z,6.2nm,0.8s						
LEGS	**Legarje**	**152.68**	**342**	*e*PKPdf	**PKPbc**	**07 03 15.0**	**-0.7**
FETA	**Feichten**	**152.72**	**350**	*e*PKiKP	**PKPbc**	**07 03 15.5**	**-0.4**
	comp=Z,7.6nm,1.2s						
LJU	**Ljubljana**	**152.81**	**343**	*i* PKPdf	**PKPbc**	**07 03 15.5**	**-0.4**
ESDC	**Sonseca Array**	**159.55**	**17**	PKPab	**PKPab**	**07 03 56.3**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=340,slow=3.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**172.65**	**164**	PKP	**PKPdf**	**07 03 27.3**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=26,slow=0.9,SNR=4.7						
TORD				PKPab	**PKPab**	**07 04 56.4**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=179,slow=4.1,SNR=9.5						

IDC ***25*** *06:50:50.5±1.3, 0.°76N×122.°24E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/60, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=53.4km s-min=20.1km az=56.0*

ISCJB ***25*** *06:51:12.8±0.7, 0.°4N±0.°1×121.°93E±0.°10, h224km±4km, mb3.5/5, Error ellipse: s-maj=20.6km s-min=11.1km az=41.6*

DJA ***25*** *06:51:16.2±1.1, 0.°N±5.°×12.°2E±.°, h201km±7km, M2.9/5, MLv2.9/5*

ISC 25 06:51:13.9±1.0, 0.°4N±0.°1×121.°9E±0.°1, h218km±7km, n11, σ0s82/15, mb3.4/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.09**	**359**	P	**Pn**	**06 51 42.9**	**+0.6**
MRSI				S	**S**	**06 52 03.9**	**-0.7**
APSI	**Ampana**	**1.32**	**193**	P	**Pn**	**06 51 48.8**	**+1.0**
APSI				S	**S**	**06 52 14.2**	**0.0**
LUWI	**Luwuk**	**1.64**	**150**	P	**Pn**	**06 51 51.2**	**+0.7**
LUWI				S	**S**	**06 52 18.1**	**-0.8**
MPSI	**Mapaga**	**2.04**	**269**	P	**Pn**	**06 51 55.1**	**+0.9**
MPSI				S	**S**	**06 52 24.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.72**	**169**	P	**P**	**06 55 15.7**	**-0.7**
	0.2nm,0.3s,baz=337,slow=7.7,SNR=1.1						
PSI	**Prapat**	**23.13**	**276**	P	**P**	**06 56 01.0**	**-0.1**
	8.8nm,0.8s,baz=161,slow=16,SNR=7.7						
PSI	**Prapat**	**23.13**	**276**	*e*P	**P**	**06 56 01.0**	**-0.2**
	13nm,1.0s						
WRA	**Warramunga Arr**	**23.57**	**150**	P	**P**	**06 56 04.2**	**-0.7**
	0.6nm,0.5s,baz=325,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**26.58**	**155**	P	**P**	**06 56 32.3**	**+0.2**
	0.3nm,0.4s,baz=336,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**57.73**	**329**	P	**P**	**07 00 42.8**	**+0.8**
	0.4nm,0.5s,baz=124,slow=8.7,SNR=5.0						
KURBB	**Kurchatov Arra**	**62.10**	**330**	P	**P**	**07 01 11.1**	**-0.4**
	0.2nm,0.3s,baz=131,slow=5.6,SNR=2.9						

SJA 25 07:15:27.2±0.9, 31.°23S×69.°21W, h100km±12km, ML2.0, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.55**	**125**	*eP*	Pn	07 15 44.2	+0.7
ZON				*eS*	Sn	07 15 57.1	+1.4
RTLS	**Leoncito**	**0.57**	**188**	*eP*	Pn	07 15 44.7	+0.8
RTLS				IAML		07 15 59.2	
	comp=Z,30nm,0.5s						
SJA	**San Juan**	**0.63**	**118**	*eP*	Pn	07 15 45.1	+1.0
RTLL	**Cerro Villicun**	**0.64**	**99**	*eP*	Pn	07 15 44.6	+0.5
RTLL				IAML		07 15 44.7	
	comp=Z,40nm,0.2s						
RTLL				*eS*	Sn	07 15 57.8	+1.0
AMOG	**MOGNA**	**0.68**	**65**	*eP*	Pn	07 15 45.4	+0.8
AMOG				*eS*	Sn	07 15 58.0	+0.4
RTCV	**Cerro Valdivia**	**0.85**	**138**	*eP*	Pn	07 15 46.8	+0.7
AUSP	**Uspallata**	**1.00**	**189**	*eP*	Pn	07 15 48.8	+0.8
ACDV	**Cuesta del Vie**	**1.06**	**4**	*eP*	Pn	07 15 49.8	+1.3
AROD	**Rodeo**	**1.09**	**348**	*eP*	Pn	07 15 50.4	+1.4

ISCJB ***25*** *07:26:41.3±0.7, 50.°00N±0.°05×78.°43E±0.°08, h0km, Error ellipse: s-maj=8.5km s-min=5.8km az=148.6*

NNC ***25*** *07:26:41.9±0.9, 50.°00N×78.°60E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=11.6km s-min=4.9km az=85.0, Suspected Mining explosion.*

IDC ***25*** *07:26:43.0±1.0, 50.°07N×78.°76E, h0km, mb1 3.1/3, mb1mx3.0/68, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=11.3km s-min=7.1km az=57.0*

ISC 25 07:26:43.1±0.9, 50.°01N±0.°05×78.°69E±0.°06, h0km, n11, σ1s53/16, 12C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.62**	**351**	Pg	**Pg**	**07 26 54.6**	**-0.4**
	6.0nm,0.3s,baz=168,slow=18,SNR=152						
KURBB				Lg	Lg	07 27 01.7	
	6.6nm,0.3s,baz=161,slow=33,SNR=58						
KURK	**Kurchatov**	**0.71**	**357**	⇑P	**Pg**	**07 26 55.6**	**-1.0**
	12nm,0.3s						
KURK				⇑S	**Sg**	**07 27 05.9**	**+0.1**
	52nm,0.8s						
MAKZ	**Makanchi**	**3.88**	**144**	⇑Pn	**Pn**	**07 27 45.5**	**+1.5**
	0.6nm,0.4s						
MAKZ				⇑Pg	**Pb**	**07 27 51.9**	**-0.5**
	2.2nm,0.6s						
MAKZ				⇑Lg	Lg	07 28 44.5	
	3.6nm,0.3s						
MK31	**Makanchi Array**	**4.02**	**142**	⇑Pn	**Pn**	**07 27 46.6**	**+0.8**
	0.4nm,0.3s,baz=322,slow=9.9,SNR=28						
MK31				⇑Pg	**Pb**	**07 27 52.9**	**-1.8**
	1.1nm,0.3s,baz=319,slow=15,SNR=22						
MK31				Lg	Lg	07 28 48.8	
	3.0nm,0.3s,baz=319,slow=29,SNR=11						
MKAR	**Makanchi Array**	**4.02**	**142**	Pn	**Pn**	**07 27 46.7**	**+0.9**
	0.9nm,0.3s,baz=332,slow=12,SNR=41						
MKAR				Lg	Lg	07 28 48.0	
	2.5nm,0.3s,baz=328,slow=23,SNR=16						
OTUK	**Ortayu**	**4.53**	**249**	⇓Pg	**Pb**	**07 28 03.6**	**+0.2**
	2.0nm,0.3s						
OTUK				⇑Lg	Lg	07 29 05.6	
	6.5nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.47**	**42**	*i*		07 57 10.0	
	baz=219,slow=326,SNR=1.3						
ZALV	**Zalesovo Beam**	**5.47**	**42**	Pn	**Pn**	**07 28 06.3**	**+0.5**
	2.4nm,0.3s,baz=232,slow=14,SNR=18						
ZALV				Lg	Lg	07 29 35.4	
	0.4nm,0.3s,baz=224,slow=27,SNR=3.1						
BVA0	**Borovoye Array**	**5.99**	**303**	⇑Pg	**Pb**	**07 28 30.8**	**+2.4**
	1.3nm,0.7s,baz=117,slow=15,SNR=4.8						
BVA0				⇓Sn	**Sn**	**07 29 23.9**	**+1.7**
	2.6nm,0.6s,baz=116,slow=23,SNR=7.8						
BVA0				⇓Lg	Lg	07 29 50.1	
	6.1nm,0.8s						
BVAR	**Borovoye Array**	**5.99**	**303**	Pn	**Pn**	**07 28 12.3**	**-0.7**
	0.3nm,0.3s,baz=118,slow=14,SNR=3.9						
BVAR				Sn	**Sn**	**07 29 19.4**	**-2.9**
	1.2nm,0.3s,baz=114,slow=23,SNR=9.2						
BVAR				Lg	Lg	07 29 50.7	
	0.5nm,0.3s,baz=118,slow=22,SNR=3.1						
BRVK	**Borovoye**	**6.07**	**303**	⇑Pg	**Pb**	**07 28 30.9**	**+1.4**
	1.1nm,0.6s						
BRVK				⇑Sn	**Sn**	**07 29 22.3**	**-1.7**
	1.1nm,0.4s						
BRVK				⇑Lg	Lg	07 29 52.3	
	3.5nm,0.7s						

NNC ***25*** *07:28:37.5±3.7, 37.°02N×70.°42E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=31.1km s-min=25.5km az=149.0*

ISC 25 07:28:35.3±3.5, 36.°6N±0.°2×70.°5E±0.°1, h35km, n12, σ1s49/16, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.16**	**34**	⇑P	**Pn**	**07 29 39.0**	**+2.5**
	3.6nm,0.2s						
SFK				⇓S	**Sn**	**07 30 25.9**	**+1.8**
	10nm,0.4s						
AML	**Almayashu**	**6.06**	**23**	P	**Pn**	**07 30 03.6**	**+0.8**
	SNR=57						
MNAS	**Manas**	**6.09**	**14**	⇑P	**Pn**	**07 30 04.1**	**+1.3**
	3.6nm,0.5s						
MNAS				⇑S	**Sn**	**07 31 11.8**	**+0.5**
	7.3nm,0.6s						
UCH	**Uchtor**	**6.43**	**28**	P	**Pn**	**07 30 08.2**	**+0.3**
	SNR=24						
KK31	**Karatay Array**	**6.50**	**0**	⇑P	**Pn**	**07 30 10.4**	**+2.0**
	1.0nm,0.3s,baz=182,slow=12,SNR=48						
KK31				⇓S	**Sn**	**07 31 19.9**	**-1.3**
	2.2nm,0.4s,baz=188,slow=25,SNR=7.8						
EKS2	**Erkin-Say**	**6.57**	**22**	P	**Pn**	**07 30 11.0**	**+1.6**
	SNR=5.6						
KZA	**Kyzart**	**6.61**	**33**	P	**Pn**	**07 30 09.4**	**-0.8**
	SNR=5.3						
AAK	**Ala-Archa**	**6.78**	**26**	⇓P	**Pn**	**07 30 12.3**	**-0.1**
	3.6nm,0.3s						
AAK				⇑S	**Sn**	**07 31 26.3**	**-2.2**
	4.4nm,0.8s						
AAK	**Ala-Archa**	**6.78**	**26**	P	**Pn**	**07 30 12.8**	**+0.4**
	SNR=7.7						
TKM2	**Tokmak 2**	**7.45**	**30**	⇓P	**Pn**	**07 30 20.6**	**-1.0**
	10nm,0.9s						
TKM2	**Tokmak 2**	**7.45**	**30**	P	**Pn**	**07 30 20.9**	**-0.6**
	SNR=5.8						
AB31	**Akbulak array**	**14.79**	**332**	⇑P	**Pn**	**07 32 00.7**	**-1.0**
	0.7nm,0.6s,baz=146,slow=12,SNR=8.2						

IDC 25 07:30:29.9±7.3, 17.°03S×171.°70W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/49, mbtmp3.4/2, Error ellipse: s-maj=349.0km s-min=65.8km az=144.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**51.08**	**258**	P	P	07 39 34.6	+0.1
	0.2nm,0.3s,baz=96,slow=7.7,SNR=22						
ASAR	**Alice Springs**	**51.18**	**253**	P	P	07 39 35.1	-0.2
	0.3nm,0.5s,baz=95,slow=7.5,SNR=11						
BRTR	**Keskin Array B**	**148.44**	**321**	PKPbc	PKPbc	07 50 18.1	-0.8
	0.6nm,0.9s,baz=46,slow=2.7,SNR=3.3						

IDC ***25*** *07:40:54.8±2.4, 37.°13N×141.°16E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/64, mbtmp3.0/3, ML2.7/1, Error ellipse: s-maj=42.5km s-min=30.2km az=56.0*

ISCJB ***25*** *07:40:55.5±1.2, 37.°22N±0.°04×141.°04E±0.°08, h5km±5km, mb3.0/2, Error ellipse: s-maj=10.3km s-min=6.4km az=7.1*

JMA ***25*** *07:40:57.1, 37.°23N×140.°91E, h7km±1km, M2.9*

JMA Felt I J1.

ISC 25 07:40:56.2±1.8, 37.°21N±0.°04×141.°01E±0.°08, h1km±11km, n17, σ0s86/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.19**	**326**	P	**Pg**	**07 41 00.3**	**+0.5**
JFK				S	**Sg**	**07 41 02.6**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.20**	**237**	P	**Pg**	**07 41 00.3**	**+0.3**
ONAJ				S	**Sg**	**07 41 02.6**	**0.0**
JFT	**Otama**	**0.61**	**300**	P	**Pg**	**07 41 07.8**	**-0.2**
JFT				S	**Sg**	**07 41 15.5**	**-0.5**
JMM	**Marumori**	**0.68**	**346**	P	**Pg**	**07 41 09.4**	**+0.2**
JMM				S	**Sg**	**07 41 18.1**	**+0.2**
JHO	**Hitachi**	**0.69**	**210**	P	**Pg**	**07 41 09.7**	**+0.2**
JSB	**Shiboa**	**0.90**	**255**	P	**Pg**	**07 41 13.6**	**+0.1**
JFY	**Yanaizu**	**1.05**	**281**	P	**Pg**	**07 41 15.8**	**-0.6**
JFY				S	**Sg**	**07 41 28.9**	**-1.2**
MJAR	**Matsushiro Arr**	**2.34**	**254**	Pn	**Pn**	**07 41 36.5**	**+0.7**
	1.7nm,0.3s,baz=78,slow=14,SNR=19						
MJAR				Sn	**Sn**	**07 42 06.5**	**+1.4**
	1.7nm,0.3s,baz=79,slow=31,SNR=10						
MAT	**Matsushiro**	**2.34**	**254**	P	**Pn**	**07 41 37.0**	**+1.2**
MAT				*eS*	**Sn**	**07 42 06.5**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**28.52**	**121**	T	T	08 16 39.6	
	baz=313,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.53**	**121**	T	T	08 16 41.8	
	baz=313,slow=75,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**28.54**	**121**	T	T	08 16 42.5	
	baz=313,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**29.23**	**123**	T	T	08 17 32.5	
	baz=321						
H11S3	**WAKE ISLAND Hy**	**29.23**	**123**	T	T	08 17 35.9	
	baz=321,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**29.25**	**123**	T	T	08 17 35.6	
	baz=321						
MKAR	**Makanchi Array**	**43.75**	**302**	P	**P**	**07 49 02.2**	**-0.8**
	0.1nm,0.6s,baz=98,slow=6.9,SNR=2.3						
WRA	**Warramunga Arr**	**57.19**	**187**	P	**P**	**07 50 43.6**	**-1.2**
	0.2nm,0.6s,baz=5.0,slow=7.4,SNR=4.9						

ATA ***25*** *07:42:29.7±0.8, 38.°10N×42.°74E, h21km±6km, ML3.5, MW2.8*

CSEM ***25*** *07:42:30.9, 38.°11N×42.°69E, h7km, ML2.7, After DDA*

DDA ***25*** *07:42:30.9, 38.°11N×42.°69E, h7km, Ml2.7*

ISC 25 07:42:31.1±1.2, 38.°12N±0.°05×42.°68E±0.°04, h8km±10km, n17, σ0s93/34, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.35**	**56**	*i* P	**Pg**	**07 42 37.8**	**-0.4**
GEVA				*eS*	**Sg**	**07 42 43.6**	**+0.7**
GEVA				IAML		07 42 44.8	
	comp=Z,350nm,0.4s						
GEVA	**Gevas**	**0.35**	**56**	*i* P	**Pg**	**07 42 37.7**	**-0.4**
GEVA				*i* S	**Sg**	**07 42 43.8**	**+0.9**
GEVA	**Gevas**	**0.35**	**56**	P	**Pg**	**07 42 37.7**	**-0.4**
GEVA				S	**Sg**	**07 42 43.8**	**+0.9**
SRTM	**Siirt_Merkez**	**0.61**	**259**	*i* P	**Pg**	**07 42 43.3**	**+0.3**
SRTM				*i* S	**Sb**	**07 42 52.2**	**-0.7**
SRTM	**Siirt_Merkez**	**0.61**	**259**	P	**Pg**	**07 42 43.3**	**+0.3**
SRTM				S	**Sb**	**07 42 52.2**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.69**	**3**	*i* P	**Pg**	**07 42 44.4**	**-0.1**
ADCV				*i* S	**Sb**	**07 42 54.7**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.69**	**3**	P	**Pg**	**07 42 44.4**	**-0.1**
ADCV				S	**Sb**	**07 42 54.7**	**-0.6**
BTMN	**Batman**	**1.14**	**259**	*i* P	**Pg**	**07 42 52.6**	**-0.4**
BTMN				*i* S	**Sn**	**07 43 09.8**	**+0.7**
BTMN	**Batman**	**1.14**	**259**	P	**Pg**	**07 42 52.6**	**-0.4**
BTMN				S	**Sn**	**07 43 09.8**	**+0.7**
EKAR	**Karacoban**	**1.24**	**337**	*eP*	**Pg**	**07 42 53.8**	**-1.1**
EKAR				⇓*eS*	**Sn**	**07 43 13.9**	**+2.0**
**EKA

SMDO	**Samad**	3.65	199	P		Pn	07 50 57.0	+3.0	
	SNR=12								
SMDO	**Samad**	3.65	199	P		Pn	07 50 57.0	+3.0	
	SNR=12								
WBK	**Wadi Bani Khal**	3.92	185	P		Pn	07 50 59.0	+1.5	
	SNR=10								
WBK	**Wadi Bani Khal**	3.92	185	P		Pn	07 50 59.0	+1.5	
	SNR=10								
ARQ	**Araqi**	4.09	220	P		Pn	07 51 04.0	+4.1	
ARQ				S		Sb	07 51 55.7	-3.3	
ARQ	**Araqi**	4.09	220	P		Pn	07 51 04.0	+4.1	
ARQ				S		Sb	07 51 55.7	-3.3	
JMDO	**Jabal Madar**	4.29	196	S		Sn	07 51 55.9	+3.0	
JMDO	**Jabal Madar**	4.29	196	S		Sn	07 51 55.9	+3.0	
MHTO	**MHTO**	5.66	193	P		Pn	07 51 24.0	+2.5	
	SNR=17								
MMAI	**Mount Meron Ar**	21.76	293	P		P	07 54 49.2	+0.1	
	comp=E,1.8nm,0.3s,baz=114,slow=14,SNR=3.7								
BRTR	**Keskin Array B**	25.14	308	P		P	07 55 24.6	+1.8	
	comp=E,1.0nm,0.8s,baz=131,slow=9.7,SNR=3.7								
BVAR	**Borovoye Array**	27.72	14	P		P	07 55 47.3	+1.6	
	comp=E,0.4nm,0.5s,baz=211,slow=8.1,SNR=2.8								
KURBB	**Kurchatov Arra**	28.18	26	P		P	07 55 51.2	+1.4	
	comp=E,0.4nm,0.2s,baz=225,slow=8.6,SNR=5.8								
SONM	**Songino Array**	42.30	47	P		P	07 57 54.7	+3.5	
	comp=E,0.4nm,0.6s,baz=248,slow=7.6,SNR=3.1								
ARCES	**ARCESS Array B**	47.35	345	P		P	07 58 30.2	-0.8	
	comp=E,2.2nm,0.9s,baz=130,slow=9.6,SNR=4.6								
TORD	**Torodi Ar. Bea**	55.45	268	P		P	07 59 32.9	+0.5	
	comp=E,0.3nm,0.5s,baz=62,slow=7.3,SNR=6.0								

ATA ***25*** *07:56:09.7±0.5, 38˚.10N×42˚.72E, h15km±5km, ML3.6, MW2.9*
ISK ***25*** *07:56:09.9, 38˚.14N×42˚.70E, h5km, ML2.5/4*
DDA ***25*** *07:56:10.6, 38˚.10N×42˚.74E, h7km, Ml2.8*
CSEM ***25*** *07:56:11.1±0.3, 38˚.12N×42˚.71E, h5km, ML2.8, Error ellipse: s-maj=6.1km s-min=3.8km az=124.0*

ISC 25 07:56:11.2±1.1, 38˚.12N±0˚.03×42˚.70E±0˚.03, h8km±10km, n27, σ0s76/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	0.34	56	*i* P	**Pg**	07 56 17.6	-0.5
GEVA				*e*S	**Sg**	07 56 23.2	+0.6
GEVA				IAML		07 56 24.8	
	comp=Z,454nm,0.4s						
GEVA	**Gevas**	0.34	56	*i* P	**Pg**	07 56 17.8	-0.3
GEVA				*i* S	**Sg**	07 56 22.8	+0.1
GEVA	**Gevas**	0.34	56	P	**Pg**	07 56 17.8	-0.3
GEVA				S	**Sg**	07 56 22.8	+0.1
SRTM	**Siirt_Merkez**	0.62	258	*i* P	**Pg**	07 56 23.2	-0.1
SRTM				*i* S	**Sb**	07 56 32.7	-0.7
SRTM	**Siirt_Merkez**	0.62	258	P	**Pg**	07 56 23.2	-0.1
SRTM				S	**Sb**	07 56 32.7	-0.7
SIRT	**Sirnak**	0.65	198	PG	**Pg**	07 56 24.1	+0.3
SIRT				SG	**Sb**	07 56 34.4	+0.3
SIRT	**Sirnak**	0.65	198	*e*Pg	**Pg**	07 56 24.1	+0.3
SIRT				*e*Sg	**Sb**	07 56 34.4	+0.3
GURO	**Guroymak-BITLI**	0.68	310	PG	**Pg**	07 56 23.7	-0.6
GURO				SG	**Sb**	07 56 34.4	-0.6
GURO	**Guroymak-BITLI**	0.68	310	*e*Pg	**Pg**	07 56 23.7	-0.6
GURO				*e*Sg	**Sb**	07 56 34.4	-0.6
ADCV	**BITLIS_Adilcev**	0.69	2	*i* P	**Pg**	07 56 24.6	+0.1
ADCV				*i* S	**Sb**	07 56 35.5	+0.2
ADCV	**BITLIS_Adilcev**	0.69	2	P	**Pg**	07 56 24.6	+0.1
ADCV				S	**Sb**	07 56 35.5	+0.2
BTMN	**Batman**	1.15	259	*i* P	**Pb**	07 56 33.2	-0.2
BTMN				*i* S	**Sn**	07 56 50.0	+0.3
BTMN	**Batman**	1.15	259	P	**Pb**	07 56 33.2	-0.2
BTMN				S	**Sn**	07 56 50.0	+0.3
EKAR	**Karacoban**	1.24	337	*e*P	**Pn**	07 56 34.1	-1.0
EKAR				*e*S	**Sn**	07 56 53.4	+1.2
EKAR	**Karacoban**	1.24	337	*i* P	**Pn**	07 56 34.0	-1.1
EKAR				*i* S	**Sn**	07 56 53.3	+1.2
EKAR	**Karacoban**	1.24	337	P	**Pn**	07 56 34.0	-1.1
EKAR				S	**Sn**	07 56 53.3	+1.2
TUTA	**Tutak**	1.28	4	*e*P	**Pn**	07 56 34.6	-1.1
TUTA	**Tutak**	1.28	4	*i* P	**Pn**	07 56 34.9	-0.8
TUTA				*i* S	**Sn**	07 56 53.5	+0.2
TUTA	**Tutak**	1.28	4	P	**Pn**	07 56 34.9	-0.8
TUTA				S	**Sn**	07 56 53.5	+0.2
AGRB	**Hanur-Agry**	1.47	9	PN	**Pn**	07 56 38.3	+0.1
AGRB				SN	**Sg**	07 56 59.3	+0.7
AGRB	**Hanur-Agry**	1.47	9	*e*Pn	**Pn**	07 56 38.3	+0.1
AGRB				*e*Sn	**Sg**	07 56 59.3	+0.7
MARD	**Mardin**	1.72	243	*i* S	**Pn**	07 56 40.4	-1.2
MARD				*i* S	**Sb**	07 57 05.0	+0.1
EATA	**Eleskirt**	1.75	355	*e*P	**Pb**	07 56 43.1	-0.6
EATA				*e*S	**Sg**	07 57 09.6	+2.1
EATA	**Eleskirt**	1.75	355	*i* P	**Pb**	07 56 43.3	-0.4
EATA				*i* S	**Sg**	07 57 09.5	+2.1
EATA	**Eleskirt**	1.75	355	P	**Pb**	07 56 43.3	-0.4
BNGB	**Bing ¶‖**	1.81	299	PN	**Pb**	07 56 44.2	-0.4
BINT	**Bingol**	1.89	294	*e*Pn	**Pn**	07 56 44.2	+0.3

ISCJB ***25*** *08:01:53.0±1.0, 8˚.8S±0˚.1×159˚.5E±0˚.1, h103km, mb3.2/5, Error ellipse: s-maj=21.9km s-min=14.4km az=42.8*
IDC ***25*** *08:01:53.2±2.5, 8˚.67S×159˚.51E, h90km±33km, mb3.2/5, mb1 3.4/5, mb1mx3.2/50, mbtmp3.5/5, Error ellipse: s-maj=67.5km s-min=24.1km az=131.0*

ISC 25 08:01:54.1±1.1, 8˚.8S±0˚.1×159˚.6E±0˚.2, h103km, n13, σ0s41/9, mb3.2/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	0.72	153	P	**Pn**	08 02 11.8	-0.2
	101nm,0.3s,baz=241,slow=19,SNR=35						
HNR				S	**Sn**	08 02 25.9	+0.5
	703nm,0.3s,baz=288,slow=20,SNR=22						
HNR				LR	LR	08 02 43.1	
	comp=Z,71nm,20.5s,baz=67,slow=57						
HNR	**Honiara**	0.72	153	*i* P	**Pn**	08 02 11.5	-0.5
HNR				*i* S	**Sn**	08 02 26.0	+0.5
WRA	**Warramunga Arr**	26.84	243	P	**P**	08 07 25.4	+0.2
	0.2nm,0.4s,baz=68,slow=9.3,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	27.99	14	T	T	08 36 31.2	
	baz=194,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	27.99	14	T	T	08 36 30.9	
	baz=194,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	28.01	14	T	T	08 36 31.5	
	baz=194,slow=76,SNR=7.0						
STKA	**Stephens Creek**	28.43	214	P	**P**	08 07 39.0	-0.2
	2.3nm,1.1s,baz=66,slow=10.0,SNR=4.3						
ASAR	**Alice Springs**	28.70	236	P	**P**	08 07 41.9	0.0
	0.1nm,0.8s,baz=66,slow=9.4,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	29.21	14	T	T	08 37 57.1	
	baz=195,slow=76,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	29.22	14	T	T	08 37 57.7	
	baz=195,slow=76,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	29.23	14	T	T	08 37 56.4	
	baz=195,slow=76,SNR=8.2						
ILAR	**Eielson Array**	83.40	20	P	**P**	08 14 09.6	-0.1
	0.3nm,0.9s,baz=221,slow=3.6,SNR=3.1						
MKAR	**Makanchi Array**	87.78	318	P	**P**	08 14 32.0	+0.2
	0.6nm,0.6s,baz=89,slow=5.5,SNR=7.8						

ISCJB ***25*** *08:05:29.5±0.2, 44˚.49N±0˚.01×6˚.67E±0˚.01, h10km±1km, mb3.2/1, Error ellipse: s-maj=1.9km s-min=1.7km az=152.9*
GEN ***25*** *08:05:30.6, 44˚.48N×6˚.69E, h2km, ML3.2*
IDC ***25*** *08:05:30.9±1.8, 44˚.63N×6˚.59E, h0km, mb3.4/3, mb1 3.8/7, mb1mx3.4/73, mbtmp3.6/7, ML4.3/4, MS2.6/1, Ms1 2.7/1, ms1mx2.1/39, Error ellipse: s-maj=36.1km s-min=18.8km az=146.0*
CSEM ***25*** *08:05:30.7±0.1, 44˚.49N×6˚.69E, h5km, ML3.8/34, Error ellipse: s-maj=2.0km s-min=1.7km az=154.0*
LDG ***25*** *08:05:30.5±0.1, 44˚.47N×6˚.68E, h7km, Md3.7/7, Ml3.8/48, Error ellipse: s-maj=1.2km s-min=1.1km az=54.0*
ROM ***25*** *08:05:31.2±0.3, 44˚.51N×6˚.76E, h7km±4km, Ml3.2/34, Error ellipse: s-maj=5.1km s-min=2.1km az=56.0*
PRU ***25*** *08:05:32.0, 44˚.46N×6˚.70E, h0km*
STR ***25*** *08:05:32.2±0.2, 44˚.51N±0˚.01×6˚.62E±0˚.02, h5km, MLv3.6/28*

ISC 25 08:05:30.7±0.3, 44˚.503N±0˚.009×6˚.663E±0˚.009, h11km±1km, n262, σ1s89/355, 9C-3D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	0.24	19	*e*Pg	**Pg**	08 05 35.8	+0.1
MBDF				*e*Sg	**Sg**	08 05 39.5	+0.4
	8μm,0.3s						
MBDF	**Montbardon**	0.24	19	*e*Pg	**Pg**	08 05 35.8	+0.1
MBDF				*e*Sg	**Sg**	08 05 39.5	+0.4
	4μm,0.3s						
PZZ	**Stroppo**	0.32	89	P	**Pg**	08 05 36.8	-0.5
PZZ				S	**Sg**	08 05 41.1	-0.6
PZZ	**Stroppo**	0.32	89	⇑*i*Pg	**Pg**	08 05 36.8	-0.5
PZZ					**Sg**	08 05 41.1	-0.6
	8μm,0.2s						
DOI	**San Damiano**	0.42	90	⇑*i*Pg	**Pg**	08 05 38.4	-0.6
DOI					**Sg**	08 05 44.2	-0.3
	3μm,0.2s						
DOI	**San Damiano**	0.42	90	⇑*i*Pg	**Pg**	08 05 38.4	-0.6
DOI					**Sg**	08 05 44.2	-0.3
	3μm,0.2s						
RRL	**Rocca Remolon**	0.43	12	P	**Pg**	08 05 39.3	+0.1
RRL				Sg	**Sg**	08 05 45.6	+0.7
	2μm,0.5s						
RRL	**Rocca Remolon**	0.43	12	⇓*i*Pg	**Pg**	08 05 39.3	+0.1
RRL				Sg	**Sg**	08 05 45.6	+0.7
	2μm,0.5s						
STV	**Sant Anna di V**	0.54	118	P	**Pg**	08 05 40.6	-0.6
STV				S	**Sg**	08 05 47.2	-1.2
STV	**Sant Anna di V**	0.54	118	⇑*i*Pg	**Pg**	08 05 40.6	-0.6
STV				Sg	**Sg**	08 05 47.2	-1.2
	1μm,0.2s						
BHB	**Bricherasio**	0.55	51	P	**Pg**	08 05 41.0	-0.4
BHB				Sg	**Sg**	08 05 48.0	-0.6
	2μm,0.5s						
BHB	**Bricherasio**	0.55	51	Pg	**Pg**	08 05 41.0	-0.4
BHB				Sg	**Sg**	08 05 48.0	-0.6
	2μm,0.5s						
BNI	**Bardonecchia**	0.55	1	Pg	**Pg**	08 05 41.4	-0.1
BNI				Sg	**Sg**	08 05 49.1	+0.3
	663nm,0.5s						
BNI	**Bardonecchia**	0.55	1	Pg	**Pg**	08 05 41.4	-0.1
BNI				Sg	**Sg**	08 05 49.1	+0.3
	663nm,0.5s						
ENR	**Entracque**	0.61	117	P	**Pg**	08 05 41.7	-0.8
ENR				S	**Sg**	08 05 50.2	-0.4
ENR	**Entracque**	0.61	117	⇑*i*Pg	**Pg**	08 05 41.7	-0.8
	2μm,0.1s						
ORIF	**Oris-en-Rattie**	0.70	307	*e*Pg	**Pg**	08 05 44.2	0.0
ORIF				*e*Sg	**Sg**	08 05 54.1	+0.8
	1μm,0.2s						
ORIF	**Oris-en-Rattie**	0.70	307	*e*Pg	**Pg**	08 05 44.2	0.0
ORIF				*e*Sg	**Sg**	08 05 54.1	+0.8
	568nm,0.2s						
RSP	**Reno Superiore**	0.78	33	P	**Pg**	08 05 45.6	-0.1
RSP				S	**Sg**	08 05 56.0	+0.2
RSP	**Reno Superiore**	0.78	33	Pg	**Pg**	08 05 45.6	-0.1
	812nm,0.3s						
GDM	**Grand'Maison**	0.80	331	Pg	**Pg**	08 05 46.1	-0.1
GDM				Sg	**Sg**	08 05 57.0	+0.3
GDM	**Grand'Maison**	0.80	331	Pg	**Pg**	08 05 46.1	-0.1
SBF	**Sospel**	0.85	139	*e*Pg	**Pg**	08 05 46.2	-0.8
	SNR=1.0						
SBF				*e*Sg	**Sg**	08 05 57.5	-0.6
	786nm,0.2s,SNR=1.0						
SBF	**Sospel**	0.85	139	*e*Pg	**Pg**	08 05 46.2	-0.8
	SNR=1.0						
SBF				*e*Sg	**Sg**	08 05 57.5	-0.6
	393nm,0.2s,SNR=1.0						
GBOS	**Grotte di Boss**	0.88	107	P	**Pb**	08 05 46.7	-1.4
GBOS				S	**Sg**	08 05 57.7	-1.6
GBOS	**Grotte di Boss**	0.88	107	Pg	**Pb**	08 05 46.6	-1.5
	746nm,0.3s						
FRF	**La Foret Royal**	0.94	181	*e*Pg	**Pb**	08 05 48.2	-0.8
	SNR=1.0						
FRF	**La Foret Royal**	0.94	181	*e*P	**Pn**	08 05 49.6	-0.3
FRF				*e*Sg	**Sb**	08 06 00.7	-0.8
	1μm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	0.94	181	*e*Pg	**Pb**	08 05 48.2	-0.8
	SNR=1.0						
FRF	**La Foret Royal**	0.94	181	*e*P	**Pn**	08 05 49.6	-0.3
FRF				*e*Sg	**Sb**	08 06 00.7	-0.8
	626nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	0.94	236	*e*Pn	**Pg**	08 05 49.5	+0.6
	SNR=1.0						
SMRF				*e*Sg	**Sb**	08 06 00.6	-1.0
SMRF				*e*Sn	**Sg**	08 06 02.4	+1.3
	758nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	0.94	236	*e*Pn	**Pg**	08 05 49.5	+0.6
	SNR=1.0						
SMRF				*e*Sg	**Sb**	08 06 00.6	-1.0
SMRF				*e*Sn	**Sg**	08 06 02.4	+1.3
	379nm,0.3s,SNR=1.0						
GRN	**Grenoble**	0.99	319	Pg	**Pb**	08 05 49.5	-0.3
GRN				Sg	**Sg**	08 06 03.9	+1.3
GRN	**Grenoble**	0.99	319	Pg	**Pb**	08 05 49.6	-0.3
NEGI	**Seborga**	0.99	131	P	**Pb**	08 05 49.0	-1.0
NEGI	**Seborga**	0.99	131	Pg	**Pb**	08 05 49.0	-1.0
	876nm,0.4s						
LPG	**La Plagne**	1.00	4	*e*Pg	**Pb**	08 05 49.7	-0.5
LPG	**La Plagne**	1.00	4	*e*P	**Pn**	08 05 51.5	+0.6
LPG				*e*Sg	**Sb**	08 06 03.4	-0.1
	1μm,0.4s						
LPG	**La Plagne**	1.00	4	*e*Pg	**Pb**	08 05 49.7	-0.5
LPG	**La Plagne**	1.00	4	*e*P	**Pn**	08 05 51.5	+0.6
LPG				*e*Sg	**Sb**	08 06 03.4	-0.1
	503nm,0.4s						
LSD	**Lago del Serru**	1.01	19	Pg	**Pb**	08 05 49.6	-0.8
	760nm,0.3s						
LSD	**Lago del Serru**	1.01	19	Pg	**Pn**	08 05 49.6	-0.8
	760nm,0.3s						
LPL	**La Plagne**	1.01	3	*e*Pg	**Pb**	08 05 50.0	-0.5
LPL				*e*Sg	**Sb**	08 06 03.8	-0.1
	348nm,0.3s						
LPL	**La Plagne**	1.01	3	*e*Pg	**Pb**	08 05 50.0	-0.5
LPL				*e*Sg	**Sb**	08 06 03.8	-0.1
	174nm,0.3s						
IMI	**Imperia**	1.06	123	Pg	**Pb**	08 05 50.2	-1.0
	1μm,0.7s						
IMI	**Imperia**	1.06	123	Pg	**Pb**	08 05 50.2	-1.0
	1μm,0.7s						
RORO	**Rocca Rossa**	1.08	111	⇓*i*Pg	**Pb**	08 05 50.0	-1.4
	561nm,0.4s						
RORO	**Rocca Rossa**	1.08	111	⇓*i*Pg	**Pb**	08 05 50.0	-1.4
	561nm,0.4s						
LMR	**La Mourre**	1.17	185	*e*Pg	**Pn**	08 05 52.2	-0.9
	SNR=1.0						
LMR	**La Mourre**	1.17	185	*e*P	**Pg**	08 05 53.4	+0.2
LMR				*e*Sg	**Sb**	08 06 07.8	-0.4
	625nm,0.2s,SNR=1.0						
LMR	**La Mourre**	1.17	185	*e*Pg	**Pn**	08 05 52.2	-0.9
	SNR=1.0						
LMR	**La Mourre**	1.17	185	*e*P	**Pg**	08 05 53.4	+0.2
LMR				*e*Sg	**Sb**	08 06 07.8	-0.4
	312nm,0.2s,SNR=1.0						
LEPF	**PUYLOUBIER**	1.20	216	Pg	**Pg**	08 05 54.3	+0.6
LEPF				Sg	**Sg**	08 06 10.5	+1.2
LEPF	**PUYLOUBIER**	1.20	216	Pg	**Pg**	08 05 54.4	+0.6
QLNO	**Quiliano**	1.22	98	⇑*i*Pg	**Pn**	08 05 52.6	-1.1
	409nm,0.4s						
QLNO	**Quiliano**	1.22	98	⇑*i*Pg	**Pn**	08 05 52.6	-1.1
	409nm,0.4s						
ROTM	**Rocchetta Tana**	1.25	73	Pg	**Pn**	08 05 53.1	-1.1
	1μm,0.5s						
ROTM	**Rocchetta Tana**	1.25	73	Pg	**Pn**	08 05 53.1	-1.1
	1μm,0.5s						
TRAV	**Traversella**	1.27	37	Pg	**Pn**	08 05 53.2	-1.3
	445nm,0.4s						
TRAV	**Traversella**	1.27	37	Pg	**Pn**	08 05 53.2	-1.3
	445nm,0.4s						
CIRO	**Champorcher**	1.27	30	Pg	**Pn**	08 05 54.2	-0.5
	297nm,0.3s						
CIRO	**Champorcher**	1.27	30	Pg	**Pn**	08 05 54.2	-0.5
	297nm,0.3s						
MRGE	**Morge**	1.30	12	Pg	**Pn**	08 05 54.9	-0.1
	641nm,0.8s						
MRGE	**Morge**	1.30	12	Pg	**Pn**	08 05 54.9	-0.1
	641nm,0.8s						
PCP	**Piancastagn**	1.35	88	⇑*i*Pg	**Pn**	08 05 54.9	-0.6
	618nm,0.8s						
PCP	**Piancastagn**	1.35	88	⇑*i*Pg	**Pn**	08 05 54.9	-0.6
	618nm,0.8s						
VIVF	**Saint-Julien-l**	1.46	285	*e*Pg	**Pb**	08 05 57.9	-0.1
	SNR=1.0						
VIVF				*e*Sg	**Sb**	08 06 17.3	+0.7
	324nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	1.46	285	*e*Pg	**Pb**	08 05 57.9	-0.1
	SNR=1.0						
VIVF				*e*Sg	**Sb**	08 06 17.3	+0.7
	162nm,0.3s,SNR=1.0						
EMV	**Vieux Emosson**	1.57	6	Pg	**Pb**	08 06 00.3	+0.4
	278nm,0.8s						
EMV	**Vieux Emosson**	1.57	6	Pg	**Pb**	08 06 00.3	+0.4
	278nm,0.8s						
SATI	**Passo dei Sala**	1.62	31	Pg	**Pn**	08 05 59.2	-0.3
	288nm,0.7s						
DIX	**Grande Dixence**	1.66	18	Pg	**Pb**	08 06 01.4	-0.1
	193nm,0.5s						
DIX	**Grande Dixence**	1.66	18	Pg	**Pb**	08 06 01.4	-0.1
	193nm,0.5s						
SSB	**Saint Sauveur**	1.70	298	Pn	**Pn**	08 06 00.8	+0.5
SSB	**Saint Sauveur**	1.70	298	Pg	**Pg**	08 06 03.6	+0.4
SSB				Sn	**Sn**	08 06 23.0	+0.9
SSB				Sg	**Sg**	08 06 26.7	+1.5
MMK	**Mattmark**	1.80	30	Pg	**Pn**	08 06 02.4	+0.5
	285nm,0.7s						
BOB	**Bobbio (Coli)**	2.01	81	Pg	**Pb**	08 06 06.5	-0.7
	256nm,0.9s						
BOB	**Bobbio (Coli)**	2.01	81	Pg	**Pb**	08 06 06.5	-0.7
	256nm,0.9s						
VARE	**Varese**	2.02	47	Pg	**Pn**	08 06 05.0	+0.2
	127nm,0.7s						
GIMEL	**St. Georges /**	2.05	352	Pg	**Pb**	08 06 07.6	-0.4
	148nm,0.6s						
MSSA	**Maissana**	2.05	94	Pg	**Pn**	08 06 04.4	-0.9
	117nm,0.9s						
LASF	**Ste Croix**	2.06	259	*e*P	**Pn**	08 06 05.5	+0.2
	SNR=1.0						
LASF				*e*Sn	**Sn**	08 06 29.0	-2.0
LASF				*e*Sg	**Sb**	08 06 31.4	-2.3
	106nm,0.4s						
LASF	**Ste Croix**	2.06	259	*e*P	**Pn**	08 06 05.5	+0.2
	SNR=1.0						
LASF				*e*Sn	**Sn**	08 06 29.0	-2.0
CABF	**La Chapelle**	2.15	349	*e*P	**Pb**	08 06 08.8	-0.9
	SNR=1.0						
CABF				*e*Sn	**Sn**	08 06 31.0	-2.3
CABF				*e*Sg	**Sg**	08 06 38.8	-0.9
	437nm,0.6s						
CABF	**La Chapelle**	2.15	349	*e*P	**Pb**	08 06 08.8	-0.9
	SNR=1.0						
CABF				*e*Sn	**Sn**	08 06 31.0	-2.3
CABF				*e*Sg	**Sg**	08 06 38.8	-0.9
	218nm,0.6s						
MUGIO	**Muggio**	2.20	49	Pg	**Pn**	08 06 07.5	+0.2
	94nm,0.7s						
PLMA	**Palmaria, Port**	2.33	100	Pg	**Pn**	08 06 08.7	-0.3
	73nm,0.5s						
FUSIO	**Fusio**	2.41	35	Pg	**Pn**	08 06 10.6	+0.4
MDI	**Monti di Nese**	2.51	58	Pg	**Pn**	08 06 12.1	+0.6
	43nm,0.7s						
LBL	**Lubilhac**	2.54	288	Pn	**Pn**	08 06 12.9	+1.0
LBL	**Lubilhac**	2.54	288	Pg	Pg	08 06 18.8	-0.5
LBL	**Lubilhac**	2.54	288	Pn	**Pn**	08 06 12.9	+1.0
LBL	**Lubilhac**	2.54	288	Pg	Pg	08 06 18.9	-0.5
PGF	**Pioggiola**	2.59	138	*e*Pn	**Pn**	08 06 12.2	-0.4
	SNR=1.0						
PGF	**Pioggiola**	2.59	138	*e*P	**Pn**	08 06 13.4	+0.8
PGF				*e*Sn	**Sn**	08 06 41.1	-3.1
	80nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	2.59	138	*e*Pn	**Pn**	08 06 12.2	-0.4
	SNR=1.0						
PGF	**Pioggiola**	2.59	138	*e*P	**Pn**	08 06 13.4	+0.8
PGF				*e*Sn	**Sn**	08 06 41.1	-3.1
	40nm,0.2s,SNR=1.0						
VLC	**Villacollemand**	2.69	96	Pg	**Pn**	08 06 14.0	0.0
	76nm,1.1s						
TUE	**Stuetta**	2.73	43	Pg	**Pn**	08 06 15.8	+1.1
	90nm,0.5s						
MAIM	**Mastiano**	2.81	101	Pg	**Pn**	08 06 15.5	-0.1
	54nm,0.7s						
LOMF	**Lomont**	2.85	2	Pg	Pg	08 06 25.4	+0.1
LOMF	**Lomont**	2.85	2	Pg	Pg	08 06 25.5	+0.1
BDI	**Bagni Di Lucca**	2.86	97	Pg	**Pn**	08 06 16.1	-0.2
	43nm,0.6s						
PYM	**Petit Puy Mans**	2.87	297	Pn	**Pn**	08 06 17.5	+1.0
PYM	**Petit Puy Mans**	2.87	297	Pg	Pg	08 06 26.0	+0.3
PYM	**Petit Puy Mans**	2.87	297	Pn	**Pn**	08 06 17.5	+1.0
PYM	**Petit Puy Mans**	2.87	297	Pg	Pg	08 06 26.1	+0.3
SMF	**Signal de Mont**	2.92	318	*e*P	**Pn**	08 06 18.4	+1.3
	SNR=1.0						
SMF				*e*Sn	**Sn**	08 06 49.0	-3.2
	176nm,0.5s,SNR=1.0						
SMF				*e*Sg	Sg	08 07 02.7	-1.7
	89nm,0.3s						
SMF	**Signal de Mont**	2.92	318	*e*P	**Pn**	08 06 18.4	+1.3
	SNR=1.0						
SMF				*e*Sn	**Sn**	08 06 49.0	-3.2
	88nm,0.5s,SNR=1.0						
SMF				*e*Sg	Sg	08 07 02.7	-1.7

MTLF	**Montolieu**	**3.42**	**252**	*e*P		**Pn**	**08 06 24.4**	**+0.5**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**08 07 00.9**	**-3.5**
MTLF				*e*Sg		Sg	08 07 18.1	-2.2
	18nm,0.6s,SNR=1.0							
EJON	**La Jonquera**	**3.43**	**235**		Pn	**Pn**	**08 06 24.7**	**+0.6**
	4.2nm,0.1s,SNR=18							
EJON	**La Jonquera**	**3.43**	**235**		Pg	Pg	08 06 36.1	-0.3
	8.2nm,0.3s,SNR=13							
EJON					Sn	**Sn**	**08 07 04.6**	**-0.2**
	8.4nm,0.3s,SNR=7.9							
EJON					Lg	Lg	08 07 19.8	
	14nm,0.4s,SNR=6.3							
FELD	**Feldberg im Sc**	**3.50**	**15**		Pn	**Pn**	**08 06 25.5**	**+0.3**
FELD	**Feldberg im Sc**	**3.50**	**15**		Pn	**Pn**	**08 06 25.6**	**+0.3**
HAU	**Haudompre**	**3.51**	**357**	*e*P		**Pn**	**08 06 26.5**	**+1.3**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**08 07 03.8**	**-3.0**
	186nm,0.3s,SNR=1.0							
HAU				*e*Sg		Sg	08 07 21.8	-1.6
	64nm,0.3s							
HAU	**Haudompre**	**3.51**	**357**	*e*P		**Pn**	**08 06 26.5**	**+1.3**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**08 07 03.8**	**-3.0**
	93nm,0.3s,SNR=1.0							
HAU				*e*Sg		Sg	08 07 21.8	-1.6
	32nm,0.3s							
FILF	**Fillols**	**3.56**	**238**		Pn	**Pn**	**08 06 27.3**	**+1.4**
FILF	**Fillols**	**3.56**	**238**		Pg	Pg	08 06 39.5	+0.6
DAVA	**Damuels**	**3.58**	**38**		Pn	**Pn**	**08 06 28.9**	**+2.6**
	8.1nm,0.3s,SNR=8.4							
DAVA					Sn	**Sb**	**08 07 14.5**	**-3.0**
	40nm,0.4s							
DAVA	**Damuels**	**3.58**	**38**	*e*Pn		**Pn**	**08 06 28.9**	**+2.6**
	8.1nm,0.3s,SNR=8.4							
DAVA				*e*Sn		**Sb**	**08 07 14.5**	**-3.0**
	40nm,0.4s							
TCF	**Toulx Ste Croi**	**3.61**	**301**	*e*P		**Pn**	**08 06 28.3**	**+1.7**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**08 07 06.0**	**-3.2**
	90nm,0.6s,SNR=1.0							
TCF				*e*Sg		Sg	08 07 24.9	-1.7
	118nm,0.7s							
TCF	**Toulx Ste Croi**	**3.61**	**301**	*e*P		**Pn**	**08 06 28.3**	**+1.7**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**08 07 06.0**	**-3.2**
	45nm,0.6s,SNR=1.0							
TCF				*e*Sg		Sg	08 07 24.9	-1.7
	59nm,0.7s							
ECH	**Echery**	**3.73**	**5**		Pn	**Pn**	**08 06 28.3**	**+0.1**
ECH	**Echery**	**3.73**	**5**		Pn	**Pn**	**08 06 28.3**	**+0.1**
RJF	**Les Rejaudoux**	**3.74**	**284**	*e*P		**Pn**	**08 06 30.0**	**+1.6**
	SNR=1.0							
RJF				*e*Sg		Sg	08 07 29.2	-1.7
	33nm,0.4s,SNR=1.0							
RJF	**Les Rejaudoux**	**3.74**	**284**	*e*P		**Pn**	**08 06 30.0**	**+1.6**
	SNR=1.0							
RJF				*e*Sg		Sg	08 07 29.2	-1.7
	17nm,0.4s,SNR=1.0							
THEF	**They Montfort**	**3.75**	**353**		Pn	**Pn**	**08 06 29.3**	**+0.7**
THEF	**They Montfort**	**3.75**	**353**		Pn	**Pn**	**08 06 29.3**	**+0.7**
FETA	**Feichten**	**3.80**	**47**		Pn	**Pn**	**08 06 32.0**	**+2.6**
	5.2nm,0.4s,SNR=9.4							
FETA					Sn	**Sb**	**08 07 19.9**	**-4.1**
	15nm,0.5s							
FETA	**Feichten**	**3.80**	**47**	*e*Pn		**Pn**	**08 06 32.0**	**+2.6**
	5.2nm,0.4s,SNR=9.4							
FETA				*e*Sn		**Sb**	**08 07 19.9**	**-4.1**
	15nm,0.5s							
SFTF	**Sexfontaines**	**3.87**	**344**	*e*P		**Pn**	**08 06 32.5**	**+2.3**
	baz=149							
SFTF				*e*Sn		**Sn**	**08 07 12.7**	**-2.9**
	28nm,0.2s							
SFTF				*e*Sg		Sg	08 07 32.9	-2.0
	90nm,0.4s							
SFTF	**Sexfontaines**	**3.87**	**344**	*e*P		**Pn**	**08 06 32.5**	**+2.3**
	baz=149							
SFTF				*e*Sn		**Sn**	**08 07 12.7**	**-2.9**
	14nm,0.2s							
SFTF				*e*Sg		Sg	08 07 32.9	-2.0
	45nm,0.4s							
SPAK	**Spaichingen-Ko**	**3.89**	**21**		Pn	**Pn**	**08 06 30.6**	**+0.1**
SPAK	**Spaichingen-Ko**	**3.89**	**21**		Pn	**Pn**	**08 06 30.6**	**+0.1**
CDF	**Champ du Feu**	**3.93**	**6**	*e*P		**Pn**	**08 06 31.5**	**+0.4**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**08 07 13.7**	**-3.6**
	22nm,0.3s,SNR=1.0							
CDF				*e*Sg		Sg	08 07 34.9	-2.1
	51nm,0.6s							
CDF	**Champ du Feu**	**3.93**	**6**	*e*P		**Pn**	**08 06 31.5**	**+0.4**
	SNR=1.0							
CDF				*e*Sg		Sg	08 07 34.9	-2.1
	25nm,0.6s							
HYF	**Humbligny**	**3.94**	**316**	*e*P		**Pn**	**08 06 33.4**	**+2.2**
HYF				*e*Sg		Sg	08 07 35.4	-1.8
HYF	**Humbligny**	**3.94**	**316**	*e*P		**Pn**	**08 06 33.4**	**+2.2**
HYF				*e*Sg		Sg	08 07 35.4	-1.8
CLLI	**Llivia**	**3.97**	**241**		Pn	**Pn**	**08 06 32.3**	**+0.7**
	4.1nm,0.2s,SNR=49							
CLLI	**Llivia**	**3.97**	**241**		Pg	Pg	08 06 44.5	-2.2
	10nm,0.3s,SNR=8.1							
CLLI					Sn	**Sn**	**08 07 18.3**	**+0.1**
	6.3nm,0.6s,SNR=6.5							
CLLI					Lg	Lg	08 07 37.8	
	5.1nm,0.4s,SNR=6.0							
VALF	**Valcebollere**	**3.98**	**240**		Pn	**Pn**	**08 06 32.5**	**+0.7**
VALF	**Valcebollere**	**3.98**	**240**		Pn	**Pn**	**08 06 32.6**	**+0.7**
PAGF	**Fort de Pagny**	**4.11**	**351**	*e*P		**Pn**	**08 06 35.7**	**+2.3**
	baz=172							
PAGF				*e*Sn		**Sn**	**08 07 18.8**	**-2.6**
	15nm,0.3s,baz=165							
PAGF	**Fort de Pagny**	**4.11**	**351**	*e*P		**Pn**	**08 06 35.7**	**+2.3**
	baz=172							
PAGF				*e*Sn		**Sn**	**08 07 18.8**	**-2.6**
	7.4nm,0.3s							
RETA	**Reutte**	**4.13**	**42**		Pn	**Pn**	**08 06 37.1**	**+3.3**
	2.2nm,0.2s							
RETA	**Reutte**	**4.13**	**42**	*e*Pn		**Pn**	**08 06 37.1**	**+3.3**
	2.2nm,0.2s							
CFON	**Fontmartina**	**4.13**	**230**		Pn	**Pn**	**08 06 34.7**	**+0.9**
	4.7nm,0.2s,SNR=18							
CFON					Sn	**Sn**	**08 07 21.1**	**-1.1**
	23nm,0.3s,SNR=6.0							
CFON					Lg	Lg	08 07 42.3	
	14nm,0.2s,SNR=7.9							
MEZF	**Maizieres J'vi**	**4.15**	**345**	*e*P		**Pn**	**08 06 36.5**	**+2.5**
	baz=162,SNR=1.0							
MEZF				*e*Sn		**Sn**	**08 07 19.2**	**-3.3**
	40nm,0.3s,baz=164							
MEZF				*e*Sg		Sg	08 07 41.7	-2.3
	46nm,0.3s,baz=160							
MEZF	**Maizieres J'vi**	**4.15**	**345**	*e*P		**Pn**	**08 06 36.5**	**+2.5**
	baz=162,SNR=1.0							
MEZF				*e*Sg		Sg	08 07 41.7	-2.3
	23nm,0.3s							
MOTA	**Moosalm**	**4.21**	**46**		Pn	**Pn**	**08 06 36.7**	**+1.8**
	5.1nm,0.2s,SNR=22							
MOTA	**Moosalm**	**4.21**	**46**	*i* Pn		**Pn**	**08 06 36.7**	**+1.8**
	5.1nm,0.2s,SNR=22							
LFF	**La Frestale**	**4.24**	**278**	*e*P		**Pn**	**08 06 36.9**	**+1.6**
	SNR=1.0							
LFF				*e*Sn		**Sn**	**08 07 20.5**	**-4.3**
LFF				*e*Sg		Sg	08 07 44.7	-2.2
	107nm,0.8s							
LFF	**La Frestale**	**4.24**	**278**	*e*P		**Pn**	**08 06 36.9**	**+1.6**
	SNR=1.0							
LFF				*e*Sg		Sg	08 07 44.7	-2.2
	53nm,0.8s							
WTTA	**Wattenberg**	**4.44**	**50**		Pn	**Pn**	**08 06 40.8**	**+2.7**
	4.2nm,0.3s,SNR=7.5							
WTTA	**Wattenberg**	**4.44**	**50**	*e*Pn		**Pn**	**08 06 40.8**	**+2.7**
	4.2nm,0.3s,SNR=7.5							
WTTA					Sn	**Sb**	**08 07 37.1**	**-5.2**
	9.5nm,0.5s							
WATA	**Walderalm**	**4.45**	**49**		Pn	**Pn**	**08 06 41.3**	**+3.1**
	2.6nm,0.1s,SNR=22							
WATA	**Walderalm**	**4.45**	**49**	*e*Pn		**Pn**	**08 06 41.3**	**+3.1**
	2.6nm,0.1s,SNR=22							
CSOR	**Sort**	**4.55**	**244**		Pn	**Pn**	**08 06 41.8**	**+2.2**
	3.4nm,0.3s,SNR=34							
CSOR					Sn	**Sn**	**08 07 33.0**	**+0.4**
	67nm,0.9s,SNR=7.1							
CSOR					Lg	Lg	08 07 57.0	
	25nm,0.6s,SNR=7.9							
EMIR	**Miracle**	**4.56**	**237**		Pn	**Pn**	**08 06 41.8**	**+2.1**
	2.6nm,0.1s,SNR=8.0							
EMIR					Sn	**Sn**	**08 07 34.1**	**+1.4**
	27nm,0.6s,SNR=5.9							
EMIR					Lg	Lg	08 07 56.8	
	15nm,0.4s,SNR=7.9							
EPF	**Esparros**	**4.81**	**254**	*e*Sn		**Sn**	**08 07 33.3**	**-5.6**
EPF				*e*Sg		Sg	08 08 02.2	-2.9
	18nm,0.3s							
LABF	**Labassere**	**4.99**	**255**		Pn	**Pn**	**08 06 45.8**	**+0.3**
LABF	**Labassere**	**4.99**	**255**		Pn	**Pn**	**08 06 45.8**	**+0.3**
EPOB	**Poblet**	**5.17**	**234**		Pn	**Pn**	**08 06 49.5**	**+1.4**
	0.4nm,0.1s,SNR=7.1							
EPOB					Sn	**Sn**	**08 07 46.7**	**-1.0**
	1.9nm,0.3s,SNR=7.9							
EPOB					Lg	Lg	08 08 15.7	
	7.8nm,0.5s,SNR=5.0							
MFF	**Saint Martin d**	**5.22**	**296**	*e*P		**Pn**	**08 06 50.6**	**+1.9**
	SNR=1.0							
MFF				*e*Sn		**Sn**	**08 07 44.4**	**-4.5**
	8.9nm,0.4s,SNR=1.0							
MFF				*e*Sg		Sg	08 08 20.3	+2.0
	29nm,0.6s							
MFF	**Saint Martin d**	**5.22**	**296**	*e*P		**Pn**	**08 06 50.6**	**+1.9**
	SNR=1.0							
MFF				*e*Sg		Sg	08 08 20.3	+2.0
	15nm,0.6s							
KBA	**Koelnbreinsper**	**5.33**	**59**		Pn	**Pn**	**08 06 52.5**	**+2.1**
	3.2nm,0.3s,SNR=6.1							
KBA					Sn	**Sn**	**08 07 57.3**	**+5.4**
	4.0nm,0.4s							
KBA	**Koelnbreinsper**	**5.33**	**59**	*e*Pn		**Pn**	**08 06 52.5**	**+2.1**
	3.2nm,0.3s,SNR=6.1							
KBA				*e*Sn		**Sn**	**08 07 57.3**	**+5.4**
	4.0nm,0.4s							
ETSF	**Etsaut**	**5.48**	**255**	*e*P		**Pn**	**08 06 55.8**	**+3.5**
	SNR=1.0							
ETSF				*e*Sn		**Sn**	**08 07 50.1**	**-5.2**
	13nm,0.4s							
ATE	**Arette**	**5.51**	**258**		Pn	**Pn**	**08 06 54.4**	**+1.6**
	3.0nm,0.3s,SNR=7.9							
ATE					Sn	**Sn**	**08 07 56.4**	**+0.2**
	5.5nm,0.5s,SNR=7.9							
ATE					Lg	Lg	08 08 29.2	
	41nm,1.3s,SNR=7.9							
ETOS	**Mallorca**	**5.53**	**212**		Pn	**Pn**	**08 06 54.6**	**+1.6**
	1.2nm,0.1s,SNR=9.5							
GIVF	**Givet**	**5.74**	**348**	*e*P		**Pn**	**08 06 57.9**	**+2.1**
	SNR=1.0							
GIVF				*e*Sn		**Sn**	**08 07 57.7**	**-3.9**
	15nm,0.3s,SNR=1.0							
GIVF	**Givet**	**5.74**	**348**	*e*P		**Pn**	**08 06 57.9**	**+2.1**
	SNR=1.0							
BAIF	**Baives**	**5.80**	**344**	*e*P		**Pn**	**08 06 58.8**	**+2.1**
	SNR=1.0							
BAIF				*e*Sn		**Sn**	**08 07 57.9**	**-5.3**
	16nm,0.3s,SNR=1.0							
BAIF	**Baives**	**5.80**	**344**	*e*P		**Pn**	**08 06 58.8**	**+2.1**
	SNR=1.0							
ERTA	**Horta de San J**	**5.86**	**235**		Pn	**Pn**	**08 06 59.5**	**+2.1**
	5.3nm,0.3s,SNR=13							
ERTA					Lg	Lg	08 08 40.5	
	33nm,1.5s,SNR=7.9							
NVLJ	**Novalja**	**5.87**	**87**	*e*Pn		**Pn**	**08 06 57.2**	**-0.4**
NVLJ					Sn	**Sn**	**08 08 00.5**	**-4.3**
NVLJ	**Novalja**	**5.87**	**87**	*e*Pn		**Pn**	**08 06 57.1**	**-0.4**
SJPF	**Ste Jean**	**5.88**	**259**	*e*P		**Pn**	**08 06 57.6**	**-0.1**
	SNR=1.0							
SJPF				*e*Sn		**Sn**	**08 07 59.6**	**-5.4**
	3.6nm,0.3s,SNR=1.0							
SJPF	**Ste Jean**	**5.88**	**259**	*e*P		**Pn**	**08 06 57.6**	**-0.1**
	SNR=1.0							
OBKA	**Obir**	**5.89**	**67**		Pn	**Pn**	**08 06 59.7**	**+1.7**
	2.9nm,0.4s							
OBKA	**Obir**	**5.89**	**67**	*e*Pn		**Pn**	**08 06 59.7**	**+1.7**
	2.9nm,0.4s							
ESAC	**San Caprasio**	**5.91**	**244**		Pn	**Pn**	**08 07 00.3**	**+2.0**
	2.4nm,0.2s,SNR=5.5							
IELO	**Elcoad**	**5.96**	**257**		Pn	**Pn**	**08 07 00.0**	**+1.0**
	7.6nm,0.5s,SNR=7.9							
EORO	**Oroz-Betelu**	**6.00**	**257**		Pn	**Pn**	**08 07 00.8**	**+1.3**
	0.6nm,0.2s,SNR=14							
EORO					Sn	**Sn**	**08 08 07.6**	**-0.6**
	7.7nm,0.3s,SNR=7.1							
EALK	**Alkurruntz**	**6.04**	**261**		Pn	**Pn**	**08 07 00.6**	**+0.5**
	1.4nm,0.3s,SNR=6.5							
LDF	**La Druitiere**	**6.21**	**314**	*e*P		**Pn**	**08 07 04.2**	**+1.9**
	SNR=1.0							
LDF				*e*Sn		**Sn**	**08 08 08.8**	**-4.5**
	18nm,0.6s,SNR=1.0							
LDF	**La Druitiere**	**6.21**	**314**	*e*P		**Pn**	**08 07 04.2**	**+1.9**
	SNR=1.0							
MOA	**Molln**	**6.25**	**55**		Pn	**Pn**	**08 07 05.1**	**+2.2**
	2.4nm,0.3s							
MOA					Sn	**Sn**	**08 08 14.6**	**+0.3**
	3.1nm,0.3s							
MOA	**Molln**	**6.25**	**55**	*e*Pn		**Pn**	**08 07 05.1**	**+2.2**
	2.4nm,0.3s							
MOA					Sn	**Sn**	**08 08 14.6**	**+0.3**
	3.1nm,0.3s							
HGN	**Heimansgroeve**	**6.28**	**356**	*e*Pn		Pn	08 07 10.4	+7.1
	6.6nm,0.5s							
HGN				*e*Sn		**Sn**	**08 08 21.1**	**+6.1**
GRR	**Gorron**	**6.49**	**309**	*e*P		**Pn**	**08 07 07.9**	**+1.8**
	SNR=1.0							
GRR				*e*Sn		**Sn**	**08 08 15.4**	**-4.7**
	9.3nm,0.3s,SNR=1.0							
GRR	**Gorron**	**6.49**	**309**	*e*P		**Pn**	**08 07 07.9**	**+1.8**
	SNR=1.0							
GERES	**GERESS Array B**	**6.50**	**46**		Pn	**Pn**	**08 07 06.9**	**+0.5**
	3.9nm,0.3s,baz=228,slow=12,SNR=86							
GERES					Sn	**Sn**	**08 08 18.6**	**-2.0**
	2.6nm,0.3s,baz=238,slow=22,SNR=11							
FLN	**La Foliniere**	**6.51**	**313**	*e*P		**Pn**	**08 07 08.3**	**+2.0**
	baz=136,SNR=1.0							
FLN				*e*Sn		**Sn**	**08 08 16.1**	**-4.4**
	26nm,0.6s,SNR=1.0							
FLN	**La Foliniere**	**6.51**	**313**	*e*P		**Pn**	**08 07 08.3**	**+2.0**
	baz=136,SNR=1.0							
UDBI	**Udbina**	**6.51**	**87**	*e*Pn		**Pn**	**08 07 05.8**	**-0.6**
UDBI					Sn	**Sn**	**08 08 18.4**	**-2.3**
UDBI	**Udbina**	**6.51**	**87**	*e*Pn		**Pn**	**08 07 05.8**	**-0.6**
KHC	**Kasperske Hory**	**6.63**	**43**	*e*PN		**Pn**	**08 07 09.4**	**+1.4**
KHC				*e*SN		**Sn**	**08 08 22.9**	**-0.7**
KHC				*ex*		x	08 08 37.0	
KHC	**Kasperske Hory**	**6.63**	**43**	Pn		**Pn**	**08 07 09.4**	**+1.4**
KHC				Sn		**Sn**	**08 08 22.9**	**-0.7**
EMOS	**Mosqueruela**	**6.71**	**234**	Pn		**Pn**	**08 07 11.5**	**+2.2**
	1.8nm,0.3s,SNR=8.5							
ARSA	**Arzberg**	**6.77**	**63**	Pn		Pn	08 07 09.9	-0.1
	4.0nm,0.3s							
ARSA					Sn	**Sn**	**08 08 30.1**	**+3.1**
	0.7nm,0.3s							
ARSA	**Arzberg**	**6.77**	**63**	*e*Pn		**Pn**	**08 07 09.9**	**-0.1**
	4.0nm,0.3s							
ARSA					Sn	**Sn**	**08 08 30.1**	**+3.1**
	0.7nm,0.3s							
CONA	**Conrad Observa**	**7.24**	**59**	Pn		**Pn**	**08 07 19.9**	**+3.4**
	1.4nm,0.3s							
CONA					Sn	**Sn**	**08 08 40.4**	**+1.6**
	1.5nm,0.4s							
CONA	**Conrad Observa**	**7.24**	**59**	*e*Pn		**Pn**	**08 07 19.9**	**+3.4**
	1.4nm,0.3s							
CONA					Sn	**Sn**	**08 08 40.4**	**+1.6**
	1.5nm,0.4s							
SGMF	**Saint Gilles**	**7.40**	**304**	*e*P		**Pn**	**08 07 19.8**	**+1.2**
	SNR=1.0							
SGMF	**Saint Gilles**	**7.40**	**304**	*e*P		**Pn**	**08 07 19.8**	**+1.2**
	SNR=1.0							
ETOR	**Torete**	**7.40**	**243**	Pn		**Pn**	**08 07 20.8**	**+2.0**
	0.5nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**7.41**	**264**	Pn		**Pn**	**08 07 20.5**	**+1.7**
	17nm,0.9s,SNR=5.7							
QUIF	**Quistinic**	**7.62**	**300**	*e*P		**Pn**	**08 07 23.1**	**+1.4**
	SNR=1.0							
QUIF	**Quistinic**	**7.62**	**300**	*e*P		**Pn**	**08 07 23.1**	**+1.4**
	SNR=1.0							
PRU	**Pruhonice**	**7.67**	**42**	*e*PN		**Pn**	**08 07 23.7**	**+1.4**
PRU	**Pruhonice**	**7.67**	**42**	Pn		**Pn**	**08 07 23.7**	**+1.4**
GOPC	**GO Pecny, Ondr**	**7.74**	**43**	*e*PN		**Pn**	**08 07 23.8**	**+0.6**
GOPC	**GO Pecny, Ondr**	**7.74**	**43**	Pn		**Pn**	**08 07 23.8**	**+0.6**
ROSF	**Rostrenen**	**7.86**	**303**	*e*P		**Pn**	**08 07 26.8**	**+1.9**
	SNR=1.0							
ROSF	**Rostrenen**	**7.86**	**303**	*e*P		**Pn**	**08 07 26.8**	**+1.9**
	SNR=1.0							
CLL	**Collm**	**8.03**	**30**	*e*Pn		**Pn**	**08 07 25.0**	**-2.2**
CLL				*e*Pg		Pg	08 08 05.0	+0.7
CLL				*e*Sg		Sg	08 09 49.0	+0.9
	comp=Z,8.0nm,0.8s							
BRG	**Berggiesshubel**	**8.04**	**35**	PN		Pg	08 08 07.0	+2.4
BRG				*e*			08 09 02.8	
BRG	**Berggiesshubel**	**8.04**	**35**	SG		Sg	08 09 49.5	+0.8
	comp=Z,9.3nm,1.2s							
STON	**Ston**	**8.16**	**98**	*e*Pn		**Pn**	**08 07 28.0**	**-1.1**
STON					Sn	**Sn**	**08 08 53.7**	**-7.6**
STON	**Ston**	**8.16**	**98**	*e*Pn		**Pn**	**08 07 28.0**	**-1.1**
VRAC	**Vranov**	**8.32**	**51**	Pn		**Pn**	**08 07 31.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=242,slow=12,SNR=3.6							
VRAC					Sn	**Sn**	**08 09 04.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=195,slow=18,SNR=3.0							
EARI	**Arriondas**	**8.66**	**266**	Pn		**Pn**	**08 07 36.5**	**+0.6**
	comp=Z,3.1nm,0.3s,SNR=11							
UPC	**Upice**	**8.72**	**43**	*e*PN		**Pn**	**08 07 37.8**	**+1.1**
UPC	**Upice**	**8.72**	**43**	Pn		**Pn**	**08 07 37.8**	**+1.1**
DPC	**Dobruska-Polom**	**8.78**	**45**	*e*PN		**Pn**	**08 07 37.8**	**+0.3**
DPC	**Dobruska-Polom**	**8.78**	**45**	Pn		**Pn**	**08 07 37.8**	**+0.3**
GUD	**Guadarrama**	**8.86**	**248**	Pn		**Pn**	**08 07 40.4**	**+1.6**
	comp=Z,0.5nm,0.4s,SNR=7.9							
MORC	**Moravsky Berou**	**9.10**	**51**	*e*Pn		**Pn**	**08 07 42.1**	**+0.2**
ESDC	**Sonseca Array**	**9.25**	**242**	Pn		**Pn**	**08 07 44.7**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=60,slow=14,SNR=6.6							
ESDC	**Sonseca Array**	**9.25**	**242**	Pn		**Pn**	**08 07 45.5**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=56,slow=14,SNR=7.2							
VYHS	**Vyhne**	**9.29**	**60**	*e*Pn		**Pn**	**08 07 46.8**	**+2.2**
VYHS	**Vyhne**	**9.29**	**60**	*e*PN		**Pn**	**08 07 46.8**	**+2.2**
PAB	**San Pablo**	**9.57**	**243**	Pn		**Pn**	**08 07 49.0**	**+0.5**
	comp=Z,0.3nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**10.04**	**268**	Pn		**Pn**	**08 07 55.6**	**+0.8**
	comp=Z,0.2nm,0.2s,SNR=7.9							
EKA	**Eskdalemuir Ar**	**12.54**	**333**	Pn		**Pn**	**08 08 30.0**	**+1.1**
	baz=141,slow=15,SNR=19							
EKA					Sn	Sn	08 10 36.9	-11
	baz=135,slow=17,SNR=3.0							
MLR	**Muntele Rosu**	**13.68**	**79**	Sn		**Sn**	**08 11 14.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=215,slow=9.1,SNR=3.5							
NOA	**NORSAR Array B**	**16.79**	**8**	LR		LR	08 17 04.4	
	comp=Z,22nm,19.3s,baz=100,slow=42							
FINES	**FINESS Array B**	**20.46**	**27**	P		Pn	08 10 09.2	-1.0
	comp=Z,2.3nm,0.8s,baz=213,slow=9.3,SNR=8.5							
BRTR	**Keskin Array B**	**20.53**	**94**	P		Pn	08 10 12.4	+1.0
	comp=Z,0.5nm,0.6s,baz=291,slow=9.1,SNR=2.8							
BVAR	**Borovoye Array**	**41.58**	**55**	P		**P**	**08 13 19.4**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=282,slow=7.2,SNR=3.1							

ISCJB ***25*** *08:11:44.2±0.6, 17°.88N±0°.06×101°.86W±0°.05, h49km±8km, mb3.1/5, MS2.6/1, Error ellipse: s-maj=11.6km s-min=5.9km az=30.6*

IDC ***25*** *08:11:45.2±3.8, 18°.74N×101°.40W, h0km, mb3.2/5, mb1 3.6/7, mb1mx3.5/46, mbtmp3.2/7, ML3.1/2, MS2.8/5, Ms1 2.8/5, ms1mx2.7/14, Error ellipse: s-maj=101.9km s-min=32.3km az=36.0*

NEIC ***25*** *08:11:46.3±0.0, 17°.94N×101°.86W, h12km, MD4.2(MEX), After MEX.*

MEX ***25*** *08:11:46.2±0.4, 17°.95N×101°.86W, h11km±5km, MD4.1*

ISC 25 08:11:44.7±1.1, 17°.85N±0°.06×101°.88W±0°.04, h39km±6km, n21, σ1s96/29, mb3.2/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.47**	**122**	*e*P		**Pn**	**08 11 55.3**	**+0.4**
ZIIG				*i* S		**Sn**	**08 12 02.2**	**+0.1**
ZIIG	**Zihuatanejo**	**0.47**	**122**	*e*P		**Pn**	**08 11 55.3**	**+0.4**
ZIIG				*e*S		**Sn**	**08 12 01.7**	**-0.4**
MMIG	**Aquila**	**1.46**	**288**	*e*P		**Pn**	**08 12 08.6**	**0.0**
MMIG				*e*S		**Sn**	**08 12 26.7**	**+0.2**
MMIG	**Aquila**	**1.46**	**288**	*e*P		**Pn**	**08 12 08.6**	**0.0**
MMIG				*e*S		**Sn**	**08 12 26.7**	**+0.2**
ARIG	**Puente Sto Nin**	**1.52**	**73**	*e*P		**Pn**	**08 12 09.2**	**-0.2**
ARIG				*e*S		**Sn**	**08 12 26.6**	**-1.4**
CAIG	**El Cayaco**	**1.73**	**117**	*e*P		**Pn**	**08 12 12.9**	**+0.6**
CAIG				*e*S		**Sn**	**08 12 34.3**	**+1.0**
CAIG	**El Cayaco**	**1.73**	**117**	*e*P		**Pn**	**08 12 12.9**	**+0.6**
CAIG				*e*S		**Sn**	**08 12 34.3**	**+1.0**
MOIG	**Morelia**	**1.93**	**20**	*e*Pn		**Pn**	**08 12 15.1**	**-0.2**

s-min=33.1km az=20.0
*NEIC **25** 08:56:49.7±1.1,4.°13S×104.°38W,h10km,mb4.3/2,Error ellipse: s-maj=29.4km s-min=13.8km az=209.0*

ISC 25 08:56:49.7±2.0,4.°1S±0.°3×104.°4W±0.°2,h10km,n27, σ0.°65/12,mb3.9/9,MS3.3/12,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**23.07**	**24**	LR		LR		09 08 47.9	
	comp=Z,101nm,21.6s,baz=162,slow=31								
RPN	**Rapa Nui**	**23.36**	**191**	LR		LR		09 08 43.7	
	comp=Z,53nm,18.3s,baz=343,slow=31								
JTS	**JuntasAbangare**	**24.06**	**53**	P		**P**		**09 02 05.9**	**+0.5**
	5.0nm,0.9s,baz=280,slow=5.3,SNR=4.2								
JTS				LR		LR		09 08 23.9	
	comp=Z,44nm,19.1s,baz=305,slow=29								
ATAH	**Atahualpa**	**26.00**	**98**	LR		LR		09 10 02.4	
	comp=Z,133nm,19.4s,baz=245,slow=31								
OTAV	**Otavalo**	**26.25**	**81**	*eP*		**P**		**09 02 26.8**	**+1.0**
	6.6nm,1.1s								
NNA	**Nana**	**28.32**	**108**	LR		LR		09 11 00.4	
	comp=Z,92nm,18.8s,baz=270,slow=30								
LPIG	**La Paz**	**28.65**	**349**	LR		LR		09 11 40.3	
	comp=Z,23nm,20.7s,baz=222,slow=31								
TXAR	**Lajitas Array**	**33.28**	**1**	P		**P**		**09 03 28.0**	**+0.4**
	0.2nm,0.8s,baz=187,slow=14,SNR=2.7								
SDV	**Santo Domingo**	**36.02**	**69**	P		**P**		**09 03 50.8**	**-0.9**
	3.9nm,0.8s,baz=300,slow=14,SNR=6.2								
SDV				LR		LR		09 16 09.6	
	comp=Z,45nm,18.0s,baz=95,slow=32								
SDV	**Santo Domingo**	**36.02**	**69**	*eP*		**P**		**09 03 51.1**	**-0.6**
LPAZ	**La Paz**	**37.56**	**111**	LR		LR		09 17 17.7	
	comp=Z,55nm,18.4s,baz=282,slow=33								
SAML	**Samuel**	**41.16**	**99**	*eP*		**P**		**09 04 34.5**	**-0.2**
	9.0nm,1.2s								
TKL	**Tuckaleechee C**	**44.04**	**24**	LR		LR		09 23 23.6	
	comp=Z,32nm,18.6s,baz=356,slow=36								
PDAR	**Pinedale Array**	**46.91**	**355**	P		**P**		**09 05 20.6**	**-0.1**
	0.4nm,0.6s,baz=163,slow=8.0,SNR=5.6								
PLCA	**Paso Flores**	**47.44**	**145**	LR		LR		09 20 28.7	
	comp=Z,34nm,18.9s,baz=306,slow=30								
CPUP	**Villa Florida**	**50.08**	**121**	LR		LR		09 23 32.2	
	comp=Z,42nm,19.9s,baz=347,slow=32								
YKA	**Yellowknife Ar**	**66.90**	**355**	P		**P**		**09 07 41.1**	**-0.7**
	0.7nm,0.8s,baz=162,slow=6.5,SNR=14								
YKA				LR		LR		09 34 40.2	
	comp=Z,24nm,20.7s,baz=180,slow=34								
INK	**Inuvik**	**75.08**	**349**	P		**P**		**09 08 31.6**	**+0.2**
	0.8nm,0.8s,baz=167,slow=4.3,SNR=5.6								
ILAR	**Eielson Array**	**75.50**	**343**	P		**P**		**09 08 33.9**	**0.0**
	0.8nm,0.7s,baz=157,slow=5.5,SNR=13								
H11N3	**WAKE ISLAND Hy**	**90.19**	**290**	T		T		10 49 48.2	
	baz=97								
H11N2	**WAKE ISLAND Hy**	**90.20**	**290**	T		T		10 49 50.0	
	baz=97								
H11N1	**WAKE ISLAND Hy**	**90.20**	**290**	T		T		10 49 52.3	
	baz=97								
H11S2	**WAKE ISLAND Hy**	**90.29**	**288**	T		T		10 49 57.1	
	baz=95								
H11S1	**WAKE ISLAND Hy**	**90.29**	**288**	T		T		10 49 58.0	
	baz=95								
H11S3	**WAKE ISLAND Hy**	**90.30**	**288**	T		T		10 49 59.5	
	baz=95								
BRTR	**Keskin Array B**	**128.11**	**41**	PKP		**PKPdf**		**09 15 56.6**	**-0.2**
	0.5nm,0.9s,baz=320,slow=6.2,SNR=3.0								
MKAR	**Makanchi Array**	**137.11**	**353**	PKP		**PKPdf**		**09 16 14.2**	**+0.8**
	0.4nm,0.8s,baz=48,slow=2.1,SNR=4.3								

KRSC 25 08:58:56.7±1.6,54.°10N×167.°64E,h16km±18km,ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.47**	**319**	*eP*			Pn	08 59 22.5	0.0
BKI				*eS*			Sn	08 59 40.4	-1.0
KBTR	**Krutoberegovo**	**3.48**	**309**	*eP*			Pb	08 59 54.0	-3.8
KBTR				*eS*			Sn	09 00 34.4	+3.4
SMKR	**Semkarok**	**4.31**	**308**	*eP*			Pb	09 00 07.3	-4.8
SMKR				*eS*			Sn	09 00 57.4	+5.8
TUMD	**Tumrok D**	**4.35**	**288**	*eS*			Sn	09 00 57.5	+5.1
KZV	**Kizimen**	**4.39**	**286**	*eP*			Pn	09 00 06.0	+3.2
BDR	**Baidarnaya**	**4.43**	**307**	*eP*			Pn	09 00 07.2	+4.0
BDR				*eS*			Sn	09 00 57.6	+3.2
SRKR	**Sorokina**	**4.49**	**307**	*eP*			Pb	09 00 10.0	-5.1
SRKR				*eS*			Sn	09 01 01.4	+5.4
TUMR	**Tumrok**	**4.51**	**288**	*eP*			Pn	09 00 08.7	+4.3
KMNR	**Kamenistaya**	**4.58**	**294**	*eP*			Pn	09 00 09.1	+3.7
SPN	**Mys Shipunski**	**4.65**	**261**	*eP*			Pn	09 00 09.7	+3.5
SDLR	**Sedlovina**	**5.27**	**265**	*eP*			Pn	09 00 19.2	+4.4
UGLR	**Uglovaya**	**5.32**	**264**	*eP*			Pn	09 00 19.4	+3.9
SMAR	**Somma**	**5.32**	**264**	*eP*			Pn	09 00 20.0	+4.4
AVH	**Avacha**	**5.36**	**265**	*eP*			Pn	09 00 20.5	+4.5
DALK	**Dalny**	**5.41**	**262**	*eP*			Pn	09 00 21.2	+4.6
RUS	**Russkaya**	**5.73**	**257**	*eP*			Pn	09 00 25.1	+4.1
GNL	**Ganaly**	**5.75**	**270**	*eP*			Pn	09 00 26.5	+5.1
TILK	**Tilichiki**	**6.41**	**353**	*eP*			Pn	09 00 33.9	+3.6

NNC 25 09:00:44.7±5.2,36.°94N×70.°51E,h0km,mb3.9,mpv3.5, 5C-3D,Error ellipse: s-maj=41.2km s-min=35.6km az=153.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.87**	**37**	⇑Pn			Pn	09 01 47.1	+1.5
	0.8nm,0.1s								
SFK				⇑Sn			Sn	09 02 33.5	+1.6
	2.5nm,0.3s								
MNAS	**Manas**	**5.75**	**15**	⇓Pn			Pn	09 02 10.9	-0.6
	1.6nm,0.4s								
MNAS				⇑Sn			Sn	09 03 19.6	+1.4
	1.5nm,0.3s								
KK31	**Karatay Array**	**6.16**	**0**	⇑Pn			Pn	09 02 17.5	+0.6
	2.0nm,0.3s,baz=174,slow=12,SNR=85								
KK31				⇓Sn			Sn	09 03 30.8	+2.7
	3.6nm,0.4s,baz=183,slow=24								
AAK	**Ala-Archa**	**6.46**	**27**	⇑Pn			Pn	09 02 18.6	-2.7
	1.9nm,0.6s								
AAK				⇓Sn			Sn	09 03 34.2	-1.6
	2.8nm,1.1s								

MEX 25 09:02:54.1±0.6,16.°45N×98.°55W,h6km±7km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**98**	*i* P			Pg	09 03 01.6	-0.5
PNIG				*i* S			Sg	09 03 07.7	+0.1
TLIG	**Tlapa**	**1.10**	**359**	*i* P			Pg	09 03 12.3	-3.0
TLIG				*e*S			Sg	09 03 26.1	-3.6
ACX	**Acapulco**	**1.32**	**288**	*i* P			Pn	09 03 18.6	-0.5
ACX				*i* S			Sb	09 03 36.1	-0.3
ACP2	**Acapulco**	**1.35**	**288**	*eP*			Pn	09 03 16.3	-3.2
ACP2				*i* S			Sb	09 03 33.3	-3.9
CAIG	**El Cayaco**	**1.75**	**290**	*eP*			Pn	09 03 20.6	-4.3
CAIG				*e*S			Sn	09 03 42.4	-5.2
VHO	**Vista Hermosa**	**1.85**	**70**	*eP*			Pn	09 03 22.9	-3.6
VHO				*e*S			Sn	09 03 45.7	-4.7
PLIG	**Platanillo**	**2.13**	**335**	*eP*			Pn	09 03 27.9	-2.5
PLIG				*e*S			Sn	09 03 52.6	-4.6

*IDC **25** 09:10:24.5±13.0,52.°12N×175.°66W,h0km,mb3.3/4, mb1 3.6/5,mb1mx3.2/83,mbtmp3.2/5,ML3.1/1,Error ellipse: s-maj=252.7km s-min=59.7km az=77.0*
*ISCJB **25** 09:10:52.4±0.5,52.°8N±0.°3×174.°7W±0.°1,h219km±10km, mb2.9/4,Error ellipse: s-maj=42.7km s-min=9.0km az=164.0*
*NEIC **25** 09:10:52.6±0.0,53.°62N×175.°04W,h150km,ML3.1(AEIC), After AEIC.*

ISC 25 09:10:53.3±0.8,52.°8N±0.°3×174.°7W±0.°1,h213km±12km, n19,σ0.°57/24,mb2.9/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**0.48**	**148**	P			**Pn**	**09 11 21.9**	**0.0**
KOKL	**Mount Kliuchef**	**0.53**	**147**	P			**Pn**	**09 11 22.2**	**+0.1**
KOFP	**Korovin Flat P**	**0.60**	**145**	P			**Pn**	**09 11 22.5**	**+0.1**
GSTD	**Great Sitkin T**	**1.15**	**232**	P			**Pn**	**09 11 25.4**	**-0.2**
GSTD				S			**Sn**	**09 11 49.8**	**-0.8**
ETKA	**Kagalaska Isla**	**1.40**	**230**	P			**Pn**	**09 11 27.1**	**-0.2**
ADAG	**Mount Adagdak**	**1.43**	**237**	P			**Pn**	**09 11 27.7**	**+0.2**
ADAG				S			**Sn**	**09 11 55.2**	**+1.1**
KIRH	**Kanaga Island**	**1.72**	**241**	P			**Pn**	**09 11 30.4**	**+0.3**
KIKV	**Kanaga Island**	**1.78**	**241**	P			**Pn**	**09 11 30.9**	**+0.2**
KIKV				S			**Sn**	**09 12 00.5**	**+0.7**
TAPA	**Tanaga Point A**	**2.15**	**245**	P			**Pn**	**09 11 34.7**	**+0.3**
TAPA				S			**Sn**	**09 12 06.2**	**-0.2**
GALAA	**Gareloi Lava P**	**2.72**	**250**	P			**Pn**	**09 11 40.8**	**+0.4**
GALAA				S			**Sn**	**09 12 17.0**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**4.04**	**79**	P			**Pn**	**09 11 56.9**	**+0.8**
MSOM	**Makushin Julie**	**4.75**	**74**	P			**Pn**	**09 12 05.3**	**+0.6**
MREP	**Makushin Rep't**	**4.87**	**74**	P			**Pn**	**09 12 06.5**	**+0.2**
UNV	**Unalaska Vale**	**5.01**	**74**	P			**Pn**	**09 12 08.0**	**-0.1**
ILAR	**Eielson Array**	**18.56**	**39**	P			**P**	**09 14 52.5**	**-1.4**
	0.1nm,0.3s,baz=240,slow=10,SNR=7.1								
INK	**Inuvik**	**24.85**	**36**	P			**P**	**09 15 56.0**	**+0.3**
	1.1nm,1.1s,baz=228,slow=3.8,SNR=3.3								
YKA	**Yellowknife Ar**	**32.41**	**49**	P			**P**	**09 17 03.2**	**+0.5**
	0.1nm,0.4s,baz=285,slow=8.0,SNR=4.3								
PDAR	**Pinedale Array**	**43.48**	**76**	P			**P**	**09 18 35.5**	**0.0**
	0.3nm,0.5s,baz=294,slow=4.7,SNR=4.0								
TXAR	**Lajitas Array**	**55.96**	**85**	P			**P**	**09 20 09.1**	**-0.4**
	0.1nm,0.5s,baz=319,slow=7.6,SNR=2.8								

*IDC **25** 09:31:02.3±1.3,27.°72N×92.°85E,h0km,mb3.4/4, mb1 3.8/4,mb1mx3.2/65,mbtmp3.5/4,Error ellipse: s-maj=145.2km s-min=24.4km az=53.0*
*ISCJB **25** 09:31:04.4±1.1,27.°83N±0.°05×92.°78E±0.°04,h23km±8km, mb3.8/3,Error ellipse: s-maj=9.1km s-min=5.9km az=2.9*
*NDI **25** 09:31:05.2±2.3,27.°66N×92.°75E,h10km,ML3.4*

ISC 25 09:31:03.2±1.7,27.°69N±0.°06×92.°81E±0.°04,h4km±11km, n12,σ1°814/20,mb4.0/3,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TAWA	**Tawang**	**0.84**	**264**	*eP*			**Pg**	**09 31 20.1**	**+0.8**
TAWA				*e*S			**Sg**	**09 31 30.2**	**0.0**
TAWA				IAML				09 31 33.3	
	comp=E,2μm,0.1s								
TAWA				IAML				09 31 33.4	
	comp=N,1μm,0.2s								
ITAN	**ITANAGAR**	**0.98**	**123**	*eP*			**Pn**	**09 31 24.4**	**+0.6**
ITAN				*e*S			**Sn**	**09 31 38.6**	**+0.6**
ITAN				IAML				09 31 43.1	
	comp=E,1μm,0.2s								
ITAN				IAML				09 31 43.2	
	comp=N,772nm,0.1s								
TEZP	**TEZPUR**	**1.07**	**180**	*eP*			**Pg**	**09 31 23.9**	**+0.3**
TEZP				*e*S			**Sb**	**09 31 38.2**	**-0.4**
TEZP				IAML				09 31 42.8	
	comp=E,3μm,0.1s								
TEZP				IAML				09 31 42.8	
	comp=N,2μm,0.1s								
GUWA	**GUWAHATI**	**1.79**	**214**	*eP*			**Pb**	**09 31 35.9**	**-0.7**
GUWA				*e*S			**Sb**	**09 31 58.6**	**-0.8**
GUWA				IAML				09 32 01.2	
	comp=N,265nm,0.2s								
GUWA				IAML				09 32 01.4	
	comp=E,162nm,0.1s								
MOKO	**MOKOCHONG**	**2.04**	**131**	*eP*			**Pb**	**09 31 41.3**	**+0.3**
MOKO				*e*S			**Sb**	**09 32 06.0**	**-0.9**
MOKO				IAML				09 32 11.2	
	comp=N,288nm,0.3s								
MOKO				IAML				09 32 11.3	
	comp=E,200nm,0.3s								
SHL	**Shillong**	**2.27**	**202**	*eP*			**Pb**	**09 31 43.8**	**-1.1**
SHL				*e*S			**Sb**	**09 32 12.0**	**-1.4**
DHUB	**DHUBRI**	**3.01**	**237**	*eP*			**Pb**	**09 31 55.5**	**-1.9**
DHUB				*e*S			**Sn**	**09 32 29.5**	**+1.2**
DHUB				IAML				09 32 36.9	
	comp=E,225nm,0.2s								
DHUB				IAML				09 32 36.9	
	comp=N,217nm,0.3s								
TURI	**Tura**	**3.07**	**227**	*eP*			**Pn**	**09 31 54.4**	**+1.7**
TURI				*e*S			**Sn**	**09 32 32.1**	**+2.3**
TURI				IAML				09 32 39.7	
	comp=E,306nm,0.2s								
TURI				IAML				09 32 39.9	
	comp=N,99nm,0.1s								
MKAR	**Makanchi Array**	**20.79**	**339**	P			**P**	**09 35 45.2**	**-0.3**
	comp=N,0.2nm,0.5s,baz=134,slow=10,SNR=3.0								
WRA	**Warramunga Arr**	**62.11**	**135**	P			**P**	**09 41 25.1**	**-0.5**
	comp=N,0.8nm,0.5s,baz=320,slow=7.6,SNR=22								
GERES	**GERESS Array B**	**62.76**	**313**	P			**P**	**09 41 29.2**	**-0.6**
	comp=N,0.1nm,0.3s,baz=76,slow=4.1,SNR=1.7								
ASAR	**Alice Springs**	**64.64**	**138**	P			**P**	**09 41 42.1**	**-0.3**
	comp=N,0.5nm,0.5s,baz=324,slow=6.7,SNR=16								

MEX 25 09:32:50.2±0.4,16.°20N×98.°50W,h4km±4km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**62**	*i* P			Pg	09 32 57.7	-0.4
PNIG				*i* S			Sg	09 33 03.6	+0.2
TLIG	**Tlapa**	**1.35**	**357**	*eP*			Pn	09 33 12.3	-3.8
TLIG				*e*S			Sg	09 33 29.5	-4.3
CAIG	**El Cayaco**	**1.89**	**297**	*eP*			Pn	09 33 18.9	-4.4
CAIG				*i* S			Sn	09 33 42.4	-5.2
VHO	**Vista Hermosa**	**1.90**	**63**	*eP*			Pn	09 33 20.6	-3.1
VHO				*e*S			Sn	09 33 43.6	-4.7
PLIG	**Platanillo**	**2.38**	**336**	*eP*			Pn	09 33 27.6	-2.5
PLIG				*e*S			Sn	09 33 55.8	-4.0

*IDC **25** 09:36:14.7±5.2,16.°33N×99.°02W,h0km,mb3.3/2, mb1 3.5/5,mb1mx3.4/44,mbtmp3.2/5,ML3.0/3,Error ellipse: s-maj=88.4km s-min=19.2km az=11.0*
*MEX **25** 09:36:19.8±0.5,16.°48N×99.°08W,h14km±4km,MD3.9*

ISC 25 09:36:17.1±1.3,16.°52N±0.°08×99.°05W±0.°03,h10km±10km, n13,σ1°855/22,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.85**	**294**	*eP*			**Pn**	**09 36 36.3**	**+1.2**
ACX				*i* S			**Sn**	**09 36 47.4**	**-0.2**
ACP2	**Acapulco**	**0.88**	**294**	*eP*			**Pg**	**09 36 33.8**	**-0.2**
ACP2				*i* S			**Sg**	**09 36 44.2**	**-1.3**
PNIG	**Pinotepa**	**0.90**	**98**	*eP*			**Pg**	**09 36 34.3**	**-0.1**
PNIG				*e*S			**Sg**	**09 36 46.3**	**+0.2**
TLIG	**Tlapa**	**1.14**	**24**	*eP*			**Pb**	**09 36 38.5**	**-0.5**
TLIG				*i* S			**Sb**	**09 36 52.8**	**-1.1**
CAIG	**El Cayaco**	**1.28**	**295**	*eP*			**Pn**	**09 36 39.6**	**-1.4**
CAIG				*e*S			**Sb**	**09 36 55.0**	**-2.8**
PLIG	**Platanillo**	**1.91**	**347**	*eP*			**Pn**	**09 36 50.0**	**+0.1**
PLIG				*i* S			**Sn**	**09 37 12.6**	**-1.4**
VHO	**Vista Hermosa**	**2.29**	**76**	*eP*			**Pn**	**09 36 54.8**	**-0.3**
VHO				*e*S			**Sn**	**09 37 21.8**	**-1.6**
HUIG	**Huatulco**	**2.93**	**104**	*eP*			**Pn**	**09 37 03.4**	**-0.3**
CMIG	**Matias Romero**	**4.03**	**81**	Pn			**Pn**	**09 37 18.4**	**-0.6**
	1.1nm,0.3s,baz=257,slow=14,SNR=20								
CMIG				Pg			**Pb**	**09 37 28.7**	**+0.5**
	2.9nm,0.3s,baz=260,slow=13,SNR=13								
CMIG				Sn			**Sn**	**09 38 04.1**	**-2.2**
	3.7nm,0.3s,baz=283,slow=15,SNR=3.8								
CMIG				Lg			Lg	09 38 23.0	
	25nm,0.3s,baz=360,slow=14,SNR=21								
TXAR	**Lajitas Array**	**13.44**	**342**	Pn			**Pn**	**09 39 32.2**	**+4.2**
	0.0nm,0.3s,baz=160,slow=12,SNR=2.4								
ANMO	**Albuquerque**	**19.51**	**342**	Pn			**Pn**	**09 40 46.3**	**+0.3**
	0.1nm,0.3s,baz=253,slow=20,SNR=2.8								
PDAR	**Pinedale Array**	**27.66**	**343**	P			**P**	**09 42 06.5**	**+1.1**
	0.4nm,0.8s,baz=137,slow=12,SNR=3.3								
YKA	**Yellowknife Ar**	**47.21**	**350**	P			**P**	**09 44 49.9**	**+0.1**
	0.3nm,0.9s,baz=161,slow=7.4,SNR=4.5								

*IDC **25** 09:41:00.5±3.1,7.°10S×129.°53E,h75km±28km,mb3.6/9, mb1 3.9/11,mb1mx3.6/48,mbtmp4.0/11,Error ellipse: s-maj=31.3km s-min=14.4km az=69.0*
*ISCJB **25** 09:41:04.2±0.6,7.°34S±0.°07×129.°28E±0.°07,h131km, mb3.6/9,Error ellipse: s-maj=10.3km s-min=9.1km az=41.5*
*DJA **25** 09:42:05.5±5.2,9.°S±27.°×12.°5E±4.°9,h33km±23km,M4.1/6, mB5.0/2,mb4.6/2,MLv3.8/6,Mw(mB)4.3/2*

ISC 25 09:41:06.0±0.6,7.°33S±0.°09×129.°26E±0.°10,h131km,n23, σ1°845/24,mb3.8/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.49**	**244**	P			**Pn**	**09 42 27.2**	**+1.4**
BATI	**Baumata**	**6.22**	**242**	P			**Pn**	**09 42 36.1**	**+0.5**
	86nm,0.3s,baz=110,slow=6.0,SNR=53								
BATI				S			**Sn**	**09 43 43.7**	**-1.9**
	30nm,0.3s,baz=102,slow=20,SNR=8.7								
BATI	**Baumata**	**6.22**	**242**	P			**Pn**	**09 42 36.5**	**+0.9**
BASI	**Baing, Sumba**	**9.05**	**251**	P			**Pn**	**09 43 12.0**	**-1.6**
WBSI	**Waikabubak, Su**	**10.03**	**256**	P			**Pn**	**09 43 27.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**11.27**	**198**	P			**Pn**	**09 43 40.7**	**-2.5**
	6.5nm,0.3s,baz=30,slow=12,SNR=139								
FITZ				S			Sn	09 45 33.6	-14
	2.0nm,0.3s,baz=48,slow=14,SNR=2.8								
WRA	**Warramunga Arr**	**13.47**	**159**	P			**Pn**	**09 44 09.5**	**-2.4**
	4.0nm,0.3s,baz=342,slow=13,SNR=103								
WRA				S			Sn	09 46 29.0	-12
	6.5nm,0.3s,baz=328,slow=23,SNR=13								
ASAR	**Alice Springs**	**16.84**	**165**	P			**Pn**	**09 44 54.9**	**+0.8**
	1.1nm,0.3s,baz=334,slow=9.8,SNR=82								
ASAR				S			Sn	09 47 47.3	-15
	0.5nm,0.3s,baz=322,slow=18,SNR=5.0								
STKA	**Stephens Creek**	**27.00**	**156**	P			**P**	**09 46 36.5**	**+0.9**
	1.3nm,0.4s,baz=338,slow=14,SNR=3.6								
CMAR	**Chiang Mai Arr**	**39.39**	**311**	P			**P**	**09 48 23.5**	**+0.4**
	0.8nm,0.4s,baz=135,slow=7.0,SNR=4.4								
MJAR	**Matsushiro Arr**	**44.44**	**10**	P			**P**	**09 49 01.1**	**-2.9**
	0.8nm,0.8s,baz=185,slow=8.6,SNR=3.3								
SONM	**Songino Array**	**58.53**	**342**	P			**P**	**09 50 49.6**	**+0.9**
	0.5nm,0.9s,baz=151,slow=9.5,SNR=4.1								
PETK	**Petropavlovsk-**	**64.87**	**18**	P			**P**	**09 51 29.3**	**-1.6**
	2.1nm,0.8s,baz=176,slow=1.5,SNR=3.2								
MKAR	**Makanchi Array**	**68.10**	**327**	P			**P**	**09 51 51.9**	**+0.2**
	1.0nm,0.5s,baz=119,slow=8.4,SNR=14								
VNDA	**Vanda**	**72.21**	**173**	P			**P**	**09 52 17.4**	**+1.2**
	0.6nm,0.7s,baz=315,slow=7.7,SNR=6.8								
KURBB	**Kurchatov Arra**	**72.41**	**329**	P			**P**	**09 52 18.1**	**+0.3**
	1.0nm,0.5s,baz=123,slow=4.8,SNR=10								
BVAR	**Borovoye Array**	**77.95**	**328**	P			**P**	**09 52 50.1**	**+0.6**
	0.4nm,0.4s,baz=116,slow=9.8,SNR=2.8								
TXAR	**Lajitas Array**	**125.73**	**59**	PKP			**PKPdf**	**09 59 54.3**	**+1.4**
	0.1nm,0.3s,baz=217,slow=4.9,SNR=5.9								
TORD	**Torodi Ar. Bea**	**128.15**	**281**	PKP			**PKPdf**	**09 59 57.7**	**0.0**
	0.5nm,0.6s,baz=38,slow=1.2,SNR=4.0								
PLCA	**Paso Flores**	**128.81**	**161**	PKP			**PKPdf**	**10 00 00.2**	**+1.8**
	0.9nm,0.8s,baz=319,slow=4.9,SNR=4.2								
CPUP	**Villa Florida**	**145.93**	**169**	PKPbc			**PKPab**	**10 00 32.3**	**+0.7**
	2.8nm,0.7s,baz=173,slow=3.7,SNR=8.6								
JTS	**JuntasAbangare**	**146.07**	**82**	PKPbc			**PKPbc**	**10 00 32.0**	**+0.2**
	2.2nm,0.4s,baz=5.2,slow=11,SNR=6.1								
LPAZ	**La Paz**	**150.90**	**144**	PKPbc			**PKPbc**	**10 00 46.4**	**+1.4**
	1.5nm,0.3s,baz=135,slow=20,SNR=22								

MEX 25 09:50:16.3±0.5,16.°33N×98.°29W,h10km±3km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**70**	*i* P			Pg	09 50 19.3	-0.7
PNIG				*e*S			Sg	09 50 22.4	-0.1
TLIG	**Tlapa**	**1.25**	**348**	*eP*			Pn	09 50 36.5	-3.5
TLIG				*e*S			Sb	09 50 51.5	-4.9
ACX	**Acapulco**	**1.59**	**290**	*i* P			Pn	09 50 41.2	-3.5
ACX				*i* S			Sn	09 51 01.9	-3.4
VHO	**Vista Hermosa**	**1.67**	**64**	*eP*			Pn	09 50 42.3	-3.5
VHO				*e*S			Sn	09 51 02.5	-4.9
CAIG	**El Cayaco**	**2.02**	**291**	*i* P			Pn	09 50 47.4	-3.1
CAIG				*i* S			Sn	09 51 11.6	-4.3
PLIG	**Platanillo**	**2.35**	**331**	*i* P			Pn	09 50 51.4	-3.7
PLIG				*i* S			Sn	09 51 19.7	-4.5

*ISCJB **25** 10:03:01.7±0.5,43.°44N±0.°02×46.°43E±0.°02,h0km±3km, Error ellipse: s-maj=4.4km s-min=2.5km az=23.7*
*MOS **25** 10:03:02.9±1.5,43.°39N×46.°43E,h12km,mb3.9/1,Error ellipse: s-maj=5.8km s-min=4.7km az=95.0*
*CSEM **25** 10:03:03.0±0.2,43.°38N×46.°38E,h2km,mb3.9,Error ellipse: s-maj=4.4km s-min=2.7km az=24.0*

ISC 25 10:03:04.5±0.9,43.°30N±0.°03×46.°37E±0.°02,h19km±2km, n89,σ1°863/144,12C-4D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.30**	**140**	*e*PG			**Pg**	**10 03 10.0**	**-1.1**
DLMR		

comp=N,88nm,0.5s
GNBR eSg Sn 10 03 37.7 +0.3
comp=N,250nm,0.7s
KMGR Komgaron 1.13 258 ePG Pn 10 03 25.7 +0.4
KMGR eS Sg 10 03 43.1 +1.9
KMGR Komgaron 1.13 258 ePg Pn 10 03 25.7 +0.4
KMGR eSg Sg 10 03 43.1 +1.9
VLKR Vladikavkaz 1.26 259 ePG Pb 10 03 28.1 +0.3
VLKR eS Sg 10 03 46.5 +1.0
VLKR Vladikavkaz 1.26 259 ePg Pb 10 03 28.1 +0.3
VLKR eSg Sg 10 03 46.5 +1.0
TRKR Terskaya 1.27 290 ePG Pg 10 03 28.3 -0.7
TRKR eS Sg 10 03 46.5 +0.9
TRKR Terskaya 1.27 290 ePg Pg 10 03 28.3 -0.7
TRKR eSg Sg 10 03 46.5 +0.9
KMKR Kumukh 1.28 155 ePG Pn 10 03 28.0 +0.4
KMKR eS Sg 10 03 46.5 +0.2
KMKR pmax pmax
comp=Z,41nm,0.2s
KMKR Kumukh 1.28 155 ePg Pn 10 03 28.0 +0.4
comp=Z,41nm,0.2s
KMKR eSg Sg 10 03 46.5 +0.2
BTKR Batakoyurt 1.34 274 ePG Pb 10 03 29.1 +0.1
BTKR eS Sg 10 03 49.6 +1.8
BTKR Batakoyurt 1.34 274 ePg Pb 10 03 29.1 +0.1
BTKR eSg Sg 10 03 49.6 +1.8
URKR Urkarakh 1.47 140 *i* Pg Pg 10 03 32.0 -0.8
URKR eS Sg 10 03 55.2 +3.2
URKR pmax pmax
comp=Z,68nm,0.2s
URKR Urkarakh 1.47 140 *i* Pg Pg 10 03 32.0 -0.8
comp=Z,68nm,0.2s
URKR eSg Sg 10 03 55.2 +3.2
ARNR Ardon 1.53 266 ePg Pb 10 03 31.6 -0.7
ARNR eSg Sg 10 03 53.8 -0.2
LACR Lac 1.59 253 ePN Pn 10 03 31.5 -0.3
LACR Lac 1.59 253 ePn Pn 10 03 31.5 -0.3
GUDG Gudauri 1.62 240 P Pn 10 03 32.2 -0.1
GUDG S Sn 10 03 53.5 +0.7
GUDG Gudauri 1.62 240 P Pn 10 03 32.2 -0.1
GUDG S Sn 10 03 53.5 +0.7
KORR Kora 1.70 264 ePN Pb 10 03 34.5 -0.6
KORR eS Sg 10 03 58.5 -0.8
KORR Kora 1.70 264 ePn Pb 10 03 34.5 -0.6
KORR eSg Sg 10 03 58.5 -0.8
DUS Dusheti 1.72 226 P Pn 10 03 34.7 +1.1
DUS Dusheti 1.72 226 ePN Pn 10 03 34.7 +1.1
DUS Dusheti 1.72 226 P Pn 10 03 34.7 +1.1
LSNR Lesken 1.86 270 ePN Pb 10 03 37.6 -0.3
LSNR eS Sg 10 04 03.8 -0.6
LSNR Lesken 1.86 270 ePn Pb 10 03 37.6 -0.3
LSNR eSg Sg 10 04 03.8 -0.6
DDFL Dedoflistskaro 1.86 186 P Pb 10 03 38.2 +0.2
DDFL Dedoflistskaro 1.86 186 P Pb 10 03 38.2 +0.2
ZEI Tsey 1.88 255 ePN Pn 10 03 36.6 +0.8
ZEI Tsey 1.88 255 ePn Pn 10 03 36.6 +0.8
TBLG Delisi 1.98 218 P Pn 10 03 38.4 +1.4
TBLG S Sb 10 04 05.1 +0.9
TBLG Delisi 1.98 218 ePN Pn 10 03 38.4 +1.4
TBLG eS Sb 10 04 05.1 +0.9
TBLG Delisi 1.98 218 P Pn 10 03 38.4 +1.4
TBLG S Sb 10 04 05.1 +0.9
BTNK Botanikuri 1.99 216 P Pb 10 03 39.2 -0.9
BTNK S Sb 10 04 05.9 +1.4
BTNK Botanikuri 1.99 216 P Pb 10 03 39.2 -0.9
BTNK S Sb 10 04 05.9 +1.4
NCK Nalchik 2.03 276⇑ ePN Pn 10 03 38.1 +0.4
NCK Nalchik 2.03 276 ePn Pn 10 03 38.1 +0.4
AKT Akhty 2.08 151⇑ ePN Pg 10 03 43.1 -1.4
AKT *e* 10 04 12.4
AKT pmax pmax
comp=Z,44nm,0.4s
AKT smax smax
comp=N,86nm,0.6s
AKT Akhty 2.08 151 ePn Pg 10 03 43.1 -1.4
comp=N,44nm,0.4s
AKT eSb Sg 10 04 12.4 +0.9
comp=N,86nm,0.6s
DIGR Digorskoe uzhe 2.08 260 ePN Pn 10 03 38.5 -0.1
DIGR eS Sb 10 04 06.9 -0.4
DIGR Digorskoe uzhe 2.08 260 ePn Pn 10 03 38.5 -0.1
DIGR eSb Sb 10 04 06.9 -0.4
KSMR Kasumkent 2.14 142 *i* PN Pb 10 03 43.0 +0.3
KSMR *i* S Sg 10 04 16.5 +3.2
KSMR Kasumkent 2.14 142 *i* Pn Pb 10 03 43.0 +0.3
KSMR *i* Sg Sg 10 04 16.5 +3.2
ONI Oni 2.26 253 P Pn 10 03 42.2 +1.3
ONI S Sb 10 04 13.2 +1.0
ONI Oni 2.26 253 ePN Pn 10 03 42.2 +1.3
ONI eS Sb 10 04 13.2 +1.0
ONI Oni 2.26 253 P Pn 10 03 42.2 +1.3
ONI S Sb 10 04 13.2 +1.0
NEY Neytrino 2.67 270 ePN Pn 10 03 46.4 -0.2
NEY eS Sn 10 04 20.5 +2.1
NEY Neytrino 2.67 270 ePn Pn 10 03 46.4 -0.2
NEY eSn Sn 10 04 20.5 +2.1
AKH Akhalkalaki 2.85 229 P Pb 10 03 53.5 -1.3
AKH Akhalkalaki 2.85 229 ePN Pb 10 03 53.6 -1.3
AKH Akhalkalaki 2.85 229 ePn Pb 10 03 53.6 -1.3
GNI Garni 3.38 202 *de*PN Pb 10 04 01.3 -2.5
GNI Garni 3.38 202 ePn Pb 10 04 01.3 -2.5
AKTK Aktyubinsk 10.69 44 P Pn 10 05 35.3 -1.2
comp=N,4.0nm,1.3s
AKTK S Sn 10 07 29.0 -6.6
comp=N,3.0nm,0.9s
AKTO Aktyubinsk 10.69 44 ⇑Pn Pn 10 05 35.3 -1.2
comp=N,4.1nm,1.2s
AKTO ⇓Sn Sn 10 07 29.0 -6.6
comp=N,2.7nm,0.9s
AKTO Aktyubinsk 10.69 44 P Pn 10 05 35.3 -1.2
AKTO S Sn 10 07 29.0 -6.6
AKTO pmax pmax
comp=Z,4.0nm,1.3s
AKTO smax smax
comp=N,3.0nm,0.9s
AKTO Aktyubinsk 10.69 44 Pn Pn 10 05 35.3 -1.2
comp=N,4.1nm,1.2s
AB31 Akbulak array 11.12 53 ⇑Pn Pn 10 05 42.0 -0.3
comp=N,0.3nm,0.3s,baz=249,slow=14,SNR=12
AB31 ⇑Sn Sn 10 07 42.2 -3.8
comp=N,1.1nm,0.6s,baz=247,slow=25,SNR=5.7
AB31 Akbulak array 11.12 53 P Pn 10 05 42.0 -0.3
AB31 S Sn 10 07 42.2 -3.8
AB31 pmax pmax
comp=Z,3.0nm,0.4s
AB31 smax smax
comp=Z,1.0nm,0.6s
AB31 Akbulak array 11.12 53 Pn Pn 10 05 42.0 -0.3
comp=Z,0.3nm,0.3s,SNR=12
KIEV Kiev 13.83 308⇓ eP Pn 10 06 22.8 +3.4
KIEV Kiev 13.83 308 eP Pn 10 06 22.8 +3.4
ARU Arti 15.28 26⇑ eP Pn 10 06 39.1 +0.1
ARU pmax pmax
comp=Z,3.0nm,1.4s
ARU Arti 15.28 26 eP Pn 10 06 39.1 +0.1
comp=Z,3.0nm,1.4s
KLNR Kaliningrad 20.44 313⇑ eP P 10 07 41.1 +0.6
AAK Ala-Archa 20.56 82⇑ eP Pn 10 07 43.6 -0.8
AAK pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 47.28 25⇑ eP P 10 11 36.9 +0.8

*BJI **25** 10:06:13.4, 33˙.48N×88˚.95E, h7km, mb4.4/29, mB4.4/13, Ms4.2/28, Ms7 4.1/27*
*ISCJB **25** 10:06:16.6±0.2, 33˙.70N±0˙.02×89˚.31E±0˙.03, h10km, mb4.3/42, MS3.8/34, Error ellipse: s-maj=3.7km s-min=2.9km az=164.0*
*IDC **25** 10:06:16.2±0.7, 33˙.66N×89˚.34E, h0km, mb3.9/17, mb1 4.1/22, mb1mx3.9/71, mbtmp3.9/22, ML3.5/4, MS3.8/33, Ms1 3.8/33, ms1mx3.6/65, Error ellipse: s-maj=19.4km s-min=13.5km az=43.0*
*NEIC **25** 10:06:17.6±2.3, 33˙.69N×89˚.30E, h6km±15km, mb4.5/21, Error ellipse: s-maj=8.5km s-min=4.6km az=55.0*
*MOS **25** 10:06:18.8±1.0, 33˙.67N×89˚.23E, h29km, mb4.4/13, Error ellipse: s-maj=10.7km s-min=5.7km az=102.2*
ISC 25 10:06:18.0±0.3, 33˙63N±0˙03×89˚30E±0˙04, h10km, n175, σ2s15/153, mb4.3/42, MS3.8/34, 12C-2D, Xizang

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

LSA Lhasa 4.22 158 Pg Pb 10 07 28.8 -3.9
LSA Lhasa 4.22 158 *e*P Pb 10 07 28.6 -4.0
LSA Lhasa 4.22 158 *e*Pn Pb 10 07 28.6 -4.0
GTK Tadong 6.32 186 *e*P Pn 10 07 52.6 +1.2
GTK *e*S Sn 10 09 03.2 -0.4
TAPN Taplejung 6.41 193 *e*P Pn 10 07 56.6 +3.8
47nm,0.5s
TAWA Tawang 6.41 159 *e*P Pn 10 07 51.0 -1.8
TAWA *ex* Sg 10 09 48.3 +4.5
GUN Gumba 6.41 208 *e*P Pn 10 07 56.9 +4.0
99nm,0.6s
JIRN Jiri 6.52 205 *e*P Pn 10 07 58.6 +4.2
72nm,0.6s
KKN Kakani 6.77 212 *e*P Pn 10 08 00.5 +2.8
38nm,0.6s
GKN Gorkha 6.89 217 *e*P Pn 10 08 02.6 +3.3
30nm,0.6s
PKI Pulchoki 6.91 210 *e*P Pn 10 08 02.6 +3.0
79nm,0.7s
ODAN Odare 6.95 194 *e*P Pn 10 08 03.0 +2.9
85nm,0.5s
DMN Daman 7.00 212 *e*P Pn 10 08 03.7 +2.8
41nm,0.6s
RAMN Ramite 7.05 200 *e*P Pn 10 08 04.5 +2.9
144nm,0.9s
DANN Dangsing 7.09 224 *e*P Pn 10 08 04.8 +2.6
7.9nm,1.0s
ITAN ITANAGAR 7.50 148 *e*P Pn 10 08 08.2 +0.7
ITAN *e*S Sn 10 09 28.3 -4.5
ITAN IAML 10 11 48.2
comp=N,221nm,3.7s
ITAN IAML 10 11 53.7
comp=E,247nm,3.7s
TEZP TEZPUR 7.61 156 *e*P Pn 10 08 09.2 +0.2
KOLN Koldanda 7.63 222 *e*P Pn 10 08 10.4 +1.0
comp=E,18nm,0.6s
GUWA GUWAHATI 7.69 164 *e*P Pn 10 08 11.3 +1.2
GUWA *ex* Sb 10 10 07.2 +3.9
PYUN Piuthan 7.73 226 *e*P Pn 10 08 11.8 +0.9
comp=E,35nm,0.8s
TURI Tura 8.10 173 *e*P Pn 10 08 16.3 +0.5
TURI *ex* Sg 10 10 36.2 -1.8
SHL Shillong 8.34 164 *e*P Pn 10 08 17.7 -1.5
SHL *ex* Sb 10 10 34.8 +13
MOKO MOKOCHONG 8.57 147 *e*P Pn 10 08 22.3 0.0
KOHI KOHIMA 8.92 151 *e*P Pn 10 08 28.6 +1.5
IMP Imphal 9.66 154 *e*P Pn 10 08 36.0 -1.1
IMP *e*S Sn 10 10 17.2 -8.6
IMP IAML 10 11 41.2
comp=E,217nm,0.1s
IMP IAML 10 11 41.2
comp=N,149nm,0.0s
GTA Gaotai 10.24 53 *e*P Pn 10 08 47.0 +1.9
GTA pP 10 08 54.8
GTA sP 10 08 58.5
GTA S Sn 10 10 38.3 -1.7
GTA pmax pmax
comp=N,5.0nm,1.0s
GTA pmax pmax
comp=N,62nm,6.9s
GTA LR LR
comp=N,2μm,17.6s
GTA LR LR
comp=N,970nm,10.5s
WMQ Urumqi 10.26 353 P Pn 10 08 46.5 +1.2
WMQ pP 10 08 53.0
WMQ S Sn 10 10 46.0 +5.7
WMQ Urumqi 10.26 353 P Pn 10 08 45.5 +0.2
WMQ sP 10 08 52.8
WMQ S Sn 10 10 44.8 +4.5
WMQ pmax pmax
comp=N,23nm,0.9s
WMQ pmax pmax
comp=N,150nm,3.6s
WMQ LR LR
comp=N,2μm,19.7s
WMQ LR LR
comp=N,450nm,21.7s
AZL Aizawl 10.29 162 *e*P Pn 10 08 45.0 -0.9
AZL *ex* Sn 10 10 30.8 -11
SAIH SAIHA 11.56 163 *e*P Pn 10 09 04.1 +0.8
LZH Lanzhou 12.20 74 *e*P Pn 10 09 16.8 +4.8
LZH pP 10 09 23.0
LZH sP 10 09 26.5
LZH *e*S Sn 10 11 30.5 +2.4
LZH sS 10 11 41.0
LZH SS SnSn 10 11 45.5 +5.5
LZH pmax pmax
comp=N,21nm,1.0s
LZH pmax pmax
comp=N,73nm,4.3s
LZH LR LR
comp=N,3μm,10.6s
LZH LR LR
comp=N,1μm,10.9s
LZH LR LR
comp=N,2μm,11.7s
KSH Kashi 12.22 303 *e*P Pn 10 09 15.5 +3.3
KSH S Sn 10 11 30.0 +1.5
KSH LR LR
comp=N,660nm,12.1s
KSH LR LR
comp=N,1μm,17.2s
PRZ Przheval'sk 12.32 319 P Pn 10 09 15.2 +1.6
CD2 Chengdu 12.53 99 P Pn 10 09 14.0 -2.5
CD2 S Sn 10 11 35.0 -1.2
CD2 pmax pmax
comp=N,10.0nm,0.5s
CD2 LR LR
comp=N,2μm,8.4s
CD2 LR LR
comp=N,1μm,6.4s
CD2 LR LR
comp=N,2μm,8.7s
KDJ Kajisay 12.79 315 P Pn 10 09 21.8 +1.8
MK01 Makanchi Array 14.17 340 *e*Pn Pn 10 09 36.5 -2.2
MK31 Makanchi Array 14.19 340 *e*P Pn 10 09 37.3 -1.8
MK31 Makanchi Array 14.19 340 *e*Pn Pn 10 09 37.3 -1.8
MKAR Makanchi Array 14.19 340 Pn Pn 10 09 36.7 -2.3
comp=N,0.1nm,0.3s,baz=145,slow=13,SNR=13
MKAR LR LR 10 15 53.6
comp=N,243nm,20.6s,baz=155,slow=41
MKAR Makanchi Array 14.19 340 *i* P Pn 10 09 37.0 -2.0
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 14.19 340 *e*Pn Pn 10 09 37.3 -1.8
MAKZ Makanchi 14.29 339 *e*P Pn 10 09 38.9 -1.6
MAKZ Makanchi 14.29 339 *e*Pn Pn 10 09 38.9 -1.6
KMI Kunming 14.45 122 P P 10 09 49.0 -0.7
AAK Ala-Archa 14.70 312 Pn Pn 10 09 47.0 +0.8
comp=Z,0.1nm,0.3s,baz=116,slow=15,SNR=4.2
AAK Ala-Archa 14.70 312 *e*P P 10 09 48.5 -3.9
AAK Ala-Archa 14.70 312 *e*Pn P 10 09 48.5 -3.9
XAN Xi'an 16.31 83 P P 10 10 10.8 +0.6
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN LR LR
comp=Z,2μm,16.1s
XAN LR LR
comp=Z,690nm,11.8s
XAN LR LR
comp=Z,660nm,13.1s
GYA Guiyang 16.63 111⇑ *i*P Pn 10 10 10.3 -1.1
GYA pP sP 10 10 20.5 +2.5
GYA S Sn 10 13 18.0 +1.7
GYA sS sS 10 13 29.5 -2.8
GYA SS SnSn 10 13 39.0 +10
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=Z,520nm,15.2s
GYA LR LR
comp=Z,480nm,16.0s
GYA LR LR
comp=Z,440nm,15.8s
CHTO Chiang Mai 17.09 147 P P 10 10 19.1 +0.3
comp=Z,63nm,1.2s
CHTO Chiang Mai 17.09 147 *e*P P 10 10 17.1 -1.7
CHTO pmax pmax
comp=Z,29nm,1.4s
CHTO Chiang Mai 17.09 147 *e*Pn P 10 10 17.1 -1.7
comp=Z,29nm,1.4s
CM31 Chiang Mai Arr 17.40 148 *e*Pn P 10 10 22.6 +0.4

CMAR Chiang Mai Arr 17.40 148 P P 10 10 21.0 -1.3
baz=333,slow=9.4,SNR=19
CMAR LR LR 10 16 37.6
comp=Z,100nm,20.0s,baz=334,slow=36
CMAR Chiang Mai Arr 17.40 148 *ce*P P 10 10 22.8 +0.5
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CM01 Chiang Mai Arr 17.44 148 *e*Pn P 10 10 21.5 -1.2
ENH Enshi 17.45 96 *e*Pn P 10 10 21.7 -1.2
comp=Z,28nm,0.8s
LAMP Lampang 17.66 146 P P 10 10 28.1 +3.0
comp=Z,3.8nm,0.9s
HVS Khovu-Aksy 17.79 9 *de*P P 10 10 27.5 +1.0
HVS pmax pmax
comp=Z,46nm,1.1s
NANT Nan 17.94 143 P P 10 10 27.9 -0.4
comp=Z,4.7nm,1.2s,comp=Z,153nm
KNGR Kungurtug, Tuv 18.00 17⇓ *e*P P 10 10 28.7 -0.2
KURBB Kurchatov Arra 18.73 338 P Pn 10 10 35.7 -1.5
comp=Z,0.2nm,0.3s,baz=152,slow=12,SNR=25
KURK Kurchatov 18.79 339⇑ *e*P Pn 10 10 36.1 -1.7
KURK pmax pmax
comp=Z,46nm,1.7s
KURK Kurchatov 18.79 339 *e*P Pn 10 10 36.6 -1.2
comp=Z,6.3nm,0.8s
HYB Hyderabad 18.81 214 *i* P Pn 10 10 40.0 +1.6
HHC Hu-ho-hao-te 19.11 61 *e*P Pn 10 10 42.0 +0.1
HHC SS S 10 14 37.8 +20
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,85nm,4.0s
HHC LR LR
comp=Z,420nm,11.1s
HHC LR LR
comp=Z,490nm,11.1s
SONM Songino Array 19.15 37 P Pn 10 10 42.2 -0.2
comp=Z,0.2nm,0.3s,baz=224,slow=12,SNR=25
SONM LR LR 10 18 50.3
comp=Z,416nm,18.6s,baz=231,slow=40
SONA1 Songino Array 19.16 37 *e*P Pn 10 10 42.3 -0.3
PHIT Phitsanulok 19.18 146 P Pn 10 10 46.0 +3.3
comp=Z,8.9nm,1.0s,comp=Z,222nm
ULN Ulaanbaatar 19.51 38⇑ *e*P Pn 10 10 46.2 -0.5
ULN pmax pmax
comp=Z,22nm,1.7s
ULN Ulaanbaatar 19.51 38 *e*P Pn 10 10 44.6 -2.1
comp=Z,15nm,1.2s
ZAK Zakamensk 19.64 27 *e*P Pn 10 10 47.5 -0.8
ZAK pmax pmax
comp=Z,8.0nm,1.3s
MOY Mondy 19.93 22 *e*P Pn 10 10 51.2 -0.4
MOY pmax pmax
comp=Z,30nm,2.9s
ZAA0 Zalesovo Array 20.56 352 *e*P Pn 10 10 56.5 -2.5
comp=Z,9.3nm,0.8s
ZALV Zalesovo Beam 20.56 352 P Pn 10 10 56.5 -2.4
comp=Z,7.9nm,0.7s,baz=171,slow=11,SNR=48
ZALV LR LR 10 19 19.2
comp=Z,302nm,19.0s,baz=253,slow=38
ZALV Zalesovo Beam 20.56 352 *e*P Pn 10 10 55.9 -3.1
TLY Talaya 20.83 26 P Pn 10 11 00.5 -1.7
comp=Z,2.9nm,0.8s,baz=234,slow=9.3,SNR=10
TLY LR LR 10 19 45.6
comp=Z,255nm,22.0s,baz=206,slow=39
TLY Talaya 20.83 26 *e*P Pn 10 11 01.1 -1.0
TLY *e*SS Sn 10 15 19.5 +22
TLY *e*SSS SSS 10 15 35.2
TLY pmax pmax
comp=Z,11nm,1.2s
TLY MLR MLR
comp=Z,250nm,20.0s
TLY Talaya 20.83 26 *e*P Pn 10 11 00.1 -2.0
comp=Z,8.8nm,1.1s
CHAI Chaiyaphum 21.04 144 P P 10 11 08.1 +6.0
comp=Z,5.6nm,0.9s
SRDT SRDT 21.16 153 P P 10 11 07.5 +4.1
comp=Z,28nm,1.2s,comp=Z,3μm
WHN Wuhan 21.43 91 P P 10 11 08.5 +2.2
NVS Novosibirsk 21.63 350⇑ *i*P P 10 11 07.2 -1.0
NVS pmax pmax
comp=Z,9.0nm,1.1s
NVS pmax pmax
comp=N,2.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NAYO Nakonayok 22.11 148 P P 10 11 20.5 +6.9
comp=E,11nm,1.6s,comp=E,716nm
SRAK Srakaew 22.70 146 P P 10 11 26.4 +6.4
comp=E,59nm,0.9s
QIZ Qiongzhong 23.39 123 P P 10 11 30.5 +3.4
QIZ S S 10 15 42.0 +1.7
QIZ LR LR
comp=E,590nm,9.0s
QIZ LR LR
comp=E,370nm,14.7s
QIZ LR LR
comp=E,590nm,15.5s
BVAR Borovoye Array 23.64 331 P P 10 11 28.9 -0.4
comp=E,1.4nm,0.6s,baz=137,slow=9.5,SNR=9.8
BVAR LR LR 10 21 54.0
comp=E,277nm,18.0s,baz=140,slow=40
BRVK Borovoye 23.71 331⇑ *e*P P 10 11 30.1 +0.2
BRVK pmax pmax
comp=Z,25nm,1.7s
BRVK Borovoye 23.71 331 *e*P P 10 11 31.0 +1.1
comp=Z,4.7nm,0.9s
NJ2 Nanjing 24.84 85 *e*P P 10 11 42.3 +1.7
NJ2 S S 10 16 02.8 -0.6
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,1μm,17.3s
NJ2 LR LR
comp=Z,560nm,17.8s
NJ2 LR LR
comp=Z,770nm,18.8s
GEYT Alibeck 25.60 289 P P 10 11 48.6 +1.1
comp=Z,6.8nm,1.0s,baz=97,slow=6.1,SNR=7.7
GEYT LR LR 10 23 54.5
comp=Z,485nm,19.9s,baz=60,slow=41
ABKAR Akbulak array 26.76 314 *e*P P 10 11 58.1 +0.3
comp=Z,12nm,1.0s
PALK Pallekele 27.41 199 LR LR 10 22 43.6
comp=Z,105nm,21.1s,baz=297,slow=36
AKTO Aktyubinsk 28.39 316 LR LR 10 24 58.8
comp=Z,334nm,18.8s,baz=118,slow=40
WSAR Wadi Sarin 28.79 257 LR LR 10 25 55.8
comp=Z,109nm,18.4s,baz=98,slow=41
CN2 Changchun 29.77 59 *e*P P 10 12 26.5 +1.8
ARU Arti 31.05 327 LR LR 10 25 55.4
comp=Z,175nm,19.1s,baz=126,slow=38
KSAR Wonju Array Be 31.48 72 P P 10 12 40.3 +0.4
KSAR Wonju Array Be 31.48 72 P P 10 12 40.3 +0.4
KSRS Korea Array 31.51 72 P P 10 12 40.3 +0.2
comp=Z,1.8nm,0.7s,baz=276,slow=9.8,SNR=7.6
MAK Makhachkala 33.81 298 *e*P P 10 12 58.0 -2.2
MAK *e* 10 14 15.9
MAK *e*S S 10 18 20.7 -3.3
MAK pmax pmax
comp=Z,121nm,1.2s
MAK MLR MLR
comp=Z,149nm,19.0s
JOW Kunigami 34.20 91 LR LR 10 28 03.5
comp=Z,310nm,20.1s,baz=284,slow=38
KLR Kul'dur 34.93 51 LR LR 10 28 49.1
comp=Z,19nm,19.1s,slow=39
KLR Kul'dur 34.93 51 *ce*P P 10 13 10.4 +0.5
GNI Garni 35.93 294 LR LR 10 31 07.2
comp=Z,89nm,19.9s,baz=91,slow=42
GNI Garni 35.93 294 P P 10 13 23.6 +4.8
KBZ Khabaz 37.18 300 LR LR 10 31 39.2
comp=Z,113nm,18.7s,baz=76,slow=41
KIV Kislovodsk 37.33 300 *e*P P 10 13 28.6 -2.0
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,61nm,16.0s
KLMR Klimovskoe 41.89 326 *e*P P 10 14 07.3 -0.9
KLMR pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 41.89 326 *e*P P 10 14 07.3 -0.9
KLMR AMP 10 14 10.2
comp=Z,13nm,1.3s
KLMR LQ LQ 10 28 07.0
KLMR LQ LQ 10 28 07.0

YSS	**Yuzh-Sakhalins**	**42.10**	**55**	P	P	10 14 03.1	-7.1	
DAV	**Davao City (W)**	**42.69**	**120**	LR	LR	10 31 24.1		
	comp=Z,157nm,18.9s,baz=329,slow=35							
TIXI	**Tiksi**	**43.40**	**17**	P	**P**	**10 14 19.3**	**-1.1**	
	comp=Z,1.7nm,0.7s,baz=205,slow=3.8,SNR=10							
TIXI	**Tiksi**	**43.40**	**17**	⇑*e*P	**P**	**10 14 19.4**	**-0.9**	
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.7s							
TIXI	**Tiksi**	**43.40**	**17**	*e*P	**P**	**10 14 19.6**	**-0.7**	
	comp=Z,2.8nm,0.9s							
LEM	**Lembang**	**43.82**	**153**	LR	LR	10 35 01.7		
	comp=Z,143nm,18.7s,baz=264,slow=39							
BRTR	**Keskin Array B**	**44.45**	**295**	P	**P**	**10 14 29.4**	**0.0**	
	comp=Z,1.3nm,0.9s,baz=101,slow=6.4,SNR=6.2							
MMAI	**Mount Meron Ar**	**44.60**	**285**	LR	LR	10 37 27.5		
	comp=Z,63nm,19.2s,baz=300,slow=42							
BR231	**Keskin MP Arra**	**45.08**	**295**	*e*P	**P**	**10 14 30.3**	**-4.2**	
AKASG	**Malin Array Be**	**46.36**	**310**	P	**P**	**10 14 42.9**	**-1.4**	
	comp=Z,0.5nm,0.5s,baz=81,slow=6.2,SNR=2.9							
AKASG				LR	LR	10 36 17.4		
	comp=Z,146nm,19.6s,baz=80,slow=39							
KIEV	**Kiev**	**46.38**	**310**	⇑*e*P	**P**	**10 14 44.3**	**0.0**	
KIEV				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MA2	**Magadan**	**47.36**	**37**	⇑*e*P	**P**	**10 14 52.2**	**+0.2**	
FIA1	**FINESS Array S**	**48.39**	**325**	*e*P	**P**	**10 14 59.7**	**-0.2**	
	comp=Z,32nm,1.5s							
FINES	**FINESS Array B**	**48.39**	**325**	P	**P**	**10 14 59.3**	**-0.5**	
	comp=Z,2.5nm,0.9s,baz=134,slow=8.2,SNR=4.7							
FINES				LR	LR	10 37 13.2		
	comp=Z,162nm,19.2s,baz=152,slow=38							
FINES	**FINESS Array B**	**48.39**	**325**	*i* P	**P**	**10 15 00.1**	**+0.2**	
FINES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SEY	**Seymchan**	**48.47**	**33**	⇑*e*P	**P**	**10 15 00.6**	**+0.1**	
MLR	**Muntele Rosu**	**49.08**	**304**	LR	LR	10 38 26.0		
	comp=Z,32nm,20.9s,baz=48,slow=39							
BUR04	**Bucovina Ar. S**	**49.26**	**307**	*e*P	**P**	**10 15 06.7**	**-0.2**	
ARCES	**ARCESS Array B**	**49.79**	**336**	P	**P**	**10 15 10.4**	**-0.1**	
	comp=Z,2.9nm,0.8s,baz=92,slow=8.5,SNR=5.6							
PETK	**Petropavlovsk-**	**51.32**	**46**	LR	LR	10 39 10.8		
	comp=Z,105nm,18.0s,baz=277,slow=38							
SPITS	**Spitsbergen Ar**	**53.85**	**346**	LR	LR	10 40 55.2		
	comp=Z,121nm,20.1s,baz=105,slow=39							
BILL	**Bilibino**	**54.44**	**27**	*i* P	P	10 15 40.2	-4.9	
BILL				*i*		10 15 53.2		
BILL				*i*		10 16 48.1		
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s							
HFS	**Hagfors**	**54.48**	**323**	LR	LR	10 40 41.9		
	comp=Z,191nm,20.0s,baz=78,slow=38							
BATI	**Baumata**	**54.48**	**137**	LR	LR	10 41 42.0		
	comp=Z,65nm,19.1s,baz=310,slow=39							
DPC	**Dobruska-Polom**	**54.57**	**311**	*e*P	**P**	**10 15 46.5**	**+0.1**	
DPC	**Dobruska-Polom**	**54.57**	**311**	*e*P	**P**	**10 15 46.5**	**+0.1**	
NB2	**NORSAR Subarra**	**55.57**	**325**	P	**P**	**10 15 52.9**	**-0.5**	
	comp=Z,5.0nm,1.2s,baz=82,slow=7.4							
NOA	**NORSAR Array B**	**55.57**	**325**	P	**P**	**10 15 53.0**	**-0.4**	
	comp=Z,0.7nm,0.7s,baz=83,slow=7.2,SNR=3.2							
NOA				LR	LR	10 41 15.6		
	comp=Z,204nm,18.9s,baz=85,slow=38							
BRG	**Berggiesshubel**	**55.94**	**312**	*e*P	P	10 16 00.4	+4.2	
	comp=Z,5.3nm,1.1s							
BRG	**Berggiesshubel**	**55.94**	**312**	*e*P	P	10 16 00.4	+4.2	
BRG				pmax	pmax			
	comp=Z,5.0nm,1.1s							
CLL	**Collm**	**56.42**	**313**	*e*P	**P**	**10 16 00.0**	**+0.4**	
CLL	**Collm**	**56.42**	**313**	*e*P	**P**	**10 16 00.0**	**+0.4**	
CLL				LmH		10 38 00.0		
	comp=N,200nm,20.0s							
CLL				LmH		10 38 00.0		
	comp=E,200nm,18.9s							
GERES	**GERESS Array B**	**56.57**	**310**	P	**P**	**10 16 00.7**	**-0.1**	
	comp=E,0.9nm,0.6s,baz=80,slow=7.1,SNR=10							
GERES				LR	LR	10 42 27.0		
	comp=E,143nm,20.9s,baz=68,slow=38							
GEA0	**GERESS Array S**	**56.57**	**310**	*e*P	**P**	**10 16 01.0**	**+0.1**	
KHC	**Kasperske Hory**	**56.58**	**310**	*e*P	**P**	**10 15 59.7**	**-1.1**	
KHC	**Kasperske Hory**	**56.58**	**310**	*e*P	**P**	**10 15 59.7**	**-1.1**	
KEST	**Kesra**	**63.97**	**297**	LR	LR	10 49 23.4		
	comp=E,52nm,18.5s,baz=230,slow=40							
EKA	**Eskdalemuir Ar**	**64.41**	**321**	LR	LR	10 48 51.2		
	comp=E,97nm,18.3s,baz=80,slow=40							
WRAB	**Tennant Creek**	**68.42**	**134**	⇑*e*P	**P**	**10 17 21.6**	**+1.4**	
WRAB				pmax	pmax			
	comp=Z,16nm,1.0s							
WRAB	**Tennant Creek**	**68.42**	**134**	*e*P	**P**	**10 17 21.0**	**+0.8**	
	comp=Z,5.6nm,0.9s							
WRA	**Warramunga Arr**	**68.42**	**134**	P	**P**	**10 17 20.2**	**0.0**	
	comp=Z,3.2nm,0.8s,baz=332,slow=6.2,SNR=23							
WRA	**Warramunga Arr**	**68.42**	**134**	*i* P	**P**	**10 17 21.2**	**+1.0**	
WRA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
WB2	**Warramunga Arr**	**68.43**	**134**	*e*P	**P**	**10 17 21.9**	**+1.6**	
	comp=Z,45nm,0.9s							
TOLK	**Toolik Lake Re**	**69.21**	**20**	*e*P	**P**	**10 17 24.4**	**-0.2**	
	comp=Z,3.2nm,0.9s							
IM3	**Indian Mountai**	**69.62**	**23**	*e*P	**P**	**10 17 27.1**	**0.0**	
AS31	**Alice Springs**	**71.05**	**137**	*e*P	**P**	**10 17 38.6**	**+2.2**	
	comp=Z,0.7nm,0.8s							
ASAR	**Alice Springs**	**71.05**	**137**	P	**P**	**10 17 36.4**	**0.0**	
	comp=Z,1.8nm,0.8s,baz=325,slow=6.4,SNR=24							
AS01	**Alice Springs**	**71.08**	**137**	*e*P	**P**	**10 17 37.5**	**+0.9**	
MLY	**Manley**	**71.20**	**23**	*e*P	**P**	**10 17 37.2**	**+0.3**	
	comp=Z,2.2nm,1.0s							
ESDC	**Sonseca Array**	**71.71**	**306**	LR	LR	10 55 33.0		
	comp=Z,38nm,19.1s,baz=300,slow=41							
BPAW	**Bear Paw Mtn.**	**71.72**	**24**	*e*P	**P**	**10 17 39.4**	**-0.6**	
	comp=Z,13nm,1.8s							
CAST	**Castle Rocks**	**71.79**	**25**	*e*P	**P**	**10 17 41.0**	**+0.6**	
	comp=Z,19nm,1.8s							
PPLA	**Purkeypile**	**72.09**	**25**	*e*P	**P**	**10 17 42.9**	**+0.5**	
	comp=Z,20nm,1.4s							
ILAR	**Eielson Array**	**72.60**	**22**	P	**P**	**10 17 43.6**	**-1.6**	
	comp=Z,0.7nm,0.9s,baz=281,slow=3.9,SNR=6.1							
ILAR				LR	LR	10 54 17.3		
	comp=Z,55nm,20.6s,baz=306,slow=40							
INK	**Inuvik**	**73.49**	**15**	LR	LR	10 53 41.3		
	comp=Z,37nm,21.1s,baz=186,slow=39							
DHY	**Denali Highway**	**73.61**	**23**	*e*P	**P**	**10 17 51.3**	**-0.1**	
	comp=Z,26nm,1.9s							
PMR	**Palmer**	**74.03**	**25**	*e*P	**P**	**10 17 53.4**	**-0.2**	
PMR				pmax	pmax			
	comp=Z,49nm,1.8s							
PMR	**Palmer**	**74.03**	**25**	*e*P	**P**	**10 17 53.4**	**-0.2**	
	comp=Z,48nm,1.8s							
SCRK	**Sand Creek**	**74.06**	**22**	*e*P	**P**	**10 17 53.3**	**-0.7**	
	comp=Z,12nm,1.8s							
SML	**Sawmill**	**74.16**	**25**	*e*P	**P**	**10 17 54.5**	**0.0**	
SML				pmax	pmax			
	comp=Z,17nm,1.4s							
SML	**Sawmill**	**74.16**	**25**	*e*P	**P**	**10 17 54.5**	**0.0**	
	comp=Z,17nm,1.4s							
SFJD	**Kangerlussuaq**	**75.17**	**345**	LR	LR	10 53 59.0		
	comp=Z,22nm,18.6s,baz=45,slow=38							
TORD	**Torodi Ar. Bea**	**80.88**	**280**	P	**P**	**10 18 33.8**	**+1.0**	
	comp=Z,0.6nm,1.0s,baz=35,slow=5.0,SNR=2.8							
YKA	**Yellowknife Ar**	**82.30**	**11**	P	**P**	**10 18 37.2**	**-2.2**	
	comp=Z,0.6nm,1.0s,baz=336,slow=5.1,SNR=5.6							
CPUP	**Villa Florida**	**150.29**	**275**	PKPbc	**PKPbc**	**10 26 07.9**	**-1.9**	
	comp=Z,2.8nm,1.1s,baz=53,slow=5.1,SNR=3.5							

*SOME **25** 10:10:55.2,40.58N×77.25E,h10km*
*KRNET **25** 10:10:57.8±0.1,40.76N×77.14E,h15km,mb3.5*
*NNC **25** 11:11:03.4±1.6,40.87N×77.01E,h0km,mb3.9,mpv3.5,*
Error ellipse: s-maj=14.1km s-min=10.1km az=167.0

ISC 25 10:10:54.2±2.0,40.64N±0.08×77.19E±0.03,h6km±12km, n51,σ1$29/85,29C-12D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.18**	**23**	⇑*i*P	**Pn**	**10 11 18.5**	**+0.8**
	baz=27						
TARG				⇑*i*S	**Sn**	**10 11 34.2**	**-0.2**
	baz=27						
NRN	**Naryn**	**1.19**	**312**	⇑*i*P	**Pn**	**10 11 18.5**	**+0.7**
	baz=7.0						
NRN				⇑*i*S	**Sn**	**10 11 34.7**	**+0.1**
	baz=7.0						
KDJ	**Kajisay**	**1.49**	**360**	⇓*i*P	**Pg**	**10 11 23.8**	**+1.1**
	baz=2.0						
KDJ				⇓*i*S	**Sg**	**10 11 43.0**	**+1.0**
	baz=2.0						
ULHL	**Ulahol**	**1.75**	**336**	P	**Pg**	**10 11 28.7**	**+0.9**
	SNR=9.9						
ULHL	**Ulahol**	**1.75**	**336**	⇓*i*P	**Pg**	**10 11 28.5**	**+0.7**
	baz=36						
ULHL				⇓*i*S	**Sg**	**10 11 50.9**	**+0.4**
	baz=36						
KZA	**Kyzart**	**2.04**	**315**	P	**Pg**	**10 11 34.1**	**+0.6**
	SNR=202						
KZA	**Kyzart**	**2.04**	**315**	⇓*i*P	**Pg**	**10 11 34.0**	**+0.6**
	baz=13						
KZA				⇓*i*S	**Sg**	**10 12 00.6**	**+0.7**
	baz=13						
BOOM	**Boomskoye usch**	**2.07**	**334**	⇑*e*P	**Pg**	**10 11 34.0**	**+0.1**
	baz=33						
BOOM				⇑*i*S	**Sg**	**10 12 00.6**	**-0.1**
	baz=33						
TNSS	**Tian-Shan**	**2.40**	**356**	⇑*i*P	**Pg**	**10 11 40.9**	**+0.7**
	63nm,0.3s						
TNSS				*e*S	**Sg**	**10 12 12.7**	**+1.4**
	182nm,0.4s						
IZV	**Izvestkoviy**	**2.43**	**350**	*e*P	**Pg**	**10 11 40.9**	**+0.1**
	46nm,0.5s						
IZV				*e*S	**Sg**	**10 12 13.1**	**+0.9**
	160nm,0.6s						
MDOK	**Medeo**	**2.52**	**358**	⇑Pn	**Pg**	**10 11 42.7**	**+0.2**
	22nm,0.4s						
MDOK				⇑Lg	Lg	10 12 16.1	
	77nm,0.5s						
MDOK	**Medeo**	**2.52**	**358**	*e*P	**Pg**	**10 11 42.4**	**-0.1**
	37nm,0.3s						
MDOK				*e*S	**Sg**	**10 12 15.3**	**+0.1**
	109nm,0.4s						
MTBS	**Maitube**	**2.55**	**347**	*e*P	**Pg**	**10 11 42.9**	**-0.2**
	57nm,0.3s						
MTBS				*e*S	**Sg**	**10 12 16.1**	**0.0**
	71nm,0.2s						
UCH	**Uchtor**	**2.56**	**309**	P	**Pg**	**10 11 43.7**	**+0.4**
	SNR=26						
UCH	**Uchtor**	**2.56**	**309**	⇑*e*P	**Pb**	**10 11 41.5**	**+0.7**
	baz=8.0						
UCH				⇑*e*S	**Sb**	**10 12 13.6**	**+0.9**
	baz=8.0						
KST	**Kastek**	**2.57**	**340**	*e*P	**Pg**	**10 11 43.6**	**+0.2**
	4.4nm,0.3s						
KST				*e*S	**Sg**	**10 12 17.2**	**+0.6**
	87nm,0.2s						
TKM2	**Tokmak 2**	**2.57**	**333**	⇑Pn	**Pb**	**10 11 41.7**	**+0.9**
	19nm,0.8s						
TKM2				⇑Lg	Lg	10 12 18.5	
	36nm,0.5s						
TKM2	**Tokmak 2**	**2.57**	**333**	P	**Pg**	**10 11 43.3**	**-0.1**
	SNR=23						
TKM2	**Tokmak 2**	**2.57**	**333**	⇑*e*P	**Pb**	**10 11 41.3**	**+0.5**
	baz=32						
TKM2				⇑*i*S	**Sb**	**10 12 12.8**	**+0.1**
	baz=32						
AAA	**Alma-Ata**	**2.57**	**356**	*e*P	**Pg**	**10 11 44.2**	**+0.7**
	58nm,0.2s						
AAA				*e*S	**Sg**	**10 12 18.3**	**+1.4**
	111nm,0.3s						
KNDC	**Almaty**	**2.58**	**356**	⇓Pn	**Pg**	**10 11 43.1**	**-0.5**
	22nm,0.3s						
KNDC				⇓Lg	Lg	10 12 18.7	
	191nm,0.5s						
SATY	**Saty**	**2.58**	**20**	*e*P	**Pg**	**10 11 43.8**	**+0.1**
	30nm,0.3s						
SATY				*e*S	**Sg**	**10 12 17.7**	**+0.6**
	150nm,0.2s						
KOTS	**Kotyrbulak**	**2.59**	**359**	*e*P	**Pg**	**10 11 44.1**	**+0.3**
	46nm,0.3s						
KOTS				*e*S	**Sg**	**10 12 18.2**	**+0.8**
	100nm,0.4s						
KBK	**Karagaybulak**	**2.62**	**321**	P	**Pg**	**10 11 44.7**	**+0.3**
	SNR=22						
DGS	**Degeres**	**2.80**	**338**	*e*P	**Pg**	**10 11 47.6**	**-0.3**
	12nm,0.3s						
DGS				*e*S	**Sg**	**10 12 24.3**	**0.0**
	99nm,0.4s						
AAK	**Ala-Archa**	**2.83**	**316**	⇓Pn	**Pg**	**10 11 48.2**	**-0.3**
	16nm,0.5s						
AAK				⇓Lg	Lg	10 12 26.5	
	24nm,0.5s						
AAK	**Ala-Archa**	**2.83**	**316**	P	**Pg**	**10 11 48.4**	**-0.1**
	SNR=30						
AAK	**Ala-Archa**	**2.83**	**316**	⇑*i*P	**Pb**	**10 11 45.1**	**-0.3**
	baz=14						
AAK				⇑*i*S	**Sb**	**10 12 19.6**	**-0.8**
	baz=14						
UZB	**Uzynbulak**	**2.85**	**28**	*e*P	**Pg**	**10 11 48.3**	**-0.6**
	12nm,0.3s						
UZB				*e*S	**Sg**	**10 12 25.2**	**-0.7**
	37nm,0.5s						
FRU1	**Bishkek**	**2.89**	**319**	⇑*i*P	**Pb**	**10 11 45.7**	**-0.5**
	baz=18						
FRU1				⇑*i*S	**Sb**	**10 12 20.8**	**-1.1**
	baz=18						
KURS	**Kuram**	**2.94**	**14**	*e*P	**Pg**	**10 11 50.0**	**-0.4**
	0.4nm,0.1s						
KURS				*e*S	**Sg**	**10 12 27.8**	**-0.7**
	53nm,0.8s						
CHMS	**Chumysh**	**2.97**	**323**	P	**Pg**	**10 11 51.3**	**+0.1**
	SNR=11						
CHMS	**Chumysh**	**2.97**	**323**	⇑*e*P	**Pb**	**10 11 47.1**	**-0.6**
	baz=22						
CHMS				⇑*i*S	**Sb**	**10 12 22.1**	**-2.2**
	baz=22						
AML	**Almayashu**	**3.02**	**301**	P	**Pg**	**10 11 52.5**	**+0.4**
	SNR=26						
AML	**Almayashu**	**3.02**	**301**	⇑*i*P	**Pb**	**10 11 48.3**	**-0.3**
	baz=99						
AML				⇑*i*S	**Sb**	**10 12 24.7**	**-1.2**
	baz=99						
KPKS	**Kokpek**	**3.03**	**21**	*e*P	**Pb**	**10 11 51.0**	**+2.3**
	12nm,0.5s						
KPKS				*e*S	**Sg**	**10 12 29.9**	**-1.8**
	145nm,0.4s						
KTBS	**Karatobe**	**3.09**	**353**	*e*P	**Pg**	**10 11 52.6**	**-0.8**
	20nm,0.4s						
KTBS				*e*S	**Sg**	**10 12 32.8**	**-0.7**
	107nm,0.4s						
PDGK	**Podgornoye**	**3.19**	**32**	⇑Pn	**Pb**	**10 11 54.1**	**+2.8**
	16nm,0.5s						
PDGK				⇓Lg	Lg	10 12 39.4	
	31nm,0.6s						
PDGK	**Podgornoye**	**3.19**	**32**	⇑*i*P	**Pb**	**10 11 50.2**	**-1.1**
	baz=33						
PDGK				⇑*i*S	**Sb**	**10 12 29.0**	**-1.5**
	baz=33						
CHKK	**Chushkaly**	**3.21**	**357**	*e*P	**Pg**	**10 11 54.6**	**-1.1**
	16nm,0.6s						
CHKK				*e*S	**Sg**	**10 12 36.5**	**-0.8**
	125nm,0.3s						
EKS2	**Erkin-Say**	**3.25**	**309**	P	**Pg**	**10 11 56.7**	**+0.2**
	SNR=13						
USP	**Ospenovka**	**3.30**	**324**	P	**Pg**	**10 11 56.6**	**-0.9**
	SNR=43						
KUU	**Kurty**	**3.31**	**349**	*e*P	**Pg**	**10 11 56.1**	**-1.5**
	6.8nm,0.2s						
KUU				*e*S	**Sg**	**10 12 38.6**	**-1.8**
	66nm,0.5s						
MNBS	**Baschi**	**3.55**	**14**	*e*P	**Pg**	**10 12 00.5**	**-1.8**
	16nm,0.5s						
MNBS				*e*S	**Sg**	**10 12 46.5**	**-1.7**
	74nm,0.3s						
ARXS	**Arharly**	**3.60**	**7**	*e*P	**Pb**	**10 12 00.6**	**+2.2**
	5.3nm,0.4s						
ARXS				*e*S	**Sg**	**10 12 46.1**	**-3.7**
	87nm,0.5s						
MRKS	**Merke**	**3.63**	**307**	*e*P	**Pg**	**10 12 02.5**	**-1.3**
	9.9nm,0.3s						
MRKS				*e*S	**Sg**	**10 12 49.8**	**-1.1**
	13nm,0.3s						
KTMS	**Ketmen**	**3.66**	**39**	*e*P	**Pb**	**10 12 02.6**	**+3.2**
	12nm,0.3s						
KTMS				*e*S	**Sg**	**10 12 50.1**	**-1.7**
	21nm,0.6s						
MNAS	**Manas**	**3.97**	**299**	⇓Pg	**Pg**	**10 12 10.3**	**+0.1**
	5.0nm,0.7s						
MNAS				⇑Lg	Lg	10 13 02.5	
	7.3nm,0.5s						
TDK	**Taldyqorghan**	**4.45**	**11**	*e*P	**Pb**	**10 12 16.4**	**+3.7**
	20nm,0.4s						
TDK				*e*S	**Sg**	**10 13 13.4**	**-3.7**
	66nm,0.6s						
KAPS	**Kapalarasan**	**4.91**	**18**	*e*P	**Pg**	**10 12 25.9**	**-2.3**
	3.0nm,0.4s						
KAPS				*e*S	**Sg**	**10 13 29.8**	**-1.9**
	11nm,0.7s						
KK31	**Karatay Array**	**5.55**	**298**	⇑Pg	**Pg**	**10 12 39.4**	**-1.2**
	0.6nm,0.3s,baz=117,slow=16,SNR=13						
KK31				⇑Lg	Lg	10 13 51.8	
	3.1nm,0.6s,baz=112,slow=28,SNR=6.0						

*MAN **25** 10:23:09,18.56N×122.16E,h0km,mb5.2,ML4.2,MS4.3*
*IDC **25** 10:23:10.9±0.7,18.16N×122.46E,h0km,mb4.0/18,*
mb1 4.1/19,mb1mx3.9/65,mbtmp4.0/19,ML3.7/1,MS3.3/12,
Ms1 3.4/12,ms1mx3.1/65,Error ellipse: s-maj=24.6km
s-min=15.9km az=67.0
*ISCJB **25** 10:23:12.1±0.9,18.24N±0.02×122.26E±0.04,h10km±5km,*
mb4.3/63,MS3.3/12,Error ellipse: s-maj=6.1km
s-min=4.0km az=15.9
*MOS **25** 10:23:14.9±1.0,18.24N×122.35E,h33km,mb4.6/20,Error*
ellipse: s-maj=13.1km s-min=7.3km az=111.6
*BJI **25** 10:23:14.6,18.31N×122.46E,h25km,mb4.4/10,mB4.8/14,*
Ms4.1/10,Ms7 3.9/6
*NEIC **25** 10:23:16.7±1.9,18.18N×122.30E,h32km±13km,mb4.6/35,*
Error ellipse: s-maj=6.9km s-min=4.9km az=90.0
NEIC Felt [III PIVS] at Santa Ana.

ISC 25 10:23:12.5±1.4,18.20N±0.04×122.28E±0.06,h5km±8km, n140,σ1$79/139,mb4.5/64,MS3.4/12,10C-7D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.23**	**281**	*e*P	**Pg**	**10 23 15.7**	**-1.2**
SGCP				*e*S	**Sg**	**10 23 18.3**	**-1.6**
CVP	**Callao Caves**	**0.66**	**222**	*e*P	**Pg**	**10 23 25.8**	**+0.7**
CVP				*i* S	**Sg**	**10 23 35.0**	**+1.3**
APYP	**Conner**	**1.04**	**251**	*e*P	**Pg**	**10 23 30.5**	**-1.9**
APYP				*e*S	**Sg**	**10 23 44.1**	**-1.9**
CAUP	**Cauayan**	**1.32**	**199**	*e*P	**Pb**	**10 23 38.7**	**+1.0**
ABRA	**Dolores**	**1.59**	**250**	*e*P	**Pn**	**10 23 39.6**	**-1.7**
ABRA				*e*S	**Sn**	**10 24 00.5**	**-1.6**
BALP	**Baler**	**2.53**	**195**	*e*P	**Pb**	**10 23 56.0**	**-2.5**
BALP				*e*S	**Sg**	**10 24 32.7**	**-1.2**
PCPH	**Palayan**	**2.85**	**204**	⇑*e*P	**Pb**	**10 24 00.9**	**-3.1**
PCPH				*e*S	**Sb**	**10 24 39.8**	**+0.6**
SCZP	**Santa Cruz**	**3.31**	**224**	*e*P	**Pb**	**10 24 09.2**	**-2.4**
LQP	**Lukban**	**4.12**	**190**	⇓*e*P	**Pb**	**10 24 21.6**	**-4.1**
GQP	**Guinayangan**	**4.27**	**178**	⇑*e*P	Pb	10 24 21.7	-6.4
GQP				*e*S	**Sn**	**10 25 10.4**	**+2.0**
YULB	**Yu-li**	**5.25**	**350**	*e*Pn	**Pn**	**10 24 32.1**	**+0.4**
YULB				*e*Sn	**Sn**	**10 25 31.3**	**-1.4**
TPUB	**Ta-pu**	**5.31**	**343**	*e*Pn	**Pn**	**10 24 34.7**	**+2.2**
SSLB	**Suanglung**	**5.70**	**348**	*e*Pn	**Pn**	**10 24 40.4**	**+2.5**
NACB	**Ninganchiao**	**5.98**	**354**	*e*Pn	**Pn**	**10 24 42.2**	**+0.5**
NACB				*e*Sn	**Sn**	**10 25 46.7**	**-3.9**
YHNB	**Yeheng**	**6.50**	**353**	*e*Pn	**Pn**	**10 24 50.1**	**+1.3**
NJ2	**Nanjing**	**14.14**	**348**	*e*P	**Pn**	**10 26 34.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
SBUM	**Sibu**	**18.50**	**213**	*e*P	**Pn**	**10 27 31.1**	**+1.4**
	7.1nm,1.1s						
KMI	**Kunming**	**19.41**	**294**	P	**Pn**	**10 27 46.0**	**+5.0**
KMI				pP	P	10 27 51.0	+11
KMI				LR	LR		
	comp=N,230nm,11.2s						
KMI				LR	LR		
	comp=E,230nm,16.2s						
KMI				LR	LR		
	comp=Z,270nm,15.4s						
XAN	**Xi'an**	**19.79**	**325**	P	**Pn**	**10 27 45.5**	**+0.3**
XAN				pP	P	10 27 53.0	+9.3
XAN				S	**S**	**10 31 29.5**	**+2.4**
XAN				SS	**SnSn**	**10 31 53.0**	**+11**
XAN				ScP	**ScP**	**10 35 33.8**	**-5.2**
XAN				LR	LR		
	comp=N,230nm,10.3s						
XAN				LR	LR		
	comp=E,160nm,10.3s						
KSAR	**Wonju Array Be**	**19.80**	**13**	P	**Pn**	**10 27 44.4**	**-0.8**
KSAR	**Wonju Array Be**	**19.80**	**13**	P	**Pn**	**10 27 44.4**	**-0.8**
KSRS	**Korea Array**	**19.82**	**13**	P	**Pn**	**10 27 44.4**	**-1.1**
	0.2nm,0.3s,baz=193,slow=11,SNR=7.4						
KSRS				LR	LR	10 35 13.9	
	comp=Z,111nm,20.1s,baz=206,slow=36						
CD2	**Chengdu**	**21.03**	**310**	*e*P	**P**	**10 27 59.0**	**+1.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CHTO	**Chiang Mai**	**22.14**	**275**	P	**P**	**10 28 10.9**	**+1.7**
	62nm,1.2s						
CHTO	**Chiang Mai**	**22.14**	**275**	*e*P	**P**	**10 28 10.3**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s						
CHTO	**Chiang Mai**	**22.14**	**275**	*e*P	**P**	**10 28 10.3**	**+1.1**
	comp=Z,14nm,1.0s						
CM01	**Chiang Mai Arr**	**22.14**	**274**	*e*P	**P**	**10 28 10.2**	**+1.0**
CM31	**Chiang Mai Arr**	**22.15**	**274**	*e*P	**P**	**10 28 11.5**	**+2.1**
CMAR	**Chiang Mai Arr**	**22.15**	**274**	P	**P**	**10 28 11.2**	**+1.8**
	comp=Z,2.3nm,0.5s,baz=75,slow=10.0,SNR=35						
CMAR				LR	LR	10 36 21.1	
	comp=Z,34nm,18.9s,baz=55,slow=35						
GUMO	**Guam**	**22.20**	**99**	LR	LR	10 35 04.0	
	comp=Z,82nm,20.8s,baz=310,slow=32						
LZH	**Lanzhou**	**24.14**	**321**	*e*P	**P**	**10 28 32.0**	**+2.3**
LZH				pP	pP	10 28 42.5	+11
LZH				sP	sP	10 28 46.5	+15
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
HHC	**Hu-ho-hao-te**

H11N1 WAKE ISLAND Hy 42.13 81 T T 11 16 00.4
baz=275,slow=75,SNR=47
H11N2 WAKE ISLAND Hy 42.13 80 T T 11 16 00.7
baz=275,slow=75,SNR=39
H11N3 WAKE ISLAND Hy 42.15 81 T T 11 16 01.9
baz=275,slow=75,SNR=41
AS31 Alice Springs 43.13 164 *eP* **P 10 31 14.6 +0.5**
comp=Z,1.2nm,1.2s
ASAR Alice Springs 43.13 164 P **P 10 31 13.7 -0.4**
comp=Z,1.2nm,0.7s,baz=342,slow=6.6,SNR=15
AS01 Alice Springs 43.14 164 *eP* **P 10 31 14.0 -0.2**
MK01 Makanchi Array 43.44 320 *eP* **P 10 31 17.2 +0.9**
MK31 Makanchi Array 43.45 320 *eP* **P 10 31 17.6 +1.1**
MK31 Makanchi Array 43.45 320 *eP* **P 10 31 17.6 +1.1**
MKAR Makanchi Array 43.45 320 P **P 10 31 17.9 +1.4**
comp=Z,2.6nm,0.5s,baz=112,slow=9.6,SNR=28
MKAR LR LR 10 49 10.7
comp=Z,44nm,18.7s,baz=76,slow=36
MKAR Makanchi Array 43.45 320 *ceP* **P 10 31 17.8 +1.3**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 43.45 320 *eP* **P 10 31 17.5 +1.0**
comp=Z,28nm,0.7s
MAKZ Makanchi 43.65 320 *eP* **P 10 31 18.8 +0.7**
MAKZ pmax pmax
comp=Z,10.0nm,1.3s
MAKZ Makanchi 43.65 320 *eP* **P 10 31 18.8 +0.7**
comp=Z,9.9nm,1.3s
YAK Yakutsk 44.10 5 LR LR 10 49 40.6
comp=Z,58nm,19.8s,baz=256,slow=36
KDJ Kajisay 45.04 312 P **P 10 31 30.9 +1.4**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
KSH Kashi 45.20 308 *eP* **P 10 31 34.0 +3.3**
KSH pmax pmax
comp=Z,100nm,5.3s
NRN Naryn 45.68 311 P **P 10 31 35.6 +0.8**
NRN pmax pmax
comp=Z,8.0nm,0.9s
ZALV Zalesovo Beam 45.86 330 P **P 10 31 34.6 -1.0**
comp=Z,0.4nm,0.3s,baz=116,slow=6.9,SNR=6.2
ZALV Zalesovo Beam 45.86 330 *eP* **P 10 31 35.2 -0.4**
ZALV Zalesovo Beam 45.86 330 *eP* **P 10 31 35.2 -0.4**
MA2 Magadan 46.18 20 LR LR 10 51 00.5
comp=Z,35nm,20.3s,baz=239,slow=36
HNR Honiara 46.22 123 LR LR 10 48 32.5
comp=Z,51nm,19.9s,baz=237,slow=33
AAK Ala-Archa 47.09 312 P **P 10 31 46.3 +0.7**
comp=Z,1.3nm,0.7s,baz=163,slow=14,SNR=4.2
AAK Ala-Archa 47.09 312 *i* P **P 10 31 44.0 -1.7**
AAK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 47.41 323 *d i* P **P 10 31 48.0 +0.3**
KURK pmax pmax
comp=Z,54nm,1.2s
KURK Kurchatov 47.41 323 *eP* **P 10 31 48.1 +0.4**
comp=Z,14nm,1.1s
KURBB Kurchatov Arra 47.41 323 P **P 10 31 48.3 +0.5**
comp=Z,7.4nm,0.9s,baz=121,slow=7.7,SNR=21
SEY Seymchan 49.29 18 *eP* **P 10 32 03.6 +1.5**
KKAR Karatay Array 50.04 311 *eP* **P 10 32 08.6 +0.4**
KKAR Karatay Array 50.04 311 *eP* **P 10 32 08.6 +0.4**
BVAR Borovoye Array 53.00 323 P **P 10 32 30.5 +0.3**
comp=Z,0.9nm,0.5s,baz=111,slow=8.8,SNR=7.6
BRVK Borovoye 53.08 323 *eP* **P 10 32 31.1 +0.4**
BRVK pmax pmax
comp=Z,16nm,1.7s
BRVK Borovoye 53.08 323 *eP* **P 10 32 30.9 +0.2**
comp=Z,3.3nm,0.8s
TIXI Tiksi 53.59 3 LR LR 10 56 24.7
comp=Z,64nm,21.2s,baz=180,slow=37
TIXI Tiksi 53.59 3 *eP* **P 10 32 32.6 -1.6**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
TIXI Tiksi 53.59 3 *eP* **P 10 32 33.9 -0.2**
comp=Z,11nm,1.9s
BILL Bilibino 56.99 18 *i* P **P 10 32 58.3 -0.4**
BILL *i* 10 33 55.6
BILL pmax pmax
comp=Z,2.0nm,0.8s
ABKAR Akbulak array 58.42 317 *eP* **P 10 33 09.5 +0.4**
comp=Z,17nm,1.1s
GEYT Alibeck 58.83 304 P **P 10 33 12.8 +0.5**
comp=Z,2.6nm,0.8s,baz=101,slow=7.7,SNR=5.1
GNI Garni 69.11 307 *eP* **P 10 34 20.1 0.0**
GNI pmax pmax
comp=Z,16nm,1.3s
KIV Kislovodsk 70.20 311 *eP* **P 10 34 25.2 -1.4**
KIV pmax pmax
comp=Z,5.0nm,1.1s
IM3 Indian Mountai 71.09 25 *eP* **P 10 34 31.6 +0.1**
RAYN Ar Rayn 71.17 289 *eP* **P 10 34 32.4 -0.5**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
RAYN Ar Rayn 71.17 289 *eP* **P 10 34 32.4 -0.5**
comp=Z,6.3nm,1.1s
PPLA Purkeypile 71.95 29 *eP* **P 10 34 38.1 +1.2**
comp=Z,28nm,1.8s
CAST Castle Rocks 71.96 28 *eP* **P 10 34 37.5 +0.6**
comp=Z,6.9nm,0.8s
BPAW Bear Paw Mtn. 72.39 27 *eP* **P 10 34 40.0 +0.6**
comp=Z,3.7nm,0.9s
MLY Manley 72.41 26 *eP* **P 10 34 40.3 +0.7**
comp=Z,3.8nm,0.9s
TOLK Toolik Lake Re 72.54 23 *eP* **P 10 34 41.2 +0.9**
comp=Z,3.9nm,1.1s
TRF Thorofare Moun 72.76 28 *eP* **P 10 34 42.1 +0.3**
comp=Z,39nm,1.9s
SUA Susitna One 72.76 30 *eP* **P 10 34 43.0 +1.2**
MCK McKinley 73.33 28 *eP* **P 10 34 45.1 +0.1**
MCK pmax pmax
comp=Z,20nm,1.7s
MCK McKinley 73.33 28 *eP* **P 10 34 45.1 +0.1**
comp=Z,20nm,1.7s
RND Reindeer 73.40 28 *eP* **P 10 34 45.8 +0.3**
RND pmax pmax
comp=Z,6.0nm,0.8s
RND Reindeer 73.40 28 *eP* **P 10 34 45.8 +0.3**
comp=Z,6.3nm,0.8s
MDM Murphy Dome 73.47 26 *eP* **P 10 34 46.5 +0.7**
comp=Z,3.5nm,1.0s
PMR Palmer 73.51 30 *eP* **P 10 34 46.2 +0.1**
PMR pmax pmax
comp=Z,16nm,1.5s
PMR Palmer 73.51 30 *eP* **P 10 34 46.2 +0.1**
comp=Z,16nm,1.5s
WRH Wood River Hil 73.60 27 *eP* **P 10 34 47.0 +0.5**
comp=Z,13nm,1.4s
ILAR Eielson Array 74.07 26 P **P 10 34 48.3 -1.0**
comp=Z,0.5nm,0.7s,baz=299,slow=7.4,SNR=10.0
IL1 Eielson Array 74.07 26 *eP* **P 10 34 48.5 -0.8**
DHY Denali Highway 74.11 28 *eP* **P 10 34 50.6 +0.8**
comp=Z,5.5nm,1.0s
SCM Sheep Creek Mo 74.33 30 *eP* **P 10 34 51.4 +0.4**
SCM pmax pmax
comp=Z,77nm,1.9s
SCM Sheep Creek Mo 74.33 30 *eP* **P 10 34 51.4 +0.4**
comp=Z,76nm,1.9s
FYU Fort Yukon 74.46 25 *eP* **P 10 34 52.5 +1.0**
comp=Z,31nm,1.8s
KLU Klutina 75.05 30 *eP* **P 10 34 55.5 +0.4**
comp=Z,10nm,1.4s
RIDG Independ'e Rid 75.12 27 *eP* **P 10 34 55.1 -0.4**
comp=Z,39nm,2.0s
HARP HAARP 75.23 29 *eP* **P 10 34 58.1 +2.0**
comp=Z,135nm,1.9s
SCRK Sand Creek 75.45 27 *eP* **P 10 34 57.2 -0.2**
comp=Z,31nm,2.0s
MENT Mentasta 75.78 28 *eP* **P 10 35 00.0 +0.8**
comp=Z,6.3nm,1.4s
EGAK Eagle 76.47 26 *eP* **P 10 35 03.1 -0.1**
comp=Z,3.6nm,0.9s
FINES FINESS Array B 77.12 331 P **P 10 35 05.4 -1.4**
comp=Z,2.1nm,0.8s,baz=59,slow=5.1,SNR=4.3
FINES FINESS Array B 77.12 331 *i* P **P 10 35 08.5 +1.7**
FINES pmax pmax
comp=Z,4.0nm,1.0s
DAWY Dawson 77.40 26 *eP* **P 10 35 08.1 -0.3**
comp=Z,4.1nm,0.9s
BRTR Keskin Array B 77.58 308 *ceP* **P 10 35 11.3 +1.2**
AKASG Malin Array Be 78.03 320 P **P 10 35 10.5 -1.6**
comp=Z,0.8nm,0.6s,baz=61,slow=7.3,SNR=4.5
INK Inuvik 78.38 22 *eP* **P 10 35 12.7 -1.0**
INK pmax pmax
comp=Z,5.0nm,1.4s
INK Inuvik 78.38 22 *eP* **P 10 35 12.7 -1.0**
comp=Z,4.9nm,1.4s

HYT Haines Junctio 79.17 29 *eP* **P 10 35 18.4 0.0**
comp=Z,13nm,1.5s
HFS Hagfors 83.28 331 P **P 10 35 39.2 -0.8**
comp=Z,2.8nm,0.8s,baz=96,slow=5.8,SNR=3.8
NB2 NORSAR Subarra 83.98 333 P **P 10 35 42.1 -1.6**
comp=Z,3.1nm,1.1s,baz=65,slow=5.6
NOA NORSAR Array B 83.98 333 P **P 10 35 42.2 -1.5**
comp=Z,0.9nm,0.7s,baz=63,slow=5.2,SNR=4.3
YKA Yellowknife Ar 88.06 23 P **P 10 36 03.2 -0.6**
comp=Z,0.6nm,0.6s,baz=306,slow=4.5,SNR=17
YKA Yellowknife Ar 88.06 23 *ceP* **P 10 36 03.7 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 88.11 321 P **P 10 36 04.1 -0.4**
comp=Z,0.1nm,0.3s,baz=41,slow=3.3,SNR=3.1

*ISCJB **25** 10:26:46.9±0.2, 61.03S±0.05×23.8W±0.1, h10km, mb5.0/48, MS4.3/20, Error ellipse: s-maj=9.2km s-min=5.0km az=41.5*
*IDC **25** 10:26:47.9±0.4, 60.86S×23.83W, h0km, mb4.9/20, mb1 4.9/20, mb1mx4.8/31, mbtmp4.9/20, MS4.2/20, Ms1 4.2/20, ms1mx4.1/29, Error ellipse: s-maj=16.7km s-min=12.5km az=39.0*
*MOS **25** 10:26:52.0±1.6, 60.79S×24.00W, h33km, mb5.3/15, Error ellipse: s-maj=25.2km s-min=13.5km az=102.5*
*NEIC **25** 10:26:54.1±1.4, 60.84S×23.86W, h40km±11km, mb5.2/35, Error ellipse: s-maj=8.4km s-min=5.9km az=213.0*
*GCMT **25** 10:26:54.1±0.2, 61.18S×23.45W, h17km, MW5.2/109, Moment Tensor Solution. s72,c104; s109,c187; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr=1.11±.18; Mθθ0.80±.18; Mφφ0.31±.15; Mrθ0.16±.38; Mθφ7.70±.14; Mrφ1.83±.38; Best double couple: M07.92300×10^16 NP1φs181.00000°,δ88.00000°, λ-166.00000°. NP2φs91.00000°,δ76.00000°,λ-2.00000°. Principal axes: T 8.4610, Plg8.0000°, Azm315.0000°; N -1.0780, Plg76.0000°, Azm189.0000°; P -7.3850, Plg11.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 10:26:49.5±0.3, 60.89S±0.07×23.81W±0.07, h10km, n240, σ1s40/231, mb5.1/48, MS4.3/21, 5C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**9.48**	**309**	*e*	P	n	**Pn**	**10 29 09.1**	**+3.1**
VNA1	**Neumayer--Stat**	**11.64**	**154**		P		**Pn**	**10 29 33.5**	**-1.9**
VNA1					S		Sn	10 31 33.1	-12
I27DE	**GEORG VON NEUM**	**11.67**	**154**		Pn		**Pn**	**10 29 33.9**	**-1.9**
	baz=324,slow=11,SNR=0.5								
VNA3	**Neumayer Olymp**	**11.82**	**157**		P		**Pn**	**10 29 35.4**	**-2.6**
VNA3					S		Sn	10 31 32.1	-18
VNA2	**Neumayer--Watz**	**12.04**	**154**		P		**Pn**	**10 29 37.9**	**-2.9**
	baz=312,slow=16								
VNA2					S		Sn	10 31 36.7	-18
SNAA	**Sanae**	**13.60**	**151**		P		**Pn**	**10 29 59.8**	**-2.5**
SNAA					S		Sn	10 32 17.7	-16
SNAA	**Sanae**	**13.60**	**151**		Pn		**Pn**	**10 29 59.2**	**-3.1**
	59nm,0.3s,baz=315,slow=14,SNR=2134								
SNAA					Sn		Sn	10 32 19.5	-14
	31nm,0.3s,baz=79,slow=21,SNR=6.0								
SNAA					LR		LR	10 34 47.7	
	comp=Z,308nm,19.8s,baz=300,slow=35								
NVL	**N'lazarevskaya**	**17.31**	**140**	*e*	P		**Pn**	**10 30 45.0**	**-5.9**
NVL					pmax		pmax		
	comp=Z,179nm,1.3s								
NVL					MLR		MLR		
	comp=Z,850nm,17.0s								
EFI	**East Falkland**	**20.90**	**281**	*c i*	P		**P**	**10 31 31.2**	**-0.4**
EFI	**East Falkland**	**20.90**	**281**	*e*	P		**P**	**10 31 31.9**	**+0.2**
	comp=Z,352nm,0.9s								
SYO	**Syowa Base**	**26.80**	**134**	*e*	P		**P**	**10 32 25.2**	**-4.0**
SYO	**Syowa Base**	**26.80**	**134**	*i*	P		**P**	**10 32 30.4**	**+1.2**
GO09	**Cerro Castillo**	**28.10**	**268**	*e*	P		**P**	**10 32 39.3**	**-1.8**
	comp=Z,47nm,1.2s								
QSPA	**South Pole Qui**	**29.34**	**180**		P		**P**	**10 32 52.9**	**+0.7**
	comp=Z,8.8nm,0.9s,baz=206,slow=6.3,SNR=14								
QSPA	**South Pole Qui**	**29.34**	**180**	*e*	P		**P**	**10 32 53.7**	**+1.5**
	comp=Z,76nm,0.8s								
CHRN	**Cochrane**	**30.90**	**274**	*e*	P		**P**	**10 33 07.0**	**+1.1**
	comp=Z,7.1nm,0.8s								
TRQA	**Tornquist**	**32.97**	**296**		P		**P**	**10 33 23.6**	**-0.6**
TRQA					pmax		pmax		
	comp=Z,50nm,0.8s								
TRQA	**Tornquist**	**32.97**	**296**	*e*	P		**P**	**10 33 23.6**	**-0.6**
	comp=Z,50nm,0.8s								
PLCA	**Paso Flores**	**34.75**	**284**		P		**P**	**10 33 38.2**	**-1.5**
	comp=Z,20nm,0.7s,baz=169,slow=8.6,SNR=64								
PLCA					LR		LR	10 48 06.1	
	comp=Z,317nm,18.6s,baz=160,slow=37								
PLCA	**Paso Flores**	**34.75**	**284**	*e*	P		**P**	**10 33 38.4**	**-1.3**
PLCA					pmax		pmax		
	comp=Z,24nm,0.8s								
PLCA	**Paso Flores**	**34.75**	**284**	*e*	P		**P**	**10 33 38.4**	**-1.3**
	comp=Z,24nm,0.8s								
MAW	**Mawson**	**35.26**	**138**		P		**P**	**10 33 43.6**	**0.0**
	comp=Z,15nm,0.9s,baz=236,slow=8.2,SNR=8.2								
MAW					LR		LR	10 45 51.1	
	comp=Z,537nm,21.6s,baz=243,slow=32								
MAW	**Mawson**	**35.26**	**138**	*e*	P		**P**	**10 33 43.7**	**0.0**
MAW					pmax		pmax		
	comp=Z,4.0nm,1.0s								
MAW	**Mawson**	**35.26**	**138**	*e*	P		**P**	**10 33 43.7**	**0.0**
	comp=Z,4.3nm,1.0s								
MRA	**San Martin**	**39.36**	**297**	*e*	P		**P**	**10 34 17.2**	**-1.8**
GO05	**HualaæØ**	**39.99**	**288**	*e*	P		**P**	**10 34 22.6**	**-1.5**
	comp=Z,44nm,1.0s								
ASAL	**Salagasta**	**40.59**	**293**	*i*	P		**P**	**10 34 28.0**	**-1.1**
SUR	**Sutherland**	**40.59**	**66**		P		**P**	**10 34 29.2**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=202,slow=9.8,SNR=10.0								
SUR	**Sutherland**	**40.59**	**66**	*e*	P		**P**	**10 34 30.2**	**+0.9**
	comp=Z,141nm,1.8s								
SPB	**Sao Paulo**	**40.70**	**326**	*e*	P		**P**	**10 34 30.2**	**+0.2**
	comp=Z,83nm,1.2s								
RTCV	**Cerro Valdivia**	**41.08**	**294**	*e*	P		**P**	**10 34 31.6**	**-1.5**
AUSP	**Uspallata**	**41.15**	**293**	*e*	P		**P**	**10 34 33.7**	**-0.4**
ROC1	**El Roble**	**41.26**	**291**	*e*	P		**P**	**10 34 35.1**	**+0.2**
	comp=Z,33nm,0.8s								
SBA	**Scott Base**	**41.35**	**183**	*e*	P		**P**	**10 34 36.7**	**+1.9**
SBA					pmax		pmax		
	comp=Z,22nm,1.3s								
SBA	**Scott Base**	**41.35**	**183**	*e*	P		**P**	**10 34 36.7**	**+1.9**
	comp=Z,22nm,1.3s								
CPUP	**Villa Florida**	**41.35**	**311**		P		**P**	**10 34 34.2**	**-1.2**
	comp=Z,47nm,0.9s,baz=156,slow=7.6,SNR=124								
CPUP					LR		LR	10 49 35.4	
	comp=Z,333nm,21.8s,baz=154,slow=33								
CPUP	**Villa Florida**	**41.35**	**311**	*e*	P		**P**	**10 34 33.6**	**-1.8**
CPUP					pmax		pmax		
	comp=Z,110nm,1.3s								
CPUP	**Villa Florida**	**41.35**	**311**	*e*	P		**P**	**10 34 33.6**	**-1.8**
	comp=Z,110nm,1.3s								
APLL	**PUNTA DE LOS L**	**41.45**	**298**	*i*	P		**P**	**10 34 34.6**	**-1.6**
RTLS	**Leoncito**	**41.47**	**294**	*e*	P		**P**	**10 34 36.6**	**-0.1**
RTLL	**Cerro Villicun**	**41.50**	**295**	*e*	P		**P**	**10 34 33.9**	**-2.8**
VNDA	**Vanda**	**41.79**	**182**		P		**P**	**10 34 40.4**	**+2.0**
	comp=Z,9.5nm,1.0s,baz=179,slow=5.0,SNR=21								
VNDA					LR		LR	10 51 35.0	
	comp=Z,221nm,18.5s,baz=172,slow=36								
VNDA	**Vanda**	**41.79**	**182**	*e*	P		**P**	**10 34 40.5**	**+2.0**
VNDA					pmax		pmax		
	comp=Z,11nm,1.0s								
VNDA	**Vanda**	**41.79**	**182**	*e*	P		**P**	**10 34 40.5**	**+2.0**
	comp=Z,10nm,1.0s								
AMOG	**MOGNA**	**41.84**	**295**	*i*	P		**P**	**10 34 39.1**	**-0.4**
ACDV	**Cuesta del Vie**	**42.78**	**295**	*i*	P		**P**	**10 34 47.0**	**-0.2**
CYA	**Choya**	**42.83**	**300**	*e*	P		**P**	**10 34 44.8**	**-2.8**
AGUA	**GUANDACOL**	**43.09**	**296**	*i*	P		**P**	**10 34 49.6**	**0.0**
VCA	**Vinchina**	**43.61**	**297**	*e*	P		**P**	**10 34 53.8**	**-0.1**
LCO	**Las Campanas**	**44.47**	**294**		P		**P**	**10 35 00.3**	**-0.7**
LCO					pmax		pmax		
	comp=Z,30nm,1.1s								
LCO	**Las Campanas**	**44.47**	**294**	*e*	P		**P**	**10 35 00.3**	**-0.7**
	comp=Z,30nm,1.1s								
FSA	**Cafayete**	**44.95**	**301**	*e*	P		**P**	**10 35 02.5**	**-2.3**
BOSA	**Boshof**	**45.80**	**68**	*P*	P		**P**	**10 35 10.9**	**-0.4**
	comp=Z,23nm,0.8s,baz=201,slow=8.2,SNR=31								
BOSA					LR		LR	10 50 02.3	
	comp=Z,534nm,21.9s,baz=206,slow=30								
BOSA	**Boshof**	**45.80**	**68**	*eP*	P		**P**	**10 35 10.9**	**-0.4**
BOSA					pmax		pmax		
	comp=Z,31nm,0.9s								
BOSA	**Boshof**	**45.80**	**68**	*eP*	P		**P**	**10 35 10.9**	**-0.4**
	comp=Z,31nm,0.9s								
YJA	**Yavi**	**48.26**	**304**	*e*	P		**P**	**10 35 29.8**	**-1.2**
CASY	**Casey**	**48.74**	**157**	*eP*	P		**P**	**10 35 35.0**	**+1.4**
	comp=Z,49nm,1.2s								
LBTB	**Lobatse**	**49.05**	**66**	*eP*	P		**P**	**10 35 36.1**	**-0.5**
LBTB					pmax		pmax		
	comp=Z,29nm,1.0s								
LBTB	**Lobatse**	**49.05**	**66**	*eP*	P		**P**	**10 35 36.1**	**-0.5**
	comp=Z,28nm,1.0s								
SIV	**San Ignacio**	**52.19**	**313**	P	P		**P**	**10 35 59.1**	**-1.1**
	comp=Z,26nm,0.6s,baz=162,slow=8.0,SNR=131								
SIV					LR		LR	10 57 25.2	
	comp=Z,146nm,20.1s,baz=184,slow=35								
H10S2	**ASCENSION HYDR**	**52.28**	**11**	T	T		T	11 32 41.0	
	baz=186,slow=75,SNR=24								
H10S3	**ASCENSION HYDR**	**52.28**	**11**	T	T		T	11 32 30.3	
	baz=186,slow=75,SNR=9.6								
H10S1	**ASCENSION HYDR**	**52.30**	**11**	T	T		T	11 32 29.7	
	baz=186,slow=75,SNR=17								
H10N1	**ASCENSION HYDR**	**53.39**	**12**	T	T		T	11 33 55.4	
	baz=186								
H10N3	**ASCENSION HYDR**	**53.40**	**12**	T	T		T	11 33 54.3	
	baz=186,slow=74								
H10N2	**ASCENSION HYDR**	**53.41**	**12**	T	T		T	11 33 55.6	
	baz=186,slow=74								
LPAZ	**La Paz**	**54.61**	**305**	P	P		**P**	**10 36 18.6**	**-0.2**
	comp=Z,8.3nm,0.5s,baz=144,slow=3.9,SNR=70								
LPAZ					LR		LR	10 59 47.4	
	comp=Z,97nm,21.5s,baz=164,slow=36								
LPAZ	**La Paz**	**54.61**	**305**	*eP*	P		**P**	**10 36 18.8**	**0.0**
LPAZ	**La Paz**	**54.61**	**305**	*eP*	P		**P**	**10 36 18.6**	**-0.2**
	comp=Z,18nm,0.9s								
RCBR	**Riachuelo**	**55.69**	**345**	*eP*	P		**P**	**10 36 24.9**	**-1.0**
	comp=Z,30nm,1.2s								
LSZ	**Lusaka**	**58.74**	**63**	*eP*	P		**P**	**10 36 47.0**	**-0.6**
LSZ					pmax		pmax		
	comp=Z,14nm,0.8s								
LSZ	**Lusaka**	**58.74**	**63**	*eP*	P		**P**	**10 36 47.0**	**-0.6**
	comp=Z,14nm,0.8s								
SAML	**Samuel**	**59.45**	**313**	*eP*	P		**P**	**10 36 51.5**	**-0.8**
	comp=Z,30nm,0.8s								
NNA	**Nana**	**62.11**	**298**	*i*	P		**P**	**10 37 11.0**	**+0.5**
NNA	**Nana**	**62.11**	**298**	*eP*	P		**P**	**10 37 09.6**	**-0.9**
	comp=Z,19nm,0.9s								
RPN	**Rapa Nui**	**64.55**	**260**	LR	LR		LR	10 57 28.6	
	comp=Z,156nm,20.0s,baz=132,slow=28								
OPO	**Ambohidratompo**	**64.72**	**83**	P	P		**P**	**10 37 29.1**	**+1.2**
	comp=Z,4.9nm,0.7s,baz=189,slow=4.4,SNR=5.2								
OPO					LR		LR	11 00 36.4	
	comp=Z,180nm,19.6s,baz=183,slow=31								
ATAH	**Atahualpa**	**67.12**	**299**	P	P		**P**	**10 37 44.7**	**+1.0**
	comp=Z,12nm,0.9s,baz=142,slow=5.4,SNR=6.0								
LIC	**Lamto**	**68.52**	**20**	*eP*	P		**P**	**10 37 51.1**	**-0.8**
	comp=Z,45nm,1.1s								
KIC	**Kosan Boka**	**68.70**	**20**	*eP*	P		**P**	**10 37 52.1**	**-0.9**
	comp=Z,26nm,0.9s								
TIC	**Toumodi**	**68.93**	**20**	*eP*	P		**P**	**10 37 53.8**	**-0.7**
DBIC	**Dimbokro**	**68.98**	**20**	P	P		**P**	**10 37 54.5**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=172,slow=5.6,SNR=4.6								
DBIC	**Dimbokro**	**68.98**	**20**	*eP*	P		**P**	**10 37 54.8**	**0.0**
DBIC					pmax		pmax		
	comp=Z,71nm,1.9s								
DBIC	**Dimbokro**	**68.98**	**20**	*eP*	P		**P**	**10 37 54.8**	**0.0**
	comp=Z,71nm,1.9s								
OTAV	**Otavalo**	**73.78**	**302**	P	P		**P**	**10 38 24.5**	**+0.1**
OTAV					pmax		pmax		
	comp=Z,24nm,1.1s								
OTAV	**Otavalo**	**73.78**	**302**	*eP*	P		**P**	**10 38 24.4**	**+0.1**
	comp=Z,24nm,1.0s								
OTAV	**Otavalo**	**73.78**	**302**	*eP*	P		**P**	**10 38 23.7**	**-0.7**
FLOC	**Florencia**	**73.86**	**305**	*eP*	P		**P**	**10 38 20.8**	**-3.6**
PCON	**Cinco Dias**	**74.83**	**305**	*eP*	P		**P**	**10 38 32.5**	**+1.9**
POPC	**Popayan, Colom**	**75.14**	**305**	*eP*	P		**P**	**10 38 33.1**	**+1.1**
PRAC	**Prado**	**75.50**	**307**	*eP*	P		**P**	**10 38 33.7**	**-0.2**
	comp=Z,58nm,1.2s								
PRAC	**Prado**	**75.50**	**307**	*eP*	P		**P**	**10 38 34.3**	**+0.4**
CHIC	**Chingaza**	**75.89**	**308**	*eP*	P		**P**	**10 38 38.4**	**+1.9**
ROSC	**El Rosal**	**76.30**	**308**	P	P		**P**	**10 38 39.4**	**+0.5**
	comp=Z,6.5nm,0.8s,baz=158,slow=12,SNR=6.0								
ROSC					LR		LR	11 12 12.2	
	comp=Z,134nm,21.1s,baz=150,slow=36								
ROSC	**El Rosal**	**76.30**	**308**	*eP*	P		**P**	**10 38 38.7**	**-0.2**
	comp=Z,8.1nm,0.9s								
YOTC	**Yotoco, Valle**	**76.32**	**305**	*eP*	P		**P**	**10 38 37.9**	**-0.7**
TOA0	**Torodi Ar. Sit**	**76.54**	**26**	*eP*	P		**P**	**10 38 39.7**	**+0.1**
	comp=Z,23nm,0.8s								
TORD	**Torodi Ar. Bea**	**76.54**	**26**	P	P		**P**	**10 38 39.7**	**0.0**
	comp=Z,21nm,0.7s,baz=192,slow=6.1,SNR=113								
TORD					LR		LR	11 05 21.8	
	comp=Z,144nm,20.2s,baz=200,slow=30								
RREF	**El Recreo**	**76.76**	**307**	*eP*	P		**P**	**10 38 41.6**	**-0.1**
KOWA	**Kowa**	**76.79**	**20**	P	P		**P**	**10 38 40.9**	**-0.1**
	comp=Z,6.9nm,0.9s,baz=209,slow=4.6,SNR=9.4								
KOWA					LR		LR	11 05 45.0	
	comp=Z,181nm,18.6s,baz=210,slow=30								
KOWA	**Kowa**	**76.79**	**20**	*eP*	P		**P**	**10 38 41.3**	**+0.3**
	comp=Z,15nm,1.2s								
RUSC	**La Rusia**	**76.80**	**309**	*eP*	P		**P**	**10 38 40.8**	**-0.9**
	comp=Z,23nm,1.4s								
RUSC	**La Rusia**	**76.80**	**309**	*eP*	P		**P**	**10 38 40.4**	**-1.4**
GUYC	**Guyana, Colomb**	**77.07**	**307**	*eP*	P		**P**	**10 38 42.7**	**-0.6**
NORC	**Norcasia**	**77.18**	**307**	*eP*	P		**P**	**10 38 40.7**	**-2.7**
BARC	**Barichara**	**77.48**	**309**	*eP*	P		**P**	**10 38 41.9**	**-3.4**
PCRV	**Puerto La Cruz**	**77.81**	**319**	P	P		**P**	**10 38 47.6**	**+0.8**
	comp=Z,38nm,0.8s,baz=148,slow=3.9,SNR=17								
PTBC	**PUERTO BERRIO,**	**77.91**	**308**	*eP*	P		**P**	**10 38 46.6**	**-0.8**
PAMC	**Pamplona, Colo**	**77.98**	**310**	*eP*	P		**P**	**10 38 45.4**	**-2.9**
HELC	**Santa Helena**	**78.01**	**307**	*eP*	P		**P**	**10 38 47.5**	**-0.9**
	comp=Z,34nm,1.2s								
HELC	**Santa Helena**	**78.01**	**307**	*eP*	P		**P**	**10 38 46.0**	**-2.4**
SDV	**Santo Domingo**	**78.65**	**313**	P	P		**P**	**10 38 52.0**	**+0.3**
	comp=Z,20nm,0.9s,baz=159,slow=5.2,SNR=24								
SDV					PP		**PP**	**10 41 47.8**	**-2.1**
	comp=Z,7.1nm,0.9s,baz=198,slow=6.9,SNR=4.3								
SDV					LR		LR	11 12 47.2	
	comp=Z,153nm,22.0s,baz=190,slow=35								
SDV	**Santo Domingo**	**78.65**	**313**	*eP*	P		**P**	**10 38 51.3**	**-0.5**
	comp=Z,25nm,0.9s								
SDV					PP		**PP**	**10 41 47.8**	**-2.1**
ZARC	**Zaragoza, Cauc**	**78

comp=Z,12nm,1.4s
KEST Kesra 100.03 27 LR LR 11 21 22.9
comp=Z,132nm,18.0s,baz=268,slow=33
CLL Collm 115.68 25 *i* PKIKP **PKPdf** **10 45 32.3 +1.7**
CLL Collm 115.68 25 *i* PKiKP **PKPdf** **10 45 32.3 +1.7**
CLL LmV 11 29 00.0
comp=Z,100nm,21.5s
KIV Kislovodsk 117.55 48 *i* PKIKP **PKPdf** **10 45 36.6 +2.0**
KIV pmax pmax
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 121.71 110 PKP **PKPdf** **10 45 43.0 -0.3**
comp=Z,0.7nm,0.3s,baz=216,slow=2.7,SNR=4.8
SHPR Sheep Range 121.73 289 *e*PKPdf **PKPdf** **10 45 43.9 +0.8**
HWUT Hardware Ranch 124.24 295 *e*PKPdf **PKPdf** **10 45 47.0 -0.8**
PDAR Pinedale Array 124.29 297 PKP **PKPdf** **10 45 46.6 -1.2**
comp=Z,0.4nm,0.7s,baz=166,slow=1.9,SNR=3.5
PDAR Pinedale Array 124.29 297 *e*PKPdf **PKPdf** **10 45 46.9 -0.9**
NB2 NORSAR Subarra 124.55 20 PKPdf **PKPdf** **10 45 46.9 -0.6**
comp=Z,5.4nm,1.4s,baz=202,slow=1.9
NOA NORSAR Array B 124.55 20 PKP **PKPdf** **10 45 46.8 -0.6**
comp=Z,1.4nm,0.9s,baz=196,slow=1.9,SNR=3.9
NVAR Mina Array Bea 124.75 288 PKP **PKPdf** **10 45 47.9 -0.9**
comp=Z,0.3nm,0.3s,baz=117,slow=1.4,SNR=3.5
ULM Lac du Bonnet 124.90 312 PKP **PKPdf** **10 45 46.9 -1.5**
comp=Z,1.3nm,0.6s,baz=241,slow=1.6,SNR=4.5
MOOW Moose Ponds 125.60 297 *e*PKPdf **PKPdf** **10 45 50.2 -0.1**
FXWY Fox Creek 125.63 297 *e*PKPdf **PKPdf** **10 45 50.9 +0.5**
LAO LASA Array 126.03 302 *e*PKPdf **PKPdf** **10 45 52.8 +2.0**
YHH Holmes Hill 126.47 298 *e*PKPdf **PKPdf** **10 45 52.1 +0.1**
FINES FINESS Array B 127.86 28 PKP **PKPdf** **10 45 52.8 -0.8**
comp=Z,4.4nm,0.8s,baz=221,slow=1.3,SNR=6.7
FIA1 FINESS Array S 127.86 28 *e*PKPdf **PKPdf** **10 45 53.1 -0.6**
ABKAR Akbulak array 128.62 56 *e*PKPdf **PKPdf** **10 45 54.8 -0.8**
KMI Kunming 129.22 110 PKP **PKPdf** **10 45 55.5 -2.3**
AAK Ala-Archa 129.86 72 PKP **PKPdf** **10 45 58.6 +0.3**
comp=Z,1.3nm,0.7s,baz=185,slow=5.3,SNR=5.8
AAK Ala-Archa 129.86 72 *e*PKPdf **PKPdf** **10 45 58.4 0.0**
GYA Guiyang 132.15 113 *e*Pdif **Pdif** **10 42 59.0 +1.4**
GYA PKP **PKiKP** **10 46 04.0 -0.2**
GYA PP **PP** **10 48 31.0 +5.7**
GYA AMB AMB
comp=Z,130nm,8.0s
ARU Arti 133.57 49 *i* PKIKP **PKPdf** **10 46 03.2 -1.5**
ARU 10 48 30.9
ARU SS SS 11 06 14.4 -5.2
CD2 Chengdu 134.60 107 PKP **PKPdf** **10 46 08.3 +0.7**
BRVK Borovoye 135.77 60 ⇑*i* PKIKP **PKPdf** **10 46 05.4 -3.5**
BVAR Borovoye Array 135.79 60 PKP **PKPdf** **10 46 08.5 -0.5**
comp=Z,1.3nm,0.8s,baz=232,slow=4.7,SNR=6.1
MK01 Makanchi Array 136.62 74 *e*PKPdf **PKPdf** **10 46 09.3 -1.5**
MK31 Makanchi Array 136.64 74 *e*PKIKP **PKPdf** **10 46 10.0 -0.8**
MK31 Makanchi Array 136.64 74 *e*PKPdf **PKPdf** **10 46 10.0 -0.8**
MKAR Makanchi Array 136.64 74 PKP **PKPdf** **10 46 09.3 -1.4**
comp=Z,0.8nm,0.8s,baz=242,slow=3.1,SNR=8.1
MKAR Makanchi Array 136.64 74 *e*PKIKP **PKPdf** **10 46 09.8 -1.0**
MKAR Makanchi Array 136.64 74 *e*PKPdf **PKPdf** **10 46 09.8 -1.0**
WMQ Urumqi 137.03 81 *e*PKP **PKPdf** **10 46 13.5 +1.8**
WMQ LR LR
comp=Z,100nm,27.9s
KURBB Kurchatov Arra 137.65 67 PKP **PKPdf** **10 46 13.4 +0.9**
comp=Z,1.4nm,0.9s,baz=241,slow=2.6,SNR=6.1
KURK Kurchatov 137.76 67 PKIKP **PKPdf** **10 46 13.4 +0.7**
KURK Kurchatov 137.76 67 PKP **PKPdf** **10 46 13.4 +0.7**
LZH Lanzhou 138.90 103 *e*PKP **PKPdf** **10 46 16.0 +0.5**
LZH sPKP 10 46 32.8
LZH LR LR
comp=Z,150nm,19.8s
LZH LR LR
comp=Z,160nm,18.5s
LZH LR LR
comp=Z,170nm,20.2s
YKA Yellowknife Ar 140.87 313 PKhKP PKPpre 10 46 10.0
YKA PKP **PKiKP** **10 46 19.3 -1.3**
comp=Z,1.4nm,0.6s,baz=128,slow=2.1,SNR=26
YKW3 Yellowknife Ar 140.92 313 *e*PKPdf **PKPdf** **10 46 19.5 +1.5**
NJ2 Nanjing 142.26 123 *e*PKP **PKPdf** **10 46 24.0 +2.5**
NVS Novosibirsk 142.61 66 *e*PKIKP PKPdf 10 46 31.8 +10
ZALV Zalesovo Beam 142.75 68 PKP **PKPdf** **10 46 20.2 -1.4**
comp=Z,0.2nm,0.3s,baz=263,slow=2.5,SNR=2.3
ZALV Zalesovo Beam 142.75 68 *e*PKPpre PKPpre 10 46 17.5
RES Resolute Bay 143.02 335 *e*PKIKP PKPpre 10 46 17.7
RES Resolute Bay 143.02 335 *e*PKPpre PKPpre 10 46 17.7
DLBC Dease Lake 144.46 300 *e*PKPdf PKPbc 10 46 23.8 +0.6
TIA Tai'an 145.10 117 PKPbc **PKPbc** **10 46 25.3 -0.5**
BTO Baotou 145.42 105 *e*PKPbc **PKPdf** **10 46 26.0 -0.9**
HHC Hu-ho-hao-te 146.34 106 *e*PKPbc **PKPdf** **10 46 28.5 0.0**
SKAG Skagway 147.31 298 *e*PKPbc **PKPbc** **10 46 31.8 +0.1**
WHY Whitehorse 147.75 301 *e*PKPbc **PKPbc** **10 46 33.0 0.0**
HYT Haines Junctio 148.95 300 *e*PKPbc **PKPbc** **10 46 36.1 0.0**
HYT *e*PKPab **PKPab** **10 46 40.6 +0.3**
SONM Songino Array 149.01 92 PKPbc **PKPbc** **10 46 35.8 -0.9**
comp=Z,3.6nm,0.8s,baz=221,slow=3.5,SNR=16
SONA1 Songino Array 149.03 92 *e*PKPbc **PKPbc** **10 46 36.0 -0.8**
ZAK Zakamensk 149.19 86 *e*PKP2 **PKPbc** **10 46 36.2 -0.9**
ZAK pmax pmax
comp=Z,12nm,1.5s
ULN Ulaanbaatar 149.35 93 *e*PKP2 **PKPbc** **10 46 39.6 +1.9**
ULN Ulaanbaatar 149.35 93 *e*PKPbc **PKPbc** **10 46 39.6 +1.9**
TLY Talaya 150.20 84 PKPbc **PKPbc** **10 46 38.4 -1.0**
comp=Z,1.8nm,0.4s,baz=245,slow=4.6,SNR=4.2
TLY Talaya 150.20 84 *e*PKIKP **PKPbc** **10 46 39.5 +0.1**
TLY pmax pmax
comp=Z,9.0nm,1.3s
KSAR Wonju Array Be 150.54 130 PKIKP **PKPbc** **10 46 40.6 -0.1**
KSAR Wonju Array Be 150.54 130 PKPbc **PKPbc** **10 46 40.5 -0.1**
KSRS Korea Array 150.57 130 PKPbc **PKPbc** **10 46 40.5 -0.1**
comp=Z,3.0nm,0.8s,baz=185,slow=2.3,SNR=5.7
KS01 Wonju Array Si 150.58 130 *e*PKPbc **PKPbc** **10 46 40.6 -0.1**
INK Inuvik 150.59 315 PKPbc **PKPbc** **10 46 39.3 -0.4**
comp=Z,7.2nm,0.7s,baz=67,slow=2.0,SNR=71
BALM Baldy 151.12 298 *e*PKIKP **PKPbc** **10 46 40.3 -1.1**
BALM *e* 10 46 49.9
BALM Baldy 151.12 298 *e*PKPbc **PKPbc** **10 46 40.3 -1.1**
BALM *e*PKPab **PKPab** **10 46 49.9 +0.6**
DAWY Dawson 151.20 305 *e*PKPdf **PKPbc** **10 46 40.5 -0.9**
DAWY *e*PKPbc **PKPbc** **10 46 40.7 -0.7**
BMRM Bremner River 152.08 297 *e*PKPbc **PKPbc** **10 46 44.2 +0.7**
EGAK Eagle 152.18 305 *e*PKPbc **PKPbc** **10 46 42.9 -0.7**
EYAK Cordova Ski Ar 152.40 295 *e*PKPbc **PKPbc** **10 46 44.2 +0.1**
MENT Mentasta 152.53 301 *e*PKPbc **PKPbc** **10 46 43.3 -1.2**
KLU Klutina 152.88 297 *e*PKPbc **PKPbc** **10 46 46.4 +1.0**
KLU *e*PKPab **PKPab** **10 46 56.0 -0.6**
HARP HAARP 152.92 299 *e*PKPbc **PKPbc** **10 46 45.2 -0.1**
DOT Dot Lake 152.94 302 *e*PKPbc **PKPbc** **10 46 46.0 +0.6**
SCRK Sand Creek 153.03 303 *e*PKPbc **PKPbc** **10 46 45.6 0.0**
MJAR Matsushiro Arr 153.08 147 PKPbc **PKPbc** **10 46 45.4 -1.1**
comp=Z,1.9nm,0.9s,baz=203,slow=4.6,SNR=5.5
PAX Paxson 153.28 300 *e*PKIKP **PKPbc** **10 46 46.9 +0.7**
PAX *e* 10 46 57.6
PAX Paxson 153.28 300 *e*PKPbc **PKPbc** **10 46 46.9 +0.7**
PAX *e*PKPab **PKPab** **10 46 57.6 -0.7**
RIDG Independ'e Rid 153.30 302 *e*PKPbc **PKPbc** **10 46 46.5 +0.3**
SCM Sheep Creek Mo 153.63 297 *e*PKIKP **PKPbc** **10 46 44.9 -2.1**
SCM Sheep Creek Mo 153.63 297 *e*PKPbc **PKPbc** **10 46 44.9 -2.1**
SML Sawmill 154.06 297 *e*PKIKP **PKPbc** **10 46 47.7 -0.2**
SML Sawmill 154.06 297 *e*PKPbc **PKPbc** **10 46 47.7 -0.2**
DHY Denali Highway 154.12 300 *e*PKPbc **PKPbc** **10 46 46.4 -1.7**
PMR Palmer 154.33 296 *e*PKIKP **PKPbc** **10 46 48.4 +0.1**
PMR Palmer 154.33 296 *e*PKPbc **PKPbc** **10 46 48.4 +0.1**
FYU Fort Yukon 154.35 308 *e*PKPbc **PKPbc** **10 46 49.2 +1.0**
BRLK Bradley Lake 154.36 291 *e*PKPab **PKPab** **10 47 03.4 +0.5**
IL1 Eielson Array 154.49 304 *e*PKPbc **PKPbc** **10 46 50.2 +1.6**
ILAR Eielson Array 154.49 304 PKPbc **PKPbc** **10 46 48.4 -0.2**
comp=Z,0.6nm,0.7s,baz=134,slow=1.9,SNR=12
ILB Eielson Array 154.49 304 *e*PKPbc **PKPbc** **10 46 50.0 +1.4**
WRH Wood River Hil 154.89 302 *e*PKPbc **PKPbc** **10 46 49.4 0.0**
COLA College 154.91 303 *e*PKP2 **PKPab** **10 47 05.7 +0.7**
COLA College 154.91 303 *e*PKPab **PKPab** **10 47 05.7 +0.7**
PPLA Purkeypile 156.13 297 *e*PKPab **PKPab** **10 47 11.0 +0.5**
MLY Manley 156.14 303 *e*PKPab **PKPab** **10 47 10.3 -0.1**
CAST Castle Rocks 156.25 299 *e*PKPab **PKPab** **10 47 11.0 +0.1**
TOLK Toolik Lake Re 156.40 312 *e*PKPdif PKPdf 10 46 52.7 +10
COLD Coldfoot 156.41 308 *e*PKPdif PKPdf 10 46 53.2 +10
COLD *e*PKPab **PKPab** **10 47 12.1 +0.7**
IM3 Indian Mountai 157.57 305 *e*PKPdif PKPdf 10 46 55.6 +11
IM3 *e*PKPab **PKPab** **10 47 17.0 +0.5**
TIXI Tiksi 164.80 34 PKPab **PKPab** **10 47 48.1 +0.2**
comp=Z,0.6nm,0.2s,baz=90,slow=4.0,SNR=6.4
TIXI Tiksi 164.80 34 *e*PKPab **PKPab** **10 47 48.3 +0.4**
GAMB Gambell 164.90 295 *e*PKPab **PKPab** **10 47 49.6 +1.0**
NKL Nikolayevsk 168.56 126 *e*PKIKP **PKPdf** **10 46 55.0 -0.1**

MEX 25 10:29:11.8±0.9, 16°.34N×98°.14W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.06**	**13**	*i* P		Pg		10 29 12.2	-1.1
PNIG				*i* S		Sg		10 29 14.1	-0.2
TLIG	**Tlapa**	**1.29**	**342**	*e*P		Pg		10 29 33.5	-3.1
TLIG				*i* S		Sg		10 29 49.6	-3.6
VHO	**Vista Hermosa**	**1.54**	**61**	*e*P		Pn		10 29 37.1	-2.9
VHO				*i* S		Sn		10 29 55.7	-4.9
ACX	**Acapulco**	**1.73**	**288**	*i* P		Pb		10 29 44.4	+0.3
ACX				*i* S		Sb		10 30 06.0	-0.2
CAIG	**El Cayaco**	**2.16**	**289**	*i* P		Pn		10 29 44.1	-4.4
CAIG				*e*S		Sn		10 30 11.3	-4.3
PLIG	**Platanillo**	**2.42**	**328**	*e*P		Pn		10 29 47.5	-4.7
PLIG				*e*S		Sn		10 30 18.3	-4.0

*ISCJB **25** 10:55:04.0±0.7, 12°.9N±0°.1×143°.5E±0°.1, h150km, mb3.6/8, Error ellipse: s-maj=17.3km s-min=12.4km az=147.0*
*IDC **25** 10:55:05.7±1.6, 12°.91N×143°.58E, h149km±22km, mb3.3/8, mb1 3.4/8, mb1mx3.2/63, mbtmp3.7/8, MS3.7/2, Ms1 3.7/2, ms1mx2.8/24, Error ellipse: s-maj=41.1km s-min=15.1km az=92.0*
ISC 25 10:55:05.6±1.0, 12°.9N±0°.2×143°.6E±0°.1, h150km, n11, σ0s47/10, mb3.5/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.41**	**61**	P		P	**Pn**	**10 55 33.8**	**-0.5**
	26nm,0.3s,baz=259,slow=2.3,SNR=22								
GUMO				S			**Sn**	**10 55 56.7**	**+0.5**
	30nm,0.3s,baz=325,slow=22,SNR=6.8								
MJAR	**Matsushiro Arr**	**24.02**	**349**	P		P	**P**	**11 00 06.0**	**-0.6**
	0.8nm,0.6s,baz=154,slow=9.9,SNR=4.2								
WRA	**Warramunga Arr**	**33.90**	**196**	P		P	**P**	**11 01 34.0**	**-0.4**
	0.5nm,0.5s,baz=20,slow=9.7,SNR=19								
ASAR	**Alice Springs**	**37.57**	**195**	P		P	**P**	**11 02 06.0**	**+0.3**
	0.2nm,0.3s,baz=21,slow=12,SNR=6.8								
URZ	**Urewera**	**59.80**	**150**	LR		LR		11 25 31.5	
	comp=Z,38nm,20.4s,baz=360,slow=30								
MKAR	**Makanchi Array**	**61.12**	**317**	P		P	**P**	**11 05 04.5**	**+0.5**
	0.3nm,0.5s,baz=84,slow=8.6,SNR=2.6								
ZALV	**Zalesovo Beam**	**61.45**	**325**	P		P	**P**	**11 05 06.1**	**+0.1**
	0.8nm,0.4s,baz=121,slow=6.6,SNR=3.4								
RPZ	**Rata Peaks**	**61.68**	**158**	LR		LR		11 27 04.3	
	comp=Z,87nm,21.0s,baz=246,slow=31								
KURBB	**Kurchatov Arra**	**64.34**	**320**	P		P	**P**	**11 05 25.4**	**+0.2**
	1.3nm,0.6s,baz=105,slow=6.8,SNR=14								
BVAR	**Borovoye Array**	**69.69**	**322**	P		P	**P**	**11 05 59.1**	**+0.2**
	1.4nm,0.5s,baz=105,slow=9.6,SNR=13								
ILAR	**Eielson Array**	**69.71**	**25**	P		P	**P**	**11 05 59.1**	**+0.3**
	0.5nm,0.9s,baz=244,slow=6.2,SNR=5.5								

*ATA **25** 10:56:54.9±2.2, 39°.43N×44°.77E, h15km±36km, ML3.4, MW3.4*
*NSSP **25** 10:56:57.1, 39°.37N×44°.45E, h8km, Ms3.1*
*DDA **25** 10:56:58.0, 39°.40N×44°.51E, h6km, Ml2.8*
*TEH **25** 10:56:58.0, 39°.19N×44°.55E, h8km, ML2.9*
*CSEM **25** 10:56:59.5±0.4, 39°.41N×44°.38E, h2km, ML2.8, Error ellipse: s-maj=11.8km s-min=5.9km az=150.0*
ISC 25 10:56:58.5±1.2, 39°.38N±0°.03×44°.45E±0°.02, h3km±11km, n37, σ1s49/50, 4C-2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.47**	**241**	PG		**Pg**		**10 57 07.1**	**-0.5**
CLDR	**Caldiran**	**0.47**	**241**	*i* P		**Pg**		**10 57 06.9**	**-0.7**
CLDR				*i* S		**Sb**		**10 57 16.2**	**-0.9**
CLDR	**Caldiran**	**0.47**	**241**	P		**Pg**		**10 57 06.9**	**-0.7**
CLDR				S		**Sb**		**10 57 16.2**	**-0.9**
IGDI	**IGDIR**	**0.57**	**330**	*e*P		**Pg**		**10 57 09.0**	**-0.4**
IGDI				*e*S		**Sb**		**10 57 17.6**	**-2.2**
IGDI				IAML				10 57 19.2	
	comp=Z,127nm,0.2s								
IGDI	**IGDIR**	**0.57**	**330**	*i* P		**Pg**		**10 57 09.1**	**-0.4**
IGDI				*i* S		**Sb**		**10 57 17.7**	**-2.0**
DYDN	**Diyadin**	**0.61**	**286**	*e*P		**Pg**		**10 57 11.2**	**+0.9**
DYDN				*e*S		**Sn**		**10 57 26.0**	**+1.2**
DYDN				IAML				10 57 33.0	
	comp=Z,83nm,0.4s								
DYDN	**Diyadin**	**0.61**	**286**	*i* P		**Pb**		**10 57 11.3**	**-0.6**
DYDN	**Diyadin**	**0.61**	**286**	P		**Pb**		**10 57 11.4**	**-0.6**
TASB	**TASBURUN-IGDIR**	**0.63**	**345**	*e*PG		**Pg**		**10 57 10.2**	**-0.4**
VMUR	**Van-Muradiye**	**0.78**	**241**	*i* P		**Pg**		**10 57 13.7**	**+0.2**
VMUR	**Van-Muradiye**	**0.78**	**241**	P		**Pg**		**10 57 13.7**	**+0.2**
GNI	**Garni**	**0.81**	**16**	⇑*i* P		**Pg**		**10 57 13.0**	**-1.0**
GNI				⇑*i* S		**Sg**		**10 57 24.3**	**-0.2**
GNI	**Garni**	**0.81**	**16**	⇑P		**Pg**		**10 57 13.0**	**-1.0**
GNI				S		**Sg**		**10 57 24.3**	**-0.2**
IMRD	**Marand**	**1.18**	**124**	*e*Pg		**Pg**		**10 57 18.7**	**-2.5**
IMRD				*e*AMB		AMB		10 57 40.9	
	comp=Z,13μm,0.1s								
TUTA	**Tutak**	**1.27**	**272**	*e*P		**Pn**		**10 57 23.8**	**+0.4**
TUTA				*e*S		**Sn**		**10 57 46.3**	**+5.3**
TUTA	**Tutak**	**1.27**	**272**	*i* P		**Pb**		**10 57 23.2**	**0.0**
TUTA	**Tutak**	**1.27**	**272**	P		**Pb**		**10 57 23.2**	**0.0**
VADZ	**Vardenis**	**1.28**	**51**	*e*P		**Pb**		**10 57 24.0**	**+0.6**
VADZ				*e*S		**Sn**		**10 57 43.0**	**+1.7**
VADZ	**Vardenis**	**1.28**	**51**	P		**Pb**		**10 57 24.0**	**+0.6**
VADZ				S		**Sn**		**10 57 43.0**	**+1.7**
DIGO	**Kars**	**1.32**	**322**	*e*P		**Pb**		**10 57 24.0**	**-0.2**
DIGO	**Kars**	**1.32**	**322**	*i* P		**Pn**		**10 57 23.5**	**-0.7**
DIGO	**Kars**	**1.32**	**322**	P		**Pn**		**10 57 23.5**	**-0.7**
ISHB	**Shabestar**	**1.42**	**140**	*e*Pg		**Pg**		**10 57 22.8**	**-2.7**
ISHB				*e*AMB		AMB		10 57 54.9	
	comp=Z,3μm,0.2s								
EAK	**Akyaka**	**1.46**	**334**	*e*P		**Pn**		**10 57 25.4**	**-0.6**
GRS	**Goris**	**1.47**	**85**	⇓*i* P		**Pg**		**10 57 28.0**	**+1.3**
GRS				⇑*i* S		**Sg**		**10 57 49.0**	**+3.3**
GRS	**Goris**	**1.47**	**85**	⇓P		**Pg**		**10 57 28.0**	**+1.3**
GRS				S		**Sg**		**10 57 49.0**	**+3.3**
GEVA	**Gevas**	**1.52**	**226**	*e*P		**Pn**		**10 57 25.4**	**-1.4**
EATA	**Eleskirt**	**1.58**	**288**	*e*P		**Pg**		**10 57 28.9**	**0.0**
EATA	**Eleskirt**	**1.58**	**288**	*i* P		**Pg**		**10 57 28.9**	**0.0**
EATA	**Eleskirt**	**1.58**	**288**	P		**Pg**		**10 57 28.9**	**0.0**
ITBZ	**Tabriz**	**1.75**	**130**	*e*Pn		**Pn**		**10 57 28.8**	**-1.2**
ITBZ				*e*Sn		**Sn**		**10 57 51.6**	**-1.3**
ITBZ				*e*AMB		AMB		10 57 57.7	
	comp=N,2μm,0.1s								
EKAR	**Karacoban**	**1.85**	**267**	*e*P		**Pb**		**10 57 32.8**	**-0.4**
HOMI	**Horasan**	**2.07**	**290**	*e*P		**Pb**		**10 57 37.0**	**+0.1**
DGRG	**David-gareji**	**2.19**	**19**	*e*P		**Pn**		**10 57 34.4**	**-1.5**
DGRG	**David-gareji**	**2.19**	**19**	P		**Pb**		**10 57 38.0**	**-0.8**
ERZM	**Erzurum**	**2.44**	**284**	*e*P		**Pb**		**10 57 42.3**	**-0.9**
IBST	**Bostanabad**	**2.55**	**130**	*e*Pn		**Pn**		**10 57 41.7**	**+0.7**
IBST				*e*AMB		AMB		10 58 25.2	
	comp=Z,185nm,0.2s								

MEX 25 11:01:23.2±0.3, 16°.12N×98°.48W, h16km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**51**	*i* P		Pg		11 01 30.5	-1.5
PNIG				*i* S		Sg		11 01 36.4	-1.6
TLIG	**Tlapa**	**1.44**	**357**	*e*P		Pn		11 01 45.2	-3.6
TLIG				*e*S		Sn		11 02 02.3	-5.1
ACX	**Acapulco**	**1.52**	**300**	*e*P		Pb		11 01 50.8	-0.3
ACX				*i* S		Sn		11 02 09.9	-0.4
VHO	**Vista Hermosa**	**1.93**	**60**	*e*P		Pn		11 01 52.0	-3.5
VHO				*e*S		Sn		11 02 14.9	-4.6
CAIG	**El Cayaco**	**1.95**	**299**	*e*P		Pn		11 01 52.7	-2.9
CAIG				*e*S		Sn		11 02 14.6	-5.2
PLIG	**Platanillo**	**2.46**	**337**	*e*P		Pn		11 02 00.2	-2.6
PLIG				*e*S		Sn		11 02 28.1	-4.6

MEX 25 11:10:35.3±0.7, 16°.18N×98°.35W, h4km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**46**	*i* P		Pg		11 10 40.4	-0.8
PNIG				*i* S		Sg		11 10 45.6	+0.5
TLIG	**Tlapa**	**1.39**	**352**	*e*P		Pn		11 10 57.8	-3.7
TLIG				*e*S		Sg		11 11 15.0	-4.9
ACX	**Acapulco**	**1.60**	**295**	*i* P		Pn		11 11 03.9	-0.4
ACX				*i* S		Sn		11 11 21.7	-3.6
VHO	**Vista Hermosa**	**1.79**	**60**	*e*P		Pn		11 11 04.1	-3.0
VHO				*e*S		Sn		11 11 25.4	-4.9
CAIG	**El Cayaco**	**2.03**	**295**	*e*P		Pn		11 11 07.3	-2.9
CAIG				*e*S		Sn		11 11 31.1	-4.8
PLIG	**Platanillo**	**2.46**	**334**	*e*P		Pn		11 11 13.4	-2.8
PLIG				*e*S		Sn		11 11 42.5	-4.2

*NSSP **25** 11:13:02.2, 39°.40N×44°.52E, h8km, Ms3.0*
*ATA **25** 11:13:03.3±1.5, 39°.46N×44°.55E, h6km±27km, ML3.4, MW3.2*
*TEH **25** 11:13:03.9, 39°.31N×44°.67E, h10km, ML2.9*
*CSEM **25** 11:13:04.7±0.3, 39°.43N×44°.45E, h2km, ML2.9, Error ellipse: s-maj=9.0km s-min=5.3km az=141.0*
*DDA **25** 11:13:04.7, 39°.41N×44°.44E, h7km, Ml2.9*
ISC 25 11:13:04.2±1.1, 39°.41N±0°.02×44°.50E±0°.02, h8km±11km, n42, σ1s20/58, 4C-3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.52**	**240**	PG		**Pg**		**11 13 12.2**	**-2.2**
CLDR				SG		**Sg**		**11 13 21.7**	**+0.4**
CLDR	**Caldiran**	**0.52**	**240**	*i* P		**Pg**		**11 13 13.5**	**-0.9**
CLDR				*i* S		**Sg**		**11 13 21.4**	**+0.1**
CLDR	**Caldiran**	**0.52**	**240**	P		**Pg**		**11 13 13.5**	**-0.9**
CLDR				S		**Sg**		**11 13 21.4**	**+0.1**
IGDI	**IGDIR**	**0.56**	**325**	*e*P		**Pg**		**11 13 14.2**	**-1.0**
IGDI				*e*S		**Sg**		**11 13 22.5**	**0.0**
IGDI				IAML				11 13 24.4	
	comp=Z,185nm,0.2s								
IGDI	**IGDIR**	**0.56**	**325**	*i* P		**Pg**		**11 13 14.3**	**-0.9**
IGDI				*i* S		**Sg**		**11 13 23.1**	**+0.6**
TASB	**TASBURUN-IGDIR**	**0.61**	**341**	PG		**Pg**		**11 13 15.4**	**-0.6**
TASB				SG		**Sb**		**11 13 25.9**	**-0.1**
DYDN	**Diyadin**	**0.64**	**282**	*e*P		**Pg**		**11 13 16.9**	**+0.3**
DYDN				*e*S		**Sb**		**11 13 27.6**	**+0.5**
DYDN				IAML				11 13 38.9	
	comp=Z,113nm,0.5s								
DYDN	**Diyadin**	**0.64**	**282**	*i* P		**Pg**		**11 13 16.5**	**-0.2**
DYDN	**Diyadin**	**0.64**	**282**	P		**Pg**		**11 13 16.5**	**-0.2**
GNI	**Garni**	**0.76**	**14**	⇑*i* P		**Pg**		**11 13 18.3**	**-0.7**
GNI				⇑*i* S		**Sb**		**11 13 29.5**	**-1.0**
GNI	**Garni**	**0.76**	**14**	⇑P		**Pg**		**11 13 18.3**	**-0.7**
GNI				S		**Sb**		**11 13 29.5**	**-1.0**
VMUR	**Van-Muradiye**	**0.83**	**240**	*i* P		**Pg**		**11 13 20.2**	**-0.1**
VMUR				*i* S		**Sg**		**11 13 31.9**	**+0.7**
VMUR	**Van-Muradiye**	**0.83**	**240**	P		**Pg**		**11 13 20.2**	**-0.1**
VMUR				S		**Sg**		**11 13 31.9**	**+0.7**
IMRD	**Marand**	**1.17**	**126**	*e*Pg		**Pg**		**11 13 23.9**	**-2.7**
IMRD				*e*AMB		AMB		11 13 42.1	
	comp=Z,12μm,0.1s								
TVAN	**Van**	**1.22**	**224**	*i* P		**Pg**		**11 13 27.4**	**-0.4**
TVAN	**Van**	**1.22**	**224**	P		**Pg**		**11 13 27.4**	**-0.4**
TUTA	**Tutak**	**1.31**	**270**	*e*P		**Pn**		**11 13 28.6**	**-0.4**
TUTA				*i* Pg		**Pg**		**11 13 30.0**	**+0.7**
TUTA	**Tutak**	**1.31**	**270**	*i* P		**Pn**		**11 13 28.5**	**-0.5**
TUTA	**Tutak**	**1.31**	**270**	P		**Pn**		**11 13 28.5**	**-0.5**
DIGO	**Kars**	**1.33**	**320**	*e*P		**Pg**		**11 13 30.3**	**+0.6**
DIGO	**Kars**	**1.33**	**320**	*i* P		**Pn**		**11 13 29.1**	**-0.3**
DIGO	**Kars**	**1.33**	**320**	P		**Pn**		**11 13 29.1**	**-0.3**
GRS	**Goris**	**1.42**	**86**	⇓*i* P		**Pg**		**11 13 32.0**	**+0.5**
GRS				⇑*i* S		**Sg**		**11 13 53.0**	**+3.0**
GRS	**Goris**	**1.42**	**86**	⇓P		**Pg**		**11 13 32.0**	**+0.5**
GRS				S		**Sg**		**11 13 53.0**	**+3.0**
ISHB	**Shabestar**	**1.42**	**142**	*e*Pg		**Pn**		**11 13 28.8**	**-1.8**
ISHB				*e*Sg		**Sb**		**11 13 47.9**	**-1.7**
ISHB				*e*AMB		AMB		11 13 56.1	
	comp=Z,3μm,0.2s								
EAK	**Akyaka**	**1.45**	**332**	*e*P		**Pb**		**11 13 31.2**	**-0.3**
ADCV	**BITLIS_Adilcev**	**1.51**	**247**	*i* P		**Pg**		**11 13 33.1**	**0.0**
ADCV	**BITLIS_Adilcev**	**1.51**	**247**	P		**Pg**		**11 13 33.1**	**0.0**
GEVA	**Gevas**	**1.57**	**226**	*e*P		**Pn**		**11 13 33.0**	**+0.4**
GEVA				*e*

STKA	Stephens Creek	36.32	238	*eP*		P		11 34 18.9	+1.7	
	1.9nm,0.8s									
H11S2	WAKE ISLAND Hy	36.37	342		T		T	12 12 49.0		
	baz=162,slow=76,SNR=4.8									
H11S3	WAKE ISLAND Hy	36.38	342		T		T	12 12 47.3		
	baz=162,slow=76,SNR=15									
H11S1	WAKE ISLAND Hy	36.38	342		T		T	12 12 48.6		
	baz=162,slow=76,SNR=8.1									
WAKE	Wake Island	37.13	342	*eP*		P		11 34 22.4	-1.7	
	222nm,1.1s									
BBOO	Buckleboo	41.09	239	*eP*		P		11 34 58.2	+0.9	
	22nm,1.3s									
WB2	Warramunga Arr	41.42	258	*eP*		P		11 34 59.4	-0.8	
WRAB	Tennant Creek	41.42	258	*eP*		P		11 34 59.1	-1.1	
	4.4nm,1.0s									
WRA	Warramunga Arr	41.43	258	P		P		11 34 59.5	-0.8	
	4.6nm,1.0s,baz=90,slow=8.8,SNR=22									
TAOE	Nuku Hiva Isla	41.58	85	*e*LR		LR		11 46 29.1		
	353nm,27.7s									
AS01	Alice Springs	41.77	253	*eP*		P		11 35 03.0	-0.1	
AS31	Alice Springs	41.81	253	*eP*		P		11 35 03.4	0.0	
	4.4nm,0.8s									
ASAR	Alice Springs	41.81	253	P		P		11 35 03.4	-0.1	
	15nm,0.8s,baz=82,slow=8.9,SNR=120									
ASAR				LR		LR		11 52 01.9		
	comp=Z,86nm,18.2s,baz=110,slow=36									
GUMO	Guam	44.17	311	LR		LR		11 52 36.3		
	comp=Z,48nm,18.4s,baz=130,slow=34									
FITZ	Fitzroy Crossi	49.78	260	P		P		11 36 07.3	+0.9	
	6.1nm,1.2s,baz=107,slow=12,SNR=3.8									
MBWA	Marble Bar	55.01	255	*eP*		P		11 36 45.1	0.0	
	28nm,1.3s									
DAV	Davao City (W)	56.75	290	LR		LR		11 57 49.1		
	comp=Z,40nm,21.7s,baz=139,slow=32									
VNDA	Vanda	61.68	184	*eP*		P		11 37 30.7	-0.1	
	2.1nm,1.2s									
SBA	Scott Base	61.73	183	*eP*		P		11 37 31.4	+0.2	
	6.5nm,1.0s									
RPN	Rapa Nui	67.65	113	LR		LR		12 00 31.6		
	comp=Z,64nm,21.9s,baz=236,slow=30									
QSPA	South Pole Qui	73.65	180	P		P		11 38 46.4	-0.3	
	7.9nm,1.0s,baz=3.9,slow=2.4,SNR=13									
QSPA	South Pole Qui	73.65	180	*eP*		P		11 38 46.3	-0.3	
	10nm,1.0s									
NJ2	Nanjing	74.25	311	*eP*		P		11 38 50.8	+0.2	
NJ2				pmax		pmax				
	comp=Z,8.0nm,0.5s									
DLAC	Del Amo	78.79	50	*eP*		P		11 39 20.2	+4.0	
ISA	Isabella, Lake	79.39	48	*eP*		P		11 39 20.3	+0.7	
	13nm,1.4s									
YBH	Yreka Blue Hor	79.66	41	P		P		11 39 21.7	+0.8	
	4.0nm,1.1s,baz=237,slow=5.9,SNR=5.6									
BEKR	Beckworth	80.19	43	*eP*		P		11 39 24.6	+0.6	
	6.3nm,1.1s									
PSI	Prapat	80.21	276	LR		LR		12 16 03.6		
	comp=Z,44nm,18.5s,baz=169,slow=36									
LPIG	La Paz	80.80	62	LR		LR		12 07 23.4		
	comp=Z,52nm,19.7s,baz=221,slow=30									
NV01	Mina Array Sit	80.85	46	*eP*		P		11 39 26.4	-1.2	
NVAR	Mina Array Bea	80.85	46	P		P		11 39 27.7	+0.1	
	1.5nm,0.7s,baz=228,slow=9.7,SNR=8.4									
NV11	Mina Array Sit	80.95	46	*eP*		P		11 39 26.7	-1.4	
	0.5nm,1.3s									
LDFC	Landfair	81.55	50	*eP*		P		11 39 32.1	+0.9	
	9.9nm,0.8s									
SEY	Seymchan	81.55	349	P		P		11 39 30.2	-0.2	
	2.2nm,0.8s,baz=143,slow=7.2,SNR=8.7									
PINE	Pine Mountain	81.86	40	*eP*		P		11 39 33.8	+1.0	
	7.0nm,0.9s									
WVOR	Wild Horse Val	82.61	42	*eP*		P		11 39 37.5	+0.8	
	5.8nm,1.1s									
J08A	Circle Bar Ran	83.17	41	*eP*		P		11 39 40.2	+0.6	
	3.9nm,0.9s									
RND	Reindeer	83.64	14	*eP*		P		11 39 41.4	-0.1	
	6.2nm,1.0s									
HHC	Hu-ho-hao-te	83.70	316	*eP*		P		11 39 44.8	+2.5	
HHC				pmax		pmax				
	comp=Z,19nm,1.4s									
HHC				pmax		pmax				
	comp=Z,120nm,8.4s									
LCMT	Little Creek M	83.76	49	*eP*		P		11 39 43.6	+0.8	
	3.3nm,1.0s									
CCUT	Cedar City	83.91	48	*eP*		P		11 39 44.7	+1.1	
	0.9nm,1.0s									
X16A	Lo Mia Camp, P	83.99	52	*eP*		P		11 39 45.0	+1.0	
	4.3nm,0.9s									
MAW	Mawson	84.05	200	P		P		11 39 43.4	-0.2	
	3.6nm,0.7s,baz=122,slow=4.8,SNR=4.1									
KNB	Kanab	84.06	49	*eP*		P		11 39 45.4	+1.0	
	5.1nm,1.1s									
U15A	North Rim	84.20	50	*eP*		P		11 39 46.4	+1.1	
	6.3nm,0.9s									
E08A	Dider Farm, El	84.40	38	*eP*		P		11 39 46.7	+1.1	
	12nm,1.4s									
WRH	Wood River Hil	84.73	14	*eP*		P		11 39 46.3	-0.6	
	9.6nm,1.4s									
IM3	Indian Mountai	84.85	11	*eP*		P		11 39 47.4	-0.1	
MFID	Camas Ranch	84.89	42	*eP*		P		11 39 48.9	+0.6	
	6.2nm,1.2s									
CM01	Chiang Mai Arr	85.00	291	*eP*		P		11 39 50.3	+1.0	
CMAR	Chiang Mai Arr	85.03	291	P		P		11 39 51.0	+1.6	
	1.7nm,0.9s,baz=107,slow=3.3,SNR=10									
CMAR				LR		LR		12 16 37.1		
	comp=Z,10.0nm,19.2s,baz=72,slow=35									
MSU	Marysvale	85.17	48	*eP*		P		11 39 49.8	-0.2	
IL1	Eielson Array	85.26	14	*eP*		P		11 39 48.9	-0.6	
ILAR	Eielson Array	85.26	14	P		P		11 39 48.7	-0.9	
	2.0nm,0.9s,baz=236,slow=5.9,SNR=12									
CD2	Chengdu	85.27	304	*eP*		P		11 39 50.5	0.0	
DUG	Dugway, Tooele	85.44	46	*eP*		P		11 39 51.6	+0.4	
	3.0nm,1.0s									
HLID	Hailey	85.87	42	*eP*		P		11 39 54.3	+1.0	
	1.8nm,0.8s									
HVU	Hansel Valley	86.16	45	*eP*		P		11 39 55.5	+0.7	
	6.6nm,1.1s									
SRU	San Rafael Swe	86.59	48	*eP*		P		11 39 57.6	+0.7	
	1.6nm,1.0s									
SRU				*e*S		S		11 50 33.7	+0.8	
LZH	Lanzhou	87.17	309	*eP*		P		11 40 02.0	+2.2	
LZH				pP		sP		11 40 08.3	-1.0	
LZH				sP		pP		11 40 11.8	+5.0	
LZH				*e*S		S		11 50 38.3	-0.3	
LZH				sS		sS		11 50 52.5	+2.3	
LZH				SS		SS		11 56 22.0	-1.0	
LZH				pmax		pmax				
	comp=Z,25nm,1.0s									
LZH				pmax		pmax				
	comp=Z,120nm,4.8s									
MCMT	McKenzie Canyo	87.44	42	*eP*		P		11 40 01.7	+0.7	
DLMT	Dillon	87.84	41	*eP*		P		11 40 03.5	+0.7	
	3.4nm,0.9s									
ANMO	Albuquerque	87.98	53	P		P		11 40 03.5	-0.3	
	1.7nm,1.0s,baz=20,slow=8.7,SNR=4.8									
FXWY	Fox Creek	88.11	43	*eP*		P		11 40 05.1	+0.8	
	1.8nm,1.1s									
REDW	Red Top Meadow	88.12	44	*eP*		P		11 40 04.5	+0.2	
	5.2nm,1.1s									
LRM	Limekiln Ridge	88.13	41	*eP*		P		11 40 04.3	-0.1	
TX31	Lajitas Ar. Si	88.22	59	*eP*		P		11 40 05.4	+0.5	
TXAR	Lajitas Array	88.22	59	P		P		11 40 05.7	+0.7	
	0.9nm,1.0s,baz=239,slow=4.1,SNR=5.7									
TXAR				LR		LR		12 13 32.2		
	comp=Z,27nm,18.1s,baz=0.0,slow=32									
IMW	Indian Meadow	88.28	43	*eP*		P		11 40 06.0	+0.9	
	6.3nm,1.3s									
BOZ	Bozeman (W)	88.55	41	*eP*		P		11 40 06.8	+0.6	
	2.5nm,1.1s									
H17A	Grant Village	88.72	43	*eP*		P		11 40 08.1	+0.9	
	6.9nm,1.5s									
PDAR	Pinedale Array	88.74	45	P		P		11 40 07.0	-0.3	
	1.7nm,1.1s,baz=204,slow=3.3,SNR=6.2									
PDAR	Pinedale Array	88.74	45	*eP*		P		11 40 06.1	-1.2	
HRY	Holter Researc	88.90	40	*eP*		P		11 40 07.5	-0.3	
LKWY	Lake	88.91	43	*eP*		P		11 40 09.6	+1.5	
	47nm,0.8s									
SONM	Songino Array	90.11	320	P		P		11 40 13.8	+0.4	
	0.2nm,0.4s,baz=116,slow=3.4,SNR=3.6									
Q24A	Divide	90.40	49	*eP*		P		11 40 15.1	-0.1	
	6.2nm,1.0s									
N23A	Red Feather La	90.52	47	*eP*		P		11 40 15.3	-0.4	
	5.8nm,1.1s									
SNAA	Sanae	92.15	180	P		P		11 40 21.1	-1.4	
SNAA	Sanae	92.15	180	P		P		11 40 21.2	-1.4	
	2.5nm,0.9s,baz=141,slow=4.6,SNR=4.7									
VNA3	Neumayer Olymp	92.43	178	P		P		11 40 22.5	-1.2	
VNA2	Neumayer--Watz	92.83	178	P		P		11 40 24.5	-1.0	
	baz=190,slow=4.0									
TIXI	Tiksi	93.82	346	P		P		11 40 28.8	-1.0	
	0.5nm,0.3s,baz=72,slow=7.2,SNR=3.7									
PLCA	Paso Flores	94.93	135	LR		LR		12 17 08.7		
	comp=Z,34nm,18.2s,baz=246,slow=32									
JTS	JuntasAbangare	99.66	82	LR		LR		12 17 41.3		
	comp=Z,29nm,18.4s,baz=340,slow=30									
WMQ	Urumqi	101.29	312	P		Pdif		11 41 06.0	+1.7	
WMQ				LR		LR				
	comp=E,100nm,32.1s									
WMQ				LR		LR				
	comp=Z,92nm,24.7s									
KSH	Kashi	109.32	307	*e*Pdif		Pdif		11 41 40.3	+0.1	
AKTO	Aktyubinsk	121.42	319	PKP		PKPdf		11 46 06.0	-0.6	
	1.7nm,0.7s,baz=1.8,slow=0.8,SNR=7.4									
VYHS	Vyhne	143.68	336	*e*PKP		PKPdf		11 46 47.3	-1.0	
ISP	Isparta	144.22	313	*e*PKPdf		PKPbc		11 46 47.8	-0.1	
KHC	Kasperske Hory	144.93	342	*e*PKP		PKPab		11 46 49.5	-0.1	
KHC	Kasperske Hory	144.93	342	*e*PKPdf		PKPbc		11 46 50.0	+0.4	
GRFO	Grafenberg	145.07	345	*e*PKPbc		PKPdf		11 46 50.8	+0.2	
GEC2	GERESS Array S	145.15	342	*e*PKPbc		PKPbc		11 46 50.4	0.0	
GERES	GERESS Array B	145.15	342	PKPbc		PKPab		11 46 50.7	+0.2	
	1.8nm,0.8s,baz=43,slow=2.5,SNR=15									
GEA0	GERESS Array S	145.15	342	*e*PKPbc		PKPbc		11 46 50.2	-0.2	
CONA	Conrad Observa	145.24	339	*e*PKPdf		PKPbc		11 46 50.1	-0.7	
	9.6nm,1.5s									
RDO	Rodhopi	145.68	322	P		PKPdf		11 46 52.0	+0.1	
MOA	Molln	145.85	340	*e*PKPab		PKPdf		11 46 52.1	+0.1	
	3.4nm,0.9s									
ARSA	Arzberg	145.94	338	PKPab		PKPbc		11 46 52.9	0.0	
	4.4nm,1.5s									
VTS	Vitosha	146.08	326	*e*PKPdf		PKPab		11 46 54.0	-0.2	
WLF	Walferdange	146.14	350	||PKPbc		PKPab		11 46 54.1	+0.1	
WLF	Walferdange	146.14	350	*e*PKPdf		PKPab		11 46 54.4	+0.3	
KAVA	Kavala	146.38	322	P		PKPbc		11 46 54.2	-0.2	
NVR	Nevrokopi	146.53	323	P		PKPbc		11 46 54.7	-0.2	
SOKA	Soboth	146.60	338	*e*PKPab		PKPbc		11 46 54.7	-0.3	
	6.1nm,1.0s									
DIVS	Divibare	146.63	330	*e*PKPdf		PKPbc		11 46 55.1	0.0	
KBA	Koelnbreinsper	146.82	341	*e*PKPab		PKPbc		11 46 55.4	-0.4	
	4.1nm,1.1s									
SRS	Serrai	146.84	323	P		PKPdf		11 46 54.6	+0.7	
CHOS	Chios island	146.97	317	P		PKPbc		11 46 56.0	-0.3	
BFO	Black Forest	147.01	347	*e*PKPbc		PKPbc		11 46 56.0	0.0	
MYKA	Terra Mystica	147.12	340	*e*PKPbc		PKPbc		11 46 55.8	-0.7	
	2.5nm,0.5s									
WATA	Walderalm	147.13	343	*e*PKPab		PKPbc		11 46 56.5	0.0	
	6.1nm,1.1s									
WTTA	Wattenberg	147.18	343	*e*PKPab		PKPbc		11 46 56.8	+0.1	
	4.0nm,0.9s									
RETA	Reutte	147.22	344	*e*PKPab		PKPbc		11 46 57.1	+0.4	
	6.2nm,1.2s									
MOTA	Moosalm	147.25	343	*e*PKPab		PKPbc		11 46 57.0	+0.1	
	3.6nm,0.8s									
BLY	Banja Luka	147.38	334	*e*PKPbc		PKPbc		11 46 57.6	+0.4	
DAVA	Damuels	147.63	345	*e*PKPab		PKPbc		11 46 58.3	+0.3	
	4.3nm,0.8s									
FETA	Feichten	147.65	343	*e*PKPab		PKPbc		11 46 58.4	+0.3	
	7.0nm,1.1s									
KARP	Karpathos	147.68	312	*e*PKPbc		PKPbc		11 46 58.3	0.0	
FUORN	Ofenpass-Fuorn	148.15	344	*e*PKPbc		PKPbc		11 46 59.8	+0.3	
XOR	Xorichti	148.19	321	P		PKPbc		11 46 58.3	-1.2	
TTG	Podgorica	148.24	329	*e*PKPbc		PKPbc		11 47 00.2	+0.7	
VLY	Voula,Athens	148.74	318	P		PKPbc		11 46 59.6	-1.4	
LKR	Lokris	148.75	320	P		PKPbc		11 46 59.5	-1.5	
AGG	Agios Georgios	148.93	321	*e*PKPbc		PKPbc		11 47 00.7	-0.7	
LAST	Lasithi	149.06	312	P		PKPbc		11 47 01.9	-0.1	
LTK	Loutraki	149.16	319	P		PKPbc		11 47 00.6	-1.4	
LOUT	Loutraki	149.17	319	P		PKPbc		11 47 00.2	-1.9	
DSF	Desfina	149.19	320	P		PKPbc		11 47 00.7	-1.5	
DID	Didima	149.30	318	P		PKPbc		11 47 00.9	-1.5	
IDI	Anoyia	149.41	313	PKPbc		PKPbc		11 47 02.4	-0.5	
	3.6nm,0.7s,baz=53,slow=3.3,SNR=8.0									
IDI	Anoyia	149.41	313	*e*PKPbc		PKPbc		11 47 02.8	-0.1	
KALE	Kalithea	149.44	321	P		PKPbc		11 47 02.3	-0.5	
ANX	Ano Chora	149.45	321	P		PKPbc		11 47 02.9	+0.1	
SERG	Sergoula	149.48	321	P		PKPbc		11 47 02.3	-0.5	
EFP	Efpalio	149.56	321	P		PKPbc		11 47 03.2	+0.2	
GUR	Goura	149.60	320	P		PKPbc		11 47 02.7	-0.6	
LAKA	Lakka	149.63	320	P		PKPbc		11 47 03.2	0.0	
KLV	Kalavryta, Ach	149.65	320	P		PKPbc		11 47 02.7	-0.6	
PDO	Prodromos	149.88	322	P		PKPbc		11 47 03.9	+0.1	
KEK	Kerkira	149.92	325	P		PKPbc		11 47 03.4	-0.5	
VLX	Vlachokerasia	149.92	319	P		PKPbc		11 47 03.7	-0.4	
VLI	Velia	149.95	317	P		PKPbc		11 47 02.5	-1.5	
RLS	Riolos of Patr	150.06	321	P		PKPbc		11 47 04.5	+0.3	
LKD2	Lefkada island	150.07	323	P		PKPbc		11 47 03.9	-0.4	
ANKY	Antikythira Is	150.20	315	P		PKPbc		11 47 04.6	0.0	
ITM	Ithomi	150.33	319	P		PKPbc		11 47 04.2	-0.7	
BNI	Bardonecchia	150.48	347	*e*PKPbc		PKPbc		11 47 06.0	+0.8	
SSB	Saint Sauveur	150.66	350	*e*PKPbc		PKPbc		11 47 06.4	+0.9	
TIP	Timpagrande	151.93	328	*e*PKPbc		PKPbc		11 47 09.1	+0.4	
TIP	Timpagrande	151.93	328	P		PKPbc		11 47 08.3	-0.4	

*ISCJB **25** 11:30:17.3±0.2,6.87N±0.03×73.11W±0.03,h153km±2km, mb4.2/71, Error ellipse: s-maj=6.4km s-min=4.0km az=43.6*

*NEIC **25** 11:30:17.7±0.4,6.68N×72.87W,h160km±3km,mb4.3/62, Error ellipse: s-maj=8.4km s-min=4.7km az=121.0*

*IDC **25** 11:30:17.7±0.6,6.82N×73.03W,h154km±9km,mb3.5/10, mb1 3.8/14,mb1mx3.4/54,mbtmp4.0/14, Error ellipse: s-maj=21.2km s-min=7.1km az=133.0*

*RSNC **25** 11:30:19.0±1.2,6.82N×73.15W,h146km±6km,ML3.8, Mw4.0*

ISC 25 11:30:18.1±0.6,6.84N±0.04×73.10W±0.04,h150km±5km, n123,σ0.94/146,mb4.3/71,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	199	↓*iP*		Pn	11 30 38.8		0.0
BARC				*e*S		Sn	11 30 53.4		-1.1
BARC				*i*			11 30 55.2		
	comp=Z,1μm,0.2s								
PAMC	Pamplona, Colo	0.63	38	*eP*		Pn	11 30 41.5		+0.8
PAMC				*e*S		Sn	11 30 58.5		+0.6
BRRC	Barranca, Sant	0.67	294	*i* P		Pn	11 30 40.6		+0.3
BRRC				*e*S		Sn	11 30 57.4		+0.2
BRRC				*i*			11 31 00.9		
	comp=Z,2μm,0.1s								
RUSC	La Rusia	0.94	179	*e*Pn		Pn	11 30 42.7		-0.2
RUSC				*e*Sn		Sn	11 31 01.3		-0.5
RUSC	La Rusia	0.94	179	*eP*		Pn	11 30 42.7		-0.2
RUSC				*e*S		Sn	11 31 00.9		-0.9
RUSC				*i*			11 31 03.3		
	comp=Z,944nm,0.2s								
PTBC	PUERTO BERRIO,	1.38	258	*eP*		Pn	11 30 45.4		-1.0
PTBC				*e*S		Sn	11 31 06.4		-1.7
PTBC				*i*			11 31 10.3		
	comp=Z,673nm,0.2s								
OCAC	Ocana	1.41	351	*eP*		Pn	11 30 47.2		+0.4
YOPC	Yopal, Colombi	1.62	155	*i* P		Pn	11 30 49.7		+0.6
YOPC				*e*S		Sn	11 31 13.8		+1.0
YOPC				*i*			11 31 17.5		
	comp=Z,362nm,0.3s								
ZARC	Zaragoza, Cauc	1.86	290	*eP*		Pn	11 30 51.6		0.0
ZARC				*e*S		Sn	11 31 16.8		-0.5
ZARC				*i*			11 31 26.9		
	comp=Z,706nm,0.3s								
NORC	Norcasia	2.17	234	*eP*		Pn	11 30 54.8		-0.4
NORC				*e*S		Sn	11 31 23.3		-0.5
CHIC	Chingaza	2.29	196	*eP*		Pn	11 30 57.1		0.0
CHIC				*e*S		Sn	11 31 26.3		-0.6
CHIC				*i*			11 31 31.9		
	comp=Z,343nm,0.3s								
ROSC	El Rosal	2.33	212	P		Pn	11 30 59.2		+1.7
	comp=Z,60nm,0.3s,baz=347,slow=4.3,SNR=137								
ROSC				S		Sn	11 31 28.3		+0.4
	comp=Z,100nm,0.3s,baz=39,slow=19,SNR=9.8								
ROSC	El Rosal	2.33	212	*e*Pn		Pn	11 30 58.8		+1.2
ROSC				*e*Sn		Sn	11 31 28.1		+0.2
HELC	Santa Helena	2.50	255	*e*Pn		Pn	11 31 00.2		+0.7
HELC				*e*Sn		Sn	11 31 31.4		-0.1
HELC	Santa Helena	2.50	255	*eP*		Pn	11 30 59.0		-0.6
HELC				*e*S		Sn	11 31 30.6		-0.8
HELC				*i*			11 31 36.2		
	comp=Z,414nm,0.5s								
GUYC	Guyana, Colomb	2.79	235	*eP*		Pn	11 31 03.6		+0.3
GUYC				*i*			11 31 46.2		
	comp=Z,642nm,0.3s								
CODC	Agust´›n Codaz	3.09	354	*eP*		Pn	11 31 06.2		-0.4
CODC				*i*			11 31 52.2		
	comp=Z,186nm,0.1s								

DBBC	Dabeiba	3.10	273	*eP*		Pn		11 31 07.1	+0.4	
TOLC	Tolima	3.15	225	*eP*		Pn		11 31 07.9	+0.2	
SDV	Santo Domingo	3.18	50	P		Pn		11 31 08.3	+0.4	
	comp=Z,108nm,0.3s,baz=138,slow=2.5,SNR=552									
SDV				S		Sn		11 31 45.5	-0.9	
	comp=Z,56nm,0.3s,baz=254,slow=22,SNR=20									
SDV	Santo Domingo	3.18	50	*eP*		Pn		11 31 08.1	+0.2	
PRAC	Prado	3.58	210	*eP*		Pn		11 31 12.9	-0.1	
PRAC				*e*Sn		Sn		11 31 57.0	+1.5	
PRAC	Prado	3.58	210	*eP*		Pn		11 31 12.3	-0.6	
YOTC	Yotoco, Valle	4.30	229	*eP*		Pn		11 31 21.7	-0.7	
YOTC				*i*				11 32 23.9		
	comp=Z,60nm,0.5s									
OTAV	Otavalo	8.46	219	*e*Pn		Pn		11 32 17.3	-0.8	
OTAV				*e*Sn		Sn		11 33 53.1	+0.6	
PCRV	Puerto La Cruz	9.00	68	P		Pn		11 32 25.5	+0.6	
	comp=Z,1.8nm,0.3s,baz=313,slow=2.0,SNR=15									
PCRV				S		Sn		11 34 04.3	-0.6	
	comp=Z,1.1nm,0.3s,baz=227,slow=18,SNR=3.0									
LGNH	LØogne	11.61	2	*e*Pn		Pn		11 32 59.8	+0.4	
MTDJ	Mount Denham	12.12	339	*e*Pn		P		11 33 09.3	-3.1	
SDDR	Presa de Saban	12.20	8	*e*Pn		Pn		11 33 09.4	+2.3	
JTS	JuntasAbangare	12.21	287	P		P		11 33 14.6	+1.1	
	comp=Z,0.7nm,0.3s,baz=331,slow=13,SNR=5.6									
MPR	Mayaguez	12.71	27	*e*Pn		Pn		11 33 11.3	-2.3	
SJG	San Juan	13.09	31	P		Pn		11 33 16.7	-1.8	
	comp=Z,1.9nm,0.3s,baz=233,slow=15,SNR=5.1									
SJG	San Juan	13.09	31	*e*Pn		Pn		11 33 17.0	-1.5	
CBYP	Canovanas	13.38	31	*e*Pn		Pn		11 33 20.9	-1.3	
MTP	Monte Pirata	13.39	33	*e*Pn		Pn		11 33 21.7	-0.6	
CBCY	The Bluff, Cay	14.36	334	*eP*		P		11 33 38.0	+0.7	
WBCY	West Bay, Gran	14.85	328	*eP*		P		11 33 44.5	+1.8	
LRAL	Lakeview Retre	29.09	335	*eP*		P		11 36 06.2	+1.6	
	comp=Z,20nm,1.5s									
KMSC	Kings Mountain	29.17	346	*eP*		P		11 36 06.0	+0.7	
	comp=Z,96nm,0.5s									
PLAL	Pickwick Lake	31.22	336	*eP*		P		11 36 24.2	+0.8	
	comp=Z,9.2nm,1.3s									
WVT	Waverly	32.12	337	*eP*		P		11 36 32.0	+0.7	
	comp=Z,2.4nm,0.6s									
WHAR	Wooly Hollow	33.36	331	*eP*		P		11 36 42.5	+0.3	
	comp=Z,19nm,1.7s									
W40A	Ferguson Farm,	33.67	330	*eP*		P		11 36 45.7	+0.9	
	comp=Z,7.2nm,0.8s									
SIUC	Southern Illin	34.05	337	*eP*		P		11 36 49.1	+1.1	
	comp=Z,3.8nm,0.6s									
FVM	French Village	34.76	336	*eP*		P		11 36 55.1	+0.9	
	comp=Z,15nm,1.6s									
SFIN	Lafayette	35.67	342	*eP*		P		11 37 02.5	+0.6	
	comp=Z,9.4nm,0.5s									
TXAR	Lajitas Array	36.47	312	P		P		11 37 09.2	+0.2	
	comp=Z,0.7nm,0.4s,baz=126,slow=8.9,SNR=16									
TXAR				PcP		PcP		11 39 30.5	+0.7	
	comp=Z,0.3nm,0.5s,baz=139,slow=6.4,SNR=4.6									
TX31	Lajitas Ar. Si	36.47	312	*eP*		P		11 37 09.4	+0.4	

RC01	**Rabbit Creek A**	**77.59**	**331**	*e*P	**P**	**11**	**41**	**57.3 -0.2**
	comp=Z,31nm,1.6s							
SUA	**Susitna One**	**78.12**	**331**	*e*P	**P**	**11**	**42**	**00.5 -0.1**
	comp=Z,26nm,1.9s							
TRF	**Thorofare Moun**	**78.19**	**333**	*e*P	**P**	**11**	**42**	**01.5 +0.6**
	comp=Z,37nm,1.9s							
BPAW	**Bear Paw Mtn.**	**78.59**	**334**	*e*P	**P**	**11**	**42**	**02.9 -0.1**
	comp=Z,14nm,1.9s							
MLY	**Manley**	**78.62**	**335**	*e*P	**P**	**11**	**42**	**03.0 -0.1**
	comp=Z,4.7nm,1.6s							
COLD	**Coldfoot**	**78.74**	**337**	*e*P	**P**	**11**	**42**	**04.6 +1.0**
	comp=Z,10nm,2.0s							
TOLK	**Toolik Lake Re**	**78.75**	**339**	*e*P	**P**	**11**	**42**	**04.3 +0.5**
	comp=Z,17nm,1.9s							
PPLA	**Purkeypile**	**78.97**	**333**	*e*P	**P**	**11**	**42**	**05.1 -0.1**
	comp=Z,26nm,1.7s							
CAST	**Castle Rocks**	**78.99**	**333**	*e*P	**P**	**11**	**42**	**05.3 +0.1**
	comp=Z,20nm,2.0s							
SVW2	**Sparrevohn**	**80.42**	**331**	*e*P	**P**	**11**	**42**	**11.9 -0.9**
	comp=Z,31nm,1.8s							
AS01	**Alice Springs**	**149.10**	**234**	*e*PKPdf	**PKPdf**	**11**	**49**	**44.3 -1.0**
AS01				*e*PKPbc	**PKPbc**	**11**	**49**	**47.8 -1.9**
AS01				*e*PKPab	**PKPab**	**11**	**49**	**54.5 +0.1**
AS31	**Alice Springs**	**149.14**	**234**	*e*PKPbc	**PKPbc**	**11**	**49**	**47.8 -1.9**
ASAR	**Alice Springs**	**149.14**	**234**	PKP	**PKPdf**	**11**	**49**	**44.3 -1.1**
	comp=Z,0.5nm,0.7s,baz=118,slow=3.6,SNR=6.5							
ASAR				PKPbc	**PKPbc**	**11**	**49**	**47.6 -2.1**
	comp=Z,1.3nm,0.6s,baz=117,slow=3.6,SNR=40							
WB2	**Warramunga Arr**	**150.35**	**241**	*e*PKPbc	**PKPbc**	**11**	**49**	**51.1 -1.7**
WRAB	**Tennant Creek**	**150.36**	**241**	*e*PKPbc	**PKPbc**	**11**	**49**	**51.4 -1.4**
WRA	**Warramunga Arr**	**150.37**	**241**	PKP	**PKPdf**	**11**	**49**	**46.6 -0.8**
	comp=Z,1.3nm,0.5s,baz=107,slow=2.6,SNR=4.3							
WRA				PKPbc	**PKPbc**	**11**	**49**	**51.4 -1.4**
	comp=Z,1.2nm,0.4s,baz=108,slow=2.6,SNR=67							

*ISCJB **25** 11:33:19.1±0.7,50.95N±0.07×73.51E±0.09,h0km, Error ellipse: s-maj=11.8km s-min=6.6km az=32.1*
*NNC **25** 11:33:22.2±1.3,51.05N×73.76E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=16.0km s-min=11.2km az=42.0, Suspected Mining explosion.*
*IDC **25** 11:33:23.2±0.9,50.88N×73.67E,h0km,mb1 3.0/6, mb1mx2.8/86,mbtmp3.0/6,ML2.6/6,Error ellipse: s-maj=15.1km s-min=8.7km az=26.0*

ISC 25 11:33:22.3±1.0,50.88N±0.09×73.60E±0.08,h0km,n13, σ0.9s79/11,6C-4D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OTUK	**Ortayu**	**2.77**	**198**	⇑Pn		**Pn**	**11 34 08.6**	**+0.8**
	6.1nm,0.6s							
OTUK				⇑Lg		Lg	11 34 57.2	
	23nm,1.3s							
BVA0	**Borovoye Array**	**2.92**	**318**	⇓Pg		**Pb**	**11 34 15.1**	**-0.1**
	4.5nm,0.9s,baz=118,slow=15,SNR=12							
BVA0				⇓Lg		Lg	11 34 52.1	
	15nm,0.7s,baz=127,slow=28,SNR=13							
BVAR	**Borovoye Array**	**2.92**	**318**	Pn		**Pn**	**11 34 11.8**	**+1.8**
	0.6nm,0.3s,baz=128,slow=14,SNR=11							
BVAR				Lg		Lg	11 34 55.9	
	3.1nm,0.3s,baz=131,slow=29,SNR=12							
BRVK	**Borovoye**	**2.99**	**318**	⇑Pg		**Pb**	**11 34 16.0**	**-0.4**
	4.1nm,0.7s							
BRVK				⇑Lg		Lg	11 34 56.5	
	10nm,0.5s							
KURBB	**Kurchatov Arra**	**3.15**	**93**	Pn		**Pn**	**11 34 12.9**	**-0.1**
	0.2nm,0.3s,baz=279,slow=14,SNR=25							
KURBB				Lg		Lg	11 35 01.2	
	0.7nm,0.3s,baz=279,slow=30,SNR=8.2							
KURK	**Kurchatov**	**3.19**	**91**	⇑Pn		**Pn**	**11 34 13.4**	**-0.3**
	7.8nm,1.1s							
KURK				⇑Lg		Lg	11 35 00.7	
	41nm,1.1s							
MAKZ	**Makanchi**	**6.87**	**123**	⇓Lg		Lg	11 37 01.1	
	11nm,1.1s							
MK31	**Makanchi Array**	**7.05**	**122**	⇓Lg		Lg	11 37 07.8	
	8.2nm,0.8s,baz=315,slow=28,SNR=4.9							
MKAR	**Makanchi Array**	**7.05**	**122**	Pn		**Pn**	**11 35 06.6**	**-0.1**
	0.1nm,0.3s,baz=313,slow=14,SNR=2.0							
MKAR				Sn		**Sn**	**11 36 28.0**	**+0.6**
	0.2nm,0.3s,baz=315,slow=22,SNR=3.3							
MKAR				Lg		Lg	11 37 04.9	
	0.5nm,0.3s,baz=316,slow=29,SNR=4.6							
I46RU	**ZALESOVO INFRA**	**7.52**	**62**	*i*			12 13 40.0	
	baz=249,slow=327,SNR=1.5							
ZALV	**Zalesovo Beam**	**7.52**	**62**	Pn		**Pn**	**11 35 13.4**	**+0.3**
	0.1nm,0.3s,baz=249,slow=12,SNR=2.7							
ZALV				Lg		Lg	11 37 21.5	
	0.1nm,0.3s,baz=237,slow=25,SNR=1.8							
AAK	**Ala-Archa**	**8.27**	**175**	Pn		**Pn**	**11 35 23.5**	**-0.1**
	0.2nm,0.3s,baz=11,slow=2.3,SNR=2.1							
AAK				Lg		Lg	11 37 49.2	
	0.1nm,0.3s,baz=0.4,slow=23,SNR=6.1							
AKTO	**Aktyubinsk**	**9.91**	**273**	Pn		**Pn**	**11 35 45.2**	**-0.6**
	0.4nm,0.3s,baz=103,slow=10,SNR=4.5							

*CSEM **25** 11:36:26.1±0.1,40.30N×25.20E,h10km,ML1.9, Error ellipse: s-maj=3.2km s-min=2.8km az=86.0*

ATH 25 11:36:25.8,40.30N×25.21E,h19km±2km,ML1.9/7, Error ellipse: s-maj=2.9km s-min=0.9km az=104.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMTH	**Samothraki Isl**	**0.30**	**55**	P		Pg	11 36 32.2	-0.3
SMTH				S		Sg	11 36 36.2	-0.8
SMTH				AML		AML	11 36 36.6	
	comp=E,684μm,0.2s							
SMTH				AML		AML	11 36 37.2	
	comp=N,807μm,0.1s							
SMTH	**Samothraki Isl**	**0.30**	**55**	P		Pg	11 36 32.2	-0.2
SMTH				S		Sg	11 36 36.6	-0.3
LIA	**Limnos Island**	**0.40**	**183**	P		Pb	11 36 34.9	+0.5
LIA				S		Sg	11 36 39.7	0.0
LIA				AML		AML	11 36 41.9	
	comp=E,236μm,0.2s							
LIA				AML		AML	11 36 44.0	
	comp=N,253μm,0.1s							
LIA	**Limnos Island**	**0.40**	**183**	P		Pb	11 36 34.5	+0.1
LIA				S		Sg	11 36 39.9	+0.1
EFSA	**Agios Efstrati**	**0.78**	**193**	P		Pg	11 36 41.1	0.0
EFSA	**Agios Efstrati**	**0.78**	**193**	P		Pg	11 36 40.9	-0.1
ALN	**Alexandroupoli**	**0.87**	**46**	P		Pb	11 36 42.5	+0.1
ALN				S		Sg	11 36 54.5	0.0
ALN				AML		AML	11 36 56.9	
	comp=E,124μm,0.3s							
ALN				AML		AML	11 36 57.4	
	comp=N,224μm,0.6s							
ALN	**Alexandroupoli**	**0.87**	**46**	P		Pb	11 36 42.5	+0.1
ALN				S		Sg	11 36 54.6	+0.2
KAVA	**Kavala**	**0.88**	**323**	P		Pn	11 36 43.8	+0.6
KAVA				S		Sb	11 36 54.0	+0.2
KAVA				AML		AML	11 36 56.0	
	comp=N,125μm,0.2s							
KAVA				AML		AML	11 36 56.4	
	comp=E,135μm,0.2s							
KAVA	**Kavala**	**0.88**	**323**	P		Pn	11 36 43.2	0.0
KAVA				S		Sg	11 36 54.4	-0.2
RDO	**Rodhopi**	**0.88**	**16**	P		Pg	11 36 43.0	-0.1
RDO				S		Sg	11 36 55.1	+0.3
RDO				AML		AML	11 36 56.1	
	comp=N,81μm,0.2s							
RDO				AML		AML	11 36 57.8	
	comp=E,52μm,0.2s							
RDO	**Rodhopi**	**0.88**	**16**	P		Pg	11 36 42.9	-0.2
RDO				S		Sg	11 36 55.1	+0.3
OUR	**Ouranopolis**	**0.94**	**273**	P		Pg	11 36 44.4	+0.2
OUR				S		Sb	11 36 56.0	+0.3
OUR				AML		AML	11 36 59.2	
	comp=E,341μm,0.3s							
OUR				AML		AML	11 36 59.2	
	comp=N,361μm,0.2s							
OUR	**Ouranopolis**	**0.94**	**273**	P		Pn	11 36 44.1	+0.1
OUR				S		Sg	11 36 56.4	-0.2
SIGR	**SIGRI**	**1.19**	**155**	P		Pg	11 36 49.2	+0.3
SIGR				S		Sg	11 37 05.6	+1.0
SIGR				AML		AML	11 37 07.0	
	comp=N,112μm,0.4s							
SIGR				AML		AML	11 37 07.0	
	comp=E,93μm,0.4s							
SIGR	**SIGRI**	**1.19**	**155**	P		Pg	11 36 48.8	-0.1
SIGR				S		Sg	11 37 05.3	+0.7
PAIG	**Paliouri**	**1.23**	**253**	P		Pn	11 36 47.6	-0.5
PAIG	**Paliouri**	**1.23**	**253**	P		Pb	11 36 48.4	-0.1
PRK	**Paraskevi**	**1.33**	**142**	P		Pg	11 36 51.8	+0.2
PRK	**Paraskevi**	**1.33**	**142**	P		Pg	11 36 51.3	-0.2
PLG	**Polygyros**	**1.35**	**274**	P		Pn	11 36 50.1	+0.3
PLG	**Polygyros**	**1.35**	**274**	P		Pb	11 36 50.8	+0.2
NVR	**Nevrokopi**	**1.47**	**316**	P		Pg	11 36 54.3	+0.2
NVR	**Nevrokopi**	**1.47**	**316**	P		Pg	11 36 53.9	-0.3
CHOS	**Chios island**	**2.02**	**161**	P		Pn	11 36 59.5	+0.6
CHOS	**Chios island**	**2.02**	**161**	P		Pn	11 37 00.4	+1.5

*ATH **25** 11:36:48.9,40.05N×21.24E,h17km,ML2.6/13, Error ellipse: s-maj=0.9km s-min=0.5km az=347.0*
*TIR **25** 11:36:48.7,40.03N×21.19E,h12km,ML2.9*
*ISCJB **25** 11:36:49.5±0.3,40.05N±0.01×21.23E±0.02,h8km±3km, Error ellipse: s-maj=3.1km s-min=2.4km az=175.1*
*THE **25** 11:36:49.5,40.04N×21.22E,h10km±1km,ML2.6/8, Error ellipse: s-maj=1.6km s-min=0.8km az=51.0*
*CSEM **25** 11:36:49.5±0.1,40.04N×21.25E,h2km,ML2.6, Error ellipse: s-maj=2.6km s-min=2.2km az=78.0*

ISC 25 11:36:49.6±0.8,40.05N±0.01×21.24E±0.02,h13km±4km, n124,σ1.9s105/170,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KPRO	**Kipourio**	**0.13**	**135**	P		**Pg**	**11 36 53.1**	**-0.1**
KPRO				AML		AML	11 36 56.2	
	comp=N,16612μm,0.2s							
KPRO				S		**Sg**	**11 36 56.2**	**+0.6**
KPRO				AML		AML	11 36 56.3	
	comp=E,46933μm,0.3s							
KPRO	**Kipourio**	**0.13**	**135**	P		**Pg**	**11 36 52.9**	**-0.3**
KPRO				S		**Sg**	**11 36 55.8**	**+0.2**
KPRO	**Kipourio**	**0.13**	**135**	P		**Pg**	**11 36 53.0**	**-0.1**
KPRO				S		**Sg**	**11 36 55.8**	**+0.2**
PENT	**Pentalofos**	**0.17**	**332**	P		**Pg**	**11 36 52.8**	**-0.9**
PENT				S		**Sg**	**11 36 56.2**	**-0.5**
PENT				AML		AML	11 36 56.3	
	comp=E,17581μm,0.2s							
PENT				AML		AML	11 36 57.0	
	comp=N,14315μm,0.2s							
PENT	**Pentalofos**	**0.17**	**332**	P		**Pg**	**11 36 53.1**	**-0.6**
PENT				S		**Sg**	**11 36 55.8**	**-0.7**
PENT	**Pentalofos**	**0.17**	**332**	P		**Pg**	**11 36 53.1**	**-0.6**
PENT				S		**Sg**	**11 36 55.8**	**-0.7**
NEST	**Nestorio**	**0.39**	**338**	P		**Pg**	**11 36 57.5**	**-0.1**
NEST				S		**Sg**	**11 37 02.9**	**-0.1**
NEST				AML		AML	11 37 07.3	
	comp=N,2894μm,0.4s							
NEST				AML		AML	11 37 08.0	
	comp=E,2949μm,0.5s							
NEST	**Nestorio**	**0.39**	**338**	P		**Pg**	**11 36 57.2**	**-0.4**
NEST				S		**Sg**	**11 37 02.8**	**-0.1**
NEST	**Nestorio**	**0.39**	**338**	P		**Pg**	**11 36 57.0**	**-0.6**
KZN	**Kozani**	**0.48**	**57**	P		**Pg**	**11 36 58.5**	**-0.7**
KZN				S		**Sg**	**11 37 06.3**	**+0.7**
KZN				AML		AML	11 37 10.6	
	comp=E,1993μm,0.3s							
KZN				AML		AML	11 37 12.9	
	comp=N,1766μm,0.4s							
KZN	**Kozani**	**0.48**	**57**	P		**Pg**	**11 36 58.5**	**-0.7**
KZN				S		**Sg**	**11 37 05.9**	**+0.3**
KZN	**Kozani**	**0.48**	**57**	P		**Pg**	**11 36 58.4**	**-0.7**
KZN				S		**Sb**	**11 37 06.6**	**-0.4**
JAN	**Janina**	**0.49**	**218**	P		**Pg**	**11 36 59.4**	**0.0**
JAN				S		**Sg**	**11 37 06.0**	**0.0**
JAN				AML		AML	11 37 10.4	
	comp=N,1186μm,0.2s							
JAN				AML		AML	11 37 11.7	
	comp=E,1013μm,0.3s							
JAN	**Janina**	**0.49**	**218**	P		**Pg**	**11 36 59.1**	**-0.3**
JAN				S		**Sg**	**11 37 06.0**	**0.0**
JAN	**Janina**	**0.49**	**218**	P		**Pg**	**11 36 58.7**	**-0.7**
KBN	**Korca**	**0.67**	**329**	*i* PG		Pg	11 36 48.8	-14
KBN				*i* SG		**Sg**	**11 37 11.9**	**+0.3**
FNA	**Florina**	**0.74**	**8**	*i* PG		**Pg**	**11 37 03.6**	**-0.4**
FNA				*i* SG		**Sn**	**11 37 16.0**	**-1.0**
FNA	**Florina**	**0.74**	**8**	P		**Pg**	**11 37 02.6**	**-1.4**
FNA				S		**Sg**	**11 37 13.4**	**-0.4**
FNA				AML		AML	11 37 17.1	
	comp=E,1154μm,0.3s							
FNA				AML		AML	11 37 17.3	
	comp=N,1035μm,0.3s							
FNA	**Florina**	**0.74**	**8**	P		**Pg**	**11 37 02.8**	**-1.3**
FNA	**Florina**	**0.74**	**8**	*i* Pg		**Pg**	**11 37 03.6**	**-0.4**
FNA				S		**Sg**	**11 37 13.4**	**-0.4**
FNA				*i* Sg		**Sn**	**11 37 16.0**	**-1.0**
FNA	**Florina**	**0.74**	**8**	P		**Pg**	**11 37 02.6**	**-1.4**
FNA				S		**Sb**	**11 37 15.3**	**+0.8**
KTI	**Kastanea**	**0.75**	**63**	P		**Pg**	**11 37 04.0**	**-0.3**
KTI	**Kastanea**	**0.75**	**63**	P		**Pg**	**11 37 04.0**	**-0.3**
THL	**Klokotos Trika**	**0.77**	**129**	P		**Pg**	**11 37 02.8**	**-1.7**
THL				S		**Sb**	**11 37 14.8**	**-0.3**
THL				AML		AML	11 37 20.9	
	comp=E,446μm,0.5s							
THL				AML		AML	11 37 22.9	
	comp=N,755μm,0.5s							
THL	**Klokotos Trika**	**0.77**	**129**	P		**Pg**	**11 37 03.2**	**-1.3**
THL				S		**Sb**	**11 37 14.6**	**-0.5**
THL	**Klokotos Trika**	**0.77**	**129**	P		**Pg**	**11 37 03.0**	**-1.5**
IGT	**Igoumenitsa**	**0.87**	**234**	*i* PG		**Pg**	**11 37 05.3**	**-1.1**
IGT				*i* SG		**Sb**	**11 37 18.8**	**+0.8**
IGT	**Igoumenitsa**	**0.87**	**234**	P		**Pg**	**11 37 04.8**	**-1.6**
IGT				S		**Sb**	**11 37 18.1**	**+0.1**
IGT				AML		AML	11 37 22.9	
	comp=N,429μm,0.6s							
IGT				AML		AML	11 37 23.2	
	comp=E,486μm,0.5s							
IGT	**Igoumenitsa**	**0.87**	**234**	P		**Pg**	**11 37 05.3**	**-1.1**
IGT				S		**Sb**	**11 37 18.0**	**-0.1**
IGT	**Igoumenitsa**	**0.87**	**234**	P		**Pg**	**11 37 05.3**	**-1.1**
IGT				S		**Sb**	**11 37 18.4**	**+0.3**
SGD	**Sagiada**	**0.89**	**241**	P		**Pg**	**11 37 06.0**	**-0.9**
SGD	**Sagiada**	**0.89**	**241**	P		**Pg**	**11 37 05.9**	**-0.9**
SGD	**Sagiada**	**0.89**	**241**	P		**Pg**	**11 37 05.2**	**-1.6**
DSL	**Palaion Diasel**	**0.92**	**187**	P		**Pg**	**11 37 07.2**	**-0.3**
DSL				S		**Sg**	**11 37 19.0**	**-0.5**
DSL	**Palaion Diasel**	**0.92**	**187**	P		**Pg**	**11 37 06.9**	**-0.5**
DSL				S		**Sg**	**11 37 19.2**	**-0.3**
DSL	**Palaion Diasel**	**0.92**	**187**	P		**Pg**	**11 37 06.9**	**-0.5**
LIT	**Litokhoron**	**0.96**	**87**	P		**Pg**	**11 37 07.7**	**-0.5**
LIT				S		**Sg**	**11 37 20.3**	**-0.3**
LIT				AML		AML	11 37 26.6	
	comp=E,852μm,0.3s							
LIT				AML		AML	11 37 27.3	
	comp=N,858μm,0.3s							
LIT	**Litokhoron**	**0.96**	**87**	P		**Pg**	**11 37 07.5**	**-0.7**
LIT				S		**Sg**	**11 37 20.4**	**-0.3**
LIT	**Litokhoron**	**0.96**	**87**	P		**Pg**	**11 37 07.5**	**-0.7**
KEK	**Kerkira**	**1.16**	**254**	P		**Pg**	**11 37 07.2**	**+0.4**
KEK				S		**Sn**	**11 37 22.7**	**+0.4**
BIA	**Bitola**	**0.97**	**4**	*i* Pg		**Pg**	**11 37 08.2**	**-0.2**
BIA				*i* Sg		**Sn**	**11 37 24.5**	**+1.8**
KASA	**Kassiopi**	**1.05**	**254**	P		**Pb**	**11 37 09.3**	**-0.3**
KASA	**Kassiopi**	**1.05**	**254**	P		**Pb**	**11 37 09.1**	**-0.5**
OHR	**Ohrid**	**1.11**	**343**	*i* Pg		**Pb**	**11 37 10.1**	**-0.6**
OHR				*i* Sg		**Sn**	**11 37 26.7**	**+0.5**
KEK	**Kerkira**	**1.16**	**254**	P		**Pb**	**11 37 10.8**	**-0.6**
KEK				S		**Sn**	**11 37 27.6**	**+0.4**
KEK				AML		AML	11 37 31.6	
	comp=E,442μm,0.6s							
KEK				AML		AML	11 37 32.9	
	comp=N,342μm,0.7s							
KEK	**Kerkira**	**1.16**	**254**	P		**Pb**	**11 37 10.9**	**-0.6**
KEK				S		**Sn**	**11 37 27.3**	**+0.1**
KEK	**Kerkira**	**1.16**	**254**	P		**Pb**	**11 37 10.7**	**-0.8**
KEK				S		**Sn**	**11 37 27.4**	**+0.2**
EVR	**Evrytania**	**1.21**	**159**	P		**Pn**	**11 37 10.6**	**-1.7**
EVR				S		**Sn**	**11 37 29.0**	**+0.3**
EVR				AML		AML	11 37 38.6	
	comp=E,250μm,0.4s							
EVR				AML		AML	11 37 40.5	
	comp=N,344μm,0.4s							
EVR	**Evrytania**	**1.21**	**159**	P		**Pn**	**11 37 11.3**	**-1.0**
EVR				S		**Sn**	**11 37 28.8**	**+0.2**
EVR	**Evrytania**	**1.21**	**159**	P		**Pn**	**11 37 10.8**	**-1.5**
GRG	**Griva**	**1.27**	**44**	P		**Pb**	**11 37 13.4**	**+0.1**
GRG	**Griva**	**1.27**	**44**	P		**Pb**	**11 37 13.6**	**+0.2**
GRG	**Griva**	**1.27**	**44**	P		**Pb**	**11 37 13.6**	**+0.2**
KRUS	**Krusevo**	**1.32**	**0**	*i* Pg		**Pn**	**11 37 14.1**	**+0.3**
KRUS				*i* Sg		**Sg**	**11 37 33.1**	**+1.0**
AGG	**Agios Georgios**	**1.33**	**140**	P		**Pn**	**11 37 14.0**	**+0.1**
AGG				S		**Sg**	**11 37 32.1**	**-0.3**
AGG				AML		AML	11 37 37.6	
	comp=N,661μm,0.4s							
AGG				AML		AML	11 37 41.5	
	comp=E,836μm,0.4s							
AGG	**Agios Georgios**	**1.33**	**140**	P		**Pn**	**11 37 14.0**	**+0.1**
AGG				S		**Sg**	**11 37 32.2**	**-0.2**
AGG	**Agios Georgios**	**1.33**	**140**	P		**Pn**	**11 37 13.9**	**+0.1**
LKD2	**Lefkada island**	**1.34**	**200**	P		**Pb**	**11 37 14.3**	**-0.3**
LKD2	**Lefkada island**	**1.34**	**200**	P		**Pb**	**11 37 14.2**	**-0.3**
PVO	**Paravola**	**1.45**	**171**	P		**Pb**	**11 37 16.2**	**-0.2**
PVO	**Paravola**	**1.45**	**171**	P		**Pb**	**11 37 16.2**	**-0.2**
PDO	**Prodromos**	**1.45**	**182**	P		**Pb**	**11 37 16.3**	**-0.1**
PDO	**Prodromos**	**1.45**	**182**	P		**Pb**	**11 37 16.3**	**-0.1**
FYTO	**Fytoko, Volos**	**1.46**	**115**	P		**Pb**	**11 37 16.6**	**0.0**
FYTO	**Fytoko, Volos**	**1.46**	**115**	P		**Pb**	**11 37 16.5**	**0.0**
HORT	**Hortiatis**	**1.52**	**68**	P		**Pb**	**11 37 17.8**	**0.0**
HORT	**Hortiatis**	**1.52**	**68**	P		**Pb**	**11 37 17.6**	**-0.1**
ANX	**Ano Chora**	**1.55**	**160**	P		**Pn**	**11 37 17.2**	**+0.3**
ANX	**Ano Chora**	**1.55**	**160**	P		**Pb**	**11 37 17.5**	**-0.6**
VAY	**Valandovo**	**1.62**	**38**	*e*Pn		**Pg**	**11 37 20.2**	**-0.6**
XOR	**Xorichti**	**1.65**	**114**	P		**Pn**	**11 37 18.1**	**-0.2**
XOR	**Xorichti**	**1.65**	**114**	P		**Pn**	**11 37 18.7**	**+0.4**
AXAR	**Agios Charalam**	**1.69**	**139**	P		**Pb**	**11 37 20.5**	**0.0**
AXAR	**Agios Charalam**	**1.69**	**139**	P		**Pb**	**11 37 20.1**	**-0.4**
EFP	**Efpalio**	**1.70**	**162**	P		**Pb**	**11 37 20.3**	**-0.4**
EFP	**Efpalio**	**1.70**	**162**	P		**Pb**	**11 37 20.1**	**-0.6**
PHP	**Peshkopia**	**1.74**	**340**	*i* PN		**Pn**	**11 37 16.6**	**-3.0**
PHP				*i* SN		**Sn**	**11 37 41.8**	**+0.1**
PHP	**Peshkopia**	**1.74**	**340**	*i* Pn		**Pn**	**11 37 16.6**	**-3.0**
	baz=341							
PHP				*i* Sn		**Sn**	**11 37 41.8**	**+0.1**
KALE	**Kalithea**	**1.80**	**157**	P		**Pn**	**11 37 21.2**	**+0.9**
KALE				S		**Sb**	**11 37 45.2**	**+0.3**
KALE				AML		AML	11 37 53.2	
	comp=N,280μm,0.8s							
KALE				AML		AML	11 37 58.7	
	comp=E,196μm,0.5s							
KALE	**Kalithea**	**1.80**	**157**	P		**Pn**	**11 37 21.2**	**+0.9**
KALE				S		**Sb**	**11 37 45.1**	**+0.3**
TRIZ	**Trizonia**	**1.80**	**159**	P		**Pb**	**11 37 21.8**	**-0.6**
TRIZ				S		**Sb**	**11 37 45.9**	**+1.1**
TRIZ	**Trizonia**	**1.80**	**159**	P		**Pb**	**11 37 21.6**	**-0.8**
TRIZ				S		**Sb**	**11 37 45.5**	**+0.6**
LAKA	**Lakka**	**1.90**	**162**	P		**Pn**	**11 37 22.5**	**+0.9**
LAKA	**Lakka**	**1.90**	**162**	P		**Pn**	**11 37 22.6**	**+0.9**
DSF	**Desfina**	**1.92**	**148**	P		**Pb**	**11 37 23.6**	**-0.9**
DSF	**Desfina**	**1.92**	**148**	P		**Pb**	**11 37 23.3**	**-1.1**
VLS	**Valsamata**	**1.94**	**195**	P		**Pb**	**11 37 24.0**	**-0.8**
VLS	**Valsamata**	**1.94**	**195**	P		**Pb**	**11 37 23.6**	**-1.2**
KFL	**Anninata**	**1.97**	**190**	P		**Pn**	**11 37 23.7**	**+1.0**
KFL	**Anninata**	**1.97**	**190**	P		**Pn**	**11 37 23.7**	**+1.0**
RLS	**Riolos of Patr**	**2.00**	**175**	P		**Pn**	**11 37 23.9**	**+0.9**
RLS	**Riolos of Patr**	**2.00**	**175**	P		**Pn**	**11 37 24.0**	**+1.0**
KLV	**Kalavryta, Ach**	**2.12**	**160**	P		**Pb**	**11 37 26.4**	**-1.6**
KLV	**Kalavryta, Ach**	**2.12**	**160**	P		**Pn**	**11 37 26.1**	**+1.3**
DRO	**Drossia**	**2.13**	**170**	P		**Pb**	**11 37 26.6**	**-1.4**
DRO	**Drossia**	**2.13**	**170**	P		**Pn**	**11 37 26.2**	**+1.4**
SCTE	**Santa Cesarea**	**2.13**	**272**	P		**Pn**	**11 37 26.0**	**+1.2**
SCTE	**Santa Cesarea**	**2.13**	**272**	P		**Pn**	**11 37 26.0**	**+1.2**
PUK	**Puka**	**2.24**	**333**	*i* PN		**Pb**	**11 37 29.8**	**-0.1**
PUK	**Puka**	**2.24**	**333**	*i* Pn		**Pb**	**11 37 29.8**	**-0.1**
GUR	**Goura**	**2.28**	**158**	P		**Pn**	**11 37 27.6**	**+0.6**
GUR	**Goura**	**2.28**	**158**	P		**Pn**	**11 37 27.8**	**+0.8**
BARS	**Barje**	**2.80**	**9**	*e*Pn		**Pn**	**11 37 35.6**	**+1.5**
ITM	**Ithomi**	**2.92**	**169**	P		**Pn**	**11 37 36.8**	**+1.2**
ITM	**Ithomi**	**2.92**	**169**	P		**Pn**	**11 37 36.9**	**+1.2**
DID	**Didima**	**2.98**	**148**	P		**Pn**	**11 37 37.8**	**+1.3**
DID	**Didima**	**2.98**	**148**	P		**Pn**	**11 37 37.9**	**+1.3**
PYL	**PYLOS**	**3.17**	**173**	P		**Pn**	**11 37 40.9**	**+1.6**
PYL	**PYLOS**	**3.17**	**173**	P		**Pn**	**11 37 40.8**	**+1.6**
NOCI	**Noci**	**3.27**	**284**	P		**Pn**	**11 37 41.3**	**+0.7**
NOCI	**Noci**	**3.27**	**284**	P		**Pn**	**11 37 41.7**	**+1.1**
DYR	**Agios Nikonas**	**3.39**	**165**	P		**Pn**	**11 37 44.4**

DDEM	**Demirkent**		**1.30**	**316**	P		**Pg**	**11 37 57.5**	**-0.6**
ARRZ	**Ararat**		**1.36**	**94**	*e*P		**Pg**	**11 38 01.5**	**+2.4**
ARRZ					*e*S		**Sg**	**11 38 21.5**	**+4.8**
VRTB	**Varto-Mus**		**1.39**	**236**	PN		**Pg**	**11 37 59.7**	**-0.1**
VRTB	**Varto-Mus**		**1.39**	**236**	*i* P		**Pg**	**11 38 00.1**	**+0.3**
VRTB					*i* S		Sg	11 38 27.7	+10
VRTB	**Varto-Mus**		**1.39**	**236**	*e*Pn		**Pg**	**11 37 59.7**	**-0.1**
VRTB	**Varto-Mus**		**1.39**	**236**	P		**Pg**	**11 38 00.1**	**+0.3**
GNI	**Garni**		**1.40**	**81**	⇑*i* P		**Pg**	**11 37 59.8**	**-0.1**
GNI					⇑*i* S		**Sg**	**11 38 20.8**	**+2.7**
GNI	**Garni**		**1.40**	**81**	⇑P		**Pg**	**11 37 59.8**	**-0.1**
GNI					S		**Sg**	**11 38 20.8**	**+2.7**
DBAD	**Bademkaya**		**1.42**	**319**	*i* P		**Pg**	**11 37 59.8**	**-0.6**
DBAD					*i* S		**Sn**	**11 38 16.8**	**-0.9**
DBAD	**Bademkaya**		**1.42**	**319**	P		**Pg**	**11 37 59.8**	**-0.6**
DBAD					S		**Sn**	**11 38 16.8**	**-0.9**
ARTV	**Artvin**		**1.45**	**328**	*i* P		**Pn**	**11 37 59.1**	**-0.3**
ARTV	**Artvin**		**1.45**	**328**	*i* P		**Pn**	**11 37 59.1**	**-0.3**
ARTV					*i* S		**Sg**	**11 38 22.3**	**+2.5**
ARTV	**Artvin**		**1.45**	**328**	P		**Pn**	**11 37 59.1**	**-0.3**
TVAN	**Van**		**1.47**	**166**	*i* P		**Pg**	**11 38 00.9**	**-0.4**
TVAN					*i* S		**Sg**	**11 38 24.9**	**+4.5**
TVAN	**Van**		**1.47**	**166**	P		**Pg**	**11 38 00.9**	**-0.4**
HYR	**Heyderabad**		**1.49**	**98**	⇑P		**Pg**	**11 38 02.8**	**+1.1**
	SNR=36								
AKH	**Akhalkalaki**		**1.51**	**16**	PN		**Pg**	**11 38 01.4**	**-0.7**
AKH	**Akhalkalaki**		**1.51**	**16**	P		**Pg**	**11 38 02.0**	**-0.1**
AKH					S		**Sg**	**11 38 24.3**	**+2.5**
AKH	**Akhalkalaki**		**1.51**	**16**	*e*Pn		**Pg**	**11 38 01.4**	**-0.7**
AKH	**Akhalkalaki**		**1.51**	**16**	P		**Pg**	**11 38 02.0**	**-0.1**
AKH					S		**Sg**	**11 38 24.3**	**+2.5**
ECAT	**Cat-ERZURUM**		**1.55**	**258**	*e*P		**Pg**	**11 38 02.1**	**-0.7**
ECAT	**Cat-ERZURUM**		**1.55**	**258**	*i* P		**Pg**	**11 38 02.2**	**-0.7**
ECAT	**Cat-ERZURUM**		**1.55**	**258**	P		**Pg**	**11 38 02.2**	**-0.7**
GURO	**Guroymak-BITLI**		**1.57**	**207**	PN		**Pg**	**11 38 01.7**	**-1.4**
GURO	**Guroymak-BITLI**		**1.57**	**207**	*e*Pn		**Pg**	**11 38 01.7**	**-1.4**
GEVA	**Gevas**		**1.64**	**177**	*e*P		**Pb**	**11 38 02.4**	**-1.0**
GEVA					*e*S		**Sg**	**11 38 27.8**	**+1.9**
GEVA					IAML			11 38 42.0	
	comp=Z,35nm,0.4s								
GEVA	**Gevas**		**1.64**	**177**	*i* P		**Pb**	**11 38 02.8**	**-0.6**
GEVA					*i* S		**Sg**	**11 38 25.8**	**-0.1**
GEVA	**Gevas**		**1.64**	**177**	P		**Pb**	**11 38 02.8**	**-0.6**
GEVA					S		**Sg**	**11 38 25.8**	**-0.1**
DBOC	**Borcka**		**1.69**	**326**	*i* P		**Pb**	**11 38 04.1**	**-0.1**
DBOC					*i* S		**Sg**	**11 38 28.0**	**+0.5**
DBOC	**Borcka**		**1.69**	**326**	P		**Pb**	**11 38 04.1**	**-0.1**
DBOC					S		**Sg**	**11 38 28.0**	**+0.5**
KOPT	**Kop Dagi**		**1.88**	**273**	*e*P		**Pg**	**11 38 09.7**	**+0.7**
KOPT					IAML			11 39 18.6	
	comp=Z,91nm,0.4s								
BNGB	**Bing¯ll**		**2.00**	**242**	PN		**Pb**	**11 38 08.5**	**-0.9**
CHOM	**Cayeli-Rize**		**2.01**	**305**	*e*Pn		**Pb**	**11 38 09.5**	**-0.2**
BAYB	**BAYBURT**		**2.08**	**279**	*e*P		**Pg**	**11 38 12.2**	**-0.6**
BAYB	**BAYBURT**		**2.08**	**279**	*i* P		**Pg**	**11 38 12.2**	**-0.6**
SBZ	**Shahbuz**		**2.09**	**105**	⇓P		**Pb**	**11 38 10.8**	**-0.3**
	SNR=60								
SRTM	**Siirt_Merkez**		**2.11**	**202**	*i* P		**Pb**	**11 38 10.9**	**-0.5**
SRTM	**Siirt_Merkez**		**2.11**	**202**	P		**Pb**	**11 38 10.9**	**-0.5**
NAX	**Nakhchivan**		**2.12**	**111**	⇑P		**Pb**	**11 38 11.4**	**-0.2**
	SNR=20								
QZX	**Qazax, Azerbai**		**2.16**	**59**	⇓P		**Pb**	**11 38 10.7**	**-1.5**
	SNR=36								
QZX					⇓S		**Sg**	**11 38 44.1**	**+1.7**
BINT	**Bingol**		**2.18**	**241**	*e*Pn		**Pn**	**11 38 08.5**	**-0.9**
BAYT	**Ayd¯–ntepe-Bay**		**2.19**	**282**	PN		**Pb**	**11 38 12.1**	**-0.6**
BAYT	**Ayd¯–ntepe-Bay**		**2.19**	**282**	*e*Pn		**Pb**	**11 38 12.1**	**-0.6**
BTNK	**Botanikuri**		**2.23**	**39**	P		**Pg**	**11 38 14.5**	**-1.3**
BTNK					S		**Sg**	**11 38 43.1**	**-1.6**
BTNK	**Botanikuri**		**2.23**	**39**	P		**Pg**	**11 38 14.5**	**-1.3**
BTNK					S		**Sg**	**11 38 43.1**	**-1.6**
TBLG	**Delisi**		**2.24**	**37**	*e*P		**Pb**	**11 38 12.7**	**-0.8**
TBLG	**Delisi**		**2.24**	**37**	P		**Pb**	**11 38 12.7**	**-0.8**
TBLG					S		**Sb**	**11 38 42.1**	**+0.8**
TBLG	**Delisi**		**2.24**	**37**	P		**Pb**	**11 38 12.7**	**-0.8**
TBLG					S		**Sb**	**11 38 42.1**	**+0.8**
GDB	**GEDABAY**		**2.29**	**70**	⇑P		**Pb**	**11 38 13.2**	**-1.2**
	SNR=72								
DGRG	**David-gareji**		**2.38**	**50**	*e*P		**Pb**	**11 38 14.4**	**-1.5**
DGRG	**David-gareji**		**2.38**	**50**	P		**Pb**	**11 38 14.7**	**-1.2**
DGRG	**David-gareji**		**2.38**	**50**	P		**Pb**	**11 38 14.6**	**-1.3**
BTMN	**Batman**		**2.44**	**213**	*i* P		**Pb**	**11 38 15.6**	**-1.3**
BTMN	**Batman**		**2.44**	**213**	P		**Pb**	**11 38 15.6**	**-1.3**
SIRT	**Sirnak**		**2.48**	**189**	PN		**Pb**	**11 38 15.0**	**-2.7**
SIRT	**Sirnak**		**2.48**	**189**	*e*Pn		**Pb**	**11 38 15.0**	**-2.7**
DUS	**Dusheti**		**2.52**	**31**	P		**Pb**	**11 38 18.0**	**-0.3**
DUS	**Dusheti**		**2.52**	**31**	P		**Pb**	**11 38 18.0**	**-0.3**
ORD	**Ordubad**		**2.58**	**112**	⇑P		**Pb**	**11 38 17.1**	**-2.2**
	SNR=3.8								
ONI	**Oni**		**2.66**	**8**	P		**Pg**	**11 38 26.0**	**+2.0**
GANJ	**Ganja**		**2.68**	**74**	⇓P		**Pb**	**11 38 18.0**	**-3.0**
	SNR=18								
TNCL	**Tunceli-Merkez**		**2.76**	**253**	⇓*e*P		**Pg**	**11 38 24.1**	**-1.7**
TNCL	**Tunceli-Merkez**		**2.76**	**253**	*i* P		**Pg**	**11 38 24.7**	**-1.2**
KELT	**Kelkit**		**2.83**	**275**	*e*P		**Pb**	**11 38 23.9**	**+0.2**
KELT	**Kelkit**		**2.83**	**275**	*i* P		**Pg**	**11 38 25.4**	**-1.9**
PTK	**Pertek**		**2.94**	**250**	PN		**Pb**	**11 38 22.4**	**-3.2**
PTK	**Pertek**		**2.94**	**250**	*e*Pn		**Pb**	**11 38 22.4**	**-3.2**
MAZI	**Mazidag**		**3.16**	**219**	PN		**Pn**	**11 38 24.3**	**+1.4**
MAZI	**Mazidag**		**3.16**	**219**	*e*Pn		**Pn**	**11 38 24.3**	**+1.4**
KEMA	**Kemaliye**		**3.50**	**260**	*e*P		**Pb**	**11 38 30.7**	**-4.3**

*ISCJB **25** 12:14:59.8±0.3,28.°60N±0.°03×51.°24E±0.°03,h10km, mb3.8/24, Error ellipse: s-maj=4.8km s-min=3.9km az=40.7*
*THR **25** 12:14:59.8±0.6,28.°76N×51.°22E,h10km±4km, ML3.5*
*TEH **25** 12:14:59.3,28.°61N×51.°23E,h10km, ML3.5*
*IDC **25** 12:14:59.8±0.9,28.°55N×51.°32E,h0km, mb3.8/16, mb1 3.8/20,mb1mx3.7/69,mbtmp3.7/20,ML3.1/4, Error ellipse: s-maj=20.1km s-min=16.6km az=173.0*
*NEIC **25** 12:15:00.1±0.0,28.°78N×51.°24E,h11km, mb4.1/10, ML3.5(THR), MN3.5(TEH), After THR.*
*CSEM **25** 12:15:02.4±0.1,28.°64N×51.°23E,h15km, mb4.2/10, Error ellipse: s-maj=5.1km s-min=3.3km az=53.0*
*OMAN **25** 12:15:08.7±6.8,27.°97N×51.°34E,h10km, Error ellipse: s-maj=6.0km s-min=3.3km az=301.0*

ISC 25 12:15:01.8±0.5,28.°64N±0.°06×51.°28E±0.°04,h10km,n138, σ1§11/145,mb3.9/24,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.55**	**103**			Pn	**Pn**	**12 15 30.0**	**+0.5**
GHIR						Sg	**Sb**	**12 15 53.0**	**+2.7**
GHIR	**Ghir-Karzin**	**1.55**	**103**			Pn	**Pn**	**12 15 30.0**	**+0.5**
GHIR						*e*Sg	**Sg**	**12 15 53.6**	**+2.1**
GHIR	**Ghir-Karzin**	**1.55**	**103**			*e*Pg	**Pn**	**12 15 30.8**	**+1.4**
GHIR						*e*Sg	**Sg**	**12 15 53.6**	**+2.1**
GHIR					AML		AML	12 16 01.8	
	comp=N,586nm,0.4s								
GHIR					AML		AML	12 16 02.5	
	comp=E,509nm,0.4s								
IPAR	**Pars**	**1.96**	**52**	*e*Pn			**Pn**	**12 15 36.9**	**+1.5**
IPAR				*e*AMB			AMB	12 16 10.4	
	comp=Z,3µm,0.3s								
IPAR	**Pars**	**1.96**	**52**	Pn			**Pn**	**12 15 36.8**	**+1.4**
IPAR	**Pars**	**1.96**	**52**	Pn			**Pn**	**12 15 36.8**	**+1.4**
IRAM	**Ramesheh**	**3.30**	**17**	*e*Pn			**Pn**	**12 15 54.6**	**+0.8**
IRAM				*e*AMB			AMB	12 16 12.6	
	comp=Z,622nm,0.2s								
IRAM	**Ramesheh**	**3.30**	**17**	Pn			**Pn**	**12 15 54.5**	**+0.8**
IRAM	**Ramesheh**	**3.30**	**17**	Pn			**Pn**	**12 15 54.5**	**+0.8**
IGAR	**Gharneh**	**3.81**	**10**	*e*Pn			**Pn**	**12 16 02.0**	**+1.2**
IGAR				*e*AMB			AMB	12 16 51.4	
	comp=Z,487nm,0.1s								
ISAD	**Sadrabad**	**3.87**	**32**	*e*Pn			**Pn**	**12 16 02.9**	**+1.2**
ISAD	**Sadrabad**	**3.87**	**32**	Pn			**Pn**	**12 16 02.9**	**+1.2**
ISAD	**Sadrabad**	**3.87**	**32**	*e*Pn			**Pn**	**12 16 02.9**	**+1.2**
IMEH	**Mehriz**	**3.99**	**46**	*e*AMB			AMB	12 16 06.5	
	comp=Z,753nm,0.1s								
IMEH				*e*Pn			**Pn**	**12 16 04.2**	**+1.0**
IZEF	**Zefreh**	**4.34**	**12**	*e*Pn			**Pn**	**12 16 08.9**	**+0.8**
IZEF				*e*AMB			AMB	12 17 02.0	
	comp=Z,239nm,0.1s								
IZEF	**Zefreh**	**4.34**	**12**	Pn			**Pn**	**12 16 08.8**	**+0.7**
IZEF	**Zefreh**	**4.34**	**12**	Pn			**Pn**	**12 16 08.8**	**+0.7**
NASN	**Na'in**	**4.35**	**17**	Pn			**Pn**	**12 16 06.0**	**-2.3**
NASN	**Na'in**	**4.35**	**17**	*e*Pn			**Pn**	**12 16 06.6**	**-1.7**
NASN	**Na'in**	**4.35**	**17**	*e*Pn			**Pn**	**12 16 06.6**	**-1.7**
NASN					AML		AML	12 16 60.0	
	comp=E,40nm,0.5s								
IKLH	**Kolahrood**	**4.67**	**3**	*e*Pn			**Pn**	**12 16 13.8**	**+1.1**
IKLH				*e*AMB			AMB	12 16 20.1	
	comp=Z,316nm,0.1s								
IKLH	**Kolahrood**	**4.67**	**3**	Pn			**Pn**	**12 16 13.8**	**+1.1**
IKLH	**Kolahrood**	**4.67**	**3**	*e*Pn			**Pn**	**12 16 13.8**	**+1.1**
IBAF	**Bafgh**	**4.74**	**51**	*e*Pn			**Pn**	**12 16 14.7**	**+1.2**
IBAF				*e*AMB			AMB	12 16 17.7	
	comp=Z,728nm,0.1s								
IBAF	**Bafgh**	**4.74**	**51**	Pn			**Pn**	**12 16 14.6**	**+1.1**
IBAF	**Bafgh**	**4.74**	**51**	Pn			**Pn**	**12 16 14.6**	**+1.1**
NGRK	**Negar Kerman**	**4.88**	**77**	*e*Pn			**Pn**	**12 16 16.6**	**+1.1**
NGRK				*e*AMB			AMB	12 16 19.8	
	comp=Z,99nm,0.1s								
NGRK	**Negar Kerman**	**4.88**	**77**	*e*Pn			**Pn**	**12 16 16.6**	**+1.1**
KRBR	**Kerman**	**4.97**	**73**	Pn			**Pn**	**12 16 17.0**	**+0.2**
KRBR	**Kerman**	**4.97**	**73**	*e*Pn			**Pn**	**12 16 17.5**	**+0.7**
KRBR	**Kerman**	**4.97**	**73**	*e*Pn			**Pn**	**12 16 17.5**	**+0.7**
QAM	**Ghamsar**	**5.11**	**2**	*e*Pn			**Pn**	**12 16 20.0**	**+1.4**
QAM				*e*AMB			AMB	12 16 22.7	
	comp=Z,576nm,0.1s								
UOSS	**Minazif**	**5.74**	**129**	*e*Pn			**Pn**	**12 16 27.6**	**+0.6**
UOSS				*e*Sn			**Sn**	**12 17 30.9**	**-2.0**
UOSS	**Minazif**	**5.74**	**129**	Pn			**Pn**	**12 16 28.8**	**+1.8**
	SNR=7.6								
UOSS	**Minazif**	**5.74**	**129**	P			**Pn**	**12 16 28.8**	**+1.8**
	SNR=7.6								
UOSS	**Minazif**	**5.74**	**129**	*e*Pn			**Pn**	**12 16 27.6**	**+0.6**
UOSS	**Minazif**	**5.74**	**129**	P			**Pn**	**12 16 28.8**	**+1.8**
	SNR=7.6								
UOSS				*e*Sn			**Sn**	**12 17 30.9**	**-2.0**
ASHO	**Ashiyiah**	**5.81**	**132**	Pn			**Pn**	**12 16 29.7**	**+1.6**
	SNR=20								
ASHO	**Ashiyiah**	**5.81**	**132**	P			**Pn**	**12 16 29.7**	**+1.6**
	SNR=20								
ASHO	**Ashiyiah**	**5.81**	**132**	P			**Pn**	**12 16 29.7**	**+1.6**
	SNR=20								
IVRN	**Varamin**	**6.35**	**3**	*e*Pn			**Pn**	**12 16 36.2**	**+0.7**
IVRN				*e*AMB			AMB	12 17 48.0	
	comp=Z,141nm,0.1s								
IVRN	**Varamin**	**6.35**	**3**	Pn			**Pn**	**12 16 36.2**	**+0.7**
IVRN	**Varamin**	**6.35**	**3**	*e*Pn			**Pn**	**12 16 36.2**	**+0.7**
SOHO	**SOHO**	**6.50**	**132**	P			**Pn**	**12 16 37.9**	**+0.3**
IDMV	**Damavand**	**6.95**	**5**	*e*Pn			**Pn**	**12 16 44.4**	**+0.5**
IDMV				*e*AMB			AMB	12 16 46.0	
	comp=Z,140nm,0.1s								
IDMV	**Damavand**	**6.95**	**5**	Pn			**Pn**	**12 16 44.3**	**+0.4**
IDMV	**Damavand**	**6.95**	**5**	Pn			**Pn**	**12 16 44.3**	**+0.4**
IFIR	**Firoozkooh**	**7.10**	**10**	*e*Pn			**Pn**	**12 16 46.2**	**+0.3**
IFIR	**Firoozkooh**	**7.10**	**10**	Pn			**Pn**	**12 16 46.2**	**+0.3**
IFIR	**Firoozkooh**	**7.10**	**10**	*e*Pn			**Pn**	**12 16 46.2**	**+0.3**
SNGE	**Sanandaj**	**7.25**	**334**	Pn			**Pn**	**12 16 46.0**	**-2.0**
SNGE	**Sanandaj**	**7.25**	**334**	*e*Pn			**Pn**	**12 16 46.6**	**-1.4**
SNGE	**Sanandaj**	**7.25**	**334**	*e*Pn			**Pn**	**12 16 46.6**	**-1.4**
RAYN	**Ar Rayn**	**7.27**	**227**	*e*Pn			**Pn**	**12 16 48.0**	**-0.1**
RAYN				*e*Sn			**Sn**	**12 18 14.0**	**+3.2**
RAYN	**Ar Rayn**	**7.27**	**227**	*e*Pn			**Pn**	**12 16 48.0**	**-0.1**
WSAR	**Wadi Sarin**	**8.53**	**127**	Pn			**Pn**	**12 17 04.3**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=319,slow=11,SNR=3.6								
WSAR							Sn		**Sn**	**12 18 37.7**	**-4.0**
	comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=3.7								
MHTO	**MHTO**	**9.74**	**140**	P			**Pn**	**12 17 23.0**	**+1.0**
	SNR=13								
GEYT	**Alibeck**	**10.89**	**30**	Pn			**Pn**	**12 17 38.7**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=224,slow=5.8,SNR=2.9								
DMTO	**DMTO**	**11.38**	**162**	P			**Pn**	**12 17 44.0**	**-0.5**
	SNR=11								
KBZ	**Khabaz**	**16.50**	**338**	Pn			**Pn**	**12 18 54.3**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=157,slow=15,SNR=3.8								
BRTR	**Keskin Array B**	**18.28**	**312**	P			**Pn**	**12 19 15.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=136,slow=12,SNR=4.6								
BR101	**Keskin Array S**	**18.28**	**312**	*e*P			**Pn**	**12 19 15.2**	**-0.4**
BR101	**Keskin Array S**	**18.28**	**312**	*e*P			**Pn**	**12 19 15.2**	**-0.4**
AB08	**Akbulak array**	**21.62**	**16**	*e*P			**P**	**12 19 52.5**	**+0.6**
AB07	**Akbulak array**	**21.63**	**16**	*e*P			**P**	**12 19 52.1**	**+0.2**
AB07	**Akbulak array**	**21.63**	**16**	*e*P			**P**	**12 19 52.2**	**+0.2**
AB03	**Akbulak array**	**21.63**	**16**	*e*P			**P**	**12 19 51.8**	**-0.2**
AB03	**Akbulak array**	**21.63**	**16**	*e*P			**P**	**12 19 51.8**	**-0.2**
AB09	**Akbulak array**	**21.64**	**15**	*e*P			**P**	**12 19 51.9**	**-0.2**
AB09	**Akbulak array**	**21.64**	**15**	*e*P			**P**	**12 19 51.9**	**-0.2**
AB01	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 51.9**	**-0.2**
AB01	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 51.9**	**-0.2**
AB04	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 52.3**	**+0.2**
AB04	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 52.3**	**+0.2**
AB31	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 52.2**	**+0.1**
AB31	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 52.2**	**+0.1**
ABKAR	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 52.2**	**+0.1**
	comp=Z,15nm,0.5s								
ABKAR	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 52.2**	**+0.1**
	comp=Z,15nm,0.5s								
AB02	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 52.4**	**+0.2**
AB02	**Akbulak array**	**21.64**	**16**	*e*P			**P**	**12 19 52.3**	**+0.2**
AB06	**Akbulak array**	**21.65**	**16**	*e*P			**P**	**12 19 52.1**	**-0.1**
AB06	**Akbulak array**	**21.65**	**16**	*e*P			**P**	**12 19 52.1**	**-0.1**
AB05	**Akbulak array**	**21.65**	**16**	*e*P			**P**	**12 19 52.6**	**+0.3**
AB05	**Akbulak array**	**21.65**	**16**	*e*P			**P**	**12 19 52.6**	**+0.3**
AKTO	**Aktyubinsk**	**22.36**	**11**	P			**P**	**12 20 01.1**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=180,slow=9.1,SNR=4.0								
IDI	**Anoyia**	**23.31**	**293**	P			**P**	**12 20 10.9**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=74,slow=16,SNR=3.5								
IDI	**Anoyia**	**23.31**	**293**	*e*P			**P**	**12 20 10.9**	**+0.9**
	comp=Z,4.1nm,1.1s								
IDI	**Anoyia**	**23.31**	**293**	*e*P			**P**	**12 20 10.9**	**+0.9**
	comp=Z,4.1nm,1.1s								
AKASG	**Malin Array Be**	**27.62**	**329**	P			**P**	**12 20 50.6**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=132,slow=12,SNR=2.9								
AKBB	**Malin Array Si**	**27.62**	**329**	*e*P			**P**	**12 20 49.3**	**+0.1**
	comp=Z,2.7nm,1.0s								
AKBB	**Malin Array Si**	**27.62**	**329**	*e*P			**P**	**12 20 49.3**	**+0.1**
	comp=Z,2.7nm,1.0s								
BUR04	**Bucovina Ar. S**	**27.71**	**320**	*e*P			**P**	**12 20 49.9**	**-0.3**
BUR04	**Bucovina Ar. S**	**27.71**	**320**	*e*P			**P**	**12 20 49.9**	**-0.3**
BRVK	**Borovoye**	**28.14**	**25**	*e*P			**P**	**12 20 54.5**	**+0.5**
	comp=Z,2.3nm,1.1s								
BRVK	**Borovoye**	**28.14**	**25**	*e*P			**P**	**12 20 54.5**	**+0.5**
	comp=Z,2.3nm,1.1s								
BVAR	**Borovoye Array**	**28.16**	**25**	P			**P**	**12 20 54.5**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=228,slow=7.1,SNR=9.1								
KURBB	**Kurchatov Arra**	**30.08**	**36**	P			**P**	**12 21 12.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=238,slow=9.5,SNR=3.0								
KURK	**Kurchatov**	**30.18**	**36**	*e*P			**P**	**12 21 12.0**	**-0.1**
KURK	**Kurchatov**	**30.18**	**36**	*e*P			**P**	**12 21 12.0**	**-0.1**
MK01	**Makanchi Array**	**30.22**	**45**	*e*P			**P**	**12 21 13.0**	**+0.5**
MK01	**Makanchi Array**	**30.22**	**45**	*e*P			**P**	**12 21 13.0**	**+0.5**
MK31	**Makanchi Array**	**30.23**	**45**	*e*P			**P**	**12 21 13.1**	**+0.5**
MK31	**Makanchi Array**	**30.23**	**45**	*e*P			**P**	**12 21 13.1**	**+0.5**
MK32	**Makanchi Array**	**30.23**	**45**	*e*P			**P**	**12 21 12.4**	**-0.2**
MK32	**Makanchi Array**	**30.23**	**45**	*e*P			**P**	**12 21 12.4**	**-0.2**
MKAR	**Makanchi Array**	**30.23**	**45**	P			**P**	**12 21 12.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=255,slow=7.8,SNR=8.4								
MKAR	**Makanchi Array**	**30.23**	**45**	*e*P			**P**	**12 21 13.0**	**+0.4**
	comp=Z,5.8nm,1.0s								
MKAR	**Makanchi Array**	**30.23**	**45**	*e*P			**P**	**12 21 13.0**	**+0.4**
	comp=Z,5.8nm,1.0s								
ZALV	**Zalesovo Beam**	**35.15**	**35**	P			**P**	**12 21 55.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=242,slow=11,SNR=2.5								
ZAA1	**Zalesovo Array**	**35.15**	**35**	*e*P			**P**	**12 21 55.4**	**-0.1**
FIA0	**FINESS Array S**	**36.84**	**340**	*e*P			**P**	**12 22 09.1**	**-0.8**
FIA1	**FINESS Array S**	**36.84**	**340**	*e*P			**P**	**12 22 09.0**	**-0.8**
FINES	**FINESS Array B**	**36.84**	**340**	P			**P**	**12 22 09.1**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=145,slow=8.3,SNR=14								
HFS	**Hagfors**	**40.41**	**332**	P			**P**	**12 22 39.8**	**0.0**
	comp=Z,2.5nm,0.8s,baz=128,slow=9.3,SNR=8.0								
NB201	**NORSAR Array S**	**41.91**	**332**	*e*P			**P**	**12 22 52.2**	**0.0**
NB200	**NORSAR Array S**	**41.93**	**332**	*e*P			**P**	**12 22 50.4**	**-2.1**
NOA	**NORSAR Array B**	**41.93**	**332**	P			**P**	**12 22 50.3**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=120,slow=8.0,SNR=2.3								
NBO02	**NORSAR Array S**	**42.09**	**332**	*e*P			**P**	**12 22 52.0**	**-1.6**
NBO00	**NORSAR Array S**	**42.11**	**332**	*e*P			**P**	**12 22 52.2**	**-1.6**
ARA0	**ARCESS Array S**	**43.55**	**347**	*e*P			**P**	**12 23 04.8**	**-0.6**
ARCES	**ARCESS Array B**	**43.55**	**347**	P			**P**	**12 23 04.8**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=144,slow=7.0,SNR=6.0								
PAB	**San Pablo**	**46.68**	**299**	*e*P			**P**	**12 23 31.1**	**+0.3**
	comp=Z,2.1nm,0.9s								
PAB	**San Pablo**	**46.68**	**299**	*e*P			**P**	**12 23 31.1**	**+0.3**
	comp=Z,2.1nm,0.9s								
TOA0	**Torodi Ar. Sit**	**48.48**	**262**	*e*P			**P**	**12 23 44.9**	**0.0**
	comp=Z,1.4nm,0.6s								
TOA1	**Torodi Ar. Sit**	**48.48**	**262**	*e*P			**P**	**12 23 44.9**	**0.0**
TORD	**Torodi Ar. Bea**	**48.48**	**262**	P			**P**	**12 23 44.9**	**0.0**
	comp=Z,0.9nm,0.5s,baz=57,slow=8.1,SNR=10								
KOWA	**Kowa**	**52.89**	**267**	P			**P**	**12 24 18.7**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=43,slow=7.7,SNR=5.6								
KOWA	**Kowa**	**52.89**	**267**	*e*P			**P**	**12 24 18.6**	**+0.4**
	comp=Z,3.4nm,1.1s								
KS01	**Wonju Array Si**	**63.21**	**60**	*e*P			**P**	**12 25 27.9**	**-2.4**
KS01	**Wonju Array Si**	**63.21**	**60**	*e*P			**P**	**12 25 27.9**	**-2.4**
ILAR	**Eielson Array**	**85.83**	**8**	P			**P**	**12 27 41.5**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=323,slow=5.7,SNR=2.9								
HARP	**HAARP**	**88.32**	**8**	*e*P			**P**	**12 27 54.7**	**+1.3**
	comp=Z,4.4nm,1.1s								
YKA	**Yellowknife Ar**	**88.48**	**353**	P			**P**	**12 27 54.1**	**0.0**
	comp=Z,0.4nm,0.7s,baz=11,slow=5.5,SNR=11								
YKB5	**Yellowknife Ar**	**88.48**	**353**	*e*P			**P**	**12 27 54.1**	**0.0**
WRA	**Warramunga Arr**	**93.54**	**111**	P			**P**	**12 28 16.8**	**-1.5**
	comp=Z,0.2n

ULN	**Ulaanbaatar**	**27.12 302**⇑	*e*P		**P**		**12 28 34.7**	**+0.9**
ULN				pmax	pmax				
	comp=Z,4.0nm,1.2s								
SONA1	**Songino Array**	**27.55 302**	*e*P		**P**		**12 28 36.3**	**-1.4**
SONM	**Songino Array**	**27.55 302**	P		**P**		**12 28 37.4**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=107,slow=9.6,SNR=7.5								
H11N2	**WAKE ISLAND Hy**	**28.36 124**	T		T		12 59 03.3		
	baz=316,slow=75,SNR=1168								
H11N1	**WAKE ISLAND Hy**	**28.37 124**	T		T		12 59 04.0		
	baz=316,slow=75,SNR=1251								
H11N3	**WAKE ISLAND Hy**	**28.38 124**	T		T		12 59 04.6		
	baz=316,slow=75,SNR=1146								
H11S1	**WAKE ISLAND Hy**	**29.12 126**	T		T		13 00 00.4		
	baz=318,slow=76,SNR=416								
H11S3	**WAKE ISLAND Hy**	**29.13 126**	T		T		12 59 58.7		
	baz=318,slow=76,SNR=584								
H11S2	**WAKE ISLAND Hy**	**29.14 126**	T		T		13 00 00.5		
	baz=318,slow=76,SNR=431								
ZAK	**Zakamensk**	**29.93 307**	*e*P		**P**		**12 28 57.4**	**-1.4**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
TLY	**Talaya**	**29.93 309**	*e*P		**P**		**12 28 58.0**	**-0.7**
TLY				pmax	pmax				
	comp=Z,2.0nm,0.9s								
TLY				MLR	MLR				
	comp=Z,16nm,5.0s								
LZH	**Lanzhou**	**30.39 278**	*e*P		**P**		**12 28 59.8**	**-3.3**
LZH				pP	pP		12 29 13.5	+0.3
LZH				sP	sP		12 29 19.0	+1.5
LZH				pmax	pmax				
	comp=Z,10.0nm,1.0s								
LZH				pmax	pmax				
	comp=Z,68nm,4.5s								
LZH				LR	LR				
	comp=Z,160nm,12.2s								
LZH				LR	LR				
	comp=Z,240nm,12.7s								
LZH				LR	LR				
	comp=Z,330nm,15.3s								
CD2	**Chengdu**	**32.21 269**	*e*P		**P**		**12 29 18.0**	**-0.9**
GTA	**Gaotai**	**32.72 285**	*e*P		**P**		**12 29 22.8**	**-0.6**
GTA				pP	pP		12 29 34.3	+0.7
GTA				sP	sP		12 29 40.5	+2.6
GTA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TIXI	**Tiksi**	**34.13 353**⇓	*e*P		**P**		**12 29 34.1**	**-1.0**
TIXI				pmax	pmax				
	comp=Z,1.0nm,1.1s								
WMQ	**Urumqi**	**40.76 296**	P		**P**		**12 30 31.3**	**-0.4**
WMQ				sP	sP		12 30 50.0	+3.7
WMQ				pmax	pmax				
	comp=Z,35nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,340nm,4.7s								
WMQ				LR	LR				
	comp=Z,120nm,33.5s								
WMQ				LR	LR				
	comp=Z,120nm,35.7s								
WMQ				LR	LR				
	comp=Z,100nm,29.1s								
ZAA0	**Zalesovo Array**	**41.48 311**	*e*P		**P**		**12 30 36.9**	**-0.5**
	comp=Z,14nm,1.5s								
ZALV	**Zalesovo Beam**	**41.48 311**	P		**P**		**12 30 36.8**	**-0.6**
	comp=Z,2.8nm,0.4s,baz=86,slow=7.7,SNR=16								
ZALV				PcP	**PcP**		**12 32 33.7**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=103,slow=4.1,SNR=3.3								
CMAR	**Chiang Mai Arr**	**42.32 255**	P		**P**		**12 30 45.1**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=44,slow=6.6,SNR=4.3								
CMAR				LR	LR		12 51 03.2		
	comp=Z,35nm,19.4s,baz=42,slow=40								
MK01	**Makanchi Array**	**43.91 301**	*e*P		**P**		**12 30 56.2**	**-1.1**
MK31	**Makanchi Array**	**43.91 301**	*e*P		**P**		**12 30 56.6**	**-0.7**
MK31	**Makanchi Array**	**43.91 301**	*e*P		**P**		**12 30 56.6**	**-0.7**
MKAR	**Makanchi Array**	**43.91 301**	P		**P**		**12 30 56.4**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=84,slow=11,SNR=22								
MKAR	**Makanchi Array**	**43.91 301**	*e*P		**P**		**12 30 56.6**	**-0.7**
MKAR				pmax	pmax				
	comp=Z,17nm,0.8s								
MKAR	**Makanchi Array**	**43.91 301**	*e*P		**P**		**12 30 56.6**	**-0.7**
	comp=Z,17nm,0.8s								
MAKZ	**Makanchi**	**44.12 301**	*e*P		**P**		**12 30 58.4**	**-0.6**
MAKZ				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MAKZ	**Makanchi**	**44.12 301**	*e*P		**P**		**12 30 58.4**	**-0.6**
	comp=Z,2.6nm,0.8s								
KURK	**Kurchatov**	**45.59 307***c i*P			**P**		**12 31 09.2**	**-1.3**
KURK				pmax	pmax				
	comp=Z,50nm,1.2s								
KURK	**Kurchatov**	**45.59 307**	*e*P		**P**		**12 31 09.6**	**-0.9**
	comp=Z,14nm,1.1s								
KURBB	**Kurchatov Arra**	**45.66 307**	P		**P**		**12 31 10.0**	**-1.1**
	comp=Z,4.5nm,0.5s,baz=82,slow=8.2,SNR=41								
TAPN	**Taplejung**	**46.38 273**	*e*P		**P**		**12 31 18.0**	**+0.5**
	comp=Z,5.6nm,0.4s								
SAUI	**Saumlaki**	**47.10 195**	*e*P		P		12 31 35.7	+13
	comp=Z,128nm,0.3s								
JIRN	**Jiri**	**47.43 274**	*e*P		**P**		**12 31 26.2**	**+0.5**
	comp=Z,10.0nm,0.4s								
RAMN	**Ramite**	**47.44 273**	*e*P		**P**		**12 31 24.7**	**-1.0**
	comp=Z,10nm,0.5s								
GUN	**Gumba**	**47.56 275**	*e*P		**P**		**12 31 26.8**	**+0.1**
	comp=Z,17nm,0.5s								
KKN	**Kakani**	**48.09 275**	*e*P		**P**		**12 31 30.6**	**0.0**
	comp=Z,7.3nm,0.4s								
PKI	**Pulchoki**	**48.09 275**	*e*P		**P**		**12 31 30.7**	**-0.1**
	comp=Z,7.8nm,0.5s								
PKIN	**Phulchoki**	**48.09 275**	*e*P		**P**		**12 31 29.6**	**-1.1**
	comp=Z,8.1nm,0.5s								
PKIN	**Phulchoki**	**48.09 275**	*e*P		**P**		**12 31 30.3**	**-0.4**
	comp=Z,8.4nm,0.5s								
ILAR	**Eielson Array**	**48.17 33**	P		**P**		**12 31 31.6**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=261,slow=6.2,SNR=7.2								
DMN	**Daman**	**48.31 275**	*e*P		**P**		**12 31 31.6**	**-0.8**
	comp=Z,7.2nm,0.5s								
GKN	**Gorkha**	**48.49 276**	*e*P		**P**		**12 31 33.2**	**-0.5**
	comp=Z,8.6nm,0.3s								
KDJ	**Kajisay**	**48.65 296**	P		**P**		**12 31 34.3**	**-0.4**
KDJ				pmax	pmax				
	comp=Z,2.0nm,0.5s								
DANN	**Dangsing**	**49.02 277**	*e*P		**P**		**12 31 37.8**	**-0.1**
	comp=Z,2.1nm,0.8s								
KOLN	**Koldanda**	**49.41 276**	*e*P		**P**		**12 31 39.8**	**-1.0**
	comp=Z,6.8nm,0.5s								
PYUN	**Piuthan**	**49.73 277**	*e*P		**P**		**12 31 42.6**	**-0.7**
	comp=Z,14nm,0.6s								
BVAR	**Borovoye Array**	**50.13 312**	P		**P**		**12 31 45.1**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=71,slow=7.6,SNR=8.3								
BRVK	**Borovoye**	**50.19 312**⇑	*e*P		**P**		**12 31 44.8**	**-1.3**
BRVK				pmax	pmax				
	comp=Z,18nm,2.5s								
HNR	**Honiara**	**50.30 157**	LR		LR		12 52 27.6		
	comp=Z,24nm,19.6s,baz=254,slow=35								
AAK	**Ala-Archa**	**50.37 298**	P		**P**		**12 31 46.6**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=74,slow=8.8,SNR=4.3								
AAK	**Ala-Archa**	**50.37 298**	*e*P		**P**		**12 31 47.1**	**-0.7**
AAK				pmax	pmax				
	comp=Z,4.0nm,1.3s								
AAK	**Ala-Archa**	**50.37 298**	*e*P		**P**		**12 31 47.1**	**-0.7**
	comp=Z,3.6nm,1.3s								
KSH	**Kashi**	**50.39 293**	*e*P		**P**		**12 31 50.5**	**+2.5**
KKAR	**Karatay Array**	**52.96 299**	*e*P		**P**		**12 32 06.4**	**-0.6**
KKAR	**Karatay Array**	**52.96 299**	*e*P		**P**		**12 32 06.4**	**-0.6**
INK	**Inuvik**	**53.05 28**	P		**P**		**12 32 08.0**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=273,slow=4.4,SNR=3.8								
INK	**Inuvik**	**53.05 28**	P		**P**		**12 32 08.0**	**+0.8**
INK				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ARU	**Arti**	**55.78 318**	P		**P**		**12 32 26.1**	**-1.2**
	comp=Z,3.3nm,0.5s,baz=73,slow=5.2,SNR=5.5								
ARU	**Arti**	**55.78 318***c i*P			**P**		**12 32 26.4**	**-0.9**
ARU							12 34 27.6		
ARU				S	**S**		**12 40 09.0**	**-2.5**
ARU				SS	**SS**		**12 43 57.5**	**+0.8**
ARU				pmax	pmax				
	comp=Z,6.0nm,1.2s								
ABKAR	**Akbulak array**	**57.55 310**	*e*P		**P**		**12 32 38.8**	**-1.1**
	comp=Z,12nm,0.6s								
AKTO	**Aktyubinsk**	**58.24 312**	P		**P**		**12 32 43.4**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=66,slow=8.7,SNR=4.7								
WRA	**Warramunga Ar**	**58.36 189**	P		**P**		**12 32 45.5**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=5.8,slow=7.2,SNR=28								
SPITS	**Spitsbergen Ar**	**59.41 349**	P		**P**		**12 32 52.7**	**+0.2**
	comp=Z,9.0nm,1.0s,baz=66,slow=8.1,SNR=3.4								
SPITS				LR	LR		12 59 47.4		
	comp=Z,47nm,18.4s,baz=205,slow=37								
ASAR	**Alice Springs**	**62.08 188**	P		**P**		**12 33 11.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=352,slow=4.2,SNR=20								

YKA	**Yellowknife Ar**	**62.48 31**	P		**P**		**12 33 14.3**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=302,slow=6.6,SNR=6.6								
YKA	**Yellowknife Ar**	**62.48 31**	*i* P		**P**		**12 33 15.3**	**+1.8**
ARCES	**ARCESS Array B**	**63.02 339**	P		**P**		**12 33 17.2**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=52,slow=7.9,SNR=9.2								
FIA1	**FINESS Array S**	**67.96 332**	*e*P		**P**		**12 33 49.1**	**+0.1**
	comp=Z,53nm,1.6s								
FINES	**FINESS Array B**	**67.96 332**	P		**P**		**12 33 48.4**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=40,slow=9.9,SNR=13								
FINES				LR	LR		13 05 17.8		
	comp=Z,50nm,18.3s,baz=137,slow=37								
VGB	**Gordon Butte**	**68.30 49**	*e*P		P		12 33 56.7	+5.2	
VGB	**Gordon Butte**	**68.30 49**	*e*P		P		12 33 56.7	+5.2	
KVAR	**Kislovodsk Arr**	**70.49 311**	P		**P**		**12 34 05.0**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=90,slow=3.0,SNR=2.9								
KIV	**Kislovodsk**	**70.49 311**	*e*P		**P**		**12 34 05.2**	**0.0**
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
NC405	**NORSAR Array S**	**73.04 337**	*e*P		**P**		**12 34 19.1**	**-0.9**
HFS	**Hagfors**	**73.18 336**	P		**P**		**12 34 20.5**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=45,slow=6.8,SNR=24								
HFS				LR	LR		13 09 12.7		
	comp=Z,51nm,19.2s,baz=46,slow=38								
NC204	**NORSAR Array S**	**73.20 338**	*e*P		**P**		**12 34 20.7**	**-0.3**
NB201	**NORSAR Array S**	**73.22 337**	*e*P		**P**		**12 34 20.2**	**-1.0**
NB2	**NORSAR Subarra**	**73.25 337**	P		**P**		**12 34 20.8**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=41,slow=5.9								
NB2	**NORSAR Subarra**	**73.25 337**	P		**P**		**12 34 20.8**	**-0.5**
NB2				pmax	pmax				
	comp=Z,8.0nm,0.6s								
NOA	**NORSAR Array B**	**73.25 337**	P		**P**		**12 34 20.9**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=39,slow=5.8,SNR=8.0								
NOA				LR	LR		13 09 05.5		
	comp=Z,29nm,21.7s,baz=40,slow=38								
NOA	**NORSAR Array B**	**73.25 337**	P		**P**		**12 34 21.0**	**-0.3**
NOA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
NOA				MLR	MLR				
	comp=Z,29nm,21.7s								
NBO02	**NORSAR Array S**	**73.35 338**	*e*P		**P**		**12 34 21.7**	**-0.1**
AKASG	**Malin Array Be**	**73.64 322**	P		**P**		**12 34 22.8**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=44,slow=6.6,SNR=8.4								
AKASG	**Malin Array Be**	**73.64 322**	*i* P		**P**		**12 34 22.7**	**-1.0**
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.5s								
PDAR	**Pinedale Array**	**76.43 46**	P		**P**		**12 34 41.7**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=193,slow=2.6,SNR=4.0								
PDAR	**Pinedale Array**	**76.43 46**	*e*P		**P**		**12 34 42.5**	**+2.2**
BUR08	**Bucovina Ar. S**	**77.65 322**	*e*P		**P**		**12 34 47.6**	**+0.7**
BRTR	**Keskin Array B**	**78.42 312**	P		**P**		**12 34 50.9**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=82,slow=3.3,SNR=3.8								
CLL	**Collm**	**80.28 330**	*i* P		**P**		**12 35 00.7**	**-0.4**
	comp=Z,4.0nm,1.1s								
KHC	**Kasperske Hory**	**81.76 329**	*e*P		**P**		**12 35 09.1**	**0.0**
KHC	**Kasperske Hory**	**81.76 329**	*e*P		**P**		**12 35 09.1**	**0.0**
GERES	**GERESS Array B**	**81.93 328**	P		**P**		**12 35 09.3**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=38,slow=6.8,SNR=5.9								
GERES				LR	LR		13 14 10.9		
	comp=Z,45nm,18.1s,baz=40,slow=38								
TXAR	**Lajitas Array**	**88.96 53**	P		**P**		**12 35 46.7**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=305,slow=2.2,SNR=3.8								

IDC ***25*** *12:28:48.5±0.6,32.˚44N×47.˚00E, h0km, mb4.1/29, mb1 4.2/36, mb1mx4.1/66, mbtmp4.1/36, ML3.9/6, MS3.2/11, Ms1 3.2/11, ms1mx2.9/56, Error ellipse: s-maj=14.4km s-min=11.1km az=174.0*

TEH ***25*** *12:28:50.3,32.˚52N×47.˚03E, h10km, ML4.2*

ISN ***25*** *12:28:51.9±1.3, 32.˚39N×46.˚76E, h0km±4km, ML4.5*

THR ***25*** *12:28:51.3±0.5, 32.˚42N×46.˚87E, h39km±7km, ML4.1*

ISCJB ***25*** *12:28:52.4±0.4, 32.˚38N±0.˚03×46.˚95E±0.˚02, h36km±3km, mb4.4/90, MS3.4/8, Error ellipse: s-maj=4.5km s-min=2.9km az=12.3*

MOS ***25*** *12:28:52.0±1.4, 32.˚51N×46.˚89E, h27km, mb4.6/42, Error ellipse: s-maj=6.2km s-min=4.1km az=116.1*

CSEM ***25*** *12:28:53.4±0.1, 32.˚39N×46.˚99E, h30km, mb4.6/41, Error ellipse: s-maj=4.1km s-min=2.8km az=23.0*

BJI ***25*** *12:28:53.0, 32.˚50N×47.˚00E, h41km, mb4.6/23, mB4.8/10, Ms4.3/7, Ms7 4.1/4*

NEIC ***25*** *12:28:54.4±0.3, 32.˚46N×46.˚96E, h37km±3km, mb4.6/39, ML4.1(THR), MN4.2(TEH), Error ellipse: s-maj=4.1km s-min=2.6km az=187.0*

OMAN ***25*** *12:28:57.1±0.5, 31.˚68N×46.˚79E, h45km, Error ellipse: s-maj=20.5km s-min=11.6km az=14.0*

ISC 25 12:28:52.6±0.7, 32.˚46N±0.˚03×46.˚94E±0.˚03, h25km±5km, n446, σ1ı9ı50/428, mb4.5/91, MS3.4/8, 25C-28D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NSR	**Nassriya**	**1.60**	**205**	*e*Pn		**Pb**	**12 29 20.3**	**-1.1**
	SNR=39							
NSR				*i* Sn		**Sb**	**12 29 39.0**	**-2.1**
	SNR=3.0							
SHGR	**Shooshtar-Gavs**	**1.62**	**102**	Pg		**Pb**	**12 29 21.0**	**-0.8**
SHGR				Sg		**Sb**	**12 29 43.0**	**+1.3**
SHGR	**Shooshtar-Gavs**	**1.62**	**102**	Pg		**Pb**	**12 29 21.0**	**-0.8**
SHGR				Sg		**Sb**	**12 29 43.0**	**+1.3**
SHGR	**Shooshtar-Gavs**	**1.62**	**102**	*e*Pg		**Pb**	**12 29 21.5**	**-0.3**
SHGR				*e*Sg		**Sb**	**12 29 43.4**	**+1.7**
SHGR				AML		AML	12 29 47.2	
	comp=E,4μm,0.5s							
SHGR				AML		AML	12 29 48.9	
	comp=N,3μm,0.6s							
IKOM	**Komasi**	**1.78**	**15**	*e*Pn		**Pb**	**12 29 23.0**	**-1.6**
IKOM				*e*Sg		**Sb**	**12 29 47.5**	**+0.9**
IKOM				*e*AMB		AMB	12 30 01.7	
	comp=Z,45μm,0.3s							
IKOM	**Komasi**	**1.78**	**15**	Pn		**Pb**	**12 29 23.0**	**-1.6**
IKOM				Sg		**Sb**	**12 29 47.5**	**+0.9**
IKOM	**Komasi**	**1.78**	**15**	*e*Pn		**Pb**	**12 29 23.0**	**-1.6**
IKOM				*e*Sg		**Sb**	**12 29 47.5**	**+0.9**
IGHG	**Ghaleghazi**	**1.89**	**351**	*e*Pn		**Pb**	**12 29 25.6**	**-1.0**
IGHG				*e*Sg		**Sb**	**12 29 52.5**	**+2.5**
IGHG				*e*AMB		AMB	12 29 55.8	
	comp=Z,75μm,0.3s							
IGHG	**Ghaleghazi**	**1.89**	**351**	Pn		**Pb**	**12 29 25.6**	**-1.0**
IGHG				Sg		**Sb**	**12 29 52.4**	**+2.5**
IGHG	**Ghaleghazi**	**1.89**	**351**	*e*Pn		**Pb**	**12 29 25.6**	**-1.0**
IGHG				Sg		**Sb**	**12 29 52.4**	**+2.5**
IVIS	**Veis**	**2.06**	**358**	*e*Pn		**Pn**	**12 29 26.7**	**+0.9**
IVIS				*e*AMB		AMB	12 29 58.3	
	comp=Z,37μm,0.3s							
IVIS	**Veis**	**2.06**	**358**	Pn		**Pb**	**12 29 27.2**	**-2.3**
IVIS	**Veis**	**2.06**	**358**	Pn		**Pb**	**12 29 27.2**	**-2.3**
IDHR	**Dehrash**	**2.28**	**349**	*e*Pn		**Pn**	**12 29 30.3**	**+1.4**
IDHR				*e*AMB		AMB	12 30 07.1	
	comp=Z,34μm,0.2s							
IDHR	**Dehrash**	**2.28**	**349**	Pn		**Pn**	**12 29 30.2**	**+1.4**
IDHR	**Dehrash**	**2.28**	**349**	Pn		**Pn**	**12 29 30.2**	**+1.4**
BHD	**Baghdad**	**2.30**	**291**	*e*Pn		**Pb**	**12 29 31.0**	**-2.4**
	SNR=39							
BHD				*e*Sn		**Sn**	**12 29 57.9**	**+1.5**
	SNR=39							
ILIN	**Lien**	**2.45**	**0**	*e*Pn		**Pn**	**12 29 33.2**	**+1.9**
ILIN				*e*AMB		AMB	12 30 17.2	
	comp=Z,18μm,0.3s							
ILIN	**Lien**	**2.45**	**0**	Pn		**Pn**	**12 29 33.1**	**+1.8**
ILIN	**Lien**	**2.45**	**0**	Pn		**Pn**	**12 29 33.1**	**+1.8**
SNGE	**Sanandaj**	**2.65**	**7**	Pn		**Pn**	**12 29 34.0**	**+0.1**
SNGE	**Sanandaj**	**2.65**	**7**	*e*Pn		**Pn**	**12 29 34.0**	**+0.1**
SNGE	**Sanandaj**	**2.65**	**7**	*e*Pn		**Pn**	**12 29 34.0**	**+0.1**
SNGE				AML		AML	12 30 20.8	
	comp=N,968nm,0.6s							
SNGE				AML		AML	12 30 23.5	
	comp=E,1μm,0.7s							
KHMZ	**Khomeyn**	**2.84**	**62**	Pn		**Pn**	**12 29 37.0**	**+0.5**
KHMZ	**Khomeyn**	**2.84**	**62**	Pn		**Pn**	**12 29 37.0**	**+0.5**
KHMZ	**Khomeyn**	**2.84**	**62**	*e*Pn		**Pn**	**12 29 37.3**	**+0.8**
KHMZ				AML		AML	12 30 21.1	
	comp=N,249nm,0.4s							
ASAO	**Ashtian**	**3.32**	**50**	Pn		**Pn**	**12 29 43.0**	**-0.1**
ASAO	**Ashtian**	**3.32**	**50**	*e*Pn		**Pn**	**12 29 43.7**	**+0.6**
ASAO	**Ashtian**	**3.32**	**50**	*e*Pn		**Pn**	**12 29 43.6**	**+0.6**
ASAO				AML		AML	12 30 44.5	
	comp=N,246nm,0.6s							
ASAO				AML		AML	12 30 51.8	
	comp=E,163nm,0.6s							
IRAZ	**Razeghan**	**3.85**	**39**	*e*Pn		**Pn**	**12 29 52.1**	**+1.7**
IRAZ				*e*AMB		AMB	12 31 05.3	
	comp=Z,6μm,0.4s							
IRAZ	**Razeghan**	**3.85**	**39**	Pn		**Pn**	**12 29 52.1**	**+1.7**

IRAZ	**Razeghan**	**3.85**	**39**	*e*Pn		**Pn**	**12 29 52.1**	**+1.7**
QAM	**Ghamsar**	**4.00**	**70**	*e*Pn		**Pn**	**12 29 54.0**	**+1.6**
QAM				*e*AMB		AMB	12 30 47.8	
	comp=Z,4μm,0.2s							
IKLH	**Kolahrood**	**4.00**	**76**	*e*Pn		**Pn**	**12 29 53.7**	**+1.2**
IKLH				*e*AMB		AMB	12 30 44.3	
	comp=Z,2μm,0.2s							
IKLH	**Kolahrood**	**4.00**	**76**	Pn		**Pn**	**12 29 53.7**	**+1.2**
IKLH	**Kolahrood**	**4.00**	**76**	*e*Pn		**Pn**	**12 29 53.7**	**+1.2**
GHVR	**GHOM**	**4.16**	**60**	Pn		**Pn**	**12 29 54.0**	**-0.6**
GHVR	**GHOM**	**4.16**	**60**	*e*Pn		**Pn**	**12 29 54.7**	**+0.1**
GHVR	**GHOM**	**4.16**	**60**	*e*Pn		**Pn**	**12 29 54.7**	**+0.1**
IGAR	**Gharneh**	**4.32**	**89**	*e*Pn		**Pn**	**12 29 58.5**	**+1.6**
IGAR				*e*AMB		AMB	12 30 50.9	
	comp=Z,2μm,0.2s							
IZEF	**Zefreh**	**4.57**	**83**	*e*Pn		**Pn**	**12 30 01.3**	**+1.0**
IZEF				*e*AMB		AMB	12 30 19.2	
	comp=Z,1μm,0.2s							
IZEF	**Zefreh**	**4.57**	**83**	Pn		**Pn**	**12 30 01.3**	**+1.0**
IZEF	**Zefreh**	**4.57**	**83**	*e*Pn		**Pn**	**12 30 01.3**	**+1.0**
IRAM	**Ramesheh**	**4.66**	**97**	*e*Pn		**Pn**	**12 30 02.8**	**+1.2**
IRAM				*e*AMB		AMB	12 31 05.8	
	comp=Z,839nm,0.2s							
IRAM	**Ramesheh**	**4.66**	**97**	Pn		**Pn**	**12 30 02.8**	**+1.2**
IRAM	**Ramesheh**	**4.66**	**97**	*e*Pn		**Pn**	**12 30 02.8**	**+1.2**
IVRN	**Varamin**	**4.72**	**56**	*e*Pn		**Pn**	**12 30 03.5**	**+1.2**
IVRN				*e*AMB		AMB	12 30 59.9	
	comp=Z,2μm,0.1s							
IVRN	**Varamin**	**4.72**	**56**	Pn		**Pn**	**12 30 03.5**	**+1.2**
IVRN	**Varamin**	**4.72**	**56**	*e*Pn		**Pn**	**12 30 03.5**	**+1.2**
THKV	**Tehran--Karaj**	**4.75**	**42**	Pn		**Pn**	**12 30 03.0**	**+0.2**
THKV	**Tehran--Karaj**	**4.75**	**42**	*e*Pn		**Pn**	**12 30 03.7**	**+0.9**
THKV	**Tehran--Karaj**	**4.75**	**42**	*e*Pn		**Pn**	**12 30 03.7**	**+0.9**
IGZV	**Ghazvin**	**4.76**	**34**	*e*AMB		AMB	12 30 23.6	
	comp=Z,1μm,0.2s							
IGZV				*e*Pn		**Pn**	**12 30 03.4**	**+0.4**
CHTH	**Charan**	**4.89**	**44**	Pn		**Pn**	**12 30 05.0**	**+0.3**
CHTH	**Charan**	**4.89**	**44**	*e*Pn		**Pn**	**12 30 05.2**	**+0.5**
CHTH	**Charan**	**4.89**	**44**	*e*Pn		**Pn**	**12 30 05.2**	**+0.5**
NASN	**Na'in**	**4.96**	**85**	Pn		**Pn**	**12 30 06.0**	**+0.1**
NASN	**Na'in**	**4.96**	**85**	Pn		**Pn**	**12 30 06.0**	**+0.1**
NASN	**Na'in**	**4.96**	**85**	*e*Pn		**Pn**	**12 30 06.3**	**+0.5**
IDMV	**Damavand**	**5.25**	**52**	*e*Pn		**Pn**	**12 30 10.2**	**+0.4**
IDMV				*e*AMB		AMB	12 31 52.7	
	comp=Z,3μm,0.7s							
IDMV	**Damavand**	**5.25**	**52**	Pn		**Pn**	**12 30 10.1**	**+0.3**
IDMV	**Damavand**	**5.25**	**52**	*e*Pn		**Pn**	**12 30 10.2**	**+0.4**
RTB	**Rutbah**	**5.62**	**278**	*e*Pn		**Pn**	**12 30 16.0**	**+1.5**
	SNR=3.0							
IFIR	**Firoozkooh**	**5.78**	**55**	*e*Pn		**Pn**	**12 30 18.0**	**+1.0**
IFIR				*e*AMB		AMB	12 30 31.3	
	comp=Z,500nm,0.2s							
IFIR	**Firoozkooh**	**5.78**	**55**	Pn		**Pn**	**12 30 17.9**	**+1.0**
IFIR	**Firoozkooh**	**5.78**	**55**	Pn		**Pn**	**12 30 17.9**	**+1.0**
IPAR	**Pars**	**5.85**	**115**	*e*Pn		**Pn**	**12 30 19.3**	**+1.2**
IPAR				*e*AMB		AMB	12 31 29.6	
	comp=Z,651nm,0.3s							
IPAR	**Pars**	**5.85**	**115**	Pn		**Pn**	**12 30 19.2**	**+1.2**
IPAR	**Pars**	**5.85**	**115**	Pn		**Pn**	**12 30 19.2**	**+1.2**
IMEH	**Mehriz**	**6.61**	**97**	*e*Pn		**P

comp=Z,1.7nm,0.3s,baz=354,slow=8.6,SNR=15
WSAR Wadi Sarin 13.82 129 Pn **Pn** **12 32 04.2 -2.8**
WSAR Wadi Sarin 13.82 129 P **Pn** **12 32 04.2 -2.8**
ISP Isparta 14.45 296⇑ *e*P **P** **12 32 18.5 -3.7**
ISP Isparta 14.45 296 *e*Pn **P** **12 32 18.3 -3.9**
ISP Isparta 14.45 296 *e*Pn **P** **12 32 18.3 -3.9**
SHAO Shalim 16.37 149 Pn **Pn** **12 32 38.2 -2.6**
SNR=5.2
SHAO Shalim 16.37 149 P **Pn** **12 32 38.2 -2.6**
SNR=5.2
SHAO Shalim 16.37 149 Pn **Pn** **12 32 38.2 -2.6**
SNR=5.2
KARP Karpathos 16.69 286 *e*Pn **P** **12 32 46.9 -0.1**
comp=Z,11nm,1.2s
KARP Karpathos 16.69 286 *e*Pn **P** **12 32 46.8 -0.1**
comp=Z,11nm,1.2s
APE Apeiranthos 18.17 291 *c*e**P** **P** **12 33 03.8 +0.5**
APE pmax pmax
comp=Z,20nm,1.1s
APE Apeiranthos 18.17 291 ⇓ *i*P **P** **12 33 04.3 +1.0**
APE Apeiranthos 18.17 291 *e*P **P** **12 33 03.8 +0.5**
comp=Z,20nm,1.1s
IDI Anoyia 18.52 285 P **Pn** **12 33 07.4 -0.1**
comp=Z,1.2nm,0.3s,baz=89,slow=8.7,SNR=12
IDI LR LR 12 43 32.7
comp=Z,50nm,18.2s,baz=98,slow=48
IDI Anoyia 18.52 285⇑ *i*P **Pn** **12 33 08.6 +1.1**
IDI Anoyia 18.52 285 *e*P **Pn** **12 33 07.2 -0.2**
comp=Z,28nm,1.0s
IDI Anoyia 18.52 285 *e*P **Pn** **12 33 07.2 -0.2**
comp=Z,28nm,1.0s
ALN Alexandroupoli 18.72 303 P **Pn** **12 33 10.4 +0.6**
ALN Alexandroupoli 18.72 303 P **Pn** **12 33 10.4 +0.6**
ALN Alexandroupoli 18.72 303 P **Pn** **12 33 10.4 +0.6**
ALN Alexandroupoli 18.72 303 P **Pn** **12 33 10.4 +0.6**
TLB Topalu 19.06 315 ⇓ *i*P **Pn** **12 33 14.7 +0.9**
VRH Novokhopyorsk 19.12 350 *e*P **P** **12 33 12.6 -0.9**
VRH pmax pmax
comp=Z,5.0nm,0.4s
VRH Novokhopyorsk 19.12 350 *e*P **P** **12 33 12.6 -0.9**
comp=Z,5.0nm,0.4s
IMMV Iera Moni Meta 19.27 285 P **Pn** **12 33 17.4 +0.9**
CFR Carcaliu 19.33 316 P **Pn** **12 33 17.7 +0.6**
CFR pmax pmax
comp=Z,7.0nm,1.1s
CFR Carcaliu 19.33 316 ⇓ *i*P **Pn** **12 33 17.3 +0.2**
CFR Carcaliu 19.33 316 P **Pn** **12 33 17.7 +0.6**
comp=Z,7.0nm,1.1s
ABKAR Akbulak array 19.40 26 *e*P **Pn** **12 33 17.3 -0.6**
comp=Z,44nm,0.9s
ABKAR Akbulak array 19.40 26 *e*P **Pn** **12 33 17.3 -0.6**
comp=Z,44nm,0.9s
VSR Storozhevoye 19.60 345 *e*P **P** **12 33 18.0 -0.7**
VSR pmax pmax
comp=Z,7.0nm,0.4s
VSR Storozhevoye 19.60 345 *e*P **P** **12 33 18.0 -0.7**
comp=Z,7.0nm,0.4s
AKTK Aktyubinsk 19.75 21 P **P** **12 33 19.4 -1.0**
AKTO Aktyubinsk 19.75 21 P **P** **12 33 19.4 -1.1**
comp=Z,0.6nm,0.3s,baz=204,slow=7.7,SNR=7.4
AKTO LR LR 12 43 42.5
comp=Z,53nm,19.5s,baz=204,slow=45
DID Didima 20.04 291 P Pn 12 33 24.1 -1.6
DID Didima 20.04 291 P Pn 12 33 24.1 -1.6
DID Didima 20.04 291 P Pn 12 33 24.1 -1.6
KYTH Kithira 20.07 288 P Pn 12 33 24.2 -1.8
KYTH Kithira 20.07 288 P Pn 12 33 24.2 -1.8
KYTH Kithira 20.07 288 P Pn 12 33 24.2 -1.8
VILL Villia 20.08 293 P Pn 12 33 25.3 -0.8
KRND KRANIDI 20.10 291 P Pn 12 33 24.6 -1.6
VLI Veliai 20.20 289 P **P** **12 33 24.9 -0.5**
VLI Veliai 20.20 289 P **P** **12 33 24.9 -0.5**
VLI Veliai 20.20 289 P **P** **12 33 24.9 -0.5**
XOR Xorichti 20.40 296 P Pn 12 33 28.8 -1.0
XOR Xorichti 20.40 296 P Pn 12 33 28.8 -1.0
XOR Xorichti 20.40 296 P Pn 12 33 28.8 -1.0
VRI Vrincioaia 20.54 317 P Pn 12 33 33.1 +1.7
VRI pmax pmax
comp=Z,63nm,1.2s
VRI Vrincioaia 20.54 317⇑ *i*P Pn 12 33 30.9 -0.5
VRI Vrincioaia 20.54 317⇑ *i*P Pn 12 33 30.9 -0.5
SRS Serrai 20.55 301 P Pn 12 33 30.0 -1.6
SRS Serrai 20.55 301 P Pn 12 33 30.0 -1.6
SRS Serrai 20.55 301 P Pn 12 33 30.0 -1.6
SRS Serrai 20.55 301 P Pn 12 33 30.0 -1.6
PLOR Plostina 20.57 316⇑ *i*P Pn 12 33 31.8 0.0
PLOR Plostina 20.57 316⇑ *i*P Pn 12 33 31.8 0.0
SOH Sokhos 20.64 301 P Pn 12 33 31.9 -0.7
SOH pmax pmax
comp=Z,9.0nm,2.0s
SOH Sokhos 20.64 301 P Pn 12 33 31.9 -0.7
comp=Z,9.0nm,2.0s
VLX Vlachokerasia 20.70 291 P **P** **12 33 30.8 -0.3**
VLX Vlachokerasia 20.70 291 P **P** **12 33 30.8 -0.3**
VLX Vlachokerasia 20.70 291 P **P** **12 33 30.8 -0.3**
DSF Desfina 20.73 293 P **P** **12 33 31.3 0.0**
DSF Desfina 20.73 293 P **P** **12 33 31.3 0.0**
DSF Desfina 20.73 293 P **P** **12 33 31.3 0.0**
MLR Muntele Rosu 20.80 315 P Pn 12 33 33.7 -0.8
comp=Z,3.0nm,1.0s,baz=23,slow=3.1,SNR=9.7
THE Thessaloniki 20.87 300 P **P** **12 33 33.1 +0.4**
THE Thessaloniki 20.87 300 P **P** **12 33 33.1 +0.4**
THE Thessaloniki 20.87 300 P **P** **12 33 33.1 +0.4**
THE Thessaloniki 20.87 300 P **P** **12 33 33.1 +0.4**
TESR Tescani 20.95 318 ⇓ *i*P Pn 12 33 35.1 -1.0
TESR Tescani 20.95 318 ⇓ *i*P Pn 12 33 35.1 -1.0
LPSR Galich'ya Gora 20.95 346 *e*P **P** **12 33 32.0 -1.4**
LPSR pmax pmax
comp=Z,90nm,0.8s
LPSR Galich'ya Gora 20.95 346 *e*P **P** **12 33 32.0 -1.4**
comp=Z,90nm,0.8s
KLV Kalavryta, Ach 20.97 292 P Pn 12 33 34.3 -2.2
KLV Kalavryta, Ach 20.97 292 P Pn 12 33 34.3 -2.2
KLV Kalavryta, Ach 20.97 292 P Pn 12 33 34.3 -2.2
AGG Agios Georgios 20.99 295 *e*P **P** **12 33 35.5 +1.5**
AGG pmax pmax
comp=Z,107nm,1.1s
AGG Agios Georgios 20.99 295 *e*P **P** **12 33 35.5 +1.5**
comp=Z,107nm,1.1s
AGG Agios Georgios 20.99 295 *e*P **P** **12 33 35.5 +1.5**
comp=Z,107nm,1.1s
AGG Agios Georgios 20.99 295 P **P** **12 33 35.0 +1.0**
SORM Soroca 21.04 324⇑ *i*P **P** **12 33 36.2 +1.8**
SORM Soroca 21.04 324⇑ *i*P **P** **12 33 36.2 +1.8**
ITM Ithomi 21.04 290 P **P** **12 33 34.6 0.0**
ITM Ithomi 21.04 290 P **P** **12 33 34.6 0.0**
ITM Ithomi 21.04 290 P **P** **12 33 34.6 0.0**
ATD Arta Tunnel 21.17 191 LR LR 12 42 29.9
comp=Z,54nm,21.4s,baz=356,slow=39
MTUR Matau 21.20 313 ⇓ *i*P **P** **12 33 38.4 +2.1**
MTUR Matau 21.20 313 ⇓ *i*P **P** **12 33 38.4 +2.1**
AMT Artemida-Makis 21.25 291 P **P** **12 33 36.7 -0.2**
AMT Artemida-Makis 21.25 291 P **P** **12 33 36.7 -0.2**
VOIR 21.31 314 P **P** **12 33 38.8 +1.3**
VOIR pmax pmax
comp=Z,39nm,1.0s
VOIR 21.31 314 ⇓ *i*P **P** **12 33 39.7 +2.2**
VOIR 21.31 314 P **P** **12 33 38.8 +1.3**
comp=Z,39nm,1.0s
GRG Griva 21.37 300 P **P** **12 33 40.0 +1.9**
GRG pmax pmax
comp=Z,10.0nm,1.4s
GRG Griva 21.37 300 P **P** **12 33 40.0 +1.9**
comp=Z,10.0nm,1.4s
DOPR Dopca 21.38 315 ⇓ *i*P **P** **12 33 40.0 +1.8**
DOPR Dopca 21.38 315 ⇓ *i*P **P** **12 33 40.0 +1.8**
KKAR Karatay Array 21.38 53 *e*P **P** **12 33 39.4 +1.2**
KKAR Karatay Array 21.38 53 *e*P **P** **12 33 39.4 +1.2**
KKAR Karatay Array 21.38 53 *e*P **P** **12 33 39.4 +1.2**
ARR Arges 21.53 313⇑ *i*P **P** **12 33 41.7 +1.8**
ARR Arges 21.53 313⇑ *i*P **P** **12 33 41.7 +1.8**
PRAR RASCA 21.67 319⇑ *i*P **P** **12 33 43.4 +2.1**
PRAR RASCA 21.67 319⇑ *i*P **P** **12 33 43.4 +2.1**
VTN Vitineika 21.71 292 P P 12 33 31.3 -10
FNA Florina 22.08 299 P **P** **12 33 44.8 -1.0**
FNA Florina 22.08 299 P **P** **12 33 44.8 -1.0**
FNA Florina 22.08 299 P **P** **12 33 44.8 -1.0**
FNA Florina 22.08 299 P **P** **12 33 44.8 -1.0**
LKD2 Lefkada island 22.23 294 P **P** **12 33 46.3 -1.1**
LKD2 Lefkada island 22.23 294 P **P** **12 33 46.3 -1.1**
LKD2 Lefkada island 22.23 294 P **P** **12 33 46.3 -1.1**
BUR04 Bucovina Ar. S 22.38 319 *e*P **P** **12 33 49.1 +0.1**
BUR04 Bucovina Ar. S 22.38 319 *e*P **P** **12 33 49.1 +0.1**
BUR08 Bucovina Ar. S 22.41 319 *e*P **P** **12 33 49.9 +0.6**
BUR08 Bucovina Ar. S 22.41 319 *e*P **P** **12 33 49.9 +0.6**
AKASG Malin Array Be 22.43 330 P **P** **12 33 50.5 +1.2**
comp=Z,3.3nm,0.6s,baz=136,slow=9.6,SNR=12
AKBB Malin Array Si 22.43 330 *e*P **P** **12 33 51.1 +1.7**
AKBB pmax pmax
comp=Z,11nm,0.9s
AKBB Malin Array Si 22.43 330 *e*P **P** **12 33 51.1 +1.7**
comp=Z,11nm,0.9s
AKBB Malin Array Si 22.43 330 *e*P **P** **12 33 51.1 +1.7**
comp=Z,11nm,0.9s
KIEV Kiev 22.43 330 *de*P **P** **12 33 50.3 +0.9**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 22.43 330 *e*P **P** **12 33 49.0 -0.3**
comp=Z,11nm,1.0s
AK11 Malin Array Si 22.44 329 *e*P **P** **12 33 50.3 +0.8**
AK11 Malin Array Si 22.44 329 *e*P **P** **12 33 50.3 +0.8**
MNAS Manas 22.55 56 P **P** **12 33 53.8 +2.9**
MNAS pmax pmax
comp=Z,8.0nm,1.1s
IGT Igoumenitsa 22.60 296 P **P** **12 33 53.7 +2.4**
IGT Igoumenitsa 22.60 296 P **P** **12 33 53.7 +2.4**
SFK Sufi-Kurgan 22.66 63 P **P** **12 33 53.7 +1.5**
SFK pmax pmax
comp=Z,14nm,1.0s
SFK Sufi-Kurgan 22.66 63 P **P** **12 33 53.7 +1.5**
comp=Z,14nm,1.0s
DRGR 23.39 315 P **P** **12 33 59.9 +0.5**
DRGR pmax pmax
comp=Z,29nm,1.2s
DRGR 23.39 315 ⇓ *i*P **P** **12 34 00.0 +0.5**
DRGR 23.39 315 P **P** **12 33 59.9 +0.5**
comp=Z,29nm,1.2s
BZS Buzias 23.54 311⇑ *i*P **P** **12 34 01.0 +0.2**
BZS Buzias 23.54 311⇑ *i*P **P** **12 34 01.0 +0.2**
SIRR Siria 23.79 313 ⇓ *i*P **P** **12 34 04.6 +1.4**
SIRR Siria 23.79 313 ⇓ *i*P **P** **12 34 04.6 +1.4**
OBN Obninsk 23.80 345 P **P** **12 34 02.6 -0.5**
comp=Z,17nm,0.4s,baz=182,slow=4.2,SNR=5.8
OBN LR LR 12 42 48.1
comp=Z,64nm,20.9s,baz=262,slow=35
OBN Obninsk 23.80 345 ⇓ *i*P **P** **12 34 03.0 -0.1**
OBN *e* 12 34 10.2
OBN *e**PP **sP** **12 34 13.2 -0.5**
OBN *e* 12 34 43.2
OBN *i* S **S** **12 38 16.9 -0.2**
OBN pmax pmax
comp=Z,49nm,1.2s
OBN MLR MLR
comp=Z,64nm,19.0s
OBN Obninsk 23.80 345 *e*P **P** **12 34 03.0 -0.1**
comp=Z,38nm,1.1s
AAK Ala-Archa 24.00 57 P **P** **12 34 06.5 +1.1**
comp=Z,2.6nm,0.8s,baz=219,slow=8.8,SNR=6.8
AAK Ala-Archa 24.00 57 ⇓ *e*P **P** **12 34 08.0 +2.6**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 24.00 57 *e*P **P** **12 34 06.9 +1.5**
comp=Z,3.3nm,0.8s
AAK Ala-Archa 24.00 57 *e*P **P** **12 34 06.9 +1.5**
comp=Z,3.3nm,0.8s
DIVS Divibare 24.02 307 *e*P **P** **12 34 06.0 +0.5**
comp=Z,5.5nm,1.1s
DIVS Divibare 24.02 307 *e*P **P** **12 34 06.0 +0.5**
comp=Z,5.5nm,1.1s
PDG Podgorica 24.03 302 ⇓ *i*P **P** **12 34 06.1 +0.6**
PDG Podgorica 24.03 302 ⇓ *i*P **P** **12 34 06.1 +0.6**
TTG Podgorica 24.03 302 *e*P **P** **12 34 05.0 -0.5**
TTG pmax pmax
comp=Z,8.0nm,0.9s
TTG Podgorica 24.03 302 *e*P **P** **12 34 05.0 -0.5**
comp=Z,8.4nm,0.9s
TTG Podgorica 24.03 302 *e*P **P** **12 34 05.0 -0.5**
comp=Z,8.4nm,0.9s
MOS Moscow 24.17 347 *e*P **P** **12 34 04.3 -2.3**
KSH Kashi 24.46 65 *e*P **P** **12 34 06.0 -3.6**
KSH sP sP 12 34 23.0 +2.7
KSH S S 12 38 17.0 -11
KSH sS pS 12 38 37.0 +0.7
KSH pmax pmax
comp=Z,58nm,3.5s
KSH LR LR
comp=Z,110nm,8.2s
KSH LR LR
comp=Z,160nm,5.4s
UZH Uzhgorod 24.57 318 *e*P **P** **12 34 10.7 +0.3**
UZH *i* 12 34 18.9
UZH *e* 12 34 23.1
UZH *e*S **S** **12 38 25.9 -3.8**
FURI Furi 24.66 200 *e*P **P** **12 34 13.5 +1.7**
comp=Z,24nm,0.4s
NRN Naryn 24.80 61 P **P** **12 34 14.0 +1.1**
NRN pmax pmax
comp=Z,11nm,0.9s
OTUK Ortayu 24.80 43 P **P** **12 34 15.4 +2.9**
OTUK pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 25.29 15 P **P** **12 34 16.1 -0.7**
comp=Z,1.9nm,0.4s,baz=214,slow=6.1,SNR=7.9
ARU Arti 25.29 15 *d i*P **P** **12 34 16.5 -0.3**
ARU 12 34 49.5
ARU 12 37 44.1
ARU S **S** **12 38 40.5 -0.6**
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 25.29 15 *e*P **P** **12 34 16.7 -0.1**
comp=Z,15nm,1.1s
TIP Timpagrande 25.30 294 ⇓ *i*P **P** **12 34 18.6 +1.4**
TIP Timpagrande 25.30 294 *e*P **P** **12 34 18.3 +1.1**
comp=Z,11nm,1.0s
TIP Timpagrande 25.30 294 *e*P **P** **12 34 18.3 +1.1**
comp=Z,11nm,1.0s
MATE Matera 25.53 297 ⇓ *i*P **P** **12 34 19.6 +0.5**
MATE Matera 25.53 297 ⇓ *i*P **P** **12 34 19.6 +0.5**
KECS Kecovo 25.53 317 *e*P **P** **12 34 21.4 +2.3**
KECS Kecovo 25.53 317 *e*P **P** **12 34 21.4 +2.3**
STHS Stebnicka Huta 25.58 319 *e*P **P** **12 34 22.6 +3.1**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 25.58 319 *e*P **P** **12 34 22.6 +3.1**
PSZ Piszkesteto 25.61 315 *e*P **P** **12 34 20.1 +0.2**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 25.61 315 ⇓ *i*P **P** **12 34 21.1 +1.2**
PSZ Piszkesteto 25.61 315 ⇓ *e*P **P** **12 34 22.5 +2.6**
PSZ Piszkesteto 25.61 315 *e*P **P** **12 34 20.1 +0.2**
comp=Z,8.8nm,1.0s
PSZ Piszkesteto 25.61 315 ⇓ *i*P **P** **12 34 21.1 +1.2**
MORH M¯‡r¡gy, Hung 25.68 311⇓ *e*P **P** **12 34 21.3 +0.9**
KDJ Kajisay 25.81 59 P **P** **12 34 24.1 +2.2**
KDJ pmax pmax
comp=Z,17nm,1.4s
MICGM Minsk 25.85 334 *e* **P** **12 34 22.0 +0.1**
MNK Minsk 25.85 334 *e*P **P** **12 34 22.0 +0.1**
CUC Castrocucco 26.11 296 *e*P **P** **12 34 25.7 +1.2**
comp=Z,23nm,1.5s
CUC Castrocucco 26.11 296 *e*P **P** **12 34 25.7 +1.2**
comp=Z,23nm,1.5s
BLY Banja Luka 26.14 307 *e*P **P** **12 34 25.6 +1.0**
comp=Z,14nm,1.2s
BLY Banja Luka 26.14 307 *e*P **P** **12 34 25.6 +1.0**
comp=Z,14nm,1.2s
VYHS Vyhne 26.51 315 *e*P **P** **12 34 31.9 +4.0**
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 26.51 315 *e*P **P** **12 34 31.9 +4.0**
NACGM Naroch 26.57 334 *e* **P** **12 34 32.0 +3.6**
BRVK Borovoye 26.57 32 *e*P **P** **12 34 29.1 +0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 26.57 32 *e*P **P** **12 34 29.1 +0.6**
comp=Z,4.9nm,0.8s
BRVK Borovoye 26.57 32 *e*P **P** **12 34 29.1 +0.6**
comp=Z,4.9nm,0.8s
BVAR Borovoye Array 26.60 32 P **P** **12 34 28.6 -0.1**
comp=Z,2.0nm,0.4s,baz=220,slow=9.2,SNR=14
BVAR LR LR 12 47 27.5
comp=Z,105nm,19.1s,baz=218,slow=42
PRZ Przheval'sk 26.77 59 P **P** **12 34 32.7 +2.1**
PRZ pmax pmax
comp=Z,14nm,1.2s
IDID Didziasalis 26.90 334 *e*P **P** **12 34 33.8 +2.4**
IDID IAmb IAmb 12 34 37.3
comp=Z,4.6nm,0.7s
IIGN Ignalina 27.12 334 *e*P **P** **12 34 35.7 +2.4**
IIGN IAmb IAmb 12 34 40.9
comp=Z,8.8nm,1.0s
ISAL Salakas 27.32 334 *e*P **P** **12 34 37.7 +2.5**
SNR=28
ISAL Salakas 27.32 334 *e*P **P** **12 34 37.7 +2.5**
ISAL IAmb IAmb 12 34 41.8
comp=Z,10nm,1.0s
IZAR Zarasai 27.41 334 *e*P **P** **12 34 38.5 +2.5**
SNR=28
IZAR Zarasai 27.41 334 *e*P **P** **12 34 38.5 +2.5**
IZAR IAmb IAmb 12 34 45.5
comp=Z,16nm,0.7s
VRAC Vranov 28.20 316 P **P** **12 34 43.4 +0.3**
comp=Z,1.9nm,0.9s,baz=111,slow=6.3,SNR=4.0
DPC Dobruska-Polom 28.81 317 *e*P **P** **12 34 49.0 +0.4**
DPC Dobruska-Polom 28.81 317 *e*P **P** **12 34 49.0 +0.4**
KLMR Klimovskoe 28.82 352 *e*P **P** **12 34 46.3 -2.1**
KLMR pmax pmax
comp=Z,13nm,1.2s
KLMR Klimovskoe 28.82 352 *e*P **P** **12 34 46.3 -2.1**
KLMR AMP 12 34 48.8
comp=Z,13nm,1.2s
KURBB Kurchatov Arra 29.49 43 P **P** **12 34 54.4 -0.2**
comp=Z,3.0nm,1.0s,baz=250,slow=9.6,SNR=8.4
KURK Kurchatov 29.58 43 *de*P **P** **12 34 58.1 +2.8**
KURK pmax pmax
comp=Z,26nm,1.2s
KURK Kurchatov 29.58 43 *e*P **P** **12 34 56.3 +1.0**
comp=Z,5.4nm,1.0s
GERES GERESS Array B 29.76 313 P **P** **12 34 56.9 -0.2**
comp=Z,0.3nm,0.6s,baz=99,slow=11,SNR=4.0
MAKZ Makanchi 30.27 51 *e*P **P** **12 35 03.3 +1.7**
MAKZ pmax pmax
comp=Z,5.0nm,1.3s
MAKZ Makanchi 30.27 51 *e*P **P** **12 35 03.3 +1.7**
comp=Z,5.0nm,1.3s
MK01 Makanchi Array 30.48 52 *e*P **P** **12 35 03.7 +0.3**
MK01 Makanchi Array 30.48 52 *e*P **P** **12 35 03.7 +0.3**
MK31 Makanchi Array 30.48 52 *e*P **P** **12 35 03.8 +0.4**
MK31 Makanchi Array 30.48 52 *e*P **P** **12 35 03.8 +0.4**
MK31 Makanchi Array 30.48 52 *e*P **P** **12 35 03.8 +0.4**
MKAR Makanchi Array 30.48 52 P **P** **12 35 03.5 +0.1**
comp=Z,2.1nm,0.7s,baz=248,slow=7.7,SNR=15
MKAR Makanchi Array 30.48 52 *e*P **P** **12 35 03.8 +0.4**
MKAR pmax pmax
comp=Z,23nm,0.9s
MKAR Makanchi Array 30.48 52 *e*P **P** **12 35 03.8 +0.4**
comp=Z,23nm,0.9s
MKAR Makanchi Array 30.48 52 *e*P **P** **12 35 03.8 +0.4**
comp=Z,23nm,0.9s
CLL Collm 31.12 317 *e*(pP) pP 12 35 16.0 -0.5
PYUN Piuthan 31.34 88 *e*P **P** **12 35 12.8 +1.4**
comp=Z,18nm,0.8s
PGF Pioggiola 31.51 300 *e*P **P** **12 35 12.7 +0.1**
PGF pmax pmax
comp=Z,11nm,1.3s
DANN Dangsing 31.92 88 *e*P **P** **12 35 17.3 +0.7**
comp=Z,4.5nm,1.0s
KOLN Koldanda 31.95 89 *e*P **P** **12 35 18.3 +1.5**
comp=Z,5.7nm,0.7s
FIA1 FINESS Array S 32.00 341 *e*P **P** **12 35 16.2 -0.3**
comp=Z,80nm,1.8s
FINES FINESS Array B 32.00 341 P **P** **12 35 16.0 -0.6**
comp=Z,2.3nm,0.6s,baz=150,slow=9.0,SNR=12
FINES FINESS Array B 32.00 341 P **P** **12 35 16.0 -0.6**
GKN Gorkha 32.76 88 *e*P **P** **12 35 24.5 +0.7**
comp=Z,15nm,0.5s
SBF Sospel 32.79 302 P **P** **12 35 24.1 +0.3**
SBF pmax pmax
comp=Z,18nm,1.0s
SENIN Lac Senin/Sane 33.26 306 *e*P **P** **12 35 28.4 +0.3**
comp=Z,26nm,1.9s
SENIN Lac Senin/Sane 33.26 306 *e*P **P** **12 35 28.4 +0.3**
comp=Z,26nm,1.9s
DMN Daman 33.27 88 *e*P **P** **12 35 30.2 +1.8**
comp=Z,38nm,1.0s
FRF La Foret Royal 33.33 301 P **P** **12 35 30.8 +2.4**
FRF pmax pmax
comp=Z,8.0nm,1.2s
KKN Kakani 33.37 88 *e*P **P** **12 35 29.4 +0.2**
comp=Z,24nm,0.7s
MBDF Montbardon 33.37 303 *e*P **P** **12 35 28.9 -0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.7s
BNI Bardonecchia 33.48 304 *e*P **P** **12 35 30.3 +0.4**
BNI pmax pmax
comp=Z,7.0nm,0.8s
BNI Bardonecchia 33.48 304 *e*P **P** **12 35 30.2 +0.4**
comp=Z,7.1nm,0.8s
LPG La Plagne 33.49 305 *e*P **P** **12 35 30.8 +0.6**
LPG pmax pmax
comp=Z,4.0nm,0.4s
LPL La Plagne 33.51 305 *e*P **P** **12 35 30.1 -0.1**
LPL pmax pmax
comp=Z,9.0nm,0.9s
PKI Pulchoki 33.54 88 *e*P **P** **12 35 31.9 +1.1**
comp=Z,35nm,1.0s
WMQ Urumqi 33.69 58 P P 12 35 35.3 +3.7
WMQ pP sP 12 35 45.5 +3.2
WMQ sP pP 12 35 51.0 +12
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,62nm,3.8s
WMQ LR LR
comp=Z,120nm,29.9s
WMQ LR LR
comp=Z,110nm,33.3s
GUN Gumba 33.84 87 *e*P **P** **12 35 33.8 +0.4**
comp=Z,59nm,1.0s
JIRN Jiri 34.17 88 *e*P **P** **12 35 36.9 +0.5**
comp=Z,20nm,0.5s
ZAA0 Zalesovo Array 34.39 40 *e*P **P** **12 35 37.6 +0.2**
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 34.39 40 P **P** **12 35 36.9 -0.5**
comp=Z,1.3nm,0.3s,baz=251,slow=9.2,SNR=7.6
ZALV Zalesovo Beam 34.39 40 *e*P **P** **12 35 37.1 -0.3**
ZALV Zalesovo Beam 34.39 40 *e*P **P** **12 35 37.1 -0.3**
KMBO Kilima Mbogo 34.64 197 LR LR 12 49 35.1
comp=Z,105nm,19.9s,baz=89,slow=36
RAMN Ramite 34.74 89 *e*P **P** **12 35 43.3 +2.1**
comp=Z,15nm,0.7s
HFS Hagfors 35.28 332 P **P** **12 35 45.1 0.0**
comp=Z,2.8nm,0.4s,baz=134,slow=10,SNR=38
TAPN Taplejung 35.55 87 *e*P **P** **12 35 48.4 +0.2**
comp=Z,36nm,1.1s
AVF Avril sur Loir 36.02 306 *e*P **P** **12 35 51.1 -0.5**
AVF pmax pmax
comp=Z,9.0nm,1.1s
NB2 NORSAR Subarra 36.81 332 P **P** **12 35 57.5 -0.7**
comp=Z,16nm,1.7s,baz=124,slow=9.3
NOA NORSAR Array B 36.81 332 P **P** **12 35 57.6 -0.7**
comp=Z,0.8nm,0.7s,baz=124,slow=8.3,SNR=3.8
TAM Tamanrasset 37.74 266 *e*P **P** **12 36 09.6 +2.9**
TAM pmax pmax
comp=Z,13nm,1.2s
TAM Tamanrasset 37.74 266 *e*P **P** **12 36 09.6 +2.9**
comp=Z,13nm,1.2s
ETSF Etsaut 38.56 300 *e*P **P** **12 36 16.8 +3.5**
FLN La Foliniere 38.83 309 *e*P **P** **12 36 14.8 -0.6**
FLN pmax pmax
comp=Z,37nm,1.5s
ARCES ARCESS Array B 39.03 348 P **P** **12 36 16.6 -0.3**
comp=Z,3.8nm,0.9s,baz=149,slow=9.6,SNR=6.2
SJPF Ste Jean 39.04 300 *e*P **P** **12 36 17.3 0.0**
SJPF pmax pmax
comp=Z,5.0nm,1.1s
PALK Pallekele 40.15 121 *c**e*P P 12 36 30.9 +4.1
ROSF Rostrenen 40.64 308 *e*P **P** **12 36 29.2 -1.2**
ROSF pmax pmax
comp=Z,57nm,1.6s
ES19 SONSECA Array 41.26 295 *e*P **P** **12 36 36.2 +0.5**
ES19 SONSECA Array 41.26 295 *e*P **P** **12 36 36.2 +0.5**
ESDC Sonseca Array 41.31 295 P **P** **12 36 37.1 +0.9**
comp=Z,0.6nm,0.5s,baz=76,slow=8.6,SNR=7.8
EKA Eskdalemuir Ar 41.56 319 P **P** **12 36 37.5 -0.4**
comp=Z,0.7nm,0.4s,baz=104,slow=8.4,SNR=10
GTA Gaotai 42.86 65 *e*P **P** **12 36 50.0 +1.1**
GTA pP sP 12 37 02.5 +2.8
GTA sP pP 12 37 07.5 +11
GTA pmax pmax
comp=Z,1.0nm,1.0s
PESTR Estremoz 44.21 294 *e*P **P** **12 36 60.0 +0.3**
comp=Z,4.9nm,1.2s
PESTR Estremoz 44.21 294 *e*P **P** **12 37 00.0 +0.3**

	comp=Z,4.9nm,1.2s								
TOA0	**Torodi Ar. Sit**	**45.53**	**256**	*e*P		**P**	**12 37 11.4**	**+1.0**
	comp=Z,7.6nm,1.0s								
TORD	**Torodi Ar. Bea**	**45.53**	**256**	P		**P**	**12 37 11.3**	**+1.0**
	comp=Z,2.2nm,0.4s,baz=73,slow=7.1,SNR=56								
TORD				LR		LR	12 58 52.4		
	comp=Z,38nm,20.0s,baz=315,slow=40								
LZH	**Lanzhou**	**46.60**	**69**	*e*P		**P**	**12 37 17.5**	**-1.3**
LZH				pP		sP	12 37 30.3	+0.7
LZH				sP		pP	12 37 34.8	+8.2
LZH				pmax		pmax			
	comp=Z,13nm,1.0s								
SONM	**Songino Array**	**46.83**	**53**	P		**P**	**12 37 21.0**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=282,slow=7.4,SNR=5.4								
SONM				LR		LR	12 58 57.7		
	comp=Z,40nm,20.1s,baz=253,slow=39								
SONA1	**Songino Array**	**46.84**	**53**	*e*P		**P**	**12 37 21.2**	**+0.7**
ULN	**Ulaanbaatar**	**47.27**	**53**	*e*P		**P**	**12 37 24.6**	**+0.7**
ULN				pmax		pmax			
	comp=Z,10.0nm,1.4s								
ULN	**Ulaanbaatar**	**47.27**	**53**	*e*P		**P**	**12 37 24.6**	**+0.7**
	comp=Z,9.9nm,1.4s								
SPITS	**Spitsbergen Ar**	**47.72**	**352**	P		**P**	**12 37 27.0**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=125,slow=7.6,SNR=11								
CD2	**Chengdu**	**47.88**	**76**	*e*P		**P**	**12 37 27.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**48.54**	**94**	P		**P**	**12 37 33.5**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=298,slow=9.2,SNR=6.4								
CMAR	**Chiang Mai Arr**	**48.54**	**94**	*ce*P		**P**	**12 37 37.0**	**+3.1**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KOWA	**Kowa**	**49.56**	**261**	P		**P**	**12 37 42.7**	**+1.0**
	comp=Z,3.6nm,0.7s,baz=49,slow=11,SNR=8.3								
KOWA	**Kowa**	**49.56**	**261**	*e*P		**P**	**12 37 42.9**	**+1.2**
	comp=Z,12nm,1.4s								
XAN	**Xi'an**	**51.14**	**70**	P		**P**	**12 37 54.5**	**+0.9**
XAN				pP		sP	12 38 09.0	+4.5
XAN				pmax		pmax			
	comp=Z,6.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**51.48**	**61**	*e*P		**P**	**12 37 56.0**	**-0.1**
HHC				pmax		pmax			
	comp=Z,20nm,1.1s								
HHC				pmax		pmax			
	comp=Z,180nm,7.3s								
SCO	**Scoresbysund**	**52.74**	**337**	*e*P		**P**	**12 38 06.4**	**+1.6**
SCO				pmax		pmax			
	comp=Z,35nm,2.0s								
SCO	**Scoresbysund**	**52.74**	**337**	*e*P		**P**	**12 38 06.4**	**+1.6**
	comp=Z,35nm,2.0s								
DBIC	**Dimbokro**	**54.48**	**254**	P		**P**	**12 38 17.9**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=39,slow=4.6,SNR=4.4								
DBIC				LR		LR	13 02 16.1		
	comp=Z,46nm,18.1s,baz=24,slow=37								
DBIC	**Dimbokro**	**54.48**	**254**	*e*P		**P**	**12 38 18.7**	**+0.4**
DBIC				pmax		pmax			
	comp=Z,13nm,1.5s								
DBIC	**Dimbokro**	**54.48**	**254**	*e*P		**P**	**12 38 18.7**	**+0.4**
	comp=Z,13nm,1.5s								
HIA	**Hailar**	**55.44**	**49**⇑	*e*P		**P**	**12 38 25.6**	**+0.7**
HIA				pmax		pmax			
	comp=Z,5.0nm,1.0s								
TIXI	**Tiksi**	**57.03**	**22**⇑	*e*P		**P**	**12 38 35.0**	**-0.8**
TIXI				pmax		pmax			
	comp=Z,2.0nm,1.1s								
YAK	**Yakutsk**	**58.58**	**33**⇓	*e*P		**P**	**12 38 44.7**	**-2.1**
YAK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
NJ2	**Nanjing**	**59.67**	**69**	*e*P		**P**	**12 38 55.0**	**+0.1**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
KLR	**Kul'dur**	**63.03**	**47**⇑	*e*P		**P**	**12 39 19.3**	**+1.9**
BOSA	**Boshof**	**64.14**	**201**	P		**P**	**12 39 24.2**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=340,slow=6.6,SNR=6.2								
BOSA	**Boshof**	**64.14**	**201**	*e*P		**P**	**12 39 26.2**	**+1.3**
BOSA				pmax		pmax			
	comp=Z,13nm,1.4s								
BOSA	**Boshof**	**64.14**	**201**	*e*P		**P**	**12 39 26.2**	**+1.3**
	comp=Z,13nm,1.4s								
KSAR	**Wonju Array Be**	**64.58**	**60**	P		**P**	**12 39 27.0**	**-0.8**
KSAR	**Wonju Array Be**	**64.58**	**60**	P		**P**	**12 39 27.0**	**-0.8**
KSRS	**Korea Array**	**64.61**	**60**	P		**P**	**12 39 27.0**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=288,slow=6.7,SNR=8.7								
USRK	**Ussuriysk Ar.**	**64.94**	**52**	P		**P**	**12 39 28.7**	**-1.3**
	comp=Z,2.4nm,0.6s,baz=268,slow=3.9,SNR=4.7								
SEY	**Seymchan**	**68.16**	**28**⇑	*e*P		**P**	**12 39 52.7**	**+2.4**
BILL	**Bilibino**	**70.18**	**20**	*i*P		**P**	**12 40 01.5**	**-1.2**
BILL				*i*			12 40 16.3		
BILL				*i*			12 40 26.5		
BILL				pmax		pmax			
	comp=Z,3.0nm,1.1s								
YSS	**Yuzh-Sakhalins**	**70.71**	**46**	P		**P**	**12 40 07.3**	**+1.0**
TOLK	**Toolik Lake Re**	**78.46**	**6**	*e*P		**P**	**12 40 51.8**	**+0.8**
	comp=Z,9.4nm,1.2s								
IM3	**Indian Mountai**	**80.58**	**8**	*e*P		**P**	**12 41 02.5**	**+0.1**
COLA	**College**	**82.30**	**6**⇑	*e*P		**P**	**12 41 12.8**	**+1.3**
COLA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
ILAR	**Eielson Array**	**82.49**	**6**	P		**P**	**12 41 11.8**	**-0.8**
	comp=Z,1.2nm,1.1s,baz=324,slow=4.5,SNR=4.4								
BPAW	**Bear Paw Mtn.**	**82.73**	**8**	*e*P		**P**	**12 41 13.8**	**-0.1**
	comp=Z,6.0nm,1.2s								
CAST	**Castle Rocks**	**83.25**	**8**	*e*P		**P**	**12 41 16.1**	**-0.5**
CAST				*e*PcP		**PcP**	**12 41 19.4**	**-1.7**
MCK	**McKinley**	**83.31**	**7**	*e*P		**P**	**12 41 16.8**	**-0.1**
MCK				pmax		pmax			
	comp=Z,13nm,1.6s								
MCK	**McKinley**	**83.31**	**7**	*e*P		**P**	**12 41 16.8**	**-0.1**
	comp=Z,12nm,1.6s								
TRF	**Thorofare Moun**	**83.44**	**8**	*e*P		**P**	**12 41 19.7**	**+1.9**
	comp=Z,13nm,1.5s								
FCC	**Fort Churchill**	**83.49**	**341**	*e*P		**P**	**12 41 19.0**	**+1.2**
FCC				pmax		pmax			
	comp=Z,4.0nm,1.2s								
FCC	**Fort Churchill**	**83.49**	**341**	*e*P		**P**	**12 41 19.0**	**+1.2**
	comp=Z,4.4nm,1.2s								
DAWY	**Dawson**	**83.67**	**3**	*e*P		**P**	**12 41 20.2**	**+1.4**
	comp=Z,6.0nm,1.4s								
PPLA	**Purkeypile**	**83.75**	**9**	*e*P		**P**	**12 41 20.7**	**+1.4**
	comp=Z,19nm,1.6s								
YKA	**Yellowknife Ar**	**84.22**	**352**	P		**P**	**12 41 21.2**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=15,slow=5.4,SNR=11								
YKA	**Yellowknife Ar**	**84.22**	**352**	*ce*P		**P**	**12 41 21.2**	**-0.3**
YKA				pmax		pmax			
	comp=Z,1.0nm,1.0s								
ASAR	**Alice Springs**	**99.91**	**112**	P		**Pdif**	**12 42 34.5**	**-1.0**
	comp=Z,0.6nm,1.1s,baz=309,slow=4.7,SNR=3.9								
OPA	**Opana**	**121.11**	**27**	*e*PKIKP		**PKPdf**	**12 47 44.1**	**+0.5**
OPA	**Opana**	**121.11**	**27**	*e*PKPdf		**PKPdf**	**12 47 44.1**	**+0.5**
KIP	**Kipapa**	**121.35**	**27**	*e*PKIKP		**PKPdf**	**12 47 42.9**	**-1.2**
KIP	**Kipapa**	**121.35**	**27**	*e*PKPdf		**PKPdf**	**12 47 42.9**	**-1.2**

*ISN **25** 12:34:43.4±0.3,32.°58N×46.°96E,h0km,ML2.8*
TEH 25 12:34:46.6,32.°55N×47.°01E,h10km,ML2.8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.68**	**14**	*e*Pn	Pn	12 35 15.5	-0.7
IKOM				*e*AMB	AMB	12 35 19.0	
	comp=Z,2μm,0.1s						
IVIS	**Veis**	**1.98**	**356**	*e*Pn	Pn	12 35 20.0	-0.3
IVIS				*e*Sg	Sb	12 35 48.5	+0.9
IVIS				*e*AMB	AMB	12 35 54.4	
	comp=Z,909nm,0.2s						
HSAM	**Samen**	**2.13**	**38**	*e*Pn	Pn	12 35 23.0	+0.5
HSAM				*e*AMB	AMB	12 36 00.1	
	comp=Z,99nm,0.3s						
IDHR	**Dehrash**	**2.21**	**347**	*e*Pn	Pn	12 35 23.8	+0.2
IDHR				*e*AMB	AMB	12 36 00.1	
	comp=Z,962nm,0.2s						
HAGD	**Aghdareh**	**2.88**	**37**	*e*Pn	Pn	12 35 32.3	-0.5
HAGD				*e*AMB	AMB	12 35 35.8	
	comp=Z,99nm,0.1s						

*NNC **25** 12:35:56.2±6.1,39.°86N×72.°73E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=56.2km s-min=18.9km az=12.0*
*KRNET **25** 12:35:58.2±0.1,39.°51N×73.°77E,mb2.6*
ISC 25 12:35:57.0±2.8,39.°7N±0.°1×72.°88E±0.°07,h30km±13km, n11,σ2s07/18,15C-7D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.58**	**57**	⇓*i*P	**Pb**	**12 36 08.9**	**+0.1**
	12nm,0.3s						
SFK				⇑S	**Sb**	**12 36 16.7**	**-0.2**
	9.4nm,0.2s						
SFK	**Sufi-Kurgan**	**0.58**	**57**	⇓*i*P	**Pb**	**12 36 08.9**	**+0.1**
	baz=38						
SFK				⇓*i*S	**Sb**	**12 36 16.7**	**-0.2**
	baz=38						
ARSB	**Arslanbob**	**1.62**	**3**	⇑*i*P	Pb	12 36 33.2	+6.8
	baz=42						
ARSB				⇑*i*S	Sb	12 36 58.7	+12
	baz=42						
AML	**Almayashu**	**2.51**	**14**	⇑*i*P	**Pb**	**12 36 42.5**	**+0.9**
	baz=59						
AML				⇑*i*S	**Sb**	**12 37 14.8**	**+2.7**
	baz=59						
MNAS	**Manas**	**2.80**	**354**	⇓Pg	**Pb**	**12 36 47.9**	**+1.5**
	1.2nm,0.6s						
MNAS				⇑Lg	Lg	12 37 22.0	
	6.8nm,0.9s						
UCH	**Uchtor**	**2.81**	**26**	⇑*e*P	**Pb**	**12 36 44.8**	**-2.0**
	baz=12						
UCH				⇑*i*S	**Sb**	**12 37 19.2**	**-1.8**
	baz=12						
NRN	**Naryn**	**2.94**	**53**	⇓*i*P	**Pn**	**12 36 41.8**	**-0.2**
	baz=41						
NRN				⇓*i*S	**Sn**	**12 37 14.3**	**-2.2**
	baz=41						
KZA	**Kyzart**	**2.98**	**36**	⇑*i*P	**Pn**	**12 36 45.5**	**+2.9**
	baz=23						
KZA				⇑*i*S	**Sn**	**12 37 20.3**	**+2.7**
	baz=23						
AAK	**Ala-Archa**	**3.18**	**22**	⇑Pg	**Pb**	**12 36 53.7**	**+0.9**
	1.3nm,0.6s						
AAK				⇓Lg	Lg	12 37 32.2	
	4.7nm,0.6s						
AAK	**Ala-Archa**	**3.18**	**22**	⇑*e*P	**Pb**	**12 36 50.5**	**-2.4**
	baz=10.0						
AAK				⇑*i*S	**Sb**	**12 37 28.5**	**-2.7**
	baz=10.0						
KK31	**Karatay Array**	**3.84**	**333**	⇑Pg	**Pb**	**12 37 03.2**	**-0.7**
	2.7nm,0.3s,baz=162,slow=14,SNR=19						
KK31				⇑Sn	**Sn**	**12 37 35.4**	**-2.8**
	2.5nm,0.5s,baz=169,slow=26,SNR=8.7						

*SOME **25** 12:37:58.6,40.°95N×71.°00E,h10km*
*NNC **25** 12:38:04.8±2.3,41.°27N×71.°01E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=24.0km s-min=14.1km az=59.0*
ISC 25 12:38:02.3±1.4,41.°23N±0.°07×71.°06E±0.°05,h15km,n16, σ1s56/21,4C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.20**	**320**	*e*P	**Pn**	**12 38 23.4**	**-1.1**
	28nm,0.3s						
IUG				*e*S	**Sg**	**12 38 41.2**	**+0.2**
	38nm,0.6s						
MNAS	**Manas**	**1.65**	**40**	⇓Pn	**Pg**	**12 38 33.7**	**-0.3**
	4.5nm,0.3s						
MNAS				⇓Lg	Lg	12 38 57.8	
	4.6nm,0.3s						
KK31	**Karatay Array**	**1.91**	**348**	⇑Pn	**Pb**	**12 38 37.7**	**+0.8**
	9.6nm,0.3s,baz=167,slow=17,SNR=78						
KK31				⇑Lg	Lg	12 39 06.1	
	16nm,0.4s,baz=167,slow=26,SNR=16						
BRLS	**Borolday**	**2.01**	**334**	*e*P	**Pn**	**12 38 36.5**	**+0.7**
	1.1nm,0.4s						
BRLS				*e*S	**Sb**	**12 39 03.8**	**+0.3**
	34nm,0.5s						
AML	**Almayashu**	**2.17**	**65**	P	**Pg**	**12 38 42.8**	**-1.1**
	SNR=65						
MRKS	**Merke**	**2.21**	**46**	*e*P	**Pg**	**12 38 43.5**	**-1.2**
	21nm,0.3s						
MRKS				*e*S	**Sg**	**12 39 15.7**	**+2.3**
	17nm,0.3s						
SFK	**Sufi-Kurgan**	**2.22**	**122**	⇓Pn	**Pg**	**12 38 44.5**	**-0.5**
	1.2nm,0.4s						
SFK				⇑Lg	Lg	12 39 16.9	
	4.0nm,0.3s						
EKS2	**Erkin-Say**	**2.48**	**54**	P	**Pg**	**12 38 48.9**	**-0.9**
	SNR=9.6						
UCH	**Uchtor**	**2.77**	**68**	P	**Pg**	**12 38 54.6**	**-0.8**
	SNR=8.5						
AAK	**Ala-Archa**	**2.92**	**60**	⇓Pn	**Pb**	**12 38 55.3**	**+1.1**
	4.8nm,0.4s						
AAK				⇑Lg	Lg	12 39 36.9	
	4.2nm,0.5s						
AAK	**Ala-Archa**	**2.92**	**60**	P	**Pg**	**12 38 57.0**	**-1.2**
	SNR=15						
AAK	**Ala-Archa**	**2.92**	**60**	*e*S	**Pb**	**12 38 55.5**	**+1.3**
AAK	**Ala-Archa**	**2.92**	**60**	*e*S	**Pb**	**12 38 55.5**	**+1.3**
KZA	**Kyzart**	**3.25**	**74**	P	**Pg**	**12 39 02.5**	**-2.1**
	SNR=8.6						
KST	**Kastek**	**4.07**	**62**	*e*P	**Pb**	**12 39 15.6**	**+1.9**
	1.4nm,0.3s						
KST				*e*S	**Sg**	**12 40 10.8**	**-2.2**
	3.4nm,0.5s						
ARXS	**Arharly**	**5.81**	**57**	*e*P	**Pg**	**12 39 50.0**	**-3.4**
	1.1nm,0.4s						
ARXS				*e*S	**Sg**	**12 41 09.7**	**+1.1**
	30nm,0.8s						

*NEIC **25** 12:38:54.3±1.0,36.°12N×70.°91E,h87km±8km,mb4.6/54, Error ellipse: s-maj=7.7km s-min=5.4km az=169.0*
*ISCJB **25** 12:38:54.4±0.1,36.°11N±0.°02×71.°04E±0.°03,h102km, mb4.4/110,Error ellipse: s-maj=3.0km s-min=2.4km az=153.2*
*BJI **25** 12:38:55.8,36.°40N×70.°84E,h98km,mb4.5/27,mB4.7/13*
*IDC **25** 12:38:55.2±2.7,36.°04N×70.°86E,h103km±24km,mb4.1/29, mb1 4.2/34,mb1mx4.0/67,mbtmp4.5/34,Error ellipse: s-maj=14.4km s-min=10.0km az=9.0*
*MOS **25** 12:38:55.2±1.1,36.°22N×70.°97E,h100km,mb4.7/48,Error ellipse: s-maj=6.5km s-min=4.2km az=93.6*
*NNC **25** 12:38:57.8±4.0,36.°83N×70.°33E,h0km,mb5.2,mpv4.9, Error ellipse: s-maj=32.1km s-min=22.8km az=166.0*
ISC 25 12:38:55.7±0.3,36.°14N±0.°04×70.°86E±0.°04,h102km,n297, σ2s22/327,mb4.5/109,16C-24D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.46**	**159**	⇓P	**Pn**	**12 39 36.2**	**+1.6**
CHCP	**Chirah Chowk**	**3.16**	**141**	⇓P	**Pn**	**12 39 45.2**	**+1.4**
THW	**Thamme Wali**	**3.41**	**167**	⇓P	**Pn**	**12 39 48.0**	**+0.9**
SFK	**Sufi-Kurgan**	**4.40**	**28**	⇓P	**Pn**	**12 40 01.7**	**+1.2**
SFK	169nm,0.4s			⇓S	**Sn**	**12 40 50.8**	**+0.1**
	420nm,0.5s						
SFK	**Sufi-Kurgan**	**4.40**	**28**	PN	**Pn**	**12 40 01.7**	**+1.2**
SFK				S	**Sn**	**12 40 50.8**	**+0.1**
SFK				pmax	pmax		
	comp=Z,169nm,0.4s						
SFK				smax	smax		
	comp=N,421nm,0.5s						
SARP	**Sargodha**	**4.46**	**160**	⇓P	**Pn**	**12 40 00.9**	**-0.3**
KSH	**Kashi**	**5.27**	**49**	P	**Pn**	**12 40 08.5**	**-3.7**
KSH				S	Sn	12 41 01.8	-10
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=N,2μm,0.9s						
DHRM	**DHARAMSHALA**	**5.94**	**129**	*e*P	**Pn**	**12 40 20.4**	**-1.1**
DHRM				*e*S	**Sn**	**12 41 25.1**	**-3.2**
DHRM				IAML		12 41 28.4	
	comp=E,1μm,0.1s						
DHRM				IAML		12 41 30.2	
	comp=N,1μm,0.5s						
AML	**Almayashu**	**6.38**	**19**	P	**Pn**	**12 40 26.9**	**-0.6**
	SNR=94						
MNAS	**Manas**	**6.47**	**11**	⇑P	**Pn**	**12 40 28.0**	**-0.5**
	comp=N,33nm,0.5s						
MNAS				⇓S	**Sn**	**12 41 36.1**	**-4.7**
	comp=N,346nm,0.4s						
MNAS	**Manas**	**6.47**	**11**	PN	**Pn**	**12 40 28.0**	**-0.5**
MNAS				pmax	pmax		
	comp=Z,33nm,0.5s						
NRN	**Naryn**	**6.64**	**36**	PN	**Pn**	**12 40 29.7**	**-1.2**
NRN				pmax	pmax		
	comp=Z,135nm,0.7s						
UCH	**Uchtor**	**6.71**	**24**	P	**Pn**	**12 40 31.7**	**-0.3**
	SNR=37						
KZA	**Kyzart**	**6.84**	**29**	P	**Pn**	**12 40 33.4**	**-0.5**
	SNR=20						
EKS2	**Erkin-Say**	**6.90**	**18**	P	**Pn**	**12 40 33.6**	**-0.7**
	SNR=47						
KK31	**Karatay Array**	**6.96**	**358**	⇑P	**Pn**	**12 40 33.5**	**-1.6**
	comp=Z,40nm,0.5s,baz=182,slow=13,SNR=152						
KK31				⇑S	**Sn**	**12 41 47.4**	**-5.3**
	comp=Z,95nm,0.5s,baz=189,slow=23,SNR=9.8						
KK31	**Karatay Array**	**6.96**	**358**	PN	**Pn**	**12 40 33.5**	**-1.6**
KK31				pmax	pmax		
	comp=Z,40nm,0.5s						
KKAR	**Karatay Array**	**6.96**	**358**	*e*PN	**Pn**	**12 40 33.5**	**-1.6**
KKAR	**Karatay Array**	**6.96**	**358**	*e*Pn	**Pn**	**12 40 33.5**	**-1.6**
KKAR				*e*Sn	**Sn**	**12 41 48.3**	**-4.4**
AAK	**Ala-Archa**	**7.08**	**22**	P	**Pn**	**12 40 36.6**	**-0.2**
	comp=Z,18nm,0.3s,baz=174,slow=5.6,SNR=57						
AAK				S	**Sn**	**12 41 52.0**	**-3.6**
	comp=Z,27nm,0.3s,baz=106,slow=19,SNR=18						
AAK	**Ala-Archa**	**7.08**	**22**	⇓P	**Pn**	**12 40 36.4**	**-0.3**
	comp=Z,26nm,0.5s						
AAK				⇑S	**Sn**	**12 41 52.6**	**-3.0**
	comp=Z,150nm,0.6s						
AAK	**Ala-Archa**	**7.08**	**22**	*c i*PN	**Pn**	**12 40 36.4**	**-0.3**
AAK	**Ala-Archa**	**7.08**	**22**	P	**Pn**	**12 40 36.7**	**-0.1**
	SNR=66						
AAK	**Ala-Archa**	**7.08**	**22**	Pn	**Pn**	**12 40 37.1**	**+0.3**
	SNR=16						
AAK	**Ala-Archa**	**7.08**	**22**	P	**Pn**	**12 40 37.1**	**+0.3**
	SNR=16						
AAK	**Ala-Archa**	**7.08**	**22**	*i*P	**Pn**	**12 40 36.4**	**-0.3**
	SNR=72						
KBK	**Karagaybulak**	**7.24**	**25**	P	**Pn**	**12 40 40.5**	**+1.5**
	SNR=30						
SMLA	**Simla**	**7.25**	**132**	*e*P	**Pn**	**12 40 37.8**	**-1.2**
SMLA				*e*S	**Sn**	**12 41 56.1**	**-3.7**
SMLA				IAML		12 42 01.2	
	comp=N,352nm,0.3s						
SMLA				IAML		12 42 01.2	
	comp=E,481nm,0.0s						
FRU1	**Bishkek**	**7.27**	**22**	PN	**Pn**	**12 40 38.9**	**-0.4**
FRU1				pmax	pmax		
	comp=Z,279nm,0.7s						
FRU	**Bishkek**	**7.29**	**22**	*e*PN	**Pn**	**12 40 40.0**	**+0.5**
FRU				pmax	pmax		
	comp=Z,60nm,1.4s						
ULHL	**Ulahol**	**7.39**	**33**	P	**Pn**	**12 40 43.2**	**+2.1**
	SNR=8.1						
CHMS	**Chumysh**	**7.48**	**22**	P	**Pn**	**12 40 41.6**	**-0.6**
	SNR=38						
USP	**Ospenovka**	**7.65**	**20**	P	**Pn**	**12 40 43.5**	**-1.0**
	SNR=43						
TKM2	**Tokmak 2**	**7.70**	**27**	⇓P	**Pn**	**12 40 44.5**	**-0.8**
	comp=Z,111nm,0.7s						
TKM2				⇓S	**Sn**	**12 42 08.3**	**-2.6**
	comp=Z,88nm,0.8s						
TKM2	**Tokmak 2**	**7.70**	**27**	PN	**Pn**	**12 40 44.5**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,111nm,0.7s						
TKM2	**Tokmak 2**	**7.70**	**27**	P	**Pn**	**12 40 45.3**	**+0.1**
	SNR=12						
MDOK	**Medeo**	**8.48**	**32**	⇓P	**Pn**	**12 40 56.2**	**+0.4**
	comp=Z,72nm,0.6s						
MDOK				⇑S	**Sn**	**12 42 30.8**	**+0.9**
	comp=Z,63nm,1.2s						
PRZ	**Przheval'sk**	**8.62**	**40**	PN	**Pn**	**12 40 56.5**	**-1.2**
PRZ				pmax	pmax		
	comp=Z,31nm,0.9s						
BHGR	**Bahadurgarh**	**9.03**	**144**	*e*P	**Pn**	**12 41 01.8**	**-1.3**
BHGR				*ex*	**Sn**	**12 42 36.7**	**-6.3**
KHET	**Khetri**	**9.06**	**151**	*e*P	**Pn**	**12 41 00.7**	**-3.0**
KHET				*e*S	Sn	12 42 34.8	-9.2
JOSI	**Joshimath**	**9.16**	**125**	*e*P	**Pn**	**12 41 02.0**	**-3.1**
JOSI				*ex*	**Sn**	**12 42 38.4**	**-8.1**
JASL	**Jaisalmer**	**9.18**	**180**	*e*P	**Pn**	**12 41 03.2**	**-2.2**
SONA	**Sohna**	**9.46**	**144**	*e*P	**Pn**	**12 41 06.7**	**-2.4**
SONA				*e*S	Sn	12 42 44.5	-9.1
GEYT	**Alibeck**	**10.35**	**284**	P	**Pn**	**12 41 17.1**	**-4.0**
	comp=Z,2.4nm,0.3s,baz=117,slow=8.4,SNR=17						
GEYT				S	Sn	12 43 05.2	-10
	comp=Z,26nm,0.3s,baz=77,slow=14,SNR=22						
PYUN	**Piuthan**	**13.02**	**125**	*e*P	**Pn**	**12 41 52.9**	**-4.2**
	comp=Z,42nm,0.4s						
DANN	**Dangsing**	**13.39**	**122**	*e*P	**Pn**	**12 41 58.2**	**-3.7**
	comp=Z,15nm,1.2s						
MAKZ	**Makanchi**	**13.52**	**35**	*e*P	**Pn**	**12 42 02.3**	**-0.9**
MAKZ	**Makanchi**	**13.52**	**35**	*e*Pn	**Pn**	**12 42 02.3**	**-0.9**
MK01	**Makanchi Array**	**13.64**	**35**	*e*Pn	**Pn**	**12 42 03.1**	**-1.7**
KOLN	**Koldanda**	**13.65**	**124**	*e*P	**Pn**	**12 42 01.5**	**-3.7**
	comp=Z,37nm,0.5s						
MK31	**Makanchi Array**	**13.65**	**35**	*e*P	**Pn**	**12 42 03.4**	**-1.5**
MK31	**Makanchi Array**	**13.65**	**35**	*e*Pn	**Pn**	**12 42 03.4**	**-1.5**
MKAR	**Makanchi Array**	**13.65**	**35**	P	**Pn**	**12 42 03.6**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=221,slow=12,SNR=69						
MKAR				S	**Sn**	**12 44 37.1**	**+2.0**
	baz=205,slow=20,SNR=2.3						
MKAR	**Makanchi Array**	**13.65**	**35**	*i*P	**Pn**	**12 42 05.5**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,14nm,0.7s						
GKN	**Gorkha**	**14.21**	**121**	*e*P	Pn	12 42 07.8	-4.6
	comp=Z,40nm,0.4s						
DMN	**Daman**	**14.78**	**121**	*e*P	**Pn**	**12 42 15.9**	**-3.9**
	comp=Z,34nm,0.5s						
KKN	**Kakani**	**14.79**	**120**	*e*P	**Pn**	**12 42 15.9**	**-4.0**
	comp=Z,61nm,0.7s						
WMQ	**Urumqi**	**15.00**	**54**	P	**Pn**	**12 42 20.5**	**-1.8**
WMQ				pP	P	12 42 38.3	+13
WMQ				sP		12 42 54.0	
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,210nm,4.5s						
PKIN	**Phulchoki**	**15.00**	**121**	*e*P	**Pn**	**12 42 19.6**	**-3.0**
	comp=Z

SNR=10
BRVK Borovoye 16.93 359 P **Pn** 12 42 45.6 -0.5
SNR=10
AKTO Aktyubinsk 17.04 331 P **Pn** 12 42 46.9 -0.7
comp=Z,2.7nm,0.3s,baz=143,slow=14,SNR=61
AKTO S **Sn** 12 45 46.6 -10
comp=Z,0.9nm,0.3s,baz=46,slow=23,SNR=8.5
AKTO Aktyubinsk 17.04 331 ⇓P **Pn** 12 42 47.2 -0.4
comp=Z,31nm,0.8s
AKTO ⇓S **Sn** 12 45 48.8 -8.1
comp=Z,18nm,0.8s
NAZ Nazwa, Dubai 17.15 234 P **P** 12 42 51.0 +1.9
ALNE Al Ain 17.75 231 *i* P **Pn** 12 42 57.2 +1.0
SNR=5.3
SRSP Sriramsagar 18.37 157 *e*P **P** 12 43 02.4 -0.2
KLRI Killari 18.70 163 *e*P **P** 12 43 06.9 +0.7
RPR Rampur 18.75 154 *e*P **P** 12 43 07.7 +1.0
HYBB Hyderabad (bro 19.85 158 *e*P **P** 12 43 19.7 +0.9
HYB Hyderabad 19.85 158 *i* P **P** 12 43 19.0 +0.2
HYB *e*S **S** 12 46 51.0 -5.8
ZAA0 Zalesovo Array 20.29 24 *e*P **P** 12 43 23.0 -0.1
comp=Z,71nm,0.7s
ZALV Zalesovo Beam 20.29 24 P **P** 12 43 22.9 -0.2
comp=Z,63nm,0.5s,baz=224,slow=11,SNR=217
ZALV S Sn 12 47 12.2 -2.5
comp=Z,2.9nm,0.9s,baz=210,slow=20,SNR=6.0
ZALV Zalesovo Beam 20.29 24 *e*P **P** 12 43 23.0 -0.2
ZALV Zalesovo Beam 20.29 24 *e*P **P** 12 43 23.0 -0.2
ZALV *e*S Sn 12 47 15.2 +0.6
GROC Groznyy 20.50 298 *e*P Pn 12 43 29.4 +0.8
GROC *e*S **S** 12 47 09.7 +0.5
GROC pmax pmax
comp=Z,14nm,0.6s
NVS Novosibirsk 20.56 21⇑ *i*P **P** 12 43 26.6 +0.6
NVS *e**PP **pP** 12 43 47.8 +2.4
NVS *i* S **S** 12 47 10.3 +0.2
NVS pmax pmax
comp=N,44nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.8s
NVS pmax pmax
comp=Z,47nm,0.8s
NVS smax smax
comp=N,13nm,1.3s
NVS smax smax
comp=E,12nm,1.1s
SHL Shillong 20.86 114 *e*P **P** 12 43 29.5 -0.2
NJS Nagarjunasagar 20.90 157 *e*P **P** 12 43 30.1 +0.1
GNI Garni 20.90 289 P **P** 12 43 30.9 +0.9
comp=E,10nm,0.8s,baz=51,slow=3.7,SNR=6.0
GNI Garni 20.90 289 *d* *i*P Pn 12 43 33.7 +0.2
GNI pmax pmax
comp=Z,42nm,1.0s
GNI Garni 20.90 289 *e*P **P** 12 43 31.3 +1.3
comp=Z,17nm,0.9s
PVM Polavaram 21.10 150 *e*P **P** 12 43 33.7 +1.6
SRLM Srisailam 21.20 158 *e*P **P** 12 43 33.2 0.0
ZEI Tsey 21.79 296 *e*P **P** 12 43 41.1 +1.5
ZEI pmax pmax
comp=Z,2.0nm,0.4s
URV Uravakonda 21.86 163 *e*P **P** 12 43 40.5 +0.2
ARU Arti 21.94 342 P **P** 12 43 41.2 +0.5
comp=Z,23nm,0.5s,baz=136,slow=5.4,SNR=45
ARU S Sn 12 47 45.6 -8.3
comp=Z,3.9nm,0.6s,baz=307,slow=22,SNR=5.5
ARU Arti 21.94 342 *d* *i*P **P** 12 43 41.5 +0.8
ARU 12 44 04.3
ARU S **S** 12 47 37.3 +0.7
ARU SS **SnSn** 12 48 15.4 +3.4
ARU pmax pmax
comp=Z,66nm,1.0s
ARU Arti 21.94 342 *e*P **P** 12 43 41.5 +0.8
comp=Z,56nm,0.9s
ARU S Sn 12 47 45.6 -8.3
NCK Nalchik 22.13 298⇓ *e*P **P** 12 43 44.7 +1.8
NCK pmax pmax
comp=Z,9.0nm,0.9s
HVS Khovu-Aksy 22.19 40⇑ *e*P **P** 12 43 43.4 -0.1
HVS pmax pmax
comp=Z,25nm,0.7s
KBZ Khabaz 22.67 298 P **P** 12 43 48.6 +0.2
comp=Z,3.3nm,0.9s,baz=154,slow=6.3,SNR=9.7
KVAR Kislovodsk Arr 22.86 299 P **P** 12 43 51.6 +1.2
comp=Z,2.9nm,0.6s,baz=63,slow=6.8,SNR=2.4
KIV Kislovodsk 22.86 299 *e*P **P** 12 43 52.3 +1.8
KIV *e*S **S** 12 47 54.2 +2.0
KIV pmax pmax
comp=Z,7.0nm,1.0s
GTA Gaotai 23.07 73 *e*P **P** 12 43 54.8 +2.2
GTA pmax pmax
comp=Z,7.0nm,0.8s
SKHT Srikalahasti 23.67 158 *e*P **P** 12 43 58.8 +0.8
KNGR Kungurtug, Tuv 24.01 45⇓ *e*P **P** 12 44 02.0 +1.0
RAYN Ar Rayn 25.25 247 P **P** 12 44 11.9 -0.5
RAYN Ar Rayn 25.25 247 *e*P **P** 12 44 11.9 -0.5
comp=Z,3.3nm,0.6s
VRH Novokhopyorsk 25.68 315 *e*P **P** 12 44 16.4 +0.4
VRH pmax pmax
comp=Z,9.0nm,0.7s
MOY Mondy 26.44 45 *e*P **P** 12 44 27.1 +4.1
LZH Lanzhou 26.58 80 *e*P **P** 12 44 26.5 +2.1
LZH pP pP 12 44 48.5 +1.6
LZH sP sP 12 44 57.5 -1.3
LZH pmax pmax
comp=Z,15nm,1.1s
VSR Storozhevoye 27.17 314 *e*P **P** 12 44 29.9 +0.5
VSR pmax pmax
comp=Z,4.0nm,0.5s
ZAK Zakamensk 27.31 48 *e*P **P** 12 44 31.2 +0.4
ZAK pmax pmax
comp=Z,3.0nm,1.4s
CD2 Chengdu 27.83 91 *e*P **P** 12 44 36.5 +0.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LPSR Galich'ya Gora 27.84 316 *e*P **P** 12 44 36.3 +1.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 28.64 55 P **P** 12 44 42.9 +0.2
comp=Z,1.1nm,0.7s,baz=252,slow=9.8,SNR=10
ULN Ulaanbaatar 29.08 55⇓ *e*P **P** 12 44 47.2 +0.6
ULN pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 29.44 288 P **P** 12 44 49.4 -0.5
comp=Z,1.1nm,0.8s,baz=98,slow=8.9,SNR=6.6
OBN Obninsk 30.14 320 P **P** 12 44 55.7 0.0
comp=Z,11nm,0.6s,baz=141,slow=22,SNR=4.0
OBN Obninsk 30.14 320 ⇓ *i*P **P** 12 44 57.2 +1.5
OBN *P **pP** 12 45 19.0 +0.6
OBN pmax pmax
comp=Z,53nm,2.5s
OBN MLR MLR
comp=Z,43nm,16.0s
CMAR Chiang Mai Arr 30.38 118 P **P** 12 44 57.9 -0.3
comp=Z,1.0nm,0.3s,baz=298,slow=8.4,SNR=9.3
CMAR Chiang Mai Arr 30.38 118 *ce*P **P** 12 44 59.7 +1.5
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CM01 Chiang Mai Arr 30.42 118 *e*P **P** 12 44 59.4 +0.9
XAN Xi'an 31.09 83 P **P** 12 45 07.0 +2.7
XAN pP pP 12 45 27.3 +0.2
XAN pmax pmax
comp=Z,6.0nm,0.9s
XAN pmax pmax
comp=Z,120nm,3.9s
KLMR Klimovskoe 31.74 331 *e*P **P** 12 45 08.9 -0.7
KLMR *e* 12 48 00.6
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR Klimovskoe 31.74 331 *e*P **P** 12 45 09.0 -0.7
KLMR AMP 12 45 12.4
comp=Z,19nm,1.5s
KLMR *ePcP **PcP** 12 48 00.6 +2.0
HHC Hu-ho-hao-te 32.00 69 *e*P **P** 12 45 13.0 +0.7
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.7s
AKASG Malin Array Be 33.09 309 P **P** 12 45 21.3 -0.2
comp=Z,2.3nm,0.5s,baz=83,slow=7.0,SNR=26
AKASG Malin Array Be 33.09 309 *ce*P **P** 12 45 22.8 +1.2
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 33.09 309 *e*P **P** 12 45 21.9 +0.3
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 33.09 309 *e*P **P** 12 45 21.9 +0.3
comp=Z,4.8nm,0.7s
KIEV Kiev 33.10 309⇑ *e*P **P** 12 45 22.4 +0.8
KIEV pmax pmax
comp=Z,3.0nm,0.7s
KIEV Kiev 33.10 309 *e*P **P** 12 45 22.1 +0.4
comp=Z,4.6nm,0.7s
AK11 Malin Array Si 33.12 309 *e*P **P** 12 45 20.9 -0.9
TMCR Tamitsa 34.33 335 *e*P **P** 12 45 33.2 +1.1
TMCR pmax pmax
comp=Z,17nm,0.6s
MLR Muntele Rosu 34.86 300 P **P** 12 45 37.9 +0.7
comp=Z,1.1nm,0.8s,baz=113,slow=5.9,SNR=11
BUR04 Bucovina Ar. S 35.39 303 *e*P **P** 12 45 41.9 +0.3
FINES FINESS Array B 37.72 326 P **P** 12 46 00.5 -0.6
comp=Z,3.7nm,0.4s,baz=123,slow=8.7,SNR=32
FINES FINESS Array B 37.72 326 *i* P **P** 12 46 01.2 +0.1
FINES pmax pmax
comp=Z,4.0nm,0.4s
STHS Stebnicka Huta 38.08 306 *e*P **P** 12 46 06.1 +1.8
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 38.08 306 *e*P **P** 12 46 06.1 +1.8
SUF Sumiainen 38.17 328 P **P** 12 46 07.8 +2.9
SUF pmax pmax
comp=Z,20nm,0.9s
NJ2 Nanjing 39.64 82 *e*P **P** 12 46 17.5 0.0
NJ2 pmax pmax
comp=Z,11nm,0.5s
MORC Moravsky Berou 40.49 307 *e*P **P** 12 46 27.1 +2.7
MORC pmax pmax
comp=Z,15nm,0.7s
MORC Moravsky Berou 40.49 307 *e*P **P** 12 46 27.1 +2.7
comp=Z,15nm,0.7s
KRLC Kraliky 40.98 307 *e*P **P** 12 46 30.8 +2.4
KRLC Kraliky 40.98 307 *e*P **P** 12 46 30.8 +2.4
VRAC Vranov 41.12 306 P **P** 12 46 31.4 +1.9
comp=Z,1.9nm,0.4s,baz=82,slow=6.6,SNR=4.2
DPC Dobruska-Polom 41.26 308 *e*P **P** 12 46 33.6 +2.9
DPC Dobruska-Polom 41.26 308 *e*P **P** 12 46 33.6 +2.9
ARCES ARCESS Array B 41.44 338 P **P** 12 46 33.1 +1.3
comp=Z,13nm,0.6s,baz=112,slow=8.0,SNR=60
ARCES ARCESS Array B 41.44 338 *e*P **P** 12 46 32.2 +0.4
ARE0 ARCESS Array S 41.44 338 *e*P **P** 12 46 33.8 +1.9
UPC Upice 41.46 308 *e*P **P** 12 46 35.1 +2.8
UPC Upice 41.46 308 *e*P **P** 12 46 35.1 +2.8
HEF Hetta 41.50 336 *e*P **P** 12 46 33.9 +1.5
KTK1 Kautokeino 41.91 337 *e*P **P** 12 46 37.2 +1.5
PRU Pruhonice 42.42 307 *e*P **P** 12 46 42.9 +2.8
PRU Pruhonice 42.42 307 *e*P **P** 12 46 42.9 +2.8
HAMF Hammerfest 42.52 339 *e*P **P** 12 46 43.0 +2.3
KIF Kilpisjarvi 42.70 336 *e*P **P** 12 46 43.6 +1.6
BRG Berggiesshubel 42.76 309 *i* P **P** 12 46 45.0 +2.2
comp=Z,6.9nm,0.6s
BRG Berggiesshubel 42.76 309 *i* P **P** 12 46 45.0 +2.2
BRG pmax pmax
comp=Z,7.0nm,0.6s
CUC Castrocucco 42.93 292 *e*P **P** 12 46 45.6 +1.2
comp=Z,3.7nm,0.8s
GERES GERESS Array B 43.05 306 P **P** 12 46 46.5 +1.2
comp=Z,0.8nm,0.7s,baz=72,slow=8.6,SNR=7.2
GEA0 GERESS Array S 43.05 306 *e*P **P** 12 46 46.9 +1.6
KHC Kasperske Hory 43.11 306 *e*P **P** 12 46 49.9 +4.2
KHC Kasperske Hory 43.11 306 *e*P **P** 12 46 49.9 +4.2
HFS Hagfors 43.28 322 P **P** 12 46 46.8 -0.1
comp=Z,16nm,0.6s,baz=98,slow=10,SNR=64
CLL Collm 43.33 309 *e*P **P** 12 46 49.0 +1.6
CLL Collm 43.33 309 *e*P **P** 12 46 49.0 +1.6
CLL *ePP **PP** 12 48 30.0 +0.1
CLL *ePPP PPP 12 49 08.0
TRO Tromso 43.56 336 *e*P **P** 12 46 50.9 +1.9
MOR8 Moi Rana 44.08 331 *e*P **P** 12 46 52.9 -0.4
YAK Yakutsk 44.33 35 *e*P **P** 12 46 54.7 -0.5
YAK pmax pmax
comp=Z,17nm,0.7s
YAK Yakutsk 44.33 35 *e*P **P** 12 46 54.7 -0.5
comp=Z,17nm,0.7s
NC303 NORSAR Array S 44.55 324 *e*P **P** 12 46 58.8 +1.8
NB2 NORSAR Subarra 44.60 323 P **P** 12 46 56.6 -0.9
comp=Z,7.2nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.60 323 P **P** 12 46 56.6 -0.9
baz=97,slow=7.9
NOA NORSAR Array B 44.60 323 P **P** 12 46 56.9 -0.6
comp=Z,8.9nm,0.7s,baz=97,slow=7.9,SNR=34
KONS Konsvik 44.67 331 *e*P **P** 12 46 58.4 +0.5
NBO02 NORSAR Array S 44.78 323 *e*P **P** 12 47 00.5 +1.6
NBO00 NORSAR Array S 44.81 323 *e*P **P** 12 47 00.8 +1.7
NC204 NORSAR Array S 44.85 324 *e*P **P** 12 47 00.9 +1.5
KSAR Wonju Array Be 45.08 71 P **P** 12 47 01.8 +0.2
KSAR Wonju Array Be 45.08 71 P **P** 12 47 01.8 +0.2
KSRS Korea Array 45.10 71 P **P** 12 47 01.8 0.0
comp=Z,1.7nm,0.7s,baz=275,slow=6.7,SNR=6.7
KONO Kongsberg 45.30 321⇑ *e*P **P** 12 47 04.6 +1.7
KLR Kul'dur 45.45 53⇑ *e*P **P** 12 47 06.7 +2.4
TIXI Tiksi 46.15 22⇓ *e*P **P** 12 47 09.4 -0.1
TIXI pmax pmax
comp=Z,12nm,1.7s
TIXI Tiksi 46.15 22 *e*P **P** 12 47 09.2 -0.3
comp=Z,5.0nm,0.7s
PGF Pioggiola 47.34 298 *e*P **P** 12 47 20.2 +0.9
PGF pmax pmax
comp=Z,6.0nm,1.0s
BER Bergen 47.46 322 *e*P **P** 12 47 20.7 +0.9
ASK Askoy 47.53 322 *e*P **P** 12 47 20.7 +0.4
SENIN Lac Senin/Sane 47.69 303 *e*P **P** 12 47 23.9 +1.8
comp=Z,3.8nm,0.8s
HINF Hinteralfeld 47.71 305 *e*P **P** 12 47 23.2 +1.1
SPA0 Spitsbergen Ar 47.82 347 *e*P **P** 12 47 24.4 +2.0
SPA0 Spitsbergen Ar 47.82 347 *e*P **P** 12 47 24.2 +1.7
SPITS Spitsbergen Ar 47.82 347 P **P** 12 47 23.9 +1.5
comp=Z,2.2nm,0.4s,baz=100,slow=7.9,SNR=24
LPG La Plagne 48.24 302 *e*P **P** 12 47 28.3 +1.8
LPG pmax pmax
comp=Z,2.0nm,0.3s
LPL La Plagne 48.25 302 *e*P **P** 12 47 28.1 +1.6
LPL pmax pmax
comp=Z,2.0nm,0.3s
CABF La Chapelle 48.46 304 *e*P **P** 12 47 29.9 +2.0
CABF pmax pmax
comp=Z,19nm,1.4s
FRF La Foret Royal 48.77 299 *e*P **P** 12 47 31.2 +1.0
FRF pmax pmax
comp=Z,2.0nm,0.8s
KBS Kingsbay 48.94 347 *e*P **P** 12 47 33.3 +2.3
KBS pmax pmax
comp=Z,21nm,0.9s
KBS Kingsbay 48.94 347 *e*P **P** 12 47 33.3 +2.3
comp=Z,21nm,0.9s
BAIF Baives 49.03 308 *e*P **P** 12 47 34.2 +2.1
BAIF pmax pmax
comp=Z,8.0nm,1.1s
AVF Avril sur Loir 50.26 304 *e*P **P** 12 47 41.4 0.0
AVF pmax pmax
comp=Z,4.0nm,0.7s
NKL Nikolayevsk 50.44 47 *e*P **P** 12 47 42.8 +0.1
NKL pmax pmax
comp=E,6.0nm,0.8s
NKL pmax pmax
comp=Z,27nm,0.8s
CAF Calviac 51.60 302 *e*P **P** 12 47 53.4 +1.9
CAF pmax pmax
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 52.47 316 P **P** 12 47 58.4 +0.6
comp=Z,3.9nm,0.7s,baz=91,slow=7.6,SNR=15
ESK Eskdalemuir 52.50 316 *e*P **P** 12 47 59.6 +1.6
ESK pmax pmax
comp=Z,29nm,1.6s
ESK Eskdalemuir 52.50 316 *e*P **P** 12 47 59.6 +1.6
comp=Z,29nm,1.6s
YSS Yuzh-Sakhalins 53.12 54 *e*P **P** 12 48 04.4 +1.7
YSS pmax pmax
comp=Z,10.0nm,0.6s
ROSF Rostrenen 54.20 308 *e*P **P** 12 48 11.7 +1.1
ROSF pmax pmax
comp=Z,55nm,1.6s
MA2 Magadan 54.72 38⇑ *e*P **P** 12 48 14.4 +0.3
SEY Seymchan 54.78 34 *de*P **P** 12 48 14.9 +0.4
SEY *i* *PP **pP** 12 48 42.2 +3.0
ES19 SONSECA Array 57.47 298 *e*P **P** 12 48 34.0 -0.1
ESDC Sonseca Array 57.53 298 P **P** 12 48 34.0 -0.5
comp=Z,0.2nm,0.3s,baz=63,slow=6.8,SNR=6.3
BILL Bilibino 58.98 26 *i* P **P** 12 48 43.2 -0.9
BILL *i* *PP **pP** 12 49 11.4 +2.3
BILL *i* 12 49 33.4
BILL *i* 12 51 02.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
SUMG Summit 61.37 341 *i* P **P** 12 49 03.2 +2.4
SUMG pmax pmax
comp=Z,13nm,0.7s
SUMG Summit 61.37 341 *i* P **P** 12 49 03.2 +2.4
comp=Z,12nm,0.7s
SUMG Summit 61.37 341 *e*P **P** 12 49 03.5 +2.7
comp=Z,12nm,0.7s
TOA0 Torodi Ar. Sit 65.60 269 *e*P **P** 12 49 28.0 -1.1
comp=Z,16nm,1.7s
TORD Torodi Ar. Bea 65.60 269 P **P** 12 49 26.9 -2.1
comp=Z,3.1nm,0.6s,baz=49,slow=5.8,SNR=36
RES Resolute Bay 69.05 356 *e*P **P** 12 49 51.9 +2.0
RES pmax pmax
comp=Z,7.0nm,1.5s
RES Resolute Bay 69.05 356 *e*P **P** 12 49 51.9 +2.0
comp=Z,7.0nm,1.5s
KOWA Kowa 69.48 273 P **P** 12 49 51.9 -1.5
comp=Z,4.4nm,0.5s,baz=58,slow=5.8,SNR=9.7
KOWA Kowa 69.48 273 *e*P **P** 12 49 52.3 -1.2
comp=Z,5.2nm,0.6s
TOLK Toolik Lake Re 71.30 15 *e*P **P** 12 50 04.0 +0.2
comp=Z,8.8nm,0.6s
COLD Coldfoot 72.35 16 *e*P **P** 12 50 10.4 +0.4
comp=Z,6.1nm,0.9s
IM3 Indian Mountai 72.55 18 *e*P **P** 12 50 10.5 -0.7
FYU Fort Yukon 73.95 14 *e*P **P** 12 50 20.4 +1.1
comp=Z,6.3nm,0.9s
MLY Manley 74.06 17 *e*P **P** 12 50 20.2 +0.1
comp=Z,3.8nm,1.1s
INK Inuvik 74.28 9 P **P** 12 50 21.9 +0.6
comp=Z,11nm,0.6s,baz=356,slow=5.9
INK Inuvik 74.28 9 *e*P **P** 12 50 21.8 +0.5
comp=Z,12nm,0.6s
DBIC Dimbokro 74.57 267 P **P** 12 50 22.1 -1.8
comp=Z,3.3nm,0.7s,baz=44,slow=5.8,SNR=4.5
MDM Murphy Dome 74.70 16 *e*P **P** 12 50 23.8 0.0
comp=Z,4.1nm,0.9s
FITZ Fitzroy Crossi 74.77 126 *e*P **P** 12 50 27.4 +2.7
comp=Z,21nm,1.9s
BPAW Bear Paw Mtn. 74.77 18 *e*P **P** 12 50 23.8 -0.5
comp=Z,5.9nm,1.0s
MTN Manton Dam 74.82 119 *e*P **P** 12 50 29.1 +3.9
comp=Z,33nm,1.8s
COLA College 74.86 16 *e*P **P** 12 50 26.4 +1.7
COLA pmax pmax
comp=Z,9.0nm,0.9s
CCB Clear Creek Bu 75.06 16 *e*P **P** 12 50 25.3 -0.6
comp=Z,15nm,2.0s
CAST Castle Rocks 75.06 18 *e*P **P** 12 50 26.2 +0.2
comp=Z,7.7nm,0.8s
WRH Wood River Hil 75.15 16 *e*P **P** 12 50 26.2 -0.2
comp=Z,21nm,1.9s
IL1 Eielson Array 75.16 16 *e*P **P** 12 50 25.3 -1.1
ILAR Eielson Array 75.16 16 P **P** 12 50 25.4 -1.0
comp=Z,2.3nm,0.8s,baz=321,slow=4.4,SNR=29
KTH Kantishna Hill 75.25 18 *e*P **P** 12 50 26.7 -0.4
comp=Z,5.5nm,0.8s
PPLA Purkeypile 75.47 19 *e*P **P** 12 50 28.1 -0.3
comp=Z,29nm,1.6s
TRF Thorofare Moun 75.49 18 *e*P **P** 12 50 29.3 +0.7
comp=Z,7.4nm,1.2s
MCK McKinley 75.58 17 *e*P **P** 12 50 28.7 -0.2
MCK pmax pmax
comp=Z,7.0nm,1.1s
MCK McKinley 75.58 17 *e*P **P** 12 50 28.7 -0.2
comp=Z,7.1nm,1.1s
RND Reindeer 75.88 17 *e*P **P** 12 50 29.8 -0.9
RND pmax pmax
comp=Z,16nm,1.4s
RND Reindeer 75.88 17 *e*P **P** 12 50 29.8 -0.9
comp=Z,16nm,1.4s
EGAK Eagle 76.33 14 *e*P **P** 12 50 33.5 +0.4
comp=Z,3.0nm,0.8s
SCRK Sand Creek 76.47 15 *e*P **P** 12 50 34.2 +0.1
comp=Z,9.9nm,2.0s
RIDG Independ'e Rid 76.50 15 *e*P **P** 12 50 33.5 -0.7
comp=Z,30nm,1.9s
DHY Denali Highway 76.51 17 *e*P **P** 12 50 33.7 -0.7
comp=Z,6.0nm,0.8s
SUA Susitna One 77.04 19 *e*P **P** 12 50 36.9 -0.4
comp=Z,36nm,1.9s
PAX Paxson 77.04 16 *e*P **P** 12 50 37.4 +0.1
PAX pmax pmax
comp=Z,5.0nm,0.7s
PAX Paxson 77.04 16 *e*P **P** 12 50 37.4 +0.1
comp=Z,5.0nm,0.7s
DAWY Dawson 77.30 13 *e*P **P** 12 50 38.6 -0.1
comp=Z,5.9nm,0.8s
PMR Palmer 77.35 18 *e*P **P** 12 50 38.4 -0.4
PMR pmax pmax
comp=Z,3.0nm,0.9s
PMR Palmer 77.35 18 *e*P **P** 12 50 38.4 -0.4
comp=Z,3.3nm,0.9s
SML Sawmill 77.36 18 *e*P **P** 12 50 38.6 -0.4
SML pmax pmax
comp=Z,10.0nm,0.9s
SML Sawmill 77.36 18 *e*P **P** 12 50 38.6 -0.4
comp=Z,10nm,0.9s
BOSA Boshof 77.40 220 P **P** 12 50 39.6 -0.1
comp=Z,1.8nm,0.5s,baz=11,slow=9.4,SNR=3.7
MENT Mentasta 77.45 15 *e*P **P** 12 50 39.2 -0.3
comp=Z,25nm,2.0s
SCM Sheep Creek Mo 77.59 17 *e*P **P** 12 50 40.0 -0.4
SCM pmax pmax
comp=Z,14nm,1.0s
SCM Sheep Creek Mo 77.59 17 *e*P **P** 12 50 40.0 -0.4
comp=Z,14nm,1.0s
HARP HAARP 77.60 16 *e*P **P** 12 50 40.9 +0.6
comp=Z,34nm,0.9s
RC01 Rabbit Creek A 77.62 19 *e*P **P** 12 50 40.3 -0.1
comp=Z,32nm,1.8s
BALM Baldy 79.44 16 *e*P **P** 12 50 50.9 +0.3
BALM pmax pmax
comp=Z,16nm,1.4s
BALM Baldy 79.44 16 *e*P **P** 12 50 50.9 +0.3
comp=Z,16nm,1.4s
HYT Haines Junctio 80.63 14 *e*P **P** 12 50 56.7 -0.3
comp=Z,7.1nm,0.8s
YKW3 Yellowknife Ar 81.55 3 *e*P **P** 12 51 03.7 +2.1
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 81.61 3 P **P** 12 51 01.5 -0.5
comp=Z,4.4nm,0.6s,baz=350,slow=5.4,SNR=65
YKA Yellowknife Ar 81.61 3 *i* P **P** 12 51 01.5 -0.5
YKA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 81.89 122 P **P** 12 51 03.3 -0.7
comp=Z,2.9nm,0.5s,baz=324,slow=4.9,SNR=70
WRA Warramunga Arr 81.89 122 *i* P **P** 12 51 05.5 +1.4
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRAB Tennant Creek 81.89 122 *de*P **P** 12 51 07.3 +3.2
WRAB pmax pmax
comp=Z,21nm,2.5s
WB2 Warramunga Arr 81.90 122 *e*P **P** 12 51 06.3 +2.2
AS31 Alice Springs 84.14 125 *e*P **P** 12 51 19.3 +3.7
comp=Z,1.4nm,0.5s
ASAR Alice Springs 84.14 125 P **P** 12 51 15.1 -0.6
comp=Z,3.5nm,0.6s,baz=310,slow=4.8,SNR=56
AS01 Alice Springs 84.17 125 *e*P **P** 12 51 19.5 +3.8
DLBC Dease Lake 84.17 11 *e*P **P** 12 51 18.1 +2.7
comp=Z,20nm,1.8s

ISCJB ***25*** *12:56:35.6±0.5,6°.39S±0°.07×148°.96E±0°.08,h53km, mb4.8/10,MS2.3/1,Error ellipse: s-maj=14.1km s-min=5.7km az=40.7*

NEIC ***25*** *12:56:39.7±0.5,6°.61S×149°.05E,h83km±5km,mb4.2/6, Error ellipse: s-maj=8.9km s-min=4.6km az=133.0*

IDC ***25*** *12:56:40.4±2.7,6°.58S×148°.96E,h82km±16km,mb3.9/3, mb1 4.0/5,mb1mx3.4/50,mbtmp4.2/5,MS2.6/3,Ms1 2.6/3, ms1mx2.5/51,Error ellipse: s-maj=58.0km s-min=16.7km az=117.0*

ISC 25 12:56:37.3±0.6,6°.43S±0°.09×148°.92E±0°.09,h53km,n29, σ1§23/32,mb4.4/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.44**	**210**	P	**Pn**	**12 57 30.2**	**+1.8**
	29nm,0.3s,baz=39,slow=13,SNR=100						
PMG				S	**Sn**	**12 58 09.3**	**+1.5**
	58nm,0.3s,baz=312,slow=23,SNR=16						
PMG				LR	LR	12 58 56.5	
	comp=Z,108nm,20.6s,baz=28,slow=41						

PMG	**Port Moresby**	**3.44**	**210**	*e*Pn		**Pn**	**12 57 29.8**	**+1.4**
PMG				*e*Sn		**Sn**	**12 58 09.3**	**+1.5**
PMG				*e*			12 58 10.1	
PMG				*e*			12 58 56.5	
RABL	**Rabaul**	**3.92**	**56**	*e*Pn		**Pn**	**12 57 37.1**	**+2.1**
MANU	**Manus Island**	**4.62**	**340**	*e*Pn		Pn	12 57 50.8	+6.1
COEN	**Coen**	**9.38**	**217**	*e*Pn		**Pn**	**12 58 49.5**	**-0.4**
HNR	**Honiara**	**11.32**	**106**	LR		LR	13 02 25.8	
	comp=Z,26nm,20.6s,baz=259,slow=31							
HNR	**Honiara**	**11.32**	**106**	*e*Pn		**Pn**	**12 59 17.3**	**+0.8**
HNR				*e*			13 02 25.8	
MTN	**Manton Dam**	**18.65**	**249**	*e*P		**Pn**	**13 00 52.4**	**+0.6**
	6.3nm,1.0s							
WRAB	**Tennant Creek**	**19.51**	**225**	*e*P		**P**	**13 01 01.1**	**+0.8**
	12nm,1.5s							
WB2	**Warramunga Arr**	**19.51**	**225**	*e*P		**P**	**13 00 59.8**	**-0.6**
WR1	**Warramunga Arr**	**19.52**	**225**	*e*P		**P**	**13 01 00.5**	**0.0**
	4.9nm,0.6s							
WR1				*e*S		**S**	**13 04 36.6**	**-1.7**
WRA	**Warramunga Arr**	**19.52**	**225**	P		**P**	**13 01 00.5**	**0.0**
	0.5nm,0.3s,baz=50,slow=11,SNR=38							
WRA				S		**S**	**13 04 36.6**	**-1.7**
	0.0nm,0.3s,baz=50,slow=24,SNR=4.9							
GUMO	**Guam**	**20.29**	**349**	LR		LR	13 08 36.7	
	comp=Z,14nm,18.9s,baz=139,slow=35							
AS31	**Alice Springs**	**22.41**	**219**	*e*P		**P**	**13 01 31.4**	**-0.3**
	1.2nm,0.7s							
AS31				*e*S		**S**	**13 05 32.6**	**-2.0**
ASAR	**Alice Springs**	**22.41**	**219**	P		**P**	**13 01 31.3**	**-0.4**
	1.7nm,0.6s,baz=58,slow=9.7,SNR=43							
ASAR				S		**S**	**13 05 32.6**	**-2.0**
	0.8nm,0.6s,baz=30,slow=23,SNR=7.3							
BATI	**Baumata**	**25.27**	**260**	P		**P**	**13 01 60.0**	**+1.1**
	7.2nm,0.5s,baz=117,slow=6.8,SNR=3.5							
FITZ	**Fitzroy Crossi**	**25.50**	**241**	P		**P**	**13 02 00.2**	**-0.7**
	3.2nm,0.5s,baz=64,slow=9.5,SNR=17							
WAKE	**Wake Island**	**30.95**	**34**	*e*P		**P**	**13 02 49.4**	**-0.2**
	281nm,1.3s							
MYLDM	**Lahad Datu**	**32.48**	**290**	*e*P		**P**	**13 03 03.8**	**+0.7**
	17nm,1.2s							
CBIJ	**Chichi jima**	**33.96**	**349**	*e*P		**P**	**13 03 17.8**	**+2.1**
	285nm,1.4s							
SMY	**Shemya**	**62.70**	**17**	*e*P		**P**	**13 06 55.9**	**-0.6**
	412nm,1.3s							
RND	**Reindeer**	**83.74**	**24**	*e*P		**P**	**13 08 59.9**	**-0.5**
	5.1nm,1.1s							
MCK	**McKinley**	**83.86**	**23**	*e*P		**P**	**13 09 00.6**	**-0.5**
	5.3nm,1.4s							
MJ2	**May Junction 2**	**95.80**	**44**	*e*P		**P**	**13 09 56.8**	**-1.1**
SWSC	**Sam W. Stewart**	**97.88**	**58**	*e*P		**P**	**13 10 06.7**	**-1.0**
G42A	**Mountain**	**117.23**	**42**	*e*PKPdf		**PKPdf**	**13 15 15.4**	**-1.5**
TOAO	**Torodi Ar. Sit**	**147.04**	**284**	*e*PKPbc		**PKPbc**	**13 16 14.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**147.04**	**284**	PKPbc		**PKPbc**	**13 16 14.4**	**-0.9**
	0.9nm,0.5s,baz=66,slow=3.1,SNR=12							
TOA1	**Torodi Ar. Sit**	**147.05**	**284**	*e*PKPbc		**PKPbc**	**13 16 14.4**	**-0.9**

*ISCJB **25** 13:06:22.8±1.0,21.°55N±0.°09×99.°8E±0.°2,h10km,mb3.3/2, Error ellipse: s-maj=32.8km s-min=12.2km az=9.4*
*IDC **25** 13:06:25.9±2.7,21.°43N×99.°99E,h0km,mb3.2/2, mb1 3.5/3,mb1mx3.1/65,mbtmp3.2/3,ML3.7/1,Error ellipse: s-maj=40.7km s-min=22.6km az=134.0*
ISC 25 13:06:25.0±1.1,**21.°6N**±0.°1×**99.°8E**±0.°3,**h10**km,**n5,** σ1§**49**/6,
Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**3.26**	**195**	Pn	**Pn**	**13 07 14.4**	**-1.8**
	2.3nm,0.3s,baz=12,slow=12,SNR=12						
CMAR				Pg	**Pb**	**13 07 24.1**	**+1.1**
	20nm,0.3s,baz=15,slow=16,SNR=161						
CMAR				Lg	Lg	13 08 04.8	
	19nm,0.3s,baz=11,slow=34,SNR=13						
CD2	**Chengdu**	**9.89**	**20**	*e*P	**Pn**	**13 08 46.8**	**-0.6**
WMQ	**Urumqi**	**24.31**	**338**	*e*P	**P**	**13 11 43.8**	**+0.9**
WRA	**Warramunga Arr**	**53.35**	**138**	P	**P**	**13 15 45.8**	**+0.9**
	0.6nm,1.2s,baz=326,slow=7.8,SNR=3.8						
ASAR	**Alice Springs**	**55.93**	**142**	P	**P**	**13 16 03.6**	**+0.1**
	0.1nm,0.5s,baz=317,slow=6.4,SNR=4.0						

*KRNET **25** 13:11:53.7±0.1,39.°44N×73.°26E,mb3.2*
*NNC **25** 13:11:54.2±2.0,39.°44N×73.°28E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=29.0km s-min=10.2km az=112.0*
*SOME **25** 13:11:54.0,39.°40N×73.°18E,h20km*
ISC 25 13:11:58.3±1.5,**39.°62N**±0.°06×**73.°33E**±0.°04,**h10**km,**n38,** σ2§**11**/66,**28C-12D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.42**	**18**	⇑P	**Pg**	**13 12 05.6**	**-1.0**
	13nm,0.2s						
SFK				⇓S	**Sb**	**13 12 14.6**	**+0.1**
	110nm,0.3s						
SFK	**Sufi-Kurgan**	**0.42**	**18**	⇑*i*P	**Pg**	**13 12 05.6**	**-1.0**
	baz=18						
SFK				⇑*i*S	**Sb**	**13 12 14.5**	**+0.1**
	baz=18						
ARSB	**Arslanbob**	**1.73**	**351**	⇑*e*P	**Pb**	**13 12 29.1**	**-1.1**
	baz=54						
ARSB				⇑*e*S	**Sg**	**13 12 55.0**	**+1.2**
	baz=54						
KSH	**Kashi**	**2.04**	**92**	Pn	**Pn**	**13 12 31.8**	**-1.1**
KSH				pP	Pg	13 12 35.5	-2.0
KSH				Sn	**Sb**	**13 13 01.3**	**+0.1**
ARK	**Arkit**	**2.41**	**335**	⇑*i*P	**Pn**	**13 12 38.7**	**+0.7**
	baz=38						
ARK				⇑*i*S	**Sb**	**13 13 11.0**	**-0.8**
	baz=38						
AML	**Almayashu**	**2.53**	**6**	P	**Pb**	**13 12 42.4**	**-1.7**
	SNR=34						
AML	**Almayashu**	**2.53**	**6**	⇑*i*P	**Pb**	**13 12 41.7**	**-2.3**
	baz=7.0						
AML				⇑*i*S	**Sb**	**13 13 15.5**	**+0.2**
	baz=7.0						
NRN	**Naryn**	**2.73**	**47**	⇑*i*P	**Pn**	**13 12 43.3**	**+0.8**
	baz=45						
NRN				⇑*e*S	**Sb**	**13 13 19.3**	**-1.7**
	baz=45						
UCH	**Uchtor**	**2.76**	**19**	P	**Pb**	**13 12 46.3**	**-1.6**
	SNR=16						
UCH	**Uchtor**	**2.76**	**19**	⇑*e*P	**Pn**	**13 12 44.4**	**+1.4**
	baz=19						
UCH				⇑*i*S	**Sb**	**13 13 21.2**	**-0.8**
	baz=19						
KZA	**Kyzart**	**2.86**	**30**	P	**Pb**	**13 12 48.8**	**-0.8**
	SNR=13						
KZA	**Kyzart**	**2.86**	**30**	⇓*i*P	**Pn**	**13 12 45.9**	**+1.6**
	baz=29						
KZA				⇓*i*S	**Sb**	**13 13 23.4**	**-1.4**
	baz=29						
MNAS	**Manas**	**2.93**	**348**	⇓Pg	**Pb**	**13 12 48.6**	**-2.2**
	3.1nm,0.3s						
MNAS				⇑Lg	Lg	13 13 31.7	
	21nm,0.7s						
MNAS	**Manas**	**2.93**	**348**	⇓*e*P	**Pn**	**13 12 46.3**	**+1.1**
	baz=50						
MNAS				⇓*i*S	**Sb**	**13 13 25.0**	**-1.8**
	baz=50						
EKS2	**Erkin-Say**	**3.06**	**6**	P	**Pb**	**13 12 50.6**	**-2.3**
	SNR=6.7						
EKS2	**Erkin-Say**	**3.06**	**6**	⇓*e*P	**Pn**	**13 12 47.9**	**+1.0**
	baz=7.0						
EKS2				⇓*i*S	**Sb**	**13 13 28.0**	**-2.4**
	baz=7.0						
MRKS	**Merke**	**3.12**	**359**	⇑*i*P	**Pb**	**13 12 51.1**	**-3.0**
	11nm,0.3s						
MRKS				*e*S	**Sb**	**13 13 32.9**	**+0.7**
	38nm,0.4s						
AAK	**Ala-Archa**	**3.14**	**16**	⇑Pn	**Pn**	**13 12 50.0**	**+1.9**
	7.6nm,0.5s						
AAK				⇓Lg	Lg	13 13 40.6	
	30nm,1.1s						
AAK	**Ala-Archa**	**3.14**	**16**	P	**Pb**	**13 12 51.9**	**-2.5**
	SNR=12						
AAK	**Ala-Archa**	**3.14**	**16**	⇑*i*P	**Pn**	**13 12 49.8**	**+1.8**
	baz=16						
AAK				⇑*i*S	**Sb**	**13 13 30.1**	**-2.7**
	baz=16						
KBK	**Karagaybulak**	**3.27**	**21**	⇑*e*P	**Pn**	**13 12 51.2**	**+1.4**
	baz=21						
KBK				⇑*i*S	**Sb**	**13 13 33.5**	**-3.0**
	baz=21						
ULHL	**Ulahol**	**3.43**	**39**	⇑*e*P	**Pn**	**13 12 53.6**	**+1.6**
	baz=38						
ULHL				⇑*e*S	**Sn**	**13 13 36.6**	**+3.8**
	baz=38						
BOOM	**Boomskoye usch**	**3.48**	**34**	⇑*i*P	**Pn**	**13 12 53.7**	**+1.0**
	baz=33						
BOOM				⇑*e*S	**Sn**	**13 13 37.5**	**+3.4**
	baz=33						
CHMS	**Chumysh**	**3.54**	**17**	P	**Pb**	**13 12 57.0**	**-4.1**
	SNR=16						
IUG	**Iuzhnay**	**3.56**	**316**	*e*P	**Pb**	**13 13 00.2**	**-1.2**
	23nm,0.3s						
IUG				*e*S	**Sb**	**13 13 47.6**	**+3.0**
	34nm,0.5s						
TKM2	**Tokmak 2**	**3.71**	**27**	⇑Pn	**Pn**	**13 12 58.2**	**+2.2**
	1.6nm,0.5s						
TKM2				⇓Lg	Lg	13 13 58.7	
	13nm,0.9s						
USP	**Ospenovka**	**3.75**	**13**	P	**Pn**	**13 12 59.7**	**+3.4**
	SNR=6.1						
KST	**Kastek**	**3.95**	**29**	*e*P	**Pb**	**13 13 06.7**	**-1.5**
	1.9nm,0.3s						
KST				*e*S	**Sb**	**13 13 59.1**	**+2.9**
	5.7nm,0.6s						
DGS	**Degeres**	**4.06**	**26**	*e*P	**Pb**	**13 13 12.1**	**+2.1**
	3.9nm,0.5s						
DGS				*e*S	**Sg**	**13 14 07.9**	**-0.8**
	19nm,0.7s						
KK31	**Karatay Array**	**4.08**	**330**	⇓Pn	**Pn**	**13 13 02.4**	**+1.6**
	0.6nm,0.3s,baz=141,slow=13,SNR=12						
KK31				⇑Pg	**Pb**	**13 13 10.4**	**+0.1**
	1.5nm,0.3s,baz=148,slow=12,SNR=8.4						
KK31				⇑Lg	Lg	13 14 05.1	
	3.0nm,0.3s,baz=146,slow=26,SNR=6.6						
MTBS	**Maitube**	**4.21**	**33**	*e*P	**Pg**	**13 13 16.5**	**-2.5**
	4.4nm,0.2s						
MTBS				*e*S	**Sg**	**13 14 15.8**	**+2.2**
	9.1nm,0.4s						
IZV	**Izvestkoviy**	**4.21**	**35**	*e*P	**Pb**	**13 13 15.4**	**+2.7**
	4.2nm,0.6s						
IZV				*e*S	**Sg**	**13 14 14.6**	**+0.9**
	15nm,0.5s						
BRLS	**Borolday**	**4.31**	**323**	*e*P	**Pb**	**13 13 12.0**	**-2.2**
	1.3nm,0.6s						
BRLS				*e*S	**Sb**	**13 14 07.8**	**+1.6**
	5.6nm,0.9s						
MDOK	**Medeo**	**4.51**	**37**	Pn	**Pn**	**13 13 03.5**	**-3.4**
	2.1nm,1.1s						
MDOK				⇑Pg	**Pg**	**13 13 21.9**	**-2.8**
	4.2nm,0.6s						
MDOK				⇓Lg	Lg	13 14 24.2	
	15nm,0.8s						
MDOK	**Medeo**	**4.51**	**37**	*e*P	**Pb**	**13 13 20.3**	**+2.6**
	1.9nm,0.5s						
MDOK				*e*S	**Sg**	**13 14 22.4**	**-0.8**
	7.9nm,0.6s						
KUU	**Kurty**	**4.83**	**27**	*e*P	**Pb**	**13 13 25.9**	**+2.9**
	2.9nm,0.6s						
KUU				*e*S	**Sg**	**13 14 32.1**	**-1.2**
	12nm,1.0s						
SATY	**Saty**	**5.14**	**46**	*e*P	**Pg**	**13 13 33.7**	**-3.1**
	2.1nm,0.1s						
SATY				*e*S	**Sg**	**13 14 45.2**	**+1.9**
	6.6nm,0.6s						
ARXS	**Arharly**	**5.69**	**35**	*e*P	**Pb**	**13 13 41.1**	**+3.5**
	1.9nm,0.8s						
ARXS				*e*S	**Sg**	**13 14 57.7**	**-3.1**
	12nm,1.1s						

*NEIC **25** 13:15:21.5±0.0,16.°05N×98.°67W,h9km,MD4.0(MEX), After MEX.*
MEX 25 13:15:21.4±0.4,**16.°04N×98.°67W,h9**km±9km,**MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.63**	**56**	*i* P	Pg	13 15 32.2	-1.3
PNIG				*i* S	Sg	13 15 41.1	-0.7
PNIG	**Pinotepa**	**0.63**	**56**	*i* P	Pg	13 15 32.2	-1.3
PNIG				*i* S	Sg	13 15 41.1	-0.7
ACX	**Acapulco**	**1.41**	**306**	*e*P	Pn	13 15 46.8	-0.6
ACX				*i* S	Sb	13 16 05.0	-1.1
TLIG	**Tlapa**	**1.52**	**4**	*e*P	Pn	13 15 45.2	-3.7
TLIG				*e*S	Sn	13 16 03.6	-5.3
TLIG	**Tlapa**	**1.52**	**4**	*e*P	Pn	13 15 45.2	-3.7
TLIG				*e*S	Sn	13 16 03.6	-5.3
CAIG	**El Cayaco**	**1.83**	**303**	*e*P	Pn	13 15 49.1	-4.0
CAIG				*e*S	Sn	13 16 11.9	-4.5
CAIG	**El Cayaco**	**1.83**	**303**	*e*P	Pn	13 15 49.4	-3.7
CAIG				*e*S	Sn	13 16 11.9	-4.5
VHO	**Vista Hermosa**	**2.12**	**61**	*e*P	Pn	13 15 54.2	-3.1
VHO				*e*S	Sn	13 16 19.6	-4.3
VHO	**Vista Hermosa**	**2.12**	**61**	*e*P	Pn	13 15 54.2	-3.1
VHO				*e*S	Sn	13 16 19.6	-4.3
PLIG	**Platanillo**	**2.47**	**341**	*e*P	Pn	13 15 59.6	-2.4
PLIG				*e*S	Sn	13 16 28.2	-4.2
PLIG	**Platanillo**	**2.47**	**341**	*e*P	Pn	13 15 59.8	-2.2
PLIG				*e*S	Sn	13 16 28.2	-4.2

*ISK **25** 13:18:38.6,38.°53N×40.°51E,h5km,ML2.2/4*
*ISCJB **25** 13:18:39.7±0.6,38.°49N±0.°03×40.°51E±0.°04,h5km±5km, Error ellipse: s-maj=6.5km s-min=4.8km az=42.4*
*DDA **25** 13:18:39.5,38.°45N×40.°50E,h12km,Ml2.8*
*CSEM **25** 13:18:39.7±0.3,38.°50N×40.°50E,h2km,ML2.8, Error ellipse: s-maj=9.1km s-min=5.7km az=39.0*
ISC 25 13:18:38.9±0.9,**38.°50N**±0.°04×**40.°49E**±0.°03,**h14**km±6km, **n21,** σ0§**52**/32,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HANI	**Diyarbakir_Han**	**0.11**	**219**	*i* P	**Pg**	**13 18 42.3**	**0.0**
HANI				*i* S	**Sg**	**13 18 44.6**	**+0.1**
HANI	**Diyarbakir_Han**	**0.11**	**219**	P	**Pg**	**13 18 42.3**	**0.0**
HANI				S	**Sg**	**13 18 44.6**	**+0.1**
BINT	**Bingol**	**0.38**	**0**	*e*Pg	**Pn**	**13 18 49.2**	**-0.9**
BNGB	**Bing¶ll**	**0.51**	**17**	PG	**Pg**	**13 18 49.2**	**+0.1**
DYBB	**Diyarbakir**	**0.61**	**207**	PG	**Pn**	**13 18 52.8**	**-0.4**
DIY	**Diyarbakir**	**0.64**	**199**	*e*Pg	**Pn**	**13 18 52.8**	**-0.8**
BTMN	**Batman**	**0.87**	**134**	*i* P	**Pn**	**13 18 56.6**	**-0.1**
BTMN				*i* S	**Sn**	**13 19 09.0**	**-0.2**
BTMN	**Batman**	**0.87**	**134**	P	**Pn**	**13 18 56.6**	**-0.1**
BTMN				S	**Sn**	**13 19 09.0**	**-0.2**
PTK	**Pertek**	**0.94**	**295**	PG	**Pg**	**13 18 57.2**	**0.0**
PTK	**Pertek**	**0.94**	**295**	*e*Pg	**Pg**	**13 18 57.2**	**0.0**
TNCL	**Tunceli-Merkez**	**0.96**	**310**	*i* P	**Pb**	**13 18 57.0**	**-0.4**
TNCL				*i* S	**Sn**	**13 19 12.3**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.96**	**310**	P	**Pb**	**13 18 57.0**	**-0.4**
TNCL				S	**Sn**	**13 19 12.3**	**+0.7**
MAZI	**Mazidag**	**1.04**	**182**	PG	**Pn**	**13 18 59.4**	**+0.2**
MAZI	**Mazidag**	**1.04**	**182**	*e*Pg	**Pn**	**13 18 59.4**	**+0.2**
MARD	**Mardin**	**1.21**	**169**	*i* P	**Pn**	**13 19 01.4**	**-0.1**
MARD				*i* S	**Sb**	**13 19 16.3**	**-0.8**
GURO	**Guroymak-BITLI**	**1.21**	**87**	PN	**Pg**	**13 19 02.5**	**+0.2**
GURO	**Guroymak-BITLI**	**1.21**	**87**	*e*Pn	**Pg**	**13 19 02.5**	**+0.2**
SRTM	**Siirt_Merkez**	**1.24**	**114**	*i* P	**Pg**	**13 19 02.9**	**+0.1**
SRTM				*i* S	**Sg**	**13 19 19.8**	**+0.9**
SRTM	**Siirt_Merkez**	**1.24**	**114**	P	**Pg**	**13 19 02.9**	**+0.1**
SRTM				S	**Sg**	**13 19 19.8**	**+0.9**
MALT	**Malatya**	**1.63**	**264**	PN	**Pg**	**13 19 10.2**	**0.0**
MALT				SN	**Sg**	**13 19 32.4**	**+1.1**
MALT	**Malatya**	**1.63**	**264**	*e*Pn	**Pg**	**13 19 10.2**	**0.0**
MALT				*e*Sn	**Sg**	**13 19 32.4**	**+1.1**

*NIED **25** 13:22:00,37.°70N×141.°80E,h50km,Mw5.2 Best double couple: M0:6.75000×10¹⁶ NP1:φs=26.00000°,δ39.00000°, λ106.00000°. NP2:φs=186.00000°,δ53.00000°,λ77.00000°.*
*MOS **25** 13:22:37.8±0.8,37.°83N×141.°71E,h35km,mb5.4/142, MS4.5/18,Error ellipse: s-maj=5.8km s-min=3.6km az=102.4*
*JMA **25** 13:22:39.4,37.°68N×141.°77E,h49km±1km,M5.2*
JMA Felt IV J1.
*BJI **25** 13:22:39.1,37.°67N×141.°67E,h60km,mb5.0/81,mB5.0/53, Ms4.6/87,Ms7 4.5/81*
*ISCJB **25** 13:22:40.1±0.3,37.°71N±0.°02×141.°66E±0.°02,h58km±2km, mb5.2/421,MS4.5/79,Error ellipse: s-maj=3.2km s-min=2.2km az=155.6*
*NEIC **25** 13:22:41.6±0.4,37.°69N×141.°60E,h62km±3km,mb5.2/298, Error ellipse: s-maj=2.9km s-min=2.0km az=151.0*
NEIC Felt [III] at Sendai. Felt in much of eastern Honshu. Recorded [4 JMA] in Fukushima and Miyagi.
*GCMT **25** 13:22:41.7±0.2,37.°83N×141.°75E,h49km,MW5.2/101, Moment Tensor Solution. s101,c156; s101,c166; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr6.60±.15; Mθθ-0.13±.11; Mφφ-6.47±.11; Mrθ1.24±.11; Mrφ-1.67±.09; Mθφ-1.72±.10; Best double couple: M0:7.07100×10¹⁶ NP1:φs181.00000°,δ52.00000°,λ73.00000°. NP2: φs27.00000°,δ41.00000°,λ110.00000°. Principal axes: T 7.1170, Plg76.0000°, Azm36.0000°; N -0.0900, Plg13.0000°, Azm191.0000°; P -7.0250, Plg6.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **25** 13:22:41.1±1.2,37.°71N×141.°67E,h55km±11km,mb4.7/49, mb1 4.8/57,mb1mx4.7/72,mbtmp5.0/57,MS4.3/56, Ms1 4.3/56,ms1mx4.2/72 Error ellipse: s-maj=9.4km s-min=7.1km az=103.0*
ISC 25 13:22:40.7±0.3,**37.°72N**±0.°03×**141.°75E**±0.°03,**h55**km±2km, **h55**km:**pP-P,n1315,**σ1§**22**/1382,**mb5.2**/429,**MS4.5**/82, **65C-59D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMM	**Marumori**	**0.77**	**281**	⇓P	**Pn**	**13 22 54.5**	**-1.0**
JMM				S	**Sn**	**13 23 05.4**	**-1.0**
JFK	**Kawauchi**	**0.78**	**243**	⇓P	**Pn**	**13 22 54.2**	**-1.5**
JFK				S	**Sn**	**13 23 04.8**	**-1.8**
JIO	**Ouri**	**0.80**	**337**	⇓P	**Pn**	**13 22 55.2**	**-0.7**
JIO				S	**Sn**	**13 23 06.3**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.97**	**231**	⇓P	**Pn**	**13 22 56.6**	**-1.6**
ONAJ				*e*S	**Sn**	**13 23 09.2**	**-2.0**
JOU	**Okura**	**1.07**	**307**	⇓P	**Pn**	**13 22 58.8**	**-0.7**
JOU				*e*S	**Sn**	**13 23 13.7**	**+0.2**
JFT	**Otama**	**1.14**	**260**	⇓P	**Pn**	**13 23 00.0**	**-0.4**
JFT				S	**Sn**	**13 23 15.1**	**+0.1**
JMK	**Ichinoseki**	**1.30**	**342**	⇓P	**Pn**	**13 23 02.3**	**-0.3**
JMK				S	**Sn**	**13 23 18.9**	**0.0**
OFUJ	**Ofunato**	**1.36**	**357**	⇑P	**Pn**	**13 23 02.8**	**-0.6**
JYS	**Shirataka**	**1.42**	**291**	⇓P	**Pn**	**13 23 03.7**	**-0.5**
JHO	**Hitachi**	**1.45**	**221**	⇑P	**Pn**	**13 23 02.9**	**-1.7**
JYK	**Kaneyama**	**1.62**	**318**	⇓P	**Pn**	**13 23 06.8**	**-0.1**
JSB	**Shiboa**	**1.64**	**243**	P	**Pn**	**13 23 06.9**	**-0.2**
JFY	**Yanaizu**	**1.65**	**260**	⇓P	**Pn**	**13 23 07.0**	**-0.3**
JFY				*e*S	**Sn**	**13 23 27.7**	**+0.2**
JOM	**Ohasama**	**1.79**	**349**	⇑P	**Pn**	**13 23 09.0**	**-0.2**
JOM				*e*S	**Sn**	**13 23 31.2**	**+0.4**
JYA	**Atsumi**	**1.82**	**299**	⇓P	**Pn**	**13 23 09.6**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.86**	**2**	⇑P	**Pn**	**13 23 09.4**	**-0.7**
JRG	**Rokugo**	**1.89**	**333**	P	**Pn**	**13 23 11.1**	**+0.5**
JRG				*e*S	**Sn**	**13 23 35.0**	**+1.7**
JNS	**Sasagawa**	**1.93**	**274**	⇓P	**Pn**	**13 23 10.9**	**-0.2**
JYW	**Yuwa**	**2.18**	**327**	P	**Pn**	**13 23 15.3**	**+0.8**
JKT	**Katashina**	**2.21**	**245**	⇓P	**Pn**	**13 23 15.3**	**+0.3**
JHK	**Hiroka**	**2.22**	**259**	⇓P	**Pn**	**13 23 14.7**	**-0.4**
JSD	**Sado**	**2.78**	**278**	P	**Pn**	**13 23 21.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.06**	**249**	P	**Pn**	**13 23 26.8**	**+0.2**
	103nm,0.3s,baz=51,slow=10.0,SNR=552						
MJAR				LR	LR	13 24 59.5	
	comp=Z,11μm,20.8s,baz=75,slow=46						
MAJO	**Matsushiro**	**3.06**	**249**	*d*P	**Pn**	**13 23 27.2**	**+0.6**
MAJO	**Matsushiro**	**3.06**	**249**	*e*Pn	**Pn**	**13 23 27.4**	**+0.8**
MAT	**Matsushiro**	**3.06**	**249**	P	**Pn**	**13 23 27.0**	**+0.4**
MAT				*e*S	**Sn**	**13 24 04.6**	**+2.6**
MJB9	**Matsu-Tunnel**	**3.06**	**249**	*e*Pn	**Pn**	**13 23 27.4**	**+0.8**
ERM	**Erimo**	**4.43**	**14**	*c*eP	**Pn**	**13 23 43.9**	**-1.4**
ERM				pmax	pmax		
	comp=Z,172nm,0.8s						
ERM	**Erimo**	**4.43**	**14**	*e*Pn	**Pn**	**13 23 43.5**	**-1.7**
INU	**Inuyama**	**4.48**	**240**	*e*Pn	**Pn**	**13 23 46.9**	**+0.9**
JHJ2	**Mitsune**	**4.86**	**199**	*e*Pn	**Pn**	**13 23 49.6**	**-1.6**
JHJ	**Hachijo jima 2**	**4.86**	**200**	P	**Pn**	**13 23 50.9**	**-0.4**
	comp=Z,112nm,0.3s,baz=318,slow=18,SNR=47						
JHJ				S	**Sn**	**13 24 44.8**	**-1.4**
	comp=Z,722nm,0.3s,baz=84,slow=24,SNR=12						
JHJ				LR	LR	13 26 05.7	
	comp=Z,4μm,20.6s,baz=78,slow=42						
ASAJ	**Asahikawa**	**6.43**	**5**	P	**Pn**	**13 24 11.2**	**-1.5**
	comp=Z,220nm,0.3s,baz=221,slow=9.2,SNR=147						
ASAJ				S	**Sn**	**13 25 25.4**	**+0.8**
	comp=Z,24nm,0.3s,baz=122,slow=30,SNR=7.9						
ASAJ	**Asahikawa**	**6.43**	**5**	*e*Pn	**Pn**	**13 24 10.9**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**7.04**	**25**	*c* iP	**Pn**	**13 24 18.8**	**-2.2**
YUK				*i* S	**Sn**	**13 25 34.2**	**-5.4**
YUK				pmax	pmax		
	comp=N,194nm,0.4s						
YUK				pmax	pmax		
	comp=Z,445nm,0.4s						
YUK				pmax	pmax		
	comp=E,160nm,0.2s						
SHO	**Shikotan**	**7.25**	**30**	*e*P	**Pn**	**13 24 20.4**	**-3.6**
SHO				*i* S	**Sn**	**13 25 36.6**	**-8.3**
SHO				pmax	pmax		
	comp=Z,84nm,0.4s						
SHO				pmax	pmax		
	comp=N,43nm,0.2s						
SHO				pmax	pmax		
	comp=E,64nm,0.2s						
TEY	**Ternei**	**8.27**	**334**	*e*P	**Pn**	**13 24 42.0**	**+4.1**
TEY				pmax	pmax		
	comp=N,38nm,0.5s				

	comp=N,180nm,0.8s							
MDJ				pmax	pmax			
	comp=N,660nm,3.7s							
MDJ	**Mudanjiang**	**11.46**	**311**	*e*Pn	**Pn**	**13**	**25**	**22.4 +1.0**
TJN	**Taejon**	**11.57**	**268**⇑	*e*P	**Pn**	**13**	**25**	**24.7 +1.6**
TYV	**Tymovskoe**	**13.16**	**3**	*e*P	**Pn**	**13**	**25**	**42.8 -1.8**
TYV				*e*S	**Sn**	**13**	**28**	**09.2 -0.1**
TYV				pmax	pmax			
	comp=Z,18nm,0.6s							
TYV				smax	smax			
	comp=N,6.0nm,1.0s							
TYV				MLR	MLR			
	comp=Z,1μm,16.0s							
GRNR	**Gornyy**	**13.59**	**345**	*e*P	**Pn**	**13**	**25**	**49.2 -1.3**
GRNR				pmax	pmax			
	comp=Z,31nm,1.0s							
KLR	**Kul'dur**	**13.59**	**331**	P	**Pn**	**13**	**25**	**48.9 -1.7**
	comp=Z,0.0nm,0.3s,baz=127,slow=14,SNR=16							
KLR				LR	LR	13	31	03.0
	comp=Z,175nm,19.1s,baz=142,slow=37							
KLR	**Kul'dur**	**13.59**	**331**	*de*P	**Pn**	**13**	**25**	**49.4 -1.1**
CN2	**Changchun**	**13.76**	**301**	*e*P	**Pn**	**13**	**25**	**52.8 -0.1**
CN2				*ep*P	P	13	26	02.5 +2.7
CN2				*e*S	**Sn**	**13**	**28**	**27.3 +3.3**
CN2				pmax	pmax			
	comp=Z,20nm,1.3s							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=Z,300nm,12.0s							
CN2				LR	LR			
	comp=Z,1μm,12.0s							
CN2				LR	LR			
	comp=Z,800nm,13.0s							
SNY	**Shenyang**	**14.56**	**292**	⇑P	**Pn**	**13**	**26**	**04.3 +0.8**
SNY				S	**Sn**	**13**	**28**	**45.5 +2.1**
SNY				pmax	pmax			
	comp=Z,28nm,1.5s							
SNY				pmax	pmax			
	comp=Z,250nm,3.5s							
SNY				LR	LR			
	comp=Z,1μm,14.1s							
SNY				LR	LR			
	comp=Z,3μm,19.4s							
SNY				LR	LR			
	comp=Z,4μm,19.1s							
NKL	**Nikolayevsk**	**15.45**	**358**	*e*P	**Pn**	**13**	**26**	**11.4 -3.5**
NKL				pmax	pmax			
	comp=N,13nm,0.9s							
NKL				pmax	pmax			
	comp=Z,33nm,0.9s							
JOW	**Kunigami**	**15.72**	**230**	P	**Pn**	**13**	**26**	**19.9 +1.3**
	comp=Z,4.4nm,0.3s,baz=73,slow=4.5,SNR=5.5							
JOW				LR	LR	13	32	16.8
	comp=Z,732nm,21.3s,baz=69,slow=37							
JOW	**Kunigami**	**15.72**	**230**	*e*Pn	**Pn**	**13**	**26**	**17.8 -0.8**
	comp=Z,118nm,1.3s							
DL2	**Dalian**	**15.84**	**280**	P	**Pn**	**13**	**26**	**20.3 +0.3**
DL2				S	**Sn**	**13**	**29**	**14.5 0.0**
DL2				pmax	pmax			
	comp=Z,240nm,0.7s							
DL2				pmax	pmax			
	comp=Z,230nm,4.1s							
DL2				LR	LR			
	comp=Z,1μm,21.0s							
DL2				LR	LR			
	comp=Z,2μm,21.7s							
SSE	**Sheshan**	**18.19**	**255**	P	**P**	**13**	**26**	**48.5 -0.4**
SSE				S	**Sn**	**13**	**30**	**11.8 +0.3**
SSE				pmax	pmax			
	comp=Z,30nm,0.7s							
SSE				LR	LR			
	comp=Z,400nm,16.5s							
SSE				LR	LR			
	comp=Z,360nm,15.9s							
ZEA	**Zeya**	**18.89**	**333**	*e*P	**P**	**13**	**26**	**55.4 -1.0**
ZEA				*i*		13	30	28.0
ZEA				pmax	pmax			
	comp=N,49nm,0.6s							
ZEA				pmax	pmax			
	comp=E,20nm,0.6s							
ZEA				pmax	pmax			
	comp=Z,53nm,0.6s							
ZEA				smax	smax			
	comp=N,700nm,6.0s							
ZEA				smax	smax			
	comp=E,500nm,6.0s							
ZEA				MLR	MLR			
	comp=Z,1μm,15.0s							
ZEA				MLR	MLR			
	comp=E,700nm,13.0s							
ZEA				MLR	MLR			
	comp=N,700nm,14.0s							
PEA0B	**Petropavlovsk-**	**18.96**	**31**	*e*P	**P**	**13**	**26**	**57.0 -0.3**
	comp=N,57nm,1.0s							
PETK	**Petropavlovsk-**	**18.96**	**31**	P	**Pn**	**13**	**26**	**58.1 -0.3**
	comp=N,0.5nm,0.3s,baz=201,slow=8.4,SNR=22							
PETK				LR	LR	13	34	05.2
	comp=N,552nm,21.9s,baz=214,slow=36							
PETK	**Petropavlovsk-**	**18.96**	**31**	*e*P	**P**	**13**	**26**	**56.8 -0.5**
PET	**Petropavlovsk**	**19.30**	**32***j*	*i*P	**Pn**	**13**	**27**	**01.9 -0.4**
PET				*e*S	**S**	**13**	**30**	**31.9 -4.3**
PET				pmax	pmax			
	comp=Z,80nm,1.2s							
PET				pmax	pmax			
	comp=Z,300nm,5.4s							
PET				pmax	pmax			
	comp=Z,600nm,6.8s							
PET				MLR	MLR			
	comp=Z,1μm,16.0s							
PET				MLR	MLR			
	comp=Z,1μm,14.0s							
PET	**Petropavlovsk**	**19.30**	**32**	*e*P	**P**	**13**	**26**	**58.8 -2.0**
	comp=Z,87nm,1.1s							
NJ2	**Nanjing**	**19.59**	**260**	*e*P	**P**	**13**	**27**	**04.8 +0.5**
NJ2				pmax	pmax			
	comp=Z,37nm,0.8s							
NJ2				LR	LR			
	comp=Z,1μm,22.7s							
NJ2				LR	LR			
	comp=Z,780nm,16.9s							
NJ2				LR	LR			
	comp=Z,1μm,22.6s							
HIA	**Hailar**	**19.62**	**313**⇑	*e*P	**P**	**13**	**27**	**04.3 -0.2**
HIA				pmax	pmax			
	comp=Z,7.0nm,0.3s							
HIA	**Hailar**	**19.62**	**313**	*e*P	**P**	**13**	**27**	**03.7 -0.8**
	comp=Z,16nm,0.7s							
TIA	**Tai'an**	**19.72**	**273**	P	**P**	**13**	**27**	**04.3 -1.4**
TIA				S	S	13	30	28.3 -17
TIA				pmax	pmax			
	comp=Z,58nm,1.1s							
TIA				pmax	pmax			
	comp=Z,320nm,3.0s							
TIA				LR	LR			
	comp=Z,530nm,15.7s							
TIA				LR	LR			
	comp=Z,820nm,13.7s							
TIA				LR	LR			
	comp=Z,1μm,12.9s							
BJI	**Beijing**	**20.02**	**285**	P	**P**	**13**	**27**	**06.3 -2.6**
BJI				S	S	13	30	39.3 -12
BJI				pmax	pmax			
	comp=Z,150nm,0.7s							
BJI				LR	LR			
	comp=Z,960nm,18.9s							
BJI				LR	LR			
	comp=Z,930nm,25.6s							
BJI				LR	LR			
	comp=Z,1μm,30.3s							
BJT	**Baijiatuan**	**20.03**	**285**	*e*P	**P**	**13**	**27**	**06.2 -2.8**
BJT				pmax	pmax			
	comp=Z,109nm,0.6s							
BJT	**Baijiatuan**	**20.03**	**285**	*e*P	**P**	**13**	**27**	**06.2 -2.8**
	comp=Z,109nm,0.6s							
YHNB	**Yeheng**	**21.69**	**239**	*e*P	**P**	**13**	**27**	**24.7 -2.3**
	comp=Z,32nm,0.9s							
NACB	**Ninganchiao**	**21.87**	**238**	*e*P	**P**	**13**	**27**	**25.2 -3.7**
	comp=Z,21nm,0.7s							
CLNS	**Chul'man**	**22.17**	**335**	*e*P	**P**	**13**	**27**	**30.7 -1.2**
CLNS				*e**PP	**sP**	**13**	**27**	**56.7 +5.5**
CLNS				*e*S	**S**	**13**	**31**	**25.8 -6.9**
CLNS				*e**SS	sS	13	32	09.5 +16
CLNS				pmax	pmax			
	comp=Z,31nm,0.9s							
CLNS				pmax	pmax			
	comp=N,39nm,1.2s							
CLNS				pmax	pmax			
	comp=E,9.0nm,0.9s							
CLNS				smax	smax			
	comp=N,512nm,10.2s							
CLNS				smax	smax			
	comp=E,350nm,11.9s							
SSLB	**Suanglung**	**22.56**	**238**	*e*P	**P**	**13**	**27**	**32.8 -3.6**
	comp=E,27nm,0.8s							
YULB	**Yu-li**	**22.60**	**237**	*e*P	**P**	**13**	**27**	**33.2 -3.6**
	comp=E,21nm,0.8s							
MA2	**Magadan**	**22.63**	**12**	P	**P**	**13**	**27**	**36.3 -0.5**
	comp=E,35nm,0.8s,baz=198,slow=8.8,SNR=62							
MA2				LR	LR	13	36	11.2
	comp=E,703nm,21.8s,baz=209,slow=36							
MA2	**Magadan**	**22.63**	**12***c*	*i*P	**P**	**13**	**27**	**35.8 -0.9**
TPUB	**Ta-pu**	**23.11**	**238**	*e*P	**P**	**13**	**27**	**37.8 -4.2**
	comp=E,46nm,0.7s							
TWG	**Pinlang**	**23.15**	**236**	*e*P	**P**	**13**	**27**	**39.6 -2.7**
	comp=E,155nm,0.7s							
TIY	**Taiyuan**	**23.15**	**279**	*e*P	**P**	**13**	**27**	**42.5 +0.1**
TIY				S	**S**	**13**	**31**	**43.8 -5.9**
TIY				SS	**SnSn**	**13**	**32**	**32.0 +4.8**
TIY				pmax	pmax			
	comp=E,61nm,0.7s							
TIY				LR	LR			
	comp=E,370nm,9.4s							
TIY				LR	LR			
	comp=E,1μm,15.3s							
TIY				LR	LR			
	comp=E,1μm,14.7s							
QZH	**Quanzhou**	**23.45**	**244**	*e*P	**P**	**13**	**27**	**44.5 -0.7**
QZH				S	**S**	**13**	**31**	**52.5 -2.0**
QZH				LR	LR			
	comp=E,600nm,14.7s							
QZH				LR	LR			
	comp=E,800nm,20.8s							
QZH				LR	LR			
	comp=E,1μm,20.4s							
HHC	**Hu-ho-hao-te**	**23.52**	**287**	*e*P	**P**	**13**	**27**	**44.3 -1.5**
HHC				pP	pP	13	27	55.5 -3.4
HHC				sP	sP	13	28	01.3 -4.4
HHC				PP	**PnPn**	**13**	**28**	**17.5 +2.9**
HHC				S	**S**	**13**	**31**	**49.3 -6.4**
HHC				pmax	pmax			
	comp=E,48nm,0.9s							
HHC				pmax	pmax			
	comp=E,150nm,4.1s							
HHC				LR	LR			
	comp=E,430nm,11.3s							
HHC				LR	LR			
	comp=E,710nm,11.4s							
HHC				LR	LR			
	comp=E,750nm,13.4s							
WHN	**Wuhan**	**23.73**	**261**⇑	*i*P	**P**	**13**	**27**	**49.0 +1.3**
WHN				S	**S**	**13**	**31**	**57.8 -1.1**
WHN				pmax	pmax			
	comp=E,92nm,0.7s							
WHN				LR	LR			
	comp=E,2μm,15.0s							
WHN				LR	LR			
	comp=E,3μm,18.0s							
WHN				LR	LR			
	comp=E,3μm,14.6s							
GUMO	**Guam**	**24.19**	**173**	LR	LR	13	37	35.7
	comp=E,225nm,21.8s,baz=14,slow=37							
CIT	**Chita**	**24.38**	**315**	*e*P	**P**	**13**	**27**	**53.9 +0.4**
CIT				*e*		13	28	10.5
CIT				*e*		13	28	33.3
CIT				*e*		13	28	43.4
CIT				pmax	pmax			
	comp=Z,175nm,2.0s							
BTO	**Baotou**	**24.70**	**287**	*e*P	**P**	**13**	**27**	**56.8 +0.1**
YAK	**Yakutsk**	**25.46**	**347**	P	**P**	**13**	**28**	**02.8 -0.4**
	comp=Z,157nm,0.7s,baz=18,slow=2.3,SNR=93							
YAK				S	**S**	**13**	**32**	**25.0 -1.1**
	comp=Z,6.2nm,0.5s,baz=335,slow=24,SNR=8.8							
YAK				LR	LR	13	38	29.0
	comp=Z,1μm,18.6s,baz=116,slow=37							
YAK	**Yakutsk**	**25.46**	**347***c*	*i*P	**P**	**13**	**28**	**02.2 -1.0**
YAK				*e**PP	**pP**	**13**	**28**	**12.8 -4.1**
YAK				*e*		13	31	36.3
YAK				*e*S	**S**	**13**	**32**	**24.7 -1.5**
YAK				*e*SS	SnSn	13	32	44.3 -39
YAK				*e*		13	39	03.6
YAK				pmax	pmax			
	comp=Z,205nm,0.9s							
YAK				pmax	pmax			
	comp=E,21nm,1.1s							
YAK				pmax	pmax			
	comp=N,62nm,1.3s							
YAK				smax	smax			
	comp=N,434nm,2.0s							
YAK				smax	smax			
	comp=E,380nm,2.5s							
YAK				MLR	MLR			
	comp=E,206nm,11.0s							
YAK				MLR	MLR			
	comp=Z,1μm,17.0s							
YAK				MLR	MLR			
	comp=N,1μm,16.0s							
YAK	**Yakutsk**	**25.46**	**347**	*e*P	**P**	**13**	**28**	**02.5 -0.7**
	comp=N,249nm,0.9s							
SEY	**Seymchan**	**26.07**	**11**	P	**P**	**13**	**28**	**09.6 +0.9**
	comp=N,49nm,0.8s,baz=194,slow=8.4,SNR=147							
SEY	**Seymchan**	**26.07**	**11**	*de*P	**P**	**13**	**28**	**09.9 +1.2**
XAN	**Xi'an**	**26.77**	**272**	P	P	13	28	07.5 -7.9
XAN				pP	pP	13	28	29.8 +0.6
XAN				PP	**PnPn**	**13**	**29**	**00.5 +1.4**
XAN				S	**S**	**13**	**32**	**42.5 -5.0**
XAN				SS	**SnSn**	**13**	**33**	**52.0 -3.7**
BOD	**Bodaibo**	**27.10**	**327**⇑	*i*P	**P**	**13**	**28**	**17.2 -0.8**
BOD				pmax	pmax			
	comp=Z,46nm,0.9s							
ULN	**Ulaanbaatar**	**27.20**	**303**	*ce*P	**P**	**13**	**28**	**19.2 0.0**
ULN				pmax	pmax			
	comp=Z,85nm,1.7s							
ULN	**Ulaanbaatar**	**27.20**	**303**	*e*P	**P**	**13**	**28**	**18.3 -1.0**
	comp=Z,29nm,0.6s							
ULN	**Ulaanbaatar**	**27.20**	**303**	P	**P**	**13**	**28**	**20.1 +0.9**
	SNR=23							
ULN	**Ulaanbaatar**	**27.20**	**303**	P	**P**	**13**	**28**	**20.1 +0.9**
	SNR=23							
SONA1	**Songino Array**	**27.63**	**303**	*e*P	**P**	**13**	**28**	**23.0 -0.1**
SONM	**Songino Array**	**27.63**	**303**	P	**P**	**13**	**28**	**23.3 +0.2**
	comp=Z,20nm,0.6s,baz=102,slow=8.6,SNR=63							
ENH	**Enshi**	**27.66**	**264**	*e*P	**P**	**13**	**28**	**22.0 -1.4**
	comp=E,151nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.28**	**122**	T	T	13	58	45.8
	baz=315,slow=75,SNR=1302							
H11N1	**WAKE ISLAND Hy**	**28.29**	**122**	T	T	13	58	49.9
	baz=315,slow=75,SNR=2045							
H11N3	**WAKE ISLAND Hy**	**28.30**	**122**	T	T	13	58	48.0
	baz=315,slow=75,SNR=1928							
GZH	**Guangzhou**	**28.37**	**247**	*e*P	**P**	**13**	**28**	**27.5 -2.2**
GZH				S	**S**	**13**	**33**	**05.0 -7.7**
GZH				LR	LR			
	comp=Z,820nm,14.5s							
GZH				LR	LR			
	comp=Z,1μm,14.7s							
H11S1	**WAKE ISLAND Hy**	**29.02**	**124**	T	T	13	59	48.3
	baz=317,slow=76,SNR=1454							
H11S3	**WAKE ISLAND Hy**	**29.02**	**124**	T	T	13	59	47.0
	baz=317,slow=76,SNR=1862							
H11S2	**WAKE ISLAND Hy**	**29.03**	**124**	T	T	13	59	48.2
	baz=317,slow=76,SNR=1540							
IRK	**Irkutsk**	**29.84**	**311**	*e*P	**P**	**13**	**28**	**42.6 +0.1**
IRK				pmax	pmax			
	comp=Z,44nm,2.8s							
ZAK	**Zakamensk**	**30.06**	**307**	*e*P	**P**	**13**	**28**	**44.6 0.0**
ZAK				pmax	pmax			
	comp=Z,13nm,0.8s							
TLY	**Talaya**	**30.09**	**310**	P	**P**	**13**	**28**	**45.6 +0.9**
	comp=Z,13nm,0.6s,baz=79,slow=2.8,SNR=10							
TLY	**Talaya**	**30.09**	**310**	*e*P	**P**	**13**	**28**	**43.6 -1.1**
TLY				*e*		13	29	47.5
TLY				pmax	pmax			
	comp=Z,15nm,0.8s							
TLY				MLR	MLR			
	comp=Z,1μm,20.0s							
TLY	**Talaya**	**30.09**	**310**	*e*P	**P**	**13**	**28**	**45.6 +0.9**
	comp=Z,15nm,0.7s							
TLY	**Talaya**	**30.09**	**310**	P	**P**	**13**	**28**	**46.7 +2.0**
	SNR=8.0							
TLY	**Talaya**	**30.09**	**310**	P	**P**	**13**	**28**	**46.7 +2.0**
	SNR=8.0							
LZH	**Lanzhou**	**30.22**	**279**	*e*P	**P**	**13**	**28**	**46.3 +0.1**
LZH				pP	sP	13	29	04.0 -2.6
LZH				sP	pP	13	29	11.5 +11
LZH				PcP	**PcP**	**13**	**31**	**49.0 +3.0**
LZH				*e*S	**S**	**13**	**33**	**40.8 -1.1**
LZH				sS	sS	13	34	06.5 +1.1
LZH				pmax	pmax			
	comp=Z,72nm,1.2s							
LZH				pmax	pmax			
	comp=Z,290nm,4.3s							
LZH				LR	LR			
	comp=Z,450nm,14.0s							
LZH				LR	LR			
	comp=Z,1μm,15.0s							
LZH				LR	LR			
	comp=Z,2μm,15.8s							
GYA	**Guiyang**	**31.60**	**260**⇑	*i*P	**P**	**13**	**28**	**57.0 -1.4**
GYA				sP	sP	13	29	21.5 +2.7
GYA				PP	**PnPn**	**13**	**30**	**04.3 +0.7**
GYA				PcP	**PcP**	**13**	**31**	**50.5 +0.8**
GYA				S	**S**	**13**	**34**	**01.0 -2.6**
GYA				sS	sS	13	34	27.5 +0.4
GYA				ScP	**ScP**	**13**	**35**	**28.0 -0.2**
GYA				SS	**SnSn**	**13**	**35**	**52.0 -1.6**
GYA				ScS	**ScS**	**13**	**39**	**23.3 -3.2**
GYA				pmax	pmax			
	comp=Z,100nm,0.8s							
GYA				pmax	pmax			
	comp=Z,140nm,5.0s							
GYA				LR	LR			
	comp=Z,720nm,16.2s							
GYA				LR	LR			
	comp=Z,680nm,17.0s							
GYA				LR	LR			
	comp=Z,640nm,17.4s							
MOY	**Mondy**	**31.71**	**309**	*e*P	**P**	**13**	**28**	**59.1 0.0**
MOY				pmax	pmax			
	comp=Z,34nm,2.6s							
CD2	**Chengdu**	**31.94**	**269**	P	**P**	**13**	**29**	**00.3 -1.0**
CD2				pP	pP	13	29	15.0 -0.2
CD2				sP	sP	13	29	22.5 +0.8
CD2				S	**S**	**13**	**34**	**06.8 -1.9**
CD2				sS	sS	13	34	32.8 +0.5
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
CD2				pmax	pmax			
	comp=Z,160nm,5.0s							
CD2				LR	LR			
	comp=Z,800nm,17.4s							
CD2				LR	LR			
	comp=Z,1μm,18.4s							
CD2				LR	LR			
	comp=Z,1μm,16.9s							
GTA	**Gaotai**	**32.62**	**286**	*e*P	**P**	**13**	**29**	**06.5 -0.8**
GTA				pP	pP	13	29	20.3 -0.9
GTA				sP	sP	13	29	29.0 +1.3
GTA				PcP	**PcP**	**13**	**31**	**53.3 +1.0**
GTA				S	**S**	**13**	**34**	**19.5 +0.2**
GTA				sS	sS	13	34	43.5 +0.6
GTA				SS	**SnSn**	**13**	**36**	**20.3 +2.3**
GTA				pmax	pmax			
	comp=Z,16nm,0.8s							
GTA				pmax	pmax			
	comp=Z,73nm,7.4s							
GTA				LR	LR			
	comp=Z,430nm,18.8s							
GTA				LR	LR			
	comp=Z,880nm,18.5s							
GTA				LR	LR			
	comp=Z,1μm,23.3s							
BILL	**Bilibino**	**33.30**	**17***c*	*i*P	**P**	**13**	**29**	**12.3 -0.4**
BILL				*i*		13	30	24.1
BILL				*i*		13	31	49.1
BILL				pmax	pmax			
	comp=Z,17nm,1.0s							
BILL				MLR	MLR			
	comp=Z,336nm,18.0s							
QIZ	**Qiongzhong**	**33.45**	**245**	P	**P**	**13**	**29**	**13.0 -1.5**
QIZ				S	**S**	**13**	**34**	**30.3 -2.0**
QIZ				LR	LR			
	comp=Z,2μm,20.6s							
QIZ				LR	LR			
	comp=Z,1μm,15.7s							
QIZ				LR	LR			
	comp=Z,550nm,16.7s							
KNGR	**Kungurtug, Tuv**	**33.74**	**307**⇓	*e*P	**P**	**13**	**29**	**18.7 +1.8**
DAV	**Davao City (W)**	**33.86**	**210**	LR	LR	13	44	23.4
	comp=Z,237nm,18.7s,baz=30,slow=38							
TIXI	**Tiksi**	**34.65**	**353**	P	**P**	**13**	**29**	**23.8 -0.5**
	comp=Z,16nm,0.7s,baz=147,slow=6.7,SNR=13							
TIXI				LR	LR	13	45	21.7
	comp=Z,452nm,18.1s,baz=161,slow=39							
TIXI	**Tiksi**	**34.65**	**353***ce*	P	**P**	**13**	**29**	**23.3 -1.0**
TIXI				pmax	pmax			
	comp=Z,15nm,0.7s							
TIXI				MLR	MLR			
	comp=Z,462nm,17.0s							
TIXI	**Tiksi**	**34.65**	**353**	*e*P	**P**	**13**	**29**	**23.9 -0.4**
	comp=Z,15nm,0.7s							
KMI	**Kunming**	**35.33**	**261**	P	**P**	**13**	**29**	**30.5 -0.5**
KMI				pP	pP	13	29	44.0 -1.0
KMI				sP	sP	13	29	49.0 -2.5
KMI				PP	**PP**	**13**	**30**	**54.0 +2.1**
KMI				S	**S**	**13**	**35**	**00.3 -1.3**
KMI				sS	sS	13	35	23.5 -1.8
KMI				SS	**SnSn**	**13**	**37**	**21.8 -2.3**
KMI				pmax	pmax			
	comp=Z,96nm,0.7s							
KMI				pmax	pmax			
	comp=Z,120nm,3.1s							
KMI				LR	LR			
	comp=Z,430nm,16.3s							
KMI				LR	LR			
	comp=Z,610nm,19.6s							
KMI				LR	LR			
	comp=Z,980nm,28.1s							
HVS	**Khovu-Aksy**	**36.19**	**307**⇑	*e*P	**P**	**13**	**29**	**38.6 +0.7**
HVS				pmax	pmax			
	comp=Z,16nm,0.8s							
GAMB	**Gambell**	**38.00**	**32**	*e*P	**P**	**13**	**29**	**54.0 +1.1**
	comp=Z,12nm,1.0s							
MYLDM	**Lahad Datu**	**38.71**	**219**	*e*P	**P**	**13**	**29**	**60.0 +0.5**
	comp=Z,55nm,1.1s							
SKNT	**Sakolnakorn**	**39.04**	**249**	P	**P**	**13**	**30**	**03.6 +1.4**
	comp=Z,14nm,0.8s							
KHON	**Khomkaen**	**40.30**	**249**	P	**P**	**13**	**30**	**15.1 +2.4**
	comp=Z,16nm,0.7s,comp=Z,670nm							
WMQ	**Urumqi**	**40.77**	**296**	P	**P**	**13**	**30**	**18.0 +1.6**
WMQ				pP	pP	13	30	31.8 +1.1
WMQ				sP	sP	13	30	36.8 -0.3
WMQ				S	**S**	**13**	**36**	**24.3 +1.1**
WMQ				sS	sS	13	36	50.0 +2.8
WMQ				pmax	pmax			
	comp=Z,130nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,270nm,3.7s							
WMQ				LR	LR			
	comp=Z,550nm,20.9s							
WMQ				LR	LR			
	comp=Z,1μm,28.7s							
WMQ				LR	LR			
	comp=Z,2μm,28.7s							
CMAI	**Chiengmai2**	**41.00**	**257**	P	**P**	**13**	**30**	**19.1 +0.5**
	comp=Z,185nm,0.7s							
CHAI	**Chaiyaphum**	**41.20**	**249**	P	**P**	**13**	**30**	**21.9 +1.8**
	comp=Z,8.0nm,0.6s							
LAMP	**Lampang**	**41.36**	**254**	P	**P**	**13**	**30**	**23.8 +2.3**
	comp=Z,8.3nm,0.7s,comp=Z,81nm							
FAKI	**Fak Fak**	**41.38**	**194**	*e*P	**P**	**13**	**30**	**21.1 -0.5**
	comp=Z,30nm,0.9s							
PHIT	**Phitsanulok**	**41.57**	**252**	P	P	13	30	30.6 +7.5
ZAA0	**Zalesovo Array**	**41.65**	**312**	*e*P	**P**	**13**	**30**	**22.9 -0.5**
	comp=Z,24nm,0.7s							
ZALV	**Zalesovo Beam**	**41.65**	**312**	P	**P**	**13**	**30**	**23.5 +0.1**
	comp=Z,23nm,0.6s,baz=85,slow=6.9,SNR=43							
ZALV				LR	LR	13	48	21.2
	comp=Z,593nm,20.1s,baz=70,slow=37							
ZALV	**Zalesovo Beam**	**41.65**	**312**	*e*P	**P**	**13**	**30**	**23.0 -0.4**
ZALV	**Zalesovo Beam**	**41.65**	**312**	*e*P	**P**	**13**	**30**	**23.0 -0.4**
CHTO	**Chiang Mai**	**41.72**	**255**	P	**P**	**13**	**30**	**25.2 +0.8**
	comp=Z,71nm,0.9s							
CHTO	**Chiang Mai**	**41.72**	**255**	*e*P	**P**	**13**	**30**	**25.1 +0.7**
CHTO				pmax	pmax			
	comp=Z,11nm,0.6s							
CHTO	**Chiang Mai**	**41.72**	**255**	*e*P	**P**	**13**	**30**	**25.1 +0.7**
	comp=Z,11nm,0.6s							

CMAR Chiang Mai Arr 41.93 255 P **P** **13 30 26.6 +0.5**
comp=Z,6.1nm,0.6s,baz=44,slow=9.2,SNR=14
CMAR LR LR 13 48 59.3
comp=Z,340nm,19.3s,baz=59,slow=38
CM01 Chiang Mai Arr 41.94 255 *eP* **P** **13 30 25.7 -0.4**
SRAK Srakaew 42.37 247 P **P** **13 30 28.7 -1.0**
comp=Z,79nm,0.7s,comp=Z,617nm
LSA Lhasa 42.41 275 P **P** **13 30 31.8 +1.3**
LSA pmax pmax
comp=Z,8.0nm,1.3s
LSA Lhasa 42.41 275 *eP* **P** **13 30 31.2 +0.7**
LSA pmax pmax
comp=Z,28nm,0.6s
LSA Lhasa 42.41 275 *eP* **P** **13 30 31.2 +0.7**
comp=Z,28nm,0.6s
LSA Lhasa 42.41 275 P **P** **13 30 32.9 +2.3**
NVS Novosibirsk 42.56 313⇑ *i* P **P** **13 30 31.5 +0.7**
NVS *i* S **S** **13 36 46.2 -3.0**
NVS pmax pmax
comp=Z,21nm,0.5s
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,19nm,0.6s
NVS smax smax
comp=N,24nm,2.2s
NVS smax smax
comp=E,36nm,2.2s
NAYO Nakonayok 42.70 248 P P 13 30 40.8 +8.4
SHL Shillong 43.68 269 *eP* **P** **13 30 40.0 -0.5**
MK01 Makanchi Array 43.98 302 *eP* **P** **13 30 42.0 -0.4**
MK31 Makanchi Array 43.98 302 *i* P **P** **13 30 42.8 +0.4**
MK31 pmax pmax
comp=Z,12nm,0.6s
MK31 Makanchi Array 43.98 302 *eP* **P** **13 30 42.1 -0.4**
MKAR Makanchi Array 43.98 302 P **P** **13 30 42.8 +0.3**
comp=Z,17nm,0.6s,baz=86,slow=10.0,SNR=93
MKAR LR LR 13 50 05.1
comp=Z,270nm,18.2s,baz=80,slow=37
MKAR Makanchi Array 43.98 302 *eP* **P** **13 30 42.1 -0.3**
comp=Z,172nm,0.6s
MAKZ Makanchi 44.19 302 *eP* **P** **13 30 43.9 -0.2**
MAKZ pmax pmax
comp=Z,31nm,0.6s
MAKZ Makanchi 44.19 302 *eP* **P** **13 30 43.9 -0.2**
comp=Z,31nm,0.6s
SRDT SRDT 44.31 250 P **P** **13 30 48.0 +2.7**
comp=Z,18nm,0.8s
SBUM Sibu 44.33 225 *eP* **P** **13 30 44.1 -1.4**
comp=Z,9.7nm,0.8s
SVW2 Sparrevohn 44.82 38 *eP* **P** **13 30 50.7 +1.8**
comp=Z,34nm,0.9s
KURK Kurchatov 45.72 308*c i* P **P** **13 30 55.7 -0.4**
KURK pmax pmax
comp=Z,32nm,0.7s
KURK Kurchatov 45.72 308 *eP* **P** **13 30 56.6 +0.4**
comp=Z,128nm,0.7s
KURK Kurchatov 45.72 308 P **P** **13 30 56.6 +0.4**
SNR=51
KURK Kurchatov 45.72 308 P **P** **13 30 56.6 +0.4**
SNR=51
KURBB Kurchatov Arra 45.79 308 P **P** **13 30 56.8 +0.1**
comp=Z,75nm,0.5s,baz=83,slow=8.2,SNR=143
KURBB S **S** **13 37 34.8 -1.5**
comp=Z,0.7nm,0.4s,baz=81,slow=13,SNR=6.7
IM3 Indian Mountai 45.93 31 *eP* **P** **13 30 58.7 +1.2**
OHAK Old Harbor 46.08 43 *eP* **P** **13 30 59.1 +0.3**
comp=Z,37nm,0.7s
KSM Kuching 46.22 226 *eP* **P** **13 31 02.0 +1.6**
comp=Z,25nm,0.6s
KDAK Kodiak Island 46.41 42 LR LR 13 52 34.0
comp=Z,284nm,20.1s,baz=247,slow=39
KDAK Kodiak Island 46.41 42 *i* P **P** **13 31 01.8 +0.3**
KDAK Kodiak Island 46.41 42 *eP* **P** **13 31 01.5 0.0**
comp=Z,90nm,0.8s
PPLA Purkeypile 46.46 35 *eP* **P** **13 31 03.6 +1.6**
comp=Z,85nm,1.4s
CAST Castle Rocks 46.51 35 *eP* **P** **13 31 03.8 +1.5**
comp=Z,28nm,1.0s
SPU Mount Spurr 46.53 38 *eP* **P** **13 31 03.0 +0.6**
PDGK Podgornoye 46.69 297 *i* P **P** **13 31 03.2 -0.9**
PDGK pmax pmax
comp=Z,42nm,0.8s
BPAW Bear Paw Mtn. 47.01 34 *eP* **P** **13 31 07.5 +1.4**
comp=Z,40nm,1.4s
KTH Kantishna Hill 47.03 34 *eP* **P** **13 31 07.9 +1.5**
comp=Z,56nm,1.0s
MLY Manley 47.13 32 *eP* **P** **13 31 08.7 +1.6**
comp=Z,46nm,1.1s
PMG Port Moresby 47.15 173 LR LR 13 50 06.5
comp=Z,123nm,21.9s,baz=346,slow=35
PMG Port Moresby 47.15 173*de*P **P** **13 31 07.9 +0.3**
PMG pmax pmax
comp=Z,56nm,1.1s
SUA Susitna One 47.16 37 *eP* **P** **13 31 07.6 +0.3**
comp=Z,46nm,0.9s
KAPI Kappang 47.18 211 *eP* **P** **13 31 07.2 -0.8**
comp=Z,128nm,1.4s
KAPI Kappang 47.18 211 P **P** **13 31 09.4 +1.5**
SNR=17
KAPI Kappang 47.18 211 P **P** **13 31 09.4 +1.5**
SNR=17
JIRN Jiri 47.22 275 *eP* **P** **13 31 09.2 +0.5**
comp=Z,156nm,0.5s
RAMN Ramite 47.22 274 *eP* **P** **13 31 08.7 +0.2**
comp=Z,172nm,0.6s
TRF Thorofare Moun 47.32 35 *eP* **P** **13 31 09.2 +0.5**
comp=Z,23nm,0.8s
GUN Gumba 47.35 275 *eP* **P** **13 31 10.6 +0.9**
comp=Z,206nm,0.4s
COLD Coldfoot 47.43 29 *eP* **P** **13 31 10.4 +1.1**
comp=Z,58nm,1.8s
RC01 Rabbit Creek A 47.66 38 *eP* **P** **13 31 12.0 +0.9**
comp=Z,50nm,0.9s
TOLK Toolik Lake Re 47.74 27 P **P** **13 31 13.6 +1.9**
baz=267
TOLK Toolik Lake Re 47.74 27 *eP* **P** **13 31 13.1 +1.3**
comp=Z,56nm,1.0s
PKI Pulchoki 47.88 275 *eP* **P** **13 31 14.5 +0.8**
comp=Z,74nm,0.6s
KKN Kakani 47.88 275 *eP* **P** **13 31 14.4 +0.8**
comp=Z,260nm,0.7s
PKIN Phulchoki 47.89 275 *eP* **P** **13 31 14.7 +1.0**
comp=Z,134nm,0.6s
MCK McKinley 47.92 34 *eP* **P** **13 31 14.1 +0.9**
MCK pmax pmax
comp=Z,29nm,0.9s
MCK McKinley 47.92 34 *eP* **P** **13 31 14.1 +0.9**
comp=Z,29nm,0.9s
PMR Palmer 47.92 37 *eP* **P** **13 31 13.4 +0.3**
PMR pmax pmax
comp=Z,41nm,0.9s
PMR Palmer 47.92 37 *eP* **P** **13 31 13.4 +0.3**
comp=Z,41nm,0.9s
RND Reindeer 47.97 35 *eP* **P** **13 31 14.0 +0.4**
RND pmax pmax
comp=Z,40nm,0.8s
RND Reindeer 47.97 35 *eP* **P** **13 31 14.0 +0.4**
comp=Z,40nm,0.8s
DMN Daman 48.10 275 *eP* **P** **13 31 16.2 +0.8**
comp=Z,68nm,0.7s
SURT Suratani 48.11 245 P P 13 31 24.9 +10
MDM Murphy Dome 48.20 32 *eP* **P** **13 31 16.5 +1.2**
comp=Z,83nm,1.1s
WRH Wood River Hil 48.27 33 *eP* **P** **13 31 16.7 +0.9**
comp=Z,16nm,0.8s
SML Sawmill 48.29 37 *eP* **P** **13 31 17.0 +1.0**
SML pmax pmax
comp=Z,58nm,0.8s
SML Sawmill 48.29 37 *eP* **P** **13 31 17.0 +1.0**
comp=Z,58nm,0.8s
GKN Gorkha 48.29 276 *eP* **P** **13 31 17.6 +0.9**
comp=Z,181nm,0.6s
COLA College 48.36 33 *eP* **P** **13 31 17.5 +1.0**
COLA pmax pmax
comp=Z,18nm,0.8s
COLA College 48.36 33 *eP* **P** **13 31 17.5 +1.0**
comp=Z,18nm,0.8s
CCB Clear Creek Bu 48.39 33 *eP* **P** **13 31 17.3 +0.6**
comp=Z,28nm,1.4s
DHY Denali Highway 48.65 35 *eP* **P** **13 31 19.4 +0.5**
comp=Z,16nm,0.8s
KDJ Kajisay 48.66 297 P **P** **13 31 19.7 +0.3**
KDJ pmax pmax
comp=Z,35nm,0.5s
SCM Sheep Creek Mo 48.76 37 *eP* **P** **13 31 20.6 +0.9**
SCM pmax pmax
comp=Z,63nm,0.8s
SCM Sheep Creek Mo 48.76 37 *eP* **P** **13 31 20.6 +0.9**
comp=Z,63nm,0.8s
HDA Harding Lake 48.77 33 *eP* **P** **13 31 19.6 -0.1**
comp=Z,36nm,0.9s
IL1 Eielson Array 48.78 33 *eP* **P** **13 31 19.5 -0.3**
ILAR Eielson Array 48.78 33 P **P** **13 31 20.4 +0.7**
comp=Z,25nm,0.9s,baz=268,slow=6.3,SNR=213
ILB Eielson Array 48.78 33 *eP* **P** **13 31 19.6 -0.1**
DANN Dangsing 48.83 277 *eP* **P** **13 31 21.8 +0.8**
comp=Z,26nm,0.8s
GLI Glacier Island 48.96 38 *eP* **P** **13 31 21.1 -0.1**
comp=Z,37nm,0.9s
PKDT Phuket 49.17 244 P **P** **13 31 26.6 +3.3**
comp=Z,16nm,0.7s,comp=Z,1µm
KOLN Koldanda 49.22 276 *eP* **P** **13 31 24.9 +1.0**
comp=Z,43nm,0.4s
ULHL Ulahol **49.29 297** P **P** **13 31 24.9 +0.7**
SNR=8.8
FYU Fort Yukon 49.39 30 *eP* **P** **13 31 26.4 +2.1**
comp=Z,90nm,1.2s
KLU Klutina 49.46 37 *eP* **P** **13 31 26.0 +1.0**
comp=Z,39nm,0.8s
PAX Paxson 49.52 35 *eP* **P** **13 31 26.8 +1.2**
PAX pmax pmax
comp=Z,29nm,1.3s
PAX Paxson 49.52 35 *eP* **P** **13 31 26.8 +1.2**
comp=Z,29nm,1.3s
TKM2 Tokmak 2 49.54 298 *i* P **P** **13 31 26.9 +0.8**
TKM2 pmax pmax
comp=Z,47nm,0.5s
TKM2 Tokmak 2 49.54 298 P **P** **13 31 26.8 +0.6**
SNR=109
PYUN Piuthan 49.55 277 *eP* **P** **13 31 26.7 +0.3**
comp=Z,273nm,0.9s
DIV Divide 49.57 37 *eP* **P** **13 31 27.1 +1.2**
comp=Z,70nm,0.9s
EYAK Cordova Ski Ar 49.65 38 *eP* **P** **13 31 27.6 +1.2**
comp=Z,45nm,0.8s
NRN Naryn 49.72 296 P **P** **13 31 28.4 +0.8**
NRN pmax pmax
comp=Z,10.0nm,0.8s
IPM Ipoh 49.72 238 *eP* **P** **13 31 26.3 -1.3**
comp=Z,30nm,1.2s
HARP HAARP 49.72 36 *eP* **P** **13 31 27.9 +0.9**
comp=Z,52nm,0.8s
RIDG Independ'e Rid 49.74 34 *eP* **P** **13 31 27.5 +0.4**
comp=Z,20nm,1.0s
HNR Honiara 49.90 156 LR LR 13 51 23.6
comp=Z,380nm,20.6s,baz=340,slow=34
SOEI Soe 49.98 203 *eP* **P** **13 31 29.6 +0.1**
comp=Z,58nm,0.9s
SOEI *ep*P **pP** **13 31 41.4 -2.7**
KZA Kyzart 50.05 297 P **P** **13 31 31.5 +1.3**
SNR=51
KBK Karagaybulak 50.08 298 P **P** **13 31 30.1 0.0**
SNR=60
DOT Dot Lake 50.09 34 *eP* **P** **13 31 29.9 +0.1**
comp=Z,49nm,0.8s
SCRK Sand Creek 50.09 34 *eP* **P** **13 31 30.2 +0.3**
comp=Z,45nm,1.0s
CHMS Chumysh 50.11 298 P **P** **13 31 30.8 +0.5**
SNR=17
BMRM Bremner River 50.16 38 *eP* **P** **13 31 31.7 +1.3**
comp=Z,46nm,0.9s
USP Ospenovka 50.20 299 P **P** **13 31 31.1 +0.1**
SNR=36
RAGM Ragged Mountai 50.20 38 *eP* **P** **13 31 32.2 +1.5**
comp=Z,62nm,0.9s
OTUK Ortayu 50.24 306 P **P** **13 31 31.5 +0.3**
FRU1 Bishkek 50.25 298 P **P** **13 31 33.7 +2.3**
FRU1 pmax pmax
comp=Z,48nm,0.6s
FRU Bishkek 50.25 298 *eP* **P** **13 31 32.0 +0.7**
FRU *e* 13 31 48.0
BVAR Borovoye Array 50.31 312 P **P** **13 31 31.7 +0.2**
comp=Z,5.2nm,0.4s,baz=87,slow=9.5,SNR=23
BVAR LR LR 13 53 58.7
comp=Z,644nm,18.3s,baz=78,slow=37
MENT Mentasta 50.32 35 *eP* **P** **13 31 32.9 +1.3**
comp=Z,30nm,0.8s
BRVK Borovoye 50.37 312 *eP* **P** **13 31 31.8 -0.2**
BRVK pmax pmax
comp=Z,16nm,0.6s
BRVK Borovoye 50.37 312 *eP* **P** **13 31 31.8 -0.2**
comp=Z,16nm,0.6s
BRVK Borovoye 50.37 312 P **P** **13 31 32.7 +0.7**
SNR=6.9
BRVK Borovoye 50.37 312 P **P** **13 31 32.7 +0.7**
SNR=6.9
KSH Kashi 50.37 294 P **P** **13 31 36.3 +3.9**
KSH pP sP 13 31 51.5 -1.8
KSH sP pP 13 31 59.8 +13
KSH PcS **PcS** **13 36 48.5 +0.9**
KSH S **S** **13 38 44.5 +2.9**
KSH sS sS 13 39 10.0 +3.8
KSH pmax pmax
comp=Z,13nm,1.0s
KSH pmax pmax
comp=Z,170nm,5.4s
KSH LR LR
comp=Z,710nm,15.2s
KSH LR LR
comp=Z,620nm,17.0s
KSH LR LR
comp=Z,810nm,16.1s
AAK Ala-Archa 50.40 298 P **P** **13 31 32.4 -0.2**
comp=Z,6.1nm,0.3s,baz=108,slow=4.5,SNR=38
AAK Ala-Archa 50.40 298*c i* P **P** **13 31 32.6 0.0**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 50.40 298 P **P** **13 31 33.2 +0.6**
SNR=20
AAK Ala-Archa 50.40 298 *eP* **P** **13 31 32.3 -0.2**
comp=Z,25nm,0.6s
AAK Ala-Archa 50.40 298 P **P** **13 31 34.6 +2.0**
SNR=10
AAK Ala-Archa 50.40 298 P **P** **13 31 34.6 +2.0**
SNR=10
AAK Ala-Archa 50.40 298 *i* P **P** **13 31 32.6 0.0**
SNR=57
UCH Uchtor 50.52 297 P P 13 31 39.0 +5.1
SNR=14
BATI Baumata 50.59 203 P **P** **13 31 36.1 +2.1**
comp=Z,7.6nm,0.4s,baz=16,slow=7.4,SNR=2.6
BATI LR LR 13 51 51.3
comp=Z,168nm,21.8s,baz=43,slow=35
EKS2 Erkin-Say 50.90 298 P **P** **13 31 36.9 +0.6**
SNR=31
AML Almayashu 51.12 298 P **P** **13 31 39.2 +0.8**
SNR=90
EGAK Eagle 51.22 32 *eP* **P** **13 31 38.6 +0.3**
comp=Z,63nm,1.6s
MTN Manton Dam 51.27 193 *eP* **P** **13 31 39.3 +0.2**
comp=Z,31nm,1.1s
COEN Coen 51.42 178 *eP* **P** **13 31 40.7 +0.5**
comp=Z,17nm,0.8s
MNAS Manas 51.84 298 P **P** **13 31 43.0 -0.4**
MNAS pmax pmax
comp=Z,55nm,0.6s
SFK Sufi-Kurgan 51.98 295 *i* P **P** **13 31 45.4 +0.8**
SFK pmax pmax
comp=Z,31nm,0.5s
DAWY Dawson 52.09 33 *eP* **P** **13 31 45.5 +0.8**
comp=Z,43nm,1.8s
PSI Prapat 52.37 239 P **P** **13 31 49.6 +2.0**
comp=Z,6.0nm,0.6s,baz=15,slow=5.9,SNR=4.9
PSI LR LR 13 54 38.6
comp=Z,355nm,20.2s,baz=19,slow=37
PSI Prapat 52.37 239 *eP* **P** **13 31 47.6 +0.1**
PSI pmax pmax
comp=Z,20nm,0.8s
PSI Prapat 52.37 239 *eP* **P** **13 31 47.6 +0.1**
comp=Z,20nm,0.8s
KK31 Karatay Array 53.01 300 *i* P **P** **13 31 51.8 -0.1**
KK31 pmax pmax
comp=Z,11nm,0.5s
KKAR Karatay Array 53.01 300 *eP* **P** **13 31 51.8 -0.1**
KKAR Karatay Array 53.01 300 *eP* **P** **13 31 51.8 -0.1**
HYT Haines Junctio 53.59 37 *eP* **P** **13 31 56.3 +0.3**
comp=Z,78nm,1.1s
INK Inuvik 53.66 27 P **P** **13 31 57.5 +1.3**
comp=Z,40nm,0.9s,baz=287,slow=5.5,SNR=180
INK Inuvik 53.66 27 *eP* **P** **13 31 56.6 +0.5**
comp=Z,42nm,0.9s
GSI Gunungsitoli 54.38 239 *eP* **P** **13 32 01.4 -0.8**
comp=Z,55nm,0.7s
LEM Lembang 54.55 223 P **P** **13 32 03.8 +0.2**
comp=Z,12nm,0.3s,baz=30,slow=7.5,SNR=5.5
LEM LR LR 13 56 22.9
comp=Z,121nm,19.9s,baz=41,slow=37
SVE Sverdlovsk 54.81 318*de*P **P** **13 32 05.1 +0.3**
SVE pmax pmax
comp=Z,41nm,0.7s
SVE MLR MLR
comp=Z,1µm,17.0s
WHY Whitehorse 54.88 37 *eP* **P** **13 32 06.6 +1.3**
comp=Z,28nm,0.9s
SKAG Skagway 54.99 38 *eP* **P** **13 32 07.6 +1.6**
comp=Z,18nm,0.9s
BESE Bessie Mountai 55.48 39 *eP* **P** **13 32 11.4 +1.8**
comp=Z,37nm,1.2s
ARU Arti 56.03 318*c i* P **P** **13 32 13.4 -0.1**
ARU 13 33 08.2
ARU 13 34 13.6
ARU PPP PPP 13 35 31.0
ARU S **S** **13 40 01.0 +3.4**
ARU SS **SS** **13 43 47.8 +4.1**
ARU pmax pmax
comp=Z,39nm,0.7s
ARU MLR MLR
comp=Z,837nm,18.0s
ARU Arti 56.03 318 *eP* **P** **13 32 13.2 -0.3**
comp=Z,41nm,0.6s
CRAG Craig 57.38 42 *eP* **P** **13 32 24.5 +1.4**
comp=Z,111nm,1.7s
WRAK Wrangell Islan 57.46 41 *eP* **P** **13 32 25.6 +2.0**
comp=Z,15nm,0.9s
AB31 Akbulak array 57.70 310 *i* P **P** **13 32 25.2 -0.3**
AB31 pmax pmax
comp=Z,22nm,0.7s
WRAB Tennant Creek 57.76 188*c i* P **P** **13 32 25.5 -0.6**
WRAB pmax pmax
comp=Z,20nm,0.9s
WRAB Tennant Creek 57.76 188 *eP* **P** **13 32 25.0 -1.1**
comp=Z,23nm,0.8s
WB2 Warramunga Arr 57.77 188 *eP* **P** **13 32 23.8 -2.4**
WRA Warramunga Arr 57.77 188 P **P** **13 32 25.3 -0.9**
comp=Z,24nm,0.8s,baz=5.8,slow=7.2,SNR=182
WRA LR LR 13 56 32.2
comp=Z,197nm,21.2s,baz=15,slow=35
DLBC Dease Lake 57.93 38 *eP* **P** **13 32 29.2 +2.2**
comp=Z,26nm,0.9s
AKTO Aktyubinsk 58.42 312 P **P** **13 32 30.2 -0.2**
comp=Z,20nm,0.8s,baz=71,slow=12,SNR=42
AKTO LR LR 13 58 48.0
comp=Z,371nm,19.7s,baz=67,slow=37
HYB Hyderabad 58.49 268 *i* P **P** **13 32 32.0 +0.6**
HYB *e* 13 32 45.0
HYB *e*S **S** **13 40 28.0 -3.1**
DIB Dawson Inlet, 58.55 45 *eP* **P** **13 32 32.0 +0.7**
comp=Z,36nm,1.2s
SPITS Spitsbergen Ar 59.91 349 P **P** **13 32 40.6 +0.3**
comp=Z,4.6nm,0.7s,baz=40,slow=9.6,SNR=30
SPITS LR LR 14 00 19.3
comp=Z,282nm,19.9s,baz=5.0,slow=38
KBS Kingsbay 60.03 350 *eP* **P** **13 32 41.8 +0.7**
KBS Kingsbay 60.03 350 *eP* **P** **13 32 41.8 +0.7**
AS01 Alice Springs 61.49 188 *eP* **P** **13 32 51.2 -0.6**
AS31 Alice Springs 61.50 188 *eP* **P** **13 32 51.3 -0.5**
comp=Z,4.9nm,0.6s
ASAR Alice Springs 61.50 188 P **P** **13 32 51.6 -0.2**
comp=Z,10nm,0.8s,baz=12,slow=7.0,SNR=117
ASAR LR LR 13 59 08.8
comp=Z,176nm,20.7s,baz=358,slow=36
POO Poona 61.60 272 *eP* P 13 32 45.0 -7.8
RES Resolute Bay 61.87 15 *eP* **P** **13 32 53.8 +0.1**
RES pmax pmax
comp=Z,30nm,0.8s
RES Resolute Bay 61.87 15 *eP* **P** **13 32 53.8 +0.1**
comp=Z,30nm,0.8s
MBWA Marble Bar 62.12 203 *eP* **P** **13 32 55.1 -0.8**
comp=Z,178nm,1.9s
APA Apatity 62.17 336⇓ *i* P P 13 33 00.7 +4.9
APA MLR MLR
comp=Z,1µm,15.0s
TMCR Tamitsa 62.27 331 *eP* **P** **13 32 56.3 -0.2**
TMCR pmax pmax
comp=Z,76nm,1.2s
PALK Pallekele 62.77 257 LR LR 14 02 24.7
comp=Z,168nm,20.3s,baz=116,slow=38
PALK Pallekele 62.77 257 *eP* **P** **13 32 59.3 -1.4**
PALK pmax pmax
comp=Z,12nm,1.0s
PALK Pallekele 62.77 257 *eP* **P** **13 32 59.3 -1.4**
comp=Z,12nm,1.0s
YKW3 Yellowknife Ar 63.05 30 *eP* **P** **13 33 02.2 +0.5**
comp=Z,18nm,0.7s
YKA Yellowknife Ar 63.09 30 P **P** **13 33 02.5 +0.5**
comp=Z,14nm,0.7s,baz=302,slow=6.7,SNR=311
YKA LR LR 14 02 10.1
comp=Z,15nm,21.9s,baz=0.0,slow=38
YKA PKP2bc 14 02 15.9
comp=Z,0.3nm,0.7s,baz=119,slow=2.5,SNR=5.1
KLMR Klimovskoe 63.32 328 *eP* **P** **13 33 02.0 -1.5**
KLMR *e* 13 35 21.1
KLMR pmax pmax
comp=Z,14nm,0.6s
KLMR Klimovskoe 63.32 328 *eP* **P** **13 33 02.1 -1.5**
KLMR AMP 13 33 06.2
comp=Z,14nm,0.6s
KLMR *e*PP **PP** **13 35 21.2 -1.6**
KLMR LQ LQ 13 55 07.8
KLMR LQ LQ 13 55 07.8
KLMR LR LR 14 00 08.4
ARCES ARCESS Array B 63.45 339 P **P** **13 33 05.9 +1.6**
comp=Z,4.5nm,0.6s,baz=50,slow=8.2,SNR=18
ARCES LR LR 14 04 28.9
comp=Z,159nm,19.2s,baz=42,slow=40
GEYT Alibeck 63.74 299 P **P** **13 33 07.2 +0.4**
comp=Z,9.1nm,0.7s,baz=4.8,slow=3.6,SNR=24
GEYT LR LR 14 04 43.3
comp=Z,188nm,18.3s,baz=85,slow=40
DZM Mont Dzumac 63.85 154 *eP* P 13 33 13.2 +5.7
comp=Z,74nm,1.5s
DZM *e*S **S** **13 41 45.3 +6.4**
comp=Z,173nm,26.9s
DZM Mont Dzumac 63.85 154 *e*LR LR 13 52 21.1
comp=Z,626nm,21.5s
TULEG Thule 64.39 8 *eP* **P** **13 33 10.2 -0.1**
comp=Z,32nm,0.7s
DAG Danmarks Havn 65.12 355⇑ *i* P **P** **13 33 14.9 -0.2**
DAG *e* 13 33 29.9
DAG pmax pmax
comp=Z,22nm,0.8s
DAG Danmarks Havn 65.12 355⇑ *i* P **P** **13 33 14.9 -0.2**
comp=Z,22nm,0.8s
DAG *e* 13 33 29.9
LLLB Lillooet 65.58 44 *eP* **P** **13 33 19.5 +1.0**
comp=Z,33nm,0.9s
PGC Sidney 65.67 46 *eP* **P** **13 33 20.1 +1.0**
comp=Z,25nm,0.8s
NLWA Neilton Lookou 66.06 48 *eP* **P** **13 33 22.7 +1.0**
comp=Z,52nm,1.0s
A04D Lummi Island 66.06 46 P **P** **13 33 23.2 +1.6**
baz=300
B05A Bryant 66.65 46 P **P** **13 33 27.2 +1.8**
baz=301,SNR=18
E03A Lebam 66.67 49 *eP* **P** **13 33 27.2 +1.7**
comp=Z,35nm,1.1s
MOS Moscow 66.86 323 *eP* **P** **13 33 25.3 -1.3**
MOS pmax pmax
comp=Z,50nm,1.0s
B06A Marblemount 66.87 46 *eP* **P** **13 33 27.6 +0.8**
comp=Z,37nm,1.1s
F04D Rainier, OR 67.23 49 P **P** **13 33 31.1 +2.0**
baz=301
VRH Novokhopyorsk 67.25 318 *eP* **P** **13 33 28.3 -0.8**
VRH pmax pmax
comp=Z,30nm,0.8s
D05A Enumclaw 67.26 47 *eP* **P** **13 33 30.6 +1.3**
comp=Z,68nm,1.5s
C06D Leavenworth 67.51 46 P **P** **13 33 32.7 +1.7**
baz=302,SNR=6.1
G03D McMinnville, O 67.53 50 P **P** **13 33 32.4 +1.4**
baz=301
LON Longmire 67.60 48 *eP* **P** **13 33 32.5 +1.0**
LON pmax pmax
comp=Z,12nm,1.2s
LON Longmire 67.60 48 *eP* **P** **13 33 32.5 +1.0**
comp=Z,12nm,1.2s
OBN Obninsk 67.71 323*ce*P **P** **13 33 31.7 -0.2**
OBN *PP **pP** **13 33 44.0 -3.1**

OBN *e* 13 34 02.2
OBN SS SS 13 46 48.0 +1.9
OBN pmax pmax
comp=Z,19nm,0.6s
OBN MLR MLR
comp=Z,302nm,18.0s
COR Corvallis 67.83 50 *e*P **P 13 33 34.1 +1.2**
COR pmax pmax
comp=Z,53nm,0.9s
COR Corvallis 67.83 50 *e*P **P 13 33 34.1 +1.2**
comp=Z,53nm,0.9s
LPSR Galich'ya Gora 67.95 320 *e*P **P 13 33 33.5 0.0**
LPSR pmax pmax
comp=Z,50nm,1.0s
LTY Liberty 67.99 47 *e*P **P 13 33 34.8 +0.8**
comp=Z,58nm,1.8s
KEBM Edson Butte 68.09 52 *e*P **P 13 33 36.3 +1.6**
comp=Z,63nm,1.0s
B08A Colville Reser 68.17 45 *e*P **P 13 33 35.6 +0.5**
comp=Z,27nm,1.1s
I03D Drain, OR 68.27 51 P **P 13 33 38.1 +2.4**
baz=302,SNR=11
FIA1 FINESS Array S 68.33 332 *e*P **P 13 33 35.7 0.0**
FINES FINESS Array B 68.33 332 P **P 13 33 35.9 +0.1**
comp=Z,26nm,0.7s,baz=60,slow=9.1,SNR=52
FINES LR LR 14 06 06.4
comp=Z,376nm,18.4s,baz=38,slow=38
H04A Detroit Lake 68.46 50 *e*P **P 13 33 37.9 +1.0**
comp=Z,38nm,0.8s
VSR Storozhevoye 68.59 319 *e*P **P 13 33 37.3 -0.3**
VSR pmax pmax
comp=Z,30nm,0.8s
EDM Edmonton 68.65 39 *e*P **P 13 33 37.4 -0.6**
EDM pmax pmax
comp=Z,61nm,1.1s
EDM Edmonton 68.65 39 *e*P **P 13 33 37.4 -0.6**
comp=Z,61nm,1.1s
G05D Wamic, OR 68.69 49 P **P 13 33 40.1 +1.8**
baz=302,SNR=7.8
I04A Tendick Farm, 68.80 51 P **P 13 33 40.9 +1.8**
baz=302,SNR=18
E07A Sunnyside 68.84 47 *e*P **P 13 33 39.7 +0.5**
comp=Z,19nm,1.0s
L02D Cave Junction, 68.93 53 P **P 13 33 41.7 +1.9**
baz=302
C09A Chrisman Ranch 69.07 45 *e*P **P 13 33 40.5 -0.1**
comp=Z,32nm,1.1s
C09A *e*pP **pP 13 33 57.8 +1.9**
HUMO Hull Mountain 69.09 52 *e*P **P 13 33 42.2 +1.3**
comp=Z,50nm,1.9s
G06A Carlson Farm, 69.10 49 *e*P **P 13 33 41.5 +0.6**
comp=Z,18nm,1.1s
D08A Wollman Farm, 69.11 46 *e*P **P 13 33 41.7 +0.9**
comp=Z,14nm,0.9s
D08A *e*pP **pP 13 33 54.7 -1.4**
HAWA Hanford 69.12 47 *e*P **P 13 33 41.9 +1.0**
comp=Z,14nm,1.1s
F07A Phinny Hill Vi 69.16 48 *e*P **P 13 33 42.4 +1.3**
comp=Z,25nm,0.8s
I05D Terrebonne, OR 69.16 50 P **P 13 33 43.0 +1.7**
baz=303,SNR=10
STKA Stephens Creek 69.24 180 P **P 13 33 41.2 -0.4**
comp=Z,3.5nm,0.6s,baz=352,slow=7.9,SNR=7.9
STKA Stephens Creek 69.24 180 *e*P **P 13 33 42.0 +0.4**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 69.24 180 *e*P **P 13 33 42.0 +0.4**
comp=Z,2.2nm,0.8s
J04D Umpqua Nationa 69.28 51 P **P 13 33 44.3 +2.1**
baz=303,SNR=11
NEW Newport 69.45 44 P **P 13 33 44.2 +1.2**
baz=304,SNR=17
NEW Newport 69.45 44 *e*P **P 13 33 43.6 +0.6**
NEW pmax pmax
comp=Z,21nm,0.8s
NEW Newport 69.45 44 *e*P **P 13 33 43.6 +0.6**
comp=Z,21nm,0.8s
KHMM Horse Mountain 69.53 54 *e*P **P 13 33 45.4 +1.6**
comp=Z,18nm,0.8s
PINE Pine Mountain 69.70 50 *e*P **P 13 33 46.4 +1.6**
comp=Z,72nm,0.8s
YBH Yreka Blue Hor 69.72 53 P **P 13 33 46.5 +1.6**
comp=Z,16nm,0.8s,baz=292,slow=1.1,SNR=45
YBH LR LR 13 57 59.0
comp=Z,62nm,20.6s,baz=302,slow=30
YBH Yreka Blue Hor 69.72 53 *e*P **P 13 33 46.7 +1.8**
YBH pmax pmax
comp=Z,18nm,0.8s
YBH Yreka Blue Hor 69.72 53 *e*P **P 13 33 46.6 +1.8**
comp=Z,18nm,0.8s
J05D Fort Rock, OR 69.79 51 P **P 13 33 47.0 +1.7**
baz=303,SNR=24
M02C Callahan 69.81 53 P **P 13 33 47.0 +1.6**
baz=303,SNR=8.6
K04D Chiloquin, OR 69.83 51 P **P 13 33 47.1 +1.6**
baz=303
GOF Gofitskoye 69.84 312⇑ *e*P **P 13 33 45.5 +0.1**
GOF pmax pmax
comp=Z,44nm,0.7s
E09A Wood Farm, Sta 69.85 46 *e*P **P 13 33 46.8 +1.3**
comp=Z,30nm,1.1s
VSU Vasula 70.00 330⇑ *e*P **P 13 33 46.6 +0.5**
VSU pmax pmax
comp=Z,105nm,1.1s
SUMG Summit 70.00 0 *e*P **P 13 33 46.9 +0.5**
SUMG pmax pmax
comp=Z,41nm,1.1s
SUMG Summit 70.00 0⇑ *i*P **P 13 33 47.3 +0.9**
comp=Z,35nm,1.0s
SUMG Summit 70.00 0 *e*P **P 13 33 46.9 +0.5**
comp=Z,41nm,1.1s
G08A Pilot Rock 70.06 48 *e*P **P 13 33 48.0 +1.1**
comp=Z,8.5nm,0.9s
N02D Trinity Center 70.13 53 P **P 13 33 49.1 +1.7**
baz=303,SNR=13
M04C Macdoel 70.24 52 P **P 13 33 49.7 +1.6**
baz=303,SNR=24
NCK Nalchik 70.37 310⇑ *i*P **P 13 33 49.3 +0.6**
NCK pmax pmax
comp=Z,13nm,1.1s
I07A Izee 70.40 49 *e*P **P 13 33 50.7 +1.6**
comp=Z,11nm,1.0s
WDC Whiskeytown Da 70.45 54 *e*P **P 13 33 50.4 +1.2**
WDC pmax pmax
comp=Z,18nm,0.9s
WDC Whiskeytown Da 70.45 54 *e*P **P 13 33 50.4 +1.2**
comp=Z,18nm,0.9s
ZEI Tsey 70.57 309 *e*P **P 13 33 49.0 -1.2**
ZEI pmax pmax
comp=Z,10.0nm,0.6s
TBLG Delisi 70.64 308 *e*P **P 13 33 50.6 +0.2**
TBLG pmax pmax
comp=Z,17nm,0.8s
TBLG Delisi 70.64 308 *e*P **P 13 33 50.6 +0.2**
comp=Z,17nm,0.8s
KBZ Khabaz 70.66 311 P **P 13 33 51.2 +0.8**
comp=Z,22nm,0.8s,baz=38,slow=3.4,SNR=49
KBZ LR LR 14 07 33.1
comp=Z,229nm,18.3s,baz=51,slow=38
KIV Kislovodsk 70.66 311 *e*P **P 13 33 50.7 +0.1**
KIV *e* 13 34 11.6
KIV *e*S **S 13 43 02.7 +2.2**
KIV pmax pmax
comp=Z,23nm,3.9s
KIV pmax pmax
comp=Z,49nm,1.1s
KIV MLR MLR
comp=Z,244nm,18.0s
KIV Kislovodsk 70.66 311 *e*P **P 13 33 51.0 +0.5**
comp=Z,49nm,0.8s
KIV Kislovodsk 70.66 311 P **P 13 33 51.1 +0.5**
SNR=13
KIV Kislovodsk 70.66 311 P **P 13 33 51.1 +0.5**
SNR=13
KIV Kislovodsk 70.66 311 *i*P **P 13 33 50.8 +0.3**
SNR=10
F10A Beach Ranch, E 70.68 46 *e*P **P 13 33 51.6 +0.9**
comp=Z,10nm,1.0s
WALA Waterton Lakes 70.75 42 *e*P **P 13 33 52.0 +1.0**
comp=Z,35nm,0.8s
WSAR Wadi Sarin 70.95 285 P **P 13 33 52.8 +0.3**
comp=Z,4.9nm,0.7s,baz=68,slow=8.0,SNR=2.8
WSAR LR LR 14 09 22.8
comp=Z,129nm,19.2s,baz=73,slow=40
O03D Paynes Creek 71.08 53 P **P 13 33 54.0 +0.9**
baz=304,SNR=14
MOD Modoc Plateau 71.13 51 *e*P **P 13 33 54.7 +1.1**
comp=Z,22nm,0.8s
BANOM Banah 71.24 289 P **P 13 33 54.6 +0.2**
BMO Blue Mountains 71.27 48 *e*P **P 13 33 55.4 +1.1**
BMO pmax pmax
comp=Z,23nm,0.8s
BMO Blue Mountains 71.27 48 *e*P **P 13 33 55.4 +1.1**
comp=Z,23nm,0.8s
SHME Shamm 71.29 289 *i* P **P 13 33 54.9 +0.3**
SNR=14
JTMT Jette 71.32 44 *e*P **P 13 33 55.8 +1.3**
comp=Z,31nm,0.8s
J08A Circle Bar Ran 71.43 49 *e*P **P 13 33 56.5 +1.3**
comp=Z,30nm,0.8s
SCO Scoresbysund 71.46 354⇑ *i*P **P 13 33 55.3 +0.5**
SCO pmax pmax
comp=Z,10.0nm,0.8s
SCO Scoresbysund 71.46 354⇑ *i*P **P 13 33 55.3 +0.5**
comp=Z,10nm,0.8s
SCO Scoresbysund 71.46 354 *e*P **P 13 33 55.4 +0.5**
comp=Z,26nm,1.2s
GNI Garni 71.51 307 P **P 13 33 57.1 +1.2**
comp=Z,4.6nm,0.5s,baz=63,slow=2.3,SNR=4.8
GNI LR LR 14 08 06.7
comp=Z,256nm,18.3s,baz=58,slow=38
GNI Garni 71.51 307‖ *e*P **P 13 33 57.3 +1.4**
GNI pmax pmax
comp=Z,47nm,1.2s
GNI Garni 71.51 307 *e*P **P 13 33 56.1 +0.3**
comp=Z,100nm,1.8s
GNI Garni 71.51 307 P **P 13 33 56.7 +0.8**
AKH Akhalkalaki 71.59 308 *e*P **P 13 33 57.1 +0.7**
AKH pmax pmax
comp=Z,9.0nm,0.7s
AKH Akhalkalaki 71.59 308⇑ *i*P **P 13 33 57.8 +1.4**
AKH Akhalkalaki 71.59 308 *e*P **P 13 33 57.1 +0.7**
comp=Z,8.9nm,0.7s
ORV Oroville 71.68 54 *e*P **P 13 33 57.3 +0.6**
ORV pmax pmax
comp=Z,17nm,0.8s
ORV Oroville 71.68 54 *e*P **P 13 33 57.2 +0.6**
comp=Z,17nm,0.8s
UOSS Minazif 71.85 288 *e*P **P 13 33 58.1 +0.1**
comp=Z,18nm,0.6s
UOSS Minazif 71.85 288 P **P 13 33 58.8 +0.8**
WVOR Wild Horse Val 71.85 50 *e*P **P 13 33 58.8 +0.9**
WVOR pmax pmax
comp=Z,19nm,0.9s
WVOR Wild Horse Val 71.85 50 *e*P **P 13 33 58.8 +0.9**
comp=Z,19nm,0.9s
HATD Hana, Dubai 71.97 288 *i* P **P 13 33 59.0 +0.3**
SNR=12
IZAR Zarasai 71.97 328 *e*P **P 13 33 58.5 +0.4**
IZAR IAmb IAmb 13 34 01.3
comp=Z,9.9nm,0.6s
MSO Missoula 72.04 44 P **P 13 33 59.5 +0.6**
baz=306,SNR=14
MSO Missoula 72.04 44 *e*P **P 13 33 59.5 +0.6**
comp=Z,20nm,1.0s
IDID Didziasalis 72.05 327 *e*P **P 13 33 59.0 +0.5**
IDID IAmb IAmb 13 34 00.2
comp=Z,9.6nm,0.7s
SOHO SOHO 72.05 287 P **P 13 33 59.5 +0.3**
ISAL Salakas 72.14 327 *e*P **P 13 33 59.7 +0.5**
ISAL IAmb IAmb 13 34 00.8
comp=Z,12nm,0.7s
IIGN Ignalina 72.25 327 *e*P **P 13 34 00.3 +0.5**
IIGN IAmb IAmb 13 34 01.5
comp=Z,11nm,0.8s
NACGM Naroch 72.30 327 *e* **P 13 34 00.0 -0.1**
AFDM Forest Hills D 72.36 54 *e*P **P 13 34 01.6 +0.8**
comp=Z,18nm,1.2s
SOC Sochi 72.64 312 *e*P **P 13 34 01.5 -0.8**
SOC *e*S **S 13 43 24.5 +1.4**
SOC *e*SS **SS 13 48 05.1 +2.7**
SOC pmax pmax
comp=Z,19nm,0.5s
SOC MLR MLR
comp=Z,293nm,17.0s
ALNE Al Ain 72.69 287 P **P 13 34 03.8 +0.8**
RDG13 Poverty Ridge 72.72 56 *e*P **P 13 34 04.0 +1.0**
comp=Z,28nm,1.0s
PAHR Pah Rah Range 72.94 53 *e*P **P 13 34 05.3 +0.9**
comp=Z,25nm,0.9s
MFID Camas Ranch 72.97 48 *e*P **P 13 34 05.5 +1.1**
comp=Z,25nm,0.8s
FFC Flin Flon 72.99 33 *e*P **P 13 34 04.8 +0.6**
FFC pmax pmax
comp=Z,40nm,0.9s
FFC Flin Flon 72.99 33 *e*P **P 13 34 04.8 +0.6**
comp=Z,40nm,0.9s
VCNR Virginia City 73.01 53 *e*P **P 13 34 06.2 +1.3**
comp=Z,13nm,0.8s
ANN Anapa 73.25 314 *e*P **P 13 34 05.1 -0.8**
ANN *e*S **S 13 43 30.0 +0.1**
ANN pmax pmax
comp=Z,19nm,0.6s
ANN MLR MLR
comp=E,211nm,18.0s
ANN MLR MLR
comp=N,435nm,18.0s
ANN MLR MLR
comp=Z,270nm,18.0s
CMB Columbia Colle 73.26 55 *e*P **P 13 34 06.9 +0.7**
CMB pmax pmax
comp=Z,23nm,0.8s
CMB Columbia Colle 73.26 55 *e*P **P 13 34 06.9 +0.7**
comp=Z,23nm,0.8s
FCC Fort Churchill 73.27 27 *e*P **P 13 34 05.9 +0.1**
FCC pmax pmax
comp=Z,48nm,1.0s
FCC Fort Churchill 73.27 27 *e*P **P 13 34 05.9 +0.1**
comp=Z,48nm,1.0s
HRY Holter Researc 73.28 44 *e*P **P 13 34 07.3 +1.1**
NC405 NORSAR Array S 73.45 337 *e*P **P 13 34 06.0 -0.8**
YERR Yerington 73.45 53 *e*P **P 13 34 07.4 -0.1**
comp=Z,34nm,0.9s
NC303 NORSAR Array S 73.47 337 *e*P **P 13 34 07.0 +0.1**
LRM Limekiln Ridge 73.47 45 *e*P **P 13 34 08.7 +1.1**
HFS Hagfors 73.58 336 P **P 13 34 07.9 +0.4**
comp=Z,19nm,0.8s,baz=42,slow=7.3,SNR=61
HFS LR LR 14 09 09.0
comp=Z,688nm,19.8s,baz=36,slow=38
EGMT Eagleton 73.58 42 P **P 13 34 08.8 +0.9**
baz=308,SNR=42
EGMT Eagleton 73.58 42 *e*P **P 13 34 08.7 +0.7**
comp=Z,58nm,0.9s
WAKR Walker 73.60 54 *e*P **P 13 34 09.2 +0.8**
comp=Z,17nm,0.9s
NC204 NORSAR Array S 73.61 338 *e*P **P 13 34 08.1 +0.2**
NB201 NORSAR Array S 73.63 337 *e*P **P 13 34 07.1 -0.8**
NB2 NORSAR Subarra 73.66 337 P **P 13 34 07.9 -0.2**
comp=Z,33nm,0.9s,baz=39,slow=5.9
NB2 NORSAR Subarra 73.66 337 P **P 13 34 07.8 -0.3**
NB2 pmax pmax
comp=Z,28nm,0.9s
NB2 NORSAR Subarra 73.66 337 P **P 13 34 07.9 -0.2**
baz=39,slow=5.9
NOA NORSAR Array B 73.66 337 P **P 13 34 08.3 +0.2**
comp=Z,19nm,0.8s,baz=39,slow=5.8,SNR=78
NOA LR LR 14 09 00.6
comp=Z,470nm,21.7s,baz=45,slow=38
DLMT Dillon 73.67 45 *e*P **P 13 34 09.6 +1.0**
comp=Z,42nm,0.9s
HLID Hailey 73.71 47 P **P 13 34 10.3 +1.4**
baz=307,SNR=38
HLID Hailey 73.71 47 *e*P **P 13 34 09.8 +0.9**
comp=Z,20nm,1.0s
NBO02 NORSAR Array S 73.76 337 *e*P **P 13 34 08.8 +0.2**
NBO00 NORSAR Array S 73.80 337 *e*P **P 13 34 08.7 -0.2**
MCMT McKenzie Canyo 73.85 46 *e*P **P 13 34 09.6 -0.2**
BMN Battle Mountai 73.88 51 *e*P **P 13 34 10.6 +0.7**
BMN pmax pmax
comp=Z,27nm,0.9s
BMN Battle Mountai 73.88 51 *e*P **P 13 34 10.6 +0.7**
comp=Z,27nm,0.9s
NWAO Narrogin (SRO) 73.90 201 *e*P **P 13 34 09.6 -0.1**
NWAO pmax pmax
comp=Z,26nm,1.0s
NWAO Narrogin (SRO) 73.90 201 *e*P **P 13 34 09.6 -0.1**
comp=Z,26nm,1.0s
NAO01 NORSAR Array S 73.91 337 *e*P **P 13 34 09.8 +0.2**
AKASG Malin Array Be 73.92 322 P **P 13 34 09.6 -0.2**
comp=Z,17nm,0.6s,baz=46,slow=6.0,SNR=44
AKASG LR LR 14 10 32.2
comp=Z,266nm,18.4s,baz=70,slow=39
AKBB Malin Array Si 73.92 322 *e*P **P 13 34 09.3 -0.4**
AKBB pmax pmax
comp=Z,22nm,0.7s
AKBB Malin Array Si 73.92 322 *e*P **P 13 34 09.3 -0.4**
comp=Z,22nm,0.7s
KIEV Kiev 73.93 322 *d i*P **P 13 34 09.8 0.0**
KIEV pmax pmax
comp=Z,17nm,0.8s
KIEV Kiev 73.93 322 *e*P **P 13 34 09.2 -0.5**
comp=Z,21nm,0.7s
KIEV Kiev 73.93 322 *i* P **P 13 34 09.6 -0.2**
SNR=18
AK11 Malin Array Si 73.96 322 *e*P **P 13 34 09.5 -0.5**
BOZ Bozeman (W) 74.07 44 P **P 13 34 11.6 +0.7**
baz=308,SNR=61
BOZ Bozeman (W) 74.07 44 *e*P **P 13 34 12.0 +1.1**
BOZ pmax pmax
comp=Z,34nm,0.8s
BOZ Bozeman (W) 74.07 44 *e*P **P 13 34 12.0 +1.1**
comp=Z,34nm,0.8s
RYN Ryan 74.11 53 *e*P **P 13 34 12.8 +1.4**
comp=Z,20nm,0.9s
MDPB Devils Postpil 74.33 54 *e*P **P 13 34 13.5 +0.8**
comp=Z,17nm,0.9s
NV01 Mina Array Sit 74.37 53 *e*P **P 13 34 13.8 +1.0**
NVAR Mina Array Bea 74.37 53 P **P 13 34 14.7 +1.8**
comp=Z,20nm,0.8s,baz=287,slow=5.7,SNR=51
SUW Suwalki 74.46 327 *e*P **P 13 34 13.6 +0.8**
SUW Suwalki 74.46 327 *e*P **P 13 34 13.6 +0.8**
NV11 Mina Array Sit 74.46 53 *e*P **P 13 34 14.4 +1.0**
comp=Z,12nm,0.9s
QLMT Earthquake Lak 74.65 45 *e*P **P 13 34 15.5 +1.1**
QLMT *e*pP **pP 13 34 32.0 +2.2**
PAGB Antelope Grade 74.67 57 *e*P **P 13 34 15.6 +1.2**
comp=Z,49nm,0.9s
YHB Horse Butte 74.83 45 *e*P **P 13 34 16.9 +1.4**
comp=Z,34nm,0.8s
YHH Holmes Hill 75.00 45 *e*P **P 13 34 17.5 +1.0**
comp=Z,18nm,0.9s
YMR Madison River 75.01 45 *e*P **P 13 34 17.6 +1.1**
comp=Z,29nm,0.8s
GCMT Greycliff 75.03 43 *e*P **P 13 34 17.5 +1.1**
SIM Simferopol' 75.03 316 *e*P **P 13 34 16.9 +0.6**
SIM pmax pmax
comp=Z,29nm,0.8s
SIM MLR MLR
comp=Z,280nm,16.9s
SFJD Kangerlussuaq 75.18 5 P **P 13 34 17.1 +0.3**
comp=Z,12nm,0.8s,baz=26,slow=5.0,SNR=5.5
SFJD LR LR 14 08 24.1
comp=Z,110nm,20.3s,baz=344,slow=36
SFJD Kangerlussuaq 75.18 5 *i* P **P 13 34 16.1 -0.6**
comp=Z,19nm,1.0s
YFT Old Faithful 75.22 45 *e*P **P 13 34 20.2 +2.5**
comp=Z,35nm,0.8s
TIN Tinemaha, Big 75.22 55 P **P 13 34 19.4 +1.7**
baz=306
KONO Kongsberg 75.25 337 *de*P **P 13 34 17.7 +0.4**
KONO pmax pmax
comp=Z,8.0nm,0.8s
KONO Kongsberg 75.25 337 *e*P **P 13 34 17.1 -0.2**
comp=Z,66nm,1.9s
YPP Pitchstone Pla 75.35 45 *e*P **P 13 34 20.6 +2.1**
comp=Z,16nm,0.8s
VES Vestal, Richgr 75.38 56 P **P 13 34 19.3 +0.8**
baz=306,SNR=13
H17A Grant Village 75.40 45 P **P 13 34 21.5 +2.7**
baz=309,SNR=74
H17A Grant Village 75.40 45 *e*P **P 13 34 21.5 +2.7**
comp=Z,67nm,0.8s
PKM Mcpherson Peak 75.45 57 P **P 13 34 20.6 +1.5**
baz=306
IMW Indian Meadow 75.50 45 *e*P **P 13 34 21.2 +1.7**
comp=Z,41nm,0.8s
FXWY Fox Creek 75.62 46 *e*P **P 13 34 21.6 +1.6**
comp=Z,30nm,1.0s
RLMT Red Lodge 75.67 44 P **P 13 34 21.3 +1.0**
baz=309,SNR=20
RLMT Red Lodge 75.67 44 *e*P **P 13 34 21.5 +1.3**
comp=Z,51nm,1.4s
CWC Cottonwood Cre 75.68 55 P **P 13 34 21.4 +1.0**
baz=306
MOOW Moose Ponds 75.71 45 *e*P **P 13 34 22.1 +1.6**
comp=Z,23nm,0.9s
TPAW Teton Pass 75.75 46 *e*P **P 13 34 21.9 +1.0**
comp=Z,28nm,0.8s
HVU Hansel Valley 75.75 48 *e*P **P 13 34 22.2 +1.4**
HVU pmax pmax
comp=Z,23nm,0.9s
HVU Hansel Valley 75.75 48 *e*P **P 13 34 22.2 +1.4**
comp=Z,22nm,0.9s
SBC Santa Barbara 75.78 57 P **P 13 34 21.5 +0.8**
baz=306
GRAC Grapevine Rang 75.81 54 P **P 13 34 22.5 +1.5**
baz=307,SNR=11
LOHW Long Hollow 75.87 46 *e*P **P 13 34 22.7 +1.2**
comp=Z,13nm,0.8s
SNOW Snow King Moun 75.88 46 *e*P **P 13 34 23.1 +1.6**
comp=Z,24nm,0.8s
ISA Isabella, Lake 75.88 56 P **P 13 34 21.8 +0.4**
baz=306,SNR=8.5
ISA Isabella, Lake 75.88 56 *e*P **P 13 34 21.9 +0.4**
ISA pmax pmax
comp=Z,12nm,0.9s
ISA Isabella, Lake 75.88 56 *e*P **P 13 34 21.9 +0.4**
comp=Z,12nm,0.9s
REDW Red Top Meadow 75.89 46 *e*P **P 13 34 22.8 +1.2**
comp=Z,26nm,0.9s
ARVC Arvin 75.97 56 P **P 13 34 22.6 +0.8**
baz=306,SNR=7.4
DAC Darwin (Calif) 76.09 55 *e*P **P 13 34 23.4 +0.6**
DAC pmax pmax
comp=Z,17nm,0.8s
DAC Darwin (Calif) 76.09 55 *e*P **P 13 34 23.4 +0.6**
comp=Z,17nm,0.8s
AHID Auburn Hatcher 76.12 46 P **P 13 34 23.4 +0.6**
comp=Z,9.4nm,0.6s
BGU Big Grassy Mou 76.13 49 *e*P **P 13 34 23.9 +1.0**
comp=Z,9.7nm,0.9s
R11A Troy Canyon, C 76.13 52 P **P 13 34 24.0 +1.1**
baz=307,SNR=37
R11A Troy Canyon, C 76.13 52 *e*P **P 13 34 24.1 +1.1**
comp=Z,23nm,0.9s
SHAO Shalim 76.21 282 P **P 13 34 23.5 +0.1**
LAO LASA Array 76.28 41 P **P 13 34 24.7 +1.2**
baz=311,SNR=23
LAO LASA Array 76.28 41 *e*P **P 13 34 24.7 +1.2**
comp=Z,58nm,0.9s
MPMC Manual Prospec 76.29 55 P **P 13 34 25.0 +1.1**
baz=307,SNR=18
OSI Osito Audit: C 76.34 57 P **P 13 34 25.5 +1.4**
baz=307
OSI Osito Audit: C 76.34 57 *e*P **P 13 34 25.1 +1.1**
comp=Z,26nm,0.9s
FURC Furnace Creek, 76.45 54 P **P 13 34 26.1 +1.5**
baz=307,SNR=19
HWUT Hardware Ranch 76.57 48 *e*P **P 13 34 26.6 +1.2**
comp=Z,45nm,1.1s
SNCC San Nicolas Is 76.61 58 P **P 13 34 26.8 +1.2**
baz=306
EDW2 Edwards Air Fo 76.66 56 P **P 13 34 27.0 +1.1**
baz=307,SNR=12
DUG Dugway, Tooele 76.71 49 P **P 13 34 27.5 +1.3**
baz=308,SNR=38
DUG Dugway, Tooele 76.71 49 *e*P **P 13 34 27.4 +1.3**
DUG pmax pmax
comp=Z,29nm,0.8s
DUG Dugway, Tooele 76.71 49 *e*P **P 13 34 27.4 +1.3**
comp=Z,29nm,0.8s
DECC Green Verdugo 76.81 57 P **P 13 34 28.0 +1.3**
baz=307
BSD Bornholm Skovb 76.97 332 *i* P **P 13 34 27.1 0.0**
BSD Bornholm Skovb 76.97 332 *i* P **P 13 34 27.1 0.0**
TCUT Toone Canyon 76.97 48 *e*P **P 13 34 29.2 +1.4**
comp=Z,40nm,0.8s
BW06 Boulder Array 77.00 46 P **P 13 34 28.6 +0.8**
baz=310,SNR=17
BW06 Boulder Array 77.00 46 *e*P **P 13 34 27.7 -0.2**
comp=Z,19nm,0.8s
PD31 Pinedale Array 77.00 46 *e*P **P 13 34 28.5 +0.6**
PDAR Pinedale Array 77.00 46 P **P 13 34 28.7 +0.8**
comp=Z,15nm,0.6s,baz=263,slow=2.4,SNR=173
PDAR LR LR 14 04 41.6
comp=Z,106nm,21.7s,baz=320,slow=33
PDAR Pinedale Array 77.00 46 *e*P **P 13 34 28.0 +0.1**
BORG Borgarnes 77.00 353 LR LR 14 09 26.8
comp=Z,89nm,20.5s,baz=40,slow=36
BEL Belsk 77.02 327 *e*P **P 13 34 28.6 +1.1**

BEL	Belsk	77.02	327	eP	P	13 34 28.6	+1.1
CTU	Camp Tracy	77.03	48	eP	P	13 34 28.3	+0.2
	comp=Z,16nm,0.8s						
SHOC	Shoshone, Teco	77.17	55	P	P	13 34 29.9	+1.2
	baz=308,SNR=7.0						
GSC	Goldstone, Bar	77.19	55	P	P	13 34 30.0	+1.1
	baz=307,SNR=7.6						
GSC	Goldstone, Bar	77.19	55	eP	P	13 34 29.7	+0.8
GSC				pmax	pmax		
	comp=Z,16nm,0.9s						
GSC	Goldstone, Bar	77.19	55	eP	P	13 34 29.7	+0.8
	comp=Z,16nm,0.9s						
BFSC	Mount Baldy Ra	77.27	57	P	P	13 34 30.3	+0.9
	baz=307						
JLU	Jordanelle	77.27	48	eP	P	13 34 30.2	+0.7
	comp=Z,27nm,1.2s						
NLU	North Lily Min	77.30	49	eP	P	13 34 30.6	+1.0
	comp=Z,19nm,0.8s						
GKP	Gorka Klasztor	77.45	330	eP	P	13 34 30.0	+0.1
GKP	Gorka Klasztor	77.45	330	eP	P	13 34 30.0	+0.1
SHPR	Sheep Range	77.52	53	eP	P	13 34 31.8	+1.0
	comp=Z,22nm,0.9s						
MPU	Maple Canyon	77.53	49	eP	P	13 34 32.1	+1.2
	comp=Z,27nm,0.8s						
TUQ	Turquoise Moun	77.68	55	P	P	13 34 32.8	+1.1
	baz=308,SNR=18						
ILGA	Ilgaz	77.71	313	eP	P	13 34 33.0	+1.2
	comp=Z,29nm,0.6s						
KWP	Kalwaria Pacla	77.73	324	eP	P	13 34 32.7	+1.2
KWP	Kalwaria Pacla	77.73	324	eP	P	13 34 32.7	+1.2
HEC	Hector,Ludlow	77.78	55	P	P	13 34 33.5	+1.3
	baz=308,SNR=7.4						
LLD	Lille Linde	77.79	333	iP	P	13 34 32.1	+0.4
LLD				pmax	pmax		
	comp=Z,66nm,1.0s						
LLD	Lille Linde	77.79	333	iP	P	13 34 32.1	+0.4
	comp=Z,66nm,1.0s						
BUR08	Bucovina Ar. S	77.93	322	eP	P	13 34 32.9	+0.1
BUR04	Bucovina Ar. S	77.94	322	eP	P	13 34 32.4	-0.5
BURAR	Bucovina Array	77.94	322	⇑P	P	13 34 33.3	+0.5
BURAR	Bucovina Array	77.94	322	⇑iP	P	13 34 33.3	+0.5
MURC	Murrieta	77.96	57	P	P	13 34 34.2	+1.1
	baz=307						
TESR	Tescani	77.98	320	⇓iP	P	13 34 33.1	+0.1
CCUT	Cedar City	78.01	52	eP	P	13 34 34.8	+1.2
	comp=Z,19nm,0.9s						
CFR	Carcaliu	78.11	319	⇑P	P	13 34 33.8	+0.1
CFR	Carcaliu	78.11	319	⇑iP	P	13 34 33.8	+0.1
MSU	Marysvale	78.14	50	eP	P	13 34 36.0	+1.7
MSU	Marysvale	78.14	50	eP	P	13 34 36.0	+1.7
PETR	Petresti	78.22	319	⇓iP	P	13 34 35.8	+1.6
TMUT	Trail Mountain	78.24	49	eP	P	13 34 35.9	+1.0
	comp=Z,42nm,1.6s						
GMRC	Granite Mounta	78.25	55	P	P	13 34 35.4	+0.6
	baz=308,SNR=13						
VRI	Vrincioaia	78.38	320	⇓P	P	13 34 36.4	+1.2
VRI	Vrincioaia	78.38	320	⇓iP	P	13 34 36.4	+1.2
P17A	Butcher Ranch,	78.40	49	eP	P	13 34 36.6	+1.0
	comp=Z,38nm,0.8s						
LCMT	Little Creek M	78.42	52	eP	P	13 34 37.0	+1.3
	comp=Z,29nm,0.9s						
LDFC	Landfair	78.43	55	eP	P	13 34 36.6	+0.8
	comp=Z,35nm,1.0s						
PLOR	Plostina	78.43	320	⇓P	P	13 34 36.2	+0.7
PLOR	Plostina	78.43	320	⇓iP	P	13 34 36.2	+0.7
MTPU	Mount Pierson	78.43	51	eP	P	13 34 37.6	+1.5
	comp=Z,25nm,0.8s						
PFO	Pinyon Flats O	78.44	56	P	P	13 34 37.0	+1.1
	baz=308,SNR=6.6						
PFO	Pinyon Flats O	78.44	56	eP	P	13 34 36.3	+0.4
PFO				pmax	pmax		
	comp=Z,21nm,1.1s						
PFO	Pinyon Flats O	78.44	56	eP	P	13 34 36.3	+0.4
	comp=Z,21nm,1.1s						
XPFO	Piæon Flat	78.44	56	eP	P	13 34 36.4	+0.5
	comp=Z,24nm,1.1s						
TIRR	Tirgusor	78.45	318	⇓P	P	13 34 35.9	+0.4
TIRR	Tirgusor	78.45	318	⇓iP	P	13 34 35.9	+0.4
109C	Camp Elliot, M	78.45	57	P	P	13 34 36.7	+0.9
	baz=308						
CPE	Camp Elliot	78.45	57	eP	P	13 34 36.2	+0.4
	comp=Z,19nm,1.0s						
Q16A	Castle Valley	78.50	50	eP	P	13 34 37.3	+1.1
	comp=Z,51nm,1.4s						
BELC	Belle Mtn. Jos	78.51	56	P	P	13 34 36.8	+0.5
	baz=308						
STHS	Stebnicka Huta	78.55	325	eP	P	13 34 37.4	+1.3
STHS				pmax	pmax		
	comp=Z,12nm,1.2s						
STHS	Stebnicka Huta	78.55	325	eP	P	13 34 37.3	+1.2
BR131	Keskin Array S	78.60	312	eP	P	13 34 36.3	-0.4
BRTR	Keskin Array B	78.60	312	P	P	13 34 37.0	+0.4
	comp=Z,4.1nm,0.6s,baz=84,slow=5.1,SNR=26						
BRTR				LR	LR	14 14 08.5	
	comp=Z,110nm,18.9s,baz=54,slow=39						
P18A	Preston Nutter	78.60	49	eP	P	13 34 38.1	+1.2
	comp=Z,54nm,1.5s						
OJC	Ojcow	78.62	326	eP	P	13 34 36.5	+0.1
OJC	Ojcow	78.62	326	eP	P	13 34 36.8	+0.4
OJC				pmax	pmax		
	comp=Z,35nm,1.0s						
OJC	Ojcow	78.62	326	eP	P	13 34 36.8	+0.4
	comp=Z,34nm,1.0s						
UZH	Uzhgorod	78.63	324	⇑eP	P	13 34 36.7	+0.2
UZH				e		13 34 51.3	
UZH				eS	S	13 44 26.3	-2.7
UZH				e		13 45 17.3	
UZH				MLR	MLR		
	comp=N,600nm,16.0s						
UZH				MLR	MLR		
	comp=E,2μm,16.0s						
UZH				MLR	MLR		
	comp=Z,700nm,16.0s						
KNB	Kanab	78.68	52	eP	P	13 34 38.2	+0.9
KNB				pmax	pmax		
	comp=Z,36nm,1.1s						
KNB	Kanab	78.68	52	eP	P	13 34 38.2	+0.9
	comp=Z,36nm,1.1s						
PKCU	Pink Cliffs	78.73	51	eP	P	13 34 39.3	+1.6
	comp=Z,14nm,1.0s						
SRU	San Rafael Swe	78.76	49	eP	P	13 34 38.8	+1.1
SRU				pmax	pmax		
	comp=Z,34nm,0.8s						
SRU	San Rafael Swe	78.76	49	eP	P	13 34 38.8	+1.1
	comp=Z,34nm,0.8s						
K22A	Casper	78.78	44	P	P	13 34 38.5	+0.8
	baz=312,SNR=11						
K22A	Casper	78.78	44	eP	P	13 34 38.1	+0.4
	comp=Z,21nm,0.9s						
ULM	Lac du Bonnet	78.79	34	P	P	13 34 37.6	+0.3
	comp=Z,16nm,0.8s,baz=320,slow=7.1,SNR=28						
ULM				LR	LR	14 10 43.0	
	comp=Z,76nm,20.8s,baz=350,slow=37						
ULM	Lac du Bonnet	78.79	34	eP	P	13 34 37.3	0.0
	comp=Z,31nm,1.0s						
MDND	Maddock	78.81	37	P	P	13 34 38.0	+0.5
	baz=315,SNR=6.8						
MDND	Maddock	78.81	37	eP	P	13 34 37.5	0.0
	comp=Z,57nm,0.8s						
CRVS	Cervenica-Dubn	78.82	324	eP	P	13 34 38.0	+0.4
CRVS	Cervenica-Dubn	78.82	324	eP	P	13 34 38.0	+0.4
H08N1	Diego Carcia H	78.86	253	P	P	13 34 35.7	-2.1
	baz=352,slow=1.2,SNR=4.4						
H08N2	Diego Garcia H	78.86	253	P	P	13 34 36.9	-0.9
	baz=352,slow=1.2,SNR=4.9						
BAR	Barrett	78.87	57	eP	P	13 34 38.9	+0.7
	comp=Z,17nm,1.0s						
TRPA	Tarpa	78.87	323	⇓ePKPPKPdf	P	13 34 39.1	+1.3
H08N3	Diego Garcia H	78.88	253	P	P	13 34 36.8	-1.2
	baz=352,slow=1.2,SNR=3.9						
MONP2	Monument Peak	78.90	57	P	P	13 34 39.5	+0.9
	baz=308,SNR=6.8						
IRM	Iron Mountain	78.97	55	P	P	13 34 39.8	+1.1
	baz=308,SNR=11						
NIE	Niedzica	78.98	325	eP	P	13 34 38.8	+0.3
NIE	Niedzica	78.98	325	eP	P	13 34 38.8	+0.3
ISR	Istrita	78.98	319	⇓P	P	13 34 39.9	+1.3
ISR	Istrita	78.98	319	⇓iP	P	13 34 39.9	+1.3
DOPR	Dopca	78.99	320	⇑iP	P	13 34 40.2	+1.6
ANTO	Ankara	79.00	312	eP	P	13 34 39.5	+0.7
ANTO				pmax	pmax		
	comp=Z,18nm,0.6s						
ANTO	Ankara	79.00	312	eP	P	13 34 39.5	+0.7
	comp=Z,18nm,0.6s						
RWWY	Rawlins	79.03	45	eP	P	13 34 38.1	-1.1
	comp=Z,30nm,0.9s						
BR231	Keskin MP Arra	79.03	312	eP	P	13 34 37.2	-1.8
MLR	Muntele Rosu	79.03	320	P	P	13 34 39.1	+0.1
	comp=Z,0.6nm,0.4s,baz=121,slow=12,SNR=8.0						
MLR				LR	LR	14 12 58.0	
	comp=Z,132nm,18.6s,baz=52,slow=38						
BC3	Big Chuckawall	79.08	56	P	P	13 34 40.3	+0.9
	baz=308,SNR=6.7						
RSSD	Black Hills	79.14	42	P	P	13 34 40.3	+0.6
	baz=313						
RSSD	Black Hills	79.14	42	eP	P	13 34 39.9	+0.2
RSSD				pmax	pmax		
	comp=Z,18nm,0.9s						
RSSD	Black Hills	79.14	42	eP	P	13 34 39.9	+0.2
	comp=Z,18nm,0.9s						
W13A	Hualapai Mount	79.20	54	eP	P	13 34 40.3	+0.2
	comp=Z,10nm,0.9s						
IKP	In-Ko-Pah, Jac	79.26	57	P	P	13 34 41.4	+1.0
	baz=308,SNR=8.9						
SECR		79.28	319	⇑iP	P	13 34 41.7	+1.5
B31A	Greenbush Farm	79.31	36	P	P	13 34 40.8	+0.6
	baz=316,SNR=14						
CJR	Cluj-Napoca	79.36	322	⇓P	P	13 34 40.9	+0.3
CJR	Cluj-Napoca	79.36	322	⇓iP	P	13 34 40.9	+0.3
U15A	North Rim	79.38	52	eP	P	13 34 42.4	+1.2
	comp=Z,29nm,0.9s						
O20A	White River Ci	79.45	47	P	P	13 34 42.1	+0.7
	baz=311,SNR=14						
O20A	White River Ci	79.45	47	eP	P	13 34 42.1	+0.7
	comp=Z,26nm,0.9s						
A32A	Rocking H Ranc	79.48	35	P	P	13 34 41.6	+0.4
	baz=317						
VOIR		79.53	320	⇑P	P	13 34 42.5	+0.9
VOIR		79.53	320	⇑iP	P	13 34 42.5	+0.9
PDMCI	Parker Dam,Lak	79.53	55	P	P	13 34 42.9	+1.2
	baz=309,SNR=16						
LANS	Liptovska Anna	79.55	326	eP	P	13 34 42.8	+1.2
LANS	Liptovska Anna	79.55	326	eP	P	13 34 42.8	+1.2
KECS	Kecovo	79.57	325	eP	P	13 34 42.3	+0.6
KECS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KECS	Kecovo	79.57	325	eP	P	13 34 42.3	+0.6
OKC	Ostrava-Krasne	79.62	327	eP	P	13 34 42.9	+1.0
OKC				MLR	MLR		
	comp=Z,500nm,16.6s						
OKC	Ostrava-Krasne	79.62	327	⇓eP	P	13 34 42.9	+1.0
OKC				AMS	AMS	14 13 00.0	
	comp=Z,500nm,16.6s						
Y12C	Blythe	79.63	55	P	P	13 34 43.5	+1.3
	baz=309,SNR=8.8						
Y12C	Blythe	79.63	55	eP	P	13 34 43.4	+1.1
	comp=Z,25nm,0.9s						
KSP	Ksiaz	79.66	328	eP	P	13 34 41.6	-0.5
KSP	Ksiaz	79.66	328	eP	P	13 34 41.6	-0.5
C31A	Landman Farms,	79.73	36	P	P	13 34 42.7	+0.2
	baz=316,SNR=18						
DRGR		79.74	322	⇑P	P	13 34 43.3	+0.6
DRGR		79.74	322	⇑iP	P	13 34 43.3	+0.6
ARR	Arges	79.79	320	⇓iP	P	13 34 44.3	+1.3
PRD	Provadia	79.84	317	P	P	13 34 43.6	+0.5
B32A	Ashes, Strandq	79.85	35	P	P	13 34 43.3	+0.2
	baz=317,SNR=27						
GLA	Glamis	79.86	56	P	P	13 34 44.3	+0.8
	baz=309						
MORC	Moravsky Berou	79.93	327	eP	P	13 34 44.2	+0.6
MORC				pmax	pmax		
	comp=Z,72nm,0.9s						
MORC	Moravsky Berou	79.93	327	⇑iP	P	13 34 44.1	+0.5
MORC	Moravsky Berou	79.93	327	eP	P	13 34 44.2	+0.6
	comp=Z,72nm,0.9s						
A33A	Warroad	79.97	34	P	P	13 34 44.1	+0.3
	baz=318,SNR=28						
PV09	Paradox Valley	79.99	49	eP	P	13 34 45.2	+0.7
DPC	Dobruska-Polom	80.02	328	eP	P	13 34 45.3	+1.2
DPC				e		13 35 01.3	
DPC				e		13 37 43.8	
DPC				MLR	MLR		
	comp=Z,400nm,17.8s						
DPC	Dobruska-Polom	80.02	328	eP	P	13 34 45.3	+1.2
DPC				epP	pP	13 35 01.3	+1.6
DPC				ePP	PP	13 37 43.8	-2.0
DPC				AMS	AMS	14 14 20.0	
	comp=Z,400nm,17.8s						
UPC	Upice	80.03	328	eP	P	13 34 45.1	+1.0
UPC				MLR	MLR		
	comp=Z,400nm,16.0s						
UPC	Upice	80.03	328	⇓eP	P	13 34 45.1	+1.0
UPC				AMS	AMS	14 13 30.0	
	comp=Z,400nm,16.0s						
KRLC	Kraliky	80.03	328	eP	P	13 34 45.2	+1.0
KRLC				e		13 34 54.3	
KRLC				e		13 34 59.8	
KRLC	Kraliky	80.03	328	eP	P	13 34 45.2	+1.0
KRLC				ePCP	PcP	13 34 54.3	+2.8
KRLC				epP	pP	13 34 59.8	+0.1
PV10	Paradox Valley	80.12	49	eP	P	13 34 46.6	+1.4
PV04	Paradox Valley	80.19	49	eP	P	13 34 45.6	+0.2
AGMN	Agassiz Nation	80.22	35	P	P	13 34 45.4	+0.2
	baz=317,SNR=17						
AGMN	Agassiz Nation	80.22	35	eP	P	13 34 44.4	-0.7
	comp=Z,24nm,0.8s						
PSZ	Piszkesteto	80.25	325	eP	P	13 34 46.1	+0.6
PSZ				pmax	pmax		
	comp=Z,24nm,1.0s						
PSZ	Piszkesteto	80.25	325	⇑iP	P	13 34 46.0	+0.6
PSZ	Piszkesteto	80.25	325	⇓ePKPPKPdf	P	13 34 46.6	+1.1
PSZ	Piszkesteto	80.25	325	eP	P	13 34 46.1	+0.6
	comp=Z,24nm,1.0s						
C32A	Crookston	80.27	36	P	P	13 34 45.3	-0.1
	baz=317						
N23A	Red Feather La	80.27	45	P	P	13 34 46.9	+0.9
	baz=312,SNR=17						
N23A	Red Feather La	80.27	45	eP	P	13 34 46.2	+0.3
	comp=Z,39nm,1.0s						
PHWY	Pilot Hill	80.27	45	eP	P	13 34 46.0	0.0
	comp=Z,19nm,1.3s						
PHWY				epP	pP	13 35 03.2	+1.7
D31A	Mcclaflin, Tow	80.27	37	P	P	13 34 45.9	+0.4
	baz=316						
PV05	Paradox Valley	80.28	49	eP	P	13 34 47.3	+1.3
VYHS	Vyhne	80.31	325	eP	P	13 34 46.6	+0.9
VYHS				pmax	pmax		
	comp=Z,35nm,2.1s						
VYHS	Vyhne	80.31	325	eP	P	13 34 46.6	+0.9
RAR	Rarotonga	80.35	126	LR	LR	14 02 10.0	
	comp=Z,302nm,21.0s,baz=276,slow=30						
B33A	Robert and Kas	80.37	35	P	P	13 34 46.1	+0.2
	baz=318						
WUAZ	Wupatki	80.53	52	P	P	13 34 48.5	+1.2
	baz=310,SNR=23						
WUAZ	Wupatki	80.53	52	eP	P	13 34 48.3	+1.0
	comp=Z,32nm,0.9s						
D32A	Dogwood Acres,	80.54	36	P	P	13 34 47.3	+0.4
	baz=317						
E31A	Nome	80.55	37	P	P	13 34 47.2	+0.2
	baz=316,SNR=12						
PV01	Paradox Valley	80.56	49	eP	P	13 34 48.5	+1.0
SZH	Strazhica	80.57	318	P	P	13 34 47.2	0.0
BRG	Berggiesshubel	80.60	330	iP	P	13 34 47.2	+0.1
	comp=Z,15nm,1.0s						
BRG	Berggiesshubel	80.60	330	iP	P	13 34 47.2	+0.1
BRG				pmax	pmax		
	comp=Z,15nm,1.0s						
PVCC	Panska Ves	80.61	329	eP	P	13 34 48.3	+1.1
PVCC				e		13 35 02.2	
PVCC				MLR	MLR		
	comp=Z,400nm,15.5s						
PVCC	Panska Ves	80.61	329	⇓eP	P	13 34 48.3	+1.1
PVCC				ePCP	PcP	13 34 51.0	-2.9
PVCC				epP	pP	13 35 02.2	-0.6
PVCC				AMS	AMS	14 13 50.0	
	comp=Z,400nm,15.5s						
SIRR	Siria	80.62	323	⇑iP	P	13 34 47.8	+0.4
B34A	Aery, Baudette	80.63	34	P	P	13 34 47.2	-0.1
	baz=318,SNR=11						
CLL	Collm	80.64	330	iP	P	13 34 47.2	-0.1
CLL				pmax	pmax		
	comp=Z,30nm,1.0s						
CLL	Collm	80.64	330	iP	P	13 34 47.2	-0.1
	comp=Z,30nm,1.0s						
CLL				epP	pP	13 35 04.0	+1.1
CLL				eS	S	13 44 54.0	+3.9
CLL				ePS	PnS	13 45 48.0	+6.4
CLL				e		13 52 00.0	
CLL				e		13 54 06.0	
CLL				eSSSS		13 56 06.0	
CLL	Collm	80.64	330	eP	P	13 34 46.9	-0.4
	comp=Z,25nm,0.9s						
RAYN	Ar Rayn	80.64	292	P	P	13 34 48.0	+0.1
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
RAYN	Ar Rayn	80.64	292	eP	P	13 34 47.2	-0.7
	comp=Z,6.9nm,0.7s						
C33A	Trail	80.66	35	P	P	13 34 47.6	+0.1
	baz=318,SNR=11						
VRAC	Vranov	80.69	327	⇓P	P	13 34 48.1	+0.4
VRAC	Vranov	80.69	327	⇓iP	P	13 34 48.1	+0.4
113A	Mohawk Valley,	80.73	56	eP	P	13 34 48.7	+0.5
	comp=Z,27nm,1.3s						
JMB	Yambol	80.78	317	P	P	13 34 48.7	+0.5
SMCO	Snowmass	80.82	47	eP	P	13 34 49.9	+0.8
	comp=Z,34nm,1.4s						
F31A	Hecla	80.87	38	P	P	13 34 49.0	+0.3
	baz=316,SNR=9.9						
SMOL	Smolenice	80.92	326	P	P	13 34 50.6	+1.7
GOPC	GO Pecny, Ondr	80.99	328	eP	P	13 34 50.3	+1.0
GOPC				e		13 34 58.8	
GOPC				e		13 35 06.9	
GOPC				MLR	MLR		
	comp=Z,400nm,16.8s						
GOPC	GO Pecny, Ondr	80.99	328	eP	P	13 34 50.3	+1.0
GOPC				ex	x	13 34 58.8	
GOPC				epP	pP	13 35 06.9	+2.0
GOPC				AMS	AMS	14 13 50.0	
	comp=Z,400nm,16.8s						
PRU	Pruhonice	81.04	329	eP	P	13 34 50.4	+0.9
PRU				MLR	MLR		
	comp=Z,400nm,19.7s						
PRU	Pruhonice	81.04	329	⇓eP	P	13 34 50.4	+0.9
PRU				AMS	AMS	14 14 10.0	
	comp=Z,400nm,19.7s						
D33A	AnnSam, Waubun	81.08	36	P	P	13 34 49.9	+0.1
	baz=318						
BZS	Buzias	81.11	322	⇓P	P	13 34 50.2	+0.2
BZS	Buzias	81.11	322	⇓iP	P	13 34 50.2	+0.2
B35A	Bob, Littlefor	81.13	34	P	P	13 34 50.1	+0.1
	baz=319,SNR=13						
C34A	RKJ Ranch, Bem	81.13	35	P	P	13 34 50.1	0.0
	baz=318						
TREC	Trest	81.17	328	eP	P	13 34 51.3	+1.0
TREC				MLR	MLR		
	comp=Z,400nm,17.0s						
TREC	Trest	81.17	328	⇓eP	P	13 34 51.3	+1.0
TREC				AMS	AMS	14 14 10.0	
	comp=Z,400nm,17.0s						
ISCO	Idaho Springs	81.19	46	P	P	13 34 52.0	+1.1
	baz=312,SNR=17						
ISCO	Idaho Springs	81.19	46	eP	P	13 34 51.9	+1.0
ISCO				pmax	pmax		
	comp=Z,42nm,1.8s						
ISCO	Idaho Springs	81.19	46	eP	P	13 34 51.9	+1.0
	comp=Z,42nm,1.8s						
X16A	Lo Mia Camp, P	81.19	53	eP	P	13 34 51.9	+1.0
	comp=Z,24nm,1.0s						
MVCO	Mesa Verde	81.21	49	P	P	13 34 51.8	+0.8
	baz=311,SNR=17						
MVCO	Mesa Verde	81.21	49	eP	P	13 34 51.6	+0.7
	comp=Z,21nm,0.9s						
ASF	Jabal al Asfar	81.35	304	P	P	13 34 52.2	+0.6
	comp=Z,4.6nm,0.7s,baz=351,slow=3.0,SNR=6.3						
G31A	Conde	81.35	38	P	P	13 34 51.8	+0.5
	baz=316						
F32A	Veblen	81.41	37	P	P	13 34 52.0	+0.4
	baz=317,SNR=5.9						
D34A	Park Rapids	81.42	35	P	P	13 34 52.1	+0.5
	baz=318						
E33A	Westby DABS, E	81.48	36	P	P	13 34 52.6	+0.7
	baz=318,SNR=9.7						
C35A	Jirik Farms, M	81.52	34	P	P	13 34 52.2	+0.1
	baz=319,SNR=19						
SUSD	Miller	81.54	39	P	P	13 34 52.9	+0.6
	baz=316,SNR=5.9						
G32A	Webster	81.67	38	P	P	13 34 53.5	+0.5
	baz=317						
ISP	Isparta	81.68	312	⇑iP	P	13 34 53.6	+0.3
ISP				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ISP	Isparta	81.68	312	⇑iP	P	13 34 53.7	+0.4
NKC	Novy Kostel	81.70	330	eP	P	13 34 53.9	+0.9
NKC				e		13 35 08.5	
NKC				MLR	MLR		
	comp=Z,300nm,19.3s						
NKC	Novy Kostel	81.70	330	⇓eP	P	13 34 53.9	+0.9
NKC				epP	pP	13 35 08.5	-0.1
NKC				AMS	AMS	14 14 50.0	
	comp=Z,300nm,19.3s						
MMAI	Mount Meron Ar	81.79	305	P	P	13 34 52.5	-1.4
	comp=Z,5.2nm,0.5s,baz=25,slow=5.8,SNR=5.5						
MMAI				LR	LR	14 14 19.7	
	comp=Z,234nm,21.6s,baz=125,slow=38						
W18A	Petrified Fore	81.81	52	P	P	13 34 55.0	+0.9
	baz=311						
F33A	5 Mile Ranch,	81.83	37	P	P	13 34 54.3	+0.5
	baz=317,SNR=8.5						
S22A	4UR Ranch, Cre	81.85	48	P	P	13 34 56.0	+1.6
	baz=312,SNR=25						
S22A	4UR Ranch, Cre	81.85	48	eP	P	13 34 55.3	+0.8
	comp=Z,18nm,0.9s						
E34A	Wadena	81.86	36	P	P	13 34 54.5	+0.6
	baz=318						
214A	Organ Pipe Nat	81.87	56	P	P	13 34 55.1	+0.8
	baz=310						
D35A	Remer	81.95	35	P	P	13 34 54.5	+0.1
	baz=319,SNR=5.7						
KDZ	Kurdzhali	81.97	317	P	P	13 34 54.4	-0.2
C36A	Pine Crest Far	81.98	34	P	P	13 34 54.8	+0.2
	baz=319,SNR=14						
PGB	Panagyurishte	82.00	319	P	P	13 34 50.6	-4.2
Q24A	Divide	82.02	46	P	P	13 34 55.3	0.0
	baz=313,SNR=6.8						
Q24A	Divide	82.02	46	eP	P	13 34 55.3	0.0
	comp=Z,12nm,0.8s						
CONA	Conrad Observa	82.06	327	eP	P	13 34 55.9	+0.9
	comp=Z,12nm,0.8s						
X18A	Snowflake	82.06	52	eP	P	13 34 56.1	+0.7
	comp=Z,11nm,0.9s						
MORH	Mˆ‡rˆ¡gy, Hung	82.09	324	⇓eP	P	13 34 55.2	+0.1
KHC	Kasperske Hory	82.10	329	eP	P	13 34 56.0	+0.8
KHC				e		13 35 10.6	
KHC	Kasperske Hory	82.10	329	eP	P	13 34 56.0	+0.8
KHC				epP	pP	13 35 10.6	-0.2
KHC				AMS	AMS	14 15 40.0	
KHC	Kasperske Hory	82.10	329	eP	P	13 34 55.0	-0.2
	comp=Z,8.1nm,0.9s						
E35A	Pequot Lakes	82.18	35	P	P	13 34 55.8	+0.2
	baz=318,SNR=5.5						
G33A	Ortonville	82.23	37	P	P	13 34 56.5	+0.6
	baz=317,SNR=15						
H32A	Carlson Farm,	82.25	38	P	P	13 34 56.4	+0.4
	baz=317						
RDO	Rodhopi	82.25	317	P	P	13 34 55.8	-0.3
GEC2	GERESS Array S	82.27	328	eP	P	13 34 56.0	-0.1
GEC2				pmax	pmax		
	comp=Z,11nm,1.0s						
GEC2	GERESS Array S	82.27	328	eP	P	13 34 56.0	-0.1
	comp=Z,11nm,1.0s						
GERES	GERESS Array B	82.27	328	P	P	13 34 56.3	+0.2
	comp=Z,6.1nm,0.8s,baz=37,slow=5.5,SNR=52						
GERES				LR	LR	14 15 07.1	
	comp=Z,234nm,18.4s,baz=24,slow=38						
D36A	Goodland	82.28	34	P	P	13 34 56.0	-0.1
	baz=319,SNR=5.3						
GEA0	GERESS Array S	82.28	328	eP	P	13 34 55.8	-0.3
C37A	Embarrass	82.29	33	P	P	13 34 56.3	+0.1
	baz=320,SNR=13						
RZN	Rozhen	82.32	318	P	P	13 34 57.1	+0.5
F34A	Alexandria	82.35	36	P	P	13 34 56.8	+0.3
	baz=318,SNR=7.2						
WET	Wettzell	82.38	329	P	P	13 34 57.3	+0.7
OGNE	Ogallala	82.40	43	P	P	13 34 57.7	+0.7
	baz=314,SNR=5.5						
EYMN	Ely	82.42	33	P	P	13 34 57.2	+0.4
	baz=320,SNR=11						
EYMN	Ely	82.42	33	eP	P	13 34 57.4	+0.5
	comp=Z,35nm,0.9s						
H33A	Prehn Over Nor	82.46	38	P	P	13 34 57.9	+0.7
	baz=317,SNR=20						
VTS	Vitosha	82.47	319	eP	P	13 34 57.3	-0.1
VTS				pmax	pmax		
	comp=Z,13nm,0.7s						
VTS	Vitosha	82.47	319	⇑iP	P	13 34 57.6	+0.2
VTS	Vitosha	82.47	319	eP	P	13 34 57.3	-0.1

comp=Z,13nm,0.7s
VTS Vitosha 82.47 319 P P 13 34 57.7 +0.3
VTS Vitosha 82.47 319 P P 13 34 57.5 +0.2
J31A Geddes 82.47 40 P P 13 34 57.8 +0.6
baz=316,SNR=8.6
EKA Eskdalemuir Ar 82.58 341 P P 13 34 57.9 +0.5
comp=Z,2.0nm,0.5s,baz=37,slow=5.0,SNR=19
EKA LR LR 14 15 54.9
comp=Z,196nm,18.5s,baz=45,slow=39
G34A Benson 82.58 37 P P 13 34 58.6 +0.9
baz=318,SNR=7.0
I32A Karley and Nic 82.58 39 P P 13 34 58.4 +0.6
baz=317
GRF Grafenberg Arr 82.61 330 P P 13 34 58.5 +0.7
GRF pmax pmax
comp=Z,28nm,0.9s
GRFO Grafenberg 82.61 330 eP P 13 34 58.3 +0.5
GRFO pmax pmax
comp=Z,25nm,0.9s
GRFO Grafenberg 82.61 330 eP P 13 34 58.3 +0.5
comp=Z,25nm,0.9s
D37A Cotton 82.62 34 P P 13 34 57.6 -0.3
baz=320
F35A Swanville 82.62 36 P P 13 34 58.3 +0.3
baz=318,SNR=5.8
SDCO Great Sand Dun 82.63 47 P P 13 34 59.8 +1.3
baz=313,SNR=18
SDCO Great Sand Dun 82.63 47 eP P 13 34 59.3 +0.8
comp=Z,9.8nm,0.9s
C38A Sawbill Land. 82.69 33 P P 13 34 58.3 0.0
baz=320,SNR=15
ARSA Arzberg 82.72 326 eP P 13 34 59.1 +0.7
comp=Z,6.5nm,0.8s,SNR=6.0
E36A McGregor 82.73 35 P P 13 34 58.8 +0.3
baz=319,SNR=16
MOA Molln 82.81 327 eP P 13 34 58.8 -0.1
comp=Z,10nm,1.0s,SNR=8.2
J32A Parkston 82.87 39 P P 13 34 59.5 +0.2
baz=317,SNR=7.0
I33A Coleman 82.90 38 P P 13 35 00.0 +0.6
baz=317
MMB Musomiste 82.91 318 P P 13 34 59.0 -0.6
H34A Spellman Lake, 82.94 37 P P 13 35 00.1 +0.5
baz=318,SNR=7.3
K31A O'Neill 82.95 40 P P 13 35 00.2 +0.5
baz=316,SNR=9.1
TUC Tucson 82.97 54 P P 13 35 00.9 +0.9
baz=310
TUC Tucson 82.97 54 eP P 13 35 00.2 +0.1
TUC pmax pmax
comp=Z,23nm,1.4s
TUC Tucson 82.97 54 eP P 13 35 00.2 +0.1
comp=Z,23nm,1.4s
DIVS Divibare 83.01 322 eP P 13 34 59.8 -0.3
comp=Z,12nm,1.1s
NVR Nevrokopi 83.01 318 P P 13 34 59.6 -0.5
KKB Krupnik 83.05 319 P P 13 35 01.0 +0.7
C39A Grand Marais 83.10 32 P P 13 34 60.0 -0.4
baz=321
F36A Milaca 83.11 35 P P 13 35 00.0 -0.4
baz=319
G35A Watkins 83.14 36 P P 13 35 00.9 +0.3
baz=319
ECSD EROS Data Cent 83.22 38 P P 13 35 01.5 +0.4
baz=317,SNR=30
ECSD EROS Data Cent 83.22 38 eP P 13 35 01.2 +0.2
comp=Z,23nm,0.8s
SRS Serrai 83.32 318 P P 13 35 00.9 -0.7
K32A Verdigre 83.32 40 P P 13 35 02.1 +0.5
baz=317
FETY Fethiye 83.33 312 P P 13 34 59.1 -2.7
FETY Fethiye 83.33 312 P P 13 34 59.1 -2.7
GROS Grobnik 83.33 326 iP P 13 35 01.4 -0.3
J33A Davis 83.35 39 P P 13 35 02.0 +0.3
baz=317
H35A Sunnyside Ranc 83.37 37 P P 13 35 02.4 +0.6
baz=318,SNR=42
SOKA Soboth 83.38 326 eP P 13 35 02.1 +0.2
comp=Z,18nm,0.8s,SNR=12
KSCO Kaye Shedlock' 83.41 45 P P 13 35 03.1 +0.7
baz=314
E38A The Farm, Brul 83.42 34 P P 13 35 02.3 +0.2
baz=320,SNR=11
YER Yerkesik 83.46 312 P P 13 35 02.6 +0.1
YER Yerkesik 83.46 312 P P 13 35 02.6 +0.1
YER Yerkesik 83.46 312 P P 13 35 02.6 +0.1
G36A St. Michael 83.47 36 P P 13 35 02.9 +0.5
baz=319
MHTCO State Highway 83.53 48 eP P 13 35 04.4 +1.3
comp=Z,34nm,1.1s
F37A Hinrichs Farm, 83.62 35 P P 13 35 03.4 +0.4
baz=320
T25A Trinidad 83.68 47 P P 13 35 04.8 +1.0
baz=313,SNR=22
T25A Trinidad 83.68 47 eP P 13 35 04.8 +1.0
comp=Z,30nm,0.8s
VAY Valandovo 83.71 319 P P 13 35 03.6 0.0
OBKA Obir 83.72 326 iP P 13 35 03.9 +0.2
comp=Z,7.3nm,0.8s,SNR=7.2
L32A Elgin 83.78 40 P P 13 35 04.6 +0.6
baz=317,SNR=5.9
F38A Pierce - Schro 83.78 34 P P 13 35 04.6 +0.8
baz=320,SNR=28
BEBN Eben Emael 83.78 334 ⇓P P 13 35 03.9 +0.2
KBA Koelnbreinsper 83.80 327 P P 13 35 05.4 +1.2
KBA Koelnbreinsper 83.80 327 eP P 13 35 04.3 +0.1
comp=Z,13nm,0.8s,SNR=8.8
LEGS Legarje 83.81 326 iP P 13 35 03.6 -0.4
MEM Membach 83.82 333 ⇑P P 13 35 03.5 -0.5
comp=Z,12nm,1.2s
MEM ⇓AP pP 13 35 19.8 +0.1
K33A Hardington 83.85 39 P P 13 35 04.7 +0.4
baz=317,SNR=6.1
PLE Pljevlja 83.87 322 eP P 13 35 04.0 -0.5
J34A George 83.87 38 P P 13 35 05.0 +0.6
baz=318
CHOS Chios island 83.88 315 P P 13 35 04.3 -0.4
H36A Jessenland, He 83.89 36 P P 13 35 05.4 +1.0
baz=319,SNR=22
LAZ Ladron 83.89 51 eP P 13 35 06.1 +1.2
SPMN Marine on St. 83.92 35 P P 13 35 05.0 +0.4
baz=320,SNR=6.6
SPMN Marine on St. 83.92 35 eP P 13 35 04.6 0.0
comp=Z,27nm,1.0s
I35A Creekview Farm 83.92 37 P P 13 35 05.0 +0.4
baz=318
PLG Polygyros 83.92 317 P P 13 35 04.4 -0.4
ANMO Albuquerque 83.95 50 P P 13 35 06.3 +1.1
baz=312
ANMO Albuquerque 83.95 50c iP P 13 35 06.3 +1.1
ANMO pmax pmax
comp=Z,31nm,1.2s
ANMO Albuquerque 83.95 50 eP P 13 35 06.0 +0.8
comp=Z,25nm,1.1s
IVA Berane 83.96 321 eP P 13 35 04.8 -0.2
MYKA Terra Mystica 84.02 327 eP P 13 35 05.0 -0.2
comp=Z,4.9nm,0.5s
L33A Hoskins 84.03 40 P P 13 35 05.8 +0.5
baz=317
E39A Mellen 84.04 33 P P 13 35 05.4 +0.2
baz=321,SNR=12
BODT Bodrum 84.08 313 P P 13 35 04.2 -1.4
BODT Bodrum 84.08 313 P P 13 35 04.2 -1.4
PAIG Paliouri 84.12 317 P P 13 35 05.0 -0.7
BGNE Belgrade 84.13 41 P P 13 35 06.3 +0.4
baz=317
BGNE Belgrade 84.13 41 eP P 13 35 05.5 -0.4
comp=Z,97nm,1.2s
STU Stuttgart 84.14 331 eP P 13 35 05.4 -0.3
STU pmax pmax
comp=Z,27nm,1.0s
STU Stuttgart 84.14 331 eP P 13 35 05.4 -0.3
comp=Z,27nm,1.0s
KOME Kolasin 84.16 321 ⇑iP P 13 35 05.7 -0.3
J35A Milford 84.18 38 P P 13 35 06.4 +0.4
baz=318
PMOR Pomariorio Ree 84.21 114 eT T 15 07 29.3
comp=Z,45nm,0.2s
BCLA Clavier 84.23 334 ⇓P P 13 35 06.1 +0.1
F39A Loretta 84.24 34 P P 13 35 06.7 +0.4
baz=321,SNR=10
K34A Le Mars 84.24 39 P P 13 35 06.6 +0.3
baz=318,SNR=6.9
I36A Fitzsimmons Fa 84.26 37 P P 13 35 07.0 +0.6
baz=319
LPM Los Pinos Moun 84.26 51 eP P 13 35 07.7 +0.9
E40A Wakefield 84.27 33 P P 13 35 07.0 +0.6
baz=322,SNR=18
H37A Dierke Farm, C 84.35 36 P P 13 35 07.5 +0.7
baz=320,SNR=10
D41A Chassel 84.36 32 P P 13 35 07.4 +0.6
baz=322
BNM Barren Site 84.38 51 eP P 13 35 08.5 +1.0
G38A Ridgeland 84.39 35 P P 13 35 06.7 -0.3
baz=320,SNR=9.8
JAVS Jarornik 84.41 326 iP P 13 35 06.2 -1.0
NKME Niksic 84.50 322 ⇑iP P 13 35 07.3 -0.4
M33A Taylor Creek F 84.51 40 P P 13 35 08.1 +0.4
baz=317
SNF Seneffe 84.51 334 ⇑P P 13 35 07.2 -0.2
comp=Z,20nm,1.2s
MOTA Moosalm 84.53 329 ePcP P 13 35 08.2 +0.3
comp=Z,10nm,0.8s,SNR=12
319A Douglas 84.54 54 eP P 13 35 08.7 +0.6
comp=Z,33nm,1.0s
RETA Reutte 84.55 329 ePcP P 13 35 08.4 +0.5
comp=Z,18nm,0.7s,SNR=11
WLF Walferdange 84.55 333 ⇑P P 13 35 08.2 +0.5
WLF Walferdange 84.55 333 eP P 13 35 07.7 0.0
WLF pmax pmax
comp=Z,97nm,2.0s
WLF Walferdange 84.55 333 eP P 13 35 07.7 0.0
comp=Z,97nm,2.0s
I37A Lemond, Waseca 84.56 36 P P 13 35 08.5 +0.6
baz=319,SNR=16
H38A Maiden Rock 84.58 35 P P 13 35 08.3 +0.4
baz=320
F40A Park Falls 84.59 33 P P 13 35 08.4 +0.4
baz=321,SNR=8.2
PDG Podgorica 84.60 321 ⇑iP P 13 35 08.2 +0.1
TTG Podgorica 84.60 321 ⇑iP P 13 35 07.8 -0.3
TTG Podgorica 84.60 321 eP P 13 35 08.0 -0.1
TTG pmax pmax
comp=Z,29nm,0.9s
TTG Podgorica 84.60 321 eP P 13 35 08.0 -0.1
comp=Z,29nm,0.9s
SCHQ Schefferville 84.61 16 P P 13 35 08.6 +0.7
comp=Z,16nm,0.7s,baz=0.7,slow=4.8,SNR=15
SCHQ LR LR 14 14 30.2
comp=Z,180nm,21.8s,baz=340,slow=37
SCHQ Schefferville 84.61 16 eP P 13 35 07.8 -0.1
comp=Z,21nm,0.8s
G39A Holcombe 84.61 34 P P 13 35 08.5 +0.4
baz=321,SNR=8.2
J36A Seneca 1, Swea 84.63 37 P P 13 35 08.6 +0.4
baz=319,SNR=9.6
LIT Litokhoron 84.63 318 P P 13 35 07.1 -1.2
L34A Svendsen Farm, 84.63 40 P P 13 35 08.8 +0.5
baz=318
K35A Storm Lake 84.64 38 P P 13 35 08.7 +0.3
baz=318
E41A Kenton 84.66 33 P P 13 35 08.8 +0.5
baz=322,SNR=16
GIVF Givet 84.66 334 eP P 13 35 07.6 -0.7
GIVF pmax pmax
comp=Z,15nm,1.1s
CEME Cevo 84.68 321 ⇑iP P 13 35 08.1 -0.5
PPT2 Papeete2 84.72 117 eS S 13 45 35.6 +2.9
comp=Z,130nm,23.2s
PPT2 Papeete2 84.72 117 eLR LR 14 01 56.2
comp=Z,496nm,24.8s,baz=317
PPT2 Papeete2 84.72 117 eT T 15 08 07.9
comp=Z,8.1nm,0.3s
FNA Florina 84.72 319 P P 13 35 08.8 -0.1
FNA pmax pmax
comp=Z,10.0nm,1.1s
121A Cookes Peak, D 84.73 53 P P 13 35 10.6 +1.4
baz=312,SNR=8.2
121A Cookes Peak, D 84.73 53 eP P 13 35 10.4 +1.2
comp=Z,22nm,0.9s
DOU Dourbes 84.75 334 ⇓P P 13 35 08.9 +0.3
PAE Paea 84.76 117 eT T 15 08 11.5
comp=Z,2.2nm,0.3s
XOR Xorichti 84.78 317 P P 13 35 07.7 -1.4
DRME Dracevica, Mon 84.81 321 ⇑iP P 13 35 09.2 0.0
BFO Black Forest 84.84 331 eP P 13 35 09.2 0.0
BFO pmax pmax
comp=Z,28nm,0.9s
BFO Black Forest 84.84 331 eP P 13 35 09.2 0.0
comp=Z,28nm,0.9s
TIAR Tiarei 84.86 117 eT T 15 08 18.3
comp=Z,7.2nm,0.3s
M34A Aspy Farms, Fr 84.87 40 P P 13 35 10.0 +0.5
baz=318
COWI Conover 84.87 33 eP P 13 35 09.9 +0.5
comp=Z,21nm,0.8s
BUM Brajici-Budva 84.88 321 eP P 13 35 09.5 -0.1
BAIF Baives 84.91 334 eP P 13 35 09.0 -0.5
BAIF pmax pmax
comp=Z,6.0nm,0.7s
FETA Feichten 84.94 329 ePcP P 13 35 10.0 +0.1
comp=Z,9.8nm,0.8s,SNR=7.9
ULC Ulcinj 84.95 321 eP P 13 35 09.5 -0.4
HCY Herceg Novi 84.96 322 eP P 13 35 10.5 +0.6
HSIG 84.98 57 eP P 13 35 10.5 +0.2
J37A Redenius Farm, 85.02 37 P P 13 35 10.7 +0.4
baz=319,SNR=7.0
H39A Augusta 85.03 35 P P 13 35 10.7 +0.4
baz=321,SNR=7.9
I38A Scanlan Farm, 85.04 36 P P 13 35 10.7 +0.4
baz=320,SNR=10
G40A Rib Lake 85.06 34 P P 13 35 10.9 +0.6
baz=321,SNR=14
DAVA Damuels 85.07 329 ePcP P 13 35 10.8 +0.2
comp=Z,29nm,0.9s,SNR=12
K36A Gilmore City 85.09 38 P P 13 35 11.2 +0.6
baz=319,SNR=7.9
APE Apeiranthos 85.10 314 ⇓P P 13 35 09.3 -1.5
APE Apeiranthos 85.10 314 ⇓iP P 13 35 09.3 -1.5
APE Apeiranthos 85.10 314 P P 13 35 09.6 -1.2
E42A Champion 85.13 32 P P 13 35 11.2 +0.5
baz=323,SNR=6.8
CBKS Cedar Bluff 85.15 44 P P 13 35 11.4 +0.4
baz=316,SNR=5.0
CBKS Cedar Bluff 85.15 44 eP P 13 35 10.9 -0.1
CBKS pmax pmax
comp=Z,28nm,1.0s
CBKS Cedar Bluff 85.15 44 eP P 13 35 10.9 -0.1
comp=Z,28nm,1.0s
NEST Nestorio 85.16 319 P P 13 35 10.5 -0.6
F41A Three Lakes 85.17 33 P P 13 35 11.5 +0.6
baz=322,SNR=15
CDF Champ du Feu 85.17 332 eP P 13 35 10.5 -0.5
CDF pmax pmax
comp=Z,23nm,0.9s
KARP Karpathos 85.21 312 eP P 13 35 11.3 0.0
comp=Z,13nm,0.8s
KARP Karpathos 85.21 312 P P 13 35 10.6 -0.7
ECH Echery 85.38 331 eP P 13 35 11.7 -0.3
ECH pmax pmax
comp=Z,18nm,0.9s
ECH Echery 85.38 331 eP P 13 35 11.7 -0.3
comp=Z,18nm,0.9s
L36A Harm Buss Farm 85.39 38 P P 13 35 12.8 +0.7
baz=319
K37A Belmond 85.39 37 P P 13 35 12.5 +0.4
baz=319,SNR=18
LKR Lokris 85.39 316 P P 13 35 10.6 -1.6
O33A Hebron 85.40 41 P P 13 35 11.5 -0.6
baz=317
N34A Lincoln 85.40 40 P P 13 35 12.5 +0.3
baz=318
FUORN Ofenpass-Fuorn 85.45 329 eP P 13 35 12.4 -0.2
comp=Z,31nm,0.8s
H40A Chili 85.48 34 P P 13 35 13.1 +0.7
baz=321,SNR=13
AGG Agios Georgios 85.49 317 eP P 13 35 11.5 -1.2
AGG pmax pmax
comp=Z,20nm,0.9s
AGG Agios Georgios 85.49 317 eP P 13 35 11.5 -1.2
comp=Z,20nm,0.9s
J38A Wedel Dairy, R 85.52 36 P P 13 35 13.2 +0.4
baz=320,SNR=9.5
G41A Antigo 85.55 33 P P 13 35 13.3 +0.5
baz=322
E43A Lone Tree Farm 85.56 31 P P 13 35 13.5 +0.7
baz=323,SNR=5.8
I39A Houston 85.56 36 P P 13 35 13.1 +0.2
baz=321,SNR=12
F42A Maple Grove Fa 85.57 32 P P 13 35 13.4 +0.5
baz=323
O34A Beatrice 85.78 41 P P 13 35 14.0 -0.1
baz=318,SNR=5.0
E44A Grand Marais A 85.80 31 P P 13 35 14.6 +0.6
baz=324
M36A Felix, Anita 85.80 39 P P 13 35 14.9 +0.7
baz=319,SNR=5.5
H41A Junction City 85.81 34 P P 13 35 14.8 +0.7
baz=322,SNR=6.4
H41A Junction City 85.81 34 eP P 13 35 14.3 +0.2
comp=Z,35nm,0.9s
L37A Phoenix Point, 85.82 38 P P 13 35 14.7 +0.5
baz=319,SNR=6.8
N35A Tabor 85.82 40 P P 13 35 15.1 +0.8
baz=318,SNR=5.8
HINF Hinteralfeld 85.83 331 eP P 13 35 13.3 -0.9
HINF pmax pmax
comp=Z,9.0nm,0.9s
G42A Mountain 85.85 33 P P 13 35 15.2 +0.9
baz=322,SNR=12
G42A Mountain 85.85 33 eP P 13 35 14.6 +0.2
comp=Z,32nm,0.8s
G42A epP pP 13 35 29.0 -1.0
J39A Decorah 85.87 36 P P 13 35 14.4 0.0
baz=320,SNR=17
K38A Parkersburg 85.89 37 P P 13 35 14.3 -0.2
baz=320
F43A Flat Rock, Esc 85.92 32 P P 13 35 15.4 +0.7
baz=323
I40A Norwalk 85.94 35 P P 13 35 15.4 +0.6
baz=321,SNR=5.8
TUE Stuetta 85.94 329 eP P 13 35 14.6 -0.4
comp=Z,11nm,0.9s
ANX Ano Chora 86.02 317 P P 13 35 14.8 -0.6
ZKR Zakros 86.06 312 P P 13 35 15.0 -0.6
ZKR Zakros 86.06 312 P P 13 35 15.0 -0.6
TAOE Nuku Hiva Isla 86.08 104 eLR LR 14 02 28.6
comp=Z,658nm,25.2s
F44A Big Bay de Noc 86.12 31 P P 13 35 16.2 +0.7
baz=324,SNR=9.7
O35A Humboldt 86.13 40 P P 13 35 16.2 +0.5
baz=318
I41A Arkdale 86.15 34 P P 13 35 16.4 +0.6
baz=322,SNR=8.3
G43A Wallace 86.16 33 P P 13 35 16.6 +0.7
baz=323,SNR=10
G43A Wallace 86.16 33 eP P 13 35 16.2 +0.4
comp=Z,43nm,0.8s
IGT Igoumenitsa 86.18 319 P P 13 35 17.9 +1.8
L38A Oak Wood Farm, 86.19 37 P P 13 35 16.6 +0.5
baz=320,SNR=7.3
M37A Trindle Farm, 86.21 39 P P 13 35 17.3 +1.1
baz=319,SNR=6.8
SCIA State Center 86.24 38 P P 13 35 17.3 +1.0
baz=320,SNR=5.5
SCIA State Center 86.24 38 eP P 13 35 16.5 +0.2
comp=Z,73nm,1.1s
SCIA epP pP 13 35 33.6 +1.6
LAKA Lakka 86.25 317 P P 13 35 15.3 -1.1
LAKA Lakka 86.25 317 P P 13 35 15.3 -1.1
GUR Goura 86.27 316 P P 13 35 14.7 -1.9
GUR Goura 86.27 316 P P 13 35 14.7 -1.9
J40A Soldiers Grove 86.27 35 P P 13 35 16.5 +0.1
baz=321,SNR=9.5
K39A Oelwein 86.27 36 P P 13 35 16.4 0.0
baz=320,SNR=20
KEK Kerkira 86.33 319 P P 13 35 15.9 -0.9
H42A Shiocton 86.39 33 P P 13 35 17.6 +0.6
baz=322,SNR=9.5
H42A Shiocton 86.39 33 eP P 13 35 17.2 +0.2
comp=Z,37nm,0.8s
LAST Lasithi 86.46 313 P P 13 35 16.7 -0.9
LAST Lasithi 86.46 313 P P 13 35 16.7 -0.9
N37A Lee Faris, Mou 86.62 39 P P 13 35 18.9 +0.8
baz=319,SNR=8.2
KSU1 Kansas State U 86.62 42 P P 13 35 18.5 +0.2
baz=318,SNR=9.3
KSU1 Kansas State U 86.62 42 eP P 13 35 18.1 -0.2
comp=Z,33nm,0.8s
M38A Pleasantville 86.62 38 P P 13 35 18.7 +0.5
baz=320,SNR=13
K40A Colesburg 86.62 36 P P 13 35 18.5 +0.4
baz=321,SNR=18
J41A Loganville 86.63 35 P P 13 35 18.5 +0.3
baz=322,SNR=14
L39A Vinton 86.66 37 P P 13 35 18.8 +0.4
baz=320,SNR=20
I42A Draeger Farm, 86.71 34 P P 13 35 19.1 +0.6
baz=322,SNR=20
I42A Draeger Farm, 86.71 34 eP P 13 35 18.6 0.0
comp=Z,38nm,0.8s
IDI Anoyia 86.72 313 P P 13 35 17.9 -0.9
comp=Z,12nm,0.6s,baz=35,slow=12,SNR=14
IDI Anoyia 86.72 313 ⇑iP P 13 35 17.2 -1.6
IDI Anoyia 86.72 313 eP P 13 35 18.2 -0.6
comp=Z,18nm,0.6s
F45A CMU Biological 86.72 31 P P 13 35 18.8 +0.3
baz=324
H43A Windswept, Lux 86.75 33 P P 13 35 19.4 +0.7
baz=323,SNR=18
MNTX Cornudas Mount 86.80 52 P P 13 35 20.0 +0.8
baz=313,SNR=10
MNTX Cornudas Mount 86.80 52 eP P 13 35 19.5 +0.2
comp=Z,9.4nm,1.1s
MSTX Muleshoe 86.83 49 P P 13 35 19.7 +0.2
baz=314
MSTX Muleshoe 86.83 49 eP P 13 35 18.7 -0.8
comp=Z,21nm,1.4s
AMTX Amarillo 86.84 47 P P 13 35 20.5 +1.0
baz=315
AMTX Amarillo 86.84 47 eP P 13 35 19.4 -0.1
comp=Z,37nm,0.8s
SENIN Lac Senin/Sane 86.85 330 eP P 13 35 19.3 -0.2
comp=Z,9.2nm,1.0s
JFWS Jewell Farm 86.87 35 P P 13 35 19.7 +0.4
baz=321,SNR=9.9
JFWS Jewell Farm 86.87 35 eP P 13 35 18.9 -0.5
JFWS e*PP pP 13 35 35.0 -0.1
JFWS pmax pmax
comp=Z,24nm,0.9s
JFWS Jewell Farm 86.87 35 eP P 13 35 18.9 -0.5
comp=Z,24nm,0.9s
JFWS epP pP 13 35 35.0 -0.1
F46A Macinaw City C 86.96 31 P P 13 35 20.4 +0.7
baz=325
ITM Ithomi 87.04 316 P P 13 35 18.8 -1.5
ITM Ithomi 87.04 316 P P 13 35 18.8 -1.5
I43A Langenfeld Bro 87.05 34 P P 13 35 20.8 +0.6
baz=323,SNR=8.9
J42A Columbus 87.07 35 P P 13 35 20.7 +0.4
baz=322,SNR=8.7
M39A Webster 87.08 37 P P 13 35 21.0 +0.6
baz=320,SNR=14
L40A Anamosa 87.08 37 P P 13 35 20.7 +0.3
baz=321,SNR=13
N38A Joes South For 87.08 39 P P 13 35 20.8 +0.4
baz=320,SNR=6.5
K41A Shullsburg 87.08 36 P P 13 35 20.7 +0.3
baz=321,SNR=15
GDL2 Guadalupe Moun 87.09 51 eP P 13 35 21.1 +0.3
O37A Wolven Farm, M 87.10 39 P P 13 35 20.8 +0.2
baz=319,SNR=6.6
CABF La Chapelle 87.12 331 eP P 13 35 19.9 -0.7
CABF pmax pmax
comp=Z,15nm,1.3s
IMMV Iera Moni Meta 87.12 314 P P 13 35 21.0 +0.3
MATE Matera 87.20 321 ⇑iP P 13 35 20.1 -0.9
ANKY Antikythira Is 87.22 314 P P 13 35 20.6 -0.6
J43A Natural Harves 87.33 34 P P 13 35 21.9 +0.3
baz=323,SNR=14
PYL PYLOS 87.35 316 P P 13 35 20.7 -1.1
PYL PYLOS 87.35 316 P P 13 35 20.7 -1.1
N39A Derby Farms, D 87.38 38 P P 13 35 22.4 +0.6
baz=320,SNR=14
K42A Prairie Point, 87.39 35 P P 13 35 22.0 +0.1
baz=322,SNR=13
L41A Preston 87.41 36 P P 13 35 22.1 +0.1
baz=321,SNR=13
P37A Lathrop 87.43 40 P P 13 35 22.5 +0.4
baz=319,SNR=6.6
M40A Post Highland 87.45 37 P P 13 35 22.7 +0.5
baz=321,SNR=11
AQU L'Aquila 87.47 324 eP P 13 35 21.6 -0.7
AQU pmax pmax
comp=Z,15nm,0.9s
AQU L'Aquila 87.47 324 eP P 13 35 21.6 -0.7
comp=Z,15nm,0.9s
O38A Galt 87.47 39 P P 13 35 23.0 +0.7
baz=320
FLN La Foliniere 87.59 336 eP P 13 35 22.1 -0.6
FLN pmax pmax

	comp=Z,25nm,1.2s									
LDF	**La Druitiere**	**87.62**	**336**	*e*P		**P**		**13 35 22.2**	**-0.7**
LDF				pmax		pmax				
	comp=Z,11nm,0.6s									
LPL	**La Plagne**	**87.78**	**330**	*e*P		**P**		**13 35 23.8**	**-0.2**
LPL				pmax		pmax				
	comp=Z,6.0nm,0.6s									
LPG	**La Plagne**	**87.78**	**330**	*e*P		**P**		**13 35 24.7**	**+0.6**
LPG				pmax		pmax				
	comp=Z,12nm,0.7s									
GLMI	**Grayling**	**87.79**	**31**	P		**P**		**13 35 24.2**	**+0.5**
	baz=325									
N40A	**Mertquake, Sal**	**87.82**	**37**	P		**P**		**13 35 24.9**	**+0.9**
	baz=321									
P38A	**Dawn**	**87.82**	**39**	P		**P**		**13 35 24.7**	**+0.8**
	baz=320,SNR=10									
O39A	**Kirksville**	**87.83**	**38**	P		**P**		**13 35 24.9**	**+0.9**
	baz=320									
L42A	**Oliver, Polo**	**87.85**	**36**	P		**P**		**13 35 24.3**	**+0.2**
	baz=322,SNR=7.0									
K43A	**Burlington**	**87.91**	**34**	P		**P**		**13 35 24.4**	**+0.1**
	baz=323									
Q37A	**Longview Farm,**	**87.91**	**40**	P		**P**		**13 35 24.8**	**+0.3**
	baz=319									
M41A	**Milan**	**87.93**	**37**	P		**P**		**13 35 24.9**	**+0.5**
	baz=321,SNR=13									
AVF	**Avril sur Loir**	**87.98**	**333**	*e*P		**P**		**13 35 24.3**	**-0.3**
AVF				pmax		pmax				
	comp=Z,16nm,0.8s									
GRR	**Gorron**	**88.04**	**336**	*e*P		**P**		**13 35 24.6**	**-0.3**
GRR				pmax		pmax				
	comp=Z,22nm,0.9s									
L43A	**Garden Prairie**	**88.13**	**35**	P		**P**		**13 35 25.8**	**+0.4**
	baz=322									
BNI	**Bardonecchia**	**88.18**	**330**	*e*P		**P**		**13 35 25.9**	**+0.1**
BNI				pmax		pmax				
	comp=Z,6.0nm,1.0s									
BNI	**Bardonecchia**	**88.18**	**330**	*e*P		**P**		**13 35 25.9**	**+0.1**
	comp=Z,6.4nm,1.0s									
M42A	**Sheffield**	**88.24**	**36**	P		**P**		**13 35 26.5**	**+0.6**
	baz=322									
O40A	**La Belle**	**88.26**	**38**	P		**P**		**13 35 26.7**	**+0.6**
	baz=320,SNR=7.8									
Q38A	**Cooks Store, C**	**88.28**	**40**	P		**P**		**13 35 26.3**	**+0.2**
	baz=319,SNR=7.7									
TIP	**Timpagrande**	**88.29**	**320**	⫛ *i*P		**P**		**13 35 26.0**	**-0.3**
TIP	**Timpagrande**	**88.29**	**320**	*e*P		**P**		**13 35 25.5**	**-0.8**
	comp=Z,8.1nm,0.7s									
N41A	**Harden Midland**	**88.30**	**37**	P		**P**		**13 35 26.7**	**+0.4**
	baz=321									
P39B	**Salisbury**	**88.31**	**39**	P		**P**		**13 35 26.7**	**+0.3**
	baz=320,SNR=6.1									
L44A	**Lake County Fo**	**88.51**	**35**	P		**P**		**13 35 27.6**	**+0.4**
	baz=323									
Q39A	**Willow Grove F**	**88.54**	**39**	P		**P**		**13 35 28.2**	**+0.8**
	baz=320									
N42A	**Yates City**	**88.60**	**37**	P		**P**		**13 35 28.2**	**+0.5**
	baz=322,SNR=6.0									
ORIF	**Oris-en-Rattie**	**88.61**	**330**	*e*P		**P**		**13 35 27.6**	**-0.1**
ORIF				pmax		pmax				
	comp=Z,6.0nm,0.8s									
WMOK	**Wichita Mounta**	**88.61**	**46**	P		**P**		**13 35 28.5**	**+0.6**
	baz=316,SNR=15									
WMOK	**Wichita Mounta**	**88.61**	**46**	*e*P		**P**		**13 35 27.4**	**-0.5**
WMOK				pmax		pmax				
	comp=Z,18nm,1.1s									
WMOK	**Wichita Mounta**	**88.61**	**46**	*e*P		**P**		**13 35 27.4**	**-0.5**
	comp=Z,16nm,1.1s									
LPIG	**La Paz**	**88.62**	**60**	LR		LR		14 07 25.4		
	comp=Z,102nm,21.5s,baz=241,slow=30									
M43A	**Waltham Townsh**	**88.62**	**36**	P		**P**		**13 35 28.4**	**+0.7**
	baz=322,SNR=20									
P40A	**Paris**	**88.63**	**39**	P		**P**		**13 35 28.5**	**+0.7**
	baz=320,SNR=14									
TOBO	**Tobermory, Bru**	**88.69**	**29**	P		**P**		**13 35 28.3**	**+0.3**
	baz=327,SNR=5.2									
R38A	**Fenwick Farm,**	**88.71**	**41**	P		**P**		**13 35 28.2**	**-0.1**
	baz=319,SNR=5.7									
O41A	**Passleys Farm,**	**88.75**	**38**	P		**P**		**13 35 29.0**	**+0.7**
	baz=321,SNR=10									
SSB	**Saint Sauveur**	**88.82**	**331**	*e*P		**P**		**13 35 28.8**	**+0.1**
SSB				pmax		pmax				
	comp=Z,23nm,1.9s									
SSB	**Saint Sauveur**	**88.82**	**331**	*e*P		**P**		**13 35 28.8**	**+0.1**
	comp=Z,23nm,1.9s									
ROSF	**Rostrenen**	**88.84**	**338**	*e*P		**P**		**13 35 31.2**	**+2.6**
N43A	**Stutzman Famil**	**88.92**	**36**	P		**P**		**13 35 29.7**	**+0.5**
	baz=322,SNR=9.1									
P41A	**Barry, Barry**	**89.00**	**38**	P		**P**		**13 35 30.2**	**+0.7**
	baz=321,SNR=13									
Q40A	**Laux Farm, Aux**	**89.03**	**39**	P		**P**		**13 35 30.3**	**+0.6**
	baz=320									
R39A	**Chumby, Stover**	**89.06**	**40**	P		**P**		**13 35 30.3**	**+0.4**
	baz=320,SNR=9.8									
KLBO	**Killbear Provi**	**89.07**	**28**	P		**P**		**13 35 30.4**	**+0.6**
	baz=328,SNR=11									
M44A	**Midewin, Midew**	**89.08**	**35**	P		**P**		**13 35 30.6**	**+0.7**
	baz=323,SNR=7.3									
VIVF	**Saint-Julien-l**	**89.13**	**331**	*e*P		**P**		**13 35 31.0**	**+0.9**
VIVF				pmax		pmax				
	comp=Z,8.0nm,1.4s									
S38A	**Stockton**	**89.13**	**41**	P		**P**		**13 35 30.2**	**0.0**
	baz=319									
HDIL	**Hopedale**	**89.16**	**36**	P		**P**		**13 35 31.0**	**+0.7**
	baz=322,SNR=6.0									
HDIL	**Hopedale**	**89.16**	**36**	*e*P		**P**		**13 35 30.8**	**+0.5**
	comp=Z,62nm,0.9s									
QUIF	**Quistinic**	**89.18**	**337**	*e*P		**P**		**13 35 29.7**	**-0.5**
QUIF				pmax		pmax				
	comp=Z,45nm,1.6s									
BUKO	**Buck Lake**	**89.30**	**28**	P		**P**		**13 35 31.2**	**+0.3**
	baz=329,SNR=5.2									
BMRO	**Meriville Lake**	**89.33**	**29**	P		**P**		**13 35 31.7**	**+0.7**
	baz=328,SNR=8.5									
O43A	**Sugar Creek Fa**	**89.36**	**37**	P		**P**		**13 35 32.1**	**+0.8**
	baz=322									
T38A	**Diamond**	**89.38**	**42**	P		**P**		**13 35 31.6**	**+0.1**
	baz=319,SNR=14									
S39A	**Bolivar**	**89.39**	**41**	P		**P**		**13 35 31.6**	**+0.2**
	baz=320,SNR=9.4									
TUL1	**Leonard**	**89.42**	**43**	P		**P**		**13 35 32.2**	**+0.6**
	baz=318,SNR=6.5									
TUL1	**Leonard**	**89.42**	**43**	*e*P		**P**		**13 35 32.0**	**+0.4**
	comp=Z,14nm,0.8s									
P42A	**Winchester**	**89.42**	**38**	P		**P**		**13 35 32.3**	**+0.7**
	baz=321,SNR=7.1									
CEL	**Celeste**	**89.43**	**320**	*e*P		**P**		**13 35 31.6**	**-0.1**
	comp=Z,23nm,0.8s									
FRF	**La Foret Royal**	**89.43**	**329**	*e*P		**P**		**13 35 33.3**	**+1.8**
M45A	**Boilermakers S**	**89.44**	**35**	P		**P**		**13 35 32.5**	**+0.9**
	baz=323									
R40A	**Maddies Statio**	**89.47**	**40**	P		**P**		**13 35 32.2**	**+0.4**
	baz=320,SNR=11									
Q41A	**Truxton**	**89.48**	**39**	P		**P**		**13 35 32.4**	**+0.6**
	baz=321,SNR=10									
TX31	**Lajitas Ar. Si**	**89.50**	**53**	*e*P		**P**		**13 35 32.8**	**+0.6**
TXAR	**Lajitas Array**	**89.50**	**53**	P		**P**		**13 35 33.0**	**+0.8**
	comp=Z,8.8nm,0.7s,baz=299,slow=3.2,SNR=133									
TXAR				LR		LR		14 09 53.1		
	comp=Z,99nm,21.8s,baz=0.0,slow=32									
N44A	**Piper City**	**89.51**	**35**	P		**P**		**13 35 32.7**	**+0.7**
	baz=323									
ABTX	**Abilene, Hawle**	**89.63**	**48**	P		**P**		**13 35 33.6**	**+0.9**
	baz=316,SNR=6.6									
ABTX	**Abilene, Hawle**	**89.63**	**48**	*e*P		**P**		**13 35 33.2**	**+0.5**
	comp=Z,27nm,1.0s									
ABTX				*e*pP		**pP**		**13 35 50.1**	**+1.6**
BASO	**Ashfield**	**89.65**	**30**	P		**P**		**13 35 34.0**	**+1.5**
	baz=327,SNR=10									
N45A	**Kentland**	**89.75**	**35**	P		**P**		**13 35 33.9**	**+0.9**
	baz=323,SNR=11									
P43A	**Skaggs, Pawnee**	**89.77**	**37**	P		**P**		**13 35 34.2**	**+1.0**
	baz=322									
M46A	**Old House Fiel**	**89.83**	**34**	P		**P**		**13 35 34.4**	**+1.0**
	baz=324									
Q42A	**Golden Eagle**	**89.85**	**38**	P		**P**		**13 35 34.3**	**+0.7**
	baz=321,SNR=5.4									
HPIG		**89.85**	**56**	*e*P		**P**		**13 35 34.7**	**+0.7**
	comp=Z,8.8nm,0.9s									
T39A	**Clever**	**89.87**	**41**	P		**P**		**13 35 33.5**	**-0.2**
	baz=320,SNR=6.5									
O44A	**Mansfield**	**89.87**	**36**	P		**P**		**13 35 33.9**	**+0.3**
	baz=323									
PEMO	**Pembroke**	**89.87**	**26**	P		**P**		**13 35 33.6**	**+0.1**
	baz=330									
S40A	**Lebanon**	**89.88**	**40**	P		**P**		**13 35 33.9**	**+0.2**
	baz=320,SNR=6.5									
R41A	**Rosebud**	**89.91**	**39**	P		**P**		**13 35 34.1**	**+0.3**
	baz=321,SNR=9.1									
RJF	**Les Rejaudoux**	**89.92**	**333**	*e*P		**P**		**13 35 33.6**	**-0.2**
RJF				pmax		pmax				
	comp=Z,9.0nm,0.9s									
ATD	**Arta Tunnel**	**89.96**	**284**	LR		LR		14 20 43.7		
	comp=Z,83nm,19.5s,baz=20,slow=39									
SADO	**Sadowa**	**89.97**	**28**	*e*P		**P**		**13 35 34.1**	**+0.1**
	comp=Z,20nm,1.1s									
CAF	**Calviac**	**90.05**	**333**	*e*P		**P**		**13 35 34.5**	**+0.1**
CAF				pmax		pmax				
	comp=Z,6.0nm,0.7s									
N46A	**Monticello**	**90.07**	**35**	P		**P**		**13 35 34.9**	**+0.4**
	baz=324									
HHAR	**Hobbs**	**90.13**	**42**	*e*P		**P**		**13 35 34.9**	**0.0**
	comp=Z,8.8nm,0.7s									
O45A	**Potomac**	**90.14**	**36**	P		**P**		**13 35 35.7**	**+0.8**
	baz=323,SNR=13									
BANO	**Bancroft**	**90.20**	**27**	P		**P**		**13 35 35.6**	**+0.5**
	baz=330,SNR=7.5									
T40A	**Mansfield**	**90.21**	**40**	P		**P**		**13 35 35.7**	**+0.3**
	baz=320,SNR=7.6									
R42A	**Luebbering**	**90.22**	**39**	P		**P**		**13 35 35.9**	**+0.7**
	baz=321									
Q43A	**New Douglas**	**90.24**	**38**	P		**P**		**13 35 36.0**	**+0.7**
	baz=322									
AAM	**Ann Arbor**	**90.26**	**32**	P		**P**		**13 35 36.2**	**+0.9**
	baz=326									
AAM	**Ann Arbor**	**90.26**	**32**	*e*P		**P**		**13 35 36.0**	**+0.6**
AAM				pmax		pmax				
	comp=Z,31nm,0.8s									
AAM	**Ann Arbor**	**90.26**	**32**	*e*P		**P**		**13 35 36.0**	**+0.6**
	comp=Z,31nm,0.8s									
S41A	**Jillco Farms,**	**90.27**	**40**	P		**P**		**13 35 35.7**	**+0.1**
	baz=321									
U39A	**Green Forest**	**90.30**	**42**	P		**P**		**13 35 36.1**	**+0.3**
	baz=320,SNR=17									
TRQ	**Mont Tremblant**	**90.30**	**24**	*e*P		**P**		**13 35 35.7**	**+0.1**
SFIN	**Lafayette**	**90.32**	**35**	P		**P**		**13 35 36.4**	**+0.7**
	baz=324									
SFIN	**Lafayette**	**90.32**	**35**	*e*P		**P**		**13 35 36.0**	**+0.3**
	comp=Z,7.3nm,0.3s									
P44A	**Sand Creek, Wi**	**90.34**	**37**	P		**P**		**13 35 36.4**	**+0.6**
	baz=322,SNR=9.9									
ELFO	**Elginfield**	**90.47**	**30**	P		**P**		**13 35 36.7**	**+0.3**
	baz=327,SNR=11									
PLVO	**Plevna**	**90.48**	**26**	P		**P**		**13 35 37.0**	**+0.6**
	baz=320									
PLVO	**Plevna**	**90.48**	**26**	*e*P		**P**		**13 35 36.4**	**0.0**
	comp=Z,27nm,0.8s									
Q44A	**Meyer Farm, Va**	**90.59**	**37**	P		**P**		**13 35 37.9**	**+0.9**
	baz=322									
ACTO	**Acton**	**90.61**	**29**	P		**P**		**13 35 37.7**	**+0.6**
	baz=328									
S42A	**Caledonia**	**90.61**	**39**	P		**P**		**13 35 37.8**	**+0.6**
	baz=321,SNR=9.0									
V39A	**Pettigrew**	**90.62**	**42**	P		**P**		**13 35 37.5**	**+0.2**
	baz=319,SNR=10									
FVM	**French Village**	**90.63**	**39**	*e*P		**P**		**13 35 36.4**	**-0.8**
FVM				*e**PP		**pP**		**13 35 54.4**	**+1.4**
FVM				pmax		pmax				
	comp=Z,26nm,1.1s									
FVM	**French Village**	**90.63**	**39**	*e*P		**P**		**13 35 36.4**	**-0.8**
	comp=Z,26nm,1.1s									
FVM				*e*pP		**pP**		**13 35 54.4**	**+1.4**
R43A	**Red Bud**	**90.64**	**38**	P		**P**		**13 35 37.8**	**+0.5**
	baz=322									
U40A	**Yellville**	**90.65**	**41**	P		**P**		**13 35 37.9**	**+0.6**
	baz=320,SNR=22									
T41A	**Mountain View**	**90.68**	**40**	P		**P**		**13 35 37.8**	**+0.3**
	baz=321,SNR=5.2									
PKRO	**Pickering**	**90.68**	**28**	P		**P**		**13 35 38.3**	**+1.0**
	baz=329									
P45A	**Graceland, Par**	**90.70**	**36**	P		**P**		**13 35 37.9**	**+0.4**
	baz=323									
ALFO	**Alfred**	**90.72**	**25**	P		**P**		**13 35 37.7**	**+0.3**
	baz=332,SNR=9.1									
DELO	**Deloro Mine**	**90.74**	**27**	P		**P**		**13 35 38.1**	**+0.5**
	baz=330									
VAE	**Valguarnera**	**90.77**	**321**	LR		LR		14 19 56.7		
	comp=Z,199nm,18.1s,baz=54,slow=38									
O47A	**Sheridan**	**90.85**	**35**	P		**P**		**13 35 38.7**	**+0.5**
	baz=324									
P46A	**Rosedale**	**90.88**	**36**	P		**P**		**13 35 39.1**	**+0.8**
	baz=323									
DRWO	**Darlington Wes**	**90.89**	**28**	P		**P**		**13 35 38.8**	**+0.5**
	baz=329									
WLVO	**Wesleyville**	**90.97**	**28**	P		**P**		**13 35 39.2**	**+0.5**
	baz=329									
Q45A	**Warren Harvey,**	**91.01**	**37**	P		**P**		**13 35 39.7**	**+0.7**
	baz=323									
T42A	**Van Buren**	**91.03**	**40**	P		**P**		**13 35 39.5**	**+0.4**
	baz=321,SNR=5.5									
W39A	**Magazine**	**91.03**	**42**	P		**P**		**13 35 39.6**	**+0.5**
	baz=319									
JCT	**Junction City**	**91.07**	**49**	P		**P**		**13 35 39.9**	**+0.4**
	baz=316,SNR=7.1									
JCT	**Junction City**	**91.07**	**49**	*e*P		**P**		**13 35 39.4**	**-0.1**
JCT				pmax		pmax				
	comp=Z,15nm,0.8s									
JCT	**Junction City**	**91.07**	**49**	*e*P		**P**		**13 35 39.4**	**-0.1**
	comp=Z,15nm,0.8s									
R44A	**Waltonville**	**91.08**	**38**	P		**P**		**13 35 40.2**	**+0.9**
	baz=322									
V40A	**Witts Springs**	**91.08**	**41**	P		**P**		**13 35 39.3**	**-0.1**
	baz=320,SNR=5.5									
TYNO	**Tyneside**	**91.12**	**29**	P		**P**		**13 35 40.1**	**+0.7**
	baz=328									
S43A	**Fulton Ridge,**	**91.12**	**39**	P		**P**		**13 35 39.8**	**+0.3**
	baz=322									
U41A	**Viola**	**91.14**	**41**	P		**P**		**13 35 39.8**	**+0.2**
	baz=320,SNR=5.7									
WHTX	**Lake Witney,**	**91.37**	**47**	P		**P**		**13 35 41.6**	**+0.9**
	baz=317,SNR=12									
X39A	**Fountain Ranch**	**91.37**	**43**	P		**P**		**13 35 41.3**	**+0.6**
	baz=319,SNR=11									
T43A	**Greenville**	**91.40**	**39**	P		**P**		**13 35 41.3**	**+0.5**
	baz=322									
P47A	**Martinsville**	**91.41**	**35**	P		**P**		**13 35 41.4**	**+0.5**
	baz=324									
W40A	**Ferguson Farm,**	**91.42**	**42**	P		**P**		**13 35 41.7**	**+0.8**
	baz=320,SNR=5.9									
W40A	**Ferguson Farm,**	**91.42**	**42**	*e*P		**P**		**13 35 41.3**	**+0.4**
	comp=Z,26nm,0.8s									
R45A	**Skylar, Fairfi**	**91.43**	**37**	P		**P**		**13 35 41.5**	**+0.6**
	baz=323									
S44A	**Carbondale**	**91.43**	**38**	P		**P**		**13 35 41.7**	**+0.8**
	baz=322,SNR=5.5									
SIUC	**Southern Illin**	**91.43**	**38**	*e*P		**P**		**13 35 41.3**	**+0.4**
	comp=Z,32nm,0.9s									
V41A	**Mountainview**	**91.45**	**41**	P		**P**		**13 35 41.3**	**+0.3**
	baz=320,SNR=13									
U42A	**Revenden**	**91.48**	**40**	P		**P**		**13 35 40.8**	**-0.4**
	baz=321									
MEDO	**Medina**	**91.60**	**28**	P		**P**		**13 35 42.4**	**+0.8**
	baz=329									
LONY	**Lake Ozonia**	**91.71**	**25**	P		**P**		**13 35 42.1**	**0.0**
	baz=332									
T44A	**Benton**	**91.74**	**39**	P		**P**		**13 35 42.8**	**+0.4**
	baz=322									
WHAR	**Wooly Hollow**	**91.76**	**41**	*e*P		**P**		**13 35 42.8**	**+0.4**
	comp=Z,34nm,1.1s									
S45A	**Carrier Mills**	**91.77**	**38**	P		**P**		**13 35 43.3**	**+0.8**
	baz=323									
Q47A	**Bedord North L**	**91.79**	**36**	P		**P**		**13 35 43.2**	**+0.7**
	baz=324,SNR=7.6									
V42A	**Cord**	**91.83**	**41**	P		**P**		**13 35 43.0**	**+0.2**
	baz=321,SNR=5.9									
W41B	**Gary Mavity, V**	**91.87**	**42**	P		**P**		**13 35 43.2**	**+0.2**
	baz=320,SNR=5.0									
ERPA	**Erie**	**91.91**	**30**	P		**P**		**13 35 43.8**	**+0.7**
	baz=328									
X40A	**Basin Creek Fa**	**92.08**	**42**	P		**P**		**13 35 44.6**	**+0.6**
	baz=320									
435B	**Jarrell**	**92.17**	**48**	P		**P**		**13 35 45.3**	**+0.8**
	baz=317									
ALLY	**Alegheny Colle**	**92.24**	**30**	*e*P		**P**		**13 35 47.3**	**+2.7**
	comp=Z,14nm,0.8s									
R47A	**Wooly Knot Far**	**92.25**	**36**	P		**P**		**13 35 44.3**	**-0.4**
	baz=324									
ACSO	**Alum Creek Sta**	**92.26**	**33**	P		**P**		**13 35 45.6**	**+0.9**
	baz=326,SNR=7.4									
ACSO	**Alum Creek Sta**	**92.26**	**33**	*e*P		**P**		**13 35 45.2**	**+0.5**
	comp=Z,23nm,0.8s									
ACSO				*e*pP		**pP**		**13 36 02.0**	**+1.4**
NCB	**Newcomb**	**92.40**	**25**	*e*P		**P**		**13 35 45.4**	**+0.1**
	comp=Z,15nm,0.8s									
NCB				*e*pP		**pP**		**13 36 00.6**	**-0.6**
WCI	**Wyandotte Cave**	**92.42**	**36**	P		**P**		**13 35 45.7**	**+0.2**
	baz=324									
WCI	**Wyandotte Cave**	**92.42**	**36**	*e*P		**P**		**13 35 46.3**	**+0.8**
WCI				*e**PP		**pP**		**13 36 02.6**	**+1.3**
WCI	**Wyandotte Cave**	**92.42**	**36**	*e*P		**P**		**13 35 46.3**	**+0.8**
WCI				*e*pP		**pP**		**13 36 02.6**	**+1.3**
M54A	**Oil Creek Stat**	**92.55**	**30**	P		**P**		**13 35 46.8**	**+0.8**
	baz=328									
M54A	**Oil Creek Stat**	**92.55**	**30**	*e*P		**P**		**13 35 46.4**	**+0.3**
	comp=Z,10nm,0.8s									
T46A	**Princeton**	**92.61**	**38**	P		**P**		**13 35 47.5**	**+1.1**
	baz=323									
Y41A	**Eaglette Beard**	**92.66**	**43**	P		**P**		**13 35 47.3**	**+0.6**
	baz=320									
Z40A	**Long Farm, Mag**	**92.71**	**43**	P		**P**		**13 35 47.7**	**+0.8**
	baz=320,SNR=5.3									
ETSF	**Etsaut**	**92.75**	**333**	*e*P		**P**		**13 35 47.9**	**+0.9**
ETSF				pmax		pmax				
	comp=Z,4.0nm,0.7s									
PKME	**Peaks-Kenny Pk**	**92.78**	**21**	P		**P**		**13 35 47.7**	**+0.7**
	baz=336									
N54A	**Moraine State**	**92.89**	**30**	P		**P**		**13 35 48.2**	**+0.6**
	baz=328									
LBNH	**Lisbon**	**92.91**	**24**	P		**P**		**13 35 47.7**	**0.0**
	baz=334									
S48A	**Wiedeman Farm,**	**92.99**	**36**	P		**P**		**13 35 48.6**	**+0.4**
	baz=324									
T47A	**Sharon Grove**	**93.03**	**37**	P		**P**		**13 35 48.8**	**+0.4**
	baz=324									
ACCN	**Adirondack Com**	**93.11**	**25**	*e*P		**P**		**13 35 49.1**	**+0.5**
	comp=Z,23nm,1.1s									
WVT	**Waverly**	**93.36**	**38**	P		**P**		**13 35 50.5**	**+0.6**
	baz=323									
V46A	**Holladay**	**93.48**	**39**	P		**P**		**13 35 50.9**	**+0.5**
	baz=323									
U48A	**Cassie Pea, Po**	**93.68**	**37**	P		**P**		**13 35 51.7**	**+0.3**
	baz=324									
V47A	**Nunnelly**	**93.76**	**38**	P		**P**		**13 35 52.2**	**+0.5**
	baz=323									
OXF	**Oxford**	**93.85**	**40**	P		**P**		**13 35 52.8**	**+0.7**
	baz=322									
O56A	**Blue Knob Stat**	**94.04**	**30**	P		**P**		**13 35 53.4**	**+0.4**
	baz=329									
MCWV	**Mont Chateau**	**94.05**	**31**	P		**P**		**13 35 53.1**	**+0.1**
	baz=328									
V48A	**Smith Brothers**	**94.17**	**38**	P		**P**		**13 35 53.2**	**-0.4**
	baz=324									
W47A	**Westpoint**	**94.18**	**39**	P		**P**		**13 35 54.2**	**+0.6**
	baz=323									
W48A	**Pulaski**	**94.59**	**38**	P		**P**		**13 35 55.4**	**-0.2**
	baz=324									
KEST	**Kesra**	**94.64**	**323**	P		**P**		**13 35 55.5**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=316,slow=7.2,SNR=3.6									
KEST				LR		LR		14 23 41.7		
	comp=Z,280nm,20.1s,baz=272,slow=39									
ZAIG	**Zacatecas**	**94.75**	**57**	*e*P		**P**		**13 35 57.2**	**+0.4**
	comp=Z,9.4nm,1.0s									
X48A	**Hartselle**	**95.09**	**39**	P		**P**		**13 35 58.3**	**+0.5**
	baz=323									
LNIG	**Linares**	**95.27**	**53**	*e*P		**P**		**13 35 58.6**	**-0.2**
	comp=Z,5.5nm,0.8s									
X49A	**Woodville**	**95.39**	**38**	P		**P**		**13 35 59.5**	**+0.3**
	baz=324									
TKL	**Tuckaleechee C**	**95.68**	**36**	P		**P**		**13 35 59.7**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=164,slow=7.9,SNR=6.7									
TKL				LR		LR		14 21 29.9		
	comp=Z,75nm,21.1s,baz=350,slow=37									
Z50A	**Ashland**	**96.60**	**39**	P		**P**		**13 36 04.8**	**0.0**
	baz=324									
ES19	**SONSECA Array**	**96.75**	**334**	*e*P		**P**		**13 36 04.8**	**-0.5**
ES19				*e*pP		**pP**		**13 36 20.7**	**-0.5**
ESDC	**Sonseca Array**	**96.79**	**334**	P		**P**		**13 36 05.2**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=16,slow=4.1,SNR=9.4									
ESDC				LR		LR		14 24 39.2		
	comp=Z,301nm,20.0s,baz=35,slow=38									
RKT	**Ikitea**	**98.77**	**112**	*e*LR		LR		14 08 32.7		
	comp=Z,525nm,29.0s									
VNDA	**Vanda**	**115.63**	**175**	PKP		**PKPdf**		**13 41 14.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=117,slow=2.3,SNR=2.2									
TORD	**Torodi Ar. Bea**	**117.03**	**315**	PKP		**PKPdf**		**13 41 19.4**	**-0.6**
	comp=Z,1.5nm,1.1s,baz=1.2,slow=0.9,SNR=4.8									
TORD				PKKPbc		**PKKPbc**		**13 51 45.8**	**+2.1**
	comp=Z,0.9nm,0.9s,baz

SKR pmax pmax
comp=Z,869nm,0.5s
SKR smax smax
comp=N,2µm,0.5s
SKR smax smax
comp=E,2µm,0.5s
SKR MLR MLR
comp=Z,700nm,14.0s
SKR Severo-Kuril's 3.42 25 *e*P **Pn** 13 41 50.6 -0.3
SKR AMB AMB 13 41 54.4
comp=Z,870nm,0.5s
SKR *e*S **Sn** **13 42 28.0 -2.3**
SKR A A 13 42 45.1
comp=Z,2µm,0.5s
SKR A A 13 42 45.1
comp=Z,205nm,0.5s
SKR AMS AMS 13 44 01.4
comp=Z,730nm,14.0s
PAU Pauzhetka 4.32 25 *e*P **Pn** **13 42 03.5 +0.4**
PAU AMB AMB 13 42 08.9
comp=Z,330nm,0.6s
PAU *e*S **Sn** **13 42 50.7 -1.5**
PAU A A 13 42 52.0
comp=Z,660nm,0.3s
PAU A A 13 42 52.0
comp=Z,130nm,0.3s
KUR Kuril'sk 4.77 242*c i*PN **Pn** **13 42 11.9 +2.6**
KUR *i* S **Sn** **13 43 06.3 +3.0**
KUR pmax pmax
comp=Z,877nm,0.6s
KUR pmax pmax
comp=N,185nm,0.3s
KUR pmax pmax
comp=E,96nm,0.4s
KUR smax smax
comp=N,940nm,0.7s
KUR smax smax
comp=E,412nm,0.3s
KUR Kuril'sk 4.77 242 *e*P **Pn** **13 42 11.8 +2.5**
KUR AMB AMB 13 42 12.9
comp=E,185nm,0.4s
KUR AMB AMB 13 42 12.9
comp=E,96nm,0.4s
KUR AMB AMB 13 42 12.9
comp=E,877nm,0.4s
KUR *i* S **Sn** **13 43 05.5 +2.2**
KUR A A 13 43 09.1
comp=E,4µm,2.0s
KUR A A 13 43 09.1
comp=E,2µm,2.0s
KUR A A 13 43 12.7
comp=E,940nm,0.5s
KUR A A 13 43 12.7
comp=E,412nm,0.5s
PEA0B Petropavlovsk- 6.04 23 *e*Pn **Pn** **13 42 25.6 -0.9**
PETK Petropavlovsk- 6.04 23 P **Pn** **13 42 25.6 -0.9**
comp=E,8.2nm,0.3s,baz=170,slow=14,SNR=87
PETK Petropavlovsk- 6.04 23 *e*Pn **Pn** **13 42 25.2 -1.3**
SHO Shikotan 6.17 235*d i*PN **Pn** **13 42 26.7 -1.7**
SHO pmax pmax
comp=Z,80nm,0.3s
SHO pmax pmax
comp=N,42nm,0.2s
SHO pmax pmax
comp=E,81nm,0.2s
SHO Shikotan 6.17 235 *e*P **Pn** **13 42 26.7 -1.7**
SHO AMB AMB 13 42 28.8
comp=E,2µm,4.0s
SHO AMB AMB 13 42 29.5
comp=E,100nm,0.3s
SHO *e*S **Sn** **13 43 33.3 -4.2**
SHO A A 13 43 40.5
comp=E,2µm,4.0s
SHO A A 13 43 40.5
comp=E,2µm,4.0s
SHO A A 13 43 40.9
comp=E,300nm,0.4s
SHO A A 13 43 40.9
comp=E,310nm,0.4s
PET Petropavlovsk 6.24 28 *e*PN **Pn** **13 42 28.4 -0.8**
PET pmax pmax
comp=Z,144nm,0.9s
PET MLR MLR
comp=Z,500nm,15.0s
PET MLR MLR
comp=Z,600nm,14.0s
PET Petropavlovsk 6.24 28 *e*P **Pn** **13 42 29.7 +0.5**
PET AMB AMB 13 42 40.7
comp=Z,123nm,0.5s
PET *e*S **Sn** **13 43 38.0 -1.0**
PET A A 13 43 47.0
comp=Z,122nm,0.4s
PET A A 13 43 47.0
comp=Z,116nm,0.4s
PET AMS AMS 13 45 00.8
comp=Z,645nm,14.0s
PET Petropavlovsk 6.24 28 *e*Pn **Pn** **13 42 28.4 -0.8**
YUK Yuzh-Kuril'sk 6.63 240*d i*PN **Pn** **13 42 36.1 +1.5**
YUK *i* S **Sn** **13 43 50.0 +1.3**
YUK pmax pmax
comp=Z,564nm,0.2s
YUK pmax pmax
comp=N,101nm,0.1s
YUK pmax pmax
comp=E,92nm,0.1s
YUK Yuzh-Kuril'sk 6.63 240 *e*P **Pn** **13 42 36.1 +1.5**
YUK AMB AMB 13 42 36.8
comp=E,101nm,0.2s
YUK AMB AMB 13 42 36.8
comp=E,92nm,0.2s
YUK AMB AMB 13 42 36.8
comp=E,564nm,0.2s
YUK *e*S **Sn** **13 43 49.8 +1.1**
YUK A A 13 43 53.0
comp=E,3µm,3.0s
YUK A A 13 43 53.0
comp=E,1µm,3.0s
YUK A A 13 43 57.0
comp=E,830nm,0.5s
YUK A A 13 43 57.0
comp=E,980nm,0.5s
LAGR Lagunnoye 6.66 241 *e*PN **Pn** **13 42 37.1 +2.0**
LAGR *e*S **Sn** **13 43 51.3 +1.9**
LAGR Lagunnoye 6.66 241 *e*P **Pn** **13 42 37.1 +2.0**
LAGR *e*S **Sn** **13 43 51.3 +1.9**
GRPR Tuman 6.71 240 *e*PN **Pn** **13 42 37.0 +1.3**
GRPR *i* S **Sn** **13 43 50.5 -0.1**
GRPR Tuman 6.71 240 *e*P **Pn** **13 42 37.0 +1.3**
GRPR *e*S **Sn** **13 43 50.5 -0.1**
GLVR Golovnino 7.00 240 *e*PN **Pn** **13 42 40.4 +0.7**
GLVR *e*S **Sn** **13 43 58.7 +0.9**
GLVR Golovnino 7.00 240 *e*P **Pn** **13 42 40.4 +0.7**
GLVR *e*S **Sn** **13 43 58.7 +0.9**
NEM2 Nemuro 2 7.10 236 P **Pn** **13 42 39.5 -1.6**
NEM2 *e*S **Sn** **13 43 54.2 -6.1**
JRA Rausu 7.12 242 P **Pn** **13 42 42.6 +1.2**
JNK Nakash 7.56 241 P **Pn** **13 42 47.9 +0.5**
YSS Yuzh-Sakhalins 7.58 269⇑ *e*PN **Pn** **13 42 51.5 +3.9**
YSS *e*S **Sn** **13 44 18.4 +6.5**
YSS pmax pmax
comp=N,340nm,0.7s
YSS pmax pmax
comp=Z,720nm,0.7s
YSS pmax pmax
comp=E,740nm,0.8s
YSS smax smax
comp=N,60nm,0.5s
YSS smax smax
comp=E,60nm,0.5s
YSS MLR MLR
comp=Z,700nm,16.0s
YSS Yuzh-Sakhalins 7.58 269 *e*P **Pn** **13 42 50.6 +3.0**
YSS AMB AMB 13 42 53.2
comp=Z,340nm,0.7s
YSS AMB AMB 13 42 53.2
comp=Z,740nm,0.7s
YSS AMB AMB 13 42 53.2
comp=Z,720nm,0.7s
YSS *e*S **Sn** **13 44 14.2 +2.3**
YSS A A 13 44 19.7
comp=Z,60nm,0.5s
YSS AMS AMS 13 45 33.0
comp=Z,500nm,16.0s
YSS AMS AMS 13 45 33.0
comp=Z,700nm,16.0s
YSS Yuzh-Sakhalins 7.58 269 *e*Pn **Pn** **13 42 51.2 +3.6**

JTKR Abashiri--Toko 7.84 246 P **Pn** **13 42 52.7 +1.5**
JAK Akkeshi 7.93 238 P **Pn** **13 42 50.9 -1.5**
JAK *e*S **Sn** **13 44 14.6 -5.9**
UGL Uglegorsk 8.00 285 *e*P **Pn** **13 42 56.7 +3.4**
UGL AMB AMB 13 42 59.0
comp=Z,180nm,0.9s
UGL AMB AMB 13 42 59.3
comp=Z,440nm,0.7s
UGL AMB AMB 13 42 59.3
comp=Z,300nm,0.7s
UGL AMB AMB 13 42 59.3
comp=Z,1µm,0.7s
UGL *e*S **Sn** **13 44 24.0 +2.0**
UGL A A 13 44 27.0
comp=Z,350nm,3.0s
UGL A A 13 44 27.0
comp=Z,370nm,3.0s
UGL A A 13 44 33.2
comp=Z,85nm,0.6s
UGL A A 13 44 33.2
comp=Z,82nm,0.6s
TYV Tymovskoe 8.03 298 *e*PN **Pn** **13 42 56.9 +3.2**
TYV *e*S **Sn** **13 44 29.7 +7.0**
TYV pmax pmax
comp=Z,134nm,1.1s
TYV smax smax
comp=E,22nm,0.6s
TYV Tymovskoe 8.03 298 *e*P **Pn** **13 42 56.9 +3.2**
TYV AMB AMB 13 42 58.9
comp=E,134nm,1.0s
TYV *e*S **Sn** **13 44 25.7 +3.0**
TYV A A 13 44 31.0
comp=E,22nm,0.6s
JMP Maruseppu 8.17 248 P **Pn** **13 42 57.4 +1.7**
JSE Soyaes 8.24 255 P **Pn** **13 43 00.5 +3.8**
JAR Ashorobuto 8.29 242 P **Pn** **13 42 57.9 +0.5**
JOB Onbets 8.49 240 *e*S **Sn** **13 44 28.1 -6.0**
JWK2 Keihoku 8.57 259 P Pn 13 43 06.1 +5.0
JKA Kamikawa-asahi 8.60 250 *e*P **Pn** **13 43 04.7 +3.2**
ASAJ Asahikawa 8.60 250 P **Pn** **13 43 04.7 +3.2**
comp=E,4.8nm,0.3s,baz=75,slow=13,SNR=119
ASAJ Asahikawa 8.60 250 P **Pn** **13 43 04.5 +3.0**
ASAJ Asahikawa 8.60 250 *e*Pn **Pn** **13 43 04.3 +2.8**
JKK2 Kamakawa 2 8.62 248 P **Pn** **13 43 03.9 +2.1**
JCH Churui 8.94 240 P **Pn** **13 43 05.0 -1.2**
JCH *e*S **Sn** **13 44 38.7 -6.4**
JSS Shosan 8.95 253 P **Pn** **13 43 10.4 +4.1**
JFR Furan 9.08 245 P **Pn** **13 43 09.4 +1.2**
OKH Okha 9.15 315⇑ *i*PN **Pn** **13 43 11.4 +2.5**
OKH pmax pmax
comp=Z,800nm,2.5s
OKH Okha 9.15 315 *e*P **Pn** **13 43 11.4 +2.5**
OKH AMB AMB 13 43 15.2
comp=Z,800nm,2.0s
OKH *e*S **Sn** **13 44 50.5 +0.4**
OKH A A 13 45 23.4
comp=Z,600nm,4.0s
OKH AMS AMS 13 48 28.6
comp=Z,800nm,13.0s
ERM Erimo 9.43 238*d i*PN **Pn** **13 43 12.9 0.0**
ERM Erimo 9.43 238 *e*Pn **Pn** **13 43 12.3 -0.6**
JBT2 Biratori 2 9.44 243 P **Pn** **13 43 12.9 -0.1**
JNBK Urakawa-nobuka 9.50 240 P **Pn** **13 43 11.3 -2.5**
NKL Nikolayevsk 10.08 308 *i* PN **Pn** **13 43 23.0 +1.4**
NKL pmax pmax
comp=E,600nm,4.0s
NKL pmax pmax
comp=Z,500nm,4.0s
NKL pmax pmax
comp=N,41nm,1.2s
NKL pmax pmax
comp=E,82nm,1.2s
NKL pmax pmax
comp=Z,180nm,1.2s
NKL MLR MLR
comp=N,450nm,10.0s
NKL MLR MLR
comp=E,400nm,10.0s
NKL MLR MLR
comp=Z,600nm,10.0s
NKL Nikolayevsk 10.08 308 *e*P **Pn** **13 43 23.0 +1.4**
NKL AMB AMB 13 43 25.4
comp=Z,41nm,0.5s
NKL AMB AMB 13 43 25.4
comp=Z,82nm,0.5s
NKL AMB AMB 13 43 25.4
comp=Z,180nm,0.5s
NKL AMS AMS 13 49 40.0
comp=Z,450nm,10.0s
NKL AMS AMS 13 49 40.0
comp=Z,400nm,10.0s
NKL AMS AMS 13 49 40.0
comp=Z,600nm,10.0s
JNB Noboribetsu 10.42 245 P **Pn** **13 43 25.6 -0.8**
JNB *e*S **Sn** **13 45 16.6 -4.7**
JKB Kayabe 10.76 243 P **Pn** **13 43 28.8 -2.2**
JKB *e*S **Sn** **13 45 20.8 -8.7**
JSH Shimam 10.94 248 P **Pn** **13 43 33.3 -0.2**
JYM2 Yakumo 2 11.03 245 P **Pn** **13 43 33.2 -1.4**
JSR Shiriuchi 11.34 243 P **Pn** **13 43 36.8 -2.1**
JTM Tenmabayashi 11.42 238 P **Pn** **13 43 36.5 -3.5**
JTM *e*S Sn 13 45 33.7 -12
JANG Nango 11.45 235 P **Pn** **13 43 36.1 -4.3**
JANG *e*S Sn 13 45 34.6 -12
JOSM Okushiri--Mats 11.60 247 P **Pn** **13 43 41.1 -1.3**
GRNR Gornyy 11.84 292 *e*PN **Pn** **13 43 48.0 +2.4**
GRNR pmax pmax
comp=Z,70nm,0.8s
GRNR Gornyy 11.84 292 *e*P **Pn** **13 43 46.6 +1.0**
GRNR AMB AMB 13 43 50.8
comp=Z,70nm,0.8s
MA2 Magadan 12.13 353 P **Pn** **13 43 50.2 +0.7**
comp=Z,8.7nm,0.3s,baz=169,slow=8.3,SNR=32
MA2 S **Sn** **13 46 04.5 +1.7**
comp=Z,1.2nm,0.3s,baz=252,slow=20,SNR=4.5
MA2 LR LR 13 48 40.2
comp=Z,378nm,19.3s,baz=170,slow=38
MA2 Magadan 12.13 353‖ *e*PN **Pn** **13 43 50.6 +1.0**
MA2 Magadan 12.13 353 *e*P **Pn** **13 43 50.6 +1.0**
TEY Ternei 12.20 264 *e*PN **Pn** **13 43 54.0 +3.4**
TEY Ternei 12.20 264 *e*P **Pn** **13 43 51.0 +0.4**
SMY Shemya 13.94 61 *e*P **Pn** **13 44 12.0 -1.6**
SMY Shemya 13.94 61 *e*Pn **Pn** **13 44 12.0 -1.6**
EKMR Ekimchan 14.41 300 *e*P **Pn** **13 44 20.0 +0.2**
EKMR AMB AMB 13 44 48.0
comp=Z,40nm,0.8s
KLR Kul'dur 14.77 285 P **P** **13 44 27.2 -1.1**
comp=Z,0.1nm,0.3s,baz=89,slow=9.7,SNR=22
KLR Kul'dur 14.77 285‖ *e*P **Pn** **13 44 26.2 +1.8**
SEY Seymchan 15.39 357 P **Pn** **13 44 31.9 -0.3**
comp=Z,0.3nm,0.3s,baz=169,slow=12,SNR=15
SEY Seymchan 15.39 357‖ *e*P **Pn** **13 44 30.7 -1.5**
SEY Seymchan 15.39 357 *e*P **Pn** **13 44 30.7 -1.5**
USRK Ussuriysk Ar. 15.59 265 P **Pn** **13 44 35.4 +0.4**
comp=Z,1.5nm,0.3s,baz=72,slow=14,SNR=17
USRK LR LR 13 50 23.8
comp=Z,203nm,18.8s,baz=65,slow=36
MJAR Matsushiro Arr 16.00 232 P **Pn** **13 44 38.7 -1.5**
comp=Z,0.5nm,0.3s,baz=30,slow=13,SNR=32
MJB9 Matsu-Tunnel 16.00 232 *e*Pn **Pn** **13 44 38.8 -1.4**
comp=Z,20nm,0.6s
MAJO Matsushiro 16.00 232⇑ *i*P **Pn** **13 44 38.5 -1.7**
MAJO pmax pmax
comp=Z,16nm,0.7s
MAJO Matsushiro 16.00 232 *e*Pn **Pn** **13 44 38.8 -1.4**
comp=Z,20nm,0.6s
MAT Matsushiro 16.00 232 P **Pn** **13 44 38.7 -1.5**
MAT *e*S **Sn** **13 47 35.8 -1.1**
MDJ Mudanjiang 17.07 269 *e*P **Pn** **13 44 52.9 -0.5**
comp=Z,36nm,1.1s
BMKR Bomnak 17.17 304 *e*P **Pn** **13 44 54.0 -0.5**
BMKR AMB AMB 13 45 17.8
comp=Z,48nm,0.8s
INU Inuyama 17.54 232 *e*P **P** **13 44 60.0 +0.8**
comp=Z,66nm,1.6s
ZEA Zeya 17.88 300 *e*P **Pn** **13 45 03.2 0.0**
ZEA pmax pmax
comp=Z,48nm,1.6s
ZEA Zeya 17.88 300 *e*P **Pn** **13 45 04.0 +0.8**
ZEA AMB AMB 13 45 05.4
comp=Z,48nm,2.0s
JHJ Hachijo jima 2 17.96 221 LR LR 13 51 26.2
comp=Z,121nm,20.7s,baz=121,slow=35
KROS Kirovskiy 18.17 302 *e*P **Pn** **13 45 06.5 -0.2**
KROS AMB AMB 13 45 10.0
comp=Z,5.0nm,0.4s
KROS AMB AMB 13 45 10.0
comp=Z,14nm,0.4s
KROS AMB AMB 13 45 10.0
comp=Z,11nm,0.4s
CLNS Chul'man 19.87 308 *e*P **Pn** **13 45 26.3 -0.5**
CLNS pmax pmax
comp=Z,12nm,0.4s
CLNS pmax pmax
comp=N,7.0nm,0.6s
CLNS pmax pmax
comp=E,6.0nm,0.5s
CLNS Chul'man 19.87 308 *e*P **Pn** **13 45 26.3 -0.5**
YAK Yakutsk 19.89 325 P **P** **13 45 22.2 -2.4**
comp=E,0.0nm,0.3s,baz=125,slow=10,SNR=7.6
YAK pP **pP** **13 45 41.5 +1.1**
comp=E,0.0nm,0.3s,baz=126,slow=11,SNR=18
YAK Yakutsk 19.89 325 *e*P **P** **13 45 22.7 -2.0**
YAK *e*S **S** **13 48 58.9 -5.1**
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK smax smax
comp=N,86nm,2.3s
YAK smax smax
comp=E,86nm,2.3s
YAK Yakutsk 19.89 325 *e*P **Pn** **13 45 26.2 -0.8**
YAK Yakutsk 19.89 325 *e*P **P** **13 45 22.3 -2.3**
comp=E,140nm,0.7s
YAK pP **pP** **13 45 41.5 +1.1**
CN2 Changchun 20.15 270 *e*P **P** **13 45 26.5 -1.1**
BILL Bilibino 21.45 13*d i*P **P** **13 45 39.8 -1.5**
BILL *i* 13 49 42.6
BILL pmax pmax
comp=Z,5.0nm,0.9s
KSRS Korea Array 21.54 251 P **P** **13 45 44.2 +1.6**
comp=Z,12nm,0.6s,baz=48,slow=9.9,SNR=24
KSRS LR LR 13 53 45.9
comp=Z,156nm,18.1s,baz=69,slow=36
KSRS Korea Array 21.54 251 P **P** **13 45 44.2 +1.6**
KSRS pmax pmax
comp=Z,11nm,0.6s
KSRS MLR MLR
comp=Z,156nm,18.1s
KS01 Wonju Array Si 21.55 251 *e*P **P** **13 45 42.3 -0.4**
KS15 Wonju Array Si 21.57 251 *e*P **P** **13 45 42.1 -0.9**
KSAR Wonju Array Be 21.57 251 P **P** **13 45 44.2 +1.2**
KSAR Wonju Array Be 21.57 251 P **P** **13 45 44.2 +1.2**
HIA Hailar 22.59 287⇑ *e*P **P** **13 45 52.4 -1.4**
JNU Nakatsue 22.60 239 P **P** **13 45 54.0 0.0**
comp=Z,16nm,0.9s,baz=97,slow=6.9,SNR=4.3
JNU LR LR 13 54 41.1
comp=Z,108nm,19.8s,baz=112,slow=36
GAMB Gambell 24.84 37 *e*P **P** **13 46 14.4 -0.1**
comp=Z,17nm,1.0s
BOD Bodaibo 25.85 308 *e*P **P** **13 46 22.0 -1.7**
BOD pmax pmax
comp=Z,12nm,1.4s
TIXI Tiksi 26.80 343 P **P** **13 46 29.6 -2.5**
comp=Z,1.7nm,0.3s,baz=129,slow=5.1,SNR=16
TIXI pP **pP** **13 46 50.7 +0.4**
comp=Z,3.7nm,0.6s,baz=148,slow=11,SNR=3.8
TIXI PcP **PcP** **13 49 52.6 -0.1**
comp=Z,3.4nm,0.5s,baz=61,slow=1.6,SNR=6.8
TIXI Tiksi 26.80 343‖ *e*P **P** **13 46 30.1 -2.0**
TIXI pmax pmax
comp=Z,15nm,1.7s
TIXI Tiksi 26.80 343 *e*P **P** **13 46 29.6 -2.5**
comp=Z,14nm,1.2s
TIXI pP **pP** **13 46 50.7 +0.4**
TIXI PcP **PcP** **13 49 52.6 -0.1**
JOW Kunigami 28.84 233 LR LR 13 58 32.4
comp=Z,178nm,21.8s,baz=308,slow=36
H11N2 WAKE ISLAND Hy 29.76 155 T T 14 19 21.5
baz=342,slow=76,SNR=610
H11N1 WAKE ISLAND Hy 29.77 155 T T 14 19 22.8
baz=342,slow=76,SNR=965
H11N3 WAKE ISLAND Hy 29.77 155 T T 14 19 22.9
baz=342,slow=76,SNR=591
NJ2 Nanjing 30.74 252 *e*P **P** **13 47 07.0 -0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 30.75 273 *e*P **P** **13 47 09.0 +1.3**
HHC S **S** **13 52 08.3 +3.3**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,97nm,4.9s
HHC LR LR
comp=Z,230nm,12.2s
HHC LR LR
comp=Z,200nm,13.5s
HHC LR LR
comp=Z,170nm,12.9s
H11S1 WAKE ISLAND Hy 30.86 156 T T 14 20 41.9
baz=343,slow=76,SNR=1382
H11S3 WAKE ISLAND Hy 30.87 156 T T 14 20 22.7
baz=343,slow=76,SNR=732
H11S2 WAKE ISLAND Hy 30.88 156 T T 14 20 43.1
baz=343,slow=76,SNR=1055
ULN Ulaanbaatar 31.11 288*ce*P **P** **13 47 09.7 -1.1**
ULN pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 31.11 288 *e*P **P** **13 47 09.2 -1.6**
comp=Z,4.0nm,0.6s
SONA1 Songino Array 31.53 288 *e*P **P** **13 47 12.5 -2.0**
SVW2 Sparrevohn 31.53 46 *e*P **P** **13 47 14.8 +0.6**
comp=Z,12nm,0.7s
SONM Songino Array 31.54 288 P **P** **13 47 14.2 -0.4**
comp=Z,2.8nm,0.5s,baz=64,slow=9.2,SNR=23
SONM pP **pP** **13 47 33.8 +0.8**
comp=Z,1.6nm,0.6s,baz=68,slow=9.7,SNR=4.9
SONM PcP **PcP** **13 50 05.8 +0.4**
comp=Z,1.1nm,0.7s,baz=141,slow=3.0,SNR=4.5
SONM LR LR 14 01 11.1
comp=Z,187nm,19.0s,baz=73,slow=38
TLY Talaya 32.25 296 P **P** **13 47 18.4 -2.2**
comp=Z,2.3nm,0.5s,baz=227,slow=21,SNR=6.6
TLY PcP **PcP** **13 50 07.1 0.0**
comp=Z,1.4nm,0.5s,baz=214,slow=1.3,SNR=3.4
TLY Talaya 32.25 296 *e*P **P** **13 47 18.5 -2.2**
TLY pmax pmax
comp=Z,11nm,1.7s
TLY Talaya 32.25 296 *e*P **P** **13 47 17.7 -2.9**
comp=Z,4.4nm,0.8s
TLY PcP **PcP** **13 50 07.1 0.0**
IM3 Indian Mountai 32.78 37 *e*P **P** **13 47 25.5 +0.4**
IM3 *e*PcP **PcP** **13 50 09.2 +1.0**
ZAK Zakamensk 32.79 294 *e*P **P** **13 47 23.9 -1.5**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
KDAK Kodiak Island 33.17 52 P **P** **13 47 28.0 -0.6**
comp=Z,16nm,1.0s,baz=271,slow=5.8,SNR=7.0
KDAK Kodiak Island 33.17 52 *i* P **P** **13 47 28.3 -0.3**
PPLA Purkeypibe 33.19 43 *e*P **P** **13 47 29.9 +1.1**
comp=Z,45nm,1.4s
SPU Mount Spurr 33.24 46 *e*P **P** **13 47 29.4 +0.2**
CAST Castle Rocks 33.26 42 *e*P **P** **13 47 30.4 +1.1**
comp=Z,12nm,0.9s
BPAW Bear Paw Mtn. 33.78 40 *e*P **P** **13 47 34.8 +1.0**
comp=Z,12nm,0.8s
KTH Kantishna Hill 33.78 41 *e*P **P** **13 47 35.2 +1.3**
comp=Z,32nm,0.9s
SUA Susitna One 33.87 45 *e*P **P** **13 47 35.1 +0.3**
comp=Z,20nm,1.0s
MLY Manley 33.93 39 *e*P **P** **13 47 36.4 +1.2**
comp=Z,10.0nm,0.9s
TRF Thorofare Moun 34.07 42 *e*P **P** **13 47 37.3 +0.8**
comp=Z,14nm,0.8s
COLD Coldfoot 34.34 35 *e*P **P** **13 47 39.6 +0.9**
comp=Z,8.3nm,0.8s
RC01 Rabbit Creek A 34.37 46 *e*P **P** **13 47 39.0 +0.1**
comp=Z,15nm,0.8s
WHN Wuhan 34.64 255⇑ P **P** **13 47 43.8 +2.2**
MCK McKinley 34.67 41 *e*P **P** **13 47 41.8 +0.2**
MCK pmax pmax
comp=Z,25nm,1.0s
MCK McKinley 34.67 41 *e*P **P** **13 47 41.8 +0.2**
MCK McKinley 34.67 41 *e*P **P** **13 47 41.8 +0.2**
comp=Z,25nm,1.0s
RND Reindeer 34.71 42 *e*P **P** **13 47 42.0 0.0**
RND pmax pmax
comp=Z,21nm,0.8s

RND **Reindeer** 34.71 42 *e*P P **13 47 42.0 0.0**
comp=Z,21nm,0.8s
GUMO **Guam** 34.73 195 LR LR 13 59 23.4
comp=Z,28nm,19.9s,baz=6.5,slow=32
TOLK **Toolik Lake Re** 34.75 32 P P **13 47 42.9 +0.7**
baz=262
TOLK **Toolik Lake Re** 34.75 32 *e*P P **13 47 42.8 +0.6**
comp=Z,8.8nm,0.7s
MDM **Murphy Dome** 34.99 39 *e*P P **13 47 45.4 +1.1**
comp=Z,18nm,0.9s
SML **Sawmill** 35.00 44 *e*P P **13 47 45.0 +0.6**
SML pmax pmax
comp=Z,80nm,0.7s
SML **Sawmill** 35.00 44 *e*P P **13 47 45.0 +0.6**
SML **Sawmill** 35.00 44 *e*P P **13 47 45.0 +0.6**
comp=Z,80nm,0.7s
WRH **Wood River Hil** 35.05 40 *e*P P **13 47 45.5 +0.7**
comp=Z,23nm,1.4s
COLA **College** 35.15 39 *e*P P **13 47 46.5 +0.9**
COLA pmax pmax
comp=Z,34nm,0.6s
COLA **College** 35.15 39 *e*P P **13 47 46.0 +0.4**
COLA **College** 35.15 39 *e*P P **13 47 46.5 +0.9**
comp=Z,34nm,0.6s
CCB **Clear Creek Bu** 35.17 40 *e*P P **13 47 46.5 +0.8**
comp=Z,26nm,1.3s
DHY **Denali Highway** 35.39 42 *e*P P **13 47 48.0 +0.2**
comp=Z,15nm,0.8s
SCM **Sheep Creek Mo** 35.48 44 *e*P P **13 47 49.3 +0.8**
SCM pmax pmax
comp=Z,23nm,0.9s
SCM **Sheep Creek Mo** 35.48 44 *e*P P **13 47 49.3 +0.8**
comp=Z,23nm,0.9s
HDA **Harding Lake** 35.54 40 *e*P P **13 47 49.0 0.0**
comp=Z,17nm,0.5s
IL1 **Eielson Array** 35.57 39 *e*P P **13 47 49.3 +0.1**
ILAR **Eielson Array** 35.57 39 P P **13 47 49.5 +0.3**
comp=Z,4.9nm,0.7s,baz=256,slow=6.9,SNR=78
ILAR PcP **PcP** **13 50 15.1 -1.2**
comp=Z,0.5nm,0.5s,baz=280,slow=4.0,SNR=4.1
ILB **Eielson Array** 35.57 39 *e*P P **13 47 49.2 0.0**
XAN **Xi'an** 36.10 265 P P **13 47 55.5 +1.4**
XAN pP pP 13 48 11.8 -1.0
XAN S **S** **13 53 27.3 -0.5**
XAN pmax pmax
comp=Z,11nm,0.6s
XAN LR LR
comp=Z,120nm,11.8s
XAN LR LR
comp=Z,210nm,16.2s
XAN LR LR
comp=Z,240nm,15.7s
KLU **Klutina** 36.18 45 *e*P P **13 47 54.9 +0.3**
comp=Z,16nm,0.7s
FYU **Fort Yukon** 36.26 36 *e*P P **13 47 56.5 +1.4**
comp=Z,26nm,0.8s
PAX **Paxson** 36.26 42 *e*P P **13 47 56.0 +0.8**
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX **Paxson** 36.26 42 *e*P P **13 47 56.0 +0.8**
comp=Z,6.9nm,0.8s
DIV **Divide** 36.29 45 *e*P P **13 47 55.9 +0.4**
DIV **Divide** 36.29 45 *e*P P **13 47 55.9 +0.4**
comp=Z,24nm,0.6s
HARP **HAARP** 36.45 43 *e*P P **13 47 57.9 +1.1**
comp=Z,106nm,1.7s
RIDG **Independ'e Rid** 36.49 41 *e*P P **13 47 57.1 -0.1**
comp=Z,22nm,1.1s
DOT **Dot Lake** 36.85 41 *e*P P **13 47 59.7 -0.4**
comp=Z,26nm,0.8s
SCRK **Sand Creek** 36.86 41 *e*P P **13 48 00.2 -0.2**
comp=Z,18nm,1.3s
BMRM **Bremner River** 36.87 46 *e*P P **13 48 00.9 +0.6**
comp=Z,22nm,1.0s
MENT **Mentasta** 37.06 42 *e*P P **13 48 03.0 +1.0**
comp=Z,7.9nm,0.6s
EGAK **Eagle** 38.02 39 *e*P P **13 48 10.0 0.0**
comp=Z,23nm,0.8s
ENH **Enshi** 38.02 259 *e*P P **13 48 09.9 -0.5**
comp=Z,20nm,0.5s
LZH **Lanzhou** 38.37 271 *e*P P **13 48 15.3 +1.8**
LZH pP pP 13 48 35.5 +3.2
LZH sP sP 13 48 44.5 +3.2
LZH SS SS 13 56 48.8 -5.4
LZH pmax pmax
comp=Z,42nm,1.4s
LZH pmax pmax
comp=Z,190nm,5.2s
LZH LR LR
comp=Z,350nm,13.9s
LZH LR LR
comp=Z,500nm,14.1s
LZH LR LR
comp=Z,380nm,14.3s
HVS **Khovu-Aksy** 38.38 298‖ *e*P P **13 48 13.5 +0.2**
HVS pmax pmax
comp=Z,12nm,0.9s
HVS **Khovu-Aksy** 38.38 298 *e*P P **13 48 13.5 +0.2**
DAWY **Dawson** 38.86 40 *e*P P **13 48 17.8 +0.7**
comp=Z,29nm,2.0s
GTA **Gaotai** 39.34 278 *e*P P **13 48 22.5 +1.0**
GTA pP pP 13 48 41.0 +0.6
GTA sP sP 13 48 50.0 +0.6
GTA S **S** **13 54 17.0 +0.1**
GTA SS **SS** **13 57 03.5 -10**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,150nm,7.4s
GTA LR LR
comp=Z,220nm,14.7s
GTA LR LR
comp=Z,300nm,17.1s
GTA LR LR
comp=Z,150nm,14.3s
HYT **Haines Junctio** 40.31 45 *e*P P **13 48 29.7 +0.5**
comp=Z,14nm,0.9s
INK **Inuvik** 40.66 33 P P **13 48 33.5 +1.6**
comp=Z,12nm,0.9s,baz=284,slow=7.3,SNR=48
INK pP **pP** **13 48 50.9 +0.1**
comp=Z,8.5nm,0.7s,baz=19,slow=9.5,SNR=8.7
INK **Inuvik** 40.66 33 *e*P P **13 48 33.0 +1.1**
INK *PP **pP** **13 48 50.9 +0.1**
INK pmax pmax
comp=Z,12nm,0.8s
INK **Inuvik** 40.66 33 *e*P P **13 48 33.0 +1.1**
INK **Inuvik** 40.66 33 *e*P P **13 48 33.0 +1.1**
comp=Z,12nm,0.8s
INK pP **pP** **13 48 50.9 +0.1**
CD2 **Chengdu** 41.46 265 *e*P P **13 48 38.0 -1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
WHY **Whitehorse** 41.60 45 *e*P P **13 48 41.8 +1.9**
comp=Z,14nm,0.9s
GYA **Guiyang** 42.40 257⇑ *i*P P **13 48 48.3 +1.6**
GYA pP pP 13 49 06.8 +1.0
GYA sP sP 13 49 18.0 +3.2
GYA PP **PP** **13 50 28.5 +2.3**
GYA S **S** **13 55 00.3 -2.2**
GYA sS sS 13 55 36.3 +1.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.3s
ZAA0 **Zalesovo Array** 42.53 305 *e*P P **13 48 45.5 -1.8**
comp=Z,6.1nm,0.6s
ZAA0 *e*PcP **PcP** **13 50 38.4 0.0**
ZALV **Zalesovo Beam** 42.53 305 P P **13 48 45.8 -1.6**
comp=Z,7.3nm,0.6s,baz=64,slow=6.9,SNR=31
ZALV pP **pP** **13 49 06.0 -0.4**
comp=Z,3.9nm,0.6s,baz=72,slow=7.2,SNR=5.8
ZALV PcP **PcP** **13 50 38.1 -0.3**
comp=Z,5.3nm,0.7s,baz=62,slow=2.7,SNR=9.7
ZALV LR LR 14 06 40.6
comp=Z,122nm,21.3s,baz=70,slow=36
ZALV **Zalesovo Beam** 42.53 305 *e*P P **13 48 45.3 -2.0**
ZALV *PP **pP** **13 49 06.0 -0.4**
ZALV *e* 13 50 38.5
ZALV **Zalesovo Beam** 42.53 305 *e*P P **13 48 45.3 -2.0**
ZALV pP **pP** **13 49 06.0 -0.4**
ZALV *e*PcP **PcP** **13 50 38.5 +0.1**
NVS **Novosibirsk** 43.08 307⇑ *i*P P **13 48 51.0 -0.7**
NVS pmax pmax
comp=Z,10.0nm,0.5s
NVS pmax pmax
comp=N,2.0nm,0.4s
NVS pmax pmax
comp=E,7.0nm,0.6s
DLBC **Dease Lake** 44.64 47 *e*P P **13 49 05.4 +1.1**
comp=E,15nm,0.9s
WMQ **Urumqi** 45.09 291 P P **13 49 08.8 +0.7**
WMQ LR LR
comp=E,270nm,23.7s
WMQ LR LR
comp=E,280nm,21.9s
WMQ LR LR
comp=E,290nm,25.5s
KMI **Kunming** 45.90 259 P P **13 49 16.5 +1.7**
KMI pP pP 13 49 36.5 +2.4
KMI sP sP 13 49 47.0 +4.0
KMI pmax pmax
comp=E,18nm,0.9s
KMI pmax pmax
comp=E,200nm,3.9s
MKAR **Makanchi Array** 47.00 297 P P **13 49 21.7 -1.3**
comp=E,6.4nm,0.8s,baz=68,slow=7.7,SNR=51
MKAR pP **pP** **13 49 42.3 0.0**
comp=E,3.9nm,0.6s,baz=70,slow=8.2,SNR=7.9
MKAR PcP **PcP** **13 50 52.7 -1.4**
comp=E,1.6nm,0.6s,baz=61,slow=4.8,SNR=3.1
MKAR ScP **ScP** **13 54 40.9 +0.3**
comp=E,0.4nm,0.7s,baz=61,slow=4.1,SNR=3.4
MKAR LR LR 14 10 24.0
comp=E,88nm,18.6s,baz=60,slow=38
MK01 **Makanchi Array** 47.01 297 *e*P P **13 49 21.5 -1.6**
MAKZ **Makanchi** 47.19 297 *e*P P **13 49 22.5 -1.9**
MAKZ pmax pmax
comp=Z,10.0nm,1.2s
MAKZ **Makanchi** 47.19 297 *e*P P **13 49 22.4 -1.9**
comp=Z,10.0nm,1.2s
KURK **Kurchatov** 47.32 303 *c i*P P **13 49 23.7 -1.6**
KURK pmax pmax
comp=Z,17nm,0.9s
KURK **Kurchatov** 47.32 303 *e*P P **13 49 23.4 -2.0**
comp=Z,18nm,0.7s
KURK *e*pP **pP** **13 49 44.2 -0.5**
KURK PcP **PcP** **13 50 55.2 +0.2**
KURBB **Kurchatov Arra** 47.41 303 P P **13 49 25.0 -1.0**
comp=Z,13nm,0.6s,baz=68,slow=8.3,SNR=73
KURBB pP **pP** **13 49 45.2 -0.2**
comp=Z,13nm,0.6s,baz=72,slow=8.8,SNR=11
KURBB PcP **PcP** **13 50 55.2 -0.2**
comp=Z,4.6nm,0.7s,baz=64,slow=3.2,SNR=4.6
RES **Resolute Bay** 49.87 19 *e*P P **13 49 44.8 +0.3**
RES pmax pmax
comp=Z,16nm,1.4s
RES **Resolute Bay** 49.87 19 *e*P P **13 49 44.8 +0.3**
RES **Resolute Bay** 49.87 19 *e*P P **13 49 44.8 +0.3**
comp=Z,16nm,1.4s
YKW3 **Yellowknife Ar** 49.90 37 *e*P P **13 49 45.7 +0.8**
comp=Z,13nm,0.8s
YKW3 *e*pP **pP** **13 50 06.0 +1.6**
YKA **Yellowknife Ar** 49.94 37 P P **13 49 46.0 +0.8**
comp=Z,9.2nm,0.7s,baz=296,slow=7.2,SNR=141
YKA pP **pP** **13 50 04.0 -0.7**
comp=Z,5.9nm,0.9s,baz=298,slow=7.6,SNR=7.5
YKA PcP **PcP** **13 51 04.7 +0.5**
comp=Z,1.9nm,0.5s,baz=302,slow=3.9,SNR=12
YKA **Yellowknife Ar** 49.94 37 *ce*P P **13 49 46.0 +0.8**
YKA pmax pmax
comp=Z,10.0nm,0.6s
PDGK **Podgornoye** 50.47 294 P P **13 49 49.7 0.0**
PDGK pmax pmax
comp=Z,4.0nm,1.2s
BVAR **Borovoye Array** 50.71 309 P P **13 49 50.3 -1.0**
comp=Z,11nm,0.6s,baz=58,slow=8.5,SNR=42
BVAR PcP **PcP** **13 51 07.8 +0.5**
comp=Z,5.5nm,0.5s,baz=78,slow=2.4,SNR=7.7
BVAR LR LR 14 12 35.3
comp=Z,133nm,20.4s,baz=52,slow=38
LSA **Lhasa** 50.73 273 *e*P P **13 49 53.0 +0.7**
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA **Lhasa** 50.73 273 *e*P P **13 49 53.0 +0.7**
comp=Z,7.8nm,0.6s
BRVK **Borovoye** 50.75 309 *de*P P **13 49 50.4 -1.2**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK **Borovoye** 50.75 309 *e*P P **13 49 50.3 -1.2**
comp=Z,17nm,0.6s
CMAI **Chiengmai2** 51.95 258 P P **13 50 03.3 +2.2**
comp=Z,95nm,0.7s,comp=Z,8µm
LLLB **Lilooet** 52.37 53 *e*P P **13 50 03.7 0.0**
comp=Z,12nm,1.1s
LAMP **Lampang** 52.57 256 P P **13 50 08.7 +3.2**
comp=Z,5.5nm,1.0s
CHTO **Chiang Mai** 52.81 257 P P **13 50 09.1 +1.8**
comp=Z,92nm,1.0s
CHTO **Chiang Mai** 52.81 257 *e*P P **13 50 07.5 +0.2**
CHTO *e*PP **pP** **13 50 28.8 +1.9**
CHTO pmax pmax
comp=Z,18nm,1.0s
CHTO **Chiang Mai** 52.81 257 *e*P P **13 50 07.5 +0.2**
comp=Z,18nm,1.0s
CHTO *e*pP **pP** **13 50 28.8 +1.9**
SHL **Shillong** 52.90 268 *e*P P **13 50 09.0 +0.9**
CHAI **Chaiyaphum** 52.95 252 P P **13 50 10.0 +1.7**
comp=Z,6.4nm,0.8s
NLWA **Neilton Lookou** 52.99 57 *e*P P **13 50 09.9 +1.7**
comp=Z,19nm,1.0s
PHIT **Phitsanulok** 53.02 254 P P **13 50 11.3 +2.5**
comp=Z,12nm,0.8s
CM31 **Chiang Mai Arr** 53.06 256 *e*P P **13 50 10.9 +1.7**
CMAR **Chiang Mai Arr** 53.06 256 P P **13 50 11.1 +1.9**
comp=Z,6.7nm,0.7s,baz=36,slow=7.2,SNR=46
CMAR pP **pP** **13 50 29.1 +0.3**
comp=Z,3.2nm,0.7s,baz=31,slow=9.8,SNR=5.3
CMAR LR LR 14 14 38.3
comp=Z,65nm,18.7s,baz=40,slow=38
CM01 **Chiang Mai Arr** 53.08 256 *e*P P **13 50 10.8 +1.5**
B05A **Bryant** 53.51 56 P P **13 50 12.5 +0.5**
baz=303,SNR=7.3
AAK **Ala-Archa** 53.91 296 LR LR 14 14 44.2
comp=Z,113nm,20.4s,baz=30,slow=38
AAK **Ala-Archa** 53.91 296 *de*P P **13 50 14.6 -0.7**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK **Ala-Archa** 53.91 296 *e*P P **13 50 14.6 -0.7**
AAK **Ala-Archa** 53.91 296 *e*P P **13 50 14.4 -0.9**
comp=Z,11nm,1.4s
SRAK **Srakaew** 54.32 250 P P **13 50 18.4 +0.1**
comp=Z,39nm,0.8s
C06D **Leavenworth** 54.37 56 P P **13 50 19.0 +0.6**
baz=304
NAYO **Nakonayok** 54.56 251 P P **13 50 23.3 +3.3**
comp=Z,11nm,1.6s
TAPN **Taplejung** 54.56 273 *e*P P **13 50 21.1 +0.8**
comp=Z,14nm,0.7s
ARU **Arti** 54.73 317 *d i*P P **13 50 19.5 -1.3**
ARU *PP **pP** **13 50 39.0 -1.5**
ARU **13 51 21.2**
ARU S **S** **13 57 55.0 +0.1**
ARU SS **SS** **14 01 34.9 -3.2**
ARU pmax pmax
comp=Z,15nm,0.8s
ARU **Arti** 54.73 317 *e*P P **13 50 19.2 -1.6**
comp=Z,12nm,0.7s
KSH **Kashi** 54.80 292 *e*P P **13 50 26.0 +4.3**
KSH S **S** **13 57 58.5 +1.9**
KSH pmax pmax
comp=Z,85nm,4.3s
KSH LR LR
comp=Z,120nm,6.2s
KSH LR LR
comp=Z,120nm,5.0s
KSH LR LR
comp=Z,100nm,8.6s
LTY **Liberty** 54.87 56 *e*P P **13 50 22.5 +0.4**
comp=Z,7.1nm,0.6s
B08A **Colville Reser** 54.99 54 *e*P P **13 50 23.2 +0.3**
comp=Z,5.8nm,0.8s
MNAS **Manas** 55.20 297 P P **13 50 24.9 +0.3**
MNAS pmax pmax
comp=Z,4.0nm,0.5s
EDM **Edmonton** 55.36 47 *e*P P **13 50 26.0 +0.6**
EDM pmax pmax
comp=Z,22nm,0.8s
EDM **Edmonton** 55.36 47 *e*P P **13 50 26.0 +0.6**
EDM **Edmonton** 55.36 47 *e*P P **13 50 26.0 +0.6**
comp=Z,22nm,0.8s
I03D **Drain, OR** 55.36 61 P P **13 50 27.5 +2.0**
baz=306
JIRN **Jiri** 55.38 274 *e*P P **13 50 27.1 +0.7**
comp=Z,49nm,0.6s
GUN **Gumba** 55.43 275 *e*P P **13 50 27.1 +0.4**
comp=Z,29nm,0.4s
H04A **Detroit Lake** 55.48 59 *e*P P **13 50 27.6 +1.2**
comp=Z,12nm,0.9s
RAMN **Ramite** 55.57 274 *e*P P **13 50 28.8 +1.3**
comp=Z,28nm,0.5s
G05D **Wamic, OR** 55.66 58 P P **13 50 28.5 +0.8**
baz=306
DAG **Danmarks Havn** 55.81 358 *i* P P **13 50 27.4 -0.9**
DAG pmax pmax
comp=Z,2.0nm,0.6s
DAG **Danmarks Havn** 55.81 358 *i* P P **13 50 27.4 -0.9**
comp=Z,1.7nm,0.6s
I04A **Tendick Farm,** 55.86 60 P P **13 50 30.5 +1.4**
baz=306,SNR=9.8
C09A **Chrisman Ranch** 55.90 54 *e*P P **13 50 29.6 +0.2**
comp=Z,8.4nm,0.9s
KKN **Kakani** 55.91 275 *e*P P **13 50 31.2 +1.2**
comp=Z,27nm,0.5s
D08A **Wollman Farm,** 55.97 55 *e*P P **13 50 30.4 +0.6**
comp=Z,5.5nm,0.8s
PKI **Pulchoki** 55.97 275 *e*P P **13 50 31.0 +0.5**
comp=Z,14nm,0.5s
HAWA **Hanford** 56.01 56 *e*P P **13 50 31.1 +1.0**
comp=Z,11nm,1.0s
KKAR **Karatay Array** 56.03 299 *e*P P **13 50 29.3 -1.1**
KKAR **Karatay Array** 56.03 299 *e*P P **13 50 29.3 -1.1**
SFK **Sufi-Kurgan** 56.04 294 P P **13 50 32.1 +1.3**
SFK pmax pmax
comp=Z,3.0nm,0.9s
F07A **Phinny Hill Vi** 56.07 57 *e*P P **13 50 31.7 +1.1**
comp=Z,14nm,0.6s
L02D **Cave Junction,** 56.11 63 P P **13 50 32.9 +2.0**
baz=306
DMN **Daman** 56.15 275 *e*P P **13 50 32.6 +0.9**
comp=Z,30nm,0.7s
I05D **Terrebonne, OR** 56.17 59 P P **13 50 32.8 +1.5**
baz=306,SNR=8.1
GKN **Gorkha** 56.21 276 *e*P P **13 50 32.6 +0.6**
comp=Z,34nm,0.5s
HUMO **Hull Mountain** 56.23 62 *e*P P **13 50 33.4 +1.6**
comp=Z,29nm,1.5s
NEW **Newport** 56.26 53 P P **13 50 32.6 +0.6**
baz=306
NEW **Newport** 56.26 53 *e*P P **13 50 32.3 +0.4**
NEW pmax pmax
comp=Z,11nm,1.3s
NEW **Newport** 56.26 53 *e*P P **13 50 32.3 +0.4**
NEW **Newport** 56.26 53 *e*P P **13 50 32.3 +0.4**
comp=Z,11nm,1.3s
J04D **Umpqua Nationa** 56.36 61 P P **13 50 34.8 +1.8**
baz=306,SNR=7.7
DANN **Dangsing** 56.58 277 *e*P P **13 50 36.0 +1.2**
comp=Z,23nm,0.5s
E09A **Wood Farm, Sta** 56.72 56 *e*P P **13 50 35.9 +0.8**
comp=Z,13nm,0.9s
PINE **Pine Mountain** 56.72 60 *e*P P **13 50 36.6 +1.1**
comp=Z,24nm,0.8s
KHMM **Horse Mountain** 56.79 64 *e*P P **13 50 37.1 +1.2**
comp=Z,21nm,1.0s
J05D **Fort Rock, OR** 56.85 60 P P **13 50 38.3 +2.0**
baz=307,SNR=18
YBH **Yreka Blue Hor** 56.90 63 P P **13 50 38.6 +2.0**
comp=Z,5.4nm,0.6s,baz=16,slow=6.9,SNR=25
YBH LR LR 14 11 19.4
comp=Z,52nm,22.0s,baz=311,slow=32
YBH **Yreka Blue Hor** 56.90 63 *e*P P **13 50 38.2 +1.6**
YBH pmax pmax
comp=Z,7.0nm,0.8s
YBH **Yreka Blue Hor** 56.90 63 *e*P P **13 50 38.1 +1.6**
comp=Z,7.1nm,0.8s
G08A **Pilot Rock** 56.98 57 *e*P P **13 50 37.6 +0.5**
comp=Z,8.4nm,1.1s
M02C **Callahan** 57.01 63 P P **13 50 39.5 +2.0**
baz=307
KOLN **Koldanda** 57.06 276 *e*P P **13 50 38.9 +0.8**
comp=Z,19nm,0.6s
ARCES **ARCESS Array B** 57.21 341 P P **13 50 37.3 -1.0**
comp=Z,1.9nm,0.6s,baz=24,slow=6.9,SNR=6.6
PYUN **Piuthan** 57.26 277 *e*P P **13 50 41.1 +1.6**
comp=Z,24nm,0.6s
N02D **Trinity Center** 57.35 63 P P **13 50 41.7 +1.9**
baz=307,SNR=5.5
M04C **Macdoel** 57.39 62 P P **13 50 42.0 +1.8**
baz=307,SNR=6.4
WALA **Waterton Lakes** 57.51 51 *e*P P **13 50 41.2 +0.4**
comp=Z,10nm,0.6s
F10A **Beach Ranch, E** 57.55 56 *e*P P **13 50 42.0 +0.8**
comp=Z,8.8nm,1.3s
WDC **Whiskeytown Da** 57.69 64 *e*P P **13 50 43.3 +1.2**
WDC pmax pmax
comp=Z,7.0nm,0.9s
WDC **Whiskeytown Da** 57.69 64 *e*P P **13 50 43.3 +1.2**
comp=Z,7.4nm,0.9s
JTMT **Jette** 58.10 53 *e*P P **13 50 46.1 +1.1**
comp=Z,6.7nm,0.8s
BMO **Blue Mountains** 58.18 57 *e*P P **13 50 46.4 +0.8**
BMO pmax pmax
comp=Z,9.0nm,0.9s
BMO **Blue Mountains** 58.18 57 *e*P P **13 50 46.4 +0.8**
comp=Z,9.2nm,0.9s
MOD **Modoc Plateau** 58.23 61 *e*P P **13 50 46.8 +0.8**
comp=Z,14nm,0.6s
ABKAR **Akbulak array** 58.27 310 *e*P P **13 50 44.7 -1.3**
comp=Z,58nm,0.5s
O03D **Paynes Creek** 58.31 63 P P **13 50 47.5 +1.0**
baz=308,SNR=9.7
J08A **Circle Bar Ran** 58.42 59 *e*P P **13 50 48.7 +1.5**
comp=Z,19nm,1.3s
AKTO **Aktyubinsk** 58.54 312 P P **13 50 46.9 -1.0**
comp=Z,2.4nm,0.6s,baz=56,slow=11,SNR=6.5
AKTO LR LR 14 17 30.8
comp=Z,120nm,19.1s,baz=61,slow=38
MSO **Missoula** 58.84 53 P P **13 50 51.5 +1.3**
baz=308,SNR=7.5
MSO **Missoula** 58.84 53 *e*P P **13 50 51.5 +1.3**
comp=Z,18nm,1.2s
WVOR **Wild Horse Val** 58.89 60 *e*P P **13 50 51.7 +1.1**
WVOR pmax pmax
comp=Z,13nm,0.9s
WVOR **Wild Horse Val** 58.89 60 *e*P P **13 50 51.7 +1.1**
comp=Z,13nm,0.9s
ORV **Oroville** 58.95 64 *e*P P **13 50 51.3 +0.4**
ORV pmax pmax
comp=Z,6.0nm,0.8s
ORV **Oroville** 58.95 64 *e*P P **13 50 51.2 +0.4**
comp=Z,6.0nm,0.8s
KLMR **Klimovskoe** 59.64 329 *e*P P **13 50 52.5 -2.8**
KLMR *e* 13 51 38.4
KLMR pmax pmax
comp=Z,15nm,1.2s
KLMR **Klimovskoe** 59.64 329 *e*P P **13 50 52.5 -2.8**
KLMR AMP 13 50 57.5
comp=Z,15nm,1.2s
KLMR *e*PcP **PcP** **13 51 38.5 -3.1**
AFDM **Forest Hills D** 59.65 64 *e*P P **13 50 56.5 +0.8**
comp=Z,14nm,1.3s
FFC **Flin Flon** 59.76 41 *e*P P **13 50 57.0 +0.8**
FFC pmax pmax
comp=Z,22nm,0.8s
FFC **Flin Flon** 59.76 41 *e*P P **13 50 57.0 +0.8**
FFC **Flin Flon** 59.76 41 *e*P P **13 50 57.0 +0.8**
comp=Z,22nm,0.8s
SUMG **Summit** 59.81 4 *i* P P **13 50 57.3 +0.5**
SUMG pmax pmax
comp=Z,20nm,0.9s
SUMG **Summit** 59.81 4 *i* P P **13 50 57.3 +0.5**
comp=Z,20nm,0.9s
SUMG **Summit** 59.81 4 *e*P P **13 50 56.7 -0.1**
comp=Z,20nm,0.9s
HRY **Holter Researc** 60.05 52 *e*P P **13 50 59.5 +1.0**
PAHR **Pah Rah Range** 60.13 63 *e*P P **13 50 59.6 +0.4**
comp=Z,17nm,1.2s
VCNR **Virginia City** 60.23 63 *e*P P **13 51 01.1 +1.1**
comp=Z,11nm,0.8s
FCC **Fort Churchill** 60.27 34 *e*P P **13 50 59.6 0.0**
FCC pmax pmax
comp=Z,19nm,0.7s
FCC **Fort Churchill** 60.27 34 *e*P P **13 50 59.6 0.0**
FCC **Fort Churchill** 60.27 34 *e*P P **13 50 59.6 0.0**
comp=Z,18nm,0.7s
LRM **Limekiln Ridge** 60.28 53 *e*P P **13 51 01.4 +1.2**
EGMT **Eagleton** 60.32 50 P P **13 51 01.5 +1.2**

baz=310,SNR=8.4
EGMT **Eagleton** 60.32 50 *e*P P 13 51 01.2 +1.0
comp=Z,13nm,0.9s
DLMT **Dillon** 60.49 54 *e*P P 13 51 02.8 +1.2
comp=Z,28nm,1.8s
CMB **Columbia Colle** 60.58 65 *e*P P 13 51 03.1 +1.0
CMB pmax pmax
comp=Z,11nm,1.3s
CMB **Columbia Colle** 60.58 65 *e*P P 13 51 03.1 +1.0
comp=Z,11nm,1.3s
HLID **Hailey** 60.61 57 P P 13 51 03.9 +1.4
baz=309,SNR=11
HLID **Hailey** 60.61 57 *e*P P 13 51 03.5 +1.1
comp=Z,4.7nm,0.9s
YERR **Yerington** 60.67 63 *e*P P 13 51 04.0 +1.1
comp=Z,16nm,1.0s
MCMT **McKenzie Canyo** 60.69 55 *e*P P 13 51 03.5 +0.5
WAKR **Walker** 60.86 64 *e*P P 13 51 05.0 +0.8
comp=Z,9.9nm,0.9s
BOZ **Bozeman (W)** 60.87 53 P P 13 51 05.3 +1.2
baz=310,SNR=30
BOZ **Bozeman (W)** 60.87 53 *e*P P 13 51 05.0 +0.9
BOZ pmax pmax
comp=Z,13nm,0.6s
BOZ **Bozeman (W)** 60.87 53 *e*P P 13 51 05.0 +0.9
BOZ **Bozeman (W)** 60.87 53 *e*P P 13 51 05.0 +0.9
comp=Z,13nm,0.6s
BMN **Battle Mountai** 60.97 61 *e*P P 13 51 05.2 +0.3
BMN pmax pmax
comp=Z,14nm,0.7s
BMN **Battle Mountai** 60.97 61 *e*P P 13 51 05.2 +0.3
comp=Z,14nm,0.7s
RYN **Ryan** 61.33 63 *e*P P 13 51 08.2 +0.8
comp=Z,12nm,0.9s
QLMT **Earthquake Lak** 61.46 54 *e*P P 13 51 09.3 +1.1
NV01 **Mina Array Sit** 61.59 63 *e*P P 13 51 10.3 +1.1
NVAR **Mina Array Bea** 61.59 63 P P 13 51 10.8 +1.6
comp=Z,6.7nm,0.6s,baz=293,slow=6.9,SNR=27
NVAR LR LR 14 13 36.9
comp=Z,50nm,21.0s,baz=93,slow=32
YHB **Horse Butte** 61.64 54 *e*P P 13 51 10.6 +1.2
comp=Z,19nm,1.1s
NV11 **Mina Array Sit** 61.68 63 *e*P P 13 51 10.8 +1.1
comp=Z,0.7nm,1.0s
GCMT **Greycliff** 61.80 52 *e*P P 13 51 11.8 +1.4
YHH **Holmes Hill** 61.81 54 *e*P P 13 51 11.6 +1.0
comp=Z,12nm,1.1s
YMR **Madison River** 61.82 54 *e*P P 13 51 12.1 +1.4
comp=Z,7.5nm,0.8s
COEN **Coen** 62.02 192 *e*P P 13 51 12.9 +1.0
comp=Z,20nm,1.0s
YPP **Pitchstone Pla** 62.16 54 *e*P P 13 51 14.4 +1.4
comp=Z,8.0nm,1.3s
SCO **Scoresbysund** 62.19 358 *e*P P 13 51 12.9 +0.5
SCO pmax pmax
comp=Z,13nm,1.2s
SCO **Scoresbysund** 62.19 358 *i* P P 13 51 12.7 +0.3
comp=Z,11nm,1.1s
SCO **Scoresbysund** 62.19 358 *e*P P 13 51 12.9 +0.5
comp=Z,13nm,1.2s
H17A **Grant Village** 62.21 54 P P 13 51 16.5 +3.2
baz=311,SNR=9.2
H17A **Grant Village** 62.21 54 *e*P P 13 51 15.9 +2.6
comp=Z,11nm,1.0s
IMW **Indian Meadow** 62.33 54 *e*P P 13 51 16.2 +2.0
comp=Z,14nm,1.4s
RLMT **Red Lodge** 62.45 52 P P 13 51 16.0 +1.1
baz=311,SNR=12
RLMT **Red Lodge** 62.45 52 *e*P P 13 51 16.4 +1.6
comp=Z,50nm,1.8s
FXWY **Fox Creek** 62.45 55 *e*P P 13 51 15.8 +0.9
comp=Z,4.6nm,0.8s
MOOW **Moose Ponds** 62.54 54 *e*P P 13 51 16.5 +1.0
comp=Z,27nm,1.7s
TPAW **Teton Pass** 62.59 55 *e*P P 13 51 17.1 +1.2
comp=Z,16nm,0.8s
HVU **Hansel Valley** 62.68 57 *e*P P 13 51 17.4 +1.0
HVU pmax pmax
comp=Z,7.0nm,0.8s
HVU **Hansel Valley** 62.68 57 *e*P P 13 51 17.4 +1.0
comp=Z,6.8nm,0.8s
LOHW **Long Hollow** 62.70 54 *e*P P 13 51 17.4 +0.8
comp=Z,18nm,1.4s
SNOW **Snow King Moun** 62.72 55 *e*P P 13 51 18.6 +1.9
comp=Z,9.4nm,0.8s
REDW **Red Top Meadow** 62.73 55 *e*P P 13 51 18.4 +1.6
comp=Z,14nm,0.9s
PKM **Mcpherson Peak** 62.95 67 P P 13 51 19.6 +1.4
baz=311
CWC **Cottonwood Cre** 63.01 65 P P 13 51 19.9 +1.2
baz=311
LAO **LASA Array** 63.02 50 P P 13 51 19.1 +0.7
baz=312,SNR=6.9
LAO **LASA Array** 63.02 50 P P 13 51 19.7 +1.3
comp=Z,24nm,1.3s
GRAC **Grapevine Rang** 63.08 64 P P 13 51 20.1 +1.2
baz=311
ISA **Isabella, Lake** 63.27 66 P P 13 51 20.5 +0.2
baz=311
ISA **Isabella, Lake** 63.27 66 *e*P P 13 51 20.7 +0.4
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA **Isabella, Lake** 63.27 66 *e*P P 13 51 20.7 +0.4
comp=Z,5.5nm,0.9s
R11A **Troy Canyon, C** 63.27 62 P P 13 51 21.6 +1.2
baz=311,SNR=16
R11A **Troy Canyon, C** 63.27 62 *e*P P 13 51 21.1 +0.7
comp=Z,11nm,0.9s
HWUT **Hardware Ranch** 63.48 57 *e*P P 13 51 22.9 +1.2
comp=Z,27nm,1.4s
FIA1 **FINESS Array S** 63.48 335 *e*P P 13 51 19.8 -1.3
FINES **FINESS Array B** 63.48 335 P P 13 51 20.1 -1.1
comp=Z,6.8nm,0.4s,baz=37,slow=7.6,SNR=111
FINES pP pP 13 51 41.1 -0.2
comp=Z,3.7nm,0.5s,baz=57,slow=7.0,SNR=3.4
MTN **Manton Dam** 63.50 205 *e*P P 13 51 22.2 +0.4
comp=Z,41nm,1.6s
MPMC **Manual Prospec** 63.62 65 P P 13 51 23.7 +1.0
baz=311,SNR=8.1
DUG **Dugway, Tooele** 63.69 59 P P 13 51 24.3 +1.3
baz=311,SNR=19
DUG **Dugway, Tooele** 63.69 59 *e*P P 13 51 23.8 +0.7
DUG pmax pmax
comp=Z,15nm,0.9s
DUG **Dugway, Tooele** 63.69 59 *e*P P 13 51 23.8 +0.7
DUG **Dugway, Tooele** 63.69 59 *e*P P 13 51 23.8 +0.7
comp=Z,15nm,0.9s
FURC **Furnace Creek,** 63.73 64 P P 13 51 24.7 +1.5
baz=311,SNR=9.8
OSI **Osito Audit: C** 63.80 67 P P 13 51 25.1 +1.3
baz=311
OSI **Osito Audit: C** 63.80 67 *e*P P 13 51 25.0 +1.3
comp=Z,24nm,1.0s
BW06 **Boulder Array** 63.84 55 P P 13 51 25.1 +1.0
baz=312,SNR=12
BW06 **Boulder Array** 63.84 55 *e*P P 13 51 24.8 +0.8
comp=Z,12nm,0.9s
PD31 **Pinedale Array** 63.84 55 *e*P P 13 51 24.9 +0.8
PDAR **Pinedale Array** 63.84 55 P P 13 51 25.1 +1.0
comp=Z,7.2nm,0.8s,baz=291,slow=1.9,SNR=64
PDAR pP pP 13 51 46.1 +1.8
comp=Z,2.1nm,0.7s,baz=297,slow=2.4,SNR=4.5
CTU **Camp Tracy** 63.98 58 *e*P P 13 51 26.1 +1.1
comp=Z,6.4nm,0.9s
EDW2 **Edwards Air Fo** 64.08 66 P P 13 51 26.8 +1.2
baz=312,SNR=6.9
JLU **Jordanelle** 64.21 57 *e*P P 13 51 27.9 +1.3
comp=Z,12nm,1.3s
SFJD **Kangerlussuaq** 64.22 10 P P 13 51 26.1 +0.3
comp=Z,9.9nm,0.7s,baz=305,slow=11,SNR=5.1
SFJD **Kangerlussuaq** 64.22 10 *i* P P 13 51 26.0 +0.1
NLU **North Lily Min** 64.28 58 *e*P P 13 51 28.2 +1.2
comp=Z,11nm,0.8s
MWC **Mount Wilson** 64.47 67 *e*P P 13 51 29.3 +1.0
MWC pmax pmax
comp=Z,36nm,1.3s
MWC **Mount Wilson** 64.47 67 *e*P P 13 51 29.3 +1.0
comp=Z,36nm,1.3s
MPU **Maple Canyon** 64.49 58 *e*P P 13 51 29.6 +1.2
comp=Z,11nm,0.8s
GSC **Goldstone, Bar** 64.53 65 P P 13 51 29.6 +1.0
baz=312,SNR=5.4
GSC **Goldstone, Bar** 64.53 65 *e*P P 13 51 29.5 +0.9
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC **Goldstone, Bar** 64.53 65 *e*P P 13 51 29.5 +0.9
comp=Z,8.7nm,0.9s

BFSC **Mount Baldy Ra** 64.71 66 P P 13 51 31.0 +1.2
baz=312
SHPR **Sheep Range** 64.74 63 *e*P P 13 51 31.1 +1.1
comp=Z,11nm,1.2s
OBN **Obninsk** 64.89 326⇑ *e*P P 13 51 30.8 +0.4
OBN *e* 13 51 50.6
OBN *e* 13 51 56.1
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,70nm,16.0s
OBN **Obninsk** 64.89 326 *e*P P 13 51 30.8 +0.4
PSI **Prapat** 64.91 245 P P 13 51 32.4 +1.2
comp=Z,7.9nm,0.9s,baz=183,slow=5.2,SNR=5.0
PSI **Prapat** 64.91 245 *e*P P 13 51 31.8 +0.6
comp=Z,7.6nm,0.8s
TUQ **Turquoise Moun** 64.99 64 P P 13 51 32.6 +1.1
baz=312,SNR=10.0
CCUT **Cedar City** 65.12 61 *e*P P 13 51 33.8 +1.3
comp=Z,10nm,0.9s
HEC **Hector,Ludlow** 65.14 65 P P 13 51 33.5 +1.0
baz=312
MSU **Marysvale** 65.18 60 *e*P P 13 51 34.4 +1.5
MSU **Marysvale** 65.18 60 *e*P P 13 51 34.4 +1.5
TMUT **Trail Mountain** 65.21 58 *e*P P 13 51 34.5 +1.3
comp=Z,9.7nm,0.9s
P17A **Butcher Ranch,** 65.36 58 *e*P P 13 51 34.6 +0.6
comp=Z,14nm,1.0s
MURC **Murrieta** 65.42 67 P P 13 51 35.3 +1.0
baz=312,SNR=5.8
Q16A **Castle Valley** 65.49 59 *e*P P 13 51 35.7 +0.8
comp=Z,8.4nm,0.9s
MDND **Maddock** 65.52 45 P P 13 51 35.5 +0.9
baz=315
MDND **Maddock** 65.52 45 *e*P P 13 51 35.8 +1.1
comp=Z,22nm,1.0s
P18A **Preston Nutter** 65.54 58 *e*P P 13 51 36.4 +1.1
comp=Z,21nm,1.4s
ULM **Lac du Bonnet** 65.55 41 P P 13 51 35.2 +0.5
comp=Z,2.5nm,0.5s,baz=311,slow=4.8,SNR=7.0
ULM pP pP 13 51 55.2 +0.1
comp=Z,3.2nm,0.7s,baz=302,slow=6.2,SNR=4.9
ULM **Lac du Bonnet** 65.55 41 *e*P P 13 51 34.7 -0.1
ULM *PP pP 13 51 55.2 +0.1
ULM pmax pmax
comp=Z,14nm,1.4s
ULM **Lac du Bonnet** 65.55 41 *e*P P 13 51 34.7 -0.1
ULM **Lac du Bonnet** 65.55 41 *e*P P 13 51 34.6 -0.1
comp=Z,14nm,1.4s
ULM pP pP 13 51 55.2 +0.1
LCMT **Little Creek M** 65.55 61 *e*P P 13 51 36.4 +1.2
comp=Z,16nm,0.8s
K22A **Casper** 65.57 53 P P 13 51 36.9 +1.6
baz=313
K22A **Casper** 65.57 53 *e*P P 13 51 36.1 +0.8
comp=Z,44nm,1.6s
GMRC **Granite Mounta** 65.58 65 P P 13 51 36.5 +1.1
baz=312,SNR=6.8
LDFC **Landfair** 65.72 64 *e*P P 13 51 36.9 +0.6
comp=Z,32nm,0.9s
SRU **San Rafael Swe** 65.73 58 *e*P P 13 51 37.3 +0.9
SRU pmax pmax
comp=Z,20nm,0.8s
SRU **San Rafael Swe** 65.73 58 *e*P P 13 51 37.3 +0.9
comp=Z,20nm,0.8s
KNB **Kanab** 65.80 61 *e*P P 13 51 38.7 +1.9
KNB pmax pmax
comp=Z,19nm,0.9s
KNB **Kanab** 65.80 61 *e*P P 13 51 38.7 +1.9
comp=Z,19nm,0.9s
PFO **Pinyon Flats O** 65.87 66 *e*P P 13 51 37.0 -0.3
PFO pmax pmax
comp=Z,14nm,1.3s
PFO **Pinyon Flats O** 65.87 66 *e*P P 13 51 37.0 -0.3
comp=Z,14nm,1.3s
XPFO **Piæon Flat** 65.88 66 *e*P P 13 51 37.2 -0.2
comp=Z,15nm,1.3s
RSSD **Black Hills** 65.89 50 P P 13 51 38.2 +0.8
baz=314
RSSD **Black Hills** 65.89 50 *e*P P 13 51 37.9 +0.6
RSSD pmax pmax
comp=Z,21nm,0.9s
RSSD **Black Hills** 65.89 50 *e*P P 13 51 37.9 +0.6
comp=Z,20nm,0.9s
BELC **Belle Mtn. Jos** 65.90 66 P P 13 51 38.1 +0.7
baz=312
109C **Camp Elliot, M** 65.95 67 P P 13 51 38.7 +1.1
baz=312
CPE **Camp Elliot** 65.95 67 *e*P P 13 51 38.5 +0.9
comp=Z,16nm,0.9s
IRM **Iron Mountain** 66.32 65 P P 13 51 41.0 +1.0
baz=313,SNR=11
O20A **White River Ci** 66.34 56 P P 13 51 40.5 +0.2
baz=313
O20A **White River Ci** 66.34 56 *e*P P 13 51 41.1 +0.8
comp=Z,30nm,1.8s
BAR **Barrett** 66.36 67 *e*P P 13 51 41.1 +0.8
comp=Z,10nm,0.9s
MONP2 **Monument Peak** 66.38 67 P P 13 51 41.5 +0.9
baz=313
C31A **Landman Farms,** 66.45 44 P P 13 51 41.1 +0.5
baz=316
W13A **Hualapai Mount** 66.45 63 *e*P P 13 51 42.1 +1.0
comp=Z,6.0nm,0.9s
BC3 **Big Chuckawall** 66.46 65 P P 13 51 41.5 +0.5
baz=313
U15A **North Rim** 66.51 61 *e*P P 13 51 42.8 +1.3
comp=Z,12nm,0.9s
B32A **Ashes, Strandq** 66.58 43 P P 13 51 41.8 +0.4
baz=316
GEYT **Alibeck** 66.60 301 P P 13 51 41.8 0.0
comp=Z,2.1nm,0.5s,baz=25,slow=3.9,SNR=5.6
A33A **Warroad** 66.71 42 P P 13 51 42.0 -0.2
baz=317,SNR=5.7
IKP **In-Ko-Pah, Jac** 66.73 67 P P 13 51 43.8 +1.0
baz=313
VSR **Storozhevoye** 66.76 322⇑ *e*P P 13 51 42.8 +0.3
VSR pmax pmax
comp=Z,5.0nm,1.0s
PDMCI **Parker Dam,Lak** 66.83 64 P P 13 51 44.2 +0.9
baz=313,SNR=6.1
PV09 **Paradox Valley** 66.94 58 *e*P P 13 51 45.0 +0.7
AGMN **Agassiz Nation** 66.96 43 P P 13 51 44.3 +0.4
baz=317
AGMN **Agassiz Nation** 66.96 43 *e*P P 13 51 44.1 +0.3
comp=Z,6.6nm,0.9s
Y12C **Blythe** 66.97 65 P P 13 51 45.1 +0.9
baz=313,SNR=5.2
Y12C **Blythe** 66.97 65 *e*P P 13 51 45.0 +0.9
comp=Z,16nm,0.9s
PV10 **Paradox Valley** 67.08 58 *e*P P 13 51 45.9 +0.8
N23A **Red Feather La** 67.09 54 P P 13 51 45.3 +0.1
baz=314
N23A **Red Feather La** 67.09 54 *e*P P 13 51 45.9 +0.7
comp=Z,43nm,1.6s
B33A **Robert and Kas** 67.10 43 P P 13 51 44.8 0.0
baz=317
DOMB **Dombas** 67.12 343 *e*P P 13 51 44.9 +0.2
DOMB lAmb lAmb 13 51 45.9
comp=Z,9.5nm,0.8s
PV04 **Paradox Valley** 67.15 58 *e*P P 13 51 46.4 +0.9
PV05 **Paradox Valley** 67.25 58 *e*P P 13 51 46.5 +0.3
GLA **Glamis** 67.26 66 P P 13 51 47.1 +1.1
baz=313
E31A **Nome** 67.26 45 P P 13 51 46.1 +0.4
baz=316
B34A **Aery, Baudette** 67.38 42 P P 13 51 46.6 +0.1
baz=317
NC303 **NORSAR Array S** 67.38 341 *e*P P 13 51 45.6 -0.7
AKN **Aaknes** 67.40 344 *e*P P 13 51 46.7 +0.3
NC405 **NORSAR Array S** 67.41 341 *e*P P 13 51 45.1 -1.4
NC204 **NORSAR Array S** 67.47 342 *e*P P 13 51 46.1 -0.8
PV01 **Paradox Valley** 67.52 58 *e*P P 13 51 48.4 +0.6
NB201 **NORSAR Array S** 67.56 341 *e*P P 13 51 45.7 -1.7
NB2 **NORSAR Subarra** 67.58 341 P P 13 51 47.4 -0.2
comp=Z,11nm,0.6s,baz=26,slow=6.5
NB2 **NORSAR Subarra** 67.58 341 P P 13 51 47.4 -0.2
NB2 pmax pmax
comp=Z,9.0nm,0.6s
NB2 **NORSAR Subarra** 67.58 341 P P 13 51 47.4 -0.2
baz=26,slow=6.5
NOA **NORSAR Array B** 67.58 341 P P 13 51 47.0 -0.6
comp=Z,9.9nm,0.6s,baz=27,slow=6.4,SNR=75
WUAZ **Wupatki** 67.67 62 P P 13 51 50.3 +1.5
baz=314,SNR=6.8
WUAZ **Wupatki** 67.67 62 *e*P P 13 51 49.9 +1.2
comp=Z,11nm,1.0s

SMCO **Snowmass** 67.70 56 *e*P P 13 51 49.8 +0.6
comp=Z,9.9nm,0.8s
NC602 **NORSAR Array S** 67.79 341 *e*P P 13 51 48.0 -0.9
NAO01 **NORSAR Array S** 67.83 341 *e*P P 13 51 48.7 -0.4
HFS **Hagfors** 67.83 340 P P 13 51 49.0 -0.1
comp=Z,16nm,0.4s,baz=58,slow=5.4,SNR=188
B35A **Bob, Littlefor** 67.89 42 P P 13 51 50.0 +0.3
baz=318
ISCO **Idaho Springs** 68.03 55 P P 13 51 51.7 +0.5
baz=314,SNR=13
ISCO **Idaho Springs** 68.03 55 *e*P P 13 51 52.4 +1.3
ISCO pmax pmax
comp=Z,10.0nm,0.8s
ISCO **Idaho Springs** 68.03 55 *e*P P 13 51 52.4 +1.3
comp=Z,10nm,0.8s
F32A **Veblen** 68.12 45 P P 13 51 51.7 +0.5
baz=317
D34A **Park Rapids** 68.15 43 P P 13 51 51.8 +0.4
baz=317
MVCO **Mesa Verde** 68.19 58 P P 13 51 52.7 +0.6
baz=314,SNR=11
MVCO **Mesa Verde** 68.19 58 *e*P P 13 51 52.6 +0.5
comp=Z,12nm,0.9s
C35A **Jirik Farms, M** 68.26 42 P P 13 51 52.5 +0.5
baz=318
X16A **Lo Mia Camp, P** 68.39 62 *e*P P 13 51 54.2 +1.0
comp=Z,10.0nm,0.9s
HYA **Hoyanger** 68.49 344 *e*P P 13 51 53.4 +0.2
F33A **5 Mile Ranch,** 68.54 45 P P 13 51 54.0 +0.2
baz=317,SNR=6.2
OSL **Oslo** 68.68 341 *e*P P 13 51 53.0 -1.4
S22A **4UR Ranch, Cre** 68.78 57 P P 13 51 57.7 +1.9
baz=314,SNR=12
S22A **4UR Ranch, Cre** 68.78 57 *e*P P 13 51 57.4 +1.6
comp=Z,9.9nm,0.9s
SUE **Sulen** 68.85 344 *e*P P 13 51 55.6 +0.1
SUE lAmb lAmb 13 51 57.1
comp=Z,23nm,0.7s
Q24A **Divide** 68.87 55 P P 13 51 56.0 -0.4
baz=315
G33A **Ortonville** 68.94 46 P P 13 51 56.9 +0.5
baz=317
OGNE **Ogallala** 69.17 52 P P 13 51 58.7 +0.8
baz=316,SNR=8.3
OGNE **Ogallala** 69.17 52 *e*P P 13 51 58.0 +0.1
comp=Z,48nm,0.8s
H33A **Prehn Over Nor** 69.17 46 P P 13 51 58.4 +0.6
baz=317
KONO **Kongsberg** 69.19 341 *ce*P P 13 51 58.4 +0.8
KONO pmax pmax
comp=Z,72nm,1.7s
KONO **Kongsberg** 69.19 341 *e*P P 13 51 57.6 0.0
comp=Z,67nm,1.6s
KONO **Kongsberg** 69.19 341 *e*P P 13 51 58.1 +0.6
J31A **Geddes** 69.19 48 P P 13 51 58.3 +0.4
baz=317,SNR=5.6
X18A **Snowflake** 69.20 61 *e*P P 13 51 59.4 +1.1
comp=Z,23nm,1.4s
214A **Organ Pipe Nat** 69.25 65 P P 13 51 59.0 +0.5
baz=314
I32A **Karley and Nic** 69.30 47 P P 13 51 58.3 -0.2
baz=317
ASK **Askoy** 69.31 344 *e*P P 13 51 58.5 +0.3
D37A **Cotton** 69.37 42 P P 13 51 58.9 -0.1
baz=319
BER **Bergen** 69.37 344 *e*P P 13 51 59.0 +0.4
E36A **McGregor** 69.47 43 P P 13 51 59.7 +0.2
baz=316
WRAB **Tennant Creek** 69.47 200 *ce*P P 13 52 01.1 +1.4
WRAB pmax pmax
comp=Z,84nm,2.5s
WRAB **Tennant Creek** 69.47 200 *e*P P 13 51 60.0 +0.2
comp=Z,30nm,1.4s
WRA **Warramunga Arr** 69.48 200 P P 13 52 00.3 +0.5
comp=Z,5.2nm,0.6s,baz=17,slow=6.6,SNR=61
WRA pP pP 13 52 21.6 +1.2
comp=Z,2.5nm,0.5s,baz=12,slow=5.0,SNR=5.7
SDCO **Great Sand Dun** 69.53 56 P P 13 52 01.2 +0.8
baz=315,SNR=7.5
SDCO **Great Sand Dun** 69.53 56 *e*P P 13 52 01.2 +0.8
comp=Z,22nm,1.8s
ODD1 **Odda** 69.56 343 *e*P P 13 52 00.1 +0.2
K31A **O'Neill** 69.67 49 P P 13 52 01.4 +0.6
baz=317
F36A **Milaca** 69.83 43 P P 13 52 01.6 -0.2
baz=319
ECSD **EROS Data Cent** 69.93 47 P P 13 52 02.6 +0.2
baz=318,SNR=18
ECSD **EROS Data Cent** 69.93 47 *e*P P 13 52 02.4 -0.1
comp=Z,17nm,0.8s
BLS5 **Blasjo** 70.05 343 *e*P P 13 52 03.9 +1.0
J33A **Davis** 70.06 47 P P 13 52 03.7 +0.4
baz=317
H35A **Sunnyside Ranc** 70.08 45 P P 13 52 03.9 +0.5
baz=318,SNR=11
TUC **Tucson** 70.24 64 P P 13 52 05.7 +1.0
baz=315
TUC **Tucson** 70.24 64 *e*P P 13 52 05.6 +1.0
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC **Tucson** 70.24 64 *e*P P 13 52 05.6 +1.0
comp=Z,6.8nm,0.9s
MHTCO **State Highway** 70.42 56 *e*P P 13 52 07.5 +1.7
comp=Z,28nm,1.3s
KMY **Karmoy** 70.48 343 *e*P P 13 52 06.0 +0.5
L32A **Elgin** 70.50 49 P P 13 52 06.1 +0.2
baz=317,SNR=6.0
F38A **Pierce - Schro** 70.52 42 P P 13 52 06.4 +0.4
baz=319,SNR=6.8
KIV **Kislovodsk** 70.57 314 *e*P P 13 52 08.1 +1.7
KIV pmax pmax
comp=Z,10.0nm,1.0s
T25A **Trinidad** 70.57 56 P P 13 52 07.3 +0.6
baz=316,SNR=7.1
T25A **Trinidad** 70.57 56 *e*P P 13 52 07.4 +0.6
comp=Z,9.3nm,0.9s
J34A **George** 70.58 47 P P 13 52 06.4 -0.1
baz=318
H36A **Jessenland, He** 70.60 45 P P 13 52 06.4 -0.2
baz=319
KBZ **Khabaz** 70.63 314 P P 13 52 06.5 -0.1
comp=Z,3.5nm,0.7s,baz=65,slow=4.9,SNR=13
KBZ pP PcP 13 52 27.5 +0.3
comp=Z,1.2nm,0.5s,baz=196,slow=4.8,SNR=2.5
SPMN **Marine on St.** 70.65 43 P P 13 52 06.5 -0.3
baz=319
SPMN **Marine on St.** 70.65 43 *e*P P 13 52 06.6 -0.2
comp=Z,8.0nm,0.7s
STAV **Stavanger** 70.65 343 *e*P P 13 52 06.8 +0.3
STAV lAmb lAmb 13 52 08.4
comp=Z,18nm,0.9s
E39A **Mellen** 70.80 41 P P 13 52 07.0 -0.6
baz=320
BGNE **Belgrade** 70.86 49 P P 13 52 08.3 +0.1
baz=317
BGNE **Belgrade** 70.86 49 *e*P P 13 52 08.1 -0.1
SNART **Snartemo** 70.89 342 *e*P P 13 52 08.6 +0.6
SNART lAmb lAmb 13 52 09.9
comp=Z,18nm,0.7s
LAZ **Ladron** 70.94 60 *e*P P 13 52 10.0 +0.9
ANMO **Albuquerque** 70.96 59 P P 13 52 09.6 +0.6
baz=315
ANMO **Albuquerque** 70.96 59⇑ *e*P P 13 52 10.7 +1.6
ANMO pmax pmax
comp=Z,8.0nm,1.2s
ANMO **Albuquerque** 70.96 59 *e*P P 13 52 09.1 0.0
comp=Z,6.3nm,0.9s
K34A **Le Mars** 70.96 47 P P 13 52 08.3 -0.4
baz=318
I36A **Fitzsimmons Fa** 70.98 45 P P 13 52 08.2 -0.6
baz=319
F39A **Loretta** 70.99 42 P P 13 52 08.5 -0.4
baz=320
E40A **Wakefield** 71.04 41 P P 13 52 09.3 +0.1
baz=320,SNR=5.1
H37A **Dierke Farm, C** 71.08 44 P P 13 52 10.0 +0.6
baz=319
AKASG **Malin Array Be** 71.12 326 P P 13 52 08.5 -1.0
comp=Z,9.1nm,0.5s,baz=33,slow=6.3,SNR=37
AKASG pP PcP 13 52 28.9 -0.3
comp=Z,2.1nm,0.5s,baz=35,slow=5.9,SNR=2.8
AKBB **Malin Array Si** 71.12 326 *e*P P 13 52 08.4 -1.1
AKBB pmax pmax
comp=Z,12nm,0.6s
AKBB **Malin Array Si** 71.12 326 *e*P P 13 52 08.4 -1.1
comp=Z,12nm,0.6s
G38A **Ridgeland** 71.13 43 P P 13 52 09.7 0.0

baz=320
KIEV Kiev 71.13 326 deP P 13 52 08.8 -0.8
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 71.13 326 eP P 13 52 08.3 -1.3
comp=Z,12nm,0.6s
AK11 Malin Array Si 71.16 326 eP P 13 52 08.6 -1.2
I37A Lemond, Waseca 71.28 45 P P 13 52 10.9 +0.3
baz=319,SNR=8.1
H38A Maiden Rock 71.30 44 P P 13 52 10.6 -0.1
baz=320
F40A Park Falls 71.34 41 P P 13 52 10.7 -0.3
baz=320
L34A Svendsen Farm, 71.35 48 P P 13 52 11.1 0.0
baz=318
K35A Storm Lake 71.36 47 P P 13 52 11.5 +0.3
baz=318
E41A Kenton 71.44 40 P P 13 52 11.4 -0.2
baz=321
L35A Bielow Farm, R 71.66 47 P P 13 52 12.8 -0.1
baz=318
J37A Redenius Farm, 71.73 45 P P 13 52 13.2 -0.2
baz=319
I38A Scanlan Farm, 71.76 44 P P 13 52 13.1 -0.4
baz=320
K36A Gilmore City 71.80 46 P P 13 52 13.7 -0.1
baz=319
319A Douglas 71.80 63 eP P 13 52 14.0 -0.2
comp=Z,32nm,0.8s
G40A Rib Lake 71.81 42 P P 13 52 13.7 -0.1
baz=320
121A Cookes Peak, D 71.88 62 P P 13 52 14.4 -0.2
baz=316,SNR=5.0
E42A Champion 71.92 40 P P 13 52 14.0 -0.4
baz=321
CBKS Cedar Bluff 71.92 52 P P 13 52 14.6 0.0
baz=317
F41A Three Lakes 71.94 41 P P 13 52 14.3 -0.2
baz=321
L36A Harm Buss Farm 72.10 47 P P 13 52 15.4 -0.1
baz=319
K37A Belmond 72.10 46 P P 13 52 15.6 0.0
baz=319
N34A Lincoln 72.12 49 P P 13 52 15.4 -0.3
baz=318
O33A Hebron 72.13 50 P P 13 52 15.8 0.0
baz=318
H40A Chili 72.22 42 P P 13 52 16.3 0.0
baz=320
J38A Wedel Dairy, R 72.24 45 P P 13 52 15.6 -0.8
baz=320
I39A Houston 72.28 44 P P 13 52 16.4 -0.2
baz=320,SNR=5.1
SCHQ Schefferville 72.33 23 P P 13 52 16.8 0.0
comp=Z,9.3nm,0.7s,baz=332,slow=8.6,SNR=8.6
SCHQ pP pP 13 52 37.5 +0.2
comp=Z,10nm,0.5s,baz=334,slow=4.2,SNR=5.4
SCHQ Schefferville 72.33 23 eP P 13 52 16.7 0.0
comp=Z,23nm,1.2s
SCHQ pP pP 13 52 37.5 +0.2
E43A Lone Tree Farm 72.36 39 P P 13 52 16.9 -0.1
baz=322
GNI Garni 72.36 311 P P 13 52 18.4 +1.0
comp=Z,4.5nm,0.5s,baz=315,slow=4.3,SNR=3.6
GNI Garni 72.36 311⇑ eP P 13 52 19.5 +2.1
GNI pmax pmax
comp=Z,40nm,1.7s
O34A Beatrice 72.51 49 P P 13 52 17.7 -0.4
baz=318,SNR=6.0
M36A Felix, Anita 72.52 47 P P 13 52 18.2 +0.1
baz=319
L37A Phoenix Point, 72.53 46 P P 13 52 18.1 0.0
baz=319,SNR=5.2
N35A Tabor 72.54 48 P P 13 52 18.4 +0.2
baz=319
H41A Junction City 72.56 42 P P 13 52 18.2 -0.1
baz=321
J39A Decorah 72.59 44 P P 13 52 18.1 -0.4
baz=320,SNR=7.2
G42A Mountain 72.62 41 P P 13 52 18.2 -0.5
baz=321
I40A Norwalk 72.67 43 P P 13 52 18.9 -0.1
baz=320
F43A Flat Rock, Esc 72.71 40 P P 13 52 18.9 -0.3
baz=322
L38A Oak Wood Farm, 72.90 46 P P 13 52 20.3 0.0
baz=320
M37A Trindle Farm, 72.92 47 P P 13 52 20.7 +0.2
baz=319
G43A Wallace 72.94 41 P P 13 52 20.4 -0.1
baz=322
G43A Wallace 72.94 41 eP P 13 52 20.6 +0.2
comp=Z,24nm,1.1s
SCIA State Center 72.95 46 P P 13 52 20.7 0.0
baz=320,SNR=6.7
SCIA State Center 72.95 46 eP P 13 52 21.1 +0.5
comp=Z,42nm,0.6s
K39A Oelwein 72.99 45 P P 13 52 20.5 -0.3
baz=320,SNR=5.6
AS01 Alice Springs 73.17 199 eP P 13 52 22.7 +0.8
AS31 Alice Springs 73.18 199 eP P 13 52 23.4 +1.4
comp=Z,3.2nm,0.8s
ASAR Alice Springs 73.18 199 P P 13 52 23.5 +1.5
comp=Z,12nm,0.9s,baz=14,slow=7.3,SNR=81
ASAR pP pP 13 52 45.0 +2.2
comp=Z,4.0nm,0.6s,baz=12,slow=5.5,SNR=4.8
M38A Pleasantville 73.34 46 P P 13 52 22.8 -0.1
baz=320
K40A Colesburg 73.35 44 P P 13 52 22.4 -0.5
baz=320,SNR=6.9
KSU1 Kansas State U 73.36 50 P P 13 52 22.5 -0.6
baz=319
KSU1 Kansas State U 73.36 50 eP P 13 52 22.1 -0.9
comp=Z,12nm,0.8s
J41A Loganville 73.36 43 P P 13 52 23.1 0.0
baz=321
L39A Vinton 73.38 45 P P 13 52 23.1 0.0
baz=320,SNR=11
I42A Draeger Farm, 73.46 42 P P 13 52 23.6 0.0
baz=321
I42A Draeger Farm, 73.46 42 eP P 13 52 23.4 -0.2
comp=Z,6.8nm,0.8s
JFWS Jewell Farm 73.60 44 P P 13 52 24.3 -0.2
baz=321
AMTX Amarillo 73.73 56 P P 13 52 26.4 +1.0
baz=317
AMTX Amarillo 73.73 56 eP P 13 52 26.1 +0.7
comp=Z,17nm,0.9s
MSTX Muleshoe 73.78 57 P P 13 52 26.1 +0.4
baz=317
MSTX Muleshoe 73.78 57 eP P 13 52 26.4 +0.7
comp=Z,12nm,0.9s
M39A Webster 73.79 46 P P 13 52 25.8 +0.3
baz=320,SNR=16
N38A Joes South For 73.79 47 P P 13 52 25.5 -0.1
baz=320,SNR=5.0
L40A Anamosa 73.80 45 P P 13 52 25.1 -0.5
baz=321,SNR=11
J42A Columbus 73.81 43 P P 13 52 25.6 0.0
baz=321,SNR=6.1
I43A Langenfeld Bro 73.81 42 P P 13 52 25.1 -0.6
baz=322
K41A Shullsburg 73.81 44 P P 13 52 25.8 +0.1
baz=321
O37A Wolven Farm, M 73.81 48 P P 13 52 25.7 -0.1
baz=320,SNR=5.2
MNTX Cornudas Mount 73.90 61 P P 13 52 27.3 +0.9
baz=316,SNR=8.8
MNTX Cornudas Mount 73.90 61 eP P 13 52 27.1 +0.7
comp=Z,12nm,1.4s
N39A Derby Farms, D 74.09 46 P P 13 52 27.2 -0.1
baz=320
K42A Prairie Point, 74.12 43 P P 13 52 27.1 -0.4
baz=321,SNR=5.1
L41A Preston 74.13 44 P P 13 52 27.4 -0.2
baz=321,SNR=5.1
GDL2 Guadalupe Moun 74.14 60 eP P 13 52 28.7 +0.7
comp=Z,2.0nm,0.3s
P37A Lathrop 74.15 48 P P 13 52 27.5 -0.3
baz=320,SNR=7.1
M40A Post Highland 74.16 45 P P 13 52 28.0 +0.3
baz=320
O38A Galt 74.18 47 P P 13 52 27.9 0.0
baz=320
N40A Mertquake, Sal 74.53 46 P P 13 52 29.9 0.0
baz=321,SNR=7.7
P38A Dawn 74.53 48 P P 13 52 30.1 +0.1
baz=320,SNR=8.0

K43A Burlington 74.65 43 P P 13 52 30.1 -0.4
baz=322
M41A Milan 74.65 45 P P 13 52 30.2 -0.3
baz=321,SNR=6.9
OJC Ojcow 74.82 331 eP P 13 52 31.6 +0.2
OJC Ojcow 74.82 331 eP P 13 52 31.6 +0.2
OJC Ojcow 74.82 331 eP P 13 52 31.6 +0.2
OJC Ojcow 74.82 331 eP P 13 52 30.5 -0.9
comp=Z,33nm,1.2s
O40A La Belle 74.97 46 P P 13 52 32.4 -0.1
baz=321,SNR=14
Q38A Cooks Store, C 74.99 48 P P 13 52 32.5 -0.1
baz=320,SNR=18
N41A Harden Midland 75.02 45 P P 13 52 32.8 +0.1
baz=321,SNR=13
P39B Salisbury 75.02 47 P P 13 52 33.2 +0.4
baz=320
STHS Stebnicka Huta 75.03 330 eP P 13 52 34.4 +1.7
STHS pmax pmax
comp=Z,9.0nm,0.8s
STHS Stebnicka Huta 75.03 330 eP P 13 52 34.4 +1.7
EDI Edinburgh 75.06 347 eP P 13 52 33.7 +1.1
BUR08 Bucovina Ar. S 75.14 327 eP P 13 52 32.6 -0.8
BUR04 Bucovina Ar. S 75.15 327 eP P 13 52 32.8 -0.7
BURAR Bucovina Array 75.15 327 P P 13 52 33.7 +0.2
BURAR Bucovina Array 75.15 327⇑ iP P 13 52 33.7 +0.2
Q39A Willow Grove F 75.25 48 P P 13 52 34.2 +0.2
baz=320
N42A Yates City 75.31 45 P P 13 52 34.2 -0.2
baz=321,SNR=5.6
P40A Paris 75.34 47 P P 13 52 34.8 +0.2
baz=321,SNR=11
UZH Uzhgorod 75.34 329 eP P 13 52 32.3 -2.1
UZH e 13 52 46.9
UZH i 13 53 01.5
NIE Niedzica 75.34 331 eP P 13 52 35.9 +1.4
NIE Niedzica 75.34 331 eP P 13 52 35.9 +1.4
M43A Waltham Townsh 75.35 44 P P 13 52 34.4 -0.1
baz=322
KSP Ksiaz 75.36 334 eP P 13 52 34.9 +0.4
KSP Ksiaz 75.36 334 eP P 13 52 34.9 +0.4
CRVS Cervenica-Dubn 75.40 330 eP P 13 52 35.7 +0.9
CRVS Cervenica-Dubn 75.40 330 eP P 13 52 35.7 +0.9
R38A Fenwick Farm, 75.44 49 P P 13 52 34.8 -0.4
baz=320,SNR=8.7
WMOK Wichita Mounta 75.44 54 P P 13 52 35.7 +0.4
baz=318,SNR=10
WMOK Wichita Mounta 75.44 54 eP P 13 52 35.3 0.0
WMOK pmax pmax
comp=Z,13nm,1.2s
WMOK Wichita Mounta 75.44 54 eP P 13 52 35.3 0.0
comp=Z,13nm,1.2s
O41A Passleys Farm, 75.46 46 P P 13 52 35.5 +0.3
baz=321,SNR=6.1
TESR Tesani 75.53 325⇑ iP P 13 52 34.8 -0.8
EKA Eskdalemuir Ar 75.63 347 P P 13 52 36.7 +0.8
comp=Z,8.8nm,0.4s,baz=20,slow=5.2,SNR=147
EKA pP pP 13 52 57.0 +0.3
comp=Z,2.6nm,0.5s,baz=19,slow=5.2,SNR=5.4
N43A Stutzman Famil 75.64 44 P P 13 52 36.2 0.0
baz=322
ESK Eskdalemuir 75.65 347 eP P 13 52 36.6 +0.5
ESK pmax pmax
comp=Z,12nm,0.5s
ESK Eskdalemuir 75.65 347 eP P 13 52 36.5 +0.5
comp=Z,12nm,0.5s
OKC Ostrava-Krasne 75.68 332 eP P 13 52 36.4 +0.1
OKC Ostrava-Krasne 75.68 332 eP P 13 52 36.4 +0.1
P41A Barry, Barry 75.71 46 P P 13 52 36.9 +0.2
baz=321,SNR=10
Q40A Laux Farm, Aux 75.74 47 P P 13 52 37.2 +0.3
baz=321
UPC Upice 75.74 334 eP P 13 52 37.1 +0.4
UPC Upice 75.74 334 eP P 13 52 37.1 +0.4
R39A Chumby, Stover 75.78 48 P P 13 52 36.7 -0.4
baz=320,SNR=9.3
DPC Dobruska-Polom 75.79 334 eP P 13 52 37.5 +0.5
DPC Dobruska-Polom 75.79 334 eP P 13 52 37.5 +0.5
M44A Midewin, Midew 75.81 43 P P 13 52 37.0 -0.3
baz=322
LANS Liptovska Anna 75.85 331 eP P 13 52 38.7 +1.3
LANS Liptovska Anna 75.85 331 eP P 13 52 38.7 +1.3
S38A Stockton 75.86 49 P P 13 52 37.0 -0.5
baz=320,SNR=8.3
HDIL Hopedale 75.88 45 P P 13 52 37.7 +0.1
baz=322,SNR=8.1
HDIL Hopedale 75.88 45 eP P 13 52 37.9 +0.3
comp=Z,34nm,0.7s
KRLC Kraliky 75.89 333 eP P 13 52 38.3 +0.7
KRLC Kraliky 75.89 333 eP P 13 52 38.3 +0.7
CLL Collm 75.90 336⇓ iP P 13 52 37.5 0.0
CLL pmax pmax
comp=Z,22nm,1.1s
CLL Collm 75.90 336 eP P 13 52 37.5 0.0
CLL Collm 75.90 336⇓ iP P 13 52 37.5 0.0
comp=Z,22nm,1.1s
CLL e 13 53 14.0
CLL Collm 75.90 336 eP P 13 52 36.9 -0.6
comp=Z,17nm,1.0s
MORC Moravsky Berou 75.92 333 P P 13 52 38.3 +0.5
MORC Moravsky Berou 75.92 333⇑ iP P 13 52 38.3 +0.5
MORC Moravsky Berou 75.92 333 eP P 13 52 37.4 -0.4
comp=Z,41nm,0.8s
KLBO Killbear Provi 75.99 36 P P 13 52 37.7 -0.5
baz=326
BRG Berggiesshubel 76.02 335 eP P 13 52 38.1 -0.2
comp=Z,7.3nm,1.1s
BRG Berggiesshubel 76.02 335 eP P 13 52 38.1 -0.2
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 76.02 335 eP P 13 52 38.1 -0.2
CFR Carcaliu 76.06 324 P P 13 52 39.5 +1.0
CFR Carcaliu 76.06 324⇑ iP P 13 52 39.5 +1.0
O43A Sugar Creek Fa 76.08 45 P P 13 52 39.0 +0.2
baz=322
KECS Kecovo 76.09 330 eP P 13 52 38.8 +0.1
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 76.09 330 eP P 13 52 38.8 +0.1
S39A Bolivar 76.11 49 P P 13 52 38.7 -0.4
baz=320,SNR=5.2
T38A Diamond 76.11 50 P P 13 52 39.0 -0.1
baz=320,SNR=20
P42A Winchester 76.13 46 P P 13 52 39.1 0.0
baz=321,SNR=6.1
PVCC Panska Ves 76.15 335 eP P 13 52 39.5 +0.5
PVCC Panska Ves 76.15 335 eP P 13 52 39.5 +0.5
TUL1 Leonard 76.18 52 P P 13 52 39.5 +0.1
baz=320,SNR=5.8
TUL1 Leonard 76.18 52 eP P 13 52 39.8 +0.4
comp=Z,60nm,1.6s
R40A Maddies Statio 76.19 48 P P 13 52 39.4 0.0
baz=321,SNR=7.5
Q41A Truxton 76.19 47 P P 13 52 39.3 -0.2
baz=321,SNR=14
BMRO Meriville Lake 76.21 37 P P 13 52 38.9 -0.6
baz=325
N44A Piper City 76.24 44 P P 13 52 39.4 -0.3
baz=322
BUKO Buck Lake 76.24 36 P P 13 52 39.3 -0.3
baz=326
P43A Skaggs, Pawnee 76.49 45 P P 13 52 40.8 -0.2
baz=322
CJR Cluj-Napoca 76.51 327 P P 13 52 43.2 +2.0
CJR Cluj-Napoca 76.51 327⇑ iP P 13 52 43.2 +2.0
ABTX Abilene, Hawle 76.54 56 eP P 13 52 42.3 +0.8
comp=Z,43nm,1.8s
TLB Topalu 76.58 323 P P 13 52 41.9 +0.4
TLB Topalu 76.58 323⇑ iP P 13 52 41.9 +0.4
T39A Clever 76.59 49 P P 13 52 41.5 -0.3
baz=320
S40A Lebanon 76.60 48 P P 13 52 41.7 -0.1
baz=321,SNR=6.5
R41A Rosebud 76.62 47 P P 13 52 41.9 0.0
baz=321
VRAC Vranov 76.63 333 P P 13 52 41.7 0.0
VRAC Vranov 76.63 333⇑ iP P 13 52 41.7 0.0
VYHS Vyhne 76.63 331 eP P 13 52 42.1 +0.3
VYHS pmax pmax
comp=Z,9.0nm,1.6s
VYHS Vyhne 76.63 331 eP P 13 52 42.1 +0.3
TX31 Lajitas Ar. Si 76.63 61 eP P 13 52 43.0 +0.7
TXAR Lajitas Array 76.63 61 P P 13 52 43.1 +0.9
comp=Z,14nm,0.6s,baz=300,slow=4.5,SNR=231
GOPC GO Pecny, Ondr 76.64 334 eP P 13 52 42.3 +0.5

GOPC GO Pecny, Ondr 76.64 334 eP P 13 52 42.3 +0.5
PRU Pruhonice 76.64 334 eP P 13 52 42.3 +0.5
PRU Pruhonice 76.64 334 eP P 13 52 42.3 +0.5
PRU Pruhonice 76.64 334 eP P 13 52 42.3 +0.5
MLR Muntele Rosu 76.66 325 P P 13 52 42.7 +0.6
comp=Z,1.8nm,0.5s,baz=3.0,slow=4.9,SNR=17
ISR Istrita 76.73 325 P P 13 52 43.6 +1.1
ISR Istrita 76.73 325⇑ iP P 13 52 43.6 +1.1
DRGR 76.76 328 P P 13 52 42.4 -0.2
DRGR 76.76 328⇑ iP P 13 52 42.3 -0.3
PSZ Piszkesteto 76.78 330 eP P 13 52 43.0 +0.3
PSZ pmax pmax
comp=Z,20nm,1.6s
PSZ Piszkesteto 76.78 330 eP P 13 52 43.0 +0.3
comp=Z,20nm,1.6s
N46A Monticello 76.81 43 P P 13 52 42.7 -0.2
baz=323
O45A Potomac 76.86 44 P P 13 52 43.0 -0.2
baz=323,SNR=7.7
HHAR Hobbs 76.87 50 eP P 13 52 43.3 0.0
comp=Z,12nm,0.8s
PEMO Pembroke 76.88 34 P P 13 52 41.7 -1.4
baz=328
R42A Luebbering 76.93 47 P P 13 52 43.4 -0.2
baz=321
T40A Mansfield 76.94 49 P P 13 52 43.6 -0.1
baz=321
Q43A New Douglas 76.95 46 P P 13 52 43.5 -0.2
baz=322
S41A Jillco Farms, 76.99 48 P P 13 52 44.0 0.0
baz=321,SNR=5.6
ILGA Ilgaz 77.02 318 eP P 13 52 45.0 +0.7
comp=Z,20nm,1.1s
NKC Novy Kostel 77.02 336 eP P 13 52 44.4 +0.5
NKC Novy Kostel 77.02 336 eP P 13 52 44.4 +0.5
U39A Green Forest 77.03 50 P P 13 52 44.2 0.0
baz=320,SNR=20
VOIR 77.05 326 P P 13 52 44.9 +0.7
VOIR 77.05 326⇑ iP P 13 52 44.8 +0.6
SFIN Lafayette 77.05 43 P P 13 52 43.8 -0.4
baz=323
P44A Sand Creek, Wi 77.05 45 P P 13 52 44.2 -0.1
baz=322,SNR=6.8
BANO Bancroft 77.17 35 P P 13 52 44.6 -0.2
baz=327
HPIG 77.18 64 eP P 13 52 46.1 +0.6
comp=Z,12nm,0.9s
Q44A Meyer Farm, Va 77.31 45 P P 13 52 45.9 +0.2
baz=322
S42A Caledonia 77.32 47 P P 13 52 45.9 +0.1
baz=322,SNR=12
R43A Red Bud 77.36 46 P P 13 52 46.1 +0.1
baz=322
V39A Pettigrew 77.36 50 P P 13 52 46.0 -0.2
baz=320,SNR=11
U40A Yellville 77.38 49 P P 13 52 46.0 -0.2
baz=321,SNR=19
T41A Mountain View 77.40 48 P P 13 52 46.0 -0.3
baz=321,SNR=6.4
P45A Graceland, Par 77.42 44 P P 13 52 46.3 -0.1
baz=323
P46A Rosedale 77.60 44 P P 13 52 47.5 +0.1
baz=323
KHC Kasperske Hory 77.69 335 eP P 13 52 48.2 +0.5
KHC e 13 52 53.6
KHC e 13 53 05.1
KHC Kasperske Hory 77.69 335 eP P 13 52 48.2 +0.5
KHC ex x 13 52 53.6
KHC epP pP 13 53 05.1 -3.5
KHC Kasperske Hory 77.69 335 eP P 13 52 48.2 +0.5
KHC Kasperske Hory 77.69 335 eP P 13 52 48.0 +0.2
comp=Z,2.1nm,0.7s
Q45A Warren Harvey, 77.73 45 P P 13 52 48.1 +0.1
baz=323,SNR=5.7
T42A Van Buren 77.75 48 P P 13 52 48.3 0.0
baz=321
W39A Magazine 77.78 51 P P 13 52 48.8 +0.4
baz=320
R44A Waltonville 77.79 46 P P 13 52 48.1 -0.3
baz=322
V40A Witts Springs 77.82 50 P P 13 52 48.7 0.0
baz=321
S43A Fulton Ridge, 77.83 47 P P 13 52 48.7 0.0
baz=322,SNR=5.9
GRFO Grafenberg 77.85 336 eP P 13 52 49.3 +0.7
GRFO pmax pmax
comp=Z,11nm,0.8s
GRFO Grafenberg 77.85 336 eP P 13 52 49.3 +0.7
comp=Z,11nm,0.8s
U41A Viola 77.86 49 P P 13 52 48.9 0.0
baz=321
OLIL Olney 77.88 45 eP P 13 52 49.3 +0.4
comp=Z,15nm,0.8s
GEC2 GERESS Array S 77.91 334 eP P 13 52 48.9 -0.1
GEC2 pmax pmax
comp=Z,3.0nm,0.6s
GEC2 GERESS Array S 77.91 334 eP P 13 52 48.9 -0.1
comp=Z,2.7nm,0.6s
GERES GERESS Array B 77.91 334 P P 13 52 49.2 +0.1
comp=Z,1.9nm,0.5s,baz=36,slow=5.9,SNR=30
GEA0 GERESS Array S 77.92 334 eP P 13 52 49.0 -0.1
JCT Junction City 78.04 58 P P 13 52 50.5 +0.5
baz=319,SNR=7.4
JCT Junction City 78.04 58 eP P 13 52 50.1 +0.1
JCT pmax pmax
comp=Z,34nm,1.4s
JCT Junction City 78.04 58 eP P 13 52 50.1 +0.1
comp=Z,34nm,1.4s
CONA Conrad Observa 78.08 333 iP P 13 52 51.0 +1.0
comp=Z,3.5nm,0.5s
T43A Greenville 78.11 47 P P 13 52 50.2 0.0
baz=322
BR131 Keskin Array S 78.11 317 eP P 13 52 50.0 -0.3
BRTR Keskin Array B 78.11 317 P P 13 52 50.2 -0.2
comp=Z,4.4nm,1.0s,baz=46,slow=3.6,SNR=18
BRTR pP pP 13 53 11.9 +0.6
comp=Z,0.9nm,0.6s,baz=23,slow=3.9,SNR=2.7
X39A Fountain Ranch 78.14 51 P P 13 52 50.5 +0.1
baz=320
R45A Skylar, Fairfi 78.14 45 P P 13 52 50.5 +0.1
baz=323
P47A Martinsville 78.14 43 P P 13 52 50.5 +0.1
baz=323
W40A Ferguson Farm, 78.16 50 P P 13 52 50.7 +0.2
baz=321
BZS Buzias 78.16 328 P P 13 52 50.0 -0.4
BZS Buzias 78.16 328⇑ iP P 13 52 50.0 -0.4
V41A Mountainview 78.18 49 P P 13 52 50.3 -0.3
baz=321,SNR=6.6
WHTX Lake Whitney, 78.23 55 P P 13 52 51.2 +0.2
baz=319,SNR=5.3
WHTX Lake Whitney, 78.23 55 eP P 13 52 51.0 0.0
comp=Z,16nm,0.8s
MEM Membach 78.33 340 ⇑P P 13 52 51.9 +0.8
comp=Z,11nm,0.8s
BR231 Keskin MP Arra 78.42 318 eP P 13 52 50.6 -1.4
T44A Benton 78.45 47 P P 13 52 52.4 +0.3
baz=322,SNR=5.4
S45A Carrier Mills 78.48 46 P P 13 52 51.8 -0.4
baz=322
WHAR Wooly Hollow 78.49 50 eP P 13 52 52.3 -0.1
comp=Z,37nm,1.5s
Q47A Bedord North L 78.51 44 P P 13 52 52.7 +0.3
baz=323
V42A Cord 78.55 49 P P 13 52 52.6 0.0
baz=322,SNR=6.0
W41B Gary Mavity, V 78.60 50 P P 13 52 53.4 +0.4
baz=321
U43A Rector 78.61 48 P P 13 52 53.3 +0.3
baz=322
MOA Molln 78.63 334 iP P 13 52 53.4 +0.5
comp=Z,2.2nm,0.6s
BCLA Clavier 78.67 340 ⇑P P 13 52 54.0 +1.0
comp=Z,9.5nm,1.0s
USIN University of 78.70 45 eP P 13 52 52.6 -0.9
comp=Z,30nm,0.8s
ERPA Erie 78.76 38 P P 13 52 53.6 -0.1
baz=326
ARSA Arzberg 78.78 333 eP P 13 52 54.6 +0.8
comp=Z,2.3nm,0.5s
X40A Basin Creek Fa 78.83 51 P P 13 52 54.1 -0.1
baz=321
S46A Don Dixon Farm 78.90 45 P P 13 52 54.7 +0.2
baz=323
R47A Wooly Knot Far 78.98 44 P P 13 52 55.3 +0.4
baz=324,SNR=7.5
ACSO Alum Creek Sta 79.03 41 P P 13 52 55.1 -0.1

	baz=325						
ACSO	Alum Creek Sta	79.03	41	eP	P	13 52 55.5	+0.2
	comp=Z,14nm,0.9s						
GIVF	Givet	79.07	340	eP	P	13 52 55.4	+0.1
GIVF				pmax	pmax		
	comp=Z,12nm,1.1s						
WCI	Wyandotte Cave	79.14	44	P	P	13 52 56.1	+0.3
	baz=324						
WCI	Wyandotte Cave	79.14	44	eP	P	13 52 56.4	+0.6
WCI				pmax	pmax		
	comp=Z,21nm,0.8s						
WCI	Wyandotte Cave	79.14	44	eP	P	13 52 56.4	+0.6
	comp=Z,21nm,0.8s						
R48A	Northridge Ran	79.20	44	P	P	13 52 56.0	-0.2
	baz=324,SNR=5.6						
BAIF	Baives	79.25	341	eP	P	13 52 57.0	+0.8
BAIF				pmax	pmax		
	comp=Z,22nm,1.3s						
T46A	Princeton	79.32	46	P	P	13 52 57.2	+0.3
	baz=323,SNR=8.5						
M54A	Oil Creek Stat	79.40	38	P	P	13 52 57.1	-0.2
	baz=327						
SOKA	Soboth	79.44	333	iP	P	13 52 58.3	+0.9
	comp=Z,5.0nm,0.6s						
Z40A	Long Farm, Mag	79.48	52	P	P	13 52 57.9	+0.2
	baz=321						
GROS	Grobnik	79.49	332	iP	P	13 52 58.0	+0.3
KBA	Koelnbreinsper	79.60	334	P	P	13 52 59.8	+1.4
KBA	Koelnbreinsper	79.60	334	eP	P	13 52 59.8	+1.4
	comp=Z,17nm,0.6s,SNR=13						
S48A	Wiedeman Farm,	79.71	44	P	P	13 52 58.8	-0.1
	baz=324,SNR=5.8						
N54A	Moraine State	79.72	38	P	P	13 52 59.0	0.0
	baz=326						
N54A	Moraine State	79.72	38	eP	P	13 52 59.4	+0.4
	comp=Z,60nm,1.9s						
T47A	Sharon Grove	79.74	45	P	P	13 52 59.5	+0.4
	baz=323						
OBKA	Obir	79.75	333	iP	P	13 52 59.5	+0.4
	comp=Z,3.7nm,0.5s						
H06S1	SOCORRO T	79.80	74	T	T	15 21 40.2	
	SNR=16						
GOLS	Golise	79.85	332	iP	P	13 52 60.0	+0.3
140A	Cam and Jess,	79.86	52	P	P	13 53 00.2	+0.4
	baz=321						
BFO	Black Forest	79.86	337	iP	P	13 53 00.7	+1.1
BFO	Black Forest	79.86	337	eP	P	13 53 00.1	+0.5
	comp=Z,5.0nm,0.7s						
Y42A	Garnett, Star	79.88	50	P	P	13 53 00.1	+0.2
	baz=322						
STKA	Stephens Creek	79.88	191	P	P	13 52 59.3	-0.4
	comp=Z,1.8nm,0.6s,baz=344,slow=8.3,SNR=7.1						
WATA	Walderalm	79.89	335	iP	P	13 53 01.3	+1.3
	comp=Z,9.9nm,0.5s,SNR=11						
MYKA	Terra Mystica	79.92	333	iP	P	13 53 00.8	+0.8
	comp=Z,3.5nm,0.5s						
WTTA	Wattenberg	79.94	335	iP	P	13 53 01.7	+1.5
	comp=Z,15nm,0.5s,SNR=8.4						
NATX	Nacogdoches	79.95	54	P	P	13 53 00.3	-0.1
	baz=320						
RETA	Reutte	79.98	336	iP	P	13 53 01.6	+1.3
	comp=Z,7.1nm,0.6s,SNR=5.2						
T48A	Bowling Green	79.99	45	P	P	13 53 00.6	+0.1
	baz=324						
LEGS	Legarje	80.00	332	iP	P	13 53 00.5	+0.1
MOTA	Moosalm	80.01	335	eP	P	13 53 01.8	+1.2
	comp=Z,8.4nm,0.5s,SNR=11						
CDF	Champ du Feu	80.06	338	eP	P	13 53 00.9	+0.1
CDF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
DIVS	Divibare	80.06	328	eP	P	13 53 00.6	-0.2
	comp=Z,6.3nm,0.5s						
WVT	Waverly	80.08	46	P	P	13 53 00.6	-0.4
	baz=323						
WVT	Waverly	80.08	46	eP	P	13 53 01.7	+0.7
WVT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WVT	Waverly	80.08	46	eP	P	13 53 01.7	+0.7
	comp=Z,9.5nm,0.8s						
U47A	Clarksville	80.09	46	P	P	13 53 00.7	-0.4
	baz=323						
VTS	Vitosha	80.16	325	P	P	13 53 02.3	+0.8
VTS	Vitosha	80.16	325	⇑iP	P	13 53 02.3	+0.8
VTS	Vitosha	80.16	325	eP	P	13 53 01.6	+0.1
	comp=Z,9.3nm,0.8s						
RAR	Rarotonga	80.16	137	LR	LR	14 28 15.1	
	comp=Z,95nm,18.7s,baz=270,slow=35						
W45A	Hickory Valley	80.17	48	P	P	13 53 01.3	-0.2
	baz=323						
V46A	Holladay	80.20	47	P	P	13 53 01.4	-0.2
	baz=323						
ECH	Echery	80.27	338	eP	P	13 53 01.7	-0.1
ECH				pmax	pmax		
	comp=Z,12nm,1.0s						
ECH	Echery	80.27	338	eP	P	13 53 01.7	-0.1
	comp=Z,12nm,1.0s						
U48A	Cassie Pea, Po	80.40	45	P	P	13 53 02.6	-0.1
	baz=324						
DAVA	Damuels	80.41	336	eP	P	13 53 03.8	+1.1
	comp=Z,7.8nm,0.7s,SNR=5.5						
FETA	Feichten	80.41	335	iP	P	13 53 03.8	+1.0
	comp=Z,4.0nm,0.6s						
V47A	Nunnelly	80.47	46	P	P	13 53 03.2	+0.1
	baz=323						
OXF	Oxford	80.57	48	P	P	13 53 03.3	-0.3
	baz=322						
X45A	UM Field Stati	80.65	48	P	P	13 53 04.0	0.0
	baz=322						
HAU	Haudompre	80.67	339	P	P	13 53 04.4	+0.4
HAU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HINF	Hinteralfeld	80.72	338	eP	P	13 53 05.0	+0.8
HINF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MCWV	Mont Chateau	80.87	39	P	P	13 53 04.8	-0.3
	baz=327						
SSPA	Standing Stone	80.87	37	P	P	13 53 04.9	-0.2
	baz=328						
V48A	Smith Brothers	80.88	46	P	P	13 53 05.4	+0.2
	baz=324						
W47A	Westpoint	80.89	47	P	P	13 53 05.5	+0.2
	baz=323						
O56A	Blue Knob Stat	80.90	38	P	P	13 53 05.1	-0.2
	baz=327						
FUORN	Ofenpass-Fuorn	80.91	336	eP	P	13 53 06.5	+1.0
	comp=Z,9.3nm,0.6s						
TUE	Stuetta	81.30	336	eP	P	13 53 08.4	+0.8
	comp=Z,17nm,0.9s						
W48A	Pulaski	81.31	46	P	P	13 53 07.4	-0.1
	baz=324,SNR=6.4						
X47A	Russelville	81.34	47	P	P	13 53 06.9	-0.8
	baz=323						
Y46A	Houston	81.35	48	P	P	13 53 07.9	+0.1
	baz=323						
FLN	La Foliniere	81.47	343	eP	P	13 53 08.3	+0.2
LDF	La Druitiere	81.56	343	eP	P	13 53 08.6	0.0
SWET	Sewanee	81.73	46	eP	P	13 53 09.7	-0.2
	comp=Z,12nm,1.2s						
PDG	Podgorica	81.77	328	⇑iP	P	13 53 10.0	+0.1
TTG	Podgorica	81.77	328	eP	P	13 53 09.6	-0.2
TTG				pmax	pmax		
	comp=Z,18nm,0.6s						
TTG	Podgorica	81.77	328	eP	P	13 53 09.6	-0.2
	comp=Z,18nm,0.6s						
Y47A	UCPARC, Winfie	81.84	48	P	P	13 53 10.2	-0.1
	baz=323						
244A	Avery, Jackson	81.86	51	P	P	13 53 10.6	+0.1
	baz=322						
SENIN	Lac Senin/Sane	81.95	337	eP	P	13 53 11.3	+0.3
	comp=Z,24nm,1.5s						
X49A	Woodville	82.11	46	P	P	13 53 11.3	-0.4
	baz=324						
Y48A	Jasper	82.17	47	P	P	13 53 11.7	-0.4
	baz=324						
245A	Little AP, Sta	82.28	50	P	P	13 53 12.9	+0.2
	baz=322						
Z47A	Carrollton	82.29	48	P	P	13 53 12.7	0.0
	baz=323						
SGMF	Saint Gilles	82.35	344	eP	P	13 53 12.3	-0.5
SGMF				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ROSF	Rostrenen	82.40	345	eP	P	13 53 12.7	-0.3
ROSF				pmax	pmax		
	comp=Z,26nm,1.0s						
TKL	Tuckaleechee C	82.40	44	P	P	13 53 13.9	+0.6
	comp=Z,4.5nm,0.9s,baz=122,slow=3.5,SNR=3.9						
FNA	Florina	82.42	326	P	P	13 53 13.9	+0.6
LNIG	Linares	82.42	61	eP	P	13 53 13.4	-0.2
	comp=Z,19nm,1.7s						
AVF	Avril sur Loir	82.52	340	eP	P	13 53 14.2	+0.5
AVF				pmax	pmax		
	comp=Z,15nm,0.8s						
147A	Livingston	82.60	49	P	P	13 53 14.7	+0.3
	baz=323						
MMAI	Mount Meron Ar	82.63	312	P	P	13 53 15.7	+1.1
	comp=Z,4.6nm,0.5s,baz=44,slow=6.4,SNR=4.8						
MMAI				pP	pP	13 53 36.1	+0.4
	comp=Z,1.2nm,0.4s,baz=31,slow=4.7,SNR=1.4						
QUIF	Quistinic	82.78	345	eP	P	13 53 15.5	+0.5
QUIF				pmax	pmax		
	comp=Z,29nm,1.5s						
LPL	La Plagne	82.88	337	eP	P	13 53 16.9	+1.0
LPL				pmax	pmax		
	comp=Z,12nm,0.5s						
Y50A	Piedmont	82.89	46	P	P	13 53 15.6	-0.2
	baz=324						
LPG	La Plagne	82.89	337	eP	P	13 53 17.1	+1.1
LPG				pmax	pmax		
	comp=Z,17nm,0.7s						
LRAL	Lakeview Retre	82.96	48	P	P	13 53 16.2	0.0
	baz=324						
Z49A	Columbiana	83.06	47	P	P	13 53 16.6	-0.1
	baz=324						
VLC	Villacollemand	83.12	334	eP	P	13 53 17.7	+0.8
	comp=Z,12nm,0.7s						
TCF	Toulx Ste Croi	83.25	341	eP	P	13 53 17.7	+0.1
TCF				pmax	pmax		
	comp=Z,11nm,1.0s						
Z50A	Ashland	83.32	47	P	P	13 53 18.2	+0.1
	baz=324,SNR=5.8						
BNI	Bardonecchia	83.33	337	eP	P	13 53 19.2	+1.1
BNI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BNI	Bardonecchia	83.33	337	eP	P	13 53 19.2	+1.1
	comp=Z,5.6nm,0.7s						
149A	Jones	83.41	48	P	P	13 53 18.8	+0.2
	baz=324						
347A	Saraland	83.48	50	P	P	13 53 18.7	-0.2
	baz=323						
MBDF	Montbardon	83.61	337	eP	P	13 53 20.5	+1.0
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SSB	Saint Sauveur	83.66	339	eP	P	13 53 20.3	+0.6
SSB				pmax	pmax		
	comp=Z,29nm,1.4s						
SSB	Saint Sauveur	83.66	339	eP	P	13 53 20.3	+0.6
	comp=Z,29nm,1.4s						
ORIF	Oris-en-Rattie	83.66	338	eP	P	13 53 20.8	+1.1
ORIF				pmax	pmax		
	comp=Z,10.0nm,0.5s						
249A	Camden	83.74	48	P	P	13 53 20.0	-0.3
	baz=324						
150A	Eclectic	83.79	47	P	P	13 53 20.2	-0.3
	baz=324						
VIVF	Saint-Julien-l	84.02	339	eP	P	13 53 21.5	0.0
VIVF				pmax	pmax		
	comp=Z,23nm,1.4s						
250A	Grady	84.17	48	P	P	13 53 22.2	-0.2
	baz=324						
151A	Opelika	84.20	47	P	P	13 53 22.5	0.0
	baz=325						
SBF	Sospel	84.23	336	eP	P	13 53 22.6	0.0
RJF	Les Rejaudoux	84.34	341	eP	P	13 53 25.1	+2.0
RJF				pmax	pmax		
	comp=Z,11nm,1.1s						
RAYN	Ar Rayn	84.46	299	eP	P	13 53 24.3	+0.2
	comp=Z,12nm,0.8s						
CAF	Calviac	84.58	340	eP	P	13 53 24.8	+0.5
CAF				pmax	pmax		
	comp=Z,24nm,1.4s						
FRF	La Foret Royal	84.72	337	eP	P	13 53 25.2	+0.2
FRF				pmax	pmax		
	comp=Z,33nm,1.6s						
PGF	Pioggiola	85.00	335	eP	P	13 53 26.6	0.0
TIP	Timpagrande	85.53	328	⇑iP	P	13 53 29.8	+0.6
TIP	Timpagrande	85.53	328	eP	P	13 53 29.3	+0.1
	comp=Z,9.9nm,0.8s						
IDI	Anoyia	85.69	320	P	P	13 53 29.4	-0.7
	comp=Z,6.0nm,0.6s,baz=18,slow=12,SNR=17						
IDI				pP	pP	13 53 49.9	-1.3
	comp=Z,5.4nm,0.6s,baz=12,slow=11,SNR=3.3						
IDI	Anoyia	85.69	320	eP	P	13 53 28.7	-1.3
	comp=Z,13nm,1.1s						
IDI				pP	pP	13 53 49.9	-1.3
SJPF	Ste Jean	87.02	342	eP	P	13 53 39.3	+2.9
SJPF				pmax	pmax		
	comp=Z,28nm,2.0s						
ETSF	Etsaut	87.09	341	eP	P	13 53 37.9	+1.1
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ES19	SONSECA Array	90.85	343	eP	P	13 53 54.0	-0.6
ESDC	Sonseca Array	90.89	343	P	P	13 53 54.3	-0.5
	comp=Z,0.3nm,0.5s,baz=22,slow=2.7,SNR=7.8						
KEST	Kesra	91.16	332	P	P	13 53 56.4	+0.3
	comp=Z,5.2nm,0.6s,baz=152,slow=0.3,SNR=9.2						
TORD	Torodi Ar. Bea	114.62	330	PKP	PKPdf	13 59 30.7	-0.6
	comp=Z,0.5nm,0.5s,baz=23,slow=1.9,SNR=7.0						
DBIC	Dimbokro	122.78	335	PKP	PKPdf	13 59 45.4	-1.7
	comp=Z,1.5nm,0.5s,baz=3.2,slow=2.0,SNR=4.3						
VNDA	Vanda	124.95	178	PKP	PKPdf	13 59 49.0	-0.2
	comp=Z,1.5nm,0.7s,baz=334,slow=4.6,SNR=11						
SBA	Scott Base	125.44	177	PKIKP	PKPdf	13 59 50.7	+0.6
SBA	Scott Base	125.44	177	PKPdf	PKPdf	13 59 50.7	+0.6
MAW	Mawson	133.19	212	PKP	PKPdf	14 00 05.7	+0.6
	comp=Z,4.5nm,0.8s,baz=54,slow=2.0,SNR=3.5						
LPAZ	La Paz	133.49	62	PKP	PKPdf	14 00 08.4	+0.4
	comp=Z,1.2nm,0.6s,baz=351,slow=3.6,SNR=4.5						
BOSA	Boshof	136.22	277	PKP	PKPdf	14 00 13.8	+1.6
	comp=Z,3.1nm,0.9s,baz=72,slow=3.6,SNR=3.9						
QSPA	South Pole Qui	137.34	180	PKP	PKPdf	14 00 12.6	-0.4
	comp=Z,4.0nm,0.6s,baz=182,slow=0.4,SNR=16						
QSPA	South Pole Qui	137.34	180	ePKPdf	PKPdf	14 00 12.8	-0.1
CPUP	Villa Florida	147.60	60	PKPbc	PKPdf	14 00 33.6	+1.3
	comp=Z,8.7nm,1.0s,baz=322,slow=3.2,SNR=17						
CPUP	Villa Florida	147.60	60	ePKP2	PKPbc	14 00 35.3	+0.2
CPUP	Villa Florida	147.60	60	ePKPbc	PKPbc	14 00 35.3	+0.2
PLCA	Paso Flores	147.77	94	PKPbc	PKPbc	14 00 36.4	+1.1
	comp=Z,9.0nm,0.7s,baz=308,slow=3.2,SNR=26						
PLCA	Paso Flores	147.77	94	ePKPbc	PKPbc	14 00 36.0	+0.8
CHRN	Cochrane	148.94	107	ePKPbc	PKPbc	14 00 38.9	+1.0
TRQA	Tornquist	152.25	83	ePKPbc	PKPbc	14 00 46.0	-0.1
SNAA	Sanae	153.51	196	PKPbc	PKPbc	14 00 47.3	-0.6
	comp=Z,4.1nm,0.6s,baz=129,slow=2.1,SNR=28						
SNAA	Sanae	153.51	196	ePKIKP	PKPbc	14 00 47.5	-0.4
SNAA	Sanae	153.51	196	ePKPbc	PKPbc	14 00 47.5	-0.4

*IDC **25** 13:54:51.0±1.4, 26°.34N×100°.09E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/70, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=41.4km s-min=22.0km az=76.0*
*BJI **25** 13:54:53.2, 26°.28N×100°.01E, h12km, ML3.4/8*
ISC 25 13:54:53.6±1.1**, 26°.25N**±0°.06×**100°.08E**±0°.09**, h10**km**, n7, σ3s.10**/10**, mb3.5**/3**, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.65	114	Pn	Pn	13 55 38.0	+1.3
KMI				Pg	Pb	13 55 40.5	-0.9
KMI				Sg	Sb	13 56 17.0	+2.9
KMI				smax	smax		
	comp=N,160nm,0.9s						
KMI				smax	smax		
	comp=E,89nm,0.7s						
CD2	Chengdu	5.66	34	Pg	Pb	13 56 37.0	+4.4
CD2				Sg	Sg	13 57 50.0	-5.5
CD2				smax	smax		
	comp=N,30nm,0.6s						
CD2				smax	smax		
	comp=E,30nm,0.6s						
CMAR	Chiang Mai Arr	7.82	188	Pn	Pn	13 56 48.6	+1.1
	0.2nm,0.3s,baz=0.9,slow=12,SNR=3.6						
CMAR				Pg	Pg	13 57 17.0	-6.5
	0.8nm,0.3s,baz=1.2,slow=18,SNR=34						
CMAR				Lg	Lg	13 59 03.6	
	0.3nm,0.3s,baz=0.0,slow=33,SNR=4.4						
WMQ	Urumqi	20.21	333	eP	P	13 59 27.5	-1.3
MKAR	Makanchi Array	24.89	330	P	P	14 00 15.7	-0.9
	0.6nm,0.8s,baz=138,slow=9.4,SNR=5.7						
WRA	Warramunga Arr	56.69	141	P	P	14 04 36.9	-0.7
	0.4nm,0.8s,baz=332,slow=7.3,SNR=3.9						
ASAR	Alice Springs	59.44	144	P	P	14 04 55.3	-1.5
	0.3nm,0.7s,baz=328,slow=7.8,SNR=3.8						

*ISK **25** 13:55:11.8, 38°.13N×42°.75E, h5km, ML2.8/3*
*CSEM **25** 13:55:13.6±0.3, 38°.10N×42°.73E, h8km, ML3.4, Error ellipse: s-maj=5.9km s-min=4.0km az=152.0*
*DDA **25** 13:55:13.6, 38°.08N×42°.70E, h22km, Ml3.4*
ISC 25 13:55:13.7±1.2**, 38°.12N**±0°.03×**42°.70E**±0°.02**, h9**km±10km**, n38, σ1s.01**/63**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.34	55	iP	Pg	13 55 20.8	+0.2
GEVA				iS	Sb	13 55 26.3	-1.6
GEVA	Gevas	0.34	55	P	Pg	13 55 20.8	+0.2
GEVA				S	Sb	13 55 26.3	-1.6
SRTM	Siirt_Merkez	0.63	259	iP	Pb	13 55 26.2	-0.8
SRTM				iS	Sb	13 55 35.7	-0.2
SRTM	Siirt_Merkez	0.63	259	P	Pb	13 55 26.2	-0.8
SRTM				S	Sb	13 55 35.7	-0.2
SIRT	Sirnak	0.65	199	PG	Pg	13 55 26.0	-0.3
SIRT	Sirnak	0.65	199	ePg	Pg	13 55 26.0	-0.3
GURO	Guroymak-BITLI	0.68	310	PG	Pg	13 55 26.4	-0.5
GURO				SG	Sb	13 55 37.3	-0.3
GURO	Guroymak-BITLI	0.68	310	ePg	Pg	13 55 26.4	-0.5
GURO				eSg	Sb	13 55 37.3	-0.3
TVAN	Van	0.69	53	iP	Pb	13 55 27.4	-0.8
TVAN				iS	Sn	13 55 39.3	-1.7
TVAN	Van	0.69	53	P	Pb	13 55 27.4	-0.8
ADCV	BITLIS_Adilcev	0.69	2	iP	Pb	13 55 27.6	-0.6
ADCV				iS	Sb	13 55 38.6	+0.7
ADCV	BITLIS_Adilcev	0.69	2	P	Pb	13 55 27.5	-0.6
ADCV				S	Sb	13 55 38.6	+0.7
VMUR	Van-Muradiye	1.11	38	iP	Pg	13 55 34.0	-1.1
VMUR				iS	Sn	13 55 52.9	+1.7
VMUR	Van-Muradiye	1.11	38	P	Pg	13 55 34.0	-1.1
BTMN	Batman	1.15	259	iP	Pn	13 55 36.0	-0.2
BTMN				iS	Sn	13 55 52.8	+0.7
BTMN	Batman	1.15	259	P	Pn	13 55 36.0	-0.2
BTMN				S	Sn	13 55 52.8	+0.7
SVAN	Silvan-Diyarba	1.19	272	iP	Pg	13 55 35.7	-0.8
SVAN				iS	Sn	13 55 53.1	+0.2
SVAN	Silvan-Diyarba	1.19	272	P	Pg	13 55 35.7	-0.8
SVAN				S	Sn	13 55 53.1	+0.2
EKAR	Karacoban	1.24	337	iP	Pg	13 55 36.8	-0.8
EKAR				iS	Sn	13 55 56.3	+1.7
EKAR	Karacoban	1.24	337	P	Pg	13 55 36.8	-0.8
EKAR				S	Sn	13 55 56.3	+1.7
TUTA	Tutak	1.29	4	iP	Pn	13 55 37.5	-0.7
TUTA				iS	Sn	13 55 56.6	+0.9
TUTA	Tutak	1.29	4	P	Pn	13 55 37.5	-0.7
TUTA				S	Sn	13 55 56.6	+0.9
YOVA	Hakkari_Yˆ…kse	1.36	112	iP	Pg	13 55 40.0	+0.1
YOVA				iS	Sn	13 56 01.3	+3.8
YOVA	Hakkari_Yˆ…kse	1.36	112	P	Pg	13 55 40.0	+0.1
CLDR	Caldiran	1.40	43	PN	Pn	13 55 38.6	-1.1
CLDR	Caldiran	1.40	43	ePn	Pn	13 55 38.6	-1.1
AGRB	Hanur-Agry	1.48	9	PN	Pn	13 55 40.5	-0.2
AGRB	Hanur-Agry	1.48	9	ePn	Pn	13 55 40.5	-0.2
MARD	Mardin	1.72	243	iP	Pn	13 55 42.9	-1.1
MARD				iS	Sn	13 56 06.1	-0.2
EATA	Eleskirt	1.75	355	iP	Pb	13 55 46.1	-0.2
EATA				iS	Sg	13 56 12.3	+2.1
EATA	Eleskirt	1.75	355	P	Pb	13 55 46.1	-0.2
BNGB	Bingˆ¶l	1.81	300	PN	Pb	13 55 46.5	-0.7
HANI	Diyarbakir_Han	1.84	280	iP	Pn	13 55 46.0	+0.4
HANI				iS	Sb	13 56 11.2	+0.5
HANI	Diyarbakir_Han	1.84	280	P	Pn	13 55 46.0	+0.4
HANI				S	Sb	13 56 11.2	+0.5
BINT	Bingol	1.89	294	ePn	Pn	13 55 46.5	+0.1
HOMI	Horasan	2.02	342	iP	Pb	13 55 50.4	-0.5
HOMI				iS	Sg	13 56 21.2	+2.3
ERZM	Erzurum	2.07	330	iP	Pb	13 55 51.1	-0.5
ERZM				iS	Sg	13 56 19.9	-0.4
ERZM	Erzurum	2.07	330	P	Pb	13 55 51.1	-0.5

*ISCJB **25** 13:59:20.0±0.6, 18°.61S±0°.03×178°.79W±0°.02, h484km±6km, mb5.0/337, Error ellipse: s-maj=4.8km s-min=3.1km az=161.1*
*WEL **25** 13:59:22.0, 18°.64S×178°.77W, h508km*
*GCMT **25** 13:59:22.6±0.2, 18°.62S×178°.65W, h526km±1km, MW5.4/102, Moment Tensor Solution. s102,c157; Duration: 1s.2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.18±.03; $M_{\theta\theta}$0.84±.05; $M_{\phi\phi}$0.34±.05; $M_{r\theta}$-0.20±.05; $M_{\theta\phi}$0.66±.05; $M_{\phi r}$-0.48±.05; Best double couple: $M_0$1.34700×10^{17} NP1:ϕ_s43.00000°, δ56.00000°, λ-105.00000°. NP2:ϕ_s248.00000°, δ37.00000°, λ-69.00000°. Principal axes: T 1.3760, Plg10.0000°, Azm143.0000°; N -0.0530, Plg13.0000°, Azm51.0000°; P -1.3190, Plg74.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s.*
*IDC **25** 13:59:22.7±0.6, 18°.69S×178°.73W, h507km±6km, mb4.7/37, mb1 4.7/40, mb1mx4.6/52, mbtmp5.5/40 Error ellipse: s-maj=8.2km s-min=7.4km az=152.0*
*BJI **25** 13:59:22.0, 18°.25S×178°.44W, h506km, mb5.1/57, mB5.1/34*
*NEIC **25** 13:59:22.6±0.1, 18°.64S×178°.77W, mb5.1/265, Error ellipse: s-maj=4.7km s-min=2.5km az=156.0*
*MOS **25** 13:59:23.0±0.8, 18°.62S×178°.80W, h521km, mb5.1/58, Error ellipse: s-maj=8.1km s-min=7.6km az=47.5*
ISC 25 13:59:22.7±0.3**, 18°.70S**±0°.04×**178°.65W**±0°.04**, h512**km±3km**, h513**km**:pP-P, n1323, σ1s.07**/1476**, mb5.1**/337**, 71C-65D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.28	286c	iP	P	14 00 38.0	+1.3
MSVF	Nonsavu	3.28	286	eP	P	14 00 37.8	+1.1
AFI	Afiamalu	8.13	55	P	P	14 01 18.1	-2.8
	37nm,0.3s,baz=49,slow=2.0,SNR=58						
AFI				S	S	14 02 50.1	-7.6
	40nm,0.3s,baz=28,slow=22,SNR=9.1						
AFI	Afiamalu	8.13	55	eP	P	14 01 17.3	-3.5
AFI				S	S	14 02 50.1	-7.6
NIUE	Niue	8.26	94	P	P	14 01 22.4	+0.3
	baz=8.3,SNR=40						
FUNA	Funafuti	10.32	348	eP	P	14 01 41.2	-2.4
RIZ	Raoul Island	10.52	177	P	P	14 01 43.7	-1.8
RAO	Raoul Island	10.53	177	eP	P	14 01 43.6	-2.0
RAO	Raoul Island	10.53	177	eP	P	14 01 43.6	-2.0
GLKZ	Green Lake	10.54	177	P	P	14 01 44.0	-1.7
GLKZ	Green Lake	10.54	177	S	S	14 03 44.7	+1.3
DZM	Mont Dzumac	14.38	254	P	P	14 02 25.0	-1.4
	3.9nm,0.3s,baz=248,slow=21,SNR=32						
DZM	Mont Dzumac	14.38	254	eP	P	14 02 24.9	-1.4
	95nm,1.1s						
KNTN	Kanton	17.22	24	eP	P	14 02 54.3	-1.1
	185nm,1.3s						
OUZ	Omahuta	17.84	201	eP	P	14 03 02.8	+1.9
	101nm,1.3s						
RAR	Rarotonga	17.92	101	P	P	14 03 02.6	+0.9
	5.9nm,0.3s,baz=247,slow=7.8,SNR=53						
RAR	Rarotonga	17.92	101	eP	P	14 03 02.5	+0.7
RAR				pmax	pmax		
	comp=Z,257nm,0.9s						
RAR	Rarotonga	17.92	101	eP	P	14 03 02.5	+0.7
	comp=Z,257nm,0.9s						
KUZ	Kuaotunu	18.65	194	P	P	14 03 09.2	+1.0
MXZ	Matakaoa Point	18.99	187	eP	P	14 03 11.0	-0.3
	comp=Z,355nm,1.7s						
MXZ	Matakaoa Point	18.99	187	P	P	14 03 11.2	0.0
MKAZ	Moumakai	19.13	195	P	P	14 03 14.4	+1.8
WMGZ	Waiomatatini S	19.23	187	P	P	14 03 13.8	+0.3
HAZ	Te Kaha	19.25	189	P	P	14 03 13.0	-0.6
HAZ	Te Kaha	19.25	189	S	S	14 06 19.1	-2.4
PKGZ	Pakihiroa	19.34	188	P	P	14 03 14.9	+0.3
RUGZ	Raukumara Rang	19.47	189	P	P	14 03 14.4	-1.4
PUZ	Puketiti	19.49	187	P	P	14 03 15.9	0.0
TWGZ	Tauwhareparae	19.63	188	P	P	14 03 17.8	+0.5
TOZ	Tahuroa Road	19.64	194	P	P	14 03 19.4	+2.2
KARZ	Kaharoa	19.77	192	P	P	14 03 20.6	+2.2
URZ	Urewera	19.84	190	P	P	14 03 17.7	-1.3
	comp=Z,10.0nm,0.3s,baz=266,slow=2.7,SNR=59						
URZ				S	S	14 06 27.1	-4.1
	comp=Z,0.6nm,0.3s,baz=204,slow=20,SNR=3.7						
URZ	Urewera	19.84	190	eP	P	14 03 16.8	-2.2
	comp=Z,53nm,0.9s						
URZ				S	S	14 06 27.1	-4.1
URZ	Urewera	19.84	190	P	P	14 03 16.7	-2.4
URZ	Urewera	19.84	190	S	S	14 06 29.1	-2.1

MWZ	Matawai	19.85	189	P		P		14 03 17.7	-1.5	
MWZ	Matawai	19.85	189	S		S		14 06 26.7	-4.7	
TKGZ	Te Karaka	19.91	188	P		P		14 03 19.5	-0.2	
RRRZ	Republican Roa	20.02	191	P		P		14 03 21.2	+0.4	
RAGZ	Rawiri	20.02	189	P		P		14 03 20.4	-0.4	
HSRZ	Hossack Road	20.05	192	P		P		14 03 23.4	+2.4	
HRRZ	Handcock Road	20.11	192	P		P		14 03 22.9	+1.2	
RIGZ	Rimuhau	20.18	188	P		P		14 03 21.9	-0.3	
TLZ	Tolley Road	20.21	193	P		P		14 03 25.0	+2.5	
SNGZ	Shannon Statio	20.32	189	P		P		14 03 22.6	-0.9	
PRGZ	Paritu Road	20.38	188	P		P		14 03 24.6	+0.6	
MTHZ	Maungataniwha	20.46	190	P		P		14 03 24.2	-0.6	
RAHZ	Arahi	20.49	190	P		P		14 03 24.4	-0.6	
KNZ	Kokohu	20.50	188	P		P		14 03 24.7	-0.4	
HIZ	Hauiti	20.54	195	P		P		14 03 28.4	+2.9	
NMHZ	Naumai	20.71	190	P		P		14 03 26.2	-0.8	
BKZ	Black Stump Fm	20.83	191	P		P		14 03 26.0	-2.2	
BKZ	Black Stump Fm	20.83	191	S		S		14 06 42.2	-4.8	
TARA	Tarawa	21.58	337	*e*P		P		14 03 34.3	-0.8	
	comp=Z,227nm,1.3s									
HNR	Honiara	22.69	291	P		P		14 03 43.5	-1.7	
	comp=Z,61nm,0.8s,baz=255,slow=2.7,SNR=5.9									
HNR	Honiara	22.69	291	*e*P		P		14 03 44.2	-1.0	
HNR				pmax		pmax				
	comp=Z,76nm,0.9s									
HNR	Honiara	22.69	291	*e*P		P		14 03 44.2	-1.0	
	comp=Z,76nm,0.9s									
PAE	Paea	27.62	93	*e*P		P		14 04 29.4	+0.6	
	comp=Z,24nm,1.0s									
PPT2	Papeete2	27.63	92	*e*P		P		14 04 29.9	+0.9	
	comp=Z,136nm,1.2s									
PPT	Papeete	27.64	92	P		P		14 04 30.3	+1.3	
	comp=Z,104nm,0.8s,baz=76,slow=6.2,SNR=18									
PPTF	Pamatai, Papee	27.64	92	*e*P		P		14 04 30.1	+1.1	
	comp=Z,413nm,1.5s									
TIAR	Tiarei	27.86	92	*e*P		P		14 04 31.7	+0.8	
	comp=Z,44nm,0.9s									
TVO	Taravao	27.92	93	*e*P		P		14 04 32.1	+0.6	
	comp=Z,16nm,0.7s									
EIDS	Eidsvold	28.79	251	P		P		14 04 38.6	-0.4	
	baz=29,SNR=12									
EIDS	Eidsvold	28.79	251	*e*P		P		14 04 38.5	-0.5	
	comp=Z,81nm,1.1s									
ARMA	Armidale	29.36	241	P		P		14 04 44.6	+0.7	
	baz=30,SNR=51									
ARMA	Armidale	29.36	241	*e*P		P		14 04 44.8	+0.8	
	comp=Z,105nm,1.3s									
PMOR	Pomariorio Ree	29.64	88	*e*P		P		14 04 46.2	-0.2	
	comp=Z,234nm,1.1s									
VAH	Vaihoa	29.85	88	*e*P		P		14 04 48.4	+0.2	
	comp=Z,102nm,0.9s									
MGCD	Mangrove Creek	30.66	236	P		P		14 04 56.1	+1.1	
	baz=31,SNR=21									
RMQ	Roma	31.01	250	P		P		14 04 59.0	+0.8	
	baz=31,SNR=17									
CNB	Canberra Magne	32.77	233	P		P		14 05 14.0	+0.8	
	baz=33,SNR=23									
CAN	Canberra	33.05	233	*e*P		P		14 05 16.1	+0.6	
CAN				pmax		pmax				
	comp=Z,62nm,1.1s									
CAN	Canberra	33.05	233	*e*P		P		14 05 16.1	+0.6	
	comp=Z,62nm,1.1s									
CTA	Charters Tower	33.10	262	P		P		14 05 15.9	-0.2	
	comp=Z,39nm,0.3s,baz=77,slow=9.8,SNR=161									
CTA				PcP		PcP		14 07 45.0	+0.5	
	comp=Z,5.0nm,0.8s,baz=88,slow=2.5,SNR=3.9									
CTAO	Charters Tower	33.10	262	*e*P		P		14 05 15.7	-0.4	
CTAO				pmax		pmax				
	comp=Z,134nm,1.0s									
CTAO	Charters Tower	33.10	262	*e*P		P		14 05 15.7	-0.4	
	comp=Z,134nm,1.0s									
YNG	Young	33.16	235	P		P		14 05 16.9	+0.6	
	baz=33,SNR=9.2									
MILA	Mila	33.61	230	P		P		14 05 20.8	+0.6	
	baz=34,SNR=25									
PMG	Port Moresby	34.38	281	P		P		14 05 26.9	0.0	
	comp=Z,114nm,0.9s,baz=78,slow=5.6,SNR=28									
PMG				PcP		PcP		14 07 48.4	+0.1	
	comp=Z,17nm,1.0s,baz=107,slow=2.6,SNR=4.7									
PMG	Port Moresby	34.38	281	*d*	*i*	P		14 05 26.6	-0.3	
PMG				pmax		pmax				
	comp=Z,678nm,1.0s									
PMG	Port Moresby	34.38	281	*e*P		P		14 05 27.0	+0.1	
	comp=Z,142nm,0.9s									
PMG				PcP		PcP		14 07 48.4	+0.1	
CMSA	Cobar Meteorol	34.57	241	P		P		14 05 28.4	+0.2	
	baz=35,SNR=80									
QLP	Quilpie	35.05	250	P		P		14 05 31.8	-0.6	
	baz=35,SNR=50									
MTSU	Mount Surprise	35.11	265	P		P		14 05 32.3	-0.7	
	baz=35,SNR=37									
TOO	Toolangi	36.50	231	P		P		14 05 44.9	+0.5	
	baz=37,SNR=49									
TOO	Toolangi	36.50	231	P		P		14 05 44.8	+0.5	
TOO				pmax		pmax				
	comp=Z,131nm,1.1s									
COEN	Coen	36.89	272	P		P		14 05 47.3	-0.5	
	baz=37,SNR=62									
COEN	Coen	36.89	272	*e*P		P		14 05 47.6	-0.2	
	comp=Z,54nm,0.9s									
MANU	Manus Island	37.18	292	*e*P		P		14 05 50.9	+0.7	
	comp=Z,201nm,0.8s									
MOO	Moorlands	37.37	223	P		P		14 05 52.1	+0.8	
	baz=38,SNR=4.9									
STKA	Stephens Creek	38.06	242	P		P		14 05 57.8	+0.6	
	comp=Z,89nm,0.8s,baz=90,slow=9.5,SNR=170									
STKA				PcP		PcP		14 08 00.0	+0.7	
	comp=Z,17nm,0.9s,baz=45,slow=1.4,SNR=5.3									
STKA	Stephens Creek	38.06	242	P		P		14 05 57.5	+0.4	
	baz=38,SNR=93									
STKA	Stephens Creek	38.06	242	*e*P		P		14 05 57.7	+0.6	
STKA								14 08 00.0		
STKA				pmax		pmax				
	comp=Z,30nm,1.0s									
STKA	Stephens Creek	38.06	242	*e*P		P		14 05 57.7	+0.5	
	comp=Z,30nm,1.0s									
STKA				PcP		PcP		14 08 00.0	+0.7	
QIS	Mount Isa	39.29	260	P		P		14 06 06.3	-1.0	
	baz=39,SNR=20									
HTT	Hallett	40.56	240	P		P		14 06 17.6	+0.2	
	baz=41,SNR=94									
RKT	Rikitea	40.92	104	*e*P		P		14 06 21.5	+1.2	
	comp=Z,87nm,0.9s									
BBOO	Buckleboo	42.83	242	P		P		14 06 35.4	+0.1	
	baz=43,SNR=54									
BBOO	Buckleboo	42.83	242	*e*P		P		14 06 35.4	+0.1	
	comp=Z,158nm,0.9s									
JAY	Jayapura	42.91	287	P		P		14 06 36.1	-0.1	
	comp=Z,1μm,1.1s,comp=Z,11μm									
JAY	Jayapura	42.91	287	P		P		14 06 36.9	+0.7	
GENI	Genyem	43.37	287	P		P		14 06 39.9	+0.2	
	comp=Z,381nm,1.3s,comp=Z,5μm									
WRAB	Tennant Creek	44.26	260	*d*	*i*	P		14 06 45.1	-1.6	
WRAB				pmax		pmax				
	comp=Z,83nm,1.1s									
WRAB	Tennant Creek	44.26	260	*e*P		P		14 06 45.3	-1.4	
	comp=Z,80nm,1.0s									
WRA	Warramunga Arr	44.27	260	P		P		14 06 45.0	-1.7	
	comp=Z,18nm,0.3s,baz=97,slow=6.6,SNR=845									
WRA				PcP		pP		14 08 20.6	-0.4	
	comp=Z,28nm,1.0s,baz=92,slow=3.8,SNR=17									
WRA				S		S		14 12 37.9	-5.3	
	comp=Z,8.5nm,1.1s,baz=92,slow=14,SNR=8.1									
AS01	Alice Springs	44.32	255	*e*P		P		14 06 46.6	-0.5	
HMH	Humu'ula Sheep	44.33	32	*e*P		P		14 06 47.5	+0.1	
	comp=Z,182nm,0.9s									
AS31	Alice Springs	44.37	255	*e*P		P		14 06 47.1	-0.4	
	comp=Z,72nm,0.8s									
ASAR	Alice Springs	44.37	255	P		P		14 06 46.8	-0.7	
	comp=Z,108nm,0.4s,baz=88,slow=9.5,SNR=2923									
ASAR				PcP		PcP		14 08 21.1	+0.6	
	comp=Z,26nm,0.9s,baz=102,slow=3.9,SNR=12									
ASAR				S		S		14 12 41.0	-3.5	
	comp=Z,8.1nm,1.1s,baz=85,slow=15,SNR=14									
GUMO	Guam	48.19	309	P		P		14 07 16.6	+0.2	
	comp=Z,154nm,0.7s,baz=158,slow=14,SNR=9.9									
MTN	Manton Dam	48.56	269	P		P		14 07 18.2	-1.1	
	baz=48,SNR=71									
MTN	Manton Dam	48.56	269	*e*P		P		14 07 18.5	-0.8	
	comp=Z,106nm,0.9s									
WRKA	Warakurna	49.39	253	P		P		14 07 24.9	-0.5	
	baz=49,SNR=658									
SAUI	Saumlaki	49.70	275	P		P		14 07 27.9	+0.1	
	comp=Z,342nm,1.2s,comp=Z,4μm									
SAUI	Saumlaki	49.70	275	*e*P		P		14 07 26.5	-1.3	
	comp=Z,323nm,1.0s									
KNRA	Kununurra	50.19	265	P		P		14 07 30.7	-0.6	
	baz=50,SNR=58									
FAKI	Fak Fak	50.52	282	P		P		14 07 32.9	-0.9	
	comp=Z,110nm,1.2s,comp=Z,1μm									
FAKI	Fak Fak	50.52	282	*e*P		P		14 07 33.2	-0.6	
	comp=Z,198nm,1.4s									
SWI	Sorong	52.21	284	P		P		14 07 45.6	-0.4	
	comp=Z,388nm,0.9s,comp=Z,3μm									
FITZ	Fitzroy Crossi	52.68	261	P		P		14 07 49.6	+0.3	
	comp=Z,42nm,0.8s,baz=93,slow=4.2,SNR=54									
FITZ	Fitzroy Crossi	52.68	261	P		P		14 07 49.5	+0.1	
	baz=53,SNR=17									
FITZ	Fitzroy Crossi	52.68	261	*e*P		P		14 07 49.5	+0.1	
PALU	Palau	52.97	295	P		P		14 07 51.9	+0.4	
	baz=53,SNR=6.4									
AAI	Ambon	54.02	279	P		P		14 07 57.9	-1.1	
	comp=Z,132nm,1.4s,comp=Z,6μm									
NLAI	Namlea	55.20	279	P		P		14 08 06.4	-0.8	
	comp=Z,93nm,1.1s,comp=Z,2μm									
LBMI	Labuha	55.76	282	P		P		14 08 10.8	-0.4	
	comp=Z,143nm,1.1s,comp=Z,1μm									
SOEI	Soe	55.85	271	P		P		14 08 12.5	+0.5	
	comp=Z,746nm,1.1s,comp=Z,6μm									
SOEI	Soe	55.85	271	*e*P		P		14 08 13.3	+1.4	
	comp=Z,663nm,1.0s									
BATI	Baumata	56.30	270	P		P		14 08 15.3	+0.3	
	comp=Z,68nm,0.7s,baz=87,slow=3.8,SNR=34									
BATI	Baumata	56.30	270	P		P		14 08 15.2	+0.3	
	comp=Z,75nm,0.9s,comp=Z,916nm									
TNTI	Ternate	56.43	284	*e*P		P		14 08 16.4	+0.7	
	comp=Z,349nm,1.0s									
SANI	Sanana	56.66	280	P		P		14 08 16.2	-1.2	
	comp=Z,148nm,1.1s,comp=Z,1μm									
MBWA	Marble Bar	57.67	256	*e*P		P		14 08 23.9	-0.3	
	comp=Z,131nm,0.9s									
MBWA	Marble Bar	57.67	256	P		P		14 08 24.2	0.0	
	SNR=11									
MBWA	Marble Bar	57.67	256	P		P		14 08 24.2	0.0	
	SNR=11									
MEEK	Meekatharra	57.95	250	P		P		14 08 25.2	-0.9	
	baz=58,SNR=76									
KLBR	Kellerberrin	58.28	244	P		P		14 08 27.8	-0.4	
	baz=58,SNR=53									
NWAO	Narrogin (SRO)	58.65	242	P		P		14 08 30.5	-0.1	
	comp=Z,36nm,0.7s,baz=333,slow=7.9,SNR=42									
NWAO	Narrogin (SRO)	58.65	242	P		P		14 08 30.5	-0.1	
	baz=59,SNR=8.8									
NWAO				P		P		14 08 30.5	-0.1	
	baz=59,SNR=8.8									
NWAO	Narrogin (SRO)	58.65	242	*e*P		P		14 08 30.6	-0.1	
NWAO				pmax		pmax				
	comp=Z,85nm,1.1s									
NWAO	Narrogin (SRO)	58.65	242	*e*P		P		14 08 30.6	0.0	
	comp=Z,85nm,1.1s									
RKGY	Rocky Gully	58.78	240	P		P		14 08 32.0	+0.5	
	baz=59,SNR=15									
BASI	Baing, Sumba	59.22	269	P		P		14 08 34.6	-0.2	
	comp=Z,285nm,1.3s,comp=Z,3μm									
BLDU	Ballidu	59.24	245	P		P		14 08 34.0	-0.7	
	baz=59,SNR=66									
KMSI	Cibinong	59.48	282	P		P		14 08 35.9	-0.6	
	comp=Z,172nm,0.8s									
MUN	Mundaring	59.57	243	P		P		14 08 37.0	+0.1	
	baz=60,SNR=24									
SBA	Scott Base	59.62	184	*e*P		P		14 08 39.0	+2.6	
SBA				pmax		pmax				
	comp=Z,24nm,1.1s									
SBA	Scott Base	59.62	184	*e*P		P		14 08 39.0	+2.6	
	comp=Z,24nm,1.1s									
VNDA	Vanda	59.65	185	P		P		14 08 37.2	+0.6	
	comp=Z,4.2nm,0.8s,baz=4.9,slow=7.8,SNR=19									
VNDA	Vanda	59.65	185	*e*P		P		14 08 37.0	+0.4	
	comp=Z,30nm,1.6s									
MORW	Morawa	59.96	247	P		P		14 08 39.2	-0.4	
	baz=60,SNR=19									
LUWI	Luwuk	60.02	280	P		P		14 08 39.6	-0.5	
	comp=Z,222nm,1.3s,comp=Z,3μm									
LUWI	Luwuk	60.02	280	*e*P		P		14 08 40.0	0.0	
	comp=Z,303nm,1.2s									
BSSI	Bau Bau, Buton	60.48	274	P		P		14 08 42.1	-1.1	
WBSI	Waikabubak, Su	60.51	269	P		P		14 08 43.0	-0.4	
APSI	Ampana	61.11	280	P		P		14 08 47.4	+0.1	
MRSI	Marisa	61.34	281	P		P		14 08 48.4	-0.4	
BNSI	Bone	61.39	275	P		P		14 08 49.2	0.0	
KAPI	Kappang	61.53	274	*e*P		P		14 08 49.6	-0.5	
	comp=Z,42nm,1.2s									
KAPI	Kapang	61.53	274	P		P		14 08 50.4	+0.3	
	SNR=8.8									
KAPI	Kappang	61.53	274	P		P		14 08 50.4	+0.3	
	SNR=8.8									
GIRL	Giralia	62.46	254	P		P		14 08 57.0	+1.0	
	baz=62,SNR=30									
JHJ	Hachijo jima 2	65.05	322	P		P		14 09 12.3	0.0	
	comp=Z,252nm,0.7s,baz=331,slow=8.3,SNR=4.4									
CASY	Casey	65.33	205	*e*P		P		14 09 14.4	+0.9	
	comp=Z,56nm,1.0s									
JAGI	Jajag, Banyuwa	65.80	269	*e*P		P		14 09 16.2	-1.3	
	comp=Z,222nm,0.9s									
MYLDM	Lahad Datu	66.29	285	*e*P		P		14 09 20.6	+0.1	
	comp=Z,155nm,1.3s									
INU	Inuyama	68.24	322	*e*P		P		14 09 32.0	0.0	
	comp=Z,74nm,1.4s									
MJAR	Matsushiro Arr	68.40	324	P		P		14 09 32.6	-0.4	
	comp=Z,35nm,0.8s,baz=162,slow=6.1,SNR=93									
MAJO	Matsushiro	68.41	324	*e*P		P		14 09 32.6	-0.4	
MAJO				pmax		pmax				
	comp=Z,50nm,0.9s									
MAJO	Matsushiro	68.41	324	*e*P		P		14 09 32.6	-0.4	
	comp=Z,50nm,0.9s									
MJB9	Matsu-Tunnel	68.41	324	*e*P		P		14 09 32.7	-0.4	
	comp=Z,48nm,0.8s									
JOW	Kunigami	68.55	310	P		P		14 09 35.3	+1.2	
	comp=Z,72nm,0.9s,baz=101,slow=27,SNR=4.6									
KKM	Kota Kinabalu	68.72	284	*e*P		P		14 09 35.0	-0.4	
	comp=Z,72nm,1.0s									
UGM	Wanagama	69.40	268	*e*P		P		14 09 39.3	-0.3	
	comp=Z,127nm,0.8s									
ERM	Erimo	69.96	331	*e*P		P		14 09 41.6	-0.6	
ERM				pmax		pmax				
	comp=Z,20nm,0.8s									
JNU	Nakatsue	70.55	317	P		P		14 09 45.8	-0.2	
	comp=Z,31nm,1.0s,baz=55,slow=7.7,SNR=6.2									
JNU	Nakatsue	70.55	317	*e*P		P		14 09 45.5	-0.5	
SBUM	Sibu	71.11	279	*e*P		P		14 09 49.9	+0.3	
	comp=Z,65nm,1.1s									
QSPA	South Pole Qui	71.36	180	P		P		14 09 51.6	+1.3	
	comp=Z,46nm,0.9s,baz=26,slow=1.5,SNR=89									
QSPA	South Pole Qui	71.36	180	*e*P		P		14 09 51.4	+1.0	
	comp=Z,44nm,0.8s									
ASAJ	Asahikawa	71.86	332	P		P		14 09 54.9	+1.6	
	comp=Z,33nm,0.6s,baz=217,slow=5.0,SNR=75									
ASAJ	Asahikawa	71.86	332	*e*P		P		14 09 54.6	+1.2	
	comp=Z,37nm,0.6s									
YULB	Yu-li	72.01	303	*e*P		P		14 09 53.5	-1.2	
CISI	Cisompet, Garu	72.07	268	*e*P		P		14 09 54.1	-1.2	
	comp=Z,187nm,1.2s									
NACB	Ninganchiao	72.17	304	*e*P		P		14 09 54.3	-1.3	
	comp=Z,152nm,1.2s									
LEM	Lembang	72.47	269	P		P		14 09 58.2	+0.5	
	comp=Z,226nm,0.8s,baz=86,slow=4.3,SNR=60									
SSLB	Suanglung	72.48	303	*e*P		P		14 09 55.5	-1.9	
	comp=Z,32nm,0.7s									
TPUB	Ta-pu	72.49	303	*e*P		P		14 09 56.1	-1.4	
	comp=Z,104nm,0.8s									
KSM	Kuching	72.56	278	*e*P		P		14 09 58.4	+0.3	
	comp=Z,245nm,1.0s									
YHNB	Yeheng	72.59	304	*e*P		P		14 09 57.5	-0.6	
	comp=Z,79nm,1.0s									
TATO	Taipei	72.66	305	*e*P		P		14 09 58.1	-0.3	
	comp=Z,288nm,1.4s									
UNV	Unalaska Valle	73.00	7	*e*P		P		14 09 58.7	-0.9	
	comp=Z,48nm,0.7s									
XMIS	Christmas Isla	73.27	264	*e*P		P		14 10 01.9	-0.3	
	comp=Z,99nm,0.9s									
YSS	Yuzh-Sakhalins	74.02	334	*e*P		P		14 10 06.4	+0.8	
YSS				*e*				14 11 58.3		
YSS				pmax		pmax				
	comp=Z,70nm,0.9s									
YSS				MLR		MLR				
	comp=Z,100nm,14.0s									
YSS	Yuzh-Sakhalins	74.02	334	*e*P		P		14 10 06.4	+0.8	
	comp=Z,76nm,0.9s									
PET	Petropavlovsk	74.08	346	*e*P		P		14 10 05.4	-0.5	
PET				pmax		pmax				
	comp=Z,55nm,0.7s									
PET	Petropavlovsk	74.08	346	*e*P		P		14 10 05.0	-0.9	
	comp=Z,293nm,2.0s									
PEA0B	Petropavlovsk-	74.38	345	*e*P		P		14 10 07.5	-0.1	
	comp=Z,100nm,0.9s									
PETK	Petropavlovsk-	74.38	345	P		P		14 10 07.7	+0.1	
	comp=Z,83nm,0.8s,baz=123,slow=8.5,SNR=65									
PETK	Petropavlovsk-	74.38	345	P		P		14 10 07.7	+0.1	
PETK				pmax		pmax				
	comp=Z,88nm,0.8s									
PETK	Petropavlovsk-	74.38	345	*e*P		P		14 10 07.3	-0.3	
TJN	Taejon	74.84	317	*i*	*e*P	P		14 10 10.7	+0.2	
QZH	Quanzhou	74.92	303	*i*	*i*P	P		14 10 11.8	+0.6	
QZH					S	S		14 19 08.5	+1.2	
QZH				pmax		pmax				
	comp=Z,78nm,0.7s									
KSRS	Korea Array	75.14	319	P		P		14 10 13.1	+0.9	
	comp=Z,11nm,0.8s,baz=128,slow=6.1,SNR=30									
KSAR	Wonju Array Be	75.16	319	P		P		14 10 13.1	+0.8	
KSAR	Wonju Array Be	75.16	319	P		P		14 10 13.1	+0.8	
KS01	Wonju Array Si	75.17	319	*e*P		P		14 10 13.0	+0.6	
SDPT	Sand Point	75.35	11	*e*P		P		14 10 12.1	-0.9	
	comp=Z,96nm,0.9s									
INCN	Inchon	75.97	318	*e*P		P		14 10 17.4	+0.5	
	comp=Z,85nm,1.3s									
VLA	Vladivostok	76.47	325	*i*	*e*P	P		14 10 19.9	+0.5	
VLA				pmax		pmax				
	comp=Z,48nm,1.0s									
CHGN	Chignik	76.63	11	*e*P		P		14 10 19.4	-0.6	
	comp=Z,44nm,0.9s									
SCZ2	Santa Cruz Isl	76.81	47	P		P		14 10 23.4	+1.8	
	baz=237									
USRK	Ussuriysk Ar.	77.14	326	P		P		14 10 24.4	+1.3	
	comp=Z,31nm,1.0s,baz=132,slow=2.8,SNR=30									
SAO	San Andreas Ge	77.14	44	*e*P		P		14 10 24.2	+0.9	
SAO				pmax		pmax				
	comp=Z,43nm,0.8s									
SAO	San Andreas Ge	77.14	44	*e*P		P		14 10 24.2	+0.9	
	comp=Z,43nm,0.8s									
TYV	Tymovskoe	77.15	336	*e*P		P		14 10 23.2	+0.2	
TYV				pmax		pmax				
	comp=Z,85nm,1.3s									
PKM	Mcpherson Peak	77.18	46	P		P		14 10 24.7	+0.9	
	baz=236									
SMMC	Simmler	77.29	46	P		P		14 10 26.1	+1.9	
	baz=236									
RDG13	Poverty Ridge	77.34	43	*e*P		P		14 10 26.1	+1.6	
	comp=Z,27nm,0.8s									
PAGB	Antelope Grade	77.35	45	*e*P		P		14 10 25.6	+1.1	
	comp=Z,17nm,0.8s									
KMRM	Mail Ridge	77.76	40	*e*P		P		14 10 28.4	+1.7	
	comp=Z,87nm,0.9s									
DECC	Green Verdugo	77.86	47	P		P		14 10 28.2	+0.9	
	baz=237									
PASC	Pasadena Art C	77.92	48	*e*P		P		14 10 28.3	+0.7	
	comp=Z,36nm,0.9s									
ARVC	Arvin	77.99	46	P		P		14 10 29.0	+1.0	
	baz=237,SNR=7.7									
109C	Camp Elliot, M	78.00	49	P		P		14 10 29.1	+1.0	
	baz=238,SNR=6.2									
CPE	Camp Elliot	78.00	49	*e*P		P		14 10 28.8	+0.8	
	comp=Z,19nm,0.7s									
MWC	Mount Wilson	78.03	48	*e*P		P		14 10 28.5	0.0	
MWC				pmax		pmax				
	comp=Z,32nm,0.8s									
MWC	Mount Wilson	78.03	48	*e*P		P		14 10 28.5	0.0	
	comp=Z,32nm,0.8s									
KHMM	Horse Mountain	78.14	39	*e*P		P		14 10 30.3	+1.5	
	comp=Z,66nm,1.4s									
VES	Vestal, Richgr	78.20	46	P		P		14 10 30.1	+1.0	
	baz=237,SNR=13									
BAR	Barrett	78.21	50	*e*P		P		14 10 29.6	+0.4	
	comp=Z,12nm,0.9s									
NJ2	Nanjing	78.27	310	*e*P		P		14 10 30.3	+0.8	
NJ2				pmax		pmax				
	comp=Z,57nm,1.1s									
MURC	Murrieta	78.31	48	P		P		14 10 30.8	+1.0	
	baz=238,SNR=8.9									
BFSC	Mount Baldy Ra	78.32	48	P		P		14 10 30.9	+1.0	
	baz=238,SNR=9.5									
EDW2	Edwards Air Fo	78.43	47	P		P		14 10 31.9	+1.5	
	baz=238,SNR=26									

comp=Z,81nm,1.9s
HEC Hector,Ludlow 79.56 48 P P 14 10 37.5 +1.0
baz=239,SNR=10
BC3 Big Chuckawall 79.58 49 P P 14 10 38.4 +1.7
baz=239
BEKR Beckworth 79.63 42 eP P 14 10 37.7 +0.9
comp=Z,22nm,0.7s
GRNR Gornyy 79.63 333 ⇓iP P 14 10 37.8 +1.4
GRNR pmax pmax
comp=N,84nm,1.0s
GRNR pmax pmax
comp=E,63nm,1.0s
GRNR pmax pmax
comp=Z,260nm,1.0s
HUMO Hull Mountain 79.66 38 eP P 14 10 38.1 +1.4
comp=Z,56nm,1.1s
NKL Nikolayevsk 79.71 336 iP P 14 10 36.8 +0.2
NKL pmax pmax
comp=N,27nm,1.0s
NKL pmax pmax
comp=E,13nm,1.0s
NKL pmax pmax
comp=Z,130nm,1.0s
GLA Glamis 79.73 50 P P 14 10 39.3 +1.9
baz=240,SNR=5.6
VCNR Virginia City 79.75 43 eP P 14 10 38.6 +1.1
comp=Z,30nm,1.0s
M04C Macdoel 79.83 39 P P 14 10 39.1 +1.4
baz=234,SNR=17
YERR Yerington 79.84 43 eP P 14 10 39.0 +1.0
comp=Z,58nm,1.0s
GRAC Grapevine Rang 79.99 45 P P 14 10 40.5 +1.9
baz=238,SNR=8.6
DL2 Dalian 80.01 317 P P 14 10 39.0 +0.4
DL2 pmax pmax
comp=Z,39nm,0.9s
GMRC Granite Mounta 80.01 48 P P 14 10 39.9 +0.9
baz=239,SNR=8.1
FURC Furnace Creek, 80.05 46 P P 14 10 40.7 +1.8
baz=238,SNR=9.8
IRM Iron Mountain 80.06 49 P P 14 10 40.7 +1.6
baz=240,SNR=14
I03D Drain, OR 80.09 37 P P 14 10 40.0 +1.1
baz=232,SNR=8.8
RYN Ryan 80.11 44 eP P 14 10 40.3 +0.9
comp=Z,21nm,0.9s
NV01 Mina Array Sit 80.14 44 eP P 14 10 40.4 +0.8
NV01 epP pP 14 12 30.8 +0.6
NVAR Mina Array Bea 80.14 44 P P 14 10 41.0 +1.3
comp=Z,24nm,0.8s,baz=225,slow=8.9,SNR=69
NVAR pP pP 14 12 30.8 +0.5
comp=Z,5.4nm,0.9s,baz=222,slow=8.6,SNR=6.6
PAHR Pah Rah Range 80.15 42 eP P 14 10 40.5 +1.0
comp=Z,32nm,1.0s
PAHR epP pP 14 12 31.6 +1.4
SHOC Shoshone, Teco 80.16 47 P P 14 10 41.0 +1.5
baz=238,SNR=8.8
TUQ Turquoise Moun 80.16 47 P P 14 10 41.1 +1.4
baz=239,SNR=19
NV11 Mina Array Sit 80.24 44 eP P 14 10 41.1 +1.0
comp=Z,3.3nm,1.1s
Y12C Blythe 80.30 50 P P 14 10 41.9 +1.6
baz=240,SNR=9.2
Y12C Blythe 80.30 50 eP P 14 10 41.8 +1.6
comp=Z,24nm,0.8s
113A Mohawk Valley, 80.36 51 eP P 14 10 42.0 +1.5
comp=Z,30nm,1.1s
CN2 Changchun 80.50 323 ⇓P P 14 10 41.5 +0.4
CN2 pmax pmax
comp=Z,80nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
J04D Umpqua Nationa 80.53 38 P P 14 10 43.0 +1.4
baz=233,SNR=23
LDFC Landfair 80.55 48 eP P 14 10 43.0 +1.3
comp=Z,84nm,1.0s
KLR Kul'dur 80.67 330 diP P 14 10 42.3 +0.5
214A Organ Pipe Nat 80.67 52 P P 14 10 43.7 +1.4
baz=241
214A Organ Pipe Nat 80.67 52 eP P 14 10 43.7 +1.4
comp=Z,152nm,1.1s
I04A Tendick Farm, 80.69 38 P P 14 10 43.1 +1.0
baz=233,SNR=14
HSIG 80.72 55 eP P 14 10 43.8 +1.3
MOD Modoc Plateau 80.83 40 eP P 14 10 44.0 +1.0
comp=Z,47nm,0.8s
PDMCI Parker Dam,Lak 80.85 49 P P 14 10 44.4 +1.4
baz=240,SNR=14
WHN Wuhan 80.89 306 ⇑P P 14 10 44.5 +1.1
G03D McMinnville, O 81.07 36 P P 14 10 45.2 +1.2
baz=232,SNR=6.1
J05D Fort Rock, OR 81.08 39 P P 14 10 45.9 +1.7
baz=234,SNR=90
SHPR Sheep Range 81.24 47 eP P 14 10 46.9 +1.6
comp=Z,20nm,1.0s
H04A Detroit Lake 81.35 37 eP P 14 10 46.0 +0.5
comp=Z,173nm,1.6s
BRLK Bradley Lake 81.39 14 eP P 14 10 45.0 -0.3
comp=Z,65nm,0.9s
W13A Hualapai Mount 81.43 49 eP P 14 10 46.8 +0.4
comp=Z,25nm,1.3s
PINE Pine Mountain 81.55 38 eP P 14 10 48.1 +1.4
comp=Z,96nm,0.9s
I05D Terrebonne, OR 81.64 38 P P 14 10 48.1 +1.2
baz=234,SNR=16
SVW2 Sparrevohn 81.65 11 eP P 14 10 46.2 -0.4
comp=Z,26nm,0.9s
E03A Lebam 81.72 35 eP P 14 10 48.4 +1.2
comp=Z,92nm,1.0s
F04D Rainier, OR 81.74 35 P P 14 10 48.8 +1.4
baz=232
MA2 Magadan 81.89 345 P P 14 10 47.3 -0.6
comp=Z,38nm,0.9s,baz=144,slow=5.3,SNR=71
MA2 Magadan 81.89 345 diP P 14 10 47.1 -0.8
R11A Troy Canyon, C 81.91 45 P P 14 10 49.6 +0.8
baz=239,SNR=22
R11A Troy Canyon, C 81.91 45 eP P 14 10 49.5 +0.8
comp=Z,16nm,1.0s
DIB Dawson Inlet, 81.93 26 eP P 14 10 48.9 +0.8
comp=Z,32nm,0.9s
BMN Battle Mountai 81.94 43 eP P 14 10 49.8 +1.0
BMN e*PP pP 14 12 40.2 +0.2
BMN pmax pmax
comp=Z,54nm,1.0s
BMN Battle Mountai 81.94 43 eP P 14 10 49.8 +1.0
comp=Z,54nm,1.0s
BMN epP pP 14 12 40.2 +0.2
NLWA Neilton Lookou 82.09 34 eP P 14 10 50.0 +0.8
comp=Z,52nm,1.0s
WVOR Wild Horse Val 82.15 40 eP P 14 10 50.5 +0.7
WVOR pmax pmax
comp=Z,55nm,1.0s
WVOR Wild Horse Val 82.15 40 eP P 14 10 50.5 +0.7
comp=Z,55nm,1.0s
G05D Wamic, OR 82.18 37 P P 14 10 50.7 +1.0
baz=234,SNR=16
IPM Ipoh 82.30 277 eP P 14 10 51.4 +0.4
comp=Z,88nm,0.9s
TUC Tucson 82.36 52 P P 14 10 52.7 +1.6
baz=242
TUC Tucson 82.36 52 eP P 14 10 52.6 +1.6
TUC e*PP pP 14 12 44.0 +1.6
TUC pmax pmax
comp=Z,44nm,1.0s
TUC Tucson 82.36 52 eP P 14 10 52.6 +1.6
comp=Z,44nm,1.0s
TUC epP pP 14 12 44.0 +1.6
GAMB Gambell 82.38 3 eP P 14 10 50.8 +0.6
comp=Z,90nm,1.2s
SPU Mount Spurr 82.42 13 eP P 14 10 49.2 -1.4
I07A Izee 82.56 39 eP P 14 10 53.1 +1.3
comp=Z,36nm,0.8s
G06A Carlson Farm, 82.57 37 eP P 14 10 52.3 +0.6
comp=Z,34nm,0.9s
J08A Circle Bar Ran 82.77 40 eP P 14 10 53.8 +0.9
comp=Z,78nm,1.1s
LON Longmire 82.81 35 eP P 14 10 53.2 +0.3
LON pmax pmax
comp=Z,15nm,0.8s
LON Longmire 82.81 35 eP P 14 10 53.2 +0.3
comp=Z,15nm,0.8s
LCMT Little Creek M 82.83 47 eP P 14 10 54.5 +1.2
comp=Z,30nm,0.9s
RC01 Rabbit Creek A 82.83 14 eP P 14 10 52.5 -0.1
comp=Z,71nm,1.1s
X16A Lo Mia Camp, P 82.86 50 eP P 14 10 55.3 +1.7
comp=Z,40nm,1.0s
KULM Kulim 82.92 278 eP P 14 10 54.4 +0.3
comp=Z,53nm,1.0s
SUA Susitna One 82.95 13 eP P 14 10 52.6 -0.7
comp=Z,73nm,0.8s
D05A Enumclaw 82.97 35 eP P 14 10 54.9 +1.3
comp=Z,125nm,1.2s
CCUT Cedar City 83.01 47 eP P 14 10 55.8 +1.5
comp=Z,28nm,0.9s
MAW Mawson 83.05 200 P P 14 10 53.9 +0.2
comp=Z,17nm,0.9s,baz=136,slow=5.5,SNR=11
MAW Mawson 83.05 200 eP P 14 10 54.3 +0.6
MAW pmax pmax
comp=Z,6.0nm,1.0s
MAW Mawson 83.05 200 eP P 14 10 54.3 +0.6
comp=Z,5.9nm,1.0s
319A Douglas 83.07 54 eP P 14 10 55.8 +1.1
comp=Z,64nm,0.9s
PGC Sidney 83.09 33 eP P 14 10 54.8 +0.7
comp=Z,44nm,0.9s
BBB Bella Bella 83.11 29 eP P 14 10 54.8 +0.7
comp=Z,28nm,0.8s
KNB Kanab 83.12 47 eP P 14 10 56.2 +1.3
KNB pmax pmax
comp=Z,29nm,0.9s
KNB Kanab 83.12 47 eP P 14 10 56.2 +1.3
comp=Z,29nm,0.9s
U15A North Rim 83.21 48 eP P 14 10 56.7 +1.3
comp=Z,56nm,0.8s
SZCU Shurtz Canyon 83.22 47 eP P 14 10 57.5 +2.0
comp=Z,57nm,0.8s
GLI Glacier Island 83.27 15 eP P 14 10 54.3 -0.5
comp=Z,98nm,0.8s
EYAK Cordova Ski Ar 83.32 16 eP P 14 10 54.9 -0.1
comp=Z,45nm,1.1s
F07A Phinny Hill Vi 83.36 37 eP P 14 10 56.3 +0.7
comp=Z,30nm,0.8s
PMR Palmer 83.42 14 eP P 14 10 55.0 -0.5
PMR pmax pmax
comp=Z,93nm,1.3s
PMR Palmer 83.42 14 eP P 14 10 55.0 -0.5
comp=Z,93nm,1.3s
WUAZ Wupatki 83.43 49 P P 14 10 58.0 +1.6
baz=242
WUAZ Wupatki 83.43 49 eP P 14 10 57.6 +1.2
comp=Z,38nm,1.1s
RAGM Ragged Mountai 83.46 16 eP P 14 10 55.9 +0.1
comp=Z,55nm,1.0s
A04D Lummi Island 83.52 34 P P 14 10 57.5 +1.2
baz=232,SNR=12
B05A Bryant 83.56 34 P P 14 10 57.6 +1.0
baz=233,SNR=34
G08A Pilot Rock 83.57 38 eP P 14 10 57.6 +0.8
comp=Z,77nm,1.4s
G08A epP pP 14 12 49.9 +1.3
SKLT Songkhla 83.57 280 P P 14 10 57.9 +0.5
comp=Z,105nm,1.2s,comp=Z,1μm
PKCU Pink Cliffs 83.69 47 eP P 14 11 00.6 +2.7
comp=Z,29nm,1.1s
PSI Prapat 83.73 275 P P 14 10 57.5 -0.8
comp=Z,58nm,0.9s,baz=184,slow=7.0,SNR=39
PSI Prapat 83.73 275 eP P 14 10 57.7 -0.6
PSI pmax pmax
comp=Z,98nm,1.0s
PSI Prapat 83.73 275 eP P 14 10 57.7 -0.6
comp=Z,98nm,1.0s
LTY Liberty 83.74 36 eP P 14 10 57.7 +0.2
comp=Z,29nm,0.9s
E07A Sunnyside 83.78 36 eP P 14 10 58.5 +0.8
comp=Z,64nm,1.0s
SML Sawmill 83.79 14 eP P 14 10 57.0 -0.4
SML pmax pmax
comp=Z,125nm,1.8s
SML Sawmill 83.79 14 eP P 14 10 57.0 -0.4
comp=Z,126nm,1.8s
DIV Divide 83.81 15 eP P 14 10 57.3 -0.3
comp=Z,69nm,0.8s
HAWA Hanford 83.87 37 eP P 14 10 59.0 +0.9
comp=Z,60nm,1.0s
HAWA epP pP 14 12 51.4 +1.3
SKNT Sakolnakorn 83.92 290 P P 14 10 58.7 -0.3
comp=Z,78nm,1.0s
PPLA Purkeypile 83.95 12 eP P 14 10 56.7 -1.6
comp=Z,53nm,1.4s
BMRM Bremner River 83.97 16 eP P 14 10 58.2 -0.1
comp=Z,101nm,1.1s
X18A Snowflake 84.00 51 eP P 14 10 59.7 +0.4
comp=Z,18nm,0.8s
X18A epP pP 14 12 52.9 +1.6
C06D Leavenworth 84.01 35 P P 14 10 59.6 +0.8
baz=234,SNR=8.7
HPIG 84.02 59 eP P 14 11 00.6 +1.0
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 84.04 14 eP P 14 10 58.6 -0.1
SCM pmax pmax
comp=Z,116nm,0.7s
SCM Sheep Creek Mo 84.04 14 eP P 14 10 58.6 -0.1
comp=Z,116nm,0.7s
B06A Marblemount 84.04 34 eP P 14 10 58.9 0.0
comp=Z,26nm,0.8s
MTPU Mount Pierson 84.07 47 eP P 14 11 01.4 +1.6
comp=Z,26nm,1.0s
KLU Klutina 84.09 15 eP P 14 10 58.4 -0.5
comp=Z,36nm,1.0s
BJT Baijiatuau 84.18 316 eP P 14 11 00.1 +0.3
BJT pmax pmax
comp=Z,112nm,1.2s
BJT Baijiatuau 84.18 316 eP P 14 11 00.1 +0.3
comp=Z,112nm,1.2s
BJI Beijing 84.19 316 P P 14 11 00.5 +0.7
BJI pmax pmax
comp=Z,97nm,1.1s
E08A Dider Farm, El 84.19 37 eP P 14 11 00.4 +0.7
comp=Z,31nm,0.8s
BMO Blue Mountains 84.30 39 eP P 14 11 00.2 -0.2
BMO pmax pmax
comp=Z,16nm,0.9s
BMO Blue Mountains 84.30 39 eP P 14 11 00.2 -0.2
comp=Z,16nm,0.9s
MSU Marysvale 84.30 46 eP P 14 11 01.6 +0.9
MSU Marysvale 84.30 46 eP P 14 11 01.6 +0.9
WRAK Wrangell Islan 84.32 24 eP P 14 11 00.5 +0.4
comp=Z,59nm,1.2s
WTV Waterville 84.39 35 eP P 14 11 01.4 +0.7
MFID Camas Ranch 84.41 41 eP P 14 11 01.8 +0.7
comp=Z,30nm,1.0s
W18A Petrified Fore 84.42 50 P P 14 11 02.6 +1.2
baz=243
W18A Petrified Fore 84.42 50 eP P 14 11 02.6 +1.2
comp=Z,28nm,1.3s
CAST Castle Rocks 84.44 12 eP P 14 10 58.8 -1.7
comp=Z,88nm,0.8s
SEY Seymchan 84.49 347 diP P 14 11 00.5 -0.3
GSI Gunungsitoli 84.52 273 eP P 14 11 02.5 +0.4
comp=Z,135nm,0.9s
ENH Enshi 84.53 304 eP P 14 11 02.2 +0.5
comp=Z,174nm,0.9s
D08A Wollman Farm, 84.59 36 eP P 14 11 02.5 +0.8
comp=Z,43nm,0.9s
SRAK Srakaew 84.61 287 P P 14 11 01.2 -1.2
comp=Z,126nm,1.3s,comp=Z,1μm
TRTT Trang 84.66 280 P P 14 11 03.2 +0.4
comp=Z,47nm,1.2s,comp=Z,484nm
DUG Dugway, Tooele 84.70 45 P P 14 11 03.2 +0.7
baz=240
DUG Dugway, Tooele 84.70 45 eP P 14 11 03.1 +0.5
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway, Tooele 84.70 45 eP P 14 11 03.0 +0.5
comp=Z,4.6nm,0.8s
121A Cookes Peak, D 84.72 53 P P 14 11 04.6 +1.7
baz=244
121A Cookes Peak, D 84.72 53 eP P 14 11 04.4 +1.5
comp=Z,18nm,0.8s
E09A Wood Farm, Sta 84.73 37 eP P 14 11 02.1 -0.3
comp=Z,43nm,1.3s
KHON Khomkaen 84.73 289 P P 14 11 04.2 +1.2
comp=Z,30nm,1.0s
KTH Kantishna Hill 84.79 12 eP P 14 11 00.9 -1.4
comp=Z,53nm,0.9s
TRF Thorofare Moun 84.83 12 eP P 14 11 01.8 -0.8
comp=Z,107nm,0.8s
BGU Big Grassy Mou 84.92 44 eP P 14 11 04.4 +0.8
comp=Z,5.4nm,1.1s
F10A Beach Ranch, E 84.96 38 eP P 14 11 03.8 +0.2
comp=Z,58nm,0.9s
F10A epP pP 14 12 56.7 +0.8
ZAIG Zacatecas 84.96 64 eP P 14 11 05.2 +0.8
BESE Bessie Mountai 85.01 21 eP P 14 11 04.2 +0.7
comp=Z,42nm,1.0s
HARP HAARP 85.06 15 eP P 14 11 03.9 +0.3
comp=Z,83nm,0.8s
NLU North Lily Min 85.07 45 eP P 14 11 04.5 +0.1
comp=Z,5.9nm,1.0s
RND Reindeer 85.08 13 eP P 14 11 03.4 -0.4
RND pmax pmax
comp=Z,118nm,0.9s
RND Reindeer 85.08 13 eP P 14 11 03.4 -0.4
comp=Z,118nm,0.9s
LLLB Lillooet 85.10 32 eP P 14 11 03.9 -0.2
comp=Z,29nm,0.9s
B08A Colville Reser 85.11 35 eP P 14 11 04.1 -0.1
comp=Z,39nm,0.8s
B08A epP pP 14 12 57.3 +0.8
DHY Denali Highway 85.12 14 eP P 14 11 03.6 -0.4
comp=Z,131nm,1.7s
Q16A Castle Valley 85.19 46 eP P 14 11 06.3 +1.2
comp=Z,16nm,1.1s
GYA Guiyang 85.23 300 eP P 14 11 06.0 +0.6
GYA pP pP 14 12 58.8 +1.0
GYA sP sP 14 13 49.5 -0.4
GYA PP PP 14 14 34.0 +1.4
GYA SKS SKSac 14 20 40.5 -1.1
GYA S S 14 20 52.8 -0.3
GYA sS sS 14 24 11.3 -2.0
GYA pmax pmax
comp=Z,20nm,1.0s
BPAW Bear Paw Mtn. 85.27 12 eP P 14 11 03.5 -1.2
comp=Z,33nm,1.4s
CHAI Chaiyaphum 85.32 288 P P 14 11 06.6 +0.7
comp=Z,15nm,1.0s,comp=Z,127nm
TMUT Trail Mountain 85.34 46 eP P 14 11 07.0 +1.1
comp=Z,17nm,0.8s
TMUT epP pP 14 13 00.1 +1.8
MCK McKinley 85.36 13 eP P 14 11 04.2 -0.8
MCK pmax pmax
comp=Z,71nm,1.0s
MCK McKinley 85.36 13 eP P 14 11 04.2 -0.8
comp=Z,71nm,1.0s
HLID Hailey 85.37 41 P P 14 11 07.3 +1.5
baz=239
HLID Hailey 85.37 41 eP P 14 11 07.0 +1.2
comp=Z,26nm,0.8s
HLID epP pP 14 12 59.4 +1.2
EPT El Paso 85.37 54 eP P 14 11 07.2 +1.2
comp=Z,32nm,0.9s
C09A Chrisman Ranch 85.38 36 eP P 14 11 06.1 +0.6
comp=Z,34nm,0.8s
MPU Maple Canyon 85.40 45 eP P 14 11 06.2 +0.2
comp=Z,7.0nm,0.8s
PAX Paxson 85.47 15 eP P 14 11 05.0 -0.7
PAX pmax pmax
comp=Z,27nm,0.9s
PAX Paxson 85.47 15 eP P 14 11 05.0 -0.7
comp=Z,27nm,0.9s
SPUT South Promonto 85.49 44 eP P 14 11 06.9 +0.6
comp=Z,13nm,1.0s
HVU Hansel Valley 85.51 43 eP P 14 11 07.2 +0.7
HVU e*PP pP 14 12 59.8 +0.9
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 85.51 43 eP P 14 11 07.2 +0.7
comp=Z,11nm,0.8s
HVU epP pP 14 12 59.8 +0.9
SKAG Skagway 85.51 21 eP P 14 11 06.6 +0.8
comp=Z,54nm,1.3s
CTU Camp Tracy 85.65 45 eP P 14 11 07.8 +0.6
comp=Z,11nm,0.9s
CTU epP pP 14 13 00.4 +0.7
SRU San Rafael Swe 85.72 46 eP P 14 11 08.4 +0.8
SRU e*PP pP 14 13 00.4 +0.3
SRU pmax pmax
comp=Z,18nm,0.7s
SRU San Rafael Swe 85.72 46 eP P 14 11 08.4 +0.8
comp=Z,18nm,0.7s
SRU epP pP 14 13 00.4 +0.3
P17A Butcher Ranch, 85.74 46 eP P 14 11 08.5 +0.8
comp=Z,18nm,1.3s
P17A epP pP 14 13 01.7 +1.5
ZEA Zeya 85.77 331 eP P 14 11 08.2 +1.0
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,120nm,1.2s
JLU Jordanelle 85.80 45 eP P 14 11 08.3 +0.3
comp=Z,8.2nm,0.9s
JLU epP pP 14 13 01.5 +1.0
MENT Mentasta 85.86 15 eP P 14 11 07.7 +0.2
comp=Z,26nm,0.8s
SURT Suratani 85.87 281 P P 14 11 09.2 +0.6
comp=Z,35nm,1.2s,comp=Z,450nm
PKDT Phuket 85.95 280 P P 14 11 09.7 +0.7
comp=Z,31nm,1.2s
LAZ Ladron 86.02 52 eP P 14 11 10.2 +1.0
LAZ epP pP 14 13 02.5 +0.7
TCUT Toone Canyon 86.08 44 eP P 14 11 09.1 -0.2
comp=Z,28nm,0.8s
TCUT epP pP 14 13 03.4 +1.4
P18A Preston Nutter 86.15 46 eP P 14 11 09.9 +0.1
comp=Z,7.1nm,0.8s
MLY Manley 86.16 11 eP P 14 11 07.7 -1.2
comp=Z,65nm,1.7s
WRH Wood River Hil 86.18 13 eP P 14 11 07.3 -1.6
comp=Z,99nm,1.2s
HWUT Hardware Ranch 86.21 44 eP P 14 11 09.9 0.0
comp=Z,6.1nm,0.8s
MNTX Cornudas Mount 86.21 55 P P 14 11 11.4 +1.5
baz=246,SNR=27
MNTX Cornudas Mount 86.21 55 eP P 14 11 11.1 +1.2
comp=Z,61nm,1.6s
MNTX epP pP 14 13 03.4 +0.8
PV05 Paradox Valley 86.23 48 eP P 14 11 11.4 +1.3
PV05 epP pP 14 13 03.4 +0.6
MVCO Mesa Verde 86.27 49 P P 14 11 11.2 +1.0
baz=243
MVCO Mesa Verde 86.27 49 eP P 14 11 10.9 +0.7
comp=Z,22nm,1.7s
RIDG Independ'e Rid 86.27 14 eP P 14 11 09.0 -0.4
comp=Z,50nm,1.0s
NEW Newport 86.28 36 P P 14 11 10.3 +0.5
baz=237,SNR=15
NEW Newport 86.28 36 eP P 14 11 09.6 -0.2
NEW pmax pmax
comp=Z,14nm,0.8s
NEW Newport 86.28 36 eP P 14 11 09.6 -0.2
comp=Z,14nm,0.8s
BNM Barren Site 86.29 52 eP P 14 11 11.1 +0.6
BNM epP pP 14 13 03.6 +0.3
LPM Los Pinos Moun 86.36 52 eP P 14 11 11.6 +0.9
LPM epP pP 14 13 03.6 +0.1
HDA Harding Lake 86.37 13 eP P 14 11 09.4 -0.4
comp=Z,30nm,0.7s
LHMI Lhok Sumawe 86.38 277 eP P 14 11 11.1 0.0
comp=Z,192nm,0.9s
DOT Dot Lake 86.38 15 eP P 14 11 09.8 -0.2
comp=Z,94nm,0.9s
CCB Clear Creek Bu 86.40 13 eP P 14 11 09.1 -0.8
comp=Z,98nm,1.3s
PV09 Paradox Valley 86.40 47 eP P 14 11 11.5 +0.5
PV09 epP pP 14 13 05.0 +1.2
PV10 Paradox Valley 86.41 48 eP P 14 11 11.4 +0.4
PV10 epP pP 14 13 04.2 +0.5
IM3 Indian Mountai 86.49 10 eP P 14 11 10.0 -0.4
IM3 epP pP 14 13 03.0 -0.2
PV04 Paradox Valley 86.51 48 eP P 14 11 12.2 +0.8
PV04 epP pP 14 13 04.7 +0.5
XAN Xi'an 86.56 308 P P 14 11 12.5 +1.0
XAN S S 14 21 07.5 +2.2
XAN sS sS 14 24 24.8 -1.5
XAN pmax pmax
comp=Z,100nm,1.1s
XAN pmax pmax
comp=Z,170nm,3.0s
WHY Whitehorse 86.57 20 eP P 14 11 11.0 0.0
comp=Z,37nm,1.0s
MDM Murphy Dome 86.58 12 eP P 14 11 10.0 -0.9
comp=Z,62nm,1.0s
COLA College 86.59 13 eP P 14 11 10.0 -0.8
COLA pmax pmax
comp=Z,56nm,0.8s
COLA College 86.59 13 eP P 14 11 10.0 -0.8
comp=Z,56nm,0.8s

TX31	**Lajitas Ar. Si**	**86.60**	**58**	*e*P		**P**		**14 11 13.7**	**+1.7**
TX31				*e*pP		**pP**		**14 13 05.5**	**+0.7**
TX31				*e*pP		**pP**		**14 13 06.1**	**+1.4**
TXAR	**Lajitas Array**	**86.61**	**58**	P		**P**		**14 11 14.1**	**+2.2**
	comp=Z,62nm,1.0s,baz=221,slow=6.0,SNR=429								
TXAR				pP		**pP**		**14 13 04.7**	**0.0**
	comp=Z,2.0nm,1.0s,baz=215,slow=6.1,SNR=4.0								
TXAR				PKKPbc		**PKKPbc**		**14 29 05.5**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=112,slow=2.0,SNR=5.8								
PV01	**Paradox Valley**	**86.63**	**48**	*e*P		**P**		**14 11 12.4**	**+0.4**
PV01				*e*pP		**pP**		**14 13 05.4**	**+0.6**
DLBC	**Dease Lake**	**86.64**	**23**	*e*P		**P**		**14 11 11.9**	**+0.5**
	comp=Z,116nm,2.0s								
SCRK	**Sand Creek**	**86.68**	**15**	*e*P		**P**		**14 11 11.2**	**-0.2**
	comp=Z,21nm,1.0s								
ILAR	**Eielson Array**	**86.70**	**13**	P		**P**		**14 11 10.6**	**-0.8**
	comp=Z,24nm,0.8s,baz=225,slow=5.1,SNR=208								
ILAR				pP		**pP**		**14 13 04.2**	**-0.1**
	comp=Z,5.5nm,1.0s,baz=232,slow=6.2,SNR=7.9								
ILAR				PKiKP		**PKiKP**		**14 16 13.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=300,slow=1.4,SNR=5.0								
ILB	**Eielson Array**	**86.70**	**13**	*e*P		**P**		**14 11 10.0**	**-1.4**
IL1	**Eielson Array**	**86.70**	**13**	*e*P		**P**		**14 11 10.3**	**-1.0**
IL1				*e*pP		**pP**		**14 13 04.3**	**0.0**
ANMO	**Albuquerque**	**86.76**	**52**	P		**P**		**14 11 13.9**	**+1.2**
	baz=245								
ANMO	**Albuquerque**	**86.76**	**52**	*e*P		**P**		**14 11 13.4**	**+0.8**
ANMO				*e**PP		**pP**		**14 13 05.9**	**+0.4**
ANMO				pmax		pmax			
	comp=Z,21nm,1.0s								
ANMO	**Albuquerque**	**86.76**	**52**	*e*P		**P**		**14 11 13.4**	**+0.8**
	comp=Z,21nm,1.0s								
ANMO				*e*pP		**pP**		**14 13 05.9**	**+0.4**
HIA	**Hailar**	**86.88**	**325**	*d* iP		**P**		**14 11 12.7**	**+0.1**
HIA				pmax		pmax			
	comp=Z,30nm,1.0s								
HIA	**Hailar**	**86.88**	**325**	*e*P		**P**		**14 11 12.8**	**+0.1**
	comp=Z,33nm,1.0s								
MCMT	**McKenzie Canyo**	**86.98**	**41**	*e*P		**P**		**14 11 14.6**	**+1.0**
AHID	**Auburn Hatcher**	**87.07**	**43**	*e*P		**P**		**14 11 14.8**	**+0.9**
	comp=Z,31nm,1.2s								
PHIT	**Phitsanulok**	**87.18**	**289**	P		**P**		**14 11 15.9**	**+1.2**
	comp=Z,33nm,0.9s								
BILL	**Bilibino**	**87.19**	**354**	*c* iP		**P**		**14 11 13.8**	**+0.2**
BILL				*i* *PP		**pP**		**14 13 07.8**	**+1.1**
BILL				pmax		pmax			
	comp=Z,23nm,0.9s								
GDL2	**Guadalupe Moun**	**87.21**	**55**	*e*P		**P**		**14 11 16.0**	**+1.3**
MSO	**Missoula**	**87.34**	**38**	P		**P**		**14 11 15.5**	**+0.5**
	baz=239,SNR=12								
MSO	**Missoula**	**87.34**	**38**	*e*P		**P**		**14 11 15.0**	**0.0**
	comp=Z,7.8nm,0.6s								
DLMT	**Dillon**	**87.40**	**40**	*e*P		**P**		**14 11 16.3**	**+1.0**
	comp=Z,38nm,1.1s								
DLMT				*e*pP		**pP**		**14 13 09.7**	**+1.2**
NANT	**Nan**	**87.49**	**291**	P		**P**		**14 11 17.0**	**+0.8**
	comp=Z,12nm,1.0s,comp=Z,107nm								
TPAW	**Teton Pass**	**87.52**	**42**	*e*P		**P**		**14 11 16.4**	**+0.3**
	comp=Z,35nm,1.1s								
TPAW				*e*pP		**pP**		**14 13 09.3**	**+0.1**
REDW	**Red Top Meadow**	**87.52**	**43**	*e*P		**P**		**14 11 16.9**	**+0.8**
	comp=Z,56nm,1.1s								
REDW				*e*pP		**pP**		**14 13 10.4**	**+1.2**
FXWY	**Fox Creek**	**87.54**	**42**	*e*P		**P**		**14 11 17.0**	**+0.8**
	comp=Z,83nm,1.9s								
FXWY				*e*pP		**pP**		**14 13 10.3**	**+1.0**
JTMT	**Jette**	**87.61**	**38**	*e*P		**P**		**14 11 16.1**	**-0.1**
	comp=Z,10nm,0.8s								
SNOW	**Snow King Moun**	**87.63**	**42**	*e*P		**P**		**14 11 17.5**	**+0.9**
	comp=Z,60nm,1.1s								
HHC	**Hu-ho-hao-te**	**87.66**	**315**	*e*P		**P**		**14 11 17.5**	**+0.9**
HHC				S		**S**		**14 21 12.0**	**-3.5**
HHC				pmax		pmax			
	comp=Z,55nm,1.1s								
HHC				pmax		pmax			
	comp=Z,190nm,6.8s								
S22A	**4UR Ranch, Cre**	**87.69**	**49**	P		**P**		**14 11 18.0**	**+0.9**
	baz=244,SNR=27								
S22A	**4UR Ranch, Cre**	**87.69**	**49**	*e*P		**P**		**14 11 18.0**	**+0.9**
	comp=Z,20nm,1.0s								
S22A				*e*pP		**pP**		**14 13 10.8**	**+0.6**
IMW	**Indian Meadow**	**87.72**	**42**	*e*P		**P**		**14 11 18.2**	**+1.1**
	comp=Z,45nm,0.9s								
IMW				*e*pP		**pP**		**14 13 11.6**	**+1.3**
LRM	**Limekiln Ridge**	**87.72**	**40**	*e*P		**P**		**14 11 17.9**	**+0.9**
O20A	**White River Ci**	**87.76**	**46**	P		**P**		**14 11 17.9**	**+0.7**
	baz=243,SNR=12								
O20A	**White River Ci**	**87.76**	**46**	*e*P		**P**		**14 11 17.9**	**+0.7**
	comp=Z,22nm,1.0s								
MOOW	**Moose Ponds**	**87.77**	**42**	*e*P		**P**		**14 11 17.9**	**+0.7**
	comp=Z,20nm,1.1s								
MOOW				*e*pP		**pP**		**14 13 11.3**	**+0.9**
LOHW	**Long Hollow**	**87.80**	**42**	*e*P		**P**		**14 11 18.0**	**+0.7**
	comp=Z,16nm,0.8s								
QLMT	**Earthquake Lak**	**87.86**	**41**	*e*P		**P**		**14 11 19.0**	**+1.4**
DAWY	**Dawson**	**87.90**	**16**	*e*P		**P**		**14 11 17.1**	**0.0**
	comp=Z,38nm,1.0s								
YHB	**Horse Butte**	**87.97**	**41**	*e*P		**P**		**14 11 19.9**	**+1.8**
	comp=Z,57nm,1.1s								
YPP	**Pitchstone Pla**	**87.98**	**42**	*e*P		**P**		**14 11 20.0**	**+1.7**
	comp=Z,29nm,1.6s								
KMI	**Kunming**	**87.99**	**297**	P		**P**		**14 11 20.0**	**+1.4**
KMI				pmax		pmax			
	comp=Z,55nm,1.3s								
EGAK	**Eagle**	**88.03**	**15**	*e*P		**P**		**14 11 17.7**	**+0.1**
	comp=Z,39nm,0.8s								
YFT	**Old Faithful**	**88.05**	**42**	*e*P		**P**		**14 11 20.7**	**+2.2**
	comp=Z,33nm,1.0s								
YMR	**Madison River**	**88.07**	**41**	*e*P		**P**		**14 11 20.2**	**+1.6**
	comp=Z,42nm,1.0s								
YMR				*e*pP		**pP**		**14 13 13.6**	**+1.7**
BW06	**Boulder Array**	**88.08**	**43**	P		**P**		**14 11 19.4**	**+0.7**
	baz=242,SNR=19								
BW06	**Boulder Array**	**88.08**	**43**	*e*P		**P**		**14 11 19.2**	**+0.6**
	comp=Z,35nm,1.0s								
PD31	**Pinedale Array**	**88.08**	**43**	*e*P		**P**		**14 11 19.1**	**+0.4**
PDAR	**Pinedale Array**	**88.08**	**43**	P		**P**		**14 11 19.3**	**+0.6**
	comp=Z,14nm,0.6s,baz=217,slow=3.3,SNR=143								
PDAR				pP		**pP**		**14 13 12.3**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=234,slow=5.1,SNR=4.3								
PDAR				PKKPbc		**PKKPdf**		**14 28 58.8**	**+2.3**
	comp=Z,1.3nm,0.8s,baz=73,slow=5.0,SNR=7.5								
PDAR	**Pinedale Array**	**88.08**	**43**	*e*P		**P**		**14 11 19.0**	**+0.3**
PDAR				*e*pP		**pP**		**14 13 11.5**	**-0.4**
PDAR				PKKPbc		**PKKPdf**		**14 28 58.8**	**+2.3**
BOZ	**Bozeman (W)**	**88.11**	**40**	P		**P**		**14 11 19.6**	**+0.9**
	baz=241,SNR=34								
BOZ	**Bozeman (W)**	**88.11**	**40**	*e*P		**P**		**14 11 19.5**	**+0.9**
BOZ				*e**PP		**pP**		**14 13 12.5**	**+0.5**
BOZ				pmax		pmax			
	comp=Z,40nm,1.3s								
BOZ	**Bozeman (W)**	**88.11**	**40**	*e*P		**P**		**14 11 19.5**	**+0.9**
	comp=Z,40nm,1.3s								
BOZ				*e*pP		**pP**		**14 13 12.5**	**+0.5**
H17A	**Grant Village**	**88.19**	**42**	P		**P**		**14 11 21.7**	**+2.5**
	baz=242,SNR=35								
H17A	**Grant Village**	**88.19**	**42**	*e*P		**P**		**14 11 21.2**	**+2.0**
	comp=Z,31nm,0.8s								
YHH	**Holmes Hill**	**88.20**	**41**	*e*P		**P**		**14 11 20.6**	**+1.3**
	comp=Z,32nm,1.3s								
YHH				*e*pP		**pP**		**14 13 14.1**	**+1.4**
SMCO	**Snowmass**	**88.21**	**48**	*e*P		**P**		**14 11 19.7**	**+0.1**
	comp=Z,48nm,1.8s								
COLD	**Coldfoot**	**88.22**	**11**	*e*P		**P**		**14 11 18.6**	**+0.1**
	comp=Z,46nm,1.0s								
SYO	**Syowa Base**	**88.34**	**193**	*i* iP		**P**		**14 11 17.2**	**-1.9**
SYO	**Syowa Base**	**88.34**	**193**	*i* iPcP		**PcP**		**14 11 20.2**	**-0.1**
SYO	**Syowa Base**	**88.34**	**193**	*i*	*e*pP		pP	14 13 12.4	0.0
LAMP	**Lampang**	**88.34**	**290**	P		**P**		**14 11 21.6**	**+1.4**
	comp=Z,26nm,0.9s,comp=Z,208nm								
LNIG	**Linares**	**88.38**	**63**	*e*P		**P**		**14 11 20.6**	**+0.3**
	comp=Z,61nm,0.9s								
LNIG				*e*pP		**pP**		**14 13 13.9**	**+0.3**
WALA	**Waterton Lakes**	**88.50**	**37**	*e*P		**P**		**14 11 20.9**	**+0.5**
	comp=Z,20nm,0.9s								
HRY	**Holter Researc**	**88.53**	**39**	*e*P		**P**		**14 11 21.2**	**+0.7**
FYU	**Fort Yukon**	**88.60**	**13**	*e*P		**P**		**14 11 19.4**	**-0.8**
	comp=Z,15nm,0.8s								
CLNS	**Chul'man**	**88.76**	**333**	*e*P		**P**		**14 11 19.9**	**-1.4**
CLNS				pmax		pmax			
	comp=Z,13nm,1.2s								
CLNS				pmax		pmax			
	comp=E,7.0nm,1.3s								
CLNS				pmax		pmax			
	comp=N,11nm,1.3s								
CM01	**Chiang Mai Arr**	**88.91**	**290**	*e*P		**P**		**14 11 23.9**	**+1.1**
CM31	**Chiang Mai Arr**	**88.94**	**290**	*e*P		**P**		**14 11 23.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.94**	**290**	P		**P**		**14 11 24.1**	**+1.2**
	comp=N,36nm,0.9s,baz=110,slow=2.8,SNR=166								
CMAR				PKKPbc		**PKKPbc**		**14 28 59.9**	**+1.4**
	comp=N,1.4nm,0.7s,baz=294,slow=4.6,SNR=8.4								
CHTO	**Chiang Mai**	**89.06**	**290**	P		**P**		**14 11 24.5**	**+1.0**
	comp=N,286nm,1.2s,comp=N,3µm								
CHTO	**Chiang Mai**	**89.06**	**290**	*e*P		**P**		**14 11 24.1**	**+0.6**
CHTO				pmax		pmax			
	comp=Z,52nm,0.9s								
CHTO	**Chiang Mai**	**89.06**	**290**	*e*P		**P**		**14 11 24.1**	**+0.6**
	comp=Z,52nm,0.9s								
CHTO	**Chiang Mai**	**89.06**	**290**	PcP		**P**		**14 11 25.0**	**+1.5**
	SNR=14								
CHTO	**Chiang Mai**	**89.06**	**290**	P		**P**		**14 11 25.0**	**+1.5**
	SNR=14								
MSTX	**Muleshoe**	**89.14**	**54**	P		**P**		**14 11 24.6**	**+0.9**
	baz=247								
MSTX	**Muleshoe**	**89.14**	**54**	*e*P		**P**		**14 11 24.2**	**+0.6**
	comp=Z,43nm,0.9s								
RWWY	**Rawlins**	**89.14**	**45**	*e*P		**P**		**14 11 23.4**	**-0.3**
	comp=Z,42nm,1.1s								
T25A	**Trinidad**	**89.18**	**50**	P		**P**		**14 11 24.3**	**+0.4**
	baz=246								
T25A	**Trinidad**	**89.18**	**50**	*e*P		**P**		**14 11 24.3**	**+0.4**
	comp=Z,6.9nm,0.8s								
LVIG	**Laguna Verde**	**89.20**	**69**	*e*P		**P**		**14 11 24.7**	**+0.6**
	comp=Z,23nm,0.8s								
CD2	**Chengdu**	**89.31**	**303**	P		**P**		**14 11 23.5**	**-0.9**
CD2				pP		pP		14 13 16.5	-1.5
CD2				sP		sP		14 14 08.5	-1.3
CD2				SKS		**SKSac**		**14 21 03.8**	**-1.9**
CD2				S		**S**		**14 21 29.5**	**-1.4**
CD2				SS		**SS**		**14 27 40.5**	**-0.8**
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
CD2				pmax		pmax			
	comp=Z,160nm,5.0s								
CMAI	**Chiengmai2**	**89.35**	**291**	P		**P**		**14 11 26.0**	**+1.0**
	comp=Z,375nm,1.1s								
RLMT	**Red Lodge**	**89.35**	**42**	P		**P**		**14 11 25.9**	**+1.4**
	baz=243,SNR=24								
RLMT	**Red Lodge**	**89.35**	**42**	*e*P		**P**		**14 11 25.6**	**+1.0**
	comp=Z,24nm,0.9s								
Q24A	**Divide**	**89.41**	**48**	P		**P**		**14 11 26.3**	**+1.2**
	baz=245								
GCMT	**Greycliff**	**89.41**	**41**	*e*P		**P**		**14 11 26.2**	**+1.5**
ISCO	**Idaho Springs**	**89.43**	**47**	P		**P**		**14 11 26.2**	**+1.1**
	baz=245,SNR=6.5								
ISCO	**Idaho Springs**	**89.43**	**47**	*e*P		**P**		**14 11 26.3**	**+1.1**
ISCO				pmax		pmax			
	comp=Z,29nm,1.8s								
ISCO	**Idaho Springs**	**89.43**	**47**	*e*P		**P**		**14 11 26.2**	**+1.1**
	comp=Z,29nm,1.8s								
TOLK	**Toolik Lake Re**	**89.60**	**10**	P		**P**		**14 11 25.2**	**+0.3**
	baz=208								
TOLK	**Toolik Lake Re**	**89.60**	**10**	*e*P		**P**		**14 11 24.8**	**-0.1**
	comp=Z,35nm,1.2s								
N23A	**Red Feather La**	**89.66**	**46**	P		**P**		**14 11 26.4**	**+0.3**
	baz=245,SNR=15								
N23A	**Red Feather La**	**89.66**	**46**	*e*P		**P**		**14 11 26.2**	**+0.1**
	comp=Z,31nm,1.0s								
833A	**Chaparral WMA,**	**89.69**	**60**	P		**P**		**14 11 27.6**	**+1.4**
	baz=249								
SNAA	**Sanae**	**89.82**	**179**	P		**P**		**14 11 26.0**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=192,slow=6.7,SNR=31								
SNAA	**Sanae**	**89.82**	**179**	*c* iP		**P**		**14 11 26.1**	**0.0**
SNAA	**Sanae**	**89.82**	**179**	*e*P		**P**		**14 11 26.1**	**0.0**
	comp=Z,16nm,1.0s								
K22A	**Casper**	**90.02**	**45**	P		**P**		**14 11 28.1**	**+0.5**
	baz=244,SNR=8.3								
K22A	**Casper**	**90.02**	**45**	*e*P		**P**		**14 11 28.0**	**+0.3**
	comp=Z,33nm,1.3s								
JCT	**Junction City**	**90.14**	**58**	P		**P**		**14 11 29.3**	**+1.0**
	baz=248								
JCT	**Junction City**	**90.14**	**58**	*e*P		**P**		**14 11 28.9**	**+0.6**
JCT				pmax		pmax			
	comp=Z,19nm,0.8s								
JCT	**Junction City**	**90.14**	**58**	*e*P		**P**		**14 11 28.9**	**+0.6**
	comp=Z,19nm,0.8s								
PHWY	**Pilot Hill**	**90.17**	**46**	*e*P		**P**		**14 11 28.9**	**+0.3**
	comp=Z,14nm,0.8s								
YAK	**Yakutsk**	**90.22**	**338**	*e*P		**P**		**14 11 25.2**	**-2.6**
YAK				*e*S		**SKSac**		**14 21 06.6**	**-2.7**
YAK				*e*SP		**SPn**		**14 22 52.4**	**+2.5**
YAK				*e*SS		**SS**		**14 27 57.1**	**+4.2**
YAK				pmax		pmax			
	comp=Z,49nm,1.2s								
YAK				pmax		pmax			
	comp=E,14nm,1.5s								
YAK				pmax		pmax			
	comp=N,7.0nm,1.3s								
YAK				smax		smax			
	comp=N,140nm,5.1s								
YAK				smax		smax			
	comp=E,173nm,6.0s								
YAK	**Yakutsk**	**90.22**	**338**	*e*P		**P**		**14 11 27.0**	**-0.8**
	comp=E,75nm,1.2s								
AMTX	**Amarillo**	**90.32**	**53**	P		**P**		**14 11 29.7**	**+0.6**
	baz=248								
AMTX	**Amarillo**	**90.32**	**53**	*e*P		**P**		**14 11 29.3**	**+0.2**
	comp=E,20nm,0.8s								
EGMT	**Eagleton**	**90.40**	**39**	P		**P**		**14 11 30.2**	**+1.0**
	baz=242								
EGMT	**Eagleton**	**90.40**	**39**	*e*P		**P**		**14 11 29.7**	**+0.5**
	comp=E,28nm,1.5s								
NVL	**N'lazarevskaya**	**90.47**	**183**	*e*P		**P**		**14 11 27.6**	**-1.4**
NVL				pmax		pmax			
	comp=Z,51nm,1.1s								
EDM	**Edmonton**	**90.94**	**33**	*e*P		**P**		**14 11 31.5**	**+0.1**
EDM				*e**PP		**pP**		**14 13 25.7**	**+0.5**
EDM				pmax		pmax			
	comp=Z,57nm,1.4s								
EDM	**Edmonton**	**90.94**	**33**	*e*P		**P**		**14 11 31.5**	**+0.1**
	comp=Z,57nm,1.4s								
EDM				*e*pP		**pP**		**14 13 25.7**	**+0.5**
PLCA	**Paso Flores**	**90.95**	**134**	P		**P**		**14 11 34.2**	**+2.2**
	comp=Z,7.7nm,1.0s,baz=239,slow=4.6,SNR=10								
PLCA				PKKPbc		**PKKPbc**		**14 28 52.9**	**-1.4**
	comp=Z,2.8nm,1.1s,baz=31,slow=7.9,SNR=3.4								
PLCA	**Paso Flores**	**90.95**	**134**	*e*P		**P**		**14 11 32.9**	**+0.9**
	comp=Z,14nm,1.1s								
PLCA				PKKPbc		**PKKPbc**		**14 28 52.9**	**-1.4**
ABTX	**Abilene, Hawle**	**91.05**	**56**	P		**P**		**14 11 33.6**	**+1.2**
	baz=249								
ABTX	**Abilene, Hawle**	**91.05**	**56**	*e*P		**P**		**14 11 33.1**	**+0.7**
	comp=Z,38nm,0.8s								
ABTX				*e*pP		**pP**		**14 13 26.7**	**+0.5**
LZH	**Lanzhou**	**91.19**	**308**	*e*P		**P**		**14 11 34.5**	**+1.3**
LZH				pP		pP		14 13 25.0	-2.0
LZH				sP		sP		14 14 15.0	-3.7
LZH				PP		**PP**		**14 15 23.0**	**+3.5**
LZH				SKS		**SKSac**		**14 21 17.5**	**+1.1**
LZH				*e*S		**ScS**		**14 21 51.5**	**+1.9**
LZH				sS		sS		14 25 06.5	-5.0
LZH				pmax		pmax			
	comp=Z,87nm,1.1s								
LZH				pmax		pmax			
	comp=Z,190nm,4.3s								
KSCO	**Kaye Shedlock'**	**91.22**	**49**	*e*P		**P**		**14 11 35.8**	**+2.6**
	comp=Z,32nm,1.1s								
LAO	**LASA Array**	**91.95**	**41**	P		**P**		**14 11 37.6**	**+1.3**
	baz=245								
LAO	**LASA Array**	**91.95**	**41**	*e*P		**P**		**14 11 37.1**	**+0.8**
	comp=Z,38nm,0.8s								
435B	**Jarrell**	**92.03**	**58**	P		**P**		**14 11 38.0**	**+1.0**
	baz=250								
RSSD	**Black Hills**	**92.28**	**44**	P		**P**		**14 11 38.5**	**+0.3**
	baz=246								
RSSD	**Black Hills**	**92.28**	**44**	*e*P		**P**		**14 11 38.4**	**+0.3**
RSSD				pmax		pmax			
	comp=Z,20nm,0.9s								
RSSD	**Black Hills**	**92.28**	**44**	*e*P		**P**		**14 11 38.4**	**+0.2**
	comp=Z,20nm,0.9s								
OGNE	**Ogallala**	**92.39**	**48**	P		**P**		**14 11 39.0**	**+0.5**
	baz=247								
WMOK	**Wichita Mounta**	**92.48**	**54**	P		**P**		**14 11 39.4**	**+0.4**
	baz=249								
WHTX	**Lake Whitney,**	**92.56**	**57**	P		**P**		**14 11 39.9**	**+0.6**
	baz=250								
WHTX	**Lake Whitney,**	**92.56**	**57**	*e*P		**P**		**14 11 40.1**	**+0.7**
	comp=Z,11nm,0.8s								
INK	**Inuvik**	**92.70**	**15**	P		**P**		**14 11 38.6**	**-0.5**
	comp=Z,24nm,0.9s,baz=225,slow=4.7,SNR=91								
INK				PKiKP		**PKiKP**		**14 16 22.9**	**-0.7**
	comp=Z,2.0nm,1.0s,baz=241,slow=1.4,SNR=3.2								
INK	**Inuvik**	**92.70**	**15**	*e*P		**P**		**14 11 38.5**	**-0.6**
	comp=Z,36nm,1.0s								
INK				PKiKP		**PKiKP**		**14 16 22.9**	**-0.7**
CBKS	**Cedar Bluff**	**93.23**	**50**	P		**P**		**14 11 43.6**	**+1.2**
	baz=249								
CBKS	**Cedar Bluff**	**93.23**	**50**	*e*P		**P**		**14 11 42.9**	**+0.6**
CBKS				pmax		pmax			
	comp=Z,30nm,0.9s								
CBKS	**Cedar Bluff**	**93.23**	**50**	*e*P		**P**		**14 11 42.9**	**+0.6**
	comp=Z,30nm,0.9s								
ULN	**Ulaanbaatar**	**93.60**	**319**	*d* iP		**P**		**14 11 43.7**	**-0.3**
ULN				pmax		pmax			
	comp=Z,15nm,1.1s								
ULN	**Ulaanbaatar**	**93.60**	**319**	*e*P		**P**		**14 11 43.2**	**-0.8**
	comp=Z,11nm,0.9s								
ULN	**Ulaanbaatar**	**93.60**	**319**	PcP		**P**		**14 11 45.3**	**+1.3**
	SNR=6.7								
ULN	**Ulaanbaatar**	**93.60**	**319**	P		**P**		**14 11 45.3**	**+1.3**
	SNR=6.7								
SONA1	**Songino Array**	**94.00**	**319**	*e*P		**P**		**14 11 45.2**	**-0.6**
SONM	**Songino Array**	**94.00**	**319**	P		**P**		**14 11 45.7**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=121,slow=4.9,SNR=21								
SONM				PKKPbc		**PKKPdf**		**14 28 45.2**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=253,slow=4.0,SNR=5.6								
BOD	**Bodaibo**	**94.23**	**330**	*e*P		**P**		**14 11 42.0**	**-4.4**
BOD				pmax		pmax			
	comp=Z,10.0nm,1.6s								
YKA	**Yellowknife Ar**	**95.14**	**25**	P		**P**		**14 11 50.2**	**-0.2**
	comp=Z,3.5nm,0.6s,baz=242,slow=4.4,SNR=91								
YKA				PP		**PP**		**14 15 48.3**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=240,slow=7.5,SNR=4.6								
YKA				PKiKP		**PKiKP**		**14 16 27.6**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=258,slow=1.5,SNR=8.3								
YKA				PKKPbc		**PKKPdf**		**14 28 39.6**	**-4.5**
	comp=Z,0.2nm,0.4s,baz=49,slow=2.3,SNR=6.3								
YKA				PKPPKP		**P'P'df**		**14 36 56.2**	**+3.5**
	comp=Z,0.6nm,0.9s,baz=60,slow=2.8,SNR=8.0								
YKW3	**Yellowknife Ar**	**95.17**	**25**	*e*P		**P**		**14 11 50.3**	**-0.2**
	comp=Z,22nm,1.6s								
O33A	**Hebron**	**95.24**	**50**	P		**P**		**14 11 51.8**	**+0.4**
	baz=250								
BGNE	**Belgrade**	**95.29**	**48**	P		**P**		**14 11 52.8**	**+1.2**
	baz=250								
BGNE	**Belgrade**	**95.29**	**48**	*e*P		**P**		**14 11 52.1**	**+0.5**
	comp=Z,38nm,0.8s								
GTA	**Gaotai**	**95.36**	**310**	P		**P**		**14 11 52.5**	**+0.4**
GTA				pP		pP		14 13 47.0	+0.7
GTA				sP		sP		14 14 37.0	-0.9
GTA				pmax		pmax			
	comp=Z,21nm,1.0s								
KSU1	**Kansas State U**	**95.62**	**51**	P		**P**		**14 11 54.4**	**+1.2**
	baz=251								
KSU1	**Kansas State U**	**95.62**	**51**	*e*P		**P**		**14 11 53.9**	**+0.8**
	comp=Z,31nm,0.6s								
O34A	**Beatrice**	**95.92**	**50**	P		**P**		**14 11 55.1**	**+0.7**
	baz=251								
T38A	**Diamond**	**96.69**	**53**	P		**P**		**14 11 59.0**	**+1.0**
	baz=252								
JTS	**JuntasAbangare**	**96.70**	**81**	P		**P**		**14 11 59.9**	**+1.3**
	comp=Z,2.8nm,0.7s,baz=252,slow=4.4,SNR=3.7								
J33A	**Davis**	**96.76**	**47**	P		**P**		**14 11 58.6**	**+0.4**
	baz=251								
H32A	**Carlson Farm,**	**96.83**	**45**	P		**P**		**14 11 58.9**	**+0.4**
	baz=251								
ZAK	**Zakamensk**	**96.86**	**321**	*e*P		**P**		**14 11 57.8**	**-0.7**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.3s								
TIXI	**Tiksi**	**96.86**	**345**	*d* iP		**P**		**14 11 56.8**	**-1.1**
TIXI				pmax		pmax			
	comp=Z,11nm,0.9s								
TIXI	**Tiksi**	**96.86**	**345**	*e*P		**P**		**14 11 57.1**	**-0.8**
	comp=Z,11nm,1.0s								
TLY	**Talaya**	**97.11**	**322**

KURBB **Kurchatov Arra** 112.31 318 PKiKP **PKiKP** 14 16 59.4 -0.5
comp=Z,12nm,0.7s,baz=90,slow=1.8,SNR=120
KSH **Kashi** 113.35 306 PKP **PKiKP** 14 17 03.0 +0.5
KSH PP **PP** 14 18 08.8 +5.7
KSH AMB AMB
comp=Z,83nm,9.6s
TKM2 **Tokmak 2** 113.91 309 PKIKP **PKiKP** 14 17 02.3 -1.2
TKM2 pmax pmax
comp=Z,11nm,1.1s
AAK **Ala-Archa** 114.70 309 PKP PKPdf 14 17 04.4 -0.6
comp=Z,4.9nm,0.9s,baz=126,slow=3.8,SNR=16
AAK PKKPbc **PKKPbc** 14 27 45.4 +0.3
comp=Z,0.3nm,0.3s,baz=274,slow=3.5,SNR=4.3
AAK **Ala-Archa** 114.70 309 *c i*PKIKP PKPdf 14 17 04.7 -0.3
SFK **Sufi-Kurgan** 115.29 306 PKIKP **PKPdf** 14 17 05.7 -0.6
SFK pmax pmax
comp=Z,21nm,0.9s
KULLO **Kullorsuaq** 116.06 15 *e*PKIKP **PKPdf** 14 17 05.2 -1.2
KULLO **Kullorsuaq** 116.06 15 *i* P **PKPdf** 14 17 05.2 -1.2
MNAS **Manas** 116.17 309 PKIKP **PKPdf** 14 17 06.7 -1.1
MNAS pmax pmax
comp=Z,17nm,0.8s
HUMP **Col San Antoni** 116.61 79 *e*PKPdf **PKPdf** 14 17 08.2 -0.9
BVAR **Borovoye Array** 117.31 321 PKP **PKPdf** 14 17 08.8 -0.6
comp=Z,15nm,0.7s,baz=75,slow=1.7,SNR=93
BRVK **Borovoye** 117.37 321 *e*PKIKP **PKPdf** 14 17 08.8 -0.8
BRVK **Borovoye** 117.37 321 *e*PKPdf **PKPdf** 14 17 08.8 -0.8
BRVK **Borovoye** 117.37 321 PKPdf **PKPdf** 14 17 09.4 -0.1
SNR=7.5
BRVK **Borovoye** 117.37 321 P **PKPdf** 14 17 09.4 -0.1
SNR=7.5
KK31 **Karatay Array** 117.64 309 *i* PKIKP **PKPdf** 14 17 09.9 -0.6
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR **Karatay Array** 117.64 309 *e*PKIKP **PKPdf** 14 17 09.7 -0.8
KKAR **Karatay Array** 117.64 309 *e*PKPdf **PKPdf** 14 17 09.7 -0.8
SPITS **Spitsbergen Ar** 120.04 356 PKP **PKPdf** 14 17 13.9 -0.2
comp=Z,20nm,0.7s,baz=40,slow=2.5,SNR=18
ILULI **Ilulissat** 120.25 19 *i* PKIKP **PKPdf** 14 17 14.2 -0.4
ILULI pmax pmax
comp=Z,16nm,0.6s
ILULI **Ilulissat** 120.25 19 *i* P **PKPdf** 14 17 14.2 -0.4
comp=Z,16nm,0.6s
DAG **Danmarks Havn** 121.01 5 *i* PKIKP **PKPdf** 14 17 14.8 -1.1
DAG pmax pmax
comp=Z,11nm,0.9s
DAG **Danmarks Havn** 121.01 5 *i* P **PKPdf** 14 17 14.8 -1.1
comp=Z,11nm,0.9s
SFJD **Kangerlussuaq** 121.50 21 PKP **PKPdf** 14 17 16.1 -1.0
comp=Z,12nm,0.6s,baz=188,slow=1.4,SNR=8.7
SFJD **Kangerlussuaq** 121.50 21 *i* PKIKP **PKPdf** 14 17 16.4 -0.7
SFJD pmax pmax
comp=Z,13nm,0.7s
SFJD **Kangerlussuaq** 121.50 21 *i* P **PKPdf** 14 17 16.4 -0.7
comp=Z,13nm,0.7s
SUMG **Summit** 121.55 13 *i* PKIKP **PKPdf** 14 17 17.6 0.0
SUMG pmax pmax
comp=Z,30nm,1.2s
SUMG **Summit** 121.55 13 *i* P **PKPdf** 14 17 17.6 0.0
comp=Z,30nm,1.2s
SUMG **Summit** 121.55 13 *e*PKPdf **PKPdf** 14 17 17.3 -0.3
OPO **Ambohidratompo** 121.71 233 PKP **PKPdf** 14 17 19.7 +0.5
comp=Z,9.6nm,0.8s,baz=139,slow=1.7,SNR=13
SVE **Sverdlovsk** 122.16 326 *e*PKIKP **PKPdf** 14 17 18.7 0.0
SVE pmax pmax
comp=Z,44nm,1.0s
SOKR **Solikamsk** 123.22 330 *d i*PKIKP **PKPdf** 14 17 18.1 -2.4
SOKR pmax pmax
comp=Z,50nm,0.8s
ARU **Arti** 123.38 326 *i* PKIKP **PKPdf** 14 17 20.4 -0.6
ARU 14 23 42.3
ARU **Arti** 123.38 326 *e*PKPdf **PKPdf** 14 17 20.6 -0.4
AB31 **Akbulak array** 124.36 317 *i* PKIKP **PKPdf** 14 17 22.3 -0.8
AB31 pmax pmax
comp=Z,20nm,1.0s
ABKAR **Akbulak array** 124.36 317 *e*PKPdf **PKPdf** 14 17 22.6 -0.5
AKTO **Aktyubinsk** 125.32 319 PKP **PKPdf** 14 17 24.9 0.0
comp=Z,20nm,0.8s,baz=80,slow=3.2,SNR=70
AKTO **Aktyubinsk** 125.32 319 PKIKP **PKPdf** 14 17 25.0 0.0
SCO **Scoresbysund** 126.35 10 *i* PKIKP **PKPdf** 14 17 26.7 +0.4
SCO pmax pmax
comp=Z,27nm,1.0s
SCO **Scoresbysund** 126.35 10 *i* P **PKPdf** 14 17 26.7 +0.4
comp=Z,27nm,1.0s
SCO **Scoresbysund** 126.35 10 *e*PKPdf **PKPdf** 14 17 26.7 +0.4
WSAR **Wadi Sarin** 126.61 285 PKP **PKPdf** 14 17 28.6 +0.3
comp=Z,5.6nm,0.9s,baz=96,slow=1.3,SNR=5.2
ARCES **ARCESS Array B** 127.05 350 PKhKP PKPpre 14 17 20.3
comp=Z,4.2nm,1.0s,baz=49,slow=8.2,SNR=4.1
ARCES PKP **PKPdf** 14 17 27.5 -0.2
comp=Z,31nm,0.9s,baz=5.3,slow=1.7,SNR=34
GEYT **Alibeck** 127.29 304 PKhKP PKPpre 14 17 14.9
comp=Z,2.4nm,0.8s,baz=180,slow=2.2,SNR=6.0
GEYT PKP **PKiKP** 14 17 29.5 -0.3
comp=Z,17nm,0.8s,baz=284,slow=1.2,SNR=37
BOSA **Boshof** 127.60 207 PKP **PKPdf** 14 17 31.0 +0.8
comp=Z,9.9nm,0.8s,baz=132,slow=1.7,SNR=13
BOSA **Boshof** 127.60 207 PKIKP **PKPdf** 14 17 31.0 +0.8
BOSA pmax pmax
comp=Z,10.0nm,0.9s
BOSA **Boshof** 127.60 207 *e*PKPdf **PKPdf** 14 17 30.1 -0.1
TMCR **Tamitsa** 128.28 341 *e*PKIKP **PKPdf** 14 17 29.7 -0.4
TMCR pmax pmax
comp=Z,45nm,1.5s
SOHO **SOHO** 128.61 286 *i* P **PKPdf** 14 17 32.0 0.0
SNR=7.6
BANOM **Banah** 128.96 289 P **PKPdf** 14 17 34.1 +1.4
UOSS **Minazif** 128.98 287 P **PKPdf** 14 17 32.3 -0.4
HATD **Hatta, Dubai** 129.03 287 PKiKP **PKiKP** 14 17 34.0 +0.4
SNR=6.9
HATD **Hatta, Dubai** 129.03 287 P **PKiKP** 14 17 34.0 +0.4
SNR=6.9
HATD **Hatta, Dubai** 129.03 287 *i* P **PKPdf** 14 17 33.1 +0.3
SNR=11
MSFE **Esma-Masafi** 129.05 288 P **PKPdf** 14 17 33.0 +0.1
ASHO **Ashiyiah** 129.09 287 PKiKP **PKiKP** 14 17 33.8 0.0
SNR=7.7
ASHO **Ashiyiah** 129.09 287 P **PKiKP** 14 17 33.8 0.0
SNR=7.7
ASHO **Ashiyiah** 129.09 287 *i* P **PKPdf** 14 17 33.1 +0.2
SNR=10
ALNE **Al Ain** 129.32 286 *i* P **PKPdf** 14 17 33.8 +0.4
SNR=6.3
NAZ **Nazwa, Dubai** 129.47 287 PKiKP **PKiKP** 14 17 35.1 +0.6
SNR=6.4
NAZ **Nazwa, Dubai** 129.47 287 P **PKiKP** 14 17 35.1 +0.6
SNR=6.4
KLMR **Klimovskoe** 129.99 337 *e*PKIKP **PKPdf** 14 17 31.0 -2.5
KLMR *e* 14 19 54.3
KLMR pmax pmax
comp=Z,31nm,1.1s
KLMR **Klimovskoe** 129.99 337 *e*PKPdf **PKPdf** 14 17 31.0 -2.5
KLMR AMP 14 17 34.7
comp=Z,31nm,1.1s
KLMR *e*PP **PP** 14 19 54.3 +1.1
FIA1 **FINESS Array S** 133.88 344 *e*PKPdf **PKPdf** 14 17 39.7 -1.1
FIA1 *e*PKPdf **PKiKP** 14 17 39.9 -2.3
FINES **FINESS Array B** 133.88 344 PKhKP PKPpre 14 17 28.9
comp=Z,2.1nm,0.8s,baz=29,slow=4.4,SNR=4.0
FINES PKP **PKPdf** 14 17 40.1 -0.7
comp=Z,11nm,0.7s,baz=88,slow=3.5,SNR=17
FINES SKPbc **SKPbc** 14 20 22.9 +1.1
comp=Z,2.8nm,0.7s,baz=79,slow=4.1,SNR=5.4
VRH **Novokhopyorsk** 134.59 325 *e*PKIKP **PKPdf** 14 17 42.1 -0.3
VRH pmax pmax
comp=Z,40nm,0.7s
OBN **Obninsk** 134.89 332 *c i*PKIKP **PKPdf** 14 17 41.4 -1.4
OBN *e* 14 20 25.5
OBN *e* 14 38 05.4
OBN pmax pmax
comp=Z,29nm,1.0s
OBN pmax pmax
comp=Z,8.0nm,0.9s
LPSR **Galich'ya Gora** 135.29 328 *e*PKIKP **PKPdf** 14 17 43.5 -0.2
LPSR pmax pmax
comp=Z,20nm,1.1s
VSR **Storozhevoye** 135.95 326 *e*PKIKP **PKPdf** 14 17 44.1 -0.9
VSR pmax pmax
comp=Z,30nm,1.0s
VSU **Vasula** 136.15 341⇑ *e*PKIKP **PKPdf** 14 17 45.2 +0.1
TBLG **Delisi** 136.63 312 *e*PKIKP **PKPdf** 14 17 46.2 -0.4
TBLG **Delisi** 136.63 312 *e*PKPdf **PKPdf** 14 17 46.2 -0.4
TBLG *e*PKPdf **PKiKP** 14 17 49.4 +0.9
ZEI **Tsey** 136.86 313 *i* PKIKP PKPpre 14 17 43.7
ZEI pmax pmax
comp=Z,17nm,1.1s
NC303 **NORSAR Array S** 136.93 353 *e*PKPdf **PKPdf** 14 17 46.3 -0.2
NB201 **NORSAR Array S** 137.11 353 *e*PKPpre PKPpre 14 17 37.1
GNI **Garni** 137.11 309 PKP **PKPdf** 14 17 48.3 +0.6
comp=Z,20nm,0.8s,baz=67,slow=1.7,SNR=12
GNI **Garni** 137.11 309 *de*PKIKP **PKPdf** 14 17 48.0 +0.3
GNI **Garni** 137.11 309 *e*PKPdf **PKPdf** 14 17 47.4 -0.3
GNI **Garni** 137.11 309 PKiKP **PKiKP** 14 17 49.2 -0.5
SNR=5.3
GNI **Garni** 137.11 309 P **PKiKP** 14 17 49.2 -0.5
SNR=5.3
NB2 **NORSAR Subarra** 137.13 353 PKP PKPpre 14 17 35.6
comp=Z,13nm,1.2s,baz=17,slow=2.6
NOA **NORSAR Array B** 137.13 353 PKhKP PKPpre 14 17 36.1
comp=Z,9.0nm,1.0s,baz=16,slow=4.6,SNR=16
NOA PKP **PKPdf** 14 17 47.1 +0.1
comp=Z,6.3nm,0.7s,baz=13,slow=4.1,SNR=16
NOA SKPbc **SKPbc** 14 20 32.6 +0.8
comp=Z,1.1nm,0.8s,baz=16,slow=4.5,SNR=4.2
LSZ **Lusaka** 137.13 220 *e*PKIKP **PKPdf** 14 17 48.5 +0.1
LSZ **Lusaka** 137.13 220 *e*PKPdf **PKPdf** 14 17 48.5 +0.1
NBO02 **NORSAR Array S** 137.16 353 *e*PKPpre PKPpre 14 17 36.4
NBO00 **NORSAR Array S** 137.18 353 *e*PKPpre PKPpre 14 17 36.4
NBO00 *e*PKPdf **PKiKP** 14 17 48.6 -0.4
KBZ **Khabaz** 137.20 315 PKhKP PKPpre 14 17 39.3
comp=Z,1.3nm,0.8s,baz=101,slow=2.1,SNR=5.0
KBZ PKP **PKPdf** 14 17 47.2 -0.3
comp=Z,8.7nm,0.9s,baz=147,slow=1.9,SNR=17
KIV **Kislovodsk** 137.26 315 *e*PKIKP **PKPdf** 14 17 47.5 -0.3
KIV pmax pmax
comp=Z,21nm,1.1s
KIV **Kislovodsk** 137.26 315 *e*PKPdf **PKPdf** 14 17 47.6 -0.2
KIV **Kislovodsk** 137.26 315 PKPdf **PKPdf** 14 17 48.4 +0.6
SNR=5.9
KIV **Kislovodsk** 137.26 315 P **PKPdf** 14 17 48.4 +0.6
SNR=5.9
KIV **Kislovodsk** 137.26 315 P **PKPdf** 14 17 46.7 -1.1
AKH **Akhalkalaki** 137.62 312 *e*PKHKP PKPpre 14 17 41.2
AKH *e* 14 17 49.3
AKH **Akhalkalaki** 137.62 312⇑ *i*P **PKPdf** 14 17 51.9 +3.3
AKH **Akhalkalaki** 137.62 312 *e*PKPpre PKPpre 14 17 41.2
AKH *e*PKPdf **PKPdf** 14 17 49.3 +0.6
HFS **Hagfors** 137.67 351 PKhKP PKPpre 14 17 36.2
comp=Z,6.6nm,0.7s,baz=72,slow=4.7,SNR=9.0
HFS PKP **PKPdf** 14 17 48.7 +0.8
comp=Z,13nm,0.8s,baz=48,slow=2.1,SNR=11
IZAR **Zarasai** 138.50 339 *e*P PKPpre 14 17 41.5
RAYN **Ar Rayn** 138.65 285 *e*PKPpre PKPpre 14 17 41.2
IDID **Didziasalis** 138.67 338 *e*P PKPpre 14 17 38.2
ISAL **Salakas** 138.68 339 *e*P PKPpre 14 17 42.8
IIGN **Ignalina** 138.83 339 *e*P PKPpre 14 17 41.3
NACGM **Naroch** 138.98 338 *e* PKPpre 14 17 42.0
TSUM **Tsumeb** 139.11 204 *e*PKPdf **PKPdf** 14 17 50.8 -1.2
SOC **Sochi** 139.37 316 *e*PKIKP **PKPdf** 14 17 49.8 -1.7
SOC *e* 14 20 51.7
SOC *e* 14 24 14.9
SOC *e*SSS SSS 14 43 50.6
SOC pmax pmax
comp=Z,17nm,0.8s
KMBO **Kilima Mbogo** 139.59 245 PKhKP PKPpre 14 17 46.9
comp=Z,4.0nm,0.8s,baz=59,slow=6.9,SNR=10
KMBO PKP **PKPdf** 14 17 54.5 +1.3
comp=Z,10nm,0.9s,baz=57,slow=1.5,SNR=14
KMBO **Kilima Mbogo** 139.59 245 *e*PKPpre PKPpre 14 17 47.5
KMBO PKP **PKPdf** 14 17 54.5 +1.3
KMBO **Kilima Mbogo** 139.59 245 PKiKP **PKPdf** 14 17 54.4 +1.3
SNR=5.8
KMBO **Kilima Mbogo** 139.59 245 P **PKPdf** 14 17 54.4 +1.3
SNR=5.8
ANN **Anapa** 140.28 319 *i* PKIKP **PKPdf** 14 17 54.8 +1.7
ANN pmax pmax
comp=Z,27nm,1.1s
AKASG **Malin Array Be** 141.15 332 PKhKP PKPpre 14 17 48.4
comp=Z,13nm,0.5s,baz=42,slow=4.4,SNR=67
AKASG PKP **PKPdf** 14 17 55.0 +0.5
comp=Z,16nm,0.8s,baz=47,slow=3.1,SNR=19
AKASG **Malin Array Be** 141.15 332 *i* PKIKP **PKPdf** 14 18 01.2 +6.7
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB **Malin Array Si** 141.15 332 *e*PKHKP PKPpre 14 17 47.2
AKBB **Malin Array Si** 141.15 332 *e*PKPpre PKPpre 14 17 47.2
KIEV **Kiev** 141.16 332 *e*PKHKP PKPpre 14 17 47.2
KIEV **Kiev** 141.16 332 *e*PKPpre PKPpre 14 17 47.2
KIEV **Kiev** 141.16 332 *i* P PKPpre 14 17 48.8
SNR=16
AK11 **Malin Array Si** 141.19 332 *e*PKPpre PKPpre 14 17 47.8
PTK **Pertek** 141.43 310 *e*P PKPpre 14 17 51.5
BSD **Bornholm Skovb** 142.20 347⇑ *i*PKIKP PKPpre 14 17 52.8
BSD pmax pmax
comp=Z,27nm,0.9s
BSD **Bornholm Skovb** 142.20 347⇑ *i*P PKPpre 14 17 52.8
comp=Z,27nm,0.9s
SIM **Simferopol'** 142.22 321 *c i*PKIKP PKPpre 14 17 53.9
SIM pmax pmax
comp=Z,50nm,0.9s
MALT **Malatya** 142.34 309 *e*P PKPpre 14 17 54.4
URFA **Urfa** 142.34 308 *e*P PKPpre 14 17 53.3
LLD **Lille Linde** 142.50 350 *e*PKHKP PKPpre 14 17 52.9
LLD **Lille Linde** 142.50 350 *i* P PKPpre 14 17 52.9
SVSK **Karacayir** 142.76 312 *e*P **PKPdf** 14 17 56.2 -1.5
TOKT **Tokat** 142.91 313 *e*P **PKPdf** 14 17 56.0 -2.0
KVT **Kavak** 142.92 314 *e*P **PKPdf** 14 17 56.2 -1.8
DARE **Darende-Malaty** 142.94 310 *e*P **PKPdf** 14 17 56.5 -1.7
SNOP **Sinop** 143.04 316 *e*P PKPbc 14 17 56.4 +0.3
DIKM **Dikmen** 143.18 316 *e*P PKPbc 14 17 56.9 +0.4
EKA **Eskdalemuir Ar** 143.26 4 PKP PKPbc 14 17 56.3 -0.1
comp=Z,32nm,0.9s,baz=349,slow=2.5,SNR=88
ESK **Eskdalemuir** 143.28 4 *e*PKIKP PKPab 14 17 55.5 -0.5
ESK **Eskdalemuir** 143.28 4 *e*PKPpre PKPab 14 17 55.5 -0.5
SORM **Soroca** 143.35 329 ⇑PKIKP PKPab 14 17 56.6 +0.1
SORM **Soroca** 143.35 329⇑ *i*P PKPab 14 17 56.6 +0.1
GKP **Gorka Klasztor** 143.35 344 *e*PKP PKPbc 14 17 56.9 +0.3
GKP **Gorka Klasztor** 143.35 344 *e*PKIKP PKPbc 14 17 56.9 +0.3
BEL **Belsk** 143.56 340 *e*PKP PKPbc 14 17 58.0 +0.6
BEL **Belsk** 143.56 340 *e*PKIKP PKPbc 14 17 58.0 +0.7
GAZ **Gaziantep** 143.64 308 *e*P PKPbc 14 17 58.8 +0.6
KMRS **Kahramanmaras** 143.76 309 *e*P PKPbc 14 17 58.9 +0.4
BZK **Bozkurt** 143.85 317 *e*P **PKPdf** 14 17 59.2 -0.3
KIS **Kishinev** 143.90 328⇑ *i*PKP PKPbc 14 17 57.0 -1.6
KIS M M 14 17 58.0
comp=Z,400nm,1.2s
KIS **Kishinev** 143.90 328⇑ *i*PKIKP PKPbc 14 17 57.0 -1.6
KIS pmax pmax
comp=Z,400nm,1.2s
BNN **Bunyan** 144.01 311 *e*P PKPbc 14 17 58.8 -0.6
CORM **Corum** 144.28 314 *e*P PKPbc 14 18 00.3 +0.1
IAS **Iasi** 144.39 329 ⇑PKIKP **PKPab** 14 18 00.6 +0.1
IAS **Iasi** 144.39 329⇑ *i*P **PKPab** 14 18 00.6 +0.1
ILGA **Ilgaz** 144.49 316 *e*PKPbc **PKPab** 14 18 01.6 +0.2
KOZT **Kozan** 144.56 309 *e*P PKPbc 14 18 01.1 +0.1
KWP **Kalwaria Pacla** 144.70 336 *e*PKP **PKPab** 14 18 01.4 -0.2
KWP **Kalwaria Pacla** 144.70 336 *e*PKIKP **PKPab** 14 18 01.4 -0.2
KWP **Kalwaria Pacla** 144.70 336 *e*PKPdf **PKPab** 14 18 01.4 -0.2
CEYT **Ceyhan** 144.79 308 *e*P **PKPab** 14 18 02.4 +0.1
SHEL **Horse Pasture** 144.86 168 *e*PKIKP **PKPdf** 14 18 02.3 +0.2
SHEL **Horse Pasture** 144.86 168 *e*PKPdf **PKPdf** 14 18 02.3 +0.2
YAYL **Yayladag** 144.87 307 *e*P **PKPab** 14 18 02.6 -0.3
PRAR **RASCA** 144.91 330⇑ *i*P **PKPab** 14 18 02.2 -0.3
YURE **YUREGIR** 144.95 308 *e*P PKPbc 14 18 02.6 +0.4
DSB **Dublin** 145.00 8 *e*PKPdf PKPbc 14 18 01.7 -0.1
TLCR 145.09 325 ⇓PKIKP **PKPab** 14 18 02.9 -0.3
TLCR 145.09 325⇓ *i*P **PKPab** 14 18 02.9 -0.3
BR131 **Keskin Array S** 145.17 314 *e*PKPdf **PKPdf** 14 18 01.3 -0.8
BR131 *e*PKPbc **PKPbc** 14 18 02.6 -0.3
BRTR **Keskin Array B** 145.17 314 PKPbc **PKPdf** 14 18 02.2 +0.2
comp=Z,62nm,0.9s,baz=138,slow=4.2,SNR=233
BUR08 **Bucovina Ar. S** 145.18 331 *e*PKPdf **PKPdf** 14 18 02.2 +0.4
BUR04 **Bucovina Ar. S** 145.20 331 *e*PKPdf **PKPdf** 14 18 01.6 -0.2
BURAR **Bucovina Array** 145.20 331 ⇑PKP2 **PKPab** 14 18 04.0 +0.3
BURAR **Bucovina Array** 145.20 331⇑ *i*P **PKPab** 14 18 04.0 +0.3
OJC **Ojcow** 145.27 339 *e*PKP **PKPbc** 14 18 03.0 +0.3
OJC **Ojcow** 145.27 339 *e*PKP2 **PKPbc** 14 18 03.0 +0.3
OJC **Ojcow** 145.27 339 *e*PKPdf **PKPdf** 14 18 01.9 +0.2
TESR **Tescani** 145.32 329⇑ *i*P **PKPdf** 14 18 01.6 -0.3
MBAR **Mbarara** 145.34 240 *e*PKP2 **PKPbc** 14 18 04.1 -0.2
MBAR **Mbarara** 145.34 240 *e*PKPdf **PKPbc** 14 18 04.1 -0.2
STHS **Stebnicka Huta** 145.43 337 *e*PKP2 **PKPab** 14 18 04.3 -0.1
STHS **Stebnicka Huta** 145.43 337 *e*PKP **PKPab** 14 18 04.3 -0.1
STHS *e* 14 18 06.4
CFR **Carcaliu** 145.46 326 ⇓PKP2 **PKPbc** 14 18 02.8 -0.6
CFR **Carcaliu** 145.46 326⇓ *i*P **PKPbc** 14 18 02.8 -0.6
PETR **Petresti** 145.57 327⇑ *i*P **PKPab** 14 18 04.9 -0.1
ODBI **Odobesti** 145.63 327⇑ *i*P **PKPab** 14 18 05.5 +0.2
UZH **Uzhgorod** 145.66 335⇑ *e*PKP2 **PKPbc** 14 18 03.5 -0.4
UZH *i* 14 18 05.3
UZH *e* 14 20 04.3
ANTO **Ankara** 145.68 315 *e*P **PKPdf** 14 18 02.9 0.0
ANTO **Ankara** 145.68 315 *e*PKIKP **PKPdf** 14 18 02.5 -0.3
ANTO *e* 14 18 04.6
ANTO **Ankara** 145.68 315 *e*PKPdf **PKPdf** 14 18 02.5 -0.3
ANTO *e*PKPbc **PKPbc** 14 18 04.6 +0.3
ANTO **Ankara** 145.68 315 PKPbc **PKPdf** 14 18 03.2 +0.3
SNR=45
ANTO **Ankara** 145.68 315 P **PKPdf** 14 18 03.2 +0.3
SNR=45
AFSR **Af'ar-Bala (A** 145.69 314 *e*P **PKPdf** 14 18 03.6 +0.7
BR231 **Keskin MP Arra** 145.70 315 *e*PKPdf **PKPdf** 14 18 02.2 -0.7
BR231 *e*PKPbc **PKPbc** 14 18 03.9 -0.6
BR231 *e*PKPdf **PKPab** 14 18 04.7 -1.2
VRI **Vrincioaia** 145.73 328 ⇓PKP2 **PKPbc** 14 18 04.7 +0.5
VRI **Vrincioaia** 145.73 328⇓ *i*P **PKPbc** 14 18 04.7 +0.5
CRVS **Cervenica-Dubn** 145.77 336 *e*PKP2 **PKPbc** 14 18 03.7 -0.5
CRVS *e* 14 18 05.1
CRVS **Cervenica-Dubn** 145.77 336 *e*PKP **PKPbc** 14 18 03.7 -0.5
CRVS *e* 14 18 05.1
CRVS *e* 14 18 06.7
NIE **Niedzica** 145.77 338 *e*PKP **PKPbc** 14 18 05.0 +0.7
NIE **Niedzica** 145.77 338 *e*PKP2 **PKPbc** 14 18 05.0 +0.7
PLOR **Plostina** 145.78 328 ⇓PKP2 **PKPbc** 14 18 04.7 +0.3
PLOR **Plostina** 145.78 328⇓ *i*P **PKPbc** 14 18 04.7 +0.3
TIRR **Tirgusor** 145.78 325 *e*PKP2 **PKPbc** 14 18 04.5 +0.1
TIRR **Tirgusor** 145.78 325⇑ *i*P **PKPbc** 14 18 05.0 +0.7
TIRR **Tirgusor** 145.78 325 *e*PKPdf **PKPbc** 14 18 04.5 +0.1
KSP **Ksiaz** 145.80 343 *e*PKP **PKPbc** 14 18 04.9 +0.7
KSP **Ksiaz** 145.80 343 *e*PKP2 **PKPbc** 14 18 04.9 +0.7
RCY **Rachaya** 145.89 302 *e*P **PKPbc** 14 18 05.7 +0.5
RCY **Rachaya** 145.89 302 *e*P **PKPbc** 14 18 05.7 +0.5
HARR **Harsova** 145.89 325 ⇑PKIKP **PKPdf** 14 18 03.4 +0.5
HARR **Harsova** 145.89 325⇑ *i*P **PKPdf** 14 18 03.4 +0.5
TLB **Topalu** 145.90 325 ⇑PKIKP **PKPdf** 14 18 03.3 +0.4
TLB **Topalu** 145.90 325⇑ *i*P **PKPdf** 14 18 03.3 +0.4
BHL **Bhannes** 145.91 303 *e*P **PKPbc** 14 18 05.5 +0.3
BHL **Bhannes** 145.91 303 *e*P **PKPbc** 14 18 05.5 +0.3
BMR **Baia Mare** 145.91 333 ⇑PKP2 **PKPbc** 14 18 05.5 +0.8
BMR **Baia Mare** 145.91 333⇑ *i*P **PKPbc** 14 18 05.5 +0.8
SULT **Sultanhani-AKS** 145.94 312 *e*P **PKPbc** 14 18 04.8 -0.4
TRPA **Tarpa** 145.96 334⇓ *ex* **PKPbc** 14 18 05.1 +0.4
ARCR **ARCALIA** 145.98 331⇑ *i*P **PKPab** 14 18 06.0 -0.7
DQOL **Deir Qamar** 146.04 303 *e*P **PKPbc** 14 18 06.1 +0.5
DQRL **Deir Qamar** 146.04 303 *e*P **PKPbc** 14 18 06.1 +0.5
OKC **Ostrava-Krasne** 146.14 340 *e*PKP2 **PKPbc** 14 18 06.0 +0.8
OKC **Ostrava-Krasne** 146.14 340 *e*PKP **PKPbc** 14 18 06.0 +0.8
UPC **Upice** 146.18 343 *e*PKIKP **PKPdf** 14 18 03.8 +0.5
UPC *e* 14 18 06.1
UPC *e* 14 20 06.3
UPC **Upice** 146.18 343 *e*PKP **PKPdf** 14 18 03.8 +0.5
UPC *ex* x 14 18 06.1
UPC *ex* x 14 18 08.3
UPC *e*pPKP **pPKPdf** 14 20 06.3 +1.7
CLL **Collm** 146.18 347⇓ *e*PKIKP **PKPdf** 14 18 04.0 +0.8
CLL *i* 14 18 05.5
CLL *e* 14 20 06.0
CLL pmax pmax
comp=Z,223nm,0.9s
CLL **Collm** 146.18 347 *e*PKPdf **PKPdf** 14 18 04.0 +0.8
CLL ⇓ *i*PKPbc **PKPbc** 14 18 05.5 +0.2
comp=Z,223nm,0.9s
CLL ⇑ *i*PKPab **PKiKP** 14 18 07.6 -0.1
comp=Z,94nm,0.8s
CLL *e*pPKiKP **pPKPdf** 14 20 06.0 +1.5
CLL **Collm** 146.18 347 *e*PKPdf **PKPdf** 14 18 03.0 -0.2
CLL *e*PKPbc **PKPbc** 14 18 05.8 +0.5
KIZK **Mersin** 146.19 308 *e*P **PKPbc** 14 18 05.7 -0.1
DPC **Dobruska-Polom** 146.23 343 *e*PKIKP **PKPdf** 14 18 03.9 +0.5
DPC *e* 14 18 06.4
DPC *e* 14 20 06.8
DPC **Dobruska-Polom** 146.23 343 *e*PKP **PKPdf** 14 18 03.9 +0.5
DPC *ex* x 14 18 06.4
DPC *ex* x 14 18 08.9
DPC *e*pPKP **pPKPdf** 14 20 06.8 +2.1
PGOR **Pogoanele** 146.25 326⇑ *i*P **PKPbc** 14 18 06.6 +0.9
AMRR **Amara** 146.26 326 ⇓PKP2 **PKPbc** 14 18 06.6 +0.9
AMRR **Amara** 146.26 326⇓ *i*P **PKPbc** 14 18 06.6 +0.9
LANS **Liptovska Anna** 146.29 338 *e*PKP2 **PKPab** 14 18 07.0 -0.9
LANS **Liptovska Anna** 146.29 338 *e*PKP **PKPab** 14 18 07.0 -0.9
LANS *e* 14 18 09.3
DOPR **Dopca** 146.32 329⇓ *i*P **PKPab** 14 18 07.1 -1.0
ISR **Istrita** 146.34 327 ⇑PKP2 **PKPbc** 14 18 05.2 -0.8
ISR **Istrita** 146.34 327⇑ *i*P **PKPbc** 14 18 05.2 -0.8
KRLC **Kraliky** 146.35 342 *e*PKIKP **PKPdf** 14 18 04.1 +0.5
KRLC *e* 14 18 06.6
KRLC **Kraliky** 146.35 342 *e*PKP **PKPdf** 14 18 04.1 +0.5
KRLC *ex* x 14 18 06.6
KRLC *ex* x 14 18 08.9
KRLC *ex* x 14 20 10.1
BRG **Berggiesshubel** 146.37 346⇑ *i*PKP **PKPdf** 14 18 04.2 +0.6
comp=Z,18nm,1.2s
BRG *i* 14 18 08.4
comp=Z,89nm,0.9s
BRG *i* pPKP pPKPbc 14 20 06.3 +1.4
comp=Z,15nm,1.1s
BRG **Berggiesshubel** 146.37 346⇑ *i*PKIKP **PKPdf** 14 18 04.2 +0.6
BRG *i* 14 18 08.4
BRG *i* 14 20 06.3
BRG pmax pmax
comp=Z,18nm,1.2s
BRG pmax pmax
comp=Z,89nm,0.9s
MMAI **Mount Meron Ar** 146.37 302 PKPbc **PKPbc** 14 18 07.5 +1.0
comp=Z,115nm,0.8s,baz=70,slow=5.3,SNR=56
MORC **Moravsky Berou** 146.38 341 ⇑PKIKP **PKPdf** 14 18 04.5 +0.8
MORC **Moravsky Berou** 146.38 341⇑ *i*P **PKPdf** 14 18 04.5 +0.8
MORC **Moravsky Berou** 146.38 341 *e*PKPdf **PKPdf** 14 18 03.6 0.0
MORC *e*PKPbc **PKPbc** 14 18 06.4 +0.4
MDUB **Mudurnu** 146.43 317 *e*P **PKPbc** 14 18 05.5 -1.0
KECS **Kecovo** 146.48 337 *e*PKP2 **PKPbc** 14 18 06.4 +0.2
KECS **Kecovo** 146.48 337 *e*PKP **PKPbc** 14 18 06.4 +0.2
EREN **Erenkoy** 146.52 307 *e*P **PKPbc** 14 18 06.9 +0.2
WTSB **Winterswijk** 146.52 354 *e*PKPdf **PKPdf** 14 18 04.3 +0.5
WTSB *e*PKPbc **PKPbc** 14 18 06.3 +0.2
comp=Z,216nm,0.9s
WTSB *e*pPKPdf **PKPab** 14 18 08.5 0.0
PVCC **Panska Ves** 146.54 345 *e*PKP2 **PKPbc** 14 18 07.2 +0.9
PVCC **Panska Ves** 146.54 345 *e*PKP **PKPbc** 14 18 07.2 +0.9
PVCC *ex* x 14 18 09.7
CJR **Cluj-Napoca** 146.60 332 ⇑PKP2 **PKPbc** 14 18 07.6 +0.9
CJR **Cluj-Napoca** 146.60 332⇑ *i*P **PKPbc** 14 18 07.6 +0.9
SECR 146.64 327⇑ *i*P **PKPbc** 14 18 07.5 +0.7
MDB **Medias** 146.67 330 ⇓PKP2 **PKPbc** 14 18 07.5 +0.7
MDB **Medias** 146.67 330⇓ *i*P **PKPbc** 14 18 07.5 +0.7
PLAR **PLOIESTI** 146.74 327⇓ *i*P **PKPbc** 14 18 07.8 +0.8
AKKU **Akkuyu-Mersin** 146.75 308 *e*P **PKPbc** 14 18 06.9 -0.4
SULR 146.79 327⇓ *i*P **PKPbc** 14 18 07.6 +0.5
VOIR 146.86 329 ⇓PKIKP **PKPdf** 14 18 05.9 +1.2
VOIR 146.86 329⇓ *i*P **PKPdf** 14 18 05.8 +1.1
MTUR **Matau** 147.01 329 ⇑PKP2 **PKPbc** 14 18 08.5 +0.6
MTUR **Matau** 147.01 329⇑ *i*P **PKPbc** 14 18 08.4 +0.6
PRU **Pruhonice** 147.04 344 *e*PKIKP **PKPdf** 14 18 05.0 +0.3
PRU *e* 14 18 08.3
PRU **Pruhonice** 147.04 344 *e*PKP **PKPdf** 14 18 05.0 +0.3
PRU *ex* x 14 18 08.3
PRU *ex* x 14 18 11.6
GOPC **GO Pecny, Ondr** 147.04 344 *e*PKP2 **PKPbc** 14 18 08.3 +0.6
GOPC **GO Pecny, Ondr** 147.04 344 *e*PKP **PKPbc** 14 18 08.3 +0.6
GOPC *ex* x 14 18 11.6
SILT **Sile** 147.05 319 *e*P **PKPbc** 14 18 08.0 0.0
VYHS **Vyhne** 147.07 338 *e*PKP2 **PKPbc** 14 18 08.3 +0.5
VYHS **Vyhne** 147.07 338 *e*PKP **PKPbc

NKC	**Novy Kostel**	**147.31 347**	*e*PKIKP	**PKPdf**	14 18 05.7	+0.5
NKC			*e*		14 18 09.1	
NKC	**Novy Kostel**	**147.31 347**	*e*PKP	**PKPdf**	14 18 05.7	+0.5
NKC			*ex*	x	14 18 09.1	
CSS	**Mathiatis**	**147.37 306**	*e*PKPbc	**PKPbc**	14 18 08.2	-0.8
MAMC	**Mammari**	**147.38 307**	P	**PKPdf**	14 18 05.4	-0.3
ADVT	**Abdulvahap**	**147.39 318**	*e*P	**PKPbc**	14 18 08.7	-0.2
TREC	**Trest**	**147.42 343**	*e*PKP2	**PKPbc**	14 18 09.2	+0.5
TREC	**Trest**	**147.42 343**	*e*PKP	**PKPbc**	14 18 09.2	+0.5
ISK	**Istanbul-Kandi**	**147.47 319**	*e*P	**PKPbc**	14 18 08.7	-0.4
LOT	**Lotru**	**147.47 330**	⇑*i*P	**PKPbc**	14 18 09.0	-0.1
SMOL	**Smolenice**	**147.52 340**	*e*PKP2	**PKPbc**	14 18 10.2	+1.2
SMOL	**Smolenice**	**147.52 340**	*e*PKP	**PKPbc**	14 18 10.2	+1.2
SMOL			*e*		14 18 14.0	
HUMR	**Humele**	**147.55 328**	⇑*i*P	**PKPbc**	14 18 09.1	-0.1
DEV	**Deva**	**147.55 331**	⇑PKP2	**PKPbc**	14 18 09.7	+0.6
DEV	**Deva**	**147.55 331**	⇑*i*P	**PKPbc**	14 18 09.7	+0.6
BGKT	**Bogazkoy**	**147.58 320**	*e*P	**PKPbc**	14 18 08.9	-0.4
LEF	**Lefka**	**147.65 307**	*e*P	**PKPbc**	14 18 09.4	-0.3
CTKS	**Kestanelik-??a**	**147.71 320**	*e*P	**PKPbc**	14 18 09.5	-0.2
BEBN	**Eben Emael**	**147.79 355**	⇓⇓PKPbc	**PKPbc**	14 18 09.9	+0.3
BEBN			⇑⇑PKPab	**PKPab**	14 18 13.7	0.0
SZAC	**Souni**	**147.79 306**	P	**PKPdf**	14 18 04.5	-2.0
HGN	**Heimansgroeve**	**147.80 355**	*e*PKPdf	**PKPab**	14 18 11.7	-2.0
HGN			*e*PKPbc	**PKiKP**	14 18 15.0	+4.0
	comp=Z,82nm,1.1s					
HGN			*ep*PKPdf	PKPbc	14 18 19.0	+9.5
SIRR	**Siria**	**147.80 333**	⇑*i*P	**PKPdf**	14 18 06.6	+0.5
SHUT	**Suhut-Afyon**	**147.84 314**	*e*P	**PKPbc**	14 18 10.5	+0.2
ALFC	**Alefka**	**147.85 307**	P	**PKPdf**	14 18 05.6	-1.0
BUD	**Budapest**	**147.86 337**	⇓*ex*	**PKPbc**	14 18 10.2	+0.4
ARMT	**Armutlu**	**147.87 319**	*e*P	**PKPbc**	14 18 09.8	-0.4
UCC	**Uccle**	**147.88 356**	*e*PKP2	**PKPbc**	14 18 09.8	0.0
UCC	**Uccle**	**147.88 356**	*e*PKPbc	**PKPbc**	14 18 09.8	0.0
SZH	**Strazhica**	**147.91 325**	*i* P	**PKPbc**	14 18 10.0	-0.2
MEM	**Membach**	**147.94 354**	⇓⇓PKP	**PKPdf**	14 18 06.0	-0.1
MEM			⇓⇓PKPbc	**PKPbc**	14 18 10.0	+0.1
MEM			⇓⇓APKP	**pPKPab**	14 20 12.9	+2.3
ZIMR		**147.95 326**	PKP2	**PKPbc**	14 18 11.0	+0.8
ZIMR		**147.95 326**	⇑*i*P	**PKPbc**	14 18 11.0	+0.8
SUTC	**Sutluce-Ispart**	**148.04 312**	*e*P	**PKPbc**	14 18 09.8	-1.0
KHC	**Kasperske Hory**	**148.07 345**	*e*PKP	**PKPdf**	14 18 06.9	+0.4
KHC			*ex*	x	14 18 11.1	
KHC			*ex*	x	14 18 15.8	
KHC	**Kasperske Hory**	**148.07 345**	*e*PKPdf	**PKPdf**	14 18 05.6	-0.9
KHC			*e*PKPbc	**PKPbc**	14 18 10.9	+0.5
GRF	**Grafenberg Arr**	**148.08 348**	PKHKP	**PKPbc**	14 18 09.0	-1.4
GRFO	**Grafenberg**	**148.08 348**	*e*PKP2	**PKPbc**	14 18 10.8	+0.4
GRFO	**Grafenberg**	**148.08 348**	*e*PKPbc	**PKPbc**	14 18 10.8	+0.4
JMB	**Yambol**	**148.08 323**	*i* P	**PKPbc**	14 18 10.6	0.0
AKMC	**Akamas**	**148.11 307**	P	**PKPbc**	14 18 10.4	-0.5
PPCY	**Paphos**	**148.15 307**	P	**PKPbc**	14 18 10.0	-1.0
SNF	**Seneffe**	**148.17 356**	⇓⇓PKPbc	**PKPbc**	14 18 10.9	+0.4
SNF			⇑⇑PKPab	**PKPab**	14 18 15.2	-0.1
BCLA	**Clavier**	**148.19 355**	⇓⇓PKPbc	**PKPbc**	14 18 10.6	0.0
BCLA			⇑⇑PKPab	**PKPab**	14 18 15.2	-0.2
ISP	**Isparta**	**148.21 313**	*e*P	**PKPbc**	14 18 10.5	-0.8
ISP	**Isparta**	**148.21 313**	*e*PKP2	**PKPbc**	14 18 10.4	-0.8
ISP	**Isparta**	**148.21 313**	⇑*i*P	**PKPbc**	14 18 10.8	-0.4
ISP	**Isparta**	**148.21 313**	*e*PKPbc	**PKPbc**	14 18 10.3	-0.9
ISP	**Isparta**	**148.21 313**	P	**PKPbc**	14 18 10.2	-1.0
CSKK	**Cs˙‡kako**	**148.23 338**	*ex*	**PKPdf**	14 18 04.7	-2.1
GEC2	**GERESS Array S**	**148.31 344**	*e*PKPdf	**PKPdf**	14 18 06.1	-0.9
GEC2			*e*PKPbc	**PKPbc**	14 18 11.4	+0.3
GERES	**GERESS Array B**	**148.31 344**	PKP	**PKPdf**	14 18 07.1	+0.2
	comp=Z,39nm,0.9s,baz=96,slow=1.3,SNR=16					
GERES			PKPbc	**PKPbc**	14 18 11.3	+0.3
	comp=Z,38nm,0.9s,baz=29,slow=3.3,SNR=165					
GEA0	**GERESS Array S**	**148.32 344**	*e*PKPdf	**PKPdf**	14 18 06.5	-0.5
GEA0			*e*PKPbc	**PKPbc**	14 18 11.2	+0.1
BZS	**Buzias**	**148.33 332**	⇑⇑PKHKP	**PKPdf**	14 18 07.4	+0.4
BZS	**Buzias**	**148.33 332**	⇑*i*P	**PKPdf**	14 18 07.4	+0.4
EDRB	**Edirne**	**148.38 322**	*e*P	**PKPbc**	14 18 11.2	-0.2
SOP	**Sopron**	**148.53 340**	⇓*ex*	**PKPbc**	14 18 12.0	+0.5
CONA	**Conrad Observa**	**148.53 341**	*e*PKPdf	**PKPdf**	14 18 07.2	-0.1
	comp=Z,5.4nm,1.0s					
CONA			*e*PKiKP	**PKiKP**	14 18 12.3	-0.5
	comp=Z,95nm,1.0s					
DOU	**Dourbes**	**148.56 356**	⇑PKP	**PKPdf**	14 18 07.7	+0.5
DOU			⇓⇓PKPbc	**PKPbc**	14 18 11.6	+0.1
DOU			⇑⇑PKPab	**PKPab**	14 18 16.4	-0.5
WLF	**Walferdange**	**148.87 354**	⇓⇓PKP	**PKPdf**	14 18 08.8	+1.1
WLF			⇑⇑PKPbc	**PKiKP**	14 18 13.2	-0.1
WLF			⇑⇑PKPab	**PKPab**	14 18 18.2	0.0
WLF	**Walferdange**	**148.87 354**	*e*PKHKP	**PKPdf**	14 18 07.3	-0.4
WLF			*e*		14 18 13.2	
WLF	**Walferdange**	**148.87 354**	*e*PKPdf	**PKPdf**	14 18 07.3	-0.4
WLF			*e*PKPbc	**PKiKP**	14 18 13.2	-0.1
KRBG	**Karabiga-Canak**	**148.94 320**	*e*P	**PKPbc**	14 18 12.3	-0.5
MORH	**M˙‡r˙igy, Hung**	**149.06 336**	⇓*ex*	**PKPbc**	14 18 12.8	-0.1
MOA	**Molln**	**149.07 343**	*e*PKPbc	**PKPbc**	14 18 13.0	+0.1
	comp=Z,50nm,1.2s,SNR=18					
KULA	**Kula-Manisa**	**149.13 315**	*e*P	**PKPbc**	14 18 13.5	+0.1
ARSA	**Arzberg**	**149.24 341**	*e*PKPdf	**PKPdf**	14 18 08.2	-0.2
	comp=Z,6.2nm,1.7s					
ARSA			*e*PKPbc	**PKPbc**	14 18 13.3	0.0
	comp=Z,34nm,1.1s,SNR=14					
ERIK	**Erikli-Kesan**	**149.25 321**	*e*P	**PKPbc**	14 18 13.4	-0.1
KDZ	**Kurdzhali**	**149.27 323**	*i* P	**PKPbc**	14 18 13.6	0.0
LPK	**Lapseki**	**149.28 320**	*e*P	**PKPbc**	14 18 12.5	-1.1
STU	**Stuttgart**	**149.33 350**	*e*PKHKP	**PKPdf**	14 18 08.3	-0.2
STU	**Stuttgart**	**149.33 350**	*e*PKPdf	**PKPdf**	14 18 08.3	-0.2
STU			*e*PKPbc	**PKiKP**	14 18 13.9	-0.4
ASCN	**Ascension**	**149.33 148**	*e*PKPbc	**PKPbc**	14 18 16.2	+1.7
PGB	**Panagyurishte**	**149.35 326**	*i* P	**PKPbc**	14 18 13.8	0.0
ALN	**Alexandroupoli**	**149.39 322**	*e*P	**PKPbc**	14 18 14.1	+0.3
ALN	**Alexandroupoli**	**149.39 322**	PKHKP	**PKPbc**	14 18 12.9	-0.9
ALN	**Alexandroupoli**	**149.39 322**	P	**PKPbc**	14 18 12.9	-0.9
ALN	**Alexandroupoli**	**149.39 322**	P	**PKPbc**	14 18 12.9	-0.9
GELI	**Tayfur-Gelibol**	**149.44 320**	*e*P	**PKPbc**	14 18 13.6	-0.4
BEHE	**Becsehely**	**149.52 339**	⇓*ex*	**PKPbc**	14 18 14.2	+0.2
RDO	**Rodhopi**	**149.53 322**	P	**PKPbc**	14 18 13.5	-0.7
RDO	**Rodhopi**	**149.53 322**	P	**PKPbc**	14 18 13.5	-0.7
AKAS	**Kas**	**149.61 311**	*e*P	**PKPbc**	14 18 13.3	-1.4
RZN	**Rozhen**	**149.64 324**	*i* P	**PKPbc**	14 18 14.5	-0.2
KSL	**Kastellorizon**	**149.66 311**	P	**PKPbc**	14 18 14.1	-0.5
KSL	**Kastellorizon**	**149.66 311**	P	**PKPbc**	14 18 14.1	-0.5
KOGS	**Kog**	**149.72 339**	*e*PKPdf	**PKPdf**	14 18 09.2	0.0
KOGS			*e*PKPbc	**PKPbc**	14 18 14.2	-0.2
KOGS			*e*PKPab	**PKPab**	14 18 22.1	+0.2
FETY	**Fethiye**	**149.79 312**	*e*P	**PKPbc**	14 18 13.9	-1.1
FETY	**Fethiye**	**149.79 312**	P	**PKPbc**	14 18 13.8	-1.2
FETY	**Fethiye**	**149.79 312**	P	**PKPbc**	14 18 13.8	-1.2
VTS	**Vitosha**	**149.83 327**	*e*PKIKP	**PKPdf**	14 18 08.8	-0.8
VTS			*e*		14 18 14.9	
VTS	**Vitosha**	**149.83 327**	⇑*i*P	**PKPbc**	14 18 14.8	-0.3
VTS	**Vitosha**	**149.83 327**	*e*PKPdf	**PKPdf**	14 18 08.8	-0.8
VTS			*e*PKPbc	**PKPbc**	14 18 14.9	-0.1
VTS	**Vitosha**	**149.83 327**	*i* P	**PKPbc**	14 18 15.2	+0.1
VTS	**Vitosha**	**149.83 327**	P	**PKPbc**	14 18 15.1	0.0
BFO	**Black Forest**	**149.90 351**	*e*PKPdf	**PKPdf**	14 18 08.5	-0.9
BFO			*e*PKPbc	**PKPbc**	14 18 15.1	+0.2
SOKA	**Soboth**	**149.91 341**	*e*PKPdf	**PKPdf**	14 18 09.2	-0.3
	comp=Z,11nm,1.5s					
SOKA			*e*PKPbc	**PKPbc**	14 18 14.8	-0.3
	comp=Z,58nm,0.9s,SNR=18					
GADA	**Gvkgeada**	**149.92 321**	P	**PKPbc**	14 18 14.5	-0.6
GADA	**Gvkgeada**	**149.92 321**	P	**PKPbc**	14 18 14.5	-0.6
AYDB	**Zeytinkoy-Aydi**	**149.94 315**	*e*P	**PKPbc**	14 18 15.7	+0.2
SMTH	**Samothraki Isl**	**149.96 321**	P	**PKPbc**	14 18 14.5	-0.8
SMTH	**Samothraki Isl**	**149.96 321**	P	**PKPbc**	14 18 14.5	-0.8
DALY	**Dalyan (Mu˙la**	**150.00 313**	*e*P	**PKPbc**	14 18 15.5	+0.1
TURN	**Turunc**	**150.01 313**	*e*P	**PKPbc**	14 18 16.4	+1.0
KBA	**Koelnbreinsper**	**150.03 343**	*e*PKPdf	**PKPdf**	14 18 09.8	-0.1
	comp=Z,0.1nm,0.2s					
KBA			*e*PKPbc	**PKPbc**	14 18 14.9	-0.6
	comp=Z,68nm,0.9s,SNR=20					
BOZC	**Bozcaada**	**150.04 320**	*e*P	**PKPbc**	14 18 14.9	-0.5
YER	**Yerkesik**	**150.10 313**	*e*P	**PKPbc**	14 18 15.8	0.0
YER	**Yerkesik**	**150.10 313**	P	**PKPbc**	14 18 15.8	0.0
YER	**Yerkesik**	**150.10 313**	P	**PKPbc**	14 18 15.8	0.0
ECH	**Echery**	**150.18 352**	*e*PKIKP	**PKPdf**	14 18 08.9	-0.9
ECH			*e*		14 18 15.4	
ECH	**Echery**	**150.18 352**	*e*PKPdf	**PKPdf**	14 18 08.9	-0.9
ECH			*e*PKPbc	**PKPbc**	14 18 15.4	-0.2
OBKA	**Obir**	**150.21 342**	*e*PKPbc	**PKPbc**	14 18 15.3	-0.5
	comp=Z,28nm,0.8s,SNR=15					
KAVA	**Kavala**	**150.21 323**	P	**PKPbc**	14 18 15.3	-0.5
KAVA	**Kavala**	**150.21 323**	P	**PKPbc**	14 18 15.3	-0.5
WATA	**Walderalm**	**150.23 346**	*e*PKPdf	**PKPdf**	14 18 09.9	-0.2
	comp=Z,27nm,1.6s					
WATA			*e*PKiKP	**PKPbc**	14 18 15.9	+0.1
	comp=Z,28nm,0.6s,SNR=19					
DIVS	**Divibare**	**150.24 332**	*e*PKPdf	**PKPdf**	14 18 09.7	-0.5
DIVS			*e*PKPbc	**PKPbc**	14 18 15.9	0.0
MMB	**Musomiste**	**150.25 325**	*i* P	**PKPbc**	14 18 15.5	-0.4
PRK	**Paraskevi**	**150.26 319**	PKIKP	**PKPbc**	14 18 15.5	-0.5
PRK	**Paraskevi**	**150.26 319**	P	**PKPbc**	14 18 15.5	-0.5
PRK	**Paraskevi**	**150.26 319**	P	**PKPbc**	14 18 15.5	-0.5
RETA	**Reutte**	**150.27 347**	*e*PKPdf	**PKPdf**	14 18 09.7	-0.4
	comp=Z,5.1nm,1.1s					
RETA			*e*PKiKP	**PKPbc**	14 18 15.9	+0.1
	comp=Z,35nm,0.9s,SNR=18					
WTTA	**Wattenberg**	**150.29 346**	*e*PKPdf	**PKPdf**	14 18 10.2	-0.1
	comp=Z,16nm,1.7s					
WTTA			*e*PKiKP	**PKPbc**	14 18 16.3	+0.2
	comp=Z,68nm,0.7s,SNR=19					
MOTA	**Moosalm**	**150.33 347**	*e*PKPdf	**PKPdf**	14 18 10.2	-0.1
	comp=Z,28nm,1.6s					
MOTA			*e*PKiKP	**PKPbc**	14 18 16.1	0.0
	comp=Z,95nm,1.0s,SNR=33					
NVR	**Nevrokopi**	**150.34 324**	P	**PKPbc**	14 18 15.7	-0.5
NVR	**Nevrokopi**	**150.34 324**	P	**PKPbc**	14 18 15.7	-0.5
MYKA	**Terra Mystica**	**150.36 343**	*i* PKPdf	**PKPdf**	14 18 10.0	-0.2
	comp=Z,0.1nm,0.3s					
MYKA			*e*PKPbc	**PKPbc**	14 18 15.4	-0.6
	comp=Z,56nm,0.7s,SNR=22					
MLSB	**Milas**	**150.37 314**	*e*P	**PKPbc**	14 18 16.5	+0.2
KKB	**Krupnik**	**150.41 326**	*i* P	**PKPbc**	14 18 16.3	0.0
SLE	**Schleitheim**	**150.43 350**	PKIKP	**PKPdf**	14 18 10.3	0.0
GCAM	**G?zelcami?**	**150.52 315**	*e*P	**PKPbc**	14 18 16.7	+0.1
LIA	**Limnos Island**	**150.53 321**	P	**PKPbc**	14 18 15.7	-0.8
LIA	**Limnos Island**	**150.53 321**	P	**PKPbc**	14 18 15.7	-0.8
SIGR	**SIGRI**	**150.54 319**	*e*P	**PKPbc**	14 18 15.9	-0.6
SIGR	**SIGRI**	**150.54 319**	P	**PKPbc**	14 18 16.0	-0.6
SIGR	**SIGRI**	**150.54 319**	P	**PKPbc**	14 18 16.0	-0.6
URLA	**Izmir**	**150.57 317**	*e*P	**PKPbc**	14 18 15.3	-1.5
LJU	**Ljubljana**	**150.63 341**	*e*PKPdf	**PKPdf**	14 18 10.5	-0.1
LJU			*i* PKPbc	**PKPbc**	14 18 16.7	+0.1
LJU			*ep*PKPbc	**pPKPbc**	14 20 18.1	+1.2
DAVA	**Damuels**	**150.64 348**	*e*PKPdf	**PKPdf**	14 18 10.4	-0.4
	comp=Z,2.7nm,0.6s					
DAVA			*e*PKiKP	**PKiKP**	14 18 17.2	-0.1
	comp=Z,114nm,1.2s,SNR=21					
SRS	**Serrai**	**150.65 324**	PKIKP	**PKPbc**	14 18 15.7	-1.1
SRS	**Serrai**	**150.65 324**	P	**PKPbc**	14 18 15.7	-1.1
SRS	**Serrai**	**150.65 324**	P	**PKPbc**	14 18 15.7	-1.1
FETA	**Feichten**	**150.72 347**	*e*PKPdf	**PKPdf**	14 18 10.9	0.0
	comp=Z,20nm,1.1s					
FETA			*i* PKiKP	**PKPbc**	14 18 17.2	+0.2
	comp=Z,63nm,0.8s,SNR=14					
SMG	**Samos**	**150.77 316**	P	**PKPbc**	14 18 16.7	-0.5
SMG	**Samos**	**150.77 316**	P	**PKPbc**	14 18 16.7	-0.5
BODT	**Bodrum**	**150.80 314**	P	**PKPbc**	14 18 15.8	-1.5
BLY	**Banja Luka**	**150.85 336**	⇑*i*P	**PKPbc**	14 18 17.9	+0.8
BLY	**Banja Luka**	**150.85 336**	*e*PKPdf	**PKPdf**	14 18 10.4	-0.5
BLY			*e*PKPbc	**PKiKP**	14 18 17.4	-0.2
BOJS	**Bojanci**	**150.88 340**	*i* PKPdf	**PKPdf**	14 18 11.0	+0.1
BOJS			*e*PKPbc	**PKiKP**	14 18 17.6	0.0
BOJS			*i* PKPab	**PKPab**	14 18 26.7	0.0
CHOS	**Chios island**	**150.90 318**	*e*P	**PKPbc**	14 18 18.3	+0.7
CHOS	**Chios island**	**150.90 318**	P	**PKPbc**	14 18 17.0	-0.6
CHOS	**Chios island**	**150.90 318**	P	**PKPbc**	14 18 17.0	-0.6
OUR	**Ouranopolis**	**150.95 323**	PKIKP	**PKPbc**	14 18 16.7	-0.8
OUR	**Ouranopolis**	**150.95 323**	P	**PKPbc**	14 18 16.7	-0.8
OUR	**Ouranopolis**	**150.95 323**	P	**PKPbc**	14 18 16.7	-0.8
SOH	**Sokhos**	**150.98 324**	PKIKP	**PKPbc**	14 18 16.4	-1.3
SOH	**Sokhos**	**150.98 324**	P	**PKPbc**	14 18 16.4	-1.3
SOH	**Sokhos**	**150.98 324**	P	**PKPbc**	14 18 16.4	-1.3
KNT	**Kendrikon**	**151.00 325**	PKIKP	**PKPbc**	14 18 16.6	-1.0
KNT	**Kendrikon**	**151.00 325**	P	**PKPbc**	14 18 16.6	-1.0
KNT	**Kendrikon**	**151.00 325**	P	**PKPbc**	14 18 16.6	-1.0
VAY	**Valandovo**	**151.06 326**	PKIKP	**PKPbc**	14 18 15.9	-1.8
VAY	**Valandovo**	**151.06 326**	P	**PKPbc**	14 18 15.9	-1.8
VAY	**Valandovo**	**151.06 326**	P	**PKPbc**	14 18 15.9	-1.8
VAY	**Valandovo**	**151.06 326**	*e*PKP	**PKPbc**	14 18 16.8	-0.9
PLE	**Pljevlja**	**151.11 332**	⇓*i*PKP	**PKPbc**	14 18 17.8	-0.2
TRI	**Trieste**	**151.16 342**	*e*PKIKP	**PKPdf**	14 18 10.0	-1.4
TRI			*e*		14 18 17.6	
TRI			*e*		14 18 27.3	
TRI	**Trieste**	**151.16 342**	*e*PKPdf	**PKPdf**	14 18 10.0	-1.4
TRI			*e*PKPbc	**PKPbc**	14 18 17.6	-0.3
TRI			*e*PKPab	**PKPab**	14 18 27.3	-0.6
SKO	**Skopje**	**151.18 328**	P	**PKPbc**	14 18 17.6	-0.4
SKO	**Skopje**	**151.18 328**	*e*PKP	**PKPbc**	14 18 17.8	-0.2
FUORN	**Ofenpass-Fuorn**	**151.20 347**	*e*PKPdf	**PKPdf**	14 18 11.2	-0.6
FUORN			*e*PKPbc	**PKiKP**	14 18 18.7	+0.1
FUORN			*e*PKPab	**PKPab**	14 18 28.1	-0.3
PLG	**Polygyros**	**151.23 323**	PKIKP	**PKPbc**	14 18 16.9	-1.3
PLG	**Polygyros**	**151.23 323**	P	**PKPbc**	14 18 16.9	-1.3
PLG	**Polygyros**	**151.23 323**	P	**PKPbc**	14 18 16.9	-1.3
IVA	**Berane**	**151.24 331**	⇓*i*PKP	**PKPbc**	14 18 18.1	-0.1
HORT	**Hortiatis**	**151.28 324**	P	**PKPbc**	14 18 16.9	-1.5
HORT	**Hortiatis**	**151.28 324**	P	**PKPbc**	14 18 16.9	-1.5
PAIG	**Palouri**	**151.40 322**	PKIKP	**PKPbc**	14 18 17.2	-1.3
PAIG	**Palouri**	**151.40 322**	P	**PKPbc**	14 18 17.2	-1.3
PAIG	**Palouri**	**151.40 322**	P	**PKPbc**	14 18 17.2	-1.3
GRG	**Griva**	**151.41 325**	PKIKP	**PKPbc**	14 18 17.6	-1.0
GRG	**Griva**	**151.41 325**	P	**PKPbc**	14 18 17.6	-1.0
GRG	**Griva**	**151.41 325**	P	**PKPbc**	14 18 17.6	-1.0
PVY	**Plav**	**151.43 330**	⇓*i*PKP	**PKPbc**	14 18 18.2	-0.5
KOME	**Kolasin**	**151.43 331**	*e*PKP	**PKPbc**	14 18 18.5	-0.2
TUE	**Stuetta**	**151.53 348**	*e*PKPdf	**PKPdf**	14 18 11.6	-0.6
TUE			*e*PKPbc	**PKiKP**	14 18 19.4	+0.2
SKY	**Skiros Island**	**151.55 320**	P	**PKPbc**	14 18 17.8	-1.1
SKY	**Skiros Island**	**151.55 320**	P	**PKPbc**	14 18 17.8	-1.1
UDBI	**Udbina**	**151.56 338**	P	**PKPbc**	14 18 18.8	-0.1
KARP	**Karpathos**	**151.68 312**	*e*P	**PKPbc**	14 18 19.1	-0.3
KARP	**Karpathos**	**151.68 312**	*e*PKPbc	**PKPbc**	14 18 18.9	-0.5
KARP	**Karpathos**	**151.68 312**	P	**PKPbc**	14 18 19.0	-0.3
NKY	**Niksic**	**151.70 332**	⇓*i*PKP	**PKPbc**	14 18 19.1	-0.2
NKME	**Niksic**	**151.75 332**	⇓*i*PKP	**PKPbc**	14 18 18.9	-0.4
NVLJ	**Novalja**	**151.84 339**	P	**PKPbc**	14 18 18.8	-0.6
PDG	**Podgorica**	**151.88 331**	⇓*i*P	**PKPbc**	14 18 19.6	+0.1
TTG	**Podgorica**	**151.88 331**	⇓*i*PKP	**PKPbc**	14 18 19.6	-0.2
TTG	**Podgorica**	**151.88 331**	*e*PKIKP	**PKPdf**	14 18 11.2	-1.3
TTG			*e*		14 18 19.3	
TTG			*e*		14 18 30.9	
TTG	**Podgorica**	**151.88 331**	*e*PKPdf	**PKPdf**	14 18 11.2	-1.3
TTG			*e*PKPbc	**PKPbc**	14 18 19.3	-0.2
TTG			*e*PKPab	**PKPab**	14 18 30.9	-0.1
CEME	**Cevo**	**151.94 332**	⇓*i*PKP	**PKPbc**	14 18 19.2	-0.6
LIT	**Litokhoron**	**151.96 324**	PKIKP	**PKPbc**	14 18 18.8	-1.0
LIT	**Litokhoron**	**151.96 324**	P	**PKPbc**	14 18 18.8	-1.0
LIT	**Litokhoron**	**151.96 324**	P	**PKPbc**	14 18 18.8	-1.0
KTI	**Kastanea**	**151.96 325**	P	**PKPbc**	14 18 18.8	-1.2
SENIN	**Lac Senin/Sane**	**151.97 351**	*e*PKPdf	**PKPdf**	14 18 12.5	-0.3
SENIN			*e*PKPbc	**PKPbc**	14 18 20.0	+0.1
SENIN			*e*PKPab	**PKPab**	14 18 31.8	+0.2
APE	**Apeiranthos**	**151.99 316**	PKIKP	**PKPbc**	14 18 18.4	-1.6
APE	**Apeiranthos**	**151.99 316**	P	**PKPbc**	14 18 18.4	-1.6
SKIA	**Skiathos**	**152.02 321**	P	**PKPbc**	14 18 18.6	-1.4
XOR	**Xorichti**	**152.05 322**	P	**PKPbc**	14 18 18.8	-1.3
XOR	**Xorichti**	**152.05 322**	P	**PKPbc**	14 18 18.8	-1.3
FNA	**Florina**	**152.08 326**	*e*P	**PKPbc**	14 18 19.6	-0.6
FNA	**Florina**	**152.08 326**	PKIKP	**PKPbc**	14 18 19.5	-0.6
FNA	**Florina**	**152.08 326**	P	**PKPbc**	14 18 19.5	-0.6
FNA	**Florina**	**152.08 326**	P	**PKPbc**	14 18 19.5	-0.6
DRME	**Dracevica, Mon**	**152.10 331**	⇓*i*PKP	**PKPbc**	14 18 19.8	-0.3
KARY	**Karystos**	**152.14 319**	P	**PKPbc**	14 18 19.3	-1.0
OHR	**Ohrid**	**152.14 327**	*e*PKP	**PKPbc**	14 18 19.9	-0.3
BUM	**Brajici-Budva**	**152.15 331**	⇓*i*PKP	**PKPbc**	14 18 19.6	-0.6
KZN	**Kozani**	**152.21 325**	PKIKP	**PKPbc**	14 18 19.2	-1.3
KZN	**Kozani**	**152.21 325**	P	**PKPbc**	14 18 19.2	-1.3
KZN	**Kozani**	**152.21 325**	P	**PKPbc**	14 18 19.2	-1.3
HCY	**Herceg Novi**	**152.21 332**	⇓*i*PKP	**PKPbc**	14 18 19.7	-0.6
ULC	**Ulcinj**	**152.25 331**	⇓*i*PKP	**PKPbc**	14 18 19.8	-0.6
SMIA	**Simia**	**152.36 321**	P	**PKPbc**	14 18 20.0	-0.8
THR8	**Santorini-Mono**	**152.40 315**	P	**PKPbc**	14 18 19.0	-1.9
THR2	**Thira island,**	**152.40 315**	P	**PKPbc**	14 18 19.5	-1.4
THR7	**Fira-Santorini**	**152.42 315**	P	**PKPbc**	14 18 19.5	-1.4
SANT	**Santorini**	**152.43 315**	⇑*i*P	**PKPdf**	14 18 12.7	-0.9
SANT	**Santorini**	**152.43 315**	*e*PKPdf	**PKPdf**	14 18 12.1	-1.6
SANT			*e*PKPbc	**PKPbc**	14 18 19.4	-1.6
SANT			*e*PKPab	**PKPab**	14 18 32.4	-1.4
SANT	**Santorini**	**152.43 315**	P	**PKPbc**	14 18 19.8	-1.2
TIR	**Tirane**	**152.43 329**	*e*PKIKP	**PKPbc**	14 18 20.2	-0.6
TIR	**Tirane**	**152.43 329**	⇑*i*P	**PKPbc**	14 18 21.1	+0.3
TIR	**Tirane**	**152.43 329**	*e*PKPbc	**PKPbc**	14 18 20.2	-0.6
THT1	**Athinios (Pele**	**152.44 315**	P	**PKPbc**	14 18 19.5	-1.4
THR3	**Thira Island,**	**152.45 315**	P	**PKPbc**	14 18 19.6	-1.4
THR3	**Thira Island,**	**152.45 315**	P	**PKPbc**	14 18 19.6	-1.4
THR6	**Thira Island,**	**152.48 315**	P	**PKPbc**	14 18 19.9	-1.1
THR6	**Thira Island,**	**152.48 315**	P	**PKPbc**	14 18 19.9	-1.1
PTL	**Penteli**	**152

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.26**	**278**	*e*PG	Pg	14 16 17.4	+0.2
OKC				*e*SG	Sg	14 16 21.2	+0.6
DPC	**Dobruska-Polom**	**1.54**	**292**	*e*PG	Pn	14 16 40.6	-0.3
DPC				*e*SG	Sg	14 17 00.9	-0.7

*ISCJB **25** 14:18:43.1±0.5,21.˙56S±0.˙04×178.˙83W±0.˙04, h553km±7km, mb4.5/121, Error ellipse: s-maj=6.2km s-min=5.2km az=135.4*
*NEIC **25** 14:18:44.1±0.1,21.˙58S×178.˙83W, mb4.6/90, Error ellipse: s-maj=6.3km s-min=3.7km az=147.0*
*WEL **25** 14:18:44.0,21.˙58S×178.˙83W, h559km*
*IDC **25** 14:18:45.5±1.5,21.˙60S×178.˙86W, h570km±16km, mb4.0/27, mb1 4.1/29, mb1mx4.0/43, mbtmp4.9/29, Error ellipse: s-maj=11.0km s-min=9.9km az=122.0*
*MOS **25** 14:18:51.6±2.6,20.˙37S×179.˙41W, h589km, mb4.6/23, Error ellipse: s-maj=12.1km s-min=10.3km az=134.2*
ISC 25 14:18:43.3±0.5,21.˙58S±0.˙05×178.˙67W±0.˙06, h556km±5km, n408, σ1$47/443, mb4.6/121, 41C-23D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.91**	**320**	*c i*P	**P**	**14 20 13.6**	**+0.6**
MSVF	**Nonsavu**	**4.91**	**320**	*e*P	**P**	**14 20 13.8**	**+0.8**
RIZ	**Raoul Island**	**7.67**	**175**	S	**S**	**14 22 11.2**	**-0.6**
RIZ	**Raoul Island**	**7.67**	**175**	P	**P**	**14 20 37.2**	**-0.6**
RAO	**Raoul Island**	**7.67**	**175**	S	**S**	**14 22 08.3**	**-3.6**
	209nm,0.3s,baz=90,slow=20,SNR=5.7						
GLKZ	**Green Lake**	**7.69**	**175**	P	**P**	**14 20 36.4**	**-1.6**
GLKZ	**Green Lake**	**7.69**	**175**	S	**S**	**14 22 13.0**	**+0.9**
NIUE	**Niue**	**8.57**	**75**	P	**P**	**14 20 44.8**	**-2.2**
	baz=8.4,SNR=3.5						
AFI	**Afiamalu**	**10.06**	**42**	P	**P**	**14 21 00.1**	**-2.0**
	4.5nm,0.3s,baz=38,slow=4.5,SNR=6.4						
AFI				S	**S**	**14 22 49.6**	**-6.6**
	2.3nm,0.3s,baz=38,slow=22,SNR=5.6						
AFI	**Afiamalu**	**10.06**	**42**	*e*P	**P**	**14 20 59.8**	**-2.4**
AFI				S	**S**	**14 22 49.6**	**-6.6**
AFI	**Afiamalu**	**10.06**	**42**	*e*P	**P**	**14 20 59.8**	**-2.4**
AFI				S	**S**	**14 22 49.6**	**-6.6**
DZM	**Mont Dzumac**	**13.83**	**265**	P	**P**	**14 21 40.5**	**-0.4**
	1.6nm,0.3s,baz=80,slow=21,SNR=16						
OUZ	**Omahuta**	**15.19**	**205**	*e*P	**P**	**14 21 57.2**	**+2.7**
	30nm,0.7s						
MXZ	**Matakaoa Point**	**16.15**	**189**	*e*P	**P**	**14 22 03.3**	**-0.6**
	110nm,1.3s						
MXZ	**Matakaoa Point**	**16.15**	**189**	P	**P**	**14 22 03.6**	**-0.2**
WMGZ	**Waiomatatini S**	**16.38**	**188**	P	**P**	**14 22 07.3**	**+1.3**
HAZ	**Te Kaha**	**16.41**	**190**	P	**P**	**14 22 05.6**	**-0.7**
HAZ	**Te Kaha**	**16.41**	**190**	S	**S**	**14 24 45.9**	**-5.8**
PKGZ	**Pakihiroa**	**16.50**	**189**	P	**P**	**14 22 08.0**	**+0.9**
RUGZ	**Raukumara Rang**	**16.64**	**190**	P	**P**	**14 22 07.7**	**-0.8**
PUZ	**Puketiti**	**16.65**	**188**	P	**P**	**14 22 07.6**	**-0.9**
TGRZ	**Tauranga**	**16.68**	**194**	P	**P**	**14 22 10.2**	**+1.5**
OPRZ	**Ohinepanea**	**16.73**	**193**	P	**P**	**14 22 09.5**	**+0.4**
TWGZ	**Tauwhareparae**	**16.80**	**189**	P	**P**	**14 22 10.9**	**+1.1**
TOZ	**Tahuroa Road**	**16.87**	**196**	P	**P**	**14 22 11.7**	**+1.3**
KARZ	**Kaharoa**	**16.97**	**194**	P	**P**	**14 22 11.2**	**-0.2**
MWZ	**Matawai**	**17.02**	**190**	P	**P**	**14 22 10.3**	**-1.5**
MWZ	**Matawai**	**17.02**	**190**	S	**S**	**14 24 56.3**	**-5.5**
URZ	**Urewera**	**17.02**	**191**	P	**P**	**14 22 10.9**	**-0.9**
	3.9nm,0.3s,baz=277,slow=3.2,SNR=20						
URZ				S	**S**	**14 24 55.6**	**-6.1**
	0.9nm,0.3s,baz=65,slow=23,SNR=7.8						
URZ	**Urewera**	**17.02**	**191**	*e*P	**P**	**14 22 09.1**	**-2.7**
	24nm,0.8s						
URZ				S	**S**	**14 24 55.6**	**-6.1**
URZ	**Urewera**	**17.02**	**191**	P	**P**	**14 22 09.1**	**-2.7**
URZ	**Urewera**	**17.02**	**191**	S	**S**	**14 24 56.1**	**-5.6**
CNGZ	**Carnagh Statio**	**17.07**	**188**	P	**P**	**14 22 12.4**	**+0.3**
TKGZ	**Te Karaka**	**17.07**	**189**	P	**P**	**14 22 12.0**	**-0.3**
HSRZ	**Hossack Road**	**17.25**	**194**	P	**P**	**14 22 14.8**	**+1.0**
MUGZ	**Murupara**	**17.30**	**192**	P	**P**	**14 22 13.2**	**-1.1**
HRRZ	**Handcock Road**	**17.31**	**193**	P	**P**	**14 22 14.8**	**+0.3**
RIGZ	**Rimuhau**	**17.35**	**189**	P	**P**	**14 22 14.7**	**-0.1**
RIGZ	**Rimuhau**	**17.35**	**189**	S	**S**	**14 25 06.5**	**-0.6**
PRRZ	**Plateau Road**	**17.39**	**193**	P	**P**	**14 22 14.6**	**-0.6**
TLZ	**Tolley Road**	**17.43**	**195**	P	**P**	**14 22 15.7**	**+0.1**
ALRZ	**Allen Road**	**17.47**	**193**	P	**P**	**14 22 15.5**	**-0.4**
SNGZ	**Shannon Statio**	**17.49**	**190**	P	**P**	**14 22 15.6**	**-0.4**
RAHZ	**Arahi**	**17.66**	**191**	P	**P**	**14 22 17.2**	**-0.5**
RAHZ	**Arahi**	**17.66**	**191**	S	**S**	**14 25 09.8**	**-2.5**
MRHZ	**Matea Rd**	**17.71**	**193**	P	**P**	**14 22 17.3**	**-0.8**
HIZ	**Hauiti**	**17.78**	**197**	*e*P	**P**	**14 22 20.3**	**+1.6**
	154nm,1.3s						
BKZ	**Black Stump Fm**	**18.02**	**192**	*e*P	**P**	**14 22 18.2**	**-2.8**
	70nm,1.6s						
BKZ	**Black Stump Fm**	**18.02**	**192**	P	**P**	**14 22 18.7**	**-2.3**
BKZ	**Black Stump Fm**	**18.02**	**192**	S	**S**	**14 25 13.6**	**-4.5**
BFZ	**Birch Farm**	**19.53**	**192**	*e*P	**P**	**14 22 32.9**	**-1.7**
	42nm,1.1s						
OXZ	**Oxford**	**23.03**	**198**	*e*P	**P**	**14 23 04.5**	**-1.6**
	23nm,0.6s						
RPZ	**Rata Peaks**	**23.67**	**199**	P	**P**	**14 23 13.0**	**+1.1**
	8.4nm,0.5s,baz=26,slow=5.5,SNR=7.9						
HNR	**Honiara**	**23.84**	**297**	P	**P**	**14 23 13.4**	**-0.3**
	26nm,0.5s,baz=132,slow=5.5,SNR=5.8						
EIDS	**Eidsvold**	**27.97**	**256**	P	**P**	**14 23 50.0**	**+0.1**
	baz=28,SNR=19						
ARMA	**Armidale**	**28.04**	**246**	P	**P**	**14 23 51.9**	**+1.2**
	baz=28,SNR=23						
ARMA	**Armidale**	**28.04**	**246**	*e*P	**P**	**14 23 51.5**	**+0.9**
	24nm,0.8s						
MGCD	**Mangrove Creek**	**29.12**	**240**	P	**P**	**14 24 01.3**	**+1.5**
	baz=29,SNR=19						
RMQ	**Roma**	**30.10**	**254**	P	**P**	**14 24 09.5**	**+1.1**
	baz=30,SNR=13						
CNB	**Canberra Magne**	**31.11**	**237**	P	**P**	**14 24 18.1**	**+1.1**
	baz=31,SNR=62						
CAN	**Canberra**	**31.40**	**237**	*e*P	**P**	**14 24 20.1**	**+0.6**
CAN				pmax	pmax		
	comp=Z,24nm,0.9s						
CAN	**Canberra**	**31.40**	**237**	*e*P	**P**	**14 24 20.1**	**+0.6**
	comp=Z,24nm,0.9s						
YNG	**Young**	**31.59**	**239**	P	**P**	**14 24 22.0**	**+0.9**
	baz=32,SNR=5.6						
CTA	**Charters Tower**	**32.77**	**266**	P	**P**	**14 24 31.4**	**+0.1**
	comp=Z,31nm,0.4s,baz=91,slow=11,SNR=101						
CTA				PcP	**PcP**	**14 27 00.5**	**+0.6**
	comp=Z,5.8nm,0.8s,baz=90,slow=3.0,SNR=3.9						
CTAO	**Charters Tower**	**32.77**	**266**	*e*P	**P**	**14 24 31.2**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,33nm,0.5s						
CTAO	**Charters Tower**	**32.77**	**266**	*e*P	**P**	**14 24 31.2**	**-0.1**
	comp=Z,32nm,0.5s						
CMSA	**Cobar Meteorol**	**33.26**	**245**	P	**P**	**14 24 35.6**	**+0.4**
	baz=33,SNR=102						
QLP	**Quilpie**	**34.15**	**254**	P	**P**	**14 24 42.8**	**0.0**
	baz=34,SNR=32						
TOO	**Toolangi**	**34.76**	**235**	P	**P**	**14 24 48.3**	**+0.6**
	baz=35,SNR=13						
TOO	**Toolangi**	**34.76**	**235**	P	**P**	**14 24 48.4**	**+0.6**
TOO				pmax	pmax		
	comp=Z,40nm,0.8s						
MTSU	**Mount Surprise**	**34.93**	**269**	P	**P**	**14 24 49.5**	**+0.1**
	baz=35,SNR=41						
PMG	**Port Moresby**	**34.99**	**285**	P	**P**	**14 24 49.7**	**-0.3**
	comp=Z,46nm,0.7s,baz=87,slow=7.4,SNR=8.4						
PMG	**Port Moresby**	**34.99**	**285**	*d i*P	**P**	**14 24 49.6**	**-0.3**
PMG				pmax	pmax		
	comp=Z,238nm,0.8s						
PMG	**Port Moresby**	**34.99**	**285**	*e*P	**P**	**14 24 49.2**	**-0.7**
	comp=Z,57nm,0.8s						
STKA	**Stephens Creek**	**36.76**	**245**	P	**P**	**14 25 04.9**	**+0.6**
	comp=Z,20nm,0.5s,baz=88,slow=10,SNR=40						
STKA	**Stephens Creek**	**36.76**	**245**	P	**P**	**14 25 05.0**	**+0.6**
	baz=37,SNR=21						
STKA	**Stephens Creek**	**36.76**	**245**	*e*P	**P**	**14 25 04.7**	**+0.3**
STKA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
STKA	**Stephens Creek**	**36.76**	**245**	*e*P	**P**	**14 25 04.7**	**+0.3**
	comp=Z,8.9nm,1.2s						
COEN	**Coen**	**37.04**	**275**	P	**P**	**14 25 07.3**	**+0.4**
	baz=37,SNR=12						
COEN	**Coen**	**37.04**	**275**	*e*P	**P**	**14 25 06.7**	**-0.1**
	comp=Z,26nm,0.7s						
QIS	**Mount Isa**	**38.86**	**264**	P	**P**	**14 25 20.9**	**-0.7**
	baz=39,SNR=10						
HTT	**Hallett**	**39.18**	**243**	P	**P**	**14 25 24.1**	**+0.1**
	baz=39,SNR=22						
BBOO	**Buckleboo**	**41.51**	**245**	P	**P**	**14 25 42.4**	**-0.2**
	baz=42,SNR=53						
BBOO	**Buckleboo**	**41.51**	**245**	*e*P	**P**	**14 25 42.2**	**-0.4**
	comp=Z,41nm,0.8s						
AS01	**Alice Springs**	**43.63**	**258**	*e*P	**P**	**14 25 58.6**	**-0.7**
AS01				*e*PcP	**PcP**	**14 27 34.3**	**0.0**
AS31	**Alice Springs**	**43.67**	**258**	*e*P	**P**	**14 25 59.2**	**-0.4**
	comp=Z,14nm,0.6s						
AS31				*e*PcP	**PcP**	**14 27 34.5**	**0.0**
ASAR	**Alice Springs**	**43.67**	**258**	P	**P**	**14 25 59.4**	**-0.3**
	comp=Z,40nm,0.5s,baz=98,slow=7.9,SNR=276						
ASAR				PcP	**PcP**	**14 27 34.8**	**+0.3**
	comp=Z,6.1nm,0.6s,baz=110,slow=3.5,SNR=9.5						
ASAR				S	**S**	**14 31 47.0**	**-2.8**
	comp=Z,4.9nm,1.0s,baz=95,slow=16,SNR=16						
WRAB	**Tennant Creek**	**43.83**	**263**	*d i*P	**P**	**14 25 59.8**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,53nm,0.9s						
WRAB	**Tennant Creek**	**43.83**	**263**	*e*P	**P**	**14 25 59.9**	**-1.0**
	comp=Z,45nm,0.8s						
WRA	**Warramunga Arr**	**43.84**	**263**	P	**P**	**14 25 59.6**	**-1.4**
	comp=Z,32nm,0.6s,baz=97,slow=5.5,SNR=118						
WRA				PcP	**PcP**	**14 27 35.6**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=96,slow=4.2,SNR=6.8						
WRA				S	**S**	**14 31 47.3**	**-4.8**
	comp=Z,2.7nm,0.9s,baz=101,slow=17,SNR=6.7						
MTN	**Manton Dam**	**48.55**	**272**	P	**P**	**14 26 35.8**	**-0.9**
	baz=49,SNR=24						
MTN	**Manton Dam**	**48.55**	**272**	*e*P	**P**	**14 26 35.7**	**-1.1**
	comp=Z,49nm,0.6s						
WRKA	**Warakurna**	**48.58**	**255**	P	**P**	**14 26 36.6**	**-0.3**
	baz=49,SNR=91						
KNRA	**Kununurra**	**49.97**	**267**	P	**P**	**14 26 46.9**	**-0.3**
	baz=50,SNR=27						
SAUI	**Saumlaki**	**50.01**	**278**	*e*P	**P**	**14 26 46.8**	**-0.7**
	comp=Z,74nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.27**	**263**	P	**P**	**14 27 03.7**	**0.0**
	comp=Z,8.8nm,0.4s,baz=119,slow=3.7,SNR=39						
SOEI	**Soe**	**55.91**	**273**	*e*P	**P**	**14 27 30.4**	**+0.8**
	comp=Z,93nm,0.8s						
SBA	**Scott Base**	**56.76**	**184**	P	**P**	**14 27 38.4**	**+4.1**
SBA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VNDA	**Vanda**	**56.79**	**185**	P	**P**	**14 27 35.7**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=3.6,slow=6.5,SNR=19						
MBWA	**Marble Bar**	**57.01**	**258**	*e*P	**P**	**14 27 36.2**	**-0.7**
	comp=Z,31nm,0.8s						
TNTI	**Tenate**	**57.13**	**286**	*e*P	**P**	**14 27 37.4**	**-0.4**
	comp=Z,73nm,0.9s						
JAGI	**Jajag, Banyuwa**	**65.75**	**270**	*e*P	**P**	**14 28 32.7**	**-1.5**
	comp=Z,46nm,0.9s						
QSPA	**South Pole Qui**	**68.50**	**180**	P	**P**	**14 28 51.7**	**+1.5**
	comp=Z,3.3nm,0.7s,baz=102,slow=0.7,SNR=15						
QSPA	**South Pole Qui**	**68.50**	**180**	*e*P	**P**	**14 28 51.7**	**+1.5**
	comp=Z,4.5nm,0.8s						
QSPA				*e*pP	**pP**	**14 30 47.5**	**+3.9**
MJAR	**Matsushiro Arr**	**70.70**	**324**	P	**P**	**14 29 03.9**	**+0.2**
	comp=Z,10nm,0.7s,baz=162,slow=5.5,SNR=33						
MAJO	**Matsushiro**	**70.71**	**324**	*e*P	**P**	**14 29 03.5**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MAJO	**Matsushiro**	**70.71**	**324**	*e*P	**P**	**14 29 03.6**	**-0.1**
	comp=Z,18nm,0.9s						
MJB9	**Matsu-Tunnel**	**70.71**	**324**	*e*P	**P**	**14 29 03.7**	**0.0**
	comp=Z,18nm,0.9s						
LEM	**Lembang**	**72.40**	**270**	P	**P**	**14 29 14.5**	**+0.2**
	comp=Z,52nm,0.7s,baz=35,slow=5.8,SNR=15						
ERM	**Erimo**	**72.45**	**331**	*e*P	**P**	**14 29 15.5**	**+1.9**
ERM				pmax	pmax		
	comp=Z,52nm,1.6s						
JNU	**Nakatsue**	**72.63**	**317**	P	**P**	**14 29 15.0**	**+0.1**
	comp=Z,6.7nm,0.7s,baz=9.4,slow=0.7,SNR=3.6						
KSM	**Kuching**	**72.94**	**279**	*e*P	**P**	**14 29 16.9**	**-0.2**
	comp=Z,26nm,0.8s						
TPUB	**Ta-pu**	**74.03**	**303**	*e*P	**P**	**14 29 22.1**	**-1.0**
	comp=Z,60nm,0.8s						
SSLB	**Suanglung**	**74.05**	**304**	*e*P	**P**	**14 29 22.3**	**-1.0**
	comp=Z,22nm,0.6s						
ASAJ	**Asahikawa**	**74.37**	**332**	P	**P**	**14 29 26.6**	**+2.1**
	comp=Z,12nm,0.8s,baz=212,slow=5.7,SNR=18						
ASAJ	**Asahikawa**	**74.37**	**332**	*e*P	**P**	**14 29 26.0**	**+1.5**
	comp=Z,12nm,0.9s						
YSS	**Yuzh-Sakhalins**	**76.58**	**334**	*e*P	**P**	**14 29 37.4**	**+0.7**
YSS				*e*		14 29 43.7	
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				MLR	MLR		
	comp=Z,200nm,13.0s						
PETK	**Petropavlovsk-**	**77.15**	**346**	P	**P**	**14 29 40.2**	**+0.5**
	comp=Z,15nm,0.7s,baz=176,slow=3.5,SNR=36						
PETK	**Petropavlovsk-**	**77.15**	**346**	*e*P	**P**	**14 29 40.0**	**+0.3**
PETK	**Petropavlovsk-**	**77.15**	**346**	*e*P	**P**	**14 29 40.0**	**+0.3**
KSRS	**Korea Array**	**77.28**	**319**	P	**P**	**14 29 41.6**	**+0.9**
	comp=Z,3.4nm,0.9s,baz=142,slow=6.5,SNR=6.6						
KSAR	**Wonju Array Be**	**77.29**	**319**	P	**P**	**14 29 41.7**	**+0.8**
KSAR	**Wonju Array Be**	**77.29**	**319**	P	**P**	**14 29 41.6**	**+0.8**
KS01	**Wonju Array Si**	**77.31**	**319**	*e*P	**P**	**14 29 41.3**	**+0.3**
USRK	**Ussuriysk Ar.**	**79.50**	**326**	P	**P**	**14 29 54.0**	**+1.6**
	comp=Z,17nm,0.9s,baz=164,slow=3.7,SNR=12						
TYV	**Tymovskoe**	**79.76**	**336**	*e*P	**P**	**14 29 53.4**	**-0.3**
TYV				pmax	pmax		
	comp=Z,20nm,0.9s						
CMB	**Columbia Colle**	**80.67**	**43**	*e*P	**P**	**14 30 00.6**	**+1.7**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CMB	**Columbia Colle**	**80.67**	**43**	*e*P	**P**	**14 30 00.6**	**+1.7**
	comp=Z,9.7nm,1.3s						
WDC	**Whiskeytown Da**	**80.90**	**40**	*e*P	**P**	**14 30 02.2**	**+2.3**
WDC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WDC	**Whiskeytown Da**	**80.90**	**40**	*e*P	**P**	**14 30 02.2**	**+2.3**
	comp=Z,8.0nm,1.0s						
MDJ	**Mudanjiang**	**81.04**	**325**	*e*P	**P**	**14 30 01.1**	**+0.6**
	comp=Z,13nm,0.9s						
MDPB	**Devils Postpil**	**81.27**	**44**	*e*P	**P**	**14 30 03.9**	**+1.7**
	comp=Z,5.1nm,0.8s						
YBH	**Yreka Blue Hor**	**81.52**	**39**	P	**P**	**14 30 05.6**	**+2.4**
	comp=Z,6.1nm,0.8s,baz=70,slow=4.2,SNR=22						
YBH	**Yreka Blue Hor**	**81.52**	**39**	*e*P	**P**	**14 30 05.4**	**+2.3**
YBH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YBH	**Yreka Blue Hor**	**81.52**	**39**	*e*P	**P**	**14 30 05.4**	**+2.3**
	comp=Z,6.9nm,0.8s						
WAKR	**Walker**	**81.55**	**43**	*e*P	**P**	**14 30 05.6**	**+2.1**
	comp=Z,6.0nm,0.7s						
HUMO	**Hull Mountain**	**81.92**	**38**	*e*P	**P**	**14 30 07.6**	**+2.5**
	comp=Z,13nm,1.2s						
GRNR	**Gornyy**	**82.17**	**333**	*e*P	**P**	**14 30 07.8**	**+1.6**
GRNR				pmax	pmax		
	comp=Z,31nm,1.0s						
NV01	**Mina Array Sit**	**82.23**	**44**	*e*P	**P**	**14 30 08.7**	**+1.6**
NVAR	**Mina Array Bea**	**82.23**	**44**	P	**P**	**14 30 09.0**	**+1.9**
	comp=Z,3.8nm,0.6s,baz=222,slow=9.1,SNR=10						
PAHR	**Pah Rah Range**	**82.30**	**42**	*e*P	**P**	**14 30 09.0**	**+1.7**
	comp=Z,6.3nm,0.9s						
NV11	**Mina Array Sit**	**82.33**	**44**	*e*P	**P**	**14 30 09.2**	**+1.7**
	comp=Z,0.3nm,0.8s						
IPM	**Ipoh**	**82.65**	**278**	*e*P	**P**	**14 30 09.4**	**0.0**
	comp=Z,42nm,0.7s						
MOD	**Modoc Plateau**	**83.04**	**40**	*e*P	**P**	**14 30 12.7**	**+1.7**
	comp=Z,5.5nm,0.9s						
KLR	**Kul'dur**	**83.13**	**330**	*i*P	**P**	**14 30 12.6**	**+1.6**
KULM	**Kulim**	**83.30**	**278**	*e*P	**P**	**14 30 12.9**	**+0.2**
	comp=Z,19nm,0.8s						
H04A	**Detroit Lake**	**83.66**	**37**	*e*P	**P**	**14 30 15.1**	**+1.3**
	comp=Z,7.5nm,0.6s						
PINE	**Pine Mountain**	**83.81**	**38**	*e*P	**P**	**14 30 16.1**	**+1.3**
	comp=Z,13nm,0.9s						
PSI	**Prapat**	**83.96**	**275**	P	**P**	**14 30 15.5**	**-0.6**
	comp=Z,16nm,0.8s,baz=84,slow=9.2,SNR=10.0						
PSI	**Prapat**	**83.96**	**275**	*e*P	**P**	**14 30 15.5**	**-0.6**
PSI				pmax	pmax		
	comp=Z,18nm,0.8s						
PSI	**Prapat**	**83.96**	**275**	*e*P	**P**	**14 30 15.5**	**-0.6**
	comp=Z,18nm,0.8s						
TUC	**Tucson**	**84.13**	**52**	*e*P	**P**	**14 30 18.6**	**+2.1**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TUC	**Tucson**	**84.13**	**52**	*e*P	**P**	**14 30 18.6**	**+2.1**
	comp=Z,4.6nm,0.9s						
MA2	**Magadan**	**84.65**	**345**	*e*P	**P**	**14 30 18.3**	**+0.1**
GSI	**Gunungsitoli**	**84.66**	**274**	*e*P	**P**	**14 30 19.9**	**+0.5**
	comp=Z,65nm,0.6s						
LCMT	**Little Creek M**	**84.80**	**47**	*e*P	**P**	**14 30 21.4**	**+1.7**
	comp=Z,3.1nm,0.9s						
SKNT	**Sakolnakorn**	**84.89**	**290**	P	**P**	**14 30 20.8**	**+0.4**
	comp=Z,29nm,1.2s						
TRTT	**Trang**	**85.14**	**280**	P	**P**	**14 30 22.4**	**+0.7**
	comp=Z,21nm,0.9s						
U15A	**North Rim**	**85.15**	**48**	*e*P	**P**	**14 30 23.6**	**+1.9**
	comp=Z,7.4nm,0.8s						
GAMB	**Gambell**	**85.24**	**3**	*e*P	**P**	**14 30 22.2**	**+1.2**
	comp=Z,9.3nm,1.1s						
KHON	**Khomkaen**	**85.65**	**289**	P	**P**	**14 30 25.9**	**+1.9**
	comp=Z,20nm,0.7s						
SUA	**Susitna One**	**85.74**	**13**	*e*P	**P**	**14 30 23.8**	**+0.1**
	comp=Z,13nm,0.6s						
G08A	**Pilot Rock**	**85.85**	**38**	*e*P	**P**	**14 30 26.1**	**+1.5**
	comp=Z,8.6nm,1.0s						
ENH	**Enshi**	**86.12**	**305**	*e*P	**P**	**14 30 26.5**	**+0.4**
	comp=Z,20nm,0.8s						
PMR	**Palmer**	**86.21**	**14**	*e*P	**P**	**14 30 25.8**	**+0.2**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PMR	**Palmer**	**86.21**	**14**	*e*P	**P**	**14 30 25.8**	**+0.2**
	comp=Z,8.3nm,0.6s						
CHAI	**Chaiyaphum**	**86.21**	**289**	P	**P**	**14 30 29.0**	**+2.3**
	comp=Z,4.5nm,0.9s						
SURT	**Suratani**	**86.39**	**281**	P	**P**	**14 30 28.8**	**+1.2**
	comp=Z,13nm,1.1s						
BMO	**Blue Mountains**	**86.54**	**39**	*e*P	**P**	**14 30 28.7**	**+0.9**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BMO	**Blue Mountains**	**86.54**	**39**	*e*P	**P**	**14 30 28.7**	**+0.9**
	comp=Z,2.9nm,0.8s						
DIV	**Divide**	**86.58**	**15**	*e*P	**P**	**14 30 27.6**	**+0.1**
	comp=Z,38nm,1.4s						
MFID	**Camas Ranch**	**86.61**	**41**	*e*P	**P**	**14 30 29.6**	**+1.4**
	comp=Z,11nm,1.6s						
BMRM	**Bremner River**	**86.73**	**16**	*e*P	**P**	**14 30 29.1**	**+0.8**
D08A	**Wollman Farm,**	**86.92**	**36**	*e*P	**P**	**14 30 31.1**	**+1.7**
	comp=Z,11nm,1.0s						
SNAA	**Sanae**	**86.96**	**179**	P	**P**	**14 30 29.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=191,slow=16,SNR=7.3						
E09A	**Wood Farm, Sta**	**87.03**	**37**	*e*P	**P**	**14 30 31.3**	**+1.4**
	comp=Z,17nm,1.4s						
F10A	**Beach Ranch, E**	**87.23**	**38**	*e*P	**P**	**14 30 32.1**	**+1.1**
	comp=Z,12nm,0.9s						
CAST	**Castle Rocks**	**87.25**	**12**	*e*P	**P**	**14 30 29.9**	**-0.7**
	comp=Z,13nm,0.7s						
SEY	**Seymchan**	**87.28**	**347**	*ce*P	**P**	**14 30 30.6**	**-0.1**
TMUT	**Trail Mountain**	**87.35**	**46**	*e*P	**P**	**14 30 34.0**	**+2.0**
	comp=Z,4.0nm,0.8s						
B08A	**Colville Reser**	**87.47**	**35**	*e*P	**P**	**14 30 32.6**	**+0.6**
	comp=Z,7.2nm,0.8s						
LLLB	**Lillooet**	**87.53**	**32**	*e*P	**P**	**14 30 32.7**	**+0.4**
	comp=Z,5.2nm,0.9s						
HLID	**Hailey**	**87.55**	**41**	*e*P	**P**	**14 30 33.6**	**+0.9**
	comp=Z,4.7nm,0.9s						
KTH	**Kantishna Hill**	**87.60**	**12**	*e*P	**P**	**14 30 31.7**	**-0.6**
	comp=Z,10nm,0.8s						
HVU	**Hansel Valley**	**87.61**	**43**	*e*P	**P**	**14 30 33.1**	**+0.1**
HVU				pmax	pmax		
	comp=Z,18nm,2.0s						
HVU	**Hansel Valley**	**87.61**	**43**	*e*P	**P**	**14 30 33.1**	**+0.1**
	comp=Z,18nm,2.0s						
TRF	**Thorofare Moun**	**87.63**	**12**	*e*P	**P**	**14 30 32.0**	**-0.5**
	comp=Z,22nm,0.8s						
SRU	**San Rafael Swe**	**87.72**	**46**	*e*P	**P**	**14 30 34.7**	**+1.1**
	comp=Z,15nm,1.6s						
RND	**Reindeer**	**87.88**	**13**	*e*P	**P**	**14 30 33.8**	**+0.2**
RND				pmax	pmax		
	comp=Z,23nm,0.8s						
RND	**Reindeer**	**87.88**	**13**	*e*P	**P**	**14 30 33.8**	**+0.2**
	comp=Z,23nm,0.8s						
MNTX	**Cornudas Mount**	**87.88**	**55**	*e*P	**P**	**14 30 36.2**	**+1.8**
	comp=Z,3.8nm,0.8s						
PHIT	**Phitsanulok**	**88.10**	**289**	P	**P**	**14 30 37.6**	**+2.0**
	comp=Z,15nm,0.9s						
MCK	**McKinley**	**88.15**	**13**	*e*P	**P**	**14

ULN pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 96.15 319 P **P** **14 31 12.1 +0.1**
comp=Z,0.5nm,0.5s,baz=131,slow=4.0,SNR=4.8
YKA Yellowknife Ar 97.75 25 P Pdif 14 31 17.7 -0.9
comp=Z,0.5nm,0.8s,baz=245,slow=4.5,SNR=8.3
YKA pP pP 14 33 25.8 +4.7
comp=Z,0.2nm,0.7s,baz=257,slow=4.4,SNR=2.8
ZALV Zalesovo Beam 110.93 321 PKiKP **PKiKP** **14 36 12.3 -1.0**
comp=Z,1.4nm,0.6s,baz=182,slow=1.6,SNR=8.3
MKAR Makanchi Array 111.47 313 Pdiff **Pdif** **14 32 22.2 +2.1**
comp=Z,0.4nm,0.8s,baz=84,slow=5.5,SNR=3.8
MKAR PKiKP **PKiKP** **14 36 13.8 -0.9**
comp=Z,0.7nm,0.4s,baz=179,slow=0.6,SNR=17
KURK Kurchatov 114.35 317 PKIKP PKPdf 14 36 19.2 -0.8
KURK Kurchatov 114.35 317 PKP PKPdf 14 36 19.2 -0.8
KURBB Kurchatov Arra 114.40 317 PKP PKPdf 14 36 19.2 -0.9
comp=Z,1.2nm,0.6s,baz=99,slow=2.0,SNR=15
KSH Kashi 114.98 305 *e*PKP PKPdf 14 36 23.8 +2.1
BVAR Borovoye Array 119.49 320 PKP **PKPdf** **14 36 29.3 -0.5**
comp=Z,3.0nm,0.4s,baz=123,slow=1.0,SNR=24
BRVK Borovoye 119.55 320 *e*PKIKP **PKPdf** **14 36 29.2 -0.7**
BRVK Borovoye 119.55 320 *e*PKPdf **PKPdf** **14 36 29.2 -0.7**
SCHQ Schefferville 119.90 38 PKP **PKPdf** **14 36 30.7 +0.1**
comp=Z,4.3nm,0.7s,baz=231,slow=9.1,SNR=3.9
SPITS Spitsbergen Ar 122.89 356 PKP **PKPdf** **14 36 35.6 -0.2**
comp=Z,9.9nm,0.7s,baz=15,slow=6.0,SNR=20
ARU Arti 125.72 325 *i* PKIKP **PKPdf** **14 36 41.8 +0.2**
ARU 14 38 41.4
ARU 14 43 00.7
ARU SP SP 14 47 46.4 -3.2
ARU SS **SS** **14 54 51.3 -9.2**
ARU Arti 125.72 325 *e*PKPdf **PKPdf** **14 36 41.5 -0.1**
ABKAR Akbulak array 126.42 316 *e*PKPdf **PKPdf** **14 36 43.1 -0.1**
GEYT Alibeck 128.82 302 PKP **PKPdf** **14 36 47.5 -0.7**
comp=Z,2.3nm,0.6s,baz=226,slow=3.9,SNR=8.1
SOHO SOHO 129.34 284 *i* P **PKPdf** **14 36 49.3 -0.2**
SNR=6.2
UOSS Minazif 129.75 285 P **PKPdf** **14 36 50.3 0.0**
HATD Hatta, Dubai 129.80 285 P **PKPdf** **14 36 50.8 +0.3**
ASHO Ashiyiah 129.85 285 P **PKPdf** **14 36 50.8 +0.3**
MSFE Esma-Masafi 129.85 286 P **PKPdf** **14 36 50.9 +0.3**
ARCES ARCESS Array B 129.86 349 PKP **PKPdf** **14 36 48.8 -0.4**
comp=Z,6.0nm,0.6s,baz=29,slow=2.0,SNR=28
KLMR Klimovskoe 132.60 336 *e*PKIKP **PKPdf** **14 36 54.6 0.0**
KLMR pmax pmax
comp=Z,15nm,1.5s
KLMR Klimovskoe 132.60 336 *e*PKPdf **PKPdf** **14 36 54.7 +0.1**
KLMR AMP 14 36 58.8
comp=Z,15nm,1.5s
FINES FINESS Array B 136.62 343 PKhKP PKPpre 14 36 53.1
comp=Z,0.8nm,0.6s,baz=48,slow=2.8,SNR=4.8
FINES PKP **PKPdf** **14 37 01.4 -0.6**
comp=Z,1.8nm,0.5s,baz=87,slow=2.0,SNR=14
FINES FINESS Array B 136.62 343 *c i* PKIKP **PKPdf** **14 37 06.4 +4.4**
FINES pmax pmax
comp=Z,1.0nm,0.5s
OBN Obninsk 137.39 331 ⇓ *i* PKIKP **PKPdf** **14 37 05.5 +1.9**
OBN pmax pmax
comp=Z,31nm,1.9s
VSR Storozhevoye 138.29 325 ⇑ *e*PKIKP **PKPdf** **14 37 07.2 +1.8**
NCK Nalchik 138.76 312 ⇑ *i* PKIKP **PKPdf** **14 37 07.1 +0.5**
GNI Garni 138.85 307 ⇑ *i* PKIKP **PKPdf** **14 37 07.8 +0.7**
KBZ Khabaz 139.17 313 PKhKP PKPpre 14 37 00.6
comp=Z,1.2nm,0.8s,baz=158,slow=2.6,SNR=3.6
KBZ PKP **PKPdf** **14 37 06.5 -0.7**
comp=Z,1.0nm,0.6s,baz=247,slow=4.1,SNR=4.2
NB2 NORSAR Subarra 139.96 353 PKP PKPpre 14 37 01.6
comp=Z,1.3nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 139.96 353 PKhKP PKPpre 14 37 00.5
comp=Z,2.1nm,0.7s,baz=19,slow=2.4,SNR=12
NOA PKP **PKPdf** **14 37 08.4 +0.1**
comp=Z,0.6nm,0.4s,baz=13,slow=4.1,SNR=6.3
NOA SKPbc **SKPbc** **14 39 52.8 +0.7**
comp=Z,0.8nm,0.8s,baz=337,slow=2.4,SNR=3.5
HFS Hagfors 140.49 350 PKhKP PKPpre 14 37 03.2
comp=Z,3.1nm,0.3s,baz=29,slow=3.3,SNR=58
HFS PKP **PKiKP** **14 37 11.5 -0.4**
comp=Z,3.5nm,0.6s,baz=0.0,slow=3.0,SNR=3.9
ANN Anapa 142.38 317 *i* PKIKP **PKPdf** **14 37 15.3 +2.3**
ANN pmax pmax
comp=Z,30nm,1.0s
SUW Suwalki 143.61 338 *e*PKP PKPbc 14 37 14.2 +0.5
SUW Suwalki 143.61 338 *e*PKPbc PKPab 14 37 13.7 0.0
AKASG Malin Array Be 143.63 330 PKP PKPab 14 37 13.3 -0.6
comp=Z,30nm,0.8s,baz=42,slow=4.5,SNR=168
AKBB Malin Array Si 143.63 330 *e*PKPbc PKPab 14 37 13.3 -0.6
KIEV Kiev 143.65 330 *e*PKPbc PKPab 14 37 13.2 -0.7
KIEV Kiev 143.65 330 *i* P PKPab 14 37 13.5 -0.4
SNR=28
AK11 Malin Array Si 143.68 330 *e*PKPbc PKPab 14 37 13.2 -0.8
MBAR Mbarara 143.80 236 *e*PKPbc PKPbc 14 37 15.2 -0.5
SORM Soroca 145.78 327 ⇓ *i* PKIKP **PKPbc** **14 37 20.4 -0.1**
SORM Soroca 145.78 327 ⇓ *i* P **PKPbc** **14 37 20.4 -0.1**
GKP Gorka Klasztor 146.09 343 *e*PKP **PKPbc** **14 37 21.9 +0.7**
GKP Gorka Klasztor 146.09 343 *e*PKIKP **PKPbc** **14 37 21.9 +0.7**
ESK Eskdalemuir 146.14 5 *e*PKPdf **PKPbc** **14 37 20.6 -0.6**
BEL Belsk 146.22 339 *e*PKP **PKPbc** **14 37 21.5 -0.1**
BEL Belsk 146.22 338 *e*PKIKP **PKPbc** **14 37 21.5 -0.1**
ILGA Ilgaz 146.47 313 *e*PKPdf **PKPdf** **14 37 21.1 +0.6**
ILGA *e*PKPbc **PKPbc** **14 37 23.8 +0.8**
LVV L'vov 146.59 333 *e*PKIKP **PKPbc** **14 37 22.9 +0.2**
BR131 Keskin Array S 147.08 311 *e*PKPbc **PKPbc** **14 37 24.3 -0.2**
BRTR Keskin Array B 147.08 311 PKPbc **PKPbc** **14 37 24.2 -0.2**
comp=Z,9.8nm,0.7s,baz=128,slow=2.0,SNR=53
TLCR 147.39 323 ⇑ PKIKP **PKPbc** **14 37 25.4 +0.5**
TLCR 147.39 323 ⇑ *i* P **PKPbc** **14 37 25.4 +0.5**
ANTO Ankara 147.61 311 *e*PKIKP **PKPbc** **14 37 26.1 +0.3**
ANTO Ankara 147.61 311 *e*PKPbc **PKPbc** **14 37 26.1 +0.3**
BR231 Keskin MP Arra 147.63 311 *e*PKPbc **PKPbc** **14 37 25.1 -0.8**
BR231 *e*PKPab **PKPab** **14 37 29.6 -0.6**
BUR08 Bucovina Ar. S 147.66 329 *e*PKPbc **PKPbc** **14 37 26.4 +0.7**
BUR04 Bucovina Ar. S 147.67 329 *e*PKPbc **PKPbc** **14 37 26.4 +0.7**
BURAR Bucovina Array 147.67 329 ⇓ PKIKP **PKPbc** **14 37 26.8 +1.1**
BURAR Bucovina Array 147.67 329 ⇓ *i* P **PKPbc** **14 37 26.8 +1.1**
TESR Tescani 147.72 326 ⇑ *i* P **PKPbc** **14 37 25.5 -0.3**
MMAI Mount Meron Ar 147.78 298 PKPbc **PKPbc** **14 37 27.6 +1.2**
comp=Z,16nm,0.6s,baz=75,slow=5.7,SNR=20
CFR Carcaliu 147.78 323 ⇑ PKIKP **PKPbc** **14 37 26.3 +0.4**
CFR Carcaliu 147.78 323 ⇑ *i* P **PKPbc** **14 37 26.3 +0.4**
OJC Ojcow 147.92 337 *e*PKP **PKPbc** **14 37 26.9 +0.7**
OJC Ojcow 147.92 337 *e*PKIKP **PKPbc** **14 37 26.2 +0.1**
OJC Ojcow 147.92 337 *e*PKPbc **PKPbc** **14 37 26.2 +0.1**
PETR Petresti 147.93 325 ⇓ *i* P **PKPab** **14 37 33.0 +2.0**
ODBI Odobesti 148.00 325 ⇑ *i* P **PKPab** **14 37 33.5 +2.2**
STHS Stebnicka Huta 148.03 335 *e*PKIKP **PKPbc** **14 37 27.7 +1.2**
STHS *e* 14 37 33.0
STHS Stebnicka Huta 148.03 335 *e*PKP **PKPbc** **14 37 27.7 +1.2**
STHS *e* 14 37 33.0
VRI Vrincioaia 148.11 325 ⇓ PKIKP **PKPbc** **14 37 27.1 +0.3**
VRI Vrincioaia 148.11 325 ⇓ *i* P **PKPbc** **14 37 27.1 +0.3**
PLOR Plostina 148.16 325 ⇑ PKIKP **PKPbc** **14 37 27.5 +0.6**
PLOR Plostina 148.16 325 ⇑ *i* P **PKPbc** **14 37 27.5 +0.6**
TLB Topalu 148.19 322 ⇑ PKIKP **PKPbc** **14 37 27.1 +0.1**
TLB Topalu 148.19 322 ⇑ *i* P **PKPbc** **14 37 27.1 +0.1**
UZH Uzhgorod 148.23 333 ⇓ *i* PKIKP **PKPbc** **14 37 27.7 +0.8**
UZH *e* 14 37 32.1
CRVS Cervenica-Dubn 148.36 334 *e*PKIKP **PKPbc** **14 37 28.1 +0.8**
CRVS *e* 14 37 33.5
CRVS Cervenica-Dubn 148.36 334 *e*PKP **PKPbc** **14 37 28.1 +0.8**
CRVS *e* 14 37 33.5
NIE Niedzica 148.40 336 *e*PKP **PKPbc** **14 37 28.6 +1.2**
NIE Niedzica 148.40 336 *e*PKIKP **PKPbc** **14 37 28.6 +1.2**
KSP Ksiaz 148.52 342 *e*PKP **PKPbc** **14 37 28.7 +1.1**
KSP Ksiaz 148.52 342 *e*PKIKP **PKPbc** **14 37 28.7 +1.1**
MLR Muntele Rosu 148.77 326 PKPbc **PKPbc** **14 37 29.0 +0.4**
comp=Z,3.7nm,0.9s,baz=40,slow=2.7,SNR=16
OKC Ostrava-Krasne 148.81 339 *e*PKIKP **PKPbc** **14 37 29.1 +0.7**
OKC *e* 14 37 35.4
OKC Ostrava-Krasne 148.81 339 ⇑ *e*PKP **PKPbc** **14 37 29.1 +0.7**
OKC *e*PKPAB **PKPab** **14 37 35.4 +0.9**
UPC Upice 148.90 342 *e*PKIKP **PKPbc** **14 37 29.5 +0.9**
UPC *e* 14 37 36.0
UPC Upice 148.90 342 ⇑ *e*PKP **PKPbc** **14 37 29.5 +0.9**
UPC *e*PKPAB **PKPab** **14 37 36.5 +1.2**
LANS Liptovska Anna 148.93 337 *e*PKIKP **PKPbc** **14 37 30.4 +1.7**
LANS *e* 14 37 36.4
LANS Liptovska Anna 148.93 337 *e*PKP **PKPbc** **14 37 30.4 +1.7**
LANS *e* 14 37 36.4
DPC Dobruska-Polom 148.95 341 *e*PKIKP **PKPbc** **14 37 29.8 +1.0**
DPC *e* 14 37 36.5
DPC Dobruska-Polom 148.95 341 ⇑ *e*PKP **PKPbc** **14 37 29.8 +1.0**
DPC *e*PKPAB **PKPab** **14 37 36.5 +1.4**

CLL Collm 148.95 346 ⇓ *i* PKIKP **PKPbc** **14 37 29.4 +0.8**
CLL *i* 14 37 31.0
CLL *i* 14 37 35.3
CLL pmax pmax
comp=Z,28nm,1.0s
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 148.95 346 *e*PKPbc **PKPbc** **14 37 28.9 +0.3**
SECR 149.00 325 ⇑ *i* P **PKPbc** **14 37 29.6 +0.6**
KRLC Kraliky 149.05 340 *e*PKIKP **PKPbc** **14 37 29.8 +0.8**
KRLC 14 37 36.6
KRLC Kraliky 149.05 340 ⇑ *e*PKP **PKPbc** **14 37 29.8 +0.8**
KRLC *e*PKPAB **PKPab** **14 37 36.6 +1.1**
MORC Moravsky Berou 149.07 339 ⇓ PKIKP **PKPbc** **14 37 30.1 +1.0**
MORC Moravsky Berou 149.07 339 ⇓ *i* P **PKPbc** **14 37 30.1 +1.0**
MORC Moravsky Berou 149.07 339 *e*PKPbc **PKPbc** **14 37 29.0 0.0**
KECS Kecovo 149.08 335 *e*PKIKP **PKPbc** **14 37 30.1 +1.0**
KECS *e* 14 37 36.2
KECS Kecovo 149.08 335 *e*PKP **PKPbc** **14 37 30.0 +1.0**
KECS *e* 14 37 36.2
CJR Cluj-Napoca 149.09 329 ⇑ PKIKP **PKPbc** **14 37 30.3 +1.1**
CJR Cluj-Napoca 149.09 329 ⇑ *i* P **PKPbc** **14 37 30.3 +1.1**
BRG Berggiesshubel 149.13 344 *i* PKP **PKPbc** **14 37 29.8 +0.7**
comp=Z,15nm,0.7s
BRG Berggiesshubel 149.13 344 *i* PKIKP **PKPbc** **14 37 29.8 +0.7**
BRG pmax pmax
comp=Z,15nm,0.7s
BRG pmax pmax
comp=Z,3.0nm,0.7s
VOIR 149.27 326 ⇓ *i* P **PKPbc** **14 37 30.7 +1.0**
PVCC Panska Ves 149.28 343 ⇑ *e*PKP **PKPbc** **14 37 30.6 +1.1**
VYHS Vyhne 149.70 337 *e*PKP **PKPbc** **14 37 31.2 +0.6**
VYHS *e* 14 37 39.2
PSZ Piszkesteto 149.77 335 *e*PKPbc **PKPbc** **14 37 30.3 -0.5**
VRAC Vranov 149.78 340 ⇑ *i* P **PKPbc** **14 37 31.7 +1.0**
GOPC GO Pecny, Ondr 149.78 343 ⇑ *e*PKP **PKPbc** **14 37 31.5 +0.8**
PRU Pruhonice 149.78 343 ⇑ *e*PKP **PKPbc** **14 37 31.4 +0.7**
PRU *e*PKPAB **PKPab** **14 37 39.2 +0.7**
ISP Isparta 150.08 309 ⇓ *i* P **PKPbc** **14 37 31.2 -0.7**
ISP Isparta 150.08 309 *e*PKPbc **PKPbc** **14 37 30.6 -1.4**
NKC Novy Kostel 150.08 346 ⇑ *e*PKP **PKPbc** **14 37 32.1 +0.7**
NKC *e*PKPAB **PKPab** **14 37 40.5 +0.7**
SIRR Siria 150.32 331 ⇓ *i* P **PKPbc** **14 37 32.9 +0.8**
BEBN Eben Emael 150.64 354 ⇑ PKPbc **PKPbc** **14 37 32.9 +0.3**
BEBN ⇑ PKPab **PKPab** **14 37 42.3 +0.3**
MEM Membach 150.79 354 ⇑ PKPbc **PKPbc** **14 37 33.0 0.0**
KHC Kasperske Hory 150.82 343 *e*PKIKP **PKPdf** **14 37 27.4 +0.5**
KHC *e* 14 37 33.9
KHC *e* 14 37 44.0
KHC Kasperske Hory 150.82 343 *e*PKPDF **PKPdf** **14 37 27.4 +0.5**
KHC ⇑ *e*PKP **PKiKP** **14 37 33.9 +0.3**
KHC *e*PKPAB **PKPab** **14 37 44.0 +1.1**
KHC Kasperske Hory 150.82 343 *e*PKPbc **PKPbc** **14 37 33.5 +0.3**
BZS Buzias 150.83 330 ⇑ *i* P **PKPbc** **14 37 33.8 +0.6**
GRFO Grafenberg 150.87 347 *e*PKPbc **PKPbc** **14 37 33.8 +0.6**
SNF Seneffe 151.03 356 ⇓ PKPbc **PKPbc** **14 37 33.9 +0.4**
BCLA Clavier 151.04 355 ⇓ PKPbc **PKPbc** **14 37 33.7 +0.1**
BCLA ⇑ PKPab **PKPab** **14 37 43.7 0.0**
GEC2 GERESS Array S 151.05 343 *e*PKPbc **PKPbc** **14 37 33.7 -0.1**
GERES GERESS Array B 151.05 343 PKP **PKPdf** **14 37 28.1 +0.7**
comp=Z,0.5nm,0.7s,baz=338,slow=5.7,SNR=4.4
GERES PKPbc **PKiKP** **14 37 34.1 0.0**
comp=Z,7.6nm,0.8s,baz=27,slow=2.2,SNR=55
GERES PKPab **PKPab** **14 37 44.9 +0.9**
comp=Z,1.6nm,0.7s,baz=23,slow=4.4,SNR=6.9
GEA0 GERESS Array S 151.06 343 *e*PKPbc **PKPbc** **14 37 33.8 0.0**
CONA Conrad Observa 151.22 339 *i* PKiKP **PKiKP** **14 37 34.6 +0.1**
comp=Z,13nm,0.7s
DOU Dourbes 151.42 356 ⇓ PKPbc **PKPbc** **14 37 34.9 +0.5**
WLF Walferdange 151.71 353 ⇑ PKPbc **PKPbc** **14 37 36.1 +0.9**
WLF ⇑ PKPab **PKPab** **14 37 47.0 +0.5**
WLF Walferdange 151.71 353 *e*PKIKP **PKPbc** **14 37 36.0 +0.9**
WLF Walferdange 151.71 353 *e*PKPbc **PKPbc** **14 37 36.0 +0.9**
MOA Molln 151.79 341 *e*PKPbc **PKPbc** **14 37 35.3 -0.1**
comp=Z,3.2nm,0.6s
MOA *e*PKPab **PKPab** **14 37 48.3 +1.3**
comp=Z,5.1nm,1.1s
ARSA Arzberg 151.93 339 *e*PKPbc **PKPbc** **14 37 35.9 +0.2**
comp=Z,3.6nm,1.0s
ARSA *e*PKPab **PKPab** **14 37 48.4 +0.8**
comp=Z,5.3nm,0.9s
VTS Vitosha 152.17 324 *e*PKIKP **PKPbc** **14 37 36.7 +0.2**
VTS *e* 14 37 49.0
VTS Vitosha 152.17 324 ⇓ *i* P **PKPbc** **14 37 36.8 +0.2**
VTS Vitosha 152.17 324 *e*PKPbc **PKPbc** **14 37 36.7 +0.2**
VTS *e*PKPab **PKPab** **14 37 49.0 0.0**
SOKA Soboth 152.59 339 *e*PKPbc **PKPbc** **14 37 37.1 -0.2**
comp=Z,6.0nm,1.0s
SOKA *e*PKPab **PKPab** **14 37 51.1 +0.5**
comp=Z,4.6nm,0.7s
BFO Black Forest 152.72 350 *e*PKIKP **PKPbc** **14 37 37.3 -0.1**
BFO *e* 14 37 50.9
BFO Black Forest 152.72 350 *e*PKPbc **PKPbc** **14 37 37.3 -0.1**
BFO *e*PKPab **PKPab** **14 37 50.9 0.0**
DIVS Divibare 152.73 330 *e*PKPbc **PKPbc** **14 37 37.4 -0.3**
KBA Koelnbreinsper 152.76 342 *e*PKPbc **PKPbc** **14 37 37.6 -0.1**
comp=Z,2.6nm,0.6s
WATA Walderalm 153.00 345 *e*PKiKP **PKiKP** **14 37 38.4 +0.1**
comp=Z,1.2nm,0.4s
WATA *e*PKPab **PKPab** **14 37 53.4 +1.1**
comp=Z,1.6nm,0.5s
WTTA Wattenberg 153.05 344 *e*PKPbc **PKPbc** **14 37 38.0 -0.4**
comp=Z,0.2nm,0.3s
WTTA *e*PKPab **PKPab** **14 37 53.4 +0.8**
comp=Z,4.4nm,0.6s
RETA Reutte 153.05 346 *e*PKPbc **PKPbc** **14 37 38.3 +0.1**
comp=Z,3.4nm,0.8s,SNR=6.1
RETA *e*PKPab **PKPab** **14 37 53.0 +0.5**
comp=Z,9.6nm,1.1s
MYKA Terra Mystica 153.07 341 *e*PKPbc **PKPbc** **14 37 37.7 -0.6**
comp=Z,2.9nm,0.7s
MYKA *e*PKPab **PKPab** **14 37 52.7 +0.1**
comp=Z,4.4nm,0.7s
MOTA Moosalm 153.10 345 *e*PKPbc **PKPbc** **14 37 37.6 -0.8**
comp=Z,2.5nm,0.5s
MOTA *e*PKPab **PKPab** **14 37 53.3 +0.6**
comp=Z,2.5nm,0.5s
LEGS Legarje 153.13 338 *i* PKPbc **PKPbc** **14 37 38.3 -0.1**
LEGS *i* pPKPbc **PKPab** **14 37 53.0 +0.2**
LJU Ljubljana 153.32 339 *i* PKPbc **PKPbc** **14 37 39.1 +0.4**
LJU *ep*PKPbc **PKPab** **14 37 53.9 +0.3**
DAVA Damuels 153.43 347 *e*PKiKP **PKiKP** **14 37 39.3 +0.1**
comp=Z,2.5nm,0.6s
DAVA *e*PKPab **PKPab** **14 37 54.2 +0.1**
comp=Z,6.9nm,0.7s
KARP Karpathos 153.48 307 *e*PKPbc **PKPbc** **14 37 39.2 -0.3**
KARP *e*PKPab **PKPab** **14 37 53.7 -1.0**
FETA Feichten 153.49 345 *e*PKPdf **PKPdf** **14 37 31.5 +0.4**
comp=Z,2.7nm,0.7s
FUORN Ofenpass-Fuorn 153.98 346 *e*PKPbc **PKPbc** **14 37 40.6 +0.2**
FUORN *e*PKPab **PKPab** **14 37 57.5 +0.8**
SENIN Lac Senin/Sane 154.80 350 *e*PKPab **PKPab** **14 38 00.5 +0.3**
BNI Bardonecchia 156.17 351 *e*PKP2 **PKPab** **14 38 06.6 +0.6**
BNI Bardonecchia 156.17 351 *e*PKPab **PKPab** **14 38 06.6 +0.6**
ES19 SONSECA Array 161.39 13 *e*PKPab **PKPab** **14 38 29.9 +0.1**
ESDC Sonseca Array 161.40 13 PKPab **PKPab** **14 38 29.2 +0.4**
comp=Z,0.2nm,0.3s,baz=346,slow=4.9,SNR=8.0
KEST Kesra 164.25 335 PKPab **PKPab** **14 38 42.0 +0.5**
comp=Z,6.9nm,0.8s,baz=336,slow=0.4,SNR=8.2
TOA0 Torodi Ar. Sit 171.61 182 *e*PKPdf **PKPdf** **14 37 48.0 -1.2**
TORD Torodi Ar. Bea 171.61 182 PKP **PKPdf** **14 37 48.5 -0.7**
comp=Z,1.8nm,0.9s,baz=335,slow=1.1,SNR=9.5
TORD PKPab **PKPab** **14 39 14.4 0.0**
comp=Z,0.5nm,0.6s,baz=162,slow=4.4,SNR=3.6

IDC ***25*** *14:43:22.8±4.5, 31°.50S×179°.63W, h210km±35km, mb4.0/6, mb1 3.9/7, mb1mx3.5/44, mbtmp4.5/7, Error ellipse: s-maj=39.2km s-min=15.6km az=55.0*
WEL ***25*** *14:43:28.7±0.9, 32°.5S×17°.9W±3°.8, h269km±15km*
ISC 25 14:43:28.3±0.6, 31°.86S±0°.07×179°.9W±0°.1, h250km, n68, σ1°.81/64, mb4.0/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GLKZ	**Green Lake**	**3.09**	**33**	P		Pn	14 44 23.9	+2.2
GLKZ	**Green Lake**	**3.09**	**33**	S		**S**	**14 45 05.5**	**+1.5**
RIZ	**Raoul Island**	**3.10**	**33**	P		Pn	14 44 26.1	+4.2
RIZ	**Raoul Island**	**3.10**	**33**	S		**S**	**14 45 06.8**	**+2.5**
MXZ	**Matakaoa Point**	**5.88**	**194**	P		**Pn**	**14 44 56.7**	**+1.8**
MXZ	**Matakaoa Point**	**5.88**	**194**	S		**S**	**14 46 06.8**	**+2.6**
URZ	**Urewera**	**6.85**	**200**	P		**Pn**	**14 45 07.2**	**+0.2**
	1.8nm,0.3s,baz=281,slow=4.1,SNR=21							
URZ				S		**S**	**14 46 28.0**	**+2.0**
	8.0nm,0.3s,baz=259,slow=21,SNR=18							
RAGZ	**Rawiri**	**6.98**	**198**	P		**Pn**	**14 45 09.6**	**+0.9**
RAGZ	**Rawiri**	**6.98**	**198**	S		**S**	**14 46 30.6**	**+1.3**
RIGZ	**Rimuhau**	**7.10**	**195**	P		**Pn**	**14 45 10.2**	**+0.1**
RIGZ	**Rimuhau**	**7.10**	**195**	S		**S**	**14 46 32.5**	**+0.5**
MUGZ	**Murupara**	**7.15**	**202**	P		**Pn**	**14 45 11.5**	**+0.7**
RTZ	**Ruatahuna**	**7.21**	**200**	P		**Pn**	**14 45 12.0**	**+0.4**
SNGZ	**Shannon Statio**	**7.27**	**198**	P		**Pn**	**14 45 12.6**	**+0.2**
SNGZ	**Shannon Statio**	**7.27**	**198**	S		**S**	**14 46 37.3**	**+1.3**
PRGZ	**Paritu Road**	**7.28**	**194**	P		**Pn**	**14 45 12.4**	**-0.1**
PRGZ	**Paritu Road**	**7.28**	**194**	S		**S**	**14 46 36.7**	**+0.6**
PRRZ	**Plateau Road**	**7.29**	**204**	P		**Pn**	**14 45 15.9**	**+3.3**
KNZ	**Kokohu**	**7.42**	**195**	P		**Pn**	**14 45 13.5**	**-0.7**
KNZ	**Kokohu**	**7.42**	**195**	S		**S**	**14 46 34.5**	**-4.8**
RAHZ	**Arahi**	**7.47**	**199**	P		**Pn**	**14 45 14.7**	**0.0**
RAHZ	**Arahi**	**7.47**	**199**	S		**S**	**14 46 41.7**	**+1.3**
TLZ	**Tolley Road**	**7.47**	**209**	P		Pn	14 45 20.1	+5.2
MTHZ	**Maungataniwha**	**7.47**	**200**	P		**Pn**	**14 45 15.3**	**+0.4**
MTHZ	**Maungataniwha**	**7.47**	**200**	S		**S**	**14 46 42.2**	**+1.6**
KUTZ	**Kaahu Road**	**7.49**	**207**	P		Pn	14 45 20.2	+5.1
MHGZ	**Mahia Peninsul**	**7.50**	**193**	P		**Pn**	**14 45 15.2**	**+0.1**
WHHZ	**Waihua**	**7.58**	**197**	P		**Pn**	**14 45 16.3**	**+0.1**
MRHZ	**Matea Rd**	**7.59**	**203**	P		**Pn**	**14 45 16.8**	**+0.5**
NMHZ	**Naumai**	**7.71**	**200**	P		**Pn**	**14 45 18.0**	**+0.1**
ARHZ	**Aropaoanui**	**7.81**	**198**	P		**Pn**	**14 45 18.7**	**-0.4**
BKZ	**Black Stump Fm**	**7.87**	**201**	P		**Pn**	**14 45 19.6**	**-0.3**
HIZ	**Hauiti**	**7.92**	**212**	P		**Pn**	**14 45 24.6**	**+4.2**
MCHZ	**McNeill Hill**	**8.07**	**199**	P		**Pn**	**14 45 21.7**	**-0.6**
CKHZ	**Cape Kidnapper**	**8.17**	**197**	P		**Pn**	**14 45 22.6**	**-1.0**
BHHZ	**Black Hill Sta**	**8.30**	**202**	P		**Pn**	**14 45 25.0**	**-0.3**
KAHZ	**Kahuranaki**	**8.35**	**198**	P		**Pn**	**14 45 24.7**	**-1.2**
KRHZ	**Kereru**	**8.35**	**200**	P		**Pn**	**14 45 24.4**	**-1.5**
PKVZ	**Pokaka**	**8.37**	**206**	P		**Pn**	**14 45 28.9**	**+2.6**
VRZ	**Vera Road**	**8.47**	**210**	P		**Pn**	**14 45 31.9**	**+4.5**
PXZ	**Pawanui**	**8.57**	**197**	P		**Pn**	**14 45 27.0**	**-1.7**
PNHZ	**Pukenui**	**8.64**	**201**	P		**Pn**	**14 45 27.9**	**-1.8**
TSZ	**Takapari Road**	**8.85**	**201**	P		**Pn**	**14 45 30.5**	**-1.8**
PRHZ	**Porangahau**	**8.85**	**198**	P		Pn	14 45 27.2	-5.1
WAZ	**Wanganui**	**8.91**	**207**	P		**Pn**	**14 45 32.3**	**-0.8**
ANWZ	**Angora Road**	**9.07**	**198**	P		**Pn**	**14 45 33.5**	**-1.6**
PRWZ	**Pori Road**	**9.30**	**200**	P		**Pn**	**14 45 38.7**	**+0.7**
BFZ	**Birch Farm**	**9.34**	**199**	P		**Pn**	**14 45 36.6**	**-1.8**
MRZ	**Mangatainoka R**	**9.52**	**201**	P		**Pn**	**14 45 38.0**	**-2.7**
TIWZ	**Tintock**	**9.53**	**200**	P		**Pn**	**14 45 40.1**	**-0.7**
CPWZ	**Castlepoint**	**9.57**	**198**	P		**Pn**	**14 45 40.9**	**-0.4**
HOWZ	**Holdsworth Sta**	**9.75**	**201**	P		**Pn**	**14 45 40.8**	**-2.9**
OGWZ	**Otaki Gorge**	**9.79**	**203**	P		**Pn**	**14 45 41.4**	**-2.6**
TMWZ	**Te Maipa**	**9.84**	**199**	P		**Pn**	**14 45 42.3**	**-2.4**
KIW	**Kapiti Island**	**9.92**	**204**	P		**Pn**	**14 45 43.5**	**-2.3**
MTW	**Mount Morrison**	**10.00**	**201**	P		**Pn**	**14 45 43.5**	**-3.2**
HNR	**Honiara**	**29.13**	**316**	P		**P**	**14 49 02.5**	**-3.9**
	20nm,0.4s,baz=137,slow=8.3,SNR=4.3							
STKA	**Stephens Creek**	**32.61**	**260**	P		**P**	**14 49 37.5**	**+0.7**
	1.2nm,0.6s,baz=110,slow=8.6,SNR=3.9							
ASAR	**Alice Springs**	**41.46**	**269**	P		**P**	**14 50 50.9**	**-0.2**
	1.9nm,0.7s,baz=106,slow=7.2,SNR=51							
WRA	**Warramunga Ar**	**42.59**	**275**	P		**P**	**14 50 59.8**	**-0.4**
	2.4nm,0.4s,baz=113,slow=7.9,SNR=70							
QSPA	**South Pole Qui**	**58.25**	**180**	P		**P**	**14 52 58.2**	**+1.7**
	10nm,0.7s,baz=16,slow=2.0,SNR=32							
SNAA	**Sanae**	**76.73**	**179**	P		**P**	**14 54 50.9**	**-0.8**
SNAA	**Sanae**	**76.73**	**179**	P		**P**	**14 54 51.8**	**+0.1**
	2.9nm,0.7s,baz=239,slow=5.9,SNR=28							
VNA3	**Neumayer Olymp**	**76.95**	**177**	P		**P**	**14 54 52.7**	**-0.1**
VNA2	**Neumayer--Watz**	**77.36**	**177**	P		**P**	**14 54 55.3**	**+0.2**
	baz=182,slow=4.2							
VNA1	**Neumayer--Stat**	**77.60**	**177**	P		**P**	**14 54 56.7**	**+0.3**
FINES	**FINESS Array B**	**145.93**	**338**	PKPbc		**PKPbc**	**15 02 36.0**	**-1.7**
	4.2nm,0.8s,baz=47,slow=4.1,SNR=8.8							
TORD	**Torodi Ar. Bea**	**161.32**	**185**	PKPab		**PKPab**	**15 03 43.8**	**-0.9**
	0.7nm,0.7s,baz=174,slow=4.2,SNR=5.8							

ISCJB ***25*** *14:45:49.9±0.7, 26°.76N±0°.06×128°.42E±0°.08, h50km±4km, mb3.8/11, Error ellipse: s-maj=13.7km s-min=6.8km az=39.9*
JMA ***25*** *14:45:50.9±0.1, 26°.77N×128°.45E, h36km±1km, M3.5*
IDC ***25*** *14:45:50.7±2.7, 26°.72N×128°.10E, h37km±26km, mb3.6/12, mb1 3.6/13, mb1mx3.3/71, mbtmp3.8/13, ML3.2/1, Error ellipse: s-maj=21.3km s-min=16.7km az=89.0*
**ISC 25 14:45:51.0±1.2, 26.78N±0°.

BORA	**Eskisehir**	**1.08**	**49**	*i* P	**Pg**	14 50 31.1	+0.2		
BORA	**Eskisehir**	**1.08**	**49**	P	**Pg**	14 50 31.1	+0.2		
CAVI	**Cavuskoy**	**1.08**	**19**	PN	**Pn**	14 50 31.8	-0.3		
CAVI	**Cavuskoy**	**1.08**	**19**	*e*Pn	**Pn**	14 50 31.8	-0.3		
SHUT	**Suhut-Afyon**	**1.10**	**124**	PN	**Pn**	14 50 32.8	+0.4		
SHUT	**Suhut-Afyon**	**1.10**	**124**	*e*Pn	**Pn**	14 50 32.8	+0.4		
ESKT	**Eskisehir**	**1.18**	**73**	*i* P	**Pg**	14 50 32.4	-0.4		
SEYT	**Eskypehyr**	**1.18**	**73**	P	**Pg**	14 50 32.4	-0.4		
MDNY	**Mudanya-Bursa**	**1.25**	**342**	PN	**Pg**	14 50 34.9	+0.7		
MDNY	**Mudanya-Bursa**	**1.25**	**342**	*e*Pn	**Pg**	14 50 34.9	+0.7		
BALB	**Balikesir**	**1.26**	**292**	PN	**Pg**	14 50 34.7	+0.4		
BALB	**Balikesir**	**1.26**	**292**	*e*Pn	**Pg**	14 50 34.7	+0.4		
AKHS	**Akhisar**	**1.26**	**257**	*i* P	**Pn**	14 50 33.9	-0.7		
AKHS	**Akhisar**	**1.26**	**257**	P	**Pn**	14 50 33.9	-0.7		
ADVT	**Abdulvahap**	**1.28**	**12**	PN	**Pg**	14 50 35.4	+0.7		
ADVT	**Abdulvahap**	**1.28**	**12**	*e*Pn	**Pg**	14 50 35.4	+0.7		
STEP	**BALIKESIR_Sava**	**1.31**	**279**	*i* P	**Pn**	14 50 34.7	-0.6		
STEP	**BALIKESIR_Sava**	**1.31**	**279**	P	**Pn**	14 50 34.7	-0.6		
KCTX	**Karacabey (Bur**	**1.35**	**324**	PN	**Pg**	14 50 35.9	-0.1		
KCTX	**Karacabey (Bur**	**1.35**	**324**	*e*Pn	**Pg**	14 50 35.9	-0.1		
ARMT	**Armutlu**	**1.45**	**344**	PN	**Pn**	14 50 36.9	-0.2		
ARMT	**Armutlu**	**1.45**	**344**	*e*Pn	**Pn**	14 50 36.9	-0.2		
GULT	**Gulveren**	**1.52**	**34**	PN	**Pg**	14 50 39.2	-0.2		
GULT	**Gulveren**	**1.52**	**34**	*e*Pn	**Pg**	14 50 39.2	-0.2		
HRT	**Hereke**	**1.66**	**7**	PN	**Pb**	14 50 40.7	-0.5		
HRT	**Hereke**	**1.66**	**7**	*e*Pn	**Pb**	14 50 40.7	-0.5		
SVRH	**Sivrihisar-ESK**	**1.68**	**80**	PN	**Pb**	14 50 41.8	+0.2		
SVRH	**Sivrihisar-ESK**	**1.68**	**80**	*e*Pn	**Pb**	14 50 41.8	+0.2		
SAUV	**Serdivan-Sakar**	**1.72**	**24**	PN	**Pb**	14 50 41.8	-0.5		
SAUV	**Serdivan-Sakar**	**1.72**	**24**	*e*Pn	**Pb**	14 50 41.8	-0.5		
SILT	**Sile**	**1.98**	**6**	PN	**Pn**	14 50 45.1	+0.7		
SILT	**Sile**	**1.98**	**6**	*e*Pn	**Pn**	14 50 45.1	+0.7		

*ISN **25** 14:50:25.5±1.2,39.˙99N×42.˙96E, h0km±78km, ML3.9*
*NSSP **25** 14:50:26.4,39.˙93N×42.˙88E, h10km, Ms3.9*
*TIF **25** 14:50:28.1,39.˙87N×43.˙06E, h5km±8km*
*ISK **25** 14:50:29.7,39.˙94N×42.˙94E, h3km, ML3.9/21*
*NEIC **25** 14:50:29.0±0.0,39.˙94N×42.˙94E, h3km, mb4.0/5, ML4.0(ISK),After ISK.*
NEIC Felt [III] at Kars. Also felt at Gyumri, Armenia.
*DDA **25** 14:50:30.0,39.˙95N×42.˙97E, h8km, Ml3.9*
*IDC **25** 14:50:30.9±1.1,39.˙86N×43.˙05E, h0km, mb3.6/9, mb1 3.6/15, mb1mx3.5/67, mbtmp3.5/15, ML3.0/5, MS2.9/3, Ms1 3.0/3, ms1mx2.5/58, Error ellipse: s-maj=19.3km s-min=10.8km az=4.0*
*CSEM **25** 14:50:30.8±0.1,39.˙90N×42.˙95E, h2km, ML3.9, Error ellipse: s-maj=3.7km s-min=3.0km az=100.0*
*ISCJB **25** 14:50:31.2±0.2,39.˙92N±0.˙01×43.˙00E±0.˙02, h10km, mb3.6/12, MS2.9/1, Error ellipse: s-maj=2.3km s-min=2.0km az=10.9*

ISC 25 14:50:32.0±0.5,39.˙93N±0.˙01×43.˙00E±0.˙02,h10km,n152, σ1s64/194,mb3.8/12,2C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
AGRB	**Hanur-Agry**	**0.36**	**181**		PG	**Pg**	**14 50 37.8**	**-1.4**
AGRB					SG	**Sg**	**14 50 43.7**	**-0.3**
AGRB	**Hanur-Agry**	**0.36**	**181**		Pg	**Pg**	**14 50 37.8**	**-1.4**
AGRB					Sg	**Sg**	**14 50 43.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.36**	**181**		*e*Pg	**Pg**	**14 50 37.8**	**-1.4**
AGRB					*e*Sg	**Sg**	**14 50 43.7**	**-0.3**
EATA	**Eleskirt**	**0.40**	**260**		*i* P	**Pg**	**14 50 37.7**	**-2.3**
EATA					*i* S	**Sg**	**14 50 46.0**	**+0.7**
EATA	**Eleskirt**	**0.40**	**260**		P	**Pg**	**14 50 37.7**	**-2.3**
EATA					S	**Sg**	**14 50 46.0**	**+0.7**
TUTA	**Tutak**	**0.55**	**195**		*i* P	**Pg**	**14 50 41.2**	**-1.6**
TUTA					*i* S	**Sg**	**14 50 50.0**	**-0.1**
TUTA	**Tutak**	**0.55**	**195**		P	**Pg**	**14 50 41.2**	**-1.6**
TUTA					S	**Sg**	**14 50 50.0**	**-0.1**
DIGO	**Kars**	**0.56**	**31**		*i* P	**Pg**	**14 50 40.9**	**-2.1**
DIGO					*i* S	**Sb**	**14 50 52.2**	**-0.1**
DIGO	**Kars**	**0.56**	**31**		P	**Pg**	**14 50 40.9**	**-2.1**
DIGO					S	**Sb**	**14 50 52.2**	**-0.1**
DYDN	**Diyadin**	**0.66**	**126**		*i* P	**Pg**	**14 50 43.4**	**-1.4**
DYDN					*i* S	**Sb**	**14 50 53.5**	**-1.5**
DYDN	**Diyadin**	**0.66**	**126**		P	**Pg**	**14 50 43.4**	**-1.4**
KARS	**Kars**	**0.69**	**5**		PG	**Pg**	**14 50 43.7**	**-1.8**
KARS					SG	**Sg**	**14 50 53.8**	**-0.9**
KARS	**Kars**	**0.69**	**5**		Pg	**Pg**	**14 50 43.6**	**-1.8**
KARS					Sg	**Sg**	**14 50 53.6**	**-0.9**
KARS	**Kars**	**0.69**	**5**		*e*Pg	**Pg**	**14 50 43.7**	**-1.8**
KARS					Sg	**Sg**	**14 50 53.7**	**-0.9**
SENK	**Senkaya-Erzuru**	**0.80**	**322**		PG	**Pg**	**14 50 45.3**	**-2.2**
SENK	**Senkaya-Erzuru**	**0.80**	**322**		*e*Pg	**Pg**	**14 50 45.3**	**-2.2**
IGDI	**IGDIR**	**0.83**	**94**		*i* P	**Pb**	**14 50 47.0**	**-1.7**
IGDI					*i* S	**Sg**	**14 50 56.3**	**-2.7**
HOMI	**Horasan**	**0.85**	**278**		*i* P	**Pg**	**14 50 44.9**	**-3.5**
ERCV	**ERCIS-VAN**	**0.95**	**164**		PG	**Pg**	**14 50 48.7**	**-1.6**
ERCV	**ERCIS-VAN**	**0.95**	**164**		*e*Pg	**Pg**	**14 50 48.7**	**-1.6**
TASB	**TASBURUN-IGDIR**	**0.95**	**87**		PG	**Pn**	**14 50 49.7**	**-1.9**
TASB	**TASBURUN-IGDIR**	**0.95**	**87**		*e*Pg	**Pn**	**14 50 49.7**	**-1.9**
EKAR	**Karacoban**	**0.99**	**227**		*i* P	**Pg**	**14 50 48.8**	**-2.3**
EKAR					*i* S	**Sn**	**14 51 05.3**	**-1.1**
EKAR	**Karacoban**	**0.99**	**227**		P	**Pg**	**14 50 48.8**	**-2.3**
EKAR					S	**Sn**	**14 51 05.3**	**-1.1**
VMUR	**Van-Muradiye**	**1.04**	**155**		*i* P	**Pg**	**14 50 50.5**	**-1.6**
VMUR					*i* S	**Sn**	**14 51 06.3**	**-1.3**
VMUR	**Van-Muradiye**	**1.04**	**155**		P	**Pg**	**14 50 50.5**	**-1.6**
VMUR					S	**Sn**	**14 51 06.3**	**-1.3**
CLDR	**Caldiran**	**1.06**	**138**		PN	**Pg**	**14 50 49.4**	**-3.1**
CLDR	**Caldiran**	**1.06**	**138**		*i* P	**Pg**	**14 50 49.4**	**-3.1**
CLDR					*i* S	**Sg**	**14 51 04.6**	**-1.7**
CLDR	**Caldiran**	**1.06**	**138**		Pn	**Pg**	**14 50 49.4**	**-3.1**
CLDR	**Caldiran**	**1.06**	**138**		P	**Pg**	**14 50 49.4**	**-3.1**
CLDR					S	**Sg**	**14 51 04.6**	**-1.7**
ADCV	**BITLIS_Adilcev**	**1.15**	**191**		*i* P	**Pb**	**14 50 51.4**	**-2.6**
ADCV					*i* S	**Sb**	**14 51 08.4**	**-0.6**
ADCV	**BITLIS_Adilcev**	**1.15**	**191**		P	**Pb**	**14 50 51.4**	**-2.6**
ADCV					S	**Sb**	**14 51 08.4**	**-0.6**
ERZM	**Erzurum**	**1.26**	**269**		*i* P	**Pn**	**14 50 53.4**	**-2.5**
ERZM					*i* S	**Sb**	**14 51 10.8**	**-1.6**
ERZM	**Erzurum**	**1.26**	**269**		P	**Pn**	**14 50 53.4**	**-2.5**
ERZM					S	**Sb**	**14 51 10.8**	**-1.6**
DDEM	**Demirkent**	**1.35**	**315**		*i* P	**Pn**	**14 50 55.1**	**-1.9**
DDEM					*i* S	**Sg**	**14 51 14.7**	**-0.8**
DDEM	**Demirkent**	**1.35**	**315**		P	**Pn**	**14 50 55.1**	**-1.9**
DDEM					S	**Sg**	**14 51 14.7**	**-0.8**
GNI	**Garni**	**1.35**	**80**		Pg	**Pg**	**14 50 56.9**	**-1.2**
	97nm,0.3s,baz=280,slow=4.8,SNR=207							
GNI					Lg	Lg	14 51 18.7	
	70nm,0.3s,baz=238,slow=23,SNR=7.1							
GNI	**Garni**	**1.35**	**80**		⇑*i* P	**Pg**	**14 50 56.9**	**-1.2**
GNI					⇑*i* S	**Sg**	**14 51 18.4**	**+2.7**
GNI	**Garni**	**1.35**	**80**		*e*Pg	**Pg**	**14 50 56.7**	**-1.3**
VANB	**Van**	**1.37**	**167**		PN	**Pg**	**14 50 57.3**	**-1.1**
VANB	**Van**	**1.37**	**167**		*e*Pn	**Pg**	**14 50 57.3**	**-1.1**
VRTB	**Varto-Mus**	**1.42**	**238**		PN	**Pn**	**14 50 56.7**	**-1.4**
VRTB	**Varto-Mus**	**1.42**	**238**		*i* P	**Pn**	**14 50 56.7**	**-1.4**
VRTB	**Varto-Mus**	**1.42**	**238**		Pn	**Pn**	**14 50 56.6**	**-1.5**
VRTB	**Varto-Mus**	**1.42**	**238**		P	**Pn**	**14 50 56.7**	**-1.4**
TVAN	**Van**	**1.44**	**167**		*i* P	**Pb**	**14 50 57.7**	**-1.3**
TVAN					*i* S	**Sg**	**14 51 19.9**	**+1.6**
TVAN	**Van**	**1.44**	**167**		P	**Pb**	**14 50 57.7**	**-1.3**
TVAN					S	**Sg**	**14 51 19.9**	**+1.6**
DBAD	**Bademkaya**	**1.47**	**318**		*i* P	**Pn**	**14 50 57.5**	**-1.2**
DBAD					*i* S	**Sg**	**14 51 18.5**	**-0.9**
DBAD	**Bademkaya**	**1.47**	**318**		P	**Pn**	**14 50 57.5**	**-1.2**
DBAD					S	**Sg**	**14 51 18.5**	**-0.9**
ARTV	**Artvin**	**1.49**	**327**		*i* P	**Pn**	**14 50 56.6**	**-2.4**
ARTV					*i* S	**Sn**	**14 51 17.9**	**-0.9**
ARTV	**Artvin**	**1.49**	**327**		P	**Pn**	**14 50 56.7**	**-2.4**
ARTV					S	**Sn**	**14 51 17.9**	**-0.9**
AKH	**Akhalkalaki**	**1.52**	**14**		PN	**Pb**	**14 50 59.2**	**-1.3**
AKH	**Akhalkalaki**	**1.52**	**14**		P	**Pb**	**14 50 58.9**	**-1.6**
AKH					S	**Sg**	**14 51 20.3**	**-0.7**
AKH	**Akhalkalaki**	**1.52**	**14**		*e*Pn	**Pb**	**14 50 58.7**	**-1.7**
AKH	**Akhalkalaki**	**1.52**	**14**		P	**Pb**	**14 50 58.7**	**-1.7**
AKH	**Akhalkalaki**	**1.52**	**14**		*e*Pn	**Pb**	**14 50 59.2**	**-1.3**
AKH					S	**Sg**	**14 51 21.0**	**0.0**
GURO	**Guroymak-BITLI**	**1.57**	**209**		PN	**Pn**	**14 50 58.8**	**-1.3**
GURO					SN	**Sn**	**14 51 20.4**	**-0.2**
GURO	**Guroymak-BITLI**	**1.57**	**209**		*e*Pn	**Pn**	**14 50 58.8**	**-1.3**
GURO					*e*Sn	**Sn**	**14 51 20.4**	**-0.2**
ECAT	**Cat-ERZURUM**	**1.59**	**259**		*i* P	**Pn**	**14 50 59.2**	**-1.3**
ECAT					*i* S	**Sg**	**14 51 23.7**	**+0.3**
ECAT	**Cat-ERZURUM**	**1.59**	**259**		P	**Pn**	**14 50 59.2**	**-1.3**
ECAT					S	**Sg**	**14 51 23.7**	**+0.3**
GEVA	**Gevas**	**1.62**	**178**		*i* P	**Pn**	**14 50 59.8**	**-1.0**
GEVA					*i* S	**Sg**	**14 51 22.9**	**-1.3**
GEVA	**Gevas**	**1.62**	**178**		P	**Pn**	**14 50 59.8**	**-1.0**
GEVA					S	**Sg**	**14 51 22.9**	**-1.3**
DBOC	**Borcka**	**1.74**	**325**		*i* P	**Pb**	**14 51 02.3**	**-1.7**
DBOC	**Borcka**	**1.74**	**325**		P	**Pb**	**14 51 02.3**	**-1.7**
KOPT	**Kop Dagi**	**1.93**	**273**		*i* P	**Pb**	**14 51 05.9**	**-1.5**
KOPT	**Kop Dagi**	**1.93**	**273**		P	**Pb**	**14 51 05.9**	**-1.5**
BNGB	**Bing¶i**	**2.03**	**243**	PN	**Pn**	**14 51 05.2**	**-1.2**
CHOM	**Cayeli-Rize**	**2.06**	**305**	*e*Pn	**Pn**	**14 51 05.6**	**-1.2**
SRTM	**Siirt_Merkez**	**2.12**	**204**	*i* P	**Pn**	**14 51 08.1**	**+0.5**
SRTM	**Siirt_Merkez**	**2.12**	**204**	P	**Pn**	**14 51 08.1**	**+0.5**
BAYB	**BAYBURT**	**2.13**	**280**	*i* P	**Pb**	**14 51 09.1**	**-1.7**
BAYB				*i* S	**Sg**	**14 51 40.4**	**0.0**
BAYB	**BAYBURT**	**2.13**	**280**	P	**Pb**	**14 51 09.1**	**-1.7**
BINT	**Bingol**	**2.21**	**242**	*e*Pn	**Pn**	**14 51 05.2**	**-3.7**
BTNK	**Botanikuri**	**2.22**	**37**	P	**Pb**	**14 51 10.3**	**-1.9**
BTNK	**Botanikuri**	**2.22**	**37**	P	**Pb**	**14 51 10.4**	**-1.9**
TBLG	**Delisi**	**2.23**	**36**	PN	**Pn**	**14 51 09.1**	**+0.1**
TBLG	**Delisi**	**2.23**	**36**	P	**Pb**	**14 51 10.6**	**-1.8**
TBLG				S	**Sg**	**14 51 40.3**	**-3.3**
TBLG	**Delisi**	**2.23**	**36**	*e*Pn	**Pb**	**14 51 09.7**	**-2.7**
TBLG	**Delisi**	**2.23**	**36**	*e*Pn	**Pn**	**14 51 09.1**	**+0.1**
TBLG	**Delisi**	**2.23**	**36**	P	**Pb**	**14 51 10.3**	**-2.1**
BAYT	**Ayd¨–ntepe-Bay**	**2.24**	**283**	PN	**Pn**	**14 51 08.0**	**-1.3**
BAYT	**Ayd¨–ntepe-Bay**	**2.24**	**283**	*e*Pn	**Pn**	**14 51 08.0**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.27**	**219**	PN	**Pn**	**14 51 09.2**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.27**	**219**	*i* P	**Pn**	**14 51 09.5**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.27**	**219**	*e*Pn	**Pn**	**14 51 09.2**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.27**	**219**	P	**Pn**	**14 51 09.5**	**-0.1**
DGRG	**David-gareji**	**2.36**	**49**	P	**Pb**	**14 51 12.0**	**-2.6**
DGRG	**David-gareji**	**2.36**	**49**	P	**Pb**	**14 51 11.8**	**-2.8**
BTMN	**Batman**	**2.45**	**214**	*i* P	**Pn**	**14 51 12.4**	**+0.3**
BTMN				*i* S	**Sb**	**14 51 46.0**	**-0.4**
BTMN	**Batman**	**2.45**	**214**	P	**Pn**	**14 51 12.4**	**+0.3**
BTMN				S	**Sb**	**14 51 46.0**	**-0.4**
SIRT	**Sirnak**	**2.47**	**190**	PN	**Pn**	**14 51 12.3**	**-0.1**
SIRT	**Sirnak**	**2.47**	**190**	*e*Pn	**Pn**	**14 51 12.3**	**-0.1**
DUS	**Dusheti**	**2.51**	**30**	P	**Pb**	**14 51 15.2**	**-2.0**
DUS	**Dusheti**	**2.51**	**30**	P	**Pb**	**14 51 15.0**	**-2.2**
HANI	**Diyarbakir_Han**	**2.53**	**234**	*i* P	**Pn**	**14 51 13.0**	**-0.2**
HANI	**Diyarbakir_Han**	**2.53**	**234**	P	**Pn**	**14 51 13.0**	**-0.2**
ERZN	**Erzincan**	**2.55**	**263**	PN	**Pn**	**14 51 12.7**	**-0.9**
ONI	**Oni**	**2.67**	**7**	P	**Pb**	**14 51 18.7**	**-1.3**
KTUT	**Trabzon**	**2.68**	**294**	PN	**Pn**	**14 51 14.8**	**-0.4**
KTUT	**Trabzon**	**2.68**	**294**	*e*Pn	**Pn**	**14 51 14.8**	**-0.4**
GUDG	**Gudauri**	**2.76**	**23**	P	**Pb**	**14 51 19.1**	**-2.5**
GUDG	**Gudauri**	**2.76**	**23**	P	**Pb**	**14 51 19.1**	**-2.5**
TNCL	**Tunceli-Merkez**	**2.80**	**254**	*i* P	**Pb**	**14 51 21.6**	**-0.5**
KELT	**Kelkit**	**2.81**	**275**	*i* P	**Pb**	**14 51 21.7**	**-1.9**
DIY	**Diyarbakir**	**2.97**	**228**	*e*Pn	**Pn**	**14 51 19.1**	**-0.2**
DYBB	**Diyarbakir**	**2.98**	**229**	PN	**Pn**	**14 51 19.1**	**-0.3**
PTK	**Pertek**	**2.98**	**251**	PN	**Pn**	**14 51 18.1**	**-1.5**
PTK	**Pertek**	**2.98**	**251**	*e*Pn	**Pn**	**14 51 18.1**	**-1.5**
MAZI	**Mazidag**	**3.18**	**220**	PN	**Pn**	**14 51 21.5**	**-0.7**
MAZI	**Mazidag**	**3.18**	**220**	*e*Pn	**Pn**	**14 51 21.5**	**-0.7**
KBZ	**Khabaz**	**3.79**	**359**	Pn	**Pn**	**14 51 32.9**	**+2.4**
	0.3nm,0.3s,baz=185,slow=9.8,SNR=23							
MALT	**Malatya**	**3.91**	**247**	PN	**Pn**	**14 51 31.8**	**-0.4**
MALT	**Malatya**	**3.91**	**247**	*e*Pn	**Pn**	**14 51 31.8**	**-0.4**
KIV	**Kislovodsk**	**4.03**	**357**	*e*Pn	**Pn**	**14 51 36.1**	**+2.3**
KIV	**Kislovodsk**	**4.03**	**357**	*e*Pn	**Pn**	**14 51 36.1**	**+2.3**
KVAR	**Kislovodsk Arr**	**4.03**	**357**	Pn	**Pn**	**14 51 37.0**	**+3.2**
	baz=167,slow=18,SNR=5.0							
URFA	**Urfa**	**4.11**	**234**	PN	**Pn**	**14 51 34.9**	**-0.1**
URFA	**Urfa**	**4.11**	**234**	*e*Pn	**Pn**	**14 51 34.9**	**-0.1**
DARE	**Darende-Malaty**	**4.49**	**254**	PN	**Pn**	**14 51 40.2**	**-0.1**
DARE	**Darende-Malaty**	**4.49**	**254**	*e*Pn	**Pn**	**14 51 40.2**	**-0.1**
SVSK	**Karacayir**	**4.61**	**272**	PN	**Pn**	**14 51 42.1**	**+0.3**
SVSK	**Karacayir**	**4.61**	**272**	*e*Pn	**Pn**	**14 51 42.1**	**+0.3**
BHD	**Baghdad**	**6.74**	**170**	*e*Pn	**Pn**	**14 52 09.0**	**-2.1**
	SNR=3.0							
BRTR	**Keskin Array B**	**7.21**	**271**	Pn	**Pn**	**14 52 19.5**	**+2.0**
	baz=96,slow=12,SNR=2.4							
RTB	**Rutbah**	**7.22**	**198**	*e*Pn	**Pn**	**14 52 16.0**	**-1.7**
	SNR=3.0							
MMAI	**Mount Meron Ar**	**9.22**	**224**	LR	LR	14 56 45.7		
	comp=Z,84nm,18.8s,baz=10.0,slow=41							
NSR	**Nassriya**	**9.27**	**163**	*e*Pn	**Pn**	**14 52 44.0**	**-1.6**
	SNR=3.0							
AKASG	**Malin Array Be**	**14.46**	**323**	Pn	**Pn**	**14 53 58.2**	**+1.6**
	0.3nm,0.3s,baz=124,slow=11,SNR=4.2							
AKTO	**Aktyubinsk**	**14.88**	**40**	Pn	**Pn**	**14 54 00.6**	**-1.8**
	0.1nm,0.3s,baz=266,slow=11,SNR=4.9							
AKTO				LR	LR	15 00 42.3		
	comp=Z,37nm,21.5s,baz=149,slow=41							
ABKAR	**Akbulak array**	**15.22**	**47**	*e*Pn	**Pn**	**14 54 06.2**	**-0.6**
	1.2nm,0.7s							
RAYN	**Ar Rayn**	**16.50**	**172**	Pn	**Pn**	**14 54 20.8**	**-2.8**
	3.5nm,1.0s							
RAYN	**Ar Rayn**	**16.50**	**172**	Pn	**Pn**	**14 54 20.8**	**-2.8**
	3.5nm,1.0s							
ARU	**Arti**	**19.42**	**27**	P	**Pn**	**14 54 57.9**	**-1.4**
	0.0nm,0.3s,baz=239,slow=5.9,SNR=2.5							
KKAR	**Karatay Array**	**20.81**	**72**	*e*P	Pn	14 55 14.4	-1.4	
KKAR	**Karatay Array**	**20.81**	**72**	*e*P	Pn	14 55 14.4	-1.5	
GERES	**GERESS Array B**	**22.64**	**303**	P	**P**	**14 55 35.6**	**+2.5**
	0.9nm,0.8s,baz=97,slow=7.3,SNR=6.6							
BRVK	**Borovoye**	**22.75**	**46**	*e*P	**P**	**14 55 36.3**	**+2.1**
	8.2nm,1.1s							
BVAR	**Borovoye Array**	**22.79**	**46**	P	**P**	**14 55 38.2**	**+3.6**
	2.8nm,0.9s,baz=229,slow=14,SNR=11							
AAK	**Ala-Archa**	**23.75**	**73**	P	**P**	**14 55 46.6**	**+2.0**
	1.0nm,0.7s,baz=206,slow=5.3,SNR=5.0							
FINES	**FINES Array B**	**23.91**	**340**	P	**P**	**14 55 46.8**	**+1.1**
	2.2nm,0.9s,baz=147,slow=8.8,SNR=2.7							
KURBB	**Kurchatov Arra**	**26.94**	**55**	P	**P**	**14 56 12.8**	**-0.6**
	1.4nm,0.7s,baz=263,slow=9.1,SNR=10.0							
KURK	**Kurchatov**	**27.02**	**55**	*e*P	**P**	**14 56 15.3**	**+1.2**
	9.5nm,1.6s							
NOA	**NORSAR Array B**	**28.76**	**328**	P	**P**	**14 56 30.1**	**+0.5**
	0.6nm,0.8s,baz=128,slow=9.2,SNR=3.5							
NOA				LR	LR	15 08 43.4		
	comp=Z,27nm,19.4s,baz=30,slow=38							
MK31	**Makanchi Array**	**29.14**	**63**	*e*P	**P**	**14 56 34.6**	**+1.4**
MKAR	**Makanchi Array**	**29.14**	**63**	P	**P**	**14 56 34.6**	**+1.5**
	0.9nm,0.8s,baz=282,slow=6.1,SNR=12							
MKAR	**Makanchi Array**	**29.14**	**63**	*e*P	**P**	**14 56 34.5**	**+1.4**
	5.5nm,0.8s							
MK01	**Makanchi Array**	**29.15**	**63**	*e*P	**P**	**14 56 34.5**	**+1.3**
ZALV	**Zalesovo Beam**	**31.30**	**49**	P	**P**	**14 56 52.2**	**+0.1**
	0.4nm,0.5s,baz=280,slow=9.7,SNR=2.5							
WMQ	**Urumqi**	**33.20**	**68**	P	**P**	**14 57 12.3**	**+3.4**
HHC	**Hu-ho-hao-te**	**50.97**	**65**	*e*P	**P**	**14 59 35.5**	**+1.6**
SEY	**Seymchan**	**53.14**	**29**	P	**P**	**15 01 00.9**	**+1.4**
	0.3nm,0.8s,baz=282,slow=7.1,SNR=4.9							
YKA	**Yellowknife Ar**	**76.34**	**350**	P	**P**	**15 02 22.4**	**+1.6**
	0.3nm,0.8s,baz=15,slow=6.0,SNR=5.0							

*NIED **25** 14:50:00,40.˙80N×145.˙40E, h5km, Mw4.2 Best double couple: M0 2.26000×10^15 NP1:φs41.00000°, δ34.00000°, λ-86.00000°. NP2:φs217.00000°, δ56.00000°, λ-92.00000°.*
*JMA **25** 14:50:45.6±0.2,40.˙78N×145.˙41E, h68km±3km, M4.3*
*BJI **25** 14:50:45.6,40.˙90N×145.˙14E, h10km, mb4.4/27, mB4.9/14, Ms3.8/5, Ms7 3.5/3*
*IDC **25** 14:50:45.1±0.6,40.˙71N×145.˙31E, h0km, mb3.9/25, mb1 4.1/30, mb1mx4.0/73, mbtmp4.0/30, ML3.9/3, MS3.1/13, Ms1 3.1/13, ms1mx2.9/57, Error ellipse: s-maj=16.8km s-min=13.0km az=100.0*
*NEIC **25** 14:50:46.9±0.3,40.˙69N×145.˙20E, h10km, mb4.7/16, Error ellipse: s-maj=8.2km s-min=5.7km az=117.0*
*MOS **25** 14:50:49.1±1.9,40.˙88N×145.˙23E, h33km, mb4.5/23, Error ellipse: s-maj=8.9km s-min=4.9km az=97.6*

ISC 25 14:50:45.6±3.6,40.˙76N±0.˙04×145.˙28E±0.˙05,h3km±22km, n184,σ2s38/176,mb4.3/62,MS3.3/11,13C-14D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
ERM	**Erimo**	**2.03**	**309**	*d*	*i* P	**Pn**	**14 51 19.2**	**-1.5**
ERM	**Erimo**	**2.03**	**309**	*e*Pn		**Pn**	**14 51 19.4**	**-1.3**
JEM	**Erimo**	**2.03**	**309**		P	**Pn**	**14 51 19.3**	**-1.4**
JEM					*e*S	**Sn**	**14 51 43.0**	**-3.6**
JAK	**Akkeshi**	**2.28**	**349**		P	**Pn**	**14 51 21.5**	**-2.6**
JAK					*e*S	**Sn**	**14 51 48.6**	**-4.1**
JCH	**Churui**	**2.35**	**323**		P	**Pn**	**14 51 23.3**	**-1.7**
JCH					S	**Sn**	**14 51 50.2**	**-4.1**
JOB	**Onbets**	**2.40**	**334**		P	**Pn**	**14 51 24.1**	**-1.7**
JOB					*e*S	**Sn**	**14 51 52.8**	**-2.9**
JNBK	**Urakawa-nobuka**	**2.43**	**310**		P	**Pn**	**14 51 25.4**	**-0.8**
JNBK					S	**Sn**	**14 51 54.3**	**-2.1**
NEM2	**Nemuro 2**	**2.63**	**7**		P	**Pn**	**14 51 26.6**	**-2.3**
JAR	**Ashorobuto**	**2.78**	**337**		P	**Pn**	**14 51 28.6**	**-2.3**
JAR					S	**Sn**	**14 52 00.3**	**-4.6**
JNK	**Nakash**	**2.86**	**352**		P	**Pn**	**14 51 29.1**	**-2.9**
JNK					*e*S	**Sn**	**14 52 01.6**	**-5.3**
JANG	**Nango**	**2.89**	**264**		P	**Pn**	**14 51 30.6**	**-2.0**
JANG					*e*S	**Sn**	**14 52 02.0**	**-5.8**
JBT2	**Biratori 2**	**2.97**	**314**		P	**Pn**	**14 51 32.0**	**-1.6**
JBT2					*e*S	**Sn**	**14 52 07.8**	**-2.0**
GLVR	**Golovnino**	**2.98**	**3**		*e*P	**Pn**	**14 51 31.8**	**-2.0**
GLVR					*e*S	**Sn**	**14 52 04.2**	**-5.8**
JFR	**Furan**	**3.13**	**321**		P	**Pn**	**14 51 34.1**	**-1.7**
JFR					*e*S	**Sn**	**14 52 09.5**	**-4.2**
JRA	**Rausu**	**3.18**	**358**		P	**Pn**	**14 51 33.8**	**-2.7**
GRPR	**Tuman**	**3.25**	**6**		⇓*i* P	**Pn**	**14 51 35.3**	**-2.2**
GRPR					*i* S	**Sn**	**14 52 09.8**	**-6.9**
JOT	**Ohata**	**3.26**	**282**		P	**Pn**	**14 51 36.2**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**3.30**	**7**		*e*P	**P

TLY	**Talaya**	**30.41**	**305**	*e*P		**P**		**14 57 02.3**	**+3.4**
TLY				pmax		pmax			
	comp=Z,7.0nm,1.3s								
TLY				MLR		MLR			
	comp=Z,80nm,19.0s								
ZAK	**Zakamensk**	**30.57**	**303**	*e*P		**P**		**14 57 04.2**	**+3.8**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.6s								
TIXI	**Tiksi**	**32.04**	**350**⇓	*e*P		**P**		**14 57 11.9**	**-1.1**
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.1s								
MOY	**Mondy**	**32.06**	**305**	*e*P		P		14 57 19.6	+6.0
LZH	**Lanzhou**	**32.58**	**275**	*e*P		**P**		**14 57 20.0**	**+1.7**
LZH				pP		sP		14 57 24.8	+5.1
LZH				sP		pP		14 57 26.3	+7.0
LZH				pmax		pmax			
	comp=Z,23nm,1.0s								
GTA	**Gaotai**	**34.52**	**283**	*e*P		**P**		**14 57 35.8**	**+0.7**
GTA				pP		sP		14 57 40.3	+3.8
GTA				sP		pP		14 57 42.8	+6.7
GTA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
CD2	**Chengdu**	**34.79**	**267**	*e*P		**P**		**14 57 36.0**	**-1.5**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.0s								
KMI	**Kunming**	**38.56**	**259**	P		**P**		**14 58 08.5**	**-1.4**
KMI				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ZALV	**Zalesovo Beam**	**41.76**	**309**	P		**P**		**14 58 36.5**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=79,slow=7.7,SNR=6.3								
ZALV				PcP		**PcP**		**15 00 32.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=119,slow=4.1,SNR=4.0								
ZALV				LR		LR		15 16 27.1	
	comp=Z,40nm,18.4s,baz=70,slow=37								
ZALV	**Zalesovo Beam**	**41.76**	**309**	*e*P		**P**		**14 58 36.1**	**+0.3**
ZALV				PcP		**PcP**		**15 00 32.1**	**+0.1**
IM3	**Indian Mountai**	**41.91**	**32**	*e*P		**P**		**14 58 38.0**	**+1.1**
WMQ	**Urumqi**	**41.97**	**294**	P		**P**		**14 58 41.5**	**+3.7**
WMQ				LR		LR			
	comp=Z,55nm,17.1s								
WMQ				LR		LR			
	comp=Z,96nm,18.7s								
WMQ				LR		LR			
	comp=Z,68nm,23.3s								
CAST	**Castle Rocks**	**42.45**	**36**	*e*P		**P**		**14 58 43.0**	**+1.7**
	comp=Z,6.7nm,0.8s								
MLY	**Manley**	**43.09**	**34**	*e*P		**P**		**14 58 47.9**	**+1.3**
	comp=Z,4.7nm,0.8s								
TOLK	**Toolik Lake Re**	**43.77**	**29**	*e*P		**P**		**14 58 53.4**	**+1.4**
	comp=Z,7.8nm,0.8s								
SML	**Sawmill**	**44.21**	**39**	*e*P		**P**		**14 58 57.9**	**+2.3**
SML				pmax		pmax			
	comp=Z,23nm,1.0s								
SML	**Sawmill**	**44.21**	**39**	*e*P		**P**		**14 58 57.9**	**+2.3**
	comp=Z,23nm,1.0s								
COLA	**College**	**44.32**	**34**⇓	*e*P		**P**		**14 58 57.8**	**+1.5**
COLA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
IL1	**Eielson Array**	**44.73**	**34**	*e*P		**P**		**14 58 59.8**	**+0.1**
ILAR	**Eielson Array**	**44.73**	**34**	P		**P**		**14 59 00.2**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=256,slow=5.4,SNR=12								
MK01	**Makanchi Array**	**44.80**	**300**	*e*P		**P**		**14 58 59.4**	**-1.2**
MK31	**Makanchi Array**	**44.80**	**300**	*e*P		**P**		**14 59 00.6**	**0.0**
MK31	**Makanchi Array**	**44.80**	**300**	*e*P		**P**		**14 59 00.6**	**0.0**
MKAR	**Makanchi Array**	**44.80**	**300**	P		**P**		**14 58 59.6**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=77,slow=6.2,SNR=5.1								
MKAR				LR		LR		15 18 43.9	
	comp=Z,21nm,20.7s,baz=96,slow=37								
MKAR	**Makanchi Array**	**44.80**	**300**	*e*P		P		14 59 05.2	+4.7
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**44.80**	**300**	*e*P		**P**		**14 59 01.0**	**+0.5**
	comp=Z,20nm,0.8s								
MAKZ	**Makanchi**	**45.00**	**300**	*e*P		**P**		**14 59 02.7**	**+0.6**
MAKZ				pmax		pmax			
	comp=Z,3.0nm,0.8s								
MAKZ	**Makanchi**	**45.00**	**300**	*e*P		**P**		**14 59 02.7**	**+0.6**
	comp=Z,3.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**45.37**	**255**	P		**P**		**14 59 06.0**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=52,slow=5.8,SNR=3.6								
KURK	**Kurchatov**	**46.10**	**306**⇑	*e*P		**P**		**14 59 10.8**	**0.0**
KURK				pmax		pmax			
	comp=Z,24nm,1.2s								
KURK	**Kurchatov**	**46.10**	**306**	*e*P		**P**		**14 59 11.4**	**+0.6**
	comp=Z,5.0nm,0.8s								
KURBB	**Kurchatov Arra**	**46.18**	**306**	P		**P**		**14 59 11.5**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=77,slow=8.6,SNR=9.2								
HYT	**Haines Junctio**	**49.51**	**39**	*e*P		**P**		**14 59 38.5**	**+1.2**
	comp=Z,16nm,0.9s								
INK	**Inuvik**	**49.69**	**29**	P		**P**		**14 59 39.0**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=308,slow=11,SNR=11								
INK	**Inuvik**	**49.69**	**29**	*e*P		**P**		**14 59 39.3**	**+1.0**
INK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
INK	**Inuvik**	**49.69**	**29**	*e*P		**P**		**14 59 39.3**	**+1.0**
	comp=Z,6.9nm,1.3s								
BVAR	**Borovoye Array**	**50.37**	**311**	P		**P**		**14 59 44.3**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=64,slow=10,SNR=6.3								
BVAR				LR		LR		15 21 31.5	
	comp=Z,51nm,20.4s,baz=60,slow=37								
KSH	**Kashi**	**51.70**	**293**	*e*P		**P**		**14 59 57.8**	**+3.8**
KSH				pmax		pmax			
	comp=Z,100nm,4.8s								
SFK	**Sufi-Kurgan**	**53.21**	**294**	P		**P**		**15 00 09.0**	**+3.6**
SFK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MTN	**Manton Dam**	**54.92**	**197**	*e*P		**P**		**15 00 18.4**	**+0.8**
	comp=Z,179nm,0.3s								
ARU	**Arti**	**55.60**	**318**	P		**P**		**15 00 23.1**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=82,slow=7.1,SNR=3.2								
ABKAR	**Akbulak array**	**57.88**	**310**	*e*P		**P**		**15 00 37.8**	**-0.7**
	comp=Z,30nm,0.7s								
RES	**Resolute Bay**	**58.23**	**16**	*e*P		**P**		**15 00 40.1**	**-0.4**
RES				pmax		pmax			
	comp=Z,9.0nm,0.9s								
RES	**Resolute Bay**	**58.23**	**16**	*e*P		**P**		**15 00 40.1**	**-0.4**
	comp=Z,8.9nm,0.9s								
AKTO	**Aktyubinsk**	**58.45**	**311**	P		**P**		**15 00 44.0**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=80,slow=9.2,SNR=4.7								
AKTO				LR		LR		15 28 29.2	
	comp=Z,33nm,18.2s,baz=66,slow=39								
AKTO	**Aktyubinsk**	**58.45**	**311**	P		**P**		**15 00 44.0**	**+1.4**
YKA	**Yellowknife Ar**	**59.07**	**32**	P		**P**		**15 00 46.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=299,slow=6.6,SNR=6.6								
WRAB	**Tennant Creek**	**61.23**	**192**	*ce*P		**P**		**15 01 01.6**	**-0.2**
WRAB				pmax		pmax			
	comp=Z,11nm,1.0s								
WRAB	**Tennant Creek**	**61.23**	**192**	*e*P		**P**		**15 01 00.6**	**-1.3**
	comp=Z,13nm,1.0s								
WRA	**Warramunga Arr**	**61.24**	**192**	P		**P**		**15 01 01.3**	**-0.6**
	comp=Z,8.5nm,0.9s,baz=11,slow=7.3,SNR=49								
FITZ	**Fitzroy Crossi**	**61.34**	**201**	*e*P		**P**		**15 01 01.3**	**-1.3**
DAG	**Danmarks Havn**	**62.31**	**356**	P		P		15 01 19.3	+11
GEYT	**Alibeck**	**64.67**	**299**	P		**P**		**15 01 25.2**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=72,slow=6.4,SNR=3.5								
GEYT				LR		LR		15 31 49.1	
	comp=Z,39nm,19.2s,baz=105,slow=38								
AS01	**Alice Springs**	**64.95**	**191**	*e*P		**P**		**15 01 25.7**	**-0.9**
ASAR	**Alice Springs**	**64.96**	**192**	P		**P**		**15 01 26.1**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=13,slow=6.1,SNR=12								
ASAR	**Alice Springs**	**64.96**	**192**	*e*P		**P**		**15 01 26.9**	**+0.3**
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
FINES	**FINESS Array B**	**66.91**	**333**	P		**P**		**15 01 38.5**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=104,slow=3.9,SNR=4.4								
FINES	**FINESS Array B**	**66.91**	**333**	*e*P		**P**		**15 01 39.2**	**+0.5**
FINES				pmax		pmax			
	comp=Z,2.0nm,1.0s								
VSR	**Storozhevoye**	**68.10**	**319**⇑	*e*P		**P**		**15 01 48.5**	**+2.1**
VSR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KIV	**Kislovodsk**	**70.72**	**312**	*e*P		**P**		**15 02 04.6**	**+1.7**
KIV				pmax		pmax			
	comp=Z,22nm,1.1s								
KBZ	**Khabaz**	**70.74**	**311**	P		**P**		**15 02 04.7**	**+1.8**
	comp=Z,2.1nm,0.9s,baz=45,slow=1.4,SNR=7.0								
NB2	**NORSAR Subarra**	**71.88**	**338**	P		P		15 02 18.9	+9.3
	comp=Z,4.7nm,1.0s,baz=37,slow=6.2								
NB2	**NORSAR Subarra**	**71.88**	**338**	P		P		15 02 18.6	+9.0
NB2				pmax		pmax			
	comp=Z,1.0nm,0.7s								
NOA	**NORSAR Array B**	**71.88**	**338**	P		**P**		**15 02 09.9**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=39,slow=6.0,SNR=3.2								
HFS	**Hagfors**	**71.90**	**337**	P		**P**		**15 02 07.2**	**-2.5**
	comp=Z,3.3nm,1.0s,baz=33,slow=6.7,SNR=2.8								
PDAR	**Pinedale Array**	**72.92**	**48**	P		**P**		**15 02 19.2**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=270,slow=2.3,SNR=2.7								
AKASG	**Malin Array Be**	**73.16**	**323**	P		**P**		**15 02 18.4**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=47,slow=6.8,SNR=6.2								
AKASG	**Malin Array Be**	**73.16**	**323**	*e*P		**P**		**15 02 20.5**	**+3.2**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.5s								
BUR08	**Bucovina Ar. S**	**77.19**	**323**	*e*P		**P**		**15 02 42.4**	**+1.6**
BUR04	**Bucovina Ar. S**	**77.21**	**323**	*e*P		**P**		**15 02 42.7**	**+1.9**
BURAR	**Bucovina Array**	**77.21**	**323**	⇓P		P		15 02 51.2	+10
BURAR	**Bucovina Array**	**77.21**	**323**	⇓*i*P		P		15 02 51.2	+10
OJC	**Ojcow**	**77.58**	**328**	*e*P		**P**		**15 02 44.4**	**+1.7**
OJC				pmax		pmax			
	comp=Z,9.0nm,0.8s								
OJC	**Ojcow**	**77.58**	**328**	*e*P		**P**		**15 02 44.4**	**+1.7**
	comp=Z,9.4nm,0.8s								
TLB	**Topalu**	**78.08**	**320**	⇑P		P		15 02 54.8	+9.2
TLB	**Topalu**	**78.08**	**320**⇑	*i*P		P		15 02 54.8	+9.2
BRTR	**Keskin Array B**	**78.58**	**313**	P		**P**		**15 02 49.7**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=57,slow=4.6,SNR=3.7								
BRTR				LR		LR		15 41 15.5	
	comp=Z,14nm,18.8s,baz=28,slow=38								
BRTR	**Keskin Array B**	**78.58**	**313**	*e*P		**P**		**15 02 51.1**	**+2.4**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
MORC	**Moravsky Berou**	**78.83**	**328**	P		P		15 03 01.3	+12
MORC				pmax		pmax			
	comp=Z,23nm,1.1s								
MORC	**Moravsky Berou**	**78.83**	**328**⇓	*i*P		P		15 02 59.8	+10
UPC	**Upice**	**78.84**	**330**	*e*PCP		**PcP**		**15 03 00.9**	**+2.4**
DPC	**Dobruska-Polom**	**78.85**	**329**	*e*P		**P**		**15 02 50.6**	**+0.7**
DPC				*e*				15 03 00.5	
DPC	**Dobruska-Polom**	**78.85**	**329**	*e*P		**P**		**15 02 50.6**	**+0.7**
DPC				*e*PCP		**PcP**		**15 03 00.5**	**+1.9**
VOIR		**78.90**	**322**	⇓P		P		15 03 01.3	+11
VOIR		**78.90**	**322**⇓	*i*P		P		15 03 01.3	+11
BR231	**Keskin MP Arra**	**78.98**	**314**	*e*P		**P**		**15 02 51.4**	**+0.6**
ARR	**Arges**	**79.15**	**322**	⇓*i*P		**P**		**15 02 54.1**	**+2.5**
CLL	**Collm**	**79.31**	**332**	*e*P		**P**		**15 02 51.0**	**-1.3**
CLL				*e*				15 03 02.0	
CLL	**Collm**	**79.31**	**332**	*e*P		**P**		**15 02 51.0**	**-1.3**
CLL				*e*(sP)		**PcP**		**15 03 02.0**	**+1.5**
VYHS	**Vyhne**	**79.31**	**327**	*e*P		P		15 03 00.1	+7.7
VYHS	**Vyhne**	**79.31**	**327**	*e*P		P		15 03 00.1	+7.7
PSZ	**Piszkesteto**	**79.32**	**326**	⇓P		P		15 03 02.0	+9.5
PSZ	**Piszkesteto**	**79.32**	**326**⇓	*i*P		P		15 03 02.0	+9.5
BRG	**Berggiesshubel**	**79.32**	**331**	*e*P		P		15 03 02.4	+10
	comp=Z,4.2nm,1.0s								
BRG	**Berggiesshubel**	**79.32**	**331**	*e*P		P		15 03 02.4	+10
BRG				pmax		pmax			
	comp=Z,4.0nm,1.0s								
VRAC	**Vranov**	**79.58**	**329**	P		**P**		**15 02 53.1**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=21,slow=8.6,SNR=2.7								
VRAC	**Vranov**	**79.58**	**329**⇓	*i*P		P		15 03 04.9	+11
PRU	**Pruhonice**	**79.82**	**330**	*e*PCP		**PcP**		**15 03 05.9**	**+3.1**
EKA	**Eskdalemuir Ar**	**80.57**	**342**	P		**P**		**15 02 58.7**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=12,slow=4.9,SNR=2.6								
KHC	**Kasperske Hory**	**80.88**	**330**	*e*P		**P**		**15 03 01.0**	**+0.1**
KHC				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KHC	**Kasperske Hory**	**80.88**	**330**	*e*P		**P**		**15 03 01.3**	**+0.4**
KHC				*ex*		x		15 03 11.2	
KHC	**Kasperske Hory**	**80.88**	**330**	*e*P		**P**		**15 03 01.0**	**+0.1**
	comp=Z,2.1nm,1.0s								
GERES	**GERESS Array B**	**81.07**	**330**	P		**P**		**15 03 01.8**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=12,slow=7.2,SNR=3.8								
GERES	**GERESS Array B**	**81.07**	**330**	*e*P		**P**		**15 03 03.8**	**+1.8**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.8s								
GEA0	**GERESS Array S**	**81.08**	**330**	*e*P		**P**		**15 03 01.8**	**-0.2**
VTS	**Vitosha**	**81.91**	**321**	P		P		15 03 17.8	+11
VTS				pmax		pmax			
	comp=Z,6.0nm,1.0s								
VTS	**Vitosha**	**81.91**	**321**⇑	*i*P		P		15 03 17.2	+11
KBA	**Koelnbreinsper**	**82.66**	**329**	P		P		15 03 23.5	+13
KBA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
PDG	**Podgorica**	**83.89**	**323**⇑	*i*P		P		15 03 25.9	+9.2
FUORN	**Ofenpass-Fuorn**	**84.21**	**331**	*e*P		**P**		**15 03 19.9**	**+1.3**
	comp=Z,5.5nm,0.9s								
TXAR	**Lajitas Array**	**85.49**	**55**	P		**P**		**15 03 25.9**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=298,slow=2.7,SNR=6.1								
SNAA	**Sanae**	**145.19**	**197**	PKPbc		**PKPdf**		**15 10 22.1**	**-1.3**
	comp=Z,3.9nm,1.1s,baz=111,slow=4.1,SNR=5.4								
SNAA	**Sanae**	**145.19**	**197**	*e*PKPdf		**PKPdf**		**15 10 22.2**	**-1.2**

*IDC **25** 14:58:48.8±1.1, 7.°28S×129.°27E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.7/51, mbtmp3.9/8, ML4.2/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/49, Error ellipse: s-maj=82.2km s-min=18.6km az=71.0*
*ISCJB **25** 14:58:54.9±0.5, 7.°60S±0.°05×129.°66E±0.°07, h79km, mb3.9/7, Error ellipse: s-maj=9.4km s-min=7.0km az=18.1*
*NEIC **25** 14:58:59.2±1.0, 7.°30S×129.°31E, h82km±10km, mb4.2/2, Error ellipse: s-maj=18.4km s-min=10.6km az=131.0*
ISC 25 14:58:56.3±0.6, **7.°69S**±0.°06×**129.°65E**±0.°07, **h79**km, **n19, s23/34/23, mb3.9/7, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FAKI	**Fak Fak**	**5.40**	**29**	*e*Pn		**Pn**		**15 00 15.0**	**+0.6**
	13nm,0.4s								
FAKI				*e*Sn		**Sn**		**15 01 11.4**	**-3.8**
SOEI	**Soe**	**5.70**	**248**	*e*Pn		**Pn**		**15 00 19.2**	**+0.7**
	36nm,0.6s								
SOEI				*e*Sn		**Sn**		**15 01 17.7**	**-4.9**
BATI	**Baumata**	**6.42**	**247**	Pn		**Pn**		**15 00 29.6**	**+1.4**
	13nm,0.3s,baz=81,slow=6.0,SNR=14								
BATI				Sn		**Sn**		**15 01 42.6**	**+2.5**
	11nm,0.3s,baz=90,slow=20,SNR=4.1								
FITZ	**Fitzroy Crossi**	**11.06**	**200**	Pn		**Pn**		**15 01 32.5**	**+0.9**
	10nm,0.3s,baz=25,slow=0.3,SNR=142								
FITZ				Sn		**Sn**		**15 03 29.1**	**-4.4**
	3.2nm,0.3s,baz=293,slow=19,SNR=8.7								
WRAB	**Tennant Creek**	**13.00**	**160**	*e*Pn		**Pn**		**15 02 00.3**	**+2.4**
WRA	**Warramunga Arr**	**13.00**	**160**	Pn		**Pn**		**15 02 00.2**	**+2.2**
	0.5nm,0.3s,baz=346,slow=13,SNR=21								
WRA				Sn		**Sn**		**15 04 18.6**	**-2.3**
	2.7nm,0.3s,baz=328,slow=23,SNR=17								
COEN	**Coen**	**14.67**	**116**	*e*Pn		**P**		**15 02 24.6**	**+0.6**
	2.9nm,0.8s								
ASAR	**Alice Springs**	**16.40**	**166**	Pn		**P**		**15 02 45.2**	**+2.0**
	0.3nm,0.3s,baz=344,slow=13,SNR=16								
ASAR				Sn		**Sn**		**15 05 39.2**	**-4.1**
	0.5nm,0.3s,baz=347,slow=26,SNR=7.9								
STKA	**Stephens Creek**	**26.52**	**157**	P		P		15 04 33.8	+7.3
	0.4nm,0.4s,baz=332,slow=11,SNR=6.6								
HNR	**Honiara**	**30.01**	**96**	LR		LR		15 17 48.5	
	comp=Z,74nm,19.2s,baz=44,slow=38								
SONM	**Songino Array**	**58.98**	**342**	P		**P**		**15 08 47.3**	**-0.4**
	0.3nm,0.6s,baz=149,slow=6.9,SNR=3.6								
MKAR	**Makanchi Array**	**68.61**	**327**	P		**P**		**15 09 50.4**	**-0.5**
	1.3nm,0.3s,baz=121,slow=7.7,SNR=36								
ZALV	**Zalesovo Beam**	**72.04**	**334**	P		**P**		**15 10 10.5**	**-1.1**
	0.9nm,0.5s,baz=140,slow=5.5,SNR=4.4								
KURBB	**Kurchatov Arra**	**72.91**	**329**	P		**P**		**15 10 16.4**	**-0.4**
	1.8nm,0.6s,baz=131,slow=4.9,SNR=18								
KURK	**Kurchatov**	**72.92**	**329**	P		**P**		**15 10 16.4**	**-0.5**
BVAR	**Borovoye Array**	**78.46**	**328**	P		**P**		**15 10 49.2**	**+0.7**
	0.3nm,0.3s,baz=121,slow=5.5,SNR=3.6								
ABKAR	**Akbulak array**	**82.83**	**322**	*e*P		**P**		**15 11 12.7**	**+0.8**
SYO	**Syowa Base**	**82.90**	**201**⇑	*e*X		**P**		**15 11 12.0**	**+0.1**
KMBO	**Kilima Mbogo**	**92.22**	**269**	*e*P		**P**		**15 11 58.0**	**-0.4**
	3.1nm,0.6s								

*DDA **25** 15:01:46.4, 40.°06N×44.°00E, h8km, Ml2.6*
*ISK **25** 15:01:46.7, 39.°82N×44.°12E, h19km, ML2.5/4*
*CSEM **25** 15:01:47.8±0.3, 39.°87N×44.°12E, h20km, ML2.5, Error ellipse: s-maj=11.2km s-min=5.5km az=129.0*
ISC 25 15:01:48.1±0.9, **39.°98N**±0.°04×**44.°01E**±0.°03, **h14**km±7km, **n20, σ1°41/30, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
IGDI	**IGDIR**	**0.12**	**155**	*i*P		**Pg**		**15 01 50.9**	**-0.6**
IGDI				*i*S		**Sg**		**15 01 54.0**	**+0.1**
TASB	**TASBURUN-IGDIR**	**0.17**	**87**	PG		**Pg**		**15 01 51.8**	**-0.5**
TASB				SG		**Sg**		**15 01 55.8**	**+0.6**
TASB	**TASBURUN-IGDIR**	**0.17**	**87**	*i*Pg		**Pg**		**15 01 51.8**	**-0.5**
TASB				*i*Sg		**Sg**		**15 01 55.8**	**+0.6**
DYDN	**Diyadin**	**0.50**	**210**	*i*P		**Pg**		**15 01 57.8**	**-0.2**
DYDN				*i*S		**Sb**		**15 02 06.6**	**+0.6**
DYDN	**Diyadin**	**0.50**	**210**	P		**Pg**		**15 01 57.8**	**-0.2**
DYDN				S		**Sb**		**15 02 06.6**	**+0.6**
DIGO	**Kars**	**0.66**	**312**	*i*P		Pg		15 01 57.2	-3.8
DIGO				*i*S		**Sg**		**15 02 05.7**	**-4.0**
CLDR	**Caldiran**	**0.83**	**185**	PG		**Pg**		**15 02 00.8**	**-3.5**
CLDR	**Caldiran**	**0.83**	**185**	*i*P		**Pg**		**15 02 03.7**	**-0.7**
CLDR	**Caldiran**	**0.83**	**185**	*e*Pg		**Pg**		**15 02 00.8**	**-3.5**
CLDR	**Caldiran**	**0.83**	**185**	P		**Pg**		**15 02 03.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.88**	**243**	PG		**Pg**		**15 02 04.4**	**-0.8**
AGRB				SG		**Sg**		**15 02 17.8**	**+1.0**
AGRB	**Hanur-Agry**	**0.88**	**243**	*e*Pg		**Pg**		**15 02 04.4**	**-0.8**
AGRB				*e*Sg		**Sg**		**15 02 17.8**	**+1.0**
TUTA	**Tutak**	**1.09**	**239**	*i*P		**Pg**		**15 02 08.2**	**-1.0**
TUTA				*i*S		**Sg**		**15 02 23.7**	**+0.4**
TUTA	**Tutak**	**1.09**	**239**	P		**Pg**		**15 02 08.1**	**-1.0**
TUTA				S		**Sg**		**15 02 23.7**	**+0.4**
EATA	**Eleskirt**	**1.18**	**265**	*i*P		**Pg**		**15 02 10.8**	**0.0**
EATA	**Eleskirt**	**1.18**	**265**	P		**Pg**		**15 02 10.8**	**0.0**
SENK	**Senkaya-Erzuru**	**1.40**	**295**	PN		**Pn**		**15 02 13.9**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.40**	**295**	*e*Pn		**Pn**		**15 02 13.9**	**+0.5**
DGRG	**David-gareji**	**1.80**	**35**	P		**Pn**		**15 02 19.0**	**+0.2**
DGRG				S		**Sn**		**15 02 42.6**	**+1.2**
BTNK	**Botanikuri**	**1.81**	**19**	P		**Pn**		**15 02 18.8**	**0.0**

*NEIC **25** 15:04:24.9±0.0, 16.°29N×98.°20W, h9km, MD4.1(MEX), After MEX.*
MEX 25 15:04:24.6±0.5, **16.°28N×98.°19W, h7**km±3km, **MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PNIG	**Pinotepa**	**0.13**	**29**	*i*P		Pg		15 04 26.7	-0.7
PNIG				*e*S		Sg		15 04 29.2	-0.1
TLIG	**Tlapa**	**1.32**	**344**	*i*P		Pn		15 04 46.2	-3.5
TLIG				*e*S		Sb		15 05 02.0	-5.2
TLIG	**Tlapa**	**1.32**	**344**	*e*P		Pn		15 04 46.5	-3.2
TLIG				*e*S		Sb		15 05 02.0	-5.2
VHO	**Vista Hermosa**	**1.60**	**60**	*e*P		Pn		15 04 50.5	-3.1
VHO				*e*S		Sn		15 05 10.2	-4.5
VHO	**Vista Hermosa**	**1.60**	**60**	*e*P		Pn		15 04 50.5	-3.1
VHO				*e*S		Sn		15 05 10.2	-4.5
HUIG	**Huatulco**	**2.07**	**104**	*e*P		Pn		15 04 56.6	-3.1
HUIG				*e*S		Sn		15 05 20.9	-4.9
HUIG	**Huatulco**	**2.07**	**104**	*e*P		Pn		15 04 56.6	-3.1
HUIG				*e*S		Sn		15 05 20.9	-4.9
CAIG	**El Cayaco**	**2.13**	**291**	*e*P		Pn		15 04 57.4	-3.2
CAIG				*i*S		Sn		15 05 23.1	-4.3
CAIG	**El Cayaco**	**2.13**	**291**	*e*P		Pn		15 04 55.7	-4.9
CAIG				*e*S		Sn		15 05 12.9	-14
PLIG	**Platanillo**	**2.45**	**329**	*e*P		Pn		15 05 02.1	-2.9
PLIG				*e*S		Sn

TX31	Lajitas Ar. Si	86.07	58	*e*P		P		15 24 47.8	+1.1
TXAR	Lajitas Array	86.07	58	P		P		15 24 48.1	+1.4
	3.6nm,0.8s,baz=218,slow=6.2,SNR=46								
MCMT	McKenzie Canyo	86.33	40	*e*P		P		15 24 48.1	+0.3
REDW	Red Top Meadow	86.88	42	*e*P		P		15 24 50.6	+0.3
	5.5nm,1.0s								
FXWY	Fox Creek	86.90	42	*e*P		P		15 24 50.8	+0.4
	2.2nm,0.9s								
HHC	Hu-ho-hao-te	87.31	314	*e*P		P		15 24 52.3	0.0
PD31	Pinedale Array	87.44	43	*e*P		P		15 24 52.6	-0.3
PDAR	Pinedale Array	87.44	43	P		P		15 24 52.9	-0.1
	1.8nm,0.6s,baz=213,slow=3.6,SNR=22								
PDAR	Pinedale Array	87.44	43	*e*P		P		15 24 52.7	-0.3
COLD	Coldfoot	87.51	11	*e*P		P		15 24 52.3	-0.2
	3.0nm,0.8s								
LNIG	Linares	87.90	63	*e*P		P		15 24 55.5	+0.2
	5.5nm,1.0s								
SNAA	Sanae	90.51	179	P		P		15 25 05.3	-1.2
	0.8nm,0.8s,baz=203,slow=14,SNR=9.4								
YKA	Yellowknife Ar	94.43	25	P		P		15 25 23.6	-0.8
	0.4nm,0.5s,baz=239,slow=4.5,SNR=13								
MKAR	Makanchi Array	109.17	314	PKiKP		PKiKP		15 30 29.4	-1.4
	0.3nm,0.5s,baz=239,slow=1.7,SNR=5.7								
BVAR	Borovoye Array	116.89	321	PKP		PKPdf		15 30 43.8	-1.6
	0.5nm,0.5s,baz=80,slow=3.4,SNR=3.3								
ARCES	ARCESS Array B	126.40	350	PKP		PKPdf		15 31 01.1	-2.1
	3.5nm,0.8s,baz=42,slow=1.5,SNR=5.2								
FINES	FINESS Array B	133.27	344	PKP		PKPdf		15 31 15.5	-0.9
	0.8nm,0.8s,baz=56,slow=3.5,SNR=4.2								
NOA	NORSAR Array B	136.46	353	PKP		PKPdf		15 31 22.6	+0.2
	1.0nm,1.0s,baz=14,slow=3.7,SNR=2.9								
EKA	Eskdalemuir Ar	142.56	4	PKhKP		PKPpre		15 31 29.1	
	0.7nm,0.6s,baz=352,slow=2.4,SNR=3.5								
BUR04	Bucovina Ar. S	144.68	332	*e*PKPdf		PKPab		15 31 38.7	0.0
BRTR	Keskin Array B	144.82	315	PKP		PKPdf		15 31 37.6	-0.6
	1.1nm,0.7s,baz=140,slow=3.1,SNR=6.7								
BR231	Keskin MP Arra	145.34	315	*e*PKPdf		PKPdf		15 31 38.4	-0.6
CLL	Collm	145.54	347	I PKPbc		PKPbc		15 31 39.9	-0.4
	comp=Z,9.0nm,0.7s								
CLL	Collm	145.54	347	*e*PKPdf		PKPdf		15 31 38.8	0.0
UPC	Upice	145.57	344	*e*PKP		PKPbc		15 31 40.4	0.0
DPC	Dobruska-Polom	145.62	343	*e*PKP		PKPbc		15 31 40.8	+0.1
BRG	Berggiesshubel	145.75	346	*i* PKP		PKPbc		15 31 40.6	-0.3
	comp=Z,4.2nm,0.6s								
MMAI	Mount Meron Ar	146.16	303	PKPbc		PKPbc		15 31 42.0	-0.8
	comp=Z,1.4nm,0.4s,baz=73,slow=4.8,SNR=2.7								
PRU	Pruhonice	146.42	345	*e*PKP		PKPbc		15 31 42.6	-0.2
VYHS	Vyhne	146.49	339	*e*PKP		PKPbc		15 31 43.2	+0.1
NKC	Novy Kostel	146.68	347	*e*PKP		PKPbc		15 31 43.2	-0.3
KHC	Kasperske Hory	147.46	345	*e*PKP		PKPbc		15 31 45.6	0.0
KHC				*ex*		x		15 31 49.1	
KHC	Kasperske Hory	147.46	345	*e*PKPbc		PKPbc		15 31 45.3	-0.3
GERES	GERESS Array B	147.69	345	PKPbc		PKPbc		15 31 46.0	-0.4
	comp=Z,2.1nm,0.5s,baz=27,slow=3.6,SNR=24								
GEA0	GERESS Array S	147.70	345	*e*PKPbc		PKPbc		15 31 45.5	-0.8
DOU	Dourbes	147.89	356	I PKPbc		PKPbc		15 31 46.2	-0.4
CONA	Conrad Observa	147.94	342	*e*PKiKP		PKPbc		15 31 46.8	-0.1
	comp=Z,2.5nm,0.8s								
WLF	Walferdange	148.19	354	I PKPbc		PKPbc		15 31 47.9	+0.5
BFO	Black Forest	149.25	351	*e*PKPbc		PKPbc		15 31 48.7	-1.4
VTS	Vitosha	149.35	328	*e*PKPbc		PKPbc		15 31 49.5	-1.2
KBA	Koelnbreinsper	149.42	344	*e*PKiKP		PKPbc		15 31 50.5	-0.3
	comp=Z,1.8nm,0.6s								
WATA	Walderalm	149.60	346	*e*PKPbc		PKPbc		15 31 50.3	-0.8
	comp=Z,3.7nm,0.8s								
RETA	Reutte	149.63	348	*e*PKPbc		PKPbc		15 31 50.3	-0.8
	comp=Z,2.4nm,0.7s								
WTTA	Wattenberg	149.66	346	*e*PKiKP		PKPbc		15 31 50.7	-0.6
	comp=Z,3.4nm,0.5s								
MOTA	Moosalm	149.70	347	*e*PKiKP		PKPbc		15 31 50.9	-0.5
	comp=Z,2.7nm,0.8s								
DIVS	Divibare	149.71	333	*e*PKPbc		PKPbc		15 31 50.5	-0.8
MYKA	Terra Mystica	149.75	343	*e*PKPbc		PKPbc		15 31 50.1	-1.3
	comp=Z,1.7nm,0.4s								
DAVA	Damuels	150.00	349	*e*PKiKP		PKPbc		15 31 51.6	-0.4
	comp=Z,5.5nm,1.1s								
CRNS	Crni Vrh	150.08	342	*i* PKPbc		PKPbc		15 31 51.1	-1.0
FETA	Feichten	150.09	347	*e*PKiKP		PKPbc		15 31 52.0	-0.3
	comp=Z,2.4nm,0.7s								
BOJS	Bojanci	150.29	340	*i* PKPbc		PKPbc		15 31 52.3	-0.2
FUORN	Ofenpass-Fuorn	150.56	348	*e*PKPbc		PKPbc		15 31 52.5	-1.0

*ISCJB **25** 15:19:23.3±0.5,39.97N±0.03×43.00E±0.04, h9km±5km, Error ellipse: s-maj=5.4km s-min=3.7km az=138.9*
*CSEM **25** 15:19:23.2±0.1,39.94N×42.96E, h10km, ML2.5, Error ellipse: s-maj=3.9km s-min=2.9km az=55.0*
*DDA **25** 15:19:23.1,39.96N×42.97E, h7km, Ml2.8*
*ISK **25** 15:19:23.2,39.94N×42.94E, h5km, ML2.5/6*
ISC 25 15:19:23.2±1.1, 39.94N±0.02×42.97E±0.02, h8km±10km, n35, σ0≤60/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGRB	Hanur-Agry	0.36	177	PG	Pg	15 19 30.8	+0.4
AGRB	Hanur-Agry	0.36	177	*e*Pg	Pg	15 19 30.8	+0.4
EATA	Eleskirt	0.37	258	*i* P	Pg	15 19 30.7	+0.1
EATA				*i* S	Sb	15 19 39.2	+0.9
EATA	Eleskirt	0.37	258	P	Pg	15 19 30.7	+0.1
EATA				S	Sb	15 19 39.2	+0.9
TUTA	Tutak	0.55	192	*i* P	Pg	15 19 34.3	+0.5
TUTA				*i* S	Sb	15 19 42.9	-0.3
TUTA	Tutak	0.55	192	P	Pg	15 19 34.3	+0.5
TUTA				S	Sb	15 19 42.9	-0.3
DIGO	Kars	0.57	33	*i* P	Pg	15 19 33.6	-0.6
DIGO				*i* S	Sb	15 19 45.2	+1.3
DIGO	Kars	0.57	33	P	Pg	15 19 33.6	-0.6
DIGO				S	Sb	15 19 45.2	+1.3
DYDN	Diyadin	0.68	125	*i* P	Pg	15 19 36.5	+0.1
DYDN				*i* S	Sb	15 19 46.4	-0.7
DYDN	Diyadin	0.68	125	P	Pg	15 19 36.5	+0.1
DYDN				S	Sb	15 19 46.4	-0.7
KARS	Kars	0.69	7	PG	Pg	15 19 36.9	+0.3
KARS	Kars	0.69	7	*e*Pg	Pg	15 19 36.9	+0.3
SENK	Senkaya-Erzuru	0.78	323	PG	Pg	15 19 38.5	+0.3
SENK				SG	Sb	15 19 49.5	-0.4
SENK	Senkaya-Erzuru	0.78	323	*e*Pg	Pg	15 19 38.5	+0.3
SENK				*e*Sg	Sb	15 19 49.5	-0.4
HOMI	Horasan	0.82	278	*i* P	Pg	15 19 38.4	-0.6
EKAR	Karacoban	0.97	226	*i* P	Pg	15 19 41.6	-0.3
EKAR				*i* S	Sn	15 19 58.6	+1.2
EKAR	Karacoban	0.97	226	P	Pg	15 19 41.6	-0.3
EKAR				S	Sn	15 19 58.6	+1.2
TASB	TASBURUN-IGDIR	0.98	87	PG	Pg	15 19 42.7	+0.3
TASB	TASBURUN-IGDIR	0.98	87	*e*Pg	Pb	15 19 42.7	+0.3
VMUR	Van-Muradiye	1.06	153	*i* P	Pg	15 19 43.6	+0.1
VMUR				*i* S	Sn	15 19 59.1	-0.3
VMUR	Van-Muradiye	1.06	153	P	Pg	15 19 43.6	+0.1
VMUR				S	Sn	15 19 59.1	-0.3
CLDR	Caldiran	1.08	137	PN	Pb	15 19 44.6	+0.4
CLDR	Caldiran	1.08	137	*i* P	Pg	15 19 44.0	0.0
CLDR				*i* S	Sg	15 19 57.6	-0.3
CLDR	Caldiran	1.08	137	P	Pg	15 19 44.0	0.0
CLDR	Caldiran	1.08	137	*e*Pn	Pb	15 19 44.6	+0.4
CLDR				S	Sg	15 19 57.7	-0.3
ERZM	Erzurum	1.23	269	*i* P	Pg	15 19 46.5	-0.3
ERZM	Erzurum	1.23	269	P	Pg	15 19 46.5	-0.3
DDEM	Demirkent	1.33	316	*i* P	Pg	15 19 49.0	+0.3
DDEM	Demirkent	1.33	316	P	Pg	15 19 49.0	+0.3
DBAD	Bademkaya	1.45	318	*i* P	Pb	15 19 50.5	0.0
DBAD				*i* S	Sn	15 20 08.4	-0.6
DBAD	Bademkaya	1.45	318	P	Pb	15 19 50.5	0.0
DBAD				S	Sn	15 20 08.4	-0.6
GURO	Guroymak-BITLI	1.56	208	PN	Pb	15 19 52.1	-0.3
GURO	Guroymak-BITLI	1.56	208	*e*Pn	Pb	15 19 52.1	-0.3
BNGB	Bing ¶‖	2.01	243	PN	Pn	15 19 58.5	+1.1
BINT	Bingol	2.19	242	*e*Pn	Pn	15 19 58.5	-1.5

*ISK **25** 15:43:12.2,38.72N×43.16E, h5km, ML2.4/3*
*CSEM **25** 15:43:13.4±0.2,38.73N×43.19E, h2km, ML2.4, Error ellipse: s-maj=5.4km s-min=4.8km az=137.0*
*DDA **25** 15:43:13.4,38.70N×43.20E, h7km, Ml2.7*
ISC 25 15:43:13.9±1.0, 38.73N±0.02×43.19E±0.02, h8km±12km, n26, σ0≤94/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	Van	0.21	129	PG	Pg	15 43 18.4	+0.3
VANB	Van	0.21	129	*e*Pg	Pg	15 43 18.4	+0.3
TVAN	Van	0.26	139	*i* P	Pg	15 43 18.3	-0.9
TVAN				*i* S	Sg	15 43 22.1	-0.6
TVAN	Van	0.26	139	P	Pg	15 43 18.3	-0.9
TVAN				S	Sg	15 43 22.1	-0.6
ADCV	BITLIS_Adilcev	0.37	283	*i* P	Pg	15 43 21.3	+0.1
ADCV	BITLIS_Adilcev	0.37	283	P	Pg	15 43 21.3	+0.1
VMUR	Van-Muradiye	0.40	49	*i* P	Pg	15 43 21.9	+0.1
VMUR				*i* S	Sb	15 43 28.8	-0.9
VMUR	Van-Muradiye	0.40	49	P	Pg	15 43 21.9	+0.1
VMUR				S	Sb	15 43 28.8	-0.9
GEVA	Gevas	0.42	194	*i* P	Pg	15 43 20.9	-1.3
GEVA				*i* S	Sg	15 43 28.3	+0.5
GEVA	Gevas	0.42	194	P	Pg	15 43 20.9	-1.3
GEVA				S	Sg	15 43 28.3	+0.5
CLDR	Caldiran	0.71	54	PG	Pg	15 43 26.8	-0.8
CLDR				SG	Sg	15 43 37.2	+0.4
CLDR	Caldiran	0.71	54	*i* P	Pg	15 43 25.8	-1.8
CLDR	Caldiran	0.71	54	P	Pg	15 43 25.8	-1.8
CLDR	Caldiran	0.71	54	*e*Pg	Pg	15 43 26.8	-0.8
CLDR				*e*Sg	Sg	15 43 37.2	+0.4
TUTA	Tutak	0.73	337	*i* P	Pg	15 43 27.8	-0.3
TUTA	Tutak	0.73	337	P	Pg	15 43 27.8	-0.3
AGRB	Hanur-Agry	0.86	350	PG	Pg	15 43 29.2	-1.3
AGRB				SG	Sg	15 43 41.8	0.0
AGRB	Hanur-Agry	0.86	350	*e*Pg	Pg	15 43 29.2	-1.3
AGRB				*e*Sg	Sg	15 43 41.8	0.0
GURO	Guroymak-BITLI	0.92	259	PG	Pg	15 43 30.2	-1.4
GURO				SG	Sg	15 43 43.0	-0.5
GURO	Guroymak-BITLI	0.92	259	*e*Pg	Pg	15 43 30.2	-1.4
GURO				*e*Sg	Sg	15 43 43.0	-0.5
EKAR	Karacoban	1.02	302	*i* P	Pb	15 43 34.3	+0.3
EKAR	Karacoban	1.02	302	P	Pb	15 43 34.3	+0.3
SRTM	Siirt_Merkez	1.23	234	*i* P	Pn	15 43 39.0	+1.5
SRTM	Siirt_Merkez	1.23	234	P	Pn	15 43 39.0	+1.5
EATA	Eleskirt	1.26	335	*i* P	Pg	15 43 37.1	-0.9
EATA	Eleskirt	1.26	335	P	Pg	15 43 37.1	-0.9

GCMT 25 16:03:44.0±0.2, 40.93S×91.79W, h12km, MW5.0/90, Moment Tensor Solution. s35,c41; s90,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-2.45±.08; Mθθ-0.26±.08; Mϕϕ2.71±.07; Mrθ1.99±.30; Mθϕ-0.40±.07; Mϕr-0.45±.24; **Best double couple:** M$_0$3.25700×10^{16} **NP1:**ϕs324.00000°,δ60.00000°, λ-123.00000°. **NP2:**ϕs197.00000°,δ43.00000°, λ-46.00000°. **Principal axes:** T 2.8820, Plg10.0000°, Azm77.0000°; N 0.7500, Plg29.0000°, Azm341.0000°; P -3.6320, Plg60.0000°, Azm183.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKT	Rikitea	40.23	283	*e*LR	LR	16 22 27.2	
	937nm,26.8s						
PPT2	Papeete2	54.46	277	*e*S	S	16 20 56.9	+6.6
	276nm,24.5s						
PPT2				*e*LR	LR	16 28 51.8	
	749nm,27.2s						

*ISCJB **25** 16:03:44.2±0.7,7.06S±0.09×124.4E±0.2, h550km, mb3.3/5 Error ellipse: s-maj=25.0km s-min=8.8km az=160.0*
*IDC **25** 16:03:46.0±1.4,7.30S×124.22E, h562km±19km, mb2.9/5, mb1 3.0/8, mb1mx2.7/56, mbtmp3.9/8, Error ellipse: s-maj=75.1km s-min=13.4km az=61.0*
ISC 25 16:03:45.0±0.9, 7.2S±0.1×124.6E±0.2, h550km, n9, σ1≤30/13, mb3.4/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	3.17	196	P	P	16 05 02.6	+1.5
	42nm,0.3s,baz=90,slow=2.0,SNR=104						
BATI				S	S	16 06 03.2	+0.1
	9.8nm,0.3s,baz=258,slow=20,SNR=8.6						
FITZ	Fitzroy Crossi	10.94	175	P	P	16 06 12.8	+0.2
	0.3nm,0.3s,baz=1.7,slow=8.3,SNR=15						
FITZ				S	S	16 08 11.5	-2.4
	0.1nm,0.3s,baz=277,slow=17,SNR=3.5						
WRA	Warramunga Arr	15.87	144	P	P	16 07 03.5	+0.2
	1.1nm,0.3s,baz=319,slow=10,SNR=91						
WRA				S	S	16 09 45.0	-0.4
	0.1nm,0.3s,baz=316,slow=18,SNR=4.2						
ASAR	Alice Springs	18.72	152	P	P	16 07 30.3	+0.8
	0.5nm,0.3s,baz=329,slow=9.3,SNR=70						
ASAR				ScP	ScP	16 14 10.7	-2.6
	0.0nm,0.3s,baz=343,slow=2.4,SNR=7.6						
STKA	Stephens Creek	29.29	149	P	P	16 09 04.2	+0.9
	2.0nm,0.5s,baz=325,slow=11,SNR=13						
SONM	Songino Array	57.05	346	P	P	16 12 38.6	-0.4
	0.2nm,0.4s,baz=166,slow=8.2,SNR=3.4						
MKAR	Makanchi Array	65.50	329	P	P	16 13 34.4	+0.2
	1.0nm,0.6s,baz=132,slow=7.7,SNR=13						
ZALV	Zalesovo Beam	69.43	336	P	P	16 13 57.4	-0.6
	0.5nm,0.4s,baz=135,slow=4.9,SNR=4.8						
KURBB	Kurchatov Arra	69.91	331	P	P	16 14 00.9	0.0
	0.4nm,0.6s,baz=142,slow=5.1,SNR=5.6						

*SOME **25** 16:12:20.3,39.93N×77.07E, h0km*
*KRNET **25** 16:12:21.5±0.1,39.95N×77.05E, mb3.2*
*NNC **25** 16:12:25.6±2.4,40.03N×76.89E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=22.5km s-min=10.7km az=135.0*
ISC 25 16:12:21.1±1.6, 39.75N±0.07×77.09E±0.05, h10km, n52, σ1≤73/86, 25C-24D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	Naryn	1.88	334	I *i*P	Pn	16 12 53.2	-0.5
	baz=31						
NRN				*i*S	Sn	16 13 16.3	-1.3
	baz=31						
TARG	Taragay, Kyrgy	2.05	15	↓ *i*P	Pn	16 12 56.3	+0.2
	baz=17						
TARG				↓ *i*S	Sn	16 13 21.7	-0.3
	baz=17						
KDJ	Kajisay	2.38	2	I *i*P	Pb	16 13 01.8	-2.5
	baz=3.0						
KDJ				*i*S	Sn	16 13 30.6	+0.8
	baz=3.0						
ULHL	Ulahol	2.58	346	P	Pb	16 13 05.4	-2.3
	SNR=30						
ULHL	Ulahol	2.58	346	I *i*P	Pb	16 13 04.5	-3.1
	baz=45						
ULHL				*i*S	Sn	16 13 35.0	+0.3
	baz=45						
KZA	Kyzart	2.72	330	P	Pb	16 13 07.3	-2.8
	SNR=66						
KZA	Kyzart	2.72	330	I *i*P	Pb	16 13 07.0	-3.1
	baz=28						
KZA				*i*S	Sn	16 13 39.1	+0.7
	baz=28						
SFK	Sufi-Kurgan	2.78	277	↓Pn	Pb	16 13 08.4	-2.6
	3.0nm,0.4s						
SFK				I Pg	Pg	16 13 13.1	-1.2
	25nm,0.4s						
SFK				I Lg	Lg	16 13 49.4	
	28nm,0.5s						
SFK	Sufi-Kurgan	2.78	277	↓ *i*P	Pb	16 13 08.6	-2.4
	baz=73						
SFK				↓ *i*S	Sb	16 13 43.8	-1.4
	baz=73						
BOOM	Boomskoye usch	2.88	343	↓ *e*P	Pn	16 13 08.1	+0.9
	baz=42						
BOOM				↓ *e*S	Sn	16 13 41.9	-0.1
	baz=42						
UCH	Uchtor	3.16	323	P	Pb	16 13 13.9	-3.7
	SNR=12						
UCH	Uchtor	3.16	323	↓ *i*P	Pn	16 13 12.3	+1.0
	baz=21						
UCH				↓ *e*S	Sn	16 13 49.8	+0.5
	baz=21						
TNSS	Tian-Shan	3.29	358	*e*P	Pb	16 13 18.0	-1.9
	12nm,0.3s						
TNSS				*e*S	Sb	16 13 59.7	-0.4
	45nm,0.5s						
IZV	Izvestkoviy	3.31	354	*e*P	Pb	16 13 18.1	-1.9
	12nm,0.5s						
IZV				*e*S	Sb	16 14 00.2	-0.2
	64nm,0.4s						
KBK	Karagaybulak	3.33	332	P	Pb	16 13 19.7	-0.7
	SNR=13						
KBK	Karagaybulak	3.33	332	I *e*P	Pn	16 13 14.5	+1.1
	baz=30						
KBK				I *e*S	Sn	16 13 53.4	+0.3
	baz=30						
TKM2	Tokmak 2	3.37	341	↓Pn	Pb	16 13 16.6	-4.5
	4.9nm,0.6s						
TKM2				I Lg	Lg	16 14 03.0	
	27nm,0.7s						
TKM2	Tokmak 2	3.37	341	P	Pn	16 13 16.2	+2.2
	SNR=19						
TKM2	Tokmak 2	3.37	341	I *e*P	Pb	16 13 14.9	+0.9
	baz=40						
TKM2				I *e*S	Sn	16 13 54.1	0.0
	baz=40						
KST	Kastek	3.40	346	*e*P	Pb	16 13 20.1	-1.6
	6.4nm,0.5s						
KST				*e*S	Sb	16 14 03.1	0.0
	33nm,0.5s						
MDOK	Medeo	3.42	359	I Pg	Pb	16 13 21.1	-0.7
	4.1nm,0.5s						
MDOK				↓Lg	Lg	16 14 03.6	
	38nm,0.8s						
MDOK	Medeo	3.42	359	*e*P	Pb	16 13 20.2	-1.6
	5.6nm,0.6s						
MDOK				*e*S	Sb	16 14 03.5	0.0
	31nm,0.8s						
MTBS	Maitube	3.42	352	*e*P	Pb	16 13 20.4	-1.5
	5.9nm,0.4s						
MTBS				*e*S	Sb	16 14 03.6	+0.1
	74nm,0.4s						
SATY	Saty	3.46	16	*e*P	Pb	16 13 21.6	-0.9
	14nm,0.7s						
SATY				*e*S	Sb	16 14 05.6	+1.0
	54nm,0.6s						
KNDC	Almaty	3.47	358	I Pg	Pb	16 13 24.1	+1.3
	11nm,0.4s						
KNDC				↓Lg	Lg	16 14 06.1	
	98nm,0.6s						
KOTS	Kotyrbulak	3.49	0	*e*P	Pb	16 13 21.9	-1.2
	7.6nm,0.3s						
KOTS				*e*S	Sb	16 14 05.8	+0.3
	46nm,0.7s						
AAK	Ala-Archa	3.49	327	↓Pn	Pn	16 13 18.5	+2.8
	5.3nm,0.4s						
AAK				↓Lg	Lg	16 14 06.1	
	58nm,1.4s						
AAK	Ala-Archa	3.49	327	P	Pn	16 13 18.2	+2.6
	SNR=9.1						
AAK	Ala-Archa	3.49	327	↓ *e*P	Pn	16 13 17.6	+1.9
	baz=25						
AAK				↓ *i*S	Sn	16 13 57.9	+0.8
	baz=25						
ARSB	Arslanbob	3.51	298	↓ *e*P	Pn	16 13 18.2	+2.3
	baz=95						
ARSB				↓ *e*S	Sn	16 13 59.4	+1.9
	baz=95						
AML	Almayashu	3.51	314	P	Pn	16 13 18.8	+2.7
	SNR=35						
AML	Almayashu	3.51	314	I *e*P	Pn	16 13 18.0	+1.9
	baz=12						
AML				I *i*S	Sn	16 13 58.8	+0.9
	baz=12						
FRU1	Bishkek	3.58	330	I *e*P	Pn	16 13 18.1	+1.3
	baz=28						
FRU1				I *i*S	Sn	16 13 59.1	-0.1
	baz=28						
DGS	Degeres	3.63	345	*e*P	Pb	16 13 24.7	-0.8
	13nm,0.7s						
DGS				*e*S	Sb	16 14 10.8	+1.2
	63nm,0.6s						
UZB	Uzynbulak	3.69	22	*e*P	Pb	16 13 26.4	-0.2
	4.7nm,0.9s						
UZB				*e*S	Sb	16 14 13.7	+2.2
	10nm,0.4s						
CHMS	Chumysh	3.70	332	P	Pn	16 13 20.7	+2.4
	SNR=10						
KURS	Kuram	3.83	12	*e*P	Pb	16 13 27.8	-1.0
KURS				*e*S	Sb	16 14 16.1	+0.9
EKS2	Erkin-Say	3.84	320	P	Pb	16 13 23.8	-5.2
	SNR=14						
KPKS	Kokpek	3.90	17	*e*P	Pb	16 13 29.7	-0.4
	6.6nm,0.4s						
KPKS				*e*S	Sb	16 14 19.4	+2.0
	50nm,0.6s						
KTBS	Karatobe	3.98	356	*e*P	Pb	16 13 29.8	-1.5
	2.8nm,0.3s						
KTBS				*e*S	Sb	16 14 20.4	+0.9
	44nm,0.5s						
PDGK	Podgornoye	4.01	26	↓Pg	Pg	16 13 34.8	-3.1
	3.8nm,0.6s						
PDGK				↓Lg	Lg	16 14 25.6	
	16nm,0.7s						
PDGK	Podgornoye	4.01	26	I *e*P	Pn	16 13 23.9	+1.2
	baz=28						
PDGK				I *e*S	Sn	16 14 09.8	0.0
	baz=28						
USP	Ospenovka	4.02	332	P	Pb	16 13 32.4	+0.3
	SNR=5.1						
CHKK	Chushkaly	4.11	359	*e*P	Pb	16 13 32.1	-1.4
	3.4nm,0.2s						
CHKK				*e*S	Sb	16 14 23.8	+0.6
	60nm,0.3s						
MRKS	Merke	4.18	317	*e*P	Pb	16 13 34.7	-0.2
	9.2nm,0.5s						
MRKS				*e*S	Sb	16 14 28.5	+3.1
	20nm,0.6s						
KUU	Kurty	4.18	352	*e*P	Pb	16 13 32.9	-1.9
	3.2nm,0.4s						
KUU				*e*S	Sb	16 14 25.2	-0.2
	22nm,0.9s						
ARK	Arkit	4.40	299	↓ *e*P	Pn	16 13 29.7	+1.6
	baz=97						
ARK				↓ *e*S	Sn	16 14 19.6	+0.1
	baz=97						
MNAS	Manas	4.42	310	Pg	Pb	16 13 39.7	+0.8
MNAS				Lg	Lg	16 14 35.4	
MNAS	Manas	4.42	310	↓ *e*P	Pn	16 13 30.0	+1.6
	baz=8.0						

baz=1.2,SNR=37
MORW Morawa 2.09 304 P **Pg** **16 58 17.0 +1.3**
baz=2.1,SNR=50
MORW S **Sg** **16 58 42.3 -0.6**
baz=2.1
MUN Mundaring 2.32 222 P **Pb** **16 58 17.5 -0.1**
baz=2.1,SNR=25
NWAO Narrogin (SRO) 2.75 194 P **Pb** **16 58 24.1 -0.8**
baz=2.6
NWAO P **Pb** **16 58 24.1 -0.8**
baz=2.6
NWAO S **Sn** **16 58 53.9 +0.7**
baz=2.6
KMBL Kambalda 3.50 109 P **Pb** **16 58 38.6 +0.8**
baz=3.6
KMBL S **Sb** **16 59 20.3 -0.2**
baz=3.6
MEEK Meekatharra 3.64 8 P **Pb** **16 58 42.0 +1.8**
baz=3.8
FITZ Fitzroy Crossi 13.95 32 Pn **P** **17 01 00.6 -1.0**
0.9nm,0.3s,baz=204,slow=13,SNR=31
FITZ Sn **Sn** **17 03 28.8 +0.4**
0.2nm,0.3s,baz=139,slow=20,SNR=5.2
ASAR Alice Springs 15.60 69 Pn **P** **17 01 19.8 -0.2**
0.4nm,0.3s,baz=240,slow=11,SNR=67
ASAR Sn **Sn** **17 04 03.8 -5.1**
0.2nm,0.3s,baz=248,slow=22,SNR=7.6
WRA Warramunga Arr 17.98 59 Pn **P** **17 01 50.4 +4.0**
0.2nm,0.3s,baz=233,slow=13,SNR=19
WRA Sn **Sn** **17 05 02.6 -3.8**
0.2nm,0.3s,baz=229,slow=22,SNR=4.9
STKA Stephens Creek 20.26 101 P Pn 17 02 20.0 +6.7
0.1nm,0.3s,baz=288,slow=16,SNR=2.9
STKA S **S** **17 05 56.5 -2.0**
0.1nm,0.3s,baz=179,slow=13,SNR=2.2

*IDC **25** 17:05:55.5±0.7,58°.83S×25°.64W,h0km,mb4.2/8, mb1 4.3/9,mb1mx4.0/35,mbtmp4.2/9,ML4.6/1,MS3.0/1, Ms1 3.0/1,ms1mx2.6/35,Error ellipse: s-maj=25.3km s-min=19.6km az=107.0*
*ISCJB **25** 17:05:59.2±0.6,58°.91S±0°.07×25°.5W±0°.2,h35km,mb4.3/9, MS3.0/1,Error ellipse: s-maj=18.2km s-min=9.7km az=174.0*
*NEIC **25** 17:06:00.8±0.3,58°.89S×25°.64W,h35km,mb4.5/5,Error ellipse: s-maj=10.9km s-min=8.4km az=92.0*
ISC 25 17:06:00.8±0.6,58°.90S±0°.10×25°.6W±0°.1,h35km,n36, σ0s56/30,mb4.4/9,1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.83**	**155**	P			**Pn**	**17 09 14.3**	**+0.4**
VNA3	**Neumayer Olymp**	**14.01**	**159**	P			**Pn**	**17 09 16.2**	**-0.3**
VNA3				S			Sn	17 11 33.8	-17
VNA2	**Neumayer--Watz**	**14.22**	**155**	P			**Pn**	**17 09 19.0**	**-0.3**
	baz=316,slow=15								
VNA2				S			Sn	17 11 40.1	-16
SNAA	**Sanae**	**15.79**	**153**	P			**Pn**	**17 09 40.6**	**+0.5**
SNAA				S			Sn	17 12 18.2	-15
SNAA	**Sanae**	**15.79**	**153**	Pn			**Pn**	**17 09 40.3**	**+0.2**
	2.6nm,0.3s,baz=316,slow=18,SNR=128								
SNAA				Sn			Sn	17 12 19.1	-15
	0.4nm,0.3s,baz=339,slow=18,SNR=5.8								
SNAA	**Sanae**	**15.79**	**153**	*e*Pn			**Pn**	**17 09 40.0**	**-0.1**
	19nm,1.4s								
SNAA				*e*Sn			Sn	17 12 20.9	-13
SYO	**Syowa Base**	**28.85**	**137**	*e*P			**P**	**17 11 54.0**	**-1.3**
QSPA	**South Pole Qui**	**31.34**	**180**	P			**P**	**17 12 18.5**	**+0.9**
	1.5nm,0.5s,baz=202,slow=2.5,SNR=14								
PLCA	**Paso Flores**	**33.42**	**283**	P			**P**	**17 12 35.8**	**-0.1**
	1.1nm,0.8s,baz=142,slow=7.6,SNR=2.8								
PLCA				LR			LR	17 26 08.5	
	comp=Z,25nm,18.1s,baz=180,slow=36								
PLCA	**Paso Flores**	**33.42**	**283**	*e*P			**P**	**17 12 35.8**	**-0.1**
	11nm,1.4s								
VNDA	**Vanda**	**43.76**	**182**	P			**P**	**17 14 03.2**	**+1.2**
	1.0nm,0.6s,baz=182,slow=7.9,SNR=11								
BOSA	**Boshof**	**45.93**	**72**	P			**P**	**17 14 20.2**	**+0.1**
	3.5nm,0.7s,baz=215,slow=7.2,SNR=7.8								
LBTB	**Lobatse**	**49.10**	**69**	P			**P**	**17 14 44.8**	**+0.2**
	3.3nm,0.8s,baz=234,slow=8.7,SNR=4.5								
H10S2	**ASCENSION HYDR**	**50.52**	**14**	T			T	18 09 29.4	
	baz=188,slow=74,SNR=20								
H10S3	**ASCENSION HYDR**	**50.52**	**14**	T			T	18 09 29.7	
	baz=188,slow=74,SNR=13								
H10S1	**ASCENSION HYDR**	**50.54**	**14**	T			T	18 09 30.7	
	baz=188,slow=74,SNR=19								
H10N1	**ASCENSION HYDR**	**51.64**	**14**	T			T	18 10 53.6	
	baz=181,slow=72,SNR=7.5								
H10N3	**ASCENSION HYDR**	**51.64**	**14**	T			T	18 10 53.5	
	baz=181,slow=72,SNR=19								
H10N2	**ASCENSION HYDR**	**51.66**	**14**	T			T	18 10 55.0	
	baz=181,slow=72,SNR=13								
LSZ	**Lusaka**	**58.67**	**66**	*e*P			**P**	**17 15 55.2**	**+0.6**
	5.3nm,0.8s								
DBIC	**Dimbokro**	**67.44**	**22**	P			**P**	**17 16 52.6**	**+0.1**
	3.1nm,0.9s,baz=187,slow=8.1,SNR=3.6								
DBIC	**Dimbokro**	**67.44**	**22**	*e*P			**P**	**17 16 52.6**	**+0.1**
	6.9nm,1.1s								
TOA0	**Torodi Ar. Sit**	**75.15**	**27**	*e*P			**P**	**17 17 39.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**75.15**	**27**	P			**P**	**17 17 39.8**	**+0.6**
	6.6nm,0.7s,baz=198,slow=6.4,SNR=28								
TOA1	**Torodi Ar. Sit**	**75.15**	**27**	*e*P			**P**	**17 17 39.8**	**+0.6**
ASAR	**Alice Springs**	**96.00**	**161**	P			**P**	**17 19 23.3**	**-0.9**
	0.3nm,0.6s,baz=187,slow=3.8,SNR=2.6								
CMAR	**Chiang Mai Arr**	**123.24**	**111**	PKP			**PKPdf**	**17 24 53.5**	**-0.1**
	0.8nm,0.9s,baz=238,slow=3.7,SNR=5.0								
FINES	**FINESS Array B**	**126.50**	**28**	PKP			**PKPdf**	**17 24 57.8**	**-0.6**
	2.2nm,0.9s,baz=183,slow=3.2,SNR=8.9								
AB31	**Akbulak array**	**128.25**	**56**	*e*PKPdf			**PKPdf**	**17 25 02.0**	**-0.1**
ARCES	**ARCESS Array B**	**133.27**	**22**	PKP			**PKPdf**	**17 25 10.8**	**-0.2**
	3.1nm,0.9s,baz=209,slow=1.7,SNR=3.5								
YKA	**Yellowknife Ar**	**138.84**	**315**	PKP			**PKPdf**	**17 25 21.4**	**-0.2**
	0.3nm,0.6s,baz=129,slow=2.2,SNR=6.5								
INK	**Inuvik**	**148.53**	**317**	PKPbc			**PKPbc**	**17 25 41.5**	**-0.5**
	1.2nm,0.8s,baz=104,slow=4.0,SNR=5.8								
SONA0	**Songino Array**	**149.94**	**90**	*e*PKPbc			**PKPbc**	**17 25 46.0**	**-0.3**
SONM	**Songino Array**	**149.94**	**90**	PKPbc			**PKPbc**	**17 25 46.0**	**-0.3**
	1.7nm,0.8s,baz=226,slow=3.0,SNR=12								
ILAR	**Eielson Array**	**152.61**	**307**	PKPbc			**PKPbc**	**17 25 51.4**	**-0.4**
	0.5nm,0.8s,baz=171,slow=1.0,SNR=6.9								
ILB	**Eielson Array**	**152.61**	**307**	*e*PKPbc			**PKPbc**	**17 25 51.4**	**-0.4**

*IDC **25** 17:07:16.7±0.4,1°.56N×126°.52E,h0km,mb4.4/27, mb1 4.5/28,mb1mx4.3/56,mbtmp4.4/28,ML4.4/1,MS3.2/15, Ms1 3.2/15,ms1mx3.1/49,Error ellipse: s-maj=20.2km s-min=8.7km az=73.0*
*BJI **25** 17:07:19.6,1°.23N×126°.55E,h50km,mb4.6/33,mB5.0/17, Ms4.1/5,Ms7 4.1/5*
*MOS **25** 17:07:21.2±0.8,1°.59N×126°.56E,h43km,mb4.9/27,Error ellipse: s-maj=14.5km s-min=6.6km az=109.4*
*ISCJB **25** 17:07:21.9±0.2,1°.68N±0°.02×126°.61E±0°.03,h47km, mb4.6/68,MS3.4/16,Error ellipse: s-maj=4.8km s-min=3.1km az=159.5*
*NEIC **25** 17:07:22.3±0.8,1°.55N×126°.51E,h40km±8km,mb4.6/25, Error ellipse: s-maj=7.0km s-min=4.4km az=62.0*
*DJA **25** 17:07:23.6±0.3,2°N±2°×12°7E±°,h10km,M4.6/16, mb4.9/16,mB5.0/6,MLv4.7/15,Mw(mB)4.3/6*
ISC 25 17:07:23.3±0.3,1°.60N±0°.04×126°.63E±0°.04,h47km,n170, σ1s78/179,mb4.5/68,MS3.3/16,15C-6D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**138**	*e*Pn			**Pn**	**17 07 42.5**	**+0.1**
TNTI				*e*Sn			**Sn**	**17 07 56.5**	**-0.1**
SGSI	**Sangihe**	**2.35**	**332**	P			**Pn**	**17 08 02.7**	**+3.2**
SGSI				P			**Sn**	**17 08 32.0**	**+4.9**
LBMI	**Labuha**	**2.39**	**159**	P			**Pn**	**17 08 01.4**	**+1.4**
LBMI				S			**Sn**	**17 08 32.9**	**+4.8**
KMSI	**Cibinong**	**2.84**	**249**	P			**Pn**	**17 08 08.1**	**+1.9**
KMSI				S			**Sn**	**17 08 44.4**	**+5.3**
SANI	**Sanana**	**3.68**	**190**	P			**Pn**	**17 08 18.0**	**+0.2**
LUWI	**Luwuk**	**4.67**	**236**	P			**Pn**	**17 08 34.8**	**+3.5**
LUWI				S			**Sn**	**17 09 30.9**	**+6.7**
LUWI	**Luwuk**	**4.67**	**236**	*e*Pn			**Pn**	**17 08 34.3**	**+3.0**
MRSI	**Marisa**	**4.82**	**257**	P			**Pn**	**17 08 36.6**	**+3.2**
NLAI	**Namlea**	**4.83**	**174**	P			**Pn**	**17 08 35.0**	**+1.4**
SWI	**Sorong**	**5.24**	**118**	P			**Pn**	**17 08 42.6**	**+3.5**
MSAI	**Masohi**	**5.42**	**155**	P			**Pn**	**17 08 45.6**	**+3.9**
MSAI				S			**Sn**	**17 09 48.4**	**+5.5**
AAI	**Ambon**	**5.48**	**163**	P			**Pn**	**17 08 45.8**	**+3.3**
APSI	**Ampana**	**5.57**	**243**	P			**Pn**	**17 08 47.3**	**+3.6**
BUKP	**Musuan**	**6.43**	**346**	*e*P			**Pn**	**17 08 59.0**	**+3.4**
MPSI	**Mapaga**	**6.85**	**260**	P			**Pn**	**17 09 04.5**	**+3.3**
BNDI	**Bandanaira**	**6.91**	**152**	P			**Pn**	**17 09 06.5**	**+4.4**
FAKI	**Fak Fak**	**7.19**	**129**	P			**Pn**	**17 09 09.5**	**+3.5**
FAKI	**Fak Fak**	**7.19**	**129**	*e*Pn			**Pn**	**17 09 08.0**	**+2.0**
BBSI	**Bau Bau**	**8.12**	**210**	P			**Pn**	**17 09 22.3**	**+3.5**
TTSI	**Tana Toraja**	**8.22**	**236**	P			**Pn**	**17 09 21.2**	**+1.1**
BNSI	**Bone**	**8.83**	**228**	P			**Pn**	**17 09 29.9**	**+1.4**
BSSI	**Bau Bau, Buton**	**9.83**	**219**	P			**Pn**	**17 09 45.3**	**+3.1**
BATI	**Baumata**	**12.09**	**194**	Pn			Pn	17 10 18.1	+5.0
	2.5nm,0.3s,baz=311,slow=11,SNR=2.6								
BATI				LR			LR	17 16 29.6	
	comp=Z,78nm,19.3s,baz=25,slow=46								
PLAI	**Plampang**	**13.61**	**220**	P			**P**	**17 10 39.2**	**-2.3**
SBUM	**Sibu**	**14.43**	**274**	*e*Pn			**P**	**17 10 49.3**	**-1.4**
SRBI	**Singaraja**	**14.90**	**230**	P			**P**	**17 10 57.1**	**+1.1**
MTN	**Manton Dam**	**15.03**	**163**	*e*Pn			**Pn**	**17 10 51.4**	**-1.4**
JAGI	**Jajag, Banyuwa**	**15.96**	**231**	*e*Pn			**Pn**	**17 11 03.2**	**-1.6**
	61nm,0.8s								
KSM	**Kuching**	**16.32**	**270**	*e*Pn			**Pn**	**17 11 06.8**	**-2.6**
	23nm,1.1s								
UGM	**Wanagama**	**18.64**	**239**	*e*P			**P**	**17 11 33.9**	**-3.4**
	94nm,1.2s								
UGM				*e*Sn			**Sn**	**17 15 01.8**	**-4.0**
FITZ	**Fitzroy Crossi**	**19.60**	**183**	P			**P**	**17 11 46.6**	**-1.2**
	0.9nm,0.3s,baz=17,slow=7.5,SNR=22								
FITZ				LR			LR	17 21 08.0	
	comp=Z,51nm,18.0s,baz=43,slow=42								
FITZ	**Fitzroy Crossi**	**19.60**	**183**	*e*P			**P**	**17 11 46.8**	**-0.9**
	9.1nm,0.8s								
TWG	**Pinlang**	**21.77**	**346**	*e*P			**P**	**17 12 10.6**	**-0.7**
	179nm,1.4s								
COEN	**Coen**	**22.53**	**134**	*e*P			**P**	**17 12 18.4**	**-1.1**
	8.7nm,0.8s								
WRAB	**Tennant Creek**	**22.70**	**161**	*ce*P			**P**	**17 12 19.8**	**-1.4**
WRAB				pmax			pmax		
	comp=Z,195nm,1.0s								
WRAB	**Tennant Creek**	**22.70**	**161**	*e*P			**P**	**17 12 19.1**	**-2.1**
	comp=Z,30nm,0.7s								
WRA	**Warramunga Arr**	**22.70**	**161**	P			**P**	**17 12 20.4**	**-0.9**
	comp=Z,52nm,0.5s,baz=339,slow=10,SNR=249								
WRA				PcP			**PcP**	**17 16 12.8**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=333,slow=1.9,SNR=4.2								
WRA				S			**S**	**17 16 24.0**	**-2.6**
	comp=Z,2.3nm,0.8s,baz=330,slow=19,SNR=5.0								
WRA	**Warramunga Arr**	**22.70**	**161**	*i* P			**P**	**17 12 17.2**	**-4.1**
WRA				pmax			pmax		
	comp=Z,52nm,0.5s								
WB2	**Warramunga Arr**	**22.71**	**161**	*e*P			**P**	**17 12 18.8**	**-2.5**
PMG	**Port Moresby**	**23.19**	**119**	P			**P**	**17 12 26.5**	**+0.2**
	comp=Z,7.6nm,0.8s,baz=7.6,slow=10,SNR=3.3								
PMG				LR			LR	17 24 16.7	
	comp=Z,89nm,18.9s,baz=318,slow=44								
PMG	**Port Moresby**	**23.19**	**119**	*de*P			**P**	**17 12 27.3**	**+1.0**
PMG				pmax			pmax		
	comp=Z,68nm,1.7s								
MBWA	**Marble Bar**	**23.60**	**196**	*e*P			**P**	**17 12 28.6**	**-1.5**
	comp=Z,25nm,1.5s								
AS31	**Alice Springs**	**26.09**	**165**	*e*P			**P**	**17 12 52.4**	**-0.5**
	comp=Z,21nm,0.4s								
ASAR	**Alice Springs**	**26.09**	**165**	P			**P**	**17 12 52.3**	**-0.6**
	comp=Z,14nm,0.4s,baz=343,slow=7.2,SNR=204								
ASAR				PcP			**PcP**	**17 16 20.1**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=344,slow=2.1,SNR=5.8								
ASAR				S			**S**	**17 17 26.2**	**+5.1**
	comp=Z,2.2nm,0.7s,baz=348,slow=22,SNR=8.8								
AS01	**Alice Springs**	**26.10**	**165**	*e*P			**P**	**17 12 51.7**	**-1.3**
RABL	**Rabaul**	**26.16**	**103**	*e*P			**P**	**17 12 54.6**	**+1.0**
	comp=Z,59nm,1.1s								
PSI	**Prapat**	**27.71**	**273**	LR			LR	17 24 42.7	
	comp=Z,87nm,19.7s,baz=125,slow=38								
CTA	**Charters Tower**	**28.90**	**139**	P			**P**	**17 13 17.5**	**-0.5**
	comp=Z,14nm,1.2s,baz=319,slow=13,SNR=2.4								
GSI	**Gunungsitoli**	**29.05**	**270**	*e*P			**P**	**17 13 17.3**	**-2.2**
	comp=Z,8.3nm,0.8s								
NJ2	**Nanjing**	**31.16**	**347**	*e*P			**P**	**17 13 38.0**	**+0.1**
NJ2				pmax			pmax		
	comp=Z,19nm,0.5s								
JNU	**Nakatsue**	**31.61**	**7**	LR			LR	17 29 05.5	
	comp=Z,11nm,19.2s,baz=125,slow=41								
CMAR	**Chiang Mai Arr**	**31.91**	**303**	P			**P**	**17 13 43.7**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=129,slow=8.6,SNR=4.1								
CMAR				PcP			**PcP**	**17 16 35.6**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=150,slow=2.7,SNR=4.3								
CMAR				LR			LR	17 28 03.6	
	comp=Z,35nm,20.1s,baz=152,slow=39								
CMAR	**Chiang Mai Arr**	**31.91**	**303**	*ce*P			**P**	**17 13 44.7**	**0.0**
CHTO	**Chiang Mai**	**32.08**	**304**	*e*P			**P**	**17 13 45.3**	**-0.8**
CHTO				pmax			pmax		
	comp=Z,8.0nm,1.5s								
CHTO	**Chiang Mai**	**32.08**	**304**	*e*P			**P**	**17 13 45.3**	**-0.8**
	comp=Z,7.9nm,1.5s								
ENH	**Enshi**	**32.83**	**332**	*e*P			**P**	**17 13 52.0**	**-0.6**
	comp=Z,7.1nm,0.6s								
KMI	**Kunming**	**32.84**	**317**	P			**P**	**17 13 53.3**	**+0.3**
KMI				pP			pP	17 14 07.0	+1.6
KMI				pmax			pmax		
	comp=Z,13nm,1.4s								
KMI				LR			LR		
	comp=Z,150nm,19.4s								
KMI				LR			LR		
	comp=Z,170nm,23.1s								
KMI				LR			LR		
	comp=Z,190nm,25.8s								
HNR	**Honiara**	**34.95**	**109**	LR			LR	17 30 47.0	
	comp=Z,43nm,18.0s,baz=172,slow=40								
BBOO	**Buckleboo**	**35.37**	**166**	*e*P			**P**	**17 14 14.1**	**-0.5**
	comp=Z,8.9nm,0.7s								
NWAO	**Narrogin (SRO)**	**35.47**	**194**	LR			LR	17 29 01.3	
	comp=Z,27nm,19.3s,baz=202,slow=37								
KSAR	**Wonju Array Be**	**35.69**	**2**	P			**P**	**17 14 17.7**	**+0.5**
KSAR	**Wonju Array Be**	**35.69**	**2**	P			**P**	**17 14 17.7**	**+0.5**
KSRS	**Korea Array**	**35.70**	**2**	P			**P**	**17 14 17.7**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=179,slow=10,SNR=8.5								
KSRS				LR			LR	17 29 18.3	
	comp=Z,32nm,21.2s,baz=180,slow=37								
STKA	**Stephens Creek**	**36.19**	**158**	P			**P**	**17 14 21.1**	**-0.5**
	comp=Z,5.8nm,0.6s,baz=328,slow=8.4,SNR=18								
STKA				PcP			**PcP**	**17 16 46.3**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=338,slow=6.8,SNR=3.9								
XAN	**Xi'an**	**36.27**	**335**	P			**P**	**17 14 23.0**	**+0.6**
XAN				pP			pP	17 14 34.5	-0.4
XAN				pmax			pmax		
	comp=Z,4.0nm,0.7s								
CD2	**Chengdu**	**36.31**	**326**	*e*P			**P**	**17 14 22.5**	**-0.3**
MAJO	**Matsushiro**	**36.38**	**16**	*e*P			**P**	**17 14 22.5**	**-0.7**
MAJO				pmax			pmax		
	comp=Z,3.0nm,0.5s								
MAT	**Matsushiro**	**36.38**	**16**	P			**P**	**17 14 22.5**	**-0.7**
MJAR	**Matsushiro Arr**	**36.38**	**16**	P			**P**	**17 14 22.9**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=189,slow=9.5,SNR=19								
MJAR				LR			LR	17 26 27.9	
	comp=Z,30nm,21.6s,baz=170,slow=32								
LZH	**Lanzhou**	**40.29**	**331**	*e*P			**P**	**17 14 56.5**	**+0.2**
LZH				pP			pP	17 15 08.3	-0.6
LZH				sP			sP	17 15 11.8	-2.7
LZH				PP			**PnPn**	**17 16 34.3**	**+0.6**
LZH				*e*S			**S**	**17 20 59.3**	**-1.5**
LZH				SS			**SS**	**17 24 00.0**	**-0.7**
LZH				pmax			pmax		
	comp=Z,34nm,1.0s								
LZH				pmax			pmax		
	comp=Z,210nm,4.4s								
HHC	**Hu-ho-hao-te**	**41.38**	**343**	*e*P			**P**	**17 15 06.8**	**+1.7**
HHC				pmax			pmax		
	comp=Z,9.0nm,1.0s								
HHC				pmax			pmax		
	comp=Z,170nm,5.0s								
USRK	**Ussuriysk Ar.**	**42.69**	**6**	P			**P**	**17 15 16.1**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=177,slow=3.8,SNR=7.6								
LSA	**Lhasa**	**43.79**	**313**	*e*P			**P**	**17 15 25.6**	**+0.3**
LSA				pmax			pmax		
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**43.79**	**313**	*e*P			**P**	**17 15 25.6**	**+0.3**
	comp=Z,5.6nm,0.6s								
ASAJ	**Asahikawa**	**44.65**	**16**	P			**P**	**17 15 32.5**	**+1.1**
	comp=Z,5.5nm,0.7s,baz=215,slow=12,SNR=10.0								
ASAJ	**Asahikawa**	**44.65**	**16**	*e*P			**P**	**17 15 30.8**	**-0.5**
	comp=Z,6.6nm,0.8s								
GTA	**Gaotai**	**44.87**	**330**	*e*P			**P**	**17 15 35.3**	**+1.9**
GTA				pP			pP	17 15 47.5	+1.3
GTA				sP			sP	17 15 53.0	+1.3
GTA				pmax			pmax		
	comp=Z,2.0nm,0.9s								
TAPN	**Taplejung**	**45.22**	**308**	*e*P			**P**	**17 15 35.1**	**-1.4**
	comp=Z,6.6nm,0.4s								
ODAN	**Odare**	**45.24**	**307**	*e*P			**P**	**17 15 35.5**	**-1.2**
	comp=Z,13nm,0.6s								
RAMN	**Ramite**	**45.91**	**307**	*e*P			**P**	**17 15 40.7**	**-1.3**
	comp=Z,12nm,0.6s								
JIRN	**Jiri**	**46.56**	**308**	*e*P			**P**	**17 15 46.4**	**-0.8**
	comp=Z,19nm,0.5s								
GUN	**Gumba**	**46.91**	**308**	*e*P			**P**	**17 15 49.5**	**-0.5**
	comp=Z,23nm,0.7s								
PKI	**Pulchoki**	**47.14**	**307**	*e*P			**P**	**17 15 51.3**	**-0.4**
	comp=Z,4.2nm,0.5s								
PKIN	**Phulchoki**	**47.15**	**307**	*e*P			**P**	**17 15 51.1**	**-0.6**
	comp=Z,8.2nm,0.6s								
YSS	**Yuzh-Sakhalins**	**47.31**	**15**	*e*P			**P**	**17 15 52.6**	**+0.4**
KKN	**Kakani**	**47.34**	**307**	*e*P			**P**	**17 15 52.3**	**-0.8**
	comp=Z,4.1nm,0.5s								
DMN	**Daman**	**47.40**	**307**	*e*P			**P**	**17 15 53.1**	**-0.5**
	comp=Z,7.5nm,0.7s								
KLR	**Kul'dur**	**47.65**	**5**	*ce*P			**P**	**17 15 55.4**	**+0.5**
GKN	**Gorkha**	**47.94**	**307**	*e*P			**P**	**17 15 57.0**	**-0.7**
	comp=Z,4.0nm,0.4s								
KOLN	**Koldanda**	**48.67**	**306**	*e*P			**P**	**17 16 02.6**	**-0.8**
	comp=Z,14nm,0.5s								
ULN	**Ulaanbaatar**	**49.10**	**343**	*e*P			**P**	**17 16 06.9**	**+0.6**
ULN				pmax			pmax		
	comp=Z,6.0nm,1.7s								
SONM	**Songino Array**	**49.28**	**342**	P			**P**	**17 16 07.4**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=153,slow=9.1,SNR=8.6								
SONM				PcP			**PcP**	**17 17 30.2**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=167,slow=5.3,SNR=2.3								
PYUN	**Piuthan**	**49.30**	**306**	*e*P			**P**	**17 16 08.0**	**-0.2**
	comp=Z,18nm,0.5s								
GRNR	**Gornyy**	**49.69**	**8**	*e*P			**P**	**17 16 10.3**	**-0.2**
NKL	**Nikolayevsk**	**52.69**	**11**	*i* P			**P**	**17 16 33.8**	**+0.9**
NKL				pmax			pmax		
	comp=N,8.0nm,0.9s								
NKL				pmax			pmax		
	comp=Z,33nm,0.9s								
TLY	**Talaya**	**53.51**	**342**	*e*P			**P**	**17 16 39.7**	**+0.6**
TLY				pmax			pmax		
	comp=Z,3.0nm,1.1s								
TLY	**Talaya**	**53.51**	**342**	*e*P			**P**	**17 16 37.9**	**-1.2**
	comp=Z,3.8nm,1.0s								
MOY	**Mondy**	**54.34**	**341**	*e*P			**P**	**17 16 46.5**	**+1.2**
WMQ	**Urumqi**	**54.41**	**326**	P			**P**	**17 16 47.8**	**+1.9**
WMQ				LR			LR		
	comp=Z,100nm,29.3s								
WMQ				LR			LR		
	comp=Z,86nm,27.3s								
WMQ				LR			LR		
	comp=Z,220nm,25.1s								
BOD	**Bodaibo**	**56.95**	**352**	*e*P			**P**	**17 17 03.9**	**+0.2**
BOD				pmax			pmax		
	comp=Z,10.0nm,1.4s								
PETK	**Petropavlovsk-**	**57.43**	**22**	P			**P**	**17 17 08.1**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=146,slow=2.5,SNR=6.2								
MK01	**Makanchi Array**	**59.23**	**326**	*e*P			**P**	**17 17 19.4**	**-0.5**
MK31	**Makanchi Array**	**59.25**	**326**	*e*P			**P**	**17 17 19.7**	**-0.3**
MK31	**Makanchi Array**	**59.25**	**326**	*e*P			**P**	**17 17 19.7**	**-0.3**
MKAR	**Makanchi Array**	**59.25**	**326**	P			**P**	**17 17 19.7**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=120,slow=7.2,SNR=53								
MKAR	**Makanchi Array**	**59.25**	**326**	*ce*P			**P**	**17 17 19.6**	**-0.4**
MKAR				pmax			pmax		
	comp=Z,4.0nm,0.6s								
MAKZ	**Makanchi**	**59.43**	**326**	*e*P			**P**	**17 17 20.8**	**-0.5**
MAKZ				pmax			pmax		
	comp=Z,5.0nm,0.9s								
MAKZ	**Makanchi**	**59.43**	**326**	*e*P			**P**	**17 17 20.8**	**-0.5**
	comp=Z,5.3nm,0.9s								
KSH	**Kashi**	**59.48**	**316**	*e*P			**P**	**17 17 22.5**	**+0.5**
KSH				S			**S**	**17 25 24.8**	**-3.5**
KSH				pmax			pmax		
	comp=Z,83nm,5.4s								
KSH				LR			LR		
	comp=Z,77nm,5.6s								
KSH				LR			LR		
	comp=Z,130nm,5.9s								
KSH				LR			LR		
	comp=Z,100nm,7.3s				

SBA	**Scott Base**	**82.25**	**172**	*e*P	**P**	**17 19 40.2**	**+1.0**
	comp=Z,11nm,1.3s						
GNI	**Garni**	**82.77**	**310**‖	*e*P	**P**	**17 19 43.6**	**+0.7**
ZEI	**Tsey**	**83.57**	**313**	*e*P	**P**	**17 19 47.0**	**-0.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KDAK	**Kodiak Island**	**83.73**	**32**	*i* P	**P**	**17 19 49.4**	**+2.2**
NCK	**Nalchik**	**83.84**	**313**‖	*e*P	**P**	**17 19 48.1**	**-0.1**
NCK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
IM3	**Indian Mountai**	**84.32**	**24**	*e*P	**P**	**17 19 51.8**	**+1.7**
KBZ	**Khabaz**	**84.36**	**314**	P	**P**	**17 19 51.1**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=109,slow=5.6,SNR=10						
KIV	**Kislovodsk**	**84.53**	**314**	*e*P	**P**	**17 19 51.9**	**+0.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ILAR	**Eielson Array**	**87.06**	**25**	P	**P**	**17 20 02.7**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=232,slow=4.8,SNR=6.5						
VSR	**Storozhevoye**	**87.17**	**321**‖	*e*P	**P**	**17 20 03.8**	**-0.7**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN	**Obninsk**	**88.73**	**325**⇑	*e*P	**P**	**17 20 12.1**	**+0.3**
OBN				*e*		17 20 29.3	
OBN				*e*SSS	SSS	17 40 27.6	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.6s						
OBN				MLR	MLR		
	comp=Z,38nm,14.0s						
MMAI	**Mount Meron Ar**	**90.17**	**303**	P	**P**	**17 20 19.2**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=116,slow=6.6,SNR=3.2						
MMAI				LR	LR	18 05 14.2	
	comp=Z,13nm,21.1s,baz=215,slow=39						
SYO	**Syowa Base**	**90.42**	**201**⇑	*e*X	P	17 20 25.0	+5.6
BRTR	**Keskin Array B**	**91.29**	**310**	P	**P**	**17 20 23.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=124,slow=5.3,SNR=9.0						
BRTR				LR	LR	18 07 26.4	
	comp=Z,11nm,19.0s,baz=91,slow=40						
BRTR	**Keskin Array B**	**91.29**	**310**	*ce*P	**P**	**17 20 23.2**	**-1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**91.52**	**180**	P	**P**	**17 20 24.2**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=11,slow=2.9,SNR=7.7						
ARCES	**ARCESS Array B**	**92.40**	**340**	P	**P**	**17 20 27.9**	**-0.7**
	comp=Z,3.2nm,0.9s,baz=67,slow=6.9,SNR=2.6						
SPITS	**Spitsbergen Ar**	**92.54**	**349**	LR	LR	18 08 38.1	
	comp=Z,25nm,18.7s,baz=265,slow=40						
FINES	**FINESS Array B**	**93.65**	**332**	P	**P**	**17 20 34.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=97,slow=4.3,SNR=2.8						
FINES	**FINESS Array B**	**93.65**	**332**	*i* P	P	17 20 40.5	+5.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BUR04	**Bucovina Ar. S**	**96.51**	**318**	*e*P	**P**	**17 20 47.4**	**-0.7**
HFS	**Hagfors**	**99.84**	**332**	LR	LR	18 08 44.1	
	comp=Z,33nm,18.2s,baz=54,slow=37						
TXAR	**Lajitas Array**	**122.96**	**53**	PKP	**PKPdf**	**17 26 16.1**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=190,slow=1.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**123.46**	**287**	PKP	**PKPdf**	**17 26 16.2**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=59,slow=2.1,SNR=10						
LCO	**Las Campanas**	**148.12**	**150**	*e*PKP2	**PKPbc**	**17 27 05.7**	**+0.6**
LCO	**Las Campanas**	**148.12**	**150**	*e*PKPbc	**PKPbc**	**17 27 05.7**	**+0.6**
CPUP	**Villa Florida**	**155.12**	**172**	PKPbc	PKPbc	17 27 23.1	
	comp=Z,1.2nm,0.8s,baz=150,slow=0.4,SNR=3.7						
CPUP				PKPab	**PKPab**	**17 27 37.1**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=202,slow=2.6,SNR=9.1						
SIV	**San Ignacio**	**163.81**	**152**	PKPab	**PKPbc**	**17 28 14.3**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=224,slow=6.9,SNR=8.6						

*IDC **25** 17:40:50.4±1.2, 13.4ºAN×89.6ºW, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.6/43, mbtmp3.7/6, ML4.1/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/40, Error ellipse: s-maj=50.6km s-min=27.5km az=42.0*

*ISCJB **25** 17:40:57.4±1.4, 13.4ºAN±0.3×90.1ºW±0.2, h66km, mb3.7/4, Error ellipse: s-maj=55.3km s-min=8.3km az=33.8*

ISC 25 17:40:59.2±0.9, 13.5ºN±0.2×90.0ºW±0.2, h66km, n16, σ1º42/16, mb3.7/4, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**5.85**	**122**	Pn	**Pn**	**17 42 23.7**	**+0.3**
	2.6nm,0.3s,baz=128,slow=19,SNR=12						
JTS				Sn	**Sn**	**17 43 26.6**	**-2.6**
	baz=342,slow=20,SNR=1.6						
JTS				Lg	Lg	17 43 53.8	
	1.6nm,0.3s,baz=235,slow=11,SNR=6.6						
CMIG	**Matias Romero**	**5.94**	**308**	Pn	**Pn**	**17 42 22.1**	**-2.5**
	4.7nm,0.3s,baz=102,slow=11,SNR=23						
CMIG				Sn	**Sn**	**17 43 30.5**	**-0.8**
	3.0nm,0.3s,baz=240,slow=20,SNR=3.4						
SDV	**Santo Domingo**	**19.52**	**102**	P	**Pn**	**17 45 24.7**	**+1.3**
	0.6nm,0.3s,baz=320,slow=9.0,SNR=3.7						
SDV				LR	LR	17 52 28.8	
	comp=Z,41nm,18.6s,baz=229,slow=36						
TXAR	**Lajitas Array**	**20.25**	**323**	P	**P**	**17 45 31.1**	**+1.8**
	0.7nm,0.5s,baz=145,slow=11,SNR=16						
TKL	**Tuckaleechee C**	**22.78**	**13**	LR	LR	17 55 46.3	
	comp=Z,36nm,20.3s,baz=26,slow=39						
ATAH	**Atahualpa**	**23.49**	**150**	LR	LR	17 54 03.7	
	comp=Z,66nm,18.8s,baz=55,slow=34						
NVAR	**Mina Array Bea**	**35.32**	**320**	P	**P**	**17 47 50.1**	**+1.8**
	2.9nm,0.7s,baz=136,slow=8.9,SNR=8.2						
ULM	**Lac du Bonnet**	**36.98**	**354**	P	**P**	**17 48 01.2**	**-0.9**
	1.4nm,0.7s,baz=173,slow=11,SNR=3.7						
YKA	**Yellowknife Ar**	**52.00**	**346**	P	**P**	**17 50 01.4**	**-0.1**
	0.1nm,0.3s,baz=134,slow=7.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**88.59**	**77**	P	**P**	**17 53 45.1**	**-0.5**
	0.1nm,0.4s,baz=280,slow=7.3,SNR=2.5						
KURBB	**Kurchatov Arra**	**115.39**	**8**	PKP	**PKPdf**	**17 59 34.0**	**+0.5**
	0.1nm,0.2s,baz=2.5,slow=4.6,SNR=2.8						
MKAR	**Makanchi Array**	**119.61**	**6**	PKP	**PKPdf**	**17 59 41.8**	**0.0**
	0.1nm,0.4s,baz=338,slow=1.5,SNR=3.2						
WRA	**Warramunga Arr**	**137.16**	**255**	PKP	**PKPdf**	**18 00 16.9**	**+1.1**
	0.6nm,0.8s,baz=88,slow=2.9,SNR=5.5						
ASAR	**Alice Springs**	**137.33**	**250**	PKP	**PKPdf**	**18 00 17.3**	**+1.3**
	0.3nm,0.8s,baz=83,slow=1.9,SNR=3.9						
FITZ	**Fitzroy Crossi**	**145.45**	**258**	PKPbc	**PKPdf**	**18 00 30.9**	**+0.2**
	1.2nm,0.7s,baz=198,slow=6.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**147.07**	**344**	PKPbc	**PKPbc**	**18 00 35.7**	**+0.2**
	1.0nm,0.6s,baz=340,slow=3.4,SNR=9.2						

MAN 25 17:42:22, 5.99N×126.5E, h7km, mb5.0, ML3.9, MS3.9, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.99**	**344**	*e*P	Pb	17 42 41.3	-0.2
MATI				*e*S	Sn	17 42 56.0	-0.5
GSPH	**General Santos**	**1.58**	**274**‖	*e*P	Pn	17 42 50.8	+0.3
KCP	**Kidapawan**	**1.75**	**305**‖	*e*P	Pn	17 42 52.6	-0.3
KCP				*i* S	Sn	17 42 58.9	-17
BIPH	**Bislig**	**2.18**	**356**⇑	*e*P	Pg	17 43 09.3	+5.4
BIPH				*e*S	Sg	17 43 30.9	-1.3
BUKP	**Musuan**	**2.38**	**322**	*e*P	Pn	17 43 02.1	+0.6
BUKP				*e*S	Sn	17 43 32.8	+1.9
BUTP	**Butuan**	**3.09**	**343**	*e*P	Pb	17 43 17.8	+0.4
BUTP				*e*S	Sg	17 44 02.4	+0.9
SCPH	**Surigao**	**3.91**	**345**	*e*P	Pb	17 43 30.6	-0.6
SCPH				*e*S	Sb	17 44 14.6	-4.1

*ISCJB **25** 17:44:29.4±1.0, 5.4ºAS±0.0×129.7ºE±0.0, h250km, mb3.1/3, Error ellipse: s-maj=13.0km s-min=10.4km az=172.9*

*IDC **25** 17:44:32.5±3.8, 5.4ºAS×129.5ºE, h263km±36km, mb2.9/3, mb1 3.3/7, mb1mx3.0/54, mbtmp3.9/7, Error ellipse: s-maj=40.5km s-min=12.5km az=67.0*

ISC 25 17:44:31.6±1.3, 5.6ºS±0.1×129.6ºE±0.1, h250km, n7, σ2º20/11, mb3.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.51**	**232**	P	**Pn**	**17 46 19.9**	**+1.1**
	1.1nm,0.3s,baz=84,slow=9.2,SNR=3.1						
BATI				S	**S**	**17 47 45.4**	**+0.4**
	1.5nm,0.3s,baz=233,slow=20,SNR=6.7						
FITZ	**Fitzroy Crossi**	**13.06**	**197**	P	**Pn**	**17 47 28.4**	**+0.1**
	0.6nm,0.3s,baz=18,slow=12,SNR=19						
FITZ				S	**S**	**17 49 49.2**	**-4.2**
	0.5nm,0.3s,baz=307,slow=20,SNR=6.5						
WRA	**Warramunga Arr**	**15.01**	**163**	P	**P**	**17 47 51.9**	**+0.3**
	0.9nm,0.3s,baz=341,slow=12,SNR=42						
WRA				S	**S**	**17 50 35.6**	**-2.1**
	0.4nm,0.3s,baz=332,slow=22,SNR=8.0						
ASAR	**Alice Springs**	**18.46**	**168**	P	**P**	**17 48 31.4**	**+2.1**
	2.0nm,0.3s,baz=350,slow=12,SNR=293						
ASAR				S	**S**	**17 51 49.2**	**+2.5**
	0.1nm,0.3s,baz=349,slow=20,SNR=7.5						
STKA	**Stephens Creek**	**28.47**	**158**	P	**P**	**17 50 04.7**	**+0.9**
	0.5nm,0.4s,baz=326,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**66.84**	**327**	P	**P**	**17 54 55.3**	**-1.4**
	0.1nm,0.4s,baz=118,slow=7.6,SNR=5.6						
KURBB	**Kurchatov Arra**	**71.11**	**328**	P	**P**	**17 55 21.5**	**-1.3**
	0.3nm,0.7s,baz=125,slow=5.9,SNR=3.1						

*ISK **25** 17:52:41.6, 36.3ºBN×27.7ºE, h10km, ML3.2/19*
*ATH **25** 17:52:41.3, 36.3ºBN×27.7ºE, h25km±2km, ML3.3/3, Error ellipse: s-maj=2.8km s-min=1.0km az=125.0*
*ISCJB **25** 17:52:41.7±0.4, 36.3ºBN±0.0×27.6ºE±0.0, h8km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=148.8*
*DDA **25** 17:52:41.5, 36.3ºBN×27.6ºE, h27km, MI3.2*
*THE **25** 17:52:41.8, 36.3ºBN×27.7ºE, h4km±4km, ML3.5/2, Error ellipse: s-maj=4.2km s-min=1.3km az=82.0*
*CSEM **25** 17:52:42.2±0.1, 36.3ºBN×27.6ºE, h10km, ML3.5, Error ellipse: s-maj=2.5km s-min=2.0km az=153.0*

ISC 25 17:52:41.8±0.9, 36.3ºBN±0.0×27.7ºE±0.0, h14km±8km, n118, σ1º46/156, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.37**	**115**	P	**Pg**	**17 52 49.8**	**+0.5**
ARG				S	**Sg**	**17 52 54.9**	**+0.4**
ARG				AML	AML	17 52 56.3	
	comp=N,17298μm,0.2s						
ARG				AML	AML	17 52 56.5	
	comp=E,30006μm,0.2s						
ARG	**Arkhangelos**	**0.37**	**115**	P	**Pg**	**17 52 49.8**	**+0.5**
ARG				S	**Sg**	**17 52 55.5**	**+1.1**
ARG	**Arkhangelos**	**0.37**	**115**	P	**Pg**	**17 52 49.7**	**+0.4**
ARG				S	**Sg**	**17 52 54.7**	**+0.3**
NISR	**Nisiros**	**0.53**	**297**	P	**Pg**	**17 52 52.0**	**-0.2**
NISR	**Nisiros**	**0.53**	**297**	P	**Pg**	**17 52 51.8**	**-0.4**
NISR	**Nisiros**	**0.53**	**297**	P	**Pb**	**17 52 53.0**	**+0.2**
BDRM	**Kayabasi**	**0.72**	**343**	*i* P	**Pb**	**17 52 56.3**	**+0.2**
BDRM				*i* S	**Sn**	**17 53 07.8**	**-0.6**
BDRM	**Kayabasi**	**0.72**	**343**	P	**Pb**	**17 52 56.3**	**+0.2**
BDRM				S	**Sn**	**17 53 07.8**	**-0.6**
BODT	**Bodrum**	**0.76**	**335**	PG	**Pg**	**17 52 56.1**	**-0.4**
BODT				SG	**Sb**	**17 53 07.5**	**+0.6**
BODT	**Bodrum**	**0.76**	**335**	*e*Pg	**Pg**	**17 52 56.1**	**-0.4**
BODT				S	**Sb**	**17 53 07.5**	**+0.6**
BODT	**Bodrum**	**0.76**	**335**	P	**Pg**	**17 52 55.9**	**-0.6**
BODT				S	**Sb**	**17 53 07.5**	**+0.6**
YKAV	**Yalikavak-Bodr**	**0.82**	**335**	PG	**Pb**	**17 52 57.7**	**-0.2**
YKAV				SG	**Sb**	**17 53 09.3**	**+0.5**
YKAV	**Yalikavak-Bodr**	**0.82**	**335**	*e*Pg	**Pb**	**17 52 57.7**	**-0.2**
YKAV				*e*Sg	**Sb**	**17 53 09.3**	**+0.5**
TURN	**Turunc**	**0.87**	**55**	PG	Pg	17 52 53.9	-4.8
TURN				SG	**Sg**	**17 53 02.2**	**-8.0**
TURN	**Turunc**	**0.87**	**55**	*i* P	**Pg**	**17 52 54.0**	**-4.7**
TURN				*i* S	**Sg**	**17 53 03.4**	**-6.7**
DALY	**Dalyan (Mu¨la**	**0.88**	**60**	PG	**Pb**	**17 52 59.3**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.88**	**60**	*i* P	**Pb**	**17 52 59.4**	**+0.7**
DALY				*i* S	**Sb**	**17 53 11.8**	**+1.5**
DALY	**Dalyan (Mu¨la**	**0.88**	**60**	P	**Pb**	**17 52 59.4**	**+0.7**
DALY				S	**Sb**	**17 53 11.8**	**+1.5**
YER	**Yerkesik**	**0.89**	**31**	PG	**Pb**	**17 52 59.6**	**+0.6**
YER	**Yerkesik**	**0.89**	**31**	P	**Pb**	**17 52 59.2**	**+0.2**
YER	**Yerkesik**	**0.89**	**31**	*e*Pg	**Pb**	**17 52 59.6**	**+0.6**
YER				S	**Sn**	**17 53 13.3**	**+0.8**
YER	**Yerkesik**	**0.89**	**31**	P	**Pb**	**17 52 59.2**	**+0.2**
YER				S	**Sn**	**17 53 13.3**	**+0.8**
MLSB	**Milas**	**0.92**	**3**	PG	**Pn**	**17 53 00.3**	**0.0**
MLSB	**Milas**	**0.92**	**3**	*e*Pg	**Pn**	**17 53 00.3**	**0.0**
KARP	**Karpathos**	**0.94**	**209**	PG	**Pn**	**17 53 00.4**	**-0.2**
KARP				SG	**Sn**	**17 53 13.1**	**-0.7**
KARP	**Karpathos**	**0.94**	**209**	P	**Pn**	**17 53 01.0**	**+0.4**
KARP				S	**Sg**	**17 53 11.6**	**-0.8**
KARP				AML	AML	17 53 14.7	
	comp=E,4003μm,0.3s						
KARP				AML	AML	17 53 15.2	
	comp=N,4180μm,0.2s						
KARP	**Karpathos**	**0.94**	**209**	P	**Pg**	**17 52 59.4**	**-0.6**
KARP	**Karpathos**	**0.94**	**209**	*e*Pg	**Pn**	**17 53 00.4**	**-0.2**
KARP				S	**Sg**	**17 53 11.5**	**-0.8**
KARP				*e*Sg	**Sn**	**17 53 13.1**	**-0.7**
KARP	**Karpathos**	**0.94**	**209**	P	**Pg**	**17 52 59.4**	**-0.6**
KARP				S	**Sg**	**17 53 11.5**	**-0.8**
DIDI	**Didim-Aydin**	**1.07**	**339**	PG	**Pb**	**17 53 02.2**	**+0.2**
DIDI	**Didim-Aydin**	**1.07**	**339**	*e*Pg	**Pb**	**17 53 02.2**	**+0.2**
FETY	**Fethiye**	**1.14**	**76**	PN	**Pb**	**17 53 02.9**	**-0.2**
FETY	**Fethiye**	**1.14**	**76**	P	**Pb**	**17 53 03.0**	**-0.2**
FETY				S	**Sb**	**17 53 18.5**	**+0.7**
FETY	**Fethiye**	**1.14**	**76**	P	**Pb**	**17 53 02.6**	**-0.6**
GCAM	**G?zelcaml?**	**1.38**	**344**	PN	**Pn**	**17 53 06.9**	**+0.4**
GCAM	**G?zelcaml?**	**1.38**	**344**	*i* P	**Pg**	**17 53 08.0**	**-0.3**
GCAM				*i* S	**Sg**	**17 53 29.8**	**+3.6**
GCAM	**G?zelcaml?**	**1.38**	**344**	*e*Pn	**Pn**	**17 53 06.9**	**+0.4**
GCAM	**G?zelcaml?**	**1.38**	**344**	P	**Pg**	**17 53 08.0**	**-0.3**
GCAM				S	**Sg**	**17 53 29.8**	**+3.6**
TAVA	**DENIZLI_Tavas**	**1.45**	**41**	*i* P	**Pg**	**17 53 10.2**	**+0.4**
TAVA				*i* S	**Sg**	**17 53 30.1**	**+1.4**
TAVA	**DENIZLI_Tavas**	**1.45**	**41**	P	**Pg**	**17 53 10.1**	**+0.4**
TAVA				S	**Sg**	**17 53 30.0**	**+1.4**
SMG	**Samos**	**1.50**	**333**	P	**Pn**	**17 53 08.5**	**+0.2**
SMG				S	**Sg**	**17 53 29.6**	**-0.7**
SMG	**Samos**	**1.50**	**333**	P	**Pn**	**17 53 08.5**	**+0.2**
SMG				S	**Sb**	**17 53 28.9**	**+0.5**
SMG	**Samos**	**1.50**	**333**	P	**Pn**	**17 53 08.5**	**+0.2**
KSL	**Kastellorizon**	**1.53**	**98**	P	**Pg**	**17 53 11.1**	**-0.1**
KSL	**Kastellorizon**	**1.53**	**98**	P	**Pb**	**17 53 10.3**	**+0.4**
AKAS	**Kas**	**1.54**	**95**	PN	**Pb**	**17 53 10.2**	**+0.1**
AKAS	**Kas**	**1.54**	**95**	*i* P	**Pn**	**17 53 06.2**	**-2.6**
AKAS				*i* S	**Sg**	**17 53 32.8**	**+1.5**
AKAS	**Kas**	**1.54**	**95**	P	**Pn**	**17 53 06.2**	**-2.6**
AKAS	**Kas**	**1.54**	**95**	*e*Pn	**Pb**	**17 53 10.2**	**+0.1**
AKAS				S	**Sg**	**17 53 32.8**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**1.57**	**5**	PN	**Pb**	**17 53 10.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.57**	**5**	*e*Pn	**Pb**	**17 53 10.5**	**-0.3**
GOLH	**Golhisar**	**1.71**	**59**	*i* P	**Pg**	**17 53 14.5**	**-0.3**
GOLH	**Golhisar**	**1.71**	**59**	P	**Pg**	**17 53 14.5**	**-0.3**
ZKR	**Zakros**	**1.75**	**224**	PN	**Pb**	**17 53 13.6**	**-0.1**
ZKR	**Zakros**	**1.75**	**224**	P	**Pb**	**17 53 12.9**	**-0.8**
ZKR	**Zakros**	**1.75**	**224**	P	**Pn**	**17 53 12.5**	**+0.8**
ZKR	**Zakros**	**1.75**	**224**	*e*Pn	**Pb**	**17 53 13.6**	**-0.1**
DGB	**¯zmir**	**1.80**	**339**	*i* P	**Pn**	**17 53 12.7**	**+0.3**
DGB				*i* S	**Sb**	**17 53 36.3**	**-0.6**
ELL	**Elmali**	**1.81**	**77**	PN	**Pn**	**17 53 13.8**	**+1.2**
ELL	**Elmali**	**1.81**	**77**	*e*Pn	**Pn**	**17 53 13.8**	**+1.2**
SANT	**Santorini**	**1.82**	**271**	P	**Pn**	**17 53 12.6**	**-0.1**
SANT	**Santorini**	**1.82**	**271**	P	**Pn**	**17 53 12.7**	**0.0**
THT1	**Athinios (Pele**	**1.84**	**271**	P	**Pn**	**17 53 12.9**	**0.0**
THT1	**Athinios (Pele**	**1.84**	**271**	P	**Pn**	**17 53 12.9**	**0.0**
THR3	**Thira Island,**	**1.86**	**272**	P	**Pn**	**17 53 13.5**	**+0.3**
THR3	**Thira Island,**	**1.86**	**272**	P	**Pn**	**17 53 13.5**	**+0.3**
THR6	**Thira Island,**	**1.87**	**270**	P	**Pn**	**17 53 13.6**	**+0.3**
THR6	**Thira Island,**	**1.87**	**270**	P	**Pn**	**17 53 13.6**	**+0.3**
APE	**Apeiranthos**	**1.88**	**292**	PN	**Pn**	**17 53 14.4**	**+0.8**
APE	**Apeiranthos**	**1.88**	**292**	P	**Pn**	**17 53 13.5**	**0.0**
APE	**Apeiranthos**	**1.88**	**292**	P	**Pn**	**17 53 13.7**	**+0.1**
APE	**Apeiranthos**	**1.88**	**292**	*e*Pn	**Pn**	**17 53 14.4**	**+0.8**
IOSP	**Ios island**	**1.98**	**281**	P	**Pn**	**17 53 14.8**	**-0.1**
IOSP	**Ios island**	**1.98**	**281**	P	**Pn**	**17 53 15.0**	**+0.1**
NPS	**Neapolis**	**2.04**	**238**	P	**Pn**	**17 53 15.6**	**0.0**
NPS				S	**Sn**	**17 53 40.6**	**-0.2**
NPS				AML	AML	17 53 42.9	
	comp=E,533μm,0.3s						
NPS				AML	AML	17 53 45.7	
	comp=N,422μm,0.4s						
NPS	**Neapolis**	**2.04**	**238**	P	**Pn**	**17 53 15.8**	**+0.2**
NPS				S	**Sn**	**17 53 41.0**	**+0.2**
NPS	**Neapolis**	**2.04**	**238**	P	**Pn**	**17 53 15.7**	**0.0**
ZEY	**¯zmir**	**2.09**	**333**	*i* P	**Pn**	**17 53 16.6**	**+0.2**
ZEY				*i* S	**Sn**	**17 53 39.4**	**-2.8**
URLA	**Izmir**	**2.17**	**336**	PN	**Pn**	**17 53 16.9**	**-0.6**
URLA	**Izmir**	**2.17**	**336**	*i* P	**Pn**	**17 53 16.9**	**-0.6**
URLA				*i* S	**Sg**	**17 53 55.1**	**+3.5**
URLA	**Izmir**	**2.17**	**336**	P	**Pn**	**17 53 17.0**	**-0.6**
LAST	**Lasithi**	**2.18**	**237**	P	**Pn**	**17 53 18.0**	**+0.3**
LAST	**Lasithi**	**2.18**	**237**	P	**Pn**	**17 53 18.0**	**+0.3**
LAST	**Lasithi**	**2.18**	**237**	P	**Pn**	**17 53 17.9**	**+0.2**
KORT	**Korkueli**	**2.21**	**73**	PN	**Pn**	**17 53 19.6**	**+1.5**
KORT	**Korkueli**	**2.21**	**73**	*i* P	**Pb**	**17 53 22.5**	**+0.9**
KORT				*i* S	**Sg**	**17 53 54.1**	**+1.2**
KORT	**Korkueli**	**2.21**	**73**	*e*Pn	**Pn**	**17 53 19.6**	**+1.5**
KORT	**Korkueli**	**2.21**	**73**	P	**Pb**	**17 53 22.5**	**+0.9**
KULA	**Kula-Manisa**	**2.26**	**19**	PN	**Pn**	**17 53 20.3**	**+1.5**
KULA	**Kula-Manisa**	**2.26**	**19**	*e*Pn	**Pn**	**17 53 20.3**	**+1.5**
BRDR	**BURDUR-Merkez**	**2.30**	**54**	*i* P	**Pb**	**17 53 23.8**	**+0.8**
BRDR	**BURDUR-Merkez**	**2.30**	**54**	P	**Pb**	**17 53 23.8**	**+0.8**
CHOS	**Chios island**	**2.40**	**327**	PN	**Pn**	**17 53 21.7**	**+1.0**
CHOS	**Chios island**	**2.40**	**327**	P	**Pn**	**17 53 20.9**	**+0.2**
CHOS	**Chios island**	**2.40**	**327**	P	**Pn**	**17 53 21.1**	**+0.4**
CHOS	**Chios island**	**2.40**	**327**	*e*Pn	**Pn**	**17 53 21.7**	**+1.0**
ANTB	**Antalya**	**2.42**	**77**	PN	**Pn**	**17 53 23.1**	**+2.2**
ANTB	**Antalya**	**2.42**	**77**	*e*Pn	**Pn**	**17 53 23.1**	**+2.2**
KHAL	**Karahalli**	**2.44**	**35**	*i* P	**Pn**	**17 53 22.9**	**+1.6**
KHAL				*i* S	**Sb**	**17 53 54.4**	**-1.2**
KHAL	**Karahalli**	**2.44**	**35**	P	**Pn**	**17 53 22.9**	**+1.6**
KHAL				S	**Sb**	**17 53 54.4**	**-1.2**
AKHS	**Akhisar**	**2.50**	**2**	*i* P	**Pn**	**17 53 20.3**	**-1.7**
AKHS				*i* S	**Sn**	**17 53 46.7**	**-5.6**
AKHS	**Akhisar**	**2.50**	**2**	P	**Pn**	**17 53 20.3**	**-1.7**
BCK	**Bucak**	**2.55**	**64**	PN	**Pn**	**17 53 24.5**	**+1.8**
BCK	**Bucak**	**2.55**	**64**	*e*Pn	**Pn**	**17 53 24.5**	**+1.8**
ISP	**Isparta**	**2.67**	**56**	PN	**Pn**	**17 53 26.3**	**+1.9**
ISP	**Isparta**	**2.67**	**56**	*e*Pn	**Pn**	**17 53 26.3**	**+1.9**
SUTC	**Sutluce-Ispart**	**2.85**	**66**	PN	**Pn**	**17 53 29.1**	**+2.1**
SUTC	**Sutluce-Ispart**	**2.85**	**66**	*e*Pn	**Pn**	**17 53 29.1**	**+2.1**
PRK	**Paraskevi**	**3.08**	**339**	P	**Pn**	**17 53 29.6**	**-0.4**
PRK	**Paraskevi**	**3.08**	**339**	P	**Pn**	**17 53 30.2**	**+0.2**
IMMV	**Iera Moni Meta**	**3.16**	**254**	P	**Pn**	**17 53 31.6**	**+0.5**
IMMV	**Iera Moni Meta**	**3.16**	**254**	P	**Pn**	**17 53 31.7**	**+0.5**
SIGR	**SIGRI**	**3.19**	**333**	PN	**Pn**	**17 53 31.9**	**+0.4**
SIGR	**SIGRI**	**3.19**	**333**	P	**Pn**	**17 53 32.1**	**+0.7**
SIGR	**SIGRI**	**3.19**	**333**	*e*Pn	**Pn**	**17 53 31.9**	**+0.4**
SIGR	**SIGRI**	**3.19**	**333**	P	**Pn**	**17 53 32.2**	**+0.7**
KYTH	**Kithira**	**3.77**	**270**	*i* P	**Pn**	**17 53 41.0**	**+1.5**
KYTH	**Kithira**	**3.77**	**270**	P	**Pn**	**17 53 40.7**	**+1.2**

*ISCJB **25** 18:14:31.6±1.1, 6.2ºAS±0.0×148.2ºE±0.3, h51km, mb3.8/7, Error ellipse: s-maj=37.6km s-min=9.7km az=12.1*

*IDC **25** 18:14:36.5±2.8, 6.3ºAS×148.1ºE, h83km±26km, mb3.6/7, mb1 3.8/9, mb1mx3.5/51, mbtmp3.9/9, Error ellipse: s-maj=46.5km s-min=14.2km az=112.0*

ISC 25 18:14:33.6±1.3, 6.2ºS±0.1×148.1ºE±0.3, h51km, n10, σ1º10/12, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.31**	**196**	P	**Pn**	**18 15 24.4**	**+1.5**
	9.4nm,0.3s,baz=35,slow=10,SNR=28						
PMG				S	**Sn**	**18 16 00.1**	**-0.9**
	22nm,0.3s,baz=180,slow=20,SNR=21		

HORNC eS Sn 18 24 23.1 +0.9
ACAL Aguas Claras 1.18 77⇑ eP Pn 18 24 09.8 0.0
ACAL eS Sn 18 24 27.4 +2.4
AMAS Alto Masis 1.22 79⇑ eP Pn 18 24 10.1 -0.3
AMAS eS Sb 18 24 27.3 +0.5
JTS JuntasAbangare 1.24 94 Pg Pn 18 24 10.0 -0.5
87nm,0.3s,baz=4.0,slow=22,SNR=189
JTS Lg Lg 18 24 26.4
167nm,0.3s,baz=336,slow=12,SNR=17
PTEN Parque Tenorio 1.25 74⇑ eP Pn 18 24 11.0 +0.2
PACM Arenal 1.42 86 eP Pn 18 24 06.2 -6.9
CEDE Laguna Cede˜–o 1.48 86⇑ eP Pn 18 24 14.7 +0.7
FORC Fortuna 1.52 86 eP Pn 18 24 14.9 +0.6
MGAN Managua 1.76 359 eP Pn 18 24 18.0 +0.3
MGAN eS Sb 18 24 43.4 +1.1
MGAN AML AML 18 24 59.5
comp=N,97nm,0.5s
XAVN Gruta Xavier 1.77 356 eP Pn 18 24 18.0 +0.2
COPN Copaltepe 1.83 348 eP Pn 18 24 19.0 +0.3
ACON Acoyapa 1.88 33 eP Pn 18 24 19.6 +0.2
MOMN Momotombo 2.04 351 eP Pn 18 24 21.5 -0.2
MATN Matagalpa 2.55 6 eP Pn 18 24 29.1 +0.3
ESPN Las Esperanzas 2.60 46 eP Pn 18 24 29.5 +0.2
ESTN Estel 2.71 357 eP Pn 18 24 31.1 +0.1
CMIG Matias Romero 10.75 309 Pn Pn 18 26 24.0 +2.8
comp=N,0.4nm,0.3s,baz=81,slow=10,SNR=4.7
SDV Santo Domingo 15.43 94 LR LR 18 35 13.4
comp=N,84nm,18.2s,baz=58,slow=46
ATAH Atahualpa 19.06 156 LR LR 18 34 34.6
comp=N,173nm,19.8s,baz=338,slow=33
SWET Sewanee 24.73 1 P P 18 28 59.5 -8.8
comp=N,5.8nm,1.1s
UALR University of 24.93 348 P P 18 29 01.5 -8.4
comp=N,3.3nm,0.4s
TXAR Lajitas Array 24.94 322 P **P 18 29 12.0 +1.7**
comp=N,2.2nm,0.6s,baz=141,slow=9.1,SNR=28
MIAR Mount Ida 24.98 345 eP P 18 29 05.1 -5.4
comp=N,5.4nm,0.8s
TKL Tuckaleechee C 25.26 5 P **P 18 29 12.2 -0.9**
comp=N,2.8nm,0.7s,baz=170,slow=9.1,SNR=4.0
ABTX Abilene, Hawle 25.37 333 eP P 18 29 07.4 -6.6
comp=N,3.8nm,0.7s
WMOK Wichita Mounta 26.83 337 eP P 18 29 24.0 -3.2
comp=N,3.1nm,0.7s
SADO Sadowa 34.81 9 LR LR 18 45 14.4
comp=N,93nm,18.2s,baz=242,slow=38
SIV San Ignacio 36.13 136 P P 18 30 55.6 +6.5
comp=N,1.4nm,0.7s,baz=320,slow=8.8,SNR=6.8
PDAR Pinedale Array 38.16 332 P **P 18 31 06.5 0.0**
comp=N,0.7nm,0.7s,baz=128,slow=9.6,SNR=6.5
PDAR PcP **PcP 18 33 21.7 +0.8**
comp=N,0.3nm,0.7s,baz=108,slow=5.8,SNR=2.9
NVAR Mina Array Bea 40.06 320 P **P 18 31 24.7 +2.4**
comp=N,4.3nm,0.8s,baz=138,slow=8.3,SNR=7.8
NVAR PcP **PcP 18 33 30.2 +3.3**
comp=N,1.0nm,0.5s,baz=116,slow=6.1,SNR=3.6
ULM Lac du Bonnet 40.55 350 P **P 18 31 22.9 -3.0**
comp=N,0.8nm,0.4s,baz=148,slow=12,SNR=4.4
YKA Yellowknife Ar 55.92 345 P **P 18 33 22.9 -1.4**
comp=N,0.3nm,0.6s,baz=138,slow=7.2,SNR=14
YKA PcP **PcP 18 34 23.4 +0.7**
comp=N,0.2nm,0.8s,baz=149,slow=4.1,SNR=3.7
ILAR Eielson Array 68.40 336 P **P 18 34 47.5 -0.5**
comp=N,0.5nm,0.8s,baz=127,slow=5.3,SNR=5.9
MKAR Makanchi Array 122.17 9 PKP **PKPdf 18 42 41.3 -0.3**
comp=N,0.1nm,0.6s,baz=47,slow=2.8,SNR=2.5
ASAR Alice Springs 139.58 246 PKhKP PKPpre 18 43 15.3
comp=N,0.2nm,0.7s,baz=102,slow=2.9,SNR=3.3
WRA Warramunga Arr 139.82 251 PKhKP PKPpre 18 43 14.0
comp=N,0.3nm,0.7s,baz=100,slow=2.1,SNR=4.1
CMAR Chiang Mai Arr 150.90 350 PKP **PKPdf 18 43 36.1 +1.6**
comp=N,0.8nm,0.9s,baz=305,slow=0.9,SNR=4.8
CMAR PKPbc **PKiKP 18 43 40.9 +0.1**
comp=N,1.8nm,0.9s,baz=337,slow=2.8,SNR=11

IDC 25 18:26:41.9±10.0, 3˚62N×127˚64E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/53, mbtmp3.4/3, Error ellipse: s-maj=179.8km s-min=157.4km az=150.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.32**	**165**	P	P	18 32 01.4	-0.1
	0.4nm,0.8s,baz=345,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**27.80**	**168**	P	P	18 32 33.0	0.0
	0.2nm,0.5s,baz=351,slow=7.5,SNR=11						
STKA	**Stephens Creek**	**37.71**	**160**	P	P	18 33 59.3	-0.1
	0.8nm,0.7s,baz=345,slow=12,SNR=3.4						

*CASC **25** 18:33:50.6±1.7, 10˚30N×86˚28W, h0km±12km, ML3.0, mb4.6(NEIC)*
*ISCJB **25** 18:33:56.1±0.7, 10˚47N±0˚06×86˚03W±0˚05, h66km±4km, mb4.3/33, Error ellipse: s-maj=11.3km s-min=6.0km az=35.8*
*NEIC **25** 18:33:57.1±1.1, 10˚60N×85˚99W, h50km±10km, mb4.6/21, Error ellipse: s-maj=13.3km s-min=7.0km az=47.0*
NEIC Felt at Santa Cruz and Sardinal.
*IDC **25** 18:33:57.9±1.4, 10˚81N×85˚87W, h50km±14km, mb3.8/12, mb1 4.1/14, mb1mx3.8/49, mbtmp4.1/14, ML3.5/2, MS3.6/18, Ms1 3.6/18, ms1mx3.4/48, Error ellipse: s-maj=27.9km s-min=12.1km az=47.0*

ISC 25 18:33:56.0±1.4, 10˚36N±0˚08×86˚15W±0˚07, h47km±12km, n280, σ1§43/282, mb4.6/33, MS3.6/17, 15C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NY14	**Universidad de**	**0.67**	**64⇑**	iP	**Pn**	**18 34 08.0**	**-1.3**
NY14				eS	**Sn**	**18 34 19.9**	**+1.1**
GBS3	**Finca Las Im˜¡**	**0.80**	**58⇑**	eP	**Pn**	**18 34 09.3**	**-1.7**
GBS3				eS	**Sn**	**18 34 22.2**	**+0.3**
BUEV	**Buena Vista**	**0.85**	**59⇑**	eP	**Pn**	**18 34 10.0**	**-1.7**
BUEV				eS	**Sn**	**18 34 23.6**	**+0.5**
GPS3	**Bodega del ICE**	**0.87**	**63⇑**	eP	**Pn**	**18 34 10.4**	**-1.5**
GB1A	**Borinquen Arri**	**0.87**	**58⇑**	eP	**Pn**	**18 34 10.3**	**-1.7**
GPS2	**Hotel Rinc˜‡n**	**0.88**	**63⇑**	eP	**Pn**	**18 34 10.5**	**-1.5**
GPS1	**Guardaparques**	**0.89**	**62⇑**	eP	**Pn**	**18 34 10.6**	**-1.7**
LIM1	**Limonal**	**0.94**	**69⇑**	eP	**Pn**	**18 34 11.5**	**-1.4**
BUAI	**Buenos Aires**	**0.95**	**57⇑**	eP	**Pn**	**18 34 11.9**	**-1.2**
GUAB	**Guayabo de Bag**	**0.97**	**69⇑**	eP	**Pn**	**18 34 11.8**	**-1.4**
HORNC	**Hornillas**	**1.02**	**70⇑**	eP	**Pn**	**18 34 12.6**	**-1.4**
ACAL	**Aguas Claras**	**1.13**	**76⇑**	eP	**Pn**	**18 34 14.6**	**-0.9**
AMAS	**Alto Masis**	**1.16**	**77⇑**	eP	**Pn**	**18 34 14.8**	**-1.2**
JTS	**JuntasAbangare**	**1.18**	**93**	P	**Pn**	**18 34 14.7**	**-1.4**
	91nm,0.3s,baz=355,slow=7.9,SNR=264						
JTS				S	**Sn**	**18 34 30.4**	**-0.6**
	245nm,0.3s,baz=265,slow=22,SNR=19						
PTEN	**Parque Tenorio**	**1.20**	**73⇑**	eP	**Pn**	**18 34 15.7**	**-0.7**
PACM	**Arenal**	**1.36**	**85**	eP	Pn	18 34 11.0	-7.7
CEDE	**Laguna Cede˜–o**	**1.43**	**85⇑**	eP	**Pn**	**18 34 19.6**	**+0.1**
FORC	**Fortuna**	**1.46**	**86**	eP	**Pn**	**18 34 20.3**	**+0.4**
MGAN	**Managua**	**1.78**	**357**	eP	**Pn**	**18 34 23.0**	**-1.4**
MGAN				AML	AML	18 35 10.8	
	comp=E,159nm,0.5s						
XAVN	**Gruta Xavier**	**1.79**	**354**	eP	**Pn**	**18 34 23.2**	**-1.2**
COPN	**Copaltepe**	**1.86**	**347**	eP	**Pn**	**18 34 23.8**	**-1.6**
ACON	**Acoyapa**	**1.86**	**31**	eP	**Pn**	**18 34 24.3**	**-1.2**
ACON				eSn	**Sn**	**18 34 53.4**	**+5.6**
MOMN	**Momotombo**	**2.07**	**349**	eP	**Pn**	**18 34 26.8**	**-1.6**
BRAN	**Las Pilas**	**2.36**	**355**	eP	Pn	18 34 23.1	-9.1
CRIN	**San Cristobal**	**2.49**	**339**	eP	**Pn**	**18 34 33.2**	**-0.9**
CRIN				eS	**Sn**	**18 35 05.6**	**+2.2**
MATN	**Matagalpa**	**2.57**	**5**	eP	**Pn**	**18 34 34.0**	**-1.2**
MATN				eS	**Sn**	**18 35 10.9**	**+5.7**
ESPN	**Las Esperanzas**	**2.57**	**45**	eP	**Pn**	**18 34 34.3**	**-0.9**
ESPN				eSn	**Sn**	**18 35 12.0**	**+6.8**
ESTN	**Estel**	**2.74**	**355**	eP	**Pn**	**18 34 36.3**	**-1.2**
CMIG	**Matias Romero**	**10.81**	**309**	P	**Pn**	**18 36 28.0**	**-0.1**
	comp=E,3.2nm,0.3s,baz=200,slow=5.8,SNR=12						
SDV	**Santo Domingo**	**15.37**	**94**	P	**Pn**	**18 37 30.2**	**+0.2**
	comp=E,0.2nm,0.3s,baz=287,slow=11,SNR=2.8						
SDV				LR	LR	18 44 52.8	
	comp=E,161nm,19.1s,baz=249,slow=43						
757A	**Oxford**	**18.88**	**11**	P	**Pn**	**18 38 13.3**	**-0.1**
	baz=192						
351A	**Pinckard**	**20.82**	**1**	P	Pn	18 38 35.5	-0.9
	baz=181						
349A	**Repton**	**20.91**	**357**	P	**P**	**18 38 35.6**	**+1.0**
	baz=177						
350A	**Dozier**	**20.96**	**360**	P	**P**	**18 38 37.0**	**+1.9**
	baz=179						
353A	**Camilla**	**20.96**	**5**	P	**P**	**18 38 36.8**	**+1.7**
	baz=185						
347A	**Saraland**	**21.06**	**354**	P	**P**	**18 38 36.9**	**+0.8**
	baz=173						
TIGA	**Tifton**	**21.11**	**6**	P	**P**	**18 38 38.3**	**+1.6**
	baz=187						
344A	**Westbrook Farm**	**21.42**	**349**	P	**P**	**18 38 41.8**	**+1.8**
	baz=167						
250A	**Grady**	**21.52**	**360**	P	**P**	**18 38 41.9**	**+0.9**
	baz=179						
249A	**Camden**	**21.53**	**358**	P	**P**	**18 38 42.2**	**+1.0**
	baz=177						
252A	**Lumpkin**	**21.57**	**3**	P	**P**	**18 38 42.6**	**+0.9**
	baz=183						
251A	**Midway**	**21.64**	**2**	P	**P**	**18 38 43.1**	**+0.8**
	baz=182						
254A	**Abbeville**	**21.64**	**7**	P	**P**	**18 38 42.9**	**+0.5**
	baz=187						
342A	**Flagon Creek P**	**21.68**	**346**	P	**P**	**18 38 44.1**	**+1.3**
	baz=163						
247A	**Quitman**	**21.71**	**354**	P	**P**	**18 38 43.6**	**+0.5**
	baz=173						
833A	**Chaparral WMA,**	**21.77**	**327**	P	**P**	**18 38 45.8**	**+2.0**
	baz=142						
341A	**Kurthwood**	**21.86**	**344**	P	**P**	**18 38 45.7**	**+0.9**
	baz=161,SNR=5.6						
151A	**Opelika**	**22.08**	**2**	P	**P**	**18 38 47.3**	**+0.3**
	baz=182,SNR=7.2						
149A	**Jones**	**22.14**	**359**	P	**P**	**18 38 48.4**	**+0.6**
	baz=178						
150A	**Eclectic**	**22.14**	**0**	P	**P**	**18 38 48.0**	**+0.2**
	baz=180,SNR=19						
148A	**Greensboro**	**22.22**	**357**	P	**P**	**18 38 48.5**	**-0.1**
	baz=176						
147A	**Livingston**	**22.30**	**355**	P	**P**	**18 38 49.5**	**+0.1**
	baz=174,SNR=7.5						
242A	**Grayson**	**22.30**	**346**	P	**P**	**18 38 49.9**	**+0.4**
	baz=164						
154A	**Montrose**	**22.33**	**7**	P	**P**	**18 38 49.2**	**-0.6**
	baz=188						
146A	**Union**	**22.33**	**354**	P	**P**	**18 38 49.7**	**-0.2**
	baz=172						
145A	**Houston Renfro**	**22.41**	**352**	P	**P**	**18 38 50.6**	**0.0**
	baz=170						
LRAL	**Lakeview Retre**	**22.58**	**358**	P	**P**	**18 38 51.9**	**-0.5**
	baz=177,SNR=6.8						
LRAL	**Lakeview Retre**	**22.58**	**358**	eP	**P**	**18 38 52.5**	**0.0**
NATX	**Nacogdoches**	**22.71**	**341**	P	**P**	**18 38 53.8**	**-0.1**
	baz=157						
NATX	**Nacogdoches**	**22.71**	**341**	eP	**P**	**18 38 53.2**	**-0.7**
	comp=E,33nm,0.8s						
Z49A	**Columbiana**	**22.73**	**359**	P	**P**	**18 38 53.4**	**-0.6**
	baz=179,SNR=7.4						
143A	**Socs Landing,**	**22.76**	**348**	P	**P**	**18 38 53.9**	**-0.5**
	baz=166						
Z50A	**Ashland**	**22.79**	**0**	P	**P**	**18 38 53.8**	**-0.8**
	baz=180,SNR=8.4						
Z47A	**Carrollton**	**22.80**	**356**	P	**P**	**18 38 54.2**	**-0.5**
	baz=175						
Z46A	**Louisville**	**22.87**	**354**	P	**P**	**18 38 54.9**	**-0.6**
	baz=172,SNR=7.8						
435B	**Jarrell**	**22.94**	**334**	P	**P**	**18 38 56.5**	**+0.3**
	baz=149						
Z48A	**Newport**	**22.95**	**357**	P	**P**	**18 38 55.3**	**-0.9**
	baz=176,SNR=5.3						
GOGA	**Godfrey**	**23.08**	**6**	P	**P**	**18 38 55.8**	**-1.7**
	baz=186						
Z45A	**Winona**	**23.14**	**352**	P	**P**	**18 38 57.2**	**-0.9**
	baz=171						
Z44A	**Pea Ridge, Bel**	**23.15**	**351**	P	**P**	**18 38 57.6**	**-0.7**
	baz=169						
Y49A	**Blount Mountai**	**23.39**	**359**	P	**P**	**18 39 00.0**	**-0.6**
	baz=173,SNR=5.4						
Y50A	**Piedmont**	**23.43**	**1**	P	**P**	**18 39 00.1**	**-0.9**
	baz=181,SNR=9.4						
Y48A	**Jasper**	**23.46**	**358**	P	**P**	**18 39 00.8**	**-0.6**
	baz=177,SNR=8.1						
Y47A	**UCPARC, Winfie**	**23.49**	**356**	P	**P**	**18 39 01.3**	**-0.3**
	baz=175,SNR=7.2						
Y46A	**Houston**	**23.55**	**354**	P	**P**	**18 39 01.7**	**-0.4**
	baz=173,SNR=5.9						
Z41A	**Richland Creek**	**23.60**	**346**	P	**P**	**18 39 02.7**	**0.0**
	baz=163						
Y45A	**Yeager Farm, C**	**23.60**	**353**	P	**P**	**18 39 02.5**	**-0.2**
	baz=171						
JCT	**Junction City**	**23.71**	**330**	P	**P**	**18 39 03.7**	**-0.1**
	baz=144						
Y44A	**Strider, Charl**	**23.79**	**352**	P	**P**	**18 39 03.5**	**-0.9**
	baz=170						
WHTX	**Lake Whitney,**	**23.93**	**336**	P	**P**	**18 39 05.5**	**-0.3**
	baz=151						
WHTX	**Lake Whitney,**	**23.93**	**336**	eP	**P**	**18 39 06.0**	**+0.2**
	comp=E,17nm,0.9s						
Y42A	**Garnett, Star**	**23.93**	**348**	P	**P**	**18 39 05.0**	**-0.7**
	baz=166						
X50A	**Fort Payne**	**24.00**	**1**	P	**P**	**18 39 04.9**	**-1.4**
	baz=181						
X48A	**Hartselle**	**24.00**	**358**	P	**P**	**18 39 05.0**	**-1.2**
	baz=177						
HODGE	**Hodges**	**24.03**	**8**	eP	**P**	**18 39 06.0**	**-0.6**
	comp=E,17nm,0.9s						
X49A	**Woodville**	**24.04**	**360**	P	**P**	**18 39 05.5**	**-1.3**
	baz=179,SNR=7.1						
WLAR	**White Oak Lake**	**24.09**	**346**	eP	**P**	**18 39 06.6**	**-0.5**
	comp=E,25nm,0.9s						
X47A	**Russelville**	**24.10**	**357**	P	**P**	**18 39 06.5**	**-0.7**
	baz=176,SNR=20						
X45A	**UM Field Stati**	**24.14**	**353**	P	**P**	**18 39 06.4**	**-1.1**
	baz=172						
Y41A	**Eaglette Beard**	**24.15**	**347**	P	**P**	**18 39 07.0**	**-0.7**
	baz=164						
X46A	**Booneville**	**24.19**	**355**	P	**P**	**18 39 07.1**	**-1.0**
	baz=174,SNR=6.8						
OXF	**Oxford**	**24.23**	**353**	P	**P**	**18 39 07.1**	**-1.3**
	baz=172,SNR=7.5						
OXF	**Oxford**	**24.23**	**353**	eP	**P**	**18 39 06.7**	**-1.7**
	comp=E,52nm,0.9s						
Y40A	**Okolona**	**24.43**	**346**	P	**P**	**18 39 09.6**	**-0.7**
	baz=162						
PLAL	**Pickwick Lake**	**24.57**	**356**	eP	**P**	**18 39 10.4**	**-1.1**
	comp=E,15nm,0.8s						
W48A	**Pulaski**	**24.68**	**358**	P	**P**	**18 39 11.2**	**-1.3**
	baz=178,SNR=10						
BG3	**Lake Jocassee**	**24.70**	**6**	eP	**P**	**18 39 12.7**	**0.0**
	comp=E,20nm,0.9s						
X41A	**Kaden, Bauxite**	**24.72**	**347**	P	**P**	**18 39 12.0**	**-0.9**
	baz=164						
W46A	**Michie**	**24.75**	**356**	P	**P**	**18 39 11.9**	**-1.2**
	baz=174						
X40A	**Basin Creek Fa**	**24.79**	**347**	P	**P**	**18 39 12.5**	**-1.0**
	baz=164						
W47A	**Westpoint**	**24.82**	**357**	P	**P**	**18 39 12.5**	**-1.3**
	baz=176,SNR=19						
UALR	**University of**	**24.95**	**348**	eP	**P**	**18 39 11.9**	**-3.1**
	comp=E,25nm,0.9s						
TXAR	**Lajitas Array**	**24.99**	**322**	P	**P**	**18 39 16.5**	**+0.9**
	comp=E,7.0nm,0.8s,baz=139,slow=9.3,SNR=56						
TXAR				PcP	**PcP**	**18 42 51.4**	**+1.5**
	comp=E,1.2nm,0.8s,baz=133,slow=4.6,SNR=6.4						
TX31	**Lajitas Ar. Si**	**25.00**	**322**	eP	**P**	**18 39 15.6**	**0.0**
KMSC	**Kings Mountain**	**25.06**	**9**	P	**P**	**18 39 14.0**	**-1.9**
	baz=191						
KMSC	**Kings Mountain**	**25.06**	**9**	eP	**P**	**18 39 16.0**	**0.0**
	comp=E,19nm,1.0s						
X39A	**Fountain Ranch**	**25.12**	**344**	P	**P**	**18 39 15.6**	**-0.9**
	baz=161,SNR=5.8						
V48A	**Smith Brothers**	**25.27**	**359**	P	**P**	**18 39 16.8**	**-1.2**
	baz=178,SNR=5.9						
TKL	**Tuckaleechee C**	**25.28**	**5**	P	**P**	**18 39 17.0**	**-1.0**
	comp=E,5.7nm,0.9s,baz=171,slow=13,SNR=5.2						
TKL				LR	LR	18 49 32.3	
	comp=E,140nm,18.5s,baz=236,slow=38						
W41B	**Gary Mavity, V**	**25.32**	**348**	P	**P**	**18 39 17.4**	**-0.9**
	baz=165,SNR=9.6						
V47A	**Nunnelly**	**25.39**	**357**	P	**P**	**18 39 17.8**	**-1.2**
	baz=176						
V46A	**Holladay**	**25.39**	**356**	P	**P**	**18 39 17.4**	**-1.6**
	baz=175						
ABTX	**Abilene, Hawle**	**25.42**	**333**	P	**P**	**18 39 19.7**	**+0.4**
	baz=147,SNR=11						
ABTX	**Abilene, Hawle**	**25.42**	**333**	eP	**P**	**18 39 19.1**	**-0.2**
	comp=E,19nm,0.8s						
WHAR	**Wooly Hollow**	**25.44**	**348**	eP	**P**	**18 39 18.0**	**-1.4**
	comp=E,21nm,1.0s						
W40A	**Ferguson Farm,**	**25.51**	**347**	P	**P**	**18 39 19.1**	**-1.0**
	baz=164						
W40A	**Ferguson Farm,**	**25.51**	**347**	eP	**P**	**18 39 18.9**	**-1.1**
	comp=E,24nm,1.0s						
W39A	**Magazine**	**25.69**	**345**	P	**P**	**18 39 21.0**	**-0.7**
	baz=162,SNR=6.0						
WVT	**Waverly**	**25.70**	**357**	P	**P**	**18 39 20.6**	**-1.2**
	baz=176						
V42A	**Cord**	**25.78**	**350**	P	**P**	**18 39 21.0**	**-1.4**
	baz=168						
V41A	**Mountainview**	**25.89**	**349**	P	**P**	**18 39 22.1**	**-1.4**
	baz=166,SNR=10						
U46A	**Springville**	**25.95**	**356**	P	**P**	**18 39 22.3**	**-1.7**
	baz=175						
U45A	**Rockin P Farm,**	**25.98**	**355**	P	**P**	**18 39 23.1**	**-1.2**
	baz=174						
U47A	**Clarksville**	**25.99**	**358**	P	**P**	**18 39 22.8**	**-1.6**
	baz=177						
U48A	**Cassie Pea, Po**	**26.04**	**359**	P	**P**	**18 39 23.7**	**-1.2**
	baz=179						
V40A	**Witts Springs**	**26.05**	**348**	P	**P**	**18 39 23.5**	**-1.5**
	baz=164						
V39A	**Pettigrew**	**26.27**	**346**	P	**P**	**18 39 25.7**	**-1.3**
	baz=163,SNR=9.8						
U42A	**Revenden**	**26.29**	**351**	P	**P**	**18 39 25.6**	**-1.5**
	baz=168,SNR=6.0						
U41A	**Viola**	**26.39**	**349**	P	**P**	**18 39 27.1**	**-1.0**
	baz=167						
T47A	**Sharon Grove**	**26.53**	**358**	P	**P**	**18 39 27.5**	**-1.8**
	baz=178						
U40A	**Yellville**	**26.59**	**348**	P	**P**	**18 39 28.5**	**-1.3**
	baz=165,SNR=6.1						
T46A	**Princeton**	**26.61**	**357**	P	**P**	**18 39 28.5**	**-1.5**
	baz=176						
T48A	**Bowling Green**	**26.64**	**360**	P	**P**	**18 39 28.9**	**-1.3**
	baz=179						
U39A	**Green Forest**	**26.75**	**347**	P	**P**	**18 39 29.7**	**-1.6**
	baz=163						
T44A	**Benton**	**26.79**	**354**	P	**P**	**18 39 30.3**	**-1.4**
	baz=172						
T43A	**Greenville**	**26.87**	**353**	P	**P**	**18 39 30.6**	**-1.7**
	baz=171						
WMOK	**Wichita Mounta**	**26.87**	**337**	P	**P**	**18 39 34.2**	**+1.8**
	baz=151						
TUL1	**Leonard**	**26.90**	**343**	P	**P**	**18 39 31.3**	**-1.4**
	baz=158						
TUL1	**Leonard**	**26.90**	**343**	eP	**P**	**18 39 31.1**	**-1.6**
	comp=E,17nm,0.9s						
T42A	**Van Buren**	**26.93**	**351**	P	**P**	**18 39 31.3**	**-1.6**
	baz=169,SNR=6.4						
T41A	**Mountain View**	**27.05**	**350**	P	**P**	**18 39 32.4**	**-1.6**
	baz=167,SNR=8.4						
S48A	**Wiedeman Farm,**	**27.18**	**0**	P	**P**	**18 39 33.4**	**-1.7**
	baz=180						
BLA	**Blacksburg**	**27.23**	**10**	P	**P**	**18 39 33.2**	**-2.5**
	baz=192						
S46A	**Don Dixon Farm**	**27.25**	**357**	P	**P**	**18 39 34.5**	**-1.1**
	baz=176						
T40A	**Mansfield**	**27.29**	**349**	P	**P**	**18 39 35.2**	**-0.9**
	baz=166						
S43A	**Fulton Ridge,**	**27.33**	**353**	P	**P**	**18 39 34.9**	**-1.5**
	baz=171						
T39A	**Clever**	**27.34**	**347**	P	**P**	**18 39 35.3**	**-1.3**
	baz=164						
S44A	**Carbondale**	**27.36**	**355**	P	**P**	**18 39 35.6**	**-1.1**
	baz=173						
T38A	**Diamond**	**27.56**	**346**	P	**P**	**18 39 37.4**	**-1.1**
	baz=162						
S41A	**Jillco Farms,**	**27.58**	**350**	P	**P**	**18 39 37.2**	**-1.5**
	baz=168						
MNTX	**Cornudas Mount**	**27.71**	**323**	P	**P**	**18 39 40.4**	**+0.4**
	baz=135						
S40A	**Lebanon**	**27.72**	**349**	P	**P**	**18 39 38.6**	**-1.4**
	baz=166						
WCI	**Wyandotte Cave**	**27.75**	**360**	P	**P**	**18 39 38.7**	**-1.5**
	baz=179						
WCI	**Wyandotte Cave**	**27.75**	**360**	eP	**P**	**18 39 38.4**	**-1.9**
	comp=E,18nm,0.9s						
R46A	**Gibon Southern**	**27.76**	**358**	P	**P**	**18 39 38.6**	**-1.7**
	baz=177						
R47A	**Wooly Knot Far**	**27.82**	**359**	P	**P**	**18 39 39.1**	**-1.7**
	baz=179						
R45A	**Skylar, Fairfi**	**27.88**	**356**	P	**P**	**18 39 39.9**	**-1.4**
	baz=175						
R44A	**Waltonville**	**27.89**	**355**	P	**P**	**18 39 39.9**	**-1.6**
	baz=174						
S39A	**Bolivar**	**27.97**	**348**	P	**P**	**18 39 40.8**	**-1.4**
	baz=164						
R43A	**Red Bud**	**28.01**	**354**	P	**P**	**18 39 41.3**	**-1.1**
	baz=172						
MSTX	**Muleshoe**	**28.01**	**330**	P	**P**	**18 39 42.6**	**-0.2**
	baz=143,SNR=5.7						
S38A	**Stockton**	**28.04**	**347**	P	**P**	**18 39 41.2**	**-1.6**
	baz=163						
R42A	**Liebbering**	**28.11**	**352**	P	**P**	**18 39 42.0**	**-1.5**
	baz=170						
R41A	**Rosebud**	**28.21**	**351**	P	**P**	**18 39 42.6**	**-1.7**
	baz=169						
Q47A	**Bedord North L**	**28.46**	**360**	P	**P**	**18 39 44.7**	**-1.8**
	baz=179,SNR=5.5						
Q45A	**Warren Harvey,**	**28.47**	**357**	P	**P**	**18 39 45.6**	**-1.0**
	baz=176						
R39A	**Chumby, Stover**	**28.52**	**349**	P	**P**	**18 39 45.5**	**-1.6**
	baz=165						
Q44A	**Meyer Farm, Va**	**28.54**	**355**	P	**P**	**18 39 46.1**	**-1.1**
	baz=174						
R38A	**Fenwick Farm,**	**28.57**	**347**	P	**P**	**18 39 45.9**	**-1.7**
	baz=164						
Q41A	**Truxton**	**28.84**	**352**	P	**P**	**18 39 48.7**	**-1.2**
	baz=169						
P47A	**Martinsville**	**29.01**	**360**	P	**P**	**18 39 50.1**	**-1.3**
	baz=179						
P46A	**Rosedale**	**29.15**	**358**	P	**P**	**18 39 50.8**	**-1.9**
	baz=178						
Q39A	**Willow Grove F**	**29.21**	**349**	P	**P**	**18 39 51.5**	**-1.7**
	baz=166						
Q38A	**Cooks Store, C**	**29.26**	**348**	P	**P**	**18 39 52.3**	**-1.3**
	baz=164						
P40A	**Paris**	**29.52**	**351**	P	**P**	**18 39 55.2**	**-0.8**
	baz=168						
121A	**Cookes Peak, D**	**29.75**	**321**	P	**P**	**18 39 58.1**	**-0.3**
	baz=133						
O47A	**Sheridan**	**29.76**	**360**	P	**P**	**18 39 56.2**	**-1.8**
	baz=180						
P38A	**Dawn**	**29.88**	**349**	P	**P**	**18 39 58.4**	**-0.8**
	baz=165						
ACSO	**Alum Creek Sta**	**29.89**	**5**	P	**P**	**18 39 57.9**	**-1.3**
	baz=186						
ACSO	**Alum Creek Sta**	**29.89**	**5**	eP	**P**	**18 39 58.2**	**-1.0**
	comp=E,13nm,0.8s

SDCO Great Sand Dun 32.35 331 *e*P P **18 40 21.8 +0.5**
comp=E,3.5nm,0.8s
K40A Colesburg 32.51 353 P P **18 40 20.5 -1.8**
baz=170
K39A Oelwein 32.61 352 P P **18 40 21.2 -2.0**
baz=169
JFWS Jewell Farm 32.63 354 P P **18 40 21.5 -1.8**
baz=172
J42A Columbus 32.94 356 P P **18 40 24.0 -2.0**
baz=174
K37A Belmond 32.94 350 P P **18 40 24.2 -1.9**
baz=166,SNR=5.6
BINY Binghamton 32.95 14 P P **18 40 24.4 -1.8**
baz=198
ELFO Elginfield 32.98 6 P P **18 40 23.8 -2.6**
baz=188
S22A 4UR Ranch, Cre 33.01 329 P P **18 40 26.4 -0.7**
baz=140
J41A Loganville 33.05 355 P P **18 40 25.4 -1.6**
baz=173
J40A Soldiers Grove 33.16 354 P P **18 40 26.0 -1.9**
baz=171,SNR=5.4
J39A Decorah 33.21 353 P P **18 40 27.0 -1.4**
baz=170
J38A Wedel Dairy, R 33.30 352 P P **18 40 27.7 -1.5**
baz=168
MVCO Mesa Verde 33.48 327 P P **18 40 30.9 -0.2**
baz=137
I40A Norwalk 33.63 354 P P **18 40 30.4 -1.6**
baz=172
I39A Houston 33.70 353 P P **18 40 31.2 -1.4**
baz=170
I38A Scanlan Farm, 33.98 352 P P **18 40 33.3 -1.8**
baz=169
ISCO Idaho Springs 34.05 333 P P **18 40 35.3 -0.7**
baz=144
I37A Lemond, Waseca 34.12 351 P P **18 40 35.6 -0.7**
baz=167
SADO Sadowa 34.82 9 P P **18 40 40.0 -2.3**
comp=E,2.3nm,0.5s,baz=208,slow=8.5,SNR=5.5
H35A Sunnyside Ranc 35.03 349 P P **18 40 42.6 -1.5**
baz=165
G39A Holcombe 35.07 354 P P **18 40 43.0 -1.5**
baz=171,SNR=7.3
LONY Lake Ozonia 35.57 14 P P **18 40 47.1 -1.7**
baz=200
SIV San Ignacio 36.08 136 P P **18 40 55.4 +1.9**
comp=E,0.8nm,0.8s,baz=257,slow=9.1,SNR=4.0
ALFO Alfred 36.45 13 P P **18 40 54.4 -1.9**
baz=199
E36A McGregor 36.54 352 P P **18 40 55.3 -1.8**
baz=168
PDAR Pinedale Array 38.21 332 P P **18 41 11.0 -0.5**
comp=E,1.1nm,0.7s,baz=116,slow=9.1,SNR=10
PDAR PcP **PcP** **18 43 25.9 +0.5**
comp=E,0.6nm,0.8s,baz=113,slow=3.4,SNR=4.3
PDAR LR LR 18 59 48.8
comp=E,113nm,19.2s,baz=142,slow=41
PDAR Pinedale Array 38.21 332 *e*P P **18 41 10.5 -1.0**
PDAR PcP **PcP** **18 43 25.9 +0.5**
MPMC Manual Prospec 38.22 317 P P **18 41 12.8 +1.1**
baz=124
C31A Landman Farms, 38.57 347 P P **18 41 12.1 -2.1**
baz=161
B34A Aery, Baudette 38.67 351 P P **18 41 12.7 -2.3**
baz=166
AGMN Agassiz Nation 38.69 350 P P **18 41 13.1 -2.1**
baz=164
CWC Cottonwood Cre 38.83 317 P P **18 41 17.5 +0.7**
baz=124
B32A Ashes, Strandq 38.91 349 P P **18 41 15.0 -2.0**
baz=163,SNR=8.7
MDND Maddock 39.05 346 P P **18 41 17.3 -0.9**
baz=158
A33A Warroad 39.23 350 P P **18 41 17.6 -2.1**
baz=165,SNR=6.4
RLMT Red Lodge 39.93 334 P P **18 41 25.5 -0.4**
baz=143
LAO LASA Array 40.03 338 P P **18 41 26.7 +0.2**
baz=148
NVAR Mina Array Bea 40.11 320 P P **18 41 28.6 +1.2**
comp=E,8.0nm,0.8s,baz=135,slow=7.8,SNR=19
NVAR PcP **PcP** **18 43 33.5 +2.1**
comp=E,1.8nm,0.7s,baz=119,slow=5.1,SNR=4.6
NVAR LR LR 18 59 46.8
comp=E,80nm,18.4s,baz=291,slow=39
ULM Lac du Bonnet 40.58 350 P P **18 41 27.5 -3.4**
comp=E,5.0nm,1.0s,baz=174,slow=9.2,SNR=8.0
ULM PcP **PcP** **18 43 32.8 +0.4**
comp=E,2.5nm,0.8s,baz=192,slow=7.1,SNR=4.6
ULM LR LR 18 58 34.2
comp=E,81nm,18.8s,baz=16,slow=37
HLID Hailey 41.18 328 P P **18 41 36.6 +0.4**
baz=135
HLID Hailey 41.18 328 *e*P P **18 41 36.4 +0.2**
comp=E,3.8nm,1.1s
MCMT McKenzie Canyo 41.32 331 *e*P P **18 41 37.7 +0.3**
BOZ Bozeman (W) 41.34 333 P P **18 41 37.9 +0.5**
baz=140
EGMT Eagleton 42.47 337 P P **18 41 46.4 -0.1**
baz=144
MSO Missoula 43.32 332 P P **18 41 53.8 +0.4**
baz=138
O03D Paynes Creek 43.40 320 P P **18 41 55.3 +1.1**
baz=123
YBH Yreka Blue Hor 44.77 321 LR LR 19 03 36.6
comp=E,74nm,20.7s,baz=154,slow=40
PINE Pine Mountain 44.90 324 *e*P P **18 42 06.8 +0.6**
comp=E,5.8nm,0.8s
I04A Tendick Farm, 45.76 323 P P **18 42 12.9 0.0**
baz=125
CPUP Villa Florida 45.99 143 LR LR 19 01 45.1
comp=E,46nm,18.5s,baz=310,slow=36
G05D Wamic, OR 46.00 326 P P **18 42 14.9 +0.1**
baz=128
E07A Sunnyside 46.05 328 *e*P P **18 42 15.2 +0.1**
comp=E,10nm,1.0s
H04A Detroit Lake 46.15 324 *e*P P **18 42 16.4 +0.5**
comp=E,6.6nm,1.0s
I03D Drain, OR 46.26 323 P P **18 42 17.5 +0.8**
baz=124
SCHQ Schefferville 46.93 15 LR LR 19 02 31.2
comp=E,96nm,18.3s,baz=252,slow=37
G03D McMinnville, O 47.08 324 P P **18 42 23.9 +0.7**
baz=126
PLCA Paso Flores 52.84 165 P P **18 43 11.0 +4.1**
comp=E,2.6nm,1.1s,baz=341,slow=9.3,SNR=2.8
FRB Frobisher Bay 54.75 9 LR LR 19 07 21.0
comp=E,176nm,18.2s,baz=205,slow=37
YKA Yellowknife Ar 55.95 345 P P **18 43 27.5 -1.7**
comp=E,1.7nm,1.0s,baz=138,slow=7.3,SNR=24
YKA PcP **PcP** **18 44 27.8 +0.5**
comp=E,0.3nm,0.7s,baz=141,slow=3.9,SNR=3.2
YKA LR LR 19 09 29.4
comp=E,5.9nm,19.0s,baz=180,slow=38
SFJD Kangerlussuaq 61.38 15 LR LR 19 10 51.9
comp=E,115nm,18.8s,baz=222,slow=36
ILAR Eielson Array 68.44 336 P P **18 44 52.2 -0.6**
comp=E,1.6nm,0.9s,baz=115,slow=4.8,SNR=13
ILAR LR LR 19 18 33.6
comp=E,55nm,20.6s,baz=133,slow=39
ESDC Sonseca Array 77.48 52 P P **18 45 45.4 -1.4**
comp=E,0.6nm,0.7s,baz=282,slow=6.2,SNR=6.3
EKA Eskdalemuir Ar 77.57 36 P P **18 45 44.7 -2.2**
comp=E,0.9nm,0.8s,baz=270,slow=3.3,SNR=3.2
KOWA Kowa 79.93 77 LR LR 19 18 03.7
comp=E,39nm,19.7s,baz=211,slow=33
SPITS Spitsbergen Ar 82.48 12 LR LR 19 24 56.6
comp=E,60nm,18.6s,baz=220,slow=37
NOA NORSAR Array B 84.57 29 LR LR 19 20 03.7
comp=E,20nm,20.9s,baz=290,slow=33
HFS Hagfors 85.96 30 LR LR 19 20 11.5
comp=E,40nm,21.8s,baz=297,slow=32
GERES GERESS Array B 88.69 41 LR LR 19 24 23.8
comp=E,24nm,18.9s,baz=276,slow=34
KURK Kurchatov 117.75 11 PKP **PKPdf** **18 52 37.8 +0.6**
KURBB Kurchatov Arra 117.82 11 PKP **PKPdf** **18 52 37.8 +0.5**
comp=E,0.3nm,0.5s,baz=349,slow=1.5,SNR=4.3
SONM Songino Array 121.00 350 PKP **PKPdf** **18 52 44.1 +0.3**
comp=E,0.6nm,0.8s,baz=58,slow=3.6,SNR=3.9
MKAR Makanchi Array 122.17 9 PKP **PKPdf** **18 52 45.3 -0.6**
comp=E,0.3nm,0.7s,baz=332,slow=0.8,SNR=4.0
WMQ Urumqi 125.79 5 PKP **PKPdf** **18 52 53.0 0.0**
LZH Lanzhou 132.85 349 *e*PKP **PKPdf** **18 53 03.0 -3.7**
LZH sPKP 18 53 17.0
CD2 Chengdu 137.88 347 PKP **PKPdf** **18 53 15.5 -0.6**
ASAR Alice Springs 139.63 246 PKP **PKPdf** **18 53 19.3 -0.1**
comp=E,0.3nm,0.6s,baz=120,slow=2.3,SNR=6.1

WRA Warramunga Arr 139.87 251 PKP **PKPdf** **18 53 20.3 +0.4**
comp=E,0.6nm,0.7s,baz=98,slow=2.7,SNR=10
CMAR Chiang Mai Arr 150.93 350 PKP **PKPdf** **18 53 39.6 +0.8**
comp=E,0.8nm,0.8s,baz=315,slow=1.3,SNR=6.9
CMAR PKPbc **PKiKP** **18 53 45.6 +0.5**
comp=E,3.0nm,0.9s,baz=341,slow=3.3,SNR=16
CMAR PKPab **PKPab** **18 53 51.8 0.0**
comp=E,2.1nm,0.9s,baz=333,slow=3.0,SNR=8.6

NIED ***25*** *18:46:00,37.80N×141.80E,h62km,Mw3.8 Best double couple: M₀5.63000×10¹⁴ NP1:φ=48.00000°,δ30.00000°, λ113.00000°. NP2:φ=202.00000°,δ63.00000°,λ77.00000°.*
ISCJB ***25*** *18:46:36.9±0.7,37.80N±0.03×141.84E±0.07,h61km±6km, mb3.7/12,Error ellipse: s-maj=9.2km s-min=4.7km az=21.5*
JMA ***25*** *18:46:38.3,37.82N×141.74E,h56km±1km,M4.1*
JMA Felt II J1.
IDC ***25*** *18:46:38.3±2.0,37.84N×141.84E,h57km±18km,mb3.5/12, mb1 3.7/17,mb1mx3.4/69,mbtmp3.8/17,ML3.4/5,MS2.5/2, Ms1 2.5/2,ms1mx2.2/46,Error ellipse: s-maj=18.4km s-min=10.7km az=116.0*
ISC 25 18:46:37.7±1.4,37.80N±0.04×141.84E±0.09,h52km±12km, n39,σ0s85/50,mb3.6/12,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.76**	**330**	P		**Pn**	**18 46 52.6**	**+0.3**
JIO				S		**Sn**	**18 47 02.5**	**-0.4**
JMM	**Marumori**	**0.83**	**275**	P		**Pn**	**18 46 53.1**	**-0.1**
JMM				S		**Sn**	**18 47 03.7**	**-0.9**
JFK	**Kawauchi**	**0.88**	**241**	P		**Pn**	**18 46 54.0**	**+0.1**
JFK				S		**Sn**	**18 47 05.3**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.08**	**230**	P		**Pn**	**18 46 56.7**	**+0.1**
ONAJ				S		**Sn**	**18 47 09.8**	**-0.8**
JOU	**Okura**	**1.08**	**302**	P		**Pn**	**18 46 56.5**	**-0.1**
JOU				S		**Sn**	**18 47 10.3**	**-0.4**
JFT	**Otama**	**1.22**	**257**	P		**Pn**	**18 46 59.0**	**+0.5**
JFT				S		**Sn**	**18 47 14.3**	**+0.3**
JMK	**Ichinoseki**	**1.25**	**337**	P		**Pn**	**18 46 59.3**	**+0.5**
JMK				S		**Sn**	**18 47 14.4**	**-0.1**
JYS	**Shirataka**	**1.46**	**287**	P		**Pn**	**18 47 01.9**	**+0.2**
JYK	**Kaneyama**	**1.61**	**314**	P		**Pn**	**18 47 04.0**	**+0.2**
JYK				S		**Sn**	**18 47 23.4**	**0.0**
JOM	**Ohasama**	**1.72**	**346**	P		**Pn**	**18 47 05.8**	**+0.5**
JOM				*e*S		**Sn**	**18 47 26.4**	**+0.2**
JFY	**Yanaizu**	**1.74**	**258**	P		**Pn**	**18 47 05.9**	**+0.4**
JFY				S		**Sn**	**18 47 26.7**	**+0.1**
JRG	**Rokugo**	**1.85**	**330**	P		**Pn**	**18 47 07.8**	**+0.8**
JRG				S		**Sn**	**18 47 30.5**	**+1.2**
JYA	**Atsumi**	**1.85**	**296**	P		**Pn**	**18 47 07.1**	**+0.1**
JYA				*e*S		**Sn**	**18 47 29.0**	**-0.3**
JNS	**Sasagawa**	**2.00**	**271**	P		**Pn**	**18 47 09.4**	**+0.4**
JNS				*e*S		**Sn**	**18 47 32.8**	**0.0**
MJAR	**Matsushiro Arr**	**3.16**	**248**	P		**Pn**	**18 47 26.2**	**+1.2**
	4.6nm,0.3s,baz=53,slow=9.8,SNR=100							
MJAR				S		**Sn**	**18 48 02.7**	**+1.2**
	2.5nm,0.3s,baz=59,slow=13,SNR=4.6							
MJAR				LR		LR	18 48 56.5	
	comp=Z,58nm,20.6s,baz=30,slow=44							
MAT	**Matsushiro**	**3.16**	**248**	P		**Pn**	**18 47 26.6**	**+1.6**
MAT				*e*S		**Sn**	**18 48 02.5**	**+1.0**
JHJ	**Hachijo jima 2**	**4.96**	**200**	P		**Pn**	**18 47 50.0**	**+0.4**
	5.5nm,0.3s,baz=327,slow=13,SNR=3.1							
JHJ				S		**Sn**	**18 48 43.1**	**-2.7**
	13nm,0.3s,baz=73,slow=19,SNR=4.9							
ASAJ	**Asahikawa**	**6.34**	**5**	P		**Pn**	**18 48 07.9**	**-0.6**
	0.9nm,0.3s,baz=210,slow=9.0,SNR=16							
ASAJ				S		**Sn**	**18 49 18.1**	**-1.3**
	0.3nm,0.3s,baz=270,slow=20,SNR=2.9							
USRK	**Ussuriysk Ar.**	**9.81**	**314**	P		**Pn**	**18 48 56.8**	**+0.8**
	0.9nm,0.3s,baz=122,slow=14,SNR=14							
KSRS	**Korea Array**	**11.04**	**272**	P		**Pn**	**18 49 15.4**	**+2.5**
	0.3nm,0.3s,baz=84,slow=14,SNR=6.4							
KSRS				LR		LR	18 53 21.6	
	comp=Z,28nm,18.9s,baz=77,slow=36							
KLR	**Kul'dur**	**13.55**	**331**	P		**P**	**18 49 53.2**	**-1.5**
	0.0nm,0.3s,baz=145,slow=14,SNR=5.3							
SEY	**Seymchan**	**25.97**	**11**	P		**P**	**18 52 06.0**	**+0.9**
	0.5nm,0.7s,baz=232,slow=18,SNR=3.2							
SONM	**Songino Array**	**27.65**	**303**	P		**P**	**18 52 20.4**	**-0.2**
	1.2nm,0.8s,baz=97,slow=9.7,SNR=7.5							
H11N2	**WAKE ISLAND Hy**	**28.26**	**123**	T		T	19 22 52.9	
	baz=316,slow=75,SNR=187							
H11N1	**WAKE ISLAND Hy**	**28.27**	**123**	T		T	19 22 53.6	
	baz=316,slow=75,SNR=193							
H11N3	**WAKE ISLAND Hy**	**28.28**	**123**	T		T	19 22 54.3	
	baz=316,slow=75,SNR=161							
H11S1	**WAKE ISLAND Hy**	**29.00**	**125**	T		T	19 23 48.5	
	baz=317,slow=76,SNR=104							
H11S3	**WAKE ISLAND Hy**	**29.00**	**125**	T		T	19 23 45.5	
	baz=317,slow=76,SNR=109							
H11S2	**WAKE ISLAND Hy**	**29.02**	**125**	T		T	19 23 46.2	
	baz=317,slow=76,SNR=73							
ZALV	**Zalesovo Beam**	**41.65**	**312**	P		**P**	**18 54 20.3**	**-0.5**
	1.1nm,0.5s,baz=91,slow=7.8,SNR=6.7							
MKAR	**Makanchi Array**	**44.00**	**302**	P		**P**	**18 54 39.4**	**-0.5**
	0.5nm,0.5s,baz=91,slow=9.2,SNR=9.7							
KURBB	**Kurchatov Arra**	**45.80**	**307**	P		**P**	**18 54 53.8**	**-0.3**
	2.0nm,0.5s,baz=82,slow=8.2,SNR=12							
ILAR	**Eielson Array**	**48.67**	**33**	P		**P**	**18 55 16.2**	**0.0**
	0.4nm,0.7s,baz=264,slow=6.4,SNR=5.7							
WRA	**Warramunga Arr**	**57.87**	**188**	P		**P**	**18 56 24.0**	**-0.2**
	1.1nm,0.5s,baz=5.6,slow=6.8,SNR=32							
ASAR	**Alice Springs**	**61.59**	**188**	P		**P**	**18 56 49.9**	**+0.1**
	0.4nm,0.7s,baz=18,slow=11,SNR=6.8							
YKA	**Yellowknife Ar**	**62.98**	**30**	P		**P**	**18 56 59.2**	**+0.6**
	0.2nm,0.5s,baz=299,slow=5.9,SNR=3.9							
FINES	**FINESS Array B**	**68.29**	**332**	P		**P**	**18 57 32.4**	**-0.5**
	2.1nm,1.0s,baz=23,slow=7.5,SNR=3.4							
PDAR	**Pinedale Array**	**76.89**	**46**	P		**P**	**18 58 23.9**	**-0.8**
	0.4nm,0.6s,baz=302,slow=2.8,SNR=4.4							
TXAR	**Lajitas Array**	**89.39**	**53**	P		**P**	**18 59 29.3**	**+0.3**
	0.3nm,0.5s,baz=299,slow=2.4,SNR=5.6							

IDC ***25*** *19:01:07.2±1.4,4.69S×142.02E,h0km,mb4.0/4, mb1 4.3/7,mb1mx3.8/46,mbtmp4.2/7,ML4.4/2,Error ellipse: s-maj=31.9km s-min=23.2km az=76.0*
ISCJB ***25*** *19:01:09.9±1.1,4.85S±0.71×142.02E±0.09,h33km,mb3.5/2, Error ellipse: s-maj=20.0km s-min=10.2km az=31.6*
ISC 25 19:01:12.2±1.4,4.7S±0.2×142.0E±0.1,h35km,n7,σ0s89/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.90**	**133**	Pn		**Pn**	**19 02 49.8**	**-1.2**
	1.1nm,0.3s,baz=307,slow=15,SNR=6.1							
PMG				S		**Sn**	**19 04 09.5**	**+1.2**
	0.8nm,0.3s,baz=0.0,slow=19,SNR=2.4							
WRA	**Warramunga Arr**	**16.87**	**206**	Pn		**Pn**	**19 05 06.1**	**+0.3**
	1.2nm,0.3s,baz=24,slow=13,SNR=60							
BATI	**Baumata**	**18.98**	**252**	P		**P**	**19 05 30.3**	**-0.6**
	1.7nm,0.3s,baz=96,slow=7.8,SNR=4.9							
ASAR	**Alice Springs**	**20.39**	**202**	P		**P**	**19 05 46.3**	**+0.1**
	3.2nm,0.5s,baz=28,slow=11,SNR=22							
FITZ	**Fitzroy Crossi**	**20.81**	**229**	P		**P**	**19 05 50.8**	**+0.1**
	4.8nm,0.6s,baz=50,slow=11,SNR=28							
MKAR	**Makanchi Array**	**73.40**	**322**	P		**P**	**19 12 40.8**	**0.0**
	0.5nm,0.7s,baz=103,slow=6.2,SNR=6.4							
KURBB	**Kurchatov Arra**	**77.27**	**324**	P		**P**	**19 13 03.8**	**+0.8**
	0.4nm,0.7s,baz=118,slow=5.8,SNR=2.7							

SKO ***25*** *19:03:38.9,40.90N×20.88E,h12km,M0.8,ML1.1*
CSEM ***25*** *19:03:41.4,40.73N×21.07E,h12km, Suspected Mining explosion. After ATH*
ATH 25 19:03:41.4,40.73N×21.07E,h12km±12km,ML0.0,Error ellipse: s-maj=12.2km s-min=1.9km az=2.0,Suspected Mining explosion.,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.23**	**77**	P		Pg	19 03 46.9	+0.4
FNA				S		Sg	19 03 53.0	+3.1
FNA				AML		AML	19 03 55.4	
	comp=N,527μm,0.2s							
FNA				AML		AML	19 03 57.9	
	comp=E,385μm,0.3s							
FNA	**Florina**	**0.23**	**77**	P		Pg	19 03 47.0	+0.5
FNA	**Florina**	**0.23**	**77**	P		Pg	19 03 46.7	+0.2
NEST	**Nestorio**	**0.32**	**184**	P		Pg	19 03 46.8	-1.2
NEST				S		Sg	19 03 52.8	+1.0
NEST				AML		AML	19 03 56.6	
	comp=E,170μm,0.2s							
NEST				AML		AML	19 03 58.2	
	comp=N,93μm,0.2s							
NEST	**Nestorio**	**0.32**	**184**	P		Pg	19 03 46.8	-1.1
NEST	**Nestorio**	**0.32**	**184**	P		Pg	19 03 47.3	-0.6
BIA	**Bitola**	**0.34**	**33**	*i* Pg		Pg	19 03 47.3	-1.2
BIA				*i* Sg		Sg	19 03 52.8	-0.4
OHR	**Ohrid**	**0.43**	**331**	*i* Pg		Pg	19 03 43.5	-6.5
OHR				*i* Sg		Sg	19 03 47.9	-8.0
OHR				*e*Lg		Lg	19 03 48.1	
	comp=E,79nm,0.4s							
OHR				*e*Lg		Lg	19 03 48.8	
	comp=N,37nm,0.5s							
PENT	**Pentalofos**	**0.54**	**175**	P		Pg	19 03 51.8	-0.1
PENT				S		Sn	19 04 03.9	0.0
PENT				AML		AML	19 04 05.5	
	comp=N,52μm,0.2s							
PENT				AML		AML	19 04 07.0	
	comp=E,56μm,0.5s							
PENT	**Pentalofos**	**0.54**	**175**	P		Pg	19 03 52.1	+0.1
PENT	**Pentalofos**	**0.54**	**175**	P		Pg	19 03 52.0	0.0
KRUS	**Krusevo**	**0.65**	**12**	*i* Pg		Pg	19 03 49.7	-4.5
KRUS				*i* Sg		Sg	19 03 59.1	-3.7
KZN	**Kozani**	**0.68**	**128**	P		Pb	19 03 55.1	-0.1
KZN				S		Sn	19 04 08.7	+1.3
KZN				AML		AML	19 04 13.0	
	comp=N,53μm,0.3s							
KZN				AML		AML	19 04 13.1	
	comp=E,91μm,0.4s							
KZN	**Kozani**	**0.68**	**128**	P		Pb	19 03 55.9	+0.7
KZN	**Kozani**	**0.68**	**128**	P		Pb	19 03 55.3	+0.1
KPRO	**Kipourio**	**0.81**	**164**	P		Pn	19 03 58.2	-0.4
KPRO	**Kipourio**	**0.81**	**164**	P		Pg	19 03 56.8	-0.2
KPRO	**Kipourio**	**0.81**	**164**	P		Pg	19 03 56.8	-0.2
GRG	**Griva**	**1.03**	**77**	P		Pb	19 04 00.8	-0.4
GRG	**Griva**	**1.03**	**77**	P		Pb	19 04 00.2	-1.0
GRG	**Griva**	**1.03**	**77**	P		Pb	19 04 00.6	-0.6
SGD	**Sagiada**	**1.29**	**210**	P		Pg	19 04 06.3	+0.1
SGD	**Sagiada**	**1.29**	**210**	P		Pg	19 04 06.0	-0.2
IGT	**Igoumenitsa**	**1.32**	**206**	P		Pn	19 04 05.9	+0.2
IGT	**Igoumenitsa**	**1.32**	**206**	P		Pb	19 04 06.5	+0.3
IGT	**Igoumenitsa**	**1.32**	**206**	P		Pb	19 04 06.4	+0.2
THL	**Klokotos Trika**	**1.37**	**148**	P		Pn	19 04 06.5	+0.2
THL	**Klokotos Trika**	**1.37**	**148**	P		Pn	19 04 06.3	0.0
THL	**Klokotos Trika**	**1.37**	**148**	P		Pb	19 04 06.8	-0.1
KNT	**Kendrikon**	**1.45**	**72**	P		Pb	19 04 08.5	+0.2

GUC 25 19:05:06.9±0.4,21.42S×68.82W,h108km±3km,ML3.6, 4C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.54**	**226**	⇑*i* P		Pn	19 05 24.5	+0.5
PB09				*e*S		Sn	19 05 37.5	+0.6
PB09				IAML			19 05 38.7	
	comp=N,6μm,0.2s							
PB01	**IPOC Station P**	**0.73**	**301**	⇑*i* P		Pn	19 05 25.6	+0.2
PB01				*e*S		Sn	19 05 39.9	+0.5
PB01				IAML			19 05 40.6	
	comp=N,3μm,0.3s							
PB02	**IPOC Station P**	**1.01**	**276**	⇑*i* P			19 05 28.6	+0.4
PB02				*e*S		Sn	19 05 44.9	+0.7
PB02				IAML			19 05 51.1	
	comp=E,1μm,0.3s							
PB07	**IPOC Station P**	**1.04**	**253**	⇑*i* P		Pn	19 05 28.9	+0.4
PB07				*e*S		Sn	19 05 45.6	+0.7
PB07				IAML			19 05 46.6	
	comp=N,2μm,0.1s							
PB08	**IPOC Station P**	**1.31**	**346**	⇓*i* P		Pn	19 05 32.7	+0.9
PB08				*e*S		Sn	19 05 51.8	+1.2
PB08				IAML			19 05 52.8	
	comp=E,1μm,0.2s							
PB06	**IPOC Station P**	**1.46**	**208**	⇓*i* P		Pn	19 05 33.5	+0.3
PB06				*e*S		Sn	19 05 53.9	+0.7
PB06				IAML			19 05 54.7	
	comp=E,1μm,0.4s							
GO01	**Chusmiza**	**1.78**	**349**	⇓*i* P		Pn	19 05 38.3	+0.7
GO01				*e*S		Sn	19 06 02.5	+1.7
PB11	**IPOC Station P**	**1.83**	**335**	⇓*i* P		Pn	19 05 38.1	+0.3
PB11				*e*S		Sn	19 06 01.9	+0.5
PSGC	**Pisagua**	**2.19**	**326**	*e*P		Pn	19 05 41.6	-0.8
PSGC				*e*S		Sn	19 06 08.7	-0.7

IDC 25 19:25:05.2±1.3,25.58N×99.76E,h0km,mb3.2/3, mb1 3.4/4,mb1mx3.1/69,mbtmp3.2/4,ML3.8/1,MS3.0/1, Ms1 3.0/1,ms1mx2.3/31,Error ellipse: s-maj=42.6km s-min=18.5km az=83.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.12**	**186**	Pn		Pn	19 26 49.5	-1.2
	0.4nm,0.3s,baz=2.1,slow=13,SNR=5.0							
CMAR				Pg		Pg	19 27 16.4	-5.3
	0.4nm,0.3s,baz=0.4,slow=17,SNR=15							
CMAR				Lg		Lg	19 28 49.9	
	0.6nm,0.3s,baz=1.8,slow=31,SNR=4.5							
SONM	**Songino Array**	**22.83**	**12**	P		P	19 30 09.0	-0.9
	0.2nm,0.8s,baz=201,slow=7.7,SNR=2.1							
MKAR	**Makanchi Array**	**25.33**	**331**	P		P	19 30 34.0	+0.3
	0.8nm,0.7s,baz=142,slow=9.5,SNR=11							
TLY	**Talaya**	**26.23**	**5**	LR		LR	19 42 03.7	
	comp=Z,34nm,19.8s,baz=23,slow=39							
WRA	**Warramunga Arr**	**56.36**	**140**	P		P	19 34 48.7	+0.3
	0.6nm,1.1s,baz=336,slow=7.2,SNR=3.2							

ISCJB ***25*** *19:25:26.7±0.6,52.79S±0.09×22.8E±0.3,h10km,mb4.0/7, MS3.2/6,Error ellipse: s-maj=21.9km s-min=12.8km az=4.9*
IDC ***25*** *19:25:27.2±0.9,52.88S×22.89E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.6/44,mbtmp3.9/6,MS3.3/6,Ms1 3.3/6, ms1mx3.0/37,Error ellipse: s-maj=33.1km s-min=25.8km az=66.0*
NEIC ***25*** *19:25:28.3±0.5,52.86S×22.89E,h10km,mb4.3/3,Error ellipse: s-maj=20.7km s-min=11.9km az=78.0*
ISC 25 19:25:27.7±0.8,52.8S±0.1×23.0E±0.2,h10km,n22, σ1s41/18,mb4.0/7,MS3.4/6,South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.42**	**355**	LR		LR	19 36 32.3	
	comp=Z,79nm,18.0s,baz=197,slow=32							
SUR	**Sutherland**	**20.42**	**355**	*e*P		**P**	**19 30 01.7**	**-3.4**
	23nm,1.4s							
SNAA	**Sanae**	**22.12**	**201**	P		**P**	**19 30 22.0**	**-1.0**
SNAA	**Sanae**	**22.12**	**201**	P		**P**	**19 30 22.3**	**-0.7**
	9.1nm,0.9s,baz=52,slow=9.5,SNR=23							
SNAA				LR		LR	19 36 34.8	
	comp=Z,142nm,21.2s,baz=100,slow=30							
SNAA	**Sanae**	**22.12**	**201**	*e*P		**P**	**19 30 21.6**	**-1.4**
	13nm,1.0s							
VNA2	**Neumayer--Watz**	**22.73**	**205**	P		**P**	**19 30 30.0**	**+0.6**
	baz=36,slow=11							
VNA1	**Neumayer--Stat**	**22.80**	**206**	P		**P**	**19 30 29.6**	**-0.6**
VNA3	**Neumayer Olymp**	**23.52**	**206**	P		**P**	**19 30 35.9**	**-1.6**
BOSA	**Boshof**	**24.17**	**5**	LR		LR	19 38 59.0	
	comp=Z,102nm,18.2s,baz=162,slow=33							
TSUM	**Tsumeb**	**33.75**	**351**	*e*P		**P**	**19 32 09.3**	**-0.2**
	7.8nm,1.4s							
QSPA	**South Pole Qui**	**37.47**	**180**	P		**P**	**19 32 41.2**	**0.0**
	2.0nm,0.8s,baz=268,slow=4.3,SNR=4.7							
QSPA	

YKA	**Yellowknife Ar**	**155.74**	**310**	PKPab	**PKPab**	**19**	**45**	**47.9**	**+0.8**
	0.4nm,0.8s,baz=93,slow=4.9,SNR=8.0								

*ISCJB **25** 19:49:12.7±0.9, 16°.41N±0°.07×98°.46W±0°.04, h13km±8km, mb3.6/4, MS3.3/4, Error ellipse: s-maj=12.5km s-min=5.7km az=2.1*
*NEIC **25** 19:49:14.0±0.0, 16°.27N×98°.41W, h15km, MD4.1(MEX), After MEX.*
*MEX **25** 19:49:14.4±0.5, 16°.41N×98°.43W, h5km, MD4.1*
*IDC **25** 19:49:15.3±2.4, 16°.75N×98°.34W, h0km, mb3.7/4, mb1 3.9/8, mb1mx3.6/48, mbtmp3.6/8, ML3.6/4, MS3.3/7, Ms1 3.3/7, ms1mx2.9/43, Error ellipse: s-maj=48.0km s-min=16.0km az=19.0*

ISC 25 19:49:12.5±1.4, **16°.42N**±0°.06×**98°.48W**±0°.04, **h5**km±9km, **n26**, σ1§**47**/36, **mb3.7**/4, **MS3.4**/4, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**95**	*eP*	**Pg**	**19 49 19.5**	**+0.4**
PNIG				*eS*	**Sg**	**19 49 24.1**	**+0.6**
PNIG	**Pinotepa**	**0.34**	**95**	*eP*	**Pg**	**19 49 19.5**	**+0.4**
PNIG				*eS*	**Sg**	**19 49 24.1**	**+0.6**
TLIG	**Tlapa**	**1.14**	**356**	*eP*	**Pg**	**19 49 33.4**	**-1.0**
TLIG				*eS*	**Sg**	**19 49 48.1**	**-1.1**
TLIG	**Tlapa**	**1.14**	**356**	*eP*	**Pg**	**19 49 33.4**	**-1.0**
TLIG				*eS*	**Sg**	**19 49 47.9**	**-1.3**
ACX	**Acapulco**	**1.40**	**289**	*eP*	**Pn**	**19 49 39.0**	**+0.2**
ACX				*i* S	**Sb**	**19 49 57.1**	**-0.3**
ACX	**Acapulco**	**1.40**	**289**	*eP*	**Pn**	**19 49 39.0**	**+0.2**
ACX				*eS*	**Sb**	**19 49 56.4**	**-1.0**
ACP2	**Acapulco**	**1.43**	**289**	*eP*	**Pn**	**19 49 38.2**	**-0.9**
ACP2				*eS*	**Sn**	**19 49 56.4**	**-1.9**
VHO	**Vista Hermosa**	**1.79**	**69**	*eP*	**Pn**	**19 49 43.0**	**-1.3**
VHO				*i* S	**Sn**	**19 50 04.2**	**-3.5**
VHO	**Vista Hermosa**	**1.79**	**69**	*eP*	**Pn**	**19 49 44.2**	**-0.2**
VHO				*eS*	**Sn**	**19 50 07.5**	**-0.2**
CAIG	**El Cayaco**	**1.83**	**290**	*eP*	**Pn**	**19 49 43.0**	**-1.6**
CAIG				*i* S	**Sn**	**19 50 07.0**	**-1.2**
CAIG	**El Cayaco**	**1.83**	**290**	*eP*	**Pn**	**19 49 43.4**	**-1.2**
CAIG				*eS*	**Sn**	**19 50 07.7**	**-0.5**
CMIG	**Matias Romero**	**3.51**	**79**	Pn	**Pn**	**19 50 06.9**	**-0.8**
	3.5nm,0.3s,baz=265,slow=14,SNR=23						
CMIG				Pg	**Pb**	**19 50 16.8**	**+1.6**
	14nm,0.3s,baz=261,slow=13,SNR=28						
CMIG				Lg	Lg	19 51 01.2	
	82nm,0.3s,baz=355,slow=19,SNR=17						
CMIG				LR	LR	19 51 22.5	
	comp=Z,56nm,21.3s,baz=7.5,slow=38						
MOIG	**Morelia**	**4.14**	**322**	*ePn*	**Pn**	**19 50 18.9**	**+2.2**
MOIG				*eSn*	**Sn**	**19 51 07.0**	**+1.3**
TXAR	**Lajitas Array**	**13.71**	**341**	Pn	**Pn**	**19 52 29.1**	**+1.3**
	0.0nm,0.3s,baz=170,slow=15,SNR=4.1						
TXAR				Lg	Lg	19 56 22.0	
	0.0nm,0.3s,baz=158,slow=25,SNR=2.9						
TXAR				LR	LR	19 58 08.4	
	comp=Z,202nm,20.3s,baz=0.0,slow=40						
JTS	**JuntasAbangare**	**14.50**	**113**	Pn	**P**	**19 52 43.6**	**-1.9**
	1.2nm,0.3s,baz=311,slow=11,SNR=5.7						
JTS	**JuntasAbangare**	**14.50**	**113**	Pn	**Pn**	**19 52 35.9**	**-2.8**
ABTX	**Abilene, Hawle**	**16.17**	**356**	*ePn*	**Pn**	**19 53 02.4**	**+1.8**
	3.5nm,0.6s						
ANMO	**Albuquerque**	**19.79**	**340**	P	**P**	**19 53 44.4**	**+0.4**
	0.2nm,0.3s,baz=352,slow=8.5,SNR=4.9						
ANMO				LR	LR	20 02 01.8	
	comp=Z,165nm,18.9s,baz=332,slow=39						
PDAR	**Pinedale Array**	**27.92**	**342**	P	**P**	**19 55 05.1**	**+1.1**
	0.9nm,0.7s,baz=140,slow=12,SNR=8.1						
PDAR				LR	LR	20 07 13.3	
	comp=Z,149nm,20.9s,baz=196,slow=39						
SDV	**Santo Domingo**	**28.15**	**102**	LR	LR	20 07 12.1	
	comp=Z,32nm,19.2s,baz=268,slow=38						
YBH	**Yreka Blue Hor**	**32.72**	**325**	LR	LR	20 09 39.7	
	comp=Z,66nm,18.2s,baz=172,slow=38						
YKA	**Yellowknife Ar**	**47.40**	**350**	P	**P**	**19 57 47.6**	**0.0**
	0.5nm,0.7s,baz=158,slow=7.4,SNR=8.6						
INK	**Inuvik**	**56.43**	**345**	P	**P**	**19 58 57.1**	**+2.2**
	1.0nm,0.7s,baz=134,slow=5.9,SNR=6.7						
ILAR	**Eielson Array**	**58.21**	**338**	P	**P**	**19 59 09.5**	**+2.0**
	0.5nm,0.8s,baz=161,slow=5.1,SNR=6.4						
SFJD	**Kangerlussuaq**	**59.24**	**20**	LR	LR	20 26 11.3	
	comp=Z,22nm,18.4s,baz=226,slow=38						
CMAR	**Chiang Mai Arr**	**141.33**	**333**	PKP	**PKPdf**	**20 08 46.4**	**+0.9**
	0.4nm,0.7s,baz=5.7,slow=1.8,SNR=3.6						

*CSEM **25** 20:03:23.9±0.2, 38°.71N×43°.20E, h10km, ML2.4, Error ellipse: s-maj=4.6km s-min=3.9km az=75.0*
*ISK **25** 20:03:23.0, 38°.71N×43°.16E, h8km, ML2.4/3*
*ISCJB **25** 20:03:24.2±0.5, 38°.71N±0°.03×43°.19E±0°.04, h8km±6km, Error ellipse: s-maj=5.0km s-min=4.8km az=12.6*
*DDA **25** 20:03:24.2, 38°.71N×43°.21E, h7km, Ml2.6*

ISC 25 20:03:24.2±0.9, **38°.71N**±0°.02×**43°.19E**±0°.03, **h13**km±8km, **n24**, σ0§**62**/42, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**126**	PG	**Pg**	**20 03 29.0**	**+0.3**
VANB	**Van**	**0.20**	**126**	*ePg*	**Pg**	**20 03 29.0**	**+0.3**
TVAN	**Van**	**0.25**	**137**	*i* P	**Pg**	**20 03 28.9**	**-0.7**
TVAN				*i* S	**Sg**	**20 03 33.5**	**+0.2**
TVAN	**Van**	**0.25**	**137**	P	**Pg**	**20 03 28.9**	**-0.7**
TVAN				S	**Sg**	**20 03 33.5**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.38**	**285**	*i* P	**Pg**	**20 03 31.9**	**+0.2**
ADCV				*i* S	**Sb**	**20 03 38.7**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.38**	**285**	P	**Pg**	**20 03 32.0**	**+0.2**
ADCV				S	**Sb**	**20 03 38.7**	**+0.2**
VMUR	**Van-Muradiye**	**0.41**	**47**	*i* P	**Pg**	**20 03 32.2**	**-0.2**
VMUR				*i* S	**Sb**	**20 03 38.8**	**-0.7**
VMUR	**Van-Muradiye**	**0.41**	**47**	P	**Pg**	**20 03 32.2**	**-0.2**
VMUR				S	**Sb**	**20 03 38.8**	**-0.7**
GEVA	**Gevas**	**0.41**	**194**	*i* P	**Pg**	**20 03 31.8**	**-0.6**
GEVA				*i* S	**Sb**	**20 03 39.2**	**-0.4**
GEVA	**Gevas**	**0.41**	**194**	P	**Pg**	**20 03 31.8**	**-0.6**
GEVA				S	**Sb**	**20 03 39.2**	**-0.4**
TUTA	**Tutak**	**0.75**	**337**	*i* P	**Pg**	**20 03 38.1**	**-0.7**
TUTA				*i* S	**Sg**	**20 03 48.2**	**-0.5**
TUTA	**Tutak**	**0.75**	**337**	P	**Pg**	**20 03 38.1**	**-0.7**
TUTA				S	**Sg**	**20 03 48.2**	**-0.5**
AGRB	**Hanur-Agry**	**0.88**	**350**	PG	**Pg**	**20 03 40.1**	**-1.1**
AGRB				SG	**Sg**	**20 03 52.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.88**	**350**	*ePg*	**Pg**	**20 03 40.1**	**-1.1**
AGRB				*eSg*	**Sg**	**20 03 52.8**	**+0.1**
GURO	**Guroymak-BITLI**	**0.92**	**260**	PG	**Pg**	**20 03 41.1**	**-0.8**
GURO				SG	**Sg**	**20 03 53.6**	**-0.4**
GURO	**Guroymak-BITLI**	**0.92**	**260**	*ePg*	**Pg**	**20 03 41.1**	**-0.8**
GURO				*eSg*	**Sg**	**20 03 53.6**	**-0.4**
EKAR	**Karacoban**	**1.03**	**302**	*i* P	**Pn**	**20 03 45.2**	**+0.7**
EKAR				*i* S	**Sn**	**20 04 00.1**	**+1.2**
EKAR	**Karacoban**	**1.03**	**302**	P	**Pn**	**20 03 45.2**	**+0.7**
EKAR				S	**Sn**	**20 04 00.1**	**+1.2**
EATA	**Eleskirt**	**1.27**	**335**	*i* P	**Pn**	**20 03 47.7**	**-0.1**
EATA				*i* S	**Sn**	**20 04 05.7**	**+0.8**
EATA	**Eleskirt**	**1.27**	**335**	P	**Pn**	**20 03 47.7**	**-0.1**
EATA				S	**Sn**	**20 04 05.7**	**+0.8**
SIRT	**Sirnak**	**1.34**	**206**	PN	**Pn**	**20 03 48.6**	**-0.1**
SIRT	**Sirnak**	**1.34**	**206**	*ePn*	**Pn**	**20 03 48.6**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.51**	**32**	PN	**Pn**	**20 03 51.2**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.51**	**32**	*ePn*	**Pn**	**20 03 51.2**	**+0.3**

*ISCJB **25** 20:12:28.0±0.4, 2°.51N±0°.05×93°.11E±0°.04, h21km, mb4.0/11, Error ellipse: s-maj=7.6km s-min=4.7km az=32.3*
*IDC **25** 20:12:27.2±1.0, 2°.46N×93°.13E, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.6/72, mbtmp3.9/11, ML3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/60, Error ellipse: s-maj=36.0km s-min=15.7km az=44.0*
*DJA **25** 20:12:30.9±5.6, 2°.N±4°.×9°.3E±°, h21km±66km, M4.8/12, mb4.9/12, mB5.3/8, MLv4.8/7, Mw(mB)4.8/8*
*NEIC **25** 20:12:31.6±0.5, 2°.49N×93°.08E, h35km, mb4.3/5, Error ellipse: s-maj=12.4km s-min=6.7km az=216.0*

ISC 25 20:12:29.9±0.7, **2°.48N**±0°.08×**93°.13E**±0°.07, **h21**km, **n51**, σ1§**44**/55, **mb4.1**/11, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.72**	**61**	P	**Pn**	**20 13 27.9**	**+1.8**
MLSI				S	**Sn**	**20 14 08.9**	**-0.4**

TPTI		**4.12**	**79**	P	**Pn**	**20**	**13**	**32.9**	**+1.3**
TPTI				S	**Sn**	**20**	**14**	**15.6**	**-3.6**
GSI	**Gunungsitoli**	**4.60**	**105**	P	**Pn**	**20**	**13**	**40.4**	**+2.2**
GSI				S	**Sn**	**20**	**14**	**30.8**	**-0.2**
GSI	**Gunungsitoli**	**4.60**	**105**	*ePn*	**Pn**	**20**	**13**	**40.4**	**+2.2**
LHMI	**Lhok Sumawe**	**4.69**	**54**	P	**Pn**	**20**	**13**	**42.1**	**+2.7**
LHMI	**Lhok Sumawe**	**4.69**	**54**	*ePn*	**Pn**	**20**	**13**	**42.2**	**+2.7**
PSI	**Prapat**	**5.80**	**87**	Pn	**Pn**	**20**	**13**	**56.2**	**+1.4**
	1.5nm,0.3s,baz=317,slow=12,SNR=6.9								
PSI				Sn	**Sn**	**20**	**15**	**01.4**	**+0.6**
	5.5nm,0.3s,baz=163,slow=19,SNR=4.2								
PSI	**Prapat**	**5.80**	**87**	*ePn*	**Pn**	**20**	**13**	**54.8**	**0.0**
PSI				Sn	**Sn**	**20**	**15**	**01.4**	**+0.6**
MNSI	**Mandailing Nat**	**6.66**	**104**	P	**Pn**	**20**	**14**	**08.8**	**+2.2**
MNSI				S	**Sn**	**20**	**15**	**19.2**	**-2.8**
SISI	**Saibi**	**7.06**	**122**	P	**Pn**	**20**	**14**	**13.7**	**+1.6**
SISI				S	**Sn**	**20**	**15**	**28.7**	**-3.1**
KULM	**Kulim**	**8.01**	**69**	*ePn*	**Pn**	**20**	**14**	**24.4**	**-0.7**
PDSI	**Padang**	**8.07**	**115**	P	**Pn**	**20**	**14**	**27.9**	**+1.9**
IPM	**Ipoh**	**8.13**	**76**	*ePn*	**Pn**	**20**	**14**	**27.6**	**+0.9**
TRTT	**Trang**	**8.42**	**51**	P	**Pn**	**20**	**14**	**31.4**	**+0.6**
	16nm,0.9s,191nm								
SURT	**Suratani**	**8.55**	**41**	P	**Pn**	**20**	**14**	**32.8**	**+0.2**
	20nm,0.8s,247nm								
PPSI	**Pulau Pagai**	**8.63**	**127**	P	**Pn**	**20**	**14**	**35.0**	**+1.3**
SKLT	**Songkhla**	**8.80**	**58**	P	**Pn**	**20**	**14**	**36.9**	**+1.0**
	75nm,0.7s,763nm								
MASI	**Maura Aman, Be**	**10.69**	**121**	P	**Pn**	**20**	**15**	**03.6**	**+1.7**
MNAI	**Manna**	**11.95**	**125**	P	**Pn**	**20**	**15**	**20.5**	**+1.4**
MNAI	**Manna**	**11.95**	**125**	*ePn*	**Pn**	**20**	**15**	**20.6**	**+1.5**
MDSI	**Maura Dua**	**13.03**	**122**	P	**Pn**	**20**	**15**	**35.1**	**+1.1**
LWLI	**Liwa**	**13.22**	**124**	P	**Pn**	**20**	**15**	**38.3**	**+1.7**
PALK	**Pallekele**	**13.26**	**291**	Pn	**Pn**	**20**	**15**	**36.5**	**-0.7**
	0.8nm,0.3s,baz=116,slow=15,SNR=11								
PALK				LR	LR	20 19 43.0			
	comp=Z,72nm,18.9s,baz=116,slow=33								
PALK	**Pallekele**	**13.26**	**291**	*ePn*	**Pn**	**20**	**15**	**36.3**	**-0.8**
KASI	**Kota Agung**	**13.86**	**125**	P	**Pn**	**20**	**14**	**48.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.87**	**19**	Pn	**Pn**	**20**	**16**	**25.6**	**+0.7**
	0.1nm,0.3s,baz=216,slow=13,SNR=9.1								
CISI	**Cisompet, Garu**	**17.73**	**124**	*ePn*	**P**	**20**	**16**	**36.3**	**-0.1**
	28nm,0.6s								
H08S2	**Diego Garcia H**	**22.91**	**244**	T	T	20 42 59.8			
	baz=62,slow=75,SNR=32								
H08S3	**Diego Garcia H**	**22.92**	**244**	T	T	20 43 00.2			
	baz=62,slow=75,SNR=27								
H08S1	**Diego Garcia H**	**22.93**	**244**	T	T	20 43 00.2			
	baz=62,slow=75,SNR=28								
LSA	**Lhasa**	**27.13**	**356**	*eP*	**P**	**20**	**18**	**10.3**	**-1.9**
	6.3nm,0.6s								
MK01	**Makanchi Array**	**45.11**	**349**	*eP*	**P**	**20**	**20**	**44.6**	**-0.1**
MK31	**Makanchi Array**	**45.13**	**349**	*eP*	**P**	**20**	**20**	**45.0**	**+0.1**
MK32	**Makanchi Array**	**45.13**	**349**	*eP*	**P**	**20**	**20**	**45.5**	**+0.6**
MKAR	**Makanchi Array**	**45.13**	**349**	P	**P**	**20**	**20**	**45.5**	**+0.6**
	1.3nm,0.6s,baz=170,slow=8.8,SNR=22								
WR1	**Warramunga Arr**	**46.17**	**121**	*eP*	**P**	**20**	**20**	**53.9**	**+0.4**
	6.8nm,0.7s								
WRA	**Warramunga Arr**	**46.17**	**121**	P	**P**	**20**	**20**	**53.9**	**+0.4**
	1.6nm,0.7s,baz=301,slow=8.8,SNR=13								
WRAB	**Tennant Creek**	**46.18**	**121**	*eP*	**P**	**20**	**20**	**53.1**	**-0.5**
	1.0nm,0.5s								
ASAR	**Alice Springs**	**47.43**	**126**	P	**P**	**20**	**21**	**03.5**	**+0.1**
	0.4nm,0.5s,baz=294,slow=7.5,SNR=7.4								
GEYT	**Alibeck**	**47.67**	**322**	P	**P**	**20**	**21**	**05.7**	**+0.7**
	2.2nm,0.8s,baz=142,slow=7.4,SNR=6.1								
KURBB	**Kurchatov Arra**	**49.53**	**348**	P	**P**	**20**	**21**	**19.2**	**+0.2**
	0.8nm,0.7s,baz=169,slow=6.8,SNR=9.1								
KURK	**Kurchatov**	**49.60**	**348**	*eP*	**P**	**20**	**21**	**19.2**	**-0.3**
ZALV	**Zalesovo Beam**	**51.75**	**354**	P	**P**	**20**	**21**	**36.4**	**+0.7**
	1.5nm,0.4s,baz=179,slow=7.3,SNR=9.5								
ZALV	**Zalesovo Beam**	**51.75**	**354**	*eP*	**P**	**20**	**21**	**34.3**	**-1.4**
ZAA1	**Zalesovo Array**	**51.76**	**354**	*eP*	**P**	**20**	**21**	**36.4**	**+0.7**
AB31	**Akbulak array**	**54.52**	**334**	*eP*	**P**	**20**	**21**	**54.8**	**-1.4**
ABKAR	**Akbulak array**	**54.52**	**334**	*eP*	**P**	**20**	**21**	**55.0**	**-1.2**
STKA	**Stephens Creek**	**57.25**	**131**	P	**P**	**20**	**22**	**16.5**	**+0.3**
	1.1nm,0.6s,baz=295,slow=8.2,SNR=5.2								
STKA	**Stephens Creek**	**57.25**	**131**	*eP*	**P**	**20**	**22**	**14.8**	**-1.3**
	1.2nm,1.3s								
GERES	**GERESS Array B**	**81.17**	**319**	P	**P**	**20**	**24**	**46.1**	**+1.9**
	0.2nm,0.5s,baz=90,slow=5.9,SNR=3.2								
TXAR	**Lajitas Array**	**144.51**	**26**	PKP	**PKPdf**	**20**	**32**	**05.9**	**+0.2**
	0.4nm,1.0s,baz=15,slow=3.7,SNR=2.8								

*NIED **25** 20:14:00, 20°.10N×121°.70E, h32km, Mw3.8 Best double couple: M0:6.45000×10^14 NP1:φs34.00000°, δ72.00000°, λ173.00000°. NP2:φs126.00000°, δ83.00000°, λ18.00000°.*
*IDC **25** 20:14:00.5±0.6, 19°.82N×121°.44E, h0km, mb4.0/18, mb1 4.1/20, mb1mx3.9/71, mbtmp4.1/20, ML3.9/2, MS3.3/9, Ms1 3.3/9, ms1mx2.9/65, Error ellipse: s-maj=20.1km s-min=12.6km az=81.0*
*ISCJB **25** 20:14:04.2±0.5, 19°.91N±0°.04×121°.58E±0°.08, h40km, mb4.0/19, MS3.4/7, Error ellipse: s-maj=11.2km s-min=4.6km az=25.8*
*NEIC **25** 20:14:05.4±0.4, 19°.83N×121°.48E, h35km, mb4.1/1, Error ellipse: s-maj=11.3km s-min=7.6km az=93.0*
*JMA **25** 20:14:08.0±0.4, 20°.05N×121°.72E, h105km, M3.8*

ISC 25 20:14:05.9±0.6, **19°.88N**±0°.07×**121°.48E**±0°.10, **h40**km, **n44**, σ1§**50**/39, **mb4.1**/19, **MS3.5**/7, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**4.68**	**27**	P	**Pn**	**20**	**15**	**14.3**	**+0.3**
HATJ				S	**Sn**	**20**	**16**	**05.6**	**-1.5**
JYNG	**Yonagunijimaku**	**4.75**	**16**	P	**Pn**	**20**	**15**	**15.0**	**+0.1**
JYNG				eS	**Sn**	**20**	**16**	**07.2**	**-1.5**
YOJ	**Yonaguni jima**	**4.77**	**17**	*ePn*	**Pn**	**20**	**15**	**12.7**	**-2.5**
IRIF	**Iriomote-Funau**	**4.90**	**25**	P	**Pn**	**20**	**15**	**17.3**	**+0.3**
IRIF				S	**Sn**	**20**	**16**	**11.4**	**-1.0**
JKRS	**Kuro-shima**	**4.93**	**28**	P	**Pn**	**20**	**15**	**17.9**	**+0.5**
JKRS				*eS*	**Sn**	**20**	**16**	**12.0**	**-1.2**
JIJ	**Ishigaki jima**	**5.10**	**29**	P	**Pn**	**20**	**15**	**19.7**	**0.0**
JIJ				S	**Sn**	**20**	**16**	**16.3**	**-1.1**
JISG	**Ishigakijimahi**	**5.37**	**29**	P	**Pn**	**20**	**15**	**23.0**	**-0.4**
JISG				*eS*	**Sn**	**20**	**16**	**22.4**	**-1.6**
JTJ	**Tarama**	**5.60**	**32**	S	**Sn**	**20**	**16**	**28.8**	**-0.9**
JOW	**Kunigami**	**9.32**	**41**	Pn	**Pn**	**20**	**16**	**18.4**	**+0.8**
	2.8nm,0.3s,baz=354,slow=15,SNR=9.8								
JOW				Sn	**Sn**	**20**	**17**	**57.0**	**-4.2**
	0.6nm,0.3s,baz=184,slow=19,SNR=2.0								
DAV	**Davao City (W)**	**13.34**	**162**	LR	LR	20 22 07.8			
	comp=Z,57nm,20.9s,baz=340,slow=37								
JNU	**Nakatsue**	**15.63**	**31**	LR	LR	20 24 31.5			
	comp=Z,39nm,18.4s,baz=114,slow=40								
KSAR	**Wonju Array Be**	**18.37**	**16**	P	**Pn**	**20**	**18**	**18.3**	**+0.9**
KSRS	**Korea Array**	**18.39**	**16**	P	**Pn**	**20**	**18**	**18.3**	**+0.6**
	0.3nm,0.3s,baz=199,slow=11,SNR=5.5								
CHTO	**Chiang Mai**	**21.29**	**271**	P	**P**	**20**	**18**	**43.6**	**-5.6**
CMAR	**Chiang Mai Arr**	**21.33**	**270**	P	**P**	**20**	**18**	**49.2**	**-0.4**
	0.7nm,0.7s,baz=71,slow=9.6,SNR=5.9								
CMAR				LR	LR	20 27 17.3			
	comp=Z,40nm,18.0s,baz=90,slow=37								
MJAR	**Matsushiro Arr**	**22.14**	**38**	P	**P**	**20**	**18**	**59.0**	**+0.8**
	1.6nm,0.8s,baz=236,slow=10,SNR=4.5								
GUMO	**Guam**	**23.24**	**102**	LR	LR	20 26 28.4			
	comp=Z,47nm,21.5s,baz=246,slow=32								
USRK	**Ussuriysk Ar.**	**25.79**	**18**	P	**P**	**20**	**19**	**33.4**	**+0.4**
	1.1nm,0.5s,baz=194,slow=5.3,SNR=2.7								
ASAJ	**Asahikawa**	**29.91**	**31**	P	**P**	**20**	**20**	**11.0**	**+1.2**
	1.6nm,0.7s,baz=225,slow=10.0,SNR=5.5								
BATI	**Baumata**	**29.98**	**176**	P	**P**	**20**	**20**	**10.4**	**-0.4**
	7.2nm,0.6s,baz=21,slow=8.6,SNR=3.4								
SONM	**Songino Array**	**30.45**	**340**	P	**P**	**20**	**20**	**15.9**	**+1.1**
	0.6nm,0.7s,baz=151,slow=9.6,SNR=6.0								
SONM				LR	LR	20 34 51.3			
	comp=Z,46nm,18.1s,baz=142,slow=41								
TLY	**Talaya**	**34.68**	**340**	P	**P**	**20**	**20**	**52.7**	**+1.1**
	1.5nm,0.3s,baz=158,slow=11,SNR=6.3								
WRAB	**Tennant Creek**	**41.53**	**162**	*eP*	**P**	**20**	**21**	**47.9**	**-1.7**
	2.2nm,0.5s								
WRA	**Warramunga Arr**	**41.54**	**162**	P	**P**	**20**	**21**	**49.2**	**-0.4**
	4.2nm,0.6s,baz=343,slow=9.0,SNR=17								
MKAR	**Makanchi Array**	**41.68**	**319**	P	**P**	**20**	**21**	**50.6**	**0.0**
	0.6nm,0.8s,baz=126,slow=8.8,SNR=3.1								
H11S3	**WAKE ISLAND Hy**	**42.62**	**84**	T	T	21 07 35.4			
	baz=280,slow=74,SNR=11								
H11N1	**WAKE ISLAND Hy**	**42.63**	**82**	T	T	21 07 37.0			
	baz=278,slow=75,SNR=20								
H11N2	**WAKE ISLAND Hy**	**42.63**	**82**	T	T	21 07 37.2			
	baz=278,slow=75,SNR=12								
H11S1	**WAKE ISLAND Hy**	**42.63**	**84**	T	T	21 07 37.0			
	baz=280,slow=74,SNR=6.3								
H11S2	**WAKE ISLAND Hy**	**42.64**	**84**	T	T	21 07 35.7			
	baz=280,slow=74,SNR=5.4								
H11N3	**WAKE ISLAND Hy**	**42.65**	**82**	T	T	21 07 38.2			
	baz=278,slow=75,SNR=12								
PETK	**Petropavlovsk-**	**43.33**	**31**	P	**P**	**20**	**22**	**04.0**	**+0.2**
	3.1nm,0.8s,baz=213,slow=5.6,SNR=3.5								
ZALV	**Zalesovo Beam**	**44.03**	**329**	P	**P**	**20**	**22**	**09.0**	**-0.5**
	1.1nm,0.6s,baz=131,slow=8.0,SNR=4.3								
ASAR	**Alice Springs**	**44.95**	**164**	P	**P**	**20**	**22**	**17.2**	**+0.1**
	2.0nm,0.3s,baz=340,slow=6.5,SNR=39								
KURK	**Kurchatov**	**45.61**	**323**	P	**P**	**20**	**22**	**22.0**	**-0.1**
KURBB	**Kurchatov Arra**	**45.62**	**323**	P	**P**	**20**	**22**	**22.0**	**-0.2**
	0.4nm,0.4s,baz=117,slow=7.8,SNR=5.9								
STKA	**Stephens Creek**	**54.96**	**159**	P	**P**	**20**	**23**	**33.0**	**0.0**
	1.9nm,0.7s,baz=359,slow=5.8,SNR=6.1								
GEYT	**Alibeck**	**57.27**	**303**	LR	LR	20 50 34.6			
	comp=Z,42nm,20.4s,baz=300,slow=38								
KBZ	**Khabaz**	**68.41**	**310**	P	**P**	**20**	**25**	**05.0**	**+1.4**
	0.8nm,0.7s,baz=76,slow=12,SNR=2.9								
SPITS	**Spitsbergen Ar**	**73.72**	**348**	P	**P**	**20**	**25**	**36.1**	**+0.8**
	6.2nm,0.9s,baz=32,slow=5.6,SNR=3.1								
SPITS				LR	LR	21 04 08.6			
	comp=Z,23nm,19.1s,baz=345,slow=41								
FINES	**FINESS Array B**	**75.29**	**330**	P	**P**	**20**	**25**	**45.7**	**+1.2**
	3.9nm,1.1s,baz=41,slow=4.6,SNR=2.8								
HFS	**Hagfors**	**81.44**	**331**	LR	LR	21 08 20.4			
	comp=Z,55nm,18.4s,baz=22,slow=40								
NOA	**NORSAR Array B**	**82.14**	**333**	LR	LR	21 06 48.1			
	comp=Z,36nm,18.1s,baz=265,slow=38								
YKA	**Yellowknife Ar**	**86.81**	**23**	P	**P**	**20**	**26**	**45.9**	**+0.1**
	1.1nm,0.6s,baz=309,slow=4.7,SNR=27								

*ISCJB **25** 20:20:41.1±0.5, 1°.36N±0°.05×128°.15E±0°.06, h134km, mb3.6/11, Error ellipse: s-maj=8.7km s-min=6.7km az=8.2*
*DJA **25** 20:20:41.6±0.9, 1°.N±5°.×12°.8E±°, h124km±6km, M4.1/7, mB4.8/1, mb4.4/6, MLv3.9/7, Mw(mB)4.1/1*
*IDC **25** 20:20:42.3±0.8, 1°.35N×128°.13E, h134km±7km, mb3.4/11, mb1 3.6/11, mb1mx3.3/55, mbtmp3.8/11, Error ellipse: s-maj=56.1km s-min=11.3km az=71.0*

ISC 25 20:20:42.4±0.6, **1°.34N**±0°.07×**128°.13E**±0°.09, **h134**km, **n28**, σ0§**94**/35, **mb3.6**/11, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.07**	**198**	P	**Pn**	**20 21 17.2**	**-0.2**
LBMI				S	**Sn**	**20 21 45.6**	**+1.3**
SANI	**Sanana**	**4.00**	**212**	P	**Pn**	**20 21 40.6**	**-1.6**
KMSI	**Cibinong**	**4.22**	**260**	P	**Pn**	**20 21 45.1**	**-0.1**
KMSI				S	**Sn**

AAGR				*e*S		**Sn**	20 27 14.5	+1.0
RCDM	**Rinconada Maip**	**2.23**	**193**	*e*P		**Pn**	20 26 45.0	-3.0
RCDM				*e*S		**Sn**	20 27 11.7	-4.0
LCO	**Las Campanas**	**2.32**	**350**	*e*P		**Pn**	20 26 49.3	-0.1
LCO				⇓*e*S		**Sn**	20 27 17.9	-0.2
LCO	**Las Campanas**	**2.32**	**350**	*e*P		**Pn**	20 26 49.1	-0.3
LCO				*e*S		**Sn**	20 27 17.5	-0.6
AGUA	**GUANDACOL**	**2.35**	**40**	*e*P		**Pn**	20 26 50.0	+0.5
AGUA				*e*S		**Sn**	20 27 17.9	-0.5
ACAN	**Cantantal**	**2.76**	**111**	*e*P		**Pn**	20 26 54.2	-0.6
VCA	**Vinchina**	**3.10**	**35**	*e*P		**Pn**	20 26 59.4	**0.0**
VCA				*e*S		**Sn**	20 27 38.5	+2.5
VCA				IAML			20 27 44.9	
	comp=Z,30nm,0.3s							

*NNC **25** 20:26:56.1±0.9, 43.°61N×80.°01E, h0km, mb2.6, mpv2.1, Error ellipse: s-maj=18.7km s-min=3.6km az=136.0*
*SOME **25** 20:26:56.7, 43.°17N×80.°12E, h20km*
*KRNET **25** 20:26:58.0±0.1, 43.°22N×80.°03E, h6km, mb2.3*
*ISCJB **25** 20:26:59.6±0.9, 43.°29N±0.°04×80.°08E±0.°06, h10km, Error ellipse: s-maj=6.9km s-min=5.0km az=23.2*

ISC 25 20:26:58.8±1.3, **43.°30N**±0.°04×**79.°98E**±0.°06, **h10**km, **n30,** σ1§**34**/57, **17C-10D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.35**	**274**	⇓P		**Pg**		**20 27 05.6**	**-0.2**
	0.8nm,0.2s								
PDGK				⇑S		**Sg**		**20 27 12.0**	**+1.5**
	22nm,0.3s								
PDGK	**Podgornoye**	**0.35**	**274**	⇑*i*P		**Pg**		**20 27 05.7**	**-0.2**
	baz=86								
PDGK				⇑*i*S		**Sg**		**20 27 12.1**	**+1.5**
	baz=86								
UZB	**Uzynbulak**	**0.71**	**258**	*e*P		**Pg**		**20 27 11.3**	**-1.2**
	5.4nm,0.2s								
UZB				*e*S		**Sg**		**20 27 22.0**	**+0.1**
	27nm,0.1s								
KPKS	**Kokpek**	**0.95**	**280**	*e*P		**Pg**		**20 27 16.0**	**-1.1**
	1.8nm,0.1s								
KPKS				*e*S		**Sg**		**20 27 29.9**	**+0.3**
	51nm,0.5s								
SATY	**Saty**	**1.17**	**259**	⇑*i*P		**Pb**		**20 27 19.7**	**-1.5**
	11nm,0.1s								
SATY				*e*S		**Sb**		**20 27 36.3**	**-0.2**
	67nm,0.1s								
KURS	**Kuram**	**1.33**	**279**	⇓*i*P		**Pn**		**20 27 23.2**	**-0.2**
	0.9nm,0.4s								
KURS				⇑*i*S		**Sg**		**20 27 42.4**	**+1.0**
	5.2nm,0.4s								
KURS	**Kuram**	**1.33**	**279**	⇓*i*P		**Pn**		**20 27 23.3**	**-0.2**
	baz=82								
KURS				⇑*i*S		**Sg**		**20 27 42.5**	**+1.0**
	baz=82								
MNBS	**Baschi**	**1.38**	**305**	*e*P		**Pn**		**20 27 23.9**	**-0.3**
	6.5nm,0.2s								
MNBS				*e*S		**Sg**		**20 27 43.7**	**+0.5**
	75nm,0.3s								
MNBS	**Baschi**	**1.38**	**305**	*e*P		**Pn**		**20 27 23.9**	**-0.3**
	baz=5.0								
MNBS				*e*S		**Sg**		**20 27 43.7**	**+0.5**
	baz=5.0								
PRZ	**Przheval'sk**	**1.42**	**235**	⇑*i*P		**Pb**		**20 27 24.9**	**-0.5**
	baz=39								
PRZ				⇑*i*S		**Sg**		**20 27 45.0**	**+0.6**
	baz=39								
ARXS	**Arharly**	**1.80**	**301**	*e*P		**Pb**		**20 27 31.0**	**-0.9**
	3.1nm,0.3s								
ARXS				*e*S		**Sg**		**20 27 56.4**	**-0.3**
	21nm,0.2s								
KAPS	**Kapalarasan**	**2.03**	**348**	*e*P		**Pb**		**20 27 35.0**	**-0.8**
	2.8nm,0.4s								
KAPS				*e*S		**Sg**		**20 28 02.7**	**-1.3**
	14nm,0.3s								
TDK	**Taldyqorghan**	**2.04**	**327**	*e*P		**Pb**		**20 27 35.4**	**-0.5**
	8.7nm,0.1s								
TDK				*e*S		**Sg**		**20 28 03.8**	**-0.5**
	57nm,0.4s								
KOTS	**Kotyrbulak**	**2.09**	**269**	*e*P		**Pb**		**20 27 36.3**	**-0.5**
	2.3nm,0.2s								
KOTS				*e*S		**Sb**		**20 28 04.7**	**+1.7**
	9.1nm,0.3s								
MDOK	**Medeo**	**2.14**	**267**	⇓Pg		**Pb**		**20 27 36.5**	**-1.2**
	0.7nm,0.4s								
MDOK				Lg		Lg		20 28 07.4	
	3.8nm,0.6s								
MDOK	**Medeo**	**2.14**	**267**	*e*P		**Pb**		**20 27 36.5**	**-1.2**
	1.1nm,0.1s								
MDOK				*e*S		**Sb**		**20 28 06.0**	**+1.6**
	8.9nm,0.4s								
MDOK	**Medeo**	**2.14**	**267**	*e*P		**Pb**		**20 27 36.6**	**-1.2**
	baz=70								
MDOK				*e*S		**Sb**		**20 28 06.1**	**+1.6**
	baz=70								
TNSS	**Tian-Shan**	**2.23**	**264**	*e*P		**Pb**		**20 27 37.8**	**-1.6**
	1.6nm,0.2s								
TNSS				*e*S		**Sb**		**20 28 07.9**	**+0.7**
	6.8nm,0.3s								
CHKK	**Chushkaly**	**2.24**	**285**	*e*P		**Pb**		**20 27 38.1**	**-1.2**
	1.0nm,0.2s								
CHKK				*e*S		**Sb**		**20 28 08.3**	**+1.3**
	11nm,0.2s								
TARG	**Taragay, Kyrgy**	**2.25**	**226**	⇑*i*P		**Pn**		**20 27 37.7**	**+1.3**
	baz=29								
TARG				⇑*i*S		**Sb**		**20 28 07.8**	**+0.1**
	baz=29								
KDJ	**Kajisay**	**2.37**	**241**	⇑*e*P		**Pb**		**20 27 40.3**	**-1.3**
	baz=43								
KDJ				⇑*i*S		**Sb**		**20 28 11.0**	**0.0**
	baz=43								
KTBS	**Karatobe**	**2.43**	**281**	*e*P		**Pb**		**20 27 41.5**	**-1.1**
	1.2nm,0.4s								
KTBS				*e*S		**Sb**		**20 28 14.0**	**+1.4**
	12nm,0.6s								
IZV	**Izvestkoviy**	**2.47**	**265**	*e*P		**Pb**		**20 27 42.2**	**-1.2**
	4.1nm,0.5s								
IZV				*e*S		**Sb**		**20 28 15.6**	**+1.6**
	11nm,0.5s								
ULHL	**Ulahol**	**2.94**	**250**	⇓*e*P		**Pb**		**20 27 48.5**	**-2.9**
	baz=52								
ULHL				⇓*i*S		**Sb**		**20 28 25.9**	**-1.7**
	baz=52								
KST	**Kastek**	**2.95**	**266**	*e*P		**Pb**		**20 27 50.4**	**-1.1**
	0.6nm,0.1s								
KST				⇑*i*S		**Sb**		**20 28 29.7**	**+2.2**
	3.8nm,0.4s								
DGS	**Degeres**	**3.07**	**270**	*e*P		**Pb**		**20 27 51.8**	**-1.7**
	0.5nm,0.4s								
DGS				*e*S		**Sb**		**20 28 31.9**	**+0.8**
	5.4nm,0.6s								
BOOM	**Boomskoye usch**	**3.07**	**256**	⇑*i*P		**Pn**		**20 27 50.3**	**+2.8**
	baz=58								
BOOM				⇑*i*S		**Sb**		**20 28 29.3**	**-2.0**
	baz=58								
TKM2	**Tokmak 2**	**3.23**	**265**	⇓*e*P		**Pn**		**20 27 52.3**	**+2.6**
	baz=66								
TKM2				⇓*i*S		**Sb**		**20 28 33.0**	**-2.7**
	baz=66								
MAKZ	**Makanchi**	**3.78**	**21**	⇑Pg		**Pn**		**20 27 58.5**	**+1.4**
	1.4nm,1.3s								
MAKZ				⇑Lg		Lg		20 28 48.1	
	0.8nm,0.6s								
MK31	**Makanchi Array**	**3.86**	**24**	⇓Pg		**Pn**		**20 27 59.7**	**+1.5**
	0.3nm,0.6s,baz=208,slow=16,SNR=7.9								
MK31				⇓Lg		Lg		20 28 50.9	
	0.3nm,0.2s,baz=202,slow=27,SNR=6.6								

*IDC **25** 20:30:24.7±8.0, 32.°33S×179.°55E, h350km±92km, mb3.1/2, mb1 3.4/3, mb1mx3.0/41, mbtmp3.9/3, Error ellipse: s-maj=105.1km s-min=42.8km az=3.0*
*WEL **25** 20:30:30.3±1.1, 33.°S±22.°×17.°9E±5.°5, h394km±26km*

ISC 25 20:30:28.9±2.0, **32.°5S**±0.°1×**179.°1E**±0.°3, **h372**km, **n40,** σ0§**87**/41, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.06**	**187**	P			**Pn**	**20 31 50.4**	**+0.4**
HAZ	**Te Kaha**	**5.32**	**191**	P			**Pn**	**20 31 52.6**	**-0.1**
HAZ	**Te Kaha**	**5.32**	**191**	S			**S**	**20 33 00.8**	**-0.1**
URZ	**Urewera**	**5.93**	**195**	P			**Pn**	**20 31 59.7**	**+0.2**
	3.0nm,0.3s,baz=266,slow=5.8,SNR=9.4								
URZ				S			**S**	**20 33 12.8**	**-0.5**
	7.6nm,0.3s,baz=96,slow=21,SNR=13								
RAGZ	**Rawiri**	**6.10**	**192**	P			**Pn**	**20 32 02.8**	**+1.3**
RAGZ	**Rawiri**	**6.10**	**192**	S			**S**	**20 33 17.2**	**+0.3**
MUGZ	**Murupara**	**6.22**	**197**	P			**Pn**	**20 32 05.1**	**+2.3**
RIGZ	**Rimuhau**	**6.25**	**189**	P			**Pn**	**20 32 05.2**	**+2.0**
RIGZ	**Rimuhau**	**6.25**	**189**	S			**S**	**20 33 20.1**	**+0.1**
MTHZ	**Maungataniwha**	**6.56**	**195**	P			**P**	**20 32 08.3**	**+0.6**
MTHZ	**Maungataniwha**	**6.56**	**195**	S			**S**	**20 33 25.0**	**-1.3**
RAHZ	**Arahi**	**6.57**	**194**	P			**P**	**20 32 07.2**	**-0.6**
RAHZ	**Arahi**	**6.57**	**194**	S			**S**	**20 33 26.8**	**+0.3**
MRHZ	**Matea Rd**	**6.64**	**198**	P			**P**	**20 32 08.3**	**-0.4**
NMHZ	**Naumai**	**6.80**	**195**	P			**P**	**20 32 10.3**	**-0.2**
NMHZ	**Naumai**	**6.80**	**195**	S			**S**	**20 33 33.6**	**+2.2**
ARHZ	**Aropaoanui**	**6.92**	**193**	P			**P**	**20 32 11.2**	**-0.7**
ARHZ	**Aropaoanui**	**6.92**	**193**	S			**S**	**20 33 34.5**	**+0.7**
BKZ	**Black Stump Fm**	**6.94**	**197**	P			**Pn**	**20 32 11.1**	**+0.1**
BKZ	**Black Stump Fm**	**6.94**	**197**	S			**S**	**20 33 34.6**	**+0.3**
PRHZ	**Porangahau**	**7.96**	**193**	P			**Pn**	**20 32 23.1**	**+0.3**
DVHZ	**Dannevirke**	**8.09**	**196**	P			**Pn**	**20 32 24.1**	**-0.2**
ANWZ	**Angora Road**	**8.18**	**194**	P			**P**	**20 32 26.1**	**-0.9**
ANWZ	**Angora Road**	**8.18**	**194**	S			**S**	**20 34 00.4**	**-0.1**
PRWZ	**Pori Road**	**8.38**	**196**	P			**P**	**20 32 28.3**	**-0.9**
BFZ	**Birch Farm**	**8.44**	**195**	P			**Pn**	**20 32 27.9**	**-0.5**
MRZ	**Mangatainoka R**	**8.58**	**198**	P			**Pn**	**20 32 28.6**	**-1.3**
TIWZ	**Tintock**	**8.61**	**196**	P			**Pn**	**20 32 30.6**	**+0.2**
HOWZ	**Holdsworth Sta**	**8.82**	**198**	P			**Pn**	**20 32 32.0**	**-0.8**
OGWZ	**Otaki Gorge**	**8.84**	**200**	P			**Pn**	**20 32 32.5**	**-0.5**
TMWZ	**Te Maipa**	**8.93**	**196**	P			**Pn**	**20 32 34.0**	**-0.1**
KIW	**Kapiti Island**	**8.95**	**201**	P			**Pn**	**20 32 34.2**	**-0.2**
MTW	**Mount Morrison**	**9.07**	**197**	P			**Pn**	**20 32 35.4**	**-0.3**
TRWZ	**Traveller**	**9.25**	**196**	P			**Pn**	**20 32 37.7**	**-0.1**
MSWZ	**Moikau Station**	**9.37**	**198**	P			**Pn**	**20 32 39.2**	**-0.2**
TCW	**Tory Channel**	**9.47**	**202**	P			**Pn**	**20 32 39.6**	**-0.8**
PLWZ	**Palliser**	**9.52**	**197**	P			**Pn**	**20 32 40.5**	**-0.5**
ASAR	**Alice Springs**	**40.54**	**271**	P			**P**	**20 37 34.1**	**+0.4**
	0.7nm,0.7s,baz=101,slow=7.2,SNR=7.8								
WRA	**Warramunga Arr**	**41.73**	**276**	P			**P**	**20 37 44.4**	**+1.1**
	1.2nm,0.4s,baz=114,slow=7.9,SNR=49								
FINES	**FINESS Array B**	**146.19**	**337**	PKPbc			**PKPdf**	**20 49 22.4**	**-1.2**
	0.3nm,0.5s,baz=66,slow=1.7,SNR=5.6								

*ISCJB **25** 20:35:43.0±0.3, 44.°50N±0.°02×6.°68E±0.°03, h10km±4km, Error ellipse: s-maj=3.4km s-min=2.3km az=141.1*
*GEN **25** 20:35:43.8, 44.°50N×6.°67E, h7km, ML1.4*
*CSEM **25** 20:35:43.6±0.1, 44.°51N×6.°69E, h10km, ML2.2/16, Error ellipse: s-maj=1.4km s-min=1.1km az=48.0*
*LDG **25** 20:35:44.1±0.1, 44.°52N×6.°70E, h2km, Md2.6/1, Ml2.3/9, Error ellipse: s-maj=1.4km s-min=1.0km az=57.0*
*STR **25** 20:35:44.4±0.2, 44.°55N±0.°01×6.°72E±0.°01, h5km, MLv2.4/11*
*ROM **25** 20:35:44.3±0.3, 44.°53N×6.°76E, h10km±2km, Md2.1/11, Ml1.4/10, Error ellipse: s-maj=3.1km s-min=1.4km az=66.0*

ISC 25 20:35:44.0±0.9, **44.°51N**±0.°02×**6.°71E**±0.°02, **h11**km±8km, **n61,** σ0§**56**/105, **France**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.22**	**12**	*e*Pg			**Pg**	**20 35 48.7**	**-0.1**
MBDF				*e*Sg			**Sg**	**20 35 51.5**	**-0.6**
	103nm,0.5s								
MBDF	**Montbardon**	**0.22**	**12**	*e*Pg			**Pg**	**20 35 48.7**	**-0.1**
MBDF				*e*Sg			**Sg**	**20 35 51.5**	**-0.6**
	51nm,0.5s								
PZZ	**Stroppo**	**0.29**	**90**	Pg			**Pg**	**20 35 50.1**	**+0.1**
PZZ				Sg			**Sg**	**20 35 54.7**	**+0.7**
	81nm,0.1s								
OG22	**Abries**	**0.36**	**28**	Pg			**Pg**	**20 35 50.4**	**-0.8**
OG22				Sg			**Sg**	**20 35 55.5**	**-0.5**
OG22	**Abries**	**0.36**	**28**	Pg			**Pg**	**20 35 50.4**	**-0.8**
DOI	**San Damiano**	**0.39**	**90**	Pg			**Pg**	**20 35 51.9**	**+0.2**
DOI				Sg			**Sg**	**20 35 57.6**	**+0.7**
	23nm,0.2s								
DOI	**San Damiano**	**0.39**	**90**	Pg			**Pg**	**20 35 51.9**	**+0.2**
DOI				Sg			**Sg**	**20 35 57.6**	**+0.7**
	23nm,0.2s								
RRL	**Rocca Remolon**	**0.42**	**8**	Pg			**Pg**	**20 35 52.2**	**-0.1**
RRL				S			**Sg**	**20 35 58.3**	**+0.4**
RRL	**Rocca Remolon**	**0.42**	**8**	Pg			**Pg**	**20 35 52.2**	**-0.1**
RRL				Sg			**Sg**	**20 35 58.4**	**+0.5**
	32nm,0.3s								
STV	**Sant Anna di V**	**0.52**	**120**	P			**Pg**	**20 35 54.2**	**+0.1**
STV				Sg			**Sg**	**20 36 00.8**	**-0.1**
	22nm,0.3s								
STV	**Sant Anna di V**	**0.52**	**120**	Pg			**Pg**	**20 35 54.2**	**+0.1**
STV				Sg			**Sg**	**20 36 00.8**	**-0.1**
	22nm,0.3s								
BHB	**Bricherasio**	**0.52**	**50**	Pg			**Pg**	**20 35 54.1**	**0.0**
BHB				Sg			**Sg**	**20 36 00.8**	**-0.2**
	29nm,0.2s								
BHB	**Bricherasio**	**0.52**	**50**	Pg			**Pg**	**20 35 54.1**	**0.0**
BHB				Sg			**Sg**	**20 36 00.8**	**-0.2**
	29nm,0.2s								
BNI	**Bardonecchia**	**0.54**	**358**	Pg			**Pg**	**20 35 54.5**	**-0.1**
BNI				Sg			**Sg**	**20 36 02.1**	**+0.2**
	5.0nm,0.3s								
BNI	**Bardonecchia**	**0.54**	**358**	Pg			**Pg**	**20 35 54.5**	**-0.1**
BNI				Sg			**Sg**	**20 36 02.1**	**+0.2**
	5.0nm,0.3s								
ENR	**Entracque**	**0.58**	**119**	Pg			**Pg**	**20 35 55.4**	**0.0**
ENR				Sg			**Sg**	**20 36 03.1**	**0.0**
ENR	**Entracque**	**0.58**	**119**	Pg			**Pg**	**20 35 55.4**	**0.0**
ENR				Sg			**Sg**	**20 36 03.1**	**0.0**
ORIF	**Oris-en-Rattie**	**0.72**	**305**	*e*Pg			**Pg**	**20 35 57.3**	**-0.6**
ORIF				*e*Sg			**Sg**	**20 36 06.8**	**-0.5**
	26nm,0.2s								
ORIF	**Oris-en-Rattie**	**0.72**	**305**	*e*Pg			**Pg**	**20 35 57.3**	**-0.6**
ORIF				*e*Sg			**Sg**	**20 36 06.8**	**-0.5**
	13nm,0.2s								
RSP	**Reno Superiore**	**0.75**	**32**	P			**Pg**	**20 35 58.6**	**0.0**
RSP				Sg			**Sg**	**20 36 08.9**	**+0.4**
RSP	**Reno Superiore**	**0.75**	**32**	Pg			**Pg**	**20 35 58.6**	**0.0**
RSP				Sg			**Sg**	**20 36 08.9**	**+0.4**
GDM	**Grand'Maison**	**0.81**	**329**	Pg			**Pg**	**20 35 59.7**	**0.0**
GDM				Sg			**Sg**	**20 36 09.7**	**-0.6**
GDM	**Grand'Maison**	**0.81**	**329**	Pg			**Pg**	**20 35 59.7**	**0.0**
SBF	**Sospel**	**0.83**	**141**	*e*Pg			**Pg**	**20 35 59.9**	**-0.1**
SBF				*e*Sg			**Sg**	**20 36 11.0**	**+0.1**
	16nm,0.2s								
SBF	**Sospel**	**0.83**	**141**	*e*Pg			**Pg**	**20 35 59.9**	**-0.1**
SBF				*e*Sg			**Sg**	**20 36 11.0**	**+0.1**
	8.1nm,0.2s								
GBOS	**Grotte di Boss**	**0.86**	**108**	Pg			**Pg**	**20 36 00.3**	**-0.2**
	10.0nm,0.2s								
GBOS				S			**Sg**	**20 36 10.6**	**-1.1**
GBOS	**Grotte di Boss**	**0.86**	**108**	Pg			**Pg**	**20 36 00.3**	**-0.2**
	10.0nm,0.2s								
FRF	**La Foret Royal**	**0.95**	**183**	*e*Pg			**Pg**	**20 36 01.9**	**-0.3**
FRF				*e*Sg			**Sg**	**20 36 14.6**	**0.0**
	15nm,0.2s								
FRF	**La Foret Royal**	**0.95**	**183**	*e*Pg			**Pg**	**20 36 01.9**	**-0.3**
FRF				*e*Sg			**Sg**	**20 36 14.6**	**0.0**
	7.6nm,0.2s								
SMRF	**Simiane la Rot**	**0.97**	**237**	*e*Pn			**Pb**	**20 36 03.1**	**+0.3**
SMRF				*e*Sn			**Sb**	**20 36 17.0**	**+1.3**
	5.0nm,0.2s								
SMRF	**Simiane la Rot**	**0.97**	**237**	*e*Pn			**Pb**	**20 36 03.1**	**+0.3**
SMRF				*e*Sn			**Sb**	**20 36 17.0**	**+1.3**
	2.5nm,0.2s								
NEGI	**Seborga**	**0.98**	**132**	Pg			**Pg**	**20 36 02.9**	**+0.1**
NEGI				Sg			**Sg**	**20 36 15.5**	**0.0**
	23nm,0.5s								
NEGI	**Seborga**	**0.98**	**132**	Pg			**Pg**	**20 36 02.9**	**+0.1**
NEGI				Sg			**Sg**	**20 36 15.5**	**0.0**
	23nm,0.5s								
LPG	**La Plagne**	**0.99**	**2**	*e*Pg			**Pg**	**20 36 02.6**	**-0.5**
LPG				*e*Sg			**Sg**	**20 36 15.6**	**-0.4**
	6.1nm,0.3s								
LPG	**La Plagne**	**0.99**	**2**	*e*Pg			**Pg**	**20 36 02.6**	**-0.5**
LPG				*e*Sg			**Sg**	**20 36 15.6**	**-0.4**
	3.0nm,0.3s								
LSD	**Lago del Serru**	**1.00**	**18**	Pg			**Pg**	**20 36 03.4**	**+0.1**
	12nm,0.3s								
LSD	**Lago del Serru**	**1.00**	**18**	Pg			**Pg**	**20 36 03.4**	**+0.1**
	12nm,0.3s								
GRN	**Grenoble**	**1.00**	**317**	Pg			**Pg**	**20 36 02.8**	**-0.5**
GRN				Sg			**Sg**	**20 36 16.6**	**+0.2**
GRN	**Grenoble**	**1.00**	**317**	Pg			**Pg**	**20 36 02.9**	**-0.5**
LPL	**La Plagne**	**1.01**	**1**	*e*Pg			**Pg**	**20 36 03.1**	**-0.3**
LPL				*e*Sg			**Sg**	**20 36 16.5**	**-0.1**
	5.7nm,0.3s								
LPL	**La Plagne**	**1.01**	**1**	*e*Pg			**Pg**	**20 36 03.1**	**-0.3**
LPL				*e*Sg			**Sg**	**20 36 16.5**	**-0.1**
	2.8nm,0.3s								

IMI	**Imperia**	**1.04**	**125**	Pg		**Pg**	**20 36 03.7**	**-0.3**
IMI	**Imperia**	**1.04**	**125**	Pg		**Pg**	**20 36 03.7**	**-0.3**
RORO	**Rocca Rossa**	**1.05**	**112**	Pg		**Pg**	**20 36 03.7**	**-0.5**
	7.0nm,0.3s							
RORO	**Rocca Rossa**	**1.05**	**112**	Pg		**Pg**	**20 36 03.7**	**-0.5**
	7.0nm,0.3s							
LMR	**La Mourre**	**1.18**	**187**	*e*Pg		**Pg**	**20 36 06.5**	**-0.2**
LMR				*e*Sg		**Sg**	**20 36 22.0**	**-0.1**
	9.9nm,0.2s							
LMR	**La Mourre**	**1.18**	**187**	*e*Pg		**Pg**	**20 36 06.5**	**-0.2**
LMR				*e*Sg		**Sg**	**20 36 22.0**	**-0.1**
	4.9nm,0.2s							
VIVF	**Saint-Julien-l**	**1.49**	**284**	*e*Pg		**Pn**	**20 36 11.0**	**+0.3**
VIVF				*e*Sg		**Sn**	**20 36 30.9**	**+0.7**
	6.4nm,0.3s							
VIVF	**Saint-Julien-l**	**1.49**	**284**	*e*Pg		**Pn**	**20 36 11.0**	**+0.3**
VIVF				*e*Sg		**Sn**	**20 36 30.9**	**+0.7**
	3.2nm,0.3s							
LASF	**Ste Croix**	**2.09**	**259**	*e*Pn		**Pn**	**20 36 19.0**	**0.0**
LASF				*e*Sn		**Sn**	**20 36 43.3**	**-1.7**
	0.6nm,0.2s							
LASF	**Ste Croix**	**2.09**	**259**	*e*Pn		**Pn**	**20 36 19.0**	**0.0**
LASF				*e*Sn		**Sn**	**20 36 43.3**	**-1.7**
	0.3nm,0.2s							
LBL	**Lubilhac**	**2.56**	**288**	Pn		**Pn**	**20 36 25.0**	**-0.5**
LBL	**Lubilhac**	**2.56**	**288**	Pg		**Pg**	**20 36 32.7**	**-0.4**
LBL				Sn		**Sn**	**20 36 58.5**	**+1.8**
LBL	**Lubilhac**	**2.56**	**288**	Pn		**Pn**	**20 36 25.1**	**-0.5**
LBL	**Lubilhac**	**2.56**	**288**	Pg		**Pg**	**20 36 32.7**	**-0.4**
PGF	**Pioggiola**	**2.57**	**139**	*e*Pn		**Pn**	**20 36 25.5**	**-0.2**
PGF				*e*Sn		**Sn**	**20 36 55.4**	**-1.6**
	1.6nm,0.2s							
PGF	**Pioggiola**	**2.57**	**139**	*e*Pn		**Pn**	**20 36 25.5**	**-0.2**
PGF				*e*Sn		**Sn**	**20 36 55.4**	**-1.6**
	0.8nm,0.2s							
PLDF	**La Plantade**	**2.62**	**305**	Pn		**Pn**	**20 36 25.8**	**-0.5**
PLDF	**La Plantade**	**2.62**	**305**	Pg		**Pg**	**20 36 34.7**	**+0.5**
PLDF	**La Plantade**	**2.62**	**305**	Pn		**Pn**	**20 36 25.8**	**-0.5**
PLDF	**La Plantade**	**2.62**	**305**	Pg		**Pg**	**20 36 34.8**	**+0.5**

*BJI **25** 20:45:41.7, 18.°60S×168.°69E, h7km, mb4.8/39, mB5.0/23, Ms4.8/7, Ms7 4.5/7*
*MOS **25** 20:45:43.2±1.0, 19.°17S×168.°78E, h33km, mb5.1/31, Error ellipse: s-maj=9.3km s-min=8.5km az=116.3*
*ISCJB **25** 20:45:44.3±1.6, 19.°14S±0.°05×168.°67E±0.°05, h38km±14km, mb4.8/87, MS4.0/28, Error ellipse: s-maj=8.0km s-min=7.4km az=142.6*
*GCMT **25** 20:45:45.7±0.3, 19.°15S×168.°31E, h44km, MW5.0/62, Moment Tensor Solution. s60,c71; s62,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.21±.17; $M_{\theta\theta}$-0.57±.12; $M_{\phi\phi}$-3.64±.12; $M_{r\theta}$-0.17±.12; $M_{\theta\phi}$1.71±.08; $M_{\phi r}$-0.22±.12; Best double couple: $M_0$4.31600×10^{16} NP1:ϕ_s159.00000°, δ46.00000°, λ.95.00000°. NP2: ϕ_s332.00000°, δ44.00000°, λ.85.00000°. Principal axes: T 4.2270, Plg86.0000°, Azm141.0000°; N 0.1800, Plg3.0000°, Azm336.0000°; P -4.4050, Plg1.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 20:45:45.7±0.2, 19.°11S×168.°75E, mb5.0/43 Error ellipse: s-maj=7.0km s-min=6.1km az=140.0*
*IDC **25** 20:45:45.3±0.4, 19.°17S×168.°82E, h40km±3km, mb4.4/32, mb1 4.5/35, mb1mx4.4/49, mbtmp4.6/35, ML4.9/2, MS3.9/28, Ms1 3.9/28, ms1mx3.8/45, Error ellipse: s-maj=11.8km s-min=10.2km az=134.0*

ISC 25 20:45:45.1±0.3, **19.°17S**±0.°06×**168.°87E**±0.°07, **h35**km±2km, **h36**km:**pP-P, n273,** σ1§**18**/268, **mb4.9**/85, **MS4.0**/28, **14C-11D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.68**	**218**				**Pn**	**20 46 38.8**	**-0.7**
	74nm,0.3s,baz=72,slow=19,SNR=265								
DZM							**Sn**	**20 47 19.6**	**-2.1**
	342nm,0.3s,baz=293,slow=23,S

ASAR LR LR 21 05 08.4
comp=Z,26nm,0.7s,baz=86,slow=8.7,SNR=41
comp=Z,556nm,20.3s,baz=100,slow=36
MTN Manton Dam 36.76 274 *e*P **P 20 52 48.4 -1.1**
comp=Z,21nm,0.6s
PPT2 Papeete2 39.40 95 *e*LQ LQ 21 02 22.5
comp=Z,613nm,24.8s
PPT2 *e*LR LR 21 04 07.2
comp=Z,461nm,27.5s
PPT Papeete 39.41 95 LR LR 21 09 43.1
comp=Z,68nm,18.1s,baz=278,slow=36
GUMO Guam 40.23 322 LR LR 21 07 51.2
comp=Z,167nm,19.5s,baz=123,slow=33
FITZ Fitzroy Crossi 40.90 264 P **P 20 53 23.7 -0.5**
comp=Z,9.5nm,0.9s,baz=92,slow=8.9,SNR=15
FITZ pP **pP 20 53 34.5 0.0**
comp=Z,16nm,0.9s,baz=116,slow=7.2,SNR=12
FITZ Fitzroy Crossi 40.90 264 *e*P **P 20 53 23.1 -1.1**
FITZ pP **pP 20 53 34.5 0.0**
BATI Baumata 44.52 275 P **P 20 53 53.3 -0.4**
comp=Z,25nm,0.9s,baz=90,slow=8.1,SNR=7.6
BATI LR LR 21 11 40.0
comp=Z,169nm,21.9s,baz=148,slow=35
MBWA Marble Bar 46.02 259 *e*P **P 20 54 05.1 -0.4**
comp=Z,22nm,1.0s
NWAO Narrogin (SRO) 47.93 243 P **P 20 54 20.2 -0.1**
comp=Z,6.3nm,0.8s,baz=270,slow=20,SNR=2.9
RKT Rikitea 52.26 105 *e*LR LR 21 09 59.6
comp=Z,327nm,31.2s
VNDA Vanda 58.49 182 LR LR 21 17 21.7
comp=Z,96nm,20.5s,baz=18,slow=32
VNDA Vanda 58.49 182 *e*P **P 20 55 35.7 -1.6**
VNDA pmax pmax
comp=Z,7.0nm,1.3s
VNDA Vanda 58.49 182 *e*P **P 20 55 35.7 -1.6**
comp=Z,6.6nm,1.3s
SBA Scott Base 58.73 181 *e*P **P 20 55 40.6 +1.7**
SBA pmax pmax
comp=Z,25nm,1.0s
SBA Scott Base 58.73 181 *e*P **P 20 55 40.6 +1.7**
comp=Z,25nm,1.0s
LEM Lembang 60.66 273 P **P 20 55 52.8 -0.6**
comp=Z,18nm,0.8s,baz=0.0,slow=6.1,SNR=6.4
LEM LR LR 21 20 59.0
comp=Z,72nm,21.9s,baz=82,slow=35
KSM Kuching 61.02 283 *e*P **P 20 55 54.2 -1.4**
comp=Z,14nm,0.9s
MJAR Matsushiro Arr 62.52 332 P **P 20 56 04.4 -0.8**
comp=Z,4.6nm,0.8s,baz=166,slow=7.5,SNR=9.1
MJAR LR LR 21 26 03.6
comp=Z,20nm,18.1s,baz=75,slow=39
MAJO Matsushiro 62.52 332⇓ *e*P **P 20 56 04.9 -0.4**
MAJO pmax pmax
comp=Z,25nm,1.4s
MAT Matsushiro 62.52 332 P **P 20 56 04.3 -1.0**
JNU Nakatsue 63.40 325 P **P 20 56 10.8 -0.4**
comp=Z,10nm,0.9s,baz=68,slow=16,SNR=3.2
JNU LR LR 21 20 12.7
comp=Z,46nm,21.9s,baz=113,slow=33
ASAJ Asahikawa 67.41 340 P **P 20 56 36.9 0.0**
comp=Z,12nm,0.8s,baz=221,slow=6.9,SNR=12
ASAJ Asahikawa 67.41 340 *e*P **P 20 56 37.7 +0.8**
comp=Z,16nm,1.0s
KSRS Korea Array 68.25 326 P **P 20 56 42.5 +0.2**
comp=Z,2.1nm,0.9s,baz=128,slow=8.1,SNR=5.3
KSAR Wonju Array Be 68.26 326 P **P 20 56 42.5 +0.2**
KSAR Wonju Array Be 68.26 326 P **P 20 56 42.5 +0.2**
KS01 Wonju Array Si 68.28 326 *e*P **P 20 56 43.1 +0.7**
YSS Yuzh-Sakhalins 69.90 341⇑ *e*P **P 20 56 53.7 +1.4**
NJ2 Nanjing 69.91 316 *e*P **P 20 56 52.0 -0.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
QSPA South Pole Qui 70.89 180 P **P 20 56 57.8 -0.6**
comp=Z,15nm,1.0s,baz=26,slow=4.1,SNR=24
QSPA pP **pP 20 57 11.0 +1.7**
comp=Z,19nm,0.9s,baz=23,slow=1.9,SNR=12
QSPA LR LR 21 26 42.3
comp=Z,100nm,18.1s,baz=18,slow=35
QSPA South Pole Qui 70.89 180 *e*P **P 20 56 59.0 +0.6**
comp=Z,26nm,1.1s
QSPA pP **pP 20 57 11.0 +1.7**
KULM Kulim 71.37 283 *e*P **P 20 57 01.4 -0.7**
comp=Z,30nm,1.4s
USRK Ussuriysk Ar. 71.51 333 P **P 20 57 02.8 +0.6**
comp=Z,6.5nm,0.9s,baz=110,slow=5.8,SNR=8.8
USRK LR LR 21 25 41.5
comp=Z,32nm,21.0s,baz=180,slow=34
WHN Wuhan 72.04 312⇑ P **P 20 57 05.5 -0.2**
WHN pP **pP 20 57 17.3 +0.7**
PSI Prapat 72.06 280 P **P 20 57 04.3 -2.1**
comp=Z,16nm,1.1s,baz=214,slow=3.6,SNR=8.7
PSI LR LR 21 31 02.8
comp=Z,82nm,20.1s,baz=120,slow=38
PSI Prapat 72.06 280 *e*P **P 20 57 04.9 -1.5**
PSI pmax pmax
comp=Z,18nm,1.0s
PSI Prapat 72.06 280 *e*P **P 20 57 04.9 -1.5**
comp=Z,18nm,1.0s
PETK Petropavlovsk- 72.62 353 P **P 20 57 08.8 +0.1**
comp=Z,5.8nm,0.8s,baz=148,slow=7.5,SNR=9.1
PETK LR LR 21 23 52.5
comp=Z,82nm,21.2s,baz=159,slow=32
GSI Gunungsitoli 72.80 278 *e*P **P 20 57 09.0 -1.7**
comp=Z,32nm,1.0s
SKNT Sakolnakorn 73.19 295 P P 20 57 24.0 +11
CN2 Changchun 74.21 329⇑ P **P 20 57 18.3 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
GRNR Gornyy 75.26 339 *e*P **P 20 57 24.8 +0.6**
GRNR pmax pmax
comp=Z,52nm,1.0s
GYA Guiyang 75.49 305 P **P 20 57 27.3 +1.1**
GYA PP **PP 21 00 18.3 +2.4**
GYA S **S 21 07 09.0 +4.5**
GYA SKS **SKSac 21 07 32.0 -1.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
KLR Kul'dur 75.66 336 *de*P **P 20 57 27.5 +1.0**
NKL Nikolayevsk 76.04 343 *i* P **P 20 57 29.4 +0.9**
NKL pmax pmax
comp=N,8.0nm,0.9s
NKL pmax pmax
comp=Z,33nm,0.9s
PHIT Phitsanulok 76.35 294 P P 20 57 44.1 +13
comp=Z,7.4nm,0.9s
NANT Nan 76.79 295 P P 20 57 46.1 +13
comp=Z,3.3nm,0.8s
LAMP Lampang 77.59 295 P P 20 57 51.0 +13
comp=Z,4.7nm,0.8s,comp=Z,61nm
KMI Kunming 77.94 302 P **P 20 57 41.3 +1.1**
KMI pmax pmax
comp=Z,15nm,1.0s
KMI pmax pmax
comp=Z,33nm,3.1s
KMI LR LR
comp=Z,84nm,29.6s
CM01 Chiang Mai Arr 78.12 294 *e*P **P 20 57 41.5 +0.4**
CMAR Chiang Mai Arr 78.15 294 P **P 20 57 41.9 +0.7**
comp=Z,1.7nm,0.8s,baz=128,slow=4.0,SNR=17
CMAR pP **pP 20 57 53.8 +1.5**
comp=Z,5.3nm,0.8s,baz=132,slow=4.2,SNR=20
CHTO Chiang Mai 78.30 295 P **P 20 57 43.5 +1.5**
comp=Z,53nm,1.2s
CHTO Chiang Mai 78.30 295 *e*P **P 20 57 42.9 +0.8**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 78.30 295 *e*P **P 20 57 42.9 +0.8**
comp=Z,8.3nm,0.8s
MAW Mawson 78.37 202 P **P 20 57 41.6 0.0**
comp=Z,10nm,0.9s,baz=129,slow=3.6,SNR=5.5
MAW pP **pP 20 57 53.4 +0.9**
comp=Z,9.2nm,0.9s,baz=118,slow=5.5,SNR=4.0
MAW LR LR 21 28 52.0
comp=Z,158nm,19.4s,baz=66,slow=33
CMAI Chiengmai2 78.69 296 P **P 20 57 45.5 +1.2**
comp=Z,224nm,1.4s,comp=Z,61µm
MA2 Magadan 79.84 351 P **P 20 57 48.9 -0.6**
comp=Z,4.3nm,0.4s,baz=175,slow=4.1,SNR=8.3
MA2 Magadan 79.84 351 *de*P **P 20 57 49.3 -0.2**
CD2 Chengdu 79.91 308 *e*P **P 20 57 50.5 -0.2**
HHC Hu-ho-hao-te 79.94 320 *e*P **P 20 57 51.5 +0.9**
HHC pmax pmax
comp=Z,21nm,1.4s
HHC pmax pmax
comp=Z,92nm,7.3s

HIA Hailar 80.87 330⇓ *e*P **P 20 57 55.5 +0.1**
HIA pmax pmax
comp=Z,9.0nm,1.3s
ZEA Zeya 80.95 336 *e*P **P 20 57 56.2 +0.6**
ZEA pmax pmax
comp=Z,21nm,1.2s
LZH Lanzhou 82.42 312 *e*P **P 20 58 03.8 -0.2**
LZH pP PcP 20 58 06.0 -3.1
LZH sP pP 20 58 07.8 -7.3
LZH *e*S **S 21 08 17.3 -0.8**
LZH sS SKKSac 21 08 24.0 -2.2
LZH SS **SS 21 13 41.0 +1.0**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,71nm,4.6s
SEY Seymchan 82.85 352 P **P 20 58 05.1 -0.3**
comp=Z,3.7nm,0.9s,baz=166,slow=4.9,SNR=9.3
SEY Seymchan 82.85 352⇓ *e*P **P 20 58 05.6 +0.2**
GAMB Gambell 84.05 9 *e*P **P 20 58 12.1 +0.6**
comp=Z,9.7nm,1.1s
ULN Ulaanbaatar 86.60 324 *c i*P **P 20 58 24.8 -0.1**
ULN pmax pmax
comp=Z,21nm,1.2s
ULN Ulaanbaatar 86.60 324 *e*P **P 20 58 24.6 -0.3**
comp=Z,36nm,1.2s
YAK Yakutsk 86.70 343 *e*P **P 20 58 22.9 -1.9**
YAK pmax pmax
comp=Z,29nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK Yakutsk 86.70 343 *e*P **P 20 58 24.9 +0.1**
comp=N,31nm,0.9s
GTA Gaotai 86.82 314 *e*P **P 20 58 26.5 +0.3**
GTA pP PcP 20 58 30.5 +2.1
GTA sP pP 20 58 33.5 -3.8
GTA pmax pmax
comp=N,6.0nm,1.2s
SONM Songino Array 86.95 323 P **P 20 58 26.4 -0.2**
comp=N,4.6nm,0.9s,baz=144,slow=4.5,SNR=35
SONM pP **pP 20 58 38.3 +0.6**
comp=N,15nm,1.0s,baz=142,slow=5.2,SNR=25
SONM LR LR 21 34 58.6
comp=N,15nm,21.4s,baz=121,slow=34
SONA1 Songino Array 86.95 323 *e*P **P 20 58 26.4 -0.2**
BILL Bilibino 86.97 359 *c i*P **P 20 58 25.9 -0.1**
BILL *i* 20 58 37.2
BILL pmax pmax
comp=Z,16nm,1.0s
WDC Whiskeytown Da 87.06 45 *e*P **P 20 58 27.7 +0.6**
WDC pmax pmax
comp=Z,10.0nm,1.1s
WDC Whiskeytown Da 87.06 45 *e*P **P 20 58 27.7 +0.6**
comp=Z,9.8nm,1.1s
N02D Trinity Center 87.13 45 P **P 20 58 29.1 +1.5**
baz=242
M02C Callahan 87.23 44 P **P 20 58 29.1 +1.1**
baz=242
ORV Oroville 87.28 47 *e*P **P 20 58 29.4 +1.2**
ORV pmax pmax
comp=Z,5.0nm,1.0s
ORV Oroville 87.28 47 *e*P **P 20 58 29.4 +1.2**
comp=Z,4.7nm,1.0s
CMB Columbia Colle 87.37 48 *e*P **P 20 58 29.2 +0.4**
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 87.37 48 *e*P **P 20 58 29.2 +0.4**
comp=Z,4.7nm,0.9s
AFDM Forest Hills D 87.37 47 *e*P **P 20 58 28.9 +0.2**
comp=Z,4.8nm,0.9s
YBH Yreka Blue Hor 87.49 44 P **P 20 58 29.5 +0.3**
comp=Z,3.2nm,0.8s,baz=202,slow=3.9,SNR=8.0
YBH LR LR 21 31 18.5
comp=Z,104nm,18.2s,baz=235,slow=31
YBH Yreka Blue Hor 87.49 44 *e*P **P 20 58 30.5 +1.2**
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH Yreka Blue Hor 87.49 44 *e*P **P 20 58 30.5 +1.2**
comp=Z,5.4nm,1.0s
ISA Isabella, Lake 87.71 51 P **P 20 58 31.6 +1.2**
baz=245
NVAR Mina Array Bea 89.02 49 P **P 20 58 36.5 -0.3**
comp=Z,1.6nm,0.9s,baz=213,slow=6.7,SNR=4.4
NVAR pP **pP 20 58 49.1 +1.2**
comp=Z,0.7nm,0.5s,baz=248,slow=4.8,SNR=1.9
NVAR LR LR 21 31 52.1
comp=Z,99nm,18.6s,baz=90,slow=31
NV01 Mina Array Sit 89.02 49 *e*P **P 20 58 35.6 -1.2**
BOD Bodaibo 89.11 334 *e*P **P 20 58 34.1 -2.3**
BOD pmax pmax
comp=Z,14nm,1.8s
NV11 Mina Array Sit 89.12 49 *e*P **P 20 58 37.6 +0.4**
comp=Z,5.5nm,1.3s
J05D Fort Rock, OR 89.18 43 P **P 20 58 38.3 +1.0**
baz=243
SNAA Sanae 89.22 183 P **P 20 58 36.6 -0.4**
SNAA Sanae 89.22 183 P **P 20 58 36.3 -0.7**
comp=Z,6.2nm,0.8s,baz=199,slow=3.8,SNR=42
SNAA Sanae 89.22 183 *e*P **P 20 58 36.0 -1.0**
comp=Z,24nm,1.4s
H04A Detroit Lake 89.22 42 *e*P **P 20 58 36.6 -0.7**
comp=Z,14nm,1.4s
PINE Pine Mountain 89.60 43 *e*P **P 20 58 40.4 +1.0**
comp=Z,8.9nm,1.0s
BBB Bella Bella 89.61 33 P **P 20 58 39.4 +0.6**
comp=Z,4.3nm,0.9s,baz=232,slow=12,SNR=3.2
BBB LR LR 21 32 09.6
comp=Z,54nm,20.0s,baz=252,slow=31
LPIG La Paz 89.70 64 LR LR 21 30 42.3
comp=Z,127nm,19.9s,baz=232,slow=30
VNA3 Neumayer Olymp 89.82 180 P **P 20 58 39.2 -0.6**
ZAK Zakamensk 90.03 324 *e*P **P 20 58 40.6 -0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
VNA2 Neumayer--Watz 90.11 181 P **P 20 58 40.8 -0.3**
baz=175,slow=3.9
ILAR Eielson Array 90.27 17 P **P 20 58 40.1 -1.6**
comp=Z,1.4nm,0.8s,baz=233,slow=5.1,SNR=18
ILAR LR LR 21 32 27.1
comp=Z,87nm,20.8s,baz=220,slow=31
ILB Eielson Array 90.27 17 *e*P **P 20 58 40.2 -1.5**
VNA1 Neumayer--Stat 90.40 181 P **P 20 58 41.7 -0.7**
TLY Talaya 90.50 326⇓ *e*P **P 20 58 43.0 -0.1**
TLY pmax pmax
comp=Z,3.0nm,0.8s
WVOR Wild Horse Val 90.51 45 *e*P **P 20 58 44.4 +0.8**
WVOR pmax pmax
comp=Z,14nm,1.0s
WVOR Wild Horse Val 90.51 45 *e*P **P 20 58 44.4 +0.8**
comp=Z,14nm,1.0s
D05A Enumclaw 90.52 40 *e*P **P 20 58 44.1 +0.9**
comp=Z,21nm,1.1s
BMN Battle Mountai 90.62 47 *e*P **P 20 58 43.8 -0.3**
BMN pmax pmax
comp=Z,7.0nm,1.0s
BMN Battle Mountai 90.62 47 *e*P **P 20 58 43.8 -0.3**
comp=Z,6.8nm,1.0s
B05A Bryant 90.96 39 P **P 20 58 46.5 +1.2**
baz=242
E07A Sunnyside 91.54 41 *e*P **P 20 58 49.1 +1.0**
comp=Z,8.0nm,1.0s
G08A Pilot Rock 91.54 42 *e*P **P 20 58 48.9 +0.6**
comp=Z,6.6nm,0.9s
HAWA Hanford 91.66 41 *e*P **P 20 58 49.6 +1.0**
comp=Z,6.1nm,0.8s
TUC Tucson 92.26 57 P **P 20 58 53.1 +1.3**
baz=249
X16A Lo Mia Camp, P 92.51 55 *e*P **P 20 58 54.5 +1.4**
comp=Z,4.6nm,1.0s
U15A North Rim 92.60 52 *e*P **P 20 58 54.4 +0.8**
comp=Z,6.0nm,0.8s
319A Douglas 93.12 58 *e*P **P 20 58 57.4 +1.5**
comp=Z,9.0nm,0.8s
TIXI Tiksi 94.60 348⇑ *e*P **P 20 59 00.8 -0.7**
TIXI pmax pmax
comp=Z,3.0nm,1.7s
ANMO Albuquerque 96.55 55 *i*P **P 20 59 12.4 +0.8**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
INK Inuvik 96.59 18 P **P 20 59 09.6 -1.1**
comp=Z,0.4nm,0.5s,baz=198,slow=6.8,SNR=4.9
PDAR Pinedale Array 96.82 47 P **P 20 59 12.4 -0.3**
comp=Z,0.2nm,0.4s,baz=258,slow=3.6,SNR=2.2
PDAR LR LR 21 38 00.1
comp=Z,46nm,19.0s,baz=258,slow=32
WMQ Urumqi 96.90 314 P **P 20 59 13.8 +1.0**

WMQ LR LR
comp=Z,60nm,21.9s
WMQ LR LR
comp=Z,69nm,26.3s
WMQ LR LR
comp=Z,130nm,26.3s
TX31 Lajitas Ar. Si 97.04 62 *e*P Pdif 20 59 15.1 +1.2
TXAR Lajitas Array 97.04 62 P Pdif 20 59 14.0 +0.1
comp=Z,0.9nm,0.9s,baz=205,slow=5.0,SNR=7.8
TXAR LR LR 21 35 32.4
comp=Z,79nm,19.6s,baz=0.0,slow=31
TXAR Lajitas Array 97.04 62 P Pdif 20 59 14.0 +0.1
YKA Yellowknife Ar 100.76 27 P **Pdif 20 59 29.2 -0.3**
comp=Z,0.5nm,0.6s,baz=256,slow=4.7,SNR=13
MKAR Makanchi Array 101.44 316 P **Pdif 20 59 33.6 +0.6**
comp=Z,0.4nm,0.7s,baz=101,slow=7.5,SNR=6.4
ZALV Zalesovo Beam 101.85 323 P **Pdif 20 59 35.2 +0.7**
comp=Z,0.3nm,0.3s,baz=90,slow=4.3,SNR=2.5
ARU Arti 116.97 324 PKP **PKPdf 21 04 24.7 -1.1**
comp=Z,0.8nm,0.4s,baz=207,slow=2.3,SNR=2.8
ARU pPKP pPKPdf 21 04 37.6 +0.3
comp=Z,1.9nm,0.7s,baz=54,slow=3.2,SNR=3.3
SPITS Spitsbergen Ar 119.48 354 PKP **PKPdf 21 04 28.7 -1.4**
comp=Z,8.3nm,1.0s,baz=28,slow=3.8,SNR=5.4
SPITS pPKP **pPKPdf 21 04 40.7 -0.9**
comp=Z,11nm,1.0s,baz=327,slow=4.4,SNR=2.2
BOSA Boshof 120.90 217 PKP **PKPdf 21 04 33.6 -0.9**
comp=Z,3.2nm,0.8s,baz=183,slow=3.7,SNR=5.0
BOSA pPKP **pPKPdf 21 04 46.8 +0.8**
comp=Z,3.5nm,0.9s,baz=135,slow=2.9,SNR=1.9
SDV Santo Domingo 121.61 91 PKP **PKPdf 21 04 34.6 -1.7**
comp=Z,1.1nm,0.3s,baz=197,slow=17,SNR=3.3
SDV pPKP **pPKPdf 21 04 47.6 -0.2**
comp=Z,2.2nm,0.7s,baz=299,slow=14,SNR=2.7
ARCES ARCESS Array B 124.91 345 PKP **PKPdf 21 04 39.3 -1.5**
comp=Z,5.2nm,0.8s,baz=11,slow=1.2,SNR=14
ARCES pPKP **pPKPdf 21 04 51.2 -1.0**
comp=Z,2.0nm,0.6s,baz=55,slow=1.6,SNR=2.2
KLMR Klimovskoe 125.31 332 *e*PKIKP **PKPdf 21 04 39.0 -2.6**
KLMR pmax pmax
comp=Z,14nm,1.2s
KLMR Klimovskoe 125.31 332 *e*PKPdf **PKPdf 21 04 39.1 -2.6**
KLMR AMP 21 04 41.5
comp=Z,14nm,1.2s
GNI Garni 128.03 306⇑ *i*PKIKP **PKPdf 21 04 48.2 +0.4**
GNI pmax pmax
comp=Z,20nm,1.7s
SJG San Juan 128.04 82 PKP **PKPdf 21 04 45.6 -2.5**
comp=Z,10nm,0.8s,baz=17,slow=2.7,SNR=3.9
KMBO Kilima Mbogo 128.41 253 *c i*PKIKP **PKPdf 21 04 51.5 +2.1**
KMBO pmax pmax
comp=Z,1.0nm,0.2s
OBN Obninsk 129.24 327⇑ *i*PKIKP **PKPdf 21 04 49.6 +0.3**
OBN *e* 21 05 01.7
OBN pmax pmax
comp=Z,8.0nm,0.7s
OBN MLR MLR
comp=Z,37nm,13.0s
VSR Storozhevoye 129.31 321⇑ *e*PKIKP **PKPdf 21 04 49.6 0.0**
AKASG Malin Array Be 135.23 324 PKP **PKPdf 21 04 59.3 -1.5**
comp=Z,0.2nm,0.4s,baz=65,slow=2.9,SNR=4.7
NOA NORSAR Array B 135.28 345 PKP **PKPdf 21 04 59.6 -1.1**
comp=Z,0.9nm,0.8s,baz=28,slow=2.1,SNR=2.7
BRTR Keskin Array B 136.49 308 PKP **PKPdf 21 05 01.5 -2.3**
comp=Z,0.2nm,0.7s,baz=23,slow=4.7,SNR=2.3
OKC Ostrava-Krasne 141.49 329 *e*PKIKP PKPpre 21 05 08.1
OKC Ostrava-Krasne 141.49 329 *e*PKP PKPpre 21 05 08.1
VYHS Vyhne 142.03 327 *e*PKIKP **PKPdf 21 05 16.1 +2.7**
VYHS Vyhne 142.03 327 *e*PKP **PKPdf 21 05 16.1 +2.7**
BRG Berggiesshubel 142.65 334 *e*PKP **PKPdf 21 05 11.9 -2.4**
comp=Z,3.9nm,1.2s
BRG Berggiesshubel 142.65 334 *e*PKIKP **PKPdf 21 05 11.9 -2.4**
BRG pmax pmax
comp=Z,4.0nm,1.2s
CLL Collm 142.70 335 *e*PKIKP **PKPdf 21 05 13.0 -1.4**
CLL Collm 142.70 335 *e*PKPdf **PKPdf 21 05 13.0 -1.4**
CLL *e*PKiKP **PKiKP 21 05 17.0 -0.6**
comp=Z,9.0nm,1.4s
CLL *e*PPPrev 21 20 06.0
PRU Pruhonice 143.05 332 *e*PKIKP **PKPdf 21 05 13.7 -1.4**
PRU *e* 21 05 23.9
PRU Pruhonice 143.05 332 *e*PKP **PKPdf 21 05 13.7 -1.4**
PRU *ex* x 21 05 23.9
EKA Eskdalemuir Ar 143.39 352 PKhKP PKPpre 21 05 11.7
comp=Z,0.4nm,0.4s,baz=355,slow=2.4,SNR=7.5
NKC Novy Kostel 143.75 334 *e*PKIKP PKPbc 21 05 14.3 +0.3
NKC *e* 21 05 26.2
NKC Novy Kostel 143.75 334 *e*PKP PKPbc 21 05 14.3 +0.3
NKC *e*pPKP pPKPdf 21 05 26.2 -1.7
CONA Conrad Observa 143.90 329 *e*PKPdf **PKPdf 21 05 15.8 -1.0**
comp=Z,17nm,1.3s
KHC Kasperske Hory 144.10 332 *e*PKIKP PKPbc 21 05 15.5 +0.4
KHC *e* 21 05 27.1
KHC Kasperske Hory 144.10 332 *e*PKP PKPbc 21 05 15.5 +0.4
KHC *ex* x 21 05 19.5
KHC *e*pPKP pPKPdf 21 05 27.1 -1.5
KHC Kasperske Hory 144.10 332 *e*PKPpre PKPpre 21 05 15.3
XOR Xorichti 144.22 312 P **PKPab 21 05 13.8 -1.6**
GEC2 GERESS Array S 144.26 332 *e*PKIKP PKPbc 21 05 16.1 +0.4
GEC2 GERESS Array S 144.26 332 *e*PKPdf PKPbc 21 05 16.1 +0.4
GERES GERESS Array B 144.26 332 PKP **PKPab 21 05 14.8 -0.6**
comp=Z,1.5nm,0.7s,baz=45,slow=4.0,SNR=16
GERES pPKP **pPKPdf 21 05 27.9 -1.1**
comp=Z,2.5nm,0.8s,baz=50,slow=4.2,SNR=7.5
GEA0 GERESS Array S 144.27 332 *e*PKPdf PKPbc 21 05 15.5 -0.2
WTSB Winterswijk 144.37 341 *e*PKPdf PKPbc 21 05 16.1 +0.4
comp=Z,69nm,1.9s
IDI Anoyia 144.40 304 PKP **PKPab 21 05 15.3 -1.0**
comp=Z,4.7nm,0.5s,baz=49,slow=1.8,SNR=9.5
IDI pPKP **pPKPdf 21 05 30.5 +1.0**
comp=Z,7.8nm,0.7s,baz=165,slow=7.2,SNR=4.4
LIT Litokhoron 144.40 313 P **PKPab 21 05 14.9 -1.1**
ARSA Arzberg 144.53 328 *e*PKPdf PKPbc 21 05 16.4 -0.1
comp=Z,18nm,1.6s,SNR=5.6
SIVA Sivas 144.54 304 P PKPbc 21 05 16.6 -0.3
GRF Grafenberg Arr 144.68 335 PKIKP **PKPdf 21 05 17.1 -0.9**
GRFO Grafenberg 144.68 335 *e*PKIKP **PKPdf 21 05 17.1 -0.9**
GRFO Grafenberg 144.68 335 *e*PKPdf **PKPdf 21 05 17.1 -0.9**
MOA Molln 144.72 330 *e*PKPdf **PKPdf 21 05 17.2 -0.9**
comp=Z,32nm,1.2s,SNR=17
FNA Florina 144.85 315 PKIKP **PKPab 21 05 16.6 -1.1**
FNA Florina 144.85 315 P **PKPab 21 05 16.3 -1.4**
DID Didima 144.92 309 P **PKPab 21 05 16.0 -2.0**
AGG Agios Georgios 144.97 312 *e*PKIKP **PKPab 21 05 17.3 -0.9**
AGG Agios Georgios 144.97 312 *e*PKPdf **PKPab 21 05 17.3 -0.9**
KRND KRANIDI 145.03 308 P PKPbc 21 05 16.4 -2.0
IMMV Iera Moni Meta 145.06 305 P **PKPab 21 05 18.2 -0.4**
DSF Desfina 145.09 310 P **PKPbc 21 05 16.6 -2.0**
PERS Pernice 145.15 328 *i* PKPbc **PKPbc 21 05 18.0 -0.6**
PERS *e* 21 05 30.4
SOKA Soboth 145.16 328 *e*PKPdf **PKPab 21 05 18.3 -0.4**
comp=Z,27nm,1.3s,SNR=23
KALE Kalithea 145.37 311 P **PKPbc 21 05 18.2 -1.3**
GUR Goura 145.41 310 P **PKPbc 21 05 18.5 -1.2**
SERG Sergoula 145.42 311 P **PKPbc 21 05 18.6 -1.0**
VLI Veliai 145.43 308 P **PKPbc 21 05 17.9 -1.8**
ANX Ano Chora 145.44 311 P **PKPbc 21 05 19.2 -0.6**
ANKY Antikythira Is 145.45 306 P PKPab 21 05 31.9 +12
KLV Kalavryta, Ach 145.50 310 P **PKPdf 21 05 18.9 -1.0**
EFP Efpalio 145.52 311 P **PKPdf 21 05 19.4 -0.4**
OBKA Obir 145.52 328 *e*PKPab **PKPdf 21 05 19.0 -0.7**
comp=Z,12nm,1.1s,SNR=8.4
LAKA Lakka 145.55 311 P **PKPdf 21 05 19.5 -0.4**
VLX Vlachokerasia 145.60 309 P **PKPdf 21 05 19.5 -0.6**
HGN Heimansgroeve 145.68 341 *e*PKPdf **PKPab 21 05 25.0 +4.7**
comp=Z,80nm,1.6s
KBA Koelnbreinsper 145.71 330 *e*PKPab **PKPdf 21 05 19.4 -0.6**
comp=Z,20nm,1.1s,SNR=9.4
JAN Janina 145.73 313 P **PKPbc 21 05 20.3 -0.3**
BEBN Eben Emael 145.74 341⇓ PKP **PKPab 21 05 20.4 -0.1**
DSB Dublin 145.79 355 *e*PKPdf **PKPab 21 05 20.4 -0.2**
DSL Palaion Diasel 145.79 312 P **PKPbc 21 05 20.3 -0.5**
MEM Membach 145.80 340⇓ PKP **PKPdf 21 05 19.7 -0.2**
LJU Ljubljana 145.85 327 *i* PKPbc **PKPbc 21 05 20.5 -0.2**
LJU *e* 21 05 32.7
MYKA Terra Mystica 145.89 329 *e*PKPab **PKPdf 21 05 20.0 -0.3**
comp=Z,8.3nm,0.8s,SNR=6.6
PDO Prodromos 145.97 312 P **PKPbc 21 05 21.1 -0.2**
ITM Ithomi 146.01 309 P **PKPbc 21 05 20.7 -0.8**
SGD Sagiada 146.17 314 P **PKPbc 21 05 21.3 -0.6**
BCLA Clavier 146.18 341⇓ PKP **PKPbc 21 05 21.4 -0.1**
KNDS Knezji Dol 146.28 327 *i* PKPbc **PKPbc 21 05 21.4 -0.7**
KNDS *e* 21 05 33.7
WATA Walderalm 146.34 332 *e*PKPab **PKPbc 21 05 22.3 -0.1**

	comp=Z,3.7nm,0.7s,SNR=7.3							
WTTA	**Wattenberg**	**146.36**	**332**	*i* PKPab	**PKPbc**	**21**	**05**	**22.3**	**-0.2**
	comp=Z,8.1nm,0.8s,SNR=6.6							
SNF	**Seneffe**	**146.41**	**342**	⇑PKP	**PKPab**	**21**	**05**	**23.3**	**+0.3**
MOTA	**Moosalm**	**146.54**	**332**	*e*PKPab	**PKPbc**	**21**	**05**	**22.7**	**-0.2**
	comp=Z,9.1nm,0.7s,SNR=14							
WLF	**Walferdange**	**146.57**	**339**	⇓PKP	**PKPab**	**21**	**05**	**23.1**	**-0.5**
WLF	**Walferdange**	**146.57**	**339**	*e*PKP2	**PKPab**	**21**	**05**	**23.3**	**-0.5**
WLF	**Walferdange**	**146.57**	**339**	*e*PKPdf	**PKPab**	**21**	**05**	**23.2**	**-0.5**
RETA	**Reutte**	**146.58**	**333**	*e*PKPab	**PKPbc**	**21**	**05**	**22.7**	**-0.3**
	comp=Z,8.8nm,1.1s,SNR=6.0							
DOU	**Dourbes**	**146.68**	**341**	⇑PKP	**PKPbc**	**21**	**05**	**22.8**	**-0.2**
BFO	**Black Forest**	**146.91**	**336**	*e*PKP2	**PKPbc**	**21**	**05**	**23.5**	**-0.3**
BFO	**Black Forest**	**146.91**	**336**	*e*PKPdf	**PKPbc**	**21**	**05**	**23.5**	**-0.3**
FETA	**Feichten**	**146.95**	**332**	*e*PKPab	**PKPbc**	**21**	**05**	**24.0**	**-0.1**
	comp=Z,22nm,1.3s,SNR=9.7							
DAVA	**Damuels**	**147.11**	**333**	*e*PKPab	**PKPbc**	**21**	**05**	**24.4**	**-0.2**
	comp=Z,3.4nm,0.6s,SNR=6.9							
ECH	**Echery**	**147.44**	**337**	*e*PKP2	**PKPbc**	**21**	**05**	**24.5**	**-0.8**
ECH	**Echery**	**147.44**	**337**	*e*PKPdf	**PKPbc**	**21**	**05**	**24.5**	**-0.8**
FUORN	**Ofenpass-Fuorn**	**147.46**	**332**	*e*PKPdf	**PKPdf**	**21**	**05**	**23.4**	**+0.2**
TUE	**Stuetta**	**147.98**	**333**	*e*PKPbc	**PKPbc**	**21**	**05**	**27.1**	**+0.1**
SENIN	**Lac Senin/Sane**	**148.92**	**335**	*e*PKPbc	**PKPbc**	**21**	**05**	**29.5**	**0.0**
BNI	**Bardonecchia**	**150.24**	**334**	*e*PKIKP	**PKPbc**	**21**	**05**	**32.5**	**-0.2**
BNI	**Bardonecchia**	**150.24**	**334**	*e*PKPbc	**PKPbc**	**21**	**05**	**32.5**	**-0.2**
SSB	**Saint Sauveur**	**150.89**	**337**	*e*PKIKP	**PKPbc**	**21**	**05**	**33.7**	**-0.4**
SSB	**Saint Sauveur**	**150.89**	**337**	*e*PKPbc	**PKPbc**	**21**	**05**	**33.7**	**-0.4**
ES19	**SONSECA Array**	**158.60**	**345**	*e*PKPab	**PKPab**	**21**	**06**	**14.2**	**-0.1**
ESDC	**Sonseca Array**	**158.64**	**345**	PKPab	**PKPab**	**21**	**06**	**13.6**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=22,slow=2.5,SNR=9.7							
ESDC				pPKPab	**pPKPab**	**21**	**06**	**26.5**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=0.9,slow=3.2,SNR=4.2							
DBIC	**Dimbokro**	**166.16**	**207**	PKPab	**PKPab**	**21**	**06**	**47.4**	**-0.6**
	comp=Z,3.4nm,1.0s,baz=153,slow=6.8,SNR=3.7							
TORD	**Torodi Ar. Bea**	**166.31**	**246**	PKP	**PKPdf**	**21**	**05**	**46.2**	**-1.2**
	comp=Z,2.3nm,1.0s,baz=124,slow=0.7,SNR=7.6							
TORD				pPKP	**pPKPdf**	**21**	**05**	**59.4**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=298,slow=0.0,SNR=7.8							
TORD				PKPab	**PKPab**	**21**	**06**	**47.4**	**-1.4**
	comp=Z,3.5nm,1.1s,baz=113,slow=3.9,SNR=6.7							
TORD				pPKPab	**pPKPab**	**21**	**07**	**00.4**	**+0.4**
	comp=Z,3.4nm,1.0s,baz=113,slow=4.9,SNR=5.0							

*ISCJB **25** 20:53:20.8±0.5, 30.29°S±0.04°×136.88°E±0.05, h10km, mb3.5/2, MS3.3/1, Error ellipse: s-maj=7.3km s-min=4.8km az=149.8*

*AUST **25** 20:53:20.2±0.0, 30.32°S×136.82°E, h0km, Error ellipse: s-maj=0.1km s-min=0.1km az=276.0*

*IDC **25** 20:53:22.7±1.6, 30.23°S×137.04°E, h0km, mb3.5/2, mb1 4.3/6, mb1mx3.8/45, mbtmp4.1/6, ML4.5/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/27, Error ellipse: s-maj=38.2km s-min=15.6km az=43.0*

ISC 25 20:53:22.4±0.7, 30.28°S±0.06°×136.88°E±0.06°, h10km, n23, σ2°39/31, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**2.62**	**195**	P		**Pn**	**20 54 04.0**	**-0.8**
	baz=2.6							
BBOO				S		**Sn**	**20 54 35.2**	**-1.5**
	baz=2.6							
HTT	**Hallett**	**3.60**	**152**	P		**Pn**	**20 54 18.0**	**-0.2**
	baz=3.6,SNR=9.1							
STKA	**Stephens Creek**	**4.35**	**113**	Pn		**Pn**	**20 54 29.6**	**+1.0**
	9.4nm,0.3s,baz=299,slow=12,SNR=138							
STKA				Sn		**Sn**	**20 55 19.9**	**+0.6**
	38nm,0.3s,baz=39,slow=7.1,SNR=9.8							
STKA				Lg		Lg	20 55 36.3	
	21nm,0.3s,baz=12,slow=20,SNR=7.2							
STKA	**Stephens Creek**	**4.35**	**113**	P		**Pn**	**20 54 29.3**	**+0.7**
	baz=4.4							
STKA				S		**Sn**	**20 55 19.6**	**+0.2**
	baz=4.4,SNR=5.1							
ASAR	**Alice Springs**	**7.10**	**337**	Pn		**Pn**	**20 55 09.5**	**+3.2**
	4.1nm,0.3s,baz=156,slow=14,SNR=74							
ASAR				Sn		**Sn**	**20 56 28.2**	**+1.1**
	5.3nm,0.3s,baz=160,slow=22,SNR=21							
ASAR				Lg		Lg	20 57 10.7	
	baz=155,slow=24,SNR=3.9							
ASPA	**Alice Springs**	**7.10**	**337**	P		**Pn**	**20 55 09.6**	**+3.3**
	baz=7.1							
QLP	**Quilpie**	**7.45**	**62**	P		**Pn**	**20 55 13.6**	**+2.5**
	baz=7.5							
CMSA	**Cobar Meteorol**	**7.68**	**102**	P		**Pn**	**20 55 14.6**	**+0.4**
	baz=7.7							
CMSA				S		**Sn**	**20 56 37.7**	**-3.6**
	baz=7.7,SNR=4.9							
WRKA	**Warakurna**	**9.22**	**302**	P		**Pn**	**20 55 36.8**	**+1.3**
	baz=9.2,SNR=9.4							
QIS	**Mount Isa**	**9.98**	**15**	P		**Pn**	**20 55 47.6**	**+1.6**
	baz=10,SNR=9.3							
QIS				S		**Sn**	**20 57 36.9**	**-1.2**
	baz=10,SNR=3.3							
TOO	**Toolangi**	**10.20**	**138**	P		**Pn**	**20 55 47.7**	**-1.2**
	baz=10							
WC3	**Warramunga Arr**	**10.52**	**347**	P		**Pn**	**20 55 54.7**	**+1.4**
	baz=11							
WRA	**Warramunga Arr**	**10.54**	**347**	Pn		**Pn**	**20 55 54.9**	**+1.3**
	4.5nm,0.3s,baz=160,slow=14,SNR=142							
WRA				Sn		**Sn**	**20 57 50.3**	**-1.5**
	2.0nm,0.3s,baz=164,slow=24,SNR=7.4							
WRA				Lg		Lg	20 58 55.3	
	baz=167,slow=27,SNR=2.3							
RMQ	**Roma**	**11.12**	**73**	P		**Pn**	**20 56 02.5**	**+0.9**
	baz=11							
MGCD	**Mangrove Creek**	**12.46**	**107**	P		**Pn**	**20 56 21.1**	**+1.3**
	baz=12,SNR=6.5							
CTA	**Charters Tower**	**13.22**	**42**	Pn		**Pn**	**20 56 30.1**	**-0.1**
	2.8nm,0.3s,baz=208,slow=14,SNR=21							
CTA				Sn		**Sn**	**20 58 53.8**	**-3.5**
	0.5nm,0.3s,baz=163,slow=11,SNR=2.7							
CTA	**Charters Tower**	**13.22**	**42**	P		**Pn**	**20 56 31.0**	**+0.8**
	baz=13							
FITZ	**Fitzroy Crossi**	**15.86**	**317**	Pn		**Pn**	**20 57 04.0**	**-1.8**
	0.7nm,0.3s,baz=150,slow=15,SNR=12							
FITZ				Sn		**Sn**	**20 59 53.2**	**-8.5**
	0.4nm,0.3s,baz=295,slow=14,SNR=5.0							
FITZ				LR		LR	21 03 17.1	
	comp=Z,136nm,21.4s,baz=218,slow=37							
FITZ	**Fitzroy Crossi**	**15.86**	**317**	P		**Pn**	**20 57 04.8**	**-1.0**
	baz=16,SNR=10.0							
HNR	**Honiara**	**29.89**	**51**	LR		LR	21 11 32.9	
	comp=Z,70nm,19.0s,baz=136,slow=37							
CMAR	**Chiang Mai Arr**	**60.67**	**318**	P		**P**	**21 03 36.2**	**+2.3**
	0.5nm,0.7s,baz=148,slow=5.3,SNR=4.7							
SONM	**Songino Array**	**82.44**	**340**	P		**P**	**21 05 46.8**	**+2.1**
	0.2nm,0.5s,baz=155,slow=4.8,SNR=2.4							
ESDC	**Sonseca Array**	**146.79**	**297**	PKPbc		**PKPab**	**21 13 06.0**	**-0.1**
	0.1nm,0.3s,baz=42,slow=3.4,SNR=2.3							

*GUC **25** 20:56:52.7±0.6, 32.48°S×69.98W, h81km±13km, ML2.8*

*ISCJB **25** 20:56:53.0±1.2, 32.67°S±0.06°×70.08°W±0.08°, h107km±11km, Error ellipse: s-maj=13.0km s-min=7.6km az=40.8*

*SJA **25** 20:56:54.1±0.6, 32.65°S×69.89°W, h101km±5km, ML2.6, MW3.0*

ISC 25 20:56:53.5±2.2, 32.70°S±0.06°×70.09°W±0.07°, h102km±18km, n17, σ1°43/23, 4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.65**	**195**	*i*P		**Pn**	**20 57 11.1**	**0.0**
FCH				*e*S		**Sn**	**20 57 25.1**	**+0.8**
FCH				IAML			20 57 26.1	
	comp=N,589nm,0.2s							
PEL	**Peldehue**	**0.67**	**228**	⇓*i*P		**Pn**	**20 57 10.7**	**-0.2**
PEL				*e*S		**Sn**	**20 57 23.9**	**-0.1**
PEL				IAML			20 57 26.0	
	comp=N,104nm,0.3s							
AUSP	**Uspallata**	**0.76**	**52**	*e*P		**Pn**	**20 57 11.9**	**-0.1**
AUSP				*e*S		**Sn**	**20 57 25.5**	**-0.2**
CLCH	**Cerro Calan**	**0.80**	**208**	*e*P		**Pn**	**20 57 12.1**	**+0.1**
CLCH				*e*S		**Sn**	**20 57 27.1**	**+1.0**
CLCH				IAML			20 57 28.1	
	comp=E,452nm,0.4s							
ROCH	**El Roble**	**0.83**	**250**	⇓*i*P		**Pn**	**20 57 12.4**	**-0.1**
ROCH				*e*S		**Sn**	**20 57 27.4**	**+0.6**
ROCH				IAML			20 57 28.3	
	comp=E,846nm,0.5s							
ARCO	**CERRO ARCO**	**0.98**	**99**	*e*P		**Pn**	**20 57 14.0**	**-0.1**
ARCO				IAML			20 57 32.4	
	comp=Z,147nm,0.2s							
RCDM	**Rinconada Maip**	**1.00**	**217**	⇓*i*P		Pn	20 57 08.1	-6.0
RCDM				*e*S		**Sn**	**20 57 24.4**	**-5.2**
ASAL	**Salagasta**	**1.06**	**85**	*e*P		**Pn**	**20 57 14.8**	**0.0**
RTLS	**Leoncito**	**1.12**	**37**	*e*P		**Pn**	**20 57 16.1**	**+0.4**
RTLS				IAML			20 57 16.3	
	comp=Z,67nm,0.2s							
AAGR	**Agrelo**	**1.13**	**111**	*e*P		**Pn**	**20 57 15.5**	**-0.1**
LMEL	**Las Melosas**	**1.15**	**185**	*e*P		**Pn**	**20 57 16.6**	**+0.6**
LMEL				*e*S		**Sn**	**20 57 35.5**	**+2.7**
LMEL				IAML			20 57 39.1	
	comp=N,178nm,0.2s							
RTCV	**Cerro Valdivia**	**1.55**	**58**	*e*P		**Pn**	**20 57 20.2**	**-0.3**
ZON	**Zonda**	**1.66**	**47**	*e*P		**Pn**	**20 57 21.3**	**-0.5**
RTLL	**Cerro Villicun**	**1.93**	**46**	*e*P		**Pn**	**20 57 25.2**	**-0.2**
RTLL				IAML			20 57 25.5	
	comp=Z,44nm,0.4s							
AMOG	**MOGNA**	**2.21**	**38**	*e*P		**Pn**	**20 57 29.1**	**+0.1**
ACAN	**Cantantal**	**2.48**	**81**	*e*P		**Pn**	**20 57 31.7**	**-0.8**
AROD	**Rodeo**	**2.57**	**12**	*e*P		**Pn**	**20 57 35.0**	**+1.0**

*CSEM **25** 21:02:30.6±0.1, 37.69°N×15.18°E, h20km, ML3.6/14, Error ellipse: s-maj=3.3km s-min=2.0km az=124.0*

ROM 25 21:02:29.7±0.1, 37.69°N×15.17°E, h3km±1km, Ml3.0/43, Error ellipse: s-maj=1.6km s-min=0.9km az=110.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MMME	**Mongiuffi-Meli**	**0.26**	**15**	Pg		Pb	21 02 36.1	-1.0
MMME				Sg		Sg	21 02 39.5	+1.4
	4μm,0.4s							
MMME	**Mongiuffi-Meli**	**0.26**	**15**	Pg		Pb	21 02 36.1	-1.0
MMME				Sg		Sg	21 02 39.5	+1.4
	4μm,0.4s							
NOV	**Novara**	**0.34**	**356**	Pg		Pb	21 02 37.5	-1.0
NOV				Sg		Sb	21 02 43.2	-1.2
	3μm,0.6s							
NOV	**Novara**	**0.34**	**356**	Pg		Pb	21 02 37.5	-1.0
NOV				Sg		Sb	21 02 43.2	-1.2
	3μm,0.6s							
ECNV	**Catenanuova**	**0.37**	**256**	Pg		Pb	21 02 38.3	-0.7
ECNV				Sg		Sb	21 02 43.9	-1.3
	2μm,0.9s							
ECNV	**Catenanuova**	**0.37**	**256**	Pg		Pb	21 02 38.3	-0.7
ECNV				Sg		Sb	21 02 43.9	-1.3
	2μm,0.9s							
MCSR	**Castroreale**	**0.38**	**9**	Pg		Pb	21 02 38.2	-1.0
MCSR				Sg		Sb	21 02 44.4	-1.2
	2μm,0.3s							
MCSR	**Castroreale**	**0.38**	**9**	Pg		Pb	21 02 38.2	-1.0
MCSR				Sg		Sb	21 02 44.4	-1.2
	2μm,0.3s							
HAGA	**Augusta**	**0.40**	**182**	Pg		Pb	21 02 38.9	-0.5
HAGA				Sg		Sb	21 02 45.9	0.0
	669nm,0.5s							
HAGA	**Augusta**	**0.40**	**182**	Pg		Pb	21 02 38.9	-0.5
HAGA				Sg		Sb	21 02 45.9	0.0
	669nm,0.5s							
HLNI	**Lentini**	**0.41**	**215**	Pg		Pg	21 02 38.3	+0.7
HLNI				Sg		Sb	21 02 45.2	-1.1
	399nm,0.2s							
HLNI	**Lentini**	**0.41**	**215**	Pg		Pg	21 02 38.3	+0.7
HLNI				Sg		Sb	21 02 45.2	-1.1
	399nm,0.2s							
HCRL	**Carlentini**	**0.42**	**195**	Pg		Pb	21 02 39.0	-0.7
HCRL				Sg		Sb	21 02 46.1	-0.3
	4μm,0.8s							
HCRL	**Carlentini**	**0.42**	**195**	Pg		Pb	21 02 39.0	-0.7
HCRL				Sg		Sb	21 02 46.1	-0.3
	4μm,0.8s							
MUCR	**Ucria**	**0.43**	**327**	Pg		Pb	21 02 39.1	-0.9
MUCR				Sg		Sb	21 02 46.3	-0.6
	2μm,0.6s							
MUCR	**Ucria**	**0.43**	**327**	Pg		Pb	21 02 39.1	-0.9
MUCR				Sg		Sb	21 02 46.3	-0.6
	2μm,0.6s							
GALF	**Gagliano Caste**	**0.48**	**273**	Pg		Pb	21 02 40.2	-0.6
GALF				Sg		Sb	21 02 49.5	+1.2
	1μm,0.6s							
GALF	**Gagliano Caste**	**0.48**	**273**	Pg		Pb	21 02 40.2	-0.6
GALF				Sg		Sb	21 02 49.5	+1.2
	1μm,0.6s							
MPNC	**Port Mandanici**	**0.48**	**17**	Pg		Pb	21 02 40.1	-0.7
MPNC				Sg		Sb	21 02 47.2	-1.1
	2μm,0.4s							
MPNC	**Port Mandanici**	**0.48**	**17**	Pg		Pb	21 02 40.1	-0.7
MPNC				Sg		Sb	21 02 47.2	-1.1
	2μm,0.4s							
ATN	**Antennamare**	**0.53**	**26**	Pg		Pb	21 02 41.3	-0.4
	1μm,1.0s							
ATN	**Antennamare**	**0.53**	**26**	Pg		Pb	21 02 41.3	-0.4
	1μm,1.0s							
CAGR	**Agira**	**0.54**	**263**	Pg		Pb	21 02 42.0	+0.2
	1μm,0.5s							
CAGR	**Agira**	**0.54**	**263**	Pg		Pb	21 02 42.0	+0.2
	1μm,0.5s							
SSY	**Sortino**	**0.54**	**188**	Pg		Pb	21 02 41.0	-0.8
SSY				Sg		Sb	21 02 50.4	+0.5
	1μm,0.3s							
SSY	**Sortino**	**0.54**	**188**	Pg		Pb	21 02 41.0	-0.8
SSY				Sg		Sb	21 02 50.4	+0.5
	1μm,0.3s							
MSFR	**San Fratello**	**0.57**	**307**	Pg		Pb	21 02 42.0	-0.5
	482nm,1.0s							
MSFR	**San Fratello**	**0.57**	**307**	Pg		Pb	21 02 42.0	-0.5
	482nm,1.0s							
MILZ	**Milazzo**	**0.59**	**5**	Pg		Pb	21 02 41.9	-0.7
	669nm,0.4s							
MILZ	**Milazzo**	**0.59**	**5**	Pg		Pb	21 02 41.9	-0.7
	669nm,0.4s							
MEU	**Monte Lauro**	**0.61**	**198**	Pg		Pg	21 02 42.2	+0.7
	459nm,0.2s							
MEU	**Monte Lauro**	**0.61**	**198**	Pg		Pg	21 02 42.2	+0.7
	459nm,0.2s							
HVZN	**Vizzini**	**0.62**	**216**	Pg		Pg	21 02 42.1	+0.5
HVZN				Sg		Sb	21 02 52.0	-0.4
	1μm,0.6s							
HVZN	**Vizzini**	**0.62**	**216**	Pg		Pg	21 02 42.1	+0.5
HVZN				Sg		Sb	21 02 52.0	-0.4
	1μm,0.6s							
MSRU	**Castanea**	**0.64**	**25**	Pg		Pb	21 02 43.0	-0.5
	637nm,0.4s							
MSRU	**Castanea**	**0.64**	**25**	Pg		Pb	21 02 43.0	-0.5
	637nm,0.4s							
VPL	**Vulcano Piano**	**0.71**	**348**	Pg		Pb	21 02 44.5	-0.2
	3μm,0.4s							
VPL	**Vulcano Piano**	**0.71**	**348**	Pg		Pb	21 02 44.5	-0.2
	3μm,0.4s							
GMB	**Gambarie**	**0.71**	**47**	Pg		Pb	21 02 44.6	-0.2
	1μm,0.4s							
GMB	**Gambarie**	**0.71**	**47**	Pg		Pb	21 02 44.6	-0.2
	1μm,0.4s							
MPAZ	**Palizzi**	**0.71**	**68**	Pg		Pb	21 02 45.2	+0.4
	318nm,0.5s							
MPAZ	**Palizzi**	**0.71**	**68**	Pg		Pb	21 02 45.2	+0.4
	318nm,0.5s							
HAVL	**Avola**	**0.72**	**183**	Pg		Pb	21 02 44.3	-0.7
HAVL				Sg		Sb	21 02 56.3	+1.0
	739nm,0.3s							
HAVL	**Avola**	**0.72**	**183**	Pg		Pb	21 02 44.3	-0.7
HAVL				Sg		Sb	21 02 56.3	+1.0
	739nm,0.3s							
MSCL	**Scilla**	**0.73**	**42**	Pg		Pb	21 02 44.8	-0.4
	653nm,0.6s							
MSCL	**Scilla**	**0.73**	**42**	Pg		Pb	21 02 44.8	-0.4
	653nm,0.6s							
HMDC	**Modica**	**0.79**	**203**	Pg		Pg	21 02 45.4	+0.6
HMDC				Sg		Sb	21 02 57.7	+0.5
	553nm,0.3s							
HMDC	**Modica**	**0.79**	**203**	Pg		Pg	21 02 45.4	+0.6
HMDC				Sg		Sb	21 02 57.7	+0.5
	553nm,0.3s							
RAFF	**Raffo Rosso**	**0.79**	**235**	Pg		Pg	21 02 45.1	+0.2
	267nm,0.5s							
RAFF	**Raffo Rosso**	**0.79**	**235**	Pg		Pg	21 02 45.1	+0.2
	267nm,0.5s							
SOI	**Samo**	**0.80**	**61**	Pg		Pb	21 02 46.3	0.0
	237nm,0.6s							
SOI	**Samo**	**0.80**	**61**	Pg		Pb	21 02 46.3	0.0
	237nm,0.6s							
CEL	**Celeste**	**0.81**	**45**	Pg		Pb	21 02 46.3	-0.2
	368nm,0.6s							
CEL	**Celeste**	**0.81**	**45**	Pg		Pb	21 02 46.3	-0.2
	368nm,0.6s							
PLLN	**Pollina**	**0.87**	**291**	Pg		Pb	21 02 47.6	+0.1
	293nm,0.4s							
PLLN	**Pollina**	**0.87**	**291**	Pg		Pb	21 02 47.6	+0.1
	293nm,0.4s							
RESU	**Resuttano**	**0.88**	**268**	Pg		Pn	21 02 48.5	-0.6
	318nm,0.7s							
RESU	**Resuttano**	**0.88**	**268**	Pg		Pn	21 02 48.5	-0.6
	318nm,0.7s							
GIB	**Gibilmanna**	**0.95**	**289**	Pg		Pb	21 02 48.8	-0.2
	527nm,0.7s							
GIB	**Gibilmanna**	**0.95**	**289**	Pg		Pb	21 02 48.8	-0.2
	527nm,0.7s							
IACL	**Alicudi**	**1.06**	**323**	Pg		Pg	21 02 50.2	+0.1
	630nm,0.3s							
IACL	**Alicudi**	**1.06**	**323**	Pg		Pg	21 02 50.2	+0.1
	630nm,0.3s							
JOPP	**Joppolo**	**1.08**	**31**	Pg		Pg	21 02 50.7	+0.3
	134nm,0.4s							
JOPP	**Joppolo**	**1.08**	**31**	Pg		Pg	21 02 50.7	+0.3
	134nm,0.4s							
ALJA	**Alia**	**1.12**	**274**	Pg		Pn	21 02 52.2	-0.2
	235nm,0.7s							
ALJA	**Alia**	**1.12**	**274**	Pg		Pn	21 02 52.2	-0.2
	235nm,0.7s							
SOLUN	**Solunto**	**1.36**	**288**	Pg		Pn	21 02 55.1	-0.4
	68nm,0.8s							
SOLUN	**Solunto**	**1.36**	**288**	Pg		Pn	21 02 55.1	-0.4
	68nm,0.8s							
CORL	**Corleone**	**1.49**	**279**	Pg		Pb	21 02 58.1	0.0
	196nm,0.6s							
CORL	**Corleone**	**1.49**	**279**	Pg		Pb	21 02 58.1	0.0
	196nm,0.6s							
MPG	**Monte Pellegri**	**1.51**	**289**	Pg		Pn	21 02 56.7	-1.0
	129nm,2.1s							
MPG	**Monte Pellegri**	**1.51**	**289**	Pg		Pn	21 02 56.7	-1.0
	129nm,2.1s							
CLTB	**Caltabellotta**	**1.56**	**267**	Pg		Pg	21 02 59.4	-0.1
	367nm,0.5s							
CLTB	**Caltabellotta**	**1.56**	**267**	Pg		Pg	21 02 59.4	-0.1
	367nm,0.5s							
CRJA	**Costa Raja**	**1.72**	**275**	Pg		Pb	21 03 01.8	-0.2
	76nm,0.4s							
CRJA	**Costa Raja**	**1.72**	**275**	Pg		Pb	21 03 01.8	-0.2
	76nm,0.4s							
MMGO	**Monte Magaggia**	**1.74**	**270**	Pg		Pn	21 03 01.0	+0.2
	25nm,0.2s							
MMGO	**Monte Magaggia**	**1.74**	**270**	Pg		Pn	21 03 01.0	+0.2
	25nm,0.2s							
SERS	**Sersale**	**1.80**	**41**	Pg		Pb	21 03 02.9	-0.5
	59nm,1.0s							
SERS	**Sersale**	**1.80**	**41**	Pg		Pb	21 03 02.9	-0.5
	59nm,1.0s							
CET2	**Cetraro**	**1.94**	**18**	Pg		Pn	21 03 02.8	-0.8
	207nm,0.5s							
CET2	**Cetraro**	**1.94**	**18**	Pg		Pn	21 03 02.8	-0.8
	207nm,0.5s							
TIP	**Timpagrande**	**1.94**	**39**	Pg		Pb	21 03 04.8	-1.0
	42nm,0.8s							
TIP	**Timpagrande**	**1.94**	**39**	Pg		Pb	21 03 04.8	-1.0
	42nm,0.8s							
PIPA	**Pietrapaola**	**2.21**	**35**	Pg		Pn	21 03 08.7	+1.4
	124nm,1.4s							
PIPA	**Pietrapaola**	**2.21**	**35**	Pg		Pn	21 03 08.7	+1.4
	124nm,1.4s							
SALB	**San Lorenzo Be**	**2.37**	**22**	Pg		Pn	21 03 09.8	+0.1
	47nm,0.7s							
SALB	**San Lorenzo Be**	**2.37**	**22**	Pg		Pn	21 03 09.8	+0.1
	47nm,0.7s							
MGR	**Morigerati**	**2.47**	**7**	Pg		Pn	21 03 09.9	-0.9
	32nm,0.6s							
MGR	**Morigerati**	**2.47**	**7**	Pg		Pn	21 03 09.9	-0.9
	32nm,0.6s							
SCHR	**S. Chirico Rap**	**2.61**	**15**	Pg		Pn	21 03 12.9	+0.1
	308nm,3.0s							
MTSN	**Montesano sull**	**2.62**	**10**	Pg		Pn	21 03 12.4	-0.6
	72nm,1.1s							
MTSN	**Montesano sull**	**2.62**	**10**	Pg		Pn	21 03 12.4	-0.6
	72nm,1.1s							
SLCN	**Sala Consilina**	**2.73**	**7**	Pg		Pn	21 03 15.0	+0.5
	47nm,0.6s							
SLCN	**Sala Consilina**	**2.73**	**7**	Pg		Pn	21 03 15.0	+0.5
	47nm,0.6s							
TAR1	**Taranto**	**3.28**	**29**	*e*P		Pn	21 03 20.3	-1.7
MASS	**Massafra**	**3.32**	**27**	*e*P		Pn	21 03 22.2	-0.3
SG1	**Sgolgore (BA)**	**3.36**	**20**	*e*P		Pn	21 03 23.6	+0.5
STON	**Ston**	**5.53**	**20**	*e*Pn		Pn	21 03 50.7	-2.2

*IDC **25** 21:02:30.1±4.0, 16.42°N×98.49°W, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.6/49, mbtmp3.5/9, ML3.2/3, MS3.4/6, Ms1 3.4/6, ms1mx2.9/41, Error ellipse: s-maj=76.3km s-min=17.1km az=8.0*

*ISCJB **25** 21:02:33.6±0.8, 16.49°N±

MAN 25 21:02:37.6±1.1N×126.14E,h145km,mb4.4,ML3.3,MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.84**	**8**	*e*P	Pn	21 03 01.5	+1.5
MATI				*e*S	Sn	21 03 20.0	+2.4
GSPH	**General Santos**	**1.19**	**269**	*e*P	Pn	21 03 02.2	-1.0
BUKP	**Musuan**	**2.06**	**329**	*e*P	Pn	21 03 13.9	+1.3
BUKP				*e*S	Sn	21 03 41.4	+1.5

IDC 25 21:06:56.6±1.7,11.49S×165.72E,h0km,mb3.6/5, mb1 3.9/6,mb1mx3.6/46,mbtmp3.7/6,ML4.1/1,Error ellipse: s-maj=49.8km s-min=29.0km az=119.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.54**	**176**	Pn	Pn	21 09 30.1	+1.0
	1.5nm,0.3s,baz=348,slow=14,SNR=12						
WRA	**Warramunga Arr**	**31.31**	**251**	P	P	21 13 18.9	0.0
	1.0nm,0.7s,baz=82,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**32.57**	**244**	P	P	21 13 29.3	-0.7
	0.6nm,0.8s,baz=69,slow=10,SNR=5.1						
SONM	**Songino Array**	**79.01**	**324**	P	P	21 19 04.2	+1.5
	0.2nm,0.6s,baz=107,slow=7.7,SNR=1.6						
ILAR	**Eielson Array**	**83.94**	**18**	P	P	21 19 27.7	-0.6
	0.3nm,0.7s,baz=239,slow=5.9,SNR=5.3						
MKAR	**Makanchi Array**	**93.83**	**317**	P	P	21 20 15.1	-0.8
	0.2nm,0.7s,baz=87,slow=5.5,SNR=3.9						

*GEN **25** 21:09:21.5,44.50N×6.67E,h8km,ML2.0*
*CSEM **25** 21:09:21.2±0.1,44.52N×6.67E,h2km,ML2.8/28,Error ellipse: s-maj=2.4km s-min=1.9km az=44.0*
*LDG **25** 21:09:21.6±0.1,44.51N×6.67E,h5km,Md3.0/1,Ml2.7/24, Error ellipse: s-maj=1.2km s-min=0.9km az=53.0*
*ROM **25** 21:09:22.1±0.1,44.54N×6.74E,h11km,Md2.7/14, Ml2.1/15,Error ellipse: s-maj=0.7km s-min=0.0km az=90.0*
*STR **25** 21:09:23.4±0.4,44.61N±0.02×6.73E±0.02,h5km, MLv2.7/10*

ISC 25 21:09:21.6±0.8,44.51N±0.01×6.67E±0.02,h17km±6km, n111,σ1§47/188,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.23**	**18**	*e*Pg	**Pg**	**21 09 26.4**	**-0.5**
MBDF				*e*Sg	**Sg**	**21 09 29.5**	**-1.1**
	414nm,0.5s,SNR=1.0						
MBDF	**Montbardon**	**0.23**	**18**	*e*Pg	**Pg**	**21 09 26.4**	**-0.5**
MBDF				*e*Sg	**Sg**	**21 09 29.5**	**-1.1**
	207nm,0.5s,SNR=1.0						
PZZ	**Stroppo**	**0.32**	**91**	P	**Pg**	**21 09 27.9**	**-0.5**
PZZ				S	**Sg**	**21 09 32.4**	**-0.5**
PZZ	**Stroppo**	**0.32**	**91**	Pg	**Pg**	**21 09 27.9**	**-0.5**
PZZ				Sg	**Sg**	**21 09 32.5**	**-0.5**
	329nm,0.2s						
OG22	**Abries**	**0.37**	**32**	Pg	**Pg**	**21 09 28.2**	**-1.1**
OG22				Sg	**Sg**	**21 09 33.3**	**-1.2**
OG22	**Abries**	**0.37**	**32**	Pg	**Pg**	**21 09 28.2**	**-1.1**
DOI	**San Damiano**	**0.41**	**91**	Pg	**Pg**	**21 09 29.3**	**-0.7**
DOI				Sg	**Sg**	**21 09 35.1**	**-0.6**
	120nm,0.4s						
DOI	**San Damiano**	**0.41**	**91**	Pg	**Pg**	**21 09 29.3**	**-0.7**
DOI				Sg	**Sg**	**21 09 35.1**	**-0.6**
	120nm,0.4s						
RRL	**Rocca Remolon**	**0.42**	**11**	P	**Pg**	**21 09 29.9**	**-0.3**
RRL				S	**Sg**	**21 09 35.7**	**-0.3**
RRL	**Rocca Remolon**	**0.42**	**11**	Pg	**Pg**	**21 09 29.9**	**-0.3**
RRL				Sg	**Sg**	**21 09 35.9**	**-0.1**
	109nm,0.4s						
BHB	**Bricherasio**	**0.54**	**52**	P	**Pg**	**21 09 31.8**	**-0.4**
BHB				S	**Sg**	**21 09 38.7**	**-0.7**
BHB	**Bricherasio**	**0.54**	**52**	Pg	**Pg**	**21 09 31.9**	**-0.3**
BHB				Sg	**Sg**	**21 09 38.5**	**-0.9**
	119nm,0.2s						
STV	**Sant Anna di V**	**0.54**	**119**	P	**Pg**	**21 09 31.9**	**-0.4**
STV				Sg	**Sg**	**21 09 38.6**	**-0.9**
	82nm,0.2s						
STV	**Sant Anna di V**	**0.54**	**119**	Pg	**Pg**	**21 09 31.9**	**-0.4**
STV				Sg	**Sg**	**21 09 38.6**	**-0.9**
	82nm,0.2s						
BNI	**Bardonecchia**	**0.54**	**0**	Pg	**Pg**	**21 09 32.2**	**-0.2**
BNI				Sg	**Sg**	**21 09 39.4**	**-0.3**
	24nm,0.3s						
BNI	**Bardonecchia**	**0.54**	**0**	Pg	**Pg**	**21 09 32.2**	**-0.2**
BNI				Sg	**Sg**	**21 09 39.4**	**-0.3**
	24nm,0.3s						
ENR	**Entracque**	**0.61**	**118**	Pg	**Pg**	**21 09 33.0**	**-0.6**
	94nm,0.1s						
ENR				S	**Sg**	**21 09 41.1**	**-0.6**
ENR	**Entracque**	**0.61**	**118**	Pg	**Pg**	**21 09 33.0**	**-0.6**
	94nm,0.1s						
ORIF	**Oris-en-Rattie**	**0.70**	**306**	*e*Pg	**Pg**	**21 09 34.9**	**-0.4**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**21 09 44.2**	**-0.4**
	110nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.70**	**306**	*e*Pg	**Pg**	**21 09 34.9**	**-0.4**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**21 09 44.2**	**-0.4**
	55nm,0.2s,SNR=1.0						
RSP	**Reno Superiore**	**0.76**	**33**	P	**Pg**	**21 09 36.2**	**-0.3**
RSP				S	**Sg**	**21 09 45.5**	**-1.2**
RSP				Sg	**Sg**	**21 09 46.7**	**0.0**
	46nm,0.1s						
RSP	**Reno Superiore**	**0.76**	**33**	Pg	**Pg**	**21 09 36.3**	**-0.3**
RSP				Sg	**Sg**	**21 09 46.7**	**0.0**
	46nm,0.1s						
GDM	**Grand'Maison**	**0.80**	**330**	Pg	**Pg**	**21 09 36.8**	**-0.4**
GDM				Sg	**Sg**	**21 09 47.5**	**-0.3**
GDM	**Grand'Maison**	**0.80**	**330**	Pg	**Pg**	**21 09 36.8**	**-0.4**
SBF	**Sospel**	**0.85**	**140**	*e*Pg	**Pg**	**21 09 37.6**	**-0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**21 09 48.8**	**-0.5**
	70nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.85**	**140**	*e*Pg	**Pg**	**21 09 37.6**	**-0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**21 09 48.8**	**-0.5**
	35nm,0.2s,SNR=1.0						
GBOS	**Grotte di Boss**	**0.88**	**107**	Pg	**Pg**	**21 09 37.9**	**-0.7**
GBOS				S	**Sg**	**21 09 48.8**	**-1.4**
GBOS				Sg	**Sg**	**21 09 49.7**	**-0.5**
	43nm,0.2s						
GBOS	**Grotte di Boss**	**0.88**	**107**	Pg	**Pg**	**21 09 37.9**	**-0.7**
GBOS				Sg	**Sg**	**21 09 49.7**	**-0.5**
	43nm,0.2s						
FRF	**La Foret Royal**	**0.95**	**181**	*e*Pg	**Pg**	**21 09 39.7**	**-0.3**
FRF	**La Foret Royal**	**0.95**	**181**	*e*P	**Pn**	**21 09 41.2**	**+1.0**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**21 09 51.8**	**-0.7**
	79nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.95**	**181**	*e*Pg	**Pg**	**21 09 39.7**	**-0.3**
FRF	**La Foret Royal**	**0.95**	**181**	*e*P	**Pn**	**21 09 41.2**	**+1.0**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**21 09 51.8**	**-0.7**
	40nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.95**	**236**	*e*Pn	**Pg**	**21 09 40.2**	**+0.1**
	SNR=1.0						
SMRF	**Simiane la Rot**	**0.95**	**236**	*e*P	**Pn**	**21 09 41.4**	**+1.2**
	SNR=1.0						
SMRF				*e*Sn	**Sb**	**21 09 53.6**	**+1.6**
	20nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.95**	**236**	*e*Pn	**Pg**	**21 09 40.2**	**+0.1**
	SNR=1.0						
SMRF	**Simiane la Rot**	**0.95**	**236**	*e*P	**Pn**	**21 09 41.4**	**+1.2**
	SNR=1.0						
SMRF				*e*Sn	**Sb**	**21 09 53.6**	**+1.6**
	10nm,0.2s,SNR=1.0						
GRN	**Grenoble**	**0.99**	**318**	Pg	**Pb**	**21 09 41.3**	**+1.0**
GRN				Sg	**Sb**	**21 09 54.3**	**+1.3**
GRN	**Grenoble**	**0.99**	**318**	Pg	**Pb**	**21 09 41.3**	**+1.0**
LPG	**La Plagne**	**0.99**	**3**	*e*Pg	**Pg**	**21 09 40.3**	**-0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**21 09 53.4**	**-0.4**
	15nm,0.2s						
LPG	**La Plagne**	**0.99**	**3**	*e*Pg	**Pg**	**21 09 40.3**	**-0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**21 09 53.4**	**-0.4**
	7.4nm,0.2s						
NEGI	**Seborga**	**0.99**	**131**	Pg	**Pg**	**21 09 40.4**	**-0.4**
NEGI				Sg	**Sg**	**21 09 53.1**	**-0.8**
	95nm,0.3s						
NEGI	**Seborga**	**0.99**	**131**	Pg	**Pg**	**21 09 40.4**	**-0.4**
NEGI				Sg	**Sg**	**21 09 53.1**	**-0.8**
	95nm,0.3s						
LSD	**Lago del Serru**	**1.00**	**19**	Pg	**Pg**	**21 09 40.6**	**-0.5**
	46nm,0.3s						
LSD	**Lago del Serru**	**1.00**	**19**	Pg	**Pg**	**21 09 40.6**	**-0.5**
	46nm,0.3s						
LPL	**La Plagne**	**1.01**	**2**	*e*Pg	**Pg**	**21 09 40.6**	**-0.5**
LPL	**La Plagne**	**1.01**	**2**	*e*Pn	**Pg**	**21 09 41.2**	**+0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**21 09 53.8**	**-0.6**
	22nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.01**	**2**	*e*Pg	**Pg**	**21 09 40.6**	**-0.5**
LPL	**La Plagne**	**1.01**	**2**	*e*Pn	**Pg**	**21 09 41.2**	**+0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**21 09 53.8**	**-0.6**
	11nm,0.3s,SNR=1.0						
MONC	**Moncucco Torin**	**1.05**	**57**	Pg	**Pg**	**21 09 40.8**	**-1.2**
	61nm,0.5s						
MONC	**Moncucco Torin**	**1.05**	**57**	Pg	**Pg**	**21 09 40.8**	**-1.2**
	61nm,0.5s						
IMI	**Imperia**	**1.06**	**124**	Pg	**Pg**	**21 09 41.5**	**-0.6**
IMI				Sg	**Sg**	**21 09 55.4**	**-0.6**
	115nm,0.5s						
IMI	**Imperia**	**1.06**	**124**	Pg	**Pg**	**21 09 41.5**	**-0.6**
IMI				Sg	**Sg**	**21 09 55.4**	**-0.6**
	115nm,0.5s						
RORO	**Rocca Rossa**	**1.08**	**111**	Pg	**Pg**	**21 09 41.3**	**-1.1**
	29nm,0.3s						
RORO	**Rocca Rossa**	**1.08**	**111**	Pg	**Pg**	**21 09 41.3**	**-1.1**
	29nm,0.3s						
LMR	**La Mourre**	**1.18**	**186**	*e*Pg	**Pg**	**21 09 43.7**	**-0.7**
	SNR=1.0						
LMR	**La Mourre**	**1.18**	**186**	*e*P	**Pn**	**21 09 44.8**	**+1.5**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**21 09 59.1**	**-0.7**
	53nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.18**	**186**	*e*Pg	**Pg**	**21 09 43.7**	**-0.7**
	SNR=1.0						
LMR	**La Mourre**	**1.18**	**186**	*e*P	**Pn**	**21 09 44.8**	**+1.5**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**21 09 59.1**	**-0.7**
	27nm,0.2s,SNR=1.0						
PCP	**Piancastagn**	**1.34**	**88**	Pg	**Pn**	**21 09 45.9**	**+0.4**
	17nm,0.7s						
PCP	**Piancastagn**	**1.34**	**88**	Pg	**Pn**	**21 09 45.9**	**+0.4**
	17nm,0.7s						
VIVF	**Saint-Julien-l**	**1.47**	**284**	*e*Pg	**Pn**	**21 09 48.8**	**+1.5**
	SNR=1.0						
VIVF				*e*Sn	**Sb**	**21 10 05.8**	**-1.1**
	27nm,0.3s,SNR=1.0						
VIVF				*e*Sg	**Sn**	**21 10 08.2**	**+2.0**
	28nm,0.3s						
VIVF	**Saint-Julien-l**	**1.47**	**284**	*e*Pg	**Pn**	**21 09 48.8**	**+1.5**
	SNR=1.0						
VIVF				*e*Sn	**Sb**	**21 10 05.8**	**-1.1**
	14nm,0.3s,SNR=1.0						
VIVF				*e*Sg	**Sn**	**21 10 08.2**	**+2.0**
	14nm,0.3s						
SSB	**Saint Sauveur**	**1.70**	**298**	Pn	**Pn**	**21 09 52.1**	**+1.6**
LASF	**Ste Croix**	**2.07**	**259**	*e*P	**Pn**	**21 09 57.1**	**+1.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**21 10 20.0**	**-1.0**
	3.8nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.07**	**259**	*e*P	**Pn**	**21 09 57.1**	**+1.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**21 10 20.0**	**-1.0**
	1.9nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**2.14**	**349**	*e*P	**Pn**	**21 09 58.7**	**+2.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**21 10 29.6**	**-0.8**
	15nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**2.14**	**349**	*e*P	**Pn**	**21 09 58.7**	**+2.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**21 10 29.6**	**-0.8**
	7.7nm,0.6s,SNR=1.0						
LBL	**Lubilhac**	**2.54**	**288**	Pn	**Pn**	**21 10 03.6**	**+1.5**
LBL	**Lubilhac**	**2.54**	**288**	Pn	**Pn**	**21 10 03.7**	**+1.5**
PGF	**Pioggiola**	**2.59**	**138**	*e*Pn	**Pn**	**21 10 03.5**	**+0.7**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**21 10 32.6**	**-1.3**
	4.6nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.59**	**138**	*e*Pn	**Pn**	**21 10 03.5**	**+0.7**
	SNR=1.0						
PYM	**Petit Puy Mans**	**2.88**	**297**	Pn	**Pn**	**21 10 09.1**	**+2.4**
PYM	**Petit Puy Mans**	**2.88**	**297**	Pg	**Pg**	**21 10 17.7**	**+1.0**
PYM	**Petit Puy Mans**	**2.88**	**297**	Pn	**Pn**	**21 10 09.2**	**+2.4**
PYM	**Petit Puy Mans**	**2.88**	**297**	Pg	**Pg**	**21 10 17.7**	**+1.0**
SMF	**Signal de Mont**	**2.92**	**318**	*e*Pn	**Pn**	**21 10 07.0**	**-0.2**
	SNR=1.0						
SMF	**Signal de Mont**	**2.92**	**318**	*e*P	**Pn**	**21 10 09.5**	**+2.3**
SMF				*e*Sn	**Sn**	**21 10 40.3**	**-1.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**21 10 53.1**	**-2.2**
	7.0nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**2.92**	**318**	*e*Pn	**Pn**	**21 10 07.0**	**-0.2**
	SNR=1.0						
SMF	**Signal de Mont**	**2.92**	**318**	*e*P	**Pn**	**21 10 09.5**	**+2.3**
SMF				*e*Sg	**Sg**	**21 10 53.1**	**-2.2**
	3.5nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**3.26**	**316**	*e*Pn	**Pn**	**21 10 12.0**	**+0.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.26**	**316**	*e*P	**Pn**	**21 10 14.3**	**+2.4**
AVF				*e*Sn	**Sn**	**21 10 48.4**	**-1.9**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**21 11 03.7**	**-2.5**
	6.3nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**3.26**	**316**	*e*Pn	**Pn**	**21 10 12.0**	**+0.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.26**	**316**	*e*P	**Pn**	**21 10 14.3**	**+2.4**
AVF				*e*Sg	**Sg**	**21 11 03.7**	**-2.5**
	3.2nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**3.31**	**2**	*e*P	**Pn**	**21 10 14.5**	**+1.9**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**21 11 06.3**	**-1.5**
	3.3nm,0.4s						
HINF	**Hinteralfeld**	**3.31**	**2**	*e*P	**Pn**	**21 10 14.5**	**+1.9**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**21 11 06.3**	**-1.5**
	1.6nm,0.4s						
CAF	**Calviac**	**3.31**	**279**	*e*P	**Pn**	**21 10 13.0**	**+0.3**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**21 11 05.4**	**-2.5**
	4.3nm,0.6s,SNR=1.0						
CAF	**Calviac**	**3.31**	**279**	*e*P	**Pn**	**21 10 13.0**	**+0.3**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**21 11 05.4**	**-2.5**
	2.2nm,0.6s,SNR=1.0						
SSF	**Saint Saulge**	**3.38**	**320**	*e*P	**Pn**	**21 10 15.5**	**+1.9**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**21 11 07.7**	**-2.4**
	3.5nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.38**	**320**	*e*P	**Pn**	**21 10 15.5**	**+1.9**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**21 11 07.7**	**-2.4**
	1.8nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.38**	**309**	*e*P	**Pn**	**21 10 15.5**	**+1.9**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**21 11 07.4**	**-2.7**
	12nm,0.4s						
BGF	**Bois d'Agland**	**3.38**	**309**	*e*P	**Pn**	**21 10 15.5**	**+1.9**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**21 11 07.4**	**-2.7**
	6.2nm,0.4s						
LOR	**Lormes**	**3.39**	**326**	*e*P	**Pn**	**21 10 15.5**	**+1.8**
	baz=144,SNR=1.0						
LOR				*e*Sn	**Sn**	**21 10 51.4**	**-2.1**
	3.4nm,0.3s,SNR=1.0						
LOR				*e*Sg	**Sg**	**21 11 08.0**	**-2.3**
	5.1nm,0.3s						
LOR	**Lormes**	**3.39**	**326**	*e*P	**Pn**	**21 10 15.5**	**+1.8**
	baz=144,SNR=1.0						
LOR				*e*Sg	**Sg**	**21 11 08.0**	**-2.3**
	2.5nm,0.3s						
MTLF	**Montolieu**	**3.43**	**252**	*e*P	**Pn**	**21 10 16.9**	**+2.7**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**21 10 52.2**	**-2.2**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**21 11 09.1**	**-2.5**
	1.2nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.43**	**252**	*e*P	**Pn**	**21 10 16.9**	**+2.7**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**21 11 09.1**	**-2.5**
	0.6nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.50**	**356**	*e*P	**Pn**	**21 10 17.2**	**+1.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**21 11 11.4**	**-2.6**
	3.4nm,0.3s						
HAU	**Haudompre**	**3.50**	**356**	*e*P	**Pn**	**21 10 17.2**	**+1.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**21 11 11.4**	**-2.6**
	1.7nm,0.3s						
TCF	**Toulx Ste Croi**	**3.61**	**301**	*e*P	**Pn**	**21 10 19.0**	**+2.2**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**21 10 56.7**	**-2.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**21 11 14.2**	**-3.3**
	3.3nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.61**	**301**	*e*P	**Pn**	**21 10 19.0**	**+2.2**
	SNR=1.0						
RJF	**Les Rejaudoux**	**3.75**	**284**	*e*P	**Pn**	**21 10 21.5**	**+2.9**
RJF				*e*Sg	**Sg**	**21 11 19.4**	**-2.5**
	3.7nm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**3.75**	**284**	*e*P	**Pn**	**21 10 21.5**	**+2.9**
RJF				*e*Sg	**Sg**	**21 11 19.4**	**-2.5**
	1.9nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**3.92**	**6**	*e*Pn	**Pn**	**21 10 20.5**	**-0.6**
CDF	**Champ du Feu**	**3.92**	**6**	*e*P	**Pn**	**21 10 23.7**	**+2.6**
	SNR=1.0						
CDF	**Champ du Feu**	**3.92**	**6**	*e*Pn	**Pn**	**21 10 20.5**	**-0.6**
CDF	**Champ du Feu**	**3.92**	**6**	*e*P	**Pn**	**21 10 23.7**	**+2.6**
	SNR=1.0						
PAGF	**Fort de Pagny**	**4.10**	**351**	*e*P	**Pn**	**21 10 26.1**	**+2.7**
	baz=163						
PAGF	**Fort de Pagny**	**4.10**	**351**	*e*P	**Pn**	**21 10 26.1**	**+2.7**
	baz=163						
LFF	**La Frestale**	**4.25**	**278**	*e*Pn	**Pn**	**21 10 25.4**	**-0.1**
LFF	**La Frestale**	**4.25**	**278**	*e*Pn	**Pn**	**21 10 25.4**	**-0.1**
BAIF	**Baives**	**5.80**	**344**	*e*P	**Pn**	**21 10 49.3**	**+2.5**
	SNR=1.0						
BAIF	**Baives**	**5.80**	**344**	*e*P	**Pn**	**21 10 49.3**	**+2.5**
	SNR=1.0						

CASC 25 21:13:57.8±1.2,12.83N×88.63W,h44km±31km,ML3.8, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UESV	**Ojushtada**	**0.57**	**344**	*e*P	Pn	21 14 13.6	+3.8
UESV				*e*S	Sn	21 14 25.2	+7.0
LCY	**Lacayo**	**0.68**	**29**	*i* P	Pn	21 14 11.4	+0.2
VSM	**San Miguel**	**0.69**	**30**	*e*P	Pn	21 14 11.6	+0.1
PACA	**Pacayal**	**0.71**	**25**	*e*P	Pn	21 14 12.1	+0.5
PACA				*e*S	Sn	21 14 22.6	+1.1
SNVI	**San Vicente**	**0.81**	**346**	*e*P	Pn	21 14 13.4	+0.4
SNVI				*e*S	Sn	21 14 24.6	+0.7
LCND	**La Caˆ–ada**	**0.87**	**56**	*i* P	Pn	21 14 13.5	-0.1
LCND				*e*S	Sn	21 14 25.5	+0.3
LCND				IAML		21 14 27.2	
	comp=Z,7μm,0.3s						
CNCH	**Conchagua**	**0.90**	**60**	*e*P	Pn	21 14 13.9	-0.3
LFRS	**El Faro**	**0.90**	**332**	*i* P	Pn	21 14 14.1	0.0
PAVA	**Las Pavas**	**0.93**	**341**	*e*P	Pn	21 14 15.0	+0.4
PAVA				*e*S	Sn	21 14 28.5	+1.7
LOMA	**San Marcos**	**0.98**	**327**	*i* P	Pn	21 14 15.2	+0.1
LOMA				*e*S	Sn	21 14 28.5	+0.7
SANM	**San Marcos**	**0.99**	**327**	*e*P	Pn	21 14 15.2	-0.2
SANM				*e*S	Sn	21 14 28.1	-0.1
LBRS	**Las Brisas**	**0.99**	**336**	*i* P	Pn	21 14 15.8	+0.4
CAHU	**Cacacuatique**	**1.02**	**23**	*e*P	Pn	21 14 15.7	-0.2
CAHU				*e*P	Pn	21 14 16.0	+0.1
CAHU				*e*S	Sn	21 14 30.3	+1.0
UDBS	**Soyapango**	**1.03**	**330**	*e*P	Pn	21 14 16.0	+0.1
UDBS				*e*S	Sn	21 14 29.5	+0.3
UDBS				IAML		21 14 32.1	
	comp=Z,4μm,0.3s						
LFU	**La Fuente**	**1.03**	**333**	*e*P	Pn	21 14 16.3	+0.4
LFU				*e*S	Sn	21 14 30.4	+1.2
UESS	**San Salvador**	**1.03**	**328**	*e*P	Pn	21 14 16.5	+0.5
UESS				*e*S	Sn	21 14 30.3	+1.0
SNET	**Serv Nac Est T**	**1.04**	**326**	*e*P	Pn	21 14 16.0	0.0
SNET				*e*S	Sn	21 14 29.4	0.0
SNET				IAML		21 14 30.9	
	comp=Z,2μm,0.2s						
OPAM	**San Salvador**	**1.04**	**328**	*e*P	Pn	21 14 16.2	+0.1
OPAM				*e*S	Sn	21 14 30.1	+0.5
OPAM				IAML		21 14 31.7	
	comp=Z,3μm,0.2s						
COLS	**Colinas**	**1.06**	**322**	*e*P	Pn	21 14 16.6	+0.2
UEES	**San Salvador**	**1.08**	**326**	*e*P	Pn	21 14 16.6	0.0
UEES				*e*S	Sn	21 14 31.1	+0.7
BOQS	**Boqueron**	**1.10**	**325**	*e*P	Pn	21 14 17.3	+0.3
BOQS				*e*S	Sn	21 14 30.9	-0.3
SBLS	**San Blas**	**1.40**	**316**	*e*P	Pn	21 14 21.5	+0.4
SNJE	**San Jose**	**1.41**	**318**	*e*P	Pn	21 14 21.8	+0.6
CRIN	**San Cristobal**	**1.55**	**94**	*e*P	Pn	21 14 23.4	+0.4
CRIN				*e*S	Sn	21 14 42.7	+0.8
MTO3	**Montecristo**	**1.72**	**336**	*e*P	Pn	21 14 25.6	+0.2
TELN	**Telica**	**1.77**	**97**	*e*P	Pn	21 14 25.8	-0.3
TGUH	**Tegucigalpa,Un**	**1.80**	**47**	*e*P	Pn	21 14 26.3	0.0
CNGN	**Cerro Negro**	**1.91**	**100**	*e*P	Pn	21 14 27.9	-0.1
CNGN				*e*S	Sn	21 14 51.5	+0.6
CNGN				AML	AML	21 14 59.7	
	comp=E,314nm,0.3s						
MOMN	**Momotombo**	**2.08**	**101**	*e*P	Pn	21 14 30.0	-0.3
COPN	**Copaltepe**	**2.09**	**108**	*e*P	Pn	21 14 29.9	-0.5

WRA	**Warramunga Arr**	**24.48**	**237**	P		P	21 37 55.1	-0.5
	0.6nm,0.7s,baz=69,slow=8.3,SNR=23							
ASAR	**Alice Springs**	**26.74**	**230**	P		P	21 38 16.2	+0.2
	0.2nm,0.6s,baz=58,slow=9.1,SNR=4.5							
JHJ	**Hachijo jima 2**	**42.99**	**340**	LR		LR	21 58 00.0	
	comp=Z,143nm,18.1s,baz=80,slow=36							
CMAR	**Chiang Mai Arr**	**61.76**	**295**	P		P	21 42 55.7	+0.3
	0.6nm,0.4s,baz=114,slow=4.6,SNR=4.5							
SONM	**Songino Array**	**70.07**	**327**	P		P	21 43 48.1	-0.4
	0.3nm,0.6s,baz=111,slow=7.6,SNR=3.0							
YKA	**Yellowknife Ar**	**96.10**	**28**	P		P	21 46 03.4	-0.4
	0.1nm,0.5s,baz=255,slow=4.6,SNR=2.6							
TORD	**Torodi Ar. Bea**	**154.02**	**285**	PKPbc		PKPbc	21 52 37.7	+0.6
	0.7nm,0.9s,baz=62,slow=1.5,SNR=3.9							

IDC 25 21:46:19.7±10.0, 17.73°S × 175.95°W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/44, mbtmp3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/36, Error ellipse: s-maj=462.6km s-min=37.1km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**17.11**	**253**	LR	LR		21 55 42.0	
	comp=Z,151nm,18.5s,baz=23,slow=33							
WRA	**Warramunga Arr**	**46.96**	**259**	P		P	21 54 52.9	+0.1
	0.3nm,0.5s,baz=93,slow=8.4,SNR=8.5							
ASAR	**Alice Springs**	**47.09**	**254**	P		P	21 54 53.3	-0.4
	0.6nm,0.9s,baz=91,slow=8.3,SNR=4.5							
ILAR	**Eielson Array**	**85.21**	**12**	P		P	21 58 57.6	0.0
	0.7nm,1.1s,baz=218,slow=5.7,SNR=3.0							

IDC 25 21:46:33.4±7.6, 6.58°S × 146.76E, h108km±78km, mb2.6/1, mb1 2.9/3, mb1mx2.7/47, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=94.1km s-min=56.4km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**2.84**	**172**	P		Pn	21 47 17.1	-0.1
	4.3nm,0.3s,baz=0.0,slow=9.1,SNR=8.6							
PMG				S		Sn	21 47 51.6	+0.7
	6.0nm,0.3s,baz=144,slow=22,SNR=9.0							
WRA	**Warramunga Arr**	**17.95**	**221**	P		P	21 50 34.4	-0.9
	0.1nm,0.3s,baz=42,slow=11,SNR=8.0							
ASAR	**Alice Springs**	**21.01**	**215**	P		P	21 51 08.4	-0.1
	0.3nm,0.5s,baz=52,slow=8.3,SNR=5.5							
TORD	**Torodi Ar. Bea**	**145.00**	**283**	PKPbc		PKPbc	22 05 58.2	-0.4
	0.4nm,0.7s,baz=72,slow=2.7,SNR=4.2							

*ISCJB **25** 21:48:15.1±0.4, 0.86N±0.08× 29.99W±0.06, h14km, mb4.4/21, MS3.5/10, Error ellipse: s-maj=11.4km s-min=7.2km az=156.7*

*IDC **25** 21:48:15.3±0.7, 0.85N×29.95W, h0km, mb4.0/12, mb1 4.2/14, mb1mx3.9/64, mbtmp4.1/14, ML4.7/2, MS3.5/11, Ms1 3.5/11, ms1mx3.2/54, Error ellipse: s-maj=26.0km s-min=14.6km az=143.0*

*NEIC **25** 21:48:16.4±0.4, 0.87N×29.99W, h10km, mb4.8/11, Error ellipse: s-maj=12.2km s-min=7.8km az=153.0*

ISC 25 21:48:16.9±0.5, 0.78N±0.08× 30.05W±0.08, h14km, n54, σ1s87/47, mb4.3/21, MS3.4/10, 1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RCBR	**Riachuelo**	**8.78**	**222**	Pn		**Pn**	**21 50 23.6**	**0.0**
	5.3nm,0.3s,baz=14,slow=14,SNR=32							
RCBR				Sn		**Sn**	**21 51 56.6**	**-5.9**
	3.7nm,0.3s,baz=287,slow=2.1,SNR=4.2							
RCBR	**Riachuelo**	**8.78**	**222**	*e*Pn		**Pn**	**21 50 24.4**	**+0.8**
RCBR				*e*Sn		**Sn**	**21 51 60.0**	**-2.5**
SACV	**Santiago Islan**	**15.47**	**24**	*e*P		**Pn**	**21 51 52.7**	**-2.2**
	28nm,0.6s							
H10N3	**ASCENSION HYDR**	**17.71**	**119**	T		T	22 10 28.8	
	baz=299,slow=74,SNR=218							
H10N2	**ASCENSION HYDR**	**17.72**	**119**	T		T	22 10 33.3	
	baz=299,slow=74,SNR=180							
H10N1	**ASCENSION HYDR**	**17.73**	**119**	T		T	22 10 30.3	
	baz=299,slow=74,SNR=212							
ASCN	**Ascension**	**17.88**	**119**	*e*Pn		**P**	**21 52 25.4**	**-0.6**
	210nm,1.3s							
H10S3	**ASCENSION HYDR**	**18.12**	**123**	T		T	22 10 59.7	
	baz=302,slow=74,SNR=93							
H10S1	**ASCENSION HYDR**	**18.13**	**123**	T		T	22 10 54.6	
	baz=302,slow=74,SNR=97							
H10S2	**ASCENSION HYDR**	**18.14**	**123**	T		T	22 10 54.6	
	baz=302,slow=74,SNR=100							
BBTS	**Babate**	**19.21**	**43**	P		**Pn**	**21 52 41.4**	**-0.1**
	3.2nm,0.3s,baz=352,slow=0.8,SNR=8.0							
BBTS				LR		LR	21 58 10.5	
	comp=Z,102nm,19.1s,baz=220,slow=31							
LIC	**Lamto**	**25.55**	**77**	*e*P		**P**	**21 53 45.4**	**-0.1**
	80nm,1.2s							
TIC	**Toumodi**	**25.64**	**76**	*e*P		**P**	**21 53 46.1**	**-0.3**
DBIC	**Dimbokro**	**25.80**	**76**	P		**P**	**21 53 47.4**	**-0.5**
	18nm,0.7s,baz=246,slow=12,SNR=28							
DBIC				LR		LR	22 02 12.7	
	comp=Z,57nm,18.1s,baz=168,slow=33							
DBIC	**Dimbokro**	**25.80**	**76**	*e*P		**P**	**21 53 47.4**	**-0.5**
	18nm,0.7s							
KIC	**Kosan Boka**	**25.85**	**77**	*e*P		**P**	**21 53 48.1**	**-0.2**
	34nm,1.0s							
KOWA	**Kowa**	**29.13**	**61**	P		**P**	**21 54 16.3**	**-1.4**
	1.5nm,0.9s,baz=247,slow=7.7,SNR=3.4							
KOWA				LR		LR	22 04 22.7	
	comp=Z,190nm,18.4s,baz=206,slow=33							
KOWA	**Kowa**	**29.13**	**61**	*e*P		**P**	**21 54 16.3**	**-1.4**
	22nm,1.6s							
TOA1	**Torodi Ar. Sit**	**33.76**	**67**	*e*P		**P**	**21 54 56.5**	**-2.0**
TOA0	**Torodi Ar. Sit**	**33.76**	**67**	*e*P		**P**	**21 54 57.2**	**-1.3**
	18nm,1.6s							
TORD	**Torodi Ar. Bea**	**33.76**	**67**	P		**P**	**21 54 56.5**	**-2.0**
	1.3nm,0.9s,baz=255,slow=8.6,SNR=6.0							
SAML	**Samuel**	**34.39**	**253**	*e*P		**P**	**21 55 06.3**	**+2.3**
	6.9nm,1.0s							
SIV	**San Ignacio**	**34.87**	**240**	LR		LR	22 08 56.7	
	comp=Z,262nm,19.0s,baz=10,slow=36							
CPUP	**Villa Florida**	**37.66**	**222**	P		**P**	**21 55 32.9**	**+1.0**
	3.5nm,0.9s,baz=51,slow=7.4,SNR=9.2							
CPUP				LR		LR	22 10 49.3	
	comp=Z,174nm,19.0s,baz=61,slow=36							
CPUP	**Villa Florida**	**37.66**	**222**	*e*P		**P**	**21 55 33.7**	**+1.9**
	5.8nm,1.1s							
SJG	**San Juan**	**39.42**	**298**	LR		LR	22 08 41.7	
	comp=Z,21nm,18.7s,baz=110,slow=31							
LPAZ	**La Paz**	**41.22**	**244**	P		**P**	**21 56 04.3**	**+1.9**
	3.0nm,0.8s,baz=57,slow=7.6,SNR=12							
LPAZ				LR		LR	22 12 55.8	
	comp=Z,50nm,19.2s,baz=81,slow=36							
LPAZ	**La Paz**	**41.22**	**244**	*e*P		**P**	**21 56 01.4**	**-1.1**
RUSC	**La Rusia**	**43.24**	**278**	*e*P		**P**	**21 56 18.6**	**-0.2**
	4.2nm,1.4s							
GRTK	**Grand Turk**	**45.03**	**300**	*e*P		**P**	**21 56 31.0**	**-1.5**
	258nm,1.4s							
ESDC	**Sonseca Array**	**45.44**	**28**	P		**P**	**21 56 35.7**	**+0.1**
	0.4nm,0.5s,baz=217,slow=8.8,SNR=8.4							
TRQA	**Tornquist**	**48.57**	**214**	*e*P		**P**	**21 57 00.2**	**+0.2**
	28nm,1.7s							
KEST	**Kesra**	**50.47**	**42**	LR		LR	22 19 37.3	
	comp=Z,87nm,19.1s,baz=210,slow=37							
TSUM	**Tsumeb**	**50.77**	**116**	P		**P**	**21 57 16.9**	**-0.3**
	3.2nm,0.8s,baz=277,slow=6.2,SNR=5.0							
BOSA	**Boshof**	**60.40**	**124**	P		**P**	**21 58 27.0**	**+0.7**
	4.8nm,1.0s,baz=254,slow=7.4,SNR=4.5							
TKL	**Tuckaleechee C**	**60.69**	**311**	LR		LR	22 20 59.3	
	comp=Z,24nm,19.1s,baz=300,slow=32							
GERES	**GERESS Array B**	**60.84**	**32**	P		**P**	**21 58 28.8**	**-0.2**
	0.6nm,0.6s,baz=213,slow=7.1,SNR=6.3							
GERES				LR		LR	22 23 31.7	
	comp=Z,30nm,19.7s,baz=258,slow=35							
MLR	**Muntele Rosso**	**66.24**	**40**	LR		LR	22 28 42.6	
	comp=Z,8.3nm,18.6s,baz=308,slow=37							
BR101	**Keskin Array S**	**69.49**	**48**	*e*P		**P**	**21 59 25.2**	**-0.1**
BRTR	**Keskin Array B**	**69.49**	**48**	P		**P**	**21 59 25.2**	**-0.1**
	0.3nm,0.7s,baz=282,slow=7.0,SNR=2.6							
AKASG	**Malin Array Be**	**70.41**	**35**	P		**P**	**21 59 29.9**	**-0.6**
	0.2nm,0.3s,baz=244,slow=6.5,SNR=4.5							
AKBB	**Malin Array Si**	**70.41**	**35**	*e*P		**P**	**21 59 29.9**	**-0.6**
	14nm,1.5s							
LTX	**Lajitas**	**75.36**	**300**	*e*P		**P**	**22 00 01.3**	**+0.8**
TXAR	**Lajitas Array**	**75.36**	**300**	P		**P**	**22 00 01.3**	**+0.8**
	0.4nm,0.8s,baz=139,slow=8.3,SNR=3.7							
PDAR	**Pinedale Array**	**81.77**	**313**	*e*P		**P**	**22 00 39.5**	**+3.7**
TCUT	**Toone Canyon**	**82.97**	**311**	*e*P		**P**	**22 00 37.9**	**-4.3**
	30nm,0.6s							
SYO	**Syowa Base**	**83.52**	**160**	‖*e*P		**P**	**22 00 44.8**	**+0.8**
GSC	**Goldstone, Bar**	**86.90**	**305**	*e*P		**P**	**22 01 02.4**	**+0.6**
RCWM	**Renegade Canyo**	**87.60**	**306**	*e*P		**P**	**22 01 04.8**	**-0.4**
EDW2	**Edwards Air Fo**	**87.87**	**305**	*e*P		**P**	**22 01 02.3**	**-4.2**
DJJ	**Donna J Jenkin**	**88.25**	**304**	*e*P		**P**	**22 01 11.1**	**+2.8**
SYP	**Santa Ynez Pea**	**89.51**	**304**	*e*P		**P**	**22 01 13.1**	**-1.3**
ASAR	**Alice Springs**	**152.43**	**147**	PKPbc		**PKPbc**	**22 08 15.9**	**+2.3**
	0.4nm,0.8s,baz=222,slow=1.2,SNR=3.4							
ASAR				PKPab		**PKPab**	**22 08 24.6**	**+1.0**
	0.4nm,0.5s,baz=200,slow=2.4,SNR=6.5							
AS31	**Alice Springs**	**152.43**	**147**	*e*PKPbc		**PKPbc**	**22 08 15.9**	**+2.3**
AS31				*e*PKPab		**PKPab**	**22 08 24.6**	**+1.0**

IDC 25 21:49:55.4±1.4, 2.54N×126.81E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/55, mbtmp3.5/6, MS3.8/1, Ms1 3.8/1, ms1mx2.4/37, Error ellipse: s-maj=104.5km s-min=18.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	**Fitzroy Crossi**	**20.54**	**183**	P		P	21 54 36.5	+1.0
	0.5nm,0.3s,baz=349,slow=10,SNR=10							
WRA	**Warramunga Arr**	**23.53**	**162**	P		P	21 55 07.2	-0.3
	1.2nm,0.5s,baz=339,slow=10,SNR=22							
ASAR	**Alice Springs**	**26.95**	**166**	P		P	21 55 38.7	-0.1
	0.3nm,0.3s,baz=343,slow=11,SNR=5.4							
CTA	**Charters Tower**	**29.49**	**141**	LR		LR	22 10 02.5	
	comp=Z,184nm,20.2s,baz=77,slow=41							
STKA	**Stephens Creek**	**36.99**	**159**	P		P	21 57 06.2	-0.5
	1.4nm,0.7s,baz=331,slow=10,SNR=3.7							
MKAR	**Makanchi Array**	**58.58**	**326**	P		P	21 59 53.9	-0.1
	0.1nm,0.3s,baz=121,slow=6.7,SNR=4.1							
KURBB	**Kurchatov Arra**	**62.78**	**328**	P		P	22 00 22.6	0.0
	0.1nm,0.5s,baz=125,slow=6.6,SNR=3.2							

*IDC **25** 21:59:59.5±0.6, 7.66S×75.78W, h0km, mb3.9/12, mb1 4.1/17, mb1mx3.9/46, mbtmp3.9/17, ML3.5/3, MS2.7/3, Ms1 2.7/3, ms1mx2.6/51, Error ellipse: s-maj=24.7km s-min=13.9km az=59.0*

*ISCJB **25** 22:00:02.9±0.3, 7.76S±0.04×75.80W±0.05, h33km, mb4.2/17, MS3.1/1, Error ellipse: s-maj=7.0km s-min=5.1km az=164.4*

*NEIC **25** 22:00:06.5±1.0, 7.78S×75.86W, h52km±10km, mb4.7/10, Error ellipse: s-maj=11.8km s-min=7.1km az=55.0*

ISC 25 22:00:04.8±0.5, 7.75S±0.05×75.74W±0.06, h35km, n44, σ1s78/50, mb4.4/17, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ATAH	**Atahualpa**	**2.70**	**283**	Pn		**Pn**	**22 00 46.0**	**-0.2**
	6.7nm,0.3s,baz=149,slow=5.9,SNR=56							
ATAH				Sn		**Sn**	**22 01 15.3**	**-2.5**
	22nm,0.3s,baz=49,slow=21,SNR=6.6							
ATAH				LR		LR	22 01 21.6	
	comp=Z,36nm,20.0s,baz=83,slow=31							
NNA	**Nana**	**4.35**	**194**	Pn		**Pn**	**22 01 09.9**	**+1.5**
	31nm,0.3s,baz=28,slow=18,SNR=58							
NNA				Sn		**Sn**	**22 01 58.8**	**+0.8**
	82nm,0.3s,baz=114,slow=22,SNR=9.4							
NNA				LR		LR	22 02 57.8	
	comp=Z,112nm,19.3s,baz=333,slow=40							
NNA	**Nana**	**4.35**	**194**	*e*Pn		**Pn**	**22 01 09.9**	**+1.5**
NNA				*e*Sn		**Sn**	**22 01 57.3**	**-0.7**
OTAV	**Otavalo**	**8.38**	**341**	*e*Pn		**Pn**	**22 02 07.8**	**+3.5**
OTAV				*e*Sn		**Sn**	**22 03 34.5**	**-3.5**
LPAZ	**La Paz**	**11.28**	**139**	Pn		**Pn**	**22 02 45.3**	**+1.1**
	0.1nm,0.3s,baz=329,slow=8.6,SNR=3.1							
LPAZ				Lg		Lg	22 05 56.8	
	0.2nm,0.3s,baz=174,slow=14,SNR=3.8							
LPAZ	**La Paz**	**11.28**	**139**	*e*Pn		**Pn**	**22 02 47.7**	**+3.6**
LPAZ				Lg		Lg	22 05 56.8	
PRAC	**Prado**	**11.42**	**4**	*e*Pn		Pn	22 02 53.3	+7.7
PRAC				*e*Sn		Sn	22 05 10.6	+19
SAML	**Samuel**	**12.48**	**96**	*e*Pn		**Pn**	**22 03 01.7**	**+1.6**
SAML				*e*Sn		**Sn**	**22 05 14.1**	**-3.9**
ROSC	**El Rosal**	**12.59**	**7**	Pn		**Pn**	**22 03 00.8**	**-1.1**
	0.2nm,0.3s,baz=186,slow=14,SNR=1.4							
ROSC				Sn		**Sn**	**22 05 22.6**	**+1.5**
	0.9nm,0.3s,baz=217,slow=20,SNR=1.8							
MNMC	**Minye Minye**	**12.79**	**153**	*e*Pn		**Pn**	**22 03 03.8**	**-0.7**
RUSC	**La Rusia**	**13.81**	**11**	*e*Pn		**Pn**	**22 03 20.5**	**+1.8**
SIV	**San Ignacio**	**16.52**	**121**	Pn		**Pn**	**22 03 55.3**	**+1.4**
	0.6nm,0.3s,baz=303,slow=13,SNR=22							
SIV				Sn		**Sn**	**22 06 50.4**	**-6.0**
	0.2nm,0.3s,baz=216,slow=19,SNR=3.3							
SDV	**Santo Domingo**	**17.29**	**17**	P		**P**	**22 04 05.8**	**+0.8**
	1.5nm,0.3s,baz=174,slow=2.6,SNR=8.5							
SDV	**Santo Domingo**	**17.29**	**17**	*e*Pn		**P**	**22 04 05.9**	**+0.9**
	9.8nm,1.0s							
CPUP	**Villa Florida**	**25.45**	**139**	P		**P**	**22 05 30.4**	**+0.7**
	0.8nm,0.6s,baz=316,slow=10,SNR=3.4							
CPUP	**Villa Florida**	**25.45**	**139**	*e*P		**P**	**22 05 30.4**	**+0.7**
	4.7nm,1.4s							
MTDJ	**Mount Denham**	**25.87**	**356**	*e*P		**P**	**22 05 35.8**	**+2.2**
	26nm,0.8s							
STVI	**Saint Thomas**	**28.04**	**22**	*e*P		**P**	**22 05 52.3**	**-0.6**
	22nm,0.9s							
PLCA	**Paso Flores**	**33.17**	**173**	P		**P**	**22 06 37.1**	**-1.0**
	1.1nm,0.8s,baz=19,slow=11,SNR=4.9							
PLCA				LR		LR	22 19 56.8	
	comp=Z,38nm,19.2s,baz=74,slow=36							
PLCA	**Paso Flores**	**33.17**	**173**	*e*P		**P**	**22 06 37.1**	**-1.0**
	26nm,1.8s							
TZTN	**Tazewell**	**44.67**	**351**	*e*P		**P**	**22 08 13.4**	**-0.8**
	41nm,1.8s							
LTX	**Lajitas**	**45.63**	**325**	*e*P		**P**	**22 08 21.9**	**-0.3**
TXAR	**Lajitas Array**	**45.63**	**325**	P		**P**	**22 08 21.9**	**-0.3**
	0.6nm,0.6s,baz=150,slow=8.9,SNR=12							
TX31	**Lajitas Ar. Si**	**45.64**	**325**	*e*P		**P**	**22 08 22.4**	**+0.2**
SDCO	**Great Sand Dun**	**53.11**	**331**	*e*P		**P**	**22 09 19.9**	**+0.5**
	5.6nm,1.2s							
IRM	**Iron Mountain**	**55.94**	**321**	*e*P		**P**	**22 09 42.7**	**+3.0**
SZCU	**Shurtz Canyon**	**57.02**	**325**	*e*P		**P**	**22 09 49.1**	**+1.5**
	61nm,1.8s							
GSC	**Goldstone, Bar**	**57.72**	**321**	*e*P		**P**	**22 09 51.7**	**-0.7**
PD31	**Pinedale Array**	**58.96**	**331**	*e*P		**P**	**22 09 59.9**	**-1.1**
PDAR	**Pinedale Array**	**58.96**	**331**	P		**P**	**22 09 59.9**	**-1.1**
	0.2nm,0.4s,baz=134,slow=6.4,SNR=3.7							
ULM	**Lac du Bonnet**	**60.36**	**345**	P		**P**	**22 10 08.1**	**-2.2**
	1.8nm,0.6s,baz=138,slow=4.5,SNR=3.7							
NV01	**Mina Array Sit**	**60.64**	**322**	*e*P		**P**	**22 10 12.4**	**-0.3**
NVAR	**Mina Array Bea**	**60.64**	**322**	P		**P**	**22 10 12.4**	**-0.3**
	0.5nm,0.4s,baz=141,slow=10,SNR=2.5							
FRB	**Frobisher Bay**	**71.50**	**3**	P		**P**	**22 11 21.3**	**-0.3**
	4.6nm,0.9s,baz=180,slow=5.1,SNR=3.9							
DBIC	**Dimbokro**	**72.13**	**80**	P		**P**	**22 11 27.6**	**+1.1**
	1.3nm,0.5s,baz=58,slow=19,SNR=3.1							
DBIC	**Dimbokro**	**72.13**	**80**	*e*P		**P**	**22 11 27.6**	**+1.1**
	28nm,1.7s							
YKA	**Yellowknife Ar**	**76.14**	**343**	P		**P**	**22 11 47.8**	**-1.0**
	0.5nm,0.7s,baz=140,slow=6.3,SNR=12							
YKB5	**Yellowknife Ar**	**76.14**	**343**	*e*P		**P**	**22 11 47.9**	**-1.0**
SNAA	**Sanae**	**77.33**	**162**	P		**P**	**22 11 55.8**	**+0.2**
	2.0nm,0.7s,baz=264,slow=7.3,SNR=14							
SNAA	**Sanae**	**77.33**	**162**	*e*P		**P**	**22 11 55.8**	**+0.2**
	14nm,1.8s							
TOA1	**Torodi Ar. Sit**	**79.64**	**75**	*e*P		**P**	**22 12 10.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**79.65**	**75**	P		**P**	**22 12 10.2**	**+0.8**
	0.3nm,0.4s,baz=269,slow=4.7,SNR=8.5							
ILAR	**Eielson Array**	**89.07**	**336**	P		**P**	**22 12 55.9**	**-0.2**
	0.5nm,0.8s,baz=159,slow=3.7,SNR=5.5							
ILB	**Eielson Array**	**89.07**	**336**	*e*P		**P**	**22 12 55.9**	**-0.2**

IDC 25 22:03:03.2±3.9, 26.08S×70.61E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/66, mbtmp3.7/7, MS3.5/3, Ms1 3.5/3, ms1mx3.0/69, Error ellipse: s-maj=115.4km s-min=31.1km az=51.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H08S1	**Diego Garcia H**	**18.42**	**6**	T		T	22 26 05.5	
	baz=185,slow=75,SNR=16							
H08S2	**Diego Garcia H**	**18.43**	**6**	T		T	22 26 09.4	
	baz=185,slow=75,SNR=17							
H08S3	**Diego Garcia H**	**18.44**	**6**	T		T	22 26 07.9	
	baz=185,slow=75,SNR=18							
H08N3	**Diego Garcia H**	**19.63**	**1**	T		T	22 27 37.1	
	baz=176,slow=74							
H08N1	**Diego Garcia H**	**19.64**	**1**	T		T	22 27 38.5	
	baz=176							
H08N2	**Diego Garcia H**	**19.65**	**1**	T		T	22 27 39.0	
	baz=176,slow=74							
KMBO	**Kilima Mbogo**	**40.58**	**302**	LR		LR	22 24 07.9	
	comp=Z,48nm,20.2s,baz=91,slow=31							
MAW	**Mawson**	**41.81**	**184**	LR		LR	22 24 46.3	
	comp=Z,124nm,18.4s,baz=76,slow=31							
CMAR	**Chiang Mai Arr**	**52.14**	**35**	P		P	22 12 15.5	-0.1
	2.3nm,0.9s,baz=223,slow=7.3,SNR=14							
CMAR				LR		LR	22 31 26.6	
	comp=Z,22nm,19.0s,baz=190,slow=33							
ASAR	**Alice Springs**	**56.96**	**102**	P		P	22 12 50.5	-0.3
	0.5nm,0.5s,baz=250,slow=6.4,SNR=9.6							
WRA	**Warramunga Arr**	**58.48**	**98**	P		P	22 13 01.9	+0.3
	1.0nm,1.0s,baz=254,slow=6.7,SNR=4.0							
MKAR	**Makanchi Array**	**73.30**	**8**	P		P	22 14 36.4	+0.1
	0.5nm,0.7s,baz=204,slow=7.5,SNR=7.8							
KURBB	**Kurchatov Arra**	**76.69**	**5**	P		P	22 14 55.5	-0.3
	0.5nm,0.9s,baz=200,slow=5.6,SNR=5.6							
SONM	**Songino Array**	**80.31**	**24**	P		P	22 15 16.0	-0.1
	0.6nm,1.0s,baz=207,slow=2.9,SNR=2.7							
ZALV	**Zalesovo Beam**	**80.64**	**8**	P		P	22 15 18.1	+0.7
	0.3nm,0.4s,baz=187,slow=5.3,SNR=2.6							

IDC 25 22:20:45.1±1.6, 3.46S×145.71E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.5/49, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=73.7km s-min=24.4km az=116.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**19.79**	**213**	P		P	22 25 17.2	+0.1
	0.2nm,0.3s,baz=36,slow=12,SNR=19							
ASAR	**Alice Springs**	**23.10**	**209**	P		P	22 25 53.7	+0.9
	2.3nm,0.9s,baz=35,slow=10,SNR=16							
FITZ	**Fitzroy Crossi**	**24.46**	**232**	P		P	22 26 04.8	-1.2
	1.3nm,0.4s,baz=61,slow=13,SNR=4.1							
ILAR	**Eielson Array**	**83.67**	**23**	P		P	22 33 15.2	-0.2
	0.6nm,0.7s,baz=245,slow=5.0,SNR=8.2							
BVAR	**Borovoye Array**	**83.97**	**324**	P		P	22 33 17.7	+0.4
	0.5nm,0.6s,baz=71,slow=5.2,SNR=3.8							

MEX 25 22:21:43.1±0.6, 16.33N×98.08W, h18km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PNIG	**Pinotepa**	**0.07**	**324**	*e*P		Pg	22 21 45.5	-1.2
PNIG				*e*S		Sg	22 21 48.3	-0.7
TLIG	**Tlapa**	**1.31**	**339**	*e*P		Pn	22 22 03.8	-2.9
TLIG				*i* S		Sn	22 22 18.4	-5.3
VHO	**Vista Hermosa**	**1.49**	**60**	*e*P		Pn	22 22 05.6	-3.5
VHO				*i* S		Sn	22 22 23.5	-4.7
ACX	**Acapulco**	**1.79**	**288**	*i* P		Pn	22 22 11.9	-1.1
ACX				*i* S		Sn	22 22 33.5	-1.8
HUIG	**Huatulco**	**1.98**	**106**	*e*P		Pn	22 22 12.9	-2.8
HUIG				*e*S		Sn	22 22 36.0	-4.0
CAIG	**El Cayaco**	**2.21**	**289**	*e*P		Pn	22 22 16.1	-2.9
CAIG				*e*S		Sn	22 22 41.9	-3.9
PLIG	**Platanillo**	**2.46**	**327**	*e*P		Pn	22 22 20.1	-2.2
PLIG				*e*S		Sn	22 22 48.8	-3.3

IDC 25 22:27:59.4±91.0, 16.11S×176.00W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.5/59, mbtmp4.0/3, Error ellipse: s-maj=1697.0km s-min=190.1km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**41.52**	**240**	P		P	22 35 48.9	+0.2
	0.8nm,0.4s,baz=105,slow=10,SNR=3.9							
WRA	**Warramunga Arr**	**47.25**	**258**	P		P	22 36 34.5	-0.3
	0.3nm,0.4s,baz=88,slow=7.2,SNR=13							
ASAR	**Alice Springs**	**47.51**	**253**	P		P

NEIC **25** 22:37:06.0±0.0,35.20S×72.22W,*h41*km,*mb6.5/296, ME7.0,MS7.0/297,MW7.1,MW7.1,MD6.8(SJA), MW7.0(GUC) Broadband fault plane solution: P waves. NP1:φ=56.00000°,δ29.00000°,λ148.00000°. NP2: φ=175.00000°,δ75.00000°,λ65.00000°. Principal axes: T Plg53.0000°, Azm55.0000°; N Plg0.0000°, Azm0.0000°; P Plg26.0000°, Azm284.0000°; Complex earthquake observed on broadband displacement seismograms. A smaller event of at least M5.7 is followed by a large event about 6 seconds later. Depth from synthetics of broadband displacement seismograms based on large event. Energy computed from BB mechanism. After GUC.

NEIC One person died from a heart attack at Parral, at least 11 people injured in the Santiago area and 3 injured in Bio-Bio. Some buildings damaged slightly at Santiago. Felt [VIII] at Cauquenes, Constitucion, Pelluhue and Talca; [VII] at Cobquecura, Linares, Molina, Parral, Pelarco, Rengo, Rio Claro and Villa Alegre. Felt strongly throughout south-central Chile. Felt [IV] at Mendoza and San Martin; [III] at Buenos Aires, San Juan and San Rafael, Argentina.

GUC **25** 22:37:06.7±0.6,35.20S×72.22W,*h41*km±3km,ML6.8, *MW7.0*

GCMT **25** 22:37:06.0±0.1,35.31S×72.41W,*h34*km,*MW7.1/149, Moment Tensor Solution. s149,c400; s144,c643; Duration: 8s8 Moment tensor: Scale 10*19*Nm; Mrr2.92±.01; Mθθ-0.04±.01; Mφφ-2.88±.01; Mrθ0.41±.04; Mθφ-0.47±.01; Mφr-5.19±.07; Best double couple: M*o*5.97800×10*19* NP1:φ=177.00000°,δ76.00000°, λ84.00000°. NP2:φ=20.00000°,δ16.00000°,λ112.00000°. Principal axes: T 6.0240, Plg59.0000°, Azm79.0000°; N -0.0900, Plg6.0000°, Azm179.0000°; P -5.9320, Plg30.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.*

NEIC **25** 22:37:06.0±0.0,35.20S×72.03W,*h40*km,*Moment Tensor Solution. s37 Moment tensor: Scale 10*19*Nm; Mrr2.77; Mθθ0.05; Mφφ-2.82; Mrθ0.13; Mθφ-0.52; Mφr-4.15; Best double couple: M*o*5.00000×10*19* NP1:φ=180.00000°, δ73.00000°,λ84.00000°. NP2:φ=20.00000°,δ18.00000°, λ109.00000°. Principal axes: T 5.0000, Plg61.0000°, Azm81.0000°; N 0.0500, Plg5.0000°, Azm181.0000°; P -5.0500, Plg27.0000°, Azm275.0000°;*

BJI **25** 22:37:07.4,35.10S×71.90W,*h30*km,*mB6.9/60,Ms7.3/86, Ms7 7.3/80*

ISC 25 22:37:06.6±0.3,**35.20S**±0.0**72.13W**±0.0,**h28**km±1km, **h28**km:**pP-P,n2137,**σ2≥**52**/2017,**mb6.4**/393,**MS7.1**/648, **56C-35D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualaæø**	**0.25**	**40**	*e*Pn	**Pn**	**22 37 14.8**	**+0.2**
GO05				*e*Sn	**Pn**	**22 37 15.0**	**+0.6**
GO05	**Hualaæø**	**0.25**	**40**	*e*P	**Pn**	**22 37 15.1**	**+0.6**
GO05	**Hualaæø**	**0.25**	**40**	*e*P	**Pn**	**22 37 14.7**	**+0.2**
CHPI	**Pichilemu**	**0.82**	**7**	*e*P	**Pb**	**22 37 21.8**	**-0.4**
CHPI				*e*S	**Sb**	**22 37 32.9**	**0.0**
COCH	**Cobquecura**	**1.07**	**210**	*e*P	**Pn**	**22 37 25.1**	**-0.5**
COCH				*e*S	**Sn**	**22 37 38.9**	**-0.7**
COCH	**Cobquecura**	**1.07**	**210**	*e*P	**Pn**	**22 37 24.5**	**-1.2**
COCH				*e*S	**Sn**	**22 37 38.6**	**-1.0**
CCHI	**Chillan**	**1.40**	**178**	*e*P	**Pb**	**22 37 31.2**	**-0.8**
CCHI	**Chillan**	**1.40**	**178**	*e*P	**Pn**	**22 37 30.1**	**-0.1**
CCHI				*e*S	**Sn**	**22 37 47.7**	**0.0**
CCSP	**San Pedro de C**	**1.82**	**206**	*e*P	**Pn**	**22 37 34.1**	**-1.9**
CCSP				*e*S	**Sn**	**22 37 55.7**	**-2.4**
RCDM	**Rinconada Maip**	**2.03**	**33**	*e*P	**Pn**	**22 37 39.2**	**+0.3**
LMEL	**Las Melosas**	**2.09**	**50**	*e*P	**Pn**	**22 37 40.9**	**+1.0**
LMEL				IAML		22 38 27.9	
	comp=N,865μm,1.0s						
CLCH	**Cerro Calan**	**2.23**	**37**	*e*P	**Pn**	**22 37 42.5**	**+0.7**
CLCH				*e*S	**Sn**	**22 38 09.6**	**+1.2**
PEL	**Peldehue**	**2.38**	**31**	*e*P	**Pn**	**22 37 44.2**	**+0.5**
ROC1	**El Roble**	**2.41**	**23**	*e*Pn	**Pn**	**22 37 44.8**	**+0.5**
ROC1				*e*Sn	**Sn**	**22 38 08.2**	**-4.8**
ROC1	**El Roble**	**2.41**	**23**	*e*P	**Pn**	**22 37 45.4**	**+1.1**
ROC1				*e*S	**Sn**	**22 38 13.6**	**+0.7**
FCH	**Farellones**	**2.41**	**40**	*i*P	**Pn**	**22 37 45.0**	**+0.6**
FCH				IAML		22 38 39.3	
	comp=E,514μm,0.8s						
ROCH	**El Roble**	**2.41**	**23**	*e*P	**Pn**	**22 37 45.0**	**+0.6**
ROCH				*e*S	**Sn**	**22 38 14.0**	**+0.9**
ROCH				IAML		22 38 37.6	
	comp=E,549μm,0.9s						
CANA	**Caviahue**	**2.81**	**163**	*e*P	**Pn**	**22 37 52.1**	**+2.3**
CANA				IAML		22 38 49.9	
	comp=Z,66μm,0.8s						
RFA	**San Rafael**	**3.04**	**83**	*e*P	**Pn**	**22 37 56.0**	**+3.2**
RFA				IAML		22 38 23.6	
	comp=Z,61μm,0.6s						
AVIZ	**Vizcacheras**	**3.45**	**61**	*e*P	**Pn**	**22 38 00.8**	**+2.3**
AAGR	**Agrelo**	**3.46**	**53**	*e*P	**Pn**	**22 38 00.9**	**+2.3**
TMU	**Temuco**	**3.54**	**186**	*i*P	**Pn**	**22 37 59.1**	**-0.6**
TMU				*e*S	**Sn**	**22 38 39.1**	**-1.6**
TMU				IAML		22 39 19.3	
	comp=E,152μm,1.1s						
ARCO	**CERRO ARCO**	**3.55**	**49**	*e*P	**Pb**	**22 38 05.7**	**-3.0**
ARCO				IAML		22 38 41.0	
	comp=Z,33μm,0.5s						
AUSP	**Uspallata**	**3.75**	**38**	*e*P	**Pn**	**22 38 04.8**	**+2.0**
ASAL	**Salagasta**	**3.78**	**47**	*e*P	**Pn**	**22 38 05.3**	**+2.3**
RTLS	**Leoncito**	**4.14**	**36**	*e*P	**Pn**	**22 38 10.6**	**+2.4**
RTLS				IAML		22 39 33.0	
	comp=Z,63μm,0.7s						
GO06	**Curarrehue**	**4.40**	**173**	*i*P	**Pn**	**22 38 11.3**	**-0.3**
GO06				*e*S	**Sn**	**22 39 08.3**	**+6.3**
RTCV	**Cerro Valdivia**	**4.48**	**43**	*e*P	**Pn**	**22 38 13.8**	**+1.1**
ZON	**Zonda**	**4.65**	**39**	*e*P	Pn	22 38 20.9	+5.9
VLCH	**Valdivia**	**4.68**	**191**	*e*P	**Pn**	**22 38 13.6**	**-1.7**
SJA	**San Juan**	**4.73**	**40**	*e*P	**Pn**	**22 38 18.0**	**+2.0**
RTLL	**Cerro Villicun**	**4.93**	**39**	*e*P	**Pn**	**22 38 19.7**	**+0.9**
RTLL				IAML		22 39 44.0	
	comp=Z,27μm,0.6s						
ACAN	**Cantantal**	**5.05**	**56**	*e*P	**Pn**	**22 38 21.9**	**+1.5**
GO04	**Tololo Observa**	**5.14**	**13**	*i*P	**Pn**	**22 38 20.6**	**-1.3**
TLL	**Tololo Astrono**	**5.14**	**13**	*i*P	**Pn**	**22 38 21.9**	**-0.1**
AMOG	**MOGNA**	**5.23**	**37**	*e*P	**Pn**	**22 38 23.9**	**+0.9**
AROD	**Rodeo**	**5.50**	**25**	*e*P	**Pn**	**22 38 28.5**	**+1.6**
PLCA	**Paso Flores**	**5.66**	**168**	Pn	**Pn**	**22 38 28.1**	**-0.7**
	comp=Z,20nm,0.3s,baz=348,slow=11,SNR=308						
PLCA				LR	LR	22 40 01.7	
	comp=Z,97μm,20.3s,baz=11,slow=33						
PLCA				Lg	Lg	22 40 02.1	
	comp=Z,194nm,0.3s,baz=259,slow=21,SNR=3.0						
PLCA	**Paso Flores**	**5.66**	**168**	*e*P	**Pn**	**22 38 29.0**	**+0.1**
PLCA				*e*		22 39 33.1	
PLCA	**Paso Flores**	**5.66**	**168**	*e*Pn	**Pn**	**22 38 28.9**	**+0.1**
PLCA				*e*Sn	**Sn**	**22 39 33.1**	**+0.2**
PLCA	**Paso Flores**	**5.66**	**168**	*e*P	**Pn**	**22 38 31.3**	**+2.5**
LCO	**Las Campanas**	**6.29**	**11**	P	**Pn**	**22 38 36.3**	**-1.4**
LCO				S	**Sn**	**22 39 46.9**	**-1.9**
LCO	**Las Campanas**	**6.29**	**11**	*e*Pn	**Pn**	**22 38 36.3**	**-1.4**
LCO				*e*Sn	**Sn**	**22 39 46.9**	**-1.9**
LCO	**Las Campanas**	**6.29**	**11**	*e*P	**Pn**	**22 38 37.7**	**-0.1**
LCO	**Las Campanas**	**6.29**	**11**	*e*P	**Pn**	**22 38 36.8**	**-0.9**
LCO	**Las Campanas**	**6.29**	**11**	*i*P	**Pn**	**22 38 36.7**	**-1.0**
AGUA	**GUANDACOL**	**6.48**	**29**	*e*P	**Pn**	**22 38 40.5**	**+0.4**
APLL	**PUNTA DE LOS L**	**6.72**	**46**	*e*P	**Pn**	**22 38 43.6**	**+0.1**
APLL				IAML		22 40 44.3	
	comp=Z,6μm,0.7s						
VCA	**Vinchina**	**7.26**	**28**	*e*P	**Pn**	**22 38 51.1**	**+0.2**
VCA				IAML		22 40 50.6	
	comp=Z,49μm,0.8s						
GO03	**Copiap**	**7.76**	**13**	*i*P	**Pn**	**22 38 56.0**	**-1.6**
CYA	**Choya**	**8.62**	**40**	*e*P	**Pn**	**22 39 07.3**	**-2.3**
TRQA	**Tornquist**	**8.64**	**112**	*e*Pn	**Pn**	**22 39 10.2**	**+0.5**
TRQA				*e*Sn	**Sn**	**22 40 43.4**	**-2.8**
AHML	**Horco Molle**	**10.21**	**37**	*e*P	**Pn**	**22 39 27.2**	**-4.1**
PB10	**IPOC Station P**	**11.73**	**7**	*e*Pn	**Pn**	**22 39 53.0**	**+0.9**
PB10				*e*Sn	Sn	22 41 52.2	-10
PB10	**IPOC Station P**	**11.73**	**7**	*e*P	**Pn**	**22 39 52.7**	**+0.6**
CHRN	**Cochrane**	**12.04**	**182**	*e*Pn	**Pn**	**22 39 55.0**	**-1.2**
CHRN				*e*Sn	**Sn**	**22 42 05.3**	**-4.1**
CHRN	**Cochrane**	**12.04**	**182**	*e*P	**Pn**	**22 39 56.7**	**+0.5**
AZAP	**Zapla**	**12.54**	**31**	*e*P	**Pn**	**22 40 00.5**	**-2.9**
PB04	**IPOC Station P**	**12.94**	**8**	*e*Pn	**Pn**	**22 40 04.7**	**-4.1**
PB04				*e*Sn	**Sn**	**22 42 27.4**	**-4.5**
ASTB	**Santa Barbara**	**13.05**	**33**	*e*P	**Pn**	**22 40 07.6**	**-2.6**
HJA	**Humahuaca**	**13.31**	**28**	*e*P	**Pn**	**22 40 12.9**	**-1.1**
ALOL	**LOMAS DE OLMEDI**	**13.37**	**34**	*e*P	**Pn**	**22 40 16.6**	**+2.0**
YJA	**Yavi**	**14.21**	**26**	*e*P	**Pn**	**22 40 26.4**	**0.0**
PB01	**IPOC Station P**	**14.30**	**10**	*e*Pn	**Pn**	**22 40 24.5**	**-2.7**
CPUP	**Villa Florida**	**15.48**	**59**	Pn	**Pn**	**22 40 38.7**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=238,slow=11,SNR=9.8						
CPUP				Lg	Lg	22 44 53.9	
	comp=Z,8.3nm,0.3s,baz=203,slow=3.8,SNR=3.1						
CPUP				LR	LR	22 47 37.8	
	comp=Z,2508μm,18.6s,baz=236,slow=42						
CPUP	**Villa Florida**	**15.48**	**59**	*e*P	**Pn**	**22 40 39.1**	**-3.8**
CPUP				*e*		22 43 19.6	
CPUP				pmax	pmax		
	comp=Z,2μm,1.3s						
CPUP	**Villa Florida**	**15.48**	**59**	*e*Pn	**Pn**	**22 40 39.0**	**-3.8**
	comp=Z,2μm,1.3s						
CPUP				*e*Sn	Sn	22 43 19.6	-14
CPUP				*e*		22 44 53.9	
CPUP	**Villa Florida**	**15.48**	**59**	*e*P	**Pn**	**22 40 43.6**	**+0.7**
PB11	**IPOC Station P**	**15.54**	**9**	*e*Pn	**Pn**	**22 40 42.5**	**-1.4**
	comp=Z,3μm,1.0s						
PB11				*e*Sn	**Sn**	**22 43 29.9**	**-5.3**
GO09	**Cerro Castillo**	**16.06**	**180**	*e*Pn	**Pn**	**22 40 50.1**	**-0.2**
	comp=Z,2μm,1.1s						
GO09	**Cerro Castillo**	**16.06**	**180**	*e*P	**P**	**22 40 53.8**	**+0.4**
MNMC	**Minye Minye**	**16.17**	**9**	*e*Pn	**Pn**	**22 40 51.1**	**-1.0**
	comp=Z,19μm,1.8s						
MNMC				*e*S	**S**	**22 44 03.5**	**+0.2**
LPAZ	**La Paz**	**19.17**	**12**	P	**P**	**22 41 28.5**	**-0.1**
	comp=Z,7.7nm,0.3s,baz=182,slow=6.1,SNR=78						
LPAZ	**La Paz**	**19.17**	**12**	*e*P	**Pn**	**22 41 29.5**	**-0.1**
LPAZ	**La Paz**	**19.17**	**12**	*e*P	**Pn**	**22 41 29.7**	**+0.1**
	comp=Z,2μm,1.1s						
LPAZ				*e*Sn	**Sn**	**22 44 58.1**	**-5.9**
LPAZ	**La Paz**	**19.17**	**12**	*e*P	**Pn**	**22 41 29.9**	**+0.3**
I08BO	**LAS PENAS INFR**	**19.19**	**11**	*i*		00 37 50.0	
	baz=186,slow=330,SNR=0.6						
EFI	**East Falkland**	**19.32**	**153**	*e*P	**P**	**22 41 28.5**	**-0.8**
EFI				*e*		22 44 52.2	
EFI				pmax	pmax		
	comp=Z,4μm,1.5s						
EFI	**East Falkland**	**19.32**	**153**	*e*P	**P**	**22 41 28.5**	**-0.8**
	comp=Z,4μm,1.5s						
EFI				*e*Sn	Sn	22 44 52.2	-14
SIV	**San Ignacio**	**21.54**	**30**	P	**P**	**22 41 51.9**	**-1.8**
	comp=Z,344nm,0.9s,baz=220,slow=9.8,SNR=228						
SIV				LR	LR	22 51 59.4	
	comp=Z,763μm,21.2s,baz=212,slow=42						
NNA	**Nana**	**23.51**	**348**	P	**P**	**22 42 14.2**	**-0.1**
	comp=Z,94nm,0.8s,baz=189,slow=11,SNR=29						
NNA				LR	LR	22 49 23.4	
	comp=Z,234μm,21.3s,baz=162,slow=31						
NNA	**Nana**	**23.51**	**348**	*i*P	**P**	**22 42 14.5**	**+0.2**
NNA	**Nana**	**23.51**	**348**	*e*P	**P**	**22 42 14.2**	**-0.1**
NNA				*e*S	S	22 46 15.1	-11
SPB	**Sao Paulo**	**24.36**	**68**	*e*P	**P**	**22 42 19.2**	**-3.0**
	comp=Z,3μm,1.1s						
SPB				LR	LR		
	comp=Z,2316μm,18.0s						
SAML	**Samuel**	**27.38**	**20**	*e*P	**P**	**22 42 47.9**	**-1.7**
	comp=Z,732nm,1.3s						
SAML				LR	LR		
	comp=Z,594μm,22.0s						
ATAH	**Atahualpa**	**28.52**	**347**	P	**P**	**22 43 00.8**	**+0.5**
	comp=Z,24nm,1.1s,baz=170,slow=7.0,SNR=21						
ATAH				LR	LR	22 52 33.9	
	comp=Z,85μm,19.5s,baz=184,slow=33						
PMSA	**Palmer Station**	**30.00**	**173**	*e*P	**P**	**22 43 10.7**	**-1.7**
	comp=Z,2μm,1.0s						
PMSA				LR	LR		
	comp=Z,527μm,20.0s						
HOPE	**Hope Point**	**31.23**	**139**	*e*P	**P**	**22 43 21.6**	**-1.7**
	comp=Z,571nm,0.9s						
HOPE				LR	LR		
	comp=Z,109μm,18.0s						
RPN	**Rapa Nui**	**32.69**	**274**	LR	LR	22 53 16.6	
	comp=Z,648μm,20.4s,baz=101,slow=30						
RPN	**Rapa Nui**	**32.69**	**274**	*e*P	**P**	**22 43 36.1**	**-0.4**
RPN				pmax	pmax		
	comp=Z,2μm,1.6s						
RPN	**Rapa Nui**	**32.69**	**274**	*e*P	**P**	**22 43 36.1**	**-0.4**
	comp=Z,2μm,1.6s						
OTAV	**Otavalo**	**35.75**	**349**	*e*P	**P**	**22 44 03.1**	**-0.5**
	comp=Z,1μm,1.4s						
OTAV				LR	LR		
	comp=Z,83μm,21.0s						
OTAV	**Otavalo**	**35.75**	**349**	*e*P	**P**	**22 44 05.9**	**+2.3**
OTAV	**Otavalo**	**35.75**	**349**	*e*P	**P**	**22 44 05.2**	**+1.6**
CMBC	**Cumbal**	**36.35**	**350**	*e*P	**P**	**22 44 11.2**	**+2.4**
GCUF	**Volcan Galeras**	**36.57**	**351**	*e*P	**P**	**22 44 13.2**	**+2.5**
FLOC	**Florencia**	**36.74**	**354**	*e*P	**P**	**22 44 13.2**	**+1.6**
CRUC	**La Cruz**	**36.86**	**352**	*e*P	P	22 44 25.1	+12
TUMC	**Tumaco**	**37.35**	**349**	*e*P	**P**	**22 44 16.8**	**+0.1**
	comp=Z,979nm,1.1s						
TUMC				LR	LR		
	comp=Z,125μm,21.0s						
SOTA	**Rioblanco**	**37.38**	**353**	*e*P	P	22 44 28.4	+11
PCON	**Cinco Dias**	**37.55**	**353**	*e*P	**P**	**22 44 21.8**	**+2.7**
BETC	**Betania**	**37.81**	**355**	*e*P	P	22 44 35.1	+14
MARP	**Paez Belalcaza**	**38.02**	**354**	*e*P	**P**	**22 44 23.1**	**+0.4**
GRGC	**Isla de Gorgon**	**38.43**	**350**	*e*P	**P**	**22 44 25.8**	**0.0**
PRAC	**Prado**	**38.80**	**356**	*e*P	**P**	**22 44 29.6**	**+0.6**
PRAC				*ep*P	**pP**	**22 44 29.8**	**-7.6**
PRAC				LR	LR		
	comp=Z,212μm,21.0s						
PRAC	**Prado**	**38.80**	**356**	*e*P	**P**	**22 44 30.4**	**+1.5**
VILC	**Villavicencio,**	**39.13**	**358**	*e*P	**P**	**22 44 33.8**	**+1.9**
YOTC	**Yotoco, Valle**	**39.18**	**353**	*e*P	**P**	**22 44 34.4**	**+2.1**
CHIC	**Chingaza**	**39.65**	**357**	*e*P	P	22 44 44.4	+7.9
ROSC	**El Rosal**	**39.88**	**357**	P	**P**	**22 44 41.1**	**+2.7**
	comp=Z,75nm,0.7s,baz=144,slow=4.4,SNR=31						
ROSC	**El Rosal**	**39.88**	**357**	*e*P	**P**	**22 44 41.2**	**+2.8**
	comp=Z,237nm,0.8s						
ROSC				LR	LR		
	comp=Z,115μm,19.0s						
ROSC	**El Rosal**	**39.88**	**357**	*e*P	**P**	**22 44 41.7**	**+3.3**
MAPC	**Malpelo**	**40.00**	**345**	*e*P	P	22 44 44.4	+5.4
RREF	**El Recreo**	**40.01**	**355**	*e*P	**P**	**22 44 43.1**	**+3.3**
GUYC	**Guyana, Colomb**	**40.33**	**355**	*e*P	**P**	**22 44 45.0**	**+2.8**
YOPC	**Yopal, Colombi**	**40.34**	**360**	*e*P	**P**	**22 44 42.4**	**+0.5**
RUSC	**La Rusia**	**40.89**	**359**	*e*P	**P**	**22 44 46.6**	**-0.3**
	comp=Z,966nm,1.1s						
RUSC				LR	LR		
	comp=Z,71μm,21.0s						
RUSC	**La Rusia**	**40.89**	**359**	*e*P	**P**	**22 44 46.4**	**-0.4**
HELC	**Santa Helena**	**41.30**	**355**	*e*P	**P**	**22 44 49.6**	**-0.4**
	comp=Z,8μm,1.9s						
HELC				LR	LR		
	comp=Z,306μm,20.0s						
HELC	**Santa Helena**	**41.30**	**355**	*e*P	**P**	**22 44 48.4**	**-1.7**
BARC	**Barichara**	**41.58**	**358**	*e*P	**P**	**22 44 53.7**	**+1.4**
SDV	**Santo Domingo**	**43.87**	**2**	P	**P**	**22 45 09.2**	**-1.6**
	comp=Z,78nm,0.8s,baz=188,slow=8.7,SNR=25						
SDV	**Santo Domingo**	**43.87**	**2**	*e*P	**P**	**22 45 09.2**	**-1.6**
	comp=Z,1μm,1.1s						
SDV				LR	LR		
	comp=Z,186μm,19.0s						
SDV	**Santo Domingo**	**43.87**	**2**	*e*P	**P**	**22 45 09.2**	**-1.6**
RCBR	**Riachuelo**	**44.34**	**57**	P	**P**	**22 45 13.0**	**-1.5**
	comp=Z,23nm,0.7s,baz=222,slow=9.0,SNR=6.5						
RCBR				LR	LR	23 05 56.7	
	comp=Z,1026μm,18.4s,baz=209,slow=39						
RCBR	**Riachuelo**	**44.34**	**57**	*e*P	**P**	**22 45 13.3**	**-1.2**
BCIP	**Isla Barro Col**	**44.73**	**349**	*e*P	**P**	**22 45 17.6**	**+0.2**
	comp=Z,1μm,1.4s						
BCIP				LR	LR		
	comp=Z,117μm,22.0s						
BCIP	**Isla Barro Col**	**44.73**	**349**	*e*P	**P**	**22 45 17.1**	**-0.3**
FRIJ	**El Hiral**	**44.76**	**349**	*e*P	**P**	**22 45 18.8**	**+1.1**
PCRV	**Puerto La Cruz**	**45.69**	**10**	P	**P**	**22 45 23.6**	**-1.4**
	comp=Z,121nm,0.9s,baz=187,slow=5.3,SNR=17						
PCRV				LR	LR	23 08 18.1	
	comp=Z,409μm,18.7s,baz=164,slow=41						
ALNG	**Atlantic LNG**	**46.21**	**14**	*e*P	**P**	**22 45 32.6**	**+3.5**
HDC	**Heredia**	**46.37**	**344**	*e*P	**P**	**22 45 30.8**	**+0.3**
	comp=Z,3μm,2.0s						
HDC				LR	LR		
	comp=Z,64μm,20.0s						
TPP	**Pointe-a-Pierr**	**46.39**	**15**	*e*	P	22 45 35.4	+4.9
TBH	**Brigand Hill**	**46.63**	**15**	*e*	**P**	**22 45 34.9**	**+2.4**
JTS	**JuntasAbangare**	**46.85**	**343**	P	**P**	**22 45 34.9**	**+0.7**
	comp=Z,24nm,0.8s,baz=210,slow=5.1,SNR=17						
JTS	**JuntasAbangare**	**46.85**	**343**	*e*P	**P**	**22 45 34.7**	**+0.5**
TOSP	**Speyside**	**47.53**	**15**	*e*P	**P**	**22 45 39.7**	**+0.3**
TOSP	**Speyside**	**47.53**	**15**	*e*	P	22 45 45.9	+6.4
GRGR	**Grenville**	**48.11**	**14**	*e*P	**P**	**22 45 42.5**	**-1.5**
	comp=Z,2μm,1.0s						
GRGR				LR	LR		
	comp=Z,248μm,20.0s						
GRGR	**Grenville**	**48.11**	**14**	*e*P	**P**	**22 45 42.1**	**-1.9**
GRGR	**Grenville**	**48.11**	**14**	*e*P	**P**	**22 45 44.6**	**+0.6**
GRGR	**Grenville**	**48.11**	**14**	*e*P	P	22 45 49.1	+5.1
GRHS	**Sauteurs**	**48.20**	**14**	*e*P	**P**	**22 45 46.9**	**+2.2**
VNA3	**Neumayer Olymp**	**48.28**	**157**	P	**P**	**22 45 43.6**	**-1.1**
GRSS	**Sisters**	**48.28**	**14**	*e*P	**P**	**22 45 47.8**	**+2.5**
ACON	**Acoyapa**	**48.52**	**343**	*e*P	**P**	**22 45 46.4**	**-0.7**
ESPN	**Las Esperanzas**	**48.53**	**344**	*e*P	**P**	**22 45 47.1**	**0.0**
VNA1	**Neumayer--Stat**	**48.60**	**156**	P	**P**	**22 45 46.4**	**-0.7**
VNA2	**Neumayer--Watz**	**48.94**	**157**	P	**P**	**22 45 48.3**	**-1.4**
	baz=286,slow=8.5						
COPN	**Copaltepe**	**49.08**	**341**	*e*P	**P**	**22 45 53.8**	**+2.4**
MOMN	**Momotombo**	**49.28**	**341**	*e*P	**P**	**22 45 54.0**	**+0.9**
SVB	**Belmont**	**49.30**	**14**	*e*P	**P**	**22 45 53.2**	**+0.1**
	comp=Z,774nm,0.6s						
SVB				LR	LR		
	comp=Z,130μm,21.0s						
SVB	**Belmont**	**49.30**	**14**	*e*P	**P**	**22 45 52.5**	**-0.6**
SVCV	**St. Vincent, C**	**49.32**	**14**	*e*	**P**	**22 45 52.5**	**-0.8**
SVV	**Soufriere Volc**	**49.35**	**14**	*e*P	**P**	**22 45 54.6**	**+1.2**
SSV	**Crater Summit**	**49.37**	**14**	*e*P	**P**	**22 45 54.2**	**+0.5**
CNGN	**Cerro Negro**	**49.41**	**341**	*e*P	P	22 45 59.4	+5.4
BBSP	**Saint Philip**	**49.52**	**16**	*e*P	P	22 46 05.3	+11
BBGH	**Gun Hill**	**49.54**	**16**	*e*P	**P**	**22 45 55.5**	**+0.7**
	comp=Z,2μm,1.4s						
BBGH				LR	LR		
	comp=Z,238μm,22.0s						
BBGH	**Gun Hill**	**49.54**	**16**	*e*P	**P**	**22 45 58.0**	**+3.1**
BBGH	**Gun Hill**	**49.54**	**16**	*e*P	P	22 46 00.9	+6.0
CRIN	**San Cristobal**	**49.70**	**341**	*e*P	**P**	**22 45 56.7**	**+0.5**
MCLT	**Moule a Chique**	**49.79**	**14**	*e*P	**P**	**22 45 54.7**	**-2.1**
SLB	**Belfond**	**49.88**	**14**	*e*	**P**	**22 45 58.1**	**+0.5**
ESTN	**Estel**	**49.90**	**342**	*e*P	**P**	**22 45 56.4**	**-1.4**
SLW	**Petit Monier**	**50.09**	**14**	*e*P	**P**	**22 46 00.7**	**+1.6**
SNAA	**Sanae**	**50.50**	**157**	P	**P**	**22 46 00.5**	**-1.2**
SNAA	**Sanae**	**50.50**	**157**	P	**P**	**22 45 59.7**	**-2.0**
	comp=Z,52nm,0.9s,baz=276,slow=6.7,SNR=86						
SNAA				S	**S**	**22 53 20.6**	**+7.0**
	comp=Z,18nm,1.1s,baz=18,slow=19,SNR=1.8						
SNAA				LR	LR	23 07 14.3	
	comp=Z,100μm,18.8s,baz=284,slow=36						
SNAA				PKPPKP	P'P'df	23 16 46.6	-10
	comp=Z,5.3nm,1.0s,baz=186,slow=3.4,SNR=4.2						
SNAA	**Sanae**	**50.50**	**157**	*e*P	**P**	**22 45 59.5**	**-2.2**
	comp=Z,2μm,1.2s						
SNAA				*e*S	**S**	**22 53 20.6**	**+7.0**
SNAA				LR	LR		
	comp=Z,104μm,19.0s						
TRMF	**Trois Ilets**	**50.57**	**14**	*e*P	**P**	**22 46 01.5**	**-1.2**
ZAM	**Aeronautique**	**50.61**	**14**	*e*P	**P**	**22 46 02.4**	**-0.6**
LPMF	**Morne Lapointe**	**50.62**	**14**	*e*P	**P**	**22 46 01.5**	**-1.6**
FDF	**Fort de France**	**50.74**	**14**	*e*P	**P**	**22 46 01.6**	**-2.5**
FDF				pmax	pmax		
	comp=Z,2μm,1.4s						
FDF				MLR	MLR		
	comp=Z,262μm,22.0s						
FDF	**Fort de France**	**50.74**	**14**	*e*P	**P**	**22 46 01.6**	**-2.5**
	comp=Z,2μm,1.4s						
FDF				LR	LR		
	comp=Z,262μm,22.0s						
FDF	**Fort de France**	**50.74**	**14**	*e*P	**P**	**22 46 01.7**	**-2.3**
FDF	**Fort de France**	**50.74**	**14**	*e*P	**P**	**22 46 07.6**	**+3.5**
PML	**Morne Lenard**	**50.78**	**14**	*e*P	**P**	**22 46 02.3**	**-2.1**
PCM	**Pelee Case Pet**	**50.81**	**14**	*e*P	**P**	**22 46 02.5**	**-2.1**
PCM	**Pelee Case Pet**	**50.81**	**14**	*e*P	**P**	**22 46 02.5**	**-2.1**
CXM	**Morne La Croix**	**50.81**	**14**	*e*P	**P**	**22 46 02.8**	**-1.9**
TGUH	**Tegucigalpa,Un**	**51.05**	**341**	*e*P	**P**	**22 46 06.2**	**-0.2**
	comp=Z,886nm,1.0s						
TGUH				LR	LR		
	comp=Z,58μm,21.0s						
TGUH	**Tegucigalpa,Un**	**51.05**	**341**	*e*P	**P**	**22

ABVI LR LR
comp=Z,836nm,1.0s
FSCY Frank Sound, G 54.89 350 *e*P **P** 22 46 33.1 -1.5
comp=Z,130µm,20.0s
GTBY Guantanamo Bay 54.90 357 *e*P **P** 22 46 33.6 -1.1
comp=Z,2µm,1.3s
GTBY LR LR
comp=Z,552nm,1.0s
GTBY Guantanamo Bay 54.90 357 *e*P **P** 22 46 32.4 -2.2
WBCY West Bay, Gran 54.99 349 *e*P **P** 22 46 34.7 -0.6
comp=Z,53µm,21.0s
QSPA South Pole Qui 55.03 180 P **P** 22 46 34.3 -1.1
comp=Z,1µm,1.4s
QSPA LR LR 23 09 20.3
comp=Z,84nm,0.7s,baz=139,slow=3.7,SNR=119
QSPA PKPPKP **P'P'df** 23 16 44.5 -5.6
comp=Z,47µm,20.2s,baz=158,slow=35
QSPA PKP2bc 23 16 55.8
comp=Z,24nm,1.1s,baz=334,slow=3.2,SNR=3.5
QSPA South Pole Qui 55.03 180 *e*P **P** 22 46 34.3 -1.1
comp=Z,18nm,1.0s,baz=304,slow=1.5,SNR=7.0
QSPA LR LR
comp=Z,61µm,22.0s
LCCY Blossom Villag 55.09 351 *e*P **P** 22 46 34.9 -1.1
comp=Z,1µm,1.3s
CBCY The Bluff, Cay 55.12 351 *e*P **P** 22 46 36.2 0.0
comp=Z,1µm,1.5s
NVL N'lazarevskaya 55.25 156 *e*P **P** 22 46 32.8 -3.8
NVL *e* 22 48 38.6
NVL *e*S **S** 22 54 22.0 +3.9
NVL pmax pmax
comp=Z,320nm,1.6s
NVL MLR MLR
comp=Z,102µm,23.0s
RKT Rikitea 55.38 265 *e*P **P** 22 46 40.5 +2.2
comp=Z,317nm,1.4s
RKT *e*S **S** 22 54 17.8 -3.3
comp=Z,114µm,30.2s
RKT *e*LQ LQ 23 00 14.2
comp=Z,70µm,32.2s
RKT *e*LR LR 23 02 35.6
comp=Z,274µm,28.2s,baz=121
RKT Rikitea 55.38 265 *e*T T 23 45 47.6
comp=Z,28nm,0.2s
CMIG Matias Romero 56.32 334 P **P** 22 46 45.5 +0.6
comp=Z,9.1nm,0.9s,baz=128,slow=4.2,SNR=9.4
CMIG LR LR 23 05 53.2
comp=Z,63µm,21.5s,baz=154,slow=31
GRTK Grand Turk 56.41 1 *e*P **P** 22 46 46.0 +0.5
comp=Z,826nm,0.9s
GRTK LR LR
comp=Z,114µm,20.0s
GRTK Grand Turk 56.41 1 *e*P **P** 22 46 44.1 -1.4
TEIG Tepich 57.22 342 PFAKE 22 47 00.0 +8.8
TEIG LR LR
comp=Z,39µm,21.0s
TEIG Tepich 57.22 342 *e*P **P** 22 46 50.3 -0.9
MYIG MÖrida 58.30 341 *e*P **P** 22 46 58.1 -0.7
comp=Z,895nm,1.1s
MYIG LR LR
comp=Z,66µm,22.0s
ASCN Ascension 59.25 77 *e*P **P** 22 47 03.3 -2.4
comp=Z,2µm,1.5s
ASCN LR LR
comp=Z,229µm,20.0s
LVIG Laguna Verde 59.29 333 *e*P **P** 22 47 07.8 +2.1
comp=Z,710nm,1.8s
LVIG LR LR
comp=Z,73µm,20.0s
UNM Universidad Na 60.01 330 *e*P **P** 22 47 10.9 -0.1
UNM *e**PP **pP** 22 47 20.6 +0.8
UNM pmax pmax
comp=Z,895nm,1.1s
UNM MLR MLR
comp=Z,270µm,20.0s
UNM Universidad Na 60.01 330 *e*P **P** 22 47 10.9 -0.1
comp=Z,895nm,1.1s
UNM *e*pP **pP** 22 47 20.6 +0.8
UNM LR LR
comp=Z,270µm,20.0s
MOIG Morelia 61.16 328 *e*P **P** 22 47 19.3 +0.5
JRQG Juriquilla Cam 61.76 330 *e*P **P** 22 47 23.6 +0.8
comp=Z,974nm,1.2s
JRQG LR LR
comp=Z,443µm,22.0s
SHEL Horse Pasture 61.81 90 *e*P **P** 22 47 21.7 -1.6
SHEL *e**PP **pP** 22 47 29.9 -2.1
SHEL pmax pmax
comp=Z,865nm,0.7s
SHEL MLR MLR
comp=Z,170µm,21.0s
SHEL Horse Pasture 61.81 90 *e*P **P** 22 47 21.6 -1.6
comp=Z,865nm,0.7s
SHEL *e*pP **pP** 22 47 29.9 -2.1
SHEL LR LR
comp=Z,170µm,21.0s
059Z Ave Maria 61.84 351 P **P** 22 47 24.3 +1.4
baz=172
SBA Scott Base 61.89 192 *e*P **P** 22 47 23.1 +0.3
SBA pmax pmax
comp=Z,682nm,1.5s
SBA MLR MLR
comp=Z,58µm,19.0s
SBA Scott Base 61.89 192 *e*P **P** 22 47 23.1 +0.3
comp=Z,682nm,1.5s
SBA LR LR
comp=Z,58µm,19.0s
058A Arcadia 62.60 350 P **P** 22 47 28.5 +0.4
baz=171
VNDA Vanda 62.91 191 P **P** 22 47 29.4 -0.2
comp=Z,3.4nm,0.7s,baz=131,slow=4.2,SNR=21
VNDA LR LR 23 11 47.3
comp=Z,57µm,19.3s,baz=130,slow=33
VNDA PKP2bc 23 16 35.3
comp=Z,3.8nm,1.0s,baz=313,slow=5.8,SNR=4.2
VNDA Vanda 62.91 191 *e*P **P** 22 47 29.8 +0.2
VNDA pmax pmax
comp=Z,333nm,1.4s
VNDA Vanda 62.91 191 *e*P **P** 22 47 29.8 +0.2
comp=Z,333nm,1.4s
959A Okeechobee 62.94 351 P **P** 22 47 29.5 -0.8
baz=172
957A Wimauma 63.26 350 P **P** 22 47 33.3 +0.9
baz=171
DWPF Disney Wildern 63.58 351 P **P** 22 47 34.6 0.0
baz=172
DWPF Disney Wildern 63.58 351 *e*P **P** 22 47 36.4 +1.8
comp=Z,1µm,1.8s
DWPF LR LR
comp=Z,35µm,22.0s
ZAIG Zacatecas 64.48 329 *e*P **P** 22 47 41.7 +0.8
ZAIG LR LR
comp=Z,120µm,20.0s
757A Oxford 64.49 350 P **P** 22 47 39.6 -0.9
baz=171
SYO Syowa Base 64.78 158 ‖ *j*P **P** 22 47 37.9 -4.1
SYO Syowa Base 64.78 158 ‖ *j*pP pP 22 47 49.6 -1.2
656A Willston 64.97 350 P **P** 22 47 42.8 -0.9
baz=171,SNR=9.8
H06S1 SOCORRO T 65.08 319 T T 23 58 35.0
SNR=26
657A Interlachen 65.09 351 P **P** 22 47 43.5 -0.9
baz=171
H06E1 SOCORRO T-PHAS 65.10 319 T T 23 58 34.3
SNR=122
LNIG Linares 65.14 333 *e*P **P** 22 47 43.7 -1.3
comp=Z,612nm,1.7s
557A Orange Park 65.50 351 P **P** 22 47 45.4 -1.7
baz=172
556A Lake Butler 65.58 350 P **P** 22 47 47.3 -0.3
baz=171,SNR=8.0
555A McAlpin 65.78 350 P **P** 22 47 47.7 -1.2
baz=170
553A Crawfordville 66.07 348 P **P** 22 47 51.4 +0.7
baz=169
456A Hilliard 66.24 351 P **P** 22 47 51.7 -0.1
baz=171
454A Quitman 66.46 349 P **P** 22 47 52.1 -1.1
baz=170
453A Whigham 66.70 349 P **P** 22 47 54.1 -0.7
baz=169
355A Pearson 66.96 350 P **P** 22 47 56.5 0.0
baz=171
KVTX Kingsville 66.99 335 *e*P **P** 22 47 56.7 0.0
comp=Z,955nm,1.4s
KVTX LR LR
comp=Z,92µm,18.0s

TAOE Nuku Hiva Isla 67.00 275 *e*P **P** 22 48 00.4 +3.1
comp=Z,2µm,1.5s
TAOE *e*S **S** 22 56 47.4 -2.0
comp=Z,261µm,30.5s
TAOE Nuku Hiva Isla 67.00 275 *e*LR LR 23 08 01.2
comp=Z,247µm,28.5s
TAOE Nuku Hiva Isla 67.00 275 *e*P **P** 22 47 58.6 +1.2
comp=Z,2µm,1.8s
TAOE *e*pP **sP** 22 48 10.0 +0.5
TAOE LR LR
comp=Z,137µm,18.0s
TIGA Tifton 67.16 349 P **P** 22 47 56.5 -1.2
baz=170,SNR=7.2
TIGA Tifton 67.16 349 *e*P **P** 22 47 56.3 -1.4
comp=Z,1µm,1.5s
TIGA LR LR
comp=Z,46µm,22.0s
353A Camilla 67.17 349 P **P** 22 47 56.8 -0.9
baz=169,SNR=13
351A Pinckard 67.33 348 P **P** 22 47 57.6 -1.2
baz=168
352A Blakely 67.41 348 P **P** 22 47 58.3 -1.0
baz=169
447A Lucedale 67.47 345 P **P** 22 48 00.7 +1.1
baz=166,SNR=8.2
BRAL Brewton 67.50 346 *e*P **P** 22 47 59.3 -0.5
comp=Z,992nm,1.4s
BBSR BB Station 67.58 7 *e*P **P** 22 48 00.2 -0.1
comp=Z,369nm,1.2s
BBSR LR LR
comp=Z,39µm,19.0s
254A Abbeville 67.61 350 P **P** 22 47 58.8 -1.8
baz=170,SNR=18
446A Poplarville 67.62 344 P **P** 22 48 00.8 +0.2
baz=165,SNR=13
349A Repton 67.70 346 P **P** 22 48 00.4 -0.7
baz=167,SNR=9.3
253A Americus 67.85 349 P **P** 22 48 00.8 -1.3
baz=170
SACV Santiago Islan 67.86 51 *e*P **P** 22 47 59.8 -2.7
comp=Z,203nm,1.0s
SACV LR LR
comp=Z,123µm,19.0s
252A Lumpkin 67.89 348 P **P** 22 48 03.3 +1.0
baz=169
348A Jackson 67.91 345 P **P** 22 48 02.3 -0.1
baz=166
347A Saraland 68.03 345 P **P** 22 48 02.5 -0.6
baz=166,SNR=13
251A Midway 68.09 348 P **P** 22 48 02.0 -1.6
baz=168,SNR=21
RGRS Roger Stewart 68.18 353 *e*P **P** 22 48 03.8 -0.2
comp=Z,2µm,0.5s
346A Big Creek Wild 68.22 344 P **P** 22 48 03.8 -0.6
baz=165,SNR=8.3
833A Chaparral WMA, 68.23 334 P **P** 22 48 04.5 0.0
baz=156,SNR=20
CSU Charleston Sou 68.24 353 *e*P **P** 22 48 03.8 -0.6
154A Montrose 68.24 350 P **P** 22 48 02.7 -1.8
baz=170,SNR=13
249A Camden 68.29 346 P **P** 22 48 04.8 0.0
baz=167,SNR=13
NHSC New Hope 68.37 353 *e*P **P** 22 48 04.5 -0.8
comp=Z,2µm,1.5s
NHSC LR LR
comp=Z,43µm,20.0s
153A Fort Valley 68.39 349 P **P** 22 48 03.7 -1.7
baz=170
151A Opelika 68.50 348 P **P** 22 48 04.6 -1.6
baz=168,SNR=16
248A Dixon Mills 68.53 346 P **P** 22 48 05.5 -0.8
baz=166
344A Westbrook Farm 68.57 343 P **P** 22 48 06.7 +0.1
baz=164,SNR=10
SLBS Sierra La Lagu 68.67 323 *e*P **P** 22 48 08.2 +0.7
comp=Z,483nm,1.4s
247A Quitman 68.67 345 P **P** 22 48 07.2 0.0
baz=166
150A Eclectic 68.70 347 P **P** 22 48 05.9 -1.5
baz=168,SNR=20
246A Jackson Lee, B 68.75 345 P **P** 22 48 07.6 0.0
baz=165
149A Jones 68.84 347 P **P** 22 48 06.6 -1.6
baz=167,SNR=15
342A Flagon Creek P 68.90 342 P **P** 22 48 08.8 +0.2
baz=162,SNR=15
245A Little AP, Sta 68.93 344 P **P** 22 48 08.7 -0.1
baz=165,SNR=11
148A Greensboro 69.03 346 P **P** 22 48 08.6 -0.9
baz=167
GOGA Godfrey 69.08 350 P **P** 22 48 08.2 -1.6
baz=170,SNR=24
GOGA Godfrey 69.08 350 *e*P **P** 22 48 08.1 -1.6
GOGA pmax pmax
comp=Z,340nm,1.1s
GOGA MLR MLR
comp=Z,42µm,22.0s
GOGA Godfrey 69.08 350 *e*P **P** 22 48 08.1 -1.6
comp=Z,340nm,1.1s
GOGA LR LR
comp=Z,42µm,22.0s
341A Kurthwood 69.08 341 P **P** 22 48 10.1 +0.3
baz=162,SNR=19
LPIG La Paz 69.19 323 P **P** 22 48 12.2 +1.6
comp=Z,17nm,0.3s,baz=54,slow=5.3,SNR=5.9
LPIG LR LR 23 11 51.3
comp=Z,51µm,20.7s,baz=141,slow=30
147A Livingston 69.20 345 P **P** 22 48 10.2 -0.2
baz=166,SNR=22
VBMS Vicksburg 69.26 343 P **P** 22 48 10.7 -0.1
baz=164
VBMS Vicksburg 69.26 343 *e*P **P** 22 48 10.8 0.0
comp=Z,2µm,1.8s
LRAL Lakeview Retre 69.30 347 P **P** 22 48 09.6 -1.5
baz=167,SNR=22
LRAL Lakeview Retre 69.30 347 *e*P **P** 22 48 09.8 -1.3
comp=Z,637nm,1.5s
LRAL LR LR
comp=Z,42µm,20.0s
Z50A Ashland 69.32 348 P **P** 22 48 09.9 -1.3
baz=168,SNR=25
146A Union 69.33 345 P **P** 22 48 10.7 -0.6
baz=165,SNR=13
Z49A Columbiana 69.37 347 P **P** 22 48 10.2 -1.3
baz=168,SNR=16
HPIG 69.46 328 *e*P **P** 22 48 12.2 -0.3
comp=Z,374nm,1.2s
HPIG LR LR
comp=Z,140µm,22.0s
242A Grayson 69.50 342 P **P** 22 48 12.3 -0.1
baz=163
144A Alexander Plac 69.63 344 P **P** 22 48 14.1 +1.0
baz=164
TVO Taravao 69.63 262 *e*P **P** 22 48 16.7 +3.0
comp=Z,352nm,1.6s
TVO Taravao 69.63 262 *e*T T 00 03 28.5
comp=Z,15nm,0.2s
VAH Vahoa 69.65 265 *e*P **P** 22 48 16.4 +2.7
comp=Z,1µm,1.4s
JSC Jenkinsville 69.65 352 *e*P **P** 22 48 12.1 -1.1
JSC pmax pmax
comp=Z,156nm,0.8s
JSC MLR MLR
comp=Z,64µm,22.0s
JSC Jenkinsville 69.65 352 *e*P **P** 22 48 12.1 -1.1
comp=Z,156nm,0.8s
JSC LR LR
comp=Z,64µm,22.0s
Z47A Carrollton 69.67 346 P **P** 22 48 12.7 -0.6
baz=166,SNR=43
HODGE Hodges 69.72 351 *e*P **P** 22 48 12.2 -1.5
comp=Z,156nm,1.0s
HODGE LR LR
comp=Z,49µm,22.0s
Z48A Northport 69.74 346 P **P** 22 48 12.6 -1.2
baz=167,SNR=25
TIAR Tiarei 69.82 262 *e*P **P** 22 48 17.5 +2.7
comp=Z,120nm,1.0s
TIAR Tiarei 69.82 262 *e*T T 00 03 41.3
comp=Z,40nm,0.3s
Z46A Louisville 69.84 345 P **P** 22 48 14.3 -0.1
baz=166,SNR=28
435B Jarrell 69.87 337 P **P** 22 48 14.0 -0.7
baz=158,SNR=15
NATX Nacogdoches 69.90 340 P **P** 22 48 15.3 +0.5
baz=161,SNR=10.0
NATX Nacogdoches 69.90 340 *e*P **P** 22 48 14.9 +0.1
comp=Z,524nm,0.9s

NATX LR LR
comp=Z,32µm,20.0s
Y50A Piedmont 69.91 348 P **P** 22 48 13.8 -1.1
baz=168,SNR=26
240A Hunter Patters 69.91 341 P **P** 22 48 15.5 +0.6
baz=161,SNR=7.2
142A Monroe 69.92 342 P **P** 22 48 14.3 -0.6
baz=163
143A Socs Landing, 69.93 343 P **P** 22 48 15.2 +0.2
baz=163,SNR=30
PAE Paea 69.96 262 *e*P **P** 22 48 18.5 +2.9
comp=Z,184nm,1.3s
PAE Paea 69.96 262 *e*T T 00 03 47.5
comp=Z,6.6nm,0.3s
PPTF Pamatai, Papee 69.98 262 *e*P **P** 22 48 15.3 -0.6
comp=Z,1µm,1.2s
PPTF LR LR
comp=Z,199µm,19.0s
PMOR Pomariorio Ree 69.99 265 *e*P **P** 22 48 18.6 +2.8
comp=Z,604nm,1.4s
Y49A Blount Mountai 69.99 347 P **P** 22 48 14.7 -0.7
baz=168,SNR=13
PPT2 Papeete2 70.00 262 *e*P **P** 22 48 18.9 +2.9
comp=Z,1µm,1.5s
PPT2 *e*S **S** 22 57 22.2 -2.7
comp=Z,107µm,26.8s
PPT2 *e*LQ LQ 23 05 53.2
comp=Z,53µm,29.0s
PPT2 *e*LR LR 23 09 21.4
comp=Z,525µm,25.8s,baz=121
PPT2 Papeete2 70.00 262 *e*T T 00 03 39.3
comp=Z,12nm,0.3s
PPT Papeete 70.01 262 P **P** 22 48 18.3 +2.3
comp=Z,78nm,0.8s,baz=106,slow=12,SNR=8.9
PPT LR LR 23 11 20.2
comp=Z,207µm,18.7s,baz=137,slow=29
Z45A Winona 70.17 344 P **P** 22 48 15.7 -0.8
baz=165
Y48A Jasper 70.19 347 P **P** 22 48 15.3 -1.3
baz=167,SNR=17
141A Papa Simpson, 70.22 341 P **P** 22 48 17.2 +0.4
baz=162,SNR=11
PAULI Pauline 70.25 352 *e*P **P** 22 48 16.4 -0.5
comp=Z,122nm,1.1s
Z44A Pea Ridge, Bel 70.25 344 P **P** 22 48 16.8 -0.1
baz=164,SNR=22
CNNC Cliffs of the 70.29 355 P **P** 22 48 16.8 -0.3
baz=175,SNR=11
CNNC Cliffs of the 70.29 355 *e*P **P** 22 48 16.5 -0.6
comp=Z,540nm,1.0s
CNNC LR LR
comp=Z,62µm,20.0s
Y47A UCPARC, Winfie 70.31 346 P **P** 22 48 16.7 -0.6
baz=166,SNR=40
JCT Junction City 70.34 335 P **P** 22 48 17.4 -0.2
baz=156,SNR=72
JCT Junction City 70.34 335 *e*P **P** 22 48 17.1 -0.5
JCT pmax pmax
comp=Z,522nm,1.0s
JCT MLR MLR
comp=Z,27µm,22.0s
JCT Junction City 70.34 335 *e*P **P** 22 48 17.1 -0.5
comp=Z,522nm,1.0s
JCT LR LR
comp=Z,27µm,22.0s
140A Cam and Jess, 70.43 341 P **P** 22 48 18.1 +0.1
baz=162,SNR=9.7
X50A Fort Payne 70.45 348 P **P** 22 48 17.5 -0.7
baz=168,SNR=39
Y46A Houston 70.49 345 P **P** 22 48 17.4 -1.0
baz=166,SNR=36
KMSC Kings Mountain 70.51 352 P **P** 22 48 18.0 -0.5
baz=172,SNR=31
KMSC Kings Mountain 70.51 352 *e*P **P** 22 48 16.4 -2.0
comp=Z,199nm,0.9s
KMSC LR LR
comp=Z,48µm,21.0s
BG3 Lake Jocassee 70.56 351 *e*P **P** 22 48 17.9 -0.9
comp=Z,293nm,1.0s
BG3 *e*PP **PP** 22 50 57.4 +1.7
BG3 LR LR
comp=Z,54µm,22.0s
X49A Woodville 70.61 348 P **P** 22 48 17.7 -1.4
baz=168,SNR=27
Y45A Yeager Farm, C 70.62 345 P **P** 22 48 18.8 -0.4
baz=165,SNR=13
X48A Hartselle 70.69 347 P **P** 22 48 18.6 -0.9
baz=167,SNR=60
LTX Lajitas 70.75 331 *e*P **P** 22 48 19.7 -0.5
LTX Lajitas 70.75 331 *e*P **P** 22 48 19.7 -0.5
LTX *e*P'P'df **P'P'df** 23 16 14.8 +1.8
TXAR Lajitas Array 70.75 331 P **P** 22 48 19.7 -0.5
comp=Z,18nm,0.6s,baz=151,slow=8.4,SNR=120
TXAR LR LR 23 14 22.2
comp=Z,165µm,20.7s,baz=0.0,slow=32
TXAR PKP2bc 23 16 14.8
comp=Z,1.6nm,1.1s,baz=288,slow=1.2,SNR=4.0
TX31 Lajitas Ar. Si 70.75 331 *e*P **P** 22 48 19.2 -1.0
Z41A Richland Creek 70.81 342 P **P** 22 48 20.6 +0.3
baz=162,SNR=15
X47A Russelville 70.90 346 P **P** 22 48 19.7 -1.2
baz=167,SNR=50
WHTX Lake Whitney, 70.95 337 P **P** 22 48 20.3 -1.0
baz=158,SNR=21
WHTX Lake Whitney, 70.95 337 *e*P **P** 22 48 20.2 -1.0
comp=Z,553nm,1.0s
WHTX LR LR
comp=Z,34µm,22.0s
Z40A Long Farm, Mag 70.96 341 P **P** 22 48 21.3 +0.1
baz=162,SNR=12
Y43A Makayla and Ka 70.97 344 P **P** 22 48 21.8 +0.4
baz=164,SNR=15
X46A Booneville 71.08 346 P **P** 22 48 20.9 -1.1
baz=166,SNR=9.5
X45A UM Field Stati 71.12 345 P **P** 22 48 20.9 -1.4
baz=165
CCAR Cane Creek 71.18 343 *e*P **P** 22 48 24.4 +1.9
comp=Z,450nm,0.9s
CCAR *e*PP **PP** 22 51 03.1 +2.1
OXF Oxford 71.21 345 P **P** 22 48 21.4 -1.3
baz=165,SNR=15
OXF Oxford 71.21 345 *e*P **P** 22 48 21.2 -1.6
OXF pmax pmax
comp=Z,965nm,1.1s
OXF MLR MLR
comp=Z,28µm,21.0s
OXF Oxford 71.21 345 *e*P **P** 22 48 21.2 -1.6
comp=Z,965nm,1.1s
OXF LR LR
comp=Z,28µm,21.0s
SWET Sewanee 71.23 348 *e*P **P** 22 48 21.3 -1.6
comp=Z,666nm,1.3s
CPCT Cooper Cave 71.24 349 *e*P **P** 22 48 21.4 -1.5
NCAT North Carolina 71.28 353 *e*P **P** 22 48 22.2 -0.9
comp=Z,520nm,1.6s
NCAT *e*PP **PP** 22 50 54.5 -7.3
NCAT LR LR
comp=Z,49µm,22.0s
WLAR White Oak Lake 71.30 342 *e*P **P** 22 48 23.3 0.0
comp=Z,606nm,1.1s
WLAR *e*PP **PP** 22 51 06.5 +4.5
WLAR LR LR
comp=Z,36µm,22.0s
TKL Tuckaleechee C 71.33 350 P **P** 22 48 21.8 -1.7
comp=Z,35nm,0.7s,baz=160,slow=8.8,SNR=39
TKL Tuckaleechee C 71.33 350 *e*P **P** 22 48 21.6 -1.9
TKL pmax pmax
comp=Z,293nm,1.0s
TKL MLR MLR
comp=Z,50µm,22.0s
TKL Tuckaleechee C 71.33 350 *e*P **P** 22 48 21.6 -1.9
comp=Z,293nm,1.0s
TKL LR LR
comp=Z,50µm,22.0s
W48A Pulaski 71.33 347 P **P** 22 48 22.3 -1.2
baz=167,SNR=38
Y41A Eaglette Beard 71.35 342 P **P** 22 48 22.9 -0.7
baz=162,SNR=33
X44A Crenshaw 71.36 344 P **P** 22 48 22.5 -1.1
baz=165,SNR=7.9
PLAL Pickwick Lake 71.40 346 *e*P **P** 22 48 22.2 -1.6
comp=Z,340nm,0.9s
PLAL LR LR
comp=Z,49µm,22.0s
X43A Marvell 71.54 344 P **P** 22 48 25.0 +0.3
baz=164,SNR=18
W47A Westpoint 71.56 347 P **P** 22 48 23.7 -1.2
baz=167,SNR=51

W46A Michie 71.60 346 P P 22 48 23.8 -1.3
baz=166,SNR=5.6
Y40A Okolona 71.65 342 P P 22 48 24.7 -0.7
baz=162,SNR=12
X42A Stuttgart 71.75 343 P P 22 48 26.1 +0.1
baz=163,SNR=15
V48A Smith Brothers 71.90 347 P P 22 48 25.7 -1.2
baz=168
X41A Kaden, Bauxite 71.91 342 P P 22 48 26.4 -0.5
baz=163,SNR=12
X40A Basin Creek Fa 71.98 342 P P 22 48 26.6 -0.8
baz=162,SNR=23
MAW Mawson 72.05 163 P P 22 48 25.8 -1.6
comp=Z,59nm,0.8s,baz=213,slow=6.4,SNR=35
MAW LR LR 23 20 12.5
comp=Z,188µm,20.9s,baz=226,slow=36
MAW Mawson 72.05 163 eP P 22 48 25.9 -1.6
MAW pmax pmax
comp=Z,105nm,0.9s
MAW Mawson 72.05 163 eP P 22 48 25.9 -1.6
comp=Z,105nm,0.9s
V47A Nunnelly 72.11 347 P P 22 48 26.6 -1.6
baz=167,SNR=87
UALR University of 72.14 343 eP P 22 48 27.2 -1.1
comp=Z,258nm,1.1s
TZTN Tazewell 72.17 350 P P 22 48 27.3 -1.3
baz=170,SNR=12
TZTN Tazewell 72.17 350 eP P 22 48 27.0 -1.5
comp=Z,959nm,1.6s
TZTN LR LR
comp=Z,59µm,22.0s
V46A Holladay 72.20 346 P P 22 48 27.0 -1.7
baz=166,SNR=56
MIAR Mount Ida 72.23 342 eP P 22 48 26.5 -2.4
MIAR pmax pmax
comp=Z,470nm,1.4s
MIAR Mount Ida 72.23 342 eP P 22 48 26.4 -2.4
comp=Z,470nm,1.4s
ABTX Abilene, Hawle 72.24 336 P P 22 48 28.7 -0.4
baz=157,SNR=49
ABTX Abilene, Hawle 72.24 336 eP P 22 48 28.1 -1.0
comp=Z,551nm,0.9s
ABTX LR LR
comp=Z,25µm,20.0s
BBTS Babate 72.33 57 P P 22 48 28.1 -1.8
comp=Z,178nm,0.9s,baz=1.6,slow=0.3,SNR=13
BBTS LR LR 23 19 32.1
comp=Z,340µm,20.4s,baz=231,slow=35
X39A Fountain Ranch 72.34 341 P P 22 48 28.9 -0.7
baz=161,SNR=42
VWCC Virginia Weste 72.45 353 eP P 22 48 29.1 -1.1
BLA Blacksburg 72.46 353 P P 22 48 31.1 +0.9
baz=173,SNR=13
BLA Blacksburg 72.46 353 eP P 22 48 31.3 +1.0
BLA pmax pmax
comp=Z,2µm,2.0s
BLA MLR MLR
comp=Z,44µm,20.0s
BLA Blacksburg 72.46 353 eP P 22 48 31.3 +1.0
comp=Z,2µm,2.0s
BLA LR LR
comp=Z,44µm,20.0s
WVT Waverly 72.46 347 P P 22 48 28.8 -1.4
baz=167
WVT Waverly 72.46 347 eP P 22 48 28.4 -1.8
WVT pmax pmax
comp=Z,2µm,1.3s
WVT MLR MLR
comp=Z,26µm,20.0s
WVT Waverly 72.46 347 eP P 22 48 28.4 -1.8
comp=Z,2µm,1.3s
WVT LR LR
comp=Z,26µm,20.0s
W41B Gary Mavity, V 72.49 343 P P 22 48 29.6 -0.8
baz=163,SNR=40
HALT Halls 72.55 345 eP P 22 48 29.9 -0.8
URVA University of 72.58 355 eP P 22 48 30.3 -0.6
U48A Cassie Pea, Po 72.60 348 P P 22 48 30.5 -0.6
baz=168,SNR=55
WHAR Wooly Hollow 72.61 343 eP P 22 48 30.3 -0.9
comp=Z,869nm,1.3s
U47A Clarksville 72.67 347 P P 22 48 30.0 -1.4
baz=167
W40A Ferguson Farm, 72.71 342 P P 22 48 30.8 -0.9
baz=162,SNR=15
W40A Ferguson Farm, 72.71 342 eP P 22 48 31.0 -0.8
comp=Z,1µm,1.5s
GNAR Gosnell 72.74 345 eP P 22 48 31.7 -0.2
comp=Z,13µm,1.2s
U46A Springville 72.75 346 P P 22 48 30.3 -1.6
baz=166,SNR=55
SRIG Santa Rosalia 72.83 323 eP P 22 48 32.5 -0.1
IP05 Hopewell Churc 72.85 355 eP P 22 48 32.1 -0.4
comp=Z,628nm,1.1s
IP05 LR LR
comp=Z,66µm,22.0s
U45A Rockin P Farm, 72.85 346 P P 22 48 31.2 -1.3
baz=166,SNR=26
UTMT University of 72.87 346 eP P 22 48 31.9 -0.7
comp=Z,2µm,1.1s
GLAT Glass 72.88 346 eP P 22 48 31.6 -1.1
V42A Cord 72.89 344 P P 22 48 31.2 -1.6
baz=164,SNR=20
W39A Magazine 72.90 342 P P 22 48 32.3 -0.5
baz=162,SNR=66
IP07 Quail 72.96 355 eP P 22 48 32.8 -0.4
comp=Z,1µm,1.5s
IP07 LR LR
comp=Z,54µm,21.0s
U44B Burton Farm, H 72.96 346 P P 22 48 32.8 -0.4
baz=165
IP06 Yanceyville 72.97 355 eP P 22 48 32.8 -0.4
comp=Z,586nm,1.5s
IP06 LR LR
comp=Z,45µm,21.0s
IP01 Cuckoo 72.99 355 eP P 22 48 33.5 +0.2
comp=Z,1µm,1.4s
IP01 LR LR
comp=Z,77µm,22.0s
SPRD Spring Road, M 73.05 355 eP P 22 48 33.4 -0.3
comp=Z,830nm,1.4s
V41A Mountainview 73.05 343 P P 22 48 32.6 -1.2
baz=163,SNR=64
IP03 Louisa 73.06 355 eP P 22 48 33.3 -0.4
comp=Z,882nm,1.4s
IP03 LR LR
comp=Z,60µm,21.0s
CVRD Centerville Ro 73.09 355 eP P 22 48 33.5 -0.5
comp=Z,2µm,1.9s
PVMO Portageville 73.11 345 eP P 22 48 33.0 -1.0
comp=Z,3µm,1.3s
IP04 Greensprings 73.14 355 eP P 22 48 33.8 -0.4
comp=Z,727nm,1.1s
IP04 LR LR
comp=Z,58µm,21.0s
T48A Bowling Green 73.16 348 P P 22 48 32.9 -1.4
baz=168,SNR=38
T47A Sharon Grove 73.16 348 P P 22 48 33.7 -0.7
baz=167,SNR=18
CBN Corbin Frederi 73.20 356 P P 22 48 34.9 +0.3
baz=176
CBN Corbin Frederi 73.20 356 eP P 22 48 32.9 -1.6
comp=Z,267nm,0.9s
CBN LR LR
comp=Z,47µm,21.0s
U43A Rector 73.22 345 P P 22 48 33.8 -0.8
baz=165,SNR=7.4
V40A Witts Springs 73.23 343 P P 22 48 34.1 -0.7
baz=163,SNR=36
T46A Princeton 73.36 347 P P 22 48 34.8 -0.7
baz=167,SNR=44
U42A Revenden 73.38 344 P P 22 48 34.7 -1.0
baz=164,SNR=58
CLNB Carlsbad 73.44 332 eP P 22 48 36.1 -0.2
comp=Z,6.9nm,0.8s
V39A Pettigrew 73.47 342 P P 22 48 36.0 -0.3
baz=162,SNR=49
T45A Paducah 73.48 346 P P 22 48 35.3 -0.9
baz=166
MNTX Cornudas Mount 73.52 331 P P 22 48 34.8 -1.8
baz=152,SNR=108
MNTX Cornudas Mount 73.52 331 eP P 22 48 35.0 -1.7
comp=Z,169nm,1.1s
MNTX LR LR
comp=Z,162µm,20.0s
U41A Viola 73.53 343 P P 22 48 35.0 -1.6
baz=163,SNR=30
GDL2 Guadalupe Moun 73.57 332 eP P 22 48 36.9 -0.1

PBMO Poplar Bluff 73.61 345 eP P 22 48 35.6 -1.4
comp=Z,559nm,1.3s
PBMO LR LR
comp=Z,32µm,20.0s
HSIG 73.63 325 eP P 22 48 37.3 0.0
HSIG LR LR
comp=Z,86µm,18.0s
S48A Wiedeman Farm, 73.64 349 P P 22 48 35.0 -2.2
baz=168,SNR=35
T44A Benton 73.73 346 P P 22 48 36.6 -1.1
baz=165
U40A Yellville 73.77 343 P P 22 48 36.4 -1.5
baz=163,SNR=68
T43A Greenville 73.88 345 P P 22 48 36.9 -1.7
baz=165,SNR=60
WMOK Wichita Mounta 73.91 337 P P 22 48 37.5 -1.4
baz=158,SNR=33
WMOK Wichita Mounta 73.91 337 eP P 22 48 37.2 -1.6
WMOK pmax pmax
comp=Z,483nm,1.4s
WMOK MLR MLR
comp=Z,17µm,20.0s
WMOK Wichita Mounta 73.91 337 eP P 22 48 37.2 -1.6
comp=Z,483nm,1.4s
WMOK LR LR
comp=Z,17µm,20.0s
U39A Green Forest 73.95 342 P P 22 48 37.8 -1.2
baz=162,SNR=43
S46A Don Dixon Farm 73.95 347 P P 22 48 37.2 -1.8
baz=167,SNR=28
HHAR Hobbs 73.97 342 eP P 22 48 37.7 -1.4
comp=Z,581nm,1.6s
T42A Van Buren 74.00 344 P P 22 48 38.1 -1.2
baz=164,SNR=64
EPT El Paso 74.04 330 eP P 22 48 40.0 +0.2
comp=Z,1µm,1.8s
EPT LR LR
comp=Z,151µm,20.0s
S45A Carrier Mills 74.11 346 P P 22 48 38.5 -1.4
baz=166,SNR=15
TUL1 Leonard 74.11 340 P P 22 48 38.4 -1.6
baz=160,SNR=28
TUL1 Leonard 74.11 340 eP P 22 48 37.7 -2.3
comp=Z,332nm,0.8s
TUL1 LR LR
comp=Z,23µm,22.0s
CPRX Cap Rock 74.11 333 eP P 22 48 39.5 -0.7
comp=Z,142nm,1.0s
T41A Mountain View 74.16 344 P P 22 48 38.8 -1.5
baz=164,SNR=55
USIN University of 74.22 347 eP P 22 48 38.5 -2.0
comp=Z,1µm,1.1s
USIN LR LR
comp=Z,34µm,21.0s
WCI Wyandotte Cave 74.24 348 P P 22 48 39.5 -1.1
baz=168
WCI Wyandotte Cave 74.24 348 eP P 22 48 38.7 -2.0
WCI pmax pmax
comp=Z,369nm,1.1s
WCI MLR MLR
comp=Z,27µm,20.0s
WCI Wyandotte Cave 74.24 348 eP P 22 48 38.7 -2.0
comp=Z,369nm,1.1s
WCI LR LR
comp=Z,27µm,20.0s
S44A Carbondale 74.25 346 P P 22 48 38.9 -1.9
baz=166,SNR=32
SIUC Southern Illin 74.27 346 eP P 22 48 38.9 -1.9
comp=Z,357nm,0.9s
S43A Fulton Ridge, 74.30 345 P P 22 48 39.2 -1.9
baz=165,SNR=117
SUR Sutherland 74.31 119 P P 22 48 38.9 -2.9
comp=Z,1.4nm,0.9s,baz=227,slow=6.0,SNR=14
SUR LR LR 23 16 34.3
comp=Z,9µm,21.8s,baz=230,slow=32
SUR Sutherland 74.31 119 eP P 22 48 41.4 -0.4
comp=Z,475nm,0.8s
SUR Sutherland 74.31 119 pP P 22 48 43.7 +1.9
SNR=19
SUR Sutherland 74.31 119 P P 22 48 43.7 +1.9
SNR=19
R48A Northridge Ran 74.33 349 P P 22 48 39.5 -1.7
baz=168,SNR=26
R47A Wooly Knot Far 74.34 348 P P 22 48 39.4 -1.8
baz=168,SNR=22
SDMD Soldier's Deli 74.37 356 eP P 22 48 41.0 -0.4
comp=Z,204nm,1.1s
SDMD LR LR
comp=Z,33µm,20.0s
R46A Gibon Southern 74.43 347 P P 22 48 39.5 -2.2
baz=167,SNR=28
T40A Mansfield 74.44 343 P P 22 48 40.3 -1.6
baz=163,SNR=31
T39A Clever 74.53 342 P P 22 48 41.0 -1.4
baz=162,SNR=34
MSTX Muleshoe 74.55 334 P P 22 48 41.7 -1.1
baz=154,SNR=40
MSTX Muleshoe 74.55 334 eP P 22 48 41.6 -1.1
comp=Z,473nm,1.1s
MSTX LR LR
comp=Z,44µm,20.0s
R45A Skylar, Fairfi 74.64 347 P P 22 48 41.0 -2.0
baz=166,SNR=25
S42A Caledonia 74.64 345 P P 22 48 41.2 -1.9
baz=164,SNR=60
S41A Jillco Farms, 74.68 344 P P 22 48 42.1 -1.2
baz=164,SNR=85
R44A Waltonville 74.75 346 P P 22 48 41.8 -1.9
baz=166,SNR=21
T38A Diamond 74.77 342 P P 22 48 42.5 -1.3
baz=162,SNR=43
FVM French Village 74.77 345 eP P 22 48 42.4 -1.4
FVM pmax pmax
comp=Z,1µm,1.4s
FVM MLR MLR
comp=Z,28µm,21.0s
FVM French Village 74.77 345 eP P 22 48 42.4 -1.4
comp=Z,1µm,1.4s
FVM LR LR
comp=Z,28µm,21.0s
PSUB Penn St. - Bra 74.82 357 eP P 22 48 43.5 -0.5
comp=Z,2µm,1.9s
PSUB LR LR
comp=Z,46µm,21.0s
MCWV Mont Chateau 74.83 354 P P 22 48 42.5 -1.6
baz=174
MCWV Mont Chateau 74.83 354 eP P 22 48 43.6 -0.4
comp=Z,352nm,1.1s
MCWV LR LR
comp=Z,59µm,22.0s
S40A Lebanon 74.86 343 P P 22 48 43.0 -1.3
baz=163,SNR=46
319A Douglas 74.88 328 eP P 22 48 45.3 +0.6
comp=Z,614nm,1.2s
319A LR LR
comp=Z,61µm,19.0s
MVL Millersville 74.93 357 eP P 22 48 44.4 -0.2
comp=Z,649nm,1.3s
MVL LR LR
comp=Z,53µm,22.0s
Q47A Bedord North L 74.95 348 P P 22 48 43.2 -1.6
baz=168,SNR=9.9
R43A Red Bud 74.95 346 P P 22 48 43.4 -1.4
baz=165,SNR=29
AMTX Amarillo 74.99 335 P P 22 48 44.5 -0.7
baz=155
AMTX Amarillo 74.99 335 eP P 22 48 44.8 -0.4
comp=Z,1µm,1.4s
AMTX LR LR
comp=Z,48µm,19.0s
OLIL Olney 75.04 347 eP P 22 48 43.2 -2.1
comp=Z,552nm,1.1s
R42A Luebbering 75.14 345 P P 22 48 45.5 -0.4
baz=164,SNR=23
S39A Bolivar 75.15 343 P P 22 48 44.5 -1.4
baz=162,SNR=52
PAGS Pennsylvania G 75.18 356 eP P 22 48 45.3 -0.7
comp=Z,237nm,0.8s
PAGS LR LR
comp=Z,49µm,20.0s
Q46A CEJHS Indians, 75.19 348 P P 22 48 43.7 -2.5
baz=167
BLO Bloomington 75.19 348 eP P 22 48 44.3 -1.9
BLO pmax pmax
comp=Z,1µm,1.6s
BLO MLR MLR
comp=Z,50µm,22.0s
BLO Bloomington 75.19 348 eP P 22 48 44.3 -1.9
comp=Z,1µm,1.6s
BLO LR LR
comp=Z,50µm,22.0s
Q45A Warren Harvey, 75.21 347 P P 22 48 44.0 -2.2
baz=167,SNR=23
LIC Lamto 75.23 71 eP P 22 48 44.0 -3.0
comp=Z,3µm,1.1s
121A Cookes Peak, D 75.23 329 P P 22 48 47.1 +0.3
baz=151,SNR=96
121A Cookes Peak, D 75.23 329 eP P 22 48 47.0 +0.3
comp=Z,1µm,1.7s
S38A Stockton 75.24 342 P P 22 48 44.9 -1.5
baz=162,SNR=73
R41A Rosebud 75.28 344 P P 22 48 45.5 -1.2
baz=164,SNR=91
O56A Blue Knob Stat 75.33 355 P P 22 48 46.9 -0.2
baz=175,SNR=19
O56A Blue Knob Stat 75.33 355 eP P 22 48 46.9 -0.2
comp=Z,1µm,1.8s
O56A LR LR
comp=Z,48µm,20.0s
SLM Saint Louis 75.36 345 eP P 22 48 45.8 -1.3
SLM pmax pmax
comp=Z,881nm,1.0s
SLM MLR MLR
comp=Z,33µm,21.0s
SLM Saint Louis 75.36 345 eP P 22 48 45.8 -1.3
comp=Z,881nm,1.0s
SLM LR LR
comp=Z,33µm,21.0s
Q44A Meyer Farm, Va 75.38 346 P P 22 48 45.8 -1.4
baz=166,SNR=17
P47A Martinsville 75.46 349 P P 22 48 45.8 -1.9
baz=168,SNR=17
R40A Maddies Statio 75.47 344 P P 22 48 46.0 -1.8
baz=163,SNR=99
LUPA Lehigh Univers 75.49 357 eP P 22 48 48.0 +0.2
comp=Z,29nm,1.1s
LUPA LR LR
comp=Z,4µm,21.0s
TIC Toumodi 75.49 71 eP P 22 48 45.6 -2.9
KIC Kosan Boka 75.53 71 eP P 22 48 46.2 -2.6
comp=Z,4µm,1.5s
Q43A New Douglas 75.55 346 P P 22 48 46.6 -1.6
baz=165,SNR=42
BRNJ Basking Ridge 75.55 358 eP P 22 48 49.0 +0.9
comp=Z,412nm,1.1s
BRNJ LR LR
comp=Z,81µm,20.0s
DBIC Dimbokro 75.64 71 P P 22 48 47.4 -1.9
comp=Z,138nm,0.8s,baz=205,slow=6.4,SNR=75
DBIC LR LR 23 19 20.0
comp=Z,217µm,21.1s,baz=218,slow=34
DBIC Dimbokro 75.64 71 eP P 22 48 47.4 -1.9
DBIC pmax pmax
comp=Z,1µm,1.0s
DBIC Dimbokro 75.64 71 eP P 22 48 47.4 -1.9
comp=Z,1µm,1.0s
CPNY Central Park 75.64 359 eP P 22 48 47.0 -1.6
comp=Z,267nm,1.1s
CPNY LR LR
comp=Z,70µm,21.0s
SSPA Standing Stone 75.65 355 P P 22 48 47.9 -0.9
baz=175
SSPA Standing Stone 75.65 355 eP P 22 48 47.9 -0.9
comp=Z,314nm,1.0s
SSPA LR LR
comp=Z,38µm,22.0s
R39A Chumby, Stover 75.67 343 P P 22 48 47.5 -1.5
baz=163,SNR=76
Q42A Golden Eagle 75.69 345 P P 22 48 47.9 -1.1
baz=165,SNR=44
CTZ Chatham Island 75.71 226 P P 22 48 45.3 -4.0
ACSO Alum Creek Sta 75.73 351 P P 22 48 47.5 -1.7
baz=171,SNR=48
ACSO Alum Creek Sta 75.73 351 eP P 22 48 47.6 -1.6
comp=Z,552nm,0.8s
ACSO LR LR
comp=Z,40µm,21.0s
P46A Rosedale 75.74 348 P P 22 48 47.3 -2.0
baz=167,SNR=22
P45A Graceland, Par 75.75 348 P P 22 48 47.7 -1.6
baz=167,SNR=15
R38A Fenwick Farm, 75.76 342 P P 22 48 48.0 -1.4
baz=162,SNR=28
N59A State Game Lan 75.82 357 P P 22 48 49.5 -0.3
baz=177,SNR=19
N59A State Game Lan 75.82 357 eP P 22 48 49.0 -0.7
comp=Z,687nm,1.3s
N59A LR LR
comp=Z,49µm,22.0s
P44A Sand Creek, Wi 75.85 347 P P 22 48 48.4 -1.5
baz=166,SNR=20
PAL Palisades 75.86 359 P P 22 48 50.2 +0.3
baz=179
PAL Palisades 75.86 359 eP P 22 48 48.6 -1.3
PAL pmax pmax
comp=Z,922nm,1.8s
PAL MLR MLR
comp=Z,71µm,21.0s
PAL Palisades 75.86 359 eP P 22 48 48.6 -1.3
comp=Z,922nm,1.8s
PAL LR LR
comp=Z,71µm,21.0s
Q41A Truxton 75.88 345 P P 22 48 48.6 -1.5
baz=164,SNR=96
ODNJ Ogdensburg 75.95 358 eP P 22 48 50.5 0.0
comp=Z,572nm,1.4s
ODNJ LR LR
comp=Z,77µm,20.0s
Q40A Laux Farm, Aux 76.10 344 P P 22 48 50.4 -0.9
baz=163,SNR=64
N54A Moraine State 76.14 354 P P 22 48 49.9 -1.6
baz=174,SNR=17
N54A Moraine State 76.14 354 eP P 22 48 50.1 -1.4
comp=Z,510nm,1.2s
N54A LR LR
comp=Z,59µm,21.0s
YLE Yale 76.15 359 eP P 22 48 51.5 0.0
comp=Z,923nm,1.0s
YLE LR LR
comp=Z,97µm,21.0s
BNM Barren Site 76.17 331 eP P 22 48 52.1 -0.1
O47A Sheridan 76.18 349 P P 22 48 49.5 -2.3
baz=168,SNR=50
P43A Skaggs, Pawnee 76.19 346 P P 22 48 50.4 -1.5
baz=166,SNR=52
Y22D IRIS PASSCAL I 76.22 331 PFAKE 22 49 00.0 +7.6
Y22D LR LR
comp=Z,122µm,20.0s
RAR Rarotonga 76.24 254 P P 22 48 53.4 +0.6
comp=Z,11nm,0.7s,baz=295,slow=14,SNR=2.4
RAR LR LR 23 14 17.1
comp=Z,124µm,20.5s,baz=172,slow=29
RAR Rarotonga 76.24 254 eP P 22 48 53.4 +0.6
RAR e*PP PcP 22 49 04.1 -0.6
RAR Rarotonga 76.24 254 eP P 22 48 53.4 +0.6
RAR epP PcP 22 49 04.1 -0.6
P42A Winchester 76.30 346 P P 22 48 50.8 -1.7
baz=165,SNR=32
LPM Los Pinos Moun 76.31 331 eP P 22 48 53.2 +0.2
TUC Tucson 76.33 327 P P 22 48 53.2 +0.3
baz=148
TUC Tucson 76.33 327 eP P 22 48 53.3 +0.3
TUC pmax pmax
comp=Z,880nm,1.8s
TUC MLR MLR
comp=Z,56µm,20.0s
TUC Tucson 76.33 327 eP P 22 48 53.3 +0.3
comp=Z,880nm,1.8s
TUC LR LR
comp=Z,56µm,20.0s
Q39A Willow Grove F 76.36 343 P P 22 48 51.0 -1.8
baz=163,SNR=52
Q38A Cooks Store, C 76.43 343 P P 22 48 51.8 -1.4
baz=162,SNR=57
O45A Potomac 76.45 348 P P 22 48 51.4 -1.9
baz=167,SNR=16
SFIN Lafayette 76.47 348 P P 22 48 51.2 -2.2
baz=168,SNR=15
SFIN Lafayette 76.47 348 eP P 22 48 51.1 -2.2
comp=Z,359nm,1.2s
SFIN LR LR
comp=Z,72µm,22.0s
O44A Mansfield 76.48 347 P P 22 48 51.7 -1.8
baz=166,SNR=17
P41A Barry, Barry 76.53 345 P P 22 48 52.3 -1.5
baz=164,SNR=11

Q37A	**Longview Farm,** baz=162,SNR=9.7	**76.55**	**342**	P		**P**	**22 48 52.1**	**-1.8**
LAZ	**Ladron**	**76.59**	**331**	*eP*		**P**	**22 48 54.6**	**+0.1**
P40A	**Paris** baz=164,SNR=115	**76.61**	**344**	P		**P**	**22 48 53.0**	**-1.2**
M54A	**Oil Creek Stat** baz=174,SNR=14	**76.65**	**354**	P		**P**	**22 48 52.6**	**-1.8**
M54A	**Oil Creek Stat** comp=Z,1µm,1.8s	**76.65**	**354**	*eP*		**P**	**22 48 52.7**	**-1.8**
M54A	comp=Z,66µm,22.0s			LR		LR		
P39B	**Salisbury** baz=163	**76.73**	**344**	P		**P**	**22 48 53.4**	**-1.5**
BRYW	**Bryant College** comp=Z,1µm,1.5s	**76.75**	**0**	*eP*		**P**	**22 48 54.8**	**-0.2**
O43A	**Sugar Creek Fa** baz=166,SNR=17	**76.77**	**347**	P		**P**	**22 48 53.5**	**-1.7**
ANMO	**Albuquerque** comp=Z,39nm,0.9s,baz=317,slow=8.8,SNR=44	**76.80**	**332**	P		**P**	**22 48 56.1**	**+0.4**
ANMO	comp=Z,173µm,20.9s,baz=342,slow=32			LR		LR	23 18 09.2	
ANMO	**Albuquerque** baz=152	**76.80**	**332**	P		**P**	**22 48 55.7**	**0.0**
ANMO	**Albuquerque**	**76.80**	**332**	*eP*		**P**	**22 48 55.6**	**-0.1**
ANMO	comp=Z,288nm,1.1s			pmax		pmax		
ANMO	**Albuquerque** comp=Z,288nm,1.1s	**76.80**	**332**	*eP*		**P**	**22 48 55.6**	**-0.1**
O42A	**Bath** baz=165,SNR=8.9	**76.83**	**346**	P		**P**	**22 48 54.8**	**-0.7**
ALLY	**Alegheny Colle** comp=Z,439nm,1.1s	**76.83**	**354**	*eP*		**P**	**22 48 54.8**	**-0.7**
ALLY	comp=Z,76µm,21.0s			LR		LR		
N46A	**Monticello** baz=168,SNR=17	**76.91**	**349**	P		**P**	**22 48 53.8**	**-2.0**
O41A	**Passleys Farm,** baz=164,SNR=27	**76.92**	**345**	P		**P**	**22 48 54.2**	**-1.7**
214A	**Organ Pipe Nat** baz=147	**76.96**	**325**	P		**P**	**22 48 56.7**	**+0.2**
214A	**Organ Pipe Nat** comp=Z,3µm,1.5s	**76.96**	**325**	*eP*		**P**	**22 48 56.0**	**-0.5**
N45A	**Kentland** baz=167,SNR=15	**76.99**	**348**	P		**P**	**22 48 53.8**	**-2.6**
HDIL	**Hopedale** baz=166,SNR=28	**77.03**	**347**	P		**P**	**22 48 54.7**	**-1.9**
HDIL	**Hopedale** comp=Z,2µm,1.6s	**77.03**	**347**	*eP*		**P**	**22 48 54.9**	**-1.7**
HDIL	comp=Z,32µm,22.0s			LR		LR		
P38A	**Dawn** baz=162,SNR=60	**77.04**	**343**	P		**P**	**22 48 54.5**	**-2.2**
N44A	**Piper City** baz=167,SNR=26	**77.05**	**348**	P		**P**	**22 48 54.6**	**-2.0**
QUA2	**Bellchertown** comp=Z,412m,1.0s	**77.11**	**360**	*eP*		**P**	**22 48 56.7**	**-0.3**
BINY	**Binghamton** baz=177,SNR=6.7	**77.11**	**357**	P		**P**	**22 48 56.5**	**-0.5**
BINY	**Binghamton** comp=Z,325nm,1.1s	**77.11**	**357**	*eP*		**P**	**22 48 56.7**	**-0.4**
BINY	comp=Z,47µm,20.0s			LR		LR		
O40A	**La Belle** baz=164,SNR=42	**77.13**	**345**	P		**P**	**22 48 55.5**	**-1.7**
P37A	**Lathrop** baz=162,SNR=21	**77.20**	**343**	P		**P**	**22 48 55.4**	**-2.2**
WES	**Weston**	**77.22**	**1**	*eP*		**P**	**22 48 58.1**	**+0.5**
WES	comp=Z,639nm,1.4s			pmax		pmax		
WES	**Weston** comp=Z,639nm,1.4s	**77.22**	**1**	*eP*		**P**	**22 48 58.1**	**+0.5**
ERPA	**Erie** baz=174,SNR=12	**77.28**	**354**	P		**P**	**22 48 56.6**	**-1.3**
ERPA	**Erie** comp=Z,459nm,1.1s	**77.28**	**354**	*eP*		**P**	**22 48 56.7**	**-1.3**
ERPA	comp=Z,55µm,20.0s			LR		LR		
KSU1	**Kansas State U** baz=160,SNR=15	**77.32**	**341**	P		**P**	**22 48 56.6**	**-1.7**
KSU1	**Kansas State U** comp=Z,199nm,0.8s	**77.32**	**341**	*eP*		**P**	**22 48 57.1**	**-1.2**
KSU1	comp=Z,26µm,21.0s			LR		LR		
HRV	**Adam Dziewonsk** baz=181	**77.34**	**0**	P		**P**	**22 48 57.5**	**-0.8**
HRV	**Adam Dziewonsk**	**77.34**	**0**	*eP*		**P**	**22 48 58.2**	**-0.1**
HRV	comp=Z,2µm,1.9s			pmax		pmax		
HRV	comp=Z,54µm,22.0s			MLR		MLR		
HRV	**Adam Dziewonsk** comp=Z,2µm,1.9s	**77.34**	**0**	*eP*		**P**	**22 48 58.2**	**-0.1**
HRV	comp=Z,54µm,22.0s			LR		LR		
M46A	**Old House Fiel** baz=168	**77.35**	**349**	P		**P**	**22 48 57.0**	**-1.4**
N43A	**Stutzman Famil** baz=166,SNR=19	**77.38**	**347**	P		**P**	**22 48 57.0**	**-1.5**
O39A	**Kirksville** baz=163,SNR=25	**77.41**	**344**	P		**P**	**22 48 57.5**	**-1.2**
N42A	**Yates City** baz=165,SNR=29	**77.44**	**346**	P		**P**	**22 48 57.2**	**-1.7**
N41A	**Harden Midland** baz=164,SNR=51	**77.48**	**346**	P		**P**	**22 48 57.8**	**-1.4**
O38A	**Galt** baz=162,SNR=26	**77.50**	**343**	P		**P**	**22 48 57.5**	**-1.7**
TRY	**Troy** comp=Z,1µm,1.4s	**77.58**	**359**	*eP*		**P**	**22 48 59.4**	**-0.1**
M44A	**Midewin, Midew** baz=167,SNR=23	**77.61**	**348**	P		**P**	**22 48 58.3**	**-1.5**
O37A	**Wolven Farm, M** baz=162,SNR=9.0	**77.70**	**343**	P		**P**	**22 48 58.5**	**-1.9**
MMNY	**Mt. Morris Dam** comp=Z,1µm,1.4s	**77.74**	**356**	*eP*		**P**	**22 48 60.0**	**-0.6**
MMNY	comp=Z,51µm,21.0s			LR		LR		
N40A	**Mertquake, Sal** baz=164,SNR=34	**77.80**	**345**	P		**P**	**22 48 59.2**	**-1.7**
M43A	**Waltham Townsh** baz=166,SNR=24	**77.82**	**347**	P		**P**	**22 48 59.0**	**-1.9**
AAM	**Ann Arbor** baz=170	**77.85**	**351**	P		**P**	**22 49 00.6**	**-0.6**
AAM	**Ann Arbor**	**77.85**	**351**	*eP*		**P**	**22 48 59.5**	**-1.6**
AAM	comp=Z,761nm,1.5s			pmax		pmax		
AAM	comp=Z,66µm,22.0s			MLR		MLR		
AAM	**Ann Arbor** comp=Z,761nm,1.5s	**77.85**	**351**	*eP*		**P**	**22 48 59.5**	**-1.6**
AAM	comp=Z,66µm,22.0s			LR		LR		
X18A	**Snowflake** comp=Z,1µm,1.8s	**77.86**	**329**	*eP*		**P**	**22 49 01.9**	**+0.3**
X18A	comp=Z,84µm,19.0s			LR		LR		
MIR	**Mirnyy**	**77.93**	**174**	⇓*i*	P	**P**	**22 49 06.0**	**+4.6**
MIR				*i*			22 49 08.0	
CBKS	**Cedar Bluff** baz=157,SNR=14	**77.96**	**338**	P		**P**	**22 49 01.6**	**-0.3**
CBKS	**Cedar Bluff**	**77.96**	**338**	*eP*		**P**	**22 49 00.9**	**-1.0**
CBKS	comp=Z,426nm,0.9s			pmax		pmax		
CBKS	comp=Z,22µm,19.0s			MLR		MLR		
CBKS	**Cedar Bluff** comp=Z,426nm,0.9s	**77.96**	**338**	*eP*		**P**	**22 49 00.9**	**-1.0**
CBKS	comp=Z,22µm,19.0s			LR		LR		
T25A	**Trinidad** baz=154,SNR=137	**77.98**	**334**	P		**P**	**22 49 02.4**	**+0.1**
T25A	**Trinidad** comp=Z,714nm,1.0s	**77.98**	**334**	*eP*		**P**	**22 49 02.2**	**-0.1**
T25A	comp=Z,43µm,19.0s			LR		LR		
M42A	**Sheffield** baz=165	**77.99**	**347**	P		**P**	**22 49 00.1**	**-1.8**
N39A	**Derby Farms, D** baz=163,SNR=44	**78.00**	**344**	P		**P**	**22 49 00.4**	**-1.6**
M41A	**Milan** baz=165,SNR=19	**78.06**	**346**	P		**P**	**22 49 00.5**	**-1.9**
MHTCO	**State Highway** comp=Z,681nm,1.1s	**78.07**	**334**	*eP*		**P**	**22 49 02.9**	**+0.1**
MHTCO	comp=Z,40µm,21.0s			LR		LR		
N38A	**Joes South For** baz=163,SNR=54	**78.08**	**344**	P		**P**	**22 49 01.0**	**-1.4**
113A	**Mohawk Valley,** comp=Z,559nm,1.6s	**78.08**	**325**	*eP*		**P**	**22 49 03.0**	**+0.3**
113A	comp=Z,49µm,19.0s			LR		LR		
ACCN	**Adirondack Com** comp=Z,1µm,1.6s	**78.23**	**359**	*eP*		**P**	**22 49 02.7**	**-0.5**
ACCN	comp=Z,64µm,22.0s			LR		LR		
O35A	**Humboldt** baz=160	**78.23**	**342**	P		**P**	**22 49 02.0**	**-1.3**
N37A	**Lee Faris, Mou** baz=162,SNR=25	**78.28**	**343**	P		**P**	**22 49 02.0**	**-1.5**
W18A	**Petrified Fore** baz=150,SNR=17	**78.28**	**329**	P		**P**	**22 49 04.0**	**+0.1**
W18A	**Petrified Fore** comp=Z,1µm,1.8s	**78.28**	**329**	*eP*		**P**	**22 49 04.3**	**+0.3**
W18A	comp=Z,110µm,18.0s			LR		LR		
M40A	**Post Highland** baz=164,SNR=10	**78.29**	**345**	P		**P**	**22 49 02.8**	**-0.7**
FFD	**Franklin Falls** comp=Z,2µm,1.6s	**78.30**	**0**	*eP*		**P**	**22 49 03.6**	**+0.1**
L44A	**Lake County Fo** baz=167	**78.36**	**348**	P		**P**	**22 49 03.5**	**-0.4**
O34A	**Beatrice** baz=160,SNR=30	**78.36**	**341**	P		**P**	**22 49 02.6**	**-1.4**
X16A	**Lo Mia Camp, P** comp=Z,214nm,0.9s	**78.41**	**328**	*eP*		**P**	**22 49 05.0**	**+0.3**
X16A	comp=Z,84µm,18.0s			LR		LR		
M39A	**Webster** baz=164,SNR=14	**78.50**	**345**	P		**P**	**22 49 03.9**	**-0.8**
L42A	**Oliver, Polo** baz=166,SNR=22	**78.50**	**347**	P		**P**	**22 49 02.9**	**-1.9**
O33A	**Hebron** baz=159,SNR=14	**78.50**	**340**	P		**P**	**22 49 03.9**	**-0.9**
L43A	**Garden Prairie** baz=166,SNR=24	**78.50**	**347**	P		**P**	**22 49 03.4**	**-1.4**
N36A	**Muff Farm, Cla** baz=161,SNR=16	**78.51**	**343**	P		**P**	**22 49 03.5**	**-1.4**
HNH	**Hanover** comp=Z,566nm,1.2s	**78.54**	**360**	*eP*		**P**	**22 49 05.0**	**+0.1**
M38A	**Pleasantville** baz=163,SNR=59	**78.67**	**344**	P		**P**	**22 49 03.9**	**-1.8**
N35A	**Tabor** baz=161,SNR=22	**78.72**	**342**	P		**P**	**22 49 04.5**	**-1.5**
L41A	**Preston** baz=165,SNR=25	**78.73**	**346**	P		**P**	**22 49 04.1**	**-1.9**
GLA	**Glamis** baz=146,SNR=11	**78.82**	**325**	P		**P**	**22 49 07.8**	**+1.0**
GLA	**Glamis**	**78.82**	**325**	*eP*		**P**	**22 49 08.2**	**+1.4**
GLA	comp=Z,1µm,1.9s			pmax		pmax		
GLA	comp=Z,83µm,20.0s			MLR		MLR		
GLA	**Glamis** comp=Z,1µm,1.9s	**78.82**	**325**	*eP*		**P**	**22 49 08.2**	**+1.4**
GLA	comp=Z,83µm,20.0s			LR		LR		
CASY	**Casey** comp=Z,669nm,1.3s	**78.82**	**181**	*eP*		**P**	**22 49 06.0**	**-0.4**
CASY	comp=Z,91µm,22.0s			LR		LR		
NCB	**Newcomb** comp=Z,241nm,1.1s	**78.82**	**358**	*eP*		**P**	**22 49 05.5**	**-1.0**
NCB	comp=Z,50µm,22.0s			LR		LR		
M37A	**Trindle Farm,** baz=162,SNR=34	**78.85**	**343**	P		**P**	**22 49 05.6**	**-1.1**
L40A	**Anamosa** baz=164,SNR=35	**78.86**	**346**	P		**P**	**22 49 04.9**	**-1.8**
SDCO	**Great Sand Dun** baz=153,SNR=53	**78.91**	**334**	P		**P**	**22 49 07.1**	**-0.5**
SDCO	**Great Sand Dun** comp=Z,144nm,1.0s	**78.91**	**334**	*eP*		**P**	**22 49 07.1**	**-0.5**
SDCO	comp=Z,88µm,20.0s			LR		LR		
N34A	**Lincoln** baz=160,SNR=17	**78.92**	**341**	P		**P**	**22 49 05.5**	**-1.6**
K43A	**Burlington** baz=167	**78.94**	**348**	P		**P**	**22 49 05.7**	**-1.5**
TSUM	**Tsumeb** comp=Z,20nm,1.1s,baz=238,slow=5.8,SNR=13	**78.96**	**106**	P		**P**	**22 49 05.6**	**-2.6**
TSUM	comp=Z,138µm,21.8s,baz=235,slow=32			LR		LR	23 19 10.9	
TSUM	**Tsumeb**	**78.96**	**106**	*eP*		**P**	**22 49 06.1**	**-2.0**
WLVO	**Wesleyville** baz=175	**78.96**	**355**	P		**P**	**22 49 05.8**	**-1.4**
KSCO	**Kaye Shedlock'** baz=155,SNR=13	**79.05**	**336**	P		**P**	**22 49 07.8**	**-0.2**
KSCO	**Kaye Shedlock'** comp=Z,650nm,1.1s	**79.05**	**336**	*eP*		**P**	**22 49 08.2**	**+0.2**
KSCO	comp=Z,47µm,22.0s			LR		LR		
LBNH	**Lisbon** baz=180,SNR=18	**79.07**	**0**	P		**P**	**22 49 07.4**	**-0.4**
LBNH	**Lisbon**	**79.07**	**0**	*eP*		**P**	**22 49 07.6**	**-0.2**
LBNH	comp=Z,291nm,0.8s			pmax		pmax		
LBNH	comp=Z,46µm,22.0s			MLR		MLR		
LBNH	**Lisbon** comp=Z,291nm,0.8s	**79.07**	**0**	*eP*		**P**	**22 49 07.6**	**-0.2**
LBNH	comp=Z,46µm,22.0s			LR		LR		
M36A	**Felix, Anita** baz=161,SNR=14	**79.08**	**343**	P		**P**	**22 49 06.2**	**-1.8**
L39A	**Vinton** baz=164,SNR=27	**79.08**	**345**	P		**P**	**22 49 07.0**	**-0.9**
IKP	**In-Ko-Pah, Jac** baz=145,SNR=10	**79.11**	**323**	P		**P**	**22 49 09.5**	**+1.1**
SCIA	**State Center** baz=163	**79.14**	**344**	P		**P**	**22 49 07.4**	**-0.9**
SCIA	**State Center** comp=Z,1µm,1.5s	**79.14**	**344**	*eP*		**P**	**22 49 07.8**	**-0.5**
SCIA	comp=Z,38µm,21.0s			LR		LR		
K42A	**Prairie Point,** baz=166,SNR=64	**79.19**	**347**	P		**P**	**22 49 06.9**	**-1.6**
K41A	**Shullsburg** baz=165,SNR=56	**79.20**	**346**	P		**P**	**22 49 07.0**	**-1.6**
Y12C	**Blythe** baz=146,SNR=10	**79.25**	**325**	P		**P**	**22 49 10.3**	**+1.2**
Y12C	**Blythe** comp=Z,410nm,1.3s	**79.25**	**325**	*eP*		**P**	**22 49 09.9**	**+0.8**
Y12C	comp=Z,61µm,19.0s			LR		LR		
L38A	**Oak Wood Farm,** baz=163,SNR=9.0	**79.30**	**344**	P		**P**	**22 49 07.6**	**-1.6**
M35A	**Neola** baz=161	**79.31**	**342**	P		**P**	**22 49 07.6**	**-1.6**
WUAZ	**Wupatki** baz=148,SNR=30	**79.31**	**328**	P		**P**	**22 49 10.2**	**+0.6**
WUAZ	**Wupatki** comp=Z,307nm,1.1s	**79.31**	**328**	*eP*		**P**	**22 49 10.3**	**+0.6**
WUAZ	comp=Z,70µm,18.0s			LR		LR		
S22A	**4UR Ranch, Cre** baz=152,SNR=47	**79.41**	**333**	P		**P**	**22 49 10.0**	**-0.2**
S22A	**4UR Ranch, Cre** comp=Z,217nm,1.0s	**79.41**	**333**	*eP*		**P**	**22 49 10.1**	**-0.2**
S22A	comp=Z,95µm,22.0s			LR		LR		
BAR	**Barrett** comp=Z,447nm,1.5s	**79.41**	**323**	*eP*		**P**	**22 49 10.0**	**0.0**
BAR	comp=Z,116µm,20.0s			LR		LR		
WVL	**Waterville** comp=Z,862nm,1.5s	**79.43**	**2**	*eP*		**P**	**22 49 09.8**	**+0.1**
K40A	**Colesburg** baz=164,SNR=12	**79.46**	**346**	P		**P**	**22 49 08.2**	**-1.8**
L37A	**Phoenix Point,** baz=162,SNR=23	**79.47**	**344**	P		**P**	**22 49 08.3**	**-1.7**
LONY	**Lake Ozonia** baz=178,SNR=25	**79.48**	**358**	P		**P**	**22 49 09.2**	**-0.9**
LONY	**Lake Ozonia** comp=Z,918nm,1.4s	**79.48**	**358**	*eP*		**P**	**22 49 08.5**	**-1.6**
LONY	comp=Z,58µm,21.0s			LR		LR		
JFWS	**Jewell Farm** baz=165,SNR=32	**79.49**	**347**	P		**P**	**22 49 08.4**	**-1.7**
JFWS	**Jewell Farm**	**79.49**	**347**	*eP*		**P**	**22 49 08.5**	**-1.7**
JFWS	comp=Z,603nm,1.2s			pmax		pmax		
JFWS	comp=Z,51µm,22.0s			MLR		MLR		
JFWS	**Jewell Farm** comp=Z,603nm,1.2s	**79.49**	**347**	*eP*		**P**	**22 49 08.5**	**-1.7**
JFWS	comp=Z,51µm,22.0s			LR		LR		
PDMCI	**Parker Dam,Lak** baz=146	**79.53**	**326**	P		**P**	**22 49 11.4**	**+0.8**
M34A	**Aspy Farms, Fr** baz=160,SNR=8.5	**79.57**	**342**	P		**P**	**22 49 09.0**	**-1.6**
BOSA	**Boshof** comp=Z,64nm,0.6s,baz=231,slow=3.8,SNR=80	**79.58**	**118**	P		**P**	**22 49 08.9**	**-2.4**
BOSA	comp=Z,15nm,1.2s,baz=145,slow=18,SNR=2.5			S		S	22 59 21.9	+10
BOSA	comp=Z,41µm,18.2s,baz=236,slow=36			LR		LR	23 23 59.5	
BOSA	**Boshof**	**79.58**	**118**	*eP*		**P**	**22 49 09.0**	**-2.4**
MVCO	**Mesa Verde** baz=151,SNR=36	**79.58**	**331**	P		**P**	**22 49 10.8**	**-0.3**
MVCO	**Mesa Verde** comp=Z,1µm,1.9s	**79.58**	**331**	*eP*		**P**	**22 49 10.8**	**-0.3**
MVCO	comp=Z,206µm,20.0s			LR		LR		
BC3	**Big Chuckawall** baz=145	**79.61**	**324**	P		**P**	**22 49 11.4**	**+0.2**
J43A	**Natural Harves** baz=167,SNR=34	**79.61**	**348**	P		**P**	**22 49 09.2**	**-1.6**
K39A	**Oelwein** baz=164,SNR=12	**79.61**	**345**	P		**P**	**22 49 09.5**	**-1.4**
EMMW	**East Machias** comp=Z,982nm,1.5s	**79.65**	**3**	*eP*		**P**	**22 49 11.7**	**+0.7**
L36A	**Harm Buss Farm** baz=162,SNR=11	**79.66**	**343**	P		**P**	**22 49 09.5**	**-1.6**
J42A	**Columbus** baz=166,SNR=31	**79.67**	**347**	P		**P**	**22 49 09.6**	**-1.6**
FRNY	**Flat Rock** comp=Z,297nm,0.9s	**79.68**	**359**	*eP*		**P**	**22 49 10.1**	**-1.0**
FRNY	comp=Z,50µm,21.0s			LR		LR		
CPE	**Camp Elliot**	**79.79**	**323**	PFAKE			22 49 20.0	+8.0
CPE	comp=Z,98µm,20.0s			LR		LR		
M33A	**Taylor Creek F** baz=160,SNR=10	**79.79**	**341**	P		**P**	**22 49 10.5**	**-1.4**
SADO	**Sadowa** comp=Z,39nm,0.9s,baz=197,slow=6.9,SNR=14	**79.85**	**355**	P		**P**	**22 49 11.5**	**-0.6**
SADO	comp=Z,2.2nm,0.4s,baz=330,slow=8.1,SNR=2.9			S		**S**	**22 59 16.2**	**+3.0**
SADO	comp=Z,22µm,18.2s,baz=176,slow=39			LR		LR	23 28 30.7	
SADO	**Sadowa** comp=Z,432nm,1.2s	**79.85**	**355**	*eP*		**P**	**22 49 10.7**	**-1.4**
SADO				*e*S		**S**	**22 59 16.2**	**+3.0**
Q24A	**Divide** baz=153,SNR=15	**79.87**	**334**	P		**P**	**22 49 12.6**	**-0.2**
Q24A	**Divide** comp=Z,2µm,2.0s	**79.87**	**334**	*eP*		**P**	**22 49 12.8**	**+0.1**
Q24A	comp=Z,46µm,22.0s			LR		LR		
IRM	**Iron Mountain** baz=146,SNR=11	**79.88**	**325**	P		**P**	**22 49 13.3**	**+0.8**
L35A	**Bielow Farm, R** baz=161,SNR=13	**79.88**	**343**	P		**P**	**22 49 10.9**	**-1.4**
J41A	**Loganville** baz=165,SNR=30	**79.88**	**347**	P		**P**	**22 49 10.6**	**-1.6**
BGNE	**Belgrade** baz=159,SNR=9.1	**79.90**	**340**	P		**P**	**22 49 11.1**	**-1.4**
BGNE	**Belgrade** comp=Z,510nm,0.9s	**79.90**	**340**	*eP*		**P**	**22 49 11.9**	**-0.6**
BGNE	comp=Z,47µm,21.0s			LR		LR		
L34A	**Svendsen Farm,** baz=160,SNR=15	**79.95**	**342**	P		**P**	**22 49 11.6**	**-1.1**
PLVO	**Plevna**	**80.00**	**356**	PFAKE			22 49 20.0	+7.2
PLVO	comp=Z,72µm,21.0s			LR		LR		
J40A	**Soldiers Grove** baz=165,SNR=46	**80.05**	**346**	P		**P**	**22 49 11.6**	**-1.6**
K37A	**Belmond** baz=162,SNR=20	**80.05**	**344**	P		**P**	**22 49 11.6**	**-1.6**
I43A	**Langenfeld Bro** baz=167,SNR=20	**80.06**	**348**	P		**P**	**22 49 12.2**	**-0.9**
XPFO	**Piæon Flat** comp=Z,1µm,1.7s	**80.06**	**324**	*eP*		**P**	**22 49 14.5**	**+0.9**
XPFO	comp=Z,89µm,21.0s			LR		LR		
PFO	**Pinyon Flats O** baz=145,SNR=10	**80.06**	**324**	P		**P**	**22 49 13.1**	**-0.6**
PFO	**Pinyon Flats O**	**80.06**	**324**	*eP*		**P**	**22 49 14.5**	**+0.9**
PFO	comp=Z,1µm,1.8s			pmax		pmax		
PFO	comp=Z,95µm,22.0s			MLR		MLR		
PFO	**Pinyon Flats O** comp=Z,1µm,1.8s	**80.06**	**324**	*eP*		**P**	**22 49 14.5**	**+0.9**
PFO	comp=Z,95µm,22.0s			LR		LR		
W13A	**Hualapai Mount** comp=Z,126nm,1.0s	**80.07**	**326**	*eP*		**P**	**22 49 14.4**	**+0.6**
W13A	comp=Z,50µm,18.0s			LR		LR		
K36A	**Gilmore City** baz=162,SNR=15	**80.11**	**343**	P		**P**	**22 49 12.7**	**-0.8**
PKME	**Peaks-Kenny Pk** baz=182,SNR=16	**80.14**	**2**	P		**P**	**22 49 13.1**	**-0.5**
PKME	**Peaks-Kenny Pk** comp=Z,866nm,1.6s	**80.14**	**2**	*eP*		**P**	**22 49 13.2**	**-0.4**
PKME	comp=Z,47µm,22.0s			LR		LR		
J39A	**Decorah** baz=164,SNR=35	**80.18**	**346**	P		**P**	**22 49 12.2**	**-1.7**
I42A	**Draeger Farm,** baz=166,SNR=21	**80.19**	**348**	P		**P**	**22 49 12.6**	**-1.3**
I42A	**Draeger Farm,** comp=Z,565nm,1.3s	**80.19**	**348**	*eP*		**P**	**22 49 12.2**	**-1.8**
I42A	comp=Z,37µm,20.0s			LR		LR		
J38A	**Wedel Dairy, R** baz=163,SNR=19	**80.33**	**345**	P		**P**	**22 49 13.0**	**-1.7**
K35A	**Storm Lake** baz=161,SNR=7.5	**80.38**	**343**	P		**P**	**22 49 14.2**	**-0.7**
MURC	**Murrieta** baz=144,SNR=15	**80.41**	**323**	P		**P**	**22 49 14.9**	**-0.5**
PV01	**Paradox Valley**	**80.41**	**332**	*eP*		**P**	**22 49 15.2**	**-0.4**
L32A	**Elgin** baz=159,SNR=7.9	**80.41**	**341**	P		**P**	**22 49 14.4**	**-0.9**
MCQ	**Macquarie Isla**	**80.44**	**207**	PFAKE			22 49 20.0	+4.6
MCQ	comp=Z,66µm,18.0s			LR		LR		
GLMI	**Grayling** comp=Z,413nm,1.1s	**80.46**	**351**	*eP*		**P**	**22 49 14.2**	**-1.2**
GLMI	comp=Z,57µm,21.0s			LR		LR		
U15A	**North Rim** comp=Z,200nm,1.0s	**80.48**	**328**	*eP*		**P**	**22 49 16.4**	**+0.4**
U15A	comp=Z,89µm,19.0s			LR		LR		
I40A	**Norwalk** baz=165,SNR=14	**80.50**	**347**	P		**P**	**22 49 14.1**	**-1.6**
I41A	**Arkdale** baz=166,SNR=15	**80.53**	**347**	P		**P**	**22 49 14.4**	**-1.3**
J37A	**Redenius Farm,** baz=162,SNR=16	**80.55**	**344**	P		**P**	**22 49 14.5**	**-1.4**
K34A	**Le Mars** baz=160,SNR=9.5	**80.56**	**342**	P		**P**	**22 49 14.9**	**-1.1**
H43A	**Windswept, Lux** baz=167	**80.56**	**349**	P		**P**	**22 49 14.9**	**-1.0**
H43A	**Windswept, Lux** comp=Z,759nm,1.3s	**80.56**	**349**	*eP*		**P**	**22 49 14.8**	**-1.1**
H43A	comp=Z,37µm,22.0s			LR		LR		
PV05	**Paradox Valley**	**80.57**	**331**	*eP*		**P**	**22 49 16.3**	**-0.1**
OGNE	**Ogallala** baz=156	**80.61**	**337**	P		**P**	**22 49 16.7**	**+0.3**
OGNE	**Ogallala** comp=Z,243nm,0.9s	**80.61**	**337**	*eP*		**P**	**22 49 16.2**	**-0.2**
OGNE	comp=Z,30µm,19.0s			LR		LR		
LDFC	**Landfair**	**80.62**	**325**	PFAKE			22 49 30.0	+13
LDFC	comp=Z,69µm,20.0s			LR		LR		
GMRC	**Granite Mounta** baz=145,SNR=22	**80.63**	**325**	P		**P**	**22 49 17.3**	**+0.6**
I39A	**Houston** baz=164,SNR=37	**80.64**	**346**	P		**P**	**22 49 15.2**	**-1.2**
SMCO	**Snowmass** comp=Z,878nm,1.5s	**80.72**	**333**	*eP*		**P**	**22 49 17.3**	**-0.1**
SMCO	comp=Z,66µm,19.0s			LR		LR		
H42A	**Shiocton** baz=167,SNR=13	**80.73**	**348**	P		**P**	**22 49 16.6**	**-0.2**
H42A	**Shiocton** comp=Z,417nm,1.3s	**80.73**	**348**	*eP*		**P**	**22 49 15.5**	**-1.3**
H42A				LR		LR		

comp=Z,32µm,20.0s
J36A Seneca 1, Swea 80.74 344 P **P** 22 49 15.5 -1.4
baz=162,SNR=32
ISCO Idaho Springs 80.78 334 P **P** 22 49 17.3 -0.3
baz=153,SNR=68
ISCO Idaho Springs 80.78 334 *e*P **P** 22 49 17.1 -0.5
ISCO pmax pmax
comp=Z,164nm,0.9s
ISCO MLR MLR
comp=Z,61µm,21.0s
ISCO Idaho Springs 80.78 334 *e*P **P** 22 49 17.1 -0.5
comp=Z,164nm,0.9s
ISCO LR LR
comp=Z,61µm,21.0s
PV10 Paradox Valley 80.80 331 *e*P **P** 22 49 17.5 -0.2
PV09 Paradox Valley 80.95 331 *e*P **P** 22 49 18.7 +0.2
I38A Scanlan Farm, 80.98 345 P **P** 22 49 16.2 -2.0
baz=164,SNR=38
HEC Hector,Ludlow 80.99 324 P **P** 22 49 18.8 +0.3
baz=145
K32A Verdigre 81.02 341 P **P** 22 49 17.8 -0.6
baz=159
H41A Junction City 81.03 347 P **P** 22 49 17.2 -1.2
baz=166
H41A Junction City 81.03 347 *e*P **P** 22 49 16.4 -2.0
comp=Z,309nm,1.2s
H41A LR LR
comp=Z,38µm,21.0s
TRQ Mont Tremblant 81.08 358 *e*P **P** 22 49 17.6 -1.1
J34A George 81.08 343 P **P** 22 49 17.1 -1.7
baz=161,SNR=24
BFSC Mount Baldy Ra 81.15 323 P **P** 22 49 18.9 -0.6
baz=144
H40A Chili 81.16 347 P **P** 22 49 18.2 -0.9
baz=165,SNR=15
I37A Lemond, Waseca 81.19 345 P **P** 22 49 17.8 -1.5
baz=163,SNR=60
K31A O'Neill 81.19 340 P **P** 22 49 18.4 -1.0
baz=158,SNR=28
KOWA Kowa 81.20 65 P **P** 22 49 18.7 -1.3
comp=Z,101nm,0.7s,baz=236,slow=8.6,SNR=222
KOWA S **S** 22 59 29.8 +1.3
comp=Z,3.5nm,0.8s,baz=21,slow=17,SNR=2.2
KOWA LR LR 23 23 17.3
comp=Z,181µm,20.9s,baz=238,slow=34
KOWA Kowa 81.20 65 *e*P **P** 22 49 18.4 -1.6
comp=Z,3µm,1.7s
KOWA *e*S **S** 22 59 29.8 +1.3
KNB Kanab 81.20 328 *e*P **P** 22 49 20.2 +0.4
KNB pmax pmax
comp=Z,1µm,1.6s
KNB MLR MLR
comp=Z,60µm,19.0s
KNB Kanab 81.20 328 *e*P **P** 22 49 20.2 +0.4
comp=Z,1µm,1.6s
KNB LR LR
comp=Z,60µm,19.0s
SNCC San Nicolas Is 81.29 321 PFAKE 22 49 30.0 +10
SNCC LR LR
comp=Z,75µm,22.0s
G43A Wallace 81.32 349 P **P** 22 49 19.3 -0.6
baz=167
G43A Wallace 81.32 349 *e*P **P** 22 49 21.0 +1.1
comp=Z,411nm,1.3s
G43A LR LR
comp=Z,41µm,22.0s
I36A Fitzsimmons Fa 81.33 344 P **P** 22 49 19.2 -0.8
baz=162
PAS Pasadena 81.33 323 P **P** 22 49 21.9 +1.6
MWC Mount Wilson 81.33 323 *e*P **P** 22 49 20.6 +0.1
MWC pmax pmax
comp=Z,569nm,1.5s
MWC MLR MLR
comp=Z,80µm,18.0s
MWC Mount Wilson 81.33 323 *e*P **P** 22 49 20.6 +0.1
comp=Z,569nm,1.5s
MWC LR LR
comp=Z,80µm,18.0s
PKCU Pink Cliffs 81.34 329 *e*P **P** 22 49 21.1 +0.4
comp=Z,378nm,1.3s
PASC Pasadena Art C 81.36 323 *e*P **P** 22 49 21.9 +1.5
comp=Z,983nm,1.8s
PASC LR LR
comp=Z,69µm,22.0s
J33A Davis 81.37 342 P **P** 22 49 19.1 -1.2
baz=160,SNR=31
LCMT Little Creek M 81.38 328 *e*P **P** 22 49 21.4 +0.8
comp=Z,292nm,1.3s
LCMT LR LR
comp=Z,77nm,18.0s
H39A Augusta 81.39 346 P **P** 22 49 20.6 +0.3
baz=164,SNR=14
I35A Creekview Farm 81.39 343 P **P** 22 49 20.1 -0.3
baz=161,SNR=11
G42A Mountain 81.42 348 P **P** 22 49 20.7 +0.2
baz=167,SNR=11
G42A Mountain 81.42 348 *e*P **P** 22 49 19.3 -1.2
comp=Z,703nm,1.4s
G42A LR LR
comp=Z,41µm,21.0s
HHSZ Highcliff Hill 81.46 219 P **P** 22 49 18.7 -2.4
G41A Antigo 81.52 348 P **P** 22 49 21.6 +0.6
baz=166
H38A Maiden Rock 81.58 346 P **P** 22 49 20.6 -0.7
baz=164
PQI Presque Isle 81.58 3 *e*P **P** 22 49 20.8 -0.5
comp=Z,1µm,1.8s
GSC Goldstone, Bar 81.60 324 P **P** 22 49 22.8 +1.1
baz=145,SNR=17
GSC Goldstone, Bar 81.60 324 *e*P **P** 22 49 22.3 +0.5
GSC pmax pmax
comp=Z,374nm,1.5s
GSC MLR MLR
comp=Z,86µm,22.0s
GSC Goldstone, Bar 81.60 324 *e*P **P** 22 49 22.3 +0.5
comp=Z,374nm,1.5s
GSC LR LR
comp=Z,86µm,22.0s
H37A Dierke Farm, C 81.62 345 P **P** 22 49 20.7 -0.9
baz=163,SNR=12
J32A Parkston 81.65 341 P **P** 22 49 20.8 -0.9
baz=159,SNR=14
ECSD EROS Data Cent 81.67 342 P **P** 22 49 20.8 -1.0
baz=160,SNR=104
ECSD EROS Data Cent 81.67 342 *e*P **P** 22 49 20.6 -1.3
comp=Z,863nm,1.4s
ECSD *e*S **S** 22 59 34.6 +2.3
ECSD LR LR
comp=Z,34µm,21.0s
BFZ Birch Farm 81.77 226 PFAKE 22 49 30.0 +7.2
BFZ LR LR
comp=Z,75µm,18.0s
BFZ Birch Farm 81.77 226 P P 22 49 28.6 +5.8
I34A Hadley 81.77 343 P **P** 22 49 21.5 -0.9
baz=161
MTPU Mount Pierson 81.79 329 *e*P **P** 22 49 23.2 +0.1
comp=Z,501nm,1.5s
MTPU LR LR
comp=Z,110µm,19.0s
F43A Flat Rock, Esc 81.80 349 P **P** 22 49 21.7 -0.7
baz=168
SZCU Shurtz Canyon 81.80 328 *e*P **P** 22 49 24.2 +1.3
comp=Z,850nm,1.7s
SZCU LR LR
comp=Z,65µm,20.0s
J31A Geddes 81.81 341 P **P** 22 49 21.7 -0.9
baz=158,SNR=35
SHPR Sheep Range 81.81 326 *e*P **P** 22 49 23.7 +0.7
comp=Z,1µm,2.0s
SHPR LR LR
comp=Z,47µm,19.0s
EDW2 Edwards Air Fo 81.83 323 P **P** 22 49 23.3 +0.3
baz=144
MQZ McQueen's Vall 81.83 222 PFAKE 22 49 30.0 +7.0
MQZ LR LR
comp=Z,118µm,20.0s
H36A Jessenland, He 81.84 344 P **P** 22 49 22.8 +0.2
baz=162
N23A Red Feather La 81.86 335 P **P** 22 49 23.2 -0.1
baz=153,SNR=37
N23A Red Feather La 81.86 335 *e*P **P** 22 49 23.2 -0.1
comp=Z,183nm,0.9s
N23A LR LR
comp=Z,47µm,21.0s
LBTB Lobatse 81.87 115 P **P** 22 49 21.9 -1.8
comp=Z,36nm,0.5s,baz=237,slow=7.5,SNR=64
LBTB S **S** 22 59 34.6 -1.1
comp=Z,4.1nm,1.0s,baz=167,slow=12,SNR=2.6
LBTB LR LR 23 20 53.0
comp=Z,79µm,22.0s,baz=232,slow=32
LBTB Lobatse 81.87 115 *e*P **P** 22 49 21.1 -2.6
comp=Z,581nm,0.8s
LBTB *e*S **S** 22 59 34.6 -1.1
F42A Maple Grove Fa 81.88 349 P **P** 22 49 22.4 -0.4
baz=167
CCUT Cedar City 81.89 328 *e*P **P** 22 49 24.1 +0.6
comp=Z,560nm,1.4s
CCUT LR LR
comp=Z,82µm,18.0s
CRLZ Canterbury Las 81.94 222 PFAKE 22 49 30.0 +6.5
CRLZ LR LR
comp=Z,111µm,20.0s
G39A Holcombe 81.95 347 P **P** 22 49 22.9 -0.3
baz=164
G38A Ridgeland 81.97 346 P **P** 22 49 22.6 -0.7
baz=164,SNR=15
OSI Osito Audit: C 81.98 323 *e*P **P** 22 49 24.8 +1.0
comp=Z,532nm,1.3s
OSI LR LR
comp=Z,65µm,22.0s
ODZ Otahua Downs 82.00 220 PFAKE 22 49 30.0 +6.1
ODZ LR LR
comp=Z,152µm,19.0s
I33A Coleman 82.01 342 P **P** 22 49 23.3 -0.4
baz=160,SNR=12
F41A Three Lakes 82.02 348 P **P** 22 49 22.2 -1.4
baz=166,SNR=7.0
SRU San Rafael Swe 82.02 331 *e*P **P** 22 49 23.8 -0.3
SRU pmax pmax
comp=Z,606nm,1.6s
SRU MLR MLR
comp=Z,97µm,20.0s
SRU San Rafael Swe 82.02 331 *e*P **P** 22 49 23.8 -0.3
comp=Z,606nm,1.6s
SRU LR LR
comp=Z,97µm,20.0s
O20A White River Ci 82.03 333 P **P** 22 49 23.7 -0.4
baz=151,SNR=21
O20A White River Ci 82.03 333 *e*P **P** 22 49 23.9 -0.2
comp=Z,954nm,1.8s
O20A LR LR
comp=Z,50µm,19.0s
PHWY Pilot Hill 82.06 335 *e*P **P** 22 49 23.6 -0.7
comp=Z,156nm,0.8s
PHWY LR LR
comp=Z,20µm,21.0s
Q16A Castle Valley 82.12 330 *e*P **P** 22 49 24.8 +0.2
comp=Z,1µm,1.7s
Q16A LR LR
comp=Z,110µm,21.0s
H35A Sunnyside Ranc 82.16 344 P **P** 22 49 23.1 -1.2
baz=162,SNR=48
I32A Karley and Nic 82.16 342 P **P** 22 49 24.4 0.0
baz=159
LRMC Lauel Mtn Rad 82.16 324 P **P** 22 49 24.8 0.0
baz=144
MRZ Mangatainoka R 82.17 225 P **P** 22 49 27.5 +2.6
MSU Marysvale 82.19 329 *e*P **P** 22 49 25.4 +0.4
MSU Marysvale 82.19 329 *e*P **P** 22 49 25.4 +0.4
KHZ Kahutara 82.19 223 PFAKE 22 49 30.0 +5.1
KHZ LR LR
comp=Z,72µm,22.0s
KHZ Kahutara 82.19 223 P **P** 22 49 22.4 -2.5
SPMN Marine on St. 82.22 345 P **P** 22 49 22.9 -1.7
baz=163,SNR=17
SPMN Marine on St. 82.22 345 *e*P **P** 22 49 23.0 -1.7
comp=Z,165nm,0.8s
SPMN LR LR
comp=Z,55µm,21.0s
POWZ Post Office Ro 82.24 226 P **P** 22 49 23.3 -2.0
SNZO South Karori 82.26 224 PFAKE 22 49 30.0 +4.7
SNZO LR LR
comp=Z,98µm,21.0s
E43A Lone Tree Farm 82.31 350 P **P** 22 49 24.2 -0.9
baz=168
H34A Spellman Lake, 82.34 343 P **P** 22 49 24.8 -0.6
baz=161,SNR=11
P18A Preston Nutter 82.36 331 *e*P **P** 22 49 25.8 -0.1
comp=Z,567nm,1.2s
P18A LR LR
comp=Z,124µm,20.0s
F40A Park Falls 82.37 347 P **P** 22 49 24.3 -1.1
baz=165,SNR=27
COWI Conover 82.37 348 *e*P **P** 22 49 24.7 -0.8
comp=Z,287nm,1.3s
COWI LR LR
comp=Z,36µm,22.0s
TCRU Three Creeks R 82.38 329 PFAKE 22 49 30.0 +4.0
TCRU LR LR
comp=Z,126µm,19.0s
OXZ Oxford 82.42 222 PFAKE 22 49 30.0 +3.9
OXZ LR LR
comp=Z,115µm,20.0s
P17A Butcher Ranch, 82.42 331 *e*P **P** 22 49 25.9 -0.2
comp=Z,311nm,1.1s
P17A LR LR
comp=Z,102µm,21.0s
G36A St. Michael 82.42 345 P **P** 22 49 24.7 -1.1
baz=162
I31A Royce, Wessing 82.44 341 P **P** 22 49 25.1 -0.8
baz=159
TMUT Trail Mountain 82.46 330 *e*P **P** 22 49 28.5 +2.0
comp=Z,265nm,1.1s
TMUT LR LR
comp=Z,101µm,21.0s
E42A Champion 82.50 349 P **P** 22 49 25.6 -0.5
baz=167
MXZ Matakaoa Point 82.50 229 *e*pP **pP** 22 49 37.7 +2.0
MXZ LR LR
comp=Z,126µm,21.0s
F39A Loretta 82.51 347 P **P** 22 49 25.4 -0.8
baz=165,SNR=47
MPMC Manual Prospec 82.53 324 P **P** 22 49 26.8 0.0
baz=144,SNR=22
FURC Furnace Creek, 82.57 325 P **P** 22 49 29.0 +2.3
baz=145
G35A Watkins 82.57 344 P **P** 22 49 26.7 +0.1
baz=162
H33A Prehn Over Nor 82.59 343 P **P** 22 49 26.2 -0.5
baz=160,SNR=22
BKZ Black Stump Fm 82.59 227 *e*P **P** 22 49 28.7 +1.5
comp=Z,674nm,1.5s
BKZ LR LR
comp=Z,146µm,20.0s
H32A Carlson Farm, 82.60 342 P **P** 22 49 26.1 -0.6
baz=160,SNR=14
BHHZ Black Hill Sta 82.64 226 P P 22 49 40.6 +13
LTZ Lake Taylor 82.65 222 PFAKE 22 49 40.0 +13
LTZ LR LR
comp=Z,64µm,20.0s
LTZ Lake Taylor 82.65 222 P P 22 49 35.9 +8.5
F37A Hinrichs Farm, 82.66 346 P **P** 22 49 25.7 -1.2
baz=163,SNR=14
RPZ Rata Peaks 82.69 221 P **P** 22 49 28.1 +0.6
comp=Z,16nm,0.9s,baz=45,slow=4.3,SNR=2.8
RPZ LR LR 23 18 36.1
comp=Z,153µm,19.5s,baz=126,slow=30
ISA Isabella, Lake 82.69 324 P **P** 22 49 27.8 +0.4
baz=144,SNR=17
ISA Isabella, Lake 82.69 324 *e*P **P** 22 49 28.2 +0.7
ISA pmax pmax
comp=Z,293nm,1.4s
ISA MLR MLR
comp=Z,75µm,20.0s
ISA Isabella, Lake 82.69 324 *e*P **P** 22 49 28.2 +0.7
comp=Z,293nm,1.4s
ISA LR LR
comp=Z,75µm,20.0s
LBZ Lake Benmore 82.69 220 PFAKE 22 49 40.0 +12
LBZ LR LR
comp=Z,169µm,22.0s
E41A Kenton 82.70 348 P **P** 22 49 27.2 0.0
F38A Pierce - Schro 82.73 346 P **P** 22 49 26.5 -0.9
baz=164,SNR=28
PKM Mcpherson Peak 82.74 322 P **P** 22 49 28.0 +0.1
baz=143
DAC Darwin (Calif) 82.76 325 *e*P **P** 22 49 28.1 +0.1
DAC pmax pmax
comp=Z,1µm,1.8s
DAC MLR MLR
comp=Z,97µm,22.0s
DAC Darwin (Calif) 82.76 325 *e*P **P** 22 49 28.1 +0.1
comp=Z,1µm,1.8s
DAC LR LR
comp=Z,97µm,22.0s
WASM Alta Sierra Ca 82.79 324 *e*P **P** 22 49 28.9 +0.7
WHZ Wether Hill Ro 82.80 218 PFAKE 22 49 40.0 +12
WHZ LR LR
comp=Z,72µm,20.0s
URZ Urewera 82.80 228 P **P** 22 49 28.9 +0.8
comp=Z,9.0nm,0.7s,baz=158,slow=5.4,SNR=4.8
URZ LR LR 23 18 07.9
comp=Z,165µm,20.2s,baz=146,slow=30
E40A Wakefield 82.84 348 P **P** 22 49 27.5 -0.4
baz=166,SNR=15
H31A Wolsey 82.84 341 P **P** 22 49 28.5 +0.5
baz=159
G34A Benson 82.86 343 P **P** 22 49 27.6 -0.4
baz=161
E39A Mellen 82.89 347 P **P** 22 49 27.5 -0.6
baz=165,SNR=21
SUSD Miller 82.94 341 P **P** 22 49 27.7 -0.8
baz=158,SNR=8.0
F36A Milaca 82.97 345 P **P** 22 49 27.0 -1.6
baz=163,SNR=33
THZ Tophouse 82.98 223 PFAKE 22 49 40.0 +11
THZ LR LR
comp=Z,72µm,22.0s
THZ Tophouse 82.98 223 P **P** 22 49 31.8 +2.6
WKZ Wanaka 82.99 219 PFAKE 22 49 40.0 +11
WKZ LR LR
comp=Z,118µm,19.0s
G33A Ortonville 83.00 343 P **P** 22 49 27.6 -1.1
baz=160,SNR=14
RWWY Rawlins 83.01 334 *e*P **P** 22 49 27.9 -1.3
comp=Z,365nm,1.1s
RWWY LR LR
comp=Z,47µm,20.0s
MLZ Mavora Lakes 83.08 218 *e*pP **pP** 22 49 39.1 +0.5
MLZ LR LR
comp=Z,81µm,19.0s
CWC Cottonwood Cre 83.12 324 P **P** 22 49 29.4 -0.4
baz=144
VES Vestal, Richgr 83.13 323 P **P** 22 49 29.9 +0.3
baz=143,SNR=16
INZ Inchbonnie 83.14 222 P P 22 49 37.4 +7.6
SMMC Simmler 83.17 322 P **P** 22 49 31.2 +1.3
baz=142
F35A Swanville 83.20 344 P **P** 22 49 28.9 -0.9
baz=162,SNR=18
D41A Chassel 83.21 349 P **P** 22 49 30.5 +0.8
baz=167
PYZ Puysegur Point 83.23 217 PFAKE 22 49 40.0 +10
PYZ LR LR
comp=Z,77µm,18.0s
MPU Maple Canyon 83.24 331 *e*P **P** 22 49 30.1 -0.3
comp=Z,416nm,1.5s
MPU LR LR
comp=Z,121µm,21.0s
F34A Alexandria 83.29 344 P **P** 22 49 29.5 -0.8
baz=161,SNR=14
E38A The Farm, Brul 83.29 347 P **P** 22 49 29.6 -0.6
baz=164,SNR=13
NLU North Lily Min 83.37 330 *e*P **P** 22 49 31.2 +0.2
comp=Z,512nm,1.5s
NLU LR LR
comp=Z,130µm,22.0s
FOZ Fox Glacier 83.47 220 *e*pP **pP** 22 49 43.9 +3.4
FOZ LR LR
comp=Z,174µm,20.0s
DCZ Deep Cove 83.49 218 PFAKE 22 49 40.0 +8.4
DCZ LR LR
comp=Z,61µm,19.0s
R11A Troy Canyon, C 83.52 327 P **P** 22 49 31.3 -0.6
baz=146,SNR=38
R11A Troy Canyon, C 83.52 327 *e*P **P** 22 49 32.1 +0.2
comp=Z,277nm,1.4s
R11A LR LR
comp=Z,72µm,18.0s
E36A McGregor 83.55 345 P **P** 22 49 30.3 -1.3
baz=163,SNR=32
F33A 5 Mile Ranch, 83.57 343 P **P** 22 49 30.1 -1.6
baz=160,SNR=11
DSZ Denniston Nort 83.61 223 P **P** 22 49 35.9 +3.6
PAGB Antelope Grade 83.62 322 *e*P **P** 22 49 33.4 +1.2
comp=Z,791nm,1.6s
K22A Casper 83.62 335 P **P** 22 49 32.0 -0.2
baz=152,SNR=18
K22A Casper 83.62 335 *e*P **P** 22 49 32.0 -0.2
comp=Z,526nm,1.1s
K22A LR LR
comp=Z,72µm,18.0s
JLU Jordanelle 83.67 331 *e*P **P** 22 49 33.0 +0.3
JLU LR LR
comp=Z,116µm,21.0s
PCAN Candelaria 83.70 33 *e*PcP P 22 49 37.5 +5.0
PCED Cedros 83.74 33 *e*PcP P 22 49 37.6 +4.9
PICO Pico 83.76 33 *e*PcP P 22 49 37.7 +4.8
QRZ Quartz Range 83.82 224 P **P** 22 49 36.3 +3.0
E35A Pequot Lakes 83.83 345 P **P** 22 49 32.3 -0.7
baz=162
CTU Camp Tracy 83.86 331 *e*P **P** 22 49 33.4 -0.2
comp=Z,114nm,1.1s
CTU LR LR
comp=Z,92µm,21.0s
DUG Dugway, Tooele 83.87 330 P **P** 22 49 32.8 -0.7
baz=148,SNR=109
DUG Dugway, Tooele 83.87 330 *e*P **P** 22 49 33.1 -0.4
DUG pmax pmax
comp=Z,407nm,1.2s
DUG MLR MLR
comp=Z,94µm,22.0s
DUG Dugway, Tooele 83.87 330 *e*P **P** 22 49 33.1 -0.4
comp=Z,407nm,1.2s
DUG LR LR
comp=Z,94µm,22.0s
HIZ Hauiti 83.99 227 *e*pP **pP** 22 49 47.9 +4.5
HIZ LR LR
comp=Z,63µm,19.0s
HIZ Hauiti 83.99 227 P P 22 49 39.7 +5.4
D37A Cotton 83.99 346 P **P** 22 49 32.9 -0.9
baz=164,SNR=15
PMAN Manadas 84.02 33 *e*PcP **P** 22 49 38.8 +4.7
ROSA Rosais 84.02 33 *e*PcP **P** 22 49 38.9 +4.7
ROSA Rosais 84.02 33 PFAKE 22 49 40.0 +5.8
ROSA LR LR
comp=Z,87µm,20.0s
F31A Hecla 84.07 342 P **P** 22 49 33.3 -0.9
baz=159
TCUT Toone Canyon 84.09 331 *e*P **P** 22 49 34.0 -0.8
TCUT LR LR
comp=Z,192µm,21.0s
PSMN Pico do Norte, 84.11 36 *e*PcP **P** 22 49 39.2 +4.6
RSSD Black Hills 84.12 337 P **P** 22 49 33.7 -1.1
baz=154
RSSD Black Hills 84.12 337 *e*P **P** 22 49 33.7 -1.1
RSSD pmax pmax
comp=Z,298nm,1.4s
RSSD MLR MLR
comp=Z,23µm,19.0s
RSSD Black Hills 84.12 337 *e*P **P** 22 49 33.7 -1.1
comp=Z,298nm,1.4s
RSSD LR LR
comp=Z,23µm,19.0s
E33A Westby DABS, E 84.13 344 P **P** 22 49 33.7 -0.8
baz=161,SNR=11
D36A Goodland 84.16 346 P **P** 22 49 34.0 -0.7
baz=163,SNR=13
C39A Grand Marais 84.21 348 P **P** 22 49 33.8 -1.0
baz=165
D35A Remer 84.25 345 P **P** 22 49 34.1 -1.0
baz=162,SNR=35
PMPB Monarch Peak 84.28 322 *e*P **P** 22 49 37.9 +2.3
comp=Z,2µm,1.9s
PMPB LR LR
comp=Z,78µm,18.0s
C38A Sawbill Land. 84.31 347 P **P** 22 49 34.2 -1.2
baz=164,SNR=28
PGRA Graciosa 84.39 33 *e*PcP **P** 22 49 40.6 +4.6
PDA Ponta Delgada 84.42 35 *e*PcP **P** 22 49 40.5 +4.4
ADH Angra Heroismo 84.42 34 *e*PcP **P** 22 49 40.6 +4.4
PSET Sete Cidades 84.45 35 *e*PcP **P** 22 49 40.6 +4.2
C37A Embarrass 84.49 347 P **P** 22 49 36.0 -0.3
baz=164,SNR=13
CMLA Cha da Macela 84.50 35 *e*P P 22 49 47.2 +11
CMLA MLR MLR
comp=Z,84µm,19.0s
CMLA Cha da Macela 84.50 35 *e*PcP **P** 22 49 40.9 +4.3
CMLA Cha da Macela 84.50 35 *e*pP **pP** 22 49 47.2 +1.5
CMLA LR LR
comp=Z,84µm,19.0s

D34A Park Rapids 84.50 344 P **P** **22 49 35.2 -1.2**
baz=161,SNR=8.1
PCALD Caldeiras da R 84.54 35 *e*PcP **P** **22 49 41.0 +4.2**
MDPB Devils Postpil 84.56 324 *e*P **P** **22 49 38.2 +0.9**
comp=Z,210nm,1.3s
MDPB LR LR
comp=Z,113µm,21.0s
HWUT Hardware Ranch 84.57 331 *e*P **P** **22 49 36.2 -0.9**
comp=Z,778nm,1.4s
HWUT LR LR
comp=Z,152µm,21.0s
EYMN Ely 84.57 347 P **P** **22 49 35.4 -1.3**
baz=164
EYMN Ely 84.57 347 *e*P **P** **22 49 35.8 -1.0**
comp=Z,316nm,1.1s
EYMN LR LR
comp=Z,26µm,19.0s
BGU Big Grassy Mou 84.58 330 *e*P **P** **22 49 36.4 -0.7**
comp=Z,446nm,1.0s
BGU LR LR
comp=Z,78µm,21.0s
KUZ Kuaotunu 84.62 228 P **P** **22 49 35.2 -2.3**
E31A Nome 84.63 342 P **P** **22 49 36.7 -0.3**
baz=159
C36A Pine Crest Far 84.65 346 P **P** **22 49 36.2 -0.9**
baz=163,SNR=9.7
TOC5 Torodi Ar. Sit 84.66 70 PFAKE 22 49 50.0 +12
TOC5 LR LR
comp=Z,179µm,20.0s
SPUT South Promonto 84.67 331 *e*P **P** **22 49 37.2 -0.3**
comp=Z,1µm,1.6s
SPUT LR LR
comp=Z,73µm,21.0s
TOC6 Torodi Ar. Sit 84.67 70 PFAKE 22 49 50.0 +12
TOC6 LR LR
comp=Z,152µm,20.0s
BART Pico Bartolome 84.67 36 *e*PcP **P** **22 49 41.7 +4.1**
TOB4 Torodi Ar. Sit 84.67 70 PFAKE 22 49 50.0 +12
TOB4 LR LR
comp=Z,155µm,20.0s
TOC4 Torodi Ar. Sit 84.68 70 PFAKE 22 49 50.0 +12
TOC4 LR LR
comp=Z,161µm,20.0s
TOB5 Torodi Ar. Sit 84.68 70 PFAKE 22 49 50.0 +12
TOB5 LR LR
comp=Z,160µm,20.0s
TOA3 Torodi Ar. Sit 84.68 70 PFAKE 22 49 50.0 +12
TOA3 LR LR
comp=Z,158µm,20.0s
TOC7 Torodi Ar. Sit 84.69 70 PFAKE 22 49 50.0 +12
TOC7 LR LR
comp=Z,156µm,20.0s
TOA0 Torodi Ar. Sit 84.69 70 *e*P **P** **22 49 36.0 -2.2**
TOA0 LR LR
comp=Z,156µm,20.0s
TORD Torodi Ar. Bea 84.69 70 P **P** **22 49 35.9 -2.3**
comp=Z,36nm,0.8s,baz=278,slow=6.1,SNR=222
TORD S **S** **23 00 06.1 +2.0**
comp=Z,9.3nm,1.2s,baz=195,slow=4.3,SNR=3.7
TORD PKKP **PKKPdf** **23 07 38.9 -0.5**
comp=Z,1.7nm,0.9s,baz=58,slow=4.9,SNR=3.5
TORD LR LR 23 25 06.2
comp=Z,160µm,20.3s,baz=235,slow=34
TOA1 Torodi Ar. Sit 84.69 70 *e*P **P** **22 49 35.9 -2.3**
TOA1 *e*S **S** **23 00 06.1 +2.0**
TOA1 *e*PKKPdf **PKKPdf** **23 07 38.9 -0.5**
TOB3 Torodi Ar. Sit 84.69 70 PFAKE 22 49 50.0 +12
TOB3 LR LR
comp=Z,157µm,20.0s
TOA2 Torodi Ar. Sit 84.69 70 PFAKE 22 49 50.0 +12
TOA2 LR LR
comp=Z,159µm,20.0s
D33A AnnSam, Waubun 84.69 344 P **P** **22 49 36.3 -1.1**
baz=161,SNR=14
TOB2 Torodi Ar. Sit 84.70 70 PFAKE 22 49 50.0 +12
TOB2 LR LR
comp=Z,156µm,20.0s
TOC3 Torodi Ar. Sit 84.70 70 PFAKE 22 49 50.0 +12
TOC3 LR LR
comp=Z,158µm,20.0s
TOC1 Torodi Ar. Sit 84.71 70 PFAKE 22 49 50.0 +12
TOC1 LR LR
comp=Z,176µm,20.0s
TOC2 Torodi Ar. Sit 84.71 70 PFAKE 22 49 50.0 +12
TOC2 LR LR
comp=Z,158µm,20.0s
NV11 Mina Array Sit 84.76 325 *e*P **P** **22 49 38.3 +0.2**
comp=Z,37nm,1.8s
NV11 LR LR
comp=Z,5µm,22.0s
BW06 Boulder Array 84.80 333 P **P** **22 49 37.6 -0.7**
baz=150,SNR=28
BW06 Boulder Array 84.80 333 *e*P **P** **22 49 37.2 -1.1**
comp=Z,268nm,1.3s
BW06 LR LR
comp=Z,122µm,20.0s
PD31 Pinedale Array 84.80 333 *e*P **P** **22 49 37.2 -1.1**
PD31 *e*PKKPbc **PKKPbc** **23 07 46.2 -2.3**
PDAR Pinedale Array 84.80 333 P **P** **22 49 37.2 -1.1**
comp=Z,13nm,0.6s,baz=134,slow=4.3,SNR=26
PDAR PKKPbc **PKKPbc** **23 07 46.2 -2.3**
comp=Z,2.1nm,0.7s,baz=263,slow=0.7,SNR=5.2
PDAR PKPPKP P'P'df 23 15 57.0 +8.8
comp=Z,3.6nm,1.1s,baz=48,slow=2.2,SNR=7.9
PDAR Pinedale Array 84.80 333 *e*P **P** **22 49 36.8 -1.5**
C35A Jirik Farms, M 84.82 345 P **P** **22 49 35.9 -2.0**
baz=162,SNR=28
NV01 Mina Array Sit 84.83 325 *e*P **P** **22 49 38.4 -0.2**
NV01 *e*PKKPbc **PKKPbc** **23 07 47.6 -0.5**
NVAR Mina Array Bea 84.83 325 P **P** **22 49 38.0 -0.6**
comp=Z,9.8nm,0.7s,baz=149,slow=6.4,SNR=24
NVAR PKKPbc **PKKPbc** **23 07 47.6 -0.5**
comp=Z,0.3nm,0.3s,baz=79,slow=18,SNR=3.1
NVAR PKPPKP **P'P'df** **23 15 54.4 +5.6**
comp=Z,0.9nm,0.8s,baz=90,slow=1.6,SNR=4.1
NVAR LR LR 23 22 03.0
comp=Z,34µm,19.9s,baz=224,slow=32
SAO San Andreas Ge 85.03 322 *e*P **P** **22 49 38.1 -1.2**
SAO pmax pmax
comp=Z,481nm,1.9s
SAO MLR MLR
comp=Z,76µm,19.0s
SAO San Andreas Ge 85.03 322 *e*P **P** **22 49 38.1 -1.2**
comp=Z,480nm,1.9s
SAO LR LR
comp=Z,76µm,19.0s
PMOZ Porto Moniz, M 85.03 44 *e*P **P** **22 49 44.2 +4.6**
comp=Z,578nm,1.5s
PMOZ Porto Moniz, M 85.03 44 *e*LQ LQ 23 12 14.3
PMOZ *e*LR LR 23 16 45.5
comp=Z,175µm,20.0s
D31A Mcclaflin, Tow 85.05 343 P **P** **22 49 38.6 -0.5**
baz=159,SNR=14
FUL Funchal 85.08 44 *e*P **P** **22 49 38.9 -0.7**
comp=Z,914nm,2.2s
RYN Ryan 85.09 325 *e*P **P** **22 49 40.6 +0.8**
comp=Z,554nm,1.5s
RYN LR LR
comp=Z,56µm,22.0s
PMAR Madeira 85.12 44 *e*P **P** **22 49 40.5 +0.4**
comp=Z,1µm,1.4s
RAO Raoul Island 85.17 238 LR LR 23 19 05.8
comp=Z,52µm,21.4s,baz=127,slow=30
HVU Hansel Valley 85.19 331 *e*P **P** **22 49 39.6 -0.6**
HVU pmax pmax
comp=Z,317nm,1.2s
HVU MLR MLR
comp=Z,57µm,20.0s
HVU Hansel Valley 85.19 331 *e*P **P** **22 49 39.6 -0.6**
comp=Z,317nm,1.2s
HVU LR LR
comp=Z,57µm,20.0s
KVN Kaiserville 85.23 326 PFAKE 22 49 50.0 +9.5
KVN LR LR
comp=Z,62µm,18.0s
C33A Trail 85.26 344 P **P** **22 49 38.6 -1.5**
baz=161
AHID Auburn Hatcher 85.38 332 *e*P **P** **22 49 41.0 -0.1**
comp=Z,643nm,1.5s
AHID LR LR
comp=Z,114µm,21.0s
B35A Bob, Littlefor 85.40 346 P **P** **22 49 39.3 -1.6**
baz=162,SNR=32
WAKR Walker 85.42 325 *e*P **P** **22 49 42.4 +0.9**
comp=Z,1µm,1.8s
WAKR LR LR
comp=Z,119µm,19.0s

CMB Columbia Colle 85.50 324 *e*P **P** **22 49 41.5 -0.2**
CMB pmax pmax
comp=Z,234nm,1.4s
CMB MLR MLR
comp=Z,60µm,18.0s
CMB Columbia Colle 85.50 324 *e*P **P** **22 49 41.5 -0.2**
comp=Z,234nm,1.4s
CMB LR LR
comp=Z,60µm,18.0s
RDG13 Poverty Ridge 85.69 323 PFAKE 22 49 50.0 +7.3
RDG13 LR LR
comp=Z,78µm,21.0s
PMPS Porto Santo 85.70 44 *e*P P 22 49 48.9 +6.2
comp=Z,726nm,1.8s
B33A Robert and Kas 85.71 345 P **P** **22 49 41.1 -1.3**
baz=161,SNR=18
B34A Aery, Baudette 85.71 345 P **P** **22 49 40.7 -1.7**
baz=162,SNR=18
YERR Yerington 85.71 325 *e*P **P** **22 49 44.0 +1.1**
comp=Z,575nm,1.5s
YERR LR LR
comp=Z,98µm,22.0s
C31A Landman Farms, 85.75 343 P **P** **22 49 41.9 -0.7**
baz=159,SNR=25
AGMN Agassiz Nation 85.79 344 P **P** **22 49 42.4 -0.5**
baz=161,SNR=23
AGMN Agassiz Nation 85.79 344 *e*P **P** **22 49 41.4 -1.4**
comp=Z,1µm,2.0s
AGMN LR LR
comp=Z,45µm,22.0s
REDW Red Top Meadow 85.80 333 *e*P **P** **22 49 42.2 -1.1**
comp=Z,617nm,1.4s
REDW LR LR
comp=Z,101µm,21.0s
SNOW Snow King Moun 85.84 333 *e*P **P** **22 49 43.0 -0.6**
comp=Z,345nm,1.2s
SNOW LR LR
comp=Z,127µm,22.0s
LOHW Long Hollow 85.92 333 *e*P **P** **22 49 42.6 -1.2**
comp=Z,192nm,1.0s
LOHW LR LR
comp=Z,138µm,20.0s
TPAW Teton Pass 85.94 333 *e*P **P** **22 49 43.2 -0.8**
comp=Z,227nm,1.0s
TPAW LR LR
comp=Z,105µm,22.0s
BMN Battle Mountai 85.95 327 *e*P **P** **22 49 45.5 +1.5**
BMN pmax pmax
comp=Z,74nm,1.1s
BMN MLR MLR
comp=Z,91µm,19.0s
BMN Battle Mountai 85.95 327 *e*P **P** **22 49 45.5 +1.5**
comp=Z,74nm,1.1s
BMN LR LR
comp=Z,91µm,19.0s
B32A Ashes, Strandq 86.03 344 P **P** **22 49 43.4 -0.6**
baz=160,SNR=44
MOOW Moose Ponds 86.09 333 *e*P **P** **22 49 43.4 -1.3**
comp=Z,133nm,1.2s
MOOW LR LR
comp=Z,140µm,22.0s
FXWY Fox Creek 86.10 333 *e*P **P** **22 49 43.5 -1.2**
comp=Z,98nm,1.0s
VCNR Virginia City 86.15 325 *e*P **P** **22 49 46.1 +1.0**
comp=Z,250nm,1.3s
VCNR LR LR
comp=Z,106µm,22.0s
RUBR Rubicon Trail 86.20 325 PFAKE 22 49 50.0 +4.7
RUBR LR LR
comp=Z,82µm,22.0s
MDND Maddock 86.26 342 P **P** **22 49 44.6 -0.6**
baz=158,SNR=24
MDND Maddock 86.26 342 *e*P **P** **22 49 44.5 -0.7**
comp=Z,1µm,1.3s
MDND LR LR
comp=Z,43µm,21.0s
IMW Indian Meadow 86.29 333 *e*P **P** **22 49 45.2 -0.6**
comp=Z,334nm,1.1s
IMW LR LR
comp=Z,117µm,22.0s
A33A Warroad 86.29 345 P **P** **22 49 43.7 -1.6**
baz=161,SNR=51
B31A Greenbush Farm 86.32 343 P **P** **22 49 43.9 -1.5**
baz=159,SNR=16
PAHR Pah Rah Range 86.35 325 *e*P **P** **22 49 46.6 +0.6**
comp=Z,823nm,1.8s
PAHR LR LR
comp=Z,88µm,18.0s
AFDM Forest Hills D 86.51 324 *e*P **P** **22 49 46.5 -0.1**
comp=Z,323nm,1.3s
AFDM LR LR
comp=Z,52µm,21.0s
YPP Pitchstone Pla 86.56 333 *e*P **P** **22 49 47.0 -0.1**
comp=Z,261nm,1.5s
YPP LR LR
comp=Z,153µm,20.0s
H17A Grant Village 86.58 333 P **P** **22 49 46.4 -0.7**
baz=150,SNR=16
H17A Grant Village 86.58 333 *e*P **P** **22 49 46.5 -0.7**
comp=Z,136nm,1.1s
H17A LR LR
comp=Z,250µm,22.0s
A31A Linda, St. Vin 86.69 344 P **P** **22 49 46.9 -0.3**
baz=160
YFT Old Faithful 86.72 333 *e*P **P** **22 49 49.0 +1.2**
comp=Z,262nm,1.0s
YFT LR LR
comp=Z,181µm,20.0s
RLMT Red Lodge 86.74 335 P **P** **22 49 47.2 -0.7**
baz=150,SNR=56
RLMT Red Lodge 86.74 335 *e*P **P** **22 49 46.9 -1.0**
comp=Z,464nm,1.4s
RLMT LR LR
comp=Z,52µm,19.0s
MCCM Marconi Confer 86.82 322 *e*P **P** **22 49 47.5 -0.6**
comp=Z,3µm,1.6s
MCCM LR LR
comp=Z,78µm,22.0s
OUZ Omahuta 86.92 228 PFAKE 22 50 00.0 +11
OUZ LR LR
comp=Z,131µm,20.0s
BEKR Beckworth 86.94 325 *e*P **P** **22 49 49.5 +0.6**
comp=Z,508nm,1.5s
BEKR LR LR
comp=Z,99µm,21.0s
YMR Madison River 86.96 333 *e*P **P** **22 49 49.0 +0.1**
comp=Z,1µm,1.5s
YMR LR LR
comp=Z,115µm,21.0s
YHH Holmes Hill 87.02 334 *e*P **P** **22 49 48.8 -0.5**
comp=Z,254nm,1.0s
YHH LR LR
comp=Z,133µm,21.0s
LAO LASA Array 87.10 337 P **P** **22 49 48.5 -0.9**
baz=153,SNR=25
LAO LASA Array 87.10 337 *e*P **P** **22 49 48.4 -0.9**
comp=Z,351nm,1.0s
LAO LR LR
comp=Z,56µm,19.0s
YHB Horse Butte 87.11 333 *e*P **P** **22 49 49.7 0.0**
comp=Z,201nm,1.1s
YHB LR LR
comp=Z,85µm,22.0s
ORV Oroville 87.23 324 *e*P **P** **22 49 50.3 +0.2**
ORV pmax pmax
comp=Z,684nm,1.4s
ORV MLR MLR
comp=Z,73µm,18.0s
ORV Oroville 87.23 324 *e*P **P** **22 49 50.3 +0.2**
comp=Z,684nm,1.4s
ORV LR LR
comp=Z,73µm,18.0s
QLMT Earthquake Lak 87.27 333 *e*P **P** **22 49 50.6 +0.2**
GDXM Geysers 87.29 323 PFAKE 22 50 00.0 +10
GDXM LR LR
comp=Z,72µm,21.0s
XMAS Kiritimati 87.34 274 PFAKE 22 50 00.0 +8.7
XMAS LR LR
comp=Z,140µm,21.0s
HLID Hailey 87.35 331 P **P** **22 49 50.5 -0.3**
baz=147,SNR=46
HLID Hailey 87.35 331 *e*P **P** **22 49 50.5 -0.3**
comp=Z,240nm,1.0s
HLID LR LR
comp=Z,46µm,19.0s
GCMT Greycliff 87.46 335 *e*P **P** **22 49 50.1 -1.1**
MGL Magalia 87.46 324 *e*P **P** **22 49 51.3 0.0**
HOPS Hopland Field 87.57 323 *e*P **P** **22 49 51.8 0.0**
comp=Z,271nm,1.2s
HOPS LR LR
comp=Z,74µm,20.0s
ULM Lac du Bonnet 87.64 345 P **P** **22 49 49.8 -2.0**
comp=Z,59nm,0.9s,baz=170,slow=4.1,SNR=30
ULM S **SKSac** **23 00 17.5 +0.2**
comp=Z,7.8nm,1.3s,baz=314,slow=20,SNR=4.5
ULM PKKP **PKKPdf** **23 07 36.1 -0.5**
comp=Z,3.3nm,0.8s,baz=30,slow=2.5,SNR=4.6
ULM Lac du Bonnet 87.64 345 *e*P **P** **22 49 49.9 -1.9**
ULM pmax pmax
comp=Z,972nm,1.5s
ULM MLR MLR
comp=Z,37µm,20.0s
ULM Lac du Bonnet 87.64 345 *e*P **P** **22 49 49.9 -1.9**
comp=Z,972nm,1.5s
ULM LR LR
comp=Z,37µm,20.0s
MCMT McKenzie Canyo 87.80 332 *e*P **P** **22 49 52.8 -0.3**
MFID Camas Ranch 87.80 330 *e*P **P** **22 49 52.3 -0.6**
comp=Z,144nm,1.0s
MFID LR LR
comp=Z,47µm,18.0s
O03D Paynes Creek 87.96 324 P **P** **22 49 53.1 -0.6**
baz=142,SNR=42
BOZ Bozeman (W) 88.00 333 P **P** **22 49 53.2 -0.6**
baz=149,SNR=24
BOZ Bozeman (W) 88.00 333 *e*P **P** **22 49 53.0 -0.8**
BOZ pmax pmax
comp=Z,88nm,1.0s
BOZ MLR MLR
comp=Z,87µm,21.0s
BOZ Bozeman (W) 88.00 333 *e*P **P** **22 49 53.0 -0.8**
comp=Z,88nm,1.0s
BOZ LR LR
comp=Z,87µm,21.0s
DLMT Dillon 88.15 333 *e*P **P** **22 49 54.4 -0.2**
comp=Z,331nm,1.3s
DLMT LR LR
comp=Z,96µm,21.0s
WVOR Wild Horse Val 88.20 327 *e*P **P** **22 49 54.8 0.0**
WVOR pmax pmax
comp=Z,374nm,1.4s
WVOR MLR MLR
comp=Z,73µm,18.0s
WVOR Wild Horse Val 88.20 327 *e*P **P** **22 49 54.8 0.0**
comp=Z,374nm,1.4s
WVOR LR LR
comp=Z,73µm,18.0s
KCPM Cahto Peak 88.35 323 PFAKE 22 50 00.0 +4.4
KCPM LR LR
comp=Z,62µm,19.0s
LRM Limekiln Ridge 88.49 333 *e*P **P** **22 49 56.6 +0.3**
MOD Modoc Plateau 88.52 326 *e*P **P** **22 49 56.1 -0.3**
comp=Z,282nm,1.1s
MOD LR LR
comp=Z,75µm,20.0s
WDC Whiskeytown Da 88.53 324 *e*P **P** **22 49 54.9 -1.4**
WDC pmax pmax
comp=Z,534nm,1.6s
WDC MLR MLR
comp=Z,50µm,19.0s
WDC Whiskeytown Da 88.53 324 *e*P **P** **22 49 54.9 -1.4**
comp=Z,534nm,1.6s
WDC LR LR
comp=Z,50µm,19.0s
KMRM Mail Ridge 88.83 323 *e*P **P** **22 49 59.2 +1.4**
comp=Z,617nm,1.5s
J08A Circle Bar Ran 88.87 328 *e*P **P** **22 49 57.8 -0.2**
comp=Z,369nm,1.0s
J08A LR LR
comp=Z,76µm,18.0s
N02D Trinity Center 88.92 324 P **P** **22 49 57.7 -0.5**
baz=141,SNR=20
HRY Holter Researc 89.02 334 *e*P **P** **22 49 58.8 +0.2**
M04C Macdoel 89.14 325 P **P** **22 49 59.3 0.0**
baz=142,SNR=28
M02C Callahan 89.31 324 P **P** **22 49 59.6 -0.4**
baz=141,SNR=19
KHMM Horse Mountain 89.34 324 *e*P **P** **22 50 00.1 -0.2**
comp=Z,385nm,1.8s
KHMM LR LR
comp=Z,76µm,20.0s
PAF Port-aux-Franc 89.41 156 PFAKE 22 50 10.0 +9.5
PAF LR LR
comp=Z,42µm,19.0s
EGMT Eagleton 89.42 336 *e*P **P** **22 50 01.8 +1.4**
comp=Z,172nm,1.1s
EGMT LR LR
comp=Z,41µm,19.0s
JCC Jacoby Creek, 89.44 323 PFAKE 22 50 10.0 +10
JCC LR LR
comp=Z,61µm,18.0s
LSZ Lusaka 89.50 108 P **P** **22 49 58.4 -3.3**
comp=Z,13nm,0.9s,baz=239,slow=4.5,SNR=18
LSZ LR LR 23 26 11.5
comp=Z,202µm,21.0s,baz=231,slow=33
LSZ Lusaka 89.50 108 *e*P **P** **22 50 01.2 -0.5**
LSZ pmax pmax
comp=Z,211nm,0.8s
LSZ MLR MLR
comp=Z,191µm,21.0s
LSZ Lusaka 89.50 108 *e*P **P** **22 50 01.2 -0.5**
comp=Z,211nm,0.8s
LSZ LR LR
comp=Z,191µm,21.0s
LSZ Lusaka 89.50 108 PcP **P** **22 50 00.9 -0.8**
SNR=43
LSZ Lusaka 89.50 108 P **P** **22 50 00.9 -0.8**
SNR=43
YBH Yreka Blue Hor 89.51 325 P **P** **22 50 00.2 -0.8**
comp=Z,15nm,0.9s,baz=43,slow=5.0,SNR=15
YBH Yreka Blue Hor 89.51 325 *e*P **P** **22 50 00.0 -0.9**
YBH pmax pmax
comp=Z,177nm,1.3s
YBH MLR MLR
comp=Z,60µm,21.0s
YBH Yreka Blue Hor 89.51 325 *e*P **P** **22 50 00.0 -0.9**
comp=Z,177nm,1.3s
YBH LR LR
comp=Z,60µm,21.0s
BMO Blue Mountains 89.59 330 *e*P **P** **22 50 00.7 -0.6**
BMO pmax pmax
comp=Z,149nm,1.3s
BMO MLR MLR
comp=Z,79µm,22.0s
BMO Blue Mountains 89.59 330 *e*P **P** **22 50 00.7 -0.6**
comp=Z,149nm,1.3s
BMO LR LR
comp=Z,79µm,22.0s
K04D Chiloquin, OR 89.75 326 P **P** **22 50 02.5 +0.4**
baz=142
AFI Afiamalu 89.78 253 LR LR 23 20 34.9
comp=Z,181µm,21.3s,baz=130,slow=29
AFI Afiamalu 89.78 253 PFAKE 22 50 10.0 +7.0
AFI LR LR
comp=Z,175µm,21.0s
SCHQ Schefferville 89.79 3 P **P** **22 49 59.4 -2.4**
comp=Z,11nm,0.7s,baz=88,slow=5.1,SNR=3.6
SCHQ LR LR 23 33 49.7
comp=Z,33µm,19.1s,baz=180,slow=38
SCHQ Schefferville 89.79 3 *e*P **P** **22 50 00.0 -1.8**
comp=Z,271nm,1.4s
SCHQ LR LR
comp=Z,45µm,21.0s
MSO Missoula 89.89 333 P **P** **22 50 03.1 +0.5**
baz=147,SNR=23
MSO Missoula 89.89 333 *e*P **P** **22 50 02.2 -0.4**
comp=Z,109nm,1.1s
MSO LR LR
comp=Z,88µm,22.0s
I07A Izee 89.90 328 *e*P **P** **22 50 03.0 +0.3**
comp=Z,252nm,1.4s
J05D Fort Rock, OR 90.03 326 P **P** **22 50 03.6 +0.2**
baz=142,SNR=18
HUMO Hull Mountain 90.30 325 *e*P **P** **22 50 04.8 +0.3**
comp=Z,327nm,1.8s
HUMO LR LR
comp=Z,75µm,22.0s
PINE Pine Mountain 90.30 327 *e*P **P** **22 50 05.1 +0.4**
comp=Z,263nm,1.0s
PINE LR LR
comp=Z,86µm,18.0s
J04D Umpqua Nationa 90.40 326 P **P** **22 50 05.5 +0.3**
baz=141,SNR=7.2
F10A Beach Ranch, E 90.47 330 *e*P **P** **22 50 05.2 -0.2**
comp=Z,142nm,1.0s
F10A LR LR

KBO **Bosley Butte** **90.60 324** PFAKE 22 50 10.0 +4.0
KBO LR LR
comp=Z,61µm,21.0s
G08A **Pilot Rock** **90.63 329** *e*P **P** **22 50 05.8 -0.3**
comp=Z,330nm,1.7s
G08A LR LR
comp=Z,76µm,20.0s
JTMT **Jette** **90.79 333** *e*P **P** **22 50 06.2 -0.7**
comp=Z,189nm,1.4s
JTMT LR LR
comp=Z,86µm,21.0s
I05D **Terrebonne, OR** **90.91 327** P **P** **22 50 07.9 +0.5**
baz=142
I04A **Tendick Farm,** **90.97 326** P **P** **22 50 07.3 -0.4**
baz=141
KEBM **Edson Butte** **91.15 324** *e*P **P** **22 50 08.3 -0.3**
comp=Z,150nm,1.2s
KEBM *ep*P **pP** **22 50 18.5 +0.8**
KEBM LR LR
comp=Z,65µm,20.0s
E09A **Wood Farm, Sta** **91.28 330** *e*P **P** **22 50 08.9 0.0**
comp=Z,60nm,1.0s
E09A LR LR
comp=Z,66µm,21.0s
G06A **Carlson Farm,** **91.30 328** *e*P **P** **22 50 09.3 +0.1**
comp=Z,729nm,1.8s
G06A LR LR
comp=Z,79µm,20.0s
F07A **Phinny Hill Vi** **91.52 329** *e*P **P** **22 50 10.5 +0.4**
comp=Z,110nm,1.0s
F07A LR LR
comp=Z,58µm,20.0s
H04A **Detroit Lake** **91.56 327** *e*P **P** **22 50 09.6 -0.8**
comp=Z,116nm,1.0s
H04A LR LR
comp=Z,100µm,22.0s
G05D **Wamic, OR** **91.61 328** P **P** **22 50 11.3 +0.7**
baz=142,SNR=8.1
E08A **Dider Farm, El** **91.64 330** *e*P **P** **22 50 10.0 -0.6**
comp=Z,122nm,1.0s
E08A LR LR
comp=Z,71µm,19.0s
HAWA **Hanford** **91.75 329** *e*P **P** **22 50 11.0 -0.2**
comp=Z,210nm,1.3s
HAWA LR LR
comp=Z,62µm,19.0s
WALA **Waterton Lakes** **91.75 334** *e*P **P** **22 50 10.4 -0.9**
comp=Z,212nm,1.1s
WALA LR LR
comp=Z,98µm,20.0s
COR **Corvallis** **91.98 326** *e*P **P** **22 50 13.5 +1.3**
COR pmax pmax
comp=Z,195nm,1.1s
COR MLR MLR
comp=Z,58µm,18.0s
COR **Corvallis** **91.98 326** *e*P **P** **22 50 13.5 +1.3**
comp=Z,195nm,1.1s
COR LR LR
comp=Z,58µm,18.0s
RTC **Rabat Centre** **91.99 49** PFAKE 22 50 20.0 +7.5
RTC LR LR
comp=Z,779µm,20.0s
E07A **Sunnyside** **92.02 329** *e*P **P** **22 50 12.3 -0.2**
comp=Z,113nm,1.0s
E07A LR LR
comp=Z,73µm,22.0s
D08A **Wollman Farm,** **92.03 330** *e*P **P** **22 50 12.0 -0.5**
comp=Z,133nm,1.1s
D08A LR LR
comp=Z,54µm,22.0s
NEW **Newport** **92.29 332** P **P** **22 50 12.3 -1.4**
comp=Z,10.0nm,1.1s,baz=127,slow=5.1,SNR=10
NEW PKKPbc **PKKPbc** **23 07 31.6 +1.9**
comp=Z,5.5nm,1.1s,baz=122,slow=1.1,SNR=3.5
NEW LR LR 23 28 20.6
comp=Z,57µm,20.1s,baz=146,slow=33
NEW **Newport** **92.29 332** P **P** **22 50 12.6 -1.1**
baz=145,SNR=13
NEW **Newport** **92.29 332** *e*P **P** **22 50 12.2 -1.5**
NEW pmax pmax
comp=Z,158nm,1.4s
NEW MLR MLR
comp=Z,53µm,20.0s
NEW **Newport** **92.29 332** *e*P **P** **22 50 12.2 -1.5**
comp=Z,158nm,1.4s
NEW LR LR
comp=Z,53µm,20.0s
C09A **Chrisman Ranch** **92.37 331** *e*P **P** **22 50 13.9 -0.1**
comp=Z,172nm,1.1s
C09A LR LR
comp=Z,80µm,22.0s
LTY **Liberty** **92.92 329** *e*P **P** **22 50 15.7 -1.0**
comp=Z,86nm,1.1s
LTY LR LR
comp=Z,100µm,19.0s
PFVI **Vila Bisbo** **92.92 46** *e*P **P** **22 50 20.0 +3.2**
comp=Z,423nm,1.6s
PFVI **Vila Bisbo** **92.92 46** *e*PP PP 22 53 47.2 -13
PFVI *e*S **S** **23 01 14.7 -5.9**
PFVI **Vila Bisbo** **92.92 46** *e*LR LR 23 20 43.6
comp=Z,127µm,20.0s
PFVI **Vila Bisbo** **92.92 46** PFAKE 22 50 30.0 +13
PFVI LR LR
comp=Z,146µm,21.0s
LON **Longmire** **93.00 328** *e*P **P** **22 50 15.9 -1.1**
LON pmax pmax
comp=Z,54nm,0.8s
LON MLR MLR
comp=Z,83µm,18.0s
LON **Longmire** **93.00 328** *e*P **P** **22 50 15.9 -1.1**
comp=Z,54nm,0.8s
LON LR LR
comp=Z,83µm,18.0s
F03A **Seaside** **93.13 327** PFAKE 22 50 30.0 +12
F03A LR LR
comp=Z,59µm,20.0s
MORF **Marmelete** **93.14 46** *e*P **P** **22 50 17.6 -0.2**
MORF *e*S **SKSac** **23 00 48.1 -1.8**
MORF AMS AMS 23 30 22.8
comp=Z,133µm,24.4s
MORF **Marmelete** **93.14 46** *e*P P 22 50 24.0 +6.1
comp=Z,299nm,1.7s
MORF **Marmelete** **93.14 46** *e*PP PP 22 54 02.4 +0.5
MORF *e*S **S** **23 01 18.7 -4.0**
MORF **Marmelete** **93.14 46** *e*LR LR 23 21 33.7
comp=Z,134µm,22.0s
FFC **Flin Flon** **93.18 343** *e*P **P** **22 50 15.6 -2.0**
FFC pmax pmax
comp=Z,46nm,1.0s
FFC MLR MLR
comp=Z,37µm,21.0s
FFC **Flin Flon** **93.18 343** *e*P **P** **22 50 15.6 -2.0**
comp=Z,46nm,1.0s
FFC LR LR
comp=Z,37µm,21.0s
B08A **Colville Reser** **93.24 331** *e*P **P** **22 50 16.7 -1.4**
comp=Z,165nm,1.5s
B08A LR LR
comp=Z,57µm,19.0s
PTEO **Sao Teotonio** **93.26 45** *e*P **P** **22 50 18.4 +0.1**
comp=Z,482nm,1.6s
PTEO **Sao Teotonio** **93.26 45** *e*PP PP 22 54 04.3 +1.6
TAM **Tamanrasset** **93.41 65** *e*P **P** **22 50 18.0 -1.6**
TAM pmax pmax
comp=Z,196nm,1.1s
TAM MLR MLR
comp=Z,123µm,20.0s
TAM **Tamanrasset** **93.41 65** *e*P **P** **22 50 18.0 -1.6**
comp=Z,196nm,1.1s
TAM LR LR
comp=Z,123µm,20.0s
D05A **Enumclaw** **93.42 329** *e*P **P** **22 50 18.5 -0.4**
comp=Z,147nm,0.9s
D05A LR LR
comp=Z,101µm,19.0s
PBDV **Barranco-do-Ve** **93.52 46** *e*P **P** **22 50 21.4 +1.8**
comp=Z,480nm,1.7s
PBDV **Barranco-do-Ve** **93.52 46** *e*S **S** **23 01 19.2 -6.8**
PBDV **Barranco-do-Ve** **93.52 46** *e*LR LR 23 21 17.0
comp=Z,93µm,22.0s
E03A **Lebam** **93.61 327** *e*P **P** **22 50 19.9 +0.2**
comp=Z,172nm,1.0s
E03A LR LR
comp=Z,66µm,20.0s
PCVE **Castro Verde** **93.72 46** *e*P **P** **22 50 20.9 +0.4**
comp=Z,366nm,1.7s
PCVE **Castro Verde** **93.72 46** *e*S **S** **23 01 20.1 -7.6**
PCVE **Castro Verde** **93.72 46** *e*LR LR 23 21 17.0
comp=Z,140µm,20.0s
MESJ **Messejana** **93.75 45** *e*P **P** **22 50 19.8 -0.8**
MESJ *e*S **SKSac** **23 00 50.9 -2.2**
MESJ AMS AMS 23 30 32.2
comp=Z,133µm,18.4s
MESJ **Messejana** **93.75 45** *e*P **P** **22 50 19.8 -0.8**
MESJ **Messejana** **93.75 45** *e*S **SKSac** **23 00 50.9 -2.2**
MESJ A A 23 30 32.2
comp=Z,133µm,18.4s
PVAQ **Vaqueiros** **93.75 46** *e*P **P** **22 50 19.8 -0.8**
comp=Z,502nm,1.8s
PVAQ **Vaqueiros** **93.75 46** *e*PP PP 22 54 12.1 +5.5
PVAQ *e*S S 23 01 18.8 -9.2
PVAQ **Vaqueiros** **93.75 46** *e*LR LR 23 21 05.5
comp=Z,95µm,20.0s
PNCL **Nicolau / Gran** **93.75 45** *e*P **P** **22 50 22.0 +1.4**
comp=Z,292nm,1.8s
PNCL **Nicolau / Gran** **93.75 45** *e*PP PP 22 54 13.1 +6.5
PNCL *e*S **S** **23 01 19.9 -8.1**
PNCL **Nicolau / Gran** **93.75 45** *e*LR LR 23 21 14.4
comp=Z,137µm,20.0s
PMST **Lisbon--Monsan** **93.80 44** *e*P P 22 50 25.9 +5.1
comp=Z,369nm,1.8s
PMST **Lisbon--Monsan** **93.80 44** *e*PP PP 22 54 00.6 -6.4
LIS **Lisbon** **93.81 44** *e*P **P** **22 50 20.1 -0.7**
LIS *e*S **SKSac** **23 00 50.9 -2.4**
LIS AMS AMS 23 29 04.9
comp=N,65µm,21.5s
LIS **Lisbon** **93.81 44** *e*P P 22 50 26.4 +5.6
comp=N,391nm,2.0s
LIS **Lisbon** **93.81 44** *e*PP PP 22 54 00.5 -6.5
PMAFR **Mafra** **93.89 44** *e*P P 22 50 26.4 +5.1
comp=N,240nm,1.8s
PMAFR **Mafra** **93.89 44** *e*PP PP 22 54 12.9 +5.2
PMAFR *e*S S 23 01 20.2 -9.0
PMAFR **Mafra** **93.89 44** *e*LR LR 23 20 36.8
comp=N,82µm,22.0s
SFS **San Fernando** **94.03 48** PFAKE 22 50 30.0 +8.1
SFS LR LR
comp=Z,78µm,21.0s
PBEJ **Beja** **94.08 45** *e*P **P** **22 50 20.4 -1.7**
comp=Z,327nm,2.0s
B06A **Marblemount** **94.25 330** *e*P **P** **22 50 23.7 +1.1**
comp=Z,243nm,1.7s
B06A LR LR
comp=Z,67µm,20.0s
TAU **Tasmania Unive** **94.32 208** PFAKE 22 50 30.0 +6.6
TAU LR LR
comp=Z,34µm,18.0s
EVO **Evora** **94.34 45** *e*P **P** **22 50 22.6 -0.7**
comp=Z,179nm,1.8s
EVO **Evora** **94.34 45** *e*PP PP 22 54 26.9 +16
NLWA **Neilton Lookou** **94.39 328** *e*P **P** **22 50 25.8 +2.4**
comp=Z,138nm,1.4s
NLWA LR LR
comp=Z,45µm,19.0s
ALMR **Almeirim** **94.43 44** *e*P **P** **22 50 23.0 -0.7**
ALMR *e*S **SKSac** **23 00 54.7 -2.1**
ALMR AMS AMS 23 29 50.0
comp=Z,63µm,23.0s
ALMR **Almeirim** **94.43 44** *e*P **P** **22 50 23.1 -0.6**
comp=Z,462nm,1.8s
ALMR **Almeirim** **94.43 44** *e*PP PP 22 54 16.4 +4.5
PMTG **Montargil** **94.58 45** *e*P **P** **22 50 23.2 -1.2**
comp=Z,361nm,1.8s
PMTG **Montargil** **94.58 45** *e*PP PP 22 54 15.5 +2.5
PMTG *e*S S 23 01 22.3 -13
PMTG **Montargil** **94.58 45** *e*LR LR 23 21 22.6
comp=Z,50µm,22.0s
PBAR **Barrancos** **94.67 46** *e*P **P** **22 50 24.1 -0.7**
comp=Z,447nm,1.7s
PBAR **Barrancos** **94.67 46** *e*PP PP 22 54 07.7 -6.0
PBAR *e*S S 23 01 23.2 -13
PBAR **Barrancos** **94.67 46** *e*LR LR 23 21 44.6
comp=Z,224µm,22.0s
PESTR **Estremoz** **94.81 45** *e*P **P** **22 50 23.8 -1.7**
comp=Z,273nm,1.9s
PESTR **Estremoz** **94.81 45** *e*PP PP 22 54 32.7 +18
PESTR *e*S S 23 01 25.8 -11
PESTR **Estremoz** **94.81 45** *e*LR LR 23 21 33.7
comp=Z,106µm,22.0s
PESTR **Estremoz** **94.81 45** *e*P **P** **22 50 23.3 -2.1**
comp=Z,97nm,1.3s
PESTR LR LR
comp=Z,75µm,22.0s
PTOM **Tomar** **94.84 44** *e*P **P** **22 50 25.0 -0.6**
comp=Z,270nm,1.8s
PTOM **Tomar** **94.84 44** *e*PP PP 22 54 02.1 -13
EDM **Edmonton** **95.06 337** *e*P **P** **22 50 23.6 -2.7**
EDM pmax pmax
comp=Z,170nm,1.0s
EDM MLR MLR
comp=Z,47µm,19.0s
EDM **Edmonton** **95.06 337** *e*P **P** **22 50 23.6 -2.7**
comp=Z,170nm,1.0s
EDM LR LR
comp=Z,47µm,19.0s
PCAS **Casmilo, Conde** **95.08 44** *e*P **P** **22 50 27.4 +0.7**
comp=Z,198nm,1.9s
PCAS **Casmilo, Conde** **95.08 44** *e*PP PP 22 54 19.0 +2.0
PCAS *e*S S 23 01 26.8 -13
PCAS **Casmilo, Conde** **95.08 44** *e*LR LR 23 21 14.3
comp=Z,109µm,22.0s
PGC **Sidney** **95.17 329** *e*P **P** **22 50 28.9 +2.1**
comp=Z,59nm,0.9s
PGC LR LR
comp=Z,65µm,21.0s
MSVF **Nonsavu** **95.22 244**⇈ *e*P **P** **22 50 27.0 -1.1**
MSVF pmax pmax
comp=Z,135nm,1.7s
MSVF MLR MLR
comp=Z,129µm,16.0s
MSVF **Nonsavu** **95.22 244** *ep*P **pP** **22 50 38.5 +1.3**
MSVF LR LR
comp=Z,94µm,18.0s
PMRV **Marv??o** **95.30 45** *e*P **P** **22 50 26.6 -1.1**
comp=Z,122nm,1.8s
PMRV **Marv??o** **95.30 45** *e*PP PP 22 54 36.4 +18
PMRV *e*S S 23 01 27.4 -14
PMRV **Marv??o** **95.30 45** *e*LQ LQ 23 15 40.6
PMRV *e*LR LR 23 20 44.1
comp=Z,69µm,22.0s
FCC **Fort Churchill** **95.39 349** *e*P **P** **22 50 25.9 -1.6**
FCC pmax pmax
comp=Z,68nm,0.8s
FCC MLR MLR
comp=Z,62µm,22.0s
FCC **Fort Churchill** **95.39 349** *e*P **P** **22 50 25.9 -1.6**
comp=Z,68nm,0.8s
FCC LR LR
comp=Z,62µm,22.0s
PUH **Pauahi** **95.52 290** PFAKE 22 50 40.0 +11
PUH LR LR
comp=Z,44µm,18.0s
PCBR **Castelo Branco** **95.52 44** *e*P **P** **22 50 27.4 -1.3**
comp=Z,127nm,1.9s
UWE **Uwekahuna** **95.61 290** PFAKE 22 50 40.0 +10
UWE LR LR
comp=Z,44µm,19.0s
MTE **Manteigas** **95.86 44** *e*P **P** **22 50 29.2 -1.1**
comp=Z,196nm,1.7s
MTE **Manteigas** **95.86 44** *e*PP PP 22 54 22.5 -0.5
MTE *e*S S 23 01 28.0 -18
MTE **Manteigas** **95.86 44** *e*LQ LQ 23 15 55.3
MTE *e*LR LR 23 22 09.6
comp=Z,98µm,24.0s
MTE **Manteigas** **95.86 44** *e*P **P** **22 50 28.4 -1.9**
comp=Z,146nm,1.2s
MTE LR LR
comp=Z,106µm,22.0s
PVIS **Viseu** **95.87 43** *e*P **P** **22 50 30.5 +0.2**
comp=Z,107nm,1.8s
PVIS **Viseu** **95.87 43** *e*PP PP 22 54 25.9 +2.8
MLOA **Mauna Loa Obse** **95.89 290** PFAKE 22 50 40.0 +8.6
MLOA LR LR
comp=Z,61µm,18.0s
POHA **Pohakuloa** **95.98 290** PFAKE 22 50 40.0 +8.4
POHA LR LR
comp=Z,43µm,18.0s
LLLB **Lillooet** **96.04 331** *e*P **P** **22 50 32.0 +1.2**
comp=Z,60nm,1.3s
LLLB LR LR
comp=Z,59µm,18.0s
KHLU **Kahalu'u** **96.17 289** PFAKE 22 50 40.0 +7.8
KHLU LR LR
comp=Z,60µm,19.0s
KNTN **Kanton** **96.24 262** PFAKE 22 50 40.0 +7.3
KNTN LR LR
comp=Z,104µm,20.0s
HPAH **Hawaii Prepara** **96.27 290** PFAKE 22 50 40.0 +7.3
HPAH LR LR
comp=Z,49µm,19.0s
PVRL **Vila Real** **96.35 43** *e*P **P** **22 50 30.8 -1.7**
comp=Z,198nm,1.7s
PVRL **Vila Real** **96.35 43** *e*PP PP 22 54 14.4 -12
POLO **Lamas de Olo** **96.37 43** *e*P **P** **22 50 30.6 -2.0**
comp=Z,77nm,1.7s
POLO **Lamas de Olo** **96.37 43** *e*PP PP 22 54 28.1 +1.1
POLO *e*S S 23 01 31.8 -19
POLO **Lamas de Olo** **96.37 43** *e*LR LR 23 22 23.9
comp=Z,74µm,20.0s
PCAB **Cabril** **96.47 43** *e*P **P** **22 50 31.7 -1.3**
comp=Z,116nm,1.6s
PGAV **Gavieira, Arco** **96.50 42** *e*P **P** **22 50 31.1 -2.1**
comp=Z,171nm,1.8s
PGAV **Gavieira, Arco** **96.50 42** *e*PP PP 22 54 31.0 +3.0
PGAV *e*S S 23 01 31.7 -20
PGAV **Gavieira, Arco** **96.50 42** *e*LQ LQ 23 16 01.6
PGAV *e*LR LR 23 22 22.1
comp=Z,145µm,22.0s
MVO **Moncorvo** **96.66 44** *e*P **P** **22 50 32.4 -1.5**
comp=Z,217nm,1.6s
MVO **Moncorvo** **96.66 44** *e*PP PP 22 54 33.5 +4.3
MVO *e*S S 23 01 34.1 -19
MVO **Moncorvo** **96.66 44** *e*LQ LQ 23 16 02.8
MVO *e*LR LR 23 22 31.9
comp=Z,106µm,22.0s
ODJA **Bouhanifia** **97.08 52** P Pdif 22 50 49.0 +13
PAB **San Pablo** **97.15 46** *e*P **P** **22 50 35.2 -1.0**
PAB pmax pmax
comp=Z,269nm,2.0s
PAB MLR MLR
comp=Z,104µm,21.0s
PAB **San Pablo** **97.15 46** *e*P **P** **22 50 35.2 -1.0**
comp=Z,269nm,2.0s
PAB LR LR
comp=Z,104µm,21.0s
PBRG **Braganca** **97.25 43** *e*P **P** **22 50 34.9 -1.6**
comp=Z,176nm,1.6s
PBRG **Braganca** **97.25 43** *e*PP PP 22 54 32.5 -1.2
PBRG *e*S S 23 01 36.3 -22
PBRG **Braganca** **97.25 43** *e*LR LR 23 22 23.9
comp=Z,125µm,18.0s
KHLH **Kahului Airpor** **97.32 290** PFAKE 22 50 50.0 +13
KHLH LR LR
comp=Z,41µm,18.0s
ESDC **Sonseca Array** **97.46 46** P **P** **22 50 35.5 -2.1**
comp=Z,8.3nm,1.0s,baz=270,slow=4.1,SNR=14
ESDC LR LR 23 33 12.3
comp=Z,66µm,20.5s,baz=215,slow=35
ESLA **Sonseca Array** **97.46 46** *e*P **P** **22 50 37.2 -0.4**
comp=Z,82nm,1.1s
ESLA LR LR
comp=Z,91µm,20.0s
ES19 **SONSECA Array** **97.52 46** *e*P **P** **22 50 36.0 -1.8**
QJGS **Djebel Guires** **97.76 52** P Pdif 22 50 47.0 +7.9
CART **Cartagena** **97.94 49** PFAKE 22 50 50.0 +10
CART LR LR
comp=Z,116µm,22.0s
LHI **Lord Howe Isla** **98.03 222** PFAKE 22 50 50.0 +9.5
LHI LR LR
comp=Z,71µm,20.0s
IVI **Ivigtut** **98.04 11** PFAKE 22 50 50.0 +10
IVI LR LR
comp=Z,52µm,22.0s
ETRT **Tiaret** **98.05 52** P Pdif 22 50 55.0 +15
EANR **`Ain N'Sour** **98.26 52** P Pdif 22 50 49.5 +8.2
NRS **Narsarsuaq** **98.47 13** *e*P Pdif 22 50 51.4 +10
NRS MLR MLR
comp=Z,93µm,22.0s
NRS **Narsarsuaq** **98.47 13** *i* P Pdif 22 50 51.4 +10
NRS **Narsarsuaq** **98.47 13** PFAKE 22 50 50.0 +8.6
NRS LR LR
comp=Z,89µm,22.0s
ECHA **Ech Chlef** **98.55 52** P Pdif 22 50 43.2 +0.7
FRB **Frobisher Bay** **98.66 2** P **P** **22 50 41.1 -1.1**
comp=Z,2.3nm,0.9s,baz=141,slow=6.5,SNR=2.4
FRB PKKPbc **PKKPdf** **23 07 20.9 +4.0**
comp=Z,5.3nm,1.0s,baz=353,slow=5.2,SNR=3.8
FRB LR LR 23 32 34.8
comp=Z,16µm,21.5s,baz=178,slow=34
EBNR **Beni Rached** **98.74 52** P Pdif 22 50 47.2 +3.8
HON **Honolulu** **98.78 290** PFAKE 22 50 50.0 +6.2
HON LR LR
comp=Z,46µm,18.0s
KIP **Kipapa** **98.84 290** PFAKE 22 50 50.0 +5.9
KIP LR LR
comp=Z,42µm,18.0s
OPA **Opana** **98.98 290** PFAKE 22 50 50.0 +5.2
OPA LR LR
comp=Z,52µm,22.0s
EMHD **Djebel Mahouad** **99.61 52** P **Pdif** **22 50 54.9 +7.5**
BBB **Bella Bella** **99.80 329** LR LR 23 33 16.4
comp=Z,12µm,18.1s,baz=156,slow=34
BBB **Bella Bella** **99.80 329** PFAKE 22 51 00.0 +12
BBB LR LR
comp=Z,38µm,22.0s
ABA **Alger-Bouzarea** **100.02 52** P **Pdif** **22 50 58.0 +9.0**
CAN **Canberra** **100.03 213** PFAKE 22 51 00.0 +11
CAN LR LR
comp=Z,61µm,19.0s
FUNA **Funafuti** **100.07 252** PFAKE 22 51 00.0 +10
FUNA LR LR
comp=Z,89µm,21.0s
MBAR **Mbarara** **100.16 98** LR LR 23 33 16.5
comp=Z,55µm,20.1s,baz=234,slow=34
MBAR **Mbarara** **100.16 98** PFAKE 22 51 00.0 +10
MBAR LR LR
comp=Z,69µm,20.0s
KEKH **Kekaha** **100.46 289** PFAKE 22 51 00.0 +8.7
KEKH LR LR
comp=Z,54µm,20.0s
DZM **Mont Dzumac** **100.47 234** *e*PP PP 22 54 59.5 +1.6
comp=Z,6µm,30.3s
DZM *e*SKSac **SKSac** **23 01 29.2 +0.1**
comp=Z,39µm,33.5s
DZM **Mont Dzumac** **100.47 234** *e*PS PS 23 03 55.9 -2.9
comp=Z,40µm,30.6s
DZM *e*SS SS 23 09 19.1 -2.4
comp=Z,114µm,30.3s
DZM *e*LQ LQ 23 19 13.6
comp=Z,71µm,36.8s
DZM *e*LR LR 23 23 25.6
comp=Z,234µm,27.4s
DZM **Mont Dzumac** **100.47 234** PFAKE 22 51 00.0 +8.3
DZM LR LR
comp=Z,56µm,21.0s
ABPO **Ambohimpanom** **101.18 123** PFAKE 22 51 00.0 +5.0
ABPO LR LR
comp=Z,52µm,22.0s
SET **Setif** **101.21 54** P **Pdif** **22 51 02.0 +7.5**
DFRA **Djebel Bou Aff** **101.72 54** P **Pdif** **22 51 08.2 +11**
CTEI **Djebel Teioual** **101.80 54** P **Pdif** **22 51 11.8 +15**
CASM **Ain Smara** **101.97 54** P **Pdif** **22 51 11.8 +14**
CKFL **Kef-Lekhel** **102.20 54** P **Pdif** **22 51 12.2 +13**
VAL **Valentia** **102.23 34** *e*P **Pdif** **22 51 02.3 +3.9**
VAL *e*PP **PKiKP** **22 55 16.1 -4.2**
ABSA **Djebel Ababsia** **102.63 55** P **Pdif** **22 51 14.8 +14**
CMAH **Djebel Manchou** **102.79 54** P **Pdif** **22 51 15.2 +14**
ARMA **Armidale** **102.82 218** PFAKE 22 51 10.0 +8.0
ARMA LR LR
comp=Z,39µm,21.0s
YKA **Yellowknife Ar** **103.17 341** Pdiff **Pdif** **22 51 00.4 -1.9**
comp=Z,3.2nm,0.9s,baz=141,slow=4.4,SNR=20
YKA PKiKP **PKiKP** **22 55 21.9 +0.2**
comp=Z,1.5nm,0.8s,baz=154,slow=1.9,SNR=3.2
YKA PKKP **PKKPdf** **23 07 04.9 -3.4**
comp=Z,1.4nm,0.8s,baz=321,slow=3.6,SNR=6.2
YKA PKPPKP P'P'df 23 15 25.0 +12
comp=Z,0.6nm,0.9s,baz=340,slow=2.4,SNR=4.1
YKB5 **Yellowknife Ar** **103.17 341** *e*Pdif **Pdif** **22 50 59.9 -2.4**
YKB5 *e*PP **PKiKP** **22 55 21.9 +0.2**
YKB5 *e*PKKPdf **PKKPdf** **23 07 04.9 -3.4**
YKB5 *e*P'P'df P'P'df 23 15 25.0 +12
SFJD **Kangerlussuaq** **103.19 9** PFAKE 22 51 10.0 +7.6
SFJD LR LR
comp=Z,55µm,22.0s
YKW3 **Yellowknife Ar** **103.23 341** *e*Pdif **Pdif** **22 51 03.3 +0.7**
YKW3 LR LR

comp=Z,37µm,20.0s
CCA1 Carnmenellis 103.48 37 *e*P **Pdif** **22 51 03.7 -0.4**
KEST Kesra 103.58 56 Pdiff **Pdif** **22 51 05.7 +0.6**
comp=Z,7.2nm,1.0s,baz=325,slow=5.8,SNR=4.0
KEST Kesra 103.58 56 Pdif **Pdif** **22 51 05.7 +0.6**
KEST LR LR
comp=Z,546µm,20.0s
ANGG Ammassalik, Gr 104.00 14 PFAKE 22 51 20.0 +14
ANGG LR LR
comp=Z,67µm,22.0s
CRAG Craig 104.22 329 PFAKE 22 51 20.0 +13
CRAG LR LR
comp=Z,33µm,21.0s
DYA Yadsworthy 104.28 38 *e*P **Pdif** **22 51 06.9 -0.7**
HTL Hartland 104.35 37 *e*P **Pdif** **22 51 07.7 -0.2**
HTL IAMs_20 IAMs_20 23 34 55.3
comp=Z,56µm,22.7s
WRAK Wrangell Islan 104.54 330 PFAKE 22 51 20.0 +11
WRAK LR LR
comp=Z,34µm,21.0s
NAI Nairobi 104.65 102 PFAKE 22 51 20.0 +9.5
NAI LR LR
comp=Z,110µm,19.0s
DSB Dublin 104.87 35 PFAKE 22 51 20.0 +10
DSB LR LR
comp=Z,115µm,19.0s
DLBC Dease Lake 105.02 333 PFAKE 22 51 20.0 +9.2
DLBC LR LR
comp=Z,75µm,21.0s
KMBO Kilima Mbogo 105.10 102 PFAKE 22 55 40.0
KMBO LR LR
comp=Z,83µm,20.0s
LPW Lampeter 105.25 36 *e*P **Pdif** **22 51 11.9 0.0**
LPW IAMs_20 IAMs_20 23 37 09.8
comp=Z,109µm,20.6s
ILULI Ilulissat 105.26 8 *e*P **Pdif** **22 51 20.0 +8.5**
ILULI MLR MLR
comp=Z,54µm,21.0s
ILULI Ilulissat 105.26 8 *i* P **Pdif** **22 51 20.0 +8.5**
ILULI Ilulissat 105.26 8 PFAKE 22 55 30.0
ILULI LR LR
comp=Z,56µm,22.0s
JOHN Johnston Islan 105.39 280 PFAKE 22 55 40.0
JOHN LR LR
comp=Z,123µm,20.0s
VSL Villasalto 105.66 53 PFAKE 22 55 40.0
VSL LR LR
comp=Z,228µm,22.0s
BATH Bath 105.70 38 *e*P **Pdif** **22 51 13.1 -0.8**
BATH IAMs_20 IAMs_20 23 39 19.7
comp=Z,115µm,19.2s
MONM Monmouth 105.70 37 *e*P **Pdif** **22 51 13.0 -0.9**
MONM IAMs_20 IAMs_20 23 35 45.9
comp=Z,107µm,22.1s
MCH1 Michaelchurch 105.70 37 *e*P **Pdif** **22 51 13.6 -0.3**
MCH1 IAMs_20 IAMs_20 23 35 35.0
comp=Z,96µm,23.2s
OLDB Oldbury-Upon-S 105.72 37 *e*P **Pdif** **22 51 13.6 -0.3**
OLDB IAMs_20 IAMs_20 23 35 45.5
comp=Z,120µm,22.2s
WPS Cemaes, Angles 105.84 35 *e*P **Pdif** **22 51 13.7 -0.8**
WPS IAMs_20 IAMs_20 23 39 30.5
comp=Z,86µm,19.0s
SSB Saint Sauveur 105.85 46 *e*P **Pdif** **22 51 13.3 -1.5**
SSB pmax pmax
comp=Z,27nm,1.0s
SSB MLR MLR
comp=Z,123µm,21.0s
SSB Saint Sauveur 105.85 46 *e*Pdif **Pdif** **22 51 13.3 -1.5**
comp=Z,27nm,1.0s
SSB LR LR
comp=Z,123µm,21.0s
STRD Stroud 105.98 37 *e*P **Pdif** **22 51 14.2 -0.9**
STRD IAMs_20 IAMs_20 23 35 52.9
comp=Z,113µm,22.1s
SWN1 Swindon 106.01 38 *e*P **Pdif** **22 51 14.1 -1.1**
SWN1 IAMs_20 IAMs_20 23 39 39.0
comp=Z,125µm,19.2s
HLM1 Long Mynd 106.08 36 *e*P **Pdif** **22 51 15.2 -0.3**
HLM1 IAMs_20 IAMs_20 23 37 31.8
comp=Z,69µm,21.1s
STKA Stephens Creek 106.13 209 PKKP **PKKPdf** **23 07 00.5 +0.9**
comp=Z,4.9nm,1.0s,baz=337,slow=8.4,SNR=3.4
STKA Stephens Creek 106.13 209 *e*PKKPdf PKKPdf 23 07 00.5 +0.9
STKA LR LR
comp=Z,17µm,21.0s
FOEL Foel Wylfa 106.15 36 *e*P **Pdif** **22 51 14.5 -1.4**
FOEL IAMs_20 IAMs_20 23 37 58.5
comp=Z,117µm,20.0s
CLGH Cloghs, Cushen 106.15 33 *e*P **Pdif** **22 51 16.0 +0.2**
WOL Wolverton 106.18 38 *e*P **Pdif** **22 51 15.4 -0.6**
WOL IAMs_20 IAMs_20 23 37 19.9
comp=Z,139µm,22.0s
SIT Sitka 106.19 329 PFAKE 22 55 40.0
SIT LR LR
comp=Z,24µm,20.0s
IOMK Kirk Michael 106.34 34 *e*P **Pdif** **22 51 16.9 +0.2**
GAL1 Galloway 106.65 34 *e*P **Pdif** **22 51 17.3 -0.7**
GAL1 IAMs_20 IAMs_20 23 39 28.8
comp=Z,62µm,20.4s
HMNX Herstmonceux 106.72 39 *e*P **Pdif** **22 51 17.5 -0.8**
STNC Stoke 106.75 36 *e*P **Pdif** **22 51 18.7 +0.2**
STNC IAMs_20 IAMs_20 23 38 15.6
comp=Z,102µm,20.2s
CWF Charnwood Fore 106.98 37 *e*P **Pdif** **22 51 18.2 -1.3**
BNI Bardonecchia 106.98 47 PFAKE 22 55 40.0
BNI LR LR
comp=Z,121µm,21.0s
BESE Bessie Mountai 106.99 331 PFAKE 22 55 40.0
BESE LR LR
comp=Z,31µm,20.0s
LBWR Ladybower, Pea 107.17 36 *e*P **Pdif** **22 51 21.1 +0.8**
EIDS Eidsvold 107.19 220 PFAKE 22 55 40.0
EIDS LR LR
comp=Z,69µm,21.0s
WDD Wied Dalam 107.20 58 PFAKE 22 55 40.0
WDD LR LR
comp=Z,406µm,21.0s
CLTB Caltabellotta 107.20 56 PFAKE 22 55 40.0
CLTB LR LR
comp=Z,367µm,20.0s
KESW Keswick, Cumbr 107.22 35 *e*P **Pdif** **22 51 20.6 0.0**
KESW IAMs_20 IAMs_20 23 39 23.9
comp=Z,112µm,20.5s
BORG Borgarnes 107.24 20 PFAKE 22 55 40.0
BORG LR LR
comp=Z,49µm,22.0s
ELSH Elham, Standar 107.29 39 *e*P **Pdif** **22 51 20.8 -0.1**
ELSH IAMs_20 IAMs_20 23 38 41.1
comp=Z,175µm,20.7s
PGBU Glenifferbraes 107.33 33 *e*P **Pdif** **22 51 20.6 -0.4**
PGBU IAMs_20 IAMs_20 23 39 32.5
comp=Z,179µm,19.8s
BBOO Buckleboo 107.36 205 PFAKE 22 55 40.0
BBOO LR LR
comp=Z,38µm,20.0s
HPK Haverah Park 107.54 36 *e*P **Pdif** **22 51 22.4 +0.3**
HPK IAMs_20 IAMs_20 23 38 52.0
comp=Z,100µm,20.1s
ESK Eskdalemuir 107.61 34 PFAKE 22 55 40.0
ESK LR LR
comp=Z,93µm,18.0s
ESK Eskdalemuir 107.61 34 *e*P **Pdif** **22 51 21.4 -0.9**
EKA Eskdalemuir Ar 107.64 34 Pdiff **Pdif** **22 51 22.6 +0.1**
comp=Z,2.4nm,1.1s,baz=246,slow=5.2,SNR=4.6
SKAG Skagway 107.75 331 PFAKE 22 55 40.0
SKAG LR LR
comp=Z,50µm,20.0s
KPL Plockton 107.75 31 *e*P **Pdif** **22 51 22.9 0.0**
KPL IAMs_20 IAMs_20 23 43 55.1
comp=Z,87µm,17.9s
LMK Market Rasen 107.88 37 *e*P **Pdif** **22 51 22.5 -1.0**
EDMD Edmundbyers 107.90 35 *e*P **Pdif** **22 51 23.8 +0.3**
WACR West Acre 107.93 38 *e*P **Pdif** **22 51 23.4 -0.3**
EDI Edinburgh 107.98 34 *e*P **Pdif** **22 51 24.4 +0.5**
EDI IAMs_20 IAMs_20 23 41 46.1
comp=Z,98µm,18.3s
SENIN Lac Senin/Sane 108.06 46 PFAKE 22 55 40.0
SENIN LR LR
comp=Z,119µm,20.0s
GDLE Glaisdale, N Y 108.20 36 *e*P **Pdif** **22 51 24.6 -0.3**
WHY Whitehorse 108.35 333 PFAKE 22 55 40.0
WHY LR LR
comp=Z,59µm,18.0s
DOU Dourbes 108.53 41 ⇓PKP **PKiKP** **22 55 35.9 +3.9**

VLC Villacollemand 108.76 49 PFAKE 22 55 40.0
VLC LR LR
comp=Z,59µm,19.0s
UCC Uccle 108.79 41 PFAKE 22 55 40.0
UCC LR LR
comp=Z,124µm,20.0s
DRUM Mains of Drumt 108.88 33 *e*P **Pdif** **22 51 27.5 -0.4**
ECH Echery 108.95 44 PFAKE 22 55 40.0
ECH LR LR
comp=Z,122µm,20.0s
BCLA Clavier 109.09 41 ⇑PKP **PKiKP** **22 55 32.5 -0.6**
WLF Walferdange 109.16 42 ⇑PKP **PKiKP** **22 55 31.1 -2.1**
WLF Walferdange 109.16 42 PFAKE 22 55 40.0
WLF LR LR
comp=Z,164µm,22.0s
BIGH Upper Bighouse 109.20 31 *e*P **Pdif** **22 51 28.8 -0.4**
BIGH IAMs_20 IAMs_20 23 42 55.5
comp=Z,168µm,18.2s
TUE Stuetta 109.32 46 PFAKE 22 55 40.0
TUE LR LR
comp=Z,75µm,20.0s
CEL Celeste 109.37 57 PFAKE 22 55 40.0
CEL LR LR
comp=Z,328µm,20.0s
BEBN Eben Emael 109.50 41 ⇑PKP **PKiKP** **22 55 38.6 +4.8**
YKU2 Yakutat 109.52 330 PFAKE 22 55 40.0
YKU2 LR LR
comp=Z,32µm,22.0s
MEM Membach 109.57 41 ⇓PKP **PKiKP** **22 55 32.8 -1.1**
BFO Black Forest 109.68 44 PFAKE 22 55 40.0
BFO LR LR
comp=Z,51µm,20.0s
AQU L'Aquila 109.75 52 PFAKE 22 55 40.0
AQU LR LR
comp=Z,192µm,22.0s
FUORN Ofenpass-Fuorn 109.94 47 PFAKE 22 55 40.0
FUORN LR LR
comp=Z,128µm,20.0s
KULLO Kullorsuaq 109.95 4 *e*P **Pdif** **22 51 41.5 +9.2**
KULLO MLR MLR
comp=Z,85µm,26.0s
KULLO Kullorsuaq 109.95 4 *i* P **Pdif** **22 51 41.5 +9.2**
SUMG Summit 109.99 10 *e*P **Pdif** **22 51 40.9 +7.9**
SUMG MLR MLR
comp=Z,54µm,24.0s
SUMG Summit 109.99 10 *i* P **Pdif** **22 51 40.9 +7.9**
SUMG Summit 109.99 10 PFAKE 22 55 40.0
SUMG LR LR
comp=Z,45µm,21.0s
DAVA Damuels 110.05 46 *e*Pdiff **Pdif** **22 51 37.2 +3.6**
comp=Z,19nm,1.2s
DAVA Damuels 110.05 46 P PKiKP 22 55 26.0 -9.1
comp=Z,12nm,1.1s
CUC Castrocucco 110.17 55 PFAKE 22 55 50.0
CUC LR LR
comp=Z,161µm,18.0s
STU Stuttgart 110.40 44 PFAKE 22 55 50.0
STU LR LR
comp=Z,66µm,21.0s
TIP Timpagrande 110.41 56 ⇑*i*P **PKKPab** **23 06 43.7 -1.3**
TIP Timpagrande 110.41 56 PFAKE 22 55 50.0
TIP LR LR
comp=Z,240µm,19.0s
FETA Feichten 110.42 46 *e*Pdiff **Pdif** **22 51 38.1 +2.9**
comp=Z,14nm,1.3s
FETA *e*PKiKP **PKiKP** **22 55 30.7 -5.2**
comp=Z,24nm,1.4s
RES Resolute Bay 110.65 354 PFAKE 22 55 40.0
RES LR LR
comp=Z,54µm,21.0s
RETA Reutte 110.67 46 P **Pdif** **22 51 40.6 +4.3**
MOTA Moosalm 110.80 46 *i* Pdiff **Pdif** **22 51 40.4 +3.5**
comp=Z,12nm,1.1s
MOTA *e*PKiKP **PKiKP** **22 55 31.1 -5.5**
comp=Z,12nm,1.1s
TARA Tarawa 111.03 256 PFAKE 22 55 50.0
TARA LR LR
comp=Z,59µm,20.0s
WATA Walderalm 111.08 46 P **Pdif** **22 51 43.2 +5.0**
comp=Z,19nm,1.4s
WATA Walderalm 111.08 46 P **PKiKP** **22 55 29.9 -7.2**
comp=Z,27nm,1.6s
WTTA Wattenberg 111.08 47 pPdiff pPdif 22 51 45.3 -2.0
comp=Z,4.1nm,0.9s
WTTA Wattenberg 111.08 47 P PKiKP 22 55 29.0 -8.1
comp=Z,25nm,1.5s
LRW Lerwick 111.29 31 *e*P **Pdif** **22 51 38.9 +0.4**
LRW IAMs_20 IAMs_20 23 41 55.5
comp=Z,105µm,20.3s
SCO Scoresbysund 111.36 16 *e*P **Pdif** **22 51 48.9 +10**
SCO MLR MLR
comp=Z,40µm,22.0s
SCO Scoresbysund 111.36 16 *i* P **Pdif** **22 51 48.9 +10**
SCO Scoresbysund 111.36 16 PFAKE 22 55 50.0
SCO LR LR
comp=Z,40µm,21.0s
TULEG Thule 111.49 1 PFAKE 22 55 50.0
TULEG LR LR
comp=Z,63µm,22.0s
BALM Baldy 111.50 331 PFAKE 22 55 50.0
BALM LR LR
comp=Z,23µm,21.0s
TRI Trieste 111.61 49 PFAKE 22 55 50.0
TRI LR LR
comp=Z,86µm,20.0s
NWAO Narrogin (SRO) 111.66 188 PFAKE 22 55 50.0
NWAO LR LR
comp=Z,33µm,19.0s
CADS Cadrg 111.84 48 *i* Pdiff **Pdif** **22 51 48.2 +6.8**
MYKA Terra Mystica 111.98 48 P **Pdif** **22 51 47.7 +5.6**
comp=Z,7.3nm,1.1s
KBA Koelnbreinsper 112.01 47 P **Pdif** **22 51 47.0 +4.7**
comp=Z,7.0nm,1.2s
GRFO Grafenberg 112.01 44 PFAKE 22 55 50.0
GRFO LR LR
comp=Z,102µm,20.0s
FURI Furi 112.06 95 PFAKE 22 55 50.0
FURI LR LR
comp=Z,128µm,21.0s
CRNS Crni Vrh 112.09 49 *i* Pdiff **Pdif** **22 51 49.2 +6.6**
CRNS *e* 22 55 13.5
CRNS *e*PP **PP** **22 56 26.5 +2.6**
RAGM Ragged Mountai 112.09 329 PFAKE 22 55 50.0
RAGM LR LR
comp=Z,36µm,21.0s
DAWY Dawson 112.10 334 PFAKE 22 55 50.0
DAWY LR LR
comp=Z,50µm,21.0s
AAE Adis Abeba 112.21 95 *i* P **Pdif** **22 51 54.7 +11**
AAE *e*S PP 22 56 16.8 -8.6
AAE Adis Abeba 112.21 95 *i* P **Pdif** **22 51 45.6 +1.4**
AAE *e*S PP 22 56 16.8 -8.6
AAE Adis Abeba 112.21 95 *i* P **Pdif** **22 51 49.6 +5.4**
AAE Adis Abeba 112.21 95 *i* P **Pdif** **22 51 54.7 +11**
AAE *e*S PP 22 56 16.8 -8.6
LJU Ljubljana 112.24 49 *e*Pdiff **Pdif** **22 51 48.6 +5.5**
LJU *e*PP **PP** **22 56 27.2 +2.3**
LJU *e* 22 59 01.7
LJU *e* 23 02 43.2
LJU *e* 23 03 47.0
LJU *e* 23 06 01.9
LJU *e*SS SS 23 12 18.6 +16
LJU *e* 23 23 06.2
MID Middleton Isla 112.29 328 PFAKE 22 55 50.0
MID LR LR
comp=Z,20µm,21.0s
BMRM Bremner River 112.38 330 PFAKE 22 55 50.0
BMRM LR LR
comp=Z,25µm,22.0s
OBKA Obir 112.47 48 pPdiff **pPdif** **22 51 51.1 -2.4**
comp=Z,8.6nm,1.1s
OBKA *e*PKiKP **PKiKP** **22 55 35.9 -3.8**
comp=Z,22nm,1.1s
EYAK Cordova Ski Ar 112.63 329 PFAKE 22 55 50.0
EYAK LR LR
comp=Z,48µm,22.0s
INK Inuvik 112.77 339 Pdiff **Pdif** **22 51 46.0 +1.1**
comp=Z,2.3nm,1.2s,baz=131,slow=15,SNR=4.1
INK Inuvik 112.77 339 *e*P **Pdif** **22 51 48.8 +3.9**
INK MLR MLR
comp=Z,46µm,20.0s
INK Inuvik 112.77 339 *e*Pdif **Pdif** **22 51 48.8 +3.9**
INK LR LR
comp=Z,46µm,20.0s
SOKA Soboth 112.85 48 *e*Pdiff **Pdif** **22 51 46.1 +0.1**
SOKA *e*PKiKP **PKiKP** **22 55 34.1 -6.3**
comp=Z,19nm,1.5s
MOA Molln 112.92 47 pPdiff pPdif 22 51 53.1 -2.2
comp=Z,3.5nm,1.0s
MOA Molln 112.92 47 P **PKiKP** **22 55 32.7 -7.7**
comp=Z,11nm,1.2s
DIV Divide 112.95 330 PFAKE 22 55 50.0
DIV LR LR
comp=Z,37µm,22.0s
NKC Novy Kostel 112.97 44 *e*P **Pdif** **22 51 47.8 +1.5**
NKC *e*SS SS 23 12 04.0 -7.9
NKC MLR MLR
comp=Z,117µm,20.1s
NKC Novy Kostel 112.97 44 *e*PDIFF **Pdif** **22 51 47.8 +1.5**
NKC *ex* x 22 56 42.5
NKC *e*PKKP PKKPbc 23 06 17.3 -11
NKC *e*SS SS 23 12 04.0 -7.9
NKC AMS AMS 23 43 00.0
comp=Z,117µm,20.1s
GEC2 GERESS Array S 113.05 46 PFAKE 22 55 50.0
GEC2 LR LR
comp=Z,57µm,19.0s
GERES GERESS Array B 113.05 46 Pdiff **Pdif** **22 51 46.0 -0.8**
comp=Z,0.2nm,0.6s,baz=282,slow=5.6,SNR=2.6
GERES PKiKP **PKiKP** **22 55 41.2 +0.4**
comp=Z,4.2nm,1.0s,baz=27,slow=1.5,SNR=6.5
GERES PKKPab **PKKPab** **23 06 32.3 -0.5**
comp=Z,1.1nm,0.9s,baz=27,slow=6.6,SNR=2.5
GERES GERESS Array B 113.05 46 P **Pdif** **22 51 46.0 -0.8**
MENT Mentasta 113.08 332 PFAKE 22 55 50.0
MENT LR LR
comp=Z,47µm,20.0s
KHC Kasperske Hory 113.11 45 *e*P **Pdif** **22 51 48.2 +1.2**
KHC *e* 22 55 37.7
KHC *e* 22 55 46.5
KHC *e* 22 56 32.3
KHC *e*SS SS 23 12 16.8 +2.9
KHC MLR MLR
comp=Z,84µm,21.2s
KHC Kasperske Hory 113.11 45 *e*PDIFF **Pdif** **22 51 48.2 +1.2**
KHC *ex* x 22 52 28.0
KHC *e*PKP **PKiKP** **22 55 37.7 -3.1**
KHC *ex* x 22 55 46.5
KHC *e*PP **PP** **22 56 32.3 +1.2**
KHC *e*PKS PKSdf 23 59 08.2 -9.1
KHC *e*PKKP PKKPbc 23 06 18.7 -8.9
KHC *e*SS SS 23 12 16.8 +2.9
KHC AMS AMS 23 43 30.0
comp=Z,84µm,21.2s
KHC Kasperske Hory 113.11 45 PFAKE 22 55 50.0
KHC LR LR
comp=Z,33µm,21.0s
EGAK Eagle 113.14 334 PFAKE 22 55 50.0
EGAK LR LR
comp=Z,46µm,21.0s
KLU Klutina 113.20 330 PFAKE 22 55 50.0
KLU LR LR
comp=Z,34µm,22.0s
BLY Banja Luka 113.31 51 ⇑*i*P **PKiKP** **22 55 40.5 -0.7**
BLY Banja Luka 113.31 51 PFAKE 22 55 50.0
BLY LR LR
comp=Z,112µm,22.0s
ANKE Ethiopia-Afar 113.31 95 *i* P **Pdif** **22 52 01.5 +12**
ANKE *i* S **PP** **22 56 33.5 +0.1**
ANKE Ethiopia-Afar 113.31 95 *i* P **Pdif** **22 52 00.5 +11**
ANKE *i* S **PP** **22 56 31.5 -1.9**
ANKE Ethiopia-Afar 113.31 95 *i* P **Pdif** **22 51 59.5 +10**
ANKE *i* S **PP** **22 56 32.5 -0.9**
ANKE Ethiopia-Afar 113.31 95 *i* P **Pdif** **22 52 01.5 +12**
ANKE *i* S **PP** **22 56 33.5 +0.1**
HARP HAARP 113.36 331 PFAKE 22 55 50.0
HARP LR LR
comp=Z,31µm,20.0s
GLI Glacier Island 113.37 329 PFAKE 22 55 50.0
GLI LR LR
comp=Z,32µm,21.0s
ARSA Arzberg 113.41 48 *e*pPdiff **pPdif** **22 51 55.1 -2.4**
comp=Z,6.0nm,1.4s
ARSA *e*PKiKP **PKiKP** **22 55 36.6 -4.8**
comp=Z,16nm,1.2s
TIR Tirane 113.52 55 PKIKP **PKiKP** **22 55 41.7 0.0**
TIR Tirane 113.52 55 ⇑*i*P **PKiKP** **22 55 41.7 0.0**
TIR Tirane 113.52 55 PFAKE 22 55 50.0
TIR LR LR
comp=Z,230µm,20.0s
DOT Dot Lake 113.59 332 PFAKE 22 55 50.0
DOT LR LR
comp=Z,152µm,20.0s
PDG Podgorica 113.60 54 ⇓*i*P PKiKP 22 55 52.5 +11
TTG Podgorica 113.60 54 PFAKE 22 55 50.0
TTG LR LR
comp=Z,136µm,20.0s
SCRK Sand Creek 113.74 333 PFAKE 22 55 50.0
SCRK LR LR
comp=Z,56µm,22.0s
CLL Collm 113.77 43 *e*P **Pdif** **22 51 53.0 +3.2**
CLL *e* 22 56 36.0
CLL MLR MLR
comp=Z,58µm,21.6s
CLL Collm 113.77 43 *e*(Pdif) **Pdif** **22 51 53.0 +3.2**
CLL *e*sPdif **sPdif** **22 52 05.0 +2.8**
comp=Z,90nm,2.5s
CLL *e* 22 55 33.0
CLL *e* 22 55 46.0
comp=Z,16nm,1.2s
CLL *e*pPKiKP **pPKiKP** **22 55 51.0 -0.3**
comp=Z,25nm,1.2s
CLL *e*sPKiKP **sPKiP** **22 55 59.0 +4.5**
CLL *e*PP **PP** **22 56 36.0 +0.3**
CLL *e* 22 56 58.0
CLL *e*PPP PPP 22 59 00.0
CLL *e*SKSac **SKSac** **23 02 31.0 +5.6**
CLL *e*SKKSac **SKKSac** **23 03 44.0 +9.4**
CLL *e*Sdif **Sdif** **23 04 24.0 +8.2**
CLL *e*PS **PS** **23 06 12.0 -0.2**
CLL *e*PKKPbc **PKKPbc** **23 06 25.0 -0.3**
CLL *e*sPKKPbc 23 06 40.0
CLL *e*PKKPdf **PKKPdf** **23 06 48.0 +0.2**
CLL *e*pPKKPdf 23 06 58.0
CLL *e*sPPS 23 07 39.0
CLL *e*PKKSdf PKKSdf 23 10 24.0 -0.6
CLL *e*sPKKSdf 23 10 37.0
CLL *e*SS **SS** **23 12 28.0 +5.5**
CLL *e*SSS SSS 23 16 36.0
CLL *e*SSSS 23 19 42.0
CLL LmV 23 43 00.0
comp=Z,58µm,21.6s
CLL L L 23 54 00.0
comp=Z,56µm,19.9s
CLL Lmax 23 54 00.0
CLL Collm 113.77 43 PFAKE 22 55 50.0
CLL LR LR
comp=Z,58µm,19.0s
HNR Honiara 113.78 238 PFAKE 22 55 50.0
HNR LR LR
comp=Z,53µm,21.0s
CONA Conrad Observa 113.92 47 *e*pPdiff **pPdif** **22 51 57.6 -2.2**
comp=Z,8.7nm,1.6s
CONA *e*PKPdf **PKiKP** **22 55 38.9 -3.5**
comp=Z,20nm,1.3s
RIDG Independ'e Rid 113.94 332 PFAKE 22 55 50.0
RIDG LR LR
comp=Z,55µm,20.0s
SCM Sheep Creek Mo 113.95 330 PFAKE 22 55 50.0
SCM LR LR
comp=Z,26µm,20.0s
CTAO Charters Tower 114.04 220 PFAKE 22 55 50.0 +6.5
CTAO LR LR
comp=Z,37µm,20.0s
PRU Pruhonice 114.06 45 *e*P **Pdif** **22 51 52.5 +1.4**
PRU *e* 22 56 34.4
PRU *e*SS SS 23 12 33.0 +6.7
PRU MLR MLR
comp=Z,62µm,19.5s
PRU Pruhonice 114.06 45 *e*PDIFF **Pdif** **22 51 52.5 +1.4**
PRU *e*PKP **PKiKP** **22 55 46.4 +3.9**
PRU *e*PP **PP** **22 56 34.4 -3.3**
PRU *e*PKS **PKSdf** **22 59 14.5 -4.4**
PRU *e*PKKP **PKKPab** **23 06 26.5 -1.7**
PRU *e*SS SS 23 12 33.0 +6.7
PRU AMS AMS 23 49 20.0
comp=Z,62µm,19.5s
DESE Dese 114.08 93 *e*P **Pdif** **22 52 01.7 +9.2**
DESE *e*S **PP** **22 56 42.7 +4.0**

DESE Dese 114.08 93 *e*P **Pdif** **22 51 58.7 +6.2**
DESE *e*S PKPdf 22 55 45.7 +1.7
DESE Dese 114.08 93 *e*P **Pdif** **22 51 59.7 +7.2**
DESE *e*S **PP** **22 56 45.7 +7.0**
DESE Dese 114.08 93 *e*P **Pdif** **22 52 01.7 +9.2**
DESE *e*S **PP** **22 56 42.7 +4.0**
BRG Berggiesshubel 114.11 44 *i* PKP PKPdf 22 55 48.1 +5.6
comp=Z,26nm,1.2s
BRG PP **PP** **22 56 42.0 +3.9**
BRG *i* PKS PKSdf 22 59 36.4 +17
comp=Z,80nm,1.8s
BRG SKS SKSdf 23 02 36.0 -16
BRG SDIFF **Sdif** **23 04 19.0 +0.4**
BRG PS **PS** **23 06 13.0 -2.3**
BRG *i* PKKP **PKKPab** **23 06 32.5 +4.5**
comp=Z,11nm,1.2s
BRG SS **SS** **23 12 21.0 -5.9**
BRG Berggiesshubel 114.11 44 *i* PKIKP PKPdf 22 55 48.2 +5.7
BRG 22 56 42.0
BRG PS **PS** **23 06 13.0 -2.3**
BRG SS SS 23 12 21.0 -5.9
BRG pmax pmax
comp=Z,26nm,1.3s
BRG MLR MLR
comp=N,57µm,22.0s
BRG MLR MLR
comp=E,60µm,20.4s
BRG MLR MLR
comp=Z,108µm,21.7s
MUD Monsted U'grnd 114.11 37 *e*P **Pdif** **22 51 58.6 +7.5**
MUD MLR MLR
comp=Z,100µm,20.0s
MUD Monsted U'grnd 114.11 37 *i* P **Pdif** **22 51 58.6 +7.5**
GOPC GO Pecny, Ondr 114.16 45 *e*P **Pdif** **22 51 56.3 +4.7**
GOPC *e* 22 56 37.4
GOPC *e* 23 12 36.2
GOPC MLR MLR
comp=Z,71µm,22.3s
GOPC GO Pecny, Ondr 114.16 45 *e*PDIFF **Pdif** **22 51 56.3 +4.7**
GOPC *e*PP **PP** **22 56 37.4 -1.1**
GOPC *e*PKKP **PKKPab** **23 06 26.4 -1.4**
GOPC *ex* x 23 12 36.2
GOPC AMS AMS 23 45 10.0
comp=Z,71µm,22.3s
AGG Agios Georgios 114.17 58 PFAKE 22 55 50.0 +6.9
AGG LR LR
comp=Z,714µm,22.0s
TREC Trest 114.30 46 *e*P **Pdif** **22 51 59.0 +6.8**
TREC *e* 22 56 40.6
TREC *e* 23 12 36.8
TREC MLR MLR
comp=Z,60µm,18.9s
TREC Trest 114.30 46 *e*pP **Pdif** **22 51 59.0 +6.8**
TREC *e*PKP **PKiKP** **22 55 45.7 +2.7**
TREC *e*PP **PP** **22 56 40.6 +1.1**
TREC *e*PKS **PKSdf** **22 59 16.0 -3.5**
TREC *e*PKKP **PKKPab** **23 06 28.0 +0.8**
TREC *e*SS SS 23 12 36.8 +7.2
TREC AMS AMS 23 52 00.0
comp=Z,60µm,18.9s
PVCC Panska Ves 114.31 44 *e*P **Pdif** **22 51 57.2 +5.0**
PVCC *e* 22 56 38.0
PVCC *e* 23 12 46.6
PVCC MLR MLR
comp=Z,116µm,20.5s
PVCC Panska Ves 114.31 44 *e*PDIFF **Pdif** **22 51 57.2 +5.0**
PVCC *e*PKP **PKiKP** **22 55 44.3 +1.3**
PVCC *e*PP **PP** **22 56 38.0 -1.5**
PVCC *e*PKS **PKSdf** **22 59 23.8 +4.4**
PVCC *e*PKKP **PKKPab** **23 06 29.1 +2.0**
PVCC *ex* x 23 12 46.6
PVCC AMS AMS 23 44 20.0
comp=Z,116µm,20.5s
KDAK Kodiak Island 114.32 325 PKP PKPdf 22 55 42.5 -0.2
comp=Z,13nm,1.2s,baz=184,slow=18,SNR=2.3
KDAK Kodiak Island 114.32 325 *e*PKIKP PKPdf 22 55 42.5 -0.2
KDAK MLR MLR
comp=Z,50µm,21.0s
KDAK Kodiak Island 114.32 325 *e*PKiKP PKPdf 22 55 42.5 -0.2
KDAK LR LR
comp=Z,50µm,21.0s
IDI Anoyia 114.32 63 PFAKE 22 55 50.0 +6.4
IDI LR LR
comp=Z,94µm,21.0s
SML Sawmill 114.35 330 PFAKE 22 55 50.0 +7.3
SML LR LR
comp=Z,35µm,20.0s
OHAK Old Harbor 114.40 324 PFAKE 22 55 50.0 +7.1
OHAK LR LR
comp=Z,56µm,19.0s
BRLK Bradley Lake 114.47 327 PFAKE 22 55 50.0 +7.0
BRLK LR LR
comp=Z,40µm,19.0s
PMR Palmer 114.58 329 PFAKE 22 55 50.0 +6.9
PMR LR LR
comp=Z,41µm,21.0s
DHY Denali Highway 114.58 331 PFAKE 22 55 50.0 +6.7
DHY LR LR
comp=Z,32µm,22.0s
RC01 Rabbit Creek A 114.59 329 PFAKE 22 55 50.0 +6.8
RC01 LR LR
comp=Z,31µm,22.0s
HOM Homer 114.76 327 PFAKE 22 55 50.0 +6.5
HOM LR LR
comp=Z,33µm,21.0s
ZST Bratislava 114.78 47 *e*PP PP 22 56 44.1 +1.2
ZST *e* 23 06 39.7
ZST *e*SS SS 23 12 56.0 +20
ZST *e*L L 23 49 53.2
DIVS Divibare 114.82 52 PFAKE 22 55 50.0 +5.7
DIVS LR LR
comp=Z,103µm,20.0s
VRAC Vranov 114.96 46 PKIKP PKPdf 22 55 50.6 +6.3
VRAC Vranov 114.96 46⇓ *i*P PKPdf 22 55 50.6 +6.3
VRAC Vranov 114.96 46⇓ *i*P PKKPab 23 06 33.3 +9.0
HDA Harding Lake 115.08 332 PFAKE 22 55 50.0 +6.0
HDA LR LR
comp=Z,57µm,20.0s
UPC Upice 115.13 45 *e*P **Pdif** **22 52 01.8 +5.9**
UPC *e* 22 56 47.2
UPC *e* 23 12 47.7
UPC MLR MLR
comp=Z,50µm,17.6s
UPC Upice 115.13 45 *e*pP **Pdif** **22 52 01.8 +5.9**
UPC *e*PP **PP** **22 56 47.2 +1.9**
UPC *e*PKS **PKSdf** **22 59 24.5 +3.5**
UPC *e*PKKP PKKPdf 23 06 35.2 -10
UPC *e*SS SS 23 12 47.7 +7.3
UPC AMS AMS 23 52 30.0
comp=Z,50µm,17.6s
SUA Susitna One 115.20 329 PFAKE 22 55 50.0 +5.5
SUA LR LR
comp=Z,30µm,20.0s
SANT Santorini 115.22 62⇑ *i*P PKPdf 22 55 58.3 +13
SANT Santorini 115.22 62 PFAKE 22 55 50.0 +4.8
SANT LR LR
comp=Z,141µm,22.0s
ILAR Eielson Array 115.23 333 PKP **PKPdf** **22 55 42.5 -1.9**
comp=Z,2.4nm,0.8s,baz=174,slow=1.8,SNR=6.3
ILAR PKKPbc **PKKPbc** **23 06 18.4 -2.2**
comp=Z,1.3nm,0.9s,baz=185,slow=3.0,SNR=4.2
ILB Eielson Array 115.23 333 *e*PKPdf **PKPdf** **22 55 47.4 +3.1**
ILB *e*PKKPbc **PKKPbc** **23 06 18.4 -2.2**
DPC Dobruska-Polom 115.24 45 *e*P **Pdif** **22 52 03.3 +6.9**
DPC *e* 22 56 47.6
DPC *e* 23 12 49.2
DPC MLR MLR
comp=Z,63µm,22.0s
DPC Dobruska-Polom 115.24 45 *e*pP **Pdif** **22 52 03.3 +6.9**
DPC *e*PP **PP** **22 56 47.6 +1.4**
DPC *e*PKKP **PKKPdf** **23 06 38.9 -6.1**
DPC *e*SS SS 23 12 49.2 +7.2
DPC AMS AMS 23 43 20.0
comp=Z,63µm,22.0s
RGN Rugen 115.38 40 PFAKE 22 55 50.0 +5.2
RGN LR LR
comp=Z,121µm,20.0s
KRLC Kraliky 115.39 45 *e*PKIKP **PKPdf** **22 55 51.8 +6.7**
KRLC *e* 22 56 49.8
KRLC *e*SS SS 23 12 48.4 +4.4
KRLC Kraliky 115.39 45 *e*PKP **PKPdf** **22 55 51.8 +6.7**
KRLC *e*PP **PP** **22 56 49.8 +2.6**
KRLC *e*PKKP PKKPdf 23 06 36.8 -7.9
KRLC *e*SS SS 23 12 48.4 +4.4
KSP Ksiaz 115.44 45 *e*PP PP 22 56 50.5 +3.0
KSP *e*SKPdf **SKiKP** **22 59 25.4 +6.8**
KSP *e*SKSdf **SKSdf** **23 02 57.4 +2.5**
KSP *e*PS **PKKPdf** **23 06 46.7 +2.1**
KSP *e*SS SS 23 12 56.6 +12
KSP LMZ LR 23 37 52.5
comp=Z,72µm,27.3s
CCB Clear Creek Bu 115.52 332 PFAKE 22 55 50.0 +5.2
CCB LR LR
comp=Z,52µm,21.0s
MCK McKinley 115.52 331 *e*PKIKP **PKPdf** **22 55 45.6 +0.7**
MCK MLR MLR
comp=Z,52µm,21.0s
MCK McKinley 115.52 331 *e*P **PKPdf** **22 55 45.6 +0.7**
MCK LR LR
comp=Z,52µm,21.0s
FYU Fort Yukon 115.52 335 PFAKE 22 55 50.0 +5.2
FYU LR LR
comp=Z,48µm,22.0s
WRH Wood River Hil 115.54 332 *e*PKPdf **PKPdf** **22 55 45.6 +0.8**
WRH LR LR
comp=Z,60µm,19.0s
APE Apeiranthos 115.58 62⇓ *i*PKIKP **PKPdf** **22 55 45.6 -0.3**
APE MLR MLR
comp=Z,132µm,22.0s
COLA College 115.64 333 PFAKE 22 55 50.0 +5.0
COLA LR LR
comp=Z,41µm,20.0s
MORC Moravsky Berou 115.72 46 *e*PKIKP **PKPdf** **22 55 43.3 -2.5**
MORC MLR MLR
comp=Z,270µm,20.0s
MORC Moravsky Berou 115.72 46⇑ *i*P **PKPdf** **22 55 46.9 +1.1**
MORC Moravsky Berou 115.72 46 *e*PKPdf **PKPdf** **22 55 43.3 -2.5**
MORC LR LR
comp=Z,270µm,20.0s
KONO Kongsberg 115.76 34⇑ *i*PKIKP **PKPdf** **22 55 43.4 -2.0**
KONO MLR MLR
comp=Z,94µm,20.0s
KONO Kongsberg 115.76 34 PFAKE 22 55 50.0 +4.6
KONO LR LR
comp=Z,100µm,21.0s
MDM Murphy Dome 115.82 333 PFAKE 22 55 50.0 +4.5
MDM LR LR
comp=Z,43µm,22.0s
KKB Krupnik 115.92 56 *e*P **PKPdf** **22 55 48.2 +1.8**
TRF Thorofare Moun 115.92 331 *e*PKPdf **PKPdf** **22 55 46.3 +0.4**
TRF LR LR
comp=Z,49µm,20.0s
VYHS Vyhne 115.95 48 *e*PKIKP **PKPdf** **22 55 44.8 -1.4**
VYHS *e* 22 55 59.9
VYHS *e* 22 56 51.8
VYHS *e*SS SS 23 12 54.1 +2.7
VYHS MLR MLR
comp=Z,57µm,24.6s
VYHS Vyhne 115.95 48 *e*PKP **PKPdf** **22 55 44.8 -1.4**
VYHS *e* 22 55 59.9
VYHS *e*PP **PP** **22 56 51.8 +0.6**
VYHS *e* 23 06 48.7
VYHS *e*SS SS 23 12 54.1 +2.7
VYHS *e*L L 23 42 20.3
OKC Ostrava-Krasne 116.10 46 *e*P **Pdif** **22 52 07.3 +7.1**
OKC *e* 22 56 52.8
OKC *e* 23 13 05.1
OKC MLR MLR
comp=Z,66µm,19.1s
OKC Ostrava-Krasne 116.10 46 *e*pP **Pdif** **22 52 07.3 +7.1**
OKC *e*PP **PP** **22 56 52.8 +0.7**
OKC *ex* x 22 59 31.4
OKC *ex* x 23 06 53.0
OKC *ex* x 23 13 05.1
OKC AMS AMS 23 48 40.0
comp=Z,66µm,19.1s
KARP Karpathos 116.10 64 PFAKE 22 56 00.0 +13
KARP LR LR
comp=Z,31µm,22.0s
KTH Kantishna Hill 116.22 331 PFAKE 22 56 00.0 +14
KTH LR LR
comp=Z,41µm,21.0s
RAC Raciborz 116.22 46 *e*P **Pdif** **22 52 07.1 +6.4**
RAC *e* 22 56 53.2
RAC MLR MLR
comp=Z,90µm,18.8s
VTS Vitosha 116.31 55 *e*PKIKP **PKPdf** **22 55 47.7 +0.4**
VTS MLR MLR
comp=Z,103µm,19.0s
VTS Vitosha 116.31 55⇓ *i*P **PKPdf** **22 55 47.7 +0.4**
VTS Vitosha 116.31 55 *e*PKPdf **PKPdf** **22 55 47.7 +0.4**
VTS LR LR
comp=Z,103µm,19.0s
VTS Vitosha 116.31 55 *e*P **PKPdf** **22 55 52.4 +5.1**
PSZ Piszkesteto 116.36 49 PKIKP **PKPdf** **22 55 53.7 +6.6**
PSZ Piszkesteto 116.36 49⇑ *i*P **PKPdf** **22 55 53.7 +6.6**
PSZ Piszkesteto 116.36 49 PFAKE 22 56 00.0 +13
PSZ LR LR
comp=Z,72µm,22.0s
PPLA Purkeypile 116.45 330 PFAKE 22 56 00.0 +13
PPLA LR LR
comp=Z,40µm,20.0s
BSD Bornholm Skovb 116.45 40 *e*P **Pdif** **22 52 10.1 +8.5**
BSD MLR MLR
comp=Z,120µm,21.0s
BSD Bornholm Skovb 116.45 40 *i* P **Pdif** **22 52 10.1 +8.5**
ASAR Alice Springs 116.46 207 PKP **PKPdf** **22 55 45.5 -2.7**
comp=Z,1.5nm,0.8s,baz=144,slow=2.3,SNR=4.2
ASAR PKKPbc **PKKPbc** **23 06 16.3 +0.7**
comp=Z,2.4nm,0.8s,baz=337,slow=2.4,SNR=6.2
AS31 Alice Springs 116.46 207 *e*PKPdf **PKPdf** **22 55 45.5 -2.7**
AS31 *e*PKKPbc **PKKPbc** **23 06 16.3 +0.7**
BPAW Bear Paw Mtn. 116.49 331 *e*PKPdf **PKPdf** **22 55 47.7 +0.9**
BPAW LR LR
comp=Z,37nm,19.0s
BZS Buzias 116.51 52 PKIKP **PKPdf** **22 55 46.8 -0.5**
BZS Buzias 116.51 52⇑ *i*P **PKPdf** **22 55 46.8 -0.5**
CHGN Chignik 116.55 322 PFAKE 22 56 00.0 +13
CHGN LR LR
comp=Z,30µm,19.0s
LANS Liptovska Anna 116.60 47 *e*PKIKP **PKPdf** **22 55 47.5 0.0**
LANS *e* 22 56 02.2
LANS Liptovska Anna 116.60 47 *e*PKP **PKPdf** **22 55 47.5 0.0**
LANS *e* 22 56 02.1
CAST Castle Rocks 116.63 330 *e*PKPdf **PKPdf** **22 55 47.3 +0.3**
CAST LR LR
comp=Z,50µm,22.0s
SIRR Siria 116.80 51⇑ *i*P **PKPdf** **22 55 40.8 -7.1**
MLY Manley 116.81 332 PFAKE 22 56 00.0 +13
MLY LR LR
comp=Z,45µm,19.0s
KECS Kecovo 116.95 48 *e* PKPdf 22 56 01.1 +13
GKP Gorka Klasztor 116.96 42 *e*PKPdf PKPdf 22 55 56.6 +8.7
GKP *e*PP **PP** **22 56 59.0 +1.0**
GKP *e*SKSdf **SKSdf** **23 02 59.2 +1.5**
GKP *e*PS PKKPdf 23 07 02.4 +21
GKP *e*SS **SS** **23 13 09.5 +5.3**
GKP LMZ LR 23 45 13.6
comp=Z,94µm,22.7s
GKP Gorka Klasztor 116.96 42 *e*PKIKP PKPdf 22 55 56.7 +8.8
GKP *e* 22 56 59.0
GKP *e* 23 02 59.2
GKP *e*SS SS 23 13 09.5 +5.3
GKP MLR MLR
comp=Z,94µm,22.7s
NB2 NORSAR Subarra 117.07 33 PKPdf **PKPdf** **22 55 48.2 +0.2**
comp=Z,47nm,1.4s,baz=248,slow=1.9
NB2 NORSAR Subarra 117.07 33 PKPdf **PKPdf** **22 55 48.2 +0.2**
baz=248,slow=1.9
NB200 NORSAR Array S 117.07 33 *e*PKPdf **PKPdf** **22 55 45.5 -2.5**
NB200 *e*PKKPbc **PKKPab** **23 06 16.1 +1.6**
NOA NORSAR Array B 117.07 33 PKP **PKPdf** **22 55 45.5 -2.5**
comp=Z,2.9nm,1.0s,baz=250,slow=1.9,SNR=6.2
NOA PKKPbc **PKKPab** **23 06 16.1 +1.6**
comp=Z,1.2nm,0.7s,baz=67,slow=4.5,SNR=4.9
SVW2 Sparrevohn 117.15 327 PFAKE 22 56 00.0 +12
SVW2 LR LR
comp=Z,30µm,20.0s
NIE Niedzica 117.21 47 *e*PKPdf **PKPdf** **22 55 54.0 +5.4**
NIE *e*PP **PP** **22 57 01.8 +1.8**
NIE *e*SKPdf SKiKP 22 59 42.6 +20
NIE *e*SKSdf **SKSdf** **23 03 04.1 +5.6**
NIE *e*PS PS 23 07 01.9 +18
NIE *e*SS **SS** **23 13 03.9 -3.8**
NIE LMZ LR 23 42 08.7
comp=Z,75µm,24.5s
NIE Niedzica 117.21 47 *e*PKIKP **PKPdf** **22 55 54.0 +5.4**
NIE *e* 22 57 01.8
NIE *e*SS SS 23 13 03.9 -3.8
NIE MLR MLR
comp=Z,75µm,24.5s
OJC Ojcow 117.23 46 *e*PKPdf **PKPdf** **22 55 45.5 -3.1**
OJC *e*PP **PP** **22 57 02.0 +2.0**
OJC *e*SKPdf SKiKP 22 59 45.6 +23
OJC *e*SKSdf **SKSdf** **23 02 59.9 +1.4**
OJC *e*PS PS 23 07 01.4 +18
OJC *e*SS **SS** **23 13 16.9 +9.1**
OJC LMZ LR 23 44 57.1
comp=Z,75µm,23.8s
OJC Ojcow 117.23 46 *e*PKIKP **PKPdf** **22 55 45.5 -3.1**
OJC *e* 22 57 02.0
OJC *e* 23 02 59.9
OJC *e*SS SS 23 13 16.9 +9.1
OJC MLR MLR
comp=Z,75µm,23.8s
SDPT Sand Point 117.23 320 PFAKE 22 56 00.0 +12
SDPT LR LR
comp=Z,26µm,20.0s
MIDW Midway 117.38 286 PFAKE 22 56 00.0 +10
MIDW LR LR
comp=Z,32µm,20.0s
DEV Deva 117.44 52 PKIKP **PKPdf** **22 55 48.7 -0.4**
DEV Deva 117.44 52⇓ *i*P **PKPdf** **22 55 48.7 -0.4**
COLD Coldfoot 117.56 335 PFAKE 22 56 00.0 +11
COLD LR LR
comp=Z,45µm,21.0s
DRGR 117.67 51 PKIKP **PKPdf** **22 55 47.9 -1.8**
DRGR 117.67 51⇓ *i*P **PKPdf** **22 55 47.9 -1.8**
CRVS Cervenica-Dubn 117.71 48 *e*PP PP 22 57 02.8 -0.7
CRVS *e* 23 07 12.1
CRVS *e*SS SS 23 13 19.4 +5.1
STHS Stebnicka Huta 117.78 47 *e* PKPdf 22 56 03.8 +14
LOT Lotru 117.83 52⇑ *i*P **PKPdf** **22 55 54.8 +4.7**
LOT Lotru 117.83 52⇑ *i*P PKKPab 23 06 25.6 +13
HFS Hagfors 117.84 34 PKP **PKPdf** **22 55 48.0 -1.5**
comp=Z,2.7nm,0.8s,baz=258,slow=4.3,SNR=3.4
HFS Hagfors 117.84 34 PKIKP **PKPdf** **22 55 48.0 -1.5**
TOLK Toolik Lake Re 117.96 336 P **PKPdf** **22 55 48.6 -0.9**
baz=115
TOLK Toolik Lake Re 117.96 336 *e*PKPdf **PKPdf** **22 55 48.2 -1.3**
TOLK LR LR
comp=Z,58µm,21.0s
UZH Uzhgorod 118.12 49⇓ *e*PKIKP **PKPdf** **22 55 52.0 +1.7**
UZH *e* 22 56 02.4
UZH *i* 22 57 07.4
UZH *e* 23 13 31.0
IM3 Indian Mountai 118.35 333 *e*PKPdf **PKPdf** **22 55 48.6 -1.7**
ARR Arges 118.36 53⇓ *i*P PKKPab 23 06 21.7 +12
SZH Strazhica 118.41 55 *e*P **PKPdf** **22 55 55.6 +4.5**
BEL Belsk 118.42 45 *e*PKPdf **PKPdf** **22 55 55.8 +5.0**
BEL *e*PP **PP** **22 57 10.8 +2.6**
BEL *e*SKSdf **SKSdf** **23 03 05.8 +5.2**
BEL *e*PS PS 23 07 19.2 +25
BEL *e*SS **SKKSdf** **23 13 45.9 -3.5**
BEL LMZ LR 23 39 49.9
comp=Z,73µm,27.5s
BEL Belsk 118.42 45 *e*PKIKP **PKPdf** **22 55 55.8 +5.0**
BEL *e* 22 57 10.8
BEL *e*SS SS 23 13 45.9 +23
BMR Baia Mare 118.50 50⇓ *i*P PKPdf 22 56 04.5 +13
JMB Yambol 118.54 56 *e*P **PKPdf** **22 55 54.7 +3.3**
VOIR 118.66 53 PKIKP **PKPdf** **22 55 52.7 +0.7**
VOIR 118.66 53⇑ *i*P **PKPdf** **22 55 52.3 +0.7**
VOIR 118.66 53⇑ *i*P PKKPab 23 06 19.8 +11
KWP Kalwaria Pacla 118.74 48 *e*PKPdf **PKPdf** **22 55 54.2 +2.6**
KWP *e*PP **PP** **22 57 13.0 +2.4**
KWP *e*SKSdf **SKSdf** **23 03 06.5 +5.1**
KWP *e*PS **PS** **23 07 07.9 +10**
KWP LMZ LR 23 43 47.6
comp=Z,119µm,24.8s
KWP Kalwaria Pacla 118.74 48 *e*PKIKP **PKPdf** **22 55 54.2 +2.6**
KWP *e* 22 57 13.0
KWP MLR MLR
comp=Z,119µm,24.8s
KWP Kalwaria Pacla 118.74 48 PFAKE 22 56 00.0 +8.5
KWP LR LR
comp=Z,716µm,21.0s
SGRR Singureni 118.81 54⇑ *i*P **PKPdf** **22 55 50.8 -1.0**
ARCR ARCALIA 118.83 51⇓ *i*P **PKPdf** **22 55 51.2 -0.6**
DOPR Dopca 119.08 52⇓ *i*P **PKPdf** **22 55 52.8 +0.5**
MLR Muntele Rosu 119.26 53 PKP **PKPdf** **22 55 51.1 -1.8**
comp=Z,3.6nm,1.0s,baz=58,slow=2.0,SNR=5.3
MLR Muntele Rosu 119.26 53 PKIKP **PKPdf** **22 55 53.5 +0.7**
MLR Muntele Rosu 119.26 53⇑ *i*P **PKPdf** **22 55 53.5 +0.7**
MLR Muntele Rosu 119.26 53 *e*PKPdf **PKPdf** **22 55 50.4 -2.4**
MLR LR LR
comp=Z,229µm,20.0s
PRD Provadia 119.38 56 *e*P **PKPdf** **22 55 58.8 +5.9**
EIL Eilat 119.47 73 PKP **PKPdf** **22 55 50.6 -3.0**
comp=Z,5.3nm,0.8s,baz=109,slow=4.6,SNR=3.2
ISP Isparta 119.50 63 PFAKE 22 56 00.0 +6.5
ISP LR LR
comp=Z,111µm,22.0s
ISR Istrita 119.52 54 PKIKP **PKPdf** **22 55 56.4 +3.2**
ISR Istrita 119.52 54⇑ *i*P **PKPdf** **22 55 56.4 +3.2**
BUR04 Bucovina Ar. S 119.56 50 *e*PKPdf **PKPdf** **22 55 51.2 -2.1**
BURAR Bucovina Array 119.57 50 PKIKP **PKPdf** **22 55 53.0 -0.3**
BURAR Bucovina Array 119.57 50⇓ *i*P **PKPdf** **22 55 53.0 -0.3**
LVV L'vov 119.61 48 *i* PKIKP **PKPdf** **22 55 59.0 +5.8**
LVV *e* 23 02 52.0
LVV *i* SS SS 23 13 54.0 +15
LVV MLR MLR
comp=Z,56µm,21.0s
AKUT Akutan 119.65 317 PFAKE 22 56 00.0 +6.9
AKUT LR LR
comp=Z,29µm,22.0s
WR1 Warramunga Arr 119.68 209 *e*PKPdf **PKPdf** **22 55 51.6 -2.7**
WR1 *e*PKKPbc **PKKPab** **23 06 10.0 +0.9**
WRA Warramunga Arr 119.68 209 PKP **PKPdf** **22 55 51.6 -2.7**
comp=Z,3.2nm,0.6s,baz=166,slow=1.6,SNR=20
WRA PKKPab **PKKPab** **23 06 10.0 +0.9**
comp=Z,3.9nm,0.8s,baz=346,slow=4.7,SNR=7.6
WRAB Tennant Creek 119.68 209 PFAKE 22 56 00.0 +5.6
WRAB LR LR
comp=Z,69µm,20.0s
DAMY Dhamar 119.84 93 PFAKE 22 56 00.0 +5.0
DAMY LR LR
comp=Z,93µm,22.0s
PLOR Plostina 119.85 53 PKIKP **PKPdf** **22 55 51.0 -2.8**
PLOR Plostina 119.85 53⇑ *i*P **PKPdf** **22 55 51.0 -2.8**
VRI Vrincioaia 119.91 53 PKIKP **PKPdf** **22 55 50.9 -3.0**
VRI Vrincioaia 119.91 53⇑ *i*P **PKPdf** **22 55 50.9 -3.0**
ODBI Odobesti 120.09 53⇓ *i*P **PKPdf** **22 55 52.2 -2.0**
TESR Tescani 120.09 52⇑ *i*P **PKPdf** **22 55 54.6 +0.4**
PRAR RASCA 120.12 51⇓ *i*P **PKPdf** **22 55 55.0 +0.7**
HARR Harsova 120.28 54 PKIKP **PKPdf** **22 55 54.3 -0.3**
HARR Harsova 120.28 54⇑ *i*P **PKPdf** **22 55 54.3 -0.3**
HARR Harsova 120.28 54⇑ *i*P PKKPab 23 06 16.3 +15
TLB Topalu 120.32 55 PKIKP **PKPdf** **22 55 55.6 +0.9**
TLB Topalu 120.32 55⇓ *i*P **PKPdf** **22 55 55.6 +0.9**
CSS Mathiatis 120.44 67 *e*PKPdf **PKPdf** **22 55 54.8 -0.5**
CSS LR LR
comp=Z,14µm,22.0s
TIRR Tirgusor 120.52 55 PKIKP **PKPdf** **22 55 54.5 -0.6**
TIRR Tirgusor 120.52 55⇑ *i*P **PKPdf** **22 55 54.5 -0.6**
TIRR Tirgusor 120.52 55 *e*PKPdf **PKPdf** **22 55 55.6 +0.5**
TIRR LR LR
comp=Z,124µm,20.0s
SUW Suwalki 120.53 43 *e*PKPdf **PKPdf** **22 55 52.8 -2.0**
SUW *e*PP **PP** **22 57 23.0 +0.3**
SUW *e*SKSdf **SKSdf** **23 03 12.0 +7.5**
SUW *e*PS **PS** **23 07 16.8 +3.4**
SUW *e*SS **SKKSdf** **23 13 45.8 +0.2**
SUW LMZ LR 23 47 34.3
comp=Z,82µm,20.6s
SUW Suwalki 120.53 43 *e*PKIKP **PKPdf** **22 55 52.8 -2.0**
SUW *e* 22 57 23.0
SUW *e*PS **PS** **23 07 16.8 +3.4**
SUW *e*SS SS 23 13 45.7 -4.6
SUW MLR MLR
comp=Z,82µm,20.6s
SUW Suwalki 120.53 43 *e*PKPdf **PKPdf** **22 55 52.5 -2.3**
SUW LR LR
comp=Z,89µm,21.0s
COEN Coen 120.75 221 PFAKE 22 56 10.0 +13
COEN LR LR
comp=Z,49µm,20.0s
IAS Iasi 120.91 52 PKIKP **PKPdf** **22 55 55.7 0.0**

IAS	**Iasi**	**120.91**	**52**	⇑*iP*	**PKPdf**	**22 55 55.7**	**0.0**		
TLCR		**121.04**	**54**	PKIKP	**PKPdf**	**22 55 53.7**	**-2.4**		
TLCR		**121.04**	**54**	⇑*iP*	**PKPdf**	**22 55 53.7**	**-2.4**		
MMAI	**Mount Meron Ar**	**121.23**	**70**	PKP	**PKPdf**	**22 55 54.9**	**-2.0**		
	comp=Z,2.4nm,0.6s,baz=90,slow=1.4,SNR=3.9								
KIS	**Kishinev**	**121.66**	**52**	*eP*	**Pdif**	**22 52 33.0**	**+8.0**		
KIS	**Kishinev**	**121.66**	**52**	*e*PKP	**PKPdf**	**22 55 55.0**	**-2.2**		
KIS	**Kishinev**	**121.66**	**52**	*i* PP	PP	22 57 30.0	-0.6		
	comp=Z,11µm,20.0s								
KIS				*i* SKP		22 59 30.0			
KIS	**Kishinev**	**121.66**	**52**	*i* PS	PS	23 07 39.0	+15		
KIS	**Kishinev**	**121.66**	**52**	*eP*	**Pdif**	**22 52 33.0**	**+8.0**		
KIS				*e*		22 55 55.0			
KIS				*i*		22 57 30.0			
KIS				*i*		23 03 06.0			
BR231	**Keskin MP Arra**	**121.90**	**61**	*e*PKPdf	**PKPdf**	**22 55 56.1**	**-2.0**		
BR231				*e*PKPdf	**PKiKP**	**22 55 57.8**	**-0.5**		
ANTO	**Ankara**	**121.92**	**61**	*e*PKIKP	**PKPdf**	**22 55 56.6**	**-1.4**		
ANTO				MLR	MLR				
	comp=Z,101µm,22.0s								
ANTO	**Ankara**	**121.92**	**61**	*e*PKPdf	**PKPdf**	**22 55 56.6**	**-1.4**		
ANTO				LR	LR				
	comp=Z,101µm,22.0s								
ANTO	**Ankara**	**121.92**	**61**	PKiKP	**PKPdf**	**22 55 57.8**	**-0.3**		
	SNR=12								
ANTO	**Ankara**	**121.92**	**61**	P	**PKPdf**	**22 55 57.8**	**-0.3**		
	SNR=12								
ASF	**Jabal al Asfar**	**122.04**	**71**	PKP	**PKPdf**	**22 55 57.0**	**-1.6**		
	comp=Z,3.5nm,0.8s,baz=53,slow=6.3,SNR=4.8								
ASF	**Jabal al Asfar**	**122.04**	**71**	*e*PKIKP	**PKPdf**	**22 55 57.0**	**-1.6**		
PMG	**Port Moresby**	**122.16**	**228**	*i* PKIKP	**PKPdf**	**22 55 58.7**	**-0.5**		
PMG	**Port Moresby**	**122.16**	**228**	PFAKE		22 56 10.0	+11		
PMG				LR	LR				
	comp=Z,93µm,22.0s								
BR101	**Keskin Array S**	**122.47**	**62**	*e*PKPdf	**PKPdf**	**22 55 57.2**	**-2.0**		
BR101				*e*PKKSdf	PKKSdf	23 10 03.9	-3.8		
BR131	**Keskin Array S**	**122.47**	**62**	*e*PKPdf	**PKPdf**	**22 55 57.2**	**-2.0**		
BRTR	**Keskin Array B**	**122.47**	**62**	PKP	**PKPdf**	**22 55 57.2**	**-2.0**		
	comp=Z,8.5nm,0.8s,baz=197,slow=3.6,SNR=14								
BRTR				SKKP		23 10 03.9			
	comp=Z,4.7nm,1.1s,baz=118,slow=2.8,SNR=3.5								
IIGN	**Ignalina**	**122.62**	**42**	*eP*	**PKPdf**	**22 55 59.5**	**+0.7**		
IIGN				IAmb	IAmb	22 56 12.7			
	comp=Z,21nm,0.8s								
ISAL	**Salakas**	**122.62**	**42**	*eP*	**PKPdf**	**22 55 58.5**	**-0.2**		
ISAL				IAmb	IAmb	22 56 16.4			
	comp=Z,34nm,1.1s								
IZAR	**Zarasai**	**122.74**	**42**	*eP*	**PKPdf**	**22 55 56.1**	**-2.9**		
IZAR				IAmb	IAmb	22 56 17.8			
	comp=Z,17nm,0.8s								
NACGM	**Naroch**	**122.80**	**43**	*e*PKP	**PKPdf**	**22 55 57.0**	**-2.1**		
NACGM				*e*PP	**PP**	**22 57 34.0**	**-4.1**		
NACGM				*e*SKP		22 59 23.0			
NACGM				*e*PPP	PPP	23 00 29.0			
NACGM				*e*SKS	**SKSac**	**23 02 50.0**	**-7.7**		
NACGM				*e*SKKS	SKSdf	23 03 48.0	+39		
NACGM				*e*SKKKS		23 06 03.0			
NACGM				*e*PS	**PS**	**23 07 32.0**	**-1.6**		
NACGM				*e*SS	**SKKSdf**	**23 13 44.0**	**+2.8**		
NACGM				*e*SSS	SSS	23 19 08.0			
NACGM				*e*LQ	LQ	23 32 16.0			
NACGM				*e*LR	LR	23 44 14.0			
NACGM				LRM	MLR	23 49 18.0			
	comp=Z,84nm,20.0s								
NACGM				LRM1		23 57 00.0			
	comp=Z,81nm,17.0s								
MBWA	**Marble Bar**	**122.83**	**193**	*e*PKPdf	**PKPdf**	**22 55 58.0**	**-2.4**		
MBWA				LR	LR				
	comp=Z,31µm,19.0s								
MBWA	**Marble Bar**	**122.83**	**193**	PKiKP	**PKPdf**	**22 55 58.6**	**-1.8**		
	SNR=5.9								
RABL	**Rabaul**	**122.89**	**236**	PFAKE		22 56 10.0	+9.3		
RABL				LR	LR				
	comp=Z,35µm,22.0s								
IDID	**Didziasalis**	**122.89**	**42**	*eP*	**PKPdf**	**22 55 59.5**	**+0.2**		
IDID				IAmb	IAmb	22 56 16.7			
	comp=Z,34nm,1.2s								
ILGA	**Ilgaz**	**122.99**	**60**	*e*PKPdf	**PKPdf**	**22 55 59.4**	**-0.9**		
ILGA				LR	LR				
	comp=Z,91µm,20.0s								
AK11	**Malin Array Si**	**123.01**	**48**	*e*PKPdf	**PKPdf**	**22 55 56.8**	**-2.9**		
KIEV	**Kiev**	**123.04**	**48**	*c i*PKIKP	**PKPdf**	**22 55 57.9**	**-1.8**		
KIEV				MLR	MLR				
	comp=Z,91µm,22.0s								
KIEV	**Kiev**	**123.04**	**48**	*e*PKPdf	**PKPdf**	**22 55 57.6**	**-2.1**		
KIEV				LR	LR				
	comp=Z,90µm,22.0s								
AKASG	**Malin Array Be**	**123.05**	**48**	PKP	**PKPdf**	**22 55 56.7**	**-3.0**		
	comp=Z,12nm,0.9s,baz=267,slow=2.3,SNR=17								
AKBB	**Malin Array Si**	**123.05**	**48**	*e*PKIKP	**PKPdf**	**22 55 57.7**	**-2.1**		
AKBB				MLR	MLR				
	comp=Z,93µm,22.0s								
AKBB	**Malin Array Si**	**123.05**	**48**	*e*PKPdf	**PKPdf**	**22 55 57.7**	**-2.1**		
AKBB				LR	LR				
	comp=Z,93µm,22.0s								
KBS	**Kingsbay**	**123.14**	**13**	PFAKE		22 56 10.0	+11		
KBS				LR	LR				
	comp=Z,33µm,20.0s								
KBS	**Kingsbay**	**123.14**	**13**	*e*	PKPdf	22 56 07.4	+8.2		
MICGM	**Minsk**	**123.31**	**43**	*e*PKP	**PKPdf**	**22 56 01.0**	**+0.9**		
MICGM				*e*PKP	**PKPdf**	**22 56 01.0**	**+0.9**		
MICGM				*e*PP	**PP**	**22 57 40.0**	**-1.6**		
MICGM				PPM		22 57 44.0			
	comp=Z,23nm,24.0s								
MICGM				*e*PPP	PPP	23 00 24.0			
MICGM				*e*SKS	SKSac	23 02 40.0	-19		
MICGM				*e*SKKS	SKKSac	23 04 20.0	-18		
MICGM				*e*SKKKS		23 05 02.0			
MICGM				*e*PS	**PS**	**23 07 44.0**	**+5.9**		
MICGM				*e*SS	**SS**	**23 14 18.0**	**-7.7**		
MICGM				*e*LQ	LQ	23 28 16.0			
MICGM				LQM		23 33 24.0			
	comp=N,63nm,36.0s								
MICGM				LQM		23 33 30.0			
	comp=N,21nm,28.0s								
MICGM				*e*LR	LR	23 38 30.0			
MICGM				LRM	MLR	23 47 00.0			
	comp=Z,116nm,22.0s								
MICGM				LRM	MLR	23 47 00.0			
	comp=E,78nm,22.0s								
MICGM				LRM	MLR	23 47 04.0			
	comp=E,95nm,20.0s								
MICGM				LRM	MLR	23 47 08.0			
	comp=Z,104nm,22.0s								
MICGM				LRM	MLR	23 47 08.0			
	comp=Z,32nm,22.0s								
MNK	**Minsk**	**123.31**	**43**	*e*PKIKP	**PKPdf**	**22 56 01.0**	**+0.9**		
MNK				*e*		22 57 40.0			
MNK				*e*PPP	PPP	23 00 24.0			
MNK				*e*SS	SS	23 14 18.0	-7.7		
MNK				pmax	pmax				
	comp=Z,23nm,24.0s								
VSU	**Vasula**	**123.68**	**39**	⇓*i*PKIKP	**PKPdf**	**22 55 59.3**	**-1.4**		
SPA0	**Spitsbergen Ar**	**123.86**	**14**	*eP*	**PKPdf**	**22 56 08.3**	**+7.7**		
SPITS	**Spitsbergen Ar**	**123.86**	**14**	PKP	**PKPdf**	**22 55 58.9**	**-1.6**		
	comp=Z,10nm,0.9s,baz=217,slow=21,SNR=3.3								
SPITS	**Spitsbergen Ar**	**123.86**	**14**	PKIKP	**PKPdf**	**22 55 59.0**	**-1.6**		
FIA0	**FINESS Array S**	**124.02**	**35**	*e*PKIKP	**PKPdf**	**22 55 58.6**	**-2.6**		
FIA0	**FINESS Array S**	**124.02**	**35**	*e*PKPdf	**PKPdf**	**22 55 58.6**	**-2.6**		
FIA0				*e*PKKPbc	**PKKPbc**	**23 05 55.3**	**+7.4**		
FINES	**FINESS Array B**	**124.02**	**35**	PKP	**PKPdf**	**22 55 58.6**	**-2.6**		
	comp=Z,4.5nm,0.9s,baz=190,slow=5.8,SNR=6.4								
FINES				PKKPbc	**PKKPbc**	**23 05 55.3**	**+7.4**		
	comp=Z,3.7nm,0.8s,baz=67,slow=5.0,SNR=4.3								
FIA1	**FINESS Array S**	**124.02**	**35**	*e*PKPdf	**PKPdf**	**22 56 01.6**	**+0.3**		
KTK1	**Kautokeino**	**124.26**	**26**	*eP*	**PKPdf**	**22 56 08.8**	**+7.2**		
SIM	**Simferopol'**	**124.52**	**56**	*c iP*	**Pdif**	**22 52 52.1**	**+14**		
SIM				*e*		22 57 55.0			
SIM				*e*		23 03 12.0			
SIM				*e*SS	SS	23 15 04.0	+22		
SIM				pmax	pmax				
	comp=Z,92nm,0.9s								
SIM				pmax	pmax				
	comp=Z,5µm,11.0s								
GAMB	**Gambell**	**125.08**	**328**	*e*PKPdf	**PKPdf**	**22 56 04.7**	**+1.5**		
GAMB				LR	LR				
	comp=Z,39µm,20.0s								
ARA0	**ARCESS Array S**	**125.13**	**25**	*e*PKPdf	**PKPdf**	**22 56 01.3**	**-1.9**		
ARCES	**ARCESS Array B**	**125.13**	**25**	PKP	**PKPdf**	**22 56 01.3**	**-1.9**		
	comp=Z,2.7nm,0.7s,baz=253,slow=1.3,SNR=6.3								
ARE0	**ARCESS Array S**	**125.13**	**25**	PFAKE		22 56 10.0	+6.8		
ARE0				LR	LR				
	comp=Z,47µm,22.0s								
RAYN	**Ar Rayn**	**125.19**	**84**	*e*PKPdf	**PKPdf**	**22 56 03.4**	**-1.4**		
RAYN				LR	LR				
	comp=Z,76µm,20.0s								
H11S2	**WAKE ISLAND Hyl**	**125.67**	**268**	T	T	01 14 13.8			
	baz=118								
KEV	**Kevo**	**125.68**	**25**	PFAKE		22 56 10.0	+5.8		
KEV				LR	LR				
	comp=Z,49µm,20.0s								
H11S1	**WAKE ISLAND Hyl**	**125.69**	**268**	T	T	01 14 20.0			
	baz=118								
H11S3	**WAKE ISLAND Hyl**	**125.69**	**268**	T	T	01 14 16.6			
	baz=118								
PUL	**Pulkovo**	**125.75**	**38**	⇓*i*PKIKP	**PKPdf**	**22 56 05.1**	**+0.5**		
PUL				MLR	MLR				
	comp=Z,76µm,20.0s								
PATS	**Pohnpei**	**125.86**	**251**	PFAKE		22 56 20.0	+14		
PATS				LR	LR				
	comp=Z,79µm,20.0s								
DGAR	**Diego Garcia**	**126.04**	**135**	PFAKE		22 56 20.0	+13		
DGAR				LR	LR				
	comp=Z,64µm,20.0s								
WAKE	**Wake Island**	**126.11**	**269**	PFAKE		22 56 20.0	+13		
WAKE				LR	LR				
	comp=Z,50µm,21.0s								
H11N3	**WAKE ISLAND Hyl**	**126.11**	**270**	T	T	01 14 42.6			
	baz=116,slow=78,SNR=647								
H11N1	**WAKE ISLAND Hyl**	**126.13**	**270**	T	T	01 14 50.6			
	baz=116,slow=78,SNR=1335								
H11N2	**WAKE ISLAND Hyl**	**126.13**	**270**	T	T	01 14 46.8			
	baz=116,slow=78,SNR=1529								
ANN	**Anapa**	**126.74**	**57**	*i* P	**Pdif**	**22 52 55.6**	**+8.0**		
ANN				*i*		22 56 05.5			
ANN				*e*		22 58 05.2			
ANN				*e*PPP	PPP	23 00 51.6			
ANN				*e*		23 03 08.0			
ANN				*e*SP	SP	23 08 12.2	+7.3		
ANN				*e*		23 09 38.1			
ANN				*e*SS	**SS**	**23 15 19.6**	**+10**		
ANN				pmax	pmax				
	comp=Z,185nm,1.3s								
ANN				pmax	pmax				
	comp=N,54nm,1.4s								
ANN				pmax	pmax				
	comp=E,99nm,4.3s								
ANN				pmax	pmax				
	comp=N,447nm,4.3s								
ANN				pmax	pmax				
	comp=Z,927nm,4.3s								
MTN	**Manton Dam**	**127.38**	**209**	*e*PKPdf	**PKPdf**	**22 56 07.8**	**-1.4**		
MTN				LR	LR				
	comp=Z,90µm,20.0s								
KOPT	**Kop Dagi**	**127.55**	**63**	*i* P	**PKPdf**	**22 56 10.0**	**+0.9**		
MANU	**Manus Island**	**127.68**	**233**	PFAKE		22 56 20.0	+10		
MANU				LR	LR				
	comp=Z,37µm,22.0s								
APA	**Apatity**	**127.89**	**28**	⇑*i*PKIKP	**PKPdf**	**22 56 10.4**	**+1.9**		
APA				*i*		22 58 17.0			
APA				*i*		23 03 17.0			
APA				*i*		23 08 14.0			
APA				*i* SS	SS	23 15 23.0	+0.6		
APA				pmax	pmax				
	comp=Z,30nm,0.9s								
SRTM	**Siirt_Merkez**	**127.99**	**66**	*i* P	**PKPdf**	**22 56 09.3**	**-0.5**		
VRTB	**Varto-Mus**	**128.00**	**65**	*i* P	**PKPdf**	**22 56 10.2**	**+0.4**		
SOC	**Sochi**	**128.00**	**59**	*c iP*	**Pdif**	**22 52 54.4**	**+1.1**		
SOC				*e*		22 56 09.9			
SOC				*i*		22 56 13.7			
SOC				*e*PPP	PPP	23 00 56.5			
SOC				*e*		23 03 13.6			
SOC				*e*SS	SS	23 15 18.9	-6.3		
OBN	**Obninsk**	**128.35**	**44**	*ce*P	**Pdif**	**22 52 58.1**	**+3.6**		
OBN				*i*		22 56 07.4			
OBN				*i*		22 56 13.6			
OBN				*i*		22 58 15.4			
OBN				*e*PPP	PPP	23 00 56.0			
OBN				*e*		23 03 08.8			
OBN				*i* PS	**PS**	**23 08 23.6**	**+1.2**		
OBN				pmax	pmax				
	comp=Z,76nm,1.7s								
OBN				pmax	pmax				
	comp=Z,201nm,1.7s								
OBN				MLR	MLR				
	comp=Z,98µm,21.0s								
OBN	**Obninsk**	**128.35**	**44**	*e*PKPdf	**PKPdf**	**22 56 08.2**	**-1.5**		
OBN				LR	LR				
	comp=Z,101µm,21.0s								
LVZ	**Lovozero**	**128.37**	**28**	⇓*i*PKIKP	**PKPdf**	**22 56 10.8**	**+1.3**		
LVZ				MLR	MLR				
	comp=Z,68µm,24.0s								
LVZ	**Lovozero**	**128.37**	**28**	PFAKE		22 56 20.0	+11		
LVZ				LR	LR				
	comp=Z,48µm,19.0s								
EKAR	**Karacoban**	**128.48**	**65**	*i* P	**PKPdf**	**22 56 13.0**	**+2.1**		
DDEM	**Demirkent**	**128.72**	**63**	*i* P	**PKPdf**	**22 56 10.8**	**-0.2**		
GEVA	**Gevas**	**128.94**	**66**	*i* P	**PKPdf**	**22 56 10.2**	**-1.5**		
MOS	**Moscow**	**129.04**	**43**	*e*PKIKP	**PKPdf**	**22 56 10.0**	**-1.0**		
MOS				*e*		22 58 20.7			
MOS				*e*PPP	PPP	23 01 07.8			
MOS				*e*		23 03 11.4			
MOS				*e*PS	**PS**	**23 08 27.4**	**-1.0**		
MOS				*e*SS	SS	23 15 37.4	+0.2		
MOS				pmax	pmax				
	comp=Z,115nm,1.7s								
MOS				MLR	MLR				
	comp=E,72µm,21.0s								
MOS				MLR	MLR				
	comp=Z,102µm,21.0s								
VSR	**Storozhevoye**	**129.29**	**49**	*i* PKIKP	**PKPdf**	**22 56 12.7**	**+1.1**		
VSR				*e*		22 58 20.4			
VSR				pmax	pmax				
	comp=Z,40nm,1.3s								
VSR				MLR	MLR				
	comp=Z,95µm,24.0s								
LPSR	**Galich'ya Gora**	**129.36**	**47**	*i* PKIKP	**PKPdf**	**22 56 13.2**	**+1.5**		
LPSR				pmax	pmax				
	comp=Z,30nm,0.8s								
VORR	**Voronezh**	**129.39**	**49**	*e*PKIKP	**PKPdf**	**22 56 11.0**	**-0.8**		
VORR				pmax	pmax				
	comp=Z,250nm,2.0s								
YOVA	**Hakkari_Y`…kse**	**129.64**	**68**	*i* P	**PKPdf**	**22 56 11.9**	**-1.2**		
TMCR	**Tamitsa**	**129.76**	**32**	*e*PKIKP	**PKPdf**	**22 56 11.2**	**-0.9**		
TMCR				pmax	pmax				
	comp=Z,87nm,1.3s								
CLDR	**Caldiran**	**129.82**	**65**	*i* P	PKPpre	22 56 09.0			
AKH	**Akhalkalaki**	**130.13**	**63**	*e*PKIKP	**PKPdf**	**22 56 13.4**	**-0.4**		
AKH				MLR	MLR				
	comp=Z,30nm,22.0s								
AKH	**Akhalkalaki**	**130.13**	**63**	⇑*iP*	**PKPdf**	**22 56 14.4**	**+0.6**		
AKH	**Akhalkalaki**	**130.13**	**63**	*e*PKPdf	**PKPdf**	**22 56 13.4**	**-0.4**		
AKH				LR	LR				
	comp=Z,30nm,22.0s								
IGDI	**IGDIR**	**130.15**	**65**	*i* P	**PKPdf**	**22 56 13.2**	**-0.5**		
KIV	**Kislovodsk**	**130.18**	**59**	*eP*	**Pdif**	**22 53 00.2**	**-2.9**		
KIV				*i*		22 56 12.6			
KIV				*e*		22 58 24.9			
KIV				*e*PPP	PPP	23 01 13.1			
KIV				*e*		23 03 18.2			
KIV				*e*PS	**PS**	**23 08 36.3**	**-2.6**		
KIV				*e*SS	SS	23 15 48.3	-3.9		
KIV				pmax	pmax				
	comp=Z,75nm,1.0s								
KIV				MLR	MLR				
	comp=Z,58µm,23.0s								
KIV	**Kislovodsk**	**130.18**	**59**	*e*PKPdf	**PKPdf**	**22 56 12.9**	**-0.8**		
KIV				LR	LR				
	comp=Z,54µm,22.0s								
KIV	**Kislovodsk**	**130.18**	**59**	PKiKP	**PKPdf**	**22 56 13.2**	**-0.5**		
	SNR=27								
KIV	**Kislovodsk**	**130.18**	**59**	P	**PKPdf**	**22 56 13.2**	**-0.5**		
	SNR=27								
KIV	**Kislovodsk**	**130.18**	**59**	*i* PKPdf	**PKPdf**	**22 56 13.0**	**-0.8**		
	SNR=12								
KIV	**Kislovodsk**	**130.18**	**59**	*i* P	**PKPdf**	**22 56 13.0**	**-0.8**		
	SNR=12								
KVAR	**Kislovodsk Arr**	**130.18**	**59**	PKP	**PKPdf**	**22 56 11.7**	**-2.1**		
	comp=Z,15nm,0.9s,baz=319,slow=0.9,SNR=9.4								
KBZ	**Khabaz**	**130.27**	**59**	PKP	**PKPdf**	**22 56 12.0**	**-1.8**		
	comp=Z,16nm,1.1s,baz=11,slow=1.0,SNR=11								
KBZ	**Khabaz**	**130.27**	**59**	*e*PKIKP	**PKPdf**	**22 56 12.0**	**-1.8**		
KLMR	**Klimovskoe**	**130.41**	**37**	*e*PKIKP	**PKPdf**	**22 56 14.6**	**+1.1**		
KLMR				*e*		22 58 33.9			
KLMR				pmax	pmax				
	comp=Z,313nm,1.3s								
KLMR				MLR	MLR				
	comp=Z,12µm,21.0s								
KLMR	**Klimovskoe**	**130.41**	**37**	*e*PKPdf	**PKPdf**	**22 56 14.7**	**+1.2**		
KLMR				AMP		22 56 32.3			
	comp=Z,313nm,1.3s								
KLMR				*e*PP	**PP**	**22 58 33.9**	**+5.6**		
KLMR				*e*SKP		22 59 42.2			
KLMR				*e*PKS	**PKSdf**	**22 59 44.4**	**-5.2**		
KLMR				*e*PKS	**PKSdf**	**22 59 44.4**	**-5.2**		
KLMR				*e*SKKP		23 09 46.2			
KLMR				*e*SS	**SS**	**23 16 03.1**	**+9.2**		
KLMR				*e*SS	**SS**	**23 16 03.1**	**+9.2**		
KLMR				LQ	LQ	23 45 45.1			
KLMR				LQ	LQ	23 45 45.1			
KLMR				LR	LR	23 49 52.8			
KLMR				AMP		23 55 07.9			
	comp=Z,12µm,20.9s								
GOF	**Gofitskoye**	**130.67**	**58**	⇑*e*PKIKP	**PKPdf**	**22 56 15.1**	**+0.6**		
GOF				pmax	pmax				
	comp=Z,73nm,1.0s								
GNI	**Garni**	**130.71**	**64**	PKP	**PKPdf**	**22 56 13.4**	**-1.6**		
	comp=Z,20nm,1.1s,baz=215,slow=1.1,SNR=10								
GNI	**Garni**	**130.71**	**64**	⇑*i*PKIKP	**PKPdf**	**22 56 12.7**	**-2.3**		
GNI				pmax	pmax				
	comp=Z,212nm,1.7s								
GNI				MLR	MLR				
	comp=Z,178µm,23.0s								
GNI	**Garni**	**130.71**	**64**	*e*PKPdf	**PKPdf**	**22 56 13.4**	**-1.6**		
GNI				*e*PKPdf	**PKPdf**	**22 56 14.1**	**-0.8**		
GNI				LR	LR				
	comp=Z,54µm,22.0s								
GNI	**Garni**	**130.71**	**64**	PKiKP	**PKPdf**	**22 56 15.2**	**+0.2**		
	SNR=20								
GNI	**Garni**	**130.71**	**64**	P	**PKPdf**	**22 56 15.2**	**+0.2**		
	SNR=20								
GNI	**Garni**	**130.71**	**64**	*i* PKPdf	**PKPdf**	**22 56 14.2**	**-0.8**		
	SNR=19								
GNI	**Garni**	**130.71**	**64**	*i* P	**PKPdf**	**22 56 14.2**	**-0.8**		
	SNR=19								
NCK	**Nalchik**	**130.71**	**60**	⇓*i*PKIKP	**PKPdf**	**22 56 13.5**	**-1.2**		
ZEI	**Tsey**	**130.77**	**61**	*i* PKIKP	**PKPdf**	**22 56 11.7**	**-3.3**		
ZEI				pmax	pmax				
	comp=Z,70nm,0.9s								
SHAO	**Shalim**	**130.81**	**96**	PKPdf	**PKPdf**	**22 56 13.5**	**-2.0**		
SHAO	**Shalim**	**130.81**	**96**	P	**PKPdf**	**22 56 13.5**	**-2.0**		
VRH	**Novokhopyorsk**	**130.87**	**50**	*i* PKIKP	**PKPdf**	**22 56 15.7**	**+1.1**		
VRH				*e*		22 58 33.7			
VRH				pmax	pmax				
	comp=Z,20nm,1.0s								
VRH				MLR	MLR				
	comp=Z,53µm,22.0s								
SMY	**Shemya**	**131.02**	**312**	PFAKE		22 56 20.0	+5.1		
SMY				LR	LR				
	comp=Z,38µm,22.0s								
TBLG	**Delisi**	**131.12**	**62**	*e*PKIKP	**PKPdf**	**22 56 15.6**	**+0.1**		
TBLG	**Delisi**	**131.12**	**62**	*e*PKPdf	**PKPdf**	**22 56 15.6**	**+0.1**		
SAUI	**Saumlaki**	**131.69**	**212**	PFAKE		22 56 30.0	+13		
SAUI				LR	LR				
	comp=Z,56µm,22.0s								
COCO	**West Island**	**131.72**	**165**	PFAKE		22 56 30.0	+13		
COCO				LR	LR				
	comp=Z,32µm,20.0s								
GROC	**Groznyy**	**132.21**	**61**	*e*PKIKP	**PKPdf**	**22 56 15.5**	**-2.0**		
GROC				*e*		22 58 39.1			
GROC				*e*		23 03 26.1			
GROC				pmax	pmax				
	comp=Z,164nm,1.4s								
BATI	**Baumata**	**132.43**	**201**	PKP	**PKPdf**	**22 56 19.5**	**+0.6**		
	comp=Z,7.2nm,0.4s,baz=198,slow=6.4,SNR=4.8								
MAK	**Makhachkala**	**133.39**	**61**	*eP*	**Pdif**	**22 53 16.9**	**-0.3**		
MAK				*e*		22 58 50.8			
MAK				*e*PPP	PPP	23 01 39.4			
MAK				*e*PS	**PS**	**23 09 04.0**	**-2.4**		
MAK				*e*SS	SS	23 16 51.3	+20		
MAK				MLR	MLR				
	comp=N,103µm,24.0s								
MAK				MLR	MLR				
	comp=Z,45µm,20.0s								
MAK				MLR	MLR				
	comp=E,37µm,21.0s								
ALNE	**Al Ain**	**133.81**	**89**	*i* PKPdf	**PKPdf**	**22 56 20.8**	**-0.4**		
	SNR=6.8								
ALNE	**Al Ain**	**133.81**	**89**	*i* P	**PKPdf**	**22 56 20.8**	**-0.4**		
	SNR=6.8								
BILL	**Bilibino**	**133.88**	**334**	*i* P	**Pdif**	**22 53 22.3**	**+3.4**		
BILL				*i*		22 56 18.2			
BILL				*i*		22 56 26.7			
BILL				*i*		22 58 51.0			
BILL				*i* SS	SS	23 16 29.2	-6.4		
BILL				pmax	pmax				
	comp=Z,17nm,1.2s								
BILL				MLR	MLR				
	comp=Z,31µm,19.0s								
NAZ	**Nazwa, Dubai**	**134.14**	**88**	*i* PKPdf	**PKPdf**	**22 56 21.4**	**-0.3**		
	SNR=13								
NAZ	**Nazwa, Dubai**	**134.14**	**88**	*i* P	**PKPdf**	**22 56 21.4**	**-0.3**		
	SNR=13								
ASHO	**Ashiyiah**	**134.34**	**89**	PKiKP	**PKiKP**	**22 56 23.7**	**+0.2**		

comp=Z,26µm,21.0s
LEM Lembang 138.20 180 PKhKP PKPpre 22 56 23.0
comp=Z,27nm,0.6s,baz=316,slow=18,SNR=3.7
MNCY Minicoy 138.35 122 *e*P **PKPdf** **22 56 26.7 -3.1**
KAPI Kappang 138.46 198 PFAKE 22 56 40.0 +10
KAPI LR LR
comp=Z,25µm,20.0s
KAPI Kappang 138.46 198 pPKPdf PKPdf 22 56 38.4 +8.3
SNR=7.1
KAPI Kappang 138.46 198 P PKPdf 22 56 38.4 +8.3
SNR=7.1
SOKR Solikamsk 139.09 37*d i*PKIKP **PKPdf** **22 56 28.2 -1.5**
SOKR 22 59 23.5
SOKR *e* 23 11 36.9
SOKR pmax pmax
comp=Z,39nm,1.4s
GEYT Alibeck 140.32 71 PKhKP PKPpre 22 56 23.0
comp=Z,4.8nm,0.6s,baz=255,slow=2.9,SNR=5.9
GUMO Guam 140.35 246 PFAKE 22 56 40.0 +6.6
GUMO LR LR
comp=Z,28µm,19.0s
PET Petropavlovsk 140.37 313 *i*PKIKP **PKPdf** **22 56 37.5 +5.3**
PET *e* 22 59 35.6
PET *e*PPS PPS 23 11 46.7
PET *e*SS SS 23 17 51.8 -1.8
PET pmax pmax
comp=Z,6µm,12.0s
PET pmax pmax
comp=Z,7µm,10.9s
PET Petropavlovsk 140.37 313 PFAKE 22 56 40.0 +7.8
PET LR LR
comp=Z,29µm,20.0s
MNAI Manna 140.38 172 PFAKE 22 56 40.0 +6.4
MNAI LR LR
comp=Z,27µm,20.0s
ARU Arti 140.69 42 PKhKP PKPpre 22 56 24.3
comp=Z,3.2nm,0.6s,baz=249,slow=3.0,SNR=7.5
ARU Arti 140.69 42 *i*PKIKP **PKPdf** **22 56 33.3 +0.5**
ARU 22 59 29.3
ARU PPP PPP 23 02 38.3
ARU MLR MLR
comp=Z,131µm,22.0s
ARU Arti 140.69 42 *e*PKPpre PKPpre 22 56 25.5
ARU LR LR
comp=Z,132µm,22.0s
PEA0B Petropavlovsk- 140.93 313 PFAKE 22 56 40.0 +6.7
PEA0B LR LR
comp=Z,28µm,21.0s
PEA1 Petropavlovsk- 140.93 313 *e*PKPdf **PKPdf** **22 56 31.6 -1.8**
PETK Petropavlovsk- 140.93 313 PKP **PKPdf** **22 56 31.6 -1.8**
comp=Z,4.9nm,0.6s,baz=72,slow=11,SNR=5.1
PETK Petropavlovsk- 140.93 313 *e*PKIKP **PKPdf** **22 56 32.0 -1.3**
PETK Petropavlovsk- 140.93 313 *e*PKPdf **PKPdf** **22 56 31.9 -1.3**
SEY Seymchan 141.03 329 PKhKP PKPpre 22 56 24.8
comp=Z,4.4nm,0.7s,baz=93,slow=2.4,SNR=14
SEY Seymchan 141.03 329⇓*i*PKIKP **PKPdf** **22 56 34.6 +1.4**
AKTO Aktyubinsk 141.15 51 PKhKP PKPpre 22 56 25.5
comp=Z,4.6nm,0.6s,baz=341,slow=3.7,SNR=10
TRD Trivandrum 141.20 126 *e*P **PKPdf** **22 56 31.2 -3.8**
TNTI Ternate 141.22 212 PFAKE 22 56 40.0 +4.9
TNTI LR LR
comp=Z,28µm,22.0s
LUWI Luwuk 141.34 204 PFAKE 22 56 40.0 +4.7
LUWI LR LR
comp=Z,25µm,20.0s
SVE Sverdlovsk 141.73 41 *i*PKIKP **PKPdf** **22 56 34.8 +0.2**
SVE *e* 22 59 35.6
SVE *e* 23 02 43.9
SVE *e*SS SS 23 18 02.3 -6.8
SVE pmax pmax
comp=Z,118nm,2.0s
SVE MLR MLR
comp=N,37µm,22.0s
SVE MLR MLR
comp=Z,87µm,23.0s
SVE MLR MLR
comp=E,73µm,24.0s
TIXI Tiksi 141.86 349 PKhKP PKPpre 22 56 26.2
comp=E,10nm,0.9s,baz=48,slow=2.7,SNR=11
TIXI Tiksi 141.86 349*ce*PKHKP PKPpre 22 56 26.8
TIXI Tiksi 141.86 349 *e*PKPpre PKPpre 22 56 26.2
TIXI LR LR
comp=Z,33µm,21.0s
SKR Severo-Kuril's 142.16 309 *e*PKIKP **PKPdf** **22 56 32.5 -3.0**
SKR pmax pmax
comp=Z,4µm,7.6s
SKR pmax pmax
comp=Z,6µm,8.9s
SKR pmax pmax
comp=Z,270nm,1.1s
SKR MLR MLR
comp=Z,23µm,19.0s
AB09 Akbulak array 142.46 53 *e*PKPpre PKPpre 22 56 29.2
AB08 Akbulak array 142.46 53 *e*PKPpre PKPpre 22 56 29.2
AB04 Akbulak array 142.47 53 *e*PKPpre PKPpre 22 56 29.3
AB05 Akbulak array 142.47 53 *e*PKPpre PKPpre 22 56 29.1
AB01 Akbulak array 142.47 53 *e*PKPpre PKPpre 22 56 29.3
AB31 Akbulak array 142.47 53 *e*PKHKP PKPpre 22 56 29.4
AB31 Akbulak array 142.47 53 *e*PKPpre PKPpre 22 56 29.4
ABKAR Akbulak array 142.47 53 *e*PKPpre PKPpre 22 56 29.3
ABKAR LR LR
comp=Z,21µm,20.0s
AB03 Akbulak array 142.47 53 *e*PKPpre PKPpre 22 56 29.3
AB02 Akbulak array 142.47 53 *e*PKPpre PKPpre 22 56 29.3
AB07 Akbulak array 142.49 53 *e*PKPpre PKPpre 22 56 29.4
AB06 Akbulak array 142.49 53 *e*PKPpre PKPpre 22 56 29.0
PALK Pallekele 142.65 132 PKP **PKPdf** **22 56 35.7 -1.9**
comp=Z,10.0nm,0.9s,baz=294,slow=0.9,SNR=7.8
PALK Pallekele 142.65 132 *i*PKIKP **PKPdf** **22 56 37.8 +0.1**
PALK Pallekele 142.65 132 *e*PKPdf **PKPdf** **22 56 37.6 -0.1**
PALK LR LR
comp=Z,59µm,21.0s
PALK Pallekele 142.65 132 PKiKP **PKiKP** **22 56 39.5 -1.3**
SNR=13
PALK Pallekele 142.65 132 P **PKiKP** **22 56 39.5 -1.3**
SNR=13
PALK Pallekele 142.65 132 *i*PKPdf **PKPdf** **22 56 33.6 -4.1**
SNR=17
PALK Pallekele 142.65 132 *i*P **PKPdf** **22 56 33.6 -4.1**
SNR=17
MNGI Mangalore 142.84 118 *ex* **Pdif** **22 53 53.4 -6.5**
MA2 Magadan 143.07 325 PKP PKPbc 22 56 34.4 +0.5
comp=Z,17nm,0.8s,baz=88,slow=4.1,SNR=12
MA2 Magadan 143.07 325⇑*e*PKIKP PKPab 22 56 32.3 0.0
GOA Goa 143.76 114 *e*P PKPbc 22 56 37.8 +0.7
BKNI Bangkinang 144.72 168 PFAKE 22 56 50.0 +8.7
BKNI LR LR
comp=Z,30µm,21.0s
BHJ Bhuj 144.79 99 *e*P **PKPab** **22 56 36.9 -3.1**
GSI Gunungsitoli 144.94 162 *e*PKPdf **PKPab** **22 56 39.1 -1.6**
GSI LR LR
comp=Z,49µm,20.0s
BOM Bombay 145.02 108 *ex* **PKiKP** **22 56 50.0 +4.6**
BOM *ex* x 23 00 30.5
POO Poona 145.62 110⇓*i*PKP PKPpre 22 56 31.0
comp=Z,15nm,1.2s
POO *i* PP PP 22 59 38.0 -26
POO *i* PKS **PKSdf** **23 00 11.0 -7.4**
POO *i* SKS **SKSdf** **23 03 40.0 -10**
POO *i* SKSP 23 09 46.0
POO *i* PS 23 10 09.0
POO *i* PPS PPS 23 12 03.0
POO *i* LR LR 23 23 25.0
POO Poona 145.62 110 *e*P **PKPdf** **22 56 40.3 -2.4**
URV Uravakonda 145.93 119 *e*PKPbc **PKPdf** **22 56 40.5 -2.8**
URV IVMs_BB IVMs_BB 23 58 32.8
comp=Z,18µm,20.2s
KSM Kuching 146.36 184 *e*PKPdf **PKPdf** **22 56 43.7 -0.4**
KSM LR LR
comp=Z,32µm,22.0s
MYKOM Kota Tinggi 146.54 173 *e*PKPdf **PKPdf** **22 56 44.2 -0.2**
MYKOM LR LR
comp=Z,39µm,20.0s
PSI Prapat 146.71 164 PKPbc **PKPdf** **22 56 43.1 -1.7**
comp=Z,44nm,0.7s,baz=194,slow=8.0,SNR=39
PSI Prapat 146.71 164 *e*PKIKP **PKPdf** **22 56 43.3 -1.6**
PSI MLR MLR
comp=Z,48µm,20.0s
PSI Prapat 146.71 164 *e*PKPdf **PKPdf** **22 56 43.3 -1.6**
PSI LR LR
comp=Z,48µm,20.0s
MDRS Chennai 146.72 125 *e*P **PKPdf** **22 56 41.9 -2.7**
SKHT Srikalahasti 146.83 123 *e*PKPab **PKPdf** **22 56 44.1 -0.7**
SKHT IVMs_BB IVMs_BB 23 55 50.2
comp=Z,13µm,21.3s

SBUM Sibu 147.16 188 *e*PKPdf **PKPdf** **22 56 45.8 +0.3**
SBUM LR LR
comp=Z,31µm,22.0s
MATI Mati 147.19 215 *e*P **PKPab** **22 56 49.5 +0.2**
KLRI Killari 147.43 113 *e*PKPbc **PKPdf** **22 56 44.5 -1.2**
KLRI IVMs_BB IVMs_BB 23 55 40.7
comp=Z,20µm,21.9s
DAV Davao City (W) 147.61 214 PKP **PKPdf** **22 56 42.9 -3.2**
comp=Z,142nm,0.4s,baz=230,slow=1.7,SNR=2.4
DAV PKPbc **PKPbc** **22 56 46.4 -2.5**
comp=Z,142nm,0.4s,baz=53,slow=10,SNR=3.7
DAV Davao City (W) 147.61 214⇑*i*P **PKPab** **22 56 51.3 +0.3**
DAV Davao City (W) 147.61 214 *e*PKPdf **PKPdf** **22 56 42.9 -3.2**
DAV *e*PKPbc **PKPbc** **22 56 46.4 -2.5**
DAV LR LR
comp=Z,22µm,20.0s
DAV Davao City (W) 147.61 214 pPKiKP PKPab 22 57 00.9 +10
SNR=6.0
FRIM Kepong 147.67 168⇑P **PKPbc** **22 56 48.8 -0.2**
SRLM Srisailam 147.87 119 *e*PKPbc **PKPdf** **22 56 45.6 -0.9**
SRLM IVMs_BB IVMs_BB 00 00 19.4
comp=Z,18µm,19.0s
TSM Tawau 147.88 199⇓P **PKPbc** **22 56 48.9 -0.7**
BRVK Borovoye 148.13 44⇓*e*PKIKP **PKPdf** **22 56 43.7 -2.1**
BRVK pmax pmax
comp=Z,134nm,1.7s
BRVK MLR MLR
comp=Z,56µm,20.0s
BRVK Borovoye 148.13 44 *e*PKPdf **PKPdf** **22 56 44.2 -1.5**
BRVK LR LR
comp=Z,59µm,21.0s
BRVK Borovoye 148.13 44 PKPdf **PKPdf** **22 56 45.3 -0.5**
SNR=78
BRVK Borovoye 148.13 44 P **PKPdf** **22 56 45.3 -0.5**
SNR=78
KUR Kuril'sk 148.15 301 *e*PKP2 **PKPbc** **22 56 48.2 -1.1**
KUR *e*PPP PPP 23 03 54.5
BVAR Borovoye Array 148.20 44 PKPbc **PKPdf** **22 56 47.0 +1.1**
comp=Z,9.2nm,0.6s,baz=267,slow=3.0,SNR=24
ADKI Addanki 148.46 121 *e*PKPbc **PKPdf** **22 56 46.7 -0.7**
ADKI IVMs_BB IVMs_BB 00 00 05.7
comp=Z,16µm,20.8s
NJS Nagarjunasagar 148.46 119 *e*PKPbc **PKPdf** **22 56 46.1 -1.3**
NJS IVMs_BB IVMs_BB 00 01 59.3
comp=Z,16µm,18.9s
HYB Hyderabad 148.48 117 *i*PKP **PKPdf** **22 56 45.0 -2.5**
comp=Z,230nm,1.0s
HYB *e* 22 56 50.0
HYB *e*PP **PP** **23 00 24.0 +3.7**
HYB *e*SKS **SKSdf** **23 03 46.0 -8.1**
HYB *e* 23 07 30.0
HYB *e*SS **SS** **23 19 20.0 -7.3**
HYB Hyderabad 148.48 117 *e*P **PKPdf** **22 56 45.4 -2.1**
HYBB Hyderabad (bro 148.48 117 *e*PKPdf **PKPdf** **22 56 44.6 -2.9**
HYBB IVMs_BB IVMs_BB 23 59 55.0
comp=Z,17µm,19.4s
LHMI Lhok Sumawe 148.51 159 *e*PKPbc **PKPdf** **22 56 49.3 +1.7**
LHMI LR LR
comp=Z,28µm,20.0s
MYLDM Lahad Datu 148.55 201⇓P **PKPbc** **22 56 50.2 -1.1**
MYLDM Lahad Datu 148.55 201 *e*PKPbc **PKPbc** **22 56 51.3 0.0**
MYLDM LR LR
comp=Z,40µm,21.0s
BUKP Musuan 148.56 214 *e*P **PKPbc** **22 56 50.1 -1.3**
IPM Ipoh 148.78 167 *e*PKPdf **PKPdf** **22 56 45.5 -2.6**
IPM LR LR
comp=Z,31µm,21.0s
BUTP Butuan 149.25 216 *e*P **PKPab** **22 57 04.7 +7.2**
SRSP Sriramsagar 149.26 114 *e*PKPdf **PKPdf** **22 56 46.2 -2.5**
SRSP IVMs_BB IVMs_BB 00 02 06.1
comp=Z,16µm,18.7s
KULM Kulim 149.49 166 *e*PKPdf **PKPdf** **22 56 49.9 +0.7**
KULM LR LR
comp=Z,36µm,19.0s
CBIJ Chichi jima 149.66 264 *e*PKPbc **PKPbc** **22 56 51.7 -2.1**
JCJ Chichijima 149.66 264 PKPbc **PKPbc** **22 56 51.7 -2.1**
comp=Z,76nm,0.7s,baz=274,slow=19,SNR=2.2
YUK Yuzh-Kuril'sk 149.66 298 *i*PKP2 **PKPbc** **22 56 55.0 +1.8**
YUK pmax pmax
comp=Z,2µm,1.1s
YAK Yakutsk 149.83 340 PKPbc **PKPbc** **22 56 51.7 -1.3**
comp=Z,146nm,0.8s,baz=224,slow=0.6,SNR=18
YAK Yakutsk 149.83 340 *i*PKP2 **PKPbc** **22 56 51.9 -1.1**
YAK *e* 23 00 25.1
YAK *e*SSS SSS 23 25 28.1
YAK pmax pmax
comp=E,85nm,1.1s
YAK pmax pmax
comp=Z,769nm,1.3s
YAK pmax pmax
comp=N,77nm,1.4s
YAK pmax pmax
comp=Z,3µm,3.4s
YAK pmax pmax
comp=E,226nm,1.8s
YAK pmax pmax
comp=N,908nm,3.3s
YAK Yakutsk 149.83 340 *e*PKPbc **PKPbc** **22 56 51.7 -1.3**
YAK LR LR
comp=Z,35µm,21.0s
IUG Iuzhnay 149.84 65 *i*PKP **PKPdf** **22 56 48.5 -0.5**
IUG *i*PP **PP** **23 00 29.1 +0.8**
RPR Rampur 149.93 115 *e*PKPdf **PKPdf** **22 56 48.3 -1.5**
RPR IVMs_BB IVMs_BB 00 01 23.8
comp=Z,16µm,19.8s
KKM Kota Kinabalu 149.98 197 *e*PKPbc **PKPbc** **22 56 53.0 -2.1**
KKM LR LR
comp=Z,18µm,19.0s
KK08 Karatay Array 150.15 63 *e*PKPdf **PKPdf** **22 56 48.2 -1.2**
KK07 Karatay Array 150.16 63 *e*PKPdf **PKPdf** **22 56 47.5 -1.9**
KK01 Karatay Array 150.16 63 *e*PKPdf **PKPdf** **22 56 49.7 +0.2**
KK04 Karatay Array 150.16 63 *e*PKPdf **PKPdf** **22 56 49.7 +0.2**
KK02 Karatay Array 150.17 63 *e*PKPdf **PKPdf** **22 56 47.7 -1.7**
KK31 Karatay Array 150.17 63 *e*PKIKP **PKPbc** **22 56 52.2 -2.3**
KK31 Karatay Array 150.17 63 *e*PKPbc **PKPbc** **22 56 52.2 -2.3**
KKAR Karatay Array 150.17 63 *e*PKIKP **PKPbc** **22 56 52.2 -2.3**
KKAR Karatay Array 150.17 63 *e*PKPbc **PKPbc** **22 56 52.2 -2.3**
KK06 Karatay Array 150.18 63 *e*PKPdf **PKPdf** **22 56 48.7 -0.7**
TYV Tymovskoe 150.48 313 *e*PKIKP **PKPbc** **22 56 53.6 -1.3**
TYV pmax pmax
comp=Z,108nm,1.2s
BRZS Berezniki 150.50 49 *e*PKP **PKPdf** **22 56 49.0 -0.7**
BRZS LR LR 00 08 55.7
comp=Z,513nm,18.0s
PVM Polavaram 150.57 121 *e*PKPdf **PKPdf** **22 56 49.1 -1.7**
PVM IVMs_BB IVMs_BB 00 03 29.2
comp=Z,12µm,20.3s
MSLP Maasin 150.63 216 *e*P **PKPbc** **22 56 54.6 -1.8**
SNPH Sibulan 150.68 212 *e*P **PKPbc** **22 56 54.7 -1.9**
NKL Nikolayevsk 150.77 318 *e*PKIKP **PKPbc** **22 56 55.0 -0.5**
NKL pmax pmax
comp=Z,4µm,7.0s
NKL pmax pmax
comp=N,11nm,0.9s
NKL pmax pmax
comp=E,19nm,0.9s
NKL pmax pmax
comp=Z,190nm,0.9s
DZA Taraz 150.78 64 *i*PKP **PKPdf** **22 56 49.5 -0.9**
DZA *i*PP **PP** **23 00 33.9 +0.3**
BHPL Bhopal 150.99 106 *e*P **PKPdf** **22 56 48.8 -2.6**
NGP Nagpur 151.11 111 *e*P **PKPdf** **22 56 48.3 -3.2**
NGP *ex* x 23 10 53.0
NGP *ex* x 23 59 13.5
comp=Z,21µm,23.7s
LLP Lapu-Lapu 151.21 214 *e*P **PKPdf** **22 56 53.9 +2.0**
SKLT Songkhla 151.31 165 P **PKPbc** **22 56 55.1 -2.9**
YSS Yuzh-Sakhalins 151.44 305α*e*PKIKP **PKPbc** **22 56 55.3 -2.0**
YSS *i* 22 57 10.6
YSS *e*PPS PPS 23 13 24.0
YSS pmax pmax
comp=Z,140nm,1.1s
YSS pmax pmax
comp=E,90nm,1.0s
YSS pmax pmax
comp=Z,5µm,6.5s
YSS Yuzh-Sakhalins 151.44 305 *e*PKPbc **PKPbc** **22 56 55.8 -1.5**
YSS LR LR
comp=Z,24µm,19.0s
PKDT Phuket 151.44 160 P **PKPdf** **22 56 54.4 +2.2**
JMP Maruseppu 151.46 299 P **PKPbc** **22 56 55.4 -2.1**
PLP Palo 151.46 217⇓*e*P **PKPbc** **22 57 00.9 +2.5**
ERM Erimo 151.75 295 *e*PKIKP **PKPbc** **22 56 57.3 -0.9**
ERM MLR MLR
comp=Z,76µm,20.0s
ERM Erimo 151.75 295 *e*PKPbc **PKPbc** **22 56 57.2 -0.9**
ERM LR LR
comp=Z,76µm,20.0s
JEM Erimo 151.75 295 P **PKPbc** **22 56 58.3 +0.1**
TRTT Trang 151.75 163 P **PKPdf** **22 56 53.7 +1.0**
comp=Z,139nm,1.3s
ASAJ Asahikawa 152.00 299 PKPbc **PKPbc** **22 56 57.8 -0.9**
comp=Z,32nm,0.9s,baz=295,slow=9.3,SNR=5.5
ASAJ Asahikawa 152.00 299 P **PKPbc** **22 57 00.1 +1.4**
ASAJ Asahikawa 152.00 299 *e*PKPdf **PKPdf** **22 56 54.5 +2.3**
ASAJ PKPbc **PKPbc** **22 56 57.8 -0.9**
ASAJ LR LR
comp=Z,300nm,19.0s
VIS Vishakhapatnam 152.09 122 *e*P **PKPdf** **22 56 51.1 -1.9**
JWK2 Keihoku 152.32 302 P **PKPbc** **22 56 57.9 -1.5**
JAP San Jose, Anti 152.49 211⇓*e*P **PKPab** **22 57 17.3 +6.5**
BTLS Baital 152.50 59 *i*PKP **PKPdf** **22 56 52.5 -0.4**
BTLS *i*PP **PP** **23 00 43.8 +0.4**
BTLS LR LR 00 08 27.5
comp=Z,14µm,21.2s
AML Almayashu 152.56 65 P **PKPbc** **22 57 00.3 -0.3**
SNR=12
SURT Suratani 152.59 160 P **PKPdf** **22 56 53.4 -0.5**
comp=Z,80nm,1.3s
EKS2 Erkin-Say 152.59 64 P **PKPbc** **22 57 00.5 +0.2**
SNR=14
PBA Port Blair 152.83 146 *e*P PKPdf 22 56 50.4 -3.9
RCP Roxas 152.86 213⇑*e*P **PKPbc** **22 57 00.9 -0.6**
JEW Eniwo 152.96 297 P **PKPbc** **22 56 58.9 -2.0**
USP Ospenovka 153.06 62 P **PKPbc** **22 57 02.7 +1.5**
SNR=9.8
AAK Ala-Archa 153.12 64 PKPbc **PKPbc** **22 56 58.5 -3.0**
comp=Z,6.5nm,0.7s,baz=236,slow=5.1,SNR=9.1
AAK PKPab **pPKPbc** **22 57 11.1 +0.3**
comp=Z,278nm,0.9s,baz=331,slow=3.4,SNR=18
AAK Ala-Archa 153.12 64 *e*PKIKP **PKPdf** **22 56 53.8 -0.3**
AAK *e* 22 56 58.5
AAK *e* 22 57 11.1
AAK Ala-Archa 153.12 64 P **PKPbc** **22 57 00.4 -1.1**
SNR=17
AAK Ala-Archa 153.12 64 *e*PKPdf **PKPdf** **22 56 53.8 -0.3**
AAK *e*PKPbc **PKPbc** **22 56 58.5 -3.0**
AAK *e*PKPab **pPKPbc** **22 57 11.1 +0.3**
AAK LR LR
comp=Z,56µm,21.0s
AAK Ala-Archa 153.12 64 PKPdf **PKPdf** **22 56 53.8 -0.3**
SNR=52
AAK Ala-Archa 153.12 64 P **PKPdf** **22 56 53.8 -0.3**
SNR=52
AAK Ala-Archa 153.12 64 *i*PKPdf **PKPdf** **22 56 52.3 -1.8**
SNR=47
AAK Ala-Archa 153.12 64 *i*P **PKPdf** **22 56 52.3 -1.8**
SNR=47
UCH Uchtor 153.16 65 P **PKPdf** **22 56 54.0 -0.6**
SNR=14
JOM Ohasama 153.18 289 P **PKPbc** **22 57 04.1 +2.6**
FRU Bishkek 153.19 63 *e*PKIKP **PKPdf** **22 56 54.0 0.0**
FRU *i* 22 57 00.0
JTM Tenmabayashi 153.35 292 P **PKPbc** **22 57 03.2 +1.4**
KBK Karagaybulak 153.45 64 P **PKPdf** **22 56 58.0 +3.3**
SNR=8.1
JMM Marumori 153.49 286 P **PKPbc** **22 57 05.4 +3.2**
JHJ2 Mitsune 153.54 275 PFAKE 22 57 00.0 -2.5
JHJ2 LR LR
comp=Z,40µm,19.0s
DHRM DHARAMSHALA 153.63 87 *e*P **PKPdf** **22 56 53.0 -2.3**
KZA Kyzart 153.72 65 P **PKPdf** **22 56 57.7 +2.4**
SNR=10.0
KURBB Kurchatov Arra 153.78 45 PKP **PKPdf** **22 56 52.1 -2.4**
comp=Z,3.4nm,0.8s,baz=297,slow=2.1,SNR=17
KURBB PKPbc **PKPbc** **22 57 00.1 -2.3**
comp=Z,20nm,0.9s,baz=299,slow=2.3,SNR=28
KURBB PKPab **sPKPbc** **22 57 14.8 -0.2**
comp=Z,66nm,0.8s,baz=297,slow=2.8,SNR=18
KURBB PP PP 23 01 01.3 +11
comp=Z,27nm,1.0s,baz=291,slow=5.6,SNR=4.2
KURK Kurchatov 153.79 45 *e*PKIKP **PKPdf** **22 56 52.1 -2.4**
KURK *e* 22 56 53.7
KURK *e* 22 57 00.1
KURK *e* 22 57 14.8
KURK MLR MLR
comp=Z,56µm,21.0s
KURK Kurchatov 153.79 45 *e*PKPdf **PKPdf** **22 56 52.1 -2.4**
KURK *e*PKPdf **PKPdf** **22 56 53.7 -0.9**
KURK *e*PKPbc **PKPbc** **22 57 00.1 -2.3**
KURK *e*PKPab **sPKPbc** **22 57 14.8 -0.2**
KURK *e*PP PP 23 01 01.3 +11
KURK LR LR
comp=Z,56µm,21.0s
KURK Kurchatov 153.79 45 PKPdf **PKPdf** **22 56 53.6 -0.9**
SNR=30
KURK Kurchatov 153.79 45 P **PKPdf** **22 56 53.6 -0.9**
SNR=30
TKM2 Tokmak 2 153.90 63 P **PKPbc** **22 57 01.4 -1.8**
SNR=5.9
ENPP El Nido 153.90 207 *e*P **PKPdf** **22 56 57.5 +1.7**
NVS Novosibirsk 153.99 33 *e*PKIKP **PKPdf** **22 56 56.0 +1.3**
NVS *e* 23 00 52.8
NVS pmax pmax
comp=Z,562nm,1.6s
NVS pmax pmax
comp=N,63nm,1.1s
NVS pmax pmax
comp=E,174nm,1.7s
JSH Shimam 154.00 296 P **PKPbc** **22 57 04.2 +1.0**
SMLA Simla 154.03 90 *e*P **PKPdf** **22 56 52.6 -2.9**
GRNR Gornyy 154.18 316 *e*PKIKP **PKPdf** **22 56 55.2 +0.1**
GRNR pmax pmax
comp=Z,42nm,1.0s
DGPR DIGLIPUR 154.25 145 *e*P **PKPdf** **22 56 53.0 -3.3**
KUU Kurty 154.31 61 *e*PKP **PKPdf** **22 56 55.1 -0.5**
KUU LR LR 00 10 43.9
comp=Z,10µm,20.4s
KSH Kashi 154.36 71 PKPbc **PKPdf** **22 56 55.0 -0.9**
KSH pPKP pPKPdf 22 57 05.0 -0.3
KSH sPKP 22 57 09.0
KSH PP **PP** **23 00 54.0 -0.2**
KSH SKS **SKSdf** **23 03 59.5 -1.2**
KSH SKKS **SKKSac** **23 07 40.5 -1.4**
KSH SS **SS** **23 20 29.0 -3.9**
KSH AMB AMB
comp=Z,18µm,6.5s
KSH LR LR
comp=Z,19µm,21.0s
KSH LR LR
comp=Z,10µm,19.5s
KSH LR LR
comp=Z,40µm,19.5s
DDI Dehra Dun 154.51 93 *e*P **PKPdf** **22 56 53.0 -3.3**
JOD2 Odawara 2 154.55 279 P **PKPbc** **22 57 06.9 +2.3**
JRY Ryogami san 154.81 281 P **PKPbc** **22 57 07.7 +2.5**
AAA Alma-Ata 154.82 62 *e*PKIKP **PKPbc** **22 57 02.2 -2.8**
AAA pmax pmax
comp=Z,4µm,11.7s
AAA Alma-Ata 154.82 62 *i*PKP **PKPdf** **22 56 55.9 -0.5**
AAA LR LR 00 09 02.8
comp=Z,9µm,20.4s
SEM Semipalatinsk 154.86 44 *e*PKP **PKPdf** **22 56 56.0 -0.4**
SEM *i*PP **PP** **23 00 57.8 +1.2**
SEM LR LR 00 07 56.1
comp=Z,17µm,21.9s
MDOK Medeo 154.92 62 *i*PKP **PKPdf** **22 56 56.0 -0.7**
MDOK LR LR 00 09 11.4
comp=Z,25µm,21.2s
KDJ Kajisay 155.15 65 *e*PKPdf **PKPdf** **22 56 55.5 -1.5**
KDJ LR LR
comp=Z,46µm,22.0s
ZAA1 Zalesovo Array 155.27 34 *e*PKPdf **PKPdf** **22 56 54.2 -2.3**
ZAA1 *e*PKPab sPKPbc 22 57 19.6 +1.6
ZAA0 Zalesovo Array 155.27 34 *e*PKPdf **PKPdf** **22 56 54.3 -2.2**
ZAA0 LR LR
comp=Z,58µm,21.0s
ZALV Zalesovo Beam 155.27 34 PKP **PKPdf** **22 56 54.2 -2.3**
comp=Z,8.9nm,0.7s,baz=298,slow=3.2,SNR=25
ZALV PKPab sPKPbc 22 57 19.6 +1.6
comp=Z,68nm,0.8s,baz=299,slow=3.0,SNR=14
ZALV Zalesovo Beam 155.27 34 *e*PKPdf **PKPdf** **22 56 53.8 -2.7**
ZALV PKPab sPKPbc 22 57 19.6 +1.6
MJAR Matsushiro Arr 155.43 282 PKP **PKPdf** **22 56 55.4 -2.0**
comp=Z,1.0nm,0.3s,baz=352,slow=1.4,SNR=4.1
MJAR PKPab sPKPbc 22 57 20.3 +1.3
comp=Z,24nm,1.0s,baz=196,slow=1.1,SNR=16
MAJO Matsushiro 155.43 282 *e*PKIKP **PKPdf** **22 56 55.4 -2.0**
MAJO *e* 22 57 20.3

MAJO					MLR	MLR			
	comp=Z,36μm,21.0s								
MAJO	**Matsushiro**	**155.43**	**282**		*e*PKPdf	**PKPdf**	**22 56 55.4**	**-2.0**
MAJO					*e*PKPab	sPKPbc	22 57 20.3	+1.3
MAJO					LR	LR			
	comp=Z,36μm,21.0s								
MAT	**Matsushiro**	**155.43**	**282**		PKP	**PKPdf**	**22 56 57.5**	**+0.2**
MAT	**Matsushiro**	**155.43**	**282**		P	PKPdf	22 57 08.4	+11
MJB9	**Matsu-Tunnel**	**155.43**	**282**		PFAKE		22 57 10.0	+13
MJB9					LR	LR			
	comp=Z,37μm,20.0s								
CLNS	**Chul'man**	**155.48**	**337**		*e*PKIKP	**PKPdf**	**22 57 00.6**	**+3.8**
CLNS					pmax	pmax			
	comp=Z,36nm,1.2s								
CLNS					pmax	pmax			
	comp=N,16nm,1.3s								
CLNS					pmax	pmax			
	comp=E,18nm,1.4s								
TDK	**Taldyqorghan**	**155.54**	**57**	*i*	PKP	**PKPdf**	**22 56 55.9**	**-1.3**
TDK					LR	LR	00 07 27.1		
	comp=E,43μm,22.7s								
TARG	**Taragay, Kyrgy**	**155.65**	**65**		PFAKE		22 57 10.0	+12
TARG					LR	LR			
	comp=Z,77μm,21.0s								
SATY	**Saty**	**155.92**	**62**	*e*	PKP	**PKPdf**	**22 56 57.0**	**-0.9**
SATY				*i*	PP	**PP**	**23 01 03.5**	**+0.7**
SATY					LR	LR	00 11 02.7		
	comp=Z,19μm,21.2s								
JGF	**Kuroka**	**156.00**	**280**		P	PKPab	22 57 16.0	-10
TEY	**Ternei**	**156.04**	**303**	*e*	PKIKP	PKPdf	22 57 09.6	+12
TEY					pmax	pmax			
	comp=Z,4μm,8.0s								
TEY					pmax	pmax			
	comp=Z,30nm,0.9s								
JGN	**Niukaw**	**156.11**	**281**		P	PKPab	22 57 12.8	-13
INU	**Inuyama**	**156.24**	**279**		PFAKE		22 57 10.0	+12
INU					LR	LR			
	comp=Z,75μm,22.0s								
UZB	**Uzynbulak**	**156.35**	**62**	*i*	PKP	**PKPdf**	**22 56 57.7**	**-0.9**
UZB				*i*	PP	**PP**	**23 01 05.8**	**+0.5**
UZB					LR	LR	00 10 36.0		
	comp=Z,9μm,18.8s								
BOD	**Bodaibo**	**157.01**	**352**	*e*	PKIKP	**PKPdf**	**22 56 57.3**	**-1.4**
ZEA	**Zeya**	**157.01**	**330**	*e*	PKIKP	**PKPdf**	**22 57 00.5**	**+1.7**
ZEA				*i*			23 21 00.5		
ZEA					pmax	pmax			
	comp=Z,1μm,3.0s								
ZEA					pmax	pmax			
	comp=Z,6μm,12.0s								
MAKZ	**Makanchi**	**157.39**	**51**	*e*	PKIKP	**PKPdf**	**22 56 57.6**	**-2.0**
MAKZ					MLR	MLR			
	comp=Z,78μm,22.0s								
MAKZ	**Makanchi**	**157.39**	**51**	*e*	PKPdf	**PKPdf**	**22 56 57.6**	**-2.0**
MAKZ					LR	LR			
	comp=Z,78μm,22.0s								
KLR	**Kul'dur**	**157.56**	**316**		PKP	**PKPdf**	**22 56 58.1**	**-1.5**
	comp=Z,0.3nm,1.0s,baz=5.8,slow=0.9,SNR=8.1								
MK31	**Makanchi Array**	**157.59**	**51**	*e*	PKIKP	**PKPdf**	**22 56 57.8**	**-2.0**
MK31	**Makanchi Array**	**157.59**	**51**	*e*	PKPdf	**PKPdf**	**22 56 57.8**	**-2.0**
MK32	**Makanchi Array**	**157.59**	**51**	*e*	PKPdf	**PKPdf**	**22 56 57.5**	**-2.4**
MK32				*e*	PKPab	**PKPab**	**22 57 29.1**	**-2.9**
MK32				*e*	PP	PP	23 01 21.8	+10
MKAR	**Makanchi Array**	**157.59**	**51**		PKP	**PKPdf**	**22 56 57.5**	**-2.4**
	comp=Z,2.5nm,0.7s,baz=285,slow=1.9,SNR=22								
MKAR					PKPab	**PKPab**	**22 57 29.1**	**-2.9**
	comp=Z,54nm,0.9s,baz=325,slow=2.3,SNR=13								
MKAR					PP	PP	23 01 21.8	+10	
	comp=Z,41nm,1.1s,baz=318,slow=1.6,SNR=4.4								
MKAR	**Makanchi Array**	**157.59**	**51**	*e*	PKPdf	**PKPdf**	**22 56 57.8**	**-2.0**
MKAR					LR	LR			
	comp=Z,14μm,20.0s								
MK01	**Makanchi Array**	**157.61**	**51**	*e*	PKPdf	**PKPdf**	**22 56 57.0**	**-2.9**
PYUN	**Piuthan**	**157.70**	**102**	*e*	P	**PKPdf**	**22 56 58.8**	**-2.0**
	comp=Z,330nm,1.3s								
PYUN	**Piuthan**	**157.70**	**102**	*e*	P	**PKPdf**	**22 56 59.2**	**-1.6**
	comp=Z,213nm,1.1s								
SRDT	**SRDT**	**157.79**	**157**		P	**PKPdf**	**22 56 59.6**	**-1.3**
	comp=Z,77nm,3.0s								
BOK	**Bokaro**	**157.79**	**115**	*e*	P	**PKPdf**	**22 56 57.3**	**-3.5**
BOK					IAMs_20	IAMs_20	23 52 33.6		
	comp=Z,17μm,25.7s								
KOLN	**Koldanda**	**158.05**	**103**	*e*	P	**PKPdf**	**22 56 59.0**	**-2.2**
	comp=Z,166nm,1.2s								
KOLN	**Koldanda**	**158.05**	**103**	*e*	P	**PKPdf**	**22 56 59.6**	**-1.6**
	comp=Z,166nm,1.2s								
DANN	**Dangsing**	**158.42**	**102**	*e*	P	**PKPdf**	**22 57 00.1**	**-1.7**
	comp=Z,11nm,1.0s								
DANN	**Dangsing**	**158.42**	**102**	*e*	P	**PKPdf**	**22 56 59.9**	**-1.9**
	comp=Z,22nm,1.0s								
JAD	**Aida**	**158.49**	**277**		P	PKPab	22 57 49.2	+13
ZSN	**Zaisan**	**158.92**	**48**	*e*	PKP	**PKPdf**	**22 57 00.5**	**-0.9**
ZSN					LR	LR	00 12 21.0		
	comp=Z,7μm,19.6s								
GKN	**Gorkha**	**158.97**	**104**	*e*	P	**PKPdf**	**22 57 00.0**	**-2.3**
	comp=Z,402nm,1.4s								
GKN	**Gorkha**	**158.97**	**104**	*e*	P	**PKPdf**	**22 57 00.2**	**-2.1**
	comp=Z,186nm,1.1s								
DMN	**Daman**	**159.17**	**105**	*e*	P	**PKPdf**	**22 57 00.5**	**-2.1**
	comp=Z,507nm,1.7s								
DMN	**Daman**	**159.17**	**105**	*e*	P	**PKPdf**	**22 57 00.6**	**-2.1**
	comp=Z,507nm,1.7s								
JHS	**Saijyo**	**159.36**	**277**		P	PKPab	22 57 53.2	+13
PKIN	**Phulchoki**	**159.39**	**105**	*e*	P	**PKPdf**	**22 57 00.3**	**-2.6**
PKIN	**Phulchoki**	**159.39**	**105**	*e*	P	**PKPdf**	**22 57 01.3**	**-1.6**
	comp=Z,128nm,1.5s								
KKN	**Kakani**	**159.39**	**105**	*e*	P	**PKPdf**	**22 57 00.9**	**-1.9**
	comp=Z,407nm,1.7s								
KKN	**Kakani**	**159.39**	**105**	*e*	P	**PKPdf**	**22 57 01.1**	**-1.7**
	comp=Z,407nm,1.7s								
PKI	**Pulchoki**	**159.40**	**105**	*e*	P	**PKPdf**	**22 57 00.3**	**-2.7**
	comp=Z,191nm,1.4s								
PKI	**Pulchoki**	**159.40**	**105**	*e*	P	**PKPdf**	**22 57 01.3**	**-1.7**
	comp=Z,191nm,1.4s								
GUN	**Gumba**	**159.92**	**105**	*e*	P	**PKPdf**	**22 57 01.8**	**-1.8**
	comp=Z,421nm,1.7s								
GUN	**Gumba**	**159.92**	**105**	*e*	P	**PKPdf**	**22 57 01.5**	**-2.1**
	comp=Z,2μm,2.5s								
RAMN	**Ramite**	**160.03**	**108**	*e*	P	**PKPdf**	**22 57 01.8**	**-1.8**
	comp=Z,627nm,1.6s								
RAMN	**Ramite**	**160.03**	**108**	*e*	P	**PKPdf**	**22 57 01.3**	**-2.3**
	comp=Z,731nm,1.7s								
JIRN	**Jiri**	**160.05**	**106**	*e*	P	**PKPdf**	**22 57 01.2**	**-2.6**
	comp=Z,153nm,1.3s								
JIRN	**Jiri**	**160.05**	**106**	*e*	P	**PKPdf**	**22 57 01.7**	**-2.1**
	comp=Z,559nm,1.7s								
ODAN	**Odare**	**160.60**	**110**	*e*	P	**PKPdf**	**22 57 02.9**	**-1.4**
	comp=Z,480nm,1.6s								
ODAN	**Odare**	**160.60**	**110**	*e*	P	**PKPdf**	**22 57 02.2**	**-2.1**
	comp=Z,968nm,2.1s								
MDJ	**Mudanjiang**	**160.92**	**306**		PKP	**PKPdf**	**22 56 59.0**	**-4.7**
MDJ					pPKP	pPKPdf	22 57 13.8	+0.7
MDJ					sPKP		22 57 16.8		
MDJ					PP	**PP**	**23 01 31.0**	**+1.3**
MDJ					SKS	**SKSdf**	**23 04 06.0**	**-0.7**
MDJ					AMB	AMB			
	comp=Z,13μm,9.0s								
MDJ					LR	LR			
	comp=Z,10μm,23.1s								
MDJ					LR	LR			
	comp=Z,35μm,26.3s								
MDJ					LR	LR			
	comp=Z,71μm,23.9s								
MDJ	**Mudanjiang**	**160.92**	**306**	*e*	PKPdf	**PKPdf**	**22 57 03.7**	**0.0**
TAPN	**Taplejung**	**161.09**	**109**	*e*	P	**PKPdf**	**22 57 03.0**	**-1.9**
	comp=Z,214nm,1.5s								
TAPN	**Taplejung**	**161.09**	**109**	*e*	P	**PKPdf**	**22 57 02.5**	**-2.4**
	comp=Z,532nm,2.0s								
CM01	**Chiang Mai Arr**	**161.50**	**152**	*e*	PKPdf	**PKPdf**	**22 57 02.4**	**-2.7**
CM31	**Chiang Mai Arr**	**161.53**	**152**	*e*	PKPdf	**PKPdf**	**22 57 03.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**161.53**	**152**		PKP	**PKPdf**	**22 57 03.3**	**-1.9**
	comp=Z,5.9nm,0.9s,baz=244,slow=2.6,SNR=29								
LAMP	**Lampang**	**161.85**	**154**		P	**PKPdf**	**22 57 04.6**	**-0.9**
CHTO	**Chiang Mai**	**161.86**	**152**	*e*	PKIKP	**PKPdf**	**22 57 03.4**	**-2.1**
CHTO	**Chiang Mai**	**161.86**	**152**	*e*	PKPdf	**PKPdf**	**22 57 03.4**	**-2.1**
CHTO	**Chiang Mai**	**161.86**	**152**		PKPdf	**PKPdf**	**22 57 04.0**	**-1.5**
	SNR=18								
WMQ	**Urumqi**	**162.24**	**55**		PKP	**PKPdf**	**22 57 04.0**	**-1.2**
WMQ					PKS	**PKSdf**	**23 00 41.5**	**+3.2**
WMQ					PP	**PP**	**23 01 37.8**	**+0.9**
WMQ					SS	SS	23 21 51.8	-4.2
WMQ					AMB	AMB			
	comp=Z,37μm,10.5s								
WMQ					LR	LR			
	comp=Z,96μm,28.5s								
WMQ					LR	LR			
	comp=Z,129μm,25.7s								
WMQ					LR	LR			
	comp=Z,50μm,28.5s								
IRK	**Irkutsk**	**162.77**	**7**	*e*	PKIKP	**PKPdf**	**22 57 05.7**	**+0.3**
IRK				*e*			23 01 45.7		
IRK					pmax	pmax			
	comp=Z,426nm,3.4s								
MOY	**Mondy**	**162.82**	**15**	*e*	PKIKP	**PKPdf**	**22 57 05.6**	**0.0**
MOY					pmax	pmax			
	comp=Z,211nm,2.8s								
SHL	**Shillong**	**163.21**	**121**	*e*	P	**PKPdf**	**22 57 02.6**	**-4.3**
SHL					IAMs_20	IAMs_20	23 59 31.2		
	comp=Z,21μm,31.4s								
TLY	**Talaya**	**163.25**	**9**		PKPab	**PKPab**	**22 57 55.3**	**-1.1**
	comp=Z,23nm,0.9s,baz=186,slow=7.7,SNR=6.8								
TLY	**Talaya**	**163.25**	**9**	*c*	*i*PKIKP	**PKPdf**	**22 57 10.6**	**+4.7**
TLY					*e*		23 01 49.1		
TLY					*e*SS	SS	23 22 06.8	+2.5	
TLY					pmax	pmax			
	comp=Z,139nm,2.8s								
TLY	**Talaya**	**163.25**	**9**		PKPdf	**PKPdf**	**22 57 08.0**	**+2.1**
	SNR=15								
TLY	**Talaya**	**163.25**	**9**		P	**PKPdf**	**22 57 08.0**	**+2.1**
	SNR=15								
KSRS	**Korea Array**	**163.69**	**284**		PKP	**PKPdf**	**22 57 06.0**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=281,slow=0.6,SNR=7.7								
KSRS					PKPab	**PKPab**	**22 57 59.8**	**+0.9**	
	comp=Z,17nm,0.9s,baz=107,slow=3.7,SNR=6.0								
KS01	**Wonju Array Si**	**163.71**	**284**	*e*	PKPdf	**PKPdf**	**22 57 04.2**	**-2.5**
KS15	**Wonju Array Si**	**163.72**	**284**	*e*	PKPdf	**PKPdf**	**22 57 06.0**	**-0.7**
KS15				*e*	PKPab	**PKPab**	**22 57 59.8**	**+0.7**
KSAR	**Wonju Array Be**	**163.72**	**284**		PKIKP	**PKPdf**	**22 57 06.0**	**-0.7**
KSAR	**Wonju Array Be**	**163.72**	**284**		PKP	**PKPdf**	**22 57 06.0**	**-0.7**
QIZ	**Qiongzhong**	**163.79**	**187**		PKP	**PKPdf**	**22 57 07.5**	**+0.1**
QIZ					PP	**PP**	**23 01 48.8**	**+5.0**
QIZ					SS	SS	23 22 12.0	+2.3
QIZ					AMB	AMB			
	comp=Z,10μm,12.0s								
QIZ					LR	LR			
	comp=Z,14μm,18.6s								
QIZ					LR	LR			
	comp=Z,20μm,18.6s								
QIZ					LR	LR			
	comp=Z,32μm,25.5s								
CN2	**Changchun**	**163.97**	**308**	*e*	PKP	**PKPdf**	**22 57 05.0**	**-1.8**
CN2					PKPab	**PKPab**	**22 58 01.5**	**+1.6**
CN2					PP	**PP**	**23 01 48.5**	**+2.6**
CN2				*e*	SS	SS	23 22 15.5	+2.0
CN2					AMB	AMB			
	comp=Z,2μm,10.0s								
CN2					LR	LR			
	comp=Z,25μm,22.0s								
CN2					LR	LR			
	comp=Z,39μm,22.0s								
CN2					LR	LR			
	comp=Z,30μm,22.0s								
ZAK	**Zakamensk**	**164.47**	**11**	*e*	PKIKP	**PKPdf**	**22 57 02.2**	**-5.0**
ZAK					pmax	pmax			
	comp=Z,40nm,2.7s								
LSA	**Lhasa**	**164.86**	**107**		PKP	**PKPdf**	**22 57 08.3**	**-0.3**
LSA					PP	**PP**	**23 01 57.0**	**+5.4**
LSA					SS	SS	23 22 22.5	-2.1
LSA					LR	LR			
	comp=Z,20μm,22.8s								
LSA					LR	LR			
	comp=Z,7μm,24.8s								
LSA					LR	LR			
	comp=Z,36μm,24.8s								
LSA	**Lhasa**	**164.86**	**107**	*e*	PKIKP	**PKPdf**	**22 57 07.6**	**-1.1**
LSA	**Lhasa**	**164.86**	**107**	*e*	PKPdf	**PKPdf**	**22 57 07.5**	**-1.1**
LSA	**Lhasa**	**164.86**	**107**		PKPdf	**PKPdf**	**22 57 06.7**	**-1.9**
LSA	**Lhasa**	**164.86**	**107**		P	**PKPdf**	**22 57 06.7**	**-1.9**
HKC	**Hong Kong Obse**	**166.01**	**205**	⇓	P	PKPdf	22 57 18.0	+8.8
SNY	**Shenyang**	**166.05**	**303**	⇑	PKP	**PKPdf**	**22 57 05.5**	**-3.1**
SNY					PP	**PP**	**23 02 01.8**	**+5.0**
SNY					SKS	**SKSdf**	**23 04 09.8**	**-0.8**
SNY					SS	**SS**	**23 22 34.3**	**-0.7**
SNY					AMB	AMB			
	comp=Z,11μm,10.8s								
SNY					LR	LR			
	comp=Z,11μm,23.0s								
SNY					LR	LR			
	comp=Z,25μm,25.5s								
SNY					LR	LR			
	comp=Z,50μm,24.5s								
QZH	**Quanzhou**	**166.20**	**225**	*i*	PKP	**PKPdf**	**22 57 07.8**	**-1.4**
QZH					PP	**PP**	**23 01 59.5**	**+2.3**
QZH					SKKS		23 08 43.5		
QZH					SS	**SS**	**23 22 35.5**	**-0.4**
QZH					AMB	AMB			
	comp=Z,15μm,11.8s								
QZH					LR	LR			
	comp=Z,32μm,19.4s								
QZH					LR	LR			
	comp=Z,10μm,26.1s								
QZH					LR	LR			
	comp=Z,44μm,21.3s								
GZH	**Guangzhou**	**167.02**	**203**		PKP	**PKPdf**	**22 57 16.0**	**+6.1**
GZH					PKS	**PKSdf**	**23 00 46.3**	**+3.6**
GZH					SKS	**SKSdf**	**23 04 13.8**	**+1.8**
GZH					LR	LR			
	comp=Z,16μm,19.4s								
GZH					LR	LR			
	comp=Z,22μm,19.4s								
SONA1	**Songino Array**	**167.32**	**5**	*e*	PKPdf	**PKPdf**	**22 57 06.8**	**-2.8**
SONA0	**Songino Array**	**167.33**	**5**	*e*	PKPdf	**PKPdf**	**22 57 08.4**	**-1.2**
SONA0				*e*	PKPab	**PKPab**	**22 58 14.7**	**+0.1**
SONA0				*e*	PP	PP	23 02 12.4	+10
SONM	**Songino Array**	**167.33**	**5**		PKP	**PKPdf**	**22 57 08.4**	**-1.2**
	comp=Z,2.9nm,1.0s,baz=214,slow=1.0,SNR=14								
SONM					PKPab	**PKPab**	**22 58 14.7**	**+0.1**	
	comp=Z,35nm,1.1s,baz=330,slow=2.7,SNR=8.6								
SONM					PP	PP	23 02 12.4	+10	
	comp=Z,18nm,1.0s,baz=308,slow=4.2,SNR=3.6								
ULN	**Ulaanbaatar**	**167.33**	**3**	*e*	PKIKP	**PKPdf**	**22 57 09.0**	**-0.6**
ULN	**Ulaanbaatar**	**167.33**	**3**	*e*	PKPdf	**PKPdf**	**22 57 09.0**	**-0.6**
ULN	**Ulaanbaatar**	**167.33**	**3**		PKPdf	**PKPdf**	**22 57 09.1**	**-0.5**
	SNR=16								
ULN	**Ulaanbaatar**	**167.33**	**3**		P	**PKPdf**	**22 57 09.1**	**-0.5**
	SNR=16								
SSE	**Sheshan**	**168.12**	**254**		PKP	**PKPdf**	**22 57 13.5**	**+3.0**
SSE					PP	PP	23 02 16.3	+8.5	
SSE					AMB	AMB			
	comp=Z,650nm,5.1s								
SSE					LR	LR			
	comp=Z,5μm,24.7s								
SSE					LR	LR			
	comp=Z,7μm,26.3s								
DL2	**Dalian**	**168.41**	**293**		PKP	**PKPdf**	**22 57 14.3**	**+3.9**
DL2					AMB	AMB			
	comp=Z,12μm,9.2s								
DL2					LR	LR			
	comp=Z,35μm,19.9s								
DL2					LR	LR			
	comp=Z,58μm,20.2s								
KMI	**Kunming**	**169.02**	**155**		PKP	**PKPdf**	**22 57 09.8**	**-1.8**
NJ2	**Nanjing**	**170.32**	**254**	*e*	PKP	**PKPdf**	**22 57 16.0**	**+4.2**
NJ2					pPKP	**pPKPdf**	**22 57 20.5**	**-0.7**
NJ2					sPKP		22 57 24.5		
NJ2					SKS	**SKSdf**	**23 04 13.0**	**-0.3**
NJ2					SKKS	**SKKSac**	**23 09 03.5**	**-0.1**
NJ2					SS	**SS**	**23 23 18.3**	**-0.3**
NJ2					AMB	AMB			
	comp=Z,21μm,8.7s								
NJ2					LR	LR			
	comp=Z,28μm,18.6s								
NJ2					LR	LR			
	comp=Z,29μm,21.6s								
NJ2					LR	LR			
	comp=Z,32μm,21.7s								
GYA	**Guiyang**	**171.22**	**173**	*i*	PKP	**PKPdf**	**22 57 11.0**	**-1.6**
GYA					PKPab	**PKPab**	**22 58 33.5**	**+1.2**
GYA					PP	**PP**	**23 02 26.5**	**+4.5**
GYA					SKKS		23 09 06.0		
GYA					SS	**SS**	**23 23 23.5**	**-1.2**
GYA					AMB	AMB			
	comp=Z,8μm,13.4s								
GYA					LR	LR			
	comp=Z,24μm,28.9s								
GYA					LR	LR			
	comp=Z,23μm,28.1s								
GYA					LR	LR			
	comp=Z,29μm,27.9s								
BJI	**Beijing**	**171.84**	**309**		PKP	**PKPdf**	**22 57 11.3**	**-1.0**
GTA	**Gaotai**	**172.33**	**54**	*e*	PKP	**PKPdf**	**22 57 11.8**	**-1.0**
GTA					pPKP	pPKPdf	22 57 22.3	+0.1
GTA					sPKP		22 57 26.3		
GTA					PP	**PP**	**23 02 33.8**	**+5.1**
GTA					SKKS		23 09 13.5		
GTA					AMB	AMB			
	comp=Z,14μm,8.1s								
GTA					LR	LR			
	comp=Z,37μm,23.3s								
GTA					LR	LR			
	comp=Z,46μm,21.6s								
GTA					LR	LR			
	comp=Z,63μm,21.6s								
TIA	**Tai'an**	**172.41**	**280**		PKP	**PKPdf**	**22 57 10.5**	**-2.2**
TIA					SKKS		23 09 16.0		
TIA					AMB	AMB			
	comp=Z,16μm,8.0s								
TIA					LR	LR			
	comp=Z,34μm,23.5s								
TIA					LR	LR			
	comp=Z,26μm,21.6s								
TIA					LR	LR			
	comp=Z,56μm,19.6s								
WHN	**Wuhan**	**172.84**	**231**	⇑	PKP	**PKPdf**	**22 57 11.8**	**-1.3**
WHN					PP	**PP**	**23 02 33.3**	**+2.4**
WHN					AMB	AMB			
	comp=Z,26μm,14.0s								
WHN					LR	LR			
	comp=Z,101μm,20.1s								
WHN					LR	LR			
	comp=Z,66μm,20.0s								
WHN					LR	LR			
	comp=Z,121μm,19.8s								
HHC	**Hu-ho-hao-te**	**173.66**	**334**	*e*	PKP	**PKPdf**	**22 57 11.0**	**-2.2**
HHC					PKS	**PKSdf**	**23 00 43.5**	**-2.0**
HHC					PP	**PP**	**23 02 39.8**	**+5.5**
HHC					SKKS		23 09 20.5		
HHC					LR	LR			
	comp=Z,38μm,21.2s								
HHC					LR	LR			
	comp=Z,28μm,21.5s								
HHC					LR	LR			
	comp=Z,58μm,21.2s								
BTO	**Baotou**	**174.35**	**343**	*e*	PKP	**PKPdf**	**22 57 12.0**	**-1.5**
CD2	**Chengdu**	**174.50**	**140**		PKP	**PKPdf**	**22 57 13.5**	**-0.3**
CD2					pPKP	pPKPdf	22 57 23.5	+0.3
CD2					sPKP		22 57 27.0		
CD2					PP	**PP**	**23 02 37.3**	**-1.4**
CD2					SKS	**SKSdf**	**23 04 14.3**	**-0.7**
CD2					SKKS	**SKKSac**	**23 09 22.0**	**-1.6**
CD2					SS	**SS**	**23 23 57.3**	**-0.5**
CD2					AMB	AMB			
	comp=Z,32μm,6.9s								
CD2					LR	LR			
	comp=Z,44μm,21.8s								
CD2					LR	LR			
	comp=Z,78μm,23.3s								
CD2					LR	LR			
	comp=Z,64μm,26.8s								
ENH	**Enshi**	**174.90**	**196**	*e*	PKPdf	**PKPdf**	**22 57 12.9**	**-1.0**
TIY	**Taiyuan**	**175.55**	**306**		PKP	**PKPdf**	**22 57 18.5**	**+4.6**
TIY					PKPab	**PKPab**	**22 58 51.0**	**-0.5**
TIY					AMB	AMB			
	comp=Z,7μm,10.7s								
TIY					LR	LR			
	comp=Z,40μm,19.6s								
TIY					LR	LR			
	comp=Z,31μm,19.4s								
TIY					LR	LR			
	comp=Z,66μm,20.7s								
LZH	**Lanzhou**	**176.60**	**74**	*e*	PKP	**PKPdf**	**22 57 13.8**	**-0.5**
LZH					pPKP	pPKPdf	22 57 23.8	+0.1
LZH					sPKP		22 57 27.5		
LZH					PKPab	**PKPab**	**22 58 56.0**	**-0.4**
LZH					PKS	**PKSdf**	**23 00 43.0**	**-3.6**
LZH					PP	**PP**	**23 02 50.5**	**+0.6**
LZH					SKS	**SKSdf**	**23 04 16.5**	**+1.1**
LZH					SKKS	**SKKSac**	**23 09 33.0**	**-1.0**
LZH					SS	**SS**	**23 24 14.5**	**-5.4**
LZH					AMB	AMB			
	comp=Z,23μm,5.4s								
LZH					LR	LR			
	comp=Z,35μm,19.5s								
LZH					LR	LR			
	comp=Z,80μm,19.5s								
LZH					LR	LR			
	comp=Z,110μm,20.7s								
XAN	**Xi'an**	**178.55**	**217**		PKP	**PKPdf**	**22 57 13.8**	**-0.7**
XAN					PKPab	**pPKPab**	**22 59 13.0**	**-0.9**
XAN					PP	**PP**	**23 03 02.5**	**+4.6**
XAN					SKKS		23 09 43.8		
XAN					SS	**SS**	**23 24 32.8**	**-3.3**
XAN					LR	LR			
	comp=Z,51μm,21.1s								
XAN					LR	LR			
	comp=Z,26μm,18.6s								
XAN					LR	LR			
	comp=Z,49μm,18.6s								

*ISCJB **25** 22:39:49.6±0.5, 18°.51N±0°.05×72°.13W±0°.03, h26km±5km, Error ellipse: s-maj=7.7km s-min=4.0km az=178.4*
*NEIC **25** 22:39:50.5±0.5, 18°.53N×72°.12W, h10km, ML3.6, Error ellipse: s-maj=8.9km s-min=5.1km az=173.0*
NEIC Felt [III] at Petionville. Also felt at Cerca-la-Source, Delmas and Kenscoff.
ISC 25 22:39:50.3±1.0, 18°.52N±0°.06×72°.10W±0°.03, h15km±7km, n23, σ1°59/35, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NQWLB	**Fermate**	**0.20**	**263**		*e*Pg	**Pg**	**22 39 54.5**	**-0.5**
NQWLB					*e*Sg	**Sg**	**22 39 58.5**	**+0.3**
SDDR	**Presa de Saban**	**0.90**	**59**		*e*Pg	**Pg**	**22 40 06.0**	**-1.8**
SDDR					*e*Sn	**Sg**	**22 40 19.6**	**0.0**
BANI	**BANI**	**1.66**	**94**		*e*Pn	**Pn**	**22 40 18.0**	**-1.1**
BANI					*e*Sn	**Sb**	**22 40 43.2**	**+1.7**
SDD	**Santo Domingo**	**2.08**	**91**		*e*Pn	**Pn**	**22 40 24.6**	**0.0**
SDD					*e*Sn	**Sn**	**22 40 50.4**	**0.0**
GRTK	**Grand Turk**	**3.

Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.25**	**286**	P	**Pn**	**22 44 05.8**	**-0.3**
JTH				S	**Sn**	**22 44 11.7**	**-0.6**
MIYJ	**Miyakonagasawa**	**0.40**	**223**	P	**Pn**	**22 44 07.1**	**-0.4**
MIYJ				S	**Sn**	**22 44 13.9**	**-0.8**
JKZ	**Kuzumaki**	**0.66**	**280**	P	**Pn**	**22 44 10.6**	**-0.1**
JKZ				S	**Sn**	**22 44 20.1**	**-0.2**
JANG	**Nango**	**0.71**	**315**	P	**Pn**	**22 44 10.7**	**-0.6**
JANG				S	**Sn**	**22 44 20.4**	**-1.0**
JOM	**Ohasama**	**0.79**	**240**	P	**Pn**	**22 44 12.0**	**-0.3**
JOM				S	**Sn**	**22 44 22.6**	**-0.5**
OFUJ	**Ofunato**	**0.88**	**207**	P	**Pn**	**22 44 13.2**	**-0.3**
OFUJ				S	**Sn**	**22 44 24.5**	**-0.8**
JMK	**Ichinoseki**	**1.18**	**219**	P	**Pn**	**22 44 17.6**	**+0.1**
JMK				S	**Sn**	**22 44 32.3**	**-0.1**
JAH	**Hinai**	**1.22**	**286**	P	**Pn**	**22 44 18.3**	**+0.2**
JTM	**Tenmabayashi**	**1.25**	**318**	P	**Pn**	**22 44 18.2**	**-0.2**
JTM				S	**Sn**	**22 44 34.0**	**-0.1**
JRG	**Rokugo**	**1.28**	**249**	P	**Pn**	**22 44 18.8**	**-0.1**
ASAJ	**Asahikawa**	**4.26**	**4**	P	**Pn**	**22 45 00.2**	**+0.6**
	2.7nm,0.3s,baz=234,slow=9.8,SNR=9.6						
ASAJ				S	**Sn**	**22 45 49.7**	**+1.7**
	2.0nm,0.3s,baz=63,slow=26,SNR=4.6						
MJAR	**Matsushiro Arr**	**4.56**	**224**	P	**Pn**	**22 45 06.2**	**+2.3**
	2.9nm,0.3s,baz=31,slow=14,SNR=26						
MAT	**Matsushiro**	**4.56**	**224**	P	**Pn**	**22 45 06.7**	**+2.9**
MAT				eS	**Sn**	**22 46 00.4**	**+4.8**
USRK	**Ussuriysk Ar.**	**8.73**	**303**	P	**Pn**	**22 46 03.8**	**+3.0**
	0.5nm,0.3s,baz=114,slow=16,SNR=8.7						
USRK				LR	LR	22 49 08.3	
	comp=Z,62nm,19.9s,baz=124,slow=36						
KSRS	**Korea Array**	**11.40**	**262**	P	Pn	22 46 42.3	+4.8
	0.3nm,0.3s,baz=66,slow=14,SNR=3.8						
KLR	**Kul'dur**	**11.94**	**325**	P	**Pn**	**22 46 48.5**	**+3.7**
	0.0nm,0.3s,baz=125,slow=15,SNR=3.2						
SEY	**Seymchan**	**23.90**	**12**	P	**P**	**22 49 05.4**	**-0.7**
	1.0nm,0.3s,baz=192,slow=6.1,SNR=7.6						
SONM	**Songino Array**	**26.81**	**299**	P	**P**	**22 49 32.1**	**-0.8**
	0.6nm,0.4s,baz=88,slow=7.9,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**29.21**	**126**	T	T	23 20 38.0	
	baz=318,slow=75,SNR=177						
H11N1	**WAKE ISLAND Hy**	**29.22**	**126**	T	T	23 20 38.7	
	baz=318,slow=75,SNR=166						
H11N3	**WAKE ISLAND Hy**	**29.23**	**126**	T	T	23 20 39.3	
	baz=318,slow=75,SNR=121						
H11S1	**WAKE ISLAND Hy**	**30.02**	**128**	T	T	23 21 39.3	
	baz=320,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**30.02**	**128**	T	T	23 21 43.9	
	baz=320,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**30.03**	**128**	T	T	23 21 47.0	
	baz=320,slow=76,SNR=24						
ZALV	**Zalesovo Beam**	**40.50**	**310**	P	**P**	**22 51 30.8**	**-0.3**
	1.1nm,0.4s,baz=83,slow=8.1,SNR=8.9						
CMAR	**Chiang Mai Arr**	**42.85**	**253**	P	**P**	**22 51 51.0**	**+0.2**
	0.6nm,0.4s,baz=54,slow=6.1,SNR=3.2						
MKAR	**Makanchi Array**	**43.18**	**300**	P	**P**	**22 51 52.9**	**-0.2**
	1.6nm,0.7s,baz=84,slow=9.5,SNR=23						
KURBB	**Kurchatov Arra**	**44.78**	**306**	P	**P**	**22 52 04.4**	**-1.4**
	1.3nm,0.4s,baz=81,slow=8.2,SNR=7.9						
ILAR	**Eielson Array**	**46.80**	**34**	P	**P**	**22 52 21.9**	**+0.3**
	0.7nm,0.9s,baz=280,slow=7.2,SNR=6.2						
JIRN	**Jiri**	**47.41**	**273**	*eP*	**P**	**22 52 28.4**	**+1.1**
	7.8nm,0.4s						
RAMN	**Ramite**	**47.45**	**272**	*eP*	**P**	**22 52 27.3**	**-0.2**
	8.7nm,0.6s						
GUN	**Gumba**	**47.52**	**273**	*eP*	**P**	**22 52 28.7**	**+0.5**
	20nm,0.7s						
KKN	**Kakani**	**48.05**	**274**	*eP*	**P**	**22 52 31.5**	**-0.5**
	10nm,0.6s						
PKI	**Pulchoki**	**48.05**	**273**	*eP*	**P**	**22 52 31.9**	**-0.3**
	3.4nm,0.4s						
PKIN	**Phulchoki**	**48.06**	**273**	*eP*	**P**	**22 52 31.7**	**-0.5**
	3.3nm,0.4s						
DMN	**Daman**	**48.27**	**274**	*eP*	**P**	**22 52 33.5**	**-0.3**
	3.8nm,0.4s						
GKN	**Gorkha**	**48.43**	**274**	*eP*	**P**	**22 52 34.6**	**-0.4**
BVAR	**Borovoye Array**	**49.14**	**311**	P	**P**	**22 52 39.4**	**-0.5**
	0.5nm,0.4s,baz=91,slow=8.0,SNR=4.3						
KOLN	**Koldanda**	**49.34**	**275**	*eP*	**P**	**22 52 39.7**	**-2.3**
	4.5nm,0.5s						
AAK	**Ala-Archa**	**49.71**	**297**	P	**P**	**22 52 44.0**	**-0.5**
	0.8nm,0.3s,baz=118,slow=5.0,SNR=6.2						
ARU	**Arti**	**49.75**	**311**	P	**P**	**22 52 20.5**	**-0.3**
	2.9nm,0.6s,baz=63,slow=6.8,SNR=10						
AKTO	**Aktyubinsk**	**57.25**	**311**	P	**P**	**22 52 38.3**	**-1.2**
	1.4nm,0.7s,baz=75,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**59.95**	**189**	P	**P**	**22 53 57.5**	**-0.9**
	0.8nm,0.5s,baz=6.8,slow=7.1,SNR=9.6						
GEYT	**Alibeck**	**63.01**	**298**	P	**P**	**22 54 17.5**	**-1.7**
	1.2nm,0.6s,baz=83,slow=17,SNR=4.1						
ASAR	**Alice Springs**	**63.67**	**188**	P	**P**	**22 54 22.3**	**-1.2**
	0.5nm,0.6s,baz=190,slow=4.8,SNR=4.8						
FINES	**FINESS Array B**	**66.59**	**332**	P	**P**	**22 54 41.0**	**-0.9**
	2.0nm,0.6s,baz=42,slow=8.9,SNR=8.8						
KBZ	**Khabaz**	**69.52**	**310**	P	**P**	**22 55 00.3**	**-0.3**
	4.4nm,0.9s,baz=86,slow=2.4,SNR=6.6						
HFS	**Hagfors**	**71.75**	**336**	P	**P**	**22 55 13.8**	**-0.2**
	1.1nm,0.4s,baz=47,slow=6.3,SNR=9.5						
NB2	**NORSAR Subarra**	**71.81**	**337**	P	**P**	**22 55 13.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**71.81**	**337**	P	**P**	**22 55 14.2**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=38,slow=6.0,SNR=6.3						
AKASG	**Malin Array Be**	**72.43**	**322**	P	**P**	**22 55 17.8**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=44,slow=6.3,SNR=7.7						
PDAR	**Pinedale Array**	**75.27**	**46**	P	**P**	**22 55 36.4**	**+1.2**
	comp=Z,2.8nm,1.0s,baz=129,slow=14,SNR=4.7						

*ISK **25** 22:53:35.7, 40°.81N×28°.13E, h16km, ML2.6/23*
*ISCJB **25** 22:53:36.4±0.3, 40°.83N±0°.03×28°.12E±0°.03, h20km±4km, Error ellipse: s-maj=4.6km s-min=3.1km az=165.3*
*CSEM **25** 22:53:36.2±0.1, 40°.82N×28°.12E, h16km, ML2.6, Error ellipse: s-maj=1.7km s-min=1.3km az=168.0*
*DDA **25** 22:53:36.6, 40°.87N×28°.18E, h7km, Ml2.5*

ISC 25 22:53:36.1±0.8, 40°.82N±0°.02×28°.12E±0°.02, h16km±7km, n72, σ0§68/95, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBT3	**Marmara-Eregli**	**0.13**	**300**	PG	**Pg**	**22 53 40.0**	**+0.3**
SBT3				SG	**Sb**	**22 53 43.9**	**+1.3**
SBT3	**Marmara-Eregli**	**0.13**	**300**	*ePg*	**Pg**	**22 53 40.0**	**+0.3**
SBT3				*eSg*	**Sb**	**22 53 43.9**	**+1.3**
ELBA	**Catalca**	**0.40**	**36**	*i* P	**Pg**	**22 53 44.2**	**-0.1**
ELBA				*i* S	**Sg**	**22 53 49.1**	**-0.7**
ELBA	**Catalca**	**0.40**	**36**	P	**Pg**	**22 53 44.2**	**-0.1**
ELBA				S	**Sg**	**22 53 49.1**	**-0.7**
SLVT	**Silivri**	**0.41**	**9**	PG	**Pg**	**22 53 44.8**	**+0.3**
SLVT				SG	**Sb**	**22 53 51.1**	**+0.1**
SLVT	**Silivri**	**0.41**	**9**	*ePg*	**Pg**	**22 53 44.8**	**+0.3**
SLVT				S	**Sg**	**22 53 46.4**	**-3.8**
SLVT				*eSg*	**Sb**	**22 53 51.1**	**+0.1**
CRLT	**Corlu**	**0.42**	**317**	PG	**Pb**	**22 53 45.3**	**+0.2**
CRLT	**Corlu**	**0.42**	**317**	*ePg*	**Pb**	**22 53 45.3**	**+0.2**
TKR	**Tekirdag**	**0.47**	**291**	PG	**Pg**	**22 53 45.4**	**-0.2**
TKR				SG	**Sg**	**22 53 52.5**	**+0.5**
TKR	**Tekirdag**	**0.47**	**291**	*ePg*	**Pg**	**22 53 45.4**	**-0.2**
TKR				*eSg*	**Sg**	**22 53 52.5**	**+0.5**
CTKS	**Kestanelik-??a**	**0.51**	**35**	PG	**Pg**	**22 53 45.9**	**-0.3**
CTKS	**Kestanelik-??a**	**0.51**	**35**	*ePg*	**Pg**	**22 53 45.9**	**-0.3**
EDC	**Edincik**	**0.51**	**203**	PG	**Pg**	**22 53 46.3**	**0.0**
EDC				SG	**Sb**	**22 53 53.8**	**0.0**
EDC	**Edincik**	**0.51**	**203**	*ePg*	**Pg**	**22 53 46.3**	**0.0**
EDC				*eSg*	**Sb**	**22 53 53.8**	**0.0**
KCTX	**Karacabey (Bur**	**0.58**	**162**	PG	**Pg**	**22 53 47.7**	**+0.1**
KCTX	**Karacabey (Bur**	**0.58**	**162**	*ePg*	**Pg**	**22 53 47.7**	**+0.1**
BGKT	**Bogazkoy**	**0.61**	**54**	PG	**Pg**	**22 53 47.9**	**-0.2**
BGKT	**Bogazkoy**	**0.61**	**54**	*ePg*	**Pg**	**22 53 47.9**	**-0.2**
ARMT	**Armutlu**	**0.62**	**114**	PG	**Pb**	**22 53 48.5**	**0.0**
ARMT				SG	**Sb**	**22 53 56.8**	**-0.1**
ARMT	**Armutlu**	**0.62**	**114**	*ePg*	**Pb**	**22 53 48.5**	**0.0**
ARMT				*eSg*	**Sb**	**22 53 56.8**	**-0.1**
CTYL	**Yalikoy Yolu**	**0.67**	**11**	PG	**Pb**	**22 53 49.6**	**+0.3**
CTYL	**Yalikoy Yolu**	**0.67**	**11**	*ePg*	**Pb**	**22 53 49.6**	**+0.3**
KIYI	**Yal¯–koy-Catal**	**0.68**	**11**	PG	**Pb**	**22 53 49.9**	**+0.5**
KIYI	**Yal¯–koy-Catal**	**0.68**	**11**	*ePg*	**Pb**	**22 53 49.9**	**+0.5**
SART	**Tekirdag**	**0.73**	**260**	*i* P	**Pg**	**22 53 47.8**	**-2.5**
SART				*i* S	**Sg**	**22 53 59.5**	**-0.4**
SART	**Tekirdag**	**0.73**	**260**	P	**Pg**	**22 53 47.8**	**-2.5**
SART				S	**Sg**	**22 53 59.5**	**-0.4**
RKY	**Sarkoy-Tekirda**	**0.73**	**260**	PG	**Pg**	**22 54 50.3**	**0.0**
RKY				SG	**Sb**	**22 54 00.5**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.73**	**260**	*ePg*	**Pg**	**22 53 50.3**	**0.0**
RKY				*eSg*	**Sb**	**22 54 00.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.74**	**128**	PG	**Pb**	**22 53 50.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.74**	**128**	*ePg*	**Pb**	**22 53 50.7**	**+0.3**
ISK	**Istanbul-Kandi**	**0.75**	**71**	PG	**Pg**	**22 53 50.5**	**-0.2**
ISK	**Istanbul-Kandi**	**0.75**	**71**	*ePg*	**Pg**	**22 53 50.5**	**-0.2**
KAVV	**Kandilli-Istan**	**0.75**	**71**	PG	**Pg**	**22 53 50.3**	**-0.4**
KAVV	**Kandilli-Istan**	**0.75**	**71**	*ePg*	**Pg**	**22 53 50.3**	**-0.4**
BUY	**Buyukada**	**0.76**	**87**	PG	**Pg**	**22 53 50.7**	**-0.1**
BUY				SG	**Sb**	**22 54 01.4**	**+0.5**
BUY	**Buyukada**	**0.76**	**87**	*i* P	**Pn**	**22 53 51.7**	**-0.3**
BUY				*i* S	**Sg**	**22 54 00.8**	**-0.1**
BUY	**Buyukada**	**0.76**	**87**	*ePg*	**Pg**	**22 53 50.7**	**-0.1**
BUY	**Buyukada**	**0.76**	**87**	P	**Pn**	**22 53 51.7**	**-0.3**
BUY				S	**Sg**	**22 54 00.8**	**-0.1**
BUY				*eSg*	**Sb**	**22 54 01.4**	**+0.5**
KRBG	**Karabiga-Canak**	**0.76**	**236**	PG	**Pg**	**22 53 50.6**	**-0.3**
KRBG	**Karabiga-Canak**	**0.76**	**236**	*ePg*	**Pg**	**22 53 50.6**	**-0.3**
KLYT	**Kilyos**	**0.82**	**58**	PG	**Pb**	**22 53 51.8**	**-0.1**
KLYT				SG	**Sg**	**22 54 03.2**	**+0.3**
KLYT	**Kilyos**	**0.82**	**58**	*ePg*	**Pb**	**22 53 51.8**	**-0.1**
KLYT				*eSg*	**Sg**	**22 54 03.2**	**+0.3**
GONE	**Gonen-Balikesi**	**0.84**	**203**	PG	**Pg**	**22 53 52.6**	**+0.2**
GONE	**Gonen-Balikesi**	**0.84**	**203**	*ePg*	**Pg**	**22 53 52.6**	**+0.2**
PHSR	**Pinarhisar**	**0.93**	**331**	PG	**Pb**	**22 53 53.7**	**0.0**
PHSR	**Pinarhisar**	**0.93**	**331**	*ePg*	**Pb**	**22 53 53.7**	**0.0**
LPK	**Lapseki**	**1.13**	**247**	PN	**Pb**	**22 53 56.2**	**-0.9**
LPK	**Lapseki**	**1.13**	**247**	*ePn*	**Pb**	**22 53 56.2**	**-0.9**
HRT	**Hereke**	**1.17**	**89**	PN	**Pn**	**22 53 57.9**	**+0.1**
HRT	**Hereke**	**1.17**	**89**	*ePn*	**Pn**	**22 53 57.9**	**+0.1**
BALB	**Balikesir**	**1.19**	**189**	PN	**Pn**	**22 53 58.3**	**+0.3**
BALB	**Balikesir**	**1.19**	**189**	*ePn*	**Pn**	**22 53 58.3**	**+0.3**
SILT	**Sile**	**1.20**	**73**	PN	**Pb**	**22 53 58.5**	**+0.2**
SILT	**Sile**	**1.20**	**73**	*ePn*	**Pb**	**22 53 58.5**	**+0.2**
ERIK	**Erikli-Kesan**	**1.23**	**264**	PN	**Pn**	**22 53 58.9**	**+0.4**
ERIK	**Erikli-Kesan**	**1.23**	**264**	*ePn*	**Pn**	**22 53 58.9**	**+0.4**
ADVT	**Abdulvahap**	**1.29**	**107**	PN	**Pn**	**22 53 59.5**	**+0.1**
ADVT	**Abdulvahap**	**1.29**	**107**	*ePn*	**Pn**	**22 53 59.5**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.32**	**252**	PN	**Pn**	**22 53 59.8**	**0.0**
GELI	**Tayfur-Gelibol**	**1.32**	**252**	*ePn*	**Pn**	**22 53 59.8**	**0.0**
EDRB	**Edirne**	**1.46**	**315**	PN	**Pn**	**22 54 02.0**	**+0.3**
EDRB	**Edirne**	**1.46**	**315**	*ePn*	**Pn**	**22 54 02.0**	**+0.3**
ENEZ	**Enez**	**1.50**	**267**	PN	**Pn**	**22 54 02.7**	**+0.5**
ENEZ	**Enez**	**1.50**	**267**	*ePn*	**Pn**	**22 54 02.7**	**+0.5**
ALN	**Alexandroupoli**	**1.58**	**273**	PN	**Pn**	**22 54 03.7**	**+0.4**
ALN	**Alexandroupoli**	**1.58**	**273**	*ePn*	**Pn**	**22 54 03.7**	**+0.4**
SAUV	**Serdivan-Sakar**	**1.68**	**92**	PN	**Pn**	**22 54 04.7**	**0.0**
SAUV	**Serdivan-Sakar**	**1.68**	**92**	*ePn*	**Pn**	**22 54 04.7**	**0.0**
TVSB	**Tavsanli**	**1.71**	**143**	PN	**Pn**	**22 54 05.6**	**+0.3**
TVSB	**Tavsanli**	**1.71**	**143**	*ePn*	**Pn**	**22 54 05.6**	**+0.3**
BOZC	**Bozcaada**	**1.86**	**239**	PN	**Pn**	**22 54 08.2**	**+1.0**
BOZC	**Bozcaada**	**1.86**	**239**	*ePn*	**Pn**	**22 54 08.2**	**+1.0**

*ISCJB **25** 23:01:01.1±0.6, 12°.64S±0°.06×77°.72W±0°.07, h33km, mb4.2/12, Error ellipse: s-maj=10.1km s-min=7.6km az=149.8*
*NEIC **25** 23:01:01.2±3.3, 12°.69S×77°.73W, h24km±22km, mb4.6/4, ML4.6(ARE), Error ellipse: s-maj=19.0km s-min=8.3km az=65.0*
NEIC Felt [II] at Lima.
*IDC **25** 23:01:02.0±6.3, 12°.59S×77°.66W, h29km±42km, mb4.0/9, mb1 4.0/12, mb1mx3.7/56, mbtmp4.2/12, ML2.7/2, Error ellipse: s-maj=24.7km s-min=18.2km az=71.0*

ISC 25 23:01:02.6±0.6, 12°.63S±0°.07×77°.64W±0°.07, h33km, n44, σ1§89/43, mb4.4/12, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.01**	**51**	Pn	**Pn**	**23 01 19.3**	**-1.1**
	2µm,0.3s,baz=245,slow=13,SNR=2596						
NNA				Sn	**Sn**	**23 01 32.4**	**-1.3**
	2µm,0.3s,baz=133,slow=18,SNR=46						
NNA	**Nana**	**1.01**	**51**	*ePn*	**Pn**	**23 01 19.4**	**-1.1**
NNA				*eSn*	**Sb**	**23 01 35.2**	**+0.6**
ATAH	**Atahualpa**	**5.51**	**352**	Pn	**Pn**	**23 02 23.2**	**+0.4**
	7.8nm,0.3s,baz=144,slow=3.0,SNR=37						
ATAH				Sn	**Sn**	**23 03 23.3**	**-2.1**
	11nm,0.3s,baz=34,slow=12,SNR=4.2						
LPAZ	**La Paz**	**9.90**	**113**	Pn	**Pn**	**23 03 26.1**	**+2.8**
	0.1nm,0.3s,baz=307,slow=12,SNR=3.5						
PB11	**IPOC Station P**	**10.44**	**134**	*ePn*	**Pn**	**23 03 26.9**	**-3.3**
PB01	**IPOC Station P**	**11.43**	**138**	*ePn*	**Pn**	**23 03 43.9**	**+0.1**
SAML	**Samuel**	**14.66**	**77**	*ePn*	**Pn**	**23 04 28.3**	**+0.4**
SIV	**San Ignacio**	**16.39**	**104**	Pn	**Pn**	**23 04 51.6**	**+1.2**
	0.1nm,0.3s,baz=271,slow=12,SNR=2.1						
ROSC	**El Rosal**	**17.67**	**11**	P	**Pn**	**23 05 06.7**	**-0.1**
	0.2nm,0.3s,baz=204,slow=20,SNR=1.6						
RUSC	**La Rusia**	**18.95**	**14**	*eP*	**Pn**	**23 05 24.5**	**+2.0**
	123nm,1.9s						
SDV	**Santo Domingo**	**22.48**	**18**	P	**P**	**23 06 00.2**	**+0.6**
	3.0nm,0.5s,baz=236,slow=15,SNR=3.5						
CPUP	**Villa Florida**	**23.45**	**128**	P	**P**	**23 06 08.9**	**-0.3**
	2.6nm,0.6s,baz=324,slow=19,SNR=2.7						
CPUP	**Villa Florida**	**23.45**	**128**	*eP*	**P**	**23 06 10.0**	**+0.7**
SDCO	**Great Sand Dun**	**56.52**	**334**	*eP*	**P**	**23 10 42.8**	**+0.7**
	3.4nm,0.6s						
RSSD	**Black Hills**	**61.38**	**339**	P	**P**	**23 11 17.1**	**+1.5**
	4.1nm,0.9s						
HWUT	**Hardware Ranch**	**62.38**	**332**	P	**P**	**23 11 22.1**	**-0.3**
	2.2nm,0.7s						
ULM	**Lac du Bonnet**	**64.62**	**347**	P	**P**	**23 11 35.5**	**-1.3**
	3.8nm,0.9s,baz=152,slow=5.9,SNR=3.9						
SNAA	**Tanae**	**73.31**	**161**	P	**P**	**23 12 30.6**	**0.0**
	4.6nm,0.9s,baz=289,slow=4.0,SNR=8.4						
DBIC	**Dimbokro**	**74.81**	**79**	P	**P**	**23 12 40.0**	**-0.3**
	5.4nm,1.0s,baz=270,slow=7.0,SNR=4.5						
KOWA	**Kowa**	**77.73**	**72**	P	**P**	**23 12 57.6**	**+0.7**
	4.0nm,0.8s,baz=270,slow=8.0,SNR=9.0						
YKA	**Yellowknife Ar**	**80.23**	**344**	P	**P**	**23 13 08.0**	**-1.5**
	0.3nm,0.8s,baz=144,slow=6.3,SNR=4.3						
TOA0	**Torodi Ar. Sit**	**82.71**	**75**	*eP*	**P**	**23 13 24.8**	**+1.0**
TORD	**Torodi Ar. Bea**	**82.71**	**75**	P	**P**	**23 13 24.0**	**+0.3**
	2.6nm,0.6s,baz=262,slow=4.6,SNR=11						
ESDC	**Sonseca Array**	**85.78**	**48**	P	**P**	**23 13 39.7**	**+0.8**
	0.1nm,0.3s,baz=258,slow=4.9,SNR=6.6						
ES19	**SONSECA Array**	**85.84**	**48**	*eP*	**P**	**23 13 39.8**	**+0.6**
SYO	**Syowa Base**	**87.61**	**161**	⇑ i/X	P	23 13 42.0	-5.2
SUMG	**Summit**	**88.81**	**11**	*eP*	**P**	**23 13 53.5**	**+0.2**
INK	**Inuvik**	**89.90**	**342**	*eP*	**P**	**23 13 57.9**	**0.0**
H11N3	**WAKE ISLAND Hy**	**17.91**	**286**	T	T	01 28 34.9	
	baz=97,slow=75,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**17.92**	**286**	T	T	01 28 31.1	
	baz=97,slow=75,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**17.93**	**286**	T	T	01 28 28.1	
	baz=97,slow=75,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**18.01**	**284**	T	T	01 28 34.6	
	baz=94,slow=74,SNR=25						
H11S1	**WAKE ISLAND Hy**	**18.01**	**284**	T	T	01 28 28.9	
	baz=94,slow=74,SNR=47						
H11S3	**WAKE ISLAND Hy**	**18.03**	**284**	T	T	01 28 37.6	
	baz=94,slow=74,SNR=28						
ASAR	**Alice Springs**	**132.53**	**221**	PKP	**PKPdf**	**23 20 15.2**	**+0.5**
	0.2nm,0.5s,baz=111,slow=4.1,SNR=2.8						
WRA	**Warramunga Arr**	**134.85**	**225**	PKP	**PKPdf**	**23 20 19.1**	**0.0**
	1.0nm,0.9s,baz=133,slow=1.3,SNR=6.0						
ZALV	**Zalesovo Beam**	**136.50**	**15**	PKP	**PKPdf**	**23 20 19.5**	**-1.6**
	0.3nm,0.3s,baz=305,slow=5.2,SNR=4.0						
KURK	**Kurchatov**	**137.37**	**22**	PKP	**PKPdf**	**23 20 23.6**	**+0.8**
KURBB	**Kurchatov Arra**	**137.41**	**22**	PKP	**PKPdf**	**23 20 23.6**	**+0.7**
	0.6nm,0.8s,baz=218,slow=6.3,SNR=6.2						
MKAR	**Makanchi Array**	**141.98**	**23**	PKP	**PKPdf**	**23 20 30.9**	**-0.5**
	0.1nm,0.6s,baz=333,slow=1.4,SNR=3.6						
KSH	**Kashi**	**144.50**	**36**	*ePKP*	**PKPab**	**23 20 36.0**	**+1.5**
KSH				pPKP	pPKPdf	23 20 46.8	-0.2
KSH				PP	**PP**	**23 23 48.3**	**-3.4**
KSH				SKS	**SKSdf**	**23 27 35.0**	**-8.4**
KSH				SKKS	SKKSac	23 30 32.8	-10
SONA1	**Songino Array**	**144.73**	**355**	*ePKPdf*	**PKPab**	**23 20 35.4**	**+0.2**
SONM	**Songino Array**	**144.75**	**355**	PKP	**PKPab**	**23 20 35.8**	**+0.6**
	4.5nm,0.8s,baz=320,slow=2.0,SNR=30						
LZH	**Lanzhou**	**156.61**	**357**	*ePKP*	**PKPdf**	**23 20 57.0**	**+2.0**
LZH				pPKP	pPKPdf	23 21 07.8	+1.9
LZH				sPKP		23 21 11.8	
LZH				PKP	**PKPab**	**23 21 26.0**	**+2.1**

*IDC **25** 23:03:32.4±1.0, 35°.11S×72°.31W, h0km, mb4.4/7, mb1 4.4/8, mb1mx4.0/46, mbtmp4.3/8, ML4.1/1, Error ellipse: s-maj=36.6km s-min=24.3km az=67.0*
*GUC **25** 23:03:36.5±0.4, 35°.09S×72°.68W, h44km±5km, ML4.6*

*NEIC **25** 23:03:36.0±0.0, 35°.09S×72°.68W, h44km, ML4.6(GUC), After GUC.*

ISC 25 23:03:35.4±0.8, 35°.08S±0°.05×72°.7W±0°.1, h22km±6km, n26, σ1§00/29, mb4.3/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.06**	**186**	*eP*	**Pn**	**23 03 54.5**	**-0.3**
COCH				*eS*	**Sb**	**23 04 08.5**	**+0.2**
CCHI	**Chillan**	**1.59**	**163**	*eP*	**Pn**	**23 04 02.2**	**0.0**
CCHI				*eS*	**Sn**	**23 04 21.9**	**-0.2**
CCHI				IAML		23 04 24.1	
	comp=E,11µm,0.5s						
CCSP	**San Pedro de C**	**1.80**	**192**	*eP*	**Pb**	**23 04 07.5**	**-0.1**
CCSP				*eS*	**Sn**	**23 04 26.8**	**-0.5**
RCDM	**Rinconada Maip**	**2.20**	**44**	*eP*	**Pn**	**23 04 11.3**	**+0.7**
RCDM				*eS*	**Sn**	**23 04 37.6**	**+0.5**
LMEL	**Las Melosas**	**2.36**	**59**	IAML		23 04 50.0	
	comp=E,3µm,0.6s						
CLCH	**Cerro Calan**	**2.42**	**47**	IAML		23 04 51.1	
	comp=N,5µm,0.5s						
ROC1	**El Roble**	**2.50**	**33**	*ePn*	**Pn**	**23 04 13.9**	**-1.1**
ROCH	**El Roble**	**2.50**	**33**	*eP*	**Pn**	**23 04 12.8**	**-2.2**
ROCH				*eS*	**Sn**	**23 04 45.6**	**+0.6**
ROCH				IAML		23 04 56.0	
	comp=N,3µm,0.7s						
FCH	**Farellones**	**2.62**	**49**	*eP*	**Pn**	**23 04 17.9**	**+1.2**
PLCA	**Paso Flores**	**5.88**	**164**	Pn	**Pn**	**23 05 01.3**	**0.0**
	comp=N,1.3nm,0.3s,baz=5.3,slow=12,SNR=20						
PLCA				Lg	Lg	23 06 31.7	
	comp=N,1.7nm,0.3s,baz=301,slow=8.9,SNR=4.3						
PLCA	**Paso Flores**	**5.88**	**164**	*ePn*	**Pn**	**23 05 03.1**	**+1.8**
LCO	**Las Campanas**	**6.27**	**16**	*ePn*	**Pn**	**23 05 07.0**	**+0.2**
TRQA	**Tornquist**	**9.08**	**112**	*ePn*	**Pn**	**23 05 45.4**	**+0.2**
SIV	**San Ignacio**	**21.65**	**32**	P	**P**	**23 08 23.2**	**-1.3**
	comp=N,7.7nm,0.7s,baz=226,slow=11,SNR=11						
TXAR	**Lajitas Array**	**70.44**	**331**	P	**P**	**23 14 50.0**	**+2.0**
	comp=N,1.0nm,0.5s,baz=156,slow=8.3,SNR=25						
DBIC	**Dimbokro**	**76.00**	**71**	P	**P**	**23 15 20.6**	**-0.5**
	comp=N,2.5nm,0.8s,baz=196,slow=9.3,SNR=6.5						
BOSA	**Boshof**

ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23 30 45.0	-0.6
ERTU				Sn	Sn	23 31 06.0	0.0
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23 30 45.0	-0.7
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*SN	Sn	23 31 06.0	+0.1
KTK1	**Kautokeino**	**1.62**	**42**	*e*P	Pn	23 30 46.2	-1.0
KTK1	**Kautokeino**	**1.62**	**42**	*e*P	Pn	23 30 46.2	-1.0
KALU	**Kalix**	**2.35**	**147**	Pb	Pn	23 30 58.3	+1.1
KALU	**Kalix**	**2.35**	**147**	Sb	Sb	23 31 29.3	-0.8
KALU	**Kalix**	**2.35**	**147**	*e*PB	Pn	23 30 58.4	+1.2
KALU				*e*SB	Sb	23 31 29.3	-0.8
TOF	**Tornio**	**2.40**	**136**	Pb	Pn	23 30 59.2	+1.3
TOF	**Tornio**	**2.40**	**136**	Sg	Sb	23 31 31.5	0.0
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	23 30 59.3	+1.4
TOF				MSG		23 31 28.8	
	comp=Z,4.1nm,0.2s						
TOF				*e*SG	Sb	23 31 31.5	0.0
SGF	**Sodankyl**	**2.45**	**97**	Pb	Pn	23 31 00.1	+1.5
SGF	**Sodankyl**	**2.45**	**97**	Sg	Sb	23 31 33.7	+0.8
SGF	**Sodankyl**	**2.45**	**97**	*e*PB	Pn	23 31 00.1	+1.5
SGF				*e*SG	Sb	23 31 33.8	+0.8
ARE0	**ARCESS Array S**	**2.58**	**46**	P	Pn	23 31 00.5	+0.2
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	23 31 00.5	+0.2
	baz=227						
ARE0				*e*SB	Sb	23 31 35.9	-0.6
MSF	**Maaselka**	**3.99**	**115**	P	Pn	23 31 21.3	+1.6
MSF	**Maaselka**	**3.99**	**115**	*e*P	Pn	23 31 21.4	+1.7
KU6	**Riekki**	**4.23**	**111**	Pg	Pb	23 31 33.4	+0.9
KU6	**Riekki**	**4.23**	**111**	*e*PG	Pb	23 31 33.4	+0.9

CSEM ***25*** *23:30:20.1±0.3, 67°.69N×21°.02E, h1km, ML2.2, Error ellipse: s-maj=13.1km s-min=6.0km az=29.0, Mining explosion.*

UPP 25 23:30:25.9, 67°.85N×20°.23E, h0km, ML2.2, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**21**	P	Pg	23 30 28.4	+0.3
KUA				S	Sg	23 30 30.0	+0.4
KUA	**Kurravaara**	**0.12**	**21**	P	Pg	23 30 28.4	+0.3
KUA				S	Sg	23 30 30.0	+0.4
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	23 30 30.7	+0.2
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	23 30 30.7	+0.2
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	23 30 34.6	+0.1
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	23 30 34.6	0.0

MEX 25 23:58:09.3±1.0, 16°.31N×98°.21W, h11km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.12**	**44**	*e*P	Pg	23 58 11.4	-0.9
PNIG				*e*S	Sg	23 58 14.4	0.0
TLIG	**Tlapa**	**1.29**	**345**	*e*P	Pn	23 58 29.0	-4.5
TLIG				*i* S	Sb	23 58 45.1	-5.4
VHO	**Vista Hermosa**	**1.61**	**62**	*e*P	Pn	23 58 34.5	-3.4
VHO				*e*S	Sn	23 58 54.5	-4.3
ACX	**Acapulco**	**1.67**	**290**	*i* P	Pn	23 58 36.0	-2.6
ACX				*i* S	Sn	23 58 56.8	-3.4
HUIG	**Huatulco**	**2.09**	**104**	*e*P	Pn	23 58 40.3	-4.1
HUIG				*e*S	Sn	23 59 05.8	-4.7
CAIG	**El Cayaco**	**2.10**	**291**	*e*P	Pn	23 58 41.4	-3.1
CAIG				*e*S	Sn	23 59 06.9	-3.8
PLIG	**Platanillo**	**2.41**	**330**	*e*P	Pn	23 58 46.7	-2.1
PLIG				*i* S	Sn	23 59 14.9	-3.6

NEIC 25 23:59:44.7±0.0, 10°.17N×67°.89W, h5km, MW3.7(CAR), **After CAR., Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**2.99**	**245**	*e*Pn	Pn	00 00 32.3	-0.7
SDV				*e*Sn	Sn	00 01 06.0	-3.4
RUSC	**La Rusia**	**6.67**	**231**	*e*Pn	Pn	00 01 23.9	0.0
ROSC	**El Rosal**	**8.29**	**231**	*e*Pn	Pn	00 01 46.9	+0.9
PRAC	**Prado**	**9.45**	**228**	*e*Pn	Pn	00 02 01.4	-0.2

LDG ***26*** *00:02:18.9±0.1, 41°.90N×15°.35E, h10km, Ml3.4/13, Error ellipse: s-maj=3.9km s-min=2.5km az=53.0*
CSEM ***26*** *00:02:18.8±0.1, 41°.88N×15°.29E, h20km, MLL3.9/24, Error ellipse: s-maj=2.0km s-min=1.7km az=20.0*
PDG ***26*** *00:02:18.3±0.5, 41°.87N×15°.31E, h24km±1km, MLL3.4/10, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0*
ISCJB ***26*** *00:02:18.3±0.2, 41°.93N±0°.01×15°.29E±0°.02, h29km±2km, Error ellipse: s-maj=2.5km s-min=1.8km az=21.2*
ROM ***26*** *00:02:18.2±0.1, 41°.88N×15°.36E, h27km±1km, Ml3.6/40, Error ellipse: s-maj=1.8km s-min=1.0km az=10.0*
PRU ***26*** *00:02:19.6, 42°.10N×15°.47E, h0km*
IDC ***26*** *00:02:20.1±1.7, 42°.24N×14°.63E, h0km, mb3.5/1, mb1 3.7/5, mb1mx3.3/67, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=56.8km s-min=16.0km az=95.0*

ISC 26 00:02:18.7±0.8, 41°.89N±0°.02×15°.30E±0°.02, h25km±6km, n276, σ1$55/385, 11C-8D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELA	**Melanico ??? S**	**0.23**	**214**	Pg	**Pb**	**00 02 24.5**	**-0.1**
MELA				Sg	**Sb**	**00 02 29.1**	**+0.4**
	14µm,0.2s						
MELA	**Melanico ??? S**	**0.23**	**214**	Pg	**Pb**	**00 02 24.5**	**-0.1**
MELA				Sg	**Sb**	**00 02 29.1**	**+0.4**
	14µm,0.2s						
SGRT	**San Giovanni R**	**0.36**	**112**	Pg	**Pb**	**00 02 25.8**	**-0.9**
SGRT				Sg	**Sb**	**00 02 31.0**	**-1.2**
	7µm,0.3s						
SGRT	**San Giovanni R**	**0.36**	**112**	Pg	**Pb**	**00 02 25.8**	**-0.9**
SGRT				Sg	**Sb**	**00 02 31.0**	**-1.2**
	7µm,0.3s						
CIGN	**Sant'Elia a Pi**	**0.38**	**231**	Pg	**Pb**	**00 02 27.1**	**+0.2**
CIGN				Sg	**Sb**	**00 02 33.2**	**+0.7**
	792nm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.38**	**231**	Pg	**Pb**	**00 02 27.1**	**+0.2**
CIGN				Sg	**Sb**	**00 02 33.2**	**+0.7**
	792nm,0.4s						
FRES	**Fresagrandinar**	**0.47**	**280**	Pg	**Pb**	**00 02 29.2**	**+0.7**
FRES				Sg	**Sn**	**00 02 37.4**	**-0.1**
	4µm,0.6s						
FRES	**Fresagrandinar**	**0.47**	**280**	Pg	**Pb**	**00 02 29.2**	**+0.7**
FRES				Sg	**Sn**	**00 02 37.4**	**-0.1**
	4µm,0.6s						
MSAG	**Monte S. Angel**	**0.49**	**111**	Pg	**Pb**	**00 02 27.9**	**-0.9**
MSAG				Sg	**Sb**	**00 02 35.4**	**-0.3**
	11µm,0.3s						
MSAG	**Monte S. Angel**	**0.49**	**111**	Pg	**Pb**	**00 02 27.9**	**-0.9**
MSAG				Sg	**Sb**	**00 02 35.4**	**-0.3**
	11µm,0.3s						
MS1	**Monte Sant'Ang**	**0.52**	**111**	*i* Pg	**Pb**	**00 02 28.3**	**-1.0**
MS1				Sg	**Sb**	**00 02 35.6**	**-0.8**
TRIV	**Trivento**	**0.57**	**257**	Pg	**Pb**	**00 02 30.7**	**+0.6**
TRIV				Sg	**Sn**	**00 02 39.4**	**-0.5**
	2µm,0.5s						
TRIV	**Trivento**	**0.57**	**257**	Pg	**Pb**	**00 02 30.7**	**+0.6**
TRIV				Sg	**Sn**	**00 02 39.4**	**-0.5**
	2µm,0.5s						
BSSO	**Busso**	**0.63**	**237**	Pg	**Pb**	**00 02 31.3**	**+0.2**
	831nm,0.6s						
BSSO	**Busso**	**0.63**	**237**	Pg	**Pb**	**00 02 31.3**	**+0.2**
	831nm,0.6s						
SACR	**S. Croce Del S**	**0.66**	**222**	Pg	**Pb**	**00 02 31.4**	**-0.3**
SACR				Sg	**Sn**	**00 02 42.1**	**-0.2**
	619nm,0.7s						
SACR	**S. Croce Del S**	**0.66**	**222**	Pg	**Pb**	**00 02 31.4**	**-0.3**
SACR				Sg	**Sn**	**00 02 42.1**	**-0.2**
	619nm,0.7s						
SGTA	**Sant Agata di**	**0.76**	**176**	Pg	**Pb**	**00 02 32.7**	**-0.6**
SGTA				Sg	**Sn**	**00 02 44.1**	**-0.5**
	3µm,0.4s						
SGTA	**Sant Agata di**	**0.76**	**176**	Pg	**Pb**	**00 02 32.7**	**-0.6**
SGTA				Sg	**Sn**	**00 02 44.1**	**-0.5**
	3µm,0.4s						
PSB1	**Pescosannita**	**0.76**	**209**	Sg	**Pb**	**00 02 32.9**	**-0.4**
PSB1				Sg	**Sn**	**00 02 44.6**	**0.0**
	418nm,0.3s						
PSB1	**Pescosannita**	**0.76**	**209**	Pg	**Pb**	**00 02 32.9**	**-0.4**
PSB1				Sg	**Sn**	**00 02 44.6**	**0.0**
	418nm,0.3s						
PTRJ	**Pietraroja**	**0.78**	**228**	Pg	**Pb**	**00 02 32.9**	**-0.8**
PTRJ				Sg	**Sn**	**00 02 45.7**	**+0.5**
	1µm,0.3s						
PTRJ	**Pietraroja**	**0.78**	**228**	Pg	**Pb**	**00 02 32.9**	**-0.8**
PTRJ				Sg	**Sn**	**00 02 45.7**	**+0.5**
	1µm,0.3s						
MRB1	**Monte Rocchett**	**0.80**	**198**	Pg	**Pb**	**00 02 33.7**	**-0.3**
MRB1				Sg	**Sn**	**00 02 45.4**	**-0.3**
	2µm,0.6s						
MRB1	**Monte Rocchett**	**0.80**	**198**	Pg	**Pb**	**00 02 33.7**	**-0.3**
MRB1				Sg	**Sn**	**00 02 45.4**	**-0.3**
	2µm,0.6s						
MIDA	**Miranda**	**0.82**	**253**	Pg	**Pb**	**00 02 34.3**	**0.0**
MIDA				Sg	**Sn**	**00 02 46.5**	**+0.4**
	1µm,0.5s						
MIDA	**Miranda**	**0.82**	**253**	Pg	**Pb**	**00 02 34.3**	**0.0**
MIDA				Sg	**Sn**	**00 02 46.5**	**+0.4**
	1µm,0.5s						
LPEL	**Lama dei Pelig**	**0.84**	**281**	Pg	**Pn**	**00 02 35.1**	**0.0**
	3µm,0.2s						
LPEL	**Lama dei Pelig**	**0.84**	**281**	Pg	**Pn**	**00 02 35.1**	**0.0**
	3µm,0.2s						
SGG	**Gregorio Mates**	**0.85**	**234**	Pg	**Pb**	**00 02 34.5**	**-0.4**
	764nm,0.3s						
SGG	**Gregorio Mates**	**0.85**	**234**	Pg	**Pb**	**00 02 34.5**	**-0.4**
	764nm,0.3s						
CAFE	**Carife**	**0.86**	**183**	Pg	**Pb**	**00 02 34.7**	**-0.4**
CAFE				Sg	**Sn**	**00 02 47.3**	**0.0**
	2µm,0.5s						
CAFE	**Carife**	**0.86**	**183**	Pg	**Pb**	**00 02 34.7**	**-0.4**
CAFE				Sg	**Sn**	**00 02 47.3**	**0.0**
	2µm,0.5s						
RNI2	**Rionero Sannit**	**0.88**	**258**	Pg	**Pb**	**00 02 35.2**	**-0.1**
RNI2				Sg	**Sn**	**00 02 48.8**	**+1.3**
	1µm,0.3s						
RNI2	**Rionero Sannit**	**0.88**	**258**	Pg	**Pb**	**00 02 35.2**	**-0.1**
RNI2				Sg	**Sn**	**00 02 48.8**	**+1.3**
	1µm,0.3s						
VAGA	**Valle Agricola**	**0.93**	**239**	Pg	**Pb**	**00 02 35.5**	**-0.7**
	1µm,0.4s						
VAGA	**Valle Agricola**	**0.93**	**239**	Pg	**Pb**	**00 02 35.5**	**-0.7**
	1µm,0.4s						
VULT	**Monte Vulture**	**0.97**	**165**	Pg	**Pb**	**00 02 36.3**	**-0.6**
	5µm,0.5s						
VULT	**Monte Vulture**	**0.97**	**165**	Pg	**Pb**	**00 02 36.3**	**-0.6**
	5µm,0.5s						
SNAL	**S. Angelo Dei**	**0.97**	**184**	Pg	**Pb**	**00 02 35.9**	**-1.0**
	1µm,0.5s						
SNAL	**S. Angelo Dei**	**0.97**	**184**	Pg	**Pb**	**00 02 35.9**	**-1.0**
	1µm,0.5s						
CERA	**Filignano**	**1.00**	**253**	Pg	**Pn**	**00 02 37.3**	**+0.1**
CERA	**Filignano**	**1.00**	**253**	Pg	**Pn**	**00 02 37.3**	**+0.1**
PAOL	**Paolisi**	**1.02**	**213**	Pg	**Pn**	**00 02 37.4**	**-0.1**
	537nm,0.6s						
PAOL	**Paolisi**	**1.02**	**213**	Pg	**Pn**	**00 02 37.4**	**-0.1**
	537nm,0.6s						
INTR	**Introdacqua**	**1.04**	**277**	Pg	**Pn**	**00 02 37.7**	**-0.2**
	316nm,0.3s						
INTR	**Introdacqua**	**1.04**	**277**	Pg	**Pn**	**00 02 37.7**	**-0.2**
	316nm,0.3s						
MRVN	**Minervino Murg**	**1.07**	**141**	Pg	**Pn**	**00 02 37.1**	**-1.1**
	763nm,0.4s						
MRVN	**Minervino Murg**	**1.07**	**141**	Pg	**Pn**	**00 02 37.1**	**-1.1**
	763nm,0.4s						
PALZ	**Palazzo San Ge**	**1.07**	**152**	Pg	**Pn**	**00 02 37.5**	**-0.7**
	1µm,0.4s						
PALZ	**Palazzo San Ge**	**1.07**	**152**	Pg	**Pn**	**00 02 37.5**	**-0.7**
	1µm,0.4s						
MCRV	**Calabrutti - M**	**1.11**	**185**	Pg	**Pn**	**00 02 37.9**	**-0.9**
	1µm,0.5s						
MCRV	**Calabrutti - M**	**1.11**	**185**	Pg	**Pn**	**00 02 37.9**	**-0.9**
	1µm,0.5s						
NL9	**Nola**	**1.12**	**210**	Pg	**Pn**	**00 02 38.8**	**0.0**
NL9	**Nola**	**1.12**	**210**	Pg	**Pn**	**00 02 38.8**	**0.0**
MRLC	**Muro Lucano**	**1.15**	**173**	Pg	**Pn**	**00 02 38.4**	**-0.8**
	1µm,0.5s						
MRLC	**Muro Lucano**	**1.15**	**173**	Pg	**Pn**	**00 02 38.4**	**-0.8**
	1µm,0.5s						
VCEL	**Villa Celiera**	**1.19**	**295**	Pg	**Pb**	**00 02 41.1**	**+0.4**
	1µm,0.5s						
VCEL	**Villa Celiera**	**1.19**	**295**	Pg	**Pb**	**00 02 41.1**	**+0.4**
	1µm,0.5s						
POFI	**Posta Fibreno**	**1.20**	**262**	Pg	**Pn**	**00 02 40.1**	**+0.2**
	542nm,0.4s						
POFI	**Posta Fibreno**	**1.20**	**262**	Pg	**Pn**	**00 02 40.1**	**+0.2**
	542nm,0.4s						
ACER	**Acerenza**	**1.21**	**156**	Pg	**Pn**	**00 02 39.3**	**-0.8**
	2µm,0.4s						
ACER	**Acerenza**	**1.21**	**156**	Pg	**Pn**	**00 02 39.3**	**-0.8**
	2µm,0.4s						
MSC	**Monte Massico**	**1.22**	**235**	Pg	**Pn**	**00 02 40.6**	**+0.5**
MSC	**Monte Massico**	**1.22**	**235**	Pg	**Pn**	**00 02 40.6**	**+0.5**
VVLD	**Villa Vallelon**	**1.25**	**270**	Pg	**Pb**	**00 02 41.4**	**-0.3**
	1µm,0.5s						
VVLD	**Villa Vallelon**	**1.25**	**270**	Pg	**Pb**	**00 02 41.4**	**-0.3**
	1µm,0.5s						
MODR	**Mondragone**	**1.30**	**235**	Pg	**Pn**	**00 02 41.7**	**+0.4**
MODR				Sg	**Sb**	**00 02 59.1**	**+0.4**
	421nm,0.7s						
MODR	**Mondragone**	**1.30**	**235**	Pg	**Pn**	**00 02 41.7**	**+0.4**
MODR				Sg	**Sb**	**00 02 59.1**	**+0.4**
	421nm,0.7s						
FAGN	**Fagnano**	**1.33**	**287**	Pg	**Pb**	**00 02 43.1**	**+0.1**
	3µm,0.4s						
FAGN	**Fagnano**	**1.33**	**287**	Pg	**Pb**	**00 02 43.1**	**+0.1**
	3µm,0.4s						
AMUR	**Altamura**	**1.39**	**135**	Pg	**Pn**	**00 02 41.8**	**-0.8**
	551nm,0.2s						
AMUR	**Altamura**	**1.39**	**135**	Pg	**Pn**	**00 02 41.8**	**-0.8**
	551nm,0.2s						
CDRU	**Civita di Ruta**	**1.40**	**180**	Pg	**Pn**	**00 02 42.2**	**-0.6**
	498nm,0.6s						
CDRU	**Civita di Ruta**	**1.40**	**180**	Pg	**Pn**	**00 02 42.2**	**-0.6**
	498nm,0.6s						
BAI	**Bari**	**1.43**	**123**	*i* Pg	**Pb**	**00 02 44.8**	**+0.2**
BAI				Sg	**Sb**	**00 03 05.1**	**+2.8**
TERO	**Teramo**	**1.45**	**301**	Pg	**Pb**	**00 02 44.5**	**-0.6**
	302nm,0.3s						
TERO	**Teramo**	**1.45**	**301**	Pg	**Pb**	**00 02 44.5**	**-0.6**
	302nm,0.3s						
SG1	**Sgolgore (BA)**	**1.48**	**135**	*i* Pg	**Pb**	**00 02 45.7**	**+0.2**
SG1				Sg	**Sb**	**00 03 06.1**	**+2.2**
AQU	**L'Aquila**	**1.48**	**289**	Pg	**Pb**	**00 02 45.8**	**+0.2**
	553nm,0.3s						
AQU	**L'Aquila**	**1.48**	**289**	*e*Pn	**Pb**	**00 02 46.0**	**+0.4**
AQU	**L'Aquila**	**1.48**	**289**	Pg	**Pb**	**00 02 45.8**	**+0.2**
	553nm,0.3s						
MIGL	**Miglionico**	**1.55**	**146**	Pg	**Pn**	**00 02 44.2**	**-0.5**
	2µm,0.5s						
MIGL	**Miglionico**	**1.55**	**146**	Pg	**Pn**	**00 02 44.2**	**-0.5**
	2µm,0.5s						
SMA1	**SAN MARTINO**	**1.63**	**298**	Pg	**Pb**	**00 02 47.2**	**-1.0**
	529nm,0.6s						
SMA1	**SAN MARTINO**	**1.63**	**298**	Pg	**Pb**	**00 02 47.2**	**-1.0**
	529nm,0.6s						
NOCI	**Noci**	**1.73**	**129**	Pg	**Pn**	**00 02 46.6**	**-0.6**
	1µm,0.4s						
NOCI	**Noci**	**1.73**	**129**	Pg	**Pn**	**00 02 46.6**	**-0.6**
	1µm,0.4s						
SCHR	**S. Chirico Rap**	**1.79**	**161**	Pg	**Pn**	**00 02 47.5**	**-0.6**
	234nm,0.8s						
FASA	**Fasano**	**1.89**	**124**	*e*Pg	**Pn**	**00 02 48.8**	**-0.5**
TAR1	**Taranto**	**2.03**	**132**	*e*Pn	**Pn**	**00 02 49.8**	**-1.5**
STON	**Ston**	**2.03**	**60**	*e*Pn	**Pn**	**00 02 49.9**	**-1.4**
STON				Sn	**Sn**	**00 03 12.6**	**-3.4**
STON	**Ston**	**2.03**	**60**	*e*Pn	**Pn**	**00 02 52.7**	**+1.4**
STON				Sn	**Sn**	**00 03 12.5**	**-3.4**
CGL1	**Ceglie Messapi**	**2.06**	**126**	*e*Pg	**Pb**	**00 02 55.8**	**+0.5**
TREB	**Trebinje**	**2.41**	**69**	*e*Pn	**Pn**	**00 02 56.6**	**0.0**
HCY	**Herceg Novi**	**2.44**	**76**	⇓*i* Pn	**Pn**	**00 02 57.2**	**+0.2**
HCY				*e*Sn	**Sn**	**00 03 28.0**	**+2.0**
HCY	**Herceg Novi**	**2.44**	**76**	⇓*i* Pn	**Pn**	**00 02 57.2**	**+0.2**
HCY				*e*Sn	**Sn**	**00 03 28.0**	**+2.0**
UDBI	**Udbina**	**2.66**	**7**	*e*Pn	**Pn**	**00 03 02.0**	**+2.0**
UDBI				Sn	**Sn**	**00 03 32.7**	**+1.2**
UDBI	**Udbina**	**2.66**	**7**	*e*Pn	**Pn**	**00 03 02.0**	**+2.0**
UDBI				Sn	**Sn**	**00 03 32.6**	**+1.2**
NVLJ	**Novalja**	**2.69**	**354**	*i* Pn	**Pn**	**00 03 01.0**	**+0.6**
NVLJ				Sn	**Sn**	**00 03 33.1**	**+1.0**
NVLJ	**Novalja**	**2.69**	**354**	*i* Pn	**Pn**	**00 03 00.9**	**+0.6**
NVLJ				Sn	**Sn**	**00 03 33.0**	**+1.0**
BUM	**Brajici-Budva**	**2.71**	**80**	⇑*i* Pn	**Pn**	**00 03 01.5**	**+0.8**
BUM				*e*Sn	**Sn**	**00 03 35.1**	**+2.4**
BUM	**Brajici-Budva**	**2.71**	**80**	⇑*i* Pn	**Pn**	**00 03 01.5**	**+0.8**
BUM				*e*Sn	**Sn**	**00 03 35.1**	**+2.4**
CEME	**Cevo**	**2.77**	**75**	⇑*i* Pn	**Pn**	**00 03 02.0**	**+0.5**
CEME				*e*Sn	**Sn**	**00 03 36.1**	**+1.9**
CEME	**Cevo**	**2.77**	**75**	⇑*i* Pn	**Pn**	**00 03 02.0**	**+0.5**
CEME				*e*Sn	**Sn**	**00 03 36.1**	**+1.9**
NKME	**Niksic**	**2.85**	**71**	⇑*i* Pn	**Pn**	**00 03 03.5**	**+0.9**
NKME				*e*Sn	**Sn**	**00 03 38.6**	**+2.4**
NKME	**Niksic**	**2.85**	**71**	⇑*i* Pn	**Pn**	**00 03 03.5**	**+0.9**
NKME				*e*Sn	**Sn**	**00 03 38.6**	**+2.4**
NKY	**Niksic**	**2.89**	**70**	⇓*i* Pn	**Pn**	**00 03 03.6**	**+0.3**
NKY				*e*Sn	**Sn**	**00 03 39.2**	**+1.9**
NKY	**Niksic**	**2.89**	**70**	⇓*i* Pn	**Pn**	**00 03 03.6**	**+0.3**
NKY				*e*Sn	**Sn**	**00 03 39.2**	**+1.9**
DRME	**Dracevica, Mon**	**2.91**	**83**	*e*Pn	**Pn**	**00 03 04.2**	**+0.8**
DRME				*e*Sn	**Sn**	**00 03 39.8**	**+2.2**
DRME	**Dracevica, Mon**	**2.91**	**83**	*e*Pn	**Pn**	**00 03 04.2**	**+0.8**
DRME				*e*Sn	**Sn**	**00 03 39.8**	**+2.2**
TIP	**Timpagrande**	**2.93**	**157**	P	**Pn**	**00 03 04.6**	**+0.8**
TIP	**Timpagrande**	**2.93**	**157**	P	**Pn**	**00 03 04.6**	**+0.8**
ULC	**Ulcinj**	**2.95**	**87**	⇑*i* Pn	**Pn**	**00 03 04.2**	**+0.2**
ULC				*e*Sn	**Sn**	**00 03 41.0**	**+2.4**
ULC	**Ulcinj**	**2.95**	**87**	⇑*i* Pn	**Pn**	**00 03 04.2**	**+0.2**
ULC				*e*Sn	**Sn**	**00 03 41.0**	**+2.4**
PDG	**Podgorica**	**2.99**	**78**	⇓*i* Pn	**Pn**	**00 03 04.9**	**+0.4**
PDG				*e*Sn	**Sn**	**00 03 41.2**	**+1.6**
TTG	**Podgorica**	**2.99**	**78**	⇓*i* Pn	**Pn**	**00 03 04.9**	**+0.4**
TTG				*e*Sn	**Sn**	**00 03 41.2**	**+1.6**
BLY	**Banja Luka**	**3.17**	**25**	*e*Pn	**Pn**	**00 03 09.4**	**+2.4**
KOME	**Kolasin**	**3.27**	**72**	*e*Pn	**Pn**	**00 03 10.0**	**+1.5**
KOME				*e*Sn	**Sn**	**00 03 47.6**	**+1.0**
KOME	**Kolasin**	**3.27**	**72**	*e*Pn	**Pn**	**00 03 10.0**	**+1.5**
KOME				*e*Sn	**Sn**	**00 03 47.6**	**+1.0**
PLE	**Pljevlja**	**3.34**	**63**	⇑*i* Pn	**Pn**	**00 03 10.5**	**+1.0**
PLE				*e*Sn	**Sn**	**00 03 50.4**	**+1.9**
PLE	**Pljevlja**	**3.34**	**63**	⇑*i* Pn	**Pn**	**00 03 10.5**	**+1.0**
PLE				*e*Sn	**Sn**	**00 03 50.4**	**+1.9**
HAPS	**Han Pijesak,Bl**	**3.46**	**50**	⇑*i* Pn	**Pn**	**00 03 11.3**	**+0.2**
PVY	**Plav**	**3.53**	**77**	⇓*i* Pn	**Pn**	**00 03 13.6**	**+1.5**
PVY				*e*Sn	**Sn**	**00 03 54.8**	**+1.7**
PVY	**Plav**	**3.53**	**77**	⇓*i* Pn	**Pn**	**00 03 13.6**	**+1.5**
PVY				*e*Sn	**Sn**	**00 03 54.8**	**+1.7**
BEY	**Berane**	**3.54**	**72**	*e*Pn	**Pn**	**00 03 13.4**	**+1.2**
BEY				*e*Sn	**Sn**	**00 03 54.9**	**+1.5**
IVA	**Berane**	**3.54**	**72**	*e*Pn	**Pn**	**00 03 13.4**	**+1.2**
IVA				*e*Sn	**Sn**	**00 03 54.9**	**+1.5**
BBLS	**Lazići**	**3.61**	**55**	*e*Pn	**Pn**	**00 03 15.1**	**+2.0**
BOJS	**Bojanci**	**3.61**	**360**	*i* Pn	**Pn**	**00 03 14.0**	**+1.0**
BOJS				*i* Sn	**Sn**	**00 03 55.0**	**+0.1**
BOJS	**Bojanci**	**3.61**	**360**	Pn	**Pn**	**00 03 14.0**	**+1.0**
BOJS				*i* Sn	**Sn**	**00 03 55.0**	**+0.1**
OZLJ	**Ozalj**	**3.72**	**2**	*e*Pn	**Pn**	**00 03 16.0**	**+1.4**
OZLJ				Sn	**Sn**	**00 03 55.3**	**-2.3**
OZLJ	**Ozalj**	**3.72**	**2**	*e*Pn	**Pn**	**00 03 15.9**	**+1.4**
OZLJ				Sn	**Sn**	**00 03 55.3**	**-2.3**
CEY	**Cerknica**	**3.90**	**351**	*e*Pn	**Pn**	**00 03 16.9**	**-0.1**
CRES	**Cresnjev**	**3.93**	**2**	*e*Pn	**Pn**	**00 03 18.1**	**+0.6**
IVAS	**Ivanjica**	**3.95**	**63**	*e*Pn	**Pn**	**00 03 19.5**	**+1.7**
ZAG	**Zagreb**	**3.96**	**7**	*e*Pn	**Pn**	**00 03 18.8**	**+0.9**
KEK	**Kerkira**	**4.05**	**121**	P	**Pn**	**00 03 19.3**	**+0.2**
KEK	**Kerkira**	**4.05**	**121**	P	**Pn**	**00 03 19.3**	**+0.2**
TEKS	**Tekeris**	**4.08**	**48**	*e*Pn	**Pn**	**00 03 19.7**	**+0.2**
DIVS	**Divibare**	**4.09**	**56**	*e*Pn	**Pn**	**00 03 19.8**	**+0.1**
JAVS	**Javornik**	**4.10**	**348**	*i* Pn	**Pn**	**00 03 19.7**	**-0.1**
JAVS				*i* Sn	**Sn**	**00 04 07.6**	**+0.6**
JAVS	**Javornik**	**4.10**	**348**	*i* Pn	**Pn**	**00 03 19.7**	**-0.1**
JAVS				*i* Sn	**Sn**	**00 04 07.6**	**+0.6**
LJU	**Ljubljana**	**4.19**	**353**	*e*Pn	**Pn**	**00 03 21.5**	**+0.5**
OHR	**Ohrid**	**4.21**	**99**	*i* Pn	**Pn**	**00 03 22.9**	**+1.7**
OHR				*e*Sn	**Sn**	**00 04 07.5**	**-2.2**
SGD	**Sagiada**	**4.39**	**120**	P	**Pn**	**00 03 24.4**

ANX Ano Chora 6.04 121 P **Pn** **00 03 48.4 +1.8**
ANX Ano Chora 6.04 121 P **Pn** **00 03 48.4 +1.8**
CONA Conrad Observa 6.05 4 Pn **Pn** **00 03 47.0 +0.4**
1.2nm,0.4s
CONA Sn **Sn** **00 04 55.4 +0.4**
2.3nm,0.3s
CONA Conrad Observa 6.05 4 *e*Pn **Pn** **00 03 47.0 +0.4**
1.2nm,0.4s
CONA *e*Sn **Sn** **00 04 55.4 +0.4**
2.3nm,0.3s
WATA Walderalm 6.05 335 Pn **Pn** **00 03 48.2 +1.5**
2.3nm,0.1s,SNR=11
WATA Walderalm 6.05 335 *i* Pn **Pn** **00 03 48.2 +1.5**
2.3nm,0.1s,SNR=11
FETA Feichten 6.08 329 Pn **Pn** **00 03 48.0 +0.9**
0.8nm,0.2s,SNR=4.1
FETA Sn **Sn** **00 04 58.7 +2.7**
3.6nm,0.3s
FETA Feichten 6.08 329 *e*Pn **Pn** **00 03 48.0 +0.9**
0.8nm,0.2s,SNR=4.1
FETA *e*Sn **Sn** **00 04 58.7 +2.7**
3.6nm,0.3s
SBF Sospel 6.10 291 *e*Pn **Pn** **00 03 48.8 +1.5**
SNR=1.0
SBF *e*Sn **Sn** **00 04 53.7 -2.7**
2.9nm,0.3s
SBF Sospel 6.10 291 *e*Pn **Pn** **00 03 48.8 +1.5**
SNR=1.0
EFP Efpalio 6.13 122 P **Pn** **00 03 49.1 +1.4**
EFP Efpalio 6.13 122 P **Pn** **00 03 49.1 +1.4**
MOTA Moosalm 6.22 333 Pn **Pn** **00 03 50.9 +1.9**
1.7nm,0.3s,SNR=7.2
MOTA Sn **Sn** **00 05 02.2 +2.9**
3.3nm,0.3s
MOTA Moosalm 6.22 333 *e*Pn **Pn** **00 03 50.9 +1.9**
1.7nm,0.3s,SNR=7.2
MOTA *e*Sn **Sn** **00 05 02.2 +2.9**
3.3nm,0.3s
SERG Sergoula 6.24 122 P **Pn** **00 03 50.8 +1.6**
SERG Sergoula 6.24 122 P **Pn** **00 03 50.8 +1.6**
KALE Kalithea 6.30 121 P **Pn** **00 03 51.7 +1.6**
KALE Kalithea 6.30 121 P **Pn** **00 03 51.7 +1.6**
DRO Drossia 6.31 126 P **Pn** **00 03 50.8 +0.7**
DRO Drossia 6.31 126 P **Pn** **00 03 50.8 +0.7**
RETA Reutte 6.46 332 Pn **Pn** **00 03 53.7 +1.5**
1.6nm,0.3s
RETA Sn **Sn** **00 05 07.0 +1.8**
1.9nm,0.2s
RETA Reutte 6.46 332 *i* Pn **Pn** **00 03 53.7 +1.5**
1.6nm,0.3s
RETA *e*Sn **Sn** **00 05 07.0 +1.8**
1.9nm,0.2s
FRF La Foret Royal 6.58 288 *e*Pn **Pn** **00 03 56.1 +2.2**
SNR=1.0
FRF La Foret Royal 6.58 288 *e*Pn **Pn** **00 03 56.1 +2.2**
SNR=1.0
DAVA Damuels 6.63 326 Pn **Pn** **00 03 56.7 +2.0**
5.0nm,0.4s,SNR=6.9
DAVA Sn **Sn** **00 05 09.0 -0.6**
6.4nm,0.3s
DAVA Damuels 6.63 326 *i* Pn **Pn** **00 03 56.7 +2.0**
5.0nm,0.4s,SNR=6.9
DAVA *e*Sn **Sn** **00 05 09.0 -0.6**
6.4nm,0.3s
LMR La Mourre 6.64 285 *e*Pn **Pn** **00 03 56.7 +2.0**
SNR=1.0
LMR La Mourre 6.64 285 *e*Pn **Pn** **00 03 56.7 +2.0**
SNR=1.0
GUR Goura 6.70 124 P **Pn** **00 03 56.8 +1.1**
GUR Goura 6.70 124 P **Pn** **00 03 56.8 +1.1**
MBDF Montbardon 6.83 297 *e*Pn **Pn** **00 03 58.4 +1.0**
SNR=1.0
MBDF *e*Sn **Sn** **00 05 11.0 -3.5**
2.1nm,0.3s
MBDF Montbardon 6.83 297 *e*Pn **Pn** **00 03 58.4 +1.0**
SNR=1.0
GERES GERESS Array B 7.04 351 Pn **Pn** **00 04 00.1 -0.2**
2.0nm,0.3s,baz=170,slow=13,SNR=51
GERES Sn **Sn** **00 05 15.1 -4.4**
2.8nm,0.3s,baz=165,slow=24,SNR=18
VYHS Vyhne 7.06 20 *e*PN **Pn** **00 04 02.0 +1.6**
VYHS *e*SN **Sn** **00 05 17.3 -2.5**
LPG La Plagne 7.16 303 *e*Pn **Pn** **00 04 01.4 -0.7**
SNR=1.0
LPG *e*Sn **Sn** **00 05 19.2 -3.6**
3.4nm,0.4s
LPG La Plagne 7.16 303 *e*Pn **Pn** **00 04 01.4 -0.7**
SNR=1.0
LPL La Plagne 7.18 303 *e*Pn **Pn** **00 04 01.3 -1.0**
SNR=1.0
LPL *e*Sn **Sn** **00 05 19.2 -4.0**
5.5nm,0.4s
LPL La Plagne 7.18 303 *e*Pn **Pn** **00 04 01.3 -1.0**
SNR=1.0
KHC Kasperske Hory 7.34 351 *e*PN **Pn** **00 04 04.0 -0.3**
KHC *ex* x 00 04 12.5
KHC *e*SN **Sn** **00 05 22.7 -4.0**
KHC Kasperske Hory 7.34 351 Pn **Pn** **00 04 04.0 -0.3**
SMRF Simiane la Rot 7.43 290 *e*Pn **Pn** **00 04 07.4 +1.8**
SNR=1.0
SMRF Simiane la Rot 7.43 290 *e*Pn **Pn** **00 04 07.4 +1.8**
SNR=1.0
VRAC Vranov 7.47 7 Pn **Pn** **00 04 08.0 +1.9**
0.2nm,0.3s,baz=187,slow=15,SNR=2.6
VRAC Sn **Sn** **00 05 25.7 -4.3**
0.2nm,0.3s,baz=116,slow=8.4,SNR=2.7
ORIF Oris-en-Rattie 7.49 297 *e*Pn **Pn** **00 04 07.6 +1.1**
SNR=1.0
ORIF Oris-en-Rattie 7.49 297 *e*Pn **Pn** **00 04 07.6 +1.1**
SNR=1.0
KEST Kesra 7.71 219 Pn **Pn** **00 04 13.5 +4.1**
1.0nm,0.3s,baz=50,slow=7.9,SNR=23
GOPC GO Pecny, Ondr 8.03 358 *e*PN **Pn** **00 04 13.6 -0.1**
GOPC GO Pecny, Ondr 8.03 358 Pn **Pn** **00 04 13.6 -0.1**
PRU Pruhonice 8.11 357 *e*SN **Sn** **00 05 40.4 -5.3**
CABF La Chapelle 8.12 309 *e*Pn **Pn** **00 04 14.4 -0.6**
SNR=1.0
CABF *e*Sn **Sn** **00 05 41.6 -4.4**
3.8nm,0.5s,SNR=1.0
CABF La Chapelle 8.12 309 *e*Pn **Pn** **00 04 14.4 -0.6**
SNR=1.0
VIVF Saint-Julien-l 8.29 295 *e*Pn **Pn** **00 04 18.1 +0.8**
VIVF Saint-Julien-l 8.29 295 *e*Pn **Pn** **00 04 18.1 +0.8**
HINF Hinteralfeld 8.43 318 *e*Pn **Pn** **00 04 18.5 -0.7**
SNR=1.0
HINF *e*Sn **Sn** **00 05 48.7 -4.8**
7.1nm,0.4s,SNR=1.0
HINF Hinteralfeld 8.43 318 *e*Pn **Pn** **00 04 18.5 -0.7**
SNR=1.0
NKC Novy Kostel 8.57 348 *e*PN **Pn** **00 04 20.2 -1.0**
NKC Novy Kostel 8.57 348 Pn **Pn** **00 04 20.2 -1.0**
CDF Champ du Feu 8.63 322 *e*Pn **Pn** **00 04 21.1 -1.0**
SNR=1.0
CDF *e*Sn **Sn** **00 05 53.5 -5.1**
2.0nm,0.3s
CDF Champ du Feu 8.63 322 *e*Pn **Pn** **00 04 21.1 -1.0**
SNR=1.0
HAU Haudompre 8.81 317 *e*Pn **Pn** **00 04 22.0 -2.4**
SNR=1.0
HAU *e*Sn **Sn** **00 05 57.6 -5.2**
10nm,0.3s
PAGF Fort de Pagny 9.48 318 *e*Pn **Pn** **00 04 33.8 +0.2**
PAGF *e*Sn **Sn** **00 06 13.8 -5.5**
0.9nm,0.4s
PAGF Fort de Pagny 9.48 318 *e*Pn **Pn** **00 04 33.8 +0.2**
SMF Signal de Mont 9.49 304 *e*Pn **Pn** **00 04 32.8 -0.9**
SNR=1.0
SMF *e*Sn **Sn** **00 06 14.1 -5.4**
2.3nm,0.4s
SMF Signal de Mont 9.49 304 *e*Pn **Pn** **00 04 32.8 -0.9**
SNR=1.0
SFTF Sexfontaines 9.61 314 *e*Pn **Pn** **00 04 34.9 -0.5**
baz=130
SFTF *e*Sn **Sn** **00 06 17.2 -5.4**
3.5nm,0.4s
SFTF Sexfontaines 9.61 314 *e*Pn **Pn** **00 04 34.9 -0.5**
LOR Lormes 9.77 307 *e*Pn **Pn** **00 04 36.0 -1.5**
baz=121,SNR=1.0
LOR *e*Sn **Sn** **00 06 21.2 -5.2**
1.9nm,0.2s,SNR=1.0
LOR Lormes 9.77 307 *e*Pn **Pn** **00 04 36.0 -1.5**
SNR=1.0
MEZF Maizieres J'vi 9.79 316 *e*Pn **Pn** **00 04 38.3 +0.5**
baz=132,SNR=1.0
MEZF Maizieres J'vi 9.79 316 *e*Pn **Pn** **00 04 38.3 +0.5**
SNR=1.0
AVF Avril sur Loir 9.86 304 *e*Pn **Pn** **00 04 37.5 -1.2**
SNR=1.0
AVF Avril sur Loir 9.86 304 *e*Pn **Pn** **00 04 37.5 -1.2**
SNR=1.0
SSF Saint Saulge 9.88 306 *e*Pn **Pn** **00 04 38.5 -0.6**
SSF Saint Saulge 9.88 306 *e*Pn **Pn** **00 04 38.5 -0.6**
BGF Bois d'Agland 10.08 302 *e*Pn **Pn** **00 04 41.3 -0.5**
SNR=1.0
BGF Bois d'Agland 10.08 302 *e*Pn **Pn** **00 04 41.3 -0.5**
SNR=1.0
FINES FINESS Array B 20.64 15 P Pn 00 06 60.0 +1.5
2.0nm,0.8s,baz=186,slow=11,SNR=5.5

THR **26** *00:06:14.9±0.6,27.˚60N×58.˚65E,h14km±10km,ML5.1*
BJI **26** *00:06:14.9,27.˚96N×58.˚32E,h63km,mb4.8/36*
DSN **26** *00:06:16.9±0.0,27.˚54N×59.˚17E,h25km,ML5.6/10,Error ellipse: s-maj=2.9km s-min=1.1km az=312.0*
TEH **26** *00:06:16.9,27.˚80N×58.˚73E,h10km,ML4.8*
ISCJB **26** *00:06:18.6±0.3,27.˚66N±0.˚02×58.˚79E±0.˚02,h84km±3km, mb4.7/177,Error ellipse: s-maj=3.0km s-min=2.6km az=171.1*
OMAN **26** *00:06:18.9±0.0,27.˚57N×58.˚78E,h70km,Error ellipse: s-maj=2.5km s-min=1.3km az=285.0*
CSEM **26** *00:06:19.1±0.1,27.˚68N×58.˚83E,h74km,mb4.7/90,Error ellipse: s-maj=4.2km s-min=2.9km az=112.0*
NEIC **26** *00:06:19.5±0.2,27.˚72N×58.˚83E,mb4.9/53,MN4.8(TEH), Error ellipse: s-maj=5.0km s-min=3.8km az=159.0*
IDC **26** *00:06:19.9±0.5,27.˚79N×58.˚79E,h75km±4km,mb4.1/37, mb1 4.2/41,mb1mx4.1/68,mbtmp4.5/41,MS5.3/1, Ms1 5.3/1,ms1mx4.2/75,Error ellipse: s-maj=9.5km s-min=8.9km az=8.0*
MOS **26** *00:06:22.2±0.9,27.˚90N×58.˚79E,h71km,mb4.8/68,Error ellipse: s-maj=6.0km s-min=4.1km az=108.6*
ISC 26 00:06:19.1±0.4,27.˚65N±0.˚03×58.˚86E±0.˚03,h75km±3km, h75km:pP-P,n630,σ1$29/708,mb4.8/178,31C-24D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
NIAN	**Nian**	**1.79**	**268**	*e*Pn	**Pn**		**00 06 50.4**	**+2.3**	
NIAN				*e*Sg	**Sn**		**00 07 13.0**	**+2.8**	
NIAN				*e*AMB	AMB		00 07 15.0		
	comp=Z,8μm,0.1s								
KHSK	**Kohestad**	**1.83**	**242**	*e*Pn	**Pn**		**00 06 51.3**	**+2.7**	
KHSK				*e*AMB	AMB		00 07 16.3		
	comp=Z,49μm,0.1s								
GENO	**Geno**	**2.40**	**265**	*e*Pn	**Pn**		**00 06 57.7**	**+1.3**	
GENO				*e*AMB	AMB		00 07 27.5		
	comp=Z,88μm,0.1s								
GENO	**Geno**	**2.40**	**265**	*e*Pn	**Pn**		**00 06 57.7**	**+1.3**	
BNDS	**Bandar-Abbas**	**2.40**	**265**	*e*Pg	**Pn**		**00 06 54.9**	**-1.4**	
BNDS	**Bandar-Abbas**	**2.40**	**265**	*e*Pg	**Pn**		**00 06 54.9**	**-1.4**	
BNDS	**Bandar-Abbas**	**2.40**	**265**	*e*Pg	**Pn**		**00 06 54.9**	**-1.4**	
BNDS				AML	AML		00 07 23.6		
	comp=E,10μm,0.3s								
BNDS				AML	AML		00 07 25.2		
	comp=N,9μm,0.4s								
CHMN	**Cheshme madani**	**2.49**	**333**	*e*Pn	**Pn**		**00 06 58.8**	**+1.0**	
CHMN				*e*AMB	AMB		00 07 48.6		
	comp=Z,99nm,0.5s								
CHMN	**Cheshme madani**	**2.49**	**333**	*e*Pn	**Pn**		**00 06 58.8**	**+1.0**	
CHBR	**Chabahar**	**2.51**	**144**	*e*Pn	**Pn**		**00 06 58.2**	**+0.4**	
CHBR	**Chabahar**	**2.51**	**144**	*e*Pn	**Pn**		**00 06 58.2**	**+0.4**	
CHBR				AML	AML		00 07 29.9		
	comp=N,8μm,0.4s								
CHBR				AML	AML		00 07 30.0		
	comp=E,11μm,0.7s								
ZHSF	**Zahedan**	**2.58**	**40**	*e*Pn	**Pn**		**00 07 00.5**	**+1.6**	
ZHSF	**Zahedan**	**2.58**	**40**	*e*Pn	**Pn**		**00 07 00.5**	**+1.6**	
ZHSF	**Zahedan**	**2.58**	**40**	*e*Pn	**Pn**		**00 07 00.5**	**+1.6**	
NGRK	**Negar Kerman**	**2.73**	**317**	*e*Pn	**Pn**		**00 07 02.6**	**+1.5**	
NGRK				*e*AMB	AMB		00 07 39.2		
	comp=Z,99nm,0.1s								
NGRK	**Negar Kerman**	**2.73**	**317**	*e*Pn	**Pn**		**00 07 02.6**	**+1.5**	
BANOM	**Banah**	**2.86**	**234**	P	**Pn**		**00 07 02.9**	**+0.4**	
	SNR=525								
BANOM				S	**Sn**		**00 07 34.4**	**-1.5**	
	SNR=13								
BANOM	**Banah**	**2.86**	**234**	Pn	**Pn**		**00 07 02.9**	**+0.4**	
	SNR=525								
BANOM				Sn	**Sn**		**00 07 34.4**	**-1.5**	
	SNR=13								
BANOM	**Banah**	**2.86**	**234**	P	**Pn**		**00 07 02.9**	**+0.4**	
	SNR=525								
BANOM				S	**Sn**		**00 07 34.4**	**-1.5**	
	SNR=13								
BANOM	**Banah**	**2.86**	**234**	*i* P	**Pn**		**00 07 03.1**	**+0.6**	
	SNR=527								
SHME	**Shamm**	**2.90**	**237**	Pn	**Pn**		**00 07 04.3**	**+1.2**	
	SNR=139								
SHME				Sn	**Sn**		**00 07 36.9**	**0.0**	
	SNR=16								
SHME	**Shamm**	**2.90**	**237**	*i* P	**Pn**		**00 07 04.3**	**+1.2**	
	SNR=139								
TVBK	**TV Kerman**	**2.97**	**322**	*e*AMB	AMB		00 07 48.8		
	comp=Z,99nm,0.1s								
MDH	**Madha**	**3.27**	**225**	*i* P	**Pn**		**00 07 07.5**	**-0.6**	
	SNR=217								
MSFE	**Esma-Masafi**	**3.32**	**227**	P	**Pn**		**00 07 08.4**	**-0.4**	
	SNR=59								
MSFE				Sn	**Sn**		**00 07 49.8**	**+2.7**	
	SNR=15								
MSFE	**Esma-Masafi**	**3.32**	**227**	*i* P	**Pn**		**00 07 08.1**	**-0.7**	
	SNR=59								
KHGB	**Koh Gabri**	**3.42**	**323**	*e*Pn	**Pn**		**00 07 11.3**	**+0.9**	
KHGB	**Koh Gabri**	**3.42**	**323**	*e*Pn	**Pn**		**00 07 11.3**	**+0.9**	
UMQ	**Umm Al-Quwin**	**3.55**	**234**	*i* P	**Pn**		**00 07 14.0**	**+2.1**	
	SNR=18								
UOSS	**Minazif**	**3.59**	**222**	*e*Pn	**Pn**		**00 07 12.0**	**-0.4**	
UOSS	**Minazif**	**3.59**	**222**	P	**Pn**		**00 07 11.4**	**-1.1**	
	SNR=192								
UOSS				S	**Sn**		**00 07 51.8**	**-1.9**	
UOSS	**Minazif**	**3.59**	**222**	Pn	**Pn**		**00 07 11.4**	**-1.1**	
	SNR=192								
UOSS				Sn	**Sn**		**00 07 51.8**	**-1.9**	
UOSS	**Minazif**	**3.59**	**222**	P	**Pn**		**00 07 11.6**	**-0.8**	
	SNR=128								
UOSS	**Minazif**	**3.59**	**222**	*e*Pn	**Pn**		**00 07 12.0**	**-0.4**	
UOSS				Sn	**Sn**		**00 07 51.8**	**-1.9**	
UOSS	**Minazif**	**3.59**	**222**	*i* P	**Pn**		**00 07 11.7**	**-0.8**	
	SNR=128								
HATD	**Hatta, Dubai**	**3.72**	**222**	P	**Pn**		**00 07 13.6**	**-0.7**	
	SNR=126								
HATD	**Hatta, Dubai**	**3.72**	**222**	Pn	**Pn**		**00 07 13.6**	**-0.7**	
	SNR=126								
HATD				sPg			00 07 50.7		
HATD	**Hatta, Dubai**	**3.72**	**222**	P	**Pn**		**00 07 13.6**	**-0.7**	
	SNR=126								
HATD	**Hatta, Dubai**	**3.72**	**222**	*i* P	**Pn**		**00 07 13.4**	**-0.9**	
	SNR=132								
ASHO	**Ashiyiah**	**3.88**	**221**	P	**Pn**		**00 07 17.4**	**+1.0**	
	SNR=506								
ASHO				S	**Sn**		**00 08 00.1**	**-0.6**	
ASHO	**Ashiyiah**	**3.88**	**221**	Pn	**Pn**		**00 07 17.4**	**+1.0**	
	SNR=506								
ASHO				Sn	**Sn**		**00 08 00.1**	**-0.6**	
ASHO	**Ashiyiah**	**3.88**	**221**	P	**Pn**		**00 07 16.1**	**-0.2**	
	SNR=507								
ASHO	**Ashiyiah**	**3.88**	**221**	Pn	**Pn**		**00 07 17.4**	**+1.0**	
	SNR=506								
ASHO				S	**Sn**		**00 08 00.1**	**-0.6**	
ASHO	**Ashiyiah**	**3.88**	**221**	*i* P	**Pn**		**00 07 16.1**	**-0.2**	
	SNR=507								
NAZ	**Nazwa, Dubai**	**3.90**	**228**	P	**Pn**		**00 07 19.1**	**+2.4**	
	SNR=126								
NAZ				S	**Sn**		**00 08 03.0**	**+1.7**	
	SNR=8.2								
NAZ	**Nazwa, Dubai**	**3.90**	**228**	Pn	**Pn**		**00 07 19.1**	**+2.4**	
	SNR=126								
NAZ				Sn	**Sn**		**00 08 03.0**	**+1.7**	
	SNR=8.2								
NAZ	**Nazwa, Dubai**	**3.90**	**228**	P	**Pn**		**00 07 18.8**	**+2.1**	
	SNR=126								
NAZ	**Nazwa, Dubai**	**3.90**	**228**	Pn	**Pn**		**00 07 19.1**	**+2.4**	
	SNR=126								
NAZ				S	**Sn**		**00 08 03.0**	**+1.7**	
	SNR=8.2								
NAZ	**Nazwa, Dubai**	**3.90**	**228**	*i* P	**Pn**		**00 07 18.8**	**+2.1**	
	SNR=126								
SOHO	**SOHO**	**4.07**	**211**	*i* P	**Pn**		**00 07 18.4**	**-0.7**	
	SNR=45								
BIDO	**Bidbid**	**4.16**	**189**	P	**Pn**		**00 07 19.8**	**-0.4**	
	SNR=123								
BIDO				S	**Sn**		**00 08 04.8**	**-2.8**	
	SNR=11								
BIDO	**Bidbid**	**4.16**	**189**	Pn	**Pn**		**00 07 19.8**	**-0.4**	
	SNR=123								
BIDO				Sn	**Sn**		**00 08 04.8**	**-2.8**	
	SNR=11								
BIDO	**Bidbid**	**4.16**	**189**	P	**Pn**		**00 07 19.8**	**-0.4**	
	SNR=123								
BIDO				S	**Sn**		**00 08 04.8**	**-2.8**	
	SNR=11								
HOQ	**Hoqain**	**4.28**	**199**	P	**Pn**		**00 07 21.4**	**-0.5**	
	SNR=54								
HOQ				S	**Sn**		**00 08 06.7**	**-3.9**	
	SNR=6.5								
HOQ	**Hoqain**	**4.28**	**199**	Pn	**Pn**		**00 07 21.4**	**-0.5**	
	SNR=54								
HOQ				Sn	**Sn**		**00 08 06.7**	**-3.9**	
	SNR=6.5								
HOQ	**Hoqain**	**4.28**	**199**	P	**Pn**		**00 07 21.4**	**-0.5**	
	SNR=54								
HOQ				S	**Sn**		**00 08 06.7**	**-3.9**	
	SNR=6.5								
WSAR	**Wadi Sarin**	**4.39**	**183**	P	**Pn**		**00 07 24.2**	**+0.8**	
	comp=Z,53nm,0.3s,baz=5.1,slow=10,SNR=848								
WSAR				S	**Sn**		**00 08 11.5**	**-1.9**	
	comp=Z,314nm,0.3s,baz=58,slow=14,SNR=25								
WSAR	**Wadi Sarin**	**4.39**	**183**	P	**Pn**		**00 07 23.4**	**0.0**	
	SNR=188								
WSAR				S	**Sn**		**00 08 12.1**	**-1.2**	
WSAR	**Wadi Sarin**	**4.39**	**183**	Pn	**Pn**		**00 07 23.4**	**0.0**	
	SNR=188								
WSAR				Sn	**Sn**		**00 08 12.1**	**-1.2**	
WSAR	**Wadi Sarin**	**4.39**	**183**	P	**Pn**		**00 07 23.4**	**0.0**	
	SNR=188								
WSAR				S	**Sn**		**00 08 12.1**	**-1.2**	
ALNE	**Al Ain**	**4.54**	**219**	*i* P	**Pn**		**00 07 27.5**	**+2.1**	
	SNR=352								
SMDO	**Samad**	**4.62**	**189**	P	**Pn**		**00 07 27.1**	**+0.4**	
	SNR=203								
SMDO				S	**Sn**		**00 08 18.0**	**-1.2**	
SMDO	**Samad**	**4.62**	**189**	Pn	**Pn**		**00 07 27.1**	**+0.4**	
	SNR=203								
SMDO				Sn	**Sn**		**00 08 18.0**	**-1.2**	
SMDO	**Samad**	**4.62**	**189**	P	**Pn**		**00 07 27.1**	**+0.4**	
	SNR=203								
SMDO				S	**Sn**		**00 08 18.0**	**-1.2**	
AJN	**Ajban**	**4.64**	**229**	*i* P	**Pn**		**00 07 28.5**	**+1.8**	
	SNR=33								
IKOO	**Kooshah**	**4.76**	**2**	*e*Pn	**Pn**		**00 07 29.1**	**+0.4**	
IKOO				*e*AMB	AMB		00 07 38.4		
	comp=Z,12μm,0.2s								
IKOO	**Kooshah**	**4.76**	**2**	*e*Pn	**Pn**		**00 07 29.1**	**+0.4**	
ARQ	**Araqi**	**4.78**	**207**	P	**Pn**		**00 07 31.2**	**+2.5**	
	SNR=30								
ARQ	**Araqi**	**4.78**	**207**	Pn	**Pn**		**00 07 31.2**	**+2.5**	
	SNR=30								
ARQ				Sn	**Sn**		**00 08 25.5**	**+2.6**	
	SNR=18								
ARQ	**Araqi**	**4.78**	**207**	P	**Pn**		**00 07 31.2**	**+2.5**	
	SNR=30								
ARQ				Sn	**Sn**		**00 08 25.5**	**+2.6**	
	SNR=18								
IBAF	**Bafgh**	**4.86**	**325**	*e*Pn	**Pn**		**00 07 31.3**	**+1.4**	
IBAF				*e*AMB	AMB		00 09 13.8		
	comp=Z,5μm,0.4s								
IBAF	**Bafgh**	**4.86**	**325**	*e*Pn	**Pn**		**00 07 31.3**	**+1.4**	
WBK	**Wadi Bani Khal**	**5.01**	**179**	P	**Pn**		**00 07 32.6**	**+0.7**	
	SNR=73								
WBK				S	**Sn**		**00 08 26.0**	**-2.6**	
	SNR=22								
WBK	**Wadi Bani Khal**	**5.01**	**179**	Pn	**Pn**		**00 07 32.6**	**+0.7**	
	SNR=73								
WBK				Sn	**Sn**		**00 08 26.0**	**-2.6**	
	SNR=22								
WBK	**Wadi Bani Khal**	**5.01**	**179**	P	**Pn**		**00 07 32.6**	**+0.7**	
	SNR=73								
WBK				S	**Sn**		**00 08 26.0**	**-2.6**	
	SNR=22								
IDAH	**Dahanechah**	**5.15**	**10**	*e*Pn	**Pn**		**00 07 35.4**	**+1.4**	
IDAH				*e*AMB	AMB		00 07 37.3		
	comp=Z,6μm,0.2s								
IDAH	**Dahanechah**	**5.15**	**10**	*e*Pn	**Pn**		**00 07 35.4**	**+1.4**	
GHIR	**Ghir-Karzin**	**5.23**	**278**	AML	AML		00 08 34.7		
	comp=N,1μm,0.5s								
GHIR				AML	AML		00 08 35.5		
	comp=E,956nm,0.5s								
ITEG	**Tejag**	**5.23**	**359**	*e*Pn	**Pn**		**00 07 35.3**	**+0.3**	
ITEG				*e*AMB	AMB		00 09 24.5		
	comp=Z,14μm,0.5s								
ITEG	**Tejag**	**5.23**	**359**	*e*Pn	**Pn**		**00 07 35.3**	**+0.3**	
JMDO	**Jabal Madar**	**5.30**	**188**	P	**Pn**		**00 07 36.7**	**+1.0**	
	SNR=66								
JMDO	**Jabal Madar**	**5.30**	**188**	Pn	**Pn**		**00 07 36.7**	**+1.0**	
	SNR=66								
JMDO	**Jabal Madar**	**5.30**	**188**	P	**Pn**		**00 07 36.7**	**+1.0**	
	SNR=66								
IMON	**Monand**	**5.57**	**7**	*e*Pn	**Pn**		**00 07 40.9**	**+1.2**	
IMON				*e*Pn	Pn		00 07 41.2	+1.5	
IMON				*e*AMB	AMB		00 07 42.6		
	comp=Z,7μm,0.1s								
IMON				*e*AMB	AMB		00 07 44.6		
	comp=E,12μm,0.3s								
IMON	**Monand**	**5.57**	**7**	*e*Pn	**Pn**		**00 07 40.9**	**+1.2**	
ICHK	**Chekchek**	**5.99**	**321**	*e*Pn	**Pn**		**00 07 46.4**	**+1.0**	
ICHK				*e*AMB	AMB		00 09 59.1		
	comp=Z,3μm,0.4s								
ICHK	**Chekchek**	**5.99**	**321**	*e*Pn	**Pn**		**00 07 46.4**	**+1.0**	
SHRT	**Shahrakht**	**6.11**	**11**	*e*Pn	**Pn**		**00 07 48.1**	**+1.2**	
SHRT	**Shahrakht**	**6.11**	**11**	*e*Pn	**Pn**		**00 07 48.1**	**+1.2**	
SHRT	**Shahrakht**	**6.11**	**11**	*e*Pn	**Pn**		**00 07 48.1**	**+1.2**	
TABS	**Tabas**	**6.17**	**346**	*e*Pn	**Pn**		**00 07 48.0**	**+0.3**	
TABS	**Tabas**	**6.17**	**346**	*e*Pn	**Pn**		**00 07 48.0**	**+0.3**	
TABS	**Tabas**	**6.17**	**346**	*e*Pn	**Pn**		**00 07 48.0**	**+0.3**	
ISAD	**Sadrabad**	**6.19**	**315**	*e*Pn	**Pn**		**00 07 49.0**	**+0.9**	
ISAD				*e*AMB	AMB		00 10 07.9		
	comp=Z,2μm,0.5s								
ISAD	**Sadrabad**	**6.19**	**315**	*e*Pn	**Pn**		**00 07 49.0**	**+0.9**	
AHBU	**AHRAM**	**6.78**	**282**	*e*Pn	**Pn**		**00 07 54.3**	**-1.6**	
IRAM	**Ramesheh**	**6.99**	**308**	*e*Pn	**Pn**		**00 07 58.2**	**-0.9**	
IRAM				*e*AMB	AMB		00 09 18.9		
	comp=Z,4μm,0.3s								
IRAM	**Ramesheh**	**6.99**	**308**	*e*Pn	**Pn**		**00 07 58.2**	**-0.9**	
IGAR	**Gharneh**	**7.57**	**310**	*e*AMB	AMB		00 09 31.3		
	comp=Z,2μm,0.3s								
IZEF	**Zefreh**	**7.69**	**314**	*e*AMB	AMB		00 08 25.4		
	comp=Z,433nm,0.3s								
IZEF				*e*Pn	**Pn**		**00 08 09.2**	**+0.5**	
SLWS		**7.90**	**251**	P	**Pn**		**00 08 11.5**	**+0.2**	
BTHS		**8.05**	**245**	P	**Pn**		**00 08 13.7**	**+0.3**	
IKLH	**Kolahrood**	**8.45**	**314**	*e*AMB	AMB		00 10 17.5		
	comp=Z,466nm,0.3s								
SHAO	**Shalim**	**10.03**	**198**	P	**Pn**		**00 08 39.9**	**-0.5**	
	SNR=31								
SHAO				S	**Sn**		**00 10 27.6**	**-3.7**	
	SNR=5.7								
SHAO	**Shalim**	**10.03**	**198**	Pn	**Pn**		**00 08 39.9**	**-0.5**	
	SNR=31								
SHAO				Sn	**Sn**		**00 10 27.6**	**-3.7**	
	SNR=5.7							

SNR=9.8
DHRM DHARAMSHALA 15.80 69 *e*P Pn 00 09 57.1 -0.2
DHRM IAmb IAmb 00 09 59.0
comp=Z,28nm,0.7s
SMLA Simla 16.33 73 *e*P Pn **00 10 03.6 -0.2**
POO Poona 16.50 120 *e*P Pn **00 10 06.7 +0.7**
POO IAmb IAmb 00 10 11.4
comp=Z,1μm,4.0s
SIRT Sirnak 16.95 310 *e*P Pn **00 10 09.2 -2.3**
GNI Garni 17.08 320 P P **00 10 14.0 +0.1**
comp=Z,0.6nm,0.3s,baz=85,slow=0.9,SNR=12
GNI LR LR 00 17 51.2
comp=Z,10μm,18.6s,baz=90,slow=41
GNI Garni 17.08 320 *e*P P **00 10 14.0 +0.1**
comp=Z,32nm,0.9s
SFK Sufi-Kurgan 17.30 41 P Pn **00 10 15.9 0.0**
SFK pmax pmax
comp=Z,22nm,1.4s
SFK Sufi-Kurgan 17.30 41 P Pn **00 10 15.9 0.0**
comp=Z,22nm,1.4s
BHPL Bhopal 17.33 101 *e*P Pn **00 10 15.9 -0.4**
BHPL IAmb IAmb 00 10 19.7
comp=Z,208nm,2.0s
AGRB Hanur-Agry 17.75 316 *e*P Pn **00 10 22.9 +1.5**
GURO Guroymak-BITLI 17.77 312 *e*P Pn **00 10 21.5 -0.1**
KK31 Karatay Array 18.09 28*ce*P Pn **00 10 25.0 -0.3**
KK31 pmax pmax
comp=Z,33nm,0.9s
KK31 Karatay Array 18.09 28 *e*P Pn **00 10 25.0 -0.3**
comp=Z,33nm,0.9s
KKAR Karatay Array 18.09 28 *e*P Pn **00 10 25.0 -0.3**
KKAR Karatay Array 18.09 28 *e*P Pn **00 10 25.0 -0.3**
KKAR Karatay Array 18.09 28 *e*P Pn **00 10 25.0 -0.3**
DZA Taraz 18.27 30⇑*i*P Pn **00 10 27.8 +0.2**
comp=Z,431nm,0.7s
GOA Goa 18.42 128 *e*P P **00 10 28.7 +0.1**
GOA IAmb IAmb 00 10 32.3
comp=Z,29nm,1.0s
KSH Kashi 18.50 46 P P **00 10 24.0 -5.4**
KSH pP Pn 00 10 36.0 +5.6
KSH PP **pP 00 10 41.5 -3.0**
KSH S S 00 13 36.8 -19
MNAS Manas 18.51 33 *i*P P **00 10 29.7 +0.1**
MNAS pmax pmax
comp=Z,59nm,0.8s
MNAS Manas 18.51 33 *i*P P **00 10 29.7 +0.1**
comp=Z,59nm,0.8s
DAMY Dhamar 18.72 229 *e*P Pn **00 10 34.0 +0.6**
comp=Z,38nm,0.8s
SENK Senkaya-Erzuru 18.74 318 *e*P Pn **00 10 34.3 +0.9**
GROC Groznyy 18.78 329 *e*P Pn **00 10 33.0 -0.6**
GROC pmax pmax
comp=Z,30nm,1.0s
GROC Groznyy 18.78 329 *e*P Pn **00 10 33.0 -0.6**
comp=Z,30nm,1.0s
AML Almayashu 18.85 36 P P **00 10 34.0 +0.4**
SNR=26
EKS2 Erkin-Say 19.28 35 P Pn **00 10 38.7 -0.9**
SNR=80
UCH Uchtor 19.36 37 P P **00 10 39.6 +0.5**
SNR=25
ZEI Tsey 19.38 325 *e*P P **00 10 38.2 -0.9**
ZEI pmax pmax
comp=Z,11nm,0.9s
NGP Nagpur 19.48 105 *e*P Pn **00 10 42.1 0.0**
NGP IAmb IAmb 00 10 44.4
comp=Z,64nm,1.3s
ASF Jabal al Asfar 19.55 289 P P **00 10 41.7 +0.7**
comp=Z,2.7nm,0.3s,baz=53,slow=9.2,SNR=27
ASF S S 00 14 03.9 -14
comp=Z,0.6nm,0.3s,baz=68,slow=16,SNR=3.9
JBP Jabalpur 19.59 98 *e*P P **00 10 42.0 +0.6**
JBP AMB AMB 00 10 44.4
comp=Z,46nm,1.3s
JBP *ex* x 00 13 43.4
AAK Ala-Archa 19.63 36 P P **00 10 42.8 +1.0**
comp=Z,3.7nm,0.3s,baz=211,slow=10,SNR=58
AAK Ala-Archa 19.63 36⇑*e*P P **00 10 41.1 -0.7**
AAK pmax pmax
comp=Z,95nm,1.8s
AAK Ala-Archa 19.63 36 P P **00 10 42.5 +0.7**
SNR=56
AAK Ala-Archa 19.63 36 *e*P P **00 10 42.4 +0.7**
comp=Z,50nm,1.0s
AAK Ala-Archa 19.63 36 P P **00 10 42.4 +0.7**
SNR=80
AAK Ala-Archa 19.63 36 Pn P **00 10 42.4 +0.7**
SNR=80
AAK Ala-Archa 19.63 36 P P **00 10 42.4 +0.6**
SNR=80
AAK Ala-Archa 19.63 36 *i*P P **00 10 42.5 +0.6**
SNR=77
KZA Kyzart 19.66 39 P Pn **00 10 45.1 +0.8**
SNR=111
NRN Naryn 19.66 41 P P **00 10 42.1 -0.2**
NRN pmax pmax
comp=Z,16nm,0.7s
NRN Naryn 19.66 41 P P **00 10 42.1 -0.2**
comp=Z,16nm,0.7s
PTK Pertek 19.72 310 *e*P P **00 10 43.2 +0.3**
KBK Karagaybulak 19.88 37 P P **00 10 45.5 +0.9**
SNR=49
BAYT Ayd¨–ntepe-Bay 20.01 314 *e*P P **00 10 46.8 +0.9**
CHMS Chumysh 20.02 36 P P **00 10 46.9 +1.0**
SNR=32
NCK Nalchik 20.05 326⇓*e*P Pn 00 10 47.4 -1.2
NCK pmax pmax
comp=Z,27nm,1.1s
NCK Nalchik 20.05 326 *e*P Pn 00 10 47.4 -1.2
comp=Z,27nm,1.1s
USP Ospenovka 20.08 35 P P **00 10 46.7 +0.1**
SNR=35
MALT Malatya 20.13 307 *e*P P **00 10 47.9 +0.7**
ULHL Ulahol 20.32 40 P P **00 10 50.4 +1.1**
SNR=25
TKM2 Tokmak 2 20.41 37 *i*P P **00 10 50.0 -0.3**
TKM2 pmax pmax
comp=Z,32nm,0.6s
TKM2 Tokmak 2 20.41 37 P P **00 10 50.8 +0.5**
SNR=54
TKM2 Tokmak 2 20.41 37 *i*P P **00 10 50.0 -0.3**
comp=Z,32nm,0.6s
GAZ Gaziantep 20.56 303 *e*P Pn 00 10 53.5 -1.1
KBZ Khabaz 20.57 325 P P **00 10 52.5 +0.7**
comp=Z,12nm,0.8s,baz=146,slow=11,SNR=10
HYB Hyderabad 20.82 115 *i*P Pn 00 10 56.5 -1.4
HYB Hyderabad 20.82 115 *e*P P **00 10 55.1 +0.3**
KVAR Kislovodsk Arr 20.83 326 P P **00 10 55.3 +0.6**
comp=Z,41nm,0.7s,baz=148,slow=2.6,SNR=18
KIV Kislovodsk 20.84 326 *e*P P **00 10 55.9 +1.1**
KIV pmax pmax
comp=Z,84nm,1.0s
KIV Kislovodsk 20.84 326 *e*P P **00 10 55.8 +1.1**
comp=Z,66nm,0.8s
KIV Kislovodsk 20.84 326 P P **00 10 54.8 +0.1**
SNR=40
KIV Kislovodsk 20.84 326 P P **00 10 54.8 +0.1**
SNR=40
KIV Kislovodsk 20.84 326 P P **00 10 54.8 +0.1**
SNR=40
DARE Darende-Malaty 20.91 307 *e*P P **00 10 55.2 -0.4**
KMRS Kahramanmaras 20.91 304 *e*P P **00 10 49.9 -5.6**
MMAI Mount Meron Ar 20.92 291 P Pn 00 10 58.1 -0.8
comp=Z,10.0nm,0.6s,baz=96,slow=13,SNR=42
MMAI S **S 00 14 43.2 -1.7**
comp=Z,6.0nm,0.7s,baz=124,slow=32,SNR=7.5
EIL Elat 21.07 281 P P **00 11 03.0 +5.7**
comp=Z,71nm,1.0s,baz=89,slow=7.0,SNR=44
BTLS Baital 21.18 31 *i*P P **00 10 58.2 0.0**
comp=Z,281nm,0.8s
BTLS *i*S S **00 14 50.9 +1.3**
AAA Alma-Ata 21.32 39⇑*e*P P **00 11 01.1 +1.2**
comp=Z,698nm,1.0s
PYUN Piuthan 21.34 83 *e*P P **00 11 02.6 +2.2**
MDOK Medeo 21.37 39 *i*P P **00 11 00.8 +0.3**
comp=Z,1μm,1.0s
KUU Kurty 21.47 36 *i*P P **00 11 01.9 +0.5**
comp=Z,314nm,1.0s
KUU *i*S S **00 14 56.9 +1.4**
AB31 Akbulak array 21.59 2*ce*P P **00 11 01.8 -0.8**
AB31 pmax pmax
comp=Z,48nm,0.7s
AB31 Akbulak array 21.59 2 *e*P P **00 11 01.8 -0.8**
comp=Z,48nm,0.7s
ABKAR Akbulak array 21.59 2 *e*P P **00 11 02.5 -0.2**
comp=Z,463nm,0.7s
ABKAR Akbulak array 21.59 2 *e*P P **00 11 02.5 -0.2**
comp=Z,463nm,0.7s
KOZT Kozan 21.70 303 *e*P P **00 11 04.7 +0.8**
PRZ Przheval'sk 21.72 42 P P **00 11 05.1 +0.8**
PRZ pmax pmax
comp=Z,49nm,1.0s
PRZ Przheval'sk 21.72 42 P P **00 11 05.1 +0.8**
comp=Z,49nm,1.0s
SVSK Karacayir 21.84 310 *e*P P **00 11 04.9 -0.5**
KOLN Koldanda 21.90 84 *e*P P **00 11 08.4 +2.0**
comp=Z,9.9nm,0.5s
ATD Arta Tunnel 21.97 226 P P **00 11 08.2 +1.2**
comp=Z,10nm,1.0s,baz=311,slow=20,SNR=3.4
DANN Dangsing 22.00 82 *e*P P **00 11 10.4 +2.9**
comp=Z,13nm,1.0s
SATY Saty 22.07 41 *i*P P **00 11 07.5 -0.5**
comp=Z,548nm,1.0s
SATY *e*S S **00 15 07.6 +0.5**
SOC Sochi 22.16 321 *e*P P **00 11 02.5 -6.3**
SOC pmax pmax
comp=Z,8.0nm,0.4s
BNN Bunyan 22.19 306 *e*P P **00 11 07.9 -1.4**
KARA Karaisali 22.20 302 *e*P P **00 11 09.7 +0.3**
TOKT Tokat 22.33 310 *e*P P **00 11 10.6 -0.2**
KPKS Kokpek 22.48 40 *i*P P **00 11 12.2 -0.2**
comp=Z,138nm,0.9s
KPKS *i*S S **00 15 14.7 +0.7**
UZB Uzynbulak 22.48 41 *i*P P **00 11 12.3 -0.2**
comp=Z,919nm,1.0s
UZB *i*S S **00 15 15.0 +0.8**
AKTO Aktyubinsk 22.77 359 P P **00 11 14.3 -0.9**
comp=Z,36nm,0.6s,baz=163,slow=9.7,SNR=94
AKTO S S **00 15 18.0 -0.3**
comp=Z,3.4nm,0.8s,baz=340,slow=8.4,SNR=6.0
AKTO Aktyubinsk 22.77 359 *i*P P **00 11 12.5 -2.7**
AKTO pmax pmax
comp=Z,61nm,0.8s
GKN Gorkha 22.80 83 *e*P P **00 11 16.9 +1.0**
PDGK Podgornoye 22.87 41 *i*P P **00 11 15.3 -1.2**
PDGK pmax pmax
comp=Z,69nm,1.2s
PDGK Podgornoye 22.87 41 *i*P P **00 11 15.3 -1.2**
comp=Z,69nm,1.2s
CSS Mathiatis 22.96 295 *e*P P **00 11 19.4 +2.1**
comp=Z,12nm,1.0s
TDK Taldyqorghan 23.31 37 *i*P P **00 11 20.9 +0.2**
comp=Z,1μm,0.6s
KKN Kakani 23.38 83 *e*P P **00 11 22.8 +1.1**
comp=Z,15nm,0.6s
MNCY Minicoy 23.48 143 *e*P P **00 11 23.0 +0.6**
PKIN Phulchoki 23.51 84 *e*P P **00 11 24.5 +1.6**
comp=Z,9.2nm,0.5s
PKI Pulchoki 23.52 84 *e*P P **00 11 24.3 +1.3**
CORM Corum 23.59 308 *e*P P **00 11 21.5 -1.8**
SULT Sultanhani-AKS 23.66 303 *e*P P **00 11 21.4 -2.5**
GUN Gumba 23.90 83 *e*P P **00 11 28.5 +2.0**
BRTR Keskin Array B 24.11 306 P P **00 11 27.9 0.0**
comp=Z,7.8nm,0.8s,baz=126,slow=15,SNR=56
BRTR pP **pP 00 11 45.5 +0.4**
comp=Z,18nm,0.9s,baz=120,slow=12,SNR=12
BRTR ScP **ScP 00 18 39.9 +0.6**
comp=Z,0.6nm,0.9s,baz=107,slow=1.5,SNR=4.0
BRTR Keskin Array B 24.11 306 P P **00 11 28.0 0.0**
BRTR Keskin Array B 24.11 306 P P **00 11 28.0 0.0**
BR131 Keskin Array S 24.11 306 *e*P P **00 11 28.3 +0.3**
BR131 Keskin Array S 24.11 306 P P **00 11 28.1 +0.1**
SNR=16
BR131 Keskin Array S 24.11 306 P P **00 11 28.1 +0.1**
SNR=16
BR131 Keskin Array S 24.11 306 P P **00 11 28.1 +0.1**
SNR=16
JIRN Jiri 24.20 84 *e*P P **00 11 31.0 +1.8**
ANN Anapa 24.21 321 *e*P P **00 11 28.0 -0.6**
ANN *e*PP **pP 00 11 46.9 +1.0**
ANN *e*S S **00 15 42.1 +0.4**
ANN pmax pmax
comp=Z,64nm,0.8s
ANN Anapa 24.21 321 *e*P P **00 11 28.0 -0.6**
comp=Z,64nm,0.8s
ANN *e*S S **00 15 42.1 +0.4**
AFSR Af¨ar-Bala (A 24.41 305 *e*P P **00 11 29.9 -0.8**
VIS Vishakhapatnam 24.61 108 *e*P P **00 11 32.8 +0.3**
VIS IAmb IAmb 00 11 35.4
BOK Bokaro 24.63 93 *e*P P **00 11 32.7 -0.1**
RAMN Ramite 24.65 85 *e*P P **00 11 34.5 +1.4**
BRZS Berezniki 24.69 22⇑*e*P P **00 11 33.7 +0.7**
comp=Z,42nm,1.7s
MDRS Chennai 24.69 122 *e*P P **00 11 35.5 +2.2**
ANTO Ankara 24.77 306 *e*P P **00 11 34.1 +0.2**
ANTO pmax pmax
comp=Z,20nm,0.9s
ANTO Ankara 24.77 306 *e*P P **00 11 34.1 +0.2**
comp=Z,20nm,0.9s
ANTO *e*pP **pP 00 11 52.0 +0.8**
ANTO Ankara 24.77 306 P P **00 11 34.8 +0.9**
SNR=5.4
ANTO Ankara 24.77 306 P P **00 11 34.8 +0.9**
SNR=5.4
ANTO Ankara 24.77 306 *e*P P **00 11 34.1 +0.2**
comp=Z,20nm,0.9s
BR231 Keskin MP Arra 24.77 306 *e*P P **00 11 34.4 +0.4**
BR231 Keskin MP Arra 24.77 306 *e*P P **00 11 34.3 +0.4**
ODAN Odare 25.36 85 *e*P P **00 11 41.4 +1.8**
SUTC Sutluce-Ispart 25.36 300 *e*P P **00 11 39.8 +0.4**
SVRH Sivrihisar-ESK 25.54 304 *e*P P **00 11 40.7 -0.2**
TAPN Taplejung 25.57 84 *e*P P **00 11 43.5 +1.9**
ISP Isparta 25.82 300⇓*e*P P **00 11 44.5 +1.0**
ISP pmax pmax
comp=Z,36nm,1.1s
ISP Isparta 25.82 300 *e*P P **00 11 44.5 +1.0**
comp=Z,35nm,1.0s
ISP Isparta 25.82 300 *e*P P **00 11 44.5 +1.0**
comp=Z,35nm,1.0s
SHUT Suhut-Afyon 25.99 302 *e*P P **00 11 44.9 -0.2**
ELL Elmali 26.04 298 *e*P P **00 11 46.2 +0.6**
MAKZ Makanchi 26.38 37 *i*P P **00 11 47.3 -1.1**
MAKZ pmax pmax
comp=Z,48nm,1.3s
MAKZ Makanchi 26.38 37 *e*P P **00 11 48.6 +0.2**
comp=Z,46nm,1.3s
MK01 Makanchi Array 26.54 38 *e*P P **00 11 49.7 -0.1**
MK31 Makanchi Array 26.54 38*ce*P P **00 11 49.9 +0.1**
MK31 pmax pmax
comp=Z,21nm,0.8s
MK31 Makanchi Array 26.54 38 *e*P P **00 11 50.0 +0.1**
MKAR Makanchi Array 26.54 38 P P **00 11 49.8 0.0**
comp=Z,18nm,0.7s,baz=226,slow=7.8,SNR=202
MKAR Makanchi Array 26.54 38*ce*P P **00 11 49.7 -0.2**
MKAR pmax pmax
comp=Z,18nm,0.7s
MKAR Makanchi Array 26.54 38 *e*P P **00 11 49.9 0.0**
comp=Z,109nm,0.8s
BVA0 Borovoye Array 26.76 16 P P **00 11 50.6 -1.1**
BVA0 pmax pmax
comp=Z,38nm,1.0s
BVAR Borovoye Array 26.76 16 P P **00 11 51.6 -0.2**
comp=Z,17nm,0.7s,baz=201,slow=7.9,SNR=93
BVAR ScP **ScP 00 18 45.7 -0.8**
comp=Z,1.6nm,0.9s,baz=214,slow=7.2,SNR=5.9
BRVK Borovoye 26.77 15⇑*e*P P **00 11 51.7 0.0**
BRVK pmax pmax
comp=Z,87nm,1.2s
BRVK Borovoye 26.77 15 *e*P P **00 11 51.7 0.0**
comp=Z,29nm,1.0s
BRVK Borovoye 26.77 15 P P **00 11 52.0 +0.2**
SNR=11
BRVK Borovoye 26.77 15 P P **00 11 52.0 +0.2**
SNR=11
BRVK Borovoye 26.77 15 P P **00 11 52.0 +0.2**
SNR=11
KURBB Kurchatov Arra 27.39 28 P P **00 11 57.4 +0.1**
comp=Z,9.2nm,0.5s,baz=226,slow=8.6,SNR=81
KURK Kurchatov 27.50 28⇓*e*P P **00 11 58.6 +0.3**
KURK pmax pmax
comp=Z,70nm,1.2s
KURK Kurchatov 27.50 28 P P **00 11 57.4 -0.9**
KURK Kurchatov 27.50 28 *e*P P **00 11 58.6 +0.3**
comp=Z,70nm,1.2s
SEM Semipalatinsk 27.97 30 *i*P P **00 12 03.3 +0.5**
comp=Z,266nm,1.1s
KARP Karpathos 28.03 294 *e*P P **00 12 05.1 +1.8**
KARP *e*pP **pP 00 12 22.7 +1.9**
KARP Karpathos 28.03 294 *e*P P **00 12 05.1 +1.8**
KARP *e*pP **pP 00 12 22.7 +1.9**
WMQ Urumqi 28.24 48 P P **00 12 06.5 +1.3**
WMQ pP pP 00 12 21.8 -0.9
WMQ sP sP 00 12 31.5 0.0
WMQ pmax pmax
comp=Z,35nm,1.1s
ZSN Zaisan 28.35 39⇑*e*P P **00 12 05.9 -0.1**
comp=Z,27nm,1.0s
ARU Arti 28.76 360 P P **00 12 08.8 -0.7**
comp=Z,1.3nm,0.3s,baz=277,slow=12,SNR=6.0
ARU Arti 28.76 360*di*P P **00 12 09.2 -0.3**
ARU S S **00 16 55.2 +1.7**
ARU SS SnSn **00 18 24.3 +2.4**
ARU pmax pmax
comp=Z,8.0nm,1.7s
SVE Sverdlovsk 29.19 2 *e*P P **00 12 12.8 -0.5**
SVE pmax pmax
comp=Z,17nm,0.9s
SVE Sverdlovsk 29.19 2 *e*P P **00 12 12.8 -0.5**
comp=Z,17nm,0.9s
SANT Santorini 29.51 296⇑*i*P P **00 12 17.0 +0.6**
SANT Santorini 29.51 296 *e*P P **00 12 16.8 +0.4**
comp=Z,35nm,0.5s
SANT Santorini 29.51 296 *e*P P **00 12 16.8 +0.4**
comp=Z,35nm,0.5s
SHL Shillong 29.56 86 *e*P P **00 12 18.7 +1.6**
IDI Anoyia 29.85 293 P P **00 12 18.8 -0.7**
comp=Z,9.3nm,0.6s,baz=76,slow=9.6,SNR=12
IDI Anoyia 29.85 293 *e*P P **00 12 18.9 -0.5**
comp=Z,18nm,1.0s
IDI Anoyia 29.85 293 *e*P P **00 12 19.0 -0.5**
comp=Z,18nm,1.0s
ALN Alexandroupoli 29.98 305 P P **00 12 21.2 +0.8**
ALN pmax pmax
comp=Z,6.0nm,1.0s
ALN Alexandroupoli 29.98 305 P P **00 12 21.2 +0.8**
comp=Z,6.0nm,1.0s
TESR Tescani 31.55 315⇓*i*P P **00 12 33.6 -0.6**
MLR Muntele Rosu 31.58 313 P P **00 12 34.8 +0.1**
comp=Z,0.9nm,0.7s,baz=111,slow=5.6,SNR=6.5
MLR Muntele Rosu 31.58 313 ⇓P P **00 12 34.9 +0.2**
MLR Muntele Rosu 31.58 313⇓*i*P P **00 12 34.9 +0.2**
SRS Serrai 31.83 304 P P **00 12 36.9 +0.1**
SRS Serrai 31.83 304 P P **00 12 36.9 +0.1**
SRS Serrai 31.83 304 P P **00 12 37.2 +0.4**
OBN Obninsk 31.86 336 P P **00 12 35.5 -1.3**
comp=Z,6.5nm,0.4s,baz=133,slow=19,SNR=4.2
OBN Obninsk 31.86 336⇓*e*P P **00 12 36.1 -0.7**
OBN *e* 00 13 45.6
OBN pmax pmax
comp=Z,20nm,1.2s
OBN MLR MLR
comp=Z,8μm,20.0s
OBN Obninsk 31.86 336 *e*P P **00 12 36.1 -0.7**
comp=Z,20nm,1.2s
DOPR Dopca 32.12 314⇑*i*P P **00 12 39.0 -0.3**
VOIR 32.14 313 ⇓P P **00 12 39.2 -0.3**
VOIR 32.14 313⇓*i*P P **00 12 39.2 -0.3**
VOIR 32.14 313 P P **00 12 39.2 -0.3**
AKASG Malin Array Be 32.16 324 P P **00 12 38.1 -1.4**
comp=Z,1.0nm,0.4s,baz=125,slow=8.1,SNR=14
AKASG pP **pP 00 12 56.8 -0.4**
comp=Z,1.5nm,0.6s,baz=128,slow=8.4,SNR=4.6
AKASG PcP **PcP 00 15 26.3 -0.5**
comp=Z,0.2nm,0.3s,baz=108,slow=2.3,SNR=4.3
AKASG Malin Array Be 32.16 324*ce*P P **00 12 39.0 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 32.16 324 *e*P P **00 12 39.0 -0.5**
comp=Z,1.0nm,0.3s
AKASG pP **pP 00 12 56.8 -0.4**
AKBB Malin Array Si 32.16 324 *e*P P **00 12 39.0 -0.5**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 32.16 324 *e*P P **00 12 39.0 -0.5**
comp=Z,6.8nm,0.7s
AKBB Malin Array Si 32.16 324 *e*P P **00 12 39.0 -0.5**
comp=Z,6.8nm,0.7s
KIEV Kiev 32.16 324⇑*e*P P **00 12 39.3 -0.3**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 32.16 324 *e*P P **00 12 39.3 -0.3**
comp=Z,6.0nm,0.7s
AK11 Malin Array Si 32.18 324 *e*P P **00 12 39.9 +0.2**
AK11 Malin Array Si 32.18 324 *e*P P **00 12 39.9 +0.2**
AGG Agios Georgios 32.36 300 *e*P P **00 12 41.0 -0.5**
AGG pmax pmax
comp=Z,19nm,1.0s
AGG Agios Georgios 32.36 300 *e*P P **00 12 41.0 -0.5**
comp=Z,18nm,1.0s
AGG Agios Georgios 32.36 300 *e*P P **00 12 41.0 -0.5**
comp=Z,18nm,1.0s
ARR Arges 32.38 312⇓*i*P P **00 12 41.2 -0.5**
NVS Novosibirsk 32.45 26⇓*i*P P **00 12 42.2 +0.2**
NVS *e* 00 13 05.3
NVS *i*S S **00 17 49.4 -1.7**
NVS pmax pmax
comp=Z,57nm,1.2s
NVS pmax pmax
comp=N,39nm,1.4s
NVS pmax pmax
comp=E,12nm,1.1s
NVS smax smax
comp=N,8.0nm,1.3s
NVS smax smax
comp=E,7.0nm,1.3s
NVS Novosibirsk 32.45 26 *i*P P **00 12 42.2 +0.2**
comp=E,39nm,1.4s
ZAA0 Zalesovo Array 32.46 29 *e*P P **00 12 41.7 -0.5**
comp=E,63nm,1.2s
ZAA0 Zalesovo Array 32.46 29 *e*P P **00 12 41.7 -0.5**
comp=E,63nm,1.2s
ZALV Zalesovo Beam 32.46 29 P P **00 12 41.6 -0.5**
comp=E,25nm,0.3s,baz=233,slow=9.1,SNR=157
ZALV S S **00 17 47.2 -4.2**
comp=E,1.1nm,0.7s,baz=232,slow=16,SNR=3.9
VTS Vitosha 32.48 307 *e*P P **00 12 42.6 -0.1**
VTS pmax pmax
comp=Z,11nm,1.0s
VTS Vitosha 32.48 307⇑*i*P P **00 12 42.5 -0.1**
VTS Vitosha 32.48 307 *e*P P **00 12 42.6 -0.1**
comp=Z,11nm,1.0s
VTS Vitosha 32.48 307 *e*P P **00 12 42.6 -0.1**
comp=Z,11nm,1.0s
LAKA Lakka 32.51 298 P P **00 12 43.2 +0.4**
ANX Ano Chora 32.60 299 P P **00 12 43.5 -0.2**
DRO Drossia 32.68 298 P P **00 12 45.3 +1.0**
BURAR Bucovina Array 32.90 316⇑P P **00 12 45.5 -0.7**
BURAR Bucovina Array 32.90 316⇑*i*P P **00 12 45.5 -0.7**
BUR04 Bucovina Ar. S 32.91 316 *e*P P **00 12 45.5 -0.7**
BUR04 Bucovina Ar. S 32.91 316 *e*P P **00 12 45.5 -0.7**
BUR08 Bucovina Ar. S 32.93 316 *e*P P **00 12 46.2 -0.2**
BUR08 Bucovina Ar. S 32.93 316 *e*P P **00 12 46.2 -0.2**
FNA Florina 33.39 303 P P **00 12 51.1 +0.6**
FNA pmax pmax
comp=Z,12nm,0.8s
FNA Florina 33.39 303 P P **00 12 51.1 +0.6**
comp=Z,12nm,0.8s
FNA Florina 33.39 303 P P **00 12 49.2 -1.3**
PENT Pentalofos 33.46 302 P P **00 12 51.5 +0.3**
CJR Cluj-Napoca 33.55 314 ⇓P pP 00 13 08.5 -1.1
CJR Cluj-Napoca 33.55 314⇓*i*P pP 00 13 08.5 -1.1
NEST Nestorio 33.57 302 P P **00 12 52.7 +0.6**
IGT Igoumenitsa 33.97 300 P P **00 12 54.9 -0.6**
IGT Igoumenitsa 33.97 300 P P **00 12 54.9 -0.6**
SGD Sagiada 34.05 301 P P **00 12 55.7 -0.5**
DRGR 34.15 314⇑P P **00 12 56.8 -0.2**
DRGR 34.15 314⇑*i*P P **00 12 56.8 -0.2**
DRGR 34.15 314 P P **00 12 56.8 -0.2**
BZS Buzias 34.47 311 ⇓P P **00 12 58.0 -1.7**
BZS Buzias 34.47 311⇓*i*P P **00 12 58.0 -1.7**
BZS Buzias 34.47 311 P P **00 12 58.0 -1.7**
TIR Tirane 34.62 304 ⇓P P **00 13 00.9 -0.2**
TIR Tirane 34.62 304⇓*i*P P **00 13 00.9 -0.2**
TIR Tirane 34.62 304 *e*P P **00 13 00.7 -0.4**
comp=Z,20nm,0.8s
TIR Tirane 34.62 304 *e*P P **00 13 00.7 -0.4**
comp=Z,20nm,0.8s
BANR Banloc 34.72 311⇓*i*P P **00 13 02.6 +0.8**
DGPR DIGLIPUR 34.89 107 *e*P P **00 13 03.6 0.0**
DGPR IAmb IAmb 00 13 09.2
comp=Z,29nm,0.3s
UZH Uzhgorod 35.11 317 *e*P P **00 13 04.6 -0.6**
UZH Uzhgorod 35.11 317 *e*P P **00 13 04.6 -0.6**
DIVS Divibare 35.14 308 *e*P P **00 13 05.0 -0.6**
comp=Z,35nm,2.0s
DIVS Divibare 35.14 308 *e*P P **00 13 05.0 -0.6**

HVS Khovu-Aksy 35.20 39⇓ *e*P P 00 13 06.4 +0.3
HVS pmax pmax
comp=Z,27nm,1.3s
KMBO Kilima Mbogo 35.35 220 P P 00 13 09.5 +1.6
comp=Z,2.5nm,0.8s,baz=28,slow=12,SNR=9.2
PBA Port Blair 35.50 110 *e*P P 00 13 08.7 -0.2
KLMR Klimovskoe 35.68 344 *e*P P 00 13 07.2 -2.7
KLMR *e* 00 14 26.9
KLMR pmax pmax
comp=Z,20nm,1.1s
KLMR Klimovskoe 35.68 344 *e*P P 00 13 07.3 -2.7
KLMR AMP 00 13 09.4
comp=Z,20nm,1.1s
KLMR *e*pP pP 00 13 26.1 -1.7
KLMR *e*PP PnPn 00 14 26.9 -4.8
GTA Gaotai 35.82 60 *e*P P 00 13 13.5 +1.9
GTA pP pP 00 13 28.8 -0.6
GTA sP sP 00 13 36.0 -2.1
GTA pmax pmax
comp=Z,19nm,1.0s
IDID Didziasalis 36.08 329 *e*P P 00 13 13.4 +0.1
SNR=27
IDID Didziasalis 36.08 329 *e*P P 00 13 13.4 +0.1
KECS Kecovo 36.16 316 *e*P P 00 13 14.9 +0.7
KECS pmax pmax
comp=Z,3.0nm,1.3s
KECS Kecovo 36.16 316 *e*P P 00 13 14.9 +0.7
comp=Z,3.0nm,1.3s
KECS Kecovo 36.16 316 *e*P P 00 13 14.9 +0.7
IIGN Ignalina 36.34 329 *e*P P 00 13 15.8 +0.2
SNR=27
IIGN Ignalina 36.34 329 *e*P P 00 13 15.8 +0.2
STON Ston 36.49 306 P P 00 13 14.3 -2.8
ISAL Salakas 36.51 329 *e*P P 00 13 17.2 +0.2
IZAR Zarasai 36.56 329 *e*P P 00 13 17.5 +0.1
TIP Timpagrande 36.67 299⇓ *i*P P 00 13 18.5 -0.3
TIP Timpagrande 36.67 299 *e*P P 00 13 18.8 0.0
comp=Z,32nm,1.1s
TIP Timpagrande 36.67 299 *e*P P 00 13 18.8 0.0
comp=Z,32nm,1.1s
MATE Matera 36.88 302⇑ *i*P P 00 13 18.6 -1.8
LANS Liptovska Anna 37.03 316 *e*P P 00 13 21.8 +0.2
LANS Liptovska Anna 37.03 316 *e*P P 00 13 21.8 +0.2
LANS Liptovska Anna 37.03 316 *e*P P 00 13 21.8 +0.2
KNGR Kungurtug, Tuv 37.15 41⇑ *e*P P 00 13 23.9 +1.2
KNGR Kungurtug, Tuv 37.15 41 *e*P P 00 13 23.9 +1.2
VYHS Vyhne 37.20 315 *e*P P 00 13 23.1 +0.1
VYHS pmax pmax
comp=Z,14nm,2.4s
VYHS Vyhne 37.20 315 *e*P P 00 13 23.1 +0.1
OJC Ojcow 37.23 318 *e*P P 00 13 23.1 -0.1
OJC pmax pmax
comp=Z,9.0nm,0.7s
OJC Ojcow 37.23 318 *e*P P 00 13 23.1 -0.1
comp=Z,9.2nm,0.7s
CUC Castrocucco 37.48 300 *e*P P 00 13 26.4 +0.9
comp=Z,52nm,0.7s
CUC Castrocucco 37.48 300 *e*P P 00 13 26.4 +0.9
comp=Z,52nm,0.7s
CMAR Chiang Mai Arr 37.87 95 P P 00 13 29.7 +0.7
comp=Z,0.8nm,0.4s,baz=297,slow=8.0,SNR=5.7
CMAR PP PnPn 00 14 59.8 +1.0
comp=Z,1.1nm,0.4s,baz=295,slow=9.1,SNR=5.3
CMAR PcP PcP 00 15 46.0 +1.9
comp=Z,0.7nm,0.3s,baz=294,slow=4.8,SNR=3.3
CMAR Chiang Mai Arr 37.87 95 *c*eP P 00 13 31.2 +2.2
CMAR pmax pmax
comp=Z,1.0nm,0.3s
SOP Sopron 38.41 313 P P 00 13 32.9 -0.3
VAE Valguarnera 38.42 296 P P 00 13 36.9 +3.4
comp=Z,7.2nm,0.8s,baz=198,slow=3.4,SNR=3.7
OZLJ Ozalj 38.62 309 P P 00 13 34.7 -0.3
BOJS Bojanci 38.75 309 *i*P P 00 13 35.8 -0.3
NVLJ Novalja 38.83 308 P P 00 13 34.8 -1.9
LZH Lanzhou 38.84 66 *e*P P 00 13 39.8 +2.6
LZH pP pP 00 13 58.5 +3.2
LZH sP sP 00 14 06.5 +2.6
LZH pmax pmax
comp=Z,15nm,1.2s
CONA Conrad Observa 38.92 313 P P 00 13 37.3 -0.3
comp=Z,7.3nm,1.5s
CONA Conrad Observa 38.92 313 *i*P P 00 13 37.3 -0.3
comp=Z,7.3nm,1.5s
ARSA Arzberg 38.97 312 P P 00 13 38.2 +0.2
comp=Z,5.2nm,0.8s
ARSA Arzberg 38.97 312 *i*P P 00 13 38.2 +0.2
comp=Z,5.2nm,0.8s
PERS Pernice 39.09 311 *i*P P 00 13 38.8 -0.3
VISS Visnje 39.09 310 *e*P P 00 13 38.7 -0.3
CD2 Chengdu 39.11 74 *e*P P 00 13 39.5 +0.1
SOKA Soboth 39.16 311 P P 00 13 39.1 -0.5
comp=Z,5.5nm,1.0s
SOKA Soboth 39.16 311 *i*P P 00 13 39.1 -0.5
comp=Z,5.5nm,1.0s
KMI Kunming 39.24 83 P P 00 13 42.3 +1.5
KMI pmax pmax
comp=Z,7.0nm,0.5s
DPC Dobruska-Polom 39.36 317 *e*P P 00 13 40.7 -0.5
DPC Dobruska-Polom 39.36 317 *e*P P 00 13 40.7 -0.5
DPC epP pP 00 13 57.8 -1.4
OBKA Obir 39.44 311 P P 00 13 42.1 +0.1
comp=Z,7.8nm,1.4s
OBKA Obir 39.44 311 *i*P P 00 13 42.1 +0.1
comp=Z,7.8nm,1.4s
AQU L'Aquila 39.55 304 *e*P P 00 13 42.9 0.0
AQU pmax pmax
comp=Z,14nm,0.8s
AQU L'Aquila 39.55 304 *e*P P 00 13 42.9 0.0
comp=Z,14nm,0.8s
AQU L'Aquila 39.55 304 *e*P P 00 13 42.9 0.0
comp=Z,14nm,0.8s
MOY Mondy 39.57 41 *e*P P 00 13 44.3 +1.3
MOY pmax pmax
comp=Z,20nm,1.5s
JAVS Javornik 39.64 310 *i*P P 00 13 43.1 -0.6
TRI Trieste 39.81 309 *e*P P 00 13 44.2 -0.7
TRI pmax pmax
comp=Z,10.0nm,0.7s
TRI Trieste 39.81 309 *e*P P 00 13 44.2 -0.7
comp=Z,9.8nm,0.7s
TRI Trieste 39.81 309 *e*P P 00 13 44.2 -0.7
comp=Z,9.8nm,0.7s
MOA Molln 39.94 313 P P 00 13 45.8 -0.3
comp=Z,9.1nm,0.8s,SNR=5.8
MOA Molln 39.94 313 *i*P P 00 13 45.8 -0.3
comp=Z,9.1nm,0.8s,SNR=5.8
MYKA Terra Mystica 40.08 311 P P 00 13 47.2 -0.1
comp=Z,3.5nm,0.7s
MYKA Terra Mystica 40.08 311 *i*P P 00 13 47.2 -0.1
comp=Z,3.5nm,0.7s
FIA1 FINESS Array S 40.26 336 *e*P P 00 13 47.0 -1.4
FINES FINESS Array B 40.26 336 P P 00 13 47.3 -1.0
comp=Z,1.4nm,0.3s,baz=136,slow=8.4,SNR=31
FINES FINESS Array B 40.26 336 *i*P P 00 13 47.5 -0.9
FINES pmax pmax
comp=Z,1.0nm,0.3s
KBA Koelnbreinsper 40.38 311 P P 00 13 49.4 -0.4
comp=Z,6.9nm,0.7s
KBA Koelnbreinsper 40.38 311 *i*P P 00 13 49.4 -0.4
comp=Z,6.9nm,0.7s
ZAK Zakamensk 40.52 44 *e*P P 00 13 51.5 +0.6
ZAK pmax pmax
comp=Z,3.0nm,1.2s
GEA0 GERESS Array S 40.55 314 *e*P P 00 13 49.6 -1.6
GEA0 GERESS Array S 40.55 314 *e*P P 00 13 49.6 -1.6
GEC2 GERESS Array S 40.55 314 *e*P P 00 13 50.3 -0.9
GEC2 pmax pmax
comp=Z,7.0nm,0.9s
GEC2 GERESS Array S 40.55 314 *e*P P 00 13 50.3 -0.9
comp=Z,7.1nm,0.9s
GEC2 GERESS Array S 40.55 314 *e*P P 00 13 50.3 -0.9
comp=Z,7.1nm,0.9s
GERES GERESS Array B 40.55 314 P P 00 13 49.8 -1.4
comp=Z,3.5nm,0.7s,baz=111,slow=7.3,SNR=31
GERES PcP PcP 00 15 52.5 +0.3
comp=Z,1.5nm,0.8s,baz=109,slow=5.3,SNR=3.8
GERES ScP ScP 00 19 33.0 -2.1
comp=Z,0.4nm,0.7s,baz=154,slow=5.4,SNR=4.1
KHC Kasperske Hory 40.71 314 *e*P P 00 13 52.1 -0.3
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 40.71 314 *e*P P 00 13 49.2 -3.2
KHC *e*pP pP 00 14 10.2 -0.3
KHC Kasperske Hory 40.71 314 *e*P P 00 13 52.1 -0.3
comp=Z,2.6nm,0.9s
PHET Kaeng Krachan 40.76 103 P P 00 13 56.4 +3.3
comp=Z,10nm,0.9s
ABTA Abfaltersbach 40.87 311 *i*P P 00 13 53.3 -0.5
comp=Z,9.9nm,0.7s,SNR=8.2
BRG Berggiesshubel 40.96 317 *e*P pP 00 14 12.7 +0.2
comp=Z,3.2nm,0.9s
TLY Talaya 41.13 42 P P 00 13 57.0 +1.2
comp=Z,1.3nm,0.4s,baz=215,slow=9.7,SNR=4.7
TLY Talaya 41.13 42 *e*P P 00 13 55.4 -0.4
TLY pmax pmax
comp=Z,7.0nm,1.4s
WTTA Wattenberg 41.55 311 P P 00 13 58.7 -0.8
comp=Z,12nm,0.8s,SNR=5.9
WTTA Wattenberg 41.55 311 *i*P P 00 13 58.7 -0.8
comp=Z,12nm,0.8s,SNR=5.9
NAYO Nakonayok 41.60 100 P P 00 14 03.1 +3.0
comp=Z,7.0nm,0.8s
WATA Walderalm 41.61 311 *i*P P 00 13 59.0 -0.9
comp=Z,9.6nm,0.9s,SNR=13
CLL Collm 41.66 317 *e*P P 00 13 58.0 -2.0
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 41.66 317 *e*P P 00 13 58.0 -2.0
comp=Z,5.0nm,1.0s
CLL *i* 00 14 05.7
CLL *i* 00 14 10.2
CLL *i*pP pP 00 14 17.1 -1.1
CLL Collm 41.66 317 *e*P P 00 13 58.0 -2.0
comp=Z,5.0nm,1.0s
BSD Bornholm Skovb 41.86 323 *i*P P 00 13 59.6 -2.0
BSD pmax pmax
comp=Z,11nm,0.6s
BSD Bornholm Skovb 41.86 323 *i*P P 00 13 59.6 -2.0
comp=Z,11nm,0.6s
SONM Songino Array 41.88 48 P P 00 14 03.2 +1.1
comp=Z,7.7nm,0.8s,baz=255,slow=9.4,SNR=66
SONM PP PP 00 15 39.2 -0.9
comp=Z,2.2nm,1.0s,baz=266,slow=12,SNR=4.1
SONA1 Songino Array 41.89 48 *e*P P 00 14 03.1 +1.0
MOTA Moosalm 41.92 311 P P 00 14 01.4 -1.1
comp=Z,9.8nm,0.7s,SNR=10
MOTA Moosalm 41.92 311 *i*P P 00 14 01.4 -1.1
comp=Z,9.8nm,0.7s,SNR=10
VLC Villacollemand 41.95 306 *e*P P 00 14 03.5 +0.9
comp=Z,18nm,1.1s
VLC Villacollemand 41.95 306 *e*P P 00 14 03.5 +0.9
comp=Z,18nm,1.1s
FETA Feichten 42.12 311 P P 00 14 03.3 -0.8
comp=Z,14nm,0.7s,SNR=13
FETA Feichten 42.12 311 *i*P P 00 14 03.3 -0.8
comp=Z,14nm,0.7s,SNR=13
FETA S S 00 20 14.2 -4.1
comp=Z,6.0nm,1.3s
RETA Reutte 42.18 311 P P 00 14 03.1 -1.4
comp=Z,6.0nm,0.6s
RETA Reutte 42.18 311 *i*P P 00 14 03.1 -1.4
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 42.32 48⇑ *e*P P 00 14 06.4 +0.7
ULN pmax pmax
comp=Z,23nm,1.7s
ULN Ulaanbaatar 42.32 48 P P 00 14 06.6 +0.9
SNR=11
ULN Ulaanbaatar 42.32 48 P P 00 14 06.6 +0.9
SNR=11
ULN Ulaanbaatar 42.32 48 *e*P P 00 14 06.4 +0.7
comp=Z,23nm,1.7s
FUORN Ofenpass-Fuorn 42.37 310 *e*P P 00 14 06.3 +0.1
comp=Z,5.0nm,0.7s
FUORN Ofenpass-Fuorn 42.37 310 *e*P P 00 14 06.3 +0.1
comp=Z,5.0nm,0.7s
VSL Villasalto 42.41 299 *e*P P 00 14 06.6 +0.3
comp=Z,17nm,1.0s
VSL Villasalto 42.41 299 *e*P P 00 14 06.6 +0.3
comp=Z,17nm,1.0s
KEST Kesa 42.52 294 P P 00 14 08.5 +1.1
comp=Z,2.2nm,0.6s,baz=70,slow=15,SNR=9.0
DAVA Damuels 42.73 311 P P 00 14 07.9 -1.2
comp=Z,20nm,0.7s,SNR=9.9
DAVA Damuels 42.73 311 *i*P P 00 14 07.9 -1.2
comp=Z,20nm,0.7s,SNR=9.9
APA Apatity 42.81 346⇑ *i*P P 00 14 07.6 -1.6
PGF Pioggiola 42.81 304 *e*P P 00 14 11.0 +1.3
PGF pmax pmax
comp=Z,8.0nm,1.2s
PGF Pioggiola 42.81 304 *e*P P 00 14 11.0 +1.3
comp=Z,8.0nm,1.2s
XAN Xi'an 43.11 69 P P 00 14 13.5 +1.3
XAN pmax pmax
comp=Z,5.0nm,0.5s
SBF Sospel 44.04 306 *e*P P 00 14 18.0 -1.5
SBF pmax pmax
comp=Z,25nm,0.8s
SBF Sospel 44.04 306 *e*P P 00 14 18.0 -1.5
comp=Z,25nm,0.8s
SENIN Lac Senin/Sane 44.36 309 *e*P P 00 14 21.1 -1.1
comp=Z,5.8nm,0.7s
SENIN Lac Senin/Sane 44.36 309 *e*P P 00 14 21.1 -1.1
comp=Z,5.8nm,0.7s
HFS Hagfors 44.55 330 P P 00 14 22.4 -0.8
comp=Z,2.6nm,0.5s,baz=128,slow=9.6,SNR=23
MBDF Montbardon 44.58 307 *e*P P 00 14 22.0 -1.9
MBDF pmax pmax
comp=Z,9.0nm,0.7s
MBDF Montbardon 44.58 307 *e*P P 00 14 22.0 -1.9
comp=Z,9.0nm,0.7s
FRF La Foret Royal 44.59 305 *e*P P 00 14 25.0 +1.2
FRF pmax pmax
comp=Z,3.0nm,0.9s
FRF La Foret Royal 44.59 305 *e*P P 00 14 25.0 +1.2
comp=Z,3.0nm,0.9s
CDF Champ du Feu 44.64 312 *e*P P 00 14 22.5 -1.8
CDF pmax pmax
comp=Z,19nm,1.6s
CDF Champ du Feu 44.64 312 *e*P P 00 14 22.5 -1.8
comp=Z,19nm,1.6s
LPG La Plagne 44.66 308 *e*P P 00 14 22.8 -1.9
LPG pmax pmax
comp=Z,11nm,0.8s
BNI Bardonecchia 44.67 307 *e*P P 00 14 23.4 -1.2
BNI pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 44.67 307 *e*P P 00 14 23.4 -1.2
comp=Z,15nm,0.8s
BNI Bardonecchia 44.67 307 *e*P P 00 14 23.4 -1.2
comp=Z,15nm,0.8s
LPL La Plagne 44.67 308 *e*P P 00 14 22.8 -1.9
LPL pmax pmax
comp=Z,9.0nm,0.6s
LPL La Plagne 44.67 308 *e*P P 00 14 22.8 -1.9
comp=Z,9.0nm,0.6s
ECH Echery 44.69 312 *e*P P 00 14 23.4 -1.2
ECH pmax pmax
comp=Z,10.0nm,1.1s
ECH Echery 44.69 312 *e*P P 00 14 23.4 -1.2
comp=Z,10nm,1.1s
ECH *e*pP pP 00 14 40.3 -2.7
ECH Echery 44.69 312 *e*P P 00 14 23.4 -1.2
comp=Z,10nm,1.1s
ECH *e*pP pP 00 14 40.3 -2.7
HHC Hu-ho-hao-te 44.89 59 *e*P P 00 14 34.8 +8.4
CABF La Chapelle 45.22 309 *e*P P 00 14 27.5 -1.4
CABF pmax pmax
comp=Z,9.0nm,0.8s
CABF La Chapelle 45.22 309 *e*P P 00 14 27.5 -1.4
comp=Z,9.0nm,0.8s
ORIF Oris-en-Rattie 45.22 307 *e*P P 00 14 26.0 -3.0
ORIF pmax pmax
comp=Z,4.0nm,0.9s
WLF Walferdange 45.56 314 ⇑P P 00 14 30.6 -0.8
WLF ⇓AP pP 00 14 49.0 -0.8
MEM Membach 45.80 315 ⇑P P 00 14 33.7 +0.4
NB201 NORSAR Array S 46.01 330 *e*P P 00 14 33.6 -1.3
NB2 NORSAR Subarra 46.04 330 P P 00 14 33.3 -1.8
comp=Z,1.5nm,0.7s,baz=113,slow=7.9
NOA NORSAR Array B 46.04 330 P P 00 14 33.3 -1.8
comp=Z,2.5nm,0.8s,baz=114,slow=7.9,SNR=9.1
VIVF Saint-Julien-l 46.08 307 *e*P P 00 14 33.7 -1.9
VIVF pmax pmax
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 46.08 307 *e*P P 00 14 33.7 -1.9
comp=Z,12nm,0.9s
ARCES ARCESS Array B 46.16 344 P P 00 14 34.9 -0.9
comp=Z,3.1nm,0.3s,baz=133,slow=8.3,SNR=70
SSB Saint Sauveur 46.19 307 *e*P P 00 14 35.3 -1.2
SSB pmax pmax
comp=Z,16nm,0.7s
SSB Saint Sauveur 46.19 307 *e*P P 00 14 35.3 -1.2
comp=Z,16nm,0.7s
SSB *e*pP pP 00 14 53.1 -1.9
SSB Saint Sauveur 46.19 307 *e*P P 00 14 35.3 -1.2
comp=Z,16nm,0.7s
SSB *e*pP pP 00 14 53.1 -1.9
BCLA Clavier 46.22 315 ⇑AP pP 00 14 54.8 -0.2
GIVF Givet 46.48 314 *e*P P 00 14 38.2 -0.4
GIVF pmax pmax
comp=Z,13nm,0.9s
DOU Dourbes 46.62 314 ⇑AP pP 00 14 57.4 -0.8
BAIF Baives 46.86 314 *e*P P 00 14 41.3 -0.3
BAIF pmax pmax
comp=Z,7.0nm,1.0s
AVF Avril sur Loir 47.11 309 *e*P P 00 14 41.7 -1.9
AVF pmax pmax
comp=Z,8.0nm,1.1s
AVF Avril sur Loir 47.11 309 *e*P P 00 14 41.7 -1.9
comp=Z,8.0nm,1.1s
BGF Bois d'Agland 47.45 309 *e*P P 00 14 44.6 -1.6
BGF pmax pmax
comp=Z,5.0nm,0.7s
TCF Toulx Ste Croi 47.87 309 *e*P P 00 14 48.6 -1.0
TCF pmax pmax
comp=Z,9.0nm,1.1s
TCF Toulx Ste Croi 47.87 309 *e*P P 00 14 48.6 -1.0
comp=Z,9.0nm,1.1s
RJF Les Rejaudoux 48.33 307 *e*P P 00 14 52.1 -1.0
RJF pmax pmax
comp=Z,13nm,1.0s
BJI Beijing 48.43 60 *e*P P 00 14 55.8 +1.9
BJI pmax pmax
comp=Z,11nm,0.5s
BOD Bodaibo 48.61 36 *e*P P 00 14 54.7 -0.3
BOD pmax pmax
comp=Z,32nm,0.9s
LFF La Frestale 48.87 307 *e*P P 00 14 56.2 -1.0
LFF pmax pmax
comp=Z,11nm,0.7s
LFF La Frestale 48.87 307 *e*P P 00 14 56.2 -1.0
comp=Z,11nm,0.7s
LDF La Druitiere 49.56 312 *e*P P 00 15 01.1 -1.3
FLN La Foliniere 49.80 312 *e*P P 00 15 03.2 -1.1
FLN pmax pmax
comp=Z,161nm,2.3s
SJPF Ste Jean 50.33 304 *e*P P 00 15 07.6 -0.8
SJPF pmax pmax
comp=Z,4.0nm,0.6s
SJPF Ste Jean 50.33 304 *e*P P 00 15 07.6 -0.8
comp=Z,4.0nm,0.6s
QUIF Quistinic 51.58 311 *e*P P 00 15 18.0 +0.4
QUIF pmax pmax
comp=Z,133nm,2.2s
QUIF Quistinic 51.58 311 *e*P P 00 15 18.0 +0.4
comp=Z,133nm,2.2s
NJ2 Nanjing 51.65 70 *e*P P 00 15 19.8 +1.4
NJ2 pmax pmax
comp=Z,14nm,0.7s
EKA Eskdalemuir Ar 51.93 320 P P 00 15 18.3 -1.8
comp=Z,0.5nm,0.3s,baz=101,slow=8.0,SNR=16
EKA pP pP 00 15 38.3 -0.6
comp=Z,0.6nm,0.4s,baz=91,slow=7.5,SNR=3.5
ES19 SONSECA Array 52.63 300 *e*P P 00 15 24.9 -0.7
ES19 SONSECA Array 52.63 300 *e*P P 00 15 24.9 -0.7
ESDC Sonseca Array 52.68 300 P P 00 15 26.1 0.0
comp=Z,2.8nm,0.6s,baz=72,slow=7.4,SNR=38
ESDC pP pP 00 15 44.5 -0.3
comp=Z,0.9nm,0.5s,baz=74,slow=7.2,SNR=4.6
ESLA Sonseca Array 52.68 300 *e*P P 00 15 26.4 +0.4
comp=Z,6.0nm,0.8s
ESLA Sonseca Array 52.68 300 *e*P P 00 15 26.4 +0.4
comp=Z,6.0nm,0.8s
PAB San Pablo 52.99 300 *e*P P 00 15 28.4 0.0
PAB pmax pmax
comp=Z,14nm,0.8s
PAB San Pablo 52.99 300 *e*P P 00 15 28.4 0.0
comp=Z,14nm,0.8s
PAB San Pablo 52.99 300 *e*P P 00 15 28.4 0.0
comp=Z,14nm,0.8s
SPITS Spitsbergen Ar 54.09 350 P P 00 15 35.1 -0.6
comp=Z,5.9nm,0.7s,baz=116,slow=6.6,SNR=12
PBRG Braganca 54.51 303 *e*P P 00 15 39.6 +0.2
comp=Z,18nm,1.5s
PBRG *e*pP pP 00 15 58.2 -0.1
MVO Moncorvo 54.81 303 *e*P P 00 15 42.0 +0.4
comp=Z,31nm,1.7s
MVO *e*pP pP 00 16 00.7 +0.2
TOA0 Torodi Ar. Sit 55.04 267 *e*P P 00 15 44.0 +0.5
TORD Torodi Ar. Bea 55.04 267 P P 00 15 44.1 +0.6
comp=Z,1.6nm,0.6s,baz=61,slow=6.2,SNR=38
TORD pP pP 00 16 02.4 -0.1
comp=Z,11nm,0.7s,baz=60,slow=6.8,SNR=13
PBAR Barrancos 55.27 299 *e*P P 00 15 45.3 +0.4
comp=Z,82nm,1.2s
PBAR *e*pP pP 00 16 04.1 +0.3
MTE Manteigas 55.30 302 *e*P P 00 15 45.5 +0.4
comp=Z,29nm,1.9s
MTE *e*pP pP 00 16 04.9 +0.8
MTE Manteigas 55.30 302 *e*P P 00 15 45.7 +0.5
comp=Z,20nm,0.9s
MTE Manteigas 55.30 302 *e*P P 00 15 45.7 +0.5
comp=Z,20nm,0.9s
PVRL Vila Real 55.31 303 *e*P P 00 15 44.4 -0.7
comp=Z,23nm,1.4s
PCBR Castelo Branco 55.34 301 *e*P P 00 15 46.0 +0.7
comp=Z,42nm,1.5s
PCBR *e*pP pP 00 16 04.8 +0.5
PMRV Marv??o 55.34 300 *e*P P 00 15 45.6 +0.3
comp=Z,16nm,0.9s
POLO Lamas de Olo 55.35 303 *e*P P 00 15 46.0 +0.5
comp=Z,16nm,1.4s
POLO *e*pP pP 00 16 04.7 +0.2
PCAB Cabril 55.48 303 *e*P P 00 15 46.1 -0.2
PVIS Viseu 55.52 302 *e*P P 00 15 47.5 +0.8
ZEA Zeya 55.58 42 *i*P P 00 15 47.2 +0.4
PESTR Estremoz 55.58 300 *e*P P 00 15 47.1 0.0
PESTR Estremoz 55.58 300 *e*P P 00 15 47.2 0.0
comp=Z,22nm,1.7s
PESTR Estremoz 55.58 300 *e*P P 00 15 47.2 +0.1
comp=Z,22nm,1.7s
PBEJ Beja 55.94 299 *e*P P 00 15 50.4 +0.7
EVO Evora 55.97 300 *e*P P 00 15 50.4 +0.6
comp=Z,26nm,1.4s
EVO *e*pP pP 00 16 09.1 +0.3
PTO Porto 55.99 303 *e*P P 00 15 49.9 0.0
PMTG Montargil 56.04 300 *e*P P 00 15 51.4 +1.1
PCAS Casmilo, Conde 56.08 301 *e*P P 00 15 51.3 +0.7
PCAS *e*pP pP 00 16 10.2 +0.6
PTOM Tomar 56.09 301 *e*P P 00 15 51.6 +0.9
comp=Z,65nm,1.1s
PTOM *e*pP pP 00 16 10.3 +0.6
MESJ Messejana 56.25 299 *e*P P 00 15 51.6 -0.2
MESJ Messejana 56.25 299 *e*P P 00 15 51.6 -0.2
ALMR Almeirim 56.29 300 *e*P P 00 15 52.0 -0.1
ALMR AMb AMB 00 15 53.7
comp=Z,33nm,1.2s
ALMR Almeirim 56.29 300 *e*P P 00 15 53.0 +0.9
PNCL Nicolau / Gran 56.44 299 *e*P P 00 15 53.9 +0.7
PNCL *e*pP pP 00 16 12.7 +0.5
PMAFR Mafra 56.87 300 *e*P P 00 15 57.5 +1.3
PMAFR *i*P pP 00 16 08.2 -7.1
YAK Yakutsk 57.02 32 *e*P P 00 15 54.8 -2.0
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.4s
TIXI Tiksi 57.73 21⇓ *e*P P 00 16 00.7 -1.1
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 57.73 21 *e*P P 00 16 01.1 -0.7
comp=Z,6.8nm,0.6s
KSAR Wonju Array Be 57.85 61 P P 00 16 03.8 +0.6
KSAR Wonju Array Be 57.85 61 P P 00 16 03.8 +0.6
KSAR Wonju Array Be 57.85 61 P P 00 16 03.8 +0.6
KSRS Korea Array 57.88 61 P P 00 16 03.8 +0.4
comp=Z,4.7nm,0.7s,baz=278,slow=7.3,SNR=14
KLR Kul'dur 58.70 47⇓ *e*P P 00 16 08.8 -0.1
USRK Ussuriysk Ar. 59.62 53 P P 00 16 14.8 -0.5
comp=Z,2.3nm,0.8s,baz=318,slow=5.4,SNR=4.4
NKL Nikolayevsk 63.61 42 *e*P P 00 16 40.8 -1.2
NKL pmax pmax
comp=Z,17nm,1.0s
BOSA Boshof 64.55 213 P P 00 16 50.7 +2.2
comp=Z,2.6nm,0.8s,baz=62,slow=4.1,SNR=5.2
BOSA pP pP 00 17 09.2 +1.3

comp=Z,4.4nm,0.7s,baz=41,slow=5.9,SNR=4.6
MAJO Matsushiro 66.07 60 *e*P **P 00 16 58.8 +0.5**
MAJO pmax pmax
comp=Z,14nm,1.2s
MAJO Matsushiro 66.07 60 *e*P **P 00 16 58.8 +0.5**
comp=Z,14nm,1.2s
MJAR Matsushiro Arr 66.07 60 P **P 00 16 58.6 +0.3**
comp=Z,0.6nm,0.5s,baz=281,slow=8.2,SNR=4.7
YSS Yuzh-Sakhalins 66.37 48 *e*P **P 00 16 58.0 -2.0**
SEY Seymchan 67.33 30 *e*P **P 00 17 05.8 0.0**
MA2 Magadan 67.53 33 *e*P **P 00 17 06.2 -0.9**
BILL Bilibino 70.86 22 *i* P **P 00 17 26.1 -1.5**
BILL pmax pmax
comp=Z,6.0nm,1.0s
TOLK Toolik Lake Re 81.74 10 *e*P **P 00 18 29.2 0.0**
comp=Z,23nm,0.6s
INK Inuvik 83.90 5 P **P 00 18 39.6 -0.7**
comp=Z,7.0nm,1.0s,baz=6.8,slow=8.1,SNR=21
MLY Manley 84.81 12 *e*P **P 00 18 44.6 -0.5**
comp=Z,8.1nm,0.8s
MDM Murphy Dome 85.32 11 *e*P **P 00 18 47.6 -0.1**
comp=Z,15nm,0.9s
SCHQ Schefferville 85.58 332 P **P 00 18 47.8 -1.4**
comp=Z,4.8nm,1.0s,baz=56,slow=3.6,SNR=3.7
BPAW Bear Paw Mtn. 85.60 13 *e*P **P 00 18 48.7 -0.3**
comp=Z,14nm,0.8s
IL1 Eielson Array 85.72 11 *e*P **P 00 18 47.8 -1.8**
ILAR Eielson Array 85.72 11 P **P 00 18 48.2 -1.4**
comp=Z,3.3nm,0.8s,baz=328,slow=4.1,SNR=39
ILAR PP **PP 00 22 08.7 -0.1**
comp=Z,0.5nm,1.0s,baz=337,slow=8.8,SNR=3.7
CAST Castle Rocks 85.99 13 *e*P **P 00 18 50.9 -0.1**
comp=Z,27nm,0.9s
KTH Kantishna Hill 86.11 13 *e*P **P 00 18 51.0 -0.6**
comp=Z,8.8nm,0.8s
MCK McKinley 86.32 12 *e*P **P 00 18 52.1 -0.5**
MCK pmax pmax
comp=Z,63nm,1.6s
MCK McKinley 86.32 12 *e*P **P 00 18 52.1 -0.5**
comp=Z,63nm,1.6s
EGAK Eagle 86.57 8 *e*P **P 00 18 53.6 -0.1**
comp=Z,17nm,1.0s
RND Reindeer 86.64 12 *e*P **P 00 18 53.1 -1.1**
RND pmax pmax
comp=Z,12nm,1.0s
RND Reindeer 86.64 12 *e*P **P 00 18 53.1 -1.1**
comp=Z,12nm,1.0s
SCRK Sand Creek 86.93 10 *e*P **P 00 18 55.9 +0.2**
comp=Z,17nm,0.9s
WRA Warramunga Arr 86.98 114 P **P 00 18 57.8 +1.3**
comp=Z,2.7nm,0.9s,baz=309,slow=4.2,SNR=13
WRA pP **pP 00 19 18.4 +1.5**
comp=Z,3.1nm,1.0s,baz=309,slow=4.4,SNR=6.2
WRA Warramunga Arr 86.98 114 *i* P **P 00 18 58.4 +1.9**
WRA pmax pmax
comp=Z,3.0nm,0.9s
DHY Denali Highway 87.21 12 *e*P **P 00 18 56.7 -0.4**
comp=Z,20nm,1.4s
DOT Dot Lake 87.22 10 *e*P **P 00 18 56.8 -0.2**
comp=Z,28nm,0.8s
DAWY Dawson 87.47 8 *e*P **P 00 18 57.9 -0.4**
comp=Z,14nm,0.8s
PAX Paxson 87.64 11 *e*P **P 00 18 58.7 -0.4**
PAX pmax pmax
comp=Z,6.0nm,0.9s
PAX Paxson 87.64 11 *e*P **P 00 18 58.7 -0.4**
comp=Z,6.4nm,0.9s
SUA Susitna One 88.03 14 *e*P **P 00 19 00.7 -0.3**
comp=Z,22nm,0.7s
ASAR Alice Springs 88.53 118 P **P 00 19 05.3 +1.5**
comp=Z,1.6nm,0.9s,baz=310,slow=4.3,SNR=11
ASAR pP **pP 00 19 25.7 +1.5**
comp=Z,3.0nm,0.9s,baz=305,slow=4.6,SNR=7.3
AS01 Alice Springs 88.57 118 *e*P **P 00 19 05.4 +1.4**
AS01 *e*pP **pP 00 19 26.5 +2.1**
YKW3 Yellowknife Ar 89.96 357 *e*P **P 00 19 09.8 -0.1**
comp=Z,4.9nm,1.0s
YKA Yellowknife Ar 90.02 357 P **P 00 19 10.0 -0.1**
comp=Z,3.1nm,0.8s,baz=359,slow=5.0,SNR=74
KDAK Kodiak Island 90.90 16 *i* P **P 00 19 14.4 +0.1**
TXAR Lajitas Array 120.92 342 PKP **PKPdf 00 25 04.0 +0.5**
comp=Z,0.7nm,0.9s,baz=163,slow=2.9,SNR=6.4

*ISCJB **26** 00:14:27.9±1.0,56°5.5S±0.2×27°.1W±0.5,h101km,mb3.9/4, Error ellipse: s-maj=43.8km s-min=17.8km az=144.9*
*IDC **26** 00:14:28.1±7.5,56°.32S×27°.03W,h81km±67km,mb3.7/4, mb1 3.7/5,mb1mx3.4/37,mbtmp3.9/5,ML3.4/1, Error ellipse: s-maj=41.7km s-min=21.8km az=45.0*
ISC 26 00:14:29.9±0.9,**56°.4S**±0°.2×**27°.1W**±0°.3,**h101km,n10,** σ0**85**/10,**mb3.9**/4,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.43**	**156**	P	**P**	**00 18 36.4**	**-0.7**
	0.1nm,0.3s,baz=284,slow=9.7,SNR=5.7						
CPUP	**Villa Florida**	**37.05**	**311**	P	**P**	**00 21 29.5**	**-0.4**
	2.2nm,1.0s,baz=162,slow=5.4,SNR=4.1						
SIV	**San Ignacio**	**47.83**	**314**	P	**P**	**00 22 57.1**	**-0.1**
	0.4nm,0.5s,baz=172,slow=7.1,SNR=3.6						
LPAZ	**La Paz**	**50.59**	**305**	P	**P**	**00 23 19.9**	**+0.9**
	2.1nm,0.6s,baz=179,slow=6.1,SNR=11						
TORD	**Torodi Ar. Bea**	**73.32**	**29**	P	**P**	**00 25 50.5**	**+0.2**
	1.7nm,1.1s,baz=200,slow=6.3,SNR=18						
YKA	**Yellowknife Ar**	**136.44**	**318**	PKP	**PKPdf**	**00 33 37.7**	**-0.5**
	0.1nm,0.4s,baz=130,slow=2.0,SNR=4.1						
INK	**Inuvik**	**146.07**	**320**	PKPbc	**PKPbc**	**00 33 56.2**	**-0.2**
	0.8nm,0.4s,baz=124,slow=1.6,SNR=8.6						
ILAR	**Eielson Array**	**150.36**	**311**	PKPbc	**PKPbc**	**00 34 07.3**	**-0.4**
	0.2nm,0.4s,baz=125,slow=3.9,SNR=8.3						
SONM	**Songino Array**	**150.71**	**87**	PKPbc	**PKPbc**	**00 34 08.8**	**-0.5**
	0.2nm,0.5s,baz=223,slow=2.6,SNR=2.5						
MJAR	**Matsushiro Arr**	**157.83**	**147**	PKPab	**PKPab**	**00 34 48.8**	**+1.7**
	1.1nm,0.5s,baz=285,slow=3.6,SNR=4.4						

GUC 26 00:15:40.3±0.5,**34°.80S×72°.74W,h23km±4km,ML3.5, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.73**	**56**	*e*P	Pb	00 15 53.3	-1.1
CHPI				*e*S	Sb	00 16 03.1	-0.9
NICH	**Los Niches**	**1.26**	**100**	*e*P	Pn	00 16 01.6	-0.9
NICH				*e*S	Sn	00 16 17.7	-1.0
COCH	**Cobquecura**	**1.33**	**182**	*e*P	Pn	00 16 02.3	-1.1
COCH				*e*S	Sn	00 16 19.7	-0.6
COCH				IAML		00 16 24.8	
	comp=E,875nm,0.8s						
CCHI	**Chillan**	**1.88**	**163**	*e*P	Pn	00 16 11.1	+0.1
CCHI				*e*S	Sn	00 16 34.8	+0.8
LMEL	**Las Melosas**	**2.31**	**66**	*e*P	Pn	00 16 18.5	+1.4
LMEL				IAML		00 16 53.4	
	comp=E,522nm,0.7s						
ROCH	**El Roble**	**2.33**	**39**	*e*P	Pn	00 16 18.3	+0.9
ROCH				IAML		00 16 57.7	
	comp=N,378nm,1.0s						

IDC 26 00:20:15.5±1.3,**30°.24S×60°.52E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.5/65,mbtmp3.7/8,Error ellipse: s-maj=50.7km s-min=23.1km az=32.0,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**60.93**	**42**	P	P	00 30 31.0	+0.5
	0.6nm,0.4s,baz=236,slow=6.9,SNR=6.0						
ASAR	**Alice Springs**	**64.73**	**104**	P	P	00 30 55.9	-0.1
	0.4nm,0.6s,baz=228,slow=6.5,SNR=4.7						
WRA	**Warramunga Arr**	**66.62**	**100**	P	P	00 31 08.0	-0.2
	0.5nm,0.8s,baz=245,slow=5.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**71.15**	**298**	P	P	00 31 36.6	+0.3
	0.4nm,0.9s,baz=119,slow=5.1,SNR=2.7						
BRTR	**Keskin Array B**	**73.95**	**339**	P	P	00 31 52.9	+0.2
	0.3nm,0.8s,baz=174,slow=4.3,SNR=3.2						
CTA	**Charters Tower**	**76.61**	**106**	P	P	00 32 08.8	+0.3
	7.9nm,1.0s,baz=259,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**79.16**	**15**	P	P	00 32 22.4	+0.5
	0.2nm,0.7s,baz=216,slow=5.4,SNR=4.1						
AKTO	**Aktyubinsk**	**80.34**	**358**	P	P	00 32 27.5	-0.7
	0.5nm,0.4s,baz=195,slow=19,SNR=3.2						
ZALV	**Zalesovo Beam**	**86.44**	**14**	P	P	00 32 58.8	-0.7
	0.4nm,0.4s,baz=180,slow=5.9,SNR=3.7						
YKA	**Yellowknife Ar**	**147.58**	**356**	PKPbc	PKPbc	00 40 00.3	-0.7
	0.6nm,0.6s,baz=357,slow=3.0,SNR=20						

*ISCJB **26** 00:28:24.4±0.4,6°.52S×0°.06×154°.58E±0°.05,h48km, mb4.0/16,Error ellipse: s-maj=8.7km s-min=7.2km az=3.9*
*IDC **26** 00:28:26.2±2.0,6°.47S×154°.53E,h53km±18km,mb3.8/12, mb1 4.0/15,mb1mx3.8/48,mbtmp4.1/15,ML4.6/2,Error ellipse: s-maj=15.4km s-min=13.7km az=173.0*
*NEIC **26** 00:28:26.8±1.3,6°.53S×154°.59E,h61km±12km,mb4.5/2, Error ellipse: s-maj=11.0km s-min=9.5km az=161.0*
ISC 26 00:28:26.0±0.5,**6°.42S**±0°.08×**154°.54E**±0°.06,**h48km,n36,** σ1**30**/44,**mb3.9**/16,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.13**	**120**	P	**Pn**	**00 29 54.4**	**+0.3**
	20nm,0.3s,baz=252,slow=6.4,SNR=3.1						
HNR				S	**Sn**	**00 31 04.5**	**+1.5**
	4.9nm,0.3s,baz=158,slow=19,SNR=1.7						
HNR	**Honiara**	**6.13**	**120**	*e*P	**Pn**	**00 29 54.0**	**-0.1**
HNR				*e*S	**Sn**	**00 31 08.0**	**+5.0**
HNR	**Honiara**	**6.13**	**120**	*e*Pn	**Pn**	**00 29 53.5**	**-0.6**
HNR				S	**Sn**	**00 31 04.5**	**+1.5**
PMG	**Port Moresby**	**7.89**	**247**	P	**Pn**	**00 30 18.2**	**0.0**
	6.7nm,0.3s,baz=50,slow=9.4,SNR=24						
PMG				S	**Sn**	**00 31 48.0**	**+1.8**
	1.3nm,0.3s,baz=46,slow=18,SNR=4.0						
PMG	**Port Moresby**	**7.89**	**247**	*e*Pn	**Pn**	**00 30 18.6**	**+0.3**
PMG				S	**Sn**	**00 31 48.0**	**+1.8**
CTAO	**Charters Tower**	**15.79**	**210**	Pn	**Pn**	**00 32 05.0**	**-0.2**
DZM	**Mont Dzumac**	**19.35**	**145**	P	**P**	**00 32 46.8**	**-0.9**
	1.2nm,0.3s,baz=291,slow=11,SNR=9.6						
WRAB	**Tennant Creek**	**23.77**	**234**	*e*P	**P**	**00 33 33.5**	**-0.8**
	19nm,1.0s						
WRA	**Warramunga Arr**	**23.78**	**234**	P	**P**	**00 33 33.2**	**-1.2**
	15nm,0.9s,baz=58,slow=9.6,SNR=38						
WRA				PcP	**PcP**	**00 37 17.4**	**+0.1**
	1.9nm,0.8s,baz=60,slow=2.3,SNR=5.6						
ASAR	**Alice Springs**	**26.23**	**227**	P	**P**	**00 33 55.7**	**-1.0**
	2.6nm,0.8s,baz=59,slow=10.0,SNR=13						
ASAR				PcP	**PcP**	**00 37 22.8**	**+0.2**
	0.3nm,0.5s,baz=90,slow=1.9,SNR=2.5						
ASAR				ScP	**ScP**	**00 40 58.2**	**-0.5**
	0.7nm,0.8s,baz=56,slow=2.3,SNR=3.0						
STKA	**Stephens Creek**	**28.07**	**204**	P	**P**	**00 34 12.0**	**-1.1**
	1.5nm,0.7s,baz=4.3,slow=15,SNR=3.6						
KLR	**Kul'dur**	**58.88**	**343**	P	**P**	**00 38 19.1**	**-0.7**
	0.1nm,0.8s,baz=141,slow=3.8,SNR=2.9						
PETK	**Petropavlovsk-**	**59.36**	**2**	P	**P**	**00 38 23.4**	**+0.3**
	3.9nm,0.7s,baz=144,slow=5.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**60.13**	**295**	P	**P**	**00 38 31.8**	**+2.7**
	2.4nm,0.4s,baz=101,slow=4.7,SNR=4.4						
SONM	**Songino Array**	**68.61**	**327**	P	**P**	**00 39 24.5**	**+0.4**
	0.2nm,0.4s,baz=129,slow=12,SNR=3.6						
VNDA	**Vanda**	**71.17**	**178**	P	**P**	**00 39 37.5**	**-1.8**
	1.4nm,0.9s,baz=308,slow=6.3,SNR=7.4						
TAPN	**Taplejung**	**72.72**	**301**	*e*P	**P**	**00 39 50.9**	**+1.1**
	25nm,1.0s						
ODAN	**Odare**	**72.85**	**301**	*e*P	**P**	**00 39 51.6**	**+1.0**
RAMN	**Ramite**	**73.55**	**300**	*e*P	**P**	**00 39 55.7**	**+1.0**
JIRN	**Jiri**	**74.10**	**301**	*e*P	**P**	**00 39 59.1**	**+1.0**
	19nm,0.8s						
GUN	**Gumba**	**74.44**	**301**	*e*P	**P**	**00 40 01.0**	**+1.0**
	21nm,0.7s						
PKI	**Pulchoki**	**74.74**	**301**	*e*P	**P**	**00 40 02.4**	**+0.7**
PKIN	**Phulchoki**	**74.76**	**301**	*e*P	**P**	**00 40 02.4**	**+0.7**
	6.2nm,0.5s						
KKN	**Kakani**	**74.91**	**301**	*e*P	**P**	**00 40 03.4**	**+0.8**
	20nm,0.6s						
DMN	**Daman**	**75.01**	**301**	*e*P	**P**	**00 40 04.4**	**+1.2**
	22nm,0.6s						
GKN	**Gorkha**	**75.52**	**301**	*e*P	**P**	**00 40 06.8**	**+0.8**
	16nm,0.7s						
KOLN	**Koldanda**	**76.34**	**300**	*e*P	**P**	**00 40 11.3**	**+0.5**
	16nm,0.7s						
PYUN	**Piuthan**	**76.95**	**301**	*e*P	**P**	**00 40 14.5**	**+0.3**
	24nm,0.8s						
MKAR	**Makanchi Array**	**82.68**	**319**	P	**P**	**00 40 44.9**	**+0.3**
	0.9nm,0.7s,baz=97,slow=5.6,SNR=13						
ILAR	**Eielson Array**	**83.00**	**22**	P	**P**	**00 40 44.9**	**-0.9**
	0.4nm,0.8s,baz=242,slow=6.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**83.45**	**326**	P	**P**	**00 40 46.9**	**-1.4**
	0.2nm,0.3s,baz=90,slow=6.2,SNR=2.9						
QSPA	**South Pole Qui**	**83.55**	**180**	*e*P	**P**	**00 40 47.2**	**-1.7**
	3.4nm,0.7s						
AAK	**Ala-Archa**	**87.03**	**313**	P	**P**	**00 41 07.3**	**+0.6**
	0.4nm,0.5s,baz=157,slow=12,SNR=1.9						
NVAR	**Mina Array Bea**	**91.72**	**52**	P	**P**	**00 41 29.1**	**+0.2**
	1.5nm,0.8s,baz=255,slow=6.5,SNR=6.0						
YKA	**Yellowknife Ar**	**96.04**	**28**	P	**P**	**00 41 47.3**	**-0.6**
	0.3nm,0.6s,baz=282,slow=4.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**152.44**	**286**	PKPbc	**PKPbc**	**00 48 17.3**	**-0.7**
	2.2nm,0.8s,baz=68,slow=1.9,SNR=23						

IDC 26 00:44:53.6±19.0,**21°.39S×177°.36W,h422km±161km, mb3.1/4,mb1 3.3/4,mb1mx2.8/49,mbtmp3.8/4,Error ellipse: s-maj=207.3km s-min=45.9km az=134.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.91**	**258**	P	P	00 52 29.3	+0.2
	1.2nm,0.8s,baz=84,slow=8.8,SNR=9.6						
WRA	**Warramunga Arr**	**45.08**	**263**	P	P	00 52 29.9	-0.5
	0.4nm,0.3s,baz=94,slow=6.7,SNR=19						
SEY	**Seymchan**	**87.37**	**347**	P	P	00 56 53.4	-0.5
	1.0nm,0.7s,baz=213,slow=9.4,SNR=4.4						
ILAR	**Eielson Array**	**89.04**	**13**	P	P	00 57 02.1	+0.5
	0.3nm,0.5s,baz=219,slow=5.2,SNR=7.1						
HFS	**Hagfors**	**140.50**	**351**	PKhKP	PKPpre	01 03 27.0	
	0.5nm,0.4s,baz=44,slow=4.4,SNR=6.1						
AKASG	**Malin Array Be**	**144.07**	**331**	PKP	PKPbc	01 03 37.2	-1.6
	0.7nm,0.5s,baz=44,slow=4.4,SNR=9.7						
BRTR	**Keskin Array B**	**147.87**	**312**	PKPbc	PKPbc	01 03 49.7	-0.7
	0.3nm,0.6s,baz=146,slow=5.9,SNR=3.6						
MMAI	**Mount Meron Ar**	**148.77**	**299**	PKPbc	PKPbc	01 03 53.2	+0.5
	2.5nm,0.9s,baz=60,slow=6.8,SNR=3.0						
GERES	**GERESS Array B**	**151.21**	**345**	PKPbc	PKPbc	01 03 57.7	-0.3
	0.1nm,0.3s,baz=64,slow=2.3,SNR=3.9						

*DSN **26** 00:49:46.8±99.0,26°.56N×59°.84E,h34km,ML3.4/6,Error ellipse: s-maj=57.2km s-min=4.9km az=245.0*
*ISCJB **26** 00:49:47.9±0.5,26°.47N±0°.03×59°.52E±0°.06,h10km, mb3.4/6,Error ellipse: s-maj=7.9km s-min=3.4km az=14.5*
*CSEM **26** 00:49:48.9±1.2,26°.55N×59°.44E,h10km,ML3.4,Error ellipse: s-maj=25.2km s-min=15.1km az=47.0*
*OMAN **26** 00:49:52.8±8.6,26°.23N×59°.30E,h10km,Error ellipse: s-maj=102.9km s-min=22.7km az=42.0*
*TEH **26** 00:49:54.1,27°.00N×59°.38E,h10km,ML3.4*
*IDC **26** 00:49:55.5±3.0,26°.30N×59°.62E,h75km±44km,mb3.2/7, mb1 3.3/8,mb1mx3.0/70,mbtmp3.5/8,ML3.7/1,Error ellipse: s-maj=34.3km s-min=17.8km az=139.0*
ISC 26 00:49:49.4±0.9,**26°.43N**±0°.05×**59°.48E**±0°.07,**h10km,n45,** σ1**18**/52,**mb3.4**/6,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHSK	**Kohestak**	**2.19**	**279**	*e*Pn	**Pg**	**00 50 32.1**	**+0.6**
KHSK				*e*AMB	AMB	00 50 39.7	
	comp=Z,4μm,0.3s						
NIAN	**Nian**	**2.61**	**296**	*e*Pn	**Pb**	**00 50 35.1**	**-1.3**
NIAN				*e*AMB	AMB	00 50 44.6	
	comp=Z,3μm,0.2s						
BANOM	**Banah**	**2.90**	**261**	P	**Pn**	**00 50 36.7**	**+1.0**
	SNR=19						
BANOM	**Banah**	**2.90**	**261**	P	**Pn**	**00 50 35.1**	**-0.6**
	SNR=18						
BANOM	**Banah**	**2.90**	**261**	*i* P	**Pn**	**00 50 35.1**	**-0.6**
	SNR=18						
MDH	**Madha**	**3.08**	**249**	P	**Pn**	**00 50 37.6**	**-0.5**
BIDO	**Bidbid**	**3.15**	**203**	P	**Pn**	**00 50 39.0**	**-0.1**
	SNR=9.6						
BIDO	**Bidbid**	**3.15**	**203**	P	**Pn**	**00 50 38.7**	**-0.4**
	SNR=9.6						
BIDO				S	**Sn**	**00 51 17.5**	**+0.8**
MSFE	**Esma-Masafi**	**3.17**	**251**	P	**Pn**	**00 50 40.7**	**+1.3**
WSAR	**Wadi Sarin**	**3.27**	**194**	P	**Pn**	**00 50 41.4**	**+0.6**
	comp=Z,9.5nm,0.3s,baz=20,slow=12,SNR=174						
WSAR				S	**Sn**	**00 51 21.1**	**+1.3**
	comp=Z,11nm,0.3s,baz=18,slow=19,SNR=8.2						
UOSS	**Minazif**	**3.30**	**244**	P	**Pn**	**00 50 40.2**	**-1.1**
UOSS				S	**Sn**	**00 51 19.1**	**-1.5**
UOSS	**Minazif**	**3.30**	**244**	*i* P	**Pn**	**00 50 40.1**	**-1.1**
	SNR=16						
HATD	**Hatta, Dubai**	**3.42**	**243**	P	**Pn**	**00 50 42.0**	**-0.8**
	SNR=9.4						
HATD	**Hatta, Dubai**	**3.42**	**243**	*i* P	**Pn**	**00 50 42.0**	**-0.8**
	SNR=9.4						
HOQ	**Hoqain**	**3.45**	**215**	P	**Pn**	**00 50 43.0**	**-0.3**
	SNR=6.0						
HOQ	**Hoqain**	**3.45**	**215**	P	**Pn**	**00 50 42.7**	**-0.6**
	SNR=6.0						
HOQ				S	**Sn**	**00 51 24.8**	**+0.6**
SOHO	**SOHO**	**3.51**	**230**	*i* P	**Pn**	**00 50 43.3**	**-0.7**
	SNR=37						
ASHO	**Ashiyiah**	**3.54**	**241**	P	**Pn**	**00 50 44.7**	**+0.1**
	SNR=25						
ASHO	**Ashiyiah**	**3.54**	**241**	P	**Pn**	**00 50 44.3**	**-0.3**
	SNR=25						
ASHO				S	**Sn**	**00 51 28.9**	**+2.3**
ASHO	**Ashiyiah**	**3.54**	**241**	*i* P	**Pn**	**00 50 44.3**	**-0.3**
	SNR=25						
SMDO	**Samad**	**3.60**	**201**	P	**Pn**	**00 50 48.0**	**+2.6**
	SNR=6.6						
SMDO	**Samad**	**3.60**	**201**	P	**Pn**	**00 50 45.9**	**+0.5**
	SNR=6.6						
SMDO				S	**Sn**	**00 51 30.5**	**+2.5**
CHMN	**Cheshme madani**	**3.82**	**334**	*e*Pn	**Pn**	**00 50 49.4**	**+0.7**
CHMN				*e*AMB	AMB	00 51 49.9	
	comp=Z,99nm,0.2s						
WBK	**Wadi Bani Khal**	**3.83**	**187**	P	**Pn**	**00 50 49.2**	**+0.7**
	SNR=13						
WBK	**Wadi Bani Khal**	**3.83**	**187**	P	**Pn**	**00 50 49.0**	**+0.5**
	SNR=13						
WBK				S	**Sn**	**00 51 34.3**	**+0.6**
NGRK	**Negar Kerman**	**4.02**	**323**	*e*Pn	**Pn**	**00 50 52.3**	**+0.9**
ARQ	**Araqi**	**4.08**	**222**	P	**Pn**	**00 50 54.6**	**+2.6**
ALNE	**Al Ain**	**4.12**	**236**	*i* P	**Pn**	**00 50 52.3**	**-0.2**
	SNR=20						
JMDO	**Jabal Madar**	**4.23**	**197**	P	**Pn**	**00 50 56.2**	**+2.2**
	SNR=10						
JMDO	**Jabal Madar**	**4.23**	**197**	P	**Pn**	**00 50 56.2**	**+2.2**
	SNR=10						
KHGB	**Koh Gabri**	**4.74**	**327**	*e*Pn	**Pn**	**00 51 01.8**	**+0.7**
KHGB				*e*AMB	AMB	00 52 31.4	
	comp=Z,99nm,0.4s						
IKOO	**Kooshah**	**5.99**	**356**	*e*Pn	**Pn**	**00 51 18.0**	**-0.4**
IKOO				*e*AMB	AMB	00 51 23.5	
	comp=Z,271nm,0.2s						
IBAF	**Bafgh**	**6.17**	**327**	*e*Pn	**Pn**	**00 51 21.1**	**+0.2**
IBAF				*e*AMB	AMB	00 51 45.9	
	comp=Z,86nm,0.2s						
IDAH	**Dahanechah**	**6.30**	**3**	*e*Pn	**Pn**	**00 51 22.2**	**-0.4**
IDAH				*e*AMB	AMB	00 51 28.3	
	comp=Z,105nm,0.2s						
ITEG	**Tejag**	**6.47**	**355**	*e*Pn	**Pn**	**00 51 24.3**	**-0.7**
ITEG				*e*AMB	AMB	00 51 28.3	
	comp=Z,230nm,0.1s						
IMON	**Monand**	**6.74**	**1**	*e*Pn	**Pn**	**00 51 29.0**	**+0.3**
IMON				*e*AMB	AMB	00 51 58.0	
	comp=E,202nm,0.2s						
ISAD	**Sadrabad**	**7.45**	**319**	*e*Pn	**Pn**	**00 51 39.5**	**+1.1**
ISAD				*e*AMB	AMB	00 51 42.5	
	comp=Z,119nm,0.2s						
IRAM	**Ramesheh**	**8.20**	**312**	*e*Pn	**Pn**	**00 51 47.6**	**-1.1**
IRAM				*e*AMB	AMB	00 51 51.0	
	comp=Z,73nm,0.2s						
AAK	**Ala-Archa**	**20.31**	**33**	P	**P**	**00 54 24.4**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=114,slow=16,SNR=2.6						
KBZ	**Khabaz**	**21.88**	**326**	P	**P**	**00 54 44.3**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=121,slow=12,SNR=3.0						
BRTR	**Keskin Array B**	**25.28**	**308**	P	**P**	**00 55 17.6**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=120,slow=9.4,SNR=7.1						
MKAR	**Makanchi Array**	**27.18**	**36**	P	**P**	**00 55 32.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=222,slow=8.6,SNR=6.0						
KURBB	**Kurchatov Arra**	**28.22**	**26**	P	**P**	**00 55 42.2**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=228,slow=8.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**33.27**	**27**	P	**P**	**00 56 26.5**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=242,slow=9.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**55.55**	**268**	P	**P**	**00 59 23.3**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=57,slow=7.0,SNR=7.9						

*ISCJB **26** 00:50:43.6±0.6, 18°.12N±0°.06×145°.6E±0°.2,h400km, mb3.4/17,Error ellipse: s-maj=21.9km s-min=8.2km az=1.7*
*IDC **26** 00:50:43.4±1.3, 18°.17N×145°.68E,h379km±15km, mb3.2/16,mb1 3.3/18,mb1mx3.2/67,mbtmp3.9/18,Error ellipse: s-maj=18.5km s-min=11.1km az=94.0*
ISC 26 00:50:44.7±0.8,**18°.05N**±0°.08×**145°.7E**±0°.2,**h400km,n19,** σ0**97**/20,**mb3.5**/17,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.50**	**190**	P	**Pn**	**00 52 01.1**	**-0.7**
	5.2nm,0.3s,baz=12,slow=20,SNR=2.1						
GUMO				S	**S**	**00 53 02.2**	**-2.1**
	9.0nm,0.3s,baz=7.2,slow=15,SNR=4.2						
MJAR	**Matsushiro Arr**	**19.56**	**342**	P	**P**	**00 54 43.6**	**-1.4**
	0.3nm,0.3s,baz=162,slow=8.7,SNR=4.2						
KSRS	**Korea Array**	**24.82**	**325**	P	**P**	**00 55 32.3**	**-0.3**
	0.9nm,0.4s,baz=147,slow=7.7,SNR=3.6						
KLR	**Kul'dur**	**33.08**	**343**	P	**P**	**00 56 44.4**	**-0.3**
	0.1nm,0.3s,baz=151,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**39.36**	**197**	P	**P**	**00 57 39.2**	**+1.5**
	0.8nm,0.5s,baz=11,slow=8.6,SNR=13						
FITZ	**Fitzroy Crossi**	**40.97**	**210**	P	**P**	**00 57 51

baz=338,slow=11,SNR=465

SPITS Sn **Sn** **00 55 11.6 -3.5**

baz=319,slow=18,SNR=2.2

DAG Danmarks Havn 5.07 224⇑ *i*P **Pn** **00 54 31.1 -0.1**

DAG *i* S **Sn** **00 55 26.6 -3.1**

DAG Danmarks Havn 5.07 224⇑ *i*P **Pn** **00 54 31.2 0.0**

SNR=71

DAG *i* S **Sn** **00 55 26.6 -3.1**

SNR=71

HSPB Hornsund (broa 5.29 128 *e*P **Pn** **00 54 35.4 +1.2**

SNR=49

HSPB *e*S **Sn** **00 55 33.4 -1.7**

SNR=49

HSPB Hornsund (broa 5.29 128 *e*P **Pn** **00 54 35.4 +1.2**

HSPB *e*S **Sn** **00 55 33.4 -1.7**

HSPB IAML 00 55 36.7

comp=Z,6.0nm,0.3s

HOPEN Hopen 6.99 114 *e*P **Pn** **00 54 56.2 -1.3**

ZFI2 Zemlya Franca- 7.90 65 *i*P **Pn** **00 55 06.9 -3.0**

ZFI2 *i* S Sn 00 56 27.4 -12

comp=Z,2.8nm,0.8s

SUMG Summit 11.30 242 *i*P **Pn** **00 55 54.2 -2.6**

SUMG *e*S Sn 00 57 53.2 -10

ARCES ARCESS Array B 13.28 132 Pn **Pn** **00 56 22.9 -0.6**

comp=Z,0.2nm,0.3s,baz=11,slow=7.0,SNR=7.8

RES Resolute Bay 18.10 301 P Pn 00 57 19.6 -6.7

comp=Z,0.3nm,0.3s,baz=27,slow=12,SNR=19

FINES FINESS Array B 21.17 139 P **P** **00 58 02.8 +2.6**

comp=Z,3.0nm,1.0s,baz=355,slow=14,SNR=3.1

HFS Hagfors 21.41 156 P **P** **00 58 05.5 +2.7**

comp=Z,2.6nm,0.9s,baz=45,slow=15,SNR=3.4

FRB Frobisher Bay 23.95 264 P **P** **00 58 29.3 +0.3**

comp=Z,6.2nm,1.1s,baz=37,slow=8.5,SNR=6.0

YKA Yellowknife Ar 32.06 305 P **P** **00 59 40.3 -1.2**

comp=Z,0.3nm,0.9s,baz=20,slow=9.5,SNR=5.9

ILAR Eielson Array 33.18 332 P **P** **00 59 51.2 -0.1**

comp=Z,0.2nm,0.6s,baz=14,slow=7.5,SNR=3.8

KURBB Kurchatov Arra 39.16 87 P **P** **01 00 44.8 +2.2**

comp=Z,1.2nm,0.2s,baz=348,slow=8.6,SNR=5.4

KBZ Khabaz 40.54 126 P P 01 00 59.2 +5.2

comp=Z,2.3nm,0.8s,baz=350,slow=5.2,SNR=7.3

BRTR Keskin Array B 43.39 138 P **P** **01 01 20.3 +2.7**

comp=Z,0.2nm,0.4s,baz=110,slow=37,SNR=2.3

MKAR Makanchi Array 43.47 85 P **P** **01 01 20.0 +1.9**

comp=Z,0.4nm,0.5s,baz=348,slow=11,SNR=3.9

SONM Songino Array 46.11 62 P **P** **01 01 40.2 +1.0**

comp=Z,0.2nm,0.8s,baz=340,slow=8.1,SNR=3.3

GEYT Alibeck 48.35 112 P **P** **01 01 56.9 +0.2**

comp=Z,1.0nm,0.8s,baz=318,slow=4.1,SNR=2.9

TXAR Lajitas Array 62.86 285 P **P** **01 03 41.0 0.0**

comp=Z,0.3nm,0.7s,baz=83,slow=15,SNR=3.6

TORD Torodi Ar. Bea 67.80 175 P **P** **01 04 13.7 +0.7**

comp=Z,0.3nm,0.8s,baz=26,slow=7.0,SNR=2.1

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*ISCJB **26** 01:35:49.2₀1.0,6, 19°.27S×169°.63E×0°.10,* ***h250km,mb4.4/14,*** *Error ellipse: s-maj=14.7km s-min=10.7km az=136.2*

*NEIC **26** 01:35:52.6₀1.2, 19°.18S×169°.61E,h276km×11km,mb4.6/5, Error ellipse: s-maj=12.8km s-min=10.4km az=55.0*

*IDC **26** 01:35:53.5₀2.0, 19°.24S×169°.57E,h281km×17km, mb3.8/12,mb1 4.0/13,mb1mx3.7/46,mbtmp4.5/13,Error ellipse: s-maj=19.7km s-min=13.3km az=39.0*

ISC 26 01:35:49.0₀0.7, 19°.25S×169°.93E×0°.10, h250km, n31, σ1ᵗ76/35, mb4.6/14, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.31**	**229**	P	**Pn**	**01 36 59.0**	**+2.6**
	16nm,0.3s,baz=60,slow=15,SNR=57						
DZM				S	**S**	01 37 52.9	+2.7
	6.7nm,0.3s,baz=107,slow=19,SNR=2.3						
HNR	**Honiara**	**13.73**	**314**	Pn	**Pn**	**01 38 53.2**	**-0.9**
EIDS	**Eidsvold**	**18.46**	**247**	*e*P	**P**	**01 39 47.0**	**+0.4**
	5.4nm,0.4s						
URZ	**Urewera**	**19.95**	**163**	P	**Pn**	**01 40 05.5**	**-1.8**
	3.1nm,0.4s,baz=300,slow=20,SNR=3.3						
URZ				S	**S**	01 43 27.8	-4.9
	1.8nm,0.4s,baz=8.7,slow=18,SNR=3.5						
ARMA	**Armidale**	**19.96**	**233**	*e*P	**P**	**01 40 03.8**	**+1.1**
	15nm,1.0s						
CTA	**Charters Tower**	**22.31**	**264**	P	**P**	**01 40 24.6**	**-1.4**
	16nm,0.7s,baz=95,slow=11,SNR=14						
CTAO	**Charters Tower**	**22.31**	**264**	*e*Pn	**P**	**01 40 25.0**	**-1.0**
PMG	**Port Moresby**	**24.11**	**291**	P	**P**	**01 40 41.3**	**-1.1**
	18nm,0.7s,baz=121,slow=7.5,SNR=12						
STKA	**Stephens Creek**	**28.39**	**238**	P	**P**	**01 41 20.8**	**+0.3**
	17nm,0.7s,baz=63,slow=8.7,SNR=59						
WRAB	**Tennant Creek**	**33.49**	**263**	*e*P	**P**	**01 42 02.9**	**-2.4**
	4.6nm,0.4s						
WRA	**Warramunga Arr**	**33.50**	**263**	P	**P**	**01 42 03.2**	**-2.1**
	9.0nm,0.7s,baz=82,slow=6.0,SNR=98						
WRA				PcP	**PcP**	01 44 39.2	-1.0
	1.2nm,0.9s,baz=95,slow=2.9,SNR=6.5						
ASAR	**Alice Springs**	**33.76**	**256**	P	**P**	**01 42 06.5**	**-1.1**
	54nm,0.5s,baz=83,slow=9.1,SNR=587						
ASAR				PcP	**PcP**	01 44 40.1	-0.7
	1.4nm,0.9s,baz=104,slow=3.2,SNR=4.8						
MBWA	**Marble Bar**	**46.99**	**259**	*e*P	**P**	**01 43 54.5**	**-1.1**
	104nm,1.1s						
VNDA	**Vanda**	**58.44**	**182**	P	**P**	**01 45 20.3**	**+2.1**
	1.1nm,0.7s,baz=358,slow=6.3,SNR=8.8						
QSPA	**South Pole Qui**	**70.80**	**180**	P	**P**	**01 46 39.8**	**+1.5**
	7.4nm,0.9s,baz=1.5,slow=2.6,SNR=15						
QSPA	**South Pole Qui**	**70.80**	**180**	*e*P	**P**	**01 46 39.5**	**+1.3**
	27nm,0.9s						
CMAR	**Chiang Mai Arr**	**79.11**	**294**	P	**P**	**01 47 27.1**	**+0.8**
	1.9nm,0.6s,baz=133,slow=4.5,SNR=8.7						
SYO	**Syowa Base**	**85.10**	**196⇓**	*e*X	**P**	**01 47 53.8**	**-2.6**
YBH	**Yreka Blue Hor**	**86.85**	**44**	P	**P**	**01 48 08.2**	**+2.7**
	1.7nm,0.9s,baz=94,slow=18,SNR=4.5						
SONM	**Songino Array**	**87.62**	**323**	P	**P**	**01 48 09.4**	**+0.3**
	1.3nm,0.9s,baz=104,slow=4.7,SNR=7.2						
NVAR	**Mina Array Bea**	**88.32**	**48**	P	**P**	**01 48 15.2**	**+2.4**
	0.5nm,0.6s,baz=226,slow=9.7,SNR=3.7						
SNAA	**Sanae**	**89.18**	**182**	P	**P**	**01 48 16.6**	**+0.6**
SNAA	**Sanae**	**89.18**	**182**	P	**P**	**01 48 16.5**	**+0.5**
	4.9nm,0.7s,baz=219,slow=8.6,SNR=30						
SNAA	**Sanae**	**89.18**	**182**	*e*P	**P**	**01 48 16.1**	**+0.1**
	1μm,1.4s						
VNA3	**Neumayer Olymp**	**89.74**	**180**	P	**P**	**01 48 19.1**	**+0.5**
VNA2	**Neumayer--Watz**	**90.04**	**181**	P	**P**	**01 48 20.8**	**+0.7**
	baz=176,slow=4.2						
YKA	**Yellowknife Ar**	**100.38**	**27**	P	**Pdif**	**01 49 09.3**	**+2.4**
	0.2nm,0.7s,baz=251,slow=4.7,SNR=3.7						
MKAR	**Makanchi Array**	**102.20**	**315**	P	**Pdif**	**01 49 15.3**	**-0.1**
	0.3nm,0.7s,baz=95,slow=6.3,SNR=4.4						
ARCES	**ARCESS Array B**	**125.24**	**345**	PKP	**PKPdf**	**01 54 18.2**	**-1.0**
	2.2nm,0.9s,baz=70,slow=2.1,SNR=7.9						
GERES	**GERESS Array B**	**144.81**	**332**	PKP	**PKPab**	**01 54 55.5**	**-0.4**
	1.2nm,0.8s,baz=35,slow=4.9,SNR=9.0						
TORD	**Torodi Ar. Bea**	**167.18**	**244**	PKPab	**PKPab**	**01 56 31.2**	**-0.5**
	0.3nm,0.7s,baz=135,slow=3.6,SNR=4.3						

IDC 26 01:35:58.5₀1.3, 51°.28N×96°.06E, h0km, mb1 2.6/2, mb1mx2.4/70, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=40.6km s-min=11.6km az=178.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLY	**Talaya**	**4.76**	**82**	Pg	Pb	01 37 22.0	-0.7
	0.0nm,0.3s,baz=300,slow=12,SNR=7.2						
TLY				Lg	Lg	01 38 21.4	
	0.0nm,0.3s,baz=153,slow=12,SNR=13						
ZALV	**Zalesovo Beam**	**7.35**	**296**	Pg	Pb	01 38 10.6	+3.8
	0.3nm,0.3s,baz=101,slow=15,SNR=4.5						
ZALV				Lg	Lg	01 39 36.1	
	0.3nm,0.3s,baz=126,slow=25,SNR=4.0						
SONM	**Songino Array**	**7.55**	**113**	Pg	Pb	01 38 15.5	+5.1
	0.3nm,0.3s,baz=300,slow=14,SNR=6.4						
SONM				Lg	Lg	01 39 58.2	
	0.8nm,0.3s,baz=295,slow=25,SNR=9.5						
MKAR	**Makanchi Array**	**10.09**	**249**	Pn	Pn	01 38 25.0	+0.4
	0.0nm,0.3s,baz=66,slow=14,SNR=2.4						
MKAR				Pg		01 39 07.1	
	0.1nm,0.3s,baz=76,slow=18,SNR=4.1						
MKAR				Lg	Lg	01 41 18.1	
	0.1nm,0.3s,baz=76,slow=26,SNR=2.9						
KURBB	**Kurchatov Arra**	**11.08**	**273**	Pn	Pn	01 38 38.2	0.0
	0.0nm,0.3s,baz=76,slow=16,SNR=3.0						
KURBB				Lg	Lg	01 41 48.1	
	0.0nm,0.3s,baz=80,slow=33,SNR=5.0						

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*ISCJB **26** 01:50:06.9₀0.5, 51°.60N×0°.08×96°.19E×0°.07, h10km, mb3.8/3, Error ellipse: s-maj=11.9km s-min=5.9km az=179.8*

*MOS **26** 01:50:07.7×1.3, 51°.71N×96°.16E, h10km, mb4.1/4, Error ellipse: s-maj=13.2km s-min=10.7km az=23.8*

*IDC **26** 01:50:08.9×1.2, 51°.36N×96°.07E, h0km, mb3.8/1, mb1 3.2/4, mb1mx3.0/75, mbtmp3.1/4, ML2.4/3, Error ellipse: s-maj=34.1km s-min=12.5km az=179.0*

ISC 26 01:50:08.9₀0.7, 51°.64N×0°.08×96°.06E×0°.04, h10km, n27, σ1ᵗ77/27, mb3.7/3, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**1.00**	**274**	*e*Pg	**Pg**	**01 50 26.0**	**-2.1**
KNGR	**Kungurtug, Tuv**	**1.39**	**138**	*e*Pg	**Pg**	**01 50 33.8**	**-1.6**
HVS	**Khovu-Aksy**	**1.56**	**252**	*d*iPN	**Pb**	**01 50 36.5**	**-1.4**
ORL	**Orlik**	**2.48**	**67**	*e*PN	**Pn**	**01 50 50.6**	**+1.1**
ORL				*e*		01 51 21.5	
ORL				pmax	pmax		
	comp=Z,61nm,0.4s						
ORL				smax	smax		
	comp=N,266nm,0.8s						
MOY	**Mondy**	**3.08**	**88**	*e*PN	**Pb**	**01 51 01.7**	**-2.0**
MOY				*e*		01 51 39.4	
MOY				pmax	pmax		
	comp=Z,53nm,0.9s						
MOY				smax	smax		
	comp=N,267nm,1.4s						
ABNR	**Abakan**	**3.50**	**308⇑**	*e*PN	**Pn**	**01 51 05.5**	**+2.2**
ARS	**Arshan**	**3.96**	**83**	*e*PN	**Pb**	**01 51 19.1**	**+0.3**
ARS				*e*		01 52 09.9	
ARS				pmax	pmax		
	comp=Z,51nm,0.7s						
ARS				smax	smax		
	comp=E,606nm,0.8s						
TLY	**Talaya**	**4.72**	**87**	Pg	**Pb**	**01 51 33.4**	**+1.6**
	comp=E,0.0nm,0.3s,baz=248,slow=14,SNR=4.8						
TLY				Lg	Lg	01 52 32.4	
	comp=E,0.1nm,0.3s,baz=157,slow=12,SNR=14						
TLY	**Talaya**	**4.72**	**87**	*e*PN	**Pb**	**01 51 33.3**	**+1.6**
TLY				*e*		01 52 31.7	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ZAK	**Zakamensk**	**4.73**	**103**	*e*PN	**Pb**	**01 51 32.0**	**+0.1**
ZAK				*e*		01 52 34.2	
ZAK				pmax	pmax		
	comp=Z,21nm,0.8s						
ZAK				smax	smax		
	comp=N,104nm,1.2s						
IRK	**Irkutsk**	**5.12**	**80**	*e*PN	**Pb**	**01 51 37.2**	**-1.2**
IRK				*e*		01 52 42.5	
IRK				pmax	pmax		
	comp=Z,148nm,0.1s						
IRK				smax	smax		
	comp=E,304nm,0.8s						
TRG	**Tyrgan**	**6.43**	**76**	*e*PN	**Pn**	**01 51 42.8**	**-0.7**
TRG				*e*		01 52 02.2	
TRG				*e*		01 53 23.1	
TRG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TRG				smax	smax		
	comp=N,104nm,1.3s						
ZALV	**Zalesovo Beam**	**7.20**	**293**	Pn	**Pn**	**01 51 56.0**	**+1.9**
	comp=N,0.2nm,0.3s,baz=108,slow=12,SNR=4.2						
ZALV				Lg	Lg	01 53 48.6	
	comp=N,1.2nm,0.3s,baz=109,slow=28,SNR=9.8						
ZALV	**Zalesovo Beam**	**7.20**	**293**	P	**Pn**	**01 51 56.0**	**+1.9**
OGRR	**Ongureny**	**7.30**	**70**	*e*P	**Pn**	**01 51 54.6**	**-0.9**
OGRR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**7.70**	**116**	Pg	**Pb**	**01 52 25.2**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=296,slow=18,SNR=15						
SONM				Lg	Lg	01 54 07.1	
	comp=Z,0.5nm,0.3s,baz=292,slow=26,SNR=12						
MKAR	**Makanchi Array**	**10.22**	**247**	Pn	**Pn**	**01 52 35.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=45,slow=15,SNR=3.0						
MKAR				Pg		01 53 17.5	
	comp=Z,0.2nm,0.3s,baz=73,slow=17,SNR=7.8						
MKAR				Lg	Lg	01 55 26.0	
	comp=Z,0.1nm,0.3s,baz=35,slow=5.3,SNR=2.6						
KURK	**Kurchatov**	**10.99**	**272**	P	**Pn**	**01 52 48.8**	**+2.8**
KURBB	**Kurchatov Arra**	**11.06**	**272**	Pn	**Pn**	**01 52 48.8**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=76,slow=15,SNR=3.7						
KURBB				Lg	Lg	01 55 52.0	
	comp=Z,0.0nm,0.3s,baz=27,slow=14,SNR=6.6						
HIA	**Hailar**	**15.26**	**90⇓**	*e*P	**Pn**	**01 53 41.0**	**-3.2**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**15.79**	**285⇓**	*e*P	**Pn**	**01 53 52.0**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
AAK	**Ala-Archa**	**17.16**	**247⇑**	*e*P	**P**	**01 54 11.8**	**+1.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
YAK	**Yakutsk**	**20.88**	**47⇑**	*e*P	**P**	**01 54 49.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TIXI	**Tiksi**	**24.81**	**24⇓**	*e*P	**P**	**01 55 29.7**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**34.73**	**300**	*e*P	**P**	**01 56 58.9**	**+0.3**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**37.97**	**313**	P	**P**	**01 57 28.1**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=54,slow=7.1,SNR=4.3						
FINES	**FINESS Array B**	**37.97**	**313**	*i*P	**P**	**01 57 28.3**	**+2.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						

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*ISCJB **26** 01:53:52.0₀1.2, 10°.2S×150°.97E×0°.10, h10km, mb3.6/4, Error ellipse: s-maj=19.4km s-min=13.4km az=14.5*

*IDC **26** 01:53:52.4₀1.2, 10°.09S×150°.90E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/47, mbtmp3.7/6, ML2.9/2, Error ellipse: s-maj=26.3km s-min=20.3km az=170.0*

ISC 26 01:53:53.5₀1.3, 10°.2S×151°.0E×0°.1, h10km, n7, σ0ᵗ68/9, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.83**	**281**	Pn	**Pn**	**01 54 51.7**	**-0.9**
	8.6nm,0.3s,baz=136,slow=7.4,SNR=10						
PMG				Pg	**Pb**	01 55 01.5	+0.2
	11nm,0.3s,baz=97,slow=8.1,SNR=16						
PMG				Sn	**Sn**	01 55 38.5	+0.7
	5.9nm,0.3s,baz=203,slow=13,SNR=2.2						
PMG				Lg	Lg	01 55 50.2	
	5.9nm,0.3s,baz=291,slow=17,SNR=3.1						
WRA	**Warramunga Arr**	**18.77**	**237**	P	**Pn**	**01 58 12.5**	**-0.9**
	0.2nm,0.3s,baz=62,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.12**	**228**	P	**P**	**01 58 39.1**	**+0.6**
	2.5nm,0.7s,baz=59,slow=11,SNR=28						
STKA	**Stephens Creek**	**23.30**	**201**	P	**P**	**01 59 01.9**	**+0.3**
	1.2nm,0.7s,baz=15,slow=13,SNR=4.2						
SONM	**Songino Array**	**69.94**	**330**	P	**P**	**02 05 05.3**	**+0.2**
	0.3nm,0.6s,baz=145,slow=5.5,SNR=2.3						
ILAR	**Eielson Array**	**87.77**	**22**	P	**P**	**02 06 42.4**	**-0.1**
	0.7nm,0.8s,baz=248,slow=4.5,SNR=9.4						
TORD	**Torodi Ar. Bea**	**149.78**	**279**	PKPbc	**PKPbc**	**02 13 45.1**	**+0.2**
	0.7nm,0.6s,baz=67,slow=2.9,SNR=9.9						

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*CASC **26** 02:01:15.4₀1.2, 14°.20N×90°.24W, h10km, ML4.2, mb4.5(NEIC)*

*ISCJB **26** 02:01:17.0₀0.3, 14°.14N×0°.04×90°.23W×0°.03, h33km, mb4.4/48, Error ellipse: s-maj=6.5km s-min=2.3km az=39.7*

*IDC **26** 02:01:19.1₀2.0, 13°.98N×90°.40W, h40km×20km, mb3.9/13, mb1 4.1/16, mb1mx3.8/47, mbtmp4.2/16, ML4.4/3, Error ellipse: s-maj=31.7km s-min=10.6km az=40.0*

*NEIC **26** 02:01:19.7×0.8, 14°.05N×90°.23W, h42km×7km, mb4.5/48, Error ellipse: s-maj=10.1km s-min=5.7km az=210.0*

NEIC Felt [III] at Guatemala. Also felt at Amatitlan, Antigua Guatemala, Cahabon, Chiquimulilla, Mixco, Palin, San Jose Pinula and Santa Catarina Pinula.

ISC 26 02:01:19.1₀0.5, 14°.14N×0°.07×90°.18W×0°.06, h35km, n261, σ1ᵗ24/266, mb4.5/48, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.62**	**119**	*e*P	**Pn**	**02 01 28.4**	**-3.2**
SNJE	**San Jose**	**0.62**	**116⇓**	*i*P	**Pn**	**02 01 28.6**	**-3.1**
UNIC	**Santa Ana**	**0.62**	**104**	*e*P	**Pn**	**02 01 28.5**	**-3.0**
UNIC				IAML		02 01 44.5	
	comp=Z,8μm,0.5s						
MTO3	**Montecristo**	**0.83**	**72**	*e*P	**Pn**	**02 01 32.0**	**-2.6**
BOQS	**Boqueron**	**0.96**	**115**	*e*P	**Pn**	**02 01 34.8**	**-1.6**
COLS	**Colinas**	**0.98**	**119**	*e*P	**Pn**	**02 01 34.6**	**-1.9**
COLS				*e*S	**Sn**	**02 01 49.7**	**+0.5**
UEES	**San Salvador**	**1.00**	**114**	*e*P	**Pn**	**02 01 35.3**	**-1.4**
UEES				IAML		02 02 05.3	
	comp=Z,5μm,0.6s						
SNET	**Serv Nac Est T**	**1.02**	**116**	*e*P	**Pn**	**02 01 35.2**	**-1.9**
SNET				IAML		02 01 52.5	
	comp=Z,5μm,0.3s						
OPAM	**San Salvador**	**1.04**	**114**	*e*P	**Pn**	**02 01 36.1**	**-1.1**
OPAM				IAML		02 01 59.2	
	comp=Z,5μm,0.3s						
UESS	**San Salvador**	**1.04**	**114**	*e*P	**Pn**	**02 01 36.0**	**-1.3**
UTEC	**San Salvador**	**1.04**	**115**	*e*P	**Pn**	**02 01 36.1**	**-1.2**
UTEC				IAML		02 01 55.6	
	comp=Z,4μm,0.4s						
UDBS	**Soyapango**	**1.07**	**113**	*e*P	**Pn**	**02 01 36.9**	**-0.8**
UDBS				IAML		02 01 56.5	
	comp=Z,8μm,0.5s						
LOMA	**San Marcos**	**1.09**	**116**	*e*P	**Pn**	**02 01 36.5**	**-1.4**
LFU	**La Fuente**	**1.10**	**111**	*e*P	**Pn**	**02 01 37.4**	**-0.8**
LFU				*e*S	**Sn**	**02 01 53.9**	**+1.7**
LBRS	**Las Brisas**	**1.17**	**110**	*e*P	**Pn**	**02 01 38.4**	**-0.8**
LLGN	**La Laguna**	**1.19**	**88**	*e*P	**Pn**	**02 01 38.3**	**-1.1**
LLGN				*e*S	**Sn**	**02 01 55.2**	**+0.8**
LFRS	**El Faro**	**1.20**	**115**	*e*P	**Pn**	**02 01 38.3**	**-1.2**
PAVA	**Las Pavas**	**1.28**	**109**	*e*P	**Pn**	**02 01 40.1**	**-0.4**
SNVI	**San Vicente**	**1.40**	**112**	*e*P	**Pn**	**02 01 41.9**	**-0.5**
UESV	**Ojushtada**	**1.55**	**119**	*e*P	**Pn**	**02 01 42.8**	**-1.5**
UESV				IAML		02 01 48.0	
	comp=Z,4μm,0.7s						
TGUH	**Tegucigalpa,Un**	**2.82**	**91**	*e*Pn	**Pn**	**02 02 01.0**	**-0.7**
TGUH	**Tegucigalpa,Un**	**2.82**	**91**	*e*P	**Pn**	**02 02 00.9**	**-0.8**
CMIG	**Matias Romero**	**5.40**	**304**	P	**Pn**	**02 02 35.3**	**-1.9**
	comp=Z,18nm,0.3s,baz=111,slow=7.7,SNR=100						
CMIG				S	**Sn**	**02 03 37.2**	**-1.0**
	comp=Z,8.8nm,0.3s,baz=150,slow=16,SNR=2.4						
JTS	**JuntasAbangare**	**6.38**	**126**	P	**Pn**	**02 02 52.7**	**+1.9**
	comp=Z,1.7nm,0.3s,baz=7.9,slow=19,SNR=9.3						
JTS				S	**Sn**	**02 04 03.6**	**+1.1**
	baz=316,slow=18,SNR=2.1						
JTS	**JuntasAbangare**	**6.38**	**126**	*e*Pn	**Pn**	**02 02 52.5**	**+1.7**
	comp=Z,24nm,0.8s						
JTS				*e*S	**Sn**	**02 03 59.5**	**-3.0**
MYIG	**MØrida**	**6.79**	**3**	*e*Pn	**Pn**	**02 02 56.4**	**+0.1**
LVIG	**Laguna Verde**	**8.15**	**314**	*e*Pn	**Pn**	**02 03 15.7**	**+0.7**
WBCY	**West Bay, Gran**	**9.89**	**57**	*e*Pn	**Pn**	**02 03 40.9**	**+2.0**
FSCY	**Frank Sound, G**	**10.03**	**58**	*e*Pn	**Pn**	**02 03 42.9**	**+2.1**
LCCY	**Blossom Villag**	**11.11**	**59**	*e*Pn	**Pn**	**02 03 54.5**	**-1.1**
MOIG	**Morelia**	**11.88**	**299**	*e*Pn	**Pn**	**02 04 09.2**	**+2.8**
LNIG	**Linares**	**13.82**	**322**	*e*Pn	**Pn**	**02 04 35.6**	**+3.0**
833A	**Chaparral WMA,**	**16.51**	**330**	P	**Pn**	**02 05 07.6**	**-0.4**
	baz=147						
341A	**Kurthwood**	**17.33**	**351**	P	**Pn**	**02 05 18.5**	**+0.2**
	baz=170						
435B	**Jarrell**	**17.91**	**339**	P	**P**	**02 05 26.6**	**+0.7**
	baz=156						
242A	**Grayson**	**17.93**	**355**	P	**P**	**02 05 26.5**	**+0.5**
	baz=174						
SOTA	**Rioblanco**	**17.95**	**130**	*e*P	**P**	**02 05 30.2**	**+3.3**
NATX	**Nacogdoches**	**18.01**	**348**	P	**P**	**02 05 27.4**	**+0.4**
	baz=166						
NATX	**Nacogdoches**	**18.01**	**348**	*e*Pn	**P**	**02 05 29.7**	**+2.8**
	comp=Z,26nm,0.6s						
TIGA	**Tifton**	**18.25**	**18**	P	**Pn**	**02 05 31.0**	**+1.4**
	baz=201						
145A	**Houston Renfro**	**18.38**	**1**	P	**Pn**	**02 05 31.8**	**+0.6**
	baz=181						
252A	**Lumpkin**	**18.46**	**15**	P	**Pn**	**02 05 32.7**	**+0.6**
	baz=197						
143A	**Socs Landing,**	**18.51**	**357**	P	**Pn**	**02 05 33.6**	**+0.8**
	baz=176						
JCT	**Junction City**	**18.52**	**333**	P	**Pn**	**02 05 33.5**	**+0.5**
	baz=150						
JCT	**Junction City**	**18.52**	**333**	*e*P	**Pn**	**02 05 33.5**	**+0.5**
	comp=Z,18nm,1.0s						
149A	**Jones**	**18.63**	**9**	P	**Pn**	**02 05 35.3**	**+1.0**
	baz=190						
253A	**Americus**	**18.68**	**16**	P	**Pn**	**02 05 35.7**	**+0.9**
	baz=199						
150A	**Eclectic**	**18.77**	**11**	P	**Pn**	**02 05 36.6**	**+0.7**
	baz=193						
151A	**Opelika**	**18.83**	**13**	P	**Pn**	**02 05 37.3**	**+0.6**
	baz=195						
WHTX	**Lake Whitney,**	**18.98**	**341**	P	**Pn**	**02 05 38.2**	**-0.2**
	baz=158,SNR=6.2						
WHTX	**Lake Whitney,**	**18.98**	**341**	*e*P	**Pn**	**02 05 38.5**	**+0.1**
	comp=Z,27nm,1.1s						
WHTX				*e*S	**Sn**	**02 09 04.7**	**-5.2**
Z43A	**Armstrong Fami**	**19.01**	**357**	P	**Pn**	**02 05 39.5**	**+0.7**
	baz=177						
FLOC	**Florencia**	**19.02**	**130**	*e*P	**P**	**02 05 36.2**	**-2.0**
Z42A	**Norrel Spur, H**	**19.11**	**355**	P	**Pn**	**02 05 40.4**	**+0.3**
	baz=175						
Z41A	**Richland Creek**	**19.18**	**353**	P	**Pn**	**02 05 41.5**	**+0.6**
	baz=172						
Z40A	**Long Farm, Mag**	**19.26**	**352**	P	**P**	**02 05 41.1**	**+0.5**
	baz=171,SNR=6.4						
Z49A	**Columbiana**	**19.26**	**9**	P	**Pn**	**02 05 41.7**	**-0.1**
	baz=191						
HPIG		**19.27**	**314**	*e*P	**Pn**	**02 05 41.7**	**-0.5**

baz=172
W40A Ferguson Farm, 21.12 353 *e*P P 02 06 06.3 +5.4
comp=Z,16nm,0.9s
WHAR Wooly Hollow 21.14 355 *e*P P 02 06 02.9 +1.8
comp=Z,17nm,1.2s
W47A Westpoint 21.15 6 P P 02 06 00.8 -0.3
baz=187
W39A Magazine 21.21 352 P P 02 06 02.3 +0.4
baz=170,SNR=5.6
SWET Sewanee 21.33 10 *e*P P 02 06 04.6 +1.4
comp=Z,4.5nm,0.9s
V42A Cord 21.60 357 P P 02 06 03.9 -2.0
baz=177
V41A Mountainview 21.63 356 P P 02 06 05.5 -0.8
baz=175,SNR=5.7
V46A Holladay 21.65 5 P P 02 06 05.4 -1.1
baz=186
V40A Witts Springs 21.70 354 P P 02 06 07.5 +0.4
baz=173,SNR=10
V39A Pettigrew 21.83 352 P P 02 06 07.9 -0.6
baz=171,SNR=10.0
WMOK Wichita Mounta 21.93 341 P P 02 06 07.7 -1.9
baz=157
WMOK Wichita Mounta 21.93 341 *e*P P 02 06 09.3 -0.3
comp=Z,6.6nm,0.8s
WVT Waverly 22.00 5 P P 02 06 08.8 -1.5
baz=186
WVT Waverly 22.00 5 *e*P P 02 06 10.8 +0.6
comp=Z,11nm,1.0s
U42A Revenden 22.14 358 P P 02 06 10.1 -1.6
baz=177
TKL Tuckaleechee C 22.19 14 P P
comp=Z,6.5nm,0.9s,baz=178,slow=11,SNR=6.2
U46A Springville 22.20 4 P P 02 06 11.4 -1.0
baz=185
U40A Yellville 22.25 354 P P 02 06 12.9 -0.1
baz=173,SNR=6.3
TUL1 Leonard 22.26 348 P P 02 06 12.6 -0.4
baz=166,SNR=9.9
TUL1 Leonard 22.26 348 *e*P P 02 06 12.8 -0.2
comp=Z,16nm,0.6s
HHAR Hobbs 22.30 352 *e*P P 02 06 14.2 +0.6
comp=Z,22nm,1.0s
U39A Green Forest 22.34 353 P P 02 06 13.9 -0.1
baz=172,SNR=11
MNTX Cornudas Mount 22.35 324 P P 02 06 13.2 -0.9
baz=138,SNR=8.8
MNTX Cornudas Mount 22.35 324 *e*P P 02 06 13.6 -0.5
comp=Z,4.7nm,0.8s
U47A Clarksville 22.36 6 P P 02 06 13.0 -1.1
baz=188
U48A Cassie Pea, Po 22.51 8 P P 02 06 13.9 -1.9
baz=189
PBMO Poplar Bluff 22.55 359 *e*P P 02 06 16.9 +0.8
comp=Z,18nm,0.8s
PBMO *e*Sn Sn 02 10 42.5 +6.8
T42A Van Buren 22.81 358 P P 02 06 17.2 -1.7
baz=178
T43A Greenville 22.85 360 P P 02 06 18.1 -1.2
baz=180
T41A Mountain View 22.85 357 P P 02 06 19.1 -0.3
baz=176,SNR=8.4
T44A Benton 22.86 1 P P 02 06 18.1 -1.3
baz=182
T46A Princeton 22.90 5 P P 02 06 18.3 -1.5
baz=186
T47A Sharon Grove 22.92 6 P P 02 06 18.7 -1.3
baz=188
T39A Clever 22.97 353 P P 02 06 20.0 -0.6
baz=172,SNR=11
T40A Mansfield 23.01 355 P P 02 06 20.8 -0.2
baz=174,SNR=8.6
TZTN Tazewell 23.09 14 *e*P P 02 06 22.6 +0.8
comp=Z,86nm,2.5s
T38A Diamond 23.09 352 P P 02 06 22.1 +0.3
baz=170,SNR=14
AMTX Amarillo 23.11 335 P P 02 06 21.0 -1.2
baz=151
AMTX Amarillo 23.11 335 *e*P P 02 06 21.5 -0.7
comp=Z,4.9nm,0.3s
S43A Fulton Ridge, 23.34 0 P P 02 06 23.8 -0.4
baz=180
S41A Jillco Farms, 23.39 357 P P 02 06 24.1 -0.7
baz=176
S40A Lebanon 23.45 355 P P 02 06 25.6 +0.2
baz=174,SNR=9.2
S44A Carbondale 23.47 2 P P 02 06 26.0 +0.5
baz=182,SNR=9.1
SIUC Southern Illin 23.49 2 *e*P P 02 06 26.9 +1.2
comp=Z,19nm,0.8s
S42A Caledonia 23.54 359 P P 02 06 25.6 -0.6
baz=179
S39A Bolivar 23.62 354 P P 02 06 27.1 +0.1
baz=173,SNR=22
S38A Stockton 23.63 353 P P 02 06 27.3 +0.2
baz=171,SNR=14
R43A Red Bud 24.04 0 P P 02 06 30.6 -0.3
baz=181
R42A Luebbering 24.05 359 P P 02 06 30.6 -0.4
baz=179
R41A Rosebud 24.08 358 P P 02 06 31.5 +0.2
baz=177,SNR=7.6
R45A Skylar, Fairfi 24.11 4 P P 02 06 31.5 -0.1
baz=185
R40A Maddies Statio 24.12 356 P P 02 06 30.7 -1.0
baz=175
R38A Fenwick Farm, 24.18 353 P P 02 06 31.0 -1.2
baz=171,SNR=15
R39A Chumby, Stover 24.21 355 P P 02 06 32.7 +0.2
baz=173,SNR=6.5
WCI Wyandotte Cave 24.24 7 P P 02 06 32.7 -0.1
baz=189
WCI Wyandotte Cave 24.24 7 *e*P P 02 06 34.3 +1.5
comp=Z,14nm,0.9s
121A Cookes Peak, D 24.36 322 P P 02 06 32.7 -1.4
baz=135,SNR=6.3
OLIL Olney 24.57 4 *e*P P 02 06 37.8 +2.0
comp=Z,16nm,0.9s
Q44A Meyer Farm, Va 24.69 2 P P 02 06 35.9 -0.9
baz=183
Q43A New Douglas 24.71 1 P P 02 06 36.1 -0.9
baz=181
Q45A Warren Harvey, 24.72 4 P P 02 06 36.7 -0.5
baz=185
Q41A Truxton 24.73 358 P P 02 06 36.5 -0.7
baz=178,SNR=6.5
Q40A Laux Farm, Aux 24.81 356 P P 02 06 38.0 0.0
baz=176
Q38A Cooks Store, C 24.91 354 P P 02 06 39.3 +0.5
baz=172,SNR=12
Q47A Bedord North L 24.92 7 P P 02 06 39.0 +0.1
baz=189
Q37A Longview Farm, 24.93 352 P P 02 06 39.4 +0.4
baz=170
P40A Paris 25.34 357 P P 02 06 41.8 -0.9
baz=176
P39B Salisbury 25.35 355 P P 02 06 42.2 -0.6
baz=174
P43A Skaggs, Pawnee 25.41 1 P P 02 06 43.4 +0.1
baz=182
KSU1 Kansas State U 25.50 348 P P 02 06 44.5 +0.3
baz=166,SNR=9.8
KSU1 Kansas State U 25.50 348 *e*P P 02 06 44.2 0.0
comp=Z,33nm,0.9s
P38A Dawn 25.56 354 P P 02 06 44.3 -0.4
baz=173
O41A Passleys Farm, 25.88 359 P P 02 06 47.1 -0.6
baz=179
O40A La Belle 25.92 357 P P 02 06 47.6 -0.5
baz=176
O44A Mansfield 25.96 3 P P 02 06 47.9 -0.4
baz=184
CBKS Cedar Bluff 25.99 343 P P 02 06 47.8 -0.9
baz=159
CBKS Cedar Bluff 25.99 343 *e*P P 02 06 48.6 -0.1
comp=Z,25nm,1.0s
O45A Potomac 26.10 4 P P 02 06 49.6 0.0
baz=186
T25A Trinidad 26.19 334 P P 02 06 49.9 -0.8
baz=148
T25A Trinidad 26.19 334 *e*P P 02 06 51.8 +1.1
comp=Z,26nm,1.6s
O47A Sheridan 26.23 7 P P 02 06 50.2 -0.6
baz=189
O34A Beatrice 26.57 349 P P 02 06 52.6 -1.3
baz=166
N44A Piper City 26.61 3 P P 02 06 52.2 -2.1
baz=184

O33A Hebron 26.64 347 P P 02 06 52.8 -1.7
baz=164
N38A Joes South For 26.69 355 P P 02 06 53.1 -1.8
baz=174
SDCO Great Sand Dun 27.17 333 P P 02 06 59.3 -0.4
baz=146
M40A Post Highland 27.19 358 P P 02 06 60.0 +0.5
baz=177
M43A Waltham Townsh 27.22 2 P P 02 07 00.3 +0.6
baz=183
M39A Webster 27.29 357 P P 02 07 00.8 +0.5
baz=176
M38A Pleasantville 27.30 355 P P 02 07 00.1 -0.3
baz=174
L42A Oliver, Polo 27.77 1 P P 02 07 04.8 +0.2
baz=181
M34A Aspy Farms, Fr 27.82 350 P P 02 07 05.4 +0.2
baz=167
L41A Preston 27.84 359 P P 02 07 05.3 +0.2
baz=179
L40A Anamosa 27.84 358 P P 02 07 04.1 -1.1
baz=178
L43A Garden Prairie 27.97 2 P P 02 07 05.1 -1.3
baz=183
ISCO Idaho Springs 28.93 335 P P 02 07 14.8 -0.6
baz=148
ISCO Idaho Springs 28.93 335 *e*P P 02 07 14.9 -0.5
comp=Z,3.7nm,1.1s
J41A Loganville 29.12 0 P P 02 07 16.5 -0.2
baz=180
N23A Red Feather La 30.00 336 P P 02 07 23.9 -0.8
baz=148
H38A Maiden Rock 30.48 357 P P 02 07 28.2 -0.5
baz=176
DANC Danby, Needles 30.56 316 *e*P P 02 07 29.2 -0.3
DANC *e*S S 02 12 34.1 +4.9
BELC Belle Mtn. Jos 30.62 315 *e*P P 02 07 32.4 +2.2
G39A Holcombe 31.05 359 P P 02 07 34.1 +0.4
baz=178
SPMN Marine on St. 31.06 356 P P 02 07 34.4 +0.6
baz=175
RWWY Rawlins 31.18 335 *e*P P 02 07 35.2 +0.1
comp=Z,6.2nm,0.8s
TUQ Turquoise Moun 31.39 317 *e*P P 02 07 35.2 -1.8
TUQ *e*S S 02 12 41.1 -1.2
G33A Ortonville 31.41 351 P P 02 07 35.8 -1.0
baz=188
F40A Park Falls 31.68 0 P P 02 07 39.8 +0.6
baz=180
F36A Milaca 31.75 356 P P 02 07 39.3 -0.5
baz=174
RSSD Black Hills 32.14 341 P P 02 07 41.7 -1.9
baz=154
E36A McGregor 32.38 356 P P 02 07 44.4 -0.9
baz=174
E38A The Farm, Brul 32.38 358 P P 02 07 44.7 -0.7
baz=178
PDAR Pinedale Array 33.06 333 P P 02 07 50.3 -1.3
comp=Z,0.3nm,0.4s,baz=124,slow=11,SNR=3.6
D33A AnnSam, Waubun 33.24 353 P P 02 07 53.1 +0.3
baz=170
C36A Pine Crest Far 33.59 357 P P 02 07 55.7 -0.2
baz=175
C35A Jirik Farms, M 33.61 355 P P 02 07 56.2 +0.2
baz=174
REDW Red Top Meadow 34.10 333 *e*P P 02 08 00.9 +0.2
comp=Z,6.6nm,0.6s
SNOW Snow King Moun 34.14 333 *e*P P 02 08 01.5 +0.4
comp=Z,9.2nm,0.6s
LOHW Long Hollow 34.19 333 *e*P P 02 08 01.3 -0.2
comp=Z,3.4nm,0.8s
TPAW Teton Pass 34.25 333 *e*P P 02 08 02.4 +0.4
comp=Z,6.6nm,1.4s
MOOW Moose Ponds 34.36 333 *e*P P 02 08 02.9 -0.1
comp=Z,4.6nm,1.6s
AGMN Agassiz Nation 34.38 353 P P 02 08 02.6 -0.1
baz=170
B34A Aery, Baudette 34.44 355 P P 02 08 03.5 +0.1
baz=172
MDND Maddock 34.51 349 P P 02 08 03.7 -0.2
baz=164
B32A Ashes, Strandq 34.56 353 P P 02 08 04.1 -0.2
baz=169
NV01 Mina Array Sit 34.69 319 *e*P P 02 08 07.7 +1.8
NVAR Mina Array Bea 34.69 319 P P 02 08 08.2 +2.3
comp=Z,1.0nm,0.7s,baz=127,slow=8.6,SNR=8.1
RLMT Red Lodge 34.87 336 P P 02 08 05.9 -1.4
baz=146
RLMT Red Lodge 34.87 336 *e*P P 02 08 06.8 -0.5
comp=Z,16nm,1.8s
A33A Warroad 34.96 354 P P 02 08 08.3 +0.5
baz=171
SAML Samuel 35.27 129 *e*P P 02 08 11.0 +0.2
comp=Z,5.1nm,0.8s
GCMT Greycliff 35.58 336 *e*P P 02 08 12.8 -0.6
HLID Hailey 35.93 329 P P 02 08 16.2 -0.2
baz=138
MCMT McKenzie Canyo 36.14 332 *e*P P 02 08 19.0 +0.7
BOZ Bozeman (W) 36.22 334 P P 02 08 19.2 +0.4
baz=143
BOZ Bozeman (W) 36.22 334 *e*P P 02 08 19.2 +0.4
comp=Z,2.1nm,0.8s
ULM Lac du Bonnet 36.31 354 P P 02 08 18.5 -0.8
comp=Z,5.1nm,0.9s,baz=181,slow=9.2,SNR=6.6
ULM Lac du Bonnet 36.31 354 *e*P P 02 08 19.1 -0.3
comp=Z,6.0nm,0.9s
LRM Limekiln Ridge 36.74 334 *e*P P 02 08 23.0 -0.4
HRY Holter Researc 37.20 335 *e*P P 02 08 27.4 +0.3
EGMT Eagleton 37.48 338 P P 02 08 29.5 +0.1
baz=148
MSO Missoula 38.18 333 P P 02 08 34.3 -1.0
baz=141
F10A Beach Ranch, E 39.06 330 *e*P P 02 08 42.4 -0.4
comp=Z,3.8nm,0.8s
NEW Newport 40.67 332 P P 02 08 55.7 -0.4
baz=138
SIV San Ignacio 41.52 135 P P 02 09 02.5 -0.9
comp=Z,2.2nm,0.8s,baz=336,slow=8.9,SNR=9.5
FFC Flin Flon 41.53 350 *e*P P 02 09 03.6 +0.6
comp=Z,25nm,1.6s
SEPW September Lobe 41.76 326 *e*P P 02 09 05.7 +0.4
EDM Edmonton 43.09 340 *e*P P 02 09 15.6 -0.2
comp=Z,29nm,1.3s
SCHQ Schefferville 44.49 19 P P 02 09 26.9 -0.1
comp=Z,5.8nm,0.9s,baz=229,slow=6.7,SNR=8.3
SCHQ Schefferville 44.49 19 *e*P P 02 09 27.7 +0.7
comp=Z,12nm,1.1s
LLLB Lillooet 44.52 331 *e*P P 02 09 28.2 +0.9
comp=Z,7.4nm,1.0s
FCC Fort Churchill 44.64 357 *e*P P 02 09 27.6 -0.4
comp=Z,5.5nm,0.9s
YKA Yellowknife Ar 51.31 346 P P 02 10 19.1 -0.4
comp=Z,4.2nm,0.7s,baz=148,slow=7.8,SNR=82
YKW3 Yellowknife Ar 51.37 346 *e*P P 02 10 19.8 -0.2
RES Resolute Bay 60.60 359 *e*P P 02 11 25.6 -0.2
comp=Z,16nm,1.9s
INK Inuvik 60.81 343 *e*P P 02 11 26.1 -1.3
comp=Z,5.5nm,0.8s
IL1 Eielson Array 63.41 336 *e*P P 02 11 44.0 -0.9
ILAR Eielson Array 63.41 336 P P 02 11 43.8 -1.1
comp=Z,2.6nm,1.1s,baz=124,slow=4.1,SNR=13
MLY Manley 65.03 336 *e*P P 02 11 54.6 -1.0
comp=Z,4.1nm,0.7s
EKA Eskdalemuir Ar 76.82 36 P P 02 13 08.7 +1.5
comp=Z,1.8nm,0.8s,baz=266,slow=5.5,SNR=5.9
ESDC Sonseca Array 78.24 52 P P 02 13 17.4 +1.7
comp=Z,0.3nm,0.6s,baz=285,slow=4.8,SNR=2.9
SPITS Spitsbergen Ar 79.60 12 P P 02 13 23.0 +0.8
comp=Z,5.1nm,0.9s,baz=321,slow=8.2,SNR=2.4
NOA NORSAR Array B 83.18 29 P P 02 13 43.9 +2.4
comp=Z,1.2nm,0.8s,baz=289,slow=5.1,SNR=4.3
HFS Hagfors 84.62 29 P P 02 13 48.0 -0.8
comp=Z,0.8nm,0.7s,baz=213,slow=5.0,SNR=2.1
CLL Collm 87.13 38 *e*P P 02 14 00.0 -1.5
WMQ Urumqi 122.29 2 *e*P PKPdf 02 20 11.3 +0.5
KSH Kashi 125.08 13 *e*PKP PKPdf 02 20 13.8 -2.6
LZH Lanzhou 128.31 346 PKP PKPdf 02 20 19.8 -2.9
LZH sPKP 02 20 35.3
CD2 Chengdu 133.25 343 PKP PKPdf 02 20 30.0 -2.0
WRA Warramunga Arr 137.14 256 PKP PKPdf 02 20 39.0 -0.5
comp=Z,0.6nm,0.9s,baz=94,slow=1.6,SNR=7.6
ASAR Alice Springs 137.38 250 PKP PKPdf 02 20 39.2 -0.6
comp=Z,0.2nm,0.3s,baz=74,slow=3.7,SNR=4.2

*IDC **26** 02:02:01.0± 1.2, 8.°68S× 124.°73E, h0km, mb3.7/4, mb1 4.2/7, mb1mx3.8/49, mbtmp4.0/7, ML4.4/3, Error ellipse: s-maj=46.1km s-min=20.0km az=82.0*

*ISCJB **26** 02:02:02.4± 0.8, 8.°97S± 0.°06× 124.°90E± 0.°08, h35km, mb3.8/4, Error ellipse: s-maj=12.0km s-min=8.4km az=154.3*

ISC 26 02:02:05.9± 1.0, **8.°98S**± 0.°09× **124.°8E**± 0.°1, **h35**km, **n8,** σ 2°99/11, **mb3.9/4, Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BATI	**Baumata**	**1.62**	**221**	Pn		**Pn**	**02 02 34.2**	**+2.1**
	47nm,0.3s,baz=66,slow=4.6,SNR=19							
BATI				Sn		**Sn**	**02 02 51.0**	**-0.8**
	241nm,0.3s,baz=0.0,slow=20,SNR=48							
FITZ	**Fitzroy Crossi**	**9.11**	**175**	Pn		**Pn**	**02 04 16.8**	**+1.9**
	5.9nm,0.3s,baz=1.0,slow=10,SNR=123							
FITZ				Sn		**Sn**	**02 05 50.2**	**-6.0**
	6.7nm,0.3s,baz=122,slow=13,SNR=9.5							
WRA	**Warramunga Arr**	**14.31**	**141**	Pn		**Pn**	**02 05 29.6**	**+3.5**
	1.4nm,0.3s,baz=318,slow=13,SNR=46							
WRA				Sn		**Sn**	**02 08 01.3**	**-2.4**
	1.3nm,0.3s,baz=312,slow=24,SNR=10							
ASAR	**Alice Springs**	**17.03**	**150**	P		**P**	**02 06 04.3**	**+1.3**
	0.6nm,0.3s,baz=321,slow=11,SNR=20							
ASAR				S		Sn	02 09 03.2	-6.7
	0.1nm,0.3s,baz=322,slow=24,SNR=3.2							
SONM	**Songino Array**	**58.86**	**346**	P		**P**	**02 12 00.1**	**-1.1**
	0.5nm,0.6s,baz=161,slow=7.8,SNR=5.3							
MKAR	**Makanchi Array**	**67.16**	**330**	P		**P**	**02 12 55.5**	**-0.8**
	0.3nm,0.6s,baz=128,slow=7.9,SNR=7.4							
ZALV	**Zalesovo Beam**	**71.17**	**336**	P		**P**	**02 13 19.1**	**-1.9**
	0.5nm,0.3s,baz=148,slow=6.0,SNR=2.9							
KURBB	**Kurchatov Arra**	**71.59**	**331**	P		**P**	**02 13 22.4**	**-1.2**
	0.3nm,0.5s,baz=141,slow=4.9,SNR=3.9							

*SJA **26** 02:07:39.9± 0.8, 34.°97S× 72.°16W, h60km± 18km, ML4.4, MW4.7*

*ISCJB **26** 02:07:41.0± 0.4, 35.°01S± 0.°03× 72.°12W± 0.°05, h59km± 4km, mb4.5/16, Error ellipse: s-maj=7.9km s-min=3.6km az=20.7*

*GUC **26** 02:07:41.1± 0.8, 34.°99S× 72.°09W, h35km± 3km, ML4.7*

*NEIC **26** 02:07:41.0± 0.0, 34.°99S× 72.°09W, h35km, mb4.4/8, ML4.7(GUC), After GUC.*

NEIC Felt [IV] at Constitucion and Talca; [III] at Iloca, Molina, Navidad, Paredones, Pelarco, Pencahue, Pichilemu, San Fernando and Santa Cruz; [II] at Curico, Linares, Rancagua, Rio Claro, Romeral, San Antonio, San Bernardo and Santiago.

*IDC **26** 02:07:42.1± 3.0, 34.°98S× 71.°91W, h48km± 27km, mb4.0/11, mb1 4.2/14, mb1mx3.9/32, mbtmp4.2/14, ML4.2/3, Error ellipse: s-maj=26.0km s-min=15.9km az=79.0*

ISC 26 02:07:40.9± 0.9, **34.°97S**± 0.°03× **72.°13W**± 0.°05, **h41**km± 10km, **n68,** σ 1°66/76, **mb4.4**/16, **6C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CHPI	**Pichilemu**	**0.59**	**10**	⇑*i*	P	**Pn**	**02 07 52.3**	**-0.5**
CHPI				*i*	S	**Sn**	**02 08 01.2**	**-0.2**
NICH	**Los Niches**	**0.74**	**93**	⇓*i*	P	**Pn**	**02 07 54.0**	**-1.0**
NICH				*i*	S	**Sn**	**02 08 03.8**	**-1.3**
COCH	**Cobquecura**	**1.27**	**205**	*i*	P	**Pn**	**02 08 02.6**	**+0.4**
COCH	**Cobquecura**	**1.27**	**205**	⇓*i*	P	**Pn**	**02 08 02.5**	**+0.4**
COCH				*i*	S	**Sn**	**02 08 18.8**	**+0.7**
CCHI	**Chillan**	**1.63**	**178**	*i*	P	**Pn**	**02 08 08.5**	**+1.4**
CCHI				*i*	S	**Sn**	**02 08 28.2**	**+1.4**
CCHI	**Chillan**	**1.63**	**178**	⇓*i*	P	**Pn**	**02 08 08.8**	**+1.8**
CCHI				*i*	S	**Sn**	**02 08 30.0**	**+3.1**
CCHI					IAML		02 08 31.8	
	comp=E,14μm,0.4s							
LMEL	**Las Melosas**	**1.95**	**55**	⇑*i*	P	**Pn**	**02 08 12.1**	**+0.4**
LMEL				*i*	S	**Sn**	**02 08 37.2**	**+2.2**
LMEL					IAML		02 08 40.9	
	comp=N,8μm,0.3s							
FSR	**Penalolen**	**2.00**	**42**	*e*P		**Pn**	**02 08 14.9**	**+2.6**
FSR				*e*S		**Sn**	**02 08 39.4**	**+3.4**
CCSP	**San Pedro de C**	**2.03**	**203**	⇑*i*	P	**Pn**	**02 08 13.4**	**+0.8**
CCSP				*i*	S	**Sn**	**02 08 39.7**	**+3.0**
CLCH	**Cerro Calan**	**2.06**	**41**	⇓*i*	P	**Pn**	**02 08 14.1**	**+1.1**
CLCH				*i*	S	**Sn**	**02 08 39.4**	**+1.9**
CLCH					IAML		02 08 52.7	
	comp=E,11μm,0.8s							
PEL	**Peldehue**	**2.18**	**34**	*e*P		**Pn**	**02 08 15.8**	**+1.0**
PEL				*e*S		**Sn**	**02 08 44.1**	**+3.5**
ROC1	**El Roble**	**2.20**	**25**	*i*	P	**Pn**	**02 08 16.1**	**+1.0**
ROC1				*i*	S	**Sn**	**02 08 43.1**	**+1.8**
ROCH	**El Roble**	**2.20**	**25**	⇑*i*	P	**Pn**	**02 08 16.0**	**+0.8**
ROCH					IAML		02 08 51.9	
	comp=N,9μm,0.5s							
FCH	**Farellones**	**2.24**	**43**	⇑*i*	P	**Pn**	**02 08 16.9**	**+1.1**
FCH				*i*	S	**Sn**	**02 08 45.7**	**+3.3**
FCH					IAML		02 08 48.4	
	comp=N,7μm,0.2s							
CANA	**Caviahue**	**3.04**	**164**	*i*	P	**Pn**	**02 08 27.6**	**+1.0**
AAGR	**Agrelo**	**3.33**	**56**	*i*	P	**Pn**	**02 08 32.5**	**+1.9**
ARCO	**CERRO ARCO**	**3.41**	**52**	*i*	P	**Pn**	**02 08 33.5**	**+1.9**
AUSP	**Uspallata**	**3.57**	**41**	*i*	P	**Pn**	**02 08 36.6**	**+2.6**
ASAL	**Salagasta**	**3.63**	**50**	*i*	P	**Pn**	**02 08 36.9**	**+2.2**
TMU	**Temuco**	**3.77**	**186**	⇓*i*	P	**Pn**	**02 08 37.1**	**+0.6**
RTLS	**Leoncito**	**3.96**	**38**	*i*	P	**Pn**	**02 08 41.6**	**+2.2**
RTLS					IAML		02 08 48.1	
	comp=Z,500nm,0.5s							
RTCV	**Cerro Valdivia**	**4.32**	**45**	*i*	P	**Pn**	**02 08 45.5**	**+1.4**
SJA	**San Juan**	**4.55**	**42**	*i*	P	**Pn**	**02 08 48.5**	**+1.1**
PLCA	**Paso Flores**	**5.88**	**168**		P	**Pn**	**02 09 06.4**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=5.4,slow=11,SNR=78							
PLCA					Lg	Lg	02 10 37.7	
	comp=Z,1.0nm,0.3s,baz=272,slow=23,SNR=2.3							
PLCA	**Paso Flores**	**5.88**	**168**	*e*Pn		**Pn**	**02 09 07.1**	**+1.4**
PLCA					Lg	Lg	02 10 37.7	
LCO	**Las Campanas**	**6.07**	**12**	*e*Pn		**Pn**	**02 09 08.3**	**0.0**
LCO				*e*Sn		**Sn**	**02 10 13.8**	**-2.9**
TRQA	**Tornquist**	**8.73**	**114**	*e*Pn		**Pn**	**02 09 44.8**	**+0.2**
TRQA				*e*Sn		**Sn**	**02 11 25.4**	**+3.6**
CHRN	**Cochrane**	**12.27**	**181**	*e*Pn		**Pn**	**02 10 33.1**	**+0.2**
PB11	**IPOC Station P**	**15.31**	**9**	*e*Pn		**Pn**	**02 11 14.5**	**+0.2**
	comp=Z,12nm,0.8s							
CPUP	**Villa Florida**	**15.37**	**60**	P		**Pn**	**02 11 13.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=228,slow=17,SNR=5.2							
CPUP					Lg	Lg	02 15 23.9	
	comp=Z,0.1nm,0.3s,baz=145,slow=14,SNR=3.3							
CPUP	**Villa Florida**	**15.37**	**60**	*e*Pn		**Pn**	**02 11 11.0**	**-3.8**
	comp=Z,3.8nm,0.8s							
CPUP					Lg	Lg	02 15 23.9	
MNMC	**Minye Minye**	**15.94**	**9**	*e*Pn		**Pn**	**02 11 23.5**	**+1.0**
	comp=Z,23nm,0.8s							
GO09	**Cerro Castillo**	**16.29**	**180**	*e*Pn		**P**	**02 11 29.4**	**+0.4**
	comp=Z,65nm,1.6s							
LPAZ	**La Paz**	**18.95**	**12**	P		**Pn**	**02 12 01.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=196,slow=12,SNR=12							
EFI	**East Falkland**	**19.52**	**153**	*e*P		**P**	**02 12 04.2**	**-0.4**
SIV	**San Ignacio**	**21.34**	**30**	P		**P**	**02 12 23.6**	**-1.0**
	comp=Z,10nm,0.8s,baz=222,slow=9.4,SNR=40							
OTAV	**Otavalo**	**35.52**	**349**	*e*P		**P**	**02 14 34.5**	**0.0**
	comp=Z,0.9nm,0.6s							
VNA3	**Neumayer Olymp**	**48.49**	**157**	P		**P**	**02 16 18.7**	**-0.4**
VNA2	**Neumayer−Watz**	**49.15**	**157**	P		**P**	**02 16 24.0**	**-0.2**
	baz=286,slow=8.5							
SNAA	**Sanae**	**50.72**	**158**	P		**P**	**02 16 35.7**	**-0.3**
SNAA	**Sanae**	**50.72**	**158**	P		**P**	**02 16 35.8**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=264,slow=8.7,SNR=14							
SNAA	**Sanae**	**50.72**	**158**	*e*P		**P**	**02 16 35.8**	**-0.3**
	comp=Z,7.0nm,1.1s							
QSPA	**South Pole Qui**	**55.27**	**180**	P		**P**	**02 17 10.0**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=120,slow=6.0,SNR=5.7							
QSPA	**South Pole Qui**	**55.27**	**180**	*e*P		**P**	**02 17 10.4**	**+0.6**
SYO	**Syowa Base**	**64.99**	**158**	⇑X		**P**	**02 18 13.2**	**-2.9**
SYO	**Syowa Base**	**64.99**	**158**	⇓*e*pP		pP	02 18 23.4	-4.8
TXAR	**Lajitas Array**	**70.54**	**331**	P		**P**	**02 18 53.1**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=152,slow=8.6,SNR=15							
TX31	**Lajitas Ar. Si**	**70.55**	**331**	*e*P		**P**	**02 18 52.8**	**+1.2**
TKL	**Tuckaleechee C**	**71.10**	**350**	P		**P**	**02 18 54.6**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=145,slow=11,SNR=3.2							
PBMO	**Poplar Bluff**	**73.39**	**345**	*e*P		P	02 19 14.8	+6.5
	comp=Z,88nm,0.8s							
LIC	**Lamto**	**75.16**	**71**	*e*P		**P**	**02 19 18.4**	**-0.8**
	comp=Z,48nm,1.5s							
TIC	**Toumodi**	**75.42**	**71**	*e*P		**P**	**02 19 19.7**	**-1.1**
KIC	**Kosan Boka**	**75.46**	**71**	*e*P		**P**	**02 19 20.0**	**-1.0**
	comp=Z,30nm,1.1s							
DBIC	**Dimbokro**	**75.56**	**71**	P		**P**	**02 19 20.7**	**-0.8**
	comp=Z,2.9nm,0.5s,baz=203,slow=8.1,SNR=7.3							

BOSA	**Boshof**	**79.69**	**118**	P		**P**		**02 19 43.8**	**-0.8**
	comp=Z,5.5nm,0.6s,baz=239,slow=3.9,SNR=17								
DANC	**Danby, Needles**	**80.19**	**325**	*e*P		P		02 19 51.4	+4.6
KOWA	**Kowa**	**81.11**	**65**	P		**P**		**02 19 51.8**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=243,slow=5.5,SNR=18								
KOWA	**Kowa**	**81.11**	**65**	*e*P		**P**		**02 19 52.2**	**0.0**
	comp=Z,35nm,1.9s								
PHWY	**Pilot Hill**	**81.85**	**335**	*e*P		**P**		**02 20 00.1**	**+4.2**
	comp=Z,9.7nm,0.8s								
PDAR	**Pinedale Array**	**84.59**	**333**	P		**P**		**02 20 09.8**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=132,slow=4.2,SNR=5.6								
TORD	**Torodi Ar. Bea**	**84.61**	**70**	P		**P**		**02 20 09.6**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=272,slow=4.7,SNR=18								
NVAR	**Mina Array Bea**	**84.64**	**325**	P		**P**		**02 20 10.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=134,slow=7.1,SNR=4.8								
H11N3	**WAKE ISLAND Hyl**	**26.11**	**270**	T		T		04 45 41.5	
	baz=121,slow=77,SNR=4.0								
H11N1	**WAKE ISLAND Hyl**	**26.12**	**270**	T		T		04 45 45.6	
	baz=121,slow=77,SNR=12								
H11N2	**WAKE ISLAND Hyl**	**26.13**	**270**	T		T		04 45 34.0	
	baz=121,slow=77,SNR=7.6								
BVAR	**Borovoye Array**	**148.04**	**44**	PKPbc		**PKPab**		**02 27 22.8**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=325,slow=1.8,SNR=3.5								
KURBB	**Kurchatov Arra**	**153.62**	**45**	PKPbc		**PKPbc**		**02 27 34.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=289,slow=2.9,SNR=3.1								
KURK	**Kurchatov**	**153.63**	**44**	PKPbc		**PKPbc**		**02 27 34.9**	**+0.3**

MAN 26 02:11:10, 10°.29N×123°.36E, *h*2km, mb4.0, ML2.8, MS2.4, 2C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
LLP	**Lapu-Lapu**	**0.60**	**87**	⇓ *i*	P	Pg	02	11	21.7	+0.1
LLP				*i*	S	Sg	02	11	30.1	+0.7
TBP	**Tagbilaran**	**0.78**	**140**	*e*	P	Pb	02	11	25.9	-0.4
GUIM	**Jordan**	**0.82**	**294**	*e*	P	Pg	02	11	26.3	+0.4
GUIM				*e*	S	Sb	02	11	39.0	+0.4
SNPH	**Sibulan**	**0.95**	**187**	⇑ *i*	P	Pg	02	11	28.0	-0.2
SNPH				*i*	S	Sg	02	11	41.2	+0.7
RCP	**Roxas**	**1.40**	**335**	⇑ *e*	P	Pn	02	11	36.5	-0.1
RCP				*e*	S	Sn	02	11	55.5	-0.2
MSLP	**Maasin**	**1.49**	**96**	*e*	P	Pn	02	11	37.5	-0.3
MSLP				*e*	S	Sg	02	11	58.1	+0.2

GUC 26 02:23:20.1±0.6, 35°.26S×72°.62W, *h*36km±5km, ML3.7, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
COCH	**Cobquecura**	**0.88**	**189**	⇓ *i*	P	Pn	02	23	35.3	-0.6
COCH				*i*	S	Sn	02	23	47.0	-0.4
CHPI	**Pichilemu**	**1.01**	**30**	*e*	P	Pn	02	23	37.4	-0.2
CHPI				*i*	S	Sn	02	23	50.7	+0.1
NICH	**Los Niches**	**1.17**	**77**	⇑ *i*	P	Pn	02	23	40.5	+0.6
NICH				*i*	S	Sn	02	23	55.0	+0.5
CCHI	**Chillan**	**1.41**	**162**	*e*	P	Pn	02	23	44.0	+0.9
CCHI				*e*	S	Sn	02	24	01.5	+1.1
CCHI				IAML			02	24	04.5	
	comp=E,2μm,0.5s									
LMEL	**Las Melosas**	**2.44**	**55**	IAML			02	24	41.1	
	comp=N,317nm,0.3s									
CLCH	**Cerro Calan**	**2.54**	**43**	*e*	S	Sn	02	24	29.8	+1.3
CLCH				IAML			02	24	42.6	
	comp=N,728nm,0.6s									
ROCH	**El Roble**	**2.65**	**31**	IAML			02	25	06.2	
	comp=N,248nm,0.5s									
PEL	**Peldehue**	**2.65**	**38**	*e*	P	Pn	02	24	01.9	+1.5
PEL				*e*	S	Sn	02	24	33.4	+2.1

*ISK **26** 02:25:55.9, 38°.91N×43°.64E, h12km, ML2.2/4*
*ISCJB **26** 02:25:56.6±0.7, 38°.94N±0°.04×43°.65E±0°.07, h14km±8km, Error ellipse: s-maj=8.6km s-min=7.1km az=6.4*
*DDA **26** 02:25:56.5, 38°.94N×43°.62E, h7km, Ml2.6*
*CSEM **26** 02:25:56.4±0.4, 38°.94N×43°.63E, h15km, ML2.2, Error ellipse: s-maj=10.3km s-min=5.9km az=141.0*

ISC 26 02:25:56.1±1.2, 38°.92N±0°.04×43°.65E±0°.04, h14km±10km, n18, σ0s59/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CLDR	**Caldiran**	**0.30**	**44**	PG		**Pg**	**02**	**26**	**02.2**	**-0.3**
CLDR				SG		**Sb**	**02**	**26**	**08.3**	**-0.1**
CLDR	**Caldiran**	**0.30**	**44**	*i* P		**Pg**	**02**	**26**	**02.3**	**-0.3**
CLDR				*i* S		**Sb**	**02**	**26**	**08.7**	**+0.3**
CLDR	**Caldiran**	**0.30**	**44**	*i* P		**Pg**	**02**	**26**	**02.3**	**-0.3**
CLDR				*i* S		**Sb**	**02**	**26**	**08.7**	**+0.3**
CLDR	**Caldiran**	**0.30**	**44**	*e*Pg		**Pg**	**02**	**26**	**02.2**	**-0.3**
CLDR				*e*Sg		**Sb**	**02**	**26**	**08.3**	**-0.1**
VANB	**Van**	**0.39**	**212**	PG		**Pb**	**02**	**26**	**05.3**	**+0.5**
VANB	**Van**	**0.39**	**212**	*e*Pg		**Pb**	**02**	**26**	**05.3**	**+0.5**
TVAN	**Van**	**0.44**	**206**	*i* P		**Pg**	**02**	**26**	**05.2**	**+0.2**
TVAN				*i* S		**Sb**	**02**	**26**	**12.2**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.73**	**261**	*i* P		**Pg**	**02**	**26**	**09.7**	**-0.6**
ADCV				*i* S		**Sb**	**02**	**26**	**21.5**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.73**	**261**	*i* P		**Pg**	**02**	**26**	**09.8**	**-0.6**
ADCV				*i* S		**Sb**	**02**	**26**	**21.6**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.73**	**261**	P		**Pg**	**02**	**26**	**09.8**	**-0.6**
ADCV				S		**Sb**	**02**	**26**	**21.6**	**+1.0**
GEVA	**Gevas**	**0.77**	**217**	*i* P		**Pg**	**02**	**26**	**10.1**	**-1.0**
GEVA				*i* S		**Sn**	**02**	**26**	**23.4**	**-0.7**
TUTA	**Tutak**	**0.81**	**307**	*i* P		**Pg**	**02**	**26**	**11.3**	**-0.5**
AGRB	**Hanur-Agry**	**0.83**	**322**	PG		**Pg**	**02**	**26**	**12.1**	**-0.1**
AGRB				SG		**Sn**	**02**	**26**	**24.6**	**-1.0**
AGRB	**Hanur-Agry**	**0.83**	**322**	*e*Pg		**Pg**	**02**	**26**	**12.1**	**-0.1**
AGRB				*e*Sg		**Sn**	**02**	**26**	**24.6**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.15**	**23**	PN		**Pg**	**02**	**26**	**18.6**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.15**	**23**	*e*Pn		**Pg**	**02**	**26**	**18.6**	**+0.2**
GURO	**Guroymak-BITLI**	**1.32**	**254**	PN		**Pg**	**02**	**26**	**20.3**	**+0.1**
GURO	**Guroymak-BITLI**	**1.32**	**254**	*e*Pn		**Pn**	**02**	**26**	**20.3**	**+0.1**

GUC 26 02:31:01.1±0.3, 35°.08S×72°.42W, h18km±2km, ML3.5, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CHPI	**Pichilemu**	**0.77**	**27**	⇑ *i*	P	Pb	02	31	14.3	-1.6
CHPI				*i*	S	Sb	02	31	24.7	-1.3
NICH	**Los Niches**	**0.98**	**86**	⇓ *i*	P	Pb	02	31	18.0	-1.6
NICH				*i*	S	Sb	02	31	30.8	-1.5
COCH	**Cobquecura**	**1.09**	**196**	⇓ *i*	P	Pb	02	31	19.8	-1.7
COCH				*i*	S	Sb	02	31	33.6	-1.9
CCHI	**Chillan**	**1.55**	**170**	*e*	P	Pn	02	31	26.9	-0.9
CCHI				*i*	S	Sn	02	31	46.5	-1.0
CCHI				IAML			02	31	54.5	
	comp=E,1μm,0.3s									
LMEL	**Las Melosas**	**2.21**	**57**	*e*	P	Pn	02	31	37.4	+0.4
LMEL				*i*	S	Sb	02	32	06.8	-0.8
LMEL				IAML			02	32	08.7	
	comp=N,369nm,0.3s									
CLCH	**Cerro Calan**	**2.29**	**44**	*e*	P	Pn	02	31	39.5	+1.3
CLCH				*i*	S	Sn	02	32	07.2	+1.3
ROCH	**El Roble**	**2.41**	**30**	IAML			02	32	21.4	
	comp=N,343nm,0.6s									
FCH	**Farellones**	**2.48**	**46**	IAML			02	32	21.6	
	comp=E,234nm,0.3s									

*NIED **26** 02:33:00, 40°.20N×142°.50E, h11km, Mw4.7 Best double couple: M0 1.39000×10^16 NP1:φs 120.00000°, δ37.00000°, λ-25.00000°. NP2:φs 230.00000°, δ75.00000°, λ-124.00000°.*
*IDC **26** 02:33:43.8±0.4, 40°.22N×142°.47E, h0km, mb4.5/43, mb1 4.7/46, mb1mx4.5/73, mbtmp4.6/46, ML4.7/2, MS4.0/6, Ms1 4.0/6, ms1mx3.6/69, Error ellipse: s-maj=11.8km s-min=10.8km az=147.0*
*JMA **26** 02:33:45.5±0.1, 40°.24N×142°.56E, h28km±2km, M4.7*
JMA Felt III J1.
*ISCJB **26** 02:33:46.6±0.5, 40°.36N±0°.02×142°.42E±0°.02, h22km±3km, mb4.8/234, MS4.6/26, Error ellipse: s-maj=4.0km s-min=2.4km az=155.5*
*BJI **26** 02:33:48.1, 40°.40N×142°.48E, h44km, mb4.8/63, mB5.1/39, Ms4.6/51, Ms7 4.5/49*
*MOS **26** 02:33:50.1±1.1, 40°.48N×142°.34E, h46km, mb5.1/91, MS4.3/6, Error ellipse: s-maj=5.9km s-min=3.7km az=102.4*
*NEIC **26** 02:33:51.1±0.5, 40°.34N×142°.32E, h44km±4km, mb4.7/130,*

Error ellipse: s-maj=4.7km s-min=3.1km az=150.0
NEIC Felt [II] at Misawa. Also felt at Aomori. Recorded [3 JMA] in Aomori and Iwate.

ISC 26 02:33:48.2±0.5, 40°.26N±0°.03×142°.53E±0°.03, h28km±3km, n726, σ1s45/767, mb4.8/242, MS4.6/26, 35C-21D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
JTH	**Tanohata**	**0.61**	**238**	P		**Pb**	**02**	**33**	**57.6**	**-2.7**
JTH				S		**Sb**	**02**	**34**	**06.4**	**-2.2**
JANG	**Nango**	**0.79**	**278**	P		**Pb**	**02**	**34**	**00.4**	**-2.9**
JANG				S		**Sb**	**02**	**34**	**11.1**	**-2.5**
MIYJ	**Miyakonagasawa**	**0.88**	**219**	P		**Pb**	**02**	**34**	**01.1**	**-3.7**
JKZ	**Kuzumaki**	**0.96**	**254**	P		**Pn**	**02**	**34**	**03.1**	**-2.8**
JKZ				S		**Sb**	**02**	**34**	**15.6**	**-3.1**
JTM	**Tenmabayashi**	**1.23**	**296**	P		**Pn**	**02**	**34**	**07.7**	**-1.8**
JTM				S		**Sn**	**02**	**34**	**23.4**	**-1.8**
JOM	**Ohasama**	**1.24**	**231**	P		**Pn**	**02**	**34**	**07.3**	**-2.3**
JAH	**Hinai**	**1.46**	**268**	P		**Pn**	**02**	**34**	**11.5**	**-1.1**
JAH				S		**Sn**	**02**	**34**	**30.4**	**-0.3**
JOT	**Ohata**	**1.59**	**315**	P		**Pn**	**02**	**34**	**12.8**	**-1.6**
JOT				S		**Sn**	**02**	**34**	**32.9**	**-1.1**
JMK	**Ichinoseki**	**1.66**	**218**	P		**Pn**	**02**	**34**	**14.5**	**-0.9**
ERM	**Erimo**	**1.81**	**15**	*d* *i*P		**Pn**	**02**	**34**	**17.3**	**-0.1**
ERM				pmax	pmax					
	comp=Z,176nm,0.5s									
ERM	**Erimo**	**1.81**	**15**	*e*Pn		**Pn**	**02**	**34**	**17.4**	**-0.1**
ERM				*e*S		**Sn**	**02**	**34**	**37.4**	**-2.1**
ASAJ	**Asahikawa**	**3.85**	**1**	Pn		**Pn**	**02**	**34**	**46.7**	**+1.2**
	comp=Z,68nm,0.3s,baz=217,slow=13,SNR=89									
ASAJ				Sn		**Sn**	**02**	**35**	**31.1**	**+1.3**
	comp=Z,21nm,0.3s,baz=190,slow=18,SNR=3.8									
ASAJ	**Asahikawa**	**3.85**	**1**	*e*Pn		**Pn**	**02**	**34**	**46.5**	**+1.0**
ASAJ				*e*Sn		**Sn**	**02**	**35**	**32.8**	**+3.0**
GRPR	**Tuman**	**4.44**	**32**	*e*P		**Pn**	**02**	**34**	**53.0**	**-0.5**
GRPR				*i* S		**Sn**	**02**	**35**	**41.7**	**-2.5**
LAGR	**Lagunnoye**	**4.49**	**31**	*e*P		**Pn**	**02**	**34**	**53.7**	**-0.6**
LAGR				*i* S		**Sn**	**02**	**35**	**44.6**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**4.51**	**32**	*e*P		**Pn**	**02**	**34**	**53.9**	**-0.6**
YUK				*i* S		**Sn**	**02**	**35**	**44.1**	**-1.8**
YUK				pmax	pmax					
	comp=N,149nm,0.3s									
YUK				pmax	pmax					
	comp=E,158nm,0.3s									
YUK				pmax	pmax					
	comp=Z,577nm,0.3s									
YUK				smax	smax					
	comp=N,846nm,0.4s									
YUK				smax	smax					
	comp=E,1μm,0.5s									
SHO	**Shikotan**	**4.82**	**40**	*e*P		**Pn**	**02**	**34**	**56.3**	**-2.5**
SHO				*i* S		**Sn**	**02**	**35**	**48.3**	**-5.3**
SHO				pmax	pmax					
	comp=N,65nm,0.3s									
SHO				pmax	pmax					
	comp=E,65nm,0.3s									
SHO				pmax	pmax					
	comp=Z,165nm,0.3s									
SHO				smax	smax					
	comp=N,474nm,0.3s									
SHO				smax	smax					
	comp=E,711nm,0.6s									
MJB9	**Matsu-Tunnel**	**5.03**	**224**	*e*Pn		**Pn**	**02**	**35**	**04.0**	**+2.2**
MAJO	**Matsushiro**	**5.04**	**224**	*d* *i*P		**Pn**	**02**	**35**	**03.5**	**+1.7**
MAJO	**Matsushiro**	**5.04**	**224**	*e*Pn		**Pn**	**02**	**35**	**03.8**	**+1.9**
MAT	**Matsushiro**	**5.04**	**224**	P		**Pn**	**02**	**35**	**03.7**	**+1.9**
MAT				S		**Sn**	**02**	**35**	**59.5**	**+0.4**
MJAR	**Matsushiro Arr**	**5.04**	**224**	Pn		**Pn**	**02**	**35**	**03.5**	**+1.7**
	comp=E,7.4nm,0.3s,baz=32,slow=12,SNR=60									
MJAR				LR		LR	02	37	02.5	
	comp=E,841nm,20.3s,baz=35,slow=40									
KUR	**Kuril'sk**	**6.33**	**37**	*c* *i*P		**Pn**	**02**	**35**	**19.6**	**+0.1**
KUR				*i* S		**Sn**	**02**	**36**	**28.4**	**-2.4**
KUR				pmax	pmax					
	comp=Z,267nm,0.4s									
KUR				pmax	pmax					
	comp=N,71nm,0.6s									
KUR				pmax	pmax					
	comp=E,54nm,0.3s									
KUR				smax	smax					
	comp=N,422nm,0.5s									
KUR				smax	smax					
	comp=E,134nm,0.5s									
TEY	**Ternei**	**6.47**	**319**	*e*P		**Pn**	**02**	**35**	**23.7**	**+2.3**
TEY				pmax	pmax					
	comp=N,19nm,0.7s									
TEY				pmax	pmax					
	comp=E,11nm,0.7s									
TEY				pmax	pmax					
	comp=Z,21nm,0.8s									
TEY				MLR	MLR					
	comp=E,3μm,14.0s									
TEY				MLR	MLR					
	comp=N,2μm,15.0s									
TEY				MLR	MLR					
	comp=Z,4μm,14.0s									
INU	**Inuyama**	**6.57**	**223**	*e*Pn		**Pn**	**02**	**35**	**25.9**	**+3.1**
YSS	**Yuzh-Sakhalins**	**6.69**	**1**	⇓ *i*P		**Pn**	**02**	**35**	**25.5**	**+1.0**
YSS				*e*S		**Sn**	**02**	**36**	**37.7**	**-2.0**
YSS				pmax	pmax					
	comp=Z,80nm,1.0s									
YSS				pmax	pmax					
	comp=N,90nm,1.3s									
YSS				pmax	pmax					
	comp=E,50nm,0.9s									
YSS				pmax	pmax					
	comp=Z,600nm,5.0s									
YSS				MLR	MLR					
	comp=Z,2μm,12.0s									
YSS	**Yuzh-Sakhalins**	**6.69**	**1**	*e*Pn		**Pn**	**02**	**35**	**25.1**	**+0.6**
JHJ	**Hachijo jima 2**	**7.46**	**198**	Pn		**Pn**	**02**	**35**	**33.0**	**-2.1**
	comp=Z,16nm,0.3s,baz=270,slow=20,SNR=3.4									
JHJ				Sn		**Sn**	**02**	**36**	**52.1**	**-6.7**
	comp=Z,7.2nm,0.3s,baz=73,slow=19,SNR=2.3									
USRK	**Ussuriysk Ar.**	**8.76**	**300**	Pn		**Pn**	**02**	**35**	**53.5**	**+0.6**
	comp=Z,4.5nm,0.3s,baz=104,slow=16,SNR=36									
MDJ	**Mudanjiang**	**10.51**	**299**	P		**Pn**	**02**	**36**	**17.5**	**+0.7**
MDJ				pP			02	36	27.3	
MDJ				sP			02	36	32.5	
MDJ				S		**Sn**	**02**	**38**	**11.3**	**-2.2**
MDJ				sS			02	38	25.5	
MDJ				pmax	pmax					
	comp=Z,48nm,1.1s									
MDJ				pmax	pmax					
	comp=Z,620nm,3.3s									
MDJ				LR	LR					
	comp=Z,2μm,14.3s									
MDJ				LR	LR					
	comp=Z,2μm,14.3s									
MDJ				LR	LR					
	comp=Z,3μm,14.3s									
MDJ	**Mudanjiang**	**10.51**	**299**	*e*Pn		**Pn**	**02**	**36**	**19.3**	**+2.5**
TYV	**Tymovskoe**	**10.60**	**0**	*e*P		**Pn**	**02**	**36**	**17.9**	**-0.2**
TYV				*e*			02	38	16.1	
TYV				pmax	pmax					
	comp=Z,20nm,1.3s									
TYV				MLR	MLR					
	comp=Z,2μm,16.0s									
KSRS	**Korea Array**	**11.73**	**261**	Pn		**Pn**	**02**	**36**	**36.1**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=113,slow=23,SNR=2.9									
KSRS				Sn		**Sn**	**02**	**38**	**44.9**	**+1.3**
	baz=238,slow=32,SNR=3.0									
KSRS				LR	LR		02	40	59.3	
	comp=Z,957nm,18.5s,baz=62,slow=37									
JNU	**Nakatsue**	**11.76**	**236**	Pn		**Pn**	**02**	**36**	**35.0**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=8.4,slow=8.2,SNR=3.2									
KSAR	**Wonju Array Be**	**11.77**	**261**	P		**Pn**	**02**	**36**	**36.1**	**+2.0**
KSAR							02	38	44.9	
KSAR	**Wonju Array Be**	**11.77**	**261**	Pn		**Pn**	**02**	**36**	**36.1**	**+2.0**
KSAR				Sn		**Sn**	**02**	**38**	**44.9**	**+0.5**
KLR	**Kul'dur**	**11.78**	**323**	Pn		**Pn**	**02**	**36**	**34.5**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=140,slow=12,SNR=11									
KLR				LR		LR	02	41	11.9	
	comp=Z,180nm,20.0s,baz=154,slow=38									
KLR	**Kul'dur**	**11.78**	**323**	*d* *i*P		**Pn**	**02**	**36**	**34.7**	**+0.4**
TJN	**Taejon**	**12.53**	**257**	⇑ *e*P		**Pn**	**02**	**36**	**45.3**	**+0.8**
NKL	**Nikolayevsk**	**12.95**	**355**	*e*P		**Pn**	**02**	**36**	**49.5**	**-0.7**
CN2	**Changchun**	**13.18**	**291**	*e*P		**Pn**	**02**	**36**	**53.5**	**+0.1**
CN2				pmax	pmax					
	comp=Z,10.0nm,0.8s									
CN2				pmax	pmax					
	comp=Z,200nm,4.0s									
CN2				LR	LR					
	comp=Z,900nm,11.0s									
CN2				LR	LR					
	comp=Z,800nm,11.0s									
CN2				LR	LR					
	comp=Z,800nm,12.0s									
DL2	**Dalian**	**16.18**	**272**	P		**P**	**02**	**37**	**36.3**	**0.0**
DL2				pmax	pmax					
	comp=Z,36nm,1.0s									
PETK	**Petropavlovsk-**	**16.48**	**34**	Pn		**Pn**	**02**	**37**	**34.7**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=224,slow=10,SNR=3.6									
ZEA	**Zeya**	**16.99**	**328**	*e*P		**Pn**	**02**	**37**	**41.0**	**-2.6**
ZEA				pmax	pmax					
	comp=N,72nm,1.2s									
ZEA				pmax	pmax					
	comp=E,43nm,1.2s									
ZEA				pmax	pmax					
	comp=Z,100nm,1.4s									
ZEA				MLR	MLR					
	comp=E,1μm,14.0s									
ZEA				MLR	MLR					
	comp=Z,3μm,14.0s									
ZEA				MLR	MLR					
	comp=N,1μm,13.0s									
HIA	**Hailar**	**18.46**	**307**	*d* *i*P		**P**	**02**	**37**	**59.2**	**-2.4**
HIA				pmax	pmax					
	comp=E,27nm,1.1s									
HIA	**Hailar**	**18.46**	**307**	*e*Pn		**P**	**02**	**37**	**58.9**	**-2.7**
	comp=Z,30nm,1.0s									
MA2	**Magadan**	**20.02**	**12**	P		**P**	**02**	**38**	**17.3**	**-1.1**
	comp=Z,8.7nm,0.6s,baz=183,slow=8.5,SNR=10									
MA2	**Magadan**	**20.02**	**12**	*de*P		**P**	**02**	**38**	**18.2**	**-0.3**
BJI	**Beijing**	**20.13**	**278**	⇓ *i*P		**P**	**02**	**38**	**18.0**	**-1.8**
BJI				pmax	pmax					
	comp=Z,23nm,1.2s									
BJI				LR	LR					
	comp=Z,1μm,14.5s									
BJI				LR	LR					
	comp=Z,1μm,15.5s									
BJT	**Baijiatuao**	**20.14**	**278**	*e*P		**P**	**02**	**38**	**18.0**	**-2.0**
BJT				pmax	pmax					
	comp=Z,23nm,0.8s									
BJT	**Baijiatuao**	**20.14**	**278**	*e*P		**P**	**02**	**38**	**17.9**	**-2.0**
	comp=Z,23nm,0.8s									
CLNS	**Chul'man**	**20.18**	**331**	*e*P		**P**	**02**	**38**	**20.5**	**+0.2**
CLNS				pmax	pmax					
	comp=N,39nm,1.4s									
CLNS				pmax	pmax					
	comp=Z,36nm,1.3s									
CLNS				pmax	pmax					
	comp=E,19nm,1.3s									
CLNS				MLR	MLR					
	comp=Z,1μm,14.0s									
CLNS				MLR	MLR					
	comp=N,912nm,14.0s									
CLNS				MLR	MLR					
	comp=E,1μm,15.0s									
TIA	**Tai'an**	**20.34**	**267**	P		**P**	**02**	**38**	**21.0**	**-1.2**
TIA				pmax	pmax					
	comp=E,18nm,1.0s									
TIA				LR	LR					
	comp=E,810nm,16.2s									
TIA				LR	LR					
	comp=E,710nm,19.1s									
TIA				LR	LR					
	comp=E,1μm,14.7s									
NJ2	**Nanjing**	**20.76**	**254**	*e*P		**P**	**02**	**38**	**27.0**	**+0.3**
NJ2				S		Sn	02	42	20.5	-2.2
NJ2				pmax	pmax					
	comp=E,22nm,0.6s									
NJ2				LR	LR					
	comp=E,870nm,14.1s									
NJ2				LR	LR					
	comp=E,750nm,15.2s									
NJ2				LR	LR					
	comp=E,840nm,17.9s									
CIT	**Chita**	**23.10**	**310**	*e*P		**P**	**02**	**38**	**46.1**	**-5.6**
CIT				*e*			02	38	59.0	
CIT				*e*			02	39	32.6	
CIT				pmax	pmax					
	comp=Z,164nm,1.4s									
YAK	**Yakutsk**	**23.15**	**345**	P		**P**	**02**	**38**	**50.4**	**-1.5**
	comp=Z,30nm,0.5s,baz=52,slow=2.7,SNR=11									
YAK	**Yakutsk**	**23.15**	**345**	*e*P		**P**	**02**	**38**	**48.3**	**-3.6**
YAK				*e**PP		**sP**	**02**	**39**	**07.0**	**+3.7**
YAK				*e*			02	42	37.5	
YAK				*e*S		**S**	**02**	**42**	**55.1**	**-6.3**
YAK				pmax	pmax					
	comp=Z,40nm,0.9s									
YAK				pmax	pmax					
	comp=N,27nm,1.4s									
YAK				pmax	pmax					
	comp=E,14nm,1.5s									
YAK				smax	smax					
	comp=E,119nm,2.5s									
YAK				smax	smax					
	comp=N,53nm,2.0s									
YAK				MLR	MLR					
	comp=Z,396nm,14.0s									
YAK				MLR	MLR					
	comp=E,373nm,18.0s									
YAK				MLR	MLR					
	comp=N,718nm,17.0s									
YAK	**Yakutsk**	**23.15**	**345**	*e*P		**P**	**02**	**38**	**50.0**	**-1.9**
	comp=N,65nm,0.8s									
SEY	**Seymchan**	**23.46**	**11**	P	

SNR=10
H11N2 WAKE ISLAND Hy 29.23 127 T T 03 10 40.0
baz=319,slow=75,SNR=4462
H11N1 WAKE ISLAND Hy 29.24 127 T T 03 10 41.3
baz=319,slow=75,SNR=1651
H11N3 WAKE ISLAND Hy 29.24 127 T T 03 10 42.0
baz=319,slow=75,SNR=1534
H11S1 WAKE ISLAND Hy 30.05 129 T T 03 11 48.2
baz=321,slow=76,SNR=500
H11S3 WAKE ISLAND Hy 30.05 129 T T 03 11 48.4
baz=321,slow=76,SNR=340
H11S2 WAKE ISLAND Hy 30.06 129 T T 03 11 47.0
baz=321,slow=76,SNR=445
LZH Lanzhou 30.54 275 *e*P **P** **02 40 03.3 +4.0**
LZH pP sP 02 40 12.5 +1.5
LZH sP pP 02 40 16.0 +8.5
LZH PP **PnPn** **02 41 01.3 +2.7**
LZH *e*S **S** **02 45 03.5 +4.3**
LZH sS sS 02 45 18.0 +5.1
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,76nm,4.2s
LZH LR LR
comp=Z,1µm,13.8s
LZH LR LR
comp=Z,2µm,14.1s
LZH LR LR
comp=Z,2µm,14.4s
MOY Mondy 30.64 306 *e*P **P** **02 40 00.0 0.0**
MOY pmax pmax
comp=Z,41nm,1.8s
BILL Bilibino 30.69 17 *i*P **P** **02 40 00.1 +0.1**
BILL *i* 02 40 13.8
BILL pmax pmax
comp=Z,11nm,1.2s
TIXI Tiksi 32.20 352⇑ *e*P **P** **02 40 12.0 -1.3**
TIXI pmax pmax
comp=Z,20nm,1.7s
TIXI Tiksi 32.20 352 *e*P **P** **02 40 12.4 -0.9**
comp=Z,22nm,1.3s
GTA Gaotai 32.58 283 *e*P **P** **02 40 16.3 -0.9**
GTA pP pP 02 40 25.3 -0.2
GTA sP sP 02 40 29.5 +0.6
GTA S **S** **02 45 26.5 -4.6**
GTA SS **SnSn** **02 47 21.5 -4.8**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,230nm,5.2s
GTA LR LR
comp=Z,500nm,18.8s
GTA LR LR
comp=Z,790nm,17.3s
GTA LR LR
comp=Z,1µm,16.9s
CD2 Chengdu 32.67 266 *e*P **P** **02 40 17.8 -0.1**
CD2 S **S** **02 45 31.3 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,1µm,15.9s
CD2 LR LR
comp=Z,1µm,17.4s
GYA Guiyang 32.74 256⇑ *i*P **P** **02 40 18.3 -0.4**
GYA pP sP 02 40 30.5 +0.1
GYA PP **PnPn** **02 41 29.0 +1.8**
GYA S **S** **02 45 32.8 -0.9**
GYA sS sS 02 45 49.0 +1.7
GYA SS **SnSn** **02 47 30.3 0.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,530nm,17.0s
GYA LR LR
comp=Z,510nm,17.4s
GYA LR LR
comp=Z,500nm,17.8s
KNGR Kungurtug, Tuv 32.77 304⇓ *i*P **P** **02 40 18.7 0.0**
QIZ Qiongzhong 35.13 243 P **P** **02 40 40.5 +1.2**
QIZ S **S** **02 46 11.5 +1.0**
QIZ pmax pmax
comp=Z,18nm,1.4s
QIZ LR LR
comp=Z,630nm,14.7s
QIZ LR LR
comp=Z,610nm,14.7s
KMI Kunming 36.41 258 P **P** **02 40 49.5 -1.1**
KMI pP pP 02 40 57.5 -1.4
KMI sP sP 02 41 03.3 +1.0
KMI pmax pmax
comp=Z,16nm,1.0s
KMI LR LR
comp=Z,560nm,17.3s
KMI LR LR
comp=Z,510nm,15.4s
KMI LR LR
comp=Z,860nm,17.3s
WMQ Urumqi 40.26 294 P **P** **02 41 23.0 +0.5**
WMQ pP pP 02 41 30.0 -0.9
WMQ sP sP 02 41 40.8 +6.5
WMQ pmax pmax
comp=Z,78nm,1.1s
WMQ pmax pmax
comp=Z,200nm,3.7s
ZAA0 Zalesovo Array 40.46 310 *e*P **P** **02 41 23.9 -0.1**
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 40.46 310 P **P** **02 41 23.5 -0.5**
comp=Z,6.6nm,0.4s,baz=94,slow=9.4,SNR=38
ZALV PcP **PcP** **02 43 26.6 +0.3**
comp=Z,1.8nm,0.4s,baz=94,slow=3.2,SNR=3.6
NVS Novosibirsk 41.31 311⇓ *i*P **P** **02 41 32.0 +1.0**
NVS pmax pmax
comp=N,15nm,1.6s
NVS pmax pmax
comp=E,28nm,1.6s
NVS pmax pmax
comp=Z,35nm,1.6s
CMAI Chiengmai2 42.23 254 P **P** **02 41 40.8 +1.7**
comp=Z,119nm,0.9s
SVW2 Sparrevohn 42.45 39 *e*P **P** **02 41 42.9 +2.7**
comp=Z,7.1nm,0.9s
LAMP Lampang 42.68 252 P P 02 41 51.0 +8.4
CHAI Chaiyaphum 42.71 247 P **P** **02 41 45.1 +2.3**
comp=Z,10nm,1.1s
LSA Lhasa 42.87 272 *e*P **P** **02 41 44.5 -0.1**
LSA pmax pmax
comp=Z,9.0nm,0.4s
LSA Lhasa 42.87 272 *e*P **P** **02 41 44.5 -0.1**
comp=Z,8.5nm,0.4s
PHIT Phitsanulok 42.97 250 P P 02 41 53.8 +8.9
CMMT Chiang Mai 43.00 253 P **P** **02 41 46.0 +0.8**
comp=Z,14nm,1.3s,comp=Z,578nm
CHTO Chiang Mai 43.00 253 P **P** **02 41 46.7 +1.5**
comp=Z,61nm,1.3s
CHTO Chiang Mai 43.00 253 *e*P **P** **02 41 45.7 +0.5**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 43.00 253 *e*P **P** **02 41 45.7 +0.5**
comp=Z,12nm,0.9s
MK01 Makanchi Array 43.22 299 *e*P **P** **02 41 46.2 -0.5**
MK01 *e*S **S** **02 48 13.0 +1.3**
MK31 Makanchi Array 43.22 299 *ce*P **P** **02 41 46.1 -0.6**
MK31 pmax pmax
comp=Z,8.0nm,0.5s
MK31 Makanchi Array 43.22 299 *e*P **P** **02 41 46.4 -0.4**
MKAR Makanchi Array 43.22 299 P **P** **02 41 46.4 -0.4**
comp=Z,7.3nm,0.6s,baz=84,slow=7.7,SNR=79
MKAR Makanchi Array 43.22 299 *e*P **P** **02 41 46.4 -0.4**
MKAR pmax pmax
comp=Z,143nm,0.5s
MKAR Makanchi Array 43.22 299 *e*P **P** **02 41 46.4 -0.4**
comp=Z,143nm,0.5s
CMAR Chiang Mai Arr 43.23 253 P **P** **02 41 46.8 -0.2**
comp=Z,1.4nm,0.3s,baz=45,slow=7.8,SNR=4.4
MAKZ Makanchi 43.43 300 *e*P **P** **02 41 48.1 -0.3**
MAKZ pmax pmax
comp=Z,37nm,1.3s
MAKZ Makanchi 43.43 300 *e*P **P** **02 41 48.1 -0.3**
comp=Z,37nm,1.3s
IM3 Indian Mountai 43.44 32 *e*P **P** **02 41 49.8 +1.6**
SRAK Srakaew 43.97 245 P **P** **02 41 51.8 -1.2**
comp=Z,104nm,1.0s,comp=Z,912nm
PPLA Purkeypile 44.04 37 *e*P **P** **02 41 55.3 +2.0**
comp=Z,19nm,1.4s
CAST Castle Rocks 44.08 36 *e*P **P** **02 41 56.0 +2.6**
comp=Z,7.4nm,0.8s
KDAK Kodiak Island 44.14 44 P **P** **02 41 54.4 +0.5**
comp=Z,12nm,0.7s,baz=290,slow=5.1,SNR=9.5
NAYO Nakonayok 44.26 246 P P 02 42 03.6 +8.3
comp=Z,16nm,1.2s
SHL Shillong 44.40 267 *e*P **P** **02 41 56.5 -0.1**
BPAW Bear Paw Mtn. 44.56 35 *e*P **P** **02 41 59.5 +2.3**
comp=Z,6.1nm,1.1s
KTH Kantishna Hill 44.60 36 *e*P **P** **02 41 59.8 +2.2**
comp=Z,17nm,1.0s
MLY Manley 44.66 34 *e*P **P** **02 42 00.6 +2.5**
comp=Z,6.4nm,1.0s
KURK Kurchatov 44.70 306 *ci*P **P** **02 41 57.9 -0.5**
KURK pmax pmax
comp=Z,40nm,1.1s
KURK Kurchatov 44.70 306 *e*P **P** **02 41 58.0 -0.5**
comp=Z,35nm,0.6s
KURK Kurchatov 44.70 306 P **P** **02 41 58.4 0.0**
SNR=24
KURK Kurchatov 44.70 306 P **P** **02 41 58.4 0.0**
SNR=24
KURBB Kurchatov Arra 44.77 306 P **P** **02 41 58.6 -0.4**
comp=Z,23nm,0.9s,baz=78,slow=8.9,SNR=77
SUA Susitna One 44.77 39 *e*P **P** **02 42 01.3 +2.3**
comp=Z,12nm,0.8s
COLD Coldfoot 44.92 31 *e*P **P** **02 42 01.3 +1.3**
comp=Z,24nm,1.6s
TOLK Toolik Lake Re 45.21 29 P **P** **02 42 03.5 +1.2**
baz=268
TOLK Toolik Lake Re 45.21 29 *e*P **P** **02 42 04.6 +2.3**
comp=Z,26nm,1.6s
RC01 Rabbit Creek A 45.28 39 *e*P **P** **02 42 03.4 +0.4**
comp=Z,40nm,1.7s
MCK McKinley 45.48 36 *e*P **P** **02 42 05.8 +1.3**
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 45.48 36 *e*P **P** **02 42 05.8 +1.3**
comp=Z,7.8nm,0.8s
PMR Palmer 45.53 39 *e*P **P** **02 42 05.8 +0.9**
PMR pmax pmax
comp=Z,22nm,1.5s
PMR Palmer 45.53 39 *e*P **P** **02 42 05.8 +0.9**
comp=Z,22nm,1.5s
RND Reindeer 45.53 36 *e*P **P** **02 42 06.0 +1.0**
RND pmax pmax
comp=Z,8.0nm,0.8s
RND Reindeer 45.53 36 *e*P **P** **02 42 06.0 +1.0**
comp=Z,7.6nm,0.8s
MDM Murphy Dome 45.73 34 *e*P **P** **02 42 08.8 +2.3**
comp=Z,6.5nm,0.8s
SRDT SRDT 45.79 248 P P 02 42 15.4 +7.9
comp=Z,24nm,0.8s
WRH Wood River Hil 45.81 34 *e*P **P** **02 42 08.9 +1.8**
comp=Z,18nm,1.6s
SML Sawmill 45.89 38 *e*P **P** **02 42 09.0 +1.2**
SML pmax pmax
comp=Z,74nm,1.8s
SML Sawmill 45.89 38 *e*P **P** **02 42 09.0 +1.2**
comp=Z,74nm,1.8s
COLA College 45.90 34 *e*P **P** **02 42 09.4 +1.7**
COLA pmax pmax
comp=Z,6.0nm,0.7s
COLA College 45.90 34 *e*P **P** **02 42 09.4 +1.7**
comp=Z,6.4nm,0.7s
CCB Clear Creek Bu 45.93 34 *e*P **P** **02 42 09.6 +1.6**
comp=Z,3.0nm,0.8s
PDGK Podgornoye 46.11 296 P **P** **02 42 09.2 -0.7**
PDGK pmax pmax
comp=Z,56nm,1.4s
DHY Denali Highway 46.23 36 *e*P **P** **02 42 11.5 +1.0**
comp=Z,7.7nm,0.7s
IL1 Eielson Array 46.31 34 *e*P **P** **02 42 11.9 +0.9**
ILAR Eielson Array 46.31 34 P P **02 42 12.0 +1.0**
comp=Z,4.7nm,0.6s,baz=263,slow=5.9,SNR=97
ILB Eielson Array 46.31 34 *e*P **P** **02 42 12.1 +1.0**
SCM Sheep Creek Mo 46.37 38 *e*P **P** **02 42 13.1 +1.5**
SCM pmax pmax
comp=Z,16nm,1.0s
SCM Sheep Creek Mo 46.37 38 *e*P **P** **02 42 13.1 +1.5**
comp=Z,16nm,1.0s
TAPN Taplejung 46.66 272 *e*P **P** **02 42 15.5 +0.9**
comp=Z,34nm,0.9s
FYU Fort Yukon 46.89 31 *e*P **P** **02 42 18.6 +3.1**
comp=Z,102nm,1.9s
PRZ Przheval'sk 47.15 295 P **P** **02 42 19.9 +1.8**
PRZ pmax pmax
comp=Z,23nm,1.0s
ODAN Odare 47.16 271 *e*P **P** **02 42 19.2 +0.8**
comp=Z,19nm,0.6s
DIV Divide 47.19 39 *e*P **P** **02 42 20.2 +2.2**
comp=Z,13nm,0.9s
SCRK Sand Creek 47.64 35 *e*P **P** **02 42 22.5 +0.9**
comp=Z,9.5nm,0.6s
DOT Dot Lake 47.65 35 *e*P **P** **02 42 22.2 +0.7**
comp=Z,10nm,0.6s
JIRN Jiri 47.67 273 *e*P **P** **02 42 23.2 +0.6**
RAMN Ramite 47.72 272 *e*P **P** **02 42 23.5 +0.7**
comp=Z,52nm,0.8s
GUN Gumba 47.78 273 *e*P **P** **02 42 24.3 +0.9**
comp=Z,92nm,0.7s
BMRM Bremner River 47.78 39 *e*P **P** **02 42 24.3 +1.7**
comp=Z,6.0nm,0.6s
BMRM *e*PcP **PcP** **02 43 53.2 +2.0**
MENT Mentasta 47.90 36 *e*P **P** **02 42 25.6 +2.1**
comp=Z,43nm,1.8s
KDJ Kajisay 48.12 295 P **P** **02 42 26.7 +1.1**
KDJ pmax pmax
comp=Z,200nm,2.0s
KKN Kakani 48.30 274 *e*P **P** **02 42 28.0 +0.8**
comp=Z,36nm,0.5s
PKI Pulchoki 48.31 273 *e*P **P** **02 42 27.6 +0.1**
PKIN Phulchoki 48.31 273 *e*P **P** **02 42 27.7 +0.2**
DMN Daman 48.52 273 *e*P **P** **02 42 29.5 +0.5**
GKN Gorkha 48.68 274 *e*P **P** **02 42 30.7 +0.6**
EGAK Eagle 48.75 34 *e*P **P** **02 42 30.9 +1.0**
comp=Z,44nm,1.9s
TKM2 Tokmak 2 48.93 296 P **P** **02 42 31.9 0.0**
TKM2 pmax pmax
comp=Z,29nm,1.5s
BVA0 Borovoye Array 49.10 310 *i*P **P** **02 42 32.4 -0.4**
BVA0 pmax pmax
comp=Z,14nm,1.1s
BVAR Borovoye Array 49.10 310 P **P** **02 42 32.7 -0.1**
comp=Z,8.2nm,0.4s,baz=80,slow=8.5,SNR=64
BRVK Borovoye 49.15 311 *ce*P **P** **02 42 33.0 -0.2**
BRVK pmax pmax
comp=Z,60nm,1.7s
BRVK Borovoye 49.15 311 *e*P **P** **02 42 33.1 -0.2**
comp=Z,10nm,0.8s
BRVK Borovoye 49.15 311 P **P** **02 42 33.5 +0.3**
SNR=12
BRVK Borovoye 49.15 311 P **P** **02 42 33.5 +0.3**
SNR=12
DANN Dangsing 49.17 275 *e*P **P** **02 42 35.0 +0.9**
comp=Z,12nm,0.9s
NRN Naryn 49.19 294 P **P** **02 42 35.2 +1.1**
NRN pmax pmax
comp=Z,12nm,1.0s
OTUK Ortayu 49.30 304 P **P** **02 42 33.8 -0.7**
OTUK pmax pmax
comp=Z,23nm,1.5s
KOLN Koldanda 49.59 275 *e*P **P** **02 42 37.8 +0.7**
DAWY Dawson 49.63 34 *e*P **P** **02 42 38.2 +1.4**
comp=Z,1.0nm,0.5s
FRU Bishkek 49.63 297⇓ *e*P **P** **02 42 38.0 +0.9**
FRU *i* 02 42 46.0
FRU *e* 02 49 43.0
FRU pmax pmax
comp=Z,80nm,1.8s
SURT Suratani 49.77 243 P P 02 42 46.5 +8.1
comp=Z,12nm,1.1s
AAK Ala-Archa 49.79 296 *ce*P **P** **02 42 38.1 -0.3**
AAK pmax pmax
comp=Z,22nm,1.2s
AAK Ala-Archa 49.79 296 *e*P **P** **02 42 38.2 -0.3**
comp=Z,19nm,1.2s
AAK Ala-Archa 49.79 296 P **P** **02 42 38.9 +0.5**
SNR=12
AAK Ala-Archa 49.79 296 P **P** **02 42 38.9 +0.5**
SNR=12
AAK Ala-Archa 49.79 296 *i*P **P** **02 42 38.1 -0.3**
SNR=10
PYUN Piuthan 49.89 275 *e*P **P** **02 42 40.1 +0.7**
KSH Kashi 49.95 292 *e*P **P** **02 42 43.8 +4.1**
KSH pP sP 02 42 54.3 +2.7
KSH S **S** **02 49 51.0 +2.6**
KSH sS sS 02 50 07.8 +5.3
KSH pmax pmax
comp=Z,80nm,1.8s
KSH pmax pmax
comp=Z,150nm,5.7s
KSH LR LR
comp=Z,120nm,8.6s
KSH LR LR
comp=Z,110nm,6.1s
KSH LR LR
comp=Z,150nm,7.1s
PKDT Phuket 50.85 243 P P 02 42 54.9 +8.3
comp=Z,18nm,1.0s
INK Inuvik 51.12 28 *e*P **P** **02 42 49.0 +1.1**
INK pmax pmax
comp=Z,8.0nm,0.6s
INK Inuvik 51.12 28 *e*P **P** **02 42 49.0 +1.1**
comp=Z,8.4nm,0.6s
HYT Haines Junctio 51.20 38 *e*P **P** **02 42 51.0 +2.2**
comp=Z,24nm,0.8s
MNAS Manas 51.20 297 P **P** **02 42 48.9 -0.2**
MNAS pmax pmax
comp=Z,21nm,0.8s
SFK Sufi-Kurgan 51.49 294 P **P** **02 42 50.8 -0.6**
SFK pmax pmax
comp=Z,30nm,0.9s
KK31 Karatay Array 52.32 298 *ce*P **P** **02 42 56.3 -0.9**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 52.32 298 *e*P **P** **02 42 56.7 -0.5**
KKAR Karatay Array 52.32 298 *e*P **P** **02 42 56.7 -0.5**
SVE Sverdlovsk 53.34 317 *e*P **P** **02 43 05.1 +0.6**
SVE pmax pmax
comp=Z,45nm,1.5s
SVE MLR MLR
comp=Z,2µm,15.0s
MTN Manton Dam 53.89 194 *e*P **P** **02 43 09.6 +0.7**
comp=Z,13nm,0.9s
ARU Arti 54.55 317 *ci*P **P** **02 43 13.4 0.0**
ARU 02 44 15.9
ARU 02 45 15.3
ARU S **S** **02 50 51.7 +1.0**
ARU SS **SS** **02 54 28.4 -4.5**
ARU pmax pmax
comp=Z,45nm,1.7s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 54.55 317 *e*P **P** **02 43 13.5 +0.1**
comp=Z,44nm,1.3s
GSI Gunungsitoli 56.23 238 *e*P **P** **02 43 27.2 +1.2**
comp=Z,104nm,1.7s
AB31 Akbulak array 56.56 309 *ce*P **P** **02 43 27.8 -0.2**
AB31 pmax pmax
comp=Z,13nm,0.5s
ABKAR Akbulak array 56.56 309 *e*P **P** **02 43 27.7 -0.2**
comp=Z,163nm,0.4s
AKTO Aktyubinsk 57.20 311 P **P** **02 43 32.2 -0.3**
comp=Z,10nm,0.7s,baz=52,slow=7.2,SNR=22
SPITS Spitsbergen Ar 57.53 349 P **P** **02 43 34.5 +0.1**
comp=Z,4.2nm,0.7s,baz=36,slow=7.8,SNR=3.3
HYB Hyderabad 59.20 267 *i*P P 02 43 54.0 +7.0
RES Resolute Bay 59.26 15 P **P** **02 43 46.3 -0.1**
comp=Z,4.7nm,0.7s,baz=309,slow=8.3,SNR=12
RES Resolute Bay 59.26 15 *e*P **P** **02 43 46.1 -0.3**
RES pmax pmax
comp=Z,8.0nm,0.6s
RES Resolute Bay 59.26 15 *e*P **P** **02 43 46.1 -0.3**
comp=Z,7.7nm,0.6s
FITZ Fitzroy Crossi 60.16 199 P **P** **02 43 52.5 -0.7**
comp=Z,3.8nm,0.8s,baz=43,slow=3.1,SNR=4.7
TMCR Tamitsa 60.35 331 *e*P **P** **02 43 53.7 -0.4**
TMCR pmax pmax
comp=Z,17nm,0.8s
WRAB Tennant Creek 60.37 189 *de*P **P** **02 43 54.7 0.0**
WRAB pmax pmax
comp=Z,28nm,1.2s
WRAB Tennant Creek 60.37 189 *e*P **P** **02 43 54.1 -0.6**
comp=Z,6.7nm,0.6s
WRA Warramunga Arr 60.38 189 P **P** **02 43 53.8 -1.0**
comp=Z,5.2nm,0.6s,baz=6.8,slow=6.9,SNR=22
YKW3 Yellowknife Ar 60.55 31 *e*P **P** **02 43 56.5 +1.0**
YKA Yellowknife Ar 60.59 31 P **P** **02 43 56.4 +0.7**
comp=Z,2.6nm,0.5s,baz=300,slow=6.4,SNR=40
ARCES ARCESS Array B 61.29 339 P **P** **02 44 00.8 +0.3**
comp=Z,3.5nm,0.5s,baz=60,slow=8.3,SNR=15
KLMR Klimovskoe 61.51 327 *e*P **P** **02 43 59.2 -2.8**
KLMR *e* 02 46 14.3
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR Klimovskoe 61.51 327 *e*P **P** **02 43 59.3 -2.8**
KLMR AMP 02 44 03.6
comp=Z,28nm,1.3s
KLMR *e*PP **PP** **02 46 14.4 -2.7**
KLMR LQ LQ 03 05 33.1
KLMR LQ LQ 03 05 33.1
KLMR LR LR 03 11 26.6
DAG Danmarks Havn 62.63 355 *i*P **P** **02 44 09.2 -0.2**
DAG Danmarks Havn 62.63 355 *i*P **P** **02 44 09.2 -0.2**
GEYT Alibeck 63.07 298 P **P** **02 44 12.7 -0.2**
comp=Z,5.0nm,0.6s,baz=31,slow=3.5,SNR=9.7
LLLB Lillooet 63.34 45 *e*P **P** **02 44 15.8 +1.2**
comp=Z,6.0nm,0.9s
JOF Joensuu 63.54 332 P **P** **02 44 16.0 +0.5**
OUL Oulu 64.03 335 P **P** **02 44 21.4 +2.6**
OUL pmax pmax
comp=Z,33nm,0.7s
AS01 Alice Springs 64.10 189 *e*P **P** **02 44 18.9 -0.8**
AS31 Alice Springs 64.11 189 *e*P **P** **02 44 23.5 +3.8**
comp=Z,1.4nm,0.7s
ASAR Alice Springs 64.11 189 P **P** **02 44 19.1 -0.6**
comp=Z,3.2nm,0.7s,baz=8.5,slow=5.6,SNR=19
B05A Bryant 64.46 48 P **P** **02 44 23.0 +1.2**
baz=303
B06A Marblemount 64.67 47 *e*P **P** **02 44 24.4 +1.2**
comp=Z,7.7nm,0.8s
MBWA Marble Bar 64.70 204 *e*P **P** **02 44 22.7 -0.9**
comp=Z,26nm,0.6s
C06D Leavenworth 65.32 47 P **P** **02 44 29.0 +1.4**
baz=304
SUF Sumiainen 65.50 333 P **P** **02 44 30.1 +1.7**
SUF pmax pmax
comp=Z,20nm,0.9s
VRH Novokhopyorsk 65.79 317 *e*P **P** **02 44 28.8 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
LTY Liberty 65.82 48 *e*P **P** **02 44 31.8 +1.0**
comp=Z,4.9nm,0.9s
B08A Colville Reser 65.95 46 *e*P **P** **02 44 32.8 +1.1**
comp=Z,24nm,1.9s
OBN Obninsk 66.05 323 *di*P **P** **02 44 32.1 +0.1**
OBN *e* 02 45 01.6
OBN *e* 02 46 57.2
OBN *e*PPP PPP 02 48 29.8
OBN *e*S **S** **02 53 18.0 +0.1**
OBN *e*SS **SS** **02 57 33.0 +0.3**
OBN pmax pmax
comp=Z,51nm,1.7s
OBN MLR MLR
comp=Z,780nm,15.0s
OBN Obninsk 66.05 323 *e*P **P** **02 44 32.2 +0.3**
comp=Z,67nm,1.5s
I03D Drain, OR 66.21 52 P **P** **02 44 34.9 +1.6**
baz=304
EDM Edmonton 66.28 40 *e*P **P** **02 44 35.0 +1.3**
EDM pmax pmax
comp=Z,8.0nm,0.9s
EDM Edmonton 66.28 40 *e*P **P** **02 44 35.0 +1.3**
comp=Z,7.7nm,0.9s
H04A Detroit Lake 66.36 51 *e*P **P** **02 44 35.9 +1.6**
comp=Z,7.8nm,0.8s
FIA1 FINESS Array S 66.37 332 *e*P **P** **02 44 34.2 +0.2**
FINES FINESS Array B 66.37 332 P **P** **02 44 33.8 -0.2**
comp=Z,7.3nm,0.6s,baz=39,slow=8.9,SNR=32
FINES FINESS Array B 66.37 332 *ce*P **P** **02 44 34.0 0.0**
FINES pmax pmax
comp=Z,7.0nm,0.5s
LPSR Galich'ya Gora 66.40 320 *e*P **P** **02 44 34.0 -0.3**
LPSR pmax pmax
comp=Z,40nm,1.6s
G05D Wamic, OR 66.56 50 P **P** **02 44 37.2 +1.6**
baz=304
C09A Chrisman Ranch 66.86 46 *e*P **P** **02 44 38.6 +1.2**
comp=Z,8.2nm,0.8s
L02D Cave Junction, 66.91 54 P **P** **02 44 39.2 +1.4**
baz=304

D08A **Wollman Farm,** 66.92 47 *e*P P 02 44 39.0 +1.2
comp=Z,7.1nm,0.8s
G06A **Carlson Farm,** 66.97 50 eP P 02 44 40.8 +2.6
comp=Z,6.6nm,1.0s
F07A **Phinny Hill Vi** 67.00 49 eP P 02 44 40.0 +1.7
comp=Z,9.1nm,0.8s
I05D **Terrebonne, OR** 67.06 51 P P 02 44 40.1 +1.3
baz=305
VSR **Storozhevoye** 67.09 318 eP P 02 44 37.3 -1.5
VSR pmax pmax
comp=Z,40nm,1.6s
E08A **Dider Farm, El** 67.16 48 eP P 02 44 40.7 +1.4
comp=Z,5.8nm,0.8s
J04D **Umpqua Nationa** 67.22 52 P P 02 44 40.8 +0.8
baz=304
NEW **Newport** 67.22 45 P P 02 44 40.6 +0.9
comp=Z,4.1nm,0.8s,baz=293,slow=5.9,SNR=12
NEW **Newport** 67.22 45 P P 02 44 40.7 +1.0
baz=306
NEW **Newport** 67.22 45 eP P 02 44 41.3 +1.6
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW **Newport** 67.22 45 eP P 02 44 41.2 +1.6
comp=Z,5.0nm,0.8s
SUMG **Summit** 67.46 0 *i* P P 02 44 41.9 +0.7
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG **Summit** 67.46 0 *i* P P 02 44 41.9 +0.7
comp=Z,6.6nm,0.8s
SUMG **Summit** 67.46 0 eP P 02 44 41.8 +0.5
comp=Z,17nm,1.2s
PINE **Pine Mountain** 67.61 51 eP P 02 44 44.3 +1.9
comp=Z,20nm,0.9s
YBH **Yreka Blue Hor** 67.70 54 P P 02 44 44.2 +1.2
comp=Z,3.5nm,0.9s,baz=347,slow=3.2,SNR=11
YBH **Yreka Blue Hor** 67.70 54 *e*P P 02 44 44.9 +2.0
YBH pmax pmax
comp=Z,8.0nm,1.3s
YBH **Yreka Blue Hor** 67.70 54 eP P 02 44 44.9 +2.0
comp=Z,8.4nm,1.3s
J05D **Fort Rock, OR** 67.72 52 P P 02 44 44.3 +1.2
baz=305
M02C **Callahan** 67.81 54 P P 02 44 44.6 +1.1
baz=305
G08A **Pilot Rock** 67.91 49 eP P 02 44 45.9 +1.7
comp=Z,16nm,1.9s
VSU **Vasula** 68.12 329⇑ eP P 02 44 45.9 +0.8
VSU pmax pmax
comp=Z,42nm,1.4s
N02D **Trinity Center** 68.13 54 P P 02 44 46.4 +0.7
baz=305
M04C **Macdoel** 68.21 53 P P 02 44 47.4 +1.2
baz=305
SEKA **Sheki** 68.36 306 P P 02 44 44.9 -2.1
WDC **Whiskeytown Da** 68.46 55 eP P 02 44 50.2 +2.6
WDC pmax pmax
comp=Z,4.0nm,0.9s
WDC **Whiskeytown Da** 68.46 55 eP P 02 44 50.2 +2.6
comp=Z,4.4nm,0.9s
ZKTA **Zakatala** 68.47 307 P P 02 44 46.1 -1.5
WALA **Waterton Lakes** 68.47 43 eP P 02 44 49.2 +1.5
comp=Z,7.3nm,0.9s
GOF **Gofitskoye** 68.61 311⇑ eP P 02 44 49.3 +0.9
GOF pmax pmax
comp=Z,30nm,1.0s
MNGR **Mingechevir, A** 68.68 306 P P 02 44 47.3 -1.6
LKRN **Lenkeran, Azer** 68.79 303 P P 02 44 48.1 -1.6
JTMT **Jette** 69.07 45 eP P 02 44 53.0 +1.5
comp=Z,11nm,0.8s
MOD **Modoc Plateau** 69.08 52 eP P 02 44 53.1 +1.5
comp=Z,5.3nm,0.8s
O03D **Paynes Creek** 69.09 55 P P 02 44 52.5 +0.8
baz=306
BMO **Blue Mountains** 69.11 49 eP P 02 44 53.1 +1.4
BMO pmax pmax
comp=Z,5.0nm,0.9s
BMO **Blue Mountains** 69.11 49 eP P 02 44 53.1 +1.4
comp=Z,5.0nm,0.9s
NCK **Nalchik** 69.21 310⇓ eP P 02 44 52.7 +0.5
NCK pmax pmax
comp=Z,9.0nm,1.0s
GANJ **Ganja** 69.22 306 P P 02 44 50.6 -1.8
J08A **Circle Bar Ran** 69.32 50 eP P 02 44 55.0 +2.0
comp=Z,9.3nm,0.9s
ZEI **Tsey** 69.44 309 eP P 02 44 52.1 -1.8
ZEI pmax pmax
comp=Z,9.0nm,0.6s
KIV **Kislovodsk** 69.47 311 eP P 02 44 54.2 +0.3
KIV pmax pmax
comp=Z,34nm,1.1s
KIV MLR MLR
comp=Z,486nm,17.0s
KIV **Kislovodsk** 69.47 311 eP P 02 44 54.5 +0.6
comp=Z,47nm,1.0s
KIV **Kislovodsk** 69.47 311 P P 02 44 55.5 +1.6
SNR=15
KIV **Kislovodsk** 69.47 311 P P 02 44 55.5 +1.6
SNR=15
KIV **Kislovodsk** 69.47 311 *i* P P 02 44 54.8 +0.9
SNR=9.0
KBZ **Khabaz** 69.48 310 P P 02 44 54.6 +0.8
comp=Z,6.8nm,0.7s,baz=104,slow=1.7,SNR=24
TBLG **Delisi** 69.56 308 eP P 02 44 56.0 +1.6
TBLG pmax pmax
comp=Z,20nm,1.1s
TBLG **Delisi** 69.56 308 eP P 02 44 56.0 +1.6
comp=Z,20nm,1.1s
ORV **Oroville** 69.70 55 eP P 02 44 57.3 +2.0
ORV pmax pmax
comp=Z,12nm,1.8s
ORV **Oroville** 69.70 55 eP P 02 44 57.3 +2.0
comp=Z,12nm,1.8s
MSO **Missoula** 69.81 45 P P 02 44 56.8 +0.8
baz=308
MSO **Missoula** 69.81 45 eP P 02 44 56.9 +0.9
comp=Z,5.0nm,0.8s
IZAR **Zarasai** 70.16 327 eP P 02 44 57.9 +0.1
IZAR IAmb IAmb 02 45 01.7
comp=Z,5.6nm,0.6s
BEKR **Beckworth** 70.23 54 eP P 02 45 00.0 +1.2
comp=Z,7.6nm,1.0s
IDID **Didziasalis** 70.25 327 eP P 02 44 58.6 +0.2
IDID IAmb IAmb 02 45 03.0
comp=Z,3.9nm,0.6s
ISAL **Salakas** 70.33 327 eP P 02 44 59.0 +0.1
ISAL IAmb IAmb 02 45 00.9
comp=Z,20nm,1.2s
IIGN **Ignalina** 70.44 327 eP P 02 44 59.8 +0.3
IIGN IAmb IAmb 02 45 01.6
comp=Z,7.8nm,0.6s
GNI **Garni** 70.49 306 P P 02 45 00.7 +0.3
comp=Z,2.9nm,0.5s,baz=60,slow=8.1,SNR=7.7
GNI **Garni** 70.49 306 *de*P P 02 45 01.7 +1.3
GNI pmax pmax
comp=Z,39nm,1.4s
GNI **Garni** 70.49 306 eP P 02 45 01.7 +1.3
comp=Z,20nm,1.1s
GNI **Garni** 70.49 306 P P 02 45 02.3 +1.9
SNR=6.6
GNI **Garni** 70.49 306 P P 02 45 02.3 +1.9
SNR=6.6
NACGM **Naroch** 70.52 327 *e* P 02 45 02.0 +2.0
NACGM *e*LR LR 03 09 10.0
FFC **Flin Flon** 70.53 34 eP P 02 45 00.8 +0.7
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC **Flin Flon** 70.53 34 eP P 02 45 00.8 +0.7
comp=Z,7.6nm,0.8s
NAX **Nakhchivan** 70.60 305 P P 02 44 59.4 -1.5
FCC **Fort Churchill** 70.73 27 eP P 02 45 01.8 +0.6
FCC pmax pmax
comp=Z,36nm,1.8s
FCC **Fort Churchill** 70.73 27 eP P 02 45 01.8 +0.6
comp=Z,36nm,1.8s
MFID **Camas Ranch** 70.83 49 eP P 02 45 03.4 +1.1
comp=Z,4.2nm,0.8s
WSAR **Wadi Sarin** 70.89 285 P P 02 45 03.7 +0.8
comp=Z,1.5nm,0.6s,baz=68,slow=3.0,SNR=3.6
PAHR **Pah Rah Range** 70.93 54 eP P 02 45 04.4 +1.3
comp=Z,6.0nm,0.9s
VCNR **Virginia City** 71.01 54 eP P 02 45 04.9 +1.3
comp=Z,4.7nm,0.8s
HRY **Holter Researc** 71.02 44 eP P 02 45 04.8 +1.4
BANOM **Banah** 71.03 288 *i* P P 02 45 03.9 +0.3
SNR=6.9
LRM **Limekiln Ridge** 71.24 46 eP P 02 45 06.6 +1.7
EGMT **Eagleton** 71.28 42 P P 02 45 05.8 +0.9
baz=310
DOMB **Dombas** 71.36 339 eP P 02 45 05.4 +0.4
NC303 **NORSAR Array S** 71.36 337 eP P 02 45 05.4 +0.4
DLMT **Dillon** 71.45 46 eP P 02 45 07.9 +1.9
comp=Z,9.9nm,0.7s
YERR **Yerington** 71.45 54 eP P 02 45 08.2 +1.9
comp=Z,8.7nm,1.0s
MSFE **Esma-Masafi** 71.46 288 P P 02 45 07.0 +0.7
NC204 **NORSAR Array S** 71.49 338 eP P 02 45 06.4 +0.5
HFS **Hagfors** 71.51 336 P P 02 45 06.4 +0.4
comp=Z,7.6nm,0.5s,baz=38,slow=7.3,SNR=68
NB201 **NORSAR Array S** 71.52 337 eP P 02 45 05.3 -0.7
NB2 **NORSAR Subarra** 71.55 337 P P 02 45 06.1 -0.1
comp=Z,4.6nm,0.6s,baz=38,slow=6.2
NB2 **NORSAR Subarra** 71.55 337 P P 02 45 07.6 +1.4
NB2 pmax pmax
comp=Z,4.0nm,0.6s
NOA **NORSAR Array B** 71.55 337 P P 02 45 06.3 +0.1
comp=Z,4.6nm,0.6s,baz=38,slow=6.1,SNR=21
NOA LR LR 03 21 36.0
comp=Z,170nm,18.8s,baz=245,slow=40
HLID **Hailey** 71.55 48 P P 02 45 07.7 +1.0
baz=308
HLID **Hailey** 71.55 48 eP P 02 45 08.2 +1.5
comp=Z,4.7nm,1.0s
UOSS **Minazif** 71.67 287 eP P 02 45 07.9 +0.3
comp=Z,16nm,0.6s
NBO00 **NORSAR Array S** 71.69 338 eP P 02 45 07.2 +0.2
NC602 **NORSAR Array S** 71.69 337 eP P 02 45 07.1 +0.1
HATD **Hatta, Dubai** 71.79 287 *i* P P 02 45 08.7 +0.4
SNR=7.1
NAO01 **NORSAR Array S** 71.80 337 eP P 02 45 08.4 +0.7
BMN **Battle Mountai** 71.82 52 eP P 02 45 10.2 +1.8
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN **Battle Mountai** 71.82 52 eP P 02 45 10.2 +1.8
comp=Z,5.4nm,0.8s
BOZ **Bozeman (W)** 71.83 45 P P 02 45 09.3 +1.0
baz=310
BOZ **Bozeman (W)** 71.83 45 eP P 02 45 09.2 +0.8
BOZ pmax pmax
comp=Z,13nm,0.8s
BOZ **Bozeman (W)** 71.83 45 eP P 02 45 09.2 +0.8
comp=Z,13nm,0.8s
ASHO **Ashiyiah** 71.93 287 *i* P P 02 45 10.3 +1.2
SNR=6.8
AKASG **Malin Array Be** 72.28 322 P P 02 45 10.1 -0.6
comp=Z,2.4nm,0.4s,baz=43,slow=6.9,SNR=30
AKASG PP PP 02 47 50.0 -1.0
comp=Z,0.9nm,0.6s,baz=45,slow=8.8,SNR=4.5
AKASG **Malin Array Be** 72.28 322 *ce*P P 02 45 10.5 -0.2
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB **Malin Array Si** 72.28 322 eP P 02 45 09.3 -1.5
AKBB pmax pmax
comp=Z,12nm,0.8s
AKBB **Malin Array Si** 72.28 322 eP P 02 45 09.2 -1.5
comp=Z,12nm,0.8s
KIEV **Kiev** 72.30 322⇓ eP P 02 45 09.8 -1.0
KIEV pmax pmax
comp=Z,14nm,1.2s
KIEV **Kiev** 72.30 322 eP P 02 45 10.3 -0.5
comp=Z,12nm,0.8s
KIEV **Kiev** 72.30 322 *i* P P 02 45 09.3 -1.5
SNR=7.4
AK11 **Malin Array Si** 72.33 322 eP P 02 45 10.4 -0.6
NV01 **Mina Array Sit** 72.37 54 eP P 02 45 13.4 +1.5
NVAR **Mina Array Bea** 72.37 54 P P 02 45 12.9 +1.1
comp=Z,4.6nm,0.9s,baz=289,slow=5.2,SNR=25
MLAC **Mammoth, Mammo** 72.53 55 P P 02 45 13.5 +0.8
baz=308
OSL **Oslo** 72.58 337 *e* P 02 45 16.1 +3.8
YHB **Horse Butte** 72.61 46 eP P 02 45 14.7 +1.6
comp=Z,9.1nm,0.8s
GCMT **Greycliff** 72.77 44 eP P 02 45 15.1 +1.1
YHH **Holmes Hill** 72.77 46 eP P 02 45 16.0 +1.8
comp=Z,4.4nm,0.9s
YMR **Madison River** 72.78 46 eP P 02 45 15.6 +1.4
comp=Z,6.8nm,0.8s
YFT **Old Faithful** 73.00 46 eP P 02 45 19.1 +3.7
comp=Z,6.8nm,0.8s
YPP **Pitchstone Pla** 73.13 46 eP P 02 45 19.1 +2.8
comp=Z,3.3nm,0.8s
KONO **Kongsberg** 73.15 337 eP P 02 45 16.4 +0.7
H17A **Grant Village** 73.17 46 P P 02 45 18.4 +1.9
baz=310
H17A **Grant Village** 73.17 46 eP P 02 45 19.7 +3.2
comp=Z,8.4nm,0.8s
IMW **Indian Meadow** 73.29 46 eP P 02 45 19.4 +2.2
comp=Z,6.9nm,0.8s
FXWY **Fox Creek** 73.41 47 eP P 02 45 19.9 +2.0
comp=Z,6.0nm,1.1s
RLMT **Red Lodge** 73.41 45 P P 02 45 18.9 +1.1
baz=311
RLMT **Red Lodge** 73.41 45 eP P 02 45 19.1 +1.3
comp=Z,4.4nm,0.8s
FRB **Frobisher Bay** 73.43 14 P P 02 45 17.2 -0.1
comp=Z,6.6nm,0.6s,baz=329,slow=7.0,SNR=17
VES **Vestal, Richgr** 73.46 57 P P 02 45 18.6 +0.6
baz=308
MOOW **Moose Ponds** 73.50 46 eP P 02 45 20.3 +1.9
comp=Z,3.3nm,0.9s
HVU **Hansel Valley** 73.61 49 eP P 02 45 21.0 +2.0
HVU pmax pmax
comp=Z,5.0nm,0.8s
HVU **Hansel Valley** 73.61 49 eP P 02 45 21.0 +2.0
comp=Z,5.3nm,0.8s
CWC **Cottonwood Cre** 73.73 56 P P 02 45 20.6 +0.8
baz=308
ISA **Isabella, Lake** 73.96 57 P P 02 45 22.0 +0.9
baz=308
ARVC **Arvin** 74.06 57 P P 02 45 22.7 +1.1
baz=308
R11A **Troy Canyon, C** 74.10 53 P P 02 45 23.0 +1.0
baz=309
MPMC **Manual Prospec** 74.34 56 P P 02 45 24.5 +1.1
baz=309
HWUT **Hardwire Ranch** 74.42 48 eP P 02 45 26.6 +2.9
comp=Z,9.3nm,1.4s
DUG **Dugway, Tooele** 74.60 50 P P 02 45 25.9 +1.1
baz=310
DUG **Dugway, Tooele** 74.60 50 eP P 02 45 26.5 +1.7
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG **Dugway, Tooele** 74.60 50 eP P 02 45 26.5 +1.7
comp=Z,4.9nm,0.8s
EDW2 **Edwards Air Fo** 74.75 57 P P 02 45 26.7 +1.0
baz=309
BW06 **Boulder Array** 74.79 47 P P 02 45 26.6 +0.6
baz=311
PD31 **Pinedale Array** 74.79 47 eP P 02 45 26.9 +0.9
PDAR **Pinedale Array** 74.79 47 P P 02 45 26.6 +0.6
comp=Z,1.4nm,0.5s,baz=273,slow=1.1,SNR=20
NLU **North Lily Min** 75.19 50 eP P 02 45 30.1 +1.8
comp=Z,4.9nm,0.9s
MPU **Maple Canyon** 75.41 50 eP P 02 45 31.4 +1.9
comp=Z,5.5nm,0.8s
SHPR **Sheep Range** 75.53 54 eP P 02 45 32.4 +2.1
comp=Z,5.0nm,0.8s
KWP **Kalwaria Pacla** 76.02 324 eP P 02 45 33.8 +1.1
KWP **Kalwaria Pacla** 76.02 324 eP P 02 45 33.7 +1.1
SHAO **Shalim** 76.28 282 P P 02 45 36.3 +1.7
GMRC **Granite Mounta** 76.31 56 P P 02 45 35.3 +0.7
baz=310
BUR08 **Bucovina Ar. S** 76.31 322 eP P 02 45 35.1 +0.7
BUR04 **Bucovina Ar. S** 76.32 322 eP P 02 45 34.7 +0.2
BURAR **Bucovina Array** 76.32 322 ⇑P P 02 45 34.9 +0.4
BURAR **Bucovina Array** 76.32 322 ⇑*i*P P 02 45 34.9 +0.4
ULM **Lac du Bonnet** 76.33 34 P P 02 45 34.4 +0.1
comp=Z,10.0nm,0.5s,baz=316,slow=5.9,SNR=8.1
MTPU **Mount Pierson** 76.36 52 eP P 02 45 37.6 +2.5
comp=Z,5.3nm,0.8s
ILGA **Ilgaz** 76.44 313 eP P 02 45 37.9 +2.5
comp=Z,16nm,1.0s
K22A **Casper** 76.54 45 P P 02 45 36.4 +0.5
baz=313
PFO **Pinyon Flats O** 76.54 57 P P 02 45 36.8 +0.9
baz=310
CFR **Carcaliu** 76.61 319 ⇑P P 02 45 36.8 +0.8
CFR **Carcaliu** 76.61 319 ⇑*i*P P 02 45 36.8 +0.8
SRU **San Rafael Swe** 76.64 50 eP P 02 45 37.9 +1.3
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU **San Rafael Swe** 76.64 50 eP P 02 45 37.9 +1.3
comp=Z,8.8nm,0.8s
STHS **Stebnicka Huta** 76.82 325 eP P 02 45 38.5 +1.3
STHS pmax pmax
comp=Z,5.0nm,0.6s
STHS **Stebnicka Huta** 76.82 325 *e*P P 02 45 38.5 +1.3
OJC **Ojcow** 76.85 326 eP P 02 45 38.0 +0.7
OJC **Ojcow** 76.85 326 eP P 02 45 38.2 +0.9
OJC pmax pmax
comp=Z,15nm,0.8s
OJC **Ojcow** 76.85 326 eP P 02 45 38.2 +0.9
comp=Z,15nm,0.8s
RSSD **Black Hills** 76.85 43 P P 02 45 37.9 +0.2
baz=314
RSSD **Black Hills** 76.85 43 eP P 02 45 38.4 +0.7
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD **Black Hills** 76.85 43 eP P 02 45 38.4 +0.7
comp=Z,5.2nm,0.6s
PLOR **Plostina** 76.88 320 ⇑P P 02 45 37.8 +0.2
PLOR **Plostina** 76.88 320 ⇑*i*P P 02 45 37.8 +0.2
UZH **Uzhgorod** 76.94 324 eP P 02 45 37.1 -0.7
UZH *e* 02 45 44.9
UZH *e*S S 02 55 18.1 -5.7
UZH MLR MLR
comp=N,1μm,14.0s
UZH MLR MLR
comp=E,1μm,14.0s
UZH MLR MLR
comp=Z,1μm,14.0s
MONP2 **Monument Peak** 77.02 58 P P 02 45 40.0 +1.2
baz=310
A32A **Rocking H Ranc** 77.05 35 P P 02 45 38.9 +0.5
baz=318
NIE **Niedzica** 77.23 326 eP P 02 45 40.9 +1.4
NIE **Niedzica** 77.23 326 eP P 02 45 40.9 +1.4
O20A **White River Ci** 77.28 48 P P 02 45 40.6 +0.5
baz=312
O20A **White River Ci** 77.28 48 eP P 02 45 41.4 +1.2
comp=Z,4.4nm,0.8s
C31A **Landman Farms,** 77.32 37 P P 02 45 40.6 +0.6
baz=317
U15A **North Rim** 77.34 53 eP P 02 45 42.6 +1.9
BR131 **Keskin Array S** 77.37 312 eP P 02 45 41.1 +0.6
BRTR **Keskin Array B** 77.37 312 P P 02 45 40.7 +0.1
comp=Z,1.4nm,0.6s,baz=57,slow=4.6,SNR=13
BRTR PP PP 02 48 39.4 +4.8
comp=Z,2.1nm,1.1s,baz=45,slow=4.3,SNR=4.5
B32A **Ashes, Strandq** 77.42 36 P P 02 45 41.0 +0.5
baz=318
DOPR **Dopca** 77.42 321 ⇓*i*P P 02 45 41.2 +0.6
MLR **Muntele Rosu** 77.49 320 P P 02 45 42.1 +1.0
comp=Z,0.4nm,0.5s,baz=107,slow=11,SNR=4.0
A33A **Warroad** 77.52 35 P P 02 45 41.4 +0.4
baz=319
PDMCI **Parker Dam,Lak** 77.58 56 P P 02 45 42.3 +0.7
baz=311
Y12C **Blythe** 77.69 56 P P 02 45 43.7 +1.4
baz=310
ANTO **Ankara** 77.75 312 eP P 02 45 43.7 +1.1
ANTO pmax pmax
comp=Z,9.0nm,0.8s
ANTO **Ankara** 77.75 312 eP P 02 45 43.7 +1.1
comp=Z,9.2nm,0.8s
BR231 **Keskin MP Arra** 77.78 312 eP P 02 45 41.0 -1.9
AGMN **Agassiz Nation** 77.79 36 P P 02 45 42.5 -0.1
baz=318
LANS **Liptovska Anna** 77.79 326 eP P 02 45 43.9 +1.3
LANS **Liptovska Anna** 77.79 326 eP P 02 45 43.9 +1.3
KSP **Ksiaz** 77.82 328 eP P 02 45 43.8 +1.1
KSP **Ksiaz** 77.82 328 eP P 02 45 43.8 +1.1
OKC **Ostrava-Krasne** 77.83 327 AMS AMS 03 22 40.0
comp=Z,500nm,16.6s
GLA **Glamis** 77.95 57 P P 02 45 45.2 +1.4
baz=310
PV10 **Paradox Valley** 78.00 50 eP P 02 45 46.0 +1.7
N23A **Red Feather La** 78.05 46 P P 02 45 45.5 +0.9
baz=314
N23A **Red Feather La** 78.05 46 eP P 02 45 47.3 +2.8
comp=Z,17nm,1.5s
DRGR 78.10 322 ⇑P P 02 45 45.5 +1.1
DRGR 78.10 322 ⇑*i*P P 02 45 45.5 +1.1
MORC **Moravsky Berou** 78.13 327 eP P 02 45 45.1 +0.6
MORC pmax pmax
comp=Z,73nm,1.4s
MORC **Moravsky Berou** 78.13 327 ⇑*i*P P 02 45 44.5 0.0
MORC **Moravsky Berou** 78.13 327 eP P 02 45 45.1 +0.6
comp=Z,72nm,1.4s
E31A **Nome** 78.15 38 P P 02 45 45.3 +0.6
baz=317
PV05 **Paradox Valley** 78.16 50 eP P 02 45 46.7 +1.6
B34A **Aery, Baudette** 78.19 35 P P 02 45 45.3 +0.5
baz=319
DPC **Dobruska-Polom** 78.19 328 eP P 02 45 46.1 +1.3
DPC *e* 02 45 56.9
DPC **Dobruska-Polom** 78.19 328 eP P 02 45 46.1 +1.3
DPC *e*pP sP 02 45 56.9 -0.2
UPC **Upice** 78.19 328 AMS AMS 03 22 50.0
comp=Z,500nm,17.5s
KRLC **Kraliky** 78.21 328 eP P 02 45 46.5 +1.5
KRLC **Kraliky** 78.21 328 eP P 02 45 46.5 +1.5
ARR **Arges** 78.22 320 ⇓*i*P P 02 45 45.2 +0.1
C33A **Trail** 78.23 36 P P 02 45 45.6 +0.5
baz=319
PV01 **Paradox Valley** 78.44 50 eP P 02 45 47.9 +1.2
F31A **Hecla** 78.49 38 P P 02 45 47.4 +0.9
baz=317
PSZ **Piszkesteto** 78.54 325 eP P 02 45 47.8 +1.0
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ **Piszkesteto** 78.54 325 ⇑*i*P P 02 45 47.4 +0.6
PSZ **Piszkesteto** 78.54 325 eP P 02 45 47.8 +1.0
comp=Z,11nm,1.1s
VYHS **Vyhne** 78.56 326 eP P 02 45 47.8 +0.9
VYHS **Vyhne** 78.56 326 eP P 02 45 47.8 +0.9
D33A **AnnSam, Waubun** 78.66 36 P P 02 45 47.2 -0.3
baz=319
B35A **Bob, Littlefor** 78.68 34 P P 02 45 47.8 +0.2
baz=320
C34A **RKJ Ranch, Bem** 78.70 36 P P 02 45 47.8 +0.1
baz=319
BRG **Berggiesshubel** 78.72 330 eP P 02 45 48.0 +0.4
comp=Z,13nm,1.6s
BRG *e* 02 48 36.8
comp=Z,5.7nm,1.6s
BRG **Berggiesshubel** 78.72 330 eP P 02 45 48.0 +0.4
BRG pmax pmax
comp=Z,13nm,1.6s
BRG MLR MLR
comp=N,351nm,15.3s
BRG MLR MLR
comp=E,274nm,15.4s
BRG MLR MLR
comp=Z,661nm,15.8s
CLL **Collm** 78.73 330 ⇑*i*P P 02 45 47.7 0.0
CLL *e* 02 45 59.0
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL **Collm** 78.73 330 ⇑*i*P P 02 45 47.7 0.0
comp=Z,9.0nm,1.4s
CLL *e* 02 45 54.0
CLL *e*(PcP) sP 02 45 59.0 -1.0
CLL *e*PP PP 02 48 44.0 -1.3
CLL **Collm** 78.73 330 eP P 02 45 47.4 -0.3
PVCC **Panska Ves** 78.75 329 eP P 02 45 51.5 +3.7
PVCC **Panska Ves** 78.75 329 eP P 02 45 51.5 +3.7
VRAC **Vranov** 78.89 327 ⇓P P 02 45 49.3 +0.7
VRAC **Vranov** 78.89 327 ⇓*i*P P 02 45 49.3 +0.7
ISCO **Idaho Springs** 78.99 47 P P 02 45 50.2 +0.4
baz=314
ISCO **Idaho Springs** 78.99 47 eP P 02 45 51.3 +1.5
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO **Idaho Springs** 78.99 47 eP P 02 45 51.2 +1.5
comp=Z,3.6nm,1.0s
D34A **Park Rapids** 79.00 36 P P 02 45 49.7 +0.4
baz=319
F32A **Veblen** 79.02 38 P P 02 45 49.6 +0.2
baz=318
E33A **Westby DABS, E** 79.07 37 P P 02 45 50.1 +0.4
baz=319
C35A **Jirik Farms, M** 79.08 35 P P 02 45 49.7 0.0
baz=320
MVCO **Mesa Verde** 79.10 50 P P 02 45 51.2 +0.8
baz=313
MVCO **Mesa Verde** 79.10 50 eP P 02 45 51.7 +1.4
comp=Z,4.9nm,0.8s
PRU **Pruhonice** 79.18 329 eP P 02 45 51.3 +1.1
PRU *e* 02 45 56.8

PRU	Pruhonice	79.18	329	*e*P		P		02 45 51.3	+1.1
PRU				*e*PCP		PcP		02 45 56.8	-1.7
SUSD	Miller	79.19	40	P		P		02 45 51.0	+0.7
	baz=317								
X16A	Lo Mia Camp, P	79.19	54	*e*P		P		02 45 52.7	+1.9
TREC	Trest	79.35	328	*e*P		P		02 45 52.1	+0.9
TREC				*e*				02 46 03.0	
TREC	Trest	79.35	328	*e*P		P		02 45 52.1	+0.9
TREC				*e*pP		sP		02 46 03.0	-0.4
F33A	5 Mile Ranch,	79.43	37	P		P		02 45 52.2	+0.5
	baz=318								
BZS	Buzias	79.48	322	⇑P		P		02 45 51.9	0.0
BZS	Buzias	79.48	322	⇑*i*P		P		02 45 51.9	0.0
D35A	Remer	79.51	35	P		P		02 45 52.5	+0.4
	baz=320								
C36A	Pine Crest Far	79.53	34	P		P		02 45 52.6	+0.5
	baz=320								
E35A	Pequot Lakes	79.75	36	P		P		02 45 53.3	-0.1
	baz=320								
Q24A	Divide	79.83	47	P		P		02 45 54.2	-0.1
	baz=314								
C37A	Embarrass	79.83	34	P		P		02 45 54.4	+0.5
	baz=321								
G33A	Ortonville	79.84	38	P		P		02 45 54.7	+0.8
	baz=318								
214A	Organ Pipe Nat	79.95	57	P		P		02 45 55.6	+0.8
	baz=312								
EYMN	Ely	79.96	34	P		P		02 45 54.8	+0.3
	baz=321								
H33A	Prehn Over Nor	80.08	39	P		P		02 45 55.9	+0.6
	baz=318								
OGNE	Ogallala	80.13	44	P		P		02 45 56.5	+0.8
	baz=316								
J31A	Geddes	80.14	41	P		P		02 45 56.2	+0.7
	baz=317								
G34A	Benson	80.18	38	P		P		02 45 56.3	+0.5
	baz=319								
F35A	Swanville	80.21	37	P		P		02 45 56.0	+0.1
	baz=320								
C38A	Sawbill Land.	80.23	34	P		P		02 45 56.1	+0.1
	baz=322								
RAYN	Ar Rayn	80.24	292	P		P		02 45 56.6	+0.1
RAYN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
RAYN	Ar Rayn	80.24	292	*e*P		P		02 45 56.6	+0.1
	comp=Z,5.4nm,0.8s								
KHC	Kasperske Hory	80.25	329	*e*P		P		02 45 57.0	+0.9
KHC				*e*				02 46 02.3	
KHC				*e*				02 46 08.0	
KHC				MLR		MLR			
	comp=Z,400nm,15.7s								
KHC	Kasperske Hory	80.25	329	*e*P		P		02 45 57.0	+0.9
KHC				*e*PCP		PcP		02 46 02.3	-0.9
KHC				*e*pP		sP		02 46 08.0	-0.3
KHC				AMS		AMS		03 25 20.0	
	comp=Z,400nm,15.7s								
KHC	Kasperske Hory	80.25	329	*e*P		P		02 45 56.7	+0.6
CONA	Conrad Observa	80.27	327	*i* P		P		02 45 57.4	+1.1
	comp=Z,10nm,1.3s								
E36A	McGregor	80.30	35	P		P		02 45 56.8	+0.5
	baz=320								
EKA	Eskdalemuir Ar	80.38	341	P		P		02 45 56.8	+0.2
	comp=Z,1.4nm,0.5s,baz=28,slow=5.0,SNR=19								
EKA				PP		PP		02 48 57.9	-0.9
	comp=Z,0.5nm,0.7s,baz=358,slow=6.4,SNR=3.7								
GEC2	GERESS Array S	80.42	329	*e*P		P		02 45 58.4	+1.3
GEC2	GERESS Array S	80.42	329	*e*P		P		02 45 58.4	+1.3
GERES	GERESS Array B	80.42	329	P		P		02 45 57.4	+0.3
	comp=Z,0.7nm,0.5s,baz=39,slow=5.0,SNR=9.6								
GERES				PP		PP		02 49 00.6	+1.0
	comp=Z,0.3nm,0.6s,baz=36,slow=5.1,SNR=4.0								
GEA0	GERESS Array S	80.43	329	*e*P		P		02 45 57.1	0.0
ISP	Isparta	80.44	312	⇓*e*P		P		02 45 57.2	-0.2
ISP				pmax		pmax			
	comp=Z,4.0nm,1.1s								
SDCO	Great Sand Dun	80.47	48	P		P		02 45 58.6	+0.8
	baz=314								
SDCO	Great Sand Dun	80.47	48	*e*P		P		02 45 59.2	+1.4
	comp=Z,7.3nm,1.8s								
WET	Wettzell	80.51	329	P		P		02 45 59.2	+1.7
J32A	Parkston	80.52	40	P		P		02 45 58.2	+0.6
	baz=318								
I33A	Coleman	80.53	39	P		P		02 45 58.5	+0.8
	baz=318								
K31A	O'Neill	80.62	41	P		P		02 45 58.7	+0.5
	baz=317								
GRFO	Grafenberg	80.71	330	*e*P		P		02 46 01.3	+2.8
GRFO	Grafenberg	80.71	330	*e*P		P		02 46 01.3	+2.8
MMAI	Mount Meron Ar	80.81	306	P		P		02 46 01.4	+2.0
	comp=Z,1.9nm,0.6s,baz=64,slow=6.6,SNR=2.7								
ECSD	EROS Data Cent	80.85	39	P		P		02 45 59.7	+0.3
	baz=319								
ECSD	EROS Data Cent	80.85	39	*e*P		P		02 45 59.9	+0.5
	comp=Z,4.7nm,0.8s								
ARSA	Arzberg	80.94	327	*i* P		P		02 45 58.7	-1.2
	comp=Z,5.5nm,1.3s								
VTS	Vitosha	80.95	319	*e*P		P		02 46 00.8	+0.7
VTS				pmax		pmax			
	comp=Z,13nm,1.2s								
VTS	Vitosha	80.95	319	⇑*i*P		P		02 46 00.9	+0.8
VTS	Vitosha	80.95	319	*e*P		P		02 46 00.8	+0.8
	comp=Z,12nm,1.2s								
H35A	Sunnyside Ranc	80.97	37	P		P		02 46 00.7	+0.7
	baz=320								
E38A	The Farm, Brul	80.97	34	P		P		02 46 00.2	+0.2
	baz=321								
J33A	Davis	80.99	40	P		P		02 46 00.4	+0.3
	baz=318								
MOA	Molln	80.99	328	*i* P		P		02 45 59.8	-0.3
	comp=Z,4.3nm,1.2s								
TUC	Tucson	81.00	55	P		P		02 46 01.1	+0.6
	baz=312								
F38A	Pierce - Schro	81.34	35	P		P		02 46 02.4	+0.5
	baz=321								
DIVS	Divibare	81.38	322	*e*P		P		02 46 02.6	+0.3
H36A	Jessenland, He	81.48	37	P		P		02 46 03.7	+1.1
	baz=320								
T25A	Trinidad	81.52	48	P		P		02 46 04.1	+0.8
	baz=315								
T25A	Trinidad	81.52	48	*e*P		P		02 46 04.6	+1.3
SOKA	Soboth	81.60	326	*i* P		P		02 46 04.2	+0.9
	comp=Z,18nm,1.3s,SNR=6.1								
F39A	Loretta	81.79	35	P		P		02 46 04.4	+0.1
	baz=322								
E40A	Wakefield	81.81	34	P		P		02 46 04.6	+0.2
	baz=322								
MEM	Membach	81.81	334	⇑P		P		02 46 05.3	+0.9
LAZ	Ladron	81.82	52	*e*P		P		02 46 06.7	+1.7
	comp=Z,1.1nm,0.9s								
ANMO	Albuquerque	81.85	51	P		P		02 46 06.4	+1.3
	baz=314								
ANMO	Albuquerque	81.85	51	⇑*e*P		P		02 46 06.8	+1.7
ANMO				pmax		pmax			
	comp=Z,5.0nm,1.2s								
ANMO	Albuquerque	81.85	51	*e*P		P		02 46 06.9	+1.7
	comp=Z,5.6nm,1.2s								
OBKA	Obir	81.94	327	*i* PcP		P		02 46 07.1	+1.9
	comp=Z,2.9nm,0.5s								
KBA	Koelnbreinsper	81.98	328	*i* P		P		02 46 06.4	+0.9
	comp=Z,9.1nm,1.2s								
I37A	Lemond, Waseca	82.15	37	P		P		02 46 06.8	+0.5
	baz=320								
LPM	Los Pinos Moun	82.19	51	*e*P		P		02 46 08.5	+1.7
MYKA	Terra Mystica	82.22	327	*i* P		P		02 46 06.9	+0.2
BNM	Barren Site	82.30	51	*e*P		P		02 46 09.5	+2.0
WTTA	Wattenberg	82.52	329	*i* PcP		P		02 46 10.6	+2.2
	comp=Z,4.6nm,0.8s								
ABTA	Abfaltersbach	82.59	328	*i* P		P		02 46 08.0	-0.6
	comp=Z,5.8nm,1.6s								
G40A	Rib Lake	82.61	35	P		P		02 46 08.6	0.0
	baz=322								
MOTA	Moosalm	82.67	329	*i* PcP		P		02 46 10.6	+1.6
	comp=Z,12nm,0.8s								
RETA	Reutte	82.68	329	*i* P		P		02 46 09.9	+0.8
	comp=Z,8.5nm,0.9s,SNR=6.5								
121A	Cookes Peak, D	82.71	53	P		P		02 46 10.9	+1.2
	baz=314,SNR=5.4								
DOU	Dourbes	82.73	334	⇑P		P		02 46 07.4	-1.7
CBKS	Cedar Bluff	82.89	44	P		P		02 46 10.4	+0.1
	baz=317								
TRI	Trieste	82.90	327	*e*P		P		02 46 09.0	-1.1
TRI				pmax		pmax			
	comp=Z,6.0nm,0.7s								
TRI	Trieste	82.90	327	*e*P		P		02 46 08.9	-1.1
	comp=Z,5.5nm,0.7s								
PDG	Podgorica	83.00	321	⇑*i*P		P		02 46 10.6	0.0
TTG	Podgorica	83.00	321	*e*P		P		02 46 11.0	+0.3
TTG	Podgorica	83.00	321	*e*P		P		02 46 11.0	+0.3
M35A	Neola	83.00	40	P		P		02 46 11.0	+0.3
	baz=319								
K37A	Belmond	83.00	38	P		P		02 46 10.8	+0.1
	baz=320								
N34A	Lincoln	83.07	41	P		P		02 46 10.9	-0.2
	baz=319								
FETA	Feichten	83.08	329	*i* PcP		P		02 46 13.3	+2.0
	comp=Z,8.2nm,0.9s								
I39A	Houston	83.14	36	P		P		02 46 10.8	-0.6
	baz=322								
DAVA	Damuels	83.19	330	*i* P		P		02 46 12.5	+0.7
	comp=Z,11nm,1.3s								
ECH	Echery	83.43	332	*e*P		P		02 46 16.1	+3.3
ECH	Echery	83.43	332	*e*P		P		02 46 16.1	+3.3
O34A	Beatrice	83.46	41	P		P		02 46 12.3	-0.9
	baz=319								
N35A	Tabor	83.48	40	P		P		02 46 13.3	+0.1
	baz=319								
FUORN	Ofenpass-Fuorn	83.59	329	*e*P		P		02 46 14.6	+0.6
K39A	Oelwein	83.86	37	P		P		02 46 15.2	0.0
	baz=322								
M38A	Pleasantville	84.25	39	P		P		02 46 17.0	-0.2
	baz=321								
KSU1	Kansas State U	84.32	42	P		P		02 46 17.4	-0.1
	baz=319								
K41A	Shullsburg	84.67	36	P		P		02 46 19.8	+0.6
	baz=322								
AMTX	Amarillo	84.67	48	P		P		02 46 20.2	+0.7
	baz=316								
M39A	Webster	84.69	38	P		P		02 46 19.8	+0.5
	baz=321								
MSTX	Muleshoe	84.70	49	P		P		02 46 20.6	+0.9
	baz=316,SNR=6.0								
MSTX	Muleshoe	84.70	49	*e*P		P		02 46 21.4	+1.7
N38A	Joes South For	84.71	39	P		P		02 46 20.0	+0.5
	baz=321								
O37A	Wuen Farm, M	84.75	40	P		P		02 46 20.4	+0.8
	baz=320								
MNTX	Cornudas Mount	84.75	52	P		P		02 46 20.8	+0.9
	baz=315,SNR=10								
MNTX	Cornudas Mount	84.75	52	*e*P		P		02 46 21.1	+1.2
SENIN	Lac Senin/Sane	84.94	331	*e*P		P		02 46 21.4	+0.6
K42A	Prairie Point,	84.96	36	P		P		02 46 21.0	+0.3
	baz=323								
L41A	Preston	85.00	37	P		P		02 46 21.1	+0.3
	baz=322								
N39A	Derby Farms, D	85.00	39	P		P		02 46 21.2	+0.3
	baz=321								
M40A	Post Highland	85.05	38	P		P		02 46 21.2	+0.1
	baz=322								
P37A	Lathrop	85.09	41	P		P		02 46 21.6	+0.2
	baz=320								
CABF	La Chapelle	85.18	332	*e*P		P		02 46 23.3	+1.5
CABF				pmax		pmax			
	comp=Z,20nm,1.5s								
PPT	Papeete	85.32	118	LR		LR		03 16 37.3	
	comp=Z,206nm,20.5s,baz=300,slow=30								
IDI	Anoyia	85.42	313	P		P		02 46 23.4	+0.1
	comp=Z,3.7nm,0.4s,baz=27,slow=4.5,SNR=17								
O39A	Kirksville	85.46	39	P		P		02 46 23.5	+0.3
	baz=321								
P38A	Dawn	85.47	40	P		P		02 46 23.7	+0.4
	baz=321								
M41A	Milan	85.53	37	P		P		02 46 23.8	+0.3
	baz=322								
SSF	Saint Saulge	85.71	333	*e*P		P		02 46 24.1	-0.2
SSF				pmax		pmax			
	comp=Z,21nm,1.7s								
LPL	La Plagne	85.87	331	*e*P		P		02 46 25.4	0.0
LPL				pmax		pmax			
	comp=Z,7.0nm,1.1s								
LPG	La Plagne	85.88	331	*e*P		P		02 46 25.5	-0.1
LPG				pmax		pmax			
	comp=Z,6.0nm,0.9s								
O40A	La Belle	85.89	39	P		P		02 46 26.0	+0.6
	baz=322								
Q38A	Cooks Store, C	85.94	40	P		P		02 46 25.3	-0.3
	baz=321								
Q39A	Willow Grove F	86.19	40	P		P		02 46 27.3	+0.4
	baz=321								
M43A	Waltham Townsh	86.20	36	P		P		02 46 26.7	-0.2
	baz=323								
P40A	Paris	86.27	39	P		P		02 46 27.6	+0.4
	baz=322								
O41A	Passleys Farm,	86.36	38	P		P		02 46 27.8	+0.1
	baz=322								
R38A	Fenwick Farm,	86.39	41	P		P		02 46 27.6	-0.2
	baz=321								
WMOK	Wichita Mounta	86.41	46	P		P		02 46 28.8	+0.8
	baz=318								
MBDF	Montbardon	86.52	330	*e*P		P		02 46 28.5	-0.1
MBDF				pmax		pmax			
	comp=Z,2.0nm,0.6s								
P41A	Barry, Barry	86.62	38	P		P		02 46 29.4	+0.4
	baz=322								
ORIF	Oris-en-Rattie	86.69	331	*e*P		P		02 46 31.3	+1.9
ORIF				pmax		pmax			
	comp=Z,18nm,1.6s								
ROSF	Rostrenen	86.72	338	*e*P		P		02 46 31.5	+2.2
ROSF				pmax		pmax			
	comp=Z,84nm,2.0s								
R39A	Chumby, Stover	86.72	41	P		P		02 46 29.7	+0.2
	baz=321,SNR=6.1								
HDIL	Hopedale	86.75	37	P		P		02 46 29.5	-0.1
	baz=323								
TCF	Toulx Ste Croi	86.82	334	*e*P		P		02 46 29.9	0.0
TCF				pmax		pmax			
	comp=Z,6.0nm,1.1s								
S39A	Bolivar	87.06	41	P		P		02 46 30.6	-0.5
	baz=321,SNR=5.5								
T38A	Diamond	87.07	42	P		P		02 46 30.8	-0.5
	baz=320,SNR=7.6								
Q41A	Truxton	87.11	39	P		P		02 46 31.3	0.0
	baz=322								
R40A	Maddies Statio	87.12	40	P		P		02 46 31.2	-0.2
	baz=322,SNR=5.2								
VIVF	Saint-Julien-l	87.19	331	*e*P		P		02 46 33.2	+1.5
VIVF				pmax		pmax			
	comp=Z,16nm,1.6s								
M46A	Old House Fiel	87.38	35	P		P		02 46 32.7	+0.1
	baz=325								
O44A	Mansfield	87.45	37	P		P		02 46 33.4	+0.4
	baz=324								
TX31	Lajitas Ar. Si	87.47	53	*e*P		P		02 46 34.3	+0.9
TXAR	Lajitas Array	87.47	53	P		P		02 46 34.3	+0.9
	comp=Z,1.4nm,0.6s,baz=293,slow=3.4,SNR=19								
Q42A	Golden Eagle	87.48	39	P		P		02 46 33.5	+0.4
	baz=322								
S40A	Lebanon	87.55	41	P		P		02 46 33.8	+0.3
	baz=321								
T39A	Clever	87.55	42	P		P		02 46 33.7	+0.1
	baz=321								
R41A	Rosebud	87.55	40	P		P		02 46 34.1	+0.5
	baz=322								
HHAR	Hobbs	87.83	42	*e*P		P		02 46 35.8	+0.8
T40A	Mansfield	87.89	41	P		P		02 46 35.0	-0.1
	baz=321								
S41A	Jillco Farms,	87.93	40	P		P		02 46 35.4	+0.1
	baz=322								
P44A	Sand Creek, Wi	87.93	37	P		P		02 46 35.6	+0.3
	baz=324								
U39A	Green Forest	87.99	42	P		P		02 46 35.8	+0.1
	baz=321,SNR=9.3								
S42A	Caledonia	88.25	39	P		P		02 46 36.9	0.0
	baz=322,SNR=6.0								
P45A	Graceland, Par	88.29	37	P		P		02 46 37.6	+0.6
	baz=324								
V39A	Pettigrew	88.33	42	P		P		02 46 37.1	-0.3
	baz=321								
U40A	Yellville	88.33	42	P		P		02 46 37.0	-0.3
	baz=321,SNR=9.6								
T41A	Mountain View	88.35	41	P		P		02 46 37.5	+0.2
	baz=322								
P46A	Rosedale	88.46	36	P		P		02 46 38.6	+0.8
	baz=324								
Q45A	Warren Harvey,	88.61	37	P		P		02 46 39.0	+0.5
	baz=324								
T42A	Van Buren	88.69	40	P		P		02 46 38.9	0.0
	baz=322								
S43A	Fulton Ridge,	88.76	39	P		P		02 46 39.7	+0.4
	baz=323								
V40A	Witts Springs	88.78	42	P		P		02 46 39.8	+0.4
	baz=321								
U41A	Viola	88.81	41	P		P		02 46 39.2	-0.4
	baz=322								
JCT	Junction City	88.96	50	P		P		02 46 40.4	0.0
	baz=318								
T43A	Greenville	89.04	40	P		P		02 46 40.7	+0.1
	baz=323								
S44A	Carbondale	89.06	39	P		P		02 46 40.6	-0.1
	baz=323								
SIUC	Southern Illin	89.06	39	*e*P		P		02 46 41.8	+1.2
X39A	Fountain Ranch	89.10	44	P		P		02 46 40.4	-0.5
	baz=321								
W40A	Ferguson Farm,	89.12	43	P		P		02 46 40.4	-0.6
	baz=321								
V41A	Mountainview	89.13	42	P		P		02 46 40.6	-0.5
	baz=322,SNR=5.4								
MIAR	Mount Ida	89.36	43	*e*P		P		02 46 42.7	+0.6
MIAR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MIAR	Mount Ida	89.36	43	*e*P		P		02 46 42.7	+0.6
	comp=Z,6.3nm,0.8s								
Q47A	Bedord North L	89.36	36	P		P		02 46 42.6	+0.6
	baz=325								
V42A	Cord	89.50	41	P		P		02 46 43.2	+0.5
	baz=322								
U43A	Rector	89.55	40	P		P		02 46 43.6	+0.7
	baz=323								
S46A	Don Dixon Farm	89.79	38	P		P		02 46 44.8	+0.7
	baz=324								
ACSO	Alum Creek Sta	89.79	33	P		P		02 46 44.3	+0.2
	baz=327								
R47A	Wooly Knot Far	89.84	36	P		P		02 46 44.7	+0.4
	baz=325								
M54A	Oil Creek Stat	90.04	30	P		P		02 46 45.5	+0.3
	baz=329								
T46A	Princeton	90.22	38	P		P		02 46 46.6	+0.5
	baz=324								
Y41A	Eaglette Beard	90.38	43	P		P		02 46 47.4	+0.5
	baz=321								
S48A	Wiedeman Farm,	90.58	37	P		P		02 46 48.1	+0.3
	baz=325								
T47A	Sharon Grove	90.64	38	P		P		02 46 48.2	+0.1
	baz=325								
T48A	Bowling Green	90.87	37	P		P		02 46 49.0	-0.1
	baz=325								
WVT	Waverly	90.99	39	P		P		02 46 49.5	-0.2
	baz=324								
V46A	Holladay	91.12	39	P		P		02 46 50.4	+0.2
	baz=324								
Z42A	Norrel Spur, H	91.20	43	P		P		02 46 51.5	+0.8
	baz=322								
V47A	Nunnelly	91.38	39	P		P		02 46 51.8	+0.2
	baz=324								
Y45A	Yeager Farm, C	91.96	41	P		P		02 46 55.7	+1.4
	baz=323								
W48A	Pulaski	92.22	39	P		P		02 46 55.6	+0.2
	baz=325								
Y46A	Houston	92.29	41	P		P		02 46 55.8	+0.1
	baz=324								
X48A	Hartselle	92.72	39	P		P		02 46 57.9	+0.1
	baz=325								
X49A	Woodville	93.02	39	P		P		02 46 59.6	+0.4
	baz=325								
Y48A	Jasper	93.10	39	P		P		02 46 59.6	+0.1
	baz=324								
TKL	Tuckaleechee C	93.26	36	P		P		02 47 00.9	+0.8
	comp=Z,2.9nm,0.7s,baz=27,slow=4.5,SNR=4.3								
TKL	Tuckaleechee C	93.26	36	P		P		02 47 01.0	+0.8
Y49A	Blount Mountai	93.51	39	P		P		02 47 01.2	-0.2
	baz=325								
Z49A	Columbiana	93.99	39	P		P		02 47 03.7	+0.1
	baz=325								
Z50A	Ashland	94.24	39	P		P		02 47 05.2	+0.4
	baz=325								
ESDC	Sonseca Array	94.77	335	P		P		02 47 05.3	-1.8
	comp=Z,0.3nm,0.5s,baz=21,slow=4.1,SNR=5.3								
ESDC				PP		PP		02 51 00.2	+5.5
	comp=Z,0.6nm,0.8s,baz=26,slow=7.1,SNR=5.4								
TORD	Torodi Ar. Bea	115.62	317	PKP		PKPdf		02 52 27.2	-0.9
	comp=Z,0.5nm,0.8s,baz=20,slow=1.1,SNR=8.6								
TORD				PP		PP		02 53 26.9	-2.9
	comp=Z,1.2nm,1.0s,baz=32,slow=5.7,SNR=4.9								
SDV	Santo Domingo	122.29	40	PKP		PKPdf		02 52 41.5	+0.3
	comp=Z,3.8nm,0.8s,baz=344,slow=2.9,SNR=5.8								
SNAA	Sanae	144.09	198	PKP		PKPbc		02 53 17.6	-0.4
SNAA	Sanae	144.09	198	PKP		PKPbc		02 53 17.6	-0.5
	comp=Z,3.9nm,0.6s,baz=192,slow=5.7,SNR=18								
LPAZ	La Paz	144.25	57	PKP		PKPbc		02 53 21.0	+0.2
	comp=Z,1.5nm,0.7s,baz=354,slow=3.5,SNR=6.4								
VNA2	Neumayer--Watz	145.66	197	PKP		PKPbc		02 53 22.7	-0.3
	baz=139,slow=2.3								
VNA2				SKS		SKSdf		03 00 30.1	+1.0
VNA3	Neumayer Olymp	145.91	196	PKP		PKPbc		02 53 23.0	-0.7
VNA3				SKS		SKSdf		03 00 26.5	-3.0
VNA1	Neumayer--Stat	146.06	197	PKP		PKPab		02 53 24.1	-0.7
VNA1				SKS		SKSdf		03 00 24.7	-4.9
PLCA	Paso Flores	154.91	102	PKPbc		PKPbc		02 53 48.2	+1.5
	comp=Z,1.8nm,0.9s,baz=252,slow=3.4,SNR=3.9								

*ISCJB **26** 02:36:25.9±0.7,5°.1S±0°.1×152°.9E±0°.1, h43km, mb3.9/12, Error ellipse: s-maj=20.0km s-min=13.3km az=25.8*
*IDC **26** 02:36:28.5±4.7,5°.13S×152°.83E, h52km±44km, mb3.7/12, mb1 3.9/13,mb1mx3.7/46,mbtmp4.0/13, ML2.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/50, Error ellipse: s-maj=26.3km s-min=25.1km az=132.0*

ISC 26 02:36:27.8±0.8, 5°.2S±0°.1×152°.8E±0°.1, h43km, n16, σ1°.31/16, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.99	233	P	P		Pn	02 38 09.8	+2.1
	2.6nm,0.3s,baz=57,slow=8.7,SNR=8.3								
PMG				S	S		Sn	02 39 23.4	-2.6
	4.2nm,0.3s,baz=78,slow=4.9,SNR=4.9								
HNR	Honiara	8.27	121	LR	LR			02 41 12.6	
	comp=Z,266nm,21.1s,baz=254,slow=34								
DZM	Mont Dzumac	21.39	143	P	P			02 41 11.8	-0.2
	12nm,1.0s,baz=5.1,slow=16,SNR=2.3								
WRA	Warramunga Arr	23.19	229	P	P			02 41 30.1	-1.0
	0.6nm,0.3s,baz=52,slow=9.8,SNR=12								
ASAR	Alice Springs	25.87	223	P	P			02 41 57.4	+1.7
	0.9nm,0.6s,baz=60,slow=8.9,SNR=11								
CMAR	Chiang Mai Arr

BOZC	**Bozcaada**	**0.24**	**359**	*i* P		**Pg**	**02 49 58.7**	**-0.2**
BOZC				*i* S		**Sg**	**02 50 02.5**	**+0.2**
BOZC	**Bozcaada**	**0.24**	**359**	*e*Pg		**Pg**	**02 49 58.5**	**-0.4**
BOZC				*e*Sg		**Sg**	**02 50 02.3**	**0.0**
PRK	**Paraskevi**	**0.39**	**155**	P		**Pb**	**02 50 02.1**	**-0.6**
PRK				S		**Sb**	**02 50 07.7**	**-0.8**
PRK				AML	AML		02 50 08.2	
	comp=N,400µm,0.4s							
PRK				AML	AML		02 50 09.7	
	comp=E,484µm,0.8s							
PRK	**Paraskevi**	**0.39**	**155**	P		**Pb**	**02 50 02.0**	**-0.6**
PRK				S		**Sb**	**02 50 07.8**	**-0.8**
PRK	**Paraskevi**	**0.39**	**155**	P		**Pb**	**02 50 02.0**	**-0.6**
PRK				S		**Sb**	**02 50 08.0**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.40**	**69**	*i* P		**Pg**	**02 50 02.0**	**+0.2**
BAYC				*i* S		**Sg**	**02 50 07.3**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.40**	**69**	P		**Pg**	**02 50 02.0**	**+0.2**
BAYC				S		**Sg**	**02 50 07.3**	**+0.2**
SIGR	**SIGRI**	**0.42**	**202**	PG		**Pg**	**02 50 02.1**	**0.0**
SIGR				SG		**Sb**	**02 50 08.7**	**-0.7**
SIGR	**SIGRI**	**0.42**	**202**	P		**Pg**	**02 50 01.9**	**-0.2**
SIGR				S		**Sg**	**02 50 08.0**	**+0.3**
SIGR				AML	AML		02 50 09.1	
	comp=E,338µm,0.3s							
SIGR				AML	AML		02 50 09.1	
	comp=N,441µm,0.4s							
SIGR	**SIGRI**	**0.42**	**202**	P		**Pg**	**02 50 02.2**	**+0.1**
SIGR				S		**Sg**	**02 50 08.2**	**+0.5**
SIGR	**SIGRI**	**0.42**	**202**	P		**Pg**	**02 50 02.2**	**+0.1**
SIGR				S		**Sg**	**02 50 08.2**	**+0.5**
AYVA	**Ayvalik**	**0.57**	**121**	*i* P		**Pb**	**02 50 05.3**	**-0.4**
AYVA				*i* S		**Sn**	**02 50 17.0**	**0.0**
AYVA	**Ayvalik**	**0.57**	**121**	P		**Pb**	**02 50 05.3**	**-0.4**
AYVA				S		**Sn**	**02 50 17.0**	**0.0**
LIA	**Limnos Island**	**0.74**	**294**	P		**Pg**	**02 50 07.6**	**-0.5**
LIA				S		**Sg**	**02 50 17.7**	**-0.1**
LIA				AML	AML		02 50 21.3	
	comp=E,174µm,0.3s							
LIA				AML	AML		02 50 21.4	
	comp=N,139µm,0.3s							
LIA	**Limnos Island**	**0.74**	**294**	P		**Pb**	**02 50 08.1**	**-0.5**
LIA				S		**Sg**	**02 50 17.8**	**-0.1**
LIA	**Limnos Island**	**0.74**	**294**	P		**Pb**	**02 50 08.1**	**-0.5**
LIA				S		**Sb**	**02 50 18.4**	**-0.2**
EFSA	**Agios Efstrati**	**0.83**	**266**	P		**Pb**	**02 50 09.9**	**-0.3**
EFSA				S		**Sg**	**02 50 20.7**	**0.0**
DKL	**Dikili**	**0.84**	**129**	PG		**Pb**	**02 50 10.2**	**-0.1**
DKL				SG		**Sb**	**02 50 22.0**	**+0.4**
DKL	**Dikili**	**0.84**	**129**	*i* Pg		**Pb**	**02 50 10.2**	**-0.1**
DKL				*i* Sg		**Sb**	**02 50 22.0**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.86**	**22**	PG		**Pg**	**02 50 10.1**	**-0.3**
GELI				SG		**Sb**	**02 50 22.2**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.86**	**22**	*e*Pg		**Pg**	**02 50 10.1**	**-0.3**
GELI				*e*Sg		**Sb**	**02 50 22.2**	**+0.1**
LPK	**Lapseki**	**0.94**	**35**	PG		**Pg**	**02 50 11.5**	**-0.5**
LPK				SG		**Sb**	**02 50 24.8**	**+0.3**
LPK	**Lapseki**	**0.94**	**35**	*e*Pg		**Pg**	**02 50 11.5**	**-0.5**
LPK				*e*Sg		**Sb**	**02 50 24.8**	**+0.3**
SMTH	**Samothraki Isl**	**0.96**	**335**	P		**Pb**	**02 50 12.1**	**-0.3**
SMTH				S		**Sb**	**02 50 24.7**	**-0.4**
SMTH				AML	AML		02 50 27.5	
	comp=E,79µm,0.4s							
SMTH				AML	AML		02 50 28.1	
	comp=N,63µm,0.1s							
SMTH	**Samothraki Isl**	**0.96**	**335**	P		**Pg**	**02 50 11.8**	**-0.5**
SMTH				S		**Sb**	**02 50 24.7**	**-0.4**
SMTH	**Samothraki Isl**	**0.96**	**335**	P		**Pg**	**02 50 11.8**	**-0.5**
SMTH				S		**Sb**	**02 50 25.1**	**0.0**
ERIK	**Erikli-Kesan**	**1.12**	**18**	PN		**Pg**	**02 50 14.5**	**-1.0**
ERIK	**Erikli-Kesan**	**1.12**	**18**	*e*Pn		**Pg**	**02 50 14.5**	**-1.0**
PSRA	**Psara**	**1.13**	**200**	P		**Pb**	**02 50 15.0**	**-0.5**
PSRA				S		**Sb**	**02 50 30.8**	**+1.1**
ENEZ	**Enez**	**1.14**	**4**	PN		**Pb**	**02 50 15.2**	**-0.2**
ENEZ				SN		**Sn**	**02 50 31.8**	**+0.7**
ENEZ	**Enez**	**1.14**	**4**	*e*Pn		**Pb**	**02 50 15.2**	**-0.2**
ENEZ				*e*Sn		**Sn**	**02 50 31.8**	**+0.7**
ENEZ	**Enez**	**1.14**	**4**	P		**Pg**	**02 50 15.1**	**-0.6**
BALY	**Balya**	**1.21**	**83**	*i* P		**Pg**	**02 50 15.9**	**-1.2**
BALY				*i* S		**Sg**	**02 50 32.1**	**-0.8**
BALY	**Balya**	**1.21**	**83**	P		**Pg**	**02 50 15.9**	**-1.2**
BALY				S		**Sg**	**02 50 32.1**	**-0.8**
CHOS	**Chios island**	**1.21**	**180**	PN		**Pn**	**02 50 17.2**	**+0.6**
CHOS	**Chios island**	**1.21**	**180**	P		**Pb**	**02 50 16.9**	**+0.2**
CHOS				S		**Sn**	**02 50 33.7**	**+0.7**
CHOS				AML	AML		02 50 38.5	
	comp=E,184µm,0.3s							
CHOS				AML	AML		02 50 39.2	
	comp=N,126µm,0.4s							
CHOS	**Chios island**	**1.21**	**180**	P		**Pg**	**02 50 16.8**	**-0.3**
CHOS	**Chios island**	**1.21**	**180**	*e*Pn		**Pn**	**02 50 17.2**	**+0.6**
CHOS				S		**Sn**	**02 50 33.7**	**+0.7**
CHOS	**Chios island**	**1.21**	**180**	P		**Pg**	**02 50 16.8**	**-0.3**
KRBG	**Karabiga-Canak**	**1.24**	**50**	PN		**Pb**	**02 50 16.8**	**-0.3**
KRBG	**Karabiga-Canak**	**1.24**	**50**	*e*Pn		**Pb**	**02 50 16.8**	**-0.3**
ALN	**Alexandroupoli**	**1.29**	**360**	PN		**Pg**	**02 50 18.7**	**0.0**
ALN	**Alexandroupoli**	**1.29**	**360**	P		**Pn**	**02 50 17.4**	**-0.3**
ALN				S		**Sb**	**02 50 34.7**	**0.0**
ALN				AML	AML		02 50 35.8	
	comp=E,74µm,0.4s							
ALN				AML	AML		02 50 37.2	
	comp=N,33µm,0.4s							
ALN	**Alexandroupoli**	**1.29**	**360**	P		**Pn**	**02 50 17.6**	**-0.2**
ALN	**Alexandroupoli**	**1.29**	**360**	*e*Pn		**Pg**	**02 50 18.7**	**0.0**
ALN				S		**Sn**	**02 50 35.1**	**+0.1**
ALN	**Alexandroupoli**	**1.29**	**360**	P		**Pn**	**02 50 17.5**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.30**	**99**	*i* P		**Pb**	**02 50 18.3**	**+0.1**
STEP				*i* S		**Sn**	**02 50 36.1**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.30**	**99**	P		**Pb**	**02 50 18.3**	**+0.1**
STEP				S		**Sn**	**02 50 36.1**	**+0.9**
URLA	**Izmir**	**1.31**	**161**	PN		**Pn**	**02 50 18.3**	**+0.4**
URLA	**Izmir**	**1.31**	**161**	*i* P		**Pn**	**02 50 17.3**	**-0.6**
URLA				*i* S		**Sb**	**02 50 34.0**	**-1.1**
URLA	**Izmir**	**1.31**	**161**	P		**Pn**	**02 50 17.3**	**-0.6**
URLA	**Izmir**	**1.31**	**161**	*e*Pn		**Pn**	**02 50 18.3**	**+0.4**
URLA				S		**Sb**	**02 50 34.0**	**-1.1**
KESN	**Edirne-Kesan**	**1.31**	**21**	*i* P		**Pb**	**02 50 18.8**	**+0.2**
KESN				*i* S		**Sn**	**02 50 36.8**	**+0.8**
KESN	**Edirne-Kesan**	**1.31**	**21**	P		**Pb**	**02 50 18.8**	**+0.2**
KESN				S		**Sn**	**02 50 36.8**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.38**	**38**	PN		**Pb**	**02 50 19.5**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.38**	**38**	*e*Pn		**Pb**	**02 50 19.5**	**-0.1**
ZEY	**˜zmir**	**1.40**	**166**	*i* P		**Pn**	**02 50 19.4**	**+0.2**
ZEY				*i* S		**Sb**	**02 50 37.4**	**-0.4**
EDC	**Edincik**	**1.57**	**61**	PN		**Pn**	**02 50 21.9**	**+0.3**
EDC	**Edincik**	**1.57**	**61**	*e*Pn		**Pn**	**02 50 21.9**	**+0.3**
RDO	**Rodhopi**	**1.59**	**346**	P		**Pn**	**02 50 22.3**	**+0.5**
RDO	**Rodhopi**	**1.59**	**346**	P		**Pn**	**02 50 21.7**	**-0.1**
RDO	**Rodhopi**	**1.59**	**346**	P		**Pn**	**02 50 21.7**	**-0.1**
SBT3	**Marmara-Eregli**	**1.95**	**48**	PN		**Pn**	**02 50 27.7**	**+1.2**
SBT3	**Marmara-Eregli**	**1.95**	**48**	*e*Pn		**Pn**	**02 50 27.7**	**+1.2**
SMG	**Samos**	**1.98**	**162**	P		**Pn**	**02 50 28.0**	**+0.8**

*ISK **26** 02:55:17.7, 38˚.78N×43˚.47E, h6km, ML2.3/2*
*ISCJB **26** 02:55:18.8±0.6, 38˚.81N±0˚.03×43˚.52E±0˚.05, h13km±5km, Error ellipse: s-maj=7.4km s-min=4.5km az=23.5*
*DDA **26** 02:55:18.3, 38˚.80N×43˚.53E, h7km, Ml2.7*
*CSEM **26** 02:55:18.1±0.3, 38˚.80N×43˚.53E, h10km, ML2.3, Error ellipse: s-maj=8.3km s-min=5.1km az=127.0*

ISC 26 02:55:18.3±1.1, **38˚.80N**±0˚.03×**43˚.53E**±0˚.03, **h13**km±9km, **n22**, σ0**s77**/39, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VANB	**Van**	**0.23**	**208**	PG		**Pg**	**02 55 23.9**	**+0.6**
VANB	**Van**	**0.23**	**208**	*e*Pg		**Pg**	**02 55 23.9**	**+0.6**
TVAN	**Van**	**0.28**	**199**	*i* P		**Pg**	**02 55 23.7**	**-0.6**
TVAN				*i* S		**Sb**	**02 55 30.5**	**+0.5**
TVAN	**Van**	**0.28**	**199**	P		**Pg**	**02 55 23.7**	**-0.6**
TVAN				S		**Sb**	**02 55 30.5**	**+0.5**
CLDR	**Caldiran**	**0.46**	**41**	PG		**Pg**	**02 55 27.3**	**-0.2**
CLDR				SG		**Sb**	**02 55 35.8**	**+0.6**
CLDR	**Caldiran**	**0.46**	**41**	*i* P		**Pg**	**02 55 25.7**	**-1.8**
CLDR				*i* S		**Sb**	**02 55 35.6**	**+0.4**
CLDR	**Caldiran**	**0.46**	**41**	P		**Pg**	**02 55 25.7**	**-1.8**
CLDR	**Caldiran**	**0.46**	**41**	*e*Pg		**Pg**	**02 55 27.3**	**-0.2**
CLDR				S		**Sb**	**02 55 35.6**	**+0.4**
GEVA	**Gevas**	**0.61**	**217**	*i* P		**Pg**	**02 55 29.4**	**-0.8**
GEVA				*i* S		**Sn**	**02 55 42.2**	**-0.2**
GEVA	**Gevas**	**0.61**	**217**	P		**Pg**	**02 55 29.4**	**-0.8**
GEVA				S		**Sn**	**02 55 42.2**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.63**	**271**	*i* P		**Pg**	**02 55 30.6**	**-0.1**
ADCV				*i* S		**Sb**	**02 55 39.8**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.63**	**271**	P		**Pg**	**02 55 30.5**	**-0.1**
ADCV				S		**Sb**	**02 55 39.8**	**-0.1**
TUTA	**Tutak**	**0.82**	**318**	*i* P		**Pg**	**02 55 33.9**	**-0.3**
TUTA				*i* S		**Sb**	**02 55 46.3**	**+0.8**
TUTA	**Tutak**	**0.82**	**318**	P		**Pg**	**02 55 33.9**	**-0.3**
TUTA				S		**Sb**	**02 55 46.3**	**+0.8**
AGRB	**Hanur-Agry**	**0.88**	**332**	PG		**Pg**	**02 55 34.8**	**-0.6**
AGRB				SG		**Sb**	**02 55 47.9**	**+0.6**
AGRB	**Hanur-Agry**	**0.88**	**332**	*e*Pg		**Pg**	**02 55 34.8**	**-0.6**
AGRB				*e*Sg		**Sb**	**02 55 47.9**	**+0.6**
GURO	**Guroymak-BITLI**	**1.20**	**259**	PN		**Pg**	**02 55 39.9**	**-1.4**
GURO				SN		**Sg**	**02 55 56.3**	**-0.6**
GURO	**Guroymak-BITLI**	**1.20**	**259**	*e*Pn		**Pg**	**02 55 39.9**	**-1.4**
GURO				*e*Sn		**Sg**	**02 55 56.3**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.31**	**25**	PN		**Pb**	**02 55 43.7**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.31**	**25**	*e*Pn		**Pb**	**02 55 43.7**	**+1.0**
SRTM	**Siirt_Merkez**	**1.50**	**238**	*i* P		**Pg**	**02 55 46.6**	**-0.4**
SRTM				*i* S		**Sg**	**02 56 05.9**	**-0.6**
SRTM	**Siirt_Merkez**	**1.50**	**238**	P		**Pg**	**02 55 46.6**	**-0.4**
SRTM				S		**Sg**	**02 56 05.9**	**-0.6**

*BJI **26** 03:00:11.2, 41˚.75N×19˚.00E, h6km, mb4.5/27, mB5.0/15, Ms4.8/7, Ms7 4.7/5*
*ISCJB **26** 03:00:15.6±0.1, 41˚.806N±0˚.008×19˚.267E±0˚.010, h10km, mb4.5/71, Error ellipse: s-maj=1.1km s-min=1.0km az=37.9*
*MOS **26** 03:00:15.7±1.1, 41˚.77N×19˚.19E, h17km, mb4.8/30, Error ellipse: s-maj=3.3km s-min=2.3km az=110.5*
*TIR **26** 03:00:15.4, 41˚.81N×19˚.28E, h21km, ML4.5*
*ROM **26** 03:00:16.8±0.1, 41˚.78N×19˚.34E, h10km, Ml4.5/44, Error ellipse: s-maj=1.5km s-min=1.4km az=107.0*
*NEIC **26** 03:00:17.7±0.0, 41˚.79N×19˚.35E, h17km, mb4.7/53, ML4.3(TIR), ML4.5(PDG), After PDG.*
NEIC Felt at Shkoder, Albania; at Makarska, Croatia; and at Ulcinj, Montenegro.
*PRU **26** 03:00:17.9, 41˚.83N×19˚.24E, h0km, M4.7*
*PDG **26** 03:00:17.1±1.0, 41˚.77N×19˚.30E, h16km±1km, MD4.5/9, ML4.5/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*LDG **26** 03:00:18.1±0.1, 41˚.78N×19˚.29E, h20km, Ml4.6/24, Error ellipse: s-maj=3.9km s-min=2.8km az=24.0*
*BEO **26** 03:00:18.0±0.3, 41˚.79N×19˚.33E, M4.4/2*
*CSEM **26** 03:00:18.5±0.1, 41˚.77N×19˚.29E, h20km, mb4.7/64, ML4.8/9, Error ellipse: s-maj=1.6km s-min=1.4km az=40.0*
*IDC **26** 03:00:21.6±1.2, 41˚.90N×19˚.37E, h48km±12km, mb4.2/26, mb1 4.2/44, mb1mx4.1/73, mbtmp4.3/44, ML4.2/15, MS4.7/2, Ms1 4.7/2, ms1mx3.3/80, Error ellipse: s-maj=10.2km s-min=8.6km az=145.0*

ISC 26 03:00:17.4±0.8, **41˚.78N**±0˚.01×**19˚.35E**±0˚.02, **h18**km±4km, **n1178**, σ1**s66**/1376, **mb4.7**/71, **41C-65D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ULC	**Ulcinj**	**0.20**	**337**	⇓*i* Pg		**Pb**	**03 00 22.7**	**+0.2**
ULC				*e*Sg		**Sg**	**03 00 26.2**	**+0.4**
ULC	**Ulcinj**	**0.20**	**337**	⇓P		**Pb**	**03 00 22.7**	**+0.2**
ULC				S		**Sg**	**03 00 26.2**	**+0.4**
ULC	**Ulcinj**	**0.20**	**337**	⇓P		**Pb**	**03 00 22.7**	**+0.2**
ULC				S		**Sg**	**03 00 26.2**	**+0.4**
ULC	**Ulcinj**	**0.20**	**337**	P		**Pb**	**03 00 22.7**	**+0.2**
ULC				*e*Sg		**Sg**	**03 00 26.2**	**+0.4**
DRME	**Dracevica, Mon**	**0.43**	**343**	⇓*i* Pg		**Pb**	**03 00 26.1**	**-0.4**
DRME				*e*Sg		**Sb**	**03 00 33.6**	**+1.0**
DRME	**Dracevica, Mon**	**0.43**	**343**	⇓*i* Pg		**Pb**	**03 00 26.1**	**-0.4**
DRME				*e*Sg		**Sb**	**03 00 33.6**	**+1.0**
PUK	**Puka**	**0.48**	**57**	*i* PG		**Pg**	**03 00 26.5**	**-0.8**
PUK				*i* SG		**Sg**	**03 00 31.7**	**-2.1**
PUK	**Puka**	**0.48**	**57**	Pg		**Pg**	**03 00 26.4**	**-0.8**
PUK				Sg		**Sg**	**03 00 32.7**	**-1.1**
PUK	**Puka**	**0.48**	**57**	Pg		**Pg**	**03 00 26.4**	**-0.8**
PUK				Sg		**Sg**	**03 00 32.7**	**-1.1**
TIR	**Tirane**	**0.58**	**138**	*e*Pg		**Pb**	**03 00 28.9**	**-0.1**
TIR	**Tirane**	**0.58**	**138**	*e*P		**Pb**	**03 00 28.5**	**-0.5**
TIR				*e*			03 00 38.8	
TIR	**Tirane**	**0.58**	**138**	⇑*i* P		**Pb**	**03 00 28.9**	**-0.1**
TIR	**Tirane**	**0.58**	**138**	S		**Sn**	**03 00 40.0**	**+0.2**
TIR	**Tirane**	**0.58**	**138**	*e*Pg		**Pb**	**03 00 28.5**	**-0.5**
TIR				*e*Sg		**Sn**	**03 00 38.8**	**-1.0**
TIR	**Tirane**	**0.58**	**138**	*e*Pg		**Pb**	**03 00 28.9**	**-0.1**
TIR				*e*S		**Sn**	**03 00 38.8**	**-1.0**
TIR	**Tirane**	**0.58**	**138**	Pg		**Pb**	**03 00 28.6**	**-0.5**
TIR				Sg		**Sb**	**03 00 38.1**	**+1.2**
	12µm,0.6s							
BUM	**Brajici-Budva**	**0.62**	**327**	⇓*i* Pg		**Pb**	**03 00 29.8**	**0.0**
BUM				*e*Sg		**Sb**	**03 00 39.7**	**+1.4**
BUM	**Brajici-Budva**	**0.62**	**327**	⇓P		**Pb**	**03 00 29.8**	**0.0**
BUM				S		**Sn**	**03 00 40.2**	**-0.9**
BUM	**Brajici-Budva**	**0.62**	**327**	⇓*i* Pg		**Pb**	**03 00 29.8**	**0.0**
BUM				*e*Sg		**Sb**	**03 00 39.7**	**+1.4**
BUM				S		**Sn**	**03 00 40.2**	**-0.9**
PDG	**Podgorica**	**0.65**	**354**	*e*Pg		**Pg**	**03 00 29.6**	**-0.7**
PDG				*e*Sg		**Sb**	**03 00 39.5**	**+0.5**
PDG	**Podgorica**	**0.65**	**354**	⇓*i* P		**Pb**	**03 00 29.9**	**-0.4**
PDG	**Podgorica**	**0.65**	**354**	⇓*i* P		**Pb**	**03 00 29.9**	**-0.4**
PDG				*e*Sg		**Sb**	**03 00 40.4**	**+1.3**
PDG	**Podgorica**	**0.65**	**354**	Pg		**Pg**	**03 00 29.7**	**-0.6**
PDG				Sg		**Sb**	**03 00 39.6**	**+0.5**
	14µm,0.4s							
TTG	**Podgorica**	**0.65**	**354**	⇑*i* Pg		**Pg**	**03 00 29.6**	**-0.7**
TTG				*e*Sg		**Sb**	**03 00 40.4**	**+1.3**
TTG	**Podgorica**	**0.65**	**354**	*e*P		**Pg**	**03 00 29.4**	**-0.9**
TTG	**Podgorica**	**0.65**	**354**	*e*Pg		**Pg**	**03 00 29.4**	**-0.9**
TTG	**Podgorica**	**0.65**	**354**	*e*P		**Pg**	**03 00 29.4**	**-0.9**
PHP	**Peshkopia**	**0.82**	**96**	*i* PG		**Pg**	**03 00 32.1**	**-1.4**
PHP				*i* SG		**Sb**	**03 00 45.0**	**+1.1**
PHP	**Peshkopia**	**0.82**	**96**	*i* Pg		**Pg**	**03 00 32.1**	**-1.4**
PHP				*i* Sg		**Sb**	**03 00 45.0**	**+1.1**
CEME	**Cevo**	**0.83**	**337**	⇓*i* Pg		**Pb**	**03 00 33.1**	**-0.3**
CEME				*e*Sg		**Sn**	**03 00 46.6**	**+0.4**
CEME	**Cevo**	**0.83**	**337**	⇓*i* Pg		**Pb**	**03 00 33.1**	**-0.3**
CEME				*e*Sg		**Sn**	**03 00 46.6**	**+0.4**
HCY	**Herceg Novi**	**0.92**	**317**	⇑*i* Pg		**Pg**	**03 00 34.5**	**-0.9**
HCY				*e*Sg		**Sn**	**03 00 49.2**	**+0.8**
HCY	**Herceg Novi**	**0.92**	**317**	⇑*i* Pg		**Pg**	**03 00 34.5**	**-0.9**
HCY				*e*Sg		**Sn**	**03 00 48.9**	**+0.5**
PVY	**Plav**	**0.93**	**29**	⇑*i* Pg		**Pg**	**03 00 34.3**	**-1.3**
PVY				*e*Sg		**Sn**	**03 00 49.7**	**+1.0**
NKME	**Niksic**	**1.03**	**343**	⇓*i* Pg		**Pb**	**03 00 36.4**	**-0.4**
NKME				*e*Sg		**Sn**	**03 00 53.6**	**+2.5**
NKME	**Niksic**	**1.03**	**343**	⇓*i* Pg		**Pb**	**03 00 36.4**	**-0.4**
NKME				*e*Sg		**Sn**	**03 00 53.6**	**+2.5**
NKY	**Niksic**	**1.07**	**346**	⇑*i* Pg		**Pb**	**03 00 36.9**	**-0.5**
NKY				*e*Sg		**Sn**	**03 00 53.8**	**+1.7**
NKY	**Niksic**	**1.07**	**346**	⇑*i* Pg		**Pb**	**03 00 36.9**	**-0.5**
NKY				*e*Sg		**Sn**	**03 00 53.8**	**+1.7**
KOME	**Kolasin**	**1.08**	**6**	⇓*i* Pg		**Pb**	**03 00 37.1**	**-0.5**
KOME				*e*Sg		**Sn**	**03 00 54.4**	**+2.1**
KOME	**Kolasin**	**1.08**	**6**	⇓*i* Pg		**Pb**	**03 00 37.1**	**-0.5**
KOME				*e*Sg		**Sn**	**03 00 54.4**	**+2.1**
PEJK	**Peje**	**1.10**	**38**	P		**Pb**	**03 00 36.9**	**-1.1**
PEJK				S		**Sn**	**03 00 55.6**	**+2.7**
BEY	**Berane**	**1.16**	**20**	P		**Pb**	**03 00 38.6**	**-0.5**
BEY	**Berane**	**1.16**	**20**	⇓*i* Pg		**Pn**	**03 00 38.9**	**0.0**
BEY				*e*Sg		**Sn**	**03 00 57.4**	**+3.0**
IVA	**Berane**	**1.16**	**20**	⇓*i* Pg		**Pn**	**03 00 38.9**	**0.0**
IVA				*e*Sg		**Sn**	**03 00 57.4**	**+3.0**
TREB	**Trebinje**	**1.20**	**322**	*e*Pg		**Pn**	**03 00 38.9**	**-0.4**
TREB				*e*Sg		**Sn**	**03 00 57.4**	**+2.3**
OHR	**Ohrid**	**1.28**	**121**	*i* Pn		**Pb**	**03 00 40.7**	**-0.3**
OHR				*i* Sn		**Sg**	**03 01 00.5**	**+1.7**
KRUS	**Krusevo**	**1.48**	**105**	*i* Pn		**Pb**	**03 00 43.8**	**-0.6**
KRUS				*i* Sn		**Sg**	**03 01 06.4**	**+1.1**
PLE	**Pljevlja**	**1.55**	**1**	⇓*i* Pg		**Pb**	**03 00 45.8**	**+0.1**
PLE				*e*Sg		**Sg**	**03 01 08.2**	**+0.7**
PLE	**Pljevlja**	**1.55**	**1**	P		**Pb**	**03 00 45.9**	**+0.2**
PLE				S		**Sg**	**03 01 06.0**	**-1.5**
PLE	**Pljevlja**	**1.55**	**1**	⇓*i* Pg		**Pb**	**03 00 45.8**	**+0.1**
PLE				S		**Sg**	**03 01 06.0**	**-1.5**
SJES	**Sjenica**	**1.55**	**17**	*e*Pn		**Pg**	**03 00 46.2**	**-1.1**
SJES				*e*Sn		**Sg**	**03 01 06.8**	**-0.7**
SJES	**Sjenica**	**1.55**	**17**	*e*Pn		**Pg**	**03 00 46.2**	**-1.1**
SJES				*e*Sn		**Sg**	**03 01 06.8**	**-0.7**
SKO	**Skopje**	**1.57**	**82**	*e*Pn		**Pb**	**03 00 45.5**	**-0.4**
SKO				*e*Sn		**Sg**	**03 01 08.0**	**-0.1**
SKO	**Skopje**	**1.57**	**82**	P		**Pb**	**03 00 45.7**	**-0.3**
SKO	**Skopje**	**1.57**	**82**	P		**Pb**	**03 00 45.7**	**-0.3**
SKO	**Skopje**	**1.57**	**82**	P		**Pb**	**03 00 45.7**	**-0.3**
SKO				*e*Sn		**Sg**	**03 01 08.0**	**-0.1**
SKO	**Skopje**	**1.57**	**82**	P		**Pb**	**03 00 45.7**	**-0.3**
SKO	**Skopje**	**1.57**	**82**	*i* Pn		**Pb**	**03 00 45.6**	**-0.4**
KBN	**Korca**	**1.58**	**136**	*i* PN		**Pg**	**03 00 47.0**	**-0.9**
KBN				*i* SN		**Sg**	**03 01 09.5**	**+1.0**
KBN	**Korca**	**1.58**	**136**	P		**Pg**	**03 00 47.7**	**-0.2**
KBN	**Korca**	**1.58**	**136**	*i* Pn		**Pg**	**03 00 47.0**	**-0.9**
KBN	**Korca**	**1.58**	**136**	P		**Pg**	**03 00 47.7**	**-0.2**
KBN				*i* Sn		**Sg**	**03 01 09.5**	**+1.0**
SMRK	**Smrekonice**	**1.61**	**47**	P		**Pn**	**03 00 45.5**	**+0.6**
STON	**Ston**	**1.64**	**312**	*i* Pn		**Pb**	**03 00 46.0**	**+0.7**
STON				*i* Sn		**Sb**	**03 01 07.3**	**-0.2**
STON	**Ston**	**1.64**	**312**	*e*Pn		**Pn**	**03 00 45.8**	**+0.5**
STON				*e*Sn		**Sb**	**03 01 07.5**	**0.0**
STON	**Ston**	**1.64**	**312**	*e*Pn		**Pn**	**03 00 45.8**	**+0.5**
STON				Sn		**Sb**	**03 01 07.2**	**-0.2**
MESG	**Mesagne**	**1.64**	**224**	Pn		**Pn**	**03 00 45.7**	**+0.3**
	8µm,0.6s							
MESG	**Mesagne**	**1.64**	**224**	Pn		**Pn**	**03 00 45.7**	**+0.3**
	8µm,0.6s							
BIA	**Bitola**	**1.67**	**116**	P		**Pg**	**03 00 48.7**	**-0.8**
BIA	**Bitola**	**1.67**	**116**	P		**Pg**	**03 00 48.7**	**-0.8**
BIA	**Bitola**	**1.67**	**116**	P		**Pg**	**03 00 48.7**	**-0.8**
BIA	**Bitola**	**1.67**	**116**	*i* Pn		**Pg**	**03 00 48.7**	**-0.8**
BIA				*i* Sn		**Sg**	**03 01 11.6**	**+0.5**
FASA	**Fasano**	**1.79**	**238**	*e*Pn		**Pn**	**03 00 48.0**	**+0.6**
CGL1	**Ceglie Messapi**	**1.81**	**232**	*e*Pn		**Pn**	**03 00 48.3**	**+0.6**
FNA	**Florina**	**1.82**	**122**	*i* PN		**Pb**	**03 00 50.0**	**-0.2**
FNA	**Florina**	**1.82**	**122**	P		**Pb**	**03 00 50.3**	**0.0**
FNA	**Florina**	**1.82**	**122**	P		**Pb**	**03 00 50.3**	**0.0**
FNA	**Florina**	**1.82**	**122**	*i* Pn		**Pb**	**03 00 50.0**	**-0.2**
FNA	**Florina**	**1.82**	**122**	P		**Pb**	**03 00 50.3**	**0.0**
FNA	**Florina**	**1.82**	**122**	P		**Pb**	**03 00 50.3**	**0.0**
SCTE	**Santa Cesarea**	**1.83**	**202**	Pn		**Pn**	**03 00 48.1**	**+0.1**
SCTE				Sn		**Sb**	**03 01 12.7**	**-0.3**

TEKS				*e*Sn	Sn	03 01 35.8	+1.8	
TEKS	**Tekeris**	2.77	3	*e*Pn	Pn	03 01 02.6	+1.6	
TEKS				*e*Sn	Sn	03 01 35.8	+1.8	
ORI	**Oriolo Calabro**	2.79	233	P	Pn	03 01 02.2	+1.0	
ORI	**Oriolo Calabro**	2.79	233	P	Pn	03 01 02.2	+1.0	
SVIS	**Svilajnac**	2.84	28	*e*Pn	Pn	03 01 02.5	+0.7	
ZAPS	**Zavoj**	2.85	57	*e*Pn	Pn	03 01 04.5	+2.5	
ZAPS				*e*Sn	Sn	03 01 38.3	+2.4	
ZAPS	**Zavoj**	2.85	57	*e*Pn	Pn	03 01 04.5	+2.5	
ZAPS				*e*Sn	Sn	03 01 38.3	+2.4	
LIT	**Litokhoron**	2.91	124	P	Pn	03 01 04.3	+1.5	
LIT	**Litokhoron**	2.91	124	P	Pn	03 01 04.3	+1.5	
LIT	**Litokhoron**	2.91	124	P	Pn	03 01 04.3	+1.5	
LIT	**Litokhoron**	2.91	124	P	Pn	03 01 04.3	+1.5	
VULT	**Monte Vulture** 3µm,0.6s	2.93	255	Pn	Pn	03 01 04.1	+0.9	
VULT	**Monte Vulture** 3µm,0.6s	2.93	255	Pn	Pn	03 01 04.1	+0.9	
ZAGS	**Zajecar**	2.94	45	*e*Pn	Pn	03 01 04.6	+1.4	
ZAGS				*e*Sn	Sn	03 01 39.5	+1.5	
ZAGS	**Zajecar**	2.94	45	*e*Pn	Pn	03 01 04.6	+1.4	
ZAGS				*e*Sn	Sn	03 01 39.5	+1.5	
SCHR	**S. Chirico Rap** 1µm,0.7s	2.94	239	Pn	Pn	03 01 03.8	+0.5	
THE	**Thessaloniki**	2.96	112	*i* PN	Pn	03 01 05.1	+1.6	
THE	**Thessaloniki**	2.96	112	P	Pn	03 01 05.0	+1.6	
THE	**Thessaloniki**	2.96	112	P	Pn	03 01 05.0	+1.6	
THE	**Thessaloniki**	2.96	112	P	Pn	03 01 05.0	+1.6	
THE	**Thessaloniki**	2.96	112	P	Pn	03 01 05.0	+1.6	
DSL	**Palaion Diasel**	2.96	153	P	Pn	03 01 05.3	+1.8	
DSL	**Palaion Diasel**	2.96	153	P	Pn	03 01 05.3	+1.8	
DSL	**Palaion Diasel**	2.96	153	P	Pn	03 01 05.3	+1.8	
SALB	**San Lorenzo Be** 2µm,0.8s	2.97	231	Pn	Pn	03 01 03.7	0.0	
SALB	**San Lorenzo Be** 2µm,0.8s	2.97	231	Pn	Pn	03 01 03.7	0.0	
VTS	**Vitosha**	2.98	73	*e*Pn	Pn	03 01 06.0	+2.1	
VTS				*e*Sn	Sn	03 01 40.8	+1.5	
VTS	**Vitosha**	2.98	73	*e*P	Pn	03 01 05.5	+1.6	
VTS	**Vitosha**	2.98	73	⇑*i*P	Pn	03 01 06.2	+2.1	
VTS	**Vitosha**	2.98	73	S	Sn	03 01 42.7	+3.4	
VTS	**Vitosha**	2.98	73	*e*Pn	Pn	03 01 05.5	+1.6	
VTS	**Vitosha**	2.98	73	*e*P	Pn	03 01 05.5	+1.6	
VTS	**Vitosha**	2.98	73	*e*Pn	Pn	03 01 06.0	+2.1	
VTS				*e*Sn	Sn	03 01 40.8	+1.5	
VTS	**Vitosha**	2.98	73	P	Pn	03 01 06.1	+2.1	
PIPA	**Pietrapaola** 1µm,0.9s	3.00	221	Pn	Pn	03 01 04.3	+0.3	
PIPA	**Pietrapaola** 1µm,0.9s	3.00	221	Pn	Pn	03 01 04.3	+0.3	
THL	**Klokotos Trika**	3.00	137	P	Pn	03 01 05.8	+1.8	
THL	**Klokotos Trika**	3.00	137	P	Pn	03 01 05.8	+1.8	
BLJ	**Bijeljina**	3.00	359	*e*Pn	Pn	03 01 05.2	+1.1	
MCEL	**Monticello** 2µm,0.8s	3.05	243	Pn	Pn	03 01 05.4	+0.5	
MCEL	**Monticello** 2µm,0.8s	3.05	243	Pn	Pn	03 01 05.4	+0.5	
HORT	**Hortiatis**	3.06	111	P	Pn	03 01 06.4	+1.4	
HORT	**Hortiatis**	3.06	111	P	Pn	03 01 06.4	+1.4	
HORT	**Hortiatis**	3.06	111	P	Pn	03 01 06.4	+1.4	
LADO	**San Nicola del** 527nm,0.7s	3.08	217	Pn	Pn	03 01 05.3	+0.1	
LADO	**San Nicola del** 527nm,0.7s	3.08	217	Pn	Pn	03 01 05.3	+0.1	
MRLC	**Muro Lucano** 888nm,0.5s	3.08	252	Pn	Pn	03 01 06.1	+0.8	
MRLC	**Muro Lucano** 888nm,0.5s	3.08	252	Pn	Pn	03 01 06.1	+0.8	
DOB	**Doboj**	3.09	343	*e*Pn	Pn	03 01 06.2	+0.9	
DOB				*e*Sn	Sn	03 01 43.5	+1.7	
MTSN	**Montesano sull** 906nm,0.5s	3.12	242	Pn	Pn	03 01 06.5	+0.8	
MTSN	**Montesano sull** 906nm,0.5s	3.12	242	Pn	Pn	03 01 06.5	+0.8	
KUBS	**Kucevo**	3.13	32	*e*Pn	Pn	03 01 05.8	-0.1	
KUBS				*e*Sn	Sn	03 01 43.2	+0.3	
KUBS	**Kucevo**	3.13	32	*e*Pn	Pn	03 01 05.8	-0.1	
KUBS				*e*Sn	Sn	03 01 43.2	+0.3	
SLCN	**Sala Consilina** 1µm,0.5s	3.13	245	Pn	Pn	03 01 06.8	+0.8	
SLCN	**Sala Consilina** 1µm,0.5s	3.13	245	Pn	Pn	03 01 06.8	+0.8	
BEO	**Beograd**	3.14	15	*e*Pn	Pn	03 01 07.1	+1.2	
BEO				*e*Sn	Sn	03 01 45.4	+2.5	
BEO	**Beograd**	3.14	15	P	Pn	03 01 07.1	+1.2	
BEO				S	Sn	03 01 45.4	+2.5	
BEO	**Beograd**	3.14	15	*e*Pn	Pn	03 01 07.1	+1.2	
BEO				*e*Sn	Sn	03 01 45.4	+2.5	
LKD2	**Lefkada island**	3.15	161	*i* PN	Pn	03 01 07.1	+0.9	
LKD2	**Lefkada island**	3.15	161	*i* Pn	Pn	03 01 06.9	+0.7	
LKD2	**Lefkada island**	3.15	161	*i* Pn	Pn	03 01 07.1	+0.9	
LKD2	**Lefkada island**	3.15	161	P	Pn	03 01 06.9	+0.7	
MELA	**Melanico ??? S** 3µm,0.7s	3.16	270	Pn	Pn	03 01 07.4	+1.1	
MELA	**Melanico ??? S** 3µm,0.7s	3.16	270	Pn	Pn	03 01 07.4	+1.1	
SOH	**Sokhos**	3.16	106	P	Pn	03 01 08.3	+1.9	
SOH	**Sokhos**	3.16	106	P	Pn	03 01 08.3	+1.9	
SOH	**Sokhos**	3.16	106	P	Pn	03 01 08.3	+1.9	
SOH	**Sokhos**	3.16	106	P	Pn	03 01 08.3	+1.9	
CAFE	**Carife**	3.19	258	Pn	Pn	03 01 08.2	+1.5	
CAFE	**Carife**	3.19	258	Pn	Pn	03 01 08.2	+1.5	
CUC	**Castrocucco**	3.22	238	*e*Pn	Pn	03 01 08.2	+1.1	
CUC				*e*S	Sn	03 01 47.6	+2.6	
CUC	**Castrocucco**	3.22	238	*e*Pn	Pn	03 01 08.2	+1.1	
CUC				*e*S	Sn	03 01 47.7	+2.6	
SNAL	**S. Angelo Dei** 4µm,1.3s	3.23	256	Pn	Pn	03 01 08.1	+0.8	
SNAL	**S. Angelo Dei** 4µm,1.3s	3.23	256	Pn	Pn	03 01 08.1	+0.8	
SRS	**Serrai**	3.26	100	P	Pn	03 01 09.4	+1.8	
SRS	**Serrai**	3.26	100	P	Pn	03 01 09.4	+1.8	
SRS	**Serrai**	3.26	100	P	Pn	03 01 09.4	+1.8	
SRS	**Serrai**	3.26	100	P	Pn	03 01 09.4	+1.8	
TIP	**Timpagrande**	3.27	218	⇓*i*P	Pn	03 01 08.4	+0.6	
TIP	**Timpagrande**	3.27	218	*e*Pn	Pn	03 01 08.0	+0.2	
TIP	**Timpagrande**	3.27	218	*e*Pn	Pn	03 01 08.0	+0.2	
TIP	**Timpagrande**	3.27	218	⇓*i*P	Pn	03 01 08.4	+0.6	
TIP	**Timpagrande**	3.27	218	P	Pn	03 01 08.2	+0.4	
TIP	**Timpagrande** 2µm,1.5s	3.27	218	Pn	Pn	03 01 07.9	+0.2	
T0712	**Santa Domenica** 864nm,0.8s	3.30	235	Pn	Pn	03 01 09.5	+1.3	
MCRV	**Calabrutti - M** 725nm,0.3s	3.31	254	Pn	Pn	03 01 08.8	+0.4	
MCRV	**Calabrutti - M** 725nm,0.3s	3.31	254	Pn	Pn	03 01 08.8	+0.4	
BLY	**Banja Luka**	3.36	333	*e*Pn	Pn	03 01 11.5	+2.4	
BLY				*e*Sn	Sn	03 01 51.1	+2.6	
BLY	**Banja Luka**	3.36	333	⇓*i*P	Pn	03 01 11.5	+2.4	
BLY	**Banja Luka**	3.36	333	*e*Pn	Pn	03 01 10.8	+1.7	
BLY	**Banja Luka**	3.36	333	*e*Pn	Pn	03 01 10.8	+1.7	
BLY	**Banja Luka**	3.36	333	⇓*i*P	Pn	03 01 11.5	+2.4	
BLY				*e*Sn	Sn	03 01 50.9	+2.4	
BLY	**Banja Luka** 2µm,0.7s	3.36	333	Pn	Pn	03 01 11.2	+2.1	
FGSL	**Fruska Gora**	3.39	5	*e*Pn	Pn	03 01 10.4	+0.9	
FGSL				*e*Sn	Sn	03 01 50.9	+1.6	
FRGS	**Fruska Gora**	3.39	5	*e*Pn	Pn	03 01 10.4	+0.9	
FRGS				*e*Sn	Sn	03 01 50.9	+1.6	
PLG	**Polygyros**	3.40	113	P	Pn	03 01 11.3	+1.7	
PLG	**Polygyros**	3.40	113	P	Pn	03 01 11.3	+1.7	
PLG	**Polygyros**	3.40	113	P	Pn	03 01 11.3	+1.7	
PLG	**Polygyros**	3.40	113	P	Pn	03 01 11.3	+1.7	
NVR	**Nevrokopi**	3.41	96	P	Pn	03 01 11.9	+2.1	
NVR	**Nevrokopi**	3.41	96	P	Pn	03 01 11.9	+2.1	
NVR	**Nevrokopi**	3.41	96	P	Pn	03 01 11.9	+2.1	
SERS	**Sersale** 1µm,0.9s	3.41	217	Pn	Pn	03 01 09.7	-0.1	
SERS	**Sersale** 1µm,0.9s	3.41	217	Pn	Pn	03 01 09.7	-0.1	
EVR	**Evrytania**	3.42	146	P	Pn	03 01 12.4	+2.5	
EVR	**Evrytania**	3.42	146	P	Pn	03 01 12.4	+2.5	
EVR	**Evrytania**	3.42	146	P	Pn	03 01 12.4	+2.5	
PDO	**Prodromos**	3.47	156	P	Pn	03 01 11.5	+0.9	
PDO	**Prodromos**	3.47	156	P	Pn	03 01 11.5	+0.9	
SACR	**S. Croce Del S** 2µm,1.4s	3.50	265	Pn	Pn	03 01 12.5	+1.4	
SACR	**S. Croce Del S** 2µm,1.4s	3.50	265	Pn	Pn	03 01 12.5	+1.4	
PVO	**Paravola**	3.57	151	P	Pn	03 01 13.6	+1.7	
PVO	**Paravola**	3.57	151	P	Pn	03 01 13.6	+1.7	
AGG	**Agios Georgios**	3.57	139	*e*P	Pn	03 01 13.7	+1.7	
AGG	**Agios Georgios**	3.57	139	*e*Pn	Pn	03 01 13.7	+1.7	
AGG	**Agios Georgios**	3.57	139	*e*P	Pn	03 01 13.7	+1.7	
AGG	**Agios Georgios**	3.57	139	P	Pn	03 01 13.7	+1.7	
FYTO	**Fytoko, Volos**	3.62	130	P	Pn	03 01 13.6	+1.1	
FYTO	**Fytoko, Volos**	3.62	130	P	Pn	03 01 13.6	+1.1	
FYTO	**Fytoko, Volos**	3.62	130	P	Pn	03 01 13.6	+1.1	
PAOL	**Paolisi**	3.67	260	Pn	Pn	03 01 15.1	+1.7	
PAOL	**Paolisi**	3.67	260	Pn	Pn	03 01 15.1	+1.7	
DJES	**Djerdap**	3.70	38	*e*Pn	Pn	03 01 15.2	+1.5	
DJES				*e*Sn	Sn	03 01 58.8	+2.0	
GRI	**Girifalco**	3.71	218	P	Pn	03 01 14.1	+0.3	
GRI	**Girifalco** 539nm,0.5s	3.71	218	Pn	Pn	03 01 14.1	+0.3	
GRI	**Girifalco** 539nm,0.5s	3.71	218	Pn	Pn	03 01 14.1	+0.3	
VLS	**Valsamata**	3.72	165	P	Pn	03 01 14.0	0.0	
VLS	**Valsamata**	3.72	165	P	Pn	03 01 14.0	0.0	
VLS	**Valsamata**	3.72	165	P	Pn	03 01 14.0	0.0	
VLS	**Valsamata**	3.72	165	P	Pn	03 01 14.0	0.0	
ANX	**Ano Chora**	3.74	147	P	Pn	03 01 16.7	+2.3	
ANX	**Ano Chora**	3.74	147	P	Pn	03 01 16.7	+2.3	
PAIG	**Paliouri**	3.77	118	P	Pn	03 01 15.4	+0.8	
PAIG	**Paliouri**	3.77	118	P	Pn	03 01 15.4	+0.8	
PAIG	**Paliouri**	3.77	118	P	Pn	03 01 15.4	+0.8	
PAIG	**Paliouri**	3.77	118	P	Pn	03 01 15.4	+0.8	
OUR	**Ouranopolis**	3.79	111	P	Pn	03 01 16.4	+1.5	
OUR	**Ouranopolis**	3.79	111	P	Pn	03 01 16.4	+1.5	
OUR	**Ouranopolis**	3.79	111	P	Pn	03 01 16.4	+1.5	
OUR	**Ouranopolis**	3.79	111	P	Pn	03 01 16.4	+1.5	
XOR	**Xorichti**	3.79	128	P	Pn	03 01 15.5	+0.5	
XOR	**Xorichti**	3.79	128	P	Pn	03 01 15.5	+0.5	
XOR	**Xorichti**	3.79	128	P	Pn	03 01 15.5	+0.5	
UDBI	**Udbina**	3.80	318	*i* Pn	Pn	03 01 17.9	+2.7	
UDBI				Sn	Sn	03 02 02.0	+2.7	
UDBI	**Udbina**	3.80	318	*i* Pn	Pn	03 01 17.8	+2.7	
UDBI				Sn	Sn	03 02 02.0	+2.7	
MIDA	**Miranda** 777nm,0.5s	3.82	270	Pn	Pn	03 01 16.7	+1.3	
MIDA	**Miranda** 777nm,0.5s	3.82	270	Pn	Pn	03 01 16.7	+1.3	
BANR	**Banloc**	3.83	19	⇑*i*P	Pn	03 01 17.0	+1.6	
BANR	**Banloc**	3.83	19	⇑*i*P	Pn	03 01 17.0	+1.6	
KFL	**Anninata**	3.83	163	P	Pn	03 01 15.9	+0.4	
KFL	**Anninata**	3.83	163	P	Pn	03 01 15.9	+0.4	
NEO	**Neokhori**	3.85	129	P	Pn	03 01 16.7	+1.0	
NEO	**Neokhori**	3.85	129	P	Pn	03 01 16.7	+1.0	
NEO	**Neokhori**	3.85	129	P	Pn	03 01 16.7	+1.0	
EFP	**Efpalio**	3.88	149	P	Pn	03 01 18.1	+2.0	
EFP	**Efpalio**	3.88	149	P	Pn	03 01 18.1	+2.0	
SERG	**Sergoula**	3.95	147	P	Pn	03 01 19.2	+2.0	
SERG	**Sergoula**	3.95	147	P	Pn	03 01 19.2	+2.0	
KAVA	**Kavala**	3.96	100	P	Pn	03 01 19.2	+1.9	
KAVA	**Kavala**	3.96	100	P	Pn	03 01 19.2	+1.9	
KAVA	**Kavala**	3.96	100	P	Pn	03 01 19.2	+1.9	
CERA	**Filignano** 1µm,0.6s	4.00	269	Pn	Pn	03 01 19.7	+1.9	
CERA	**Filignano** 1µm,0.6s	4.00	269	Pn	Pn	03 01 19.7	+1.9	
KALE	**Kalithea**	4.00	147	P	Pn	03 01 19.7	+1.8	
KALE	**Kalithea**	4.00	147	P	Pn	03 01 19.7	+1.8	
KALE	**Kalithea**	4.00	147	P	Pn	03 01 19.7	+1.8	
PLD	**Plovdiv**	4.00	84	P	Pn	03 01 20.3	+2.4	
PLD	**Plovdiv**	4.00	84	P	Pn	03 01 20.3	+2.4	
SRE	**Strehaia**	4.03	43	P	Pn	03 01 20.5	+2.3	
SRE	**Strehaia**	4.03	43	⇑*i*P	Pn	03 01 20.5	+2.3	
SRE	**Strehaia**	4.03	43	P	Pn	03 01 20.5	+2.3	
RLS	**Riolos of Patr**	4.06	156	P	Pn	03 01 19.5	+0.9	
RLS	**Riolos of Patr**	4.06	156	P	Pn	03 01 19.5	+0.9	
RLS	**Riolos of Patr**	4.06	156	P	Pn	03 01 19.5	+0.9	
LAKA	**Lakka**	4.07	149	P	Pn	03 01 20.3	+1.5	
LAKA	**Lakka**	4.07	149	P	Pn	03 01 20.3	+1.5	
LAKA	**Lakka**	4.07	149	P	Pn	03 01 20.3	+1.5	
VTN	**Vitineika**	4.11	159	P	Pg	03 01 38.8	+2.7	
DSF	**Desfina**	4.15	143	P	Pn	03 01 21.2	+1.2	
DSF	**Desfina**	4.15	143	P	Pn	03 01 21.2	+1.2	
DSF	**Desfina**	4.15	143	P	Pn	03 01 21.2	+1.2	
BZS	**Buzias**	4.17	22	*e*Pn	Pn	03 01 21.3	+1.1	
BZS				*e*Sn	Sn	03 02 08.1	-0.4	
BZS	**Buzias**	4.17	22	⇓*i*P	Pn	03 01 21.5	+1.3	
BZS	**Buzias**	4.17	22	⇓*i*P	Pn	03 01 21.5	+1.3	
BZS				*e*Sn	Sn	03 02 08.1	-0.4	
LKR	**Lokris**	4.19	137	P	Pn	03 01 21.7	+1.3	
LKR	**Lokris**	4.19	137	P	Pn	03 01 21.7	+1.3	
LKR	**Lokris**	4.19	137	P	Pn	03 01 21.7	+1.3	
DRO	**Drossia**	4.23	154	P	Pn	03 01 22.1	+1.1	
DRO	**Drossia**	4.23	154	P	Pn	03 01 22.1	+1.1	
OC9	**Casamicciola**	4.24	258	Pn	Pn	03 01 22.0	+1.0	
OC9	**Casamicciola**	4.24	258	Pn	Pn	03 01 22.0	+1.0	
NVLJ	**Novalja**	4.30	312	*i* Pn	Pn	03 01 23.4	+1.5	
NVLJ				Sn	Sn	03 02 11.0	-0.5	
NVLJ	**Novalja**	4.30	312	*i* Pn	Pn	03 01 23.3	+1.5	
NVLJ				Sn	Sn	03 02 11.0	-0.5	
KLV	**Kalavryta, Ach**	4.31	149	P	Pn	03 01 23.8	+1.7	
KLV	**Kalavryta, Ach**	4.31	149	P	Pn	03 01 23.8	+1.7	
KLV	**Kalavryta, Ach**	4.31	149	P	Pn	03 01 23.8	+1.7	
CEL	**Celeste**	4.41	218	*e*Pn	Pn	03 01 23.5	+0.1	
CEL				*e*S	Sn	03 02 13.2	-1.1	
CEL	**Celeste** 290nm,0.5s	4.41	218	Pn	Pn	03 01 23.8	+0.4	
CEL				*e*S	Sn	03 02 13.2	-1.1	
CEL	**Celeste** 290nm,0.5s	4.41	218	Pn	Pn	03 01 23.8	+0.4	
MORH	**M¯‡r¡gy, Hung**	4.46	354	*e*Pn	Pn	03 01 25.0	+0.8	
MORH				*e*Sn	Sn	03 02 15.6	0.0	
AQU	**L'Aquila**	4.47	279	*e*P	Pn	03 01 25.8	+1.5	
AQU				*e*S	Sn	03 02 19.1	+3.3	
AQU	**L'Aquila**	4.47	279	*e*Pn	Pn	03 01 25.8	+1.5	
AQU				*e*S	Sn	03 02 19.1	+3.3	
AQU	**L'Aquila**	4.47	279	⇓*i*Pn	Pn	03 01 25.7	+1.5	
AQU				*e*Sn	Sn	03 02 17.2	+1.4	
AQU				*e*S	Sn	03 02 19.1	+3.3	
GUR	**Goura**	4.47	148	P	Pn	03 01 25.4	+1.0	
GUR	**Goura**	4.47	148	P	Pn	03 01 25.4	+1.0	
GUR	**Goura**	4.47	148	P	Pn	03 01 25.4	+1.0	
SOI	**Samo**	4.49	215	P	Pn	03 01 24.2	-0.3	
SOI	**Samo**	4.49	215	P	Pn	03 01 24.2	-0.3	
MSRU	**Castanea** 572nm,0.3s	4.59	221	Pn	Pn	03 01 24.8	-1.1	
MSRU	**Castanea** 572nm,0.5s	4.59	221	Pn	Pn	03 01 24.8	-1.1	
AMT	**Artemida-Makis**	4.62	156	P	Pn	03 01 27.4	+1.1	
AMT	**Artemida-Makis**	4.62	156	P	Pn	03 01 27.4	+1.1	
LTK	**Loutraki**	4.67	142	P	Pn	03 01 27.4	+0.4	
LTK	**Loutraki**	4.67	142	P	Pn	03 01 27.4	+0.4	
LTK	**Loutraki**	4.67	142	P	Pn	03 01 27.4	+0.4	
ATN	**Antennamare**	4.69	221	Pn	Pn	03 01 26.0	-1.4	
ATN	**Antennamare**	4.69	221	Pn	Pn	03 01 26.0	-1.4	
RDO	**Rodhopi**	4.69	96	P	Pn	03 01 29.2	+1.9	
RDO	**Rodhopi**	4.69	96	P	Pn	03 01 29.2	+1.9	
RDO	**Rodhopi**	4.69	96	P	Pn	03 01 29.2	+1.9	
MILZ	**Milazzo** 423nm,0.5s	4.72	223	Pn	Pn	03 01 26.6	-1.1	
MILZ	**Milazzo** 423nm,0.5s	4.72	223	Pn	Pn	03 01 26.6	-1.1	
VILL	**Villia**	4.72	139	P	Pn	03 01 29.3	+1.5	
VILL	**Villia**	4.72	139	P	Pn	03 01 29.3	+1.5	
ZAG	**Zagreb**	4.72	330	⇓*i*Pn	Pn	03 01 29.2	+1.5	
ZAG				*e*Sn	Sn	03 02 22.8	+0.8	
LLI	**Lipari** 953nm,0.6s	4.74	227	Pn	Pn	03 01 28.0	0.0	
LLI	**Lipari** 953nm,0.6s	4.74	227	Pn	Pn	03 01 28.0	0.0	
NRCA	**Norcia** 1µm,0.6s	4.74	285	Pn	Pn	03 01 29.8	+1.7	
NRCA	**Norcia** 1µm,0.6s	4.74	285	Pn	Pn	03 01 29.8	+1.7	
OZLJ	**Ozalj**	4.76	325	*i* Pn	Pn	03 01 29.9	+1.7	
OZLJ				Sn	Sn	03 02 22.5	-0.4	
OZLJ	**Ozalj**	4.76	325	*i* Pn	Pn	03 01 29.8	+1.7	
OZLJ				Sn	Sn	03 02 22.4	-0.4	
BOJS	**Bojanci**	4.76	323	*e*Pn	Pn	03 01 30.0	+1.7	
BOJS				*i* Sn	Sn	03 02 23.1	0.0	
BOJS	**Bojanci**	4.76	323	Pn	Pn	03 01 30.0	+1.7	
BOJS				*i* Sn	Sn	03 02 23.1	0.0	
SIRR	**Siria**	4.79	20	⇓*i*P	Pn	03 01 29.2	+0.6	
SIRR	**Siria**	4.79	20	⇓*i*P	Pn	03 01 29.2	+0.6	
SIRR				S	Sn	03 02 23.8	+0.2	
LIA	**Limnos Island**	4.81	111	P	Pn	03 01 30.3	+1.4	
LIA	**Limnos Island**	4.81	111	P	Pn	03 01 30.3	+1.4	
LIA	**Limnos Island**	4.81	111	P	Pn	03 01 30.3	+1.4	
DEV	**Deva**	4.84	31	⇓*i*P	Pn	03 01 31.1	+1.8	
DEV	**Deva**	4.84	31	⇓*i*P	Pn	03 01 31.1	+1.8	
DEV				S	Sn	03 02 25.7	+0.8	
SMTH	**Samothraki Isl**	4.85	104	P	Pn	03 01 30.8	+1.3	
SMTH	**Samothraki Isl**	4.85	104	P	Pn	03 01 30.8	+1.3	
SMTH	**Samothraki Isl**	4.85	104	P	Pn	03 01 30.8	+1.3	
LOT	**Lotru**	4.87	40	⇓*i*P	Pn	03 01 32.1	+2.2	
LOT	**Lotru**	4.87	40	⇓*i*P	Pn	03 01 32.1	+2.2	
LOT				S	Sn	03 02 27.7	+1.8	
SENI	**Senigallia** 6611µm,71.0s	4.90	295	Pn	Pn	03 01 31.9	+1.8	
SENI	**Senigallia** 6611µm,71.0s	4.90	295	Pn	Pn	03 01 31.9	+1.8	
CRES	**Cresnjev**	4.93	326	⇓*i*Pn	Pn	03 01 32.0	+1.4	
VLX	**Vlachokerasia**	4.99	151	P	Pn	03 01 34.1	+2.6	
VLX	**Vlachokerasia**	4.99	151	P	Pn	03 01 34.1	+2.6	
VLX	**Vlachokerasia**	4.99	151	P	Pn	03 01 34.1	+2.6	
ITM	**Ithomi**	5.01	156	P	Pn	03 01 32.3	+0.6	
ITM	**Ithomi**	5.01	156	P	Pn	03 01 32.3	+0.6	
ITM	**Ithomi**	5.01	156	P	Pn	03 01 32.3	+0.6	
ARVD	**Arcevia** 322nm,0.8s	5.03	292	Pn	Pn	03 01 32.9	+0.9	
ARVD	**Arcevia** 322nm,0.8s	5.03	292	Pn	Pn	03 01 32.9	+0.9	
BEHE	**Becsehely**	5.04	339	*e*Pn	Pn	03 01 33.9	+1.8	
BEHE				*e*Sn	Sn	03 02 33.5	+3.6	
BEHE	**Becsehely**	5.04	339	⇓*i*Pn	Pn	03 01 33.8	+1.7	
BEHE				*e*Sn	Sn	03 02 30.7	+0.8	
PTL	**Penteli**	5.09	136	P	Pn	03 01 33.5	+0.7	
PTL	**Penteli**	5.09	136	P	Pn	03 01 33.5	+0.7	
PTL	**Penteli**	5.09	136	P	Pn	03 01 33.5	+0.7	
GOLR		5.11	51	⇓*i*P	Pn	03 01 35.0	+1.9	
GOLR		5.11	51	⇓*i*P	Pn	03 01 35.0	+1.9	
ALN	**Alexandroupoli**	5.12	98	*e*P	Pn	03 01 36.2	+3.1	
ALN	**Alexandroupoli**	5.12	98	P	Pn	03 01 35.1	+2.0	
ALN	**Alexandroupoli**	5.12	98	P	Pn	03 01 35.1	+2.0	
ALN	**Alexandroupoli**	5.12	98	P	Pn	03 01 35.1	+2.0	
ALN	**Alexandroupoli**	5.12	98	P	Pn	03 01 35.1	+2.0	
ATCC	**AVT- Casa Cast** 970nm,0.4s	5.16	288	Pn	P

	113nm,1.0s								
ALJA	**Alia**	**5.90**	**229**		Pn		**Pn**	**03 01 45.3**	**+1.3**
	113nm,1.0s								
SABO	**M.te Sabotino**	**5.91**	**317**		Pn		**Pn**	**03 01 44.7**	**+0.7**
	704nm,0.4s								
SABO	**M.te Sabotino**	**5.91**	**317**		Pn		**Pn**	**03 01 44.7**	**+0.7**
	704nm,0.4s								
SFI	**Santa Sofia**	**5.91**	**294**		P		**Pn**	**03 01 45.7**	**+1.6**
SFI	**Santa Sofia**	**5.91**	**294**		P		**Pn**	**03 01 45.7**	**+1.6**
	3.0nm,0.6s								
RKY	**Sarkoy-Tekirda**	**6.00**	**98**		*e*P		**Pn**	**03 01 47.6**	**+2.3**
CADS	**Cadrg**	**6.01**	**320**		*i* Pn		**Pn**	**03 01 46.3**	**+0.8**
CADS	**Cadrg**	**6.01**	**320**		*i* Pn		**Pn**	**03 01 46.3**	**+0.8**
MLR	**Muntele Rosu**	**6.05**	**50**		P		**Pn**	**03 01 48.6**	**+2.5**
	4.4nm,0.3s,baz=287,slow=5.1,SNR=39								
MLR					S		**Sn**	**03 02 53.5**	**-1.4**
	2.1nm,0.3s,baz=320,slow=17,SNR=3.8								
MLR	**Muntele Rosu**	**6.05**	**50**		*e*P		**Pn**	**03 01 47.9**	**+1.8**
MLR					S		**Sn**	**03 02 53.6**	**-1.4**
MLR	**Muntele Rosu**	**6.05**	**50**		*e*Pn		**Pn**	**03 01 47.9**	**+1.8**
MLR					S		**Sn**	**03 02 53.5**	**-1.4**
MLR	**Muntele Rosu**	**6.05**	**50**		*e*P		**Pn**	**03 01 47.9**	**+1.8**
ARSA	**Arzberg**	**6.12**	**335**		P		**Pn**	**03 01 48.3**	**+1.4**
	24nm,1.1s,SNR=24								
ARSA	**Arzberg**	**6.12**	**335**		*e*Pn		**Pn**	**03 01 48.3**	**+1.4**
	24nm,1.1s,SNR=24								
PSZ	**Piszkesteto**	**6.15**	**3**		*e*P		**Pn**	**03 01 48.3**	**+0.9**
PSZ					*e*S		**Sn**	**03 02 58.6**	**+1.3**
PSZ	**Piszkesteto**	**6.15**	**3**	‖	*i* P		**Pn**	**03 01 48.5**	**+1.1**
PSZ	**Piszkesteto**	**6.15**	**3**		S		**Sn**	**03 02 59.9**	**+2.6**
PSZ	**Piszkesteto**	**6.15**	**3**		*e*Pn		**Pn**	**03 01 48.3**	**+0.9**
PSZ					*e*Sn		**Sn**	**03 02 55.8**	**-1.5**
PSZ	**Piszkesteto**	**6.15**	**3**		*e*Pn		**Pn**	**03 01 48.3**	**+0.9**
PSZ					*e*S		**Sn**	**03 02 58.6**	**+1.3**
PSZ	**Piszkesteto**	**6.15**	**3**		*e*P		**Pn**	**03 01 48.3**	**+0.9**
PSZ					*e*S		**Sn**	**03 02 58.6**	**+1.3**
CHOS	**Chios island**	**6.16**	**121**		*e*P		**Pn**	**03 01 49.6**	**+2.1**
KRBG	**Karabiga-Canak**	**6.16**	**100**		*e*P		**Pn**	**03 01 49.9**	**+2.4**
ISR	**Istrita**	**6.21**	**55**	‖	*i* P		**Pn**	**03 01 51.4**	**+3.2**
ISR	**Istrita**	**6.21**	**55**	‖	*i* P		**Pn**	**03 01 51.4**	**+3.2**
KYTH	**Kithira**	**6.21**	**151**		P		**Pn**	**03 01 52.6**	**+4.4**
KYTH	**Kithira**	**6.21**	**151**		P		**Pn**	**03 01 52.6**	**+4.4**
SOP	**Sopron**	**6.23**	**342**		P		Pn	03 01 56.2	+7.8
SOP	**Sopron**	**6.23**	**342**		*e*Pn		**Pn**	**03 01 50.9**	**+2.5**
SOP					*e*Sn		**Sn**	**03 03 00.3**	**+1.2**
SOP	**Sopron**	**6.23**	**342**		*e*Pn		**Pn**	**03 01 50.9**	**+2.5**
SOP					*e*Sn		**Sn**	**03 03 00.3**	**+1.2**
SEI	**Scarperia**	**6.29**	**294**		Pn		**Pn**	**03 01 51.1**	**+1.7**
SEI	**Scarperia**	**6.29**	**294**		Pn		**Pn**	**03 01 51.1**	**+1.7**
CLTB	**Caltabellotta**	**6.32**	**230**		*e*Pn		**Pn**	**03 01 52.1**	**+2.3**
CLTB	**Caltabellotta**	**6.32**	**230**		*e*Pn		**Pn**	**03 01 52.1**	**+2.3**
PTCC	**Patocco-Chiusa**	**6.33**	**319**		Pn		**Pn**	**03 01 50.4**	**+0.6**
	67nm,0.4s								
PTCC	**Patocco-Chiusa**	**6.33**	**319**		Pn		**Pn**	**03 01 50.4**	**+0.6**
	67nm,0.4s								
MYKA	**Terra Mystica**	**6.35**	**322**		P		**Pn**	**03 01 51.2**	**+1.0**
	28nm,0.8s,SNR=21								
MYKA	**Terra Mystica**	**6.35**	**322**		*i* Pn		**Pn**	**03 01 51.2**	**+1.0**
	28nm,0.8s,SNR=21								
MYKA					*i* Sn		**Sn**	**03 02 59.9**	**-2.3**
	78nm,0.4s								
PGOR	**Pogoanele**	**6.38**	**58**	‖	*i* P		**Pn**	**03 01 53.3**	**+2.8**
PGOR	**Pogoanele**	**6.38**	**58**	‖	*i* P		**Pn**	**03 01 53.3**	**+2.8**
AMRR	**Amara**	**6.49**	**61**	‖	*i* P		**Pn**	**03 01 54.3**	**+2.4**
AMRR	**Amara**	**6.49**	**61**	‖	*i* P		**Pn**	**03 01 54.3**	**+2.4**
AMRR					S		**Sn**	**03 03 07.2**	**+1.8**
CRMI	**Carmignano**	**6.49**	**291**		Pn		**Pn**	**03 01 52.7**	**+0.7**
	46nm,0.9s								
CRMI	**Carmignano**	**6.49**	**291**		Pn		**Pn**	**03 01 52.7**	**+0.7**
	46nm,0.9s								
URLA	**Izmir**	**6.52**	**119**		*e*P		**Pn**	**03 01 53.5**	**+1.0**
SBT3	**Marmara-Eregli**	**6.55**	**95**		*e*P		**Pn**	**03 01 55.3**	**+2.6**
BMR	**Baia Mare**	**6.59**	**25**	‖	*i* P		**Pn**	**03 01 56.0**	**+2.6**
BMR	**Baia Mare**	**6.59**	**25**	‖	*i* P		**Pn**	**03 01 56.0**	**+2.6**
ZST	**Bratislava**	**6.61**	**347**		*e*P		**Pn**	**03 01 56.6**	**+3.0**
ZST					*e*			03 03 04.3	
ZST	**Bratislava**	**6.61**	**347**		*e*P		**Pn**	**03 01 56.6**	**+3.0**
ZST	**Bratislava**	**6.61**	**347**		*e*PN		**Pn**	**03 01 56.6**	**+3.0**
ZST					*e*SN		**Sn**	**03 03 04.3**	**-4.2**
TEOL	**Teolo**	**6.63**	**305**		Pn		**Pn**	**03 01 54.2**	**+0.3**
	377nm,0.6s								
TEOL	**Teolo**	**6.63**	**305**		Pn		**Pn**	**03 01 54.2**	**+0.3**
	377nm,0.6s								
CONA	**Conrad Observa**	**6.63**	**339**		P		**Pn**	**03 01 55.3**	**+1.3**
	3.6nm,0.5s								
CONA	**Conrad Observa**	**6.63**	**339**		*e*Pn		**Pn**	**03 01 55.3**	**+1.3**
	3.6nm,0.5s								
CONA					*i* Sn		**Sn**	**03 03 13.1**	**+4.0**
	49nm,0.5s								
ANKY	**Antikythira Is**	**6.66**	**151**		P		**Pn**	**03 01 55.3**	**+1.0**
ANKY	**Antikythira Is**	**6.66**	**151**		P		**Pn**	**03 01 55.3**	**+1.0**
ANKY	**Antikythira Is**	**6.66**	**151**		P		**Pn**	**03 01 55.3**	**+1.0**
PLOR	**Plostina**	**6.67**	**50**		S		**Sn**	**03 03 13.2**	**+3.3**
PLOR	**Plostina**	**6.67**	**50**		S		**Sn**	**03 03 13.2**	**+3.3**
SLVT	**Silivri**	**6.67**	**92**		*e*P		**Pn**	**03 01 56.5**	**+2.0**
CTYL	**Yalikoy Yolu**	**6.70**	**90**		*e*P		**Pn**	**03 01 56.6**	**+1.7**
APE	**Apeiranthos**	**6.71**	**133**	‖	*e*P		**Pn**	**03 01 55.5**	**+0.4**
APE	**Apeiranthos**	**6.71**	**133**	‖	*i* P		**Pn**	**03 01 56.2**	**+1.1**
APE	**Apeiranthos**	**6.71**	**133**		*e*P		**Pn**	**03 01 55.5**	**+0.4**
VRI	**Vrincioaia**	**6.72**	**50**		P		**Pn**	**03 01 57.7**	**+2.5**
VRI	**Vrincioaia**	**6.72**	**50**	‖	*i* P		**Pn**	**03 01 57.2**	**+2.0**
VRI	**Vrincioaia**	**6.72**	**50**		P		**Pn**	**03 01 57.7**	**+2.5**
VRI					S		**Sn**	**03 03 15.4**	**+4.2**
VYHS	**Vyhne**	**6.72**	**357**		*e*P		**Pn**	**03 01 57.5**	**+2.3**
VYHS					*e*			03 03 09.8	
VYHS	**Vyhne**	**6.72**	**357**		*e*P		**Pn**	**03 01 57.5**	**+2.3**
VYHS	**Vyhne**	**6.72**	**357**		*e*PN		**Pn**	**03 01 57.5**	**+2.3**
VYHS					*e*SN		**Sn**	**03 03 09.8**	**-1.6**
TRPA	**Tarpa**	**6.74**	**19**		*e*Pn		**Pn**	**03 01 56.8**	**+1.4**
TRPA	**Tarpa**	**6.74**	**19**		*e*Pn		**Pn**	**03 01 56.8**	**+1.4**
FVI	**Forni Avoltri**	**6.74**	**318**		P		**Pn**	**03 01 56.2**	**+0.6**
FVI	**Forni Avoltri**	**6.74**	**318**		P		**Pn**	**03 01 56.2**	**+0.6**
KECS	**Kecovo**	**6.75**	**6**		*e*P		**Pn**	**03 01 57.5**	**+1.9**
KECS					*e*			03 03 10.0	
KECS	**Kecovo**	**6.75**	**6**		*e*P		**Pn**	**03 01 57.5**	**+1.9**
KECS	**Kecovo**	**6.75**	**6**		*e*PN		**Pn**	**03 01 57.5**	**+1.9**
KECS					*e*SN		**Sn**	**03 03 10.0**	**-2.0**
BDI	**Bagni Di Lucca**	**6.82**	**292**		P		**Pn**	**03 01 56.8**	**+0.2**
BDI	**Bagni Di Lucca**	**6.82**	**292**		P		**Pn**	**03 01 56.8**	**+0.2**
	2.0nm,0.4s								
BDI	**Bagni Di Lucca**	**6.82**	**292**		Pn		**Pn**	**03 01 56.6**	**0.0**
	46nm,0.4s								
KBA	**Koelnbreinsper**	**6.82**	**323**		P		**Pn**	**03 01 57.9**	**+1.2**
KBA	**Koelnbreinsper**	**6.82**	**323**		P		**Pn**	**03 01 57.9**	**+1.2**
	50nm,0.5s								
KBA					Sn		**Sn**	**03 03 12.9**	**-1.1**
	34nm,0.3s								
KBA	**Koelnbreinsper**	**6.82**	**323**		*i* P		**Pn**	**03 01 58.1**	**+1.4**
	36nm,0.8s,SNR=28								
KBA					*i* Sn		**Sn**	**03 03 12.9**	**-1.1**
	34nm,0.3s								
BALB	**Balikesir**	**6.82**	**105**		*e*P		**Pn**	**03 01 59.1**	**+2.5**
ODBI	**Odobesti**	**6.85**	**52**	‖	*i* P		**Pn**	**03 02 00.1**	**+3.2**
ODBI	**Odobesti**	**6.85**	**52**	‖	*i* P		**Pn**	**03 02 00.1**	**+3.2**
SMOL	**Smolenice**	**6.87**	**349**		*e*P		Pn	03 02 05.2	+8.0
SMOL					*e*			03 03 13.8	
SMOL	**Smolenice**	**6.87**	**349**		*e*S		**Sn**	**03 03 13.8**	**-1.1**
SMOL	**Smolenice**	**6.87**	**349**		*e*PN		Pn	03 02 05.2	+8.0
SMOL					*e*SN		**Sn**	**03 03 13.8**	**-1.1**
CTKS	**Kestanelik-??a**	**6.89**	**91**		*e*P		**Pn**	**03 01 58.8**	**+1.3**
KCTX	**Karacabey (Bur**	**6.98**	**100**		*e*P		**Pn**	**03 02 00.8**	**+2.1**
ABTA	**Abfaltersbach**	**6.98**	**318**		P		**Pn**	**03 01 59.4**	**+0.5**
	16nm,0.5s,SNR=18								
ABTA	**Abfaltersbach**	**6.98**	**318**		*e*Pn		**Pn**	**03 01 59.4**	**+0.5**
	16nm,0.5s,SNR=18								
ABTA					*i* Sn		**Sn**	**03 03 15.0**	**-2.8**
	24nm,0.2s								
VLC	**Villacollemand**	**6.99**	**293**		*e*P		**Pn**	**03 01 59.0**	**0.0**
VLC	**Villacollemand**	**6.99**	**293**		Pn		**Pn**	**03 01 59.1**	**+0.2**
	20nm,0.5s								
VLC	**Villacollemand**	**6.99**	**293**		Pn		**Pn**	**03 01 59.1**	**+0.2**
	20nm,0.5s								
CTI	**Castel Tesino**	**7.01**	**310**		P		**Pn**	**03 01 59.5**	**+0.3**
CTI	**Castel Tesino**	**7.01**	**310**		P		**Pn**	**03 01 59.5**	**+0.3**
	7.0nm,0.7s								
WDD	**Wied Dalam**	**7.03**	**214**		*e*Pn		**Pn**	**03 01 58.4**	**-1.0**
WDD					*e*S		**Sn**	**03 03 12.8**	**-6.0**
MOA	**Molln**	**7.06**	**331**		P		**Pn**	**03 02 02.0**	**+2.1**
	38nm,1.1s,SNR=21								
MOA					Sn		**Sn**	**03 03 21.7**	**+2.0**
	78nm,0.7s								
MOA	**Molln**	**7.06**	**331**		*i* P		**Pn**	**03 02 02.0**	**+2.1**
	38nm,1.1s,SNR=21								
MOA					*i* Sn		**Sn**	**03 03 21.7**	**+2.0**
	78nm,0.7s								
TESR	**Tescani**	**7.07**	**46**	‖	*i* P		**Pn**	**03 02 00.6**	**+0.7**
TESR	**Tescani**	**7.07**	**46**	‖	*i* P		**Pn**	**03 02 00.6**	**+0.7**
BGKT	**Bogazkoy**	**7.10**	**92**		*e*P		**Pn**	**03 02 02.1**	**+1.7**
TIRR	**Tirgusor**	**7.15**	**65**		*e*P		**Pn**	**03 02 02.5**	**+1.5**
TIRR					*e*S		**Sn**	**03 03 20.6**	**-1.2**
TIRR	**Tirgusor**	**7.15**	**65**	‖	*i* P		**Pn**	**03 02 03.0**	**+2.0**
TIRR	**Tirgusor**	**7.15**	**65**		*e*Pn		**Pn**	**03 02 02.5**	**+1.5**
TIRR					*e*S		**Sn**	**03 03 20.6**	**-1.2**
TIRR	**Tirgusor**	**7.15**	**65**		*e*P		**Pn**	**03 02 02.5**	**+1.5**
UZH	**Uzhgorod**	**7.16**	**16**	‖	*i* P		**Pn**	**03 02 04.0**	**+2.8**
UZH					*e*S		**Sn**	**03 03 26.2**	**+4.2**
UZH	**Uzhgorod**	**7.16**	**16**		*i* P		**Pn**	**03 02 04.0**	**+2.8**
UZH					*e*S		**Sn**	**03 03 26.2**	**+4.2**
BURAR	**Bucovina Array**	**7.17**	**34**		P		**Pn**	**03 02 04.8**	**+3.3**
BURAR	**Bucovina Array**	**7.17**	**34**	‖	*i* P		**Pn**	**03 02 04.9**	**+3.4**
BURAR	**Bucovina Array**	**7.17**	**34**	‖	*i* P		**Pn**	**03 02 04.9**	**+3.4**
BUR04	**Bucovina Ar. S**	**7.18**	**34**		*e*Pn		**Pn**	**03 02 04.8**	**+3.3**
BUR04	**Bucovina Ar. S**	**7.18**	**34**		*e*Pn		**Pn**	**03 02 04.8**	**+3.3**
BUR08	**Bucovina Ar. S**	**7.19**	**33**		*e*Pn		**Pn**	**03 02 05.0**	**+3.3**
BUR08	**Bucovina Ar. S**	**7.19**	**33**		*e*Pn		**Pn**	**03 02 05.0**	**+3.3**
SANT	**Santorini**	**7.19**	**137**		*e*Pn		**Pn**	**03 02 02.2**	**+0.5**
SANT	**Santorini**	**7.19**	**137**		*e*Pn		**Pn**	**03 02 02.2**	**+0.5**
CFR	**Carcaliu**	**7.24**	**59**		P		**Pn**	**03 02 06.1**	**+3.9**
CFR	**Carcaliu**	**7.24**	**59**		P		**Pn**	**03 02 06.1**	**+3.9**
	43nm,0.6s								
CRVS	**Cervenica-Dubn**	**7.28**	**11**		*e*P		**Pn**	**03 02 04.7**	**+1.9**
CRVS					*e*			03 03 23.4	
CRVS	**Cervenica-Dubn**	**7.28**	**11**		*e*P		**Pn**	**03 02 04.7**	**+1.9**
CRVS	**Cervenica-Dubn**	**7.28**	**11**		*e*PN		**Pn**	**03 02 04.7**	**+1.9**
CRVS					*e*SN		**Sn**	**03 03 23.4**	**-1.5**
ARMT	**Armutlu**	**7.28**	**96**		*e*P		**Pn**	**03 02 05.1**	**+2.3**
KLYT	**Kilyos**	**7.29**	**91**		*e*P		**Pn**	**03 02 04.7**	**+1.7**
ISK	**Istanbul-Kandi**	**7.33**	**92**		*e*P		**Pn**	**03 02 03.8**	**+0.2**
KAVV	**Kandilli-Istan**	**7.33**	**92**		*e*P		**Pn**	**03 02 05.0**	**+1.4**
LANS	**Liptovska Anna**	**7.37**	**1**		*e*P		**Pn**	**03 02 07.8**	**+3.7**
LANS					*e*			03 03 29.9	
LANS	**Liptovska Anna**	**7.37**	**1**		*e*P		**Pn**	**03 02 07.8**	**+3.7**
LANS					*e*S		**Sn**	**03 03 29.9**	**+2.6**
LANS	**Liptovska Anna**	**7.37**	**1**		*e*PN		**Pn**	**03 02 07.8**	**+3.7**
LANS					*e*SN		**Sn**	**03 03 29.9**	**+2.6**
KOSI	**Kohlern**	**7.40**	**312**		Pn		**Pn**	**03 02 05.1**	**+0.4**
	102nm,0.5s								
KOSI	**Kohlern**	**7.40**	**312**		Pn		**Pn**	**03 02 05.1**	**+0.4**
	102nm,0.5s								
ABSI	**Aberstueckl**	**7.59**	**313**		Pn		**Pn**	**03 02 07.8**	**+0.5**
	177nm,0.5s								
ABSI	**Aberstueckl**	**7.59**	**313**		Pn		**Pn**	**03 02 07.8**	**+0.5**
	177nm,0.5s								
NIE	**Niedzica**	**7.67**	**5**		*e*P		**Pn**	**03 02 12.3**	**+4.1**
NIE					*e*S		**Sn**	**03 03 34.0**	**-0.6**
NIE	**Niedzica**	**7.67**	**5**		*e*P		**Pn**	**03 02 12.3**	**+4.1**
NIE					*e*S		**Sn**	**03 03 34.0**	**-0.6**
NIE	**Niedzica**	**7.67**	**5**		*e*P		**Pn**	**03 02 12.3**	**+4.1**
NIE					*e*S		**Sn**	**03 03 34.0**	**-0.6**
PGF	**Pioggiola**	**7.73**	**279**		*e*Pn		**Pn**	**03 02 10.8**	**+1.7**
	SNR=1.0								
PGF	**Pioggiola**	**7.73**	**279**		*e*P		**Pn**	**03 02 10.8**	**+1.7**
PGF	**Pioggiola**	**7.73**	**279**		*e*Pn		**Pn**	**03 02 10.8**	**+1.7**
PGF	**Pioggiola**	**7.73**	**279**		*e*Pn		**Pn**	**03 02 10.8**	**+1.7**
	SNR=1.0								
STHS	**Stebnicka Huta**	**7.75**	**9**		*e*P		**Pn**	**03 02 12.1**	**+2.8**
STHS					*e*			03 03 37.4	
STHS	**Stebnicka Huta**	**7.75**	**9**		*e*P		**Pn**	**03 02 12.1**	**+2.8**
STHS					*e*S		**Sn**	**03 03 37.4**	**+0.8**
STHS	**Stebnicka Huta**	**7.75**	**9**		*e*PN		**Pn**	**03 02 12.1**	**+2.8**
STHS					*e*SN		**Sn**	**03 03 37.4**	**+0.8**
SILT	**Sile**	**7.75**	**91**		*e*P		**Pn**	**03 02 11.5**	**+2.1**
WTTA	**Wattenberg**	**7.77**	**317**		P		**Pn**	**03 02 11.1**	**+1.3**
	6.8nm,0.4s,SNR=8.9								
WTTA					Sn		**Sn**	**03 03 35.8**	**-1.6**
	74nm,0.4s								
WTTA	**Wattenberg**	**7.77**	**317**		*i* P		**Pn**	**03 02 11.1**	**+1.3**
	6.8nm,0.4s,SNR=8.9								
WTTA					*i* Sn		**Sn**	**03 03 35.8**	**-1.6**
	74nm,0.4s								
VRAC	**Vranov**	**7.77**	**347**		P		**Pn**	**03 02 11.5**	**+1.9**
	0.6nm,0.3s,baz=176,slow=14,SNR=7.4								
VRAC					S		**Sn**	**03 03 33.2**	**-3.9**
	1.8nm,0.3s,baz=153,slow=14,SNR=2.1								
VRAC	**Vranov**	**7.77**	**347**	‖	*i* P		**Pn**	**03 02 10.7**	**+1.1**
VRAC	**Vranov**	**7.77**	**347**		*e*Pn		**Pn**	**03 02 11.2**	**+1.6**
IDI	**Anoyia**	**7.80**	**144**		P		**Pn**	**03 02 08.8**	**-1.2**
	1.4nm,0.3s,baz=259,slow=6.8,SNR=21								
IDI					S		**Sn**	**03 03 31.1**	**-6.8**
	1.8nm,0.3s,baz=299,slow=19,SNR=3.1								
IDI	**Anoyia**	**7.80**	**144**	‖	*i* P		**Pn**	**03 02 09.0**	**-1.1**
IDI	**Anoyia**	**7.80**	**144**		*e*Pn		**Pn**	**03 02 08.5**	**-1.5**
IDI					*e*S		**Sn**	**03 03 31.2**	**-6.7**
IDI	**Anoyia**	**7.80**	**144**	‖	*i* P		**Pn**	**03 02 09.0**	**-1.1**
HRT	**Hereke**	**7.83**	**94**		*e*P		**Pn**	**03 02 12.7**	**+2.3**
KULA	**Kula-Manisa**	**7.84**	**112**		*e*P		**Pn**	**03 02 13.7**	**+3.1**
WATA	**Walderalm**	**7.85**	**318**		P		**Pn**	**03 02 13.3**	**+2.5**
	31nm,0.6s,SNR=11								
WATA					Sn		**Sn**	**03 03 39.2**	**-0.1**
	78nm,0.4s								
WATA	**Walderalm**	**7.85**	**318**		*i* P		**Pn**	**03 02 13.3**	**+2.5**
	31nm,0.6s,SNR=11								
WATA					*i* Sn		**Sn**	**03 03 39.2**	**-0.1**
	78nm,0.4s								
VSL	**Villasalto**	**7.92**	**257**		*e*Pn		**Pn**	**03 02 11.9**	**+0.3**
VSL	**Villasalto**	**7.92**	**257**		*e*Pn		**Pn**	**03 02 11.9**	**+0.3**
ADVT	**Abdulvahap**	**7.96**	**96**		*e*P		**Pn**	**03 02 14.9**	**+2.7**
TREC	**Trest**	**7.99**	**341**		*e*SN		**Sn**	**03 03 40.5**	**-2.0**
TVSB	**Tavsanli**	**8.04**	**103**		*e*P		**Pn**	**03 02 14.9**	**+1.6**
FETA	**Feichten**	**8.10**	**313**		P		**Pn**	**03 02 15.1**	**+0.9**
	10nm,0.4s,SNR=13								
FETA					Sn		**Sn**	**03 03 45.6**	**+0.3**
	42nm,0.6s								
FETA	**Feichten**	**8.10**	**313**		*e*Pn		**Pn**	**03 02 15.1**	**+0.9**
	10nm,0.4s,SNR=13								
FETA					*i* Sn		**Sn**	**03 03 45.6**	**+0.3**
	42nm,0.6s								
MORC	**Moravsky Berou**	**8.10**	**352**		*e*P		**Pn**	**03 02 17.3**	**+3.2**
MORC					*e*S		**Sn**	**03 03 45.5**	**+0.4**
MORC	**Moravsky Berou**	**8.10**	**352**	‖	*i* P		**Pn**	**03 02 17.4**	**+3.3**
MORC	**Moravsky Berou**	**8.10**	**352**		*e*Pn		**Pn**	**03 02 17.3**	**+3.2**
MORC					*e*S		**Sn**	**03 03 45.5**	**+0.4**
MORC	**Moravsky Berou**	**8.10**	**352**		*e*P		**Pn**	**03 02 17.3**	**+3.2**
MORC					*e*Sn		**Sn**	**03 03 45.6**	**+0.4**
MOTA	**Moosalm**	**8.10**	**316**		P		**Pn**	**03 02 15.5**	**+1.3**
	23nm,0.5s,SNR=42								
MOTA					Sn		**Sn**	**03 03 45.6**	**+0.2**
	52nm,0.4s								
MOTA	**Moosalm**	**8.10**	**316**		*i* P		**Pn**	**03 02 15.5**	**+1.3**
	23nm,0.5s,SNR=42								
MOTA					*i* Sn		**Sn**	**03 03 45.6**	**+0.2**
	52nm,0.4s								
GEA0	**GERESS Array S**	**8.10**	**333**		*e*Pn		**Pn**	**03 02 15.2**	**+1.0**
GEA0	**GERESS Array S**	**8.10**	**333**		*e*Pn		**Pn**	**03 02 15.1**	**+1.0**
OKC	**Ostrava-Krasne**	**8.10**	**354**		*e*P		**Pn**	**03 02 17.1**	**+3.0**
OKC					*e*			03 03 43.2	
OKC	**Ostrava-Krasne**	**8.10**	**354**		*e*PN		**Pn**	**03 02 17.1**	**+3.0**
OKC					*e*SN		**Sn**	**03 03 43.2**	**-2.0**
OKC					AMS		AMS	03 05 50.0	
	comp=Z,1µm,9.0s								
OKC	**Ostrava-Krasne**	**8.10**	**354**		Pn		**Pn**	**03 02 17.1**	**+3.0**
GEC2	**GERESS Array S**	**8.11**	**333**		*e*P		**Pn**	**03 02 15.4**	**+1.1**
GEC2	**GERESS Array S**	**8.11**	**333**		*e*Pn		**Pn**	**03 02 15.4**	**+1.1**
GEC2	**GERESS Array S**	**8.11**	**333**		*e*P		**Pn**	**03 02 15.4**	**+1.1**
GERES	**GERESS Array B**	**8.11**	**333**		P		**Pn**	**03 02 15.3**	**+1.1**
	1.8nm,0.3s,baz=152,slow=15,SNR=79								
GERES					S		**Sn**	**03 03 43.4**	**-2.1**
	4.3nm,0.3s,baz=149,slow=17,SNR=3.8								
FUORN	**Ofenpass-Fuorn**	**8.12**	**310**		*e*Pn		**Pn**	**03 02 16.0**	**+1.3**
FUORN	**Ofenpass-Fuorn**	**8.12**	**310**		*e*Pn		**Pn**	**03 02 16.0**	**+1.3**
KWP	**Kalwaria Pacla**	**8.20**	**15**		*e*P		**Pn**	**03 02 19.3**	**+3.9**
KWP					*e*S		**Sn**	**03 03 47.3**	**-0.2**
KWP	**Kalwaria Pacla**	**8.20**	**15**		*e*P		**Pn**	**03 02 17.9**	**+2.5**
KWP	**Kalwaria Pacla**	**8.20**	**15**		*e*Pn		**Pn**	**03 02 17.9**	**+2.5**
KWP	**Kalwaria Pacla**	**8.20**	**15**		*e*P		**Pn**	**03 02 17.9**	**+2.5**
KWP					*e*S		**Sn**	**03 03 47.3**	**-0.2**
SAUV	**Serdivan-Sakar**	**8.33**	**94**		*e*P		**Pn**	**03 02 19.2**	**+1.9**
RETA	**Reutte**	**8.37**	**316**		P		**Pn**	**03 02 18.6**	**+0.8**
	SNR=13								
RETA	**Reutte**	**8.37**	**316**		*e*Pn		**Pn**	**03 02 18.6**	**+0.8**
	SNR=13								
RETA					*i* Sn		**Sn**	**03 03 49.8**	**-2.1**
	57nm,0.4s								
KHC	**Kasperske Hory**	**8.39**	**333**		*e*P		**Pn**	**03 02 19.4**	**+1.2**
KHC					*e*			03 03 49.2	
KHC	**Kasperske Hory**	**8.39**	**333**		*e*PN		**Pn**	**03 02 19.4**	**+1.2**
KHC					*e*SN		**Sn**	**03 03 49.2**	**-3.3**
KHC	**Kasperske Hory**	**8.39**	**333**		*e*Pn		**Pn**	**03 02 19.1**	**+0.9**
KHC					*e*S		**Sn**	**03 03 53.9**	**+1.5**
KHC	**Kasperske Hory**	**8.39**	**333**		Pn		**Pn**	**03 02 19.4**	**+1.2**
KHC					*e*S		**Sn**	**03 03 53.9**	**+1.5**
OJC	**Ojcow**	**8.45**	**2**		*e*P		**Pn**	**03 02 23.1**	**+4.3**
OJC					*e*S		**Sn**	**03 03 52.9**	**-0.8**
OJC	**Ojcow**	**8.45**	**2**		*e*P		**Pn**	**03 02 23.1**	**+4.3**
OJC					*e*S		**Sn**	**03 03 52.9**	**-0.8**
OJC	**Ojcow**	**8.45**	**2**		*e*Pn		**Pn**	**03 02 22.5**	**+3.7**
OJC	**Ojcow**	**8.45**	**2**		*e*Pn		**Pn**	**03 02 22.5**	**+3.7**
OJC					*e*S		**Sn**	**03

ORIF	Oris-en-Rattie	10.30	292	*e*Pn		Pn	03 02 43.6	-0.8	
	SNR=1.0								
SMRF	Simiane la Rot	10.35	287	*e*Pn		Pn	03 02 44.9	-0.1	
	SNR=1.0								
SMRF				*e*Sn		Sn	03 04 29.9	-11	
	20nm,0.8s								
SMRF	Simiane la Rot	10.35	287	*e*Pn		Pn	03 02 44.9	-0.1	
SMRF				*e*Sn		Sn	03 04 29.9	-11	
SMRF	Simiane la Rot	10.35	287	*e*Pn		Pn	03 02 44.9	-0.1	
	SNR=1.0								
MOX	Moxa	10.36	332	P		Pn	03 02 45.5	+0.5	
MOX	Moxa	10.36	332	P		Pn	03 02 45.5	+0.5	
	17nm,1.0s								
GRN	Grenoble	10.47	294	P		Pn	03 02 46.2	-0.5	
CLL	Collm	10.48	338	*e*P		Pn	03 02 48.3	+1.6	
CLL	Collm	10.48	338	*e*Pn		Pn	03 02 48.0	+1.3	
CLL				*i*			03 02 59.0		
CLL				*e*Sn		Sn	03 04 22.0	-22	
CLL				*e*			03 04 51.0		
CLL				*e*			03 05 16.0		
CLL				*e*			03 05 36.0		
CLL				*e*Sg			03 05 52.0		
CLL	Collm	10.48	338	*e*Pn		Pn	03 02 48.2	+1.6	
CLL	Collm	10.48	338	*e*Pn		Pn	03 02 48.2	+1.6	
LOMF	Lomont	10.53	306	P		Pn	03 02 47.4	0.0	
MOF	Molkenrain	10.59	309	P		Pn	03 02 48.3	+0.1	
CABF	La Chapelle	10.68	301	*e*Pn		Pn	03 02 48.1	-1.4	
	SNR=1.0								
CABF				*e*Sn		Sn	03 04 36.3	-12	
	25nm,0.4s,SNR=1.0								
CABF	La Chapelle	10.68	301	*e*P		Pn	03 02 48.1	-1.4	
CABF	La Chapelle	10.68	301	*e*Pn		Pn	03 02 48.1	-1.4	
CABF				*e*Sn		Sn	03 04 36.3	-12	
CABF	La Chapelle	10.68	301	*e*Pn		Pn	03 02 48.1	-1.4	
	SNR=1.0								
HINF	Hinteralfeld	10.73	308	*e*Pn		Pn	03 02 49.8	-0.4	
	SNR=1.0								
HINF				*e*Sn		Sn	03 04 40.7	-9.1	
	44nm,0.5s,SNR=1.0								
HINF	Hinteralfeld	10.73	308	*e*P		Pn	03 02 49.8	-0.4	
HINF				*e*			03 04 40.7		
HINF	Hinteralfeld	10.73	308	*e*Pn		Pn	03 02 49.8	-0.4	
HINF				*e*Sn		Sn	03 04 40.7	-9.1	
ECH	Echery	10.76	311	*e*P		Pn	03 02 50.3	-0.3	
ECH	Echery	10.76	311	*e*Pn		Pn	03 02 50.2	-0.3	
ECH				*e*S		Sn	03 04 41.1	-9.4	
ECH	Echery	10.76	311	*e*P		Pn	03 02 50.3	-0.3	
CDF	Champ du Feu	10.80	312	*e*Pn		Pn	03 02 50.0	-1.2	
	SNR=1.0								
CDF				*e*Sn		Sn	03 04 40.3	-11	
	19nm,0.6s								
CDF	Champ du Feu	10.80	312	*e*P		Pn	03 02 50.0	-1.2	
CDF	Champ du Feu	10.80	312	*e*Pn		Pn	03 02 50.0	-1.2	
CDF				*e*Sn		Sn	03 04 40.3	-11	
CDF	Champ du Feu	10.80	312	*e*Pn		Pn	03 02 50.0	-1.2	
	SNR=1.0								
LANF	Langenberg	10.85	316	P		Pn	03 02 51.1	-0.6	
BR131	Keskin Array S	11.03	96	*e*Pn		Pn	03 02 56.6	+2.2	
BR131	Keskin Array S	11.03	96	*e*Pn		Pn	03 02 56.6	+2.2	
BRTR	Keskin Array B	11.03	96	P		Pn	03 02 57.6	+3.2	
	0.6nm,0.3s,baz=277,slow=16,SNR=23								
BRTR				S		Sn	03 04 54.2	-3.2	
	0.0nm,0.3s,baz=299,slow=12,SNR=2.1								
HAU	Haudompre	11.12	308	*e*Pn		Pn	03 02 55.2	-0.3	
	SNR=1.0								
HAU				*e*Sn		Sn	03 04 49.8	-10	
	52nm,0.4s,SNR=1.0								
HAU	Haudompre	11.12	308	*e*P		Pn	03 02 55.2	-0.3	
HAU	Haudompre	11.12	308	*e*Pn		Pn	03 02 55.2	-0.3	
HAU				*e*Sn		Sn	03 04 49.8	-10	
HAU	Haudompre	11.12	308	*e*Pn		Pn	03 02 55.2	-0.3	
	SNR=1.0								
VIVF	Saint-Julien-l	11.13	291	*e*Pn		Pn	03 02 53.9	-1.7	
	SNR=1.0								
VIVF				*e*Sn		Sn	03 04 49.6	-10	
	6.6nm,0.4s,SNR=1.0								
VIVF	Saint-Julien-l	11.13	291	*e*P		Pn	03 02 53.9	-1.7	
VIVF	Saint-Julien-l	11.13	291	*e*Pn		Pn	03 02 53.9	-1.7	
VIVF				*e*Sn		Sn	03 04 49.6	-10	
VIVF	Saint-Julien-l	11.13	291	*e*Pn		Pn	03 02 53.9	-1.7	
	SNR=1.0								
AK11	Malin Array Si	11.19	34	*e*Pn		Pn	03 02 58.4	+2.0	
AK11	Malin Array Si	11.19	34	*e*Pn		Pn	03 02 58.4	+2.0	
KIEV	Kiev	11.22	34⇑	*e*P		Pn	03 02 57.6	+0.8	
KIEV	Kiev	11.22	34	*e*Pn		Pn	03 02 58.8	+2.0	
KIEV	Kiev	11.22	34	*e*P		Pn	03 02 57.6	+0.8	
	10.0nm,0.8s								
KIEV	Kiev	11.22	34	*e*Pn		Pn	03 02 58.8	+2.0	
AKASG	Malin Array Be	11.23	34	P		Pn	03 02 59.2	+2.3	
	1.7nm,0.3s,baz=224,slow=12,SNR=33								
AKASG	Malin Array Be	11.23	34	*i* P		Pn	03 02 59.9	+3.0	
AKBB	Malin Array Si	11.23	34	*e*P		Pn	03 02 59.1	+2.2	
AKBB	Malin Array Si	11.23	34	*e*Pn		Pn	03 02 59.1	+2.2	
AKBB	Malin Array Si	11.23	34	*e*P		Pn	03 02 59.1	+2.2	
SSB	Saint Sauveur	11.31	293	*e*P		Pn	03 02 56.7	-1.7	
SSB				*e*S		Sn	03 04 58.2	-5.7	
SSB	Saint Sauveur	11.31	293	*e*Pn		Pn	03 02 56.4	-1.7	
SSB				*e*S		Sn	03 04 58.2	-5.7	
SSB	Saint Sauveur	11.31	293	P		Pn	03 02 56.6	-1.5	
THEF	They Montfort	11.44	309	P		Pn	03 02 59.8	0.0	
LASF	Ste Croix	11.59	287	*e*Pn		Pn	03 03 00.7	-1.2	
	SNR=1.0								
LASF				*e*Sn		Sn	03 05 01.5	-9.4	
	4.9nm,0.4s								
LASF	Ste Croix	11.59	287	*e*Pn		Pn	03 03 00.7	-1.2	
LASF				*e*Sn		Sn	03 05 01.5	-9.4	
LASF	Ste Croix	11.59	287	*e*Pn		Pn	03 03 00.7	-1.2	
	SNR=1.0								
PAGF	Fort de Pagny	11.76	310	*e*Sn		Sn	03 05 03.4	-11	
	3.8nm,0.5s								
SFTF	Sexfontaines	11.99	307	*e*Pn		Pn	03 03 07.3	0.0	
	baz=121								
SFTF				*e*Sn		Sn	03 05 11.3	-9.2	
	15nm,0.5s								
SFTF	Sexfontaines	11.99	307	*e*Pn		Pn	03 03 07.3	0.0	
SFTF				*e*Sn		Sn	03 05 11.3	-9.2	
SFTF	Sexfontaines	11.99	307	*e*Pn		Pn	03 03 07.3	0.0	
MEZF	Maizieres J'vi	12.12	309	*e*Pn		Pn	03 03 09.1	0.0	
	baz=124,SNR=1.0								
MEZF				*e*Sn		Sn	03 05 12.4	-11	
	17nm,0.5s								
MEZF	Maizieres J'vi	12.12	309	*e*Pn		Pn	03 03 09.1	0.0	
MEZF				*e*Sn		Sn	03 05 12.4	-11	
MEZF	Maizieres J'vi	12.12	309	*e*Pn		Pn	03 03 09.1	0.0	
	SNR=1.0								
WLF	Walferdange	12.12	315	⇓P		Pn	03 03 10.2	+1.0	
WLF	Walferdange	12.12	315	P		Pn	03 03 10.1	+1.0	
SMF	Signal de Mont	12.14	299	*e*Pn		Pn	03 03 07.3	-2.1	
	SNR=1.0								
SMF				*e*Sn		Sn	03 05 13.8	-10	
	39nm,0.5s								
SMF	Signal de Mont	12.14	299	*e*P		Pn	03 03 07.3	-2.1	
SMF	Signal de Mont	12.14	299	*e*Pn		Pn	03 03 07.3	-2.1	
SMF				*e*Sn		Sn	03 05 13.8	-10	
LBL	Lubilhac	12.19	292	P		Pn	03 03 09.1	-1.1	
LOR	Lormes	12.34	302	*e*Pn		Pn	03 03 10.4	-1.7	
	baz=115,SNR=1.0								
LOR				*e*Sn		Sn	03 05 18.2	-11	
	32nm,0.3s								
LOR	Lormes	12.34	302	*e*P		Pn	03 03 10.4	-1.7	
LOR	Lormes	12.34	302	*e*Pn		Pn	03 03 10.4	-1.7	
LOR				*e*Sn		Sn	03 05 18.2	-11	
AGO	Saint Agoulin	12.45	296	P		Pn	03 03 12.4	-1.2	
PYM	Petit Puy Mans	12.46	294	P		Pn	03 03 12.5	-1.4	
SSF	Saint Saulge	12.49	300	*e*Pn		Pn	03 03 12.6	-1.6	
	SNR=1.0								
SSF				*e*Sn		Sn	03 05 21.9	-11	
	33nm,0.5s								
SSF	Saint Saulge	12.49	300	*e*P		Pn	03 03 12.6	-1.6	
SSF	Saint Saulge	12.49	300	*e*Pn		Pn	03 03 12.6	-1.6	
SSF				*e*Sn		Sn	03 05 21.9	-11	
SSF	Saint Saulge	12.49	300	*e*Pn		Pn	03 03 12.6	-1.6	
	SNR=1.0								
SUW	Suwalki	12.51	10	*e*P		Pn	03 03 18.3	+4.0	
SUW	Suwalki	12.51	10	*e*P		Pn	03 03 18.3	+4.0	
SUW	Suwalki	12.51	10	*e*P		Pn	03 03 18.3	+4.0	
AVF	Avril sur Loir	12.51	299	*e*Pn		Pn	03 03 12.1	-2.3	
	SNR=1.0								
AVF				*e*Sn		Sn	03 05 22.1	-11	
	14nm,0.5s								
AVF	Avril sur Loir	12.51	299	*e*P		Pn	03 03 12.1	-2.3	
AVF	Avril sur Loir	12.51	299	*e*Pn		Pn	03 03 12.1	-2.3	
AVF				*e*Sn		Sn	03 05 22.1	-11	
MTLF	Montolieu	12.73	283	*e*Pn		Pn	03 03 15.4	-2.1	
MTLF	Montolieu	12.73	283	*e*P		Pn	03 03 20.1	+2.6	
	SNR=1.0								
MTLF	Montolieu	12.73	283	*e*P		Pn	03 03 15.4	-2.1	
MTLF	Montolieu	12.73	283	*e*Pn		Pn	03 03 15.4	-2.1	
MTLF	Montolieu	12.73	283	*e*P		Pn	03 03 20.1	+2.6	
	SNR=1.0								
MEM	Membach	12.77	318	⇓P		Pn	03 03 20.0	+2.0	
BGF	Bois d'Agland	12.77	298	*e*Pn		Pn	03 03 15.8	-2.2	
	SNR=1.0								
BGF				*e*Sn		Sn	03 05 28.2	-11	
	41nm,0.5s								
BGF	Bois d'Agland	12.77	298	*e*P		Pn	03 03 15.8	-2.2	
BGF	Bois d'Agland	12.77	298	*e*Pn		Pn	03 03 15.8	-2.2	
BGF				*e*Sn		Sn	03 05 28.2	-11	
CAF	Calviac	12.97	290	*e*Pn		Pn	03 03 19.4	-1.4	
	SNR=1.0								
CAF	Calviac	12.97	290	*e*P		Pn	03 03 19.4	-1.4	
CAF	Calviac	12.97	290	*e*Pn		Pn	03 03 19.4	-1.4	
CAF	Calviac	12.97	290	*e*Pn		Pn	03 03 19.4	-1.4	
	SNR=1.0								
BCLA	Clavier	13.01	316	⇑P		Pn	03 03 22.9	+1.7	
GIVF	Givet	13.08	314	*e*Pn		Pn	03 03 22.1	-0.1	
GIVF	Givet	13.08	314	*e*P		Pn	03 03 22.1	-0.1	
GIVF	Givet	13.08	314	*e*Pn		Pn	03 03 22.1	-0.1	
GIVF	Givet	13.08	314	*e*Pn		Pn	03 03 22.1	-0.1	
HYF	Humbligny	13.12	300	*e*Pn		Pn	03 03 19.6	-3.2	
HYF	Humbligny	13.12	300	*e*P		Pn	03 03 24.4	+1.6	
HYF				*e*Sn		Sn	03 05 36.9	-11	
HYF	Humbligny	13.12	300	*e*Pn		Pn	03 03 19.6	-3.2	
HYF				*e*Sn		Sn	03 05 36.9	-11	
HYF	Humbligny	13.12	300	*e*P		Pn	03 03 24.4	+1.6	
TCF	Toulx Ste Croi	13.13	296	*e*Pn		Pn	03 03 20.4	-2.5	
	SNR=1.0								
TCF				*e*Sn		Sn	03 05 37.3	-11	
	9.7nm,0.4s								
TCF	Toulx Ste Croi	13.13	296	*e*P		Pn	03 03 20.4	-2.5	
TCF	Toulx Ste Croi	13.13	296	*e*Pn		Pn	03 03 20.4	-2.5	
TCF				*e*Sn		Sn	03 05 37.3	-11	
DOU	Dourbes	13.20	314	P		Pn	03 03 24.1	+0.3	
DOU	Dourbes	13.20	314	P		Pn	03 03 24.1	+0.3	
BAIF	Baives	13.39	313	*e*Pn		Pn	03 03 25.8	-0.6	
BAIF	Baives	13.39	313	*e*P		Pn	03 03 25.8	-0.6	
BAIF	Baives	13.39	313	*e*Pn		Pn	03 03 25.8	-0.6	
BAIF	Baives	13.39	313	*e*Pn		Pn	03 03 25.8	-0.6	
RJF	Les Rejaudoux	13.41	291	*e*Pn		Pn	03 03 25.7	-1.0	
	SNR=1.0								
RJF	Les Rejaudoux	13.41	291	*e*P		Pn	03 03 25.7	-1.0	
RJF	Les Rejaudoux	13.41	291	*e*Pn		Pn	03 03 25.7	-1.0	
RJF	Les Rejaudoux	13.41	291	*e*Pn		Pn	03 03 25.7	-1.0	
	SNR=1.0								
NACGM	Baroch	14.02	18	*e*		Pn	03 03 37.0	+2.0	
IIGN	Ignalina	14.31	16	*e*P		Pn	03 03 41.9	+2.9	
IIGN				IAmb		IAmb	03 03 51.4		
	comp=Z,25nm,1.0s								
IDID	Didziasalis	14.39	17	*e*P		Pn	03 03 43.0	+3.0	
IDID				IAmb		IAmb	03 03 44.4		
	comp=Z,8.9nm,0.8s								
ISAL	Salakas	14.50	16	*e*P		Pn	03 03 43.3	+1.8	
ISAL				IAmb		IAmb	03 03 53.4		
	comp=Z,13nm,0.6s								
IZAR	Zarasai	14.69	16	*e*P		Pn	03 03 44.9	+0.7	
IZAR				IAmb		IAmb	03 03 50.9		
	comp=Z,11nm,0.5s								
SOC	Sochi	15.09	76	*e*P		Pn	03 03 49.8	+0.2	
SOC				*e*			03 06 40.4		
LDF	La Druitiere	15.31	303	*e*Pn		Pn	03 03 51.3	-1.1	
LDF	La Druitiere	15.31	303	*e*P		Pn	03 03 51.3	-1.1	
LDF	La Druitiere	15.31	303	*e*Pn		Pn	03 03 51.3	-1.1	
MMAI	Mount Meron Ar	15.45	119	P		P	03 03 58.1	-0.8	
	comp=Z,2.2nm,0.3s,baz=322,slow=11,SNR=17								
FLN	La Foliniere	15.59	303	*e*Pn		Pn	03 03 55.8	-0.3	
	baz=116,SNR=1.0								
FLN	La Foliniere	15.59	303	*e*P		Pn	03 03 55.8	-0.3	
FLN	La Foliniere	15.59	303	*e*Pn		Pn	03 03 55.8	-0.3	
GRR	Gorron	15.71	302	*e*Pn		Pn	03 03 56.7	-0.9	
	SNR=1.0								
GRR	Gorron	15.71	302	*e*P		Pn	03 03 56.7	-0.9	
GRR	Gorron	15.71	302	*e*Pn		Pn	03 03 56.7	-0.9	
VSR	Storozhevoye	16.54	48	*e*P		P	03 04 10.0	-0.8	
SGMF	Saint Gilles	16.76	300	*e*Pn		Pn	03 04 09.7	-1.4	
	SNR=1.0								
SGMF	Saint Gilles	16.76	300	*e*P		Pn	03 04 09.7	-1.4	
SGMF	Saint Gilles	16.76	300	*e*Pn		Pn	03 04 09.7	-1.4	
ASF	Jabal al Asfar	16.96	119	P		P	03 04 17.4	+1.8	
	comp=Z,0.2nm,0.3s,baz=276,slow=9.2,SNR=2.5								
QUIF	Quistinic	17.08	299	*e*Pn		Pn	03 04 13.6	-1.5	
QUIF	Quistinic	17.08	299	*e*P		Pn	03 04 13.6	-1.5	
QUIF	Quistinic	17.08	299	*e*Pn		Pn	03 04 13.6	-1.5	
QUIF	Quistinic	17.08	299	*e*Pn		Pn	03 04 13.6	-1.5	
LPSR	Galich'ya Gora	17.09	44	*e*P		P	03 04 17.0	+0.1	
KIV	Kislovodsk	17.23	75	*e*P		Pn	03 04 15.8	-1.4	
KVAR	Kislovodsk Arr	17.24	75	P		P	03 04 19.9	+1.2	
	baz=274,slow=13,SNR=2.6								
ROSF	Rostrenen	17.24	300	*e*Pn		Pn	03 04 15.4	-1.8	
ROSF	Rostrenen	17.24	300	*e*P		Pn	03 04 15.4	-1.8	
ROSF	Rostrenen	17.24	300	*e*Pn		Pn	03 04 15.4	-1.8	
ROSF	Rostrenen	17.24	300	*e*Pn		Pn	03 04 15.4	-1.8	
VSU	Vasula	17.34	13	*ce*P		P	03 04 19.3	-0.3	
KBZ	Khabaz	17.39	76	P		P	03 04 22.0	+1.8	
	comp=Z,0.3nm,0.3s,baz=273,slow=6,SNR=14								
EIL	Elat	17.47	129	P		P	03 04 23.2	+1.9	
	comp=Z,0.3nm,0.3s,baz=336,slow=18,SNR=3.7								
OBN	Obninsk	17.50	34	*e*P		P	03 04 20.9	-0.4	
ES19	SONSECA Array	17.73	271	*e*Pn		P	03 04 24.7	+0.5	
ES19	SONSECA Array	17.73	271	*e*Pn		P	03 04 24.7	+0.5	
ESDC	Sonseca Array	17.79	271	P		P	03 04 25.9	+1.1	
	comp=Z,0.3nm,0.3s,baz=72,slow=12,SNR=37								
ESLA	Sonseca Array	17.79	271	*e*Pn		P	03 04 26.1	+1.4	
	comp=Z,7.4nm,0.9s								
ESLA	Sonseca Array	17.79	271	*e*Pn		P	03 04 26.1	+1.4	
	comp=Z,7.4nm,0.9s								
VRH	Novokhopyorsk	18.00	51	*e*P		Pn	03 04 26.4	0.0	
VRH	Novokhopyorsk	18.00	51	*e*Pn		Pn	03 04 26.4	0.0	
	comp=Z,8.0nm,0.5s								
ZEI	Tsey	18.18	79	*e*P		P	03 04 31.0	+1.8	
HFS	Hagfors	18.71	351	P		P	03 04 34.2	-0.4	
	comp=Z,1.2nm,0.3s,baz=171,slow=10,SNR=36								
GNI	Garni	19.23	86	P		P	03 04 40.4	-0.3	
	comp=Z,0.9nm,0.3s,baz=269,slow=0.8,SNR=12								
GNI	Garni	19.23	86	*de*P		Pn	03 04 42.6	+0.9	
GNI	Garni	19.23	86	*e*P		P	03 04 39.9	-0.8	
	comp=Z,12nm,0.8s								
GNI	Garni	19.23	86	*e*P		Pn	03 04 42.6	+0.9	
	comp=Z,31nm,0.9s								
NC602	NORSAR Array S	19.57	349	*e*P		P	03 04 43.6	-0.5	
MVO	Moncorvo	19.76	277	*e*P		Pn	03 04 47.7	-0.2	
	comp=Z,20nm,1.6s								
MVO	Moncorvo	19.76	277	*e*P		Pn	03 04 47.7	-0.2	
	comp=Z,20nm,1.6s								
NAO01	NORSAR Array S	19.78	348	*e*P		P	03 04 45.9	-0.5	
NC405	NORSAR Array S	19.91	349	*e*P		P	03 04 46.7	-1.1	
NB201	NORSAR Array S	19.91	348	*e*P		P	03 04 46.9	-1.0	
NB2	NORSAR Subarra	19.91	348	P		P	03 04 47.5	-0.4	
	comp=Z,3.6nm,0.6s,baz=161,slow=12								
NOA	NORSAR Array B	19.91	348	P		P	03 04 47.5	-0.4	
	comp=Z,1.3nm,0.3s,baz=113,slow=14,SNR=18								
NBO00	NORSAR Array S	19.97	348	*e*P		P	03 04 48.4	-0.1	
NBO02	NORSAR Array S	19.98	348	*e*P		Pn	03 04 49.7	-0.6	
EKA	Eskdalemuir Ar	20.02	320	P		P	03 04 49.1	0.0	
	baz=113,slow=9.6,SNR=164								
ESK	Eskdalemuir	20.04	320	*e*P		P	03 04 49.2	0.0	
ESK	Eskdalemuir	20.04	320	*e*P		P	03 04 49.2	0.0	
	comp=Z,34nm,0.8s								
NC303	NORSAR Array S	20.07	349	*e*P		P	03 04 48.4	-1.1	
FINES	FINESS Array B	20.11	9	P		P	03 04 49.0	-0.9	
	comp=Z,4.9nm,0.3s,baz=182,slow=11,SNR=129								
FIA1	FINESS Array S	20.11	9	*e*P		P	03 04 49.1	-0.8	
NC204	NORSAR Array S	20.21	348	*e*P		P	03 04 51.6	+0.5	
POLO	Lamas de Olo	20.29	278	*e*P		P	03 04 53.1	+0.9	
POLO	Lamas de Olo	20.29	278	*e*P		P	03 04 53.1	+0.9	
MTE	Manteigas	20.29	275	*e*P		P	03 04 53.3	+1.1	
	comp=Z,32nm,2.0s								
MTE	Manteigas	20.29	275	*e*P		P	03 04 53.0	+0.8	
	comp=Z,17nm,0.9s								
MTE	Manteigas	20.29	275	*e*P		P	03 04 53.0	+0.8	
	comp=Z,17nm,0.9s								
PCBR	Castelo Branco	20.37	273	*e*P		P	03 04 53.6	+0.6	
	comp=Z,14nm,1.4s								
PCBR	Castelo Branco	20.37	273	*e*P		P	03 04 53.6	+0.6	
	comp=Z,14nm,1.4s								
PCAB	Cabril	20.40	279	*e*P		Pn	03 04 54.8	-0.7	
PCAB	Cabril	20.40	279	*e*P		Pn	03 04 54.8	-0.7	
PMRV	Marv??o	20.41	272	*e*P		Pn	03 04 56.5	+0.9	
PMRV	Marv??o	20.41	272	*e*P		Pn	03 04 56.5	+0.9	
PVIS	Viseu	20.49	276	*e*P		P	03 04 55.4	+1.1	
	comp=Z,28nm,1.8s								
PVIS	Viseu	20.49	276	*e*P		P	03 04 55.4	+1.1	
	comp=Z,28nm,1.8s								
PBAR	Barrancos	20.51	269	*e*P		Pn	03 04 56.4	-0.4	
PBAR	Barrancos	20.51	269	*e*P		Pn	03 04 56.4	-0.4	
PGAV	Gavieira, Arco	20.54	280	*e*P		Pn	03 04 56.7	-0.5	
PGAV	Gavieira, Arco	20.54	280	*e*P		Pn	03 04 56.7	-0.5	
DSB	Dublin	20.70	312	*e*P		P	03 04 56.1	-0.3	
	comp=Z,31nm,1.5s								
PESTR	Estremoz	20.72	271	*e*P		Pn	03 04 59.5	+0.3	
PESTR	Estremoz	20.72	271	*e*P		Pn	03 04 58.8	-0.3	
PESTR	Estremoz	20.72	271	*e*P		Pn	03 04 58.8	-0.4	
PCAS	Casmilo, Conde	21.08	275	*e*P		P	03 05 02.2	+1.5	
PCAS	Casmilo, Conde	21.08	275	*e*P		P	03 05 02.2	+1.5	
PTOM	Tomar	21.13	273	*e*P		P	03 05 02.6	+1.4	
	comp=Z,31nm,1.2s								
PTOM	Tomar	21.13	273	*e*P		P	03 05 02.6	+1.4	
	comp=Z,31nm,1.2s								
EVO	Evora	21.13	270	*e*P		P	03 05 02.9	+1.7	
EVO	Evora	21.13	270	*e*P		P	03 05 02.9	+1.7	
PVAQ	Vaqueiros	21.27	267	*e*P		P	03 05 05.2	+2.4	
PVAQ	Vaqueiros	21.27	267	*e*P		P	03 05 05.2	+2.4	
VAF	Ylistaro	21.39	4	P		P	03 05 06.1	+2.4	
PCVE	Castro Verde	21.44	268	*e*P		P	03 05 06.8	+2.3	
PCVE	Castro Verde	21.44	268	*e*P		P	03 05 06.8	+2.3	
TAM	Tamanrasset	22.20	216	*e*P		P	03 05 13.4	+0.5	
TAM	Tamanrasset	22.20	216	*e*P		P	03 05 13.4	+0.5	
	comp=Z,4.2nm,0.9s								
TAM	Tamanrasset	22.20	216	*e*P		P	03 05 13.4	+0.5	
	comp=Z,4.2nm,0.9s								
KLMR	Klimovskoe	22.71	26	*e*P		P	03 05 15.8	-2.1	
KLMR	Klimovskoe	22.71	26	*e*P		P	03 05 15.8	-2.1	
KLMR				AMP			03 05 19.5		
	comp=Z,26nm,1.1s								
TMCR	Tamitsa	24.89	19	*e*P		P	03 05 37.9	-0.9	
AKTO	Aktyubinsk	27.90	59	P		P	03 06 05.1	-1.0	
	comp=Z,2.0nm,0.4s,baz=270,slow=6.4,SNR=10								
AKTO	Aktyubinsk	27.90	59	*i* P		P	03 06 04.3	-1.9	
ARCES	ARCESS Array B	28.01	5	P		P	03 06 05.4	-1.5	
	comp=Z,2.7nm,0.8s,baz=190,slow=11,SNR=17								
ARU	Arti	29.09	46	P		P	03 06 15.7	-1.0	
	comp=Z,7.0nm,0.2s,baz=264,slow=9.2,SNR=6.9								
ARU	Arti	29.09	46⇑	*e*P		P	03 06 16.0	-0.7	
AB31	Akbulak array	29.12	61	*i* P		P	03 06 16.2	-0.9	
ABKAR	Akbulak array	29.12	61	*e*P		P	03 06 16.7	-0.4	
	comp=Z,21nm,0.6s								
GEYT	Al

LZH	Lanzhou	63.42	64	*e*P		P	03 10 47.3	+1.1
LZH				pP		sP	03 10 52.0	-2.1
LZH				sP		pP	03 10 54.8	+2.9
FCC	Fort Churchill	65.70	328	*e*P		P	03 11 00.1	-0.3
FCC	Fort Churchill	65.70	328	*e*P		P	03 11 00.1	-0.3
	comp=Z,6.3nm,0.6s							
HHC	Hu-ho-hao-te	65.76	56	*e*P		P	03 11 00.3	-1.0
HHC				S		S	03 19 44.5	-2.4
HHC				SS		SS	03 24 03.5	+2.8
CD2	Chengdu	66.30	69	*e*P		P	03 11 03.8	-1.1
LBTB	Lobatse	66.71	174	*e*P		P	03 11 08.8	+1.5
LBTB	Lobatse	66.71	174	*e*P		P	03 11 08.8	+1.5
	comp=Z,8.3nm,0.7s							
BILL	Bilibino	67.71	13	*i* P		P	03 11 12.8	-0.3
BILL				*i*			03 13 45.3	
INK	Inuvik	68.36	349	P		P	03 11 16.4	-0.8
	comp=Z,0.9nm,0.5s,baz=20,slow=5.2,SNR=7.6							
KMI	Kunming	69.00	75	P		P	03 11 21.8	-0.4
KMI				sP		sP	03 11 31.0	+0.8
SEY	Seymchan	69.10	21⇓	*e*P		P	03 11 22.1	+0.2
YKW3	Yellowknife Ar	69.65	339	*e*P		P	03 11 25.4	+0.1
YKA	Yellowknife Ar	69.70	339	P		P	03 11 25.5	-0.1
	comp=Z,2.7nm,0.9s,baz=36,slow=5.7,SNR=34							
BOSA	Boshof	70.25	174	P		P	03 11 30.4	+0.9
	comp=Z,5.5nm,0.8s,baz=354,slow=8.2,SNR=12							
COLD	Coldfoot	71.03	356	*e*P		P	03 11 33.7	+0.1
	comp=Z,4.0nm,0.9s							
FFC	Flin Flon	71.63	329	*e*P		P	03 11 38.0	+0.5
FFC	Flin Flon	71.63	329	*e*P		P	03 11 38.0	+0.5
	comp=Z,2.9nm,0.8s							
KLR	Kul'dur	71.67	40	P		P	03 11 37.6	-0.3
	comp=Z,0.1nm,0.5s,baz=339,slow=8.4,SNR=5.5							
ULM	Lac du Bonnet	72.28	322	P		P	03 11 41.5	0.0
	comp=Z,7.1nm,0.7s,baz=42,slow=5.2,SNR=14							
ULM	Lac du Bonnet	72.28	322	*e*P		P	03 11 41.5	0.0
ULM	Lac du Bonnet	72.28	322	*e*P		P	03 11 41.5	0.0
	comp=Z,11nm,0.9s							
IM3	Indian Mountai	72.44	357	*e*P		P	03 11 42.7	+0.5
DAWY	Dawson	73.16	350	*e*P		P	03 11 47.3	+0.7
	comp=Z,3.8nm,0.8s							
COLA	College	73.21	354⇓	*e*P		P	03 11 47.1	+0.4
ILAR	Eielson Array	73.24	354	P		P	03 11 47.1	+0.2
	comp=Z,1.0nm,0.8s,baz=359,slow=6.2,SNR=18							
HDA	Harding Lake	73.60	354	*e*P		P	03 11 49.1	0.0
	comp=Z,5.1nm,0.9s							
DHY	Denali Highway	74.95	354	*e*P		P	03 11 57.6	+0.4
	comp=Z,28nm,1.8s							
USRK	Ussuriysk Ar.	75.28	43	P		P	03 11 59.0	-0.1
	comp=Z,1.0nm,0.5s,baz=336,slow=6.6,SNR=3.6							
NJ2	Nanjing	75.78	60	*e*P		P	03 12 03.8	+1.6
EDM	Edmonton	76.97	333	*e*P		P	03 12 09.2	+0.5
EDM	Edmonton	76.97	333	*e*P		P	03 12 09.2	+0.5
	comp=Z,12nm,1.2s							
ECSD	EROS Data Cent	77.30	318	*e*P		P	03 12 11.3	+0.7
	comp=Z,6.4nm,1.0s							
WALA	Waterton Lakes	80.63	331	*e*P		P	03 12 29.3	+0.3
	comp=Z,3.9nm,0.9s							
HRY	Holter Researc	81.79	328	*e*P		P	03 12 36.0	+0.8
	comp=Z,3.3nm,0.9s							
JTMT	Jette	81.86	330	*e*P		P	03 12 36.7	+1.1
	comp=Z,9.4nm,0.9s							
RLMT	Red Lodge	82.05	326	*e*P		P	03 12 36.8	+0.1
	comp=Z,19nm,1.8s							
BOZ	Bozeman (W)	82.63	328	*e*P		P	03 12 40.1	+0.4
BOZ	Bozeman (W)	82.63	328	*e*P		P	03 12 40.1	+0.4
	comp=Z,3.2nm,1.0s							
K22A	Casper	82.83	323	*e*P		P	03 12 41.0	+0.2
	comp=Z,12nm,1.4s							
H17A	Grant Village	83.19	326	*e*P		P	03 12 46.0	+3.2
	comp=Z,7.4nm,1.3s							
DLMT	Dillon	83.21	328	*e*P		P	03 12 44.0	+1.3
	comp=Z,6.9nm,1.3s							
C09A	Chrisman Ranch	83.24	333	*e*P		P	03 12 42.9	+0.2
	comp=Z,7.8nm,1.1s							
YPP	Pitchstone Pla	83.38	326	*e*P		P	03 12 46.2	+2.4
	comp=Z,5.2nm,1.1s							
PHWY	Pilot Hill	83.41	321	*e*P		P	03 12 42.6	-1.4
	comp=Z,24nm,1.4s							
IMW	Indian Meadow	83.74	326	*e*P		P	03 12 46.6	+1.0
	comp=Z,4.9nm,0.8s							
MOOW	Moose Ponds	83.78	326	*e*P		P	03 12 46.0	+0.2
	comp=Z,4.1nm,1.0s							
KSCO	Kaye Shedlock'	83.83	318	*e*P		P	03 12 47.2	+1.2
	comp=Z,25nm,0.9s							
N23A	Red Feather La	83.96	322	*e*P		P	03 12 47.6	+0.8
	comp=Z,6.0nm,0.9s							
FXWY	Fox Creek	83.99	326	*e*P		P	03 12 48.7	+1.8
	comp=Z,6.3nm,1.3s							
PD31	Pinedale Array	84.08	325	*e*P		P	03 12 46.3	-1.0
PDAR	Pinedale Array	84.08	325	P		P	03 12 47.4	+0.1
	comp=Z,1.8nm,0.7s,baz=44,slow=5.4,SNR=15							
PDAR	Pinedale Array	84.08	325	*e*P		P	03 12 47.3	0.0
TPAW	Teton Pass	84.08	326	*e*P		P	03 12 49.2	+1.8
	comp=Z,4.9nm,0.8s							
MJAR	Matsushiro Arr	84.10	45	P		P	03 12 47.0	-0.3
	comp=Z,1.3nm,0.6s,baz=352,slow=3.7,SNR=3.9							
MJAR	Matsushiro Arr	84.10	45	P		P	03 12 47.0	-0.3
SDV	Santo Domingo	84.14	277	P		P	03 12 48.8	+0.9
	comp=Z,6.2nm,0.8s,baz=45,slow=5.1,SNR=8.4							
SDV	Santo Domingo	84.14	277	*e*P		P	03 12 49.0	+1.0
	comp=Z,11nm,1.0s							
F10A	Beach Ranch, E	84.44	331	*e*P		P	03 12 49.0	0.0
	comp=Z,3.9nm,1.0s							
HAWA	Hanford	84.89	333	*e*P		P	03 12 52.4	+1.3
	comp=Z,6.3nm,0.8s							
WMOK	Wichita Mounta	85.06	313	*e*P		P	03 12 53.2	+1.1
WMOK	Wichita Mounta	85.06	313	*e*P		P	03 12 53.2	+1.1
	comp=Z,27nm,1.9s							
BMO	Blue Mountains	85.43	331	*e*P		P	03 12 54.0	+0.1
BMO	Blue Mountains	85.43	331	*e*P		P	03 12 54.0	+0.1
	comp=Z,8.3nm,1.4s							
F07A	Phinny Hill Vi	85.46	333	*e*P		P	03 12 55.1	+1.3
	comp=Z,6.9nm,1.0s							
MFID	Camas Ranch	86.10	329	*e*P		P	03 12 57.6	+0.3
	comp=Z,6.1nm,0.9s							
MHTCO	State Highway	86.31	318	*e*P		P	03 12 59.0	+0.4
	comp=Z,19nm,1.7s							
PV10	Paradox Valley	87.40	322	*e*P		P	03 13 04.7	+0.8
SRU	San Rafael Swe	87.48	323	*e*P		P	03 13 03.3	-0.9
SRU	San Rafael Swe	87.48	323	*e*P		P	03 13 03.3	-0.9
	comp=Z,2.5nm,0.8s							
MNTX	Cornudas Mount	90.93	316	*e*P		P	03 13 19.7	-0.6
	comp=Z,8.9nm,1.9s							
NVAR	Mina Array Bea	91.33	328	P		P	03 13 22.2	-0.2
	comp=Z,0.3nm,0.7s,baz=88,slow=4.7,SNR=3.7							
TX31	Lajitas Ar. Si	91.85	313	*e*P		P	03 13 24.6	-0.2
TXAR	Lajitas Array	91.85	313	P		P	03 13 25.6	+0.9
	comp=Z,2.2nm,0.9s,baz=70,slow=4.4,SNR=21							
ASAR	Alice Springs	123.36	93	PKP		PKPdf	03 19 11.8	-1.7
	comp=Z,0.2nm,0.3s,baz=291,slow=1.6,SNR=4.6							

NEIC ***26*** *03:06:35.2±0.0, 16°.27N×98°.29W, h20km, MD4.2(MEX), After MEX.*

MEX 26 03:06:33.8±0.8, 16°.20N×98°.31W, h9km±4km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.26	41	*e*P	Pg	03 06 38.0	-1.0
PNIG				*e*S	Sg	03 06 43.0	+0.4
PNIG	Pinotepa	0.26	41	*e*P	Pg	03 06 38.2	-0.9
PNIG				*e*S	Sg	03 06 43.1	+0.5
TLIG	Tlapa	1.38	350	*e*P	Pn	03 06 55.7	-3.7
TLIG				*i* S	Sb	03 07 13.7	-4.0
TLIG	Tlapa	1.38	350	*e*P	Pn	03 06 55.7	-3.7
TLIG				*e*S	Sb	03 07 10.9	-6.9
VHO	Vista Hermosa	1.74	60	*e*P	Pn	03 07 01.1	-3.3
VHO				*i* S	Sn	03 07 22.2	-4.6
VHO	Vista Hermosa	1.74	60	*e*P	Pn	03 07 01.1	-3.3
VHO				*e*S	Sn	03 07 21.1	-5.7
CAIG	El Cayaco	2.06	295	*e*P	Pn	03 07 05.8	-2.8
CAIG				*e*S	Sn	03 07 29.4	-5.1
CAIG	El Cayaco	2.06	295	*e*P	Pn	03 07 05.8	-2.8
CAIG				*e*S	Sn	03 07 29.4	-5.1
HUIG	Huatulco	2.15	101	*e*P	Pn	03 07 07.5	-2.4
HUIG				*e*S	Sn	03 07 32.1	-4.7
HUIG	Huatulco	2.15	101	*e*P	Pn	03 07 07.5	-2.4
HUIG				*e*S	Sn	03 07 32.1	-4.7
PLIG	Platanillo	2.47	333	*e*P	Pn	03 07 11.7	-2.6
PLIG				*e*S	Sn	03 07 40.7	-4.0
PLIG	Platanillo	2.47	333	*e*P	Pn	03 07 11.3	-3.0
PLIG				*e*S	Sn	03 07 39.2	-5.4
MOIG	Morelia	4.42	322	*e*Pn	Pn	03 07 41.9	+0.6

ISCJB ***26*** *03:07:43.7±0.8, 6°.82N×0°.03×123°.89E±0°.03, h21km±6km, mb4.3/33, MS3.9/2, Error ellipse: s-maj=5.5km s-min=4.3km az=162.0*

MAN ***26*** *03:07:45, 6°.82N×123°.96E, h21km, mb5.0, ML3.9, MS3.9*

DJA ***26*** *03:07:47.3±1.5, 7°.N±6°×12°.4E±°, h14km±14km, M4.8/3, mb4.6/1, MLv4.9/3*

IDC ***26*** *03:07:49.8±2.5, 6°.89N×124°.08E, h60km±25km, mb3.9/22, mb1 4.0/22, mb1mx3.8/60, mbtmp4.2/22, MS3.9/2, Ms1 4.1/2, ms1mx3.2/55, Error ellipse: s-maj=20.9km s-min=11.5km az=78.0*

NEIC ***26*** *03:07:50.0±0.8, 6°.90N×124°.04E, h62km±7km, mb4.4/6, Error ellipse: s-maj=7.9km s-min=6.0km az=80.0*

ISC 26 03:07:46.5±1.1, 6°.92N±0°.03×124°.03E±0°.04, h29km±8km, n65, σ1s50/77, mb4.3/33, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.36	36⇓	*i*P	Pb	03 07 53.6	-1.2
CTBH				*i* S	Sb	03 07 59.3	-1.3
KCP	Kidapawan	1.06	85⇓	*i*P	Pn	03 08 05.1	-0.3
KCP				*i* S	Sn	03 08 20.2	+0.9
PAGZ	Pagadian	1.12	325	*e*P	Pn	03 08 04.2	-2.1
PAGZ				*e*S	Sn	03 08 18.6	-2.1
GSPH	General Santos	1.24	132	*e*P	Pn	03 08 11.5	+2.1
BUKP	Musuan	1.40	47	*e*P	Pn	03 08 10.9	+0.7
BUKP				*e*S	Sb	03 08 30.8	+1.3
DAV	Davao City (W)	1.55	85	P	Pb	03 08 13.5	-1.1
	372nm,0.3s,baz=290,slow=2.5,SNR=48						
DAV				S	Sb	03 08 36.3	+2.6
	588nm,0.3s,baz=130,slow=20,SNR=24						
DAV	Davao City (W)	1.55	85	*e*Pn	Pb	03 08 14.7	+0.2
DAV				*e*S	Sb	03 08 36.0	+2.3
MATI	Mati	2.21	89	*e*P	Pn	03 08 22.6	+1.3
MATI				*e*S	Sb	03 08 49.9	-3.0
SNPH	Sibulan	2.53	342⇑	*i*P	Pn	03 08 27.3	+1.6
SNPH				*i* S	Sn	03 08 57.7	+2.2
BUTP	Butuan	2.57	38	*e*P	Pb	03 08 30.6	-1.4
BIPH	Bislig	2.63	61⇓	*e*P	Pb	03 08 33.0	0.0
BIPH				*e*S	Sn	03 08 56.5	-1.5
SCPH	Surigao	3.19	27	*e*P	Pb	03 08 47.7	+5.2
SCPH				*e*S	Sn	03 09 10.6	-1.1
MSLP	Maasin	3.29	14	*e*P	Pb	03 08 45.6	+1.3
LLP	Lapu-Lapu	3.37	359	*e*P	Pn	03 08 40.1	+2.9
LLP				*e*S	Sn	03 09 21.6	+5.3
SGSI	Sangihe	3.55	155	P	Pn	03 08 40.0	+0.3
SGSI				S	Sn	03 09 20.5	-0.2
MYLDM	Lahad Datu	5.76	253	*e*Pn	Pn	03 09 12.2	+2.0
MRSI	Marisa	6.74	198	P	Pn	03 09 22.6	-0.9
MRSI				S	Sn	03 10 35.6	-3.7
LUWI	Luwuk	8.01	189	P	Pn	03 09 40.3	-0.8
LUWI	Luwuk	8.01	189	*e*Pn	Pn	03 09 44.2	+3.1
LUWI				*e*S	Sn	03 11 08.1	-2.6
APSI	Ampana	8.14	197	P	Pn	03 09 41.9	-0.9
JOW	Kunigami	20.21	11	P	P	03 12 20.6	+1.4
	14nm,0.8s,baz=235,slow=12,SNR=3.3						
FITZ	Fitzroy Crossi	24.92	176	P	P	03 13 06.9	-0.4
	2.7nm,0.7s,baz=5.7,slow=8.2,SNR=7.7						
PSI	Prapat	25.34	262	P	P	03 13 11.7	+0.3
	2.0nm,0.4s,baz=344,slow=19,SNR=3.4						
CMAR	Chiang Mai Arr	26.98	297	P	P	03 13 26.8	+0.7
	0.7nm,0.3s,baz=116,slow=8.1,SNR=4.2						
CMAR				LR	LR	03 25 15.2	
	comp=Z,246nm,18.7s,baz=148,slow=39						
WRAB	Tennant Creek	28.56	159	*e*P	P	03 13 41.6	+1.6
	1.0nm,0.5s						
WRA	Warramunga Arr	28.56	159	P	P	03 13 39.3	-0.8
	2.1nm,1.0s,baz=334,slow=10,SNR=9.3						
ASAR	Alice Springs	31.90	163	P	P	03 14 09.8	+0.2
	0.7nm,0.8s,baz=338,slow=7.7,SNR=8.7						
MJAR	Matsushiro Arr	32.20	22	P	P	03 14 11.8	-0.3
	2.6nm,0.9s,baz=197,slow=9.6,SNR=4.6						
SHL	Shillong	35.84	305⇑	*i*P	P	03 14 45.0	+0.9
USRK	Ussuriysk Ar.	37.78	9	P	P	03 15 00.6	+0.5
	5.1nm,0.9s,baz=197,slow=7.5,SNR=6.4						
MDJ	Mudanjiang	37.86	6	*e*P	P	03 15 01.4	+0.6
	20nm,0.9s						
STKA	Stephens Creek	42.07	157	P	P	03 15 36.3	+0.4
	2.8nm,0.8s,baz=336,slow=6.2,SNR=11						
KLR	Kul'dur	42.66	7	P	P	03 15 41.0	+0.5
	0.3nm,1.0s,baz=216,slow=5.3,SNR=7.8						
ULN	Ulaanbaatar	43.29	343	*e*P	P	03 15 46.0	+0.3
	3.7nm,1.1s						
SONM	Songjin Array	43.45	343	P	P	03 15 47.2	+0.2
	1.2nm,0.8s,baz=163,slow=8.2,SNR=9.8						
SONA1	Songino Array	43.46	343	*e*P	P	03 15 47.0	-0.2
TLY	Talaya	47.69	343	P	P	03 16 21.0	+0.6
	1.0nm,0.2s,baz=182,slow=6.9,SNR=5.7						
MK01	Makanchi Array	53.40	325	*e*P	P	03 17 03.6	0.0
MK31	Makanchi Array	53.41	325	*e*P	P	03 17 03.8	0.0
MKAR	Makanchi Array	53.41	325	P	P	03 17 04.5	+0.7
	2.6nm,1.0s,baz=121,slow=8.7,SNR=16						
MKAR	Makanchi Array	53.41	325	*e*P	P	03 17 03.5	-0.2
	21nm,1.0s						
MAKZ	Makanchi	53.60	325	*e*P	P	03 17 06.2	+1.1
	7.8nm,1.1s						
AAK	Ala-Archa	56.20	318	*e*P	P	03 17 25.1	+0.9
	8.1nm,1.4s						
ZALV	Zalesovo Beam	56.54	333	P	P	03 17 25.8	-0.4
	0.9nm,0.4s,baz=125,slow=7.4,SNR=6.1						
KURBB	Kurchatov Arra	57.62	327	P	P	03 17 34.3	+0.5
	4.3nm,1.0s,baz=126,slow=6.3,SNR=20						
KURK	Kurchatov	57.62	328	*e*P	P	03 17 34.0	+0.2
	16nm,1.3s						
KKAR	Karatay Array	59.08	317	*e*P	P	03 17 45.1	+0.9
BVAR	Borovoye Array	63.19	327	P	P	03 18 12.2	+0.3
	8.0nm,1.1s,baz=122,slow=7.0,SNR=25						
BRVK	Borovoye	63.27	327	*e*P	P	03 18 12.8	+0.4
	17nm,1.1s						
ABKAR	Akbulak array	67.99	321	*e*P	P	03 18 43.1	+0.2
	34nm,1.0s						
AKTO	Aktyubinsk	69.50	321	P	P	03 18 52.5	+0.1
	4.1nm,0.9s,baz=99,slow=6.0,SNR=9.7						
ARU	Arti	70.82	328	P	P	03 18 60.0	-0.3
	6.9nm,0.2s,baz=285,slow=19,SNR=3.5						
RAYN	Ar Rayn	76.77	292	*e*P	P	03 19 36.2	+0.2
	3.2nm,0.9s						
AKH	Akhalkalaki	78.36	311	*e*P	P	03 19 45.2	+0.6
	9.5nm,1.0s						
KBZ	Khabaz	78.84	313	P	P	03 19 47.2	+0.2
	3.5nm,1.0s,baz=105,slow=14,SNR=6.3						
ILAR	Eielson Array	83.40	26	P	P	03 20 09.8	-1.1
	0.9nm,1.2s,baz=251,slow=7.4,SNR=3.4						
BR131	Keskin Array S	85.93	309	*e*P	P	03 20 23.6	-0.7
BRTR	Keskin Array B	85.93	309	P	P	03 20 23.6	-0.7
	1.8nm,1.0s,baz=121,slow=4.6,SNR=7.9						
ARCES	ARCESS Array B	86.54	340	P	P	03 20 26.6	0.0
	2.7nm,0.9s,baz=76,slow=8.6,SNR=2.8						
BR231	Keskin MP Arra	86.58	310	*e*P	P	03 20 24.2	-3.3
AKASG	Malin Array Be	87.73	321	P	P	03 20 31.0	-1.7
	0.5nm,0.5s,baz=69,slow=4.7,SNR=6.2						
FINES	FINESS Array B	87.76	332	P	P	03 20 31.6	-0.9
	2.4nm,0.9s,baz=123,slow=9.4,SNR=4.5						
NOA	NORSAR Array B	94.75	333	LR	LR	04 07 38.1	
	comp=Z,55nm,18.2s,baz=220,slow=38						
TORD	Torodi Ar. Bea	119.35	289	PKP	PKPdf	03 26 32.2	-2.0
	0.6nm,0.9s,baz=85,slow=1.7,SNR=3.4						
PB10	IPOC Station P	158.36	141	*e*PKPdf	PKPdf	03 27 40.8	-1.0

IDC ***26*** *03:19:16.1±0.8, 53°.70N×108°.69E, h0km, mb3.5/8, mb1 3.6/13, mb1mx3.4/74, mbtmp3.5/13, ML2.9/5, Error ellipse: s-maj=18.8km s-min=16.1km az=126.0*

MOS ***26*** *03:19:16.3±1.0, 53°.63N×108°.63E, h12km, mb4.2/3, Error ellipse: s-maj=12.4km s-min=8.4km az=50.0*

BYKL ***26*** *03:19:17.4±0.2, 53°.66N×108°.55E*

ISC 26 03:19:16.2±1.1, 53°.67N±0°.03×108°.59E±0°.02, h0km±8km, n52, σ2s09/101, mb3.6/8, 5C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGRR	Ongureny	0.59	268	*i*Pg	Pg	03 19 28.7	+1.1
OGRR				*e*Sg	Sg	03 19 36.5	+1.2
OGRR				Pmax			
	516nm,0.3s						
OGRR				Smax			
	2µm,0.3s						
OGRR	Ongureny	0.59	268	*i*PG	Pg	03 19 28.7	+1.1
OGRR				*e*		03 19 36.5	
OGRR				pmax	pmax		
	comp=Z,509nm,0.3s						
OGRR				smax	smax		
	comp=E,2µm,0.3s						
SYVR	Suvo	0.84	90⇑	*i*Pg	Pg	03 19 32.8	+0.5
SYVR				*e*Sg	Sg	03 19 44.4	+1.3
SYVR				*e*Sb	Sn	03 19 48.9	+0.6
SYVR				Pmax			
	comp=E,209nm,0.5s						
SYVR				Smax			
	comp=E,813nm,0.8s						
SYVR	Suvo	0.84	90⇑	*i*PG	Pg	03 19 32.8	+0.5
SYVR				*e*		03 19 44.0	
SYVR				pmax	pmax		
	comp=Z,212nm,0.4s						
SYVR				smax	smax		
	comp=E,782nm,0.6s						
TRG	Tyrgan	1.63	237	*e*Pg	Pn	03 19 46.1	0.0
TRG				*e*Sg	Sb	03 20 07.6	-0.6
TRG				*e*Sb	Sg	03 20 09.6	+1.1
TRG				Pmax			
	comp=E,159nm,0.2s						
TRG				max			
	comp=E,3µm,0.4s						
TRG	Tyrgan	1.63	237	*e*PN	Pn	03 19 46.1	0.0
TRG				*e*		03 20 07.6	
TRG				pmax	pmax		
	comp=Z,158nm,0.2s						
TRG				smax	smax		
	comp=N,2µm,0.2s						
UUDB	Ulan-Yde	1.89	198⇑	*i*Pg	Pb	03 19 51.3	-0.3
UUDB				*e*Sg	Sg	03 20 16.5	-0.4
UUDB				Pmax			
	comp=N,252nm,0.5s						
UUDB				Smax			
	comp=N,1µm,0.6s						
YLYR	Ulyunkhan	1.93	50⇓	*i*Pn	Pn	03 19 51.3	+0.9
YLYR				⇓*i*Pg	Pb	03 19 52.4	+0.1
YLYR				*i* Sg	Sb	03 20 18.9	+1.9
YLYR				Pmax			
	comp=N,103nm,0.7s						
YLYR				Smax			
	comp=N,586nm,0.6s						
YLYR	Ulyunkhan	1.93	50	*e*PN	Pn	03 19 51.5	+1.1
YLYR				*e*		03 19 53.3	
YLYR				*e*		03 20 18.8	
YLYR				pmax	pmax		
	comp=Z,104nm,0.6s						
YLYR				smax	smax		
	comp=N,591nm,0.9s						
KAB	Kabansk	2.00	217	*e*Pg	Pb	03 19 53.0	-0.5
KAB				*e*		03 19 56.6	
KAB				*e*Sg	Sb	03 20 18.7	-0.2
KAB				max			
	comp=N,222nm,0.5s						
KAB				Smax			
	comp=N,2µm,0.7s						
NIZ	Nizh Angarsk	2.18	14	*e*Pg	Pn	03 19 55.4	+1.6
NIZ				*e*		03 20 00.1	
NIZ				*e*Sg	Sb	03 20 24.2	+0.1
NIZ				*e*		03 20 27.0	
NIZ				max			
	comp=N,56nm,0.8s						
NIZ				max			
	comp=N,338nm,0.6s						
NIZ	Nizh Angarsk	2.18	14	*e*PN	Pn	03 19 55.4	+1.6
NIZ				*e*		03 20 25.6	
NIZ				pmax	pmax		
	comp=Z,46nm,0.6s						
NIZ				smax	smax		
	comp=N,342nm,0.6s						
BGT	Bolshoye Golou	2.52	231	*e*Pn	Pn	03 19 59.8	+1.4
BGT				*e*Pg	Pb	03 20 01.8	-0.6
BGT				*e*		03 20 09.1	
BGT				*e*Sn	Sn	03 20 29.7	-0.1
BGT				*e*Sg	Sb	03 20 35.0	+1.1
BGT				max			
	comp=N,64nm,0.3s						
BGT				Smax			
	comp=N,385nm,0.6s						
KMO	Kumora	2.69	33	*e*Pn	Pn	03 20 02.2	+1.5
KMO				*e*Pg	Pb	03 20 06.1	+0.9
KMO				*e*		03 20 36.7	
KMO				*e*Sg	Sb	03 20 41.5	+2.8
KMO				Pmax			
	comp=N,106nm,1.2s						
KMO				Smax			
	comp=N,428nm,1.1s						
KMO	Kumora	2.69	33	*e*PN	Pn	03 20 01.2	+0.5
KMO				*e*		03 20 06.1	
KMO				*e*S	Sn	03 20 34.7	+0.8
KMO				*e*		03 20 41.6	
KMO				pmax	pmax		
	comp=Z,57nm,0.4s						
KMO				smax	smax		
	comp=N,425nm,1.2s						
LSTR	Listvyanka	2.91	233	*e*Pn	Pn	03 20 04.3	+0.6
LSTR				*e*Pg	Pb	03 20 08.3	-0.6
LSTR				*e*		03 20 38.2	
LSTR				*e*Sg	Sb	03 20 46.3	+1.3
LSTR				Pmax			
	comp=N,18nm,0.6s						
LSTR				Smax			
	comp=N,272nm,0.6s						
IRK	Irkutsk	2.98	243	*e*	Pg	03 20 22.8	+10
IRK				*e*		03 20 40.0	
IRK				*e*Sg	Sb	03 20 48.1	+1.1
IRK				Smax			
	comp=N,1µm,0.8s						
IRK	Irkutsk	2.98	243	*e*PN	Pn	03 20 04.2	-0.5
IRK				*e*		03 20 10.7	
IRK				*e*		03 20 48.0	
IRK				pmax	pmax		
	comp=Z,122nm,0.4s						
IRK				smax	smax		
	comp=N,1µm,0.8s			

ARS	**Arshan**	**4.13**	**247**	*e*Pn	**Pn**	**03 20 20.2**	**-0.4**
ARS				*e*		03 20 31.4	
ARS				*e*		03 21 10.2	
ARS				*e*Sg	**Sb**	**03 21 22.6**	**+2.3**
ARS				max			
	comp=Z,58nm,0.6s						
ARS				Smax			
	comp=E,850nm,0.9s						
ARS	**Arshan**	**4.13**	**247**	*e*PN	**Pn**	**03 20 22.3**	**+1.7**
ARS				*e*		03 20 32.2	
ARS				*e*		03 21 22.4	
ARS				pmax	pmax		
	comp=Z,37nm,0.2s						
ARS				smax	smax		
	comp=E,852nm,0.5s						
KPC	**Khapcheranga**	**4.62**	**148**	*e*Pn	**Pn**	**03 20 26.8**	**-0.4**
KPC				*e*Pg	**Pb**	**03 20 40.3**	**+2.2**
KPC				*e*Sg	**Sb**	**03 21 39.9**	**+5.7**
KPC				*e*		03 21 50.5	
KPC				Pmax			
	comp=E,26nm,0.4s						
KPC				max			
	comp=E,137nm,1.2s						
ZAK	**Zakamensk**	**4.64**	**227**	*e*Pn	**Pn**	**03 20 28.0**	**+0.3**
ZAK				*e*Pg	**Pb**	**03 20 40.8**	**+2.2**
ZAK				*e*Sg	**Sg**	**03 21 41.3**	**-4.1**
ZAK				Pmax			
	comp=E,11nm,0.6s						
ZAK				Smax			
	comp=E,85nm,1.2s						
NLYR	**Nelyaty**	**4.97**	**52**	*e*	Pn	03 20 38.0	+6.0
NLYR				*e*Pg	**Pb**	**03 20 48.3**	**+4.3**
NLYR				*e*Sg	**Sg**	**03 21 53.9**	**-1.8**
NLYR				Pmax			
	comp=E,14nm,0.6s						
NLYR				Smax			
	comp=E,321nm,1.1s						
MOY	**Mondy**	**5.04**	**250**	*e*Pn	**Pn**	**03 20 35.2**	**+2.1**
MOY				*e*Pg	**Pb**	**03 20 47.2**	**+1.9**
MOY				*e*Sn	**Sn**	**03 21 31.6**	**-0.4**
MOY				*e*		03 21 44.8	
MOY				*e*Sg	**Sg**	**03 21 52.5**	**-5.5**
MOY				*e*		03 22 01.4	
MOY				Pmax			
	comp=E,28nm,0.8s						
MOY				max			
	comp=E,409nm,1.1s						
MOY	**Mondy**	**5.04**	**250**	*e*PN	**Pn**	**03 20 35.6**	**+2.5**
MOY				*e*		03 20 49.0	
MOY				*e*S	**Sn**	**03 21 31.7**	**-0.3**
MOY				*e*		03 21 52.6	
MOY				pmax	pmax		
	comp=Z,28nm,0.8s						
MOY				smax	smax		
	comp=E,410nm,1.3s						
BOD	**Bodaibo**	**5.16**	**34**	*e*Pn	**Pn**	**03 20 35.1**	**+0.5**
BOD				*e*Pg	**Pb**	**03 20 49.8**	**+2.5**
BOD				*e*Sg	**Sg**	**03 21 57.5**	**-4.4**
BOD				Pmax			
	comp=E,5.0nm,0.3s						
BOD				Smax			
	comp=E,79nm,1.8s						
ORL	**Orlik**	**5.41**	**261**	*e*Pn	**Pn**	**03 20 40.6**	**+2.4**
ORL				*e*Sn	**Sn**	**03 21 40.2**	**-1.0**
ORL				*e*Sg	**Sg**	**03 22 04.7**	**-5.2**
ORL				max			
	comp=E,23nm,0.5s						
ORL				Smax			
	comp=E,123nm,1.0s						
ORL	**Orlik**	**5.41**	**261**	*e*PN	**Pn**	**03 20 39.7**	**+1.5**
ORL				*e*		03 20 55.4	
ORL				*e*S	**Sn**	**03 21 40.4**	**-0.8**
ORL				*e*		03 22 05.6	
ORL				pmax	pmax		
	comp=Z,23nm,0.6s						
ORL				smax	smax		
	comp=N,123nm,1.0s						
SONM	**Songino Array**	**6.00**	**194**	Pn	**Pn**	**03 20 47.7**	**+1.4**
	comp=N,0.8nm,0.3s,baz=9.2,slow=14,SNR=21						
SONM				Pg	Pb	03 21 06.9	+5.1
	comp=N,2.4nm,0.3s,baz=5.8,slow=15,SNR=11						
SONM				Lg	Lg	03 22 24.4	
	comp=N,5.4nm,0.3s,baz=342,slow=16,SNR=3.5						
CRS	**Chara**	**6.41**	**56**	*e*	**Pg**	**03 21 16.3**	**-2.6**
CRS				*e*Sg	**Sg**	**03 22 36.1**	**-5.7**
CRS				Smax			
	comp=N,113nm,1.0s						
TUP	**Tupik**	**6.74**	**79**	*e*Pn	**Pn**	**03 20 56.5**	**+0.3**
TUP				*e*Pg	**Pb**	**03 21 17.9**	**+3.8**
TUP				*e*Sn	**Sn**	**03 22 09.1**	**-4.6**
TUP				*e*Sg	**Sg**	**03 22 46.5**	**-5.9**
TUP				Pmax			
	comp=N,6.0nm,0.6s						
TUP				Smax			
	comp=N,172nm,1.8s						
TUP	**Tupik**	**6.74**	**79**	*e*PN	**Pn**	**03 20 56.6**	**+0.3**
TUP				*e*		03 21 18.1	
TUP				*e*S	**Sn**	**03 22 09.3**	**-4.4**
TUP				*e*		03 22 45.7	
TUP				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TUP				smax	smax		
	comp=N,163nm,0.9s						
ZALV	**Zalesovo Beam**	**14.04**	**281**	Pn	**Pn**	**03 22 36.7**	**+0.6**
	comp=N,0.3nm,0.3s,baz=84,slow=18,SNR=2.4						
MKAR	**Makanchi Array**	**18.11**	**258**	P	**P**	**03 23 29.6**	**+0.2**
	comp=N,0.0nm,0.3s,baz=62,slow=13,SNR=2.9						
KURK	**Kurchatov**	**18.54**	**273**	P	**Pn**	**03 23 34.0**	**-0.2**
KURBB	**Kurchatov Arra**	**18.63**	**273**	P	**P**	**03 23 34.0**	**-1.1**
	comp=N,0.0nm,0.3s,baz=65,slow=12,SNR=3.4						
BVAR	**Borovoye Array**	**22.64**	**284**	P	**P**	**03 24 18.8**	**+0.3**
	comp=N,0.3nm,0.4s,baz=59,slow=12,SNR=3.2						
ARCES	**ARCESS Array B**	**38.97**	**326**	P	**P**	**03 26 43.1**	**-0.3**
	comp=N,4.7nm,1.0s,baz=72,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**42.09**	**315**	P	**P**	**03 27 09.6**	**+0.2**
	comp=N,0.9nm,0.7s,baz=57,slow=10,SNR=3.1						
ILAR	**Eielson Array**	**48.53**	**34**	P	**P**	**03 28 00.6**	**+0.2**
	comp=N,0.4nm,0.8s,baz=304,slow=6.4,SNR=6.0						
YKA	**Yellowknife Ar**	**59.31**	**22**	P	**P**	**03 29 18.4**	**-0.7**
	comp=N,0.2nm,0.9s,baz=328,slow=8.0,SNR=3.7						
WRA	**Warramunga Arr**	**76.60**	**155**	P	**P**	**03 31 08.3**	**-0.1**
	comp=N,0.6nm,0.9s,baz=343,slow=5.5,SNR=3.6						
ASAR	**Alice Springs**	**80.07**	**157**	P	**P**	**03 31 26.9**	**-0.6**
	comp=N,0.2nm,0.3s,baz=359,slow=7.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**89.25**	**291**	P	**P**	**03 32 13.5**	**-0.6**
	comp=N,0.4nm,0.9s,baz=23,slow=4.2,SNR=4.2						

RSNC 26 03:20:45.1±1.0, 6.80N×73.14W, h148km±6km, ML2.7, Mw3.6, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.21**	**191**	⇓*i*P	Pn	03 21 05.0	-0.5
BARC				*e*S	Sn	03 21 20.1	-0.9
BARC				*i*		03 21 21.6	
	comp=Z,215nm,0.2s						
BRRC	**Barranca, Sant**	**0.64**	**298**	⇑*i*P	Pn	03 21 06.8	-0.2
BRRC				*i*		03 21 07.2	
	comp=Z,90nm,0.1s						
BRRC				*e*S	Sn	03 21 23.9	+0.2
PAMC	**Pamplona, Colo**	**0.69**	**39**	⇓*i*P	Pn	03 21 07.8	-0.2
PAMC				*e*S	Sn	03 21 25.1	-0.1
RUSC	**La Rusia**	**0.90**	**176**	*e*P	Pn	03 21 08.9	-0.6
RUSC				*e*S	Sn	03 21 27.6	-0.4
RUSC				*i*		03 21 28.9	
	comp=Z,91nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	*e*P	Pn	03 21 11.6	-1.2
PTBC				*e*S	Sn	03 21 32.5	-1.4
PTBC				*i*		03 21 38.5	
	comp=Z,23nm,0.9s						
OCAC	**Ocana**	**1.44**	**353**	*e*P	Pn	03 21 13.2	-0.9
YOPC	**Yopal, Colombi**	**1.60**	**153**	*e*P	Pn	03 21 15.3	-0.5
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	*e*P	Pn	03 21 18.3	0.0
ZARC				*i*		03 21 48.6	
	comp=Z,48nm,0.5s						
NORC	**Norcasia**	**2.11**	**235**	*e*P	Pn	03 21 21.0	-0.5
NORC				*e*S	Sn	03 21 48.8	-0.7
CHIC	**Chingaza**	**2.23**	**195**	*e*P	Pn	03 21 23.1	-0.2
CHIC				*i*		03 21 57.9	
	comp=Z,27nm,0.4s						
ROSC	**El Rosal**	**2.27**	**211**	*e*S	Sn	03 21 53.9	+0.5
ROSC				*i*		03 21 59.9	
	comp=Z,50nm,0.4s						
HELC	**Santa Helena**	**2.45**	**256**	*e*P	Pn	03 21 26.7	+0.8
GUYC	**Guyana, Colomb**	**2.73**	**235**	*e*P	Pn	03 21 30.4	+0.9
GUYC				*i*		03 22 11.2	
	comp=Z,30nm,0.3s						
RREF	**El Recreo**	**2.89**	**229**	*e*P	Pn	03 21 31.7	0.0
RREF				*i*		03 22 11.7	
	comp=Z,27nm,0.6s						
TOLC	**Tolima**	**3.09**	**225**	*e*P	Pn	03 21 34.1	+0.3
CODC	**Agust˙n Codaz**	**3.13**	**355**	⇑*i*P	Pn	03 21 32.9	-1.2
CODC				*i*		03 22 21.6	
	comp=Z,30nm,0.6s						
PRAC	**Prado**	**3.52**	**210**	*e*P	Pn	03 21 38.3	-0.9

*ISCJB **26** 03:21:36.3±0.7, 40.01N±0.04×43.02E±0.05, h10km, Error ellipse: s-maj=6.5km s-min=5.4km az=38.8*
*CSEM **26** 03:21:36.1±0.2, 39.98N×42.95E, h19km±3km, ML2.5, Error ellipse: s-maj=5.5km s-min=4.0km az=76.0*
*ISK **26** 03:21:36.1, 39.98N×42.96E, h18km, ML2.5/5*
*DDA **26** 03:21:37.6, 39.87N×43.04E, h7km, Ml2.5*

ISC 26 03:21:37.3±1.2, 39.96N±0.03×43.00E±0.03, h10km, n17, σ1°11/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGRB	**Hanur-Agry**	**0.38**	**181**	PG	**Pg**	**03 21 44.2**	**-0.7**
AGRB				SG	**Sb**	**03 21 51.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.38**	**181**	*e*Pg	**Pg**	**03 21 44.2**	**-0.7**
AGRB				*e*Sg	**Sb**	**03 21 51.6**	**-0.8**
EATA	**Eleskirt**	**0.40**	**256**	*i*P	**Pg**	**03 21 44.8**	**-0.5**
EATA				*i*S	**Sb**	**03 21 53.6**	**+0.6**
EATA	**Eleskirt**	**0.40**	**256**	P	**Pg**	**03 21 44.8**	**-0.5**
EATA				S	**Sb**	**03 21 53.6**	**+0.6**
TUTA	**Tutak**	**0.57**	**194**	*i*P	**Pg**	**03 21 47.5**	**-1.0**
TUTA	**Tutak**	**0.57**	**194**	P	**Pg**	**03 21 47.5**	**-1.0**
KARS	**Kars**	**0.67**	**5**	PG	**Pg**	**03 21 49.2**	**-1.1**
KARS	**Kars**	**0.67**	**5**	*e*Pg	**Pg**	**03 21 49.2**	**-1.1**
DYDN	**Diyadin**	**0.68**	**128**	*i*P	**Pg**	**03 21 49.8**	**-0.6**
DYDN				*i*S	**Sb**	**03 22 00.3**	**-0.5**
DYDN	**Diyadin**	**0.68**	**128**	P	**Pg**	**03 21 49.8**	**-0.6**
DYDN				S	**Sb**	**03 22 00.3**	**-0.5**
SENK	**Senkaya-Erzuru**	**0.78**	**321**	PG	**Pg**	**03 21 51.2**	**-1.2**
SENK	**Senkaya-Erzuru**	**0.78**	**321**	*e*Pg	**Pg**	**03 21 51.2**	**-1.2**
HOMI	**Horasan**	**0.84**	**276**	*i*P	**Pg**	**03 21 52.1**	**-1.5**
HOMI				*i*S	**Sn**	**03 22 11.2**	**+3.1**
TASB	**TASBURUN-IGDIR**	**0.95**	**88**	PG	**Pg**	**03 21 55.8**	**+0.1**
TASB	**TASBURUN-IGDIR**	**0.95**	**88**	*e*Pg	**Pg**	**03 21 55.8**	**+0.1**
CLDR	**Caldiran**	**1.08**	**139**	PN	**Pg**	**03 21 57.3**	**-0.8**
CLDR	**Caldiran**	**1.08**	**139**	*e*Pn	**Pg**	**03 21 57.3**	**-0.8**

MAN 26 03:36:24, 12.65N×124.48E, h23km, mb4.1, ML2.9, MS2.6, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.23**	**128**	*e*P	Pn	03 36 32.2	+0.2
CNP				*e*S	Sb	03 36 38.7	+4.9
PVCP	**Virac**	**0.99**	**342**	*e*P	Pb	03 36 41.7	-0.8
PVCP				*e*S	Sn	03 36 56.9	+1.1
BESP	**Borongan**	**1.40**	**138**	*e*P	Pn	03 36 47.4	-0.8
BESP				*e*S	Sb	03 37 07.5	+0.4
PLP	**Palo**	**1.56**	**162**	⇓*e*P	Pn	03 36 50.8	+0.5

MEX 26 03:45:33.4±0.6, 16.39N×98.32W, h4km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**88**	*e*P	Pg	03 45 36.4	-0.6
PNIG				*e*S	Sg	03 45 39.6	+0.2
TLIG	**Tlapa**	**1.19**	**348**	*e*P	Pg	03 45 53.3	-3.0
TLIG				*e*S	Sg	03 46 08.1	-3.7
ACX	**Acapulco**	**1.55**	**288**	*i*P	Pn	03 45 55.6	-6.2
ACX				*i*S	Sn	03 46 15.0	-7.4
VHO	**Vista Hermosa**	**1.66**	**66**	*e*P	Pn	03 45 59.9	-3.6
VHO				*i*S	Sn	03 46 20.8	-4.6
HUIG	**Huatulco**	**2.21**	**106**	*e*P	Pn	03 46 08.0	-2.8
HUIG				*i*S	Sn	03 46 33.9	-4.7
PLIG	**Platanillo**	**2.29**	**331**	*e*P	Pn	03 46 09.2	-2.8
PLIG				*i*S	Sn	03 46 35.7	-5.1

*CSEM **26** 03:50:16.6±0.2, 37.70N×21.95E, h17km±2km, ML1.0, Error ellipse: s-maj=5.2km s-min=3.2km az=88.0*

ATH 26 03:50:17.2, 37.72N×21.92E, h14km±4km, ML1.0/4, Error ellipse: s-maj=4.7km s-min=0.8km az=239.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMT	**Artemida-Makis**	**0.25**	**223**	P	Pg	03 50 22.6	-0.1
AMT				S	Sb	03 50 27.1	-0.6
AMT	**Artemida-Makis**	**0.25**	**223**	P	Pg	03 50 22.6	0.0
AMT				S	Sg	03 50 26.8	+0.3
DRO	**Drossia**	**0.29**	**325**	P	Pg	03 50 22.9	-0.4
DRO				S	Sb	03 50 28.5	-0.4
DRO				AML	AML	03 50 28.9	
	comp=N,298μm,0.3s						
DRO				AML	AML	03 50 32.2	
	comp=E,219μm,0.3s						
DRO	**Drossia**	**0.29**	**325**	P	Pg	03 50 23.1	-0.2
DRO				S	Sg	03 50 28.1	+0.6
TRIP	**Tripoli**	**0.34**	**124**	P	Pg	03 50 24.3	+0.2
TRIP				S	Sg	03 50 29.3	+0.4
TRIP	**Tripoli**	**0.34**	**124**	P	Pg	03 50 24.2	0.0
TRIP				S	Sg	03 50 29.2	+0.3
KLV	**Kalavryta, Ach**	**0.37**	**29**	P	Pg	03 50 24.4	-0.5
KLV				S	Sg	03 50 30.3	+0.3
KLV	**Kalavryta, Ach**	**0.37**	**29**	P	Pg	03 50 24.6	-0.2
KLV				S	Sg	03 50 30.3	+0.3
GUR	**Goura**	**0.40**	**57**	P	Pg	03 50 24.9	-0.5
GUR				S	Sg	03 50 30.2	-0.7
GUR				AML	AML	03 50 32.9	
	comp=E,41μm,0.3s						
GUR				AML	AML	03 50 34.1	
	comp=N,39μm,0.3s						
GUR	**Goura**	**0.40**	**57**	P	Pg	03 50 25.0	-0.3
GUR				S	Sg	03 50 30.6	-0.2
RLS	**Riolos of Patr**	**0.49**	**314**	P	Pg	03 50 25.1	-1.9
RLS				S	Sg	03 50 33.6	-0.1
RLS	**Riolos of Patr**	**0.49**	**314**	P	Pg	03 50 25.2	-1.0
RLS				S	Sg	03 50 33.8	+0.1
LAKA	**Lakka**	**0.52**	**5**	P	Pg	03 50 27.8	+0.1
LAKA				S	Sg	03 50 33.8	-0.9
LAKA	**Lakka**	**0.52**	**5**	P	Pg	03 50 27.6	0.0
LAKA				S	Sg	03 50 34.3	-0.3
ITM	**Ithomi**	**0.54**	**180**	P	Pg	03 50 25.9	-2.0
ITM	**Ithomi**	**0.54**	**180**	P	Pg	03 50 26.8	-1.0
TRIZ	**Trizonia**	**0.66**	**10**	P	Pg	03 50 30.0	-0.1
TRIZ				S	Sg	03 50 38.5	-0.3
TRIZ	**Trizonia**	**0.66**	**10**	P	Pg	03 50 30.0	-0.1
TRIZ				S	Sg	03 50 38.8	0.0
KALE	**Kalithea**	**0.69**	**14**	P	Pg	03 50 30.5	-0.3
KALE				S	Sb	03 50 41.4	+0.8
KALE	**Kalithea**	**0.69**	**14**	P	Pg	03 50 30.6	-0.2
KALE				S	Sb	03 50 40.9	+0.3
EFP	**Efpalio**	**0.71**	**359**	P	Pb	03 50 31.7	+0.3
EFP				S	Sn	03 50 42.5	-1.0
EFP				AML	AML	03 50 44.5	
	comp=E,24μm,0.3s						
EFP				AML	AML	03 50 45.2	
	comp=N,20μm,0.2s						
EFP	**Efpalio**	**0.71**	**359**	P	Pb	03 50 31.3	0.0
EFP				S	Sb	03 50 41.6	+0.7
PYL	**PYLOS**	**0.83**	**190**	P	Pb	03 50 33.4	0.0
PYL	**PYLOS**	**0.83**	**190**	P	Pg	03 50 33.3	-0.1
ANX	**Ano Chora**	**0.88**	**360**	P	Pb	03 50 34.5	+0.2
ANX				S	Sb	03 50 46.7	+0.8
ANX				AML	AML	03 50 49.7	
	comp=N,17μm,0.4s						
ANX				AML	AML	03 50 50.8	
	comp=E,23μm,0.4s						
ANX	**Ano Chora**	**0.88**	**360**	P	Pg	03 50 34.2	0.0
ANX				S	Sb	03 50 46.4	+0.6
DYR	**Agios Nikonas**	**1.01**	**161**	P	Pb	03 50 36.5	0.0
DYR	**Agios Nikonas**	**1.01**	**161**	P	Pb	03 50 36.4	-0.1

*DDA **26** 03:51:05.4, 39.13N×29.08E, h7km, Ml2.8*
*ISK **26** 03:51:05.4, 39.10N×29.11E, h2km, MD2.6/1*
*ISCJB **26** 03:51:06.0±0.5, 39.11N±0.03×29.08E±0.03, h1km±5km, Error ellipse: s-maj=4.4km s-min=3.7km az=10.1*
*CSEM **26** 03:51:06.3±0.1, 39.11N×29.09E, h2km, MD2.6, Error ellipse: s-maj=3.7km s-min=3.3km az=60.0*

ISC 26 03:51:05.7±0.9, 39.14N±0.02×29.07E±0.02, h8km±6km, n56, σ0°82/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.09**	**234**	PG	**Pg**	**03 51 07.8**	**-0.1**
SIMA				SG	**Sg**	**03 51 10.0**	**+0.5**
SIMA	**Simav-Kutahya**	**0.09**	**234**	*e*Pg	**Pg**	**03 51 07.8**	**-0.1**
SIMA				*e*Sg	**Sg**	**03 51 10.0**	**+0.5**
DEMI	**Demirci**	**0.29**	**252**	*i*P	**Pg**	**03 51 11.7**	**+0.2**
DEMI				*i*S	**Sg**	**03 51 15.8**	**+0.4**
DEMI	**Demirci**	**0.29**	**252**	P	**Pg**	**03 51 11.7**	**+0.2**
DEMI				S	**Sg**	**03 51 15.8**	**+0.4**
GDZ	**Gediz**	**0.32**	**98**	*i*P	**Pg**	**03 51 11.3**	**-0.7**
GDZ				*i*S	**Sg**	**03 51 16.4**	**+0.1**
GDZ	**Gediz**	**0.32**	**98**	P	**Pg**	**03 51 11.3**	**-0.7**
GDZ				S	**Sg**	**03 51 16.4**	**+0.1**
TVSB	**Tavsanli**	**0.44**	**44**	PG	**Pg**	**03 51 13.5**	**-0.7**
TVSB	**Tavsanli**	**0.44**	**44**	*e*Pg	**Pg**	**03 51 13.5**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**208**	PG	**Pg**	**03 51 18.9**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**208**	*e*Pg	**Pg**	**03 51 18.9**	**-0.2**
KHAL	**Karahalli**	**0.83**	**157**	*i*P	**Pb**	**03 51 22.2**	**-0.2**
KHAL				*i*S	**Sg**	**03 51 32.5**	**+0.1**
KHAL	**Karahalli**	**0.83**	**157**	P	**Pb**	**03 51 22.2**	**-0.2**
KHAL				S	**Sg**	**03 51 32.5**	**+0.1**
ORLT	**Orhaneli**	**0.92**	**352**	PG	**Pn**	**03 51 25.2**	**+0.2**
ORLT				SG	**Sn**	**03 51 38.8**	**+0.3**
ORLT	**Orhaneli**	**0.92**	**352**	*e*Pg	**Pn**	**03 51 25.2**	**+0.2**
ORLT				*e*Sg	**Sn**	**03 51 38.8**	**+0.3**
AKHS	**Akhisar**	**1.01**	**256**	*i*P	**Pb**	**03 51 25.8**	**+0.3**
AKHS				*i*S	**Sg**	**03 51 38.8**	**+0.5**
AKHS	**Akhisar**	**1.01**	**256**	P	**Pb**	**03 51 25.8**	**+0.3**
BALB	**Balikesir**	**1.05**	**299**	PN	**Pn**	**03 51 27.5**	**+0.8**
BALB	**Balikesir**	**1.05**	**299**	*e*Pn	**Pn**	**03 51 27.5**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.08**	**283**	*i*P	**Pn**	**03 51 27.1**	**-0.1**
STEP				*i*S	**Sb**	**03 51 41.3**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.08**	**283**	P	**Pn**	**03 51 27.1**	**-0.1**
KZIL	**AFYON_Kizioren**	**1.21**	**136**	*i*P	**Pn**	**03 51 30.9**	**+1.8**
KZIL				*i*S	**Sn**	**03 51 45.8**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.21**	**136**	P	**Pn**	**03 51 30.9**	**+1.8**
KZIL				S	**Sn**	**03 51 45.8**	**+0.1**
CAVI	**Cavuskoy**	**1.22**	**29**	PN	**Pn**	**03 51 29.8**	**+0.7**
CAVI	**Cavuskoy**	**1.22**	**29**	*e*Pn	**Pn**	**03 51 29.8**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	PN	**Pg**	**03 51 30.7**	**+1.2**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	*e*Pn	**Pg**	**03 51 30.7**	**+1.2**
KCTX	**Karacabey (Bur**	**1.26**	**334**	PN	**Pg**	**03 51 30.9**	**+1.1**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*Pn	**Pg**	**03 51 30.9**	**+1.1**
BALY	**Balya**	**1.28**	**299**	*i*P	**Pn**	**03 51 29.6**	**-0.3**
BALY				*i*S	**Sb**	**03 51 42.2**	**-4.5**
BALY	**Balya**	**1.28**	**299**	P	**Pn**	**03 51 29.6**	**-0.3**
SHUT	**Suhut-Afyon**	**1.29**	**116**	PN	**Pg**	**03 51 30.8**	**+0.3**
SHUT	**Suhut-Afyon**	**1.29**	**116**	*e*Pn	**Pg**	**03 51 30.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.41**	**311**	PN	**Pg**	**03 51 32.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.41**	**311**	*e*Pn	**Pg**	**03 51 32.8**	**+0.2**
ARMT	**Armutlu**	**1.44**	**354**	PN	**Pg**	**03 51 33.9**	**+0.6**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn	**Pg**	**03 51 33.9**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**218**	PN	**Pg**	**03 51 34.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**218**	*e*Pn	**Pg**	**03 51 34.4**	**-0.1**
EDC	**Edincik**	**1.53**	**323**	PN	**Pg**	**03 51 35.3**	**+0.3**
EDC	**Edincik**	**1.53**	**323**	*e*Pn	**Pg**	**03 51 35.3**	**+0.3**
GULT	**Gulveren**	**1.71**	**40**	PN	**Pb**	**03 51 37.5**	**+0.1**
GULT	**Gulveren**	**1.71**	**40**	*e*Pn	**Pb**	**03 51 37.5**	**+0.1**
BUY	**Buyukada**	**1.72**	**1**	PN	**Pb**	**03 51 37.7**	**+0.2**
BUY	**Buyukada**	**1.72**	**1**	*e*Pn	**Pb**	**03 51 37.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.86**	**313**	PN	**Pb**	**03 51 40.4**	**+0.5**
KRBG	**Karabiga-Canak**	**1.86**	**313**	*e*Pn	**Pb**	**03 51 40.4**	**+0.5**
SBT3	**Marmara-Eregli**	**1.94**	**335**	PN	**Pb**	**03 51 41.2**	**0.0**
SBT3	**Marmara-Eregli**	**1.94**	**335**	*e*Pn	**Pb**	**03 51 41.2**	**0.0**
SILT	**Sile**	**2.06**	**12**	PN	**Pb**	**03 51 42.7**	**-0.7**
SILT	**Sile**	**2.06**	**12**	*e*Pn	**Pb**	**03 51 42.7**	**-0.7**
KLYT	**Kilyos**	**2.12**	**359**	PN	**Pb**	**03 51 43.6**	**-0.7**
KLYT	**Kilyos**	**2.12**	**359**	*e*Pn	**Pb**	**03 51 43.6**	**-0.7**
LPK	**Lapseki**	**2.17**	**305**	PN	**Pb**	**03 51 44.4**	**-0.8**
LPK	**Lapseki**	**2.17**	**305**	*e*Pn	**Pb**	**03 51 44.4**	**-0.8**
GELI	**Tayfur-Gelibol**	**2.37**	**303**	PN	**Pb**	**03 51 47.6**	**-0.9**
GELI	**Tayfur-Gelibol**	**2.37**	**303**	*e*Pn	**Pb**	**03 51 47.6**	**-0.9**

*DDA **26** 03:52:02.7, 39.12N×29.09E, h7km, Ml2.5*
*ISK **26** 03:52:02.6, 39.11N×29.13E, h6km, MD2.4/2*
*ISCJB **26** 03:52:03.2±0.5, 39.12N±0.03×29.10E±0.03, h4km±5km, Error ellipse: s-maj=5.6km s-min=3.9km az=163.7*
*CSEM **26** 03:52:03.3±0.2, 39.13N×29.09E, h5km, MD2.4, Error ellipse: s-maj=3.9km s-min=3.3km az=149.0*

ISC 26 03:52:03.1±0.8, 39.12N±0.03×29.10E±0.02, h10km±6km, n32, σ0°39/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.10**	**250**	PG	**Pg**	**03 52 05.7**	**0.0**
SIMA				SG	**Sg**	**03 52 07.6**	**0.0**
SIMA	**Simav-Kutahya**	**0.10**	**250**	*e*Pg	**Pg**	**03 52 05.7**	**0.0**
SIMA	

comp=Z,721nm,0.1s
RUSC La Rusia 0.81 149 ⇑*i*P **Pn 04 13 25.5 +0.4**
RUSC *i* 04 13 25.9
comp=Z,152nm,0.3s
RUSC *e*S **Sn 04 13 41.4 +0.9**
PTBC PUERTO BERRIO, 0.95 267 ⇓*i*P **Pn 04 13 25.3 -0.4**
PTBC *e*S **Sn 04 13 39.9 -1.8**
PTBC *i* 04 13 41.5
comp=Z,479nm,0.4s
PAMC Pamplona, Colo 1.09 47 *e*P **Pn 04 13 28.8 +1.1**
PAMC *e*S **Sn 04 13 46.9 +1.7**
ZARC Zaragoza, Cauc 1.61 304 *e*P **Pn 04 13 34.2 +1.1**
ZARC *i* 04 13 59.0
comp=Z,346nm,0.4s
YOPC Yopal, Colombi 1.64 139 *i*P **Pn 04 13 34.5 +1.0**
YOPC *e*S **Sn 04 13 56.2 +0.6**
OCAC Ocana 1.64 6 *e*P **Pn 04 13 35.0 +1.3**
NORC Norcasia 1.70 233 *e*P **Pn 04 13 34.0 -0.2**
NORC *e*S **Sn 04 13 55.6 -1.2**
ROSC El Rosal 1.92 205 P **Pn 04 13 39.5 +2.2**
comp=Z,7.5nm,0.3s,baz=17,slow=19,SNR=36
ROSC S **Sn 04 14 04.7 +2.5**
comp=Z,37nm,0.3s,baz=170,slow=23,SNR=25
ROSC El Rosal 1.92 205 *e*P **Pn 04 13 38.9 +1.6**
ROSC *i* 04 14 09.2
comp=Z,234nm,0.5s
CHIC Chingaza 1.96 187 *e*P **Pn 04 13 38.1 +0.2**
CHIC *i* 04 14 09.4
comp=Z,45nm,0.2s
HELC Santa Helena 2.05 259 *e*P **Pn 04 13 39.0 +0.1**
HELC *i* 04 14 09.4
comp=Z,172nm,0.5s
GUYC Guyana, Colomb 2.32 234 *e*P **Pn 04 13 43.4 +1.0**
GUYC *i* 04 14 16.3
comp=Z,199nm,0.3s
VILC Villavicencio, 2.47 184 *e*P **Pn 04 13 44.7 +0.6**
VILC *i* 04 14 29.6
comp=Z,52nm,0.4s
RREF El Recreo 2.49 228 *e*P **Pn 04 13 45.5 +0.8**
RREF *i* 04 14 21.8
comp=Z,127nm,0.3s
TOLC Tolima 2.69 222 *e*P **Pn 04 13 48.0 +0.9**
DBBC Dabeiba 2.72 279 *e*P **Pn 04 13 48.1 +1.0**
PRAC Prado 3.17 206 *e*P **Pn 04 13 53.0 -0.1**
PLMC San Jos^n del 3.23 239 *e*P **Pn 04 13 54.9 +0.9**
CODC Agust^n Codaz 3.32 1 *e*P **Pn 04 13 56.4 +1.3**
CODC *i* 04 14 48.0
comp=Z,107nm,0.4s
SDV Santo Domingo 3.65 51 P **Pn 04 14 00.5 +1.0**
comp=Z,12nm,0.3s,baz=224,slow=12,SNR=71
SDV S **Sn 04 14 41.3 -0.7**
comp=Z,17nm,0.3s,baz=284,slow=18,SNR=28
SDV Santo Domingo 3.65 51 *e*P **Pn 04 14 00.3 +0.8**
YOTC Yotoco, Valle 3.84 228 *e*P **Pn 04 14 01.5 -0.5**
PCRV Puerto La Cruz 9.47 67 P **Pn 04 15 18.3 +0.2**
comp=Z,0.7nm,0.3s,baz=252,slow=6.4,SNR=5.9
PCRV S **Sn 04 16 55.7 -7.0**
comp=Z,0.2nm,0.3s,baz=241,slow=19,SNR=2.5
YKA Yellowknife Ar 63.34 340 P **P 04 23 20.7 -0.4**
comp=Z,0.4nm,0.4s,baz=131,slow=6.4,SNR=15
WRA Warramunga Arr 149.89 241 PKPbc **PKPdf 04 32 40.5 +3.1**
comp=Z,0.1nm,0.5s,baz=108,slow=3.0,SNR=6.0

MEX 26 04:15:42.6±0.6, 16°23N×98°29W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.22**	**43**	*e*P	Pg	04 15 46.6	-0.4
PNIG				*e*S	Sg	04 15 49.7	-0.3
TLIG	**Tlapa**	**1.35**	**349**	*e*P	Pn	04 16 04.5	-3.8
TLIG				*e*S	Sg	04 16 21.4	-4.7
VHO	**Vista Hermosa**	**1.71**	**60**	*e*P	Pn	04 16 09.9	-3.4
VHO				*i*S	Sn	04 16 31.2	-4.4
PLIG	**Platanillo**	**2.44**	**332**	*i*P	Pn	04 16 19.8	-3.5
PLIG				*i*S	Sn	04 16 49.8	-3.9

IDC 26 04:28:21.1±10.0, 18°90S×179°21W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.4/49, mbtmp3.7/2, Error ellipse: s-maj=350.0km s-min=61.9km az=22.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.71**	**261**	P	P	04 36 28.6	+0.2
	0.3nm,0.3s,baz=96,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**43.80**	**255**	P	P	04 36 28.5	-0.5
	0.6nm,0.5s,baz=88,slow=8.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	**174.21**	**189**	PKPab	PKPab	04 50 04.6	-0.5
	0.2nm,0.8s,baz=211,slow=3.0,SNR=2.7						

*ISCJB **26** 04:39:31.1±0.7, 6°86N±0°05×73°11W±0°05, h153km±6km, mb3.4/1, Error ellipse: s-maj=9.0km s-min=5.6km az=43.3*
*IDC **26** 04:39:31.1±0.8, 6°71N×72°91W, h166km±12km, mb3.1/1, mb1 3.5/4, mb1mx2.9/46, mbtmp3.8/4, Error ellipse: s-maj=45.3km s-min=7.6km az=133.0*
*RSNC **26** 04:39:32.9±1.2, 6°81N×73°13W, h143km±7km, ML3.3*
ISC 26 04:39:31.8±1.0, 6°85N±0°05×73°10W±0°05, h148km±7km, n22, σ0°87/32, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**198**	*i*P	**Pn**	**04 39 52.3**	**0.0**
BARC				*i*		04 40 09.9	
	comp=Z,680nm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**39**	*e*P	**Pn**	**04 39 55.1**	**+0.9**
PAMC				*e*S	**Sn**	**04 40 12.0**	**+0.8**
BRRC	**Barranca, Sant**	**0.66**	**293**	*e*P	**Pn**	**04 39 54.1**	**+0.3**
BRRC				*e*S	**Sn**	**04 40 10.5**	**0.0**
BRRC				*i*		04 40 15.5	
	comp=Z,337nm,0.1s						
RUSC	**La Rusia**	**0.95**	**179**	*e*P	**Pn**	**04 39 56.3**	**-0.2**
RUSC				*e*S	**Sn**	**04 40 14.6**	**-0.8**
RUSC				*i*		04 40 16.1	
	comp=Z,242nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	*e*P	**Pn**	**04 39 59.2**	**-0.7**
PTBC				*e*S	**Sn**	**04 40 19.8**	**-1.7**
PTBC				*i*		04 40 22.0	
	comp=Z,228nm,0.3s						
OCAC	**Ocana**	**1.40**	**351**	*e*P	**Pn**	**04 40 00.8**	**+0.5**
YOPC	**Yopal, Colombi**	**1.63**	**156**	*e*P	**Pn**	**04 40 03.0**	**+0.2**
YOPC				*e*S	**Sn**	**04 40 26.4**	**-0.1**
YOPC				*i*		04 40 31.2	
	comp=Z,138nm,0.6s						
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*e*P	**Pn**	**04 40 05.0**	**-0.2**
ZARC				*i*		04 40 36.8	
	comp=Z,224nm,0.4s						
NORC	**Norcasia**	**2.18**	**234**	*e*P	**Pn**	**04 40 08.9**	**-0.1**
NORC				*e*S	**Sn**	**04 40 36.7**	**-0.8**
CHIC	**Chingaza**	**2.30**	**196**	*e*P	**Pn**	**04 40 10.4**	**-0.3**
CHIC				*e*S	**Sn**	**04 40 39.6**	**-1.1**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**04 40 12.3**	**+1.1**
	comp=Z,26nm,0.3s,baz=92,slow=15,SNR=63						
ROSC	S				**Sn**	**04 40 42.8**	**+1.2**
	comp=Z,25nm,0.3s,baz=47,slow=21,SNR=12						
ROSC	**El Rosal**	**2.34**	**211**	*e*S	**Sn**	**04 40 41.6**	**0.0**
ROSC				*i*		04 40 49.2	
	comp=Z,200nm,0.6s						
HELC	**Santa Helena**	**2.50**	**255**	*e*P	**Pn**	**04 40 14.2**	**+1.0**
VILC	**Villavicencio,**	**2.79**	**192**	*e*P	**Pn**	**04 40 15.7**	**-0.8**
VILC				*i*		04 40 54.2	
	comp=Z,66nm,0.3s						
GUYC	**Guyana, Colomb**	**2.79**	**235**	*e*P	**Pn**	**04 40 16.9**	**0.0**
GUYC				*e*S	**Sn**	**04 40 52.5**	**+0.8**
GUYC				*i*		04 40 59.5	
	comp=Z,199nm,0.3s						
RREF	**El Recreo**	**2.96**	**229**	*e*P	**Pn**	**04 40 20.4**	**+1.2**
RREF				*i*		04 41 04.7	
	comp=Z,118nm,0.2s						
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**04 40 21.9**	**+0.4**
	comp=Z,14nm,0.3s,baz=232,slow=8.6,SNR=42						
SDV	S				**Sn**	**04 40 59.2**	**-0.6**
	comp=Z,23nm,0.3s,baz=252,slow=20,SNR=30						
SDV	**Santo Domingo**	**3.17**	**50**	*e*P	**Pn**	**04 40 21.6**	**+0.2**
YOTC	**Yotoco, Valle**	**4.31**	**229**	*e*P	**Pn**	**04 40 35.6**	**-0.6**
YOTC				*i*		04 40 38.1	
	comp=Z,28nm,0.5s						
PCRV	**Puerto La Cruz**	**9.00**	**68**	P	**Pn**	**04 41 38.5**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=266,slow=6.3,SNR=3.3						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**04 49 42.8**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=131,slow=6.6,SNR=12						

WRA Warramunga Arr 150.37 241 PKPbc **PKPdf 04 59 03.2 +2.0**
comp=Z,0.2nm,0.9s,baz=110,slow=2.4,SNR=2.7

MEX 26 04:40:05.7±0.4, 16°50N×98°54W, h16km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**105**	*e*P	Pg	04 40 12.8	-1.2
PNIG				*e*S	Sg	04 40 18.1	-1.6
TLIG	**Tlapa**	**1.05**	**358**	*e*P	Pb	04 40 22.1	-3.6
TLIG				*e*S	Sb	04 40 34.7	-4.6
ACX	**Acapulco**	**1.32**	**286**	*e*P	Pn	04 40 26.4	-3.0
ACX				*e*S	Sn	04 40 42.7	-4.1
CAIG	**El Cayaco**	**1.74**	**288**	*e*P	Pn	04 40 31.5	-3.8
CAIG				*e*S	Sn	04 40 52.4	-4.9

IDC 26 04:53:01.1±6.1, 5°38N×93°68E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.3/73, mbtmp3.7/3, ML4.3/1, Error ellipse: s-maj=138.5km s-min=38.7km az=88.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.97**	**21**	Pn	Pn	04 56 20.0	-0.6
	0.5nm,0.3s,baz=220,slow=14,SNR=5.6						
CMAR				Sn	Sn	04 58 59.6	+3.1
	baz=205,slow=28,SNR=5.1						
H08S3	**Diego Garcia H**	**24.78**	**239**	T	T	05 23 43.6	
	baz=59						
H08S2	**Diego Garcia H**	**24.78**	**239**	T	T	05 23 44.0	
	baz=59						
H08S1	**Diego Carcia H**	**24.80**	**239**	T	T	05 23 42.8	
	baz=59						
WRA	**Warramunga Arr**	**47.24**	**123**	P	P	05 01 36.3	-0.1
	0.9nm,0.9s,baz=303,slow=9.1,SNR=7.5						
ASAR	**Alice Springs**	**48.72**	**128**	P	P	05 01 47.7	-0.1
	0.2nm,0.3s,baz=297,slow=7.2,SNR=3.9						

NNC 26 04:58:47.0±4.9, 37°14N×70°67E, h0km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=40.1km s-min=35.5km az=141.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.63**	**37**	⇑Pn	Pn	04 59 45.8	+1.0
	1.2nm,0.2s						
SFK				⇓Sn	Sn	05 00 30.7	+2.3
	21nm,0.3s						
MNAS	**Manas**	**5.53**	**14**	⇓Pn	Pn	05 00 11.1	+0.4
	3.4nm,0.8s						
MNAS				⇑Sn	Sn	05 01 15.3	+0.2
	7.9nm,0.4s						
KK31	**Karatay Array**	**5.96**	**359**	⇑Pn	Pn	05 00 17.5	+1.0
	0.5nm,0.2s						
KK31				⇓Sn	Sn	05 01 27.8	+2.2
	7.8nm,0.8s,baz=182,slow=22,SNR=15						
AAK	**Ala-Archa**	**6.23**	**27**	Pn	Pn	05 00 19.9	-0.6
	1.7nm,0.6s						
AAK				⇓Sn	Sn	05 01 31.1	-1.4
	6.6nm,0.6s						
TKM2	**Tokmak 2**	**6.90**	**32**	⇑Pn	Pn	05 00 26.2	-3.5
	1.7nm,0.7s						

*NNC **26** 05:02:16.6±0.3, 47°06N×82°95E, h9km±4km, mb3.6, mpv3.2, Error ellipse: s-maj=4.7km s-min=2.1km az=173.0*
*SOME **26** 05:02:17.5, 47°07N×82°68E, h0km*
ISC 26 05:02:14.3±1.5, 46°93N±0°07×83°02E±0°05, h2km±14km, n21, σ1°29/37, 21C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK06	**Makanchi Array**	**0.51**	**253**	⇑P	**Pn**	**05 02 27.7**	**-0.9**
MK06				⇑S	**Sb**	**05 02 35.5**	**+1.7**
MK02	**Makanchi Array**	**0.51**	**252**	⇑P	**Pn**	**05 02 27.7**	**-1.0**
MK02				⇑S	**Sb**	**05 02 35.4**	**+1.5**
MK07	**Makanchi Array**	**0.51**	**250**	⇑P	**Pn**	**05 02 27.8**	**-0.9**
MK07				⇑S	**Sb**	**05 02 35.6**	**+1.7**
MK05	**Makanchi Array**	**0.52**	**255**	⇑P	**Pn**	**05 02 27.8**	**-1.0**
MK05				⇓S	**Sb**	**05 02 35.6**	**+1.6**
MK01	**Makanchi Array**	**0.52**	**252**	⇑P	**Pn**	**05 02 27.8**	**-0.9**
MK01				⇓S	**Sb**	**05 02 35.6**	**+1.6**
MK03	**Makanchi Array**	**0.52**	**252**	⇑P	**Pn**	**05 02 27.8**	**-0.9**
MK03				⇑S	**Sb**	**05 02 35.6**	**+1.6**
MK31	**Makanchi Array**	**0.52**	**255**	⇑P	**Pn**	**05 02 27.8**	**-1.0**
	11nm,0.2s,baz=49,slow=6.3,SNR=3417						
MK31				⇑S	**Sb**	**05 02 35.6**	**+1.6**
	19nm,0.2s,baz=60,slow=19,SNR=39						
MK04	**Makanchi Array**	**0.52**	**253**	⇑P	**Pn**	**05 02 27.8**	**-1.0**
MK04				⇑S	**Sb**	**05 02 35.6**	**+1.5**
MK08	**Makanchi Array**	**0.53**	**251**	⇑P	**Pn**	**05 02 28.1**	**-0.8**
MK08				⇓S	**Sb**	**05 02 36.2**	**+1.7**
MK09	**Makanchi Array**	**0.53**	**253**	⇑P	**Pn**	**05 02 28.1**	**-0.9**
MK09				⇓S	**Sb**	**05 02 36.1**	**+1.6**
MAKZ	**Makanchi**	**0.72**	**261**	⇑P	**Pn**	**05 02 31.1**	**-0.5**
	12nm,0.1s						
MAKZ				⇑S	**Sb**	**05 02 41.4**	**+1.3**
	72nm,0.2s						
ZSN	**Zaisan**	**1.37**	**67**	*e*P	**Pg**	**05 02 40.6**	**+0.2**
	4.8nm,0.3s						
ZSN				*e*S	**Sn**	**05 02 57.5**	**-1.6**
	13nm,0.2s						
KAPS	**Kapalarasan**	**3.03**	**238**	*e*P	**Pg**	**05 03 12.3**	**0.0**
	2.8nm,0.1s						
KAPS				*e*S	**Sg**	**05 03 51.5**	**-0.1**
	23nm,0.7s						
KTMS	**Ketmen**	**3.96**	**209**	*e*P	**Pg**	**05 03 30.9**	**+0.8**
	4.7nm,0.5s						
KTMS				*e*S	**Sg**	**05 04 23.4**	**+2.0**
	8.2nm,0.3s						
MNBS	**Baschi**	**4.32**	**230**	*e*P	**Pg**	**05 03 36.0**	**-1.0**
	3.2nm,0.6s						
MNBS				*e*S	**Sg**	**05 04 32.5**	**-0.4**
	22nm,0.8s						
PDGK	**Podgornoye**	**4.38**	**216**	⇓Pg	**Pg**	**05 03 36.6**	**-1.5**
	2.9nm,0.6s						
PDGK				⇑Lg	Lg	05 04 37.2	
	12nm,0.5s						
ARXS	**Arharly**	**4.54**	**235**	*e*P	**Pg**	**05 03 39.5**	**-1.8**
	2.2nm,0.5s						
ARXS				*e*S	**Sg**	**05 04 38.8**	**-1.4**
	24nm,0.8s						
KURK	**Kurchatov**	**4.78**	**324**	Pn	**Pn**	**05 03 26.7**	**-0.5**
KURK				Pg	**Pb**	**05 03 39.3**	**+0.7**
KURK				⇑Lg	Lg	05 04 43.9	
	16nm,0.4s						
KTBS	**Karatobe**	**5.50**	**237**	*e*P	**Pg**	**05 03 58.6**	**-1.1**
KTBS				*e*S	**Sg**	**05 05 11.7**	**+0.8**
ZAA0	**Zalesovo Array**	**7.12**	**9**	⇓Lg	Lg	05 05 57.4	
	6.3nm,0.8s						
OTUK	**Ortayu**	**7.34**	**284**	⇑Lg	Lg	05 06 07.1	
	12nm,1.0s						

IDC 26 05:03:46.4±7.0, 0°45N×100°94E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.1/68, mbtmp3.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/55, Error ellipse: s-maj=293.8km s-min=106.7km az=50.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**24.97**	**116**	LR	LR	05 19 15.8	
	comp=Z,74nm,22.0s,baz=226,slow=37						
WRA	**Warramunga Arr**	**38.49**	**124**	P	P	05 11 10.1	-0.6
	0.5nm,0.8s,baz=299,slow=9.6,SNR=8.6						
ASAR	**Alice Springs**	**39.99**	**129**	P	P	05 11 23.8	+0.5
	0.4nm,0.4s,baz=316,slow=6.8,SNR=6.0						
TXAR	**Lajitas Array**	**142.20**	**36**	PKP	PKPdf	05 23 21.1	-0.7
	0.3nm,0.9s,baz=348,slow=1.3,SNR=3.6						

RSNC 26 05:08:21.7±1.2, 3°59N×74°22W, h0km±6km, ML3.6, Mw3.9, 1C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRAC	**Prado**	**0.68**	**280**	⇓*i*P	Pg	05 08 34.4	-0.4
PRAC				*e*S	Sg	05 08 44.1	+0.6
VILC	**Villavicencio,**	**0.73**	**45**	*e*P	Pg	05 08 34.9	-0.9
VILC				*e*S	Sg	05 08 46.2	+0.8
VILC				*i*		05 08 47.9	
	comp=Z,2μm,0.4s						
CHIC	**Chingaza**	**1.14**	**25**	*e*P	Pg	05 08 42.2	-1.4
CHIC				*i*		05 09 01.1	
	comp=Z,758nm,0.5s						
TOLC	**Tolima**	**1.48**	**312**	*i*P	Pn	05 08 48.2	-1.6
BETC	**Betania**	**1.52**	**233**	*e*P	Pn	05 08 48.3	-1.9
RREF	**El Recreo**	**1.72**	**319**	⇑*i*P	Pn	05 08 52.3	-1.2
RREF				*e*S	Sn	05 09 15.5	-1.0
RREF				*i*		05 09 19.0	
	comp=Z,532nm,0.4s						
MARP	**Paez Belalcaza**	**1.89**	**247**	*e*P	Pn	05 08 54.1	-1.4
MARP				*e*S	Sn	05 09 18.9	-1.2
MARP				*i*		05 09 21.9	
	comp=Z,485nm,0.3s						
GUYC	**Guyana, Colomb**	**2.00**	**324**	*e*P	Pn	05 08 56.7	-0.5
GUYC				*e*S	Sn	05 09 22.3	-0.8
GUYC				*i*		05 09 25.4	
	comp=Z,298nm,0.6s						
NORC	**Norcasia**	**2.06**	**342**	*e*P	Pn	05 08 57.1	-0.6
NORC				*e*S	Sn	05 09 24.0	-0.1
YOTC	**Yotoco, Valle**	**2.16**	**280**	*e*P	Pn	05 08 57.5	-1.5
YOTC				*e*S	Sn	05 09 27.7	+1.1
YOTC				*i*		05 09 29.3	
	comp=Z,830nm,0.4s						
FLOC	**Florencia**	**2.46**	**216**	*e*P	Pn	05 09 01.9	-1.2
FLOC				*e*S	Sn	05 09 34.2	+0.3
FLOC				*i*		05 09 36.5	
	comp=Z,558nm,0.6s						
RUSC	**La Rusia**	**2.55**	**26**	*e*P	Pn	05 09 04.6	-0.2
RUSC				*i*		05 09 45.6	
	comp=Z,70nm,0.6s						

IDC 26 05:14:55.4±2.6, 30°21S×138°49E, h0km, mb1 3.3/4, mb1mx3.1/49, mbtmp3.1/4, ML3.1/4, Error ellipse: s-maj=73.9km s-min=14.9km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.14**	**123**	Pn	Pn	05 15 46.4	+0.1
	0.6nm,0.3s,baz=296,slow=11,SNR=17						
STKA				Pg	Pb	05 15 53.7	+1.5
	2.3nm,0.3s,baz=303,slow=14,SNR=22						
STKA				Sn	Sn	05 16 24.2	-0.3
	3.2nm,0.3s,baz=239,slow=6.9,SNR=8.9						
STKA				Lg	Lg	05 16 34.5	
	2.8nm,0.3s,baz=10,slow=20,SNR=8.8						
ASAR	**Alice Springs**	**7.69**	**327**	Pn	Pn	05 16 50.1	+1.3
	0.2nm,0.3s,baz=147,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**10.89**	**339**	Pn	Pn	05 17 33.3	+0.7
	0.2nm,0.3s,baz=161,slow=12,SNR=13						
WRA				Sn	Sn	05 19 34.2	-1.1
	0.1nm,0.3s,baz=160,slow=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**16.80**	**313**	Pn	Pn	05 18 50.1	-2.0
	0.1nm,0.3s,baz=148,slow=13,SNR=3.0						

*ISCJB **26** 05:16:41.0±0.5, 40°80N±0°06×31°74E±0°04, h9km, Error ellipse: s-maj=9.3km s-min=4.0km az=166.6*
*CSEM **26** 05:16:40.7±0.2, 40°84N×31°75E, h2km, ML2.6, Error ellipse: s-maj=4.9km s-min=3.0km az=167.0*
*DDA **26** 05:16:40.6, 40°89N×31°75E, h7km, Ml2.6*
*ISK **26** 05:16:42.5, 40°72N×31°64E, h10km, ML2.1/6*
ISC 26 05:16:40.8±0.9, 40°86N±0°04×31°73E±0°03, h9km, n30, σ0°62/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.26**	**100**	*i*P	**Pg**	**05 16 46.0**	**0.0**
BCAM				*i*S	**Sg**	**05 16 49.4**	**-0.1**
BCAM	**Yenicaga**	**0.26**	**100**	P	**Pg**	**05 16 46.0**	**0.0**
BCAM				S	**Sg**	**05 16 49.4**	**-0.1**
MDUB	**Mudurnu**	**0.56**	**227**	PG	**Pg**	**05 16 51.3**	**-0.4**
MDUB				SG	**Sg**	**05 16 57.6**	**-1.5**
MDUB	**Mudurnu**	**0.56**	**227**	*e*Pg	**Pg**	**05 16 51.3**	**-0.4**
MDUB				*e*Sg	**Sg**	**05 16 57.6**	**-1.5**
BTAS	**Taskesti**	**0.63**	**243**	*i*P	**Pg**	**05 16 53.3**	**+0.4**
BTAS	**Taskesti**	**0.63**	**243**	P	**Pg**	**05 16 53.3**	**+0.4**
CMDR	**Camlidere-ANKA**	**0.67**	**123**	*i*P	**Pg**	**05 16 53.9**	**+0.1**
CMDR	**Camlidere-ANKA**	**0.67**	**123**	P	**Pg**	**05 16 53.9**	**+0.1**
BTIN	**Bart^–n**	**0.87**	**27**	*i*P	**Pg**	**05 16 56.7**	**-0.8**
BTIN	**Bart^–n**	**0.87**	**27**	P	**Pg**	**05 16 56.7**	**-0.8**
GULT	**Gulveren**	**1.02**	**246**	PG	**Pg**	**05 17 00.4**	**0.0**
GULT				SG	**Sg**	**05 17 13.3**	**-0.4**
GULT	**Gulveren**	**1.02**	**246**	*e*Pg	**Pg**	**05 17 00.4**	**0.0**
GULT				*e*Sg	**Sg**	**05 17 13.3**	**-0.4**
GEYV	**SAKARYA_Geyve**	**1.16**	**252**	*i*P	**Pb**	**05 17 03.0**	**+0.1**
GEYV	**SAKARYA_Geyve**	**1.16**	**252**	P	**Pb**	**05 17 03.0**	**+0.1**
KAND	**Kocaeli-Kandir**	**1.19**	**282**	*i*P	**Pb**	**05 17 03.5**	**0.0**
KAND	**Kocaeli-Kandir**	**1.19**	**282**	P	**Pb**	**05 17 03.5**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.42**	**187**	PN	**Pn**	**05 17 07.0**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.42**	**187**	*e*Pn	**Pn**	**05 17 07.0**	**+0.1**
HRT	**Hereke**	**1.57**	**269**	PN	**Pb**	**05 17 10.2**	**+0.2**
HRT	**Hereke**	**1.57**	**269**	*e*Pn	**Pb**	**05 17 10.2**	**+0.2**
ADVT	**Abdulvahap**	**1.58**	**255**	PN	**Pb**	**05 17 09.7**	**-0.4**
ADVT				SN	**Sn**	**05 17 29.7**	**+0.3**
ADVT	**Abdulvahap**	**1.58**	**255**	*e*Pn	**Pb**	**05 17 09.7**	**-0.4**
ADVT				*e*Sn	**Sn**	**05 17 29.7**	**+0.3**
SILT	**Sile**	**1.61**	**281**	PN	**Pb**	**05 17 11.1**	**+0.5**
SILT	**Sile**	**1.61**	**281**	*e*Pn	**Pb**	**05 17 11.1**	**+0.5**
BUY	**Buyukada**	**1.98**	**271**	PN	**Pb**	**05 17 16.1**	**-0.9**
BUY	**Buyukada**	**1.98**	**271**	*e*Pn	**Pb**	**05 17 16.1**	**-0.9**
ARMT	**Armutlu**	**2.20**	**263**	PN	**Pn**	**05 17 18.9**	**+1.4**
ARMT	**Armutlu**	**2.20**	**263**	*e*Pn	**Pn**	**05 17 18.9**	**+1.4**
TVSB	**Tavsanli**	**2.24**	**232**	PN	**Pn**	**05 17 18.5**	**+0.4**
TVSB	**Tavsanli**	**2.24**	**232**	*e*Pn	**Pn**	**05 17 18.5**	**+0.4**

*ISCJB **26** 05:24:36.7±0.9, 41°67N±0°04×19°40E±0°04, h8km±4km, Error ellipse: s-maj=7.2km s-min=4.5km az=25.2*
*CSEM **26** 05:24:36.4±0.6, 41°62N×19°39E, h5km, ML2.1, Error ellipse: s-maj=9.2km s-min=5.9km az=10.0*
*PDG **26** 05:24:39.2±0.1, 41°77N×19°40E, h11km, ML2.1/8, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*BEO **26** 05:24:40.2±0.5, 41°81N×19°29E, M1.9/7*
*TIR **26** 05:24:40.1, 41°86N×19°52E, h22km, ML3.1*
ISC 26 05:24:39.2±1.1, 41°77N±0°04×19°39E±0°03, h11km±7km, n38, σ0°86/72, 10C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.22**	**331**	⇓*i*Pg	**Pg**	**05 24 44.0**	**+0.1**
ULC				*e*Sg	**Sg**	**05 24 47.8**	**+0.7**
ULC	**Ulcinj**	**0.22**	**331**	⇓*i*Pg	**Pg**	**05 24 44.0**	**+0.1**
ULC				*e*Sg	**Sg**	**05 24 47.8**	**+0.7**
DRME	**Dracevica, Mon**	**0.44**	**340**	⇑*i*Pg	**Pg**	**05 24 47.5**

NKME	**Niksic**	**1.05**	**342**	*e*Pg	**Pg**	05 24 58.9	-0.5
NKME				*e*Sg	**Sn**	**05 25 15.3**	**+0.8**
NKME	**Niksic**	**1.05**	**342**	*e*Pg	**Pg**	05 24 58.9	-0.5
NKME				*e*Sg	**Sn**	**05 25 15.3**	**+0.8**
KOME	**Kolasin**	**1.08**	**5**	*e*Pg	**Pg**	05 24 59.6	-0.5
KOME				*e*Sg	**Sn**	**05 25 16.4**	**+0.9**
KOME	**Kolasin**	**1.08**	**5**	*e*Pg	**Pg**	05 24 59.6	-0.5
KOME				*e*Sg	**Sn**	**05 25 16.4**	**+0.9**
BEY	**Berane**	**1.16**	**19**	*i*Pg	**Pb**	05 25 00.9	-0.5
BEY				*e*Sg	**Sn**	**05 25 19.2**	**+1.8**
IVA	**Berane**	**1.16**	**19**	*i*Pg	**Pb**	05 25 00.9	-0.5
IVA				*e*Sg	**Sn**	**05 25 19.2**	**+1.8**
SJES	**Sjenica**	**1.55**	**16**	*e*Pn	**Pb**	05 25 08.5	+0.5
SJES				*e*Sn	**Sg**	**05 25 29.8**	**+0.6**
SJES	**Sjenica**	**1.55**	**16**	*e*Pn	**Pb**	05 25 08.5	+0.5
SJES				*e*Sn	**Sg**	05 25 29.8	+0.6
PLE	**Pljevlja**	**1.56**	**0**	*i*Pg	**Pb**	05 25 08.4	+0.2
PLE				*e*Sg	**Sg**	05 25 30.9	+1.5
PLE	**Pljevlja**	**1.56**	**0**	*i*Pg	**Pb**	05 25 08.4	+0.2
PLE				*e*Sg	**Sg**	05 25 30.9	+1.5
STON	**Ston**	**1.67**	**312**	*e*Pn	**Pn**	05 25 07.2	-1.2
STON				Sn	**Sn**	05 25 29.0	-0.7
STON	**Ston**	**1.67**	**312**	*e*Pn	**Pn**	05 25 08.6	+0.3
STON				*e*Sn	**Sn**	05 25 28.9	-0.7
STON	**Ston**	**1.67**	**312**	*e*Pn	**Pn**	05 25 07.1	-1.2
STON				Sn	**Sn**	05 25 28.9	-0.7
FNA	**Florina**	**1.79**	**123**	*i* PN	Pn	05 25 04.3	-5.8
FNA				*i* SN	**Sb**	**05 25 36.1**	**+1.5**
IVAS	**Ivanjica**	**1.89**	**17**	*e*Pn	**Pn**	05 25 11.8	+0.3
IVAS				*e*Sn	**Sn**	05 25 36.2	+0.8
IVAS	**Ivanjica**	**1.89**	**17**	*e*Pn	**Pn**	05 25 11.8	+0.3
IVAS				*e*Sn	**Sn**	05 25 36.2	+0.8
DIVS	**Divibare**	**2.37**	**11**	*e*Pn	**Pn**	05 25 18.4	+0.3
DIVS				*e*Sn	**Sn**	05 25 45.7	-1.5
DIVS	**Divibare**	**2.37**	**11**	*e*Pn	**Pn**	05 25 18.4	+0.3
DIVS				*e*Sn	**Sn**	05 25 45.7	-1.5

*ISCJB **26** 05:29:10.9±0.2,29°.21S±0°.02×69°.43W±0°.03,h111km±2km, mb4.5/83,Error ellipse: s-maj=4.3km s-min=3.2km az=169.3*

*SJA **26** 05:29:11.3±0.9,29°.33S×69°.58W,h116km±6km,ML4.3, MW4.3,Fault plane solution: NP1:ϕs120.30000°, δ72.40000°,λ-92.50000°.*

*GUC **26** 05:29:12.0±0.9,29°.28S×69°.60W,h100km±9km,ML4.8*

*NEIC **26** 05:29:12.0±0.0,29°.28S×69°.60W,h100km,mb4.5/74, MD4.6(SJA),ML4.8(GUC),After GUC.*

NEIC Felt [II] at Coquimbo and La Serena, Chile.

*IDC **26** 05:29:13.2±0.6,29°.30S×69°.50W,h117km±4km,mb4.1/17, mb1 4.1/19,mb1mx4.0/37,mbtmp4.4/19,Error ellipse: s-maj=19.9km s-min=11.3km az=73.0*

ISC 26 05:29:11.9±0.5,29°27S±0°.03×69°55W±0°.03,h110km±4km, h110km:pP-P,n445,σ1.944/486,mb4.5/84,6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.95**	**103**	*e*P	**Pn**	**05 29 33.5**	**+0.7**
ACDV	**Cuesta del Vie**	**0.97**	**157**	*e*P	**Pn**	**05 29 33.5**	**+0.4**
ACDV				*i* S	**Sn**	**05 29 50.3**	**+1.3**
ACDV				IAML		05 29 50.8	
	comp=Z,7μm,0.9s						
LCO	**Las Campanas**	**1.04**	**284**	*e*Pn	**Pn**	**05 29 34.5**	**+0.7**
LCO				*e*Sn	**Sn**	**05 29 50.6**	**+0.4**
LCO	**Las Campanas**	**1.04**	**284**	*i* P	**Pn**	**05 29 34.4**	**+0.7**
LCO				*i* S	**Sn**	**05 29 51.3**	**+1.1**
LCO	**Las Campanas**	**1.04**	**284**	*i*P	**Pn**	**05 29 34.4**	**+0.6**
LCO				*i* S	**Sn**	**05 29 50.3**	**0.0**
LCO				IAML		05 29 51.8	
	comp=E,25μm,0.2s						
VACH	**Vallenar**	**1.26**	**303**	*i*P	Pn	05 29 48.4	+12
VACH				*i* S	Sn	05 30 06.8	+13
VCA	**Vinchina**	**1.29**	**66**	*i* P	**Pn**	**05 29 38.1**	**+1.6**
VCA				*i* S	**Sn**	**05 29 57.5**	**+2.4**
VCA				IAML		05 29 59.2	
	comp=Z,12μm,0.3s						
VCA	**Vinchina**	**1.29**	**66**	*e*P	**Pn**	**05 29 37.6**	**+1.1**
VCA				*i* S	**Sn**	**05 29 57.0**	**+1.9**
VCA				IAML		05 29 58.0	
	comp=E,24μm,0.3s						
GO04	**Tololo Observa**	**1.41**	**230**	*i*P	**Pn**	**05 29 38.0**	**+0.2**
GO04				*i* S	**Sn**	**05 29 58.0**	**+0.4**
TLL	**Tololo Astrono**	**1.41**	**230**	*i*P	**Pn**	**05 29 38.1**	**+0.2**
TLL				*i* S	**Sn**	**05 29 58.0**	**+0.4**
TLL				IAML		05 29 59.5	
	comp=N,21μm,0.4s						
GO03	**Copiap**	**1.77**	**340**	*i*P	**Pn**	**05 29 42.9**	**+0.7**
GO03				*i* S	**Sn**	**05 30 06.0**	**+0.8**
AMOG	**MOGNA**	**1.90**	**151**	*e*P	**Pn**	**05 29 43.5**	**-0.2**
AMOG				*i* P	**Pn**	**05 29 43.6**	**-0.2**
AMOG				*i* S	**Sn**	**05 30 07.1**	**-0.9**
RTLL	**Cerro Villicun**	**2.25**	**156**	*e*P	**Pn**	**05 29 48.2**	**0.0**
RTLL				*i* S	**Sn**	**05 30 15.9**	**-0.1**
RTLL				IAML		05 30 18.0	
	comp=Z,2μm,0.3s						
RTLL	**Cerro Villicun**	**2.25**	**156**	*i*P	**Pn**	**05 29 48.2**	**0.0**
RTLL				*i* S	**Sn**	**05 30 15.2**	**-0.9**
RTLL				IAML		05 30 17.3	
	comp=E,8μm,0.5s						
ZON	**Zonda**	**2.39**	**162**	*i* P	**Pn**	**05 29 49.8**	**-0.2**
ZON				*i* S	**Sn**	**05 30 20.5**	**+1.3**
SJA	**San Juan**	**2.41**	**159**	*e*P	**Pn**	**05 29 50.5**	**+0.3**
SJA				*i* S	**Sn**	**05 30 20.7**	**+1.2**
SJA				IAML		05 30 21.4	
	comp=Z,1μm,0.4s						
RTLS	**Leoncito**	**2.53**	**175**	*i* P	**Pn**	**05 29 52.7**	**+0.6**
RTLS				*i* S	**Sn**	**05 30 23.5**	**+0.7**
RTLS				IAML		05 30 27.6	
	comp=Z,769nm,0.5s						
RTCV	**Cerro Valdivia**	**2.73**	**162**	*i* P	**Pn**	**05 29 54.6**	**+0.2**
APLL	**PUNTA DE LOS L**	**2.86**	**114**	*i* P	**Pn**	**05 29 55.7**	**-0.4**
APLL				*i* S	**Sn**	**05 30 28.4**	**-1.7**
APLL				IAML		05 30 29.9	
	comp=Z,710nm,0.4s						
AUSP	**Uspallata**	**2.95**	**177**	*e*P	**Pn**	**05 29 58.2**	**+0.7**
AUSP				*i* S	**Sn**	**05 30 29.0**	**-3.6**
ASAL	**Salagasta**	**3.37**	**170**	*i* P	**Pn**	**05 30 03.6**	**+0.7**
CYA	**Choya**	**3.39**	**77**	*i* P	**Pn**	**05 30 02.7**	**-0.5**
CYA				IAML		05 30 02.9	
	comp=Z,766nm,0.3s						
CYA				*i* S	**Sn**	**05 30 40.6**	**-2.2**
ARCO	**CERRO ARCO**	**3.60**	**172**	*e*P	**Pn**	**05 30 06.5**	**+0.5**
ARCO				*i* S	**Sn**	**05 30 49.6**	**+1.7**
ARCO				IAML		05 30 51.8	
	comp=Z,386nm,0.5s						
ACAN	**Cantantal**	**3.62**	**146**	*i* P	**Pn**	**05 30 06.2**	**0.0**
AAGR	**Agrelo**	**3.85**	**171**	*e*P	**Pn**	**05 30 09.6**	**+0.2**
AAGR				*i* S	Sn	05 30 43.6	-10
ROC1	**El Roble**	**3.90**	**198**	*e*Pn	**Pn**	**05 30 07.9**	**-2.2**
ROC1				*e*Sn	**Sn**	**05 30 47.1**	**-8.2**
ROC1	**El Roble**	**3.90**	**198**	*e*P	**Pn**	**05 30 08.4**	**-1.8**
ROC1				*i* S	**Sn**	**05 30 48.1**	**-7.1**
GO02	**Mina Guanaco**	**4.09**	**360**	*i*P	**Pn**	**05 30 13.2**	**+0.4**
GO02				IAML		05 31 07.3	
	comp=N,664nm,0.6s						
AVIZ	**Vizcacheras**	**4.28**	**168**	*i* P	**Pn**	**05 30 15.1**	**0.0**
AVIZ				*i* S	**Sn**	**05 31 04.3**	**+0.1**
FSA	**Cafayete**	**4.47**	**46**	*e*P	**Pn**	**05 30 17.1**	**-0.6**
FSA				IAML		05 30 17.8	
	comp=Z,156nm,0.4s						
AHML	**Horco Molle**	**4.48**	**57**	*i* P	**Pn**	**05 30 16.3**	**-1.4**
MRA	**San Martin**	**4.55**	**135**	*e*P	**Pn**	**05 30 17.7**	**-1.1**
MRA				IAML		05 31 42.7	
	comp=Z,452nm,0.6s						
PB14	**IPOC Station P**	**4.69**	**350**	*i* P	**Pn**	**05 30 20.0**	**-0.9**
PB14				*i* S	**Sn**	**05 31 10.9**	**-3.4**
PB14				IAML		05 31 33.0	
	comp=Z,174nm,0.6s						
RFA	**San Rafael**	**5.56**	**171**	*e*P	**Pn**	**05 30 30.4**	**-1.9**
RFA				IAML		05 32 09.7	
	comp=Z,182nm,0.6s						
SLA	**San Lorenzo**	**5.79**	**40**	*e*P	**Pn**	**05 30 35.9**	**+0.3**
SLA				IAML		05 30 37.1	
	comp=Z,56nm,0.5s						
PB10	**IPOC Station P**	**5.80**	**351**	*e*Pn	**Pn**	**05 30 33.5**	**-2.2**
PB10	**IPOC Station P**	**5.80**	**351**	*i* P	**Pn**	**05 30 33.5**	**-2.2**
PB10				IAML		05 31 58.3	
	comp=Z,61nm,0.4s						
AZAP	**Zapla**	**6.43**	**40**	*i* P	**Pn**	**05 30 43.4**	**-0.9**
PB04	**IPOC Station P**	**6.93**	**355**	*e*Pn	**Pn**	**05 30 47.9**	**-3.2**
PB04				*e*Sn	**Sn**	**05 32 03.0**	**-5.5**
ASTB	**Santa Barbara**	**6.99**	**42**	*i* P	**Pn**	**05 30 50.7**	**-1.2**
HJA	**Humahuaca**	**7.09**	**33**	*i* P	**Pn**	**05 30 54.0**	**+0.6**
ALOL	**LOMAS DE OLMED**	**7.38**	**44**	*i* P	**Pn**	**05 30 55.5**	**-1.5**
PB01	**IPOC Station P**	**8.19**	**0**	*e*Pn	**Pn**	**05 31 05.0**	**-3.2**
PB01				*e*Sn	**Sn**	**05 32 32.4**	**-6.7**
PB11	**IPOC Station P**	**9.47**	**359**	*e*Pn	Pn	05 31 20.3	-5.2
PB11				*e*Sn	**Sn**	**05 33 02.0**	**-8.2**
MNMC	**Minye Minye**	**10.09**	**360**	*e*Pn	**Pn**	**05 31 31.2**	**-2.9**
MNMC				*e*Sn	**Sn**	**05 33 18.5**	**-7.1**
TRQA	**Tornquist**	**10.79**	**146**	*e*Pn	**Pn**	**05 31 41.4**	**-1.8**
TRQA				*e*Sn	**Sn**	**05 33 35.8**	**-6.2**
CPUP	**Villa Florida**	**11.21**	**78**	P	**Pn**	**05 31 45.0**	**-3.9**
	comp=Z,1.1nm,0.3s,baz=253,slow=12,SNR=32						
CPUP	**Villa Florida**	**11.21**	**78**	*e*Pn	**Pn**	**05 31 45.0**	**-3.9**
CPUP				*e*Sn	**Sn**	**05 33 49.7**	**-2.5**
PLCA	**Paso Flores**	**11.47**	**184**	P	**Pn**	**05 31 51.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=23,slow=15,SNR=4.2						
LPAZ	**La Paz**	**12.99**	**6**	P	**Pn**	**05 32 12.5**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=198,slow=5.7,SNR=16						
LPAZ	**La Paz**	**12.99**	**6**	*e*Pn	**Pn**	**05 32 12.2**	**-0.7**
SIV	**San Ignacio**	**15.35**	**32**	P	**Pn**	**05 32 40.0**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=257,slow=17,SNR=9.3						
CHRN	**Cochrane**	**18.11**	**187**	*e*P	**Pn**	**05 33 16.2**	**+0.1**
	comp=Z,5.9nm,0.9s						
NNA	**Nana**	**18.49**	**337**	*e*P	**Pn**	**05 33 20.9**	**-0.1**
	comp=Z,8.8nm,0.9s						
SPB	**Sao Paulo**	**20.59**	**79**	*e*P	Pn	05 33 45.3	-0.2
	comp=Z,25nm,0.8s						
SAML	**Samuel**	**21.08**	**18**	*e*P	**P**	**05 33 47.7**	**+0.1**
	comp=Z,5.2nm,0.8s						
OTAV	**Otavalo**	**30.55**	**342**	*e*P	**P**	**05 35 13.8**	**-1.8**
	comp=Z,5.2nm,1.3s						
PRAC	**Prado**	**33.19**	**350**	*e*P	**P**	**05 35 40.5**	**+2.1**
	comp=Z,6.1nm,0.7s						
ROSC	**El Rosal**	**34.22**	**352**	P	**P**	**05 35 47.7**	**+0.1**
	comp=Z,4.8nm,0.5s,baz=42,slow=22,SNR=9.5						
RUSC	**La Rusia**	**35.12**	**354**	*e*P	**P**	**05 35 56.4**	**+0.9**
	comp=Z,11nm,0.6s						
HELC	**Santa Helena**	**35.72**	**350**	*e*P	**P**	**05 36 01.6**	**+1.1**
	comp=Z,81nm,0.7s						
SDV	**Santo Domingo**	**37.95**	**358**	P	**P**	**05 36 18.4**	**-0.8**
	comp=Z,6.6nm,0.5s,baz=225,slow=2.9,SNR=14						
SDV	**Santo Domingo**	**37.95**	**358**	*e*P	**P**	**05 36 18.9**	**-0.2**
	comp=Z,13nm,1.0s						
JTS	**JuntasAbangare**	**42.04**	**337**	P	**P**	**05 36 54.8**	**+2.0**
	comp=Z,3.3nm,0.5s,baz=149,slow=22,SNR=4.5						
VNA3	**Neumayer Olymp**	**52.98**	**159**	P	**P**	**05 38 16.2**	**-0.5**
VNA2	**Neumayer--Watz**	**53.59**	**159**	P	**P**	**05 38 21.4**	**+0.2**
	baz=288,slow=8.7						
SNAA	**Sanae**	**55.20**	**159**	P	**P**	**05 38 32.7**	**-0.2**
SNAA	**Sanae**	**55.20**	**159**	P	**P**	**05 38 32.8**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=283,slow=8.1,SNR=31						
SNAA	**Sanae**	**55.20**	**159**	*e*P	**P**	**05 38 32.7**	**-0.2**
	comp=Z,9.8nm,1.3s						
456A	**Hilliard**	**60.83**	**348**	P	**P**	**05 39 12.6**	**+0.1**
	baz=168						
QSPA	**South Pole Qui**	**60.95**	**180**	P	**P**	**05 39 13.3**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=144,slow=2.6,SNR=10						
LNIG	**Linares**	**61.05**	**329**	*e*P	**P**	**05 39 14.9**	**+0.8**
	comp=Z,4.4nm,1.1s						
353A	**Camilla**	**61.88**	**346**	P	**P**	**05 39 19.4**	**-0.2**
	baz=166						
351A	**Pinckard**	**62.12**	**344**	P	**P**	**05 39 21.3**	**+0.1**
	baz=164						
352A	**Blakely**	**62.16**	**345**	P	**P**	**05 39 21.5**	**+0.1**
	baz=165						
251A	**Midway**	**62.86**	**345**	P	**P**	**05 39 25.9**	**-0.2**
	baz=165						
154A	**Montrose**	**62.87**	**347**	P	**P**	**05 39 26.0**	**-0.2**
	baz=167						
249A	**Camden**	**63.16**	**343**	P	**P**	**05 39 28.2**	**+0.2**
	baz=163						
150A	**Eclectic**	**63.49**	**344**	P	**P**	**05 39 30.1**	**-0.1**
	baz=164						
344A	**Westbrook Farm**	**63.66**	**340**	P	**P**	**05 39 32.8**	**+1.5**
	baz=160						
149A	**Jones**	**63.67**	**344**	P	**P**	**05 39 31.1**	**-0.3**
	baz=163						
245A	**Little AP, Sta**	**63.96**	**341**	P	**P**	**05 39 34.2**	**+0.9**
	baz=160						
833A	**Chaparral WMA,**	**63.99**	**331**	P	**P**	**05 39 35.5**	**+1.9**
	baz=151						
Z50A	**Ashland**	**64.09**	**345**	P	**P**	**05 39 34.0**	**-0.2**
	baz=164						
LRAL	**Lakeview Retre**	**64.14**	**344**	P	**P**	**05 39 34.3**	**-0.1**
	baz=163						
Z49A	**Columbiana**	**64.17**	**344**	P	**P**	**05 39 34.8**	**0.0**
	baz=164						
244A	**Avy, Jackson**	**64.20**	**340**	P	**P**	**05 39 36.0**	**+1.2**
	baz=160						
145A	**Houston Renfro**	**64.50**	**341**	P	**P**	**05 39 38.2**	**+1.3**
	baz=160						
Z47A	**Carrollton**	**64.56**	**343**	P	**P**	**05 39 37.4**	**+0.2**
	baz=162						
Z48A	**Northport**	**64.60**	**343**	P	**P**	**05 39 37.4**	**-0.1**
	baz=163						
Y50A	**Piedmont**	**64.66**	**345**	P	**P**	**05 39 38.6**	**+0.8**
	baz=164						
Y49A	**Blount Mountai**	**64.78**	**345**	P	**P**	**05 39 39.1**	**+0.4**
	baz=164						
Z46A	**Louisville**	**64.78**	**342**	P	**P**	**05 39 39.7**	**+1.0**
	baz=161						
Y48A	**Jasper**	**65.01**	**344**	P	**P**	**05 39 40.3**	**+0.2**
	baz=163						
KMSC	**Kings Mountain**	**65.02**	**349**	P	**P**	**05 39 40.6**	**+0.4**
	baz=169						
143A	**Socs Landing,**	**65.03**	**340**	P	**P**	**05 39 42.0**	**+1.7**
	baz=159						
Z45A	**Winona**	**65.16**	**341**	P	**P**	**05 39 42.1**	**+1.0**
	baz=161						
Y47A	**UCPARC, Winfie**	**65.17**	**343**	P	**P**	**05 39 41.3**	**+0.2**
	baz=162						
X50A	**Fort Payne**	**65.19**	**345**	P	**P**	**05 39 42.0**	**+0.7**
	baz=165						
NATX	**Nacogdoches**	**65.22**	**337**	P	**P**	**05 39 43.1**	**+1.6**
	baz=156						
Z44A	**Pea Ridge, Bel**	**65.28**	**341**	P	**P**	**05 39 42.8**	**+0.9**
	baz=160						
Y46A	**Houston**	**65.41**	**342**	P	**P**	**05 39 42.6**	**-0.1**
	baz=162						
435B	**Jarrell**	**65.42**	**334**	P	**P**	**05 39 43.0**	**+0.1**
	baz=153						
X48A	**Hartselle**	**65.50**	**344**	P	**P**	**05 39 43.7**	**+0.4**
	baz=163						
Y45A	**Yeager Farm, C**	**65.58**	**342**	P	**P**	**05 39 44.9**	**+1.1**
	baz=161						
X47A	**Russelville**	**65.76**	**343**	P	**P**	**05 39 45.1**	**+0.2**
	baz=163						
TKL	**Tuckaleechee C**	**65.96**	**347**	P	**P**	**05 39 46.2**	**0.0**
	comp=Z,4.0nm,0.5s,baz=161,slow=7.8,SNR=9.7						
TKL	**Tuckaleechee C**	**65.96**	**347**	*e*P	**P**	**05 39 46.4**	**+0.2**
	comp=Z,4.7nm,1.0s						
Z41A	**Richland Creek**	**65.97**	**339**	P	**P**	**05 39 47.9**	**+1.6**
	baz=158						
X46A	**Booneville**	**65.98**	**343**	P	**P**	**05 39 46.4**	**0.0**
	baz=162						
Y43A	**Makayla and Ka**	**66.02**	**341**	P	**P**	**05 39 47.8**	**+1.2**
	baz=160						
JCT	**Junction City**	**66.04**	**332**	P	**P**	**05 39 48.3**	**+1.4**
	baz=151,SNR=5.6						
X45A	**UM Field Stati**	**66.07**	**342**	P	**P**	**05 39 47.4**	**+0.5**
	baz=161						
W48A	**Pulaski**	**66.13**	**344**	P	**P**	**05 39 47.5**	**+0.2**
	baz=164						
OXF	**Oxford**	**66.15**	**342**	P	**P**	**05 39 47.5**	**0.0**
	baz=161						
Z40A	**Long Farm, Mag**	**66.17**	**338**	P	**P**	**05 39 48.8**	**+1.2**
	baz=157						
W47A	**Westpoint**	**66.39**	**344**	P	**P**	**05 39 49.1**	**+0.1**
	baz=163						
WHTX	**Lake Whitney,**	**66.44**	**334**	P	**P**	**05 39 50.7**	**+1.3**
	baz=154						
WHTX	**Lake Whitney,**	**66.44**	**334**	*e*P	**P**	**05 39 50.8**	**+1.4**
	comp=Z,6.2nm,0.6s						
Y41A	**Eaglette Beard**	**66.49**	**339**	P	**P**	**05 39 50.7**	**+1.0**
	baz=158						
V48A	**Smith Brothers**	**66.68**	**345**	P	**P**	**05 39 51.0**	**+0.2**
	baz=164,SNR=5.5						
W45A	**Hickory Valley**	**66.70**	**343**	P	**P**	**05 39 51.1**	**+0.1**
	baz=162						
LTX	**Lajitas**	**66.76**	**328**	*e*P	**P**	**05 39 53.1**	**+1.5**
LTX				*e*pP	**PcP**	**05 40 20.4**	**+0.7**
TXAR	**Lajitas Array**	**66.76**	**328**	P	**P**	**05 39 53.1**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=152,slow=8.2,SNR=19						
TXAR				pP	**PcP**	**05 40 20.4**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=161,slow=7.6,SNR=4.8						
TX31	**Lajitas Ar. Si**	**66.76**	**328**	*e*P	**P**	**05 39 53.0**	**+1.4**
Y40A	**Okolona**	**66.82**	**339**	P	**P**	**05 39 52.9**	**+1.1**
	baz=158						
V47A	**Nunnelly**	**66.92**	**344**	P	**P**	**05 39 52.3**	**-0.1**
	baz=163						
V46A	**Holladay**	**67.04**	**344**	P	**P**	**05 39 53.6**	**+0.5**
	baz=162						
WVT	**Waverly**	**67.29**	**344**	P	**P**	**05 39 54.7**	**0.0**
	baz=163						
WVT	**Waverly**	**67.29**	**344**	*e*P	**P**	**05 39 55.0**	**+0.4**
	comp=Z,14nm,0.8s						
U48A	**Cassie Pea, Po**	**67.35**	**345**	P	**P**	**05 39 55.0**	**-0.1**
	baz=164						
U47A	**Clarksville**	**67.46**	**345**	P	**P**	**05 39 55.8**	**+0.1**
	baz=163,SNR=9.4						
W42A	**Bald Knob**	**67.46**	**341**	P	**P**	**05 39 56.4**	**+0.7**
	baz=159						
X39A	**Fountain Ranch**	**67.55**	**338**	P	**P**	**05 39 57.6**	**+1.3**
	baz=157						
W41B	**Gary Mavity, V**	**67.58**	**340**	P	**P**	**05 39 57.5**	**+1.0**
	baz=159						
U46A	**Springville**	**67.59**	**344**	P	**P**	**05 39 56.7**	**+0.2**
	baz=163						
U45A	**Rockin P Farm,**	**67.72**	**343**	P	**P**	**05 39 58.0**	**+0.7**
	baz=162						
W40A	**Ferguson Farm,**	**67.85**	**339**	P	**P**	**05 39 59.3**	**+1.1**
	baz=158						
ABTX	**Abilene, Hawle**	**67.86**	**333**	P	**P**	**05 39 59.6**	**+1.2**
	baz=152						
ABTX	**Abilene, Hawle**	**67.86**	**333**	*e*P	**P**	**05 39 59.5**	**+1.2**
	comp=Z,7.9nm,0.9s						
V42A	**Cord**	**67.92**	**341**	P	**P**	**05 39 58.8**	**+0.2**
	baz=160						
T47A	**Sharon Grove**	**67.94**	**345**	P	**P**	**05 39 58.6**	**-0.1**
	baz=164						
W39A	**Magazine**	**68.07**	**339**	P	**P**	**05 40 00.6**	**+1.0**
	baz=157						
V41A	**Mountainview**	**68.12**	**340**	P	**P**	**05 40 00.3**	**+0.4**
	baz=159						
T46A	**Princeton**	**68.17**	**344**	P	**P**	**05 40 00.4**	**+0.2**
	baz=163						
U43A	**Rector**	**68.17**	**342**	P	**P**	**05 40 00.8**	**+0.6**
	baz=161						
V40A	**Witts Springs**	**68.34**	**340**	P	**P**	**05 40 01.8**	**+0.5**
	baz=158						
S48A	**Wiedeman Farm,**	**68.35**	**346**	P	**P**	**05 40 01.7**	**+0.4**
	baz=165						
U42A	**Revenden**	**68.39**	**341**	P	**P**	**05 40 02.1**	**+0.6**
	baz=160,SNR=9.9						
U41A	**Viola**	**68.57**	**341**	P	**P**	**05 40 03.1**	**+0.4**
	baz=159,SNR=7.6						
V39A	**Pettigrew**	**68.62**	**339**	P	**P**	**05 40 03.8**	**+0.7**
	baz=158						
T44A	**Benton**	**68.63**	**343**	P	**P**	**05 40 03.5**	**+0.5**
	baz=161						
T43A	**Greenville**	**68.81**	**342**	P	**P**	**05 40 04.7**	**+0.5**
	baz=161,SNR=23						
U40A	**Yellville**	**68.86**	**340**	P	**P**	**05 40 05.1**	**+0.6**
	baz=158,SNR=5.7						
S45A	**Carrier Mills**	**68.94**	**344**	P	**P**	**05 40 05.0**	**0.0**
	baz=162						
WCI	**Wyandotte Cave**	**68.95**	**346**	P	**P**	**05 40 04.6**	**-0.4**
	baz=164						
T42A	**Van Buren**	**68.98**	**342**	P	**P**	**05 40 05.3**	**+0.1**
	baz=160						
R48A	**Northridge Ran**	**69.03**	**346**	P	**P**	**05 40 05.4**	**-0.1**
	baz=165						
R47A	**Wooly Knot Far**	**69.06**	**346**	P	**P**	**05 40 05.0**	**-0.7**
	baz=164						
U39A	**Green Forest**	**69.07**	**339**	P	**P**	**05 40 06.4**	**+0.5**
	baz=158,SNR=5.1						
HHAR	**Hobbs**	**69.12**	**339**	*e*P	**P**	**05 40 07.3**	**+1.1**
	comp=Z,6.1nm,0.9s						
S44A	**Carbondale**	**69.12**	**343**	P	**P**	**05 40 06.2**	**+0.1**
	baz=162,SNR=7.8						
VNDA	**Vanda**	**69.13**	**190**	P	**P**	**05 40 06.8**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=132,slow=6.0,SNR=3.7						
VNDA	**Vanda**	**69.13**	**190**	*e*P	**P**	**05 40 07.1**	**+1.4**
SIUC	**Southern Illin**	**69.13**	**343**	*e*P	**P**	**05 40 06.6**	**+0.5**
	comp=Z,19nm,0.6s						
T41A	**Mountain View**	**69.18**	**341**	P	**P**	**05 40 07.0**	**+0.5**
	baz=159,SNR=9.8						
S43A	**Fulton Ridge,**	**69.22**	**343**	P	**P**	**05 40 06.8**	**+0.2**
	baz=161,SNR=18						
TUL1	**Leonard**	**69.38**	**337**	P	**P**	**05 40 08.2**	**+0.5**
	baz=156,SNR=5.7						
TUL1	**Leonard**	**69.38**	**337**	*e*P	**P**	**05 40 08.6**	**+0.9**
	comp=Z,11nm,0.7s						
R45A	**Skylar, Fairfi**	**69.46**	**344**	P	**P**	**05 40 07.9**	**-0.2**
	baz=163,SNR=5.1						
SYO	**Syowa Base**	**69.48**	**159**	*i*X	**P**	**05 40 03.5**	**-4.5**
T40A	**Mansfield**	**69.50**	**341**	P	**P**	**05 40 08.9**	**+0.5**
	baz=159						
**

baz=145
Q39A **Willow Grove F** 71.39 341 P P 05 40 20.3 +0.5
baz=159
P41A **Barry, Barry** 71.45 343 P P 05 40 20.2 -0.1
baz=160
Q38A **Cooks Store, C** 71.50 340 P P 05 40 21.1 +0.6
baz=158,SNR=7.6
P40A **Paris** 71.58 342 P P 05 40 21.5 +0.5
baz=160,SNR=11
O43A **Sugar Creek Fa** 71.59 344 P P 05 40 21.1 0.0
baz=162
N46A **Monticello** 71.61 346 P P 05 40 20.5 -0.6
baz=164
N45A **Kentland** 71.72 346 P P 05 40 19.9 -1.9
baz=164
P39B **Salisbury** 71.74 341 P P 05 40 22.4 +0.4
baz=159,SNR=6.2
N44A **Piper City** 71.81 345 P P 05 40 22.3 -0.1
baz=163
O41A **Passleys Farm,** 71.82 343 P P 05 40 21.1 -1.3
baz=161
HDIL **Hopedale** 71.85 344 P P 05 40 22.5 -0.1
baz=162
O40A **La Belle** 72.09 342 P P 05 40 24.3 +0.3
baz=160
N43A **Stutzman Famil** 72.18 345 P P 05 40 24.8 +0.2
baz=162
N42A **Yates City** 72.28 344 P P 05 40 25.4 +0.2
baz=161
P37A **Lathrop** 72.29 340 P P 05 40 25.7 +0.5
baz=158
O39A **Kirksville** 72.39 342 P P 05 40 26.3 +0.5
baz=159
O38A **Galt** 72.53 341 P P 05 40 27.1 +0.5
baz=158
M43A **Waltham Townsh** 72.61 345 P P 05 40 27.0 -0.1
baz=162
ANMO **Albuquerque** 72.75 329 P P 05 40 30.1 +1.8
baz=147
ANMO **Albuquerque** 72.75 329 *e*P P 05 40 30.3 +2.0
comp=Z,5.1nm,1.3s
O37A **Wolven Farm, M** 72.77 340 P P 05 40 28.1 0.0
baz=158
M41A **Milan** 72.92 344 P P 05 40 28.8 -0.2
baz=161
N39A **Derby Farms, D** 72.96 342 P P 05 40 29.1 -0.1
baz=159
N38A **Joes South For** 73.09 341 P P 05 40 30.2 +0.3
baz=159
M40A **Post Highland** 73.20 343 P P 05 40 30.7 +0.1
baz=160,SNR=6.1
N37A **Lee Faris, Mou** 73.33 341 P P 05 40 31.9 +0.5
baz=158
CBKS **Cedar Bluff** 73.36 336 P P 05 40 32.7 +1.1
baz=153
214A **Organ Pipe Nat** 73.46 323 P P 05 40 34.8 +2.5
baz=142
O34A **Beatrice** 73.56 339 P P 05 40 33.2 +0.5
baz=156
L41A **Preston** 73.58 344 P P 05 40 32.7 -0.1
baz=161
N36A **Muff Farm, Cla** 73.60 340 P P 05 40 33.5 +0.5
baz=157
M38A **Pleasantville** 73.66 342 P P 05 40 33.5 +0.3
baz=159,SNR=5.7
T25A **Trinidad** 73.71 332 P P 05 40 35.2 +1.2
baz=149
O33A **Hebron** 73.75 338 P P 05 40 34.2 +0.4
baz=155,SNR=5.8
MHTCO **State Highway** 73.82 331 *e*P P 05 40 36.9 +2.3
comp=Z,8.4nm,0.9s
N35A **Tabor** 73.85 340 P P 05 40 34.7 +0.3
baz=156
M37A **Trindle Farm,** 73.88 341 P P 05 40 35.0 +0.4
baz=158,SNR=12
L39A **Vinton** 74.00 343 P P 05 40 35.4 +0.2
baz=160
K41A **Shullsburg** 74.03 344 P P 05 40 35.6 +0.2
baz=161
N34A **Lincoln** 74.09 339 P P 05 40 36.2 +0.3
baz=156,SNR=8.0
SCIA **State Center** 74.12 342 P P 05 40 35.8 -0.1
baz=159
M36A **Felix, Anita** 74.14 341 P P 05 40 36.6 +0.5
baz=157
PKME **Peaks-Kenny Pk** 74.18 0 P P 05 40 36.9 +0.8
baz=180
L38A **Oak Wood Farm,** 74.27 342 P P 05 40 36.7 -0.1
baz=159
JFWS **Jewell Farm** 74.31 344 P P 05 40 37.5 +0.5
baz=161
K40A **Colesburg** 74.32 344 P P 05 40 37.3 +0.2
baz=161
M35A **Neola** 74.42 340 P P 05 40 38.8 +1.0
baz=157
L37A **Phoenix Point,** 74.47 342 P P 05 40 37.9 -0.1
baz=158
K39A **Oelwein** 74.51 343 P P 05 40 38.1 -0.1
baz=160
SDCO **Great Sand Dun** 74.68 331 P P 05 40 41.1 +1.4
baz=148
SDCO **Great Sand Dun** 74.68 331 *e*P P 05 40 41.4 +1.7
comp=Z,1.9nm,0.6s
J41A **Loganville** 74.68 345 P P 05 40 39.9 +0.8
baz=162
K38A **Parkersburg** 74.69 342 P P 05 40 39.6 +0.3
baz=159
X16A **Lo Mia Camp, P** 74.69 325 *e*P P 05 40 42.2 +2.5
comp=Z,11nm,1.0s
J40A **Soldiers Grove** 74.88 344 P P 05 40 40.5 +0.2
baz=161,SNR=5.2
L35A **Bielow Farm, R** 74.97 340 P P 05 40 41.4 +0.6
baz=157
J39A **Decorah** 75.06 343 P P 05 40 41.5 +0.2
baz=160
L34A **Svendsen Farm,** 75.08 340 P P 05 40 41.7 +0.1
baz=156
BGNE **Belgrade** 75.14 338 P P 05 40 42.9 +1.0
baz=154
BGNE **Belgrade** 75.14 338 *e*P P 05 40 43.0 +1.1
comp=Z,57nm,1.3s
K36A **Gilmore City** 75.14 341 P P 05 40 42.2 +0.4
baz=158
J38A **Wedel Dairy, R** 75.24 343 P P 05 40 42.9 +0.5
baz=160
I41A **Arkdale** 75.31 345 P P 05 40 43.2 +0.5
baz=162
I39A **Houston** 75.50 344 P P 05 40 44.1 +0.2
baz=160
J37A **Redenius Farm,** 75.51 342 P P 05 40 44.2 +0.2
baz=159
MVCO **Mesa Verde** 75.55 329 P P 05 40 46.6 +2.0
baz=146
MVCO **Mesa Verde** 75.55 329 *e*P P 05 40 46.8 +2.2
comp=Z,11nm,1.1s
Y12C **Blythe** 75.76 323 P P 05 40 47.2 +1.7
baz=141
K33A **Hardington** 75.86 339 P P 05 40 46.7 +0.7
baz=156
I38A **Scanlan Farm,** 75.88 343 P P 05 40 46.4 +0.4
baz=160
H40A **Chili** 75.96 345 P P 05 40 46.4 -0.1
baz=161
I37A **Lemond, Waseca** 76.13 343 P P 05 40 48.0 +0.5
baz=159,SNR=7.8
I36A **Fitzsimmons Fa** 76.30 342 P P 05 40 48.7 +0.3
baz=158
PV01 **Paradox Valley** 76.34 329 *e*P P 05 40 51.4 +2.4
HAY **Hayfield** 76.34 322 *e*P P 05 40 48.2 -0.7
K31A **O'Neill** 76.42 338 P P 05 40 50.5 +1.3
baz=154,SNR=5.2
F43A **Flat Rock, Esc** 76.44 347 P P 05 40 49.3 +0.2
baz=164
ISCO **Idaho Springs** 76.47 332 P P 05 40 51.5 +1.7
baz=148
ISCO **Idaho Springs** 76.47 332 *e*P P 05 40 51.7 +1.8
comp=Z,3.4nm,1.0s
J33A **Davis** 76.49 340 P P 05 40 49.8 +0.3
baz=156
SMCO **Snowmass** 76.51 331 *e*P P 05 40 52.7 +2.4
comp=Z,4.8nm,0.8s
E45A **Wooded Hills,** 76.59 349 P P 05 40 50.7 +0.8
baz=166
U15A **North Rim** 76.70 326 *e*P P 05 40 53.0 +1.8
comp=Z,9.1nm,0.9s
KOWA **Kowa** 76.74 65 P P 05 40 51.8 +0.2
comp=Z,3.1nm,0.6s,baz=246,slow=4.0,SNR=9.1
KOWA pP pP 05 41 21.4 +1.9
comp=Z,3.4nm,0.8s,baz=247,slow=7.7,SNR=4.5
PV10 **Paradox Valley** 76.75 329 *e*P P 05 40 53.0 +1.6
DNR **Dunn Ranch,Anz** 76.75 321 *e*P P 05 40 50.6 -0.8
ECSD **EROS Data Cent** 76.77 340 P P 05 40 51.8 +0.7
baz=156,SNR=14
ECSD **EROS Data Cent** 76.77 340 *e*P P 05 40 51.6 +0.5
comp=Z,11nm,0.8s
H36A **Jessenland, He** 76.79 342 P P 05 40 51.7 +0.6
baz=158,SNR=7.1
J32A **Parkston** 76.81 339 P P 05 40 51.8 +0.5
baz=155,SNR=5.1
J31A **Geddes** 77.02 339 P P 05 40 52.9 +0.4
baz=154
SPMN **Marine on St.** 77.10 343 P P 05 40 53.1 +0.2
baz=159
SPMN **Marine on St.** 77.10 343 *e*P P 05 40 53.3 +0.4
comp=Z,11nm,0.5s
F40A **Park Falls** 77.13 345 P P 05 40 53.4 +0.3
baz=162
H35A **Sunnyside Ranc** 77.14 342 P P 05 40 53.6 +0.4
baz=158,SNR=6.8
GMRC **Granite Mounta** 77.15 323 P P 05 40 55.6 +2.0
baz=140
F39A **Loretta** 77.30 345 P P 05 40 54.6 +0.6
baz=161
H34A **Spellman Lake,** 77.38 341 P P 05 40 54.7 +0.3
baz=157
KNB **Kanab** 77.43 326 *e*P P 05 40 57.7 +2.6
comp=Z,21nm,1.1s
F37A **Hinrichs Farm,** 77.53 344 P P 05 40 55.7 +0.5
baz=160
G35A **Watkins** 77.53 342 P P 05 40 55.5 +0.2
baz=158
HEC **Hector,Ludlow** 77.55 322 P P 05 40 57.5 +1.8
baz=140
F38A **Pierce - Schro** 77.57 344 P P 05 40 56.5 +1.0
baz=160
E40A **Wakefield** 77.58 346 P P 05 40 56.1 +0.6
baz=162
CIAC **Catalina I. Ai** 77.62 320 *e*P P 05 40 57.2 +1.1
LCMT **Little Creek M** 77.64 326 *e*P P 05 40 58.3 +2.0
comp=Z,4.5nm,1.0s
E39A **Mellen** 77.66 345 P P 05 40 56.4 +0.4
baz=161
H33A **Prehn Over Nor** 77.67 341 P P 05 40 56.6 +0.5
baz=156,SNR=5.7
H32A **Carlson Farm,** 77.71 340 P P 05 40 56.8 +0.4
baz=155
BFSC **Mount Baldy Ra** 77.82 321 P P 05 40 59.3 +2.0
baz=138
O20A **White River Ci** 77.84 331 P P 05 40 59.3 +1.8
baz=146,SNR=5.4
O20A **White River Ci** 77.84 331 *e*P P 05 40 59.8 +2.3
comp=Z,9.3nm,1.0s
F36A **Milaca** 77.88 343 P P 05 40 57.4 +0.2
baz=159,SNR=6.0
MTPU **Mount Pierson** 77.93 327 *e*P P 05 41 00.1 +2.0
comp=Z,7.4nm,1.0s
SRU **San Rafael Swe** 78.02 329 *e*P P 05 41 00.2 +1.9
comp=Z,6.0nm,0.7s
G33A **Ortonville** 78.05 341 P P 05 40 58.6 +0.5
baz=156
CCUT **Cedar City** 78.12 326 *e*P P 05 41 01.7 +2.7
comp=Z,11nm,0.8s
Q16A **Castle Valley** 78.16 328 *e*P P 05 41 01.5 +2.3
comp=Z,14nm,1.3s
SHPR **Sheep Range** 78.21 324 *e*P P 05 40 59.8 +0.3
comp=Z,6.9nm,1.1s
P18A **Preston Nutter** 78.31 329 *e*P P 05 41 02.3 +2.2
comp=Z,9.7nm,0.9s
P17A **Butcher Ranch,** 78.41 329 *e*P P 05 41 02.1 +1.6
comp=Z,9.3nm,1.1s
E36A **McGregor** 78.42 344 P P 05 41 00.5 +0.3
baz=158
OAT **Oat Mountain** 78.43 320 *e*P P 05 40 59.6 -1.0
DBD **Des Bee Dove** 78.44 328 *e*P P 05 41 01.0 +0.3
F33A **5 Mile Ranch,** 78.60 341 P P 05 41 01.6 +0.5
baz=156
RWWY **Rawlins** 78.71 332 *e*P P 05 41 03.1 +0.8
comp=Z,12nm,0.8s
C39A **Grand Marais** 78.93 346 P P 05 41 03.1 +0.1
baz=162
D36A **Goodland** 79.02 344 P P 05 41 04.2 +0.8
baz=159
D35A **Remer** 79.15 343 P P 05 41 04.6 +0.5
baz=158,SNR=5.5
F31A **Hecla** 79.19 340 P P 05 41 04.8 +0.4
baz=155
K22A **Casper** 79.24 333 P P 05 41 06.8 +1.8
baz=148
MPU **Maple Canyon** 79.25 328 *e*P P 05 41 06.9 +1.8
comp=Z,3.8nm,0.9s
C37A **Embarrass** 79.30 345 P P 05 41 05.8 +0.8
baz=160
ISA **Isabella, Lake** 79.33 321 P P 05 41 07.3 +1.8
baz=138
EYMN **Ely** 79.35 345 P P 05 41 05.6 +0.3
baz=161
C36A **Pine Crest Far** 79.48 344 P P 05 41 06.7 +0.7
baz=160
PKM **Mcpherson Peak** 79.50 320 P P 05 41 08.8 +2.1
baz=137
RSSD **Black Hills** 79.56 336 P P 05 41 08.1 +1.4
baz=150
RSSD **Black Hills** 79.56 336 *e*P P 05 41 08.1 +1.4
comp=Z,4.1nm,0.8s
JLU **Jordanelle** 79.64 329 *e*P P 05 41 09.0 +1.7
comp=Z,3.3nm,0.8s
CWC **Cottonwood Cre** 79.69 322 P P 05 41 09.5 +1.9
baz=138
E31A **Nome** 79.71 341 P P 05 41 08.2 +1.0
baz=155
VES **Vestal, Richgr** 79.79 321 P P 05 41 10.1 +2.1
baz=138
R11A **Troy Canyon, C** 79.84 325 P P 05 41 09.7 +1.4
baz=140,SNR=5.5
R11A **Troy Canyon, C** 79.84 325 *e*P P 05 41 10.4 +2.1
comp=Z,5.1nm,1.1s
SMMC **Simmler** 79.91 320 P P 05 41 10.7 +2.0
baz=137
DUG **Dugway, Tooele** 79.94 328 P P 05 41 10.3 +1.5
baz=143,SNR=5.1
DUG **Dugway, Tooele** 79.94 328 *e*P P 05 41 10.7 +1.9
comp=Z,1.4nm,0.8s
D31A **Mcclaflin, Tow** 80.11 341 P P 05 41 09.9 +0.5
baz=155
C33A **Trail** 80.22 342 P P 05 41 10.1 +0.2
baz=157
B35A **Bob, Littlefor** 80.26 344 P P 05 41 10.4 +0.3
baz=159,SNR=6.2
BOSA **Boshof** 80.37 117 P P 05 41 11.2 -0.3
comp=Z,2.5nm,0.5s,baz=261,slow=4.0,SNR=3.9
HWUT **Hardware Ranch** 80.50 329 *e*P P 05 41 13.0 +1.2
comp=Z,6.1nm,0.8s
BW06 **Boulder Array** 80.58 331 P P 05 41 12.6 +0.3
baz=145
PD31 **Pinedale Array** 80.58 331 *e*P P 05 41 13.4 +1.1
PDAR **Pinedale Array** 80.58 331 P P 05 41 13.2 +0.9
comp=Z,1.5nm,0.6s,baz=125,slow=7.0,SNR=20
PDAR **Pinedale Array** 80.58 331 *e*P P 05 41 12.9 +0.6
TOA0 **Torodi Ar. Sit** 80.58 69 *e*P P 05 41 12.8 +0.2
TOA1 **Torodi Ar. Sit** 80.58 69 *e*P P 05 41 12.8 +0.2
TOA1 *e*pP pP 05 41 42.4 +1.6
TORD **Torodi Ar. Bea** 80.58 69 P P 05 41 12.8 +0.2
comp=Z,4.3nm,0.6s,baz=274,slow=5.6,SNR=55
TORD pP pP 05 41 42.4 +1.6
comp=Z,5.4nm,0.8s,baz=254,slow=5.0,SNR=9.5
B34A **Aery, Baudette** 80.60 343 P P 05 41 11.8 -0.1
baz=158
B33A **Robert and Kas** 80.64 343 P P 05 41 12.6 +0.4
baz=157
SPUT **South Promonto** 80.66 329 *e*P P 05 41 13.8 +1.2
comp=Z,4.4nm,0.9s
AGMN **Agassiz Nation** 80.74 343 P P 05 41 13.3 +0.6
baz=157,SNR=5.8
AGMN **Agassiz Nation** 80.74 343 *e*P P 05 41 13.1 +0.5
comp=Z,9.4nm,0.7s
C31A **Landman Farms,** 80.79 341 P P 05 41 13.6 +0.7
baz=155,SNR=5.5
MLAC **Mammoth, Mammo** 80.98 322 P P 05 41 15.8 +1.3
baz=138
B32A **Ashes, Strandq** 81.01 342 P P 05 41 14.6 +0.5
baz=156,SNR=10
A33A **Warroad** 81.21 343 P P 05 41 15.8 +0.7
baz=157,SNR=7.5
NV01 **Mina Array Sit** 81.29 323 *e*P P 05 41 17.0 +0.8
NVAR **Mina Array Bea** 81.29 323 P P 05 41 17.9 +1.8
comp=Z,3.2nm,0.9s,baz=161,slow=6.4,SNR=12
MDND **Maddock** 81.38 340 P P 05 41 17.3 +1.2
baz=154
MDND **Maddock** 81.38 340 *e*P P 05 41 17.3 +1.2
comp=Z,29nm,0.6s
A32A **Rocking H Ranc** 81.48 342 P P 05 41 18.1 +1.5
baz=156
RYN **Ryan** 81.56 323 *e*P P 05 41 19.1 +1.7
comp=Z,3.6nm,1.1s
KVN **Kaiserville** 81.65 324 *e*P P 05 41 19.5 +1.5
comp=Z,8.9nm,1.3s
TPAW **Teton Pass** 81.75 331 *e*P P 05 41 20.5 +1.9
comp=Z,5.8nm,1.0s
MOOW **Moose Ponds** 81.88 331 *e*P P 05 41 20.4 +1.3
comp=Z,1.8nm,0.8s
YERR **Yerington** 82.20 323 *e*P P 05 41 22.9 +2.0
comp=Z,5.2nm,0.7s
YMS **Mount Sheridan** 82.21 332 *e*P P 05 41 20.5 -0.5
H17A **Grant Village** 82.33 332 P P 05 41 22.9 +1.4
baz=145
RLMT **Red Lodge** 82.40 333 P P 05 41 23.1 +1.3
baz=146,SNR=14
RLMT **Red Lodge** 82.40 333 *e*P P 05 41 23.1 +1.3
comp=Z,8.2nm,0.5s
ULM **Lac du Bonnet** 82.54 343 P P 05 41 22.5 +0.4
comp=Z,5.8nm,0.9s,baz=168,slow=5.7,SNR=11
ULM **Lac du Bonnet** 82.54 343 *e*P P 05 41 22.2 +0.1
comp=Z,6.6nm,0.9s
YMR **Madison River** 82.72 332 *e*P P 05 41 25.3 +1.8
comp=Z,8.2nm,0.8s
YHH **Holmes Hill** 82.77 332 *e*P P 05 41 25.8 +2.0
comp=Z,5.6nm,0.7s
PAHR **Pah Rah Range** 82.80 324 *e*P P 05 41 25.8 +1.9
comp=Z,6.1nm,1.0s
NADM **Allendale** 83.28 321 *e*P P 05 41 27.4 +1.2
HLID **Hailey** 83.33 329 P P 05 41 28.3 +1.7
baz=142
HLID **Hailey** 83.33 329 *e*P P 05 41 28.3 +1.7
comp=Z,7.6nm,1.3s
BEKR **Beckworth** 83.43 323 *e*P P 05 41 29.1 +1.9
comp=Z,3.7nm,0.9s
MCMT **McKenzie Canyo** 83.64 331 *e*P P 05 41 29.8 +1.5
BOZ **Bozeman (W)** 83.75 332 P P 05 41 29.7 +1.1
baz=144
SCHQ **Schefferville** 83.79 2 P P 05 41 28.8 +0.4
comp=Z,1.9nm,0.6s,baz=214,slow=1.3,SNR=3.8
SCHQ **Schefferville** 83.79 2 *e*P P 05 41 28.6 +0.1
comp=Z,4.3nm,0.9s
ORV **Oroville** 83.81 322 *e*P P 05 41 30.8 +1.9
comp=Z,4.9nm,1.0s
O03D **Paynes Creek** 84.50 323 P P 05 41 33.3 +0.8
baz=136
MOD **Modoc Plateau** 84.89 325 *e*P P 05 41 36.1 +1.6
comp=Z,8.9nm,1.4s
J08A **Circle Bar Ran** 85.07 327 *e*P P 05 41 36.9 +1.6
comp=Z,6.1nm,0.6s
MSO **Missoula** 85.69 331 P P 05 41 39.7 +1.3
baz=142
M02C **Callahan** 85.84 323 P P 05 41 40.8 +1.7
baz=136
YBH **Yreka Blue Hor** 86.01 323 P P 05 41 39.7 -0.3
comp=Z,1.6nm,0.8s,baz=59,slow=5.9,SNR=5.4
J05D **Fort Rock, OR** 86.37 325 P P 05 41 43.4 +1.6
baz=137
JTMT **Jette** 86.56 332 *e*P P 05 41 43.8 +1.2
comp=Z,6.7nm,0.7s
PINE **Pine Mountain** 86.59 325 *e*P P 05 41 44.7 +1.8
comp=Z,7.4nm,0.8s
G08A **Pilot Rock** 86.75 328 *e*P P 05 41 44.7 +1.1
comp=Z,2.2nm,0.8s
J04D **Umpqua Nationa** 86.78 324 P P 05 41 45.0 +1.1
baz=136
L02D **Cave Junction,** 86.78 323 P P 05 41 45.0 +1.4
baz=135
I05D **Terrebonne, OR** 87.19 326 P P 05 41 47.6 +2.0
baz=137
WALA **Waterton Lakes** 87.45 333 *e*P P 05 41 47.9 +1.0
comp=Z,8.9nm,0.9s
H04A **Detroit Lake** 87.86 325 *e*P P 05 41 49.9 +1.1
comp=Z,6.0nm,0.9s
F04D **Rainier, OR** 89.26 326 P P 05 41 57.0 +1.7
baz=136
B05A **Bryant** 90.39 328 P P 05 42 00.9 +0.4
baz=136
EDM **Edmonton** 90.54 335 *e*P P 05 42 01.1 -0.1
comp=Z,8.0nm,1.2s
A04D **Lummi Island** 91.00 328 P P 05 42 05.9 +2.6
baz=136
YKA **Yellowknife Ar** 98.29 341 P Pdif 05 42 36.4 +0.1
comp=Z,0.6nm,0.7s,baz=136,slow=4.5,SNR=17
YKA pP pP 05 43 07.7 +2.6
comp=Z,0.2nm,0.8s,baz=143,slow=4.4,SNR=3.6
ASAR **Alice Springs** 122.73 206 PKP **PKPdf** 05 47 55.1 -0.3
comp=Z,0.5nm,0.7s,baz=137,slow=1.9,SNR=5.8
WR1 **Warramunga Arr** 125.92 208 *e*PKPdf **PKPdf** 05 48 01.2 -0.4
WR1 *ep*PKPdf **pPKPdf** 05 48 34.4 +2.9
WRA **Warramunga Arr** 125.92 208 PKP **PKPdf** 05 48 01.2 -0.4
comp=Z,1.1nm,0.6s,baz=155,slow=1.7,SNR=24
WRA pPKP **pPKPdf** 05 48 34.4 +2.9
comp=Z,0.5nm,0.5s,baz=156,slow=1.6,SNR=3.6
YAK **Yakutsk** 144.88 344 PKP PKPbc 05 48 34.4 -0.2
comp=Z,25nm,0.3s,baz=274,slow=0.8,SNR=5.3
KURBB **Kurchatov Arra** 147.93 39 PKP **PKPdf** 05 48 41.8 +1.1
comp=Z,3.0nm,0.5s,baz=302,slow=3.1,SNR=16
KURBB PKPbc **PKPbc** 05 48 44.5 +0.6
comp=Z,3.0nm,0.5s,baz=300,slow=3.2,SNR=14
KURK **Kurchatov** 147.93 39 *e*PKPdf **PKPdf** 05 48 41.8 +1.1
KURK *e*PKPbc **PKPbc** 05 48 44.5 +0.6
AAK **Ala-Archa** 148.23 55 PKPbc **PKPbc** 05 48 46.3 +1.1
comp=Z,4.8nm,0.6s,baz=196,slow=3.1,SNR=14
ZAA1 **Zalesovo Array** 149.09 30 *e*PKPbc **PKPbc** 05 48 47.4 +0.6
ZAA1 *ep*PKPab **pPKPab** 05 49 19.1 -1.4
ZALV **Zalesovo Beam** 149.09 30 PKPbc **PKPbc** 05 48 47.4 +0.6
comp=Z,7.8nm,0.5s,baz=296,slow=3.6,SNR=12
ZALV pPKPbc **pPKPab** 05 49 19.1 -1.4
comp=Z,4.3nm,0.5s,baz=308,slow=3.7,SNR=1.9
KSH **Kashi** 149.93 61 *e*PKPbc **PKPdf** 05 48 44.0 -0.6
KSH PP **PP** 05 52 26.0 +1.1
ASAJ **Asahikawa** 150.49 309 PKPbc **PKPbc** 05 48 51.0 +0.4
comp=Z,2.3nm,0.3s,baz=340,slow=9.6,SNR=3.9
ASAJ **Asahikawa** 150.49 309 *e*PKPbc **PKPbc** 05 48 50.1 -0.4
MK32 **Makanchi Array** 151.97 44 *e*PKPbc **PKPbc** 05 48 54.0 +0.1
MK32 *e*PKPab **PKPab** 05 49 04.7 +1.0
MKAR **Makanchi Array** 151.97 44 PKPbc **PKPbc** 05 48 54.0 +0.1
comp=Z,2.6nm,0.8s,baz=313,slow=2.2,SNR=30
MKAR PKPab **PKPab** 05 49 04.7 +1.0
comp=Z,2.4nm,0.7s,baz=290,slow=4.0,SNR=14
MKAR pPKPbc **pPKPbc** 05 49 25.9 +2.1
comp=Z,1.1nm,0.6s,baz=302,slow=2.1,SNR=4.0
SONA0 **Songino Array** 161.20 8 *e*PKPab **PKPab** 05 49 44.0 +0.7
SONM **Songino Array** 161.20 8 PKPab **PKPab** 05 49 44.0 +0.7
comp=Z,0.7nm,0.9s,baz=319,slow=7.0,SNR=4.1
LZH **Lanzhou** 171.22 38 *e*PKP **PKPdf** 05 49 06.3 -1.3
LZH pPKP pPKPdf 05 49 32.0 -5.8
LZH sPKP 05 49 41.5
LZH PKP **PKPab** 05 50 30.5 +2.6
NJ2 **Nanjing** 172.25 293 *e*P **PKPdf** 05 49 08.8 +0.9

IDC 26 05:38:06.3±4.3, 17°.95S×166°.83E, h0km, mb4.2/3, mb1 4.5/4, mb1mx3.7/45, mbtmp4.3/4, ML4.5/1, Error ellipse: s-maj=85.4km s-min=32.7km az=77.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.12**	**185**	Pn	Pn		05 39 11.2	+0.6
	27nm,0.3s,baz=79,slow=7.3,SNR=173							
DZM				Sn	Sn		05 39 58.8	-0.8
	4.9nm,0.3s,baz=323,slow=20,SNR=3.6							
WRA	**Warramunga Arr**	**30.77**	**261**	P	P		05 44 23.3	-0.4
	1.3nm,0.8s,baz=92,slow=9.6,SNR=11							
ASAR	**Alice Springs**	**31.25**	**254**	P	P		05 44 28.5	+0.5
	2.2nm,0.6s,baz=80,slow=8.5,SNR=32							
CMAR	**Chiang Mai Arr**	**75.89**	**295**	P	P		05 49 55.1	-0.1
	0.7nm,0.3s,baz=123,slow=4.8,SNR=5.3							

*IDC **26** 06:04:16.2±0.9, 28°.55S×177°.60W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/36, mbtmp4.1/4, MS3.6/2, Ms1 3.5/2, ms1mx2.8/37, Error ellipse: s-maj=32.5km s-min=19.9km az=105.0*

*ISCJB **26** 06:04:24.1±3.0, 28°.8S±0°.2×177°.9W±0°.4, h54km, mb4.1/4, MS3.6/2, Error ellipse: s-maj=61.1km s-min=16.6km az=149.8*

ISC 26 06:04:23.9±1.1, 28°.8S±0°.1×177°.7W±0°.2, h54km, n15,

σ1§39/14, mb4.1/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.49**	**202**	Pn	**Pn**	**06 04 33.1**	**-2.2**
	1μm,0.3s,baz=90,slow=9.2,SNR=65						
RAO				Sn	**Sn**	**06 04 43.1**	**-0.4**
	4μm,0.3s,baz=107,slow=19,SNR=30						
STKA	**Stephens Creek**	**35.12**	**255**	P	**P**	**06 11 13.1**	**+0.8**
	2.0nm,0.6s,baz=124,slow=8.6,SNR=5.0						
STKA				LR	LR	06 23 00.2	
	comp=Z,32nm,19.9s,baz=34,slow=32						
ASAR	**Alice Springs**	**43.47**	**265**	P	**P**	**06 12 22.6**	**+0.5**
	1.1nm,0.6s,baz=107,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**44.32**	**270**	P	**P**	**06 12 29.4**	**+0.6**
	1.4nm,0.5s,baz=110,slow=8.1,SNR=26						
QSPA	**South Pole Qui**	**61.31**	**180**	P	**P**	**06 14 36.6**	**+3.0**
	2.1nm,0.7s,baz=124,slow=3.9,SNR=7.8						
JHJ	**Hachijo jima 2**	**73.60**	**324**	LR	LR	06 43 17.1	
	comp=Z,145nm,21.8s,baz=108,slow=32						
MKAR	**Makanchi Array**	**116.93**	**311**	PKP	**PKPdf**	**06 23 00.5**	**-1.8**
	0.2nm,0.4s,baz=202,slow=0.8,SNR=3.3						
KURBB	**Kurchatov Arra**	**120.16**	**314**	PKP	**PKPdf**	**06 23 07.3**	**-1.0**
	0.5nm,0.7s,baz=115,slow=2.7,SNR=3.2						
ARCES	**ARCESS Array B**	**137.08**	**348**	PKP	**PKPdf**	**06 23 39.6**	**-0.4**
	4.8nm,1.0s,baz=38,slow=1.6,SNR=3.4						
FINES	**FINESS Array B**	**143.73**	**341**	PKP	PKPab	06 23 49.3	+0.2
	1.9nm,0.6s,baz=17,slow=2.6,SNR=6.7						
NOA	**NORSAR Array B**	**147.21**	**352**	PKPbc	**PKPbc**	**06 23 59.9**	**-0.7**
	0.6nm,0.8s,baz=13,slow=4.3,SNR=3.3						
HFS	**Hagfors**	**147.73**	**349**	PKPbc	**PKPbc**	**06 24 01.8**	**-0.1**
	3.4nm,0.9s,baz=10,slow=3.2,SNR=5.8						
AKASG	**Malin Array Be**	**150.16**	**325**	PKPbc	**PKPbc**	**06 24 08.1**	**-0.2**
	1.5nm,0.5s,baz=46,slow=3.0,SNR=8.9						
MMAI	**Mount Meron Ar**	**151.35**	**287**	PKPbc	**PKPbc**	**06 24 12.6**	**+0.7**
	3.6nm,0.6s,baz=120,slow=5.2,SNR=3.7						
BRTR	**Keskin Array B**	**152.03**	**301**	PKPbc	**PKPbc**	**06 24 12.6**	**-0.7**
	0.3nm,0.3s,baz=134,slow=5.3,SNR=4.3						

MAN 26 06:04:55, 9.30N×125.30E, h1km, mb3.6, ML2.3, MS1.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.46**	**135**	*e*P	Pg	06 05 04.4	+0.6
BUTP				*e*S	Sb	06 05 18.4	+5.2
SCPH	**Surigao**	**0.52**	**22**	*e*P	Pg	06 05 05.8	+0.8
SCPH				*e*S	Sn	06 05 17.2	-1.9
BUKP	**Musuan**	**1.43**	**189**	*e*P	Pb	06 05 22.7	+0.2
BUKP				*e*S	Sn	06 05 49.0	+7.4

TRN 26 06:08:30.0, 11.53N×59.98W, h27km, MD3.7, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	**Speyside**	**0.59**	**247**	*e*P	Pb	06 08 41.9	+0.1
TOSP				*e*S	Sn	06 08 51.0	-0.4
TBH	**Brigand Hill**	**1.49**	**226**	*e*P	Pn	06 08 55.9	+0.8
BBSP	**Saint Philip**	**1.64**	**18**	*e*P	Pn	06 08 57.4	+0.2
BBSP				*e*S	Sn	06 09 17.8	+0.4
TRN	**Trinidad (W)**	**1.65**	**238**	*e*P	Pn	06 08 57.9	+0.7
TRN				*e*S	Sn	06 09 17.7	+0.1
BBGH	**Gun Hill**	**1.65**	**14**	*e*P	Pn	06 08 57.3	0.0
GRGR	**Grenville**	**1.74**	**290**	*e*P	Pn	06 08 58.0	-0.6
GRGR				*e*S	Sn	06 09 19.9	+0.1
GRHS	**Sauteurs**	**1.76**	**293**	*e*P	Pn	06 08 59.4	+0.6
GRHS				*e*S	Sn	06 09 20.1	-0.3
GRSS	**Sisters**	**1.77**	**296**	*e*P	Pn	06 08 59.1	+0.3
GRSS				*e*S	Sn	06 09 20.6	+0.1
TPP	**Pointe-a-Pierr**	**1.88**	**230**	*e*P	Pn	06 09 00.6	+0.1
SVCV	**St. Vincent, C**	**2.07**	**327**	*e*P	Pn	06 09 03.4	+0.4
SVCV				*e*S	Sn	06 09 27.6	-0.3
SVB	**Belmont**	**2.13**	**324**	*e*P	Pn	06 09 03.5	-0.3
SVB				*e*S	Sn	06 09 29.8	+0.4
SSV	**Crater Summit**	**2.14**	**327**	*e*P	Pn	06 09 05.3	+1.2
SSV				*e*S	Sn	06 09 30.1	+0.2
SVV	**Soufriere Volc**	**2.14**	**326**	*e*P	Pn	06 09 04.3	+0.2
SVV				*e*S	Sn	06 09 30.0	+0.1
MCLT	**Moule a Chique**	**2.36**	**337**	*e*P	Pn	06 09 08.0	+1.0
MCLT				*e*S	Sn	06 09 34.6	-0.5
SLB	**Belfond**	**2.50**	**336**	*e*P	Pn	06 09 09.7	+0.6
SLB				*e*S	Sn	06 09 37.9	-0.9
TRMF	**Trois Ilets**	**3.16**	**341**	*e*P	Pn	06 09 18.3	+0.2
LPMF	**Morne Lapointe**	**3.17**	**342**	*e*P	Pn	06 09 18.3	+0.1
ZAM	**Aeronautique**	**3.19**	**341**	*e*P	Pn	06 09 18.6	+0.2
FDF	**Fort de France**	**3.38**	**340**	*e*P	Pn	06 09 22.4	+1.3
FDF				*e*S	Sn	06 09 59.7	-0.7
PML	**Morne Lenard**	**3.43**	**340**	*e*P	Pn	06 09 22.5	+0.7
PCM	**Pelee Case Pet**	**3.47**	**340**	*e*P	Pn	06 09 23.1	+0.7

*IDC **26** 06:11:01.7±1.3, 41.35N×78.99E, h0km, mb3.2/3, mb1 3.4/7, mb1mx3.2/68, mbtmp3.2/7, ML3.2/3, Error ellipse: s-maj=17.7km s-min=16.0km az=169.0*
*KRNET **26** 06:11:04.0±0.1, 41.52N×78.81E, h17km, mb3.6*
*BJI **26** 06:11:03.4, 41.54N×78.78E, h9km, ML3.4/9, Ms3.3/1*
*MOS **26** 06:11:04.5±2.0, 41.39N×78.98E, h30km, mb4.2/3, Error ellipse: s-maj=19.1km s-min=9.4km az=99.7*
*ISCJB **26** 06:11:04.3±1.0, 41.50N±0.06×78.97E±0.04, h15km±8km, mb3.2/2, Error ellipse: s-maj=9.8km s-min=4.3km az=160.3*
*NNC **26** 06:11:06.9±1.1, 41.64N×78.81E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=9.8km s-min=4.3km az=146.0*

ISC 26 06:11:04.3±1.4, 41.58N±0.05×78.86E±0.04, h3km±9km, n55, σ1§63/75, 34C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.81**	**281**	⇑*i*P	**Pg**	**06 11 18.7**	**-1.0**
	baz=86						
TARG				⇑*i*S	**Sg**	**06 11 29.9**	**-0.3**
	baz=86						
PRZ	**Przheval'sk**	**0.96**	**339**	⇑*i*P	**Pg**	**06 11 23.2**	**+0.5**
	baz=43						
PRZ				⇑*i*S	**Sg**	**06 11 36.8**	**+1.5**
	baz=43						
KDJ	**Kajisay**	**1.37**	**294**	⇑*i*P	**Pn**	**06 11 29.1**	**-1.4**
	baz=97						
KDJ				⇑*i*S	**Sg**	**06 11 47.4**	**-0.9**
	baz=97						
PDGK	**Podgornoye**	**1.81**	**15**	⇓P	**Pb**	**06 11 38.2**	**+0.1**
	157nm,0.6s						
PDGK				⇓S	**Sg**	**06 12 03.2**	**+0.9**
	1μm,0.6s						
PDGK	**Podgornoye**	**1.81**	**15**	PN	**Pb**	**06 11 38.2**	**+0.1**
PDGK				S	**Sg**	**06 12 03.2**	**+0.9**
PDGK				pmax	pmax		
	comp=Z,157nm,0.6s						
PDGK				smax	smax		
	comp=N,1μm,0.6s						
PDGK	**Podgornoye**	**1.81**	**15**	⇓*i*P	**Pb**	**06 11 38.2**	**+0.1**
	baz=15						
PDGK				⇓*i*S	**Sg**	**06 12 03.7**	**+1.4**
	baz=15						
ULHL	**Ulahol**	**2.06**	**290**	P	**Pb**	**06 11 41.5**	**-1.0**
	SNR=86						
ULHL	**Ulahol**	**2.06**	**290**	⇓*i*P	**Pn**	**06 11 41.0**	**+0.9**
	baz=92						
ULHL				⇓*i*S	**Sn**	**06 12 08.3**	**+1.9**
	baz=92						
MDOK	**Medeo**	**2.07**	**320**	⇓Pn	**Pb**	**06 11 42.0**	**-0.7**
	comp=N,41nm,0.6s						
MDOK				⇑Lg	Lg	06 12 09.9	
	comp=N,510nm,0.6s						
KNDC	**Almaty**	**2.15**	**320**	⇑Pn	**Pb**	**06 11 43.8**	**-0.2**
	comp=N,75nm,0.7s						
KNDC				⇑Lg	Lg	06 12 13.0	
	comp=N,371nm,0.6s						
NRN	**Naryn**	**2.16**	**267**	⇑*i*P	**Pn**	**06 11 41.8**	**+0.4**
	baz=68						
NRN				⇑*i*S	**Sn**	**06 12 09.2**	**+0.4**
	baz=68						
AAA	**Alma-Ata**	**2.17**	**319**	*i* Pn	**Pb**	**06 11 44.4**	**+0.1**
AAA				*i* S	**Sb**	**06 12 14.4**	**+2.7**
AAA				pmax	pmax		
	comp=Z,141nm,0.3s						
AAA				smax	smax		
	comp=E,690nm,0.5s						
BOOM	**Boomskoye usch**	**2.36**	**294**	⇓*e*P	**Pn**	**06 11 45.0**	**+0.9**
	baz=95						
BOOM				⇓*e*S	**Sn**	**06 12 15.4**	**+1.8**
	baz=95						
KZA	**Kyzart**	**2.75**	**282**	P	**Pb**	**06 11 54.1**	**-0.2**
	SNR=22						
KZA	**Kyzart**	**2.75**	**282**	⇑*i*P	**Pn**	**06 11 50.4**	**+0.8**
	baz=83						
KZA				⇑*i*S	**Sn**	**06 12 23.7**	**+0.2**
	baz=83						
TKM2	**Tokmak 2**	**2.77**	**300**	⇓Pn	**Pn**	**06 11 52.0**	**+2.3**
	comp=E,21nm,0.6s						
TKM2				⇑Lg	Lg	06 12 31.8	
	comp=E,65nm,0.3s						
TKM2	**Tokmak 2**	**2.77**	**300**	*e*PN	**Pn**	**06 11 52.0**	**+2.3**
TKM2	**Tokmak 2**	**2.77**	**300**	P	**Pb**	**06 11 53.1**	**-1.4**
	SNR=51						
TKM2	**Tokmak 2**	**2.77**	**300**	⇑*i*P	**Pn**	**06 11 51.5**	**+1.8**
	baz=1.0						
TKM2				⇑*i*S	**Sn**	**06 12 25.5**	**+1.7**
	baz=1.0						
KSH	**Kashi**	**3.02**	**228**	Pg	**Pg**	**06 12 04.5**	**+2.4**
KSH				Sg	Sg	06 12 50.5	+9.3
KSH				smax	smax		
	comp=E,150nm,0.5s						
KSH				smax	smax		
	comp=E,250nm,0.6s						
KBK	**Karagaybulak**	**3.10**	**292**	P	**Pb**	**06 12 00.5**	**+0.2**
	SNR=18						
KBK	**Karagaybulak**	**3.10**	**292**	⇓*i*P	**Pn**	**06 11 55.1**	**+0.8**
	baz=93						
KBK				⇓*i*S	**Sn**	**06 12 32.5**	**+0.5**
	baz=93						
UCH	**Uchtor**	**3.31**	**283**	P	**Pb**	**06 12 04.1**	**+0.2**
	SNR=10						
UCH	**Uchtor**	**3.31**	**283**	⇑*i*P	**Pn**	**06 11 58.5**	**+1.1**
	baz=84						
UCH				⇑*i*S	**Sn**	**06 12 37.3**	**-0.2**
	baz=84						
CHMS	**Chumysh**	**3.36**	**296**	P	**Pb**	**06 12 04.8**	**+0.3**
	SNR=6.3						
CHMS	**Chumysh**	**3.36**	**296**	⇑*i*P	**Pn**	**06 11 58.6**	**+0.9**
	baz=97						
CHMS				⇑*i*S	**Sn**	**06 12 39.4**	**+1.2**
	baz=97						
AAK	**Ala-Archa**	**3.42**	**289**	Pn	**Pn**	**06 12 01.8**	**+3.2**
	comp=E,3.9nm,0.3s,baz=94,slow=9.1,SNR=31						
AAK				Pg	**Pb**	**06 12 06.5**	**+1.0**
	comp=E,3.9nm,0.3s,baz=108,slow=13,SNR=32						
AAK				Lg	Lg	06 12 51.7	
	comp=E,6.8nm,0.3s,baz=256,slow=20,SNR=14						
AAK	**Ala-Archa**	**3.42**	**289**	⇑Pg	**Pb**	**06 12 06.5**	**+1.0**
	comp=E,7.1nm,0.4s						
AAK				⇑Lg	Lg	06 12 52.9	
	comp=E,46nm,0.6s						
AAK	**Ala-Archa**	**3.42**	**289**	*i* PN	**Pn**	**06 11 57.3**	**-1.3**
AAK	**Ala-Archa**	**3.42**	**289**	P	**Pb**	**06 12 05.9**	**+0.4**
	SNR=9.8						
AAK	**Ala-Archa**	**3.42**	**289**	⇑*i*P	**Pn**	**06 11 59.4**	**+0.8**
	baz=91						
AAK				⇑*i*S	**Sn**	**06 12 40.5**	**+0.8**
	baz=91						
USP	**Ospenovka**	**3.64**	**299**	⇑*e*P	**Pn**	**06 12 03.4**	**+1.8**
	baz=0.0						
USP				⇑*i*S	**Sn**	**06 12 46.2**	**+1.1**
	baz=0.0						
AML	**Almayashu**	**3.90**	**280**	P	**Pb**	**06 12 15.1**	**+1.2**
	SNR=17						
AML	**Almayashu**	**3.90**	**280**	⇑*i*P	**Pn**	**06 12 06.9**	**+1.5**
	baz=81						
AML				⇑*i*S	**Sn**	**06 12 51.7**	**-0.2**
	baz=81						
EKS2	**Erkin-Say**	**3.93**	**288**	P	**Pb**	**06 12 15.7**	**+1.3**
	SNR=15						
SFK	**Sufi-Kurgan**	**4.36**	**251**	⇑Pg	**Pg**	**06 12 27.7**	**-0.1**
	comp=E,9.1nm,0.7s						
SFK				⇓Lg	Lg	06 13 26.5	
	comp=E,59nm,1.2s						
SFK	**Sufi-Kurgan**	**4.36**	**251**	PN	**Pg**	**06 12 27.7**	**-0.1**
SFK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MNAS	**Manas**	**4.82**	**283**	⇑Pg	**Pg**	**06 12 35.2**	**-1.4**
	comp=Z,15nm,0.9s						
MNAS				⇑Lg	Lg	06 13 40.5	
	comp=Z,15nm,0.7s						
MNAS	**Manas**	**4.82**	**283**	PN	**Pg**	**06 12 35.2**	**-1.4**
MNAS				pmax	pmax		
	comp=Z,15nm,0.9s						
MK31	**Makanchi Array**	**5.76**	**24**	⇑Pn	**Pn**	**06 12 31.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=203,slow=12,SNR=93						
MK31				⇓Pg	**Pg**	**06 12 50.8**	**-3.8**
	comp=Z,0.6nm,0.2s,baz=204,slow=14,SNR=5.7						
MK31				⇓Sn	**Sn**	**06 13 38.3**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=209,slow=30,SNR=5.0						
MK31				⇓Lg	Lg	06 14 07.5	
	comp=Z,4.2nm,0.4s,baz=187,slow=25,SNR=4.8						
MK31	**Makanchi Array**	**5.76**	**24**	*e*PN	**Pn**	**06 12 31.6**	**+0.9**
MKAR	**Makanchi Array**	**5.76**	**24**	Pn	**Pn**	**06 12 31.9**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=210,slow=14,SNR=59						
MKAR				Sn	**Sn**	**06 13 38.3**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=202,slow=23,SNR=5.9						
MKAR				Lg	Lg	06 14 09.0	
	comp=Z,1.7nm,0.3s,baz=202,slow=26,SNR=3.4						
KK31	**Karatay Array**	**6.37**	**287**	⇓Pg	**Pg**	**06 13 02.0**	**-4.3**
	comp=Z,1.2nm,0.4s,baz=99,slow=19,SNR=29						
KK31				⇑Lg	Lg	06 14 29.1	
	comp=Z,6.7nm,0.5s,baz=93,slow=29,SNR=5.0						
KK31	**Karatay Array**	**6.37**	**287**	PN	**Pg**	**06 13 02.0**	**-4.3**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WMQ	**Urumqi**	**6.88**	**68**	Pn	**Pn**	**06 12 46.3**	**+0.2**
WMQ				Sn	**Sn**	**06 14 02.3**	**-2.6**
WMQ				smax	smax		
	comp=Z,43nm,0.9s						
WMQ				smax	smax		
	comp=Z,38nm,1.3s						
WMQ				LR	LR		
	comp=Z,160nm,6.1s						
KURBB	**Kurchatov Arra**	**9.04**	**359**	Pn	**Pn**	**06 13 17.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=356,slow=1.6,SNR=3.8						
KURBB				Lg	Lg	06 15 47.2	
	comp=Z,0.1nm,0.3s,baz=211,slow=30,SNR=5.2						
KURK	**Kurchatov**	**9.14**	**359**	⇑Pg	Pn	06 13 53.3	+36
	comp=Z,2.9nm,0.9s						
KURK				⇓Lg	Lg	06 15 55.3	
	comp=Z,20nm,1.0s						
KURK	**Kurchatov**	**9.14**	**359**	P	**Pn**	**06 13 17.0**	**+0.1**
BVAR	**Borovoye Array**	**12.80**	**336**	Pn	**Pn**	**06 14 06.5**	**-0.5**
	baz=151,slow=18,SNR=2.1						
BVAR				Lg	Lg	06 17 49.4	
	comp=Z,0.2nm,0.3s,baz=155,slow=26,SNR=3.6						
BRVK	**Borovoye**	**12.86**	**336**	*i* P	**Pn**	**06 14 12.3**	**+4.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ARU	**Arti**	**19.84**	**325**	*e*P	**Pn**	**06 15 38.5**	**+1.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	**Songino Array**	**20.48**	**63**	P	Pn	06 15 42.9	-2.4
	comp=Z,0.9nm,0.8s,baz=262,slow=11,SNR=7.9						
KMBO	**Kilima Mbogo**	**56.78**	**233**	*e*P	P	06 20 39.4	-11
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**75.71**	**6**	P	**P**	**06 22 48.7**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=346,slow=5.6,SNR=4.4						
WRA	**Warramunga Arr**	**79.87**	**128**	P	**P**	**06 23 11.1**	**-3.2**
	comp=Z,0.2nm,0.6s,baz=321,slow=6.5,SNR=3.3						

*SJA **26** 06:20:00.7±0.8, 21.91S×67.17W, h207km±13km, ML3.3, MW4.2*
*ISCJB **26** 06:20:02.5±0.3, 22.03S±0.04×67.18W±0.04, h199km±4km, mb3.8/9, Error ellipse: s-maj=7.4km s-min=4.5km az=32.1*
*IDC **26** 06:20:02.4±2.1, 21.99S×67.08W, h180km±18km, mb3.5/8, mb1 3.7/12, mb1mx3.5/38, mbtmp4.0/12, Error ellipse: s-maj=21.0km s-min=15.3km az=36.0*
*GUC **26** 06:20:04.5±0.6, 21.88S×67.73W, h235km±13km, ML4.1*

ISC 26 06:20:03.4±0.7, 22.01S±0.05×67.15W±0.05, h192km±7km, n30, σ1§11/43, mb3.8/9, 7C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.53**	**97**	*i* P	**Pn**	**06 20 37.2**	**+0.1**
YJA				*i* S	**S**	**06 21 03.7**	**+0.5**
YJA				IAML		06 21 04.7	
	comp=Z,235nm,0.6s						
PB09	**IPOC Station P**	**1.95**	**276**	⇑*i*P	**Pn**	**06 20 41.7**	**+0.7**
PB09				*i* S	**S**	**06 21 13.0**	**+2.8**
PB09				IAML		06 21 16.1	
	comp=N,565nm,0.2s						
HJA	**Humahuaca**	**2.00**	**127**	*i* P	**Pn**	**06 20 42.4**	**+0.6**
HJA				IAML		06 20 43.0	
	comp=Z,192nm,0.5s						
PB06	**IPOC Station P**	**2.34**	**252**	⇓*i*P	**Pn**	**06 20 46.6**	**+1.4**
PB06				*i* S	**S**	**06 21 17.1**	**-0.6**
PB06				IAML		06 21 19.7	
	comp=E,329nm,0.1s						
PB01	**IPOC Station P**	**2.38**	**293**	⇑*i*P	**Pn**	**06 20 45.6**	**+0.1**
PB01				*i* S	**S**	**06 21 17.3**	**-0.9**
PB01				IAML		06 21 18.6	
	comp=N,1μm,0.4s						
PB07	**IPOC Station P**	**2.56**	**276**	⇓*i*P	**Pn**	**06 20 47.8**	**+0.2**
PB07				*i* S	**S**	**06 21 20.4**	**-1.6**
PB07				IAML		06 21 22.0	
	comp=N,486nm,0.2s						
PB08	**IPOC Station P**	**2.63**	**314**	⇑*i*P	**Pn**	**06 20 49.7**	**+0.9**
PB08				*i* S	**S**	**06 21 24.0**	**0.0**
PB08				IAML		06 21 25.6	
	comp=N,693nm,0.6s						
PB02	**IPOC Station P**	**2.64**	**285**	⇑*i*P	**Pn**	**06 20 48.3**	**-0.2**
PB02				*i* S	**S**	**06 21 21.8**	**-1.9**
PB02				IAML		06 21 24.4	
	comp=N,613nm,0.2s						
PB04	**IPOC Station P**	**2.80**	**263**	⇓*i*P	**Pn**	**06 20 50.3**	**-0.1**
PB04				*i* S	**S**	**06 21 25.0**	**-2.0**
PB04				IAML		06 21 28.6	
	comp=N,277nm,0.1s						
AZAP	**Zapla**	**2.92**	**139**	*i* P	**Pn**	**06 20 51.6**	**-0.4**
AZAP				*i* S	**S**	**06 21 29.7**	**-0.2**
AZAP				IAML		06 22 15.4	
	comp=Z,23nm,0.7s						
GO01	**Chusmiza**	**3.01**	**320**	⇑*i*P	**Pn**	**06 20 54.0**	**+0.7**
GO01				*i* S	**S**	**06 21 31.3**	**-0.8**
GO01				IAML		06 21 34.6	
	comp=N,713nm,0.7s						
ASTB	**Santa Barbara**	**3.15**	**128**	*i* P	**Pn**	**06 20 53.8**	**-0.7**
ASTB				*i* S	**S**	**06 21 34.2**	**-0.3**
PB10	**IPOC Station P**	**3.48**	**244**	*i* P	**Pn**	**06 20 57.3**	**-1.1**
MNMC	**Minye Minye**	**3.67**	**321**	⇑*i*P	**Pn**	**06 21 01.1**	**+0.1**
MNMC				*i* S	**S**	**06 21 44.4**	**-1.7**
GO02	**Mina Guanaco**	**3.85**	**215**	⇑*i*P	**Pn**	**06 21 03.4**	**+0.1**
GO02				*i* S	**S**	**06 21 49.1**	**-1.3**
LPAZ	**La Paz**	**5.76**	**351**	P	**Pn**	**06 21 27.9**	**-0.2**
	comp=N,1.1nm,0.3s,baz=150,slow=5.4,SNR=28						
SIV	**San Ignacio**	**8.30**	**45**	P	**Pn**	**06 21 57.9**	**-2.8**
	comp=N,1.9nm,0.3s,baz=250,slow=9.9,SNR=55						
CPUP	**Villa Florida**	**9.95**	**118**	P	**Pn**	**06 22 20.1**	**-1.9**
	comp=N,0.1nm,0.3s,baz=305,slow=12,SNR=4.5						
PLCA	**Paso Flores**	**18.89**	**188**	P	**P**	**06 24 09.3**	**0.0**
	comp=N,0.1nm,0.3s,baz=36,slow=11,SNR=7.4						
RCBR	**Riachuelo**	**34.22**	**67**	P	**P**	**06 26 32.1**	**+1.0**
	comp=N,191nm,1.0s,baz=179,slow=0.6,SNR=8.3						
TKL	**Tuckaleechee C**	**59.48**	**344**	P	**P**	**06 29 45.3**	**-0.8**
	comp=N,2.0nm,0.7s,baz=157,slow=7.5,SNR=2.7						
TXAR	**Lajitas Array**	**61.99**	**324**	P	**P**	**06 30 04.0**	**+0.7**
	comp=N,0.1nm,0.4s,baz=133,slow=7.5,SNR=3.4						
KOWA	**Kowa**	**71.73**	**65**	P	**P**	**06 31 04.4**	**-0.6**
	comp=N,1.0nm,0.4s,baz=245,slow=2.0,SNR=3.3						
PDAR	**Pinedale Array**	**75.37**	**329**	P	**P**	**06 31 26.9**	**+1.0**
	comp=N,0.6nm,0.7s,baz=132,slow=6.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**76.00**	**69**	P	**P**	**06 31 29.2**	**-0.6**
	comp=N,5.2nm,0.6s,baz=258,slow=5.4,SNR=69						
ULM	**Lac du Bonnet**	**76.30**	**341**	P	**P**	**06 31 30.3**	**-0.4**
	comp=N,0.6nm,0.5s,baz=150,slow=4.3,SNR=5.0						
NVAR	**Mina Array Bea**	**76.91**	**321**	P	**P**	**06 31 35.4**	**+0.7**
	comp=N,0.8nm,0.9s,baz=164,slow=7.1,SNR=3.0						
YKA	**Yellowknife Ar**	**92.21**	**340**	P	**P**	**06 32 51.3**	**+0.6**
	comp=N,0.5nm,0.6s,baz=132,slow=4.6,SNR=20						
WRA	**Warramunga Arr**	**133.31**	**208**	PKP	**PKPdf**	**06 38 57.6**	**+0.4**
	comp=N,0.6nm,0.8s,baz=156,slow=1.9,SNR=8.4						
MKAR	**Makanchi Array**	**145.06**	**38**	PKPbc	**PKPab**	**06 39 18.3**	**+0.5**
	comp=N,1.2nm,0.8s,baz=321,slow=3.4,SNR=13						

*CSEM **26** 06:28:26.7±0.1, 44.27N×7.27E, h10km, ML2.9/23, Error ellipse: s-maj=3.0km s-min=2.4km az=55.0*
*ISCJB **26** 06:28:27.0±0.2, 44.26N±0.02×7.31E±0.03, h18km±2km, Error ellipse: s-maj=3.2km s-min=2.4km az=153.0*
*ROM **26** 06:28:26.7±0.1, 44.27N×7.28E, h12km±2km, Md2.8/15, Ml2.5/14, Error ellipse: s-maj=2.8km s-min=1.0km az=47.0*
*LDG **26** 06:28:27.3±0.1, 44.26N×7.30E, h13km, Md3.0/3, Ml3.0/23, Error ellipse: s-maj=1.6km s-min=1.3km az=65.0*
*GEN **26** 06:28:27.1, 44.26N×7.27E, h13km, ML2.4*
*STR **26** 06:28:28.4±0.8, 44.28N±0.01×7.12E±0.06, h5km, MLv2.8/6*

ISC 26 06:28:26.7±0.8, 44.27N±0.01×7.27E±0.02, h16km±4km, n112, σ1§25/190, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.04**	**124**	P	**Pg**	**06 28 29.5**	**-0.3**
STV				S	**Sg**	**06 28 31.0**	**-0.9**
STV	**Sant Anna di V**	**0.04**	**124**	Pg	**Pg**	**06 28 29.6**	**-0.3**
STV				Sg	**Sg**	**06 28 31.0**	**-0.9**
	1μm,0.2s						
ENR	**Entracque**	**0.11**	**113**	P	**Pg**	**06 28 30.4**	**-0.1**
ENR				S	**Sg**	**06 28 32.4**	**-0.5**
ENR	**Entracque**	**0.11**	**113**	Pg	**Pg**	**06 28 30.4**	**-0.1**
ENR				Sg	**Sg**	**06 28 32.5**	**-0.5**
	5μm,0.1s						
DOI	**San Damiano**	**0.23**	**355**

SNR=1.0
FRF La Foret Royal 0.84 213 *e*Pn **Pb 06 28 43.7 +0.8**
SNR=1.0
FRF *e*Sg **Sg 06 28 54.2 0.0**
123nm,0.2s,SNR=1.0
FRF La Foret Royal 0.84 213 *e*Pg **Pg 06 28 42.6 -0.5**
SNR=1.0
FRF La Foret Royal 0.84 213 *e*Pn **Pb 06 28 43.7 +0.8**
SNR=1.0
RSP Reno Superiore 0.88 360 Pg **Pg 06 28 42.3 -1.5**
43nm,0.1s
RSP Reno Superiore 0.88 360 Pg **Pg 06 28 42.3 -1.5**
43nm,0.1s
BNI Bardonecchia 0.89 332 Pg **Pg 06 28 43.8 -0.3**
BNI Sg **Sg 06 28 55.6 -0.2**
25nm,0.5s
BNI Bardonecchia 0.89 332 Pg **Pg 06 28 43.8 -0.3**
BNI Sg **Sg 06 28 55.6 -0.2**
25nm,0.5s
MONC Moncucco Torin 0.93 30 Pg **Pg 06 28 44.7 -0.1**
149nm,0.6s
MONC Moncucco Torin 0.93 30 Pg **Pg 06 28 44.7 -0.1**
149nm,0.6s
PCP Piancastagn 0.95 73 Pg **Pg 06 28 44.9 -0.3**
82nm,0.6s
PCP Piancastagn 0.95 73 Pg **Pg 06 28 44.9 -0.3**
82nm,0.6s
ROTM Rocchetta Tana 0.96 53 Pg **Pg 06 28 45.2 -0.2**
ROTM Rocchetta Tana 0.96 53 Pg **Pg 06 28 45.2 -0.2**
LMR La Mourre 1.09 211 *e*Pn **Pb 06 28 47.1 0.0**
SNR=1.0
LMR La Mourre 1.09 211 *e*Pg **Pb 06 28 47.8 +0.7**
SNR=1.0
LMR *e*Sn **Sb 06 29 01.1 +0.1**
504nm,0.3s,SNR=1.0
LMR La Mourre 1.09 211 *e*Pn **Pb 06 28 47.1 0.0**
SNR=1.0
LMR La Mourre 1.09 211 *e*Pg **Pb 06 28 47.8 +0.7**
SNR=1.0
ORIF Oris-en-Rattie 1.19 304 *e*Pn **Pb 06 28 49.3 +0.4**
SNR=1.0
ORIF Oris-en-Rattie 1.19 304 *e*Pg **Pg 06 28 50.3 +0.6**
ORIF *e*Sn **Sb 06 29 04.4 +0.3**
39nm,0.3s,SNR=1.0
ORIF *e*Sg **Sn 06 29 06.2 +1.6**
46nm,0.3s
ORIF Oris-en-Rattie 1.19 304 *e*Pn **Pb 06 28 49.3 +0.4**
SNR=1.0
ORIF Oris-en-Rattie 1.19 304 *e*Pg **Pg 06 28 50.3 +0.6**
ORIF *e*Sn **Sb 06 29 04.4 +0.3**
20nm,0.3s,SNR=1.0
ORIF *e*Sg **Sn 06 29 06.2 +1.6**
23nm,0.3s
LSD Lago del Serru 1.19 355 Pg **Pb 06 28 47.7 -1.4**
45nm,0.2s
LSD Lago del Serru 1.19 355 Pg **Pb 06 28 47.7 -1.4**
45nm,0.2s
GDM Grand'Maison 1.25 319 Pg **Pn 06 28 50.0 +0.4**
GDM Sg **Sb 06 29 06.3 +0.5**
GDM Grand'Maison 1.25 319 Pg **Pn 06 28 50.1 +0.4**
SMRF Simiane la Rot 1.26 257 *e*Pn **Pn 06 28 49.9 +0.2**
SNR=1.0
SMRF Simiane la Rot 1.26 257 *e*Pg **Pg 06 28 51.5 +0.5**
SNR=1.0
SMRF *e*Sn **Sb 06 29 06.0 0.0**
66nm,0.2s,SNR=1.0
SMRF *e*Sg **Sg 06 29 08.2 +0.7**
69nm,0.2s
SMRF Simiane la Rot 1.26 257 *e*Pn **Pn 06 28 49.9 +0.2**
SNR=1.0
SMRF Simiane la Rot 1.26 257 *e*Pg **Pg 06 28 51.5 +0.5**
SNR=1.0
SMRF *e*Sn **Sb 06 29 06.0 0.0**
33nm,0.2s,SNR=1.0
LPG La Plagne 1.28 343 *e*Pn **Pn 06 28 50.4 +0.2**
SNR=1.0
LPG La Plagne 1.28 343 *e*Pg **Pg 06 28 52.0 +0.5**
LPG *e*Sn **Sb 06 29 06.7 -0.3**
34nm,0.3s,SNR=1.0
LPG *e*Sg **Sg 06 29 09.2 +0.9**
43nm,0.4s
LPG La Plagne 1.28 343 *e*Pn **Pn 06 28 50.4 +0.2**
SNR=1.0
LPG La Plagne 1.28 343 *e*Pg **Pg 06 28 52.0 +0.5**
LPG *e*Sn **Sb 06 29 06.7 -0.3**
17nm,0.3s,SNR=1.0
LPG *e*Sg **Sg 06 29 09.2 +0.9**
22nm,0.4s
LPL La Plagne 1.30 343 *e*Pn **Pn 06 28 50.5 0.0**
SNR=1.0
LPL La Plagne 1.30 343 *e*Pg **Pg 06 28 52.3 +0.4**
LPL *e*Sn **Sb 06 29 07.3 -0.2**
LPL *e*Sg **Sg 06 29 09.6 +0.6**
54nm,0.4s
LPL La Plagne 1.30 343 *e*Pn **Pn 06 28 50.5 0.0**
SNR=1.0
LPL La Plagne 1.30 343 *e*Pg **Pg 06 28 52.3 +0.4**
LPL *e*Sn **Sb 06 29 07.3 -0.2**
LPL *e*Sg **Sg 06 29 09.6 +0.6**
27nm,0.4s
LEPF PUYLOUBIER 1.36 237 Pg **Pb 06 28 52.3 +0.6**
LEPF PUYLOUBIER 1.36 237 Pg **Pb 06 28 52.4 +0.6**
LEPF PUYLOUBIER 1.36 237 Sg **Sn 06 29 10.2 +1.6**
GRN Grenoble 1.46 312 Pg **Pg 06 28 55.0 +0.1**
GRN Sg **Sg 06 29 13.7 -0.2**
GRN Grenoble 1.46 312 Pg **Pg 06 28 55.0 +0.1**
VIVF Saint-Julien-l 1.95 288 *e*Pn **Pn 06 29 00.2 +1.0**
SNR=1.0
VIVF *e*Sn **Sn 06 29 22.6 -0.7**
11nm,0.3s,SNR=1.0
VIVF *e*Sg **Sg 06 29 29.7 +0.2**
9.5nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 1.95 288 *e*Pn **Pn 06 29 00.2 +1.0**
SNR=1.0
VIVF *e*Sg **Sg 06 29 29.7 +0.2**
4.8nm,0.3s,SNR=1.0
PGF Pioggiola 2.13 143 *e*Pn **Pn 06 29 01.0 -0.7**
SNR=1.0
PGF *e*Sn **Sn 06 29 25.7 -2.2**
19nm,0.2s,SNR=1.0
PGF Pioggiola 2.13 143 *e*Pn **Pn 06 29 01.0 -0.7**
SNR=1.0
PGF *e*Sn **Sn 06 29 25.7 -2.2**
9.7nm,0.2s,SNR=1.0
LASF Ste Croix 2.47 267 *e*Pn **Pn 06 29 06.7 +0.5**
SNR=1.0
LASF Ste Croix 2.47 267 *e*P **Pn 06 29 08.6 +2.4**
LASF Ste Croix 2.47 267 *e*Pg **Pg 06 29 13.4 -0.6**
LASF *e*Sn **Sn 06 29 34.6 -1.4**
3.6nm,0.2s,SNR=1.0
LASF Ste Croix 2.47 267 *e*Pn **Pn 06 29 06.7 +0.5**
SNR=1.0
LASF Ste Croix 2.47 267 *e*P **Pn 06 29 08.6 +2.4**
LASF Ste Croix 2.47 267 *e*Pg **Pg 06 29 13.4 -0.6**
LASF *e*Sn **Sn 06 29 34.6 -1.4**
1.8nm,0.2s,SNR=1.0
CABF La Chapelle 2.49 341 *e*Pn **Pn 06 29 06.4 -0.2**
SNR=1.0
CABF La Chapelle 2.49 341 *e*Pg **Pg 06 29 13.5 -0.9**
CABF *e*Sn **Sn 06 29 34.1 -2.5**
6.3nm,0.4s,SNR=1.0
CABF La Chapelle 2.49 341 *e*Pn **Pn 06 29 06.4 -0.2**
SNR=1.0
CABF La Chapelle 2.49 341 *e*Pg **Pg 06 29 13.5 -0.9**
CABF *e*Sn **Sn 06 29 34.1 -2.5**
3.2nm,0.4s,SNR=1.0
SMF Signal de Mont 3.39 316 *e*Pn **Pn 06 29 19.0 +0.1**
SNR=1.0
SMF Signal de Mont 3.39 316 *e*P **Pn 06 29 21.5 +2.6**
SMF Signal de Mont 3.39 316 *e*Pg **Pg 06 29 30.2 -1.4**
SMF *e*Sg **Sg 06 30 15.3 -0.2**
4.2nm,0.2s,SNR=1.0
SMF Signal de Mont 3.39 316 *e*Pn **Pn 06 29 19.0 +0.1**
SNR=1.0
SMF Signal de Mont 3.39 316 *e*P **Pn 06 29 21.5 +2.6**
SMF Signal de Mont 3.39 316 *e*Pg **Pg 06 29 30.2 -1.4**
SMF *e*Sg **Sg 06 30 15.3 -0.2**
2.1nm,0.2s,SNR=1.0
DAVA Damuels 3.52 30 Sn **Sn 06 30 04.4 +2.1**
2.5nm,0.3s
DAVA Damuels 3.52 30 *e*Sn **Sn 06 30 04.4 +2.1**
2.5nm,0.3s
HINF Hinteralfeld 3.56 355 *e*Pn **Pn 06 29 21.4 +0.1**
HINF *e*Sn **Sn 06 30 01.4 -1.6**
2.8nm,0.2s,SNR=1.0
HINF Hinteralfeld 3.56 355 *e*Pn **Pn 06 29 21.4 +0.1**
HINF *e*Sn **Sn 06 30 01.4 -1.6**
1.4nm,0.2s,SNR=1.0
FETA Feichten 3.67 40 Pn **Pn 06 29 26.2 +3.3**
1.9nm,0.5s
FETA Sn **Sn 06 30 08.2 +2.4**
2.3nm,1.0s
FETA Feichten 3.67 40 *e*Pn **Pn 06 29 26.2 +3.3**
1.9nm,0.5s
FETA Sn **Sn 06 30 08.2 +2.4**
2.3nm,1.0s
AVF Avril sur Loir 3.73 314 *e*Pn **Pn 06 29 25.3 +1.7**
SNR=1.0
AVF *e*Sn **Sn 06 30 04.6 -2.6**
AVF *e*Sg **Sg 06 30 25.4 -1.2**
2.6nm,0.4s,SNR=1.0
AVF Avril sur Loir 3.73 314 *e*Pn **Pn 06 29 25.3 +1.7**
SNR=1.0
AVF *e*Sn **Sn 06 30 04.6 -2.6**
AVF *e*Sg **Sg 06 30 25.4 -1.2**
1.3nm,0.4s,SNR=1.0
MTLF Montolieu 3.78 258 *e*Pn **Pn 06 29 25.5 +1.3**
SNR=1.0
MTLF *e*Sn **Sn 06 30 05.7 -2.6**
SNR=1.0
MTLF *e*Sg **Sg 06 30 26.5 -1.5**
1.5nm,0.3s,SNR=1.0
MTLF Montolieu 3.78 258 *e*Pn **Pn 06 29 25.5 +1.3**
SNR=1.0
MTLF *e*Sn **Sn 06 30 05.7 -2.6**
SNR=1.0
MTLF *e*Sg **Sg 06 30 26.5 -1.5**
0.8nm,0.3s,SNR=1.0
CAF Calviac 3.78 282 *e*P **Pn 06 29 25.8 +1.5**
SNR=1.0
CAF Calviac 3.78 282 *e*P **Pn 06 29 25.8 +1.5**
SNR=1.0
HAU Haudompre 3.79 351 *e*Pn **Pn 06 29 24.5 0.0**
SNR=1.0
HAU *e*Sn **Sn 06 30 07.0 -1.7**
8.1nm,0.3s,SNR=1.0
HAU Haudompre 3.79 351 *e*Pn **Pn 06 29 24.5 0.0**
SNR=1.0
HAU *e*Sn **Sn 06 30 07.0 -1.7**
4.1nm,0.3s,SNR=1.0
LOR Lormes 3.83 323 *e*P **Pn 06 29 27.5 +2.5**
baz=132,SNR=1.0
LOR *e*Sn **Sn 06 30 07.8 -1.9**
3.3nm,0.2s,baz=144,SNR=1.0
LOR Lormes 3.83 323 *e*P **Pn 06 29 27.5 +2.5**
SNR=1.0
LOR *e*Sn **Sn 06 30 07.8 -1.9**
1.6nm,0.2s,baz=144,SNR=1.0
SSF Saint Saulge 3.84 318 *e*P **Pn 06 29 28.2 +3.1**
SSF Saint Saulge 3.84 318 *e*P **Pn 06 29 28.2 +3.1**
BGF Bois d'Agland 3.87 308 *e*Pn **Pn 06 29 27.0 +1.5**
SNR=1.0
BGF *e*Sn **Sn 06 30 12.7 +2.2**
8.7nm,0.4s,SNR=1.0
BGF Bois d'Agland 3.87 308 *e*Pn **Pn 06 29 27.0 +1.5**
SNR=1.0
BGF *e*Sn **Sn 06 30 12.7 +2.2**
4.3nm,0.4s,SNR=1.0
RETA Reutte 4.04 36 *i* Pn **Pb 06 29 37.9 +0.4**
1.6nm,0.3s
CDF Champ du Feu 4.14 0 *e*Pn **Pn 06 29 28.8 -0.5**
SNR=1.0
CDF Champ du Feu 4.14 0 *e*P **Pn 06 29 32.7 +3.4**
CDF *e*Sn **Sn 06 30 14.7 -2.8**
2.4nm,0.3s,SNR=1.0
CDF Champ du Feu 4.14 0 *e*Pn **Pn 06 29 28.8 -0.5**
SNR=1.0
CDF Champ du Feu 4.14 0 *e*P **Pn 06 29 32.7 +3.4**
CDF *e*Sn **Sn 06 30 14.7 -2.8**
1.2nm,0.3s,SNR=1.0

IDC 26 06:29:12.7±3.4,53°.45N×87°.66E,h0km,mb1 2.7/2, mb1mx2.6/67,mbtmp2.7/2,ML2.4/2,Error ellipse: s-maj=34.2km s-min=18.1km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**288**	*i*		06 40 40.0	
	baz=105,slow=337,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.76**	**288**	Pn	Pn	06 29 44.2	-0.1
	1.0nm,0.3s,baz=108,slow=14,SNR=8.0						
ZALV				Lg	Lg	06 30 08.5	
	1.5nm,0.3s,baz=108,slow=27,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.30**	**247**	Pn	Pn	06 30 47.1	+0.3
	0.1nm,0.3s,baz=61,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**7.50**	**209**	Pn	Pn	06 31 04.6	+1.4
	0.1nm,0.3s,baz=28,slow=13,SNR=5.1						

IDC 26 06:35:28.4±4.2,28°.49S×177°.49W,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.5/42,mbtmp3.5/2,MS3.4/1,Ms1 3.4/1, ms1mx2.7/24,Error ellipse: s-maj=84.0km s-min=24.6km az=94.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.85**	**206**	Pn	Pn	06 35 47.9	+0.3
	198nm,0.3s,baz=89,slow=5.5,SNR=20						
RAO				Sn	Sn	06 36 00.9	0.0
	602nm,0.3s,baz=69,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**43.69**	**265**	P	P	06 43 35.4	0.0
	0.2nm,0.4s,baz=108,slow=7.8,SNR=3.3						
WRA	**Warramunga Arr**	**44.51**	**270**	P	P	06 43 41.8	-0.2
	0.5nm,0.6s,baz=109,slow=7.9,SNR=6.1						
FITZ	**Fitzroy Crossi**	**52.84**	**268**	LR	LR	07 07 22.6	
	comp=Z,36nm,19.1s,slow=36						
FINES	**FINESS Array B**	**143.50**	**341**	PKP	PKPdf	06 55 03.0	-1.3
	0.9nm,0.7s,baz=11,slow=3.9,SNR=4.1						

IDC 26 06:51:53.2±4.9,7°.27S×155°.72E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.6/45,mbtmp3.8/5,MS2.7/1,Ms1 2.7/1, ms1mx2.3/38,Error ellipse: s-maj=142.0km s-min=31.9km az=119.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.73**	**255**	LR	LR	06 56 56.5	
	comp=Z,53nm,20.4s,baz=59,slow=35						
WRA	**Warramunga Arr**	**24.26**	**237**	P	P	06 57 12.7	+0.4
	0.3nm,0.4s,baz=63,slow=9.6,SNR=6.7						
FITZ	**Fitzroy Crossi**	**31.20**	**247**	P	P	06 58 14.5	0.0
	0.7nm,0.5s,baz=45,slow=8.6,SNR=2.4						
SONM	**Songino Array**	**69.95**	**327**	P	P	07 03 07.1	+0.5
	0.4nm,0.4s,baz=140,slow=7.4,SNR=4.2						
MKAR	**Makanchi Array**	**84.08**	**319**	P	P	07 04 26.1	+0.1
	1.3nm,0.8s,baz=101,slow=6.3,SNR=14						
ZALV	**Zalesovo Beam**	**84.81**	**326**	P	P	07 04 28.5	-1.0
	1.1nm,0.5s,baz=129,slow=6.7,SNR=4.9						

IDC 26 06:54:28.0±37.0,26°.16S×69°.53E,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.4/61,mbtmp3.8/3,Error ellipse: s-maj=894.7km s-min=54.2km az=71.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**18.62**	**9**	T	T	07 17 40.0	
	baz=185,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**18.62**	**9**	T	T	07 17 41.1	
	baz=185,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**18.64**	**9**	T	T	07 17 41.5	
	baz=185,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**39.13**	**114**	T	T	07 42 01.2	
	baz=272,slow=75,SNR=5.7						
H01W3	**Cape Leeuwin H**	**39.14**	**114**	T	T	07 41 54.7	
	baz=272,slow=75,SNR=4.3						
H01W1	**Cape Leeuwin H**	**39.15**	**114**	T	T	07 42 01.5	
	baz=272,slow=75,SNR=5.4						
CMAR	**Chiang Mai Arr**	**52.76**	**36**	P	P	07 03 44.9	-0.2
	1.2nm,0.4s,baz=222,slow=8.5,SNR=5.3						
ASAR	**Alice Springs**	**57.90**	**103**	P	P	07 04 22.3	0.0
	0.3nm,0.5s,baz=249,slow=6.6,SNR=4.8						
WRA	**Warramunga Arr**	**59.44**	**99**	P	P	07 04 32.9	-0.1
	0.3nm,0.5s,baz=251,slow=7.4,SNR=3.9						

IDC 26 07:07:17.5±1.4,40°.50N×107°.13W,h0km,mb2.9/1, mb1 3.3/4,mb1mx3.2/65,mbtmp2.9/4,ML3.3/3,Error ellipse: s-maj=24.2km s-min=9.9km az=65.0,Colorado

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**2.91**	**322**	Pn	Pn	07 08 06.5	+1.3
	1.4nm,0.3s,baz=132,slow=14,SNR=31						
PDAR				Pg	Pg	07 08 14.3	+1.0
	2.4nm,0.3s,baz=135,slow=18,SNR=22						
PDAR				Lg	Lg	07 08 51.0	
	1.3nm,0.3s,baz=134,slow=28,SNR=7.4						
NVAR	**Mina Array Bea**	**8.89**	**260**	Pn	Pn	07 09 29.3	+2.0
	baz=78,slow=17,SNR=2.4						
TXAR	**Lajitas Array**	**11.49**	**165**	Pn	Pn	07 10 05.2	+2.2
	0.0nm,0.3s,baz=347,slow=11,SNR=3.5						
YKA	**Yellowknife Ar**	**22.48**	**351**	P	P	07 12 19.3	+1.1
	0.4nm,0.9s,baz=163,slow=12,SNR=5.6						

NEIC ***26*** *07:16:06.2±0.0, 18°.84N×67°.66W, h32km, MD3.2(RSPR), After RSPR.*

RSPR 26 07:16:06.2, 18°.84N×67°.66W, h32km±7km, MD3.2/13, 18C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.48**	**159**	⇓*e*P	Pb	07 16 14.8	-1.7
IDE	**Isla Desecheo**	**0.48**	**159**	⇓*e*P	Pb	07 16 14.8	-1.7
IDE				*e*S	Sb	07 16 22.8	-0.8
IMPR	**Mona Island, P**	**0.81**	**199**	⇑*e*P	Pn	07 16 19.7	-1.6
IMPR	**Mona Island, P**	**0.81**	**199**	*e*S	Sn	07 16 30.2	-1.9
LSP	**Las Mesas**	**0.85**	**141**	⇑*e*P	Pn	07 16 20.4	-1.7
LSP	**Las Mesas**	**0.85**	**141**	⇑*e*P	Pn	07 16 20.4	-1.7
CRPR	**Cabo Rojo, PR**	**0.98**	**148**	⇑*e*P	Pn	07 16 22.4	-1.3
CRPR	**Cabo Rojo, PR**	**0.98**	**148**	⇑*e*P	Pn	07 16 22.4	-1.3
CRPR				*e*S	Sn	07 16 34.3	-2.2
AOPR	**Arecibo Observ**	**0.99**	**120**	⇑*e*P	Pn	07 16 21.9	-2.0
AOPR	**Arecibo Observ**	**0.99**	**120**	⇑*e*P	Pn	07 16 21.9	-1.9
AOPR	**Arecibo Observ**	**0.99**	**120**	⇑*e*P	Pn	07 16 21.9	-2.0
AOPR				*e*S	Sn	07 16 35.1	-1.6
EMPR	**Esperanza - Ma**	**1.13**	**109**	⇓*e*P	Pn	07 16 24.1	-1.6
EMPR	**Esperanza - Ma**	**1.13**	**109**	⇓*e*P	Pn	07 16 24.1	-1.6
EMPR				*e*S	Sn	07 16 38.7	-1.4
CELP	**Cerrillos**	**1.27**	**127**	⇓*e*P	Pn	07 16 26.7	-1.1
CELP				*e*S	Sn	07 16 42.4	-1.5
CELP	**Cerrillos**	**1.27**	**127**	⇓*e*P	Pn	07 16 26.7	-1.1
OBIP	**Obispado Ponce**	**1.27**	**128**	⇑*e*P	Pn	07 16 25.7	-2.0
OBIP	**Obispado Ponce**	**1.27**	**128**	⇑*e*P	Pn	07 16 25.7	-2.0
OBIP				*e*S	Sn	07 16 42.8	-1.0
ICMP	**Isla Caja de M**	**1.43**	**131**	⇑*e*P	Pn	07 16 29.9	0.0
ICMP	**Isla Caja de M**	**1.43**	**131**	⇑*e*P	Pn	07 16 29.9	0.0
SJG	**San Juan**	**1.60**	**117**	⇓*e*P	Pn	07 16 31.2	-1.1
SJG	**San Juan**	**1.60**	**117**	⇓*e*P	Pn	07 16 31.2	-1.1
SJG				*e*S	Sn	07 16 49.6	-2.3
DR12	**Loma Pena Alta**	**1.64**	**268**	⇑*e*P	Pn	07 16 31.7	-1.1
DR12	**Loma Pena Alta**	**1.64**	**268**	⇑*e*P	Pn	07 16 31.7	-1.1
CBYP	**Canovanas**	**1.80**	**108**	⇑*e*P	Pn	07 16 33.7	-1.3
CBYP	**Canovanas**	**1.80**	**108**	⇑*e*P	Pn	07 16 33.7	-1.3
HUMP	**Col San Antoni**	**1.85**	**112**	⇓*e*P	Pn	07 16 34.7	-0.9
HUMP	**Col San Antoni**	**1.85**	**112**	⇓*e*P	Pn	07 16 34.7	-0.9
HUMP				*e*S	Sn	07 16 55.8	-2.2
CUPR	**Culebra, Puert**	**2.31**	**103**	⇑*e*P	Pn	07 16 40.8	-1.3
CUPR	**Culebra, Puert**	**2.31**	**103**	⇑*e*P	Pn	07 16 40.8	-1.3
SDDR	**Presa de Saban**	**3.44**	**273**	*e*Pn	Pn	07 16 60.0	+2.3
SDDR				*e*Sn	Sn	07 17 36.6	-0.8

KRNET ***26*** *07:18:18.1±0.1, 41°.82N×80°.10E, h18km, mb2.7*
NNC ***26*** *07:18:19.6±1.5, 41°.81N×80°.07E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=10.4km s-min=6.5km az=136.0*
SOME ***26*** *07:18:22.2, 41°.88N×79°.98E, h10km*

ISC 26 07:18:20.3±2.4, 41°.84N±0°.07×80°.10E±0°.07, h2km±12km, n25, σ0°90/47, 15C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.42**	**298**	⇑*i*P	Pn	**07 18 45.4**	**-1.9**
	baz=99						
PRZ				⇑*i*S	Sb	**07 19 04.8**	**-1.4**
	baz=99						
UZB	**Uzynbulak**	**1.53**	**329**	*e*P	Pg	**07 18 50.4**	**+0.7**
	61nm,0.3s						
UZB				*e*S	Sg	**07 19 10.4**	**+0.9**
	104nm,0.3s						
PDGK	**Podgornoye**	**1.56**	**343**	⇑P	Pn	**07 18 48.1**	**-1.1**
	6.1nm,0.2s						
PDGK				⇑S	Sn	**07 19 09.9**	**-0.2**
	28nm,0.4s						
PDGK	**Podgornoye**	**1.56**	**343**	⇑*i*P	Pn	**07 18 48.0**	**-1.2**
	baz=43						
PDGK				⇑*i*S	Sn	**07 19 09.4**	**-0.7**
	baz=43						
KTMS	**Ketmen**	**1.62**	**7**	*e*P	Pb	**07 18 50.8**	**-0.3**
KTMS				*e*S	Sn	**07 19 11.5**	**-0.2**
TARG	**Taragay, Kyrgy**	**1.72**	**267**	⇓*i*P	Pn	**07 18 49.8**	**-1.9**
	baz=68						
TARG				⇓*i*S	Sb	**07 19 14.2**	**-0.9**
	baz=68						
SATY	**Saty**	**1.75**	**315**	*e*P	Pg	**07 18 53.7**	**-0.2**
	13nm,0.3s						
SATY				*e*S	Sg	**07 19 16.4**	**-0.1**
	28nm,0.2s						
KPKS	**Kokpek**	**1.93**	**328**	*e*P	Pb	**07 18 56.6**	**+0.2**
	0.2nm,0.1s						
KPKS				*e*S	Sb	**07 19 21.1**	**+0.1**
	165nm,0.5s						
KURS	**Kuram**	**2.18**	**320**	*e*P	Pb	**07 19 00.2**	**-0.3**
	2.6nm,0.4s						
KURS				*e*S	Sb	**07 19 27.6**	**-0.4**
	17nm,0.5s						
KDJ	**Kajisay**	**2.19**	**279**	⇓*i*P	Pn	**07 18 58.4**	**+0.4**
	baz=79						
KDJ				⇓*i*S	Sb	**07 19 27.4**	**-1.2**
	baz=79						
MNBS	**Baschi**	**2.56**	**332**	*e*P	Pb	**07 19 06.5**	**-0.6**
	5.1nm,0.2s						
MNBS				*e*S	Sb	**07 19 38.4**	**-0.8**
	64nm,0.3s						
MDOK	**Medeo**	**2.62**	**301**	Pg	Pb	**07 19 07.4**	**-0.6**
	6.0nm,0.4s						
MDOK				⇑Lg	Lg	07 19 42.0	
	12nm,0.6s						
MDOK	**Medeo**	**2.62**	**301**	*e*P	Pb	**07 19 07.0**	**-1.0**
	9.7nm,0.4s						
MDOK				*e*S	Sb	**07 19 39.3**	**-1.3**
	12nm,0.6s						
TNSS	**Tian-Shan**	**2.62**	**298**	*e*P	Pb	**07 19 08.1**	**-0.2**
	4.2nm,0.5s						
TNSS				*e*S	Sb	**07 19 41.1**	**0.0**
	19nm,0.7s						
IZV	**Izvestkoviy**	**2.84**	**296**	*e*P	Pb	**07 19 11.9**	**0.0**
	2.9nm,0.2s						
IZV				*e*S	Sb	**07 19 47.8**	**+0.6**
	39nm,0.7s						
ARXS	**Arharly**	**2.90**	**326**	*e*P	Pb	**07 19 12.8**	**0.0**
	5.4nm,0.6s						
ARXS				*e*S	Sb	**07 19 49.3**	**+0.5**
	34nm,0.4s						
ULHL	**Ulahol**	**2.90**	**279**	⇑*e*P	Pn	**07 19 08.1**	**+0.4**
	baz=80						
ULHL				⇑*i*S	Sn	**07 19 45.5**	**+2.2**
	baz=80						
CHKK	**Chushkaly**	**3.05**	**312**	*e*P	Pb	**07 19 15.7**	**+0.3**
	2.2nm,0.2s						
CHKK				*e*S	Sb	**07 19 53.8**	**+0.8**
	22nm,0.4s						
NRN	**Naryn**	**3.10**	**264**	⇓*i*P	Pn	**07 19 10.6**	**+0.1**
	baz=64						
NRN				⇓*i*S	Sn	**07 19 49.1**	**+0.8**
	baz=64						
KTBS	**Karatobe**	**3.13**	**308**	*e*P	Pb	**07 19 16.1**	**-0.7**
	1.5nm,0.2s						
KTBS				*e*S	Sb	**07 19 55.2**	**-0.4**
	17nm,0.3s						
BOOM	**Boomskoye usch**	**3.16**	**283**	⇓*e*P	Pn	**07 19 11.0**	**-0.3**
	baz=84						
BOOM				⇓*i*S	Sn	**07 19 50.2**	**+0.6**
	baz=84						
TKM2	**Tokmak 2**	**3.50**	**290**	⇓Pg	Pb	**07 19 24.2**	**+1.0**
	1.4nm,0.5s						
TKM2				⇓Lg	Lg	07 20 10.5	
	6.2nm,0.5s						
TKM2	**Tokmak 2**	**3.50**	**290**	⇑*i*P	Pn	**07 19 16.5**	**+0.4**
	baz=90						
TKM2				⇑*i*S	Sn	**07 19 59.7**	**+1.5**
	baz=90						
AAK	**Ala-Archa**	**4.24**	**283**	⇑Pg	Pb	**07 19 34.8**	**-0.9**

1.0nm,0.5s
AAK ⇑Lg Lg 07 20 35.8
2.6nm,0.6s
MK31 Makanchi Array 5.20 17 ⇑Pn **Pn 07 19 39.5 +0.3**
0.1nm,0.1s,baz=53,slow=82,SNR=4.1
MK31 ⇑Sn **Sn 07 20 41.2 +1.4**
0.9nm,0.5s,baz=280,slow=25,SNR=3.7
MK31 ⇓Lg Lg 07 21 04.9
0.4nm,0.3s,baz=194,slow=27,SNR=5.0

IDC 26 07:30:49.4±4.3, 7°21'S×155°65'E, h0km, mb3.8/7, mb1 3.8/7, mb1mx3.6/45, mbtmp3.8/7, Error ellipse: s-maj=134.8km s-min=27.4km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.23**	**236**	P	P	07 36 09.1	+0.8
	0.3nm,0.5s,baz=63,slow=9.6,SNR=8.4						
ASAR	**Alice Springs**	**26.52**	**230**	P	P	07 36 28.5	-0.5
	0.2nm,0.7s,baz=53,slow=8.3,SNR=3.0						
SONM	**Songino Array**	**69.86**	**327**	P	P	07 42 02.5	+0.3
	0.3nm,0.3s,baz=131,slow=7.9,SNR=5.4						
MKAR	**Makanchi Array**	**83.99**	**319**	P	P	07 43 22.4	+0.7
	1.6nm,0.8s,baz=98,slow=6.2,SNR=15						
ZALV	**Zalesovo Beam**	**84.71**	**326**	P	P	07 43 24.8	-0.4
	1.2nm,0.5s,baz=116,slow=6.8,SNR=5.4						
KURBB	**Kurchatov Arra**	**87.43**	**322**	P	P	07 43 38.5	-0.2
	0.4nm,0.6s,baz=112,slow=3.4,SNR=4.6						
BVAR	**Borovoye Array**	**92.85**	**323**	P	P	07 44 02.9	-1.1
	0.2nm,0.4s,baz=90,slow=7.2,SNR=2.9						

IDC 26 07:34:39.9±3.0, 54°19'N×87°31'E, h0km, mb1 2.8/2, mb1mx2.6/70, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.9km s-min=17.6km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**262**	*i*		07 45 16.8	
	baz=81,slow=341,SNR=4.5						
ZALV	**Zalesovo Beam**	**1.49**	**262**	Pg	Pn	07 35 06.0	-1.9
	1.8nm,0.3s,baz=81,slow=16,SNR=20						
ZALV				Lg	Lg	07 35 27.4	
	2.2nm,0.3s,baz=78,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	07 36 16.8	+0.7
	0.1nm,0.3s,baz=52,slow=13,SNR=5.1						
KURBB				Lg	Lg	07 38 03.8	
	0.0nm,0.3s,baz=58,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	07 36 39.7	+1.5
	0.1nm,0.3s,baz=27,slow=14,SNR=4.3						
MKAR				Lg	Lg	07 38 55.3	
	0.0nm,0.3s,baz=20,slow=26,SNR=5.0						

*DDA **26** 07:35:49.6, 39°.14N×29°.09E, h7km, Ml2.8*
*ISK **26** 07:35:49.3, 39°.08N×29°.15E, h5km, ML2.5/13*
*ISCJB **26** 07:35:50.1±0.4, 39°.10N±0°.03×29°.11E±0°.03, h6km±4km, Error ellipse: s-maj=5.0km s-min=3.7km az=157.0*
*CSEM **26** 07:35:50.1±0.1, 39°.10N×29°.12E, h6km±1km, ML2.5, Error ellipse: s-maj=2.8km s-min=2.6km az=145.0*

ISC 26 07:35:49.9±0.9, 39°10'N±0°02'×29°12'E±0°02, h10km±6km, n38, σ0s46/54, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.11**	**260**	P	**Pg**	**07 35 52.8**	**0.0**
SIMA				SG	**Sg**	**07 35 54.5**	**-0.3**
SIMA	**Simav-Kutahya**	**0.11**	**260**	*e*Pg	**Pg**	**07 35 52.8**	**0.0**
SIMA				*e*Sg	**Sg**	**07 35 54.5**	**-0.3**
GDZ	**Gediz**	**0.28**	**93**	*i* P	**Pg**	**07 35 56.0**	**+0.3**
GDZ				*i* S	**Sb**	**07 36 00.8**	**-1.2**
GDZ	**Gediz**	**0.28**	**93**	P	**Pg**	**07 35 56.0**	**+0.3**
GDZ				S	**Sb**	**07 36 00.8**	**-1.2**
DEMI	**Demirci**	**0.32**	**259**	*i* P	**Pg**	**07 35 56.2**	**-0.2**
DEMI				*i* S	**Sg**	**07 36 00.1**	**-0.6**
DEMI	**Demirci**	**0.32**	**259**	P	**Pg**	**07 35 56.2**	**-0.2**
DEMI				S	**Sg**	**07 36 00.1**	**-0.6**
TVSB	**Tavsanli**	**0.43**	**37**	PG	**Pg**	**07 35 58.0**	**-0.5**
TVSB				SG	**Sg**	**07 36 04.5**	**+0.2**
TVSB	**Tavsanli**	**0.43**	**37**	*e*Pg	**Pg**	**07 35 58.0**	**-0.5**
TVSB				*e*Sg	**Sg**	**07 36 04.5**	**+0.2**
DST	**Dursunbey**	**0.63**	**322**	PG	**Pb**	**07 36 02.8**	**-0.3**
DST	**Dursunbey**	**0.63**	**322**	*e*Pg	**Pb**	**07 36 02.8**	**-0.3**
KULA	**Kula-Manisa**	**0.69**	**212**	PG	**Pg**	**07 36 03.3**	**0.0**
KULA				SG	**Sg**	**07 36 12.3**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg	**Pg**	**07 36 03.3**	**0.0**
KULA				*e*Sg	**Sg**	**07 36 12.3**	**0.0**
KHAL	**Karahalli**	**0.79**	**158**	*i* P	**Pb**	**07 36 06.2**	**+0.4**
KHAL				*i* S	**Sb**	**07 36 17.0**	**+0.5**
KHAL	**Karahalli**	**0.79**	**158**	P	**Pb**	**07 36 06.2**	**+0.4**
KHAL				S	**Sb**	**07 36 17.0**	**+0.5**
ORLT	**Orhaneli**	**0.96**	**350**	PG	**Pb**	**07 36 09.0**	**+0.3**
ORLT	**Orhaneli**	**0.96**	**350**	*e*Pg	**Pb**	**07 36 09.0**	**+0.3**
AKHS	**Akhisar**	**1.04**	**258**	*i* P	**Pb**	**07 36 09.9**	**-0.2**
AKHS				*i* S	**Sg**	**07 36 23.2**	**-0.3**
AKHS	**Akhisar**	**1.04**	**258**	P	**Pb**	**07 36 09.9**	**-0.2**
AKHS				S	**Sg**	**07 36 23.2**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.12**	**285**	*i* P	**Pb**	**07 36 11.4**	**-0.1**
STEP				*i* S	**Sn**	**07 36 27.1**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.12**	**285**	P	**Pb**	**07 36 11.4**	**-0.1**
STEP				S	**Sn**	**07 36 27.1**	**-0.2**
CAVI	**Cavuskoy**	**1.23**	**27**	PN	**Pn**	**07 36 13.9**	**+0.7**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pn**	**07 36 13.9**	**+0.7**
SHUT	**Suhut-Afyon**	**1.24**	**116**	PN	**Pg**	**07 36 12.8**	**-1.0**
SHUT	**Suhut-Afyon**	**1.24**	**116**	*e*Pn	**Pg**	**07 36 12.8**	**-1.0**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	PN	**Pg**	**07 36 14.5**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*Pn	**Pg**	**07 36 14.5**	**0.0**
KCTX	**Karacabey (Bur**	**1.30**	**333**	PN	**Pg**	**07 36 15.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*Pn	**Pg**	**07 36 15.1**	**+0.1**
ADVT	**Abdulvahap**	**1.41**	**19**	PN	**Pb**	**07 36 16.3**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**19**	*e*Pn	**Pb**	**07 36 16.3**	**0.0**
ARMT	**Armutlu**	**1.48**	**352**	PN	**Pb**	**07 36 17.5**	**+0.1**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pb**	**07 36 17.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**220**	PN	**Pb**	**07 36 17.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**220**	*e*Pn	**Pb**	**07 36 17.9**	**-0.1**
EDC	**Edincik**	**1.58**	**322**	PN	**Pb**	**07 36 19.4**	**+0.2**
EDC	**Edincik**	**1.58**	**322**	*e*Pn	**Pb**	**07 36 19.4**	**+0.2**
GULT	**Gulveren**	**1.71**	**39**	PN	**Pn**	**07 36 20.6**	**+0.8**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**07 36 20.6**	**+0.8**

*IDC **26** 07:39:07.0±0.8, 0°.76N×126°.80E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/57, mbtmp4.0/10, ML3.5/1, Error ellipse: s-maj=42.0km s-min=14.6km az=77.0*
*ISCJB **26** 07:39:10.4±0.4, 0°.86N±0°.04×126°.93E±0°.05, h35km, mb4.0/12, Error ellipse: s-maj=6.9km s-min=4.7km az=156.6*
*DJA **26** 07:39:12.4±1.2, 1°.N±3°×12°.7E±°, h12km±9km, M4.3/4, mb4.5/1, MLv4.3/4*
*NEIC **26** 07:39:16.0±0.8, 0°.82N×127°.16E, h71km±8km, mb4.1/5, Error ellipse: s-maj=15.0km s-min=8.0km az=75.0*

ISC 26 07:39:12.8±0.6, 0°.73N±0°.05×126°.84E±0°.04, h35km, n38, σ2s58/44, mb4.1/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.53**	**85**	*e*Pn	**Pn**	**07 39 25.6**	**+1.8**
TNTI				*e*Sn	**Sn**	**07 39 34.6**	**+3.1**
LBMI	**Labuha**	**1.51**	**154**	P	**Pn**	**07 39 39.1**	**+1.8**
LBMI				S	**Sn**	**07 39 58.6**	**+2.8**
KMSI	**Cibinong**	**2.87**	**267**	P	**Pn**	**07 39 57.2**	**+1.2**
KMSI				S	**Sn**	**07 40 30.8**	**+1.5**
SANI	**Sanana**	**2.89**	**197**	P	**Pn**	**07 39 55.8**	**-0.5**
SANI				S	**Sn**	**07 40 27.6**	**-2.3**
SGSI	**Sangihe**	**3.22**	**336**	P	**Pn**	**07 40 03.2**	**+2.3**
NLAI	**Namlea**	**3.95**	**176**	P	**Pn**	**07 40 12.2**	**+1.3**
LUWI	**Luwuk**	**4.43**	**247**	P	**Pn**	**07 40 19.0**	**+1.4**
LUWI	**Luwuk**	**4.43**	**247**	*e*Pn	Pn	07 40 25.2	+7.6
LUWI				*e*Sn	**Sn**	**07 41 16.2**	**+8.2**
APSI	**Ampana**	**5.44**	**253**	P	**Pn**	**07 40 33.6**	**+2.1**
KDI	**Kendari**	**6.28**	**222**	P	**Pn**	**07 40 43.4**	**+0.4**
FAKI	**Fak Fak**	**6.50**	**124**	P	**Pn**	**07 40 50.3**	**+4.2**
FAKI	**Fak Fak**	**6.50**	**124**	*e*Pn	Pn	07 40 51.1	+4.9
MYLDM	**Lahad Datu**	**9.43**	**298**	*e*Pn	Pn	07 41 33.4	+7.1
MYLDM				*e*Sn	**Sn**	**07 43 13.9**	**+2.7**
SOEI	**Soe**	**10.72**	**194**	*e*Pn	Pn	07 41 52.1	+8.0
SOEI				*e*Sn	**Sn**	**07 43 50.6**	**+7.5**
FITZ	**Fitzroy Crossi**	**18.74**	**184**	P	**P**	**07 43 28.6**	**-0.2**

0.1nm,0.3s,baz=5.9,slow=7.1,SNR=5.2
WRAB Tennant Creek 21.81 161 *e*P **P 07 44 01.1 -1.0**
9.2nm,1.1s
WR1 Warramunga Arr 21.82 161 *e*P **P 07 44 01.7 -0.4**
10nm,1.3s
WR1 *e*S **S 07 47 56.4 -5.2**
WRA Warramunga Arr 21.82 161 P **P 07 44 01.7 -0.4**
3.0nm,0.5s,baz=340,slow=11,SNR=69
WRA S **S 07 47 56.4 -5.2**
1.7nm,1.0s,baz=331,slow=21,SNR=5.8
AS31 Alice Springs 25.20 165 *e*P **P 07 44 37.1 +1.7**
2.2nm,0.4s
ASAR Alice Springs 25.20 165 P **P 07 44 35.0 -0.4**
3.8nm,0.4s,baz=346,slow=12,SNR=78
ASAR S **S 07 48 57.5 -1.1**
0.2nm,0.3s,baz=350,slow=20,SNR=4.7
AS01 Alice Springs 25.21 165 *e*P **P 07 44 36.6 +1.1**
STKA Stephens Creek 35.31 158 P **P 07 46 03.5 -1.2**
1.5nm,0.9s,baz=318,slow=8.5,SNR=3.8
STKA Stephens Creek 35.31 158 *e*P **P 07 46 03.9 -0.8**
0.3nm,1.0s
MAJO Matsushiro 37.16 15 *e*P **P 07 46 18.6 -1.8**
MJAR Matsushiro Arr 37.16 15 P **P 07 46 18.6 -1.8**
0.7nm,0.3s,baz=176,slow=8.5,SNR=3.7
KLR Kul'dur 48.50 4 P **P 07 47 51.3 -0.9**
0.0nm,0.3s,baz=161,slow=1.2,SNR=3.7
SONA0 Songino Array 50.17 342 *e*P **P 07 48 04.0 -1.0**
SONM Songino Array 50.17 342 P **P 07 48 04.0 -1.0**
0.4nm,0.4s,baz=141,slow=9.6,SNR=4.0
PETK Petropavlovsk- 58.16 21 P **P 07 49 03.3 +0.2**
1.3nm,0.5s,baz=150,slow=2.8,SNR=7.5
PEA1 Petropavlovsk- 58.16 21 *e*P **P 07 49 03.3 +0.2**
MK01 Makanchi Array 60.06 326 *e*P **P 07 49 15.8 -0.7**
MK31 Makanchi Array 60.08 326 *e*P **P 07 49 15.9 -0.7**
MK32 Makanchi Array 60.08 326 *e*P **P 07 49 15.8 -0.8**
MKAR Makanchi Array 60.08 326 P **P 07 49 15.8 -0.8**
0.6nm,0.3s,baz=124,slow=8.3,SNR=16
MKAR Makanchi Array 60.08 326 *e*P **P 07 49 16.0 -0.6**
10nm,1.2s
KURBB **Kurchatov Arra 64.32 328** P **P 07 49 43.6 -1.2**
1.2nm,0.6s,baz=127,slow=6.4,SNR=6.7
KURK Kurchatov 64.33 328 *e*P **P 07 49 43.6 -1.2**
BVAR Borovoye Array 69.89 328 P **P 07 50 19.5 -0.7**
1.1nm,0.8s,baz=125,slow=7.6,SNR=6.0

SJA 26 07:41:50.2±0.6, 30°.87S×71°.81W, h40km±9km, ML2.8, MW3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AROD	**Rodeo**	**2.13**	**71**	*i* P	Pn	07 42 25.7	+2.1
AROD				*i* S	Sn	07 42 52.0	+3.0
ROC1	**El Roble**	**2.21**	**162**	*i* P	Pn	07 42 26.5	+1.9
ROC1				*i* S	Sn	07 42 53.0	+2.2
RTLS	**Leoncito**	**2.34**	**114**	*i* P	Pn	07 42 28.8	+2.3
RTLS				*i* S	Sn	07 42 57.3	+3.2
RTLS				IAML		07 43 01.0	
	comp=Z,42nm,0.3s						
AUSP	**Uspallata**	**2.47**	**124**	*i* P	Pn	07 42 30.3	+2.1
AUSP				*i* S	Sn	07 43 00.9	+3.6
AMOG	**MOGNA**	**2.85**	**92**	*i* P	Pn	07 42 35.5	+2.3
ASAL	**Salagasta**	**3.06**	**125**	*i* P	Pn	07 42 38.8	+2.6
ARCO	**CERRO ARCO**	**3.14**	**130**	*i* P	Pn	07 42 39.6	+2.3
ARCO				IAML		07 43 29.8	
	comp=Z,30nm,0.7s						
AGUA	**GUANDACOL**	**3.18**	**65**	*i* P	Pn	07 42 40.5	+2.7

*ISK **26** 07:52:20.2, 39°.34N×44°.54E, h5km, ML2.7/2*
*DDA **26** 07:52:21.1, 39°.33N×44°.58E, h8km, Ml3.2*
*CSEM **26** 07:52:22.9±0.6, 39°.38N×44°.45E, h2km, ML2.7, Error ellipse: s-maj=12.1km s-min=6.8km az=117.0*

ISC 26 07:52:21.5±1.3, 39°.35N±0°.03×44°.54E±0°.05, h4km±11km, n20, σ1s10/39, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.53**	**247**	PG	**Pg**	**07 52 31.3**	**-0.3**
CLDR				SG	**Sb**	**07 52 39.5**	**-1.9**
CLDR	**Caldiran**	**0.53**	**247**	*i* P	**Pg**	**07 52 31.3**	**-0.3**
CLDR				*i* S	**Sb**	**07 52 39.6**	**-1.9**
CLDR	**Caldiran**	**0.53**	**247**	P	**Pg**	**07 52 31.3**	**-0.3**
CLDR				*e*Sg	**Sb**	**07 52 39.5**	**-1.9**
IGDI	**IGDIR**	**0.63**	**326**	*i* P	**Pg**	**07 52 33.2**	**-0.4**
IGDI				*i* S	**Sg**	**07 52 42.0**	**+0.2**
TASB	**TASBURUN-IGDIR**	**0.67**	**340**	PG	**Pg**	**07 52 34.4**	**-0.1**
TASB				SG	**Sb**	**07 52 44.6**	**-1.0**
TASB	**TASBURUN-IGDIR**	**0.67**	**340**	*e*Pg	**Pg**	**07 52 34.4**	**-0.1**
TASB				*e*Sg	**Sb**	**07 52 44.6**	**-1.0**
DYDN	**Diyadin**	**0.69**	**287**	*i* P	**Pb**	**07 52 35.5**	**-0.6**
DYDN				*i* S	**Sb**	**07 52 46.2**	**+0.2**
DYDN	**Diyadin**	**0.69**	**287**	P	**Pb**	**07 52 35.5**	**-0.6**
DYDN				S	**Sb**	**07 52 46.2**	**+0.2**
VMUR	**Van-Muradiye**	**0.83**	**245**	*i* P	**Pb**	**07 52 37.9**	**-0.7**
VMUR				*i* S	**Sb**	**07 52 50.0**	**-0.2**
VMUR	**Van-Muradiye**	**0.83**	**245**	P	**Pb**	**07 52 37.9**	**-0.7**
VMUR				S	**Sb**	**07 52 50.0**	**-0.2**
AGRB	**Hanur-Agry**	**1.22**	**281**	PN	**Pg**	**07 52 44.4**	**-0.5**
AGRB				SN	**Sn**	**07 53 02.2**	**-0.3**
AGRB	**Hanur-Agry**	**1.22**	**281**	*e*Pn	**Pg**	**07 52 44.4**	**-0.5**
AGRB				*e*Sn	**Sn**	**07 53 02.2**	**-0.3**
TUTA	**Tutak**	**1.34**	**273**	*i* P	**Pb**	**07 52 47.3**	**+0.1**
TUTA				*i* S	**Sn**	**07 53 06.0**	**+0.5**
TUTA	**Tutak**	**1.34**	**273**	P	**Pb**	**07 52 47.3**	**+0.1**
TUTA				S	**Sn**	**07 53 06.0**	**+0.5**
DIGO	**Kars**	**1.39**	**320**	*i* P	**Pg**	**07 52 48.2**	**0.0**
DIGO				*i* S	**Sn**	**07 53 09.1**	**+2.3**
DIGO	**Kars**	**1.39**	**320**	P	**Pg**	**07 52 48.2**	**0.0**
DIGO				S	**Sn**	**07 53 09.1**	**+2.3**
HAKT	**HAKKARI**	**1.90**	**200**	*i* P	**Pg**	**07 52 57.4**	**-0.6**
HAKT				*i* S	**Sg**	**07 53 26.4**	**+3.7**
HAKT	**HAKKARI**	**1.90**	**200**	P	**Pg**	**07 52 57.4**	**-0.6**
DGRG	**David-gareji**	**2.19**	**17**	P	**Pb**	**07 53 00.9**	**-0.8**
DGRG				S	**Sg**	**07 53 32.2**	**+0.2**
DGRG	**David-gareji**	**2.19**	**17**	P	**Pb**	**07 53 01.3**	**-0.4**
DGRG				S	**Sg**	**07 53 32.4**	**+0.4**

*IDC **26** 08:01:30.3±5.5, 19°.42S×169°.12E, h70km±50km, mb3.5/5, mb1 3.7/6, mb1mx3.4/42, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=72.9km s-min=34.7km az=145.0*
*ISCJB **26** 08:01:32.2±2.1, 19°.6S±0°.3×169°.1E±0°.4, h104km, mb3.6/5, Error ellipse: s-maj=67.4km s-min=12.6km az=36.1*

ISC 26 08:01:33.5±1.9, 19°.7S±0°.3×169°.2E±0°.4, h104km, n8, σ1s28/10, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.50**	**226**	P	**Pn**	**08 02 25.8**	**-0.3**
	6.5nm,0.3s,baz=71,slow=11,SNR=96						
DZM				S	**Sn**	**08 03 05.9**	**-0.9**
	20nm,0.3s,baz=111,slow=22,SNR=15						
STKA	**Stephens Creek**	**27.56**	**238**	P	**P**	**08 07 12.7**	**+1.8**
	1.3nm,0.9s,baz=112,slow=16,SNR=3.3						
WRA	**Warramunga Arr**	**32.72**	**263**	P	**P**	**08 07 55.1**	**-1.4**
	0.4nm,0.8s,baz=82,slow=6.4,SNR=7.2						
WRA				PcP	**PcP**	**08 10 41.1**	**+1.2**
	0.3nm,0.9s,baz=91,slow=4.0,SNR=4.5						
ASAR	**Alice Springs**	**32.95**	**257**	P	**P**	**08 07 58.9**	**+0.3**
	2.8nm,0.6s,baz=83,slow=8.8,SNR=46						
SONM	**Songino Array**	**87.50**	**323**	P	**P**	**08 14 10.5**	**+0.8**
	0.3nm,0.3s,baz=117,slow=5.0,SNR=3.9						
ILAR	**Eielson Array**	**90.65**	**17**	P	**P**	**08 14 22.2**	**-1.6**
	0.4nm,0.9s,baz=237,slow=5.2,SNR=4.8						
ARCES	**ARCESS Array B**	**125.44**	**345**	PKP	**PKPdf**	**08 20 21.5**	**-0.2**
	2.3nm,0.9s,baz=46,slow=3.5,SNR=6.0						
GERES	**GERESS Array B**	**144.81**	**332**	PKP	**PKPab**	**08 20 58.0**	**+0.5**
	0.2nm,0.3s,baz=31,slow=3.1,SNR=6.1						

IDC 26 08:09:32.4±14.0, 17°.39S×167°.20E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/46, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=239.3km s-min=39.1km az=69.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.71**	**189**	Pn	Pn	08 10 44.5	-0.3
	5.5nm,0.3s,baz=94,slow=12,SNR=37						
DZM				Sn	Sn	08 11 38.4	-1.9
	2.0nm,0.3s,baz=139,slow=23,SNR=6.4						
STKA	**Stephens Creek**	**27.29**	**233**	P	P	08 15 20.0	+1.2
	3.2nm,0.8s,baz=74,slow=7.4,SNR=8.4						
WRA	**Warramunga Arr**	**31.21**	**260**	P	P	08 15 53.0	-0.7
	0.5nm,0.8s,baz=90,slow=8.7,SNR=4.7						
ASAR	**Alice Springs**	**31.75**	**253**	P	P	08 15 58.2	-0.3
	1.2nm,0.8s,baz=80,slow=8.6,SNR=12						

*SJA **26** 08:11:53.9±0.5, 34°.72S×72°.36W, h40km±999km, ML3.1, MW4.2*
*ISCJB **26** 08:11:59.9±1.0, 35°.14S±0°.04×72°.54W±0°.09, h23km±7km, mb3.8/6, MS3.1/1, Error ellipse: s-maj=12.3km s-min=5.6km az=19.3*
*GUC **26** 08:12:01.4±0.7, 35°.13S×72°.48W, h13km±6km, ML4.1*
*NEIC **26** 08:12:01.0±0.0, 35°.12S×72°.48W, h13km, ML4.1(GUC), After GUC.*
NEIC Felt [IV] at Constitucion, [III] at Talca and [II] at Cauquenes, Linares, San Javier and Villa Alegre.
*IDC **26** 08:12:04.8±3.5, 35°.20S×72°.28W, h54km±32km, mb3.7/6, mb1 3.8/9, mb1mx3.6/31, mbtmp3.9/9, ML3.9/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/32, Error ellipse: s-maj=38.0km s-min=22.4km az=77.0*

ISC 26 08:11:58.9±2.2, 35°10S±0°04'×72°40W±0°07', h8km±14km, n22, σ1s02/26, mb3.9/6, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.78**	**25**	*e*P	**Pn**	**08 12 15.7**	**-0.5**
CHPI				*i* S	**Sn**	**08 12 27.0**	**-1.0**
NICH	**Los Niches**	**0.97**	**84**	⇓*i* P	**Pn**	**08 12 19.5**	**+0.8**
NICH				*i* S	**Sn**	**08 12 32.4**	**-0.3**
COCH	**Cobquecura**	**1.07**	**197**	*i* P	**Pb**	**08 12 19.2**	**-0.4**
COCH				*i* S	**Sn**	**08 12 37.4**	**+2.2**
COCH	**Cobquecura**	**1.07**	**197**	⇑*i* P	**Pb**	**08 12 18.8**	**-0.9**
COCH				*i* S	**Sb**	**08 12 32.5**	**-1.3**
CCHI	**Chillan**	**1.52**	**170**	*i* P	**Pn**	**08 12 25.5**	**-0.8**
CCHI				*i* S	**Sg**	**08 12 48.5**	**+0.8**
CCHI	**Chillan**	**1.52**	**170**	*e*P	**Pb**	**08 12 26.8**	**-0.5**
CCHI				*i* S	**Sb**	**08 12 46.0**	**-0.7**
CCHI				IAML		08 12 47.8	
	comp=E,4μm,0.4s						
LMEL	**Las Melosas**	**2.21**	**56**	⇑*i* P	**Pb**	**08 12 39.4**	**+0.3**
LMEL				*i* S	**Sg**	**08 13 09.5**	**-0.3**
LMEL				IAML		08 13 12.9	
	comp=N,1μm,0.6s						
CLCH	**Cerro Calan**	**2.30**	**43**	*e*P	**Pb**	**08 12 39.8**	**-0.8**
CLCH				*i* S	**Sb**	**08 13 10.1**	**+0.8**
CLCH				IAML		08 13 22.0	
	comp=N,1μm,0.5s						
ROC1	**El Roble**	**2.41**	**29**	*i* P	Pn	08 12 28.1	-11
ROCH	**El Roble**	**2.42**	**29**	IAML		08 13 21.2	
	comp=N,927nm,0.6s						
FCH	**Farellones**	**2.49**	**45**	IAML		08 13 20.4	
	comp=N,916nm,0.2s						
CANA	**Caviahue**	**2.98**	**159**	*i* P	**Pn**	**08 12 46.2**	**-0.4**
CANA				IAML		08 13 00.4	
	comp=Z,48nm,0.5s						
PLCA	**Paso Flores**	**5.81**	**166**	P	**Pn**	**08 13 26.9**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=2.6,slow=11,SNR=63						
PLCA				Lg	Lg	08 14 56.0	
	comp=Z,0.8nm,0.3s,baz=272,slow=20,SNR=4.9						
PLCA				LR	LR	08 15 44.2	
	comp=Z,90nm,18.1s,baz=348,slow=38						
CPUP	**Villa Florida**	**15.62**	**60**	P	**P**	**08 15 42.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=259,slow=16,SNR=2.2						
CPUP				LR	LR	08 22 28.7	
	comp=Z,89nm,18.7s,baz=244,slow=40						
LPAZ	**La Paz**	**19.12**	**13**	P	**Pn**	**08 16 25.7**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=167,slow=4.7,SNR=8.4						
SIV	**San Ignacio**	**21.57**	**31**	P	**P**	**08 16 49.1**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=208,slow=8.2,SNR=35						
ATAH	**Atahualpa**	**28.38**	**347**	LR	LR	08 26 28.1	
	comp=Z,49nm,20.0s,baz=324,slow=30						
SDV	**Santo Domingo**	**43.78**	**3**	P	**P**	**08 20 05.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=168,slow=14,SNR=3.6						
TXAR	**Lajitas Array**	**70.55**	**331**	P	**P**	**08 23 15.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=157,slow=9.2,SNR=8.3						
BOSA	**Boshof**	**79.82**	**118**	P	**P**	**08 24 06.9**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=240,slow=3.7,SNR=6.5						
KOWA	**Kowa**	**81.37**	**66**	P	**P**	**08 24 16.1**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=259,slow=6.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**84.87**	**70**	P	**P**	**08 24 34.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=249,slow=6.0,SNR=4.1						

*ISCJB **26** 08:29:37.6±0.5, 51°.61N±0°.08×95°.87E±0°.06, h10km, mb3.8/5, Error ellipse: s-maj=11.3km s-min=5.4km az=9.7*
*MOS **26** 08:29:37.5±1.0, 51°.57N×95°.90E, h12km, mb3.9/4, Error ellipse: s-maj=21.3km s-min=13.3km az=173.6*
*IDC **26** 08:29:38.3±0.8, 51°.63N×96°.00E, h0km, mb3.7/4, mb1 3.4/8, mb1mx3.2/71, mbtmp3.3/8, ML2.6/4, Error ellipse: s-maj=25.7km s-min=10.6km az=1.0*

ISC 26 08:29:39.1±0.7, 51°57N±0°10'×95°88E±0°05, h10km, n23, σ1s67/23, mb3.7/5, 1D, Southwestern Siberia

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comp=Z,0.4nm,0.7s,baz=45,slow=6.1,SNR=3.2

IDC 26 08:42:30.1±26.0, 22°43'S×173°05'W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/44, mbtmp3.9/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/48, Error ellipse: s-maj=491.6km s-min=142.3km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**28.94**	**292**	LR	LR	09 00 31.4	
	comp=Z,41nm,18.4s,baz=312,slow=37						
CTA	**Charters Tower**	**37.92**	**266**	P	P	08 49 50.2	+0.7
	2.1nm,0.3s,baz=98,slow=9.1,SNR=4.5						
STKA	**Stephens Creek**	**41.19**	**247**	P	P	08 50 15.2	-1.5
	0.6nm,0.6s,baz=112,slow=16,SNR=2.6						
ASAR	**Alice Springs**	**48.59**	**258**	P	P	08 51 15.7	-0.1
	0.2nm,0.3s,baz=95,slow=7.4,SNR=9.7						
WRA	**Warramunga Arr**	**48.92**	**263**	P	P	08 51 18.6	+0.3
	0.7nm,0.3s,baz=99,slow=8.2,SNR=66						

*IDC **26** 08:44:09.4±1.6, 38°29N×143°32E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/74, mbtmp3.5/8, ML3.0/2, MS2.3/1, Ms1 2.3/1, ms1mx2.0/53, Error ellipse: s-maj=45.4km s-min=20.6km az=76.0*

*ISCJB **26** 08:44:10.1±0.7, 38°33N±0°05×143°29E±0°06, h15km, mb3.5/6, Error ellipse: s-maj=6.6km s-min=6.4km az=147.8*

*JMA **26** 08:44:10.6±0.2, 38°39N×143°24E, h13km±4km, M3.6*

ISC 26 08:44:12.2±1.2, 38°35N±0°06×143°20E±0°09, h15km, n27, σ0s79/31, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.40**	**302**	P	Pn	08 44 36.0	-1.2
OFUJ				S	Sn	08 44 54.6	-0.8
JIO	**Ouri**	**1.46**	**275**	P	Pn	08 44 37.0	-0.9
JIO				S	Sn	08 44 55.4	-1.4
MIYJ	**Miyakonagasawa**	**1.63**	**319**	P	Pn	08 44 39.0	-1.3
MIYJ				eS	Sn	08 45 00.5	-0.5
JMK	**Ichinoseki**	**1.66**	**292**	P	Pn	08 44 40.2	-0.6
JMK				eS	Sn	08 45 02.2	+0.4
JOM	**Ohasama**	**1.86**	**308**	P	Pn	08 44 42.8	-0.7
JOM				eS	Sn	08 45 07.1	+0.3
JMM	**Marumori**	**1.96**	**256**	P	Pn	08 44 44.2	-0.6
JMM				eS	Sn	08 45 08.8	-0.4
JOU	**Okura**	**2.00**	**271**	P	Pn	08 44 45.3	0.0
JOU				eS	Sn	08 45 10.6	+0.5
JFK	**Kawauchi**	**2.09**	**243**	P	Pn	08 44 45.8	-0.8
JFK				eS	Sn	08 45 11.9	-0.5
JRG	**Rokugo**	**2.26**	**298**	P	Pn	08 44 49.0	0.0
JYK	**Kaneyama**	**2.30**	**285**	P	Pn	08 44 49.7	+0.2
JYK				eS	Sn	08 45 18.0	+0.5
JANG	**Nango**	**2.41**	**328**	P	Pn	08 44 52.2	+1.2
JFT	**Otama**	**2.41**	**251**	P	Pn	08 44 52.0	+0.9
JFT				eS	Sn	08 45 21.5	+1.1
JYS	**Shirataka**	**2.47**	**268**	P	Pn	08 44 52.2	+0.3
MJAR	**Matsushiro Arr**	**4.36**	**247**	Pn	Pn	08 45 17.9	0.0
	1.1nm,0.3s,baz=52,slow=9.6,SNR=10						
MJAR				LR	LR	08 47 03.1	
	comp=Z,36nm,21.1s,baz=285,slow=39						
ASAJ	**Asahikawa**	**5.78**	**356**	Pn	Pn	08 45 37.0	-0.3
	0.3nm,0.3s,baz=183,slow=18,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**27.68**	**125**	T	T	09 18 54.1	
	baz=318,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**27.69**	**125**	T	T	09 18 57.8	
	baz=318,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**27.70**	**125**	T	T	09 18 59.8	
	baz=318,slow=76,SNR=24						
SONM	**Songino Array**	**28.27**	**302**	P	P	08 50 05.1	+0.3
	0.3nm,0.6s,baz=96,slow=7.8,SNR=2.2						
H11S1	**WAKE ISLAND Hy**	**28.46**	**127**	T	T	09 19 51.5	
	baz=319,slow=76,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**28.46**	**127**	T	T	09 19 54.5	
	baz=319,slow=76,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**28.47**	**127**	T	T	09 19 50.1	
	baz=319,slow=76,SNR=7.8						
MKAR	**Makanchi Array**	**44.63**	**301**	P	P	08 52 24.9	+0.9
	0.1nm,0.4s,baz=89,slow=9.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**46.32**	**307**	P	P	08 52 36.7	-0.5
	0.9nm,0.7s,baz=77,slow=7.1,SNR=6.5						
WRA	**Warramunga Arr**	**58.58**	**190**	P	P	08 54 07.0	-1.4
	0.4nm,0.5s,baz=7.6,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**62.30**	**190**	P	P	08 54 33.6	-0.1
	0.1nm,0.5s,baz=11,slow=6.9,SNR=4.5						
FINES	**FINESS Array B**	**68.31**	**333**	P	P	08 55 13.0	+0.8
	0.9nm,0.4s,baz=18,slow=5.0,SNR=5.0						

IDC 26 08:51:12.4±1.9, 17°28S×167°39E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/44, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=53.7km s-min=31.4km az=127.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.85**	**190**	Pn	Pn	08 52 26.9	0.0
	7.6nm,0.3s,baz=308,slow=9.2,SNR=48						
DZM				Sn	Sn	08 53 19.7	-4.2
	3.8nm,0.3s,baz=302,slow=23,SNR=7.7						
STKA	**Stephens Creek**	**27.50**	**233**	P	P	08 57 00.3	-0.4
	2.1nm,0.9s,baz=46,slow=6.4,SNR=5.0						
WRA	**Warramunga Arr**	**31.41**	**260**	P	P	08 57 35.5	-0.1
	0.4nm,0.7s,baz=82,slow=6.9,SNR=7.7						
ASAR	**Alice Springs**	**31.95**	**253**	P	P	08 57 40.6	+0.3
	1.5nm,0.6s,baz=78,slow=8.6,SNR=25						
ILAR	**Eielson Array**	**88.90**	**18**	P	P	09 04 08.3	0.0
	0.3nm,0.8s,baz=235,slow=4.2,SNR=5.9						

KRSC 26 09:01:18.8±0.5, 55°59N×161°96E, h80km±11km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.78**	**38**	eP	Pn	09 01 36.8	+1.5
KBTR				eS	Sn	09 01 50.1	+2.5
LGNR	**Loginova**	**0.87**	**305**	eP	Pn	09 01 37.9	+1.3
LGNR				eS	Sn	09 01 51.1	+1.2
BZMR	**Bezymyannaya**	**0.90**	**293**	eP	Pn	09 01 37.5	+0.7
BZWR	**Bezymyannyi-We**	**0.91**	**295**	eP	Pn	09 01 37.9	+1.0
KMNR	**Kamenistaya**	**0.99**	**280**	eP	Pn	09 01 39.0	+1.2
KMNR				eS	Sn	09 01 53.3	+1.3
KRSR	**Krestovskiy**	**1.00**	**309**	eP	Pn	09 01 38.9	+0.9
SMKR	**Semkarok**	**1.03**	**345**	eP	Pn	09 01 40.1	+1.9
SMKR				eS	Sn	09 01 55.0	+2.2
KLY	**Klyuchi**	**1.03**	**315**	eP	Pn	09 01 38.3	+0.1
KLY				eS	Sn	09 01 51.3	-1.4
KPT	**Kopyto**	**1.05**	**291**	eS	Sn	09 01 53.8	+0.5
BDR	**Baidarnaya**	**1.06**	**337**	eP	Pn	09 01 40.5	+1.8
KZV	**Kizimen**	**1.07**	**244**	eP	Pn	09 01 39.6	+0.8
TUMR	**Tumrok**	**1.08**	**254**	eP	Pn	09 01 40.3	+1.4
TUMR				eS	Sn	09 01 55.1	+1.1
SRKR	**Sorokina**	**1.15**	**338**	eP	Pn	09 01 41.7	+2.0
SRKR				eS	Sn	09 01 57.4	+1.9
KOZ	**Kozyrevsk**	**1.27**	**292**	eP	Pn	09 01 42.8	+1.7
KOZ				eS	Sn	09 01 59.7	+1.8
ESO	**Esso**	**1.87**	**282**	eP	Pn	09 01 51.2	+2.2
KII	**Karymskiy**	**2.13**	**224**	eP	Pn	09 01 54.5	+2.0
KII				eS	Sn	09 02 20.6	+2.4
BKI	**Bering**	**2.32**	**98**	eP	Pn	09 01 56.3	+1.4
BKI				eS	Sn	09 02 24.0	+1.5
SPN	**Mys Shipunski**	**2.75**	**205**	eP	Pn	09 02 01.7	+1.1
SPN				eS	Sn	09 02 33.3	+0.5
NLC	**Nalytchevo**	**2.87**	**213**	eP	Pn	09 02 04.7	+2.4
NLC				eS	Sn	09 02 38.5	+2.7
SDLR	**Sedlovina**	**2.94**	**219**	eP	Pn	09 02 05.6	+2.3
SDLR				eS	Sn	09 02 39.8	+2.2
KRX	**Arik**	**2.96**	**222**	eP	Pn	09 02 06.9	+3.2
SMAR	**Somma**	**2.98**	**220**	eP	Pn	09 02 06.5	+2.5
SMAR				eS	Sn	09 02 41.2	+2.4
AVH	**Avacha**	**3.00**	**220**	eP	Pn	09 02 07.0	+2.9
GNL	**Ganaly**	**3.01**	**232**	eP	Pn	09 02 06.9	+2.5
UGLR	**Uglovaya**	**3.01**	**219**	eP	Pn	09 02 07.0	+2.6
UGLR				eS	Sn	09 02 42.0	+2.5
KOK	**Koryaka**	**3.02**	**221**	eP	Pn	09 02 07.4	+3.0
DALK	**Dalny**	**3.18**	**218**	eP	Pn	09 02 08.8	+2.3
DALK				eS	Sn	09 02 45.5	+2.1
PET	**Petropavlovsk**	**3.22**	**218**	eP	Pn	09 02 09.8	+2.7
PET				eS	Sn	09 02 46.8	+2.4
KRMR	**Karymshinskiy**	**3.57**	**221**	eP	Pn	09 02 14.9	+3.1
KRMR				eS	Sn	09 02 56.2	+3.5
OSSR	**Ossora**	**3.71**	**9**	eP	Pn	09 02 16.2	+2.5
OSSR				eS	Sn	09 02 58.0	+1.8
RUS	**Russkaya**	**3.76**	**214**	eP	Pn	09 02 16.5	+2.1
RUS				eS	Sn	09 03 00.3	+2.8
MTVR	**Mutnovka**	**3.83**	**217**	eP	Pn	09 02 17.9	+2.4
ASAK	**Asacha**	**4.01**	**218**	eP	Pn	09 02 21.3	+3.4
KDTR	**Khodutka, Kamc**	**4.44**	**213**	eP	Pn	09 02 27.4	+3.8
KDTR				eS	Sn	09 03 16.4	+2.4

*ISCJB **26** 09:03:13.5±0.5, 37°21N±0°04×28°19E±0°04, h0km, Error ellipse: s-maj=6.1km s-min=2.9km az=35.7*

*CSEM **26** 09:03:13.7±0.2, 37°20N×28°19E, h1km, ML2.4, Error ellipse: s-maj=5.2km s-min=2.6km az=34.0, Suspected Mining explosion.*

*ISK **26** 09:03:13.1, 37°21N×28°17E, h12km, ML2.4/4, Suspected Mining explosion.*

*DDA **26** 09:03:13.9, 37°22N×28°19E, h7km, Ml2.6, Suspected Mining explosion.*

ISC 26 09:03:13.4±0.8, 37°20N±0°03×28°16E±0°02, h0km, n34, σ0s80/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.11**	**122**	PG	**Pg**	**09 03 16.1**	**+0.5**
YER				SG	**Sg**	**09 03 18.9**	**+1.8**
YER	**Yerkesik**	**0.11**	**122**	*e*Pg	**Pg**	**09 03 16.1**	**+0.5**
YER				*e*Sg	**Sg**	**09 03 18.9**	**+1.8**
MLSB	**Milas**	**0.32**	**288**	PG	**Pg**	**09 03 20.1**	**+0.5**
MLSB				SG	**Sg**	**09 03 25.2**	**+1.4**
MLSB	**Milas**	**0.32**	**288**	*e*Pg	**Pg**	**09 03 20.1**	**+0.5**
MLSB				*e*Sg	**Sg**	**09 03 25.2**	**+1.4**
TURN	**Turunc**	**0.48**	**132**	PG	**Pg**	**09 03 22.0**	**-0.6**
TURN				SG	**Sg**	**09 03 28.7**	**-0.1**
TURN	**Turunc**	**0.48**	**132**	*i* P	**Pg**	**09 03 22.3**	**-0.3**
TURN				*i* S	**Sg**	**09 03 30.1**	**+1.4**
TURN	**Turunc**	**0.48**	**132**	*e*Pg	**Pg**	**09 03 22.0**	**-0.6**
TURN	**Turunc**	**0.48**	**132**	P	**Pg**	**09 03 22.3**	**-0.3**
TURN				*e*Sg	**Sg**	**09 03 28.7**	**-0.1**
TURN				S	**Sg**	**09 03 30.1**	**+1.4**
AYDN	**Tasoluk**	**0.52**	**334**	*i* P	**Pg**	**09 03 23.6**	**+0.3**
AYDN				*i* S	**Sg**	**09 03 30.9**	**+0.9**
AYDN	**Tasoluk**	**0.52**	**334**	P	**Pg**	**09 03 23.6**	**+0.3**
AYDN				S	**Sg**	**09 03 30.9**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.55**	**134**	PG	**Pg**	**09 03 24.3**	**+0.4**
DALY				SG	**Sg**	**09 03 32.4**	**+1.5**
DALY	**Dalyan (Mu¨la**	**0.55**	**134**	*i* P	**Pg**	**09 03 24.6**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.55**	**134**	*e*Pg	**Pg**	**09 03 24.3**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.55**	**134**	P	**Pg**	**09 03 24.6**	**+0.8**
DALY				*e*Sg	**Sg**	**09 03 32.4**	**+1.5**
BDRM	**Kayabasi**	**0.59**	**257**	*i* P	**Pb**	**09 03 26.1**	**-0.5**
BDRM				*i* S	**Sb**	**09 03 35.2**	**-0.3**
BDRM	**Kayabasi**	**0.59**	**257**	P	**Pb**	**09 03 26.1**	**-0.5**
BDRM				S	**Sb**	**09 03 35.2**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.66**	**66**	*i* P	**Pg**	**09 03 26.1**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.66**	**66**	P	**Pg**	**09 03 26.0**	**0.0**
BODT	**Bodrum**	**0.69**	**259**	PG	**Pg**	**09 03 27.0**	**+0.3**
BODT	**Bodrum**	**0.69**	**259**	*e*Pg	**Pg**	**09 03 27.0**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**344**	PG	**Pg**	**09 03 28.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**344**	*e*Pg	**Pg**	**09 03 28.5**	**+0.1**
GCAM	**G?zelcaml?**	**0.89**	**305**	PG	**Pg**	**09 03 30.7**	**+0.1**
GCAM	**G?zelcaml?**	**0.89**	**305**	*i* P	**Pb**	**09 03 32.1**	**+0.3**
GCAM				*i* S	**Sn**	**09 03 46.3**	**-0.6**
GCAM	**G?zelcaml?**	**0.89**	**305**	*e*Pg	**Pg**	**09 03 30.7**	**+0.1**
GCAM	**G?zelcaml?**	**0.89**	**305**	P	**Pb**	**09 03 32.1**	**+0.3**
GCAM				S	**Sn**	**09 03 46.3**	**-0.6**
FETY	**Fethiye**	**0.93**	**127**	PG	**Pg**	**09 03 31.6**	**+0.4**
FETY	**Fethiye**	**0.93**	**127**	*e*Pg	**Pg**	**09 03 31.6**	**+0.4**
AKAS	**Kas**	**1.51**	**129**	PN	**Pn**	**09 03 40.7**	**-1.1**
AKAS	**Kas**	**1.51**	**129**	*e*Pn	**Pn**	**09 03 40.7**	**-1.1**
KARP	**Karpathos**	**1.83**	**206**	PN	**Pn**	**09 03 45.3**	**-0.9**
KARP	**Karpathos**	**1.83**	**206**	*e*Pn	**Pn**	**09 03 45.3**	**-0.9**
ZKR	**Zakros**	**2.61**	**218**	PN	**Pn**	**09 03 56.4**	**-0.4**
ZKR	**Zakros**	**2.61**	**218**	*e*Pn	**Pn**	**09 03 56.4**	**-0.4**

*ISK **26** 09:04:26.8, 38°77N×43°54E, h20km, ML2.2/3*

*ISCJB **26** 09:04:27.8±0.8, 38°78N±0°03×43°58E±0°06, h26km±6km, Error ellipse: s-maj=8.6km s-min=5.1km az=22.5*

*CSEM **26** 09:04:27.3±0.2, 38°79N×43°56E, h20km, ML2.2, Error ellipse: s-maj=7.4km s-min=4.5km az=121.0*

*DDA **26** 09:04:27.4, 38°78N×43°57E, h7km, Ml2.5*

ISC 26 09:04:27.5±1.0, 38°80N±0°03×43°56E±0°04, h24km±6km, n22, σ0s73/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.20**	**4**	*i* P	**Pb**	**09 04 32.5**	**-0.7**
VMUR				*i* S	**Sb**	**09 04 37.6**	**+0.6**
VMUR	**Van-Muradiye**	**0.20**	**4**	P	**Pb**	**09 04 32.5**	**-0.7**
VMUR				S	**Sb**	**09 04 37.6**	**+0.6**
VANB	**Van**	**0.24**	**213**	PG	**Pb**	**09 04 33.6**	**0.0**
VANB				SG	**Sb**	**09 04 38.5**	**+0.7**
VANB	**Van**	**0.24**	**213**	*e*Pg	**Pb**	**09 04 33.6**	**0.0**
VANB				*e*Sg	**Sb**	**09 04 38.5**	**+0.7**
TVAN	**Van**	**0.29**	**204**	*i* P	**Pb**	**09 04 33.3**	**-1.2**
TVAN				*i* S	**Sb**	**09 04 40.4**	**+1.1**
TVAN	**Van**	**0.29**	**204**	P	**Pb**	**09 04 33.3**	**-1.2**
TVAN				S	**Sb**	**09 04 40.3**	**+1.1**
CLDR	**Caldiran**	**0.45**	**39**	PG	**Pb**	**09 04 36.8**	**-0.2**
CLDR				SG	**Sb**	**09 04 44.4**	**+1.0**
CLDR	**Caldiran**	**0.45**	**39**	*i* P	**Pb**	**09 04 36.3**	**-0.7**
CLDR				*i* S	**Sn**	**09 04 45.0**	**-1.1**
CLDR	**Caldiran**	**0.45**	**39**	P	**Pb**	**09 04 36.3**	**-0.7**
CLDR	**Caldiran**	**0.45**	**39**	*e*Pg	**Pb**	**09 04 36.8**	**-0.2**
CLDR				*e*Sg	**Sb**	**09 04 44.4**	**+1.0**
CLDR				S	**Sn**	**09 04 45.0**	**-1.1**
GEVA	**Gevas**	**0.62**	**219**	*i* P	**Pb**	**09 04 38.6**	**-1.2**
GEVA				*i* S	**Sb**	**09 04 48.7**	**+0.5**
GEVA	**Gevas**	**0.62**	**219**	P	**Pb**	**09 04 38.6**	**-1.2**
GEVA				S	**Sb**	**09 04 48.7**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.65**	**271**	*i* P	**Pb**	**09 04 40.1**	**-0.2**
ADCV				*i* S	**Sn**	**09 04 50.5**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.65**	**271**	P	**Pb**	**09 04 40.1**	**-0.2**
ADCV				S	**Sn**	**09 04 50.5**	**-0.5**
TUTA	**Tutak**	**0.84**	**317**	*i* P	**Pb**	**09 04 43.5**	**0.0**
TUTA				*i* S	**Sn**	**09 04 55.9**	**+0.2**
TUTA	**Tutak**	**0.84**	**317**	P	**Pb**	**09 04 43.5**	**0.0**
TUTA				S	**Sn**	**09 04 55.9**	**+0.2**
AGRB	**Hanur-Agry**	**0.89**	**331**	PG	**Pn**	**09 04 45.0**	**+0.2**
AGRB	**Hanur-Agry**	**0.89**	**331**	*e*Pg	**Pn**	**09 04 45.0**	**+0.2**
GURO	**Guroymak-BITLI**	**1.22**	**259**	PN	**Pn**	**09 04 49.0**	**-0.2**
GURO	**Guroymak-BITLI**	**1.22**	**259**	*e*Pn	**Pn**	**09 04 49.0**	**-0.2**
HAKT	**HAKKARI**	**1.24**	**174**	*i* P	**Pb**	**09 04 51.0**	**+0.6**
HAKT	**HAKKARI**	**1.24**	**174**	P	**Pb**	**09 04 51.0**	**+0.6**

*ISCJB **26** 09:08:03.3±0.8, 5°6N±0°1×126°7E±0°2, h100km, mb3.6/8, Error ellipse: s-maj=29.2km s-min=8.1km az=152.6*

*IDC **26** 09:08:04.9±9.2, 5°74N×126°84E, h102km±88km, mb3.4/8, mb1 3.5/8, mb1mx3.3/61, mbtmp3.7/8, Error ellipse: s-maj=100.2km s-min=16.4km az=70.0*

*MAN **26** 09:08:05, 5°74N×126°75E, h92km, mb4.2, ML3.0, MS2.7*

ISC 26 09:08:05.1±0.8, 5°58N±0°10×126°6E±0°2, h100km, n12, σ0s78/14, mb3.6/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.39**	**348**	*e*P	**Pn**	**09 08 29.4**	**-0.6**
GSPH	**General Santos**	**1.68**	**287**	*e*P	**Pn**	**09 08 33.0**	**-0.7**
BUKP	**Musuan**	**2.72**	**327**	*e*P	**Pn**	**09 08 48.5**	**+1.2**
BUKP				*e*S	**Sn**	**09 09 20.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.55**	**182**	P	**P**	**09 13 08.2**	**+1.6**
	0.9nm,0.7s,baz=4.1,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**26.49**	**163**	P	**P**	**09 13 33.4**	**+0.1**
	0.8nm,0.6s,baz=342,slow=10.0,SNR=28						
ASAR	**Alice Springs**	**29.94**	**166**	P	**P**	**09 14 04.2**	**+0.2**
	0.3nm,0.4s,baz=343,slow=7.1,SNR=8.7						
STKA	**Stephens Creek**	**39.91**	**160**	P	**P**	**09 15 29.2**	**-0.2**
	1.0nm,0.3s,baz=348,slow=7.8,SNR=10						
SONM	**Songino Array**	**45.50**	**341**	P	**P**	**09 16 14.2**	**-0.4**
	0.4nm,0.3s,baz=167,slow=7.0,SNR=3.0						
MKAR	**Makanchi Array**	**55.95**	**325**	P	**P**	**09 17 32.7**	**-0.3**
	0.4nm,0.3s,baz=118,slow=7.5,SNR=9.3						
MKAR				PcP	**PcP**	**09 18 30.2**	**-0.2**
	0.6nm,0.7s,baz=112,slow=4.8,SNR=5.5						
KURBB	**Kurchatov Arra**	**60.10**	**327**	P	**P**	**09 18 00.8**	**-1.0**
	0.4nm,0.6s,baz=130,slow=7.2,SNR=3.8						
BVAR	**Borovoye Array**	**65.69**	**327**	P	**P**	**09 18 38.7**	**-0.1**
	0.3nm,0.5s,baz=140,slow=12,SNR=4.0						
TORD	**Torodi Ar. Bea**	**122.17**	**289**	PKP	**PKPdf**	**09 26 48.9**	**-0.3**
	0.2nm,0.4s,baz=50,slow=2.3,SNR=2.5						

NNC 26 09:16:49.7±4.0, 53°63N×87°93E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=36.3km s-min=17.8km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.87**	**281**	↑Pg	Pn	09 17 23.4	+0.4
	7.7nm,0.6s						
ZAA0				↑Lg	Lg	09 17 50.0	
	22nm,0.5s						
KURK	**Kurchatov**	**6.43**	**247**	↑Lg	Lg	09 20 12.5	
	12nm,1.1s						
MK31	**Makanchi Array**	**7.74**	**210**	↓Pn	Pn	09 18 45.4	+1.8
	1.7nm,0.7s,baz=90,slow=6.8,SNR=12						
MK31				↑Sn	Sn	09 20 11.5	-0.3
	2.4nm,1.0s,baz=28,slow=21,SNR=5.7						
MK31				↓Lg	Lg	09 20 52.7	
	2.5nm,0.8s,baz=31,slow=30,SNR=4.2						

*BJI **26** 09:30:13.4, 66°06N×174°26W, h6km, mb5.4/71, mB5.3/46, Ms5.4/63, Ms7 5.2/61*

*ISCJB **26** 09:30:16.5±0.1, 66°37N±0°02×174°44W±0°02, h9km, mb5.3/478, MS4.6/85, Error ellipse: s-maj=2.8km s-min=1.3km az=12.2*

*IDC **26** 09:30:16.7±0.3, 66°26N×174°61W, h0km, mb5.1/54, mb1 5.2/57, mb1mx5.1/83, mbtmp5.1/57, ML4.2/3, MS4.4/51, Ms1 4.4/51, ms1mx4.2/73, Error ellipse: s-maj=11.0km s-min=7.5km az=176.0*

*MOS **26** 09:30:17.6±0.8, 66°33N×174°62W, h15km, mb5.6/144, MS4.6/24, Error ellipse: s-maj=8.3km s-min=4.1km az=97.1*

*NEIC **26** 09:30:18.7±0.1, 66°36N×174°65W, h10km, mb5.3/295, Error ellipse: s-maj=3.1km s-min=1.5km az=195.0*

*GCMT **26** 09:30:18.8±0.2, 66°38N×174°43W, h12km, MW5.1/98, Moment Tensor Solution. s39,c48; s98,c156; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.88±.12; Mθθ=5.78±..10; Mϕϕ=-1.90±..11; Mrθ=-1.74±.28; Mrϕ=0.39±..08; Mθϕ=-2.15±..37; Best double couple: M0=5.78000×10^16 NP1:ϕs=61.00000°, δ=62.00000°, λ=-123.00000°. NP2: ϕs=296.00000°, δ=43.00000°, λ=-44.00000°. Principal axes: T 6.1580, Plg11.0000°, Azm174.0000°; N -0.7550, Plg29.0000°, Azm78.0000°; P -5.4020, Plg58.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NERS **26** 09:30:20.8, 66°64N×174°61W, h33km, MLV4.0, MPV5.2*

ISC 26 09:30:18.5±0.3, 66°27N±0°04×174°54W±0°03, h11km±1km, h10km:pP-P, n1540, σ1s25/1622, mb5.4/510, MS4.6/85, 28C-66D, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMB	**Gambell**	**2.78**	**153**	*e*Pn	**Pn**	**09 31 00.9**	**-2.1**
GAMB				*e*Pg	**Pb**	**09 31 09.2**	**+1.0**
GAMB				*e*Sg	**Sb**	**09 31 44.9**	**+2.7**
BILL	**Bilibino**	**7.66**	**292**	*d* iP	**Pn**	**09 32 09.2**	**-0.8**
BILL				*i* S	**Sn**	**09 33 34.1**	**-2.6**
BILL				pmax	pmax		
	comp=Z,74nm,1.0s						
BILL				smax	smax		
	comp=N,258μm,1.3s						
BILL				MLR	MLR		
	comp=Z,7μm,15.0s						
BILL	**Bilibino**	**7.66**	**292**	↓*i* P	**Pn**	**09 32 09.6**	**-0.4**
BILL				Pmax		09 32 13.1	
	comp=Z,100nm,1.1s						
BILL				*e*S	**Sn**	**09 33 35.1**	**-1.6**
BILL				*e*		09 33 57.1	
BILL				*e*Sg	**Sg**	**09 34 16.8**	**-7.3**
BILL				Sgmax		09 34 25.1	
	comp=Z,2μm,0.6s						
IM3	**Indian Mountai**	**8.43**	**82**	*e*Pn	**Pn**	**09 32 19.5**	**-1.0**
COLD	**Coldfoot**	**9.65**	**73**	*e*Pn	**Pn**	**09 32 36.1**	**-1.0**
TOLK	**Toolik Lake Re**	**9.84**	**65**	P	**Pn**	**09 32 37.4**	**-2.4**
	baz=268						
TOLK	**Toolik Lake Re**	**9.84**	**65**	*e*Pn	**Pn**	**09 32 38.6**	**-1.2**
SVW2	**Sparrevohn**	**9.86**	**113**	*e*Pn	**Pn**	**09 32 40.9**	**+0.7**
MLY	**Manley**	**9.89**	**86**	*e*Pn	**Pn**	**09 32 39.8**	**-0.6**
CAST	**Castle Rocks**	**9.96**	**96**	*e*Pn	**Pn**	**09 32 41.6**	**+0.2**
BPAW	**Bear Paw Mtn.**	**10.11**	**92**	*e*Pn	**Pn**	**09 32 43.0**	**-0.6**
PPLA	**Purkeypile**	**10.16**	**99**	*e*Pn	**Pn**	**09 32 44.8**	**+0.5**
KTH	**Kantishna Hill**	**10.37**	**94**	*

SEY	**Seymchan**	**14.47**	**272**	⇓	*i*	P	**Pn**	**09 33 44.3**	**+1.4**
SEY	**Seymchan**	**14.47**	**272**	⇑	*i*	P	**Pn**	**09 33 44.9**	**+2.0**
SEY						Pmax		09 33 45.3	
	comp=Z,80nm,1.3s								
SEY					*e*	S	S	09 36 33.5	-9.4
SEY					*e*	LQ	LQ	09 37 51.2	
SEY						LRmax		09 39 15.8	
	comp=Z,10µm,9.0s								
RAGM	**Ragged Mountai**	**14.54**	**100**		*e*	Pn	**Pn**	**09 33 43.4**	**-0.6**
DAWY	**Dawson**	**14.81**	**82**		*e*	Pn	**Pn**	**09 33 48.1**	**+0.5**
BALM	**Baldy**	**15.09**	**95**		*e*	P	**Pn**	**09 33 53.3**	**+1.7**
BALM						pmax	pmax		
	comp=Z,42nm,1.1s								
BALM	**Baldy**	**15.09**	**95**		*e*	Pn	**Pn**	**09 33 53.3**	**+1.7**
	comp=Z,42nm,1.1s								
TLAR	**Talaya**	**15.39**	**266**	⇑	*i*	P	**Pn**	**09 33 56.8**	**+1.4**
TLAR						Pmax		09 33 58.4	
	comp=Z,40nm,1.2s								
TLAR					*e*	S	**S**	**09 36 56.8**	**-5.1**
TLAR					*e*	LQ	LQ	09 38 25.8	
TLAR						LRmax		09 39 55.4	
	comp=Z,70nm,6.7s								
INK	**Inuvik**	**15.76**	**64**			Pn	**Pn**	**09 34 00.9**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=297,slow=8.7,SNR=46								
INK	**Inuvik**	**15.76**	**64**		*e*	P	**Pn**	**09 33 57.8**	**-2.3**
INK						pmax	pmax		
	comp=Z,132nm,0.8s								
INK	**Inuvik**	**15.76**	**64**		*e*	Pn	**Pn**	**09 33 57.8**	**-2.3**
	comp=Z,132nm,0.8s								
SUUS	**Susuman**	**16.24**	**275**	⇓	*i*	P	**Pn**	**09 34 07.3**	**+0.9**
SUUS						Pmax		09 34 09.0	
	comp=Z,70nm,1.0s								
SUUS					*e*	S	**Sn**	**09 37 11.5**	**+5.2**
SUUS					*e*	LQ	LQ	09 38 46.8	
SUUS						LRmax		09 40 23.7	
	comp=Z,200nm,7.2s								
MGD	**Magadan 1**	**16.69**	**265**		*e*	P	**P**	**09 34 13.3**	**-1.1**
MGD						Pmax		09 34 18.5	
	comp=Z,50nm,0.9s								
MGD					*e*	S	**Sn**	**09 37 12.0**	**-5.0**
MGD					*e*	LQ	LQ	09 39 50.9	
MGD						LRmax		09 41 30.5	
	comp=Z,10.0nm,2.7s								
OCHR	**Omchak**	**16.93**	**272**	⇑	*i*	P	**Pn**	**09 34 15.7**	**+0.6**
OCHR						Pmax		09 34 16.5	
	comp=Z,70nm,0.8s								
OCHR					*e*	S	**Sn**	**09 37 14.1**	**-8.9**
OCHR					*e*	LQ	LQ	09 39 35.2	
OCHR						LRmax		09 41 22.9	
	comp=Z,70nm,5.5s								
MA2	**Magadan**	**16.96**	**263**			Pn	**P**	**09 34 16.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=56,slow=11,SNR=35								
MA2						Lg	Lg	09 39 12.0	
	comp=Z,0.3nm,0.3s,baz=154,slow=16,SNR=7.0								
MA2						LR	LR	09 41 32.3	
	comp=Z,734nm,18.6s,baz=70,slow=40								
MA2	**Magadan**	**16.96**	**263**		*de*	P	**Pn**	**09 34 16.2**	**+0.8**
MA2	**Magadan**	**16.96**	**263**	⇓	*i*	P	**Pn**	**09 34 16.3**	**+0.8**
MA2						Pmax		09 34 17.6	
	comp=Z,110nm,1.4s								
MA2					*e*	S	**Sn**	**09 37 27.8**	**+4.2**
MA2					*e*	LQ	LQ	09 40 38.2	
HYT	**Haines Junctio**	**17.17**	**91**		*e*	Pn	**P**	**09 34 19.4**	**-0.5**
	comp=Z,78nm,1.2s								
WHY	**Whitehorse**	**18.32**	**89**		*e*	P	**P**	**09 34 33.6**	**+1.1**
	comp=Z,84nm,1.1s								
PET	**Petropavlovsk**	**18.75**	**238**		*e*	P	**Pn**	**09 34 38.6**	**+1.1**
PET					*e*	S	**S**	**09 38 11.5**	**+1.4**
PET						pmax	pmax		
	comp=Z,38nm,1.4s								
PET						MLR	MLR		
	comp=Z,1µm,15.0s								
PET						MLR	MLR		
	comp=Z,2µm,12.0s								
PET	**Petropavlovsk**	**18.75**	**238**		*e*	P	**Pn**	**09 34 38.1**	**+0.6**
	comp=Z,118nm,1.7s								
SKAG	**Skagway**	**18.85**	**92**		*e*	P	**Pn**	**09 34 39.9**	**+1.1**
	comp=Z,182nm,1.3s								
PEA1	**Petropavlovsk-**	**19.00**	**240**		*e*	P	**Pn**	**09 34 40.8**	**+0.2**
PEA0B	**Petropavlovsk-**	**19.01**	**240**		*e*	P	**Pn**	**09 34 40.9**	**+0.2**
	comp=Z,78nm,1.3s								
PETK	**Petropavlovsk-**	**19.01**	**240**			P	**Pn**	**09 34 40.8**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=63,slow=10,SNR=14								
PETK						LR	LR	09 42 24.0	
	comp=Z,802nm,19.4s,baz=40,slow=38								
PETK	**Petropavlovsk-**	**19.01**	**240**		*e*	P	**Pn**	**09 34 41.3**	**+0.6**
PETK	**Petropavlovsk-**	**19.01**	**240**		*e*	P	**Pn**	**09 34 41.3**	**+0.6**
BESE	**Bessie Mountai**	**19.60**	**94**		*e*	P	**Pn**	**09 34 48.3**	**+0.5**
	comp=Z,60nm,1.0s								
TIXI	**Tiksi**	**20.29**	**310**			P	**P**	**09 34 54.4**	**+0.6**
	comp=Z,51nm,0.8s,baz=89,slow=11,SNR=152								
TIXI						LR	LR	09 42 35.7	
	comp=Z,1µm,19.0s,baz=80,slow=36								
TIXI	**Tiksi**	**20.29**	**310**		*c*	*i* P	**P**	**09 34 54.2**	**+0.4**
TIXI						pmax	pmax		
	comp=Z,146nm,1.2s								
TIXI						MLR	MLR		
	comp=Z,2µm,14.0s								
TIXI	**Tiksi**	**20.29**	**310**		*e*	P	**P**	**09 34 54.0**	**+0.3**
	comp=Z,112nm,1.0s								
TIXI					*e*	P	Pn	09 34 54.4	-1.4
SIT	**Sitka**	**20.41**	**98**		*e*	P	Pn	09 34 56.4	-0.9
SIT						pmax	pmax		
	comp=Z,191nm,1.6s								
SIT	**Sitka**	**20.41**	**98**		*e*	P	Pn	09 34 56.4	-1.0
	comp=Z,191nm,1.6s								
SKR	**Severo-Kuril's**	**21.57**	**238**		*e*	P	**P**	**09 35 06.0**	**-1.7**
SKR					*e*			09 35 33.0	
SKR					*e*	S	**S**	**09 39 08.6**	**+2.2**
SKR						pmax	pmax		
	comp=Z,600nm,2.0s								
SKR						pmax	pmax		
	comp=Z,162nm,1.2s								
SKR						pmax	pmax		
	comp=Z,300nm,4.1s								
SKR						MLR	MLR		
	comp=Z,1µm,19.0s								
DLBC	**Dease Lake**	**21.64**	**90**		*e*	P	**P**	**09 35 10.0**	**+1.4**
	comp=Z,65nm,1.0s								
WRAK	**Wrangell Islan**	**22.05**	**96**		*e*	P	**P**	**09 35 15.5**	**+2.6**
	comp=Z,105nm,1.1s								
CRAG	**Craig**	**22.41**	**99**		*e*	P	**P**	**09 35 18.2**	**+1.5**
	comp=Z,308nm,1.8s								
YAK	**Yakutsk**	**23.97**	**286**			P	**P**	**09 35 31.5**	**-1.0**
	comp=Z,79nm,0.6s,baz=116,slow=1.5,SNR=37								
YAK						LR	LR	09 44 44.6	
	comp=Z,1µm,20.3s,baz=87,slow=36								
YAK	**Yakutsk**	**23.97**	**286**		*d*	*i* P	**P**	**09 35 31.8**	**-0.7**
YAK					*e*	*PP	**sP**	**09 35 40.6**	**+3.6**
YAK					*e*	PPP	PPP	09 36 07.5	
YAK					*e*			09 39 11.2	
YAK					*e*	S	**S**	**09 39 49.8**	**+1.1**
YAK					*e*	*SS	**sS**	**09 39 58.6**	**+4.7**
YAK					*e*	SS	**SnSn**	**09 40 30.2**	**+2.0**
YAK					*e*	SSS	SSS	09 40 47.8	
YAK					*e*			09 46 35.8	
YAK						pmax	pmax		
	comp=Z,162nm,0.9s								
YAK						pmax	pmax		
	comp=N,26nm,1.1s								
YAK						pmax	pmax		
	comp=E,63nm,1.0s								
YAK						smax	smax		
	comp=N,94nm,2.2s								
YAK						smax	smax		
	comp=E,147nm,2.2s								
YAK						MLR	MLR		
	comp=Z,3µm,15.0s								
YAK						MLR	MLR		
	comp=N,1µm,15.0s								
YAK						MLR	MLR		
	comp=E,2µm,16.0s								
YAK	**Yakutsk**	**23.97**	**286**		*e*	P	**P**	**09 35 31.9**	**-0.6**
	comp=E,203nm,0.9s								
DIB	**Dawson Inlet,**	**24.33**	**102**		*e*	P	**P**	**09 35 37.0**	**+1.2**
	comp=E,49nm,1.0s								
YKW3	**Yellowknife Ar**	**25.26**	**70**		*e*	P	**P**	**09 35 44.5**	**+0.2**
YKW3					*e*	pP	**pP**	**09 35 44.9**	**-2.5**
YKA	**Yellowknife Ar**	**25.31**	**70**			P	**P**	**09 35 44.8**	**+0.2**
	comp=E,23nm,0.8s,baz=302,slow=8.5,SNR=258								
YKA						PcP	**PcP**	**09 39 15.8**	**-1.2**
	comp=E,3.3nm,0.9s,baz=314,slow=2.2,SNR=4.8								
YKB5	**Yellowknife Ar**	**25.31**	**70**		*e*	P	**P**	**09 35 44.0**	**-0.6**
NKL	**Nikolayevsk**	**25.44**	**261**		*i*	P	**P**	**09 35 46.0**	**+0.1**
NKL					*e*	S	**S**	**09 40 16.0**	**+3.6**
NKL						pmax	pmax		
	comp=N,58nm,1.2s								
NKL						pmax	pmax		
	comp=E,41nm,1.2s								
NKL						pmax	pmax		
	comp=Z,210nm,1.2s								
NKL						pmax	pmax		
	comp=E,400nm,7.0s								
NKL						pmax	pmax		
	comp=Z,600nm,6.0s								
NKL						smax	smax		
	comp=N,500nm,11.0s								
NKL						smax	smax		
	comp=E,600nm,11.0s								
NKL						MLR	MLR		
	comp=N,600nm,14.0s								
NKL						MLR	MLR		
	comp=E,1µm,14.0s								
NKL						MLR	MLR		
	comp=Z,2µm,15.0s								
RES	**Resolute Bay**	**25.72**	**37**			P	**P**	**09 35 48.6**	**+0.3**
	comp=Z,38nm,1.1s,baz=299,slow=10,SNR=41								
RES	**Resolute Bay**	**25.72**	**37**		*e*	P	**P**	**09 35 48.8**	**+0.5**
RES						pmax	pmax		
	comp=Z,57nm,1.2s								
RES	**Resolute Bay**	**25.72**	**37**		*e*	P	**P**	**09 35 48.8**	**+0.5**
	comp=Z,57nm,1.2s								
TYV	**Tymovskoe**	**26.42**	**255**		*e*	P	**P**	**09 35 55.3**	**+0.5**
TYV					*e*			09 40 30.5	
TYV						pmax	pmax		
	comp=Z,57nm,1.1s								
TYV						pmax	pmax		
	comp=Z,400nm,7.2s								
TYV						MLR	MLR		
	comp=Z,1µm,14.0s								
BBB	**Bella Bella**	**26.84**	**99**			P	**P**	**09 35 59.7**	**+1.1**
	comp=Z,16nm,1.0s,baz=325,slow=9.2,SNR=5.1								
BBB						LR	LR	09 47 00.0	
	comp=Z,1µm,18.1s,baz=335,slow=37								
BBB	**Bella Bella**	**26.84**	**99**		*e*	P	**P**	**09 35 59.7**	**+1.1**
	comp=Z,30nm,1.1s								
GRNR	**Gornyy**	**28.97**	**262**		*e*	P	**P**	**09 36 18.5**	**+0.8**
GRNR						pmax	pmax		
	comp=N,50nm,1.0s								
GRNR						pmax	pmax		
	comp=E,42nm,1.0s								
GRNR						pmax	pmax		
	comp=Z,78nm,1.0s								
CLNS	**Chul'man**	**29.16**	**281**		*e*	P	**P**	**09 36 19.5**	**+0.2**
CLNS					*e*			09 37 11.2	
CLNS					*e*			09 39 26.0	
CLNS					*e*	S	**S**	**09 41 07.6**	**-3.5**
CLNS					*e*			09 43 06.5	
CLNS						pmax	pmax		
	comp=Z,105nm,1.0s								
CLNS						pmax	pmax		
	comp=N,50nm,0.9s								
CLNS						pmax	pmax		
	comp=E,74nm,1.0s								
CLNS						pmax	pmax		
	comp=E,15nm,1.1s								
CLNS						pmax	pmax		
	comp=N,17nm,0.9s								
CLNS						pmax	pmax		
	comp=Z,15nm,1.2s								
CLNS						smax	smax		
	comp=E,142nm,11.0s								
CLNS						smax	smax		
	comp=N,142nm,13.8s								
CLNS						MLR	MLR		
	comp=E,1µm,12.0s								
CLNS						MLR	MLR		
	comp=Z,2µm,10.0s								
CLNS						MLR	MLR		
	comp=N,1µm,11.0s								
YSS	**Yuzh-Sakhalins**	**29.55**	**250**	⇑	*i*	P	**P**	**09 36 23.1**	**+0.3**
YSS					*e*	*SP	**sP**	**09 36 30.5**	**+3.2**
YSS					*e*			09 37 28.5	
YSS					*e*	S	**S**	**09 41 19.4**	**+2.2**
YSS					*e*	SS	**ScP**	**09 43 07.0**	**-1.8**
YSS						pmax	pmax		
	comp=Z,70nm,0.8s								
YSS						pmax	pmax		
	comp=Z,200nm,6.0s								
YSS						MLR	MLR		
	comp=Z,2µm,14.0s								
YSS						MLR	MLR		
	comp=N,1µm,16.0s								
YSS						MLR	MLR		
	comp=E,1µm,13.0s								
YSS	**Yuzh-Sakhalins**	**29.55**	**250**		*e*	P	**P**	**09 36 23.2**	**+0.3**
	comp=E,109nm,0.8s								
TULEG	**Thule**	**30.31**	**27**		*e*	P	**P**	**09 36 29.1**	**-0.2**
	comp=E,27nm,0.9s								
ZEA	**Zeya**	**30.43**	**274**		*e*	P	**P**	**09 36 30.6**	**+0.1**
ZEA					*e*	S	**S**	**09 41 38.0**	**+7.1**
ZEA						pmax	pmax		
	comp=Z,70nm,1.0s								
ZEA						smax	smax		
	comp=E,200nm,10.0s								
ZEA						MLR	MLR		
	comp=Z,5µm,14.0s								
ZEA						MLR	MLR		
	comp=E,2µm,11.0s								
ZEA						MLR	MLR		
	comp=N,3µm,13.0s								
LLLB	**Lillooet**	**30.55**	**95**		*e*	P	**P**	**09 36 31.2**	**-0.5**
	comp=N,35nm,1.0s								
PGC	**Sidney**	**31.46**	**99**		*e*	P	**P**	**09 36 40.8**	**+1.2**
	comp=N,41nm,1.0s								
A04D	**Lummi Island**	**31.70**	**98**			P	**P**	**09 36 42.4**	**+0.6**
	baz=323,SNR=6.7								
ASAJ	**Asahikawa**	**32.00**	**248**			P	**P**	**09 36 44.5**	**0.0**
	comp=N,5.6nm,0.9s,baz=39,slow=7.6,SNR=5.4								
ASAJ	**Asahikawa**	**32.00**	**248**		*e*	P	**P**	**09 36 44.5**	**0.0**
	comp=N,15nm,0.9s								
EDM	**Edmonton**	**32.01**	**84**		*e*	P	**P**	**09 36 45.2**	**+0.6**
EDM						pmax	pmax		
	comp=Z,108nm,1.1s								
EDM	**Edmonton**	**32.01**	**84**		*e*	P	**P**	**09 36 45.2**	**+0.6**
	comp=Z,108nm,1.1s								
KLR	**Kul'dur**	**32.05**	**265**			P	**P**	**09 36 44.2**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=24,slow=9.5,SNR=103								
KLR						LR	LR	09 49 47.3	
	comp=Z,33nm,21.8s,baz=38,slow=37								
KLR	**Kul'dur**	**32.05**	**265**		*d*	*i* P	**P**	**09 36 44.1**	**-0.8**
NLWA	**Neilton Lookou**	**32.31**	**100**		*e*	P	**P**	**09 36 49.3**	**+2.1**
	comp=Z,35nm,1.0s								
B05A	**Bryant**	**32.31**	**98**			P	**P**	**09 36 47.8**	**+0.7**
	baz=323,SNR=36								
B06A	**Marblemount**	**32.35**	**97**		*e*	P	**P**	**09 36 48.6**	**+1.1**
	comp=Z,34nm,0.8s								
BOD	**Bodaibo**	**32.71**	**290**		*e*	P	**P**	**09 36 50.0**	**-0.6**
BOD						pmax	pmax		
	comp=Z,117nm,1.3s								
C06D	**Leavenworth**	**33.07**	**97**			P	**P**	**09 36 54.7**	**+0.9**
	baz=324,SNR=6.2								
E03A	**Lebam**	**33.12**	**101**		*e*	P	**P**	**09 36 56.2**	**+2.0**
	comp=Z,81nm,1.1s								
D05A	**Enumclaw**	**33.22**	**99**		*e*	P	**P**	**09 36 56.9**	**+1.8**
	comp=Z,70nm,1.1s								
B08A	**Colville Reser**	**33.35**	**95**		*e*	P	**P**	**09 36 57.1**	**+0.8**
	comp=Z,26nm,0.8s								
ERM	**Erimo**	**33.61**	**245**		*d*	*i* P	**P**	**09 36 57.4**	**-1.1**
ERM						pmax	pmax		
	comp=Z,117nm,1.2s								
ERM	**Erimo**	**33.61**	**245**		*e*	P	**P**	**09 36 58.2**	**-0.3**
	comp=Z,95nm,0.9s								
LON	**Longmire**	**33.65**	**99**		*e*	P	**P**	**09 37 01.1**	**+2.2**
LON						pmax	pmax		
	comp=Z,36nm,1.6s								
LON	**Longmire**	**33.65**	**99**		*e*	P	**P**	**09 37 01.1**	**+2.2**
	comp=Z,36nm,1.6s								
LTY	**Liberty**	**33.69**	**97**		*e*	P	**P**	**09 36 60.0**	**+0.6**
	comp=Z,34nm,0.9s								
KULLO	**Kullorsuaq**	**33.75**	**25**	⇓	*i*	P	**P**	**09 37 00.0**	**+0.5**
KULLO						pmax	pmax		
	comp=Z,230nm,0.9s								
KULLO	**Kullorsuaq**	**33.75**	**25**	⇓	*i*	P	**P**	**09 37 00.0**	**+0.5**
	comp=Z,227nm,0.9s								
TBM	**Table Mountain**	**33.79**	**97**		*e*	PcP	**PcP**	**09 39 38.6**	**-0.4**
C09A	**Chrisman Ranch**	**34.22**	**94**		*e*	P	**P**	**09 37 04.7**	**+0.9**
	comp=Z,35nm,1.0s								
NEW	**Newport**	**34.31**	**93**			P	**P**	**09 37 04.7**	**0.0**
	comp=Z,17nm,1.0s,baz=326,slow=7.5,SNR=20								
NEW	**Newport**	**34.31**	**93**			P	**P**	**09 37 04.8**	**+0.1**
	baz=323,SNR=25								
NEW	**Newport**	**34.31**	**93**		*e*	P	**P**	**09 37 05.2**	**+0.6**
	comp=Z,28nm,1.0s								
G03D	**McMinnville, O**	**34.33**	**102**			P	**P**	**09 37 03.9**	**-0.9**
	baz=326								
GULW	**Guler Mountain**	**34.41**	**100**		*e*	P	**P**	**09 37 03.3**	**-2.3**
GULW					*e*	S	**S**	**09 42 32.0**	**-1.3**
NEWO	**Newport DOGAMI**	**34.51**	**103**		*e*	P	P	09 37 12.9	+6.6
D08A	**Wollman Farm,**	**34.56**	**96**		*e*	P	**P**	**09 37 07.7**	**+1.0**
	comp=Z,63nm,0.9s								
E07A	**Sunnyside**	**34.59**	**97**		*e*	P	**P**	**09 37 08.2**	**+1.2**
	comp=Z,46nm,0.9s								
COR	**Corvallis**	**34.84**	**103**		*e*	P	**P**	**09 37 10.4**	**+1.2**
COR						pmax	pmax		
	comp=Z,73nm,1.1s								
COR	**Corvallis**	**34.84**	**103**		*e*	P	**P**	**09 37 10.4**	**+1.2**
	comp=Z,73nm,1.1s								
HAWA	**Hanford**	**34.85**	**97**		*e*	P	**P**	**09 37 10.8**	**+1.5**
	comp=Z,68nm,1.6s								
E08A	**Dider Farm, El**	**34.96**	**97**		*e*	P	**P**	**09 37 11.2**	**+1.0**
	comp=Z,42nm,1.0s								
KBS	**Kingsbay**	**34.97**	**358**		*e*	P	**P**	**09 37 10.3**	**+0.3**
KBS						pmax	pmax		
	comp=Z,138nm,1.4s								
KBS	**Kingsbay**	**34.97**	**358**		*e*	P	**P**	**09 37 10.3**	**+0.3**
	comp=Z,138nm,1.4s								
WALA	**Waterton Lakes**	**34.98**	**89**		*e*	P	**P**	**09 37 11.5**	**+0.9**
	comp=Z,26nm,0.9s								
G05D	**Wamic, OR**	**35.08**	**100**			P	**P**	**09 37 09.8**	**-1.6**
	baz=326								
F07A	**Phinny Hill Vi**	**35.10**	**98**		*e*	P	**P**	**09 37 13.1**	**+1.6**
	comp=Z,57nm,0.8s								
H04A	**Detroit Lake**	**35.20**	**101**		*e*	P	**P**	**09 37 13.4**	**+1.1**
	comp=Z,105nm,1.4s								
E09A	**Wood Farm, Sta**	**35.31**	**96**		*e*	P	**P**	**09 37 14.2**	**+0.9**
	comp=Z,45nm,1.1s								
G06A	**Carlson Farm,**	**35.36**	**99**		*e*	P	**P**	**09 37 15.0**	**+1.3**
	comp=Z,62nm,1.5s								
FCC	**Fort Churchill**	**35.37**	**63**		*e*	P	**P**	**09 37 13.3**	**-0.3**
FCC						pmax	pmax		
	comp=Z,61nm,1.1s								
FCC	**Fort Churchill**	**35.37**	**63**		*e*	P	**P**	**09 37 13.3**	**-0.3**
	comp=Z,61nm,1.1s								
FFC	**Flin Flon**	**35.39**	**73**		*e*	P	**P**	**09 37 13.5**	**-0.3**
FFC						pmax	pmax		
	comp=Z,64nm,1.4s								
FFC	**Flin Flon**	**35.39**	**73**		*e*	P	**P**	**09 37 13.5**	**-0.3**
	comp=Z,64nm,1.4s								
I03D	**Drain, OR**	**35.56**	**104**			P	**P**	**09 37 14.4**	**-1.0**
	baz=327								
SPITS	**Spitsbergen Ar**	**35.62**	**356**			P	**P**	**09 37 14.8**	**-0.9**
	comp=Z,6.3nm,0.5s,baz=25,slow=6.9,SNR=18								
SPITS						PcP	**PcP**	**09 39 43.1**	**-0.6**
	comp=Z,17nm,0.9s,baz=15,slow=3.6,SNR=4.1								
SPITS						LR	LR	09 52 44.1	
	comp=Z,946nm,18.1s,baz=350,slow=38								
I05D	**Terrebonne, OR**	**35.82**	**101**			P	**P**	**09 37 18.2**	**+0.4**
	baz=327,SNR=7.3								
I04A	**Tendick Farm,**	**35.85**	**103**			P	**P**	**09 37 18.2**	**+0.2**
	baz=327,SNR=9.8								
KEBM	**Edson Butte**	**35.87**	**105**		*e*	P	**P**	**09 37 19.3**	**+1.1**
	comp=Z,108nm,1.2s								
JTMT	**Jette**	**35.88**	**91**		*e*	P	**P**	**09 37 19.1**	**+0.8**
	comp=Z,51nm,1.0s								
G08A	**Pilot Rock**	**35.98**	**98**		*e*	P	**P**	**09 37 20.3**	**+1.1**
	comp=Z,28nm,1.1s								
USRK	**Ussuriysk Ar.**	**36.04**	**259**			P	**P**	**09 37 18.0**	**-1.5**
	comp=Z,33nm,1.1s,baz=34,slow=7.6,SNR=32								
USRK						PcP	**PcP**	**09 39 44.7**	**-0.8**
	comp=Z,8.0nm,0.9s,baz=40,slow=2.8,SNR=5.5								
USRK						LR	LR	09 53 11.8	
	comp=Z,674nm,18.1s,baz=30,slow=38								
F10A	**Beach Ranch, E**	**36.12**	**95**		*e*	P	**P**	**09 37 20.9**	**+0.6**
	comp=Z,26nm,0.9s								
DAG	**Danmarks Havn**	**36.41**	**9**	⇓	*i*	P	**P**	**09 37 22.3**	**0.0**
DAG						pmax	pmax		
	comp=Z,110nm,0.9s								
DAG	**Danmarks Havn**	**36.41**	**9**	⇓	*i*	P	**P**	**09 37 22.3**	**0.0**
	comp=Z,114nm,0.9s								
J04D	**Umpqua Nationa**	**36.44**	**103**			P	**P**	**09 37 22.7**	**-0.4**
	baz=328,SNR=22								
PINE	**Pine Mountain**	**36.44**	**101**		*e*	P	**P**	**09 37 24.8**	**+1.6**
	comp=Z,76nm,1.1s								
HUMO	**Hull Mountain**	**36.64**	**104**		*e*	P	**P**	**09 37 26.9**	**+2.2**
	comp=Z,40nm,1.1s								
MDJ	**Mudanjiang**	**36.65**	**262**			P	**P**	**09 37 22.3**	**-2.4**
MDJ						pP	sP	09 37 32.5	+3.2
MDJ						sP	pP	09 37 37.0	+9.0
MDJ						PP	**PP**	**09 38 48.0**	**0.0**
MDJ						S	**S**	**09 43 09.0**	**+1.6**
MDJ						ScS	**ScS**	**09 47 33.3**	**-6.8**
MDJ						pmax	pmax		
	comp=Z,24nm,0.9s								
MDJ						LR	LR		
	comp=Z,2µm,10.8s								
MDJ						LR	LR		
	comp=Z,850nm,12.6s								
MDJ						LR	LR		
	comp=Z,2µm,11.6s								
MDJ	**Mudanjiang**	**36.65**	**262**		*e*	P	**P**	**09 37 23.9**	**-0.9**
	comp=Z,34nm,1.2s								
J05D	**Fort Rock, OR**	**36.74**	**102**			P	**P**	**09 37 26.1**	**+0.3**
	baz=327,SNR=36								
MSO	**Missoula**	**36.75**	**91**			P	**P**	**09 37 25.8**	**+0.1**
	baz=324,SNR=30								
MSO	**Missoula**	**36.75**	**91**		*e*	P	**P**	**09 37 26.1**	**+0.4**
	comp=Z,34nm,1.1s								
L02D	**Cave Junction,**	**36.77**	**105**			P	**P**	**09 37 26.9**	**+1.1**
	baz=329,SNR=7.9								
I07A	**Izee**	**36.77**	**99**		*e*	P	**P**	**09 37 27.6**	**+1.7**
	comp=Z,22nm,1.1s								
HIA	**Hailar**	**36.87**	**276**	⇓	*i*	P	**P**	**09 37 26.5**	**-0.1**
HIA						pmax	pmax		
	comp=Z,98nm,1.8s								
HIA	**Hailar**	**36.87**	**276**		*e*	P	**P**	**09 37 26.6**	**0.0**
	comp=Z,206nm,1.9s			

comp=Z,60nm,1.1s
WDC Whiskeytown Da 38.53 106 *e*P P 09 37 42.2 +1.6
WDC pmax pmax
comp=Z,73nm,1.4s
WDC Whiskeytown Da 38.53 106 *e*P P 09 37 42.2 +1.6
comp=Z,73nm,1.4s
BOZ Bozeman (W) 38.69 90 P P 09 37 42.9 +0.8
baz=325,SNR=85
BOZ Bozeman (W) 38.69 90 *e*P P 09 37 43.1 +0.9
BOZ pmax pmax
comp=Z,66nm,0.9s
BOZ Bozeman (W) 38.69 90 *e*P P 09 37 43.1 +0.9
comp=Z,66nm,0.9s
MFID Camas Ranch 38.80 96 *e*P P 09 37 44.0 +1.0
comp=Z,44nm,1.1s
MCMT McKenzie Canyo 38.83 92 *e*P P 09 37 44.4 +0.9
KCPM Cahto Peak 38.89 107 *e*P P 09 37 44.2 +0.3
comp=Z,88nm,1.5s
CN2 Changchun 38.99 265 *e*P P 09 37 43.5 -1.0
CN2 pmax pmax
comp=Z,60nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,10.0s
CN2 LR LR
comp=Z,1μm,10.0s
CN2 LR LR
comp=Z,1μm,10.0s
O03D Paynes Creek 39.06 105 P P 09 37 46.2 +1.0
baz=330,SNR=34
ILULI Ilulissat 39.23 28 *e*P P 09 37 46.1 -0.1
ILULI pmax pmax
comp=Z,52nm,1.2s
ILULI Ilulissat 39.23 28⇓*i*P P 09 37 46.0 -0.1
comp=Z,26nm,0.9s
ILULI Ilulissat 39.23 28 *e*P P 09 37 46.1 -0.1
comp=Z,52nm,1.2s
HLID Hailey 39.24 95 P P 09 37 47.3 +0.5
baz=326,SNR=105
HLID Hailey 39.24 95 *e*P P 09 37 47.6 +0.8
comp=Z,44nm,0.9s
GCMT Greycliff 39.33 88 *e*P P 09 37 48.7 +1.2
QLMT Earthquake Lak 39.40 91 *e*P P 09 37 49.7 +1.5
YHB Horse Butte 39.56 91 *e*P P 09 37 51.0 +1.5
comp=Z,59nm,1.0s
YHH Holmes Hill 39.67 90 *e*P P 09 37 51.6 +1.1
comp=Z,42nm,1.0s
YMR Madison River 39.72 91 *e*P P 09 37 52.5 +1.6
comp=Z,53nm,1.1s
ORV Oroville 39.82 105 *e*P P 09 37 51.8 +0.4
ORV pmax pmax
comp=Z,34nm,1.4s
ORV Oroville 39.82 105 *e*P P 09 37 51.8 +0.4
comp=Z,34nm,1.4s
YFT Old Faithful 39.95 91 *e*P P 09 37 55.1 +2.3
comp=Z,38nm,1.1s
LAO LASA Array 39.99 85 P P 09 37 53.2 +0.3
baz=324,SNR=29
LAO LASA Array 39.99 85 *e*P P 09 37 53.5 +0.7
comp=Z,134nm,1.1s
BEKR Beckworth 39.99 104 *e*P P 09 37 54.1 +0.9
comp=Z,42nm,1.4s
RLMT Red Lodge 40.03 89 P P 09 37 54.0 +0.5
baz=325,SNR=41
RLMT Red Lodge 40.03 89 *e*P P 09 37 54.4 +0.9
comp=Z,49nm,1.1s
H17A Grant Village 40.10 90 P P 09 37 55.6 +1.5
baz=326
H17A Grant Village 40.10 90 *e*P P 09 37 56.5 +2.4
comp=Z,35nm,1.1s
YPP Pitchstone Pla 40.11 91 *e*P P 09 37 56.4 +2.1
comp=Z,52nm,1.8s
MJB9 Matsu-Tunnel 40.24 246 *e*P P 09 37 54.8 -0.2
comp=Z,45nm,0.9s
MAJO Matsushiro 40.24 246*d*iP P 09 37 54.4 -0.6
MAJO pmax pmax
comp=Z,53nm,1.0s
MAJO Matsushiro 40.24 246 *e*P P 09 37 54.7 -0.3
comp=Z,44nm,0.9s
MAJO *e*PcP PcP 09 39 58.2 -0.4
MAT Matsushiro 40.24 246 P P 09 37 54.1 -0.9
MJAR Matsushiro Arr 40.24 246 P P 09 37 54.4 -0.6
comp=Z,19nm,0.8s,baz=16,slow=7.0,SNR=44
MJAR PcP PcP 09 39 58.2 -0.4
comp=Z,6.4nm,0.8s,baz=353,slow=2.4,SNR=10.0
MJAR LR LR 09 56 34.8
comp=Z,564nm,18.1s,baz=30,slow=39
IMW Indian Meadow 40.37 91 *e*P P 09 37 57.9 +1.5
comp=Z,50nm,0.9s
PAHR Pah Rah Range 40.52 103 *e*P P 09 37 58.6 +1.1
comp=Z,62nm,1.3s
AFDM Forest Hills D 40.55 105 *e*P P 09 37 58.8 +1.2
comp=Z,65nm,1.8s
FXWY Fox Creek 40.55 92 *e*P P 09 37 59.3 +1.6
comp=Z,19nm,1.1s
MOOW Moose Ponds 40.57 91 *e*P P 09 37 59.1 +1.1
comp=Z,23nm,1.1s
IRK Irkutsk 40.60 291 *e*P P 09 37 56.9 -0.9
IRK pmax pmax
comp=Z,219nm,2.1s
TPAW Teton Pass 40.70 92 *e*P P 09 38 00.6 +1.5
comp=Z,41nm,1.1s
LOHW Long Hollow 40.74 91 *e*P P 09 38 00.8 +1.5
comp=Z,43nm,1.0s
BMN Battle Mountai 40.75 100 *e*P P 09 38 00.9 +1.5
BMN pmax pmax
comp=Z,34nm,1.3s
BMN Battle Mountai 40.75 100 *e*P P 09 38 00.9 +1.5
comp=Z,34nm,1.3s
VCNR Virginia City 40.77 104 *e*P P 09 38 01.0 +1.4
comp=Z,39nm,1.0s
SNOW Snow King Moun 40.80 91 *e*P P 09 38 00.4 +0.5
comp=Z,42nm,1.1s
NLHM Lake Herman 40.81 107 *e*P P 09 38 00.1 +0.4
REDW Red Top Meadow 40.85 92 *e*P P 09 38 01.9 +1.6
comp=Z,67nm,1.4s
YERR Yerington 41.19 103 *e*P P 09 38 04.2 +1.2
comp=Z,54nm,1.3s
ULM Lac du Bonnet 41.22 73 P P 09 38 02.4 -0.5
comp=Z,57nm,0.9s,baz=316,slow=8.1,SNR=41
ULM Lac du Bonnet 41.22 73 *e*P P 09 38 02.4 -0.5
ULM pmax pmax
comp=Z,53nm,0.8s
ULM Lac du Bonnet 41.22 73 *e*P P 09 38 02.4 -0.5
comp=Z,53nm,0.8s
SFJD Kangerlussuaq 41.23 30 P P 09 38 02.4 -0.3
comp=Z,37nm,0.9s,baz=346,slow=12,SNR=16
SFJD LR LR 09 55 55.5
comp=Z,96nm,21.1s,baz=334,slow=37
SFJD Kangerlussuaq 41.23 30⇓*i*P P 09 38 02.7 0.0
SFJD pmax pmax
comp=Z,45nm,0.9s
SFJD Kangerlussuaq 41.23 30⇓*i*P P 09 38 02.7 0.0
comp=Z,45nm,0.9s
SFJD Kangerlussuaq 41.23 30 *e*P P 09 38 02.4 -0.3
SFJD *e*P P 09 38 02.7 0.0
AHID Auburn Hatcher 41.24 92 *e*P P 09 38 04.5 +1.0
comp=Z,41nm,1.1s
TLY Talaya 41.28 291 P P 09 38 03.3 -0.2
comp=Z,9.8nm,0.7s,baz=25,slow=9.1,SNR=14
TLY LR LR 09 57 15.6
comp=Z,1μm,20.5s,baz=38,slow=39
TLY Talaya 41.28 291 *e*P P 09 38 04.1 +0.7
TLY *e* 09 39 47.7
TLY *e*S S 09 44 24.6 +7.6
TLY *e*SSS SSS 09 47 49.8
TLY pmax pmax
comp=Z,40nm,1.4s
TLY MLR MLR
comp=Z,2μm,14.0s
TLY Talaya 41.28 291 *e*P P 09 38 03.3 -0.2
TLY *e*P pP 09 38 04.3 -2.4
TLY Talaya 41.28 291 P P 09 38 04.5 +1.1
SNR=17
TLY Talaya 41.28 291 P P 09 38 04.5 +1.1
SNR=17
HVU Hansel Valley 41.40 95 *e*P P 09 38 06.3 +1.6
HVU pmax pmax
comp=Z,49nm,1.2s
HVU Hansel Valley 41.40 95 *e*P P 09 38 06.2 +1.6
comp=Z,49nm,1.2s
SNY Shenyang 41.40 265 ⇓P P 09 38 04.0 -0.4
SNY S S 09 44 17.0 -1.8
SNY pmax pmax
comp=Z,69nm,0.9s
SNY pmax pmax
comp=Z,320nm,7.9s
SNY LR LR
comp=Z,2μm,11.2s
SNY LR LR
comp=Z,2μm,9.9s
SNY LR LR
comp=Z,2μm,10.6s
WAKR Walker 41.53 104 *e*P P 09 38 07.3 +1.5
comp=Z,78nm,1.5s
CMB Columbia Colle 41.57 105 *e*P P 09 38 06.9 +0.9
CMB pmax pmax
comp=Z,32nm,1.5s
CMB Columbia Colle 41.57 105 *e*P P 09 38 06.9 +0.9
comp=Z,32nm,1.5s
RDG13 Poverty Ridge 41.57 107 *e*P P 09 38 09.2 +3.2
comp=Z,78nm,1.5s
MDND Maddock 41.69 78 P P 09 38 05.7 -1.1
baz=324
MDND Maddock 41.69 78 *e*P P 09 38 07.5 +0.7
comp=Z,108nm,0.9s
A31A Linda, St. Vin 41.77 75 P P 09 38 06.4 -1.0
baz=324
RYN Ryan 41.78 103 *e*P P 09 38 09.2 +1.3
comp=Z,94nm,1.9s
BW06 Boulder Array 41.87 91 P P 09 38 08.6 0.0
baz=327,SNR=34
BW06 Boulder Array 41.87 91 *e*P P 09 38 09.2 +0.6
comp=Z,47nm,1.1s
PD31 Pinedale Array 41.87 91 *e*P P 09 38 09.2 +0.6
PDAR Pinedale Array 41.87 91 P P 09 38 09.1 +0.5
comp=Z,34nm,1.1s,baz=321,slow=3.8,SNR=43
PDAR LR LR 09 57 20.8
comp=Z,650nm,18.2s,baz=346,slow=39
PDAR Pinedale Array 41.87 91 *e*P P 09 38 08.9 +0.3
SPUT South Promonto 41.92 95 *e*P P 09 38 10.5 +1.5
comp=Z,63nm,1.0s
B31A Grnbush Farm 42.00 76 P P 09 38 08.8 -0.5
baz=324,SNR=7.4
BGU Big Grassy Mou 42.01 96 *e*P P 09 38 10.9 +1.2
comp=Z,13nm,1.1s
HWUT Hardware Ranch 42.03 94 *e*P P 09 38 11.1 +1.2
comp=Z,31nm,1.2s
NV01 Mina Array Sit 42.04 103 *e*P P 09 38 10.9 +0.9
NVAR Mina Array Bea 42.04 103 P P 09 38 11.4 +1.4
comp=Z,20nm,0.9s,baz=312,slow=7.4,SNR=34
A32A Rocking H Ranc 42.05 74 P P 09 38 09.0 -0.7
baz=324,SNR=14
SCO Scoresbysund 42.22 13⇓*i*P P 09 38 11.6 +0.8
SCO pmax pmax
comp=Z,87nm,1.1s
SCO Scoresbysund 42.22 13⇓*i*P P 09 38 11.6 +0.8
comp=Z,87nm,1.1s
SCO Scoresbysund 42.22 13 *e*P P 09 38 11.6 +0.8
comp=Z,90nm,1.1s
MOY Mondy 42.29 293 *e*P P 09 38 13.4 +1.6
MOY pmax pmax
comp=Z,129nm,1.3s
MDPB Devils Postpil 42.43 104 *e*P P 09 38 14.8 +1.6
comp=Z,71nm,1.1s
B32A Ashes, Strandq 42.46 75 P P 09 38 11.9 -1.2
baz=324,SNR=16
ZAK Zakamensk 42.46 290 *e*P P 09 38 14.0 +0.8
ZAK pmax pmax
comp=Z,36nm,1.1s
A33A Warroad 42.46 74 P P 09 38 11.5 -1.6
baz=324
C31A Landman Farms, 42.48 76 P P 09 38 12.8 -0.4
baz=324,SNR=18
TCUT Toone Canyon 42.51 94 *e*P P 09 38 15.1 +1.3
comp=Z,114nm,1.0s
MLAC Mammoth, Mammo 42.52 104 P P 09 38 12.7 -1.3
baz=331
DUG Dugway, Tooele 42.72 96 P P 09 38 16.1 +0.7
baz=328,SNR=32
DUG Dugway, Tooele 42.72 96 *e*P P 09 38 16.2 +0.7
DUG pmax pmax
comp=Z,35nm,1.0s
DUG Dugway, Tooele 42.72 96 *e*P P 09 38 16.2 +0.7
comp=Z,35nm,1.0s
CTU Camp Tracy 42.73 95 *e*P P 09 38 16.5 +0.9
comp=Z,33nm,1.1s
AGMN Agassiz Nation 42.80 75 P P 09 38 15.1 -0.7
baz=324,SNR=16
AGMN Agassiz Nation 42.80 75 *e*P P 09 38 15.5 -0.4
comp=Z,45nm,1.0s
JLU Jordanelle 42.92 94 *e*P P 09 38 18.2 +1.0
comp=Z,38nm,1.3s
B33A Robert and Kas 42.93 74 P P 09 38 16.1 -0.7
baz=325
RSSD Black Hills 42.97 85 P P 09 38 17.1 -0.5
baz=326
RSSD Black Hills 42.97 85 *e*P P 09 38 17.4 -0.2
RSSD pmax pmax
comp=Z,54nm,1.2s
RSSD Black Hills 42.97 85 *e*P P 09 38 17.4 -0.2
comp=Z,54nm,1.2s
ULN Ulaanbaatar 43.04 285*d*iP P 09 38 18.9 +0.9
ULN pmax pmax
comp=Z,65nm,1.2s
ULN Ulaanbaatar 43.04 285 *e*P P 09 38 18.8 +0.8
comp=Z,54nm,1.1s
ULN Ulaanbaatar 43.04 285 P P 09 38 19.3 +1.3
SNR=14
ULN Ulaanbaatar 43.04 285 P P 09 38 19.3 +1.3
SNR=14
D31A Mcclaflin, Tow 43.09 77 P P 09 38 16.8 -1.4
baz=325
B34A Aery, Baudette 43.12 73 P P 09 38 17.6 -0.8
baz=325,SNR=17
R11A Troy Canyon, C 43.19 100 P P 09 38 20.0 +0.7
baz=330
R11A Troy Canyon, C 43.19 100 *e*P P 09 38 20.2 +0.8
comp=Z,48nm,1.5s
K22A Casper 43.19 88 P P 09 38 18.8 -0.5
baz=327,SNR=13
K22A Casper 43.19 88 *e*P P 09 38 19.9 +0.6
comp=Z,34nm,1.1s
NLU North Lily Min 43.22 96 *e*P P 09 38 20.5 +0.9
comp=Z,55nm,1.0s
PHSB Hesperia Broad 43.24 108 *e*P P 09 38 19.0 -0.6
PHSB *e*pP sP 09 38 23.6 -0.5
TIN Tinemaha, Big 43.26 104 P P 09 38 21.0 +1.1
baz=331,SNR=6.8
C33A Trail 43.27 75 P P 09 38 18.5 -1.2
baz=325
D32A Dogwood Acres, 43.29 76 P P 09 38 19.0 -0.8
baz=325
SONA1 Songino Array 43.31 285 *e*P P 09 38 21.4 +1.2
SONA0 Songino Array 43.32 285 *e*P P 09 38 21.6 +1.4
SONA0 *e*PP PcP 09 40 09.0 +0.2
SONM Songino Array 43.32 285 P P 09 38 21.6 +1.4
comp=Z,60nm,1.0s,baz=43,slow=7.0,SNR=139
SONM PcP PcP 09 40 09.0 +0.2
comp=Z,5.4nm,0.8s,baz=31,slow=1.6,SNR=3.7
SONM LR LR 09 57 26.5
comp=Z,2μm,19.7s,baz=32,slow=38
MPU Maple Canyon 43.35 95 *e*P P 09 38 21.0 +0.4
comp=Z,23nm,0.9s
KS01 Wonju Array Si 43.39 258 *e*P P 09 38 20.4 -0.3
KSRS Korea Array 43.40 258 P P 09 38 20.3 -0.4
comp=Z,18nm,0.9s,baz=22,slow=8.2,SNR=38
KSRS PcP PcP 09 40 08.8 -0.2
comp=Z,4.0nm,0.8s,baz=30,slow=4.7,SNR=5.4
KSRS LR LR 09 56 59.5
comp=Z,342nm,18.8s,baz=35,slow=37
KS15 Wonju Array Si 43.42 258 *e*P P 09 38 21.3 +0.3
KSAR Wonju Array Be 43.42 258 P P 09 38 20.3 -0.6
KSAR 09 40 08.8
KSAR Wonju Array Be 43.42 258 P P 09 38 20.3 -0.6
KSAR PcP PcP 09 40 08.8 -0.3
E31A Nome 43.42 78 P P 09 38 20.2 -0.7
baz=325
KEV Kevo 43.42 349 *e*P P 09 38 20.1 -0.5
KEV pmax pmax
comp=Z,56nm,0.9s
KEV Kevo 43.42 349 *e*P P 09 38 20.1 -0.5
comp=Z,56nm,0.9s
RCTC Rector, Farmer 43.52 105 P P 09 38 22.2 +0.5
baz=331,SNR=6.4
B35A Bob, Littlefor 43.58 73 P P 09 38 20.9 -1.2
baz=325,SNR=17
PAGB Antelope Grade 43.63 107 *e*P P 09 38 24.0 +1.3
comp=Z,69nm,1.3s
C34A RKJ Ranch, Bem 43.70 74 P P 09 38 21.9 -1.2
baz=325
E32A Braaten, Kindr 43.72 77 P P 09 38 21.9 -1.4
baz=325
RWWY Rawlins 43.72 90 *e*P P 09 38 23.0 -0.6
comp=Z,36nm,1.0s
D33A AnnSam, Waubun 43.75 75 P P 09 38 22.5 -1.0
baz=325
ARA0 ARCESS Array S 43.75 350 *e*P P 09 38 22.2 -1.0
ARA0 *e*PP PcP 09 40 09.4 -0.3
ARCES ARCESS Array B 43.75 350 P P 09 38 22.2 -1.0
comp=Z,18nm,0.9s,baz=17,slow=7.9,SNR=35
ARCES PcP PcP 09 40 09.4 -0.3
comp=Z,13nm,0.8s,baz=4.8,slow=2.9,SNR=8.1
ARCES LR LR 09 55 42.5
comp=Z,464nm,20.8s,baz=351,slow=35
ARCES ARCESS Array B 43.75 350 *e*P P 09 38 22.8 -0.5
ARCES PcP PcP 09 40 09.4 -0.3
ARE0 ARCESS Array S 43.75 350 *e*P P 09 38 23.3 0.0
comp=Z,80nm,1.5s
F31A Hecla 43.85 79 P P 09 38 23.7 -0.7
baz=326
CWC Cottonwood Cre 43.86 104 P P 09 38 25.6 +0.9
baz=331
VES Vestal, Richgr 43.99 105 P P 09 38 25.7 +0.2
baz=332,SNR=5.6
C35A Jirik Farms, M 44.02 74 P P 09 38 24.5 -1.2
baz=325,SNR=9.0
TRO Tromso 44.04 353 P P 09 38 26.9 +1.4
D34A Park Rapids 44.05 75 P P 09 38 24.6 -1.3
baz=325
SMMC Simmler 44.09 107 P P 09 38 27.0 +0.6
baz=332
TMUT Trail Mountain 44.13 95 P P 09 38 29.0 +2.0
comp=Z,58nm,1.0s
P17A Butcher Ranch, 44.17 95 *e*P P 09 38 28.2 +1.0
comp=Z,24nm,1.1s
DAC Darwin (Calif) 44.19 104 *e*P P 09 38 28.7 +1.3
DAC pmax pmax
comp=Z,27nm,1.0s
DAC Darwin (Calif) 44.19 104 *e*P P 09 38 28.7 +1.3
comp=Z,27nm,1.0s
E33A Westby DABS, E 44.21 76 P P 09 38 26.2 -1.0
baz=326
P18A Preston Nutter 44.24 94 *e*P P 09 38 29.3 +1.4
comp=Z,91nm,1.1s
F32A Veblen 44.29 78 P P 09 38 26.0 -1.8
baz=326
FURC Furnace Creek, 44.31 103 P P 09 38 28.7 +0.6
baz=331
ISA Isabella, Lake 44.38 105 P P 09 38 28.9 +0.1
baz=332,SNR=5.0
ISA Isabella, Lake 44.38 105 *e*P P 09 38 29.1 +0.3
ISA pmax pmax
comp=Z,40nm,1.4s
ISA Isabella, Lake 44.38 105 *e*P P 09 38 29.1 +0.3
comp=Z,40nm,1.4s
C36A Pine Crest Far 44.41 73 P P 09 38 28.3 -0.5
baz=325
MSU Marysvale 44.41 97 *e*P P 09 38 29.0 -0.2
MSU Marysvale 44.41 97 *e*P P 09 38 29.0 -0.2
MPMC Manual Prospec 44.42 104 P P 09 38 30.1 +0.9
baz=331
Q16A Castle Valley 44.47 95 *e*P P 09 38 31.2 +1.5
comp=Z,71nm,1.0s
D35A Remer 44.50 74 P P 09 38 28.5 -1.0
baz=326,SNR=11
E34A Wadena 44.53 75 P P 09 38 28.7 -1.1
baz=326,SNR=10
LVZ Lovozero 44.54 345⇓*i*P P 09 38 29.0 -0.6
LVZ pmax pmax
comp=Z,137nm,2.5s
PKM Mcpherson Peak 44.54 107 P P 09 38 30.9 +0.7
baz=332
TJN Taejon 44.55 258*ce*P P 09 38 29.0 -1.0
SRU San Rafael Swe 44.57 95 *e*P P 09 38 31.4 +1.0
SRU pmax pmax
comp=Z,76nm,1.0s
SRU San Rafael Swe 44.57 95 *e*P P 09 38 31.4 +1.0
comp=Z,76nm,1.0s
O20A White River Ci 44.62 92 P P 09 38 32.0 +1.3
baz=328,SNR=5.7
O20A White River Ci 44.62 92 *e*P P 09 38 31.2 +0.4
comp=Z,22nm,1.1s
F33A 5 Mile Ranch, 44.64 77 P P 09 38 29.9 -0.8
baz=326,SNR=29
G32A Webster 44.65 78 P P 09 38 30.5 -0.3
baz=326
C37A Embarrass 44.69 72 P P 09 38 29.7 -1.4
baz=325
ARVC Arvin 44.71 106 P P 09 38 31.7 +0.3
baz=332
PHWY Pilot Hill 44.76 88 *e*P P 09 38 32.1 +0.1
comp=Z,18nm,1.0s
CCUT Cedar City 44.76 99 *e*P P 09 38 33.4 +1.4
comp=Z,51nm,1.3s
D36A Goodland 44.76 73 P P 09 38 30.3 -1.4
baz=326,SNR=16
EYMN Ely 44.77 71 P P 09 38 31.1 -0.6
baz=325,SNR=13
EYMN Ely 44.77 71 *e*P P 09 38 31.7 -0.1
comp=Z,65nm,0.9s
E35A Pequot Lakes 44.79 75 P P 09 38 31.4 -0.5
baz=326
MTPU Mount Pierson 44.81 97 *e*P P 09 38 33.9 +1.4
comp=Z,47nm,1.2s
ANGG Ammassalik, Gr 44.83 24 *e*P P 09 38 31.4 -0.4
comp=Z,92nm,0.8s
SZCU Shurtz Canyon 44.84 98 *e*P P 09 38 34.3 +1.7
comp=Z,55nm,1.1s
N23A Red Feather La 44.90 89 P P 09 38 33.0 -0.1
baz=328,SNR=17
N23A Red Feather La 44.90 89 *e*P P 09 38 33.1 0.0
comp=Z,45nm,1.1s
H31A Wolsey 44.91 80 P P 09 38 32.0 -0.8
baz=326
SHPR Sheep Range 44.95 101 *e*P P 09 38 34.4 +1.0
comp=Z,49nm,1.6s
SBC Santa Barbara 44.97 107 P P 09 38 32.5 -0.9
baz=332
APA Apatity 44.99 345⇓*i*P P 09 38 32.4 -0.7
APA pmax pmax
comp=Z,19nm,0.7s
APA MLR MLR
comp=Z,1μm,16.0s
SHOC Shoshone, Teco 45.04 103 P P 09 38 34.6 +0.6
baz=331
C38A Sawbill Land. 45.05 71 P P 09 38 32.5 -1.4
baz=326
D37A Cotton 45.06 73 P P 09 38 32.4 -1.6
baz=326,SNR=15
F34A Alexandria 45.09 76 P P 09 38 33.1 -1.1
baz=326
G33A Ortonville 45.12 78 P P 09 38 34.1 -0.4
baz=326
OSI Osito Audit: C 45.20 106 P P 09 38 35.2 -0.2
baz=332
OSI Osito Audit: C 45.20 106 *e*P P 09 38 36.5 +1.2
comp=Z,75nm,1.4s
EDW2 Edwards Air Fo 45.25 105 P P 09 38 35.7 -0.1
baz=332
I31A Royce, Wessing 45.26 80 P P 09 38 35.1 -0.5
baz=327
E36A McGregor 45.27 74 P P 09 38 35.0 -0.7
baz=326,SNR=16
LCMT Little Creek M 45.28 99 *e*P P 09 38 37.4 +1.4
comp=Z,39nm,1.1s
H32A Carlson Farm, 45.30 79 P P 09 38 35.1 -0.8
baz=326
F35A Swanville 45.30 75 P P 09 38 35.5 -0.5
baz=326,SNR=5.3
GSC Goldstone, Bar 45.35 104 P P 09 38 37.2 +0.7
baz=332,SNR=17
GSC Goldstone, Bar 45.35 104 *e*P P 09 38 37.6 +1.0
GSC pmax pmax
comp=Z,59nm,1.2s
GSC Goldstone, Bar 45.35 104 *e*P P 09 38 37.6 +1.0
comp=Z,59nm,1.2s
C39A Grand Marais 45.40 70 P P 09 38 35.9 -0.8
baz=326
H33A Prehn Over Nor 45.43 78 P P 09 38 36.3 -0.7
baz=326
BLG Laguna Peak, P 45.52 107 P P 09 38 37.1 -0.7
baz=332
E37A Wrenshall 45.56 73 P P 09 38 37.7 -0.3
baz=326
TUQ Turquoise Moun 45.58 103 P P 09 38 39.3 +0.9
baz=331,SNR=12
RRX Edison Barstow 45.65 104 P P 09 38 39.6 +0.8
baz=332
PV09 Paradox Valley 45.65 94 *e*P P 09 38 40.1 +1.0
DECC Green Verdugo 45.67 106 P P 09 38 39.5 +0.4

	baz=332								
I32A	**Karley and Nic**	45.69	79	P		P	09 38 38.1	-0.9	
	baz=327								
F36A	**Milaca**	45.71	75	P		P	09 38 38.4	-0.8	
	baz=326,SNR=15								
J31A	**Geddes**	45.79	81	P		P	09 38 38.8	-1.0	
	baz=327								
PV10	**Paradox Valley**	45.79	94	*e*P		P	09 38 41.7	+1.5	
MWC	**Mount Wilson**	45.81	106	*e*P		P	09 38 44.0	+3.7	
MWC				pmax		pmax			
	comp=Z,72nm,1.3s								
MWC	**Mount Wilson**	45.81	106	*e*P		P	09 38 44.0	+3.7	
	comp=Z,72nm,1.3s								
H34A	**Spellman Lake,**	45.82	77	P		P	09 38 39.8	-0.2	
	baz=327								
E38A	**The Farm, Brul**	45.86	72	P		P	09 38 39.2	-1.1	
	baz=326,SNR=13								
NVS	**Novosibirsk**	45.86	308	⇓ *i* P		P	09 38 40.0	-0.2	
NVS				*i*			09 40 16.6		
NVS				*e*S		S	09 45 29.6	+5.9	
NVS				pmax		pmax			
	comp=N,54nm,1.9s								
NVS				pmax		pmax			
	comp=E,43nm,1.9s								
NVS				pmax		pmax			
	comp=Z,85nm,1.9s								
NVS				smax		smax			
	comp=N,18nm,2.4s								
NVS				smax		smax			
	comp=E,27nm,2.0s								
G35A	**Watkins**	45.87	76	P		P	09 38 39.6	-0.9	
	baz=326								
BJI	**Beijing**	45.90	271	⇓ *i* P		P	09 38 40.5	-0.2	
BJI				S		S	09 45 25.0	+0.3	
BJI				pmax		pmax			
	comp=E,76nm,0.9s								
BJI				LR		LR			
	comp=E,2μm,9.4s								
BJI				LR		LR			
	comp=E,3μm,9.7s								
BJI				LR		LR			
	comp=E,2μm,62.5s								
BJT	**Baijiatuau**	45.92	271	*e*P		P	09 38 40.1	-0.8	
BJT				pmax		pmax			
	comp=Z,48nm,0.8s								
BJT	**Baijiatuau**	45.92	271	*e*P		P	09 38 40.1	-0.8	
	comp=Z,48nm,0.8s								
I33A	**Coleman**	45.93	79	P		P	09 38 40.3	-0.7	
	baz=327								
SMCO	**Snowmass**	45.94	91	*e*P		P	09 38 43.1	+1.5	
	comp=Z,20nm,1.1s								
BFSC	**Mount Baldy Ra**	45.95	105	P		P	09 38 41.6	+0.3	
	baz=332								
HEC	**Hector,Ludlow**	45.95	103	P		P	09 38 41.7	+0.5	
	baz=332								
ISCO	**Idaho Springs**	45.96	90	P		P	09 38 41.9	+0.3	
	baz=328								
ISCO	**Idaho Springs**	45.96	90	*e*P		P	09 38 42.1	+0.5	
ISCO				pmax		pmax			
	comp=Z,26nm,1.0s								
ISCO	**Idaho Springs**	45.96	90	*e*P		P	09 38 42.1	+0.5	
	comp=Z,26nm,1.0s								
JNU	**Nakatsue**	46.04	252	P		P	09 38 41.6	-0.3	
	comp=Z,6.8nm,0.7s,baz=229,slow=4.5,SNR=5.1								
JNU				LR		LR	09 58 34.4		
	comp=Z,410nm,19.8s,baz=34,slow=37								
J32A	**Parkston**	46.08	80	P		P	09 38 41.5	-0.6	
	baz=327								
ZAA1	**Zalesovo Array**	46.09	306	*e*P		P	09 38 41.8	-0.2	
ZAA0	**Zalesovo Array**	46.09	306	*e*P		P	09 38 39.8	-2.3	
	comp=Z,191nm,1.4s								
ZALV	**Zalesovo Beam**	46.09	306	P		P	09 38 41.8	-0.3	
	comp=Z,38nm,0.6s,baz=34,slow=6.7,SNR=68								
ZALV				LR		LR	09 58 44.2		
	comp=Z,1μm,18.9s,baz=56,slow=37								
ZALV	**Zalesovo Beam**	46.09	306	*e*P		P	09 38 41.2	-0.9	
ZALV	**Zalesovo Beam**	46.09	306	*e*P		P	09 38 41.2	-0.9	
SNCC	**San Nicolas Is**	46.10	108	P		P	09 38 41.9	-0.5	
	baz=333								
G36A	**St. Michael**	46.14	75	P		P	09 38 42.4	-0.1	
	baz=327								
U15A	**North Rim**	46.16	98	*e*P		P	09 38 44.1	+0.9	
	comp=Z,41nm,1.1s								
FMP	**Fort Macarthur**	46.16	106	*e*P		P	09 38 41.8	-1.1	
FMP				*e*pP		pP	09 38 45.9	-0.3	
H35A	**Sunnyside Ranc**	46.17	77	P		P	09 38 42.4	-0.4	
	baz=327,SNR=13								
F37A	**Hinrichs Farm,**	46.17	74	P		P	09 38 42.1	-0.7	
	baz=326								
PV01	**Paradox Valley**	46.19	94	*e*P		P	09 38 44.0	+0.7	
GMRC	**Granite Mounta**	46.26	103	P		P	09 38 43.8	+0.1	
	baz=332								
ECSD	**EROS Data Cent**	46.27	79	P		P	09 38 42.9	-0.7	
	baz=327								
ECSD	**EROS Data Cent**	46.27	79	*e*P		P	09 38 43.2	-0.4	
	comp=Z,30nm,1.1s								
F38A	**Pierce - Schro**	46.27	73	P		P	09 38 43.3	-0.3	
	baz=326,SNR=29								
I34A	**Hadley**	46.31	78	P		P	09 38 42.8	-1.1	
	baz=327								
K31A	**O'Neill**	46.34	81	P		P	09 38 43.6	-0.6	
	baz=327								
CIS	**Catalina Islan**	46.39	106	P		P	09 38 44.4	-0.3	
	baz=333								
E39A	**Mellen**	46.43	72	P		P	09 38 43.6	-1.2	
	baz=326								
OGNE	**Ogallala**	46.44	86	P		P	09 38 44.9	-0.2	
	baz=328								
OGNE	**Ogallala**	46.44	86	*e*P		P	09 38 45.8	+0.7	
	comp=Z,70nm,0.9s								
J33A	**Davis**	46.48	79	P		P	09 38 44.2	-1.1	
	baz=327								
SPMN	**Marine on St.**	46.52	75	P		P	09 38 44.9	-0.6	
	baz=327,SNR=16								
SPMN	**Marine on St.**	46.52	75	*e*P		P	09 38 45.4	-0.2	
	comp=Z,53nm,0.9s								
H36A	**Jessenland, He**	46.62	76	P		P	09 38 46.3	0.0	
	baz=327,SNR=12								
D41A	**Chassel**	46.62	70	P		P	09 38 45.5	-0.8	
	baz=326								
K32A	**Verdigre**	46.63	81	P		P	09 38 45.4	-1.1	
	baz=327								
E40A	**Wakefield**	46.63	71	P		P	09 38 46.0	-0.4	
	baz=327,SNR=7.9								
F39A	**Loretta**	46.68	72	P		P	09 38 46.4	-0.4	
	baz=327,SNR=21								
NEE2	**Needles Airpor**	46.68	102	P		P	09 38 47.1	+0.2	
	baz=331								
W13A	**Hualapai Mount**	46.68	101	*e*P		P	09 38 48.4	+1.2	
	comp=Z,24nm,1.4s								
MURC	**Murrieta**	46.69	105	P		P	09 38 46.9	-0.2	
	baz=332								
BELC	**Belle Mtn. Jos**	46.81	104	P		P	09 38 48.6	+0.5	
	baz=332								
IVI	**Ivigtut**	46.85	32	*e*P		P	09 38 47.8	0.0	
	comp=Z,38nm,0.8s								
Q24A	**Divide**	46.86	90	P		P	09 38 47.8	-0.9	
	baz=329								
Q24A	**Divide**	46.86	90	*e*P		P	09 38 50.4	+1.7	
	comp=Z,16nm,1.0s								
J34A	**George**	46.90	79	P		P	09 38 47.8	-0.8	
	baz=327								
G38A	**Ridgeland**	46.94	74	P		P	09 38 47.4	-1.4	
	baz=327,SNR=12								
E41A	**Kenton**	46.97	71	P		P	09 38 47.9	-1.1	
	baz=327								
PFO	**Pinyon Flats O**	46.97	104	P		P	09 38 49.5	+0.1	
	baz=332								
PFO	**Pinyon Flats O**	46.97	104	*e*P		P	09 38 52.0	+2.7	
PFO				pmax		pmax			
	comp=Z,46nm,1.5s								
PFO	**Pinyon Flats O**	46.97	104	*e*P		P	09 38 52.0	+2.7	
	comp=Z,46nm,1.5s								
XPFO	**Piæon Flat**	46.97	104	*e*P		P	09 38 51.6	+2.2	
	comp=Z,45nm,1.5s								
F40A	**Park Falls**	46.98	72	P		P	09 38 48.3	-0.8	
	baz=327,SNR=13								
IRM	**Iron Mountain**	47.01	103	P		P	09 38 50.2	+0.6	
	baz=332								
MVCO	**Mesa Verde**	47.01	94	P		P	09 38 49.7	-0.1	
	baz=330								
MVCO	**Mesa Verde**	47.01	94	*e*P		P	09 38 50.4	+0.6	
	comp=Z,21nm,1.3s								
H37A	**Dierke Farm, C**	47.02	75	P		P	09 38 48.8	-0.6	
	baz=327								
MSF	**Maaselka**	47.02	347	P		P	09 38 49.5	+0.3	
MSF				pmax		pmax			
	comp=Z,77nm,1.2s								
I36A	**Fitzsimmons Fa**	47.06	76	P		P	09 38 48.9	-0.8	
	baz=327								
K33A	**Hardington**	47.06	80	P		P	09 38 48.9	-0.9	
	baz=328								
HHC	**Hu-ho-hao-te**	47.08	276	*e*P		P	09 38 50.0	-0.1	
HHC				PP		PP	09 40 42.0	+1.5	
HHC				S		S	09 45 38.0	-3.8	
HHC				sS		sS	09 45 49.0	+1.8	
HHC				pmax		pmax			
	comp=Z,58nm,1.1s								
HHC				pmax		pmax			
	comp=Z,200nm,4.8s								
HHC				LR		LR			
	comp=Z,2μm,10.4s								
HHC				LR		LR			
	comp=Z,1μm,12.1s								
HHC				LR		LR			
	comp=Z,2μm,11.7s								
G39A	**Holcombe**	47.11	73	P		P	09 38 49.1	-1.0	
	baz=327,SNR=10								
H38A	**Maiden Rock**	47.19	75	P		P	09 38 49.4	-1.3	
	baz=327,SNR=6.0								
COWI	**Conover**	47.21	71	*e*P		P	09 38 52.6	+1.7	
	comp=Z,44nm,1.1s								
S22A	**4UR Ranch, Cre**	47.23	92	P		P	09 38 52.3	+0.8	
	baz=330,SNR=42								
S22A	**4UR Ranch, Cre**	47.23	92	*e*P		P	09 38 52.8	+1.2	
	comp=Z,60nm,1.3s								
PDMCI	**Parker Dam,Lak**	47.28	102	P		P	09 38 51.8	+0.3	
	baz=332								
I37A	**Lemond, Waseca**	47.30	76	P		P	09 38 51.1	-0.6	
	baz=327,SNR=12								
L33A	**Hoskins**	47.32	81	P		P	09 38 50.8	-1.1	
	baz=328								
WUAZ	**Wupatki**	47.32	98	P		P	09 38 51.6	-0.5	
	baz=331								
BC3	**Big Chuckawall**	47.33	103	P		P	09 38 51.7	-0.4	
	baz=332								
K34A	**Le Mars**	47.35	79	P		P	09 38 51.2	-0.9	
	baz=328,SNR=9.8								
E42A	**Champion**	47.40	70	P		P	09 38 51.4	-1.0	
	baz=327								
G40A	**Rib Lake**	47.49	72	P		P	09 38 51.1	-2.1	
	baz=327,SNR=5.6								
J36A	**Seneca 1, Swea**	47.51	77	P		P	09 38 52.6	-0.7	
	baz=328								
F41A	**Three Lakes**	47.52	71	P		P	09 38 51.8	-1.6	
	baz=327								
H39A	**Augusta**	47.57	74	P		P	09 38 52.1	-1.6	
	baz=327								
SCHQ	**Schefferville**	47.57	48	P		P	09 38 53.2	-0.5	
	comp=Z,61nm,1.1s,baz=339,slow=7.5,SNR=26								
SCHQ				LR		LR	10 00 31.4		
	comp=Z,477nm,19.6s,baz=332,slow=38								
SCHQ	**Schefferville**	47.57	48	*e*P		P	09 38 53.3	-0.3	
	comp=Z,131nm,1.3s								
Y12C	**Blythe**	47.61	102	P		P	09 38 54.6	+0.4	
	baz=332								
Y12C	**Blythe**	47.61	102	*e*P		P	09 38 55.1	+1.0	
	comp=Z,56nm,1.4s								
BGNE	**Belgrade**	47.61	82	P		P	09 38 53.4	-0.7	
	baz=328,SNR=5.4								
BGNE	**Belgrade**	47.61	82	*e*P		P	09 38 53.9	-0.2	
	comp=Z,84nm,1.0s								
MONP2	**Monument Peak**	47.62	105	P		P	09 38 54.3	-0.2	
	baz=332								
K35A	**Storm Lake**	47.66	78	P		P	09 38 54.3	-0.2	
	baz=328								
I38A	**Scanlan Farm,**	47.70	75	P		P	09 38 53.6	-1.2	
	baz=327,SNR=12								
TMCR	**Tamitsa**	47.73	341	*e*P		P	09 38 54.6	-0.1	
TMCR				pmax		pmax			
	comp=Z,43nm,0.9s								
SDCO	**Great Sand Dun**	47.77	91	P		P	09 38 55.9	+0.2	
	baz=330								
SDCO	**Great Sand Dun**	47.77	91	*e*P		P	09 38 56.8	+1.1	
	comp=Z,20nm,1.1s								
E43A	**Lone Tree Farm**	47.79	69	P		P	09 38 54.6	-0.9	
	baz=327								
J37A	**Redenius Farm,**	47.83	77	P		P	09 38 55.1	-0.7	
	baz=328								
KSCO	**Kaye Shedlock'**	47.84	87	P		P	09 38 56.3	+0.2	
	baz=329,SNR=27								
KSCO	**Kaye Shedlock'**	47.84	87	*e*P		P	09 38 57.1	+1.0	
	comp=Z,129nm,1.1s								
BORG	**Borgarnes**	47.85	15	LR		LR	09 58 29.6		
	comp=Z,129nm,21.2s,baz=348,slow=35								
M33A	**Taylor Creek F**	47.85	81	P		P	09 38 55.3	-0.8	
	baz=328								
F42A	**Maple Grove Fa**	47.88	70	P		P	09 38 55.0	-1.1	
	baz=327								
BTO	**Baotou**	47.91	277	*e*P		P	09 38 55.0	-1.5	
G41A	**Antigo**	47.94	72	P		P	09 38 55.9	-0.7	
	baz=327								
IKP	**In-Ko-Pah, Jac**	47.95	105	P		P	09 38 55.9	-1.1	
	baz=333								
H40A	**Chili**	47.96	73	P		P	09 38 56.2	-0.6	
	baz=327,SNR=5.9								
K36A	**Gilmore City**	48.05	78	P		P	09 38 56.1	-1.4	
	baz=328								
L35A	**Bielow Farm, R**	48.05	79	P		P	09 38 56.0	-1.5	
	baz=328								
GLA	**Glamis**	48.10	103	P		P	09 38 58.3	+0.2	
	baz=332								
GLA	**Glamis**	48.10	103	*e*P		P	09 38 59.1	+1.0	
GLA				pmax		pmax			
	comp=Z,66nm,1.3s								
GLA	**Glamis**	48.10	103	*e*P		P	09 38 59.1	+1.0	
	comp=Z,66nm,1.3s								
M34A	**Aspy Farms, Fr**	48.16	80	P		P	09 38 57.2	-1.2	
	baz=328								
I39A	**Houston**	48.17	75	P		P	09 38 57.1	-1.3	
	baz=328								
F43A	**Flat Rock, Esc**	48.18	70	P		P	09 38 57.5	-1.0	
	baz=327								
G42A	**Mountain**	48.20	71	P		P	09 38 56.9	-1.7	
	baz=327								
J38A	**Wedel Dairy, R**	48.25	76	P		P	09 38 58.2	-0.9	
	baz=328								
X16A	**Lo Mia Camp, P**	48.25	99	*e*P		P	09 39 01.1	+1.7	
	comp=Z,32nm,1.0s								
H41A	**Junction City**	48.25	72	P		P	09 38 58.0	-1.1	
	baz=328								
H41A	**Junction City**	48.25	72	*e*P		P	09 38 58.5	-0.5	
	comp=Z,45nm,1.1s								
K37A	**Belmond**	48.26	77	P		P	09 38 58.3	-0.8	
	baz=328,SNR=7.4								
W18A	**Petrified Fore**	48.33	97	P		P	09 38 60.0	0.0	
	baz=331								
W18A	**Petrified Fore**	48.33	97	*e*P		P	09 39 02.5	+2.6	
	comp=Z,38nm,1.2s								
F44A	**Big Bay de Noc**	48.35	69	P		P	09 38 58.6	-1.1	
	baz=327								
L36A	**Harm Buss Farm**	48.41	78	P		P	09 38 59.7	-0.6	
	baz=328								
N33A	**J Bar K, Exete**	48.46	82	P		P	09 38 59.7	-1.0	
	baz=328								
G43A	**Wallace**	48.47	70	P		P	09 38 59.7	-0.9	
	baz=328								
I40A	**Norwalk**	48.49	74	P		P	09 38 59.3	-1.6	
	baz=328								
E45A	**Wooded Hills,**	48.49	68	P		P	09 38 59.4	-1.4	
	baz=328								
J39A	**Decorah**	48.54	75	P		P	09 38 59.9	-1.4	
	baz=328,SNR=5.1								
M35A	**Neola**	48.54	80	P		P	09 39 00.3	-1.0	
	baz=328								
MHTCO	**State Highway**	48.62	91	*e*P		P	09 39 03.6	+1.4	
	comp=Z,47nm,1.2s								
I41A	**Arkdale**	48.64	73	P		P	09 39 01.0	-1.0	
	baz=328,SNR=10								
K38A	**Parkersburg**	48.70	76	P		P	09 39 01.1	-1.4	
	baz=328								
T25A	**Trinidad**	48.73	90	P		P	09 39 03.0	0.0	
	baz=330								
T25A	**Trinidad**	48.73	90	*e*P		P	09 39 05.5	+2.4	
	comp=Z,106nm,1.8s								
X18A	**Snowflake**	48.75	97	*e*P		P	09 39 04.3	+1.1	
	comp=Z,50nm,1.0s								
L37A	**Phoenix Point,**	48.75	78	P		P	09 39 01.7	-1.2	
	baz=328								
N34A	**Lincoln**	48.75	81	P		P	09 39 01.6	-1.3	
	baz=328								
113A	**Mohawk Valley,**	48.77	102	*e*P		P	09 39 04.1	+0.9	
	comp=Z,23nm,1.1s								
H42A	**Shiocton**	48.78	72	P		P	09 39 01.7	-1.4	
	baz=328								
H42A	**Shiocton**	48.78	72	*e*P		P	09 39 02.9	-0.2	
	comp=Z,58nm,1.0s								
DGZ	**Jazzator, Alta**	48.79	301	*i* P		P	09 39 03.0	-0.3	
SOKR	**Solikamsk**	48.80	328	*d i* P		P	09 39 01.0	-1.9	
SOKR				pmax		pmax			
	comp=Z,113nm,0.9s								
SOKR				MLR		MLR			
	comp=Z,522nm,19.0s								
J40A	**Soldiers Grove**	48.86	74	P		P	09 39 02.4	-1.3	
	baz=328								
M36A	**Felix, Anita**	48.91	79	P		P	09 39 02.0	-2.1	
	baz=328								
F45A	**CMU Biological**	48.93	68	P		P	09 39 02.2	-2.0	
	baz=328								
O33A	**Hebron**	48.97	82	P		P	09 39 02.5	-2.2	
	baz=329								
K39A	**Oelwein**	49.00	76	P		P	09 39 03.1	-1.7	
	baz=328,SNR=8.4								
L38A	**Oak Wood Farm,**	49.05	77	P		P	09 39 04.1	-1.1	
	baz=328								
N35A	**Tabor**	49.08	80	P		P	09 39 04.9	-0.5	
	baz=328,SNR=15								
F46A	**Macinaw City C**	49.14	68	P		P	09 39 04.4	-1.4	
	baz=328								
I42A	**Draeger Farm,**	49.15	72	P		P	09 39 04.7	-1.2	
	baz=328								
SCIA	**State Center**	49.15	77	P		P	09 39 05.0	-0.9	
	baz=328								
SCIA	**State Center**	49.15	77	*e*P		P	09 39 05.8	-0.1	
	comp=Z,84nm,1.1s								
J41A	**Loganville**	49.17	74	P		P	09 39 05.4	-0.7	
	baz=328,SNR=5.8								
CBKS	**Cedar Bluff**	49.18	85	P		P	09 39 05.6	-0.7	
	baz=329								
CBKS	**Cedar Bluff**	49.18	85	*e*P		P	09 39 06.8	+0.5	
CBKS				pmax		pmax			
	comp=Z,62nm,1.4s								
CBKS	**Cedar Bluff**	49.18	85	*e*P		P	09 39 06.8	+0.5	
	comp=Z,62nm,1.4s								
O34A	**Beatrice**	49.23	81	P		P	09 39 05.1	-1.5	
	baz=329,SNR=20								
M37A	**Trindle Farm,**	49.25	78	P		P	09 39 05.6	-1.1	
	baz=328,SNR=12								
K40A	**Colesburg**	49.30	75	P		P	09 39 05.6	-1.4	
	baz=328,SNR=5.8								
N36A	**Muff Farm, Cla**	49.39	80	P		P	09 39 06.3	-1.5	
	baz=329								
TIY	**Taiyuan**	49.40	273	*e*P		P	09 39 10.5	+2.5	
TIY				S		S	09 46 16.5	+1.9	
TIY				pmax		pmax			
	comp=Z,230nm,5.5s								
TIY				LR		LR			
	comp=Z,1μm,11.4s								
TIY				LR		LR			
	comp=Z,1μm,10.2s								
TIY				LR		LR			
	comp=Z,2μm,13.8s								
L39A	**Vinton**	49.45	76	P		P	09 39 07.3	-0.9	
	baz=328,SNR=11								
I43A	**Langenfeld Bro**	49.45	72	P		P	09 39 07.5	-0.8	
	baz=328								
JFWS	**Jewell Farm**	49.46	74	P		P	09 39 07.7	-0.6	
	baz=328,SNR=5.3								
JFWS	**Jewell Farm**	49.46	74	*e*P		P	09 39 09.7	+1.4	
JFWS				pmax		pmax			
	comp=Z,37nm,0.9s								
JFWS	**Jewell Farm**	49.46	74	*e*P		P	09 39 09.7	+1.4	
	comp=Z,37nm,0.9s								
O35A	**Humboldt**	49.48	81	P		P	09 39 07.2	-1.3	
	baz=329								
J42A	**Columbus**	49.55	73	P		P	09 39 06.7	-2.3	
	baz=328								
M38A	**Pleasantville**	49.58	78	P		P	09 39 08.0	-1.2	
	baz=328,SNR=8.5								
K41A	**Shullsburg**	49.70	74	P		P	09 39 08.4	-1.7	
	baz=328								
N37A	**Lee Faris, Mou**	49.73	79	P		P	09 39 09.2	-1.3	
	baz=329,SNR=7.8								
J43A	**Natural Harves**	49.77	72	P		P	09 39 09.6	-1.1	
	baz=328								
ANMO	**Albuquerque**	49.80	94	P		P	09 39 11.5	+0.2	
	baz=331								
ANMO	**Albuquerque**	49.80	94	⇑ *e*P		P	09 39 11.7	+0.5	
ANMO				pmax		pmax			
	comp=Z,32nm,1.2s								
ANMO	**Albuquerque**	49.80	94	*e*P		P	09 39 11.9	+0.7	
	comp=Z,30nm,1.1s								
L40A	**Anamosa**	49.80	76	P		P	09 39 10.0	-1.0	
	baz=328								
214A	**Organ Pipe Nat**	49.87	102	P		P	09 39 10.1	-1.5	
	baz=332								
K42A	**Prairie Point,**	49.93	73	P		P	09 39 10.8	-1.1	
	baz=328,SNR=5.6								
M39A	**Webster**	49.93	77	P		P	09 39 10.9	-1.0	
	baz=329,SNR=12								
LAZ	**Ladron**	49.99	95	*e*P		P	09 39 14.0	+1.3	
GLMI	**Grayling**	50.00	68	P		P	09 39 10.5	-1.9	
	baz=328								
GLMI	**Grayling**	50.00	68	*e*P		P	09 39 13.5	+1.1	
L41A	**Preston**	50.08	75	P		P	09 39 10.9	-2.1	
	baz=329,SNR=12								
N38A	**Joes South For**	50.09	78	P		P	09 39 11.3	-1.8	
	baz=329								
KSU1	**Kansas State U**	50.19	82	P		P	09 39 12.8	-1.1	
	baz=329,SNR=31								
KSU1	**Kansas State U**	50.19	82	*e*P		P	09 39 13.6	-0.3	
	comp=Z,138nm,1.0s								
M40A	**Post Highland**	50.25	76	P		P	09 39 12.9	-1.4	
	baz=329								
O37A	**Wolven Farm, M**	50.26	79	P		P	09 39 13.4	-1.0	
	baz=329,SNR=11								
LPM	**Los Pinos Moun**	50.28	94	*e*P		P	09 39 16.1	+1.3	
N39A	**Derby Farms, D**	50.31	77	P		P	09 39 13.1	-1.6	
	baz=329								
TUC	**Tucson**	50.36	100	P		P	09 39 15.5	+0.1	
	baz=332								
TUC	**Tucson**	50.36	100	*e*P		P	09 39 16.6	+1.2	
TUC				pmax		pmax			
	comp=Z,26nm,1.2s								
TUC	**Tucson**	50.36	100	*e*P		P	09 39 16.6	+1.2	
	comp=Z,26nm,1.2s								
Y22D	**IRIS PASSCAL I**	50.37	95	P		P	09 39 15.6	+0.1	
	baz=331								
Y22D	**IRIS PASSCAL I**	50.37	95	*e*P		P	09 39 17.4	+1.9	
	comp=Z,60nm,1.0s								
Y22E	**IRIS PASSCAL I**	50.37	95	P		P	09 39 15.7	+0.2	
	baz=331								
VAF	**Ylistaro**	50.37	350	*e*P		P	09 39 15.7	+0.8	
VAF				pmax		pmax			
	comp=Z,100nm,1.1s								
K43A	**Burlington**	50.38	73	P		P	09 39 15.0	-0.3	
	baz=329								
BNM	**Barren Site**	50.42	94	*e*P		P	09 39 17.0

KURK **Kurchatov** 50.85 308 *e*P P 09 39 18.7 0.0
comp=Z,115nm,0.8s
KURK *e*P P 09 39 19.4 +0.8
KURK *e*PcP PcP 09 40 35.2 0.0
KURK Kurchatov 50.85 308 P P 09 39 19.0 +0.3
SNR=35
KURK Kurchatov 50.85 308 P P 09 39 19.0 +0.3
SNR=35
KURBB Kurchatov Arra 50.96 308 P P 09 39 19.4 -0.1
comp=Z,76nm,0.8s,baz=31,slow=7.6,SNR=257
KURBB PcP PcP 09 40 35.2 -0.4
comp=Z,6.7nm,0.9s,baz=26,slow=4.7,SNR=4.7
P38A Dawn 50.97 79 P P 09 39 18.7 -1.1
baz=329,SNR=5.5
N41A Harden Midland 51.10 76 P P 09 39 18.8 -2.0
baz=329,SNR=5.6
O40A La Belle 51.20 77 P P 09 39 20.2 -1.3
baz=329,SNR=18
M43A Waltham Townsh 51.22 74 P P 09 39 19.3 -2.3
baz=329
Q37A Longview Farm, 51.25 80 P P 09 39 19.6 -2.3
baz=330,SNR=9.4
ARU Arti 51.29 325 P P 09 39 21.8 -0.1
comp=Z,35nm,0.6s,baz=20,slow=2.9,SNR=57
ARU Arti 51.29 325 *i* P P 09 39 21.9 -0.1
ARU pmax pmax
comp=Z,103nm,1.1s
ARU Arti 51.29 325 *e*P P 09 39 21.7 -0.2
comp=Z,90nm,1.0s
BVA0 Borovoye Array 51.30 315 *i* P P 09 39 21.8 -0.3
BVA0 pmax pmax
comp=Z,58nm,0.9s
BVAR Borovoye Array 51.30 315 P P 09 39 22.0 -0.1
comp=Z,39nm,0.7s,baz=32,slow=8.7,SNR=159
BVAR PcP PcP 09 40 36.8 0.0
comp=Z,9.4nm,0.7s,baz=44,slow=4.5,SNR=5.5
BVAR LR LR 10 03 07.1
comp=Z,1µm,19.5s,baz=34,slow=38
BRVK Borovoye 51.30 316 *d* P P 09 39 21.8 -0.3
BRVK pmax pmax
comp=Z,98nm,1.1s
BRVK Borovoye 51.30 316 *e*P P 09 39 21.9 -0.2
comp=Z,75nm,0.9s
BRVK Borovoye 51.30 316 P P 09 39 22.3 +0.2
SNR=33
BRVK Borovoye 51.30 316 P P 09 39 22.3 +0.2
SNR=33
N42A Yates City 51.32 75 P P 09 39 20.7 -1.7
baz=329
121A Cookes Peak, D 51.37 96 P P 09 39 23.3 +0.2
baz=332,SNR=24
121A Cookes Peak, D 51.37 96 *e*P P 09 39 24.3 +1.2
comp=Z,44nm,1.1s
P39B Salisbury 51.40 79 P P 09 39 22.1 -0.9
baz=329,SNR=19
Q38A Cooks Store, C 51.51 80 P P 09 39 22.6 -1.2
baz=330,SNR=12
N43A Stutzman Famil 51.56 75 P P 09 39 22.9 -1.3
baz=329
O41A Passleys Farm, 51.60 77 P P 09 39 23.3 -1.2
baz=329
ZSN Zaisan 51.60 302 ⇓ *i* P P 09 39 25.3 +0.9
comp=Z,555nm,1.2s
ZSN LR LR 10 00 39.9
comp=Z,341nm,11.2s
M44A Midewin, Midew 51.62 73 P P 09 39 22.9 -1.7
baz=329
SSE Sheshan 51.63 260 P P 09 39 25.8 +1.0
SSE S S 09 46 43.5 -2.0
SSE pmax pmax
comp=Z,35nm,0.7s
SSE pmax pmax
comp=Z,40nm,3.5s
SSE LR LR
comp=Z,430nm,13.1s
SSE LR LR
comp=Z,300nm,13.5s
P40A Paris 51.64 78 P P 09 39 23.4 -1.4
baz=329,SNR=21
FIA1 FINESS Array S 51.68 348 *e*P P 09 39 24.6 -0.2
FIA1 *e*P P 09 39 24.7 -0.1
FIA0 FINESS Array S 51.68 348 *e*P P 09 39 24.7 -0.1
FIA0 FINESS Array S 51.68 348 *e*P P 09 39 24.7 -0.1
FINES FINESS Array B 51.68 348 P P 09 39 24.7 -0.1
comp=Z,30nm,0.8s,baz=28,slow=8.6,SNR=67
FINES LR LR 10 01 17.2
comp=Z,363nm,21.5s,baz=2.0,slow=36
FINES FINESS Array B 51.68 348 *i* P P 09 39 24.7 -0.1
FINES pmax pmax
comp=Z,31nm,0.8s
Q39A Willow Grove F 51.69 79 P P 09 39 23.6 -1.6
baz=330
NJ2 Nanjing 51.73 263 *e*P P 09 39 25.3 -0.2
NJ2 S S 09 46 51.5 +4.7
NJ2 pmax pmax
comp=Z,34nm,0.8s
NJ2 pmax pmax
comp=Z,370nm,4.9s
NJ2 LR LR
comp=Z,940nm,14.1s
NJ2 LR LR
comp=Z,870nm,16.8s
NJ2 LR LR
comp=Z,830nm,11.9s
AMTX Amarillo 51.78 89 P P 09 39 25.5 -0.6
baz=331
AMTX Amarillo 51.78 89 *e*P P 09 39 25.7 -0.3
comp=Z,60nm,1.0s
319A Douglas 51.78 99 *e*P P 09 39 27.5 +1.4
comp=Z,36nm,1.1s
O42A Bath 51.84 76 P P 09 39 24.9 -1.4
baz=329
R38A Fenwick Farm, 52.06 80 P P 09 39 26.3 -1.6
baz=330,SNR=16
O43A Sugar Creek Fa 52.07 75 P P 09 39 27.0 -1.0
baz=330
Q40A Laux Farm, Aux 52.09 78 P P 09 39 26.4 -1.8
baz=330,SNR=19
N44A Piper City 52.09 74 P P 09 39 26.0 -2.1
baz=329
MSTX Muleshoe 52.14 91 P P 09 39 27.9 -0.8
baz=331,SNR=46
MSTX Muleshoe 52.14 91 *e*P P 09 39 28.6 -0.1
comp=Z,74nm,1.0s
M46A Old House Fiel 52.25 72 P P 09 39 27.5 -1.9
baz=330
P42A Winchester 52.27 76 P P 09 39 27.8 -1.6
baz=330
N45A Kentland 52.29 73 P P 09 39 28.2 -1.4
baz=330
R39A Chumby, Stover 52.29 80 P P 09 39 28.2 -1.5
baz=330,SNR=29
TRQ Mont Tremblant 52.45 60 *e*P P 09 39 29.8 -1.1
Q41A Truxton 52.46 78 P P 09 39 29.5 -1.4
baz=330,SNR=25
O44A Mansfield 52.51 75 P P 09 39 30.0 -1.3
baz=330
AAM Ann Arbor 52.52 69 P P 09 39 29.2 -2.1
baz=330
S38A Stockton 52.54 81 P P 09 39 29.7 -1.8
baz=330,SNR=29
P43A Skaggs, Pawnee 52.54 76 P P 09 39 29.8 -1.7
baz=330,SNR=5.6
N46A Monticello 52.55 73 P P 09 39 29.9 -1.6
baz=330
EPT El Paso 52.55 96 *e*P P 09 39 32.4 +0.6
comp=Z,32nm,1.0s
R40A Maddies Statio 52.62 79 P P 09 39 30.8 -1.3
baz=330
JOW Kunigami 52.66 251 P P 09 39 32.5 0.0
comp=Z,38nm,1.0s,baz=145,slow=22,SNR=4.9
JOW Kunigami 52.66 251 *e*P P 09 39 33.0 +0.5
comp=Z,87nm,1.2s
NC204 NORSAR Array S 52.70 357 *e*P P 09 39 32.6 +0.1
S39A Bolivar 52.72 80 P P 09 39 31.1 -1.8
baz=330,SNR=17
O45A Potomac 52.72 74 P P 09 39 31.7 -1.1
baz=330
NC303 NORSAR Array S 52.73 356 *e*P P 09 39 32.9 +0.3
Q42A Golden Eagle 52.77 77 P P 09 39 32.3 -1.0
baz=330,SNR=13
NC405 NORSAR Array S 52.84 356 *e*P P 09 39 32.8 -0.7
SFIN Lafayette 52.85 73 P P 09 39 32.6 -1.1
baz=330
SFIN Lafayette 52.85 73 *e*P P 09 39 33.4 -0.4
comp=Z,105nm,1.3s

T38A Diamond 52.90 81 P P 09 39 32.6 -1.6
baz=330,SNR=14
NB201 NORSAR Array S 52.91 356 *e*P P 09 39 33.3 -0.7
NBO02 NORSAR Array S 52.92 357 *e*P P 09 39 33.9 -0.1
NB2 NORSAR Subarra 52.92 356 P P 09 39 34.3 +0.1
comp=Z,81nm,0.9s,baz=1.1,slow=7.4
NB2 NORSAR Subarra 52.92 356 P P 09 39 34.2 +0.1
NB2 pmax pmax
comp=Z,68nm,0.9s
NB2 NORSAR Subarra 52.92 356 P P 09 39 34.3 +0.1
baz=1.1,slow=7.4
NB200 NORSAR Array S 52.92 356 *e*P P 09 39 34.2 +0.1
NOA NORSAR Array B 52.92 356 P P 09 39 34.2 +0.1
comp=Z,50nm,0.8s,baz=0.2,slow=7.7,SNR=130
NOA LR LR 10 02 53.4
comp=Z,170nm,18.2s,baz=5.0,slow=37
NBO00 NORSAR Array S 52.94 357 *e*P P 09 39 34.7 +0.5
R41A Rosebud 52.97 78 P P 09 39 33.3 -1.4
baz=330,SNR=15
GTA Gaotai 52.98 285 P P 09 39 35.5 +0.6
GTA pP sP 09 39 39.8 +0.2
GTA sP pP 09 39 43.0 +4.7
GTA S S 09 47 01.8 -2.4
GTA sS sS 09 47 11.5 +1.8
GTA SS SS 09 50 40.0 -2.6
GTA pmax pmax
comp=Z,72nm,1.1s
GTA pmax pmax
comp=Z,340nm,6.4s
GTA LR LR
comp=Z,850nm,15.2s
GTA LR LR
comp=Z,2µm,12.6s
GTA LR LR
comp=Z,330nm,10.7s
GDL2 Guadalupe Moun 53.04 93 *e*P P 09 39 36.4 +1.0
P44A Sand Creek, Wi 53.04 75 P P 09 39 34.1 -1.1
baz=330,SNR=11
MK31 Makanchi Array 53.05 303 *i* P P 09 39 34.5 -0.7
MK31 pmax pmax
comp=Z,41nm,0.8s
MK31 Makanchi Array 53.05 303 *e*P P 09 39 34.7 -0.5
MK32 Makanchi Array 53.05 303 *e*P P 09 39 34.6 -0.6
MK32 *e*PP PP 09 41 35.4 +0.8
MKAR Makanchi Array 53.05 303 P P 09 39 34.6 -0.6
comp=Z,22nm,0.8s,baz=46,slow=6.9,SNR=107
MKAR PP PP 09 41 35.4 +0.8
comp=Z,15nm,1.0s,baz=56,slow=9.0,SNR=4.5
MKAR LR LR 10 02 03.0
comp=Z,559nm,18.3s,baz=20,slow=36
MKAR Makanchi Array 53.05 303 *i* P P 09 39 34.5 -0.7
MKAR pmax pmax
comp=Z,22nm,0.8s
MKAR Makanchi Array 53.05 303 *e*P P 09 39 34.7 -0.6
comp=Z,166nm,0.8s
MKAR PP PP 09 41 35.4 +0.8
MK01 Makanchi Array 53.07 303 *e*P P 09 39 34.7 -0.7
MNTX Cornudas Mount 53.07 95 P P 09 39 36.0 +0.5
baz=332,SNR=48
MNTX Cornudas Mount 53.07 95 *e*P P 09 39 36.2 +0.7
comp=Z,47nm,1.1s
Q43A New Douglas 53.07 76 P P 09 39 34.4 -1.1
baz=330,SNR=5.1
WMOK Wichita Mounta 53.08 87 P P 09 39 34.9 -0.7
baz=331,SNR=46
WMOK Wichita Mounta 53.08 87 *e*P P 09 39 35.5 -0.1
WMOK pmax pmax
comp=Z,63nm,1.1s
WMOK Wichita Mounta 53.08 87 *e*P P 09 39 35.5 -0.1
comp=Z,62nm,1.1s
S40A Lebanon 53.12 80 P P 09 39 34.6 -1.3
baz=330,SNR=23
NAO01 NORSAR Array S 53.13 357 *e*P P 09 39 35.8 +0.3
MAKZ Makanchi 53.14 303 *i* P P 09 39 35.2 -0.7
MAKZ pmax pmax
comp=Z,54nm,0.9s
MAKZ Makanchi 53.14 303 *e*P P 09 39 35.4 -0.5
comp=Z,76nm,1.1s
HSIG 53.20 102 *e*P P 09 39 36.4 -0.1
comp=Z,47nm,1.2s
R42A Luebbering 53.21 78 P P 09 39 35.4 -1.0
baz=330,SNR=18
NC602 NORSAR Array S 53.22 356 *e*P P 09 39 36.6 +0.4
TUL1 Leonard 53.27 83 P P 09 39 35.6 -1.4
baz=330,SNR=12
TUL1 Leonard 53.27 83 *e*P P 09 39 36.2 -0.7
comp=Z,47nm,1.1s
T39A Clever 53.27 81 P P 09 39 35.5 -1.5
baz=330,SNR=10
BRZS Berezniki 53.33 312 *i* P P 09 39 37.3 +0.1
comp=Z,61nm,1.2s
O47A Sheridan 53.33 73 P P 09 39 36.1 -1.3
baz=330,SNR=5.8
P45A Graceland, Par 53.33 74 P P 09 39 36.0 -1.4
baz=330
Q44A Meyer Farm, Va 53.38 76 P P 09 39 36.3 -1.4
baz=330,SNR=13
S41A Jillco Farms, 53.43 79 P P 09 39 36.7 -1.4
baz=330,SNR=24
P46A Rosedale 53.47 74 P P 09 39 36.8 -1.5
baz=330
T40A Mansfield 53.51 80 P P 09 39 37.1 -1.6
baz=330,SNR=23
R43A Red Bud 53.56 77 P P 09 39 37.7 -1.3
baz=330,SNR=14
FVM French Village 53.61 78 *e*P P 09 39 38.9 -0.5
FVM pmax pmax
comp=Z,68nm,1.1s
FVM French Village 53.61 78 *e*P P 09 39 38.9 -0.5
comp=Z,68nm,1.1s
S42A Caledonia 53.65 78 P P 09 39 38.6 -1.1
baz=330,SNR=11
HHAR Hobbs 53.69 82 *e*P P 09 39 38.6 -1.4
comp=Z,27nm,1.0s
Q45A Warren Harvey, 53.72 75 P P 09 39 39.1 -1.1
baz=330,SNR=9.9
WMQ Urumqi 53.74 297 P P 09 39 41.0 +0.6
WMQ pP sP 09 39 44.8 -0.2
WMQ sP pP 09 39 51.0 +7.2
WMQ pmax pmax
comp=Z,84nm,1.9s
WMQ pmax pmax
comp=Z,460nm,3.8s
WMQ LR LR
comp=Z,2µm,15.9s
WMQ LR LR
comp=Z,2µm,21.3s
WMQ LR LR
comp=Z,2µm,17.7s
HFS Hagfors 53.75 355 P P 09 39 39.8 -0.4
comp=Z,36nm,0.8s,baz=38,slow=7.3,SNR=51
HFS LR LR 10 03 36.5
comp=Z,270nm,18.7s,baz=13,slow=37
U39A Green Forest 53.79 81 P P 09 39 39.2 -1.5
baz=330,SNR=20
LONY Lake Ozonia 53.83 61 P P 09 39 39.6 -1.4
baz=331,SNR=8.4
LONY Lake Ozonia 53.83 61 *e*P P 09 39 40.1 -0.8
comp=Z,45nm,1.1s
OLIL Olney 53.88 75 *e*P P 09 39 40.0 -1.4
comp=Z,62nm,1.0s
T41A Mountain View 53.90 79 P P 09 39 40.1 -1.5
baz=330,SNR=9.6
R44A Waltonville 53.92 76 P P 09 39 40.5 -1.1
baz=330,SNR=11
Q46A CEJHS Indians, 53.92 74 P P 09 39 40.3 -1.4
baz=330
SAN1 Sandwick 53.92 4 *e*P P 09 39 41.5 +0.2
P47A Martinsville 53.94 73 P P 09 39 40.2 -1.6
baz=330
FRNY Flat Rock 53.99 60 *e*P P 09 39 41.3 -0.8
comp=Z,34nm,0.8s
XAN Xi'an 54.00 273 P P 09 39 41.0 -1.4
XAN pP pP 09 39 45.5 -0.2
XAN sP sP 09 39 48.3 +1.3
XAN PP PP 09 41 42.0 -1.4
XAN S S 09 47 19.3 +1.4
XAN sS sS 09 47 27.5 +4.1
XAN pmax pmax
comp=Z,23nm,1.1s
XAN pmax pmax
comp=Z,230nm,5.2s
XAN LR LR
comp=Z,2µm,10.8s
XAN LR LR
comp=Z,1µm,11.4s

XAN LR LR
comp=Z,2µm,12.5s
ERPA Erie 54.05 66 P P 09 39 40.7 -1.9
baz=330
U40A Yellville 54.06 81 P P 09 39 40.9 -1.8
baz=331,SNR=11
S43A Fulton Ridge, 54.11 77 P P 09 39 41.9 -1.1
baz=330,SNR=29
BLO Bloomington 54.12 74 *e*P P 09 39 43.0 -0.1
BLO pmax pmax
comp=Z,42nm,1.3s
BLO Bloomington 54.12 74 *e*P P 09 39 43.0 -0.1
comp=Z,42nm,1.3s
T42A Van Buren 54.18 79 P P 09 39 42.6 -1.0
baz=330,SNR=14
R45A Skylar, Fairfi 54.19 76 P P 09 39 42.7 -1.0
baz=330,SNR=13
V39A Pettigrew 54.19 82 P P 09 39 42.4 -1.4
baz=331,SNR=37
SRIG Santa Rosalia 54.21 104 *e*P P 09 39 44.1 +0.3
comp=Z,46nm,1.1s
LZH Lanzhou 54.26 279 *e*P P 09 39 45.0 +0.6
LZH pP pP 09 39 47.3 -0.5
LZH sP sP 09 39 49.5 +0.5
LZH PP PP 09 41 50.0 +4.1
LZH *e*S S 09 47 18.3 -3.3
LZH pmax pmax
comp=Z,61nm,1.0s
LZH pmax pmax
comp=Z,370nm,5.7s
LZH LR LR
comp=Z,950nm,14.7s
LZH LR LR
comp=Z,1µm,16.8s
LZH LR LR
comp=Z,2µm,16.9s
SIUC Southern Illin 54.32 77 *e*P P 09 39 44.1 -0.5
comp=Z,68nm,1.1s
S44A Carbonale 54.33 77 P P 09 39 43.2 -1.5
baz=330
KONO Kongsberg 54.35 357 *e*P P 09 39 45.0 +0.5
KONO pmax pmax
comp=Z,93nm,1.2s
KONO Kongsberg 54.35 357 *e*P P 09 39 45.0 +0.5
comp=Z,93nm,1.2s
Q47A Bedord North L 54.36 74 P P 09 39 43.4 -1.4
baz=330,SNR=13
ALLY Alegheny Colle 54.40 67 *e*P P 09 39 44.6 -0.5
comp=Z,83nm,1.2s
U41A Viola 54.44 80 P P 09 39 43.7 -1.8
baz=331,SNR=11
T43A Greenville 54.45 78 P P 09 39 43.8 -1.8
baz=331,SNR=22
V40A Witts Springs 54.55 81 P P 09 39 44.4 -1.9
baz=331,SNR=17
ACSO Alum Creek Sta 54.56 70 P P 09 39 44.8 -1.5
baz=330
ACSO Alum Creek Sta 54.56 70 *e*P P 09 39 45.5 -0.8
comp=Z,30nm,1.0s
R46A Gibon Southern 54.56 75 P P 09 39 44.5 -1.8
baz=330
VSU Vasula 54.57 346 *d* P P 09 39 46.4 +0.3
VSU pmax pmax
comp=Z,488nm,1.2s
ABTX Abilene, Hawle 54.58 89 P P 09 39 45.6 -0.9
baz=332,SNR=5.1
ABTX Abilene, Hawle 54.58 89 *e*P P 09 39 45.8 -0.8
comp=Z,42nm,1.1s
S45A Carrier Mills 54.61 76 P P 09 39 45.3 -1.3
baz=330,SNR=9.8
W39A Magazine 54.70 82 P P 09 39 46.4 -1.0
baz=331,SNR=6.5
M54A Oil Creek Stat 54.70 66 P P 09 39 45.3 -2.0
baz=331
U42A Revenden 54.71 79 P P 09 39 45.6 -1.8
baz=331
USIN University of 54.72 75 *e*P P 09 39 46.8 -0.6
comp=Z,96nm,1.3s
T44A Benton 54.72 77 P P 09 39 45.9 -1.6
baz=331
VT1 Waterbury 54.73 59 *e*P P 09 39 47.5 0.0
comp=Z,23nm,0.8s
V41A Mountainview 54.83 80 P P 09 39 46.6 -1.7
baz=331,SNR=35
WHN Wuhan 54.87 266 P P 09 39 48.0 -0.6
WHN pmax pmax
comp=Z,270nm,1.8s
R47A Wooly Knot Far 54.87 74 P P 09 39 47.2 -1.4
baz=331
S46A Don Dixon Farm 54.94 75 P P 09 39 47.3 -1.8
baz=331
OTUK Ortayu 54.97 311 P P 09 39 49.3 +0.1
OTUK pmax pmax
comp=Z,80nm,0.9s
W40A Ferguson Farm, 54.98 81 P P 09 39 48.2 -1.3
baz=331,SNR=10.0
W40A Ferguson Farm, 54.98 81 *e*P P 09 39 48.8 -0.6
comp=Z,58nm,1.0s
U43A Rector 55.02 78 P P 09 39 48.4 -1.2
baz=331
WCI Wyandotte Cave 55.02 74 P P 09 39 48.1 -1.5
baz=331
WCI Wyandotte Cave 55.02 74 *e*P P 09 39 48.9 -0.8
WCI pmax pmax
comp=Z,49nm,1.0s
WCI Wyandotte Cave 55.02 74 *e*P P 09 39 48.9 -0.8
comp=Z,49nm,1.0s
PARMO Parma 55.02 78 *e*P P 09 39 46.7 -3.0
R48A Northridge Ran 55.04 73 P P 09 39 48.2 -1.5
baz=331
N54A Moraine State 55.05 67 P P 09 39 48.0 -1.9
baz=331
N54A Moraine State 55.05 67 *e*P P 09 39 48.6 -1.2
comp=Z,38nm,1.1s
LBNH Lisbon 55.09 59 P P 09 39 49.1 -1.0
baz=331,SNR=8.0
LBNH Lisbon 55.09 59 *e*P P 09 39 50.4 +0.3
LBNH pmax pmax
comp=Z,42nm,0.9s
LBNH Lisbon 55.09 59 *e*P P 09 39 50.4 +0.3
comp=Z,42nm,0.9s
PKME Peaks-Kenny Pk 55.09 56 P P 09 39 48.4 -1.6
baz=332
PKME Peaks-Kenny Pk 55.09 56 *e*P P 09 39 49.9 -0.1
comp=Z,29nm,0.8s
V42A Cord 55.12 80 P P 09 39 48.8 -1.7
baz=331
T45A Paducah 55.15 77 P P 09 39 49.0 -1.6
baz=331
X39A Fountain Ranch 55.16 83 P P 09 39 49.9 -0.8
baz=331,SNR=9.4
WHAR Wooly Hollow 55.21 81 *e*P P 09 39 50.4 -0.7
comp=Z,34nm,1.2s
ACCN Adirondack Com 55.23 61 *e*P P 09 39 51.0 -0.2
comp=Z,27nm,1.1s
W41B Gary Mavity, V 55.33 81 P P 09 39 50.6 -1.3
baz=331,SNR=13
MIAR Mount Ida 55.34 82 *e*P P 09 39 50.9 -1.1
MIAR pmax pmax
comp=Z,59nm,1.3s
MIAR Mount Ida 55.34 82 *e*P P 09 39 50.9 -1.1
comp=Z,59nm,1.3s
BIGH Upper Bighouse 55.35 6 *e*P P 09 39 51.9 +0.2
BIGH IAmb IAmb 09 39 53.1
comp=Z,90nm,0.9s
T46A Princeton 55.43 76 P P 09 39 51.3 -1.3
baz=331,SNR=5.1
HNH Hanover 55.44 59 *e*P P 09 39 52.8 +0.2
comp=Z,48nm,1.0s
BINY Binghamton 55.44 63 P P 09 39 51.2 -1.5
baz=331
BINY Binghamton 55.44 63 *e*P P 09 39 52.0 -0.7
comp=Z,28nm,1.0s
U44B Burton Farm, H 55.47 78 P P 09 39 51.2 -1.7
baz=331
V43A Jonesboro 55.48 79 P P 09 39 52.0 -0.9
baz=331
W42A Bald Knob 55.53 80 P P 09 39 52.3 -1.0
baz=331
S48A Wiedeman Farm, 55.61 74 P P 09 39 53.0 -0.9
baz=331,SNR=9.1
UALR University of 55.64 81 *e*P P 09 39 53.5 -0.6
comp=Z,75nm,1.4s
U45A Rockin P Farm, 55.69 77 P P 09 39 53.1 -1.4
baz=331
X40A Basin Creek Fa 55.69 82 P P 09 39 53.6 -1.0
baz=331,SNR=16
V44A Blytheville 55.70 78 P P 09 39 53.4 -1.1

baz=331
T47A Sharon Grove 55.78 75 P P 09 39 54.2 -1.0
baz=331,SNR=16
X41A Kaden, Bauxite 55.81 81 P P 09 39 54.1 -1.3
baz=331
TX31 Lajitas Ar. Si 55.84 94 eP P 09 39 56.1 +0.3
TX31 eP P 09 39 56.3 +0.5
LTX Lajitas 55.84 94 eP P 09 39 56.3 +0.5
LTX Lajitas 55.84 94 eP P 09 39 56.2 +0.5
LTX e 10 01 59.2
TXAR Lajitas Array 55.84 94 P P 09 39 56.2 +0.4
comp=Z,27nm,0.9s,baz=315,slow=5.4,SNR=117
TXAR PKKPbc PKKPbc 10 01 59.2
comp=Z,1.0nm,1.2s,baz=42,slow=3.9,SNR=3.7
TXAR LR LR 10 05 51.9
comp=Z,558nm,19.5s,baz=0.0,slow=38
HALT Halls 55.84 78 eP P 09 39 55.8 +0.2
FFD Franklin Falls 55.86 59 eP P 09 39 56.0 +0.3
comp=Z,28nm,0.8s
U46A Springville 55.91 77 P P 09 39 54.9 -1.1
baz=331
MOS Moscow 55.91 339 eP P 09 39 53.9 -1.9
TDK Taldyqorghan 55.92 305 eP P 09 39 56.5 +0.4
comp=Z,2µm,1.1s
TDK LR LR 10 04 06.1
comp=Z,3µm,14.2s
Y40A Okolona 55.93 82 P P 09 39 55.0 -1.3
baz=331
T48A Bowling Green 55.96 75 P P 09 39 55.5 -0.9
baz=331
WHTX Lake Whitney, 56.02 87 P P 09 39 55.9 -1.0
baz=332,SNR=5.4
WHTX Lake Whitney, 56.02 87 eP P 09 39 56.6 -0.3
comp=Z,37nm,1.1s
SSPA Standing Stone 56.11 66 P P 09 39 55.8 -1.7
baz=331
SSPA Standing Stone 56.11 66 eP P 09 39 56.2 -1.3
comp=Z,37nm,1.1s
X42A Stuttgart 56.12 81 P P 09 39 56.3 -1.3
baz=331
V45A Humboldt 56.14 78 P P 09 39 56.5 -1.3
baz=331
O56A Blue Knob Stat 56.18 66 P P 09 39 55.9 -2.2
baz=331
O56A Blue Knob Stat 56.18 66 eP P 09 39 56.6 -1.5
comp=Z,58nm,1.4s
U47A Clarksville 56.19 76 P P 09 39 57.2 -0.9
baz=331
WVT Waverly 56.25 76 P P 09 39 57.5 -1.0
baz=331
WVT Waverly 56.25 76 eP P 09 39 58.3 -0.2
WVT pmax pmax
comp=Z,48nm,1.2s
WVT Waverly 56.25 76 eP P 09 39 58.3 -0.2
comp=Z,48nm,1.2s
KAC Achnashellach 56.28 7 eP P 09 39 58.3 -0.1
WLAR White Oak Lake 56.28 82 eP P 09 39 58.9 +0.2
comp=Z,110nm,1.2s
MCD Coleburn Disti 56.29 6 eP P 09 39 58.7 +0.2
Y41A Eaglette Beard 56.31 82 P P 09 39 58.0 -0.9
baz=331,SNR=16
MDO Dochfour 56.38 6 eP P 09 39 59.4 +0.2
JCT Junction City 56.40 90 P P 09 39 59.2 -0.5
baz=332,SNR=110
JCT Junction City 56.40 90 eP P 09 39 59.3 -0.4
JCT pmax pmax
comp=Z,130nm,0.9s
JCT Junction City 56.40 90 eP P 09 39 59.3 -0.4
comp=Z,130nm,0.9s
U48A Cassie Pea, Po 56.42 75 P P 09 39 58.3 -1.5
baz=331
V46A Holladay 56.42 77 P P 09 39 58.6 -1.2
baz=331,SNR=23
KPL Plockton 56.42 7 eP P 09 40 00.3 +0.9
KPL IAmb IAmb 09 40 01.7
comp=Z,25nm,0.8s
X43A Marvell 56.45 80 P P 09 39 59.0 -0.9
baz=331
Z40A Long Farm, Mag 56.54 83 P P 09 40 00.4 -0.2
baz=332
W45A Hickory Valley 56.56 78 P P 09 40 00.5 -0.3
baz=331,SNR=14
MME1 Meikle Cairn 56.57 5 eP P 09 40 00.5 -0.1
CCAR Cane Creek 56.62 81 eP P 09 40 01.5 +0.4
comp=Z,60nm,1.1s
V47A Nunnelly 56.63 76 P P 09 40 00.1 -1.2
baz=331
N59A State Game Lan 56.64 64 P P 09 39 59.4 -1.9
baz=332
N59A State Game Lan 56.64 64 eP P 09 40 00.3 -1.0
comp=Z,28nm,1.1s
OBN Obninsk 56.67 339 d iP P 09 40 00.8 -0.4
OBN e 09 40 56.7
OBN e 09 42 07.0
OBN eS S 09 47 53.4 +0.5
OBN eSS SS 09 51 41.9 +2.3
OBN pmax pmax
comp=Z,149nm,1.4s
OBN MLR MLR
comp=Z,645nm,18.0s
OBN Obninsk 56.67 339 eP P 09 40 01.1 -0.1
comp=Z,160nm,1.3s
Y42A Garnett, Star 56.68 81 P P 09 40 01.2 -0.4
baz=332
HRV Adam Dziewonsk 56.74 60 P P 09 40 00.1 -1.8
baz=332
X44A Crenshaw 56.76 79 P P 09 40 01.8 -0.3
baz=331
Z41A Richland Creek 56.78 82 P P 09 40 01.5 -0.8
baz=332
PAGS Pennsylvania G 56.90 65 eP P 09 40 01.7 -1.4
comp=Z,38nm,1.0s
W46A Michie 56.90 77 P P 09 40 01.5 -1.7
baz=331
ODNJ Ogdensburg 56.92 63 eP P 09 40 01.7 -1.5
comp=Z,16nm,1.0s
AKTO Aktyubinsk 56.93 323 P P 09 40 02.5 -0.6
comp=Z,20nm,0.8s,baz=22,slow=9.7,SNR=57
AKTO LR LR 10 08 02.8
comp=Z,475nm,19.1s,baz=19,slow=40
AKTO Aktyubinsk 56.93 323 iP P 09 40 02.5 -0.6
AKTO pmax pmax
comp=Z,53nm,1.1s
WES Weston 56.93 59 eP P 09 40 03.4 +0.1
WES pmax pmax
comp=Z,38nm,0.8s
WES Weston 56.93 59 eP P 09 40 03.4 +0.1
comp=Z,38nm,0.8s
Y43A Makayla and Ka 56.96 80 P P 09 40 03.0 -0.6
baz=332
V48A Smith Brothers 56.98 76 P P 09 40 02.9 -0.9
baz=331
DRUM Mains of Drumt 56.99 5 eP P 09 40 03.4 0.0
DRUM IAmb IAmb 09 40 05.1
comp=Z,98nm,1.3s
140A Cam and Jess, 57.01 83 P P 09 40 03.9 -0.1
baz=332
435B Jarrell 57.02 88 P P 09 40 03.7 -0.4
baz=332
OXF Oxford 57.04 79 P P 09 40 03.8 -0.4
baz=332,SNR=23
OXF Oxford 57.04 79 eP P 09 40 04.2 +0.1
OXF pmax pmax
comp=Z,125nm,1.0s
OXF Oxford 57.04 79 eP P 09 40 04.2 +0.1
comp=Z,125nm,1.0s
PDGK Podgornoye 57.04 303 iP P 09 40 04.6 +0.4
PDGK pmax pmax
comp=Z,63nm,0.8s
LUPA Lehigh Univers 57.07 64 eP P 09 40 03.1 -1.2
comp=Z,3.1nm,0.9s
ENH Enshi 57.07 271 eP P 09 40 04.0 -0.5
comp=Z,115nm,1.2s
W47A Westpoint 57.11 77 P P 09 40 03.9 -0.7
baz=332,SNR=9.4
Z42A Norrel Spur, H 57.11 82 P P 09 40 04.1 -0.5
baz=332
X45A UM Field Stati 57.12 79 P P 09 40 03.6 -1.1
baz=332,SNR=5.3
PLAL Pickwick Lake 57.15 77 eP P 09 40 04.5 -0.4
comp=Z,53nm,1.2s
HPIG 57.17 98 eP P 09 40 05.8 +0.4
comp=Z,27nm,1.0s
Y44A Strider, Charl 57.20 80 P P 09 40 04.8 -0.4
baz=332
PAL Palisades 57.23 62 P P 09 40 04.1 -1.3
baz=332
PAL Palisades 57.23 62 eP P 09 40 04.3 -1.1
PAL pmax pmax
comp=Z,29nm,1.0s
PAL Palisades 57.23 62 eP P 09 40 04.3 -1.1
comp=Z,29nm,1.0s
BRYW Bryant College 57.27 60 eP P 09 40 05.5 -0.2
comp=Z,31nm,0.9s
IZAR Zarasai 57.29 346 eP P 09 40 05.4 -0.2
IZAR IAmb IAmb 09 40 07.1
comp=Z,48nm,1.1s
BTLS Baital 57.30 308 ⇓iP P 09 40 06.2 +0.3
comp=Z,1µm,0.9s
BTLS ePP PP 09 42 13.5 +0.9
BTLS LR LR 10 04 33.9
comp=Z,506nm,12.2s
141A Papa Simpson, 57.31 83 P P 09 40 04.9 -1.2
baz=332
X46A Booneville 57.33 78 P P 09 40 05.2 -0.9
baz=332,SNR=12
EDU Dundee 57.33 6 eP P 09 40 05.5 -0.4
NATX Nacogdoches 57.35 85 P P 09 40 06.0 -0.3
baz=332
NATX Nacogdoches 57.35 85 eP P 09 40 06.1 -0.3
comp=Z,55nm,1.3s
UZB Uzynbulak 57.36 304 ⇓iP P 09 40 07.2 +0.6
comp=Z,426nm,1.2s
UZB ePP PP 09 42 15.3 +2.0
Z43A Armstrong Fami 57.45 81 P P 09 40 05.5 -1.6
baz=332
240A Hunter Patters 57.46 84 P P 09 40 06.4 -0.8
baz=332
W48A Pulaski 57.47 76 P P 09 40 06.3 -0.9
baz=332
ISAL Salakas 57.48 346 eP P 09 40 06.8 -0.2
ISAL IAmb IAmb 09 40 08.5
comp=Z,46nm,1.0s
AB05 Akbulak array 57.52 321 eP P 09 40 07.1 -0.2
AB06 Akbulak array 57.52 321 eP P 09 40 07.0 -0.3
AB02 Akbulak array 57.53 321 eP P 09 40 07.1 -0.3
AB04 Akbulak array 57.53 321 eP P 09 40 07.1 -0.3
AB01 Akbulak array 57.53 321 eP P 09 40 07.1 -0.3
AB31 Akbulak array 57.53 321 iP P 09 40 07.1 -0.3
AB31 pmax pmax
comp=Z,113nm,1.0s
AB31 Akbulak array 57.53 321 eP P 09 40 07.2 -0.2
ABKAR Akbulak array 57.53 321 eP P 09 40 07.2 -0.2
comp=Z,479nm,0.8s
AB09 Akbulak array 57.53 321 eP P 09 40 07.1 -0.3
AB03 Akbulak array 57.54 321 eP P 09 40 07.1 -0.4
AB07 Akbulak array 57.54 321 eP P 09 40 07.2 -0.3
Y45A Yeager Farm, C 57.55 79 P P 09 40 07.4 -0.3
baz=332,SNR=13
AB08 Akbulak array 57.55 321 eP P 09 40 07.3 -0.3
TZTN Tazewell 57.55 73 P P 09 40 06.8 -1.0
baz=332,SNR=18
TZTN Tazewell 57.55 73 eP P 09 40 07.5 -0.3
comp=Z,176nm,1.4s
MUD Monsted U'grnd 57.56 358 iP P 09 40 07.6 +0.1
MUD pmax pmax
comp=Z,59nm,1.2s
MUD Monsted U'grnd 57.56 358 iP P 09 40 07.6 +0.1
comp=Z,59nm,1.2s
SDMD Soldier's Deli 57.57 65 eP P 09 40 06.9 -1.0
comp=Z,6.8nm,0.8s
KUU Kurty 57.59 306 ⇓iP P 09 40 08.0 +0.1
comp=Z,236nm,1.5s
KUU ePP PP 09 42 15.6 +0.4
KUU LR LR 10 05 04.4
comp=Z,1µm,13.6s
EAB Aberfoyle 57.64 6 eP P 09 40 07.7 -0.3
SATY Saty 57.65 304 ⇓iP P 09 40 09.4 +0.9
comp=Z,756nm,1.2s
SATY ePP PP 09 42 17.4 +1.5
X47A Russelville 57.65 77 P P 09 40 07.8 -0.7
baz=332,SNR=5.4
IDID Didziasalis 57.67 346 eP P 09 40 08.0 -0.3
IDID IAmb IAmb 09 40 09.8
comp=Z,28nm,0.7s
IIGN Ignalina 57.69 346 eP P 09 40 08.2 -0.3
IIGN IAmb IAmb 09 40 10.0
comp=Z,43nm,1.0s
Z44A Pea Ridge, Bel 57.71 80 P P 09 40 08.0 -0.8
baz=332
142A Monroe 57.75 82 P P 09 40 08.8 -0.4
baz=332
Y46A Houston 57.81 79 P P 09 40 09.0 -0.5
baz=332,SNR=20
241A Mo Tay, Goldon 57.82 83 P P 09 40 08.7 -0.9
baz=332
143A Socs Landing, 57.83 81 P P 09 40 09.9 +0.2
baz=332
LPIG La Paz 57.85 104 LR LR 10 03 19.5
comp=Z,306nm,19.2s,baz=1.5,slow=34
Z45A Winona 57.92 80 P P 09 40 09.8 -0.6
baz=332
ESY Stoneypath 57.98 5 eP P 09 40 10.4 -0.1
MDOK Medeo 58.01 305 iP P 09 40 11.6 +0.5
comp=Z,420nm,1.0s
MDOK LR LR 10 05 21.4
comp=Z,591nm,17.0s
PGBU Glenifferbraes 58.01 7 eP P 09 40 11.0 +0.3
PGBU IAmb IAmb 09 40 12.8
comp=Z,69nm,1.0s
X48A Hartselle 58.02 77 P P 09 40 09.8 -1.2
baz=332,SNR=7.1
NACGM Naroch 58.07 346 e P 09 40 11.0 -0.1
242A Grayson 58.09 82 P P 09 40 10.5 -1.1
baz=332
CPCT Cooper Cave 58.14 74 eP P 09 40 11.4 -0.4
BLA Blacksburg 58.17 70 P P 09 40 11.2 -0.9
baz=332
BLA Blacksburg 58.17 70 eP P 09 40 11.3 -0.9
BLA pmax pmax
comp=Z,27nm,1.0s
BLA Blacksburg 58.17 70 eP P 09 40 11.3 -0.9
comp=Z,27nm,1.0s
Y47A UCPARC, Winfie 58.19 78 P P 09 40 11.1 -1.1
baz=332,SNR=23
TKL Tuckaleechee C 58.24 73 P P 09 40 12.0 -0.6
comp=Z,64nm,1.1s,baz=325,slow=3.3,SNR=20
TKL LR LR 10 08 24.2
comp=Z,352nm,18.2s,baz=345,slow=39
TKL Tuckaleechee C 58.24 73 eP P 09 40 12.6 0.0
TKL pmax pmax
comp=Z,110nm,1.2s
TKL Tuckaleechee C 58.24 73 eP P 09 40 12.6 0.0
comp=Z,110nm,1.2s
X49A Woodville 58.25 76 P P 09 40 11.6 -1.1
baz=332
IP04 Greensprings 58.27 67 eP P 09 40 13.9 +1.2
comp=Z,21nm,1.0s
341A Buhwood 58.32 84 P P 09 40 11.9 -1.3
baz=332
MICGM Minsk 58.36 345 ⇓eP P 09 40 13.0 -0.1
MICGM PM 09 40 14.0
comp=Z,1.0nm,0.6s
MNK Minsk 58.36 345 ⇓eP P 09 40 13.0 -0.1
MNK pmax pmax
comp=Z,1µm,0.6s
IP03 Louisa 58.36 67 eP P 09 40 13.0 -0.4
comp=Z,41nm,1.3s
CVRD Centerville Ro 58.40 67 eP P 09 40 12.7 -1.0
comp=Z,89nm,0.1s
SPRD Spring Road, M 58.41 67 eP P 09 40 13.1 -0.6
comp=Z,37nm,1.2s
GMK Mull of Kintyr 58.42 7 eP P 09 40 13.4 -0.2
CBN Corbin Frederi 58.44 67 P P 09 40 12.4 -1.5
baz=332
IP07 Quail 58.45 67 eP P 09 40 13.9 -0.1
comp=Z,41nm,1.2s
Y48A Jasper 58.45 77 P P 09 40 12.8 -1.2
baz=332,SNR=11
IP06 Yanceyville 58.45 67 eP P 09 40 12.8 -1.2
comp=Z,32nm,1.2s
IP01 Cuckoo 58.45 67 eP P 09 40 13.8 -0.2
comp=Z,25nm,1.1s
833A Chaparral WMA, 58.46 91 P P 09 40 14.4 +0.2
baz=333
145A Houston Renfro 58.50 80 P P 09 40 13.2 -1.3
baz=332
243A Waterproof 58.52 82 P P 09 40 14.5 -0.1
baz=332
EKA Eskdalemuir Ar 58.54 6 P P 09 40 14.5 +0.1
comp=Z,37nm,0.6s,baz=1.0,slow=5.6,SNR=204
ESK Eskdalemuir 58.56 6 eP P 09 40 14.6 +0.1
ESK pmax pmax
comp=Z,51nm,0.6s
ESK Eskdalemuir 58.56 6 eP P 09 40 14.6 +0.1
comp=Z,51nm,0.6s
ESK Eskdalemuir 58.56 6 IAmb IAmb 09 40 15.2
comp=Z,53nm,0.7s
X50A Fort Payne 58.57 76 P P 09 40 14.0 -0.9
baz=332
VBMS Vicksburg 58.61 81 P P 09 40 14.5 -0.7
baz=332
VBMS Vicksburg 58.61 81 eP P 09 40 15.8 +0.7
comp=Z,45nm,1.3s
LLD Lille Linde 58.61 355 iP P 09 40 15.2 +0.4
LLD pmax pmax
comp=Z,130nm,1.3s
LLD Lille Linde 58.61 355 iP P 09 40 15.2 +0.4
comp=Z,130nm,1.3s
IP05 Hopewell Churc 58.62 67 eP P 09 40 14.8 -0.4
comp=Z,38nm,1.2s
342A Flagon Creek P 58.63 83 P P 09 40 13.2 -2.1
baz=332
CLGH Cloghs, Cushen 58.65 8 eP P 09 40 15.3 +0.2
CLGH IAmb IAmb 09 40 17.1
comp=Z,36nm,0.8s
244A Avery, Jackson 58.70 81 P P 09 40 14.8 -0.9
baz=332
ECK Cauldkaine Hil 58.70 6 eP P 09 40 15.4 0.0
TKM2 Tokmak 2 58.70 306 iP P 09 40 16.7 +0.7
TKM2 pmax pmax
comp=Z,100nm,1.3s
TKM2 Tokmak 2 58.70 306 P P 09 40 16.9 +1.0
SNR=68
Z47A Carrollton 58.72 78 P P 09 40 14.9 -1.0
baz=332,SNR=13
BSD Bornholm Skovb 58.73 354 ⇓iP P 09 40 15.8 +0.1
BSD pmax pmax
comp=Z,27nm,0.8s
BSD Bornholm Skovb 58.73 354 ⇓iP P 09 40 15.8 +0.1
comp=Z,27nm,0.8s
USP Ospenovka 58.75 307 P P 09 40 17.1 +1.0
SNR=31
LPSR Galich'ya Gora 58.75 337 eP P 09 40 14.7 -1.2
LPSR pmax pmax
comp=Z,110nm,1.1s
Z48A Northport 58.77 78 P P 09 40 14.8 -1.5
baz=332
BHH Howats Hill 58.78 6 eP P 09 40 16.6 +0.5
Y49A Blount Mountai 58.80 77 P P 09 40 14.9 -1.6
baz=332
146A Union 58.82 79 P P 09 40 15.8 -0.9
baz=332
CD2 Chengdu 58.83 276 P P 09 40 15.5 -1.3
CD2 pP pP 09 40 19.8 -0.4
CD2 sP sP 09 40 21.5 +0.1
CD2 PcS **PcS** **09 45 07.3 -0.8**
CD2 S **S** **09 48 20.3 -1.6**
CD2 SS **SS** **09 52 14.5 -0.2**
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,340nm,5.0s
CD2 LR LR
comp=Z,2µm,12.9s
CD2 LR LR
comp=Z,2µm,13.9s
CD2 LR LR
comp=Z,2µm,14.9s
KDJ Kajisay 58.88 304 P P 09 40 18.1 +0.8
KDJ Kajisay 58.88 304 eP P 09 40 18.1 +0.8
comp=Z,112nm,1.5s
CHMS Chumysh 58.91 307 P P 09 40 18.0 +0.8
SNR=40
KLNR Kaliningrad 58.93 350 iP P 09 40 17.2 +0.1
KLNR pmax pmax
comp=Z,44nm,0.4s
URVA University of 58.94 67 eP P 09 40 16.5 -0.9
GAL1 Galloway 58.94 7 eP P 09 40 17.3 +0.2
GAL1 IAmb IAmb 09 40 19.1
comp=Z,20nm,1.0s
245A Little AP, Sta 59.02 81 P P 09 40 16.9 -1.1
baz=332
TARG Taragay, Kyrgy 59.03 304 eP P 09 40 19.7 +1.2
comp=Z,33nm,1.0s
Y50A Piedmont 59.03 76 P P 09 40 17.2 -0.9
baz=332,SNR=9.1
EDMD Edmundbyers 59.09 5 eP P 09 40 18.2 0.0
EDMD IAmb IAmb 09 40 20.3
comp=Z,63nm,1.1s
ULHL Ulahol 59.09 305 P P 09 40 19.6 +0.9
SNR=18
FRU Bishkek 59.10 307 ⇓eP P 09 40 20.0 +1.5
FRU i 09 40 24.0
FRU pmax pmax
comp=Z,340nm,2.0s
147A Livingston 59.10 79 P P 09 40 17.3 -1.3
baz=332
KBK Karagaybulak 59.15 306 P P 09 40 20.3 +1.2
SNR=53
BG3 Lake Jocassee 59.16 73 eP P 09 40 19.1 +0.1
comp=Z,105nm,1.4s
GUMO Guam 59.18 227 LR LR 10 03 54.1
comp=Z,94nm,19.9s,baz=38,slow=34
344A Westbrook Farm 59.20 82 P P 09 40 18.3 -0.9
baz=332
SUW Suwalki 59.29 348 eP P 09 40 19.4 -0.1
SUW Suwalki 59.29 348 eP P 09 40 19.5 -0.1
SUW pmax pmax
comp=Z,146nm,1.0s
SUW Suwalki 59.29 348 eP P 09 40 19.5 -0.1
comp=Z,146nm,1.0s
LRAL Lakeview Retre 59.29 77 P P 09 40 18.4 -1.5
baz=332,SNR=7.3
LRAL Lakeview Retre 59.29 77 eP P 09 40 18.9 -1.0
comp=Z,20nm,0.9s
AAK Ala-Archa 59.31 307 P P 09 40 21.3 +1.2
comp=Z,65nm,1.0s,baz=83,slow=2.5,SNR=125
AAK Ala-Archa 59.31 307 iP P 09 40 21.0 +0.8
AAK pmax pmax
comp=Z,115nm,1.2s
AAK Ala-Archa 59.31 307 P P 09 40 21.4 +1.2
SNR=81
AAK Ala-Archa 59.31 307 eP P 09 40 21.0 +0.8
comp=Z,122nm,1.1s
AAK eP P 09 40 21.3 +1.2
AAK Ala-Archa 59.31 307 P P 09 40 21.6 +1.4
SNR=60
AAK Ala-Archa 59.31 307 P P 09 40 21.6 +1.4
SNR=60
Z49A Columbiana 59.33 77 P P 09 40 19.2 -1.0
baz=332,SNR=13
246A Jackson Lee, B 59.34 80 P P 09 40 18.7 -1.6
baz=332
148A Greensboro 59.40 78 P P 09 40 19.1 -1.6
baz=332
NCAT North Carolina 59.41 70 eP P 09 40 20.3 -0.4
comp=Z,32nm,1.1s
GMM Mts of Mourne 59.50 8 eP P 09 40 20.8 -0.2
247A Quitman 59.51 79 P P 09 40 20.2 -1.3
baz=332
Z50A Ashland 59.52 76 P P 09 40 20.4 -1.2
baz=332,SNR=16
EKS2 Erkin-Say 59.52 307 P P 09 40 22.7 +1.1
SNR=58
KZA Kyzart 59.57 306 P P 09 40 23.4 +1.1
SNR=40
345A Thompson Farm, 59.60 81 P P 09 40 21.6 -0.5
baz=332
VRH Novokhopyorsk 59.63 334 eP P 09 40 20.4 -1.6
VRH pmax pmax
comp=Z,70nm,0.8s
KMSC Kings Mountain 59.64 71 P P 09 40 21.3 -1.0
baz=332,SNR=6.5
KMSC Kings Mountain 59.64 71 eP P 09 40 21.8 -0.5
comp=Z,39nm,1.1s
UCH Uchtor 59.67 307 P P 09 40 24.1 +1.0
SNR=34
PAULI Pauline 59.74 72 eP P 09 40 22.6 -0.4
comp=Z,26nm,1.1s
149A Jones 59.75 78 P P 09 40 22.0 -1.1
baz=332,SNR=17
346A Big Creek Wild 59.76 80 P P 09 40 21.9 -1.2
baz=332
248A Dixon Mills 59.82 79 P P 09 40 22.4 -1.1
baz=332,SNR=7.7
NRN Naryn 59.90 305 P P 09 40 25.8 +1.4
HPK Haverah Park 59.97 5 eP P 09 40 24.8 +0.5
HPK IAmb IAmb 09 40 26.1
comp=Z,43nm,0.8s
AML Almayashu 60.03 307 P P 09 40 26.7 +1.3

SNR=89
VSR Storozhevoye 60.05 336 *e*P **P** **09 40 23.8 -1.1**
VSR pmax pmax
comp=Z,130nm,0.9s
150A Eclectic 60.05 77 P **P** **09 40 24.2 -0.9**
baz=332
HODGE Hodges 60.09 73 *e*P **P** **09 40 25.2 -0.2**
comp=Z,47nm,1.1s
MNAS Manas 60.09 308 *i* P **P** **09 40 26.3 +0.8**
MNAS pmax pmax
comp=Z,163nm,1.2s
347A Saraland 60.12 80 P **P** **09 40 25.5 -0.1**
baz=332,SNR=6.3
KK05 Karatay Array 60.14 310 *e*P **P** **09 40 25.9 +0.2**
KK04 Karatay Array 60.15 310 *e*P **P** **09 40 26.0 +0.2**
KK01 Karatay Array 60.16 310 *e*P **P** **09 40 26.1 +0.3**
KK02 Karatay Array 60.16 310 *e*P **P** **09 40 26.0 +0.2**
KK31 Karatay Array 60.16 310 *i* P **P** **09 40 26.0 +0.2**
KK31 pmax pmax
comp=Z,16nm,0.7s
KK31 Karatay Array 60.16 310 *e*P **P** **09 40 26.3 +0.5**
KKAR Karatay Array 60.16 310 *e*P **P** **09 40 26.3 +0.5**
KKAR Karatay Array 60.16 310 *e*P **P** **09 40 26.3 +0.5**
KK03 Karatay Array 60.16 310 *e*P **P** **09 40 26.1 +0.3**
KK06 Karatay Array 60.16 310 *e*P **P** **09 40 26.1 +0.2**
KK08 Karatay Array 60.16 310 *e*P **P** **09 40 26.1 +0.3**
KK07 Karatay Array 60.17 310 *e*P **P** **09 40 26.1 +0.3**
249A Camden 60.17 78 P **P** **09 40 25.4 -0.6**
baz=332
446A Poplarville 60.33 81 P **P** **09 40 27.4 +0.4**
baz=333
GOGA Godfrey 60.34 74 P **P** **09 40 26.5 -0.7**
baz=332
348A Jackson 60.36 79 P **P** **09 40 26.4 -0.8**
baz=332
151A Opelika 60.39 76 P **P** **09 40 25.7 -1.8**
baz=332
WPS Cemaes, Angles 60.41 7 *e*P **P** **09 40 26.5 -0.8**
WPS IAmb IAmb 09 40 28.7
comp=Z,40nm,1.0s
JSC Jenkinsville 60.43 72 *e*P **P** **09 40 27.3 -0.4**
JSC pmax pmax
comp=Z,34nm,1.1s
JSC Jenkinsville 60.43 72 *e*P **P** **09 40 27.3 -0.4**
comp=Z,34nm,1.1s
BRLS Boroldav 60.43 311 ⇓*i*P **P** **09 40 29.3 +1.6**
comp=Z,13nm,1.2s
GKP Gorka Klasztor 60.45 352 *e*P **P** **09 40 28.9 +1.3**
GKP Gorka Klasztor 60.45 352 *e*P **P** **09 40 28.9 +1.3**
DSB Dublin 60.47 8 *e*P **P** **09 40 27.8 +0.1**
comp=Z,24nm,0.7s
LBWR Ladybower, Pea 60.53 5 *e*P **P** **09 40 28.5 +0.3**
447A Lucedale 60.61 80 P **P** **09 40 28.2 -0.8**
baz=333
349A Repton 60.70 79 P **P** **09 40 28.9 -0.7**
baz=333
251A Midway 60.74 77 P **P** **09 40 28.1 -1.8**
baz=333
BRAL Brewton 60.91 79 P **P** **09 40 29.5 -1.5**
baz=333
BRAL Brewton 60.91 79 *e*P **P** **09 40 31.2 +0.1**
comp=Z,139nm,1.4s
FOEL Foel Wylfa 60.98 6 *e*P **P** **09 40 30.5 -0.7**
FOEL IAmb IAmb 09 40 32.0
comp=Z,50nm,0.8s
252A Lumpkin 61.09 76 P **P** **09 40 31.0 -1.3**
baz=333
154A Montrose 61.19 74 P **P** **09 40 31.1 -1.8**
baz=333
449A Pace 61.21 79 P **P** **09 40 32.5 -0.5**
baz=333
WACR West Acre 61.27 3 *e*P **P** **09 40 33.4 +0.2**
253A Americus 61.28 76 P **P** **09 40 32.2 -1.3**
baz=333
HLM1 Long Mynd 61.37 6 *e*P **P** **09 40 33.8 -0.1**
HLM1 IAmb IAmb 09 40 35.0
comp=Z,17nm,0.8s
351A Pinckard 61.39 77 P **P** **09 40 33.0 -1.3**
baz=333
352A Blakely 61.48 77 P **P** **09 40 33.7 -1.2**
baz=333
LNIG Linares 61.48 93 *e*P **P** **09 40 33.4 -1.6**
comp=Z,16nm,1.0s
GYA Guiyang 61.59 271 ⇓*i*P **P** **09 40 35.5 -0.4**
GYA sP sP 09 40 42.0 +1.5
GYA PcP **PcP** **09 41 19.0 +1.6**
GYA PP **PP** **09 42 53.5 +2.4**
GYA ScP **ScP** **09 45 19.8 +1.1**
GYA S **S** **09 48 55.3 -2.4**
GYA ScS **SKKSac** **09 50 24.5 -2.8**
GYA pmax pmax
comp=Z,80nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.6s
GYA LR LR
comp=Z,560nm,17.2s
GYA LR LR
comp=Z,520nm,17.6s
GYA LR LR
comp=Z,540nm,17.8s
KSH Kashi 61.63 304 P **P** **09 40 40.0 +4.0**
KSH pP sP 09 40 44.0 +3.3
KSH sP pP 09 40 47.0 +7.6
KSH PcP **PcP** **09 41 20.0 +2.5**
KSH S **S** **09 49 01.0 +3.1**
KSH pmax pmax
comp=Z,48nm,1.1s
KSH pmax pmax
comp=Z,230nm,9.3s
KSH LR LR
comp=Z,2μm,19.2s
KSH LR LR
comp=Z,650nm,12.4s
KSH LR LR
comp=Z,2μm,16.3s
BEL Belsk 61.64 349 *e*P **P** **09 40 36.5 +0.8**
BEL Belsk 61.64 349 *e*P **P** **09 40 36.5 +0.8**
254A Abbeville 61.71 75 P **P** **09 40 35.1 -1.3**
baz=333
LPW Lampeter 61.72 7 *e*P **P** **09 40 36.2 0.0**
MCH1 Michaelchurch 61.88 6 *e*P **P** **09 40 37.2 -0.2**
MCH1 IAmb IAmb 09 40 40.2
comp=Z,117nm,1.6s
NHSC New Hope 61.88 72 P **P** **09 40 35.4 -2.1**
baz=333
AKASG Malin Array Be 61.95 343 P **P** **09 40 37.1 -0.6**
comp=Z,32nm,0.8s,baz=14,slow=6.6,SNR=108
AKASG LR LR 10 11 47.6
comp=Z,300nm,19.0s,baz=10.0,slow=40
AKBB Malin Array Si 61.95 343 *e*P **P** **09 40 37.3 -0.5**
AKBB pmax pmax
comp=Z,77nm,1.1s
AKBB Malin Array Si 61.95 343 *e*P **P** **09 40 37.2 -0.5**
comp=Z,77nm,1.1s
KIEV Kiev 61.96 343 *d i*P **P** **09 40 37.1 -0.7**
KIEV pmax pmax
comp=Z,87nm,1.2s
KIEV Kiev 61.96 343 *e*P **P** **09 40 37.2 -0.6**
comp=Z,75nm,1.1s
AK11 Malin Array Si 61.98 343 *e*P **P** **09 40 36.9 -1.1**
SFK Sufi-Kurgan 62.00 306 *i* P **P** **09 40 38.8 +0.2**
SFK pmax pmax
comp=Z,50nm,1.3s
TIGA Tifton 62.04 75 P **P** **09 40 37.6 -1.0**
baz=333
MONM Monmouth 62.05 6 *e*P **P** **09 40 37.9 -0.5**
WTSB Winterswijk 62.09 359 *e*P **P** **09 40 39.3 +0.6**
comp=Z,31nm,0.5s
ZAIG Zacatecas 62.13 97 *e*P **P** **09 40 40.6 +0.9**
comp=Z,37nm,1.4s
STRD Stroud 62.14 5 *e*P **P** **09 40 39.5 +0.5**
STRD IAmb IAmb 09 40 40.8
comp=Z,65nm,0.8s
256A Glennville 62.22 74 P **P** **09 40 39.2 -0.6**
baz=333
HGH Gray Hill 62.25 6 *e*P **P** **09 40 39.6 -0.1**
453A Whigham 62.27 76 P **P** **09 40 39.4 -0.9**
baz=333
355A Pearson 62.41 75 P **P** **09 40 40.3 -0.9**
baz=333
CLL Collm 62.61 355 *e*P **P** **09 40 42.5 +0.3**
CLL pmax pmax
comp=Z,161nm,2.0s
CLL Collm 62.61 355 ⇓*i*P **P** **09 40 42.6 +0.3**
comp=Z,127nm,2.0s
CLL *e*PP **PP** **09 43 00.0 +0.8**
CLL *e*S **S** **09 49 11.0 +1.4**
CLL *e* 09 50 43.0
CLL *e*SS **SS** **09 53 18.0 +5.3**
CLL *e*(SSSS) 09 56 42.0
CLL LmV 10 08 00.0
comp=Z,200nm,19.0s
CLL Collm 62.61 355 *e*P **P** **09 40 42.5 +0.3**
comp=Z,161nm,2.0s
WOL Wolverton 62.63 5 *e*P **P** **09 40 42.6 +0.2**
WOL IAmb IAmb 09 40 43.4
comp=Z,65nm,0.8s
KSP Ksiaz 62.92 352 *e*P **P** **09 40 44.7 +0.4**
KSP Ksiaz 62.92 352 *e*P **P** **09 40 44.7 +0.4**
BRG Berggiesshubel 63.00 354 *i* P **P** **09 40 45.2 +0.4**
comp=Z,28nm,1.0s
BRG SS SS 09 53 36.0 +17
BRG Berggiesshubel 63.00 354 *i* P **P** **09 40 45.2 +0.4**
BRG pmax pmax
comp=Z,28nm,1.0s
BRG MLR MLR
comp=N,244nm,15.7s
BRG MLR MLR
comp=E,264nm,20.0s
BRG MLR MLR
comp=Z,322nm,17.9s
554A Perry 63.20 76 P **P** **09 40 45.8 -0.7**
baz=333
UCC Uccle 63.26 1 ⇓P **P** **09 40 46.6 +0.1**
BEBN Eben Emael 63.26 360 ⇑P **P** **09 40 46.9 +0.4**
UPC Upice 63.27 352 *e*P **P** **09 40 47.3 +0.7**
UPC pmax pmax
comp=Z,400nm,15.6s
UPC Upice 63.27 352 *e*P **P** **09 40 47.3 +0.7**
UPC AMS AMS 10 15 40.0
comp=Z,400nm,15.6s
456A Hilliard 63.28 74 P **P** **09 40 46.1 -0.9**
baz=333
HGN Heimansgroeve 63.29 360 *e*P P 09 40 52.1 +5.4
comp=Z,112nm,1.7s
OJC Ojcow 63.32 350 *e*P **P** **09 40 47.6 +0.6**
OJC Ojcow 63.32 350 *e*P **P** **09 40 46.9 0.0**
OJC pmax pmax
comp=Z,86nm,1.3s
OJC Ojcow 63.32 350 *e*P **P** **09 40 46.9 0.0**
comp=Z,86nm,1.3s
PVCC Panska Ves 63.32 354 *e*P **P** **09 40 47.7 +0.7**
PVCC Panska Ves 63.32 354 *e*P **P** **09 40 47.7 +0.7**
LVV L'vov 63.37 347 *e*P **P** **09 40 47.7 +0.4**
LVV MLR MLR
comp=N,300nm,15.0s
LVV MLR MLR
comp=E,500nm,15.0s
LVV MLR MLR
comp=Z,200nm,16.0s
DPC Dobruska-Polom 63.41 352 *e*P **P** **09 40 48.3 +0.7**
DPC *e* 09 40 51.2
DPC MLR MLR
comp=Z,400nm,17.3s
DPC Dobruska-Polom 63.41 352 *e*P **P** **09 40 48.3 +0.7**
DPC *epP* **pP** **09 40 51.2 +0.2**
DPC AMS AMS 10 15 50.0
comp=Z,400nm,17.3s
MEM Membach 63.45 360 ⇓P **P** **09 40 48.1 +0.3**
comp=Z,55nm,0.9s
MEM ⇑AP **sP** **09 40 52.2 -0.3**
MEM Membach 63.45 360 P **P** **09 40 48.4 +0.6**
SNF Seneffe 63.55 1 ⇑P **P** **09 40 49.0 +0.6**
CCA1 Carnmenellis 63.58 8 *e*P **P** **09 40 49.0 +0.3**
CCA1 IAmb IAmb 09 40 50.0
comp=Z,74nm,0.8s
BCLA Clavier 63.64 0 ⇑P **P** **09 40 49.4 +0.4**
KRLC Kraliky 63.66 352 *e*P **P** **09 40 50.1 +0.8**
KRLC *e* 09 40 53.8
KRLC *e* 09 40 53.9
KRLC Kraliky 63.66 352 *e*P **P** **09 40 50.1 +0.8**
KRLC *epP* **sP** **09 40 53.8 -0.2**
KWP Kalwaria Pacla 63.67 348 *e*P **P** **09 40 50.1 +0.8**
KWP Kalwaria Pacla 63.67 348 *e*P **P** **09 40 49.8 +0.5**
KWP pmax pmax
comp=Z,993nm,1.1s
KWP Kalwaria Pacla 63.67 348 *e*P **P** **09 40 49.8 +0.5**
comp=Z,993nm,1.1s
NKC Novy Kostel 63.70 355 *e*P **P** **09 40 50.3 +0.8**
NKC *e* 09 40 54.5
NKC Novy Kostel 63.70 355 *e*P **P** **09 40 50.3 +0.8**
NKC *epP* **sP** **09 40 54.5 +0.3**
HORU Horodok 63.73 345 P **P** **09 40 47.3 -2.4**
556A Lake Butler 63.78 75 P **P** **09 40 49.5 -0.7**
baz=333
OKC Ostrava-Krasne 63.81 351 *e*P **P** **09 40 50.9 +0.7**
OKC MLR MLR
comp=Z,400nm,20.2s
OKC Ostrava-Krasne 63.81 351 *e*P **P** **09 40 50.9 +0.7**
OKC AMS AMS 10 15 50.0
comp=Z,400nm,20.2s
PRU Pruhonice 63.86 353 *e*P **P** **09 40 51.4 +0.9**
PRU *e* 09 40 54.5
PRU MLR MLR
comp=Z,300nm,14.8s
PRU Pruhonice 63.86 353 *e*P **P** **09 40 51.4 +0.9**
PRU *epP* **sP** **09 40 54.5 -0.7**
PRU AMS AMS 10 09 40.0
comp=Z,300nm,14.8s
MORC Moravsky Berou 63.91 351 *e*P **P** **09 40 51.4 +0.5**
MORC pmax pmax
comp=Z,228nm,1.5s
MORC Moravsky Berou 63.91 351 ⇓*i*P **P** **09 40 51.7 +0.8**
MORC Moravsky Berou 63.91 351 *e*P **P** **09 40 51.4 +0.5**
comp=Z,228nm,1.5s
GOPC GO Pecny, Ondr 63.92 353 *e*P **P** **09 40 51.8 +0.8**
GOPC MLR MLR
comp=Z,300nm,15.0s
GOPC GO Pecny, Ondr 63.92 353 *e*P **P** **09 40 51.8 +0.8**
GOPC AMS AMS 10 18 10.0
comp=Z,300nm,15.0s
DOU Dourbes 63.96 1 ⇓P **P** **09 40 51.2 +0.1**
DOU ⇑AP **sP** **09 40 55.2 -0.6**
STHS Stebnicka Huta 64.01 349 *e*P **P** **09 40 52.9 +1.4**
STHS pmax pmax
comp=Z,26nm,1.3s
STHS Stebnicka Huta 64.01 349 *e*P **P** **09 40 52.9 +1.4**
557A Orange Park 64.03 74 P **P** **09 40 51.0 -0.8**
baz=334
NIE Niedzica 64.08 349 *e*P **P** **09 40 52.7 +0.7**
NIE Niedzica 64.08 349 *e*P **P** **09 40 52.7 +0.7**
GRFO Grafenberg 64.28 356 *e*P **P** **09 40 54.0 +0.7**
GRFO pmax pmax
comp=Z,28nm,0.8s
GRFO Grafenberg 64.28 356 *e*P **P** **09 40 54.0 +0.7**
comp=Z,28nm,0.8s
657A Interlachen 64.36 75 P **P** **09 40 53.5 -0.5**
baz=334
KMI Kunming 64.36 274 P **P** **09 40 54.0 -0.5**
KMI pP pP 09 40 57.5 -0.4
KMI sP sP 09 40 59.0 -0.1
KMI PcP **PcP** **09 41 28.8 -0.1**
KMI S **S** **09 49 33.5 +0.9**
KMI pmax pmax
comp=Z,47nm,1.0s
KMI pmax pmax
comp=Z,300nm,4.2s
KMI LR LR
comp=Z,710nm,13.7s
KMI LR LR
comp=Z,1μm,14.8s
KMI LR LR
comp=Z,1μm,15.2s
WLF Walferdange 64.39 359 ⇑P **P** **09 40 54.5 +0.4**
WLF Walferdange 64.39 359 *e*P **P** **09 40 54.8 +0.8**
WLF pmax pmax
comp=Z,27nm,0.8s
WLF Walferdange 64.39 359 *e*P **P** **09 40 54.8 +0.8**
comp=Z,27nm,0.8s
LANS Liptovska Anna 64.41 350 *e*P **P** **09 40 55.5 +1.3**
LANS Liptovska Anna 64.41 350 *e*P **P** **09 40 55.5 +1.3**
VRAC Vranov 64.44 352 ⇓*i*P **P** **09 40 55.3 +1.0**
CRVS Cervenica-Dubn 64.50 348 *e*P **P** **09 40 55.6 +0.8**
CRVS Cervenica-Dubn 64.50 348 *e*P **P** **09 40 55.6 +0.8**
TREC Trest 64.51 353 *e*P **P** **09 40 55.2 +0.4**
TREC MLR MLR
comp=Z,400nm,21.5s
TREC Trest 64.51 353 *e*P **P** **09 40 55.2 +0.4**
TREC AMS AMS 10 17 00.0
comp=Z,400nm,21.5s
SORM Soroca 64.58 343 ⇓*i*P **P** **09 40 54.8 -0.4**
UZH Uzhgorod 64.70 348 ⇑*i*P **P** **09 40 55.5 -0.5**
UZH *e* 09 40 58.9
KHC Kasperske Hory 64.76 354 *e*P **P** **09 40 57.4 +0.9**
KHC *e* 09 41 00.7
KHC MLR MLR
comp=Z,300nm,17.8s
KHC Kasperske Hory 64.76 354 *e*P **P** **09 40 57.4 +0.9**
KHC *epP* **sP** **09 41 00.7 -0.5**
KHC AMS AMS 10 14 50.0
comp=Z,300nm,17.8s
KHC Kasperske Hory 64.76 354 *e*P **P** **09 40 57.2 +0.8**
comp=Z,27nm,1.6s
JRQG Juriquilla Cam 64.84 96 *e*P **P** **09 40 58.6 +1.1**
comp=Z,245nm,1.0s
757A Oxford 64.85 75 P **P** **09 40 56.2 -1.1**
baz=334
LSA Lhasa 64.89 287 P **P** **09 40 59.5 +1.4**
LSA pmax pmax
comp=Z,64nm,1.3s
LSA LR LR
comp=Z,480nm,19.9s
LSA LR LR
comp=Z,1μm,23.5s
LSA LR LR
comp=Z,1μm,23.5s
LSA Lhasa 64.89 287 *e*P **P** **09 40 59.0 +0.9**
LSA pmax pmax
comp=Z,141nm,1.5s
LSA Lhasa 64.89 287 *e*P **P** **09 40 59.0 +0.9**
comp=Z,141nm,1.5s
KECS Kecovo 65.00 349 *e*P **P** **09 40 58.4 +0.4**
KECS pmax pmax
comp=Z,12nm,1.0s
KECS Kecovo 65.00 349 *e*P **P** **09 40 58.4 +0.4**
GEC2 GERESS Array S 65.04 354 *e*P **P** **09 40 59.0 +0.6**
GEC2 pmax pmax
comp=Z,33nm,1.1s
GEC2 GERESS Array S 65.04 354 *e*P **P** **09 40 59.0 +0.6**
comp=Z,32nm,1.1s
GERES GERESS Array B 65.04 354 P **P** **09 40 58.5 +0.1**
comp=Z,8.8nm,0.7s,baz=17,slow=5.6,SNR=73
GERES LR LR 10 10 24.0
comp=Z,125nm,18.2s,baz=18,slow=37
GEA0 GERESS Array S 65.05 354 *e*P **P** **09 40 58.6 +0.2**
VYHS Vyhne 65.11 350 *e*P **P** **09 40 59.3 +0.6**
VYHS pmax pmax
comp=Z,13nm,1.0s
VYHS Vyhne 65.11 350 *e*P **P** **09 40 59.3 +0.6**
TRSU Trosnyk 65.18 347 P **P** **09 40 59.8 +0.7**
STU Stuttgart 65.25 357 *e*P **P** **09 40 59.9 +0.3**
STU pmax pmax
comp=Z,31nm,0.8s
STU Stuttgart 65.25 357 *e*P **P** **09 40 59.9 +0.3**
comp=Z,31nm,0.8s
MODS Modra-Piesok 65.33 351 *e*P **P** **09 41 01.2 +1.0**
MODS Modra-Piesok 65.33 351 *e*P **P** **09 41 01.2 +1.0**
857A Zephyrhills 65.39 76 P **P** **09 40 59.9 -0.9**
baz=334
BUR08 Bucovina Ar. S 65.41 345 *e*P **P** **09 41 01.1 +0.3**
BUR04 Bucovina Ar. S 65.43 345 *e*P **P** **09 41 00.7 -0.3**
BURAR Bucovina Array 65.44 345 ⇑*i*P **P** **09 41 01.1 +0.1**
MOIG Morelia 65.46 97 *e*P **P** **09 41 02.8 +1.1**
ZST Bratislava 65.51 351 *e*P **P** **09 41 01.3 0.0**
ZST pmax pmax
comp=Z,33nm,0.9s
ZST Bratislava 65.51 351 *e*P **P** **09 41 01.3 0.0**
PSZ Piszkesteto 65.60 349 *e*P **P** **09 41 03.0 +1.0**
PSZ pmax pmax
comp=Z,58nm,1.3s
PSZ Piszkesteto 65.60 349 ⇓*i*P **P** **09 41 03.3 +1.3**
PSZ Piszkesteto 65.60 349 ⇓*e*P **P** **09 41 03.0 +1.0**
PSZ Piszkesteto 65.60 349 *e*P **P** **09 41 03.0 +1.0**
comp=Z,58nm,1.3s
BFO Black Forest 65.71 358 *i* P **P** **09 41 03.2 +0.6**
BFO Black Forest 65.71 358 *e*P **P** **09 41 02.9 +0.3**
comp=Z,19nm,1.0s
ECH Echery 65.84 359 *e*P **P** **09 41 03.7 +0.2**
ECH pmax pmax
comp=Z,20nm,0.8s
ECH Echery 65.84 359 *e*P **P** **09 41 03.7 +0.2**
comp=Z,20nm,0.8s
DWPF Disney Wildern 65.84 75 P **P** **09 41 02.8 -0.9**
baz=334
CONA Conrad Observa 65.85 352 *i* pP **P** **09 41 04.3 +0.6**
comp=Z,47nm,1.6s,SNR=18
957A Wimauma 65.92 76 P **P** **09 41 03.6 -0.6**
baz=334
MOA Molln 66.01 354 *i* pP **P** **09 41 04.9 +0.3**
comp=Z,38nm,1.5s,SNR=12
859A Kempfer Cattle 66.10 75 P **P** **09 41 04.9 -0.5**
baz=334
CSKK Cs˙ákako 66.27 351 ⇓*e*P **P** **09 41 07.1 +0.9**
SLE Schleitheim 66.27 358 P **P** **09 41 06.7 +0.4**
MAK Makhachkala 66.40 328 *e*P **P** **09 41 08.4 +1.3**
MAK *e*S **S** **09 49 59.8 +3.2**
MAK pmax pmax
comp=Z,189nm,1.0s
KIV Kislovodsk 66.43 332 *e*P **P** **09 41 07.5 +0.1**
KIV *e* 09 43 33.5
KIV *e*S **S** **09 49 57.9 +0.7**
KIV *e*SS **SS** **09 54 15.4 +2.6**
KIV pmax pmax
comp=Z,72nm,1.0s
KIV pmax pmax
comp=Z,47nm,3.5s
KIV MLR MLR
comp=Z,191nm,17.0s
KIV Kislovodsk 66.43 332 *e*P **P** **09 41 07.6 +0.2**
comp=Z,74nm,1.0s
KIV Kislovodsk 66.43 332 P **P** **09 41 07.8 +0.3**
SNR=16
KIV Kislovodsk 66.43 332 P **P** **09 41 07.8 +0.3**
SNR=16
CJR Cluj-Napoca 66.49 346 ⇓*i*P **P** **09 41 08.4 +0.7**
RETA Reutte 66.50 356 *i* pP **P** **09 41 08.3 +0.5**
comp=Z,25nm,1.2s,SNR=8.3
GROC Groznyy 66.53 329 *e*P **P** **09 41 07.2 -0.7**
GROC *e* 09 41 33.1
GROC *e* 09 43 31.0
GROC *e*S **S** **09 49 59.9 +1.7**
GROC pmax pmax
comp=Z,12nm,0.4s
ARSA Arzberg 66.55 353 *i* pP **P** **09 41 09.3 +1.2**
comp=Z,12nm,0.8s,SNR=7.3
ANN Anapa 66.56 336 *e*P P 09 41 02.4 -5.7
959A Okeechobee 66.58 75 P **P** **09 41 08.0 -0.5**
baz=334
KBZ Khabaz 66.61 331 P **P** **09 41 08.8 +0.4**
comp=Z,29nm,0.9s,baz=12,slow=4.5,SNR=53
KBZ LR LR 10 14 20.5
comp=Z,446nm,18.7s,baz=8.5,slow=40
WATA Walderalm 66.63 355 *i* pP **P** **09 41 09.6 +0.9**
comp=Z,24nm,0.8s,SNR=8.1
MOTA Moosalm 66.63 356 *i* pP **P** **09 41 09.2 +0.4**
comp=Z,14nm,0.8s,SNR=6.4
NCK Nalchik 66.70 331 ⇑*i*P **P** **09 41 07.7 -1.3**
NCK pmax pmax
comp=Z,64nm,1.0s
WTTA Wattenberg 66.70 355 *i* pP **P** **09 41 09.9 +0.7**
comp=Z,30nm,0.8s,SNR=11
KBA Koelnbreinsper 66.82 354 P **P** **09 41 10.9 +1.0**
KBA Koelnbreinsper 66.82 354 *i* pP **P** **09 41 11.0 +1.0**
comp=Z,29nm,0.8s,SNR=16
QIZ Qiongzhong 66.95 265 P **P** **09 41 09.0 -1.9**
QIZ S **S** **09 50 05.3 +1.4**
QIZ pmax pmax
comp=Z,36nm,2.3s
QIZ LR LR
comp=Z,420nm,14.2s
QIZ LR LR
comp=Z,490nm,17.2s
QIZ LR LR
comp=Z,630nm,14.2s
FETA Feichten 66.97 356 *i* pP **P** **09 41 11.6 +0.7**
comp=Z,27nm,0.8s,SNR=21
VRI Vrincioaia 67.00 344 P **P** **09 41 12.2 +1.3**
VRI Vrincioaia 67.00 344 ⇑*i*P **P** **09 41 12.3 +1.3**
DOPR Dopca 67.05 345 ⇑*i*P **P** **09 41 11.5 +0.3**
SOKA Soboth 67.14 353 *i* pP **P** **09 41 12.6 +0.7**
comp=Z,10nm,0.9s,SNR=8.8
PERS Pernice 67.18 353 *i* P **P** **09 41 12.6 +0.5**
ABTA Abfaltersbach 67.18 355 *i* pP **P** **09 41 12.7 +0.5**
comp=Z,25nm,1.1s,SNR=13
MYKA Terra Mystica 67.25 354 *i* pP **P** **09 41 12.9 +0.3**

comp=Z,12nm,0.7s,SNR=7.1
ZEI Tsey 67.32 330 *e*P **P** 09 41 10.7 -2.5
ZEI pmax pmax
comp=Z,58nm,1.0s
OBKA Obir 67.33 353 *i* pP **P** 09 41 13.8 +0.7
comp=Z,70nm,0.8s,SNR=25
SOC Sochi 67.34 334 *e*P **P** 09 41 11.3 -1.8
SOC *e*PPP PPP 09 45 19.7
SOC *e*S **S** 09 50 08.3 +0.3
SOC pmax pmax
comp=Z,22nm,0.7s
SOC MLR MLR
comp=Z,473nm,17.0s
FUORN Ofenpass-Fuorn 67.38 356 *e*P **P** 09 41 14.4 +0.8
comp=Z,31nm,0.9s
MORH M¨ţr¡gy, Hung 67.39 350⇓ *e*P **P** 09 41 13.3 0.0
059Z Ave Maria 67.43 76 P **P** 09 41 12.7 -1.1
baz=334
MLR Muntele Rosu 67.46 345 LR LR 10 12 16.8
comp=Z,83nm,21.7s,baz=26,slow=37
MLR Muntele Rosu 67.46 345 *e*P **P** 09 41 14.9 +0.9
MLR pmax pmax
comp=Z,87nm,2.0s
MLR Muntele Rosu 67.46 345⇑ *i*P **P** 09 41 14.8 +0.9
MLR Muntele Rosu 67.46 345 *e*P **P** 09 41 14.9 +0.9
comp=Z,87nm,2.0s
GUDG Gudauri 67.51 330 P **P** 09 41 14.7 +0.2
CFR Carcaliu 67.52 343 P **P** 09 41 13.9 -0.2
CFR Carcaliu 67.52 343⇓ *i*P **P** 09 41 14.0 -0.2
TUE Stuetta 67.55 357 *e*P **P** 09 41 15.3 +0.7
comp=Z,20nm,0.8s
ONI Oni 67.60 331 P **P** 09 41 15.1 +0.3
ONI Oni 67.60 331 *e*P **P** 09 41 15.1 +0.3
VOIR 67.61 345 P **P** 09 41 15.3 +0.4
VOIR 67.61 345⇑ *i*P **P** 09 41 15.4 +0.5
ARR Arges 67.72 346⇑ *i*P **P** 09 41 19.4 +3.9
BZS Buzias 67.75 348⇑ *i*P **P** 09 41 15.9 +0.2
DUS Dusheti 67.82 329 P **P** 09 41 17.0 +0.7
DUS Dusheti 67.82 329 *e*P **P** 09 41 17.0 +0.7
JAVS Javornik 67.97 354 *i* P **P** 09 41 16.6 -0.6
VISS Visnje 68.03 353 *e*P **P** 09 41 16.7 -0.7
TLB Topalu 68.11 343⇑ *i*P **P** 09 41 18.0 +0.1
DDFL Dedoflistskaro 68.15 328 P **P** 09 41 19.5 +1.2
TBLG Delisi 68.16 329 P **P** 09 41 18.5 +0.1
TBLG Delisi 68.16 329 *e*P **P** 09 41 18.7 +0.4
TBLG pmax pmax
comp=Z,87nm,0.8s
TBLG Delisi 68.16 329 *e*P **P** 09 41 18.7 +0.4
comp=Z,87nm,0.8s
TIRR Tirgusor 68.19 342⇑ *i*P **P** 09 41 18.5 +0.1
SHL Shillong 68.30 284⇓ *i*P **P** 09 41 20.0 +0.4
BOJS Bojanci 68.30 353 *i* P **P** 09 41 19.3 +0.2
TAPN Taplejung 68.32 288 *e*P **P** 09 41 19.8 -0.1
GUN Gumba 68.52 290 *e*P **P** 09 41 21.3 +0.2
comp=Z,111nm,1.1s
GEYT Alibeck 68.55 318 P **P** 09 41 21.6 +0.7
comp=Z,36nm,1.0s,baz=343,slow=4.6,SNR=33
GEYT LR LR 10 14 13.4
comp=Z,612nm,18.5s,baz=5.0,slow=38
JIRN Jiri 68.62 290 *e*P **P** 09 41 22.2 +0.4
AKH Akhalkalaki 68.72 330 *e*P **P** 09 41 22.7 +0.7
AKH pmax pmax
comp=Z,20nm,1.0s
AKH Akhalkalaki 68.72 330⇓ *i*P **P** 09 41 22.5 +0.4
AKH Akhalkalaki 68.72 330 *e*P **P** 09 41 22.7 +0.7
comp=Z,20nm,1.0s
SSB Saint Sauveur 68.78 1 *e*P **P** 09 41 22.4 +0.2
SSB pmax pmax
comp=Z,27nm,0.9s
SSB Saint Sauveur 68.78 1 *e*P **P** 09 41 22.4 +0.2
comp=Z,27nm,0.9s
KKN Kakani 68.85 291 *e*P **P** 09 41 23.2 +0.1
comp=Z,76nm,0.6s
ODAN Odare 68.89 289 *e*P **P** 09 41 23.5 +0.2
comp=Z,273nm,1.3s
GKN Gorkha 68.90 291 *e*P **P** 09 41 23.7 +0.4
comp=Z,130nm,0.8s
DANN Dangsing 68.92 292 *e*P **P** 09 41 24.5 +0.9
comp=Z,28nm,1.0s
MYIG MÖrida 68.94 86 *e*P **P** 09 41 24.0 +0.6
comp=Z,214nm,1.1s
PKI Pulchoki 69.00 291 *e*P **P** 09 41 24.1 0.0
comp=Z,186nm,1.5s
PKIN Phulchoki 69.00 291 *e*P **P** 09 41 23.9 -0.2
comp=Z,51nm,0.8s
DMN Daman 69.08 291 *e*P **P** 09 41 25.0 +0.4
comp=Z,59nm,0.8s
RAMN Ramite 69.11 289 *e*P **P** 09 41 24.8 +0.1
comp=Z,184nm,0.9s
DIVS Divibare 69.39 349 *e*P **P** 09 41 25.6 -0.5
comp=Z,14nm,1.0s
PYUN Piuthan 69.43 293 *e*P **P** 09 41 26.8 +0.1
KOLN Koldanda 69.50 292 *e*P **P** 09 41 27.3 +0.2
comp=Z,76nm,0.7s
GNI Garni 69.68 329 P **P** 09 41 28.8 +0.8
comp=Z,19nm,0.9s,baz=156,slow=2.0,SNR=13
GNI Garni 69.68 329 *e*P **P** 09 41 29.0 +1.0
GNI pmax pmax
comp=Z,161nm,1.5s
GNI Garni 69.68 329 *e*P **P** 09 41 28.3 +0.3
comp=Z,36nm,0.9s
GNI *e*P **P** 09 41 28.8 +0.8
GNI Garni 69.68 329 P **P** 09 41 29.8 +1.8
SNR=8.9
GNI Garni 69.68 329 P **P** 09 41 29.8 +1.8
SNR=8.9
VLC Villacollemand 69.84 356 *e*P **P** 09 41 29.1 +0.4
comp=Z,24nm,1.1s
CMAI Chiengmai2 70.50 275 P **P** 09 41 32.7 -0.6
comp=Z,505nm,1.0s
VTS Vitosha 70.61 346 *e*P **P** 09 41 32.4 -1.2
VTS pmax pmax
comp=Z,14nm,0.8s
VTS Vitosha 70.61 346⇑ *i*P **P** 09 41 33.0 -0.6
VTS Vitosha 70.61 346 *e*P **P** 09 41 32.4 -1.2
comp=Z,14nm,0.8s
ILGA Ilgaz 70.81 338 *e*P **P** 09 41 35.2 +0.3
comp=Z,50nm,1.3s
PDG Podgorica 71.11 349⇓ *i*P **P** 09 41 35.6 -0.9
TTG Podgorica 71.11 349 *e*P **P** 09 41 35.5 -0.9
TTG pmax pmax
comp=Z,22nm,0.9s
TTG Podgorica 71.11 349 *e*P **P** 09 41 35.5 -0.9
comp=Z,22nm,0.9s
SKNT Sakolnakorn 71.17 269 P **P** 09 41 36.1 -1.0
comp=Z,30nm,1.1s
LAMP Lampang 71.53 274 P **P** 09 41 39.1 -0.2
comp=Z,49nm,0.9s,comp=Z,361nm
CMMT Chiang Mai 71.55 275 P **P** 09 41 37.5 -1.9
comp=Z,57nm,1.1s,comp=Z,598nm
CHTO Chiang Mai 71.55 275 P **P** 09 41 38.6 -0.8
comp=Z,252nm,1.1s,comp=Z,3µm
CHTO Chiang Mai 71.55 275 *e*P **P** 09 41 38.8 -0.6
CHTO pmax pmax
comp=Z,37nm,0.8s
CHTO Chiang Mai 71.55 275 *e*P **P** 09 41 38.8 -0.6
comp=Z,37nm,0.8s
CHTO Chiang Mai 71.55 275 P **P** 09 41 39.0 -0.4
SNR=12
CHTO Chiang Mai 71.55 275 P **P** 09 41 39.0 -0.4
SNR=12
PGAV Gavieira, Arco 71.58 11 *e*P **P** 09 41 40.0 +0.6
comp=Z,70nm,1.3s
DAV Davao City (W) 71.74 245 LR LR 10 16 34.1
comp=Z,60nm,18.1s,baz=344,slow=39
PBRG Braganca 71.84 10 *e*P **P** 09 41 41.5 +0.5
comp=Z,2.3nm,0.7s
PCAB Cabril 71.85 11 *e*P **P** 09 41 41.5 +0.5
comp=Z,36nm,1.3s
CM31 Chiang Mai Arr 71.87 274 *e*P **P** 09 41 41.1 -0.2
CMAR Chiang Mai Arr 71.87 274 P **P** 09 41 41.1 -0.2
comp=Z,54nm,0.8s,baz=4.9,slow=6.5,SNR=226
CMAR LR LR 10 16 02.0
comp=Z,488nm,18.0s,baz=30,slow=38
CM01 Chiang Mai Arr 71.90 274 *e*P **P** 09 41 41.1 -0.4
ANTO Ankara 72.11 338 *e*P **P** 09 41 42.8 +0.2
ANTO pmax pmax
comp=Z,74nm,0.5s
ANTO Ankara 72.11 338 *e*P **P** 09 41 42.8 +0.2
comp=Z,74nm,0.5s
ANTO Ankara 72.11 338 P **P** 09 41 43.3 +0.7
SNR=8.2
ANTO Ankara 72.11 338 P **P** 09 41 43.3 +0.7
SNR=8.2
BR101 Keskin Array S 72.12 337 *e*P **P** 09 41 42.6 -0.2
BR131 Keskin Array S 72.12 337 *e*P **P** 09 41 42.6 -0.2
BRTR Keskin Array B 72.12 337 P **P** 09 41 42.6 -0.2
comp=Z,15nm,0.8s,baz=26,slow=3.4,SNR=70
BRTR LR LR 10 18 47.1
comp=Z,125nm,18.6s,baz=30,slow=40
BR231 Keskin MP Arra 72.14 338 *e*P **P** 09 41 42.8 -0.1
POLO Lamas de Olo 72.20 10 *e*P **P** 09 41 43.5 +0.3
comp=Z,14nm,1.5s
KHON Khomkaen 72.21 270 P **P** 09 41 43.7 +0.3
comp=Z,42nm,0.9s,comp=Z,1µm
PHIT Phitsanulok 72.42 273 P **P** 09 41 44.8 +0.2
comp=Z,26nm,0.9s,comp=Z,283nm
MVO Moncorvo 72.46 10 *e*P **P** 09 41 44.7 0.0
comp=Z,26nm,1.8s
FNA Florina 72.57 347 P **P** 09 41 45.0 -0.3
PBKT Sadao Pong 72.75 272 P **P** 09 41 45.5 -1.1
comp=Z,38nm,1.3s
PVIS Viseu 72.85 11 *e*P **P** 09 41 47.2 +0.2
comp=Z,30nm,1.5s
CHAI Chaiyaphum 72.94 271 P **P** 09 41 47.6 -0.2
comp=Z,15nm,1.0s,comp=Z,122nm
MTE Manteigas 73.19 10 *e*P **P** 09 41 49.1 +0.1
comp=Z,44nm,1.2s
MTE Manteigas 73.19 10 *e*P **P** 09 41 49.2 +0.1
comp=Z,24nm,0.8s
PCAS Casmilo, Conde 73.46 11 *e*P **P** 09 41 51.2 +0.7
comp=Z,78nm,1.2s
PCBR Castelo Branco 73.75 10 *e*P **P** 09 41 52.3 +0.1
comp=Z,46nm,1.3s
FSCY Frank Sound, G 73.84 79 *e*P **P** 09 41 53.1 +0.1
comp=Z,136nm,1.2s
PTOM Tomar 73.90 11 *e*P **P** 09 41 53.3 +0.2
comp=Z,37nm,1.3s
IGT Igoumenitsa 73.90 348 P **P** 09 41 52.6 -0.6
LCCY Blossom Villag 73.96 78 *e*P **P** 09 41 53.6 -0.1
comp=Z,88nm,1.2s
CBCY The Bluff, Cay 74.03 78 *e*P **P** 09 41 54.4 +0.3
comp=Z,108nm,1.1s
ES19 SONSECA Array 74.11 7 *e*P **P** 09 41 54.4 0.0
ESDC Sonseca Array 74.13 8 P **P** 09 41 54.6 0.0
comp=Z,21nm,0.7s,baz=357,slow=6.0,SNR=115
ESDC LR LR 10 13 14.9
comp=Z,119nm,21.0s,baz=80,slow=35
ESLA Sonseca Array 74.13 8 *e*P **P** 09 41 54.7 +0.1
comp=Z,30nm,0.8s
PMRV Marv??o 74.16 10 *e*P **P** 09 41 54.6 -0.1
comp=Z,20nm,1.4s
AGG Agios Georgios 74.23 346 *e*P **P** 09 41 54.1 -1.0
AGG pmax pmax
comp=Z,22nm,0.9s
AGG Agios Georgios 74.23 346 *e*P **P** 09 41 54.1 -1.0
comp=Z,22nm,0.9s
PAB San Pablo 74.24 8 *e*P **P** 09 41 55.4 +0.1
PAB pmax pmax
comp=Z,41nm,1.0s
PAB San Pablo 74.24 8 *e*P **P** 09 41 55.4 +0.1
comp=Z,42nm,1.0s
PMTG Matargil 74.46 11 *e*P **P** 09 41 56.3 -0.1
comp=Z,39nm,1.5s
PMAFR Mafra 74.49 12 *e*P **P** 09 41 57.2 +0.6
comp=Z,107nm,1.2s
TIP Timpagrande 74.52 351⇓ *i*P **P** 09 41 56.2 -0.6
TIP Timpagrande 74.52 351 *e*P **P** 09 41 56.2 -0.6
comp=Z,30nm,1.4s
VSL Villasalto 74.52 357 *e*P **P** 09 41 56.6 -0.2
comp=Z,34nm,1.0s
SRAK Srakaew 74.63 270 P **P** 09 41 56.6 -1.0
comp=Z,210nm,0.9s,comp=Z,2µm
NAYO Nakonayok 74.65 271 P **P** 09 41 58.1 +0.4
comp=Z,27nm,1.2s,comp=Z,585nm
PESTR Estremoz 74.71 11 *e*P **P** 09 41 57.2 -0.7
comp=Z,33nm,1.2s
PESTR Estremoz 74.71 11 *e*P **P** 09 41 57.1 -0.7
comp=Z,25nm,1.3s
PNCL Nicolau / Gran 75.39 11 *e*P **P** 09 42 02.0 +0.3
comp=Z,42nm,1.5s
PBAR Barrancos 75.44 10 *e*P **P** 09 42 02.0 0.0
comp=Z,104nm,1.4s
SRDT SRDT 75.50 273 P **P** 09 42 01.8 -0.9
comp=Z,93nm,1.0s
TGUH Tegucigalpa,Un 76.15 87 *e*P **P** 09 42 07.1 +0.7
comp=Z,19nm,1.0s
PVAQ Vaqueiros 76.15 11 *e*P **P** 09 42 06.6 +0.4
comp=Z,56nm,1.5s
MTDJ Mount Denham 76.27 76 *e*P **P** 09 42 07.2 0.0
comp=Z,55nm,1.3s
CLTB Calabellotta 76.30 354 *e*P **P** 09 42 06.9 -0.2
comp=Z,56nm,1.3s
VAE Valguarnera 76.34 353 LR LR 10 17 47.8
comp=Z,111nm,18.8s,baz=253,slow=37
PHET Kaeng Krachan 76.60 271 P **P** 09 42 09.3 +0.4
comp=Z,27nm,0.8s,comp=Z,236nm
SWI Sorong 77.11 236 P **P** 09 42 11.6 -0.2
SWI pP **pP** 09 42 15.4 +0.1
IDI Anoyia 77.66 344 P **P** 09 42 12.1 -2.6
comp=Z,8.6nm,0.7s,baz=5.6,slow=14,SNR=5.8
IDI LR LR 10 19 08.9
comp=Z,137nm,20.9s,baz=291,slow=38
IDI Anoyia 77.66 344⇑ *i*P **P** 09 42 12.2 -2.6
IDI Anoyia 77.66 344 *e*P **P** 09 42 12.1 -2.6
comp=Z,35nm,1.5s
HNR Honiara 77.79 206 LR LR 10 11 34.8
comp=Z,131nm,19.9s,baz=20,slow=32
LGNH LÖogne 77.93 72 *e*P **P** 09 42 16.9 +0.5
SDDR Presa de Saban 78.00 70 *e*P **P** 09 42 16.6 -0.2
comp=Z,28nm,0.9s
KEST Kesra 78.28 357 P **P** 09 42 18.1 -0.1
comp=Z,20nm,1.0s,baz=328,slow=1.8,SNR=12
KEST Kesra 78.28 357 *e*P **P** 09 42 18.6 +0.4
comp=Z,37nm,1.2s
MMAI Mount Meron Ar 78.39 335 P **P** 09 42 18.6 -0.2
comp=Z,8.1nm,0.6s,baz=15,slow=6.0,SNR=8.7
FAKI Fak Fak 78.71 235 P **P** 09 42 21.1 +0.4
FAKI pP **pP** 09 42 23.1 -1.0
FAKI Fak Fak 78.71 235 *e*P **P** 09 42 20.6 0.0
comp=Z,24nm,0.9s
ASF Jabal al Asfar 78.94 333 P **P** 09 42 21.7 -0.2
comp=Z,13nm,1.1s,baz=348,slow=1.2,SNR=11
TAOE Nuku Hiva Isla 79.04 145 *e*LR LR 10 06 55.5
comp=Z,296nm,23.2s
MRSI Marisa 79.16 246 P **P** 09 42 22.7 -0.5
MRSI pP **sP** 09 42 27.2 -0.7
AFI Afiamalu 79.98 177 LR LR 10 12 36.4
comp=Z,94nm,21.9s,baz=347,slow=32
MPSI Mapaga 80.05 248 P **P** 09 42 27.7 -0.3
MPSI pP **sP** 09 42 32.3 -0.4
JTS JuntasAbangare 80.50 86 LR LR 10 22 05.5
comp=Z,62nm,18.9s,baz=50,slow=39
PMG Port Moresby 80.51 218 P **P** 09 42 30.3 -0.1
comp=Z,20nm,0.9s,baz=35,slow=6.7,SNR=8.2
PMG LR LR 10 13 25.5
comp=Z,166nm,21.6s,baz=16,slow=32
PMG Port Moresby 80.51 218 *e*P **P** 09 42 30.2 -0.1
PMG pmax pmax
comp=Z,26nm,1.0s
PMG Port Moresby 80.51 218 *e*P **P** 09 42 30.2 -0.1
comp=Z,26nm,1.0s
SURT Suratani 80.52 271 P **P** 09 42 29.4 -1.1
comp=Z,20nm,1.0s,comp=Z,246nm
HYB Hyderabad 80.81 292⇓ *i*P **P** 09 42 31.0 -1.2
HYB *e*pP **pP** 09 42 35.0 -0.6
SBUM Sibu 81.06 256 *e*P **P** 09 42 34.3 +0.9
comp=Z,33nm,1.0s
TRTT Trang 81.17 269 P **P** 09 42 32.5 -1.5
comp=Z,18nm,1.0s,comp=Z,222nm
SKLT Songkhla 81.40 268 P **P** 09 42 34.7 -0.5
comp=Z,58nm,1.0s,comp=Z,72nm
POO Ponna 81.52 297 *e*P P 09 42 27.0 -8.9
PKDT Phuket 81.67 271 P **P** 09 42 35.5 -1.2
comp=Z,13nm,1.0s
WSAR Wadi Sarin 82.20 312 P **P** 09 42 38.2 -1.3
comp=Z,8.6nm,1.1s,baz=1.1,slow=5.5,SNR=7.3
KSM Kuching 82.70 257 *e*P **P** 09 42 42.4 +0.3
comp=Z,50nm,1.2s
KULM Kulim 83.09 267 *e*P **P** 09 42 43.8 -0.3
comp=Z,38nm,1.1s
STKI Sintang 83.53 255 P **P** 09 42 47.5 +1.2
IPM Ipoh 83.68 267 *e*P **P** 09 42 46.6 -0.5
comp=Z,36nm,0.9s
BNSI Bone 84.34 246 P **P** 09 42 50.0 -0.4
BNSI pP **sP** 09 42 54.8 -0.4
LHMI Lhok Sumawe 84.65 271 P **P** 09 42 52.0 -0.1
LHMI pP **sP** 09 42 56.1 -0.7
KBKI Kotabaru 84.80 250 P **P** 09 42 52.2 -0.6
KBKI pP **sP** 09 42 57.6 +0.1
KAPI Kappang 85.04 246 *e*P **P** 09 42 53.8 -0.2
comp=Z,52nm,1.3s
KAPI Kappang 85.04 246 P **P** 09 42 54.7 +0.7
SNR=7.6
KAPI Kappang 85.04 246 P **P** 09 42 54.7 +0.7
SNR=7.6
RAYN Ar Rayn 85.49 324 *e*P **P** 09 42 56.0 -0.3
comp=Z,22nm,0.9s
MOTC Monteria, Cord 85.59 78 *e*P **P** 09 42 52.8 -4.0
PPT Papeete 85.67 156 LR LR 10 15 58.8
comp=Z,305nm,21.7s,baz=319,slow=32
PPT2 Papeete2 85.69 156 *e*LR LR 10 10 01.4
comp=Z,355nm,22.5s,baz=346
COEN Coen 85.90 221 *e*P **P** 09 42 57.5 -0.6
comp=Z,16nm,1.1s
PSI Prapat 86.05 268 *e*P **P** 09 42 58.5 -0.7
PSI pmax pmax
comp=Z,131nm,0.8s
PSI Prapat 86.05 268 *e*P **P** 09 42 58.5 -0.7
comp=Z,131nm,0.8s
OCAC Ocana 87.01 76 *e*P **P** 09 43 04.7 +0.7
ZARC Zaragoza, Cauc 87.08 78 *e*P **P** 09 43 00.1 -4.1
SDV Santo Domingo 87.47 74 P **P** 09 43 05.7 -0.5
comp=Z,18nm,1.0s,baz=308,slow=2.7,SNR=16
SDV LR LR 10 24 35.5
comp=Z,225nm,19.8s,baz=43,slow=37
SDV Santo Domingo 87.47 74 *e*P **P** 09 43 05.8 -0.5
comp=Z,20nm,0.9s
MNSI Mandailing Nat 87.61 267 P **P** 09 43 04.7 -2.0
RAR Rarotonga 87.93 166 LR LR 10 18 35.0
comp=Z,186nm,18.2s,baz=335,slow=33
GSI Gunungsitoli 87.96 269 P **P** 09 43 07.5 -0.8
GSI Gunungsitoli 87.96 269 *e*P **P** 09 43 07.8 -0.5
comp=Z,59nm,0.8s
HELC Santa Helena 88.00 79 *e*P **P** 09 43 08.3 -0.7
comp=Z,88nm,1.5s
PAMC Pamplona, Colo 88.07 76 *e*P **P** 09 43 07.4 -2.1
PTBC PUERTO BERRIO, 88.11 78 *e*P **P** 09 43 05.4 -3.7
BATI Baumata 88.44 240 P **P** 09 43 09.0 -1.5
comp=Z,20nm,0.9s,baz=119,slow=10,SNR=3.4
BARC Barichara 88.56 77 *e*P **P** 09 43 07.4 -4.1
PDSI Padang 88.81 265 P **P** 09 43 11.5 -0.9
NORC Norcasia 88.83 79 *e*P **P** 09 43 12.0 -0.5
GUYC Guyana, Colomb 88.94 80 *e*P **P** 09 43 09.4 -4.2
RUSC La Rusia 89.24 77 *e*P **P** 09 43 14.1 -0.9
comp=Z,31nm,1.4s
RUSC La Rusia 89.24 77 *e*P **P** 09 43 12.7 -2.3
DZM Mont Dzumac 89.24 198 LR LR 10 18 23.1
comp=Z,132nm,20.0s,baz=36,slow=32
DZM Mont Dzumac 89.24 198 *e*LR LR 10 11 37.1
comp=Z,438nm,27.2s
RREF El Recreo 89.25 80 *e*P **P** 09 43 13.4 -1.9
PALK Pallekele 89.27 286 *i* P **P** 09 43 15.0 +0.4
PALK Pallekele 89.27 286 *e*P **P** 09 43 14.5 -0.1
comp=Z,53nm,1.4s
YOTC Yotoco, Valle 89.68 81 *e*P **P** 09 43 14.7 -2.0
ROSC El Rosal 89.71 79 P **P** 09 43 16.9 -0.2
comp=Z,15nm,0.8s,baz=171,slow=2.1,SNR=9.1
ROSC LR LR 10 24 53.1
comp=Z,90nm,21.7s,baz=47,slow=36
ROSC El Rosal 89.71 79 *e*P **P** 09 43 17.5 +0.4
YOPC Yopal, Colombi 89.99 77 *e*P **P** 09 43 17.3 -0.7
CHIC Chingaza 90.14 78 *e*P **P** 09 43 17.3 -1.8
PRAC Prado 90.51 80 *e*P P 09 43 15.3 -5.1
TUMC Tumaco 90.69 84 *e*P **P** 09 43 24.0 +2.8
PWJI Pagerwojo 90.80 252 P **P** 09 43 20.4 -1.2
POPC Popayan, Colom 90.86 82 *e*P **P** 09 43 20.0 -2.3
PCON Cinco Dias 91.17 82 *e*P **P** 09 43 23.3 -2.8
TAM Tamanrasset 91.22 360 *e*P **P** 09 43 23.9 +0.1
TAM pmax pmax
comp=Z,8.0nm,1.3s
TAM Tamanrasset 91.22 360 *e*P **P** 09 43 23.9 +0.1
comp=Z,8.0nm,1.3s
SOTA Rioblanco 91.26 82 *e*P **P** 09 43 23.3 -1.1
CMBC Cumbal 91.86 83 *e*P **P** 09 43 24.0 -3.2
OTAV Otavalo 92.25 84 *e*P **P** 09 43 29.3 +0.4
comp=Z,24nm,1.6s
OTAV Otavalo 92.25 84 *e*P **P** 09 43 26.0 -3.0
RKT Rikitea 94.01 144 *e*LR LR 10 13 48.4
comp=Z,438nm,34.0s
WRAB Tennant Creek 94.06 227⇑ *i*P **P** 09 43 35.0 -1.5
WRAB pmax pmax
comp=Z,16nm,1.0s
WRAB Tennant Creek 94.06 227 *e*P **P** 09 43 35.8 -0.7
comp=Z,13nm,0.9s
WR1 Warramunga Arr 94.08 227 *e*P **P** 09 43 35.5 -1.1
comp=Z,13nm,0.8s
WRA Warramunga Arr 94.08 227 P **P** 09 43 35.5 -1.1
comp=Z,6.8nm,0.8s,baz=25,slow=5.6,SNR=51
WRA PKKPbc **PKKPbc** 10 00 36.4 +0.4
comp=Z,0.5nm,0.9s,baz=213,slow=2.6,SNR=4.8
AS01 Alice Springs 97.70 226 *e*P **P** 09 43 51.8 -1.3
AS31 Alice Springs 97.72 226 *e*P **P** 09 43 52.0 -1.1
comp=Z,1.3nm,1.3s
ASAR Alice Springs 97.72 226 P **P** 09 43 52.0 -1.1
comp=Z,1.3nm,0.8s,baz=15,slow=4.8,SNR=16
TOA1 Torodi Ar. Sit 100.75 4 *e*Pdif **Pdif** 09 44 05.9 -1.1
TOA1 *e*PP **PP** 09 48 15.6 +1.9
TOD Torodi Ar. Sit 100.76 4 *e*Pdif **Pdif** 09 44 06.3 -0.7
TORD Torodi Ar. Bea 100.76 4 P **Pdif** 09 44 05.9 -1.1
comp=Z,2.0nm,1.1s,baz=342,slow=5.7,SNR=5.7
TORD PP **PP** 09 48 15.6 +1.9
comp=Z,3.6nm,1.0s,baz=354,slow=5.7,SNR=9.2
CPUP Villa Florida 124.72 76 PKP **PKPdf** 09 49 16.3 -1.3
comp=Z,1.6nm,0.9s,baz=349,slow=14,SNR=2.5
LSZ Lusaka 126.84 332 *e*PKIKP **PKPdf** 09 49 22.3 +0.2
LSZ Lusaka 126.84 332 *e*PKPdf **PKPdf** 09 49 22.3 +0.2
PLCA Paso Flores 131.97 97 PKP **PKPdf** 09 49 30.5 -0.6
comp=Z,3.9nm,1.1s,baz=269,slow=10,SNR=2.9
BOSA Boshof 140.39 332 PKhKP PKPpre 09 49 42.5
comp=Z,4.3nm,1.0s,baz=66,slow=5.0,SNR=5.4
BOSA Boshof 140.39 332 *e*PKIKP PKPpre 09 49 42.5
BOSA *e* 09 49 46.6
BOSA Boshof 140.39 332 *e*PKPpre PKPpre 09 49 42.5
BOSA *e*PKPdf **PKPdf** **09 49 46.5 -0.6**
VNDA Vanda 144.28 189 PKP **PKPab** 09 49 50.3 -0.1
comp=Z,12nm,0.7s,baz=335,slow=4.2,SNR=72
SBA Scott Base 144.34 187 *e*PKIKP PKPbc 09 49 51.6 +0.6
SBA Scott Base 144.34 187 *e*PKPdf PKPbc 09 49 51.6 +0.6
SUR Sutherland 144.84 337 PKP PKPbc 09 49 54.2 +0.1
comp=Z,1.8nm,0.8s,baz=129,slow=0.8,SNR=13
QSPA South Pole Qui 156.07 180 PKP **PKPdf** **09 50 09.2 -1.9**
comp=Z,8.3nm,1.0s,baz=167,slow=1.2,SNR=11
QSPA South Pole Qui 156.07 180 *e*PKPdf **PKPdf** **09 50 09.2 -1.9**
QSPA *e*PKPdf **PKPdf** **09 50 10.1 -1.0**
SYO Syowa Base 166.84 243⇓ *e*PP PP 09 55 16.6 +1.9

*NEIC **26** 09:32:59.0±0.0, 15°.97N×98°.69W, h17km, MD4.0(MEX), After MEX.*

MEX 26 09:32:59.4±0.7, 15°.98N×98°.63W, h16km±13km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.63**	**50**	*e*P	Pg	09 33 09.6	-2.3
PNIG				*e*S	Sg	09 33 17.1	-3.2
PNIG	**Pinotepa**	**0.63**	**50**	*e*Pn	Pg	09 33 09.6	-2.3
PNIG				*e*Sn	Sg	09 33 17.3	-3.0
ACX	**Acapulco**	**1.47**	**307**	*e*P	Pn	09 33 24.9	-0.4
ACX				*i* S	Sn	09 33 39.6	-4.7
ACX	**Acapulco**	**1.47**	**307**	*e*Pn	Pn	09 33 24.9	-0.4
ACX				*e*Sn	Sn	09 33 37.9	-6.4
TLIG	**Tlapa**	**1.57**	**2**	*e*P	Pn	09 33 23.4	-3.4
TLIG				*e*S	Sn	09 33 41.9	-5.1
TLIG	**Tlapa**	**1.57**	**2**	*e*P	Pn	09 33 23.7	-3.1
TLIG				*e*S	Sn	09 33 41.9	-5.1
CAIG	**El Cayaco**	**1.90**	**304**	*e*P	Pn	09 33 28.3	-2.8
CAIG				*i* S	Sn	09 33 48.8	-5.8
CAIG	**El Cayaco**	**1.90**	**304**	*e*Pn	Pn	09 33 32.1	+1.0
CAIG				*e*Sn	Sn	09 33 48.0	-6.7
UNM	**Universidad Na**	**3.37**	**351**	*e*Pn	Pn	09 33 48.1	-3.5
UNM				*e*Sn	Sn	09 34 29.1	-2.4
LVIG	**Laguna Verde**	**4.28**	**29**	*e*Pn	Pn	09 33 59.1	-4.7
MOIG	**Morelia**	**4.41**	**327**	*e*Pn	Pn	09 34 04.3	-1.6

WEL 26 09:38:50.3±1.1, 35°S±31°×177°W±2°8, h33km, ML4.5/14, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.72**	**230**	P	Pn	09 39 58.4	-0.7
MXZ	**Matakaoa Point**	**4.72**	**230**	S	Sn	09 40 52.7	0.0
PKGZ	**Pakihiroa**	**5.06**	**228**	P	Pn	09 40 03.6	-0.3
PKGZ	**Pakihiroa**	**5.06**	**228**	S	Sn	09 41 02.5	+1.2
PUZ	**Puketiti**	**5.08**	**225**	P	Pn	09 40 03.6	-0.5

HAZ	**Te Kaha**	**5.17 231**	P	Pn	09 40 06.2	+0.9
HAZ	**Te Kaha**	**5.17 231**	S	Sn	09 41 06.0	+2.2
TWGZ	**Tauwhareparae**	**5.31 226**	P	Pn	09 40 07.9	+0.6
TWGZ	**Tauwhareparae**	**5.31 226**	S	Sn	09 41 10.1	+2.8
RUGZ	**Raukumara Rang**	**5.36 229**	P	Pn	09 40 08.4	+0.3
CNGZ	**Carnagh Statio**	**5.39 222**	P	Pn	09 40 09.0	+0.7
TKGZ	**Te Karaka**	**5.56 225**	P	Pn	09 40 11.0	+0.3
MWZ	**Matawai**	**5.68 227**	P	Pn	09 40 12.3	-0.1
MWZ	**Matawai**	**5.68 227**	S	Sn	09 41 17.1	+0.6
RIGZ	**Rimuhau**	**5.79 223**	P	Pn	09 40 13.8	-0.1
RAGZ	**Rawiri**	**5.85 227**	P	Pn	09 40 14.7	-0.1
RAGZ	**Rawiri**	**5.85 227**	S	Sn	09 41 20.6	-0.2
URZ	**Urewera**	**5.89 230**	P	Pn	09 40 15.0	-0.3
URZ	**Urewera**	**5.89 230**	S	Sn	09 41 21.0	-0.6
OPRZ	**Ohinepanea**	**6.03 236**	P	Pn	09 40 17.2	+0.1
MHGZ	**Mahia Peninsul**	**6.03 219**	P	Pn	09 40 16.8	-0.4
SNGZ	**Shannon Statio**	**6.08 225**	P	Pn	09 40 17.8	-0.2
SNGZ	**Shannon Statio**	**6.08 225**	S	Sn	09 41 27.5	+1.1
RTZ	**Ruatahuna**	**6.19 228**	P	Pn	09 40 20.2	+0.7
MTHZ	**Maungataniwha**	**6.43 227**	P	Pn	09 40 22.5	-0.2
MTHZ	**Maungataniwha**	**6.43 227**	S	Sn	09 41 35.0	+0.1
NMHZ	**Naumai**	**6.61 225**	P	Pn	09 40 24.8	-0.3
NMHZ	**Naumai**	**6.61 225**	S	Sn	09 41 39.8	+0.5

IDC ***26*** *09:42:45.8±0.8,24°.06N×142°.77E, h0km, mb3.6/10, mb1 3.8/10,mb1mx3.6/56,mbtmp3.6/10, Error ellipse: s-maj=32.2km s-min=18.1km az=93.0*
ISCJB ***26*** *09:42:48.9±0.7,24°.0N±0°.1×142°.7E±0°.2, h35km, mb3.6/10, Error ellipse: s-maj=29.8km s-min=15.7km az=0.5*

ISC 26 09:42:51.0±0.9,24°.0N±0°.1×142°.8E±0°.3, h35km, n10, σ0s44/10, mb3.7/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.47**	**191**	P	**P**	**09 50 59.5**	**+0.6**
	0.9nm,0.5s,baz=6.4,slow=9.5,SNR=24						
ASAR	**Alice Springs**	**48.18**	**191**	P	**P**	**09 51 28.3**	**+0.2**
	0.1nm,0.5s,baz=10,slow=7.1,SNR=4.5						
MKAR	**Makanchi Array**	**52.84**	**311**	P	**P**	**09 52 03.1**	**0.0**
	0.2nm,0.3s,baz=90,slow=8.5,SNR=6.4						
KURBB	**Kurchatov Arra**	**55.56**	**316**	P	**P**	**09 52 22.6**	**-0.3**
	0.8nm,0.6s,baz=91,slow=8.1,SNR=7.1						
STKA	**Stephens Creek**	**55.60**	**181**	P	**P**	**09 52 22.6**	**-0.6**
	0.4nm,0.4s,baz=355,slow=12,SNR=3.4						
ILAR	**Eielson Array**	**60.17**	**28**	P	**P**	**09 52 54.4**	**-0.5**
	0.3nm,0.8s,baz=242,slow=5.7,SNR=3.7						
BVAR	**Borovoye Array**	**60.65**	**319**	P	**P**	**09 52 58.4**	**0.0**
	1.0nm,0.5s,baz=82,slow=8.0,SNR=7.5						
INK	**Inuvik**	**65.61**	**24**	P	**P**	**09 53 31.0**	**0.0**
	0.5nm,0.8s,baz=315,slow=2.9,SNR=3.5						
YKA	**Yellowknife Ar**	**74.59**	**28**	P	**P**	**09 54 26.7**	**+0.5**
	0.2nm,0.5s,baz=294,slow=5.8,SNR=5.0						
FINES	**FINESS Array B**	**80.92**	**334**	P	**P**	**09 55 01.5**	**+0.1**
	1.2nm,0.7s,baz=60,slow=4.6,SNR=4.4						

MAN 26 09:45:35,10°.05N×123°.29E, h43km, mb3.8, ML2.5, MS2.1, 1C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.67**	**122**	*eP*	Pn	09 45 49.6	+1.5
TBP				*i* S	Sn	09 46 01.0	+3.5
SNPH	**Sibulan**	**0.70**	**184**	↓*i* P	Pn	09 45 51.0	+2.4
SNPH				*i* S	Sn	09 46 01.5	+3.1
LLP	**Lapu-Lapu**	**0.72**	**68**	↓*e* P	Pn	09 45 47.9	-0.9
LLP				*eS*	Sn	09 45 57.9	-0.9
MSLP	**Maasin**	**1.55**	**87**	*eP*	Pn	09 46 02.1	+1.9
MSLP				*eS*	Sn	09 46 24.8	+5.7
RCP	**Roxas**	**1.59**	**341**	↑*eP*	Pn	09 46 01.9	+1.2
RCP				*eS*	Sn	09 46 22.5	+2.3
OTRP	**Odiongan**	**2.61**	**332**	*eP*	Pn	09 46 10.8	-4.0

IDC ***26*** *09:46:45.0±2.7, 19°.55S×70°.76W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/37, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=77.0km s-min=55.0km az=170.0*
ISCJB ***26*** *09:46:55.2±1.3, 18°.49S±0°.08×70°.7W±0°.1, h46km±11km, mb3.6/2, Error ellipse: s-maj=19.7km s-min=11.7km az=153.0*
GUC ***26*** *09:46:56.8±0.5, 18°.63S×70°.62W, h40km±1km, ML3.6*

ISC 26 09:46:55.2±1.9, 18°.45S±0°.1×70°.7W±0°.1, h43km±14km, n11, σ0s89/16, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.37**	**115**	*eP*	**Pn**	**09 47 05.0**	**+0.3**
PB12				*eS*	**Sn**	**09 47 10.8**	**-0.4**
MNMC	**Minye Minye**	**1.23**	**123**	↓*i* P	**Pn**	**09 47 16.5**	**+0.2**
MNMC				*i* S	**Sn**	**09 47 31.1**	**-0.7**
MNMC				IAML		09 47 38.2	
	comp=E,3μm,0.2s						
PSGC	**Pisagua**	**1.25**	**155**	*eP*	**Pn**	**09 47 16.1**	**-0.3**
PSGC				*i* S	**Sn**	**09 47 30.8**	**-1.4**
PB11	**IPOC Station P**	**1.62**	**143**	↑*i* P	**Pn**	**09 47 22.0**	**+0.4**
PB11				*i* S	**Sn**	**09 47 41.7**	**+0.4**
GO01	**Chusmiza**	**1.86**	**131**	↓*i* P	**Pn**	**09 47 25.9**	**+0.9**
GO01				*i* S	**Sn**	**09 47 47.7**	**+0.2**
GO01				IAML		09 47 49.5	
	comp=E,987nm,0.2s						
PB08	**IPOC Station P**	**2.21**	**140**	*eP*	**Pn**	**09 47 30.9**	**+1.0**
PB08				*i* S	**Sn**	**09 47 57.1**	**+0.9**
PB01	**IPOC Station P**	**2.81**	**157**	*eP*	**Pn**	**09 47 38.1**	**+0.3**
PB02	**IPOC Station P**	**2.95**	**166**	*eP*	**Pn**	**09 47 40.3**	**+0.6**
PB02				IAML		09 48 28.0	
	comp=E,222nm,0.3s						
LPAZ	**La Paz**	**3.25**	**49**	Pn	Pn	09 47 49.6	+5.3
	comp=E,0.7nm,0.3s,baz=216,slow=7.9,SNR=20						
TORD	**Torodi Ar. Bea**	**77.95**	**72**	P	**P**	**09 58 48.0**	**-1.5**
	comp=E,0.5nm,0.8s,baz=254,slow=5.3,SNR=5.4						
YKA	**Yellowknife Ar**	**87.78**	**341**	P	**P**	**09 59 40.2**	**+1.0**
	comp=E,0.3nm,0.6s,baz=135,slow=4.8,SNR=10						

ISCJB ***26*** *09:52:20.4±0.7, 39°.75N±0°.03×142°.33E±0°.09, h59km±5km, mb3.6/12, Error ellipse: s-maj=11.0km s-min=5.4km az=7.5*
JMA ***26*** *09:52:21.6, 39°.73N×142°.29E, h48km±1km, M3.8*
JMA Felt I J1.
IDC ***26*** *09:52:22.7±2.3, 39°.76N×142°.21E, h63km±20km, mb3.4/12, mb1 3.5/15,mb1mx3.3/69,mbtmp3.6/15, Error ellipse: s-maj=21.2km s-min=13.5km az=106.0*

ISC 26 09:52:21.3±1.2, 39°.74N±0°.04×142°.33E±0°.08, h48km±9km, n33, σ1s92/38, mb3.7/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.41**	**299**	P	**Pn**	**09 52 31.6**	**+0.3**
JTH				S	**Sn**	**09 52 38.6**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.42**	**248**	P	**Pn**	**09 52 31.6**	**+0.1**
MIYJ				S	**Sn**	**09 52 38.6**	**-0.2**
JKZ	**Kuzumaki**	**0.81**	**288**	P	**Pn**	**09 52 36.6**	**+0.2**
JKZ				S	**Sn**	**09 52 47.6**	**+0.2**
OFUJ	**Ofunato**	**0.83**	**218**	P	**Pn**	**09 52 36.7**	**0.0**
OFUJ				S	**Sn**	**09 52 47.7**	**-0.2**
JOM	**Ohasama**	**0.84**	**252**	P	**Pn**	**09 52 37.0**	**+0.2**
JOM				S	**Sn**	**09 52 48.3**	**+0.1**
JANG	**Nango**	**0.89**	**316**	P	**Pn**	**09 52 37.5**	**0.0**
JANG				*eS*	**Sn**	**09 52 49.4**	**+0.1**
JMK	**Ichinoseki**	**1.17**	**228**	P	**Pn**	**09 52 41.3**	**+0.2**
JMK				*eS*	**Sn**	**09 52 55.9**	**0.0**
JRG	**Rokugo**	**1.35**	**256**	P	**Pn**	**09 52 43.9**	**+0.2**
JAH	**Hinai**	**1.38**	**290**	P	**Pn**	**09 52 44.8**	**+0.8**
JAH				S	**Sn**	**09 53 01.9**	**+0.8**
JTM	**Tenmabayashi**	**1.42**	**318**	P	**Pn**	**09 52 44.9**	**+0.2**
JTM				S	**Sn**	**09 53 02.8**	**+0.5**
JIO	**Ouri**	**1.49**	**211**	P	**Pn**	**09 52 45.6**	**0.0**
ASAJ	**Asahikawa**	**4.38**	**3**	P	**Pn**	**09 53 26.3**	**+1.1**
	0.7nm,0.3s,baz=188,slow=16,SNR=9.3						
ASAJ				S	**Sn**	**09 54 15.8**	**+0.9**
	1.0nm,0.3s,baz=311,slow=20,SNR=2.6						
MAT	**Matsushiro**	**4.55**	**227**	P	**Pn**	**09 53 29.8**	**+2.2**
MAT				S	**Sn**	**09 54 23.2**	**+3.9**
MJAR	**Matsushiro Arr**	**4.55**	**227**	P	**Pn**	**09 53 29.0**	**+1.4**
	1.6nm,0.3s,baz=31,slow=14,SNR=22						
USRK	**Ussuriysk Ar.**	**9.30**	**303**	P	**Pn**	**09 54 28.3**	**+1.2**
	0.2nm,0.3s,baz=106,slow=14,SNR=3.2						
SEY	**Seymchan**	**24.00**	**11**	P	**P**	**09 57 31.8**	**+0.7**
	2.0nm,1.0s,baz=206,slow=7.5,SNR=6.4						

SONM	**Songino Array**	**26.98**	**299**	P	**P**	**09 57 58.2**	**-0.3**
	0.3nm,0.4s,baz=106,slow=9.0,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**29.04**	**126**	T	T	10 28 52.5	
	baz=318,slow=76,SNR=172						
H11N1	**WAKE ISLAND Hy**	**29.05**	**126**	T	T	10 28 53.2	
	baz=318,slow=76,SNR=226						
H11N3	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	10 28 53.8	
	baz=318,slow=76,SNR=147						
H11S1	**WAKE ISLAND Hy**	**29.84**	**128**	T	T	10 29 55.7	
	baz=320,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**29.84**	**128**	T	T	10 29 55.8	
	baz=320,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**29.86**	**128**	T	T	10 29 57.7	
	baz=320,slow=76,SNR=30						
ZALV	**Zalesovo Beam**	**40.67**	**310**	P	**P**	**09 59 55.7**	**-0.9**
	0.7nm,0.3s,baz=100,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**43.34**	**300**	P	**P**	**10 00 17.3**	**-1.3**
	0.4nm,0.5s,baz=87,slow=9.3,SNR=5.0						
KURBB	**Kurchatov Arra**	**44.95**	**306**	P	**P**	**10 00 30.4**	**-0.9**
	1.2nm,0.5s,baz=79,slow=8.5,SNR=9.4						
BVAR	**Borovoye Array**	**49.32**	**311**	P	**P**	**10 01 04.0**	**-1.4**
	0.3nm,0.4s,baz=48,slow=8.6,SNR=3.1						
INK	**Inuvik**	**51.66**	**28**	P	**P**	**10 01 23.3**	**+0.6**
	0.6nm,0.8s,baz=292,slow=4.3,SNR=3.9						
WRA	**Warramunga Arr**	**59.84**	**189**	P	**P**	**10 02 20.9**	**-0.9**
	0.5nm,0.6s,baz=6.4,slow=6.9,SNR=9.0						
ASAR	**Alice Springs**	**63.56**	**189**	P	**P**	**10 02 46.4**	**-0.5**
	0.2nm,0.3s,baz=2.5,slow=6.8,SNR=4.8						
FINES	**FINESS Array B**	**66.76**	**332**	P	**P**	**10 03 06.4**	**-0.8**
	0.8nm,0.7s,baz=34,slow=7.1,SNR=3.3						
HFS	**Hagfors**	**71.92**	**336**	P	**P**	**10 03 38.5**	**-0.6**
	1.8nm,0.9s,baz=54,slow=7.5,SNR=4.4						
PDAR	**Pinedale Array**	**75.27**	**46**	P	**P**	**10 03 59.9**	**+0.5**
	0.3nm,0.7s,baz=241,slow=3.0,SNR=2.7						

IDC ***26*** *10:02:28.0±2.4, 22°.60S×179°.66W, h542km±23km, mb3.5/8, mb1 3.7/9, mb1mx3.3/40, mbtmp4.4/9, Error ellipse: s-maj=32.2km s-min=20.2km az=156.0*
ISCJB ***26*** *10:02:29.7±0.9, 22°.7S±0°.2×179°.8W±0°.2, h579km, mb4.1/8, Error ellipse: s-maj=23.1km s-min=18.7km az=145.9*

ISC 26 10:02:30.5±0.9, 22°.7S±0°.2×179°.7W±0°.2, h579km, n11, σ1s77/13, mb4.3/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.74**	**189**	P	**P**	**10 05 44.7**	**-1.4**
	0.6nm,0.3s,baz=0.0,slow=1.0,SNR=3.8						
PMG	**Port Moresby**	**34.41**	**287**	P	**P**	**10 08 30.4**	**-0.4**
	13nm,0.6s,baz=117,slow=2.3,SNR=7.8						
STKA	**Stephens Creek**	**35.45**	**247**	P	**P**	**10 08 39.6**	**+0.3**
	9.4nm,0.6s,baz=91,slow=9.8,SNR=25						
ASAR	**Alice Springs**	**42.53**	**259**	P	**P**	**10 09 36.5**	**+0.1**
	11nm,0.7s,baz=96,slow=6.8,SNR=176						
ASAR				ScP	**ScP**	**10 14 14.7**	**+3.0**
	0.4nm,0.7s,baz=98,slow=4.2,SNR=3.6						
WRA	**Warramunga Arr**	**42.80**	**265**	P	**P**	**10 09 38.0**	**-0.5**
	11nm,0.7s,baz=96,slow=8.3,SNR=211						
WRA				ScP	**ScP**	**10 14 16.1**	**+3.4**
	1.2nm,0.8s,baz=93,slow=3.9,SNR=8.2						
MJAR	**Matsushiro Arr**	**71.09**	**325**	P	**P**	**10 12 49.8**	**-1.3**
	0.7nm,0.5s,baz=156,slow=7.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	**89.39**	**290**	P	**P**	**10 14 28.2**	**+1.5**
	0.7nm,0.3s,baz=134,slow=3.9,SNR=7.2						
TXAR	**Lajitas Array**	**89.55**	**58**	P	**P**	**10 14 27.8**	**+0.5**
	0.6nm,0.9s,baz=205,slow=5.5,SNR=7.7						
PDAR	**Pinedale Array**	**91.64**	**44**	P	**P**	**10 14 37.1**	**+0.3**
	0.2nm,0.5s,baz=243,slow=2.9,SNR=3.4						
AKASG	**Malin Array Be**	**144.13**	**328**	PKP	**PKPdf**	**10 20 59.4**	**-1.3**
	0.6nm,0.6s,baz=39,slow=4.3,SNR=5.6						
BRTR	**Keskin Array B**	**147.08**	**309**	PKPbc	**PKPab**	**10 21 11.5**	**-1.5**
	0.7nm,0.6s,baz=104,slow=4.2,SNR=4.4						

ISCJB ***26*** *10:05:39.0±0.5, 33°.11N±0°.02×35°.72E±0°.05, h12km±4km, Error ellipse: s-maj=7.6km s-min=3.4km az=20.1*
GRAL ***26*** *10:05:38.7±0.3, 33°.05N×35°.73E, h7km±2km, MD2.9*
CSEM ***26*** *10:05:39.1±0.2, 33°.13N×35°.72E, h10km, MD2.5, Error ellipse: s-maj=5.2km s-min=2.2km az=109.0*
GII ***26*** *10:05:39.0±0.0, 33°.10N×35°.67E, h5km, MD2.5/3*

ISC 26 10:05:39.2±0.8, 33°.13N±0°.03×35°.68E±0°.04, h13km±6km, n28, σ0s57/44, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDI	**Kefar Szold**	**0.06**	**345**	Pg	**Pg**	**10 05 41.6**	**-0.3**
KSDI				Sg	**Sg**	**10 05 43.5**	**-0.2**
KSHT	**Keshet**	**0.19**	**143**	Pg	**Pg**	**10 05 43.3**	**-0.2**
SHBL	**Chebaa**	**0.22**	**14**	*eP*	**Pg**	**10 05 44.1**	**-0.1**
SHBL				*eS*	**Sg**	**10 05 48.2**	**+0.6**
SHBL	**Chebaa**	**0.22**	**14**	*eP*	**Pg**	**10 05 44.1**	**-0.1**
SHBL				*eS*	**Sg**	**10 05 48.2**	**+0.6**
MMA0B	**Mount Meron ar**	**0.26**	**243**	Pg	**Pg**	**10 05 44.6**	**-0.1**
MMA0B				Sg	**Sb**	**10 05 49.4**	**-0.8**
MMA0B	**Mount Meron ar**	**0.26**	**243**	Pg	**Pg**	**10 05 44.6**	**-0.1**
MMA0B				Sg	**Sb**	**10 05 49.4**	**-0.8**
RCY	**Rachaya**	**0.39**	**20**	*eP*	**Pg**	**10 05 47.0**	**-0.1**
RCY				*eS*	**Sg**	**10 05 53.0**	**+0.7**
HNTI	**Hanita**	**0.43**	**264**	Pg	**Pb**	**10 05 48.1**	**-0.5**
HNTI				Sg	**Sb**	**10 05 55.2**	**+0.3**
HNTI	**Hanita**	**0.43**	**264**	Pg	**Pb**	**10 05 48.1**	**-0.5**
HNTI				Sg	**Sb**	**10 05 55.2**	**+0.3**
DQRL	**Deir Qamar**	**0.58**	**351**	*eP*	**Pb**	**10 05 50.8**	**-0.5**
DQRL	**Deir Qamar**	**0.58**	**351**	*eP*	**Pb**	**10 05 50.8**	**-0.5**
MMLI	**Mount Malkishu**	**0.72**	**197**	Pg	**Pg**	**10 05 52.9**	**-0.4**
MMLI				Sg	**Sb**	**10 06 03.3**	**-0.3**
MMLI	**Mount Malkishu**	**0.72**	**197**	Pg	**Pg**	**10 05 52.9**	**-0.4**
MMLI				Sg	**Sb**	**10 06 03.3**	**-0.3**
BHL	**Bhannes**	**0.77**	**359**	*eP*	**Pg**	**10 05 54.0**	**-0.2**
BHL	**Bhannes**	**0.77**	**359**	*eP*	**Pg**	**10 05 54.0**	**-0.2**
OFRI	**'Ofer**	**0.77**	**229**	Pg	**Pb**	**10 05 54.2**	**-0.4**
OFRI				Sg	**Sb**	**10 06 05.6**	**+0.6**
OFRI	**'Ofer**	**0.77**	**229**	Pg	**Pb**	**10 05 54.2**	**-0.4**
OFRI				Sg	**Sb**	**10 06 05.6**	**+0.6**
HMDT	**Nahal Hemdat**	**0.89**	**188**	Pg	**Pg**	**10 05 56.1**	**-0.3**
HMDT				Sg	**Sb**	**10 06 08.4**	**+0.3**
HMDT	**Nahal Hemdat**	**0.89**	**188**	Pg	**Pg**	**10 05 56.1**	**-0.3**
HMDT				Sg	**Sb**	**10 06 08.4**	**+0.3**
SLTI	**Sal'it**	**1.04**	**211**	Pg	**Pg**	**10 05 59.1**	**-0.2**
SLTI				Sg	**Sn**	**10 06 13.2**	**-0.6**
SLTI	**Sal'it**	**1.04**	**211**	Pg	**Pg**	**10 05 59.1**	**-0.2**
SLTI				Sg	**Sn**	**10 06 13.2**	**-0.6**
HWQ	**Hawqa**	**1.17**	**11**	*eP*	**Pb**	**10 06 00.3**	**-1.0**
HWQ	**Hawqa**	**1.17**	**11**	*eP*	**Pb**	**10 06 00.3**	**-1.0**
DSI	**Dead Sea**	**1.58**	**189**	Pn	**Pn**	**10 06 06.9**	**0.0**
YTIR	**Yattir**	**1.83**	**195**	Pn	**Pn**	**10 06 11.4**	**+1.0**
YTIR	**Yattir**	**1.83**	**195**	Pn	**Pn**	**10 06 11.4**	**+1.0**
PRNI	**Paran**	**2.83**	**192**	Pn	**Pn**	**10 06 25.3**	**+1.2**
PRNI	**Paran**	**2.83**	**192**	Pn	**Pn**	**10 06 25.3**	**+1.2**

ISCJB ***26*** *10:07:43.3±0.6, 59°.30N±0°.03×27°.54E±0°.08, h0km, Error ellipse: s-maj=6.1km s-min=3.4km az=21.8*
CSEM ***26*** *10:07:44.9±0.5, 59°.30N×27°.48E, h2km, ML2.2, Error ellipse: s-maj=10.5km s-min=5.7km az=116.0, Mining explosion.*
HEL ***26*** *10:07:44.9±0.1, 59°.31N×27°.56E, h0km, ML2.2, Explosion*
BER ***26*** *10:07:45.0±2.8, 59°.34N×27°.50E, h0km, ML2.6(NAO), Suspected explosion*
NAO ***26*** *10:07:45.5±1.2, 59°.33N×27°.17E, ML2.6*
IDC ***26*** *10:07:46.9±1.1, 59°.46N×27°.59E, h0km, mb1 3.4/5, mb1mx3.1/60, mbtmp3.3/5, ML3.0/5, Error ellipse: s-maj=12.6km s-min=8.1km az=87.0*

ISC 26 10:07:44.2±0.8, 59°.33N±0°.02×27°.39E±0°.04, h0km, n47, σ1s82/82, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARBE	**Arbavere**	**0.73**	**279**	P	**Pb**	**10 07 59.6**	**0.0**
ARBE				S	**Sb**	**10 08 09.0**	**-0.3**
ARBE	**Arbavere**	**0.73**	**279**	*eP*	**Pb**	**10 07 59.7**	**0.0**
ARBE				*eS*	**Sb**	**10 08 09.8**	**-0.3**
VSU	**Vasula**	**0.94**	**201**	Pg	**Pg**	**10 08 02.4**	**+0.3**
VSU				S	**Sg**	**10 08 14.2**	**0.0**
VSU	**Vasula**	**0.94**	**201**	Pg	**Pg**	**10 08 02.4**	**+0.3**
VSU				Lg	Lg	10 08 14.4	
VSU	**Vasula**	**0.94**	**201**	Pg	**Pg**	**10 08 02.4**	**+0.3**
VSU				Lg	Lg	10 08 14.4	
VSU	**Vasula**	**0.94**	**201**	*eP*	**Pg**	**10 08 02.2**	**+0.1**
VSU				*eS*	**Sg**	**10 08 14.2**	**0.0**
VJF	**Virojoki**	**1.21**	**4**	P	**Pg**	**10 08 06.7**	**-0.7**
VJF				S	**Sg**	**10 08 23.2**	**+0.1**
VJF	**Virojoki**	**1.21**	**4**	*eP*	**Pg**	**10 08 06.7**	**-0.7**
VJF				MSG		10 08 22.2	
	comp=Z,23nm,0.2s						
VJF				*eS*	**Sg**	**10 08 23.2**	**+0.1**
PVF	**Pernaja**	**1.44**	**328**	P	**Pn**	**10 08 12.2**	**+0.7**
PVF				Sb	**Sg**	**10 08 31.5**	**+1.2**
PVF	**Pernaja**	**1.44**	**328**	*eP*	**Pn**	**10 08 12.2**	**+0.7**
PVF				MSG		10 08 30.0	
	comp=Z,28nm,0.2s						
PVF				*eSB*	**Sg**	**10 08 31.6**	**+1.2**
MEF	**Metsahovi**	**1.75**	**302**	P	**Pg**	**10 08 18.3**	**+0.5**
MEF				Sn	**Sg**	**10 08 41.8**	**+1.3**
MEF	**Metsahovi**	**1.75**	**302**	*eP*	**Pg**	**10 08 18.3**	**+0.5**
MEF				*eSN*	**Sg**	**10 08 41.8**	**+1.3**
MEF				MSG		10 08 44.7	
	comp=Z,12nm,0.1s						
MTSE	**Matsula**	**1.95**	**253**	Pb	**Pb**	**10 08 20.8**	**+0.3**
MTSE	**Matsula**	**1.95**	**253**	*eP*	**Pg**	**10 08 21.3**	**-0.2**
	SNR=68						
MTSE				Sg	**Sg**	**10 08 47.9**	**+1.1**
MTSE	**Matsula**	**1.95**	**253**	*ePB*	**Pb**	**10 08 20.9**	**+0.3**
MTSE				*eSG*	**Sg**	**10 08 47.9**	**+1.1**
FIA0	**FINESS Array S**	**2.21**	**343**	P	**Pn**	**10 08 23.2**	**+1.0**
FIA0				S	**Sn**	**10 08 51.6**	**+1.4**
FIA0				Lg	Lg	10 08 52.3	
	SNR=1.6						
FIA0	**FINESS Array S**	**2.21**	**343**	Pn	**Pn**	**10 08 23.2**	**+1.0**
	baz=158,slow=16						
FIA0				Lg	Lg	10 08 52.3	
	baz=166,slow=28						
FIA0	**FINESS Array S**	**2.21**	**343**	Pn	**Pn**	**10 08 23.2**	**+1.0**
	baz=158,slow=16						
FIA0				Lg	Lg	10 08 52.3	
	baz=166,slow=28						
FIA0	**FINESS Array S**	**2.21**	**343**	*eP*	**Pn**	**10 08 23.3**	**+1.0**
FIA0				*ePB*	**Pb**	**10 08 24.7**	**-0.4**
FIA0				*eS*	**Sn**	**10 08 51.6**	**+1.4**
FIA0				*eSG*	**Sb**	**10 08 54.7**	**+1.7**
FIA0				MSG		10 08 56.8	
	comp=Z,13nm,0.2s						
FIA1	**FINESS Array S**	**2.21**	**344**	P	**Pn**	**10 08 23.2**	**+1.1**
FIA1				S	**Sn**	**10 08 51.9**	**+1.7**
FIA1	**FINESS Array S**	**2.21**	**344**	*eP*	**Pn**	**10 08 23.3**	**+1.1**
FIA1				*ePB*	**Pb**	**10 08 24.6**	**-0.5**
FIA1				*eS*	**Sn**	**10 08 51.9**	**+1.7**
FIA1				*eSG*	**Sb**	**10 08 54.7**	**+1.6**
FIA1				MSG		10 08 56.4	
	comp=Z,11nm,0.1s						
FINES	**FINESS Array B**	**2.21**	**343**	Pn	**Pn**	**10 08 23.2**	**+1.1**
	comp=Z,4.6nm,0.3s,baz=159,slow=15,SNR=95						
FINES				Pg	**Pb**	**10 08 24.6**	**-0.5**
	comp=Z,4.6nm,0.3s,baz=159,slow=16,SNR=35						
FINES				Sn	**Sn**	**10 08 51.9**	**+1.7**
	comp=Z,3.6nm,0.3s,baz=156,slow=24,SNR=6.2						
FINES				Lg	Lg	10 08 55.0	
	comp=Z,4.5nm,0.3s,baz=156,slow=31,SNR=24						
KAF	**Kangasniemi**	**2.84**	**350**	P	**Pn**	**10 08 32.2**	**+1.5**
KAF	**Kangasniemi**	**2.84**	**350**	*eP*	**Pn**	**10 08 32.3**	**+1.5**
KAF				*ePB*	**Pb**	**10 08 34.7**	**-1.0**
KAF				MSG		10 09 09.6	
	comp=Z,5.8nm,0.2s						
KAF				*eSG*	**Sb**	**10 09 13.7**	**+2.7**
KEF	**Keuruu**	**3.10**	**338**	P	**Pn**	**10 08 36.6**	**+2.3**
KEF	**Keuruu**	**3.10**	**338**	*eP*	**Pn**	**10 08 36.6**	**+2.3**
KEF				*ePB*	**Pb**	**10 08 40.0**	**-0.1**
KEF				MSG		10 09 17.7	
	comp=Z,6.3nm,0.2s						
KEF				*eSG*	**Sb**	**10 09 21.6**	**+3.1**
SLIT	**Slitere, Latvi**	**3.18**	**240**	*eSB*	**Sb**	**10 09 22.8**	**+2.2**
RAF	**Rauma**	**3.28**	**304**	P	**Pn**	**10 08 39.6**	**+2.8**
RAF				*eS*	**Sn**	**10 09 20.5**	**+4.1**
	comp=Z,9.8nm,0.3s,SNR=46						
RAF	**Rauma**	**3.28**	**304**	*eP*	**Pn**	**10 08 39.6**	**+2.8**
SUF	**Sumiainen**

Ms4.9/52,Ms7 4.6/48

GCMT ***26*** *10:35:34.7±0.2,39.°15N×42.°20E,h20km,MW5.2/107, Moment Tensor Solution. s68,c98; s107,c191; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.74±.02; $M_{\theta\theta}$-0.75±.02; $M_{\phi\phi}$0.00±.01; $M_{r\theta}$-0.02±.03; $M_{\theta\phi}$-0.16±.01; $M_{r\phi}$-0.04±.03; Best double couple: $M_0$0.76200×10^{17} NP1:ϕ_s256.00000°,δ46.00000°, λ86.00000°. NP2:ϕ_s82.00000°,δ44.00000°,λ94.00000°. Principal axes: T 0.7430, Plg87.0000°, Azm96.0000°; N 0.0380, Plg3.0000°, Azm259.0000°; P -0.7800, Plg1.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DSN ***26*** *10:35:37.3±0.6,39.°14N×42.°25E,h23km,mb5.1/5 Error ellipse: s-maj=13.5km s-min=7.4km az=71.0*

TEH ***26*** *10:35:39.9,39.°31N×42.°55E,h10km,ML4.8*

ISC 26 10:35:35.2±0.3,39.°18N±0.°01×42.°29E±0.°01,h13km±1km, h13km:pP-P,n1271,σ1s72/1430,mb5.2/270,MS4.5/62, 96C-86D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.19**	**293**	⇑*i*P		**Pg**	**10 35 36.8**	**-2.9**
EKAR				*i* S		**Sg**	**10 35 41.2**	**-1.6**
EKAR	**Karacoban**	**0.19**	**293**	*i* P		**Pg**	**10 35 36.9**	**-2.9**
EKAR	**Karacoban**	**0.19**	**293**	*i* P		**Pg**	**10 35 36.9**	**-2.8**
EKAR				S		**Sg**	**10 35 41.2**	**-1.6**
TUTA	**Tutak**	**0.46**	**61**	⇓*i*P		**Pg**	**10 35 42.7**	**-1.8**
TUTA				*i* S		**Sg**	**10 35 50.1**	**-0.6**
TUTA	**Tutak**	**0.46**	**61**	*i* P		**Pg**	**10 35 43.0**	**-1.4**
TUTA	**Tutak**	**0.46**	**61**	P		**Pg**	**10 35 42.7**	**-1.8**
TUTA				S		**Sg**	**10 35 50.1**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.50**	**137**	⇓*i*P		**Pg**	**10 35 43.7**	**-1.5**
ADCV				*i* S		**Sb**	**10 35 52.7**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.50**	**137**	P		**Pg**	**10 35 43.7**	**-1.5**
VRTB	**Varto-Mus**	**0.65**	**268**	PG		**Pg**	**10 35 46.7**	**-1.2**
VRTB	**Varto-Mus**	**0.65**	**268**	*i* P		**Pg**	**10 35 46.1**	**-1.8**
VRTB				*i* S		**Sb**	**10 35 58.1**	**+0.7**
VRTB	**Varto-Mus**	**0.65**	**268**	Pg		**Pg**	**10 35 46.1**	**-1.8**
VRTB	**Varto-Mus**	**0.65**	**268**	P		**Pg**	**10 35 46.1**	**-1.8**
VRTB	**Varto-Mus**	**0.65**	**268**	*e*Pg		**Pg**	**10 35 46.7**	**-1.2**
GURO	**Guroymak-BITLI**	**0.66**	**198**	PG		**Pg**	**10 35 46.3**	**-1.8**
GURO				SG		**Sg**	**10 35 56.7**	**-0.1**
GURO	**Guroymak-BITLI**	**0.66**	**198**	*e*Pg		**Pg**	**10 35 46.3**	**-1.8**
GURO				*e*Sg		**Sg**	**10 35 56.7**	**-0.1**
AGRB	**Hanur-Agry**	**0.67**	**54**	PG		**Pg**	**10 35 46.5**	**-1.9**
AGRB				SG		**Sg**	**10 35 56.2**	**-1.1**
AGRB	**Hanur-Agry**	**0.67**	**54**	Pg		**Pg**	**10 35 46.5**	**-1.9**
AGRB				Sg		**Sg**	**10 35 56.5**	**-0.8**
AGRB	**Hanur-Agry**	**0.67**	**54**	*e*Pg		**Pg**	**10 35 46.5**	**-1.9**
AGRB				Sg		**Sg**	**10 35 56.5**	**-0.8**
EATA	**Eleskirt**	**0.70**	**13**	⇓*i*P		**Pg**	**10 35 46.5**	**-2.4**
EATA				*i* S		**Sg**	**10 35 57.3**	**-0.9**
EATA	**Eleskirt**	**0.70**	**13**	P		**Pg**	**10 35 46.5**	**-2.4**
EATA				S		**Sg**	**10 35 57.3**	**-0.9**
ERCV	**ERCIS-VAN**	**0.83**	**101**	PG		**Pg**	**10 35 49.6**	**-1.7**
ERCV	**ERCIS-VAN**	**0.83**	**101**	*e*Pg		**Pg**	**10 35 49.6**	**-1.7**
HOMI	**Horasan**	**0.91**	**341**	⇓*i*P		**Pg**	**10 35 49.4**	**-3.5**
HOMI				*i* S		**Sg**	**10 36 03.7**	**-1.2**
ERZM	**Erzurum**	**1.02**	**316**	⇓*i*P		**Pg**	**10 35 51.0**	**-3.9**
ERZM				*i* S		**Sn**	**10 36 11.4**	**+1.7**
VMUR	**Van-Muradiye**	**1.02**	**100**	⇓*i*P		**Pb**	**10 35 53.1**	**-1.6**
VMUR				*i* S		**Sb**	**10 36 08.0**	**-0.1**
VMUR	**Van-Muradiye**	**1.02**	**100**	P		**Pb**	**10 35 53.2**	**-1.6**
VMUR				S		**Sb**	**10 36 08.0**	**-0.1**
VANB	**Van**	**1.04**	**124**	PG		**Pb**	**10 35 54.4**	**-0.7**
VANB	**Van**	**1.04**	**124**	Pg		**Pb**	**10 35 54.9**	**-0.4**
VANB	**Van**	**1.04**	**124**	*e*Pg		**Pb**	**10 35 54.4**	**-0.7**
GEVA	**Gevas**	**1.06**	**145**	⇓*i*P		**Pb**	**10 35 53.5**	**-1.9**
GEVA				*i* S		**Sn**	**10 36 10.6**	**+0.1**
GEVA				*i* S		**Sg**	**10 36 11.2**	**+1.9**
GEVA	**Gevas**	**1.06**	**145**	P		**Pb**	**10 35 53.5**	**-1.9**
TVAN	**Van**	**1.09**	**126**	⇓*i*P		**Pb**	**10 35 54.8**	**-1.2**
TVAN				*i* S		**Sn**	**10 36 11.7**	**+0.4**
TVAN	**Van**	**1.09**	**126**	P		**Pb**	**10 35 54.8**	**-1.2**
ECAT	**Cat-ERZURUM**	**1.10**	**293**	⇓*i*P		**Pb**	**10 35 53.3**	**-2.9**
ECAT				*i* S		**Sb**	**10 36 09.8**	**-0.8**
ECAT	**Cat-ERZURUM**	**1.10**	**293**	P		**Pb**	**10 35 53.3**	**-2.9**
ECAT				S		**Sb**	**10 36 09.8**	**-0.8**
DYDN	**Diyadin**	**1.14**	**71**	⇑*i*P		**Pb**	**10 35 54.5**	**-2.4**
DYDN				*i* S		**Sb**	**10 36 10.3**	**-1.5**
DYDN	**Diyadin**	**1.14**	**71**	P		**Pb**	**10 35 54.5**	**-2.4**
DYDN				S		**Sb**	**10 36 10.3**	**-1.5**
SRTM	**Siirt_Merkez**	**1.22**	**194**	⇓*i*P		**Pn**	**10 35 56.9**	**-1.1**
SRTM				*i* S		**Sg**	**10 36 15.9**	**+1.9**
SRTM	**Siirt_Merkez**	**1.22**	**194**	P		**Pn**	**10 35 56.9**	**-1.1**
CLDR	**Caldiran**	**1.27**	**91**	PN		**Pn**	**10 35 57.4**	**-1.4**
CLDR	**Caldiran**	**1.27**	**91**	⇓*i*P		**Pn**	**10 35 56.4**	**-2.4**
CLDR				*i* S		**Sb**	**10 36 14.7**	**-0.6**
CLDR	**Caldiran**	**1.27**	**91**	Pn		**Pn**	**10 35 56.6**	**-2.2**
CLDR	**Caldiran**	**1.27**	**91**	Pn		**Pn**	**10 35 56.6**	**-2.2**
CLDR				S		**Sb**	**10 36 14.7**	**-0.6**
BNGB	**Bing¨¶l**	**1.27**	**262**	PN		**Pn**	**10 35 56.8**	**-1.9**
SVAN	**Silvan-Diyarba**	**1.34**	**220**	PN		**Pn**	**10 35 58.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.34**	**220**	⇓*i*P		**Pn**	**10 35 59.3**	**-0.2**
SVAN				*i* S		**Sb**	**10 36 16.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.34**	**220**	*e*Pn		**Pn**	**10 35 58.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.34**	**220**	P		**Pn**	**10 35 59.3**	**-0.2**
SVAN				S		**Sb**	**10 36 16.8**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.38**	**2**	PN		**Pn**	**10 35 59.4**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.38**	**2**	*e*Pn		**Pn**	**10 35 59.4**	**-0.9**
BINT	**Bingol**	**1.43**	**258**	PG		**Pn**	**10 35 56.7**	**-4.2**
BINT	**Bingol**	**1.43**	**258**	*e*Pn		**Pn**	**10 35 56.8**	**-4.2**
DIGO	**Kars**	**1.49**	**34**	⇓*i*P		**Pn**	**10 36 00.0**	**-1.9**
DIGO				*i* S		**Sg**	**10 36 23.6**	**+0.4**
DIGO	**Kars**	**1.49**	**34**	P		**Pn**	**10 36 00.0**	**-1.9**
DIGO				S		**Sg**	**10 36 23.6**	**+0.4**
BTMN	**Batman**	**1.52**	**212**	⇓*i*P		**Pb**	**10 36 02.7**	**-0.5**
BTMN				*i* S		**Sg**	**10 36 24.5**	**+0.5**
BTMN	**Batman**	**1.52**	**212**	P		**Pb**	**10 36 02.7**	**-0.5**
BTMN				S		**Sg**	**10 36 24.5**	**+0.5**
IGDI	**IGDIR**	**1.54**	**63**	⇑*i*P		**Pn**	**10 36 01.9**	**-0.5**
IGDI				*i* S		**Sb**	**10 36 23.0**	**-0.2**
KARS	**Kars**	**1.57**	**23**	PN		**Pn**	**10 36 02.7**	**-0.1**
KARS	**Kars**	**1.57**	**23**	*e*Pn		**Pn**	**10 36 02.7**	**-0.1**
KOPT	**Kop Dagi**	**1.62**	**302**	⇓*i*P		**Pn**	**10 36 03.2**	**-0.4**
KOPT				*i* S		**Sg**	**10 36 29.3**	**+2.0**
KOPT	**Kop Dagi**	**1.62**	**302**	P		**Pn**	**10 36 03.2**	**-0.4**
HANI	**Diyarbakir_Han**	**1.66**	**243**	⇑*i*P		**Pn**	**10 36 03.6**	**-0.5**
HANI				*i* S		**Sg**	**10 36 27.9**	**-0.8**
HANI	**Diyarbakir_Han**	**1.66**	**243**	P		**Pn**	**10 36 03.6**	**-0.5**
HANI				S		**Sg**	**10 36 27.9**	**-0.8**
SIRT	**Sirnak**	**1.68**	**176**	PN		**Pn**	**10 36 04.3**	**0.0**
SIRT	**Sirnak**	**1.68**	**176**	*e*Pn		**Pn**	**10 36 04.3**	**0.0**
NARZ	**Nor Artik**	**1.69**	**40**	⇑*i*P		**Pg**	**10 36 10.7**	**+3.0**
NARZ				⇑S		**Sg**	**10 36 31.8**	**+2.2**
TASB	**TASBURUN-IGDIR**	**1.71**	**61**	PN		**Pn**	**10 36 04.4**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.71**	**61**	*e*Pn		**Pn**	**10 36 04.4**	**-0.3**
DDEM	**Demirkent**	**1.76**	**347**	⇓*i*P		**Pn**	**10 36 04.9**	**-0.5**
DDEM				*i* S		**Sb**	**10 36 30.0**	**+0.7**
DDEM	**Demirkent**	**1.76**	**347**	P		**Pn**	**10 36 04.9**	**-0.5**
DDEM				S		**Sb**	**10 36 30.0**	**+0.7**
DBAD	**Bademkaya**	**1.89**	**346**	⇓*i*P		**Pn**	**10 36 06.8**	**-0.4**
DBAD				*i* S		**Sb**	**10 36 33.9**	**+0.7**
DBAD	**Bademkaya**	**1.89**	**346**	P		**Pn**	**10 36 06.8**	**-0.4**
DBAD				S		**Sb**	**10 36 33.9**	**+0.7**
BAYB	**BAYBURT**	**1.90**	**305**	⇓*i*P		**Pn**	**10 36 06.9**	**-0.6**
BAYB				*i* S		**Sb**	**10 36 33.1**	**-0.4**
BAYB	**BAYBURT**	**1.90**	**305**	P		**Pn**	**10 36 06.9**	**-0.6**
BAYB				S		**Sb**	**10 36 33.1**	**-0.4**
HARI	**Harich**	**1.94**	**42**	⇑*i*P		**Pg**	**10 36 16.8**	**+4.3**
HARI				⇑S		Sg	10 36 47.4	+10
HAKT	**HAKKARI**	**1.97**	**145**	⇓*i*P		**Pb**	**10 36 09.6**	**-1.4**
HAKT				*i* S		**Sg**	**10 36 38.2**	**-0.2**
HAKT	**HAKKARI**	**1.97**	**145**	P		**Pb**	**10 36 09.6**	**-1.4**
ARRZ	**Ararat**	**1.98**	**69**	*e*P		**Pg**	**10 36 13.0**	**-0.2**
ARRZ				*e*S		**Sg**	**10 36 45.0**	**+6.1**
GMRZ	**Gyumri**	**2.01**	**36**	⇓*i*P		**Pb**	**10 36 12.0**	**+0.3**
GMRZ				⇓S		**Sg**	**10 36 38.0**	**-2.0**
ARTV	**Artvin**	**2.02**	**352**	⇓*i*P		**Pn**	**10 36 07.6**	**-1.5**
ARTV				*i* S		**Sg**	**10 36 39.1**	**-1.2**
ARTV	**Artvin**	**2.02**	**352**	P		**Pn**	**10 36 07.6**	**-1.5**
ERZN	**Erzincan**	**2.03**	**282**	PN		**Pn**	**10 36 09.3**	**+0.1**
BAYT	**Ayd¨¬ntepe-Bay**	**2.05**	**307**	PN		**Pn**	**10 36 10.4**	**+0.9**
BAYT	**Ayd¨¬ntepe-Bay**	**2.05**	**307**	*e*Pn		**Pn**	**10 36 10.4**	**+0.9**
HYR	**Heyderabad** SNR=8.2	**2.06**	**74**	⇓P		**Pn**	**10 36 10.4**	**+0.9**
HYR				⇑S		**Sb**	**10 36 36.3**	**-1.6**
DIY	**Diyarbakir**	**2.06**	**232**	*e*Pn		**Pn**	**10 36 10.6**	**+1.0**
EUZM	**Uzumlu**	**2.07**	**286**	*i* P		**Pn**	**10 36 09.7**	**-0.1**
EUZM				*i* S		**Sg**	**10 36 41.4**	**-0.5**
EUZM	**Uzumlu**	**2.07**	**286**	P		**Pn**	**10 36 09.7**	**-0.1**
DYBB	**Diyarbakir**	**2.08**	**235**	PN		**Pn**	**10 36 10.6**	**+0.8**
DIYA	**Diyarbakir**	**2.11**	**234**	*i* P		**Pn**	**10 36 10.6**	**+0.4**
DIYA				*i* S		**Sb**	**10 36 40.5**	**+1.0**
DIYA	**Diyarbakir**	**2.11**	**234**	P		**Pn**	**10 36 10.6**	**+0.4**
GNI	**Garni** 198nm,0.3s,baz=234,slow=1.2,SNR=140	**2.13**	**62**	Pn		**Pn**	**10 36 11.1**	**+0.6**
GNI					Pg	**Pb**	**10 36 14.1**	**+0.5**
	266nm,0.3s,baz=242,slow=17,SNR=94							
GNI					Lg		10 36 40.2	
	343nm,0.3s,baz=221,slow=20,SNR=6.3							
GNI	**Garni**	**2.13**	**62**	⇑*i*P		**Pn**	**10 36 10.7**	**+0.2**
GNI				⇑*i*S		**Sb**	**10 36 38.5**	**-1.5**
GNI	**Garni** comp=Z,15μm,0.8s	**2.13**	**62**	*ce*Pn		**Pn**	**10 36 10.7**	**+0.2**
GNI					pmax	pmax		
GNI	**Garni**	**2.13**	**62**	*e*Pn		**Pn**	**10 36 10.7**	**+0.2**
GNI					Lg	Lg	10 36 40.2	
GNI	**Garni** SNR=523	**2.13**	**62**	P		**Pn**	**10 36 11.1**	**+0.6**
GNI	**Garni** SNR=523	**2.13**	**62**	P		**Pn**	**10 36 11.1**	**+0.6**
GNI	**Garni**	**2.13**	**62**	⇑P		**Pn**	**10 36 10.7**	**+0.2**
GNI				S		**Sb**	**10 36 38.5**	**-1.5**
GNI				Lg		Lg	10 36 40.2	
GNI	**Garni** SNR=320	**2.13**	**62**	*e*P		**Pn**	**10 36 10.8**	**+0.2**
TNCL	**Tunceli-Merkez**	**2.14**	**269**	⇑*i*P		**Pn**	**10 36 10.0**	**-0.6**
TNCL				*i* S		**Sg**	**10 36 45.7**	**+1.8**
TNCL	**Tunceli-Merkez**	**2.14**	**269**	P		**Pn**	**10 36 10.0**	**-0.6**
MARD	**Mardin**	**2.21**	**213**	*i* P		**Pn**	**10 36 10.4**	**-1.3**
MARD				*i* S		**Sb**	**10 36 41.3**	**-1.0**
DBOC	**Borcka**	**2.21**	**348**	⇓*i*P		**Pn**	**10 36 10.9**	**-0.7**
DBOC				*i* S		**Sn**	**10 36 40.3**	**+1.4**
DBOC	**Borcka**	**2.21**	**348**	P		**Pn**	**10 36 10.9**	**-0.7**
DBOC				S		**Sn**	**10 36 40.3**	**+1.4**
YOVA	**Hakkari_Y¨…kse**	**2.24**	**135**	⇑*i*P		**Pb**	**10 36 13.9**	**-1.6**
YOVA				*i* S		**Sb**	**10 36 43.1**	**-0.1**
YOVA	**Hakkari_Y¨…kse**	**2.24**	**135**	P		**Pb**	**10 36 13.9**	**-1.6**
CHOM	**Cayeli-Rize**	**2.24**	**329**	*e*Pn		**Pn**	**10 36 12.8**	**+0.8**
MAZI	**Mazidag**	**2.25**	**221**	PN		**Pn**	**10 36 12.4**	**+0.3**
MAZI	**Mazidag**	**2.25**	**221**	*e*Pn		**Pn**	**10 36 12.4**	**+0.3**
PTK	**Pertek**	**2.27**	**264**	PN		**Pn**	**10 36 13.3**	**+0.7**
PTK	**Pertek**	**2.27**	**264**	*e*Pn		**Pn**	**10 36 13.3**	**+0.7**
BGD	**Bogdanovka**	**2.31**	**25**	P		**Pn**	**10 36 13.2**	**+0.1**
EZC	**Erzincan**	**2.34**	**285**	*e*Pn		**Pn**	**10 36 09.3**	**-4.2**
AKH	**Akhalkalaki**	**2.41**	**22**	PN		**Pn**	**10 36 14.9**	**+0.5**
AKH	**Akhalkalaki**	**2.41**	**22**	P		**Pn**	**10 36 14.2**	**-0.2**
AKH				S		**Sb**	**10 36 46.3**	**-1.9**
AKH	**Akhalkalaki**	**2.41**	**22**	*e*PN		**Pn**	**10 36 14.2**	**-0.2**
AKH				*e*S		**Sb**	**10 36 46.3**	**-1.9**
AKH	**Akhalkalaki**	**2.41**	**22**	⇓*i*P		**Pn**	**10 36 14.3**	**-0.2**
AKH	**Akhalkalaki**	**2.41**	**22**	*e*Pn		**Pn**	**10 36 14.2**	**-0.2**
AKH	**Akhalkalaki**	**2.41**	**22**	⇓*i*P		**Pn**	**10 36 14.3**	**-0.2**
AKH	**Akhalkalaki**	**2.41**	**22**	*e*Pn		**Pn**	**10 36 14.9**	**+0.5**
AKH				*e*Sn		**Sb**	**10 36 46.3**	**-1.9**
STE	**Stepanavan**	**2.42**	**41**	⇓P		**Pn**	**10 36 12.0**	**-2.5**
STEZ	**Stepenevan**	**2.43**	**41**	⇓*i*P		**Pn**	**10 36 12.0**	**-2.7**
STEZ				⇓S		**Sn**	**10 36 46.0**	**+1.6**
NAX	**Nakhchivan** SNR=11	**2.49**	**89**	⇓P		**Pn**	**10 36 17.3**	**+1.8**
NAX				⇑S		**Sn**	**10 36 47.2**	**+1.4**
GUMT	**Gumushane**	**2.51**	**301**	PN		**Pn**	**10 36 16.8**	**+1.0**
GUMT	**Gumushane**	**2.51**	**301**	*e*Pn		**Pn**	**10 36 16.8**	**+1.0**
KELT	**Kelkit**	**2.53**	**293**	⇓*i*P		**Pn**	**10 36 16.7**	**+0.5**
KELT				*i* S		**Sb**	**10 36 53.0**	**+1.3**
KELT	**Kelkit**	**2.53**	**293**	P		**Pn**	**10 36 16.7**	**+0.5**
SBZ	**Shahbuz** SNR=12	**2.54**	**84**	⇓P		**Pn**	**10 36 18.1**	**+1.9**
SBZ				⇑S		**Sn**	**10 36 48.1**	**+1.0**
MACK	**Trabzon**	**2.62**	**313**	*i* P		**Pn**	**10 36 17.6**	**+0.5**
MACK				*i* S		**Sb**	**10 36 53.2**	**-0.8**
MACK	**Trabzon**	**2.62**	**313**	P		**Pn**	**10 36 17.6**	**+0.5**
KTUT	**Trabzon**	**2.65**	**314**	PN		**Pn**	**10 36 17.7**	**+0.2**
KTUT	**Trabzon**	**2.65**	**314**	*e*Pn		**Pn**	**10 36 17.7**	**+0.2**
IMRD	**Marand**	**2.70**	**99**	*e*Pn		**Pn**	**10 36 20.5**	**+2.0**
IMRD	comp=Z,64μm,0.3s				eAMB	AMB	10 36 41.7	
IMRD					*e*Sg	**Sb**	**10 36 58.7**	**+2.1**
IMRD	**Marand**	**2.70**	**99**	*e*Pn		**Pn**	**10 36 20.5**	**+2.0**
IMRD					*e*Sg	**Sb**	**10 36 58.7**	**+2.1**
KZR	**Kazreti**	**2.73**	**36**	P		**Pn**	**10 36 23.8**	**-0.1**
ISHB	**Shabestar**	**2.75**	**108**	*e*Pn		**Pb**	**10 36 21.9**	**-2.5**
ISHB	comp=Z,49μm,0.3s				eAMB	AMB	10 36 36.0	
VADZ	**Vardenis**	**2.84**	**69**	⇓P		**Pn**	**10 36 18.0**	**-2.5**
VADZ				S		**Sb**	**10 36 58.0**	**-2.7**
ORD	**Ordubad** SNR=916	**2.90**	**94**	⇑P		**Pn**	**10 36 22.3**	**+1.3**
ORD				⇓S		**Sn**	**10 36 57.1**	**+1.4**
ILIC	**ilic-Erzincan**	**2.90**	**277**	PN		**Pn**	**10 36 22.5**	**+1.4**
ILIC	**ilic-Erzincan**	**2.90**	**277**	*e*Pn		**Pn**	**10 36 22.5**	**+1.4**
KEMA	**Kemaliye**	**2.95**	**273**	⇑*i*P		**Pn**	**10 36 21.8**	**0.0**
KEMA				*i* S		**Sg**	**10 37 11.7**	**+1.8**
KEMA	**Kemaliye**	**2.95**	**273**	P		**Pn**	**10 36 21.8**	**0.0**
QZX	**Qazax, Azerbai** SNR=116	**3.02**	**51**	⇑P		**Pn**	**10 36 23.5**	**+0.8**
QZX				⇓S		**Sn**	**10 36 58.9**	**+0.2**
GDB	**GEDABAY** SNR=19	**3.08**	**59**	P		**Pn**	**10 36 24.5**	**+0.9**
GDB				⇓S		**Sn**	**10 37 01.0**	**+0.7**
MALT	**Malatya**	**3.14**	**255**	PN		**Pn**	**10 36 25.1**	**+0.7**
MALT	**Malatya**	**3.14**	**255**	PN		**Pn**	**10 36 24.5**	**+0.1**
MALT	**Malatya**	**3.14**	**255**	Pn		**Pn**	**10 36 24.5**	**+0.1**
BTNK	**Botanikuri**	**3.15**	**37**	P		**Pn**	**10 36 24.7**	**+0.3**
GRS	**Goris**	**3.15**	**83**	S		**Sb**	**10 37 07.0**	**-2.5**
TBLG	**Delisi**	**3.16**	**35**	PN		**Pn**	**10 36 25.6**	**+1.0**
TBLG	**Delisi**	**3.16**	**35**	P		**Pn**	**10 36 25.1**	**+0.4**
TBLG				S		**Sg**	**10 37 16.1**	**-0.6**
TBLG	**Delisi**	**3.16**	**35**	*e*PN		**Pn**	**10 36 25.1**	**+0.4**
TBLG				*e*S		**Sg**	**10 37 16.1**	**-0.6**
TBLG	**Delisi**	**3.16**	**35**	*e*Pn		**Pn**	**10 36 25.0**	**+0.4**
TBLG	**Delisi**	**3.16**	**35**	*e*Pn		**Pn**	**10 36 25.0**	**+0.4**
ITBZ	**Tabriz**	**3.16**	**106**	*e*Pn		**Pn**	**10 36 27.4**	**+2.6**
ITBZ	comp=Z,10μm,0.3s				eAMB	AMB	10 36 52.3	
ITBZ	**Tabriz**	**3.16**	**106**	*e*Pn		**Pn**	**10 36 27.4**	**+2.6**
SEAG	**Tbilisi Sea**	**3.21**	**36**	P		**Pn**	**10 36 26.3**	**+0.9**
URFA	**Urfa**	**3.23**	**239**	PN		**Pn**	**10 36 26.8**	**+1.1**
URFA	**Urfa**	**3.23**	**239**	*e*Pn		**Pn**	**10 36 26.8**	**+1.1**
ESPY	**Espiye-Giresun**	**3.24**	**304**	PN		**Pn**	**10 36 27.5**	**+1.8**
ESPY	**Espiye-Giresun**	**3.24**	**304**	*e*Pn		**Pn**	**10 36 27.5**	**+1.8**
DGRG	**David-gareji**	**3.27**	**45**	P		**Pn**	**10 36 26.3**	**+0.2**
DGRG	**David-gareji**	**3.27**	**45**	*e*PN		**Pn**	**10 36 26.3**	**+0.2**
DGRG	**David-gareji**	**3.27**	**45**	*e*Pn		**Pn**	**10 36 26.3**	**+0.2**
SUSE	**Susehri**	**3.31**	**289**	⇓*i*P		**Pn**	**10 36 26.7**	**-0.2**
SUSE				*i* S		**Sb**	**10 37 17.9**	**+3.7**
SUSE	**Susehri**	**3.31**	**289**	P		**Pn**	**10 36 26.7**	**-0.2**
GANJ	**Ganja** SNR=88	**3.43**	**63**	⇓P		**Pn**	**10 36 29.7**	**+1.4**
GANJ				⇓S		**Sn**	**10 37 09.8**	**+1.0**
DUS	**Dusheti**	**3.44**	**32**	P		**Pn**	**10 36 29.5**	**+1.0**
DUS				S		**Sg**	**10 37 22.2**	**-3.4**
DUS	**Dusheti**	**3.44**	**32**	*e*PN		**Pn**	**10 36 29.5**	**+1.0**
DUS				*e*S		**Sg**	**10 37 22.2**	**-3.4**
DUS	**Dusheti**	**3.44**	**32**	*e*Pn		**Pn**	**10 36 29.5**	**+1.0**
DUS				*e*Sb		**Sg**	**10 37 22.2**	**-3.4**
GUDG	**Gudauri**	**3.68**	**26**	P		**Pn**	**10 36 32.5**	**+0.6**
DDFL	**Dedoflistskaro**	**3.70**	**51**	P		**Pn**	**10 36 35.0**	**+2.9**
DARE	**Darende-Malaty**	**3.80**	**262**	PN		**Pn**	**10 36 35.2**	**+1.7**
DARE	**Darende-Malaty**	**3.80**	**262**	*e*Pn		**Pn**	**10 36 35.2**	**+1.7**
ZEI	**Tsey**	**3.81**	**18**	*e*PN		**Pn**	**10 36 33.1**	**-0.5**
ZEI	comp=Z,499nm,0.6s				pmax	pmax		
IBST	**Bostanabad**	**3.91**	**111**	*e*Pn		**Pn**	**10 36 37.6**	**+2.6**
IBST	comp=Z,7μm,0.4s				eAMB	AMB	10 37 45.7	
IBST	**Bostanabad**	**3.91**	**111**	*e*Pn		**Pn**	**10 36 37.6**	**+2.6**
BRDA	**Brd** SNR=70	**3.92**	**72**	⇑P		**Pn**	**10 36 36.5**	**+1.5**
BRDA				⇑S		**Sn**	**10 37 21.8**	**+0.9**
RSDY	**Resadiye-TOKAT**	**4.01**	**289**	PN		**Pn**	**10 36 38.5**	**+2.2**
RSDY	**Resadiye-TOKAT**	**4.01**	**289**	*e*Pn		**Pn**	**10 36 38.5**	**+2.2**
MNGR	**Mingechevir, A** SNR=30	**4.01**	**65**	⇓P		**Pn**	**10 36 37.3**	**+1.0**
MNGR				⇓S		**Sn**	**10 37 23.8**	**+0.7**
SVSK	**Karacayir**	**4.16**	**282**	PN		**Pn**	**10 36 40.5**	**+2.3**
SVSK	**Karacayir**	**4.16**	**282**	*e*Pn		**Pn**	**10 36 40.5**	**+2.3**
ZKT	**Zaqatala**	**4.16**	**52**	⇑P		**Pn**	**10 36 38.3**	**0.0**
ZKT	SNR=3.2				⇑S	**Sn**	**10 37 26.3**	**-0.4**
LSNR	**Lesken**	**4.25**	**15**	⇑*e*Pn		**Pn**	**10 36 42.0**	**+2.3**
SEKA	**Sheki** SNR=12	**4.27**	**60**	⇓P		**Pn**	**10 36 41.7**	**+1.8**
SEKA				⇑S		**Sn**	**10 37 32.0**	**+2.4**
ZRD	**Zardab** SNR=20	**4.30**	**74**	⇑P		**Pn**	**10 36 41.0**	**+0.8**
ZRD				⇓S		**Sn**	**10 37 31.4**	**+1.2**
NCK	**Nalchik**	**4.42**	**12**	*i* PN		**Pn**	**10 36 43.7**	**+1.8**
NCK	**Nalchik**	**4.42**	**12**	*i* Pn		**Pn**	**10 36 43.7**	**+1.8**
GAZ	**Gaziantep**	**4.47**	**245**	PN		**Pn**	**10 36 44.9**	**+2.2**
GAZ	**Gaziantep**	**4.47**	**245**	*e*Pn		**Pn**	**10 36 44.9**	**+2.2**
KMRS	**Kahramanmaras**	**4.55**	**250**	PN		**Pn**	**10 36 46.2**	**+2.4**
KMRS	**Kahramanmaras**	**4.55**	**250**	*e*Pn		**Pn**	**10 36 46.2**	**+2.4**
KBZ	**Khabaz** comp=Z,1.4nm,0.3s,baz=191,slow=7.8,SNR=22	**4.57**	**6**	Pn		**Pn**	**10 36 45.9**	**+2.0**
KBZ					Lg	Lg	10 37 57.0	
KBZ	baz=165,slow=12,SNR=1.2				LR	LR	10 38 58.2	
TOKT	**Tokat**	**4.57**	**286**	PN		**Pn**	**10 36 46.5**	**+2.5**
TOKT	**Tokat**	**4.57**	**286**	*e*Pn		**Pn**	**10 36 46.5**	**+2.5**
QBL	**Gabala** SNR=40	**4.61**	**66**	⇓P		**Pn**	**10 36 45.1**	**+0.6**
QBL	

KSHT	Keshet	8.11	222	Pn	Pn	10 37 38.6	+6.0		
ASF	Jabal al Asfar	8.25	214	Pn	Pn	10 37 35.8	+1.1		
	comp=Z,1.0nm,0.3s,baz=9.4,slow=7.4,SNR=21								
ASF				Lg	Lg	10 39 59.6			
	comp=Z,2.6nm,0.3s,baz=30,slow=20,SNR=10								
ASF				LR	LR	10 41 16.4			
	comp=Z,2μm,18.2s,baz=358,slow=42								
MMA0B	Mount Meron ar	8.30	224	Pn	Pn	10 37 38.4	+3.2		
MMA0B				Sn	Sg	10 39 50.2	-11		
MMAI	Mount Meron Ar	8.30	224	Pn	Pn	10 37 38.0	+2.8		
	comp=Z,2.1nm,0.3s,baz=50,slow=13,SNR=7.0								
MMAI				Lg	Lg	10 40 05.6			
	comp=Z,8.2nm,0.3s,baz=47,slow=25,SNR=3.8								
MMAI				LR	LR	10 41 18.0			
	comp=Z,4μm,19.3s,baz=45,slow=42								
CSS	Mathiatis	8.30	242	ePn	Pn	10 37 37.1	+1.8		
CSS	Mathiatis	8.30	242	ePn	Pn	10 37 37.1	+1.8		
CSS	Mathiatis	8.30	242	Pn	Pn	10 37 35.1	-0.2		
SEV	Sevastopol'	8.37	313	eP	Pn	10 37 45.2	+9.1		
SEV				eS	Sn	10 39 18.3	+7.9		
HNTI	Hanita	8.37	226	Pn	Pn	10 37 40.2	+4.0		
HNTI				Sn	Sg	10 39 52.9	-11		
SIM	Simferopol'	8.37	316	eP	Pn	10 37 39.8	+3.6		
SIM				eS	Sn	10 39 18.8	+8.3		
ALFC	Alefka	8.71	246	P	Pn	10 37 51.1	+10		
SZAC	Souni	8.73	243	P	Pn	10 37 50.6	+10		
MMLI	Mount Malkishu	8.74	222	Pn	Pn	10 37 46.0	+4.8		
MMLI				Sn	Sg	10 40 03.2	-12		
OFRI	'Ofer	8.83	224	Pn	Pn	10 37 48.2	+5.8		
OFRI				Sn	Sg	10 40 04.7	-14		
HMDT	Nahal Hemdat	8.83	221	Pn	Pn	10 37 48.9	+6.4		
HMDT				Sn	Sg	10 40 05.5	-13		
AKMC	Akamas	8.97	246	P	Pn	10 37 48.5	+4.1		
PPCY	Paphos	9.03	245	P	Pn	10 37 48.2	+3.0		
SLTI	Sal'it	9.09	223	Pn	Pn	10 37 50.9	+4.9		
SLTI				Sn	Sn	10 40 11.2	+43		
ISP	Isparta	9.32	265	eP	Pn	10 37 50.1	+0.8		
ISP	Isparta	9.32	265	ePn	Pn	10 37 50.1	+0.8		
ISP	Isparta	9.32	265	ePn	Pn	10 37 50.1	+0.8		
DSI	Dead Sea	9.46	219	Pn	Pn	10 37 56.3	+5.3		
DSI				Sn	Sn	10 40 20.0	+43		
ZFRI	Zfri	10.40	216	Pn	Pn	10 38 09.6	+5.7		
ZFRI				Sn	Sn	10 40 44.5	+44		
KZIT	Kziot	10.48	220	Pn	Pn	10 38 10.3	+5.2		
KZIT				Sn	Sn	10 40 46.7	+44		
PRNI	Paran	10.65	216	Pn	Pn	10 38 12.0	+4.6		
PRNI				Sn	Sn	10 40 51.2	+45		
HRFI	Mount Harif	10.90	215	Pn	Pn	10 38 16.3	+5.5		
MBRI	Mt Berech	11.16	215	Pn	Pn	10 38 18.6	+4.1		
EIL	Elat	11.25	215	Pn	Pn	10 38 26.0	+10		
	comp=Z,0.2nm,0.3s,baz=20,slow=11,SNR=17								
EIL				Lg	Lg	10 41 22.6			
	comp=Z,0.4nm,0.3s,baz=36,slow=19,SNR=1.8								
EIL				LR	LR	10 42 28.7			
	comp=Z,672nm,18.8s,baz=48,slow=37								
EIL	Elat	11.25	215	Pn	Pn	10 38 20.7	+5.1		
EIL				Sn	Sn	10 41 06.0	+45		
TIRR	Tirgusor	11.61	301	eP	Pn	10 38 21.4	+0.9		
TIRR	Tirgusor	11.61	301	⇓iP	Pn	10 38 25.5	+5.0		
TIRR	Tirgusor	11.61	301	ePn	Pn	10 38 21.4	+0.9		
TIRR	Tirgusor	11.61	301	ePn	Pn	10 38 21.4	+0.9		
TLCR		11.65	305	⇓iP	Pn	10 38 27.0	+6.0		
TLB	Topalu	11.91	302	⇓iP	Pn	10 38 30.2	+5.7		
PRD	Provadia	11.91	294	eP	Pn	10 38 31.3	+6.7		
VRH	Novokhopyorsk	12.03	358	eP	Pn	10 38 30.4	+4.3		
CFR	Carcaliu	12.08	304	⇑iP	Pn	10 38 28.1	+1.2		
CFR	Carcaliu	12.08	304	⇑iP	Pn	10 38 28.1	+1.2		
VSR	Storozhevoye	12.23	351	eP	Pn	10 38 32.2	+4.2		
GYB4	ALIBECK ARRAY	12.44	91	ePn	Pn	10 38 32.7	+0.8		
GYB4	ALIBECK ARRAY	12.44	91	ePn	Pn	10 38 32.7	+0.8		
GYB5	ALIBECK ARRAY	12.45	91	ePn	Pn	10 38 32.4	+0.3		
GYB5	ALIBECK ARRAY	12.45	91	ePn	Pn	10 38 32.4	+0.3		
GYB3	ALIBECK ARRAY	12.45	91	ePn	Pn	10 38 32.7	+0.6		
GYB3	ALIBECK ARRAY	12.45	91	ePn	Pn	10 38 32.7	+0.6		
GEYT	Alibeck	12.46	91	Pn	Pn	10 38 31.7	-0.4		
	comp=Z,0.3nm,0.3s,baz=283,slow=19,SNR=9.3								
GEYT				LR	LR	10 45 13.1			
	comp=Z,586nm,18.9s,baz=265,slow=47								
GYA0	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 32.3	+0.2		
GYA0	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 32.3	+0.2		
GYA0B	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 32.2	+0.1		
GYA0B	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 32.2	+0.1		
GYA1	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 32.1	0.0		
GYA1	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 32.2	0.0		
GYA2	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 31.9	-0.2		
GYA2	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 31.9	-0.2		
GYB2	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 32.3	+0.1		
GYB2	ALIBECK ARRAY	12.46	91	ePn	Pn	10 38 32.3	+0.1		
GYB1	ALIBECK ARRAY	12.47	91	ePn	Pn	10 38 33.3	+1.0		
GYB1	ALIBECK ARRAY	12.47	91	ePn	Pn	10 38 33.3	+1.0		
KIS	Kishinev	12.56	313	eP	Pn	10 38 35.0	+1.6		
KIS				eS	Sn	10 40 54.0	+1.0		
KIS				eSS	SnSn	10 41 05.0	0.0		
KIS				eL	L	10 44 28.0			
KIS				LRM	MLR	10 46 44.0			
	comp=Z,2μm,15.0s								
KIS	Kishinev	12.56	313	eP	Pn	10 38 35.0	+1.6		
KIS				eS	Sn	10 40 54.0	+1.0		
KIS				MLR	MLR				
	comp=N,2μm,15.0s								
KIS				MLR	MLR				
	comp=Z,2μm,15.0s								
KIS				MLR	MLR				
	comp=E,2μm,14.0s								
KIS				MLR	MLR				
	comp=Z,2μm,15.0s								
KIS	Kishinev	12.56	313	eP	Pn	10 38 35.0	+1.6		
KIS				eS	Sn	10 40 54.0	+1.0		
ALN	Alexandroupoli	12.57	283	eP	Pn	10 38 35.5	+1.9		
ALN	Alexandroupoli	12.57	283	ePn	Pn	10 38 35.5	+1.9		
ALN	Alexandroupoli	12.57	283	ePn	Pn	10 38 35.5	+1.9		
ALN	Alexandroupoli	12.57	283	P	P	10 38 42.8	-2.4		
KARP	Karpathos	12.57	258	ePn	Pn	10 38 35.4	+1.7		
KARP	Karpathos	12.57	258	ePn	Pn	10 38 35.3	+1.7		
GADA	Gvkgeada	12.67	280	ePn	Pn	10 38 36.5	+1.5		
GADA	Gvkgeada	12.67	280	P	Pn	10 38 36.5	+1.5		
GADA	Gvkgeada	12.67	280	P	Pn	10 38 36.5	+1.5		
VORR	Voronezh	12.68	351	eP	Pn	10 38 37.0	+2.0		
VORR				pmax	pmax				
	comp=Z,250nm,1.6s								
RDO	Rodhopi	12.97	284	ePn	Pn	10 38 43.5	+4.5		
RDO	Rodhopi	12.97	284	ePn	Pn	10 38 43.5	+4.5		
RDO	Rodhopi	12.97	284	P	Pn	10 38 43.5	+4.5		
ISR	Istrita	13.10	302	⇑iP	P	10 38 47.1	-4.0		
VRI	Vrincioaia	13.27	305	⇓iP	P	10 38 49.0	-4.0		
PLOR	Plostina	13.31	305	⇑iP	P	10 38 50.2	-3.3		
APE	Apeiranthos	13.36	266	deP	Pn	10 38 48.5	+4.0		
APE				pmax	pmax				
	comp=Z,22nm,1.0s								
APE	Apeiranthos	13.36	266	⇑iP	Pn	10 38 46.0	+1.5		
APE	Apeiranthos	13.36	266	⇑iP	Pn	10 38 46.0	+1.5		
SORM	Soroca	13.47	316	⇓iP	P	10 38 50.9	-4.2		
RZN	Rozhen	13.62	286	eP	Pn	10 38 51.2	+3.1		
LPSR	Galich'ya Gora	13.62	351	eP	Pn	10 38 51.9	+4.0		
MLR	Muntele Rosu	13.62	303	Pn	Pn	10 38 49.0	+0.9		
	comp=Z,0.1nm,0.3s,baz=104,slow=9.2,SNR=3.5								
MLR				LR	LR	10 44 54.0			
	comp=Z,150nm,19.8s,baz=136,slow=41								
MLR	Muntele Rosu	13.62	303	⇑iP	P	10 38 53.0	-4.0		
MTUR	Matau	14.12	301	⇑iP	P	10 39 00.4	-2.0		
PGB	Panagyurishte	14.12	290	eP	P	10 39 05.2	+2.7		
VOIR		14.20	302	P	Pn	10 38 58.3	+2.4		
VOIR				pmax	pmax				
	comp=Z,199nm,1.2s								
NVR	Nevrokopi	14.24	285	eP	P	10 39 03.3	-0.5		
NVR	Nevrokopi	14.24	285	P	P	10 39 03.3	-0.5		
NVR	Nevrokopi	14.24	285	P	P	10 39 03.3	-0.5		
PRAR	RASCA	14.26	310	⇓iP	P	10 39 03.4	-0.5		
PRAR	RASCA	14.26	310	⇓iP	P	10 39 03.4	-0.5		
MMB	Musomiste	14.35	286	eP	P	10 39 03.6	-1.4		
IDI	Anoyia	14.39	260	Pn	Pn	10 38 58.1	-0.5		
	comp=Z,0.5nm,0.3s,baz=63,slow=13,SNR=6.5								
IDI				LR	LR	10 45 43.0			
	comp=Z,2μm,19.4s,baz=72,slow=42								
IDI	Anoyia	14.39	260	⇓iP	Pn	10 39 01.2	+2.6		
IDI	Anoyia	14.39	260	ePn	Pn	10 38 58.7	0.0		
IDI	Anoyia	14.39	260	ePn	Pn	10 38 58.7	0.0		
SRS	Serrai	14.43	284	eP	Pn	10 39 01.9	+2.8		
SRS	Serrai	14.43	284	ePn	Pn	10 39 01.9	+2.8		
SRS	Serrai	14.43	284	ePn	Pn	10 39 01.9	+2.8		
SRS	Serrai	14.43	284	P	Pn	10 39 01.9	+2.8		
ARR	Arges	14.45	301	⇓iP	P	10 39 06.1	0.0		
ARR	Arges	14.45	301	⇓iP	P	10 39 06.1	0.0		
SOH	Sokhos	14.61	282	P	P	10 39 09.8	+1.9		
AKASG	Malin Array Be	14.75	326	Pn	Pn	10 39 00.8	-2.5		
	comp=Z,1.2nm,0.3s,baz=138,slow=11,SNR=80								
AKASG				LR	LR	10 45 16.3			
	comp=Z,763nm,20.2s,baz=125,slow=40								
AKASG	Malin Array Be	14.75	326	iP	Pn	10 39 01.1	-2.2		
AKASG				pmax	pmax				
	comp=Z,49nm,1.2s								
AKBB	Malin Array Si	14.75	326	eP	Pn	10 39 02.9	-0.4		
AKBB	Malin Array Si	14.75	326	ePn	Pn	10 39 02.9	-0.4		
KIEV	Kiev	14.75	326	iP	Pn	10 39 03.8	+0.5		
KIEV				pmax	pmax				
	comp=Z,18nm,1.0s								
KIEV	Kiev	14.75	326	ePn	Pn	10 39 02.6	-0.7		
KIEV	Kiev	14.75	326	ePn	Pn	10 39 02.6	-0.7		
KIEV	Kiev	14.75	326	iP	Pn	10 39 04.4	+1.1		
	SNR=30								
AK11	Malin Array Si	14.76	325	ePn	Pn	10 39 03.3	-0.1		
VTS	Vitosha	14.83	289	eP	Pn	10 39 05.6	+1.0		
VTS	Vitosha	14.83	289	⇑iP	P	10 39 10.2	-0.2		
VTS	Vitosha	14.83	289	ePn	Pn	10 39 05.6	+1.0		
VTS	Vitosha	14.83	289	ePn	Pn	10 39 05.6	+1.0		
VTS	Vitosha	14.83	289	⇑iP	P	10 39 10.2	-0.2		
VTS	Vitosha	14.83	289	eP	P	10 39 10.4	0.0		
VTS	Vitosha	14.83	289	P	Pn	10 39 05.6	+1.0		
VILL	Villia	14.86	272	P	Pn	10 39 07.1	+2.1		
BURAR	Bucovina Array	14.98	310	P	P	10 39 12.5	+0.5		
BURAR	Bucovina Array	14.98	310	⇓iP	P	10 39 12.6	+0.5		
BURAR	Bucovina Array	14.98	310	⇓iP	P	10 39 12.6	+0.5		
BUR04	Bucovina Ar. S	14.98	310	ePn	Pn	10 39 08.3	+1.7		
BUR04	Bucovina Ar. S	14.98	310	ePn	Pn	10 39 08.3	+1.7		
BUR08	Bucovina Ar. S	15.00	310	ePn	Pn	10 39 08.5	+1.6		
BUR08	Bucovina Ar. S	15.00	310	ePn	Pn	10 39 08.5	+1.6		
DID	Didima	15.05	270	ePn	P	10 39 10.4	-2.4		
DID	Didima	15.05	270	ePn	P	10 39 10.4	-2.4		
DID	Didima	15.05	270	P	P	10 39 10.4	-2.4		
LOUT	Loutraki	15.15	272	P	P	10 39 13.9	-0.1		
LOUT	Loutraki	15.15	272	P	P	10 39 13.9	-0.1		
LTK	Loutraki	15.15	272	ePn	Pn	10 39 09.6	+0.7		
LTK	Loutraki	15.15	272	ePn	Pn	10 39 09.6	+0.7		
LTK	Loutraki	15.15	272	P	Pn	10 39 09.6	+0.7		
VAY	Valandovo	15.21	284	iP	P	10 39 16.7	+2.2		
ZAPS	Zavoj	15.34	292	⇓iP	P	10 39 18.2	+2.2		
VLI	Veliai	15.46	267	ePn	P	10 39 16.8	-0.6		
VLI	Veliai	15.46	267	P	P	10 39 16.8	-0.6		
VLI	Veliai	15.46	267	P	P	10 39 16.8	-0.6		
AGG	Agios Georgios	15.50	276	eP	Pn	10 39 14.2	+0.8		
AGG				pmax	pmax				
	comp=Z,89nm,1.0s								
AGG	Agios Georgios	15.50	276	ePn	Pn	10 39 14.2	+0.8		
	comp=Z,89nm,1.0s								
AGG	Agios Georgios	15.50	276	ePn	Pn	10 39 14.2	+0.8		
	comp=Z,89nm,1.0s								
KYTH	Kithira	15.50	265	ePn	P	10 39 16.8	-1.0		
KYTH	Kithira	15.50	265	P	P	10 39 16.8	-1.0		
KYTH	Kithira	15.50	265	P	P	10 39 16.8	-1.0		
CJR	Cluj-Napoca	15.60	305	⇑iP	P	10 39 22.1	+3.2		
GUR	Goura	15.66	272	ePn	P	10 39 20.2	+0.6		
GUR	Goura	15.66	272	P	P	10 39 20.2	+0.6		
GUR	Goura	15.66	272	P	P	10 39 20.2	+0.6		
ZAGS	Zajecar	15.71	294	⇓iP	P	10 39 21.3	+1.2		
KALE	Kalithea	15.73	273	ePn	Pn	10 39 18.3	+1.8		
KALE	Kalithea	15.73	273	ePn	Pn	10 39 18.3	+1.8		
KALE	Kalithea	15.73	273	P	Pn	10 39 18.3	+1.8		
KLV	Kalavryta, Ach	15.79	272	ePn	P	10 39 20.5	-0.5		
KLV	Kalavryta, Ach	15.79	272	P	P	10 39 20.5	-0.5		
KLV	Kalavryta, Ach	15.79	272	P	P	10 39 20.5	-0.5		
SERG	Sergoula	15.80	274	P	P	10 39 22.6	+1.5		
SERG	Sergoula	15.80	274	P	P	10 39 22.6	+1.5		
AKTO	Aktyubinsk	15.81	40	Pn	Pn	10 39 15.2	-2.1		
	comp=Z,0.5nm,0.3s,baz=234,slow=12,SNR=23								
AKTO				LR	LR	10 47 03.2			
	comp=Z,2μm,18.1s,baz=226,slow=44								
AKTO	Aktyubinsk	15.81	40	iP	Pn	10 39 14.4	-2.9		
AKTO				pmax	pmax				
	comp=Z,54nm,0.9s								
RAYN	Ar Rayn	15.85	169	⇑eP	Pn	10 39 15.3	-2.7		
RAYN	Ar Rayn	15.85	169	ePn	Pn	10 39 15.3	-2.7		
	comp=Z,137nm,1.5s								
RAYN	Ar Rayn	15.85	169	ePn	Pn	10 39 15.3	-2.7		
	comp=Z,137nm,1.5s								
ANX	Ano Chora	15.87	274	P	P	10 39 21.5	-0.5		
ANX	Ano Chora	15.87	274	P	P	10 39 21.5	-0.5		
BARS	Barje	15.87	290	eP	P	10 39 23.1	+1.2		
LAKA	Lakka	15.88	273	ePn	P	10 39 22.8	+0.7		
LAKA	Lakka	15.88	273	P	P	10 39 22.8	+0.7		
LAKA	Lakka	15.88	273	P	P	10 39 22.8	+0.7		
BMR	Baia Mare	16.05	308	⇑iP	P	10 39 26.2	+2.4		
BMR	Baia Mare	16.05	308	⇑iP	P	10 39 26.2	+2.4		
BOVS	Bovan	16.06	293	⇑iP	P	10 39 25.8	+1.8		
SKO	Skopje	16.08	287	iP	P	10 39 24.8	+0.6		
FNA	Florina	16.11	282	eP	Pn	10 39 22.2	+0.9		
FNA	Florina	16.11	282	ePn	Pn	10 39 22.2	+0.9		
FNA				epP	P	10 39 25.1	+0.5		
FNA	Florina	16.11	282	ePn	Pn	10 39 22.2	+0.9		
FNA	Florina	16.11	282	P	P	10 39 25.1	+0.5		
FNA	Florina	16.11	282	P	P	10 39 25.1	+0.5		
AB08	Akbulak array	16.12	46	ePn	Pn	10 39 21.3	0.0		
AB08	Akbulak array	16.12	46	ePn	Pn	10 39 21.3	0.0		
AB09	Akbulak array	16.13	46	ePn	Pn	10 39 21.0	-0.4		
AB03	Akbulak array	16.13	46	ePn	Pn	10 39 20.8	-0.7		
AB03	Akbulak array	16.13	46	ePn	Pn	10 39 20.8	-0.7		
AB04	Akbulak array	16.13	46	ePn	Pn	10 39 21.0	-0.5		
AB04	Akbulak array	16.13	46	ePn	Pn	10 39 21.0	-0.5		
ITM	Ithomi	16.14	269	ePn	Pn	10 39 21.9	+0.3		
ITM				epP	P	10 39 25.8	+0.9		
ITM	Ithomi	16.14	269	ePn	Pn	10 39 21.9	+0.3		
ITM	Ithomi	16.14	269	P	P	10 39 25.8	+0.9		
ITM	Ithomi	16.14	269	P	P	10 39 25.8	+0.9		
AB01	Akbulak array	16.14	46	ePn	Pn	10 39 20.9	-0.6		
AB31	Akbulak array	16.14	46	iP	Pn	10 39 20.6	-0.9		
AB31				pmax	pmax				
	comp=Z,21nm,0.8s								
AB31	Akbulak array	16.14	46	ePn	Pn	10 39 21.1	-0.4		
ABKAR	Akbulak array	16.14	46	ePn	Pn	10 39 21.1	-0.4		
	comp=Z,183nm,0.9s								
AB07	Akbulak array	16.14	46	ePn	Pn	10 39 20.7	-0.8		
AB07	Akbulak array	16.14	46	ePn	Pn	10 39 20.7	-0.8		
AB02	Akbulak array	16.14	46	ePn	Pn	10 39 21.0	-0.6		
AB02	Akbulak array	16.14	46	ePn	Pn	10 39 21.0	-0.6		
DRO	Drossia	16.14	272	P	P	10 39 25.8	+0.9		
DRO	Drossia	16.14	272	P	P	10 39 25.8	+0.9		
AB05	Akbulak array	16.15	46	ePn	Pn	10 39 20.6	-1.0		
BIA	Bitola	16.15	283	iP	P	10 39 27.8	+2.8		
AB06	Akbulak array	16.15	46	ePn	Pn	10 39 21.6	-0.1		
AB06	Akbulak array	16.15	46	ePn	Pn	10 39 21.6	-0.1		
DRGR		16.19	304	⇑iP	P	10 39 27.0	+1.5		
DRGR		16.19	304	⇑iP	P	10 39 27.0	+1.5		
KRUS	Krusevo	16.20	284	iP	P	10 39 28.0	+2.3		
KUBS	Kucevo	16.22	295	eP	P	10 39 25.4	-0.4		
AMT	Artemida-Makis	16.23	271	P	P	10 39 26.0	+0.1		
AMT	Artemida-Makis	16.23	271	P	P	10 39 26.0	+0.1		
RLS	Riolos of Patr	16.31	273	ePn	P	10 39 26.5	-0.3		
RLS	Riolos of Patr	16.31	273	P	P	10 39 26.5	-0.3		
RLS	Riolos of Patr	16.31	273	P	P	10 39 26.5	-0.3		
OBN	Obninsk	16.40	348	⇓eP	Pn	10 39 23.7	-1.1		
OBN				pmax	pmax				
	comp=Z,79nm,0.9s								
OBN				MLR	MLR				
	comp=Z,1μm,14.0s								
OBN	Obninsk	16.40	348	ePn	Pn	10 39 24.5	-0.3		
	comp=Z,139nm,0.9s								
OBN	Obninsk	16.40	348	ePn	Pn	10 39 24.5	-0.3		
	comp=Z,139nm,0.9s								
PDO	Prodromos	16.44	275	P	P	10 39 29.8	+1.6		
PDO	Prodromos	16.44	275	P	P	10 39 29.8	+1.6		
OHR	Ohrid	16.54	284	iP	P	10 39 30.8	+1.4		
BZS	Buzias	16.55	300	⇑iP	P	10 39 31.4	+2.1		
BZS	Buzias	16.55	300	⇑iP	P	10 39 31.4	+2.1		
VTN	Vitineika	16.56	272	P	Pn	10 39 20.2	-6.8		
LVV	L'vov	16.77	315	eP	P	10 39 32.0	+0.2		
LVV				eS	Sn	10 42 39.0	+3.4		
LVV				smax	smax				
	comp=Z,1μm,13.0s								
GRUS	Gruza	16.81	293	eP	P	10 39 34.7	+2.4		
LKD2	Lefkada island	16.82	276	ePn	Pn	10 39 29.9	-0.5		
LKD2	Lefkada island	16.82	276	ePn	Pn	10 39 29.9	-0.5		
LKD2	Lefkada island	16.82	276	P	Pn	10 39 29.9	-0.5		
TRPA	Tarpa	16.82	309	ePn	P	10 39 34.0	+1.7		
KFL	Anninata	16.83	273	P	Pn	10 39 31.3	+0.9		
KFL	Anninata	16.83	273	P	Pn	10 39 31.3	+0.9		
MOS	Moscow	16.86	351	eP	Pn	10 39 28.8	-1.8		
MOS				pmax	pmax				
	comp=Z,375nm,1.0s								
MOS				pmax	pmax				
	comp=E,90nm,1.1s								
MOS				pmax	pmax				
	comp=N,392nm,1.1s								
MOS				MLR	MLR				
	comp=Z,2μm,14.0s								
SGD	Sagiada	17.05	278	P	Pn	10 39 32.6	-0.6		
UZH	Uzhgorod	17.18	310	eP	P	10 39 36.8	+0.4		
UZH				eS	Sn	10 42 40.7	-5.0		
UZH				smax	smax				
	comp=N,2μm,16.0s								
PVY	Plav	17.22	289	⇑iP	P	10 39 37.8	+0.9		
TIR	Tirane	17.25	284	eP	P	10 39 36.5	-0.6		
TIR				pmax	pmax				
	comp=Z,161nm,1.1s								
TIR	Tirane	17.25	284	⇑iP	P	10 39 39.5	+2.4		
TIR	Tirane	17.25	284	ePn	P	10 39 36.5	-0.6		
	comp=Z,161nm,1.1s								
TIR	Tirane	17.25	284	ePn	P	10 39 36.5	-0.6		
	comp=Z,161nm,1.1s								
TIR	Tirane	17.25	284	⇑iP	P	10 39 39.5	+2.4		
BEY	Berane	17.29	290	⇑iP	P	10 39 38.8	+1.2		
IVA	Berane	17.29	290	⇑iP	P	10 39 38.8	+1.2		
DIVS	Divibare	17.36	294	ePn	P	10 39 38.9	+0.5		
	comp=Z,90nm,1.2s								
DIVS	Divibare	17.36	294	⇓iP	P	10 39 38.7	+0.3		
KWP	Kalwaria Pacla	17.41	313	eP	P	10 39 41.6	+2.7		
KWP				eS	S	10 43 06.2	+6.7		
KWP	Kalwaria Pacla	17.41	313	eP	Pn	10 39 38.0	+0.4		
KWP				pmax	pmax				
	comp=Z,2μm,1.0s								
KWP	Kalwaria Pacla	17.41	313	ePn	Pn	10 39 38.0	+0.4		
	comp=Z,2μm,1.0s								
KWP	Kalwaria Pacla	17.41	313	ePn	Pn	10 39 38.0	+0.4		
	comp=Z,2μm,1.0s								
KWP	Kalwaria Pacla	17.41	313	eP	P	10 39 41.6	+2.7		
KOME	Kolasin	17.56	289	⇑iP	P	10 39 42.1	+1.4		
KOME	Kolasin	17.56	289	⇑iP	P	10 39 42.2	+1.5		
FGSL	Fruska Gora	17.68	297	eP	P	10 39 41.5	-0.4		
PLE	Pljevlja	17.70	291	⇑iP	P	10 39 43.9	+1.7		
PLE	Pljevlja	17.70	291	⇑iP	P	10 39 43.9	+1.7		
BANOM	Banah	17.70	134	P	P	10 39 44.1	+1.9		
ULC	Ulcinj	17.72	286	⇑iP	P	10 39 43.4	+1.1		
PDG	Podgorica	17.73	288	⇓iP	P	10 39 44.9	+2.5		
PDG	Podgorica	17.73	288	⇑iP	P	10 39 43.

BLY Banja Luka 19.44 295 *e*Pn **Pn** **10 40 05.4 +2.9**
BEL Belsk 19.59 317 *e*P **Pn** **10 40 07.7 +3.6**
BEL Belsk 19.59 317 *e*P **Pn** **10 40 07.7 +3.6**
ISAL Salakas 19.63 332 *e*P **P** **10 40 03.0 -0.2**
ISAL IAmb IAmb 10 40 08.0
comp=Z,35nm,1.1s
MATE Matera 19.66 282⇓ *i*P **Pn** **10 40 05.1 0.0**
MATE Matera 19.66 282⇓ *i*P **Pn** **10 40 05.1 0.0**
SG1 Sgolgore (BA) 19.67 283 *e*Pn **Pn** **10 40 04.6 -0.6**
SUW Suwalki 19.71 325 *e*P **Pn** **10 40 08.1 +2.5**
SUW *e*S Sn 10 44 05.2 +19
SUW Suwalki 19.71 325 *e*P **Pn** **10 40 05.1 -0.5**
SUW pmax pmax
comp=Z,205nm,1.0s
SUW Suwalki 19.71 325 *e*P **Pn** **10 40 05.1 -0.5**
comp=Z,205nm,1.0s
IZAR Zarasai 19.73 332 *e*P **P** **10 40 03.9 -0.3**
SNR=34
IZAR Zarasai 19.73 332 *e*P **P** **10 40 03.9 -0.3**
IZAR IAmb IAmb 10 40 09.2
comp=Z,87nm,1.1s
TIP Timpagrande 19.78 278⇓ *i*P **Pn** **10 40 06.2 -0.4**
TIP Timpagrande 19.78 278 *e*P **P** **10 40 05.2 +0.2**
comp=Z,64nm,1.3s
TIP Timpagrande 19.78 278⇓ *i*P **Pn** **10 40 06.2 -0.4**
ARQ Araqi 19.90 138 P **Pn** **10 40 12.0 +4.0**
SNR=9.9
ARQ Araqi 19.90 138 P **Pn** **10 40 12.0 +4.0**
SNR=9.9
SMOL Smolenice 20.14 306 *e*P Pn 10 40 16.1 +5.4
SMOL Smolenice 20.14 306 *e* Pn 10 40 16.1 +5.4
OKC Ostrava-Krasne 20.16 310 *e*P **P** **10 40 09.3 +0.3**
OKC *e* 10 40 13.6
OKC *e* 10 40 28.3
OKC *e*S **S** **10 43 53.9 -1.0**
OKC MLR MLR
comp=Z,800nm,14.6s
OKC Ostrava-Krasne 20.16 310 *e*P **P** **10 40 09.3 +0.3**
OKC *e*pP **sP** **10 40 13.6 -1.0**
OKC *e*x x 10 40 28.3
OKC *e*S **S** **10 43 53.9 -1.0**
OKC AMS AMS 10 52 00.0
comp=Z,800nm,14.6s
OKC Ostrava-Krasne 20.16 310 P **P** **10 40 09.3 +0.3**
MODS Modra-Piesok 20.19 305 *e*P Pn 10 40 13.1 +1.8
MODS *e* 10 40 17.6
MODS Modra-Piesok 20.19 305 *e*P Pn 10 40 13.1 +1.8
MODS *e* 10 40 17.6
ZST Bratislava 20.25 305 *e*P Pn 10 40 13.4 +1.5
ZST *e* 10 40 17.3
ZST *e*S Sn 10 44 02.2 +2.6
ZST pmax pmax
comp=Z,84nm,1.1s
ZST Bratislava 20.25 305 *e*P Pn 10 40 13.4 +1.5
ZST *e* 10 40 17.3
ZST *e*S Sn 10 44 02.2 +2.6
ARU Arti 20.34 27 P **P** **10 40 10.7 -0.2**
comp=Z,96nm,0.9s,baz=224,slow=7.9,SNR=32
ARU LR LR 10 50 18.4
comp=Z,1μm,19.8s,baz=224,slow=44
ARU Arti 20.34 27*c i*P **P** **10 40 10.3 -0.6**
ARU 10 40 26.3
ARU S **S** **10 43 57.4 -0.9**
ARU pmax pmax
comp=Z,69nm,1.2s
ARU MLR MLR
comp=Z,2μm,16.0s
ARU Arti 20.34 27 *e*P **P** **10 40 10.2 -0.6**
comp=Z,97nm,0.7s
CUC Castrocucco 20.40 281 *e*P **P** **10 40 12.3 +0.5**
comp=Z,57nm,1.0s
CUC Castrocucco 20.40 281 *e*P **P** **10 40 12.3 +0.5**
comp=Z,57nm,1.0s
SOP Sopron 20.45 303 P Pn 10 40 14.6 +0.2
SOP pmax pmax
comp=Z,137nm,1.1s
SOP Sopron 20.45 303 *e*P Pn 10 40 14.8 +0.4
SOP Sopron 20.45 303 *e*P Pn 10 40 14.8 +0.4
MORC Moravsky Berou 20.50 309 *e*P **P** **10 40 13.0 +0.2**
MORC pmax pmax
comp=Z,235nm,1.1s
MORC Moravsky Berou 20.50 309⇓ *i*P Pn 10 40 15.5 +0.5
MORC Moravsky Berou 20.50 309 *e*P **P** **10 40 13.0 +0.2**
comp=Z,235nm,1.1s
MORC Moravsky Berou 20.50 309 *e*P **P** **10 40 13.0 +0.2**
comp=Z,235nm,1.1s
CEL Celeste 20.60 276 *e*P **P** **10 40 13.2 -0.7**
comp=Z,91nm,1.0s
CEL Celeste 20.60 276 *e*P **P** **10 40 13.2 -0.7**
comp=Z,91nm,1.0s
BIDO Bidbid 20.61 135 P Pn 10 40 19.0 +2.6
SNR=11
BIDO Bidbid 20.61 135 P Pn 10 40 19.0 +2.6
SNR=11
TAS Tashkent 20.69 75 P Pn 10 40 17.4 +0.2
TAS Tashkent 20.69 75 *e*P Pn 10 40 17.2 0.0
CHM Chimkent 20.90 73 *i*P Pn 10 40 18.6 -1.0
comp=Z,2μm,1.2s
CHM LR LR 10 49 13.2
comp=Z,297nm,13.4s
BOJS Bojanci 20.90 296 *i*P **P** **10 40 17.5 +0.4**
BOJS *i* 10 40 22.4
BOJS Bojanci 20.90 296 P **P** **10 40 17.5 +0.4**
VRAC Vranov 20.91 307 P **P** **10 40 18.3 +1.1**
comp=Z,37nm,1.0s,baz=116,slow=8.8,SNR=9.6
VRAC Vranov 20.91 307⇓ *i*P Pn 10 40 20.7 +0.9
SMDO Samad 20.93 136 P Pn 10 40 19.0 -1.3
SNR=23
SMDO Samad 20.93 136 P Pn 10 40 19.0 -1.3
SNR=23
CONA Conrad Observa 20.97 303 *i* Pn **P** **10 40 18.6 +0.6**
comp=Z,100nm,1.2s,SNR=31
ARSA Arzberg 21.03 301 P **P** **10 40 19.7 +1.2**
comp=Z,51nm,1.1s,SNR=11
ARSA Arzberg 21.03 301 *i*P **P** **10 40 19.7 +1.2**
comp=Z,51nm,1.1s,SNR=11
NVLJ Novalja 21.06 294 P **P** **10 40 16.9 -1.9**
BRLS Boroldav 21.07 71⇑ *i*P **P** **10 40 18.9 -0.1**
comp=Z,72nm,1.1s
BRLS *e*S **S** **10 44 11.5 -1.7**
BRLS *i* sS **pS** **10 44 20.7 -1.4**
BRLS LR LR 10 49 15.4
comp=Z,36nm,13.4s
WSAR Wadi Sarin 21.11 134 P **P** **10 40 20.2 +0.7**
comp=Z,38nm,0.9s,baz=339,slow=12,SNR=13
WSAR LR LR 10 48 49.4
comp=Z,1μm,21.9s,baz=337,slow=38
PERS Pernice 21.18 299 *i*P **P** **10 40 20.6 +0.5**
PERS *i* 10 40 25.1
SOKA Soboth 21.25 300 P **P** **10 40 21.5 +0.6**
comp=Z,81nm,1.1s,SNR=42
SOKA Soboth 21.25 300 *i* Pn **P** **10 40 21.5 +0.6**
comp=Z,81nm,1.1s,SNR=42
SVE Sverdlovsk 21.38 28*c e*P **P** **10 40 22.6 +0.4**
SVE *e*S **S** **10 44 17.6 -1.5**
SVE pmax pmax
comp=Z,194nm,1.0s
SVE MLR MLR
comp=Z,3μm,15.0s
DPC Dobruska-Polom 21.44 310 *e*P **P** **10 40 24.9 +2.0**
DPC *e* 10 40 30.3
DPC MLR MLR
comp=Z,800nm,10.3s
DPC Dobruska-Polom 21.44 310 *e*P **P** **10 40 24.9 +2.0**
DPC *e*pP **sP** **10 40 30.3 +1.8**
DPC *e*x x 10 40 35.6
DPC AMS AMS 10 51 40.0
comp=Z,800nm,10.3s
JMDO Jabal Madar 21.52 137 P **P** **10 40 25.0 +1.1**
SNR=22
JMDO Jabal Madar 21.52 137 P **P** **10 40 25.0 +1.1**
SNR=22
OBKA Obir 21.54 299 P **P** **10 40 25.2 +1.1**
comp=Z,44nm,1.2s,SNR=10
OBKA Obir 21.54 299 *i*P **P** **10 40 25.2 +1.1**
comp=Z,44nm,1.2s,SNR=10
KK08 Karatay Array 21.55 70 *e*P **P** **10 40 24.4 +0.3**
KK08 Karatay Array 21.55 70 *e*P **P** **10 40 24.4 +0.3**
KK07 Karatay Array 21.56 70 *e*P **P** **10 40 25.2 +1.0**
KK07 Karatay Array 21.56 70 *e*P **P** **10 40 25.2 +1.0**
KK09 Karatay Array 21.56 70 *e*P **P** **10 40 24.5 +0.2**
KK09 Karatay Array 21.56 70 *e*P **P** **10 40 24.5 +0.2**
KK03 Karatay Array 21.56 70 *e*P **P** **10 40 25.3 +1.1**
KK03 Karatay Array 21.56 70 *e*P **P** **10 40 25.3 +1.1**
KK01 Karatay Array 21.56 70 *e*P **P** **10 40 25.2 +0.9**
KK01 Karatay Array 21.56 70 *e*P **P** **10 40 25.2 +0.9**
KK04 Karatay Array 21.56 70 *e*P **P** **10 40 25.3 +1.0**
KK04 Karatay Array 21.56 70 *e*P **P** **10 40 25.3 +1.0**
KK02 Karatay Array 21.57 70 *e*P **P** **10 40 25.5 +1.2**
KK02 Karatay Array 21.57 70 *e*P **P** **10 40 25.5 +1.2**
KK31 Karatay Array 21.57 70 *i*P **P** **10 40 25.0 +0.7**
KK31 pmax pmax
comp=Z,93nm,1.1s
KK31 Karatay Array 21.57 70 *e*P **P** **10 40 25.3 +1.0**
KK31 Karatay Array 21.57 70 *e*P **P** **10 40 25.3 +1.0**
KKAR Karatay Array 21.57 70 *e*P **P** **10 40 25.3 +1.0**
KKAR Karatay Array 21.57 70 *e*P **P** **10 40 25.3 +1.0**
KKAR Karatay Array 21.57 70 *e*P **P** **10 40 25.3 +1.0**
KK05 Karatay Array 21.58 70 *e*P **P** **10 40 25.3 +0.9**
KK05 Karatay Array 21.58 70 *e*P **P** **10 40 25.3 +0.9**
KK06 Karatay Array 21.58 70 *e*P **P** **10 40 25.2 +0.8**
KK06 Karatay Array 21.58 70 *e*P **P** **10 40 25.2 +0.8**
TREC Trest 21.60 307 *e*P **P** **10 40 25.0 +0.4**
TREC *e* 10 40 30.0
TREC *e*S **S** **10 44 26.3 +2.9**
TREC smax smax
comp=Z,1μm,13.2s
TREC Trest 21.60 307 *e*P **P** **10 40 25.0 +0.4**
TREC *e*pP **sP** **10 40 30.0 -0.1**
TREC *e*S **S** **10 44 26.3 +2.9**
TREC AMS AMS 10 51 40.0
comp=Z,1μm,13.2s
TREC Trest 21.60 307 P **P** **10 40 25.0 +0.4**
TREC S **S** **10 44 26.3 +2.9**
KSP Ksiaz 21.64 311 *e*P **P** **10 40 25.9 +0.9**
KSP Ksiaz 21.64 311 *e*P **P** **10 40 25.9 +0.9**
UPC Upice 21.68 310 *e*P **P** **10 40 27.8 +2.3**
UPC *e* 10 40 31.8
UPC *e*S **S** **10 44 24.6 -0.5**
UPC smax smax
comp=Z,900nm,11.0s
UPC Upice 21.68 310 *e*P **P** **10 40 27.8 +2.3**
UPC *e*pP **sP** **10 40 31.8 +0.8**
UPC *e*x x 10 40 39.1
UPC *e*S **S** **10 44 24.6 -0.5**
UPC AMS AMS 10 52 00.0
comp=Z,900nm,11.0s
VSU Vasula 21.74 338⇓ *e*P **P** **10 40 28.4 +2.4**
VSU pmax pmax
comp=Z,114nm,1.2s
KLMR Klimovskoe 21.77 356 *e*P **P** **10 40 28.5 +2.3**
KLMR *e*S **S** **10 44 29.3 +2.8**
KLMR pmax pmax
comp=Z,163nm,1.5s
KLMR MLR MLR
comp=Z,288nm,11.0s
KLMR Klimovskoe 21.77 356 *e*P **P** **10 40 28.6 +2.3**
KLMR AMP 10 40 37.8
comp=Z,163nm,1.5s
KLMR *e*S **S** **10 44 29.3 +2.8**
KLMR *e*S **S** **10 44 29.3 +2.8**
KLMR LQ LQ 10 46 50.0
KLMR LQ LQ 10 46 50.0
KLMR LR LR 10 49 04.7
KLMR AMP 10 49 32.5
comp=Z,288nm,10.5s
JAVS Javornik 21.78 297 *i*P **P** **10 40 26.9 +0.2**
JAVS *e* 10 40 32.0
WBK Wadi Bani Khal 21.80 134 P **P** **10 40 33.0 +6.0**
SNR=14
VAE Valguarnera 21.91 274 P **P** **10 40 28.9 +0.9**
comp=Z,7.3nm,0.3s,baz=42,slow=16,SNR=2.7
VAE Valguarnera 21.91 274 *e*P **P** **10 40 29.0 +0.9**
TRI Trieste 21.96 297 *e*P **P** **10 40 29.4 +0.9**
TRI pmax pmax
comp=Z,56nm,0.9s
TRI Trieste 21.96 297 *e*P **P** **10 40 29.4 +0.9**
comp=Z,56nm,0.9s
TRI Trieste 21.96 297 *e*P **P** **10 40 29.4 +0.9**
comp=Z,56nm,0.9s
MOA Molln 22.00 302 P **P** **10 40 29.8 +0.9**
comp=Z,134nm,1.0s,SNR=64
MOA Molln 22.00 302 *i*P **P** **10 40 29.8 +0.9**
comp=Z,134nm,1.0s,SNR=64
AQU L'Aquila 22.06 288 *e*P **P** **10 40 29.2 -0.5**
AQU pmax pmax
comp=Z,251nm,1.1s
AQU L'Aquila 22.06 288 *e*P **P** **10 40 29.2 -0.5**
comp=Z,251nm,1.1s
AQU L'Aquila 22.06 288 *e*P **P** **10 40 29.2 -0.5**
comp=Z,251nm,1.1s
AQU L'Aquila 22.06 288 *e*Pn **P** **10 40 31.7 +2.0**
DZA Taraz 22.17 71 *i*P **P** **10 40 32.3 +1.5**
comp=Z,981nm,1.7s
MYKA Terra Mystica 22.18 299 *i* pP **P** **10 40 32.5 +1.6**
comp=Z,38nm,1.0s,SNR=9.5
GOPC GO Pecny, Ondr 22.22 308 *e*P **P** **10 40 32.5 +1.2**
GOPC *e* 10 40 37.0
GOPC *e*S **S** **10 44 32.5 -3.0**
GOPC MLR MLR
comp=Z,1μm,11.6s
GOPC GO Pecny, Ondr 22.22 308 *e*P **P** **10 40 32.5 +1.2**
GOPC *e*pP **sP** **10 40 37.0 +0.1**
GOPC *e*S **S** **10 44 32.5 -3.0**
GOPC AMS AMS 10 51 50.0
comp=Z,1μm,11.6s
WDD Wied Dalam 22.24 270 *e*P **P** **10 40 31.5 -0.1**
comp=Z,132nm,1.0s
WDD Wied Dalam 22.24 270 *e*P **P** **10 40 31.5 -0.1**
comp=Z,132nm,1.0s
PRU Pruhonice 22.39 308 *e*P **P** **10 40 33.9 +0.8**
PRU *e* 10 40 37.8
PRU *e* 10 40 41.5
PRU *e*S **S** **10 44 39.1 +0.4**
PRU *e* 10 45 15.8
PRU MLR MLR
comp=Z,1μm,12.9s
PRU Pruhonice 22.39 308 *e*P **P** **10 40 33.9 +0.8**
PRU *e*pP **sP** **10 40 37.8 -0.9**
PRU *e*S **S** **10 44 39.1 +0.4**
PRU *e*x x 10 45 15.8
PRU AMS AMS 10 51 50.0
comp=Z,1μm,12.9s
SOKR Solikamsk 22.41 20 *e*P **P** **10 40 32.5 -0.6**
SOKR S **S** **10 44 37.8 -0.9**
SOKR pmax pmax
comp=Z,31nm,0.9s
SOKR MLR MLR
comp=Z,1μm,16.0s
KBA Koelnbreinsper 22.46 300 P **P** **10 40 34.4 +0.5**
KBA Koelnbreinsper 22.46 300 P **P** **10 40 34.5 +0.5**
comp=Z,140nm,1.0s,SNR=58
KBA Koelnbreinsper 22.46 300 *i* pP **P** **10 40 34.5 +0.5**
comp=Z,140nm,1.0s,SNR=58
PVCC Panska Ves 22.55 309 AMS AMS 10 52 00.0
comp=Z,1μm,13.4s
GEA0 GERESS Array S 22.60 305 *e*P **P** **10 40 35.2 -0.2**
GEA0 GERESS Array S 22.60 305 *e*P **P** **10 40 35.2 -0.2**
GEC2 GERESS Array S 22.60 305 *e*P **P** **10 40 35.7 +0.3**
GEC2 pmax pmax
comp=Z,80nm,1.1s
GEC2 GERESS Array S 22.60 305 *e*P **P** **10 40 35.7 +0.3**
comp=Z,80nm,1.1s
GEC2 GERESS Array S 22.60 305 *e*P **P** **10 40 35.7 +0.3**
comp=Z,80nm,1.1s
GERES GERESS Array B 22.60 305 P **P** **10 40 35.3 -0.1**
comp=Z,4.0nm,0.8s,baz=110,slow=10,SNR=24
GERES LR LR 10 50 34.8
comp=Z,362nm,19.0s,baz=114,slow=40
KHC Kasperske Hory 22.75 305 *e*P **P** **10 40 36.5 -0.5**
KHC *e* 10 40 42.0
KHC *e*S **S** **10 44 43.8 -1.5**
KHC *e* 10 45 21.8
KHC MLR MLR
comp=Z,1μm,13.7s
KHC Kasperske Hory 22.75 305 *e*P **P** **10 40 36.5 -0.5**
KHC *e*x x 10 40 42.0
KHC *e*x x 10 40 49.7
KHC *e*S **S** **10 44 43.8 -1.5**
KHC *e*x x 10 45 21.8
KHC AMS AMS 10 51 30.0
comp=Z,1μm,13.7s
KHC Kasperske Hory 22.75 305 *e*P **P** **10 40 37.3 +0.3**
comp=Z,28nm,1.0s
CLTB Caltabellotta 22.81 275 *e*P **P** **10 40 37.6 -0.1**
comp=Z,116nm,1.4s
CLTB Caltabellotta 22.81 275 *e*P **P** **10 40 37.6 -0.1**
comp=Z,116nm,1.4s
ABTA Abfaltersbach 22.97 299 P **P** **10 40 39.2 -0.1**
comp=Z,71nm,1.1s,SNR=31
ABTA Abfaltersbach 22.97 299 *i* pP **P** **10 40 39.2 -0.1**
comp=Z,71nm,1.1s,SNR=31
MNAS Manas 23.04 72 *i* P **P** **10 40 39.8 -0.4**
MNAS pmax pmax
comp=Z,44nm,1.3s
BRG Berggiesshubel 23.04 310 *e*P **P** **10 40 41.1 +1.2**
comp=Z,31nm,1.9s
BRG *e* 10 44 28.2
comp=Z,8.2nm,1.3s
BRG S **S** **10 44 49.0 -1.3**
BRG Berggiesshubel 23.04 310 *e*P **P** **10 40 41.1 +1.2**
BRG *e* 10 44 28.2
BRG S **S** **10 44 49.0 -1.3**
BRG pmax pmax
comp=Z,31nm,1.9s
BRG MLR MLR
comp=N,536nm,13.7s
BRG MLR MLR
comp=E,509nm,12.6s
BRG MLR MLR
comp=Z,947nm,14.1s
WET Wettzell 23.20 305 P **P** **10 40 41.6 0.0**
WET pmax pmax
comp=Z,129nm,1.2s
WHFO Wadi Hawf 23.42 152 P **P** **10 40 45.0 +1.0**
SNR=15
WHFO Wadi Hawf 23.42 152 P **P** **10 40 45.0 +1.0**
SNR=15
WTTA Wattenberg 23.64 300 P **P** **10 40 45.7 -0.4**
comp=Z,98nm,1.2s,SNR=31
WTTA Wattenberg 23.64 300 *i* pP **P** **10 40 45.7 -0.4**
comp=Z,98nm,1.2s,SNR=31
BRVK Borovoye 23.66 45*c i*P **P** **10 40 46.0 -0.1**
BRVK pmax pmax
comp=Z,34nm,2.0s
BRVK Borovoye 23.66 45 *e*P **P** **10 40 46.1 -0.1**
comp=Z,31nm,0.9s
BRVK Borovoye 23.66 45 P **P** **10 40 46.2 +0.1**
SNR=20
BRVK Borovoye 23.66 45 P **P** **10 40 46.2 +0.1**
SNR=20
WATA Walderalm 23.69 300 P **P** **10 40 46.6 0.0**
comp=Z,257nm,1.5s,SNR=12
WATA Walderalm 23.69 300 *i* pP **P** **10 40 46.6 0.0**
comp=Z,257nm,1.5s,SNR=12
BVA0 Borovoye Array 23.71 45 *i* P **P** **10 40 45.6 -1.0**
BVA0 pmax pmax
comp=Z,30nm,1.3s
BVAR Borovoye Array 23.71 45 P **P** **10 40 46.7 +0.1**
comp=Z,5.6nm,0.9s,baz=248,slow=7.8,SNR=24
BVAR PcP **PcP** **10 44 30.2 -0.1**
comp=Z,2.6nm,0.9s,baz=253,slow=4.4,SNR=2.4
BVAR LR LR 10 51 49.4
comp=Z,1μm,18.1s,baz=246,slow=41
CLL Collm 23.75 310 *e*P **P** **10 40 47.1 +0.1**
CLL pmax pmax
comp=Z,94nm,1.1s
CLL Collm 23.75 310 *e*P **P** **10 40 47.0 +0.1**
comp=Z,25nm,1.3s
CLL *i* 10 40 51.3
comp=Z,118nm,1.2s
CLL *e* 10 40 58.0
CLL *e*S **S** **10 45 04.0 +2.3**
comp=N,400nm,19.9s
CLL *e*S **S** **10 45 04.0 +2.3**
comp=E,800nm,19.4s
CLL *e*S **S** **10 45 04.0 +2.3**
comp=Z,600nm,21.7s
CLL *e*SSS SSS 10 45 54.0
CLL Collm 23.75 310 *e*P **P** **10 40 47.1 +0.1**
comp=Z,94nm,1.1s
NKC Novy Kostel 23.75 308 *e*P **P** **10 40 46.9 -0.2**
NKC *e* 10 40 51.5
NKC *e*S **S** **10 45 02.9 +1.0**
NKC MLR MLR
comp=Z,1μm,14.2s
NKC Novy Kostel 23.75 308 *e*P **P** **10 40 46.9 -0.2**
NKC *e*pP **pP** **10 40 51.5 +0.4**
NKC *e*x x 10 41 00.0
NKC *e*S **S** **10 45 02.9 +1.0**
NKC AMS AMS 10 53 00.0
comp=Z,1μm,14.2s
ABTO Aybut 23.77 153 P **P** **10 40 53.0 +5.5**
SNR=10
ABTO Aybut 23.77 153 P **P** **10 40 53.0 +5.5**
SNR=10
AML Almayashu 23.94 73 P **P** **10 40 50.6 +1.3**
SNR=39
RBK Rabkut 23.96 151 P **P** **10 40 53.0 +3.7**
SNR=10
RBK Rabkut 23.96 151 P **P** **10 40 53.0 +3.7**
SNR=10
EKS2 Erkin-Say 23.97 71 P **P** **10 40 50.5 +1.2**
SNR=65
MOTA Moosalm 24.01 300 P **P** **10 40 49.4 -0.2**
comp=Z,201nm,0.9s,SNR=107
MOTA Moosalm 24.01 300 *i* pP **P** **10 40 49.4 -0.2**
comp=Z,201nm,0.9s,SNR=107
SFK Sufi-Kurgan 24.01 78 *i* P **P** **10 40 50.5 +0.7**
SFK pmax pmax
comp=Z,79nm,1.3s
BRZS Berezniki 24.03 53⇑ *i*P **P** **10 40 50.9 +1.3**
comp=Z,22nm,0.9s
BRZS *e*S **S** **10 45 06.8 +0.5**
BRZS *i* sS **sS** **10 45 17.4 +4.5**
SHAO Shalim 24.06 147 P **P** **10 40 52.7 +2.5**
SNR=8.0
SHAO Shalim 24.06 147 P **P** **10 40 52.7 +2.5**
SNR=8.0
SHAO Shalim 24.06 147 P **P** **10 40 52.7 +2.5**
SNR=8.0
SHAO Shalim 24.06 147 *i* P **P** **10 40 49.8 -0.3**
SNR=12
BTLS Baital 24.18 66 *i* P **P** **10 40 52.3 +1.3**
BTLS *e*S **S** **10 45 09.5 +0.8**
BTLS *i* sS **sS** **10 45 19.6 +4.2**
FETA Feichten 24.21 299 P **P** **10 40 51.0 -0.6**
comp=Z,193nm,1.0s,SNR=111
FETA Feichten 24.21 299 *i* pP **P** **10 40 51.0 -0.6**
comp=Z,193nm,1.0s,SNR=111
VLC Villacollemand 24.25 292 *e*P **P** **10 40 52.7 +0.9**
comp=Z,137nm,1.3s
VLC Villacollemand 24.25 292 *e*P **P** **10 40 52.7 +0.9**
comp=Z,137nm,1.3s
RETA Reutte 24.26 300 P **P** **10 40 51.8 -0.1**
comp=Z,112nm,1.7s,SNR=32
RETA Reutte 24.26 300 *i* pP **P** **10 40 51.8 -0.1**
comp=Z,112nm,1.7s,SNR=32
BSD Bornholm Skovb 24.28 320 *e*P **P** **10 40 54.7 +2.8**
BSD Bornholm Skovb 24.28 320 *i* P **P** **10 40 54.7 +2.8**
GRFO Grafenberg 24.38 306 *e*P **P** **10 40 54.1 +1.2**
GRFO pmax pmax
comp=Z,327nm,1.2s
GRFO Grafenberg 24.38 306 *e*P **P** **10 40 54.1 +1.2**
comp=Z,327nm,1.2s
FIA0 FINESS Array S 24.43 341 *e*P **P** **10 40 52.5 -0.8**
FIA0 FINESS Array S 24.43 341 *e*P **P** **10 40 52.5 -0.8**
FIA1 FINESS Array S 24.43 341 *e*P **P** **10 40 52.4 -0.8**
FINES FINESS Array B 24.43 341 P **P** **10 40 52.5 -0.8**
comp=Z,5.8nm,0.8s,baz=151,slow=8.7,SNR=11
FINES FINESS Array B 24.43 341 *i* P **P** **10 40 52.2 -1.0**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FUORN Ofenpass-Fuorn 24.49 298 *e*P **P** **10 40 54.5 +0.3**
comp=Z,94nm,0.9s
FUORN Ofenpass-Fuorn 24.49 298 *e*P **P** **10 40 54.5 +0.3**
comp=Z,94nm,0.9s
AAK Ala-Archa 24.50 71 P **P** **10 40 53.5 -0.8**
comp=Z,12nm,0.8s,baz=238,slow=12,SNR=44
AAK PcP **PcP** **10 44 32.7 +0.2**
comp=Z,8.3nm,0.8s,baz=244,slow=5.0,SNR=5.0
AAK LR LR 10 52 26.8
comp=Z,801nm,18.1s,baz=272,slow=41
AAK Ala-Archa 24.50 71 *i* P **P** **10 40 55.2 +0.9**
AAK pmax pmax
comp=Z,57nm,1.4s
AAK Ala-Archa 24.50 71 P **P** **10 40 56.0 +1.8**
SNR=21
AAK Ala-Archa 24.50 71 *e*P **P** **10 40 54.5 +0.3**
AAK *e*PcP **PcP** **10 44 32.7 +0.2**
AAK Ala-Archa 24.50 71 P **P** **10 40 55.9 +1.6**
SNR=34
AAK Ala-Archa 24.50 71 P **P** **10 40 55.9 +1.6**
SNR=34

AAK Ala-Archa 24.50 71 *i* P P 10 40 55.3 +1.1
SNR=28
UCH Uchtor 24.54 72 P P 10 40 57.5 +2.6
SNR=15
DAMY Dhamar 24.58 175 *e*P P 10 40 54.3 -1.0
comp=Z,81nm,1.1s
FRU Bishkek 24.58 71 *i* P P 10 40 57.0 +2.1
FRU *i* 10 41 00.0
FRU *e*S S 10 45 20.0 +4.6
FRU pmax pmax
comp=Z,320nm,2.0s
CHMS Chumysh 24.68 71 P P 10 40 57.3 +1.6
SNR=9.3
DAVA Damuels 24.82 300 *i* pP P 10 40 56.8 -0.3
comp=Z,13nm,0.8s,SNR=10
RGN Rugen 24.83 318 *e*P P 10 40 57.4 +0.6
comp=Z,196nm,1.3s
KBK Karagaybulak 24.84 71 P P 10 40 59.2 +2.0
SNR=15
KZA Kyzart 25.10 73 P P 10 41 02.1 +2.2
SNR=31
TUE Stuetta 25.10 298 *e*P P 10 40 59.2 -0.5
comp=Z,60nm,1.0s
TMCR Tamitsa 25.15 356 *e*P P 10 40 59.6 0.0
TMCR pmax pmax
comp=Z,103nm,0.9s
TKM2 Tokmak 2 25.30 71 *i* P P 10 41 02.3 +0.8
TKM2 pmax pmax
comp=Z,165nm,1.4s
TKM2 Tokmak 2 25.30 71 P P 10 41 03.0 +1.4
SNR=91
PGF Pioggiola 25.31 288 *e*P P 10 41 00.3 -1.2
PGF pmax pmax
comp=Z,107nm,1.0s
VSL Villasalto 25.38 281 *e*P P 10 41 01.8 -0.3
comp=Z,89nm,1.1s
VSL Villasalto 25.38 281 *e*P P 10 41 01.8 -0.3
comp=Z,89nm,1.1s
STU Stuttgart 25.50 303 *e*P P 10 41 02.4 -0.6
STU pmax pmax
comp=Z,173nm,1.3s
STU Stuttgart 25.50 303 *e*P P 10 41 02.4 -0.6
comp=Z,173nm,1.3s
NRN Naryn 25.72 74 *e*P P 10 41 06.7 +1.3
NRN pmax pmax
comp=Z,58nm,1.4s
NRN Naryn 25.72 74 *e*P P 10 41 06.7 +1.3
comp=Z,58nm,1.4s
NRN Naryn 25.72 74 *e*P P 10 41 06.7 +1.3
comp=Z,58nm,1.4s
KUU Kurty 25.80 68⇑ *i*P P 10 41 07.0 +1.1
comp=Z,376nm,1.4s
KUU LR LR 10 52 40.1
comp=Z,168nm,11.2s
SLE Schleitheim 25.82 300 P P 10 41 05.5 -0.4
ULHL Ulahol 25.82 72 P P 10 41 08.8 +2.5
SNR=28
KSH Kashi 25.97 78 P P 10 41 07.3 -0.2
KSH pP sP 10 41 13.0 -0.3
KSH sP pP 10 41 17.0 +5.4
KSH PP **PnPn** **10 41 45.5 +0.5**
KSH PcP **PcP** **10 44 38.8 +3.1**
KSH S **S** **10 45 32.8 -4.9**
KSH sS sS 10 45 44.8 +0.4
KSH pmax pmax
comp=Z,120nm,2.0s
KSH pmax pmax
comp=Z,350nm,5.5s
KSH LR LR
comp=Z,650nm,9.5s
KSH LR LR
comp=Z,570nm,10.4s
KSH LR LR
comp=Z,500nm,12.0s
BFO Black Forest 26.00 302 *e*P P 10 41 09.8 +2.2
BFO pmax pmax
comp=Z,25nm,1.0s
BFO Black Forest 26.00 302 *e*P P 10 41 09.8 +2.2
comp=Z,25nm,1.0s
BFO Black Forest 26.00 302 *e*P P 10 41 09.8 +2.2
comp=Z,25nm,1.0s
AAA Alma-Ata 26.25 70 *e*P P 10 41 12.0 +2.0
AAA *e*S **S** **10 45 43.6 +1.6**
AAA LR LR 10 52 28.9
comp=Z,190nm,14.9s
KEST Kesra 26.30 273 P P 10 41 11.1 +0.6
comp=Z,37nm,1.1s,baz=356,slow=3.1,SNR=5.6
KEST Kesra 26.30 273 *e*P P 10 41 11.3 +0.9
comp=Z,126nm,1.1s
KEST Kesra 26.30 273 *e*P P 10 41 11.4 +0.9
comp=Z,126nm,1.1s
MDOK Medeo 26.35 70 *i* P P 10 41 12.3 +1.3
comp=Z,202nm,1.2s
SENIN Lac Senin/Sane 26.51 297 *e*P P 10 41 11.3 -1.1
comp=Z,56nm,1.0s
SENIN Lac Senin/Sane 26.51 297 *e*P P 10 41 11.4 -1.1
comp=Z,56nm,1.0s
KDJ Kajisay 26.52 72 P P 10 41 14.8 +2.2
KDJ pmax pmax
comp=Z,567nm,1.5s
KDJ Kajisay 26.52 72 *e*P P 10 41 14.8 +2.2
comp=Z,74nm,1.3s
ECH Echery 26.76 301 *e*P P 10 41 13.8 -0.7
ECH pmax pmax
comp=Z,39nm,1.2s
ECH Echery 26.76 301 *e*P P 10 41 13.8 -0.7
comp=Z,39nm,1.2s
LPG La Plagne 26.86 295 *e*P P 10 41 14.4 -1.3
LPG pmax pmax
comp=Z,70nm,1.1s
LPL La Plagne 26.87 295 *e*P P 10 41 14.5 -1.3
LPL pmax pmax
comp=Z,88nm,1.2s
LOMF Lomont 26.90 299 *e*P P 10 41 15.8 0.0
BNI Bardonecchia 26.91 294 *e*P P 10 41 15.7 -0.3
BNI pmax pmax
comp=Z,94nm,1.1s
BNI Bardonecchia 26.91 294 *e*P P 10 41 15.7 -0.3
comp=Z,94nm,1.1s
FRF La Foret Royal 26.97 291 *e*P P 10 41 15.4 -1.0
FRF pmax pmax
comp=Z,61nm,1.1s
TARG Taragay, Kyrgy 27.03 73 *e*P P 10 41 18.1 +0.7
comp=Z,74nm,1.7s
TARG Taragay, Kyrgy 27.03 73 *e*P P 10 41 18.1 +0.7
comp=Z,74nm,1.7s
TDK Taldyqorghan 27.27 66 *e*P P 10 41 20.3 +1.3
TDK LR LR 10 53 18.2
comp=Z,830nm,16.4s
GDM Grand'Maison 27.31 295 *e*P P 10 41 18.1 -1.5
SATY Saty 27.35 70⇑ *i*P P 10 41 21.6 +1.6
comp=Z,298nm,1.7s
SATY LR LR 10 54 29.2
comp=Z,379nm,12.7s
CABF La Chapelle 27.36 298 *e*P P 10 41 19.1 -0.8
CABF pmax pmax
comp=Z,255nm,1.0s
PRZ Przheval'sk 27.39 71 P P 10 41 22.3 +1.9
PRZ pmax pmax
comp=Z,50nm,1.2s
HFS Hagfors 27.59 329 P P 10 41 20.6 -1.1
comp=Z,23nm,0.9s,baz=140,slow=11,SNR=8.6
HFS LR LR 10 53 41.5
comp=Z,801nm,18.0s,baz=114,slow=40
WLF Walferdange 27.61 304 ⇑P P 10 41 25.9 +3.9
comp=Z,37nm,1.0s
WLF Walferdange 27.61 304 *e*P P 10 41 22.3 +0.3
WLF pmax pmax
comp=Z,50nm,1.0s
WLF Walferdange 27.61 304 *e*P P 10 41 22.3 +0.3
comp=Z,50nm,1.0s
UZB Uzynbulak 27.79 70 *i* P P 10 41 25.3 +1.3
comp=Z,69nm,1.8s
UZB LR LR 10 55 22.2
comp=Z,297nm,12.7s
KURBB Kurchatov Arra 27.83 54 P P 10 41 24.8 +0.8
comp=Z,28nm,0.8s,baz=266,slow=9.5,SNR=72
KURBB PcP **PcP** **10 44 40.0 +0.3**
comp=Z,10nm,0.9s,baz=262,slow=3.3,SNR=4.3
MEM Membach 27.85 306 ⇑P P 10 41 29.5 +5.3
KURK Kurchatov 27.90 54 *c* P P 10 41 24.9 +0.3
KURK pmax pmax
comp=Z,35nm,1.0s
KURK Kurchatov 27.90 54 *e*P P 10 41 25.1 +0.5
KURK *e*PcP **PcP** **10 44 40.0 +0.1**
KURK Kurchatov 27.90 54 P P 10 41 26.4 +1.8
SNR=15
KURK Kurchatov 27.90 54 P P 10 41 26.4 +1.8
SNR=15
PDGK Podgornoye 28.12 69 *i* P P 10 41 27.1 +0.3
PDGK pmax pmax
comp=Z,33nm,1.1s
BCLA Clavier 28.26 306 ⇑P P 10 41 32.3 +4.4
VIVF Saint-Julien-l 28.34 294 *e*P P 10 41 26.9 -1.7
VIVF pmax pmax
comp=Z,30nm,1.0s
SSB Saint Sauveur 28.42 295 *e*P P 10 41 28.8 -0.6
SSB pmax pmax
comp=Z,31nm,1.1s
SSB Saint Sauveur 28.42 295 *e*P P 10 41 28.8 -0.6
comp=Z,30nm,1.1s
DOU Dourbes 28.66 305 ⇓P P 10 41 35.7 +4.3
comp=Z,13nm,1.1s
APA Apatity 28.87 353⇑ *i*P P 10 41 39.0 +6.0
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,2μm,11.0s
SEM Semipalatinsk 28.88 55 *i* P P 10 41 34.9 +1.3
comp=Z,124nm,1.2s
SEM LR LR 10 53 08.5
comp=Z,550nm,14.2s
BAIF Baives 28.91 305 *e*P P 10 41 29.1 -4.5
BAIF pmax pmax
comp=Z,15nm,1.0s
KONO Kongsberg 29.05 326 *i* P P 10 41 37.5 +2.8
KONO pmax pmax
comp=Z,18nm,1.2s
NB201 NORSAR Array S 29.09 329 *e*P P 10 41 36.8 +1.7
NB2 NORSAR Subarra 29.11 329 P P 10 41 37.6 +2.2
comp=Z,15nm,1.1s,baz=125,slow=9.3
NB200 NORSAR Array S 29.11 329 *e*P P 10 41 34.1 -1.2
NOA NORSAR Array B 29.11 329 P P 10 41 34.1 -1.2
comp=Z,5.6nm,1.0s,baz=127,slow=8.7,SNR=3.7
NOA LR LR 10 54 38.3
comp=Z,676nm,18.9s,baz=125,slow=39
AVF Avril sur Loir 29.24 298 *e*P P 10 41 35.0 -1.6
AVF pmax pmax
comp=Z,45nm,1.0s
PYM Petit Puy Mans 29.49 296 *e*P P 10 41 42.3 +3.4
MAKZ Makanchi 29.76 62 *i* P P 10 41 41.7 +0.5
MAKZ pmax pmax
comp=Z,8.0nm,0.6s
MAKZ Makanchi 29.76 62 *e*P P 10 41 42.1 +0.9
comp=Z,63nm,1.9s
MAKZ Makanchi 29.76 62 *e*P P 10 41 42.1 +0.9
comp=Z,63nm,1.9s
MK31 Makanchi Array 29.97 62 *i* P P 10 41 43.4 +0.2
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MK31 Makanchi Array 29.97 62 *e*P P 10 41 44.0 +0.9
MK32 Makanchi Array 29.97 62 *e*P P 10 41 44.0 +0.8
MK32 *e*PcP **PcP** **10 44 45.1 -0.2**
MKAR Makanchi Array 29.97 62 P P 10 41 44.0 +0.8
comp=Z,9.0nm,0.7s,baz=271,slow=7.2,SNR=84
MKAR PcP **PcP** **10 44 45.1 -0.2**
comp=Z,5.0nm,0.9s,baz=260,slow=2.2,SNR=5.0
MKAR LR LR 10 55 45.9
comp=Z,496nm,18.9s,baz=261,slow=40
MKAR Makanchi Array 29.97 62 *i* P P 10 41 44.0 +0.8
MKAR pmax pmax
comp=Z,13nm,0.9s
MKAR Makanchi Array 29.97 62 *e*P P 10 41 44.0 +0.8
comp=Z,66nm,0.6s
MKAR PcP **PcP** **10 44 45.1 -0.2**
MK01 Makanchi Array 29.98 62 *e*P P 10 41 44.1 +0.9
TCF Toulx Ste Croi 30.03 297 *e*P P 10 41 42.5 -1.2
TCF pmax pmax
comp=Z,39nm,0.9s
CAF Calviac 30.18 294 *e*P P 10 41 43.8 -1.2
CAF pmax pmax
comp=Z,21nm,1.0s
RJF Les Rejaudoux 30.55 295 *e*P P 10 41 47.4 -0.8
RJF pmax pmax
comp=Z,51nm,1.3s
LFF La Frestale 31.12 294 *e*P P 10 41 52.7 -0.5
LFF pmax pmax
comp=Z,52nm,0.9s
NVS Novosibirsk 31.48 47 *e*P P 10 41 57.2 +1.0
NVS *e* 10 43 07.9
NVS *e* 10 44 54.0
NVS pmax pmax
comp=Z,36nm,1.5s
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,12nm,1.4s
ARA0 ARCESS Array S 31.71 349 *e*P P 10 41 58.3 +0.2
ARCES ARCESS Array B 31.71 349 P P 10 41 58.3 +0.2
comp=E,8.0nm,0.9s,baz=146,slow=8.8,SNR=5.2
ARCES LR LR 10 56 15.5
comp=E,885nm,18.7s,baz=163,slow=39
ARCES ARCESS Array B 31.71 349 *e*P P 10 42 00.3 +2.1
ZSN Zaisan 31.73 61 *i* P P 10 41 58.8 +0.2
comp=E,17nm,1.4s
GRR Gorron 32.11 301 *e*P P 10 42 02.1 +0.2
GRR pmax pmax
comp=Z,64nm,1.0s
ZAA0 Zalesovo Array 32.21 49 *e*P P 10 42 02.2 -0.5
comp=Z,18nm,1.3s
ZALV Zalesovo Beam 32.21 49 P P 10 42 02.5 -0.2
comp=Z,5.0nm,0.8s,baz=253,slow=10,SNR=14
ZALV PcP **PcP** **10 44 49.6 -1.4**
comp=Z,0.8nm,0.4s,baz=264,slow=4.3,SNR=2.2
ZALV LR LR 10 57 03.8
comp=Z,529nm,19.7s,baz=252,slow=40
ZALV Zalesovo Beam 32.21 49 *e*P P 10 42 01.8 -0.9
ZALV 10 44 49.6
ZALV Zalesovo Beam 32.21 49 *e*P P 10 42 01.8 -0.9
ZALV PcP **PcP** **10 44 49.6 -1.4**
ZAA1 Zalesovo Array 32.21 49 *e*P P 10 42 02.5 -0.2
ZAA1 *e*PcP **PcP** **10 44 49.6 -1.4**
ETSF Etsaut 32.27 291 *e*P P 10 42 02.0 -1.5
ETSF pmax pmax
comp=Z,23nm,1.0s
SJPF Ste Jean 32.73 291 *e*P P 10 42 07.0 -0.4
SJPF pmax pmax
comp=Z,33nm,1.2s
WMQ Urumqi 33.99 67 P P 10 42 20.0 +1.5
WMQ pP sP 10 42 24.5 +0.2
WMQ sP pP 10 42 30.0 +7.4
WMQ PP **PnPn** **10 43 32.5 +1.0**
WMQ pmax pmax
comp=Z,38nm,1.9s
WMQ pmax pmax
comp=Z,400nm,3.8s
WMQ LR LR
comp=Z,1μm,20.7s
WMQ LR LR
comp=Z,750nm,19.1s
WMQ LR LR
comp=Z,840nm,19.1s
EKA Eskdalemuir Ar 34.11 313 P P 10 42 18.1 -1.2
comp=Z,12nm,1.0s,baz=102,slow=9.5,SNR=17
EKA PcP **PcP** **10 44 56.3 0.0**
comp=Z,4.0nm,0.9s,baz=113,slow=1.8,SNR=2.6
EKA LR LR 10 59 00.7
comp=Z,384nm,19.4s,baz=100,slow=41
ESK Eskdalemuir 34.13 313 *e*P P 10 42 19.1 -0.4
ESK Eskdalemuir 34.13 313 *e*P P 10 42 19.1 -0.4
POO Poona 34.20 118 *e*P P 10 42 13.0 -7.4
TAM Tamanrasset 35.22 253 *e*P P 10 42 30.1 +0.7
TAM pmax pmax
comp=Z,21nm,0.8s
TAM Tamanrasset 35.22 253 *e*P P 10 42 30.1 +0.7
comp=Z,22nm,0.8s
TAM Tamanrasset 35.22 253 *e*P P 10 42 30.1 +0.7
comp=Z,22nm,0.8s
ES19 SONSECA Array 35.37 286 *e*P P 10 42 29.6 -0.8
PYUN Piuthan 35.38 96 *e*P P 10 42 31.3 +0.5
comp=Z,60nm,1.0s
ESDC Sonseca Array 35.42 286 P P 10 42 29.2 -1.7
comp=Z,29nm,0.9s,baz=67,slow=8.8,SNR=25
ESDC PcP **PcP** **10 44 59.3 -1.2**
comp=Z,0.2nm,0.4s,baz=62,slow=3.6,SNR=3.3
ESDC LR LR 10 58 48.4
comp=Z,279nm,18.1s,baz=75,slow=39
ESLA Sonseca Array 35.42 286 *e*P P 10 42 30.0 -0.9
comp=Z,42nm,1.0s
ESLA Sonseca Array 35.42 286 *e*P P 10 42 30.0 -0.9
comp=Z,42nm,1.0s
PAB San Pablo 35.74 286 *e*P P 10 42 32.4 -1.3
PAB pmax pmax
comp=Z,33nm,1.0s
PAB San Pablo 35.74 286 *e*P P 10 42 32.4 -1.3
comp=Z,33nm,1.0s
PAB San Pablo 35.74 286 *e*P P 10 42 32.4 -1.3
comp=Z,33nm,1.0s
DSB Dublin 35.77 309 *e*P P 10 42 33.1 -0.5
comp=Z,32nm,1.1s
DANN Dangsing 35.85 95 *e*P P 10 42 36.4 +1.4
KOLN Koldanda 36.01 96 *e*P P 10 42 36.7 +0.5
comp=Z,61nm,1.4s
GKN Gorkha 36.70 95 *e*P P 10 42 42.5 +0.5
DMN Daman 37.25 95 *e*P P 10 42 47.7 +0.8
comp=Z,184nm,1.4s
KKN Kakani 37.30 94 *e*P P 10 42 47.8 +0.6
MVO Moncorvo 37.33 289 *e*P P 10 42 48.1 +0.9
comp=Z,23nm,1.6s
MVO Moncorvo 37.33 289 *e*PP PP 10 44 25.0 +13
MVO *e*S **S** **10 48 41.7 +7.1**
MVO Moncorvo 37.33 289 *e*P P 10 42 48.1 +0.9
comp=Z,23nm,1.6s
HVS Khovu-Aksy 37.44 54⇑ *i*P P 10 42 48.8 +0.8
HVS pmax pmax
comp=Z,23nm,0.8s
PKIN Phulchoki 37.49 95 *e*P P 10 42 49.5 +0.6
comp=Z,159nm,1.5s
PKI Pulchoki 37.50 95 *e*P P 10 42 49.2 +0.1
comp=Z,156nm,1.4s
GUN Gumba 37.70 94 *e*P P 10 42 51.4 +0.6
comp=Z,187nm,1.2s
PVRL Vila Real 37.81 290 *e*P P 10 42 50.6 -0.6
MTE Manteigas 37.90 288 *e*P P 10 42 51.4 -0.6
comp=Z,82nm,1.4s
MTE Manteigas 37.90 288 *e*PP PP 10 44 24.0 +5.5
MTE *e*S **S** **10 48 48.8 +5.6**
MTE Manteigas 37.90 288 *e*P P 10 42 51.0 -1.0
comp=Z,67nm,1.0s
PCBR Castelo Branco 38.00 287 *e*P P 10 42 52.1 -0.6
comp=Z,45nm,1.4s
SFS San Fernando 38.04 282 P P 10 42 55.8 +2.7
SFS pmax pmax
comp=Z,368nm,1.0s
PMRV Marv??o 38.05 287 *e*P P 10 42 52.7 -0.5
comp=Z,40nm,1.2s
PMRV *e*S **S** **10 48 49.7 +4.4**
PMRV Marv??o 38.05 287 *e*P P 10 42 52.7 -0.5
comp=Z,40nm,1.2s
PGAV Gavieira, Arco 38.05 291 *e*S **S** **10 48 47.5 +2.0**
JIRN Jiri 38.07 94 *e*P P 10 42 54.8 +0.9
comp=Z,183nm,1.2s
PVIS Viseu 38.08 289 *e*P P 10 42 53.3 -0.2
comp=Z,45nm,1.2s
PBAR Barrancos 38.14 285 *e*P P 10 42 52.5 -1.5
comp=Z,75nm,1.2s
HYB Hyderabad 38.23 114 *i* P P 10 42 54.5 -0.5
HYB *e*sP **pP** **10 42 58.0 -1.1**
HYB *e*S **S** **10 48 50.0 +1.5**
PESTR Estremoz 38.35 286 *e*P P 10 42 54.7 -1.1
comp=Z,81nm,1.1s
PESTR Estremoz 38.35 286 *e*P P 10 42 53.9 -1.8
comp=Z,38nm,1.0s
RAMN Ramite 38.73 95 *e*P P 10 42 59.9 +0.5
comp=Z,143nm,1.2s
PTOM Tomar 38.75 287 *e*P P 10 42 59.0 -0.1
comp=Z,78nm,1.2s
EVO Evora 38.77 285 *e*P P 10 43 00.0 +0.8
comp=Z,19nm,1.2s
EVO Evora 38.77 285 *e*P P 10 43 00.0 +0.8
comp=Z,19nm,1.2s
PMTG Montargil 38.77 286 *e*P P 10 42 58.1 -1.1
comp=Z,28nm,1.5s
PBEJ Beja 38.81 285 *e*P P 10 42 59.4 -0.2
comp=Z,47nm,1.2s
PVAQ Vaqueiros 38.89 284 *e*P P 10 43 00.8 +0.5
comp=Z,53nm,1.6s
PVAQ Vaqueiros 38.89 284 *e*PP PP 10 44 42.6 +13
PVAQ *e*S **S** **10 48 54.6 -3.4**
PCVE Castro Verde 39.06 284 *e*P P 10 43 01.2 -0.5
comp=Z,76nm,1.4s
PBDV Barranco-do-Ve 39.10 283 *e*P P 10 43 03.8 +1.7
comp=Z,128nm,1.4s
PBDV Barranco-do-Ve 39.10 283 *e*P P 10 43 03.8 +1.7
comp=Z,128nm,1.4s
PNCL Nicolau / Gran 39.28 285 *e*P P 10 43 03.7 +0.2
comp=Z,35nm,1.2s
ODAN Odare 39.39 94 *e*P P 10 43 05.6 +0.8
comp=Z,234nm,1.3s
TAPN Taplejung 39.40 93 *e*P P 10 43 05.8 +0.8
KMBO Kilima Mbogo 40.38 188 P P 10 43 12.7 -0.4
comp=Z,3.4nm,0.8s,baz=354,slow=8.0,SNR=9.5
KMBO LR LR 10 58 34.8
comp=Z,938nm,18.1s,baz=292,slow=34
KMBO Kilima Mbogo 40.38 188 *e*P P 10 43 11.6 -1.5
KMBO Kilima Mbogo 40.38 188 *e*P P 10 43 11.6 -1.5
KMBO Kilima Mbogo 40.38 188 P P 10 43 15.8 +2.7
SNR=6.1
KMBO Kilima Mbogo 40.38 188 P P 10 43 15.8 +2.7
SNR=6.1
KMBO Kilima Mbogo 40.38 188 P P 10 43 14.8 +1.8
SPA0 Spitsbergen Ar 40.55 352 *e*P P 10 43 13.3 -0.3
SPITS Spitsbergen Ar 40.55 352 P P 10 43 13.3 -0.3
comp=Z,9.8nm,0.8s,baz=134,slow=8.2,SNR=5.2
LSA Lhasa 40.97 88 P P 10 43 20.0 +1.8
LSA pmax pmax
comp=Z,29nm,1.1s
LSA Lhasa 40.97 88 *e*P P 10 43 19.2 +1.0
LSA pmax pmax
comp=Z,29nm,0.8s
LSA Lhasa 40.97 88 *e*P P 10 43 19.2 +1.0
comp=Z,29nm,0.8s
LSA Lhasa 40.97 88 *e*P P 10 43 19.2 +1.0
comp=Z,29nm,0.8s
LSA Lhasa 40.97 88 P P 10 43 19.4 +1.2
MBAR Mbarara 40.98 198 P P 10 43 17.6 -0.4
comp=Z,2.4nm,0.3s,baz=29,slow=10,SNR=3.8
MOY Mondy 41.95 53 *e*P P 10 43 27.4 +1.8
MOY pmax pmax
comp=Z,44nm,1.4s
SHL Shillong 43.52 93⇑ *i*P P 10 43 39.0 +0.3
ZAK Zakamensk 43.56 54 *e*P P 10 43 39.0 +0.4
ZAK pmax pmax
comp=Z,17nm,1.4s
TLY Talaya 43.58 52 P P 10 43 38.9 +0.2
comp=Z,2.7nm,0.5s,baz=262,slow=14,SNR=11
TLY Talaya 43.58 52 *e*P P 10 43 40.3 +1.6
TLY *e* 10 45 29.5
TLY *e*S **S** **10 50 01.4 -6.1**
TLY *e*SSS SSS 10 53 41.3
TLY pmax pmax
comp=Z,32nm,1.3s
TLY MLR MLR
comp=Z,499nm,14.0s
TLY Talaya 43.58 52 P P 10 43 40.4 +1.6
SNR=19
TLY Talaya 43.58 52 P P 10 43 40.4 +1.6
SNR=19
GTA Gaotai 43.85 71 *e*P P 10 43 42.5 +1.3
GTA pP sP 10 43 47.0 0.0
GTA sP pP 10 43 50.5 +5.2
GTA S **S** **10 50 10.0 -1.9**
GTA sS sS 10 50 22.8 +4.0
GTA SS **SS** **10 53 20.3 -7.5**
GTA pmax pmax
comp=Z,16nm,1.2s
GTA pmax pmax
comp=Z,280nm,5.9s
GTA LR LR
comp=Z,520nm,14.3s
GTA LR LR
comp=Z,270nm,14.7s
GTA LR LR
comp=Z,360nm,13.3s
IRK Irkutsk 43.89 52 *e*P P 10 43 41.5 +0.4
IRK *e* 10 45 31.5
IRK pmax pmax
comp=Z,2μm,0.9s
TOA1 Torodi Ar. Sit 44.18 245 *e*P P 10 43 41.8 -2.1
TOA1 *e*PP **PP** **10 45 26.7 -0.2**
TOA0 Torodi Ar. Sit 44.18 245 *e*P P 10 43 42.2 -1.7
TORD Torodi Ar. Bea 44.18 245 P P 10 43 41.8 -2.1
comp=Z,7.3nm,1.0s,baz=43,slow=9.3,SNR=34
TORD PcP **PP** **10 45 26.7 -0.2**
comp=Z,3.5nm,1.0s,baz=41,slow=3.9,SNR=3.5
TORD LR LR 11 06 08.9
comp=Z,292nm,18.0s,baz=40,slow=42
BORG Borgarnes 44.23 327 LR LR 11 02 44.2

comp=Z,246nm,21.0s,baz=143,slow=37
SCO Scoresbysund 45.08 335 *i* P P 10 43 55.8 +5.5
SCO pmax pmax
comp=Z,24nm,1.3s
SCO Scoresbysund 45.08 335 *i* P P 10 43 55.8 +5.5
comp=Z,24nm,1.3s
DAG Danmarks Havn 45.63 344 *i* P **P 10 43 58.5 +3.8**
DAG pmax pmax
comp=Z,57nm,1.3s
DAG Danmarks Havn 45.63 344 *i* P **P 10 43 58.5 +3.8**
comp=Z,57nm,1.3s
SONA0 Songino Array 46.08 57 *e*P **P 10 43 59.5 +0.7**
SONA0 *e*PcP **PcP 10 45 34.2 -0.7**
SONM Songino Array 46.08 57 P **P 10 43 59.5 +0.7**
comp=Z,3.1nm,0.8s,baz=278,slow=7.9,SNR=11
SONM PcP **PcP 10 45 34.2 -0.7**
comp=Z,3.2nm,1.0s,baz=264,slow=4.2,SNR=3.4
SONM LR LR 11 05 46.5
comp=Z,1μm,18.0s,baz=290,slow=39
ULN Ulaanbaatar 46.50 57*c i* P **P 10 44 02.8 +0.7**
ULN pmax pmax
comp=Z,47nm,1.2s
ULN Ulaanbaatar 46.50 57 *e*P **P 10 44 03.0 +0.8**
comp=Z,46nm,0.9s
ULN Ulaanbaatar 46.50 57 P **P 10 44 03.5 +1.3**
SNR=30
ULN Ulaanbaatar 46.50 57 P **P 10 44 03.5 +1.3**
SNR=30
PALK Pallekele 46.90 122 P **P 10 44 05.5 0.0**
comp=Z,24nm,0.9s,baz=296,slow=7.7,SNR=14
PALK Pallekele 46.90 122 *i* P **P 10 44 06.5 +1.0**
PALK Pallekele 46.90 122 P **P 10 44 06.4 +1.0**
SNR=8.4
PALK Pallekele 46.90 122 P **P 10 44 06.4 +1.0**
SNR=8.4
PALK Pallekele 46.90 122 *i* P **P 10 44 06.2 +0.7**
SNR=10
KOWA Kowa 47.42 252 *e*P **P 10 44 08.9 -0.6**
comp=Z,46nm,1.5s
LZH Lanzhou 48.02 73 *e*P **P 10 44 15.8 +1.6**
LZH pP sP 10 44 22.5 +2.5
LZH sP pP 10 44 26.0 +7.6
LZH PcP **PcP 10 45 47.5 +5.5**
LZH PP **PP 10 46 03.5 -2.6**
LZH *e*S **S 10 51 07.3 -4.7**
LZH sS sS 10 51 26.8 +7.8
LZH pmax pmax
comp=Z,54nm,1.0s
LZH pmax pmax
comp=Z,230nm,4.2s
LZH LR LR
comp=Z,2μm,14.8s
LZH LR LR
comp=Z,1μm,14.2s
LZH LR LR
comp=Z,3μm,16.8s
BOD Bodaibo 48.55 43 *e*P **P 10 44 17.6 -0.1**
BOD pmax pmax
comp=Z,93nm,1.0s
CD2 Chengdu 50.16 80 P **P 10 44 29.0 -1.4**
CD2 pP sP 10 44 36.3 0.0
CD2 sP pP 10 44 39.3 +4.6
CD2 PcS **PcS 10 49 45.5 -1.4**
CD2 S **S 10 51 39.3 -2.6**
CD2 SS **SS 10 55 14.0 -1.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.0s
CD2 LR LR
comp=Z,690nm,19.9s
CD2 LR LR
comp=Z,490nm,12.7s
CD2 LR LR
comp=Z,700nm,12.1s
SUMG Summit 50.38 337 *e*P **P 10 44 32.0 0.0**
SUMG pmax pmax
comp=Z,39nm,1.1s
SUMG Summit 50.38 337 *i* P **P 10 44 35.6 +3.6**
comp=Z,40nm,1.1s
SUMG Summit 50.38 337 *e*P **P 10 44 32.0 0.0**
comp=Z,39nm,1.1s
BTO Baotou 50.79 65 *e*P **P 10 44 35.0 -0.2**
HHC Hu-ho-hao-te 51.78 65 *e*P **P 10 44 43.3 +0.7**
HHC pP sP 10 44 48.5 0.0
HHC sP pP 10 44 54.0 +7.1
HHC PP **PP 10 46 37.3 -2.9**
HHC S **S 10 52 02.5 -1.9**
HHC sS sS 10 52 13.8 +2.5
HHC ScS **ScS 10 54 29.5 -3.1**
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,230nm,3.0s
HHC LR LR
comp=Z,390nm,10.1s
HHC LR LR
comp=Z,390nm,14.3s
HHC LR LR
comp=Z,320nm,14.3s
CMAI Chiengmai2 52.11 94 P **P 10 44 46.4 +1.0**
comp=Z,57nm,1.7s,comp=Z,53μm
KMI Kunming 52.18 87 P **P 10 44 46.0 +0.1**
KMI pP pP 10 44 50.0 -0.2
KMI pmax pmax
comp=Z,44nm,1.4s
KMI pmax pmax
comp=Z,230nm,3.1s
TIXI Tiksi 52.30 24*c i* P **P 10 44 45.6 -0.2**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI Tiksi 52.30 24 *e*P **P 10 44 45.4 -0.5**
comp=Z,25nm,1.0s
XAN Xi'an 52.66 73 P **P 10 44 49.5 +0.4**
XAN pP sP 10 44 53.8 -1.2
XAN sP pP 10 44 56.5 +3.1
XAN PP **PP 10 46 49.0 +0.9**
XAN S **S 10 52 19.8 +3.4**
XAN sS sS 10 52 32.5 +9.1
XAN pmax pmax
comp=Z,28nm,1.0s
XAN pmax pmax
comp=Z,310nm,4.9s
XAN LR LR
comp=Z,540nm,14.1s
XAN LR LR
comp=Z,430nm,16.8s
XAN LR LR
comp=Z,410nm,20.6s
CHTO Chiang Mai 52.67 96 P **P 10 44 49.1 -0.2**
comp=Z,116nm,1.7s
CHTO Chiang Mai 52.67 96 *e*P **P 10 44 49.3 -0.1**
CHTO pmax pmax
comp=Z,31nm,1.3s
CHTO Chiang Mai 52.67 96 *e*P **P 10 44 49.3 -0.1**
comp=Z,31nm,1.3s
CHTO Chiang Mai 52.67 96 P **P 10 44 49.6 +0.3**
SNR=6.5
CHTO Chiang Mai 52.67 96 P **P 10 44 49.6 +0.3**
SNR=6.5
CMMT Chiang Mai 52.68 96 P **P 10 44 48.0 -1.4**
comp=Z,30nm,1.2s
CM31 Chiang Mai Arr 52.88 96 *e*P **P 10 44 50.3 -0.6**
CMAR Chiang Mai Arr 52.88 96 P **P 10 44 50.3 -0.6**
comp=Z,9.2nm,0.8s,baz=300,slow=8.1,SNR=61
CMAR PcP **PcP 10 45 59.6 -0.4**
comp=Z,1.2nm,0.5s,baz=302,slow=5.2,SNR=3.6
CMAR LR LR 11 12 25.6
comp=Z,150nm,20.6s,baz=290,slow=42
CM01 Chiang Mai Arr 52.91 96 *e*P **P 10 44 50.4 -0.7**
DBIC Dimbokro 53.30 245 P **P 10 44 52.2 -1.7**
comp=Z,5.5nm,0.7s,baz=27,slow=12,SNR=5.6
DBIC Dimbokro 53.30 245 *e*P **P 10 44 52.9 -1.0**
DBIC pmax pmax
comp=Z,17nm,0.8s
DBIC Dimbokro 53.30 245 *e*P **P 10 44 52.9 -1.0**
comp=Z,16nm,0.8s
LAMP Lampang 53.37 95 P **P 10 44 55.5 +1.0**
comp=Z,10nm,1.1s,comp=Z,482nm
TIC Toumodi 53.43 245 *e*P **P 10 44 53.1 -1.9**
KIC Kosan Boka 53.43 245 *e*P **P 10 44 53.2 -1.8**
comp=Z,148nm,1.4s
LIC Lamto 53.73 245 *e*P **P 10 44 55.5 -1.6**
comp=Z,153nm,1.3s
HIA Hailar 54.12 52 *e*P **P 10 45 00.2 +0.5**
HIA pmax pmax
comp=Z,45nm,0.9s
HIA Hailar 54.12 52 *e*P **P 10 45 00.1 +0.5**
comp=Z,45nm,0.9s
CLNS Chul'man 54.50 42 *e*P **P 10 45 06.2 +3.9**
CLNS pmax pmax
comp=Z,22nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.0s
GYA Guiyang 54.54 83‖ *i* P **P 10 45 02.8 -0.3**
GYA pP sP 10 45 10.0 +1.0
GYA PcP **PcP 10 46 07.5 +1.2**
GYA PP **PP 10 47 07.0 +1.7**
GYA ScP **ScP 10 50 02.3 -2.0**
GYA S **S 10 52 39.5 -2.7**
GYA sS sS 10 52 50.0 +0.8
GYA SS **SS 10 56 21.5 -3.1**
GYA pmax pmax
comp=N,50nm,0.9s
GYA pmax pmax
comp=N,130nm,5.6s
GYA LR LR
comp=N,530nm,18.2s
GYA LR LR
comp=N,510nm,18.4s
GYA LR LR
comp=N,500nm,19.0s
PHIT Phitsanulok 54.75 96 P **P 10 45 05.3 +0.7**
comp=N,25nm,1.1s
ENH Enshi 54.82 77 *e*P **P 10 45 05.1 +0.1**
comp=N,53nm,1.0s
ENH Enshi 54.82 77 *e*P **P 10 45 05.1 +0.1**
comp=N,53nm,1.0s
YAK Yakutsk 55.14 35 *e*P **P 10 45 09.5 +2.7**
YAK *e* 10 56 33.4
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,16nm,1.1s
YAK MLR MLR
comp=N,334nm,16.0s
YAK MLR MLR
comp=Z,682nm,15.0s
YAK MLR MLR
comp=E,486nm,16.0s
YAK Yakutsk 55.14 35 *e*P **P 10 45 06.0 -0.7**
comp=E,39nm,0.8s
ILULI Ilulissat 55.16 334 *e*P **P 10 45 06.4 -0.4**
ILULI pmax pmax
comp=Z,38nm,1.1s
ILULI Ilulissat 55.16 334 *e*P **P 10 45 06.4 -0.4**
comp=Z,38nm,1.1s
BJI Beijing 55.33 64 pP **pP 10 45 13.5 +0.7**
BJI sP sP 10 45 16.8 +2.4
BJI S **S 10 52 49.0 -3.2**
BJI sS sS 10 53 01.0 +1.7
PBKT Sadao Pong 55.54 97 P **P 10 45 09.5 -0.8**
comp=Z,36nm,1.2s,comp=Z,1μm
SFJD Kangerlussuaq 55.73 332 *i* P **P 10 45 14.3 +3.4**
SFJD pmax pmax
comp=Z,22nm,1.2s
SFJD Kangerlussuaq 55.73 332 *i* P **P 10 45 14.3 +3.4**
comp=Z,22nm,1.2s
LSZ Lusaka 55.75 197 *e*P **P 10 45 12.0 +0.2**
LSZ pmax pmax
comp=Z,42nm,1.6s
LSZ Lusaka 55.75 197 *e*P **P 10 45 12.0 +0.2**
comp=Z,42nm,1.6s
LSZ Lusaka 55.75 197 P **P 10 45 13.5 +1.7**
SNR=5.4
LSZ Lusaka 55.75 197 P **P 10 45 13.5 +1.7**
SNR=5.4
CHAI Chaiyaphum 56.72 96 P **P 10 45 23.0 +4.2**
comp=Z,4.8nm,1.0s
BBTS Babate 56.79 262 P **P 10 45 19.2 0.0**
comp=Z,56nm,0.9s,baz=52,slow=4.2,SNR=3.0
BBTS LR LR 11 12 23.4
comp=Z,437nm,19.4s,baz=43,slow=39
ZEA Zeya 56.86 45 *e*P **P 10 45 20.0 +0.8**
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA MLR MLR
comp=Z,1μm,14.0s
ZEA MLR MLR
comp=E,500nm,15.0s
ZEA MLR MLR
comp=N,500nm,14.0s
TULEG Thule 56.90 345 *e*P **P 10 45 18.2 -1.0**
comp=N,37nm,1.2s
KHON Khomkaen 57.11 95 P **P 10 45 22.3 +0.8**
comp=N,19nm,1.1s,comp=N,1μm
NAYO Nakonayok 57.16 98 P **P 10 45 22.2 +0.3**
comp=N,18nm,1.1s,comp=N,634nm
OPO Ambohidratompo 57.63 174 P **P 10 45 24.4 -0.7**
comp=N,17nm,1.1s,baz=5.9,slow=5.8,SNR=6.7
OPO LR LR 11 11 54.1
comp=N,192nm,18.4s,baz=355,slow=38
SKNT Sakolnakorn 57.64 94 P **P 10 45 24.6 -0.6**
comp=N,27nm,1.1s
SRAK Srakaew 57.90 98 P **P 10 45 30.3 +3.2**
comp=N,94nm,1.1s,comp=N,2μm
WHN Wuhan 58.35 75‖ *i* P **P 10 45 30.8 +0.7**
WHN pP **sP 10 45 35.3 -0.7**
WHN S **S 10 53 39.0 +6.6**
WHN pmax pmax
comp=N,160nm,1.4s
WHN LR LR
comp=N,900nm,13.9s
SURT Suratani 58.59 105 P **P 10 45 30.1 -1.8**
comp=N,9.9nm,1.2s
DL2 Dalian 59.62 63 P **P 10 45 39.0 +0.3**
DL2 *e*S **S 10 53 48.0 -0.6**
DL2 pmax pmax
comp=N,57nm,1.1s
DL2 pmax pmax
comp=N,180nm,4.2s
DL2 LR LR
comp=N,320nm,17.1s
DL2 LR LR
comp=N,270nm,13.9s
DL2 LR LR
comp=N,580nm,15.5s
CN2 Changchun 59.93 56 *e*P **P 10 45 41.0 +0.2**
CN2 *e*S **S 10 53 47.5 -5.0**
CN2 pmax pmax
comp=N,10.0nm,1.0s
CN2 pmax pmax
comp=N,200nm,6.0s
CN2 LR LR
comp=N,300nm,18.0s
CN2 LR LR
comp=N,600nm,18.0s
CN2 LR LR
comp=N,800nm,19.0s
TRTT Trang 59.99 105 P **P 10 45 39.7 -1.9**
comp=N,11nm,1.2s
NJ2 Nanjing 60.95 71 *e*P **P 10 45 48.5 +0.6**
NJ2 pmax pmax
comp=N,20nm,0.9s
KLR Kul'dur 61.32 48*c i*P **P 10 45 50.3 +0.1**
KULM Kulim 62.38 107 *e*P **P 10 45 56.8 -1.0**
comp=N,42nm,1.2s
TSUM Tsumeb 62.51 206 *e*P **P 10 45 58.5 -0.1**
comp=N,7.8nm,0.9s
PSI Prapat 62.77 110 *e*P **P 10 45 59.1 -1.5**
PSI pmax pmax
comp=Z,49nm,1.1s
PSI Prapat 62.77 110 *e*P **P 10 45 59.1 -1.5**
comp=Z,48nm,1.1s
GSI Gunungsitoli 62.82 113 P **P 10 46 00.6 -0.2**
GSI pP **pP 10 46 05.3 +0.2**
GSI Gunungsitoli 62.82 113 *e*P **P 10 45 59.8 -1.0**
comp=Z,50nm,1.1s
RES Resolute Bay 62.93 348 *e*P **P 10 46 02.1 +1.5**
RES pmax pmax
comp=Z,10.0nm,1.0s
RES Resolute Bay 62.93 348 *e*P **P 10 46 02.1 +1.5**
comp=Z,9.5nm,1.0s
IPM Ipoh 63.20 107 *e*P **P 10 46 01.6 -1.7**
comp=Z,42nm,1.0s
GRNR Gornyy 63.22 45 *e*P **P 10 46 03.8 +0.8**
GRNR pmax pmax
comp=Z,31nm,1.0s
USRK Ussuriysk Ar. 63.89 53 P **P 10 46 06.1 -1.3**
comp=Z,16nm,1.0s,baz=279,slow=3.7,SNR=7.9
USRK LR LR 11 18 36.4
comp=Z,331nm,18.9s,baz=294,slow=40
SEY Seymchan 64.06 29‖ *i* P **P 10 46 08.6 +0.3**
NKL Nikolayevsk 64.28 41 *e*P **P 10 46 10.0 +0.2**
NKL pmax pmax
comp=E,15nm,1.0s
NKL pmax pmax
comp=Z,66nm,1.0s
MNSI Mandailing Nat 64.62 111 P **P 10 46 13.1 +0.5**
MNSI pP **sP 10 46 18.4 -0.1**
KS01 Wonju Array Si 64.62 61 *e*P **P 10 46 12.1 -0.2**
KS15 Wonju Array Si 64.63 61 *e*P **P 10 46 12.4 0.0**
KSAR Wonju Array Be 64.63 61 P **P 10 46 12.4 0.0**
KSAR Wonju Array Be 64.63 61 P **P 10 46 12.4 0.0**
KSRS Korea Array 64.65 61 P **P 10 46 12.4 -0.1**
comp=Z,13nm,0.8s,baz=293,slow=6.1,SNR=37
KSRS LR LR 11 17 46.5
comp=Z,336nm,18.1s,baz=308,slow=39
BILL Bilibino 65.19 20 *i* P **P 10 46 15.2 -0.4**
BILL *i* 10 46 49.0
BILL *i* 10 48 41.0
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,302nm,19.0s
MA2 Magadan 65.40 32*c i* P **P 10 46 17.3 +0.2**
SISI Saibi 65.73 113 P **P 10 46 19.4 -0.4**
SISI pP **sP 10 46 24.7 -1.1**
LBTB Lobatse 65.74 197 *e*P **P 10 46 19.2 -0.5**
LBTB pmax pmax
comp=Z,35nm,1.4s
LBTB Lobatse 65.74 197 *e*P **P 10 46 19.1 -0.5**
comp=Z,35nm,1.4s
TEY Ternei 66.28 51 *e*P **P 10 46 26.1 +3.2**
TEY pmax pmax
comp=Z,33nm,0.9s
PDSI Padang 66.43 112 P **P 10 46 23.4 -0.9**
TYV Tymovskoe 66.54 43 *e*P **P 10 46 25.2 +0.7**
TYV pmax pmax
comp=Z,24nm,1.7s
YHNB Yeheng 66.73 77 *e*P **P 10 46 25.7 -0.6**
comp=Z,98nm,1.1s
YHNB Yeheng 66.73 77 *e*P **P 10 46 25.7 -0.6**
comp=Z,98nm,1.1s
SCHQ Schefferville 68.54 324 P **P 10 46 36.2 -0.9**
comp=Z,5.7nm,0.9s,baz=51,slow=8.8,SNR=3.3
SCHQ Schefferville 68.54 324 *e*P **P 10 46 37.4 +0.3**
comp=Z,11nm,0.8s
YSS Yuzh-Sakhalins 68.80 46‖ *e*P **P 10 46 39.2 +0.4**
YSS *e* 10 46 43.0
YSS *e*S **S 10 55 40.3 -1.7**
YSS *e* 11 03 09.0
YSS pmax pmax
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 68.80 46 *e*P **P 10 46 38.6 -0.2**
comp=Z,54nm,1.3s
JNU Nakatsue 69.01 64 P **P 10 46 39.1 -1.4**
comp=Z,12nm,0.9s,baz=305,slow=3.7,SNR=5.5
JNU LR LR 11 20 48.9
comp=Z,235nm,18.5s,baz=314,slow=39
JNU Nakatsue 69.01 64 *e*P **P 10 46 39.1 -1.4**
comp=Z,26nm,0.9s
DSRI Dabo 69.13 109 P **P 10 46 41.0 -0.4**
MASI Maura Aman, Be 69.25 112 P **P 10 46 41.0 -1.1**
MASI pP **pP 10 46 46.4 -0.1**
BOSA Boshof 69.29 196 P **P 10 46 41.2 -0.8**
comp=Z,12nm,1.1s,baz=28,slow=8.1,SNR=9.1
BOSA LR LR 11 16 46.5
comp=Z,352nm,19.0s,baz=19,slow=36
ASAJ Asahikawa 70.35 49 P **P 10 46 48.2 -0.3**
comp=Z,16nm,0.8s,baz=288,slow=9.6,SNR=2.7
ASAJ Asahikawa 70.35 49 *e*P **P 10 46 48.4 0.0**
comp=Z,28nm,1.1s
MDSI Maura Dua 71.57 112 P **P 10 46 53.4 -2.8**
LWLI Liwa 71.84 113 P **P 10 47 01.2 +3.2**
MJB9 Matsu-Tunnel 72.03 57 *e*P **P 10 46 58.4 -0.4**
comp=Z,27nm,1.0s
MAJO Matsushiro 72.03 57 *e*P **P 10 46 58.3 -0.6**
MAJO pmax pmax
comp=Z,27nm,1.0s
MAJO Matsushiro 72.03 57 *e*P **P 10 46 58.3 -0.6**
comp=Z,27nm,1.0s
MAT Matsushiro 72.03 57 P **P 10 46 57.5 -1.3**
MJAR Matsushiro Arr 72.03 57 P **P 10 46 58.4 -0.4**
comp=Z,22nm,1.0s,baz=304,slow=6.4,SNR=14
MJAR LR LR 11 21 23.6
comp=Z,419nm,19.4s,baz=320,slow=38
TOLK Toolik Lake Re 72.13 5 P **P 10 46 57.6 -1.3**
baz=350
TOLK Toolik Lake Re 72.13 5 *e*P **P 10 46 59.7 +0.8**
comp=Z,28nm,1.0s
PEA1 Petropavlovsk- 72.48 35 *e*P **P 10 47 00.6 -0.6**
PEA0B Petropavlovsk- 72.49 35 *e*P **P 10 47 01.1 -0.1**
comp=Z,48nm,1.4s
PETK Petropavlovsk- 72.49 35 P **P 10 47 00.6 -0.6**
comp=Z,8.6nm,0.9s,baz=330,slow=5.5,SNR=6.2
PETK LR LR 11 24 20.2
comp=Z,133nm,18.8s,baz=307,slow=40
PETK Petropavlovsk- 72.49 35 *e*P **P 10 47 00.2 -1.0**
PETK Petropavlovsk- 72.49 35 *e*P **P 10 47 00.2 -1.0**
KASI Kota Agung 72.51 113 P **P 10 47 00.7 -1.2**
KASI pP **pP 10 47 05.3 -0.9**
INK Inuvik 72.79 358 P **P 10 47 01.6 -1.1**
comp=Z,4.9nm,1.0s,baz=10,slow=3.9,SNR=4.1
INK Inuvik 72.79 358 *e*P **P 10 47 02.5 -0.2**
comp=Z,18nm,1.3s
SBUM Sibu 72.95 101 *e*P **P 10 47 03.6 -1.0**
comp=Z,34nm,1.1s
COLD Coldfoot 73.49 5 *e*P **P 10 47 06.8 -0.2**
comp=Z,13nm,1.0s
STKI Sintang 73.93 103 P **P 10 47 10.8 +0.5**
CGJI Cibinong 74.12 113 P **P 10 47 09.0 -2.3**
CGJI pP **pP 10 47 13.8 -1.9**
FYU Fort Yukon 74.42 3 *e*P **P 10 47 12.5 +0.2**
comp=Z,26nm,1.2s
IM3 Indian Mountai 74.43 7 *e*P **P 10 47 11.9 -0.6**
IM3 *e*S **S 10 56 44.3 -2.1**
JHJ Hachijo jima 2 75.10 59 LR LR 11 23 24.3
comp=Z,280nm,19.1s,baz=102,slow=38
MLY Manley 75.62 6 *e*P **P 10 47 18.9 -0.5**
comp=Z,16nm,1.1s
MDM Murphy Dome 75.87 5 *e*P **P 10 47 21.1 +0.3**
comp=Z,33nm,1.3s
FCC Fort Churchill 75.89 338 *e*P **P 10 47 20.6 -0.3**
FCC pmax pmax
comp=Z,15nm,1.1s
FCC Fort Churchill 75.89 338 *e*P **P 10 47 20.6 -0.3**
comp=Z,15nm,1.1s
COLA College 75.98 4 *e*P **P 10 47 21.5 +0.2**
COLA pmax pmax
comp=Z,18nm,1.0s
COLA College 75.98 4 *e*P **P 10 47 21.5 +0.2**
comp=Z,18nm,1.0s
IL1 Eielson Array 76.13 4 *e*P **P 10 47 20.7 -1.5**
ILAR Eielson Array 76.13 4 P **P 10 47 21.6 -0.7**
comp=Z,1.9nm,1.0s,baz=341,slow=7.0,SNR=7.6
ILAR PP **PP 10 50 07.5 -4.9**
comp=Z,0.7nm,0.9s,baz=355,slow=7.3,SNR=4.6
ILAR LR LR 11 26 11.3
comp=Z,83nm,19.2s,baz=322,slow=40
ILB Eielson Array 76.13 4 *e*P **P 10 47 20.7 -1.5**
CCB Clear Creek Bu 76.20 4 *e*P **P 10 47 22.3 -0.3**
comp=Z,49nm,1.8s
CISI Cisompet, Garu 76.29 112 P **P 10 47 21.1 -2.8**
CISI Cisompet, Garu 76.29 112 *e*P **P 10 47 20.9 -3.0**
comp=Z,266nm,1.6s
EGAK Eagle 76.34 2 *e*P **P 10 47 23.6 +0.2**
comp=Z,20nm,1.1s
WRH Wood River Hil 76.36 5 *e*P **P 10 47 23.1 -0.5**
comp=Z,32nm,1.6s
BPAW Bear Paw Mtn. 76.52 6 *e*P **P 10 47 24.9 +0.4**
comp=Z,46nm,1.5s
YKW3 Yellowknife Ar 76.91 349 *e*P **P 10 47 25.8 -0.8**
comp=Z,26nm,1.5s
YKA Yellowknife Ar 76.98 349 P **P 10 47 25.6 -1.4**
comp=Z,8.1nm,1.1s,baz=18,slow=6.1,SNR=29
YKA LR LR 11 22 22.3
comp=Z,21nm,21.7s,baz=0.0,slow=36
MCK McKinley 77.04 5 *e*P **P 10 47 27.4 -0.1**
MCK pmax pmax
comp=Z,17nm,1.1s
MCK McKinley 77.04 5 *e*P **P 10 47 27.4 -0.1**
comp=Z,17nm,1.1s

SCRK	**Sand Creek**	77.06	3	*e*P		P	10 47 28.0	+0.3
	comp=Z,32nm,1.3s							
KTH	**Kantishna Hill**	77.07	6	*e*P		P	10 47 28.4	+0.7
	comp=Z,16nm,1.0s							
DAWY	**Dawson**	77.08	1	*e*P		P	10 47 26.5	-1.2
	comp=Z,23nm,1.1s							
CAST	**Castle Rocks**	77.10	7	*e*P		P	10 47 27.8	0.0
	comp=Z,28nm,1.0s							
RIDG	**Independ'e Rid**	77.26	3	*e*P		P	10 47 28.8	+0.1
	comp=Z,33nm,1.2s							
RND	**Reindeer**	77.37	5	*e*P		P	10 47 27.8	-1.5
RND				pmax	pmax			
	comp=Z,31nm,1.4s							
RND	**Reindeer**	77.37	5	*e*P		P	10 47 27.8	-1.5
	comp=Z,31nm,1.4s							
DOT	**Dot Lake**	77.39	3	*e*P		P	10 47 29.7	+0.3
	comp=Z,65nm,1.1s							
PPLA	**Purkeypile**	77.61	7	*e*P		P	10 47 31.2	+0.4
	comp=Z,37nm,1.6s							
TRQ	**Mont Tremblant**	77.93	321	*e*P		P	10 47 32.2	-0.5
PAX	**Paxson**	78.00	4	*e*P		P	10 47 33.1	+0.2
PAX				pmax	pmax			
	comp=Z,16nm,1.2s							
PAX	**Paxson**	78.00	4	*e*P		P	10 47 33.1	+0.2
	comp=Z,16nm,1.2s							
MENT	**Mentasta**	78.11	3	*e*P		P	10 47 33.1	-0.4
	comp=Z,28nm,1.1s							
SKT	**Skwentna**	78.57	7	*e*P		P	10 47 35.1	-0.8
	comp=Z,35nm,1.5s							
SML	**Sawmill**	78.99	5	*e*P		P	10 47 38.4	+0.1
SML				pmax	pmax			
	comp=Z,33nm,1.0s							
SML	**Sawmill**	78.99	5	*e*P		P	10 47 38.4	+0.1
	comp=Z,33nm,1.0s							
SVW2	**Sparrevohn**	79.01	9	*e*P		P	10 47 37.5	-0.9
	comp=Z,21nm,1.0s							
SCM	**Sheep Creek Mo**	79.03	5	*e*P		P	10 47 38.7	+0.1
SCM				pmax	pmax			
	comp=Z,32nm,0.9s							
SCM	**Sheep Creek Mo**	79.03	5	*e*P		P	10 47 38.7	+0.1
	comp=Z,32nm,0.9s							
SUA	**Susitna One**	79.15	6	*e*P		P	10 47 39.2	-0.1
	comp=Z,29nm,1.0s							
PMR	**Palmer**	79.15	6	*e*P		P	10 47 38.8	-0.3
PMR				pmax	pmax			
	comp=Z,28nm,1.4s							
PMR	**Palmer**	79.15	6	*e*P		P	10 47 38.8	-0.3
	comp=Z,28nm,1.4s							
KLU	**Klutina**	79.45	4	*e*P		P	10 47 41.3	+0.4
	comp=Z,42nm,1.0s							
PWJI	**Pagerwojo**	79.51	109	P		P	10 47 42.5	+0.8
RC01	**Rabbit Creek A**	79.60	6	*e*P		P	10 47 41.5	-0.1
	comp=Z,23nm,0.9s							
KBKI	**Kotabaru**	79.66	103	P		P	10 47 42.3	-0.3
KBKI				pP		pP	10 47 47.1	0.0
DIV	**Divide**	79.82	4	*e*P		P	10 47 43.2	+0.3
	comp=Z,38nm,1.0s							
MPSI	**Mapaga**	80.19	98	P		P	10 47 46.9	+1.4
MPSI				pP		sP	10 47 50.8	-0.7
HYT	**Haines Junctio**	80.35	360	*e*P		P	10 47 44.9	-0.9
	comp=Z,30nm,1.0s							
DAV	**Davao City (W)**	80.38	89	LR		LR	11 28 10.9	
	comp=Z,73nm,20.6s,baz=349,slow=39							
WHY	**Whitehorse**	80.49	359	*e*P		P	10 47 45.3	-1.3
	comp=Z,9.8nm,1.1s							
FFC	**Flin Flon**	81.57	340	*e*P		P	10 47 52.6	+0.3
FFC				pmax	pmax			
	comp=Z,8.0nm,0.8s							
FFC	**Flin Flon**	81.57	340	*e*P		P	10 47 52.6	+0.3
	comp=Z,8.1nm,0.8s							
MRSI	**Marisa**	81.67	96	P		P	10 47 54.3	+0.8
SKAG	**Skagway**	81.70	359	*e*P		P	10 47 53.2	+0.3
	comp=Z,21nm,1.2s							
DLBC	**Dease Lake**	82.53	356	*e*P		P	10 47 57.7	+0.4
	comp=Z,30nm,1.2s							
KDAK	**Kodiak Island**	82.59	8	*i* P		P	10 47 57.8	+0.2
KDAK	**Kodiak Island**	82.59	8	*e*P		P	10 47 57.5	-0.1
	comp=Z,29nm,0.8s							
OHAK	**Old Harbor**	83.06	8	*e*P		P	10 48 00.4	+0.4
	comp=Z,24nm,0.8s							
KAPI	**Kappang**	83.49	102	P		P	10 48 02.8	-0.1
	SNR=10							
KAPI	**Kappang**	83.49	102	P		P	10 48 02.8	-0.1
	SNR=10							
SSPA	**Standing Stone**	83.64	319	P		P	10 48 03.3	-0.1
	baz=42							
SSPA	**Standing Stone**	83.64	319	*e*P		P	10 48 03.1	-0.2
	comp=Z,170nm,1.2s							
ULM	**Lac du Bonnet**	83.65	334	P		P	10 48 02.9	-0.3
	comp=Z,3.5nm,1.0s,baz=36,slow=7.3,SNR=3.0							
ULM	**Lac du Bonnet**	83.65	334	*e*P		P	10 48 02.2	-1.0
ULM				pmax	pmax			
	comp=Z,30nm,1.6s							
ULM	**Lac du Bonnet**	83.65	334	*e*P		P	10 48 02.2	-1.0
	comp=Z,30nm,1.6s							
M54A	**Oil Creek Stat**	83.89	320	P		P	10 48 05.1	+0.4
	baz=41							
M54A	**Oil Creek Stat**	83.89	320	*e*P		P	10 48 04.8	+0.1
	comp=Z,76nm,1.1s							
O56A	**Blue Knob Stat**	84.25	319	P		P	10 48 06.3	-0.2
	baz=42							
COWI	**Conover**	84.60	328	*e*P		P	10 48 09.6	+1.4
	comp=Z,22nm,1.0s							
E40A	**Wakefield**	84.63	329	P		P	10 48 08.9	+0.7
	baz=35							
B34A	**Aery, Baudette**	84.72	333	P		P	10 48 12.0	+3.3
	baz=32							
BSSI	**Bau Bau, Buton**	84.77	102	P		P	10 48 09.8	+0.4
E39A	**Mellen**	84.94	329	P		P	10 48 12.5	+2.6
	baz=35							
A32A	**Rocking H Ranc**	85.00	334	P		P	10 48 13.2	+3.1
	baz=31							
F40A	**Park Falls**	85.15	329	P		P	10 48 14.5	+3.6
	baz=35							
E38A	**The Farm, Brul**	85.15	330	P		P	10 48 13.6	+2.8
	baz=34							
AGMN	**Agassiz Nation**	85.31	333	*e*P		P	10 48 11.4	-0.3
	comp=Z,8.6nm,0.9s							
MCWV	**Mont Chateau**	85.36	319	P		P	10 48 12.8	+0.7
	baz=41							
F39A	**Loretta**	85.47	329	P		P	10 48 14.6	+2.1
	baz=34							
EDM	**Edmonton**	85.58	346	*e*P		P	10 48 13.0	0.0
EDM				pmax	pmax			
	comp=Z,30nm,1.1s							
EDM	**Edmonton**	85.58	346	*e*P		P	10 48 13.0	0.0
	comp=Z,30nm,1.1s							
G40A	**Rib Lake**	85.71	329	P		P	10 48 16.9	+3.1
	baz=35							
F38A	**Pierce - Schro**	85.81	330	P		P	10 48 15.3	+1.1
	baz=34							
G39A	**Holcombe**	86.09	329	P		P	10 48 18.2	+2.7
	baz=34							
WBSI	**Waikabubak, Su**	86.19	106	P		P	10 48 15.9	-0.6
E35A	**Pequot Lakes**	86.27	332	P		P	10 48 19.2	+2.7
	baz=32							
H40A	**Chili**	86.32	328	P		P	10 48 19.8	+3.0
	baz=35							
C31A	**Landman Farms,**	86.39	334	P		P	10 48 20.6	+3.6
	baz=30							
SANI	**Sanana**	86.39	96	P		P	10 48 17.7	+0.2
G38A	**Ridgeland**	86.45	329	P		P	10 48 19.5	+2.1
	baz=34							
F36A	**Milaca**	86.52	331	P		P	10 48 17.4	-0.3
	baz=33							
SPMN	**Marine on St.**	86.78	330	*e*P		P	10 48 18.3	-0.7
	comp=Z,26nm,1.2s							
H36A	**Jessenland, He**	87.76	330	P		P	10 48 24.0	+0.3
	baz=32							
I37A	**Lemond, Waseca**	88.03	330	P		P	10 48 26.6	+1.6
	baz=33							
ECSD	**EROS Data Cent**	89.49	332	P		P	10 48 31.3	-0.7
	baz=31							
LLLB	**Lillooet**	89.51	350	*e*P		P	10 48 32.2	+0.3
	comp=Z,28nm,1.1s							
LAO	**LASA Array**	89.99	339	P		P	10 48 35.3	+1.0
	baz=24							
LAO	**LASA Array**	89.99	339	*e*P		P	10 48 37.3	+3.0
	comp=Z,22nm,1.1s							
Q45A	**Warren Harvey,**	90.00	324	P		P	10 48 35.4	+1.1
	baz=36							
N39A	**Derby Farms, D**	90.29	327	P		P	10 48 35.7	0.0
	baz=33							
TKL	**Tuckaleechee C**	90.42	319	LR		LR	11 31 12.7	
	comp=Z,125nm,18.9s,baz=32,slow=37							
TKL	**Tuckaleechee C**	90.42	319	*e*P		P	10 48 36.7	+0.2
TKL				pmax	pmax			
	comp=Z,58nm,1.4s							
TKL	**Tuckaleechee C**	90.42	319	*e*P		P	10 48 36.7	+0.2
	comp=Z,58nm,1.4s							
T48A	**Bowling Green**	90.59	321	P		P	10 48 36.6	-0.6
	baz=37							
NEW	**Newport**	91.03	346	P		P	10 48 39.6	+0.5
	baz=16							
NEW	**Newport**	91.03	346	*e*P		P	10 48 39.6	+0.5
NEW				pmax	pmax			
	comp=Z,18nm,1.0s							
NEW	**Newport**	91.03	346	*e*P		P	10 48 39.6	+0.5
	comp=Z,18nm,1.0s							
S45A	**Carrier Mills**	91.18	323	P		P	10 48 40.5	+0.6
	baz=36							
SIUC	**Southern Illin**	91.44	324	*e*P		P	10 48 42.0	+0.9
	comp=Z,31nm,1.1s							
P39B	**Salisbury**	91.55	327	P		P	10 48 42.2	+0.6
	baz=33							
GCMT	**Greycliff**	91.74	341	*e*P		P	10 48 42.9	+0.3
MSO	**Missoula**	91.77	344	P		P	10 48 42.4	-0.2
	baz=18							
MSO	**Missoula**	91.77	344	*e*P		P	10 48 42.6	0.0
	comp=Z,6.4nm,1.1s							
R41A	**Rosebud**	91.94	325	P		P	10 48 44.7	+1.3
	baz=34							
S43A	**Fulton Ridge,**	91.95	324	P		P	10 48 44.9	+1.4
	baz=35							
V47A	**Nunnelly**	92.16	321	P		P	10 48 42.2	-2.3
	baz=36							
RLMT	**Red Lodge**	92.26	340	P		P	10 48 45.0	-0.1
	baz=22							
R40A	**Maddies Statio**	92.34	326	P		P	10 48 44.5	-0.8
	baz=34							
LRM	**Limekiln Ridge**	92.39	343	*e*P		P	10 48 43.4	-2.3
BOZ	**Bozeman (W)**	92.41	342	*e*P		P	10 48 45.7	0.0
BOZ				pmax	pmax			
	comp=Z,8.0nm,1.2s							
BOZ	**Bozeman (W)**	92.41	342	*e*P		P	10 48 45.6	0.0
	comp=Z,7.9nm,1.2s							
T43A	**Greenville**	92.45	324	P		P	10 48 45.3	-0.5
	baz=35							
X49A	**Woodville**	92.62	320	P		P	10 48 47.4	+0.8
	baz=37							
X48A	**Hartselle**	93.03	320	P		P	10 48 48.2	-0.3
	baz=37							
PLAL	**Pickwick Lake**	93.11	321	*e*P		P	10 48 47.8	-1.1
	comp=Z,56nm,1.4s							
Y49A	**Blount Mountai**	93.18	319	P		P	10 48 49.8	+0.5
	baz=37							
YPP	**Pitchstone Pla**	93.45	341	*e*P		P	10 48 51.7	+1.0
	comp=Z,19nm,1.7s							
U42A	**Revenden**	93.48	324	P		P	10 48 52.0	+1.5
	baz=34							
Z49A	**Columbiana**	93.77	319	P		P	10 48 51.4	-0.5
	baz=37							
K22A	**Casper**	93.77	337	P		P	10 48 50.9	-1.1
	baz=24							
Y47A	**UCPARC, Winfie**	93.86	320	P		P	10 48 51.3	-1.1
	baz=36							
MOOW	**Moose Ponds**	93.92	341	*e*P		P	10 48 53.3	+0.5
	comp=Z,10nm,1.4s							
FXWY	**Fox Creek**	94.10	341	*e*P		P	10 48 54.7	+1.1
	comp=Z,20nm,1.8s							
TPAW	**Teton Pass**	94.22	341	*e*P		P	10 48 54.8	+0.6
	comp=Z,11nm,1.1s							
Y46A	**Houston**	94.38	321	P		P	10 48 54.8	+0.1
	baz=36							
PD31	**Pinedale Array**	94.53	340	*e*P		P	10 48 57.0	+1.4
PDAR	**Pinedale Array**	94.53	340	P		P	10 48 55.2	-0.4
	comp=Z,1.7nm,1.0s,baz=30,slow=4.2,SNR=3.1							
PDAR				LR		LR	11 31 44.7	
	comp=Z,348nm,20.9s,baz=26,slow=36							
PDAR	**Pinedale Array**	94.53	340	*e*P		P	10 48 57.2	+1.7
MFID	**Camas Ranch**	95.43	344	*e*P		P	10 48 59.9	+0.3
	comp=Z,7.7nm,1.0s							
FITZ	**Fitzroy Crossi**	96.24	108	LR		LR	11 37 13.1	
	comp=Z,98nm,19.1s,slow=38							
YBH	**Yreka Blue Hor**	98.32	349	LR		LR	11 36 52.2	
	comp=Z,128nm,19.7s,baz=15,slow=37							
Q16A	**Castle Valley**	98.56	339	*e*P		P	10 49 11.5	-2.4
	comp=Z,21nm,1.1s							
PV05	**Paradox Valley**	98.74	338	*e*P		P	10 49 14.0	-0.8
WR1	**Warramunga Arr**	103.86	104	*e*Pdif		Pdif	10 49 36.4	-1.0
WRA	**Warramunga Arr**	103.86	104	Pdiff		Pdif	10 49 36.4	-1.0
	comp=Z,12nm,1.0s,baz=318,slow=3.8,SNR=6.3							
ASAR	**Alice Springs**	105.74	108	Pdiff		Pdif	10 49 44.2	-1.5
	comp=Z,0.9nm,1.0s,baz=319,slow=5.2,SNR=4.3							
SYO	**Syowa Base**	107.89	181	*e*Pdiff		Pdif	10 49 54.6	+0.6
QSPA	**South Pole Qui**	129.01	180	PKP		PKPdf	10 54 40.4	-1.2
	comp=Z,7.8nm,0.9s,baz=273,slow=1.8,SNR=5.8							
QSPA	**South Pole Qui**	129.01	180	*e*PKPdf		PKPdf	10 54 40.4	-1.2
QSPA				*e*PKPdf		PKiKP	10 54 41.8	-0.6
PLCA	**Paso Flores**	129.66	245	PKP		PKPdf	10 54 45.1	+1.4
	comp=Z,8.4nm,1.1s,baz=54,slow=3.7,SNR=4.7							
VNDA	**Vanda**	134.23	165	PKP		PKPdf	10 54 51.4	+0.2
	comp=Z,0.8nm,0.9s,baz=252,slow=1.4,SNR=5.8							
BKZ	**Black Stump Fm**	144.79	105	*e*PKPdf		PKPab	10 55 08.9	-1.6
BFZ	**Birch Farm**	144.97	107	*e*PKPbc		PKPab	10 55 10.5	-0.6
URZ	**Urewera**	145.02	103	PKPbc		PKPbc	10 55 08.4	-2.9
	comp=Z,68nm,0.9s,baz=320,slow=3.0,SNR=7.3							

NEIC ***26*** *10:46:25.2±0.0, 15°.77N×98°.50W, h10km, mb4.7/149, MD4.7(MEX), After MEX.*

ISCJB ***26*** *10:46:26.8±0.3, 16°.20N±0°.03×98°.14W±0°.02, h10km, mb4.6/140, MS3.8/12, Error ellipse: s-maj=4.6km s-min=2.8km az=25.6*

IDC ***26*** *10:46:26.1±0.8, 16°.11N×98°.27W, h0km, mb4.2/15, mb1 4.4/18, mb1mx4.2/49, mbtmp4.2/18, ML3.5/3, MS3.8/15, Ms1 3.8/15, ms1mx3.6/41, Error ellipse: s-maj=22.8km s-min=15.2km az=46.0*

MEX ***26*** *10:46:26.3±0.7, 15°.84N×98°.47W, h14km±9km, MD4.7*

ISC 26 10:46:27.5±1.4, 15°.99N±0°.05×98°.38W±0°.04, h15km±7km, n455, σ1§47/462, mb4.7/141, MS3.8/12, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.47	31	*e*P	Pg	10 46 36.5	-0.3
PNIG				*e*S	Sg	10 46 45.0	+1.9
PNIG	**Pinotepa**	0.47	31	*e*Pg	Pg	10 46 36.6	-0.3
PNIG				*e*Sg	Sg	10 46 45.0	+1.9
TLIG	**Tlapa**	1.57	353	*e*P	Pn	10 46 52.9	-2.1
TLIG				*e*S	Sn	10 47 12.6	-2.6
TLIG	**Tlapa**	1.57	353	*e*P	Pn	10 46 52.6	-2.4
TLIG				*e*S	Sn	10 47 16.2	+1.0
ACX	**Acapulco**	1.67	302	*i* P	Pn	10 46 53.0	-3.2
ACX				*i* S	Sn	10 47 13.4	-4.0
VHO	**Vista Hermosa**	1.91	55	*e*P	Pn	10 46 58.0	-1.7
VHO				*i* S	Sn	10 47 21.9	-1.7
VHO	**Vista Hermosa**	1.91	55	*e*Pn	Pn	10 46 58.0	-1.7
VHO				*e*Sn	Sn	10 47 24.7	+1.1
CAIG	**El Cayaco**	2.10	300	*e*P	Pn	10 46 57.1	-5.0
CAIG				*e*S	Sn	10 47 22.5	-5.4
CAIG	**El Cayaco**	2.10	300	*e*Pn	Pn	10 46 57.1	-5.0
CAIG				*e*Sn	Sn	10 47 22.5	-5.4
HUIG	**Huatulco**	2.19	95	*e*P	Pn	10 46 59.4	-4.0
HUIG				*e*S	Sn	10 47 27.4	-2.9
HUIG	**Huatulco**	2.19	95	*e*Pn	Pn	10 46 59.4	-4.0
HUIG				*e*Sn	Sn	10 47 27.4	-2.9
PLIG	**Platanillo**	2.62	336	*e*P	Pn	10 47 06.5	-2.8
PLIG				*e*S	Sn	10 47 39.4	-1.6
PLIG	**Platanillo**	2.62	336	*e*Pn	Pn	10 47 08.4	-1.0
PLIG				*e*Sn	Sn	10 47 39.4	-1.6
MAVM	**Malinalco, Edo**	3.14	340	*e*P	Pn	10 47 14.7	-1.9
MAVM				*i* S	Sn	10 47 51.3	-2.6
UNM	**Universidad Na**	3.41	347	*e*Pn	Pn	10 47 24.2	+3.8
CMIG	**Matias Romero**	3.52	71	Pn	Pn	10 47 19.8	-2.0
	7.0nm,0.3s,baz=234,slow=12,SNR=100						
CMIG				Pg	Pb	10 47 28.5	-1.1
	9.7nm,0.3s,baz=242,slow=16,SNR=29						
CMIG				Lg	Lg	10 48 21.8	
	71nm,0.3s,baz=264,slow=10,SNR=20						
CMIG				LR	LR	10 48 29.7	
	comp=Z,358nm,18.2s,baz=260,slow=36						
LVIG	**Laguna Verde**	4.15	26	*e*Pn	Pn	10 47 28.2	-2.2
MOIG	**Morelia**	4.54	324	*e*Pn	Pn	10 47 38.3	+2.4
JRQG	**Juriquilla Cam**	5.08	338	*e*Pn	Pn	10 47 44.8	+1.4
ZAIG	**Zacatecas**	7.82	330	*e*Pn	Pn	10 48 23.7	+2.7
LNIG	**Linares**	8.92	354	*e*Pn	Pn	10 48 38.7	+2.8
833A	**Chaparral WMA,**	12.31	356	P	Pn	10 49 22.1	-0.2
	baz=176						
LPIG	**La Paz**	13.81	308	LR	LR	10 54 06.2	
	comp=Z,530nm,20.0s,baz=76,slow=33						

LTX	**Lajitas**	14.14	341	*e*Pn		Pn	10 49 48.0	+0.6
TXAR	**Lajitas Array**	14.14	341	Pn		Pn	10 49 48.0	+0.6
	0.0nm,0.3s,baz=158,slow=11,SNR=10							
TXAR				LR		LR	10 55 29.7	
	comp=Z,728nm,18.3s,baz=0.0,slow=39							
TX31	**Lajitas Ar. Si**	14.15	341	*e*Pn		Pn	10 49 48.0	+0.6
JTS	**JuntasAbangare**	14.24	112	Pn		Pn	10 49 50.7	+1.9
	0.4nm,0.3s,baz=313,slow=14,SNR=5.7							
JCT	**Junction City**	14.48	355	P		Pn	10 49 52.3	+0.2
	baz=175							
JCT	**Junction City**	14.48	355	*e*Pn		Pn	10 49 52.3	+0.2
HDC	**Heredia**	15.11	111	*e*Pn		P	10 50 04.1	-1.8
	53nm,0.5s							
WHTX	**Lake Whitney,**	15.95	3	P		Pn	10 50 11.8	+0.3
	baz=184							
WHTX	**Lake Whitney,**	15.95	3	*e*Pn		Pn	10 50 12.6	+1.1
	30nm,1.0s							
NATX	**Nacogdoches**	16.06	12	*e*Pn		Pn	10 50 13.3	+0.5
	56nm,1.4s							
ABTX	**Abilene, Hawle**	16.60	356	P		Pn	10 50 21.2	+1.4
	baz=176,SNR=17							
ABTX	**Abilene, Hawle**	16.60	356	*e*Pn		P	10 50 22.2	0.0
	87nm,1.3s							
MNTX	**Cornudas Mount**	16.89	339	P		Pn	10 50 24.1	+0.7
	baz=157,SNR=14							
MNTX	**Cornudas Mount**	16.89	339	*e*Pn		Pn	10 50 23.7	+0.3
	17nm,1.3s							
GDL2	**Guadalupe Moun**	17.03	342	*e*Pn		P	10 50 27.1	+0.1
EPT	**El Paso**	17.37	336	*e*Pn		P	10 50 31.0	+0.2
	38nm,1.4s							
HSIG		17.39	320	*e*Pn		P	10 50 31.6	+0.6
244A	**Avery, Jackson**	17.44	22	P		Pn	10 50 29.3	-1.0
	baz=205							
VBMS	**Vicksburg**	17.66	22	*e*Pn		Pn	10 50 30.9	-2.2
	42nm,1.1s							
Z40A	**Long Farm, Mag**	17.77	14	P		Pn	10 50 34.0	-0.4
	baz=196							
CBCY	**The Bluff, Cay**	18.11	75	*e*Pn		Pn	10 50 37.4	-1.2
	23nm,0.9s							
319A	**Douglas**	18.26	329	*e*Pn		P	10 50 42.0	+1.3
	30nm,1.2s							
247A	**Quitman**	18.29	27	P		P	10 50 39.1	-1.8
	baz=211							
BRAL	**Brewton**	18.31	32	P		P	10 50 39.6	-1.5
	baz=217							
MSTX	**Muleshoe**	18.34	348	P		P	10 50 40.6	-0.9
	baz=167,SNR=9.6							
MSTX	**Muleshoe**	18.34	348	*e*Pn		P	10 50 40.8	-0.7
	32nm,1.2s							
349A	**Repton**	18.38	32	P		P	10 50 40.1	-1.8
	baz=216							
552A	**Lynn Haven**	18.50	38	P		P	10 50 40.8	-2.3
	baz=223							
Y40A	**Okolona**	18.52	13	P		P	10 50 43.0	-0.4
	baz=196							
121A	**Cookes Peak, D**	18.55	334	P		Pn	10 50 45.3	+1.2
	baz=151							
451A	**Vernon**	18.59	36	P		P	10 50 43.0	-1.1
	baz=221							
WMOK	**Wichita Mounta**	18.67	359	P		P	10 50 44.6	-0.5
	baz=179							
WMOK	**Wichita Mounta**	18.67	359	*e*P		P	10 50 45.4	+0.3
	7.1nm,1.0s							
248A	**Dixon Mills**	18.72	29	P		P	10 50 44.3	-1.4
	baz=213							
X39A	**Fountain Ranch**	18.84	11	P		P	10 50 46.3	-0.6
	baz=193							
350A	**Dozier**	18.88	33	P		P	10 50 46.6	-0.8
	baz=218							
249A	**Camden**	18.92	31	P		P	10 50 46.4	-1.4
	baz=215							
147A	**Livingston**	18.97	27	P		P	10 50 47.3	-1.0
	baz=211							
MIAR	**Mount Ida**	18.97	12	*e*P		P	10 50 47.9	-0.5
	9.3nm,0.9s							
AMTX	**Amarillo**	19.05	352	P		P	10 50 48.8	-0.5
	baz=171							
AMTX	**Amarillo**	19.05	352	*e*P		P	10 50 49.1	-0.1
	38nm,1.4s							
553A	**Crawfordville**	19.06	40	P		P	10 50 47.1	-2.2
	baz=225							
X40A	**Basin Creek Fa**	19.08	14	P		P	10 50 48.9	-0.6
	baz=197							
Y45A	**Yeager Farm, C**	19.50	23	P		P	10 50 53.1	-1.0
	baz=206							
Z47A	**Carrollton**	19.50	27	P		P	10 50 53.1	-1.1
	baz=211							
BNM	**Barren Site**	19.55	339	*e*P		Pn	10 50 56.6	+0.4
W39A	**Magazine**	19.56	11	P		P	10 50 54.5	-0.3
	baz=193							
149A	**Jones**	19.59	30	P		P	10 50 54.0	-1.1
	baz=215							
LPM	**Los Pinos Moun**	19.70	339	*e*P		P	10 50 57.1	+0.6
352A	**Blakely**	19.70	36	P		P	10 50 55.4	-0.9
	baz=221							
TUC	**Tucson**	19.77	327	P		Pn	10 50 58.0	-0.8
	baz=143							
TUC	**Tucson**	19.77	327	*e*P		Pn	10 50 58.1	-0.6
	15nm,1.3s							
Y46A	**Houston**	19.77	24	P		P	10 50 56.1	-1.1
	baz=208,SNR=6.4							
LRAL	**Lakeview Retre**	19.85	29	P		P	10 50 56.4	-1.5
	baz=214							
LRAL	**Lakeview Retre**	19.85	29	*e*P		P	10 50 58.5	+0.5
	13nm,1.1s							
Z48A	**Northport**	19.88	28	P		P	10 50 56.1	-2.

X18A	Snowflake	21.19	333	eP		P		10 51 13.8	+1.2	
	61nm,1.6s									
U42A	Revenden	21.25	16	P		P		10 51 12.0	-1.1	
	baz=199,SNR=8.5									
T38A	Diamond	21.27	9	P		P		10 51 13.6	+0.3	
	baz=191,SNR=7.4									
X49A	Woodville	21.39	28	P		P		10 51 12.5	-2.1	
	baz=213									
T39A	Clever	21.41	11	P		P		10 51 13.8	-1.1	
	baz=193,SNR=7.8									
W47A	Westpoint	21.47	25	P		P		10 51 14.5	-1.0	
	baz=209,SNR=7.4									
154A	Montrose	21.58	37	P		P		10 51 14.7	-2.0	
	baz=223									
W18A	Petrified Fore	21.60	334	P		P		10 51 18.4	+1.3	
	baz=150									
W18A	Petrified Fore	21.60	334	eP		P		10 51 18.5	+1.4	
	16nm,0.9s									
W48A	Pulaski	21.65	26	P		P		10 51 16.3	-1.1	
	baz=211,SNR=6.3									
X50A	Fort Payne	21.66	30	P		P		10 51 16.1	-1.5	
	baz=215									
T40A	Mansfield	21.71	13	P		P		10 51 17.7	-0.3	
	baz=196,SNR=9.9									
T25A	Trinidad	21.73	347	P		P		10 51 19.3	+0.7	
	baz=165,SNR=18									
T25A	Trinidad	21.73	347	eP		P		10 51 20.0	+1.5	
	61nm,1.3s									
V46A	Holladay	21.75	23	P		P		10 51 17.7	-0.8	
	baz=208,SNR=7.2									
GLAT	Glass	21.76	20	eP		P		10 51 18.8	+0.2	
113A	Mohawk Valley,	21.76	323	eP		P		10 51 20.2	+1.6	
	71nm,1.8s									
T41A	Mountain View	21.77	14	P		P		10 51 18.4	-0.4	
	baz=197									
MHTCO	State Highway	21.79	346	eP		P		10 51 20.2	+1.1	
	34nm,1.3s									
X16A	Lo Mia Camp, P	21.79	330	eP		P		10 51 21.0	+1.9	
	33nm,1.0s									
U44B	Burton Farm, H	21.80	20	P		P		10 51 18.4	-0.6	
	baz=204									
PBMO	Poplar Bluff	21.88	17	eP		P		10 51 18.2	-1.6	
	59nm,1.3s									
S38A	Stockton	21.91	10	P		P		10 51 19.4	-0.8	
	baz=192									
T42A	Van Buren	21.93	16	P		P		10 51 19.5	-0.9	
	baz=199,SNR=7.4									
GOGA	Godfrey	21.96	35	P		P		10 51 19.3	-1.4	
	baz=221,SNR=7.7									
GOGA	Godfrey	21.96	35	eP		P		10 51 19.8	-1.0	
	23nm,0.9s									
V47A	Nunnelly	22.00	24	P		P		10 51 19.5	-1.7	
	baz=209,SNR=6.6									
S39A	Bolivar	22.07	11	P		P		10 51 20.5	-1.4	
	baz=193,SNR=11									
S40A	Lebanon	22.14	12	P		P		10 51 21.6	-1.1	
	baz=195,SNR=9.2									
WVT	Waverly	22.15	23	P		P		10 51 21.1	-1.7	
	baz=208									
WVT	Waverly	22.15	23	eP		P		10 51 21.5	-1.3	
	36nm,1.0s									
SWET	Sewanee	22.15	28	eP		P		10 51 22.4	-0.4	
	34nm,1.0s									
T43A	Greenville	22.20	17	P		P		10 51 21.9	-1.4	
	baz=201,SNR=6.7									
V48A	Smith Brothers	22.21	26	P		P		10 51 21.9	-1.6	
	baz=211									
U46A	Springville	22.23	22	P		P		10 51 22.6	-0.9	
	baz=207									
S41A	Jillco Farms,	22.30	14	P		P		10 51 23.3	-1.1	
	baz=197,SNR=10									
T44A	Benton	22.41	19	P		P		10 51 25.0	-0.6	
	baz=203									
R38A	Fenwick Farm,	22.46	9	P		P		10 51 25.2	-0.9	
	baz=192									
GTBY	Guantanamo Bay	22.47	77	eP		P		10 51 26.1	-0.2	
	108nm,1.1s									
SDCO	Great Sand Dun	22.57	345	P		P		10 51 27.4	-0.1	
	baz=162									
SDCO	Great Sand Dun	22.57	345	eP		P		10 51 27.6	+0.1	
	21nm,1.3s									
U47A	Clarksville	22.63	24	P		P		10 51 26.4	-1.5	
	baz=209,SNR=9.2									
WUAZ	Wupatki	22.65	332	eP		P		10 51 27.5	-0.8	
	148nm,1.6s									
S42A	Caledonia	22.70	16	P		P		10 51 27.5	-1.2	
	baz=199,SNR=7.4									
S43A	Fulton Ridge,	22.71	17	P		P		10 51 27.5	-1.3	
	baz=201									
R39A	Chumby, Stover	22.73	11	P		P		10 51 27.5	-1.4	
	baz=194,SNR=11									
CBKS	Cedar Bluff	22.77	357	eP		P		10 51 29.4	0.0	
	52nm,1.4s									
R40A	Maddies Statio	22.86	12	P		P		10 51 29.5	-0.7	
	baz=195,SNR=16									
CCM	Cathedral Cave	22.86	15	eP		P		10 51 30.5	+0.2	
	12nm,0.9s									
Y12C	Blythe	22.91	323	P		P		10 51 31.6	+0.8	
	baz=137									
Y12C	Blythe	22.91	323	eP		P		10 51 32.2	+1.4	
	15nm,1.0s									
S22A	4UR Ranch, Cre	22.92	343	P		P		10 51 31.6	+0.3	
	baz=159									
S22A	4UR Ranch, Cre	22.92	343	eP		P		10 51 32.1	+0.8	
	15nm,1.0s									
T46A	Princeton	22.94	22	P		P		10 51 29.8	-1.3	
	baz=207,SNR=5.3									
MVCO	Mesa Verde	22.96	339	P		P		10 51 31.3	-0.4	
	baz=155									
MVCO	Mesa Verde	22.96	339	eP		P		10 51 32.3	+0.6	
	20nm,0.9s									
U48A	Cassie Pea, Po	22.99	25	P		P		10 51 29.7	-2.0	
	baz=210,SNR=11									
CPCT	Cooper Cave	23.00	30	eP		P		10 51 31.4	-0.4	
	20nm,1.1s									
FVM	French Village	23.00	16	eP		P		10 51 31.3	-0.5	
	26nm,1.2s									
R41A	Rosebud	23.06	14	P		P		10 51 30.5	-1.9	
	baz=198									
S44A	Carbondale	23.07	19	P		P		10 51 30.7	-1.8	
	baz=203,SNR=5.2									
KSU1	Kansas State U	23.07	4	eP		P		10 51 32.5	-0.1	
	26nm,1.4s									
PDMCI	Parker Dam,Lak	23.10	325	P		P		10 51 33.6	+0.8	
	baz=139									
SWSC	Sam W. Stewart	23.10	320	eSn		Sn		10 55 55.7	-4.9	
SIUC	Southern Illin	23.10	19	eP		P		10 51 33.0	+0.2	
	46nm,1.1s									
CRR	Carrizo Plain	23.17	320	eSn		Sn		10 56 11.7	+10	
T47A	Sharon Grove	23.18	23	P		P		10 51 31.9	-1.8	
	baz=208,SNR=9.5									
R42A	Luebbering	23.19	15	P		P		10 51 32.0	-1.6	
	baz=199									
KSCO	Kaye Shedlock'	23.23	352	P		P		10 51 33.8	-0.6	
	baz=170,SNR=8.8									
KSCO	Kaye Shedlock'	23.23	352	eP		P		10 51 34.5	+0.2	
	33nm,1.0s									
HODGE	Hodges	23.24	36	eP		P		10 51 33.1	-1.2	
	30nm,1.0s									
Q38A	Cooks Store, C	23.26	9	P		P		10 51 33.1	-1.4	
	baz=192									
S45A	Carrier Mills	23.27	20	P		P		10 51 33.7	-0.9	
	baz=204,SNR=11									
MOTC	Monteria, Cord	23.30	105	eP		P		10 51 40.9	+5.9	
CBKC	Canebrake	23.35	319	eSn		Sn		10 56 15.8	+9.1	
BC3	Big Chuckawall	23.38	322	P		P		10 51 36.0	+0.2	
	baz=135									
R43A	Red Bud	23.41	17	P		P		10 51 34.9	-1.1	
	baz=201,SNR=9.1									
BG3	Lake Jocassee	23.45	33	eP		P		10 51 35.6	-0.8	
	37nm,1.2s									
Q39A	Willow Grove F	23.45	11	P		P		10 51 35.7	-0.6	
	baz=193									
TKL	Tuckaleechee C	23.53	31	P		P		10 51 36.3	-0.9	
	8.6nm,0.8s,baz=205,slow=11,SNR=5.2									
TKL				LR		LR		11 03 51.2		
	comp=Z,106nm,19.8s,baz=200,slow=45									
TKL	Tuckaleechee C	23.53	31	eP		P		10 51 36.9	-0.3	
	26nm,1.3s									
IRM	Iron Mountain	23.56	323	P		P		10 51 38.4	+0.9	
	baz=137									
IRM	Iron Mountain	23.56	323	eSn		Sn		10 56 09.4	-2.1	
W13A	Hualapai Mount	23.56	327	eP		P		10 51 39.6	+1.9	
	28nm,1.5s									
T48A	Bowling Green	23.56	25	P		P		10 51 36.0	-1.4	
	baz=210,SNR=6.8									
Q40A	Laux Farm, Aux	23.57	12	P		P		10 51 36.7	-0.9	
	baz=195,SNR=5.6									
S46A	Don Dixon Farm	23.57	22	P		P		10 51 35.4	-2.1	
	baz=206									
R44A	Waltonville	23.64	18	P		P		10 51 37.1	-1.0	
	baz=203									
Q24A	Divide	23.65	347	P		P		10 51 38.5	-0.1	
	baz=164									
NHSC	New Hope	23.69	41	P		P		10 51 36.8	-1.9	
	baz=228									
Q41A	Truxton	23.72	14	P		P		10 51 37.4	-1.5	
	baz=197,SNR=5.3									
P37A	Lathrop	23.77	8	P		P		10 51 38.2	-1.3	
	baz=190									
PV01	Paradox Valley	23.82	340	eP		P		10 51 41.3	+1.1	
U15A	North Rim	23.82	331	eP		P		10 51 42.4	+2.0	
	24nm,1.2s									
USIN	University of	23.84	21	eP		P		10 51 40.5	+0.4	
	85nm,1.3s									
JSC	Jenkinsville	23.85	37	eP		P		10 51 39.8	-0.5	
	67nm,1.5s									
Q42A	Golden Eagle	23.85	15	P		P		10 51 39.3	-0.9	
	baz=199									
P39B	Salisbury	23.92	11	P		P		10 51 39.8	-1.0	
	baz=194									
P38A	Dawn	23.92	9	P		P		10 51 39.5	-1.4	
	baz=192									
R45A	Skylar, Fairfi	23.93	20	P		P		10 51 39.6	-1.4	
	baz=205									
BELC	Belle Mtn. Jos	23.95	322	P		P		10 51 41.3	0.0	
	baz=135									
DNR	Dunn Ranch,Anz	24.03	320	ePcP		PcP		10 55 29.0	+5.1	
P40A	Paris	24.10	12	P		P		10 51 41.3	-1.3	
	baz=195,SNR=8.9									
Q43A	New Douglas	24.10	17	P		P		10 51 41.2	-1.3	
	baz=201									
R46A	Gibon Southern	24.12	21	P		P		10 51 41.7	-1.0	
	baz=206									
O34A	Bedee	24.15	3	P		P		10 51 42.4	-0.6	
	baz=184,SNR=7.9									
S48A	Wiedeman Farm,	24.17	24	P		P		10 51 41.4	-1.8	
	baz=210									
Q44A	Meyer Farm, Va	24.26	18	P		P		10 51 42.6	-1.4	
	baz=202									
SMCO	Snowmass	24.30	344	eP		P		10 51 45.9	+1.0	
	36nm,1.3s									
GMRC	Granite Mounta	24.30	324	P		P		10 51 44.8	+0.1	
	baz=137									
PV09	Paradox Valley	24.34	339	eP		P		10 51 46.5	+1.4	
TZTN	Tazewell	24.35	30	P		P		10 51 43.3	-1.6	
	baz=216									
TZTN	Tazewell	24.35	30	eP		P		10 51 44.6	-0.3	
	178nm,1.9s									
O37A	Wolven Farm, M	24.37	8	P		P		10 51 44.0	-1.0	
	baz=190									
HELC	Santa Helena	24.42	111	eP		P		10 51 46.7	+0.6	
	62nm,1.8s									
O38A	Galt	24.42	9	P		P		10 51 44.5	-1.0	
	baz=192									
KMSC	Kings Mountain	24.43	36	P		P		10 51 43.8	-1.8	
	baz=223									
P41A	Barry, Barry	24.45	14	P		P		10 51 44.5	-1.2	
	baz=197									
P42A	Winchester	24.53	15	P		P		10 51 45.5	-1.0	
	baz=199									
R47A	Wooly Knot Far	24.55	23	P		P		10 51 45.2	-1.5	
	baz=208,SNR=8.3									
ISCO	Idaho Springs	24.55	346	P		P		10 51 47.1	+0.1	
	baz=164,SNR=21									
ISCO	Idaho Springs	24.55	346	eP		P		10 51 48.5	+1.5	
WCI	Wyandotte Cave	24.58	23	P		P		10 51 45.6	-1.3	
	baz=209									
WCI	Wyandotte Cave	24.58	23	eP		P		10 51 46.9	-0.1	
	33nm,0.9s									
N33A	J Bar K, Exete	24.67	2	P		P		10 51 46.8	-1.0	
	baz=182									
O40A	La Belle	24.70	12	P		P		10 51 47.1	-0.9	
	baz=195,SNR=8.4									
O39A	Kirksville	24.70	11	P		P		10 51 46.8	-1.3	
	baz=194									
HEC	Hector,Ludlow	24.73	323	P		P		10 51 49.5	+1.0	
	baz=136,SNR=8.7									
LCMT	Little Creek M	24.74	331	eP		P		10 51 50.1	+1.4	
	11nm,1.0s									
LCMT				eS		S		10 56 14.8	+4.4	
R48A	Northridge Ran	24.89	24	P		P		10 51 48.6	-1.1	
	baz=210									
N35A	Tabor	24.89	5	P		P		10 51 49.3	-0.5	
	baz=186									
P44A	Sand Creek, Wi	24.90	18	P		P		10 51 49.1	-0.7	
	baz=203,SNR=5.1									
O41A	Passleys Farm,	24.91	14	P		P		10 51 49.4	-0.5	
	baz=197									
N36A	Muff Farm, Cla	24.91	6	P		P		10 51 49.8	-0.2	
	baz=188									
TUQ	Turquoise Moun	24.92	324	P		P		10 51 52.0	+1.7	
	baz=137,SNR=18									
N37A	Lee Faris, Mou	24.94	8	P		P		10 51 49.9	-0.3	
	baz=190									
GUYC	Guyana, Colomb	24.97	113	eP		P		10 51 53.6	+2.4	
OGNE	Ogallala	25.07	353	P		P		10 51 53.0	+1.6	
	baz=172,SNR=9.9									
OGNE	Ogallala	25.07	353	eP		P		10 51 53.1	+1.6	
	78nm,1.2s									
N38A	Joes South For	25.11	9	P		P		10 51 51.4	-0.3	
	baz=192,SNR=6.0									
MTPU	Mount Pierson	25.11	334	eP		P		10 51 53.5	+1.3	
	55nm,1.4s									
OTAV	Otavalo	25.13	127	eP		P		10 51 53.7	+1.0	
	18nm,1.4s									
SZCU	Shurtz Canyon	25.14	332	eP		P		10 51 53.6	+1.3	
	24nm,1.5s									
Q47A	Bedord North L	25.15	22	P		P		10 51 52.2	+0.1	
	baz=208									
RREF	El Recreo	25.15	113	eP		P		10 51 53.7	+0.6	
FMP	Fort Macarthur	25.18	318	eP		P		10 51 55.3	+2.9	
FMP				ePcP		PcP		10 55 29.1	+2.9	
FMP				e				10 56 27.2		
P45A	Graceland, Par	25.23	20	P		P		10 51 53.0	+0.2	
	baz=205									
CCUT	Cedar City	25.23	331	eP		P		10 51 55.3	+2.2	
	11nm,1.2s									
PTBC	PUERTO BERRIO,	25.24	109	eP		P		10 51 52.0	-1.2	
GVRC	Garvey Reservo	25.28	319	ePcP		PcP		10 55 30.4	+3.9	
SHPR	Sheep Range	25.30	327	eP		P		10 51 55.9	+2.2	
	11nm,1.2s									
N39A	Deny Farms, D	25.32	10	P		P		10 51 53.5	-0.1	
	baz=193									
BLO	Bloomington	25.32	22	eP		P		10 51 53.9	+0.2	
	43nm,1.3s									
GSC	Goldstone, Bar	25.33	323	P		P		10 51 54.8	+0.9	
	baz=135									
GSC	Goldstone, Bar	25.33	323	eP		P		10 51 56.0	+2.1	
GSC				eS		S		10 56 19.7	-0.1	
Q16A	Castle Valley	25.45	336	eP		P		10 51 56.9	+1.8	
	21nm,1.1s									
SOTA	Rioblanco	25.48	121	eP		P		10 51 53.7	-2.2	
P46A	Rosedale	25.48	20	P		P		10 51 54.4	-0.7	
	baz=206									
M35A	Neola	25.49	5	P		P		10 51 55.5	+0.3	
	baz=186									
N40A	Mertquake, Sal	25.49	12	P		P		10 51 54.8	-0.4	
	baz=195									
MSU	Marysvale	25.51	334	eP		P		10 51 58.5	+2.8	
O20A	White River Ci	25.55	342	P		P		10 51 56.6	+0.7	
	baz=SNR=11									
O20A	White River Ci	25.55	342	eP		P		10 51 58.1	+2.2	
	46nm,1.3s									
PCON	Cinco Dias	25.55	120	eP		P		10 51 56.8	+0.2	
O44A	Mansfield	25.57	18	P		P		10 51 55.6	-0.4	
	baz=203									
M37A	Trindle Farm,	25.60	8	P		P		10 51 56.4	+0.2	
	baz=190									
N23A	Red Feather La	25.67	347	P		P		10 51 57.8	+0.7	
	baz=163,SNR=10									
N23A	Red Feather La	25.67	347	eP		P		10 51 58.6	+1.4	
	24nm,1.1s									
P47A	Martinsville	25.69	22	P		P		10 51 56.5	-0.5	
	baz=208									
M38A	Pleasantville	25.73	9	P		P		10 51 56.8	-0.6	
	baz=192									
P18A	Preston Nutter	25.73	339	eP		P		10 51 59.3	+1.5	
	18nm,1.1s									
EDW2	Edwards Air Fo	25.75	321	P		P		10 51 59.0	+1.3	
	baz=133									
P17A	Butcher Ranch,	25.77	338	eP		P		10 51 59.3	+1.3	
	12nm,1.2s									
TMUT	Trail Mountain	25.79	337	eP		P		10 51 59.5	+1.2	
	21nm,1.2s									
O45A	Potomac	25.89	19	P		P		10 51 58.2	-0.6	
	baz=204									
PHWY	Pilot Hill	25.95	348	eP		P		10 52 00.4	+0.7	
	16nm,1.2s									
M39A	Webster	25.96	11	P		P		10 51 59.1	-0.3	
	baz=194									
NCAT	North Carolina	25.98	36	eP		P		10 51 59.0	-0.7	
	78nm,1.4s									
M40A	Post Highland	26.01	12	P		P		10 51 59.6	-0.3	
	baz=195									
M41A	Milan	26.19	13	P		P		10 52 00.6	-0.9	
	baz=197									
FURC	Furnace Creek,	26.19	325	P		P		10 52 03.0	+1.4	
	baz=137									
SFIN	Lafayette	26.21	20	P		P		10 52 01.2	-0.4	
	baz=205									
MPMC	Manual Prospec	26.26	323	P		P		10 52 03.4	+1.0	
	baz=135									
L37A	Phoenix Point,	26.35	8	P		P		10 52 02.6	-0.3	
	baz=190									
BARC	Barichara	26.38	108	eP		P		10 52 05.8	+1.9	
O47A	Sheridan	26.39	21	P		P		10 52 02.6	-0.7	
	baz=207									
L38A	Oak Wood Farm,	26.47	9	P		P		10 52 04.3	+0.2	
	baz=192									
PAMC	Pamplona, Colo	26.55	106	eP		P		10 52 06.3	+0.7	
ISA	Isabella, Lake	26.57	321	P		P		10 52 06.5	+1.4	
	baz=133									
MPU	Maple Canyon	26.58	337	eP		P		10 52 06.7	+1.4	
	17nm,1.2s									
NLU	North Lily Min	26.70	336	eP		P		10 52 07.4	+1.0	
	24nm,1.1s									
L40A	Anamosa	26.70	12	P		P		10 52 05.6	-0.6	
	baz=196									
RWWY	Rawlins	26.72	345	eP		P		10 52 07.3	+0.7	
	27nm,1.3s									
RUSC	La Rusia	26.75	109	eP		P		10 52 07.5	+0.1	
	6.0nm,1.1s									
RUSC	La Rusia	26.75	109	eP		P		10 52 08.4	+1.0	
CWC	Cottonwood Cre	26.86	323	P		P		10 52 09.6	+1.7	
	baz=135									
R11A	Troy Canyon, C	26.93	329	P		P		10 52 10.3	+1.8	
	baz=142									
R11A	Troy Canyon, C	26.93	329	eP		P		10 52 10.3	+1.8	
	12nm,1.4s									
L42A	Oliver, Polo	26.99	14	P		P		10 52 08.3	-0.4	
	baz=199									
VES	Vestal, Richgr	27.05	321	P		P		10 52 11.6	+2.2	
	baz=132									
DUG	Dugway, Tooele	27.20	335	P		P		10 52 12.3	+1.5	
	baz=149,SNR=7.8									
DUG	Dugway, Tooele	27.20	335	eP		P		10 52 12.5	+1.7	
	12nm,1.1s									
J31A	Geddes	27.21	359	P		P		10 52 11.3	+0.6	
	baz=180									
CTU	Camp Tracy	27.21	337	eP		P		10 52 12.3	+1.3	
	10nm,1.2s									
TCUT	Toone Canyon	27.46	338	eP		P		10 52 14.7	+1.3	
	26nm,1.2s									
K22A	Casper	27.47	347	P		P		10 52 14.2	+1.0	
	baz=163									
K22A	Casper	27.47	347	eP		P		10 52 14.0	+0.7	
	34nm,1.6s									
ECSD	EROS Data Cent	27.69	3	P		P		10 52 15.2	+0.1	
	baz=184									
J39A	Decorah	27.84	10	P		P		10 52 15.9	-0.5	
	baz=194									
HWUT	Hardware Ranch	27.95	339	eP		P		10 52 18.9	+1.4	
	16nm,1.6s									
SDV	Santo Domingo	27.97	101	P		P		10 52 19.7	+1.7	
	2.0nm,0.3s,baz=278,slow=10.0,SNR=4.8									
SDV				LR		LR		11 04 20.5		
	comp=Z,132nm,19.4s,baz=54,slow=38									
SDV	Santo Domingo	27.97	101	eP		P		10 52 19.1	+1.0	
	13nm,1.1s									
NV11	Mina Array Sit	28.32	326	eP		P		10 52 23.1	+2.2	
	1.1nm,1.2s									
BW06	Boulder Array	28.35	342	P		P		10 52 22.3	+1.0	
	baz=157									
BW06	Boulder Array	28.35	342	eP		P		10 52 22.5	+1.3	
	19nm,1.4s									
PD31	Pinedale Array	28.35	342	eP		P		10 52 21.9	+0.7	
PDAR	Pinedale Array	28.35	342	P		P		10 52 21.9	+0.7	
	5.5nm,1.2s,baz=142,slow=7.5,SNR=15									
PDAR				LR		LR		11 03 27.1		
	comp=Z,346nm,19.8s,baz=169,slow=36									
PDAR	Pinedale Array	28.35	342	eP		P		10 52 21.5	+0.3	
IP05	Hopewell Churc	28.36	36	eP		P		10 52 20.5	-0.5	
	33nm,1.3s									
NV01	Mina Array Sit	28.40	326	eP		P		10 52 23.4	+1.7	
NVAR	Mina Array Bea	28.40	326	P		P		10 52 23.2	+1.5	
	6.1nm,0.9s,baz=149,slow=11,SNR=16									
NVAR				PcP		PcP		10 55 35.6	+1.6	
	0.3nm,0.5s,baz=157,slow=4.8,SNR=2.5									
NVAR				LR		LR		11 03 49.0		
	comp=Z,251nm,18.6s,baz=262,slow=37									
RSSD	Black Hills	28.45	351	P		P		10 52 23.0	+0.9	
	baz=169									
RSSD	Black Hills	28.45	351	eP		P		10 52 22.1	+0.1	
	18nm,1.4s									
HVU	Hansel Valley	28.54	337	eP		P		10 52 24.2	+1.4	
	12nm,1.2s									
RYN	Ryan	28.66	326	eP		P		10 52 26.1	+2.1	
	14nm,1.4s									
KVN	Kaiserville	28.75	327	eP		P		10 52 26.7	+2.0	
	7.4nm,1.0s									
REDW	Red Top Meadow	29.28	341	eP		P		10 52 30.7	+1.2	
	25nm,1.8s									
CMB	Columbia Colle	29.30	323	eP		P		10 52 31.4	+1.9	
	3.9nm,0.9s									
SNOW	Snow King Moun	29.34	341	eP		P		10 52 31.5	+1.4	
	16nm,1.3s									
TPAW	Teton Pass	29.43	341	eP		P		10 52 32.3	+1.5	
	11nm,1.1s									
JLAB	Laurel Hill	29.53	320	ePcP		PcP		10 55 40.5	+4.0	
FXWY	Fox Creek	29.59	341	eP		P		10 52 33.5	+1.3	
	6.7nm,1.3s									
MOO

baz=185
M02C Callahan 32.97 325 P **P** 10 53 02.4 +0.6
baz=133
YBH Yreka Blue Hor 33.12 326 LR LR 11 05 34.7
comp=Z,150nm,19.9s,baz=152,slow=35
EGMT Eagleton 33.29 346 P **P** 10 53 04.9 +0.4
baz=160
F10A Beach Ranch, E 33.80 336 *e*P **P** 10 53 10.0 +0.9
15nm,0.9s
G08A Pilot Rock 33.95 334 *e*P **P** 10 53 11.1 +0.7
9.4nm,1.1s
ULM Lac du Bonnet 34.23 3 P **P** 10 53 10.5 -2.1
5.7nm,1.2s,baz=170,slow=11,SNR=4.2
ULM Lac du Bonnet 34.23 3 *e*P **P** 10 53 11.7 -0.9
39nm,1.9s
JTMT Jette 34.28 341 *e*P **P** 10 53 14.2 +0.9
12nm,1.3s
UMPQ Umpqua Communi 34.54 327 *e*P **P** 10 53 14.2 -1.1
GULW Guler Mountain 35.61 332 *e*P **P** 10 53 25.9 +1.2
GULW *e*S **S** 10 58 59.5 -0.8
NEW Newport 35.68 338 P **P** 10 53 25.4 +0.2
baz=148
NEW Newport 35.68 338 *e*P **P** 10 53 25.7 +0.5
8.0nm,1.3s
C09A Chrisman Ranch 35.72 337 *e*P **P** 10 53 26.0 +0.5
6.7nm,0.9s
LTY Liberty 36.23 334 *e*P **P** 10 53 31.0 +1.0
11nm,1.0s
B08A Colville Reser 36.58 336 *e*P **P** 10 53 33.6 +0.8
5.5nm,1.1s
SP2 Seward Park 2 37.14 333 *e*PcP **PcP** 10 55 58.7 +1.1
FFC Flin Flon 38.76 357 *e*P **P** 10 53 50.8 -0.3
9.7nm,0.9s
EDM Edmonton 38.97 346 *e*P **P** 10 53 53.0 0.0
36nm,1.3s
LLLB Lillooet 39.38 336 *e*P **P** 10 53 57.0 +0.5
13nm,1.3s
SAML Samuel 42.76 123 *e*P **P** 10 54 25.7 +1.0
6.9nm,1.1s
FCC Fort Churchill 42.82 3 *e*P **P** 10 54 23.8 -0.8
19nm,1.6s
LPAZ La Paz 43.81 136 LR LR 11 11 47.2
comp=Z,104nm,19.6s,baz=315,slow=35
LPAZ La Paz 43.81 136 *e*P **P** 10 54 35.1 +1.3
9.9nm,1.5s
SCHQ Schefferville 45.77 25 P **P** 10 54 47.6 -0.7
7.6nm,0.8s,baz=226,slow=10,SNR=6.4
SCHQ Schefferville 45.77 25 *e*P **P** 10 54 47.8 -0.5
16nm,0.9s
YKA Yellowknife Ar 47.84 350 P **P** 10 55 03.7 -0.6
3.1nm,0.9s,baz=158,slow=7.4,SNR=27
YKA PcP **PcP** 10 56 36.4 +3.4
0.7nm,0.8s,baz=150,slow=5.0,SNR=6.5
YKB5 Yellowknife Ar 47.84 350 *e*PcP **PcP** 10 56 36.4 +3.4
YKW3 Yellowknife Ar 47.90 350 *e*P **P** 10 55 04.3 -0.5
12nm,1.2s
DLBC Dease Lake 48.43 338 *e*P **P** 10 55 10.9 +1.7
12nm,1.0s
SIV San Ignacio 48.63 129 P **P** 10 55 10.3 -0.9
1.1nm,0.8s,baz=311,slow=7.8,SNR=3.6
HYT Haines Junctio 52.83 337 *e*P **P** 10 55 43.8 +1.5
41nm,1.7s
DAWY Dawson 55.60 340 *e*P **P** 10 56 02.9 +0.5
4.9nm,0.9s
MENT Mentasta 56.45 337 *e*P **P** 10 56 09.4 +0.9
11nm,1.3s
KLU Klutina 56.52 335 *e*P P 10 56 14.5 +5.4
EGAK Eagle 56.64 340 *e*P **P** 10 56 10.4 +0.6
8.2nm,0.9s
HARP HAARP 56.70 336 *e*P **P** 10 56 12.1 +1.8
INK Inuvik 56.87 345 *e*P **P** 10 56 11.2 0.0
12nm,1.0s
DOT Dot Lake 56.98 338 *e*P **P** 10 56 13.8 +1.5
36nm,1.0s
PAX Paxson 57.13 337 *e*P **P** 10 56 14.6 +1.2
8.2nm,1.0s
SCRK Sand Creek 57.15 338 *e*P **P** 10 56 15.0 +1.5
14nm,1.2s
RIDG Independ'e Rid 57.32 337 *e*P **P** 10 56 16.2 +1.5
25nm,1.1s
BRLK Bradley Lake 57.83 332 *e*P **P** 10 56 19.4 +1.1
GHO Glory Hole Cre 57.90 334 *e*P **P** 10 56 20.3 +1.5
14nm,0.9s
SUA Susitna One 58.52 334 *e*P **P** 10 56 24.4 +1.2
17nm,0.8s
IL1 Eielson Array 58.64 338 *e*P **P** 10 56 23.9 +0.1
ILAR Eielson Array 58.64 338 P **P** 10 56 24.4 +0.6
5.3nm,1.0s,baz=142,slow=4.8,SNR=27
ILB Eielson Array 58.64 338 *e*P **P** 10 56 24.5 +0.6
RES Resolute Bay 58.73 1 *e*P **P** 10 56 29.1 +4.8
CCB Clear Creek Bu 58.91 338 *e*P **P** 10 56 26.9 +1.2
9.5nm,1.2s
WRH Wood River Hil 58.92 337 *e*P **P** 10 56 26.6 +0.8
5.7nm,0.9s
SPU Mount Spurr 58.97 333 *e*P **P** 10 56 27.2 +1.0
COLA College 59.04 338 *e*P **P** 10 56 27.2 +0.6
12nm,1.0s
SKT Skwentna 59.09 334 *e*P **P** 10 56 27.9 +0.9
14nm,0.9s
MDM Murphy Dome 59.23 338 *e*P **P** 10 56 29.3 +1.4
7.1nm,1.1s
TRF Thorofare Moun 59.26 336 *e*P **P** 10 56 29.3 +1.0
25nm,1.1s
PPLA Purkeypile 59.77 335 *e*P **P** 10 56 33.0 +1.2
30nm,1.4s
BPAW Bear Paw Mtn. 59.84 336 *e*P **P** 10 56 32.3 +0.1
12nm,1.3s
CAST Castle Rocks 59.96 335 *e*P **P** 10 56 33.2 +0.2
19nm,1.2s
MLY Manley 60.19 337 *e*P **P** 10 56 35.4 +0.8
10nm,1.0s
SVW2 Sparrevohn 60.50 332 *e*P **P** 10 56 36.8 +0.1
9.0nm,0.9s
COLD Coldfoot 61.08 340 *e*P **P** 10 56 41.6 +1.1
6.8nm,1.0s
TOLK Toolik Lake Re 61.60 341 P **P** 10 56 44.2 0.0
baz=122
TOLK Toolik Lake Re 61.60 341 *e*P **P** 10 56 44.9 +0.8
16nm,1.5s
IM3 Indian Mountai 61.74 338 *e*P **P** 10 56 48.0 +3.0
PLCA Paso Flores 62.07 156 P **P** 10 56 50.3 +2.6
6.4nm,1.1s,baz=319,slow=9.3,SNR=3.3
PLCA LR LR 11 17 14.1
comp=Z,72nm,19.8s,baz=58,slow=30
SUMG Summit 66.03 17 *i* P **P** 10 57 13.1 -0.6
16nm,1.1s
SUMG Summit 66.03 17 *e*P **P** 10 57 14.3 +0.6
18nm,1.1s
DAG Danmarks Havn 72.19 14 *i* P **P** 10 57 50.6 -0.7
18nm,1.5s
EKA Eskdalemuir Ar 79.94 35 P **P** 10 58 35.9 0.0
0.2nm,0.4s,baz=305,slow=5.0,SNR=2.6
ESDC Sonseca Array 83.28 51 P **P** 10 58 53.6 -0.3
0.2nm,0.3s,baz=297,slow=5.6,SNR=3.9
NB200 NORSAR Array S 85.28 27 *e*P **P** 10 59 04.3 +0.7
NOA NORSAR Array B 85.28 27 P **P** 10 59 04.4 +0.7
1.1nm,0.9s,baz=299,slow=5.5,SNR=2.3
NOA LR LR 11 36 54.7
comp=Z,20nm,21.8s,baz=310,slow=36
HFS Hagfors 86.78 28 LR LR 11 40 44.0
comp=Z,48nm,18.1s,baz=310,slow=38
FINES FINESS Array B 91.22 23 LR LR 11 42 32.2
comp=Z,55nm,18.8s,baz=324,slow=37
GERES GERESS Array B 91.91 38 P **P** 10 59 35.6 +0.1
0.2nm,0.2s,baz=310,slow=3.7,SNR=2.4
GERES LR LR 11 44 04.5
comp=Z,47nm,18.1s,baz=308,slow=38
TORD Torodi Ar. Bea 95.85 75 LR LR 11 39 33.7
comp=Z,48nm,21.1s,baz=50,slow=33
MK32 Makanchi Array 117.51 359 *e*PKPdf **PKPdf** 11 05 14.3 +1.3
MKAR Makanchi Array 117.51 359 PKP **PKPdf** 11 05 14.3 +1.3
0.3nm,0.8s,baz=0.0,slow=3.5,SNR=3.7
LZH Lanzhou 124.10 338 *e*PKP **PKPdf** 11 05 22.5 -3.7
LZH sPKP 11 05 36.0
LZH SKKS 11 14 01.0
KSH Kashi 124.53 5 *e*PKP **PKPdf** 11 05 28.3 +1.5
CD2 Chengdu 128.74 335 PKP **PKPdf** 11 05 35.0 0.0
WR1 Warramunga Arr 129.86 257 *e*PKPdf **PKPdf** 11 05 37.0 -0.3
WRA Warramunga Arr 129.86 257 PKP **PKPdf** 11 05 37.0 -0.3
1.5nm,0.8s,baz=85,slow=1.4,SNR=4.8
WRA Warramunga Arr 129.86 257 PKP **PKPdf** 11 05 37.0 -0.3
ASAR Alice Springs 130.45 252 PKP **PKPdf** 11 05 37.5 -0.9
0.8nm,1.1s,baz=93,slow=2.1,SNR=3.2
CMAR Chiang Mai Arr 141.76 333 PKP **PKPdf** 11 05 59.1 -0.4
0.3nm,0.3s,baz=26,slow=2.3,SNR=3.5

*IDC **26** 10:49:21.1±1.1,6.66S×150.95E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/50, mbtmp4.0/10, ML1.9/1, Error ellipse: s-maj=43.8km s-min=18.5km az=117.0*
*ISCJB **26** 10:49:25.2±0.9,6.7S×0.2×150.8E±0.2, h36km, mb3.8/8, Error ellipse: s-maj=31.8km s-min=9.9km az=40.3*
ISC 26 10:49:26.4±1.2, 6.7S±0.2×150.9E±0.2, h36km, n11, σ0s65/13, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.60**	**234**	Pn	**Pn**	**10 50 34.4**	**+0.9**
	4.1nm,0.3s,baz=56,slow=12,SNR=12						
PMG				Sn	**Sn**	**10 51 24.8**	**-1.0**
	10nm,0.3s,baz=128,slow=22,SNR=15						
WRA	**Warramunga Arr**	**20.80**	**229**	P	**P**	**10 54 04.2**	**-0.6**
	6.1nm,0.7s,baz=55,slow=11,SNR=31						
WRA				PcP	**PcP**	**10 58 13.5**	**+0.3**
	0.7nm,0.8s,baz=47,slow=1.5,SNR=4.9						
ASAR	**Alice Springs**	**23.50**	**222**	P	**P**	**10 54 33.4**	**+0.1**
	5.2nm,0.8s,baz=55,slow=8.5,SNR=59						
ASAR				PcP	**PcP**	**10 58 18.6**	**0.0**
	0.2nm,0.8s,baz=48,slow=2.9,SNR=3.2						
STKA	**Stephens Creek**	**26.52**	**198**	P	**P**	**10 55 00.8**	**0.0**
	4.1nm,0.9s,baz=17,slow=13,SNR=7.3						
FITZ	**Fitzroy Crossi**	**27.14**	**243**	P	**P**	**10 55 06.1**	**-0.3**
	4.0nm,0.5s,baz=49,slow=8.5,SNR=30						
SONM	**Songino Array**	**66.96**	**329**	P	**P**	**11 00 16.2**	**+0.7**
	0.2nm,0.3s,baz=147,slow=8.2,SNR=2.1						
MKAR	**Makanchi Array**	**80.54**	**320**	P	**P**	**11 01 35.0**	**-0.1**
	0.2nm,0.6s,baz=115,slow=6.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**84.15**	**322**	P	**P**	**11 01 53.1**	**-0.7**
	0.3nm,0.5s,baz=113,slow=4.2,SNR=3.2						
ILAR	**Eielson Array**	**84.61**	**22**	P	**P**	**11 01 55.1**	**-0.8**
	0.7nm,0.8s,baz=249,slow=5.1,SNR=7.0						
YKA	**Yellowknife Ar**	**97.96**	**28**	P	Pdif	11 03 00.1	+1.6
	0.2nm,0.8s,baz=266,slow=4.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**149.05**	**284**	PKPbc	**PKPbc**	**11 09 12.5**	**+0.6**
	1.2nm,0.7s,baz=70,slow=2.8,SNR=8.1						

*ISCJB **26** 10:59:55.8±0.5, 39.20N±0.03×42.30E±0.04, h12km±4km, Error ellipse: s-maj=5.2km s-min=4.6km az=163.8*
*CSEM **26** 10:59:55.4±0.3, 39.20N×42.28E, h15km, MD2.7, Error ellipse: s-maj=6.7km s-min=6.2km az=161.0*
*ISK **26** 10:59:55.6, 39.17N×42.32E, h13km, ML2.4/2*
*DDA **26** 10:59:55.4, 39.23N×42.26E, h7km, Md2.7*
ISC 26 10:59:55.5±0.9, 39.21N±0.03×42.27E±0.02, h14km±8km, n19, σ0s78/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.17**	**285**	*i* P	**Pg**	**10 59 59.0**	**-0.8**
EKAR				*i* S	**Sb**	**11 00 04.6**	**+0.6**
EKAR	**Karacoban**	**0.17**	**285**	P	**Pg**	**10 59 59.0**	**-0.8**
EKAR				S	**Sb**	**11 00 04.6**	**+0.6**
TUTA	**Tutak**	**0.46**	**66**	*i* P	**Pg**	**11 00 04.6**	**-0.2**
TUTA				*i* S	**Sg**	**11 00 11.4**	**+0.4**
TUTA	**Tutak**	**0.46**	**66**	P	**Pg**	**11 00 04.6**	**-0.2**
TUTA				S	**Sg**	**11 00 11.4**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.54**	**139**	*i* P	**Pg**	**11 00 06.2**	**0.0**
ADCV				*i* S	**Sb**	**11 00 14.8**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.54**	**139**	P	**Pg**	**11 00 06.2**	**0.0**
ADCV				S	**Sb**	**11 00 14.8**	**+0.2**
VRTB	**Varto-Mus**	**0.64**	**266**	PG	**Pb**	**11 00 09.2**	**+0.6**
VRTB				SG	**Sb**	**11 00 18.9**	**+1.5**
VRTB	**Varto-Mus**	**0.64**	**266**	*e*Pg	**Pb**	**11 00 09.2**	**+0.6**
VRTB				*e*Sg	**Sb**	**11 00 18.9**	**+1.5**
EATA	**Eleskirt**	**0.67**	**15**	*i* P	**Pg**	**11 00 08.4**	**-0.3**
EATA				*i* S	**Sg**	**11 00 18.1**	**+0.5**
EATA	**Eleskirt**	**0.67**	**15**	P	**Pg**	**11 00 08.4**	**-0.3**
EATA				S	**Sg**	**11 00 18.1**	**+0.5**
GURO	**Guroymak-BITLI**	**0.69**	**196**	PG	**Pg**	**11 00 08.7**	**-0.3**
GURO				SG	**Sb**	**11 00 18.5**	**-0.3**
GURO	**Guroymak-BITLI**	**0.69**	**196**	*e*Pg	**Pg**	**11 00 08.7**	**-0.3**
HOMI	**Horasan**	**0.88**	**341**	*i* P	**Pg**	**11 00 11.6**	**-1.0**
ERZM	**Erzurum**	**0.98**	**315**	*i* P	**Pn**	**11 00 15.3**	**0.0**
ERZM				*i* S	**Sg**	**11 00 27.6**	**+0.1**
ERZM	**Erzurum**	**0.98**	**315**	P	**Pn**	**11 00 15.3**	**0.0**
ERZM				S	**Sg**	**11 00 27.6**	**+0.1**
BNGB	**Bing˜¶l**	**1.26**	**260**	PN	**Pg**	**11 00 20.0**	**+0.2**
BNGB				SN	**Sg**	**11 00 37.6**	**+1.4**
SENK	**Senkaya-Erzuru**	**1.35**	**3**	PN	**Pg**	**11 00 21.4**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.35**	**3**	*e*Pn	**Pg**	**11 00 21.4**	**-0.1**
BINT	**Bingol**	**1.43**	**257**	*e*Pn	**Pn**	**11 00 20.0**	**-1.2**
BINT				*e*Sn	**Sn**	**11 00 37.6**	**-2.3**

*CSEM **26** 11:08:52.9, 39.22N×42.29E, h7km, MD2.8, After DDA*
*DDA **26** 11:08:52.9, 39.22N×42.29E, h7km, Md2.8*
*ISCJB **26** 11:08:53.2±1.2, 39.22N±0.04×42.28E±0.08, h19km±18km, Error ellipse: s-maj=10.2km s-min=6.2km az=17.5*
ISC 26 11:08:53.1±1.2, 39.22N±0.03×42.29E±0.04, h15km±10km, n9, σ0s53/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.18**	**283**	*i* P	**Pg**	**11 08 57.0**	**-0.6**
EKAR				*i* S	**Sg**	**11 09 01.4**	**+0.7**
EKAR	**Karacoban**	**0.18**	**283**	P	**Pg**	**11 08 57.0**	**-0.6**
EKAR				S	**Sg**	**11 09 01.4**	**+0.7**
TUTA	**Tutak**	**0.45**	**65**	*i* P	**Pg**	**11 09 01.8**	**-0.4**
TUTA				*i* S	**Sg**	**11 09 08.7**	**+0.4**
TUTA	**Tutak**	**0.45**	**65**	P	**Pg**	**11 09 01.8**	**-0.4**
TUTA				S	**Sg**	**11 09 08.7**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.53**	**140**	*i* P	**Pg**	**11 09 03.1**	**-0.4**
ADCV				*i* S	**Sb**	**11 09 11.7**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.53**	**140**	P	**Pg**	**11 09 03.2**	**-0.4**
ADCV				S	**Sb**	**11 09 11.7**	**0.0**
EATA	**Eleskirt**	**0.67**	**14**	*i* P	**Pg**	**11 09 05.6**	**-0.6**
EATA				*i* S	**Sb**	**11 09 16.1**	**+0.3**
EATA	**Eleskirt**	**0.67**	**14**	P	**Pg**	**11 09 05.6**	**-0.6**
EATA				S	**Sb**	**11 09 16.1**	**+0.3**
GURO	**Guroymak-BITLI**	**0.69**	**197**	PG	**Pg**	**11 09 06.3**	**-0.3**
GURO				SG	**Sg**	**11 09 16.1**	**+0.3**

*CSEM **26** 11:13:29.4±0.3, 39.21N×42.23E, h15km, MD2.8, Error ellipse: s-maj=7.0km s-min=4.8km az=150.0*
*ISK **26** 11:13:29.7, 39.18N×42.29E, h13km, ML2.4/3*
*ISCJB **26** 11:13:30.1±0.5, 39.21N±0.03×42.24E±0.04, h19km±7km, Error ellipse: s-maj=5.5km s-min=4.8km az=147.7*
*DDA **26** 11:13:30.0, 39.21N×42.28E, h7km, Md2.8*
ISC 26 11:13:29.7±0.9, 39.21N±0.03×42.24E±0.03, h18km±5km, n16, σ0s79/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.15**	**289**	*i* P	**Pb**	**11 13 33.9**	**+0.2**
EKAR				*i* S	**Sg**	**11 13 37.2**	**+0.1**
EKAR	**Karacoban**	**0.15**	**289**	P	**Pb**	**11 13 33.9**	**+0.2**
EKAR				S	**Sg**	**11 13 37.2**	**+0.1**
TUTA	**Tutak**	**0.48**	**66**	*i* P	**Pg**	**11 13 39.2**	**-0.3**
TUTA				*i* S	**Sg**	**11 13 45.7**	**-0.5**
TUTA	**Tutak**	**0.48**	**66**	P	**Pg**	**11 13 39.2**	**-0.3**
TUTA				S	**Sg**	**11 13 45.7**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.55**	**137**	*i* P	**Pg**	**11 13 40.4**	**-0.3**
ADCV				*i* S	**Sb**	**11 13 48.6**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.55**	**137**	P	**Pg**	**11 13 40.4**	**-0.3**
ADCV				S	**Sb**	**11 13 48.6**	**+0.2**
VRTB	**Varto-Mus**	**0.61**	**266**	PG	**Pb**	**11 13 42.9**	**+0.9**
VRTB	**Varto-Mus**	**0.61**	**266**	*e*Pg	**Pb**	**11 13 42.9**	**+0.9**
GURO	**Guroymak-BITLI**	**0.68**	**194**	PG	**Pb**	**11 13 43.5**	**+0.5**
GURO				SG	**Sb**	**11 13 52.3**	**+0.2**
GURO	**Guroymak-BITLI**	**0.68**	**194**	*e*Pg	**Pb**	**11 13 43.5**	**+0.5**
GURO				*e*Sg	**Sb**	**11 13 52.3**	**+0.2**
EATA	**Eleskirt**	**0.68**	**16**	*i* P	**Pn**	**11 13 46.4**	**+1.7**
EATA				*i* S	**Sb**	**11 13 53.4**	**+0.9**
AGRB	**Hanur-Agry**	**0.69**	**57**	PG	**Pb**	**11 13 43.2**	**0.0**
AGRB				SG	**Sb**	**11 13 53.2**	**+0.7**
AGRB	**Hanur-Agry**	**0.69**	**57**	*e*Pg	**Pb**	**11 13 43.2**	**0.0**
AGRB				*e*Sg	**Sb**	**11 13 53.2**	**+0.7**
HOMI	**Horasan**	**0.88**	**343**	*i* P	**Pb**	**11 13 46.3**	**-0.2**
HOMI				*i* S	**Sb**	**11 13 56.9**	**-1.2**
BNGB	**Bing˜¶l**	**1.24**	**260**	PN	**Pb**	**11 13 53.0**	**+0.4**
BNGB				SN	**Sg**	**11 14 11.4**	**+1.6**
BINT	**Bingol**	**1.41**	**257**	*e*Pn	**Pn**	**11 13 53.0**	**-1.5**
BINT				*e*Sn	**Sn**	**11 14 11.4**	**-1.3**

MEX 26 11:16:03.1±0.7, 16.55N×98.46W, h11km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**115**	*e*P	Pg	**11 16 09.8**	**-0.4**
PNIG				*e*S	Sg	**11 16 15.3**	**+0.3**
TLIG	**Tlapa**	**1.02**	**354**	*e*P	Pg	**11 16 19.6**	**-3.2**
TLIG				*e*S	Sg	**11 16 32.0**	**-4.0**
ACX	**Acapulco**	**1.38**	**284**	*e*P	Pn	**11 16 25.3**	**-3.0**
ACX				*i* S	Sb	**11 16 42.5**	**-4.0**
ACP2	**Acapulco**	**1.40**	**284**	*i* P	Pn	**11 16 25.5**	**-3.2**
ACP2				*e*S	Sn	**11 16 42.2**	**-5.0**
VHO	**Vista Hermosa**	**1.74**	**72**	*e*P	Pn	**11 16 29.2**	**-4.2**
VHO				*i* S	Sn	**11 16 51.3**	**-4.4**
CAIG	**El Cayaco**	**1.80**	**286**	*e*P	Pn	**11 16 31.0**	**-3.2**
CAIG				*i* S	Sn	**11 16 52.8**	**-4.2**
PLIG	**Platanillo**	**2.09**	**332**	*e*P	Pn	**11 16 34.7**	**-3.5**
PLIG				*i* S	Sn	**11 17 00.3**	**-4.0**
HUIG	**Huatulco**	**2.39**	**109**	*e*P	Pn	**11 16 38.5**	**-3.8**
HUIG				*i* S	Sn	**11 17 06.6**	**-5.0**

MAN 26 11:21:02.13±42.N×121.48E, h19km, mb4.2, ML3.0, MS2.7, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.36**	**84**	*e*P	Pb	**11 21 10.3**	**+0.5**
BOAC				*e*S	Sb	**11 21 16.8**	**+1.7**
PGP	**Puerto Galera**	**0.52**	**279**	*e*P	Pg	**11 21 12.7**	**+0.2**
PGP				*i* S	Sb	**11 21 20.0**	**+0.4**
LQP	**Lukban**	**0.69**	**5**	*e*P	Pn	**11 21 17.1**	**+0.2**
TGY	**Tagaytay City**	**0.86**	**322**	*e*P	Pb	**11 21 18.1**	**-0.2**
TGY				*e*S	Sn	**11 21 32.0**	**+0.8**
SJMP	**San Jose**	**1.02**	**200**	*e*P	Pg	**11 21 22.2**	**+0.4**
GQP	**Guinayangan**	**1.05**	**63**	*e*P	Pb	**11 21 21.7**	**0.0**
GQP				*e*S	Sg	**11 21 37.3**	**+0.9**
OTRP	**Odiongan**	**1.18**	**153**	*e*P	Pn	**11 21 22.6**	**-0.8**
LUBP	**Lubang**	**1.24**	**285**	*e*P	Pn	**11 21 24.4**	**+0.1**
LUBP				*e*S	Sg	**11 21 41.4**	**-0.8**
POLP	**Polilio Island**	**1.37**	**19**	*e*P	Pg	**11 21 28.6**	**+0.1**
POLP				*e*S	Sg	**11 21 45.8**	**-0.7**
BUSP	**Coron**	**1.89**	**222**	*e*P	Pn	**11 21 34.5**	**+1.3**
BUSP				*e*S	Sn	**11 21 57.6**	**+1.2**

*IDC **26** 11:21:54.8±0.6, 9.23S×107.98E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.1/63, mbtmp4.3/19, ML4.2/2, MS3.5/6, Ms1 3.5/6, ms1mx3.1/52, Error ellipse: s-maj=29.1km s-min=11.9km az=57.0*
*ISCJB **26** 11:21:56.5±0.2, 9.38S±0.03×107.84E±0.03, h28km, mb4.5/48, MS3.5/6, Error ellipse: s-maj=4.8km s-min=3.4km az=27.1*
*NEIC **26** 11:21:57.0±1.9, 9.31S×107.83E, h15km±11km, mb4.5/16, Error ellipse: s-maj=6.5km s-min=3.8km az=46.0*
*DJA **26** 11:21:59.1±1.2, 9˚S±4˝×10˚8E±˚, h33km±23km, M4.6/6, mb5.1/6, mB5.1/5, MLv4.4/6, Mw(mB)4.5/5*
*MOS **26** 11:21:59.1±0.8, 9.07S×108.09E, h39km, mb4.9/21, Error ellipse: s-maj=19.2km s-min=7.5km az=113.2*
ISC 26 11:21:58.5±0.3, 9.36S±0.04×107.86E±0.04, h28km, n223, σ1s17/229, mb4.6/48, MS3.5/6, 8C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.67**	**21**	P	**Pn**	**11 22 24.4**	**-1.5**
CMJI				S	**Sb**	**11 22 48.6**	**-0.7**
CISI	**Cisompet, Garu**	**1.79**	**359**	P	**Pn**	**11 22 26.7**	**-0.9**
CISI				S	**Sn**	**11 22 50.3**	**+0.8**
CISI	**Cisompet, Garu**	**1.79**	**359**	*e*Pn	**Pn**	**11 22 26.5**	**-1.1**
KPJI	**Karang Pucung**	**2.28**	**28**	P	**Pn**	**11 22 34.4**	**+0.2**
XMIS	**Christmas Isla**	**2.44**	**243**	*e*Pn	**Pn**	**11 22 35.3**	**-1.2**
XMIS				*e*Sn	**Sn**	**11 23 02.0**	**-3.5**
LEM	**Lembang**	**2.53**	**355**	Pn	**Pn**	**11 22 39.0**	**+1.1**
	44nm,0.3s,baz=174,slow=6.1,SNR=32						
LEM	**Lembang**	**2.53**	**355**	P	**Pn**	**11 22 38.4**	**+0.6**
LEM	**Lembang**	**2.53**	**355**	P	**Pn**	**11 22 39.0**	**+1.1**
SKJI	**Sukabumi**	**2.67**	**331**	P	**Pn**	**11 22 39.9**	**+0.3**
SKJI				S	**Sn**	**11 23 12.1**	**+1.0**
UGM	**Wanagama**	**3.00**	**62**	P	**Pn**	**11 22 42.9**	**-1.4**
UGM				S	**Sn**	**11 23 16.5**	**-2.9**
UGM	**Wanagama**	**3.00**	**62**	*e*Pn	**Pn**	**11 22 42.7**	**-1.6**
SMRI	**Semarang**	**3.44**	**48**	P	**Pn**	**11 22 51.3**	**+1.1**
SMRI	**Semarang**	**3.44**	**48**	*e*Pn	**Pn**	**11 22 51.0**	**+0.8**
CGJI	**Cibinong**	**3.47**	**322**	P	**Pn**	**11 22 50.8**	**+0.2**
PCJI	**Pacitan**	**3.48**	**71**	P	**Pn**	**11 22 50.9**	**+0.1**
PCJI				S	**Sn**	**11 23 26.1**	**-5.0**
SBJI	**Serang**	**3.64**	**332**	P	**Pn**	**11 22 52.7**	**-0.4**
PWJI	**Pagerwojo**	**4.12**	**72**	P	**Pn**	**11 23 00.2**	**+0.6**
KASI	**Kota Agung**	**5.06**	**319**	P	**Pn**	**11 23 12.5**	**0.0**
GMJI	**Gumukmas**	**5.63**	**79**	P	**Pn**	**11 23 21.8**	**+1.5**
	56nm,0.7s						
BLJI	**Banyuglugur**	**5.90**	**75**	P	**Pn**	**11 23 25.4**	**+1.3**
MDSI	**Maura Dua**	**6.06**	**323**	P	**Pn**	**11 23 26.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**6.28**	**82**	P	**Pn**	**11 23 29.2**	**-0.2**
JAGI	**Jajag, Banyuwa**	**6.28**	**82**	*e*Pn	**Pn**	**11 23 28.9**	**-0.5**
JAGI				*e*Sn	**Sn**	**11 24 39.1**	**-1.2**
ABJI	**Asem Bagus**	**6.50**	**77**	P	**Pn**	**11 23 34.5**	**+2.2**
MNAI	**Manna**	**6.95**	**315**	*e*Pn	**Pn**	**11 23 37.8**	**-0.8**
SRBI	**Singaraja**	**7.38**	**81**	P	**Pn**	**11 23 45.1**	**+0.6**
	49nm,0.5s,672nm						
PLAI	**Plampang**	**9.81**	**88**	P	**Pn**	**11 24 18.3**	**+0.5**
GSI	**Gunungsitoli**	**14.73**	**315**	*e*Pn	**Pn**	**11 25 23.7**	**-1.4**
BATI	**Baumata**	**15.60**	**94**	Pn	**Pn**	**11 25 35.8**	**-0.8**
	7.1nm,0.3s,baz=234,slow=2.3,SNR=6.0						
BATI				Sn	Sn	**11 28 14.2**	**-15**
	1.5nm,0.3s,baz=332,slow=17,SNR=1.9						
SOEI	**Soe**	**16.19**	**93**	*e*Pn	**Pn**	**11 25 44.7**	**+0.4**
	40nm,0.8s						
SOEI				*e*S	**S**	**11 29 00.0**	**+4.2**
MBWA	**Marble Bar**	**16.38**	**137**	*e*Pn	**Pn**	**11 25 45.6**	**-1.0**
	32nm,1.6s						
MBWA				*e*Sn	Sn	**11 28 31.8**	**-16**
KKM	**Kota Kinabalu**	**17.42**	**29**	*e*Pn	**Pn**	**11 25 58.7**	**-1.1**
	54nm,1.3s						
MYLDM	**Lahad Datu**	**17.92**	**37**	*e*Pn	**P**	**11 26 07.6**	**+1.4**
	53nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.32**	**119**	P	**P**	**11 26 21.7**	**0.0**
	0.1nm,0.3s,baz=288,slow=6.4,SNR=9.2						
FITZ				S	Sn	**11 29 41.8**	**-17**
	0.1nm,0.3s,baz=47,slow=19,SNR=1.8						
FITZ	**Fitzroy Crossi**	**19.32**	**119**	*e*P	**Pn**	**11 26 23.6**	**+0.7**
	11nm,1.3s			

	comp=Z,3.7nm,0.7s							
CMAI	**Chiengmai2**	**30.37**	**343**	P		**P**	**11 28 08.2**	**-0.2**
	comp=Z,543nm,0.6s,comp=Z,41µm							
KMI	**Kunming**	**34.63**	**352**	P		**P**	**11 28 49.3**	**+3.5**
H08S2	**Diego Garcia H**	**35.01**	**270**	T		T	12 05 53.7	
	baz=94,slow=74,SNR=21							
H08S3	**Diego Garcia H**	**35.02**	**270**	T		T	12 05 55.8	
	baz=94,slow=74,SNR=18							
H08S1	**Diego Garcia H**	**35.02**	**270**	T		T	12 05 56.4	
	baz=94,slow=74,SNR=18							
STKA	**Stephens Creek**	**38.46**	**131**	P		**P**	**11 29 17.0**	**-1.1**
	comp=Z,4.6nm,0.8s,baz=298,slow=10,SNR=11							
STKA	**Stephens Creek**	**38.46**	**131**	*e*P		**P**	**11 29 19.6**	**+1.5**
STKA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
STKA	**Stephens Creek**	**38.46**	**131**	*e*P		**P**	**11 29 19.6**	**+1.5**
	comp=Z,1.2nm,0.9s							
CD2	**Chengdu**	**40.23**	**355**	*e*P		**P**	**11 29 35.0**	**+2.1**
ODAN	**Odare**	**41.12**	**332**	*e*P		**P**	**11 29 41.1**	**+0.6**
TAPN	**Taplejung**	**41.39**	**332**	*e*P		**P**	**11 29 42.9**	**+0.1**
	comp=Z,29nm,0.9s							
RAMN	**Ramite**	**41.57**	**331**	*e*P		**P**	**11 29 45.2**	**+0.9**
	comp=Z,8.2nm,0.4s							
JIRN	**Jiri**	**42.36**	**331**	*e*P		**P**	**11 29 51.2**	**+0.3**
	comp=Z,41nm,0.8s							
NJ2	**Nanjing**	**42.50**	**14**	*e*P		**P**	**11 29 51.3**	**-0.1**
PKI	**Pulchoki**	**42.67**	**330**	*e*P		**P**	**11 29 53.6**	**+0.3**
PKIN	**Phulchoki**	**42.68**	**330**	*e*P		**P**	**11 29 53.7**	**+0.4**
	comp=Z,8.8nm,0.6s							
GUN	**Gumba**	**42.72**	**331**	*e*P		**P**	**11 29 53.9**	**+0.1**
DMN	**Daman**	**42.85**	**330**	*e*P		**P**	**11 29 55.0**	**+0.3**
	comp=Z,30nm,0.8s							
KKN	**Kakani**	**42.91**	**330**	*e*P		**P**	**11 29 55.7**	**+0.5**
XAN	**Xi'an**	**43.17**	**1**	P		**P**	**11 29 56.3**	**-0.6**
XAN				pP		pP	11 30 06.0	+0.6
GKN	**Gorkha**	**43.41**	**330**	*e*P		**P**	**11 29 59.4**	**+0.3**
KOLN	**Koldanda**	**43.75**	**328**	*e*P		**P**	**11 30 02.4**	**+0.5**
	comp=Z,32nm,0.7s							
DANN	**Dangsing**	**44.13**	**329**	*e*P		**P**	**11 30 05.4**	**+0.3**
PYUN	**Piuthan**	**44.33**	**328**	*e*P		**P**	**11 30 07.4**	**+0.8**
LZH	**Lanzhou**	**45.36**	**355**	*e*P		**P**	**11 30 17.3**	**+2.7**
LZH				pP		sP	11 30 29.3	+2.9
LZH				sP		pP	11 30 34.8	+12
GTA	**Gaotai**	**49.09**	**352**	*e*P		**P**	**11 30 43.5**	**-0.1**
GTA				pP		pP	11 30 50.5	-1.6
GTA				sP		sP	11 30 54.0	-1.5
BJI	**Beijing**	**49.75**	**8**	P		**P**	**11 30 47.8**	**-0.6**
HHC	**Hu-ho-hao-te**	**50.07**	**4**	*e*P		**P**	**11 30 54.0**	**+3.0**
KS15	**Wonju Array Si**	**50.20**	**21**	*e*P		**P**	**11 30 51.5**	**-0.3**
KSAR	**Wonju Array Be**	**50.20**	**21**	P		**P**	**11 30 51.5**	**-0.3**
KSAR	**Wonju Array Be**	**50.20**	**21**	P		**P**	**11 30 51.5**	**-0.3**
KSRS	**Korea Array**	**50.22**	**21**	P		**P**	**11 30 51.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=194,slow=5.6,SNR=3.4							
KSRS				LR		LR	11 53 30.4	
	comp=Z,45nm,18.4s,baz=16,slow=38							
MJAR	**Matsushiro Arr**	**53.84**	**30**	LR		LR	11 55 28.9	
	comp=Z,26nm,18.7s,baz=135,slow=38							
WMQ	**Urumqi**	**56.01**	**342**	P		**P**	**11 31 35.0**	**+0.3**
KSH	**Kashi**	**56.92**	**331**	*e*P		**P**	**11 31 41.0**	**-0.3**
KSH				S		**S**	**11 39 27.3**	**-6.4**
KSH				sS		sS	11 39 48.3	+0.4
SONA0	**Songino Array**	**56.96**	**359**	*e*P		**P**	**11 31 41.6**	**+0.2**
SONM	**Songino Array**	**56.96**	**359**	P		**P**	**11 31 41.6**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=173,slow=8.1,SNR=18							
SONA1	**Songino Array**	**56.97**	**359**	*e*P		**P**	**11 31 41.2**	**-0.3**
ULN	**Ulaanbaatar**	**56.98**	**359**	*ce*P		**P**	**11 31 41.5**	**-0.1**
ULN				pmax		pmax		
	comp=Z,5.0nm,0.7s							
ULN	**Ulaanbaatar**	**56.98**	**359**	*e*P		**P**	**11 31 41.8**	**+0.2**
	comp=Z,5.3nm,0.7s							
NRN	**Naryn**	**58.41**	**332**	P		**P**	**11 31 51.9**	**-0.1**
NRN				pmax		pmax		
	comp=Z,4.0nm,0.7s							
KDJ	**Kajisay**	**58.44**	**334**	*e*P		**P**	**11 31 52.7**	**+0.6**
KDJ				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KDJ	**Kajisay**	**58.44**	**334**	*e*P		**P**	**11 31 52.6**	**+0.6**
	comp=Z,5.8nm,0.8s							
PDGK	**Podgornoye**	**58.45**	**336**	*i* P		**P**	**11 31 51.8**	**-0.2**
PDGK				pmax		pmax		
	comp=Z,9.0nm,0.7s							
SFK	**Sufi-Kurgan**	**58.52**	**329**	*i* P		**P**	**11 31 52.7**	**0.0**
SFK				pmax		pmax		
	comp=Z,14nm,0.7s							
ZAK	**Zakamensk**	**59.62**	**357**	*e*P		P	11 31 50.2	-10
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.5s							
TKM2	**Tokmak 2**	**59.77**	**333**	*i* P		**P**	**11 32 00.6**	**-0.7**
TKM2				pmax		pmax		
	comp=Z,5.0nm,0.6s							
AAK	**Ala-Archa**	**60.05**	**332**	P		**P**	**11 32 03.4**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=118,slow=11,SNR=3.6							
MK01	**Makanchi Array**	**60.35**	**340**	*e*P		**P**	**11 32 05.2**	**+0.2**
MK31	**Makanchi Array**	**60.38**	**340**	*ce*P		**P**	**11 32 04.7**	**-0.4**
MK31				pmax		pmax		
	comp=Z,6.0nm,0.5s							
MK31	**Makanchi Array**	**60.38**	**340**	*e*P		**P**	**11 32 05.2**	**+0.1**
MK32	**Makanchi Array**	**60.38**	**340**	*e*P		**P**	**11 32 05.2**	**0.0**
MKAR	**Makanchi Array**	**60.38**	**340**	P		**P**	**11 32 05.2**	**+0.1**
	comp=Z,10nm,0.6s,baz=143,slow=7.8,SNR=145							
MKAR	**Makanchi Array**	**60.38**	**340**	*e*P		**P**	**11 32 05.2**	**+0.1**
	comp=Z,67nm,0.6s							
MAKZ	**Makanchi**	**60.50**	**340**	*e*P		**P**	**11 32 06.1**	**+0.1**
MAKZ				pmax		pmax		
	comp=Z,3.0nm,0.6s							
MAKZ	**Makanchi**	**60.50**	**340**	*e*P		**P**	**11 32 06.1**	**+0.1**
	comp=Z,2.8nm,0.6s							
MNAS	**Manas**	**60.88**	**331**	*i* P		**P**	**11 32 08.5**	**-0.3**
MNAS				pmax		pmax		
	comp=Z,5.0nm,0.8s							
KLR	**Kul'dur**	**62.00**	**18**	*i* P		**P**	**11 32 14.7**	**-1.3**
KK31	**Karatay Array**	**62.31**	**330**	*e*P		**P**	**11 32 18.6**	**+0.3**
KK31	**Karatay Array**	**62.31**	**330**	*e*P		**P**	**11 32 18.6**	**+0.3**
KKAR	**Karatay Array**	**62.31**	**330**	*e*P		**P**	**11 32 19.1**	**+0.8**
KKAR	**Karatay Array**	**62.31**	**330**	*e*P		**P**	**11 32 19.1**	**+0.8**
KURBB	**Kurchatov Arra**	**64.94**	**340**	P		**P**	**11 32 35.6**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=157,slow=5.5,SNR=10.0							
KURK	**Kurchatov**	**64.99**	**340**	*e*P		**P**	**11 32 36.0**	**+0.2**
KURK				pmax		pmax		
	comp=Z,19nm,0.8s							
KURK	**Kurchatov**	**64.99**	**340**	*e*P		**P**	**11 32 35.6**	**-0.2**
KURK				*e*P		**P**	**11 32 36.0**	**+0.2**
ZAA0	**Zalesovo Array**	**66.02**	**345**	*e*P		**P**	**11 32 41.4**	**-1.0**
	comp=Z,16nm,1.8s							
ZAA0				*e*S		**S**	**11 41 29.6**	**+1.3**
ZALV	**Zalesovo Beam**	**66.02**	**345**	P		**P**	**11 32 42.2**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=174,slow=2.9,SNR=6.7							
ZALV	**Zalesovo Beam**	**66.02**	**345**	*e*P		**P**	**11 32 40.9**	**-1.4**
ZALV				*e*S		**S**	**11 41 29.0**	**+0.7**
ZALV	**Zalesovo Beam**	**66.02**	**345**	*e*P		**P**	**11 32 40.9**	**-1.4**
ZALV				*e*S		**S**	**11 41 29.0**	**+0.7**
ZAA1	**Zalesovo Array**	**66.02**	**345**	*e*P		**P**	**11 32 42.2**	**-0.2**
GEYT	**Alibeck**	**66.08**	**319**	P		**P**	**11 32 44.1**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=147,slow=6.6,SNR=5.3							
NKL	**Nikolayevsk**	**68.25**	**21**	*e*P		**P**	**11 32 55.4**	**-1.1**
NKL				pmax		pmax		
	comp=N,5.0nm,0.9s							
NKL				pmax		pmax		
	comp=Z,14nm,0.9s							
BVA0	**Borovoye Array**	**69.86**	**337**	*e*P		**P**	**11 33 06.1**	**-0.4**
BVA0				pmax		pmax		
	comp=Z,4.0nm,0.7s							
BVAR	**Borovoye Array**	**69.86**	**337**	P		**P**	**11 33 06.8**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=147,slow=6.3,SNR=13							
BRVK	**Borovoye**	**69.92**	**337**	*e*P		**P**	**11 33 06.9**	**0.0**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.5s							
KMBO	**Kilima Mbogo**	**70.68**	**272**	*ce*P		**P**	**11 33 09.3**	**-3.4**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AB07	**Akbulak array**	**71.84**	**329**	*e*P		**P**	**11 33 18.8**	**+0.1**
AB06	**Akbulak array**	**71.85**	**329**	*e*P		**P**	**11 33 18.8**	**+0.1**
AB03	**Akbulak array**	**71.86**	**329**	*e*P		**P**	**11 33 18.8**	**0.0**
AB08	**Akbulak array**	**71.86**	**329**	*e*P		**P**	**11 33 19.1**	**+0.4**
AB01	**Akbulak array**	**71.86**	**329**	*e*P		**P**	**11 33 18.8**	**0.0**
AB31	**Akbulak array**	**71.86**	**329**	*ce*P		**P**	**11 33 18.8**	**0.0**
AB31				pmax		pmax		
	comp=Z,4.0nm,0.5s							
AB31	**Akbulak array**	**71.86**	**329**	*e*P		**P**	**11 33 19.1**	**+0.3**
ABKAR	**Akbulak array**	**71.86**	**329**	*e*P		**P**	**11 33 19.1**	**+0.3**
	comp=Z,68nm,0.6s							
AB02	**Akbulak array**	**71.86**	**329**	*e*P		**P**	**11 33 18.8**	**0.0**
AB04	**Akbulak array**	**71.86**	**329**	*e*P		**P**	**11 33 18.8**	**0.0**
AB05	**Akbulak array**	**71.87**	**329**	*e*P		**P**	**11 33 18.9**	**0.0**
AB09	**Akbulak array**	**71.88**	**329**	*e*P		**P**	**11 33 19.2**	**+0.3**
YAK	**Yakutsk**	**73.18**	**11**	*e*P		**P**	**11 33 24.4**	**-1.9**
YAK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
VNDA	**Vanda**	**73.51**	**169**	P		**P**	**11 33 29.8**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=338,slow=3.1,SNR=5.0							
AKTO	**Aktyubinsk**	**73.57**	**329**	P		**P**	**11 33 32.0**	**+3.1**
	comp=Z,1.4nm,0.5s,baz=119,slow=10,SNR=6.9							
AKTO	**Aktyubinsk**	**73.57**	**329**	*i* P		**P**	**11 33 31.0**	**+2.1**
AKTO				pmax		pmax		
	comp=Z,3.0nm,0.7s							
SYO	**Syowa Base**	**73.60**	**200**	*e*P		**P**	**11 33 29.8**	**+1.0**
PETK	**Petropavlovsk-**	**75.24**	**28**	P		**P**	**11 33 38.0**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=180,slow=1.8,SNR=6.2							
PEA1	**Petropavlovsk-**	**75.24**	**28**	*e*P		**P**	**11 33 38.0**	**-0.6**
QSPA	**South Pole Qui**	**80.64**	**180**	P		**P**	**11 34 09.9**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=293,slow=13,SNR=6.0							
MMAI	**Mount Meron Ar**	**80.66**	**306**	LR		LR	12 10 43.5	
	comp=Z,36nm,20.6s,baz=215,slow=36							
TIXI	**Tiksi**	**82.04**	**7**	*ce*P		**P**	**11 34 14.3**	**-1.3**
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.7s							
TIXI	**Tiksi**	**82.04**	**7**	*e*P		**P**	**11 34 14.6**	**-1.0**
	comp=Z,3.4nm,0.8s							
BR101	**Keskin Array S**	**84.02**	**312**	*e*P		**P**	**11 34 27.5**	**+0.7**
BRTR	**Keskin Array B**	**84.02**	**312**	P		**P**	**11 34 27.5**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=132,slow=7.1,SNR=5.7							
BRTR				LR		LR	12 16 34.7	
	comp=Z,19nm,18.1s,baz=90,slow=39							
BR231	**Keskin MP Arra**	**84.69**	**312**	*e*P		**P**	**11 34 28.7**	**-1.4**
OBN	**Obninsk**	**87.15**	**327**	*e*P		**P**	**11 34 42.0**	**+0.2**
OBN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KWP	**Kalwaria Pacla**	**93.93**	**320**	*e*P		**P**	**11 35 14.3**	**+0.7**
KWP				pmax		pmax		
	comp=Z,723nm,0.5s							
KWP	**Kalwaria Pacla**	**93.93**	**320**	*e*P		**P**	**11 35 14.3**	**+0.7**
	comp=Z,723nm,0.5s							
YKA	**Yellowknife Ar**	**118.76**	**21**	PKP		**PKPdf**	**11 40 44.2**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=292,slow=1.5,SNR=6.2							
YKB5	**Yellowknife Ar**	**118.76**	**21**	*e*PKPdf		**PKPdf**	**11 40 44.2**	**+0.5**
F36A	**Milaca**	**139.26**	**23**	P		**PKPdf**	**11 41 23.4**	**+0.2**
	baz=327							
D41A	**Chassel**	**139.91**	**17**	P		**PKPdf**	**11 41 24.7**	**+0.5**
	baz=334							
F41A	**Three Lakes**	**140.93**	**19**	P		**PKPdf**	**11 41 26.4**	**+0.2**
	baz=333							
LTX	**Lajitas**	**144.42**	**52**	*e*PKIKP		**PKPdf**	**11 41 32.7**	**-0.3**
LTX	**Lajitas**	**144.42**	**52**	*e*PKPdf		**PKPdf**	**11 41 32.7**	**-0.3**
TXAR	**Lajitas Array**	**144.42**	**52**	PKP		**PKPdf**	**11 41 32.7**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=291,slow=2.5,SNR=4.1							
M43A	**Waltham Townsh**	**144.77**	**22**	P		**PKPab**	**11 41 31.6**	**-0.3**
	baz=330							
P39B	**Salisbury**	**144.80**	**28**	P		**PKPab**	**11 41 31.3**	**-0.8**
	baz=323							
Q38A	**Cooks Store, C**	**144.80**	**30**	P		**PKPab**	**11 41 32.1**	**-0.1**
	baz=321							
N42A	**Yates City**	**144.87**	**24**	P		**PKPab**	**11 41 32.1**	**-0.2**
	baz=328							
WMOK	**Wichita Mounta**	**144.90**	**40**	P		PKPbc	11 41 33.2	+0.5
	baz=310,SNR=5.1							
Q39A	**Willow Grove F**	**145.05**	**29**	P		**PKPdf**	**11 41 33.4**	**-0.2**
	baz=322							
P40A	**Paris**	**145.09**	**27**	P		**PKPab**	**11 41 33.4**	**+0.3**
	baz=324							
O41A	**Passleys Farm,**	**145.12**	**26**	P		**PKPbc**	**11 41 33.3**	**+0.1**
	baz=326,SNR=5.3							
R38A	**Fenwick Farm,**	**145.26**	**31**	P		**PKPbc**	**11 41 33.8**	**+0.1**
	baz=320							
P41A	**Barry, Barry**	**145.41**	**26**	P		**PKPdf**	**11 41 34.3**	**+0.1**
	baz=326,SNR=5.5							
Q40A	**Laux Farm, Aux**	**145.51**	**28**	P		**PKPab**	**11 41 34.8**	**+0.1**
	baz=324,SNR=6.5							
R39A	**Chumby, Stover**	**145.59**	**30**	P		**PKPbc**	**11 41 34.9**	**+0.2**
	baz=322,SNR=5.8							
S38A	**Stockton**	**145.68**	**31**	P		**PKPbc**	**11 41 35.0**	**-0.1**
	baz=320,SNR=6.9							
T38A	**Diamond**	**145.93**	**33**	P		**PKPdf**	**11 41 34.7**	**-0.5**
	baz=319							
S39A	**Bolivar**	**145.93**	**31**	P		**PKPbc**	**11 41 35.6**	**-0.2**
	baz=321							
R40A	**Maddies Statio**	**145.98**	**29**	P		**PKPbc**	**11 41 36.1**	**+0.1**
	baz=323,SNR=9.4							
O45A	**Potomac**	**146.26**	**22**	P		**PKPbc**	**11 41 36.9**	**+0.1**
	baz=332							
Q42A	**Golden Eagle**	**146.27**	**26**	P		**PKPbc**	**11 41 37.0**	**+0.1**
	baz=326							
R41A	**Rosebud**	**146.39**	**28**	P		**PKPbc**	**11 41 37.4**	**+0.2**
	baz=324,SNR=5.2							
S40A	**Lebanon**	**146.41**	**30**	P		**PKPbc**	**11 41 37.5**	**+0.2**
	baz=322							
T39A	**Clever**	**146.41**	**32**	P		**PKPbc**	**11 41 37.8**	**+0.5**
	baz=320							
R42A	**Luebbering**	**146.67**	**27**	P		**PKPbc**	**11 41 37.9**	**-0.2**
	baz=325							
JCT	**Junction City**	**146.74**	**47**	P		**PKPbc**	**11 41 38.9**	**+0.4**
	baz=304							
S41A	**Jillco Farms,**	**146.79**	**29**	P		**PKPbc**	**11 41 38.2**	**-0.2**
	baz=323,SNR=5.7							
R43A	**Red Bud**	**147.06**	**26**	P		**PKPbc**	**11 41 39.4**	**+0.3**
	baz=326							
S42A	**Caledonia**	**147.09**	**28**	P		**PKPbc**	**11 41 39.3**	**0.0**
	baz=325,SNR=7.4							
V39A	**Pettigrew**	**147.16**	**33**	P		**PKPbc**	**11 41 39.6**	**0.0**
	baz=318							
U40A	**Yellville**	**147.19**	**32**	P		**PKPbc**	**11 41 39.3**	**-0.3**
	baz=320							
Q45A	**Warren Harvey,**	**147.27**	**23**	P		**PKPbc**	**11 41 39.8**	**+0.1**
	baz=330							
T42A	**Van Buren**	**147.55**	**29**	P		**PKPbc**	**11 41 40.3**	**-0.2**
	baz=324,SNR=5.5							
V40A	**Witts Springs**	**147.63**	**32**	P		**PKPbc**	**11 41 40.7**	**-0.2**
	baz=320							
U41A	**Viola**	**147.68**	**31**	P		**PKPbc**	**11 41 41.4**	**+0.5**
	baz=322							
R45A	**Skylar, Fairfi**	**147.74**	**24**	P		**PKPbc**	**11 41 40.9**	**-0.1**
	baz=329							
N54A	**Moraine State**	**147.77**	**11**	P		**PKPbc**	**11 41 41.1**	**+0.1**
	baz=346							
ACSO	**Alum Creek Sta**	**147.78**	**16**	P		**PKPbc**	**11 41 41.5**	**+0.5**
	baz=340							
X39A	**Fountain Ranch**	**147.87**	**36**	P		**PKPbc**	**11 41 41.7**	**+0.2**
	baz=316							
T43A	**Greenville**	**147.88**	**28**	P		**PKPbc**	**11 41 41.8**	**+0.3**
	baz=325							
V41A	**Mountainview**	**148.00**	**32**	P		**PKPbc**	**11 41 42.2**	**+0.4**
	baz=321							
U42A	**Revenden**	**148.02**	**30**	P		**PKPbc**	**11 41 42.6**	**+0.8**
	baz=323							
R46A	**Gibon Southern**	**148.12**	**23**	P		**PKPbc**	**11 41 42.5**	**+0.4**
	baz=330							
V42A	**Cord**	**148.37**	**31**	P		**PKPbc**	**11 41 42.8**	**+0.1**
	baz=322							
SSPA	**Standing Stone**	**148.44**	**8**	P		**PKPbc**	**11 41 43.1**	**+0.3**
	baz=349							
PAL	**Palisades**	**148.44**	**3**	P		**PKPbc**	**11 41 43.1**	**+0.3**
	baz=357							
R48A	**Northridge Ran**	**148.56**	**21**	P		**PKPbc**	**11 41 44.6**	**+1.4**
	baz=334							
WCI	**Wyandotte Cave**	**148.56**	**22**	P		**PKPbc**	**11 41 44.9**	**+1.7**
	baz=333							
X40A	**Basin Creek Fa**	**148.61**	**34**	P		**PKPbc**	**11 41 44.4**	**+1.0**
	baz=318							
O56A	**Blue Knob Stat**	**148.69**	**9**	P		**PKPbc**	**11 41 45.1**	**+1.6**
	baz=348							
T46A	**Princeton**	**148.97**	**25**	P		**PKPbc**	**11 41 45.5**	**+1.2**
	baz=329							
346A	**Big Creek Wild**	**152.80**	**34**	P		**PKPab**	**11 42 03.0**	**-1.3**
	baz=320							
445A	**Amite**	**152.80**	**36**	P		**PKPab**	**11 42 02.1**	**-2.2**
	baz=318							
Z49A	**Columbiana**	**152.82**	**27**	P		**PKPab**	**11 42 02.7**	**-1.6**
	baz=328							
Z50A	**Ashland**	**153.04**	**26**	P		**PKPab**	**11 42 03.2**	**-2.0**
	baz=329							
446A	**Poplarville**	**153.31**	**35**	P		**PKPab**	**11 42 04.9**	**-1.5**
	baz=320							
546A	**Slidell**	**153.53**	**36**	P		**PKPab**	**11 42 05.1**	**-2.3**
	baz=318							
249A	**Camden**	**153.55**	**30**	P		**PKPab**	**11 42 05.4**	**-2.1**
	baz=325							
251A	**Midway**	**154.25**	**27**	P		**PKPab**	**11 42 07.4**	**-3.0**
	baz=329							

*ISCJB **26** 11:25:34.9±0.6,39°.22N±0°.03×42°.24E±0°.05,h26km±6km, Error ellipse: s-maj=6.2km s-min=5.5km az=168.6*

*CSEM **26** 11:25:34.2±0.3,39°.22N×42°.22E,h10km,ML2.6, Error ellipse: s-maj=6.5km s-min=5.9km az=77.0*
*ISK **26** 11:25:34.4,39°.19N×42°.29E,h14km,ML2.3/3*
*DDA **26** 11:25:35.1,39°.24N×42°.31E,h7km,Ml2.6*

ISC 26 11:25:34.4±1.0,39°.23N±0°.03×42°.25E±0°.03,h23km±7km, n17,σ0s61/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.15**	**281**	*i* P	**Pb**	**11 25 39.1**	**-0.4**
EKAR				*i* S	**Sb**	**11 25 43.6**	**+0.7**
EKAR	**Karacoban**	**0.15**	**281**	P	**Pb**	**11 25 39.1**	**-0.4**
EKAR				S	**Sb**	**11 25 43.7**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.56**	**138**	*i* P	**Pb**	**11 25 45.4**	**-0.3**
ADCV				*i* S	**Sb**	**11 25 54.3**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.56**	**138**	P	**Pb**	**11 25 45.4**	**-0.3**
ADCV				S	**Sb**	**11 25 54.3**	**+1.0**
EATA	**Eleskirt**	**0.66**	**16**	*i* P	**Pb**	**11 25 47.6**	**+0.1**
EATA				*i* S	**Sn**	**11 25 57.9**	**-0.6**
EATA	**Eleskirt**	**0.66**	**16**	P	**Pb**	**11 25 47.6**	**+0.1**
EATA				S	**Sn**	**11 25 57.9**	**-0.6**
AGRB	**Hanur-Agry**	**0.67**	**59**	PG	**Pb**	**11 25 47.8**	**+0.2**
AGRB				SG	**Sb**	**11 25 57.5**	**+0.9**
AGRB	**Hanur-Agry**	**0.67**	**59**	*e*Pg	**Pb**	**11 25 47.8**	**+0.2**
AGRB				*e*Sg	**Sb**	**11 25 57.5**	**+0.9**
GURO	**Guroymak-BITLI**	**0.70**	**194**	PG	**Pb**	**11 25 47.9**	**-0.1**
GURO				SG	**Sb**	**11 25 57.8**	**+0.6**
GURO	**Guroymak-BITLI**	**0.70**	**194**	*e*Pg	**Pb**	**11 25 47.9**	**-0.1**
GURO				*e*Sg	**Sb**	**11 25 57.8**	**+0.6**
HOMI	**Horasan**	**0.86**	**342**	*i* P	**Pb**	**11 25 50.6**	**-0.2**
ERCV	**ERCIS-VAN**	**0.87**	**103**	PG	**Pb**	**11 25 50.6**	**-0.4**
ERCV	**ERCIS-VAN**	**0.87**	**103**	*e*Pg	**Pb**	**11 25 50.6**	**-0.4**
ERZM	**Erzurum**	**0.96**	**315**	*i* P	**Pb**	**11 25 52.5**	**-0.1**
ERZM				*i* S	**Sb**	**11 26 05.6**	**+0.6**
ERZM	**Erzurum**	**0.96**	**315**	P	**Pb**	**11 25 52.5**	**-0.1**
ERZM				S	**Sb**	**11 26 05.6**	**+0.6**
BNGB	**Bing¯¶l**	**1.25**	**260**	PN	**Pb**	**11 25 58.3**	**+1.0**
BINT	**Bingol**	**1.42**	**256**	*e*Pn	**Pn**	**11 25 58.3**	**-0.6**

*ISK **26** 11:28:57.2,37°.17N×37°.34E,h5km,ML1.9/4, Suspected Mining explosion.*
*ISCJB **26** 11:28:58.6±0.5,37°.17N±0°.03×37°.12E±0°.04,h0km, Error ellipse: s-maj=4.7km s-min=4.2km az=2.3*
*CSEM **26** 11:28:58.3±0.3,37°.14N×37°.24E,h1km,ML1.9, Error ellipse: s-maj=9.6km s-min=6.2km az=110.0, Suspected Mining explosion.*
*DDA **26** 11:28:58.2,37°.17N×37°.08E,h7km,Ml2.6, Suspected Mining explosion.*

ISC 26 11:28:58.2±0.8,37°.21N±0°.03×37°.12E±0°.03,h0km,n20, σ0s88/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.08**	**114**	PG	**Pg**	**11 28 59.1**	**-0.6**
GAZ				SG	**Sg**	**11 29 02.6**	**+1.9**
GAZ	**Gaziantep**	**0.08**	**114**	*e*Pg	**Pg**	**11 28 59.1**	**-0.6**
GAZ				*e*Sg	**Sg**	**11 29 02.6**	**+1.9**
HCB	**Kahramanmara¯**	**0.22**	**309**	*i* P	**Pg**	**11 29 02.2**	**-0.2**
HCB				*i* S	**Sg**	**11 29 06.1**	**+0.8**
KMRS	**Kahramanmaras**	**0.35**	**330**	PG	**Pb**	**11 29 07.1**	**-0.2**
KMRS	**Kahramanmaras**	**0.35**	**330**	*e*Pg	**Pb**	**11 29 07.1**	**-0.2**
KAMA	**Osmaniye**	**0.36**	**267**	*i* P	**Pg**	**11 29 04.2**	**-0.9**
KAMA				*i* S	**Sg**	**11 29 11.0**	**+1.2**
KUZU	**Kuzuini**	**0.43**	**185**	*i* P	**Pg**	**11 29 05.8**	**-0.6**
KUZU				*i* S	**Sg**	**11 29 12.2**	**+0.2**
KUZU	**Kuzuini**	**0.43**	**185**	P	**Pg**	**

ellipse: s-maj=34.8km s-min=27.3km az=114.0
*ISCJB **26** 12:12:31.3±0.7, 7.°3S±0.°1×155.°70E±0.°09, h29km, mb3.7/6, Error ellipse: s-maj=23.1km s-min=9.4km az=24.4*

ISC 26 12:12:33.1±1.0, 7.°3S±0.°2×155.°6E±0.°1, h29km, n11, σ1§01/9, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.77**	**117**	Pn	**Pn**	**12 13 42.9**	**-0.3**
	9.2nm,0.3s,baz=227,slow=6.2,SNR=4.1						
HNR				Sn	**Sn**	**12 14 36.6**	**-0.9**
	12nm,0.3s,baz=270,slow=23,SNR=7.1						
HNR	**Honiara**	**4.77**	**117**	*e*P	**Sn**	**12 14 39.0**	**+1.5**
WRA	**Warramunga Arr**	**24.18**	**237**	P	**P**	**12 17 48.0**	**+0.7**
	0.4nm,0.5s,baz=62,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**26.46**	**230**	P	**P**	**12 18 07.3**	**-0.6**
	0.5nm,1.0s,baz=59,slow=9.4,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**27.84**	**23**	T	T	12 46 35.9	
	baz=196						
H11S2	**WAKE ISLAND Hy**	**27.84**	**23**	T	T	12 46 41.1	
	baz=196						
H11S1	**WAKE ISLAND Hy**	**27.86**	**23**	T	T	12 46 40.9	
	baz=196						
SONM	**Songino Array**	**69.92**	**327**	P	**P**	**12 23 42.5**	**+0.7**
	0.6nm,0.6s,baz=138,slow=7.6,SNR=3.5						
MKAR	**Makanchi Array**	**84.04**	**319**	P	**P**	**12 25 01.4**	**+0.3**
	1.5nm,0.8s,baz=101,slow=6.3,SNR=13						
ZALV	**Zalesovo Beam**	**84.77**	**326**	P	**P**	**12 25 03.5**	**-1.0**
	1.6nm,0.6s,baz=123,slow=6.7,SNR=6.6						
KURBB	**Kurchatov Array**	**87.48**	**322**	P	**P**	**12 25 17.4**	**-0.7**
	0.2nm,0.3s,baz=97,slow=3.7,SNR=2.8						

*SOME **26** 12:30:42.0, 43.°88N×84.°28E, h15km*
*BJI **26** 12:30:42.9, 43.°40N×84.°78E, h7km, mb3.7/1, ML3.7/10*
*IDC **26** 12:30:44.3±1.1, 43.°65N×84.°50E, h0km, mb3.4/3, mb1 3.6/9, mb1mx3.4/72, mbtmp3.5/9, ML3.1/6, MS2.6/1, Ms1 2.6/1, ms1mx2.1/48, Error ellipse: s-maj=20.5km s-min=14.1km az=51.0*
*ISCJB **26** 12:30:45.1±0.6, 43.°59N±0.°05×84.°77E±0.°05, h10km, mb3.3/3, Error ellipse: s-maj=7.5km s-min=5.3km az=176.9*
*NNC **26** 12:30:46.1±1.4, 43.°65N×84.°69E, h6km±5km, mb4.0, mpv3.7, Error ellipse: s-maj=10.8km s-min=5.1km az=124.0*

ISC 26 12:30:43.4±0.9, 43.°41N±0.°06×84.°75E±0.°04, h10km, n25, σ3§07/39, mb3.5/3, 8C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.18**	**78**	Pn	**Pb**	**12 31 21.3**	**-1.7**
WMQ				Sg	**Sb**	**12 31 50.3**	**+0.2**
WMQ				smax	smax		
	comp=N,4μm,0.8s						
WMQ				smax	smax		
	comp=E,3μm,0.8s						
MK31	**Makanchi Array**	**3.80**	**334**	Pn	**Pn**	**12 31 41.5**	**-0.6**
	2.0nm,0.5s,baz=149,slow=15,SNR=173						
MK31				Pg	**Pb**	**12 31 51.8**	**+1.1**
	50nm,0.9s,baz=148,slow=18,SNR=35						
MK31				⇓Lg	Lg	12 32 39.7	
	72nm,0.6s,baz=154,slow=29,SNR=7.0						
MKAR	**Makanchi Array**	**3.80**	**334**	Pn	**Pn**	**12 31 42.1**	**+0.1**
	1.2nm,0.3s,baz=154,slow=13,SNR=51						
MKAR				Pg	**Pb**	**12 31 51.8**	**+1.2**
	5.9nm,0.3s,baz=147,slow=17,SNR=37						
MKAR				Sn	**Sn**	**12 32 28.9**	**+2.1**
	8.7nm,0.3s,baz=144,slow=22,SNR=6.5						
MKAR				Lg	Lg	12 32 41.7	
	18nm,0.3s,baz=154,slow=28,SNR=5.4						
PDGK	**Podgornoye**	**3.83**	**271**	⇓Pn	**Pn**	**12 31 44.4**	**+1.8**
	9.6nm,0.6s						
PDGK				⇑Pg	**Pg**	**12 31 55.7**	**-1.1**
	14nm,0.5s						
PDGK				⇓Sn	**Sn**	**12 32 31.8**	**+4.0**
	92nm,0.6s						
PDGK				⇓Lg	Lg	12 32 45.4	
	146nm,0.6s						
MAKZ	**Makanchi**	**3.92**	**331**	⇓Pn	**Pn**	**12 31 43.8**	**+0.1**
	4.0nm,0.5s						
MAKZ				⇓Pg	**Pb**	**12 31 54.0**	**+1.4**
	26nm,0.7s						
MAKZ				⇑Lg	Lg	12 32 41.7	
	98nm,0.8s						
ZSN	**Zaisan**	**4.04**	**1**	*e*P	**Pn**	**12 31 46.2**	**+0.8**
	6.6nm,0.4s						
ZSN				*e*S	**Sn**	**12 32 32.4**	**-0.3**
	19nm,0.6s						
KAPS	**Kapalarasan**	**4.29**	**298**	*e*P	**Pn**	**12 31 51.9**	**+3.0**
	4.0nm,0.4s						
KAPS				*e*S	**Sn**	**12 32 42.5**	**+3.5**
	43nm,0.5s						
MNBS	**Baschi**	**4.64**	**280**	*e*P	**Pn**	**12 31 57.7**	**+4.0**
	9.6nm,0.3s						
MNBS				*e*S	**Sn**	**12 32 52.1**	**+4.4**
	52nm,0.6s						
SATY	**Saty**	**4.64**	**268**	*e*P	**Pb**	**12 32 00.6**	**-4.4**
	28nm,0.6s						
SATY				*e*S	**Sb**	**12 32 57.2**	**-3.9**
	101nm,0.7s						
TDK	**Taldyqorghan**	**4.83**	**291**	*e*P	**Pn**	**12 32 00.3**	**+4.2**
TDK				*e*S	**Sn**	**12 32 56.8**	**+4.7**
	146nm,0.8s						
MDOK	**Medeo**	**5.62**	**270**	Pn	**Pn**	**12 32 09.3**	**+2.1**
	2.5nm,0.5s						
MDOK				⇓Pg	**Pg**	**12 32 28.8**	**-2.3**
	10.0nm,0.6s						
MDOK				⇑Lg	Lg	12 33 41.5	
	55nm,0.7s						
CHKK	**Chushkaly**	**5.65**	**277**	*e*P	**Pb**	**12 32 17.8**	**-4.3**
	8.5nm,0.6s						
CHKK				*e*S	**Sb**	**12 33 26.6**	**-3.2**
	48nm,0.5s						
TKM2	**Tokmak 2**	**6.71**	**269**	⇓Pn	**Pn**	**12 32 25.5**	**+3.3**
	3.4nm,0.8s						
TKM2				⇑Pg	**Pg**	**12 32 49.3**	**-2.6**
	6.0nm,0.8s						
TKM2				⇑Lg	Lg	12 34 17.9	
	27nm,0.8s						
AAK	**Ala-Archa**	**7.55**	**268**	Pn	**Pn**	**12 32 35.5**	**+1.8**
	0.2nm,0.3s,baz=169,slow=10,SNR=1.1						
AAK				Pg	**Pb**	**12 32 59.1**	**+4.6**
	0.4nm,0.3s,baz=153,slow=14,SNR=3.7						
AAK				Lg	Lg	12 34 41.0	
	0.6nm,0.3s,baz=220,slow=22,SNR=4.0						
AAK	**Ala-Archa**	**7.55**	**268**	⇑Lg	Lg	12 34 44.7	
	19nm,0.8s						
KURBB	**Kurchatov Arra**	**8.37**	**332**	Pn	**Pn**	**12 32 43.0**	**-1.7**
	0.2nm,0.3s,baz=146,slow=13,SNR=11						
KURBB				Sn	**Sn**	**12 34 15.7**	**-3.4**
	0.4nm,0.3s,baz=138,slow=28,SNR=7.6						
KURBB				Lg	Lg	12 35 06.7	
	0.3nm,0.3s,baz=154,slow=30,SNR=3.7						
KURK	**Kurchatov**	**8.42**	**332**	⇓Sn	**Sn**	**12 34 20.2**	**-0.1**
	13nm,0.8s						
KURK				⇑Lg	Lg	12 35 04.5	
	50nm,0.9s						
OTUK	**Ortayu**	**9.91**	**303**	⇑Lg	Lg	12 35 53.8	
	70nm,1.8s						
KK31	**Karatay Array**	**10.39**	**273**	Lg	Lg	12 36 14.3	
	4.5nm,0.7s,baz=75,slow=25,SNR=3.7						
ZALV	**Zalesovo Beam**	**10.55**	**0**	Pn	**Pn**	**12 33 11.6**	**-3.0**
	0.8nm,0.3s,baz=183,slow=14,SNR=26						
ZALV				Sn	**Sn**	**12 35 06.4**	**-6.2**
	0.8nm,0.3s,baz=175,slow=22,SNR=5.5						
ZALV				Lg	Lg	12 36 09.9	
	0.2nm,0.3s,baz=172,slow=23,SNR=3.6						
BVAR	**Borovoye Array**	**13.54**	**320**	Pn	**Pn**	**12 33 52.2**	**-3.3**
	0.2nm,0.3s,baz=132,slow=14,SNR=2.9						
BVAR				Lg	Lg	12 37 48.3	
	0.0nm,0.3s,baz=120,slow=35,SNR=2.8						
SONM	**Songino Array**	**15.77**	**66**	Pn	**P**	**12 34 28.9**	**-0.6**
	0.1nm,0.3s,baz=257,slow=11,SNR=6.7						
SONM				Lg	Lg	12 38 56.2	
	0.1nm,0.3s,baz=264,slow=26,SNR=2.4						
SONM				LR	LR	12 41 36.1	
	comp=Z,21nm,21.9s,baz=281,slow=41						
ILAR	**Eielson Array**	**64.86**	**22**	P	**P**	**12 41 25.0**	**+2.8**
	0.3nm,0.9s,baz=305,slow=5.4,SNR=3.8						
WRA	**Warramunga Arr**	**77.75**	**133**	P	**P**	**12 42 44.5**	**+3.9**
	0.5nm,0.9s,baz=334,slow=5.4,SNR=3.1						
ASAR	**Alice Springs**	**80.58**	**135**	P	P	12 43 00.3	+4.2
	0.2nm,0.8s,baz=310,slow=4.7,SNR=3.4						

MEX 26 12:35:12.4±0.8, 16.°33N×98.°19W, h14km±2km, MD3.9,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.09**	**43**	*e*P	Pg	12 35 14.3	-1.3
PNIG				*e*S	Sg	12 35 17.2	-0.4
TLIG	**Tlapa**	**1.28**	**344**	*e*P	Pn	12 35 32.1	-3.9
TLIG				*i* S	Sb	12 35 48.1	-4.7
VHO	**Vista Hermosa**	**1.58**	**62**	*e*P	Pn	12 35 37.3	-2.9
VHO				*i* S	Sn	12 35 55.1	-5.5
ACX	**Acapulco**	**1.69**	**289**	*e*P	Pn	12 35 38.2	-3.2
ACX				*e*S	Sn	12 35 59.3	-3.6
HUIG	**Huatulco**	**2.08**	**105**	*i* P	Pn	12 35 43.9	-3.0
HUIG				*e*S	Sn	12 36 08.0	-4.5
CAIG	**El Cayaco**	**2.12**	**290**	*e*P	Pn	12 35 44.9	-2.5
CAIG				*i* S	Sn	12 36 09.3	-4.1

*TIR **26** 12:38:29.4, 41.°49N×18.°74E, h1km, ML2.9*
*CSEM **26** 12:38:30.1±0.2, 43.°02N×20.°64E, h2km, ML2.0, Error ellipse: s-maj=4.4km s-min=2.9km az=167.0*
*BEO **26** 12:38:31.0±0.3, 43.°01N×20.°64E, h0km±2km, M2.0/1*

ISC 26 12:38:30.1±1.1, 43.°04N±0.°02×20.°64E±0.°02, h7km±9km, n34, σ1§34/61, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.40**	**62**	*e*Pg	**Pg**	**12 38 37.4**	**-0.4**
SELS				*e*Sg	**Sb**	**12 38 45.0**	**-0.8**
SELS	**Selova**	**0.40**	**62**	*e*Pg	**Pg**	**12 38 37.4**	**-0.4**
SELS				*e*Sg	**Sb**	**12 38 45.0**	**-0.8**
SJES	**Sjenica**	**0.54**	**295**	*e*Pg	**Pg**	**12 38 40.4**	**-0.1**
SJES				*e*Sg	**Sg**	**12 38 48.2**	**+0.7**
IVAS	**Ivanjica**	**0.65**	**327**	*e*Pg	**Pg**	**12 38 42.4**	**-0.2**
IVAS				*e*Sg	**Sg**	**12 38 50.9**	**-0.1**
IVAS	**Ivanjica**	**0.65**	**327**	*e*Pg	**Pg**	**12 38 42.4**	**-0.2**
IVAS				*e*Sg	**Sg**	**12 38 50.9**	**-0.1**
GRUS	**Gruza**	**0.85**	**4**	*e*Pn	**Pn**	**12 38 48.7**	**+0.2**
GRUS	**Gruza**	**0.85**	**4**	*e*Pn	**Pn**	**12 38 48.7**	**+0.2**
BARS	**Barje**	**0.89**	**104**	*e*Pg	**Pb**	**12 38 47.5**	**-0.4**
BARS				*e*Sg	**Sb**	**12 38 59.3**	**-0.7**
BARS	**Barje**	**0.89**	**104**	*e*Pg	**Pb**	**12 38 47.5**	**-0.4**
BARS				*e*Sg	**Sb**	**12 38 59.3**	**-0.7**
BOVS	**Bovan**	**0.98**	**52**	*e*Pg	**Pg**	**12 38 48.9**	**0.0**
BOVS				*e*Sg	**Sn**	**12 39 03.9**	**-0.5**
BOVS	**Bovan**	**0.98**	**52**	*e*Pg	**Pg**	**12 38 48.9**	**0.0**
BOVS				*e*Sg	**Sn**	**12 39 03.9**	**-0.5**
NISS		**1.02**	**69**	*e*Pg	**Pn**	**12 38 50.7**	**-0.2**
NISS				*e*Sg	**Sg**	**12 39 03.6**	**+0.6**
NISS		**1.02**	**69**	*e*Pg	**Pn**	**12 38 50.7**	**-0.2**
NISS				*e*Sg	**Sg**	**12 39 03.6**	**+0.6**
PUK	**Puka**	**1.14**	**209**	*i* PG	**Pn**	**12 38 55.4**	**+3.0**
PUK				*i* SG	**Sn**	**12 39 12.9**	**+4.6**
PUK	**Puka**	**1.14**	**209**	*i* Pg	**Pn**	**12 38 55.4**	**+3.0**
	baz=80						
DIVS	**Divibare**	**1.16**	**336**	*e*Pg	**Pg**	**12 38 53.6**	**+1.2**
DIVS				*e*Sg	**Sn**	**12 39 08.7**	**-0.3**
DIVS	**Divibare**	**1.16**	**336**	⇑*i*Pg	**Pg**	**12 38 53.0**	**+0.6**
DIVS				*e*Sg	**Sg**	**12 39 08.6**	**+1.1**
PDG	**Podgorica**	**1.19**	**240**	*e*Pg	**Pb**	**12 38 51.9**	**-1.0**
PDG				*e*Sg	**Sn**	**12 39 08.3**	**-1.1**
PDG	**Podgorica**	**1.19**	**240**	*e*Pg	**Pb**	**12 38 51.9**	**-1.0**
PDG				*e*Sg	**Sn**	**12 39 08.3**	**-1.1**
BBLS	**Lazići**	**1.22**	**313**	*e*Pg	**Pn**	**12 38 53.0**	**-0.7**
BBLS				*e*Sg	**Sn**	**12 39 11.8**	**+1.3**
BBLS	**Lazići**	**1.22**	**313**	*e*Pg	**Pn**	**12 38 53.0**	**-0.7**
PHP	**Peshkopia**	**1.36**	**186**	*i* PG	Pn	12 38 50.1	-5.4
PHP				*i* SG	**Sb**	**12 39 06.7**	**-6.7**
DRME	**Dracevica, Mon**	**1.37**	**232**	*e*Pg	**Pb**	**12 38 55.6**	**-0.4**
DRME				*e*Sg	**Sg**	**12 39 14.2**	**+0.2**
ZAGS	**Zajecar**	**1.40**	**56**	*e*Pg	**Pn**	**12 38 56.1**	**+0.1**
ZAGS				*e*Sg	**Sb**	**12 39 14.9**	**+0.4**
ZAGS	**Zajecar**	**1.40**	**56**	*e*Pg	**Pn**	**12 38 56.1**	**+0.1**
ZAGS				*e*Sg	**Sb**	**12 39 14.9**	**+0.4**
ZAPS	**Zavoj**	**1.48**	**80**	*e*Pg	**Pb**	**12 38 57.7**	**-0.2**
ZAPS				*e*Sg	**Sb**	**12 39 17.2**	**+0.3**
KUBS	**Kucevo**	**1.57**	**28**	*e*Pn	**Pn**	**12 38 58.3**	**-0.1**
KUBS				*e*Sn	**Sg**	**12 39 21.1**	**+0.6**
KUBS	**Kucevo**	**1.57**	**28**	*e*Pn	**Pn**	**12 38 58.3**	**-0.1**
KUBS				*e*Sn	**Sg**	**12 39 21.1**	**+0.6**
HCY	**Herceg Novi**	**1.69**	**250**	*e*Pn	**Pg**	**12 39 01.7**	**-0.7**
TREB	**Trebinje**	**1.71**	**260**	*e*Pn	**Pb**	**12 39 01.7**	**-0.2**
TEKS	**Tekeris**	**1.71**	**332**	*e*Pn	**Pg**	**12 39 03.7**	**+0.8**
TEKS				*e*Sn	**Sg**	**12 39 26.3**	**+1.2**
TEKS	**Tekeris**	**1.71**	**332**	*e*Pn	**Pg**	**12 39 03.2**	**+0.3**
TEKS				*e*Sn	**Sg**	**12 39 25.2**	**+0.1**
FNA	**Florina**	**2.32**	**166**	*i* PN	**Pn**	**12 39 09.0**	**+0.3**
FNA				*i* SN	**Sb**	**12 39 41.1**	**+0.1**
FNA	**Florina**	**2.32**	**166**	*i* Pn	**Pn**	**12 39 09.0**	**+0.3**
FNA				*i* Sn	**Sb**	**12 39 41.1**	**+0.1**
	baz=108						

NNC 26 12:48:48.4±3.1, 36.°87N×70.°30E, h0km, mb3.8, mpv3.5, 5C-3D, Error ellipse: s-maj=32.9km s-min=24.0km az=84.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.02**	**38**	⇓P	Pn	12 49 52.8	+1.3
	1.5nm,0.3s						
MNAS	**Manas**	**5.86**	**16**	⇑P	Pn	12 50 17.0	+0.4
	2.7nm,0.6s						
MNAS				⇑S	Sn	12 51 25.7	+1.1
	6.4nm,0.5s						
KK31	**Karatay Array**	**6.23**	**1**	⇓P	Pn	12 50 21.4	-0.2
	0.4nm,0.2s,baz=185,slow=12,SNR=13						
KK31				⇑S	Sn	12 51 35.8	+2.3
	0.9nm,0.4s						
AAK	**Ala-Archa**	**6.60**	**28**	⇑P	Pn	12 50 26.3	-0.6
	2.8nm,0.6s						
AAK				⇓S	Sn	12 51 42.8	-0.1
	3.8nm,0.8s						
TKM2	**Tokmak 2**	**7.28**	**32**	⇑P	Pn	12 50 34.8	-1.5
	4.8nm,0.5s						
AB31	**Akbulak array**	**14.49**	**332**	P	Pn	12 52 12.4	-2.3
	0.3nm,0.4s,baz=160,slow=12,SNR=13						

IDC 26 12:50:35.3±2.1, 18.°09S×166.°72E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/41, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=45.3km s-min=31.3km az=105.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.98**	**184**	Pn	Pn	12 51 37.0	-0.6
	0.8nm,0.3s,baz=102,slow=21,SNR=7.0						
DZM				Sn	Sn	12 52 25.2	+0.2
	1.0nm,0.3s,baz=151,slow=19,SNR=2.0						
STKA	**Stephens Creek**	**26.52**	**234**	P	P	12 56 15.8	+1.1
	1.4nm,0.5s,baz=56,slow=9.2,SNR=5.0						
WRA	**Warramunga Arr**	**30.65**	**261**	P	P	12 56 51.6	-0.1
	0.3nm,0.9s,baz=91,slow=9.7,SNR=1.7						
ASAR	**Alice Springs**	**31.12**	**254**	P	P	12 56 55.2	-0.7
	0.6nm,0.7s,baz=76,slow=8.9,SNR=11						
ILAR	**Eielson Array**	**89.86**	**18**	P	P	13 03 35.6	0.0
	0.3nm,0.8s,baz=231,slow=5.4,SNR=1.5						

*ISK **26** 12:51:56.8, 39.°20N×42.°27E, h2km, ML2.4/1*
*ISCJB **26** 12:51:57.9±0.6, 39.°21N±0.°04×42.°28E±0.°04, h11km, Error ellipse: s-maj=5.9km s-min=4.3km az=150.8*
*CSEM **26** 12:51:57.0±0.5, 39.°24N×42.°19E, h5km, ML3.1, Error ellipse: s-maj=12.9km s-min=8.2km az=141.0*
*DDA **26** 12:51:58.5, 39.°24N×42.°32E, h7km, Ml3.1*

ISC 26 12:51:57.7±1.0, 39.°21N±0.°03×42.°28E±0.°03, h11km, n12, σ1§00/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.18**	**287**	*i* P	**Pg**	**12 52 02.0**	**+0.3**
EKAR				*i* S	**Sg**	**12 52 06.8**	**+2.2**
EKAR	**Karacoban**	**0.18**	**287**	P	**Pg**	**12 52 02.0**	**+0.3**
EKAR				S	**Sg**	**12 52 06.8**	**+2.2**
TUTA	**Tutak**	**0.46**	**64**	*i* P	**Pg**	**12 52 06.8**	**0.0**
TUTA				*i* S	**Sg**	**12 52 13.7**	**+0.7**
TUTA	**Tutak**	**0.46**	**64**	P	**Pg**	**12 52 06.8**	**0.0**
TUTA				S	**Sg**	**12 52 13.6**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.53**	**139**	*i* P	**Pg**	**12 52 08.3**	**+0.3**
ADCV				*i* S	**Sb**	**12 52 17.6**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.53**	**139**	P	**Pg**	**12 52 08.3**	**+0.3**
ADCV				S	**Sb**	**12 52 17.6**	**+0.8**
AGRB	**Hanur-Agry**	**0.66**	**56**	PG	**Pg**	**12 52 10.7**	**+0.1**
AGRB				SG	**Sb**	**12 52 20.9**	**+0.2**
AGRB	**Hanur-Agry**	**0.66**	**56**	*i* Pg	**Pg**	**12 52 10.7**	**+0.1**
AGRB				*i* Sg	**Sb**	**12 52 20.9**	**+0.2**
GURO	**Guroymak-BITLI**	**0.68**	**197**	PG	**Pg**	**12 52 10.9**	**-0.1**
GURO				SG	**Sg**	**12 52 20.8**	**+0.9**
GURO	**Guroymak-BITLI**	**0.68**	**197**	*e*Pg	**Pg**	**12 52 10.9**	**-0.1**
GURO				*e*Sg	**Sg**	**12 52 20.8**	**+0.9**
BNGB	**Bing¯¶i**	**1.27**	**261**	PN	**Pg**	**12 52 21.6**	**-0.4**
BINT	**Bingol**	**1.43**	**257**	*e*Pn	**Pn**	**12 52 21.6**	**-2.2**

*ISCJB **26** 12:54:05.8±0.5, 35.°06N±0.°04×140.°00E±0.°05, h71km±3km, mb3.5/5, Error ellipse: s-maj=7.5km s-min=5.3km az=141.9*
*JMA **26** 12:54:05.8±0.1, 35.°08N×139.°99E, h72km±2km, M2.7*
*IDC **26** 12:54:08.0±1.8, 34.°98N×139.°87E, h73km±13km, mb3.1/5, mb1 3.3/6, mb1mx3.0/67, mbtmp3.4/6, Error ellipse: s-maj=36.5km s-min=5.5km az=71.0*

ISC 26 12:54:07.0±0.9, 35.°06N±0.°04×139.°99E±0.°05, h65km±6km, n26, σ0§66/32, mb3.6/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.08**	**248**	P	**Pn**	**12 54 16.7**	**+0.1**
TATJ				*e*S	**Sn**	**12 54 24.2**	**+0.6**
KTR	**Katsuura**	**0.28**	**73**	P	Pn	12 54 17.2	-0.3
KTR				S	Sn	12 54 25.0	-0.2
BSO4	**Boso 4**	**0.30**	**104**	P	Pn	12 54 17.7	+0.2
BSO4				X		12 54 26.4	
JYO	**Yokosk**	**0.31**	**302**	P	**Pn**	**12 54 17.9**	**+0.2**
JYO				*e*S	**Sn**	**12 54 25.8**	**+0.3**
BSO3	**Boso 3**	**0.50**	**121**	P	**Pn**	**12 54 19.1**	**0.0**
BSO3				X		12 54 28.8	
JIM2	**Oshima 3**	**0.57**	**233**	P	**Pn**	**12 54 19.6**	**-0.5**
JIM2				S	**Sn**	**12 54 29.1**	**-0.7**
JOD2	**Odawara 2**	**0.76**	**285**	P	**Pn**	**12 54 21.6**	**-0.7**
JOD2				S	Sn	12 54 32.5	-1.1
BSO1	**Boso 1**	**0.91**	**116**	P	**Pn**	**12 54 22.9**	**-0.7**
JIZS	**Izushimoda**	**0.97**	**250**	P	**Pn**	**12 54 24.7**	**-0.2**
JIZS				S	**Sn**	**12 54 37.9**	**-0.2**
JYN	**Shimob**	**1.26**	**291**	P	**Pn**	**12 54 28.6**	**0.0**
JYN				S	**Sn**	**12 54 44.9**	**+0.1**
JRY	**Ryogami san**	**1.30**	**317**	P	**Pn**	**12 54 28.8**	**-0.3**
JRY				S	**Sn**	**12 54 45.2**	**-0.6**
JAG	**Ashikaga**	**1.43**	**343**	P	**Pn**	**12 54 29.8**	**-1.0**
JAG				S	**Sn**	**12 54 47.1**	**-1.6**
JHJ	**Hachijo jima 2**	**1.95**	**185**	P	**Pn**	**12 54 38.1**	**+0.3**
	41nm,0.3s,baz=61,slow=19,SNR=8.3						
JHJ				S	**Sn**	**12 55 00.9**	**-0.3**
	127nm,0.3s,baz=314,slow=22,SNR=21						
MJAR	**Matsushiro Arr**	**2.06**	**316**	P	**Pn**	**12 54 39.6**	**+0.3**
	2.5nm,0.3s,baz=163,slow=13,SNR=31						
MJAR				S	**Sn**	**12 55 05.2**	**+1.1**
	4.5nm,0.3s,baz=273,slow=30,SNR=10						
MAT	**Matsushiro**	**2.07**	**316**	P	**Pn**	**12 54 39.8**	**+0.4**
MAT				S	**Sn**	**12 55 04.6**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.24**	**116**	T	T	13 29 34.2	
	baz=308,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.24**	**116**	T	T	13 29 39.6	
	baz=308,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.25**	**116**	T	T	13 29 40.9	
	baz=308,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy**	**28.86**	**118**	T	T	13 30 23.0	
	baz=310,slow=76,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**28.86**	**118**	T	T	13 30 07.0	
	baz=310,slow=76,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**28.88**	**118**	T	T	13 30 22.7	
	baz=310,slow=76,SNR=3.7						
MKAR	**Makanchi Array**	**44.21**	**304**	P	**P**	**13 02 10.2**	**+0.7**
	0.2nm,0.5s,baz=92,slow=9.5,SNR=3.6						
KURBB	**Kurchatov Arra**	**46.33**	**309**	P	**P**	**13 02 26.2**	**+0.1**
	0.6nm,0.6s,baz=83,slow=7.3,SNR=4.4						
ILAR	**Eielson Array**	**51.78**	**31**	P	**P**	**13 03 08.6**	**+1.0**
	0.6nm,1.0s,baz=251,slow=8.2,SNR=4.3						
WRA	**Warramunga Arr**	**54.96**	**186**	P	**P**	**13 03 30.4**	**-1.0**
	0.6nm,0.5s,baz=1.3,slow=7.5,SNR=30						
ASAR	**Alice Springs**	**58.69**	**187**	P	**P**	**13 03 57.4**	**-0.4**
	0.2nm,0.4s,baz=17,slow=11,SNR=11						

*ISCJB **26** 12:57:37.7±0.4, 39.°21N±0.°02×42.°31E±0.°02, h8km±4km, Error ellipse: s-maj=3.0km s-min=2.3km az=155.3*
*CSEM **26** 12:57:37.4±0.1, 39.°21N×42.°31E, h5km, ML3.5, Error ellipse: s-maj=3.0km s-min=2.6km az=158.0*
*ISK **26** 12:57:37.2, 39.°17N×42.°33E, h8km, ML3.0/5*
*DDA **26** 12:57:37.3, 39.°26N×42.°28E, h22km, Ml3.5*

ISC 26 12:57:37.7±0.9, 39.°22N±0.°02×42.°31E±0.°02, h10km±7km, n60, σ0§93/84, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.19**	**281**	*i* P	**Pg**	**12 57 41.4**	**-0.5**
EKAR				*i* S	**Sg**	**12 57 46.4**	**+1.5**
EKAR	**Karacoban**

BTMN	**Batman**	**1.56**	**212**	P	**Pn**	**12 58 05.7**	**+0.2**
BTMN				S	**Sg**	**12 58 28.0**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.68**	**62**	PN	**Pn**	**12 58 07.2**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.68**	**62**	*e*Pn	**Pn**	**12 58 07.2**	**0.0**
SIRT	**Sirnak**	**1.72**	**176**	PN	**Pn**	**12 58 07.8**	**0.0**
SIRT	**Sirnak**	**1.72**	**176**	*e*Pn	**Pn**	**12 58 07.8**	**0.0**
ERZN	**Erzincan**	**2.03**	**281**	PN	**Pn**	**12 58 13.1**	**+0.9**
BAYT	**Ayd¨–ntepe-Bay**	**2.04**	**306**	PN	**Pn**	**12 58 13.3**	**+1.1**
BAYT	**Ayd¨–ntepe-Bay**	**2.04**	**306**	*e*Pn	**Pn**	**12 58 13.3**	**+1.1**
DIY	**Diyarbakir**	**2.10**	**232**	*e*Pn	**Pn**	**12 58 13.3**	**+0.3**
DYBB	**Diyarbakir**	**2.12**	**234**	PN	**Pn**	**12 58 13.3**	**+0.1**
CHOM	**Cayeli-Rize**	**2.22**	**328**	*e*Pn	**Pn**	**12 58 16.1**	**+1.6**
MAZI	**Mazidag**	**2.29**	**220**	PN	**Pn**	**12 58 16.1**	**+0.5**
MAZI	**Mazidag**	**2.29**	**220**	*e*Pn	**Pn**	**12 58 16.1**	**+0.5**
PTK	**Pertek**	**2.29**	**263**	PN	**Pn**	**12 58 16.9**	**+1.1**
PTK	**Pertek**	**2.29**	**263**	*e*Pn	**Pn**	**12 58 16.9**	**+1.1**
EZC	**Erzincan**	**2.34**	**284**	*e*Pn	**Pn**	**12 58 13.1**	**-3.3**

***IDC* 26 12:59:23.8**±6.8,**26°84N**×143″55E, **h0**km,**mb3.3**/4, **mb1 3.5**/5,**mb1mx3.1**/64,**mbtmp3.3**/5,**ML3.4**/1,**Error ellipse: s-maj=269.2km s-min=25.5km az=75.0,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.69**	**336**	Pn	**Pn**	13 01 56.6	-1.5
	0.3nm,0.3s,baz=166,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**47.35**	**192**	P	**P**	13 07 59.5	-0.2
	0.6nm,0.8s,baz=12,slow=8.4,SNR=5.4						
ASAR	**Alice Springs**	**51.07**	**191**	P	**P**	13 08 27.8	-0.3
	0.4nm,1.1s,baz=0.9,slow=4.3,SNR=1.9						
MKAR	**Makanchi Array**	**51.57**	**310**	P	**P**	13 08 31.9	+0.1
	0.1nm,0.4s,baz=90,slow=6.3,SNR=1.9						
KURBB	**Kurchatov Arra**	**54.09**	**315**	P	**P**	13 08 50.4	+0.2
	0.3nm,0.5s,baz=90,slow=8.1,SNR=3.2						

IDC **26** *13:10:15.6*±*0.9,38°.99S*×*176°.16E,h193*km±*7*km*,mb3.6/2, mb1 4.0/4,mb1mx3.4/38,mbtmp4.4/4,Error ellipse: s-maj=31.6km s-min=19.8km az=142.0*
ISCJB **26** *13:10:16.1*±*0.3,38°.66S*±*0°.02*×*175°.60E*±*0°.04,h198*km±*3*km*, mb3.4/2,Error ellipse: s-maj=5.3km s-min=3.8km az=19.7*
WEL **26** *13:10:17.1,39°.S*±*2*″×*17°.6E*±*°,h192*km±*3*km
NEIC **26** *13:10:17.9*±*0.0,38°.58S*×*175°.69E,h185*km*,ML4.8(WEL), After WEL.*

ISC 26 13:10:16.9±0.7,**38°.71S**±0°.05×**175°.60E**±0°.05,**h193**km±5km, **n265,**σ1§**07**/271,**1C,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.10**	**87**	Pn	**Pn**	**13 10 42.4**	**+0.1**
WATZ				Sn	**Sn**	**13 11 00.5**	**-1.3**
WATZ	**Wairara**	**0.10**	**87**	P	**Pn**	**13 10 42.4**	**+0.1**
RATZ	**Rangitukua**	**0.20**	**139**	Pn	**Pn**	**13 10 42.1**	**-0.3**
RATZ	**Rangitukua**	**0.20**	**139**	P	**Pn**	**13 10 42.5**	**+0.1**
KATZ	**Kakaramea**	**0.27**	**164**	Pn	**Pn**	**13 10 42.8**	**+0.2**
KATZ	**Kakaramea**	**0.27**	**164**	P	**Pn**	**13 10 42.9**	**+0.2**
WHTZ	**Whakaora**	**0.28**	**81**	Pn	**Pn**	**13 10 42.6**	**0.0**
WHTZ	**Whakaora**	**0.28**	**81**	P	**Pn**	**13 10 42.6**	**0.0**
KUTZ	**Kaahu Road**	**0.28**	**38**	Pn	**Pn**	**13 10 42.4**	**-0.2**
KUTZ				Sn	**Sn**	**13 11 00.8**	**-1.4**
KUTZ	**Kaahu Road**	**0.28**	**38**	P	**Pn**	**13 10 42.4**	**-0.2**
RITZ	**Rihia Road**	**0.33**	**143**	Pn	**Pn**	**13 10 43.1**	**+0.5**
RITZ	**Rihia Road**	**0.33**	**143**	P	**Pn**	**13 10 43.1**	**+0.5**
TWVZ	**Taurewa**	**0.38**	**200**	Pn	**Pn**	**13 10 43.4**	**+0.5**
TWVZ	**Taurewa**	**0.38**	**200**	P	**Pn**	**13 10 43.4**	**+0.5**
TWVZ	**Taurewa**	**0.38**	**200**	S	**Sn**	**13 11 02.2**	**-0.9**
KRVZ	**Karewarewa**	**0.38**	**175**	Pn	**Pn**	**13 10 43.2**	**+0.4**
KRVZ	**Karewarewa**	**0.38**	**175**	P	**Pn**	**13 10 43.3**	**+0.4**
TLZ	**Tolley Road**	**0.39**	**353**	Pn	**Pn**	**13 10 42.6**	**-0.3**
TLZ	**Tolley Road**	**0.39**	**353**	P	**Pn**	**13 10 42.6**	**-0.3**
TLZ	**Tolley Road**	**0.39**	**353**	S	**Sn**	**13 11 01.3**	**-1.5**
WTVZ	**West Tongariro**	**0.40**	**181**	Pn	**Pn**	**13 10 43.4**	**+0.5**
WTVZ	**West Tongariro**	**0.40**	**181**	P	**Pn**	**13 10 43.4**	**+0.5**
HATZ	**Hinemaiaia**	**0.42**	**115**	Pn	**Pn**	**13 10 42.8**	**-0.1**
HATZ	**Hinemaiaia**	**0.42**	**115**	P	**Pn**	**13 10 42.8**	**-0.1**
HATZ	**Hinemaiaia**	**0.42**	**115**	S	**Sn**	**13 11 00.7**	**-2.3**
OTVZ	**Oturere**	**0.45**	**174**	Pn	**Pn**	**13 10 43.4**	**+0.2**
NGZ	**Ngauruhoe**	**0.46**	**180**	Pn	**Pn**	**13 10 43.5**	**+0.4**
NGZ	**Ngauruhoe**	**0.46**	**180**	P	**Pn**	**13 10 43.6**	**+0.4**
NGZ	**Ngauruhoe**	**0.46**	**180**	S	**Sn**	**13 11 02.7**	**-1.0**
WPRZ	**Whakapapatarin**	**0.48**	**66**	Pn	**Pn**	**13 10 42.7**	**-0.4**
WPRZ	**Whakapapatarin**	**0.48**	**66**	P	**Pn**	**13 10 42.7**	**-0.4**
COVZ	**Chateau Observ**	**0.49**	**185**	P	**Pn**	**13 10 43.7**	**+0.5**
GRRZ	**Galatos Road**	**0.54**	**48**	P	**Pn**	**13 10 43.0**	**-0.4**
FWVZ	**Far West T-bar**	**0.54**	**184**	Pn	**Pn**	**13 10 43.9**	**+0.3**
FWVZ	**Far West T-bar**	**0.54**	**184**	P	**Pn**	**13 10 44.2**	**+0.6**
TUVZ	**Tukino**	**0.56**	**176**	Pn	**Pn**	**13 10 44.3**	**+0.7**
TUVZ	**Tukino**	**0.56**	**176**	P	**Pn**	**13 10 44.4**	**+0.9**
DRZ	**Dome Shelter**	**0.56**	**183**	Pn	**Pn**	**13 10 44.6**	**+0.8**
DRZ	**Dome Shelter**	**0.56**	**183**	P	**Pn**	**13 10 44.6**	**+0.8**
WHVZ	**Whangaehu Hut**	**0.57**	**181**	Pn	**Pn**	**13 10 44.2**	**+0.5**
WHVZ	**Whangaehu Hut**	**0.57**	**181**	P	**Pn**	**13 10 44.2**	**+0.7**
TRVZ	**Turoa**	**0.59**	**184**	Pn	**Pn**	**13 10 44.3**	**+0.5**
TRVZ	**Turoa**	**0.59**	**184**	P	**Pn**	**13 10 44.6**	**+0.8**
ALRZ	**Allen Road**	**0.60**	**76**	Pn	**Pn**	**13 10 42.9**	**-0.7**
ALRZ	**Allen Road**	**0.60**	**76**	P	**Pn**	**13 10 43.0**	**-0.7**
PKVZ	**Pokaka**	**0.61**	**199**	Pn	**Pn**	**13 10 44.5**	**+0.9**
PKVZ	**Pokaka**	**0.61**	**199**	P	**Pn**	**13 10 44.5**	**+0.9**
WNVZ	**Wahianoa**	**0.61**	**180**	Pn	**Pn**	**13 10 44.7**	**+0.8**
HIZ	**Hauiti**	**0.62**	**289**	Pn	**Pn**	**13 10 43.8**	**+0.2**
HIZ	**Hauiti**	**0.62**	**289**	P	**Pn**	**13 10 43.9**	**+0.2**
HRRZ	**Handcock Road**	**0.62**	**59**	P	**Pn**	**13 10 43.3**	**-0.5**
HSRZ	**Hossack Road**	**0.65**	**52**	P	**Pn**	**13 10 43.4**	**-0.5**
HSRZ	**Hossack Road**	**0.65**	**52**	S	**Sn**	**13 11 03.1**	**-1.4**
MRHZ	**Matea Rd**	**0.65**	**101**	P	**Pn**	**13 10 43.6**	**-0.3**
MRHZ	**Matea Rd**	**0.65**	**101**	S	**Sn**	**13 11 01.7**	**-3.0**
PRRZ	**Plateau Road**	**0.66**	**71**	Pn	**Pn**	**13 10 43.2**	**-0.6**
PRRZ	**Plateau Road**	**0.66**	**71**	P	**Pn**	**13 10 43.2**	**-0.6**
MTVZ	**Mangateitei**	**0.68**	**189**	Pn	**Pn**	**13 10 44.9**	**+0.9**
MTVZ	**Mangateitei**	**0.68**	**189**	P	**Pn**	**13 10 45.0**	**+0.9**
MOVZ	**Moawhango**	**0.70**	**170**	Pn	**Pn**	**13 10 44.8**	**+0.7**
MOVZ	**Moawhango**	**0.70**	**170**	P	**Pn**	**13 10 44.8**	**+0.7**
UTU	**Utuhina**	**0.71**	**41**	P	**Pn**	**13 10 44.7**	**+0.6**
HLRZ	**Highlands Stat**	**0.75**	**52**	P	**Pn**	**13 10 44.4**	**0.0**
NGRZ	**Ngongotaha**	**0.77**	**37**	P	**Pn**	**13 10 45.2**	**+0.7**
VRZ	**Vera Road**	**0.78**	**238**	Pn	**Pn**	**13 10 45.0**	**+0.6**
VRZ	**Vera Road**	**0.78**	**238**	P	**Pn**	**13 10 45.4**	**+0.9**
RRRZ	**Republican Roa**	**0.81**	**63**	Pn	**Pn**	**13 10 44.0**	**-0.7**
RRRZ	**Republican Roa**	**0.81**	**63**	P	**Pn**	**13 10 44.0**	**-0.7**
BKZ	**Black Stump Fm**	**0.83**	**123**	Pn	**Pn**	**13 10 45.1**	**+0.2**
BKZ	**Black Stump Fm**	**0.83**	**123**	P	**Pn**	**13 10 45.2**	**+0.3**
BHHZ	**Black Hill Sta**	**0.85**	**155**	Pn	**Pn**	**13 10 45.7**	**+0.7**
BHHZ	**Black Hill Sta**	**0.85**	**155**	P	**Pn**	**13 10 45.7**	**+0.7**
TARZ	**Mount Tarawera**	**0.86**	**56**	Pn	**Pn**	**13 10 44.4**	**-0.7**
TARZ	**Mount Tarawera**	**0.86**	**56**	P	**Pn**	**13 10 44.5**	**-0.6**
KARZ	**Kaharoa**	**0.86**	**36**	P	**Pn**	**13 10 44.4**	**-0.6**
OMRZ	**Omania**	**0.86**	**45**	P	**Pn**	**13 10 43.3**	**-0.7**
MKRZ	**Makatiti**	**0.89**	**50**	P	**Pn**	**13 10 45.0**	**-0.3**
KMRZ	**Kaimai**	**0.91**	**17**	P	**Pn**	**13 10 44.6**	**-0.8**
LIRZ	**Lichensteins R**	**0.94**	**41**	P	**Pn**	**13 10 46.3**	**+0.8**
MUGZ	**Murupara**	**0.95**	**76**	P	**Pn**	**13 10 44.6**	**-1.0**
KWHZ	**Kaweka Forest**	**0.96**	**138**	P	**Pn**	**13 10 46.6**	**+1.0**
MTHZ	**Maungataniwha**	**0.98**	**99**	P	**Pn**	**13 10 45.8**	**0.0**
TOZ	**Tahuroa Road**	**0.98**	**355**	Pn	**Pn**	**13 10 45.2**	**-0.6**
TOZ	**Tahuroa Road**	**0.98**	**355**	P	**Pn**	**13 10 45.2**	**-0.6**
NMHZ	**Naumai**	**1.02**	**113**	Pn	**Pn**	**13 10 47.1**	**+1.0**
NMHZ	**Naumai**	**1.02**	**113**	P	**Pn**	**13 10 47.1**	**+1.0**
MHEZ	**Mangahewa**	**1.06**	**250**	Pn	**Pn**	**13 10 47.7**	**+1.4**
MHEZ	**Mangahewa**	**1.06**	**250**	P	**Pn**	**13 10 47.7**	**+1.4**
EDRZ	**Edgecumbe**	**1.08**	**56**	P	**Pn**	**13 10 45.7**	**-0.9**
RTZ	**Ruatahuna**	**1.08**	**85**	P	**Pn**	**13 10 46.2**	**-0.4**
KRHZ	**Kereru**	**1.10**	**147**	P	**Pn**	**13 10 47.8**	**+1.1**
TGRZ	**Tauranga**	**1.11**	**28**	Pn	**Pn**	**13 10 45.7**	**-1.1**
TGRZ	**Tauranga**	**1.11**	**28**	P	**Pn**	**13 10 45.7**	**-1.1**
MARZ	**Manawahe**	**1.11**	**50**	P	**Pn**	**13 10 46.6**	**-0.2**
MCHZ	**McNeill Hill**	**1.12**	**131**	Pn	**Pn**	**13 10 48.3**	**+1.5**
MCHZ	**McNeill Hill**	**1.12**	**131**	P	**Pn**	**13 10 48.3**	**+1.5**
WAZ	**Wanganui**	**1.14**	**204**	Pn	**Pn**	**13 10 48.3**	**+1.4**
WAZ	**Wanganui**	**1.14**	**204**	P	**Pn**	**13 10 48.4**	**+1.4**
OPRZ	**Ohinepanea**	**1.15**	**41**	Pn	**Pn**	**13 10 46.0**	**-1.0**
OPRZ	**Ohinepanea**	**1.15**	**41**	P	**Pn**	**13 10 46.0**	**-1.0**
RAHZ	**Arahi**	**1.18**	**100**	P	**Pn**	**13 10 47.7**	**+0.5**
DREZ	**Durham Road**	**1.19**	**246**	Pn	**Pn**	**13 10 48.5**	**+1.2**
DREZ	**Durham Road**	**1.19**	**246**	P	**Pn**	**13 10 48.5**	**+1.2**
LREZ	**Lake Rotokare**	**1.19**	**231**	P	**Pn**	**13 10 49.0**	**+1.7**
ARHZ	**Aropaoanui**	**1.22**	**117**	Pn	**Pn**	**13 10 48.5**	**+1.0**
ARHZ	**Aropaoanui**	**1.22**	**117**	P	**Pn**	**13 10 48.5**	**+1.0**
URZ	**Urewera**	**1.27**	**70**	P	**Pn**	**13 10 46.8**	**-1.1**
	50nm,0.3s,baz=249,slow=4.1,SNR=542						
URZ				S	**Sn**	**13 11 07.6**	**-4.3**
	216nm,0.3s,baz=102,slow=19,SNR=19						
URZ	**Urewera**	**1.27**	**70**	Pn	**Pn**	**13 10 46.6**	**-1.2**
URZ	**Urewera**	**1.27**	**70**	P	**Pn**	**13 10 46.7**	**-1.2**
PNHZ	**Pukenui**	**1.28**	**159**	Pn	**Pn**	**13 10 49.2**	**+1.1**
PNHZ	**Pukenui**	**1.28**	**159**	P	**Pn**	**13 10 49.2**	**+1.1**
PREZ	**Palmer Road**	**1.29**	**240**	Pn	**Pn**	**13 10 49.6**	**+1.5**
PREZ	**Palmer Road**	**1.29**	**240**	P	**Pn**	**13 10 49.6**	**+1.5**
NEZ	**North Egmont**	**1.30**	**244**	Pn	**Pn**	**13 10 49.7**	**+1.4**
WHHZ	**Waihua**	**1.33**	**106**	P	**Pn**	**13 10 49.0**	**+0.6**
PKE	**Pukeiti**	**1.35**	**249**	Pn	**Pn**	**13 10 49.9**	**+1.3**
PKE	**Pukeiti**	**1.35**	**249**	P	**Pn**	**13 10 49.9**	**+1.3**
SNGZ	**Shannon Statio**	**1.36**	**93**	Pn	**Pn**	**13 10 48.9**	**+0.1**
SNGZ	**Shannon Statio**	**1.36**	**93**	P	**Pn**	**13 10 48.9**	**+0.1**
KHEZ	**Kahui Hut**	**1.36**	**244**	Pn	**Pn**	**13 10 50.1**	**+1.3**
TSZ	**Takapari Road**	**1.37**	**168**	Pn	**Pn**	**13 10 49.6**	**+0.8**
TSZ	**Takapari Road**	**1.37**	**168**	P	**Pn**	**13 10 50.1**	**+1.3**
RAGZ	**Rawiri**	**1.44**	**82**	Pn	**Pn**	**13 10 49.0**	**-0.5**
RAGZ	**Rawiri**	**1.44**	**82**	P	**Pn**	**13 10 49.0**	**-0.5**
NWEZ	**Newall Road**	**1.46**	**247**	Pn	**Pn**	**13 10 50.9**	**+1.3**
KAHZ	**Kahuranaki**	**1.47**	**138**	Pn	**Pn**	**13 10 51.0**	**+1.4**
KAHZ	**Kahuranaki**	**1.47**	**138**	P	**Pn**	**13 10 51.1**	**+1.4**
CKHZ	**Cape Kidnapper**	**1.49**	**130**	Pn	**Pn**	**13 10 51.1**	**+1.3**
CKHZ	**Cape Kidnapper**	**1.49**	**130**	P	**Pn**	**13 10 51.1**	**+1.3**
WPHZ	**Waipukurau**	**1.50**	**155**	Pn	**Pn**	**13 10 51.2**	**+1.3**
WPHZ	**Waipukurau**	**1.50**	**155**	P	**Pn**	**13 10 51.2**	**+1.3**
OHWZ	**Ohakea**	**1.51**	**188**	P	**Pn**	**13 10 51.9**	**+2.0**
NMEZ	**Namu Road**	**1.51**	**242**	Pn	**Pn**	**13 10 51.4**	**+1.4**
NMEZ	**Namu Road**	**1.51**	**242**	P	**Pn**	**13 10 51.4**	**+1.4**
MWZ	**Matawai**	**1.56**	**77**	Pn	**Pn**	**13 10 49.6**	**-0.9**
MWZ	**Matawai**	**1.56**	**77**	P	**Pn**	**13 10 49.6**	**-0.9**
PXZ	**Pawanui**	**1.64**	**144**	Pn	**Pn**	**13 10 52.2**	**+1.1**
PXZ	**Pawanui**	**1.64**	**144**	P	**Pn**	**13 10 52.4**	**+1.2**
DVHZ	**Dannevirke**	**1.64**	**165**	Pn	**Pn**	**13 10 52.3**	**+1.0**
DVHZ	**Dannevirke**	**1.64**	**165**	P	**Pn**	**13 10 52.3**	**+1.0**
MKAZ	**Moumakai**	**1.64**	**348**	Pn	**Pn**	**13 10 50.5**	**-0.8**
MKAZ	**Moumakai**	**1.64**	**348**	P	**Pn**	**13 10 50.5**	**-0.8**
KNZ	**Kokohu**	**1.65**	**101**	Pn	**Pn**	**13 10 51.4**	**+0.2**
KNZ	**Kokohu**	**1.65**	**101**	P	**Pn**	**13 10 51.4**	**+0.2**
POWZ	**Post Office Ro**	**1.68**	**176**	Pn	**Pn**	**13 10 52.7**	**+1.1**
POWZ	**Post Office Ro**	**1.68**	**176**	P	**Pn**	**13 10 52.7**	**+1.1**
RIGZ	**Rimuhau**	**1.69**	**90**	P	**Pn**	**13 10 51.7**	**-0.1**
KBAZ	**Karaka Road Bo**	**1.71**	**341**	P	**Pn**	**13 10 51.5**	**-0.5**
PRHZ	**Porangahau**	**1.75**	**153**	Pn	**Pn**	**13 10 53.5**	**+1.2**
PRHZ	**Porangahau**	**1.75**	**153**	P	**Pn**	**13 10 53.5**	**+1.2**
TKGZ	**Te Karaka**	**1.78**	**82**	Pn	**Pn**	**13 10 52.3**	**-0.3**
TKGZ	**Te Karaka**	**1.78**	**82**	P	**Pn**	**13 10 52.5**	**-0.1**
PRGZ	**Paritu Road**	**1.79**	**97**	Pn	**Pn**	**13 10 52.7**	**0.0**
PRGZ	**Paritu Road**	**1.79**	**97**	P	**Pn**	**13 10 52.8**	**0.0**
RUGZ	**Raukumara Rang**	**1.80**	**66**	P	**Pn**	**13 10 51.0**	**-1.9**
AWAZ	**Awhitu Peninsu**	**1.81**	**335**	P	**Pn**	**13 10 52.5**	**-0.4**
ETAZ	**East Tamaki Re**	**1.84**	**343**	Pn	**Pn**	**13 10 52.4**	**-0.8**
ETAZ	**East Tamaki Re**	**1.84**	**343**	P	**Pn**	**13 10 52.4**	**-0.8**
MHGZ	**Mahia Peninsul**	**1.85**	**104**	Pn	**Pn**	**13 10 53.8**	**+0.5**
MHGZ	**Mahia Peninsul**	**1.85**	**104**	P	**Pn**	**13 10 53.8**	**+0.5**
PRWZ	**Pori Road**	**1.86**	**171**	Pn	**Pn**	**13 10 54.7**	**+1.3**
PRWZ	**Pori Road**	**1.86**	**171**	P	**Pn**	**13 10 54.7**	**+1.3**
ANWZ	**Angora Road**	**1.87**	**159**	P	**Pn**	**13 10 54.8**	**+1.4**
TWGZ	**Tauwhareparae**	**1.94**	**75**	Pn	**Pn**	**13 10 53.3**	**-1.0**
TWGZ	**Tauwhareparae**	**1.94**	**75**	P	**Pn**	**13 10 53.8**	**-0.5**
MRZ	**Mangatainoka R**	**1.94**	**180**	Pn	**Pn**	**13 10 55.2**	**+1.0**
MRZ	**Mangatainoka R**	**1.94**	**180**	P	**Pn**	**13 10 55.2**	**+1.0**
WIAZ	**Waiheke Island**	**1.95**	**349**	P	**Pn**	**13 10 53.5**	**-0.9**
WTAZ	**Waiatarua**	**1.96**	**335**	Pn	**Pn**	**13 10 54.3**	**-0.2**
WTAZ	**Waiatarua**	**1.96**	**335**	P	**Pn**	**13 10 54.3**	**-0.2**
EPAZ	**Eden Park BICE**	**1.96**	**339**	P	**Pn**	**13 10 54.1**	**-0.3**
HAZ	**Te Kaha**	**1.97**	**62**	P	**Pn**	**13 10 52.6**	**-1.8**
KUZ	**Kuaotunu**	**1.97**	**3**	Pn	**Pn**	**13 10 53.0**	**-1.5**
KUZ	**Kuaotunu**	**1.97**	**3**	P	**Pn**	**13 10 53.4**	**-1.1**
HBAZ	**Herne Bay Bore**	**1.98**	**339**	P	**Pn**	**13 10 54.1**	**-0.6**
BFZ	**Birch Farm**	**2.03**	**166**	P	**Pn**	**13 10 56.1**	**+1.0**
CNGZ	**Carnagh Statio**	**2.06**	**84**	Pn	**Pn**	**13 10 55.4**	**0.0**
CNGZ	**Carnagh Statio**	**2.06**	**84**	P	**Pn**	**13 10 55.4**	**0.0**
TIWZ	**Tintock**	**2.07**	**174**	Pn	**Pn**	**13 10 56.6**	**+1.0**
TIWZ	**Tintock**	**2.07**	**174**	P	**Pn**	**13 10 56.6**	**+1.0**
RVAZ	**Riverhead Bore**	**2.10**	**337**	Pn	**Pn**	**13 10 55.4**	**-0.6**
RVAZ	**Riverhead Bore**	**2.10**	**337**	P	**Pn**	**13 10 55.4**	**-0.6**
PKGZ	**Pakihiroa**	**2.12**	**68**	P	**Pn**	**13 10 54.9**	**-1.3**
OGWZ	**Otaki Gorge**	**2.13**	**189**	Pn	**Pn**	**13 10 57.3**	**+1.2**
OGWZ	**Otaki Gorge**	**2.13**	**189**	P	**Pn**	**13 10 57.3**	**+1.2**
HOWZ	**Holdsworth Sta**	**2.18**	**182**	Pn	**Pn**	**13 10 57.6**	**+0.9**
HOWZ	**Holdsworth Sta**	**2.18**	**182**	P	**Pn**	**13 10 57.7**	**+0.9**
PUZ	**Puketiti**	**2.18**	**74**	Pn	**Pn**	**13 10 55.6**	**-1.3**
PUZ	**Puketiti**	**2.18**	**74**	P	**Pn**	**13 10 55.6**	**-1.3**
ABAZ	**Army Bay**	**2.20**	**344**	P	**Pn**	**13 10 56.4**	**-0.5**
KIW	**Kapiti Island**	**2.21**	**194**	Pn	**Pn**	**13 10 58.0**	**+0.9**
KIW	**Kapiti Island**	**2.21**	**194**	P	**Pn**	**13 10 58.0**	**+0.9**
CPWZ	**Castlepoint**	**2.24**	**168**	Pn	**Pn**	**13 10 58.8**	**+1.4**
CPWZ	**Castlepoint**	**2.24**	**168**	P	**Pn**	**13 10 58.8**	**+1.4**
WMGZ	**Waiomatatini S**	**2.39**	**69**	Pn	**Pn**	**13 10 57.6**	**-1.4**
WMGZ	**Waiomatatini S**	**2.39**	**69**	P	**Pn**	**13 10 57.8**	**-1.3**
TMWZ	**Te Maipa**	**2.40**	**175**	Pn	**Pn**	**13 10 59.9**	**+0.7**
TMWZ	**Te Maipa**	**2.40**	**175**	P	**Pn**	**13 10 59.9**	**+0.7**
MXZ	**Matakaoa Point**	**2.42**	**63**	Pn	**Pn**	**13 10 58.2**	**-1.2**
MXZ	**Matakaoa Point**	**2.42**	**63**	P	**Pn**	**13 10 58.3**	**-1.2**
CAW	**Cannon Point**	**2.43**	**190**	Pn	**Pn**	**13 11 00.3**	**+0.9**
CAW	**Cannon Point**	**2.43**	**190**	P	**Pn**	**13 11 00.3**	**+0.9**
MTW	**Mount Morrison**	**2.44**	**182**	Pn	**Pn**	**13 11 00.3**	**+0.6**
MTW	**Mount Morrison**	**2.44**	**182**	P	**Pn**	**13 11 00.3**	**+0.6**
DUWZ	**D'Urville Isla**	**2.46**	**211**	Pn	**Pn**	**13 11 00.3**	**+0.5**
DUWZ	**D'Urville Isla**	**2.46**	**211**	P	**Pn**	**13 11 00.3**	**+0.5**
GRZ	**Great Barrier**	**2.46**	**357**	P	**Pn**	**13 10 59.0**	**-0.9**
WEL	**Wellington**	**2.65**	**194**	Pn	**Pn**	**13 11 02.6**	**+0.7**
PAWZ	**Paruwai Farm**	**2.67**	**183**	Pn	**Pn**	**13 11 02.8**	**+0.5**
PAWZ	**Paruwai Farm**	**2.67**	**183**	P	**Pn**	**13 11 02.8**	**+0.5**
TRWZ	**Traveller**	**2.68**	**179**	Pn	**Pn**	**13 11 03.0**	**+0.6**
TRWZ	**Traveller**	**2.68**	**179**	P	**Pn**	**13 11 03.0**	**+0.6**
SNZO	**South Karori**	**2.68**	**195**	*e*Pn	**Pn**	**13 11 02.9**	**+0.6**
SNZO				*e*Sn	**Sn**	**13 11 36.1**	**-1.8**
TCW	**Tory Channel**	**2.69**	**202**	Pn	**Pn**	**13 11 03.3**	**+0.8**
TCW	**Tory Channel**	**2.69**	**202**	P	**Pn**	**13 11 03.3**	**+0.8**
MSWZ	**Moikau Station**	**2.71**	**186**	Pn	**Pn**	**13 11 03.2**	**+0.5**
MSWZ	**Moikau Station**	**2.71**	**186**	P	**Pn**	**13 11 03.3**	**+0.5**
BHW	**Baring Head**	**2.75**	**192**	Pn	**Pn**	**13 11 03.7**	**+0.6**
BHW	**Baring Head**	**2.75**	**192**	P	**Pn**	**13 11 03.7**	**+0.6**
PLWZ	**Palliser**	**2.87**	**185**	Pn	**Pn**	**13 11 04.8**	**+0.3**
PLWZ	**Palliser**	**2.87**	**185**	P	**Pn**	**13 11 04.8**	**+0.3**
WCZ	**Waipu Caves**	**2.94**	**340**	P	**Pn**	**13 11 05.0**	**-0.5**
TUWZ	**Tuamarina**	**3.00**	**205**	Pn	**Pn**	**13 11 06.3**	**+0.3**
TUWZ	**Tuamarina**	**3.00**	**205**	P	**Pn**	**13 11 06.4**	**+0.3**
NNZ	**Nelson**	**3.03**	**214**	Pn	**Pn**	**13 11 06.4**	**+0.1**
NNZ	**Nelson**	**3.03**	**214**	P	**Pn**	**13 11 06.5**	**+0.1**
QRZ	**Quartz Range**	**3.17**	**227**	Pn	**Pn**	**13 11 07.6**	**-0.5**
QRZ	**Quartz Range**	**3.17**	**227**	P	**Pn**	**13 11 07.6**	**-0.5**
CMWZ	**Cape Campbell**	**3.21**	**199**	Pn	**Pn**	**13 11 10.1**	**+1.4**
CMWZ	**Cape Campbell**	**3.21**	**199**	P	**Pn**	**13 11 10.0**	**+1.4**
BSWZ	**Blackbirch Sta**	**3.28**	**203**	Pn	**Pn**	**13 11 10.1**	**+0.7**
BSWZ	**Blackbirch Sta**	**3.28**	**203**	P	**Pn**	**13 11 10.1**	**+0.7**
THZ	**Tophouse**	**3.68**	**213**	Pn	**Pn**	**13 11 14.1**	**-0.3**
THZ	**Tophouse**	**3.68**	**213**	P	**Pn**	**13 11 14.1**	**-0.3**
OUZ	**Omahuta**	**3.84**	**335**	P	**Pn**	**13 11 16.2**	**-0.2**
KHZ	**Kahutara**	**4.02**	**202**	Pn	**Pn**	**13 11 18.8**	**+0.3**
KHZ	**Kahutara**	**4.02**	**202**	P	**Pn**	**13 11 19.3**	**+0.7**
DSZ	**Denniston Nort**	**4.20**	**223**	Pn	**Pn**	**13 11 19.8**	**-1.1**
DSZ	**Denniston Nort**	**4.20**	**223**	P	**Pn**	**13 11 19.9**	**-0.9**
LTZ	**Lake Taylor**	**4.79**	**211**	Pn	**Pn**	**13 11 27.3**	**-1.0**
CRLZ	**Canterbury Las**	**5.35**	**204**	Pn	**Pn**	**13 11 34.9**	**-0.6**
WVZ	**Waitaha Valley**	**5.71**	**219**	Pn	**Pn**	**13 11 38.3**	**-1.8**
RPZ	**Rata Peaks**	**6.06**	**213**	P	**Pn**	**13 11 43.9**	**-0.8**
	31nm,0.3s,baz=248,slow=1.3,SNR=180						
RPZ				S	**Sn**	**13 12 49.1**	**-5.1**
	17nm,0.3s,baz=32,slow=23,SNR=12						
RPZ	**Rata Peaks**	**6.06**	**213**	Pn	**Pn**	**13 11 43.3**	**-1.4**
FOZ	**Fox Glacier**	**6.50**	**220**	Pn	**Pn**	**13 11 48.4**	**-2.1**
LBZ	**Lake Benmore**	**6.97**	**214**	Pn	**Pn**	**13 11 55.8**	**-0.9**
ODZ	**Otahua Downs**	**7.33**	**209**	Pn	**Pn**	**13 12 00.3**	**-0.9**
JCZ	**Jackson Bay**

GEVA	**Gevas**	**1.09**	**146**	*i*	P		**Pg**	**13 49 11.8**	**-1.3**
GEVA				*i*	S		**Sn**	**13 49 29.3**	**+0.8**
GEVA	**Gevas**	**1.09**	**146**		P		**Pg**	**13 49 11.8**	**-1.3**
TVAN	**Van**	**1.12**	**128**	*i*	P		**Pb**	**13 49 13.3**	**-0.1**
TVAN				*i*	S		**Sn**	**13 49 29.9**	**+0.7**
TVAN	**Van**	**1.12**	**128**		P		**Pb**	**13 49 13.4**	**-0.1**
TVAN					S		**Sn**	**13 49 29.9**	**+0.7**
DYDN	**Diyadin**	**1.14**	**73**	*i*	P		**Pg**	**13 49 12.5**	**-1.4**
DYDN				*i*	S		**Sg**	**13 49 28.1**	**-0.6**
DYDN	**Diyadin**	**1.14**	**73**		P		**Pg**	**13 49 12.5**	**-1.4**
DYDN					S		**Sg**	**13 49 28.1**	**-0.6**
SRTM	**Siirt_Merkez**	**1.26**	**193**	*i*	P		**Pg**	**13 49 15.6**	**-0.7**
SRTM				*i*	S		**Sn**	**13 49 37.5**	**+5.0**
SRTM	**Siirt_Merkez**	**1.26**	**193**		P		**Pg**	**13 49 15.6**	**-0.7**
BNGB	**Bing˜ll**	**1.27**	**260**		PN		**Pn**	**13 49 15.6**	**-0.1**
CLDR	**Caldiran**	**1.27**	**93**		PN		**Pg**	**13 49 14.9**	**-1.6**
CLDR	**Caldiran**	**1.27**	**93**	*i*	P		**Pg**	**13 49 15.3**	**-1.2**
CLDR				*i*	S		**Sn**	**13 49 35.5**	**+2.4**
CLDR	**Caldiran**	**1.27**	**93**	*e*	Pn		**Pg**	**13 49 14.9**	**-1.6**
CLDR	**Caldiran**	**1.27**	**93**		P		**Pg**	**13 49 15.3**	**-1.2**
SENK	**Senkaya-Erzuru**	**1.34**	**2**		PN		**Pg**	**13 49 17.4**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.34**	**2**	*e*	Pn		**Pg**	**13 49 17.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.37**	**219**		PN		**Pb**	**13 49 17.4**	**-0.1**
SVAN					SN		**Sn**	**13 49 36.5**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.37**	**219**	*i*	P		**Pn**	**13 49 16.3**	**-0.6**
SVAN				*i*	S		**Sg**	**13 49 35.5**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.37**	**219**		P		**Pn**	**13 49 16.3**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.37**	**219**	*e*	Pn		**Pb**	**13 49 17.4**	**-0.1**
SVAN					S		**Sg**	**13 49 35.5**	**-0.5**
SVAN				*e*	Sn		**Sn**	**13 49 36.5**	**+1.5**
BINT	**Bingol**	**1.44**	**257**	*e*	Pn		**Pn**	**13 49 15.6**	**-2.4**
DIGO	**Kars**	**1.46**	**35**	*i*	P		**Pn**	**13 49 18.6**	**+0.2**
DIGO				*i*	S		**Sg**	**13 49 40.0**	**+1.1**
DIGO	**Kars**	**1.46**	**35**		P		**Pn**	**13 49 18.6**	**+0.2**
DIGO					S		**Sg**	**13 49 40.0**	**+1.1**
KARS	**Kars**	**1.53**	**23**		PN		**Pb**	**13 49 20.4**	**0.0**
KARS	**Kars**	**1.53**	**23**	*e*	Pn		**Pb**	**13 49 20.4**	**0.0**
IGDI	**IGDIR**	**1.53**	**65**	*i*	P		**Pn**	**13 49 19.7**	**+0.5**
IGDI				*i*	S		**Sb**	**13 49 40.0**	**+0.3**
BTMN	**Batman**	**1.55**	**211**	*i*	P		**Pn**	**13 49 19.7**	**+0.2**
BTMN				*i*	S		**Sg**	**13 49 41.2**	**-0.7**
BTMN	**Batman**	**1.55**	**211**		P		**Pn**	**13 49 19.7**	**+0.2**
BTMN					S		**Sg**	**13 49 41.2**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.69**	**63**		PN		**Pn**	**13 49 21.9**	**+0.4**
TASB	**TASBURUN-IGDIR**	**1.69**	**63**	*e*	Pn		**Pn**	**13 49 21.9**	**+0.4**
SIRT	**Sirnak**	**1.73**	**176**		PN		**Pn**	**13 49 22.4**	**+0.5**
SIRT	**Sirnak**	**1.73**	**176**	*e*	Pn		**Pn**	**13 49 22.4**	**+0.5**
HAKT	**HAKKARI**	**2.01**	**146**	*i*	P		**Pb**	**13 49 27.6**	**-1.0**
HAKT				*i*	S		**Sg**	**13 49 55.9**	**-0.7**
HAKT	**HAKKARI**	**2.01**	**146**		P		**Pb**	**13 49 27.6**	**-1.0**
ERZN	**Erzincan**	**2.02**	**281**		PN		**Pb**	**13 49 27.9**	**-0.8**
BAYT	**Ayd˜ntepe-Bay**	**2.02**	**306**		PN		**Pb**	**13 49 28.5**	**-0.3**
BAYT	**Ayd˜ntepe-Bay**	**2.02**	**306**	*e*	Pn		**Pb**	**13 49 28.5**	**-0.3**
DIY	**Diyarbakir**	**2.09**	**231**	*e*	Pn		**Pn**	**13 49 28.2**	**+1.3**
DYBB	**Diyarbakir**	**2.10**	**234**		PN		**Pn**	**13 49 28.2**	**+1.1**
CHOM	**Cayeli-Rize**	**2.20**	**329**	*e*	Pn		**Pb**	**13 49 30.7**	**-1.1**
PTK	**Pertek**	**2.27**	**263**		PN		**Pb**	**13 49 31.7**	**-1.4**
PTK	**Pertek**	**2.27**	**263**	*e*	Pn		**Pb**	**13 49 31.7**	**-1.4**
MAZI	**Mazidag**	**2.28**	**220**		PN		**Pn**	**13 49 30.7**	**+1.2**
MAZI	**Mazidag**	**2.28**	**220**	*e*	Pn		**Pn**	**13 49 30.7**	**+1.2**
EZC	**Erzincan**	**2.33**	**284**	*e*	Pn		**Pn**	**13 49 27.9**	**-2.4**
GUMT	**Gumushane**	**2.48**	**301**		PN		**Pb**	**13 49 35.0**	**-1.7**
GUMT	**Gumushane**	**2.48**	**301**	*e*	Pn		**Pb**	**13 49 35.0**	**-1.7**
KTUT	**Trabzon**	**2.61**	**313**		PN		**Pn**	**13 49 36.5**	**+2.5**
KTUT	**Trabzon**	**2.61**	**313**	*e*	Pn		**Pn**	**13 49 36.5**	**+2.5**

MAN 26 13:53:11,10.12N×123.28E,h1km,mb4.3,ML3.1,MS2.9, 1C-2D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.70**	**74**	⇓*i* P	Pg	13 53 24.4	-0.1
LLP				*i* S	Sg	13 53 34.4	+0.7
TBP	**Tagbilaran**	**0.71**	**127**	*e*P	Pg	13 53 25.3	+0.6
SNPH	**Sibulan**	**0.77**	**183**	⇓*i* P	Pg	13 53 26.3	+0.5
SNPH				*i* S	Sb	13 53 38.0	-0.4
GUIM	**Jordan**	**0.85**	**307**	*e*P	Pg	13 53 26.0	-1.2
RCP	**Roxas**	**1.52**	**340**	⇑*e*P	Pn	13 53 39.6	+0.2
RCP				*e*S	Sg	13 54 00.8	+0.7
MSLP	**Maasin**	**1.56**	**89**	*e*P	Pn	13 53 39.5	-0.4
MSLP				*e*S	Sg	13 54 01.6	+0.5
OCLP	**Ormoc**	**1.60**	**55**	*e*P	Pn	13 53 39.9	-0.6
OCLP				*e*S	Sg	13 54 03.1	+0.6
PAGZ	**Pagadian**	**2.26**	**177**	*e*P	Pn	13 53 49.8	+0.3
PAGZ				*e*S	Sb	13 54 19.8	-1.2
BUKP	**Musuan**	**2.84**	**142**	*e*P	Pn	13 53 58.3	+0.8
BUKP				*e*S	Sn	13 54 33.4	+0.9

*IDC **26** 13:54:49.1±1.4,41°.83N×148°.41E,h0km,mb3.4/6, mb1 3.5/7,mb1mx3.3/69,mbtmp3.4/7,ML3.3/1,Error ellipse: s-maj=37.8km s-min=25.8km az=64.0*
*NIED **26** 13:55:00,40°.80N×145°.40E,h5km,Mw3.6 Best double couple: M0≥6.68000×10^14 NP1:φ≈194.00000°,δ≈26.00000°, λ≈-95.00000°. NP2:φ≈20.00000°,δ≈64.00000°,λ≈-88.00000°.*
*ISCJB **26** 13:55:03.1±0.7,40°.77N±0°.03×145°.24E±0°.06,h33km, mb3.4/5,Error ellipse: s-maj=6.7km s-min=4.8km az=14.8*
*JMA **26** 13:55:03.2±0.3,40°.78N×145°.36E,h65km±4km,MJ3.7*
ISC 26 13:55:03.7±1.2,40°.71N±0°.05×145°.31E±0°.07,h35km,n26, σ1s62/41,mb3.6/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**2.08**	**310**	P	**Pn**	**13 55 36.8**	**+0.7**
JEM				*e*S	**Sn**	**13 55 59.8**	**-1.0**
JAK	**Akkeshi**	**2.33**	**349**	P	**Pn**	**13 55 39.0**	**-0.5**
JAK				S	**Sn**	**13 56 06.4**	**-0.6**
JCH	**Churui**	**2.40**	**323**	P	**Pn**	**13 55 40.4**	**-0.1**
JCH				S	**Sn**	**13 56 06.7**	**-2.0**
JOB	**Onbets**	**2.46**	**334**	P	**Pn**	**13 55 41.3**	**+0.1**
JOB				*e*S	**Sn**	**13 56 08.7**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.48**	**310**	P	**Pn**	**13 55 42.6**	**+1.0**
JNBK				*e*S	**Sn**	**13 56 11.0**	**+0.3**
NEM2	**Nemuro 2**	**2.67**	**7**	P	**Pn**	**13 55 44.0**	**-0.2**
NEM2				*e*S	**Sn**	**13 56 13.5**	**-1.9**
JAR	**Ashorobuto**	**2.83**	**337**	P	**Pn**	**13 55 45.9**	**-0.5**
JAR				*e*S	**Sn**	**13 56 16.4**	**-2.5**
JNK	**Nakash**	**2.91**	**351**	P	**Pn**	**13 55 46.5**	**-1.0**
JNK				S	**Sn**	**13 56 17.6**	**-3.6**
JANG	**Nango**	**2.91**	**265**	P	**Pn**	**13 55 47.1**	**-0.4**
JANG				*e*S	**Sn**	**13 56 17.7**	**-3.6**
JBT2	**Biratori 2**	**3.02**	**314**	P	**Pn**	**13 55 50.4**	**+1.3**
JBT2				*e*S	**Sn**	**13 56 24.7**	**+0.7**
JFR	**Furan**	**3.18**	**321**	P	**Pn**	**13 55 52.0**	**+0.7**
JFR				*e*S	**Sn**	**13 56 25.4**	**-2.6**
JRA	**Rausu**	**3.23**	**358**	*e*S	**Sn**	**13 56 27.0**	**-2.1**
JOT	**Ohata**	**3.29**	**283**	P	**Pn**	**13 55 52.9**	**+0.1**
JOT				S	**Sn**	**13 56 27.6**	**-3.1**
JOM	**Ohasama**	**3.32**	**250**	P	**Pn**	**13 55 53.6**	**+0.5**
JOM				*e*S	**Sn**	**13 56 29.6**	**-1.8**
JTKR	**Abashiri--Toko**	**3.42**	**343**	P	**Pn**	**13 55 55.1**	**+0.6**
JTKR				*e*S	**Sn**	**13 56 32.6**	**-1.2**
JKB	**Kayabe**	**3.43**	**291**	P	**Pn**	**13 55 55.1**	**+0.4**
JKB				S	**Sn**	**13 56 32.3**	**-1.8**
JEW	**Eniwo**	**3.59**	**308**	P	**Pn**	**13 55 58.2**	**+1.4**
JEW				S	**Sn**	**13 56 37.5**	**-0.5**
JMK	**Ichinoseki**	**3.61**	**242**	S	**Sn**	**13 56 35.6**	**-2.8**
JKK2	**Kamakawa 2**	**3.69**	**330**	P	**Pn**	**13 56 00.3**	**+2.1**
ASAJ	**Asahikawa**	**3.96**	**330**	Pn	**Pn**	**13 56 03.5**	**+1.6**
	1.1nm,0.3s,baz=176,slow=18,SNR=25						
ASAJ				Sn	**Sn**	**13 56 46.3**	**-0.7**
	2.0nm,0.3s,baz=231,slow=25,SNR=5.8						
SONM	**Songino Array**	**28.53**	**298**	P	P	14 01 01.6	+5.7
	0.9nm,0.7s,baz=82,slow=9.3,SNR=3.3						
MKAR	**Makanchi Array**	**44.85**	**300**	P	**P**	**14 03 14.6**	**+0.2**
	0.3nm,0.7s,baz=79,slow=8.7,SNR=2.2						
KURBB	**Kurchatov Arra**	**46.23**	**306**	P	**P**	**14 03 25.5**	**+0.3**
	0.8nm,0.8s,baz=78,slow=8.6,SNR=7.0						
YKA	**Yellowknife Ar**	**59.09**	**32**	P	P	14 04 35.3	-25
	0.1nm,0.6s,baz=299,slow=6.8,SNR=2.0						
WRA	**Warramunga Arr**	**61.20**	**192**	P	**P**	**14 05 16.7**	**+1.9**
	0.2nm,0.7s,baz=8.6,slow=7.0,SNR=4.7						
ASAR	**Alice Springs**	**64.92**	**192**	P	**P**	**14 05 40.5**	**+0.9**
	0.2nm,0.9s,baz=10,slow=5.7,SNR=1.6						

*CSEM **26** 13:55:04.9±0.3,38°.35N×38°.19E,h10km,ML2.1,Error ellipse: s-maj=8.7km s-min=6.1km az=24.0*
*DDA **26** 13:55:06.5,38°.42N×37°.94E,h8km,Ml2.1*

ISK 26 13:55:04.9,38°.40N×38°.21E,h10km,ML2.3/1,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MALT	**Malatya**	**0.19**	**118**	PG	Pg	13 55 09.1	+0.1
MALT				SG	Sg	13 55 12.8	+1.0
MALT	**Malatya**	**0.19**	**118**	*i* Pg	Pg	13 55 09.1	+0.1
MALT				*e*Sg	Sg	13 55 12.8	+1.0
AKCD	**Akcadag**	**0.25**	**245**	*i* P	Pg	13 55 08.8	-1.3
AKCD				*i* S	Sg	13 55 12.6	-1.0
AKCD	**Akcadag**	**0.25**	**245**	P	Pg	13 55 08.8	-1.3
AKCD				S	Sg	13 55 12.6	-1.0
HEKM	**Malatya_Hekimh**	**0.52**	**337**	*i* P	Pb	13 55 16.6	+0.4
HEKM				*i* S	Sn	13 55 27.3	-0.3
HEKM	**Malatya_Hekimh**	**0.52**	**337**	P	Pb	13 55 16.6	+0.4
DARE	**Darende-Malaty**	**0.60**	**287**	PG	Pg	13 55 16.9	+0.4
DARE				SG	Sb	13 55 25.8	-0.3
DARE	**Darende-Malaty**	**0.60**	**287**	*e*Pg	Pg	13 55 16.9	+0.4
DARE				*e*Sg	Sb	13 55 25.8	-0.3
KEMA	**Kemaliye**	**0.89**	**14**	*i* P	Pn	13 55 23.3	-0.3
KEMA				*i* S	Sn	13 55 39.1	+2.5
KEMA	**Kemaliye**	**0.89**	**14**	P	Pn	13 55 23.3	-0.3
PTK	**Pertek**	**1.04**	**62**	PG	Pb	13 55 25.4	+0.2
PTK	**Pertek**	**1.04**	**62**	*e*Pg	Pb	13 55 25.4	+0.2
URFA	**Urfa**	**1.07**	**153**	PG	Pn	13 55 25.9	-0.2
URFA	**Urfa**	**1.07**	**153**	*e*Pg	Pn	13 55 25.9	-0.2

*CSEM **26** 13:56:26.1,42°.34N×43°.08E,h0km,ML3.3,After TIF*
TIF 26 13:56:27.0,42°.33N×43°.16E,h0km±2km,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.34**	**40**	P	Pg	13 56 34.7	+1.1
ONI				S	Sb	13 56 41.6	-0.5
AKH	**Akhalkalaki**	**0.95**	**165**	P	Pb	13 56 46.1	-0.4
AKH				S	Sb	13 57 00.8	+1.2
AKH	**Akhalkalaki**	**0.95**	**165**	P	Pb	13 56 46.1	-0.3
AKH				S	Sb	13 57 00.8	+1.2
GUDG	**Gudauri**	**0.99**	**82**	P	Pn	13 56 47.8	-0.6
GUDG				S	Sn	13 57 03.7	+0.6
GUDG	**Gudauri**	**0.99**	**82**	P	Pn	13 56 47.8	-0.6
GUDG				S	Sn	13 57 03.7	+0.5
DUS	**Dusheti**	**1.17**	**101**	P	Pn	13 56 51.9	+1.1
DUS				S	Sn	13 57 11.0	+3.5
DUS	**Dusheti**	**1.17**	**101**	P	Pn	13 56 51.9	+1.1
DUS				S	Sn	13 57 11.0	+3.5
TBLG	**Delisi**	**1.32**	**116**	P	Pn	13 56 53.0	+0.3
TBLG				S	Sn	13 57 12.7	+1.6
TBLG	**Delisi**	**1.32**	**116**	P	Pn	13 56 53.0	+0.3
TBLG				S	Sn	13 57 12.7	+1.6
SEAG	**Tbilisi Sea**	**1.35**	**114**	P	Pb	13 56 54.5	+1.3
SEAG				S	Sn	13 57 14.4	+2.7
SEAG	**Tbilisi Sea**	**1.35**	**114**	P	Pb	13 56 54.5	+1.3
SEAG				S	Sn	13 57 14.4	+2.6
BTNK	**Botanikuri**	**1.38**	**117**	P	Pb	13 56 54.2	+0.4
BTNK				S	Sn	13 57 14.7	+2.1
BTNK	**Botanikuri**	**1.38**	**117**	P	Pb	13 56 54.2	+0.4
BTNK				S	Sn	13 57 14.7	+2.1
DGRG	**David-gareji**	**1.87**	**117**	P	Pb	13 57 02.5	+0.3
DGRG	**David-gareji**	**1.87**	**117**	P	Pg	13 57 02.5	-0.4
DDFL	**Dedoflistskaro**	**2.38**	**111**	P	Pg	13 57 13.0	+0.4
DDFL				S	Sb	13 57 41.7	+0.9
DDFL	**Dedoflistskaro**	**2.38**	**111**	P	Pg	13 57 13.0	+0.4
DDFL				S	Sb	13 57 41.7	+1.0

*IDC **26** 14:00:57.5±1.9,12°.66N×144°.57E,h56km±18km,mb3.0/6, mb1 3.3/6,mb1mx3.0/62,mbtmp3.3/6,Error ellipse: s-maj=46.3km s-min=20.0km az=101.0*
ISC 26 14:00:54.8±1.1,12.7N±0°.2×144.4E±0°.3,h30km,n7, σ0s98/8,mb3.5/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.03**	**25**	P	**Pb**	**14 01 14.1**	**-0.1**
	72nm,0.3s,baz=3.2,slow=3.5,SNR=64						
GUMO				S	**Sb**	**14 01 28.7**	**+1.3**
	287nm,0.3s,baz=349,slow=19,SNR=12						
GUMO				LR	LR	14 01 37.1	
	comp=Z,204nm,18.4s,baz=103,slow=41						
WRA	**Warramunga Arr**	**33.87**	**197**	P	**P**	**14 07 35.3**	**+0.3**
	0.5nm,0.8s,baz=23,slow=9.7,SNR=3.4						
ASAR	**Alice Springs**	**37.53**	**196**	P	**P**	**14 08 07.6**	**+1.1**
	0.2nm,0.8s,baz=23,slow=10,SNR=1.5						
MKAR	**Makanchi Array**	**61.86**	**316**	P	**P**	**14 11 11.6**	**+0.2**
	0.1nm,0.3s,baz=124,slow=8.9,SNR=6.7						
KURBB	**Kurchatov Arra**	**65.06**	**320**	P	**P**	**14 11 32.5**	**+0.1**
	0.2nm,0.4s,baz=97,slow=7.9,SNR=2.2						
ILAR	**Eielson Array**	**69.60**	**25**	P	**P**	**14 11 59.7**	**-1.2**
	0.4nm,0.7s,baz=251,slow=5.6,SNR=4.5						
YKA	**Yellowknife Ar**	**83.89**	**27**	P	**P**	**14 13 21.1**	**-0.5**
	0.1nm,0.4s,baz=285,slow=5.6,SNR=1.5						

*IDC **26** 14:04:07.4±0.5,44°.71S×78°.78W,h0km,mb4.3/13, mb1 4.4/14,mb1mx4.2/40,mbtmp4.3/14,ML4.2/1,MS3.9/19, Ms1 3.9/19,ms1mx3.8/30,Error ellipse: s-maj=22.7km s-min=16.3km az=87.0*
*ISCJB **26** 14:04:12.0±0.5,44°.55S±0°.05×78°.5W±0°.1,h33km, mb4.5/25,MS4.0/18,Error ellipse: s-maj=11.8km s-min=7.5km az=166.1*
*BJI **26** 14:04:11.7,44°.50S×78°.70W,h22km,mB5.0/4,Ms4.8/1, Ms7 4.6/1*
*NEIC **26** 14:04:13.7±1.4,44°.53S×78°.65W,h42km±11km,mb4.9/15, Error ellipse: s-maj=15.2km s-min=6.8km az=87.0*
ISC 26 14:04:13.2±0.4,44°.55S±0°.07×78°.7W±0°.1,h35km,n83, σ1s12/85,mb4.6/25,MS4.1/18,1D,Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHRN	**Cochrane**	**5.05**	**124**	*e*Pn	**Pn**	**14 05 25.6**	**-0.7**
PLCA	**Paso Flores**	**7.12**	**60**	Pn	**Pn**	**14 05 54.0**	**-0.8**
	0.8nm,0.3s,baz=261,slow=8.9,SNR=46						
PLCA				Sn	Sn	14 07 23.8	+9.3
	baz=204,slow=20,SNR=1.0						
PLCA				LR	LR	14 08 18.1	
	comp=Z,162nm,19.0s,baz=214,slow=35						
GO09	**Cerro Castillo**	**7.96**	**150**	*e*Pn	**Pn**	**14 06 07.1**	**+0.8**
ROC1	**El Roble**	**13.01**	**30**	*e*Pn	**Pn**	**14 07 13.4**	**-2.3**
TRQA	**Tornquist**	**14.13**	**68**	*e*Pn	**Pn**	**14 07 31.5**	**+0.8**
PB10	**IPOC Station P**	**22.02**	**20**	*e*P	**P**	**14 09 04.5**	**0.0**
	115nm,1.6s						
PB04	**IPOC Station P**	**23.25**	**20**	*e*P	**P**	**14 09 17.8**	**+0.2**
	64nm,1.2s						
PB01	**IPOC Station P**	**24.66**	**21**	*e*P	**P**	**14 09 30.5**	**-0.2**
	38nm,1.2s						
CPUP	**Villa Florida**	**25.05**	**51**	P	**P**	**14 09 34.2**	**+0.2**
	16nm,0.9s,baz=232,slow=9.1,SNR=30						
CPUP				LR	LR	14 18 19.5	
	comp=Z,64nm,18.1s,baz=232,slow=34						
PB11	**IPOC Station P**	**25.84**	**20**	*e*P	**P**	**14 09 41.0**	**-0.5**
	25nm,1.1s						
MNMC	**Minye Minye**	**26.46**	**20**	*e*P	**P**	**14 09 48.0**	**+0.7**
	28nm,1.3s						
LPAZ	**La Paz**	**29.56**	**21**	P	**P**	**14 10 16.3**	**+1.1**
	3.0nm,1.0s,baz=178,slow=5.4,SNR=7.8						
LPAZ	**La Paz**	**29.56**	**21**	*e*P	**P**	**14 10 15.8**	**+0.5**
	6.8nm,1.1s						
RPN	**Rapa Nui**	**30.07**	**295**	LR	LR	14 18 54.0	
	comp=Z,592nm,18.7s,baz=110,slow=30						
SIV	**San Ignacio**	**32.14**	**33**	P	**P**	**14 10 37.1**	**-0.2**
	5.2nm,0.9s,baz=225,slow=9.3,SNR=19						
NNA	**Nana**	**32.49**	**3**	LR	LR	14 20 12.4	
	comp=Z,172nm,20.6s,baz=186,slow=30						
ATAH	**Atahualpa**	**37.27**	**0**	P	**P**	**14 11 24.1**	**+2.0**
	5.4nm,1.0s,baz=58,slow=4.3,SNR=5.0						
SAML	**Samuel**	**37.94**	**25**	*e*P	**P**	**14 11 25.4**	**-1.9**
	13nm,1.0s						
VNA3	**Neumayer Olymp**	**41.90**	**153**	P	**P**	**14 12 00.3**	**+0.7**
VNA2	**Neumayer--Watz**	**42.64**	**153**	P	**P**	**14 12 06.5**	**+0.8**
	baz=274,slow=8.5						
SNAA	**Sanae**	**44.07**	**154**	P	**P**	**14 12 17.8**	**+0.5**
SNAA	**Sanae**	**44.07**	**154**	P	**P**	**14 12 14.3**	**-2.9**
	11nm,1.2s,baz=268,slow=8.1,SNR=6.7						
SNAA				LR	LR	14 27 55.0	
	comp=Z,237nm,20.5s,baz=304,slow=32						
SNAA	**Sanae**	**44.07**	**154**	*e*P	**P**	**14 12 16.9**	**-0.3**
	55nm,1.7s						
QSPA	**South Pole Qui**	**45.69**	**180**	P	**P**	**14 12 29.4**	**-0.9**
	5.2nm,1.1s,baz=148,slow=7.0,SNR=5.9						
QSPA				LR	LR	14 28 12.9	
	comp=Z,105nm,18.4s,baz=147,slow=32						
QSPA	**South Pole Qui**	**45.69**	**180**	*e*P	**P**	**14 12 30.5**	**+0.2**
	24nm,1.5s						
ROSC	**El Rosal**	**49.32**	**6**	LR	LR	14 32 03.8	
	comp=Z,254nm,18.1s,baz=224,slow=34						
SDV	**Santo Domingo**	**53.68**	**10**	P	**P**	**14 13 32.2**	**+0.5**
	3.0nm,0.6s,baz=241,slow=13,SNR=3.7						
SDV				LR	LR	14 34 51.6	
	comp=Z,90nm,20.7s,baz=182,slow=34						
JTS	**JuntasAbangare**	**54.88**	**352**	P	**P**	**14 13 43.3**	**+3.2**
	1.4nm,0.3s,baz=36,slow=19,SNR=2.9						
JTS				LR	LR	14 31 24.9	
	comp=Z,115nm,18.9s,baz=219,slow=30						
SYO	**Syowa Base**	**57.99**	**158**	⇓*e*X	P	14 13 55.8	-5.9
MAW	**Mawson**	**64.46**	**165**	LR	LR	14 42 20.3	
	comp=Z,199nm,18.8s,baz=230,slow=36						
LPIG	**La Paz**	**74.18**	**330**	LR		14 40 47.7	
	comp=Z,149nm,20.5s,baz=190,slow=30						
TX31	**Lajitas Ar. Si**	**76.98**	**338**	*e*P	**P**	**14 16 02.1**	**0.0**
TXAR	**Lajitas Array**	**76.98**	**338**	P	**P**	**14 16 02.6**	**+0.5**
	1.9nm,1.1s,baz=161,slow=9.0,SNR=11						
TXAR				LR	LR	14 42 57.4	
	comp=Z,93nm,22.0s,baz=0.0,slow=30						
BOSA	**Boshof**	**79.54**	**120**	P	**P**	**14 16 17.1**	**+0.5**
	3.6nm,0.9s,baz=58,slow=18,SNR=4.6						
BOSA				LR	LR	14 47 18.9	
	comp=Z,68nm,19.3s,baz=217,slow=33						
TKL	**Tuckaleechee C**	**79.97**	**356**	LR	LR	14 46 20.3	
	comp=Z,52nm,19.4s,baz=44,slow=32						
WMOK	**Wichita Mounta**	**81.00**	**343**	*e*P	**P**	**14 16 23.0**	**-0.9**
	16nm,1.6s						
LBTB	**Lobatse**	**82.31**	**117**	P	**P**	**14 16 31.7**	**+0.3**
	2.8nm,0.9s,baz=192,slow=2.5,SNR=3.6						
ANMO	**Albuquerque**	**83.04**	**337**	P	**P**	**14 16 36.0**	**+1.2**
	1.6nm,0.9s,baz=153,slow=14,SNR=3.1						
ANMO	**Albuquerque**	**83.04**	**337**	*e*P	**P**	**14 16 34.4**	**-0.4**
	11nm,1.6s						
DBIC	**Dimbokro**	**83.28**	**74**	LR	LR	14 52 31.0	
	comp=Z,25nm,18.9s,baz=182,slow=35						
SMCO	**Snowmass**	**87.16**	**338**	*e*P	**P**	**14 16 56.9**	**+1.3**
	19nm,1.5s						
CCUT	**Cedar City**	**87.53**	**333**	*e*P	**P**	**14 16 58.5**	**+1.3**
	13nm,1.5s						
TMUT	**Trail Mountain**	**88.46**	**335**	*e*P	**P**	**14 17 01.7**	**0.0**
	9.4nm,0.8s						
PHWY	**Pilot Hill**	**88.78**	**340**	*e*P	**P**	**14 17 03.5**	**+0.4**
	8.1nm,0.8s						
NVAR	**Mina Array Bea**	**90.01**	**330**	LR	LR	14 49 17.0	
	comp=Z,74nm,21.5s,baz=346,slow=30						
PDAR	**Pinedale Array**	**91.20**	**338**	P	**P**	**14 17 14.6**	**+0.2**
	0.3nm,0.8s,baz=138,slow=5.6,SNR=3.3						
PDAR				LR	LR	14 52 16.0	
	comp=Z,162nm,20.7s,baz=210,slow=32						
PDAR	**Pinedale Array**	**91.20**	**338**	*e*P	**P**	**14 17 12.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**92.40**	**74**	P	**P**	**14 17 20.3**	**0.0**
	0.6nm,1.0s,baz=224,slow=4.0,SNR=3.6						
YBH	**Yreka Blue Hor**	**94.52**	**329**	LR	LR	14 52 42.4	
	comp=Z,54nm,18.0s,baz=166,slow=31						
LRM	**Limekiln Ridge**	**94.82**	**337**	*e*P	**P**	**14 17 31.9**	**+0.9**
ULM	**Lac du Bonnet**	**95.60**	**349**	LR	LR	14 57 53.1	
	comp=Z,85nm,20.5s,baz=348,slow=34						
**HDA

ROSC	**El Rosal**	**1.74**	**253**	P		**Pb**	**14 07 59.7**	**-1.4**
	comp=Z,2.6nm,0.3s,baz=122,slow=14,SNR=4.6							
ROSC				S		**Sb**	**14 08 24.0**	**+1.3**
	comp=Z,45nm,0.3s,baz=61,slow=19,SNR=17							
PAMC	**Pamplona, Colo**	**1.96**	**359**	*e*P		**Pb**	**14 08 02.9**	**-2.2**
PAMC				*e*S		**Sb**	**14 08 29.4**	**0.0**
BRRC	**Barranca, Sant**	**2.02**	**329**	*e*P		**Pb**	**14 08 03.3**	**-2.5**
BRRC				*e*S		**Sb**	**14 08 29.6**	**-1.0**
BRRC				*i*			14 08 33.0	
	comp=Z,183nm,0.1s							
PTBC	**PUERTO BERRIO,**	**2.14**	**303**	*e*P		**Pn**	**14 08 02.6**	**-0.5**
PTBC				*e*S		**Sn**	**14 08 30.7**	**+2.0**
PTBC				*i*			14 08 37.7	
	comp=Z,81nm,0.5s							
NORC	**Norcasia**	**2.21**	**275**	*e*P		**Pn**	**14 08 04.9**	**+0.7**
NORC				*e*S		**Sn**	**14 08 32.1**	**+1.6**
RREF	**El Recreo**	**2.72**	**260**	*e*P		**Pn**	**14 08 12.4**	**+0.8**
RREF				*i*			14 08 58.8	
	comp=Z,29nm,0.6s							
PRAC	**Prado**	**2.76**	**234**	*e*P		**Pn**	**14 08 12.4**	**+0.6**
PRAC				*e*S		**Sn**	**14 08 45.1**	**+1.0**
HELC	**Santa Helena**	**2.97**	**286**	*e*P		**Pn**	**14 08 15.7**	**+0.7**
HELC				*e*S		**Sn**	**14 08 51.9**	**+2.2**
HELC				*i*			14 09 08.0	
	comp=Z,30nm,0.3s							
ZARC	**Zaragoza, Cauc**	**3.04**	**314**	*e*S		**Sn**	**14 08 53.3**	**+2.3**
ZARC				*i*			14 09 04.3	
	comp=Z,70nm,0.5s							
SDV	**Santo Domingo**	**4.04**	**30**	P		**Pn**	**14 08 30.8**	**+1.4**
	comp=Z,5.0nm,0.3s,baz=187,slow=3.9,SNR=19							
SDV				S		**Sn**	**14 09 16.4**	**+0.7**
	comp=Z,14nm,0.3s,baz=253,slow=24,SNR=15							
SDV	**Santo Domingo**	**4.04**	**30**	*e*P		**Pn**	**14 08 31.2**	**+1.8**
MOTC	**Monteria, Cord**	**4.52**	**319**	*e*P		**Pn**	**14 08 36.9**	**+1.0**
MOTC				*e*S		**Sn**	**14 09 29.6**	**+2.1**
PCRV	**Puerto La Cruz**	**9.27**	**58**	P		**Pn**	**14 09 40.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=270,slow=10,SNR=1.5							
YKA	**Yellowknife Ar**	**64.78**	**340**	P		**P**	**14 18 02.9**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=132,slow=6.3,SNR=2.6							
ASAR	**Alice Springs**	**148.61**	**232**	PKPbc		**PKPdf**	**14 27 11.8**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=119,slow=3.9,SNR=5.2							
WRA	**Warramunga Arr**	**150.01**	**239**	PKPbc		**PKPdf**	**14 27 14.5**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=108,slow=2.9,SNR=7.0							

MEX 26 14:17:42.7±0.5, 16°26N×98°32W, h1km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.23**	**55**	*i* P		Pg	14 17 47.0	-0.1
PNIG				*i* S		Sg	14 17 50.2	+0.1
TLIG	**Tlapa**	**1.32**	**350**	*e*P		Pg	14 18 04.7	-3.2
TLIG				*i* S		Sg	14 18 21.4	-3.7
ACX	**Acapulco**	**1.59**	**293**	*i* P		Pn	14 18 08.6	-3.4
ACX				*i* S		Sn	14 18 30.2	-3.0
VHO	**Vista Hermosa**	**1.72**	**62**	*e*P		Pn	14 18 10.8	-3.2
VHO				*i* S		Sn	14 18 32.2	-4.5
HUIG	**Huatulco**	**2.18**	**103**	*e*P		Pn	14 18 17.0	-3.1
HUIG				*i* S		Sn	14 18 42.6	-5.2

*ISCJB **26** 14:19:25.8±0.4, 39°.20N±0°.03×42°.26E±0°.03, h11km±4km, Error ellipse: s-maj=4.5km s-min=3.5km az=179.2*
*CSEM **26** 14:19:25.4±0.2, 39°.22N×42°.24E, h15km, ML3.1*
*DDA **26** 14:19:25.8, 39°.22N×42°.27E, h7km, Ml3.1*
*ISK **26** 14:19:25.3, 39°.18N×42°.28E, h11km, ML2.7/2*

ISC 26 14:19:25.7±0.8, 39°23N±0°.02×42°25E±0°.02, h17km±6km, n31, σ1§80/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.15**	**281**	*i* P		**Pg**	**14 19 29.5**	**-0.6**
EKAR				*i* S		**Sg**	**14 19 33.9**	**+0.9**
EKAR	**Karacoban**	**0.15**	**281**	P		**Pg**	**14 19 29.5**	**-0.6**
EKAR				S		**Sg**	**14 19 33.9**	**+0.9**
TUTA	**Tutak**	**0.47**	**68**	*i* P		**Pg**	**14 19 34.8**	**-0.5**
TUTA				*i* S		**Sb**	**14 19 41.8**	**-0.7**
TUTA	**Tutak**	**0.47**	**68**	P		**Pg**	**14 19 34.8**	**-0.5**
TUTA				S		**Sb**	**14 19 41.8**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.56**	**139**	*i* P		**Pg**	**14 19 35.8**	**-1.1**
ADCV				*i* S		**Sb**	**14 19 45.1**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.56**	**139**	P		**Pg**	**14 19 35.8**	**-1.1**
ADCV				S		**Sb**	**14 19 45.1**	**+0.2**
VRTB	**Varto-Mus**	**0.62**	**264**	PG		**Pg**	**14 19 37.9**	**-0.2**
VRTB				SG		**Sb**	**14 19 47.9**	**+1.1**
VRTB	**Varto-Mus**	**0.62**	**264**	*i* P		**Pg**	**14 19 37.9**	**-0.2**
VRTB				*i* S		**Sb**	**14 19 48.1**	**+1.3**
VRTB	**Varto-Mus**	**0.62**	**264**	*e*Pg		**Pg**	**14 19 37.9**	**-0.2**
VRTB	**Varto-Mus**	**0.62**	**264**	P		**Pb**	**14 19 38.4**	**+0.1**
VRTB				*e*Sg		**Sb**	**14 19 47.9**	**+1.1**
EATA	**Eleskirt**	**0.66**	**16**	*i* P		**Pg**	**14 19 38.5**	**-0.4**
EATA				*i* S		**Sb**	**14 19 49.0**	**+0.9**
EATA	**Eleskirt**	**0.66**	**16**	P		**Pg**	**14 19 38.5**	**-0.4**
EATA				S		**Sb**	**14 19 49.0**	**+0.9**
AGRB	**Hanur-Agry**	**0.67**	**58**	PG		**Pb**	**14 19 39.1**	**0.0**
AGRB				SG		**Sb**	**14 19 48.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.67**	**58**	*e*Pg		**Pb**	**14 19 39.1**	**0.0**
AGRB				*e*Sg		**Sb**	**14 19 48.7**	**+0.5**
GURO	**Guroymak-BITLI**	**0.70**	**194**	PG		**Pg**	**14 19 38.7**	**-0.7**
GURO				SG		**Sg**	**14 19 48.3**	**-0.4**
GURO	**Guroymak-BITLI**	**0.70**	**194**	*e*Pg		**Pg**	**14 19 38.7**	**-0.7**
GURO				*e*Sg		**Sg**	**14 19 48.3**	**-0.4**
HOMI	**Horasan**	**0.86**	**342**	*i* P		**Pg**	**14 19 41.5**	**-1.0**
HOMI				*i* S		**Sn**	**14 19 56.6**	**+0.3**
ERZM	**Erzurum**	**0.96**	**315**	*i* P		**Pg**	**14 19 42.8**	**-1.7**
ERZM				*i* S		**Sb**	**14 19 57.6**	**+0.9**
ERZM	**Erzurum**	**0.96**	**315**	P		**Pg**	**14 19 42.8**	**-1.7**
ERZM				S		**Sb**	**14 19 57.6**	**+0.9**
VMUR	**Van-Muradiye**	**1.05**	**103**	*i* P		**Pn**	**14 19 45.8**	**-0.1**
VMUR				*i* S		**Sn**	**14 20 01.4**	**+1.1**
VMUR	**Van-Muradiye**	**1.05**	**103**	P		**Pn**	**14 19 45.8**	**-0.1**
VMUR				S		**Sn**	**14 20 01.4**	**+1.1**
ECAT	**Cat-ERZURUM**	**1.06**	**291**	*i* P		**Pb**	**14 19 45.4**	**-0.4**
ECAT				*i* S		**Sg**	**14 19 59.5**	**-0.7**
ECAT	**Cat-ERZURUM**	**1.06**	**291**	P		**Pb**	**14 19 45.4**	**-0.4**
ECAT				S		**Sg**	**14 19 59.5**	**-0.7**
VANB	**Van**	**1.09**	**125**	PN		**Pn**	**14 19 46.7**	**+0.4**
VANB	**Van**	**1.09**	**125**	*e*Pn		**Pn**	**14 19 46.7**	**+0.4**
BNGB	**Bing¯¶‖**	**1.25**	**260**	PN		**Pn**	**14 19 48.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.33**	**3**	PN		**Pn**	**14 19 51.1**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.33**	**3**	*e*Pn		**Pn**	**14 19 51.1**	**-0.4**
BINT	**Bingol**	**1.42**	**256**	*e*Pn		**Pn**	**14 19 48.9**	**-2.0**
SIRT	**Sirnak**	**1.73**	**175**	PN		**Pn**	**14 19 55.6**	**+0.5**
SIRT	**Sirnak**	**1.73**	**175**	*e*Pn		**Pn**	**14 19 55.6**	**+0.5**

*NSSP **26** 14:22:13.0, 39°.23N×42°.27E, h15km, Ms3.0*
*ISK **26** 14:22:13.6, 39°.20N×42°.28E, h10km, ML3.3/13*
*DDA **26** 14:22:13.1, 39°.24N×42°.28E, h24km, Ml3.8*
*CSEM **26** 14:22:14.1±0.1, 39°.22N×42°.31E, h10km, ML3.8, Error ellipse: s-maj=3.5km s-min=3.2km az=169.0*

ISC 26 14:22:13.7±0.9, 39°23N±0°.01×42°27E±0°.01, h12km±7km, n84, σ1§04/136, 5C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.16**	**278**	*i*P		**Pg**	**14 22 17.6**	**-0.1**
EKAR				*i* S		**Sb**	**14 22 22.2**	**+1.7**
EKAR	**Karacoban**	**0.16**	**278**	P		**Pg**	**14 22 17.6**	**-0.1**
EKAR				S		**Sb**	**14 22 22.2**	**+1.7**
TUTA	**Tutak**	**0.45**	**68**	*i*Pg		**Pg**	**14 22 22.4**	**-0.3**
TUTA				*i* S		**Sg**	**14 22 29.3**	**+0.5**
TUTA	**Tutak**	**0.45**	**68**	Pg		**Pg**	**14 22 22.4**	**-0.3**
TUTA				S		**Sg**	**14 22 29.3**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.55**	**140**	*i*P		**Pg**	**14 22 24.1**	**-0.4**
ADCV				*i* S		**Sb**	**14 22 33.0**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.55**	**140**	P		**Pg**	**14 22 24.1**	**-0.4**
ADCV				S		**Sb**	**14 22 33.0**	**-0.3**
VRTB	**Varto-Mus**	**0.64**	**264**	PG		**Pg**	**14 22 26.4**	**+0.2**
VRTB				SG		**Sb**	**14 22 36.3**	**+0.6**
VRTB	**Varto-Mus**	**0.64**	**264**	*i* P		**Pg**	**14 22 26.4**	**+0.2**
VRTB				*i* S		**Sb**	**14 22 36.1**	**+0.3**
VRTB	**Varto-Mus**	**0.64**	**264**	P		**Pg**	**14 22 26.4**	**+0.2**
VRTB				S		**Sb**	**14 22 36.1**	**+0.3**
EATA	**Eleskirt**	**0.65**	**15**	*i*P		**Pg**	**14 22 26.3**	**-0.1**
EATA				*i* S		**Sb**	**14 22 36.4**	**+0.1**
EATA	**Eleskirt**	**0.65**	**15**	P		**Pg**	**14 22 26.3**	**-0.1**
EATA				S		**Sb**	**14 22 36.4**	**+0.1**
AGRB	**Hanur-Agry**	**0.65**	**58**	PG		**Pg**	**14 22 26.4**	**-0.1**
AGRB				SG		**Sb**	**14 22 36.5**	**+0.2**
AGRB	**Hanur-Agry**	**0.65**	**58**	*e*Pg		**Pg**	**14 22 26.4**	**-0.1**
AGRB				*e*Sg		**Sb**	**14 22 36.5**	**+0.2**
GURO	**Guroymak-BITLI**	**0.71**	**195**	PG		**Pg**	**14 22 26.7**	**-0.7**
GURO				SG		**Sg**	**14 22 36.5**	**-0.2**
GURO	**Guroymak-BITLI**	**0.71**	**195**	*e*Pg		**Pg**	**14 22 26.7**	**-0.7**
GURO				*e*Sg		**Sg**	**14 22 36.5**	**-0.2**
HOMI	**Horasan**	**0.86**	**341**	*i* P		**Pg**	**14 22 29.3**	**-1.0**
HOMI				*i* S		**Sn**	**14 22 43.6**	**-0.8**
ERZM	**Erzurum**	**0.97**	**314**	*i* P		**Pb**	**14 22 31.1**	**-1.5**
ERZM				*i* S		**Sg**	**14 22 42.4**	**-2.7**
ERZM	**Erzurum**	**0.97**	**314**	P		**Pb**	**14 22 31.1**	**-1.5**
VMUR	**Van-Muradiye**	**1.04**	**103**	*i* P		**Pg**	**14 22 33.8**	**0.0**
VMUR				*i* S		**Sn**	**14 22 47.9**	**-0.8**
VMUR	**Van-Muradiye**	**1.04**	**103**	P		**Pg**	**14 22 33.8**	**0.0**
VMUR				S		**Sn**	**14 22 47.9**	**-0.8**
ECAT	**Cat-ERZURUM**	**1.07**	**291**	*i* P		**Pb**	**14 22 33.4**	**-0.9**
ECAT				*i* S		**Sg**	**14 22 48.8**	**+0.4**
ECAT	**Cat-ERZURUM**	**1.07**	**291**	P		**Pb**	**14 22 33.4**	**-0.9**
ECAT				S		**Sg**	**14 22 48.8**	**+0.4**
VANB	**Van**	**1.08**	**126**	PN		**Pn**	**14 22 35.2**	**+0.5**
VANB				SN		**Sn**	**14 22 52.4**	**+2.8**
VANB	**Van**	**1.08**	**126**	*e*Pn		**Pn**	**14 22 35.2**	**+0.5**
VANB				*e*Sn		**Sn**	**14 22 52.4**	**+2.8**
GEVA	**Gevas**	**1.11**	**146**	‖*i*P		**Pb**	**14 22 33.8**	**-1.0**
GEVA				*i* S		**Sn**	**14 22 50.5**	**+0.2**
GEVA	**Gevas**	**1.11**	**146**	P		**Pb**	**14 22 33.8**	**-1.0**
GEVA				S		**Sn**	**14 22 50.5**	**+0.2**
TVAN	**Van**	**1.13**	**128**	‖*i*Pg		**Pb**	**14 22 35.0**	**-0.3**
TVAN				*i* S		**Sn**	**14 22 51.6**	**+0.6**
TVAN	**Van**	**1.13**	**128**	Pg		**Pb**	**14 22 35.0**	**-0.3**
TVAN				S		**Sn**	**14 22 51.6**	**+0.6**
DYDN	**Diyadin**	**1.14**	**74**	*i* P		**Pb**	**14 22 34.5**	**-0.9**
DYDN				*i* S		**Sb**	**14 22 49.4**	**-0.9**
DYDN	**Diyadin**	**1.14**	**74**	P		**Pb**	**14 22 34.5**	**-0.9**
DYDN				S		**Sb**	**14 22 49.4**	**-0.9**
BNGB	**Bing¯¶‖**	**1.26**	**259**	PN		**Pb**	**14 22 37.4**	**0.0**
BNGB				SN		**Sg**	**14 22 55.3**	**+0.9**
SRTM	**Siirt_Merkez**	**1.27**	**193**	*i* P		**Pn**	**14 22 36.9**	**-0.4**
SRTM				*i* S		**Sg**	**14 22 55.0**	**+0.4**
SRTM	**Siirt_Merkez**	**1.27**	**193**	P		**Pn**	**14 22 36.9**	**-0.4**
SRTM				S		**Sg**	**14 22 55.0**	**+0.4**
CLDR	**Caldiran**	**1.28**	**94**	PN		**Pb**	**14 22 37.7**	**-0.1**
CLDR	**Caldiran**	**1.28**	**94**	*i* P		**Pn**	**14 22 36.7**	**-0.9**
CLDR				*i* S		**Sn**	**14 22 54.4**	**-0.4**
CLDR	**Caldiran**	**1.28**	**94**	P		**Pn**	**14 22 36.7**	**-0.9**
CLDR	**Caldiran**	**1.28**	**94**	*e*Pn		**Pb**	**14 22 37.7**	**-0.1**
CLDR				S		**Sn**	**14 22 54.4**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.33**	**3**	PN		**Pg**	**14 22 39.4**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.33**	**3**	*e*Pn		**Pg**	**14 22 39.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.37**	**218**	PN		**Pb**	**14 22 38.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.37**	**218**	*i* P		**Pb**	**14 22 38.9**	**-0.3**
SVAN				*i* S		**Sg**	**14 22 58.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.37**	**218**	P		**Pb**	**14 22 38.9**	**-0.3**
SVAN				S		**Sg**	**14 22 58.2**	**+0.4**
BINT	**Bingol**	**1.43**	**256**	*e*Pn		**Pn**	**14 22 37.4**	**-2.2**
DIGO	**Kars**	**1.45**	**35**	*i* P		**Pn**	**14 22 39.9**	**-0.1**
DIGO				*i* S		**Sg**	**14 23 02.3**	**+1.8**
DIGO	**Kars**	**1.45**	**35**	P		**Pn**	**14 22 39.9**	**-0.1**
DIGO				S		**Sg**	**14 23 02.3**	**+1.8**
KARS	**Kars**	**1.52**	**24**	PN		**Pg**	**14 22 42.4**	**-0.6**
KARS	**Kars**	**1.52**	**24**	*e*Pn		**Pg**	**14 22 42.4**	**-0.6**
IGDI	**IGDIR**	**1.53**	**65**	*i* P		**Pn**	**14 22 40.7**	**-0.2**
IGDI				*i* S		**Sg**	**14 23 03.4**	**+0.3**
BTMN	**Batman**	**1.55**	**211**	*i* P		**Pb**	**14 22 42.4**	**0.0**
BTMN				*i* S		**Sb**	**14 23 04.5**	**+0.8**
BTMN	**Batman**	**1.55**	**211**	P		**Pb**	**14 22 42.4**	**0.0**
BTMN				S		**Sg**	**14 23 04.5**	**+0.8**
KOPT	**Kop Dagi**	**1.58**	**300**	*i* P		**Pg**	**14 22 43.5**	**-0.5**
KOPT				*i* S		**Sg**	**14 23 07.1**	**+2.6**
KOPT	**Kop Dagi**	**1.58**	**300**	P		**Pg**	**14 22 43.5**	**-0.5**
KOPT				S		**Sg**	**14 23 07.1**	**+2.6**
HANI	**Diyarbakir_Han**	**1.68**	**241**	*i* P		**Pb**	**14 22 43.7**	**-0.8**
HANI				*i* S		**Sg**	**14 23 07.3**	**-0.3**
HANI	**Diyarbakir_Han**	**1.68**	**241**	P		**Pb**	**14 22 43.7**	**-0.8**
HANI				S		**Sg**	**14 23 07.3**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.69**	**63**	PN		**Pb**	**14 22 44.1**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.69**	**63**	*e*Pn		**Pb**	**14 22 44.1**	**-0.7**
DDEM	**Demirkent**	**1.71**	**347**	*i* P		**Pb**	**14 22 44.5**	**-0.5**
DDEM				*i* S		**Sg**	**14 23 11.1**	**+2.5**
DDEM	**Demirkent**	**1.71**	**347**	P		**Pb**	**14 22 44.5**	**-0.5**
SIRT	**Sirnak**	**1.73**	**176**	PN		**Pb**	**14 22 44.5**	**-1.0**
SIRT	**Sirnak**	**1.73**	**176**	*e*Pn		**Pb**	**14 22 44.5**	**-1.0**
DBAD	**Bademkaya**	**1.84**	**346**	*i* P		**Pb**	**14 22 46.8**	**-0.5**
DBAD				*i* S		**Sg**	**14 23 12.2**	**-0.6**
DBAD	**Bademkaya**	**1.84**	**346**	P		**Pb**	**14 22 46.8**	**-0.5**
DBAD				S		**Sg**	**14 23 12.2**	**-0.6**
BAYB	**BAYBURT**	**1.86**	**304**	*i* P		**Pg**	**14 22 48.6**	**-0.8**
BAYB				*i* S		**Sg**	**14 23 15.5**	**+1.9**
BAYB	**BAYBURT**	**1.86**	**304**	P		**Pg**	**14 22 48.6**	**-0.8**
ERZN	**Erzincan**	**2.01**	**281**	PN		**Pn**	**14 22 48.3**	**+0.9**
BAYT	**Ayd¯–ntepe-Bay**	**2.01**	**306**	PN		**Pn**	**14 22 48.6**	**+1.1**
BAYT	**Ayd¯–ntepe-Bay**	**2.01**	**306**	*e*Pn		**Pn**	**14 22 48.6**	**+1.1**
HAKT	**HAKKARI**	**2.02**	**146**	*i* P		**Pb**	**14 22 49.9**	**-0.5**
HAKT				*i* S		**Sg**	**14 23 17.9**	**-0.7**
HAKT	**HAKKARI**	**2.02**	**146**	P		**Pb**	**14 22 49.9**	**-0.5**
DIY	**Diyarbakir**	**2.09**	**231**	*e*Pn		**Pb**	**14 22 50.1**	**-1.4**
DYBB	**Diyarbakir**	**2.10**	**233**	PN		**Pn**	**14 22 50.1**	**+1.4**
GNI	**Garni**	**2.11**	**64**	‖*i*P		**Pb**	**14 22 53.0**	**+1.0**
GNI				‖*i*S		**Sg**	**14 23 21.8**	**+0.1**
GNI	**Garni**	**2.11**	**64**	‖P		**Pb**	**14 22 53.0**	**+1.0**
CHOM	**Cayeli-Rize**	**2.19**	**329**	*e*Pn		**Pb**	**14 22 51.8**	**-1.4**
MARD	**Mardin**	**2.25**	**212**	*i* P		**Pn**	**14 22 50.5**	**-0.2**
MARD				*i* S		**Sb**	**14 23 21.1**	**-0.1**
PTK	**Pertek**	**2.27**	**262**	PN		**Pb**	**14 22 53.0**	**-1.6**
PTK	**Pertek**	**2.27**	**262**	*e*Pn		**Pb**	**14 22 53.0**	**-1.6**
MAZI	**Mazidag**	**2.28**	**220**	PN		**Pn**	**14 22 51.7**	**+0.5**
MAZI	**Mazidag**	**2.28**	**220**	*e*Pn		**Pn**	**14 22 51.7**	**+0.5**
EZC	**Erzincan**	**2.32**	**284**	*e*Pn		**Pn**	**14 22 48.3**	**-3.4**
MALT	**Malatya**	**3.14**	**254**	PN		**Pn**	**14 23 05.0**	**+2.0**
MALT	**Malatya**	**3.14**	**254**	*e*Pn		**Pn**	**14 23 05.0**	**+2.0**
URFA	**Urfa**	**3.25**	**238**	PN		**Pn**	**14 23 06.8**	**+2.3**
URFA	**Urfa**	**3.25**	**238**	*e*Pn		**Pn**	**14 23 06.8**	**+2.3**

*SJA **26** 14:31:55.1±0.4, 36°.09S×73°.07W, h95km±6km, ML3.3, MW3.6*
*ISCJB **26** 14:31:56.3±2.1, 36°.58S±0°.05×73°.4W±0°.1, h11km±7km, Error ellipse: s-maj=17.7km s-min=7.9km az=11.5*
*GUC **26** 14:31:59.4±0.4, 36°.63S×73°.16W, h19km±2km, ML3.2*

ISC 26 14:31:57.2±1.8, 36°.64S±0°.04×73°.3W±0°.1, h27km±10km, n7, σ1§34/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.24**	**147**	*e*P		**Pb**	**14 32 04.0**	**+0.4**
CCSP				*e*S		**Sb**	**14 32 08.1**	**0.0**
CCSP				IAML			14 32 08.3	
	comp=N,11μm,0.5s							
COCH	**Cobquecura**	**0.64**	**38**	*e*P		**Pb**	**14 32 09.5**	**-0.3**
COCH				*e*S		**Sn**	**14 32 19.7**	**0.0**
COCH	**Cobquecura**	**0.64**	**38**	*e*P		**Pb**	**14 32 09.8**	**0.0**
COCH				*e*S		**Sb**	**14 32 17.8**	**-0.6**
COCH				IAML			14 32 20.1	
	comp=N,2μm,0.6s							
CCHI	**Chillan**	**0.96**	**88**	*e*P		**Pn**	**14 32 15.2**	**+0.3**
CCHI				*e*S		**Sn**	**14 32 30.4**	**+2.7**
CCHI	**Chillan**	**0.96**	**88**	*e*P		**Pb**	**14 32 14.4**	**-0.9**
CCHI				*e*S		**Sb**	**14 32 25.8**	**-1.9**
CCHI				IAML			14 32 32.1	
	comp=E,1μm,0.4s							
TMU	**Temuco**	**2.16**	**166**	*e*P		**Pb**	**14 32 34.6**	**-1.0**
TMU				*e*S		**Sb**	**14 33 01.3**	**-0.7**
TMU				IAML			14 33 07.6	
	comp=E,283nm,0.5s							
CANA	**Caviahue**	**2.16**	**126**	*e*P		**Pb**	**14 32 34.2**	**-1.5**
CANA				*e*S		**Sb**	**14 33 03.4**	**+1.2**
CANA				IAML			14 33 12.0	
	comp=Z,128nm,0.6s							

*ISCJB **26** 14:32:23.8±1.1, 39°.21N±0°.04×42°.26E±0°.08, h17km±18km, Error ellipse: s-maj=10.4km s-min=5.7km az=21.2*
*CSEM **26** 14:32:23.7, 39°.21N×42°.29E, h7km, ML2.5, After DDA*
*DDA **26** 14:32:23.7, 39°.21N×42°.29E, h7km, Ml2.5*

ISC 26 14:32:23.5±1.2, 39°21N±0°.03×42°27E±0°.04, h15km±10km, n10, σ0§51/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.17**	**284**	*i* P		**Pg**	**14 32 27.7**	**-0.2**
EKAR				*i* S		**Sg**	**14 32 31.0**	**+0.1**
EKAR	**Karacoban**	**0.17**	**284**	P		**Pg**	**14 32 27.7**	**-0.2**
EKAR				S		**Sg**	**14 32 31.0**	**+0.1**
TUTA	**Tutak**	**0.46**	**66**	*i* P		**Pg**	**14 32 32.7**	**-0.1**
TUTA				*i* S		**Sg**	**14 32 39.2**	**+0.2**
TUTA	**Tutak**	**0.46**	**66**	P		**Pg**	**14 32 32.7**	**-0.1**
TUTA				S		**Sg**	**14 32 39.2**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.54**	**139**	*i* P		**Pg**	**14 32 33.7**	**-0.5**
ADCV				*i* S		**Sb**	**14 32 42.4**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.54**	**139**	P		**Pg**	**14 32 33.7**	**-0.5**
ADCV				S		**Sb**	**14 32 42.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.66**	**57**	PG		**Pg**	**14 32 36.1**	**-0.4**
AGRB				SG		**Sb**	**14 32 46.3**	**+0.4**
EATA	**Eleskirt**	**0.67**	**14**	*i* P		**Pg**	**14 32 35.8**	**-0.9**
EATA				*i* S		**Sb**	**14 32 46.9**	**+0.7**
EATA	**Eleskirt**	**0.67**	**14**	P		**Pg**	**14 32 35.8**	**-0.9**
EATA				S		**Sb**	**14 32 46.9**	**+0.7**
GURO	**Guroymak-BITLI**	**0.69**	**196**	PG		**Pg**	**14 32 36.4**	**-0.6**
GURO				SG		**Sg**	**14 32 46.8**	**+0.7**

*IDC **26** 14:33:40.3±1.6, 0°.62N×123°.98E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/52, mbtmp3.1/3, Error ellipse: s-maj=252.7km s-min=24.7km az=63.0*
*ISCJB **26** 14:33:50.7±0.7, 0°.10S±0°.06×123°.07E±0°.05, h100km, mb3.0/3, Error ellipse: s-maj=9.3km s-min=7.1km az=19.4*
*DJA **26** 14:33:52.2±0.4, 0°.3S×12°.3E±°, h75km±9km, M4.1/9, mB4.6/1, mb4.2/2, MLv4.0/9, Mw(mB)3.8/1*

ISC 26 14:33:52.0±1.0, 0°.09S±0°.07×123°.10E±0°.05, h100km, n13, σ1§47/17, mb3.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.01**	**199**	P		**Pn**	**14 34 11.4**	**-1.1**
LUWI				S		**Sn**	**14 34 25.4**	**-2.5**
MRSI	**Marisa**	**1.29**	**296**	P		**Pn**	**14 34 14.3**	**-1.4**
MRSI				S		**Sn**	**14 34 31.3**	**-2.3**
APSI	**Ampana**	**1.67**	**241**	P		**Pn**	**14 34 20.3**	**0.0**
MPSI	**Mapaga**	**3.23**	**277**	P		**Pn**	**14 34 41.8**	**+1.0**
SANI	**Sanana**	**3.48**	**124**	P		**Pn**	**14 34 42.5**	**-1.7**
KDI	**Kendari**	**3.88**	**187**	P		**Pn**	**14 34 49.7**	**+0.2**
TTSI	**Tana Toraja**	**4.41**	**228**	P		**Pn**	**14 34 56.4**	**-0.3**
TTSI				S		**Sn**	**14 35 44.7**	**-2.2**
LBMI	**Labuha**	**4.43**	**97**	P		**Pn**	**14 34 56.6**	**-0.4**
NLAI	**Namlea**	**5.

SURC	**SANLIURFA_SURC**	**1.93**	**283**	*i* P	**Pn**	**14 55 48.8**	**-0.1**
SURC				*i* S	**Sb**	**14 56 15.5**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.93**	**283**	P	**Pn**	**14 55 48.8**	**-0.1**
SURC				S	**Sb**	**14 56 15.5**	**-0.1**
URFA	**Urfa**	**1.98**	**301**	PN	**Pn**	**14 55 49.4**	**-0.2**
GURO	**Guroymak-BITLI**	**2.26**	**22**	PN	**Pn**	**14 55 53.9**	**+0.4**
GURO	**Guroymak-BITLI**	**2.26**	**22**	*e*Pn	**Pn**	**14 55 53.9**	**+0.4**
ATAB	**Bozova**	**2.36**	**296**	*i* P	**Pn**	**14 55 55.3**	**+0.5**
ATAB				*i* S	**Sn**	**14 56 25.3**	**+1.2**
ATAB	**Bozova**	**2.36**	**296**	P	**Pn**	**14 55 55.3**	**+0.5**
BINT	**Bingol**	**2.44**	**351**	*e*Pn	**Pb**	**14 55 58.7**	**-1.3**
HAKT	**HAKKARI**	**2.46**	**63**	*i* P	**Pn**	**14 55 57.0**	**+0.6**
HAKT				*i* S	**Sn**	**14 56 27.5**	**+0.6**
HAKT	**HAKKARI**	**2.46**	**63**	P	**Pn**	**14 55 57.0**	**+0.6**
GEVA	**Gevas**	**2.50**	**41**	*i* P	**Pn**	**14 55 58.2**	**+1.4**
GEVA				*i* S	**Sb**	**14 56 33.5**	**+1.5**
GEVA	**Gevas**	**2.50**	**41**	P	**Pn**	**14 55 58.2**	**+1.4**
BNGB	**Bingˇ‖**	**2.54**	**355**	PN	**Pn**	**14 55 58.7**	**+1.3**
VRTB	**Varto-Mus**	**2.73**	**8**	PN	**Pn**	**14 56 01.4**	**+1.4**
VRTB	**Varto-Mus**	**2.73**	**8**	*e*Pn	**Pn**	**14 56 01.4**	**+1.4**
PTK	**Pertek**	**2.73**	**333**	PN	**Pn**	**14 56 02.2**	**+2.1**
PTK	**Pertek**	**2.73**	**333**	*e*Pn	**Pn**	**14 56 02.2**	**+2.1**
MALT	**Malatya**	**2.74**	**313**	PN	**Pb**	**14 56 02.7**	**-2.3**
MALT	**Malatya**	**2.74**	**313**	*e*Pn	**Pb**	**14 56 02.7**	**-2.3**
TNCL	**Tunceli-Merkez**	**2.88**	**338**	*i* P	**Pn**	**14 56 03.8**	**+1.7**
TNCL				*i* S	**Sb**	**14 56 41.0**	**-1.9**
TNCL	**Tunceli-Merkez**	**2.88**	**338**	P	**Pn**	**14 56 03.8**	**+1.7**
TNCL				S	**Sb**	**14 56 41.0**	**-1.9**
AKCD	**Akcadag**	**3.04**	**308**	*i* P	**Pn**	**14 56 04.5**	**+0.3**
AKCD				*i* S	**Sb**	**14 56 46.9**	**-0.5**
AKCD	**Akcadag**	**3.04**	**308**	P	**Pn**	**14 56 04.5**	**+0.3**
AKCD				S	**Sb**	**14 56 46.9**	**-0.5**
GAZ	**Gaziantep**	**3.09**	**284**	PN	**Pb**	**14 56 09.3**	**-1.6**
GAZ	**Gaziantep**	**3.09**	**284**	*e*Pn	**Pb**	**14 56 09.3**	**-1.6**
ERZN	**Erzincan**	**3.27**	**343**	PN	**Pn**	**14 56 09.3**	**+1.8**
HEKM	**Malatya_Hekimh**	**3.39**	**316**	*i* P	**Pn**	**14 56 10.1**	**+0.9**
HEKM				*i* S	**Sb**	**14 56 59.9**	**+2.2**
KMRS	**Kahramanmaras**	**3.42**	**289**	PN	**Pb**	**14 56 13.8**	**-2.6**
KMRS	**Kahramanmaras**	**3.42**	**289**	*e*Pn	**Pb**	**14 56 13.8**	**-2.6**
KEMA	**Kemaliye**	**3.42**	**326**	*i* P	**Pb**	**14 56 14.1**	**-2.5**
KEMA				*i* S	**Sb**	**14 57 00.2**	**+1.8**
RTB	**Rutbah** SNR=3.0	**3.46**	**189**	*e*Pn	**Pn**	**14 56 12.0**	**+2.1**
RTB	SNR=3.0			*i* Sn	**Sn**	**14 56 54.0**	**+2.7**
DARE	**Darende-Malaty**	**3.48**	**308**	PN	**Pn**	**14 56 13.5**	**+3.3**
DARE	**Darende-Malaty**	**3.48**	**308**	*e*Pn	**Pn**	**14 56 13.5**	**+3.3**
ILIC	**ilic-Erzincan**	**3.54**	**328**	PN	**Pn**	**14 56 13.8**	**+2.7**
ILIC	**ilic-Erzincan**	**3.54**	**328**	*e*Pn	**Pn**	**14 56 13.8**	**+2.7**
BAYT	**Aydˇ–ntepe-Bay**	**3.98**	**351**	PN	**Pn**	**14 56 19.3**	**+2.0**
BAYT	**Aydˇ–ntepe-Bay**	**3.98**	**351**	*e*Pn	**Pn**	**14 56 19.3**	**+2.0**
BHD	**Baghdad** SNR=3.0	**4.24**	**137**	*e*Pn	**Pn**	**14 56 20.0**	**-0.7**
BHD	SNR=3.0			*i* Sn	**Sn**	**14 57 09.0**	**-1.5**
NSR	**Nassriya** SNR=3.0	**6.94**	**140**	*e*Pn	**Pn**	**14 56 59.0**	**+1.3**
NSR	SNR=3.0			*i* Sn	**Sn**	**14 58 15.0**	**-1.9**

IDC 26 15:04:05.7±2.1,3°.50S×151°.67E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/44, mbtmp3.4/3, Error ellipse: s-maj=154.6km s-min=29.5km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.38**	**217**	Pn	Pn	15 05 58.9	+4.1
	0.4nm,0.3s,baz=28,slow=17,SNR=2.8						
WRA	**Warramunga Arr**	**23.51**	**225**	P	P	15 09 17.9	+0.4
	1.3nm,0.8s,baz=51,slow=10.0,SNR=10						
ASAR	**Alice Springs**	**26.39**	**219**	P	P	15 09 44.2	+0.1
	0.4nm,0.7s,baz=53,slow=8.7,SNR=9.0						
ILAR	**Eielson Array**	**81.39**	**22**	P	P	15 16 23.6	-0.5
	0.4nm,0.9s,baz=235,slow=6.3,SNR=3.1						

WEL 26 15:09:53.8,45°S±3°×16°7E±°, h5km±5km, ML3.6/13, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.37**	**132**	P	Pb	15 10 03.1	+0.2
PYZ	**Puysegur Point**	**0.95**	**183**	P	Pg	15 10 12.0	-0.1
PYZ	**Puysegur Point**	**0.95**	**183**	S	Sb	15 10 26.5	+0.8
MLZ	**Mavora Lakes**	**0.97**	**99**	P	Pb	15 10 13.0	-0.1
MSZ	**Milford Sound**	**0.99**	**57**	P	Pg	15 10 12.1	-0.7
MSZ	**Milford Sound**	**0.99**	**57**	S	Sb	15 10 26.5	-0.2
WHZ	**Wether Hill Ro**	**1.07**	**130**	P	Pb	15 10 14.7	-0.2
WHZ	**Wether Hill Ro**	**1.07**	**130**	S	Sn	15 10 30.2	-0.6
WKZ	**Wanaka**	**1.65**	**77**	P	Pb	15 10 24.4	-0.2
WKZ	**Wanaka**	**1.65**	**77**	S	Sg	15 10 48.8	+2.1
EAZ	**Earnscleugh**	**1.80**	**91**	P	Pb	15 10 26.5	-0.7
APZ	**The Paps**	**1.83**	**153**	P	Pb	15 10 28.2	+0.4
JCZ	**Jackson Bay**	**1.84**	**52**	P	Pn	15 10 25.2	-1.0
SYZ	**Scrubby Hill**	**2.12**	**129**	P	Pn	15 10 30.9	+1.0
TUZ	**Tuapeka**	**2.15**	**111**	P	Pn	15 10 31.2	+1.0
LBZ	**Lake Benmore**	**2.57**	**72**	P	Pn	15 10 36.9	+0.7
ODZ	**Otahua Downs**	**2.75**	**88**	P	Pn	15 10 38.5	-0.1
FOZ	**Fox Glacier**	**2.76**	**54**	P	Pn	15 10 36.5	-2.1
HHSZ	**Highcliff Hill**	**2.78**	**105**	P	Pn	15 10 39.5	+0.5
HHSZ	**Highcliff Hill**	**2.78**	**105**	S	Sn	15 11 14.0	+1.2
RPZ	**Rata Peaks**	**3.42**	**65**	P	Pn	15 10 47.5	-0.3
WVZ	**Waitaha Valley**	**3.57**	**55**	P	Pn	15 10 47.4	-2.4
INZ	**Inchbonnie**	**4.20**	**55**	P	Pn	15 10 56.1	-2.3
OXZ	**Oxford**	**4.23**	**65**	P	Pn	15 10 59.0	0.0
MQZ	**McQueen's Vall**	**4.48**	**72**	P	Pn	15 11 01.8	-0.5
LTZ	**Lake Taylor**	**4.66**	**60**	P	Pn	15 11 05.4	+0.6
DSZ	**Denniston Nort**	**5.05**	**48**	P	Pn	15 11 07.7	-2.4

JMA 26 15:12:51.7±0.3, 37°.14N×142°.38E, h15km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.22**	**281**	P	Pn	15 13 14.2	-0.1
ONAJ	**Iwakimizuishiy**	**1.27**	**269**	P	Pn	15 13 14.4	-0.5
ONAJ				S	Sg	15 13 32.3	-0.3
JMM	**Marumori**	**1.46**	**300**	P	Pn	15 13 17.3	-0.1
JIO	**Ouri**	**1.55**	**328**	P	Pn	15 13 18.7	0.0
JFT	**Otama**	**1.67**	**284**	P	Pn	15 13 21.1	+0.6
JOU	**Okura**	**1.83**	**312**	P	Pb	15 13 23.8	-1.1
JOU				S	Sn	15 13 45.9	+0.4
JMK	**Ichinoseki**	**2.03**	**333**	P	Pn	15 13 26.4	+1.1
JYS	**Shirataka**	**2.13**	**301**	P	Pb	15 13 29.2	-0.8
JFY	**Yanaizu**	**2.15**	**278**	P	Pb	15 13 29.2	-1.2
JYK	**Kaneyama**	**2.39**	**319**	P	Pn	15 13 32.0	+1.7

*ISCJB **26** 15:12:59.2±0.6,5°.39N±0°.07×127°.4E±0°.2, h150km, mb3.5/9, Error ellipse: s-maj=30.7km s-min=8.3km az=167.5*

*IDC **26** 15:13:01.4±10.0,5°.37N×127°.46E, h153km±102km, mb3.2/9, mb1 3.4/10, mb1mx3.2/57, mbtmp3.7/10, MS3.3/1, Ms1 3.3/1, ms1mx2.3/24, Error ellipse: s-maj=40.7km s-min=16.5km az=68.0*

ISC 26 15:13:01.1±0.8,5°.37N±0°.09×127°.4E±0°.2, h150km, n12, σ1°.25/13, mb3.5/9,1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**3.00**	**339**	*e*P	**Pn**	**15 13 51.0**	**+2.5**
BIPH				*i* S	**Sn**	**15 14 23.3**	**-1.9**
SCPH	**Surigao**	**4.80**	**336**	*e*P	**Sn**	**15 15 05.6**	**-1.4**
BATI	**Baumata**	**15.92**	**194**	P	**Pn**	**15 16 36.0**	**-1.0**
	0.8nm,0.3s,baz=30,slow=14,SNR=2.3						
FITZ	**Fitzroy Crossi**	**23.38**	**184**	P	**P**	**15 17 57.2**	**+0.8**
	0.6nm,0.3s,baz=8.9,slow=8.7,SNR=8.3						
WRA	**Warramunga Arr**	**26.05**	**165**	P	**P**	**15 18 20.3**	**-0.3**
	0.4nm,0.4s,baz=340,slow=10,SNR=29						
ASAR	**Alice Springs**	**29.54**	**168**	P	**P**	**15 18 51.7**	**0.0**
	0.3nm,0.3s,baz=341,slow=6.8,SNR=24						
STKA	**Stephens Creek**	**39.41**	**161**	P	**P**	**15 20 16.6**	**+0.1**
	0.8nm,0.5s,baz=322,slow=6.6,SNR=6.1						
SONM	**Songino Array**	**46.00**	**340**	P	**P**	**15 21 09.7**	**+0.3**
	0.2nm,0.4s,baz=148,slow=5.2,SNR=4.7						
SONM				LR	LR	15 42 18.8	
	comp=Z,31nm,19.9s,baz=112,slow=38						
PETK	**Petropavlovsk-**	**53.66**	**22**	P	**P**	**15 22 07.3**	**+0.3**
	2.4nm,0.8s,baz=172,slow=7.0,SNR=7.2						
MKAR	**Makanchi Array**	**56.64**	**324**	P	**P**	**15 22 28.5**	**-0.1**
	0.5nm,0.4s,baz=113,slow=7.7,SNR=9.1						
KURBB	**Kurchatov Arra**	**60.76**	**327**	P	**P**	**15 22 56.6**	**-0.3**
	0.7nm,0.6s,baz=124,slow=7.0,SNR=6.5						
ILAR	**Eielson Array**	**83.33**	**25**	P	**P**	**15 25 09.7**	**-1.3**
	0.2nm,0.8s,baz=238,slow=5.9,SNR=4.3						

IDC 26 15:14:06.2±2.0, 4°.34S×151°.77E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/48, mbtmp3.4/4, MS3.5/1, Ms1 3.5/1, ms1mx2.4/26, Error ellipse: s-maj=84.6km s-min=27.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.00**	**226**	P	P	15 19 13.5	+0.6
	1.0nm,0.9s,baz=51,slow=10.0,SNR=6.3						
ASAR	**Alice Springs**	**25.82**	**220**	P	P	15 19 39.0	-0.4
	0.4nm,0.9s,baz=53,slow=8.5,SNR=4.0						
AFI	**Afiamalu**	**37.18**	**107**	LR	LR	15 33 22.0	
	comp=Z,72nm,19.1s,baz=70,slow=31						
MKAR	**Makanchi Array**	**79.30**	**319**	P	P	15 26 13.8	0.0
	0.2nm,0.7s,baz=113,slow=3.7,SNR=3.0						
ILAR	**Eielson Array**	**82.12**	**22**	P	P	15 26 28.6	+0.1
	0.4nm,0.9s,baz=235,slow=6.3,SNR=2.9						

JMA 26 15:21:04.9±0.2, 36°.83N×143°.66E, h46km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.29**	**284**	P	Pn	15 21 41.5	+1.3
JFK				S	Sn	15 22 08.6	+1.4
ONAJ	**Iwakimizuishiy**	**2.31**	**278**	P	Pn	15 21 42.0	+1.5
ONAJ				S	Sn	15 22 08.6	+0.9
JIO	**Ouri**	**2.45**	**312**	P	Pn	15 21 43.7	+1.4
JIO				S	Sn	15 22 12.0	+1.0
JHO	**Hitachi**	**2.49**	**266**	P	Pn	15 21 43.9	+0.9
JFT	**Otama**	**2.74**	**286**	P	Pn	15 21 48.7	+2.3
JFT				S	Sn	15 22 21.1	+2.8
JMK	**Ichinoseki**	**2.87**	**318**	P	Pn	15 21 49.5	+1.4
JMK				S	Sn	15 22 23.4	+2.1
JOM	**Ohasama**	**3.23**	**325**	P	Pn	15 21 54.4	+1.3
JOM				S	Sn	15 22 31.3	+1.0
JYK	**Kaneyama**	**3.34**	**310**	P	Pn	15 21 56.7	+2.1
JAG	**Ashikaga**	**3.41**	**264**	P	Pn	15 21 57.1	+1.6
JAG				S	Sn	15 22 35.2	+0.5
JRY	**Ryogami san**	**3.92**	**259**	P	Pn	15 22 03.8	+1.2

*ISCJB **26** 15:28:51.1±0.5, 37°.84N±0°.04×72°.63E±0°.08, h150km, mb3.6/2, Error ellipse: s-maj=9.5km s-min=4.6km az=162.5*

*IDC **26** 15:28:56.3±5.7, 38°.41N×72°.00E, h129km±37km, mb3.2/2, mb1 3.0/8, mb1mx2.8/76, mbtmp3.5/8, MS2.9/1, Ms1 2.9/1, ms1mx2.2/39, Error ellipse: s-maj=85.7km s-min=18.1km az=151.0*

*NNC **26** 15:28:57.2±1.1, 38°.26N×72°.37E, h133km±11km, mb2.9, mpv3.5, Error ellipse: s-maj=11.4km s-min=9.3km az=73.0*

ISC 26 15:28:51.8±0.8, 37°.87N±0°.07×72°.49E±0°.06, h150km, n35, σ2°.35/41, 6C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.28**	**20**	⇑P	**Pn**	**15 29 30.7**	**+0.2**
	5.4nm,0.2s						
SFK				⇓S	**Sn**	**15 29 57.7**	**-2.6**
	109nm,0.2s						
AML	**Almayashu**	**4.35**	**12**	P	**Pn**	**15 29 57.5**	**+0.5**
	SNR=55						
MNAS	**Manas**	**4.61**	**0**	⇓P	**Pn**	**15 30 00.6**	**+0.5**
	4.4nm,0.4s						
MNAS				⇑S	**Sn**	**15 30 49.3**	**-4.1**
	34nm,0.6s						
UCH	**Uchtor**	**4.62**	**19**	P	**Pn**	**15 30 01.3**	**+0.8**
	SNR=18						
KZA	**Kyzart**	**4.70**	**26**	P	**Pn**	**15 30 01.9**	**+0.2**
	SNR=16						
EKS2	**Erkin-Say**	**4.88**	**11**	P	**Pn**	**15 30 04.7**	**+1.0**
	SNR=15						
AAK	**Ala-Archa**	**5.00**	**17**	P	**Pn**	**15 30 06.5**	**+1.1**
	3.6nm,0.3s,baz=166,slow=5.3,SNR=73						
AAK				S	**Sn**	**15 31 00.4**	**-2.2**
	2.2nm,0.3s,baz=32,slow=21,SNR=22						
AAK	**Ala-Archa**	**5.00**	**17**	⇑P	**Pn**	**15 30 06.4**	**+1.1**
	3.7nm,0.3s						
AAK				⇓S	**Sn**	**15 30 60.0**	**-2.7**
	23nm,0.7s						
AAK	**Ala-Archa**	**5.00**	**17**	P	**Pn**	**15 30 06.5**	**+1.1**
	SNR=12						
KBK	**Karagaybulak**	**5.13**	**21**	P	**Pn**	**15 30 10.6**	**+3.5**
	SNR=7.1						
ULHL	**Ulahol**	**5.23**	**32**	P	**Pn**	**15 30 08.7**	**+0.3**
	SNR=13						
KK31	**Karatay Array**	**5.44**	**345**	P	**Pn**	**15 30 11.4**	**+0.4**
	8.5nm,0.3s,baz=155,slow=11,SNR=159						
KK31				⇑S	**Sn**	**15 31 08.4**	**-4.5**
	22nm,0.3s						
TKM2	**Tokmak 2**	**5.57**	**24**	⇑P	**Pn**	**15 30 14.0**	**+1.0**
	1.4nm,0.6s						
TKM2				⇓S	**Sn**	**15 31 14.2**	**-2.1**
	3.6nm,0.5s						
GEYT	**Alibeck**	**11.36**	**275**	P	**Pn**	**15 31 29.3**	**-0.4**
	0.9nm,0.3s,baz=102,slow=12,SNR=8.1						
GEYT				S	**Sn**	**15 33 29.9**	**-5.3**
	0.9nm,0.3s,baz=105,slow=17,SNR=4.8						
MKAR	**Makanchi Array**	**11.48**	**36**	P	**Pn**	**15 31 32.3**	**+1.0**
	0.1nm,0.3s,baz=228,slow=13,SNR=6.3						
PYUN	**Piuthan**	**13.13**	**135**	*e*P	**Pn**	**15 31 51.7**	**-1.2**
PYUN				eS	Sn	15 34 07.7	-11
KURBB	**Kurchatov Arra**	**13.45**	**17**	P	**Pn**	**15 31 55.3**	**-1.3**
	0.0nm,0.3s,baz=204,slow=12,SNR=3.4						
KOLN	**Koldanda**	**13.73**	**134**	*e*P	**Pn**	**15 31 59.3**	**-1.2**
GKN	**Gorkha**	**14.16**	**130**	*e*P	**Pn**	**15 32 04.5**	**-1.4**
AB31	**Akbulak array**	**14.54**	**325**	⇓P	**Pn**	**15 32 10.6**	**+0.2**
	1.1nm,0.3s,baz=141,slow=13,SNR=42						
KKN	**Kakani**	**14.71**	**129**	*e*P	**Pn**	**15 32 10.4**	**-2.4**
	7.5nm,0.5s						
DMN	**Daman**	**14.73**	**130**	*e*P	**Pn**	**15 32 12.0**	**-1.2**
PKIN	**Phulchoki**	**14.93**	**130**	*e*P	**Pn**	**15 32 14.1**	**-1.6**
	2.6nm,0.2s						
PKI	**Pulchoki**	**14.94**	**130**	*e*P	**Pn**	**15 32 14.9**	**-1.0**
	3.9nm,0.3s						
BVAR	**Borovoye Array**	**15.22**	**355**	P	**Pn**	**15 32 15.4**	**-3.4**
	0.1nm,0.3s,baz=167,slow=11,SNR=3.4						
JIRN	**Jiri**	**15.36**	**128**	*e*P	**Pn**	**15 32 20.1**	**-1.0**
	15nm,0.3s						
RAMN	**Ramite**	**16.12**	**128**	*e*P	**Pn**	**15 32 28.5**	**-1.8**
	4.9nm,0.3s						
AKTO	**Aktyubinsk**	**16.26**	**325**	P	**P**	**15 32 34.2**	**+2.5**
	0.7nm,0.3s,baz=128,slow=11,SNR=12						
AKTO	**Aktyubinsk**	**16.26**	**325**	⇑P	**P**	**15 32 34.8**	**+3.0**
	7.3nm,1.0s						
TAPN	**Taplejung**	**16.55**	**125**	*e*P	**P**	**15 32 32.3**	**-3.2**
	4.0nm,0.3s						
ODAN	**Odare**	**16.68**	**127**	*e*P	**P**	**15 32 34.7**	**-2.2**
	5.2nm,0.5s						
ZALV	**Zalesovo Beam**	**18.18**	**24**	P	**Pn**	**15 32 55.2**	**+0.8**
	0.3nm,0.3s,baz=215,slow=11,SNR=7.8						
ARU	**Arti**	**20.77**	**338**	LR	LR	15 42 01.7	
	comp=Z,39nm,20.3s,baz=174,slow=39						
TIXI	**Tiksi**	**44.05**	**22**	P	**P**	**15 36 48.4**	**+4.2**
	1.1nm,0.3s,baz=264,slow=4.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**66.94**	**269**	P	**P**	**15 39 32.8**	**+4.4**
	0.2nm,0.4s,baz=54,slow=4.9,SNR=2.5						

*ISCJB **26** 15:28:58.0±0.3, 66°.54N±0°.02×150°.7W±0°.1, h10km, mb3.3/8, Error ellipse: s-maj=6.4km s-min=3.4km az=166.6*

*NEIC **26** 15:28:58.5±0.0, 66°.55N×150°.77W, h11km, ML3.7(AEIC), After AEIC.*

*IDC **26** 15:28:59.8±0.9, 66°.68N×150°.30W, h0km, mb3.4/7, mb1 3.6/10, mb1mx3.4/80, mbtmp3.4/10, ML3.3/3, Error ellipse: s-maj=24.4km s-min=11.5km az=44.0*

ISC 26 15:28:59.5±0.7, 66°.57N±0°.03×150°.51W±0°.05, h10km, n46, σ1°.34/50, mb3.4/8, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PS05	**TAPS Pump Stn5**	**0.25**	**346**	P	**Pg**	**15 29 04.0**	**-0.5**
PS05				S	**Sg**	**15 29 07.5**	**-0.4**
COLD	**Coldfoot**	**0.67**	**10**	P	**Pg**	**15 29 11.4**	**-1.1**
PS06	**TAPS Pump Stn6**	**0.79**	**156**	P	**Pg**	**15 29 14.1**	**-0.6**
PS06				S	**Sg**	**15 29 25.6**	**+0.7**
IM3	**Indian Mountai**	**1.44**	**247**	P	Pn	15 29 22.1	-3.4
MLY	**Manley**	**1.55**	**184**	P	**Pn**	**15 29 25.9**	**-1.4**
MDM	**Murphy Dome**	**1.88**	**149**	P	**Pn**	**15 29 30.7**	**-0.9**
COLA	**College**	**2.03**	**146**	P	**Pn**	**15 29 34.3**	**+0.6**
COLA				S	**Sn**	**15 30 00.7**	**+1.6**
GLM	**Gilmore Dome**	**2.05**	**140**	P	**Pn**	**15 29 33.6**	**-0.4**
TOLK	**Toolik Lake Re**	**2.11**	**9**	P	**Pn**	**15 29 34.8**	**0.0**
TOLK				S	**Sn**	**15 30 01.9**	**+0.8**
CCB	**Clear Creek Bu**	**2.24**	**149**	P	**Pn**	**15 29 35.7**	**-0.9**
PRP	**Porcupine Dome**	**2.30**	**115**	P	**Pn**	**15 29 37.5**	**0.0**
WRH	**Wood River Hil**	**2.34**	**153**	P	**Pn**	**15 29 37.1**	**-0.9**
ILAR	**Eielson Array** 27nm,0.3s,baz=318,slow=14,SNR=1034	**2.35**	**139**	Pn	**Pn**	**15 29 38.5**	**+0.4**
ILAR				Lg	Lg	15 30 15.3	
	80nm,0.3s,baz=321,slow=32,SNR=19						
ILB	**Eielson Array**	**2.35**	**139**	P	**Pn**	**15 29 37.9**	**-0.3**
BPAW	**Bear Paw Mtn.**	**2.49**	**185**	P	**Pn**	**15 29 38.8**	**-1.3**
PS08	**TAPS Pump Stn8**	**2.55**	**141**	P	**Pn**	**15 29 41.0**	**+0.1**
MCK	**McKinley**	**2.93**	**166**	P	**Pn**	**15 29 45.5**	**-0.6**
KTH	**Kantishna Hill**	**3.04**	**183**	P	**Pn**	**15 29 46.4**	**-1.2**
TRF	**Thorofare Moun**	**3.14**	**178**	P	**Pn**	**15 29 48.2**	**-0.9**
CAST	**Castle Rocks**	**3.24**	**193**	P	**Pn**	**15 29 48.7**	**-1.7**
RIDG	**Independ'e Rid**	**3.72**	**137**	P	**Pn**	**15 29 56.5**	**-0.5**
DHY	**Denali Highway**	**3.76**	**158**	P	**Pn**	**15 29 58.1**	**+0.5**
PPLA	**Purkeypile**	**3.76**	**192**	P	**Pn**	**15 29 56.3**	**-1.4**
SCRK	**Sand Creek**	**3.78**	**131**	P	**Pn**	**15 29 57.6**	**-0.3**
DOT	**Dot Lake**	**4.01**	**134**	P	**Pn**	**15 30 00.5**	**-0.4**
PAX	**Paxson**	**4.21**	**147**	P	**Pn**	**15 30 04.2**	**+0.4**
EGAK	**Eagle**	**4.27**	**111**	P	**Pn**	**15 30 03.9**	**-0.5**
TT01	**Tatalina**	**4.37**	**215**	P	**Pn**	**15 30 03.4**	**-2.5**
MENT	**Mentasta**	**4.67**	**138**	P	**Pn**	**15 30 09.2**	**-0.8**
HARP	**HAARP**	**4.78**	**149**	P	**Pn**	**15 30 12.1**	**+0.5**
SML	**Sawmill**	**4.88**	**168**	P	**Pn**	**15 30 12.5**	**-0.4**
PMR	**Palmer** 18nm,0.8s	**5.04**	**172**	*e*Pn	**Pn**	**15 30 13.8**	**-1.2**
BCA3	**Beaver Creek A**	**5.13**	**129**	P	**Pn**	**15 30 15.5**	**-0.8**
DAWY	**Dawson**	**5.30**	**113**	P	**Pn**	**15 30 18.6**	**0.0**
RC01	**Rabbit Creek A** 17nm,0.9s	**5.52**	**176**	*e*Pn	**Pn**	**15 30 19.5**	**-2.1**
INK	**Inuvik** 0.7nm,0.3s,baz=237,slow=17,SNR=30	**6.76**	**67**	Pn	**Pn**	**15 30 37.9**	**-0.7**
INK				Sn	**Sn**	**15 31 52.8**	**-2.7**
	1.3nm,0.3s,baz=262,slow=7.9,SNR=3.9						
INK				Lg	Lg	15 32 29.6	
	0.5nm,0.3s,baz=230,slow=16,SNR=3.7						
INK	**Inuvik**	**6.76**	**67**	P	**Pn**	**15 30 38.6**	**0.0**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=296,slow=13,SNR=3.2	**15.81**	**88**	Pn	**Pn**	**15 32 37.6**	**-4.2**
SEY	**Seymchan** 0.3nm,0.4s,baz=63,slow=14,SNR=5.2	**23.88**	**288**	P	**P**	**15 34 10.7**	**-2.0**
TIXI	**Tiksi** 0.1nm,0.2s,baz=62,slow=4.6,SNR=2.5	**27.12**	**317**	P	**P**	**15 34 42.0**	**-0.1**
NVAR	**Mina Array Bea** 0.4nm,0.8s,baz=329,slow=8.6,SNR=3.4	**33.59**	**131**	P	**P**	**15 35 40.8**	**+1.0**
TXAR	**Lajitas Array** 0.4nm,0.9s,baz=339,slow=6.7,SNR=3.6	**46.72**	**119**	P	**P**	**15 37 28.6**	**+0.1**
SONM	**Songino Array** 0.3nm,0.8s,baz=64,slow=3.7,SNR=2.9	**51.95**	**304**	P	**P**	**15 38 10.8**	**+2.5**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=9.6,slow=9.5,SNR=2.4	**52.78**	**322**	P	**P**	**15 38 16.7**	**+2.6**
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=31,slow=6.3,SNR=4.3	**57.34**	**325**	P	**P**	**15 38 49.5**	**+2.4**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=26,slow=6.8,SNR=2.9	**60.01**	**321**	P	**P**	**15 39 06.6**	**+0.8**

*ISCJB **26** 15:48:45.8±0.2, 38°.25S±0°.03×175°.83E±0°.04, h203km, mb3.0/2, Error ellipse: s-maj=4.6km s-min=3.4km az=25.4*

*WEL **26** 15:48:46.6, 38°.5±5°.×17°.6E±°, h198km±8km*

*IDC **26** 15:48:46.5±1.0, 38°.46S×176°.05E, h192km±16km, mb2.9/2, mb1 3.1/3, mb1mx3.1/40, mbtmp3.5/3, Error ellipse: s-maj=53.0km s-min=29.9km az=135.0*

*NEIC

TUVZ	Tukino	1.05	189	P	Pn	15 49 17.1	+0.1	
FWVZ	Far West T-bar	1.05	193	Pn	Pn	15 49 17.0	-0.1	
FWVZ	Far West T-bar	1.05	193	P	Pn	15 49 16.9	-0.2	
BKZ	Black Stump Fm	1.06	152	Pn	Pn	15 49 16.2	-0.7	
BKZ	Black Stump Fm	1.06	152	P	Pn	15 49 16.8	-0.2	
DRZ	Dome Shelter	1.07	192	Pn	Pn	15 49 18.4	+1.0	
WHVZ	Whangaehu Hut	1.07	191	Pn	Pn	15 49 17.2	0.0	
WHVZ	Whangaehu Hut	1.07	191	P	Pn	15 49 17.3	+0.1	
TRVZ	Turoa	1.09	193	Pn	Pn	15 49 17.4	0.0	
TRVZ	Turoa	1.09	193	P	Pn	15 49 17.4	0.0	
WNVZ	Wahianoa	1.11	190	Pn	Pn	15 49 17.4	-0.1	
PKVZ	Pokaka	1.13	200	Pn	Pn	15 49 17.5	0.0	
PKVZ	Pokaka	1.13	200	P	Pn	15 49 17.5	0.0	
NMHZ	Naumai	1.14	140	Pn	Pn	15 49 18.2	+0.7	
NMHZ	Naumai	1.14	140	P	Pn	15 49 18.2	+0.7	
MOVZ	Moawhango	1.18	184	Pn	Pn	15 49 17.5	-0.3	
MOVZ	Moawhango	1.18	184	P	Pn	15 49 17.5	-0.3	
RAHZ	Arahi	1.18	126	P	Pn	15 49 18.1	+0.3	
MTVZ	Mangateitei	1.19	195	Pn	Pn	15 49 17.9	+0.1	
MTVZ	Mangateitei	1.19	195	P	Pn	15 49 18.0	+0.1	
VRZ	Vera Road	1.24	224	Pn	Pn	15 49 18.5	+0.3	
VRZ	Vera Road	1.24	224	P	Pn	15 49 18.6	+0.4	
MKAZ	Moumakai	1.25	334	Pn	Pn	15 49 17.6	-0.8	
MKAZ	Moumakai	1.25	334	P	Pn	15 49 17.9	-0.5	
RAGZ	Rawiri	1.25	103	Pn	Pn	15 49 18.2	-0.2	
RAGZ	Rawiri	1.25	103	P	Pn	15 49 18.2	-0.2	
BHHZ	Black Hill Sta	1.27	173	Pn	Pn	15 49 18.2	-0.3	
BHHZ	Black Hill Sta	1.27	173	P	Pn	15 49 18.2	-0.3	
KWHZ	Kaweka Forest	1.27	160	P	Pn	15 49 18.8	+0.3	
SNGZ	Shannon Statio	1.29	116	Pn	Pn	15 49 18.9	+0.3	
SNGZ	Shannon Statio	1.29	116	P	Pn	15 49 18.9	+0.3	
MWZ	Matawai	1.32	95	Pn	Pn	15 49 18.4	-0.5	
MWZ	Matawai	1.32	95	P	Pn	15 49 18.4	-0.5	
ARHZ	Aropaoanui	1.36	140	Pn	Pn	15 49 19.8	+0.6	
ARHZ	Aropaoanui	1.36	140	P	Pn	15 49 19.8	+0.6	
KBAZ	Karaka Road Bo	1.37	326	P	Pn	15 49 18.9	-0.4	
WHHZ	Waihua	1.37	129	P	Pn	15 49 19.7	+0.5	
MCHZ	McNeill Hill	1.38	152	Pn	Pn	15 49 20.2	+0.8	
MCHZ	McNeill Hill	1.38	152	P	Pn	15 49 20.2	+0.8	
RUGZ	Raukumara Rang	1.46	80	P	Pn	15 49 18.8	-1.4	
KRHZ	Kereru	1.47	164	P	Pn	15 49 20.3	+0.2	
MHEZ	Mangahewa	1.47	234	P	Pn	15 49 21.3	+1.2	
ETAZ	East Tamaki Re	1.47	330	P	Pn	15 49 19.6	-0.6	
KUZ	Kuaotunu	1.49	356	Pn	Pn	15 49 19.7	-0.6	
KUZ	Kuaotunu	1.49	356	P	Pn	15 49 19.7	-0.6	
AWAZ	Awhitu Peninsu	1.51	320	P	Pn	15 49 20.2	-0.3	
WIAZ	Waiheke Island	1.54	338	P	Pn	15 49 20.5	-0.4	
RIGZ	Rimuhau	1.57	108	P	Pn	15 49 21.3	+0.3	
TKGZ	Te Karaka	1.58	98	Pn	Pn	15 49 21.2	+0.2	
TKGZ	Te Karaka	1.58	98	P	Pn	15 49 21.2	+0.2	
HAZ	Te Kaha	1.59	73	P	Pn	15 49 20.0	-1.2	
DREZ	Durham Road	1.61	233	Pn	Pn	15 49 22.3	+0.9	
DREZ	Durham Road	1.61	233	P	Pn	15 49 22.1	+0.7	
KNZ	Kokohu	1.63	120	Pn	Pn	15 49 21.7	+0.2	
KNZ	Kokohu	1.63	120	P	Pn	15 49 21.7	+0.2	
HBAZ	Herne Bay Bore	1.64	327	P	Pn	15 49 20.9	-0.8	
WTAZ	Waiatarua	1.65	321	P	Pn	15 49 21.7	-0.1	
WAZ	Wanganui	1.67	204	Pn	Pn	15 49 22.2	+0.4	
WAZ	Wanganui	1.67	204	P	Pn	15 49 22.5	+0.6	
LREZ	Lake Rotokare	1.67	222	P	Pn	15 49 23.1	+1.2	
TWGZ	Tauwhareparae	1.67	89	Pn	Pn	15 49 22.1	+0.1	
TWGZ	Tauwhareparae	1.67	89	P	Pn	15 49 22.1	+0.1	
PNHZ	Pukenui	1.70	171	Pn	Pn	15 49 22.2	-0.1	
PNHZ	Pukenui	1.70	171	P	Pn	15 49 22.2	-0.1	
CKHZ	Cape Kidnapper	1.71	147	Pn	Pn	15 49 23.0	+0.7	
CKHZ	Cape Kidnapper	1.71	147	P	Pn	15 49 23.0	+0.7	
NEZ	North Egmont	1.73	230	Pn	Pn	15 49 23.4	+0.9	
PREZ	Palmer Road	1.73	230	Pn	Pn	15 49 23.6	+1.2	
PREZ	Palmer Road	1.73	230	P	Pn	15 49 23.7	+1.2	
PRGZ	Paritu Road	1.73	114	Pn	Pn	15 49 22.7	+0.1	
PRGZ	Paritu Road	1.73	114	P	Pn	15 49 22.7	+0.1	
PKE	Pukeiti	1.75	236	P	Pn	15 49 23.5	+0.8	
KAHZ	Kahuranaki	1.75	153	Pn	Pn	15 49 23.3	+0.6	
KAHZ	Kahuranaki	1.75	153	P	Pn	15 49 23.3	+0.6	
RVAZ	Riverhead Bore	1.78	325	P	Pn	15 49 22.5	-0.5	
PKGZ	Pakihiroa	1.79	80	P	Pn	15 49 22.6	-0.5	
KHEZ	Kahui Hut	1.79	233	Pn	Pn	15 49 24.0	+0.9	
ABAZ	Army Bay	1.82	333	P	Pn	15 49 23.4	0.0	
TSZ	Takapari Road	1.83	177	Pn	Pn	15 49 23.4	0.0	
TSZ	Takapari Road	1.83	177	P	Pn	15 49 23.4	0.0	
MHGZ	Mahia Peninsul	1.85	121	Pn	Pn	15 49 24.2	+0.6	
MHGZ	Mahia Peninsul	1.85	121	P	Pn	15 49 24.3	+0.6	
CNGZ	Carnagh Statio	1.87	99	Pn	Pn	15 49 24.4	+0.6	
CNGZ	Carnagh Statio	1.87	99	P	Pn	15 49 24.4	+0.6	
NWZ	Newall Road	1.87	236	Pn	Pn	15 49 24.7	+0.8	
WPHZ	Waipukurau	1.89	166	Pn	Pn	15 49 24.1	+0.1	
WPHZ	Waipukurau	1.89	166	P	Pn	15 49 24.1	+0.1	
PUZ	Puketiti	1.90	86	Pn	Pn	15 49 23.7	-0.5	
PUZ	Puketiti	1.90	86	P	Pn	15 49 23.7	-0.5	
NMEZ	Namu Road	1.95	232	P	Pn	15 49 25.6	+1.0	
PXZ	Pawanui	1.96	157	Pn	Pn	15 49 25.0	+0.3	
PXZ	Pawanui	1.96	157	P	Pn	15 49 25.0	+0.3	
GRZ	Great Barrier	2.00	351	P	Pn	15 49 25.0	-0.2	
OHWZ	Ohakea	2.02	192	P	Pn	15 49 25.7	+0.5	
MXZ	Matakaoa Point	2.05	72	Pn	Pn	15 49 25.5	-0.1	
MXZ	Matakaoa Point	2.05	72	P	Pn	15 49 25.6	-0.1	
WMGZ	Waiomatatini S	2.06	79	Pn	Pn	15 49 25.6	-0.2	
WMGZ	Waiomatatini S	2.06	79	P	Pn	15 49 25.6	-0.2	
DVHZ	Dannevirke	2.08	173	Pn	Pn	15 49 25.7	-0.3	
DVHZ	Dannevirke	2.08	173	P	Pn	15 49 25.7	-0.3	
PRHZ	Porangahau	2.12	164	Pn	Pn	15 49 26.5	+0.1	
PRHZ	Porangahau	2.12	164	P	Pn	15 49 26.5	+0.1	
POWZ	Post Office Ro	2.16	182	Pn	Pn	15 49 26.5	-0.3	
POWZ	Post Office Ro	2.16	182	P	Pn	15 49 26.5	-0.3	
ANWZ	Angora Road	2.28	168	P	Pn	15 49 28.3	+0.3	
PRWZ	Pori Road	2.32	178	Pn	Pn	15 49 28.5	0.0	
PRWZ	Pori Road	2.32	178	P	Pn	15 49 28.5	0.0	
MRZ	Mangatainoka R	2.44	185	Pn	Pn	15 49 29.1	-0.6	
MRZ	Mangatainoka R	2.44	185	P	Pn	15 49 29.1	-0.6	
BFZ	Birch Farm	2.47	173	P	Pn	15 49 29.7	-0.4	
TIWZ	Tintock	2.54	179	Pn	Pn	15 49 30.6	-0.3	
TIWZ	Tintock	2.54	179	P	Pn	15 49 30.7	-0.3	
WCZ	Waipu Caves	2.59	332	P	Pn	15 49 31.5	0.0	
OGWZ	Otaki Gorge	2.64	191	Pn	Pn	15 49 31.5	-0.5	
OGWZ	Otaki Gorge	2.64	191	P	Pn	15 49 31.5	-0.5	
HOWZ	Holdsworth Sta	2.68	186	Pn	Pn	15 49 31.7	-0.8	
HOWZ	Holdsworth Sta	2.68	186	P	Pn	15 49 31.7	-0.8	
CPWZ	Castlepoint	2.69	174	Pn	Pn	15 49 32.6	+0.1	
CPWZ	Castlepoint	2.69	174	P	Pn	15 49 32.7	+0.1	
KIWZ	Kapiti Island	2.73	195	Pn	Pn	15 49 32.2	-0.8	
KIW	Kapiti Island	2.73	195	P	Pn	15 49 32.2	-0.8	
TMWZ	Te Maipa	2.87	179	Pn	Pn	15 49 34.0	-0.7	
TMWZ	Te Maipa	2.87	179	P	Pn	15 49 34.1	-0.7	
MTW	Mount Morrison	2.94	185	Pn	Pn	15 49 34.3	-1.1	
MTW	Mount Morrison	2.94	185	P	Pn	15 49 34.3	-1.1	
CAW	Cannon Point	2.94	192	Pn	Pn	15 49 34.7	-0.7	
CAW	Cannon Point	2.94	192	P	Pn	15 49 34.7	-0.7	
DUWZ	D'Urville Isla	2.97	210	Pn	Pn	15 49 35.0	-0.9	
DUWZ	D'Urville Isla	2.97	210	P	Pn	15 49 35.0	-0.9	
WEL	Wellington	3.16	195	Pn	Pn	15 49 37.2	-0.9	
PAWZ	Paruwai Farm	3.17	186	Pn	Pn	15 49 36.9	-1.2	
PAWZ	Paruwai Farm	3.17	186	P	Pn	15 49 37.0	-1.2	
TRWZ	Traveller	3.17	182	Pn	Pn	15 49 37.2	-0.9	
TRWZ	Traveller	3.17	182	P	Pn	15 49 37.2	-0.9	
MSWZ	Moikau Station	3.22	188	Pn	Pn	15 49 37.5	-1.2	
MSWZ	Moikau Station	3.22	188	P	Pn	15 49 37.5	-1.2	
TCW	Tory Channel	3.22	202	Pn	Pn	15 49 37.8	-0.9	
TCW	Tory Channel	3.22	202	P	Pn	15 49 37.8	-0.9	
BHW	Baring Head	3.26	193	Pn	Pn	15 49 38.0	-1.3	
BHW	Baring Head	3.26	193	P	Pn	15 49 38.2	-1.1	
PLWZ	Palliser	3.37	188	Pn	Pn	15 49 39.1	-1.4	
PLWZ	Palliser	3.37	188	P	Pn	15 49 39.1	-1.4	
TUWZ	Tuamarina	3.52	204	Pn	Pn	15 49 41.3	-1.0	
TUWZ	Tuamarina	3.52	204	P	Pn	15 49 41.4	-1.0	
NNZ	Nelson	3.54	212	Pn	Pn	15 49 41.2	-1.3	
NNZ	Nelson	3.54	212	P	Pn	15 49 41.3	-1.3	
QRZ	Quartz Range	3.65	224	Pn	Pn	15 49 42.2	-1.7	
BSWZ	Blackbirch Sta	3.80	203	Pn	Pn	15 49 44.8	-1.0	
THZ	Tophouse	4.19	212	Pn	Pn	15 49 49.0	-1.7	
KHZ	Kahutara	4.54	202	Pn	Pn	15 49 53.9	-1.1	
DSZ	Denniston Nort	4.69	220	Pn	Pn	15 49 54.8	-2.2	
LTZ	Lake Taylor	5.30	210	Pn	Pn	15 49 59.5	-5.2	
OXZ	Oxford	5.86	208	Pn	Pn	15 50 09.5	-2.3	
CRLZ	Canterbury Las	5.87	204	Pn	Pn	15 50 10.3	-1.7	
MQZ	McQueen's Vall	5.98	203	Pn	Pn	15 50 10.7	-2.7	
RPZ	Rata Peaks	6.57	212	P	Pn	15 50 19.4	-1.7	
	0.4nm,0.3s,baz=37,slow=20,SNR=5.5							
RPZ				S	S	15 51 28.9	-7.0	
	4.4nm,0.3s,baz=330,slow=23,SNR=19							

FOZ	Fox Glacier	7.00	219	Pn	Pn	15 50 24.9	-1.6	
LBZ	Lake Benmore	7.49	213	Pn	Pn	15 50 31.0	-1.8	
ODZ	Otahua Downs	7.85	208	Pn	Pn	15 50 36.2	-1.3	
ASAR	Alice Springs	38.46	280	P	P	15 55 51.6	+2.7	
	0.8nm,0.9s,baz=126,slow=7.4,SNR=18							
WRA	Warramunga Arr	40.21	285	P	P	15 56 05.8	+2.5	
	0.2nm,0.5s,baz=123,slow=8.0,SNR=5.9							
FINES	FINESS Array B	150.16	331	PKPbc	PKPbc	16 08 13.7	+1.5	
	1.9nm,1.0s,baz=72,slow=4.5,SNR=3.6							

*ISCJB **26** 15:53:47.9±0.4, 24°.28N±0°.03×121°.85E±0°.02, h50km±5km, Error ellipse: s-maj=6.0km s-min=2.9km az=153.1*
*TAP **26** 15:53:47.3, 24°.28N×121°.77E, h57km, ML2.5, C*
*JMA **26** 15:53:47.3±0.1, 24°.40N×121°.83E, h50km, M2.2*

ISC 26 15:53:48.2±1.3, 24°.28N±0°.04×121°.84E±0°.03, h49km±7km, n43, σ0°.75/75, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NANB	Nanao	0.16	332	*eP*			Pn	15 53 56.3	+0.1
	baz=1.0								
NANB				*eS*			Sn	15 54 03.1	+1.1
	baz=1.0								
ENAH	Nanao	0.17	352	P			Pn	15 53 56.6	+0.3
	baz=17								
ENAH				S			Sn	15 54 03.4	+1.4
	baz=17								
ENAH	Nanao	0.17	352	P			Pn	15 53 56.5	+0.2
	baz=208								
ENA	Nanau	0.17	329	P			Pn	15 53 56.4	+0.1
	baz=353								
NACB	Ninganchiao	0.24	243	*eP*			Pn	15 53 56.5	-0.3
	baz=242								
NACB				*eS*			Sn	15 54 03.1	+0.2
	baz=242								
TWD	Chiawan	0.30	227	P			Pn	15 53 57.0	-0.3
	baz=226								
TWD				*eS*			Sn	15 54 04.0	+0.3
	baz=226								
TWC	Suao	0.32	2	*eP*			Pn	15 53 58.0	+0.5
	baz=18								
TWC	Suao	0.32	2	S			Pn	15 53 58.0	+0.5
	baz=214								
ENTT	Nioudou	0.43	325	*eP*			Pn	15 53 58.3	-0.4
	baz=334								
ENTT				*eS*			Sn	15 54 05.6	-0.5
	baz=334								
ENTT	Nioudou	0.43	325	P			Pn	15 53 58.3	-0.4
	baz=245								
ENTT				*eS*			Sn	15 54 05.5	-0.6
	baz=245								
NNSB	Datong	0.44	289	*eP*			Pn	15 53 58.0	-0.8
	baz=288								
NNSB				*eS*			Sn	15 54 05.4	-1.0
	baz=288								
NNS	Nan Shan	0.45	290	*eP*			Pn	15 53 58.4	-0.6
	baz=290								
WHF	Hehuan Shan	0.54	255	*eP*			Pn	15 53 59.8	-0.5
	baz=253								
WHF				*eS*			Sn	15 54 08.0	-1.0
	baz=253								
YHNB	Yeheng	0.57	313	*eP*			Pn	15 53 59.8	-0.6
	baz=317								
YHNB				*eS*			Sn	15 54 08.6	-0.5
	baz=317								
YHNB	Yeheng	0.57	313	*eP*			Pn	15 54 00.0	-0.3
	baz=254								
YHNB				*eS*			Sn	15 54 08.3	-0.8
	baz=254								
ESL	Shilin	0.59	218	*eP*			Pn	15 53 59.8	-0.8
	baz=219								
ESL				*eS*			Sn	15 54 08.4	-1.1
	baz=219								
TWT	Tachien	0.60	267	*eP*			Pn	15 54 00.7	-0.2
	baz=266								
TDCB	Techi	0.62	267	*eP*			Pn	15 54 00.8	-0.3
	baz=267								
TDCB				*eS*			Sn	15 54 09.7	-0.6
	baz=267								
CHGB	Renai	0.64	250	*eP*			Pn	15 54 01.1	-0.3
	baz=242								
CHGB				*eS*			Sn	15 54 11.1	+0.1
	baz=242								
OWD	Renai	0.69	242	*eP*			Pn	15 54 01.4	-0.5
	baz=235								
OWD				*eS*			Sn	15 54 10.8	-0.9
	baz=235								
LIOB	Emei	0.83	296	*eP*			Pn	15 54 03.0	-0.7
	baz=298								
NSTT	Nanjuang	0.83	295	*eP*			Pn	15 54 03.6	-0.2
	baz=297								
DPDB	Guoxing	0.87	253	*eP*			Pn	15 54 04.1	-0.1
	baz=251								
DPDB				*eS*			Sn	15 54 16.5	+0.6
	baz=251								
EHY	Hungye	0.91	211	*eP*			Pn	15 54 03.0	-1.7
	baz=205								
EHY				*eS*			Sn	15 54 14.7	-2.0
	baz=205								
SMLT	Sun Moon Lake	0.94	245	*eP*			Pn	15 54 05.3	0.0
	baz=235								
SMLT				*eS*			Sn	15 54 18.1	+0.3
	baz=235								
TYC	Yuchr	0.97	247	*eP*			Pn	15 54 05.5	0.0
	baz=239								
TYC				*eS*			Sn	15 54 18.6	+0.3
	baz=239								
JYNG	Yonagunijimaku	1.03	80	P			Pn	15 54 06.2	-0.1
JYNG				*eS*			Sn	15 54 18.8	-0.8
TWF1	Yuli	1.05	208	*eP*			Pn	15 54 05.8	-0.9
	baz=211								
TWF1				*eS*			Sn	15 54 20.1	-0.1
	baz=211								
YOJ	Yonaguni jima	1.09	80	P			Pn	15 54 06.4	-0.7
YOJ				*eS*			Sn	15 54 20.4	-0.7
YOJ	Yonaguni jima	1.09	80	*eS*			Sn	15 54 20.6	-0.5
	baz=115								
WJS	Zhushan	1.11	246	*eP*			Pn	15 54 08.2	+0.8
	baz=234								
WJS				*eS*			Sn	15 54 22.9	+1.2
	baz=234								
YUS	Yu-Shan	1.13	226	*eP*			Pn	15 54 08.0	-0.1
	baz=216								
YUS				*eS*			Sn	15 54 21.9	-0.9
	baz=216								
FULB	Fuli	1.19	205	*eP*			Pn	15 54 08.0	-0.5
	baz=206								
FULB				*eS*			Sn	15 54 24.5	+0.9
	baz=206								
ALS	Alishan	1.22	231	*eP*			Pn	15 54 09.8	+0.7
	baz=218								
ALS				*eS*			Sn	15 54 25.5	+0.8
	baz=218								
ELDTW	Lidau	1.32	215	*eP*			Pn	15 54 10.1	-0.4
	baz=202								
ELDTW				*eS*			Sn	15 54 26.5	-0.5
	baz=202								
CHN4	Tsaushan	1.47	231	*eP*			Pn	15 54 13.4	+1.0
	baz=226								
CHN4				*eS*			Sn	15 54 32.6	+2.2
	baz=226								
WTP	Ta-pu	1.52	228	*eP*			Pn	15 54 14.0	+0.9
	baz=222								
WTP				*eS*			Sn	15 54 31.8	0.0
	baz=222								
TWK	Hsinying	1.60	231	*eP*			Pn	15 54 14.6	+0.5
	baz=226								
TWK				*eS*			Sn	15 54 34.5	+0.9
	baz=226								
SGST	Jiashian	1.66	224	*eP*			Pn	15 54 16.0	+1.1
	baz=218								
SGST				*eS*			Sn	15 54 36.1	+1.0
	baz=218								
IRIF	Iriomote-Funau	1.73	88	P			Pn	15 54 16.1	+0.2
IRIF				*eS*			Sn	15 54 36.8	0.0
JKRS	Kuro-shima	1.98	91	*eS*			Sn	15 54 43.6	+0.6
JIJ	Ishigaki jima	2.11	87	P			Pn	15 54 21.2	+0.2
JIJ				*eS*			Sn	15 54 46.0	0.0
JISG	Ishigakijimahi	2.28	82	P			Pn	15 54 23.4	0.0

TAP 26 15:53:48.7, 24°.84N×122°.02E, h9km, ML2.6, B, Taiwan region

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

EGS		0.08	271	P		Pg		15 53 51.2	+0.4
	baz=269								
EGS				S		Sg		15 53 53.0	+0.5
	baz=269								
TWB1	Santiao Chiao	0.17	350	*eP*		Pg		15 53 52.5	+0.2
	baz=352								
TWB1				*eS*		Sg		15 53 55.1	+0.4
	baz=352								
NTC	Toucheng	0.17	274	*eP*		Pg		15 53 53.0	+0.7
	baz=274								
TIPB	Shuangxi	0.22	306	*eP*		Pg		15 53 52.9	-0.3
	baz=305								
TIPB				*eS*		Sg		15 54 56.3	+0.1
	baz=305								
TWC	Suao	0.28	214	P		Pg		15 53 54.5	+0.3
	baz=214								
EOS1	EOS1	0.31	161	*eP*		Pg		15 53 55.5	+0.7
	baz=154								
EOS1				*eS*		Sb		15 54 00.3	-1.1
	baz=154								
NWF	Wu-fen Shan	0.31	316	*eP*		Pb		15 53 55.8	-0.7
	baz=307								
NWF				*eS*		Sb		15 54 00.6	-1.1
	baz=307								
TWE	Neicheng	0.34	249	P		Pg		15 53 55.9	+0.5
	baz=248								
SLBB	Yuanshan	0.36	256	P		Pg		15 53 56.5	+0.7
	baz=256								
TWA	Mucha	0.42	289	*eP*		Pb		15 53 57.7	-0.5
	baz=279								
TWA				*eS*		Sb		15 54 04.0	-0.7
	baz=279								
NWLT	Wulai	0.47	262	*eP*		Pg		15 53 58.4	+0.5
	baz=263								
TATO	Taipei	0.50	285	*eP*		Pb		15 53 59.4	-0.2
	baz=277								
TATO				*eS*		Sb		15 54 07.0	0.0
	baz=277								
YM10	YM10	0.52	307	P		Pb		15 54 00.0	+0.1
	baz=306								
YM04	YM04	0.54	305	P		Pb		15 54 00.1	-0.2
	baz=304								
YM03	YM03	0.55	308	P		Pb		15 54 00.4	-0.1
	baz=306								
TWY	Chenhua	0.57	319	*eP*		Pb		15 54 01.0	+0.1
	baz=317								
TWY				*eS*		Sb		15 54 09.8	+0.6
	baz=317								
TWS1	Kuangyinshan	0.60	295	*eP*		Pb		15 54 01.8	+0.4
	baz=295								
WLTB	Daxi	0.70	271	*eP*		Pg		15 54 02.5	+0.4
	baz=271								
YOJ	Yonaguni jima	0.98	113	*eP*		Pg		15 54 07.1	-0.4
	baz=115								

WEL 26 15:54:48.7±0.8, 40°S±4°×17°9E±°, h33km, ML3.4/2, ML3.6/44, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MHGZ	Mahia Peninsul	0.96	306	P		Pn		15 55 05.3	-0.5
PRGZ	Paritu Road	1.12	315	P		Pn		15 55 07.6	-0.6
KNZ	Kokohu	1.18	306	P		Pn		15 55 08.3	-0.6
RIGZ	Rimuhau	1.34	319	P		Pn		15 55 11.2	0.0
RIGZ	Rimuhau	1.34	319	S		Sn		15 55 27.8	-0.2
CNGZ	Carnagh Statio	1.35	336	P		Pn		15 55 11.1	-0.1
CKHZ	Cape Kidnapper	1.41	272	P		Pn		15 55 12.3	+0.3
CKHZ	Cape Kidnapper	1.41	272	S		Sn		15 55 28.3	-1.1
WHHZ	Waihua	1.44	296	P		Pn		15 55 12.8	+0.3
TKGZ	Te Karaka	1.52	327	P		Pn		15 55 13.4	-0.2
TKGZ	Te Karaka	1.52	327	S		Sn		15 55 31.0	-1.2
SNGZ	Shannon Statio	1.53	307	P		Pn		15 55 13.7	0.0
ARHZ	Aropaoanui	1.54	287	P		Pn		15 55 14.7	+0.8
ARHZ	Aropaoanui	1.54	287	S		Sn		15 55 33.6	+0.9
KAHZ	Kahuranaki	1.56	267	P		Pn		15 55 14.3	+0.1
PXZ	Pawanui	1.60	258	P		Pn		15 55 14.2	-0.4
PXZ	Pawanui	1.60	258	S		Sn		15 55 32.3	-1.8
RAHZ	Arahi	1.62	299	P		Pn		15 55 15.5	+0.5
RAGZ	Rawiri	1.68	316	P		Pn		15 55 16.2	+0.3
RAGZ	Rawiri	1.68	316	S		Sn		15 55 35.3	-1.1
TWGZ	Tauwhareparae	1.70	335	P		Pn		15 55 16.1	0.0
PUZ	Puketiti	1.72	343	P		Pn		15 55 15.8	-0.6
PUZ	Puketiti	1.72	343	S

CAIG	**El Cayaco**	**2.11**	**296**	*e*P	**Pn**	**16 03 03.0**	**-2.6**
CAIG				*i* S	**Sn**	**16 03 29.9**	**-2.1**
HUIG	**Huatulco**	**2.13**	**99**	*e*P	**Pn**	**16 03 03.5**	**-2.3**
HUIG				*i* S	**Sn**	**16 03 28.5**	**-4.0**
PLIG	**Platanillo**	**2.54**	**333**	*e*P	**Pn**	**16 03 10.1**	**-1.5**
PLIG				*e*S	**Sn**	**16 03 41.0**	**-1.8**
ARIG	**Puente Sto Nin**	**2.91**	**318**	*e*P	**Pn**	**16 03 15.5**	**-1.1**
ARIG				*e*S	**Sn**	**16 03 50.8**	**-1.1**
CMIG	**Matias Romero**	**3.40**	**73**	Pn	**Pn**	**16 03 22.7**	**-0.7**
	1.3nm,0.3s,baz=263,slow=11,SNR=21						
CMIG				Pg	**Pb**	**16 03 32.8**	**+2.3**
	3.7nm,0.3s,baz=263,slow=14,SNR=15						
CMIG				Lg	Lg	16 04 20.2	
	8.6nm,0.3s,baz=263,slow=16,SNR=4.2						
CMIG				LR	LR	16 05 04.3	
	comp=Z,326nm,19.9s,baz=131,slow=47						
TXAR	**Lajitas Array**	**14.05**	**340**	Pn	**Pn**	**16 05 50.3**	**+0.8**
	0.0nm,0.3s,baz=164,slow=13,SNR=2.7						
TXAR				LR	LR	16 11 47.7	
	comp=Z,135nm,20.0s,baz=0.0,slow=40						
ANMO	**Albuquerque**	**20.12**	**340**	P	**P**	**16 07 05.7**	**+1.1**
	0.1nm,0.3s,baz=186,slow=15,SNR=6.3						
ANMO				LR	LR	16 15 22.9	
	comp=Z,203nm,19.1s,baz=338,slow=39						
PDAR	**Pinedale Array**	**28.25**	**342**	P	**P**	**16 08 25.5**	**+1.6**
	0.2nm,0.3s,baz=181,slow=6.9,SNR=3.6						
NVAR	**Mina Array Bea**	**28.34**	**326**	P	**P**	**16 08 25.4**	**+0.7**
	0.5nm,0.8s,baz=142,slow=12,SNR=2.8						
YBH	**Yreka Blue Hor**	**33.06**	**325**	LR	LR	16 23 36.7	
	comp=Z,90nm,19.1s,baz=178,slow=38						
YKA	**Yellowknife Ar**	**47.72**	**350**	P	**P**	**16 11 06.2**	**-0.9**
	0.2nm,0.5s,baz=155,slow=7.6,SNR=4.9						
INK	**Inuvik**	**56.76**	**345**	P	**P**	**16 12 13.6**	**-0.6**
	1.0nm,0.7s,baz=147,slow=5.9,SNR=5.0						
ILAR	**Eielson Array**	**58.55**	**338**	P	**P**	**16 12 26.9**	**0.0**
	0.3nm,0.7s,baz=127,slow=5.7,SNR=4.2						
WRA	**Warramunga Arr**	**129.97**	**257**	PKP	**PKPdf**	**16 21 44.8**	**+3.5**
	0.3nm,0.9s,baz=73,slow=2.5,SNR=2.8						

MEX 26 16:04:03.5±0.5, 16°17N×98°54W, h15km±10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.45**	**61**	*e*P	Pg	16 04 11.3	-1.2
PNIG				*i* S	Sg	16 04 17.7	-1.0
TLIG	**Tlapa**	**1.39**	**359**	*e*P	Pn	16 04 24.5	-4.0
TLIG				*i* S	Sn	16 04 41.7	-4.9
ACX	**Acapulco**	**1.45**	**299**	*i* P	Pg	16 04 33.5	+2.2
ACX				*i* S	Sg	16 04 51.8	+1.6
CAIG	**El Cayaco**	**1.88**	**298**	*e*P	Pn	16 04 32.2	-2.8
CAIG				*i* S	Sn	16 04 53.4	-5.1
VHO	**Vista Hermosa**	**1.95**	**62**	*e*P	Pn	16 04 33.6	-2.7
VHO				*i* S	Sn	16 04 55.4	-5.2
HUIG	**Huatulco**	**2.37**	**99**	*i* P	Pn	16 04 39.0	-2.8
HUIG				*i* S	Sn	16 05 05.8	-4.9

*ISCJB **26** 16:11:45.3±1.5, 15°94N×0°07×98°24W×0°04, h25km±8km, mb4.2/18, MS3.4/1, Error ellipse: s-maj=12.7km s-min=5.7km az=11.8*
*MEX **26** 16:11:45.8±0.4, 15°95N×98°29W, h1km±4km, MD4.0*
*NEIC **26** 16:11:46.4±0.0, 16°03N×98°39W, h1km, mb4.4/19, MD4.0(MEX), After MEX.*
*IDC **26** 16:11:47.7±1.6, 16°52N×98°23W, h0km, mb3.9/6, mb1 4.1/10, mb1mx3.8/50, mbtmp3.8/10, ML3.6/4, MS3.2/3, Ms1 3.2/3, ms1mx2.7/44, Error ellipse: s-maj=36.5km s-min=20.6km az=22.0*

ISC 26 16:11:47.4±1.6, 16.09N±0.08×98.21W±0.04, h22km±10km, n53, σ2s23/60, mb4.2/17, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**15**	*e*P	**Pb**	**16 11 54.6**	**0.0**
PNIG				*i* S	**Sb**	**16 12 01.4**	**+2.0**
PNIG	**Pinotepa**	**0.32**	**15**	*e*P	**Pb**	**16 11 54.6**	**0.0**
PNIG				*e*S	**Sb**	**16 12 00.9**	**+1.5**
TLIG	**Tlapa**	**1.51**	**347**	*e*P	**Pn**	**16 12 11.6**	**-1.6**
TLIG				*i* S	**Sb**	**16 12 32.7**	**-0.8**
TLIG	**Tlapa**	**1.51**	**347**	*e*P	**Pn**	**16 12 11.6**	**-1.6**
VHO	**Vista Hermosa**	**1.73**	**55**	*e*P	**Pn**	**16 12 15.8**	**-0.5**
VHO				*e*S	**Sb**	**16 12 39.2**	**-0.7**
VHO	**Vista Hermosa**	**1.73**	**55**	*e*P	**Pn**	**16 12 16.5**	**+0.2**
ACX	**Acapulco**	**1.76**	**297**	*i* P	**Pn**	**16 12 14.4**	**-2.1**
ACX				*e*S	**Sn**	**16 12 37.9**	**-0.5**
HUIG	**Huatulco**	**2.05**	**99**	*e*P	**Pn**	**16 12 19.1**	**-1.5**
HUIG				*i* S	**Sn**	**16 12 44.1**	**-1.4**
HUIG	**Huatulco**	**2.05**	**99**	*e*P	**Pn**	**16 12 20.2**	**-0.3**
CAIG	**El Cayaco**	**2.19**	**296**	*e*P	**Pn**	**16 12 20.9**	**-1.6**
CAIG				*i* S	**Sn**	**16 12 47.3**	**-1.6**
CAIG	**El Cayaco**	**2.19**	**296**	*e*P	Pn	16 12 18.6	-3.9
CMIG	**Matias Romero**	**3.35**	**72**	Pn	**Pn**	**16 12 38.4**	**0.0**
	4.5nm,0.3s,baz=262,slow=9.9,SNR=26						
CMIG				Pg	**Pb**	**16 12 49.1**	**+3.0**
	16nm,0.3s,baz=243,slow=18,SNR=21						
CMIG				LR	LR	16 13 26.0	
	comp=Z,98nm,20.1s,baz=128,slow=30						
CMIG				Lg	Lg	16 13 36.5	
	87nm,0.3s,baz=322,slow=17,SNR=30						
UNM	**Universidad Na**	**3.35**	**344**	*e*Pn	**Pb**	**16 12 43.4**	**-3.0**
LVIG	**Laguna Verde**	**4.00**	**25**	*e*Pn	**Pb**	**16 12 46.5**	**-0.9**
MOIG	**Morelia**	**4.56**	**322**	*e*Pn	**Pn**	**16 12 59.7**	**+4.3**
JRQG	**Juriquilla Cam**	**5.08**	**336**	*e*Pn	**Pn**	**16 13 06.2**	**+4.1**
TEIG	**Tepich**	**10.30**	**65**	*e*Pn	Pn	16 14 08.4	-5.6
TXAR	**Lajitas Array**	**14.11**	**340**	Pn	**Pn**	**16 15 04.1**	**-2.0**
	0.0nm,0.3s,baz=161,slow=9.3,SNR=3.2						
TXAR				LR	LR	16 20 57.2	
	comp=Z,165nm,20.7s,baz=0.0,slow=40						
JTS	**JuntasAbangare**	**14.13**	**112**	Pn	**P**	**16 15 13.1**	**-0.8**
	1.1nm,0.3s,baz=322,slow=8.5,SNR=6.6						
JCT	**Junction City**	**14.40**	**354**	*e*Pn	**P**	**16 15 14.2**	**-2.6**
	12nm,1.4s						
WHTX	**Lake Whitney,**	**15.85**	**2**	*e*Pn	**P**	**16 15 32.9**	**+0.1**
	15nm,0.6s						
NATX	**Nacogdoches**	**15.94**	**11**	*e*Pn	**P**	**16 15 32.8**	**-1.0**
	25nm,0.4s						
WBCY	**West Bay, Gran**	**16.35**	**76**	*e*Pn	**Pn**	**16 15 29.6**	**-6.0**
	24nm,0.6s						
ABTX	**Abilene, Hawle**	**16.52**	**356**	*e*Pn	**P**	**16 15 41.6**	**+1.4**
	15nm,0.6s						
SRIG	**Santa Rosalia**	**17.15**	**313**	*e*Pn	**P**	**16 15 47.8**	**+0.5**
	20nm,0.4s						
AMTX	**Amarillo**	**18.98**	**351**	*e*P	**Pn**	**16 16 10.3**	**+2.1**
	16nm,0.7s						
UALR	**University of**	**19.34**	**15**	*e*P	**P**	**16 16 11.3**	**-0.1**
	10nm,1.0s						
BNM	**Barren Site**	**19.52**	**339**	*e*P	**Pn**	**16 16 15.2**	**+0.4**
ANMO	**Albuquerque**	**20.18**	**340**	P	**P**	**16 16 21.4**	**+0.7**
	0.2nm,0.3s,baz=334,slow=12,SNR=10						
ANMO	**Albuquerque**	**20.18**	**340**	*e*P	**P**	**16 16 21.9**	**+1.1**
	5.4nm,0.8s						
PLAL	**Pickwick Lake**	**20.90**	**24**	*e*P	**P**	**16 16 27.9**	**-0.3**
	8.1nm,0.8s						
PBMO	**Poplar Bluff**	**21.74**	**17**	*e*P	**P**	**16 16 38.9**	**+1.6**
	18nm,0.8s						
GOGA	**Godfrey**	**21.79**	**35**	*e*P	**P**	**16 16 37.4**	**-0.5**
	13nm,1.0s						
WVT	**Waverly**	**22.00**	**23**	*e*P	**P**	**16 16 39.1**	**-1.0**
	13nm,0.9s						
MVCO	**Mesa Verde**	**22.93**	**339**	*e*P	**P**	**16 16 51.4**	**+1.2**
	9.0nm,1.1s						
SIUC	**Southern Illin**	**22.96**	**19**	*e*P	**P**	**16 16 51.4**	**+1.0**
	22nm,1.0s						
TKL	**Tuckaleechee C**	**23.37**	**31**	P	**P**	**16 16 48.1**	**-6.4**
	1.6nm,0.4s,baz=225,slow=19,SNR=4.8						
PV10	**Paradox Valley**	**24.16**	**339**	*e*P	**P**	**16 17 04.4**	**+2.1**
SMCO	**Snowmass**	**24.25**	**343**	*e*P	**P**	**16 17 05.1**	**+1.8**
	9.1nm,1.3s						
ISCO	**Idaho Springs**	**24.49**	**346**	*e*P	**P**	**16 17 07.2**	**+1.8**
	7.8nm,1.0s						
NCAT	**North Carolina**	**25.81**	**36**	*e*P	**P**	**16 17 16.3**	**-0.8**
	31nm,1.1s						
PDAR	**Pinedale Array**	**28.31**	**342**	P	**P**	**16 17 40.1**	**+0.4**
	0.3nm,0.4s,baz=142,slow=10,SNR=4.9						
PDAR				LR	LR	16 29 51.4	
	comp=Z,101nm,20.7s,baz=178,slow=39						
PDAR	**Pinedale Array**	**28.31**	**342**	*e*P	**P**	**16 17 39.0**	**-0.7**
NV01	**Mina Array Sit**	**28.41**	**325**	*e*P	**P**	**16 17 41.4**	**+0.7**
NVAR	**Mina Array Bea**	**28.41**	**325**	P	**P**	**16 17 41.7**	**+1.0**
	0.6nm,0.8s,baz=168,slow=9.3,SNR=6.1						
SNOW	**Snow King Moun**	**29.30**	**341**	*e*P	**P**	**16 17 47.7**	**-0.9**
	9.7nm,0.6s						
SCHQ	**Schefferville**	**45.62**	**25**	P	**P**	**16 20 06.1**	**+0.2**
	6.9nm,0.9s,baz=223,slow=6.5,SNR=5.4						
YKA	**Yellowknife Ar**	**47.77**	**350**	P	**P**	**16 20 22.8**	**+0.2**
	0.8nm,0.9s,baz=158,slow=7.4,SNR=9.4						
YKA				PP	**PP**	**16 22 21.2**	**+6.8**
	0.4nm,1.0s,baz=153,slow=10,SNR=3.6						
INK	**Inuvik**	**56.82**	**345**	P	**P**	**16 21 29.6**	**-0.2**
	1.8nm,0.8s,baz=136,slow=6.4,SNR=6.8						
ILAR	**Eielson Array**	**58.61**	**338**	P	**P**	**16 21 43.4**	**+1.0**
	0.7nm,0.8s,baz=138,slow=4.9,SNR=8.5						
TRF	**Thorofare Moun**	**59.23**	**336**	*e*P	**P**	**16 21 47.0**	**0.0**
	6.9nm,1.0s						
WRA	**Warramunga Arr**	**130.04**	**257**	PKP	**PKPdf**	**16 31 00.5**	**+4.2**
	0.7nm,0.9s,baz=76,slow=2.2,SNR=5.2						
ASAR	**Alice Springs**	**130.63**	**252**	PKP	**PKPdf**	**16 31 01.0**	**+3.6**
	0.2nm,0.8s,baz=42,slow=2.0,SNR=3.1						

*IDC **26** 16:13:34.9±5.6, 36°21N×70°38E, h174km±50km, mb3.2/8, mb1 3.3/13, mb1mx3.0/69, mbtmp3.7/13, Error ellipse: s-maj=40.6km s-min=17.9km az=32.0*
*ISCJB **26** 16:13:38.1±0.5, 36°56N±0.03×70°34E±0.07, h204km, mb3.2/7, Error ellipse: s-maj=7.9km s-min=4.0km az=171.5*
*NNC **26** 16:13:42.2±1.5, 36°83N×70°33E, h191km±19km, mb3.0, mpv4.0, Error ellipse: s-maj=15.5km s-min=12.3km az=58.0*

ISC 26 16:13:38.7±0.7, 36°53N±0°05×70°36E±0°09, h204km, n44, σ1s40/51, mb3.3/7, 8C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.98**	**154**	⇓P	**Pn**	**16 14 28.4**	**-0.2**
CEP				S	**S**	**16 15 05.0**	**-1.9**
CHCP	**Chirah Chowk**	**3.73**	**139**	P	**Pn**	**16 14 37.3**	**-0.1**
THW	**Thamme Wali**	**3.90**	**163**	P	**Pn**	**16 14 38.7**	**-0.8**
SFK	**Sufi-Kurgan**	**4.27**	**35**	⇑P	**Pn**	**16 14 44.1**	**-0.1**
	9.1nm,0.5s						
SFK				⇓S	**S**	**16 15 34.2**	**-1.0**
	45nm,0.4s						
SARP	**Sargodha**	**4.98**	**157**	P	**Pn**	**16 14 51.4**	**-1.6**
AML	**Almayashu**	**6.16**	**24**	P	**Pn**	**16 15 08.1**	**-0.4**
	SNR=186						
MNAS	**Manas**	**6.18**	**15**	⇑P	**Pn**	**16 15 08.1**	**-0.3**
	6.3nm,0.4s						
MNAS				⇑S	**S**	**16 16 16.7**	**-2.5**
	41nm,0.5s						
UCH	**Uchtor**	**6.54**	**28**	P	**Pn**	**16 15 13.1**	**-0.2**
	SNR=28						
KK31	**Karatay Array**	**6.57**	**1**	P	**Pn**	**16 15 12.7**	**-0.6**
	2.6nm,0.2s,baz=192,slow=16,SNR=96						
KK31				⇑S	**S**	**16 16 24.4**	**-3.8**
	2.2nm,0.3s,baz=193,slow=15,SNR=5.0						
EKS2	**Erkin-Say**	**6.67**	**22**	P	**Pn**	**16 15 14.8**	**+0.1**
	SNR=8.2						
KZA	**Kyzart**	**6.71**	**33**	P	**Pn**	**16 15 15.0**	**-0.6**
	SNR=13						
AAK	**Ala-Archa**	**6.88**	**26**	P	**Pn**	**16 15 17.5**	**0.0**
	5.3nm,0.3s,baz=153,slow=3.3,SNR=86						
AAK				S	**S**	**16 16 33.6**	**-2.3**
	4.8nm,0.3s,baz=328,slow=22,SNR=23						
AAK	**Ala-Archa**	**6.88**	**26**	⇑P	**Pn**	**16 15 17.2**	**-0.4**
	3.1nm,0.2s						
AAK				⇓S	**S**	**16 16 33.0**	**-2.9**
	35nm,0.8s						
AAK	**Ala-Archa**	**6.88**	**26**	P	**Pn**	**16 15 17.7**	**+0.1**
	SNR=26						
KBK	**Karagaybulak**	**7.07**	**29**	P	**Pn**	**16 15 20.2**	**+0.3**
	SNR=14						
CHMS	**Chumysh**	**7.29**	**26**	P	**Pn**	**16 15 22.9**	**+0.2**
	SNR=5.4						
USP	**Ospenovka**	**7.44**	**24**	P	**Pn**	**16 15 24.6**	**0.0**
	SNR=16						
TKM2	**Tokmak 2**	**7.55**	**31**	⇑P	**Pn**	**16 15 26.2**	**0.0**
	13nm,0.5s						
TKM2				⇑S	**S**	**16 16 49.3**	**-2.4**
	8.2nm,0.6s						
TKM2	**Tokmak 2**	**7.55**	**31**	P	**Pn**	**16 15 26.0**	**-0.3**
	SNR=41						
MK31	**Makanchi Array**	**13.57**	**37**	⇓P	**Pn**	**16 16 43.4**	**+0.2**
	1.2nm,0.8s,baz=210,slow=9.0,SNR=14						
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**16 16 43.9**	**+0.8**
	0.1nm,0.3s,baz=215,slow=10,SNR=11						
KOLN	**Koldanda**	**14.21**	**124**	*e*P	**P**	**16 16 53.9**	**+1.1**
	4.0nm,0.3s						
GKN	**Gorkha**	**14.76**	**121**	*e*P	**P**	**16 17 00.3**	**+1.4**
	6.4nm,0.3s						
AB31	**Akbulak array**	**14.81**	**332**	⇓P	**P**	**16 16 59.9**	**+0.8**
	1.0nm,0.3s,baz=146,slow=12,SNR=99						
KURBB	**Kurchatov Arra**	**15.27**	**20**	P	**Pn**	**16 17 03.5**	**-0.3**
	0.1nm,0.3s,baz=208,slow=10,SNR=5.9						
DMN	**Daman**	**15.33**	**121**	*e*P	**P**	**16 17 07.2**	**+1.9**
	2.5nm,0.3s						
KKN	**Kakani**	**15.34**	**120**	*e*P	**P**	**16 17 07.5**	**+2.1**
	5.4nm,0.4s						
PKIN	**Phulchoki**	**15.55**	**121**	*e*P	**Pn**	**16 17 09.8**	**+2.0**
	3.5nm,0.3s						
PKI	**Pulchoki**	**15.56**	**121**	*e*P	**Pn**	**16 17 09.4**	**+1.4**
	10nm,0.6s						
GUN	**Gumba**	**15.68**	**119**	*e*P	**Pn**	**16 17 11.8**	**+2.3**
	8.5nm,0.5s						
JIRN	**Jiri**	**16.05**	**119**	*e*P	**P**	**16 17 13.3**	**-0.1**
	21nm,0.6s						
BVA0	**Borovoye Array**	**16.49**	**0**	⇑P	**Pn**	**16 17 21.1**	**+2.6**
	2.0nm,1.0s,baz=157,slow=12,SNR=12						
BVAR	**Borovoye Array**	**16.49**	**0**	P	**Pn**	**16 17 19.8**	**+1.2**
	0.4nm,0.3s,baz=190,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**16.50**	**331**	P	**Pn**	**16 17 19.0**	**+0.4**
	0.4nm,0.3s,baz=149,slow=13,SNR=9.0						
AKTO	**Aktyubinsk**	**16.50**	**331**	⇓P	**Pn**	**16 17 19.0**	**+0.4**
	6.1nm,1.3s						
RAMN	**Ramite**	**16.78**	**120**	*e*P	**P**	**16 17 21.4**	**+0.2**
	4.4nm,0.3s						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**16 17 57.5**	**+0.8**
	1.3nm,0.3s,baz=214,slow=11,SNR=7.3						
FINES	**FINESS Array B**	**37.17**	**326**	P	**P**	**16 20 30.9**	**+1.2**
	0.4nm,0.5s,baz=125,slow=10.0,SNR=3.3						
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	**16 21 02.1**	**+1.4**
	3.3nm,0.9s,baz=108,slow=8.9,SNR=4.8						
HFS	**Hagfors**	**42.72**	**322**	P	**P**	**16 21 16.6**	**+1.3**
	0.8nm,0.6s,baz=91,slow=14,SNR=4.5						
NOA	**NORSAR Array B**	**44.04**	**323**	P	**P**	**16 21 26.9**	**+0.9**
	0.9nm,0.8s,baz=98,slow=7.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**65.20**	**268**	P	**P**	**16 23 57.6**	**-0.9**
	0.2nm,0.4s,baz=46,slow=6.4,SNR=4.2						
WRA	**Warramunga Arr**	**82.45**	**121**	P	**P**	**16 25 36.8**	**-1.6**
	0.4nm,0.8s,baz=318,slow=4.4,SNR=4.0						
ASAR	**Alice Springs**	**84.70**	**124**	P	**P**	**16 25 48.6**	**-1.2**
	0.2nm,0.6s,baz=317,slow=4.5,SNR=5.9						

WEL 26 16:42:43.1, 48°S±18°×16°6E±1°5, h5km, ML3.9/8, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.64**	**28**	P	Pn	16 43 10.6	-1.9
APZ	**The Paps**	**1.83**	**65**	P	Pn	16 43 14.0	-1.2
APZ	**The Paps**	**1.83**	**65**	S	Sn	16 43 34.3	-4.5
WHZ	**Wether Hill Ro**	**2.38**	**44**	P	Pn	16 43 21.3	-1.4
WHZ	**Wether Hill Ro**	**2.38**	**44**	S	Sn	16 43 47.5	-4.7
DCZ	**Deep Cove**	**2.42**	**28**	P	Pn	16 43 22.1	-1.1
SYZ	**Scrubby Hill**	**2.67**	**67**	P	Pn	16 43 26.7	-0.1
SYZ	**Scrubby Hill**	**2.67**	**67**	S	Sn	16 43 57.0	-2.4
MLZ	**Mavora Lakes**	**2.86**	**39**	P	Pn	16 43 28.5	-0.9
MLZ	**Mavora Lakes**	**2.86**	**39**	S	Sn	16 44 00.7	-3.5
TUZ	**Tuapeka**	**3.25**	**61**	P	Pn	16 43 34.0	-0.7
TUZ	**Tuapeka**	**3.25**	**61**	S	Sn	16 44 10.4	-3.4
MSZ	**Milford Sound**	**3.37**	**30**	P	Pn	16 43 37.3	+1.0
EAZ	**Earnscleugh**	**3.52**	**49**	P	Pn	16 43 37.2	-1.3
EAZ	**Earnscleugh**	**3.52**	**49**	S	Sn	16 44 16.7	-3.8
WKZ	**Wanaka**	**3.68**	**42**	P	Pn	16 43 40.5	-0.2
JCZ	**Jackson Bay**	**4.20**	**34**	P	Pn	16 43 49.1	+1.3
LBZ	**Lake Benmore**	**4.56**	**47**	P	Pn	16 43 51.0	-1.7
FOZ	**Fox Glacier**	**5.06**	**38**	P	Pn	16 43 59.6	0.0

IDC 26 16:52:59.0±2.3, 4°63S×146°09E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/48, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=62.4km s-min=25.2km az=93.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.86**	**167**	Pn	Pn	16 54 13.9	+0.4
	1.6nm,0.3s,baz=296,slow=16,SNR=18						
PMG				Sn	Sn	16 54 58.1	-12
	1.2nm,0.3s,baz=261,slow=21,SNR=8.5						
WRA	**Warramunga Arr**	**19.05**	**216**	P	Pn	16 57 23.8	+0.2
	0.5nm,0.3s,baz=40,slow=12,SNR=21						
ASAR	**Alice Springs**	**22.28**	**211**	P	P	16 57 56.5	-1.6
	0.5nm,0.4s,baz=35,slow=12,SNR=20						
FITZ	**Fitzroy Crossi**	**24.07**	**235**	P	P	16 58 17.4	+1.1
	1.7nm,0.5s,baz=53,slow=11,SNR=6.5						
SONM	**Songino Array**	**62.77**	**331**	P	P	17 03 26.3	-0.2
	0.2nm,0.4s,baz=121,slow=5.6,SNR=2.9						

*ISCJB **26** 16:58:08.0±1.0, 30°06S±0°03×60°71E±0°03, h1km±6km, mb5.5/291, MS5.4/219, Error ellipse: s-maj=5.2km s-min=3.9km az=13.2*
*BJI **26** 16:58:08.2, 30°13S×60°47E, h15km, mb5.3/75, mB5.5/55, Ms5.5/75, Ms7 5.2/68*
*MOS **26** 16:58:09.7±1.3, 30°03S×60°76E, h10km, mb5.8/85, MS5.1/35, Error ellipse: s-maj=9.2km s-min=4.4km az=102.1*
*IDC **26** 16:58:09.4±0.3, 30°10S×60°68E, h0km, mb5.1/59, mb1 5.1/60, mb1mx5.1/72, mbtmp5.1/60, ML4.8/1, MS5.1/58, Ms1 5.1/58, ms1mx5.0/63, Error ellipse: s-maj=10.7km s-min=8.8km az=43.0*
*NEIC **26** 16:58:10.6±0.1, 30°04S×60°65E, h10km, mb5.7/117, MS5.3/107, MW5.6, Error ellipse: s-maj=5.0km s-min=3.7km az=204.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.13; $M_{\theta\theta}$=0.06; $M_{\phi\phi}$=0.20; $M_{r\theta}$=0.38; $M_{\theta\phi}$=2.97; $M_{r\phi}$=0.27; Best double couple: M_o=3.00000×10^{17} NP1:ϕ_s=179.00000°, δ83.00000°, λ=174.00000°. NP2:ϕ_s=88.00000°, δ84.00000°, λ=7.00000°. Principal axes: T 3.0400, Plg1.0000°, Azm134.0000°; N -0.0600, Plg81.0000°, Azm231.0000°; P -2.9800, Plg9.0000°, Azm44.0000°;*
*GCMT **26** 16:58:10.6±0.1, 30°10S×60°56E, h12km, MW5.6/113, Moment Tensor Solution. s106,c188; s113,c298; Duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.53±.03; $M_{\theta\theta}$=0.21±.03; $M_{\phi\phi}$=0.32±.03; $M_{r\theta}$=0.19±.08; $M_{\theta\phi}$=3.34±.03; $M_{r\phi}$=0.30±.08; Best double couple: M_o=3.35600×10^{17} NP1:ϕ_s=359.00000°, δ88.00000°, λ=175.00000°. NP2:ϕ_s=90.00000°, δ85.00000°, λ=2.00000°. Principal axes: T 3.6360, Plg5.0000°, Azm314.0000°; N -0.5590, Plg85.0000°, Azm155.0000°; P -3.0770, Plg2.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 26 16:58:12.8±0.5, 30°10S±0°04×60°63E±0°04, h21km±5km, n1124, σ1s65/1094, mb5.6/311, MS5.2/220, 24C-43D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.94**	**333**	*e*Pn	Pn	17 00 29.0	-5.5
MRIV	**Mauritius Mete**	**10.17**	**343**	*e*Pn	Pn	17 00 31.9	-5.7
ABPO	**Ambohimpanom**	**16.43**	**309**	*e*P	**Pn**	**17 01 59.0**	**-3.3**
ABPO				pmax	pmax		
	comp=Z,654nm,1.4s						
ABPO	**Ambohimpanom**	**16.43**	**309**	*e*Pn	**Pn**	**17 01 59.0**	**-3.3**
	comp=Z,654nm,1.4s						
OPO	**Ambohiditompo**	**16.77**	**310**	Pn	**Pn**	**17 02 04.2**	**-2.5**
	comp=Z,3.6nm,0.3s,baz=122,slow=10,SNR=57						
OPO				Sn	Sn	17 04 59.9	-13
	comp=Z,7.2nm,0.3s,baz=86,slow=8.3,SNR=4.3						
OPO				LR	LR	17 07 10.4	
	comp=Z,16μm,19.8s,baz=139,slow=32						
PAF	**Port-aux-Franc**	**20.55**	**162**	PFAKE		17 03 00.0	+7.9
PAF				LR	LR		
	comp=Z,10μm,22.0s						
H08S1	**Diego Garcia H**	**24.95**	**29**	T	T	17 29 22.7	
	baz=204,slow=76,SNR=170						
H08S2	**Diego Garcia H**	**24.96**	**29**	T	T	17 29 26.4	
	baz=204,slow=76,SNR=129						
H08S3	**Diego Garcia H**	**24.97**	**29**	T	T	17 29 24.3	
	baz=204,slow=76,SNR=146						
DGAR	**Diego Garcia**	**25.16**	**29**	*e*P	**P**	**17 03 36.3**	**-0.4**
DGAR				pmax	pmax		
	comp=Z,2μm,1.5s						
DGAR				MLR	MLR		
	comp=Z,5μm,21.0s						
DGAR	**Diego Garcia**	**25.16**	**29**	*e*P	**P**	**17 03 36.2**	**-0.4**
	comp=Z,2μm,1.5s						
DGAR				LR	LR		
	comp=Z,5μm,21.0s						
H08N3	**Diego Garcia H**	**25.57**	**24**	T	T	17 30 13.2	
	baz=199,slow=76,SNR=20						
H08N1	**Diego Garcia H**	**

MBAR	**Mbarara**		**40.85**	**310**	*e*P		**P**		**17 05 53.1**	**-0.4**
	comp=Z,122nm,1.8s									
MIR	**Mirnyy**		**41.39**	**161**	⇓*i*P		**P**		**17 05 59.0**	**+1.9**
MIR					*i*				17 05 59.0	
MIR						pmax	pmax			
	comp=Z,130nm,1.0s									
MIR						pmax	pmax			
	comp=Z,2μm,4.0s									
PALK	**Pallekele**		**41.87**	**31**	P		**P**		**17 06 02.0**	**+0.4**
	comp=Z,15nm,0.9s,baz=115,slow=1.9,SNR=12									
PALK						LR	LR		17 19 36.9	
	comp=Z,4μm,19.4s,baz=293,slow=31									
PALK	**Pallekele**		**41.87**	**31**	P		**P**		**17 06 02.0**	**+0.4**
PALK						pmax	pmax			
	comp=Z,15nm,0.9s									
PALK						MLR	MLR			
	comp=Z,4μm,19.4s									
PALK	**Pallekele**		**41.87**	**31**	*e*P		**P**		**17 06 01.3**	**-0.3**
	comp=Z,108nm,1.5s									
PALK	**Pallekele**		**41.87**	**31**	P		**P**		**17 06 02.4**	**+0.8**
	SNR=8.9									
PALK	**Pallekele**		**41.87**	**31**	P		**P**		**17 06 02.4**	**+0.8**
	SNR=8.9									
PALK	**Pallekele**		**41.87**	**31**	*i* P		**P**		**17 06 01.5**	**-0.2**
	SNR=9.8									
FURI	**Furi**		**44.15**	**328**	*e*P		**P**		**17 06 21.5**	**+1.0**
	comp=Z,205nm,1.5s									
AAE	**Adis Abeba**		**44.23**	**328**	*i* P		**P**		**17 06 21.4**	**+0.4**
AAE					*e*S		**S**		**17 12 53.4**	**-0.4**
AAE	**Adis Abeba**		**44.23**	**328**	*i* P		**P**		**17 06 21.4**	**+0.4**
AAE					*e*S		**S**		**17 12 53.4**	**-0.4**
AAE	**Adis Abeba**		**44.23**	**328**	*i* P		**P**		**17 06 21.4**	**+0.4**
AAE					*e*S		**S**		**17 12 53.4**	**-0.4**
ANKE	**Ethiopia-Afar**		**44.29**	**330**	*i* P		**P**		**17 06 23.0**	**+1.3**
ANKE					*e*S		S		17 12 39.5	-15
ANKE	**Ethiopia-Afar**		**44.29**	**330**	*i* P		**P**		**17 06 23.0**	**+1.3**
ANKE					*e*S		S		17 12 39.5	-15
ANKE	**Ethiopia-Afar**		**44.29**	**330**	*i* P		**P**		**17 06 23.0**	**+1.3**
ANKE					*e*S		S		17 12 39.5	-15
ATD	**Arta Tunnel**		**44.80**	**335**	P		**P**		**17 06 26.1**	**+0.8**
	comp=Z,105nm,1.0s,baz=172,slow=5.4,SNR=15									
ATD						LR	LR		17 22 55.7	
	comp=Z,5μm,18.6s,baz=148,slow=33									
H01W2	**Cape Leeuwin H**		**44.94**	**111**	T		T		17 54 18.0	
	baz=259									
H01W3	**Cape Leeuwin H**		**44.94**	**111**	T		T		17 54 18.2	
	baz=259									
H01W1	**Cape Leeuwin H**		**44.95**	**111**	T		T		17 54 20.4	
	baz=259									
DESE	**Dese**		**45.70**	**331**	*e*P		**P**		**17 06 33.7**	**+0.9**
DESE					*i* S		S		17 13 26.7	+12
DESE	**Dese**		**45.70**	**331**	*e*P		**P**		**17 06 33.7**	**+0.9**
DESE					*i* S		**S**		**17 13 17.7**	**+2.6**
DESE	**Dese**		**45.70**	**331**	*e*P		**P**		**17 06 33.7**	**+0.9**
DESE					*i* S		S		17 13 26.7	+12
PPSI	**Pulau Pagai**		**46.13**	**62**	P		**P**		**17 06 40.1**	**+4.2**
XMIS	**Christmas Isla**		**46.16**	**75**	*e*P		**P**		**17 06 34.9**	**-1.3**
	comp=Z,169nm,1.2s									
SISI	**Saibi**		**46.38**	**59**	P		**P**		**17 06 38.6**	**+0.7**
MDRS	**Chennai**		**46.90**	**27**	*e*P		**P**		**17 06 40.2**	**-1.6**
CASY	**Casey**		**46.99**	**155**	*e*P		**P**		**17 06 42.0**	**0.0**
	comp=Z,100nm,1.4s									
CASY						LR	LR			
	comp=Z,722nm,19.0s									
GSI	**Gunungsitoli**		**47.07**	**55**	P		**P**		**17 06 44.1**	**+0.8**
GSI	**Gunungsitoli**		**47.07**	**55**	*e*P		**P**		**17 06 43.6**	**+0.3**
	comp=Z,119nm,1.2s									
GOA	**Goa**		**47.08**	**17**	*e*P		**P**		**17 06 41.9**	**-1.3**
GOA						IAmb	IAmb		17 06 53.6	
	comp=Z,134nm,1.5s									
DAMY	**Dhamar**		**47.09**	**338**	*e*P		**P**		**17 06 45.4**	**+1.7**
	comp=Z,268nm,1.2s									
SKHT	**Srikalahasti**		**47.31**	**26**	*e*P		**P**		**17 06 44.7**	**-0.3**
SKHT						IAmb	IAmb		17 07 01.2	
	comp=Z,48nm,1.1s									
SKHT					*e*S		**S**		**17 13 38.1**	**+0.6**
SKHT						IVMs_BB	IVMs_BB		17 21 42.0	
	comp=Z,917nm,15.0s									
URV	**Uravakonda**		**47.57**	**22**	*e*P		**P**		**17 06 45.8**	**-1.3**
URV						IAmb	IAmb		17 06 47.3	
	comp=Z,149nm,1.7s									
URV					*e*S		**S**		**17 13 40.5**	**-0.8**
URV						IVMs_BB	IVMs_BB		17 22 50.2	
	comp=Z,1μm,15.7s									
MASI	**Maura Aman, Be**		**47.61**	**64**	P		**P**		**17 06 48.4**	**+0.8**
PDSI	**Padang**		**47.68**	**60**	P		**P**		**17 06 46.2**	**-1.8**
NWAO	**Narrogin (SRO)**		**47.84**	**109**	P		**P**		**17 06 48.5**	**-0.6**
	comp=Z,43nm,1.0s,baz=122,slow=7.5,SNR=13									
NWAO	**Narrogin (SRO)**		**47.84**	**109**	*e*P		**P**		**17 06 48.7**	**-0.4**
NWAO						pmax	pmax			
	comp=Z,92nm,1.2s									
NWAO						MLR	MLR			
	comp=Z,2μm,22.0s									
NWAO	**Narrogin (SRO)**		**47.84**	**109**	*e*P		**P**		**17 06 48.7**	**-0.4**
	comp=Z,92nm,1.2s									
NWAO						LR	LR			
	comp=Z,2μm,22.0s									
LWLI	**Liwa**		**47.91**	**67**	P		**P**		**17 06 51.0**	**+1.1**
	comp=Z,91nm,0.8s,comp=Z,9μm									
KASI	**Kota Agung**		**47.96**	**68**	P		**P**		**17 06 51.1**	**+0.9**
	comp=Z,129nm,1.0s,comp=Z,2μm									
SHAO	**Shalim**		**48.09**	**354**	P		**P**		**17 06 53.7**	**+2.7**
	SNR=19									
SHAO	**Shalim**		**48.09**	**354**	P		**P**		**17 06 53.7**	**+2.7**
	SNR=19									
SHAO	**Shalim**		**48.09**	**354**	*i* P		**P**		**17 06 51.7**	**+0.6**
	SNR=22									
MNSI	**Mandailing Nat**		**48.16**	**58**	P		**P**		**17 06 53.6**	**+1.8**
	comp=Z,84nm,1.3s,comp=Z,1μm									
TPTI			**48.17**	**53**	P		P		17 07 01.4	+10
CGJI	**Cibinong**		**48.30**	**70**	P		**P**		**17 06 53.1**	**+0.2**
	comp=Z,66nm,0.9s,comp=Z,926nm									
MDSI	**Maura Dua**		**48.32**	**67**	P		**P**		**17 06 53.7**	**+0.7**
	comp=Z,30nm,1.1s,comp=Z,530nm									
MLSI	**Meulaboh, Aceh**		**48.37**	**51**	P		**P**		**17 06 54.3**	**+0.9**
BLSI	**Bandar Lampung**		**48.66**	**69**	P		**P**		**17 06 56.5**	**+0.9**
NVL	**N'lazarevskaya**		**48.70**	**199**	*e*P		**P**		**17 06 55.3**	**+0.1**
NVL					*e*S		**S**		**17 13 57.5**	**+1.4**
NVL					*e*SS		**SS**		**17 17 29.5**	**+3.4**
NVL						pmax	pmax			
	comp=Z,76nm,1.3s									
SKJI	**Sukabumi**		**48.79**	**71**	P		**P**		**17 06 57.5**	**+0.9**
	comp=Z,351nm,1.0s									
BKNI	**Bangkinang**		**48.93**	**59**	P		**P**		**17 07 01.0**	**+3.3**
BKNI	**Bangkinang**		**48.93**	**59**	*e*P		**P**		**17 06 59.0**	**+1.4**
	comp=Z,385nm,1.1s									
SBJI	**Serang**		**48.94**	**70**	P		**P**		**17 06 58.9**	**+1.1**
PSI	**Prapat**		**49.07**	**55**	P		**P**		**17 06 58.7**	**-0.2**
	comp=Z,21nm,0.9s,baz=202,slow=8.6,SNR=23									
PSI						LR	LR		17 23 13.4	
	comp=Z,2μm,20.0s,baz=220,slow=31									
PSI	**Prapat**		**49.07**	**55**	*e*P		**P**		**17 06 58.3**	**-0.6**
	comp=Z,97nm,1.3s									
SRLM	**Srisailam**		**49.19**	**23**	*e*P		**P**		**17 06 58.5**	**-1.0**
SRLM						IAmb	IAmb		17 07 08.6	
	comp=Z,116nm,1.3s									
SRLM					*e*S		**S**		**17 14 02.7**	**-1.6**
SRLM						IVMs_BB	IVMs_BB		17 22 51.8	
	comp=Z,1μm,20.5s									
ADKI	**Addanki**		**49.34**	**25**	*e*P		**P**		**17 07 00.3**	**-0.3**
ADKI						IAmb	IAmb		17 07 10.0	
	comp=Z,108nm,1.5s									
ADKI						IVMs_BB	IVMs_BB		17 23 07.7	
	comp=Z,851nm,18.9s									
LHMI	**Lhok Sumawe**		**49.44**	**51**	P		**P**		**17 07 05.1**	**+3.5**
LHMI	**Lhok Sumawe**		**49.44**	**51**	*e*P		**P**		**17 07 02.4**	**+0.8**
	comp=Z,176nm,0.9s									
CISI	**Cisompet, Garu**		**49.53**	**73**	P		**P**		**17 07 02.6**	**+0.3**
	comp=Z,206nm,0.9s,comp=Z,2μm									
CISI	**Cisompet, Garu**		**49.53**	**73**	*e*P		**P**		**17 07 01.8**	**-0.6**
	comp=Z,184nm,0.9s									
NJS	**Nagarjunasagar**		**49.76**	**24**	*e*P		**P**		**17 07 03.1**	**-0.8**
NJS						IAmb	IAmb		17 07 14.9	
	comp=Z,74nm,1.0s									
NJS					*e*S		**S**		**17 14 12.2**	**+0.2**
NJS						IVMs_BB	IVMs_BB		17 23 19.2	
	comp=Z,1μm,21.1s									
LEM	**Lembang**		**49.76**	**72**	P		**P**		**17 07 05.3**	**+1.0**
	comp=Z,106nm,0.9s,baz=224,slow=3.3,SNR=32									
LEM						LR	LR		17 24 59.7	
	comp=Z,368nm,18.8s,baz=250,slow=32									
POO	**Poona**		**50.00**	**16**	⇓*e*P		**P**		**17 07 04.9**	**-0.8**
BOM	**Bombay**		**50.11**	**15**	*e*P		P		17 07 13.0	+6.5
BOM						AMb	AMB		17 07 50.5	
	comp=Z,60nm,11.0s									
BOM					*e*S		S		17 14 26.5	+10
HYB	**Hyderabad**		**50.30**	**22**	⇓*i*P		**P**		**17 07 06.0**	**-2.0**
	comp=Z,120nm,1.0s									
HYB					*e*S		**S**		**17 14 20.0**	**+0.3**
HYB	**Hyderabad**		**50.30**	**22**	*e*P		**P**		**17 07 06.1**	**-2.0**
HYB						IAMs_20	IAMs_20		17 23 19.2	
	comp=Z,5μm,16.2s									
HYBB	**Hyderabad (bro**		**50.30**	**22**	*e*P		**P**		**17 07 07.2**	**-0.9**
HYBB						IAmb	IAmb		17 07 17.2	
	comp=Z,163nm,1.3s									
HYBB					*e*S		**S**		**17 14 19.5**	**-0.3**
HYBB						IVMs_BB	IVMs_BB		17 23 13.7	
	comp=Z,1μm,17.6s									
KLRI	**Killari**		**50.30**	**20**	*e*P		**P**		**17 07 06.6**	**-1.4**
KLRI						IAmb	IAmb		17 07 17.1	
	comp=Z,50nm,1.0s									
KLRI					*e*S		**S**		**17 14 18.7**	**-1.1**
KLRI						IVMs_BB	IVMs_BB		17 23 47.3	
	comp=Z,2μm,15.8s									
KPJI	**Karang Pucung**		**50.57**	**73**	P		**P**		**17 07 12.4**	**+2.2**
	comp=Z,69nm,1.0s									
PVM	**Polavaram**		**51.24**	**26**	*e*P		**P**		**17 07 14.1**	**-1.0**
PVM						IAmb	IAmb		17 07 25.5	
	comp=Z,54nm,1.2s									
PVM					*e*S		**S**		**17 14 33.3**	**+0.7**
PVM						IVMsBB			17 26 44.4	
	comp=Z,580nm,11.5s									
FRIM	**Kepong**		**51.31**	**57**	⇓P		**P**		**17 07 16.2**	**+0.4**
SRSP	**Sriramsagar**		**51.65**	**22**	*e*P		**P**		**17 07 17.3**	**-0.8**
SRSP						IAmb	IAmb		17 07 27.1	
	comp=Z,169nm,1.3s									
SRSP					*e*S		**S**		**17 14 37.8**	**-0.5**
SRSP						IVMs_BB	IVMs_BB		17 25 32.9	
	comp=Z,1μm,16.0s									
IPM	**Ipoh**		**51.74**	**55**	⇓P		**P**		**17 07 20.1**	**+1.2**
IPM	**Ipoh**		**51.74**	**55**	*e*P		**P**		**17 07 19.6**	**+0.7**
	comp=Z,138nm,1.1s									
RPR	**Rampur**		**51.89**	**23**	*e*P		**P**		**17 07 19.0**	**-0.9**
RPR						IAmb	IAmb		17 07 20.6	
	comp=Z,167nm,1.7s									
RPR					*e*S		**S**		**17 14 41.9**	**+0.3**
RPR						IVMs_BB	IVMs_BB		17 24 20.8	
	comp=Z,1μm,17.9s									
TPRI	**Tanjung Pinang**		**51.94**	**62**	P		**P**		**17 07 21.5**	**+1.0**
SMRI	**Semarang**		**51.98**	**74**	P		**P**		**17 07 21.7**	**+0.9**
SMRI	**Semarang**		**51.98**	**74**	*e*P		**P**		**17 07 19.9**	**-0.9**
	comp=Z,227nm,1.0s									
PCJI	**Pacitan**		**51.99**	**76**	P		**P**		**17 07 22.1**	**+1.3**
	comp=Z,196nm,1.0s,comp=Z,2μm									
MYKOM	**Kota Tinggi**		**51.99**	**60**	*e*P		**P**		**17 07 20.2**	**-0.6**
	comp=Z,64nm,1.3s									
KULM	**Kulim**		**52.04**	**54**	⇓P		**P**		**17 07 21.4**	**+0.3**
KULM	**Kulim**		**52.04**	**54**	*e*P		**P**		**17 07 20.8**	**-0.4**
	comp=Z,61nm,1.1s									
KULM						LR	LR			
	comp=Z,1μm,19.0s									
PKDT	**Phuket**		**52.33**	**50**	P		**P**		**17 07 22.3**	**-1.0**
	comp=Z,27nm,1.6s,comp=Z,365nm									
VIS	**Vishakhapatnam**		**52.34**	**28**	*e*P		**P**		**17 07 22.2**	**-1.0**
VIS						IAmb	IAmb		17 07 24.3	
	comp=Z,42nm,0.3s									
PWJI	**Pagerwojo**		**52.61**	**76**	P		**P**		**17 07 25.6**	**+0.2**
	comp=Z,198nm,1.0s,comp=Z,2μm									
SMDO	**Samad**		**52.92**	**357**	P		P		17 07 33.0	+5.4
	SNR=9.0									
SMDO	**Samad**		**52.92**	**357**	P		P		17 07 33.0	+5.4
	SNR=9.0									
WSAR	**Wadi Sarin**		**53.07**	**358**	P		**P**		**17 07 30.1**	**+1.5**
	comp=Z,22nm,1.0s,baz=180,slow=4.0,SNR=4.4									
WSAR						LR	LR		17 25 09.6	
	comp=Z,1μm,18.1s,baz=194,slow=30									
DGPR	**DIGLIPUR**		**53.10**	**41**	*e*P		**P**		**17 07 29.2**	**+0.2**
DGPR						IAmb	IAmb		17 07 30.4	
	comp=Z,140nm,1.2s									
SKLT	**Songkhla**		**53.35**	**53**	P		**P**		**17 07 30.3**	**-0.5**
	comp=Z,71nm,1.3s,comp=Z,1μm									
BIDO	**Bidbid**		**53.37**	**357**	P		P		17 07 41.0	+10
	SNR=7.8									
SURT	**Suratani**		**53.42**	**49**	P		**P**		**17 07 29.5**	**-1.8**
	comp=Z,20nm,1.7s,comp=Z,338nm									
SNAA	**Sanae**		**53.42**	**201**	P		**P**		**17 07 31.2**	**+0.4**
SNAA	**Sanae**		**53.42**	**201**	P		**P**		**17 07 30.9**	**+0.1**
	comp=Z,75nm,0.9s,baz=101,slow=6.8,SNR=134									
SNAA						LR	LR		17 25 26.4	
	comp=Z,2μm,21.3s,baz=86,slow=31									
SNAA	**Sanae**		**53.42**	**201**	*d* P		**P**		**17 07 31.1**	**+0.4**
SNAA	**Sanae**		**53.42**	**201**	*e*P		**P**		**17 07 30.8**	**0.0**
	comp=Z,106nm,1.1s									
MBWA	**Marble Bar**		**53.52**	**95**	*e*P		**P**		**17 07 31.0**	**-1.2**
	comp=Z,41nm,1.0s									
MBWA						LR	LR			
	comp=Z,2μm,22.0s									
MBWA	**Marble Bar**		**53.52**	**95**	P		**P**		**17 07 32.1**	**-0.1**
	SNR=6.3									
MBWA	**Marble Bar**		**53.52**	**95**	P		**P**		**17 07 32.1**	**-0.1**
	SNR=6.3									
BHJ	**Bhuj**		**53.76**	**10**	*e*P		**P**		**17 07 32.2**	**-1.4**
BHJ						IAmb	IAmb		17 07 43.9	
	comp=Z,85nm,1.0s									
GRJI	**Gresik**		**53.76**	**75**	P		**P**		**17 07 34.9**	**+1.0**
GMJI	**Gumukmas**		**53.86**	**78**	P		**P**		**17 07 35.9**	**+1.2**
	comp=Z,102nm,1.3s,comp=Z,1μm									
NGP	**Nagpur**		**53.95**	**21**	*e*P		**P**		**17 07 33.6**	**-1.5**
NGP					*e*S		**S**		**17 15 09.4**	**-0.2**
ALNE	**Al Ain**		**54.05**	**354**	*i* P		**P**		**17 07 38.0**	**+2.2**
	SNR=7.4									
SOHO	**SOHO**		**54.07**	**355**	*i* P		**P**		**17 07 37.7**	**+1.8**
	SNR=6.0									
BLJI	**Banyuglugur**		**54.26**	**77**	P		**P**		**17 07 39.6**	**+2.0**
	comp=Z,98nm,1.1s,comp=Z,2μm									
JAGI	**Jajag, Banyuwa**		**54.36**	**78**	P		**P**		**17 07 38.3**	**0.0**
	comp=Z,269nm,1.0s,comp=Z,2μm									
JAGI	**Jajag, Banyuwa**		**54.36**	**78**	*e*P		**P**		**17 07 37.5**	**-0.8**
	comp=Z,226nm,0.9s									
ASHO	**Ashiyiah**		**54.65**	**355**	P		**P**		**17 07 43.7**	**+3.5**
	SNR=13									
ASHO	**Ashiyiah**		**54.65**	**355**	P		**P**		**17 07 43.7**	**+3.5**
	SNR=13									
ASHO	**Ashiyiah**		**54.65**	**355**	*i* P		**P**		**17 07 40.1**	**0.0**
	SNR=11									
VNA2	**Neumayer--Watz**		**54.70**	**202**	P		**P**		**17 07 40.7**	**+0.7**
	baz=82,slow=7.2									
ABJI	**Asem Bagus**		**54.78**	**78**	P		P		17 07 52.4	+11
HATD	**Hatta, Dubai**		**54.79**	**355**	P		**P**		**17 07 40.8**	**-0.3**
UOSS	**Minazif**		**54.90**	**355**	*e*P		**P**		**17 07 41.2**	**-0.7**
	comp=Z,58nm,1.2s									
VNA1	**Neumayer--Stat**		**54.93**	**202**	P		**P**		**17 07 42.7**	**+1.1**
KMMI	**Kalianget**		**54.94**	**77**	P		**P**		**17 07 43.2**	**+0.7**
NAZ	**Nazwa, Dubai**		**54.99**	**354**	P		**P**		**17 07 47.0**	**+4.4**
	SNR=9.5									
NAZ	**Nazwa, Dubai**		**54.99**	**354**	P		**P**		**17 07 47.0**	**+4.4**
	SNR=9.5									
NAZ	**Nawa, Dubai**		**54.99**	**354**	*i* P		**P**		**17 07 41.7**	**-0.8**
	SNR=13									
IGBI	**Denpasar**		**55.03**	**79**	P		**P**		**17 07 44.4**	**+1.3**
	comp=Z,332nm,0.9s,comp=Z,3μm									
RAYN	**Ar Rayn**		**55.26**	**343**	P		**P**		**17 07 43.1**	**-1.5**
RAYN						pmax	pmax			
	comp=Z,981nm,1.1s									
RAYN	**Ar Rayn**		**55.26**	**343**	*e*P		**P**		**17 07 43.1**	**-1.5**
	comp=Z,110nm,1.0s									
RAYN						LR	LR			
	comp=Z,2μm,19.0s									
MSFE	**Esma-Masafi**		**55.31**	**355**	P		**P**		**17 07 44.6**	**-0.4**
PBKI	**Pangkalan Bun**		**55.41**	**71**	P		**P**		**17 07 47.3**	**+1.4**
	comp=Z,184nm,1.1s									
BHPL	**Bhopal**		**55.44**	**19**	*e*P		**P**		**17 07 44.2**	**-1.7**
BHPL						IAmb	IAmb		17 07 46.7	
	comp=Z,36nm,0.7s									
SRBI	**Singaraja**		**55.46**	**78**	P		**P**		**17 07 48.2**	**+2.0**
	comp=Z,114nm,1.0s,comp=Z,1μm									
VNA3	**Neumayer Olymp**		**55.48**	**202**	P		**P**		**17 07 45.8**	**+0.2**
BANOM	**Banah**		**55.86**	**355**	*i* P		**P**		**17 07 49.6**	**+0.7**
	SNR=5.8									
KSM	**Kuching**		**56.78**	**66**	*e*P		**P**		**17 07 55.2**	**-0.5**
	comp=Z,47nm,1.0s									
KSM						LR	LR			
	comp=Z,1μm,20.0s									
STKI	**Sintang**		**56.87**	**68**	P		**P**		**17 07 56.6**	**+0.3**
	comp=Z,102nm,1.1s									
PHET	**Kaeng Krachan**		**56.92**	**47**	P		**P**		**17 07 56.6**	**+0.1**
	comp=Z,17nm,1.4s,comp=Z,194nm									
PLAI	**Plampang**		**57.27**	**81**	P		**P**		**17 07 59.3**	**+0.1**
	comp=Z,242nm,0.9s,comp=Z,2μm									
BBKI	**Banjar Baru**		**57.60**	**74**	P		**P**		**17 07 56.8**	**-4.7**
WBSI	**Waikabubak, Su**		**58.25**	**82**	P		**P**		**17 08 07.3**	**+1.2**
	comp=Z,154nm,1.1s,comp=Z,2μm									
KBKI	**Kotabaru**		**58.79**	**74**	P		**P**		**17 08 09.9**	**0.0**
	comp=Z,115nm,1.1s,comp=Z,1μm									
BOK	**Bokaro**		**58.82**	**27**	*e*P		**P**		**17 08 09.5**	**-0.3**
BOK						IAmb	IAmb		17 08 10.7	
	comp=Z,56nm,1.2s									
SBUM	**Sibu**		**58.89**	**66**	*e*P		**P**		**17 08 10.0**	**-0.5**
	comp=Z,54nm,1.1s									
NAYO	**Nakonayok**		**59.05**	**47**	P		**P**		**17 08 11.2**	**-0.3**
	comp=Z,129nm,0.7s									
MTKI	**Muara Teweh, K**		**59.06**	**71**	P		**P**		**17 08 11.8**	**+0.1**
	comp=Z,88nm,1.1s,comp=Z,1μm									
FITZ	**Fitzroy Crossi**		**59.85**	**94**	P		**P**		**17 08 16.3**	**-0.8**
	comp=Z,46nm,0.8s,baz=238,slow=5.9,SNR=46									
FITZ	**Fitzroy Crossi**		**59.85**	**94**	*e*P		**P**		**17 08 15.1**	**-2.0**
	comp=Z,75nm,1.0s									
QSPA	**South Pole Qui**		**60.06**	**180**	P		**P**		**17 08 18.7**	**+0.7**
	comp=Z,62nm,0.9s,baz=256,slow=3.2,SNR=86									
QSPA						LR	LR		17 32 39.3	
	comp=Z,1μm,18.5s,baz=274,slow=34									
QSPA	**South Pole Qui**		**60.06**	**180**	*e*P		**P**		**17 08 18.1**	**+0.1**
	comp=Z,150nm,1.2s									
CM01	**Chiang Mai Arr**		**60.75**	**42**	*e*P		**P**		**17 08 22.4**	**-0.8**
CM31	**Chiang Mai Arr**		**60.77**	**42**	*e*P		**P**		**17 08 22.6**	**-0.6**
CMAR	**Chiang Mai Arr**		**60.77**	**42**	P		**P**		**17 08 22.8**	**-0.5**
	comp=Z,33nm,0.7s,baz=229,slow=7.1,SNR=292									
CMAR						LR	LR		17 32 16.0	
	comp=Z,2μm,18.3s,baz=206,slow=34									
KAPI	**Kappang**		**60.90**	**78**	*e*P		**P**		**17 08 23.0**	**-1.4**
	comp=Z,103nm,1.0s									
KAPI						LR	LR			
	comp=Z,448nm,20.0s									
KAPI	**Kappang**		**60.90**	**78**	P		**P**		**17 08 23.4**	**-0.9**
	SNR=19									
KAPI	**Kappang**		**60.90**	**78**	P		**P**		**17 08 23.4**	**-0.9**
	SNR=19									
BSSI	**Bau Bau, Buton**		**60.94**	**80**	P		**P**		**17 08 25.3**	**+0.7**
	comp=Z,57nm,1.4s,comp=Z,931nm									
CHTO	**Chiang Mai**		**61.05**	**42**	*e*P		**P**		**17 08 23.6**	**-1.6**
CHTO						pmax	pmax			
	comp=Z,83nm,1.3s									
CHTO						MLR	MLR			
	comp=Z,2μm,19.0s									
CHTO	**Chiang Mai**		**61.05**	**42**	*e*P		**P**		**17 08 23.6**	**-1.6**
	comp=Z,83nm,1.3s									
CHTO						LR	LR			
	comp=Z,2μm,19.0s									
CHTO	**Chiang Mai**		**61.05**	**42**	P		**P**		**17 08 25.0**	**-0.2**
	SNR=28									
CHTO	**Chiang Mai**		**61.05**	**42**	P		**P**		**17 08 25.0**	**-0.2**
	SNR=28									
KHON	**Khomkaen**		**61.52**	**47**	P		**P**		**17 08 29.0**	**+0.6**
	comp=Z,19nm,1.1s,comp=Z,874nm									
BNSI	**Bone**		**61.52**	**78**	P		**P**		**17 08 29.0**	**+0.5**
	comp=Z,97nm,1.0s,comp=Z,1μm									
KOLN	**Koldanda**		**61.59**	**23**	*e*P		**P**		**17 08 28.2**	**-0.8**
	comp=Z,424nm,1.3s									
BATI	**Baumata**		**61.66**	**85**	P		**P**		**17 08 30.3**	**+0.8**
	comp=Z,18nm,0.6s,baz=238,slow=2.3,SNR=8.3									
BATI	**Baumata**		**61.66**	**85**	P		**P**		**17 08 31.8**	**+2.2**
	comp=Z,38nm,1.0s,comp=Z,670nm									
PYUN	**Piuthan**		**61.69**	**22**	*e*P	

LSA pmax pmax
comp=Z,115nm,1.1s
LSA MLR MLR
comp=Z,2μm,19.0s
LSA Lhasa 66.20 29 *eP* **P 17 08 59.3 -0.3**
comp=Z,115nm,1.1s
LSA LR LR
comp=Z,2μm,19.0s
LSA Lhasa 66.20 29 *i* P **P 17 08 59.4 -0.2**
SNR=24
WRA Warramunga Arr 66.55 100 P **P 17 09 00.8 -0.9**
comp=Z,31nm,0.7s,baz=243,slow=5.9,SNR=274
WRA LR LR 17 33 05.3
comp=Z,4μm,21.9s,baz=255,slow=32
WRA PKP2ab 17 37 38.9
comp=Z,4.5nm,1.1s,baz=66,slow=3.0,SNR=12
WRAB Tennant Creek 66.56 100 *ceP* **P 17 08 59.2 -2.5**
WRAB pmax pmax
comp=Z,333nm,1.2s
WRAB Tennant Creek 66.56 100 *eP* **P 17 09 00.6 -1.1**
comp=Z,99nm,1.0s
WRAB LR LR
comp=Z,4μm,21.0s
MTN Manton Dam 66.90 92 *eP* **P 17 09 02.2 -1.6**
comp=Z,38nm,0.8s
MMAI Mount Meron Ar 67.17 337 P **P 17 09 05.9 +0.7**
comp=Z,15nm,0.9s,baz=143,slow=8.4,SNR=9.2
MMAI LR LR 17 35 30.6
comp=Z,1μm,19.1s,baz=155,slow=33
KMSI Cibinong 67.44 75 P P 17 09 13.3 +6.0
GEYT Alibeck 67.72 358 P **P 17 09 08.8 +0.2**
comp=Z,2.7nm,0.8s,baz=227,slow=3.5,SNR=13
GEYT LR LR 17 37 30.5
comp=Z,638nm,18.1s,baz=145,slow=35
SANI Sanana 67.74 79 P **P 17 09 09.5 +0.3**
comp=Z,63nm,1.1s,comp=Z,804nm
STKA Stephens Creek 67.79 115 P **P 17 09 09.1 -0.2**
comp=Z,44nm,1.0s,baz=261,slow=5.2,SNR=67
STKA LR LR 17 34 08.7
comp=Z,1μm,19.3s,baz=244,slow=32
STKA PKPPKP **P'P'df 17 37 29.6 -5.4**
comp=Z,3.4nm,1.1s,baz=52,slow=2.1,SNR=4.0
STKA Stephens Creek 67.79 115 *eP* **P 17 09 07.9 -1.4**
comp=Z,51nm,1.8s
STKA P'P' 17 37 29.6
TAU Tasmania Unive 67.96 128 PFAKE 17 09 20.0 +10
TAU LR LR
comp=Z,3μm,20.0s
QIZ Qiongzhong 68.05 51 P **P 17 09 10.8 -0.2**
QIZ S **S 17 18 13.3 +3.8**
QIZ LR LR
comp=Z,1μm,18.6s
QIZ LR LR
comp=Z,1μm,18.6s
QIZ LR LR
comp=Z,2μm,17.7s
QIZ Qiongzhong 68.05 51 PFAKE 17 09 20.0 +9.0
QIZ LR LR
comp=Z,2μm,20.0s
NLAI Namlea 68.07 81 P **P 17 09 11.2 -0.1**
comp=Z,41nm,0.9s,comp=Z,631nm
KMI Kunming 68.16 41 P **P 17 09 11.3 -0.5**
KMI pP pP 17 09 19.8 +1.1
KMI sP sP 17 09 23.8 +2.6
KMI PcP **PcP 17 09 39.5 +1.9**
KMI S **S 17 18 09.5 -1.5**
KMI sS sS 17 18 25.0 +2.7
KMI SS **SS 17 22 31.8 -2.6**
KMI pmax pmax
comp=Z,44nm,1.4s
KMI pmax pmax
comp=Z,310nm,4.0s
KMI LR LR
comp=Z,640nm,20.6s
KMI LR LR
comp=Z,2μm,18.7s
KMI LR LR
comp=Z,2μm,20.1s
AAI Ambon 68.78 82 P **P 17 09 14.5 -1.2**
SAUI Saumlaki 69.33 87 P **P 17 09 20.5 +1.3**
comp=Z,337nm,1.1s,comp=Z,4μm
SAUI Saumlaki 69.33 87 *eP* **P 17 09 18.4 -0.8**
comp=Z,325nm,1.0s
LKRN Lenkeran, Azer 69.35 350 P **P 17 09 19.5 +0.9**
CSS Mathiatis 69.65 336 *eP* **P 17 09 20.7 +0.1**
comp=Z,27nm,1.0s
CSS LR LR
comp=Z,466nm,20.0s
LBMI Labuha 69.76 79 P **P 17 09 22.4 +0.6**
comp=Z,306nm,1.4s,comp=Z,3μm
HOPE Hope Point 70.05 218 PFAKE 17 09 30.0 +7.1
HOPE LR LR
comp=Z,555nm,21.0s
NAX Nakhchivan 70.35 348 P **P 17 09 26.3 +1.4**
TNTI Ternate 70.39 77 *eP* **P 17 09 24.9 -0.8**
comp=Z,120nm,0.9s
KSH Kashi 70.72 13 P **P 17 09 23.5 -3.7**
KSH PcP **PcP 17 09 44.8 -3.2**
KSH S **S 17 18 33.0 -7.5**
KSH ScS **SKSac 17 19 20.0 -8.1**
KSH SS **SS 17 23 06.0 -7.4**
KSH pmax pmax
comp=Z,90nm,0.9s
KSH pmax pmax
comp=Z,200nm,6.2s
KSH LR LR
comp=Z,850nm,14.8s
KSH LR LR
comp=Z,820nm,14.9s
KSH LR LR
comp=Z,860nm,17.3s
SFK Sufi-Kurgan 70.78 10 *i* P **P 17 09 27.3 -0.4**
SFK pmax pmax
comp=Z,13nm,1.5s
TOA0 Torodi Ar. Sit 71.17 298 *eP* **P 17 09 29.8 -0.6**
comp=Z,42nm,1.0s
TORD Torodi Ar. Bea 71.17 298 P **P 17 09 30.1 -0.3**
comp=Z,14nm,0.8s,baz=124,slow=5.2,SNR=64
TORD PP PP 17 11 59.5 -9.0
comp=Z,7.6nm,1.1s,baz=134,slow=8.1,SNR=4.2
TORD LR LR 17 40 23.2
comp=Z,3μm,19.1s,baz=130,slow=36
GNI Garni 71.44 347 P **P 17 09 32.9 +1.3**
comp=Z,21nm,0.9s,baz=248,slow=3.1,SNR=11
GNI LR LR 17 38 44.8
comp=Z,2μm,19.8s,baz=172,slow=34
GNI Garni 71.44 347 *c i* P **P 17 09 31.2 -0.4**
GNI pmax pmax
comp=Z,185nm,1.2s
GNI Garni 71.44 347 *eP* **P 17 09 31.9 +0.3**
comp=Z,76nm,0.9s
GNI Garni 71.44 347 P **P 17 09 33.4 +1.8**
SNR=28
GNI Garni 71.44 347 P **P 17 09 33.4 +1.8**
SNR=28
GNI Garni 71.44 347 *i* P **P 17 09 32.6 +1.0**
SNR=19
GYA Guiyang 71.45 43 ⇓ *iP* **P 17 09 31.0 -0.9**
GYA PcP **PcP 17 09 53.3 +1.9**
GYA PP **PP 17 12 15.0 +4.1**
GYA S **S 17 18 53.8 +4.4**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,160nm,6.2s
GYA LR LR
comp=Z,830nm,18.8s
GYA LR LR
comp=Z,710nm,19.0s
GYA LR LR
comp=Z,760nm,19.2s
MNGR Mingechevir, A 71.63 349 P **P 17 09 33.2 +0.7**
GANJ Ganja 71.63 349 P **P 17 09 33.4 +0.8**
SEKA Sheki 72.04 349 P **P 17 09 35.8 +0.8**
CAN Canberra 72.10 121 *eP* **P 17 09 36.5 +0.7**
CAN pmax pmax
comp=Z,112nm,1.3s
CAN MLR MLR
comp=Z,2μm,19.0s
CAN Canberra 72.10 121 *eP* **P 17 09 36.5 +0.7**
comp=Z,112nm,1.3s
CAN LR LR
comp=Z,2μm,19.0s
KIC Kosan Boka 72.30 288 *eP* **P 17 09 37.2 0.0**
comp=Z,312nm,1.5s
DAV Davao City (W) 72.35 71 LR LR 17 35 57.7
comp=Z,262nm,21.6s,baz=211,slow=31

LIC Lamto 72.46 288 *eP* **P 17 09 36.7 -1.4**
comp=Z,212nm,1.6s
CHM Chimkent 72.54 7 *eP* **P 17 09 38.7 +0.8**
comp=Z,290nm,1.4s
CHM *eS* **S 17 19 03.1 +2.0**
ZKTA Zakatala 72.55 349 P **P 17 09 39.2 +1.2**
DBIC Dimbokro 72.57 289 P **P 17 09 39.2 +0.5**
comp=Z,20nm,0.9s,baz=102,slow=7.7,SNR=16
DBIC LR LR 17 39 48.0
comp=Z,2μm,20.6s,baz=111,slow=34
DBIC Dimbokro 72.57 289 *eP* **P 17 09 38.6 -0.2**
DBIC pmax pmax
comp=Z,55nm,1.0s
DBIC Dimbokro 72.57 289 *eP* **P 17 09 38.6 -0.2**
comp=Z,54nm,1.0s
NRN Naryn 72.58 12 P **P 17 09 37.9 -0.7**
NRN pmax pmax
comp=Z,82nm,1.7s
FAKI Fak Fak 72.65 83 P **P 17 09 40.1 +0.8**
comp=Z,66nm,1.3s,comp=Z,1μm
FAKI Fak Fak 72.65 83 *eP* **P 17 09 39.0 -0.4**
comp=Z,65nm,1.0s
TIC Toumodi 72.69 289 *eP* **P 17 09 39.5 0.0**
TGY Tagaytay City 72.80 62 LR LR 17 38 36.8
comp=Z,1μm,19.1s,baz=280,slow=33
SWI Sorong 72.85 81 P **P 17 09 41.2 +0.7**
LAST Lasithi 72.88 330 P **P 17 09 37.7 -2.5**
LAST Lasithi 72.88 330 P **P 17 09 37.7 -2.5**
AML Almayashu 72.88 10 P **P 17 09 40.5 +0.1**
SNR=22
AKH Akhalkalaki 72.90 347 *eP* **P 17 09 40.1 -0.2**
AKH pmax pmax
comp=Z,47nm,1.1s
AKH Akhalkalaki 72.90 347 ⇓ *iP* **P 17 09 40.1 -0.2**
AKH Akhalkalaki 72.90 347 *eP* **P 17 09 40.1 -0.2**
comp=Z,47nm,1.1s
TBLG Delisi 72.97 348 *eP* **P 17 09 40.6 +0.1**
TBLG pmax pmax
comp=Z,77nm,1.1s
TBLG Delisi 72.97 348 *eP* **P 17 09 40.6 +0.1**
comp=Z,77nm,1.1s
MNAS Manas 73.06 9 *i* P **P 17 09 40.8 -0.4**
MNAS pmax pmax
comp=Z,40nm,1.0s
KZA Kyzart 73.08 11 P **P 17 09 42.2 +0.5**
SNR=14
ASCN Ascension 73.10 271 PFAKE 17 09 50.0 +8.0
ASCN LR LR
comp=Z,1μm,19.0s
UCH Uchtor 73.10 11 P **P 17 09 41.8 -0.1**
SNR=11
ISP Isparta 73.21 335 *c iP* **P 17 09 41.6 -0.5**
ISP pmax pmax
comp=Z,14nm,0.8s
ISP Isparta 73.21 335 PFAKE 17 09 50.0 +7.9
ISP LR LR
comp=Z,949nm,21.0s
CD2 Chengdu 73.23 38 P **P 17 09 41.5 -0.9**
CD2 S **SKiKP 17 19 12.3 -0.8**
CD2 SS **SS 17 23 55.5 +3.5**
CD2 pmax pmax
comp=Z,100nm,0.8s
CD2 pmax pmax
comp=Z,410nm,4.6s
CD2 LR LR
comp=Z,2μm,18.9s
CD2 LR LR
comp=Z,2μm,21.4s
CD2 LR LR
comp=Z,2μm,19.7s
IDI Anoyia 73.24 330 P **P 17 09 43.2 +0.9**
comp=Z,26nm,1.1s,baz=173,slow=8.0,SNR=5.7
IDI LR LR 17 40 30.3
comp=Z,522nm,21.9s,baz=140,slow=35
IDI Anoyia 73.24 330 *eP* **P 17 09 41.8 -0.5**
comp=Z,145nm,1.3s
BRLS Borolday 73.27 7 *eP* **P 17 09 40.5 -1.8**
comp=Z,7.2nm,1.2s
BRLS *eS* **S 17 19 07.7 -1.7**
DZA Taraz 73.30 8 *eP* **P 17 09 43.1 +0.6**
comp=Z,269nm,1.0s
EKS2 Erkin-Say 73.41 10 P **P 17 09 43.8 +0.5**
SNR=28
KK31 Karatay Array 73.41 8 *i* P **P 17 09 42.8 -0.3**
KK31 pmax pmax
comp=Z,60nm,1.1s
KKAR Karatay Array 73.41 8 *eP* **P 17 09 42.9 -0.2**
KKAR Karatay Array 73.41 8 *eP* **P 17 09 42.9 -0.2**
YER Yerkesik 73.44 334 P **P 17 09 43.3 -0.2**
YER Yerkesik 73.44 334 P **P 17 09 43.3 -0.2**
YER Yerkesik 73.44 334 P **P 17 09 43.3 -0.2**
KDJ Kajisay 73.48 13 P **P 17 09 43.3 -0.4**
KDJ pmax pmax
comp=Z,899nm,2.4s
AAK Ala-Archa 73.50 11 P **P 17 09 44.5 +0.6**
comp=Z,12nm,1.0s,baz=205,slow=8.4,SNR=29
AAK Ala-Archa 73.50 11 *i* P **P 17 09 43.7 -0.1**
AAK pmax pmax
comp=Z,30nm,1.3s
AAK Ala-Archa 73.50 11 P **P 17 09 44.3 +0.5**
SNR=17
AAK Ala-Archa 73.50 11 *eP* **P 17 09 43.9 +0.1**
comp=Z,93nm,1.3s
AAK LR LR
comp=Z,926nm,19.0s
AAK Ala-Archa 73.50 11 P **P 17 09 44.4 +0.6**
SNR=45
AAK Ala-Archa 73.50 11 P **P 17 09 44.4 +0.6**
SNR=45
AAK Ala-Archa 73.50 11 *i* P **P 17 09 44.3 +0.5**
SNR=16
KBK Karagaybulak 73.59 11 P **P 17 09 44.8 +0.4**
SNR=9.0
FRU1 Bishkek 73.69 11 P **P 17 09 43.8 -1.0**
FRU1 pmax pmax
comp=Z,908nm,1.8s
FRU Bishkek 73.71 11 ⇓ *eP* **P 17 09 46.0 +1.1**
FRU *eS* **S 17 19 14.0 -0.4**
FRU pmax pmax
comp=Z,200nm,1.9s
IMMV Iera Moni Meta 73.78 330 P **P 17 09 47.4 +2.0**
BRTR Keskin Array B 73.87 339 P **P 17 09 45.3 -0.7**
comp=Z,9.1nm,0.8s,baz=163,slow=8.2,SNR=18
BRTR LR LR 17 39 53.8
comp=Z,799nm,19.8s,baz=144,slow=34
BR131 Keskin Array S 73.87 339 *eP* **P 17 09 44.5 -1.6**
SANT Santorini 73.92 331 *eP* **P 17 09 43.2 -3.1**
comp=Z,89nm,1.3s
SANT LR LR
comp=Z,543nm,19.0s
TKM2 Tokmak 2 73.96 11 *i* P **P 17 09 45.8 -0.8**
TKM2 pmax pmax
comp=Z,43nm,1.0s
TKM2 Tokmak 2 73.96 11 P **P 17 09 46.1 -0.5**
SNR=26
PRZ Przheval'sk 74.06 14 P **P 17 09 47.1 -0.1**
USP Ospenovka 74.11 10 P **P 17 09 47.4 +0.1**
SNR=20
ZEI Tsey 74.15 347 *eP* **P 17 09 48.5 +0.8**
ZEI pmax pmax
comp=Z,41nm,1.1s
GROC Groznyy 74.21 349 *eP* **P 17 09 48.5 +0.8**
GROC *e* 17 10 01.4
GROC *e* 17 12 31.8
GROC *eS* **S 17 19 23.1 +3.2**
GROC pmax pmax
comp=Z,98nm,1.0s
BR231 Keskin MP Arra 74.25 338 *eP* **P 17 09 45.6 -2.7**
ANTO Ankara 74.27 338 *eP* **P 17 09 47.6 -0.7**
ANTO pmax pmax
comp=Z,64nm,1.0s
ANTO MLR MLR
comp=Z,1μm,20.0s
ANTO Ankara 74.27 338 *eP* **P 17 09 47.6 -0.7**
comp=Z,64nm,1.0s
ANTO LR LR
comp=Z,1μm,20.0s
ANTO Ankara 74.27 338 P **P 17 09 49.0 +0.7**
SNR=9.4
ANTO Ankara 74.27 338 P **P 17 09 49.0 +0.7**
SNR=9.4
ANKY Antikythira Is 74.42 329 P **P 17 09 50.2 +1.1**
ANKY Antikythira Is 74.42 329 P **P 17 09 50.2 +1.1**
MDOK Medeo 74.45 12 *i* P **P 17 09 49.4 0.0**
comp=Z,252nm,1.5s
MDOK *i* S **S 17 19 23.9 +0.9**

MDOK LR LR 17 36 25.3
comp=Z,372nm,21.9s
AAA Alma-Ata 74.47 12 *i* P **P 17 09 50.3 +0.9**
AAA *i* S **S 17 19 24.4 +1.3**
AAA pmax pmax
comp=Z,200nm,3.4s
AAA smax smax
comp=E,700nm,6.8s
AAA Alma-Ata 74.47 12 *i* P **P 17 09 49.4 0.0**
comp=E,174nm,1.3s
AAA *i* S **S 17 19 24.1 +1.1**
AAA LR LR 17 37 03.8
comp=E,192nm,22.5s
APE Apeiranthos 74.48 331 *eP* **P 17 09 48.7 -0.9**
APE pmax pmax
comp=Z,60nm,1.0s
SATY Saty 74.61 13 ⇓ *iP* **P 17 09 50.0 -0.3**
comp=Z,460nm,1.2s
SATY *i* S **S 17 19 25.4 +0.6**
TAM Tamanrasset 74.62 308 *eP* **P 17 09 49.6 -1.2**
TAM pmax pmax
comp=Z,49nm,1.6s
TAM MLR MLR
comp=Z,1μm,19.0s
TAM Tamanrasset 74.62 308 *eP* **P 17 09 49.6 -1.2**
comp=Z,48nm,1.6s
TAM LR LR
comp=Z,1μm,19.0s
MHLO Agia Marina, M 74.63 330 P **P 17 09 53.4 +3.0**
UZB Uzynbulak 74.82 14 ⇓ *iP* **P 17 09 51.5 -0.1**
comp=Z,367nm,1.4s
UZB *eS* **S 17 19 28.3 +1.1**
UZB LR LR 17 37 55.4
comp=Z,336nm,16.6s
NCK Nalchik 74.89 347 *eP* **P 17 09 52.9 +1.2**
NCK pmax pmax
comp=Z,13nm,1.0s
KUU Kurty 75.03 12 ⇓ *iP* **P 17 09 52.1 -0.4**
comp=Z,210nm,1.2s
KUU *eS* **S 17 19 29.7 +0.5**
KPKS Kokpek 75.06 14 *i* P **P 17 09 52.9 +0.1**
comp=Z,138nm,1.2s
PDGK Podgornoye 75.10 14 *i* P **P 17 09 52.2 -0.9**
PDGK pmax pmax
comp=Z,118nm,1.0s
KBZ Khabaz 75.25 347 P **P 17 09 54.5 +0.8**
comp=Z,10nm,1.1s,baz=141,slow=6.3,SNR=8.3
KBZ LR LR 17 40 41.8
comp=Z,2μm,21.6s,baz=164,slow=34
KVAR Kislovodsk Arr 75.51 347 P **P 17 09 55.1 -0.3**
comp=Z,12nm,0.9s,baz=165,slow=2.9,SNR=5.3
KVAR LR LR 17 42 20.8
comp=Z,1μm,19.4s,baz=151,slow=35
KIV Kislovodsk 75.51 347 *eP* **P 17 09 55.8 +0.4**
KIV *e* 17 12 45.3
KIV *eS* **S 17 19 37.5 +2.9**
KIV *eSS* **SS 17 24 26.9 +0.5**
KIV pmax pmax
comp=Z,75nm,1.0s
KIV pmax pmax
comp=Z,26nm,2.8s
KIV Kislovodsk 75.51 347 *eP* **P 17 09 54.8 -0.6**
comp=Z,76nm,1.0s
KIV LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 75.51 347 P **P 17 09 58.6 +3.3**
SNR=20
KIV Kislovodsk 75.51 347 P **P 17 09 58.6 +3.3**
SNR=20
KIV Kislovodsk 75.51 347 *i* P **P 17 09 55.6 +0.3**
SNR=8.2
KRND KRANIDI 75.75 330 P **P 17 09 55.8 -1.0**
BTLS Baital 75.78 10 ⇓ *iP* **P 17 09 56.5 -0.3**
comp=Z,168nm,1.5s
BTLS *eS* **S 17 19 38.4 +1.1**
SOC Sochi 75.80 344 *eP* **P 17 09 56.2 -0.7**
SOC *e* 17 12 43.5
SOC *e*PPP PPP 17 14 28.4
SOC *eS* **S 17 19 40.6 +3.0**
SOC pmax pmax
comp=Z,36nm,0.9s
SOC MLR MLR
comp=Z,455nm,19.0s
VLY Voula,Athens 75.87 331 P **P 17 09 56.8 -0.7**
VLY Voula,Athens 75.87 331 P **P 17 09 56.8 -0.7**
ENH Enshi 75.94 42 *eP* **P 17 09 57.1 -1.0**
comp=Z,175nm,1.2s
ENH LR LR
comp=Z,1μm,22.0s
VLX Vlachokerasia 76.08 329 P **P 17 09 59.1 +0.3**
VLX Vlachokerasia 76.08 329 P **P 17 09 59.1 +0.3**
ARMA Armidale 76.21 117 *eP* **P 17 09 59.4 -0.5**
comp=Z,68nm,1.3s
VILL Villia 76.34 331 P **P 17 09 58.8 -1.4**
KOWA Kowa 76.39 296 P **P 17 10 01.5 +0.5**
comp=Z,17nm,0.8s,baz=122,slow=7.2,SNR=29
KOWA LR LR 17 43 55.7
comp=Z,2μm,18.6s,baz=120,slow=36
KOWA Kowa 76.39 296 *eP* **P 17 10 00.8 -0.2**
comp=Z,69nm,1.0s
TDK Taldyqorghan 76.48 13 *i* P **P 17 10 00.5 -0.3**
comp=Z,644nm,1.2s
TDK LR LR 17 37 35.5
comp=Z,918nm,22.5s
GOF Gofitskoye 76.50 347 ⇑ *eP* **P 17 10 03.6 +2.7**
GOF pmax pmax
comp=Z,76nm,1.0s
CTA Charters Tower 76.55 106 P **P 17 10 01.6 -0.3**
comp=Z,12nm,1.0s,baz=264,slow=5.7,SNR=7.6
CTA LR LR 17 40 18.3
comp=Z,1μm,18.8s,baz=228,slow=33
CTAO Charters Tower 76.55 106 *eP* **P 17 10 01.4 -0.5**
CTAO pmax pmax
comp=Z,91nm,1.4s
CTAO MLR MLR
comp=Z,2μm,19.0s
CTAO Charters Tower 76.55 106 *eP* **P 17 10 01.4 -0.5**
comp=Z,91nm,1.4s
CTAO LR LR
comp=Z,2μm,19.0s
GUR Goura 76.57 330 P **P 17 10 00.6 -1.0**
GUR Goura 76.57 330 P **P 17 10 00.6 -1.0**
KLV Kalavryta, Ach 76.74 330 P **P 17 10 01.8 -0.7**
KLV Kalavryta, Ach 76.74 330 P **P 17 10 01.8 -0.7**
COEN Coen 76.77 99 *eP* **P 17 10 03.1 -0.2**
comp=Z,37nm,1.3s
DRO Drossia 76.86 329 P **P 17 10 03.1 0.0**
DSF Desfina 76.88 330 P **P 17 10 02.8 -0.5**
DSF Desfina 76.88 330 P **P 17 10 02.8 -0.5**
KALE Kalithea 77.03 330 P **P 17 10 02.6 -1.6**
KALE Kalithea 77.03 330 P **P 17 10 02.6 -1.6**
RLS Riolos of Patr 77.06 329 P **P 17 10 05.5 +1.3**
RLS Riolos of Patr 77.06 329 P **P 17 10 05.5 +1.3**
SERG Sergoula 77.09 330 P **P 17 10 03.4 -1.0**
EFP Efpalio 77.17 330 P **P 17 10 05.0 +0.2**
ANX Ano Chora 77.30 330 P **P 17 10 05.7 0.0**
LZH Lanzhou 77.35 35 *eP* **P 17 10 06.5 +0.4**
LZH pP pP 17 10 08.3 -4.8
LZH *eS* **S 17 19 56.0 +0.6**
LZH sS pS 17 20 04.0 -0.1
LZH SS **SS 17 24 57.0 +2.3**
LZH pmax pmax
comp=Z,76nm,1.2s
LZH pmax pmax
comp=Z,420nm,4.1s
LZH LR LR
comp=Z,1μm,16.3s
LZH LR LR
comp=Z,800nm,16.9s
LZH LR LR
comp=Z,2μm,19.6s
AGG Agios Georgios 77.48 330 *eP* **P 17 10 05.9 -0.7**
AGG pmax pmax
comp=Z,215nm,1.0s
AGG Agios Georgios 77.48 330 *eP* **P 17 10 05.9 -0.7**
comp=Z,215nm,1.0s
AGG Agios Georgios 77.48 330 P **P 17 10 06.1 -0.5**
ANN Anapa 77.49 343 *eP* **P 17 10 05.8 -0.6**
ANN *eS* **S 17 19 57.5 +1.5**
ANN pmax pmax
comp=Z,199nm,2.1s
EVR Evrytania 77.62 330 P **P 17 10 07.4 0.0**
EVR Evrytania 77.62 330 P **P 17 10 07.4 0.0**
WMQ Urumqi 77.63 20 P **P 17 10 07.0 -0.4**
WMQ sP sP 17 10 16.0 -0.8

WMQ S **S** 17 19 57.3 -0.5
WMQ pmax pmax
comp=Z,37nm,1.7s
WMQ pmax pmax
comp=Z,430nm,4.9s
WMQ LR LR
comp=Z,2μm,30.7s
WMQ LR LR
comp=Z,3μm,35.7s
WMQ LR LR
comp=Z,2μm,30.7s
QZH Quanzhou 77.99 52 *e*P **P** 17 10 11.0 +1.3
QZH S **S** 17 20 04.3 +2.0
QZH SS **SS** 17 25 10.0 +5.7
QZH LR LR
comp=Z,860nm,18.6s
QZH LR LR
comp=Z,420nm,16.1s
QZH LR LR
comp=Z,1μm,18.9s
THL Klokotos Trika 78.07 330 P **P** 17 10 08.7 -1.1
EIDS Eidsvold 78.08 112 *e*P **P** 17 10 09.6 -0.8
comp=Z,51nm,1.2s
DSL Palaion Diasel 78.11 330 P **P** 17 10 07.8 -2.3
DSL Palaion Diasel 78.11 330 P **P** 17 10 07.8 -2.3
GTA Gaotai 78.18 30 P **P** 17 10 10.3 -0.3
GTA pP pP 17 10 14.5 -3.1
GTA sP PcP 17 10 17.5 -2.6
GTA S **S** 17 20 04.0 -0.1
GTA sS sS 17 20 16.0 +0.4
GTA SS **SS** 17 25 10.5 +3.5
GTA pmax pmax
comp=Z,31nm,1.6s
GTA pmax pmax
comp=Z,240nm,5.2s
GTA LR LR
comp=Z,580nm,19.7s
GTA LR LR
comp=Z,690nm,18.5s
GTA LR LR
comp=Z,520nm,22.6s
LIT Litokhoron 78.31 331 P **P** 17 10 10.5 -0.7
LIT Litokhoron 78.31 331 P **P** 17 10 10.5 -0.7
LIT Litokhoron 78.31 331 P **P** 17 10 10.5 -0.7
XAN Xi'an 78.42 39 P **P** 17 10 11.0 -1.0
XAN pP pP 17 10 17.8 -1.1
XAN sP PcP 17 10 20.0 -1.1
XAN PP **PP** 17 13 09.3 -0.5
XAN S **S** 17 19 58.3 -8.4
XAN SKS **SKSac** 17 20 21.0 -4.5
XAN ScS **ScS** 17 20 31.3 -0.1
XAN pmax pmax
comp=Z,38nm,1.1s
XAN pmax pmax
comp=Z,280nm,4.3s
XAN LR LR
comp=Z,970nm,17.3s
XAN LR LR
comp=Z,1μm,17.3s
XAN LR LR
comp=Z,1μm,21.1s
KDZ Kurdzhali 78.45 334 *e*P **P** 17 10 10.7 -1.2
SIM Simferopol' 78.51 341 *e*P **P** 17 10 15.7 +3.6
SIM *e* 17 10 20.0
SIM *e* 17 13 17.0
SIM *e*S **S** 17 20 12.0 +5.0
SIM *e*PS **PnS** 17 21 04.0 +13
SIM *e*SS **SS** 17 25 09.0 -2.4
SIM pmax pmax
comp=Z,54nm,0.9s
SIM pmax pmax
comp=Z,90nm,10.5s
WDD Wied Dalam 78.62 323 PFAKE 17 10 20.0 +7.1
WDD LR LR
comp=Z,3μm,21.0s
KPRO Kipourio 78.67 330 P **P** 17 10 13.5 +0.3
OTUK Ortayu 78.69 8 P **P** 17 10 12.2 -0.9
OTUK pmax pmax
comp=Z,92nm,1.5s
RZN Rozhen 78.75 333 *e*P **P** 17 10 16.3 +2.5
IGT Igoumenitsa 78.77 329 P **P** 17 10 11.0 -2.7
IGT Igoumenitsa 78.77 329 P **P** 17 10 11.0 -2.7
IGT Igoumenitsa 78.77 329 P **P** 17 10 11.0 -2.7
SSLB Suanglung 78.88 54 *e*P **P** 17 10 13.6 -1.1
comp=Z,82nm,1.1s
MAKZ Makanchi 78.95 15 *i*P **P** 17 10 13.6 -0.9
MAKZ pmax pmax
comp=Z,72nm,1.4s
MAKZ Makanchi 78.95 15 *e*P **P** 17 10 12.7 -1.9
comp=Z,83nm,1.4s
MK01 Makanchi Array 78.98 15 *e*P **P** 17 10 13.7 -1.0
MK31 Makanchi Array 79.00 15 *e*P **P** 17 10 13.8 -1.0
MK31 Makanchi Array 79.00 15 *e*P **P** 17 10 13.8 -1.0
MKAR Makanchi Array 79.00 15 P **P** 17 10 14.2 -0.6
comp=Z,9.6nm,0.8s,baz=187,slow=5.9,SNR=48
MKAR LR LR 17 42 33.2
comp=Z,1μm,20.2s,baz=206,slow=34
MKAR Makanchi Array 79.00 15 *e*P **P** 17 10 13.8 -1.1
comp=Z,144nm,0.9s
AB31 Akbulak array 79.00 360 *i*P **P** 17 10 14.0 -0.7
AB31 pmax pmax
comp=Z,121nm,1.2s
ABKAR Akbulak array 79.00 360 *e*P **P** 17 10 14.0 -0.7
comp=Z,476nm,0.9s
WHN Wuhan 79.04 45 ⇑P **P** 17 10 15.5 +0.1
WHN pP **PcP** 17 10 24.0 +0.2
WHN S **S** 17 20 16.8 +3.4
WHN LR LR
comp=Z,1μm,15.4s
WHN LR LR
comp=Z,1μm,14.7s
WHN LR LR
comp=Z,3μm,20.6s
MMB Musomiste 79.06 333 *e*P **P** 17 10 13.5 -1.8
PRD Provadia 79.07 336 *e*P **P** 17 10 17.6 +2.4
PLD Plovdiv 79.12 334 P **P** 17 10 15.9 +0.4
VAY Valandovo 79.30 332 *i*P **P** 17 10 18.5 +2.0
FNA Florina 79.35 331 P **P** 17 10 15.8 -1.1
FNA Florina 79.35 331 P **P** 17 10 15.8 -1.1
FNA Florina 79.35 331 P **P** 17 10 15.8 -1.1
SZH Strazhica 79.65 335 *e*P **P** 17 10 14.7 -3.7
YHNB Yeheng 79.74 54 PFAKE 17 10 30.0 +11
YHNB LR LR
comp=Z,933nm,19.0s
CEL Celeste 79.81 326 PFAKE 17 10 30.0 +11
CEL LR LR
comp=Z,1μm,21.0s
TIRR Tirgusor 79.82 337 *e*P **P** 17 10 17.6 -1.7
TIRR pmax pmax
comp=Z,60nm,1.0s
TIRR Tirgusor 79.82 337 ⇓*i*P **P** 17 10 18.3 -1.0
TIRR Tirgusor 79.82 337 *e*P **P** 17 10 17.6 -1.7
comp=Z,60nm,1.0s
OHR Ohrid 79.87 331 *i*P **P** 17 10 19.6 -0.1
KRUS Krusevo 79.89 331 *i*P **P** 17 10 19.6 -0.3
VAE Valguarnera 79.94 324 P **P** 17 10 20.1 -0.1
comp=Z,1.9nm,0.3s,baz=150,slow=20,SNR=1.5
VAE LR LR 17 44 56.0
comp=Z,796nm,19.4s,baz=155,slow=35
TATO Taipei 80.01 54 PFAKE 17 10 30.0 +9.2
TATO LR LR
comp=Z,1μm,19.0s
TLB Topalu 80.06 337 ⇑*i*P **P** 17 10 20.3 -0.3
VTS Vitosha 80.11 333 *e*P **P** 17 10 18.7 -2.4
VTS pmax pmax
comp=Z,31nm,1.0s
VTS Vitosha 80.11 333 ⇑*i*P **P** 17 10 20.7 -0.4
VTS Vitosha 80.11 333 *e*P **P** 17 10 18.7 -2.4
comp=Z,31nm,1.0s
VTS Vitosha 80.11 333 *e*P P 17 10 16.3 -4.8
VTS Vitosha 80.11 333 P **P** 17 10 19.7 -1.4
TIP Timpagrande 80.12 327 ⇓*i*P **P** 17 10 22.9 +1.7
TIP Timpagrande 80.12 327 *e*P **P** 17 10 20.3 -0.8
comp=Z,32nm,1.1s
TIP LR LR
comp=Z,1μm,20.0s
AKTO Aktyubinsk 80.22 358 P **P** 17 10 21.4 0.0
comp=Z,16nm,1.1s,baz=176,slow=5.2,SNR=15
AKTO LR LR 17 45 05.6
comp=Z,422nm,18.2s,baz=177,slow=35
AKTO Aktyubinsk 80.22 358 *i*P **P** 17 10 20.8 -0.5
AKTO pmax pmax
comp=Z,77nm,1.1s
ZSN Zaisan 80.22 16 ⇓*i*P **P** 17 10 21.8 +0.3
comp=Z,76nm,1.2s

SKO Skopje 80.31 331 *i*P **P** 17 10 21.9 -0.2
BRZS Berezniki 80.45 8 *e*P **P** 17 10 21.0 -1.6
comp=Z,26nm,1.0s
BRZS *i*S **S** 17 20 27.5 0.0
TIR Tirane 80.46 330 *e*P **P** 17 10 22.5 -0.3
TIR pmax pmax
comp=Z,128nm,1.1s
TIR MLR MLR
comp=Z,701nm,21.0s
TIR Tirane 80.46 330 *e*P **P** 17 10 22.5 -0.3
comp=Z,128nm,1.1s
TIR LR LR
comp=Z,701nm,21.0s
CFR Carcaliu 80.55 337 P **P** 17 10 21.9 -1.3
CFR Carcaliu 80.55 337 ⇓*i*P **P** 17 10 21.9 -1.3
CLTB Caltabellotta 80.63 324 PFAKE 17 10 30.0 +6.0
CLTB LR LR
comp=Z,868nm,20.0s
ORI Oriolo Calabro 80.97 327 P **P** 17 10 26.8 +1.2
HUMR Humele 81.09 335 ⇑*i*P **P** 17 10 26.4 +0.3
CUC Castrocucco 81.21 327 PFAKE 17 10 40.0 +13
CUC LR LR
comp=Z,688nm,19.0s
ULC Ulcinj 81.23 330 ⇓*i*P **P** 17 10 28.1 +1.1
KEST Kesra 81.33 320 P **P** 17 10 28.5 +0.8
comp=Z,4.8nm,0.9s,baz=136,slow=3.4,SNR=8.4
KEST LR LR 17 48 03.9
comp=Z,4μm,18.4s,baz=72,slow=37
KEST Kesra 81.33 320 *e*P **P** 17 10 27.7 0.0
comp=Z,158nm,1.8s
DRME Dracevica, Mon 81.44 330 ⇓*i*P **P** 17 10 29.1 +1.1
MLR Muntele Rosu 81.58 336 P **P** 17 10 29.0 +0.2
comp=Z,4.6nm,1.0s,baz=116,slow=1.0,SNR=8.4
MLR LR LR 17 46 37.3
comp=Z,176nm,18.1s,baz=169,slow=36
MLR Muntele Rosu 81.58 336 ⇓*i*P **P** 17 10 29.3 +0.4
MLR Muntele Rosu 81.58 336 *e*P **P** 17 10 26.5 -2.3
comp=Z,72nm,1.3s
TTG Podgorica 81.61 330 *e*P **P** 17 10 30.2 +1.3
VRI Vrincioaia 81.63 337 P **P** 17 10 28.8 -0.2
VRI Vrincioaia 81.63 337 ⇓*i*P **P** 17 10 28.9 -0.1
PLOR Plostina 81.64 337 P **P** 17 10 28.8 -0.3
MTUR Matau 81.66 335 ⇓*i*P **P** 17 10 28.8 -0.4
IVA Berane 81.70 331 ⇓*i*P **P** 17 10 30.1 +0.6
KOME Kolasin 81.84 331 ⇓*i*P **P** 17 10 30.6 +0.3
VOIR 81.85 336 P **P** 17 10 30.6 +0.4
VOIR 81.85 336 ⇓*i*P **P** 17 10 30.6 +0.4
CEME Cevo 81.85 330 ⇓*i*P **P** 17 10 31.1 +0.8
KURBB Kurchatov Arra 81.92 11 P **P** 17 10 30.1 -0.2
comp=Z,14nm,1.1s,baz=205,slow=6.0,SNR=53
ARR Arges 81.94 335 ⇓*i*P **P** 17 10 29.6 -1.1
KIS Kishinev 81.94 339 *e*P **P** 17 10 29.0 -1.5
comp=Z,200nm,2.0s
KIS Kishinev 81.94 339 *e*PP PP 17 13 44.0 +5.3
KIS *e*S **S** 17 20 40.0 -3.0
KIS Kishinev 81.94 339 *e*PS 17 21 24.0
KIS *e*L L 17 41 00.0
KIS LRM MLR 17 45 20.0
comp=Z,600nm,20.0s
KIS Kishinev 81.94 339 *e*P **P** 17 10 29.0 -1.5
KIS *i* 17 10 35.0
KIS *e* 17 13 44.0
KIS *e*S **S** 17 20 40.0 -3.0
KIS pmax pmax
comp=Z,170nm,2.0s
HCY Herceg Novi 81.95 330 ⇓*i*P **P** 17 10 32.1 +1.4
NKME Niksic 82.01 330 ⇓*i*P **P** 17 10 32.3 +1.2
SEM Semipalatinsk 82.02 13 ⇓*i*P **P** 17 10 31.2 0.0
comp=Z,234nm,1.2s
SEM *e*S **S** 17 20 45.2 +1.0
SEM LR LR 17 41 30.2
comp=Z,339nm,19.9s
KURK Kurchatov 82.03 11 *c*e**P** **P** 17 10 30.7 -0.2
KURK pmax pmax
comp=Z,125nm,1.2s
KURK Kurchatov 82.03 11 *e*P **P** 17 10 30.4 -0.4
comp=Z,99nm,1.1s
KURK LR LR
comp=Z,959nm,21.0s
KURK Kurchatov 82.03 11 P **P** 17 10 31.1 +0.2
SNR=41
KURK Kurchatov 82.03 11 P **P** 17 10 31.1 +0.2
SNR=41
NKY Niksic 82.03 330 ⇓*i*P **P** 17 10 31.9 +0.6
DOPR Dopca 82.18 336 ⇑*i*P **P** 17 10 31.3 -0.6
PLE Pljevlja 82.28 331 ⇓*i*P **P** 17 10 33.5 +0.9
PMG Port Moresby 82.37 96 P **P** 17 10 34.0 +0.4
comp=Z,60nm,1.0s,baz=316,slow=1.4,SNR=14
PMG LR LR 17 44 59.4
comp=Z,1μm,18.2s,baz=226,slow=34
PMG Port Moresby 82.37 96 *c*e**P** **P** 17 10 31.1 -2.6
PMG pmax pmax
comp=Z,338nm,1.2s
PMG Port Moresby 82.37 96 *e*P **P** 17 10 32.5 -1.2
comp=Z,80nm,1.0s
EFI East Falkland 82.45 213 PFAKE 17 10 40.0 +6.6
EFI LR LR
comp=Z,2μm,22.0s
VRH Novokhopyorsk 82.66 348 *e*P **P** 17 10 35.3 +1.1
VRH pmax pmax
comp=Z,40nm,1.0s
DIVS Divibare 82.66 332 *e*P **P** 17 10 33.4 -1.2
comp=Z,73nm,1.4s
RPZ Rata Peaks 82.85 137 P **P** 17 10 35.4 -0.3
comp=Z,11nm,0.9s,baz=210,slow=20,SNR=2.1
RPZ LR LR 17 39 39.5
comp=Z,7μm,19.8s,baz=216,slow=30
NJ2 Nanjing 82.88 47 *e*P **P** 17 10 35.5 -0.3
NJ2 PcP **sP** 17 10 44.3 -1.0
NJ2 S **S** 17 20 55.8 +2.5
NJ2 SS **SS** 17 26 21.3 +4.1
NJ2 pmax pmax
comp=Z,37nm,1.3s
NJ2 pmax pmax
comp=Z,360nm,3.5s
NJ2 LR LR
comp=Z,1μm,19.0s
NJ2 LR LR
comp=Z,920nm,18.4s
NJ2 LR LR
comp=Z,1μm,19.0s
TIY Taiyuan 83.05 39 *e*P **P** 17 10 37.5 +0.8
TIY S **S** 17 20 56.5 +1.5
TIY pmax pmax
comp=Z,410nm,6.5s
TIY LR LR
comp=Z,870nm,16.1s
TIY LR LR
comp=Z,450nm,16.4s
TIY LR LR
comp=Z,780nm,18.1s
SORM Soroca 83.09 339 P **P** 17 10 34.8 -1.7
SORM Soroca 83.09 339 ⇓*i*P **P** 17 10 34.9 -1.6
VSR Storozhevoye 83.15 347 *e*P **P** 17 10 38.4 +1.6
VSR pmax pmax
comp=Z,50nm,1.0s
BVA0 Borovoye Array 83.21 6 P **P** 17 10 35.9 -1.2
BVA0 pmax pmax
comp=Z,12nm,1.1s
BVAR Borovoye Array 83.21 6 P **P** 17 10 36.8 -0.3
comp=Z,9.8nm,0.9s,baz=177,slow=5.9,SNR=25
BVAR LR LR 17 44 31.5
comp=Z,641nm,21.9s,baz=188,slow=33
BRVK Borovoye 83.24 6 *c*e**P** **P** 17 10 37.4 +0.2
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 83.24 6 *e*P **P** 17 10 35.9 -1.3
comp=Z,34nm,1.0s
BRVK LR LR
comp=Z,404nm,19.0s
BRVK Borovoye 83.24 6 P **P** 17 10 38.4 +1.3
SNR=26
BRVK Borovoye 83.24 6 P **P** 17 10 38.4 +1.3
SNR=26
CJR Cluj-Napoca 83.46 335 P **P** 17 10 38.9 +0.4
CJR Cluj-Napoca 83.46 335 ⇓*i*P **P** 17 10 39.0 +0.4
VORR Voronezh 83.58 347 P **P** 17 10 41.0 +2.1
VORR pmax pmax
comp=Z,250nm,1.2s
BURAR Bucovina Array 83.67 337 P **P** 17 10 39.9 +0.3
BURAR Bucovina Array 83.67 337 ⇑*i*P **P** 17 10 39.9 +0.3
BUR04 Bucovina Ar. S 83.67 337 *e*P **P** 17 10 38.5 -1.2
BUR08 Bucovina Ar. S 83.70 337 *e*P **P** 17 10 39.4 -0.4
SSE Sheshan 83.75 49 P **P** 17 10 40.5 +0.2
SSE S **S** 17 21 05.5 +3.4

SSE pmax pmax
comp=Z,36nm,0.7s
SSE pmax pmax
comp=Z,150nm,3.3s
SSE LR LR
comp=Z,280nm,17.6s
SSE LR LR
comp=Z,320nm,17.1s
DRGR 83.85 335 ⇑*i*P **P** 17 10 39.5 -1.1
BTO Baotou 83.92 36 *e*P **P** 17 10 39.0 -2.1
BTO pmax pmax
comp=Z,9.0nm,1.4s
VSL Villasalto 84.06 323 *e*P **P** 17 10 41.3 -0.4
comp=Z,38nm,0.9s
VSL LR LR
comp=Z,1μm,21.0s
LTZ Lake Taylor 84.12 137 *e*P **P** 17 10 41.2 -1.1
comp=Z,161nm,1.4s
AQU L'Aquila 84.19 327 PFAKE 17 10 50.0 +7.6
AQU LR LR
comp=Z,819nm,19.0s
LPSR Galich'ya Gora 84.51 347 *e*P **P** 17 10 45.9 +2.2
LPSR pmax pmax
comp=Z,40nm,1.1s
TIA Tai'an 84.64 43 P **P** 17 10 44.3 -0.5
TIA S **S** 17 21 06.3 -4.6
TIA pmax pmax
comp=Z,45nm,1.4s
TIA pmax pmax
comp=Z,280nm,4.0s
TIA LR LR
comp=Z,680nm,20.1s
TIA LR LR
comp=Z,740nm,22.1s
TIA LR LR
comp=Z,1μm,21.2s
HORU Horodok 84.65 338 P **P** 17 10 46.1 +1.6
HHC Hu-ho-hao-te 84.89 36 *e*P **P** 17 10 45.3 -0.7
HHC sP pP 17 10 53.5 +0.4
HHC PP **PP** 17 14 04.5 +1.4
HHC SKS **S** 17 21 06.3 -7.1
HHC S **SKKSac** 17 21 16.0 +0.8
HHC SS **SS** 17 26 48.0 +1.1
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,210nm,4.8s
HHC LR LR
comp=Z,490nm,14.7s
HHC LR LR
comp=Z,460nm,16.2s
HHC LR LR
comp=Z,460nm,15.9s
MORH M¯‡r¡gy, Hung 84.94 332 *e*P **P** 17 10 45.2 -0.8
KHZ Kahutara 85.09 137 *e*P **P** 17 10 46.1 -1.0
comp=Z,131nm,1.5s
AK11 Malin Array Si 85.11 341 *e*P **P** 17 10 45.3 -1.4
KIEV Kiev 85.11 341 *e*P **P** 17 10 47.5 +0.8
KIEV pmax pmax
comp=Z,32nm,1.0s
KIEV Kiev 85.11 341 *e*P **P** 17 10 45.0 -1.7
comp=Z,59nm,1.0s
KIEV LR LR
comp=Z,535nm,19.0s
KIEV Kiev 85.11 341 *i*P **P** 17 10 48.7 +1.9
SNR=18
AKASG Malin Array Be 85.11 341 P **P** 17 10 45.8 -0.9
comp=Z,18nm,0.9s,baz=161,slow=4.3,SNR=32
AKASG PP **PP** 17 14 06.0 +1.4
comp=Z,0.4nm,0.5s,baz=155,slow=6.9,SNR=4.3
AKASG LR LR 17 49 02.2
comp=Z,271nm,18.8s,baz=165,slow=36
AKASG Malin Array Be 85.11 341 *i*P **P** 17 10 46.5 -0.2
AKASG pmax pmax
comp=Z,19nm,0.9s
AKBB Malin Array Si 85.11 341 *e*P **P** 17 10 45.1 -1.7
AKBB pmax pmax
comp=Z,52nm,0.9s
AKBB Malin Array Si 85.11 341 *e*P **P** 17 10 45.1 -1.7
comp=Z,52nm,0.9s
UZH Uzhgorod 85.56 336 *e*P **P** 17 10 52.0 +3.0
UZH *e*S **S** 17 21 21.0 +1.7
UZH pmax pmax
comp=Z,70nm,1.2s
BOJS Bojanci 85.80 330 *i*P P 17 10 58.2 +7.9
PSZ Piszkesteto 85.85 334 *e*P **P** 17 10 48.7 -1.9
PSZ pmax pmax
comp=Z,14nm,1.0s
PSZ MLR MLR
comp=Z,664nm,19.0s
PSZ Piszkesteto 85.85 334 ⇓*i*P **P** 17 10 50.8 +0.2
PSZ Piszkesteto 85.85 334 *e*P **P** 17 10 49.8 -0.8
PSZ Piszkesteto 85.85 334 *e*P **P** 17 10 48.7 -1.9
comp=Z,14nm,1.0s
PSZ LR LR
comp=Z,664nm,19.0s
JOW Kunigami 85.96 56 LR LR 17 44 49.5
comp=Z,368nm,20.7s,baz=167,slow=33
LVV L'vov 85.96 337 *e*P P 17 10 59.0 +8.0
LVV *e*S **S** 17 21 21.6 -1.7
LVV MLR MLR
comp=N,300nm,18.0s
LVV MLR MLR
comp=E,200nm,18.0s
LVV MLR MLR
comp=Z,300nm,18.0s
CRVS Cervenica-Dubn 86.08 335 *e*P **P** 17 10 54.4 +2.7
CRVS Cervenica-Dubn 86.08 335 *e*P **P** 17 10 54.4 +2.7
KECS Kecovo 86.09 335 *e*P **P** 17 10 50.9 -0.8
KECS *e* 17 10 59.0
KECS pmax pmax
comp=Z,8.0nm,0.9s
KECS Kecovo 86.09 335 *e*P **P** 17 10 50.9 -0.8
KECS *e* 17 10 59.0
ARU Arti 86.21 359 P **P** 17 10 51.4 -0.7
comp=Z,36nm,0.9s,baz=165,slow=2.7,SNR=32
ARU Arti 86.21 359*c* *i*P **P** 17 10 52.4 +0.3
ARU 17 14 10.4
ARU S **S** 17 21 18.0 -7.4
ARU pmax pmax
comp=Z,75nm,1.2s
ARU MLR MLR
comp=Z,699nm,18.0s
ARU Arti 86.21 359 *e*P **P** 17 10 51.2 -0.8
comp=Z,125nm,1.1s
ARU LR LR
comp=Z,648nm,19.0s
VISS Visnje 86.21 330 *i*P P 17 10 59.9 +7.5
KWP Kalwaria Pacla 86.25 336 *e*P **P** 17 10 52.0 -0.5
KWP Kalwaria Pacla 86.25 336 *e*P **P** 17 10 51.8 -0.7
KWP pmax pmax
comp=Z,368nm,0.5s
KWP Kalwaria Pacla 86.25 336 *e*P **P** 17 10 51.8 -0.7
comp=Z,368nm,0.5s
ZAA0 Zalesovo Array 86.29 14 *e*P **P** 17 10 51.1 -1.4
comp=Z,30nm,0.8s
ZALV Zalesovo Beam 86.29 14 P **P** 17 10 51.4 -1.1
comp=Z,8.1nm,0.5s,baz=204,slow=5.1,SNR=28
ZALV LR LR 17 47 06.0
comp=Z,721nm,19.4s,baz=242,slow=34
ZALV Zalesovo Beam 86.29 14 *e*P **P** 17 10 51.1 -1.4
SNZO South Karori 86.45 136 PFAKE 17 11 00.0 +6.1
SNZO LR LR
comp=Z,3μm,20.0s
BBTS Babate 86.51 289 P **P** 17 10 54.7 +0.2
comp=Z,29nm,1.1s,baz=100,slow=2.4,SNR=2.2
BBTS LR LR 17 46 41.4
comp=Z,2μm,21.0s,baz=122,slow=34
SVE Sverdlovsk 86.59 0*c*e**P** **P** 17 10 55.3 +1.4
SVE pmax pmax
comp=Z,118nm,1.3s
SVE MLR MLR
comp=Z,683nm,18.0s
STHS Stebnicka Huta 86.59 335 *e*P **P** 17 10 55.1 +0.9
STHS *e* 17 11 02.3
STHS pmax pmax
comp=Z,47nm,2.5s
STHS Stebnicka Huta 86.59 335 *e*P **P** 17 10 55.1 +0.9
STHS *e* 17 11 02.3
JAVS Javornik 86.62 329 *i*P **P** 17 10 53.7 -0.8
VYHS Vyhne 86.72 334 *e*P **P** 17 10 55.2 +0.4
VYHS *e* 17 11 01.9
VYHS pmax pmax
comp=Z,46nm,2.0s
VYHS Vyhne 86.72 334 *e*P **P** 17 10 55.2 +0.4
VYHS *e* 17 11 01.9

BJT Baijiatuau 86.73 39 PFAKE 17 11 10.0 +15
BJT LR LR
comp=Z,2µm,19.0s
BJI Beijing 86.75 39 P **P** **17 10 55.3 +0.2**
BJI S **S** **17 21 35.5 +4.1**
BJI pmax pmax
comp=Z,16nm,1.0s
BJI pmax pmax
comp=Z,240nm,4.0s
BJI LR LR
comp=Z,2µm,20.1s
BJI LR LR
comp=Z,550nm,17.7s
BJI LR LR
comp=Z,2µm,22.7s
NVS Novosibirsk 86.81 13 *e*P **P** **17 10 55.2 +0.2**
NVS *e*S S 17 21 20.4 -11
NVS pmax pmax
comp=Z,33nm,0.9s
NVS pmax pmax
comp=N,14nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.9s
NVS smax smax
comp=N,37nm,2.4s
NVS smax smax
comp=E,31nm,2.2s
SOKA Soboth 86.81 330 *e*P **P** **17 10 55.9 +0.5**
comp=E,25nm,1.7s
OBKA Obir 86.89 330 *e*P **P** **17 10 55.1 -0.7**
comp=E,46nm,1.7s
VLC Villacollemand 87.00 326 PFAKE 17 11 10.0 +14
VLC LR LR
comp=Z,439nm,20.0s
LANS Liptovska Anna 87.02 334 *e*P **P** **17 10 56.7 +0.4**
LANS Liptovska Anna 87.02 334 *e*P **P** **17 10 56.7 +0.4**
ARSA Arzberg 87.06 331 *e*P **P** **17 10 56.4 -0.1**
comp=Z,25nm,1.5s
MODS Modra-Piesok 87.24 333 *e*P **P** **17 10 59.0 +1.7**
MODS *e* 17 11 04.9
MODS Modra-Piesok 87.24 333 *e*P **P** **17 10 59.0 +1.7**
MODS *e* 17 11 04.8
OBN Obninsk 87.36 346 P **P** **17 10 57.8 +0.1**
comp=Z,34nm,0.5s,baz=164,slow=7.4,SNR=18
OBN Obninsk 87.36 346 *d i*P **P** **17 10 58.6 +1.0**
OBN *e* 17 11 05.6
OBN *e*PPP PPP 17 16 17.8
OBN *e*S **S** **17 21 31.2 -5.3**
OBN pmax pmax
comp=Z,132nm,1.2s
OBN MLR MLR
comp=Z,748nm,19.0s
OBN Obninsk 87.36 346 *e*P **P** **17 10 57.8 +0.1**
comp=Z,123nm,0.9s
OBN LR LR
comp=Z,971nm,20.0s
MYKA Terra Mystica 87.38 330 *e*P **P** **17 10 58.6 +0.4**
comp=Z,19nm,1.6s
CONA Conrad Observa 87.45 332 *e*P **P** **17 10 58.3 -0.1**
comp=Z,44nm,1.2s,SNR=27
MOS Moscow 87.73 347 *e*P **P** **17 11 00.4 +0.9**
MOS *e* 17 11 05.4
MOS *e* 17 14 31.4
MOS pmax pmax
comp=Z,113nm,1.3s
OJC Ojcow 87.78 335 *e*P **P** **17 10 59.7 -0.2**
OJC Ojcow 87.78 335 *e*P **P** **17 10 59.7 -0.2**
OJC Ojcow 87.78 335 *e*P **P** **17 10 58.1 -1.8**
comp=Z,53nm,1.3s
SONM Songino Array 87.79 29 P **P** **17 10 59.6 -0.6**
comp=Z,8.5nm,1.2s,baz=208,slow=3.8,SNR=34
SONM PKKPbc PKKPbc 17 28 58.3 +9.4
comp=Z,0.2nm,0.4s,baz=29,slow=3.4,SNR=4.1
SONA1 Songino Array 87.81 29 *e*P **P** **17 10 58.2 -2.0**
KBA Koelnbreinsper 87.85 330 *e*P **P** **17 11 01.9 +1.3**
comp=Z,25nm,1.2s
ABTA Abfaltersbach 87.97 329 *e*P **P** **17 11 00.3 -0.7**
comp=Z,50nm,1.1s,SNR=15
MOA Molln 88.06 331 *e*P **P** **17 11 01.2 -0.1**
comp=Z,32nm,1.2s,SNR=17
OKC Ostrava-Krasne 88.08 334 *e*P **P** **17 11 01.7 +0.4**
OKC *e* 17 11 03.7
OKC *e* 17 11 07.8
OKC MLR MLR
comp=Z,600nm,19.5s
OKC MLR MLR
comp=Z,2µm,18.2s
OKC Ostrava-Krasne 88.08 334 *e*P **P** **17 11 01.7 +0.4**
OKC *ep*P **PcP** **17 11 03.7 +0.6**
OKC *ex* x 17 11 07.8
OKC AMS AMS 17 53 10.0
comp=Z,600nm,19.5s
ULN Ulaanbaatar 88.09 29 *ce*P **P** **17 11 00.8 -0.8**
ULN pmax pmax
comp=Z,21nm,1.7s
ULN Ulaanbaatar 88.09 29 *e*P **P** **17 11 00.9 -0.8**
comp=Z,28nm,1.2s
ULN LR LR
comp=Z,815nm,20.0s
ULN Ulaanbaatar 88.09 29 P **P** **17 11 01.5 -0.1**
SNR=23
ULN Ulaanbaatar 88.09 29 P **P** **17 11 01.5 -0.1**
SNR=23
VRAC Vranov 88.26 333 P **P** **17 11 01.3 -0.9**
comp=Z,6.1nm,1.0s,baz=113,slow=3.7,SNR=6.2
VRAC LR LR 17 51 02.9
comp=Z,261nm,19.2s,baz=158,slow=36
VRAC Vranov 88.26 333 ⇑*i*P **P** **17 11 01.7 -0.5**
MORC Moravsky Berou 88.26 334 *e*P **P** **17 11 00.5 -1.7**
MORC pmax pmax
comp=Z,143nm,1.3s
MORC Moravsky Berou 88.26 334 ⇓*i*P **P** **17 11 01.2 -1.1**
MORC Moravsky Berou 88.26 334 *e*P **P** **17 11 00.5 -1.7**
comp=Z,143nm,1.3s
FRF La Foret Royal 88.41 324 P **P** **17 11 03.7 +0.7**
ZAK Zakamensk 88.59 26 *e*P **P** **17 11 02.0 -1.8**
ZAK pmax pmax
comp=Z,8.0nm,2.3s
ZAK pmax pmax
comp=Z,5.0nm,2.0s
TREC Trest 88.69 332 *e*P **P** **17 11 04.5 +0.3**
TREC *e* 17 11 06.6
TREC *e* 17 11 10.5
TREC pmax pmax
comp=Z,700nm,18.1s
TREC Trest 88.69 332 *e*P **P** **17 11 04.5 +0.3**
TREC *ep*P **PcP** **17 11 06.6 +0.8**
TREC *ex* x 17 11 10.5
TREC AMS AMS 17 54 50.0
comp=Z,700nm,18.1s
WTTA Wattenberg 88.75 329 *e*P **P** **17 11 05.0 +0.3**
comp=Z,51nm,0.9s,SNR=12
DOI San Damiano 88.78 325 P **P** **17 11 05.9 +1.0**
KRLC Kraliky 88.80 333 *e*P **P** **17 11 07.4 +2.6**
KRLC Kraliky 88.80 333 *ep*P **P** **17 11 07.4 +2.6**
MOY Mondy 88.81 24 *e*P **P** **17 11 04.7 -0.2**
MOY pmax pmax
comp=Z,48nm,2.5s
WATA Walderalm 88.83 329 *e*P **P** **17 11 05.0 -0.1**
comp=Z,37nm,1.0s,SNR=10.0
MICGM Minsk 88.87 342 *e*P **P** **17 11 05.0 +0.1**
MNK Minsk 88.87 342 *e*P **P** **17 11 05.0 +0.1**
FUORN Ofenpass-Fuorn 88.89 328 *e*P **P** **17 11 04.4 -1.1**
comp=Z,48nm,0.9s
FETA Feichten 88.97 328 P **P** **17 11 05.7 -0.1**
comp=Z,70nm,0.9s,SNR=34
MOTA Moosalm 89.05 329 *e*P **P** **17 11 05.4 -0.7**
comp=Z,56nm,0.8s,SNR=13
GEA0 GERESS Array S 89.06 331 *e*P **P** **17 11 04.0 -2.1**
GEC2 GERESS Array S 89.07 331 *e*P **P** **17 11 04.8 -1.3**
GEC2 pmax pmax
comp=Z,80nm,2.0s
GEC2 GERESS Array S 89.07 331 *e*P **P** **17 11 04.8 -1.3**
comp=Z,80nm,2.0s
GERES GERESS Array B 89.07 331 P **P** **17 11 05.2 -0.9**
comp=Z,3.7nm,0.9s,baz=123,slow=4.9,SNR=18
GERES PP **PP** **17 14 35.2 -1.5**
comp=Z,2.4nm,0.9s,baz=144,slow=7.6,SNR=5.2
GERES LR LR 17 52 31.0
comp=Z,230nm,18.2s,baz=144,slow=37
DL2 Dalian 89.10 43 *e*P **P** **17 11 06.8 +0.4**
DL2 S **S** **17 21 56.5 +2.6**
DL2 pmax pmax
comp=Z,17nm,0.8s
DL2 pmax pmax
comp=Z,190nm,3.8s
DL2 LR LR
comp=Z,640nm,23.7s
DL2 LR LR
comp=Z,510nm,24.3s
DL2 LR LR
comp=Z,860nm,21.6s
DPC Dobruska-Polom 89.19 333 *e*P **P** **17 11 06.4 -0.2**
DPC *e* 17 11 09.5
DPC *e* 17 11 13.5
DPC Dobruska-Polom 89.19 333 *e*P **P** **17 11 06.4 -0.2**
DPC *ep*P **PcP** **17 11 09.5 +1.4**
DPC *es*P **pP** **17 11 13.5 -0.2**
TUE Stuetta 89.20 327 *e*P **P** **17 11 06.2 -0.8**
comp=Z,36nm,0.8s
TUE LR LR
comp=Z,715nm,19.0s
RETA Reutte 89.31 329 *e*P **P** **17 11 07.0 -0.3**
comp=Z,45nm,1.1s,SNR=18
KHC Kasperske Hory 89.34 331 *e*P **P** **17 11 07.0 -0.3**
KHC *e* 17 11 09.2
KHC *e* 17 11 13.2
KHC Kasperske Hory 89.34 331 *e*P **P** **17 11 07.0 -0.3**
KHC *ep*P **PcP** **17 11 09.2 +0.5**
KHC *es*P **pP** **17 11 13.2 -1.2**
KHC AMS AMS 18 01 40.0
KHC Kasperske Hory 89.34 331 *e*P **P** **17 11 05.7 -1.6**
comp=Z,7.1nm,1.0s
SOKR Solikamsk 89.42 358 *c i*P **P** **17 11 08.6 +1.3**
SOKR pmax pmax
comp=Z,36nm,1.4s
SOKR MLR MLR
comp=Z,925nm,22.0s
UPC Upice 89.44 333 *e*P **P** **17 11 08.4 +0.7**
UPC *e* 17 11 10.4
UPC *e* 17 11 14.8
UPC pmax pmax
comp=Z,600nm,18.6s
UPC Upice 89.44 333 *e*P **P** **17 11 08.4 +0.7**
UPC *ep*P **PcP** **17 11 10.4 +1.3**
UPC *es*P **pP** **17 11 14.8 0.0**
UPC AMS AMS 17 55 40.0
comp=Z,600nm,18.6s
GOPC GO Pecny, Ondr 89.46 332 *e*P **P** **17 11 09.3 +1.5**
GOPC *e* 17 11 14.5
GOPC *e* 17 21 36.3
GOPC MLR MLR
comp=Z,800nm,23.7s
GOPC GO Pecny, Ondr 89.46 332 *e*P **P** **17 11 09.3 +1.5**
GOPC *ep*P **pP** **17 11 14.5 -0.4**
GOPC *es*KS **SKSac** **17 21 36.3 -0.2**
GOPC AMS AMS 17 47 40.0
comp=Z,800nm,23.7s
BNI Bardonecchia 89.46 325 *e*P **P** **17 11 07.1 -1.0**
BNI pmax pmax
comp=Z,33nm,0.9s
BNI MLR MLR
comp=Z,990nm,19.0s
BNI Bardonecchia 89.46 325 *e*P **P** **17 11 07.1 -1.0**
comp=Z,33nm,0.9s
BNI LR LR
comp=Z,990nm,19.0s
NACGM Naroch 89.53 341 *e* **P** **17 11 10.0 +2.0**
NACGM *e*LR LR 17 51 15.0
DAVA Damuels 89.56 328 *e*P **P** **17 11 08.0 -0.6**
comp=Z,50nm,0.8s,SNR=12
KSP Ksiaz 89.60 334 *e*P **P** **17 11 09.0 +0.6**
KSP Ksiaz 89.60 334 *e*P **P** **17 11 09.0 +0.6**
PRU Pruhonice 89.61 332 *e*P **P** **17 11 10.2 +1.7**
PRU *e* 17 11 16.4
PRU *e* 17 21 36.0
PRU MLR MLR
comp=Z,500nm,17.6s
PRU Pruhonice 89.61 332 *e*P **P** **17 11 10.2 +1.7**
PRU *ex* x 17 11 16.4
PRU *es*KS **SKSac** **17 21 36.0 -1.4**
PRU AMS AMS 17 51 40.0
comp=Z,500nm,17.6s
LPG La Plagne 89.74 325 *e*P **P** **17 11 09.5 -0.1**
LPG pmax pmax
comp=Z,16nm,0.9s
ORIF Oris-en-Rattie 89.76 325 *e*P **P** **17 11 11.5 +2.0**
ORIF pmax pmax
comp=Z,23nm,0.9s
LPL La Plagne 89.76 325 *e*P **P** **17 11 10.1 +0.5**
LPL pmax pmax
comp=Z,25nm,0.9s
TLY Talaya 89.77 25 P **P** **17 11 09.1 -0.2**
comp=Z,0.8nm,0.4s,baz=217,slow=7.2,SNR=7.5
TLY Talaya 89.77 25 *e*P **P** **17 11 09.2 -0.1**
TLY *e* 17 14 44.4
TLY *e*PPP PPP 17 16 36.9
TLY *e*S **SKSac** **17 21 41.4 +3.1**
TLY pmax pmax
comp=Z,27nm,2.3s
TLY MLR MLR
comp=Z,550nm,20.0s
TLY Talaya 89.77 25 *e*P **P** **17 11 08.3 -0.9**
comp=Z,14nm,1.2s
TLY LR LR
comp=Z,1µm,20.0s
TLY Talaya 89.77 25 P **P** **17 11 09.7 +0.4**
SNR=8.9
TLY Talaya 89.77 25 P **P** **17 11 09.7 +0.4**
SNR=8.9
URZ Urewera 89.80 135 LR LR 17 45 19.5
comp=Z,3µm,18.1s,baz=198,slow=32
SUW Suwalki 89.82 339 *e*P **P** **17 11 09.9 +0.6**
SUW Suwalki 89.82 339 *e*P **P** **17 11 09.9 +0.6**
SUW Suwalki 89.82 339 *e*P **P** **17 11 08.8 -0.6**
comp=Z,108nm,1.0s
IDID Didziasalis 89.90 341 *e*P **P** **17 11 13.5 +3.8**
IDID IAmb IAmb 17 11 25.6
comp=Z,18nm,1.2s
PVCC Panska Ves 90.02 333 *e*P **P** **17 11 13.8 +3.4**
PVCC *e* 17 11 17.3
PVCC MLR MLR
comp=Z,500nm,17.6s
PVCC Panska Ves 90.02 333 *ep*P **P** **17 11 13.8 +3.4**
PVCC *ex* x 17 11 17.3
PVCC AMS AMS 17 51 30.0
comp=Z,500nm,17.6s
IIGN Ignalina 90.08 341 *e*P **P** **17 11 14.4 +3.8**
IIGN IAmb IAmb 17 11 27.9
comp=Z,29nm,1.4s
SENIN Lac Senin/Sane 90.09 326 *e*P **P** **17 11 10.1 -1.1**
comp=Z,18nm,1.0s
RTC Rabat Centre 90.11 310 PFAKE 17 11 20.0 +8.7
RTC LR LR
comp=Z,11µm,22.0s
ISAL Salakas 90.30 341 *e*P **P** **17 11 15.3 +3.7**
ISAL IAmb IAmb 17 11 21.9
comp=Z,10.0nm,0.9s
VIVF Saint-Julien-l 90.33 324 *e*P **P** **17 11 15.1 +3.0**
VIVF pmax pmax
comp=Z,35nm,1.4s
IZAR Zarasai 90.42 341 *e*P **P** **17 11 15.8 +3.7**
IZAR IAmb IAmb 17 11 22.4
comp=Z,7.9nm,0.8s
IRK Irkutsk 90.45 25 *e*P **P** **17 11 11.4 -1.0**
IRK pmax pmax
comp=Z,61nm,2.2s
BRG Berggiesshubel 90.54 333 *e*P **P** **17 11 13.4 +0.5**
comp=Z,23nm,1.2s
BRG Berggiesshubel 90.54 333 S **S** **17 21 59.0 -7.8**
BRG SS SS 17 27 39.0 -30
BRG Berggiesshubel 90.54 333 *e*P **P** **17 11 13.4 +0.5**
BRG S **S** **17 21 59.0 -7.8**
BRG pmax pmax
comp=Z,23nm,1.2s
BRG MLR MLR
comp=N,386nm,15.7s
BRG MLR MLR
comp=E,364nm,15.4s
BRG MLR MLR
comp=Z,699nm,15.2s
NKC Novy Kostel 90.66 331 *e*P **P** **17 11 14.7 +1.3**
NKC *e* 17 11 16.7
NKC *e* 17 11 20.8
NKC MLR MLR
comp=Z,800nm,18.2s
NKC Novy Kostel 90.66 331 *e*P **P** **17 11 14.7 +1.3**
NKC *ep*P **PcP** **17 11 16.7 +2.2**
NKC *ex* x 17 11 20.8
NKC AMS AMS 17 55 10.0
comp=Z,800nm,18.2s
SSB Saint Sauveur 90.69 324 *e*P **P** **17 11 12.8 -1.0**
SSB pmax pmax
comp=Z,23nm,1.2s
SSB MLR MLR
comp=Z,577nm,20.0s
SSB Saint Sauveur 90.69 324 *e*P **P** **17 11 12.8 -1.0**
comp=Z,22nm,1.2s
SSB LR LR
comp=Z,577nm,20.0s
GRFO Grafenberg 90.76 330 *e*P **P** **17 11 11.5 -2.4**
GRFO pmax pmax
comp=Z,111nm,1.7s
GRFO Grafenberg 90.76 330 *e*P **P** **17 11 11.5 -2.4**
comp=Z,111nm,1.7s
CABF La Chapelle 90.86 326 *e*P **P** **17 11 18.5 +3.9**
CABF pmax pmax
comp=Z,54nm,1.2s
BFO Black Forest 91.03 328 *i* P **P** **17 11 15.9 +0.7**
BFO Black Forest 91.03 328 *e*P **P** **17 11 12.2 -3.0**
comp=Z,33nm,1.4s
BFO LR LR
comp=Z,401nm,19.0s
CLL Collm 91.25 332 ⇓*i*P **P** **17 11 16.3 +0.2**
CLL *i* 17 11 22.7
CLL *e* 17 21 48.0
CLL *e*S **S** **17 22 14.0 +0.8**
CLL pmax pmax
comp=Z,71nm,2.4s
CLL MLR MLR
comp=Z,500nm,18.7s
CLL Collm 91.25 332 ⇓*i*P **P** **17 11 16.3 +0.2**
comp=Z,71nm,2.4s
CLL *i* (sP) **pP** **17 11 22.7 -0.5**
comp=Z,25nm,1.2s
CLL *e*PP **PP** **17 14 56.0 +2.1**
CLL *e*PPP PPP 17 16 55.0
CLL *e*SKSac **SKSac** **17 21 48.0 +1.2**
CLL *e*S **S** **17 22 14.0 +0.8**
CLL *e*PS **PnS** **17 23 26.0 +0.6**
CLL *e*PPS PPS 17 23 55.0
CLL *e*SS **SS** **17 28 24.0 +4.9**
CLL *e*SSS SSS 17 32 00.0
CLL *e*SSSS 17 35 24.0
CLL Lm MLR 17 56 00.0
comp=N,200nm,19.7s
CLL Lm MLR 17 56 00.0
comp=E,400nm,19.1s
CLL Lm MLR 17 56 00.0
comp=Z,500nm,18.7s
CLL Collm 91.25 332 *e*P **P** **17 11 14.8 -1.3**
comp=Z,16nm,1.0s
INCN Inchon 91.26 47 PFAKE 17 11 30.0 +13
INCN LR LR
comp=Z,1µm,20.0s
HINF Hinteralfeld 91.35 327 *e*P **P** **17 11 18.8 +2.1**
HINF pmax pmax
comp=Z,23nm,1.1s
JNU Nakatsue 91.47 52 LR LR 17 50 58.9
comp=Z,489nm,18.0s,baz=246,slow=35
ECH Echery 91.49 327 *e*P **P** **17 11 16.5 -0.9**
ECH pmax pmax
comp=Z,37nm,1.7s
ECH MLR MLR
comp=Z,507nm,19.0s
ECH Echery 91.49 327 *e*P **P** **17 11 16.5 -0.9**
comp=Z,37nm,1.7s
ECH LR LR
comp=Z,507nm,19.0s
ES19 SONSECA Array 91.72 316 *e*P **P** **17 11 18.0 -0.7**
CAF Calviac 91.73 323 *e*P **P** **17 11 20.1 +1.5**
CAF pmax pmax
comp=Z,25nm,1.0s
ESDC Sonseca Array 91.74 316 P **P** **17 11 20.4 +1.6**
comp=Z,5.0nm,0.9s,baz=129,slow=4.7,SNR=20
ESDC LR LR 17 51 35.6
comp=Z,1µm,21.1s,baz=115,slow=35
ESLA Sonseca Array 91.74 316 *e*P **P** **17 11 18.4 -0.4**
comp=Z,31nm,1.1s
DZM Mont Dzumac 91.87 117 LR LR 17 47 09.0
comp=Z,857nm,18.1s,baz=230,slow=32
DZM Mont Dzumac 91.87 117 *e*SP SP 17 23 32.9 +3.4
comp=Z,320nm,26.6s
DZM *e*SS **SS** **17 28 30.1 +1.9**
comp=Z,1µm,26.8s
DZM Mont Dzumac 91.87 117 *e*LR LR 17 40 45.8
comp=Z,1µm,23.9s
PAB San Pablo 91.90 315 *e*P **P** **17 11 21.1 +1.6**
PAB pmax pmax
comp=Z,15nm,1.0s
PAB MLR MLR
comp=Z,2µm,21.0s
PAB San Pablo 91.90 315 *e*P **P** **17 11 21.1 +1.6**
comp=Z,15nm,1.0s
PAB LR LR
comp=Z,2µm,21.0s
KSAR Wonju Array Be 92.03 47 P **P** **17 11 19.5 -0.6**
KSAR Wonju Array Be 92.03 47 P **P** **17 11 19.4 -0.6**
KS01 Wonju Array Si 92.06 47 *e*P **P** **17 11 18.7 -1.6**
KSRS Korea Array 92.06 47 P **P** **17 11 19.4 -0.8**
comp=Z,5.7nm,1.0s,baz=233,slow=6.0,SNR=13
KSRS LR LR 17 53 40.1
comp=Z,645nm,18.0s,baz=238,slow=36
CHRN Cochrane 92.23 210 *e*P **P** **17 11 20.8 -0.3**
comp=Z,111nm,1.0s
KLMR Klimovskoe 92.26 350 *e*P **P** **17 11 21.8 +1.3**
KLMR *e* 17 15 02.8
KLMR *e*S **SKSac** **17 21 55.4 +3.4**
KLMR pmax pmax
comp=Z,65nm,1.1s
KLMR Klimovskoe 92.26 350 *e*P **P** **17 11 21.9 +1.4**
KLMR AMP 17 11 29.7
comp=Z,65nm,1.1s
KLMR *e*PP **PP** **17 15 02.9 +1.3**
KLMR *e*S **SKSac** **17 21 55.4 +3.4**
KLMR *e*S **SKSac** **17 21 55.4 +3.4**
KLMR LQ LQ 17 43 18.4
KLMR LQ LQ 17 43 18.4
KLMR LR LR 17 49 48.0
BGF Bois d'Agland 92.43 324 *e*P **P** **17 11 23.8 +2.1**
BGF pmax pmax
comp=Z,15nm,0.9s
SACV Santiago Islan 92.53 286 PFAKE 17 11 30.0 +7.1
SACV LR LR
comp=Z,734nm,19.0s
VSU Vasula 92.66 343 *ce*P **P** **17 11 22.3 -0.1**
VSU pmax pmax
comp=Z,28nm,0.9s
PVAQ Vaqueiros 92.71 312 *e*P **P** **17 11 22.5 -0.7**
RCBR Riachuelo 92.74 262 PFAKE 17 11 30.0 +5.9
RCBR LR LR
comp=Z,23µm,19.0s
SPB Sao Paulo 92.75 241 PFAKE 17 11 30.0 +6.1
SPB LR LR
comp=Z,2µm,20.0s
WLF Walferdange 92.99 328 ⇓P **P** **17 11 24.7 +0.5**
comp=Z,23nm,1.0s
WLF Walferdange 92.99 328 *e*P **P** **17 11 24.3 +0.1**
WLF pmax pmax
comp=Z,26nm,0.9s
WLF MLR MLR
comp=Z,850nm,19.0s
WLF Walferdange 92.99 328 *e*P **P** **17 11 24.3 +0.1**
comp=Z,26nm,0.9s
WLF LR LR
comp=Z,850nm,19.0s
PCVE Castro Verde 93.05 312 *e*P **P** **17 11 29.1 +4.3**
comp=Z,61nm,1.7s
HNR Honiara 93.28 103 P **P** **17 11 25.4 -1.0**
comp=Z,20nm,0.7s,baz=188,slow=14,SNR=3.2
HNR LR LR 17 49 09.6
comp=Z,1µm,20.3s,baz=246,slow=33
PESTR Estremoz 93.49 313 *e*P **P** **17 11 30.4 +3.6**
comp=Z,60nm,1.3s
EVO Evora 93.56 313 *e*P **P** **17 11 27.7 +0.6**
comp=Z,40nm,1.5s
TRQA Tornquist 93.57 222 *e*P **P** **17 11 26.9 -0.6**
comp=Z,44nm,1.2s
TRQA LR LR
comp=Z,829nm,21.0s
PNCL Nicolau / Gran 93.64 312 *e*P **P** **17 11 30.0 +2.5**
PMRV Marv??o 93.70 314 *e*P **P** **17 11 30.4 +2.6**
comp=Z,30nm,1.4s
MEM Membach 93.73 329 ⇑P **P** **17 11 28.0 +0.4**
GIVF Givet 93.91 328 *e*P **P** **17 11 31.0 +2.6**
GIVF pmax pmax
comp=Z,21nm,1.0s

BCLA Clavier 93.91 328 ⇑AP **P 17 11 31.2 +2.8**
comp=Z,11nm,1.2s
PCBR Castelo Branco 94.00 314 *e*P **P 17 11 31.3 +2.2**
comp=Z,32nm,1.2s
MFF Saint Martin d 94.00 323 *e*P **P 17 11 31.7 +2.8**
PMTG Montargil 94.01 313 *e*P **P 17 11 32.0 +2.8**
DOU Dourbes 94.01 328 ⇓P **P 17 11 29.4 +0.5**
comp=Z,14nm,1.2s
BAIF Baives 94.17 327 *e*P **P 17 11 32.3 +2.7**
BAIF pmax pmax
comp=Z,18nm,0.9s
MTE Manteigas 94.37 315 PFAKE 17 11 40.0 +9.1
MTE LR LR
comp=Z,2µm,22.0s
CN2 Changchun 94.43 41 *e*P **P 17 11 30.0 -1.0**
CN2 *e*S **S 17 22 39.8 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
MVO Moncorvo 94.50 316 *e*P **P 17 11 35.9 +4.4**
PBRG Braganca 94.71 316 *e*P **P 17 11 36.0 +3.6**
comp=Z,23nm,1.4s
PVIS Viseu 94.77 315 *e*P **P 17 11 35.9 +3.2**
HIA Hailar 94.91 34 PFAKE 17 11 40.0 +6.9
HIA LR LR
comp=Z,1µm,20.0s
POLO Lamas de Olo 95.09 315 *e*P **P 17 11 33.3 -0.9**
FINES FINESS Array B 95.44 344 P **P 17 11 33.6 -1.5**
comp=Z,3.1nm,1.0s,baz=190,slow=6.9,SNR=4.7
FINES PP **PP 17 15 32.2 +5.7**
comp=Z,2.7nm,0.9s,baz=157,slow=20,SNR=4.1
FINES LR LR 17 54 34.9
comp=Z,512nm,20.4s,baz=150,slow=36
TMCR Tamitsa 95.63 350 *e*P **P 17 11 38.2 +2.3**
PLCA Paso Flores 96.27 215 P **P 17 11 39.9 0.0**
comp=Z,3.2nm,0.8s,baz=273,slow=2.1,SNR=6.8
PLCA Paso Flores 96.27 215 *e*P **P 17 11 40.1 +0.2**
PLCA pmax pmax
comp=Z,56nm,1.9s
PLCA Paso Flores 96.27 215 *e*P **P 17 11 40.1 +0.2**
comp=Z,56nm,1.9s
JCJ Chichijima 96.47 63 LR LR 17 52 14.7
comp=Z,1µm,19.1s,baz=154,slow=34
MDJ Mudanjiang 97.30 42 PFAKE 17 11 50.0 +5.8
MDJ LR LR
comp=Z,1µm,19.0s
HFS Hagfors 97.81 338 P **P 17 11 45.5 -0.5**
comp=Z,2.8nm,0.9s,baz=177,slow=11,SNR=3.2
HFS LR LR 17 55 59.7
comp=Z,522nm,19.5s,baz=125,slow=36
CPUP Villa Florida 98.31 233 P **P 17 11 49.0 -0.2**
comp=Z,0.6nm,0.5s,baz=190,slow=6.1,SNR=2.2
CPUP Villa Florida 98.31 233 *e*P **P 17 11 49.0 -0.2**
BOD Bodaibo 98.33 26 *e*P **P 17 11 47.8 -0.5**
BOD pmax pmax
comp=Z,7.0nm,2.3s
MAJO Matsushiro 98.38 53 PFAKE 17 12 00.0 +11
MAJO LR LR
comp=Z,941nm,20.0s
MJAR Matsushiro Arr 98.38 53 P **P 17 11 48.1 -1.1**
comp=Z,1.4nm,0.8s,baz=232,slow=5.9,SNR=3.3
MJAR LR LR 17 56 04.8
comp=Z,638nm,18.7s,baz=250,slow=35
USRK Ussuriysk Ar. 98.48 44 LR LR 17 55 10.9
comp=Z,724nm,19.6s,baz=223,slow=35
RAO Raoul Island 98.77 131 LR LR 17 47 55.5
comp=Z,2µm,21.9s,baz=192,slow=30
NOA NORSAR Array B 99.30 338 P **Pdif 17 11 53.6 +0.9**
comp=Z,2.0nm,0.9s,baz=131,slow=4.3,SNR=2.8
NOA PP PP 17 16 07.1 +11
comp=Z,2.5nm,1.0s,baz=132,slow=7.5,SNR=3.6
NOA LR LR 17 56 26.2
comp=Z,552nm,20.1s,baz=165,slow=35
LVZ Lovozero 99.62 350 PFAKE 17 12 00.0 +6.0
LVZ LR LR
comp=Z,800nm,19.0s
EKA Eskdalemuir Ar 101.00 329 P **Pdif 17 12 00.4 +0.1**
comp=Z,0.4nm,0.5s,baz=114,slow=7.8,SNR=4.1
ESK Eskdalemuir 101.01 328 PFAKE 17 12 10.0 +10
ESK LR LR
comp=Z,722nm,19.0s
KEV Kevo 102.51 349 PFAKE 17 12 20.0 +13
KEV LR LR
comp=Z,961nm,20.0s
ARCES ARCESS Array B 102.58 348 Pdiff **Pdif 17 12 06.7 -0.4**
comp=Z,3.6nm,1.0s,baz=156,slow=4.6,SNR=5.0
ARCES PP **PKiKP 17 16 29.1 +1.1**
comp=Z,4.1nm,0.9s,baz=133,slow=7.1,SNR=4.3
MSVF Nonsavu 103.25 120 PFAKE 17 12 20.0 +8.5
MSVF LR LR
comp=Z,2µm,21.0s
ERM Erimo 104.41 50 PFAKE 17 12 30.0 +14
ERM LR LR
comp=Z,687nm,20.0s
CMLA Cha da Macela 104.97 305 PFAKE 17 12 30.0 +12
CMLA LR LR
comp=Z,3µm,20.0s
LCO Las Campanas 105.10 223 PFAKE 17 16 50.0
LCO LR LR
comp=Z,3µm,21.0s
YSS Yuzh-Sakhalins 106.39 45 *e*P **Pdif 17 12 21.9 -2.6**
YSS Yuzh-Sakhalins 106.39 45 PFAKE 17 16 50.0
YSS LR LR
comp=Z,249nm,21.0s
YAK Yakutsk 107.10 27 PFAKE 17 16 50.0
YAK LR LR
comp=Z,1µm,19.0s
FUNA Funafuti 109.65 113 PFAKE 17 16 50.0
FUNA LR LR
comp=Z,4µm,19.0s
TARA Tarawa 109.90 100 PFAKE 17 16 50.0
TARA LR LR
comp=Z,52nm,19.0s
JMIC Jan Mayen 111.74 341 PKiKP **PKiKP 17 16 43.9 -1.0**
comp=Z,66nm,0.5s,baz=200,slow=4.3,SNR=2.7
TIXI Tiksi 111.81 18 Pdiff **Pdif 17 12 47.3 -0.7**
comp=Z,0.8nm,0.3s,baz=102,slow=1.9,SNR=4.2
TIXI PKiKP **PKiKP 17 16 44.4 -0.7**
comp=Z,0.9nm,0.3s,baz=225,slow=1.8,SNR=10
TIXI PP **PP 17 17 32.0 +3.6**
comp=Z,7.3nm,1.1s,baz=246,slow=1.4,SNR=3.9
TIXI Tiksi 111.81 18 P **Pdif 17 12 47.3 -0.7**
TIXI *i* 17 16 44.4
TIXI 17 17 32.0
TIXI MLR MLR
comp=Z,806nm,19.0s
TIXI Tiksi 111.81 18 Pdif **Pdif 17 12 47.3 -0.7**
TIXI PKiKP **PKiKP 17 16 44.4 -0.7**
TIXI PP **PP 17 17 32.0 +3.6**
TIXI LR LR
comp=Z,806nm,19.0s
KBS Kingsbay 112.27 351 PFAKE 17 17 00.0
KBS LR LR
comp=Z,478nm,21.0s
LPAZ La Paz 112.45 234 PKiKP **PKiKP 17 16 48.1 -0.6**
comp=Z,0.7nm,0.7s,baz=37,slow=5.1,SNR=3.0
WAKE Wake Island 112.94 80 PFAKE 17 17 00.0
WAKE LR LR
comp=Z,947nm,21.0s
SAML Samuel 113.54 244 PFAKE 17 17 00.0
SAML LR LR
comp=Z,2µm,20.0s
SEY Seymchan 117.12 31 *i* PKiKP **PKPdf 17 16 54.9 -0.5**
PETK Petropavlovsk- 117.54 42 PKP **PKPdf 17 16 55.2 -1.4**
comp=Z,1.9nm,0.6s,baz=180,slow=1.4,SNR=3.2
PET Petropavlovsk 118.08 43 PFAKE 17 17 10.0 +12
PET LR LR
comp=Z,630nm,19.0s
NNA Nana 121.46 231 PFAKE 17 17 20.0 +15
NNA LR LR
comp=Z,4µm,19.0s
BBGH Gun Hill 122.50 267 PFAKE 17 17 20.0 +13
BBGH LR LR
comp=Z,3µm,20.0s
BILL Bilibino 123.39 26 *i* PKiKP **PKPdf 17 17 06.2 -1.2**
BILL *i* 17 18 48.5
BILL pmax pmax
comp=Z,3.0nm,1.0s
GRGR Grenville 123.84 264 PFAKE 17 17 20.0 +10
GRGR LR LR
comp=Z,5µm,20.0s
PPT2 Papeete2 124.36 144 *e*SS SS 17 35 53.6 +7.6
comp=Z,1µm,28.8s
PPT2 Papeete2 124.36 144 *e*LR LR 17 55 54.9
comp=Z,810nm,21.2s
FDF Fort de France 124.59 268 PFAKE 17 17 20.0 +8.7
FDF LR LR
comp=Z,3µm,19.0s
RKT Rikitea 125.00 162 *e*SS SS 17 36 06.7 +14
comp=Z,1µm,34.8s
RKT Rikitea 125.00 162 *e*LR LR 17 56 02.3
comp=Z,1µm,35.8s
SFJD Kangerlussuaq 125.62 333 PFAKE 17 17 20.0 +8.4
SFJD LR LR
comp=Z,2µm,21.0s
ANWB Willy Bob 126.40 270 PFAKE 17 17 30.0 +15
ANWB LR LR
comp=Z,3µm,19.0s
SDV Santo Domingo 129.89 255 PKP **PKPdf 17 17 22.1 +0.5**
comp=Z,1.4nm,0.4s,baz=188,slow=7.1,SNR=2.6
SDV Santo Domingo 129.89 255 PKP **PKPdf 17 17 22.1 +0.5**
SDV LR LR
comp=Z,15µm,20.0s
CHIC Chingaza 130.09 249 *e*P **PKPdf 17 17 19.1 -3.2**
HUMP Col San Antoni 130.12 269 *e*PKPdf **PKPdf 17 17 23.6 +1.9**
SJG San Juan 130.37 269 PFAKE 17 17 30.0 +7.8
SJG LR LR
comp=Z,5µm,21.0s
CRUC La Cruz 130.77 243 *e*P **PKPdf 17 17 30.3 +6.7**
SOTA Rioblanco 130.86 244 *e*P **PKPdf 17 17 20.9 -3.1**
OTAV Otavalo 131.06 240 PKiKP **PKPdf 17 17 27.3 +3.0**
OTAV Otavalo 131.06 240 *e*PKPdf **PKPdf 17 17 21.7 -2.6**
OTAV LR LR
comp=Z,31µm,22.0s
OTAV Otavalo 131.06 240 *e*P **PKPdf 17 17 23.9 -0.5**
RREF El Recreo 131.55 248 *e*P **PKPdf 17 17 28.5 +3.1**
PTBC PUERTO BERRIO 131.78 250 *e*P **PKPdf 17 17 23.9 -1.2**
YOTC Yotoco, Valle 131.79 246 *e*P **PKPdf 17 17 19.7 -5.5**
ZARC Zaragoza, Cauc 132.64 251 *e*P **PKPdf 17 17 22.7 -4.0**
BBSR BB Station 133.63 287 PFAKE 17 17 40.0 +12
BBSR LR LR
comp=Z,10µm,22.0s
FRB Frobisher Bay 133.66 332 PKP **PKPdf 17 17 25.9 -1.1**
comp=Z,4.1nm,1.0s,baz=90,slow=9.1,SNR=2.2
RES Resolute Bay 133.69 351 PKP **PKPdf 17 17 26.8 0.0**
comp=Z,2.2nm,0.9s,baz=124,slow=2.4,SNR=7.5
RES Resolute Bay 133.69 351 *e*PKPdf **PKPdf 17 17 25.5 -1.3**
MOTC Monteria, Cord 134.02 252 *e*P **PKPdf 17 17 24.5 -4.7**
XMAS Kiritimati 134.38 120 PFAKE 17 17 40.0 +10
XMAS LR LR
comp=Z,3.0nm,20.0s
SDDR Presa de Saban 135.17 267 PFAKE 17 17 40.0 +8.7
SDDR LR LR
comp=Z,7µm,20.0s
GRTK Grand Turk 136.00 271 PFAKE 17 17 40.0 +7.3
GRTK LR LR
comp=Z,7µm,19.0s
TAOE Nuku Hiva Isla 136.41 149 *e*LR LR 18 01 23.6
comp=Z,842nm,25.2s
TOLK Toolik Lake Re 137.62 16 P **PKPdf 17 17 36.3 +1.9**
baz=320
TOLK Toolik Lake Re 137.62 16 *e*PKPdf **PKPdf 17 17 33.3 -1.1**
BCIP Isla Barro Col 137.64 249 PFAKE 17 17 50.0 +14
BCIP LR LR
comp=Z,26µm,21.0s
PKME Peaks-Kenny Pk 138.25 306 PFAKE 17 17 50.0 +14
PKME LR LR
comp=Z,7µm,19.0s
IM3 Indian Mountai 138.42 20 *e*PKPdf **PKPdf 17 17 34.6 -1.2**
COLD Coldfoot 138.53 18 *e*PKPdf **PKPdf 17 17 36.8 +0.8**
GTBY Guantanamo Bay 138.85 266 PFAKE 17 17 50.0 +12
GTBY LR LR
comp=Z,6µm,20.0s
MLY Manley 139.99 20 *e*PKPpre PKPpre 17 17 29.6
MTDJ Mount Denham 140.25 262 PFAKE 17 17 50.0 +9.3
MTDJ LR LR
comp=Z,8µm,20.0s
BPAW Bear Paw Mtn. 140.57 21 *e*PKPpre PKPpre 17 17 32.6
CAST Castle Rocks 140.69 23 *e*PKPpre PKPpre 17 17 32.6
MDM Murphy Dome 140.77 19 *e*PKPpre PKPpre 17 17 33.2
INK Inuvik 140.87 8 PKhKP PKPpre 17 17 35.2
comp=Z,1.7nm,0.9s,baz=88,slow=3.7,SNR=4.7
INK PKP **PKPdf 17 17 40.7 +0.5**
comp=Z,3.9nm,0.8s,baz=351,slow=5.3,SNR=12
INK PP PP 17 20 54.9 +14
comp=Z,2.9nm,1.0s,baz=342,slow=7.6,SNR=3.8
INK Inuvik 140.87 8 PKiKP PKPpre 17 17 35.3
INK 17 17 40.7
INK pmax pmax
comp=Z,2.0nm,0.9s
INK pmax pmax
comp=Z,6.0nm,0.9s
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 140.87 8 *e*PKPpre PKPpre 17 17 33.8
INK *e*PKPdf **PKPdf 17 17 40.0 -0.2**
INK PP PP 17 20 54.9 +14
COLA College 140.94 19 PFAKE 17 17 50.0 +10
COLA LR LR
comp=Z,3µm,20.0s
KTH Kantishna Hill 140.98 22 *e*PKPdf **PKPdf 17 17 41.2 +0.5**
PPLA Purkeypile 141.00 23 *e*PKPpre PKPpre 17 17 34.1
PPLA *e*PKPdf **PKPdf 17 17 41.2 +0.4**
WRH Wood River Hil 141.18 19 *e*PKPpre PKPpre 17 17 34.0
TRF Thorofare Moun 141.25 22 *e*PKPpre PKPpre 17 17 34.2
TRF *e*PKPdf **PKPdf 17 17 40.8 -0.5**
IL1 Eielson Array 141.28 18 *e*PKPpre PKPpre 17 17 34.6
IL1 *e*PKPdf **PKPdf 17 17 40.4 -0.7**
ILAR Eielson Array 141.28 18 PKhKP PKPpre 17 17 34.9
comp=Z,3.0nm,1.0s,baz=277,slow=3.1,SNR=5.8
ILAR PKP **PKPdf 17 17 41.9 +0.8**
comp=Z,2.8nm,0.8s,baz=300,slow=2.9,SNR=13
ILAR PP PP 17 20 60.0 +16
comp=Z,3.3nm,1.1s,baz=318,slow=6.2,SNR=5.7
ILB Eielson Array 141.28 18 *e*PKPdf **PKPdf 17 17 40.0 -1.1**
RND Reindeer 141.74 21 *e*PKIKP PKPpre 17 17 38.0
RND Reindeer 141.74 21 *e*PKPpre PKPpre 17 17 38.0
LONY Lake Ozonia 142.05 305 PFAKE 17 17 50.0 +6.9
LONY LR LR
comp=Z,9µm,19.0s
JTS JuntasAbangare 142.38 246 PFAKE 17 18 00.0 +15
JTS LR LR
comp=Z,28µm,21.0s
DHY Denali Highway 142.43 21 *e*PKPdf **PKPdf 17 17 40.9 -2.5**
SUA Susitna One 142.47 24 *e*PKPpre PKPpre 17 17 39.6
SCRK Sand Creek 142.69 18 *e*PKPpre PKPpre 17 17 40.1
EGAK Eagle 142.72 15 PFAKE 17 17 50.0 +6.4
EGAK LR LR
comp=Z,5µm,21.0s
DOT Dot Lake 142.94 18 *e*PKPpre PKPpre 17 17 39.3
DOT *e*PKPdf **PKPdf 17 17 42.9 -1.2**
PMR Palmer 142.94 23 *e*PKIKP **PKPdf 17 17 43.3 -0.8**
PMR Palmer 142.94 23 *e*PKPdf **PKPdf 17 17 43.3 -0.8**
PAX Paxson 143.08 20 *e*PKIKP PKPbc 17 17 41.4 0.0
PAX Paxson 143.08 20 *e*PKPdf PKPbc 17 17 41.4 +0.1
RC01 Rabbit Creek A 143.08 24 *e*PKPdf PKPbc 17 17 41.5 +0.2
N59A State Game Lan 143.24 299 P PKPbc 17 17 42.6 +0.2
baz=87
N59A State Game Lan 143.24 299 *e*PKPpre PKPpre 17 17 41.7
BINY Binghamton 143.32 301 P PKPbc 17 17 43.8 +1.2
baz=85
BINY Binghamton 143.32 301 PFAKE 17 18 00.0 +15
BINY LR LR
comp=Z,7µm,20.0s
SCM Sheep Creek Mo 143.37 22 *e*PKIKP PKPbc 17 17 42.5 +0.3
SCM Sheep Creek Mo 143.37 22 *e*PKPdf PKPbc 17 17 42.5 +0.3
MENT Mentasta 143.60 19 *e*PKPdf **PKPdf 17 17 45.0 -0.3**
MVL Millersville 143.73 298 *e*PKPdf PKPbc 17 17 44.7 +1.0
DAWY Dawson 143.73 15 *e*PKPdf **PKPdf 17 17 45.2 -0.3**
PAGS Pennsylvania G 144.00 298 *e*PKPdf PKPbc 17 17 45.2 +0.6
KLU Klutina 144.07 21 *e*PKPdf PKPbc 17 17 44.5 +0.2
KDAK Kodiak Island 144.07 30 PKP PKPbc 17 17 45.1 +0.9
comp=Z,5.2nm,0.7s,baz=193,slow=13,SNR=5.1
KDAK Kodiak Island 144.07 30 PKIKP PKPbc 17 17 45.1 +0.9
KDAK MLR MLR
comp=Z,3µm,19.0s
KDAK Kodiak Island 144.07 30 PKP PKPbc 17 17 45.1 +0.9
KDAK LR LR
comp=Z,3µm,19.0s
OHAK Old Harbor 144.09 31 *e*PKPdf **PKPdf 17 17 46.8 +0.5**
SDMD Soldier's Deli 144.12 297 *e*PKPdf PKPbc 17 17 45.6 +0.6
KIP Kipapa 144.28 95 PFAKE 17 18 00.0 +12
KIP LR LR
comp=Z,17µm,19.0s
DIV Divide 144.39 22 *e*PKPdf **PKPdf 17 17 46.5 -0.3**
CBN Corbin Frederi 144.56 295 PFAKE 17 18 00.0 +12
CBN LR LR
comp=Z,9µm,20.0s
MMNY Mt. Morris Dam 144.68 302 *e*PKPdf **PKPdf 17 17 48.3 +0.5**
URVA University of 144.69 294 *e*PKPdf **PKPdf 17 17 47.5 -0.5**
PTRD Partlow Road 144.76 294 *e*PKPdf PKPbc 17 17 47.5 +0.4
IP05 Hopewell Churc 144.87 294 *e*PKPdf **PKPab 17 17 47.2 -0.1**
SSPA Standing Stone 144.87 299 P **PKPdf 17 17 48.1 -0.1**
baz=86
SSPA Standing Stone 144.87 299 *e*PKPdf **PKPdf 17 17 47.9 -0.3**
BMRM Bremner River 144.89 21 *e*PKPdf **PKPab 17 17 46.6 -0.2**
CNNC Cliffs of the 144.90 289 PFAKE 17 18 00.0 +12
CNNC LR LR
comp=Z,8µm,19.0s
CVRD Centerville Ro 144.91 294 *e*PKPdf **PKPab 17 17 47.0 -0.5**
SPRD Spring Road, M 144.96 294 *e*PKPdf **PKPdf 17 17 48.1 -0.3**
IP01 Cuckoo 144.99 294 *e*PKPbc **PKPdf 17 17 48.5 0.0**
IP06 Yanceyville 145.04 294 *e*PKPbc **PKPdf 17 17 48.9 +0.4**
IP03 Louisa 145.07 294 *e*PKPbc **PKPbc 17 17 47.9 -0.2**
IP04 Greensprings 145.13 294 *e*PKPbc **PKPdf 17 17 48.8 +0.1**
SADO Sadowa 145.24 306 PKPbc **PKPbc 17 17 48.0 -0.4**
comp=Z,45nm,1.0s,baz=93,slow=2.6,SNR=13
SADO Sadowa 145.24 306 *e*PKPbc **PKPbc 17 17 47.8 -0.6**
O56A Blue Knob Stat 145.41 298 P **PKPab 17 17 50.3 +0.9**
baz=86
O56A Blue Knob Stat 145.41 298 *e*PKPbc **PKPab 17 17 49.4 0.0**
POHA Pohakuloa 145.75 99 PFAKE 17 18 00.0 +8.6
POHA LR LR
comp=Z,13µm,20.0s
M54A Oil Creek Stat 146.12 301 P **PKPab 17 17 52.2 +0.2**
baz=83
M54A Oil Creek Stat 146.12 301 *e*PKPdf **PKPab 17 17 51.6 -0.3**
959A Okeechobee 146.28 275 P **PKPbc 17 17 52.3 +0.1**
baz=104
TGUH Tegucigalpa,Un 146.40 249 *e*PKPdf **PKPbc 17 17 52.5 -0.3**
N54A Moraine State 146.43 300 P **PKPab 17 17 53.8 +0.7**
baz=84
MCWV Mont Chateau 146.43 297 P **PKPab 17 17 53.8 +0.6**
baz=86
ALLY Alegheny Colle 146.46 301 *e*PKPbc **PKPbc 17 17 51.9 -0.4**
FCC Fort Churchill 146.54 336 *e*PKP2 **PKPdf 17 17 50.8 +0.4**
FCC Fort Churchill 146.54 336 *e*PKPdf **PKPdf 17 17 50.8 +0.4**
NHSC New Hope 146.62 285 PFAKE 17 18 00.0 +5.9
NHSC LR LR
comp=Z,9µm,20.0s
VWCC Virginia Weste 146.64 293 *e*PKPbc **PKPbc 17 17 53.4 +0.4**
BLA Blacksburg 146.99 293 P **PKPbc 17 17 54.3 +0.3**
baz=89
BLA Blacksburg 146.99 293 *e*PKIKP **PKPdf 17 17 51.1 -0.9**
BLA MLR MLR
comp=Z,9µm,19.0s
BLA Blacksburg 146.99 293 *e*PKPdf **PKPdf 17 17 51.1 -0.9**
BLA LR LR
comp=Z,9µm,19.0s
YKW3 Yellowknife Ar 147.39 356 *e*PKPbc **PKPbc 17 17 53.9 -0.3**
YKA Yellowknife Ar 147.45 356 PKPbc **PKPbc 17 17 53.4 -0.9**
P comp=Z,13nm,0.6s,baz=351,slow=3.2,SNR=193
YKA PP **PP 17 21 25.0 +4.9**
comp=Z,4.1nm,1.0s,baz=5.9,slow=6.0,SNR=3.8
JSC Jenkinsville 147.61 287 *e*PKP2 **PKPbc 17 17 54.7 -1.0**
JSC Jenkinsville 147.61 287 *e*PKPbc **PKPbc 17 17 54.7 -1.0**
KMSC Kings Mountain 147.71 289 P **PKPbc 17 17 54.9 -1.1**
baz=92
KMSC Kings Mountain 147.71 289 *e*PKPbc **PKPbc 17 17 56.2 +0.2**
WHY Whitehorse 147.73 14 *e*PKPbc **PKPbc 17 17 54.8 -0.6**
256A Glennville 147.93 283 P **PKPbc 17 17 57.8 +1.1**
baz=97
656A Willston 148.09 278 P **PKPbc 17 17 57.9 +0.7**
baz=100
556A Lake Butler 148.09 279 P **PKPbc 17 17 58.0 +0.8**
baz=100
HODGE Hodges 148.43 287 *e*PKPbc **PKPbc 17 17 58.6 +0.7**
155A Kite 148.49 284 P **PKPbc 17 17 58.5 +0.4**
baz=95
SKAG Skagway 148.71 16 *e*PKPbc **PKPbc 17 17 57.8 +0.1**
455A Stateville 148.74 281 P **PKPbc 17 17 59.1 +0.3**
baz=98
ACSO Alum Creek Sta 148.78 299 P **PKPbc 17 17 59.8 +1.2**
baz=82
ACSO Alum Creek Sta 148.78 299 *e*PKPbc **PKPbc 17 17 58.1 -0.5**
ACSO LR LR
comp=Z,5µm,19.0s
AAM Ann Arbor 148.94 303 PFAKE 17 18 10.0 +7.0
AAM LR LR
comp=Z,8µm,21.0s
GLMI Grayling 149.01 308 PFAKE 17 18 10.0 +6.7
GLMI LR LR
comp=Z,4µm,19.0s
254A Abbeville 149.12 283 P **PKPbc 17 18 00.2 +0.5**
baz=96
GOGA Godfrey 149.39 286 *e*PKP2 **PKPbc 17 18 01.0 +0.6**
GOGA MLR MLR
comp=Z,8µm,22.0s
GOGA Godfrey 149.39 286 *e*PKPbc **PKPbc 17 18 01.0 +0.6**
GOGA LR LR
comp=Z,8µm,22.0s
TZTN Tazewell 149.51 292 P **PKPbc 17 18 01.5 +0.9**
baz=88
TZTN Tazewell 149.51 292 *e*PKPbc **PKPbc 17 18 01.0 +0.4**
TKL Tuckaleechee C 149.71 290 PKPbc **PKPbc 17 18 01.4 +0.3**
comp=Z,5.3nm,0.8s,baz=156,slow=4.9,SNR=4.5
TKL Tuckaleechee C 149.71 290 *e*PKP2 **PKPbc 17 18 00.8 -0.3**
TKL Tuckaleechee C 149.71 290 *e*PKPbc **PKPbc 17 18 00.8 -0.3**
353A Camilla 149.83 281 P **PKPbc 17 18 02.0 +0.5**
baz=97
TEIG Tepich 150.27 258 PFAKE 17 18 10.0 +0.9
TEIG LR LR
comp=Z,10.0nm,20.0s
CPCT Cooper Cave 150.32 290 *e*PKPbc **PKPbc 17 18 01.1 -1.5**
352A Blakely 150.45 282 P **PKPbc 17 18 04.0 +1.0**
baz=96
DLBC Dease Lake 150.74 11 *e*PKPbc **PKPbc 17 18 03.3 +0.4**
D41A Chassel 150.82 314 P **PKPbc 17 18 05.1 +1.7**
baz=65
151A Opelika 150.89 284 P **PKPbc 17 18 04.5 +0.4**
baz=94
251A Midway 150.92 283 P **PKPbc 17 18 04.8 +0.7**
baz=95
G43A Wallace 150.94 310 P **PKPbc 17 18 04.6 +0.9**
baz=69
X50A Fort Payne 151.24 288 P **PKPbc 17 18 05.5 +0.7**
baz=91
Y50A Piedmont 151.30 286 P **PKPbc 17 18 05.4 +0.4**
baz=92
E41A Kenton 151.31 313 P **PKPbc 17 18 05.4 +0.9**
baz=66
Z50A Ashland 151.43 285 P **PKPbc 17 18 05.7 +0.4**
baz=93
G42A Mountain 151.44 311 P **PKPbc 17 18 06.1 +1.2**
baz=68
G42A Mountain 151.44 311 *e*PKPbc **PKPbc 17 18 05.2 +0.3**
S48A Wiedeman Farm, 151.45 294 P **PKPbc 17 18 05.0 -0.2**
baz=84
SWET Sewanee 151.47 289 *e*PKPbc **PKPbc 17 18 05.5 +0.2**
150A Eclectic 151.48 284 P **PKPbc 17 18 05.9 +0.5**
baz=94
COWI Conover 151.57 313 *e*PKPbc **PKPbc 17 18 05.2 0.0**
COWI LR LR
comp=Z,14µm,22.0s
WCI Wyandotte Cave 151.57 295 P **PKPbc 17 18 05.0 -0.4**
baz=83
WCI Wyandotte Cave 151.57 295 *e*PKIKP **PKPbc 17 18 03.8 -1.6**
WCI Wyandotte Cave 151.57 295 *e*PKPbc **PKPbc 17 18 03.8 -1.6**
BLO Bloomington 151.63 297 *e*PKIKP **PKPbc 17 18 03.6 -1.9**
BLO *e* 17 18 13.6
BLO Bloomington 151.63 297 *e*PKPbc **PKPbc 17 18 03.6 -1.9**
BLO *e*PKPab **PKPab 17 18 13.6 -0.7**
250A Grady 151.64 282 P **PKPbc 17 18 05.9 +0.1**
baz=95
F41A Three Lakes 151.69 312 P **PKPbc 17 18 06.9 +1.4**
baz=67
I43A Langenfeld Bro 151.71 308 P **PKPbc 17 18 06.3 +0.8**
baz=71
R47A Wooly Knot Far 151.75 296 P **PKPbc 17 18 04.5 -1.3**
baz=83
T48A Bowling Green 151.76 293 P **PKPbc 17 18 04.7 -1.2**
baz=85
X49A Woodville 151.80 288 P **PKPbc 17 18 06.5 +0.5**
baz=90
SFIN Lafayette 151.86 300 *e*PKPbc **PKPbc 17 18 06.6 +0.6**
Y49A Blount Mountai 151.86 286 P **PKPbc 17 18 06.6 +0.4**
baz=91
E40A Wakefield 151.91 314 P **PKPbc 17 18 05.9 0.0**

baz=65
Z49A Columbiana 151.94 285 P **PKPbc 17 18 06.6 +0.2**
baz=92
J43A Natural Harves 152.06 307 P **PKPbc 17 18 08.8 +2.4**
baz=72
N45A Kentland 152.07 301 P **PKPbc 17 18 07.4 +0.9**
baz=77
149A Jones 152.12 284 P **PKPbc 17 18 07.4 +0.6**
baz=94
WRAK Wrangell Islan 152.15 15 *e*PKPab **PKPab 17 18 15.0 -0.7**
WRAK LR LR
comp=Z,6µm,21.0s
EYMN Ely 152.18 318 P **PKPbc 17 18 07.0 +0.5**
baz=60
EYMN Ely 152.18 318 *e*PKPbc **PKPbc 17 18 06.5 0.0**
EYMN LR LR
comp=Z,33µm,19.0s
BRAL Brewton 152.22 280 *e*PKPab **PKPab 17 18 16.4 -0.5**
BRAL LR LR
comp=Z,7µm,19.0s
I42A Draeger Farm, 152.23 308 P **PKPbc 17 18 09.0 +2.3**
baz=70
W48A Pulaski 152.30 289 P **PKPbc 17 18 07.6 +0.4**
baz=89
LRAL Lakeview Retre 152.32 284 P **PKPbc 17 18 07.2 -0.1**
baz=93
LRAL Lakeview Retre 152.32 284 *e*PKPbc **PKPbc 17 18 08.1 +0.8**
T47A Sharon Grove 152.34 293 P **PKPbc 17 18 07.0 -0.2**
baz=85
E39A Mellen 152.35 314 P **PKPbc 17 18 07.3 +0.3**
baz=64
249A Camden 152.36 282 P **PKPbc 17 18 07.5 +0.1**
baz=95
X48A Hartselle 152.40 288 P **PKPbc 17 18 07.7 +0.3**
baz=90
FFC Flin Flon 152.40 338 *e*PKIKP **PKPbc 17 18 05.9 -0.8**
FFC Flin Flon 152.40 338 *e*PKPbc **PKPbc 17 18 05.9 -0.8**
Y48A Jasper 152.50 286 P **PKPbc 17 18 07.9 +0.2**
baz=91
U47A Clarksville 152.53 292 P **PKPbc 17 18 07.7 +0.1**
baz=86
N44A Piper City 152.54 301 P **PKPbc 17 18 08.9 +1.4**
baz=77
V47A Nunnelly 152.75 291 P **PKPbc 17 18 08.1 0.0**
baz=87
F39A Loretta 152.78 313 P **PKPbc 17 18 07.7 -0.2**
baz=64
Z48A Northport 152.80 285 P **PKPbc 17 18 08.2 -0.1**
baz=92
E38A The Farm, Brul 152.86 315 P **PKPbc 17 18 08.7 +0.7**
baz=62
OLIL Olney 152.91 297 *e*PKPbc **PKPbc 17 18 08.0 -0.4**
Q45A Warren Harvey, 152.93 297 P **PKPbc 17 18 08.0 -0.5**
baz=80
WVT Waverly 152.98 291 P **PKPbc 17 18 07.7 -1.0**
baz=86
WVT Waverly 152.98 291 *e*PKIKP **PKPbc 17 18 08.2 -0.4**
WVT Waverly 152.98 291 *e*PKPbc **PKPbc 17 18 08.2 -0.4**
Y47A UCPARC, Winfie 153.06 286 P **PKPbc 17 18 08.4 -0.5**
baz=90
X47A Russelville 153.07 288 P **PKPbc 17 18 08.0 -0.9**
baz=89
R45A Skylar, Fairfi 153.12 296 P **PKPbc 17 18 09.0 +0.2**
baz=82
P44A Sand Creek, Wi 153.18 299 P **PKPbc 17 18 09.1 +0.2**
baz=79
ULM Lac du Bonnet 153.23 325 PKPbc **PKPbc 17 18 08.0 -0.7**
comp=Z,20nm,1.0s,baz=36,slow=3.1,SNR=13
ULM PKPab **PKPab 17 18 20.8 +0.2**
comp=Z,29nm,0.9s,baz=22,slow=4.8,SNR=12
B35A Bob, Littlefor 153.24 320 P **PKPbc 17 18 09.2 +0.3**
baz=56
PLAL Pickwick Lake 153.24 289 *e*PKPbc **PKPbc 17 18 09.3 0.0**
HDIL Hopedale 153.46 301 PFAKE 17 18 10.0 +0.5
HDIL LR LR
comp=Z,25µm,21.0s
JFWS Jewell Farm 153.47 307 *e*PKIKP **PKPbc 17 18 10.5 +1.0**
JFWS MLR MLR
comp=Z,16µm,19.0s
JFWS Jewell Farm 153.47 307 *e*PKPbc **PKPbc 17 18 10.5 +1.0**
JFWS LR LR
comp=Z,16µm,19.0s
Y46A Houston 153.90 286 P **PKPbc 17 18 11.2 +0.5**
baz=90
CMIG Matias Romero 154.16 245 PKPbc **PKPbc 17 18 11.8 0.0**
comp=Z,7.2nm,0.8s,baz=60,slow=4.9,SNR=3.3
CMIG PKPab **PKPab 17 18 26.1 +0.7**
comp=Z,15nm,0.9s,baz=6.4,slow=3.7,SNR=5.8
R43A Red Bud 154.40 296 P **PKPbc 17 18 12.1 +0.4**
baz=80
AGMN Agassiz Nation 154.44 322 *e*PKPbc **PKPbc 17 18 10.8 -0.6**
AGMN LR LR
comp=Z,21µm,20.0s
S43A Fulton Ridge, 154.62 295 P **PKPbc 17 18 10.6 -1.6**
baz=82
FVM French Village 154.83 296 *e*PKIKP **PKPbc 17 18 12.2 -0.4**
FVM French Village 154.83 296 *e*PKPbc **PKPbc 17 18 12.2 -0.4**
T43A Greenville 154.86 294 P **PKPbc 17 18 11.8 -0.8**
baz=82
S42A Caledonia 155.16 296 P PKPdf 17 18 15.3 +11
baz=80
SCIA State Center 155.88 306 PFAKE 17 18 20.0 -12
SCIA LR LR
comp=Z,24µm,20.0s
Q40A Laux Farm, Aux 155.90 299 P **PKPab 17 18 31.9 -0.5**
baz=76
S41A Jilco Farms, 155.93 295 P **PKPab 17 18 32.8 +0.2**
baz=80
T41A Mountain View 156.03 294 P **PKPab 17 18 33.7 +0.7**
baz=81
R40A Maddies Statio 156.21 297 P **PKPab 17 18 34.4 +0.7**
baz=78
P39B Salisbury 156.29 300 P **PKPab 17 18 34.2 +0.1**
baz=75
EDM Edmonton 156.48 351 *e*PKIKP **PKPdf 17 18 05.5 -0.2**
EDM *e* 17 18 07.7
EDM Edmonton 156.48 351 *e*PKPdf **PKPdf 17 18 05.5 -0.2**
EDM *e*PKPdf **PKPdf 17 18 07.7 +2.0**
V41A Mountainview 156.51 291 P **PKPab 17 18 35.1 -0.1**
baz=84
Q39A Willow Grove F 156.57 299 P **PKPab 17 18 35.9 +0.7**
baz=76
X40A Basin Creek Fa 157.18 288 P **PKPab 17 18 38.8 +0.8**
baz=86
ECSD EROS Data Cent 157.38 313 PFAKE 17 18 20.0 +13
ECSD LR LR
comp=Z,30µm,19.0s
R38A Fenwick Farm, 157.49 298 P **PKPab 17 18 39.4 +0.2**
baz=76
V39A Pettigrew 157.71 292 P **PKPab 17 18 40.5 +0.1**
baz=82
HHAR Hobbs 157.88 293 *e*PKPdf **PKPdf 17 18 09.4 +1.4**
NATX Nacogdoches 158.75 281 PFAKE 17 18 20.0 +11
NATX LR LR
comp=Z,21µm,21.0s
KSU1 Kansas State U 159.27 302 PFAKE 17 18 20.0 +10
KSU1 LR LR
comp=Z,19µm,22.0s
LAO LASA Array 160.54 332 PFAKE 17 18 20.0 +9.2
LAO LR LR
comp=Z,23µm,19.0s
EGMT Eagleton 160.64 340 PFAKE 17 18 20.0 +9.1
EGMT LR LR
comp=Z,11µm,19.0s
KVTX Kingsville 161.01 268 PFAKE 17 18 20.0 +8.2
KVTX LR LR
comp=Z,25µm,21.0s
WHTX Lake Whitney, 161.13 281 *e*PKPdf **PKPdf 17 18 13.3 +1.5**
RSSD Black Hills 161.46 323 *e*PKIKP **PKPdf 17 18 14.3 +2.2**
RSSD Black Hills 161.46 323 *e*PKPdf **PKPdf 17 18 14.3 +2.2**
CBKS Cedar Bluff 161.65 304 PFAKE 17 18 20.0 +7.8
CBKS LR LR
comp=Z,45µm,20.0s
NEW Newport 161.78 355 PKP **PKPdf 17 18 12.5 +0.5**
comp=Z,2.4nm,0.8s,baz=73,slow=2.2,SNR=4.4
NEW PKPab **PKPab 17 18 58.6 +1.2**
comp=Z,7.0nm,0.9s,baz=37,slow=4.6,SNR=6.0
NEW Newport 161.78 355 *e*PKIKP **PKPdf 17 18 12.5 +0.5**
NEW MLR MLR
comp=Z,11µm,21.0s
NEW Newport 161.78 355 *e*PKPdf **PKPdf 17 18 12.5 +0.5**
NEW PKPab **PKPab 17 18 58.6 +1.2**
NEW LR LR
comp=Z,11µm,21.0s
JTMT Jette 161.95 349 *e*PKPdf **PKPdf 17 18 11.4 -1.0**
WMOK Wichita Mounta 162.02 290 *e*PKIKP **PKPdf 17 18 12.9 +0.2**
WMOK MLR MLR
comp=Z,33µm,21.0s
WMOK Wichita Mounta 162.02 290 *e*PKPdf **PKPdf 17 18 12.9 +0.2**
WMOK LR LR
comp=Z,33µm,21.0s
OGNE Ogallala 162.25 312 PFAKE 17 18 20.0 +7.2
OGNE LR LR
comp=Z,20µm,22.0s
NLWA Neilton Lookou 162.39 10 PFAKE 17 18 20.0 +7.3
NLWA LR LR
comp=Z,12µm,22.0s
MSO Missoula 162.78 347 *e*PKPdf **PKPdf 17 18 11.6 -1.6**
RLMT Red Lodge 163.03 335 P **PKPab 17 19 06.3 +3.0**
baz=31
RLMT Red Lodge 163.03 335 PFAKE 17 18 20.0 +6.4
RLMT LR LR
comp=Z,11µm,21.0s
JCT Junction City 163.09 276 *e*PKIKP **PKPdf 17 18 15.7 +1.8**
JCT MLR MLR
comp=Z,65µm,19.0s
JCT Junction City 163.09 276 *e*PKPdf **PKPdf 17 18 15.7 +1.8**
JCT LR LR
comp=Z,65µm,19.0s
BOZ Bozeman (W) 163.38 341 PFAKE 17 18 20.0 +6.1
BOZ LR LR
comp=Z,8µm,21.0s
HAWA Hanford 163.74 0 PFAKE 17 18 20.0 +6.0
HAWA LR LR
comp=Z,6µm,19.0s
K22A Casper 163.78 324 P **PKPab 17 19 06.3 -0.4**
baz=43
YHH Holmes Hill 163.87 338 *e*PKPdf **PKPdf 17 18 14.9 +0.4**
LKWY Lake 163.92 336 PFAKE 17 18 30.0 +15
LKWY LR LR
comp=Z,5µm,21.0s
H17A Grant Village 164.13 336 *e*PKPdf **PKPdf 17 18 15.5 +0.7**
MOOW Moose Ponds 164.75 336 *e*PKPdf **PKPdf 17 18 14.4 -0.8**
FXWY Fox Creek 164.94 336 *e*PKPdf **PKPdf 17 18 15.7 +0.2**
TPAW Teton Pass 165.05 336 *e*PKPdf **PKPdf 17 18 15.0 -0.6**
BW06 Boulder Array 165.11 331 PFAKE 17 18 30.0 +14
BW06 LR LR
comp=Z,11µm,21.0s
PD31 Pinedale Array 165.11 331 *e*PKPdf **PKPdf 17 18 14.7 -1.0**
PDAR Pinedale Array 165.11 331 PKP **PKPdf 17 18 15.4 -0.2**
comp=Z,2.5nm,1.0s,baz=117,slow=2.0,SNR=11
PDAR PKPab **PKPab 17 19 13.5 +0.9**
comp=Z,1.7nm,0.8s,baz=64,slow=4.2,SNR=2.4
PDAR PP PP 17 23 07.3 +8.5
comp=Z,1.4nm,0.9s,baz=48,slow=6.6,SNR=4.4
PDAR Pinedale Array 165.11 331 *e*PKPdf **PKPdf 17 18 15.0 -0.7**
PDAR PKPab **PKPab 17 19 13.5 +0.9**
PDAR PP PP 17 23 07.3 +8.5
ISCO Idaho Springs 165.16 314 *e*PKIKP **PKPdf 17 18 15.0 -0.9**
ISCO MLR MLR
comp=Z,28µm,19.0s
ISCO Idaho Springs 165.16 314 *e*PKPdf **PKPdf 17 18 15.0 -0.9**
ISCO LR LR
comp=Z,28µm,19.0s
BMO Blue Mountains 165.19 354 PFAKE 17 18 30.0 +15
BMO LR LR
comp=Z,9µm,19.0s
AHID Auburn Hatcher 165.73 335 PFAKE 17 18 30.0 +14
AHID LR LR
comp=Z,13µm,22.0s
HLID Hailey 166.00 345 *e*PKPdf **PKPdf 17 18 16.1 -0.2**
HLID LR LR
comp=Z,13µm,20.0s
SDCO Great Sand Dun 166.20 307 PFAKE 17 18 30.0 +13
SDCO LR LR
comp=Z,27µm,21.0s
TXAR Lajitas Array 166.33 271 PKP **PKPdf 17 18 18.1 +1.3**
comp=Z,1.5nm,1.0s,baz=145,slow=4.6,SNR=7.2
TXAR PKPab **PKPab 17 19 19.2 +0.8**
comp=Z,2.8nm,0.9s,baz=121,slow=5.9,SNR=6.4
TXAR PP PP 17 23 18.1 +12
comp=Z,1.0nm,0.9s,baz=97,slow=6.5,SNR=3.4
TX31 Lajitas Ar. Si 166.33 271 *e*PKPdf **PKPdf 17 18 16.9 0.0**
HWUT Hardware Ranch 166.90 333 *e*PKPdf **PKPdf 17 18 17.2 +0.2**
HWUT LR LR
comp=Z,10µm,21.0s
HUMO Hull Mountain 167.19 12 *e*PKPdf **PKPdf 17 18 19.1 +2.1**
WVOR Wild Horse Val 167.68 357 PFAKE 17 18 30.0 +13
WVOR LR LR
comp=Z,13µm,19.0s
MNTX Cornudas Mount 167.88 281 P **PKPdf 17 18 19.2 +1.3**
baz=86
MNTX Cornudas Mount 167.88 281 *e*PKPdf **PKPdf 17 18 17.4 -0.4**
MNTX LR LR
comp=Z,24µm,21.0s
ANMO Albuquerque 168.08 297 PKP **PKPdf 17 18 19.4 +1.3**
comp=Z,0.7nm,0.4s,baz=270,slow=4.0,SNR=2.6
ANMO PP **PP 17 23 16.1 +1.0**
comp=Z,0.8nm,0.4s,baz=307,slow=5.9,SNR=5.1
ANMO Albuquerque 168.08 297 PKIKP **PKPdf 17 18 19.4 +1.3**
ANMO 17 23 16.2
ANMO MLR MLR
comp=Z,14µm,19.0s
ANMO Albuquerque 168.08 297 PKP **PKPdf 17 18 19.4 +1.3**
ANMO PP **PP 17 23 16.1 +1.0**
ANMO LR LR
comp=Z,14µm,19.0s
YBH Yreka Blue Hor 168.09 12 PKP **PKPdf 17 18 19.3 +1.6**
comp=Z,2.1nm,0.9s,baz=252,slow=6.4,SNR=2.9
YBH PKPab **PKPab 17 19 27.2 +1.8**
comp=Z,3.8nm,1.1s,baz=344,slow=7.4,SNR=2.4
SRU San Rafael Swe 168.44 323 *e*PKIKP **PKPdf 17 18 18.7 +0.5**
SRU San Rafael Swe 168.44 323 *e*PKPdf **PKPdf 17 18 18.7 +0.5**
NLU North Lily Min 168.50 331 *e*PKPdf **PKPdf 17 18 18.6 +0.3**
MVCO Mesa Verde 168.51 311 PFAKE 17 18 30.0 +12
MVCO LR LR
comp=Z,13µm,22.0s
DUG Dugway, Tooele 168.60 334 P **PKPdf 17 18 19.9 +1.6**
baz=30
DUG Dugway, Tooele 168.60 334 *e*PKIKP **PKPdf 17 18 18.4 +0.2**
DUG MLR MLR
comp=Z,18µm,20.0s
DUG Dugway, Tooele 168.60 334 *e*PKPdf **PKPdf 17 18 18.4 +0.2**
DUG LR LR
comp=Z,18µm,20.0s
TMUT Trail Mountain 168.64 326 *e*PKPdf **PKPdf 17 18 19.4 +0.9**
N02D Trinity Center 168.82 13 P **PKPdf 17 18 19.7 +1.5**
baz=345
121A Cookes Peak, D 169.80 287 P **PKPdf 17 18 21.6 +2.3**
baz=79
CCUT Cedar City 171.05 328 *e*PKPdf **PKPdf 17 18 21.2 +1.3**
AFDM Forest Hills D 171.08 8 *e*PKPdf **PKPdf 17 18 17.9 -1.7**
AFDM *e*PKPdf **PKPdf 17 18 21.3 +1.7**
R11A Troy Canyon, C 171.20 340 P **PKPdf 17 18 22.5 +2.6**
baz=22
WUAZ Wupatki 171.38 311 PFAKE 17 18 30.0 +10
WUAZ LR LR
comp=Z,12µm,21.0s
NV01 Mina Array Sit 171.65 354 *e*PKPdf **PKPdf 17 18 19.7 -0.4**
NVAR Mina Array Bea 171.65 354 PKP **PKPdf 17 18 21.0 +0.9**
comp=Z,1.4nm,0.8s,baz=184,slow=1.1,SNR=12
NVAR PKPab **PKPab 17 19 43.9 +2.5**
comp=Z,1.5nm,0.9s,baz=358,slow=4.5,SNR=2.6
NVAR PP PP 17 23 42.5 +11
comp=Z,1.8nm,0.9s,baz=52,slow=4.5,SNR=4.5
TUC Tucson 172.33 289 PFAKE 17 18 30.0 +10
TUC LR LR
comp=Z,25µm,20.0s
CWC Cottonwood Cre 173.59 351 P **PKPdf 17 18 23.7 +2.8**
baz=9.8
DAC Darwin (Calif) 173.67 347 *e*PKIKP **PKPdf 17 18 21.4 +0.4**
DAC Darwin (Calif) 173.67 347 *e*PKPdf **PKPdf 17 18 21.4 +0.4**
MPMC Manual Prospec 173.86 346 P **PKPdf 17 18 23.1 +2.1**
baz=15
GMRC Granite Mounta 174.38 327 P **PKPdf 17 18 23.8 +2.6**
baz=34
IRM Iron Mountain 174.60 320 P **PKPdf 17 18 23.8 +2.6**
baz=42
EDW2 Edwards Air Fo 175.10 347 P **PKPdf 17 18 23.8 +2.5**
baz=14
BC3 Big Chuckawall 175.14 318 P **PKPdf 17 18 24.3 +2.9**
baz=44
BELC Belle Mtn. Jos 175.18 325 P **PKPdf 17 18 24.0 +2.5**
baz=36
PFO Pinyon Flats O 175.72 325 PFAKE 17 18 30.0 +8.4
PFO LR LR
comp=Z,11µm,22.0s

*IDC **26** 16:58:51.2±1.1, 17°.34S×167°.29E, h0km, mb4.1/8, mb1 4.4/10, mb1mx4.1/49, mbtmp4.2/10, ML4.6/2, MS3.0/4, Ms1 3.0/4, ms1mx2.8/43, Error ellipse: s-maj=35.5km s-min=20.3km az=135.0*
*ISCJB **26** 16:58:52.6±0.7, 17°.37S±0°.07×167°.2E±0°.1, h19km, mb4.0/9, MS3.1/2, Error ellipse: s-maj=15.8km s-min=9.7km az=6.7*
*NEIC **26** 16:58:52.8±0.5, 17°.36S×167°.26E, h10km, mb4.5/2, Error ellipse: s-maj=12.7km s-min=8.7km az=121.0*

ISC 26 16:58:54.1±0.8, 17°.37S±0°.07×167°.2E±0°.1, h19km, n20, σ1§04/21, mb4.2/8, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.73**	**189**			Pn	**Pn**	**17 00 04.2**	**-0.4**
	31nm,0.3s,baz=304,slow=10,SNR=195								
DZM						LR	LR	17 00 57.8	
	comp=Z,65nm,19.9s,baz=50,slow=26								
DZM						Sn	**Sn**	**17 00 57.8**	**-1.2**
	7.5nm,0.3s,baz=138,slow=23,SNR=5.5								
DZM	**Mont Dzumac**	**4.73**	**189**			Pn	**Pn**	**17 00 04.2**	**-0.4**
DZM						*e*Sn	**Sn**	**17 00 57.2**	**-1.8**
HNR	**Honiara**	**10.58**	**317**			Pn	**Pn**	**17 01 24.9**	**+0.1**
	4.5nm,0.3s,baz=256,slow=1.3,SNR=7.7								
HNR						Sn	**Sn**	**17 03 20.5**	**-2.4**
	baz=138,slow=16,SNR=2.9								
HNR						LR	LR	17 05 05.4	
	comp=Z,52nm,18.4s,baz=161,slow=35								
EIDS	**Eidsvold**	**16.98**	**239**	*e*Pn		**Pn**	**Pn**	**17 02 51.5**	**+0.8**
AFI	**Afiamalu**	**20.53**	**83**	LR		LR	LR	17 08 54.2	
	comp=Z,47nm,19.9s,baz=80,slow=30								
PMG	**Port Moresby**	**21.03**	**290**	LR		LR	LR	17 10 30.2	
	comp=Z,150nm,19.6s,baz=107,slow=33								
STKA	**Stephens Creek**	**27.30**	**233**	P		**P**	**P**	**17 04 39.4**	**+1.7**
	5.3nm,0.9s,baz=62,slow=7.4,SNR=10								
WRAB	**Tennant Creek**	**31.20**	**260**	*e*P		**P**	**P**	**17 05 12.9**	**+0.5**
	13nm,1.5s								
WRA	**Warramunga Arr**	**31.21**	**260**	P		**P**	**P**	**17 05 12.6**	**0.0**
	1.0nm,0.8s,baz=89,slow=9.2,SNR=12								
ASAR	**Alice Springs**	**31.76**	**253**	P		**P**	**P**	**17 05 17.6**	**+0.2**
	1.8nm,0.6s,baz=80,slow=8.1,SNR=68								
FITZ	**Fitzroy Crossi**	**39.53**	**262**	P		**P**	**P**	**17 06 25.3**	**+1.2**
	4.5nm,1.0s,baz=108,slow=10,SNR=5.0								
FITZ	**Fitzroy Crossi**	**39.53**	**262**	*e*P		**P**	**P**	**17 06 24.7**	**+0.6**
	11nm,1.3s								
PETK	**Petropavlovsk-**	**70.66**	**354**	P		**P**	**P**	**17 10 08.8**	**+0.5**
	1.8nm,0.8s,baz=150,slow=12,SNR=3.8								
SYO	**Syowa Base**	**86.17**	**197‖**	*e*P		**P**	**P**	**17 11 34.2**	**+0.5**
NVAR	**Mina Array Bea**	**89.03**	**49**	P		**P**	**P**	**17 11 47.9**	**-0.5**
	0.7nm,0.7s,baz=224,slow=8.3,SNR=5.6								
ILAR	**Eielson Array**	**89.04**	**18**	P		**P**	**P**	**17 11 46.5**	**-0.9**
	0.4nm,0.7s,baz=236,slow=5.2,SNR=4.8								
YKA	**Yellowknife Ar**	**99.91**	**27**	P			**Pdif**	**17 12 38.3**	**+1.1**
	0.3nm,0.9s,baz=263,slow=3.9,SNR=3.7								
AKASG	**Malin Array Be**	**132.85**	**325**	PKP		**PKPdf**	**PKPdf**	**17 18 08.1**	**+0.2**
	0.2nm,0.4s,baz=72,slow=3.0,SNR=1.8								
TUE	**Stuetta**	**145.66**	**332**	*e*PKPbc		**PKPab**	**PKPab**	**17 18 32.2**	**0.0**
BNI	**Bardonecchia**	**147.94**	**334**	*e*PKPbc		**PKPbc**	**PKPbc**	**17 18 38.9**	**+0.5**

*DDA **26** 17:13:24.0, 38°.75N×43°.27E, h7km, Ml2.5*
*ISCJB **26** 17:13:24.8±0.4, 38°.75N±0°.02×43°.20E±0°.03, h9km±5km, Error ellipse: s-maj=4.2km s-min=3.6km az=2.9*
*CSEM **26** 17:13:24.2±0.2, 38°.74N×43°.24E, h12km, ML2.3, Error ellipse: s-maj=4.1km s-min=3.5km az=111.0*
*ISK **26** 17:13:24.1, 38°.73N×43°.19E, h5km, ML2.3/4*

ISC 26 17:13:24.9±0.9, 38°.74N±0°.02×43°.22E±0°.02, h16km±7km, n28, σ1§11/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**138**			PG	**Pg**	**17 13 29.9**	**+0.3**
VANB						SG	**Sg**	**17 13 34.7**	**+1.9**
VANB	**Van**	**0.20**	**138**	*e*Pg		**Pg**	**Pg**	**17 13 29.9**	**+0.3**
TVAN	**Van**	**0.26**	**146**	*i*P		**Pg**	**Pg**	**17 13 30.0**	**-0.6**
TVAN				*i*S		**Sg**	**Sg**	**17 13 33.7**	**-0.9**
TVAN	**Van**	**0.26**	**146**	P		**Pg**	**Pg**	**17 13 30.0**	**-0.6**
TVAN				S		**Sg**	**Sg**	**17 13 33.7**	**-0.9**
VMUR	**Van-Muradiye**	**0.37**	**48**	*i*P		**Pg**	**Pg**	**17 13 31.0**	**-1.5**
VMUR				*i*S		**Sb**	**Sb**	**17 13 40.2**	**+1.4**
VMUR	**Van-Muradiye**	**0.37**	**48**	P		**Pg**	**Pg**	**17 13 31.0**	**-1.5**
VMUR				S		**Sb**	**Sb**	**17 13 40.2**	**+1.4**
ADCV	**BITLIS_Adilcev**	**0.39**	**280**	*i*P		**Pg**	**Pg**	**17 13 32.6**	**-0.3**
ADCV				*i*S		**Sb**	**Sb**	**17 13 39.3**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.39**	**280**	P		**Pg**	**Pg**	**17 13 32.6**	**-0.3**
ADCV				S		**Sb**	**Sb**	**17 13 39.3**	**-0.2**
GEVA	**Gevas**	**0.45**	**197**	*i*P		**Pg**	**Pg**	**17 13 32.7**	**-1.2**
GEVA				*i*S		**Sb**	**Sb**	**17 13 40.4**	**-0.6**
GEVA	**Gevas**	**0.45**	**197**	P		**Pg**	**Pg**	**17 13 32.7**	**-1.2**
GEVA				S		**Sb**	**Sb**	**17 13 40.4**	**-0.6**
CLDR	**Caldiran**	**0.68**	**53**	PG		**Pb**	**Pb**	**17 13 38.1**	**-0.3**
CLDR				SG		**Sb**	**Sb**	**17 13 47.9**	**+0.3**
CLDR	**Caldiran**	**0.68**	**53**	*i*P		**Pg**	**Pg**	**17 13 36.2**	**-1.9**
CLDR				*i*S		**Sb**	**Sb**	**17 13 48.0**	**+0.3**
CLDR	**Caldiran**	**0.68**	**53**	P		**Pg**	**Pg**	**17 13 36.2**	**-1.9**
CLDR	**Caldiran**	**0.68**	**53**	*e*Pg		**Pb**	**Pb**	**17 13 38.1**	**-0.3**
CLDR				*e*Sg		**Sb**	**Sb**	**17 13 47.9**	**+0.3**
TUTA	**Tutak**	**0.73**	**334**	*i*P		**Pg**	**Pg**	**17 13 38.9**	**-0.3**
TUTA				*i*S		**Sb**	**Sb**	**17 13 49.3**	**0.0**
TUTA	**Tutak**	**0.73**	**334**	P		**Pg**	**Pg**	**17 13 38.9**	**-0.3**
TUTA				S		**Sb**	**Sb**	**17 13 49.3**	**0.0**
AGRB	**Hanur-Agry**	**0.85**	**348**	PG		**Pb**	**Pb**	**17 13 41.4**	**0.0**
AGRB				SG		**Sb**	**Sb**	**17 13 53.6**	**+0.9**
AGRB	**Hanur-Agry**	**0.85**	**348**	*e*Pg		**Pb**	**Pb**	**17 13 41.4**	**0.0**
AGRB				*e*Sg		**Sb**	**Sb**	**17 13 53.6**	**+0.9**
GURO	**Guroymak-BITLI**	**0.95**	**259**	PG		**Pg**	**Pg**	**17 13 42.3**	**-1.0**
GURO				SG		**Sg**	**Sg**	**17 13 54.8**	**-1.0**
GURO	**Guroymak-BITLI**	**0.95**	**259**	*e*Pg		**Pg**	**Pg**	**17 13 42.3**	**-1.0**
GURO				*e*Sg		**Sg**	**Sg**	**17 13 54.8**	**-1.0**
HAKT	**HAKKARI**	**1.24**	**162**	*i*P		**Pg**	**Pg**	**17 13 46.8**	**-2.1**
HAKT				*i*S		**Sn**	**Sn**	**17 14 06.6**	**+2.2**
HAKT	**HAKKARI**	**1.24**	**162**	P		**Pg**	**Pg**	**17 13 46.8**	**-2.1**
HAKT				S		**Sn**	**Sn**	**17 14 06.6**	**+2.2**
EATA	**Eleskirt**	**1.25**	**333**	*i*P		**Pg**	**Pg**	**17 13 47.5**	**-1.6**
EATA				*i*S		**Sb**	**Sb**	**17 14 05.2**	**+0.8**
EATA	**Eleskirt**	**1.25**	**333**	P		**Pg**	**Pg**	**17 13 47.5**	**-1.6**
EATA				S		**Sb**	**Sb**	**17 14 05.2**	**+0.8**
SRTM	**Siirt_Merkez**	**1.27**	**234**	*i*P		**Pn**	**Pg**	**17 13 48.2**	**+0.2**
SRTM				*i*S		**Sb**	**Sb**	**17 14 05.4**	**+0.9**
SRTM	**Siirt_Merkez**	**1.27**	**234**	P		**Pn**	**Pg**	**17 13 48.2**	**+0.2**
SRTM				S		**Sb**	**Sb**	**17 14 05.4**	**+0.9**
SIRT	**Sirnak**	**1.38**	**207**	PN		**Pb**	**Pb**	**17 13 50.3**	**-0.1**
SIRT	**Sirnak**	**1.38**	**207**	*e*Pn		**Pb**	**Pb**	**17 13 50.3**	**-0.1**

*ISN **26** 17:22:21.1±1.4, 32°.29N×47°.01E, h0km±5km, ML3.3*
*TEH **26** 17:22:24.9, 32°.35N×47°.15E, h6km, ML3.3*
*ISCJB **26** 17:22:25.9±0.9, 32°.39N±0°.07×46°.92E±0°.07, h10km, Error ellipse: s-maj=10.0km s-min=7.7km az=31.1*
*CSEM **26** 17:22:25.2±0.3, 32°.44N×46°.84E, h2km, ML3.3, Error ellipse: s-maj=9.4km s-min=5.2km az=7.0*

ISC 26 17:22:26.0±1.5, 32°.48N±0°.07×46°.83E±0°.06, h10km, n19, σ1§15/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.35**	**39**	*e*Pn		**Pn**	**Pn**	**17 22 48.9**	**-1.9**
IKFM				*e*Sg		**Sg**	**Sg**	**17 23 11.4**	**+2.0**
IKFM				*e*AMB		AMB	AMB	17 23 19.0	
	comp=Z,99nm,0.2s								
SHGR	**Shooshtar-Gavs**	**1.71**	**102**	*e*Pg		**Pg**	**Pg**	**17 22 58.0**	**-0.8**
IKOM	**Komasi**	**1.79**	**18**	*e*Pn		**Pb**	**Pb**	**17 22 58.0**	**-0.9**
IKOM				*e*AMB		AMB	AMB	17 23 33.4	
	comp=Z,4µm,0.3s								
IGHG	**Ghaleghazi**	**1.86**	**353**	*e*Pn		**Pb**	**Pb**	**17 23 00.2**	**0.0**
IGHG				*e*AMB		AMB	AMB	17 23 46.1	
	comp=Z,3µm,0.3s								
IVIS	**Veis**	**2.04**	**1**	*e*Pn		**Pb**	**Pb**	**17 23 03.2**	**0.0**
IVIS				*e*AMB		AMB	AMB	17 23 35.4	
	comp=Z,2µm,0.3s								
BHD	**Baghdad**	**2.21**	**292**	*e*Pn		**Pn**	**Pn**	**17 23 03.5**	**+0.9**
	SNR=3.0								
IDHR	**Dehrash**	**2.25**	**351**	*e*AMB		AMB	AMB	17 23 47.8	
	comp=Z,2µm,0.2s								
IDHR				*e*Pn		**Pb**	**Pb**	**17 23 05.8**	**-1.0**
HSAM	**Samen**	**2.28**	**40**	*e*Pn		**Pn**	**Pn**	**17 23 04.7**	**+0.8**
HSAM				*e*AMB		AMB	AMB	17 23 43.2	
	comp=Z,99nm,0.3s								
KHMZ	**Khomeyn**	**2.91**	**64**	*e*Pn		**Pn**	**Pn**	**17 23 13.0**	**+0.4**
HAGD	**Aghdareh**	**3.03**	**39**	*e*Pn		**Pn**	**Pn**	**17 23 15.3**	**+1.1**
HAGD				*e*AMB		AMB	AMB	17 23 52.2	
	comp=Z,99nm,0.2s								
HKZM	**Kohzaman**	**3.37**	**30**	*e*Pn		**Pn**	**Pn**	**17 23 20.8**	**+1.9**
HKZM				*e*AMB		AMB	AMB	17 24 13.6	

comp=Z,99nm,0.3s
ASAO Ashtian 3.38 51 *e*Pn **Pn** 17 23 19.7 **+0.7**
IRAZ Razeghan 3.89 41 *e*Pn **Pn** 17 23 27.4 **+1.3**
IRAZ *e*AMB AMB 17 23 42.3
comp=Z,459nm,0.4s
IKLH Kolahrood 4.08 77 *e*Pn **Pn** 17 23 28.6 **-0.1**
IKLH *e*AMB AMB 17 24 47.4
comp=Z,535nm,0.4s
GHVR GHOM 4.23 61 *e*Pn **Pn** 17 23 30.9 **+0.3**
IGAR Gharneh 4.41 90 *e*Pn **Pn** 17 23 33.8 **+0.6**
IGAR *e*AMB AMB 17 24 26.6
comp=N,700nm,0.1s
IZEF Zefreh 4.66 83 *e*Pn **Pn** 17 23 37.3 **+0.7**
IZEF *e*AMB AMB 17 23 56.4
comp=Z,142nm,0.3s
IRAM Rameshеh 4.76 97 *e*Pn **Pn** 17 23 38.9 **+0.9**
IRAM *e*AMB AMB 17 24 38.2
comp=Z,138nm,0.1s
IMRD Marand 6.29 352 *e*Pn **Pg** 17 24 25.1 **-1.3**
IMRD *e*AMB AMB 17 24 40.7
comp=Z,408nm,0.2s

*IDC **26** 17:23:52.9±1.8,35°.44S×179°.22W,h0km,mb3.9/3, mb1 4.1/5,mb1mx3.8/39,mbtmp4.0/5,ML3.8/2,MS4.2/2, Ms1 4.2/2,ms1mx3.2/48,Error ellipse: s-maj=40.8km s-min=32.1km az=128.0*
*WEL **26** 17:23:55.2±1.1,36°.S±15"×17°.9W±1°.6,h33km,ML4.5/14*
ISC 26 17:23:58.4±1.6,35°.6S±0°.1×179°.1W±0°.2,h47km,n36,
σ1°33/35,mb3.8/3,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.89**	**226**	P	**Pn**	**17 24 40.3**	**-1.6**
MXZ	**Matakaoa Point**	**2.89**	**226**	S	**Sn**	**17 25 15.7**	**+0.2**
WMGZ	**Waiomatatini S**	**3.01**	**221**	P	**Pn**	**17 24 42.9**	**-0.7**
WMGZ	**Waiomatatini S**	**3.01**	**221**	S	**Sn**	**17 25 20.8**	**+2.3**
PKGZ	**Pakihiroa**	**3.25**	**224**	P	**Pn**	**17 24 45.8**	**-1.2**
PKGZ	**Pakihiroa**	**3.25**	**224**	S	**Sn**	**17 25 24.6**	**+0.2**
PUZ	**Puketiti**	**3.28**	**220**	P	**Pn**	**17 24 45.8**	**-1.6**
PUZ	**Puketiti**	**3.28**	**220**	S	**Sn**	**17 25 25.4**	**+0.2**
HAZ	**Te Kaha**	**3.33**	**228**	P	**Pn**	**17 24 46.9**	**-1.1**
HAZ	**Te Kaha**	**3.33**	**228**	S	**Sn**	**17 25 29.0**	**+2.7**
TWGZ	**Tauwhareparae**	**3.51**	**221**	P	**Pn**	**17 24 49.0**	**-1.5**
TWGZ	**Tauwhareparae**	**3.51**	**221**	S	**Sn**	**17 25 32.6**	**+1.8**
RUGZ	**Raukumara Rang**	**3.53**	**227**	P	**Pn**	**17 24 50.2**	**-0.7**
CNGZ	**Carnagh Statio**	**3.63**	**216**	P	**Pn**	**17 24 51.1**	**-1.0**
TKGZ	**Te Karaka**	**3.77**	**220**	P	**Pn**	**17 24 53.2**	**-0.8**
TKGZ	**Te Karaka**	**3.77**	**220**	S	**Sn**	**17 25 38.1**	**+0.9**
MWZ	**Matawai**	**3.87**	**224**	P	**Pn**	**17 24 54.0**	**-1.5**
RIGZ	**Rimuhau**	**4.02**	**218**	P	**Pn**	**17 24 56.2**	**-1.2**
RIGZ	**Rimuhau**	**4.02**	**218**	S	**Sn**	**17 25 43.8**	**+0.5**
RAGZ	**Rawiri**	**4.05**	**223**	P	**Pn**	**17 24 57.4**	**-0.5**
URZ	**Urewera**	**4.06**	**228**	Pn	**Pn**	**17 24 56.7**	**-1.3**
	8.5nm,0.3s,baz=257,slow=2.3,SNR=49						
URZ				Sn	**Sn**	**17 25 44.5**	**+0.2**
	9.9nm,0.3s,baz=214,slow=21,SNR=14						
URZ	**Urewera**	**4.06**	**228**	P	**Pn**	**17 24 56.8**	**-1.3**
URZ	**Urewera**	**4.06**	**228**	S	**Sn**	**17 25 44.4**	**+0.1**
PRGZ	**Paritu Road**	**4.13**	**215**	P	**Pn**	**17 24 57.4**	**-1.6**
SNGZ	**Shannon Statio**	**4.29**	**221**	P	**Pn**	**17 25 00.9**	**-0.4**
KUZ	**Kuaotunu**	**4.37**	**253**	P	**Pn**	**17 25 01.7**	**-0.5**
RTZ	**Ruatahuna**	**4.38**	**225**	P	**Pn**	**17 24 59.0**	**-3.5**
MUGZ	**Murupara**	**4.41**	**228**	P	**Pn**	**17 25 01.7**	**-1.1**
RPZ	**Rata Peaks**	**11.13**	**220**	Pn	**Pn**	**17 26 34.1**	**-0.7**
	0.5nm,0.3s,baz=42,slow=17,SNR=2.4						
RPZ				Sn	Sn	17 28 27.1	-11
	1.0nm,0.3s,baz=285,slow=20,SNR=4.7						
RAR	**Rarotonga**	**22.15**	**55**	LR	LR	17 34 42.9	
	comp=Z,212nm,21.1s,baz=58,slow=29						
STKA	**Stephens Creek**	**32.77**	**265**	P	**P**	**17 30 26.4**	**-0.6**
	1.1nm,0.6s,baz=114,slow=19,SNR=3.0						
ASAR	**Alice Springs**	**42.20**	**273**	P	**P**	**17 31 46.9**	**-0.1**
	1.3nm,0.6s,baz=115,slow=7.5,SNR=34						
WRA	**Warramunga Arr**	**43.66**	**278**	P	**P**	**17 31 58.4**	**-0.3**
	1.6nm,0.8s,baz=119,slow=7.7,SNR=14						
MA2	**Magadan**	**98.03**	**345**	LR	LR	18 12 28.6	
	comp=Z,307nm,21.4s,baz=170,slow=30						
FINES	**FINESS Array B**	**149.59**	**336**	PKPbc	**PKPbc**	**17 43 42.9**	**+1.0**
	2.1nm,0.9s,baz=56,slow=5.4,SNR=6.3						
TORD	**Torodi Ar. Bea**	**157.66**	**182**	PKPab	**PKPab**	**17 44 23.6**	**+1.3**
	0.3nm,0.5s,baz=159,slow=4.9,SNR=2.7						

*ISCJB **26** 17:28:18.6±0.5,38°.71N±0°.03×13°.03E±0°.04,h16km±4km, mb3.7/17,Error ellipse: s-maj=5.1km s-min=4.3km az=136.0*
*CSEM **26** 17:28:18.6±0.2,38°.72N×13°.02E,h20km,ML3.3,Error ellipse: s-maj=6.0km s-min=3.6km az=44.0*
*IDC **26** 17:28:18.6±0.7,38°.67N×13°.01E,h0km,mb3.8/17, mb1 3.8/21,mb1mx3.7/67,mbtmp3.7/21,ML3.5/4,Error ellipse: s-maj=15.9km s-min=14.0km az=84.0*
*ROM **26** 17:28:19.0±0.2,38°.70N×13°.11E,h22km±2km,Ml3.3/31, Error ellipse: s-maj=4.3km s-min=3.0km az=93.0*
*LDG **26** 17:28:19.2±0.1,38°.63N×12°.94E,h10km,Ml3.3/6,Error ellipse: s-maj=7.1km s-min=2.8km az=49.0*
ISC 26 17:28:19.6±0.8,38°.69N±0°.03×13°.00E±0°.03,h14km±5km,
n123,σ2°16/136,mb3.8/17,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USI	**Ustica**	**0.14**	**84**	Pg	**Pg**	**17 28 23.3**	**0.0**
USI				Sg	**Sg**	**17 28 26.1**	**+0.3**
USI	**Ustica**	**0.14**	**84**	Pg	**Pg**	**17 28 23.3**	**0.0**
USI				Sg	**Sg**	**17 28 26.1**	**+0.3**
MPG	**Monte Pellegri**	**0.60**	**152**	Pg	**Pg**	**17 28 29.4**	**-2.0**
MPG				Sg	**Sg**	**17 28 38.4**	**-1.0**
	4µm,0.8s						
MPG	**Monte Pellegri**	**0.60**	**152**	Pg	**Pg**	**17 28 29.4**	**-2.0**
MPG				Sg	**Sg**	**17 28 38.4**	**-1.0**
	4µm,0.8s						
SOLUN	**Solunto**	**0.73**	**145**	Pg	**Pg**	**17 28 31.5**	**-2.4**
SOLUN				Sg	**Sg**	**17 28 42.4**	**-1.1**
	3µm,1.2s						
SOLUN	**Solunto**	**0.73**	**145**	Pg	**Pg**	**17 28 31.5**	**-2.4**
SOLUN				Sg	**Sg**	**17 28 42.4**	**-1.1**
	3µm,1.2s						
CORL	**Corleone**	**0.83**	**163**	Pg	**Pg**	**17 28 33.5**	**-2.3**
	4µm,0.6s						
CORL	**Corleone**	**0.83**	**163**	Pg	**Pg**	**17 28 33.5**	**-2.3**
	4µm,0.6s						
CRJA	**Costa Raja**	**0.89**	**180**	Pg	**Pg**	**17 28 35.7**	**-1.2**
CRJA	**Costa Raja**	**0.89**	**180**	Pg	**Pg**	**17 28 35.7**	**-1.2**
MFNL	**Monte Finestre**	**0.90**	**184**	Pg	**Pb**	**17 28 36.3**	**-0.8**
MFNL	**Monte Finestre**	**0.90**	**184**	Pg	**Pb**	**17 28 36.3**	**-0.8**
MMGO	**Monte Magaggia**	**1.03**	**181**	Pg	**Pg**	**17 28 37.8**	**-1.7**
MMGO	**Monte Magaggia**	**1.03**	**181**	Pg	**Pg**	**17 28 37.8**	**-1.7**
GIB	**Gibilmanna**	**1.07**	**131**	Pg	**Pg**	**17 28 37.5**	**-2.8**
	931nm,0.6s						
GIB	**Gibilmanna**	**1.07**	**131**	Pg	**Pg**	**17 28 37.5**	**-2.8**
	931nm,0.6s						
IACL	**Alicudi**	**1.07**	**98**	Pg	**Pg**	**17 28 37.5**	**-2.8**
	1µm,0.6s						
IACL	**Alicudi**	**1.07**	**98**	Pg	**Pg**	**17 28 37.5**	**-2.8**
	1µm,0.6s						
ALJA	**Alia**	**1.11**	**148**	Pg	**Pb**	**17 28 39.5**	**-1.2**
	2µm,0.8s						
ALJA	**Alia**	**1.11**	**148**	Pg	**Pb**	**17 28 39.5**	**-1.2**
	2µm,0.8s						
CLTB	**Caltabellotta**	**1.13**	**171**	Pg	**Pb**	**17 28 40.1**	**-0.8**
	7µm,0.6s						
CLTB	**Caltabellotta**	**1.13**	**171**	Pg	**Pb**	**17 28 40.1**	**-0.8**
	7µm,0.6s						
PLLN	**Pollina**	**1.14**	**128**	Pg	**Pg**	**17 28 38.5**	**-3.1**
	771nm,0.8s						
PLLN	**Pollina**	**1.14**	**128**	Pg	**Pg**	**17 28 38.5**	**-3.1**
	771nm,0.8s						
MCT	**Mte Cammarata**	**1.17**	**155**	Pg	**Pn**	**17 28 42.0**	**+0.3**
	3µm,1.2s						
MCT	**Mte Cammarata**	**1.17**	**155**	Pg	**Pn**	**17 28 42.0**	**+0.3**
	3µm,1.2s						
RESU	**Resuttano**	**1.33**	**141**	Pg	**Pg**	**17 28 43.6**	**-1.7**
	694nm,0.7s						
RESU	**Resuttano**	**1.33**	**141**	Pg	**Pg**	**17 28 43.6**	**-1.7**
	694nm,0.7s						
MSFR	**San Fratello**	**1.41**	**117**	Pg	**Pn**	**17 28 42.5**	**-2.4**
	659nm,1.8s						
MSFR	**San Fratello**	**1.41**	**117**	Pg	**Pn**	**17 28 42.5**	**-2.4**
	659nm,1.8s						
FAVR	**Favara**	**1.52**	**160**	Pg	**Pg**	**17 28 47.1**	**-1.7**
FAVR	**Favara**	**1.52**	**160**	Pg	**Pg**	**17 28 47.1**	**-1.7**
LLI	**Lipari**	**1.54**	**99**	Pg	**Pn**	**17 28 44.8**	**-1.9**
	1µm,0.6s						
LLI	**Lipari**	**1.54**	**99**	Pg	**Pn**	**17 28 44.8**	**-1.9**
	1µm,0.6s						
GALF	**Gagliano Caste**	**1.57**	**128**	Pg	**Pb**	**17 28 46.7**	**-1.8**
	266nm,0.7s						
GALF	**Gagliano Caste**	**1.57**	**128**	Pg	**Pb**	**17 28 46.7**	**-1.8**
	266nm,0.7s						
VPL	**Vulcano Piano**	**1.58**	**101**	Pg	**Pn**	**17 28 44.7**	**-2.6**
	798nm,0.8s						
VPL	**Vulcano Piano**	**1.58**	**101**	Pg	**Pn**	**17 28 44.7**	**-2.6**
	798nm,0.8s						
MUCR	**Ucria**	**1.61**	**113**	Pg	**Pn**	**17 28 45.4**	**-2.3**
	354nm,0.7s						
MUCR	**Ucria**	**1.61**	**113**	Pg	**Pn**	**17 28 45.4**	**-2.3**
	354nm,0.7s						
VAE	**Valguarnera**	**1.65**	**137**	Pn	**Pg**	**17 28 49.1**	**-2.1**
	4.3nm,0.3s,baz=179,slow=2.7,SNR=15						
VAE				Sn	**Sg**	**17 29 13.6**	**+0.9**
	15nm,0.3s,baz=3.8,slow=15,SNR=6.2						
MILZ	**Milazzo**	**1.80**	**103**	Pg	**Pn**	**17 28 47.4**	**-2.8**
	189nm,0.8s						
MILZ	**Milazzo**	**1.80**	**103**	Pg	**Pn**	**17 28 47.4**	**-2.8**
	189nm,0.8s						
RAFF	**Raffo Rosso**	**1.82**	**143**	Pg	**Pb**	**17 28 50.7**	**-2.0**
	953nm,0.6s						
RAFF	**Raffo Rosso**	**1.82**	**143**	Pg	**Pb**	**17 28 50.7**	**-2.0**
	953nm,0.6s						
MCSR	**Castroreale**	**1.87**	**109**	Pg	**Pn**	**17 28 48.4**	**-2.9**
	156nm,0.4s						
MCSR	**Castroreale**	**1.87**	**109**	Pg	**Pn**	**17 28 48.4**	**-2.9**
	156nm,0.4s						
MPNC	**Port Mandanici**	**1.92**	**106**	Pg	**Pn**	**17 28 49.6**	**-2.3**
	248nm,0.7s						
MPNC	**Port Mandanici**	**1.92**	**106**	Pg	**Pn**	**17 28 49.6**	**-2.3**
	248nm,0.7s						
MMME	**Mongiuffi-Meli**	**1.93**	**112**	Pg	**Pn**	**17 28 49.9**	**-2.1**
	136nm,0.5s						
MMME	**Mongiuffi-Meli**	**1.93**	**112**	Pg	**Pn**	**17 28 49.9**	**-2.1**
	136nm,0.5s						
HLNI	**Lentini**	**2.00**	**132**	Pg	**Pn**	**17 28 51.9**	**-1.0**
	110nm,0.5s						
HLNI	**Lentini**	**2.00**	**132**	Pg	**Pn**	**17 28 51.9**	**-1.0**
	110nm,0.5s						
MSRU	**Castanea**	**2.01**	**102**	Pg	**Pn**	**17 28 50.6**	**-2.5**
	115nm,0.8s						
MSRU	**Castanea**	**2.01**	**102**	Pg	**Pn**	**17 28 50.6**	**-2.5**
	115nm,0.8s						
HVZN	**Vizzini**	**2.03**	**138**	Pg	**Pn**	**17 28 52.6**	**-0.8**
	994nm,0.7s						
HVZN	**Vizzini**	**2.03**	**138**	Pg	**Pn**	**17 28 52.6**	**-0.8**
	994nm,0.7s						
HCRL	**Carlentini**	**2.13**	**131**	Pg	**Pn**	**17 28 53.9**	**-0.9**
	318nm,0.4s						
HCRL	**Carlentini**	**2.13**	**131**	Pg	**Pn**	**17 28 53.9**	**-0.9**
	318nm,0.4s						
MEU	**Monte Lauro**	**2.20**	**136**	Pg	**Pn**	**17 28 54.4**	**-1.4**
	104nm,0.2s						
MEU	**Monte Lauro**	**2.20**	**136**	Pg	**Pn**	**17 28 54.4**	**-1.4**
	104nm,0.2s						
HAGA	**Augusta**	**2.21**	**129**	Pg	**Pn**	**17 28 54.7**	**-1.1**
	318nm,1.2s						
HAGA	**Augusta**	**2.21**	**129**	Pg	**Pn**	**17 28 54.7**	**-1.1**
	318nm,1.2s						
HMDC	**Modica**	**2.23**	**140**	Pg	**Pn**	**17 28 55.5**	**-0.7**
	292nm,0.5s						
HMDC	**Modica**	**2.23**	**140**	Pg	**Pn**	**17 28 55.5**	**-0.7**
	292nm,0.5s						
MSCL	**Scilla**	**2.23**	**101**	Pg	**Pn**	**17 28 53.7**	**-2.6**
	126nm,0.8s						
MSCL	**Scilla**	**2.23**	**101**	Pg	**Pn**	**17 28 53.7**	**-2.6**
	126nm,0.8s						
SSY	**Sortino**	**2.24**	**133**	Pg	**Pn**	**17 28 55.5**	**-0.9**
	318nm,0.5s						
SSY	**Sortino**	**2.24**	**133**	Pg	**Pn**	**17 28 55.5**	**-0.9**
	318nm,0.5s						
CMPR	**Campora**	**2.41**	**47**	Pg	**Pn**	**17 28 58.1**	**-0.5**
	63nm,0.4s						
CMPR	**Campora**	**2.41**	**47**	Pg	**Pn**	**17 28 58.1**	**-0.5**
	63nm,0.4s						
HAVL	**Avola**	**2.41**	**135**	Pn	**Pn**	**17 28 57.8**	**-0.9**
	228nm,0.7s						
HAVL	**Avola**	**2.41**	**135**	Pn	**Pn**	**17 28 57.8**	**-0.9**
	228nm,0.7s						
MGR	**Morigerati**	**2.44**	**53**	Pg	**Pn**	**17 28 58.1**	**-1.0**
	43nm,0.3s						
MGR	**Morigerati**	**2.44**	**53**	Pg	**Pn**	**17 28 58.1**	**-1.0**
	43nm,0.3s						
MPAZ	**Palizzi**	**2.48**	**106**	Pn	**Pn**	**17 28 57.7**	**-1.8**
	63nm,0.7s						
MPAZ	**Palizzi**	**2.48**	**106**	Pn	**Pn**	**17 28 57.7**	**-1.8**
	63nm,0.7s						
SOI	**Samo**	**2.48**	**104**	Pg	**Pn**	**17 28 57.8**	**-1.7**
	284nm,2.1s						
SOI	**Samo**	**2.48**	**104**	Pg	**Pn**	**17 28 57.8**	**-1.7**
	284nm,2.1s						
VSL	**Villasalto**	**2.93**	**287**	Pn	**Pn**	**17 29 04.5**	**-1.3**
VSL	**Villasalto**	**2.93**	**287**	Pn	**Pn**	**17 29 04.5**	**-1.3**
CGL	**Cagliari Serpe**	**2.96**	**284**	Pn	**Pn**	**17 29 04.8**	**-1.5**
CGL	**Cagliari Serpe**	**2.96**	**284**	Pn	**Pn**	**17 29 04.8**	**-1.5**
SG1	**Sgolgore (BA)**	**3.55**	**52**	Sn	**Sn**	**17 29 54.7**	**-1.4**
KEST	**Kesra**	**4.16**	**226**	Pn	**Pn**	**17 29 23.2**	**+0.5**
	0.8nm,0.3s,baz=306,slow=5.2,SNR=11						
KEST				Sn	**Sn**	**17 30 08.7**	**-2.3**
	0.4nm,0.3s,baz=114,slow=20,SNR=2.5						
PGF	**Pioggiola**	**4.91**	**323**	*e*P	**Pn**	**17 29 35.4**	**+2.3**
PGF				*e*Sn	**Sn**	**17 30 24.5**	**-5.2**
	9.6nm,0.3s						
PGF	**Pioggiola**	**4.91**	**323**	*e*P	**Pn**	**17 29 35.4**	**+2.3**
PGF				*e*Sn	**Sn**	**17 30 24.5**	**-5.2**
	4.8nm,0.3s						
SBF	**Sospel**	**6.65**	**323**	*e*Pn	**Pn**	**17 29 54.8**	**-2.1**
SBF				*e*Sn	**Sn**	**17 31 06.9**	**-5.6**
	4.7nm,0.3s						
SBF	**Sospel**	**6.65**	**323**	*e*Pn	**Pn**	**17 29 54.8**	**-2.1**
LMR	**La Mourre**	**6.75**	**315**	*e*Pn	**Pn**	**17 29 57.6**	**-0.7**
LMR				*e*Sn	**Sn**	**17 31 08.8**	**-6.1**
	2.4nm,0.3s						
LMR	**La Mourre**	**6.75**	**315**	*e*Pn	**Pn**	**17 29 57.6**	**-0.7**
FRF	**La Foret Royal**	**6.83**	**317**	*e*Pn	**Pn**	**17 29 59.1**	**-0.2**
FRF				*e*Sn	**Sn**	**17 31 10.7**	**-6.1**
	1.4nm,0.2s						
FRF	**La Foret Royal**	**6.83**	**317**	*e*Pn	**Pn**	**17 29 59.1**	**-0.2**
MBDF	**Montbardon**	**7.62**	**324**	*e*P	Pn	17 30 13.9	+3.6
SMRF	**Simiane la Rot**	**7.69**	**316**	*e*Pn	**Pn**	**17 30 09.2**	**-1.9**
SMRF				*e*Sn	**Sn**	**17 31 31.2**	**-6.7**
	1.6nm,0.3s						
SMRF	**Simiane la Rot**	**7.69**	**316**	*e*Pn	**Pn**	**17 30 09.2**	**-1.9**
ORIF	**Oris-en-Rattie**	**8.18**	**322**	*e*P	**Pn**	**17 30 20.2**	**+2.2**
LASF	**Ste Croix**	**8.73**	**311**	*e*Pn	**Pn**	**17 30 22.6**	**-2.8**
LASF	**Ste Croix**	**8.73**	**311**	*e*Pn	**Pn**	**17 30 22.6**	**-2.8**
VIVF	**Saint-Julien-l**	**8.75**	**317**	*e*Pn	**Pn**	**17 30 23.3**	**-2.4**
VIVF	**Saint-Julien-l**	**8.75**	**317**	*e*Pn	**Pn**	**17 30 23.3**	**-2.4**
MTLF	**Montolieu**	**9.38**	**303**	*e*Pn	**Pn**	**17 30 31.5**	**-2.8**
MTLF	**Montolieu**	**9.38**	**303**	*e*Pn	**Pn**	**17 30 31.5**	**-2.8**
GERES	**GERESS Array B**	**10.16**	**3**	Pn	**Pn**	**17 30 47.3**	**+2.2**
	0.0nm,0.3s,baz=182,slow=14,SNR=3.7						
ESDC	**Sonseca Array**	**13.20**	**280**	Pn	**Pn**	**17 31 28.4**	**+1.7**
	0.3nm,0.3s,baz=90,slow=14,SNR=2.6						
AKASG	**Malin Array Be**	**16.60**	**38**	Pn	**P**	**17 32 13.9**	**-0.3**
	0.3nm,0.3s,baz=228,slow=9.8,SNR=2.5						
HFS	**Hagfors**	**21.47**	**1**	P	**P**	**17 33 07.5**	**+0.1**
	1.3nm,0.8s,baz=174,slow=16,SNR=2.7						
NOA	**NORSAR Array B**	**22.40**	**358**	P	**P**	**17 33 18.6**	**+1.2**
	0.5nm,0.8s,baz=194,slow=9.1,SNR=3.3						
KVAR	**Kislovodsk Arr**	**22.84**	**67**	P	**P**	**17 33 24.6**	**+2.3**
	7.8nm,1.0s,baz=203,slow=3.0,SNR=3.7						
KBZ	**Khabaz**	**22.98**	**68**	P	**P**	**17 33 25.1**	**+1.5**
	1.4nm,0.9s,baz=240,slow=20,SNR=2.5						
FINES	**FINESS Array B**	**24.18**	**15**	P	**P**	**17 33 36.4**	**+1.2**
	3.1nm,0.7s,baz=193,slow=7.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**27.35**	**205**	P	**P**	**17 34 05.0**	**+0.7**
	0.8nm,0.6s,baz=23,slow=9.0,SNR=5.3						
GEYT	**Alibeck**	**35.13**	**77**	P	**P**	**17 35 14.1**	**+1.3**
	1.0nm,0.7s,baz=302,slow=8.3,SNR=3.0						
SPITS	**Spitsbergen Ar**	**39.62**	**1**	P	**P**	**17 35 52.1**	**+1.9**
	10nm,1.0s,baz=175,slow=18,SNR=2.7						
KMBO	**Kilima Mbogo**	**45.48**	**145**	P	**P**	**17 36 40.5**	**+1.7**
	0.6nm,0.4s,baz=321,slow=6.5,SNR=3.4						
KURBB	**Kurchatov Arra**	**46.65**	**53**	P	**P**	**17 36 47.7**	**+0.3**
	1.4nm,0.2s,baz=292,slow=8.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**49.72**	**47**	P	**P**	**17 37 10.5**	**-0.5**
	0.5nm,0.5s,baz=287,slow=9.5,SNR=3.1						
MKAR	**Makanchi Array**	**50.02**	**57**	P	**P**	**17 37 14.1**	**+0.6**
	0.7nm,0.7s,baz=292,slow=4.8,SNR=8.3						
SONM	**Songino Array**	**64.60**	**48**	P	**P**	**17 38 57.7**	**+1.1**
	0.2nm,0.4s,baz=288,slow=0.9,SNR=2.3						
YKA	**Yellowknife Ar**	**70.75**	**337**	P	**P**	**17 39 36.7**	**+1.8**
	0.2nm,0.6s,baz=40,slow=5.6,SNR=5.2						
ULM	**Lac du Bonnet**	**71.65**	**320**	P	**P**	**17 39 42.0**	**+1.4**
	2.0nm,0.9s,baz=27,slow=4.5,SNR=2.8						
CMAR	**Chiang Mai Arr**	**75.61**	**78**	P	**P**	**17 40 05.2**	**+0.9**
	0.7nm,0.6s,baz=305,slow=6.4,SNR=5.9						
PDAR	**Pinedale Array**	**83.62**	**321**	P	**P**	**17 40 49.0**	**+1.2**
	0.4nm,0.7s,baz=359,slow=4.5,SNR=2.6						

*IDC **26** 17:48:08.0±0.7,35°.48S×179°.19W,h0km,mb4.4/6, mb1 4.6/7,mb1mx4.2/43,mbtmp4.4/7,ML4.6/1,MS3.9/3, Ms1 3.9/3,ms1mx3.4/41,Error ellipse: s-maj=26.1km s-min=22.1km az=101.0*
*NEIC **26** 17:48:09.3±0.3,35°.69S×179°.08W,h10km,mb5.3/3,Error ellipse: s-maj=13.0km s-min=6.2km az=130.0*
*WEL **26** 17:48:10.0±1.2,36°.S±15"×17°.9W±1°.8,h33km,ML4.9/3, ML5.1/12*
*ISCJB **26** 17:48:13.2±0.4,35°.65S±0°.06×179°.18W±0°.08,h47km, mb4.5/11,MS3.8/2,Error ellipse: s-maj=11.9km s-min=4.9km az=41.5*
ISC 26 17:48:14.5±0.6,35°.80S±0°.07×178°.99W±0°.09,h47km,n81,
σ2°11/84,mb4.4/11,1C,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.80**	**230**	*e*Pn	**Pn**	**17 48 55.5**	**-1.2**
MXZ	**Matakaoa Point**	**2.80**	**230**	P	**Pn**	**17 48 55.5**	**-1.2**
MXZ	**Matakaoa Point**	**2.80**	**230**	S	**Sn**	**17 49 30.9**	**+1.7**
WMGZ	**Waiomatatini S**	**2.90**	**225**	P	**Pn**	**17 48 58.3**	**+0.1**
WMGZ	**Waiomatatini S**	**2.90**	**225**	S	**Sn**	**17 49 35.1**	**+3.3**
PKGZ	**Pakihiroa**	**3.14**	**228**	P	**Pn**	**17 49 00.8**	**-0.7**
PKGZ	**Pakihiroa**	**3.14**	**228**	S	**Sn**	**17 49 41.8**	**+3.9**
PUZ	**Puketiti**	**3.16**	**223**	P	**Pn**	**17 49 00.9**	**-0.9**
PUZ	**Puketiti**	**3.16**	**223**	S	**Sn**	**17 49 41.3**	**+3.0**
HAZ	**Te Kaha**	**3.24**	**232**	P	**Pn**	**17 49 02.4**	**-0.5**
HAZ	**Te Kaha**	**3.24**	**232**	S	**Sn**	**17 49 45.3**	**+5.0**
TWGZ	**Tauwhareparae**	**3.39**	**225**	P	**Pn**	**17 49 05.1**	**+0.1**
TWGZ	**Tauwhareparae**	**3.39**	**225**	S	**Sn**	**17 49 48.0**	**+4.0**
RUGZ	**Raukumara Rang**	**3.44**	**230**	P	**Pn**	**17 49 05.3**	**-0.4**
CNGZ	**Carnagh Statio**	**3.49**	**219**	P	**Pn**	**17 49 06.5**	**+0.3**
TKGZ	**Te Karaka**	**3.65**	**223**	P	**Pn**	**17 49 08.1**	**-0.3**
TKGZ	**Te Karaka**	**3.65**	**223**	S	**Sn**	**17 49 53.3**	**+3.0**
MWZ	**Matawai**	**3.76**	**227**	P	**Pn**	**17 49 09.1**	**-0.9**
WHRZ	**Whale Island**	**3.83**	**237**	P	**Pn**	**17 49 11.8**	**+0.8**
RIGZ	**Rimuhau**	**3.89**	**221**	P	**Pn**	**17 49 11.8**	**+0.1**
RAGZ	**Rawiri**	**3.94**	**226**	P	**Pn**	**17 49 12.3**	**-0.2**
URZ	**Urewera**	**3.97**	**231**	Pn	**Pn**	**17 49 12.2**	**-0.7**
	35nm,0.3s,baz=276,slow=1.6,SNR=135						
URZ				Sn	**Sn**	**17 50 00.6**	**+2.5**
	57nm,0.3s,baz=190,slow=18,SNR=12						
URZ	**Urewera**	**3.97**	**231**	P	**Pn**	**17 49 12.2**	**-0.7**
OPRZ	**Ohinepanea**	**4.12**	**239**	P	**Pn**	**17 49 13.4**	**-1.4**
KUZ	**Kuaotunu**	**4.38**	**256**	P	**Pn**	**17 49 16.9**	**-1.6**
BKZ	**Black Stump Fm**	**4.92**	**226**	*e*Pn	**Pn**	**17 49 24.1**	**-1.8**
OUZ	**Omahuta**	**6.08**	**273**	*e*Pn	**Pn**	**17 49 39.7**	**-2.1**
BFZ	**Birch Farm**	**6.15**	**216**	*e*Pn	**Pn**	**17 49 39.9**	**-2.8**
THZ	**Tophouse**	**8.69**	**224**	*e*Pn	**Pn**	**17 50 14.8**	**-2.7**
KHZ	**Kahutara**	**8.79**	**219**	*e*Pn	**Pn**	**17 50 17.1**	**-1.8**
LTZ	**Lake Taylor**	**9.71**	**222**	*e*Pn	**Pn**	**17 50 29.1**	**-2.6**
MQZ	**McQueen's Vall**	**10.18**	**217**	*e*Pn	**Pn**	**17 50 33.5**	**-4.4**
MQZ				*e*Sn	**Sn**	**17 52 22.2**	**-8

*GCMT **26** 17:48:42.4±0.2, 10.31N×104.25W, h12km, MW5.5/113, Moment Tensor Solution. s100,c170; s113,c204; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr0.07±.03; Mθθ-0.55±.03; Mϕϕ0.48±.04; Mrθ-0.08±.06; Mθϕ1.84±.03; Mrϕ0.00±.07; Best double couple: M=1.91300×10^17 NP1=82.00000°, δ90.00000°, λ-2.00000°. NP2=172.00000°, δ88.00000°, λ-180.00000°. Principal axes: T 1.8760, Plg2.0000°, Azm127.0000°; N 0.0730, Plg88.0000°, Azm256.0000°; P -1.9490, Plg2.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **26** 17:48:44.0, 10.20N×104.00W, h10km, mB5.6/7, Ms5.5/11, Ms7 5.3/10*

ISC 26 17:48:43.9±0.8, 10.05N±0.06×104.21W±0.08, h18km±4km, n838, σ1$33/708, mb5.0/189, MS5.2/181, 1D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOIG	**Morelia**	**10.01**	**17**	*e*Pn	**Pn**	**17 51 08.8**	**+1.7**
JRQG	**Juriquilla Cam**	**11.20**	**18**	Pn	**Pn**	**17 51 24.9**	**+1.5**
CMIG	**Matias Romero**	**11.45**	**51**	Pn	**Pn**	**17 51 26.9**	**+0.2**
	0.0nm,0.3s,baz=220,slow=11,SNR=29						
CMIG				LR	LR	17 54 49.3	
	comp=Z,13μm,20.4s,baz=230,slow=32						
ZAIG	**Zacatecas**	**12.75**	**7**	*e*Pn	**Pn**	**17 51 46.2**	**+1.5**
SLBS	**Sierra La Lagu**	**14.63**	**339**	*e*Pn	**Pn**	**17 52 12.3**	**+2.1**
LPIG	**La Paz**	**15.14**	**338**	Pn	**Pn**	**17 52 15.8**	**-1.2**
	14nm,0.3s,baz=22,slow=3.1,SNR=5.1						
LPIG				LR	LR	17 56 36.5	
	comp=Z,14μm,18.6s,baz=164,slow=32						
LNIG	**Linares**	**15.45**	**16**	*e*Pn	**Pn**	**17 52 21.1**	**+0.1**
	52nm,1.2s						
HPIG		**16.86**	**356**	*e*Pn	**P**	**17 52 41.4**	**+0.1**
	88nm,1.3s						
TGUH	**Tegucigalpa,Un**	**17.04**	**75**	*e*Pn	**P**	**17 52 43.1**	**0.0**
KVTX	**Kingsville**	**18.40**	**18**	*e*Pn	**Pn**	**17 53 00.5**	**+2.4**
	385nm,1.4s						
833A	**Chaparral WMA,**	**18.74**	**13**	P	**Pn**	**17 53 03.0**	**+0.8**
	baz=195,SNR=7.5						
SRIG	**Santa Rosalia**	**18.78**	**337**	*e*P	**Pn**	**17 53 03.1**	**+0.4**
JTS	**JuntasAbangare**	**18.96**	**88**	P	**Pn**	**17 53 06.3**	**+1.2**
	0.6nm,0.3s,baz=319,slow=9.1,SNR=8.4						
JTS				LR	LR	17 58 31.1	
	comp=Z,3μm,19.4s,baz=331,slow=31						
LTX	**Lajitas**	**19.20**	**1**	*e*P	**P**	**17 53 07.3**	**+0.4**
LTX	**Lajitas**	**19.20**	**1**	*e*P	**P**	**17 53 07.3**	**+0.4**
LTX				*e*PcP	**PcP**	**17 57 29.3**	**-1.1**
TX31	**Lajitas Ar. Si**	**19.20**	**1**	*e*P	**Pn**	**17 53 08.0**	**+0.1**
TXAR	**Lajitas Array**	**19.20**	**1**	P	**P**	**17 53 07.3**	**+0.4**
	0.1nm,0.3s,baz=182,slow=9.9,SNR=77						
TXAR				PcP	**PcP**	**17 57 29.3**	**-1.1**
	0.0nm,0.3s,baz=193,slow=2.8,SNR=4.9						
TXAR				LR	LR	17 59 03.0	
	comp=Z,2μm,19.0s,baz=0.0,slow=32						
HSIG		**19.90**	**342**	*e*P	**P**	**17 53 15.2**	**+0.6**
JCT	**Junction City**	**20.74**	**11**	P	**P**	**17 53 23.8**	**0.0**
	baz=192,SNR=25						
JCT	**Junction City**	**20.74**	**11**	*e*P	**P**	**17 53 24.3**	**+0.6**
JCT				pmax	pmax		
	comp=Z,126nm,1.2s						
JCT				MLR	MLR		
	comp=Z,9μm,19.0s						
JCT	**Junction City**	**20.74**	**11**	*e*P	**P**	**17 53 24.3**	**+0.6**
	comp=Z,126nm,1.2s						
JCT				LR	LR		
	comp=Z,9μm,19.0s						
435B	**Jarrell**	**21.54**	**16**	P	**P**	**17 53 33.0**	**+0.8**
	baz=198,SNR=5.5						
MNTX	**Cornudas Mount**	**21.57**	**357**	P	**P**	**17 53 32.8**	**+0.2**
	baz=177,SNR=80						
MNTX	**Cornudas Mount**	**21.57**	**357**	*e*P	**P**	**17 53 32.0**	**-0.6**
	comp=Z,105nm,1.3s						
MNTX				LR	LR		
	comp=Z,4μm,20.0s						
319A	**Douglas**	**21.74**	**348**	*e*P	**P**	**17 53 33.9**	**-0.7**
	comp=Z,49nm,1.0s						
GDL2	**Guadalupe Moun**	**22.05**	**360**	*e*P	**P**	**17 53 38.1**	**+0.2**
121A	**Cookes Peak, D**	**22.62**	**352**	P	**P**	**17 53 43.8**	**-0.2**
	baz=171,SNR=15						
WHTX	**Lake Whitney,**	**22.72**	**15**	P	**P**	**17 53 44.2**	**-0.7**
	baz=197						
WHTX	**Lake Whitney,**	**22.72**	**15**	*e*P	**P**	**17 53 44.4**	**-0.5**
	comp=Z,131nm,1.5s						
ABTX	**Abilene, Hawle**	**22.86**	**10**	P	**P**	**17 53 45.9**	**-0.6**
	baz=192,SNR=20						
ABTX	**Abilene, Hawle**	**22.86**	**10**	*e*P	**P**	**17 53 46.0**	**-0.4**
	comp=Z,107nm,1.1s						
TUC	**Tucson**	**22.97**	**346**	P	**P**	**17 53 47.4**	**-0.3**
	baz=163						
TUC	**Tucson**	**22.97**	**346**	*e*P	**P**	**17 53 47.3**	**-0.4**
TUC				*e*S	**S**	**17 58 01.2**	**+3.8**
TUC				pmax	pmax		
	comp=Z,56nm,1.3s						
TUC				MLR	MLR		
	comp=Z,6μm,22.0s						
TUC	**Tucson**	**22.97**	**346**	*e*P	**P**	**17 53 47.3**	**-0.4**
	comp=Z,56nm,1.3s						
TUC				*e*S	**S**	**17 58 01.2**	**+3.8**
TUC				LR	LR		
	comp=Z,6μm,22.0s						
441A	**DeRidder**	**23.01**	**25**	P	**P**	**17 53 48.0**	**0.0**
	baz=209						
543A	**St. Martinvill**	**23.03**	**28**	P	**P**	**17 53 47.2**	**-1.0**
	baz=212						
645A	**Chauvin**	**23.13**	**32**	P	**P**	**17 53 47.9**	**-1.3**
	baz=216						
214A	**Organ Pipe Nat**	**23.21**	**341**	P	**P**	**17 53 49.7**	**-0.3**
	baz=158						
442A	**Mamou**	**23.30**	**26**	P	**P**	**17 53 49.5**	**-1.4**
	baz=210						
NATX	**Nacogdoches**	**23.35**	**21**	P	**P**	**17 53 50.3**	**-1.1**
	baz=204,SNR=5.2						
NATX	**Nacogdoches**	**23.35**	**21**	*e*P	**P**	**17 53 51.5**	**+0.1**
	comp=Z,140nm,1.0s						
NATX				LR	LR		
	comp=Z,3μm,20.0s						
341A	**Kurthwood**	**23.53**	**24**	P	**P**	**17 53 51.4**	**-1.8**
	baz=208						
443A	**Delano Plantat**	**23.64**	**28**	P	**P**	**17 53 51.9**	**-2.3**
	baz=212						
MSTX	**Muleshoe**	**23.85**	**3**	P	**P**	**17 53 55.8**	**-0.6**
	baz=184,SNR=20						
MSTX	**Muleshoe**	**23.85**	**3**	*e*P	**P**	**17 53 55.8**	**-0.6**
	comp=Z,128nm,1.4s						
342A	**Flagon Creek P**	**23.92**	**26**	P	**P**	**17 53 55.7**	**-1.2**
	baz=210						
240A	**Hunter Patters**	**23.93**	**22**	P	**P**	**17 53 55.8**	**-1.2**
	baz=206						
Y22D	**IRIS PASSCAL I**	**24.04**	**354**	P	**P**	**17 53 57.6**	**-0.7**
	baz=174						
Y22E	**IRIS PASSCAL I**	**24.04**	**354**	P	**P**	**17 53 56.5**	**-1.7**
	baz=174						
BCIP	**Isla Barro Col**	**24.05**	**90**	PFAKE		17 54 10.0	+12
BCIP				LR	LR		
	comp=Z,3μm,21.0s						
BNM	**Barren Site**	**24.09**	**355**	*e*P	**P**	**17 53 58.8**	**0.0**
241A	**Mo Tay, Goldon**	**24.24**	**24**	P	**P**	**17 53 59.3**	**-0.6**
	baz=208						
113A	**Mohawk Valley,**	**24.27**	**340**	*e*P	**P**	**17 54 00.3**	**+0.1**
	comp=Z,39nm,1.3s						
445A	**Amite**	**24.30**	**30**	P	**P**	**17 53 59.5**	**-1.0**
	baz=215						
LAZ	**Ladron**	**24.39**	**354**	*e*P	**P**	**17 54 00.3**	**-1.2**
140A	**Cam and Jess,**	**24.54**	**22**	P	**P**	**17 54 01.6**	**-1.0**
	baz=206						
242A	**Grayson**	**24.59**	**25**	P	**P**	**17 54 01.2**	**-1.9**
	baz=210						
344A	**Westbrook Farm**	**24.70**	**28**	P	**P**	**17 54 02.1**	**-2.0**
	baz=213						
243A	**Waterproof**	**24.72**	**27**	P	**P**	**17 54 01.8**	**-2.5**
	baz=211						
141A	**Papa Simpson,**	**24.76**	**23**	P	**P**	**17 54 03.7**	**-0.9**
	baz=207						
AMTX	**Amarillo**	**24.83**	**5**	P	**P**	**17 54 04.9**	**-0.5**
	baz=186						
AMTX	**Amarillo**	**24.83**	**5**	*e*P	**P**	**17 54 07.0**	**+1.7**
	comp=Z,130nm,1.0s						
446A	**Poplarville**	**24.84**	**32**	P	**P**	**17 54 03.3**	**-2.0**
	baz=217						
ANMO	**Albuquerque**	**24.87**	**356**	P	**P**	**17 54 06.0**	**+0.2**
	comp=Z,9.8nm,0.9s,baz=347,slow=9.8,SNR=12						
ANMO				LR	LR	18 02 58.4	
	comp=Z,2μm,19.5s,baz=3.0,slow=34						
ANMO	**Albuquerque**	**24.87**	**356**	P	**P**	**17 54 05.5**	**-0.2**
	baz=175						
ANMO	**Albuquerque**	**24.87**	**356**	*e*P	**P**	**17 54 05.6**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,49nm,1.5s						
ANMO	**Albuquerque**	**24.87**	**356**	*e*P	**P**	**17 54 05.6**	**-0.2**
	comp=Z,49nm,1.5s						
GLA	**Glamis**	**24.90**	**338**	*e*P	**P**	**17 54 02.5**	**-3.4**
GLA				*e*		17 57 42.7	
GLA	**Glamis**	**24.90**	**338**	*e*P	**P**	**17 54 02.5**	**-3.4**
GLA				*e*PcP	**PcP**	**17 57 42.7**	**+1.1**
345A	**Thompson Farm,**	**24.92**	**30**	P	**P**	**17 54 04.5**	**-1.6**
	baz=215						
WESC	**Westside Schoo**	**24.98**	**337**	*e*P	**P**	**17 54 09.8**	**+3.3**
IKP	**In-Ko-Pah, Jac**	**25.03**	**336**	P	**P**	**17 54 07.1**	**-0.1**
	baz=152						
WMOK	**Wichita Mounta**	**25.07**	**11**	P	**P**	**17 54 07.1**	**-0.4**
	baz=193,SNR=7.5						
WMOK	**Wichita Mounta**	**25.07**	**11**	*e*P	**P**	**17 54 06.3**	**-1.2**
WMOK				pmax	pmax		
	comp=Z,32nm,1.2s						
WMOK				MLR	MLR		
	comp=Z,7μm,19.0s						
WMOK	**Wichita Mounta**	**25.07**	**11**	*e*P	**P**	**17 54 06.3**	**-1.2**
	comp=Z,32nm,1.2s						
WMOK				LR	LR		
	comp=Z,7μm,19.0s						
142A	**Monroe**	**25.10**	**25**	P	**P**	**17 54 07.4**	**-0.2**
	baz=209						
SWSC	**Sam W. Stewart**	**25.17**	**337**	P	**P**	**17 54 09.8**	**+1.5**
	baz=152						
447A	**Lucedale**	**25.21**	**33**	P	**P**	**17 54 07.4**	**-1.3**
	baz=218						
BAR	**Barrett**	**25.29**	**335**	*e*P	**P**	**17 54 15.6**	**+6.1**
	comp=Z,43nm,1.4s						
MONP2	**Monument Peak**	**25.37**	**335**	P	**P**	**17 54 09.1**	**-1.3**
	baz=151						
Z41A	**Richland Creek**	**25.38**	**23**	P	**P**	**17 54 08.5**	**-1.7**
	baz=207						
Y12C	**Blythe**	**25.42**	**340**	P	**P**	**17 54 10.0**	**-0.6**
	baz=156						
Y12C	**Blythe**	**25.42**	**340**	*e*P	**P**	**17 54 11.1**	**+0.5**
	comp=Z,36nm,1.4s						
143A	**Socs Landing,**	**25.46**	**26**	P	**P**	**17 54 09.4**	**-1.5**
	baz=210						
CBCY	**The Bluff, Cay**	**25.49**	**65**	*e*P	**P**	**17 54 12.6**	**+1.2**
	comp=Z,124nm,1.3s						
245A	**Little AP, Sta**	**25.58**	**29**	P	**P**	**17 54 10.1**	**-1.9**
	baz=214						
WLAR	**White Oak Lake**	**25.64**	**22**	*e*P	**P**	**17 54 13.2**	**+0.6**
	comp=Z,82nm,1.1s						
109C	**Camp Elliot, M**	**25.65**	**334**	P	**P**	**17 54 13.8**	**+1.1**
	baz=150						
BC3	**Big Chuckawall**	**25.67**	**338**	P	**P**	**17 54 15.2**	**+2.2**
	baz=154,SNR=6.9						
DPP	**Dos Picos Cty**	**25.68**	**335**	*e*PcP	**PcP**	**17 57 45.5**	**+2.2**
DPP				*e*S	**S**	**17 58 41.8**	**+0.9**
Z42A	**Norrel Spur, H**	**25.73**	**24**	P	**P**	**17 54 12.4**	**-0.9**
	baz=209						
347A	**Saraland**	**25.75**	**32**	P	**P**	**17 54 12.9**	**-0.7**
	baz=218						
PDMCI	**Parker Dam,Lak**	**25.80**	**341**	P	**P**	**17 54 14.2**	**+0.2**
	baz=157						
Y40A	**Okolona**	**25.88**	**21**	P	**P**	**17 54 13.9**	**-0.8**
	baz=205						
246A	**Jackson Lee, B**	**25.94**	**30**	P	**P**	**17 54 15.2**	**-0.2**
	baz=216						
Z43A	**Armstrong Fami**	**25.96**	**25**	P	**P**	**17 54 14.5**	**-1.0**
	baz=210						
449A	**Pace**	**25.98**	**35**	P	**P**	**17 54 15.3**	**-0.3**
	baz=221						
Y41A	**Eaglette Beard**	**26.00**	**22**	P	**P**	**17 54 15.5**	**-0.4**
	baz=207						
IRM	**Iron Mountain**	**26.01**	**339**	P	**P**	**17 54 16.6**	**+0.6**
	baz=155						
XPFO	**Piæon Flat**	**26.01**	**336**	*e*P	**P**	**17 54 17.6**	**+1.5**
	comp=Z,68nm,1.4s						
PFO	**Pinyon Flats O**	**26.02**	**336**	P	**P**	**17 54 16.2**	**+0.1**
	baz=152						
PFO	**Pinyon Flats O**	**26.02**	**336**	*e*P	**P**	**17 54 17.8**	**+1.6**
PFO				pmax	pmax		
	comp=Z,58nm,1.4s						
PFO				MLR	MLR		
	comp=Z,3μm,21.0s						
PFO	**Pinyon Flats O**	**26.02**	**336**	*e*P	**P**	**17 54 17.8**	**+1.6**
	comp=Z,58nm,1.4s						
PFO				LR	LR		
	comp=Z,3μm,21.0s						
145A	**Houston Renfro**	**26.04**	**28**	P	**P**	**17 54 15.6**	**-0.6**
	baz=214						
X39A	**Fountain Ranch**	**26.05**	**19**	P	**P**	**17 54 15.6**	**-0.7**
	baz=203,SNR=14						
348A	**Jackson**	**26.10**	**33**	P	**P**	**17 54 16.0**	**-0.8**
	baz=219						
BELC	**Belle Mtn. Jos**	**26.18**	**337**	P	**P**	**17 54 16.7**	**-1.0**
	baz=153						
WUAZ	**Wupatki**	**26.18**	**347**	P	**P**	**17 54 18.0**	**+0.3**
	baz=164						
WUAZ	**Wupatki**	**26.18**	**347**	PFAKE		17 54 30.0	+12
WUAZ				LR	LR		
	comp=Z,3μm,20.0s						
247A	**Quitman**	**26.23**	**31**	P	**P**	**17 54 17.3**	**-0.7**
	baz=217						
MIAR	**Mount Ida**	**26.26**	**20**	PFAKE		17 54 30.0	+12
MIAR				LR	LR		
	comp=Z,3μm,20.0s						
Y42A	**Garnett, Star**	**26.28**	**24**	P	**P**	**17 54 17.2**	**-1.2**
	baz=208						
MURC	**Murrieta**	**26.30**	**335**	P	**P**	**17 54 17.1**	**-1.6**
	baz=150						
CCAR	**Cane Creek**	**26.36**	**24**	*e*P	**P**	**17 54 20.6**	**+1.5**
	comp=Z,105nm,1.1s						
Z44A	**Pea Ridge, Bel**	**26.37**	**27**	P	**P**	**17 54 19.0**	**-0.2**
	baz=212						
BRAL	**Brenton**	**26.38**	**35**	P	**P**	**17 54 18.7**	**-0.6**
	baz=221						
BRAL	**Brewton**	**26.38**	**35**	PFAKE		17 54 30.0	+11
BRAL				LR	LR		
	comp=Z,1μm,20.0s						
349A	**Repton**	**26.44**	**34**	P	**P**	**17 54 19.3**	**-0.6**
	baz=220						
W13A	**Hualapai Mount**	**26.45**	**342**	*e*P	**P**	**17 54 19.1**	**-1.1**
	comp=Z,10nm,1.0s						
X40A	**Basin Creek Fa**	**26.46**	**21**	P	**P**	**17 54 20.2**	**+0.2**
	baz=206						
146A	**Union**	**26.48**	**30**	P	**P**	**17 54 20.1**	**-0.1**
	baz=215						
Y43A	**Makayla and Ka**	**26.70**	**25**	P	**P**	**17 54 21.2**	**-1.0**
	baz=210						
GMRC	**Granite Mounta**	**26.75**	**339**	P	**P**	**17 54 21.6**	**-1.3**
	baz=154						
W39A	**Magazine**	**26.78**	**19**	P	**P**	**17 54 21.6**	**-1.3**
	baz=203						
Z45A	**Winona**	**26.78**	**28**	P	**P**	**17 54 22.9**	**0.0**
	baz=213						
TUL1	**Leonard**	**26.86**	**15**	P	**P**	**17 54 23.6**	**-0.1**
	baz=198						
TUL1	**Leonard**	**26.86**	**15**	*e*P	**P**	**17 54 24.3**	**+0.7**
	comp=Z,178nm,1.9s						
FMP	**Fort Macarthur**	**26.87**	**333**	*e*P	**P**	**17 54 20.9**	**-2.8**
FMP				*e*PcP	**PcP**	**17 57 44.7**	**-1.4**
147A	**Livingston**	**26.90**	**31**	P	**P**	**17 54 22.8**	**-1.2**
	baz=217						
UALR	**University of**	**26.90**	**22**	*e*P	**P**	**17 54 23.3**	**-0.6**
	comp=Z,30nm,1.1s						
MHTCO	**State Highway**	**26.97**	**359**	*e*P	**P**	**17 54 26.0**	**+1.2**
	comp=Z,58nm,1.7s						
T25A	**Trinidad**	**26.97**	**360**	P	**P**	**17 54 24.6**	**-0.3**
	baz=180						
T25A	**Trinidad**	**26.97**	**360**	*e*P	**P**	**17 54 25.0**	**+0.1**
	comp=Z,105nm,2.0s						
Z46A	**Louisville**	**26.99**	**29**	P	**P**	**17 54 23.9**	**-0.9**
	baz=215						
SBI	**Santa Barbara**	**27.01**	**332**	*e*P	**P**	**17 54 29.8**	**+4.9**
SBI				*e*S	**S**	**17 59 04.5**	**+2.7**
W40A	**Ferguson Farm,**	**27.02**	**20**	P	**P**	**17 54 24.9**	**0.0**
	baz=205,SNR=7.7						
W40A	**Ferguson Farm,**	**27.02**	**20**	*e*P	**P**	**17 54 25.0**	**0.0**
	comp=Z,90nm,1.3s						
HEC	**Hector,Ludlow**	**27.04**	**338**	P	**P**	**17 54 24.2**	**-1.2**
	baz=153						
BFSC	**Mount Baldy Ra**	**27.05**	**335**	P	**P**	**17 54 25.1**	**-0.4**
	baz=150						
BFSC	**Mount Baldy Ra**	**27.05**	**335**	*e*P	**P**	**17 54 29.9**	**+4.3**
BFSC				*e*pwP	**sP**	**17 54 34.4**	**+1.3**
Y44A	**Strider, Charl**	**27.05**	**26**	P	**P**	**17 54 24.6**	**-0.7**
	baz=212						
MTDJ	**Mount Denham**	**27.09**	**70**	PFAKE		17 54 40.0	+14
MTDJ				LR	LR		
	comp=Z,1μm,20.0s						
Y45A	**Yeager Farm, C**	**27.27**	**27**	P	**P**	**17 54 27.5**	**+0.3**
	baz=213						
W41B	**Gary Mavity, V**	**27.29**	**22**	P	**P**	**17 54 27.6**	**+0.1**
	baz=206,SNR=16						
MVCO	**Mesa Verde**	**27.32**	**353**	P	**P**	**17 54 27.9**	**-0.1**
	baz=171						
MVCO	**Mesa Verde**	**27.32**	**353**	PFAKE		17 54 40.0	+12
MVCO				LR	LR		
	comp=Z,3μm,20.0s						
WHAR	**Wooly Hollow**	**27.38**	**22**	*e*P	**P**	**17 54 27.9**	**-0.4**
	comp=Z,132nm,1.4s						
OTAV	**Otavalo**	**27.42**	**109**	P	**P**	**17 54 31.0**	**+1.6**
OTAV				pmax	pmax		
	comp=Z,68nm,1.2s						
OTAV	**Otavalo**	**27.42**	**109**	*e*P	**P**	**17 54 31.1**	**+1.7**
	comp=Z,69nm,1.1s						
OTAV				LR	LR		
	comp=Z,4μm,22.0s						
OTAV	**Otavalo**	**27.42**	**109**	*e*P	**P**	**17 54 29.1**	**-0.3**
V39A	**Pettigrew**	**27.42**	**19**	P	**P**	**17 54 27.9**	**-0.8**
	baz=203						
Z47A	**Carrollton**	**27.42**	**30**	P	**P**	**17 54 28.0**	**-0.6**
	baz=216						
250A	**Grady**	**27.43**	**35**	P	**P**	**17 54 27.4**	**-1.3**
	baz=221						
TUQ	**Turquoise Moun**	**27.43**	**339**	P	**P**	**17 54 30.5**	**+1.6**
	baz=154						
X44A	**Crenshaw**	**27.54**	**26**	P	**P**	**17 54 29.2**	**-0.5**
	baz=211						
655A	**Horseshoe Beac**	**27.55**	**42**	P	**P**	**17 54 28.5**	**-1.4**
	baz=229						
BLG	**Laguna Peak, P**	**27.55**	**333**	P	**P**	**17 54 31.2**	**+1.3**
	baz=147						
Y46A	**Houston**	**27.59**	**28**	P	**P**	**17 54 28.6**	**-1.6**
	baz=214						
SDCO	**Great Sand Dun**	**27.60**	**358**	PFAKE		17 54 40.0	+9.4
SDCO				LR	LR		
	comp=Z,1μm,22.0s						
149A	**Jones**	**27.61**	**33**	P	**P**	**17 54 28.6**	**-1.8**
	baz=219						
GSC	**Goldstone, Bar**	**27.64**	**337**	P	**P**	**17 54 29.8**	**-0.9**
	baz=153						
GSC	**Goldstone, Bar**	**27.64**	**337**	*e*P	**P**	**17 54 30.3**	**-0.4**
GSC				*e*		17 54 39.0	
GSC				*e*S	**S**	**17 59 14.1**	**+2.2**
GSC				pmax	pmax		
	comp=Z,43nm,1.4s						
GSC	**Goldstone, Bar**	**27.64**	**337**	*e*P	**P**	**17 54 30.3**	**-0.4**
	comp=Z,43nm,1.4s						
GSC				*e*pwP	**sP**	**17 54 39.0**	**+0.7**
GSC				*e*S	**S**	**17 59 14.1**	**+2.2**
W42A	**Bald Knob**	**27.65**	**23**	P	**P**	**17 54 29.3**	**-1.4**
	baz=208						
V40A	**Witts Springs**	**27.66**	**20**	P	**P**	**17 54 29.5**	**-1.3**
	baz=205						
S22A	**4UR Ranch, Cre**	**27.68**	**356**	P	**P**	**17 54 31.0**	**-0.3**
	baz=174						
HHAR	**Hobbs**	**27.73**	**18**	*e*P	**P**	**17 54 30.0**	**-1.5**
	comp=Z,11nm,1.0s						
EDW2	**Edwards Air Fo**	**27.74**	**335**	P	**P**	**17 54 30.2**	**-1.4**
	baz=150						
X45A	**UM Field Stati**	**27.80**	**27**	P	**P**	**17 54 30.8**	**-1.3**
	baz=213						
Z48A	**Northport**	**27.82**	**31**	P	**P**	**17 54 31.3**	**-0.9**
	baz=217						
LRAL	**Lakeview Retre**	**27.84**	**32**	P	**P**	**17 54 30.4**	**-2.0**
	baz=218						
LRAL	**Lakeview Retre**	**27.84**	**32**	*e*P	**P**	**17 54 33.3**	**+0.9**
	comp=Z,57nm,1.5s						
V41A	**Mountainview**	**27.87**	**21**	P	**P**	**17 54 32.1**	**-0.6**
	baz=206						
KNB	**Kanab**	**27.96**	**345**	*e*P	**P**	**17 54 35.3**	**+1.6**
KNB				pmax	pmax		
	comp=Z,43nm,1.3s						
KNB	**Kanab**	**27.96**	**345**	*e*P	**P**	**17 54 35.3**	**+1.6**
	comp=Z,43nm,1.3s						
U39A	**Green Forest**	**27.97**	**19**	P	**P**	**17 54 32.6**	**-1.0**
	baz=203						
251A	**Midway**	**28.00**	**36**	P	**P**	**17 54 32.0**	**-1.9**
	baz=222						
150A	**Eclectic**	**28.04**	**34**	P	**P**	**17 54 32.6**	**-1.6**
	baz=221						
858A	**St. Cloud**	**28.06**	**47**	P	**P**	**17 54 31.6**	**-2.8**
	baz=234						
LCMT	**Little Creek M**	**28.06**	**345**	*e*P	**P**	**17 54 35.9**	**+1.3**
	comp=Z,23nm,1.3s						
Y47A	**UCPARC, Winfie**	**28.09**	**30**	P	**P**	**17 54 34.1**	**-0.6**
	baz=216						
U40A	**Yellville**	**28.15**	**20**	P	**P**	**17 54 34.4**	**-0.8**
	baz=204						
SHPR	**Sheep Range**	**28.15**	**341**	*e*P	**P**	**17 54 36.5**	**+1.2**
	comp=Z,18nm,1.2s						
353A	**Camilla**	**28.17**	**38**	P	**P**	**17 54 34.7**	**-0.7**
	baz=225						
V42A	**Cord**	**28.17**	**22**	P	**P**	**17 54 35.6**	**+0.2**
	baz=208						
Z49A	**Columbiana**	**28.21**	**33**	P	**P**	**17 54 34.5**	**-1.2**
	baz=219						
X46A	**Booneville**	**28.28**	**28**	P	**P**	**17 54 36.0**	**-0.3**
	baz=214						
YOTC	**Yotoco, Valle**	**28.29**	**100**	*e*P	**P**	**17 54 34.2**	**-2.7**
T38A	**Diamond**	**28.33**	**17**	P	**P**	**17 54 36.2**	**-0.5**
	baz=201,SNR=5.1						
151A	**Opelika**	**28.36**	**35**	P	**P**	**17 54 36.3**	**-0.8**
	baz=222						
Y48A	**Jasper**	**28.44**	**31**	P	**P**	**17 54 37.1**	**-0.7**
	baz=217						
U41A	**Viola**	**28.46**	**21**	P	**P**	**17 54 37.3**	**-0.6**
	baz=206,SNR=7.8						
W45A	**Hickory Valley**	**28.51**	**26**	P	**P**	**17 54 38.7**	**+0.3**
	baz=212						
SOTA	**Rioblanco**	**28.53**	**104**	*e*P	**P**	**17 54 38.4**	**-1.0**
MPMC	**Manual Prospec**	**28.57**	**337**	P	**P**	**17 54 38.5**	**-0.6**
	baz=152,SNR=18						
Z50A	**Ashland**	**28.58**	**33**	P	**P**	**17 54 38.3**	**-0.8**
	baz=220						
T39A	**Clever**	**28.59**	**18**	P	**P**	**17 54 38.3**	**-0.8**
	baz=203,SNR=7.5						
CCUT	**Cedar City**	**28.60**	**345**	*e*P	**P**	**17 54 41.0**	**+1.6**
	comp=Z,18nm,1.6s						
ISA	**Isabella, Lake**	**28.61**	**335**	P	**P**	**17 54 39.1**	**-0.4**
	baz=150						
ISA	**Isabella, Lake**	**28.61**	**335**	*e*P	**P**	**17 54 39.0**	**-0.4**
ISA				pmax	pmax		
	comp=Z,30nm,1.3s						
ISA	**Isabella, Lake**	**28.61**	**335**	*

RREF **El Recreo** 29.06 98 *e*P P 17 54 42.4 -1.9
baz=149
SMCO **Snowmass** 29.11 356 *e*P P 17 54 44.5 +0.3
comp=Z,16nm,1.1s
CWC **Cottonwood Cre** 29.13 337 P P 17 54 44.1 +0.1
baz=151
T41A **Mountain View** 29.14 21 P P 17 54 43.3 -0.7
baz=206,SNR=8.8
254A **Abbeville** 29.15 39 P P 17 54 43.2 -0.9
baz=226
S39A **Bolivar** 29.22 18 P P 17 54 44.0 -0.7
baz=202
X49A **Woodville** 29.34 31 P P 17 54 44.6 -1.2
baz=218
T42A **Van Buren** 29.37 22 P P 17 54 44.7 -1.3
baz=207
S40A **Lebanon** 29.39 19 P P 17 54 46.0 -0.2
baz=204
U44A **Portageville** 29.45 24 P P 17 54 44.8 -1.9
baz=210
R38A **Fenwick Farm,** 29.51 17 P P 17 54 46.1 -1.1
baz=201
V46A **Holladay** 29.52 27 P P 17 54 45.5 -1.9
baz=214,SNR=5.9
W48A **Pulaski** 29.54 30 P P 17 54 46.7 -0.8
baz=216,SNR=5.7
FLOC **Florencia** 29.61 105 *e*P P 17 54 48.4 0.0
S41A **Jillco Farms,** 29.63 20 P P 17 54 46.9 -1.5
baz=205,SNR=7.1
X50A **Fort Payne** 29.65 32 P P 17 54 46.8 -1.8
baz=219
ISCO **Idaho Springs** 29.66 358 P P 17 54 48.6 -0.3
baz=177
ISCO **Idaho Springs** 29.66 358 PFAKE 17 55 00.0 +11
ISCO LR LR
comp=Z,4µm,22.0s
T43A **Greenville** 29.71 23 P P 17 54 48.0 -1.1
baz=206
KSU1 **Kansas State U** 29.72 12 P P 17 54 48.4 -0.7
baz=195
KSU1 **Kansas State U** 29.72 12 *e*P P 17 54 48.9 -0.2
comp=Z,33nm,1.1s
KSU1 LR LR
comp=Z,5µm,19.0s
TIN **Tinemaha, Big** 29.72 337 P P 17 54 48.9 -0.4
baz=151
154A **Montrose** 29.73 38 P P 17 54 47.0 -2.2
baz=226
GTBY **Guantanamo Bay** 29.73 67 PFAKE 17 55 00.0 +11
GTBY LR LR
comp=Z,1µm,20.0s
V47A **Nunnelly** 29.82 28 P P 17 54 47.9 -2.1
baz=214
R39A **Chumby, Stover** 29.88 18 P P 17 54 48.7 -1.8
baz=202,SNR=5.7
WVT **Waverly** 29.92 27 P P 17 54 48.1 -2.8
baz=214
WVT **Waverly** 29.92 27 *e*P P 17 54 50.8 -0.1
WVT pmax pmax
comp=Z,12nm,1.0s
WVT **Waverly** 29.92 27 *e*P P 17 54 50.8 -0.1
comp=Z,12nm,1.0s
R11A **Troy Canyon, C** 29.97 342 P P 17 54 50.8 -0.8
baz=157
R11A **Troy Canyon, C** 29.97 342 *e*P P 17 54 52.3 +0.7
comp=Z,24nm,1.6s
ROSC **El Rosal** 30.08 98 P P 17 54 53.4 +0.4
comp=Z,5.0nm,0.4s,baz=291,slow=9.7,SNR=2.5
ROSC **El Rosal** 30.08 98 *e*P P 17 54 52.2 -0.8
comp=Z,14nm,1.2s
GOGA **Godfrey** 30.08 36 PFAKE 17 55 00.0 +7.7
GOGA LR LR
comp=Z,1µm,19.0s
R40A **Maddies Statio** 30.10 19 P P 17 54 51.4 -1.0
baz=204,SNR=6.2
S42A **Caledonia** 30.13 21 P P 17 54 50.7 -2.1
baz=207
S43A **Fulton Ridge,** 30.22 23 P P 17 54 52.8 -0.8
baz=208
Q38A **Cooks Store, C** 30.31 16 P P 17 54 54.3 0.0
baz=201
R41A **Rosebud** 30.40 20 P P 17 54 53.6 -1.5
baz=206
MLAC **Mammoth, Mammo** 30.46 337 P P 17 54 55.4 -0.5
baz=151
O33A **Hebron** 30.48 10 P P 17 54 54.7 -1.1
baz=193
MDPB **Devils Postpil** 30.56 336 *e*P P 17 54 56.4 -0.4
comp=Z,38nm,1.3s
MPU **Maple Canyon** 30.57 349 *e*P P 17 54 57.0 +0.1
comp=Z,41nm,1.5s
Q39A **Willow Grove F** 30.57 17 P P 17 54 55.3 -1.4
baz=202
R42A **Luebbering** 30.59 21 P P 17 54 55.0 -1.8
baz=207
S44A **Carbondale** 30.65 24 P P 17 54 55.4 -1.9
baz=210
T46A **Princeton** 30.66 26 P P 17 54 56.7 -0.7
baz=213
P37A **Lathrop** 30.70 15 P P 17 54 57.0 -0.8
baz=199
O34A **Beatrice** 30.75 11 P P 17 54 57.2 -1.0
baz=195,SNR=10
N23A **Red Feather La** 30.76 357 P P 17 54 58.6 0.0
baz=177
N23A **Red Feather La** 30.76 357 *e*P P 17 54 58.5 -0.2
comp=Z,20nm,1.2s
Q40A **Laux Farm, Aux** 30.80 19 P P 17 54 57.1 -1.6
baz=204,SNR=6.6
U48A **Cassie Pea, Po** 30.83 29 P P 17 54 57.9 -1.1
baz=216
OGNE **Ogallala** 30.83 3 P P 17 54 59.4 +0.3
baz=184
OGNE **Ogallala** 30.83 3 *e*P P 17 55 00.4 +1.3
OGNE LR LR
comp=Z,85nm,1.3s
comp=Z,3µm,21.0s
ATAH **Atahualpa** 30.86 123 P P 17 55 01.3 +1.4
comp=Z,11nm,1.0s,baz=330,slow=6.1,SNR=9.8
ATAH LR LR 18 04 54.7
comp=Z,13µm,19.6s,baz=303,slow=31
MYLM **Yosemite Lake** 30.90 334 *e*PcP PcP 17 57 57.5 +1.4
S45A **Carrier Mills** 30.91 25 P P 17 54 58.7 -0.9
baz=211
P38A **Dawn** 30.96 16 P P 17 54 59.2 -0.8
baz=201
NV01 **Mina Array Sit** 30.96 338 *e*P P 17 55 00.3 0.0
NVAR **Mina Array Bea** 30.96 338 P P 17 55 00.1 -0.3
comp=Z,3.3nm,0.8s,baz=163,slow=9.1,SNR=14
NVAR PcP PcP 17 57 56.2 -0.3
comp=Z,0.9nm,0.9s,baz=148,slow=3.6,SNR=3.8
NVAR LR LR 18 05 25.7
comp=Z,4µm,21.1s,baz=216,slow=33
T47A **Sharon Grove** 30.96 27 P P 17 54 59.6 -0.5
baz=214
DUG **Dugway, Tooele** 30.98 347 P P 17 55 01.4 +0.9
baz=164
DUG **Dugway, Tooele** 30.98 347 *e*P P 17 55 01.6 +1.2
DUG pmax pmax
comp=Z,21nm,1.3s
DUG MLR MLR
comp=Z,3µm,20.0s
DUG **Dugway, Tooele** 30.98 347 *e*P P 17 55 01.6 +1.2
comp=Z,21nm,1.3s
DUG LR LR
comp=Z,3µm,20.0s
O35A **Humboldt** 30.99 12 P P 17 55 00.4 +0.1
baz=196
Q41A **Truxton** 31.04 20 P P 17 54 59.2 -1.5
baz=205,SNR=10.0
P39B **Salisbury** 31.05 17 P P 17 55 00.2 -0.6
baz=202
N33A **J Bar K, Exete** 31.15 10 P P 17 55 01.6 -0.1
baz=193
PHWY **Pilot Hill** 31.15 358 *e*P P 17 55 03.2 +1.2
comp=Z,21nm,1.3s
R44A **Waltonville** 31.20 23 P P 17 55 00.3 -1.9
baz=210
RYN **Ryan** 31.22 338 *e*P P 17 55 02.1 -0.4
comp=Z,22nm,1.2s
Q42A **Golden Eagle** 31.24 21 P P 17 55 02.3 -0.2
baz=207
S46A **Don Dixon Farm** 31.27 26 P P 17 55 02.2 -0.7
baz=212
P40A **Paris** 31.30 18 P P 17 55 01.3 -1.7
baz=204,SNR=11
O37A **Wolven Farm, M** 31.30 15 P P 17 55 02.6 -0.5
baz=199

T48A **Bowling Green** 31.39 28 P P 17 55 02.2 -1.6
baz=215,SNR=5.5
N34A **Lincoln** 31.42 11 P P 17 55 04.2 +0.1
baz=195
CMB **Columbia Colle** 31.43 335 *e*P P 17 55 04.2 -0.1
CMB pmax pmax
comp=Z,21nm,1.3s
CMB **Columbia Colle** 31.43 335 *e*P P 17 55 04.2 -0.1
comp=Z,21nm,1.3s
O38A **Galt** 31.44 16 P P 17 55 04.0 -0.3
baz=200
WAKR **Walker** 31.45 337 *e*P P 17 55 04.4 -0.2
comp=Z,38nm,1.4s
RDG13 **Poverty Ridge** 31.52 333 *e*P P 17 55 06.1 +1.0
comp=Z,78nm,1.8s
BG3 **Lake Jocassee** 31.52 35 *e*P P 17 55 05.0 -0.1
comp=Z,14nm,0.8s
USIN **University of** 31.53 25 *e*P P 17 55 04.3 -0.8
comp=Z,39nm,0.8s
R45A **Skylar, Fairfi** 31.55 24 P P 17 55 05.2 -0.1
baz=211
TKL **Tuckaleechee C** 31.56 33 P P 17 55 05.9 +0.6
comp=Z,9.9nm,0.9s,baz=196,slow=9.6,SNR=6.3
TKL **Tuckaleechee C** 31.56 33 *e*P P 17 55 06.0 +0.6
TKL pmax pmax
comp=Z,26nm,1.2s
TKL **Tuckaleechee C** 31.56 33 *e*P P 17 55 06.0 +0.6
comp=Z,26nm,1.2s
Q43A **New Douglas** 31.57 22 P P 17 55 05.9 +0.5
baz=208
P41A **Barry, Barry** 31.75 19 P P 17 55 06.3 -0.7
baz=205
Q44A **Meyer Farm, Va** 31.79 23 P P 17 55 06.2 -1.2
baz=209,SNR=6.4
O39A **Kirksville** 31.82 17 P P 17 55 06.5 -1.1
baz=202
N37A **Lee Faris, Mou** 31.84 14 P P 17 55 06.6 -1.3
baz=199
NHSC **New Hope** 31.88 40 P P 17 55 05.6 -2.6
baz=229
NHSC **New Hope** 31.88 40 PFAKE 17 55 20.0 +12
NHSC LR LR
comp=Z,2µm,22.0s
O40A **La Belle** 31.90 18 P P 17 55 07.2 -1.1
baz=203,SNR=13
P42A **Winchester** 31.91 21 P P 17 55 07.4 -1.0
baz=206
S48A **Wiedeman Farm,** 31.99 28 P P 17 55 08.4 -0.8
baz=215
M33A **Taylor Creek F** 32.00 10 P P 17 55 09.2 -0.1
baz=193
OLIL **Olney** 32.00 24 *e*P P 17 55 09.7 +0.5
comp=Z,58nm,1.4s
HWUT **Hardware Ranch** 32.10 350 *e*P P 17 55 10.7 +0.4
comp=Z,17nm,1.3s
HWUT *e*PcP PcP 17 58 00.4 +0.9
HWUT LR LR
comp=Z,2µm,20.0s
Q45A **Warren Harvey,** 32.12 24 P P 17 55 10.2 -0.1
baz=211
N38A **Joes South For** 32.13 16 P P 17 55 09.0 -1.3
baz=201
CPIM **Pinole Ridge** 32.19 333 *e*PcP PcP 17 58 02.5 +2.9
O41A **Passleys Farm,** 32.20 19 P P 17 55 09.2 -1.8
baz=205,SNR=6.1
VCNR **Virginia City** 32.22 337 *e*P P 17 55 12.1 +0.7
comp=Z,60nm,1.6s
L32A **Elgin** 32.30 9 P P 17 55 11.0 -0.8
baz=192
R47A **Wooly Knot Far** 32.30 27 P P 17 55 10.7 -1.1
baz=214,SNR=5.2
TZTN **Tazewell** 32.34 32 P P 17 55 11.6 -0.7
baz=220
TZTN **Tazewell** 32.34 32 *e*P P 17 55 13.0 +0.7
comp=Z,58nm,1.5s
WCI **Wyandotte Cave** 32.35 27 P P 17 55 12.1 -0.2
baz=214
WCI **Wyandotte Cave** 32.35 27 *e*P P 17 55 11.6 -0.7
WCI pmax pmax
comp=Z,21nm,1.0s
WCI **Wyandotte Cave** 32.35 27 *e*P P 17 55 11.6 -0.7
comp=Z,21nm,1.0s
N39A **Derby Farms, D** 32.41 17 P P 17 55 12.7 -0.1
baz=202,SNR=7.2
P44A **Sand Creek, Wi** 32.43 23 P P 17 55 13.5 +0.5
baz=210
AFDM **Forest Hills D** 32.45 335 *e*P P 17 55 13.0 -0.2
comp=Z,32nm,1.5s
PAHR **Pah Rah Range** 32.48 338 *e*P P 17 55 14.5 +0.8
comp=Z,40nm,1.4s
M37A **Trindle Farm,** 32.49 14 P P 17 55 13.3 -0.2
baz=199
KMSC **Kings Mountain** 32.55 36 P P 17 55 13.5 -0.6
baz=225
N40A **Mertquake, Sal** 32.68 18 P P 17 55 13.8 -1.4
baz=203
M38A **Pleasantville** 32.72 15 P P 17 55 15.3 -0.2
baz=200,SNR=5.4
N41A **Harden Midland** 32.75 19 P P 17 55 15.1 -0.7
baz=205
P45A **Graceland, Par** 32.83 24 P P 17 55 15.3 -1.1
baz=211
Q47A **Bedford North L** 32.87 26 P P 17 55 14.9 -2.0
baz=214
O43A **Sugar Creek Fa** 32.89 21 P P 17 55 17.3 +0.3
baz=208
BW06 **Boulder Array** 32.93 353 P P 17 55 17.5 -0.1
baz=170
BW06 **Boulder Array** 32.93 353 *e*P P 17 55 18.6 +1.0
BW06 LR LR
comp=Z,3µm,21.0s
PD31 **Pinedale Array** 32.93 353 *e*P P 17 55 16.5 -1.1
PDAR **Pinedale Array** 32.93 353 P P 17 55 16.7 -0.9
comp=Z,3.9nm,0.8s,baz=168,slow=7.6,SNR=17
PDAR PcP PcP 17 58 00.1 -1.7
comp=Z,1.2nm,0.9s,baz=180,slow=3.6,SNR=3.9
PDAR LR LR 18 07 26.6
comp=Z,2µm,21.9s,baz=187,slow=34
PDAR **Pinedale Array** 32.93 353 *e*P P 17 55 16.3 -1.3
PDAR PcP PcP 17 58 00.1 -1.7
BEKR **Beckworth** 32.99 337 *e*P P 17 55 17.7 -0.4
comp=Z,23nm,1.3s
SDDR **Presa de Saban** 33.04 71 PFAKE 17 55 30.0 +11
SDDR LR LR
comp=Z,2µm,20.0s
M39A **Webster** 33.06 17 P P 17 55 17.4 -1.1
baz=202
P46A **Rosedale** 33.12 24 P P 17 55 17.9 -1.1
baz=212
N42A **Yates City** 33.13 20 P P 17 55 18.6 -0.4
baz=206
SDV **Santo Domingo** 33.13 89 P P 17 55 20.3 +0.6
comp=Z,4.2nm,0.6s,baz=263,slow=10.0,SNR=2.2
SDV LR LR 18 07 07.9
comp=Z,2µm,20.8s,baz=254,slow=33
HDIL **Hopedale** 33.14 21 P P 17 55 18.1 -1.1
baz=208,SNR=6.6
HDIL **Hopedale** 33.14 21 *e*P P 17 55 18.4 -0.8
comp=Z,91nm,0.8s
HDIL LR LR
comp=Z,4µm,20.0s
AHID **Auburn Hatcher** 33.15 351 *e*P P 17 55 20.3 +0.9
comp=Z,64nm,2.0s
AHID LR LR
comp=Z,2µm,21.0s
SCIA **State Center** 33.18 15 PFAKE 17 55 30.0 +11
SCIA LR LR
comp=Z,4µm,19.0s
ORV **Oroville** 33.18 335 *e*P P 17 55 19.9 +0.3
ORV pmax pmax
comp=Z,71nm,1.4s
ORV **Oroville** 33.18 335 *e*P P 17 55 19.9 +0.3
comp=Z,71nm,1.4s
M40A **Post Highland** 33.18 18 P P 17 55 17.1 -2.4
baz=203
L37A **Phoenix Point,** 33.25 14 P P 17 55 18.6 -1.5
baz=199
K34A **Le Mars** 33.28 11 P P 17 55 20.8 +0.4
baz=195
P47A **Martinsville** 33.40 26 P P 17 55 21.3 -0.2
baz=213
O45A **Potomac** 33.45 23 P P 17 55 21.6 -0.3
baz=210
M41A **Milan** 33.45 19 P P 17 55 21.0 -0.9
baz=205
J31A **Geddes** 33.46 7 P P 17 55 21.5 -0.5
baz=190

L38A **Oak Wood Farm,** 33.46 15 P P 17 55 21.2 -0.8
baz=200
N43A **Stutzman Famil** 33.52 21 P P 17 55 22.0 -0.5
baz=208
K36A **Gilmore City** 33.57 13 P P 17 55 22.8 -0.2
baz=198
J32A **Parkston** 33.66 8 P P 17 55 23.2 -0.5
baz=191
L39A **Vinton** 33.70 16 P P 17 55 22.7 -1.3
baz=202
GRTK **Grand Turk** 33.73 66 PFAKE 17 55 40.0 +15
GRTK LR LR
comp=Z,855nm,20.0s
GHMM **Hull Mountain** 33.74 333 *e*P P 17 55 30.1 +5.4
N44A **Piper City** 33.77 22 P P 17 55 23.9 -0.8
baz=209
SFIN **Lafayette** 33.81 24 P P 17 55 24.3 -0.8
baz=211,SNR=6.4
SFIN **Lafayette** 33.81 24 *e*P P 17 55 24.5 -0.5
comp=Z,39nm,0.8s
TPAW **Teton Pass** 33.83 351 *e*P P 17 55 25.7 +0.2
comp=Z,32nm,1.7s
L40A **Anamosa** 33.87 17 P P 17 55 24.7 -0.9
baz=203
K37A **Belmond** 33.88 14 P P 17 55 24.6 -1.0
baz=199
LOHW **Long Hollow** 33.90 352 *e*P P 17 55 26.9 +0.8
comp=Z,20nm,1.1s
O03D **Paynes Creek** 33.93 336 P P 17 55 25.8 -0.4
baz=148
RSSD **Black Hills** 33.95 0 P P 17 55 26.7 +0.2
baz=180
RSSD **Black Hills** 33.95 0 *e*P P 17 55 26.1 -0.4
RSSD pmax pmax
comp=Z,19nm,1.3s
RSSD **Black Hills** 33.95 0 *e*P P 17 55 26.1 -0.4
comp=Z,19nm,1.3s
FXWY **Fox Creek** 33.99 351 *e*P P 17 55 26.4 -0.5
comp=Z,9.4nm,1.0s
N45A **Kentland** 34.05 23 P P 17 55 25.5 -1.6
baz=210
MOOW **Moose Ponds** 34.05 352 *e*P P 17 55 27.9 +0.5
comp=Z,16nm,1.6s
O47A **Sheridan** 34.07 25 P P 17 55 25.3 -2.0
baz=213,SNR=5.1
L41A **Preston** 34.10 18 P P 17 55 26.1 -1.4
baz=204
ECSD **EROS Data Cent** 34.20 10 P P 17 55 27.8 -0.6
baz=193
ECSD **EROS Data Cent** 34.20 10 *e*P P 17 55 27.5 -0.9
comp=Z,37nm,1.4s
ECSD LR LR
comp=Z,4µm,21.0s
IMW **Indian Meadow** 34.23 351 *e*P P 17 55 28.3 -0.7
comp=Z,33nm,1.6s
K39A **Oelwein** 34.27 16 P P 17 55 28.8 -0.2
baz=202,SNR=6.8
L42A **Oliver, Polo** 34.30 19 P P 17 55 28.6 -0.7
baz=206
M44A **Midewin, Midew** 34.32 22 P P 17 55 27.9 -1.6
baz=209
N46A **Monticello** 34.39 24 P P 17 55 29.7 -0.3
baz=212
J37A **Redenius Farm,** 34.42 14 P P 17 55 29.8 -0.5
baz=199
WDC **Whiskeytown Da** 34.47 335 *e*P P 17 55 28.9 -1.9
WDC pmax pmax
comp=Z,19nm,1.3s
WDC **Whiskeytown Da** 34.47 335 *e*P P 17 55 28.9 -1.9
comp=Z,19nm,1.3s
K40A **Colesburg** 34.48 17 P P 17 55 30.5 -0.3
baz=203
BLA **Blacksburg** 34.53 35 P P 17 55 30.0 -1.4
baz=224
BLA **Blacksburg** 34.53 35 PFAKE 17 55 40.0 +8.6
BLA LR LR
comp=Z,1µm,20.0s
HLID **Hailey** 34.55 347 P P 17 55 32.7 +1.0
baz=162,SNR=12
HLID **Hailey** 34.55 347 *e*P P 17 55 31.8 +0.1
comp=Z,12nm,1.0s
HLID LR LR
comp=Z,2µm,19.0s
SUSD **Miller** 34.57 7 P P 17 55 31.4 -0.2
baz=189
YPP **Pitchstone Pla** 34.57 352 *e*P P 17 55 33.0 +1.0
M45A **Boilermakers S** 34.62 23 P P 17 55 30.7 -1.3
baz=210
I35A **Creekview Farm** 34.62 12 P P 17 55 31.9 -0.2
baz=196
K41A **Shullsburg** 34.65 18 P P 17 55 32.4 +0.1
baz=204
WVOR **Wild Horse Val** 34.65 341 *e*P P 17 55 33.1 +0.7
WVOR pmax pmax
comp=Z,25nm,1.4s
WVOR MLR MLR
comp=Z,2µm,19.0s
WVOR **Wild Horse Val** 34.65 341 *e*P P 17 55 33.1 +0.7
comp=Z,25nm,1.4s
WVOR LR LR
comp=Z,2µm,19.0s
H17A **Grant Village** 34.66 352 P P 17 55 33.1 +0.4
baz=165
H17A **Grant Village** 34.66 352 *e*P P 17 55 33.8 +1.1
comp=Z,10.0nm,1.1s
J38A **Wedel Dairy, R** 34.69 15 P P 17 55 31.3 -1.3
baz=201
CNNC **Cliffs of the** 34.70 40 PFAKE 17 55 40.0 +7.2
CNNC LR LR
comp=Z,2µm,21.0s
MOD **Modoc Plateau** 34.74 339 *e*P P 17 55 34.9 +1.6
comp=Z,26nm,1.3s
YFT **Old Faithful** 34.75 352 *e*P P 17 55 34.4 +0.9
comp=Z,8.0nm,0.7s
L43A **Garden Prairie** 34.77 20 P P 17 55 32.4 -1.0
baz=207
LKWY **Lake** 34.81 352 PFAKE 17 55 50.0 +16
LKWY LR LR
comp=Z,810nm,19.0s
H32A **Carlson Farm,** 34.83 9 P P 17 55 34.8 +1.0
baz=192
N02D **Trinity Center** 34.87 335 P P 17 55 34.5 +0.1
baz=147
J39A **Decorah** 34.91 16 P P 17 55 33.6 -0.9
baz=202,SNR=5.5
NNA **Nana** 34.91 128 P P 17 55 35.9 +1.0
comp=Z,3.2nm,0.3s,baz=306,slow=6.0,SNR=1.8
NNA LR LR 18 07 03.1
comp=Z,877nm,18.7s,baz=294,slow=31
JFWS **Jewell Farm** 34.94 18 P P 17 55 33.7 -1.2
baz=204
JFWS **Jewell Farm** 34.94 18 PFAKE 17 55 50.0 +15
JFWS LR LR
comp=Z,2µm,20.0s
M46A **Old House Fiel** 34.98 24 P P 17 55 33.8 -1.4
baz=212
YMR **Madison River** 34.98 352 *e*P P 17 55 35.7 +0.2
comp=Z,18nm,1.1s
YHH **Holmes Hill** 35.09 352 *e*P P 17 55 36.8 +0.4
comp=Z,10.0nm,1.2s
K42A **Prairie Point,** 35.10 19 P P 17 55 34.5 -1.7
baz=206
H33A **Prehn Over Nor** 35.11 9 P P 17 55 34.6 -1.6
baz=193
I37A **Lemond, Waseca** 35.12 14 P P 17 55 34.8 -1.5
baz=199,SNR=5.1
M04C **Macdoel** 35.21 337 P P 17 55 36.8 -0.5
baz=149
QLMT **Earthquake Lak** 35.21 351 *e*P P 17 55 37.0 -0.4
RLMT **Red Lodge** 35.22 354 P P 17 55 36.3 -1.1
baz=171
RLMT **Red Lodge** 35.22 354 *e*P P 17 55 36.8 -0.7
comp=Z,18nm,1.4s
RLMT LR LR
comp=Z,2µm,20.0s
KHMM **Horse Mountain** 35.22 334 *e*P P 17 55 37.8 +0.3
comp=Z,116nm,1.6s
J40A **Soldiers Grove** 35.24 17 P P 17 55 36.2 -1.1
baz=203
H34A **Spellman Lake,** 35.26 10 P P 17 55 36.9 -0.6
baz=194
M02C **Callahan** 35.28 335 P P 17 55 38.0 +0.1
baz=147
K43A **Burlington** 35.37 20 P P 17 55 36.5 -2.0
baz=208
I38A **Scanlan Farm,** 35.40 15 P P 17 55 37.0 -1.7
baz=200,SNR=6.7
J41A **Loganville** 35.42 18 P P 17 55 37.6 -1.4

baz=205,SNR=5.5
J08A Circle Bar Ran 35.44 342 eP P 17 55 37.0 -2.3
comp=Z,28nm,1.6s
I39A Houston 35.44 16 P P 17 55 37.7 -1.4
baz=202,SNR=8.5
MCMT McKenzie Canyo 35.45 349 eP P 17 55 39.1 -0.3
H35A Sunnyside Ranc 35.46 12 P P 17 55 38.9 -0.4
baz=196
ACSO Alum Creek Sta 35.48 29 P P 17 55 36.9 -2.6
baz=218
ACSO Alum Creek Sta 35.48 29 eP P 17 55 39.2 -0.3
comp=Z,128nm,1.7s
ACSO LR LR
comp=Z,1µm,19.0s
YBH Yreka Blue Hor 35.51 336 P P 17 55 38.8 -1.0
comp=Z,11nm,1.2s,baz=168,slow=9.3,SNR=3.6
YBH LR LR 18 08 06.7
comp=Z,2µm,20.7s,baz=140,slow=33
YBH Yreka Blue Hor 35.51 336 eP P 17 55 40.1 +0.2
YBH pmax pmax
comp=Z,18nm,1.3s
YBH Yreka Blue Hor 35.51 336 eP P 17 55 40.0 +0.2
comp=Z,18nm,1.3s
H36A Jessenland, He 35.53 13 P P 17 55 38.7 -1.2
baz=198
G33A Ortonville 35.66 9 P P 17 55 40.6 -0.3
baz=193
J42A Columbus 35.66 19 P P 17 55 39.3 -1.7
baz=206,SNR=5.7
I40A Norwalk 35.73 17 P P 17 55 40.2 -1.4
baz=203
H37A Dierke Farm, C 35.77 14 P P 17 55 41.2 -0.7
baz=199
G34A Benson 35.84 10 P P 17 55 42.1 -0.3
baz=194
DLMT Dillon 35.92 350 eP P 17 55 43.4 0.0
comp=Z,18nm,1.1s
GCMT Greycliff 35.92 353 eP P 17 55 42.7 -0.7
J43A Natural Harves 35.95 20 P P 17 55 39.6 -3.8
baz=207
BOZ Bozeman (W) 35.99 351 PFAKE 17 56 00.0 +16
BOZ LR LR
comp=Z,1µm,22.0s
H38A Maiden Rock 36.01 15 P P 17 55 42.4 -1.6
baz=200,SNR=6.4
G36A St. Michael 36.20 13 P P 17 55 44.4 -1.2
baz=198
L02D Cave Junction, 36.23 335 P P 17 55 46.6 +0.7
baz=147
I42A Draeger Farm, 36.24 19 P P 17 55 43.0 -3.0
baz=206,SNR=6.1
I42A Draeger Farm, 36.24 19 eP P 17 55 44.6 -1.4
comp=Z,47nm,0.9s
H39A Augusta 36.27 16 P P 17 55 44.1 -2.1
baz=202,SNR=5.3
J05D Fort Rock, OR 36.28 339 P P 17 55 46.5 0.0
baz=151
LRM Limekiln Ridge 36.34 350 eP P 17 55 46.8 -0.3
SPMN Marine on St. 36.40 14 P P 17 55 45.5 -1.8
baz=199
SPMN Marine on St. 36.40 14 eP P 17 55 47.5 +0.2
comp=Z,20nm,1.0s
I07A Izee 36.41 341 eP P 17 55 48.5 +1.0
comp=Z,3.4nm,0.8s
H40A Chili 36.46 17 P P 17 55 44.1 -3.7
baz=203
BMO Blue Mountains 36.47 344 eP P 17 55 48.7 +0.7
BMO pmax pmax
comp=Z,12nm,1.4s
BMO MLR MLR
comp=Z,1µm,20.0s
BMO Blue Mountains 36.47 344 eP P 17 55 48.7 +0.7
comp=Z,12nm,1.4s
BMO LR LR
comp=Z,1µm,20.0s
I43A Langenfeld Bro 36.48 20 P P 17 55 46.3 -1.7
baz=207
LAO LASA Array 36.56 358 P P 17 55 48.9 +0.2
baz=177
LAO LASA Array 36.56 358 eP P 17 55 48.8 +0.1
comp=Z,24nm,1.1s
LAO LR LR
comp=Z,4µm,20.0s
J04D Umpqua Nationa 36.56 338 P P 17 55 49.2 +0.2
baz=150
G38A Ridgeland 36.58 15 P P 17 55 47.5 -1.3
baz=201
MCWV Mont Chateau 36.61 32 P P 17 55 48.7 -0.5
baz=223
MCWV Mont Chateau 36.61 32 eP P 17 55 48.2 -0.9
comp=Z,28nm,0.8s
PINE Pine Mountain 36.62 340 eP P 17 55 50.4 +0.9
comp=Z,37nm,1.4s
F35A Swanville 36.63 11 P P 17 55 49.4 +0.1
baz=196
H41A Junction City 36.67 17 P P 17 55 48.5 -1.1
baz=204
H41A Junction City 36.67 17 eP P 17 55 49.7 +0.1
comp=Z,45nm,1.4s
E31A Nome 36.78 7 P P 17 55 49.5 -1.0
baz=190
AAM Ann Arbor 36.84 26 P P 17 55 50.6 -0.4
baz=215
AAM Ann Arbor 36.84 26 PFAKE 17 56 00.0 +8.9
AAM LR LR
comp=Z,1µm,22.0s
F36A Milaca 36.84 12 P P 17 55 49.2 -1.9
baz=198,SNR=9.9
G39A Holcombe 36.86 15 P P 17 55 48.9 -2.3
baz=202,SNR=10
F37A Hinrichs Farm, 36.91 14 P P 17 55 51.5 -0.2
baz=199
CBN Corbin Frederi 36.96 36 PFAKE 17 56 00.0 +7.8
CBN LR LR
comp=Z,2µm,21.0s
G40A Rib Lake 37.11 16 P P 17 55 52.5 -0.9
baz=203
HRY Holter Researc 37.11 351 eP P 17 55 52.6 -0.9
H43A Windswept, Lux 37.13 20 P P 17 55 51.8 -1.7
baz=207
E34A Wadena 37.15 10 P P 17 55 53.3 -0.4
baz=195
I04A Tendick Farm, 37.15 338 P P 17 55 53.1 -0.7
baz=150
I05D Terrebonne, OR 37.24 340 P P 17 55 54.4 -0.2
baz=152
RPN Rapa Nui 37.28 188 LR LR 18 07 34.0
comp=Z,2µm,21.2s,baz=12,slow=30
F38A Pierce - Schro 37.31 14 P P 17 55 52.4 -2.7
baz=200,SNR=10
G08A Pilot Rock 37.34 343 eP P 17 56 01.9 +6.5
comp=Z,17nm,1.4s
I03D Drain, OR 37.42 337 P P 17 55 56.0 0.0
baz=148
F10A Beach Ranch, E 37.49 345 eP P 17 55 57.5 +0.8
comp=Z,12nm,1.2s
N54A Moraine State 37.50 31 P P 17 55 54.0 -2.7
baz=222
F39A Loretta 37.51 15 P P 17 55 54.7 -2.1
baz=202
E36A McGregor 37.53 12 P P 17 55 55.4 -1.5
baz=198
MSO Missoula 37.58 349 P P 17 55 57.6 +0.1
baz=164
MSO Missoula 37.58 349 eP P 17 55 56.7 -0.7
comp=Z,14nm,1.1s
G42A Mountain 37.61 18 P P 17 55 56.9 -0.6
baz=206
G42A Mountain 37.61 18 eP P 17 55 56.3 -1.3
comp=Z,55nm,1.4s
SJG San Juan 37.72 73 P P 17 56 00.2 +1.3
comp=Z,8.1nm,0.2s,baz=277,slow=6.6,SNR=5.5
SJG San Juan 37.72 73 eP P 17 56 00.2 +1.3
SJG MLR MLR
comp=Z,1µm,20.0s
SJG San Juan 37.72 73 eP P 17 56 00.2 +1.3
SJG LR LR
comp=Z,1µm,20.0s
F40A Park Falls 37.73 16 P P 17 55 55.8 -2.8
baz=203,SNR=11
O56A Blue Knob Stat 37.73 33 P P 17 55 57.4 -1.3
baz=224
O56A Blue Knob Stat 37.73 33 eP P 17 55 59.2 +0.5
comp=Z,117nm,1.8s
E37A Wrenshall 37.76 13 P P 17 55 56.8 -2.0
baz=199
H04A Detroit Lake 37.84 339 eP P 17 56 00.7 +1.1
comp=Z,36nm,1.4s

F41A Three Lakes 37.85 17 P P 17 55 58.0 -1.7
baz=205
G43A Wallace 37.85 19 P P 17 55 58.2 -1.4
baz=207
D35A Remer 37.90 11 P P 17 55 59.4 -0.7
baz=196
E38A The Farm, Brul 38.00 14 P P 17 56 01.1 +0.3
baz=200
E39A Mellen 38.03 15 P P 17 55 58.8 -2.4
baz=202,SNR=6.6
M54A Oil Creek Stat 38.07 30 P P 17 56 01.2 -0.4
baz=221
M54A Oil Creek Stat 38.07 30 eP P 17 56 02.0 +0.4
comp=Z,100nm,1.6s
EGMT Eagleton 38.14 354 P P 17 56 01.4 -0.7
baz=171
EGMT Eagleton 38.14 354 eP P 17 56 01.7 -0.4
comp=Z,77nm,1.8s
EGMT LR LR
comp=Z,1µm,22.0s
COWI Conover 38.17 17 eP P 17 56 01.8 -0.6
comp=Z,29nm,1.0s
COWI LR LR
comp=Z,2µm,22.0s
E40A Wakefield 38.27 16 P P 17 56 00.7 -2.5
baz=203,SNR=9.6
MTP Monte Pirata 38.28 74 eP P 17 56 02.7 -0.9
comp=Z,38nm,1.0s
D37A Cotton 38.31 13 P P 17 56 00.4 -3.1
baz=199,SNR=7.9
SSPA Standing Stone 38.35 33 P P 17 56 00.8 -3.1
baz=225
ERPA Erie 38.37 29 P P 17 56 02.7 -1.4
baz=220
HAWA Hanford 38.51 343 PFAKE 17 56 20.0 +15
HAWA LR LR
comp=Z,1µm,19.0s
C35A Jirik Farms, M 38.51 11 P P 17 56 03.8 -1.4
baz=196
F43A Flat Rock, Esc 38.53 19 P P 17 56 04.2 -1.2
baz=208
E41A Kenton 38.55 17 P P 17 56 03.4 -2.2
baz=204,SNR=8.0
GLMI Grayling 38.55 23 PFAKE 17 56 20.0 +14
GLMI LR LR
comp=Z,4µm,19.0s
B31A Greenbush Farm 38.65 7 P P 17 56 05.5 -0.7
baz=190
E07A Sunnyside 38.75 343 eP P 17 56 07.5 +0.3
comp=Z,22nm,1.0s
B32A Ashes, Strandq 38.77 8 P P 17 56 07.5 +0.3
baz=192
AGMN Agassiz Nation 38.77 9 P P 17 56 06.5 -0.8
baz=193,SNR=14
AGMN Agassiz Nation 38.77 9 eP P 17 56 07.8 +0.5
comp=Z,38nm,0.8s
AGMN LR LR
comp=Z,2µm,21.0s
C36A Pine Crest Far 38.80 12 P P 17 56 06.1 -1.5
baz=198,SNR=10
E42A Champion 38.83 18 P P 17 56 06.7 -1.2
baz=206
F44A Big Bay de Noc 38.90 20 P P 17 56 07.0 -1.5
baz=209
C37A Embarrass 38.91 13 P P 17 56 08.0 -0.5
baz=199
D08A Wollman Farm, 38.94 344 eP P 17 56 08.2 -0.6
comp=Z,13nm,1.1s
PCRV Puerto La Cruz 38.95 86 LR LR 18 11 49.0
comp=Z,2µm,20.6s,baz=228,slow=35
F45A CMU Biological 38.96 21 P P 17 56 07.7 -1.2
baz=210
E43A Lone Tree Farm 39.07 19 P P 17 56 08.7 -1.2
baz=208
C38A Sawbill Land. 39.10 14 P P 17 56 09.1 -1.0
baz=200
B34A Aery, Baudette 39.15 10 P P 17 56 08.6 -1.9
baz=195
SHW Mount Saint He 39.17 340 eP P 17 56 09.3 -1.6
SHW Mount Saint He 39.17 340 eP P 17 56 09.3 -1.6
VALT Mount Saint He 39.18 340 eP P 17 56 08.7 -2.2
B35A Bob, Littlefor 39.19 11 P P 17 56 09.5 -1.4
baz=196
D41A Chassel 39.21 17 P P 17 56 08.4 -2.6
baz=205,SNR=10
EYMN Ely 39.27 14 P P 17 56 09.5 -2.0
baz=200,SNR=9.5
EYMN Ely 39.27 14 eP P 17 56 09.9 -1.6
comp=Z,52nm,1.0s
EYMN LR LR
comp=Z,5µm,20.0s
C09A Chrisman Ranch 39.46 345 eP P 17 56 15.3 +2.2
comp=Z,20nm,1.1s
A33A Warroad 39.46 9 P P 17 56 12.6 -0.6
baz=194,SNR=11
C39A Grand Marais 39.48 15 P P 17 56 10.9 -2.3
baz=202
LON Longmire 39.52 341 eP P 17 56 15.9 +2.2
LON pmax pmax
comp=Z,12nm,1.1s
LON Longmire 39.52 341 eP P 17 56 15.9 +2.2
comp=Z,12nm,1.1s
NEW Newport 39.61 346 LR LR 18 11 08.9
comp=Z,2µm,21.1s,baz=160,slow=34
NEW Newport 39.61 346 P P 17 56 13.1 -1.3
baz=160,SNR=28
NEW Newport 39.61 346 eP P 17 56 13.4 -1.0
NEW pmax pmax
comp=Z,46nm,1.3s
NEW Newport 39.61 346 eP P 17 56 13.4 -1.0
comp=Z,46nm,1.3s
LTY Liberty 39.62 342 eP P 17 56 15.0 +0.4
comp=Z,24nm,1.5s
WALA Waterton Lakes 39.73 350 eP P 17 56 14.7 -0.8
comp=Z,20nm,1.1s
B08A Colville Reser 40.25 344 eP P 17 56 20.9 +1.2
comp=Z,15nm,1.3s
TAOE Nuku Hiva Isla 40.40 243 eLQ LQ 18 05 51.7
comp=Z,5µm,28.5s
TAOE eLR LR 18 07 12.0
comp=Z,3µm,26.8s,baz=62
TAOE Nuku Hiva Isla 40.40 243 eT T 18 39 03.0
comp=Z,88nm,0.2s
BINY Binghamton 40.47 33 eP P 17 56 20.8 -0.8
comp=Z,135nm,1.8s
BINY LR LR
comp=Z,2µm,20.0s
ULM Lac du Bonnet 40.67 8 P P 17 56 21.9 -1.2
comp=Z,15nm,1.1s,baz=200,slow=8.9,SNR=12
ULM PcP PcP 17 58 27.8 +3.1
comp=Z,6.2nm,0.9s,baz=185,slow=1.8,SNR=4.2
ULM LR LR 18 13 17.1
comp=Z,3µm,21.4s,baz=162,slow=36
ULM Lac du Bonnet 40.67 8 eP P 17 56 21.2 -1.9
ULM 17 58 27.8
ULM pmax pmax
comp=Z,35nm,1.1s
ULM Lac du Bonnet 40.67 8 eP P 17 56 21.2 -1.9
comp=Z,35nm,1.1s
ULM PcP PcP 17 58 27.8 +3.1
NLWA Neilton Lookou 40.77 340 PFAKE 17 56 40.0 +16
NLWA LR LR
comp=Z,2µm,22.0s
B05A Bryant 40.95 342 P P 17 56 26.6 +1.2
baz=153
OFR Olym-F Res Ctr 41.42 339 eP P 17 56 25.6 -3.7
GRGR Grenville 41.79 83 PFAKE 17 56 40.0 +7.2
GRGR LR LR
comp=Z,789nm,20.0s
ANWB Willy Bob 41.81 75 PFAKE 17 56 40.0 +7.1
ANWB LR LR
comp=Z,1µm,19.0s
FDF Fort de France 42.27 79 PFAKE 17 56 50.0 +13
FDF LR LR
comp=Z,1µm,19.0s
BBSR BB Station 42.67 53 PFAKE 17 56 50.0 +10
BBSR LR LR
comp=Z,2µm,20.0s
LONY Lake Ozonia 42.89 31 P P 17 56 40.4 -0.9
baz=226
LONY Lake Ozonia 42.89 31 PFAKE 17 56 50.0 +8.6
LONY LR LR
comp=Z,2µm,20.0s
LLLB Lillooet 42.99 344 eP P 17 56 40.7 -1.4
comp=Z,18nm,1.4s
EDM Edmonton 43.68 352 eP P 17 56 46.9 -0.8
EDM pmax pmax

comp=Z,52nm,1.0s
EDM Edmonton 43.68 352 eP P 17 56 46.9 -0.8
comp=Z,52nm,1.0s
BBGH Gun Hill 43.81 81 PFAKE 17 57 00.0 +11
BBGH LR LR
comp=Z,2µm,20.0s
LPAZ La Paz 44.27 126 P P 17 56 53.9 +0.3
comp=Z,8.3nm,0.9s,baz=312,slow=7.5,SNR=18
LPAZ PcP PcP 17 58 39.0 +1.0
comp=Z,3.1nm,0.9s,baz=356,slow=5.8,SNR=3.2
LPAZ LR LR 18 13 43.5
comp=Z,2µm,21.4s,baz=339,slow=34
LPAZ La Paz 44.27 126 eP P 17 56 53.8 +0.3
LPAZ e*PP P 17 56 54.3 +0.7
LPAZ 17 58 39.0
LPAZ La Paz 44.27 126 eP P 17 56 53.8 +0.3
LPAZ epP P 17 56 54.2 +0.7
LPAZ PcP PcP 17 58 39.0 +1.0
FFC Flin Flon 44.60 2 eP P 17 56 53.3 -1.6
FFC pmax pmax
comp=Z,21nm,1.0s
FFC Flin Flon 44.60 2 eP P 17 56 53.3 -1.6
comp=Z,21nm,1.0s
RKT Rikitea 44.65 222 eLR LR 18 09 27.8
comp=Z,5µm,26.8s,baz=38
RKT Rikitea 44.65 222 eT T 18 44 28.3
comp=Z,18nm,0.3s
MNMC Minye Minye 44.78 130 eP P 17 56 57.5 +0.3
comp=Z,14nm,0.9s
SAML Samuel 44.99 113 eP P 17 56 57.4 -1.2
comp=Z,25nm,1.0s
SAML LR LR
comp=Z,2µm,20.0s
PB11 IPOC Station P 45.12 131 eP P 17 56 59.1 -0.7
comp=Z,26nm,1.0s
PB01 IPOC Station P 46.03 132 eP P 17 57 06.4 -0.5
comp=Z,34nm,1.4s
PKME Peaks-Kenny Pk 46.13 34 P P 17 57 06.0 -1.3
baz=231
PKME Peaks-Kenny Pk 46.13 34 PFAKE 17 57 20.0 +13
PKME LR LR
comp=Z,2µm,20.0s
BBB Bella Bella 46.30 340 LR LR 18 14 49.6
comp=Z,2µm,21.0s,baz=148,slow=34
DIB Dawson Inlet, 48.68 338 eP P 17 57 28.6 +1.7
comp=Z,45nm,1.4s
FCC Fort Churchill 49.22 7 eP P 17 57 30.0 -1.0
FCC pmax pmax
comp=Z,24nm,1.0s
FCC Fort Churchill 49.22 7 eP P 17 57 30.0 -1.0
comp=Z,24nm,1.0s
SIV San Ignacio 49.93 121 P P 17 57 35.9 -1.2
comp=Z,9.1nm,1.0s,baz=311,slow=11,SNR=21
SIV LR LR 18 17 00.3
comp=Z,3µm,21.3s,baz=332,slow=34
PMOR Pomariorio Ree 49.93 241 eT T 18 51 01.9
comp=Z,5.3nm,0.3s
POHA Pohakuloa 50.36 287 PFAKE 17 57 50.0 +9.4
POHA LR LR
comp=Z,3µm,21.0s
LCO Las Campanas 50.53 141 P P 17 57 44.9 +3.1
LCO Las Campanas 50.53 141 eP P 17 57 44.9 +3.1
comp=Z,45nm,1.4s
LCO LR LR
comp=Z,3µm,21.0s
WRAK Wrangell Islan 51.19 340 PFAKE 17 58 00.0 +14
WRAK LR LR
comp=Z,1µm,20.0s
DLBC Dease Lake 52.14 343 eP P 17 57 53.0 -0.2
comp=Z,27nm,1.2s
PPT2 Papeete2 52.56 239 eLR LR 18 12 52.2
comp=Z,3µm,26.5s,baz=51
YKA Yellowknife Ar 52.90 354 P P 17 57 56.5 -2.0
comp=Z,4.9nm,1.0s,baz=166,slow=7.4,SNR=29
YKA PcP PcP 17 59 06.6 -0.9
comp=Z,2.9nm,0.9s,baz=164,slow=3.6,SNR=6.7
YKW3 Yellowknife Ar 52.96 354 eP P 17 57 57.3 -1.8
comp=Z,28nm,1.3s
SCHQ Schefferville 53.55 26 P P 17 58 02.3 -1.3
comp=Z,14nm,0.8s,baz=212,slow=14,SNR=4.8
BESE Bessie Mountai 53.73 341 eP P 17 58 04.7 -0.3
comp=Z,38nm,1.2s
WHY Whitehorse 55.39 342 eP P 17 58 19.2 +2.2
comp=Z,23nm,1.4s
HYT Haines Junctio 56.33 341 eP P 17 58 24.4 +0.7
comp=Z,29nm,1.4s
CPUP Villa Florida 58.15 130 P P 17 58 36.5 -0.5
comp=Z,12nm,0.9s,baz=310,slow=8.4,SNR=18
CPUP Villa Florida 58.15 130 eP P 17 58 36.3 -0.7
CPUP pmax pmax
comp=Z,19nm,1.0s
CPUP Villa Florida 58.15 130 eP P 17 58 36.2 -0.7
comp=Z,18nm,1.0s
BMRM Bremner River 58.85 338 eP P 17 58 47.0 +5.6
comp=Z,28nm,1.1s
PLCA Paso Flores 59.32 151 P P 17 58 45.0 +0.1
comp=Z,24nm,1.1s,baz=342,slow=8.8,SNR=16
PLCA Paso Flores 59.32 151 eP P 17 58 45.6 +0.7
PLCA pmax pmax
comp=Z,24nm,1.0s
PLCA Paso Flores 59.32 151 eP P 17 58 45.6 +0.7
comp=Z,24nm,1.0s
DAWY Dawson 59.36 343 eP P 17 58 43.8 -1.1
comp=Z,20nm,1.1s
DIV Divide 59.39 338 eP P 17 58 45.3 +0.2
comp=Z,37nm,1.3s
KLU Klutina 59.68 338 eP P 17 58 48.0 +0.9
comp=Z,27nm,1.3s
MENT Mentasta 59.89 340 eP P 17 58 48.7 +0.2
comp=Z,29nm,1.4s
HARP HAARP 60.01 339 eP P 17 58 50.1 +0.8
comp=Z,50nm,1.1s
KDAK Kodiak Island 60.21 333 PFAKE 17 59 00.0 +9.3
KDAK LR LR
comp=Z,652nm,20.0s
EGAK Eagle 60.41 343 eP P 17 58 51.3 -0.7
comp=Z,44nm,1.5s
EGAK LR LR
comp=Z,1µm,20.0s
DOT Dot Lake 60.49 341 eP P 17 58 51.6 -1.0
comp=Z,51nm,1.2s
PAX Paxson 60.50 340 eP P 17 58 54.6 +1.8
PAX pmax pmax
comp=Z,49nm,1.7s
PAX Paxson 60.50 340 eP P 17 58 54.6 +1.8
comp=Z,49nm,1.7s
BRLK Bradley Lake 60.56 335 eP P 17 58 56.6 +3.4
comp=Z,39nm,1.1s
SCRK Sand Creek 60.70 341 eP P 17 58 56.0 +1.9
comp=Z,17nm,1.2s
SML Sawmill 60.77 338 eP P 17 58 55.2 +0.6
SML pmax pmax
comp=Z,58nm,1.3s
SML Sawmill 60.77 338 eP P 17 58 55.2 +0.6
comp=Z,58nm,1.3s
RIDG Independ'e Rid 60.81 341 eP P 17 58 54.0 -0.8
comp=Z,46nm,1.1s
RC01 Rabbit Creek A 60.87 337 eP P 17 58 55.0 -0.2
comp=Z,22nm,1.2s
PMR Palmer 60.94 337 eP P 17 58 57.0 +1.4
PMR pmax pmax
comp=Z,44nm,1.4s
PMR Palmer 60.94 337 eP P 17 58 57.0 +1.4
comp=Z,44nm,1.4s
GHO Glory Hole Cre 60.97 338 eP P 17 58 56.8 +0.8
comp=Z,47nm,1.3s
DHY Denali Highway 61.23 339 eP P 17 58 58.9 +1.1
comp=Z,34nm,1.4s
INK Inuvik 61.30 348 LR LR 18 26 59.9
comp=Z,1µm,18.1s,baz=126,slow=38
INK Inuvik 61.30 348 eP P 17 58 58.0 0.0
INK pmax pmax
comp=Z,23nm,1.1s
INK Inuvik 61.30 348 eP P 17 58 58.0 0.0
comp=Z,22nm,1.1s
SUA Susitna One 61.48 337 eP P 17 59 01.4 +1.9
comp=Z,27nm,1.2s
SPU Mount Spurr 61.84 336 eP P 17 59 03.2 +1.4
HDA Harding Lake 61.95 340 eP P 17 59 01.1 -1.3
comp=Z,101nm,2.0s
RND Reindeer 61.95 339 eP P 17 59 02.1 -0.5
RND pmax pmax
comp=Z,98nm,1.3s
RND Reindeer 61.95 339 eP P 17 59 02.1 -0.5
comp=Z,98nm,1.3s
TRQA Tornquist 62.02 143 PFAKE 17 59 20.0 +17
TRQA LR LR

comp=Z,3μm,20.0s
IL1 Eielson Array 62.16 341 *e*P **P 17 59 01.7 -2.2**
ILAR Eielson Array 62.16 341 P **P 17 59 02.1 -1.8**
comp=Z,7.3nm,1.0s,baz=156,slow=5.1,SNR=30
ILB Eielson Array 62.16 341 *e*P **P 17 59 02.2 -1.7**
MCK McKinley 62.19 339 *e*P **P 17 59 05.8 +1.7**
MCK pmax pmax
comp=Z,31nm,1.2s
MCK McKinley 62.19 339 *e*P **P 17 59 05.8 +1.7**
comp=Z,31nm,1.2s
WRH Wood River Hil 62.37 340 *e*P **P 17 59 06.9 +1.7**
comp=Z,22nm,1.4s
CCB Clear Creek Bu 62.38 340 *e*P **P 17 59 06.6 +1.2**
comp=Z,9.8nm,1.0s
COLA College 62.55 341 PFAKE 17 59 20.0 +14
COLA LR LR
comp=Z,1μm,22.0s
MDM Murphy Dome 62.72 341 *e*P **P 17 59 08.7 +1.0**
comp=Z,16nm,1.2s
KTH Kantishna Hill 62.78 338 *e*P **P 17 59 08.4 +0.3**
comp=Z,47nm,1.3s
PPLA Purkeypile 62.87 338 *e*P **P 17 59 07.4 -1.4**
comp=Z,158nm,1.6s
FYU Fort Yukon 62.87 343 *e*P **P 17 59 07.9 -0.6**
comp=Z,131nm,1.8s
CAST Castle Rocks 63.13 338 *e*P **P 17 59 08.5 -1.9**
comp=Z,43nm,1.2s
BPAW Bear Paw Mtn. 63.13 339 *e*P **P 17 59 12.5 +2.2**
comp=Z,16nm,1.2s
SVW2 Sparrevohn 63.24 335 *e*P **P 17 59 12.3 +1.1**
comp=Z,21nm,1.3s
MLY Manley 63.60 340 *e*P **P 17 59 15.0 +1.5**
comp=Z,32nm,1.3s
COLD Coldfoot 64.78 342 *e*P **P 17 59 20.9 -0.2**
comp=Z,29nm,1.3s
SPB Sao Paulo 64.78 122 PFAKE 17 59 30.0 +8.1
SPB LR LR
comp=Z,5μm,21.0s
RES Resolute Bay 64.83 3 LR LR 18 26 47.5
comp=Z,1μm,19.8s,baz=184,slow=35
RES Resolute Bay 64.83 3 *e*P **P 17 59 20.8 -0.5**
RES pmax pmax
comp=Z,9.0nm,0.9s
RES Resolute Bay 64.83 3 *e*P **P 17 59 20.8 -0.5**
comp=Z,9.2nm,0.9s
IM3 Indian Mountai 65.18 340 *e*P **P 17 59 26.2 +2.5**
TOLK Toolik Lake Re 65.49 343 *e*P **P 17 59 26.4 +0.6**
comp=Z,21nm,1.0s
SFJD Kangerlussuaq 67.10 20 PFAKE 17 59 50.0 +14
SFJD LR LR
comp=Z,2μm,21.0s
TULEG Thule 69.11 8 *e*P **P 17 59 48.4 -0.1**
comp=Z,17nm,1.1s
RCBR Riachuelo 69.84 100 PFAKE 18 00 10.0 +16
RCBR LR LR
comp=Z,17μm,22.0s
SUMG Summit 73.32 17 *e*P **P 18 00 14.0 -0.6**
SUMG pmax pmax
comp=Z,30nm,1.2s
SUMG Summit 73.32 17 *e*P **P 18 00 14.0 -0.6**
comp=Z,30nm,1.2s
FUNA Funafuti 78.44 259 PFAKE 18 01 00.0 +16
FUNA LR LR
comp=Z,6μm,21.0s
SACV Santiago Islan 78.47 77 PFAKE 18 01 00.0 +15
SACV LR LR
comp=Z,642nm,22.0s
BILL Bilibino 80.58 338 *i* P **P 18 00 52.7 -2.3**
BILL pmax pmax
comp=Z,4.0nm,1.4s
RAO Raoul Island 80.95 238 PFAKE 18 01 10.0 +12
RAO LR LR
comp=Z,5μm,20.0s
JMIC Jan Mayen 82.44 19 LR LR 18 36 40.5
comp=Z,375nm,20.3s,baz=314,slow=35
TARA Tarawa 82.74 270 PFAKE 18 01 20.0 +12
TARA LR LR
comp=Z,310nm,22.0s
KBS Kingsbay 85.06 10 PFAKE 18 01 30.0 +12
KBS LR LR
comp=Z,1μm,20.0s
HOPE Hope Point 85.50 147 PFAKE 18 01 30.0 +9.4
HOPE LR LR
comp=Z,799nm,19.0s
WAKE Wake Island 85.93 289 PFAKE 18 01 30.0 +6.4
WAKE LR LR
comp=Z,5μm,21.0s
PET Petropavlovsk 86.32 323 PFAKE 18 01 40.0 +15
PET LR LR
comp=Z,730nm,20.0s
ESK Eskdalemuir 88.01 34 PFAKE 18 01 40.0 +7.0
ESK LR LR
comp=Z,1μm,19.0s
EKA Eskdalemuir Ar 88.03 34 P **P 18 01 31.6 -1.5**
comp=Z,0.2nm,0.4s,baz=329,slow=5.4,SNR=2.4
MTE Manteigas 88.59 49 PFAKE 18 01 50.0 +14
MTE LR LR
comp=Z,1μm,21.0s
SNZO South Karori 89.94 228 PFAKE 18 01 50.0 +7.7
SNZO LR LR
comp=Z,4μm,22.0s
RTC Rabat Centre 90.48 55 PFAKE 18 02 00.0 +15
RTC LR LR
comp=Z,3μm,20.0s
PAB San Pablo 91.18 50 PFAKE 18 02 00.0 +12
PAB LR LR
comp=Z,1μm,19.0s
ASCN Ascension 91.22 98 PFAKE 18 02 00.0 +11
ASCN LR LR
comp=Z,687nm,19.0s
TIXI Tiksi 91.32 345 P **P 18 01 46.4 -1.7**
comp=Z,7.0nm,0.8s,baz=26,slow=2.9,SNR=26
TIXI Tiksi 91.32 345 *e*P **P 18 01 44.9 -3.3**
TIXI pmax pmax
comp=Z,30nm,1.0s
TIXI MLR MLR
comp=Z,681nm,21.0s
TIXI Tiksi 91.32 345 *e*P **P 18 01 44.9 -3.3**
comp=Z,30nm,1.0s
TIXI LR LR
comp=Z,681nm,21.0s
ESDC Sonseca Array 91.44 49 P **P 18 01 51.0 +1.5**
comp=Z,2.2nm,1.1s,baz=278,slow=6.7,SNR=6.2
ESDC PP **PP 18 05 27.0 0.0**
comp=Z,1.0nm,0.6s,baz=262,slow=10,SNR=5.3
ES19 SONSECA Array 91.48 49 *e*P **P 18 01 53.6 +3.9**
DZM Mont Dzumac 93.11 248 *e*LR LR 18 31 55.9
comp=Z,954nm,22.8s
KEV Kevo 93.64 15 PFAKE 18 02 10.0 +11
KEV LR LR
comp=Z,2μm,22.0s
WLF Walferdange 95.22 38 PFAKE 18 02 20.0 +13
WLF LR LR
comp=Z,1μm,21.0s
SSB Saint Sauveur 95.79 42 PFAKE 18 02 20.0 +11
SSB LR LR
comp=Z,921nm,20.0s
ECH Echery 96.38 39 PFAKE 18 02 20.0 +8.0
ECH LR LR
comp=Z,1μm,19.0s
LVZ Lovozero 96.91 15 PFAKE 18 02 30.0 +16
LVZ LR LR
comp=Z,1μm,22.0s
YAK Yakutsk 96.94 337 PFAKE 18 02 30.0 +16
YAK LR LR
comp=Z,1μm,21.0s
BFO Black Forest 97.06 38 PFAKE 18 02 30.0 +15
BFO LR LR
comp=Z,834nm,20.0s
BNI Bardonecchia 97.28 42 PFAKE 18 02 30.0 +14
BNI LR LR
comp=Z,1μm,19.0s
HNR Honiara 97.30 262 PFAKE 18 02 30.0 +13
HNR LR LR
comp=Z,2μm,22.0s
YSS Yuzh-Sakhalins 97.92 320 PFAKE 18 02 30.0 +11
YSS LR LR
comp=Z,2μm,21.0s
TUE Stuetta 98.44 40 PFAKE 18 02 30.0 +8.4
TUE LR LR
comp=Z,924nm,19.0s
CLL Collm 98.50 34 *e*P Pdif 18 02 23.0 +1.6
CLL *e*SS SS 18 20 38.0 +4.7
FIA0 FINESS Array S 98.86 22 *e*P Pdif 18 02 24.7 +1.9
FIA0 FINESS Array S 98.86 22 *e*P Pdif 18 02 24.7 +2.0
FINES FINESS Array B 98.86 22 P Pdif 18 02 24.7 +2.0
comp=Z,2.0nm,0.9s,baz=289,slow=8.5,SNR=3.1
SBA Scott Base 99.55 192 PFAKE 18 02 40.0 +15
SBA LR LR
comp=Z,3μm,20.0s
ERM Erimo 99.60 316 PFAKE 18 02 40.0 +13
ERM LR LR
comp=Z,4μm,21.0s
QSPA South Pole Qui 100.01 180 PFAKE 18 02 40.0 +12
QSPA LR LR
comp=Z,3μm,20.0s
GERES GERESS Array B 100.05 36 P **Pdif 18 02 30.1 +1.5**
comp=Z,0.4nm,0.7s,baz=312,slow=8.0,SNR=4.0
VLC Villacollemand 100.06 42 PFAKE 18 02 40.0 +11
VLC LR LR
comp=Z,696nm,21.0s
SHEL Horse Pasture 100.77 104 PFAKE 18 02 40.0 +7.7
SHEL LR LR
comp=Z,1μm,22.0s
VSL Villasalto 101.25 46 PFAKE 18 02 50.0 +16
VSL LR LR
comp=Z,2μm,22.0s
AQU L'Aquila 102.83 42 PFAKE 18 02 50.0 +9.0
AQU LR LR
comp=Z,989nm,20.0s
TAM Tamanrasset 103.90 63 PFAKE 18 03 00.0 +14
TAM LR LR
comp=Z,1μm,22.0s
PSZ Piszkesteto 104.08 35 PFAKE 18 03 00.0 +14
PSZ LR LR
comp=Z,1μm,22.0s
CLTB Caltabellotta 104.78 47 PFAKE 18 03 00.0 +10
CLTB LR LR
comp=Z,2μm,22.0s
MAJO Matsushiro 105.33 312 PFAKE 18 07 20.0
MAJO LR LR
comp=Z,7μm,22.0s
CUC Castrocucco 105.53 44 PFAKE 18 07 20.0
CUC LR LR
comp=Z,1μm,21.0s
CEL Celeste 106.38 45 PFAKE 18 07 20.0
CEL LR LR
comp=Z,1μm,19.0s
WDD Wied Dalam 106.48 48 PFAKE 18 07 20.0
WDD LR LR
comp=Z,3μm,22.0s
TIP Timpagrande 106.55 44 PFAKE 18 07 20.0
TIP LR LR
comp=Z,1μm,22.0s
MDJ Mudanjiang 107.10 323 PFAKE 18 07 20.0
MDJ LR LR
comp=Z,3μm,21.0s
OBN Obninsk 107.25 22 PFAKE 18 07 20.0
OBN LR LR
comp=Z,907nm,19.0s
KIEV Kiev 107.27 29 PFAKE 18 07 20.0
KIEV LR LR
comp=Z,715nm,19.0s
TIR Tirane 107.54 41 PFAKE 18 07 20.0
TIR LR LR
comp=Z,1μm,22.0s
GUMO Guam 107.55 288 PFAKE 18 07 20.0
GUMO LR LR
comp=Z,4μm,22.0s
CAN Canberra 109.41 236 PFAKE 18 07 30.0
CAN LR LR
comp=Z,2μm,19.0s
HIA Hailar 109.48 331 PFAKE 18 07 20.0
HIA LR LR
comp=Z,2μm,22.0s
PMG Port Moresby 109.79 264 PFAKE 18 07 30.0
PMG LR LR
comp=Z,3μm,21.0s
TAU Tasmania Unive 110.29 228 PFAKE 18 07 30.0
TAU LR LR
comp=Z,3μm,19.0s
CTAO Charters Tower 111.63 252 PFAKE 18 07 30.0
CTAO LR LR
comp=Z,2μm,19.0s
ARU Arti 112.24 10 PFAKE 18 07 30.0
ARU LR LR
comp=Z,734nm,21.0s
INCN Inchon 112.93 318 PFAKE 18 07 30.0
INCN LR LR
comp=Z,4μm,20.0s
SANT Santorini 113.90 43 PFAKE 18 07 30.0
SANT LR LR
comp=Z,514nm,21.0s
TLY Talaya 113.98 341 PFAKE 18 07 30.0
TLY LR LR
comp=Z,3μm,21.0s
ZAA1 Zalesovo Array 115.79 354 *e*PKPdf **PKPdf 18 07 24.4 -1.0**
ZALV Zalesovo Beam 115.79 354 PKP **PKPdf 18 07 24.4 -1.0**
comp=Z,0.7nm,0.6s,baz=128,slow=2.4,SNR=3.0
ULN Ulaanbaatar 116.02 337 PFAKE 18 07 40.0 +14
ULN LR LR
comp=Z,4μm,22.0s
SONA0 Songino Array 116.30 338 *e*PKPdf **PKPdf 18 07 25.5 -1.2**
SONA0 *e*PP PP 18 08 42.1 +10
SONM Songino Array 116.30 338 PKP **PKPdf 18 07 25.5 -1.2**
comp=Z,0.8nm,0.8s,baz=276,slow=1.3,SNR=5.6
SONM PP PP 18 08 42.1 +10
comp=Z,1.2nm,1.2s,baz=57,slow=5.3,SNR=4.6
ISP Isparta 116.30 39 PFAKE 18 07 40.0 +13
ISP LR LR
comp=Z,1μm,20.0s
ANTO Ankara 116.34 36 PFAKE 18 07 40.0 +13
ANTO LR LR
comp=Z,649nm,22.0s
SYO Syowa Base 116.62 166 || PP PP 18 08 32.0 -1.6
BR101 Keskin Array S 116.92 35 *e*PKPdf **PKPdf 18 07 28.1 -0.2**
BRTR Keskin Array B 116.92 35 PKP **PKPdf 18 07 28.1 -0.2**
comp=Z,1.5nm,0.8s,baz=104,slow=1.5,SNR=5.3
BRVK Borovoye 116.97 4 PFAKE 18 07 40.0 +12
BRVK LR LR
comp=Z,738nm,19.0s
BJT Baijiatuan 117.72 326 PFAKE 18 07 40.0 +10
BJT LR LR
comp=Z,4μm,20.0s
KIV Kislovodsk 118.42 27 PFAKE 18 07 40.0 +9.1
KIV LR LR
comp=Z,458nm,20.0s
CASY Casey 119.07 195 PFAKE 18 07 40.0 +8.8
CASY LR LR
comp=Z,491nm,19.0s
KURK Kurchatov 119.44 358 PFAKE 18 07 40.0 +7.5
KURK LR LR
comp=Z,2μm,20.0s
HHC Hu-ho-hao-te 119.55 329 *e*PKP **PKPdf 18 07 30.3 -2.9**
HHC AMB AMB
comp=Z,77nm,4.5s
HHC LR LR
comp=Z,450nm,16.0s
HHC LR LR
comp=Z,410nm,14.8s
HHC LR LR
comp=Z,490nm,13.5s
CSS Mathiatis 119.86 40 PFAKE 18 07 50.0 +16
CSS LR LR
comp=Z,126nm,21.0s
NJ2 Nanjing 121.30 317 *e*PKP **PKPdf 18 07 38.0 +1.4**
GNI Garni 122.37 28 PFAKE 18 07 50.0 +11
GNI LR LR
comp=Z,1μm,19.0s
WRAB Tennant Creek 122.82 253 PFAKE 18 07 50.0 +10
WRAB LR LR
comp=Z,2μm,20.0s
WR1 Warramunga Arr 122.83 253 *e*PKPdf **PKPdf 18 07 38.6 -1.2**
WRA Warramunga Arr 122.83 253 PKP **PKPdf 18 07 38.7 -1.2**
comp=Z,2.3nm,0.8s,baz=86,slow=1.5,SNR=17
AS01 Alice Springs 123.06 248 *e*PKPdf **PKPdf 18 07 40.1 -0.2**
ASAR Alice Springs 123.10 248 PKP **PKPdf 18 07 39.1 -1.2**
comp=Z,1.2nm,0.8s,baz=110,slow=1.4,SNR=11
MK31 Makanchi Array 123.12 355 *e*PKIKP **PKPdf 18 07 39.2 -0.6**
MK31 Makanchi Array 123.12 355 *e*PKPdf **PKPdf 18 07 39.2 -0.6**
MK32 Makanchi Array 123.12 355 *e*PKPdf **PKPdf 18 07 38.0 -1.8**
MKAR Makanchi Array 123.12 355 PKP **PKPdf 18 07 38.0 -1.8**
comp=Z,2.2nm,0.8s,baz=2.2,slow=1.0,SNR=18
MKAR Makanchi Array 123.12 355 *e*PKIKP **PKPdf 18 07 39.4 -0.4**
MKAR Makanchi Array 123.12 355 *e*PKPdf **PKPdf 18 07 39.4 -0.4**
MAKZ Makanchi 123.13 355 *e*PKIKP **PKPdf 18 07 39.3 -0.5**
MAKZ Makanchi 123.13 355 *e*PKPdf **PKPdf 18 07 39.3 -0.5**
MK01 Makanchi Array 123.14 355 *e*PKPdf **PKPdf 18 07 37.6 -2.2**
TSUM Tsumeb 123.17 106 PFAKE 18 07 50.0 +9.3
TSUM LR LR
comp=Z,5μm,19.0s
TATO Taipei 123.47 309 PFAKE 18 07 50.0 +9.0
TATO LR LR
comp=Z,2μm,20.0s
YHNB Yeheng 123.72 309 PFAKE 18 07 50.0 +8.4
YHNB LR LR
comp=Z,2μm,20.0s
SUR Sutherland 124.80 122 PFAKE 18 07 50.0 +6.5
SUR LR LR
comp=Z,9μm,19.0s
WMQ Urumqi 125.31 349 *e*PKP **PKPdf 18 07 43.5 -0.6**
WMQ LR LR
comp=Z,880nm,31.1s
WMQ LR LR
comp=Z,960nm,34.9s
WMQ LR LR
comp=Z,1μm,31.1s
LZH Lanzhou 127.04 331 *e*PKP **PKPdf 18 07 44.0 -3.8**
LZH sPKP 18 07 56.8
LZH SKKS 18 16 40.0
LZH LR LR
comp=Z,190nm,18.2s
LZH LR LR
comp=Z,200nm,18.0s
LZH LR LR
comp=Z,240nm,20.1s
AAK Ala-Archa 127.56 1 PFAKE 18 08 00.0 +11
AAK LR LR
comp=Z,2μm,22.0s
DAV Davao City (W) 127.58 287 PFAKE 18 08 00.0 +11
DAV LR LR
comp=Z,2μm,22.0s
PRZ Przheval'sk 127.67 358 PKIKP **PKPdf 18 07 50.0 +1.2**
KDJ Kajisay 128.06 359 PKIKP **PKPdf 18 07 48.8 -0.8**
KDJ Kajisay 128.06 359 *e*PKPdf **PKPdf 18 07 48.8 -0.8**
TARG Taragay, Kyrgy 128.45 358 *e*PKPdf **PKPdf 18 07 49.0 -1.6**
ENH Enshi 128.46 322 PFAKE 18 08 00.0 +10
ENH LR LR
comp=Z,3μm,22.0s
NRN Naryn 128.78 360 PKIKP **PKPdf 18 07 51.3 +0.2**
BOSA Boshof 129.27 119 PKP **PKPdf 18 07 52.1 0.0**
comp=Z,2.3nm,0.9s,baz=201,slow=7.4,SNR=3.0
GEYT Alibeck 129.49 18 PKP **PKPdf 18 07 52.2 -0.1**
comp=Z,3.8nm,1.0s,baz=289,slow=4.5,SNR=11
KSH Kashi 130.69 360 *e*PKP **PKPdf 18 07 57.5 +2.9**
CD2 Chengdu 131.22 328 PKP **PKPdf 18 07 56.0 +0.3**
LSZ Lusaka 133.34 102 PFAKE 18 08 10.0 +10
LSZ LR LR
comp=Z,4μm,21.0s
MBAR Mbarara 134.23 81 PFAKE 18 08 10.0 +8.0
MBAR LR LR
comp=Z,599nm,20.0s
RAYN Ar Rayn 135.38 41 PFAKE 18 08 20.0 +16
RAYN LR LR
comp=Z,934nm,21.0s
NWAO Narrogin (SRO) 135.61 233 PFAKE 18 08 20.0 +16
NWAO LR LR
comp=Z,2μm,19.0s
QIZ Qiongzhong 135.70 311 PFAKE 18 08 20.0 +16
QIZ LR LR
comp=Z,2μm,19.0s
KAPI Kappang 136.16 273 PFAKE 18 08 20.0 +15
KAPI LR LR
comp=Z,1μm,21.0s
KMI Kunming 136.27 324 PKP **PKPdf 18 08 08.5 +2.9**
KMI LR LR
comp=Z,330nm,23.4s
KMI LR LR
comp=Z,750nm,19.2s
KMI LR LR
comp=Z,760nm,20.2s
MBWA Marble Bar 136.39 250 PFAKE 18 08 20.0 +14
MBWA LR LR
comp=Z,2μm,20.0s
KKM Kota Kinabalu 136.67 290 PFAKE 18 08 20.0 +14
KKM LR LR
comp=Z,3μm,22.0s
LSA Lhasa 137.80 340 PFAKE 18 08 20.0 +11
LSA LR LR
comp=Z,3μm,22.0s
PAF Port-aux-Franc 140.54 174 PFAKE 18 08 20.0 +7.7
PAF LR LR
comp=Z,5μm,21.0s
KMBO Kilima Mbogo 140.68 79 PFAKE 18 08 30.0 +16
KMBO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 143.34 321 *e*PKIKP PKPbc 18 08 16.3 +1.0
CHTO MLR MLR
comp=Z,1μm,19.0s
CHTO Chiang Mai 143.34 321 *e*PKPdf PKPbc 18 08 16.3 +1.0
CHTO LR LR
comp=Z,1μm,19.0s
CM31 Chiang Mai Arr 143.61 321 *e*PKPdf **PKPdf 18 08 21.1 +2.4**
CMAR Chiang Mai Arr 143.61 321 PKP PKPab 18 08 15.4 +0.2
comp=Z,1.5nm,0.9s,baz=19,slow=2.5,SNR=14
CM01 Chiang Mai Arr 143.63 321 *e*PKPpre PKPpre 18 08 14.9
KSM Kuching 143.78 287 PFAKE 18 08 30.0 +11
KSM LR LR
comp=Z,2μm,22.0s
CISI Cisompet, Garu 148.26 272 *e*PKPbc **PKPbc 18 08 29.4 -0.8**
LEM Lembang 148.36 273 PKPbc **PKPbc 18 08 31.3 +0.7**
comp=Z,16nm,0.9s,baz=126,slow=6.5,SNR=4.3
KULM Kulim 150.92 301 *e*pPKPdf **pPKPdf 18 08 35.1 -2.0**
KULM LR LR
comp=Z,2μm,22.0s
ABPO Ambohimpanom 150.99 111 PFAKE 18 08 40.0 +3.1
ABPO LR LR
comp=Z,2μm,22.0s
OPO Ambohidratompo 151.06 110 PKPbc **PKPbc 18 08 38.7 +1.6**
comp=Z,5.3nm,0.9s,baz=260,slow=6.1,SNR=3.3
HYB Hyderabad 152.57 354 *i* PKP **PKPbc 18 08 40.0 -0.4**
PSI Prapat 153.66 298 PKPbc **PKPbc 18 08 41.9 -1.1**
comp=Z,6.1nm,0.6s,baz=28,slow=2.4,SNR=6.3
RER Riviere de l'E 157.79 122 PFAKE 18 08 50.0 +10
RER LR LR
comp=Z,4μm,19.0s
COCO West Island 159.24 262 PFAKE 18 08 50.0 +7.8
COCO LR LR
comp=Z,2μm,22.0s
DGAR Diego Garcia 175.79 52 PFAKE 18 09 00.0 +5.9
DGAR LR LR
comp=Z,1μm,20.0s

IDC ***26*** *17:56:06.3±2.5, 35.49S×178.80W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/47, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=80.1km s-min=41.9km az=147.0*
WEL ***26*** *17:56:10.3±1.4, 35.18S×17.9W±2.0, h33km, ML4.2/9*
ISC 26 17:56:13.0±1.7, 35.6S±0.1×178.9W±0.2, h47km, n22,
σ1s21/23, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.00**	**227**	**P**		**Pn**	**17 56 56.3**	**-1.6**
MXZ	**Matakaoa Point**	**3.00**	**227**	**S**		**Sn**	**17 57 32.0**	**-0.6**
WMGZ	**Waiomatatini S**	**3.11**	**223**	**P**		**Pn**	**17 56 59.1**	**-0.4**
WMGZ	**Waiomatatini S**	**3.11**	**223**	**S**		**Sn**	**17 57 37.3**	**+1.9**
PKGZ	**Pakihiroa**	**3.35**	**225**	**P**		**Pn**	**17 57 01.5**	**-1.3**
PKGZ	**Pakihiroa**	**3.35**	**225**	**S**		**Sn**	**17 57 42.4**	**+1.0**
PUZ	**Puketiti**	**3.38**	**221**	**P**		**Pn**	**17 57 01.8**	**-1.4**
PUZ	**Puketiti**	**3.38**	**221**	**S**		**Sn**	**17 57 41.9**	**-0.2**
HAZ	**Te Kaha**	**3.44**	**229**	**P**		**Pn**	**17 57 03.7**	**-0.3**
HAZ	**Te Kaha**	**3.44**	**229**	**S**		**Sn**	**17 57 45.5**	**+2.0**
TWGZ	**Tauwhareparae**	**3.61**	**223**	**P**		**Pn**	**17 57 06.2**	**-0.1**
TWGZ	**Tauwhareparae**	**3.61**	**223**	**S**		**Sn**	**17 57 48.9**	**+1.3**
RUGZ	**Raukumara Rang**	**3.64**	**228**	**P**		**Pn**	**17 57 06.0**	**-0.8**
CNGZ	**Carnagh Statio**	**3.72**	**217**	**P**		**Pn**	**17 57 06.7**	**-1.1**
MWZ	**Matawai**	**3.97**	**225**	**P**		**Pn**	**17 57 10.0**	**-1.4**
URZ	**Urewera**	**4.17**	**228**	Pn		**Pn**	**17 57 12.9**	**-1.1**
	6.6nm,0.3s,baz=354,slow=9.0,SNR=33							
URZ				Sn		**Sn**	**17 58 00.8**	**-0.6**
	8.8nm,0.3s,baz=153,slow=12,SNR=15							
URZ	**Urewera**	**4.17**	**228**	P		**Pn**	**17 57 12.9**	**-1.1**
KUZ	**Kuaotunu**	**4.49**	**253**	P		**Pn**	**17 57 17.3**	**-1.1**
ASAR	**Alice Springs**	**42.33**	**273**	P		**P**	**18 04 03.2**	**+0.7**
	0.6nm,0.6s,baz=115,slow=7.4,SNR=11							
WRA	**Warramunga Arr**	**43.78**	**278**	P		**P**	**18 04 14.1**	**-0.1**
	1.9nm,1.0s,baz=121,slow=7.6,SNR=7.9							
MKAR	**Makanchi Array**	**120.41**	**308**	PKP		**PKPdf**	**18 14 57.8**	**-1.0**
	0.2nm,0.7s,baz=108,slow=4.7,SNR=2.8							
FINES	**FINESS Array B**	**149.63**	**336**	PKPbc		**PKPbc**	**18 15 58.1**	**+1.6**
	1.6nm,0.8s,baz=336,slow=1.7,SNR=3.2							

ISCJB ***26*** *17:56:16.8±1.1, 9.6N±0.1×104.3W±0.1, h10km, mb4.3/12,*

Error ellipse: s-maj=22.3km s-min=15.6km az=41.7
IDC ***26*** *17:56:17.4±1.1,9.˚62N×104.˚30W,h0km,mb3.8/6, mb1 4.0/8,mb1mx3.8/45,mbtmp3.7/8,ML3.2/1,Error ellipse: s-maj=44.3km s-min=22.1km az=61.0*
NEIC ***26*** *17:56:18.9±0.7,9.˚58N×104.˚37W,h10km,mb5.2/5,Error ellipse: s-maj=16.4km s-min=12.5km az=112.0*

ISC 26 17:56:20.0±0.9,9.˚6N±0.˚1×104.˚3W±0.˚1,h10km,n32, σ1s83/33,mb4.3/12,1D,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**11.76**	**50**	**Pn**			**Pn**	**17 59 07.0**	**-1.0**
	0.1nm,0.3s,baz=237,slow=14,SNR=2.8								
LTX	**Lajitas**	**19.60**	**2**	*eP*			**Pn**	**18 00 49.7**	**-0.2**
TX31	**Lajitas Ar. Si**	**19.60**	**2**	*eP*			**P**	**18 00 48.4**	**-0.2**
TXAR	**Lajitas Array**	**19.60**	**2**	Pn			**Pn**	**18 00 49.7**	**-0.2**
	baz=174,slow=12,SNR=5.1								
MNTX	**Cornudas Mount**	**21.97**	**357**	*eP*			**P**	**18 01 14.5**	**+0.4**
BREC	**Barre Substati**	**27.15**	**334**	*eP*			**P**	**18 02 06.6**	**+3.2**
VTV	**Victorville**	**27.53**	**336**	*eP*			**P**	**18 02 05.0**	**-2.0**
SDCO	**Great Sand Dun**	**28.00**	**358**	*eP*			**P**	**18 02 11.9**	**+0.5**
	16nm,1.1s								
LRAL	**Lakeview Retre**	**28.22**	**32**	*eP*			**P**	**18 02 14.5**	**+1.4**
	46nm,0.8s								
SZCU	**Shurtz Canyon**	**28.94**	**345**	*eP*			**P**	**18 02 15.6**	**-4.2**
	9.4nm,0.8s								
NVAR	**Mina Array Bea**	**31.31**	**339**	P			**P**	**18 02 40.7**	**0.0**
	0.4nm,0.7s,baz=144,slow=9.4,SNR=3.1								
JSC	**Jenkinsville**	**32.35**	**37**	*eP*			**P**	**18 02 50.2**	**+0.5**
	33nm,0.6s								
PDAR	**Pinedale Array**	**33.32**	**353**	P			**P**	**18 02 56.4**	**-1.8**
	0.4nm,0.8s,baz=168,slow=9.0,SNR=4.3								
NNA	**Nana**	**34.72**	**128**	P			**P**	**18 03 09.4**	**-1.2**
	4.8nm,0.6s,baz=308,slow=20,SNR=1.8								
YBH	**Yreka Blue Hor**	**35.85**	**336**	P			**P**	**18 03 18.5**	**-1.5**
	2.3nm,1.1s,baz=129,slow=6.5,SNR=2.3								
LRM	**Limekiln Ridge**	**36.73**	**350**	*eP*			**P**	**18 03 25.7**	**-2.0**
G04A	**Mulino**	**38.75**	**339**	*eP*			**P**	**18 03 47.5**	**+3.0**
GULW	**Guler Mountain**	**39.08**	**341**	*eP*			**P**	**18 03 50.8**	**+3.4**
GULW				*es*P			**sP**	**18 03 54.0**	**+2.3**
SIV	**San Ignacio**	**49.78**	**120**	P			**P**	**18 05 16.7**	**+3.4**
	0.3nm,0.4s,baz=276,slow=11,SNR=2.4								
YKA	**Yellowknife Ar**	**53.29**	**354**	P			**P**	**18 05 37.4**	**-1.3**
	0.3nm,0.7s,baz=167,slow=7.6,SNR=5.5								
RAGM	**Ragged Mountai**	**58.84**	**338**	*eP*			**P**	**18 06 18.9**	**+0.3**
	143nm,1.4s								
IL1	**Eielson Array**	**62.52**	**341**	*eP*			**P**	**18 06 43.0**	**-0.6**
ILAR	**Eielson Array**	**62.52**	**341**	P			**P**	**18 06 43.0**	**-0.7**
	1.0nm,0.8s,baz=153,slow=5.2,SNR=12								
ILB	**Eielson Array**	**62.52**	**341**	*eP*			**P**	**18 06 43.0**	**-0.7**
SYO	**Syowa Base**	**116.25**	**166**	‖*e*Pdiff			**Pdif**	**18 11 15.0**	**-2.2**
KURK	**Kurchatov**	**119.84**	**358**	*e*PKPdf			**PKPdf**	**18 15 10.2**	**-0.5**
KURBB	**Kurchatov Arra**	**119.94**	**358**	PKP			**PKPdf**	**18 15 10.2**	**-0.7**
	0.5nm,0.2s,baz=90,slow=2.8,SNR=5.5								
WR1	**Warramunga Arr**	**122.64**	**255**	*e*PKPdf			**PKPdf**	**18 15 15.1**	**-1.9**
WRA	**Warramunga Arr**	**122.64**	**253**	PKP			**PKPdf**	**18 15 15.1**	**-1.9**
	0.4nm,0.8s,baz=88,slow=3.1,SNR=2.9								
MK32	**Makanchi Array**	**123.51**	**355**	*e*PKPdf			**PKPdf**	**18 15 17.1**	**-0.8**
MKAR	**Makanchi Array**	**123.51**	**355**	PKP			**PKPdf**	**18 15 17.1**	**-0.8**
	0.3nm,0.8s,baz=48,slow=2.1,SNR=3.5								
CMAR	**Chiang Mai Arr**	**143.88**	**321**	PKP			**PKPdf**	**18 15 56.1**	**-0.6**
	0.3nm,0.8s,baz=18,slow=3.2,SNR=3.3								

IDC 26 17:57:16.6±9.0,35.˚12S×177.˚74E,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.6/45,mbtmp3.5/2,Error ellipse: s-maj=448.3km s-min=66.4km az=168.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.17**	**189**		Sn		Sn	17 58 48.4	+2.0
	5.0nm,0.3s,baz=230,slow=11,SNR=3.6								
ASAR	**Alice Springs**	**39.58**	**275**	P			P	18 04 49.4	-0.5
	0.4nm,0.6s,baz=114,slow=7.8,SNR=4.6								
WRA	**Warramunga Arr**	**121.02**	**280**	P			P	18 05 02.0	+0.3
	0.8nm,0.8s,baz=122,slow=7.8,SNR=3.4								
FINES	**FINESS Array B**	**148.10**	**334**	PKPbc			PKPbc	18 17 02.7	-0.7
	2.6nm,0.9s,baz=48,slow=2.8,SNR=3.4								

ISCJB ***26*** *17:58:23.9±0.4,10.˚06N±0.˚05×104.˚29W±0.˚03,h10km, mb4.9/154,MS4.7/1,Error ellipse: s-maj=6.8km s-min=4.3km az=13.8*
IDC ***26*** *17:58:24.7±0.6,10.˚21N×104.˚36W,h0km,mb4.5/20, mb1 4.7/22,mb1mx4.5/45,mbtmp4.5/22,ML3.5/2,MS4.8/3, Ms1 4.8/3,ms1mx4.0/48,Error ellipse: s-maj=22.0km s-min=11.7km az=56.0*
GCMT ***26*** *17:58:25.8±0.5,10.˚28N×104.˚27W,h12km,MW5.3/83, Moment Tensor Solution. s35,c42; s83,c120; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.21±.04; $M_{\theta\theta}$-0.64±.04; $M_{\phi\phi}$0.42±.04; $M_{r\theta}$-0.68±.11; $M_{r\phi}$0.77±.03; $M_{\theta\phi}$-0.12±. 11; Best double couple: $M_0$1.16600×10^{17} NP1:ϕ_s256.00000°,δ85.00000°,λ38.00000°. NP2: ϕ_s162.00000°,δ52.00000°,λ173.00000°. Principal axes: T 1.0730, Plg30.0000°, Azm126.0000°; N 0.1850, Plg52.0000°, Azm263.0000°; P -1.2590, Plg21.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***26*** *17:58:25.0±1.0,10.˚17N×104.˚26W,h10km,mb5.1/38 Error ellipse: s-maj=11.9km s-min=5.5km az=93.3*
NEIC ***26*** *17:58:25.8±0.2,10.˚00N×104.˚34W,h10km,mb5.0/146, Error ellipse: s-maj=5.1km s-min=3.8km az=45.0*
BJI ***26*** *17:58:27.2,10.˚20N×104.˚30W,h10km,mB5.4/3,Ms5.7/5, Ms7 5.5/5*

ISC 26 17:58:25.8±0.5,10.˚07N±0.˚07×104.˚38W±0.˚08,h10km, n646,σ0s98/662,mb5.0/154,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**10.04**	**18**	*e*Pn			**Pn**	**18 00 52.7**	**+2.3**
CMIG	**Matias Romero**	**11.57**	**52**	Pn			**Pn**	**18 01 11.5**	**+0.3**
	0.2nm,0.3s,baz=222,slow=11,SNR=20								
CMIG				LR			LR	18 04 34.5	
	comp=Z,6μm,20.6s,baz=222,slow=32								
ZAIG	**Zacatecas**	**12.75**	**8**	*e*Pn			**Pn**	**18 01 30.8**	**+3.3**
LPIG	**La Paz**	**15.06**	**339**	Pn			**P**	**18 02 05.4**	**+1.4**
	7.3nm,0.3s,baz=51,slow=1.4,SNR=3.2								
LPIG				LR			LR	18 06 10.5	
	comp=Z,3μm,21.6s,baz=163,slow=31								
LNIG	**Linares**	**15.47**	**17**	*e*Pn			**Pn**	**18 02 05.6**	**+1.3**
	100nm,1.7s								
HPIG		**16.82**	**356**	*e*Pn			**P**	**18 02 24.4**	**+0.5**
	125nm,1.5s								
TGUH	**Tegucigalpa,Un**	**17.19**	**75**	*e*Pn			**P**	**18 02 27.3**	**-0.6**
	312nm,1.6s								
KVTX	**Kingsville**	**18.43**	**19**	*e*P			**Pn**	**18 02 45.3**	**+3.8**
	1μm,1.9s								
833A	**Chaparral WMA,**	**18.75**	**14**	P			**Pn**	**18 02 46.9**	**+1.5**
	baz=195,SNR=13								
JTS	**JuntasAbangare**	**19.13**	**88**	P			**Pn**	**18 02 50.8**	**+0.7**
	0.2nm,0.3s,baz=348,slow=8.6,SNR=6.7								
LTX	**Lajitas**	**19.18**	**2**	*eP*			**Pn**	**18 02 51.3**	**+0.6**
LTX	**Lajitas**	**19.18**	**2**	*eP*			**Pn**	**18 02 51.3**	**+0.6**
LTX				*e*PcP			**PcP**	**18 07 14.0**	**+0.4**
TXAR	**Lajitas Array**	**19.18**	**2**	P			**Pn**	**18 02 51.3**	**+0.7**
	0.1nm,0.3s,baz=177,slow=9.4,SNR=39								
TXAR				PcP			**PcP**	**18 07 14.0**	**+0.4**
	0.0nm,0.3s,baz=200,slow=3.5,SNR=4.8								
TXAR				LR			LR	18 10 00.1	
	comp=Z,3μm,18.1s,baz=0.0,slow=36								
TX31	**Lajitas Ar. Si**	**19.18**	**2**	*eP*			**P**	**18 02 50.8**	**+1.0**
JCT	**Junction City**	**20.75**	**11**	P			**P**	**18 03 08.4**	**+1.6**
	baz=192,SNR=27								
JCT	**Junction City**	**20.75**	**11**	*e*P			Pn	18 03 08.8	-0.5
JCT				pmax			pmax		
	comp=Z,143nm,1.2s								
JCT	**Junction City**	**20.75**	**11**	*e*P			Pn	18 03 08.8	-0.4
	comp=Z,143nm,1.2s								
MNTX	**Cornudas Mount**	**21.54**	**358**	P			**P**	**18 03 16.6**	**+1.3**
	baz=177,SNR=31								
MNTX	**Cornudas Mount**	**21.54**	**358**	*e*P			**P**	**18 03 16.6**	**+1.3**
	comp=Z,122nm,1.5s								
435B	**Jarrell**	**21.56**	**16**	P			**P**	**18 03 16.9**	**+1.3**
	baz=198,SNR=6.8								
319A	**Douglas**	**21.68**	**349**	*e*P			**P**	**18 03 18.2**	**+1.2**
	comp=Z,30nm,1.1s								
GDL2	**Guadalupe Moun**	**22.02**	**0**	*e*P			**P**	**18 03 22.4**	**+1.7**
121A	**Cookes Peak, D**	**22.57**	**352**	P			**P**	**18 03 27.6**	**+1.0**
	baz=171,SNR=13								
WHTX	**Lake Whitney,**	**22.74**	**15**	P			**P**	**18 03 28.3**	**+0.2**
	baz=198,SNR=6.5								
WHTX	**Lake Whitney,**	**22.74**	**15**	*e*P			**P**	**18 03 29.1**	**+1.0**
	comp=Z,91nm,1.3s								
542A	**Morse**	**22.80**	**27**	P			**P**	**18 03 29.8**	**+1.0**
	baz=211								
ABTX	**Abilene, Hawle**	**22.87**	**10**	P			**P**	**18 03 29.6**	**+0.1**
	baz=192,SNR=23								
ABTX	**Abilene, Hawle**	**22.87**	**10**	*e*P			**P**	**18 03 30.0**	**+0.5**
	comp=Z,145nm,1.1s								
TUC	**Tucson**	**22.91**	**346**	P			**P**	**18 03 30.5**	**+0.5**
	baz=163								
TUC	**Tucson**	**22.91**	**346**	*e*P			**P**	**18 03 29.4**	**-0.7**
TUC				pmax			pmax		
	comp=Z,45nm,1.4s								
TUC	**Tucson**	**22.91**	**346**	*e*P			**P**	**18 03 29.4**	**-0.7**
	comp=Z,45nm,1.4s								
441A	**DeRidder**	**23.06**	**25**	P			**P**	**18 03 32.2**	**+0.7**
	baz=209								
543A	**St. Martinvill**	**23.09**	**29**	P			**P**	**18 03 33.0**	**+1.2**
	baz=213								
645A	**Chauvin**	**23.20**	**32**	P			**P**	**18 03 33.8**	**+0.8**
	baz=216								
442A	**Mamou**	**23.36**	**27**	P			**P**	**18 03 34.7**	**+0.2**
	baz=211								
NATX	**Nacogdoches**	**23.39**	**21**	P			**P**	**18 03 35.1**	**+0.2**
	baz=204,SNR=9.0								
NATX	**Nacogdoches**	**23.39**	**21**	*e*P			**P**	**18 03 35.7**	**+0.9**
	comp=Z,432nm,1.4s								
544A	**White Castle**	**23.45**	**30**	P			**P**	**18 03 36.5**	**+1.1**
	baz=214								
341A	**Kurthwood**	**23.58**	**25**	P			**P**	**18 03 37.1**	**+0.4**
	baz=208,SNR=13								
443A	**Delano Plantat**	**23.70**	**28**	P			**P**	**18 03 38.8**	**+1.0**
	baz=212								
MSTX	**Muleshoe**	**23.83**	**3**	P			**P**	**18 03 39.5**	**+0.2**
	baz=184,SNR=16								
MSTX	**Muleshoe**	**23.83**	**3**	*e*P			**P**	**18 03 39.7**	**+0.3**
	comp=Z,133nm,1.4s								
240A	**Hunter Patters**	**23.97**	**23**	P			**P**	**18 03 40.9**	**+0.4**
	baz=206								
342A	**Flagon Creek P**	**23.97**	**26**	P			**P**	**18 03 40.2**	**-0.3**
	baz=210								
Y22D	**IRIS PASSCAL I**	**24.00**	**355**	P			**P**	**18 03 42.0**	**+1.0**
	baz=174								
Y22E	**IRIS PASSCAL I**	**24.01**	**355**	P			**P**	**18 03 41.7**	**+0.7**
	baz=174								
WBCY	**West Bay, Gran**	**24.05**	**65**	*e*P			**P**	**18 03 40.1**	**-1.2**
	comp=Z,108nm,1.2s								
444A	**Pine Grove**	**24.15**	**30**	P			**P**	**18 03 42.3**	**+0.2**
	baz=214								
343A	**Vidalia**	**24.21**	**27**	P			**P**	**18 03 42.6**	**-0.1**
	baz=212								
546A	**Slidell**	**24.28**	**32**	P			**P**	**18 03 43.2**	**-0.2**
	baz=217								
241A	**Mo Tay, Goldon**	**24.29**	**24**	P			**P**	**18 03 44.0**	**+0.6**
	baz=208								
LAZ	**Ladron**	**24.35**	**354**	*e*P			**P**	**18 03 45.8**	**+1.5**
445A	**Amite**	**24.36**	**30**	P			**P**	**18 03 44.5**	**+0.4**
	baz=215								
140A	**Cam and Jess,**	**24.58**	**22**	P			**P**	**18 03 46.7**	**+0.6**
	baz=206								
242A	**Grayson**	**24.64**	**26**	P			**P**	**18 03 47.0**	**+0.4**
	baz=210								
344A	**Westbrook Farm**	**24.76**	**29**	P			**P**	**18 03 47.9**	**+0.2**
	baz=213								
243A	**Waterproof**	**24.77**	**27**	P			**P**	**18 03 48.7**	**+0.9**
	baz=211								
141A	**Papa Simpson,**	**24.80**	**24**	P			**P**	**18 03 48.6**	**+0.5**
	baz=208								
GLA	**Glamis**	**24.82**	**339**	P			**P**	**18 03 48.9**	**+0.6**
	baz=154								
GLA	**Glamis**	**24.82**	**339**	*e*P			**P**	**18 03 53.5**	**+5.2**
GLA	**Glamis**	**24.82**	**339**	*e*P			**P**	**18 03 53.5**	**+5.2**
AMTX	**Amarillo**	**24.82**	**5**	P			**P**	**18 03 48.9**	**+0.5**
	baz=186								
ANMO	**Albuquerque**	**24.84**	**356**	P			**P**	**18 03 49.3**	**+0.7**
	comp=Z,9.0nm,1.0s,baz=357,slow=7.6,SNR=14								
ANMO	**Albuquerque**	**24.84**	**356**	P			**P**	**18 03 49.3**	**+0.7**
	baz=175								
ANMO	**Albuquerque**	**24.84**	**356**	*e*P			**P**	**18 03 49.3**	**+0.7**
ANMO				pmax			pmax		
	comp=Z,13nm,1.0s								
ANMO	**Albuquerque**	**24.84**	**356**	*e*P			**P**	**18 03 49.3**	**+0.7**
	comp=Z,13nm,1.0s								
X18A	**Snake**	**24.87**	**349**	*e*P			**P**	**18 03 48.9**	**-0.1**
	comp=Z,9.3nm,0.9s								
446A	**Poplarville**	**24.91**	**32**	P			**P**	**18 03 49.8**	**+0.7**
	baz=217								
345A	**Thompson Farm,**	**24.98**	**30**	P			**P**	**18 03 49.6**	**-0.1**
	baz=215								
WMOK	**Wichita Mounta**	**25.08**	**11**	P			**P**	**18 03 51.0**	**+0.3**
	baz=193								
WMOK	**Wichita Mounta**	**25.08**	**11**	*e*P			**P**	**18 03 51.6**	**+1.0**
WMOK				pmax			pmax		
	comp=Z,64nm,1.5s								
WMOK	**Wichita Mounta**	**25.08**	**11**	*e*P			**P**	**18 03 51.6**	**+1.0**
	comp=Z,64nm,1.5s								
142A	**Monroe**	**25.15**	**25**	P			**P**	**18 03 51.5**	**+0.3**
	baz=210								
Z40A	**Long Farm, Mag**	**25.20**	**22**	P			**P**	**18 03 51.9**	**+0.3**
	baz=206								
244A	**Avery, Jackson**	**25.27**	**28**	P			**P**	**18 03 52.2**	**-0.2**
	baz=213								
447A	**Lucedale**	**25.29**	**33**	P			**P**	**18 03 53.1**	**+0.6**
	baz=218								
LCCY	**Blossom Villag**	**25.32**	**65**	*e*P			**P**	**18 03 53.5**	**+0.6**
	comp=Z,45nm,0.9s								
346A	**Big Creek Wild**	**25.33**	**31**	P			**P**	**18 03 53.2**	**+0.3**
	baz=216								
W18A	**Petrified Fore**	**25.41**	**350**	P			**P**	**18 03 54.6**	**+0.8**
	baz=167								
Z41A	**Richland Creek**	**25.42**	**23**	P			**P**	**18 03 54.3**	**+0.7**
	baz=202,SNR=5.4								
VBMS	**Vicksburg**	**25.50**	**28**	P			**P**	**18 03 54.2**	**-0.2**
	baz=213								
143A	**Socs Landing,**	**25.51**	**26**	P			**P**	**18 03 54.7**	**+0.2**
	baz=210								
CBCY	**The Bluff, Cay**	**25.63**	**65**	*e*P			**P**	**18 03 56.5**	**+0.8**
	comp=Z,93nm,1.2s								
245A	**Little AP, Sta**	**25.64**	**29**	P			**P**	**18 03 56.1**	**+0.4**
	baz=214,SNR=6.7								
WLAR	**White Oak Lake**	**25.69**	**22**	*e*P			**P**	**18 03 56.6**	**+0.5**
	comp=Z,100nm,1.1s								
Z42A	**Norrel Spur, H**	**25.77**	**25**	P			**P**	**18 03 57.0**	**+0.1**
	baz=209								
347A	**Saraland**	**25.82**	**32**	P			**P**	**18 03 57.4**	**0.0**
	baz=218,SNR=5.6								
448A	**Bay Minette**	**25.82**	**34**	P			**P**	**18 03 57.8**	**+0.4**
	baz=220								
144A	**Alexander Plac**	**25.89**	**28**	P			**P**	**18 03 57.8**	**-0.2**
	baz=213								
Y40A	**Okolona**	**25.92**	**21**	P			**P**	**18 03 58.6**	**+0.4**
	baz=205								
246A	**Jackson Lee, B**	**26.00**	**31**	P			**P**	**18 03 59.2**	**+0.2**
	baz=216								
Y41A	**Eaglette Beard**	**26.05**	**23**	P			**P**	**18 03 59.6**	**+0.3**
	baz=207								
449A	**Pace**	**26.06**	**35**	P			**P**	**18 03 59.1**	**-0.4**
	baz=221								
X39A	**Fountain Ranch**	**26.08**	**20**	P			**P**	**18 03 59.9**	**+0.2**
	baz=203,SNR=16								
145A	**Houston Renfro**	**26.09**	**29**	P			**P**	**18 04 00.1**	**+0.3**
	baz=214								
BELC	**Belle Mtn. Jos**	**26.09**	**338**	P			**P**	**18 04 01.2**	**+1.2**
	baz=153								
WUAZ	**Wupatki**	**26.12**	**347**	P			**P**	**18 04 01.4**	**+1.1**
	baz=164								
WUAZ	**Wupatki**	**26.12**	**347**	*e*P			**P**	**18 04 01.8**	**+1.6**
	comp=Z,27nm,1.0s								
348A	**Jason**	**26.17**	**33**	P			**P**	**18 04 00.3**	**-0.2**
	baz=219								
247A	**Quitman**	**26.30**	**31**	P			**P**	**18 04 01.8**	**+0.1**
	baz=217,SNR=5.7								
Y42A	**Garnett, Star**	**26.33**	**24**	P			**P**	**18 04 02.6**	**+0.7**
	baz=209								
CCAR	**Cane Creek**	**26.41**	**24**	*e*P			**P**	**18 04 04.0**	**+1.3**
	comp=Z,129nm,1.0s								
Z44A	**Pea Ridge, Bel**	**26.43**	**27**	P			**P**	**18 04 03.0**	**+0.2**
	baz=212								
BRAL	**Brewton**	**26.45**	**35**	P			**P**	**18 04 02.9**	**-0.2**
	baz=221								
X40A	**Basin Creek Fa**	**26.50**	**22**	P			**P**	**18 04 03.4**	**-0.2**
	baz=206								
349A	**Repton**	**26.51**	**35**	P			**P**	**18 04 04.0**	**+0.4**
	baz=220								
146A	**Union**	**26.54**	**30**	P			**P**	**18 04 03.9**	**+0.1**
	baz=215								
X41A	**Kaden, Bauxite**	**26.63**	**22**	P			**P**	**18 04 04.6**	**0.0**
	baz=206								
Y43A	**Makayla and Ka**	**26.75**	**25**	P			**P**	**18 04 06.1**	**+0.4**
	baz=210								
248A	**Dixon Mills**	**26.79**	**33**	P			**P**	**18 04 06.5**	**+0.4**
	baz=218								
W39A	**Magazine**	**26.82**	**20**	P			**P**	**18 04 06.4**	**+0.1**
	baz=203,SNR=5.4								
Z45A	**Winona**	**26.84**	**28**	P			**P**	**18 04 07.0**	**+0.4**
	baz=213								
TUL1	**Leonard**	**26.88**	**16**	P			**P**	**18 04 06.9**	**0.0**
	baz=199,SNR=5.2								
TUL1	**Leonard**	**26.88**	**16**	*e*P			**P**	**18 04 07.4**	**+0.5**
	comp=Z,112nm,1.5s								
UALR	**University of**	**26.94**	**22**	*e*P			**P**	**18 04 08.1**	**+0.6**
	comp=Z,67nm,1.3s								
T25A	**Trinidad**	**26.95**	**360**	P			**P**	**18 04 07.8**	**+0.1**
	baz=180								
T25A	**Trinidad**	**26.95**	**360**	*e*P			**P**	**18 04 08.8**	**+1.0**
	comp=Z,30nm,1.3s								
BFSC	**Mount Baldy Ra**	**26.96**	**335**	*e*P			**P**	**18 04 05.5**	**-2.3**
BFSC				*ep*P			**P**	**18 04 09.7**	**+1.9**
147A	**Livingston**	**26.96**	**31**	P			**P**	**18 04 07.7**	**+0.1**
	baz=217,SNR=9.2								
X42A	**Stuttgart**	**27.02**	**24**	P			**P**	**18 04 08.6**	**+0.4**
	baz=208								
249A	**Camden**	**27.03**	**34**	P			**P**	**18 04 08.5**	**+0.3**
	baz=220								
Z46A	**Louisville**	**27.05**	**29**	P			**P**	**18 04 08.7**	**+0.2**
	baz=215								
W40A	**Ferguson Farm,**	**27.05**	**21**	P			**P**	**18 04 08.9**	**+0.4**
	baz=205,SNR=9.3								
W40A	**Ferguson Farm,**	**27.05**	**21**	*e*P			**P**	**18 04 09.1**	**+0.7**
	comp=Z,64nm,1.0s								
Y44A	**Strider, Charl**	**27.10**	**27**	P			**P**	**18 04 08.8**	**-0.1**
	baz=212								
DECC	**Green Verdugo**	**27.25**	**334**	P			**P**	**18 04 10.4**	**+0.1**
	baz=148								
MVCO	**Mesa Verde**	**27.28**	**353**	P			**P**	**18 04 10.7**	**0.0**
	baz=171								
MVCO	**Mesa Verde**	**27.28**	**353**	*e*P			**P**	**18 04 11.7**	**+0.9**
	comp=Z,27nm,1.4s								
148A	**Greensboro**	**27.30**	**32**	P			**P**	**18 04 10.5**	**-0.3**
	baz=218								
452A	**Marianna**	**27.32**	**38**	P			**P**	**18 04 10.2**	**-0.7**
	baz=225								
553A	**Crawfordville**	**27.33**	**40**	P			**P**	**18 04 10.9**	**0.0**
	baz=227								
W41B	**Gary Mavity, V**	**27.33**	**22**	P			**P**	**18 04 11.4**	**+0.4**
	baz=206,SNR=20								
WHAR	**Wooly Hollow**	**27.42**	**22**	*e*P			**P**	**18 04 12.5**	**+0.8**
	comp=Z,110nm,1.3s								
V39A	**Pettigrew**	**27.45**	**19**	P			**P**	**18 04 11.5**	**-0.6**
	baz=203								
Z47A	**Carrollton**	**27.48**	**31**	P			**P**	**18 04 12.4**	**+0.1**
	baz=216,SNR=5.9								
250A	**Grady**	**27.50**	**35**	P			**P**	**18 04 12.6**	**+0.1**
	baz=221								
GSC	**Goldstone, Bar**	**27.55**	**338**	P			**P**	**18 04 14.4**	**+1.3**
	baz=152								
GSC	**Goldstone, Bar**	**27.55**	**338**	*e*P			**P**	**18 04 14.9**	**+1.8**
GSC				*e*				18 07 33.2	
GSC				pmax			pmax		
	comp=Z,21nm,1.1s								
GSC	**Goldstone, Bar**	**27.55**	**338**	*e*P			**P**	**18 04 14.9**	**+1.8**
	comp=Z,21nm,1.1s								
GSC				*e*PcP			**PcP**	**18 07 33.2**	**+2.2**
OTAV	**Otavalo**	**27.58**	**109**	*e*P			**P**	**18 04 14.8**	**+0.8**
	comp=Z,29nm,1.4s								
Y46A	**Houston**	**27.66**	**29**	P			**P**	**18 04 13.9**	**0.0**
	baz=214,SNR=8.8								
149A	**Jones**	**27.68**	**33**	P			**P**	**18 04 13.8**	**-0.3**
	baz=220								
V40A	**Witts Springs**	**27.69**	**21**	P			**P**	**18 04 13.9**	**-0.3**
	baz=205,SNR=10								
HHAR	**Hobbs**	**27.76**	**18**	*e*P			**P**	**18 04 14.8**	**-0.1**
	comp=Z,36nm,1.2s								
X45A	**UM Field Stati**	**27.86**	**27**	P			**P**	**18 04 15.1**	**-0.6**
	baz=213								
Z48A	**Northport**	**27.89**	**31**	P			**P**	**18 04 15.7**	**-0.2**
	baz=217,SNR=8.6								
LRAL	**Lakeview Retre**	**27.91**	**32**	P			**P**	**18 04 15.7**	**-0.4**
	baz=219								
LRAL	**Lakeview Retre**	**27.91**	**32**	*e*P			**P**	**18 04 16.6**	**+0.5**
	comp=Z,30nm,1.1s								
V41A	**

comp=Z,59nm,1.3s
PLAL **Pickwick Lake** 28.92 28 *e*P P 18 04 24.9 -0.3
comp=Z,26nm,1.0s
X48A **Hartselle** 29.00 31 P P 18 04 24.7 -1.1
baz=217
T40A **Mansfield** 29.01 20 P P 18 04 25.7 -0.3
baz=204,SNR=7.1
S38A **Stockton** 29.02 17 P P 18 04 25.5 -0.5
baz=201,SNR=7.7
CWC **Cottonwood Cre** 29.04 337 P P 18 04 27.4 +1.0
baz=151
SMCO **Snowmass** 29.08 356 *e*P P 18 04 27.1 +0.1
comp=Z,30nm,1.8s
V45A **Humboldt** 29.15 26 P P 18 04 27.4 +0.2
baz=212
T41A **Mountain View** 29.18 21 P P 18 04 27.3 -0.1
baz=206,SNR=15
254A **Abbeville** 29.24 39 P P 18 04 27.6 -0.4
baz=226
S39A **Bolivar** 29.25 18 P P 18 04 27.6 -0.5
baz=202,SNR=6.0
W47A **Westpoint** 29.37 29 P P 18 04 28.8 -0.3
baz=215
T42A **Van Buren** 29.41 22 P P 18 04 29.0 -0.4
baz=207,SNR=6.3
X49A **Woodville** 29.41 31 P P 18 04 29.1 -0.4
baz=218,SNR=6.3
S40A **Lebanon** 29.43 19 P P 18 04 29.2 -0.4
baz=204,SNR=5.1
R38A **Fenwick Farm,** 29.54 17 P P 18 04 30.0 -0.6
baz=201,SNR=6.5
V46A **Holladay** 29.58 27 P P 18 04 29.8 -1.2
baz=214,SNR=9.6
W48A **Pulaski** 29.60 30 P P 18 04 30.2 -1.0
baz=216,SNR=7.4
ISCO **Idaho Springs** 29.63 358 P P 18 04 30.7 -1.0
baz=177
S41A **Jillco Farms,** 29.67 21 P P 18 04 31.5 -0.3
baz=206,SNR=8.9
X50A **Fort Payne** 29.72 32 P P 18 04 31.6 -0.7
baz=219,SNR=9.2
KSU1 **Kansas State U** 29.73 12 P P 18 04 31.9 -0.5
baz=195
T43A **Greenville** 29.76 23 P P 18 04 32.3 -0.3
baz=209
V47A **Nunnelly** 29.88 28 P P 18 04 32.5 -1.1
baz=215,SNR=5.8
R39A **Chumby, Stover** 29.91 18 P P 18 04 33.1 -0.8
baz=202,SNR=11
WVT **Waverly** 29.98 27 P P 18 04 33.6 -1.0
baz=214
WVT **Waverly** 29.98 27 *e*P P 18 04 33.9 -0.6
WVT pmax pmax
comp=Z,33nm,1.4s
WVT **Waverly** 29.98 27 *e*P P 18 04 33.9 -0.6
comp=Z,33nm,1.4s
Q37A **Longview Farm,** 30.03 16 P P 18 04 34.3 -0.7
baz=200
357A **Townsend** 30.04 42 P P 18 04 34.3 -0.8
baz=230
R40A **Maddies Statio** 30.13 19 P P 18 04 35.8 -0.1
baz=204,SNR=7.6
V48A **Smith Brothers** 30.14 29 P P 18 04 34.9 -1.1
baz=216
GOGA **Godfrey** 30.16 36 P P 18 04 34.8 -1.4
baz=224
GOGA **Godfrey** 30.16 36 *e*P P 18 04 36.0 -0.1
GOGA pmax pmax
comp=Z,30nm,1.2s
GOGA **Godfrey** 30.16 36 *e*P P 18 04 36.0 -0.1
comp=Z,30nm,1.2s
S42A **Caledonia** 30.17 22 P P 18 04 35.5 -0.7
baz=207
S43A **Fulton Ridge,** 30.27 23 P P 18 04 35.9 -1.2
baz=208
Q38A **Cooks Store, C** 30.34 17 P P 18 04 36.9 -0.8
baz=201,SNR=6.8
R41A **Rosebud** 30.44 20 P P 18 04 37.7 -0.9
baz=206,SNR=6.1
U47A **Clarksville** 30.48 28 P P 18 04 38.1 -0.8
baz=214
O33A **Hebron** 30.49 10 P P 18 04 38.9 -0.1
baz=193
Q39A **Willow Grove F** 30.60 18 P P 18 04 40.0 0.0
baz=202,SNR=6.5
R42A **Luebbering** 30.63 21 P P 18 04 39.3 -1.0
baz=207
S44A **Carbondale** 30.69 24 P P 18 04 40.5 -0.3
baz=210
T46A **Princeton** 30.71 26 P P 18 04 40.3 -0.7
baz=213
P37A **Lathrop** 30.73 15 P P 18 04 40.5 -0.6
baz=199,SNR=7.2
SIUC **Southern Illin** 30.73 24 *e*P P 18 04 41.2 0.0
comp=Z,31nm,1.0s
N23A **Red Feather La** 30.73 358 P P 18 04 41.3 -0.2
baz=177
N23A **Red Feather La** 30.73 358 *e*P P 18 04 41.8 +0.3
comp=Z,16nm,1.3s
O34A **Beatrice** 30.76 12 P P 18 04 41.4 0.0
baz=195,SNR=9.2
OGNE **Ogallala** 30.82 3 P P 18 04 42.7 +0.7
baz=184,SNR=5.4
OGNE **Ogallala** 30.82 3 *e*P P 18 04 43.3 +1.2
comp=Z,92nm,1.2s
NV11 **Mina Array Sit** 30.83 339 *e*P P 18 04 44.1 +2.0
comp=Z,0.9nm,1.2s
Q40A **Laux Farm, Aux** 30.84 19 P P 18 04 41.9 -0.2
baz=204,SNR=10
NV01 **Mina Array Sit** 30.88 338 *e*P P 18 04 43.2 +0.4
NVAR **Mina Array Bea** 30.88 338 P P 18 04 42.6 -0.1
comp=Z,4.2nm,1.0s,baz=156,slow=7.7,SNR=17
NVAR PcP PcP 18 07 40.9 +1.4
comp=Z,0.5nm,0.7s,baz=168,slow=3.9,SNR=4.6
U48A **Cassie Pea, Po** 30.89 29 P P 18 04 41.8 -0.8
baz=216,SNR=6.6
DUG **Dugway, Tooele** 30.92 347 P P 18 04 44.0 +0.9
baz=163
DUG **Dugway, Tooele** 30.92 347 *e*P P 18 04 44.7 +1.7
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG **Dugway, Tooele** 30.92 347 *e*P P 18 04 44.7 +1.7
comp=Z,10.0nm,1.1s
R43A **Red Bud** 30.94 22 P P 18 04 42.6 -0.4
baz=208
S45A **Carrier Mills** 30.95 25 P P 18 04 43.2 +0.1
baz=211
P38A **Dawn** 30.98 16 P P 18 04 43.2 -0.2
baz=201,SNR=5.6
O35A **Humboldt** 31.00 13 P P 18 04 43.9 +0.4
baz=196
ATAH **Atahualpa** 31.02 122 P P 18 04 46.6 +2.2
comp=Z,4.3nm,0.7s,baz=297,slow=8.3,SNR=5.9
T47A **Sharon Grove** 31.02 27 P P 18 04 43.2 -0.5
baz=214
Q41A **Truxton** 31.08 20 P P 18 04 43.6 -0.6
baz=205,SNR=11
P39B **Salisbury** 31.08 18 P P 18 04 44.1 -0.1
baz=202,SNR=7.4
PHWY **Pilot Hill** 31.12 358 *e*P P 18 04 45.4 +0.5
comp=Z,27nm,1.4s
N33A **J Bar K, Exete** 31.16 10 P P 18 04 44.6 -0.3
baz=193
R44A **Waltonville** 31.24 24 P P 18 04 45.6 -0.1
baz=210,SNR=8.6
RUSC **La Rusia** 31.26 95 *e*P P 18 04 45.2 -1.4
comp=Z,7.5nm,1.2s
O37A **Wolven Farm, M** 31.32 15 P P 18 04 46.1 -0.2
baz=199
S46A **Don Dixon Farm** 31.33 26 P P 18 04 46.5 +0.1
baz=213
P40A **Paris** 31.33 19 P P 18 04 46.3 -0.1
baz=204,SNR=14
CMB **Columbia Colle** 31.34 335 *e*P P 18 04 47.7 +1.1
CMB pmax pmax
comp=Z,10.0nm,1.2s
CMB **Columbia Colle** 31.34 335 *e*P P 18 04 47.7 +1.1
comp=Z,10.0nm,1.2s
KVN **Kaiserville** 31.36 339 *e*P P 18 04 48.9 +2.0
KVN pmax pmax
comp=Z,11nm,1.2s
KVN **Kaiserville** 31.36 339 *e*P P 18 04 48.9 +2.0
comp=Z,11nm,1.2s
WAKR **Walker** 31.37 337 *e*P P 18 04 49.0 +2.0
comp=Z,22nm,1.4s
N34A **Lincoln** 31.43 12 P P 18 04 47.4 +0.1
baz=195
T48A **Bowling Green** 31.44 28 P P 18 04 46.9 -0.6
baz=215,SNR=7.2
O38A **Galt** 31.46 16 P P 18 04 47.6 +0.1
baz=201
USIN **University of** 31.58 26 *e*P P 18 04 48.2 -0.4
comp=Z,62nm,0.8s
BG3 **Lake Jocassee** 31.60 35 *e*P P 18 04 49.0 0.0
comp=Z,34nm,1.0s
R45A **Skylar, Fairfi** 31.60 25 P P 18 04 48.8 0.0
baz=211
Q43A **New Douglas** 31.61 22 P P 18 04 48.9 +0.1
baz=208
TKL **Tuckaleechee C** 31.63 33 P P 18 04 48.9 -0.2
comp=Z,23nm,1.0s,baz=199,slow=12,SNR=9.5
TKL **Tuckaleechee C** 31.63 33 *e*P P 18 04 49.1 0.0
TKL pmax pmax
comp=Z,44nm,1.1s
TKL **Tuckaleechee C** 31.63 33 *e*P P 18 04 49.1 0.0
comp=Z,44nm,1.1s
N36A **Muff Farm, Cla** 31.74 14 P P 18 04 50.1 +0.1
baz=198
P41A **Barry, Barry** 31.78 20 P P 18 04 50.5 +0.1
baz=205
Q44A **Meyer Farm, Va** 31.83 23 P P 18 04 51.2 +0.3
baz=209,SNR=13
O39A **Kirksville** 31.85 17 P P 18 04 50.7 -0.3
baz=202,SNR=8.2
R46A **Gibson Southern** 31.86 26 P P 18 04 50.9 -0.2
baz=212
N37A **Lee Faris, Mou** 31.86 15 P P 18 04 51.3 +0.2
baz=199
O40A **La Belle** 31.93 18 P P 18 04 51.0 -0.6
baz=204,SNR=19
P42A **Winchester** 31.95 21 P P 18 04 51.2 -0.6
baz=206,SNR=6.3
M33A **Taylor Creek F** 32.01 10 P P 18 04 52.6 +0.2
baz=193
HWUT **Hardware Ranch** 32.04 350 *e*P P 18 04 54.3 +1.4
comp=Z,18nm,1.4s
S48A **Wiedeman Farm,** 32.05 28 P P 18 04 51.9 -0.9
baz=215
OLIL **Olney** 32.05 24 *e*P P 18 04 53.2 +0.4
comp=Z,49nm,1.0s
M34A **Aspy Farms, Fr** 32.05 11 P P 18 04 53.1 +0.3
baz=194
VCNR **Virginia City** 32.14 337 *e*P P 18 04 55.6 +1.8
comp=Z,9.8nm,0.9s
N38A **Joes South For** 32.15 16 P P 18 04 53.8 +0.2
baz=201
Q45A **Warren Harvey,** 32.17 24 P P 18 04 53.6 -0.2
baz=211
O41A **Passleys Farm,** 32.24 20 P P 18 04 53.6 -0.8
baz=205,SNR=7.0
R47A **Wooly Knot Far** 32.35 27 P P 18 04 55.1 -0.4
baz=214,SNR=8.4
AFDM **Forest Hills D** 32.36 335 *e*P P 18 04 55.8 +0.3
comp=Z,13nm,1.4s
M36A **Felix, Anita** 32.38 14 P P 18 04 55.2 -0.5
baz=198
WCI **Wyandotte Cave** 32.40 27 P P 18 04 55.0 -0.8
baz=214
WCI **Wyandotte Cave** 32.40 27 *e*P P 18 04 56.1 +0.2
WCI pmax pmax
comp=Z,52nm,1.3s
WCI **Wyandotte Cave** 32.40 27 *e*P P 18 04 56.1 +0.2
comp=Z,52nm,1.3s
TZTN **Tazewell** 32.41 32 P P 18 04 55.3 -0.7
baz=220
TZTN **Tazewell** 32.41 32 *e*P P 18 04 55.6 -0.4
comp=Z,53nm,1.4s
N39A **Derby Farms, D** 32.44 17 P P 18 04 55.8 -0.3
baz=202,SNR=10
P44A **Sand Creek, Wi** 32.48 23 P P 18 04 56.4 -0.1
baz=210
M37A **Trindle Farm,** 32.51 15 P P 18 04 57.0 +0.2
baz=199
L34A **Svendsen Farm,** 32.54 11 P P 18 04 56.9 -0.1
baz=194
O42A **Bath** 32.58 21 P P 18 04 57.2 -0.2
baz=207
KMSC **Kings Mountain** 32.63 37 P P 18 04 57.4 -0.5
baz=225
N40A **Mertquake, Sal** 32.71 18 P P 18 04 58.0 -0.6
baz=224
M38A **Pleasantville** 32.74 16 P P 18 04 58.2 -0.7
baz=200,SNR=7.8
N41A **Harden Midland** 32.78 19 P P 18 04 58.6 -0.6
baz=205,SNR=5.6
P45A **Graceland, Par** 32.87 24 P P 18 04 59.9 -0.1
baz=211,SNR=6.8
PD31 **Pinedale Array** 32.88 353 *e*P P 18 05 00.6 +0.3
PDAR **Pinedale Array** 32.88 353 P P 18 05 00.7 +0.3
comp=Z,5.0nm,0.9s,baz=169,slow=8.8,SNR=24
PDAR PcP PcP 18 07 44.8 -0.2
comp=Z,0.7nm,0.9s,baz=194,slow=5.6,SNR=4.4
PDAR **Pinedale Array** 32.88 353 *e*P P 18 05 00.2 -0.1
PDAR PcP PcP 18 07 44.8 -0.2
BEKR **Beckworth** 32.91 337 *e*P P 18 05 01.1 +0.6
comp=Z,12nm,1.2s
Q47A **Bedord North L** 32.93 26 P P 18 04 60.0 -0.5
baz=214,SNR=6.2
O43A **Sugar Creek Fa** 32.93 21 P P 18 05 00.2 -0.2
baz=208
L36A **Harm Buss Farm** 33.03 13 P P 18 05 00.8 -0.5
baz=197
BLO **Bloomington** 33.08 26 *e*P P 18 05 02.2 +0.4
BLO pmax pmax
comp=Z,51nm,1.0s
BLO **Bloomington** 33.08 26 *e*P P 18 05 02.2 +0.4
comp=Z,50nm,1.0s
M39A **Webster** 33.09 17 P P 18 05 01.1 -0.7
baz=202
ORV **Oroville** 33.09 335 *e*P P 18 05 04.3 +2.4
ORV pmax pmax
comp=Z,18nm,1.1s
ORV **Oroville** 33.09 335 *e*P P 18 05 04.3 +2.4
comp=Z,18nm,1.1s
N42A **Yates City** 33.16 20 P P 18 05 01.3 -1.2
baz=206,SNR=5.3
P46A **Rosedale** 33.17 25 P P 18 05 01.0 -1.5
baz=212
HDIL **Hopedale** 33.18 21 P P 18 05 02.3 -0.3
baz=208,SNR=11
HDIL **Hopedale** 33.18 21 *e*P P 18 05 02.6 -0.1
comp=Z,132nm,0.9s
SCIA **State Center** 33.20 15 P P 18 05 02.1 -0.7
baz=200
M40A **Post Highland** 33.21 18 P P 18 05 02.2 -0.7
baz=203
L37A **Phoenix Point,** 33.27 14 P P 18 05 03.3 -0.1
baz=199
K34A **Le Mars** 33.29 11 P P 18 05 02.9 -0.7
baz=195
SDV **Santo Domingo** 33.30 89 P P 18 05 04.7 +0.5
comp=Z,2.9nm,0.5s,baz=274,slow=10,SNR=5.8
SDV PcP PcP 18 07 47.3 +0.8
comp=Z,1.5nm,0.3s,baz=315,slow=4.3,SNR=3.0
SDV **Santo Domingo** 33.30 89 *e*P P 18 05 05.1 +0.9
comp=Z,36nm,1.6s
SDV *e*PcP PcP 18 07 47.3 +0.8
P47A **Martinsville** 33.45 26 P P 18 05 03.9 -1.1
baz=213
L38A **Oak Wood Farm,** 33.48 15 P P 18 05 04.6 -0.7
baz=200
M41A **Milan** 33.49 19 P P 18 05 04.4 -0.9
baz=205
O45A **Potomac** 33.50 23 P P 18 05 05.4 0.0
baz=210,SNR=7.7
N43A **Stutzman Famil** 33.56 21 P P 18 05 05.3 -0.6
baz=208,SNR=5.9
K36A **Gilmore City** 33.59 13 P P 18 05 04.2 -2.0
baz=198
L39A **Vinton** 33.73 17 P P 18 05 06.6 -0.8
baz=202,SNR=8.6
J33A **Davis** 33.75 10 P P 18 05 06.9 -0.7
baz=193
TPAW **Teton Pass** 33.78 351 *e*P P 18 05 09.1 +0.9
comp=Z,29nm,1.9s
N44A **Piper City** 33.81 22 P P 18 05 07.1 -1.0
baz=209
SFIN **Lafayette** 33.86 24 P P 18 05 08.5 0.0
baz=211,SNR=9.3
SFIN **Lafayette** 33.86 24 *e*P P 18 05 09.2 +0.6
comp=Z,86nm,1.0s
K37A **Belmond** 33.90 14 P P 18 05 08.2 -0.8
baz=199,SNR=5.6
L40A **Anamosa** 33.90 18 P P 18 05 08.1 -0.8
baz=203,SNR=6.6
RSSD **Black Hills** 33.93 0 P P 18 05 09.6 +0.2
baz=180
RSSD **Black Hills** 33.93 0 *e*P P 18 05 10.5 +1.1
RSSD pmax pmax
comp=Z,25nm,1.5s
RSSD **Black Hills** 33.93 0 *e*P P 18 05 10.5 +1.1
comp=Z,25nm,1.5s
FXWY **Fox Creek** 33.94 351 *e*P P 18 05 10.3 +0.8
comp=Z,5.2nm,1.0s
MOOW **Moose Ponds** 34.01 352 *e*P P 18 05 10.6 +0.6
comp=Z,6.8nm,1.4s
K38A **Parkersburg** 34.01 15 P P 18 05 08.7 -1.1
baz=200
M43A **Waltham Townsh** 34.07 21 P P 18 05 10.2 -0.2
baz=208
N45A **Kentland** 34.09 23 P P 18 05 10.5 -0.1
baz=210,SNR=5.3
O47A **Sheridan** 34.12 25 P P 18 05 09.9 -0.9
baz=213,SNR=5.3
L41A **Preston** 34.13 19 P P 18 05 10.2 -0.7
baz=205,SNR=6.0
IMW **Indian Meadow** 34.18 352 *e*P P 18 05 12.4 +0.8
comp=Z,8.1nm,1.2s
ECSD **EROS Data Cent** 34.21 10 P P 18 05 11.5 -0.1
baz=193
ECSD **EROS Data Cent** 34.21 10 *e*P P 18 05 11.7 0.0
comp=Z,86nm,2.0s
K39A **Oelwein** 34.30 16 P P 18 05 11.4 -1.0
baz=202,SNR=8.6
L42A **Oliver, Polo** 34.34 20 P P 18 05 11.8 -0.9
baz=206
I32A **Karley and Nic** 34.36 9 P P 18 05 11.9 -1.0
baz=192
M44A **Midewin, Midew** 34.36 22 P P 18 05 11.8 -1.1
baz=209
WDC **Whiskeytown Da** 34.38 335 *e*P P 18 05 13.9 +0.8
WDC pmax pmax
comp=Z,13nm,1.3s
WDC **Whiskeytown Da** 34.38 335 *e*P P 18 05 13.9 +0.8
comp=Z,13nm,1.3s
J37A **Redenius Farm,** 34.43 14 P P 18 05 13.0 -0.6
baz=199,SNR=5.9
N46A **Monticello** 34.44 24 P P 18 05 12.4 -1.2
baz=212
I33A **Coleman** 34.49 10 P P 18 05 13.4 -0.6
baz=193
HLID **Hailey** 34.49 347 P P 18 05 15.0 +0.7
baz=162,SNR=8.4
HLID **Hailey** 34.49 347 *e*P P 18 05 15.8 +1.5
comp=Z,11nm,1.3s
K40A **Colesburg** 34.51 17 P P 18 05 12.9 -1.3
baz=203,SNR=8.2
BLA **Blacksburg** 34.61 35 P P 18 05 14.6 -0.6
baz=224,SNR=5.6
BLA **Blacksburg** 34.61 35 *e*P P 18 05 15.2 0.0
BLA pmax pmax
comp=Z,45nm,0.9s
BLA **Blacksburg** 34.61 35 *e*P P 18 05 15.2 0.0
comp=Z,45nm,0.9s
H17A **Grant Village** 34.62 352 P P 18 05 15.6 +0.1
baz=169
H17A **Grant Village** 34.62 352 *e*P P 18 05 15.1 -0.4
comp=Z,32nm,2.0s
I35A **Creekview Farm** 34.64 12 P P 18 05 14.8 -0.5
baz=196
I34A **Hadley** 34.64 11 P P 18 05 14.9 -0.5
baz=195
M45A **Boilermakers S** 34.66 23 P P 18 05 15.1 -0.4
baz=210
K41A **Shullsburg** 34.68 18 P P 18 05 14.9 -0.8
baz=205
J38A **Wedel Dairy, R** 34.71 15 P P 18 05 15.2 -0.7
baz=201
N02D **Trinity Center** 34.78 335 P P 18 05 17.1 +0.4
baz=147
H32A **Carlson Farm,** 34.83 9 P P 18 05 17.0 0.0
baz=192
J39A **Decorah** 34.93 16 P P 18 05 16.4 -1.4
baz=202,SNR=5.8
YMR **Madison River** 34.94 352 *e*P P 18 05 19.7 +1.5
comp=Z,16nm,1.3s
JFWS **Jewell Farm** 34.97 18 P P 18 05 17.3 -0.9
baz=204
M46A **Old House Fiel** 35.03 24 P P 18 05 17.9 -0.8
baz=212
YHH **Holmes Hill** 35.04 352 *e*P P 18 05 20.6 +1.5
comp=Z,4.2nm,1.0s
L44A **Lake County Fo** 35.10 22 P P 18 05 18.9 -0.4
baz=209
H33A **Prehn Over Nor** 35.11 9 P P 18 05 19.4 0.0
baz=193
M04C **Macdoel** 35.12 337 P P 18 05 19.9 +0.2
baz=148
I37A **Lemond, Waseca** 35.14 14 P P 18 05 18.4 -1.2
baz=199,SNR=5.2
RLMT **Red Lodge** 35.18 354 P P 18 05 20.1 -0.1
baz=171
RLMT **Red Lodge** 35.18 354 *e*P P 18 05 20.3 +0.1
comp=Z,19nm,1.8s
M02C **Callahan'** 35.19 336 P P 18 05 20.4 +0.1
baz=147
H34A **Spellman Lake,** 35.26 11 P P 18 05 20.4 -0.3
baz=194
J40A **Soldiers Grove** 35.26 17 P P 18 05 20.4 -0.3
baz=203
MCMT **McKenzie Canyo** 35.40 350 *e*P P 18 05 23.5 +1.4
K43A **Burlington** 35.41 21 P P 18 05 21.1 -0.8
baz=208
YBH **Yreka Blue Hor** 35.42 336 P P 18 05 21.3 -0.9
comp=Z,3.2nm,1.0s,baz=144,slow=8.7,SNR=3.1
I38A **Scanlan Farm,** 35.42 15 P P 18 05 21.1 -1.0
baz=200,SNR=7.5
J41A **Loganville** 35.45 18 P P 18 05 21.8 -0.6
baz=205,SNR=7.7
I39A **Houston** 35.46 16 P P 18 05 21.8 -0.6
baz=202,SNR=9.0
H35A **Sunnyside Ranc** 35.48 12 P P 18 05 21.3 -1.2
baz=196
ACSO **Alum Creek Sta** 35.54 29 P P 18 05 22.8 -0.3
baz=218
ACSO **Alum Creek Sta** 35.54 29 *e*P P 18 05 22.9 -0.2
comp=Z,59nm,1.1s
H36A **Jessenland, He** 35.55 13 P P 18 05 22.9 -0.2
baz=198
G33A **Ortonville** 35.66 10 P P 18 05 23.4 -0.7
baz=193
J42A **Columbus** 35.69 19 P P 18 05 24.0 -0.4
baz=206,SNR=9.8
I40A **Norwalk** 35.75 17 P P 18 05 24.2 -0.8
baz=203
H37A **Dierke Farm, C** 35.78 14 P P 18 05 24.6 -0.5
baz=199
G34A **Benson** 35.84 11 P P 18 05 25.2 -0.4
baz=194
GCMT **Greycliff** 35.88 354 *e*P P 18 05 26.6 +0.5
BOZ **Bozeman (W)** 35.94 351 P P 18 05 27.4 +0.7
baz=168
BOZ **Bozeman (W)** 35.94 351 *e*P P 18 05 27.4 +0.7
BOZ pmax pmax
comp=Z,8.0nm,0.7s
BOZ **Bozeman (W)** 35.94 351 *e*P P 18 05 27.4 +0.7
comp=Z,8.0nm,0.7s
J43A **Natural Harves** 35.98 20 P P 18 05 26.3 -0.5
baz=207
H38A **Maiden Rock** 36.03 15 P P 18 05 26.9 -0.4
baz=200
G35A **Watkins** 36.05 12 P P 18 05 27.4 0.0
baz=196
F31A **Hecla** 36.05 7 P P 18 05 27.2 -0.2
baz=190
I41A **Arkdale** 36.13 18 P P 18 05 27.2 -0.9
baz=204
L02D **Cave Junction,** 36.14 335 P P 18 05 29.5 +1.2
baz=146
J05D **Fort Rock, OR** 36.20 339 P P 18 05 29.1 +0.2
baz=151
G36A **St. Michael** 36.21 13 P P 18 05 28.9 +0.1
baz=198
I42A **Draeger Farm,** 36.27 19 P P 18 05 29.0 -0.4
baz=206,SNR=12
I42A **Draeger Farm,** 36.27 19 *e*P P 18 05 29.5 +0.2
comp=Z,111nm,1.1s
LRM **Limekiln Ridge** 36.29 350 *e*P P 18 05 30.8 +1.0
H39A **Augusta** 36.29 16 P P 18 05 29.1 -0.4
baz=202,SNR=6.7
SPMN **Marine on St.** 36.42 14 P P 18 05 29.6 -0.9
baz=199
SPMN **Marine on St.** 36.42 14 *e*P P 18 05 30.1 -0.5
comp=Z,35nm,1.2s

F34A	**Alexandria**	**36.45**	**11**	P		**P**	**18 05 29.4**	**-1.5**
	baz=195							
H40A	**Chili**	**36.49**	**17**	P		**P**	**18 05 30.5**	**-0.6**
	baz=203,SNR=5.5							
I43A	**Langenfeld Bro**	**36.52**	**20**	P		**P**	**18 05 30.6**	**-0.8**
	baz=207							
LAO	**LASA Array**	**36.53**	**358**	P		**P**	**18 05 31.1**	**-0.4**
	baz=177							
LAO	**LASA Array**	**36.53**	**358**	*e*P		**P**	**18 05 32.0**	**+0.5**
	comp=Z,19nm,1.2s							
IP05	**Hopewell Churc**	**36.57**	**37**	*e*P		**P**	**18 05 31.4**	**-0.6**
	comp=Z,44nm,1.2s							
G38A	**Ridgeland**	**36.60**	**15**	P		**P**	**18 05 31.1**	**-1.0**
	baz=201,SNR=6.5							
F35A	**Swanville**	**36.64**	**12**	P		**P**	**18 05 32.0**	**-0.5**
	baz=196							
MCWV	**Mont Chateau**	**36.68**	**32**	P		**P**	**18 05 32.3**	**-0.6**
	baz=223,SNR=5.6							
MCWV	**Mont Chateau**	**36.68**	**32**	*e*P		**P**	**18 05 32.6**	**-0.2**
	comp=Z,78nm,1.1s							
H41A	**Junction City**	**36.70**	**18**	P		**P**	**18 05 32.1**	**-0.8**
	baz=204,SNR=5.8							
H41A	**Junction City**	**36.70**	**18**	*e*P		**P**	**18 05 32.5**	**-0.5**
	comp=Z,41nm,1.3s							
E31A	**Nome**	**36.78**	**7**	P		**P**	**18 05 33.0**	**-0.7**
	baz=190							
F36A	**Milaca**	**36.86**	**13**	P		**P**	**18 05 33.6**	**-0.7**
	baz=198,SNR=10							
G39A	**Holcombe**	**36.88**	**16**	P		**P**	**18 05 33.8**	**-0.8**
	baz=202,SNR=9.9							
AAM	**Ann Arbor**	**36.89**	**26**	P		**P**	**18 05 33.5**	**-1.1**
	baz=215							
AAM	**Ann Arbor**	**36.89**	**26**	*e*P		**P**	**18 05 34.8**	**+0.1**
AAM				pmax		pmax		
	comp=Z,75nm,0.9s							
AAM	**Ann Arbor**	**36.89**	**26**	*e*P		**P**	**18 05 34.8**	**+0.1**
	comp=Z,75nm,0.9s							
F37A	**Hinrichs Farm,**	**36.93**	**14**	P		**P**	**18 05 34.7**	**-0.2**
	baz=199							
G40A	**Rib Lake**	**37.13**	**17**	P		**P**	**18 05 35.9**	**-0.8**
	baz=203							
G08A	**Pilot Rock**	**37.27**	**343**	*e*P		**P**	**18 05 39.1**	**+1.1**
	comp=Z,20nm,1.8s							
F38A	**Pierce - Schro**	**37.33**	**14**	P		**P**	**18 05 37.9**	**-0.5**
	baz=200,SNR=9.4							
E35A	**Pequot Lakes**	**37.34**	**11**	P		**P**	**18 05 38.0**	**-0.5**
	baz=196							
MSO	**Missoula**	**37.53**	**349**	P		**P**	**18 05 39.6**	**-0.5**
	baz=164							
MSO	**Missoula**	**37.53**	**349**	*e*P		**P**	**18 05 40.0**	**-0.1**
	comp=Z,11nm,1.3s							
F39A	**Loretta**	**37.53**	**15**	P		**P**	**18 05 38.6**	**-1.5**
	baz=202,SNR=5.5							
E36A	**McGregor**	**37.54**	**13**	P		**P**	**18 05 39.2**	**-0.9**
	baz=198							
N54A	**Moraine State**	**37.56**	**31**	P		**P**	**18 05 39.8**	**-0.7**
	baz=222,SNR=5.2							
N54A	**Moraine State**	**37.56**	**31**	*e*P		**P**	**18 05 39.7**	**-0.7**
	comp=Z,40nm,1.1s							
G42A	**Mountain**	**37.64**	**19**	P		**P**	**18 05 40.2**	**-0.8**
	baz=206,SNR=6.6							
G42A	**Mountain**	**37.64**	**19**	*e*P		**P**	**18 05 40.6**	**-0.3**
	comp=Z,66nm,1.2s							
D34A	**Park Rapids**	**37.71**	**10**	P		**P**	**18 05 40.9**	**-0.6**
	baz=195							
F40A	**Park Falls**	**37.75**	**16**	P		**P**	**18 05 40.7**	**-1.2**
	baz=203,SNR=13							
E37A	**Wrenshall**	**37.78**	**14**	P		**P**	**18 05 41.2**	**-0.9**
	baz=199							
O56A	**Blue Knob Stat**	**37.80**	**33**	P		**P**	**18 05 41.5**	**-1.0**
	baz=224							
O56A	**Blue Knob Stat**	**37.80**	**33**	*e*P		**P**	**18 05 41.1**	**-1.4**
	comp=Z,43nm,1.1s							
SJG	**San Juan**	**37.87**	**73**	P		**P**	**18 05 42.8**	**-0.5**
	comp=Z,6.9nm,0.3s,baz=315,slow=4.1,SNR=4.1							
F41A	**Three Lakes**	**37.88**	**17**	P		**P**	**18 05 42.0**	**-1.0**
	baz=205,SNR=5.8							
G43A	**Wallace**	**37.89**	**19**	P		**P**	**18 05 42.6**	**-0.5**
	baz=207							
D35A	**Remer**	**37.91**	**12**	P		**P**	**18 05 43.0**	**-0.3**
	baz=196							
ALLY	**Alegheny Colle**	**38.00**	**30**	*e*P		**P**	**18 05 43.7**	**-0.4**
	comp=Z,87nm,1.2s							
E38A	**The Farm, Brul**	**38.02**	**14**	P		**P**	**18 05 43.2**	**-1.0**
	baz=200							
E39A	**Mellen**	**38.06**	**16**	P		**P**	**18 05 43.7**	**-0.8**
	baz=202,SNR=7.2							
EGMT	**Eagleton**	**38.10**	**354**	P		**P**	**18 05 44.8**	**-0.1**
	baz=171,SNR=7.5							
EGMT	**Eagleton**	**38.10**	**354**	*e*P		**P**	**18 05 45.6**	**+0.7**
	comp=Z,34nm,1.4s							
M54A	**Oil Creek Stat**	**38.13**	**31**	P		**P**	**18 05 44.5**	**-0.8**
	baz=222,SNR=6.0							
M54A	**Oil Creek Stat**	**38.13**	**31**	*e*P		**P**	**18 05 44.9**	**-0.4**
	comp=Z,79nm,1.3s							
D36A	**Goodland**	**38.19**	**12**	P		**P**	**18 05 44.3**	**-1.2**
	baz=198							
F42A	**Maple Grove Fa**	**38.19**	**18**	P		**P**	**18 05 44.5**	**-1.1**
	baz=206							
COWI	**Conover**	**38.20**	**17**	*e*P		**P**	**18 05 45.6**	**-0.1**
	comp=Z,51nm,1.1s							
C33A	**Trail**	**38.26**	**9**	P		**P**	**18 05 45.2**	**-1.0**
	baz=194							
E40A	**Wakefield**	**38.30**	**16**	P		**P**	**18 05 45.6**	**-0.9**
	baz=203,SNR=10							
D37A	**Cotton**	**38.33**	**13**	P		**P**	**18 05 45.9**	**-0.8**
	baz=199,SNR=9.6							
SSPA	**Standing Stone**	**38.42**	**33**	P		**P**	**18 05 47.3**	**-0.3**
	baz=225							
SSPA	**Standing Stone**	**38.42**	**33**	*e*P		**P**	**18 05 47.7**	**+0.1**
	comp=Z,54nm,1.3s							
C35A	**Jirik Farms, M**	**38.52**	**11**	P		**P**	**18 05 48.1**	**-0.3**
	baz=196							
F43A	**Flat Rock, Esc**	**38.56**	**19**	P		**P**	**18 05 47.8**	**-0.9**
	baz=208							
E41A	**Kenton**	**38.58**	**17**	P		**P**	**18 05 47.8**	**-1.0**
	baz=205,SNR=15							
B31A	**Greenbush Farm**	**38.65**	**7**	P		**P**	**18 05 49.2**	**-0.2**
	baz=190							
GULW	**Guler Mountain**	**38.65**	**341**	*e*PcP		**PcP**	**18 08 03.6**	**+1.9**
E07A	**Sunnyside**	**38.68**	**343**	*e*P		**P**	**18 05 51.6**	**+1.8**
AGMN	**Agassiz Nation**	**38.77**	**9**	P		**P**	**18 05 49.5**	**-0.9**
	baz=193,SNR=7.7							
AGMN	**Agassiz Nation**	**38.77**	**9**	*e*P		**P**	**18 05 50.4**	**0.0**
	comp=Z,90nm,1.4s							
B33A	**Robert and Kas**	**38.79**	**9**	P		**P**	**18 05 49.9**	**-0.7**
	baz=194							
C36A	**Pine Crest Far**	**38.81**	**12**	P		**P**	**18 05 50.2**	**-0.6**
	baz=198,SNR=8.3							
E42A	**Champion**	**38.86**	**18**	P		**P**	**18 05 50.1**	**-1.2**
	baz=206,SNR=5.2							
D08A	**Wollman Farm,**	**38.88**	**344**	*e*P		**P**	**18 05 52.2**	**+0.9**
	comp=Z,9.3nm,1.1s							
C37A	**Embarrass**	**38.92**	**13**	P		**P**	**18 05 50.4**	**-1.4**
	baz=199							
F44A	**Big Bay de Noc**	**38.94**	**20**	P		**P**	**18 05 50.4**	**-1.5**
	baz=209,SNR=6.0							
F45A	**CMU Biological**	**39.00**	**21**	P		**P**	**18 05 50.5**	**-1.9**
	baz=210							
E43A	**Lone Tree Farm**	**39.10**	**19**	P		**P**	**18 05 52.3**	**-0.9**
	baz=208							
C38A	**Sawbill Land.**	**39.12**	**14**	P		**P**	**18 05 52.3**	**-1.1**
	baz=200							
B34A	**Aery, Baudette**	**39.16**	**10**	P		**P**	**18 05 53.0**	**-0.7**
	baz=195,SNR=5.5							
B35A	**Bob, Littlefor**	**39.20**	**11**	P		**P**	**18 05 53.1**	**-1.0**
	baz=196,SNR=7.2							
D41A	**Chassel**	**39.23**	**17**	P		**P**	**18 05 54.1**	**-0.2**
	baz=205,SNR=9.1							
A32A	**Rocking H Ranc**	**39.28**	**8**	P		**P**	**18 05 54.4**	**-0.3**
	baz=192,SNR=5.0							
EYMN	**Ely**	**39.29**	**14**	P		**P**	**18 05 53.8**	**-1.0**
	baz=200,SNR=8.6							
EYMN	**Ely**	**39.29**	**14**	*e*P		**P**	**18 05 54.4**	**-0.4**
	comp=Z,41nm,1.1s							
C09A	**Chrisman Ranch**	**39.39**	**345**	*e*P		**P**	**18 05 57.0**	**+1.3**
	comp=Z,14nm,1.3s							
LON	**Longmire**	**39.45**	**341**	*e*P		**P**	**18 05 56.5**	**+0.3**
LON				pmax		pmax		
	comp=Z,9.0nm,1.1s							
LON	**Longmire**	**39.45**	**341**	*e*P		**P**	**18 05 56.5**	**+0.3**
	comp=Z,9.2nm,1.1s							
A33A	**Warroad**	**39.47**	**9**	P		**P**	**18 05 55.5**	**-0.7**
	baz=194,SNR=11							
C39A	**Grand Marais**	**39.50**	**15**	P		**P**	**18 05 55.3**	**-1.3**
	baz=202							
LTY	**Liberty**	**39.55**	**343**	*e*P		**P**	**18 05 58.2**	**+1.1**
	comp=Z,13nm,1.3s							
NEW	**Newport**	**39.55**	**347**	P		**P**	**18 05 56.1**	**-0.9**
	comp=Z,16nm,1.0s,baz=161,slow=9.3							
NEW	**Newport**	**39.55**	**347**	P		**P**	**18 05 57.2**	**+0.2**
	baz=160,SNR=13							
NEW	**Newport**	**39.55**	**347**	*e*P		**P**	**18 05 57.9**	**+0.8**
NEW				pmax		pmax		
	comp=Z,17nm,1.0s							
NEW	**Newport**	**39.55**	**347**	*e*P		**P**	**18 05 57.9**	**+0.8**
	comp=Z,17nm,1.0s							
E44A	**Grand Marais A**	**39.67**	**20**	P		**P**	**18 05 56.5**	**-1.6**
	baz=209							
WALA	**Waterton Lakes**	**39.67**	**350**	*e*P		**P**	**18 05 59.1**	**+1.0**
	comp=Z,13nm,1.2s							
E45A	**Wooded Hills,**	**39.70**	**21**	P		**P**	**18 05 57.2**	**-1.0**
	baz=210							
N59A	**State Game Lan**	**39.78**	**35**	P		**P**	**18 05 58.5**	**-0.6**
	baz=227							
B08A	**Colville Reser**	**40.18**	**345**	*e*P		**P**	**18 06 02.5**	**+0.3**
	comp=Z,8.5nm,1.2s							
BINY	**Binghamton**	**40.54**	**33**	P		**P**	**18 06 04.8**	**-0.5**
	baz=226							
BINY	**Binghamton**	**40.54**	**33**	*e*P		**P**	**18 06 05.4**	**+0.1**
	comp=Z,41nm,0.9s							
ULM	**Lac du Bonnet**	**40.67**	**8**	P		**P**	**18 06 05.0**	**-1.3**
	comp=Z,18nm,1.1s,baz=195,slow=9.3,SNR=13							
ULM				PcP		**PcP**	**18 08 06.8**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=207,slow=4.5,SNR=3.1							
ULM	**Lac du Bonnet**	**40.67**	**8**	*e*P		**P**	**18 06 05.5**	**-0.7**
ULM							18 08 06.8	
ULM				pmax		pmax		
	comp=Z,43nm,1.3s							
ULM	**Lac du Bonnet**	**40.67**	**8**	*e*P		**P**	**18 06 05.5**	**-0.7**
	comp=Z,43nm,1.3s							
ULM				PcP		**PcP**	**18 08 06.8**	**-1.1**
B05A	**Bryant**	**40.88**	**342**	P		**P**	**18 06 08.4**	**+0.4**
	baz=153							
PAL	**Palisades**	**40.90**	**36**	P		**P**	**18 06 07.2**	**-1.0**
	baz=230							
LONY	**Lake Ozonia**	**42.96**	**31**	P		**P**	**18 06 24.3**	**-0.8**
	baz=226							
LONY	**Lake Ozonia**	**42.96**	**31**	*e*P		**P**	**18 06 24.1**	**-1.0**
	comp=Z,79nm,1.8s							
FRNY	**Flat Rock**	**43.62**	**32**	*e*P		**P**	**18 06 30.0**	**-0.4**
	comp=Z,36nm,1.3s							
EDM	**Edmonton**	**43.64**	**352**	*e*P		**P**	**18 06 30.5**	**+0.1**
EDM				pmax		pmax		
	comp=Z,44nm,1.1s							
EDM	**Edmonton**	**43.64**	**352**	*e*P		**P**	**18 06 30.5**	**+0.1**
	comp=Z,44nm,1.1s							
TRQ	**Mont Tremblant**	**44.10**	**30**	*e*P		**P**	**18 06 33.6**	**-0.7**
LBNH	**Lisbon**	**44.11**	**34**	P		**P**	**18 06 33.8**	**-0.5**
	baz=229							
LPAZ	**La Paz**	**44.42**	**126**	P		**P**	**18 06 39.3**	**+1.5**
	comp=Z,3.1nm,0.8s,baz=330,slow=9.6,SNR=9.9							
LPAZ	**La Paz**	**44.42**	**126**	*e*P		**P**	**18 06 37.3**	**-0.6**
LPAZ	**La Paz**	**44.42**	**126**	*e*P		**P**	**18 06 35.8**	**-2.1**
	comp=Z,7.7nm,1.0s							
FFC	**Flin Flon**	**44.58**	**2**	*e*P		**P**	**18 06 37.7**	**-0.3**
FFC				pmax		pmax		
	comp=Z,32nm,1.2s							
FFC	**Flin Flon**	**44.58**	**2**	*e*P		**P**	**18 06 37.7**	**-0.3**
	comp=Z,32nm,1.2s							
SAML	**Samuel**	**45.15**	**113**	*e*P		**P**	**18 06 43.0**	**-0.1**
	comp=Z,9.5nm,1.1s							
PKME	**Peaks-Kenny Pk**	**46.21**	**34**	P		**P**	**18 06 50.5**	**-0.5**
	baz=231							
FCC	**Fort Churchill**	**49.22**	**7**	*e*P		**P**	**18 07 13.5**	**-0.6**
FCC				pmax		pmax		
	comp=Z,30nm,1.1s							
FCC	**Fort Churchill**	**49.22**	**7**	*e*P		**P**	**18 07 13.5**	**-0.6**
	comp=Z,30nm,1.1s							
SIV	**San Ignacio**	**50.09**	**121**	P		**P**	**18 07 21.3**	**-0.1**
	comp=Z,3.6nm,1.1s,baz=281,slow=7.3,SNR=8.4							
DLBC	**Dease Lake**	**52.07**	**343**	*e*P		**P**	**18 07 35.9**	**+0.1**
	comp=Z,12nm,1.1s							
YKA	**Yellowknife Ar**	**52.86**	**354**	P		**P**	**18 07 40.7**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=164,slow=7.8,SNR=26							
YKA				PcP		**PcP**	**18 08 50.0**	**-0.6**
	comp=Z,1.7nm,1.0s,baz=159,slow=3.7,SNR=6.7							
YKW3	**Yellowknife Ar**	**52.92**	**354**	*e*P		**P**	**18 07 41.3**	**-0.6**
	comp=Z,14nm,1.2s							
SCHQ	**Schefferville**	**53.60**	**26**	P		**P**	**18 07 45.7**	**-1.4**
	comp=Z,18nm,1.0s,baz=226,slow=6.3,SNR=7.4							
SCHQ				PP		**PP**	**18 09 51.2**	**+3.4**
	comp=Z,4.0nm,0.6s,baz=247,slow=14,SNR=3.7							
SCHQ	**Schefferville**	**53.60**	**26**	*e*P		**P**	**18 07 46.1**	**-0.9**
	comp=Z,19nm,1.0s							
SCHQ				PP		**PP**	**18 09 51.2**	**+3.4**
CPUP	**Villa Florida**	**58.30**	**129**	P		**P**	**18 08 21.6**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=313,slow=7.6,SNR=11							
CPUP	**Villa Florida**	**58.30**	**129**	*e*P		**P**	**18 08 21.9**	**+0.7**
CPUP				pmax		pmax		
	comp=Z,8.0nm,1.0s							
CPUP	**Villa Florida**	**58.30**	**129**	*e*P		**P**	**18 08 21.9**	**+0.7**
	comp=Z,8.1nm,1.0s							
DAWY	**Dawson**	**59.29**	**343**	*e*P		**P**	**18 08 28.3**	**+0.7**
	comp=Z,12nm,1.2s							
PLCA	**Paso Flores**	**59.42**	**151**	P		**P**	**18 08 30.9**	**+2.1**
	comp=Z,9.6nm,1.0s,baz=1.5,slow=11,SNR=8.3							
PLCA	**Paso Flores**	**59.42**	**151**	*e*P		**P**	**18 08 30.3**	**+1.5**
PLCA				pmax		pmax		
	comp=Z,18nm,1.1s							
PLCA	**Paso Flores**	**59.42**	**151**	*e*P		**P**	**18 08 30.3**	**+1.5**
	comp=Z,18nm,1.1s							
DOT	**Dot Lake**	**60.42**	**341**	*e*P		**P**	**18 08 36.1**	**+0.9**
	comp=Z,35nm,1.3s							
PAX	**Paxson**	**60.42**	**340**	*e*P		**P**	**18 08 35.8**	**+0.4**
PAX				pmax		pmax		
	comp=Z,29nm,1.8s							
PAX	**Paxson**	**60.42**	**340**	*e*P		**P**	**18 08 35.8**	**+0.4**
	comp=Z,29nm,1.8s							
SML	**Sawmill**	**60.69**	**338**	*e*P		**P**	**18 08 37.5**	**+0.3**
SML				pmax		pmax		
	comp=Z,20nm,1.1s							
SML	**Sawmill**	**60.69**	**338**	*e*P		**P**	**18 08 37.5**	**+0.3**
	comp=Z,20nm,1.1s							
RIDG	**Independ'e Rid**	**60.73**	**341**	*e*P		**P**	**18 08 38.3**	**+0.8**
	comp=Z,22nm,1.1s							
PMR	**Palmer**	**60.85**	**337**	*e*P		**P**	**18 08 39.0**	**+0.8**
PMR				pmax		pmax		
	comp=Z,28nm,1.5s							
PMR	**Palmer**	**60.85**	**337**	*e*P		**P**	**18 08 39.0**	**+0.8**
	comp=Z,28nm,1.5s							
GHO	**Glory Hole Cre**	**60.89**	**338**	*e*P		**P**	**18 08 39.1**	**+0.5**
	comp=Z,16nm,1.2s							
DHY	**Denali Highway**	**61.15**	**339**	*e*P		**P**	**18 08 40.6**	**+0.2**
	comp=Z,14nm,1.3s							
INK	**Inuvik**	**61.25**	**348**	*e*P		**P**	**18 08 41.0**	**+0.3**
INK				pmax		pmax		
	comp=Z,11nm,1.0s							
INK	**Inuvik**	**61.25**	**348**	*e*P		**P**	**18 08 41.0**	**+0.3**
	comp=Z,11nm,1.0s							
SUA	**Susitna One**	**61.40**	**337**	*e*P		**P**	**18 08 42.4**	**+0.3**
	comp=Z,15nm,1.2s							
RND	**Reindeer**	**61.87**	**339**	*e*P		**P**	**18 08 45.5**	**+0.3**
RND				pmax		pmax		
	comp=Z,33nm,1.2s							
RND	**Reindeer**	**61.87**	**339**	*e*P		**P**	**18 08 45.5**	**+0.3**
	comp=Z,33nm,1.2s							
SKT	**Skwentna**	**62.00**	**337**	*e*P		**P**	**18 08 47.0**	**+1.0**
	comp=Z,30nm,1.6s							
IL1	**Eielson Array**	**62.09**	**341**	*e*P		**P**	**18 08 46.1**	**-0.4**
ILAR	**Eielson Array**	**62.09**	**341**	P		**P**	**18 08 46.6**	**+0.1**
	comp=Z,9.4nm,1.0s,baz=155,slow=4.8,SNR=34							
ILB	**Eielson Array**	**62.09**	**341**	*e*P		**P**	**18 08 46.6**	**+0.1**
MCK	**McKinley**	**62.11**	**339**	*e*P		**P**	**18 08 47.2**	**+0.5**
MCK				pmax		pmax		
	comp=Z,24nm,1.4s							
MCK	**McKinley**	**62.11**	**339**	*e*P		**P**	**18 08 47.2**	**+0.5**
	comp=Z,24nm,1.4s							
CCB	**Clear Creek Bu**	**62.31**	**340**	*e*P		**P**	**18 08 47.6**	**-0.4**
	comp=Z,7.2nm,1.2s							
TRF	**Thorofare Moun**	**62.41**	**339**	*e*P		**P**	**18 08 49.1**	**+0.2**
	comp=Z,26nm,1.4s							
KTH	**Kantishna Hill**	**62.70**	**339**	*e*P		**P**	**18 08 50.7**	**-0.1**
	comp=Z,22nm,1.5s							
PPLA	**Purkeypile**	**62.78**	**338**	*e*P		**P**	**18 08 51.7**	**+0.3**
	comp=Z,34nm,1.2s							
FYU	**Fort Yukon**	**62.80**	**343**	*e*P		**P**	**18 08 51.9**	**+0.6**
	comp=Z,24nm,1.2s							
CAST	**Castle Rocks**	**63.04**	**338**	*e*P		**P**	**18 08 53.0**	**0.0**
	comp=Z,21nm,1.3s							
BPAW	**Bear Paw Mtn.**	**63.05**	**339**	*e*P		**P**	**18 08 53.0**	**-0.1**
	comp=Z,17nm,1.6s							
MLY	**Manley**	**63.53**	**340**	*e*P		**P**	**18 08 56.4**	**+0.2**
	comp=Z,14nm,1.3s							
COLD	**Coldfoot**	**64.71**	**342**	*e*P		**P**	**18 09 04.8**	**+0.9**
	comp=Z,12nm,1.3s							
RES	**Resolute Bay**	**64.81**	**3**	*e*P		**P**	**18 09 03.4**	**-0.9**
RES				pmax		pmax		
	comp=Z,7.0nm,1.1s							
RES	**Resolute Bay**	**64.81**	**3**	*e*P		**P**	**18 09 03.4**	**-0.9**
	comp=Z,6.9nm,1.1s							
TOLK	**Toolik Lake Re**	**65.42**	**343**	P		**P**	**18 09 08.9**	**+0.4**
	baz=130,SNR=5.7							
TOLK	**Toolik Lake Re**	**65.42**	**343**	*e*P		**P**	**18 09 09.0**	**+0.4**
	comp=Z,16nm,1.3s							
TULEG	**Thule**	**69.11**	**8**	*e*P		**P**	**18 09 31.3**	**-0.4**
	comp=Z,16nm,1.1s							
SUMG	**Summit**	**73.34**	**17**	*e*P		**P**	**18 09 57.4**	**-0.5**
SUMG				pmax		pmax		
	comp=Z,22nm,1.2s							
SUMG	**Summit**	**73.34**	**17**	*e*P		**P**	**18 09 57.4**	**-0.5**
	comp=Z,22nm,1.2s							
BILL	**Bilibino**	**80.49**	**338**	*i* P		**P**	**18 10 35.5**	**-2.3**
BILL				*i*			18 10 43.4	
BILL				pmax		pmax		
	comp=Z,5.0nm,1.2s							
PEA1	**Petropavlovsk-**	**86.74**	**323**	*e*P		**P**	**18 11 11.0**	**+0.9**
PETK	**Petropavlovsk-**	**86.74**	**323**	P		**P**	**18 11 11.0**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=94,slow=9.3,SNR=2.6							
SEY	**Seymchan**	**87.06**	**334**	*i* P		**P**	**18 11 10.1**	**-1.4**
EKA	**Eskdalemuir Ar**	**88.11**	**34**	P		**P**	**18 11 15.7**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=269,slow=5.7,SNR=3.3							
MA2	**Magadan**	**88.79**	**331**	*i* P		**P**	**18 11 16.1**	**-3.7**
TIXI	**Tiksi**	**91.25**	**345**	*i* P		**P**	**18 11 30.1**	**-1.0**
TIXI				pmax		pmax		
	comp=Z,20nm,1.1s							
TIXI	**Tiksi**	**91.25**	**345**	*e*P		**P**	**18 11 30.7**	**-0.4**
	comp=Z,16nm,1.0s							
ESDC	**Sonseca Array**	**91.55**	**49**	P		**P**	**18 11 32.3**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=286,slow=4.6,SNR=3.9							
YSS	**Yuzh-Sakhalins**	**97.79**	**320**	*e*P		**P**	**18 11 58.0**	**-3.5**
YSS				MLR		MLR		
	comp=Z,200nm,16.0s							
CLL	**Collm**	**98.58**	**34**	*e*P		**P**	**18 12 04.0**	**-0.9**
CLL	**Collm**	**98.58**	**34**	*e*Pdif		**P**	**18 12 04.0**	**-0.9**
CLL				*e*SS		SS	18 30 12.0	-6.3
GERES	**GERESS Array B**	**100.13**	**36**	P		**Pdif**	**18 12 10.0**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=339,slow=3.4,SNR=4.9							
GERES				PP		**PP**	**18 16 12.7**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=285,slow=10,SNR=4.2							
OBN	**Obninsk**	**107.29**	**22**	*i* P		**Pdif**	**18 12 40.7**	**-2.9**
OBN				*e*			18 17 12.3	
OBN				pmax		pmax		
	comp=Z,8.0nm,1.6s							
BVAR	**Borovoye Array**	**117.00**	**4**	PKP		**PKPdf**	**18 17 12.3**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=347,slow=5.2,SNR=3.4							
BR101	**Keskin Array S**	**117.00**	**35**	*e*PKPdf		**PKPdf**	**18 17 10.8**	**-0.8**
BRTR	**Keskin Array B**	**117.00**	**35**	PKP		**PKPdf**	**18 17 10.8**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=246,slow=0.7,SNR=3.7							
KURK	**Kurchatov**	**119.41**	**358**	*e*PKIKP		**PKPdf**	**18 17 15.5**	**-0.2**
KURK	**Kurchatov**	**119.41**	**358**	*e*PKPdf		**PKPdf**	**18 17 15.5**	**-0.2**
HHC	**Hu-ho-hao-te**	**119.45**	**329**	*e*PKP		**PKPdf**	**18 17 12.0**	**-4.2**
HHC				PP		**PP**	**18 18 37.5**	**+0.6**
HHC				AMB		AMB		
	comp=Z,61nm,4.1s							
HHC				LR		LR		
	comp=Z,390nm,14.8s							
HHC				LR		LR		
	comp=Z,380nm,14.8s							
HHC				LR		LR		
	comp=Z,360nm,18.5s							
KURBB	**Kurchatov Arra**	**119.51**	**358**	PKP		**PKPdf**	**18 17 15.5**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=354,slow=1.8,SNR=5.5							
NJ2	**Nanjing**	**121.17**	**317**	*e*PKP		**PKPdf**	**18 17 21.0**	**+1.4**
WB2	**Warramunga Arr**	**122.67**	**253**	*e*PKPdf		**PKPdf**	**18 17 22.1**	**-0.7**
WR1	**Warramunga Arr**	**122.68**	**253**	*e*PKPdf		**PKPdf**	**18 17 22.4**	**-0.4**
WRA	**Warramunga Arr**	**122.68**	**253**	PKP		**PKPdf**	**18 17 22.4**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=101,slow=2.1,SNR=3.2							
ASAR	**Alice Springs**	**122.96**	**248**	PKP		**PKPdf**	**18 17 23.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=68,slow=3.2,SNR=5.0							
MK31	**Makanchi Array**	**123.08**	**355**	*e*PKIKP		**PKPdf**	**18 17 22.2**	**-0.7**
MK31	**Makanchi Array**	**123.08**	**355**	*e*PKPdf		**PKPdf**	**18 17 22.2**	**

	comp=N,546nm,0.3s							
MONP2	**Monument Peak**	**1.44**	**303**	P	**Pb**	**18 02 41.4**	**+0.9**	
	baz=126							
MONP2				S	**Sb**	**18 02 59.4**	**+0.9**	
	baz=126							
BAR	**Barrett**	**1.53**	**292**	*e*Pn	**Pn**	**18 02 41.4**	**+0.8**	
BAR				*e*Sn	**Sb**	**18 03 01.9**	**+0.9**	
BAR	**Barrett**	**1.53**	**292**	*e*P	**Pn**	**18 02 41.8**	**+1.2**	
BAR				*e*S	**Sb**	**18 03 01.8**	**+0.8**	
BC3	**Big Chuckawall**	**1.59**	**346**	P	**Pn**	**18 02 42.3**	**+0.8**	
	baz=169							
BC3				S	**Sn**	**18 03 01.6**	**0.0**	
	baz=169							
BORC	**Borrego Spring**	**1.67**	**314**	*e*Pn	**Pn**	**18 02 43.0**	**+0.6**	
Y12C	**Blythe**	**1.69**	**13**	*e*Pn	**Pg**	**18 02 46.3**	**-0.3**	
214A	**Organ Pipe Nat**	**1.86**	**94**	P	**Pb**	**18 02 47.1**	**-0.5**	
	baz=273							
DPP	**Dos Picos Cty**	**1.87**	**299**	*e*Sn	**Sb**	**18 03 12.0**	**+1.2**	
HWB	**Hans Werner Br**	**1.90**	**299**	*e*Sn	**Sb**	**18 03 13.1**	**+1.6**	
XPFO	**Piæon Flat**	**1.94**	**321**	*e*Pn	**Pn**	**18 02 46.4**	**+0.1**	
PFO	**Pinyon Flats O**	**1.94**	**321**	P	**Pn**	**18 02 46.4**	**+0.1**	
	baz=143							
PFO				S	**Sn**	**18 03 09.6**	**-0.8**	
	baz=143							
PFO	**Pinyon Flats O**	**1.94**	**321**	*e*Pn	**Pn**	**18 02 46.4**	**+0.1**	
109C	**Camp Elliot, M**	**1.95**	**294**	Pb	**Pb**	**18 02 49.6**	**+0.6**	
	baz=116							
109C				Sb	**Sb**	**18 03 13.8**	**+0.8**	
	baz=116							
CPE	**Camp Elliot**	**1.95**	**294**	*e*Pn	**Pn**	**18 02 47.9**	**+1.7**	
HMTC	**Hemet**	**2.33**	**314**	*e*Pn	**Pg**	**18 02 58.0**	**-0.8**	
BREC	**Barre Substati**	**3.03**	**305**	*e*Pn	**Pn**	**18 02 58.1**	**-3.0**	
BREC				*e*Sn	**Sn**	**18 03 40.3**	**+3.4**	
BFSC	**Mount Baldy Ra**	**3.08**	**314**	*e*Sn	**Sb**	**18 03 44.0**	**-1.8**	
W13A	**Hualapai Mount**	**3.12**	**17**	*e*Pg	**Pg**	**18 03 13.4**	**-0.6**	
DECC	**Green Verdugo**	**3.52**	**308**	*e*Sg	**Sb**	**18 04 02.4**	**+4.0**	
GSC	**Goldstone, Bar**	**3.52**	**335**	*e*Sg	**Sg**	**18 04 07.1**	**-0.3**	
SBI	**Santa Barbara**	**3.66**	**293**	*e*Sn	**Sn**	**18 03 50.5**	**-2.1**	
SBI				*e*Sg	**Sb**	**18 04 01.6**	**-0.8**	
CCCA	**Chr Cany lake**	**3.94**	**331**	*e*Sg	**Sg**	**18 04 20.0**	**-0.6**	
BTPC	**Burnt Peak**	**3.94**	**312**	*e*Sn	**Sn**	**18 04 05.7**	**+5.9**	
BAKC	**Calstate**	**4.71**	**314**	*e*Pn	**Pn**	**18 03 20.3**	**-3.9**	
KNB	**Kanab**	**5.21**	**20**	*e*Pg	**Pg**	**18 03 52.4**	**-1.6**	
CCUT	**Cedar City**	**5.59**	**13**	*e*Pn	**Pn**	**18 03 40.5**	**+3.9**	
CCUT				*e*Pg	Pg	18 04 06.1	+4.9	
SZCU	**Shurtz Canyon**	**5.69**	**15**	*e*Pn	**Pn**	**18 03 37.5**	**-0.5**	
PSRM	**Scobie Ranch**	**5.77**	**312**	*e*Pn	**Pn**	**18 03 35.1**	**-3.7**	
JECB	**Eureka Canyon**	**7.47**	**313**	*e*Pn	**Pn**	**18 03 59.7**	**-2.5**	
JLAB	**Laurel Hill**	**7.50**	**314**	*e*Sn	**Sn**	**18 05 30.3**	**+3.3**	
PV01	**Paradox Valley**	**7.99**	**39**	*e*P	Pn	18 04 18.9	+9.4	
YMR	**Madison River**	**12.93**	**13**	*e*P	**P**	**18 05 24.3**	**-3.4**	
	comp=N,16nm,1.3s							

IDC ***26*** *18:09:22.6±4.0, 12°.46N×144°.99E, h13km±25km, mb4.2/28, mb1 4.3/28, mb1mx4.1/66, mbtmp4.3/28, MS4.0/8, Ms1 4.0/8, ms1mx3.7/50, Error ellipse: s-maj=19.0km s-min=11.3km az=93.0*

BJI ***26*** *18:09:24.6, 12°.36N×145°.24E, h61km, mb4.7/37, mB5.2/29, Ms4.7/22, Ms7 4.4/21*

DJA ***26*** *18:09:25.1±0.6, 13°.1±5°×14°5E±°, h48km±9km, M4.7/29, mb4.8/29, mB6.0/4, MLv4.3/1, Mw(mB)5.6/4*

NEIC ***26*** *18:09:26.9±1.1, 12°.54N×144°.89E, h38km±9km, mb4.9/41, Error ellipse: s-maj=5.9km s-min=4.3km az=107.0*

ISCJB ***26*** *18:09:27.3±0.8, 12°.52N±0°.03×144°.89E±0°.05, h58km±7km, mb4.7/86, MS4.2/15, Error ellipse: s-maj=7.7km s-min=5.2km az=22.3*

ISC 26 18:09:29.3±1.1, 12°55N±0°.05×144°79E±0°.07, h57km±10km, n163, σ1§58/178, mb4.7/86, MS4.3/15, 1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.04**	**4**	Pn		Pn	18 09 45.8	-2.0
	132nm,0.3s,baz=158,slow=7.4,SNR=114							
GUMO				Sn		**Sn**	**18 10 02.0**	**+0.6**
	632nm,0.3s,baz=263,slow=22,SNR=23							
GENI	**Genyem**	**15.73**	**197**	P		**Pn**	**18 13 06.6**	**-0.8**
SWI	**Sorong**	**18.92**	**226**	P		**P**	**18 13 46.0**	**+0.4**
FAKI	**Fak Fak**	**19.78**	**220**	P		**P**	**18 13 56.0**	**+0.9**
FAKI	**Fak Fak**	**19.78**	**220**	*e*P		**P**	**18 13 55.2**	**+0.1**
	57nm,1.0s							
JHJ	**Hachijo jima 2**	**20.98**	**348**	LR		LR	18 20 57.7	
	comp=Z,419nm,21.6s,baz=236,slow=33							
JOW	**Kunigami**	**21.03**	**315**	LR		LR	18 22 36.7	
	comp=Z,266nm,19.2s,baz=258,slow=37							
PMG	**Port Moresby**	**21.94**	**174**	P		**P**	**18 14 15.4**	**-2.8**
	7.3nm,1.0s,baz=345,slow=14,SNR=4.0							
PMG				LR		LR	18 22 06.7	
	comp=Z,493nm,18.3s,baz=274,slow=35							
PMG	**Port Moresby**	**21.94**	**174**	*e*P		**P**	**18 14 15.4**	**-2.8**
	20nm,0.9s							
AAI	**Ambon**	**23.07**	**227**	P		**P**	**18 14 29.0**	**-1.2**
JNU	**Nakatsue**	**24.11**	**330**	P		**P**	**18 14 40.4**	**+0.6**
	11nm,0.8s,baz=127,slow=14,SNR=5.3							
JNU	**Nakatsue**	**24.11**	**330**	*e*P		**P**	**18 14 39.2**	**-0.6**
	27nm,1.1s							
SAUI	**Saumlaki**	**24.41**	**214**	P		**P**	**18 14 43.3**	**+0.7**
SAUI	**Saumlaki**	**24.41**	**214**	*e*P		**P**	**18 14 43.7**	**+1.1**
	125nm,1.2s							
MJAR	**Matsushiro Arr**	**24.61**	**347**	P		**P**	**18 14 42.8**	**-1.6**
	8.3nm,1.0s,baz=175,slow=9.8,SNR=14							
MJAR				LR		LR	18 23 23.1	
	comp=Z,262nm,19.9s,baz=185,slow=34							
MAJO	**Matsushiro**	**24.61**	**347**	*e*P		**P**	**18 14 43.5**	**-0.8**
	37nm,1.3s							
MAT	**Matsushiro**	**24.61**	**347**	P		**P**	**18 14 43.0**	**-1.3**
MAT				S		**S**	**18 19 08.2**	**+6.5**
MJB9	**Matsu-Tunnel**	**24.62**	**347**	*e*P		**P**	**18 14 43.6**	**-0.8**
	39nm,1.3s							
YULB	**Yu-li**	**24.77**	**299**	*e*P		**P**	**18 14 46.0**	**0.0**
	28nm,0.8s							
SSLB	**Suanglung**	**25.21**	**300**	*e*P		**P**	**18 14 50.2**	**+0.3**
	72nm,1.1s							
MRSI	**Marisa**	**25.64**	**244**	P		**P**	**18 14 54.7**	**+0.9**
HNR	**Honiara**	**26.52**	**145**	LR		LR	18 25 08.1	
	comp=Z,307nm,18.7s,baz=348,slow=36							
MYLDM	**Lahad Datu**	**26.97**	**257**	*e*P		**P**	**18 15 07.8**	**+1.9**
	39nm,1.1s							
MPSI	**Mapaga**	**27.51**	**246**	P		**P**	**18 15 11.8**	**+1.1**
	13nm,1.2s							
MTN	**Manton Dam**	**28.63**	**209**	*e*P		**P**	**18 15 21.8**	**+1.2**
	9.8nm,1.1s							
KSRS	**Korea Array**	**29.03**	**332**	P		**P**	**18 15 24.0**	**0.0**
	1.8nm,0.9s,baz=140,slow=11,SNR=4.2							
KSRS				LR		LR	18 26 51.4	
	comp=Z,262nm,18.1s,baz=150,slow=36							
KSAR	**Wonju Array Be**	**29.04**	**332**	P		**P**	**18 15 24.0**	**-0.1**
SOEI	**Soe**	**30.11**	**224**	*e*P		**P**	**18 15 34.9**	**+1.0**
	21nm,0.9s							
NJ2	**Nanjing**	**30.72**	**313**	*e*P		**P**	**18 15 39.3**	**+0.2**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
WHN	**Wuhan**	**33.34**	**307**	P		**P**	**18 16 02.5**	**+0.5**
WR1	**Warramunga Arr**	**33.89**	**198**	*e*P		**P**	**18 16 05.0**	**-1.8**
	21nm,0.9s							
WRA	**Warramunga Arr**	**33.89**	**198**	P		**P**	**18 16 05.1**	**-1.8**
	2.9nm,0.9s,baz=22,slow=9.7,SNR=24							
WRA				LR		LR	18 30 19.3	
	comp=Z,221nm,19.7s,baz=195,slow=37							
STKI	**Sintang**	**35.29**	**252**	P		**P**	**18 16 20.3**	**+1.2**
	23nm,1.0s							
PBKI	**Pangkalan Bun**	**36.22**	**247**	P		**P**	**18 16 28.5**	**+1.4**
ENH	**Enshi**	**37.09**	**304**	*e*P		**P**	**18 16 35.1**	**+0.7**
	27nm,1.1s							
AS01	**Alice Springs**	**37.52**	**196**	*e*P		**P**	**18 16 37.6**	**-0.4**
AS31	**Alice Springs**	**37.53**	**197**	*e*P		**P**	**18 16 37.9**	**-0.2**
	1.2nm,0.6s							
ASAR	**Alice Springs**	**37.53**	**197**	P		**P**	**18 16 36.3**	**-1.8**
	0.8nm,0.6s,baz=19,slow=11,SNR=20							
GYA	**Guiyang**	**38.35**	**297**	P		**P**	**18 16 47.0**	**+1.8**
GYA				pP		pP	18 17 01.3	+1.5
GYA				PP		**PnPn**	**18 18 18.5**	**+2.5**
GYA				PcP		**PcP**	**18 18 59.5**	**+1.4**
GYA				S		**S**	**18 22 37.0**	**+1.0**
GYA				sS		sS	18 23 02.0	+1.3
GYA				SS		**SS**	**18 25 18.8**	**-7.7**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.8s							
GYA				LR		LR		
	comp=N,530nm,17.8s							
GYA				LR		LR		
	comp=E,510nm,17.0s							
GYA				LR		LR		
	comp=Z,560nm,17.2s							
PWJI	**Pagerwojo**	**38.63**	**240**	P		**P**	**18 16 47.5**	**+0.1**
	31nm,1.3s							
XAN	**Xi'an**	**38.98**	**309**	P		**P**	**18 16 50.3**	**0.0**
XAN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,200nm,5.1s							
PCJI	**Pacitan**	**39.25**	**240**	P		**P**	**18 16 53.0**	**+0.4**
	30nm,1.1s							
HHC	**Hu-ho-hao-te**	**40.51**	**320**	*e*P		**P**	**18 17 05.0**	**+2.0**
HHC				S		**S**	**18 23 03.0**	**-5.0**
HHC				pmax		pmax		
	comp=Z,14nm,0.8s							
HHC				pmax		pmax		
	comp=Z,110nm,5.1s							
HHC				LR		LR		
	comp=N,190nm,12.0s							
HHC				LR		LR		
	comp=E,310nm,12.1s							
HHC				LR		LR		
	comp=Z,400nm,14.1s							
KMI	**Kunming**	**41.55**	**294**	P		**P**	**18 17 13.0**	**+1.2**
KMI				pP		pP	18 17 26.0	-0.6
KMI				sP		sP	18 17 33.5	+0.2
KMI				pmax		pmax		
	comp=Z,16nm,1.1s							
KMI				LR		LR		
	comp=N,330nm,23.4s							
KMI				LR		LR		
	comp=E,750nm,19.2s							
KMI				LR		LR		
	comp=Z,760nm,20.2s							
SRAK	**Srakaew**	**41.59**	**277**	P		**P**	**18 17 10.7**	**-1.3**
	24nm,1.3s							
PETK	**Pevavlovsk-**	**41.75**	**12**	LR		LR	18 32 39.1	
	comp=Z,458nm,21.4s,baz=71,slow=33							
CD2	**Chengdu**	**41.98**	**302**	*e*P		**P**	**18 17 15.0**	**-0.1**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
NAYO	**Nakonayok**	**42.27**	**278**	P		**P**	**18 17 21.3**	**+3.7**
	19nm,0.7s,11μm							
CGJI	**Cibinong**	**43.27**	**246**	P		**P**	**18 17 24.5**	**-1.2**
	25nm,1.1s							
LZH	**Lanzhou**	**43.62**	**310**	*e*P		**P**	**18 17 30.3**	**+1.9**
LZH				pP		pP	18 17 47.0	+3.8
LZH				sP		sP	18 17 54.3	+4.4
LZH				*e*S		**S**	**18 23 52.5**	**-1.6**
LZH				sS		sS	18 24 19.0	-0.1
LZH				pmax		pmax		
	comp=Z,49nm,1.2s							
LZH				pmax		pmax		
	comp=Z,180nm,5.0s							
LZH				LR		LR		
	comp=N,1μm,13.5s							
LZH				LR		LR		
	comp=E,1μm,12.4s							
LZH				LR		LR		
	comp=Z,1μm,16.5s							
MDSI	**Maura Dua**	**43.76**	**250**	P		**P**	**18 17 30.1**	**+0.5**
	8.4nm,1.1s,420nm							
PHET	**Kaeng Krachan**	**44.01**	**276**	P		**P**	**18 17 35.9**	**+4.3**
	3.4nm,1.1s							
LWLI	**Liwa**	**44.08**	**249**	P		**P**	**18 17 32.1**	**-0.2**
	16nm,0.8s,5μm							
KULM	**Kulim**	**44.15**	**265**	*e*P		**P**	**18 17 33.9**	**+1.1**
	43nm,1.3s							
STKA	**Stephens Creek**	**44.28**	**184**	P		**P**	**18 17 32.1**	**-1.4**
	0.7nm,0.7s,baz=328,slow=20,SNR=1.6							
CMAI	**Chiengmai2**	**44.42**	**286**	P		**P**	**18 17 36.9**	**+1.8**
	1μm,0.7s							
CM01	**Chiang Mai Arr**	**44.46**	**284**	*e*P		**P**	**18 17 34.9**	**-0.4**
CM31	**Chiang Mai Arr**	**44.48**	**284**	*e*P		**P**	**18 17 35.4**	**0.0**
CMAR	**Chiang Mai Arr**	**44.48**	**284**	P		**P**	**18 17 35.7**	**+0.4**
	2.6nm,0.8s,baz=84,slow=5.8,SNR=24							
CMAR				PcP		**PP**	**18 19 19.5**	**-0.5**
	0.9nm,0.8s,baz=92,slow=1.5,SNR=4.2							
MASI	**Maura Aman, Be**	**45.05**	**253**	P		**P**	**18 17 41.2**	**+1.2**
	86nm,1.1s,6μm							
PSI	**Prapat**	**46.40**	**262**	P		**P**	**18 17 51.3**	**+0.5**
	3.4nm,0.4s,baz=98,slow=5.3,SNR=4.8							
PSI	**Prapat**	**46.40**	**262**	*e*P		**P**	**18 17 51.5**	**+0.7**
	13nm,1.1s							
MA2	**Magadan**	**47.15**	**4**	P		**P**	**18 17 54.8**	**-1.0**
	2.6nm,0.9s,baz=180,slow=8.3,SNR=4.4							
ULN	**Ulaanbaatar**	**47.19**	**326**	*e*P		**P**	**18 17 57.5**	**+1.0**
	7.8nm,1.1s							
SISI	**Saibi**	**47.41**	**256**	P		**P**	**18 17 58.9**	**+0.5**
SONA0	**Songino Array**	**47.54**	**325**	*e*P		**P**	**18 17 58.9**	**-0.3**
SONA0				*e*PcP		**PcP**	**18 19 28.9**	**+0.5**
SONA0				*e*ScP		**ScP**	**18 23 22.5**	**+4.7**
SONM	**Songino Array**	**47.54**	**325**	P		**P**	**18 17 58.9**	**-0.3**
	1.0nm,0.8s,baz=129,slow=6.1,SNR=7.2							
SONM				PcP		**PcP**	**18 19 28.9**	**+0.5**
	2.1nm,0.8s,baz=116,slow=3.4,SNR=6.3							
SONM				ScP		**ScP**	**18 23 22.5**	**+4.7**
	0.6nm,0.9s,baz=132,slow=2.1,SNR=3.4							
SONA1	**Songino Array**	**47.54**	**325**	*e*P		**P**	**18 17 58.4**	**-0.8**
LHMI	**Lhok Sumawe**	**47.76**	**266**	P		**P**	**18 18 02.3**	**+1.1**
GTA	**Gaotai**	**47.81**	**312**	*e*P		**P**	**18 18 01.8**	**+0.4**
GTA				pP		pP	18 18 17.0	+0.6
GTA				sP		sP	18 18 24.5	+1.5
GTA				PcP		**PcP**	**18 19 31.0**	**+1.4**
GTA				S		**S**	**18 24 53.0**	**-1.3**
GTA				sS		sS	18 25 21.0	+1.4
GTA				SS		**SS**	**18 28 15.0**	**-8.4**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,150nm,5.9s							
GTA				LR		LR		
	comp=N,160nm,13.5s							
GTA				LR		LR		
	comp=E,250nm,15.9s							
GTA				LR		LR		
	comp=Z,200nm,12.6s							
MLSI	**Meulaboh, Aceh**	**48.50**	**265**	P		**P**	**18 18 07.7**	**+0.8**
	14nm,0.7s							
BSI	**Banda Aceh**	**49.32**	**266**	P		**P**	**18 18 14.4**	**+1.2**
YAK	**Yakutsk**	**50.59**	**351**	*e*P		**P**	**18 18 21.9**	**-0.2**
	59nm,0.8s							
SEY	**Seymchan**	**50.60**	**4**	P		**P**	**18 18 21.4**	**-0.7**
	0.9nm,0.3s,baz=201,slow=8.0,SNR=7.8							
SHL	**Shillong**	**51.35**	**293**	*e*P		**P**	**18 18 32.0**	**+3.4**
LSA	**Lhasa**	**52.41**	**298**	*e*P		**P**	**18 18 38.3**	**+1.5**
	11nm,0.9s							
TAPN	**Taplejung**	**55.20**	**295**	*e*P		**P**	**18 18 57.8**	**+0.7**
ODAN	**Odare**	**55.46**	**294**	*e*P		**P**	**18 18 59.3**	**+0.4**
	63nm,1.3s							
RAMN	**Ramite**	**56.17**	**294**	*e*P		**P**	**18 19 04.3**	**+0.3**
	44nm,1.0s							
JIRN	**Jiri**	**56.57**	**295**	*e*P		**P**	**18 19 07.5**	**+0.6**
GUN	**Gumba**	**56.86**	**295**	*e*P		**P**	**18 19 09.5**	**+0.6**
	49nm,0.9s							
PKI	**Pulchoki**	**57.26**	**295**	*e*P		**P**	**18 19 11.7**	**-0.1**
PKIN	**Phulchoki**	**57.27**	**295**	*e*P		**P**	**18 19 11.6**	**-0.2**
KKN	**Kakani**	**57.38**	**295**	*e*P		**P**	**18 19 12.7**	**+0.2**
DMN	**Daman**	**57.53**	**295**	*e*P		**P**	**18 19 14.0**	**+0.4**
WMQ	**Urumqi**	**57.80**	**314**	P		**P**	**18 19 15.8**	**+0.8**
WMQ				pP		pP	18 19 28.3	-2.1
WMQ				PcP		**PcP**	**18 20 08.5**	**+1.4**
WMQ				pmax		pmax		
	comp=Z,25nm,1.3s							
WMQ				pmax		pmax		
	comp=Z,54nm,3.7s							
WMQ				LR		LR		
	comp=N,610nm,36.7s							
WMQ				LR		LR		
	comp=E,890nm,39.0s							
WMQ				LR		LR		
	comp=Z,420nm,26.7s							
GKN	**Gorkha**	**57.96**	**295**	*e*P		**P**	**18 19 16.7**	**+0.2**
	62nm,1.2s							
DANN	**Dangsing**	**58.75**	**296**	*e*P		**P**	**18 19 22.8**	**+0.7**
KOLN	**Koldanda**	**58.87**	**295**	*e*P		**P**	**18 19 23.1**	**+0.2**
	27nm,0.9s							
PYUN	**Piuthan**	**59.42**	**295**	*e*P		**P**	**18 19 26.9**	**+0.2**
	74nm,1.1s							
TIXI	**Tiksi**	**59.86**	**354**	P		**P**	**18 19 27.2**	**-1.4**
	6.3nm,1.0s,baz=138,slow=6.2,SNR=17							
MK01	**Makanchi Array**	**62.17**	**316**	*e*P		**P**	**18 19 44.2**	**-0.7**
MK31	**Makanchi Array**	**62.19**	**316**	*e*P		**P**	**18 19 44.7**	**-0.2**
MK32	**Makanchi Array**	**62.19**	**316**	*e*P		**P**	**18 19 45.0**	**+0.1**
MKAR	**Makanchi Array**	**62.19**	**316**	P		**P**	**18 19 45.0**	**+0.1**
	1.5nm,0.8s,baz=94,slow=8.8,SNR=13							
MKAR	**Makanchi Array**	**62.19**	**316**	*e*P		**P**	**18 19 44.6**	**-0.3**
	10nm,0.8s							
MAKZ	**Makanchi**	**62.40**	**316**	*e*P		**P**	**18 19 46.6**	**+0.2**
	6.0nm,1.3s							
ZALV	**Zalesovo Beam**	**62.42**	**325**	P		**P**	**18 19 46.1**	**-0.2**
	0.5nm,0.4s,baz=114,slow=5.5,SNR=3.9							
ZALV				PcP		**PcP**	**18 20 24.9**	**-0.4**
	1.9nm,0.6s,baz=117,slow=3.6,SNR=7.5							
ZAA1	**Zalesovo Array**	**62.42**	**325**	*e*P		**P**	**18 19 46.1**	**-0.2**
ZAA1				*e*PcP		**PcP**	**18 20 24.9**	**-0.4**
KDJ	**Kajisay**	**65.11**	**311**	*e*P		**P**	**18 20 04.7**	**+0.3**
	7.1nm,1.1s							
KURK	**Kurchatov**	**65.33**	**320**	*e*P		**P**	**18 20 05.2**	**-0.3**
	6.6nm,1.1s							
KURBB	**Kurchatov Arra**	**65.37**	**320**	P		**P**	**18 20 05.7**	**0.0**
	3.5nm,0.8s,baz=104,slow=6.4,SNR=20							
KSH	**Kashi**	**65.81**	**308**	*e*P		**P**	**18 20 10.5**	**+1.5**
KSH				sP		PcP	18 20 35.3	-4.4
KSH				S		**S**	**18 28 49.8**	**-1.9**
KSH				pmax		pmax		
	comp=Z,17nm,1.4s							
KSH				pmax		pmax		
	comp=Z,220nm,6.0s							
KSH				LR		LR		
	comp=N,130nm,8.6s							
KSH				LR		LR		
	comp=E,77nm,6.4s							
KSH				LR		LR		
	comp=Z,200nm,13.2s							
NRN	**Naryn**	**65.92**	**310**	*e*P		**P**	**18 20 10.3**	**+0.4**
	8.9nm,1.4s							
SUA	**Susitna One**	**66.95**	**28**	*e*P		**P**	**18 20 14.9**	**-0.9**
	9.9nm,1.1s							
CAST	**Castle Rocks**	**66.96**	**26**	*e*P		**P**	**18 20 15.9**	**+0.1**
	8.0nm,1.0s							
RC01	**Rabbit Creek A**	**67.32**	**29**	*e*P		**P**	**18 20 17.6**	**-0.5**
	50nm,1.8s							
GHO	**Glory Hole Cre**	**67.88**	**28**	*e*P		**P**	**18 20 20.7**	**-0.9**
	10.0nm,0.9s							
MLY	**Manley**	**68.03**	**24**	*e*P		**P**	**18 20 22.6**	**+0.1**
	4.1nm,0.7s							
SCM	**Sheep Creek Mo**	**68.62**	**28**	*e*P		**P**	**18 20 26.1**	**-0.2**
	31nm,1.3s							
COLD	**Coldfoot**	**68.93**	**22**	*e*P		**P**	**18 20 27.9**	**-0.2**
	6.2nm,1.1s							
WRH	**Wood River Hil**	**68.96**	**25**	*e*P		**P**	**18 20 27.3**	**-0.9**
	24nm,1.8s							
ILAR	**Eielson Array**	**69.54**	**25**	P		**P**	**18 20 29.9**	**-2.0**
	2.5nm,0.8s,baz=249,slow=6.1,SNR=35							
ILB	**Eielson Array**	**69.54**	**25**	*e*P		**P**	**18 20 29.9**	**-2.0**
KK06	**Karatay Array**	**70.07**	**311**	*e*P		**P**	**18 20 35.5**	**0.0**
KK05	**Karatay Array**	**70.07**	**311**	*e*P		**P**	**18 20 36.1**	**+0.6**
KK02	**Karatay Array**	**70.08**	**311**	*e*P		**P**	**18 20 35.7**	**+0.1**
KK31	**Karatay Array**	**70.08**	**311**	*e*P		**P**	**18 20 35.7**	**+0.1**
KKAR	**Karatay Array**	**70.08**	**311**	*e*P		**P**	**18 20 35.8**	**+0.1**
KK01	**Karatay Array**	**70.08**	**311**	*e*P		**P**	**18 20 35.8**	**+0.1**
KK04	**Karatay Array**	**70.08**	**311**	*e*P		**P**	**18 20 35.8**	**+0.1**
KK03	**Karatay Array**	**70.08**	**311**	*e*P		**P**	**18 20 35.7**	**+0.1**
KK09	**Karatay Array**	**70.09**	**311**	*e*P		**P**	**18 20 35.7**	**+0.1**
KK08	**Karatay Array**	**70.10**	**311**	*e*P		**P**	**18 20 35.8**	**+0.1**
RIDG	**Independ'e Rid**	**70.17**	**26**	*e*P		**P**	**18 20 35.4**	**-0.4**
	30nm,0.9s							
DOT	**Dot Lake**	**70.49**	**27**	*e*P		**P**	**18 20 37.5**	**-0.3**
	567nm,1.9s							
BVAR	**Borovoye Array**	**70.69**	**322**	P		**P**	**18 20 39.2**	**+0.1**
	2.1nm,0.7s,baz=100,slow=8.1,SNR=12							
KBL	**Kabul**	**71.32**	**302**	*e*P		**P**	**18 20 43.9**	**+0.4**
	20nm,1.0s							
DAWY	**Dawson**	**72.60**	**27**	*e*P		**P**	**18 20 50.5**	**+0.1**
	51nm,1.3s							
HYT	**Haines Junctio**	**73.14**	**30**	*e*P		**P**	**18 20 54.4**	**+0.6**
	144nm,1.8s							
INK	**Inuvik**	**75.35**	**22**	P		**P**	**18 21 06.1**	**-0.2**
	3.2nm,0.9s,baz=285,slow=4.9,SNR=9.7							
INK	**Inuvik**	**75.35**	**22**	*e*P		**P**	**18 21 05.7**	**-0.6**
	176nm,1.9s							
DLBC	**Dease Lake**	**76.89**	**33**	*e*P		**P**	**18 21 16.5**	**+1.1**
	191nm,2.0s							
AB31	**Akbulak array**	**77.26**	**318**	*e*P		**P**	**18 21 17.5**	**0.0**
ABKAR	**Akbulak array**	**77.26**	**318**	*e*P		**P**	**18 21 17.5**	**0.0**
	12nm,0.8s							
AKTO	**Aktyubinsk**	**78.40**	**319**	P		**P**	**18 21 24.6**	**+0.7**
	1.1nm,0.7s,baz=85,slow=14,SNR=4.1							
BBB	**Bella Bella**	**78.43**	**39**	P		**P**	**18 21 23.1**	**-0.8**
	6.4nm,0.9s,baz=39,slow=8.4,SNR=2.6							
GEYT	**Alibeck**	**79.81**	**307**	P		**P**	**18 21 32.9**	**+1.0**
	7.2nm,1.0s,baz=70,slow=1.7,SNR=13				

1.1nm,0.3s,baz=319,slow=12,SNR=28
YBH Sn Sn 18 11 24.6 +2.6
0.8nm,0.3s,baz=128,slow=22,SNR=6.8
F03A Seaside 3.50 41 ePn Pn 18 10 40.4 -1.4
H04A Detroit Lake 3.63 67 ePn Pn 18 10 43.5 0.0
PRLK Prince Lake 3.65 74 ePn Pn 18 10 44.4 +0.4
G04A Mulino 3.66 58 ePn Pn 18 10 44.2 +0.3
B023 Clatskanie 3.87 43 ePn Pn 18 10 46.0 -0.7
F04D Rainier, OR 3.88 44 P Pn 18 10 46.0 -1.0
baz=226
E03A Lebam 3.97 35 ePn Pn 18 10 47.5 -0.8
BMW Boistfort Moun 4.06 38 ePn Pn 18 10 48.7 -0.9
I05D Terrebonne, OR 4.11 74 P Pn 18 10 49.4 -0.9
baz=258
TDH Tom, Dick, Har 4.13 60 ePn Pn 18 10 50.9 +0.4
LVP Lakeview Peak 4.18 48 ePn Pn 18 10 51.5 +0.2
MTMW Mount Mitchell 4.27 49 ePn Pn 18 10 52.7 +0.3
PINE Pine Mountain 4.32 82 ePn Pn 18 10 53.2 0.0
JLK June Lake 4.37 48 ePn Pn 18 10 54.3 +0.4
ERK Elk Rock 4.37 46 ePn Pn 18 10 54.1 +0.2
VALT Mount Saint He 4.39 47 ePn Pn 18 10 54.7 +0.5
ESD East Dome 4.41 48 ePn Pn 18 10 55.1 +0.7
G05D Wamic, OR 4.41 62 P Pn 18 10 54.0 -0.3
baz=246,SNR=19
B201 Coldwater, Mou 4.41 46 ePn Pn 18 10 54.5 +0.1
SOSW Source of Smit 4.44 47 ePn Pn 18 10 55.4 +0.5
TDL Tradedollar La 4.47 46 ePn Pn 18 10 55.3 +0.1
NLWA Neilton Lookou 4.57 26 ePn Pn 18 10 56.1 -0.4
G06A Carlson Farm, 4.85 65 ePn Pn 18 11 00.3 -0.1
GLK Glacier Lake 4.93 47 ePn Pn 18 11 02.1 +0.6
LON Longmire 4.94 45 ePn Pn 18 11 02.3 +0.7
WPW White Pass 5.05 46 ePn Pn 18 11 03.5 +0.4
HDW Hoodsport 5.08 30 ePn Pn 18 11 02.7 -0.8
PANH Panhandle Gap, 5.10 44 ePn Pn 18 11 04.4 +0.4
FMW Mount Fremont 5.14 44 ePn Pn 18 11 04.9 +0.4
D05A Enumclaw 5.16 40 ePn Pn 18 11 05.3 +0.7
B04A Port Angeles 5.28 25 eSn Sn 18 12 06.9 +0.2
TRW Toppenish Ridg 5.38 54 ePn Pn 18 11 08.3 +0.7
I07A Izee 5.38 79 eS Pn 18 11 10.4 +2.7
SVTR Two Rivers Sch 5.43 39 ePn Pn 18 11 08.8 -0.2
F07A Phinny Hill Vi 5.57 60 ePn Pn 18 11 10.5 +0.3
C05A Tolt Reservoir 5.67 38 ePn Pn 18 11 11.8 +0.1
EBG Ellensburg 5.71 49 ePn Pn 18 11 13.1 +0.9
HTW Haystack Looko 5.72 37 ePn Pn 18 11 12.1 -0.2
LTY Liberty 5.87 46 ePn Pn 18 11 14.6 +0.2
E07A Sunnyside 5.92 55 ePn Pn 18 11 16.4 +1.4
B05A Bryant 5.95 32 S Sn 18 12 22.4 -0.8
baz=216
BEKR Beckworth 5.97 123 ePn Pn 18 11 12.6 -3.3
BEKR eSg Sb 18 12 44.0 +0.8
G08A Pilot Rock 5.99 68 ePn Pn 18 11 16.2 +0.1
HAWA Hanford 6.03 57 ePn Pn 18 11 17.1 +0.5
E08A Dider Farm, El 6.37 58 ePn Pn 18 11 21.7 +0.5
B06A Marblemount 6.39 34 ePn Pn 18 11 22.3 +0.8
D08A Wollman Farm, 6.73 54 ePn Pn 18 11 26.6 +0.5
BMO Blue Mountains 7.04 74 ePn Pn 18 11 30.6 +0.2
CMB Columbia Colle 7.22 135 ePn Pn 18 11 33.7 +0.8
B08A Colville Reser 7.27 44 ePn Pn 18 11 34.4 +0.8
F10A Beach Ranch, E 7.35 66 ePn Pn 18 11 34.7 -0.1
C09A Chrisman Ranch 7.49 50 ePn Pn 18 11 36.7 +0.1
NV01 Mina Array Sit 8.12 124 ePn Pn 18 11 45.4 -0.1
NVAR Mina Array Bea 8.12 124 Pn Pn 18 11 45.4 -0.1
baz=291,slow=14,SNR=2.6
NVAR LR LR 18 14 57.8
comp=Z,2µm,21.3s,baz=220,slow=38
NEW Newport 8.39 51 Pn Pn 18 11 48.2 -0.8
0.7nm,0.3s,baz=288,slow=9.3,SNR=7.4
NEW Newport 8.39 51 P Pn 18 11 48.4 -0.6
baz=238
NEW Newport 8.39 51 ePn Pn 18 11 49.1 0.0
BBB Bella Bella 8.90 355 Pn Pn 18 11 56.4 +0.5
0.3nm,0.3s,baz=156,slow=10.0,SNR=3.2
MSO Missoula 9.78 65 ePn Pn 18 12 07.6 -0.5
JTMT Jette 9.86 59 ePn Pn 18 12 08.7 -0.5
ISA Isabella, Lake 10.02 137 ePn Pn 18 12 13.8 +2.4
WALA Waterton Lakes 10.64 53 ePn Pn 18 12 20.3 +0.5
BFSC Mount Baldy Ra 11.56 139 ePn Pn 18 12 30.3 -2.2
BFSC eSn Sn 18 14 39.9 -1.6
SBI Santa Barbara 11.59 146 ePn Pn 18 12 31.3 -1.4
YHH Holmes Hill 11.61 77 ePn Pn 18 12 33.9 +0.6
TCUT Toone Canyon 11.66 96 ePn Pn 18 12 31.4 -2.6
FMP Fort Macarthur 11.70 142 ePn Pn 18 12 33.9 -0.4
FMP eSn Sn 18 14 45.1 +0.4
PDAR Pinedale Array 12.67 87 Pn Pn 18 12 48.1 +0.4
0.1nm,0.3s,baz=273,slow=7.1,SNR=3.9
DPP Dos Picos Cty 12.92 140 ePn Pn 18 12 50.2 -0.8
DPP eSn Sn 18 15 21.6 +7.1
WESC Westside Schoo 13.70 137 eSn Sn 18 15 33.2 -0.4
GLA Glamis 13.94 133 ePn P 18 13 12.1 -1.0
GLA eSn Sn 18 15 33.6 -5.9
FFC Flin Flon 19.78 46 eP P 18 14 17.7 +0.4
9.7nm,1.4s
YKA Yellowknife Ar 20.50 16 P P 18 14 25.5 +0.5
1.0nm,0.7s,baz=206,slow=10,SNR=7.4
ULM Lac du Bonnet 22.19 61 P P 18 14 43.2 -0.3
3.5nm,0.9s,baz=274,slow=11,SNR=4.4
LTX Lajitas 23.22 119 eP P 18 14 55.1 +0.6
TXAR Lajitas Array 23.22 119 P P 18 14 55.1 +0.5
0.3nm,0.7s,baz=308,slow=6.2,SNR=4.0
ILAR Eielson Array 24.27 339 P P 18 15 03.6 -0.6
0.9nm,0.8s,baz=151,slow=9.0,SNR=13
INK Inuvik 25.28 354 P P 18 15 13.2 -0.1
1.0nm,0.9s,baz=156,slow=9.8,SNR=3.0
H11N3 WAKE ISLAND Hy 59.58 269 T T 19 24 11.3
baz=51,slow=75,SNR=58
H11N2 WAKE ISLAND Hy 59.58 269 T T 19 24 06.8
baz=51,slow=75,SNR=38
H11N1 WAKE ISLAND Hy 59.60 269 T T 19 24 07.5
baz=51,slow=75,SNR=41
H11S1 WAKE ISLAND Hy 60.50 268 T T 19 25 13.3
baz=50,slow=75,SNR=292
H11S2 WAKE ISLAND Hy 60.51 268 T T 19 25 12.0
baz=50,slow=75,SNR=220
H11S3 WAKE ISLAND Hy 60.52 268 T T 19 25 10.0
baz=50,slow=75,SNR=181

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*CASC **26** 18:12:26.6±0.3,9˚.35N×105˚.64W,h26km±999km,mb5.3, mb5.6(NEIC)*
*IDC **26** 18:12:51.4±0.5,10˚.19N×104˚.19W,h0km,mb4.8/29, mb1 4.9/32,mb1mx4.8/53,mbtmp4.8/32,ML4.0/3,MS5.7/29, Ms1 5.6/29,ms1mx5.6/32,Error ellipse: s-maj=16.7km s-min=10.1km az=56.0*
*ISCJB **26** 18:12:52.1±0.2,10˚.34N±0˚.03×103˚.99W±0˚.02,h10km, mb5.2/82,MS5.7/206,Error ellipse: s-maj=3.9km s-min=2.5km az=25.5*
*MOS **26** 18:12:52.0±1.0,10˚.24N×104˚.08W,h10km,mb5.6/19, MS5.7/22,Error ellipse: s-maj=9.8km s-min=4.8km az=97.0*
*NEIC **26** 18:12:52.9±0.2,10˚.07N×104˚.16W,h10km,mb5.6/32, MS5.8/151,MW6.0,Error ellipse: s-maj=4.1km s-min=3.1km az=38.0 Best double couple: NP1: ϕs165.00000°,δ84.00000°,λ-168.00000°. NP2: ϕs74.00000°,δ78.00000°,λ-6.00000°. Principal axes: T 1.2000, Plg4.0000°, Azm299.0000°; N -0.1300, Plg77.0000°, Azm191.0000°; P -1.0700, Plg12.0000°, Azm30.0000°;*
*GCMT **26** 18:12:52.8±0.1,10˚.29N×104˚.19W,h12km,MW6.0/140, Moment Tensor Solution. s132,c278; s140,c468; Duration: 28s Moment tensor: Scale 10¹⁸Nm; Mrr-0.04±.01; Mθθ-0.47±.01; Mϕϕ0.51±.01; Mrθ-0.04±.02; Mθϕ1.18±.01; Mϕr0.02±.02; Best double couple: M₀1.28000×10¹⁸ NP1:ϕs79.00000°,δ89.00000°, λ-2.00000°. NP2:ϕs169.00000°,δ88.00000°, λ-179.00000°. Principal axes: T 1.2970, Plg0.0000°, Azm124.0000°; N -0.0350, Plg88.0000°, Azm223.0000°; P -1.2630, Plg2.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **26** 18:12:53.4,10˚.20N×104˚.00W,h10km,mB5.8/36, Ms6.2/43,Ms7 5.9/43*
ISC 26 18:12:53.0±0.3,10˚.07N±0˚.04×104˚.19W±0˚.04,h10km, n1229,σ2s08/1118,mb5.3/81,MS5.8/207,1D,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	Morelia	9.99	17	ePn	Pn	18 15 18.9	+2.0
H06S1	SOCORRO T SNR=27	10.82	324	T	T	18 26 19.0	
H06E1	SOCORRO T-PHAS SNR=40	10.84	324	T	T	18 26 17.6	
JRQG	Juriquilla Cam	11.18	18	ePn	Pn	18 15 33.4	+0.2
CMIG	Matias Romero 0.6nm,0.3s,baz=225,slow=11,SNR=48	11.43	51	Pn	Pn	18 15 36.9	+0.5
CMIG	0.1nm,0.3s,baz=149,slow=16,SNR=1.7			Sn	Sn	18 17 47.4	+3.1
CMIG	comp=Z,86µm,20.4s,baz=231,slow=32			LR	LR	18 18 57.9	
LVIG	Laguna Verde	12.19	37	ePn	Pn	18 15 45.7	-1.1
ZAIG	Zacatecas	12.73	7	ePn	Pn	18 15 56.2	+1.7
SLBS	Sierra La Lagu	14.62	339	ePn	Pn	18 16 21.3	+1.2
LPIG	La Paz 13nm,0.3s,baz=20,slow=9.8,SNR=10.0	15.13	338	Pn	Pn	18 16 28.1	+1.2
LPIG	7.8nm,0.3s,baz=76,slow=12,SNR=2.0			Sn	S	18 19 26.7	-5.2
LPIG	comp=Z,86µm,18.6s,baz=163,slow=32			LR	LR	18 20 47.9	
LNIG	Linares	15.42	16	ePn	Pn	18 16 30.9	+0.1
HPIG		16.84	355	ePn	P	18 16 51.1	-0.2
CRIN	San Cristobal	17.01	80	eP	Pn	18 16 49.6	-1.7
CRIN	comp=Z,394nm,1.8s			AMb	AMB	18 17 06.0	
CRIN				eS	S	18 20 14.5	+3.8
TGUH	Tegucigalpa,Un	17.02	75	ePn	P	18 16 53.2	+0.1
TGUH	Tegucigalpa,Un	17.02	75	eP	Pn	18 16 49.6	-1.7
CNGN	Cerro Negro	17.33	80	eP	Pn	18 16 53.1	-2.2
MOMN	Momotombo	17.47	81	eP	Pn	18 16 55.2	-1.8
MYIG	MOrida	17.63	50	ePn	Pn	18 16 58.3	-0.5
ESTN	Estel	17.72	78	eP	Pn	18 16 59.0	-1.2
ESTN				eS	S	18 20 30.8	+5.6
MGAN	Managua	17.73	82	eP	Pn	18 16 59.0	-1.3
MATN	Matagalpa	18.13	79	eP	Pn	18 17 04.4	-0.8
KVTX	Kingsville	18.38	18	ePn	P	18 17 08.0	-0.1
833A	Chaparral WMA, baz=195,SNR=27	18.72	13	P	Pn	18 17 12.5	+0.3
ACON	Acoyapa	18.77	82	eP	Pn	18 17 12.6	-0.4
SRIG	Santa Rosalia	18.77	337	eP	Pn	18 17 12.6	-0.3
JTS	JuntasAbangare comp=Z,0.5nm,0.3s,baz=335,slow=8.5,SNR=26	18.94	88	P	Pn	18 17 15.8	+0.8
JTS	comp=Z,0.5nm,0.3s,baz=4.1,slow=17,SNR=1.8			S	S	18 20 55.7	+5.9
JTS	comp=Z,26µm,19.3s,baz=332,slow=31			LR	LR	18 22 39.8	
LTX	Lajitas	19.18	1	eP	P	18 17 16.7	-0.3
LTX	Lajitas	19.18	1	eP	P	18 17 16.7	-0.3
TX31	Lajitas Ar. Si	19.18	1	eP	P	18 17 16.4	-0.5
TXAR	Lajitas Array comp=Z,0.1nm,0.3s,baz=159,slow=11,SNR=55	19.18	1	P	P	18 17 16.7	-0.3
TXAR	comp=Z,0.0nm,0.3s,baz=152,slow=25,SNR=2.2			S	S	18 21 01.9	+7.4
TXAR	comp=Z,10µm,18.9s,baz=0.0,slow=33			LR	LR	18 23 13.4	
ESPN	Las Esperanzas	19.63	82	eP	Pn	18 17 24.5	+1.1
HDC	Heredia	19.77	88	eP	Pn	18 17 24.9	-0.2
HSIG		19.89	342	eP	P	18 17 24.4	-0.3
JCT	Junction City baz=192,SNR=29	20.72	11	P	P	18 17 33.8	0.0
JCT	Junction City	20.72	11	eP	P	18 17 34.5	+0.7
JCT	comp=Z,884nm,1.9s			pmax	pmax		
JCT	comp=Z,65µm,19.0s			MLR	MLR		
JCT	Junction City comp=Z,884nm,1.9s	20.72	11	eP	P	18 17 34.5	+0.7
JCT	comp=Z,65µm,19.0s			LR	LR		
435B	Jarrell baz=198,SNR=11	21.51	16	P	P	18 17 42.1	-0.1
MNTX	Cornudas Mount baz=177,SNR=88	21.56	357	P	P	18 17 42.6	-0.1
MNTX	Cornudas Mount comp=Z,178nm,1.3s	21.56	357	eP	P	18 17 42.7	-0.1
MNTX	comp=Z,24µm,21.0s			LR	LR		
EPT	El Paso	21.71	355	eP	P	18 17 44.6	+0.1
319A	Douglas	21.73	348	eP	P	18 17 44.5	-0.2
GDL2	Guadalupe Moun	22.03	360	eP	P	18 17 48.1	+0.2
121A	Cookes Peak, D baz=171,SNR=13	22.60	352	P	P	18 17 54.5	+0.4
WHTX	Lake Whitney, baz=197,SNR=5.4	22.69	15	P	P	18 17 54.1	-0.8
WHTX	Lake Whitney, comp=Z,1µm,2.0s	22.69	15	eP	P	18 17 55.6	+0.8
542A	Morse baz=211	22.72	27	P	P	18 17 55.3	+0.1
ABTX	Abilene, Hawle baz=192,SNR=20	22.84	10	P	P	18 17 55.0	-1.5
ABTX	Abilene, Hawle comp=Z,1µm,2.0s	22.84	10	eP	P	18 17 55.6	-0.9
TUC	Tucson baz=163	22.96	346	P	P	18 17 58.8	+1.0
TUC	Tucson	22.96	346	eP	P	18 17 57.8	0.0
TUC	comp=Z,145nm,1.4s			pmax	pmax		
TUC	Tucson comp=Z,145nm,1.4s	22.96	346	eP	P	18 17 57.8	0.0
441A	DeRidder baz=209	22.99	25	P	P	18 17 57.7	-0.2
543A	St. Martinvill baz=212	23.01	28	P	P	18 17 58.6	+0.4
645A	Chauvin baz=216	23.11	31	P	P	18 17 59.4	+0.2
214A	Organ Pipe Nat baz=158	23.20	341	P	P	18 18 00.9	+0.7
MAPC	Malpelo	23.20	103	eP	P	18 17 59.1	-1.3
442A	Mamou baz=210	23.28	26	P	P	18 18 00.7	-0.2
NATX	Nacogdoches baz=204,SNR=16	23.33	21	P	P	18 18 00.5	-1.0
NATX	Nacogdoches comp=Z,2µm,1.8s	23.33	21	eP	P	18 18 01.4	0.0
NATX	comp=Z,21µm,21.0s			LR	LR		
544A	White Castle baz=214	23.36	30	P	P	18 18 01.7	-0.1
341A	Kurthwood baz=208,SNR=22	23.51	24	P	P	18 18 02.4	-0.9
646A	Port Sulphur baz=217	23.61	33	P	P	18 18 04.5	+0.2
443A	Delano Plantat baz=212	23.61	28	P	P	18 18 04.0	-0.2
545A	Edgard baz=215	23.64	31	P	P	18 18 04.2	-0.3
MSTX	Muleshoe baz=183,SNR=36	23.83	3	P	P	18 18 05.5	-1.0
MSTX	Muleshoe comp=Z,1µm,2.0s	23.83	3	eP	P	18 18 05.8	-0.6
WBCY	West Bay, Gran	23.89	65	eP	P	18 18 08.5	+1.5
342A	Flagon Creek P baz=210,SNR=13	23.89	26	P	P	18 18 06.0	-0.9
240A	Hunter Patters baz=206	23.90	22	P	P	18 18 06.1	-0.9
Y22D	IRIS PASSCAL I baz=173	24.03	354	P	P	18 18 09.3	+0.9
Y22E	IRIS PASSCAL I baz=173	24.03	354	P	P	18 18 09.2	+0.8
BCIP	Isla Barro Col	24.03	90	PFAKE		18 18 20.0	+12
BCIP	comp=Z,26µm,21.0s			LR	LR		
BCIP	Isla Barro Col	24.03	90	eP	P	18 18 07.7	-0.8
FSCY	Frank Sound, G	24.05	65	eP	P	18 18 08.9	+0.2
444A	Pine Grove baz=214	24.06	29	P	P	18 18 08.1	-0.4
BNM	Barren Site	24.08	355	eP	P	18 18 09.1	+0.2
343A	Vidalia baz=211	24.13	27	P	P	18 18 08.3	-0.8
546A	Slidell baz=217	24.18	32	P	P	18 18 09.4	-0.3
241A	Mo Tay, Goldon baz=208	24.21	24	P	P	18 18 09.4	-0.6
LPM	Los Pinos Moun	24.24	355	eP	P	18 18 10.8	+0.4
113A	Mohawk Valley,	24.26	340	eP	P	18 18 09.1	-1.3
445A	Amite baz=215	24.27	30	P	P	18 18 09.9	-0.6
LAZ	Ladron comp=Z,341nm,2.2s	24.37	354	eP	P	18 18 12.2	+0.5
140A	Cam and Jess, baz=206	24.51	22	P	P	18 18 12.1	-0.6
242A	Grayson baz=209	24.56	25	P	P	18 18 12.8	-0.4
344A	Westbrook Farm baz=213	24.68	28	P	P	18 18 13.6	-0.6
243A	Waterproof	24.70	27	P	P	18 18 13.6	-0.7
	baz=211						
141A	Papa Simpson, baz=207	24.73	23	P	P	18 18 14.2	-0.5
AMTX	Amarillo comp=Z,123nm,1.0s	24.81	5	eP	P	18 18 15.1	-0.4
446A	Poplarville baz=217	24.81	32	P	P	18 18 14.7	-0.8
ANMO	Albuquerque comp=Z,13nm,1.1s,baz=341,slow=13,SNR=18	24.85	356	P	P	18 18 15.9	0.0
ANMO	comp=Z,0.3nm,0.3s,baz=34,slow=12,SNR=2.0			S	S	18 22 45.1	+6.0
ANMO	comp=Z,14µm,18.4s,baz=2.5,slow=35			LR	LR	18 27 09.7	
ANMO	Albuquerque baz=175	24.85	356	P	P	18 18 16.7	+0.7
ANMO	Albuquerque	24.85	356	eP	P	18 18 16.0	0.0
GLA	Glamis baz=154	24.89	338	P	P	18 18 16.9	+0.7
GLA	Glamis	24.89	338	eP	P	18 18 17.3	+1.1
GLA	comp=Z,76nm,1.2s			pmax	pmax		
GLA	Glamis comp=Z,76nm,1.2s	24.89	338	eP	P	18 18 17.3	+1.1
345A	Thompson Farm, baz=215	24.89	30	P	P	18 18 15.2	-0.9
X18A	Snowflake	24.91	349	eP	P	18 18 16.7	+0.1
IKP	In-Ko-Pah, Jac baz=151	25.02	336	P	P	18 18 10.8	+0.6
WMOK	Wichita Mounta baz=192,SNR=6.9	25.05	11	P	P	18 18 16.0	-1.6
WMOK	Wichita Mounta	25.05	11	eP	P	18 18 16.5	-1.1
WMOK	comp=Z,349nm,2.0s			pmax	pmax		
WMOK	Wichita Mounta comp=Z,349nm,2.0s	25.05	11	eP	P	18 18 16.5	-1.1
142A	Monroe baz=209	25.07	25	P	P	18 18 17.4	-0.4
Z40A	Long Farm, Mag baz=206	25.13	22	P	P	18 18 17.6	-0.7
X16A	Lo Mia Camp, P	25.13	346	eP	P	18 18 18.1	-0.4
LCCY	Blossom Villag	25.15	65	eP	P	18 18 20.2	+1.6
SWSC	Sam W. Stewart baz=152	25.16	337	P	P	18 18 19.1	+0.6
447A	Lucedale baz=218	25.19	33	P	P	18 18 17.8	-1.0
244A	Avery, Jackson baz=212	25.19	28	P	P	18 18 18.2	-0.7
346A	Big Creek Wild baz=216	25.24	31	P	P	18 18 18.5	-0.8
BAR	Barrett	25.28	335	eP	P	18 18 22.4	+2.7
Z41A	Richland Creek baz=207,SNR=5.4	25.35	23	P	P	18 18 19.7	-0.6
MONP2	Monument Peak baz=151	25.36	335	P	P	18 18 21.0	+0.4
Y12C	Blythe baz=156	25.41	340	P	P	18 18 21.5	+0.7
Y12C	Blythe	25.41	340	eP	P	18 18 21.2	+0.4
VBMS	Vicksburg baz=213	25.42	28	P	P	18 18 20.1	-0.7
VBMS	Vicksburg	25.42	28	eP	P	18 18 20.6	-0.3
143A	Socs Landing, baz=210	25.43	26	P	P	18 18 20.2	-0.9
W18A	Petrified Fore baz=167,SNR=6.7	25.45	349	P	P	18 18 21.4	+0.1
W18A	Petrified Fore comp=Z,122nm,1.5s	25.45	349	eP	P	18 18 21.6	+0.3
CBCY	The Bluff, Cay	25.46	65	eP	P	18 18 21.2	-0.2
245A	Little AP, Sta baz=214,SNR=7.6	25.55	29	P	P	18 18 21.2	-0.9
WLAR	White Oak Lake	25.62	22	eP	P	18 18 22.3	-0.4
109C	Camp Elliot, M baz=150	25.64	334	P	P	18 18 22.9	0.0
BC3	Big Chuckawall baz=154,SNR=16	25.66	338	P	P	18 18 23.5	+0.2
Z42A	Norrel Spur, H baz=209	25.70	24	P	P	18 18 22.3	-1.2
448A	Bay Minette baz=220	25.72	34	P	P	18 18 22.8	-0.9
347A	Saraland baz=218,SNR=11	25.72	32	P	P	18 18 22.1	-1.6
PDMCI	Parker Dam,Lak baz=157,SNR=13	25.79	341	P	P	18 18 24.7	+0.5
144A	Alexander Plac baz=212	25.80	27	P	P	18 18 23.2	-1.2
Y40A	Okolona baz=205,SNR=5.5	25.85	21	P	P	18 18 23.3	-1.5
246A	Jackson Lee, B baz=216	25.91	30	P	P	18 18 24.2	-1.2
Z43A	Armstrong Fami baz=210	25.94	25	P	P	18 18 24.5	-1.1
449A	Pace baz=221	25.95	35	P	P	18 18 23.7	-2.1
Y41A	Eaglette Beard baz=207	25.98	22	P	P	18 18 24.9	-1.1
IRM	Iron Mountain baz=155,SNR=24	26.00	339	P	P	18 18 26.9	+0.7
XPFO	Piæon Flat	26.00	336	eP	P	18 18 26.2	-0.1
PFO	Pinyon Flats O baz=152,SNR=11	26.01	336	P	P	18 18 27.1	+0.7
PFO	Pinyon Flats O	26.01	336	eP	P	18 18 26.2	-0.2
PFO	comp=Z,176nm,1.7s			pmax	pmax		
PFO	comp=Z,11µm,22.0s			MLR	MLR		
PFO	Pinyon Flats O comp=Z,176nm,1.7s	26.01	336	eP	P	18 18 26.2	-0.2
PFO	comp=Z,11µm,22.0s			LR	LR		
145A	Houston Renfro baz=213	26.01	28	P	P	18 18 24.6	-1.7
X39A	Fountain Ranch baz=203,SNR=25	26.02	19	P	P	18 18 25.2	-1.2
348A	Jackson baz=219	26.07	33	P	P	18 18 24.6	-2.3
WUAZ	Wupatki baz=164	26.17	347	P	P	18 18 28.5	+0.6
WUAZ	Wupatki comp=Z,108nm,1.3s	26.17	347	eP	P	18 18 27.4	-0.4
BELC	Belle Mtn. Jos baz=153,SNR=9.6	26.17	337	P	P	18 18 28.0	+0.1
247A	Quitman baz=217,SNR=9.5	26.20	31	P	P	18 18 25.5	-2.5
MIAR	Mount Ida	26.23	20	PFAKE		18 18 40.0	+12
MIAR	comp=Z,17µm,19.0s			LR	LR		
Y42A	Garnett, Star baz=208	26.26	24	P	P	18 18 27.4	-1.1
MURC	Murrieta baz=150	26.30	335	P	P	18 18 27.7	-1.2
CCAR	Cane Creek	26.34	24	eP	P	18 18 28.9	-0.3
450A	Crestview baz=222	26.34	36	P	P	18 18 27.4	-1.9
Z44A	Pea Ridge, Bel baz=212	26.35	27	P	P	18 18 27.7	-1.6
BRAL	Brewton baz=221	26.35	35	P	P	18 18 27.1	-2.3
BRAL	Brewton comp=Z,835nm,1.9s	26.35	35	eP	P	18 18 29.3	-0.1
BRAL	comp=Z,7µm,19.0s			LR	LR		
SCI2	San Clemente I baz=147	26.36	332	P	P	18 18 27.2	-2.3
NEE2	Needles Airpor baz=156	26.37	340	P	P	18 18 27.7	-1.8
349A	Repton baz=220	26.41	34	P	P	18 18 27.5	-2.4
X40A	Basin Creek Fa baz=206,SNR=12	26.44	21	P	P	18 18 28.3	-1.8
W13A	Hualapai Mount	26.44	342	eP	P	18 18 31.4	+1.0
146A	Union baz=215	26.45	30	P	P	18 18 28.3	-2.0
X41A	Kaden, Bauxite baz=206	26.56	22	P	P	18 18 28.7	-2.6
TUMC	Tumaco	26.60	106	eP	P	18 18 31.6	-0.2
552A	Lynn Haven baz=225	26.63	39	P	P	18 18 27.8	-4.1
CIS	Catalina Islan baz=147	26.66	333	P	P	18 18 31.0	-1.2
Y43A	Makayla and Ka baz=210	26.68	25	P	P	18 18 29.7	-2.5
248A	Dixon Mills baz=218	26.69	32	P	P	18 18 29.6	-2.8
451A	Vernon baz=224	26.70	37	P	P	18 18 29.5	-3.1
GMRC	Granite Mounta baz=154	26.75	339	P	P	18 18 31.8	-1.2
W39A	Magazine baz=203,SNR=6.3	26.76	19	P	P	18 18 30.1	-2.9

Z45A Winona 26.76 28 P P 18 18 29.7 -3.3
baz=213
BBRC Big Bear Solar 26.76 336 P P 18 18 31.6 -1.8
baz=151
GRGC Isla de Gorgon 26.77 103 eP P 18 18 27.6 -5.8
LDFC Landfair 26.82 340 eP P 18 18 35.3 +1.6
comp=Z,222nm,1.4s
TUL1 Leonard 26.84 15 P P 18 18 32.0 -1.8
baz=198
FMP Fort Macarthur 26.86 333 P P 18 18 33.6 -0.4
baz=148
FMP Fort Macarthur 26.86 333 eP P 18 18 32.6 -1.4
FMP ePcP PcP 18 21 57.5 +1.1
147A Livingston 26.87 31 P P 18 18 33.2 -0.8
baz=216,SNR=5.7
UALR University of 26.88 22 eP P 18 18 33.4 -0.7
comp=Z,224nm,1.5s
059Z Ave Maria 26.92 50 P P 18 18 32.6 -2.0
baz=237
249A Camden 26.93 33 P P 18 18 31.7 -2.8
baz=220,SNR=6.0
MHTCO State Highway 26.95 359 eP P 18 18 34.5 -0.4
X42A Stuttgart 26.95 23 P P 18 18 32.0 -2.8
baz=208
T25A Trinidad 26.95 360 P P 18 18 34.4 -0.6
baz=180,SNR=7.5
T25A Trinidad 26.95 360 eP P 18 18 35.0 -0.1
Z46A Louisville 26.96 29 P P 18 18 31.5 -3.4
baz=215
W40A Ferguson Farm, 26.99 20 P P 18 18 34.3 -0.9
baz=205,SNR=12
W40A Ferguson Farm, 26.99 20 eP P 18 18 35.0 -0.1
Y44A Strider, Charl 27.02 26 P P 18 18 33.4 -2.0
baz=211
HEC Hector,Ludlow 27.03 338 P P 18 18 35.3 -0.3
baz=153
BFSC Mount Baldy Ra 27.04 335 P P 18 18 36.0 +0.3
baz=150
BFSC Mount Baldy Ra 27.04 335 eP P 18 18 36.6 +0.8
BFSC ePcP PcP 18 21 59.4 +2.3
SNCC San Nicolas Is 27.05 331 P P 18 18 36.3 +0.6
baz=145
058A Arcadia 27.05 48 P P 18 18 33.1 -2.7
baz=235
MTDJ Mount Denham 27.07 70 eP P 18 18 35.1 -1.0
comp=Z,378nm,1.7s
MTDJ LR LR
comp=Z,8µm,20.0s
957A Wimauma 27.09 47 P P 18 18 33.9 -2.2
baz=234
MWC Mount Wilson 27.20 334 eP P 18 18 36.8 -0.4
MWC Mount Wilson 27.20 334 eP P 18 18 36.8 -0.4
452A Marianna 27.21 38 P P 18 18 34.7 -2.4
baz=224
PASC Pasadena Art C 27.21 334 eP P 18 18 36.6 -0.5
PASC eS S 18 23 15.5 -0.6
148A Greensboro 27.21 32 P P 18 18 35.7 -1.4
baz=218
553A Crawfordville 27.21 40 P P 18 18 35.6 -1.5
baz=227
X43A Marvell 27.22 25 P P 18 18 36.4 -0.7
baz=210
Y45A Yeager Farm, C 27.24 27 P P 18 18 36.5 -0.8
baz=213
U15A North Rim 27.25 346 eP P 18 18 37.6 -0.2
351A Pinckard 27.26 37 P P 18 18 36.4 -1.1
baz=223
W41B Gary Mavity, V 27.27 22 P P 18 18 36.6 -1.0
baz=206,SNR=18
MVCO Mesa Verde 27.30 352 P P 18 18 38.2 0.0
baz=171,SNR=7.5
MVCO Mesa Verde 27.30 352 eP P 18 18 38.0 -0.2
MVCO LR LR
comp=Z,13µm,22.0s
RRX Edison Barstow 27.33 337 P P 18 18 38.3 +0.1
baz=152
DECC Green Verdugo 27.34 334 P P 18 18 38.6 +0.3
baz=148
WHAR Wooly Hollow 27.36 22 eP P 18 18 38.1 -0.3
958A Wauchula 27.39 47 P P 18 18 38.2 -0.6
baz=235
V39A Pettigrew 27.39 19 P P 18 18 37.3 -1.5
baz=203
Z47A Carrollton 27.39 30 P P 18 18 37.5 -1.3
baz=216,SNR=10
250A Grady 27.40 35 P P 18 18 37.8 -1.0
baz=221,SNR=6.1
OTAV Otavalo 27.41 109 P P 18 18 40.2 +0.6
OTAV pmax pmax
comp=Z,454nm,3.0s
OTAV Otavalo 27.41 109 eP P 18 18 40.9 +1.3
comp=Z,141nm,1.4s
OTAV LR LR
comp=Z,31µm,22.0s
OTAV Otavalo 27.41 109 eP P 18 18 40.6 +1.0
TUQ Turquoise Moun 27.42 339 P P 18 18 38.5 -0.7
baz=154
857A Zephyrhills 27.45 46 P P 18 18 38.5 -0.8
baz=233
059A Moore Haven 27.49 49 P P 18 18 36.7 -3.0
baz=236
X44A Crenshaw 27.51 26 P P 18 18 38.0 -1.8
baz=211
655A Horseshoe Beac 27.52 42 P P 18 18 38.5 -1.5
baz=229
BLG Laguna Peak, P 27.54 333 P P 18 18 40.1 0.0
baz=147
Y46A Houston 27.57 28 P P 18 18 39.0 -1.3
baz=214,SNR=16
149A Jones 27.58 33 P P 18 18 38.1 -2.3
baz=219
SDCO Great Sand Dun 27.59 358 P P 18 18 39.6 -1.2
baz=177,SNR=9.9
SDCO Great Sand Dun 27.59 358 eP P 18 18 41.1 +0.3
comp=Z,89nm,1.7s
SDCO LR LR
comp=Z,27µm,21.0s
554A Perry 27.62 41 P P 18 18 37.5 -3.3
baz=228
W42A Bald Knob 27.63 23 P P 18 18 38.5 -2.3
baz=208
GSC Goldstone, Bar 27.63 337 P P 18 18 41.4 +0.4
baz=152
GSC Goldstone, Bar 27.63 337 eP P 18 18 40.5 -0.4
GSC Goldstone, Bar 27.63 337 eP P 18 18 40.5 -0.4
V40A Witts Springs 27.63 20 P P 18 18 39.5 -1.4
baz=205,SNR=8.4
S22A 4UR Ranch, Cre 27.66 355 P P 18 18 39.9 -1.6
baz=174
S22A 4UR Ranch, Cre 27.66 355 eP P 18 18 41.5 0.0
HHAR Hobbs 27.71 18 eP P 18 18 40.2 -1.3
SCZ2 Santa Cruz Isl 27.71 332 P P 18 18 40.5 -1.2
baz=146
EDW2 Edwards Air Fo 27.73 335 P P 18 18 41.8 -0.1
baz=150,SNR=9.0
453A Whigham 27.74 39 P P 18 18 39.6 -2.2
baz=226
CMBC Cumbal 27.74 107 eP P 18 18 42.3 -0.3
X45A UM Field Stati 27.77 27 P P 18 18 40.0 -2.1
baz=212
W43A Forest City 27.78 24 P P 18 18 40.6 -1.6
baz=209
Z48A Northport 27.79 31 P P 18 18 40.8 -1.5
baz=217,SNR=18
352A Blakely 27.81 37 P P 18 18 40.9 -1.6
baz=224
BTPC Burnt Peak 27.81 334 epwP pwP 18 18 51.2 +5.5
LRAL Lakeview Retre 27.81 32 P P 18 18 40.9 -1.6
baz=218
LRAL Lakeview Retre 27.81 32 eP P 18 18 42.0 -0.5
comp=Z,164nm,1.6s
OSI Osito Audit: C 27.82 334 P P 18 18 41.5 -1.1
baz=148
OXF Oxford 27.84 27 P P 18 18 39.9 -2.9
baz=212
OXF Oxford 27.84 27 eP P 18 18 41.7 -1.0
OXF pmax pmax
comp=Z,67nm,1.2s
OXF Oxford 27.84 27 eP P 18 18 41.7 -1.0
comp=Z,67nm,1.2s
V41A Mountainview 27.85 21 P P 18 18 40.9 -2.0
baz=206,SNR=9.0
656A Willston 27.91 43 P P 18 18 40.2 -3.2
baz=231
DWPF Disney Wildern 27.92 47 P P 18 18 39.9 -3.6
baz=234
U39A Green Forest 27.94 19 P P 18 18 40.6 -3.1
baz=203
KNB Kanab 27.94 345 eP P 18 18 44.3 +0.4
KNB Kanab 27.94 345 eP P 18 18 44.3 +0.4
SHOC Shoshone, Teco 27.96 339 P P 18 18 42.1 -1.8
baz=154
757A Oxford 27.97 45 P P 18 18 40.2 -3.7
baz=232
251A Midway 27.97 36 P P 18 18 40.4 -3.6
baz=222,SNR=16
959A Okeechobee 27.99 48 P P 18 18 40.5 -3.7
baz=236
150A Eclectic 28.01 34 P P 18 18 42.1 -2.2
baz=221
858A St. Cloud 28.03 47 P P 18 18 41.6 -3.0
baz=234
LCMT Little Creek M 28.05 344 eP P 18 18 44.9 +0.2
Y47A UCPARC, Winfie 28.07 30 P P 18 18 43.5 -1.3
baz=216,SNR=8.9
454A Quitman 28.07 40 P P 18 18 43.8 -1.0
baz=227
GCUF Volcan Galeras 28.10 107 eP P 18 18 43.6 -2.3
555A McAlpin 28.11 42 P P 18 18 41.8 -3.3
baz=229
060A Indiantown 28.11 50 P P 18 18 42.3 -3.0
baz=237
SBC Santa Barbara 28.12 332 P P 18 18 42.9 -2.3
baz=146
U40A Yellville 28.12 20 P P 18 18 42.0 -3.2
baz=204
LRMC Laurel Mtn Rad 28.12 336 P P 18 18 43.2 -2.2
baz=151
SHPR Sheep Range 28.14 341 eP P 18 18 45.4 -0.2
353A Camilla 28.14 38 P P 18 18 42.4 -3.1
baz=225
V42A Cord 28.15 22 P P 18 18 40.2 -5.3
baz=207
MOTC Monteria, Cord 28.17 90 eP P 18 18 44.9 -1.0
Z49A Columbiana 28.18 33 P P 18 18 44.2 -1.6
baz=216,SNR=15
W44A Shelby Farms P 28.20 26 P P 18 18 43.1 -2.8
baz=211
PV05 Paradox Valley 28.24 352 eP P 18 18 46.4 -0.1
X46A Booneville 28.25 28 P P 18 18 43.1 -3.3
baz=214
YOTC Yotoco, Valle 28.28 100 eP P 18 18 42.9 -4.1
859A Kempfer Cattle 28.28 48 P P 18 18 42.7 -4.1
baz=235
252A Lumpkin 28.29 37 P P 18 18 42.9 -3.9
baz=224
ARVC Arvin 28.30 334 P P 18 18 45.5 -1.3
baz=148
T38A Diamond 28.30 17 P P 18 18 45.2 -1.7
baz=201,SNR=10
SYP Santa Ynez Pea 28.31 332 eP P 18 18 52.7 +5.6
151A Opelika 28.34 35 P P 18 18 44.2 -3.0
baz=222
556A Lake Butler 28.40 43 P P 18 18 43.3 -4.5
baz=230
Y48A Jasper 28.41 31 P P 18 18 44.6 -3.3
baz=217
U41A Viola 28.43 21 P P 18 18 46.6 -1.5
baz=206,SNR=11
V43A Jonesboro 28.46 24 P P 18 18 45.5 -2.7
baz=209
455A Stateville 28.48 41 P P 18 18 44.3 -4.2
baz=228
W45A Hickory Valley 28.48 26 P P 18 18 45.6 -2.8
baz=212
657A Interlachen 28.50 44 P P 18 18 45.5 -3.2
baz=231
PKM Mcpherson Peak 28.53 332 P P 18 18 46.9 -2.2
baz=146
Z50A Ashland 28.55 33 P P 18 18 47.7 -1.4
baz=220,SNR=12
MPMC Manual Prospec 28.56 337 P P 18 18 46.5 -2.9
baz=152,SNR=39
X47A Russelville 28.56 29 P P 18 18 45.7 -3.5
baz=215
T39A Clever 28.57 18 P P 18 18 47.4 -1.8
baz=203,SNR=10
CCUT Cedar City 28.59 345 eP P 18 18 49.8 +0.1
758A Lake Helen 28.59 46 P P 18 18 45.5 -4.0
baz=233
ISA Isabella, Lake 28.61 335 P P 18 18 47.9 -1.8
baz=150,SNR=8.9
ISA Isabella, Lake 28.61 335 eP P 18 18 49.7 +0.1
ISA Isabella, Lake 28.61 335 eP P 18 18 49.7 +0.1
HELC Santa Helena 28.63 96 eP P 18 18 50.5 0.0
HELC Santa Helena 28.63 96 eP P 18 18 50.2 -0.2
PCON Cinco Dias 28.66 104 eP P 18 18 51.6 +0.7
FURC Furnace Creek, 28.68 338 P P 18 18 47.4 -2.8
baz=153
U42A Revenden 28.69 22 P P 18 18 48.9 -1.3
baz=207,SNR=15
253A Americus 28.70 37 P P 18 18 46.8 -3.6
baz=224
V44A Blytheville 28.75 25 P P 18 18 46.2 -4.6
baz=210
Y49A Blount Mountai 28.76 32 P P 18 18 49.4 -1.6
baz=218,SNR=8.4
DAC Darwin (Calif) 28.79 337 eP P 18 18 51.4 0.0
DAC Darwin (Calif) 28.79 337 eP P 18 18 51.4 0.0
Q24A Divide 28.79 358 P P 18 18 47.3 -4.2
baz=178
Q24A Divide 28.79 358 eP P 18 18 50.9 -0.6
658A Bunnell 28.82 45 P P 18 18 47.0 -4.6
baz=233
W46A Michie 28.82 28 P P 18 18 48.5 -3.0
baz=214
PLAL Pickwick Lake 28.84 28 eP P 18 18 50.4 -1.3
KSCO Kaye Shedlock' 28.86 3 P P 18 18 49.2 -2.8
baz=183
KSCO Kaye Shedlock' 28.86 3 eP P 18 18 50.6 -1.3
comp=Z,262nm,1.7s
557A Orange Park 28.86 43 P P 18 18 46.7 -5.2
baz=231
CBKS Cedar Bluff 28.90 7 P P 18 18 48.1 -4.2
baz=189
CBKS Cedar Bluff 28.90 7 eP P 18 18 51.9 -0.4
CBKS pmax pmax
comp=Z,188nm,1.5s
CBKS MLR MLR
comp=Z,45µm,20.0s
CBKS Cedar Bluff 28.90 7 eP P 18 18 51.9 -0.4
comp=Z,188nm,1.5s
CBKS LR LR
comp=Z,45µm,20.0s
X48A Hartselle 28.91 30 P P 18 18 47.4 -4.8
baz=217
T40A Mansfield 28.95 20 P P 18 18 48.2 -4.5
baz=204
WLHM Little Horse 28.96 336 eP P 18 18 52.1 -1.0
S38A Stockton 28.97 17 P P 18 18 47.7 -5.1
baz=201
SMMC Simmler 28.97 333 P P 18 18 50.1 -2.8
baz=146
355A Pearson 28.99 40 P P 18 18 47.9 -5.1
baz=228
VES Vestal, Richgr 29.01 334 P P 18 18 51.5 -1.7
baz=149
U43A Rector 29.02 23 P P 18 18 50.0 -3.2
baz=209
RREF El Recreo 29.05 98 eP P 18 18 54.0 -0.5
V45A Humboldt 29.07 26 P P 18 18 49.7 -4.0
baz=212
SMCO Snowmass 29.10 356 eP P 18 18 54.4 0.0
ZARC Zaragoza, Cauc 29.10 93 eP P 18 18 52.2 -2.0
T41A Mountain View 29.11 21 P P 18 18 51.6 -2.5
baz=206,SNR=14
254A Abbeville 29.13 39 P P 18 18 49.8 -4.4
baz=226
Y50A Piedmont 29.14 33 P P 18 18 50.8 -3.6
baz=220
S39A Bolivar 29.20 18 P P 18 18 52.1 -2.7
baz=202
W47A Westpoint 29.29 29 P P 18 18 52.9 -2.7
baz=215,SNR=7.8
153A Fort Valley 29.29 37 P P 18 18 51.4 -4.3
baz=224
X49A Woodville 29.32 31 P P 18 18 53.3 -2.6
baz=218,SNR=9.3
GRAC Grapevine Rang 29.34 338 P P 18 18 52.6 -3.6
baz=153
T42A Van Buren 29.34 22 P P 18 18 53.3 -2.8
baz=207,SNR=11
457A Yulee 29.36 43 P P 18 18 51.8 -4.5
baz=230
S40A Lebanon 29.37 19 P P 18 18 53.2 -3.1
baz=204
Q16A Castle Valley 29.40 349 eP P 18 18 57.0 +0.1
U44B Burton Farm, H 29.42 25 P P 18 18 51.1 -5.7
baz=211
U44A Portageville 29.42 24 P P 18 18 51.5 -5.3
baz=210
PAGB Antelope Grade 29.43 333 eP P 18 18 58.4 +1.5
356A Blackshear 29.44 41 P P 18 18 51.9 -5.2
baz=229
R38A Fenwick Farm, 29.49 17 P P 18 18 54.8 -2.5
baz=201,SNR=8.9
V46A Holladay 29.50 27 P P 18 18 53.6 -3.8
baz=214,SNR=12
W48A Pulaski 29.51 30 P P 18 18 54.6 -3.0
baz=216,SNR=9.5
FLOC Florencia 29.59 105 eP P 18 18 57.5 -1.1
S41A Jillco Farms, 29.61 20 P P 18 18 56.0 -2.4
baz=205,SNR=9.5
X50A Fort Payne 29.62 32 P P 18 18 57.0 -1.7
baz=219,SNR=13
PTBC PUERTO BERRIO, 29.63 94 eP P 18 18 57.1 -1.8
ISCO Idaho Springs 29.64 358 P P 18 18 57.9 -1.1
baz=177
ISCO Idaho Springs 29.64 358 eP P 18 18 58.5 -0.6
ISCO pmax pmax
comp=Z,82nm,1.9s
ISCO MLR MLR
comp=Z,28µm,19.0s
ISCO Idaho Springs 29.64 358 eP P 18 18 58.5 -0.6
comp=Z,82nm,1.9s
ISCO LR LR
comp=Z,28µm,19.0s
T43A Greenville 29.69 23 P P 18 18 57.0 -2.2
baz=208
KSU1 Kansas State U 29.70 12 P P 18 18 56.7 -2.5
baz=195
KSU1 Kansas State U 29.70 12 eP P 18 18 58.7 -0.6
KSU1 LR LR
comp=Z,19µm,22.0s
154A Montrose 29.70 38 P P 18 18 54.6 -4.7
baz=226
GTBY Guantanamo Bay 29.71 67 eP P 18 19 00.3 +0.8
GTBY LR LR
comp=Z,6µm,20.0s
TIN Tinemaha, Big 29.71 337 P P 18 18 55.6 -4.0
baz=151
PRAC Prado 29.75 100 eP P 18 18 59.8 -0.3
TMUT Trail Mountain 29.78 349 eP P 18 19 00.2 -0.1
V47A Nunnelly 29.79 28 P P 18 18 57.7 -2.4
baz=214,SNR=7.2
R39A Chumby, Stover 29.86 18 P P 18 18 56.9 -3.8
baz=202,SNR=8.1
P17A Butcher Ranch, 29.86 350 eP P 18 19 01.1 +0.2
WVT Waverly 29.90 27 P P 18 18 58.0 -3.0
baz=214
WVT Waverly 29.90 27 eP P 18 18 59.4 -1.6
WVT Waverly 29.90 27 eP P 18 18 59.4 -1.6
U46A Springville 29.94 27 P P 18 18 57.4 -4.0
baz=213
R11A Troy Canyon, C 29.96 342 P P 18 18 58.4 -3.4
baz=157
R11A Troy Canyon, C 29.96 342 eP P 18 19 02.9 +1.1
T44A Benton 29.96 24 P P 18 18 59.1 -2.5
baz=210
Q37A Longview Farm, 29.98 15 P P 18 18 59.9 -1.9
baz=199
256A Glennville 30.02 40 P P 18 18 58.8 -3.4
baz=228
V48A Smith Brothers 30.05 29 P P 18 18 59.3 -3.1
baz=216
GOGA Godfrey 30.05 36 P P 18 19 00.1 -2.3
baz=224
GOGA Godfrey 30.05 36 eP P 18 19 01.3 -1.1
GOGA pmax pmax
comp=Z,109nm,1.6s
GOGA MLR MLR
comp=Z,8µm,22.0s
GOGA Godfrey 30.05 36 eP P 18 19 01.3 -1.1
comp=Z,109nm,1.6s
GOGA LR LR
comp=Z,8µm,22.0s
ROSC El Rosal 30.06 98 P P 18 19 04.5 +1.3
comp=Z,2.8nm,0.4s,baz=291,slow=16,SNR=7.8
ROSC S S 18 24 09.0 +6.9
comp=Z,4.2nm,0.4s,baz=140,slow=22,SNR=2.1
ROSC LR LR 18 28 13.6
comp=Z,19µm,21.6s,baz=304,slow=31
ROSC El Rosal 30.06 98 eP P 18 19 04.5 +1.3
R40A Maddies Statio 30.08 19 P P 18 18 58.3 -4.3
baz=204,SNR=5.8
PMPB Monarch Peak 30.08 333 eP P 18 19 03.4 +0.7
S42A Caledonia 30.11 21 P P 18 18 57.7 -5.2
baz=207
O20A White River Ci 30.16 354 eP P 18 19 04.4 +0.8
S43A Fulton Ridge, 30.20 23 P P 18 18 57.7 -5.9
baz=208
BRRC Barranca, Sant 30.28 93 eP P 18 19 05.5 +0.9
CODC Agust'n Codaz 30.28 88 eP P 18 19 03.5 -1.1
Q38A Cooks Store, C 30.29 16 P P 18 19 02.4 -2.0
baz=201,SNR=7.1
T45A Paducah 30.29 25 P P 18 19 01.9 -2.6
baz=211
R41A Rosebud 30.38 20 P P 18 19 03.6 -1.7
baz=205,SNR=10
U47A Clarksville 30.40 28 P P 18 19 02.8 -2.7
baz=214
FVM French Village 30.43 22 eP P 18 19 04.5 -1.2
FVM pmax pmax
comp=Z,919nm,2.0s
FVM French Village 30.43 22 eP P 18 19 04.5 -1.2
comp=Z,919nm,2.0s
MLAC Mammoth, Mammo 30.45 337 P P 18 19 03.5 -2.7
baz=151
O33A Hebron 30.46 10 P P 18 19 02.5 -3.5
baz=193
MDPB Devils Postpil 30.55 336 eP P 18 19 06.5 -0.6
MPU Maple Canyon 30.55 349 eP P 18 19 07.2 +0.2
comp=Z,353nm,1.4s
Q39A Willow Grove F 30.55 17 P P 18 19 04.1 -2.7
baz=202
R42A Luebbering 30.56 21 P P 18 19 03.8 -3.1
baz=206
NLU North Lily Min 30.58 348 eP P 18 19 06.9 -0.4
S44A Carbondale 30.62 24 P P 18 19 02.5 -4.9
baz=210
T46A Princeton 30.63 26 P P 18 19 02.5 -5.0
baz=213
SIUC Southern Illin 30.66 24 eP P 18 19 07.0 -0.7
comp=Z,91nm,1.2s
CHIC Chingaza 30.68 98 eP P 18 19 09.5 +0.8
P37A Lathrop 30.68 15 P P 18 19 03.3 -4.7
baz=199
O34A Beatrice 30.73 11 P P 18 19 06.7 -1.6
baz=194,SNR=19
N23A Red Feather La 30.74 357 P P 18 19 07.1 -1.7
baz=177
N23A Red Feather La 30.74 357 eP P 18 19 08.2 -0.6
Q40A Laux Farm, Aux 30.78 19 P P 18 19 06.5 -2.3
baz=204,SNR=9.8
U48A Cassie Pea, Po 30.81 28 P P 18 19 06.1 -2.9
baz=216,SNR=7.9
OGNE Ogallala 30.82 3 P P 18 19 06.8 -2.4
baz=184
OGNE Ogallala 30.82 3 eP P 18 19 08.9 -0.3
comp=Z,558nm,1.8s
OGNE LR LR
comp=Z,20µm,22.0s
ATAH Atahualpa 30.86 123 P P 18 19 12.5 +2.3
comp=Z,11nm,0.8s,baz=323,slow=8.8,SNR=19
BARC Barichara 30.87 94 eP P 18 19 08.2 -2.0
R43A Red Bud 30.87 22 P P 18 19 07.5 -2.1
baz=208
S45A Carrier Mills 30.88 25 P P 18 19 06.8 -2.9
baz=211
P38A Dawn 30.93 16 P P 18 19 07.2 -3.0
baz=201
T47A Sharon Grove 30.94 27 P P 18 19 07.9 -2.3
baz=214
NVAR Mina Array Bea 30.95 338 LR LR 18 29 37.0
comp=Z,25µm,21.1s,baz=214,slow=33
O35A Humboldt 30.96 12 P P 18 19 07.6 -2.9
baz=196
DUG Dugway, Tooele 30.97 347 P P 18 19 08.2 -2.4
baz=163,SNR=8.2
DUG Dugway, Tooele 30.97 347 eP P 18 19 12.0 +1.4
DUG pmax pmax

comp=Z,63nm,1.4s
DUG MLR MLR

comp=Z,18µm,20.0s
DUG Dugway, Tooele 30.97 347 eP P 18 19 12.0 +1.4
comp=Z,63nm,1.4s
DUG LR LR

comp=Z,18µm,20.0s
Q41A Truxton 31.02 20 P P 18 19 08.5 -2.4
baz=205,SNR=11
P39B Salisbury 31.03 17 P P 18 19 08.4 -2.5
baz=202,SNR=9.9
RUSC La Rusia 31.08 95 eP P 18 19 13.0 +0.7
RUSC La Rusia 31.08 95 eP P 18 19 11.8 -0.4
JLU Jordanelle 31.09 349 eP P 18 19 13.0 +1.2
N33A J Bar K, Exete 31.13 10 P P 18 19 10.4 -1.4
baz=193
R44A Waltonville 31.17 23 P P 18 19 10.9 -1.4
baz=210,SNR=9.2
Q42A Golden Eagle 31.22 21 P P 18 19 10.9 -1.7
baz=206
CTU Camp Tracy 31.23 349 eP P 18 19 14.2 +1.2
PAMC Pamplona, Colo 31.24 92 eP P 18 19 13.7 0.0
S46A Don Dixon Farm 31.25 26 P P 18 19 10.0 -2.9
baz=212
P40A Paris 31.28 18 P P 18 19 11.6 -1.5
baz=203,SNR=19
O37A Wolven Farm, M 31.28 15 P P 18 19 11.3 -1.9
baz=199
HODGE Hodges 31.34 37 eP P 18 19 12.4 -1.4
T48A Bowling Green 31.36 28 P P 18 19 11.8 -2.2
baz=215,SNR=12
N34A Lincoln 31.40 11 P P 18 19 12.8 -1.5
baz=194
O38A Galt 31.41 16 P P 18 19 11.8 -2.6
baz=200
CMB Columbia Colle 31.42 335 eP P 18 19 14.2 -0.4
CMB Columbia Colle 31.42 335 eP P 18 19 14.2 -0.4
KVN Kaiserville 31.43 339 eP P 18 19 14.7 -0.1
KVN Kaiserville 31.43 339 eP P 18 19 14.7 -0.1
WAKR Walker 31.45 337 eP P 18 19 14.8 -0.2
BG3 Lake Jocassee 31.50 35 eP P 18 19 14.7 -0.5
USIN University of 31.51 25 eP P 18 19 14.5 -0.7
comp=Z,402nm,1.6s
RDG13 Poverty Ridge 31.51 333 eP P 18 19 16.3 +0.9
R45A Skylar, Fairfi 31.53 24 P P 18 19 12.9 -2.5
baz=211
TKL Tuckaleechee C 31.53 33 P P 18 19 14.8 -0.7
comp=Z,21nm,1.0s,baz=209,slow=6.1,SNR=10
TKL Tuckaleechee C 31.53 33 eP P 18 19 14.4 -1.1
TKL Tuckaleechee C 31.53 33 eP P 18 19 14.4 -1.1
Q43A New Douglas 31.54 22 P P 18 19 13.7 -1.8
baz=208
N35A Tabor 31.59 12 P P 18 19 13.8 -2.2
baz=196
BGNE Belgrade 31.67 9 P P 18 19 15.3 -1.4
baz=191
N36A Muff Farm, Cla 31.70 13 P P 18 19 15.0 -1.9
baz=197
P41A Barry, Barry 31.72 19 P P 18 19 14.0 -3.1
baz=205
Q44A Meyer Farm, Va 31.77 23 P P 18 19 12.9 -4.5
baz=209,SNR=11
R46A Gibon Southern 31.78 25 P P 18 19 14.0 -3.6
baz=212
O39A Kirksville 31.80 17 P P 18 19 14.5 -3.3
baz=202,SNR=9.1
N37A Lee Faris, Mou 31.82 14 P P 18 19 15.7 -2.2
baz=199
NHSC New Hope 31.85 40 P P 18 19 15.9 -2.4
baz=229
NHSC New Hope 31.85 40 eP P 18 19 18.0 -0.3
NHSC LR LR
comp=Z,9µm,20.0s
O40A La Belle 31.87 18 P P 18 19 16.6 -1.8
baz=203,SNR=13
P42A Winchester 31.89 20 P P 18 19 15.8 -2.8
baz=206
S48A Wiedeman Farm, 31.96 28 P P 18 19 16.6 -2.7
baz=215
OLIL Olney 31.98 24 eP P 18 19 18.7 -0.6
M33A Taylor Creek F 31.98 10 P P 18 19 17.3 -2.1
baz=193
HWUT Hardware Ranch 32.08 350 eP P 18 19 21.6 +1.2
HWUT LR LR
comp=Z,10µm,21.0s
Q45A Warren Harvey, 32.09 24 P P 18 19 18.8 -1.5
baz=211,SNR=6.8
N38A Joes South For 32.10 16 P P 18 19 18.5 -1.9
baz=200
O41A Passleys Farm, 32.18 19 P P 18 19 19.5 -1.6
baz=205,SNR=12
RUBR Rubicon Trail 32.20 336 eP P 18 19 22.1 +0.5
VCNR Virginia City 32.21 337 eP P 18 19 22.6 +1.0
P43A Skaggs, Pawnee 32.23 22 P P 18 19 18.7 -2.8
baz=208
R47A Wooly Knot Far 32.27 27 P P 18 19 18.9 -3.1
baz=214,SNR=12
L32A Elgin 32.28 9 P P 18 19 20.9 -1.1
baz=191
TZTN Tazewell 32.32 32 P P 18 19 20.8 -1.6
baz=220,SNR=5.7
TZTN Tazewell 32.32 32 eP P 18 19 21.4 -1.0
WCI Wyandotte Cave 32.32 27 P P 18 19 19.1 -3.3
baz=214
WCI Wyandotte Cave 32.32 27 eP P 18 19 21.4 -1.0
WCI Wyandotte Cave 32.32 27 eP P 18 19 21.4 -1.0
M36A Felix, Anita 32.34 13 P P 18 19 21.0 -1.5
baz=197
N39A Derby Farms, D 32.38 17 P P 18 19 20.6 -2.3
baz=202,SNR=13
P44A Sand Creek, Wi 32.41 23 P P 18 19 21.0 -2.2
baz=209
AFDM Forest Hills D 32.44 335 eP P 18 19 23.6 +0.1
M37A Trindle Farm, 32.47 14 P P 18 19 22.1 -1.5
baz=199
L34A Svendsen Farm, 32.51 11 P P 18 19 21.2 -2.8
baz=194
KMSC Kings Mountain 32.52 36 P P 18 19 20.9 -3.3
baz=225
O42A Bath 32.52 20 P P 18 19 21.3 -2.7
baz=206
K22A Casper 32.52 357 P P 18 19 22.4 -1.9
baz=176
K22A Casper 32.52 357 eP P 18 19 24.9 +0.6
Q46A CEJHS Indians, 32.53 25 P P 18 19 22.0 -2.2
baz=212
L33A Hoskins 32.55 10 P P 18 19 22.2 -2.1
baz=193
N40A Mertquake, Sal 32.66 18 P P 18 19 21.6 -3.7
baz=203
M38A Pleasantville 32.70 15 P P 18 19 23.2 -2.5
baz=200,SNR=11
N41A Harden Midland 32.73 19 P P 18 19 23.3 -2.6
baz=205,SNR=8.4
K31A O'Neill 32.78 7 P P 18 19 23.6 -2.7
baz=190
P45A Graceland, Par 32.80 24 P P 18 19 23.0 -3.6
baz=211
Q47A Bedord North L 32.85 26 P P 18 19 23.0 -4.0
baz=214
O43A Sugar Creek Fa 32.87 21 P P 18 19 24.4 -2.8
baz=208
BW06 Boulder Array 32.91 353 P P 18 19 24.1 -3.7
baz=170
BW06 Boulder Array 32.91 353 PFAKE 18 19 40.0 +12
BW06 LR LR
comp=Z,11µm,21.0s
PD31 Pinedale Array 32.91 353 eP P 18 19 27.4 -0.4
PD31 ePcP PcP 18 22 12.4 +0.2
PDAR Pinedale Array 32.91 353 P P 18 19 27.2 -0.6
comp=Z,4.7nm,0.8s,baz=168,slow=8.8,SNR=21
PDAR PcP PcP 18 22 12.4 +0.2
comp=Z,1.0nm,0.6s,baz=152,slow=4.1,SNR=3.8
PDAR LR LR 18 31 37.2
comp=Z,8µm,21.4s,baz=189,slow=34
K32A Verdigre 32.92 8 P P 18 19 23.1 -4.5
baz=191
BEKR Beckworth 32.98 337 eP P 18 19 28.4 0.0
L36A Harm Buss Farm 32.99 13 P P 18 19 25.0 -3.2
baz=197
BLO Bloomington 33.00 26 eP P 18 19 27.7 -0.6
BLO Bloomington 33.00 26 eP P 18 19 27.7 -0.6
SDDR Presa de Saban 33.01 71 eP P 18 19 30.0 +1.2
K33A Hardington 33.02 10 P P 18 19 25.0 -3.5
baz=193
M39A Webster 33.03 17 P P 18 19 24.9 -3.7
baz=202
P46A Rosedale 33.09 24 P P 18 19 28.0 -1.1
baz=212,SNR=5.3
N42A Yates City 33.10 20 P P 18 19 26.8 -2.4
baz=206,SNR=6.6
HDIL Hopedale 33.12 21 P P 18 19 26.9 -2.4
baz=208,SNR=14
HDIL Hopedale 33.12 21 PFAKE 18 19 40.0 +11
HDIL LR LR
comp=Z,25µm,21.0s
SDV Santo Domingo 33.12 89 P P 18 19 29.9 +0.1
comp=Z,29nm,1.0s,baz=260,slow=6.1,SNR=21
SDV LR LR 18 31 25.3
comp=Z,15µm,20.3s,baz=274,slow=34
AHID Auburn Hatcher 33.13 351 eP P 18 19 29.3 -0.4
AHID LR LR
comp=Z,13µm,22.0s
SCIA State Center 33.15 15 P P 18 19 26.0 -3.6
baz=200
SCIA State Center 33.15 15 PFAKE 18 19 40.0 +10
SCIA LR LR
comp=Z,24µm,20.0s
M40A Post Highland 33.16 18 P P 18 19 26.3 -3.4
baz=203
ORV Oroville 33.17 335 eP P 18 19 30.4 +0.6
ORV Oroville 33.17 335 eP P 18 19 30.4 +0.6
L37A Phoenix Point, 33.22 14 P P 18 19 24.9 -5.3
baz=199
P47A Martinsville 33.38 26 P P 18 19 29.0 -2.6
baz=213
HOPS Hopland Field 33.39 333 eP P 18 19 31.5 -0.2
O45A Potomac 33.43 23 P P 18 19 29.5 -2.5
baz=210
M41A Milan 33.43 19 P P 18 19 29.3 -2.7
baz=205
L38A Oak Wood Farm, 33.44 15 P P 18 19 29.9 -2.3
baz=200
J31A Geddes 33.44 7 P P 18 19 29.8 -2.4
baz=190
K35A Storm Lake 33.46 12 P P 18 19 30.2 -2.2
baz=196
N43A Stutzman Famil 33.50 21 P P 18 19 30.4 -2.2
baz=207,SNR=8.6
K36A Gilmore City 33.55 13 P P 18 19 30.2 -2.9
baz=197
J32A Parkston 33.64 8 P P 18 19 31.8 -2.1
baz=191
REDW Red Top Meadow 33.67 351 eP P 18 19 33.5 -0.9
L39A Vinton 33.68 16 P P 18 19 31.7 -2.5
baz=202,SNR=8.5
GRTK Grand Turk 33.71 66 PFAKE 18 19 50.0 +15
GRTK LR LR
comp=Z,7µm,19.0s
J33A Davis 33.72 10 P P 18 19 31.4 -3.1
baz=193
N44A Piper City 33.75 22 P P 18 19 29.2 -5.6
baz=209
M42A Sheffield 33.76 20 P P 18 19 30.8 -4.1
baz=206
SFIN Lafayette 33.79 24 P P 18 19 32.1 -3.0
baz=211,SNR=5.6
SFIN Lafayette 33.79 24 eP P 18 19 34.6 -0.5
TPAW Teton Pass 33.81 351 eP P 18 19 35.7 0.0
L40A Anamosa 33.85 17 P P 18 19 31.7 -4.0
baz=203,SNR=7.4
K37A Belmond 33.86 14 P P 18 19 33.3 -2.5
baz=199,SNR=5.7
J34A George 33.86 11 P P 18 19 34.7 -1.1
baz=195
LOHW Long Hollow 33.88 352 eP P 18 19 36.6 +0.4
O03D Paynes Creek 33.92 336 P P 18 19 34.7 -1.8
baz=148,SNR=7.4
RSSD Black Hills 33.93 0 P P 18 19 35.9 -0.7
baz=180
RSSD Black Hills 33.93 0 eP P 18 19 36.4 -0.2
RSSD Black Hills 33.93 0 eP P 18 19 36.4 -0.2
K38A Parkersburg 33.96 15 P P 18 19 33.4 -3.3
baz=200
FXWY Fox Creek 33.97 351 eP P 18 19 36.4 -0.6
M43A Waltham Townsh 34.01 21 P P 18 19 35.0 -2.1
baz=207
N45A Kentland 34.03 23 P P 18 19 35.8 -1.5
baz=210
MOOW Moose Ponds 34.04 352 eP P 18 19 38.4 +0.8
O47A Sheridan 34.04 25 P P 18 19 35.3 -2.1
baz=213,SNR=7.9
L41A Preston 34.08 18 P P 18 19 35.3 -2.4
baz=204
J35A Milford 34.09 12 P P 18 19 35.2 -2.5
baz=196
NCAT North Carolina 34.09 37 eP P 18 19 36.7 -1.1
ECSD EROS Data Cent 34.18 10 P P 18 19 37.0 -1.6
baz=193,SNR=16
ECSD EROS Data Cent 34.18 10 eP P 18 19 37.4 -1.2
ECSD LR LR
comp=Z,30µm,19.0s
I31A Royce, Wessing 34.19 7 P P 18 19 33.9 -4.8
baz=190
IMW Indian Meadow 34.21 351 eP P 18 19 40.4 +1.2
J36A Seneca 1, Swea 34.23 13 P P 18 19 35.8 -3.2
baz=197
K39A Oelwein 34.25 16 P P 18 19 36.4 -2.8
baz=202,SNR=8.6
L42A Oliver, Polo 34.28 19 P P 18 19 36.0 -3.4
baz=206
M44A Midewin, Midew 34.30 22 P P 18 19 37.8 -1.8
baz=209
I32A Karley and Nic 34.34 9 P P 18 19 38.5 -1.4
baz=192
N46A Monticello 34.37 24 P P 18 19 39.0 -1.2
baz=211
J37A Redenius Farm, 34.39 14 P P 18 19 38.4 -2.0
baz=199,SNR=8.3
K40A Colesburg 34.46 17 P P 18 19 37.9 -3.0
baz=203,SNR=6.2
I33A Coleman 34.46 9 P P 18 19 39.9 -1.1
baz=193
WDC Whiskeytown Da 34.47 335 eP P 18 19 40.3 -0.8
WDC Whiskeytown Da 34.47 335 eP P 18 19 40.2 -0.8
BLA Blacksburg 34.51 35 P P 18 19 37.8 -3.7
baz=224,SNR=12
BLA Blacksburg 34.51 35 eP P 18 19 40.6 -0.9
BLA MLR MLR
comp=Z,9µm,19.0s
BLA Blacksburg 34.51 35 eP P 18 19 40.6 -0.9
BLA LR LR
comp=Z,9µm,19.0s
HLID Hailey 34.54 347 P P 18 19 40.3 -1.5
baz=162,SNR=15
HLID Hailey 34.54 347 eP P 18 19 42.0 +0.1
HLID LR LR
comp=Z,13µm,20.0s
SUSD Miller 34.55 7 P P 18 19 40.4 -1.3
baz=189
YPP Pitchstone Pla 34.56 352 eP P 18 19 41.9 -0.2
M45A Boilermakers S 34.59 23 P P 18 19 40.3 -1.8
baz=210
I35A Creekview Farm 34.60 12 P P 18 19 40.0 -2.2
baz=196
I34A Hadley 34.61 11 P P 18 19 39.8 -2.5
baz=194
K41A Shullsburg 34.62 18 P P 18 19 40.7 -1.7
baz=204
WVOR Wild Horse Val 34.64 341 eP P 18 19 43.0 +0.3
WVOR Wild Horse Val 34.64 341 eP P 18 19 43.0 +0.3
H31A Wolsey 34.64 7 P P 18 19 39.8 -2.7
baz=190
H17A Grant Village 34.65 352 P P 18 19 42.3 -0.6
baz=169
H17A Grant Village 34.65 352 eP P 18 19 43.0 +0.1
J38A Wael Dairy, R 34.67 15 P P 18 19 41.9 -0.9
baz=200
KMRM Mail Ridge 34.67 333 eP P 18 19 42.5 -0.5
CNNC Cliffs of the 34.67 40 P P 18 19 40.5 -2.4
baz=230
CNNC Cliffs of the 34.67 40 PFAKE 18 19 50.0 +7.1
CNNC LR LR
comp=Z,8µm,19.0s
MOD Modoc Plateau 34.73 339 eP P 18 19 45.1 +1.6
MFID Camas Ranch 34.73 345 eP P 18 19 44.5 +1.0
YFT Old Faithful 34.74 352 eP P 18 19 44.0 +0.3
L43A Garden Prairie 34.75 20 P P 18 19 40.7 -2.8
baz=207
VWCC Virginia Weste 34.78 35 eP P 18 19 41.4 -2.4
LKWY Lake 34.79 352 PFAKE 18 20 00.0 +16
LKWY LR LR
comp=Z,5µm,21.0s
H32A Carlson Farm, 34.81 8 P P 18 19 42.2 -1.8
baz=192
J39A Decorah 34.88 16 P P 18 19 42.4 -2.3
baz=202
NNA Nana 34.91 128 P P 18 19 45.0 -0.2
comp=Z,3.0nm,0.3s,baz=292,slow=13,SNR=4.9
NNA Nana 34.91 128 PFAKE 18 20 00.0 +15
NNA LR LR
comp=Z,4µm,19.0s
JFWS Jewell Farm 34.92 18 P P 18 19 41.9 -3.1
baz=204
JFWS Jewell Farm 34.92 18 PFAKE 18 20 00.0 +15
JFWS LR LR
comp=Z,16µm,19.0s
M46A Old House Fiel 34.96 24 P P 18 19 43.1 -2.2
baz=212
I36A Fitzsimmons Fa 34.96 13 P P 18 19 40.4 -4.9
baz=198
YMR Madison River 34.97 352 eP P 18 19 47.6 +1.9
L44A Lake County Fo 35.03 21 P P 18 19 42.1 -3.8
baz=209
YHH Holmes Hill 35.07 352 eP P 18 19 48.2 +1.6
K42A Prairie Point, 35.08 19 P P 18 19 42.6 -3.8
baz=206
H33A Prehn Over Nor 35.09 9 P P 18 19 43.2 -3.1
baz=193
YHB Horse Butte 35.09 351 eP P 18 19 47.3 +0.7
I37A Lemond, Waseca 35.10 14 P P 18 19 44.0 -2.4
baz=198,SNR=7.9
M04C Macdoel 35.20 337 P P 18 19 44.9 -2.6
baz=149
RLMT Red Lodge 35.20 354 P P 18 19 44.5 -3.1
baz=171,SNR=8.4
RLMT Red Lodge 35.20 354 eP P 18 19 47.3 -0.4
RLMT LR LR
comp=Z,11µm,21.0s
J40A Soldiers Grove 35.21 17 P P 18 19 44.8 -2.7
baz=203
H34A Spellman Lake, 35.23 10 P P 18 19 44.5 -3.1
baz=194
M02C Callahan 35.27 335 P P 18 19 46.6 -1.5
baz=147
K43A Burlington 35.35 20 P P 18 19 46.2 -2.4
baz=208
I38A Scanlan Farm, 35.38 15 P P 18 19 46.4 -2.5
baz=200,SNR=9.0
J41A Loganville 35.40 18 P P 18 19 46.5 -2.6
baz=204,SNR=10
G31A Conde 35.41 7 P P 18 19 46.8 -2.4
baz=190
I39A Houston 35.42 16 P P 18 19 47.0 -2.3
baz=202,SNR=12
MCMT McKenzie Canyo 35.43 349 eP P 18 19 50.5 +0.9
H35A Sunnyside Ranc 35.44 12 P P 18 19 47.6 -1.8
baz=196
ACSO Alum Creek Sta 35.45 29 P P 18 19 46.5 -3.1
baz=218
ACSO Alum Creek Sta 35.45 29 eP P 18 19 47.8 -1.9
ACSO LR LR
comp=Z,5µm,19.0s
YBH Yreka Blue Hor 35.50 336 P P 18 19 49.3 -0.8
comp=Z,7.9nm,1.1s,baz=196,slow=5.2,SNR=6.7
YBH Yreka Blue Hor 35.50 336 eP P 18 19 51.3 +1.2
YBH Yreka Blue Hor 35.50 336 eP P 18 19 51.3 +1.2
H36A Jessenland, He 35.51 13 P P 18 19 48.9 -1.2
baz=198
G32A Webster 35.53 8 P P 18 19 47.5 -2.8
baz=191
G33A Ortonville 35.63 9 P P 18 19 48.3 -2.8
baz=193
J42A Columbus 35.63 19 P P 18 19 48.0 -3.1
baz=206,SNR=12
I40A Norwalk 35.70 17 P P 18 19 48.4 -3.3
baz=203,SNR=5.7
H37A Dierke Farm, C 35.74 14 P P 18 19 49.1 -2.9
baz=199
G34A Benson 35.82 10 P P 18 19 49.5 -3.1
baz=194
K04D Chiloquin, OR 35.89 338 P P 18 19 51.5 -2.0
baz=150
GCMT Greycliff 35.91 353 eP P 18 19 53.2 -0.4
J43A Natural Harves 35.92 20 P P 18 19 50.8 -2.8
baz=207
BOZ Bozeman (W) 35.98 351 P P 18 19 52.4 -1.8
baz=168
BOZ Bozeman (W) 35.98 351 PFAKE 18 20 10.0 +16
BOZ LR LR
comp=Z,8µm,21.0s
H38A Maiden Rock 35.99 15 P P 18 19 51.4 -2.7
baz=200,SNR=11
G35A Watkins 36.01 12 P P 18 19 50.8 -3.5
baz=196
F31A Hecla 36.03 7 P P 18 19 51.8 -2.7
baz=190
I41A Arkdale 36.07 18 P P 18 19 52.9 -2.0
baz=204
G36A St. Michael 36.18 13 P P 18 19 53.5 -2.2
baz=198
F32A Veblen 36.19 8 P P 18 19 52.1 -3.8
baz=192
I42A Draeger Farm, 36.22 19 P P 18 19 53.7 -2.4
baz=206,SNR=15
I42A Draeger Farm, 36.22 19 eP P 18 19 54.6 -1.5
L02D Cave Junction, 36.22 335 P P 18 19 56.4 +0.2
baz=146
H39A Augusta 36.25 16 P P 18 19 53.1 -3.2
baz=202,SNR=9.1
J05D Fort Rock, OR 36.27 339 P P 18 19 56.8 0.0
baz=151
F33A 5 Mile Ranch, 36.29 9 P P 18 19 54.2 -2.4
baz=193
LRM Limekiln Ridge 36.33 350 eP P 18 19 57.5 +0.2
SPMN Marine on St. 36.38 14 P P 18 19 54.9 -2.6
baz=199
SPMN Marine on St. 36.38 14 eP P 18 19 56.0 -1.4
URVA University of 36.41 37 eP P 18 19 56.9 -0.9
F34A Alexandria 36.42 11 P P 18 19 56.4 -1.4
baz=195
H40A Chili 36.44 17 P P 18 19 55.3 -2.7
baz=203
IP04 Greensprings 36.44 36 eP P 18 19 57.1 -1.0
IP05 Hopewell Churc 36.46 36 eP P 18 19 56.6 -1.6
BMO Blue Mountains 36.46 344 eP P 18 19 59.6 +1.3
BMO MLR MLR
comp=Z,9µm,19.0s
BMO Blue Mountains 36.46 344 eP P 18 19 59.5 +1.3
BMO LR LR
comp=Z,9µm,19.0s
I43A Langenfeld Bro 36.46 20 P P 18 19 56.4 -1.7
baz=207
LAO LASA Array 36.54 358 P P 18 19 59.2 +0.3
baz=177,SNR=5.8
LAO LASA Array 36.54 358 eP P 18 19 58.3 -0.5
LAO LR LR
comp=Z,23µm,19.0s
J04D Umpqua Nationa 36.55 338 P P 18 19 56.8 -2.4
baz=150
G38A Ridgeland 36.55 15 P P 18 19 56.7 -2.2
baz=201,SNR=8.6
MCWV Mont Chateau 36.58 32 P P 18 19 57.4 -1.9
baz=223,SNR=5.3
MCWV Mont Chateau 36.58 32 eP P 18 19 58.4 -0.9
F35A Swanville 36.61 11 P P 18 19 57.3 -2.1
baz=196
PINE Pine Mountain 36.62 340 eP P 18 20 00.4 +0.6
H41A Junction City 36.65 17 P P 18 19 56.7 -3.0
baz=204
H41A Junction City 36.65 17 eP P 18 19 58.4 -1.3
E31A Nome 36.76 7 P P 18 19 58.3 -2.4
baz=190
AAM Ann Arbor 36.81 26 P P 18 19 58.6 -2.6
baz=215
AAM Ann Arbor 36.81 26 PFAKE 18 20 10.0 +8.8
AAM LR LR
comp=Z,8µm,21.0s
F36A Milaca 36.82 12 P P 18 19 58.6 -2.6
baz=198,SNR=17
G39A Holcombe 36.84 15 P P 18 19 59.4 -2.0
baz=202,SNR=13
F37A Hinrichs Farm, 36.89 14 P P 18 19 57.2 -4.6
baz=199
H42A Shiocton 36.89 19 P P 18 19 58.1 -3.7
baz=206
H42A Shiocton 36.89 19 eP P 18 20 00.6 -1.2
E32A Braaten, Kindr 36.91 8 P P 18 19 59.5 -2.4
baz=192
CBN Corbin Frederi 36.93 36 P P 18 19 60.0 -2.3

baz=228
CBN Corbin Frederi 36.93 36 PFAKE 18 20 10.0 +7.7
CBN LR LR
comp=Z,9µm,20.0s
E33A Westby DABS, E 36.98 9 P **P 18 19 59.4 -3.1**
baz=193
G40A Rib Lake 37.09 16 P **P 18 20 01.5 -2.0**
baz=203
HRY Holter Researc 37.09 351 *e*P **P 18 20 03.1 -0.6**
H43A Windswept, Lux 37.10 20 P **P 18 20 00.9 -2.8**
baz=207
E34A Wadena 37.13 10 P **P 18 19 59.7 -4.2**
baz=195
I04A Tendick Farm, 37.14 338 P **P 18 20 01.1 -2.9**
baz=149
I05D Terrebonne, OR 37.23 340 P **P 18 20 05.6 +0.8**
baz=151
D31A Mcclaflin, Tow 37.27 7 P **P 18 20 03.6 -1.3**
baz=190
F38A Pierce - Schro 37.29 14 P **P 18 20 02.5 -2.7**
baz=200,SNR=14
RPN Rapa Nui 37.30 188 LR LR 18 31 55.1
comp=Z,8µm,18.4s,baz=10.0,slow=31
E35A Pequot Lakes 37.31 11 P **P 18 20 04.3 -1.1**
baz=196
G08A Pilot Rock 37.33 343 *e*P **P 18 20 06.2 +0.5**
G41A Antigo 37.33 18 P **P 18 20 03.2 -2.4**
baz=205
I03D Drain, OR 37.41 337 P **P 18 20 02.8 -3.5**
baz=148
D32A Dogwood Acres, 37.44 8 P P 18 20 01.4 -5.1
baz=192
N54A Moraine State 37.47 31 P **P 18 20 03.3 -3.5**
baz=221
N54A Moraine State 37.47 31 *e*P **P 18 20 05.8 -1.1**
F10A Beach Ranch, E 37.48 345 *e*P **P 18 20 07.9 +0.9**
F39A Loretta 37.49 15 P **P 18 20 02.6 -4.3**
baz=202
E36A McGregor 37.51 12 P **P 18 20 05.3 -1.7**
baz=198,SNR=7.0
MSO Missoula 37.56 349 P **P 18 20 05.6 -2.1**
baz=164
MSO Missoula 37.56 349 *e*P **P 18 20 07.0 -0.7**
G42A Mountain 37.58 18 P **P 18 20 04.6 -3.1**
baz=206,SNR=8.2
G42A Mountain 37.58 18 *e*P **P 18 20 06.3 -1.4**
D33A AnnSam, Waubun 37.62 9 P **P 18 20 05.9 -2.1**
baz=193
D34A Park Rapids 37.68 10 P **P 18 20 04.0 -4.5**
baz=194
SJG San Juan 37.70 73 P **P 18 20 07.4 -1.6**
comp=Z,19nm,0.6s,baz=281,slow=4.4,SNR=12
O56A Blue Knob Stat 37.70 33 P **P 18 20 05.2 -3.6**
baz=224
O56A Blue Knob Stat 37.70 33 *e*P **P 18 20 07.9 -1.0**
F40A Park Falls 37.70 16 P **P 18 20 06.0 -2.8**
baz=203,SNR=10
E37A Wrenshall 37.74 13 P **P 18 20 05.8 -3.2**
baz=199
G06A Carlson Farm, 37.79 341 *e*P **P 18 20 10.4 +0.9**
F41A Three Lakes 37.83 17 P **P 18 20 08.4 -1.4**
baz=205,SNR=5.2
H04A Detroit Lake 37.83 339 *e*P **P 18 20 10.0 +0.2**
G43A Wallace 37.83 19 P **P 18 20 07.4 -2.4**
baz=207
G43A Wallace 37.83 19 *e*P **P 18 20 08.3 -1.5**
MDND Maddock 37.86 5 P **P 18 20 07.0 -3.0**
baz=187
D35A Remer 37.88 11 P **P 18 20 08.1 -2.2**
baz=196
ALLY Alegheny Colle 37.91 30 *e*P **P 18 20 09.1 -1.5**
E38A The Farm, Brul 37.97 14 P **P 18 20 08.1 -2.9**
baz=200
HUMP Col San Antoni 37.98 73 *e*P **P 18 20 11.3 -0.1**
CBYP Canovanas 37.99 73 *e*P **P 18 20 11.0 -0.6**
C31A Landman Farms, 38.00 7 P **P 18 20 08.1 -3.1**
baz=190
E39A Mellen 38.01 15 P **P 18 20 09.3 -2.0**
baz=202,SNR=9.7
G05D Wamic, OR 38.02 340 P **P 18 20 09.2 -2.2**
baz=152
M54A Oil Creek Stat 38.04 30 P **P 18 20 09.4 -2.3**
baz=221,SNR=5.8
M54A Oil Creek Stat 38.04 30 *e*P **P 18 20 10.5 -1.2**
EGMT Eagleton 38.12 354 P **P 18 20 10.5 -1.8**
baz=171,SNR=23
EGMT Eagleton 38.12 354 *e*P **P 18 20 11.7 -0.7**
EGMT LR LR
comp=Z,11µm,19.0s
COWI Conover 38.15 17 *e*P **P 18 20 10.8 -1.7**
COWI LR LR
comp=Z,14µm,22.0s
D36A Goodland 38.15 12 P **P 18 20 10.3 -2.2**
baz=198
C32A Crookston 38.19 8 P **P 18 20 09.7 -3.1**
baz=192
C33A Trail 38.24 9 P **P 18 20 09.4 -3.8**
baz=193
E40A Wakefield 38.25 16 P **P 18 20 11.0 -2.3**
baz=203,SNR=12
MTP Monte Pirata 38.26 74 *e*P **P 18 20 12.8 -0.9**
C34A RKJ Ranch, Bem 38.27 10 P **P 18 20 11.4 -2.1**
baz=195
D37A Cotton 38.29 13 P **P 18 20 09.0 -4.6**
baz=199,SNR=9.2
SSPA Standing Stone 38.33 33 P **P 18 20 10.1 -3.9**
baz=225
ERPA Erie 38.34 29 P **P 18 20 11.1 -3.1**
baz=220
C35A Jirik Farms, M 38.49 11 P **P 18 20 11.8 -3.5**
baz=196
HAWA Hanford 38.49 343 *e*P **P 18 20 15.0 -0.4**
HAWA LR LR
comp=Z,6µm,19.0s
F43A Flat Rock, Esc 38.51 19 P **P 18 20 11.5 -4.0**
baz=208,SNR=7.0
E41A Kenton 38.53 17 P **P 18 20 13.4 -2.3**
baz=204,SNR=14
GLMI Grayling 38.53 23 P **P 18 20 12.1 -3.6**
baz=212
GLMI Grayling 38.53 23 PFAKE 18 20 30.0 +14
GLMI LR LR
comp=Z,4µm,20.0s
B31A Greenbush Farm 38.63 7 P **P 18 20 13.4 -3.0**
baz=190
G03D McMinnville, O 38.67 338 P **P 18 20 13.3 -3.5**
baz=149
PAGS Pennsylvania G 38.68 34 *e*P **P 18 20 15.5 -1.5**
E07A Sunnyside 38.74 343 *e*P **P 18 20 17.8 +0.4**
B32A Ashes, Strandq 38.74 8 P **P 18 20 15.4 -2.0**
baz=192
AGMN Agassiz Nation 38.75 9 P **P 18 20 15.7 -1.8**
baz=193,SNR=17
AGMN Agassiz Nation 38.75 9 *e*P **P 18 20 16.3 -1.2**
AGMN LR LR
comp=Z,21µm,20.0s
B33A Robert and Kas 38.77 9 P **P 18 20 15.2 -2.4**
baz=194
C36A Pine Crest Far 38.77 12 P **P 18 20 15.3 -2.4**
baz=198,SNR=11
E42A Champion 38.81 18 P **P 18 20 15.3 -2.7**
baz=206
STVI Saint Thomas 38.85 73 *e*P **P 18 20 17.3 -1.5**
F44A Big Bay de Noc 38.88 20 P **P 18 20 16.2 -2.4**
baz=208,SNR=9.9
C37A Embarrass 38.88 13 P **P 18 20 16.5 -2.2**
baz=199,SNR=5.4
PCRV Puerto La Cruz 38.92 86 P **P 18 20 19.5 0.0**
comp=Z,13nm,0.9s,baz=329,slow=3.6,SNR=6.8
PCRV LR LR 18 35 57.5
comp=Z,12µm,20.6s,baz=254,slow=36
D08A Wollman Farm, 38.93 344 *e*P **P 18 20 17.9 -1.1**
F45A CMU Biological 38.94 21 P **P 18 20 16.6 -2.4**
baz=210
E43A Lone Tree Farm 39.05 19 P **P 18 20 16.6 -3.4**
baz=207
C38A Sawbill Land. 39.08 14 P **P 18 20 16.4 -4.0**
baz=200
B34A Aery, Baudette 39.13 10 P **P 18 20 16.5 -4.2**
baz=195
B35A Bob, Littlefor 39.17 11 P **P 18 20 18.2 -2.8**
baz=196
A31A Linda, St. Vin 39.18 7 P **P 18 20 18.1 -3.0**
baz=191
D41A Chassel 39.19 17 P **P 18 20 17.9 -3.3**
baz=205,SNR=23
EYMN Ely 39.25 14 P **P 18 20 19.0 -2.7**
baz=200,SNR=6.4
EYMN Ely 39.25 14 *e*P **P 18 20 20.1 -1.6**
EYMN LR LR
comp=Z,33µm,19.0s
A32A Rocking H Ranc 39.26 8 P **P 18 20 18.7 -3.1**
baz=192
F46A Macinaw City C 39.28 22 P **P 18 20 18.5 -3.5**
baz=211
F04D Rainier, OR 39.33 339 P **P 18 20 20.9 -1.5**
baz=150
A33A Warroad 39.44 9 P **P 18 20 21.2 -2.1**
baz=194,SNR=20
C09A Chrisman Ranch 39.45 345 *e*P **P 18 20 23.1 -0.3**
C39A Grand Marais 39.46 15 P **P 18 20 20.5 -2.9**
baz=202
LON Longmire 39.51 341 *e*P **P 18 20 24.0 0.0**
LON Longmire 39.51 341 *e*P **P 18 20 24.0 0.0**
NEW Newport 39.60 346 P **P 18 20 24.1 -0.6**
comp=Z,9.9nm,0.9s,baz=160,slow=9.5,SNR=18
NEW Newport 39.60 346 P **P 18 20 23.5 -1.1**
baz=160,SNR=15
NEW Newport 39.60 346 *e*P **P 18 20 24.0 -0.6**
NEW MLR MLR
comp=Z,11µm,21.0s
NEW Newport 39.60 346 *e*P **P 18 20 24.0 -0.6**
NEW LR LR
comp=Z,11µm,21.0s
E44A Grand Marais A 39.61 20 P **P 18 20 21.6 -3.1**
baz=209
E45A Wooded Hills, 39.64 21 P **P 18 20 22.2 -2.8**
baz=210
N59A State Game Lan 39.68 34 P **P 18 20 21.7 -3.7**
baz=227
LUPA Lehigh Univers 39.69 35 *e*P **P 18 20 24.7 -0.8**
MMNY Mt. Morris Dam 39.83 31 *e*P **P 18 20 26.8 +0.2**
D05A Enumclaw 39.96 341 *e*P **P 18 20 25.2 -2.4**
B08A Colville Reser 40.23 344 *e*P **P 18 20 30.1 +0.1**
C06D Leavenworth 40.28 343 P **P 18 20 27.7 -2.6**
baz=154
TAOE Nuku Hiva Isla 40.42 243 *e*S **S 18 26 41.0 +0.2**
comp=Z,1µm,27.1s
TAOE eLQ LQ 18 29 52.1
comp=Z,42µm,28.1s
TAOE eLR LR 18 31 25.9
comp=Z,17µm,25.9s,baz=60
TAOE Nuku Hiva Isla 40.42 243 *e*T T 19 03 09.0
comp=Z,111nm,0.2s
BINY Binghamton 40.44 33 P **P 18 20 28.8 -2.9**
baz=226
BINY Binghamton 40.44 33 *e*P **P 18 20 30.7 -1.0**
BINY LR LR
comp=Z,7µm,20.0s
ULM Lac du Bonnet 40.65 8 P **P 18 20 31.6 -1.7**
comp=Z,20nm,1.1s,baz=194,slow=8.4,SNR=18
ULM LR LR 18 37 03.7
comp=Z,11µm,21.4s,baz=196,slow=36
ULM Lac du Bonnet 40.65 8 *e*P **P 18 20 30.9 -2.4**
ULM Lac du Bonnet 40.65 8 *e*P **P 18 20 30.9 -2.4**
NLWA Neilton Lookou 40.76 339 PFAKE 18 20 50.0 +16
NLWA LR LR
comp=Z,12µm,22.0s
SADO Sadowa 40.77 28 P **P 18 20 31.9 -2.5**
comp=Z,21nm,0.9s,baz=250,slow=10,SNR=8.5
SADO Sadowa 40.77 28 *e*P **P 18 20 32.3 -2.0**
PAL Palisades 40.79 36 P **P 18 20 32.3 -2.3**
baz=229
B05A Bryant 40.94 342 P **P 18 20 35.2 -0.5**
baz=152
B06A Marblemount 40.98 342 *e*P **P 18 20 35.6 -0.4**
BUKO Buck Lake 41.17 27 P **P 18 20 35.3 -2.4**
baz=213,SNR=7.6
A04D Lummi Island 41.54 342 P **P 18 20 40.8 +0.2**
baz=152
GRGR Grenville 41.77 83 PFAKE 18 20 50.0 +7.0
GRGR LR LR
comp=Z,5µm,20.0s
GRGR Grenville 41.77 83 *e*P **P 18 20 43.7 +0.7**
ANWB Willy Bob 41.78 75 PFAKE 18 20 50.0 +6.9
ANWB LR LR
comp=Z,5µm,19.0s
TRY Troy 42.06 34 *e*P **P 18 20 44.0 -1.0**
SVB Belmont 42.14 81 *e*P **P 18 20 46.2 +0.1**
DLPL La Plaine 42.17 78 *e*P **P 18 20 45.6 -0.7**
FDF Fort de France 42.25 79 PFAKE 18 21 00.0 +13
FDF LR LR
comp=Z,8µm,20.0s
FDF Fort de France 42.25 79 *e*P **P 18 20 46.9 -0.1**
LPMF Morne Lapointe 42.42 79 *e*P **P 18 20 49.5 +1.2**
MCLT Moule a Chique 42.44 81 *e*P **P 18 20 48.4 -0.1**
ACCN Adirondack Com 42.50 33 *e*P **P 18 20 49.2 +0.6**
NCB Newcomb 42.60 32 *e*P **P 18 20 49.2 -0.2**
BBSR BB Station 42.64 53 PFAKE 18 21 00.0 +10
BBSR LR LR
comp=Z,10µm,22.0s
B927 Port Alberni 42.65 340 *e*P **P 18 20 48.0 -1.6**
LONY Lake Ozonia 42.86 31 P **P 18 20 49.0 -2.5**
baz=226
LONY Lake Ozonia 42.86 31 *e*P **P 18 20 52.0 +0.4**
LONY LR LR
comp=Z,9µm,19.0s
LLLB Lillooet 42.98 344 *e*P **P 18 20 53.4 +1.0**
HRV Adam Dziewonsk 43.10 36 P **P 18 20 50.8 -2.6**
baz=231
HNH Hanover 43.46 34 *e*P **P 18 20 55.6 -0.7**
FRNY Flat Rock 43.52 32 *e*P **P 18 20 55.2 -1.6**
EDM Edmonton 43.67 352 *e*P **P 18 20 56.8 -1.1**
EDM Edmonton 43.67 352 *e*P **P 18 20 56.8 -1.1**
BBGH Gun Hill 43.79 82 PFAKE 18 21 10.0 +11
BBGH LR LR
comp=Z,8µm,20.0s
LBNH Lisbon 44.01 34 P **P 18 21 00.2 -0.5**
baz=229
TRQ Mont Tremblant 44.01 30 *e*P **P 18 20 59.5 -1.3**
LPAZ La Paz 44.26 126 P **P 18 21 04.2 +0.3**
comp=Z,18nm,1.0s,baz=311,slow=6.9,SNR=42
FFC Flin Flon 44.58 2 *e*P **P 18 21 03.5 -1.7**
FFC Flin Flon 44.58 2 *e*P **P 18 21 03.5 -1.7**
RKT Rikitea 44.67 222 *e*S **S 18 27 44.7 +1.8**
comp=Z,3µm,30.8s
RKT eLQ LQ 18 31 37.1
comp=Z,7µm,27.2s
RKT eLR LR 18 33 38.0
comp=Z,28µm,26.8s,baz=39
RKT Rikitea 44.67 222 *e*T T 19 08 39.9
comp=Z,39nm,0.3s
MNMC Minye Minye 44.78 130 *e*P **P 18 21 08.5 +1.0**
SAML Samuel 44.98 113 *e*P **P 18 21 07.7 -1.2**
SAML LR LR
comp=Z,14µm,19.0s
PB11 IPOC Station P 45.11 131 *e*P **P 18 21 10.1 +0.1**
PB01 IPOC Station P 46.03 132 *e*P **P 18 21 18.2 +1.0**
PKME Peaks-Kenny Pk 46.11 34 P **P 18 21 14.8 -2.6**
baz=231
PKME Peaks-Kenny Pk 46.11 34 PFAKE 18 21 30.0 +13
PKME LR LR
comp=Z,7µm,19.0s
FCC Fort Churchill 49.20 7 *e*P **P 18 21 39.6 -1.6**
FCC Fort Churchill 49.20 7 *e*P **P 18 21 39.6 -1.6**
SIV San Ignacio 49.92 121 P **P 18 21 46.7 -0.7**
comp=Z,14nm,1.1s,baz=306,slow=8.2,SNR=34
PMOR Pomariorio Ree 49.96 241 *e*P **P 18 21 50.4 +2.8**
comp=Z,180nm,1.4s
PMOR Pomariorio Ree 49.96 241 *e*T T 19 15 13.3
comp=Z,11nm,0.3s
MLH Mauna Loa 50.22 287 *e*P **P 18 21 50.2 +0.2**
MLH Mauna Loa 50.22 287 *e*P **P 18 21 50.2 +0.2**
AIN Ainahou 50.28 287 *e*P **P 18 21 51.0 +0.6**
HMH Humu'ula Sheep 50.32 287 *e*P **P 18 21 51.1 +0.4**
POHA Pohakuloa 50.37 287 PFAKE 18 22 00.0 +8.9
POHA LR LR
comp=Z,13µm,20.0s
MLOA Mauna Loa Obse 50.40 287 *e*P **P 18 21 51.4 -0.2**
LCO Las Campanas 50.54 141 PFAKE 18 22 00.0 +7.8
LCO LR LR
comp=Z,22µm,22.0s
DLBC Dease Lake 52.13 343 *e*P **P 18 22 05.7 +2.2**
TIAR Tiarei 52.37 239 *e*P **P 18 22 08.7 +2.9**
comp=Z,14nm,0.9s
PPT Papeete 52.57 239 LR LR 18 37 59.6
comp=Z,5µm,21.9s,baz=58,slow=29
PPT2 Papeete2 52.58 239 *e*LR LR 18 22 22.4
comp=Z,1µm,26.5s
PPT2 Papeete2 52.58 239 *e*P **P 18 22 10.6 +3.2**
comp=Z,52nm,1.1s
PPT2 *e*S **S 18 29 36.0 +1.1**
comp=Z,5µm,28.2s
PPT2 *e*LQ LQ 18 35 01.4
comp=Z,12µm,26.0s
PPT2 *e*LR LR 18 37 05.6
comp=Z,16µm,26.2s,baz=53
KIP Kipapa 52.79 289 *e*P **P 18 22 09.1 +0.2**
KIP MLR MLR
comp=Z,17µm,19.0s
KIP Kipapa 52.79 289 *e*P **P 18 22 09.1 +0.2**
KIP LR LR
comp=Z,17µm,19.0s
YKA Yellowknife Ar 52.88 354 P **P 18 22 07.5 -1.3**
comp=Z,6.9nm,0.9s,baz=167,slow=7.7,SNR=44
YKA PcP **PcP 18 23 18.3 +0.4**
comp=Z,4.2nm,1.0s,baz=164,slow=3.6,SNR=2.4
YKA LR LR 18 44 59.4
comp=Z,1µm,19.3s,baz=180,slow=36
YKW3 Yellowknife Ar 52.95 354 *e*P **P 18 22 08.0 -1.3**
SCHQ Schefferville 53.52 26 P **P 18 22 11.5 -2.3**
comp=Z,36nm,1.0s,baz=238,slow=5.3,SNR=12
SCHQ LR LR 18 45 56.4
comp=Z,9µm,18.2s,baz=230,slow=37
SCHQ Schefferville 53.52 26 *e*P **P 18 22 11.7 -2.0**
BESE Bessie Mountai 53.72 341 *e*P **P 18 22 14.4 -0.8**
WHY Whitehorse 55.37 342 *e*P **P 18 22 28.0 +0.8**
HYT Haines Junctio 56.31 341 *e*P **P 18 22 34.6 +0.6**
CPUP Villa Florida 58.15 130 P **P 18 22 47.4 +0.1**
comp=Z,6.6nm,0.9s,baz=313,slow=10,SNR=12
BMRM Bremner River 58.84 338 *e*P **P 18 22 51.6 -0.1**
FRB Frobisher Bay 59.24 18 P **P 18 22 53.1 -1.2**
comp=Z,17nm,1.0s,baz=231,slow=6.8,SNR=9.9
PLCA Paso Flores 59.33 151 P **P 18 22 55.7 +0.3**
comp=Z,7.9nm,1.0s,baz=353,slow=7.9,SNR=7.0
PLCA LR LR 18 42 51.3
comp=Z,15µm,20.0s,baz=348,slow=30
PLCA Paso Flores 59.33 151 *e*P **P 18 22 56.3 +0.9**
PLCA Paso Flores 59.33 151 *e*P **P 18 22 56.3 +0.9**
DAWY Dawson 59.35 343 *e*P **P 18 22 54.5 -0.7**
DIV Divide 59.38 338 *e*P **P 18 22 56.1 +0.6**
KLU Klutina 59.67 338 *e*P **P 18 22 59.0 +1.5**
MENT Mentasta 59.88 340 *e*P **P 18 22 59.5 +0.6**
HARP HAARP 60.00 339 *e*P **P 18 23 00.4 +0.8**
KDAK Kodiak Island 60.20 333 PFAKE 18 23 10.0 +9.0
KDAK LR LR
comp=Z,3µm,19.0s
OHAK Old Harbor 60.23 332 *e*P **P 18 23 02.0 +0.8**
EGAK Eagle 60.39 343 *e*P **P 18 23 03.5 +1.2**
EGAK LR LR
comp=Z,5µm,21.0s
DOT Dot Lake 60.48 341 *e*P **P 18 23 02.3 -0.7**
PAX Paxson 60.49 340 *e*P **P 18 23 03.5 +0.4**
PAX Paxson 60.49 340 *e*P **P 18 23 03.5 +0.4**
BRLK Bradley Lake 60.55 335 *e*P **P 18 23 04.7 +1.2**
SCRK Sand Creek 60.68 341 *e*P **P 18 23 04.3 -0.2**
SML Sawmill 60.76 338 *e*P **P 18 23 04.3 -0.6**
SML Sawmill 60.76 338 *e*P **P 18 23 04.3 -0.6**
RIDG Independ'e Rid 60.80 341 *e*P **P 18 23 04.4 -0.7**
RC01 Rabbit Creek A 60.86 337 *e*P **P 18 23 05.8 +0.3**
PMR Palmer 60.93 337 *e*P **P 18 23 06.6 +0.6**
PMR Palmer 60.93 337 *e*P **P 18 23 06.6 +0.6**
GHO Glory Hole Cre 60.96 337 *e*P **P 18 23 04.7 -1.6**
DHY Denali Highway 61.22 339 *e*P **P 18 23 06.8 -1.3**
INK Inuvik 61.29 348 P **P 18 23 07.3 -1.0**
comp=Z,14nm,0.8s,baz=138,slow=7.2,SNR=23
INK Inuvik 61.29 348 *e*P **P 18 23 07.5 -0.8**
INK Inuvik 61.29 348 *e*P **P 18 23 07.5 -0.8**
SUA Susitna One 61.48 337 *e*P **P 18 23 09.5 -0.3**
SPU Mount Spurr 61.83 336 *e*P **P 18 23 11.1 -1.1**
HDA Harding Lake 61.94 340 *e*P **P 18 23 12.2 -0.6**
RND Reindeer 61.95 339 *e*P **P 18 23 12.0 -0.9**
RND Reindeer 61.95 339 *e*P **P 18 23 12.0 -0.9**
SKT Skwentna 62.08 337 *e*P **P 18 23 12.4 -1.4**
IL1 Eielson Array 62.15 341 *e*P **P 18 23 12.1 -2.1**
ILAR Eielson Array 62.15 341 P **P 18 23 13.3 -0.9**
comp=Z,15nm,0.8s,baz=150,slow=5.1,SNR=43
ILB Eielson Array 62.15 341 *e*P **P 18 23 12.8 -1.4**
MCK McKinley 62.18 339 *e*P **P 18 23 13.9 -0.5**
MCK McKinley 62.18 339 *e*P **P 18 23 13.9 -0.5**
WRH Wood River Hil 62.35 340 *e*P **P 18 23 14.5 -1.1**
CCB Clear Creek Bu 62.37 340 *e*P **P 18 23 14.3 -1.4**
TRF Thorofare Moun 62.48 339 *e*P **P 18 23 15.3 -1.4**
COLA College 62.53 341 *e*P **P 18 23 18.0 +1.3**
COLA pmax pmax
comp=Z,14nm,1.0s
COLA College 62.53 341 PFAKE 18 23 30.0 +13
COLA LR LR
comp=Z,4µm,21.0s
MDM Murphy Dome 62.71 341 *e*P **P 18 23 17.9 -0.1**
KTH Kantishna Hill 62.77 338 *e*P **P 18 23 19.1 +0.6**
RAR Rarotonga 62.81 240 LR LR 18 43 56.3
comp=Z,2µm,19.0s,baz=60,slow=30
FYU Fort Yukon 62.86 343 *e*P **P 18 23 19.5 +0.7**
PPLA Purkeypile 62.86 338 *e*P **P 18 23 20.8 +1.7**
BPAW Bear Paw Mtn. 63.12 339 *e*P **P 18 23 20.7 0.0**
SVW2 Sparrevohn 63.23 335 *e*P **P 18 23 22.0 +0.5**
MLY Manley 63.59 340 *e*P **P 18 23 25.3 +1.4**
JOHN Johnston Islan 63.67 284 PFAKE 18 23 40.0 +15
JOHN LR LR
comp=Z,967nm,20.0s
COLD Coldfoot 64.77 342 *e*P **P 18 23 32.5 +1.0**
SPB Sao Paulo 64.78 122 PFAKE 18 23 40.0 +7.8
SPB LR LR
comp=Z,30µm,21.0s
RES Resolute Bay 64.81 3 P **P 18 23 29.9 -1.6**
comp=Z,5.5nm,0.9s,baz=187,slow=10,SNR=5.9
RES Resolute Bay 64.81 3 *e*P **P 18 23 30.1 -1.5**
RES Resolute Bay 64.81 3 *e*P **P 18 23 30.1 -1.5**
IM3 Indian Mountai 65.17 340 *e*P **P 18 23 34.3 +0.2**
TOLK Toolik Lake Re 65.48 343 P **P 18 23 36.2 +0.1**
baz=130,SNR=12
TOLK Toolik Lake Re 65.48 343 *e*P **P 18 23 35.7 -0.5**
SFJD Kangerlussuaq 67.08 20 P **P 18 23 45.4 -0.8**
comp=Z,13nm,1.0s,baz=208,slow=12,SNR=3.8
SFJD LR LR 18 53 23.1
comp=Z,8µm,20.8s,baz=234,slow=36
SFJD Kangerlussuaq 67.08 20 *i* P **P 18 23 45.7 -0.6**
SFJD pmax pmax
comp=Z,19nm,1.2s
SFJD Kangerlussuaq 67.08 20 *i* P **P 18 23 45.7 -0.6**
comp=Z,18nm,1.2s
TULEG Thule 69.09 8 *e*P **P 18 23 57.8 -0.9**
KULLO Kullorsuaq 69.69 12 *i* P P 18 23 50.1 -12
KULLO pmax pmax
comp=Z,44nm,0.6s
KULLO Kullorsuaq 69.69 12 *i* P P 18 23 50.1 -12
comp=Z,44nm,0.6s
RCBR Riachuelo 69.83 100 PFAKE 18 24 20.0 +15
RCBR LR LR
comp=Z,38µm,20.0s
MIDW Midway 70.54 296 PFAKE 18 24 20.0 +11
MIDW LR LR
comp=Z,9µm,20.0s
AFI Afiamalu 71.14 252 LR LR 18 47 28.0
comp=Z,2µm,20.8s,baz=67,slow=29
EFI East Falkland 73.19 152 PFAKE 18 24 40.0 +16
EFI LR LR
comp=Z,6µm,19.0s
SUMG Summit 73.29 17 *i* P **P 18 24 25.1 +0.3**
SUMG pmax pmax
comp=Z,81nm,1.4s
SUMG Summit 73.29 17 *i* P **P 18 24 25.1 +0.3**
comp=Z,81nm,1.4s
SUMG Summit 73.29 17 *e*P **P 18 24 22.9 -2.0**
CMLA Cha da Macela 74.98 54 PFAKE 18 24 50.0 +15
CMLA LR LR
comp=Z,5µm,20.0s
BORG Borgarnes 77.92 26 LR LR 18 59 43.9
comp=Z,4µm,18.2s,baz=275,slow=36
SACV Santiago Islan 78.45 77 PFAKE 18 25 10.0 +15
SACV LR LR
comp=Z,1µm,22.0s
FUNA Funafuti 78.46 259 PFAKE 18 25 10.0 +15
FUNA LR LR
comp=Z,8µm,20.0s
DAG Danmarks Havn 79.25 14 *i* P **P 18 24 57.6 -0.5**
DAG pmax pmax
comp=Z,57nm,1.5s
DAG MLR MLR
comp=Z,6µm,18.0s
DAG Danmarks Havn 79.25 14 *i* P **P 18 24 57.6 -0.5**
comp=Z,57nm,1.5s
PMSA Palmer Station 80.46 164 PFAKE 18 25 20.0 +15
PMSA LR LR
comp=Z,2µm,21.0s

BILL **Bilibino** **80.57 338** *i* P **P** **18 25 06.2 +0.8**
BILL *i* 18 25 10.8
BILL *e*S S 18 35 02.5 -10
BILL *i* SS **SS** **18 40 27.8 +3.8**
BILL pmax pmax
comp=Z,3.0nm,0.8s
BILL MLR MLR
comp=Z,3μm,19.0s
RAO **Raoul Island** **80.98 238** PFAKE 18 25 20.0 +12
RAO LR LR
comp=Z,5μm,20.0s
MSVF **Nonsavu** **81.58 250** PFAKE 18 25 20.0 +8.2
MSVF LR LR
comp=Z,3μm,19.0s
PMOZ **Porto Moniz, M** **82.12 58** *e*S **S** **18 35 33.6 +3.8**
PMOZ **Porto Moniz, M** **82.12 58** *e*LQ LQ 18 47 03.5
PMOZ *e*LR LR 18 50 25.1
comp=Z,3μm,22.0s
VAL **Valentia** **84.58 38** *e*P **P** **18 25 25.7 -0.9**
VAL **Valentia** **84.58 38** *i* S **S** **18 35 55.9 +2.2**
KBS **Kingsbay** **85.04 10** PFAKE 18 25 40.0 +12
KBS LR LR
comp=Z,7μm,20.0s
BBTS **Babate** **85.26 76** LR LR 18 58 28.5
comp=Z,2μm,21.4s,baz=274,slow=32
HOPE **Hope Point** **85.50 147** PFAKE 18 25 40.0 +9.0
HOPE LR LR
comp=Z,4μm,20.0s
H11N3 **WAKE ISLAND Hy** **85.64 289** T T 20 00 11.3
baz=86,slow=76,SNR=9.5
H11N2 **WAKE ISLAND Hy** **85.65 289** T T 20 00 10.9
baz=86,slow=76,SNR=11
H11N1 **WAKE ISLAND Hy** **85.65 289** T T 20 00 11.3
baz=86,slow=76,SNR=8.5
SPITS **Spitsbergen Ar** **86.18 10** LR LR 19 05 10.4
comp=Z,11μm,18.2s,baz=310,slow=36
PET **Petropavlovsk** **86.31 323** *e*P **P** **18 25 36.8 +1.6**
PET *e*S **S** **18 36 14.4 +3.7**
PET pmax pmax
comp=Z,200nm,13.9s
PET pmax pmax
comp=Z,2μm,31.6s
PET MLR MLR
comp=Z,2μm,19.0s
PET **Petropavlovsk** **86.31 323** PFAKE 18 25 50.0 +15
PET LR LR
comp=Z,3μm,21.0s
PEA1 **Petropavlovsk-** **86.86 323** *e*P **P** **18 25 38.7 +0.7**
PETK **Petropavlovsk-** **86.86 323** P **P** **18 25 38.7 +0.7**
comp=Z,4.8nm,0.8s,baz=91,slow=9.3,SNR=11
PETK LR LR 18 57 02.8
comp=Z,2μm,21.3s,baz=78,slow=31
PETK **Petropavlovsk-** **86.86 323** *e*P **P** **18 25 37.6 -0.3**
PETK **Petropavlovsk-** **86.86 323** *e*P **P** **18 25 37.6 -0.3**
SEY **Seymchan** **87.14 334** *e*P **P** **18 25 38.8 -0.3**
PMAFR **Mafra** **87.54 51** *e*LR LR 18 53 33.1
comp=Z,4μm,22.0s
LIS **Lisbon** **87.68 51** *e*P **P** **18 25 41.7 -0.5**
PGAV **Gavieira, Arco** **87.72 48** *e*P **P** **18 25 42.9 +0.4**
PGAV **Gavieira, Arco** **87.72 48** *e*PP PP 18 29 03.3 -4.4
PGAV *e*S **S** **18 36 27.2 +2.2**
PGAV **Gavieira, Arco** **87.72 48** *e*LQ LQ 18 48 58.2
PGAV *e*LR LR 18 53 45.3
comp=Z,4μm,20.0s
PCAS **Casmilo, Conde** **87.92 50** *e*P **P** **18 25 43.7 +0.3**
comp=Z,59nm,1.5s
PCAS **Casmilo, Conde** **87.92 50** *e*LR LR 18 53 51.0
comp=Z,5μm,22.0s
PCAB **Cabril** **87.94 48** *e*P **P** **18 25 44.6 +1.1**
comp=Z,57nm,1.8s
ESK **Eskdalemuir** **87.98 34** *e*P **P** **18 25 43.2 -0.1**
ESK MLR MLR
comp=Z,4μm,19.0s
ESK **Eskdalemuir** **87.98 34** *e*P **P** **18 25 43.2 -0.1**
ESK LR LR
comp=Z,4μm,19.0s
EKA **Eskdalemuir Ar** **88.01 34** P **P** **18 25 42.0 -1.4**
comp=Z,5.7nm,1.1s,baz=285,slow=2.7,SNR=7.6
EKA LR LR 19 04 57.8
comp=Z,3μm,20.8s,baz=290,slow=36
ALMR **Almeirim** **88.04 51** *e*P **P** **18 25 43.5 -0.4**
ALMR *e*S **SKSac** **18 36 11.2 -1.6**
ALMR AMS AMS 18 59 01.4
comp=Z,4μm,17.9s
POLO **Lamas de Olo** **88.18 48** *e*P **P** **18 25 45.1 +0.4**
comp=Z,13nm,1.5s
POLO **Lamas de Olo** **88.18 48** *e*LR LR 18 54 06.6
comp=Z,2μm,22.0s
PFVI **Vila Bisbo** **88.24 53** *e*LR LR 18 53 32.9
comp=Z,3μm,24.0s
PVIS **Viseu** **88.24 49** *e*P **P** **18 25 45.1 +0.2**
comp=Z,33nm,1.6s
PNCL **Nicolau / Gran** **88.28 52** *e*LR LR 18 53 55.8
comp=Z,3μm,22.0s
PMTG **Montargil** **88.32 51** *e*P **P** **18 25 45.8 +0.5**
comp=Z,38nm,1.5s
PMTG **Montargil** **88.32 51** *e*LR LR 18 53 40.8
comp=Z,4μm,22.0s
MORF **Marmelete** **88.34 53** *e*P **P** **18 25 45.1 -0.4**
MORF *e*S **SKSac** **18 36 12.9 -1.9**
MORF AMS AMS 18 58 35.1
comp=Z,3μm,22.7s
MORF **Marmelete** **88.34 53** *e*LR LR 18 53 36.8
comp=Z,3μm,22.0s
MTE **Manteigas** **88.57 49** *e*P **P** **18 25 46.9 +0.4**
comp=Z,34nm,1.6s
MTE **Manteigas** **88.57 49** *e*PP PP 18 29 12.8 -1.8
MTE *e*S S 18 36 21.8 -11
MTE **Manteigas** **88.57 49** *e*LQ LQ 18 48 58.4
MTE *e*LR LR 18 54 24.3
comp=Z,4μm,22.0s
MTE **Manteigas** **88.57 49** PFAKE 18 26 00.0 +13
MTE LR LR
comp=Z,3μm,19.0s
MESJ **Messejana** **88.57 52** *e*P **P** **18 25 46.1 -0.4**
MESJ *e*S **SKSac** **18 36 14.3 -1.8**
MESJ AMS AMS 18 58 30.9
comp=Z,3μm,21.4s
MESJ **Messejana** **88.57 52** *e*P **P** **18 25 46.1 -0.4**
MESJ **Messejana** **88.57 52** *e*S **SKSac** **18 36 14.3 -1.8**
MESJ A A 18 58 30.9
comp=Z,3μm,21.4s
EVO **Evora** **88.59 51** *e*P **P** **18 25 48.1 +1.5**
comp=Z,34nm,1.6s
PCBR **Castelo Branco** **88.73 50** *e*P **P** **18 25 47.9 +0.7**
comp=Z,30nm,1.6s
PCVE **Castro Verde** **88.75 52** *e*LR LR 18 54 04.8
comp=Z,3μm,22.0s
MVO **Moncorvo** **88.79 49** *e*P **P** **18 25 48.0 +0.5**
comp=Z,34nm,1.9s
MVO **Moncorvo** **88.79 49** *e*PP PP 18 29 12.7 -3.7
MVO *e*S **SKSac** **18 36 18.7 +1.2**
MVO **Moncorvo** **88.79 49** *e*LQ LQ 18 49 12.0
MVO *e*LR LR 18 54 05.4
comp=Z,3μm,22.0s
PESTR **Estremoz** **88.85 51** *e*LR LR 18 53 35.5
comp=Z,4μm,22.0s
PBRG **Braganca** **88.86 48** *e*P **P** **18 25 48.0 +0.1**
comp=Z,28nm,1.7s
PBRG **Braganca** **88.86 48** *e*LR LR 18 54 29.4
comp=Z,4μm,20.0s
PMRV **Marv??o** **88.88 50** *e*PP PP 18 29 14.0 -3.1
PMRV *e*S **S** **18 36 33.7 -2.4**
PMRV **Marv??o** **88.88 50** *e*LQ LQ 18 49 32.0
PMRV *e*LR LR 18 54 11.6
comp=Z,5μm,22.0s
MA2 **Magadan** **88.89 331** *e*P **P** **18 25 47.3 -0.2**
PBDV **Barranco-do-Ve** **88.92 53** *e*LR LR 18 53 56.8
comp=Z,3μm,22.0s
PVAQ **Vaqueiros** **89.05 52** *e*LR LR 18 54 23.7
comp=Z,3μm,22.0s
PBAR **Barrancos** **89.42 51** *e*P **P** **18 25 51.9 +1.5**
comp=Z,58nm,1.4s
PBAR **Barrancos** **89.42 51** *e*LR LR 18 54 26.5
comp=Z,7μm,22.0s
RTC **Rabat Centre** **90.45 55** PFAKE 18 26 10.0 +15
RTC LR LR
comp=Z,13μm,21.0s
PAB **San Pablo** **91.15 50** PFAKE 18 26 10.0 +11
PAB LR LR
comp=Z,5μm,22.0s
ASCN **Ascension** **91.20 98** PFAKE 18 26 10.0 +11
ASCN LR LR
comp=Z,3μm,19.0s
TIXI **Tiksi** **91.31 345** P **P** **18 25 57.3 -1.2**
comp=Z,22nm,0.9s,baz=36,slow=3.9,SNR=30
TIXI PP **PP** **18 29 37.7 +2.4**
comp=Z,0.8nm,0.8s,baz=44,slow=6.3,SNR=3.2
TIXI **Tiksi** **91.31 345** *e*P **P** **18 25 57.5 -1.0**
TIXI pmax pmax
comp=Z,61nm,1.0s
TIXI **Tiksi** **91.31 345** *e*P **P** **18 25 56.9 -1.6**
TIXI *e*PP **PP** **18 29 37.7 +2.4**
ESDC **Sonseca Array** **91.41 49** P **P** **18 26 00.1 +0.3**
comp=Z,2.2nm,0.9s,baz=282,slow=5.5,SNR=11
ESDC PP PP 18 29 48.0 +11
comp=Z,0.1nm,0.3s,baz=286,slow=6.0,SNR=5.2
ESDC LR LR 19 01 01.2
comp=Z,3μm,21.7s,baz=285,slow=32
ES19 **SONSECA Array** **91.45 49** *e*P **P** **18 26 00.0 0.0**
DZM **Mont Dzumac** **93.14 248** *e*SS SS 18 43 35.0 +4.1
comp=Z,2μm,31.2s
DZM *e*LQ LQ 18 52 04.8
comp=Z,4μm,31.3s
DZM *e*LR LR 18 56 10.0
comp=Z,5μm,22.8s
ARCES **ARCESS Array B** **93.36 16** LR LR 19 08 28.9
comp=Z,4μm,21.7s,baz=318,slow=36
KEV **Kevo** **93.61 15** PFAKE 18 26 20.0 +11
KEV LR LR
comp=Z,6μm,22.0s
WLF **Walferdange** **95.19 38** PFAKE 18 26 30.0 +13
WLF LR LR
comp=Z,4μm,21.0s
KUR **Kuril'sk** **95.25 318** P P 18 26 25.0 +7.8
KUR *e* 18 30 08.4
SSB **Saint Sauveur** **95.76 42** PFAKE 18 26 30.0 +10
SSB LR LR
comp=Z,3μm,22.0s
ECH **Echery** **96.36 39** PFAKE 18 26 30.0 +7.7
ECH LR LR
comp=Z,3μm,21.0s
NKL **Nikolayevsk** **96.50 327** *e*P **P** **18 26 27.0 +4.2**
LVZ **Lovozero** **96.89 15** PFAKE 18 26 40.0 +16
LVZ LR LR
comp=Z,4μm,20.0s
YAK **Yakutsk** **96.93 337** *e*P **P** **18 26 23.7 -0.8**
YAK pmax pmax
comp=Z,15nm,1.0s
BFO **Black Forest** **97.03 38** PFAKE 18 26 40.0 +15
BFO LR LR
comp=Z,4μm,20.0s
BNI **Bardonecchia** **97.25 42** PFAKE 18 26 40.0 +13
BNI LR LR
comp=Z,4μm,22.0s
HNR **Honiara** **97.32 262** PFAKE 18 26 40.0 +13
HNR LR LR
comp=Z,2μm,22.0s
YSS **Yuzh-Sakhalins** **97.91 320** *e*P Pdif 18 26 37.7 +8.4
DBIC **Dimbokro** **97.97 82** LR LR 19 11 03.8
comp=Z,2μm,18.1s,baz=264,slow=36
TUE **Stuetta** **98.42 40** PFAKE 18 26 40.0 +8.1
TUE LR LR
comp=Z,3μm,21.0s
CLL **Collm** **98.47 34** *e*P Pdif 18 26 32.0 +0.3
CLL *e* 18 37 09.0
CLL pmax pmax
comp=Z,12nm,1.5s
CLL MLR MLR
comp=Z,3μm,21.2s
CLL **Collm** **98.47 34** *e*Pdif Pdif 18 26 32.0 +0.3
comp=Z,12nm,1.5s
CLL *e*PP **PP** **18 30 30.0 -1.6**
CLL *e*SKSac **SKSac** **18 37 09.0 -0.9**
CLL *e*PS **PS** **18 39 28.0 +2.1**
CLL *e*PPS PPS 18 40 04.0
CLL *e*SS **SS** **18 44 44.0 -0.1**
CLL LmV 19 10 00.0
comp=Z,3μm,21.2s
NKC **Novy Kostel** **98.66 35** *e*PP PP 18 30 31.1 -1.9
NKC *e*SKS **SKSac** **18 37 16.0 +5.0**
NKC *e*SP **SP** **18 39 24.6 -1.7**
NKC *e*SS **SS** **18 44 50.1 +3.3**
NKC AMS AMS 19 07 30.0
comp=Z,3μm,21.8s
FINES **FINESS Array B** **98.84 22** LR LR 19 12 01.6
comp=Z,4μm,18.3s,baz=304,slow=36
ASAJ **Asahikawa** **99.15 318** LR LR 19 07 05.8
comp=Z,13nm,18.8s,baz=68,slow=33
BRG **Berggiesshubel** **99.20 34** *e*P **Pdif** **18 26 35.0 0.0**
comp=Z,33nm,1.9s
BRG PP **PP** **18 30 33.0 -4.1**
BRG SKS **SKSac** **18 37 16.0 +2.4**
BRG PS **PS** **18 39 26.0 -7.8**
BRG SS **SS** **18 44 47.0 -7.3**
BRG **Berggiesshubel** **99.20 34** *e*P **Pdif** **18 26 35.0 0.0**
BRG 18 30 33.0
BRG 18 37 16.0
BRG PS **PS** **18 39 26.0 -7.8**
BRG SS SS 18 44 47.0 -7.3
BRG pmax pmax
comp=Z,33nm,1.9s
BRG MLR MLR
comp=N,2μm,20.8s
BRG MLR MLR
comp=E,2μm,20.9s
BRG MLR MLR
comp=Z,3μm,20.1s
SBA **Scott Base** **99.57 192** PFAKE 18 26 50.0 +14
SBA LR LR
comp=Z,3μm,20.0s
ERM **Erimo** **99.60 316** PFAKE 18 26 50.0 +13
ERM LR LR
comp=Z,4μm,19.0s
PVCC **Panska Ves** **99.72 35** AMS AMS 19 10 40.0
comp=Z,3μm,20.2s
KHC **Kasperske Hory** **99.82 36** *i* P **Pdif** **18 26 36.4 -1.4**
KHC *e* 18 30 38.4
KHC *e* 18 37 17.9
KHC *e*SS SS 18 45 06.5 +3.4
KHC MLR MLR
comp=Z,4μm,20.4s
KHC **Kasperske Hory** **99.82 36** *e*PDIFF **Pdif** **18 26 36.4 -1.4**
KHC *e*PP **PP** **18 30 38.4 -3.5**
KHC *e*SKS **SKSac** **18 37 17.9 +1.1**
KHC *ex* x 18 39 24.5
KHC *e*SS **SS** **18 45 06.5 +3.4**
KHC AMS AMS 19 09 40.0
comp=Z,4μm,20.4s
PRU **Pruhonice** **99.96 35** *e*SP SP 18 39 44.0 +3.7
PRU *e*SS **SS** **18 45 02.8 -2.2**
PRU AMS AMS 19 10 10.0
comp=Z,3μm,21.5s
GERES **GERESS Array B** **100.02 36** P **Pdif** **18 26 36.2 -2.6**
comp=Z,1.2nm,1.0s,baz=316,slow=5.6,SNR=6.3
GERES PP **PP** **18 30 44.6 +1.1**
comp=Z,1.4nm,1.0s,baz=300,slow=5.7,SNR=6.7
GERES LR LR 19 11 52.9
comp=Z,2μm,21.9s,baz=287,slow=35
QSPA **South Pole Qui** **100.03 180** P **Pdif** **18 26 39.5 +1.1**
comp=Z,1.4nm,0.8s,baz=115,slow=3.1,SNR=10
QSPA **South Pole Qui** **100.03 180** *e*Pdif **Pdif** **18 26 39.5 +1.1**
QSPA LR LR
comp=Z,3μm,20.0s
GEA0 **GERESS Array S** **100.03 36** *e*Pdif **Pdif** **18 26 36.2 -2.7**
VLC **Villacollemand** **100.04 42** PFAKE 18 26 50.0 +11
VLC LR LR
comp=Z,1μm,20.0s
GOPC **GO Pecny, Ondr** **100.14 35** *e*SKS **SKSac** **18 37 22.2 +3.9**
GOPC *e*SP **SP** **18 39 40.8 -1.4**
GOPC *e*SS **SS** **18 45 06.8 -0.7**
GOPC AMS AMS 19 10 20.0
comp=Z,2μm,22.9s
UPC **Upice** **100.53 34** *e*SKS **SKSac** **18 37 20.3 +0.1**
UPC *ex* x 18 39 29.2
UPC *e*SS **SS** **18 45 16.8 +4.0**
UPC AMS AMS 19 11 20.0
comp=Z,4μm,20.7s
SHEL **Horse Pasture** **100.75 104** PFAKE 18 26 50.0 +7.4
SHEL LR LR
comp=Z,2μm,19.0s
DPC **Dobruska-Polom** **100.78 34** *i* P **Pdif** **18 26 41.7 -0.4**
DPC *e* 18 37 26.6
DPC *e*SS SS 18 45 20.4 +4.0
DPC MLR MLR
comp=Z,4μm,21.0s
DPC **Dobruska-Polom** **100.78 34** *e*PDIFF **Pdif** **18 26 41.7 -0.4**
DPC *e*pP sP 18 26 48.6 +1.9
DPC *e*PP **PP** **18 30 43.6 -5.6**
DPC *e*SKS 18 37 26.6
DPC *e*SS **SS** **18 45 20.4 +4.0**
DPC AMS AMS 19 11 30.0
comp=Z,4μm,21.0s
TREC **Trest** **100.84 35** *e*SKS **SKSac** **18 37 26.5 +4.7**
TREC AMS AMS 19 09 00.0
comp=Z,4μm,24.4s
VSL **Villasalto** **101.23 46** PFAKE 18 27 00.0 +16
VSL LR LR
comp=Z,3μm,20.0s
MORC **Moravsky Berou** **101.75 34** *e*P **Pdif** **18 26 46.4 0.0**
MORC **Moravsky Berou** **101.75 34** *e*Pdif **Pdif** **18 26 46.4 0.0**
OKC **Ostrava-Krasne** **102.05 34** *e*SKS **SKSac** **18 37 26.5 -1.0**
OKC *e*SP **SP** **18 40 05.4 +2.9**
OKC *e*SS **SS** **18 45 37.3 +3.4**
OKC AMS AMS 19 16 10.0
comp=Z,2μm,18.2s
AQU **L'Aquila** **102.80 42** PFAKE 18 27 00.0 +8.7
AQU LR LR
comp=Z,3μm,22.0s
TORD **Torodi Ar. Bea** **102.91 74** PP PP 18 31 11.2 +4.7
comp=Z,0.7nm,0.9s,baz=292,slow=4.7,SNR=3.6
KLMR **Klimovskoe** **103.72 17** PP PP 18 31 09.6 -1.1
KLMR AMP 18 31 24.1
comp=Z,13nm,1.4s
KLMR LQ LQ 19 03 18.4
KLMR LQ LQ 19 03 18.4
KLMR LR LR 19 08 59.9
TAM **Tamanrasset** **103.87 63** PFAKE 18 27 10.0 +13
TAM LR LR
comp=Z,2μm,19.0s
PSZ **Piszkesteto** **104.05 35** PFAKE 18 27 10.0 +13
PSZ LR LR
comp=Z,3μm,21.0s
CLTB **Caltabellotta** **104.76 47** PFAKE 18 27 10.0 +10
CLTB LR LR
comp=Z,2μm,21.0s
MAJO **Matsushiro** **105.34 312** PFAKE 18 31 30.0
MAJO LR LR
comp=Z,7μm,22.0s
CUC **Castrocucco** **105.50 44** PFAKE 18 31 30.0
CUC LR LR
comp=Z,2μm,20.0s
CEL **Celeste** **106.36 45** PFAKE 18 31 30.0
CEL LR LR
comp=Z,2μm,22.0s
WDD **Wied Dalam** **106.46 48** PFAKE 18 31 30.0
WDD LR LR
comp=Z,3μm,22.0s
TIP **Timpagrande** **106.53 44** PFAKE 18 31 30.0
TIP LR LR
comp=Z,3μm,21.0s
MDJ **Mudanjiang** **107.10 323** PFAKE 18 31 30.0
MDJ LR LR
comp=Z,3μm,20.0s
OBN **Obninsk** **107.22 22** *i* P **Pdif** **18 27 10.7 +0.2**
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,4μm,20.0s
OBN **Obninsk** **107.22 22** PFAKE 18 31 30.0
OBN LR LR
comp=Z,4μm,20.0s
KIEV **Kiev** **107.24 29** PFAKE 18 31 30.0
KIEV LR LR
comp=Z,2μm,19.0s
AKASG **Malin Array Be** **107.24 29** PP PP 18 31 36.6 -0.4
comp=Z,0.2nm,0.2s,baz=308,slow=6.4,SNR=5.6
TIR **Tirane** **107.52 41** PFAKE 18 31 30.0
TIR LR LR
comp=Z,3μm,22.0s
GUMO **Guam** **107.56 288** PFAKE 18 31 30.0
GUMO LR LR
comp=Z,4μm,22.0s
CAN **Canberra** **109.44 236** PFAKE 18 31 40.0
CAN LR LR
comp=Z,2μm,19.0s
KIS **Kishinev** **109.47 32** *e* 18 41 24.0
KIS *e*L L 19 04 58.0
KIS LRM MLR 19 17 52.0
comp=Z,4μm,20.0s
HIA **Hailar** **109.47 331** PFAKE 18 31 40.0
HIA LR LR
comp=Z,3μm,19.0s
PMG **Port Moresby** **109.81 264** PFAKE 18 31 40.0
PMG LR LR
comp=Z,3μm,21.0s
CN2 **Changchun** **110.00 324** *e*Pdif **Pdif** **18 27 28.8 +5.6**
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,2μm,22.0s
TAU **Tasmania Unive** **110.32 228** PFAKE 18 31 40.0
TAU LR LR
comp=Z,3μm,19.0s
CTAO **Charters Tower** **111.66 252** PFAKE 18 31 40.0
CTAO LR LR
comp=Z,2μm,19.0s
ARU **Arti** **112.22 10** PFAKE 18 31 40.0
ARU LR LR
comp=Z,2μm,19.0s
INCN **Inchon** **112.93 318** PFAKE 18 31 40.0
INCN LR LR
comp=Z,4μm,20.0s
SANT **Santorini** **113.87 43** PFAKE 18 31 40.0
SANT LR LR
comp=Z,1μm,19.0s
TLY **Talaya** **113.97 341** PFAKE 18 31 40.0
TLY LR LR
comp=Z,3μm,21.0s
DL2 **Dalian** **115.27 322** *e*PKP **PKPdf** **18 31 30.5 -4.8**
DL2 PP **PP** **18 32 39.8 +4.7**
DL2 AMB AMB
comp=Z,330nm,11.6s
DL2 LR LR
comp=Z,990nm,19.8s
DL2 LR LR
comp=Z,1μm,22.8s
DL2 LR LR
comp=Z,2μm,21.6s
ZAA1 **Zalesovo Array** **115.77 354** *e*PKPdf **PKPdf** **18 31 36.8 +1.0**
ZAA1 *e*PP **PP** **18 32 37.3 -0.5**
ZALV **Zalesovo Beam** **115.78 354** PKP **PKPdf** **18 31 36.8 +1.0**
comp=Z,0.6nm,0.6s,baz=301,slow=4.2,SNR=5.1
ZALV PP **PP** **18 32 37.3 -0.5**
comp=Z,1.2nm,0.6s,baz=359,slow=7.9,SNR=5.0
ULN **Ulaanbaatar** **116.01 337** *i* PKIKP **PKPdf** **18 31 35.7 -1.0**
SONA1 **Songino Array** **116.27 338** *e*PKPdf **PKPdf** **18 31 37.6 +0.5**
ISP **Isparta** **116.28 39** PFAKE 18 31 50.0 +13
ISP LR LR
comp=Z,2μm,19.0s
SONA0 **Songino Array** **116.29 338** *e*PKPdf **PKPdf** **18 31 38.1 +0.9**
SONM **Songino Array** **116.29 338** PKP **PKPdf** **18 31 38.1 +0.9**
comp=Z,1.3nm,0.9s,baz=15,slow=2.4,SNR=4.6
ANTO **Ankara** **116.32 36** PFAKE 18 31 50.0 +13
ANTO LR LR
comp=Z,3μm,22.0s
SYO **Syowa Base** **116.63 166** || *e*Pdiff **Pdif** **18 27 52.2 +0.2**
BR101 **Keskin Array S** **116.90 35** *e*PKPdf **PKPdf** **18 31 38.6 0.0**
BR101 *e*PP **PP** **18 32 48.9 +2.2**
BRTR **Keskin Array B** **116.90 35** PKP **PKPdf** **18 31 38.6 0.0**
comp=Z,1.5nm,0.8s,baz=215,slow=1.5,SNR=4.2
BRTR PP **PP** **18 32 48.9 +2.2**
comp=Z,1.6nm,1.0s,baz=354,slow=6.7,SNR=3.8
BRVK **Borovoye** **116.95 4** *i* PKIKP **PKPdf** **18 31 37.6 -0.5**
BRVK **Borovoye** **116.95 4** PFAKE 18 31 50.0 +12
BRVK LR LR
comp=Z,3μm,19.0s
BVAR **Borovoye Array** **116.99 4** PKP **PKPdf** **18 31 37.4 -0.8**
comp=Z,0.4nm,0.6s,baz=2.9,slow=2.9,SNR=3.8
BJI **Beijing** **117.69 326** PKP **PKPdf** **18 31 41.0 +1.1**
BJI LR LR
comp=Z,2μm,20.6s
BJI LR LR
comp=Z,5μm,20.6s
BJI LR LR
comp=Z,3μm,19.0s
BJT **Baijiatuan** **117.71 326** PFAKE 18 31 50.0 +10
BJT LR LR
comp=Z,4μm,20.0s
KIV **Kislovodsk** **118.40 27** *i* PKIKP **PKPdf** **18 31 39.0 -2.3**
KIV pmax pmax

	comp=Z,3.0nm,1.0s							
KIV	**Kislovodsk**	**118.40**	**27**	PFAKE			18 31 50.0	+8.7
KIV				LR	LR			
	comp=Z,2μm,20.0s							
CASY	**Casey**	**119.09**	**195**	PFAKE			18 31 50.0	+8.3
CASY				LR	LR			
	comp=Z,491nm,19.0s							
AB06	**Akbulak array**	**119.31**	**12**	*e*PKPdf		**PKPdf**	**18 31 43.3**	**+0.5**
AB31	**Akbulak array**	**119.31**	**12**	*e*PKIKP		**PKPdf**	**18 31 43.7**	**+0.9**
AB31	**Akbulak array**	**119.31**	**12**	*e*PKPdf		**PKPdf**	**18 31 43.7**	**+0.9**
ABKAR	**Akbulak array**	**119.31**	**12**	*e*PKPdf		**PKPdf**	**18 31 43.8**	**+1.0**
KURK	**Kurchatov**	**119.42**	**358**	*i* PKIKP		**PKPdf**	**18 31 42.6**	**-0.3**
KURK	**Kurchatov**	**119.42**	**358**	*e*PKPdf		**PKPdf**	**18 31 41.1**	**-1.9**
KURK				*e*PKPdf		**PKiKP**	**18 31 42.2**	**-0.8**
KURK				LR	LR			
	comp=Z,10μm,21.0s							
KURBB	**Kurchatov Arra**	**119.52**	**358**	PKP		**PKPdf**	**18 31 41.1**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=10,slow=1.5,SNR=8.4							
HHC	**Hu-ho-hao-te**	**119.55**	**329**	*e*PKP		**PKPdf**	**18 31 40.0**	**-3.6**
HHC				sPKP			18 31 50.0	
HHC				SKKS			18 39 58.0	
HHC				AMB	AMB			
	comp=Z,180nm,5.7s							
HHC				LR	LR			
	comp=Z,2μm,19.2s							
HHC				LR	LR			
	comp=Z,2μm,17.3s							
HHC				LR	LR			
	comp=Z,4μm,17.6s							
CSS	**Mathiatis**	**119.84**	**40**	PFAKE			18 32 00.0	+16
CSS				LR	LR			
	comp=Z,331nm,21.0s							
NJ2	**Nanjing**	**121.29**	**317**	*e*PKP		**PKPdf**	**18 31 48.5**	**+1.4**
NJ2				LR	LR			
	comp=Z,2μm,21.1s							
NJ2				LR	LR			
	comp=Z,2μm,22.2s							
NJ2				LR	LR			
	comp=Z,3μm,22.8s							
TIY	**Taiyuan**	**121.40**	**326**	*e*PKP		**PKPdf**	**18 31 47.8**	**+0.6**
TIY				PP		**PP**	**18 33 23.0**	**+5.5**
TIY				SKKS			18 40 14.3	
TIY				AMB	AMB			
	comp=Z,250nm,8.2s							
TIY				LR	LR			
	comp=Z,3μm,21.8s							
TIY				LR	LR			
	comp=Z,770nm,15.9s							
TIY				LR	LR			
	comp=Z,2μm,19.8s							
GNI	**Garni**	**122.35**	**28**	PFAKE			18 32 00.0	+11
GNI				LR	LR			
	comp=Z,2μm,19.0s							
WB2	**Warramunga Arr**	**122.84**	**253**	*e*PKPdf		**PKPdf**	**18 31 49.1**	**-1.3**
WRAB	**Tennant Creek**	**122.84**	**253**	PFAKE			18 32 00.0	+10
WRAB				LR	LR			
	comp=Z,2μm,20.0s							
WR1	**Warramunga Arr**	**122.85**	**253**	*e*PKPdf		**PKPdf**	**18 31 49.0**	**-1.4**
WRA	**Warramunga Arr**	**122.85**	**253**	PKP		**PKPdf**	**18 31 49.0**	**-1.4**
	comp=Z,3.9nm,0.9s,baz=88,slow=2.3,SNR=26							
WRA	**Warramunga Arr**	**122.85**	**253**	PKIKP		**PKPdf**	**18 31 49.0**	**-1.4**
AS01	**Alice Springs**	**123.08**	**248**	*e*PKPdf		**PKPdf**	**18 31 48.9**	**-1.9**
MK31	**Makanchi Array**	**123.10**	**355**	*e*PKIKP		**PKPdf**	**18 31 48.4**	**-1.8**
MK31	**Makanchi Array**	**123.10**	**355**	*e*PKPdf		**PKPdf**	**18 31 48.4**	**-1.8**
MK32	**Makanchi Array**	**123.10**	**355**	*e*PKPdf		**PKPdf**	**18 31 48.8**	**-1.4**
MKAR	**Makanchi Array**	**123.10**	**355**	PKP		**PKPdf**	**18 31 48.8**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=36,slow=2.3,SNR=16							
MKAR	**Makanchi Array**	**123.10**	**355**	*e*PKIKP		**PKPdf**	**18 31 48.4**	**-1.8**
MKAR	**Makanchi Array**	**123.10**	**355**	*e*PKPdf		**PKPdf**	**18 31 48.4**	**-1.8**
MAKZ	**Makanchi**	**123.12**	**355**	*e*PKIKP		**PKPdf**	**18 31 48.5**	**-1.7**
MAKZ	**Makanchi**	**123.12**	**355**	*e*PKPdf		**PKPdf**	**18 31 48.5**	**-1.7**
MK01	**Makanchi Array**	**123.12**	**355**	*e*PKPdf		**PKPdf**	**18 31 48.0**	**-2.2**
AS31	**Alice Springs**	**123.13**	**248**	*e*PKPdf		**PKPdf**	**18 31 49.8**	**-1.0**
ASAR	**Alice Springs**	**123.13**	**248**	PKP		**PKPdf**	**18 31 49.3**	**-1.6**
	comp=Z,2.2nm,0.9s,baz=117,slow=2.1,SNR=13							
TSUM	**Tsumeb**	**123.15**	**106**	*e*PKPdf		**PKPdf**	**18 31 50.1**	**-1.0**
YHNB	**Yeheng**	**123.72**	**309**	PFAKE			18 32 00.0	+8.0
YHNB				LR	LR			
	comp=Z,2μm,20.0s							
SUR	**Sutherland**	**124.79**	**122**	PFAKE			18 32 10.0	+16
SUR				LR	LR			
	comp=Z,9μm,19.0s							
WHN	**Wuhan**	**125.22**	**319**	PKP		**PKPdf**	**18 31 55.5**	**+0.9**
WMQ	**Urumqi**	**125.29**	**349**	PKP		**PKPdf**	**18 31 55.3**	**+0.8**
WMQ				PP		**PP**	**18 33 46.0**	**+2.9**
WMQ				SKS		**SKSdf**	**18 39 03.0**	**-3.8**
WMQ				SS		**SS**	**18 50 45.3**	**+5.3**
WMQ				AMB	AMB			
	comp=Z,840nm,7.5s							
WMQ				LR	LR			
	comp=Z,8μm,26.9s							
WMQ				LR	LR			
	comp=Z,6μm,23.9s							
WMQ				LR	LR			
	comp=Z,7μm,26.9s							
MTN	**Manton Dam**	**125.79**	**261**	*e*PKPdf		**PKPdf**	**18 31 55.1**	**-1.0**
GTA	**Gaotai**	**125.95**	**337**	*e*PKP		**PKPdf**	**18 31 57.5**	**+1.5**
GTA				PP		**PP**	**18 33 53.5**	**+5.6**
GTA				SKS		**SKSdf**	**18 39 06.5**	**-1.9**
GTA				AMB	AMB			
	comp=Z,320nm,7.6s							
GTA				LR	LR			
	comp=Z,2μm,19.5s							
GTA				LR	LR			
	comp=Z,3μm,20.2s							
GTA				LR	LR			
	comp=Z,3μm,20.0s							
XAN	**Xi'an**	**126.03**	**326**	PKP		**PKPdf**	**18 31 57.0**	**+0.8**
XAN				SKS		**SKSdf**	**18 39 03.5**	**-5.0**
XAN				AMB	AMB			
	comp=Z,370nm,7.9s							
XAN				LR	LR			
	comp=Z,2μm,18.6s							
XAN				LR	LR			
	comp=Z,2μm,16.2s							
XAN				LR	LR			
	comp=Z,3μm,17.6s							
LZH	**Lanzhou**	**127.03**	**332**	*e*PKP		**PKPdf**	**18 31 55.0**	**-3.2**
LZH				sPKP			18 32 04.8	
LZH				PKS		**PKSdf**	**18 35 30.0**	**-5.0**
LZH				SKKS			18 40 47.0	
LZH				AMB	AMB			
	comp=Z,290nm,4.3s							
LZH				LR	LR			
	comp=Z,2μm,17.3s							
LZH				LR	LR			
	comp=Z,3μm,17.9s							
LZH				LR	LR			
	comp=Z,5μm,20.1s							
AAK	**Ala-Archa**	**127.54**	**1**	*e*PKIKP		**PKPdf**	**18 31 58.2**	**-0.8**
AAK				MLR	MLR			
	comp=Z,6μm,21.0s							
AAK	**Ala-Archa**	**127.54**	**1**	*e*PKPdf		**PKPdf**	**18 31 58.2**	**-0.8**
AAK				LR	LR			
	comp=Z,6μm,21.0s							
DAV	**Davao City (W)**	**127.59**	**287**	PFAKE			18 32 10.0	+10
DAV				LR	LR			
	comp=Z,2μm,22.0s							
PRZ	**Przheval'sk**	**127.66**	**358**	PKIKP		**PKPdf**	**18 32 00.0**	**+0.7**
KDJ	**Kajisay**	**128.05**	**359**	PKIKP		**PKPdf**	**18 31 59.9**	**-0.1**
KDJ	**Kajisay**	**128.05**	**359**	*e*PKPdf		**PKPdf**	**18 31 59.5**	**-0.5**
TARG	**Taragay, Kyrgy**	**128.43**	**358**	*e*PKPdf		**PKPdf**	**18 32 01.4**	**+0.4**
ENH	**Enshi**	**128.45**	**322**	PFAKE			18 32 10.0	+9.1
ENH				LR	LR			
	comp=Z,3μm,22.0s							
NRN	**Naryn**	**128.76**	**360**	*e*PKIKP		**PKPdf**	**18 32 02.2**	**+0.6**
NRN	**Naryn**	**128.76**	**360**	*e*PKPdf		**PKPdf**	**18 32 02.2**	**+0.6**
BOSA	**Boshof**	**129.26**	**119**	PKP		**PKPdf**	**18 32 03.9**	**+1.3**
	comp=Z,4.0nm,0.9s,baz=291,slow=1.2,SNR=3.3							
GEYT	**Alibeck**	**129.47**	**18**	PKP		**PKPdf**	**18 32 02.6**	**0.0**
	comp=Z,4.7nm,1.0s,baz=298,slow=3.1,SNR=12							
KSH	**Kashi**	**130.67**	**360**	*e*PKP		**PKPdf**	**18 32 06.8**	**+1.8**
KSH				PP		**PP**	**18 34 26.0**	**+7.5**
KSH				PKS		**PKSdf**	**18 35 42.0**	**+0.4**
KSH				SKS		**SKSdf**	**18 39 17.0**	**0.0**
KSH				AMB	AMB			
	comp=Z,240nm,6.8s							
KSH				LR	LR			
	comp=Z,3μm,21.3s							
KSH				LR	LR			
	comp=Z,2μm,16.2s							
KSH				LR	LR			
	comp=Z,6μm,21.7s							
FITZ	**Fitzroy Crossi**	**131.13**	**255**	PKP		**PKPdf**	**18 32 05.2**	**-0.9**
	comp=Z,2.4nm,0.9s,baz=92,slow=5.2,SNR=4.1							
FITZ	**Fitzroy Crossi**	**131.13**	**255**	*e*PKPdf		**PKPdf**	**18 32 05.6**	**-0.5**
CD2	**Chengdu**	**131.22**	**328**	PKP		**PKPdf**	**18 32 05.8**	**-0.4**
CD2				sPKP			18 32 10.5	
CD2				PP		**PP**	**18 34 22.8**	**+0.1**
CD2				SKS		**SKSdf**	**18 39 17.3**	**-0.9**
CD2				SKKS		**SKKSac**	**18 41 18.0**	**-2.7**
CD2				AMB	AMB			
	comp=Z,260nm,5.8s							
CD2				LR	LR			
	comp=Z,3μm,22.5s							
CD2				LR	LR			
	comp=Z,2μm,17.1s							
CD2				LR	LR			
	comp=Z,3μm,17.1s							
GYA	**Guiyang**	**132.91**	**321**	Pdif		**Pdif**	**18 29 05.0**	**-0.6**
GYA				PKP		**PKPdf**	**18 32 09.5**	**-0.1**
GYA				PP		**PP**	**18 34 38.3**	**+4.4**
GYA				PKS		**PKSdf**	**18 35 44.5**	**-1.8**
GYA	**Guiyang**	**132.91**	**321**	SS		SS	18 52 15.5	-0.3
GYA	**Guiyang**	**132.91**	**321**	PKP		**PKPdf**	**18 32 09.5**	**-0.1**
GYA				PP		**PP**	**18 34 38.3**	**+4.4**
GYA				PKS		**PKSdf**	**18 35 44.5**	**-1.8**
GYA				SKKS			18 41 28.0	
GYA				AMB	AMB			
	comp=Z,190nm,8.2s							
GYA				LR	LR			
	comp=Z,330nm,20.8s							
GYA				LR	LR			
	comp=Z,210nm,21.0s							
GYA				LR	LR			
	comp=Z,260nm,21.2s							
LSZ	**Lusaka**	**133.32**	**101**	PFAKE			18 32 20.0	+9.4
LSZ				LR	LR			
	comp=Z,4μm,21.0s							
MBAR	**Mbarara**	**134.21**	**81**	PFAKE			18 32 20.0	+7.6
MBAR				LR	LR			
	comp=Z,667nm,22.0s							
RAYN	**Ar Rayn**	**135.36**	**41**	PFAKE			18 32 30.0	+16
RAYN				LR	LR			
	comp=Z,1μm,20.0s							
NWAO	**Narrogin (SRO)**	**135.64**	**233**	PFAKE			18 32 30.0	+16
NWAO				LR	LR			
	comp=Z,2μm,19.0s							
QIZ	**Qiongzhong**	**135.71**	**311**	PKP		**PKPdf**	**18 32 16.3**	**+1.5**
QIZ				PP		**PP**	**18 34 55.3**	**+3.3**
QIZ				LR	LR			
	comp=Z,910nm,19.6s							
QIZ				LR	LR			
	comp=Z,2μm,19.6s							
QIZ				LR	LR			
	comp=Z,3μm,21.6s							
QIZ	**Qiongzhong**	**135.71**	**311**	PFAKE			18 32 30.0	+15
QIZ				LR	LR			
	comp=Z,2μm,19.0s							
KAPI	**Kappang**	**136.18**	**273**	PFAKE			18 32 30.0	+14
KAPI				LR	LR			
	comp=Z,1μm,21.0s							
KMI	**Kunming**	**136.27**	**324**	PKP		**PKPdf**	**18 32 14.5**	**-1.5**
KMI				AMB	AMB			
	comp=Z,160nm,8.8s							
KMI				LR	LR			
	comp=Z,980nm,19.5s							
KMI				LR	LR			
	comp=Z,2μm,17.8s							
KMI				LR	LR			
	comp=Z,3μm,19.5s							
MBWA	**Marble Bar**	**136.42**	**250**	PFAKE			18 32 30.0	+14
MBWA				LR	LR			
	comp=Z,2μm,20.0s							
KKM	**Kota Kinabalu**	**136.69**	**290**	PFAKE			18 32 30.0	+13
KKM				LR	LR			
	comp=Z,3μm,22.0s							
LSA	**Lhasa**	**137.79**	**340**	PFAKE			18 32 30.0	+11
LSA				LR	LR			
	comp=Z,3μm,20.0s							
PAF	**Port-aux-Franc**	**140.56**	**174**	PFAKE			18 32 30.0	+7.2
PAF				LR	LR			
	comp=Z,5μm,21.0s							
KMBO	**Kilima Mbogo**	**140.66**	**79**	PKP		**PKPdf**	**18 32 23.8**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=38,slow=5.9,SNR=3.4							
KMBO	**Kilima Mbogo**	**140.66**	**79**	*e*PKIKP		**PKPdf**	**18 32 23.8**	**-0.6**
KMBO				MLR	MLR			
	comp=Z,3μm,19.0s							
KMBO	**Kilima Mbogo**	**140.66**	**79**	*e*PKPdf		**PKPdf**	**18 32 23.8**	**-0.6**
KMBO				LR	LR			
	comp=Z,3μm,19.0s							
CHTO	**Chiang Mai**	**143.34**	**321**	*e*PKIKP		**PKPdf**	**18 32 27.4**	**-1.3**
CHTO				MLR	MLR			
	comp=Z,1μm,19.0s							
CHTO	**Chiang Mai**	**143.34**	**321**	*e*PKPdf		**PKPdf**	**18 32 27.4**	**-1.3**
CHTO				LR	LR			
	comp=Z,1μm,19.0s							
CM31	**Chiang Mai Arr**	**143.61**	**321**	*e*PKPdf		**PKPdf**	**18 32 29.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**143.61**	**321**	PKP		PKPbc	18 32 27.3	+0.8
	comp=Z,3.0nm,0.9s,baz=3.3,slow=2.3,SNR=18							
CM01	**Chiang Mai Arr**	**143.62**	**321**	*e*PKPdf		**PKPdf**	**18 32 28.7**	**-0.5**
KSM	**Kuching**	**143.79**	**287**	PFAKE			18 32 40.0	+10
KSM				LR	LR			
	comp=Z,2μm,22.0s							
CISI	**Cisompet, Garu**	**148.28**	**272**	*e*PKPbc		**PKPbc**	**18 32 41.0**	**+0.3**
LEM	**Lembang**	**148.38**	**273**	PKPbc		**PKPbc**	**18 32 41.2**	**+0.1**
	comp=Z,16nm,0.6s,baz=153,slow=22,SNR=5.5							
KULM	**Kulim**	**150.93**	**301**	*e*PKPbc		**PKPbc**	**18 32 46.4**	**-0.8**
KULM				LR	LR			
	comp=Z,2μm,22.0s							
ABPO	**Ambohimpanom**	**150.98**	**111**	PKIKP		**PKPbc**	**18 32 48.5**	**+1.1**
ABPO	**Ambohimpanom**	**150.98**	**111**	PFAKE			18 32 50.0	+2.6
ABPO				LR	LR			
	comp=Z,2μm,22.0s							
IPM	**Ipoh**	**151.02**	**299**	*e*PKPbc		**PKPbc**	**18 32 46.3**	**-1.1**
OPO	**Ambohidratompo**	**151.04**	**110**	PKPbc		**PKPbc**	**18 32 48.4**	**+0.9**
	comp=Z,15nm,1.1s,baz=203,slow=1.8,SNR=8.0							
POO	**Poona**	**151.52**	**4**	*e*P		**PKPdf**	**18 32 39.0**	**-3.3**
HYB	**Hyderabad**	**152.56**	**354**	*i* PKP		**PKPbc**	**18 32 50.0**	**-0.8**
PSI	**Prapat**	**153.67**	**298**	PKPbc		**PKPbc**	**18 32 54.8**	**+1.3**
	comp=Z,19nm,1.0s,baz=151,slow=1.6,SNR=9.2							
PSI	**Prapat**	**153.67**	**298**	*e*PKIKP		**PKPbc**	**18 32 50.4**	**-3.1**
PSI	**Prapat**	**153.67**	**298**	*e*pPKPdf		**PKPbc**	**18 32 50.4**	**-3.1**
RER	**Riviere de l'E**	**157.78**	**122**	PFAKE			18 33 00.0	+9.1
RER				LR	LR			
	comp=Z,4μm,19.0s							
COCO	**West Island**	**159.26**	**262**	PFAKE			18 33 00.0	+7.3
COCO				LR	LR			
	comp=Z,2μm,20.0s							
DGAR	**Diego Garcia**	**175.76**	**52**	PFAKE			18 33 10.0	+5.4
DGAR				LR	LR			
	comp=Z,1μm,20.0s							

MEX 26 18:45:21.6±0.4, 16.32N×98.27W, h8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**62**	*e*P			Pg	18 45 24.2	-0.6
PNIG				*i* S			Sg	18 45 27.3	+0.2
TLIG	**Tlapa**	**1.27**	**347**	*i* P			Pn	18 45 42.0	-3.7
TLIG				*e*S			Sb	18 45 57.9	-4.5
ACX	**Acapulco**	**1.62**	**290**	*i* P			Pn	18 45 47.6	-2.9
ACX				*e*S			Sn	18 46 08.5	-3.1
VHO	**Vista Hermosa**	**1.65**	**63**	*e*P			Pn	18 45 47.6	-3.5
VHO				*e*S			Sn	18 46 08.1	-4.5
CAIG	**El Cayaco**	**2.05**	**291**	*e*P			Pn	18 45 53.2	-3.2
CAIG				*i* S			Sn	18 46 17.8	-4.4
HUIG	**Huatulco**	**2.15**	**105**	*i* P			Pn	18 45 54.6	-3.1
HUIG				*i* S			Sn	18 46 20.2	-4.4

IDC 26 18:47:10.9±13.0, 9.33N×104.00W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/40, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=381.7km s-min=113.1km az=119.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**19.90**	**1**	P			P	18 51 44.3	0.0
	0.0nm,0.3s,baz=185,slow=14,SNR=6.5								
YKA	**Yellowknife Ar**	**53.62**	**354**	P			P	18 56 33.8	0.0
	0.4nm,0.7s,baz=165,slow=7.2,SNR=5.7								
ILAR	**Eielson Array**	**62.91**	**341**	P			P	18 57 38.7	-0.1
	1.1nm,1.0s,baz=152,slow=4.2,SNR=7.4								

*ISK **26** 18:54:10.7, 39.17N×42.32E, h5km, ML2.7/2*

*ISCJB **26** 18:54:11.5±0.5, 39.23N±0.03×42.29E±0.03, h4km±6km, Error ellipse: s-maj=4.5km s-min=4.2km az=175.8*

*CSEM **26** 18:54:11.4±0.2, 39.23N×42.30E, h2km, ML2.3, Error ellipse: s-maj=4.1km s-min=3.4km az=5.0*

*DDA **26** 18:54:11.3, 39.25N×42.30E, h7km, Ml2.3*

ISC 26 18:54:11.6±1.0, 39.22N±0.02×42.30E±0.02, h7km±9km, n27, σ0960/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.18**	**281**	*i* P			**Pg**	**18 54 15.6**	**+0.1**
EKAR	**Karacoban**	**0.18**	**281**	P			**Pg**	**18 54 15.6**	**+0.1**
TUTA	**Tutak**	**0.44**	**65**	*i* P			**Pg**	**18 54 20.3**	**0.0**
TUTA				*i* S			**Sg**	**18 54 25.7**	**-0.4**
TUTA	**Tutak**	**0.44**	**65**	P			**Pg**	**18 54 20.3**	**0.0**
TUTA				S			**Sg**	**18 54 25.7**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.53**	**141**	*i* P			**Pg**	**18 54 21.8**	**-0.1**
ADCV				*i* S			**Sb**	**18 54 30.9**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.53**	**141**	P			**Pg**	**18 54 21.8**	**-0.1**
ADCV				S			**Sb**	**18 54 30.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.65**	**56**	PG			**Pg**	**18 54 24.3**	**+0.2**
AGRB				SG			**Sb**	**18 54 34.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.65**	**56**	*e*Pg			**Pg**	**18 54 24.3**	**+0.2**
AGRB				*e*Sg			**Sb**	**18 54 34.7**	**+0.1**
VRTB	**Varto-Mus**	**0.66**	**265**	PG			**Pb**	**18 54 24.8**	**-0.7**
VRTB	**Varto-Mus**	**0.66**	**265**	*i* P			**Pg**	**18 54 24.0**	**-0.3**
VRTB				*i* S			**Sb**	**18 54 34.3**	**-0.5**
VRTB	**Varto-Mus**	**0.66**	**265**	P			**Pg**	**18 54 24.0**	**-0.3**
VRTB	**Varto-Mus**	**0.66**	**265**	*e*Pg			**Pb**	**18 54 24.8**	**-0.7**
VRTB				S			**Sb**	**18 54 34.3**	**-0.5**
EATA	**Eleskirt**	**0.66**	**13**	*i* P			**Pg**	**18 54 24.2**	**-0.2**
EATA				*i* S			**Sg**	**18 54 33.4**	**+0.3**
EATA	**Eleskirt**	**0.66**	**13**	P			**Pg**	**18 54 24.2**	**-0.2**
EATA				S			**Sg**	**18 54 33.4**	**+0.3**
GURO	**Guroymak-BITLI**	**0.70**	**197**	PG			**Pg**	**18 54 24.7**	**-0.4**
GURO				SG			**Sg**	**18 54 34.6**	**+0.4**
GURO	**Guroymak-BITLI**	**0.70**	**197**	*e*Pg			**Pg**	**18 54 24.7**	**-0.4**
GURO				*e*Sg			**Sg**	**18 54 34.6**	**+0.4**
HOMI	**Horasan**	**0.88**	**340**	*i* P			**Pg**	**18 54 27.5**	**-1.0**
ERZM	**Erzurum**	**0.99**	**314**	*i* P			**Pg**	**18 54 29.3**	**-1.4**
ERZM	**Erzurum**	**0.99**	**314**	P			**Pg**	**18 54 29.3**	**-1.4**
VMUR	**Van-Muradiye**	**1.02**	**103**	*i* P			**Pg**	**18 54 30.6**	**-0.6**
VMUR	**Van-Muradiye**	**1.02**	**103**	P			**Pg**	**18 54 30.6**	**-0.6**
GEVA	**Gevas**	**1.08**	**146**	*i* P			**Pg**	**18 54 31.7**	**-0.8**
GEVA				*i* S			**Sn**	**18 54 48.8**	**+0.1**
GEVA	**Gevas**	**1.08**	**146**	P			**Pg**	**18 54 31.7**	**-0.8**
GEVA				S			**Sn**	**18 54 48.8**	**+0.1**
ECAT	**Cat-ERZURUM**	**1.09**	**291**	*i* P			**Pg**	**18 54 32.6**	**-0.1**
ECAT				*i* S			**Sb**	**18 54 47.7**	**+0.2**
ECAT	**Cat-ERZURUM**	**1.09**	**291**	P			**Pg**	**18 54 32.6**	**-0.1**
ECAT				S			**Sb**	**18 54 47.7**	**+0.2**
PTK	**Pertek**	**2.28**	**263**	PN			**Pn**	**18 54 51.2**	**+1.3**
PTK	**Pertek**	**2.28**	**263**	*e*Pn			**Pn**	**18 54 51.2**	**+1.3**

DJA 26 19:11:00.3±0.5, 10.5S±5.5×12.4E±.5, h69km±11km, M4.0/10, mb4.4/3, MLv3.9/10, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.45**	**171**	P			Pn	19 11 14.3	+1.7
SOEI	**Soe**	**0.67**	**90**	P			Pn	19 11 16.2	+1.3
EDFI	**Ende, Flores**	**2.13**	**298**	P			Pn	19 11 33.6	-0.2
EDFI				S			Sn	19 11 58.6	-0.7
BASI	**Baing, Sumba**	**3.00**	**261**	P			Pn	19 11 45.7	+0.2
BASI				S			Sn	19 12 20.7	+0.3
WSI	**Waingapu**	**3.25**	**271**	P			Pn	19 11 49.6	+0.7
WSI				S			Sn	19 12 26.5	+0.1
WBSI	**Waikabubak, Su**	**4.14**	**271**	P			Pn	19 12 00.2	-0.9
WBSI				S			Sn	19 12 46.0	-2.4
BSSI	**Bau Bau, Buton**	**4.73**	**319**	P			Pn	19 12 09.8	+0.7
PLAI	**Plampang**	**5.81**	**279**	P			Pn	19 12 23.8	-0.2

*ISCJB **26** 19:15:15.4±0.2, 4.50S±0.03×125.68E±0.03, h439km±2km, mb4.3/39, Error ellipse: s-maj=5.4km s-min=3.7km az=153.7*

*IDC **26** 19:15:15.9±0.9, 4.55S×125.58E, h428km±10km, mb3.9/28, mb1 4.0/31, mb1mx3.8/62, mbtmp4.7/31, Error ellipse: s-maj=12.5km s-min=6.2km az=71.0*

*DJA **26** 19:15:16.5±0.3, 5.5S±2.2×12.6E±.4, h422km±4km, M4.6/21, mb4.8/12, mB4.9/7, MLv4.8/21, Mw(mB)4.2/7*

*NEIC **26** 19:15:16.1±0.3, 4.50S×125.63E, h431km±4km, mb4.6/19, Error ellipse: s-maj=6.7km s-min=3.9km az=65.0*

ISC 26 19:15:16.0±0.5, 4.51S±0.04×125.73E±0.05, h429km±5km, n129, σ1905/161, mb4.3/39, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.86**	**47**	P			**P**	**19 16 14.6**	**+0.7**
NLAI				S			**S**	**19 16 59.9**	**-0.8**
SANI	**Sanana**	**2.46**	**6**	P			**P**	**19 16 18.3**	**+0.7**
SANI				S			**S**	**19 17 07.0**	**-0.4**
AAI	**Ambon**	**2.59**	**72**	P			**P**	**19 16 18.9**	**+0.5**
AAI				S			**S**	**19 17 09.4**	**+0.4**
KDI	**Kendari**	**3.15**	**280**	P			**P**	**19 16 22.5**	**-0.1**
BBSI	**Bau Bau**	**3.29**	**253**	P			**P**	**19 16 23.7**	**-0.1**
MSAI	**Masohi**	**3.39**	**70**	P			**P**	**19 16 25.3**	**+0.7**
BNDI	**Bandanaira**	**4.16**	**90**	P			**P**	**19 16 32.5**	**+1.0**
LBMI	**Labuha**	**4.24**	**25**	P			**P**	**19 16 32.6**	**+0.5**
LBMI				S			**S**	**19 17 35.1

COEN	Coen	19.59	120	*e*P	P	19 19 15.2	+0.1
	34nm,1.2s							
AS31	Alice Springs	20.61	158	*e*P	P	19 19 25.6	+1.3
	12nm,0.4s							
ASAR	Alice Springs	20.61	158	P	P	19 19 25.2	+0.9
	19nm,0.5s,baz=340,slow=9.2,SNR=175							
ASAR				S	S	19 22 45.5	-1.1
	4.8nm,0.9s,baz=344,slow=20,SNR=11							
ASAR				ScP	ScP	19 26 11.2	-0.4
	1.3nm,0.7s,baz=351,slow=3.2,SNR=4.1							
AS01	Alice Springs	20.63	158	*e*P	P	19 19 24.8	+0.4
PMG	Port Moresby	21.81	104	P	P	19 19 36.4	+1.1
	57nm,0.8s,baz=289,slow=2.5,SNR=30							
PMG	Port Moresby	21.81	104	*e*P	P	19 19 36.5	+1.2
	64nm,0.8s							
CTA	Charters Tower	25.28	129	P	P	19 20 07.9	+1.6
	7.6nm,1.0s,baz=301,slow=12,SNR=3.1							
STKA	Stephens Creek	31.02	153	P	P	19 20 57.4	+0.7
	22nm,0.6s,baz=327,slow=9.0,SNR=92							
STKA				ScP	ScP	19 26 41.4	-0.5
	1.3nm,0.9s,baz=327,slow=4.1,SNR=3.1							
STKA	Stephens Creek	31.02	153	*e*P	P	19 20 57.5	+0.7
	5.0nm,0.7s							
STKA				ScP	ScP	19 26 41.4	-0.5
CHAI	Chaiyaphum	31.04	311	P	P	19 20 57.1	+0.1
	6.5nm,0.7s							
HNR	Honiara	34.30	100	P	P	19 21 25.9	+0.9
	51nm,0.7s,baz=255,slow=5.2,SNR=6.1							
CM01	Chiang Mai Arr	34.87	312	*e*P	P	19 21 29.7	0.0
CM31	Chiang Mai Arr	34.90	312	*e*P	P	19 21 30.4	+0.4
CMAR	Chiang Mai Arr	34.90	312	P	P	19 21 29.3	-0.7
	4.3nm,0.7s,baz=138,slow=7.0,SNR=43							
CMAR				PcP	PcP	19 23 52.6	+1.1
	0.8nm,0.6s,baz=157,slow=2.8,SNR=8.3							
CMAR				ScP	ScP	19 26 57.2	+1.5
	1.9nm,0.9s,baz=161,slow=3.3,SNR=13							
CMMT	Chiang Mai	35.12	312	P	P	19 21 31.1	-0.7
	14nm,0.9s							
CHTO	Chiang Mai	35.12	312	P	P	19 21 32.1	+0.2
	73nm,0.9s							
CBIJ	Chichi jima	35.22	26	P	P	19 21 32.7	+0.2
JCJ	Chichijima	35.22	26	P	P	19 21 32.7	+0.1
	29nm,0.3s,baz=271,slow=19,SNR=3.0							
CMAI	Chiengmai2	35.75	314	P	P	19 21 37.8	+0.5
	43nm,0.8s,98µm							
CAN	Canberra	37.45	148	*e*P	P	19 21 53.1	+2.1
	20nm,0.7s							
JNU	Nakatsue	37.75	7	P	P	19 21 53.2	-0.3
	11nm,1.0s,baz=225,slow=1.1,SNR=5.3							
ENH	Enshi	37.92	337	*e*P	P	19 21 54.8	-0.2
	8.0nm,0.6s							
XAN	Xi'an	41.50	339	P	P	19 22 22.8	-1.2
KS15	Wonju Array Si	41.79	3	*e*P	P	19 22 26.0	-0.1
KSAR	Wonju Array Be	41.79	3	P	P	19 22 26.4	+0.2
KSRS	Korea Array	41.80	3	P	P	19 22 26.4	+0.1
	3.0nm,0.9s,baz=173,slow=8.5,SNR=9.4							
KS01	Wonju Array Si	41.82	3	*e*P	P	19 22 26.1	-0.3
MJAR	Matsushiro Arr	42.48	15	P	P	19 22 30.9	-0.8
	5.4nm,0.6s,baz=198,slow=9.7,SNR=20							
MAJO	Matsushiro	42.48	15	*e*P	P	19 22 30.9	-0.8
HHC	Hu-ho-hao-te	46.97	345	*e*P	P	19 23 08.5	+1.9
ODAN	Odare	48.44	312	*e*P	P	19 23 17.5	-0.6
TAPN	Taplejung	48.48	313	*e*P	P	19 23 17.8	-0.7
	8.9nm,0.4s							
USRK	Ussuriysk Ar.	48.82	6	P	P	19 23 20.4	+0.1
	15nm,0.6s,baz=188,slow=7.0,SNR=22							
MDJ	Mudanjiang	49.03	4	*e*P	P	19 23 22.5	+0.6
	19nm,0.8s							
RAMN	Ramite	49.08	312	*e*P	P	19 23 22.5	-0.4
	32nm,0.7s							
GTA	Gaotai	49.82	334	*e*P	P	19 23 28.0	-0.1
GTA				pP	pP	19 23 35.0	-78
GTA				sP	sP	19 23 39.3	-122
GUN	Gumba	50.14	312	*e*P	P	19 23 30.2	-0.7
	25nm,0.6s							
PKI	Pulchoki	50.30	312	*e*P	P	19 23 31.0	-1.1
PKIN	Phulchoki	50.31	312	*e*P	P	19 23 30.8	-1.3
KKN	Kakani	50.52	312	*e*P	P	19 23 32.6	-1.0
DMN	Daman	50.55	312	*e*P	P	19 23 33.0	-0.8
ASAJ	Asahikawa	50.73	16	P	P	19 23 35.4	+0.9
	13nm,0.8s,baz=234,slow=9.6,SNR=12							
ASAJ	Asahikawa	50.73	16	*e*P	P	19 23 35.6	+1.0
	9.7nm,0.7s							
GKN	Gorkha	51.11	312	*e*P	P	19 23 37.0	-0.8
KOLN	Koldanda	51.76	311	*e*P	P	19 23 42.0	-0.7
	25nm,0.6s							
PYUN	Piuthan	52.40	311	*e*P	P	19 23 46.7	-0.6
	32nm,0.8s							
SONA0	Songino Array	54.83	344	*e*P	P	19 24 03.8	-0.4
SONA0				*e*PcP	PcP	19 25 00.3	+0.1
SONM	Songino Array	54.83	344	P	P	19 24 03.8	-0.4
	3.8nm,0.9s,baz=161,slow=7.7,SNR=33							
SONM				PcP	PcP	19 25 00.3	+0.1
	0.8nm,0.7s,baz=167,slow=3.5,SNR=4.0							
SONA1	Songino Array	54.84	344	*e*P	P	19 24 03.6	-0.6
RPZ	Rata Peaks	55.80	141	P	P	19 24 12.0	+1.0
	12nm,0.8s,baz=60,slow=6.5,SNR=4.3							
KSH	Kashi	63.34	319	*e*P	P	19 25 02.0	+0.1
KSH				pP	PcP	19 25 05.5	-29
PETK	Petropavlovsk-	63.41	21	P	P	19 25 03.1	+1.2
	8.8nm,0.5s,baz=175,slow=4.5,SNR=35							
PETK				PcP	PcP	19 25 34.5	+0.2
	1.8nm,0.6s,baz=193,slow=1.6,SNR=4.9							
PEA1	Petropavlovsk-	63.42	21	*e*P	P	19 25 03.1	+1.2
PEA1				*e*PcP	PcP	19 25 34.5	+0.1
MK01	Makanchi Array	63.84	328	*e*P	P	19 25 04.1	-0.7
MK31	Makanchi Array	63.86	328	*e*P	P	19 25 04.3	-0.6
MK32	Makanchi Array	63.86	328	*e*P	P	19 25 04.3	-0.6
MK32				*e*PcP	PcP	19 25 36.0	-0.5
MKAR	Makanchi Array	63.86	328	P	P	19 25 04.3	-0.6
	7.9nm,0.7s,baz=117,slow=8.4,SNR=96							
MKAR				PcP	PcP	19 25 36.0	-0.5
	1.1nm,0.6s,baz=135,slow=4.3,SNR=4.6							
MKAR	Makanchi Array	63.86	328	*e*P	P	19 25 04.3	-0.6
	40nm,0.6s							
MKAR				PcP	PcP	19 25 36.0	-0.5
MAKZ	Makanchi	64.04	328	*e*P	P	19 25 04.7	-1.4
	3.7nm,0.6s							
KBL	Kabul	65.93	311	*e*P	P	19 25 16.1	-2.5
	5.3nm,0.9s							
YAK	Yakutsk	66.42	2	P	P	19 25 21.0	+0.3
	9.5nm,0.3s,baz=184,slow=6.8,SNR=1.0							
YAK	Yakutsk	66.42	2	*e*P	P	19 25 21.1	+0.3
	31nm,0.8s							
MA2	Magadan	66.89	14	P	P	19 25 25.0	+1.2
	6.3nm,0.7s,baz=179,slow=5.6,SNR=12							
ZAA0	Zalesovo Array	67.53	335	*e*P	P	19 25 26.4	-1.4
	7.9nm,1.0s							
ZALV	Zalesovo Beam	67.53	335	P	P	19 25 26.4	-1.4
	4.7nm,0.6s,baz=126,slow=4.6,SNR=24							
ZALV	Zalesovo Beam	67.53	335	*e*P	P	19 25 26.2	-1.6
ZAA1	Zalesovo Array	67.53	335	*e*P	P	19 25 26.4	-1.5
KURBB	Kurchatov Arra	68.21	330	P	P	19 25 31.5	-0.7
	5.6nm,0.8s,baz=135,slow=5.4,SNR=66							
KURK	Kurchatov	68.22	330	*e*P	P	19 25 31.4	-0.7
SEY	Seymchan	70.24	13	P	P	19 25 44.9	+0.8
	7.6nm,0.6s,baz=204,slow=4.6,SNR=63							
BVAR	Borovoye Array	73.73	329	P	P	19 26 04.0	-0.8
	1.7nm,0.5s,baz=126,slow=9.7,SNR=14							
GEYT	Alibeck	75.38	311	P	P	19 26 14.3	-0.2
	0.5nm,0.5s,baz=186,slow=2.9,SNR=3.3							
VNDA	Vanda	75.44	172	P	P	19 26 14.0	0.0
	1.1nm,0.7s,baz=321,slow=7.5,SNR=8.1							
TIXI	Tiksi	76.05	1	P	P	19 26 17.1	-0.4
	5.2nm,0.4s,baz=207,slow=5.4,SNR=59							
TIXI	Tiksi	76.05	1	*e*P	P	19 26 16.9	-0.6
	6.1nm,0.5s							
AB07	Akbulak array	77.93	322	*e*P	P	19 26 27.3	-1.0
AB31	Akbulak array	77.95	322	*e*P	P	19 26 27.6	-0.8
ABKAR	Akbulak array	77.95	322	*e*P	P	19 26 27.6	-0.8
	20nm,0.6s							
AB04	Akbulak array	77.95	322	*e*P	P	19 26 27.5	-0.9
AB05	Akbulak array	77.95	322	*e*P	P	19 26 27.4	-1.0
AKTO	Aktyubinsk	79.53	323	P	P	19 26 36.6	-0.3
	3.7nm,0.7s,baz=103,slow=6.9,SNR=11							
RAYN	Ar Rayn	82.86	294	*e*P	P	19 26 54.6	-0.2
	1.9nm,0.8s							
QSPA	South Pole Qui	85.45	180	P	P	19 27 06.6	-0.2
	1.9nm,0.7s,baz=163,slow=0.8,SNR=5.4							
ILAR	Eielson Array	92.93	25	P	P	19 27 40.4	-1.3
	0.8nm,0.6s,baz=246,slow=5.1,SNR=11							
TORD	Torodi Ar. Bea	124.14	283	PKP	PKPdf	19 33 25.6	-0.1
	0.6nm,1.0s,baz=48,slow=1.9,SNR=3.0							
TOA1	Torodi Ar. Sit	124.14	283	*e*PKPdf	PKPdf	19 33 25.6	-0.1
VT1	Waterbury	137.14	20	*e*PKPdf	PKPdf	19 33 50.1	+0.6
O56A	Blue Knob Stat	138.21	28	*e*PKPdf	PKPdf	19 33 53.2	+1.5

MNMC	Minye Minye	152.07	148	*e*PKPbc	PKPbc	19 34 23.5	+0.5

*ISCJB **26** 19:19:50.3±0.4,50.˚28N±0.˚03×18.˚69E±0.˚02,h0km, Error ellipse: s-maj=4.7km s-min=2.1km az=10.8*
*IPEC **26** 19:19:51.3±0.2,50.˚29N×18.˚81E,h2km,2km,ML2.0/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
*CSEM **26** 19:19:51.2±0.3,50.˚28N×18.˚73E,h2km,ML2.9/12, Error ellipse: s-maj=7.2km s-min=3.1km az=11.0*
*WAR **26** 19:19:51.9,50.˚27N×18.˚83E,h1km,Mw2.6*
*PRU **26** 19:19:52.4,50.˚26N×18.˚71E,h0km*

ISC 26 19:19:51.5±0.8, 50.˚21N±0.˚03×18.˚75E±0.˚02, h0km, n42, σ0.9 86/77, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.18	63	*e*Pg		Pg		19 19 54.3	-0.6
CHZP				*e*Sg		Sg		19 19 56.4	-0.8
CHZP	Chorzow	0.18	63	*e*Pg		Pg		19 19 54.3	-0.6
CHZP				*e*Sg		Sg		19 19 56.4	-0.8
OKC	Ostrava-Krasne	0.54	226	*e*PG		Pb		19 20 03.8	0.0
OKC				*e*SG		Sb		19 20 12.4	+0.3
	comp=Z,24nm,0.3s								
OKC	Ostrava-Krasne	0.54	226	Pg		Pb		19 20 03.8	0.0
OKC				Sg		Sb		19 20 12.4	+0.3
	24nm,0.3s								
OJC	Ojcow	0.68	89	*e*Pg		Pg		19 20 03.8	-0.7
OJC				*e*Sg		Sg		19 20 13.3	+0.1
OJC	Ojcow	0.68	89	*e*Pg		Pg		19 20 03.8	-0.7
OJC				*e*Sg		Sg		19 20 13.3	+0.1
OJC	Ojcow	0.68	89	*e*Pg		Pg		19 20 03.8	-0.7
OJC				*e*Sg		Sg		19 20 13.3	+0.1
MORC	Moravsky Berou	0.89	241	*e*Pg		Pb		19 20 09.5	-0.4
MORC				*e*Sg		Sb		19 20 21.6	-0.7
	28nm,0.2s,baz=57								
LANS	Liptovska Anna	1.16	156	*e*Pg		Pb		19 20 14.6	+0.1
LANS				*e*Sg		Sn		19 20 31.8	+0.2
LANS	Liptovska Anna	1.16	156	*e*PG		Pb		19 20 14.6	+0.1
LANS				*e*SG		Sn		19 20 31.8	+0.2
KRLC	Kraliky	1.27	265	*e*PG		Pg		19 20 15.7	-0.1
KRLC				*e*SG		Sg		19 20 32.4	+0.1
	comp=Z,5.6nm,0.4s								
KRLC	Kraliky	1.27	265	Pg		Pg		19 20 15.7	-0.1
KRLC				Sg		Sg		19 20 32.4	+0.1
	5.6nm,0.4s								
NIE	Niedzica	1.28	128	*e*Pg		Pg		19 20 16.1	0.0
NIE				*e*Sg		Sn		19 20 34.8	+0.2
NIE	Niedzica	1.28	128	*e*Pg		Pg		19 20 16.1	0.0
NIE				*e*Sg		Sn		19 20 34.8	+0.2
NIE	Niedzica	1.28	128	*e*Pg		Pg		19 20 16.1	0.0
NIE				*e*Sg		Sn		19 20 34.8	+0.2
DPC	Dobruska-Polom	1.56	276	*e*PG		Pn		19 20 20.4	-0.2
DPC				*e*SG		Sg		19 20 41.9	+0.3
	comp=Z,17nm,0.3s								
DPC	Dobruska-Polom	1.56	276	Pg		Pn		19 20 20.4	-0.2
DPC				Sg		Sg		19 20 41.9	+0.3
	17nm,0.3s								
VRAC	Vranov	1.66	238	*e*Pn		Pb		19 20 22.7	-0.3
VRAC				*e*Sg		Sg		19 20 45.9	+1.0
	15nm,0.2s,baz=55								
KSP	Ksiaz	1.69	293	*e*Pg		Pg		19 20 23.6	-0.2
KSP				*e*Sg		Sg		19 20 46.5	+0.8
KSP	Ksiaz	1.69	293	*e*Pg		Pg		19 20 23.6	-0.2
KSP				*e*Sg		Sg		19 20 46.5	+0.8
KSP	Ksiaz	1.69	293	*e*Pg		Pg		19 20 23.6	-0.2
KSP				*e*Sg		Sg		19 20 46.5	+0.8
VYHS	Vyhne	1.72	178	*e*Pn		Pn		19 20 22.6	-0.1
VYHS				*e*Sn		Sn		19 20 45.3	-0.1
VYHS	Vyhne	1.72	178	*e*PN		Pn		19 20 22.6	-0.1
VYHS				*e*SN		Sn		19 20 45.3	-0.1
VYHS				*e*LG		Lg		19 20 49.8	
UPC	Upice	1.77	281	*e*SG		Sg		19 20 48.9	+0.4
	comp=Z,6.4nm,0.4s								
UPC	Upice	1.77	281	Sg		Sg		19 20 48.9	+0.4
	6.4nm,0.4s								
STHS	Stebnicka Huta	1.80	115	*e*Pn		Pb		19 20 25.0	-0.4
STHS				*e*Sn		Sg		19 20 50.2	+0.8
STHS	Stebnicka Huta	1.80	115	*e*PN		Pb		19 20 25.0	-0.4
STHS				*e*SN		Sg		19 20 50.2	+0.8
STHS				*e*LG		Lg		19 20 56.6	
KRUC	Moravsky	1.91	234	*e*Pn		Pn		19 20 26.1	+0.8
	baz=51								
KRUC				*e*Sg		Sg		19 20 53.3	+0.4
	6.5nm,0.3s,baz=51								
TREC	Trest	2.30	248	*e*PG		Pb		19 20 34.2	+0.3
TREC				*e*SG		Sb		19 21 04.1	+1.2
	comp=Z,7.9nm,0.4s								
TREC	Trest	2.30	248	Pg		Pg		19 20 34.2	+0.3
TREC				Sg		Sb		19 21 04.1	+1.2
	7.9nm,0.4s								
GOPC	GO Pecny, Ondr	2.57	265	*e*SN		Sn		19 21 05.4	-0.9
GOPC				*e*SG		Sb		19 21 11.9	+1.4
	comp=Z,6.9nm,0.4s								
GOPC	GO Pecny, Ondr	2.57	265	Sn		Sn		19 21 05.4	-0.9
GOPC				Sg		Sb		19 21 11.9	+1.4
	6.9nm,0.4s								
PVCC	Panska Ves	2.69	278	*e*SG		Sg		19 21 17.9	-0.1
	comp=Z,13nm,0.3s								
PVCC	Panska Ves	2.69	278	Sg		Sg		19 21 17.9	-0.1
	13nm,0.3s								
PRU	Pruhonice	2.72	267	*e*SN		Sn		19 21 09.5	-0.4
PRU				*e*SG		Sb		19 21 16.6	+1.8
	comp=Z,6.9nm,0.5s								
PRU	Pruhonice	2.72	267	Sn		Sn		19 21 09.5	-0.4
PRU				Sg		Sb		19 21 16.6	+1.8
	6.9nm,0.5s								
BRG	Berggiesshubel	3.13	284	PG		Pg		19 20 50.6	-0.9
BRG				SG		Sg		19 21 31.0	-1.1
	5.4nm,0.4s								
KHC	Kasperske Hory	3.53	254	*e*PG		Pg		19 20 57.1	-2.0
KHC				*ex*		x		19 21 40.8	
KHC				*e*SG		Sg		19 21 42.3	-2.4
	comp=Z,7.3nm,0.4s								
KHC	Kasperske Hory	3.53	254	Pg		Pg		19 20 57.1	-2.0
CLL	Collm	3.81	289	*e*Pg		Pg		19 21 06.0	+1.6
CLL				*e*Sg		Sg		19 21 55.0	+1.2
	comp=Z,13nm,1.4s								
NKC	Novy Kostel	4.04	273	*e*SG		Sg		19 21 59.2	-2.2
	comp=Z,3.9nm,0.4s								
NKC	Novy Kostel	4.04	273	Sg		Sg		19 21 59.2	-2.2
	comp=Z,3.9nm,0.4s								

*ATA **26** 19:25:49.2±1.3,39.˚21N×42.˚31E,h15km±6km, ML2.9, MW2.7*
*ISCJB **26** 19:25:50.4±0.5,39.˚23N±0.˚02×42.˚26E±0.˚03,h10km±4km, Error ellipse: s-maj=4.3km s-min=3.9km az=42.0*
*ISK **26** 19:25:50.2,39.˚19N×42.˚29E,h7km, ML2.2/4*
*DDA **26** 19:25:50.2,39.˚24N×42.˚30E,h7km, Ml2.7*
*CSEM **26** 19:25:50.4±0.2,39.˚24N×42.˚27E,h2km, ML2.7, Error ellipse: s-maj=4.1km s-min=3.8km az=19.0*

ISC 26 19:25:50.6±0.9, 39.˚23N±0.˚02×42.˚29E±0.˚02, h11km, n41, σ0.9 98/65, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EKAR	Karacoban	0.18	280	*i* P		Pg		19 25 54.5	-0.2
EKAR				*e*S		Sg		19 25 58.9	+1.3
EKAR	Karacoban	0.18	280	*i* P		Pg		19 25 54.4	-0.3
EKAR	Karacoban	0.18	280	P		Pg		19 25 54.4	-0.3
TUTA	Tutak	0.44	67	*e*P		Pg		19 25 59.4	0.0
TUTA				*e*S		Sg		19 26 06.2	+0.8
TUTA				IAML				19 26 07.8	
	comp=Z,218nm,0.2s								
TUTA	Tutak	0.44	67	*i* P		Pg		19 25 59.4	0.0
TUTA				*i* S		Sg		19 26 05.3	-0.1
TUTA	Tutak	0.44	67	P		Pg		19 25 59.4	0.0
TUTA				S		Sg		19 26 05.3	-0.1
ADCV	BITLIS_Adilcev	0.54	141	*i* P		Pg		19 26 00.8	-0.4
ADCV				*i* S		Sg		19 26 08.3	0.0
ADCV	BITLIS_Adilcev	0.54	141	P		Pg		19 26 00.8	-0.4
ADCV				S		Sg		19 26 08.3	0.0
AGRB	Hanur-Agry	0.65	57	PG		Pg		19 26 02.6	-0.6
AGRB				SG		Sb		19 26 13.2	0.0
AGRB	Hanur-Agry	0.65	57	PG		Pg		19 26 03.5	+0.3
AGRB				SG		Sb		19 26 13.2	0.0
AGRB	Hanur-Agry	0.65	57	*e*Pg		Pg		19 26 02.6	-0.6
AGRB				*e*Sg		Sb		19 26 13.2	0.0
VRTB	Varto-Mus	0.65	264	PN		Pn		19 26 09.7	+3.8
VRTB				SN		Sn		19 26 26.9	+11
VRTB	Varto-Mus	0.65	264	PG		Pg		19 26 03.3	0.0
VRTB	Varto-Mus	0.65	264	*i* P		Pg		19 26 03.1	-0.1
VRTB	Varto-Mus	0.65	264	P		Pg		19 26 03.2	-0.1
EATA	Eleskirt	0.65	14	*i* P		Pg		19 26 03.3	-0.1
EATA				*e*S		Sb		19 26 13.9	+0.4
EATA				IAML				19 26 17.3	
	comp=Z,13nm,0.6s								
EATA	Eleskirt	0.65	14	*i* P		Pg		19 26 03.0	-0.4
EATA				*i* S		Sg		19 26 12.9	+0.8
EATA	Eleskirt	0.65	14	P		Pg		19 26 03.0	-0.4
EATA				S		Sg		19 26 12.9	+0.8
GURO	Guroymak-BITLI	0.70	197	PG		Pg		19 26 03.5	-0.8
GURO				SG		Sg		19 26 13.5	0.0
GURO	Guroymak-BITLI	0.70	197	PG		Pg		19 26 03.5	-0.8
GURO				SG		Sg		19 26 13.5	0.0
GURO	Guroymak-BITLI	0.70	197	*e*Pg		Pg		19 26 03.5	-0.8
GURO				*e*Sg		Sg		19 26 13.5	0.0
HOMI	Horasan	0.87	340	*e*P		Pg		19 26 06.3	-1.1
HOMI	Horasan	0.87	340	*i* P		Pg		19 26 06.4	-1.1
ERZM	Erzurum	0.98	314	*e*P		Pg		19 26 08.6	-1.0
ERZM	Erzurum	0.98	314	*i* P		Pg		19 26 07.9	-1.7
ERZM				*i* S		Sg		19 26 20.1	-2.4
ERZM	Erzurum	0.98	314	P		Pg		19 26 07.9	-1.7
ERZM				S		Sg		19 26 20.1	-2.4
ECAT	Cat-ERZURUM	1.09	291	*e*P		Pb		19 26 10.7	-0.8
ECAT	Cat-ERZURUM	1.09	291	*i* P		Pb		19 26 10.5	-1.0
ECAT	Cat-ERZURUM	1.09	291	P		Pb		19 26 10.5	-1.0
GEVA	Gevas	1.09	146	*i* P		Pg		19 26 10.7	-1.0
GEVA				*i* S		Sn		19 26 27.5	+0.3
GEVA	Gevas	1.09	146	P		Pg		19 26 10.7	-1.0
GEVA				S		Sn		19 26 27.5	+0.3
TVAN	Van	1.12	128	*i* P		Pn		19 26 13.1	+0.7
TVAN				*i* S		Sb		19 26 26.9	+0.2
TVAN	Van	1.12	128	P		Pn		19 26 13.1	+0.7
TVAN				S		Sb		19 26 26.9	+0.2
DYDN	Diyadin	1.13	73	*e*P		Pb		19 26 11.3	-1.0
DYDN				*e*S		Sg		19 26 26.8	-0.4
DYDN				IAML				19 26 34.7	
	comp=Z,17nm,0.3s								
DYDN	Diyadin	1.13	73	*i* P		Pb		19 26 11.9	-0.4
DYDN				*i* S		Sg		19 26 26.2	-0.9
DYDN	Diyadin	1.13	73	P		Pb		19 26 11.9	-0.4
DYDN				S		Sg		19 26 26.2	-0.9
SENK	Senkaya-Erzuru	1.33	2	PN		Pg		19 26 18.1	+1.8
SENK	Senkaya-Erzuru	1.33	2	PN		Pg		19 26 16.4	+0.1
SENK	Senkaya-Erzuru	1.33	2	*e*Pn		Pg		19 26 18.1	+1.8
DIGO	Kars	1.45	35	*e*P		Pn		19 26 16.2	-0.3
IGDI	IGDIR	1.52	65	*e*P		Pn		19 26 18.3	+0.4

*ISK **26** 19:25:58.0,38.˚88N×40.˚51E,h11km,ML2.4/8*
*ATA **26** 19:25:58.8±0.8,38.˚89N×40.˚42E,h19km±6km,ML3.1, MW3.1*
*CSEM **26** 19:25:59.0±0.3,38.˚86N×40.˚48E,h15km,ML2.4, Error ellipse: s-maj=7.9km s-min=5.1km az=52.0*

ISC 26 19:25:58.8±0.8, 38.˚88N±0.˚02×40.˚50E±0.˚03, h17km±5km, n33, σ0.9 77/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.01	275	*e*Pg		Pg		19 26 02.3	+0.3
BINT				*e*Sg		Sg		19 26 05.2	+1.1
BNGB	Bingˆ¶l	0.18	51	PG		Pg		19 26 02.3	-1.2
BNGB				SG		Sg		19 26 05.2	-1.5
TNCL	Tunceli-Merkez	0.78	288	*i* P		Pg		19 26 13.0	-1.1
TNCL				*e*S		Sb		19 26 24.5	+0.1
TNCL				IAML				19 26 28.4	
	comp=Z,73nm,0.3s								
TNCL	Tunceli-Merkez	0.78	288	*i* P		Pg		19 26 13.0	-1.1
TNCL				*i* S		Sb		19 26 24.7	+0.3
TNCL	Tunceli-Merkez	0.78	288	P		Pg		19 26 13.0	-1.1
TNCL				S		Sb		19 26 24.7	+0.3
PTK	Pertek	0.86	271	PG		Pg		19 26 14.9	-0.8
PTK				SG		Sn		19 26 28.7	0.0
PTK	Pertek	0.86	271	*e*Pg		Pg		19 26 14.9	-0.8
PTK				*e*Sg		Sn		19

SPN				*e*S		**Sn**	**19 28 19.3**	**-2.2**
SDLR	**Sedlovina**	**5.83**	**265**	PN		**Pn**	**19 27 30.1**	**-1.1**
SDLR				S		**Sn**	**19 28 36.8**	**-0.2**
SDLR	**Sedlovina**	**5.83**	**265**	*e*P		**Pn**	**19 27 30.1**	**-1.1**
SDLR				*e*S		**Sn**	**19 28 36.8**	**-0.2**
UGLR	**Uglovaya**	**5.88**	**265**	PN		**Pn**	**19 27 31.0**	**-0.8**
UGLR				S		**Sn**	**19 28 38.7**	**+0.5**
UGLR	**Uglovaya**	**5.88**	**265**	*e*P		**Pn**	**19 27 31.0**	**-0.8**
UGLR				*e*S		**Sn**	**19 28 38.7**	**+0.5**
SMAR	**Somma**	**5.88**	**265**	PN		**Pn**	**19 27 30.9**	**-1.1**
SMAR	**Somma**	**5.88**	**265**	*e*P		**Pn**	**19 27 30.9**	**-1.1**
AVH	**Avacha**	**5.92**	**265**	PN		**Pn**	**19 27 31.7**	**-0.6**
AVH	**Avacha**	**5.92**	**265**	*e*P		**Pn**	**19 27 31.7**	**-0.6**
OSSR	**Ossora**	**5.93**	**331**	PN		**Pn**	**19 27 32.0**	**-0.4**
OSSR	**Ossora**	**5.93**	**331**	*e*P		**Pn**	**19 27 32.0**	**-0.4**
KRX	**Arik**	**5.95**	**266**	PN		**Pn**	**19 27 32.0**	**-0.8**
KRX				S		**Sn**	**19 28 39.4**	**-0.6**
KRX	**Arik**	**5.95**	**266**	*e*P		**Pn**	**19 27 32.0**	**-0.8**
KRX				*e*S		**Sn**	**19 28 39.4**	**-0.6**
DALK	**Dalny**	**5.96**	**263**	PN		**Pn**	**19 27 32.1**	**-0.8**
DALK	**Dalny**	**5.96**	**263**	*e*P		**Pn**	**19 27 32.1**	**-0.8**
KOK	**Koryaka**	**5.97**	**266**	PN		**Pn**	**19 27 32.1**	**-1.0**
KOK	**Koryaka**	**5.97**	**266**	*e*P		**Pn**	**19 27 32.1**	**-1.0**
RUS	**Russkaya**	**6.29**	**258**	PN		**Pn**	**19 27 35.6**	**-1.7**
RUS	**Russkaya**	**6.29**	**258**	*e*P		**Pn**	**19 27 35.6**	**-1.7**
GNL	**Ganaly**	**6.31**	**270**	PN		**Pn**	**19 27 37.7**	**0.0**
GNL	**Ganaly**	**6.31**	**270**	*e*P		**Pn**	**19 27 37.7**	**0.0**
KRMR	**Karymshinskiy**	**6.38**	**262**	PN		**Pn**	**19 27 37.8**	**-0.8**
KRMR				S		**Sn**	**19 28 49.3**	**-1.1**
KRMR	**Karymshinskiy**	**6.38**	**262**	*e*P		**Pn**	**19 27 37.8**	**-0.8**
KRMR				*e*S		**Sn**	**19 28 49.3**	**-1.1**
TILK	**Tilichiki**	**6.43**	**349**	PN		**Pn**	19 27 33.9	-5.3
TILK	**Tilichiki**	**6.43**	**349**	*e*P		**Pn**	19 27 33.9	-5.3
PETK	**Petropavlovsk-**	**6.56**	**265**	Pn		**Pn**	**19 27 40.8**	**-0.4**
	2.4nm,0.3s,baz=86,slow=21,SNR=50							
PETK					Sn	**Sn**	**19 28 56.6**	**+1.7**
	1.1nm,0.3s,baz=81,slow=31,SNR=7.2							
ASAK	**Asacha**	**6.66**	**259**	PN		**Pn**	**19 27 42.4**	**-0.1**
ASAK	**Asacha**	**6.66**	**259**	*e*P		**Pn**	**19 27 42.4**	**-0.1**
KDTR	**Khodutka, Kamc**	**6.77**	**254**	*e*S		**Sn**	**19 28 57.1**	**-2.9**
ILAR	**Eielson Array**	**24.43**	**47**	P		**P**	**19 31 25.5**	**+3.2**
	0.9nm,0.8s,baz=256,slow=8.6,SNR=6.9							
H11N2	**WAKE ISLAND Hy**	**34.41**	**183**	T		T	20 09 26.4	
	baz=2.0,slow=76,SNR=296							
H11N3	**WAKE ISLAND Hy**	**34.42**	**183**	T		T	20 09 27.4	
	baz=2.0,slow=76,SNR=299							
H11N1	**WAKE ISLAND Hy**	**34.42**	**183**	T		T	20 09 27.8	
	baz=2.0,slow=76,SNR=328							
H11S1	**WAKE ISLAND Hy**	**35.63**	**183**	T		T	20 10 58.7	
	baz=2.0,slow=76,SNR=68							
H11S3	**WAKE ISLAND Hy**	**35.64**	**183**	T		T	20 10 59.4	
	baz=2.0,slow=76,SNR=23							
H11S2	**WAKE ISLAND Hy**	**35.64**	**183**	T		T	20 10 59.9	
	baz=2.0,slow=76,SNR=47							
SONM	**Songino Array**	**38.51**	**287**	P		**P**	**19 33 29.0**	**+2.9**
	0.3nm,0.6s,baz=64,slow=9.8,SNR=2.9							
YKA	**Yellowknife Ar**	**38.86**	**46**	P		P	19 33 33.0	+4.3
	0.3nm,0.7s,baz=296,slow=8.3,SNR=3.1							
KURK	**Kurchatov**	**51.34**	**306**	P		**P**	**19 35 10.6**	**+2.7**
KURBB	**Kurchatov Arra**	**51.45**	**305**	P		**P**	**19 35 10.6**	**+1.9**
	0.4nm,0.5s,baz=56,slow=7.4,SNR=4.0							
MKAR	**Makanchi Array**	**52.13**	**300**	P		**P**	**19 35 15.6**	**+1.7**
	0.1nm,0.6s,baz=46,slow=8.3,SNR=3.0							
CMAR	**Chiang Mai Arr**	**63.34**	**265**	P		**P**	**19 36 31.8**	**-1.2**
	0.3nm,0.8s,baz=43,slow=9.3,SNR=3.4							
TXAR	**Lajitas Array**	**65.52**	**73**	P		**P**	**19 36 43.7**	**-3.5**
	0.3nm,0.4s,baz=308,slow=4.4,SNR=4.1							

*ISCJB **26** 19:27:11.5±0.5,9.°09S±0.°07×72.°08W±0.°06,h250km, mb3.6/8,Error ellipse: s-maj=10.4km s-min=6.8km az=33.6*
*IDC **26** 19:27:12.5±1.4,9.°21S×72.°16W,h255km±14km,mb3.5/8, mb1 3.6/13,mb1mx3.4/45,mbtmp4.1/13,Error ellipse: s-maj=16.3km s-min=10.4km az=50.0*

ISC 26 19:27:12.1±0.6,9.°20S±0.°08×72.°13W±0.°08,h250km,n19, σ1°19/22,mb3.7/8,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**5.40**	**239**	P	**Pn**	**19 28 34.6**	**+1.7**
	6.3nm,0.3s,baz=74,slow=7.0,SNR=13						
NNA				S	**S**	**19 29 35.3**	**-2.0**
	17nm,0.3s,baz=208,slow=14,SNR=15						
ATAH	**Atahualpa**	**6.53**	**288**	P	**Pn**	**19 28 48.8**	**+1.4**
	5.9nm,0.3s,baz=86,slow=3.2,SNR=37						
ATAH				S	**S**	**19 30 02.8**	**-0.7**
	9.7nm,0.3s,baz=185,slow=11,SNR=15						
LPAZ	**La Paz**	**8.05**	**151**	P	**Pn**	**19 29 08.4**	**+1.6**
	1.0nm,0.3s,baz=334,slow=11,SNR=22						
LPAZ				S	**S**	**19 30 38.8**	**-0.1**
	baz=148,slow=24,SNR=2.1						
SIV	**San Ignacio**	**12.73**	**123**	P	**P**	**19 30 06.5**	**-0.4**
	0.3nm,0.3s,baz=318,slow=12,SNR=13						
SDV	**Santo Domingo**	**18.03**	**5**	P	**P**	**19 31 06.8**	**+1.5**
	1.2nm,0.3s,baz=180,slow=16,SNR=4.2						
CPUP	**Villa Florida**	**22.08**	**142**	P	**P**	**19 31 46.5**	**-0.4**
	3.3nm,0.6s,baz=324,slow=9.9,SNR=13						
TXAR	**Lajitas Array**	**48.90**	**323**	P	**P**	**19 35 33.5**	**+0.3**
	1.0nm,0.5s,baz=142,slow=8.7,SNR=20						
DBIC	**Dimbokro**	**68.87**	**79**	P	**P**	**19 37 50.1**	**-0.3**
	0.8nm,0.4s,baz=219,slow=6.9,SNR=4.4						
KOWA	**Kowa**	**71.52**	**71**	P	**P**	**19 38 06.7**	**+0.2**
	0.7nm,0.5s,baz=233,slow=5.1,SNR=2.9						
SNAA	**Sanae**	**74.87**	**162**	P	**P**	**19 38 25.1**	**0.0**
	1.2nm,0.5s,baz=282,slow=6.7,SNR=13						
TORD	**Torodi Ar. Bea**	**76.58**	**74**	P	**P**	**19 38 34.9**	**-0.8**
	0.5nm,0.4s,baz=245,slow=3.7,SNR=11						
YKA	**Yellowknife Ar**	**78.61**	**341**	P	**P**	**19 38 45.1**	**-0.8**
	0.4nm,0.7s,baz=138,slow=6.5,SNR=11						
QSPA	**South Pole Qui**	**80.92**	**180**	P	**P**	**19 38 59.4**	**+0.9**
	2.6nm,0.6s,baz=147,slow=3.5,SNR=15						
ZALV	**Zalesovo Beam**	**131.69**	**18**	PKP	**PKPdf**	**19 45 56.3**	**+1.2**
	0.3nm,0.3s,baz=302,slow=3.2,SNR=2.3						
KURBB	**Kurchatov Arra**	**132.12**	**25**	PKP	**PKPdf**	**19 45 55.7**	**-0.4**
	0.2nm,0.4s,baz=310,slow=2.6,SNR=4.8						
MKAR	**Makanchi Array**	**136.66**	**26**	PKP	**PKPdf**	**19 46 03.7**	**-1.1**
	0.1nm,0.5s,baz=335,slow=2.1,SNR=2.8						
ASAR	**Alice Springs**	**138.59**	**217**	PKhKP	PKPpre	19 46 01.2	
	0.2nm,0.8s,baz=144,slow=2.2,SNR=2.9						
ASAR				PKP	**PKPdf**	**19 46 07.5**	**-1.5**
	0.3nm,0.5s,baz=130,slow=2.2,SNR=5.4						
WRA	**Warramunga Arr**	**141.04**	**222**	PKhKP	PKPpre	19 46 06.2	
	0.1nm,0.4s,baz=123,slow=3.9,SNR=3.5						
WRA				PKP	**PKPdf**	**19 46 11.5**	**-2.0**
	0.5nm,0.5s,baz=133,slow=1.8,SNR=7.6						
FITZ	**Fitzroy Crossi**	**147.70**	**213**	PKPbc	**PKPbc**	**19 46 27.4**	**-0.8**
	0.9nm,0.4s,baz=203,slow=2.0,SNR=9.9						

*CSEM **26** 19:29:08.5±0.2,38.°78N×43.°54E,h15km,ML2.5,Error ellipse: s-maj=5.8km s-min=3.4km az=120.0*
*DDA **26** 19:29:08.7,38.°74N×43.°57E,h7km,Ml2.5*
*ISK **26** 19:29:08.4,38.°78N×43.°48E,h12km,ML2.5/6*
*ISCJB **26** 19:29:09.2±0.5,38.°77N±0.°03×43.°54E±0.°05,h14km±4km, Error ellipse: s-maj=8.0km s-min=3.8km az=31.8*

ISC 26 19:29:08.1±1.2,38.78N±0.°02×43.60E±0.°04,h16km±9km, n28,σ0°67/43,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.21**	**355**	*i* P	**Pb**	**19 29 13.8**	**+0.2**
VMUR				*i* S	**Sb**	**19 29 19.0**	**+1.7**
VMUR	**Van-Muradiye**	**0.21**	**355**	P	**Pb**	**19 29 13.8**	**+0.2**
VMUR				S	**Sb**	**19 29 19.0**	**+1.7**
VANB	**Van**	**0.25**	**221**	PG	**Pb**	**19 29 14.6**	**+0.4**
VANB	**Van**	**0.25**	**221**	*e*Pg	**Pb**	**19 29 14.6**	**+0.4**
TVAN	**Van**	**0.29**	**211**	*i* P	**Pg**	**19 29 14.7**	**+0.2**
TVAN				*i* S	**Sb**	**19 29 20.3**	**+0.6**
TVAN	**Van**	**0.29**	**211**	P	**Pg**	**19 29 14.7**	**+0.2**
TVAN				S	**Sb**	**19 29 20.3**	**+0.6**
ERCV	**ERCIS-VAN**	**0.31**	**320**	PG	**Pg**	**19 29 14.3**	**-0.5**
ERCV	**ERCIS-VAN**	**0.31**	**320**	*e*Pg	**Pg**	**19 29 14.3**	**-0.5**
CLDR	**Caldiran**	**0.44**	**34**	PG	**Pb**	**19 29 17.9**	**+0.3**
CLDR				SG	**Sn**	**19 29 26.2**	**-1.5**
CLDR	**Caldiran**	**0.44**	**34**	*i* P	**Pb**	**19 29 17.4**	**-0.1**
CLDR				*i* S	**Sn**	**19 29 26.3**	**-1.3**
CLDR	**Caldiran**	**0.44**	**34**	P	**Pb**	**19 29 17.4**	**-0.1**
CLDR	**Caldiran**	**0.44**	**34**	*e*Pg	**Pb**	**19 29 17.9**	**+0.3**
CLDR				*e*Sg	**Sn**	**19 29 26.2**	**-1.5**
GEVA	**Gevas**	**0.63**	**222**	*i* P	**Pg**	**19 29 19.7**	**-0.8**
GEVA				*i* S	**Sb**	**19 29 29.9**	**+0.5**
GEVA	**Gevas**	**0.63**	**222**	P	**Pg**	**19 29 19.7**	**-0.8**
GEVA				S	**Sb**	**19 29 29.9**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.68**	**273**	*i* P	**Pg**	**19 29 21.2**	**-0.3**
ADCV				*i* S	**Sb**	**19 29 31.5**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.68**	**273**	P	**Pg**	**19 29 21.2**	**-0.3**
ADCV				S	**Sb**	**19 29 31.5**	**+0.6**
DYDN	**Diyadin**	**0.77**	**5**	*i* P	**Pn**	**19 29 23.9**	**-0.5**
DYDN				*i* S	**Sn**	**19 29 36.0**	**+0.3**
DYDN	**Diyadin**	**0.77**	**5**	P	**Pn**	**19 29 23.9**	**-0.5**
DYDN				S	**Sn**	**19 29 36.0**	**+0.3**
TUTA	**Tutak**	**0.87**	**316**	*i* P	**Pb**	**19 29 24.9**	**0.0**
TUTA	**Tutak**	**0.87**	**316**	P	**Pb**	**19 29 24.9**	**0.0**
AGRB	**Hanur-Agry**	**0.92**	**330**	PG	**Pb**	**19 29 25.6**	**-0.2**
AGRB	**Hanur-Agry**	**0.92**	**330**	*e*Pg	**Pb**	**19 29 25.6**	**-0.2**
HAKT	**HAKKARI**	**1.22**	**176**	*i* P	**Pb**	**19 29 31.1**	**+0.2**
HAKT	**HAKKARI**	**1.22**	**176**	P	**Pb**	**19 29 31.1**	**+0.2**
GURO	**Guroymak-BITLI**	**1.25**	**260**	PN	**Pn**	**19 29 30.9**	**0.0**
GURO				SN	**Sn**	**19 29 47.3**	**-0.1**
GURO	**Guroymak-BITLI**	**1.25**	**260**	*e*Pn	**Pn**	**19 29 30.9**	**0.0**
GURO				*e*Sn	**Sn**	**19 29 47.3**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.30**	**22**	PN	**Pg**	**19 29 33.5**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.30**	**22**	*e*Pn	**Pg**	**19 29 33.5**	**+0.3**

IDC 26 19:30:06.6±1.9,3.°93S×151.°86E,h0km,mb3.3/4, mb1 3.6/4,mb1mx3.2/47,mbtmp3.3/4,Error ellipse: s-maj=81.6km s-min=26.1km az=119.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.35**	**226**	P	P	19 35 16.8	-0.1
	1.1nm,0.8s,baz=51,slow=9.5,SNR=9.3						
ASAR	**Alice Springs**	**26.19**	**220**	P	P	19 35 43.4	+0.2
	0.2nm,0.5s,baz=57,slow=8.6,SNR=6.2						
MKAR	**Makanchi Array**	**79.05**	**319**	P	P	19 42 12.7	-0.2
	0.1nm,0.6s,baz=112,slow=4.5,SNR=2.7						
ILAR	**Eielson Array**	**81.71**	**22**	P	P	19 42 27.0	+0.2
	0.3nm,0.7s,baz=243,slow=4.0,SNR=3.2						

*ISCJB **26** 19:50:12.6±0.3,32.°69N±0.°02×115.°69W±0.°02,h14km±2km, Error ellipse: s-maj=3.4km s-min=2.4km az=6.6*
*NEIC **26** 19:50:13.5±0.0,32.°67N×115.°70W,h9km,ML3.3(ECX), ML3.6(PAS),After PAS.*
NEIC Felt [III] at El Centro and [II] at Calexico. Also felt at Brawley, Imperial, National City, Rancho Mirage and San Diego. Felt [II] at Mexicali, Baja California.
*ECX **26** 19:50:14.0±0.7,32.°67N×115.°71W,h3km,MD3.3,ML3.6*

ISC 26 19:50:12.7±0.8,32.°64N±0.°02×115.°68W±0.°02,h13km±6km, n78,σ1°58/97,2C-6D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.04**	**282**	⇓*i* P	**Pg**	**19 50 15.2**	**+0.1**
ERPC	**Ernies Place**	**0.10**	**8**	⇓*i* P	**Pg**	**19 50 16.0**	**+0.3**
YUH	**Yuha Desert**	**0.20**	**272**	⇓*i* P	**Pg**	**19 50 17.4**	**+0.2**
COK	**Cook Ranch**	**0.21**	**349**	*i* P	**Pg**	**19 50 17.6**	**+0.2**
DREC	**Desert Rsrch C**	**0.26**	**50**	*e*Pg	**Pb**	**19 50 19.5**	**+0.4**
DREC				*e*Sg	**Sb**	**19 50 24.8**	**+1.4**
DREC	**Desert Rsrch C**	**0.26**	**50**	*i* P	**Pb**	**19 50 19.4**	**+0.3**
SWSC	**Sam W. Stewart**	**0.32**	**342**	P	**Pg**	**19 50 19.0**	**-0.3**
	baz=164,SNR=572						
SWSC				S	**Sg**	**19 50 22.9**	**-0.8**
	baz=164						
SWSC	**Sam W. Stewart**	**0.32**	**342**	*e*Pg	**Pn**	**19 50 23.1**	**+0.1**
SWSC	**Sam W. Stewart**	**0.32**	**342**	⇑*i* P	**Pg**	**19 50 18.9**	**-0.3**
RMX	**La Rumorosa**	**0.34**	**264**	*e*P	**Pg**	**19 50 19.6**	**-0.1**
RMX				*e*S	**Sg**	**19 50 23.7**	**-0.6**
RMX				⇓*e*		19 50 24.1	
RMX				IAML		19 50 24.1	
	comp=N,7μm,0.2s						
CRR	**Carrizo Plain**	**0.34**	**315**	⇑*i* P	**Pg**	**19 50 19.5**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**0.36**	**272**	P	**Pg**	**19 50 20.2**	**+0.2**
	baz=86,SNR=692						
IKP				S	**Sg**	**19 50 25.0**	**0.0**
	baz=86						
IKP	**In-Ko-Pah, Jac**	**0.36**	**272**	*i* P	**Pg**	**19 50 20.2**	**+0.2**
CPBX	**Cerro Prieto**	**0.39**	**125**	*e*P	**Pb**	**19 50 21.7**	**+0.3**
CPBX				*e*S	**Sb**	**19 50 27.6**	**+0.4**
CPBX				⇓*e*		19 50 31.7	
CPBX				IAML		19 50 31.7	
	comp=N,15μm,0.2s						
COA	**Coachella**	**0.52**	**65**	*e*Pg	**Pb**	**19 50 23.8**	**+0.2**
COA	**Coachella**	**0.52**	**65**	⇓*i* P	**Pb**	**19 50 23.8**	**+0.2**
BTCC	**Brunts Corner**	**0.54**	**46**	*e*Pg	**Pb**	**19 50 23.9**	**0.0**
BTCC				*e*Pn	Pn	19 50 31.2	+5.2
EMSC	**East Mesa**	**0.59**	**80**	*e*Pg	**Pb**	**19 50 25.3**	**+0.4**
MONP2	**Monument Peak**	**0.67**	**292**	P	**Pg**	**19 50 25.6**	**-0.3**
	baz=110,SNR=253						
MONP2				S	**Sg**	**19 50 33.9**	**-0.9**
	baz=110						
GLA	**Glamis**	**0.83**	**60**	P	**Pg**	**19 50 28.2**	**-0.5**
	baz=243,SNR=113						
GLA				S	**Sg**	**19 50 39.1**	**-0.5**
	baz=243						
GLA	**Glamis**	**0.83**	**60**	*e*Pg	**Pg**	**19 50 28.1**	**-0.5**
BAR	**Barrett**	**0.84**	**273**	Pn	**Pg**	**19 50 28.6**	**-0.2**
BAR	**Barrett**	**0.84**	**273**	*i* P	**Pg**	**19 50 28.6**	**-0.2**
TJIG	**Tijuana**	**0.86**	**256**	*i* P	**Pb**	**19 50 29.3**	**-0.2**
CBX	**Cerro Bola**	**0.89**	**249**	*i* P	**Pb**	**19 50 30.0**	**0.0**
CBX				*e*S	**Sb**	**19 50 41.5**	**-0.4**
CBX				IAML		19 50 45.0	
	comp=E,4μm,0.4s						
BC3	**Big Chuckawall**	**1.03**	**11**	P	**Pb**	**19 50 30.9**	**-1.5**
	baz=192,SNR=236						
BC3				S	**Sb**	**19 50 43.4**	**-2.5**
	baz=192						
SDRC	**San Diego Road**	**1.07**	**275**	*i* P	**Pb**	**19 50 32.5**	**-0.5**
PFO	**Pinyon Flats O**	**1.17**	**326**	P	**Pn**	**19 50 32.8**	**-2.0**
	baz=146,SNR=116						
PFO				S	**Sb**	**19 50 47.1**	**-2.7**
	baz=146						
109C	**Camp Elliot, M**	**1.23**	**282**	P	**Pn**	**19 50 34.4**	**-1.1**
	baz=100,SNR=77						
109C				S	**Sb**	**19 50 50.1**	**-1.2**
	baz=100						
ECBX	**El Chinero**	**1.28**	**155**	*e*P	**Pg**	**19 50 37.0**	**-0.3**
ECBX				*e*S	**Sg**	**19 50 54.5**	**+0.5**
BELC	**Belle Mtn. Jos**	**1.38**	**349**	P	**Pn**	**19 50 36.1**	**-1.7**
	baz=169,SNR=101						
Y12C	**Blythe**	**1.47**	**41**	P	**Pn**	**19 50 37.5**	**-1.3**
	baz=223,SNR=30						
Y12C				S	**Sn**	**19 50 55.3**	**-2.7**
	baz=223						
Y12C	**Blythe**	**1.47**	**41**	*e*Pn	**Pn**	**19 50 37.8**	**-1.1**
DGR	**Domenigoni Val**	**1.50**	**312**	*e*Sn	**Sb**	**19 50 59.9**	**+0.5**
IRM	**Iron Mountain**	**1.58**	**16**	P	**Pn**	**19 50 39.0**	**-1.3**
	baz=198,SNR=151						
MURC	**Murrieta**	**1.59**	**307**	P	**Pn**	**19 50 39.2**	**-1.3**
	baz=126,SNR=176						
MURC				Sb	**Sn**	**19 51 01.7**	**+0.7**
	baz=126						
113A	**Mohawk Valley,**	**1.62**	**85**	*e*Pn	**Pn**	**19 50 40.1**	**-0.8**
BBRC	**Big Bear Solar**	**1.92**	**328**	S	**Sn**	**19 51 07.0**	**-2.4**
	baz=147						
RVR	**Riverside**	**1.96**	**314**	*e*Sn	**Sb**	**19 51 12.7**	**+0.2**
GMRC	**Granite Mounta**	**2.14**	**0**	P	**Pn**	**19 50 46.9**	**-1.3**
	baz=181,SNR=29						
GMRC				S	**Sn**	**19 51 12.8**	**-1.8**
	baz=181						
HEC	**Hector,Ludlow**	**2.25**	**346**	S	**Sn**	**19 51 14.8**	**-2.5**
	baz=166						
PSRC	**Puddingstone R**	**2.29**	**310**	*e*Pn	**Pb**	**19 50 54.2**	**+0.3**
BFSC	**Mount Baldy Ra**	**2.30**	**314**	Sb	**Sb**	**19 51 21.2**	**-1.1**
	baz=133						
BFSC	**Mount Baldy Ra**	**2.30**	**314**	*e*Pn	**Pg**	**19 50 55.8**	**-0.9**
BFSC				*e*Sn	**Sg**	**19 51 27.3**	**+0.8**
SSK	**Sunset Peak**	**2.30**	**313**	*e*Pn	**Pb**	**19 50 54.3**	**+0.2**
CIS	**Catalina Islan**	**2.42**	**289**	P	**Pn**	**19 50 50.6**	**-1.3**
	baz=107						
CIS				Sb	**Sb**	**19 51 24.9**	**-0.9**
	baz=107						
FMP	**Fort Macarthur**	**2.44**	**297**	Sb	**Sb**	**19 51 25.9**	**-0.3**
	baz=115						
LDFC	**Landfair**	**2.48**	**11**	*e*Pn	**Pb**	**19 50 56.1**	**-1.0**
DSCC	**Desert Studies**	**2.52**	**352**	*e*Pn	**Pb**	**19 50 55.9**	**-1.9**
DSCC				*e*Pg	Pg	19 51 06.3	+5.3
214A	**Organ Pipe Nat**	**2.52**	**105**	P	**Pn**	**19 50 52.3**	**-1.1**
	baz=287,SNR=12						
MWC	**Mount Wilson**	**2.54**	**309**	*e*Pn	**Pb**	**19 50 57.8**	**-0.4**
PASC	**Pasadena Art C**	**2.59**	**307**	*e*Pn	**Pb**	**19 50 58.8**	**-0.2**
GSC	**Goldstone, Bar**	**2.81**	**341**	*e*Pn	**Pn**	**19 50 58.2**	**+0.8**
GSC				*e*Pg	**Pg**	**19 51 09.5**	**+2.9**
W13A	**Hualapai Mount**	**2.87**	**31**	*e*Pn	**Pn**	**19 50 58.1**	**-0.2**
SBI	**Santa Barbara**	**2.93**	**287**	*e*Pn	**Pb**	**19 51 05.5**	**+0.8**
SBI				*e*Sn	**Sg**	**19 51 55.6**	**+8.7**
PT2	**Point Dume**	**2.95**	**298**	*e*Sg	**Sg**	**19 51 50.1**	**+2.7**
EDW2	**Edwards Air Fo**	**2.95**	**320**	P	**Pn**	**19 50 58.3**	**-0.9**
	baz=139,SNR=26						
EDW2				Sb	**Sb**	**19 51 41.4**	**+0.3**
	baz=139						
BTPC	**Burnt Peak**	**3.16**	**311**	*e*Sn	**Sn**	**19 51 42.6**	**+2.7**
BTPC				*e*Sg	**Sg**	**19 51 55.3**	**+1.2**
BTPC				*e*Lg	Lg	19 52 04.1	
ISA	**Isabella, Lake**	**3.80**	**323**	*e*Pn	**Pn**	**19 51 10.2**	**-0.8**
SHPR	**Sheep Range**	**3.88**	**6**	*e*Pn	**Pn**	**19 51 12.9**	**+0.8**
DAC	**Darwin (Calif)**	**3.96**	**337**	*e*Pn	**Pn**	**19 51 16.5**	**+3.3**
X16A	**Lo Mia Camp, P**	**3.96**	**62**	*e*Pn	**Pn**	**19 51 15.0**	**+1.8**
TUC	**Tucson**	**4.15**	**93**	P	**Pn**	**19 51 15.0**	**-0.8**
	baz=276						
TUC	**Tucson**	**4.15**	**93**	*e*Pn	**Pn**	**19 51 15.8**	**0.0**
WUAZ	**Wupatki**	**4.58**	**50**	*e*Pn	**Pn**	**19 51 23.6**	**+1.8**
U15A	**North Rim**	**4.70**	**36**	*e*Pn	**Pn**	**19 51 25.1**	**+1.6**
X18A	**Snowflake**	**5.14**	**67**	*e*Pn	**Pn**	**19 51 32.2**	**+2.8**
CCUT	**Cedar City**	**5.25**	**21**	*e*Pn	**Pn**	**19 51 32.9**	**+1.9**
W18A	**Petrified Fore**	**5.53**	**62**	*e*Pn	**Pn**	**19 51 37.5**	**+2.7**
319A	**Douglas**	**5.58**	**101**	*e*Pn	**Pn**	**19 51 35.6**	**+0.1**
R11A	**Troy Canyon, C**	**5.70**	**1**	*e*Pg	**Pg**	**19 52 03.9**	**+2.1**
MTPU	**Mount Pierson**	**6.10**	**27**	*e*Pg	**Pg**	**19 52 10.8**	**+1.4**
NV11	**Mina Array Sit**	**6.12**	**341**	*e*Pg	**Pg**	**19 52 11.8**	**+2.0**
NV01	**Mina Array Sit**	**6.16**	**340**	*e*Pg	**Pg**	**19 52 11.5**	**+0.9**
121A	**Cookes Peak, D**	**6.67**	**89**	P	**Pn**	**19 51 50.6**	**+0.2**
	baz=273,SNR=9.3						
JLAB	**Laurel Hill**	**6.71**	**314**	*e*Pn	Pn	19 51 58.0	+7.1
JLAB				*e*Lg	Lg	19 53 58.8	
JHUM	**Huhtala Lane,**	**7.02**	**312**	*e*Pn	Pn	19 52 02.1	+7.1
JHUM				*e*Pg	Pg	19 52 21.4	-5.6
JHUM				*e*Sn	Sb	19 53 26.9	-11
JHUM				*e*Sg	Sg	19 53 46.5	-11
JHUM				*e*Lg	Lg	19 54 19.0	
NLW	**Nelson Butte**	**15.82**	**348**	*e*Pn	**P**	**19 53 57.3**	**-1.6**

*ISCJB **26** 19:51:22.1±0.5,6.°85N±0.°03×73.°11W±0.°04,h155km±4km, mb3.3/3,Error ellipse: s-maj=6.1km s-min=4.1km az=25.4*
*IDC **26** 19:51:22.6±0.9,6.°87N×73.°09W,h153km±8km,mb3.2/3, mb1 3.4/5,mb1mx3.1/46,mbtmp3.7/5,Error ellipse: s-maj=34.9km s-min=8.0km az=132.0*
*RSNC **26** 19:51:23.9±0.6,6.°82N×73.°13W,h147km±3km,ML3.1*

ISC 26 19:51:22.8±0.8,6.°84N±0.°03×73.°10W±0.°04,h151km±5km, n29,σ0°79/51,mb3.3/3,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**198**	*i* P	**Pn**	**19 51 43.6**	**0.0**
BARC				*i*		19 51 44.0	
	comp=Z,258nm,0.4s						
BARC				*e*S	**Sn**	**19 51 59.2**	**-0.2**
PAMC	**Pamplona,

KURBB	**Kurchatov Arra**	**64.69**	**320**	P		**P**	**20 07 49.0**	**-0.3**
	0.3nm,0.4s,baz=104,slow=6.0,SNR=4.1							
ILAR	**Eielson Array**	**68.58**	**25**	P		**P**	**20 08 13.7**	**-0.2**
	0.5nm,0.4s,baz=250,slow=5.9,SNR=8.3							
BVAR	**Borovoye Array**	**69.99**	**322**	P		**P**	**20 08 23.7**	**+0.9**
	0.4nm,0.4s,baz=117,slow=7.8,SNR=2.6							
YKA	**Yellowknife Ar**	**82.87**	**27**	P		**P**	**20 09 35.9**	**+0.5**
	0.2nm,0.5s,baz=286,slow=5.3,SNR=3.6							
FINES	**FINESS Array B**	**91.22**	**335**	P		**P**	**20 10 15.0**	**-1.0**
	1.8nm,0.9s,baz=74,slow=4.9,SNR=3.2							

IDC 26 19:58:20.0±12.0**, 15°67N**×**92°76W, h0**km**, mb3.7**/2**, mb1 4.0**/4**, mb1mx3.6**/46**, mbtmp3.6**/4**, ML3.5**/2**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.9**/49**, Error ellipse: s-maj=241.8km s-min=62.5km az=4,Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**2.49**	**305**	Pn		Pn	19 59 01.9	+0.2
	5.8nm,0.3s,baz=137,slow=15,SNR=42							
CMIG				Sn		Sn	19 59 20.6	-12
	52nm,0.3s,baz=96,slow=19,SNR=14							
TXAR	**Lajitas Array**	**16.91**	**325**	Pn		Pn	20 02 19.2	+0.9
	0.1nm,0.3s,baz=149,slow=13,SNR=7.0							
ROSC	**El Rosal**	**21.07**	**119**	LR		LR	20 11 41.5	
	comp=Z,152nm,18.1s,baz=138,slow=38							
NVAR	**Mina Array Bea**	**31.93**	**320**	P		P	20 04 47.5	-0.1
	0.7nm,0.7s,baz=125,slow=9.4,SNR=3.8							
YKA	**Yellowknife Ar**	**49.25**	**347**	P		P	20 07 10.0	0.0
	0.8nm,0.6s,baz=151,slow=7.4,SNR=14							

MEX 26 20:05:39.4±0.5**, 16°47N**×**98°33W, h20**km±13km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**111**	*i* P		Pb	20 05 43.5	-1.2
PNIG				*i* S		Sb	20 05 47.5	-0.9
TLIG	**Tlapa**	**1.11**	**348**	*e*P		Pn	20 05 56.8	-3.2
TLIG				*i* S		Sb	20 06 10.1	-4.1
ACX	**Acapulco**	**1.52**	**286**	*e*P		Pn	20 06 02.9	-2.5
ACX				*i* S		Sn	20 06 21.3	-3.3
VHO	**Vista Hermosa**	**1.65**	**68**	*e*P		Pn	20 06 04.6	-2.8
VHO				*i* S		Sn	20 06 24.1	-4.0
CAIG	**El Cayaco**	**1.94**	**288**	*e*P		Pn	20 06 08.8	-2.5
CAIG				*i* S		Sn	20 06 31.2	-3.9
HUIG	**Huatulco**	**2.25**	**108**	*e*P		Pn	20 06 13.4	-2.1
HUIG				*i* S		Sn	20 06 38.4	-4.2

GEN ***26*** *20:11:31.3, 44°48N×6°65E, h5km, ML2.5*
CSEM ***26*** *20:11:31.5±0.1, 44°51N×6°68E, h2km, ML3.3/18, Error ellipse: s-maj=1.8km s-min=1.7km az=47.0*
STR ***26*** *20:11:32.0±0.2, 44°52N±0°01×6°65E±0°01, h10km, MLv3.1/20*
LDG ***26*** *20:11:31.7±0.1, 44°50N×6°66E, h7km, Md3.3/3, Ml3.1/40, Error ellipse: s-maj=1.6km s-min=1.4km az=64.0*
ROM ***26*** *20:11:32.0±0.1, 44°51N×6°74E, h11km, Md3.1/18, Ml2.6/21, Error ellipse: s-maj=1.3km s-min=0.0km az=90.0*
ISC 26 20:11:31.7±0.9**, 44°50N**±0°01×**6°63E**±0°01**, h14**km±6km**, n161, σ1°88/255, France**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBDF	**Montbardon**	**0.25**	**23**	*e*Pg		**Pg**	**20 11 36.4**	**-0.7**
	SNR=1.0							
MBDF				*e*Sg		**Sg**	**20 11 40.0**	**-0.8**
	514nm,0.3s							
MBDF	**Montbardon**	**0.25**	**23**	*e*Pg		**Pg**	**20 11 36.4**	**-0.7**
	SNR=1.0							
MBDF				*e*Sg		**Sg**	**20 11 40.0**	**-0.8**
	257nm,0.3s							
PZZ	**Stroppo**	**0.34**	**89**	Pg		**Pg**	**20 11 37.9**	**-0.9**
PZZ				Sg		**Sg**	**20 11 42.7**	**-0.9**
	656nm,0.2s							
OG22	**Abries**	**0.39**	**34**	Pg		**Pg**	**20 11 39.0**	**-0.6**
OG22				Sg		**Sg**	**20 11 44.2**	**-0.8**
OG22	**Abries**	**0.39**	**34**	Pg		**Pg**	**20 11 39.0**	**-0.6**
OG25	**Le Caire**	**0.42**	**252**	Pg		**Pg**	**20 11 40.4**	**+0.3**
OG25				Sg		**Sg**	**20 11 46.7**	**+0.8**
OG25	**Le Caire**	**0.42**	**252**	Pg		**Pg**	**20 11 40.5**	**+0.3**
RRL	**Rocca Remolon**	**0.43**	**15**	P		**Pg**	**20 11 40.0**	**-0.5**
RRL				S		**Sg**	**20 11 46.3**	**-0.1**
RRL	**Rocca Remolon**	**0.43**	**15**	Pg		**Pg**	**20 11 40.0**	**-0.5**
RRL				Sg		**Sg**	**20 11 46.4**	**0.0**
	277nm,0.4s							
DOI	**San Damiano**	**0.44**	**89**	Pg		**Pg**	**20 11 39.5**	**-0.9**
DOI				Sg		**Sg**	**20 11 45.2**	**-1.2**
	315nm,0.3s							
DOI	**San Damiano**	**0.44**	**89**	Pg		**Pg**	**20 11 39.5**	**-0.9**
DOI				Sg		**Sg**	**20 11 45.2**	**-1.2**
	315nm,0.3s							
BNI	**Bardonecchia**	**0.55**	**3**	Pg		**Pg**	**20 11 42.0**	**-0.6**
BNI				Sg		**Sg**	**20 11 49.9**	**-0.1**
BNI	**Bardonecchia**	**0.55**	**3**	Pg		**Pg**	**20 11 42.0**	**-0.6**
BNI				Sg		**Sg**	**20 11 49.9**	**-0.1**
STV	**Sant Anna di V**	**0.56**	**117**	P		**Pg**	**20 11 41.8**	**-0.9**
STV				Sg		**Sg**	**20 11 48.6**	**-1.5**
	466nm,0.3s							
STV	**Sant Anna di V**	**0.56**	**117**	Pg		**Pg**	**20 11 41.8**	**-0.9**
STV				Sg		**Sg**	**20 11 48.6**	**-1.5**
	466nm,0.3s							
BHB	**Bricherasio**	**0.56**	**53**	P		**Pg**	**20 11 41.8**	**-1.0**
BHB				S		**Sg**	**20 11 49.0**	**-1.3**
BHB	**Bricherasio**	**0.56**	**53**	Pg		**Pg**	**20 11 41.9**	**-0.9**
BHB				Sg		**Sg**	**20 11 49.0**	**-1.3**
	470nm,0.5s							
ENR	**Entracque**	**0.63**	**116**	P		**Pg**	**20 11 42.9**	**-1.1**
ENR				S		**Sg**	**20 11 50.8**	**-1.5**
ENR	**Entracque**	**0.63**	**116**	Pg		**Pg**	**20 11 42.9**	**-1.1**
	396nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.68**	**308**	*e*Pg		**Pg**	**20 11 44.7**	**-0.3**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**20 11 53.9**	**-0.1**
	529nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.68**	**308**	*e*Pg		**Pg**	**20 11 44.7**	**-0.3**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**20 11 53.9**	**-0.1**
	264nm,0.2s							
RSP	**Reno Superiore**	**0.79**	**35**	Pg		**Pg**	**20 11 46.4**	**-0.6**
	158nm,0.5s							
RSP				S		**Sg**	**20 11 56.8**	**-0.6**
RSP	**Reno Superiore**	**0.79**	**35**	Pg		**Pg**	**20 11 46.4**	**-0.6**
	158nm,0.5s							
GDM	**Grand'Maison**	**0.79**	**333**	Pg		**Pg**	**20 11 46.6**	**-0.5**
GDM				Sg		**Sg**	**20 11 57.4**	**-0.2**
GDM	**Grand'Maison**	**0.79**	**333**	Pg		**Pg**	**20 11 46.7**	**-0.5**
SBF	**Sospel**	**0.86**	**138**	*e*Pg		**Pg**	**20 11 47.5**	**-0.8**
	SNR=1.0							
SBF	**Sospel**	**0.86**	**138**	*e*P		**Pb**	**20 11 49.5**	**+1.0**
SBF				*e*Sg		**Sg**	**20 11 58.3**	**-1.3**
	291nm,0.2s,SNR=1.0							
SBF	**Sospel**	**0.86**	**138**	*e*Pg		**Pg**	**20 11 47.5**	**-0.8**
	SNR=1.0							
SBF	**Sospel**	**0.86**	**138**	*e*P		**Pb**	**20 11 49.5**	**+1.0**
SBF				*e*Sg		**Sg**	**20 11 58.3**	**-1.3**
	146nm,0.2s,SNR=1.0							
GBOS	**Grotte di Boss**	**0.90**	**106**	Pg		**Pg**	**20 11 48.1**	**-1.1**
GBOS				S		**Sg**	**20 11 58.9**	**-2.1**
GBOS				Sg		**Sg**	**20 11 59.5**	**-1.5**
	184nm,0.4s							
GBOS	**Grotte di Boss**	**0.90**	**106**	Pg		**Pg**	**20 11 48.1**	**-1.1**
GBOS				Sg		**Sg**	**20 11 59.5**	**-1.5**
	184nm,0.4s							
SMRF	**Simiane la Rot**	**0.93**	**236**	*e*Pn		**Pg**	**20 11 49.9**	**+0.3**
	SNR=1.0							
SMRF	**Simiane la Rot**	**0.93**	**236**	*e*P		**Pn**	**20 11 50.9**	**+0.5**
SMRF				*e*Sn		**Sb**	**20 12 02.7**	**+1.0**
	156nm,0.3s,SNR=1.0							
SMRF	**Simiane la Rot**	**0.93**	**236**	*e*Pn		**Pg**	**20 11 49.9**	**+0.3**
	SNR=1.0							
SMRF	**Simiane la Rot**	**0.93**	**236**	*e*P		**Pn**	**20 11 50.9**	**+0.5**
FRF	**La Foret Royal**	**0.94**	**179**	*e*Pg		**Pg**	**20 11 49.3**	**-0.6**
	SNR=1.0							
FRF	**La Foret Royal**	**0.94**	**179**	*e*P		**Pb**	**20 11 50.6**	**+0.8**
FRF				*e*Sg		**Sg**	**20 12 01.6**	**-0.5**
	322nm,0.2s,SNR=1.0							
FRF	**La Foret Royal**	**0.94**	**179**	*e*Pg		**Pg**	**20 11 49.3**	**-0.6**
	SNR=1.0							
FRF	**La Foret Royal**	**0.94**	**179**	*e*P		**Pb**	**20 11 50.6**	**+0.8**
FRF				*e*Sg		**Sg**	**20 12 01.6**	**-0.5**
	161nm,0.2s,SNR=1.0							
GRN	**Grenoble**	**0.97**	**320**	Pg		**Pg**	**20 11 50.6**	**+0.1**
GRN				Sg		**Sg**	**20 12 03.8**	**+0.5**
GRN	**Grenoble**	**0.97**	**320**	Pg		**Pg**	**20 11 50.6**	**+0.1**
LPG	**La Plagne**	**1.00**	**5**	*e*Pg		**Pg**	**20 11 50.3**	**-0.8**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**20 12 03.8**	**-0.4**
	116nm,0.4s,SNR=1.0							
LPG	**La Plagne**	**1.00**	**5**	*e*Pg		**Pg**	**20 11 50.3**	**-0.8**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**20 12 03.8**	**-0.4**
	58nm,0.4s,SNR=1.0							
NEGI	**Seborga**	**1.01**	**130**	Pg		**Pg**	**20 11 50.2**	**-1.0**
	368nm,0.4s							
NEGI	**Seborga**	**1.01**	**130**	Pg		**Pg**	**20 11 50.2**	**-1.0**
	368nm,0.4s							
LPL	**La Plagne**	**1.02**	**4**	*e*Pg		**Pg**	**20 11 50.7**	**-0.7**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**20 12 04.1**	**-0.6**
	65nm,0.3s,SNR=1.0							
LPL	**La Plagne**	**1.02**	**4**	*e*Pg		**Pg**	**20 11 50.7**	**-0.7**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**20 12 04.1**	**-0.6**
	32nm,0.3s,SNR=1.0							
LSD	**Lago del Serru**	**1.02**	**20**	Pg		**Pg**	**20 11 50.4**	**-1.1**
LSD				Sg		**Sg**	**20 12 04.2**	**-0.7**
	105nm,0.3s							
LSD	**Lago del Serru**	**1.02**	**20**	Pg		**Pg**	**20 11 50.4**	**-1.1**
LSD				Sg		**Sg**	**20 12 04.2**	**-0.7**
	105nm,0.3s							
IMI	**Imperia**	**1.08**	**123**	Pg		**Pg**	**20 11 51.4**	**-1.1**
	372nm,0.4s							
IMI	**Imperia**	**1.08**	**123**	Pg		**Pg**	**20 11 51.4**	**-1.1**
	372nm,0.4s							
MONC	**Moncucco Torin**	**1.08**	**58**	Pg		**Pg**	**20 11 52.2**	**-0.4**
	199nm,0.4s							
MONC	**Moncucco Torin**	**1.08**	**58**	Pg		**Pg**	**20 11 52.2**	**-0.4**
	199nm,0.4s							
RORO	**Rocca Rossa**	**1.10**	**110**	Pg		**Pg**	**20 11 51.4**	**-1.5**
	118nm,0.3s							
RORO	**Rocca Rossa**	**1.10**	**110**	Pg		**Pg**	**20 11 51.4**	**-1.5**
	118nm,0.3s							
LMR	**La Mourre**	**1.17**	**184**	*e*Pg		**Pg**	**20 11 53.3**	**-0.9**
	SNR=1.0							
LMR	**La Mourre**	**1.17**	**184**	*e*P		**Pn**	**20 11 54.5**	**+0.8**
	SNR=1.0							
LMR				*e*Sg		**Sg**	**20 12 08.5**	**-1.0**
	408nm,0.2s,SNR=1.0							
LMR	**La Mourre**	**1.17**	**184**	*e*Pg		**Pg**	**20 11 53.3**	**-0.9**
	SNR=1.0							
LMR	**La Mourre**	**1.17**	**184**	*e*P		**Pn**	**20 11 54.5**	**+0.8**
	SNR=1.0							
LMR				*e*Sg		**Sg**	**20 12 08.5**	**-1.0**
	204nm,0.2s,SNR=1.0							
LEPF	**PUYLOUBIER**	**1.19**	**215**	Pg		**Pn**	**20 11 55.2**	**+1.3**
LEPF				Sg		**Sn**	**20 12 11.5**	**+1.6**
LEPF	**PUYLOUBIER**	**1.19**	**215**	Pg		**Pn**	**20 11 55.3**	**+1.3**
ROTM	**Rocchetta Tana**	**1.27**	**74**	Pg		**Pn**	**20 11 54.3**	**-0.8**
	376nm,0.7s							
ROTM	**Rocchetta Tana**	**1.27**	**74**	Pg		**Pn**	**20 11 54.3**	**-0.8**
	376nm,0.7s							
TRAV	**Traversella**	**1.28**	**38**	Pg		**Pn**	**20 11 55.2**	**-0.2**
	74nm,0.3s							
TRAV	**Traversella**	**1.28**	**38**	Pg		**Pn**	**20 11 55.2**	**-0.2**
	74nm,0.3s							
CIRO	**Champorcher**	**1.28**	**31**	Pg		**Pg**	**20 11 55.1**	**-1.4**
	63nm,0.5s							
CIRO	**Champorcher**	**1.28**	**31**	Pg		**Pg**	**20 11 55.1**	**-1.4**
	63nm,0.5s							
MRGE	**Morge**	**1.30**	**13**	Pg		**Pn**	**20 11 55.6**	**-0.1**
	105nm,0.9s							
MRGE	**Morge**	**1.30**	**13**	Pg		**Pn**	**20 11 55.6**	**-0.1**
	105nm,0.9s							
PCP	**Piancastagn**	**1.37**	**88**	Pg		**Pn**	**20 11 56.0**	**-0.5**
	62nm,0.4s							
PCP	**Piancastagn**	**1.37**	**88**	Pg		**Pn**	**20 11 56.0**	**-0.5**
	62nm,0.4s							
VIVF	**Saint-Julien-l**	**1.44**	**285**	*e*P		**Pn**	**20 11 58.0**	**+0.5**
	SNR=1.0							
VIVF				*e*Sn		**Sb**	**20 12 18.0**	**+1.3**
	99nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.44**	**285**	*e*P		**Pn**	**20 11 58.0**	**+0.5**
	SNR=1.0							
VIVF				*e*Sn		**Sb**	**20 12 18.0**	**+1.3**
	50nm,0.3s,SNR=1.0							
EMV	**Vieux Emosson**	**1.57**	**7**	Pn		**Pb**	**20 12 00.8**	**0.0**
	38nm,0.7s							
EMV	**Vieux Emosson**	**1.57**	**7**	Pn		**Pb**	**20 12 00.8**	**0.0**
	38nm,0.7s							
SATI	**Passo dei Sala**	**1.63**	**32**	Pn		**Pb**	**20 12 01.6**	**-0.2**
	41nm,0.6s							
SATI	**Passo dei Sala**	**1.63**	**32**	Pn		**Pb**	**20 12 01.6**	**-0.2**
	41nm,0.6s							
DIX	**Grande Dixence**	**1.67**	**19**	Pn		**Pb**	**20 12 02.4**	**-0.1**
	22nm,0.5s							
DIX	**Grande Dixence**	**1.67**	**19**	Pn		**Pb**	**20 12 02.4**	**-0.1**
	22nm,0.5s							
SSB	**Saint Sauveur**	**1.68**	**298**	Pg		**Pg**	**20 12 04.5**	**+0.6**
SSB				Sn		**Sn**	**20 12 23.3**	**+1.2**
SSB				Sg		**Sg**	**20 12 26.9**	**+1.2**
OG01	**Vacheresse**	**1.83**	**1**	Pg		**Pg**	**20 12 06.5**	**-0.3**
OG01	**Vacheresse**	**1.83**	**1**	Pg		**Pg**	**20 12 06.6**	**-0.3**
LASF	**Ste Croix**	**2.04**	**259**	*e*P		**Pn**	**20 12 06.4**	**+0.7**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**20 12 29.3**	**-1.7**
	9.0nm,0.2s,SNR=1.0							
LASF	**Ste Croix**	**2.04**	**259**	*e*P		**Pn**	**20 12 06.4**	**+0.7**
	SNR=1.0							
CABF	**La Chapelle**	**2.15**	**350**	*e*P		**Pn**	**20 12 09.3**	**+2.1**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**20 12 31.2**	**-2.5**
CABF				*e*Sg		**Sb**	**20 12 39.1**	**+2.2**
	32nm,0.5s							
CABF	**La Chapelle**	**2.15**	**350**	*e*P		**Pn**	**20 12 09.3**	**+2.1**
	SNR=1.0							
CABF				*e*Sg		**Sb**	**20 12 39.1**	**+2.2**
	16nm,0.5s							
LBL	**Lubilhac**	**2.52**	**288**	Pg		**Pg**	**20 12 19.4**	**-0.5**
LBL				Sg		**Sg**	**20 12 53.9**	**+1.3**
LBL	**Lubilhac**	**2.52**	**288**	Pg		**Pg**	**20 12 19.4**	**-0.5**
PGF	**Pioggiola**	**2.60**	**138**	*e*Pn		**Pn**	**20 12 13.3**	**-0.2**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**20 12 42.1**	**-2.9**
	20nm,0.2s,SNR=1.0							
PGF	**Pioggiola**	**2.60**	**138**	*e*Pn		**Pn**	**20 12 13.3**	**-0.2**
	SNR=1.0							
LOMF	**Lomont**	**2.85**	**3**	Pg		**Pg**	**20 12 25.9**	**-0.5**
LOMF	**Lomont**	**2.85**	**3**	Pg		**Pg**	**20 12 25.9**	**-0.5**
PYM	**Petit Puy Mans**	**2.85**	**297**	Pg		**Pg**	**20 12 26.1**	**-0.3**
PYM	**Petit Puy Mans**	**2.85**	**297**	Pg		**Pg**	**20 12 26.2**	**-0.3**
SMF	**Signal de Mont**	**2.91**	**319**	*e*P		**Pn**	**20 12 19.2**	**+1.6**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**20 12 49.2**	**-3.2**
SMF				*e*Sg		**Sg**	**20 13 03.1**	**-1.9**
	23nm,0.3s							
SMF	**Signal de Mont**	**2.91**	**319**	*e*P		**Pn**	**20 12 19.2**	**+1.6**
	SNR=1.0							
AVF	**Avril sur Loir**	**3.25**	**316**	*e*P		**Pn**	**20 12 24.0**	**+1.8**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**20 12 56.6**	**-4.1**
	22nm,0.5s,SNR=1.0							
AVF				*e*Sg		**Sg**	**20 13 13.7**	**-2.2**
	10nm,0.3s							
AVF	**Avril sur Loir**	**3.25**	**316**	*e*P		**Pn**	**20 12 24.0**	**+1.8**
	SNR=1.0							
CAF	**Calviac**	**3.29**	**279**	*e*P		**Pn**	**20 12 24.2**	**+1.4**
	SNR=1.0							
CAF				*e*Sn		**Sn**	**20 12 59.7**	**-2.0**
	7.6nm,0.3s,SNR=1.0							
CAF				*e*Sg		**Sg**	**20 13 15.4**	**-1.8**
	4.0nm,0.2s							
CAF	**Calviac**	**3.29**	**279**	*e*P		**Pn**	**20 12 24.2**	**+1.4**
	SNR=1.0							
HINF	**Hinteralfeld**	**3.32**	**3**	*e*P		**Pn**	**20 12 24.4**	**+1.1**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**20 12 59.2**	**-3.4**
HINF				*e*Sg		**Sg**	**20 13 16.0**	**-2.3**
	12nm,0.4s,SNR=1.0							
HINF	**Hinteralfeld**	**3.32**	**3**	*e*P		**Pn**	**20 12 24.4**	**+1.1**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**20 13 16.0**	**-2.3**
	5.9nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**3.36**	**309**	*e*P		**Pn**	**20 12 26.0**	**+2.1**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**20 13 01.1**	**-2.5**
	19nm,0.3s							
BGF				*e*Sg		**Sg**	**20 13 18.5**	**-1.2**
	40nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**3.36**	**309**	*e*P		**Pn**	**20 12 26.0**	**+2.1**
	SNR=1.0							
BGF				*e*Sg		**Sg**	**20 13 18.5**	**-1.2**
	20nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**3.37**	**321**	*e*P		**Pn**	**20 12 25.8**	**+1.9**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**20 13 01.0**	**-2.7**
	11nm,0.3s							
SSF				*e*Sg		**Sg**	**20 13 17.7**	**-2.2**
	11nm,0.3s							
SSF	**Saint Saulge**	**3.37**	**321**	*e*P		**Pn**	**20 12 25.8**	**+1.9**
	SNR=1.0							
MOF	**Molkenrain**	**3.37**	**6**	Pn		**Pn**	**20 12 23.2**	**-0.8**
MOF	**Molkenrain**	**3.37**	**6**	Pn		**Pn**	**20 12 23.2**	**-0.8**
LOR	**Lormes**	**3.38**	**326**	*e*P		**Pn**	**20 12 26.0**	**+1.9**
	baz=147,SNR=1.0							
LOR				*e*Sn		**Sn**	**20 13 01.2**	**-2.8**
	21nm,0.4s,baz=174,SNR=1.0							
LOR				*e*Sg		**Sg**	**20 13 18.2**	**-2.0**
	12nm,0.2s,baz=150,SNR=1.0							
LOR	**Lormes**	**3.38**	**326**	*e*P		**Pn**	**20 12 26.0**	**+1.9**
	SNR=1.0							
MTLF	**Montolieu**	**3.40**	**252**	*e*P		**Pn**	**20 12 25.5**	**+1.2**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**20 13 01.6**	**-2.8**
	SNR=1.0							
MTLF				*e*Sg		**Sg**	**20 13 19.2**	**-1.5**
	3.8nm,0.3s,SNR=1.0							
MTLF	**Montolieu**	**3.40**	**252**	*e*P		**Pn**	**20 12 25.5**	**+1.2**
	SNR=1.0							
HAU	**Haudompre**	**3.51**	**357**	*e*P		**Pn**	**20 12 27.2**	**+1.3**
HAU				*e*Sn		**Sn**	**20 13 04.0**	**-3.3**
HAU				*e*Sg		**Sg**	**20 13 21.6**	**-2.8**
	9.6nm,0.3s							
HAU	**Haudompre**	**3.51**	**357**	*e*P		**Pn**	**20 12 27.2**	**+1.3**
DAVA	**Damuels**	**3.59**	**38**	Sn		**Sn**	**20 13 13.1**	**+3.6**
	9.9nm,0.4s							
DAVA	**Damuels**	**3.59**	**38**	*e*Sn		**Sn**	**20 13 13.1**	**+3.6**
	9.9nm,0.4s							
TCF	**Toulx Ste Croi**	**3.59**	**301**	*e*P		**Pn**	**20 12 29.2**	**+2.2**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**20 13 06.3**	**-3.0**
	10nm,0.4s,SNR=1.0							
TCF				*e*Sg		**Sg**	**20 13 25.0**	**-2.0**
	11nm,0.4s							
TCF	**Toulx Ste Croi**	**3.59**	**301**	*e*P		**Pn**	**20 12 29.2**	**+2.2**
	SNR=1.0							
RJF	**Les Rejaudoux**	**3.72**	**284**	*e*P		**Pn**	**20 12 30.8**	**+2.0**
	SNR=1.0							
RJF				*e*Sn		**Sn**	**20 13 09.8**	**-2.7**
	SNR=1.0							
RJF				*e*Sg		**Sg**	**20 13 29.8**	**-1.5**
	13nm,0.5s,SNR=1.0							
RJF	**Les Rejaudoux**	**3.72**	**284**	*e*P		**Pn**	**20 12 30.8**	**+2.0**
	SNR=1.0							
THEF	**They Montfort**	**3.75**	**353**	Pn		**Pn**	**20 12 27.9**	**-1.3**
THEF	**They Montfort**	**3.75**	**353**	Pn		**Pn**	**20 12 28.0**	**-1.3**
FETA	**Feichten**	**3.82**	**47**	Pn		**Pn**	**20 12 34.4**	**+4.2**
	0.5nm,0.3s							
FETA						Sn		**Sn**	**20 13 20.0**	**+5.0**
	4.5nm,0.7s							
FETA	**Feichten**	**3.82**	**47**	*i* Pn		**Pn**	**20 12 34.4**	**+4.2**
	0.5nm,0.3s							
FETA						*e*Sn		**Sn**	**20 13 20.0**	**+5.0**
	4.5nm,0.7s							
SFTF	**Sexfontaines**	**3.87**	**344**	*e*P		**Pn**	**20 12 32.8**	**+2.0**
	baz=158							
SFTF				*e*Sg		**Sg**	**20 13 32.8**	**-3.0**
	20nm,0.3s							
SFTF	**Sexfontaines**	**3.87**	**344**	*e*P		**Pn**	**20 12 32.8**	**+2.0**
HYF	**Humbligny**	**3.93**	**316**	*e*P		**Pn**	**20 12 33.9**	**+2.2**
HYF				*e*Sn		**Sn**	**20 13 14.0**	**-3.6**
HYF				*e*Sg		**Sg**	**20 13 35.4**	**-2.4**
HYF	**Humbligny**	**3.93**	**316**	*e*P		**Pn**	**20 12 33.9**	**+2.2**
CDF	**Champ du Feu**	**3.94**	**6**	*e*P		**Pn**	**20 12 32.5**	**+0.7**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**20 13 14.3**	**-3.6**
	3.4nm,0.3s,SNR=1.0							
CDF	**Champ du Feu**	**3.94**	**6**	*e*P		**Pn**	**20 12 32.5**	**+0.7**
	SNR=1.0							
PAGF	**Fort de Pagny**	**4.10**	**352**	*e*P		**Pn**	**20 12 36.0**	**+2.0**
	baz=164							
PAGF				*e*Sg		**Sg**	**20 13 40.3**	**-3.1**
	3.8nm,0.6s,baz=159							
PAGF	**Fort de Pagny**	**4.10**	**352**	*e*P		**Pn**

MLv3.8/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.74**	**32**	P	Pb	20 20 33.4	+0.1
PLAI				S	Sn	20 20 43.9	+0.7
WBSI	**Waikabubak, Su**	**1.99**	**95**	P	Pn	20 20 50.0	-0.3
WBSI				S	Sn	20 21 13.6	-0.6
DNP	**Denpasar**	**2.28**	**290**	P	Pn	20 20 54.7	+0.5
DNP				S	Sn	20 21 22.8	+1.6
IGBI	**Denpasar**	**2.30**	**286**	P	Pn	20 20 54.7	+0.2
IGBI				S	Sn	20 21 21.6	-0.1
SRBI	**Singaraja**	**2.54**	**302**	P	Pn	20 20 58.1	+0.3
SRBI				S	Sn	20 21 27.4	-0.3
WSI	**Waingapu**	**2.88**	**94**	P	Pn	20 21 03.0	+0.4
BASI	**Baing, Sumba**	**3.24**	**104**	P	Pn	20 21 07.9	+0.4
JAGI	**Jajag, Banyuwa**	**3.34**	**287**	P	Pn	20 21 08.4	-0.4
GMJI	**Gumukmas**	**4.06**	**287**	P	Pn	20 21 18.5	-0.3
EDFI	**Ende, Flores**	**4.32**	**81**	P	Pn	20 21 22.9	+0.6
BSSI	**Bau Bau, Buton**	**4.51**	**43**	P	Pn	20 21 25.1	+0.1

MEX 26 20:22:33.5±0.6, 17.08N×98.37W, h20km±106km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.52**	**339**	*i* P	Pb	20 22 42.2	-1.8
TLIG				*i* S	Sb	20 22 49.4	-1.7
PNIG	**Pinotepa**	**0.72**	**161**	*e*P	Pb	20 22 45.9	-1.6
PNIG				*i* S	Sb	20 22 53.9	-3.1
VHO	**Vista Hermosa**	**1.57**	**90**	*i* P	Pn	20 22 57.0	-3.4
VHO				*i* S	Sn	20 23 17.0	-3.3
CAIG	**El Cayaco**	**1.81**	**269**	*e*P	Pn	20 23 00.6	-3.0
CAIG				*i* S	Sn	20 23 21.4	-4.5
HUIG	**Huatulco**	**2.54**	**121**	*i* P	Pn	20 23 10.9	-2.7
HUIG				*i* S	Sn	20 23 40.2	-3.7

*IDC **26** 20:40:46.1±0.7, 51.46N×167.98W, h0km, mb4.3/31, mb1 4.4/31, mb1mx4.2/80, mbtmp4.3/31, Error ellipse: s-maj=19.7km s-min=13.0km az=2.0*
*ISCJB **26** 20:40:48.9±0.2, 51.66N±0.03×167.93W±0.05, h22km, mb4.4/64, MS3.9/2, Error ellipse: s-maj=5.5km s-min=3.6km az=147.9*
*NEIC **26** 20:40:50.5±0.9, 51.64N×167.93W, h22km±6km, ML3.4(AEIC), Error ellipse: s-maj=5.9km s-min=4.4km az=176.0*
*MOS **26** 20:40:50.2±1.2, 51.60N×167.99W, h33km, mb4.7/23, Error ellipse: s-maj=14.0km s-min=7.4km az=103.7*

ISC 26 20:40:50.4±0.5, 51.66N±0.08×168.00W±0.06, h22km, n222, σt 32/221, mb4.5/68, 5C, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**1.61**	**354**	P	Pn	20 41 09.5	-8.0
OKWE	**Okmok W'ng Wal**	**1.83**	**355**	P	Pn	20 41 13.0	-7.5
UNV	**Unalaska Valle**	**2.38**	**22**	*e*Pn	**Pn**	**20 41 26.7**	**-1.3**
UNV				S	**Sn**	**20 41 54.7**	**-1.7**
MSW	**Makushin Switc**	**2.38**	**18**	*e*Pn	**Pn**	**20 41 27.0**	**-1.1**
ZRO	**Akutan Zero**	**2.73**	**26**	*e*Pn	**Pn**	**20 41 31.8**	**-1.1**
AKRB	**Akutan Reef Bi**	**2.74**	**24**	*e*Pn	**Pn**	**20 41 32.4**	**-0.7**
AKRB				*e*Sn	**Sn**	**20 42 04.7**	**-0.8**
AKUT	**Akutan**	**2.83**	**28**	*e*Pn	**Pn**	**20 41 32.9**	**-1.3**
AKUT				S	**Sn**	**20 42 06.1**	**-1.4**
AKSA	**Akutan Strait**	**2.85**	**28**	*e*Pn	**Pn**	**20 41 32.8**	**-1.7**
AKSA				*e*Sn	**Sn**	**20 42 06.7**	**-1.4**
WESN	**West Dahl Nort**	**3.57**	**34**	*e*Pn	**Pn**	**20 41 44.0**	**-0.5**
ISLZ	**Isanotski Laza**	**4.01**	**38**	P	**Pn**	**20 41 49.2**	**-1.3**
FALS	**False Pass**	**4.23**	**39**	*e*Pn	**Pn**	**20 41 52.5**	**-0.9**
CHGN	**Chignik**	**7.32**	**47**	*e*Pn	**Pn**	**20 42 36.4**	**+0.6**
KDAK	**Kodiak Island**	**10.81**	**49**	Pn	**Pn**	**20 43 20.2**	**-3.4**
	1.6nm,0.3s,baz=201,slow=5.6,SNR=46						
KDAK				Sn	Sn	20 45 14.5	-9.3
	0.4nm,0.3s,baz=319,slow=20,SNR=4.7						
SUA	**Susitna One**	**13.63**	**37**	*e*Pn	**Pn**	**20 43 59.5**	**-2.7**
SKT	**Skwentna**	**13.68**	**34**	*e*Pn	**Pn**	**20 44 02.7**	**-0.1**
PPLA	**Purkeypile**	**14.09**	**31**	*e*Pn	**Pn**	**20 44 09.7**	**+1.1**
CAST	**Castle Rocks**	**14.50**	**30**	*e*Pn	**Pn**	**20 44 14.1**	**0.0**
KTH	**Kantishna Hill**	**14.96**	**31**	*e*Pn	**Pn**	**20 44 20.3**	**0.0**
SCM	**Sheep Creek Mo**	**15.17**	**40**	*e*P	**Pn**	**20 44 19.7**	**-3.4**
SCM				pmax	pmax		
	comp=Z,18nm,0.6s						
SCM	**Sheep Creek Mo**	**15.17**	**40**	*e*Pn	**Pn**	**20 44 19.7**	**-3.4**
	comp=Z,18nm,0.6s						
BPAW	**Bear Paw Mtn.**	**15.34**	**29**	*e*Pn	**Pn**	**20 44 25.1**	**-0.2**
	comp=Z,12nm,1.1s						
KLU	**Klutina**	**15.57**	**42**	*e*Pn	**Pn**	**20 44 24.3**	**-4.0**
	comp=Z,16nm,0.6s						
BMRM	**Bremner River**	**15.89**	**45**	*e*Pn	**P**	**20 44 39.8**	**+3.8**
	comp=Z,22nm,1.0s						
IM3	**Indian Mountai**	**16.08**	**21**	*e*Pn	**Pn**	**20 44 36.3**	**+1.5**
MLY	**Manley**	**16.09**	**27**	*e*Pn	**Pn**	**20 44 35.2**	**+0.2**
	comp=Z,6.4nm,0.8s						
HARP	**HAARP**	**16.34**	**40**	*e*Pn	**Pn**	**20 44 36.1**	**-2.1**
	comp=Z,26nm,1.0s						
PAX	**Paxson**	**16.52**	**38**	*e*P	**Pn**	**20 44 38.3**	**-2.2**
PAX				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PAX	**Paxson**	**16.52**	**38**	*e*Pn	**Pn**	**20 44 38.3**	**-2.2**
	comp=Z,4.6nm,0.9s						
MDM	**Murphy Dome**	**16.79**	**30**	*e*Pn	**Pn**	**20 44 43.0**	**-0.8**
	comp=Z,16nm,1.5s						
COLA	**College**	**16.85**	**30**	*e*P	**P**	**20 44 49.2**	**+2.7**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ILAR	**Eielson Array**	**17.09**	**32**	P	**Pn**	**20 44 43.3**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=236,slow=11,SNR=8.2						
ILB	**Eielson Array**	**17.09**	**32**	*e*Pn	**Pn**	**20 44 46.6**	**-1.0**
RIDG	**Independ'e Rid**	**17.18**	**36**	*e*Pn	**Pn**	**20 44 47.3**	**-1.5**
	comp=Z,6.3nm,0.9s						
MENT	**Mentasta**	**17.18**	**40**	*e*Pn	**Pn**	**20 44 48.0**	**-0.8**
	comp=Z,5.3nm,0.6s						
DOT	**Dot Lake**	**17.42**	**37**	*e*Pn	**Pn**	**20 44 49.5**	**-2.2**
	comp=Z,8.8nm,0.7s						
SCRK	**Sand Creek**	**17.63**	**36**	*e*Pn	**Pn**	**20 44 54.4**	**0.0**
	comp=Z,6.0nm,1.0s						
COLD	**Coldfoot**	**17.93**	**23**	*e*Pn	**P**	**20 44 59.9**	**+1.4**
	comp=Z,11nm,1.0s						
FYU	**Fort Yukon**	**18.79**	**29**	*e*P	**Pn**	**20 45 10.4**	**+2.0**
	comp=Z,6.9nm,0.8s						
EGAK	**Eagle**	**19.09**	**36**	*e*P	**Pn**	**20 45 13.6**	**+1.5**
	comp=Z,6.6nm,0.7s						
HYT	**Haines Junctio**	**19.10**	**49**	*e*P	**Pn**	**20 45 13.3**	**+0.9**
	comp=Z,24nm,0.7s						
TOLK	**Toolik Lake Re**	**19.20**	**21**	*e*P	**Pn**	**20 45 14.3**	**+0.9**
	comp=Z,10.0nm,0.9s						
DAWY	**Dawson**	**19.43**	**39**	*e*P	**P**	**20 45 15.2**	**+0.3**
	comp=Z,9.0nm,0.8s						
SKAG	**Skagway**	**19.89**	**54**	*e*P	**Pn**	**20 45 24.9**	**+3.3**
WHY	**Whitehorse**	**20.32**	**51**	*e*P	Pn	20 45 29.5	+2.7
	comp=Z,16nm,0.9s						
PET	**Petropavlovsk**	**20.32**	**287**	*e*P	Pn	20 45 27.8	+1.0
PET				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL	**Bilibino**	**20.63**	**332**	*i* P	**P**	**20 45 27.8**	**-0.1**
BILL				*i*		20 45 38.6	
BILL				*i*		20 45 44.5	
BILL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,418nm,19.0s						
PEA1	**Petropavlovsk-**	**20.88**	**288**	*e*P	**P**	**20 45 30.4**	**-0.3**
PETK	**Petropavlovsk-**	**20.88**	**288**	P	**P**	**20 45 30.4**	**-0.3**
	comp=Z,9.8nm,0.9s,baz=85,slow=15,SNR=11						
PETK	**Petropavlovsk-**	**20.88**	**288**	*e*P	**P**	**20 45 31.2**	**+0.5**
PETK	**Petropavlovsk-**	**20.88**	**288**	*e*P	**P**	**20 45 31.2**	**+0.5**
INK	**Inuvik**	**23.49**	**32**	P	**P**	**20 45 57.6**	**-0.6**
	comp=Z,12nm,0.6s,baz=234,slow=12,SNR=20						
INK	**Inuvik**	**23.49**	**32**	*e*P	**P**	**20 45 57.5**	**-0.6**
INK				pmax	pmax		
	comp=Z,13nm,0.6s						
INK	**Inuvik**	**23.49**	**32**	*e*P	**P**	**20 45 57.5**	**-0.6**
	comp=Z,13nm,0.6s						
SEY	**Seymchan**	**23.78**	**314**	P	**P**	**20 46 00.5**	**-0.4**
	comp=Z,5.3nm,0.9s,baz=104,slow=8.6,SNR=16						
SEY	**Seymchan**	**23.78**	**314**	*ce*P	**P**	**20 45 59.7**	**-1.3**
SP2	**Seward Park 2**	**29.55**	**80**	*e*P	**P**	**20 46 52.8**	**-0.3**
SP2				*ep*P	**sP**	**20 47 04.8**	**+2.3**
GSM	**Grass Mountain**	**29.98**	**80**	*ep*P	pP	20 47 07.0	+3.3
YKA	**Yellowknife Ar**	**30.08**	**48**	P	**P**	**20 46 58.5**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=270,slow=7.6,SNR=18						
GULW	**Guler Mountain**	**30.68**	**82**	*ep*P	pP	20 47 11.4	+1.5
UMPQ	**Umpqua Communi**	**30.91**	**88**	*ep*P	pP	20 47 11.8	0.0
H04A	**Detroit Lake**	**30.91**	**85**	*e*P	**P**	**20 47 05.9**	**+0.6**
	comp=Z,8.7nm,0.9s						
WALA	**Waterton Lakes**	**33.95**	**73**	*e*P	**P**	**20 47 31.9**	**0.0**
	comp=Z,3.5nm,0.8s						
WVOR	**Wild Horse Val**	**34.28**	**86**	*e*P	**P**	**20 47 35.1**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WVOR	**Wild Horse Val**	**34.28**	**86**	*e*P	**P**	**20 47 35.1**	**+0.2**
	comp=Z,5.0nm,0.9s						
CPIM	**Pinole Ridge**	**34.64**	**95**	*e*P	**P**	**20 47 42.2**	**+4.3**
PAHR	**Pah Rah Range**	**35.37**	**90**	*e*P	**P**	**20 47 44.6**	**+0.3**
	comp=Z,12nm,1.3s						
CMB	**Columbia Colle**	**35.75**	**93**	*e*PcP	**PcP**	**20 50 17.5**	**+2.5**
WAKR	**Walker**	**36.05**	**92**	*e*P	**P**	**20 47 51.0**	**+0.7**
	comp=Z,29nm,2.0s						
KVN	**Kaiserville**	**36.55**	**90**	*e*P	**P**	**20 47 54.8**	**+0.3**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KVN	**Kaiserville**	**36.55**	**90**	*e*P	**P**	**20 47 54.8**	**+0.3**
	comp=Z,2.9nm,0.8s						
NV01	**Mina Array Sit**	**36.80**	**91**	*e*P	**P**	**20 47 56.6**	**-0.1**
NVAR	**Mina Array Bea**	**36.80**	**91**	P	**P**	**20 47 56.7**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=288,slow=8.8,SNR=11						
H11N2	**WAKE ISLAND Hy**	**37.45**	**221**	T	T	21 27 45.5	
	baz=26,slow=76,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**37.45**	**221**	T	T	21 27 45.5	
	baz=26,slow=76,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**37.46**	**221**	T	T	21 27 45.1	
	baz=26,slow=76,SNR=5.7						
KLR	**Kul'dur**	**37.50**	**291**	*e*P	**P**	**20 48 01.6**	**-0.6**
BAKC	**Calstate**	**38.25**	**96**	*e*P	**P**	**20 48 09.0**	**+0.4**
R11A	**Troy Canyon, C**	**38.55**	**89**	*e*P	**P**	**20 48 11.2**	**-0.2**
	comp=Z,3.7nm,0.9s						
RLMT	**Red Lodge**	**38.61**	**76**	*e*P	**P**	**20 48 11.8**	**-0.1**
	comp=Z,7.6nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**38.62**	**221**	T	T	21 29 15.0	
	baz=26,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**38.64**	**220**	T	T	21 29 16.8	
	baz=26,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**38.64**	**221**	T	T	21 29 14.0	
	baz=26,slow=76,SNR=6.4						
GSC	**Goldstone, Bar**	**39.70**	**94**	*e*P	**P**	**20 48 20.9**	**-0.1**
GSC				pmax	pmax		
	comp=Z,16nm,1.5s						
GSC	**Goldstone, Bar**	**39.70**	**94**	*e*P	**P**	**20 48 20.9**	**-0.1**
	comp=Z,16nm,1.5s						
PD31	**Pinedale Array**	**39.71**	**79**	*e*P	**P**	**20 48 20.4**	**-0.7**
PDAR	**Pinedale Array**	**39.71**	**79**	P	**P**	**20 48 20.6**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=297,slow=5.5,SNR=6.6						
PDAR	**Pinedale Array**	**39.71**	**79**	*e*P	**P**	**20 48 20.1**	**-1.0**
W13A	**Hualapai Mount**	**41.65**	**92**	*e*P	**P**	**20 48 37.0**	**-0.2**
	comp=Z,2.6nm,0.7s						
U15A	**North Rim**	**41.79**	**89**	*e*P	**P**	**20 48 38.6**	**+0.2**
	comp=Z,4.4nm,0.8s						
PHWY	**Pilot Hill**	**43.05**	**78**	*e*P	**P**	**20 48 48.0**	**-0.6**
	comp=Z,39nm,0.9s						
ULM	**Lac du Bonnet**	**43.74**	**62**	P	**P**	**20 48 52.3**	**-1.4**
	comp=Z,4.6nm,1.0s,baz=277,slow=5.8,SNR=4.3						
TLY	**Talaya**	**51.45**	**307**	*e*P	**P**	**20 49 54.5**	**+1.0**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**51.91**	**89**	*e*P	**P**	**20 49 55.8**	**-1.6**
LTX	**Lajitas**	**51.91**	**89**	*e*P	**P**	**20 49 56.4**	**-1.0**
LTX	**Lajitas**	**51.91**	**89**	*e*P	**P**	**20 49 56.4**	**-1.0**
TXAR	**Lajitas Array**	**51.91**	**89**	P	**P**	**20 49 56.4**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=295,slow=5.7,SNR=26						
ULN	**Ulaanbaatar**	**52.03**	**302**	*ce*P	**P**	**20 49 55.9**	**-2.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ULN	**Ulaanbaatar**	**52.03**	**302**	*e*P	**P**	**20 49 58.8**	**+0.7**
	comp=Z,3.0nm,0.9s						
SONA1	**Songino Array**	**52.38**	**302**	*e*P	**P**	**20 50 01.7**	**+0.9**
SONA0	**Songino Array**	**52.40**	**302**	*e*P	**P**	**20 50 01.4**	**+0.6**
SONM	**Songino Array**	**52.40**	**302**	P	**P**	**20 50 01.4**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=57,slow=5.5,SNR=11						
ZAK	**Zakamensk**	**52.42**	**306**	*e*P	**P**	**20 49 59.5**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KNGR	**Kungurtug, Tuv**	**55.12**	**309**	*e*P	**P**	**20 50 20.0**	**-0.7**
ZAA1	**Zalesovo Array**	**58.52**	**319**	*e*P	**P**	**20 50 45.3**	**+0.8**
ZAA1				*e*PcP	**PcP**	**20 51 35.1**	**+0.3**
ZALV	**Zalesovo Beam**	**58.52**	**319**	P	**P**	**20 50 45.3**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=63,slow=6.8,SNR=3.9						
ZALV				PcP	**PcP**	**20 51 35.1**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=36,slow=5.2,SNR=5.2						
ARA0	**ARCESS Array S**	**58.72**	**354**	*e*P	**P**	**20 50 46.2**	**+0.4**
ARA0				*e*PcP	**PcP**	**20 51 34.4**	**-0.9**
ARCES	**ARCESS Array B**	**58.72**	**354**	P	**P**	**20 50 46.2**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=17,slow=6.6,SNR=3.2						
ARCES				PcP	**PcP**	**20 51 34.4**	**-1.0**
	comp=Z,3.6nm,0.9s,baz=11,slow=5.5,SNR=4.6						
KURK	**Kurchatov**	**63.47**	**319**	*ce*P	**P**	**20 51 17.4**	**-0.8**
KURK				pmax	pmax		
	comp=Z,34nm,2.5s						
KURK	**Kurchatov**	**63.47**	**319**	*e*P	**P**	**20 51 19.0**	**+0.8**
	comp=Z,4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**63.58**	**319**	P	**P**	**20 51 19.4**	**+0.5**
	comp=Z,3.7nm,0.9s,baz=45,slow=6.9,SNR=26						
BVAR	**Borovoye Array**	**64.78**	**325**	P	**P**	**20 51 27.6**	**+0.8**
	comp=Z,6.7nm,0.7s,baz=54,slow=7.3,SNR=34						
BRVK	**Borovoye**	**64.79**	**325**	*ce*P	**P**	**20 51 25.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,19nm,1.7s						
BRVK	**Borovoye**	**64.79**	**325**	*e*P	**P**	**20 51 27.9**	**+1.1**
	comp=Z,5.8nm,0.9s						
MK31	**Makanchi Array**	**64.91**	**314**	*e*P	**P**	**20 51 27.6**	**-0.2**
MK31	**Makanchi Array**	**64.91**	**314**	*e*P	**P**	**20 51 27.6**	**-0.2**
MK32	**Makanchi Array**	**64.91**	**314**	*e*P	**P**	**20 51 27.5**	**-0.3**
MKAR	**Makanchi Array**	**64.91**	**314**	P	**P**	**20 51 27.5**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=50,slow=6.3,SNR=25						
MKAR	**Makanchi Array**	**64.91**	**314**	*i* P	**P**	**20 51 27.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**64.91**	**314**	*e*P	**P**	**20 51 27.6**	**-0.2**
	comp=Z,11nm,0.9s						
MK01	**Makanchi Array**	**64.92**	**314**	*e*P	**P**	**20 51 27.5**	**-0.4**
MAKZ	**Makanchi**	**65.04**	**315**	*e*P	**P**	**20 51 28.7**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MAKZ	**Makanchi**	**65.04**	**315**	*e*P	**P**	**20 51 28.7**	**+0.1**
	comp=Z,4.7nm,1.1s						
ARU	**Arti**	**65.64**	**334**	P	**P**	**20 51 32.9**	**+0.6**
	comp=Z,2.0nm,0.4s,baz=77,slow=5.4,SNR=4.6						
ARU	**Arti**	**65.64**	**334**	*c i*P	**P**	**20 51 30.7**	**-1.6**
ARU				*PP	**sP**	**20 51 43.0**	**+1.0**
ARU				S	**S**	**21 00 12.3**	**-4.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARU	**Arti**	**65.64**	**334**	*e*P	**P**	**20 51 32.9**	**+0.6**
	comp=Z,4.1nm,0.9s						
FIA0	**FINESS Array S**	**66.69**	**353**	*e*P	**P**	**20 51 39.1**	**+0.2**
FIA0	**FINESS Array S**	**66.69**	**353**	*e*P	**P**	**20 51 39.1**	**+0.2**
FINES	**FINESS Array B**	**66.69**	**353**	P	**P**	**20 51 39.1**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=15,slow=8.1,SNR=10						
NB2	**NORSAR Subarra**	**67.65**	**0**	P	**P**	**20 51 45.5**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=1.2,slow=6.5						
NB200	**NORSAR Array S**	**67.65**	**0**	*e*P	**P**	**20 51 45.4**	**+0.3**
NOA	**NORSAR Array B**	**67.65**	**0**	P	**P**	**20 51 45.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=360,slow=6.3,SNR=4.2						
HFS	**Hagfors**	**68.56**	**359**	P	**P**	**20 51 51.0**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=23,slow=4.8,SNR=21						
HFS	**Hagfors**	**68.56**	**359**	P	**P**	**20 51 51.0**	**+0.2**
AKTO	**Aktyubinsk**	**71.05**	**331**	P	**P**	**20 52 06.8**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=42,slow=7.0,SNR=15						
AB05	**Akbulak array**	**71.47**	**329**	*e*P	**P**	**20 52 09.6**	**+0.7**
AB06	**Akbulak array**	**71.47**	**329**	*e*P	**P**	**20 52 08.9**	**+0.1**
AB02	**Akbulak array**	**71.48**	**329**	*e*P	**P**	**20 52 09.6**	**+0.7**
AB01	**Akbulak array**	**71.49**	**329**	*e*P	**P**	**20 52 09.7**	**+0.8**
AB04	**Akbulak array**	**71.49**	**329**	*e*P	**P**	**20 52 09.7**	**+0.8**
AB31	**Akbulak array**	**71.49**	**329**	*e*P	**P**	**20 52 09.8**	**+0.9**
AB31	**Akbulak array**	**71.49**	**329**	*e*P	**P**	**20 52 09.8**	**+0.9**
ABKAR	**Akbulak array**	**71.49**	**329**	*e*P	**P**	**20 52 09.8**	**+0.9**
	comp=Z,44nm,0.5s						
AB09	**Akbulak array**	**71.49**	**329**	*e*P	**P**	**20 52 09.6**	**+0.7**
AB03	**Akbulak array**	**71.49**	**329**	*e*P	**P**	**20 52 09.7**	**+0.8**
AB07	**Akbulak array**	**71.49**	**329**	*e*P	**P**	**20 52 09.7**	**+0.7**
AB08	**Akbulak array**	**71.51**	**329**	*e*P	**P**	**20 52 09.8**	**+0.7**
AAK	**Ala-Archa**	**71.60**	**316**	P	**P**	**20 52 10.8**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=176,slow=4.6,SNR=8.4						
OBN	**Obninsk**	**71.65**	**345**	*e*P	**P**	**20 52 08.7**	**-1.1**
OBN				*e*		20 52 25.9	
OBN				*e*		20 54 48.1	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,55nm,17.0s						
NRN	**Naryn**	**71.92**	**315**	*e*P	**P**	**20 52 13.6**	**+1.5**
NRN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
NRN	**Naryn**	**71.92**	**315**	*e*P	**P**	**20 52 13.6**	**+1.5**
	comp=Z,3.9nm,1.2s						
EKA	**Eskdalemuir Ar**	**72.64**	**9**	P	**P**	**20 52 16.5**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=351,slow=3.9,SNR=10						
KK05	**Karatay Array**	**72.87**	**319**	*e*P	**P**	**20 52 17.9**	**+0.5**
KK09	**Karatay Array**	**72.87**	**319**	*e*P	**P**	**20 52 17.9**	**+0.5**
KK04	**Karatay Array**	**72.88**	**319**	*e*P	**P**	**20 52 17.7**	**+0.3**
KK02	**Karatay Array**	**72.89**	**319**	*e*P	**P**	**20 52 17.8**	**+0.3**
KK31	**Karatay Array**	**72.89**	**319**	*e*P	**P**	**20 52 18.2**	**+0.8**
KK31	**Karatay Array**	**72.89**	**319**	*e*P	**P**	**20 52 18.2**	**+0.8**
KKAR	**Karatay Array**	**72.89**	**319**	*e*P	**P**	**20 52 18.2**	**+0.8**
KKAR	**Karatay Array**	**72.89**	**319**	*e*P	**P**	**20 52 18.2**	**+0.8**
KK01	**Karatay Array**	**72.89**	**319**	*e*P	**P**	**20 52 17.8**	**+0.3**
KK06	**Karatay Array**	**72.89**	**319**	*e*P	**P**	**20 52 17.9**	**+0.5**
KK03	**Karatay Array**	**72.89**	**319**	*e*P	**P**	**20 52 17.8**	**+0.3**
KK08	**Karatay Array**	**72.89**	**319**	*e*P	**P**	**20 52 17.9**	**+0.4**
KK07	**Karatay Array**	**72.90**	**319**	*e*P	**P**	**20 52 17.5**	**-0.1**
LSA	**Lhasa**	**73.53**	**297**	*e*P	**P**	**20 52 23.2**	**+1.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LSA	**Lhasa**	**73.53**	**297**	*e*P	**P**	**20 52 23.2**	**+1.2**
	comp=Z,7.2nm,0.9s						
AKASG	**Malin Array Be**	**76.98**	**349**	P	**P**	**20 52 40.8**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=8.9,slow=5.4,SNR=8.1						
AKBB	**Malin Array Si**	**76.98**	**349**	*e*P	**P**	**20 52 40.8**	**-0.1**
AKBB				pmax	pmax		
	comp=Z,28nm,1.9s						
AKBB	**Malin Array Si**	**76.98**	**349**	*e*P	**P**	**20 52 40.8**	**-0.1**
	comp=Z,28nm,1.9s						
CLL	**Collm**	**77.41**	**359**	*e*P	**P**	**20 52 44.0**	**+0.7**
CLL	**Collm**	**77.41**	**359**	*e*P	**P**	**20 52 44.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**77.61**	**284**	P	**P**	**20 52 44.3**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=30,slow=6.4,SNR=6.2						
CM01	**Chiang Mai Arr**	**77.62**	**284**	*e*P	**P**	**20 52 44.7**	**-0.3**
UPC	**Upice**	**78.16**	**357**	*e*P	**P**	**20 52 48.9**	**+1.4**
UPC	**Upice**	**78.16**	**357**	*e*P	**P**	**20 52 48.9**	**+1.4**
DPC	**Dobruska-Polom**	**78.31**	**357**	*e*P	**P**	**20 52 49.7**	**+1.3**
DPC	**Dobruska-Polom**	**78.31**	**357**	*e*P	**P**	**20 52 49.7**	**+1.3**
NKC	**Novy Kostel**	**78.49**	**360**	*e*P	**P**	**20 52 50.8**	**+1.5**
NKC				*e*		20 52 53.9	
NKC	**Novy Kostel**	**78.49**	**360**	*e*P	**P**	**20 52 50.8**	**+1.5**
NKC				*ep*P	**pP**	**20 52 53.9**	**-2.6**
KRLC	**Kraliky**	**78.56**	**357**	*e*P	**P**	**20 52 51.1**	**+1.3**
KRLC	**Kraliky**	**78.56**	**357**	*e*P	**P**	**20 52 51.1**	**+1.3**
PRU	**Pruhonice**	**78.71**	**358**	*e*P	**P**	**20 52 51.8**	**+1.3**
PRU	**Pruhonice**	**78.71**	**358**	*e*P	**P**	**20 52 51.8**	**+1.3**
STHS	**Stebnicka Huta**	**79.00**	**354**	*e*P	**P**	**20 52 54.1**	**+1.9**
STHS				pmax	pmax		
	comp=

ATA ***26*** *20:50:02.6±0.8, 39°.26N×42°.27E, h10km±13km, ML3.0, MW2.6*
ISK ***26*** *20:50:02.5, 39°.22N×42°.25E, h5km, ML2.2/5*
DDA ***26*** *20:50:03.2, 39°.25N×42°.31E, h7km, Ml2.4*
ISC 26 20:50:02.9±0.8,**39°.25N**±0°.02×**42°.26E**±0°.02,**h17**km±6km, **n39**,σ0s**93**/62,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.15**	**273**	*eP*	**Pg**	**20 50 7.1**	**-0.3**
EKAR				IAML		20 50 12.6	
	comp=Z,213nm,0.2s						
EKAR	**Karacoban**	**0.15**	**273**	*i* P	**Pg**	**20 50 07.0**	**-0.3**
EKAR				*i* S	**Sg**	**20 50 12.0**	**+1.7**
EKAR	**Karacoban**	**0.15**	**273**	P	**Pg**	**20 50 07.0**	**-0.3**
TUTA	**Tutak**	**0.46**	**70**	*eP*	**Pg**	**20 50 11.9**	**-0.5**
TUTA				*eS*	**Sb**	**20 50 18.9**	**-0.5**
TUTA				IAML		20 50 19.5	
	comp=Z,133nm,0.1s						
TUTA	**Tutak**	**0.46**	**70**	*i* P	**Pg**	**20 50 11.3**	**-1.0**
TUTA				*i* S	**Sb**	**20 50 18.6**	**-0.8**
TUTA	**Tutak**	**0.46**	**70**	P	**Pg**	**20 50 11.3**	**-1.0**
TUTA				S	**Sb**	**20 50 18.6**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.57**	**140**	*i* P	**Pg**	**20 50 13.6**	**-0.8**
ADCV				*i* S	**Sb**	**20 50 22.0**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.57**	**140**	P	**Pg**	**20 50 13.6**	**-0.8**
ADCV				S	**Sb**	**20 50 22.0**	**-0.5**
EATA	**Eleskirt**	**0.64**	**16**	*eP*	**Pb**	**20 50 15.9**	**0.0**
EATA				*eS*	**Sb**	**20 50 26.0**	**+1.3**
EATA	**Eleskirt**	**0.64**	**16**	*i* P	**Pb**	**20 50 15.7**	**-0.2**
EATA				*i* S	**Sb**	**20 50 25.6**	**+0.9**
EATA	**Eleskirt**	**0.64**	**16**	P	**Pb**	**20 50 15.7**	**-0.2**
EATA				S	**Sb**	**20 50 25.6**	**+0.9**
AGRB	**Hanur-Agry**	**0.66**	**60**	PG	**Pb**	**20 50 16.4**	**+0.3**
AGRB				SG	**Sb**	**20 50 25.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.66**	**60**	*ePg*	**Pb**	**20 50 16.4**	**+0.3**
AGRB				*eSg*	**Sb**	**20 50 25.5**	**+0.5**
GURO	**Guroymak-BITLI**	**0.72**	**194**	PG	**Pg**	**20 50 16.2**	**-0.8**
GURO				SG	**Sg**	**20 50 26.3**	**-0.3**
GURO	**Guroymak-BITLI**	**0.72**	**194**	*ePg*	**Pg**	**20 50 16.2**	**-0.8**
GURO				*eSg*	**Sg**	**20 50 26.3**	**-0.3**
HOMI	**Horasan**	**0.84**	**341**	*eP*	**Pg**	**20 50 19.1**	**-0.3**
HOMI	**Horasan**	**0.84**	**341**	*i* P	**Pg**	**20 50 19.0**	**-0.4**
ERZM	**Erzurum**	**0.95**	**314**	*eP*	**Pg**	**20 50 21.2**	**-0.3**
ERZM				*eS*	**Sn**	**20 50 35.9**	**+0.8**
ERZM	**Erzurum**	**0.95**	**314**	*i* P	**Pg**	**20 50 20.5**	**-1.0**
ERZM				*i* S	**Sg**	**20 50 31.9**	**-2.1**
ERZM	**Erzurum**	**0.95**	**314**	P	**Pg**	**20 50 20.5**	**-1.0**
ERZM				S	**Sg**	**20 50 31.9**	**-2.1**
VANB	**Van**	**1.10**	**126**	PN	**Pn**	**20 50 25.4**	**+1.8**
VANB	**Van**	**1.10**	**126**	*ePn*	**Pn**	**20 50 25.4**	**+1.8**
GEVA	**Gevas**	**1.12**	**146**	*eP*	**Pn**	**20 50 24.6**	**+0.6**
GEVA	**Gevas**	**1.12**	**146**	*i* P	**Pb**	**20 50 24.2**	**+0.2**
GEVA				*i* S	**Sn**	**20 50 39.7**	**+0.5**
GEVA	**Gevas**	**1.12**	**146**	P	**Pb**	**20 50 24.2**	**+0.2**
GEVA				S	**Sn**	**20 50 39.7**	**+0.5**
DYDN	**Diyadin**	**1.15**	**75**	*eP*	**Pn**	**20 50 24.9**	**+0.5**
DYDN	**Diyadin**	**1.15**	**75**	*i* P	**Pg**	**20 50 24.1**	**-1.1**
DYDN				*i* S	**Sg**	**20 50 37.9**	**-2.4**
DYDN	**Diyadin**	**1.15**	**75**	P	**Pg**	**20 50 24.1**	**-1.1**
TVAN	**Van**	**1.15**	**128**	*i* P	**Pn**	**20 50 25.8**	**+1.3**
TVAN				*i* S	**Sn**	**20 50 40.9**	**+1.0**
TVAN	**Van**	**1.15**	**128**	P	**Pn**	**20 50 25.8**	**+1.3**
TVAN				S	**Sn**	**20 50 40.9**	**+1.0**
BNGB	**Bing¯¶l**	**1.25**	**259**	PN	**Pb**	**20 50 26.6**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.31**	**3**	PN	**Pg**	**20 50 28.8**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.31**	**3**	*ePn*	**Pg**	**20 50 28.8**	**+0.4**
BINT	**Bingol**	**1.42**	**255**	*ePn*	**Pn**	**20 50 26.6**	**-1.5**
DIGO	**Kars**	**1.45**	**36**	*eP*	**Pg**	**20 50 30.6**	**-0.3**
IGDI	**IGDIR**	**1.54**	**66**	*eP*	**Pb**	**20 50 31.3**	**+0.3**
IGDI	**IGDIR**	**1.54**	**66**	*i* P	**Pb**	**20 50 30.9**	**-0.2**
IGDI				*i* S	**Sb**	**20 50 50.6**	**+0.4**
BTMN	**Batman**	**1.56**	**210**	*i* P	**Pn**	**20 50 29.9**	**0.0**
BTMN				*i* S	**Sg**	**20 50 53.5**	**+0.3**
BTMN	**Batman**	**1.56**	**210**	P	**Pn**	**20 50 29.9**	**0.0**

ISCJB ***26*** *20:52:05.0±1.1, 21°.7N±0°.2×94°.7E±0°.3, h97km, mb3.8/9, Error ellipse: s-maj=53.5km s-min=8.6km az=141.9*
IDC ***26*** *20:52:07.9±3.4, 21°.63N×94°.74E, h109km±33km, mb3.5/9, mb1 3.5/10, mb1mx3.1/73, mbtmp3.8/10, Error ellipse: s-maj=46.3km s-min=13.0km az=57.0*
ISC 26 20:52:06.7±1.4,**21°.7N**±0°.3×**94°.7E**±0°.3,**h97**km,**n11**, σ0s**95**/12,**mb3.6**/9,**1D**,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.64**	**327**	*i*PN	**Pn**	**20 53 14.5**	**-0.2**
SHL				*i* SN	**Sn**	**20 54 06.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**5.15**	**128**	P	**Pn**	**20 53 21.6**	**+0.2**
	0.4nm,0.3s,baz=304,slow=13,SNR=17						
CMAR				S	Sn	20 53 59.6	-20
	0.7nm,0.3s,baz=283,slow=16,SNR=5.5						
AAK	**Ala-Archa**	**26.86**	**326**	P	**P**	**20 57 40.2**	**+1.7**
	0.4nm,0.3s,baz=148,slow=9.5,SNR=6.1						
MKAR	**Makanchi Array**	**27.00**	**341**	P	**P**	**20 57 40.0**	**+0.5**
	1.0nm,0.6s,baz=144,slow=10,SNR=13						
KURBB	**Kurchatov Arra**	**31.55**	**340**	P	**P**	**20 58 19.8**	**+0.1**
	0.7nm,0.5s,baz=151,slow=8.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**33.09**	**349**	P	**P**	**20 58 33.2**	**+0.1**
	1.5nm,0.4s,baz=173,slow=10,SNR=8.0						
BVAR	**Borovoye Array**	**36.41**	**335**	P	**P**	**20 59 01.3**	**-0.5**
	0.3nm,0.4s,baz=142,slow=7.3,SNR=3.7						
AKTO	**Aktyubinsk**	**40.57**	**324**	P	**P**	**20 59 37.3**	**+0.6**
	1.2nm,0.3s,baz=126,slow=9.1,SNR=6.9						
TIXI	**Tiksi**	**53.72**	**13**	P	**P**	**21 01 18.8**	**+0.4**
	1.5nm,0.3s,baz=191,slow=4.9,SNR=9.1						
WRA	**Warramunga Arr**	**56.71**	**134**	P	**P**	**21 01 39.2**	**-1.3**
	0.2nm,0.3s,baz=318,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**59.08**	**137**	P	**P**	**21 01 56.8**	**-0.4**
	0.3nm,0.5s,baz=319,slow=7.1,SNR=7.1						

ATA ***26*** *20:59:41.8±1.7, 39°.22N×42°.28E, h20km±7km, ML2.8, MW2.9*
ISCJB ***26*** *20:59:42.9±0.5, 39°.21N±0°.03×42°.28E±0°.03, h4km±5km, Error ellipse: s-maj=4.4km s-min=4.0km az=169.5*
CSEM ***26*** *20:59:42.8±0.2, 39°.23N×42°.28E, h8km, ML2.3, Error ellipse: s-maj=6.2km s-min=4.7km az=125.0*
DDA ***26*** *20:59:42.8, 39°.22N×42°.33E, h7km, ml2.3*
ISK ***26*** *20:59:42.3, 39°.22N×42°.25E, h5km, ML2.2/6*
ISC 26 20:59:42.9±0.9,**39°.22N**±0°.02×**42°.28E**±0°.02,**h13**km±8km, **n28**,σ0s**75**/44,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.17**	**282**	*i* P	**Pg**	**20 59 47.0**	**-0.1**
EKAR				*eS*	**Sb**	**20 59 51.7**	**+0.1**
EKAR	**Karacoban**	**0.17**	**282**	*i* P	**Pg**	**20 59 46.9**	**-0.1**
EKAR				*i* S	**Sb**	**20 59 51.4**	**-0.2**
EKAR	**Karacoban**	**0.17**	**282**	P	**Pg**	**20 59 46.9**	**-0.1**
EKAR				S	**Sb**	**20 59 51.4**	**-0.2**
TUTA	**Tutak**	**0.45**	**66**	*eP*	**Pg**	**20 59 51.6**	**-0.4**
TUTA				*eS*	**Sb**	**20 59 58.6**	**-1.2**
TUTA				IAML		20 59 59.6	
	comp=Z,231nm,0.2s						
TUTA	**Tutak**	**0.45**	**66**	*i* P	**Pg**	**20 59 50.7**	**-1.3**
TUTA				*i* S	**Sg**	**20 59 57.8**	**-0.3**
TUTA	**Tutak**	**0.45**	**66**	P	**Pg**	**20 59 50.7**	**-1.3**
TUTA				S	**Sg**	**20 59 57.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.54**	**140**	*i* P	**Pg**	**20 59 53.3**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.54**	**140**	P	**Pg**	**20 59 53.3**	**-0.3**
AGRB	**Hanur-Agry**	**0.66**	**57**	PG	**Pb**	**20 59 55.9**	**-0.5**
AGRB				SG	**Sb**	**21 00 05.6**	**0.0**
AGRB	**Hanur-Agry**	**0.66**	**57**	*ePg*	**Pb**	**20 59 55.9**	**-0.5**
AGRB				*eSg*	**Sb**	**21 00 05.6**	**0.0**
EATA	**Eleskirt**	**0.66**	**14**	*eP*	**Pg**	**20 59 56.6**	**-0.2**
EATA				*eS*	**Sb**	**21 00 06.1**	**+0.3**
EATA	**Eleskirt**	**0.66**	**14**	*i* P	**Pg**	**20 59 55.7**	**-0.2**
EATA	**Eleskirt**	**0.66**	**14**	P	**Pg**	**20 59 55.7**	**-0.2**
GURO	**Guroymak-BITLI**	**0.70**	**196**	PG	**Pg**	**20 59 56.1**	**-0.4**
GURO				SG	**Sg**	**21 00 05.9**	**+0.2**
GURO	**Guroymak-BITLI**	**0.70**	**196**	*ePg*	**Pg**	**20 59 56.1**	**-0.4**
GURO				*eSg*	**Sg**	**21 00 05.9**	**+0.2**
HOMI	**Horasan**	**0.87**	**341**	*eP*	**Pg**	**20 59 58.9**	**-0.9**
ERZM	**Erzurum**	**0.98**	**314**	*eP*	**Pg**	**21 00 00.7**	**-1.2**
ERZM				*eS*	**Sb**	**21 00 15.6**	**+0.6**
VANB	**Van**	**1.07**	**125**	PN	**Pn**	**21 00 05.2**	**+1.4**
VANB	**Van**	**1.07**	**125**	*ePn*	**Pn**	**21 00 05.2**	**+1.4**
ECAT	**Cat-ERZURUM**	**1.08**	**291**	*eP*	**Pn**	**21 00 04.1**	**+0.1**
ECAT				*eS*	**Sn**	**21 00 18.8**	**-0.2**
GEVA	**Gevas**	**1.09**	**146**	*eP*	**Pb**	**21 00 03.3**	**-0.6**
GEVA				*eS*	**Sn**	**21 00 19.3**	**0.0**
GEVA				IAML		21 00 22.2	
	comp=Z,7.3nm,0.4s						
DYDN	**Diyadin**	**1.14**	**73**	*eP*	**Pb**	**21 00 04.1**	**-0.5**
BNGB	**Bing¯¶l**	**1.27**	**260**	PN	**Pn**	**21 00 06.4**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.34**	**2**	PN	**Pg**	**21 00 08.5**	**-0.2**
DIGO	**Kars**	**1.46**	**35**	*eP*	**Pg**	**21 00 11.2**	**+0.1**
DIGO				*eS*	**Sg**	**21 00 32.8**	**+2.7**
DIGO				IAML		21 00 33.5	
	comp=Z,2.4nm,0.4s						
IGDI	**IGDIR**	**1.54**	**65**	*eP*	**Pb**	**21 00 10.9**	**-0.4**
IGDI				*eS*	**Sg**	**21 00 32.0**	**-0.3**
BAYT	**Ayd¯¯ntepe-Bay**	**2.02**	**306**	PN	**Pn**	**21 00 17.6**	**+0.7**
BAYT	**Ayd¯¯ntepe-Bay**	**2.02**	**306**	*ePn*	**Pn**	**21 00 17.6**	**+0.7**

IDC ***26*** *21:02:16.3±0.4, 4°.09S×130°.22E, h0km, mb4.7/25, mb1 4.8/27, mb1mx4.6/51, mbtmp4.7/27, ML4.9/3, MS3.6/22, Ms1 3.6/22, ms1mx3.4/49, Error ellipse: s-maj=19.4km s-min=10.0km az=78.0*
BJI ***26*** *21:02:19.6, 4°.36S×130°.51E, h60km, mb4.9/63, mB5.0/37, Ms4.6/21, Ms7 4.3/14*
MOS ***26*** *21:02:20.1±0.9, 4°.10S×130°.20E, h36km, mb5.0/30, Error ellipse: s-maj=12.6km s-min=6.3km az=103.9*
ISCJB ***26*** *21:02:23.6±0.3, 4°.06S±0°.02×130°.36E±0°.02, h70km±3km, mb4.8/83, Error ellipse: s-maj=4.1km s-min=3.7km az=9.8*
NEIC ***26*** *21:02:24.2±0.6, 4°.13S×130°.27E, h60km±5km, mb4.9/36, Error ellipse: s-maj=5.7km s-min=3.6km az=60.0*
DJA ***26*** *21:02:25.1±0.2, 4°S±2°×13°0E±°, h57km±3km, M5.0/25, mb5.2/25, mB5.3/12, MLv5.5/10, Mw(mB)4.7/12*
ISC 26 21:02:23.9±0.6,**4°.04S**±0°.04×**130°.34E**±0°.04,**h57**km±5km, **n243**,σ1s**73**/251,**mb4.8**/83,**MS3.6**/21,**11C-7D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.65**	**222**	P	**Pn**	**21 02 39.0**	**+1.6**
BNDI				S	**Sn**	**21 02 50.2**	**+3.0**
MSAI	**Masohi**	**1.57**	**296**	P	**Pn**	**21 02 49.6**	**0.0**
MSAI				S	**Sn**	**21 03 10.8**	**+1.9**
AAI	**Ambon**	**2.17**	**279**	P	**Pn**	**21 02 58.4**	**+0.7**
AAI				S	**Sn**	**21 03 22.3**	**-1.2**
AAI	**Ambon**	**2.17**	**279**	P	**Pn**	**21 02 57.8**	**+0.1**
FAKI	**Fak Fak**	**2.21**	**60**	P	**Pn**	**21 03 00.1**	**+1.9**
FAKI				S	**Sn**	**21 03 23.4**	**-1.0**
FAKI	**Fak Fak**	**2.21**	**60**	*ePn*	**Pn**	**21 03 00.2**	**+1.9**
FAKI				*eS*	**Sn**	**21 03 23.6**	**-0.8**
SWI	**Sorong**	**3.29**	**16**	P	**Pn**	**21 03 13.2**	**+0.2**
SWI				S	**Sn**	**21 03 47.5**	**-3.4**
SWI	**Sorong**	**3.29**	**16**	P	**Pn**	**21 03 13.1**	**+0.1**
NLAI	**Namlea**	**3.33**	**284**	P	**Pn**	**21 03 15.2**	**+1.6**
KMPI	**Kaimana, Papua**	**3.38**	**84**	P	**Pn**	**21 03 15.2**	**+1.0**
SAUI	**Saumlaki**	**4.03**	**166**	P	**Pn**	**21 03 25.5**	**+2.3**
SAUI	**Saumlaki**	**4.03**	**166**	*ePn*	**Pn**	**21 03 24.6**	**+1.4**
LBMI	**Labuha**	**4.41**	**320**	P	**Pn**	**21 03 28.4**	**-0.1**
RKPI	**Ransiki, Papua**	**4.58**	**57**	P	**Pn**	**21 03 32.0**	**+1.3**
SANI	**Sanana**	**4.78**	**294**	P	**Pn**	**21 03 32.0**	**-1.4**
TNTI	**Ternate**	**5.63**	**328**	*ePn*	**Pn**	**21 03 45.0**	**-0.2**
TNTI				*eS*	**Sn**	**21 04 42.3**	**-6.2**
KDI	**Kendari**	**7.71**	**270**	P	**Pn**	**21 04 15.2**	**+1.6**
	88nm,0.6s,979nm						
KMSI	**Cibinong**	**7.84**	**306**	P	**Pn**	**21 04 14.7**	**-0.7**
	452nm,0.7s,5μm2.9nm						
BBSI	**Bau Bau**	**7.88**	**259**	P	Pn	21 04 25.1	+9.2
LUWI	**Luwuk**	**8.13**	**291**	P	**Pn**	**21 04 19.8**	**+0.4**
	297nm,0.8s,2μm						
LUWI	**Luwuk**	**8.13**	**291**	*ePn*	**Pn**	**21 04 19.6**	**+0.2**
LUWI				*eS*	**Sn**	**21 05 50.6**	**+0.7**
SOEI	**Soe**	**8.28**	**226**	*ePn*	**Pn**	**21 04 26.1**	**+4.5**
SOEI				*eS*	**Sn**	**21 06 00.6**	**+6.8**
MTN	**Manton Dam**	**8.78**	**175**	*ePn*	**Pn**	**21 04 28.3**	**0.0**
BATI	**Baumata**	**9.02**	**227**	Pn	**Pn**	**21 04 35.0**	**+3.3**
	43nm,0.3s,baz=134,slow=1.2,SNR=72						
BATI				Sn	**Sn**	**21 06 18.1**	**+6.3**
	baz=150,slow=20,SNR=1.8						
BATI	**Baumata**	**9.02**	**227**	P	**Pn**	**21 04 35.0**	**+3.3**
APSI	**Ampana**	**9.22**	**289**	P	**Pn**	**21 04 35.4**	**+1.0**
MRSI	**Marisa**	**9.52**	**298**	P	**Pn**	**21 04 39.4**	**+1.0**
	58nm,0.5s,769nm						
EDFI	**Ende, Flores**	**9.79**	**241**	P	**Pn**	**21 04 45.4**	**+3.2**
GENI	**Genyem**	**9.91**	**82**	P	**Pn**	**21 04 45.8**	**+2.0**
BSSI	**Bau Bau, Buton**	**10.03**	**258**	P	**Pn**	**21 04 48.0**	**+2.6**
BNSI	**Bone**	**10.21**	**268**	P	**Pn**	**21 04 50.9**	**+3.0**
TTSI	**Tana Toraja**	**10.55**	**275**	P	**Pn**	**21 04 54.7**	**+2.2**
KAPI	**Kappang**	**10.60**	**264**	*ePn*	**Pn**	**21 04 57.8**	**+4.5**
	79nm,0.6s						
MMPI	**Merauke**	**10.90**	**114**	P	**Pn**	**21 04 59.1**	**+1.7**
PCI	**Palu**	**10.95**	**286**	P	**Pn**	**21 04 59.7**	**+1.7**
	98nm,0.9s,1μm						
MPSI	**Mapaga**	**11.31**	**292**	P	**Pn**	**21 05 03.9**	**+1.0**
WSI	**Waingapu**	**11.43**	**240**	P	**Pn**	**21 05 07.4**	**+2.9**
BASI	**Baing, Sumba**	**11.47**	**237**	P	**Pn**	**21 05 08.1**	**+3.1**
DAV	**Davao City (W)**	**12.02**	**337**	LR	LR	21 10 44.3	
	comp=Z,456nm,19.7s,baz=134,slow=42						
WBSI	**Waikabubak, Su**	**12.21**	**242**	P	**Pn**	**21 05 18.1**	**+2.8**
	168nm,0.9s,2μm						
PLAI	**Plampang**	**13.36**	**249**	P	**Pn**	**21 05 31.9**	**+1.0**
	182nm,0.9s,2μm						
FITZ	**Fitzroy Crossi**	**14.71**	**198**	Pn	**Pn**	**21 05 46.0**	**-2.8**
	2.8nm,0.3s,baz=28,slow=12,SNR=46						
FITZ				Sn	**Sn**	**21 08 23.4**	**-7.3**
	2.6nm,0.3s,baz=270,slow=18,SNR=9.5						
FITZ				LR	LR	21 12 25.4	
	comp=Z,286nm,18.8s,baz=26,slow=42						
MYLDM	**Lahad Datu**	**14.96**	**308**	⇓P	**P**	**21 05 54.7**	**-1.8**
MYLDM	**Lahad Datu**	**14.96**	**308**	*ePn*	**P**	**21 05 54.5**	**-1.9**
SRBI	**Singaraja**	**15.57**	**254**	P	**P**	**21 06 02.1**	**-1.1**
COEN	**Coen**	**16.04**	**129**	*ePn*	**Pn**	**21 06 04.2**	**-1.8**
	189nm,0.8s						
COEN				*eS*	Sn	21 08 50.8	-12
WRAB	**Tennant Creek**	**16.27**	**166**	*ceP*	**Pn**	**21 06 07.7**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,336nm,1.7s						
WRAB	**Tennant Creek**	**16.27**	**166**	*ePn*	**Pn**	**21 06 06.3**	**-2.6**
	comp=Z,93nm,0.9s						
WRAB				*eS*	Sn	21 08 55.4	-13
WRA	**Warramunga Arr**	**16.28**	**166**	Pn	**Pn**	**21 06 06.0**	**-3.0**
	comp=Z,3.3nm,0.3s,baz=345,slow=13,SNR=37						
WRA				Sn	Sn	21 08 56.0	-13
	comp=Z,5.5nm,0.3s,baz=348,slow=19,SNR=6.7						
WRA	**Warramunga Arr**	**16.28**	**166**	P	**Pn**	**21 06 06.0**	**-3.0**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KMMI	**Kalianget**	**16.57**	**259**	P	**P**	**21 06 15.5**	**+1.2**
JAGI	**Jajag, Banyuwa**	**16.68**	**254**	P	**P**	**21 06 15.6**	**0.0**
JAGI	**Jajag, Banyuwa**	**16.68**	**254**	*ePn*	**Pn**	**21 06 13.5**	**-0.5**
	comp=Z,89nm,1.1s						
JAGI				*eS*	**Sn**	**21 09 14.6**	**-4.1**
BLJI	**Banyuglugur**	**17.06**	**257**	P	**P**	**21 06 20.3**	**+0.6**
KKM	**Kota Kinabalu**	**17.30**	**305**	⇓P	**P**	**21 06 22.5**	**-0.1**
KKM	**Kota Kinabalu**	**17.30**	**305**	*ePn*	**Pn**	**21 06 21.6**	**-0.2**
	comp=Z,77nm,0.8s						
GMJI	**Gumukmas**	**17.32**	**255**	P	**P**	**21 06 23.1**	**+0.5**
PMG	**Port Moresby**	**17.52**	**109**	P	**P**	**21 06 26.4**	**+1.5**
	comp=Z,1.8nm,0.3s,baz=292,slow=8.5,SNR=39						
PMG				LR	LR	21 14 32.4	
	comp=Z,266nm,19.2s,baz=272,slow=42						
PMG	**Port Moresby**	**17.52**	**109**	*ceP*	**P**	**21 06 25.8**	**+0.9**
PMG				pmax	pmax		
	comp=Z,582nm,1.0s						
PMG	**Port Moresby**	**17.52**	**109**	*ePn*	**P**	**21 06 26.2**	**+1.3**
	comp=Z,142nm,0.9s						
GRJI	**Gresik**	**18.01**	**260**	P	**Pn**	**21 06 32.6**	**+2.2**
PWJI	**Pagerwojo**	**18.85**	**257**	P	**Pn**	**21 06 41.4**	**+0.8**
SBUM	**Sibu**	**19.23**	**289**	⇓P	**Pn**	**21 06 45.8**	**+0.7**
SBUM	**Sibu**	**19.23**	**289**	*eP*	**Pn**	**21 06 45.1**	**+0.1**
	comp=Z,32nm,0.8s						
STKI	**Sintang**	**19.29**	**282**	P	**P**	**21 06 44.9**	**+0.6**
PCJI	**Pacitan**	**19.49**	**257**	P	**Pn**	**21 06 47.8**	**-0.4**
AS31	**Alice Springs**	**19.81**	**170**	*eP*	**P**	**21 06 49.9**	**0.0**
	comp=Z,80nm,0.4s						
ASAR	**Alice Springs**	**19.81**	**170**	P	**P**	**21 06 50.0**	**0.0**
	comp=Z,21nm,0.3s,baz=350,slow=10,SNR=1058						
ASAR				S	**S**	**21 10 24.7**	**-5.5**
	comp=Z,3.2nm,0.3s,baz=352,slow=22,SNR=12						
ASAR				LR	LR	21 15 43.0	
	comp=Z,130nm,19.3s,baz=343,slow=41						
AS01	**Alice Springs**	**19.82**	**170**	*eP*	**P**	**21 06 49.5**	**-0.5**
MBWA	**Marble Bar**	**19.90**	**210**	*eP*	**P**	**21 06 48.5**	**-2.3**
	comp=Z,29nm,0.8s						
SMRI	**Semarang**	**20.03**	**261**	P	**P**	**21 06 53.7**	**+1.3**
TGY	**Tagaytay City**	**20.30**	**333**	LR	LR	21 15 01.7	
	comp=Z,228nm,19.1s,baz=112,slow=38						
KSM	**Kuching**	**20.76**	**285**	*eP*	**P**	**21 07 00.4**	**+0.2**
	comp=Z,66nm,0.8s						
KPJI	**Karang Pucung**	**21.55**	**260**	P	**P**	**21 07 07.8**	**-1.0**
RABL	**Rabaul**	**21.77**	**91**	*eP*	**P**	**21 07 11.1**	**0.0**
	comp=Z,176nm,1.1s						
CTA	**Charters Tower**	**22.24**	**137**	P	**P**	**21 07 17.0**	**+0.8**
	comp=Z,21nm,0.8s,baz=317,slow=12,SNR=11						
CTAO	**Charters Tower**	**22.24**	**137**	*eP*	**P**	**21 07 16.9**	**+0.7**
	comp=Z,44nm,0.9s						
CISI	**Cisompet, Garu**	**22.68**	**260**	*eP*	**P**	**21 07 16.0**	**-4.9**
	comp=Z,55nm,0.7s						
GUMO	**Guam**	**22.69**	**39**	LR	LR	21 16 23.0	
	comp=Z,71nm,19.7s,baz=260,slow=37						
LEM	**Lembang**	**22.79**	**262**	P	**P**	**21 07 19.0**	**-3.2**
	comp=Z,21nm,0.6s,baz=27,slow=5.2,SNR=8.1						
LEM				LR	LR	21 16 11.8	
	comp=Z,177nm,21.5s,baz=100,slow=37						
MDSI	**Maura Dua**	**26.09**	**268**	P	**P**	**21 07 50.4**	**-2.2**
TPRI	**Tanjung Pinang**	**26.27**	**280**	P	**P**	**21 07 57.8**	**+3.6**
	comp=Z,29nm,0.7s						
BBOO	**Buckleboo**	**29.12**	**170**	*eP*	**P**	**21 08 18.9**	**-0.5**
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**29.64**	**160**	P	**P**	**21 08 24.1**	**+0.1**
	comp=Z,4.9nm,0.4s,baz=345,slow=8.4,SNR=18						
STKA				LR	LR	21 21 15.3	
	comp=Z,109nm,18.9s,baz=345,slow=38						
STKA	**Stephens Creek**	**29.64**	**160**	*eP*	**P**	**21 08 23.9**	**-0.2**
	comp=Z,3.0nm,0.8s						
YHNB	**Yeheng**	**29.84**	**343**	*eP*	**P**	**21 08 26.9**	**+0.9**
	comp=Z,8.6nm,0.5s						
IPM	**Ipoh**	**30.49**	**286**	⇓P	**P**	**21 08 31.4**	**-0.4**
IPM	**Ipoh**	**30.49**	**286**	*eP*	**P**	**21 08 30.8**	**-1.1**
	comp=Z,36nm,0.9s						
JOW	**Kunigami**	**30.76**	**356**	LR	LR	21 19 33.2	
	comp=Z,244nm,21.9s,baz=166,slow=34						
KULM	**Kulim**	**31.07**	**287**	*eP*	**P**	**21 08 37.2**	**+0.2**
	comp=Z,17nm,0.9s						
MNSI	**Mandailing Nat**	**31.11**	**278**	P	**P**	**21 08 36.1**	**-1.2**
	comp=Z,22nm,0.6s						
NWAO	**Narrogin (SRO)**	**31.24**	**202**	P	**P**	**21 08 36.4**	**-1.8**
	comp=Z,8.8nm,0.5s,baz=265,slow=8.2,SNR=18						
NWAO				LR	LR	21 20 39.6	
	comp=Z,110nm,21.5s,baz=255,slow=35						
NWAO	**Narrogin (SRO)**	**31.24**	**202**	*eP*	**P**	**21 08 36.8**	**-1.5**
PSI	**Prapat**	**32.12**	**282**	*eP*	**P**	**21 08 44.8**	**-1.6**
	comp=Z,12nm,0.9s						
TRTT	**Trang**	**32.78**	**291**	P	**P**	**21 08 54.4**	**+2.5**
	comp=Z,8.9nm,1.0s						
JCJ	**Chichijima**	**33.00**	**20**	LR	LR	21 20 32.1	
	comp=Z,109nm,20.8s,baz=326,slow=33						
SKNT	**Sakolnakorn**	**33.38**	**309**	P	**P**	**21 08 57.2**	**+0.1**
	comp=Z,13nm,0.7s						
KHON	**Khomkaen**	**33.92**	**307**	P	**P**	**21 09 03.0**	**+1.2**
	comp=Z,17nm,1.

HHC				S	**S**	**21 17 52.5 +3.0**		
HHC				pmax	pmax			
	comp=Z,19nm,0.7s							
HHC				pmax	pmax			
	comp=Z,94nm,4.7s							
HHC				LR	LR			
	comp=Z,100nm,14.8s							
HHC				LR	LR			
	comp=Z,99nm,13.6s							
HHC				LR	LR			
	comp=Z,96nm,12.3s							
USRK	**Ussuriysk Ar.**	**48.04**	**2**	P	**P**	**21 10 57.3 -0.2**		
	comp=Z,4.9nm,0.8s,baz=187,slow=7.9,SNR=11							
MDJ	**Mudanjiang**	**48.44**	**359**	P	**P**	**21 11 00.0 -0.6**		
MDJ				pmax	pmax			
	comp=Z,10.0nm,0.7s							
MDJ				pmax	pmax			
	comp=Z,110nm,3.6s							
MDJ	**Mudanjiang**	**48.44**	**359** *eP*		**P**	**21 10 60.0 -0.6**		
LSA	**Lhasa**	**50.34**	**314**	P	**P**	**21 11 16.8 +0.9**		
LSA				pmax	pmax			
	comp=Z,21nm,0.9s							
LSA	**Lhasa**	**50.34**	**314** *eP*		**P**	**21 11 16.7 +0.8**		
	comp=Z,15nm,0.6s							
PALK	**Pallekele**	**50.80**	**283**	LR	LR	21 33 40.9		
	comp=Z,48nm,20.4s,baz=116,slow=37							
GTA	**Gaotai**	**51.58**	**330** *eP*		**P**	**21 11 25.3 +0.7**		
GTA				pP	pP	21 11 41.0 +1.2		
GTA				sP	sP	21 11 48.3 +1.9		
GTA				pmax	pmax			
	comp=Z,11nm,1.0s							
TAPN	**Taplejung**	**51.62**	**310** *eP*		**P**	**21 11 25.7 +0.3**		
	comp=Z,22nm,0.4s							
ODAN	**Odare**	**51.63**	**309** *eP*		**P**	**21 11 25.2 -0.1**		
	comp=Z,42nm,0.7s							
YSS	**Yuzh-Sakhalins**	**51.95**	**11** *eP*		P	21 11 34.1 +7.1		
RAMN	**Ramite**	**52.28**	**309** *eP*		**P**	**21 11 30.3 +0.1**		
	comp=Z,70nm,0.5s							
JIRN	**Jiri**	**52.95**	**309** *eP*		**P**	**21 11 35.6 +0.3**		
	comp=Z,39nm,0.6s							
KLR	**Kul'dur**	**53.07**	**1** *eP*		**P**	**21 11 36.1 +0.8**		
GUN	**Gumba**	**53.31**	**309** *eP*		**P**	**21 11 37.9 0.0**		
	comp=Z,66nm,0.7s							
PKI	**Pulchoki**	**53.51**	**309** *eP*		**P**	**21 11 39.0 -0.4**		
	comp=Z,15nm,0.7s							
PKIN	**Phulchoki**	**53.52**	**309** *eP*		**P**	**21 11 39.8 +0.4**		
	comp=Z,19nm,0.6s							
KKN	**Kakani**	**53.72**	**309** *eP*		**P**	**21 11 40.8 +0.1**		
	comp=Z,20nm,0.6s							
DMN	**Daman**	**53.77**	**309** *eP*		**P**	**21 11 41.1 -0.1**		
	comp=Z,29nm,0.6s							
GKN	**Gorkha**	**54.32**	**309** *eP*		**P**	**21 11 44.7 -0.4**		
KOLN	**Koldanda**	**55.02**	**308** *eP*		**P**	**21 11 50.5 +0.3**		
	comp=Z,30nm,0.5s							
DANN	**Dangsing**	**55.16**	**309** *eP*		**P**	**21 11 51.6 +0.3**		
HYB	**Hyderabad**	**55.37**	**294** *iP*		**P**	**21 11 51.0 -1.7**		
ULN	**Ulaanbaatar**	**55.58**	**341** *ceP*		**P**	**21 11 54.6 +0.8**		
ULN				pmax	pmax			
	comp=Z,15nm,0.7s							
ULN	**Ulaanbaatar**	**55.58**	**341** *eP*		**P**	**21 11 54.7 +0.8**		
	comp=Z,15nm,0.8s							
PYUN	**Piuthan**	**55.65**	**308** *eP*		**P**	**21 11 55.2 +0.5**		
	comp=Z,62nm,0.8s							
SONM	**Songino Array**	**55.77**	**341** P		**P**	**21 11 55.6 +0.4**		
	comp=Z,6.7nm,0.8s,baz=162,slow=6.6,SNR=55							
SONM				LR	LR	21 38 19.8		
	comp=Z,47nm,18.0s,baz=156,slow=39							
SONA1	**Songino Array**	**55.78**	**341** *eP*		**P**	**21 11 55.9 +0.7**		
NKL	**Nikolayevsk**	**57.64**	**7** *eP*		**P**	**21 12 08.8 +0.7**		
NKL				*e*		21 12 27.5		
NKL				pmax	pmax			
	comp=N,5.0nm,0.9s							
NKL				pmax	pmax			
	comp=Z,18nm,0.9s							
SKR	**Severo-Kuril's**	**58.84**	**19**⇑ *eP*		**P**	**21 12 16.9 +0.4**		
ZAK	**Zakamensk**	**59.01**	**340** *eP*		**P**	**21 12 17.1 -0.7**		
ZAK				*e*		21 13 07.3		
ZAK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TLY	**Talaya**	**59.99**	**341** *eP*		**P**	**21 12 25.8 +1.3**		
TLY				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TLY	**Talaya**	**59.99**	**341** *eP*		**P**	**21 12 25.4 +0.8**		
	comp=Z,31nm,0.7s							
MOY	**Mondy**	**60.87**	**340** *eP*		**P**	**21 12 31.9 +1.3**		
WMQ	**Urumqi**	**61.13**	**326** P		**P**	**21 12 32.8 +0.3**		
WMQ				pP	pP	21 12 50.0 +1.9		
WMQ				sP	sP	21 12 57.0 +2.5		
WMQ				pmax	pmax			
	comp=Z,13nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,200nm,4.7s							
WMQ				LR	LR			
	comp=Z,96nm,26.7s							
WMQ				LR	LR			
	comp=Z,110nm,21.3s							
WMQ				LR	LR			
	comp=Z,160nm,21.3s							
KNGR	**Kungurtug, Tuv**	**61.30**	**337** *eP*		**P**	**21 12 34.3 +0.7**		
PETK	**Petropavlovsk-**	**61.43**	**18** P		**P**	**21 12 35.4 +1.2**		
	comp=Z,2.2nm,0.5s,baz=190,slow=7.4,SNR=5.3							
BOD	**Bodaibo**	**63.05**	**350** *eP*		**P**	**21 12 45.4 +0.4**		
BOD				pmax	pmax			
	comp=Z,5.0nm,1.4s							
HVS	**Khovu-Aksy**	**63.26**	**335** *eP*		**P**	**21 12 47.5 +0.9**		
HVS				pmax	pmax			
	comp=Z,19nm,0.9s							
CASY	**Casey**	**63.66**	**189** *eP*		**P**	**21 12 48.1 -0.8**		
MA2	**Magadan**	**65.45**	**11** *eP*		**P**	**21 13 01.8 +1.2**		
YAK	**Yakutsk**	**65.89**	**360** *eP*		**P**	**21 13 03.3 -0.1**		
YAK				pmax	pmax			
	comp=Z,27nm,0.9s							
YAK	**Yakutsk**	**65.89**	**360** *eP*		**P**	**21 13 03.9 +0.6**		
	comp=Z,34nm,0.7s							
MK01	**Makanchi Array**	**65.95**	**326** *eP*		**P**	**21 13 04.4 +0.3**		
MK31	**Makanchi Array**	**65.97**	**326** *eP*		**P**	**21 13 04.8 +0.5**		
MKAR	**Makanchi Array**	**65.97**	**326** P		**P**	**21 13 04.7 +0.4**		
	comp=Z,16nm,0.6s,baz=122,slow=7.9,SNR=214							
KSH	**Kashi**	**66.10**	**317** P		**P**	**21 13 06.8 +1.4**		
KSH				pP	pP	21 13 23.3 +2.2		
KSH				PcP	**PcP**	**21 13 37.0 +1.5**		
KSH				S	**S**	**21 21 47.8 -1.9**		
KSH				sS	sS	21 22 16.0 -0.2		
KSH				ScS	**SKSac**	**21 22 52.8 -4.1**		
KSH				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,110nm,5.0s							
KSH				LR	LR			
	comp=Z,80nm,6.3s							
KSH				LR	LR			
	comp=Z,110nm,5.9s							
KSH				LR	LR			
	comp=Z,120nm,7.0s							
KDJ	**Kajisay**	**66.54**	**320** P		**P**	**21 13 09.3 +1.0**		
NRN	**Naryn**	**66.98**	**318** P		**P**	**21 13 11.7 +0.5**		
TKM2	**Tokmak 2**	**67.95**	**320** P		**P**	**21 13 18.1 +0.9**		
	SNR=16							
KBK	**Karagaybulak**	**68.24**	**319** P		P	21 13 24.8 +5.8		
KBK	**Karagaybulak**	**68.24**	**319** P		**P**	**21 13 20.1 +1.0**		
	SNR=5.8							
UCH	**Uchtor**	**68.33**	**319** P		**P**	**21 13 21.2 +1.3**		
	SNR=10							
AAK	**Ala-Archa**	**68.53**	**319** P		**P**	**21 13 21.2 +0.4**		
	comp=Z,1.5nm,0.6s,baz=115,slow=5.6,SNR=13							
AAK	**Ala-Archa**	**68.53**	**319** *eP*		**P**	**21 13 21.1 +0.3**		
	comp=Z,5.5nm,1.1s							
USP	**Ospenovka**	**68.82**	**320** P		**P**	**21 13 23.2 +0.8**		
	SNR=20							
AML	**Almayashu**	**68.83**	**318** P		**P**	**21 13 24.1 +1.1**		
	SNR=13							
SEY	**Seymchan**	**68.85**	**11** *ceP*		**P**	**21 13 24.2 +2.1**		
EKS2	**Erkin-Say**	**69.01**	**319** P		**P**	**21 13 24.8 +1.1**		
	SNR=13							
ZALV	**Zalesovo Beam**	**69.11**	**333** P		**P**	**21 13 23.4 -0.4**		
	comp=Z,14nm,0.7s,baz=113,slow=4.7,SNR=62							
ZALV				LR	LR	21 44 59.6		
	comp=Z,39nm,18.9s,baz=76,slow=37							
KBL	**Kabul**	**69.15**	**309** *eP*		**P**	**21 13 24.8 -0.1**		
KURBB	**Kurchatov Arra**	**70.19**	**328** P		**P**	**21 13 31.0 +0.4**		
	comp=Z,17nm,0.7s,baz=128,slow=5.4,SNR=193							
KURK	**Kurchatov**	**70.20**	**328** *ceP*		**P**	**21 13 31.1 +0.4**		
KURK				pmax	pmax			
	comp=Z,20nm,0.8s							
KURK	**Kurchatov**	**70.20**	**328** *eP*		**P**	**21 13 31.1 +0.4**		
NVS	**Novosibirsk**	**70.39**	**333** *i* P		**P**	**21 13 32.0 +0.3**		
NVS				pmax	pmax			
	comp=Z,13nm,0.7s							
NVS				pmax	pmax			
	comp=N,6.0nm,0.7s							
NVS				pmax	pmax			
	comp=E,5.0nm,0.7s							
KKAR	**Karatay Array**	**71.37**	**318** *eP*		**P**	**21 13 37.8 -0.2**		
	comp=E,2.3nm,0.6s							
VNDA	**Vanda**	**75.33**	**173** P		**P**	**21 14 00.2 -0.4**		
	comp=E,4.0nm,0.7s,baz=320,slow=6.6,SNR=21							
VNDA	**Vanda**	**75.33**	**173** *eP*		**P**	**21 14 00.6 0.0**		
TIXI	**Tiksi**	**75.55**	**360** P		**P**	**21 14 01.9 -0.1**		
	comp=E,2.5nm,0.5s,baz=186,slow=4.6,SNR=9.8							
TIXI	**Tiksi**	**75.55**	**360** *ceP*		**P**	**21 14 01.8 -0.1**		
TIXI				pmax	pmax			
	comp=Z,13nm,2.5s							
BVAR	**Borovoye Array**	**75.76**	**327** P		**P**	**21 14 04.1 +0.5**		
	comp=Z,5.7nm,0.7s,baz=134,slow=6.2,SNR=53							
BRVK	**Borovoye**	**75.84**	**327** *ceP*		**P**	**21 14 04.4 +0.4**		
BRVK				pmax	pmax			
	comp=Z,31nm,1.2s							
BRVK	**Borovoye**	**75.84**	**327** *eP*		**P**	**21 14 04.3 +0.4**		
	comp=Z,15nm,0.7s							
BILL	**Bilibino**	**76.17**	**13** *i* P		P	21 14 13.8 +8.2		
BILL				*i*		21 14 24.5		
BILL				*i*		21 16 59.4		
BILL				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MAW	**Mawson**	**77.81**	**201** P		**P**	**21 14 14.1 -0.7**		
	comp=Z,8.2nm,0.8s,baz=39,slow=6.5,SNR=3.3							
MAW				LR	LR	21 46 51.5		
	comp=Z,48nm,18.6s,baz=295,slow=34							
GEYT	**Alibeck**	**78.58**	**310** P		**P**	**21 14 20.3 +0.6**		
	comp=Z,2.0nm,0.7s,baz=85,slow=3.5,SNR=8.8							
ABKAR	**Akbulak array**	**80.42**	**321** *eP*		**P**	**21 14 29.5 +0.1**		
	comp=Z,4.4nm,0.6s							
AKTO	**Aktyubinsk**	**81.96**	**322** P		**P**	**21 14 38.3 +0.7**		
	comp=Z,2.6nm,0.6s,baz=103,slow=9.6,SNR=8.6							
ABPO	**Ambohimpanom**	**82.19**	**251** *i* P		**P**	**21 14 39.8 +0.1**		
OPO	**Ambohidratompo**	**82.25**	**252** P		**P**	**21 14 39.8 -0.2**		
	comp=Z,15nm,0.6s,baz=81,slow=5.1,SNR=21							
SVE	**Sverdlovsk**	**82.43**	**329** *eP*		**P**	**21 14 40.7 +0.8**		
ARU	**Arti**	**83.39**	**328** *c* P		**P**	**21 14 45.2 +0.3**		
ARU				*PP	**pP**	**21 14 58.3 -2.8**		
ARU						21 17 56.8		
ARU				S	**S**	**21 25 02.5 +1.0**		
ARU				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ARU	**Arti**	**83.39**	**328** *eP*		**P**	**21 14 44.6 -0.2**		
	comp=Z,2.0nm,0.6s							
QSPA	**South Pole Qui**	**85.92**	**180** P		**P**	**21 14 56.8 -0.8**		
	comp=Z,12nm,1.0s,baz=323,slow=4.7,SNR=19							
QSPA	**South Pole Qui**	**85.92**	**180** *eP*		**P**	**21 14 56.3 -1.3**		
	comp=Z,38nm,0.8s							
SYO	**Syowa Base**	**86.53**	**201** ⇓ *iP*		**P**	**21 15 00.0 -0.4**		
SYO	**Syowa Base**	**86.53**	**201** ⇓ *ep*		pP	21 15 15.8 -0.9		
RAYN	**Ar Rayn**	**86.87**	**294** P		**P**	**21 15 03.5 +0.4**		
RAYN	**Ar Rayn**	**86.87**	**294** *eP*		**P**	**21 15 03.5 +0.4**		
ILAR	**Eielson Array**	**90.54**	**25** P		**P**	**21 15 19.2 -0.2**		
	comp=Z,0.3nm,0.7s,baz=250,slow=5.4,SNR=3.5							
ILAR				LR	LR	21 49 35.3		
	comp=Z,68nm,22.0s,baz=140,slow=31							
KMBO	**Kilima Mbogo**	**93.00**	**269**	LR	LR	21 57 31.1		
	comp=Z,30nm,18.8s,baz=98,slow=36							
KMBO	**Kilima Mbogo**	**93.00**	**269** *eP*		**P**	**21 15 32.3 0.0**		
	comp=Z,4.1nm,1.0s							
OBN	**Obninsk**	**95.45**	**325** *eP*		**P**	**21 15 42.8 +0.5**		
OBN				*e*PPP	PPP	21 21 36.8		
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
SPITS	**Spitsbergen Ar**	**98.75**	**349**	LR	LR	22 04 12.7		
	comp=Z,19nm,20.9s,baz=250,slow=38							
ARCES	**ARCESS Array B**	**98.94**	**340** P		**P**	**21 15 57.2 -0.5**		
	comp=Z,3.5nm,0.9s,baz=79,slow=6.5,SNR=3.9							
FINES	**FINESS Array B**	**100.34**	**332** P		**Pdif**	**21 16 02.7 -1.5**		
	comp=Z,3.0nm,1.1s,baz=308,slow=22,SNR=2.5							
BOSA	**Boshof**	**101.24**	**240** P		**Pdif**	**21 16 09.8 +0.7**		
	comp=Z,3.7nm,0.9s,baz=74,slow=5.2,SNR=6.6							
BOSA	**Boshof**	**101.24**	**240** P		**Pdif**	**21 16 09.8 +0.7**		
BOSA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**116.73**	**332**	PKP	**PKPdf**	**21 21 00.9 -0.9**		
	comp=Z,0.4nm,0.6s,baz=35,slow=2.6,SNR=4.5							
TXAR	**Lajitas Array**	**123.09**	**57**	PKP	**PKPdf**	**21 21 14.1 -0.8**		
	comp=Z,0.2nm,0.6s,baz=294,slow=0.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**128.51**	**284**	PKP	**PKPdf**	**21 21 25.8 +0.2**		
	comp=Z,2.5nm,0.7s,baz=75,slow=1.9,SNR=20							
PLCA	**Paso Flores**	**131.51**	**159**	PKP	**PKPdf**	**21 21 32.0 +1.3**		
	comp=Z,2.4nm,0.8s,baz=62,slow=1.7,SNR=8.4							
PLCA	**Paso Flores**	**131.51**	**159**	PKIKP	**PKPdf**	**21 21 32.0 +1.3**		
PLCA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CPUP	**Villa Florida**	**148.91**	**167**	PKPbc	**PKPbc**	**21 22 06.5 +0.4**		
	comp=Z,16nm,0.8s,baz=191,slow=2.1,SNR=41							
ATAH	**Atahualpa**	**149.25**	**111**	PKPbc	**PKPbc**	**21 22 08.8 +1.0**		
	comp=Z,5.6nm,0.8s,baz=79,slow=3.3,SNR=3.6							
LPAZ	**La Paz**	**152.76**	**138**	PKPbc	**PKPbc**	**21 22 17.5 +1.3**		
	comp=Z,2.3nm,0.4s,baz=252,slow=1.9,SNR=13							
SIV	**San Ignacio**	**157.12**	**151**	PKPab	**PKPab**	**21 22 46.0 +1.2**		
	comp=Z,1.4nm,0.6s,baz=194,slow=5.8,SNR=6.6							

*KRNET **26** 21:05:31.7±0.1, 42.83°N×78.47°E, h23km, mb2.6*
*NNC **26** 21:05:32.0±1.6, 43.53°N×78.36°E, h0km, mb2.6, mpv2.4,*
Error ellipse: s-maj=30.4km s-min=2.5km az=177.0
*ISCJB **26** 21:05:32.1±0.6, 42.83°N±0.02°×78.49°E±0.04, h11km±4km,*
Error ellipse: s-maj=5.3km s-min=3.4km az=17.8
*SOME **26** 21:05:32.1, 42.82°N×78.40°E, h10km*

ISC 26 21:05:31.4±1.1, 42.82N±0.02°×78.45E±0.02, h7km±9km, n42, σ0s76/80, 25C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.24**	**353**	*eP*			**Pg**	**21 05 37.2**	**+1.0**
	45nm,0.1s								
SATY				*eS*			**Sg**	**21 05 40.8**	**+1.2**
	731nm,0.1s								
PRZ	**Przheval'sk**	**0.34**	**186**	⇑ *iP*			**Pb**	**21 05 39.8**	**-0.1**
	baz=86								
PRZ				⇑ *iS*			**Sb**	**21 05 45.1**	**-0.4**
	baz=86								
KURS	**Kuram**	**0.70**	**343**	*eP*			**Pg**	**21 05 45.2**	**+0.3**
	2.7nm,0.1s								
KURS				*eS*			**Sb**	**21 05 54.8**	**-1.1**
	7.3nm,0.2s								
KURS	**Kuram**	**0.70**	**343**	*eP*			**Pg**	**21 05 45.2**	**+0.3**
	baz=42								
KURS				*eS*			**Sb**	**21 05 54.8**	**-1.1**
	baz=42								
PDGK	**Podgornoye**	**0.92**	**56**	⇑P			**Pg**	**21 05 48.5**	**-0.5**
	0.5nm,0.2s								
PDGK				⇑S			**Sg**	**21 06 00.1**	**-0.9**
	5.9nm,0.3s								
PDGK	**Podgornoye**	**0.92**	**56**	⇑ *iP*			**Pg**	**21 05 48.5**	**-0.5**
	baz=56								
PDGK				⇑ *iS*			**Sg**	**21 06 00.1**	**-0.9**
	baz=56								
KOTS	**Kotyrbulak**	**1.06**	**293**	*eP*			**Pb**	**21 05 51.9**	**-0.4**
	3.5nm,0.2s								
KOTS				*eS*			**Sn**	**21 06 06.4**	**-1.8**
	13nm,0.3s								
MDOK	**Medeo**	**1.08**	**289**	⇓P			**Pg**	**21 05 51.8**	**-0.3**
	2.5nm,0.5s								
MDOK				⇓S			**Sb**	**21 06 06.2**	**-0.9**
	10nm,0.6s								
MDOK	**Medeo**	**1.08**	**289**	⇑ *iP*			**Pg**	**21 05 51.9**	**-0.3**
	2.4nm,0.1s								
MDOK				⇑ *iS*			**Sb**	**21 06 06.4**	**-0.7**
	14nm,0.2s								
MDOK	**Medeo**	**1.08**	**289**	⇑ *iP*			**Pg**	**21 05 51.9**	**-0.3**
	baz=88								
MDOK				⇑ *iS*			**Sb**	**21 06 06.4**	**-0.7**
	baz=88								
TNSS	**Tian-Shan**	**1.12**	**282**	*eP*			**Pg**	**21 05 52.7**	**-0.3**
	4.9nm,0.2s								
TNSS				*eS*			**Sb**	**21 06 07.7**	**-0.7**
	18nm,0.2s								
TNSS	**Tian-Shan**	**1.12**	**282**	*eP*			**Pg**	**21 05 52.7**	**-0.3**
	baz=81								
TNSS				*eS*			**Sb**	**21 06 07.7**	**-0.7**
	baz=81								
KDJ	**Kajisay**	**1.16**	**234**	⇑ *iP*			**Pb**	**21 05 53.8**	**-0.2**
	baz=34								
KDJ				⇑ *iS*			**Sb**	**21 06 09.4**	**0.0**
	baz=34								
TARG	**Taragay, Kyrgy**	**1.19**	**204**	⇑ *iP*			**Pg**	**21 05 53.8**	**-0.4**
	baz=4.0								
TARG				⇑ *iS*			**Sg**	**21 06 09.5**	**-0.2**
	baz=4.0								
MNBS	**Baschi**	**1.26**	**358**	*eP*			**Pn**	**21 05 55.1**	**-0.5**
	15nm,0.2s								
MNBS				*eS*			**Sb**	**21 06 11.7**	**-0.4**
	43nm,0.3s								
IZV	**Izvestkoviy**	**1.37**	**280**	*eP*			**Pb**	**21 05 57.0**	**-0.3**
	9.2nm,0.2s								
IZV				*eS*			**Sg**	**21 06 14.9**	**-0.3**
	40nm,0.3s								
IZV	**Izvestkoviy**	**1.37**	**280**	*eP*			**Pb**	**21 05 57.1**	**-0.3**
	baz=79								
IZV				*eS*			**Sg**	**21 06 15.0**	**-0.3**
	baz=79								
ARXS	**Arharly**	**1.47**	**342**	*eP*			**Pb**	**21 05 58.7**	**-0.3**
	4.9nm,0.2s								
ARXS				*eS*			**Sg**	**21 06 17.9**	**-0.6**
	32nm,0.2s								
CHKK	**Chushkaly**	**1.49**	**315**	*eP*			**Pb**	**21 05 59.1**	**-0.3**
	12nm,0.1s								
CHKK				*eS*			**Sg**	**21 06 18.8**	**-0.3**
	45nm,0.2s								
CHKK	**Chushkaly**	**1.49**	**315**	*eP*			**Pb**	**21 05 59.1**	**-0.3**
	baz=14								
CHKK				*eS*			**Sg**	**21 06 18.8**	**-0.3**
	baz=14								
MTBS	**Maitube**	**1.52**	**283**	*eP*			**Pb**	**21 05 59.9**	**0.0**
	4.2nm,0.3s								
MTBS				⇓ *iS*			**Sg**	**21 06 19.8**	**-0.3**
	14nm,0.2s								
MTBS	**Maitube**	**1.52**	**283**	*eP*			**Pb**	**21 05 59.9**	**0.0**
	baz=82								
MTBS				⇓ *iS*			**Sg**	**21 06 19.8**	**-0.3**
	baz=82								
KTBS	**Karatobe**	**1.57**	**305**	*eP*			**Pb**	**21 06 00.9**	**+0.1**
KTBS				*eS*			**Sg**	**21 06 21.5**	**-0.3**
ULHL	**Ulahol**	**1.73**	**251**	⇓ *iP*			**Pb**	**21 06 03.1**	**-0.5**
	baz=51								
ULHL				⇓ *iS*			**Sb**	**21 06 25.6**	**-0.1**
	baz=51								
KST	**Kastek**	**1.84**	**278**	*eP*			**Pb**	**21 06 05.8**	**+0.3**
	3.0nm,0.9s								
KST				*eS*			**Sg**	**21 06 29.9**	**-0.6**
	6.9nm,0.2s								
KST	**Kastek**	**1.84**	**278**	*eP*			**Pb**	**21 06 05.8**	**+0.3**
	baz=77								
KST				*eS*			**Sg**	**21 06 29.9**	**-0.6**
	baz=77								
KUU	**Kurty**	**1.88**	**306**	*eP*			**Pb**	**21 06 06.0**	**0.0**
	1.7nm,0.2s								
KUU				*eS*			**Sg**	**21 06 30.4**	**-1.2**
	28nm,0.2s								
KUU	**Kurty**	**1.88**	**306**	*eP*			**Pb**	**21 06 06.0**	**0.0**
	baz=5.0								
KUU				*eS*			**Sg**	**21 06 30.5**	**-1.2**
	baz=5.0								
BOOM	**Boomskoye usch**	**1.88**	**261**	⇑ *iP*			**Pb**	**21 06 05.4**	**-0.8**
	baz=61								
BOOM				⇑ *iS*			**Sb**	**21 06 29.7**	**-0.3**
	baz=61								
DGS	**Degeres**	**2.01**	**283**	*eP*			**Pb**	**21 06 08.2**	**-0.1**
	4.1nm,0.3s								
DGS				*eS*			**Sg**	**21 06 34.1**	**-1.8**
	33nm,0.4s								
TKM2	**Tokmak 2**	**2.10**	**274**	⇓Pg			**Pb**	**21 06 10.1**	**+0.2**
	4.4nm,0.5s								
TKM2				⇓Lg			Lg	21 06 38.5	
	18nm,0.5s								
TKM2	**Tokmak 2**	**2.10**	**274**	⇑ *iP*			**Pn**	**21 06 08.2**	**+1.0**
	baz=73								
TKM2				⇑ *iS*			**Sb**	**21 06 35.1**	**-1.2**
	baz=73								
NRN	**Naryn**	**2.29**	**234**	⇑ *eP*			**Pn**	**21 06 11.2**	**+1.3**
	baz=34								
NRN				⇑ *iS*			**Sb**	**21 06 40.4**	**-1.4**
	baz=34								
KZA	**Kyzart**	**2.48**	**254**	⇑ *iP*			**Pn**	**21 06 13.7**	**+1.1**
	baz=54								
KZA				⇑ *iS*			**Sn**	**21 06 44.3**	**+0.9**
	baz=54								
KAPS	**Kapalarasan**	**2.55**	**15**	*eP*			**Pb**	**21 06 17.8**	**+0.2**
	0.4nm,0.2s								
KAPS				*eS*			**Sb**	**21 06 50.5**	**+1.3**
	5.6nm,0.4s								
KBK	**Karagaybulak**	**2.58**	**268**	⇓ *iP*			**Pn**	**21 06 14.9**	**+1.1**
	baz=67								
KBK				⇓ *iS*			**Sn**	**21 06 46.6**	**+1.0**
	baz=67								
CHMS	**Chumysh**	**2.72**	**275**	⇓ *iP*			**Pn**	**21 06 16.8**	**+1.2**
	baz=75								
CHMS				⇓ *iS*			**Sn**	**21 06 49.7**	**+0.9**
	baz=75								
AAK	**Ala-Archa**	**2.92**	**268**	⇓Pg			**Pb**	**21 06 24.9**	**+1.0**
	0.4nm,0.2s								
AAK				⇓Lg			Lg	21 07 02.0	
AAK	**Ala-Archa**	**2.92**	**268**	⇑ *iP*			**Pn**	**21 06 19.7**	**+1.3**
	ba

ZALV	**Zalesovo Beam**	**70.23**	**335**	P		**P**	**21 33 04.1**	**-0.5**
	1.4nm,0.6s,baz=142,slow=5.5,SNR=6.2							
KURBB	**Kurchatov Arra**	**70.97**	**329**	P		**P**	**21 33 09.5**	**+0.4**
	2.1nm,0.6s,baz=131,slow=5.1,SNR=28							
KURK	**Kurchatov**	**70.98**	**330**	*eP*		**P**	**21 33 09.6**	**+0.4**
	9.4nm,0.5s							
BVAR	**Borovoye Array**	**76.50**	**329**	P		**P**	**21 33 41.7**	**+0.8**
	0.4nm,0.5s,baz=124,slow=7.2,SNR=5.6							
TIXI	**Tiksi**	**78.15**	**0**	P		**P**	**21 33 49.7**	**+0.3**
	0.9nm,0.3s,baz=195,slow=4.3,SNR=3.5							
ABKAR	**Akbulak array**	**80.75**	**322**	*eP*		**P**	**21 34 03.9**	**+0.1**
	0.2nm,0.4s							

*ISCJB **26** 21:25:33.2±0.3,2°.64S±0.07°×102°.52E±0.07°,h219km±4km, mb4.0/13, Error ellipse: s-maj=14.6km s-min=4.5km az=135.0*

*IDC **26** 21:25:33.6±3.1,2°.86S×102°.13E,h216km±26km, mb3.7/9, mb1 3.7/10,mb1mx3.3/68,mbtmp4.2/10, Error ellipse: s-maj=62.0km s-min=12.5km az=54.0*

*DJA **26** 21:25:34.7±0.5,3°.5S×107°.3E±°,h204km±6km, M4.2/11, mB4.6/2,mb4.2/3,MLv4.1/11,Mw(mB)3.8/2*

*NEIC **26** 21:25:34.1±0.5,2°.64S×102.54E,h212km±5km, mb4.1/4, Error ellipse: s-maj=15.9km s-min=7.9km az=57.0*

ISC 26 21:25:34.0±0.7,2°.56S±0.07°×102°.58E±0.07,h209km±8km, n39,σ1°30/51,mb4.1/13,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.67**	**211**	P		P	**Pn**	**21 26 04.8**	**+1.8**
MASI				S		S	**S**	**21 26 25.7**	**+0.2**
MNAI	**Manna**	**1.83**	**168**	P		P	**Pn**	**21 26 12.3**	**+0.7**
MNAI				S		S	**S**	**21 26 40.7**	**+0.1**
MNAI	**Manna**	**1.83**	**168**	*eP*	n	P	**Pn**	**21 26 11.8**	**+0.3**
MDSI	**Maura Dua**	**2.49**	**140**	P		P	**Pn**	**21 26 19.3**	**+0.9**
MDSI				S		S	**S**	**21 26 52.8**	**+0.2**
PPSI	**Pulau Pagai**	**2.58**	**265**	P		P	**Pn**	**21 26 20.8**	**+1.4**
PPSI				S		S	**S**	**21 26 54.1**	**-0.2**
PDSI	**Padang**	**2.68**	**308**	P		P	**Pn**	**21 26 21.0**	**+0.5**
PDSI				S		S	**S**	**21 26 56.9**	**+0.5**
LWLI	**Liwa**	**2.85**	**149**	P		P	**Pn**	**21 26 22.2**	**-0.4**
LWLI				S		S	**S**	**21 27 00.2**	**0.0**
BKNI	**Bangkinang**	**3.25**	**332**	*eP*	n	P	**Pn**	**21 26 27.7**	**+0.5**
KASI	**Kota Agung**	**3.51**	**147**	P		P	**Pn**	**21 26 29.9**	**-0.3**
KASI				S		S	**S**	**21 27 12.9**	**-1.0**
SISI	**Saibi**	**3.70**	**289**	P		P	**Pn**	**21 26 33.1**	**+0.6**
SISI				S		S	**S**	**21 27 18.2**	**+0.3**
MNSI	**Mandailing Nat**	**4.49**	**318**	P		P	**Pn**	**21 26 42.5**	**+0.3**
MNSI				S		S	**S**	**21 27 36.9**	**+1.3**
MYKOM	**Kota Tinggi**	**4.50**	**16**	*ePn*		P	**Pn**	**21 26 43.3**	**+0.9**
CGJI	**Cibinong**	**5.08**	**143**	P		P	**Pn**	**21 26 47.8**	**-1.9**
CGJI				S		S	**S**	**21 27 44.5**	**-4.7**
GSI	**Gunungsitoli**	**6.31**	**307**	P		P	**Pn**	**21 27 05.3**	**-0.1**
GSI				S		S	**S**	**21 28 13.8**	**-4.0**
GSI	**Gunungsitoli**	**6.31**	**307**	*ePn*		P	**Pn**	**21 27 05.5**	**0.0**
GSI				*eS*		S	**S**	**21 28 14.7**	**-3.1**
PSI	**Prapat**	**6.46**	**325**	P		P	**Pn**	**21 27 06.2**	**-1.4**
	1.5nm,0.3s,baz=171,slow=14,SNR=4.0								
TPTI		**7.91**	**317**	P		P	**Pn**	**21 27 25.3**	**-0.9**
TPTI				S		S		21 28 42.3	-13
UGM	**Wanagama**	**9.53**	**124**	*ePn*		P	**Pn**	**21 27 46.5**	**-0.6**
CM01	**Chiang Mai Arr**	**21.15**	**350**	*eP*		P		**21 30 04.3**	**+1.2**
CM31	**Chiang Mai Arr**	**21.19**	**350**	*eP*		P		**21 30 03.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**21.19**	**350**	P		P		**21 30 05.0**	**+1.6**
	5.3nm,0.6s,baz=184,slow=8.8,SNR=41								
CHTO	**Chiang Mai**	**21.54**	**351**	*eP*		P		**21 30 08.2**	**+1.1**
	5.0nm,0.8s								
WRA	**Warramunga Arr**	**35.49**	**121**	P		P		**21 32 11.4**	**+0.3**
	0.6nm,0.7s,baz=300,slow=9.1,SNR=3.4								
ASAR	**Alice Springs**	**36.85**	**127**	P		P		**21 32 23.3**	**+0.7**
	0.9nm,0.5s,baz=302,slow=8.1,SNR=8.6								
SONM	**Songino Array**	**50.30**	**3**	P		P		**21 34 10.8**	**+1.4**
	3.0nm,0.6s,baz=186,slow=9.6,SNR=36								
SONA1	**Songino Array**	**50.31**	**3**	*eP*		P		**21 34 11.0**	**+1.5**
MK01	**Makanchi Array**	**52.27**	**342**	*eP*		P		**21 34 24.1**	**+0.2**
MK31	**Makanchi Array**	**52.30**	**342**	*eP*		P		**21 34 24.4**	**+0.2**
MKAR	**Makanchi Array**	**52.30**	**342**	P		P		**21 34 24.1**	**0.0**
	1.8nm,0.6s,baz=148,slow=8.4,SNR=23								
MKAR	**Makanchi Array**	**52.30**	**342**	*eP*		P		**21 34 24.4**	**+0.2**
	11nm,0.6s								
KURBB	**Kurchatov Arra**	**56.84**	**342**	P		P		**21 34 56.7**	**0.0**
	1.5nm,0.7s,baz=159,slow=6.3,SNR=14								
KURK	**Kurchatov**	**56.90**	**342**	*eP*		P		**21 34 57.2**	**+0.1**
	2.8nm,0.8s								
ZAA0	**Zalesovo Array**	**58.22**	**348**	*eP*		P		**21 35 06.5**	**+0.2**
	4.9nm,1.0s								
ZALV	**Zalesovo Beam**	**58.22**	**348**	P		P		**21 35 06.1**	**-0.2**
	2.8nm,0.4s,baz=170,slow=5.8,SNR=18								
ZALV	**Zalesovo Beam**	**58.22**	**348**	*eP*		P		**21 35 05.9**	**-0.3**
BVAR	**Borovoye Array**	**61.62**	**339**	P		P		**21 35 28.7**	**-0.7**
	1.2nm,0.6s,baz=150,slow=9.2,SNR=13								
ABKAR	**Akbulak array**	**63.38**	**330**	*eP*		P		**21 35 40.5**	**-0.6**
	18nm,0.5s								
ARCES	**ARCESS Array B**	**87.88**	**340**	P		P		**21 37 59.5**	**0.0**
	3.1nm,1.0s,baz=96,slow=6.3,SNR=6.5								
TXAR	**Lajitas Array**	**143.51**	**40**	PKP		**PKPdf**		**21 44 43.6**	**-0.9**
	0.2nm,0.6s,baz=252,slow=0.9,SNR=2.9								

WEL 26 21:30:25.0,39°S±12°×178°0W±°,h33km,ML3.5/18,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**1.73**	**276**	P		P	Pn	21 30 53.4	+0.7
WMGZ	**Waiomatatini S**	**1.79**	**299**	P		P	Pn	21 30 53.8	+0.3
PUZ	**Puketiti**	**1.79**	**290**	P		P	Pn	21 30 53.6	0.0
PUZ	**Puketiti**	**1.79**	**290**	S		Sn	Sn	21 31 14.1	-1.1
TWGZ	**Tauwhareparae**	**1.97**	**284**	P		P	Pn	21 30 56.4	+0.4
TWGZ	**Tauwhareparae**	**1.97**	**284**	S		Sn	Sn	21 31 19.5	-0.1
PRGZ	**Paritu Road**	**1.98**	**263**	P		P	Pn	21 30 56.7	+0.5
PRGZ	**Paritu Road**	**1.98**	**263**	S		Sn	Sn	21 31 19.6	-0.3
PKGZ	**Pakihiroa**	**2.00**	**293**	P		P	Pn	21 30 56.5	0.0
MHGZ	**Mahia Peninsul**	**2.00**	**256**	P		P	Pn	21 30 56.5	+0.1
MHGZ	**Mahia Peninsul**	**2.00**	**256**	S		Sn	Sn	21 31 21.2	+1.0
MXZ	**Matakaoa Point**	**2.00**	**304**	P		P	Pn	21 30 56.5	+0.1
RIGZ	**Rimuhau**	**2.06**	**269**	P		P	Pn	21 30 57.9	+0.6
RIGZ	**Rimuhau**	**2.06**	**269**	S		Sn	Sn	21 31 22.4	+0.5
KNZ	**Kokohu**	**2.15**	**260**	P		P	Pn	21 30 58.9	+0.4
KNZ	**Kokohu**	**2.15**	**260**	S		Sn	Sn	21 31 24.3	+0.3
RUGZ	**Raukumara Rang**	**2.26**	**288**	P		P	Pn	21 30 59.9	-0.2
HAZ	**Te Kaha**	**2.26**	**294**	P		P	Pn	21 31 00.1	+0.1
MWZ	**Matawai**	**2.28**	**278**	P		P	Pn	21 31 00.4	+0.1
MWZ	**Matawai**	**2.28**	**278**	S		Sn	Sn	21 31 25.2	-2.1
RAGZ	**Rawiri**	**2.35**	**274**	P		P	Pn	21 31 00.2	-1.1
URZ	**Urewera**	**2.62**	**279**	P		P	Pn	21 31 05.6	+0.7
RTZ	**Ruatahuna**	**2.68**	**271**	P		P	Pn	21 31 06.5	+0.7
ARHZ	**Aropaoanui**	**2.71**	**257**	P		P	Pn	21 31 07.4	+1.2
MTHZ	**Maungataniwha**	**2.79**	**266**	P		P	Pn	21 31 08.4	+1.1
NMHZ	**Naumai**	**2.83**	**261**	P		P	Pn	21 31 09.5	+1.6
BKZ	**Black Stump Fm**	**3.08**	**260**	P		P	Pn	21 31 12.1	+0.7
TARZ	**Mount Tarawera**	**3.09**	**277**	P		P	Pn	21 31 12.5	+1.0
BHHZ	**Black Hill Sta**	**3.47**	**255**	P		P	Pn	21 31 17.1	+0.5
TSZ	**Takapari Road**	**3.70**	**247**	P		P	Pn	21 31 19.9	+0.1
KRVZ	**Karewarewa**	**3.73**	**262**	P		P	Pn	21 31 21.6	+1.2
BFZ	**Birch Farm**	**3.77**	**237**	P		P	Pn	21 31 19.4	-1.4
MRZ	**Mangatainoka R**	**4.21**	**241**	P		P	Pn	21 31 25.7	-1.0
CTZ	**Chatham Island**	**5.52**	**157**	P		P	Pn	21 31 48.8	+4.1

*IDC **26** 21:39:10.1±5.4,21°.49S×179°.19W,h626km±61km, mb2.8/6, mb1 3.2/6,mb1mx2.8/45,mbtmp3.8/6, Error ellipse: s-maj=47.8km s-min=29.7km az=149.0*

ISC 26 21:39:08.0±1.0,21°.5S±0.3°×179°.1W±0°.2,h602km,n15,σ0°75/14,mb3.4/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.44**	**245**	P		P	**P**	**21 45 24.1**	**+0.5**
	0.4nm,0.4s,baz=100,slow=11,SNR=2.9								
ASAR	**Alice Springs**	**43.29**	**258**	P		P	**P**	**21 46 18.6**	**+0.1**
	1.8nm,0.8s,baz=92,slow=8.0,SNR=12								
WRA	**Warramunga Arr**	**43.45**	**263**	P		P	**P**	**21 46 19.2**	**-0.4**
	0.7nm,0.3s,baz=96,slow=7.7,SNR=24								
NVAR	**Mina Array Bea**	**82.44**	**44**	P		P	**P**	**21 50 29.2**	**+0.4**
	0.6nm,0.5s,baz=231,slow=5.7,SNR=3.4								
TXAR	**Lajitas Array**	**88.45**	**58**	P		P	**P**	**21 50 58.2**	**+0.5**
	0.5nm,0.9s,baz=216,slow=7.6,SNR=4.7								
ILAR	**Eielson Array**	**89.49**	**13**	P		P	**P**	**21 51 00.5**	**-1.0**
	0.2nm,0.5s,baz=234,slow=5.2,SNR=3.6								
MKAR	**Makanchi Array**	**111.11**	**313**	PKiKP			**PKiKP**	**21 56 33.6**	**-0.5**
	0.2nm,0.7s,baz=132,slow=2.1,SNR=2.7								
BVAR	**Borovoye Array**	**119.15**	**320**	PKP			**PKPdf**	**21 56 49.0**	**-0.4**
	0.4nm,0.3s,baz=114,slow=2.3,SNR=10								
ARCES	**ARCESS Array B**	**129.68**	**349**	PKP			**PKPdf**	**21 57 09.0**	**0.0**
	1.9nm,0.8s,baz=48,slow=1.3,SNR=5.7								
FINES	**FINESS Array B**	**136.40**	**343**	PKP			**PKPdf**	**21 57 23.2**	**+1.4**
	3.1nm,1.0s,baz=294,slow=4.1,SNR=2.9								
AKASG	**Malin Array Be**	**143.34**	**330**	PKP			PKPab	21 57 32.6	-0.5
	0.4nm,0.3s,baz=39,slow=4.3,SNR=7.0								
EKA	**Eskdalemuir Ar**	**146.05**	**4**	PKPbc			**PKPbc**	**21 57 40.8**	**-0.5**
	0.8nm,0.7s,baz=353,slow=3.0,SNR=4.8								
BRTR	**Keskin Array B**	**146.70**	**311**	PKPbc			**PKPdf**	**21 57 41.8**	**+0.8**
	1.2nm,1.0s,baz=68,slow=3.9,SNR=3.2								
GERES	**GERESS Array B**	**150.83**	**343**	PKPbc			**PKPbc**	**21 57 53.9**	**+0.4**
	0.5nm,0.6s,baz=46,slow=2.8,SNR=5.7								
TORD	**Torodi Ar. Bea**	**171.69**	**185**	PKPab			**PKPab**	**21 59 34.1**	**-1.1**
	0.3nm,0.9s,baz=181,slow=3.9,SNR=4.2								

*GUC **26** 21:44:02.8±0.5,34°.85S×72°.76W,h26km±5km, ML3.7*

ISC 26 21:44:03.2±2.2,34°.89S±0°.05×72°.7W±0°.1,h0km±14km,n12,σ2°9/14,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.78**	**50**	*eP*			**Pg**	**21 44 17.8**	**-0.4**
CHPI				*eS*			**Sg**	**21 44 28.0**	**-0.2**
COCH	**Cobquecura**	**1.24**	**182**	*eP*			**Pn**	**21 44 24.6**	**-3.2**
COCH				*eS*			**Sg**	**21 44 44.9**	**+1.8**
COCH	**Cobquecura**	**1.24**	**182**	*eP*			**Pn**	**21 44 26.2**	**-1.5**
COCH				*eS*			**Sb**	**21 44 43.5**	**-0.5**
CCHI	**Chillan**	**1.79**	**163**	*eP*			**Pn**	**21 44 34.2**	**-1.1**
CCHI				*eS*			**Sg**	**21 45 02.8**	**+2.0**
CCHI	**Chillan**	**1.79**	**163**	*eP*			**Pn**	**21 44 35.0**	**-0.3**
CCHI				*eS*			**Sb**	**21 44 59.1**	**-0.7**
CCHI					IAML			21 45 03.1	
	comp=E,1μm,0.5s								
LMEL	**Las Melosas**	**2.33**	**64**	*eP*			**Pn**	**21 44 42.2**	**-0.8**
LMEL				*eS*			**Sb**	**21 45 12.5**	**-3.2**
LMEL					IAML			21 45 15.9	
	comp=N,635nm,0.1s								
ROC1	**El Roble**	**2.38**	**37**	*eP*			**Pn**	**21 44 41.8**	**-2.0**
ROC1				*eS*			**Sg**	**21 45 21.6**	**+1.8**
ROCH	**El Roble**	**2.39**	**37**	*eP*			**Pn**	**21 44 41.7**	**-2.1**
ROCH					IAML			21 45 21.9	
	comp=N,432nm,0.3s								
PEL	**Peldehue**	**2.43**	**45**	*eP*			**Pn**	**21 44 43.3**	**-1.0**
PEL				*eS*			**Sb**	**21 45 14.6**	**-3.8**
AUSP	**Uspallata**	**3.85**	**47**	*eP*			**Pn**	**21 45 04.2**	**+0.2**
AUSP				*eS*			**Sb**	**21 46 01.0**	**+1.4**
AROD	**Rodeo**	**5.45**	**31**	*eP*			**Pn**	**21 45 26.2**	**+0.1**
AROD				*eS*			**Sn**	**21 46 34.1**	**+4.5**
AGUA	**GUANDACOL**	**6.47**	**35**	*eP*			**Pn**	**21 45 38.7**	**-1.1**

*ISN **26** 21:53:01.1±0.3,32°.69N×47°.62E,h0km, ML2.6*

TEH 26 21:53:04.1,32°.62N×47°.88E,h7km,ML2.6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.90**	**358**	*ePg*			Pg	21 53 19.5	-1.9
IKFM				*eSg*			Sg	21 53 33.0	-0.1
IKFM				*eAMB*			AMB	21 53 37.9	
	comp=Z,99nm,0.2s								
HSAM	**Samen**	**1.70**	**21**	*ePn*			Pn	21 53 33.8	-0.6
HSAM				*eSg*			Sn	21 53 56.6	+0.1
HSAM				*eAMB*			AMB	21 53 58.5	
	comp=Z,99nm,0.1s								
IDHR	**Dehrash**	**2.42**	**329**	*eAMB*			AMB	21 54 29.9	
	comp=Z,239nm,0.2s								
IKLH	**Kolahrood**	**3.19**	**76**	*ePn*			Pn	21 53 54.6	-0.3
IKLH				*eAMB*			AMB	21 54 47.9	
	comp=Z,97nm,0.2s								
QAM	**Ghamsar**	**3.19**	**68**	*ePn*			Pn	21 53 54.9	0.0
QAM				*eAMB*			AMB	21 54 38.4	
	comp=Z,268nm,0.2s								
IRAZ	**Razeghan**	**3.25**	**31**	*ePn*			Pn	21 53 55.8	0.0
IRAZ				*eAMB*			AMB	21 53 56.3	
	comp=Z,231nm,0.2s								
IZEF	**Zefreh**	**3.76**	**85**	*ePn*			Pn	21 54 01.9	-0.9
IZEF				*eAMB*			AMB	21 54 18.2	
	comp=Z,42nm,0.2s								
IRAM	**Ramesheh**	**3.90**	**101**	*ePn*			Pn	21 54 04.1	-0.6
IRAM				*eAMB*			AMB	21 54 54.6	
	comp=Z,39nm,0.2s								
IVRN	**Varamin**	**3.98**	**52**	*eAMB*			AMB	21 54 08.4	
	comp=Z,161nm,0.1s								
IVRN				*ePn*			Pn	21 54 05.4	-0.2
IDMV	**Damavand**	**4.53**	**48**	*ePn*			Pn	21 54 11.6	-1.8
IDMV				*eAMB*			AMB	21 54 13.1	
	comp=Z,64nm,0.1s								

KRSC 26 21:54:41.2±1.1,49°.14N×156°.28E,h16km±20km,ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.55**	**356**	*eP*			Pb	21 55 08.9	-0.6
SKR				*eS*			Sn	21 55 28.1	+0.2
PAU	**Pauzhetka**	**2.35**	**8**	*eP*			Pb	21 55 21.8	-1.4
PAU				*eS*			Sb	21 55 50.7	-1.3
KDTR	**Khodutka, Kamc**	**2.91**	**23**	*eP*			Pn	21 55 29.5	+2.7
KDTR				*eS*			Sb	21 56 04.9	-3.0
MIPR	**Malaya Ipel'ka**	**3.15**	**5**	*eP*			Pn	21 55 32.8	+2.6
ASAK	**Asacha**	**3.41**	**17**	*eP*			Pb	21 55 37.8	-3.4
MTVR	**Mutnovka**	**3.56**	**19**	*eP*			Pn	21 55 38.9	+3.0
MTVR				*eS*			Sn	21 56 21.4	+3.7
RUS	**Russkaya**	**3.59**	**22**	*eP*			Pn	21 55 39.4	+3.3
RUS				*eS*			Sn	21 56 21.3	+3.1
KRMR	**Karymshinskiy**	**3.87**	**17**	P			Pn	21 55 43.9	+3.8
KRMR				*eS*			Sb	21 56 30.5	-5.3
DALK	**Dalny**	**4.20**	**21**	*eS*			Sn	21 56 37.6	+4.5
UGLR	**Uglovaya**	**4.38**	**20**	*eP*			Pn	21 55 50.8	+3.7
AVH	**Avacha**	**4.41**	**20**	*eP*			Pn	21 55 52.1	+4.6
SMAR	**Somma**	**4.42**	**20**	*eP*			Pn	21 55 52.3	+4.5
SDLR	**Sedlovina**	**4.45**	**21**	*eP*			Pn	21 55 52.0	+3.8
SPN	**Mys Shipunski**	**4.61**	**29**	*eP*			Pn	21 55 55.1	+4.9
SPN				*eS*			Sn	21 56 48.3	+4.9
GNL	**Ganaly**	**4.68**	**12**	*eP*			Pn	21 55 55.3	+4.1
KBTR	**Krutoberegovo**	**8.11**	**27**	*eP*			Pn	21 56 42.4	+4.1

*ISCJB **26** 22:21:03.3±0.2,4°.06N±0°.02×126°.41E±0°.03,h45km, mb4.7/105,MS3.6/36,Error ellipse: s-maj=3.7km s-min=2.3km az=171.4*

*MAN **26** 22:21:05,4°.36N×126°.42E,h4km,mb5.5,ML4.5,MS4.8*

*MOS **26** 22:21:05.3±1.1,4°.04N×126°.26E,h68km, mb4.8/39, Error ellipse: s-maj=9.4km s-min=5.2km az=102.5*

*BJI **26** 22:21:06.0,4°.10N×126°.40E,h64km, mb4.7/43,mB4.9/26, Ms4.4/14,Ms7 4.1/14*

*IDC **26** 22:21:06.2±1.4,3°.99N×126°.17E,h62km±12km, mb4.4/31, mb1 4.5/33,mb1mx4.3/56,mbtmp4.7/33,MS3.6/34, Ms1 3.6/34,ms1mx3.5/52, Error ellipse: s-maj=17.6km s-min=7.6km az=82.0*

*NEIC **26** 22:21:07.2±0.7,4°.04N×126°.37E,h71km±6km, mb4.8/36, Error ellipse: s-maj=7.0km s-min=4.3km az=73.0*

*DJA **26** 22:21:07.5±0.4,4°.N±3°×12°6E±°,h58km±4km,M5.0/30, mb5.1/30,mB5.4/18,MLv5.4/10,Mw(mB)4.8/18*

ISC 26 22:21:04.7±0.3,4°.00N±0°.03×126°.30E±0°.05,h45km,n255,σ1°94/255,mb4.7/103,MS3.6/36,14C-4D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.83**	**248**	P		P	**Pn**	**22 21 20.4**	**+0.3**
SGSI				S		S	**Sn**	**22 21 31.5**	**+0.2**
GSPH	**General Santos**	**2.47**	**327**	*eP*		P	**Pn**	**22 21 42.9**	**+0.3**
MATI	**Mati**	**2.93**	**359**	*eP*		P	**Pn**	**22 21 48.9**	**+0.1**
MATI				*eS*			Sn	22 22 39.2	+17
DAV	**Davao City (W)**	**3.13**	**347**	P		P	**Pn**	**22 21 52.2**	**+0.5**
DAV				S			**Sn**	**22 22 29.5**	**+1.7**
	143nm,0.3s,baz=100,slow=2.3,SNR=19								
DAV					LR	LR		22 23 30.4	
	101nm,0.3s,baz=90,slow=20,SNR=6.3								
DAV	**Davao City (W)**	**3.13**	**347**	*ePn*			**Pn**	**22 21 52.3**	**+0.7**
DAV				*eS*			Sn	22 22 41.2	+13
KCP	**Kidapawan**	**3.22**	**338**	*iP*			**Pn**	**22 21 54.4**	**+1.5**
KCP				*i S*			**Sn**	**22 22 31.0**	**+0.9**
TNTI	**Ternate**	**3.38**	**162**	*ePn*			**Pn**	**22 21 56.8**	**+1.8**
CTBH	**Cotabato--PC H**	**3.80**	**327**	*iP*			**Pn**	**22 22 02.3**	**+1.5**
CTBH				*i S*			**Sn**	**22 22 47.2**	**+3.0**
BUKP	**Musuan**	**4.05**	**342**	*eP*			**Pn**	**22 22 05.9**	**+1.7**
BUKP				*eS*			**Sn**	**22 22 50.4**	**0.0**
KMSI	**Cibinong**	**4.12**	**214**	P			**Pn**	**22 22 07.6**	**+2.5**
BIPH	**Bislig**	**4.16**	**1**	*iP*			**Pn**	**22 22 09.8**	**+4.1**
LBMI	**Labuha**	**4.76**	**165**	P			**Pn**	**22 22 15.7**	**+1.7**
LBMI				S			**Sn**	**22 23 10.8**	**+2.9**
PAGZ	**Pagadian**	**4.80**	**323**	*eP*			**Pn**	**22 22 16.0**	**+1.4**
BUTP	**Butuan**	**4.98**	**352**	*eP*			**Pn**	**22 22 19.0**	**+2.0**
ZCP	**Zamboanga City**	**5.12**	**305**	*iP*			**Pn**	**22 22 19.7**	**+0.8**
ZCP				*i S*			**Sn**	**22 23 14.5**	**-2.2**
MRSI	**Marisa**	**5.59**	**231**	P			**Pn**	**22 22 27.4**	**+2.0**
MRSI				S			**Sn**	**22 23 26.4**	**-1.9**
SCPH	**Surigao**	**5.80**	**352**	*eP*			**Pn**	**22 22 30.5**	**+2.3**
SCPH				*eS*			**Sn**	**22 23 30.4**	**-3.2**
SANI	**Sanana**	**6.02**	**183**	P			**Pn**	**22 22 30.9**	**-0.3**
SANI				S			**Sn**	**22 23 34.1**	**-4.8**
LUWI	**Luwuk**	**6.13**	**215**	P			**Pn**	**22 22 36.4**	**+3.7**
	1μm,0.8s,16μm4.9nm								
LUWI				S			**Sn**	**22 23 46.4**	**+4.8**
	1μm,0.8s,16μm4.9nm								
LUWI	**Luwuk**	**6.13**	**215**	*ePn*			**Pn**	**22 22 36.8**	**+4.0**
LUWI				*eS*			Sn	22 23 54.6	+13
MSLP	**Maasin**	**6.26**	**347**	*eP*			**Pn**	**22 22 35.9**	**+1.3**
APSI	**Ampana**	**6.74**	**224**	P			**Pn**	**22 22 45.4**	**+4.2**
	603nm,1.1s,7μm2.5nm								
SWI	**Sorong**	**6.92**	**134**	P			**Pn**	**22 22 45.5**	**+1.9**
	83nm,0.8s,956nn0.4nn								
SWI				S			**Sn**	**22 24 02.9**	**+1.8**
	83nm,0.8s,956nn0.4nn								
SWI	**Sorong**	**6.92**	**134**	P			Pn	22 22 48.5	+4.9
SWI				pmax			pmax		
	comp=Z,79nm,0.8s								
NLAI	**Namlea**	**7.24**	**174**	P			**Pn**	**22 22 48.1**	**+0.2**
NLAI				S			**Sn**	**22 24 05.1**	**-3.7**
MPSI	**Mapaga**	**7.36**	**241**	P			Pn	22 22 55.6	+5.9
	comp=Z,80nm,0.8s,comp=Z,2μmcomp=Z,1.0nm								
MSAI	**Masohi**	**7.75**	**160**	P			Pn	22 23 00.8	+5.7
AAI	**Ambon**	**7.87**	**166**	P			**Pn**	**22 22 59.1**	**+2.5**
	comp=Z,158nm,0.5s,comp=Z,4μmcomp=Z,0.8nm								
AAI	**Ambon**	**7.87**	**166**	P			**Pn**		
AAI				pmax			pmax		
	comp=Z,155nm,0.5s								
MYLDM	**Lahad Datu**	**7.87**	**279**	*ePn*			Pn	22 23 01.6	+5.0
PCI	**Palu**	**8.09**	**233**	P			Pn	22 23 05.4	+5.7
	comp=Z,130nm,0.9s,comp=Z,1μmcomp=Z,1.3nm								
PCI	**Palu**	**8.09**	**233**	P			**Pn**	22 23 05.4	+5.7
PCI				pmax			pmax		
	comp=Z,130nm,0.9s								
FAKI	**Fak Fak**	**9.09**	**139**	P			**Pn**	**22 23 17.5**	**+4.1**
FAKI	**Fak Fak**	**9.09**	**139**	*ePn*			**Pn**	**22 23 16.2**	**+2.8**
FAKI				*eS*			**Sn**	**22 24 56.0**	**+1.6**
TTSI	**Tana Toraja**	**9.54**	**223**	P			**Pn**	**22 23 22.6**	**+3.1**
	comp=Z,218nm,0.8s,comp=Z,2μm								
SMKI	**Samarinda**	**10.10**	**244**	P			Pn	22 23 37.0	+10

ASAR Alice Springs 28.48 165 P **P** **22 26 55.8 0.0**
comp=Z,9.1nm,0.5s,baz=348,slow=7.4,SNR=111
ASAR S S 22 31 50.2 +10
comp=Z,2.5nm,0.9s,baz=349,slow=19,SNR=4.2
ASAR ScP **SS** **22 33 43.0 +0.5**
comp=Z,0.8nm,0.3s,baz=353,slow=3.1,SNR=6.2
AS01 Alice Springs 28.49 165 *eP* **P** **22 26 55.6 -0.3**
PHIT Phitsanulok 28.57 299 P **P** **22 27 00.1 +3.4**
comp=Z,29nm,1.0s,comp=Z,222nm
NJ2 Nanjing 28.77 347 *eP* **P** **22 26 58.0 -0.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NANT Nan 29.02 302 P **P** **22 27 05.2 +4.5**
comp=Z,5.4nm,0.9s,comp=Z,76nm
JNU Nakatsue 29.29 8 P **P** **22 27 02.3 -0.6**
comp=Z,25nm,0.8s,baz=306,slow=1.4,SNR=14
JNU LR LR 22 38 34.2
comp=Z,76nm,20.8s,baz=167,slow=36
JNU Nakatsue 29.29 8 *eP* **P** **22 27 02.2 -0.7**
comp=Z,31nm,0.9s
LAMP Lampang 29.80 301 P P 22 27 15.3 +7.6
comp=Z,6.9nm,0.9s,comp=Z,66nm
CM01 Chiang Mai Arr 30.34 300 *eP* **P** **22 27 13.8 +1.4**
CMAR Chiang Mai Arr 30.37 300 P **P** **22 27 13.3 +0.7**
comp=Z,2.6nm,0.9s,baz=121,slow=7.8,SNR=9.9
CMAR LR LR 22 41 38.5
comp=Z,70nm,18.1s,baz=122,slow=41
CHTO Chiang Mai 30.52 301 P **P** **22 27 18.2 +4.2**
comp=Z,31nm,0.8s
CHTO Chiang Mai 30.52 301 *eP* **P** **22 27 14.6 +0.6**
CHTO pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 30.52 301 *eP* **P** **22 27 14.6 +0.6**
comp=Z,13nm,0.8s
KMI Kunming 30.89 315 P P 22 27 24.0 +6.6
KMI pmax pmax
comp=Z,8.0nm,1.2s
KMI LR LR
comp=Z,230nm,13.0s
KMI LR LR
comp=Z,220nm,12.1s
KMI LR LR
comp=Z,260nm,15.8s
CMAI Chiengmai2 30.93 303 P P 22 27 31.0 +13
JHJ Hachijo jima 2 31.59 22 LR LR 22 37 40.6
comp=Z,185nm,22.0s,baz=100,slow=31
TJN Taejon 32.23 2 *eP* **P** **22 27 30.2 +1.4**
KSAR Wonju Array Be 33.31 2 P **P** **22 27 39.0 +0.7**
KSAR Wonju Array Be 33.31 2 P **P** **22 27 39.0 +0.7**
KSRS Korea Array 33.33 2 P **P** **22 27 39.0 +0.6**
comp=Z,8.2nm,0.8s,baz=176,slow=10,SNR=22
KSRS LR LR 22 40 08.3
comp=Z,30nm,21.6s,baz=186,slow=34
KS01 Wonju Array Si 33.35 2 *eP* **P** **22 27 38.2 -0.4**
XAN Xi'an 33.99 334 P **P** **22 27 42.3 -1.9**
XAN pP sP 22 27 58.8 -2.9
XAN sP pP 22 28 04.8 +8.5
XAN pmax pmax
comp=Z,3.0nm,0.6s
XAN pmax pmax
comp=Z,63nm,3.5s
CD2 Chengdu 34.18 324 *eP* **P** **22 27 46.5 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
MAJO Matsushiro 34.19 17 *eP* **P** **22 27 46.6 +0.7**
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MAT Matsushiro 34.19 17 P **P** **22 27 45.4 -0.5**
MJAR Matsushiro Arr 34.19 17 P **P** **22 27 45.2 -0.8**
comp=Z,2.9nm,0.9s,baz=203,slow=11,SNR=8.5
MJAR LR LR 22 40 19.7
comp=Z,124nm,21.6s,baz=175,slow=34
HNR Honiara 36.09 112 LR LR 22 42 37.3
comp=Z,86nm,20.3s,baz=295,slow=36
BJT Baijiatuau 37.01 347 *eP* **P** **22 28 10.9 +0.9**
BJT pmax pmax
comp=Z,19nm,0.9s
BJT Baijiatuau 37.01 347 *eP* **P** **22 28 10.9 +0.9**
comp=Z,19nm,0.9s
BJI Beijing 37.03 347⇓ *iP* **P** **22 28 11.3 +1.1**
BJI pmax pmax
comp=Z,33nm,0.9s
NWAO Narrogin (SRO) 37.72 193 *eP* **P** **22 28 16.2 +0.1**
NWAO pmax pmax
comp=Z,38nm,1.0s
NWAO Narrogin (SRO) 37.72 193 *eP* **P** **22 28 16.2 +0.1**
comp=Z,38nm,1.0s
BBOO Buckleboo 37.76 167 *eP* **P** **22 28 16.4 -0.1**
comp=Z,135nm,1.8s
LZH Lanzhou 38.06 330 *eP* P 22 28 23.8 +4.6
LZH pP sP 22 28 38.5 +1.8
LZH sP pP 22 28 45.0 +14
LZH PcP **PcP** **22 30 34.8 +0.9**
LZH pmax pmax
comp=Z,18nm,1.2s
LZH pmax pmax
comp=Z,100nm,4.5s
LZH LR LR
comp=Z,360nm,13.4s
LZH LR LR
comp=Z,250nm,14.4s
LZH LR LR
comp=Z,260nm,18.2s
STKA Stephens Creek 38.53 159 P **P** **22 28 23.4 +0.4**
comp=Z,14nm,0.8s,baz=335,slow=8.8,SNR=31
STKA Stephens Creek 38.53 159 *eP* **P** **22 28 23.8 +0.8**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 38.53 159 *eP* **P** **22 28 23.8 +0.8**
comp=Z,3.8nm,0.8s
HHC Hu-ho-hao-te 39.01 342 *eP* **P** **22 28 29.0 +1.9**
HHC S **S** **22 34 24.0 +0.9**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,87nm,4.8s
HHC LR LR
comp=Z,120nm,13.3s
HHC LR LR
comp=Z,120nm,13.5s
HHC LR LR
comp=Z,140nm,15.3s
VLA Vladivostok 39.27 6 *eP* **P** **22 28 29.9 +0.9**
VLA pmax pmax
comp=Z,19nm,0.8s
SHL Shillong 39.37 306 *eP* **P** **22 28 31.0 +0.6**
SHL *ex* x 22 30 41.5
USRK Ussuriysk Ar. 40.35 6 P **P** **22 28 38.5 +0.6**
comp=Z,19nm,0.7s,baz=195,slow=6.8,SNR=31
USRK LR LR 22 43 18.3
comp=Z,72nm,21.7s,baz=169,slow=33
MDJ Mudanjiang 40.55 4 P **P** **22 28 39.3 -0.4**
MDJ PP **PP** **22 30 12.8 -1.0**
MDJ PcP **PcP** **22 30 42.0 +0.6**
MDJ S **S** **22 34 46.3 +0.5**
MDJ pmax pmax
comp=Z,32nm,0.9s
MDJ pmax pmax
comp=Z,93nm,4.6s
MDJ Mudanjiang 40.55 4 *eP* **P** **22 28 40.5 +0.8**
comp=Z,22nm,1.1s
TEY Ternei 41.86 11 *eP* **P** **22 28 50.3 0.0**
TEY pmax pmax
comp=N,33nm,0.9s
TEY pmax pmax
comp=Z,55nm,1.1s
ARMA Armidale 41.92 146 *eP* **P** **22 28 53.7 +2.4**
comp=Z,55nm,0.9s
LSA Lhasa 41.94 311 *eP* **P** **22 28 51.3 -0.6**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 41.94 311 *eP* **P** **22 28 51.3 -0.6**
comp=Z,5.7nm,0.7s
ASAJ Asahikawa 42.46 17 P **P** **22 28 56.2 +0.9**
comp=Z,16nm,0.8s,baz=205,slow=12,SNR=12
ASAJ Asahikawa 42.46 17 *eP* **P** **22 28 55.3 0.0**
GTA Gaotai 42.65 329 *eP* **P** **22 28 58.0 +0.9**
GTA pP sP 22 29 12.0 -2.7
GTA sP pP 22 29 19.5 +10
GTA pmax pmax
comp=Z,2.0nm,1.0s
TAPN Taplejung 43.51 306 *eP* **P** **22 29 03.8 -0.7**
ODAN Odare 43.57 305 *eP* **P** **22 29 03.5 -1.3**
comp=Z,20nm,0.7s

RAMN Ramite 44.25 305 *eP* **P** **22 29 09.4 -0.9**
JIRN Jiri 44.87 306 *eP* **P** **22 29 15.2 -0.2**
YSS Yuzh-Sakhalins 45.10 16⇑ *eP* **P** **22 29 16.8 +0.4**
YSS *e* 22 29 44.0
YSS pmax pmax
comp=Z,20nm,0.4s
GUN Gumba 45.22 306 *eP* **P** **22 29 18.3 +0.1**
KLR Kul'dur 45.30 5*d iP* **P** **22 29 18.1 0.0**
HIA Hailar 45.45 354 *eP* **P** **22 29 19.5 +0.3**
HIA pmax pmax
comp=Z,6.0nm,0.9s
PKI Pulchoki 45.47 305 *eP* **P** **22 29 19.2 -0.9**
PKIN Phulchoki 45.48 305 *eP* **P** **22 29 18.7 -1.4**
PALK Pallekele 45.48 276 LR LR 22 49 39.1
comp=Z,68nm,21.4s,baz=116,slow=38
GKN Gorkha 46.27 306 *eP* **P** **22 29 26.2 0.0**
ULN Ulaanbaatar 46.73 342*ceP* **P** **22 29 29.4 -0.1**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 46.73 342 *eP* **P** **22 29 29.9 +0.3**
SONM Songino Array 46.91 342 P **P** **22 29 30.9 0.0**
comp=Z,2.8nm,0.6s,baz=160,slow=8.8,SNR=18
SONM LR LR 22 50 18.6
comp=Z,84nm,20.7s,baz=154,slow=37
SONA1 Songino Array 46.92 342 *eP* **P** **22 29 31.0 +0.1**
KOLN Koldanda 47.02 305 *eP* **P** **22 29 31.2 -1.0**
DZM Mont Dzumac 47.04 125 P **P** **22 29 32.0 -0.2**
comp=Z,19nm,0.9s,baz=124,slow=3.6,SNR=3.4
DZM LR LR 22 48 53.3
comp=Z,79nm,19.2s,baz=302,slow=35
GRNR Gornyy 47.38 9 *eP* P 22 29 23.3 -11
PYUN Piuthan 47.65 305 *eP* **P** **22 29 36.6 -0.4**
comp=Z,28nm,0.7s
TYV Tymovskoe 48.68 14 *eP* P 22 29 35.6 -8.8
TYV pmax pmax
comp=Z,170nm,5.3s
TYV pmax pmax
comp=Z,8.0nm,1.3s
ZEA Zeya 49.59 1 *eP* **P** **22 29 50.9 -0.3**
ZEA pmax pmax
comp=Z,12nm,1.0s
ZAK Zakamensk 50.13 341 *eP* **P** **22 29 55.1 -0.5**
ZAK *e* 22 31 13.0
ZAK pmax pmax
comp=Z,2.0nm,1.2s
ZAK pmax pmax
comp=Z,2.0nm,1.1s
NKL Nikolayevsk 50.41 11 *i* P **P** **22 29 57.8 +0.4**
NKL pmax pmax
comp=N,17nm,1.0s
NKL pmax pmax
comp=Z,45nm,1.0s
TLY Talaya 51.14 342 *eP* **P** **22 30 04.1 +1.0**
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY MLR MLR
comp=Z,83nm,18.0s
TLY Talaya 51.14 342 *eP* **P** **22 30 04.4 +1.3**
comp=Z,3.2nm,0.8s
MOY Mondy 51.98 340 *eP* **P** **22 30 11.2 +1.7**
WMQ Urumqi 52.26 325 P **P** **22 30 14.0 +2.4**
WMQ LR LR
comp=Z,200nm,25.3s
WMQ LR LR
comp=Z,140nm,25.3s
WMQ LR LR
comp=Z,180nm,21.7s
HVS Khovu-Aksy 54.32 335 *eP* **P** **22 30 26.6 0.0**
HVS pmax pmax
comp=Z,14nm,1.0s
BOD Bodaibo 54.54 352 *eP* **P** **22 30 27.7 -0.3**
BOD pmax pmax
comp=Z,8.0nm,1.6s
PETK Petropavlovsk- 55.34 22 P **P** **22 30 34.1 +0.2**
comp=Z,10nm,0.7s,baz=191,slow=4.2,SNR=6.5
PETK LR LR 22 52 09.6
comp=Z,37nm,21.9s,baz=210,slow=34
MSVF Nonsavu 55.41 115 *eP* **P** **22 30 34.1 -1.0**
MSVF pmax pmax
comp=Z,27nm,1.0s
PET Petropavlovsk 55.65 23⇑ *eP* **P** **22 30 37.4 +1.3**
PET pmax pmax
comp=Z,25nm,1.3s
PDGK Podgornoye 56.94 321 *i* P **P** **22 30 44.9 -0.8**
PDGK pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 57.09 325 *i* P **P** **22 30 44.2 -2.4**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 57.09 325 P **P** **22 30 44.6 -1.9**
comp=Z,1.8nm,0.5s,baz=116,slow=7.3,SNR=37
MKAR ScP **ScP** **22 35 34.1 -3.2**
comp=Z,1.0nm,0.6s,baz=133,slow=3.9,SNR=5.4
MKAR LR LR 22 56 21.3
comp=Z,61nm,18.0s,baz=70,slow=37
MAKZ Makanchi 57.28 325 *i* P **P** **22 30 46.0 -1.9**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
KSH Kashi 57.55 315 P **P** **22 30 50.8 +0.7**
KSH pP sP 22 31 06.5 -1.5
KSH sP pP 22 31 14.8 +12
KSH PcP **PcP** **22 31 44.0 +0.9**
KSH S **S** **22 38 40.0 -4.9**
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH pmax pmax
comp=Z,65nm,6.8s
KSH LR LR
comp=Z,67nm,5.8s
KSH LR LR
comp=Z,81nm,7.0s
KSH LR LR
comp=Z,170nm,5.3s
YAK Yakutsk 57.95 2 *eP* **P** **22 30 51.5 -0.7**
YAK *e**PP **sP** **22 31 09.2 -1.0**
YAK *e* 22 31 43.8
YAK *e* 22 33 01.6
YAK *eS* **S** **22 38 44.2 -4.8**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=E,1.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,13nm,1.5s
YAK smax smax
comp=N,99nm,5.9s
YAK smax smax
comp=E,62nm,3.3s
MA2 Magadan 58.55 14*ceP* **P** **22 30 56.6 +0.1**
TKM2 Tokmak 2 59.26 319 *iP* **P** **22 30 59.3 -2.8**
TKM2 pmax pmax
comp=Z,4.0nm,1.2s
SFK Sufi-Kurgan 59.50 315 *iP* **P** **22 31 03.1 -0.6**
SFK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 59.87 318 *eP* **P** **22 31 06.3 +0.1**
AAK pmax pmax
comp=Z,2.0nm,1.1s
ZALV Zalesovo Beam 60.16 333 P **P** **22 31 05.7 -2.0**
comp=Z,1.2nm,0.5s,baz=143,slow=5.2,SNR=5.5
ZALV LR LR 22 58 52.9
comp=Z,51nm,18.7s,baz=64,slow=38
MNAS Manas 61.15 317 *iP* **P** **22 31 13.4 -1.5**
MNAS pmax pmax
comp=Z,3.0nm,1.0s
KURBB Kurchatov Arra 61.28 327 P **P** **22 31 14.7 -0.8**
comp=Z,4.5nm,0.6s,baz=126,slow=6.3,SNR=27
KURK Kurchatov 61.28 328*ceP* **P** **22 31 15.6 +0.2**
KURK pmax pmax
comp=Z,27nm,0.7s
KURK Kurchatov 61.28 328 *eP* **P** **22 31 14.8 -0.7**
NVS Novosibirsk 61.44 333 *eP* **P** **22 31 15.3 -1.1**
NVS pmax pmax
comp=Z,10.0nm,1.1s
NVS pmax pmax
comp=N,6.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.3s
SEY Seymchan 61.87 13*ceP* **P** **22 31 19.8 +0.7**
KKAR Karatay Array 62.74 317 *eP* **P** **22 31 24.0 -1.4**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 62.74 317 *eP* **P** **22 31 24.0 -1.4**
comp=Z,1.8nm,0.6s
OTUK Ortayu 63.65 323 *i* P **P** **22 31 29.7 -1.7**
OTUK pmax pmax
comp=Z,4.0nm,1.1s
BVAR Borovoye Array 66.86 327 P **P** **22 31 50.5 -1.5**
comp=Z,2.0nm,0.5s,baz=138,slow=6.9,SNR=14
BVAR LR LR 23 03 03.5
comp=Z,44nm,18.4s,baz=124,slow=38
BRVK Borovoye 66.94 327*ceP* **P** **22 31 51.9 -0.6**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 66.94 327 *eP* **P** **22 31 52.9 +0.4**
comp=Z,38nm,0.8s
TIXI Tiksi 67.58 1*ceP* **P** **22 31 55.9 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 67.58 1 *eP* **P** **22 31 55.5 -0.7**
comp=Z,22nm,1.3s
BILL Bilibino 69.40 15 *i* P **P** **22 32 06.4 -1.3**
BILL *i* 22 32 21.7
BILL *i* 22 32 30.4
BILL pmax pmax
comp=Z,2.0nm,0.9s
AB31 Akbulak array 71.67 321 *i* P **P** **22 32 19.8 -2.1**
AB31 pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 71.67 321 *eP* **P** **22 32 20.7 -1.1**
comp=Z,1.5nm,0.5s
AKTO Aktyubinsk 73.18 322 P **P** **22 32 28.9 -2.0**
comp=Z,4.4nm,0.8s,baz=104,slow=8.3,SNR=14
AKTO LR LR 23 06 05.6
comp=Z,81nm,21.8s,baz=96,slow=37
AKTO Aktyubinsk 73.18 322 *i* P **P** **22 32 28.0 -2.9**
AKTO pmax pmax
comp=Z,6.0nm,1.2s
SVE Sverdlovsk 73.51 329 *eP* **P** **22 32 32.1 -0.5**
SVE pmax pmax
comp=Z,12nm,0.9s
ARU Arti 74.48 328*c iP* **P** **22 32 37.8 -0.5**
ARU *PP **PcP** **22 32 52.8 +0.1**
ARU S **S** **22 42 10.6 +0.7**
ARU SS **SS** **22 46 59.4 +2.3**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 74.48 328 *eP* **P** **22 32 37.5 -0.9**
comp=Z,5.3nm,0.6s
RAYN Ar Rayn 79.98 293 *eP* **P** **22 33 08.4 -1.5**
RAYN pmax pmax
comp=Z,9.0nm,1.2s
RAYN Ar Rayn 79.98 293 *eP* **P** **22 33 08.4 -1.5**
comp=Z,9.3nm,1.2s
GNI Garni 80.98 310 LR LR 23 14 56.2
comp=Z,22nm,20.4s,baz=86,slow=40
KDAK Kodiak Island 81.89 32 *i* P **P** **22 33 20.1 +0.8**
KBZ Khabaz 82.48 313 LR LR 23 14 52.4
comp=Z,17nm,18.2s,baz=97,slow=39
KTH Kantishna Hill 83.22 27 *eP* **P** **22 33 26.7 +0.5**
comp=Z,22nm,1.3s
BPAW Bear Paw Mtn. 83.23 26 *eP* **P** **22 33 26.6 +0.4**
comp=Z,4.7nm,1.3s
TRF Thorofare Moun 83.49 27 *eP* **P** **22 33 27.5 -0.3**
comp=Z,9.0nm,1.0s
RC01 Rabbit Creek A 83.59 29 *eP* **P** **22 33 28.0 -0.1**
comp=Z,14nm,1.1s
VNDA Vanda 83.75 173 P **P** **22 33 29.4 +0.9**
comp=Z,2.4nm,0.7s,baz=324,slow=6.2,SNR=15
VNDA LR LR 23 10 34.6
comp=Z,28nm,20.1s,baz=303,slow=35
COLD Coldfoot 83.81 23 *eP* **P** **22 33 30.1 +1.1**
comp=Z,23nm,1.1s
MAW Mawson 83.86 200 LR LR 23 05 36.6
comp=Z,55nm,20.2s,baz=243,slow=32
PMR Palmer 83.91 29 *eP* **P** **22 33 29.4 -0.3**
PMR pmax pmax
comp=Z,28nm,1.2s
PMR Palmer 83.91 29 *eP* **P** **22 33 29.4 -0.3**
comp=Z,28nm,1.2s
MCK McKinley 84.11 26 *eP* **P** **22 33 30.8 +0.1**
MCK pmax pmax
comp=Z,27nm,1.2s
MCK McKinley 84.11 26 *eP* **P** **22 33 30.8 +0.1**
comp=Z,27nm,1.2s
SML Sawmill 84.30 28 *eP* **P** **22 33 31.7 0.0**
SML pmax pmax
comp=Z,8.0nm,1.2s
SML Sawmill 84.30 28 *eP* **P** **22 33 31.7 0.0**
comp=Z,7.8nm,1.2s
COLA College 84.63 25 *eP* **P** **22 33 32.9 -0.4**
COLA pmax pmax
comp=Z,4.0nm,1.1s
KLMR Klimovskoe 84.96 331 *eP* **P** **22 33 33.1 -1.9**
KLMR pmax pmax
comp=Z,14nm,1.4s
KLMR Klimovskoe 84.96 331 *eP* **P** **22 33 33.2 -1.8**
KLMR AMP 22 33 35.9
comp=Z,14nm,1.4s
ILAR Eielson Array 85.04 25 P **P** **22 33 34.6 -0.7**
comp=Z,1.8nm,0.8s,baz=251,slow=5.2,SNR=13
ILAR LR LR 23 09 10.6
comp=Z,17nm,21.0s,baz=294,slow=34
TMCR Tamitsa 85.67 334 *eP* **P** **22 33 37.1 -1.3**
TMCR pmax pmax
comp=Z,12nm,0.8s
BMRM Bremner River 86.09 29 *eP* **P** **22 33 39.6 -1.1**
OBN Obninsk 86.60 325 *eP* **P** **22 33 43.7 +0.5**
OBN *e* 22 37 03.3
OBN *e*PPP PPP 22 39 01.0
OBN pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 89.13 269 P **P** **22 33 56.8 +0.2**
comp=Z,1.4nm,0.9s,baz=113,slow=5.4,SNR=4.5
BRTR Keskin Array B 89.52 310 P **P** **22 33 57.0 -0.7**
comp=Z,0.3nm,0.5s,baz=113,slow=3.7,SNR=2.9
BRTR LR LR 23 20 43.9
comp=Z,12nm,20.0s,baz=96,slow=40
ARCES ARCESS Array B 90.05 340 P **P** **22 33 57.7 -1.7**
comp=Z,5.1nm,0.6s,baz=75,slow=5.9,SNR=21
SPITS Spitsbergen Ar 90.13 349 P **P** **22 33 58.9 -0.8**
comp=Z,11nm,1.0s,baz=57,slow=5.3,SNR=8.7
SPITS LR LR 23 18 05.4
comp=Z,43nm,21.8s,baz=245,slow=38
FINES FINESS Array B 91.39 332 P **P** **22 34 03.6 -2.1**
comp=Z,1.8nm,0.8s,baz=46,slow=5.5,SNR=7.6
SYO Syowa Base 92.52 201⇓ *eP* **P** **22 34 11.0 +0.3**
SYO Syowa Base 92.52 201⇑ *epP* pP 22 34 28.4 +4.2
QSPA South Pole Qui 93.90 180 P **P** **22 34 15.7 -1.7**
comp=Z,2.6nm,1.0s,baz=124,slow=7.3,SNR=5.2
QSPA South Pole Qui 93.90 180 *eP* **P** **22 34 16.2 -1.2**
MLR Muntele Rosu 94.41 316 LR LR 23 22 21.7
comp=Z,10nm,21.1s,baz=38,slow=39
IDI Anoyia 96.99 306 LR LR 23 24 56.8
comp=Z,17nm,19.4s,baz=90,slow=40
HFS Hagfors 97.58 332 P Pdif 22 34 34.2 0.0
comp=Z,1.6nm,0.7s,baz=81,slow=8.9,SNR=5.0
HFS LR LR 23 21 09.4
comp=Z,70nm,18.3s,baz=60,slow=37
NB2 NORSAR Subarra 98.36 334 P **P** **22 34 35.1 -2.6**
comp=Z,2.9nm,0.7s,baz=66,slow=4.6
NOA NORSAR Array B 98.36 334 P **P** **22 34 35.0 -2.6**
comp=Z,2.1nm,0.7s,baz=67,slow=4.5,SNR=6.5
NOA LR LR 23 22 50.3
comp=Z,53nm,18.5s,baz=55,slow=38
YKA Yellowknife Ar 99.43 24 P **Pdif** **22 34 42.5 +0.2**
comp=Z,1.2nm,0.9s,baz=299,slow=4.6,SNR=14
CLL Collm 101.17 324 *eP* PP 22 38 56.0 -3.2
SCHQ Schefferville 120.37 9 PKP **PKPdf** **22 39 50.4 -0.8**
comp=Z,4.7nm,0.9s,baz=14,slow=4.2,SNR=3.5
TXAR Lajitas Array 121.77 52 PKP **PKPbc** **22 39 54.8 +0.1**
comp=Z,0.6nm,0.7s,baz=256,slow=0.8,SNR=9.1
TORD Torodi Ar. Bea 122.43 288 PKP **PKPdf** **22 39 54.8 -1.4**
comp=Z,0.6nm,0.7s,baz=54,slow=2.0,SNR=7.5
JTS JuntasAbangare 145.79 65 PKPbc **PKPab** **22 40 40.6 +0.1**
comp=Z,7.7nm,0.6s,baz=305,slow=3.2,SNR=4.6

*ISCJB **26** 22:32:22.8±0.4, 50°.24N±0°.03×18°.71E±0°.02, h0km, Error ellipse: s-maj=4.6km s-min=2.2km az=8.0*
*CSEM **26** 22:32:23.8±0.3, 50°.26N×18°.76E, h2km, ML2.5/11, Error ellipse: s-maj=8.0km s-min=3.6km az=10.0*
*IPEC **26** 22:32:23.8±0.2, 50°.27N×18°.81E, h1km≈2km, ML1.7/3, Error ellipse: s-maj=2.5km s-min=1.1km az=167.0*
*WAR **26** 22:32:24.8, 50°.25N×18°.84E, h1km, Mw2.4*

*PRU **26** 22:32:24.3, 50°.25N × 18°.77E, h0km*
ISC 26 22:32:23.5 ± 0.8, **50°.20N** ± 0°.03 × **18°.76E** ± 0°.02, **h0**km, **n42,** σ0**59**/72, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.18**	**57**	*e*Pg	**Pg**	**22 32 26.7**	**-0.2**
CHZP				*e*Pg	Pg	22 32 26.9	-0.1
CHZP				*e*Sg	**Sg**	**22 32 28.9**	**-0.4**
CHZP	**Chorzow**	**0.18**	**57**	*e*Pg	**Pg**	**22 32 26.7**	**-0.2**
CHZP				*e*Pg	Pg	22 32 26.9	-0.1
CHZP				*e*Sg	**Sg**	**22 32 28.9**	**-0.4**
RAC	**Raciborz**	**0.38**	**253**	*e*Pg	**Pb**	**22 32 33.3**	**+0.1**
RAC				*e*Sg	**Sb**	**22 32 39.6**	**0.0**
OKC	**Ostrava-Krasne**	**0.53**	**228**	*e*PG	**Pb**	**22 32 36.0**	**+0.2**
OKC				*e*SG	**Sb**	**22 32 45.2**	**+1.2**
	comp=Z,11nm,0.3s						
OKC	**Ostrava-Krasne**	**0.53**	**228**	Pg	**Pb**	**22 32 36.0**	**+0.2**
OKC				Sg	**Sb**	**22 32 45.2**	**+1.2**
	11nm,0.3s						
OJC	**Ojcow**	**0.67**	**87**	*e*Pg	**Pg**	**22 32 36.5**	**+0.2**
OJC				*e*Sg	**Sg**	**22 32 44.8**	**-0.1**
OJC	**Ojcow**	**0.67**	**87**	*e*Pg	**Pg**	**22 32 36.5**	**+0.2**
OJC				*e*Sg	**Sg**	**22 32 44.8**	**-0.1**
OJC	**Ojcow**	**0.67**	**87**	*e*Pg	**Pg**	**22 32 36.5**	**+0.2**
OJC				*e*Sg	**Sg**	**22 32 44.8**	**-0.1**
MORC	**Moravsky Berou**	**0.89**	**242**	*e*Pg	**Pb**	**22 32 41.7**	**-0.2**
MORC				*e*Sg	**Sb**	**22 32 53.4**	**-0.9**
	15nm,0.4s						
LANS	**Liptovska Anna**	**1.14**	**156**	*e*Pg	**Pn**	**22 32 46.7**	**-0.1**
LANS				*e*Sg	**Sn**	**22 33 02.8**	**-0.4**
LANS	**Liptovska Anna**	**1.14**	**156**	*e*PG	**Pn**	**22 32 46.7**	**-0.1**
LANS				*e*SG	**Sn**	**22 33 02.8**	**-0.4**
NIE	**Niedzica**	**1.26**	**127**	*e*Pg	**Pb**	**22 32 48.4**	**+0.2**
NIE				*e*Sg	**Sn**	**22 33 06.4**	**+0.2**
NIE	**Niedzica**	**1.26**	**127**	*e*Pg	**Pb**	**22 32 48.4**	**+0.2**
NIE				*e*Sg	**Sn**	**22 33 06.4**	**+0.2**
NIE	**Niedzica**	**1.26**	**127**	*e*Pg	**Pb**	**22 32 48.4**	**+0.2**
NIE				*e*Sg	**Sn**	**22 33 06.4**	**+0.2**
KRLC	**Kraliky**	**1.28**	**265**	*e*PG	**Pg**	**22 32 48.0**	**0.0**
KRLC				*e*SG	**Sb**	**22 33 05.6**	**+0.1**
	comp=Z,2.2nm,0.3s						
KRLC	**Kraliky**	**1.28**	**265**	Pg	**Pg**	**22 32 48.0**	**0.0**
KRLC				Sg	**Sb**	**22 33 05.6**	**+0.1**
	2.2nm,0.3s						
DPC	**Dobruska-Polom**	**1.57**	**277**	*e*PG	**Pn**	**22 32 52.9**	**+0.1**
DPC				*e*SG	**Sg**	**22 33 14.5**	**+0.5**
	comp=Z,6.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.57**	**277**	Pg	**Pn**	**22 32 52.9**	**+0.1**
DPC				Sg	**Sg**	**22 33 14.5**	**+0.5**
	6.9nm,0.3s						
VRAC	**Vranov**	**1.66**	**239**	*e*Pn	**Pb**	**22 32 55.0**	**0.0**
VRAC				*e*Sg	**Sg**	**22 33 17.9**	**+1.0**
	6.8nm,0.3s						
VYHS	**Vyhne**	**1.70**	**178**	*e*Pn	**Pn**	**22 32 54.6**	**+0.1**
VYHS				*e*Sn	**Sb**	**22 33 17.9**	**+0.2**
VYHS	**Vyhne**	**1.70**	**178**	*e*PN	**Pn**	**22 32 54.6**	**+0.1**
VYHS				*e*SN	**Sb**	**22 33 17.9**	**+0.2**
VYHS				*e*LG	Lg	22 33 25.7	
KSP	**Ksiaz**	**1.70**	**293**	*i* Pg	**Pg**	**22 32 56.3**	**+0.1**
KSP				*e*Sg	**Sg**	**22 33 19.3**	**+1.1**
KSP	**Ksiaz**	**1.70**	**293**	*i* Pg	**Pg**	**22 32 56.3**	**+0.1**
KSP				*e*Sg	**Sg**	**22 33 19.3**	**+1.1**
KSP	**Ksiaz**	**1.70**	**293** ⇑	*i*Pg	**Pg**	**22 32 56.3**	**+0.1**
KSP				*e*Sg	**Sg**	**22 33 19.3**	**+1.1**
STHS	**Stebnicka Huta**	**1.79**	**115**	*e*Pn	**Pg**	**22 32 57.7**	**-0.1**
STHS				*e*Sn	**Sg**	**22 33 21.6**	**+0.7**
STHS	**Stebnicka Huta**	**1.79**	**115**	*e*PN	**Pg**	**22 32 57.7**	**-0.1**
STHS				*e*SN	**Sg**	**22 33 21.6**	**+0.7**
STHS				*e*LG	Lg	22 33 24.9	
UPC	**Upice**	**1.79**	**281**	*e*SG	**Sg**	**22 33 21.1**	**+0.1**
	comp=Z,3.9nm,0.3s						
UPC	**Upice**	**1.79**	**281**	Sg	**Sg**	**22 33 21.1**	**+0.1**
	3.9nm,0.3s						
KRUC	**Moravsky**	**1.91**	**235**	*e*Pn	**Pb**	**22 32 58.5**	**-0.8**
KRUC				*e*Sg	**Sg**	**22 33 25.7**	**+0.8**
	3.5nm,0.3s						
KECS	**Kecovo**	**2.05**	**146**	*e*Sn	**Sn**	**22 33 24.3**	**-1.2**
KECS	**Kecovo**	**2.05**	**146**	*e*SN	**Sn**	**22 33 24.3**	**-1.2**
KECS				*e*LG	Lg	22 33 34.8	
TREC	**Trest**	**2.31**	**248**	*e*PG	**Pb**	**22 33 06.0**	**0.0**
TREC				*e*SG	**Sg**	**22 33 37.4**	**-0.2**
	comp=Z,3.4nm,0.3s						
TREC	**Trest**	**2.31**	**248**	Pg	**Pb**	**22 33 06.0**	**0.0**
TREC				Sg	**Sg**	**22 33 37.4**	**-0.2**
	3.4nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.58**	**265**	*e*SG	**Sg**	**22 33 45.4**	**-0.9**
GOPC	**GO Pecny, Ondr**	**2.58**	**265**	Sg	**Sg**	**22 33 45.4**	**-0.9**
PVCC	**Panska Ves**	**2.71**	**279**	*e*SG	**Sg**	**22 33 51.2**	**+0.8**
	comp=Z,6.6nm,0.4s						
PVCC	**Panska Ves**	**2.71**	**279**	Sg	**Sg**	**22 33 51.2**	**+0.8**
	6.6nm,0.4s						
PRU	**Pruhonice**	**2.73**	**267**	*e*SG	**Sg**	**22 33 49.4**	**-1.6**
	comp=Z,1.7nm,0.3s						
PRU	**Pruhonice**	**2.73**	**267**	Sg	**Sg**	**22 33 49.4**	**-1.6**
	1.7nm,0.3s						
BRG	**Berggiesshubel**	**3.15**	**284**	PG	**Pg**	**22 33 23.9**	**+0.1**
BRG				SG	**Sg**	**22 34 04.4**	**-0.3**
	2.4nm,0.8s						
KHC	**Kasperske Hory**	**3.53**	**254**	*e*SG	**Sg**	**22 34 16.4**	**-0.5**
	comp=Z,3.3nm,0.4s						
KHC	**Kasperske Hory**	**3.53**	**254**	Sg	**Sg**	**22 34 16.4**	**-0.5**
	3.3nm,0.4s						

*ATA **26** 22:34:46.7 ± 1.6, 38°.49N × 43°.24E, h8km ± 259km, ML3.1, MW2.7*
*CSEM **26** 22:34:48.7 ± 0.2, 38°.49N × 43°.03E, h10km, ML2.3, Error ellipse: s-maj=5.2km s-min=4.3km az=156.0*
*DDA **26** 22:34:48.9, 38°.49N × 43°.02E, h7km, Ml2.3*
*ISK **26** 22:34:48.8, 38°.55N × 42°.97E, h9km, ML2.3/5*
*ISCJB **26** 22:34:49.3 ± 0.5, 38°.48N ± 0°.03 × 42°.99E ± 0°.03, h6km ± 5km, Error ellipse: s-maj=5.1km s-min=4.2km az=158.8*
ISC 26 22:34:48.9 ± 0.9, **38°.48N** ± 0°.03 × **43°.03E** ± 0°.02, **h13**km ± 7km, **n31,** σ0**92**/51, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.17**	**172**	*i* P	**Pg**	**22 34 52.4**	**-0.7**
GEVA				*e*S	**Sg**	**22 34 55.6**	**-0.4**
GEVA				IAML		22 34 57.2	
	comp=Z,252nm,0.5s						
GEVA	**Gevas**	**0.17**	**172**	*i* P	**Pg**	**22 34 52.4**	**-0.7**
GEVA				*i* S	**Sg**	**22 34 56.3**	**+0.3**
GEVA	**Gevas**	**0.17**	**172**	P	**Pg**	**22 34 52.4**	**-0.7**
GEVA				S	**Sg**	**22 34 56.3**	**+0.3**
TVAN	**Van**	**0.30**	**81**	*i* P	**Pg**	**22 34 55.2**	**-0.1**
TVAN				*i* S	**Sb**	**22 35 01.3**	**0.0**
TVAN	**Van**	**0.30**	**81**	P	**Pg**	**22 34 55.2**	**-0.1**
TVAN				S	**Sb**	**22 35 01.3**	**0.0**
VANB	**Van**	**0.30**	**69**	PG	**Pg**	**22 34 55.4**	**+0.1**
VANB				SG	**Sb**	**22 35 02.1**	**+0.8**
VANB	**Van**	**0.30**	**69**	*e*Pg	**Pg**	**22 34 55.4**	**+0.1**
VANB				*e*Sg	**Sb**	**22 35 02.1**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.40**	**324**	*i* P	**Pg**	**22 34 57.2**	**+0.2**
ADCV				*i* S	**Sb**	**22 35 04.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.40**	**324**	P	**Pg**	**22 34 57.2**	**+0.2**
ADCV				S	**Sb**	**22 35 04.3**	**+0.2**
GURO	**Guroymak-BITLI**	**0.78**	**275**	PG	**Pg**	**22 35 03.4**	**-0.8**
GURO				SG	**Sg**	**22 35 14.5**	**0.0**
GURO	**Guroymak-BITLI**	**0.78**	**275**	*e*Pg	**Pg**	**22 35 03.4**	**-0.8**
GURO				*e*Sg	**Sg**	**22 35 14.5**	**0.0**
TUTA	**Tutak**	**0.93**	**350**	*e*P	**Pg**	**22 35 06.8**	**-0.2**
TUTA				*e*S	**Sb**	**22 35 20.2**	**+0.8**
TUTA	**Tutak**	**0.93**	**350**	*i* P	**Pg**	**22 35 06.7**	**-0.3**
TUTA				*i* S	**Sb**	**22 35 19.8**	**+0.3**
TUTA	**Tutak**	**0.93**	**350**	P	**Pg**	**22 35 06.7**	**-0.3**
TUTA				S	**Sb**	**22 35 19.8**	**+0.3**
CLDR	**Caldiran**	**0.96**	**46**	*i* P	**Pg**	**22 35 06.8**	**-0.7**
CLDR				*i* S	**Sn**	**22 35 21.5**	**-0.4**
CLDR	**Caldiran**	**0.96**	**46**	P	**Pg**	**22 35 06.8**	**-0.7**
CLDR				S	**Sn**	**22 35 21.5**	**-0.4**
SRTM	**Siirt_Merkez**	**1.00**	**241**	*i* P	**Pn**	**22 35 08.8**	**0.0**
SRTM				*i* S	**Sb**	**22 35 22.1**	**+0.8**
SRTM	**Siirt_Merkez**	**1.00**	**241**	P	**Pn**	**22 35 08.8**	**0.0**
SRTM				S	**Sb**	**22 35 22.1**	**+0.8**
EKAR	**Karacoban**	**1.08**	**316**	*e*P	**Pb**	**22 35 09.5**	**0.0**
EKAR	**Karacoban**	**1.08**	**316**	*i* P	**Pg**	**22 35 08.4**	**-1.4**
EKAR	**Karacoban**	**1.08**	**316**	P	**Pg**	**22 35 08.4**	**-1.4**
SIRT	**Sirnak**	**1.09**	**206**	PN	**Pn**	**22 35 10.7**	**+0.8**
SIRT	**Sirnak**	**1.09**	**206**	*e*Pn	**Pn**	**22 35 10.7**	**+0.8**
AGRB	**Hanur-Agry**	**1.09**	**359**	PG	**Pg**	**22 35 08.9**	**-1.1**
AGRB	**Hanur-Agry**	**1.09**	**359**	*e*Pg	**Pg**	**22 35 08.9**	**-1.1**
DYDN	**Diyadin**	**1.18**	**26**	*e*P	**Pg**	**22 35 07.5**	**-4.1**
VRTB	**Varto-Mus**	**1.40**	**299**	PN	**Pn**	**22 35 14.1**	**-0.2**
VRTB	**Varto-Mus**	**1.40**	**299**	*e*Pn	**Pn**	**22 35 14.1**	**-0.2**
EATA	**Eleskirt**	**1.44**	**343**	*e*P	**Pg**	**22 35 16.1**	**-0.5**
EATA				*e*S	**Sg**	**22 35 37.3**	**+2.0**
EATA	**Eleskirt**	**1.44**	**343**	*i* P	**Pg**	**22 35 16.1**	**-0.5**
EATA				*i* S	**Sg**	**22 35 36.9**	**+1.6**
EATA	**Eleskirt**	**1.44**	**343**	P	**Pg**	**22 35 16.1**	**-0.5**

*CRAAG **26** 22:43:25.6, 36°.44N × 4°.78E, Ml3.0*
*ISCJB **26** 22:43:27.6 ± 0.5, 36°.55N ± 0°.05 × 4°.77E ± 0°.06, h13km, Error ellipse: s-maj=8.8km s-min=5.6km az=39.4*
*CSEM **26** 22:43:27.7 ± 0.2, 36°.46N × 4°.77E, h5km, ML3.0, Error ellipse: s-maj=7.2km s-min=4.4km az=22.0*
*MDD **26** 22:43:30.9 ± 5.6, 36°.65N × 4°.68E, h0km, mb3.9/5, Error ellipse: s-maj=61.5km s-min=28.1km az=125.0, PRXIMO SIN SOLUCIN*
ISC 26 22:43:27.9 ± 0.9, **36°.50N** ± 0°.06 × **4°.78E** ± 0°.03, **h13**km, **n32,** σ1**30**/34, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.58**	**120**	P	**Pg**	**22 43 38.0**	**-1.3**
SET	**Setif**	**0.58**	**120**	P	**Pg**	**22 43 38.0**	**-1.3**
CKHR	**Kef el Ahmar**	**0.76**	**129**	P	**Pg**	**22 43 41.5**	**-1.2**
CKHR	**Kef el Ahmar**	**0.76**	**129**	P	**Pg**	**22 43 41.5**	**-1.2**
AKET	**Djebel Ketaf**	**0.85**	**238**	P	**Pg**	**22 43 44.0**	**-0.4**
AKET	**Djebel Ketaf**	**0.85**	**238**	P	**Pg**	**22 43 44.0**	**-0.4**
DFRA	**Djebel Bou Aff**	**0.89**	**87**	P	**Pb**	**22 43 46.3**	**+1.1**
DFRA	**Djebel Bou Aff**	**0.89**	**87**	P	**Pb**	**22 43 46.3**	**+1.1**
ADJB	**Djebel Djouab**	**1.13**	**253**	P	**Pb**	**22 43 49.0**	**-0.4**
ADJB	**Djebel Djouab**	**1.13**	**253**	P	**Pb**	**22 43 49.0**	**-0.4**
CASM	**Ain Smara**	**1.40**	**99**	P	**Pn**	**22 43 54.3**	**+1.1**
CASM	**Ain Smara**	**1.40**	**99**	P	**Pn**	**22 43 54.3**	**+1.1**
ETOS	**Mallorca**	**3.61**	**335**	P	**Pn**	**22 44 24.3**	**+0.7**
	1.4nm,0.1s,SNR=16						
ETOS				S	**Sn**	**22 45 04.4**	**-1.7**
	0.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.61**	**335**	P	**Pn**	**22 44 24.3**	**+0.7**
	1.4nm,0.1s,SNR=16						
ETOS				S	**Sn**	**22 45 04.4**	**-1.7**
	0.6nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.71**	**314**	P	**Pn**	**22 44 25.7**	**+0.8**
	2.5nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.71**	**314**	P	**Pn**	**22 44 25.7**	**+0.8**
	2.5nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**5.46**	**295**	P	**Pn**	**22 44 50.1**	**+1.1**
	0.6nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.46**	**295**	P	**Pn**	**22 44 50.1**	**+1.1**
	0.6nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**5.56**	**342**	P	**Pn**	**22 44 50.6**	**+0.2**
	1.0nm,0.3s,SNR=6.5						
CFON	**Fontmartina**	**5.56**	**342**	P	**Pn**	**22 44 50.6**	**+0.2**
	1.0nm,0.3s,SNR=6.5						
EPOB	**Poblet**	**5.64**	**330**	P	**Pn**	**22 44 52.3**	**+0.8**
	0.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.64**	**330**	P	**Pn**	**22 44 52.3**	**+0.8**
	0.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.65**	**315**	P	**Pn**	**22 44 52.8**	**+1.1**
	7.3nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**5.65**	**315**	P	**Pn**	**22 44 52.8**	**+1.1**
	7.3nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**5.97**	**336**	P	**Pn**	**22 44 57.5**	**+1.5**
	5.6nm,0.2s,SNR=14						
EMIR	**Miracle**	**5.97**	**336**	P	**Pn**	**22 44 57.5**	**+1.5**
	5.6nm,0.2s,SNR=14						
SESP	**Santiago Espad**	**6.06**	**288**	P	**Pn**	**22 44 59.6**	**+2.3**
	0.4nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**6.06**	**288**	P	**Pn**	**22 44 59.6**	**+2.3**
	0.4nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.36**	**341**	P	**Pn**	**22 45 03.0**	**+1.7**
	0.7nm,0.2s,SNR=13						
CLLI	**Llivia**	**6.36**	**341**	P	**Pn**	**22 45 03.0**	**+1.7**
	0.7nm,0.2s,SNR=13						
CSOR	**Sort**	**6.51**	**335**	P	**Pn**	**22 45 05.2**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
CSOR	**Sort**	**6.51**	**335**	P	**Pn**	**22 45 05.2**	**+1.7**
	0.2nm,0.1s,SNR=7.9						

*IDC **26** 22:43:52.7 ± 1.7, 0°.75N × 97°.36E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/61, mbtmp3.7/8, ML3.0/1, Error ellipse: s-maj=51.4km s-min=20.5km az=60.0*
*ISCJB **26** 22:43:54.7 ± 0.8, 0°.71N ± 0°.06 × 97°.34E ± 0°.07, h29km, mb3.8/6, Error ellipse: s-maj=10.8km s-min=7.6km az=151.7*
*DJA **26** 22:43:55.8 ± 0.9, 1°.N ± 5°.× 9°.7E ± °, h18km ± 6km, M3.9/6, MLv3.9/6*
ISC 26 22:43:56.5 ± 1.1, **0°.73N** ± 0°.06 × **97°.36E** ± 0°.08, **h29**km, **n19,** σ1**15**/16, **mb3.8/6, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.61**	**21**	P	**Pb**	**22 44 08.4**	**-0.2**
GSI				S	**Sb**	**22 44 17.1**	**+0.2**
MNSI	**Mandailing Nat**	**2.22**	**88**	P	**Pn**	**22 44 31.4**	**0.0**
MNSI				S	**Sn**	**22 44 56.6**	**-1.3**
TPTI		**2.52**	**356**	P	**Pn**	**22 44 35.3**	**-0.1**
PSI	**Prapat**	**2.58**	**37**	Pn	**Pn**	**22 44 35.2**	**-1.2**
	3.1nm,0.3s,baz=162,slow=9.1,SNR=5.5						
PSI				Sn	**Sb**	**22 45 16.4**	**+2.9**
	4.4nm,0.3s,baz=136,slow=18,SNR=6.4						
SISI	**Saibi**	**2.68**	**140**	P	**Pn**	**22 44 37.4**	**-0.3**
MLSI	**Meulaboh, Aceh**	**3.64**	**345**	P	**Pn**	**22 44 50.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.68**	**5**	P	**Pn**	**22 47 58.8**	**-2.0**
	baz=195,slow=11,SNR=7.4						
H08S2	**Diego Garcia H**	**26.16**	**251**	T	T	23 16 38.5	
	baz=71,slow=75,SNR=361						
H08S3	**Diego Garcia H**	**26.16**	**251**	T	T	23 16 38.7	
	baz=71,slow=75,SNR=377						
H08S1	**Diego Carcia H**	**26.17**	**251**	T	T	23 16 39.8	
	baz=71,slow=75,SNR=369						
H01W3	**Cape Leeuwin H**	**38.76**	**158**	T	T	23 32 37.1	
	baz=334,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**38.77**	**158**	T	T	23 32 36.9	
	baz=334,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**38.77**	**158**	T	T	23 32 39.2	
	baz=334,slow=76,SNR=15						
WRA	**Warramunga Arr**	**41.66**	**122**	P	**P**	**22 51 43.2**	**+0.5**
	0.4nm,0.5s,baz=302,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**42.99**	**127**	P	**P**	**22 51 54.0**	**+0.4**
	0.4nm,0.9s,baz=306,slow=7.9,SNR=5.2						
SONM	**Songino Array**	**47.57**	**8**	P	**P**	**22 52 29.8**	**+0.2**
	0.6nm,0.6s,baz=184,slow=8.1,SNR=5.4						
MKAR	**Makanchi Array**	**47.73**	**346**	P	**P**	**22 52 31.5**	**+0.7**
	1.2nm,0.5s,baz=160,slow=8.9,SNR=32						
KURBB	**Kurchatov Arra**	**52.22**	**345**	P	**P**	**22 53 05.1**	**+0.3**
	0.5nm,0.5s,baz=168,slow=7.0,SNR=6.7						
ZALV	**Zalesovo Beam**	**54.04**	**351**	P	**P**	**22 53 18.6**	**+0.6**
	1.6nm,0.4s,baz=170,slow=5.7,SNR=8.1						

*MOS **26** 23:20:16.9 ± 1.5, 51°.50N × 96°.04E, h12km, mb4.2/4, Error ellipse: s-maj=19.2km s-min=12.3km az=176.7*
*IDC **26** 23:20:17.7 ± 1.4, 51°.72N × 96°.14E, h0km, mb3.8/7, mb1 3.7/11, mb1mx3.4/77, mbtmp3.6/11, ML2.7/4, Error ellipse: s-maj=32.0km s-min=15.2km az=155.0*
*NEIC **26** 23:20:19.2 ± 0.7, 51°.76N × 96°.02E, h10km, mb4.2/1, Error ellipse: s-maj=19.0km s-min=9.3km az=176.0*
ISC 26 23:20:18.5 ± 0.6, **51°.74N** ± 0°.07 × **96°.23E** ± 0°.04, **h10**km, **n37,** σ2**9**14/39, **mb3.8/8, 3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**1.40**	**144** ⇓	*e*PG	**Pg**	**23 20 44.7**	**-0.7**
HVS	**Khovu-Aksy**	**1.69**	**250**	*d i*PG	**Pn**	**23 20 45.7**	**-2.4**
HVS	**Khovu-Aksy**	**1.69**	**250** ⇓	*i*P	**Pn**	**23 20 45.8**	**-2.4**
ORL	**Orlik**	**2.35**	**69**	*e*PN	**Pb**	**23 21 00.8**	**-0.2**
ORL				*e*S	**Sg**	**23 21 32.9**	**-1.0**
ORL				smax	smax		
	comp=N,377nm,0.5s						
MOY	**Mondy**	**2.97**	**90**	*e*PN	**Pb**	**23 21 12.2**	**+0.7**
MOY				*e*		23 21 53.2	
MOY				pmax	pmax		
	comp=Z,114nm,0.7s						
MOY				smax	smax		
	comp=N,442nm,0.9s						
ARS	**Arshan**	**3.85**	**85**	*e*PN	**Pg**	**23 21 29.6**	**-2.6**
ARS				*e*		23 22 22.0	
ARS				pmax	pmax		
	comp=Z,114nm,0.4s						
ARS				smax	smax		
	comp=E,967nm,0.8s						
TLY	**Talaya**	**4.61**	**88**	Pg	**Pb**	**23 21 42.7**	**+3.2**
	comp=E,0.0nm,0.3s,baz=283,slow=12,SNR=8.4						
TLY				Lg	Lg	23 22 44.3	
	comp=E,0.2nm,0.3s,baz=4.4,slow=20,SNR=15						
TLY	**Talaya**	**4.61**	**88**	*e*PN	**Pb**	**23 21 42.9**	**+3.4**
TLY				*e*		23 22 43.0	
TLY				pmax	pmax		
	comp=Z,12nm,0.4s						
TLY	**Talaya**	**4.61**	**88**	*e*Pn	**Pn**	**23 21 29.6**	**+1.4**
TLY				*e*Pg	**Pb**	**23 21 43.2**	**+3.7**
TLY				*e*S	**Sg**	**23 22 43.2**	**-3.3**
TLY				Lg	Lg	23 22 44.3	
ZAK	**Zakamensk**	**4.65**	**104**	*e*PN	**Pb**	**23 21 41.2**	**+1.0**
ZAK				*e*		23 22 44.0	
ZAK				pmax	pmax		
	comp=Z,32nm,0.8s						
ZAK				smax	smax		
	comp=N,132nm,0.9s						
IRK	**Irkutsk**	**5.00**	**81**	*e*PN	**Pb**	**23 21 48.2**	**+2.2**
IRK				*e*		23 22 53.7	
IRK				pmax	pmax		
	comp=Z,237nm,0.1s						
IRK				smax	smax		
	comp=N,325nm,0.5s						
TRG	**Tyrgan**	**6.30**	**77**	*e*PN	**Pn**	**23 21 50.4**	**-1.0**
OGRR	**Ongureny**	**7.17**	**70**	*e*P	**Pn**	**23 22 06.6**	**+3.3**
OGRR				pmax	pmax		
	comp=Z,15nm,0.6s						
ZALV	**Zalesovo Beam**	**7.25**	**292**	Pn	**Pn**	**23 22 06.4**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=3.3						
ZALV				Lg	Lg	23 24 03.5	
	comp=Z,2.2nm,0.3s,baz=103,slow=25,SNR=11						
SONM	**Songino Array**	**7.66**	**117**	Pg	Pb	23 22 36.3	+4.9
	comp=Z,0.4nm,0.3s,baz=300,slow=18,SNR=19						
SONM				Lg	Lg	23 24 18.5	
	comp=Z,1.6nm,0.3s,baz=293,slow=29,SNR=6.7						
ULN	**Ulaanbaatar**	**8.01**	**115**	*i* P	**Pn**	**23 22 15.8**	**+0.8**
ULN	**Ulaanbaatar**	**8.01**	**115**	*e*Pn	**Pn**	**23 22 17.9**	**+2.9**
ULN				*e*Pg	Pg	23 22 46.2	-5.5
ULN				*e*S	**Sg**	**23 24 30.9**	**-4.4**
MKAR	**Makanchi Array**	**10.36**	**247**	Pn	**Pn**	**23 22 47.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=57,slow=13,SNR=9.2						
MKAR				Lg	Lg	23 25 40.3	
	comp=Z,0.3nm,0.3s,baz=52,slow=33,SNR=4.0						
MKAR	**Makanchi Array**	**10.36**	**247**	*e*P	**Pn**	**23 22 48.4**	**+1.3**
KURK	**Kurchatov**	**11.09**	**272**	*i* P	**Pn**	**23 22 54.3**	**-2.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KURK	**Kurchatov**	**11.09**	**272**	Pn	**Pn**	**23 22 58.1**	**+1.1**
KURK				Lg	Lg	23 26 07.0	
KURBB	**Kurchatov Arra**	**11.17**	**271**	Pn	**Pn**	**23 22 58.1**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=74,slow=15,SNR=2.7						
KURBB				Lg	Lg	23 26 07.0	
	comp=Z,0.1nm,0.3s,baz=328,slow=24,SNR=11						
HIA	**Hailar**	**15.15**	**90**	*i* P	**Pn**	**23 23 53.6**	**+1.2**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**15.80**	**285**	Pn	**Pn**	**23 23 58.7**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=90,slow=14,SNR=3.4						
BRVK	**Borovoye**	**15.86**	**285**	*i* P	**Pn**	**23 24 01.8**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKTO	**Aktyubinsk**	**23.86**	**282**	P	**P**	**23 25 31.3**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=89,slow=11,SNR=8.7						
TIXI	**Tiksi**	**24.67**	**24**	P	**P**	**23 25 40.5**	**+1.5**
	comp=Z,7.8nm,0.7s,baz=276,slow=6.1,SNR=22						
TIXI	**Tiksi**	**24.67**	**24**	*e*P	**P**	**23 25 40.7**	**+1.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TIXI	**Tiksi**	**24.67**	**24**	*e*P	**P**	**23 25 40.7**	**+1.7**
	comp=Z,3.5nm,0.6s			

RTCV	**Cerro Valdivia**	**3.06**	**188**	⇑	*i* P	**Pn**	**23 42 45.3**	**+0.5**
RTCV					*e*S	**Sn**	**23 43 20.5**	**-0.4**
AHML	**Horco Molle**	**3.14**	**50**	⇑	*i* P	**Pn**	**23 42 46.2**	**+0.3**
RTLS	**Leoncito**	**3.16**	**200**	⇑	*e* P	**Pn**	**23 42 46.7**	**+0.4**
RTLS					IAML		23 42 47.5	
	comp=Z,400nm,0.2s							
RTLS					*e*S	**Sn**	**23 43 24.8**	**+1.1**
FSA	**Cafayete**	**3.26**	**35**	⇑	*i* P	**Pn**	**23 42 48.2**	**+0.6**
FSA					IAML		23 42 49.1	
	comp=Z,294nm,0.7s							
ACAN	**Cantantal**	**3.52**	**168**	⇓	*e* P	**Pn**	**23 42 51.5**	**+0.7**
AUSP	**Uspallata**	**3.58**	**199**	⇓	*e* P	**Pn**	**23 42 52.1**	**+0.2**
ASAL	**Salagasta**	**3.82**	**190**	⇓	*e* P	**Pn**	**23 42 55.1**	**+0.2**
ARCO	**CERRO ARCO**	**4.08**	**191**	⇓	*e* P	**Pn**	**23 42 58.7**	**+0.2**
AAGR	**Agrelo**	**4.30**	**189**	⇓	*e* P	**Pn**	**23 43 01.5**	**+0.1**
AVIZ	**Vizcaderas**	**4.65**	**185**	*e*	P	**Pn**	**23 43 06.3**	**+0.2**
SLA	**San Lorenzo**	**4.67**	**30**	⇑	*i* P	**Pn**	**23 43 07.8**	**+1.3**
AZAP	**Zapla**	**5.30**	**31**	⇑	*e* P	**Pn**	**23 43 15.3**	**+0.2**
AZAP					IAML		23 43 17.7	
	comp=Z,51nm,0.4s							
ASTB	**Santa Barbara**	**5.82**	**34**		*e* P	**Pn**	**23 43 22.5**	**+0.4**
RFA	**San Rafael**	**5.94**	**183**	⇑	*i* P	**Pn**	**23 43 22.1**	**-1.4**
HJA	**Humahuaca**	**6.07**	**24**	⇑	*i* P	**Pn**	**23 43 26.8**	**+1.2**
ALOL	**LOMAS DE OLMED**	**6.18**	**37**	⇑	*i* P	**Pn**	**23 43 26.8**	**0.0**
CPUP	**Villa Florida**	**9.82**	**78**		P	**Pn**	**23 44 13.9**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=253,slow=13,SNR=13							
TRQA	**Tornquist**	**10.51**	**153**		*e*Pn	**Pn**	**23 44 23.7**	**-1.6**
TRQA					*e*S	**Sn**	**23 46 16.3**	**-4.7**
PLCA	**Paso Flores**	**12.06**	**189**		P	Pn	23 44 39.3	-6.8
	comp=Z,0.2nm,0.3s,baz=21,slow=18,SNR=2.9							
LPAZ	**La Paz**	**12.48**	**360**		P	**Pn**	**23 44 50.5**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=173,slow=6.9,SNR=10							
SIV	**San Ignacio**	**14.30**	**28**		P	**Pn**	**23 45 13.4**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=210,slow=9.5,SNR=16							
SAML	**Samuel**	**20.29**	**14**		*e*Pn	**P**	**23 46 24.7**	**-0.2**
	comp=Z,6.6nm,0.7s							
TXAR	**Lajitas Array**	**67.11**	**326**		P	**P**	**23 52 40.1**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=140,slow=6.5,SNR=4.1							
SYO	**Syowa Base**	**69.41**	**158**	⇑	*i* P	P	23 52 49.0	-4.4
DBIC	**Dimbokro**	**70.25**	**70**		P	**P**	**23 53 00.7**	**+1.3**
	comp=Z,2.1nm,0.5s,baz=199,slow=4.9,SNR=9.9							
KOWA	**Kowa**	**75.35**	**64**		P	**P**	**23 53 30.2**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=241,slow=6.1,SNR=8.9							
TORD	**Torodi Ar. Bea**	**79.19**	**68**		P	**P**	**23 53 52.0**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=277,slow=6.2,SNR=44							
PDAR	**Pinedale Array**	**80.83**	**330**		P	**P**	**23 54 00.0**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=116,slow=6.6,SNR=6.1							
YKA	**Yellowknife Ar**	**98.32**	**340**		P	**P**	**23 55 21.9**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=138,slow=4.7,SNR=3.6							
ASAR	**Alice Springs**	**123.70**	**204**		PKP	**PKPdf**	**00 00 42.5**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=116,slow=2.2,SNR=6.6							
WRA	**Warramunga Arr**	**126.92**	**207**		PKP	**PKPdf**	**00 00 49.0**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=163,slow=1.8,SNR=17							
KURBB	**Kurchatov Arra**	**146.74**	**40**		PKPbc	**PKPbc**	**00 01 27.1**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=298,slow=3.5,SNR=5.3							
KURK	**Kurchatov**	**146.75**	**40**		PKPbc	**PKPbc**	**00 01 27.1**	**+0.7**
ZALV	**Zalesovo Beam**	**148.04**	**31**		PKPbc	**PKPbc**	**00 01 30.8**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=319,slow=3.4,SNR=5.8							
MKAR	**Makanchi Array**	**150.73**	**44**		PKPbc	**PKPbc**	**00 01 37.7**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=314,slow=2.3,SNR=14							

MAN 26 23:43:25,9.89N×123.16E,h3km,mb3.1,ML1.7,MS1.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.90**	**62**	*e*P	Pg	23 43 42.6	+0.2
LLP				*e*S	Sg	23 43 54.6	+0.5
GUIM	**Jordan**	**0.92**	**323**	*e*P	Pn	23 43 44.6	-0.2
GUIM				*e*S	Sn	23 43 58.3	-0.3
MSLP	**Maasin**	**1.70**	**82**	*e*P	Pn	23 43 55.4	-0.1
MSLP				*e*S	Sg	23 44 19.6	+0.1
MSLP	**Maasin**	**1.70**	**82**	*e*P	Sg	23 44 20.0	+0.5

*IDC **26** 23:43:49.7±0.9,9.64N×122.33E,h0km,mb3.9/12, mb1 4.0/12,mb1mx3.8/61,mbtmp3.9/12,MS3.0/7, Ms1 3.0/7,ms1mx2.7/57,Error ellipse: s-maj=41.1km s-min=18.2km az=66.0*

*MAN **26** 23:43:54.9±7.6N×122.22E,h27km,mb4.6,ML3.5,MS3.4*

ISC 26 23:43:51.8±2.0,9.69N±0.04×122.25E±0.04,h11km±13km, n31,σ1$23/33,mb4.0/14,MS3.0/6,2D,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.98**	**20**	*e*P	**Pb**	**23 44 11.2**	**+0.3**
GUIM				*e*S	**Sg**	**23 44 24.1**	**+0.5**
LLP	**Lapu-Lapu**	**1.80**	**70**	*e*P	**Pn**	**23 44 23.7**	**+0.9**
LLP				*e*S	**Sn**	**23 44 43.4**	**-2.3**
RCP	**Roxas**	**1.92**	**15**	⇓	*e*P	**Pb**	**23 44 27.1**	**+0.3**
RCP				*e*S	**Sg**	**23 44 52.6**	**-0.9**
PAGZ	**Pagadian**	**2.15**	**149**		*e*P	**Pb**	**23 44 30.2**	**-0.5**
MSLP	**Maasin**	**2.61**	**80**		*e*S	**Pb**	**23 44 37.5**	**-1.0**
OTRP	**Odiongan**	**2.66**	**355**		*e*P	**Pn**	**23 44 35.9**	**+1.2**
OTRP					*e*S	**Sn**	**23 45 07.9**	**+0.9**
OCLP	**Ormoc**	**2.68**	**60**		*e*P	**Pn**	**23 44 36.4**	**+1.4**
SJMP	**San Jose**	**2.97**	**338**		*e*P	**Pn**	**23 44 39.6**	**+0.8**
SJMP					*e*S	**Sn**	**23 45 14.0**	**-0.4**
BUSP	**Coron**	**3.06**	**319**		*e*P	**Pn**	**23 44 40.5**	**+0.4**
BUSP					*e*S	**Pb**	**23 44 44.8**	**-1.5**
ENPP	**El Nido**	**3.16**	**299**		*e*P	**Pn**	**23 44 42.0**	**+0.5**
BUKP	**Musuan**	**3.31**	**123**		*e*P	**Pn**	**23 44 47.1**	**+3.4**
BUKP					*e*S	**Sb**	**23 45 29.4**	**-1.6**
PPR	**Puerto Princes**	**3.47**	**272**	⇓	*i* P	**Pn**	**23 44 47.4**	**+1.6**
DAV	**Davao City (W)**	**4.20**	**128**		LR	LR	23 46 22.5	
	comp=Z,67nm,20.7s,baz=286,slow=37							
PSI	**Prapat**	**24.16**	**255**		LR	LR	23 58 26.1	
	comp=Z,35nm,19.9s,baz=46,slow=36							
CMAR	**Chiang Mai Arr**	**24.20**	**294**		P	**P**	**23 49 09.9**	**+1.2**
	0.8nm,0.4s,baz=125,slow=7.6,SNR=5.7							
CMAR					LR	LR	23 57 25.3	
	comp=Z,28nm,20.5s,baz=150,slow=34							
MJAR	**Matsushiro Arr**	**30.40**	**26**		LR	LR	00 00 45.7	
	comp=Z,28nm,21.2s,baz=190,slow=33							
WRA	**Warramunga Arr**	**31.76**	**158**		P	**P**	**23 50 14.9**	**-1.3**
	0.5nm,0.7s,baz=340,slow=9.3,SNR=3.6							
ASAR	**Alice Springs**	**35.06**	**161**		P	**P**	**23 50 44.3**	**-0.7**
	1.1nm,0.6s,baz=348,slow=7.0,SNR=9.0							
KLR	**Kul'dur**	**40.20**	**10**		P	**P**	**23 51 29.2**	**+1.0**
	0.1nm,0.5s,baz=213,slow=5.3,SNR=3.6							
SONM	**Songino Array**	**40.31**	**343**		P	**P**	**23 51 29.4**	**+0.1**
	0.6nm,0.6s,baz=166,slow=10,SNR=6.6							
MKAR	**Makanchi Array**	**50.15**	**325**		P	**P**	**23 52 48.4**	**+1.0**
	2.0nm,0.9s,baz=128,slow=7.9,SNR=19							
AAK	**Ala-Archa**	**52.99**	**317**		LR	LR	00 17 11.0	
	comp=Z,22nm,20.1s,baz=96,slow=38							
ZALV	**Zalesovo Beam**	**53.30**	**333**		P	**P**	**23 53 10.2**	**-0.5**
	0.5nm,0.4s,baz=116,slow=10,SNR=2.5							
KURBB	**Kurchatov Arra**	**54.35**	**327**		P	**P**	**23 53 19.1**	**+0.7**
	5.4nm,0.2s,baz=122,slow=8.7,SNR=6.4							
BVAR	**Borovoye Array**	**59.93**	**327**		P	**P**	**23 53 57.2**	**-0.7**
	0.2nm,0.5s,baz=134,slow=4.2,SNR=4.4							
GEYT	**Alibeck**	**63.73**	**307**		P	**P**	**23 54 25.1**	**+1.2**
	0.6nm,0.5s,baz=123,slow=5.5,SNR=3.9							
AKTO	**Aktyubinsk**	**66.25**	**321**		LR	LR	00 25 36.5	
	comp=Z,18nm,18.8s,baz=99,slow=38							
BRTR	**Keskin Array B**	**82.83**	**309**		P	**P**	**23 56 16.5**	**-0.2**
	0.8nm,0.7s,baz=122,slow=5.5,SNR=3.4							
ARCES	**ARCESS Array B**	**83.35**	**339**		P	**P**	**23 56 19.1**	**+0.5**
	1.8nm,0.9s,baz=76,slow=8.4,SNR=2.6							
SPITS	**Spitsbergen Ar**	**83.80**	**348**		P	**P**	**23 56 20.1**	**-0.7**
	6.2nm,0.9s,baz=76,slow=5.0,SNR=3.2							
SPITS					LR	LR	00 37 07.5	
	comp=Z,14nm,20.3s,baz=85,slow=38							
AKASG	**Malin Array Be**	**84.49**	**320**		P	**P**	**23 56 23.4**	**-1.4**
	0.7nm,0.6s,baz=69,slow=4.7,SNR=4.4							

*IDC **26** 23:50:51.1±1.4,26.54N×144.30E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/58,mbtmp3.6/5,MS2.7/2,Ms1 2.7/2, ms1mx2.2/35,Error ellipse: s-maj=35.7km s-min=26.4km az=74.0*

*ISCJB **26** 23:50:54.5±1.1,26.5N±0.2×144.2E±0.1,h33km,mb3.5/6, MS3.1/1,Error ellipse: s-maj=23.3km s-min=12.9km az=17.7*

ISC 26 23:50:56.7±1.2,26.5N±0.2×144.1E±0.1,h35km,n9, σ0$64/8,mb3.7/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.81**	**289**	Pn	**Pn**	**23 51 25.3**	**-0.1**
	19nm,0.3s,baz=99,slow=23,SNR=4.7						
JCJ				Sn	**Sn**	**23 51 46.5**	**-0.7**
	30nm,0.3s,baz=280,slow=23,SNR=6.8						
KSRS	**Korea Array**	**17.50**	**312**	LR	LR	00 02 09.7	
	comp=Z,13nm,19.0s,baz=205,slow=38						
KLR	**Kul'dur**	**24.61**	**340**	P	**P**	**23 56 13.7**	**+0.1**
	0.1nm,0.7s,baz=132,slow=10.0,SNR=5.0						
SONM	**Songino Array**	**36.32**	**316**	P	**P**	**23 57 57.9**	**+0.8**
	1.1nm,0.5s,baz=111,slow=7.3,SNR=14						
WRA	**Warramunga Arr**	**47.15**	**193**	P	**P**	**23 59 25.8**	**0.0**
	0.9nm,0.8s,baz=12,slow=8.5,SNR=4.5						
MKAR	**Makanchi Array**	**52.16**	**310**	P	**P**	**00 00 04.2**	**+0.4**
	0.3nm,0.5s,baz=94,slow=7.4,SNR=5.5						
BVAR	**Borovoye Array**	**59.62**	**318**	P	**P**	**00 00 57.2**	**+0.1**
	0.5nm,0.5s,baz=85,slow=4.7,SNR=5.4						
YKA	**Yellowknife Ar**	**71.82**	**29**	P	**P**	**00 02 14.6**	**-0.9**
	0.2nm,0.5s,baz=293,slow=6.5,SNR=4.4						
MMAI	**Mount Meron Ar**	**90.03**	**307**	LR	LR	00 49 05.7	
	comp=Z,6.4nm,18.1s,baz=315,slow=39						

*SCB **26** 23:54:48.6±0.3,20.47S×67.06W,h200km,Ml3.9/1,Error ellipse: s-maj=11.9km s-min=4.0km az=48.0*

*ISCJB **26** 23:54:49.7±0.5,20.90S±0.04×67.66W±0.04,h185km±6km, mb3.3/2,Error ellipse: s-maj=8.9km s-min=4.0km az=44.1*

*SJA **26** 23:54:49.4±0.6,20.78S×67.43W,h205km±10km,ML3.2, MW3.5*

*GUC **26** 23:54:51.2±0.6,20.78S×68.17W,h216km±6km,ML3.6*

*IDC **26** 23:54:52.5±3.0,20.63S×67.29W,h189km±22km,mb3.2/2, mb1 3.6/5,mb1mx3.2/41,mbtmp3.9/5,Error ellipse: s-maj=36.5km s-min=19.0km az=39.0*

ISC 26 23:54:50.0±0.9,20.81S±0.05×67.58W±0.05,h181km±9km, n26,σ1$48/42,9C-3D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**1.62**	**294**	⇑ *i* P	**Pn**	**23 55 24.3**	**+0.7**
PB08				*i* S	**Sn**	**23 55 49.8**	**+0.3**
PB08				IAML		23 55 52.7	
	comp=E,258nm,0.2s						
PB01	**IPOC Station P**	**1.80**	**262**	*e*P	**Pn**	**23 55 25.0**	**0.0**
PB01				*i* S	**Sn**	**23 55 51.2**	**-0.9**
PB01				IAML		23 55 52.7	
	comp=N,341nm,0.2s						
MOCB	**Mochara**	**1.87**	**104**	⇓ *i* Pn	**Pn**	**23 55 27.5**	**+1.4**
MOCB				*e*Sn	**Sn**	**23 55 54.4**	**+0.3**
	comp=N,404nm,0.5s						
GO01	**Chusmiza**	**1.90**	**307**	⇑ *i* P	**Pn**	**23 55 27.2**	**+0.7**
GO01				*i* S	**Sn**	**23 55 54.9**	**+0.2**
GO01				IAML		23 56 01.5	
	comp=N,228nm,0.4s						
PB11	**IPOC Station P**	**2.21**	**298**	⇑ *i* P	**Pn**	**23 55 29.5**	**-0.1**
PB11				*i* S	**Sn**	**23 55 59.0**	**-1.3**
PB02	**IPOC Station P**	**2.22**	**256**	*e*P	**Pn**	**23 55 29.7**	**+0.1**
PB02				*i* S	**Sn**	**23 55 58.5**	**-1.8**
PB02				IAML		23 55 59.5	
	comp=N,895nm,0.2s						
YJA	**Yavi**	**2.35**	**126**	*i* P	**Pn**	**23 55 32.5**	**+1.0**
YJA				*i* S	**Sn**	**23 56 04.4**	**+0.6**
YJA				IAML		23 56 07.0	
	comp=Z,28nm,0.4s						
MNMC	**Minye Minye**	**2.53**	**311**	⇑ *i* P	**Pn**	**23 55 33.8**	**+0.5**
MNMC				*i* S	**Sn**	**23 56 06.2**	**-0.9**
MNMC				IAML		23 56 09.2	
	comp=E,324nm,0.6s						
PSGC	**Pisagua**	**2.68**	**296**	⇑ *i* P	**Pn**	**23 55 34.1**	**-0.8**
PSGC				*i* S	**Sn**	**23 56 06.8**	**-3.1**
PSGC				IAML		23 56 08.5	
	comp=E,174nm,0.6s						
HJA	**Humahuaca**	**3.12**	**140**	*i* P	**Pn**	**23 55 41.6**	**+1.1**
HJA				IAML		23 55 43.4	
	comp=Z,123nm,0.7s						
HJA				*i* S	**Sn**	**23 56 20.6**	**+0.6**
BBOJ	**La Paz, Jacaqu**	**3.86**	**351**	⇑ *i* Pn	**Pn**	**23 55 51.9**	**+2.0**
BBOE	**La Paz, Chanca**	**4.00**	**354**	⇓ *i* Pn	**Pn**	**23 55 53.3**	**+1.6**
AZAP	**Zapla**	**4.12**	**146**	*i* P	**Pn**	**23 55 53.1**	**+0.3**
AZAP				IAML		23 55 53.7	
	comp=Z,48nm,0.4s						
AZAP				*i* S	**Sn**	**23 56 41.0**	**-1.1**
ASTB	**Santa Barbara**	**4.26**	**138**	*i* P	**Pn**	**23 55 54.8**	**+0.3**
ASTB				*i* S	**Sn**	**23 56 42.6**	**-2.5**
BBOD	**La Paz, Gloria**	**4.26**	**347**	⇑ *i* Pn	**Pn**	**23 55 57.0**	**+1.9**
ALOL	**LOMAS DE OLMED**	**4.47**	**133**	*i* P	**Pn**	**23 55 56.9**	**-0.3**
ALOL				*i* S	**Sn**	**23 56 47.2**	**-2.8**
LPAZ	**La Paz**	**4.53**	**353**	P	**Pn**	**23 55 59.9**	**+1.3**
	comp=Z,5.1nm,0.3s,baz=157,slow=6.0,SNR=102						
LPAZ				S	**Sn**	**23 56 52.2**	**0.0**
	baz=294,slow=18,SNR=2.1						
LPAZ	**La Paz**	**4.53**	**353**	*i* P	**Pn**	**23 55 59.4**	**+0.8**
LPAZ	**La Paz**	**4.53**	**353**	⇑ *i* Pn	**Pn**	**23 55 59.8**	**+1.3**
LPAZ				*e*Sn	**Sn**	**23 56 51.6**	**-0.6**
BBOB	**La Paz, Bander**	**4.68**	**353**	⇓ *i* Pn	**Pn**	**23 56 01.4**	**+1.1**
FSA	**Cafayete**	**5.47**	**165**	*i* P	**Pn**	**23 56 10.9**	**+0.6**
FSA				IAML		23 56 12.8	
	comp=Z,3.1nm,0.5s						
SIV	**San Ignacio**	**7.82**	**53**	P	**Pn**	**23 56 38.9**	**-2.1**
	comp=Z,4.4nm,0.3s,baz=248,slow=12,SNR=90						
SIV				S	**Sn**	**23 58 05.1**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=82,slow=14,SNR=3.2						
SIV	**San Ignacio**	**7.82**	**53**	⇑ *i* Pn	**Pn**	**23 56 38.3**	**-2.7**
CPUP	**Villa Florida**	**10.89**	**122**	P	**Pn**	**23 57 21.7**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=306,slow=12,SNR=12						
TORD	**Torodi Ar. Bea**	**75.96**	**70**	P	**P**	**00 06 17.2**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=263,slow=5.5,SNR=4.8						
YKA	**Yellowknife Ar**	**90.96**	**340**	P	**P**	**00 07 34.2**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=131,slow=4.6,SNR=11						

*IDC **27** 00:07:02.2±3.2,33.46S×179.10W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.7/40,mbtmp3.7/3,ML3.9/1,Error ellipse: s-maj=72.3km s-min=47.0km az=118.0*

*WEL **27** 00:07:06.9±1.3,33.5S±25.1×179.4W±4.4,h33km,ML5.1/10*

ISC 27 00:07:09.4±2.2,33.5S±0.1×179.4W±0.3,h48km,n25, σ1$78/26,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.46**	**205**	P	**Pn**	**00 08 12.6**	**-1.9**
MXZ	**Matakaoa Point**	**4.46**	**205**	S	**Sn**	**00 09 04.9**	**-0.1**
WMGZ	**Waiomatatini S**	**4.66**	**202**	P	**Pn**	**00 08 18.0**	**+0.8**
WMGZ	**Waiomatatini S**	**4.66**	**202**	S	**Sn**	**00 09 10.5**	**+0.6**
HAZ	**Te Kaha**	**4.83**	**208**	P	**Pn**	**00 08 18.9**	**-0.5**
HAZ	**Te Kaha**	**4.83**	**208**	S	**Sn**	**00 09 16.2**	**+2.2**
PKGZ	**Pakihiroa**	**4.83**	**205**	P	**Pn**	**00 08 15.9**	**-3.7**
PKGZ	**Pakihiroa**	**4.83**	**205**	S	**Sn**	**00 09 15.1**	**+0.8**
RUGZ	**Raukumara Rang**	**5.05**	**208**	P	**Pn**	**00 08 22.2**	**-0.4**
RUGZ	**Raukumara Rang**	**5.05**	**208**	S	**Sn**	**00 09 22.1**	**+2.3**
TWGZ	**Tauwhareparae**	**5.13**	**204**	P	**Pn**	**00 08 25.9**	**+2.2**
TWGZ	**Tauwhareparae**	**5.13**	**204**	S	**Sn**	**00 09 23.0**	**+1.4**
CNGZ	**Carnagh Statio**	**5.33**	**201**	P	**Pn**	**00 08 26.2**	**-0.3**
MWZ	**Matawai**	**5.43**	**207**	P	**Pn**	**00 08 27.9**	**+0.1**
MWZ	**Matawai**	**5.43**	**207**	S	**Sn**	**00 09 30.1**	**+1.1**
URZ	**Urewera**	**5.53**	**210**	Pn	**Pn**	**00 08 28.1**	**-1.1**
	3.2nm,0.3s,baz=274,slow=2.7,SNR=7.9						
URZ				Sn	**Sn**	**00 09 26.4**	**-5.0**
	0.9nm,0.3s,baz=306,slow=19,SNR=2.4						
URZ	**Urewera**	**5.53**	**210**	P	**Pn**	**00 08 28.9**	**-0.2**
URZ	**Urewera**	**5.53**	**210**	S	**Sn**	**00 09 31.9**	**+0.6**
PRGZ	**Paritu Road**	**5.83**	**202**	P	**Pn**	**00 08 32.7**	**-0.7**
NMHZ	**Naumai**	**6.37**	**208**	P	**Pn**	**00 08 40.2**	**-0.5**
BKZ	**Black Stump Fm**	**6.55**	**209**	P	**Pn**	**00 08 42.2**	**-1.1**
KAHZ	**Kahuranaki**	**6.96**	**205**	P	**Pn**	**00 08 46.7**	**-2.1**
ASAR	**Alice Springs**	**41.90**	**271**	P	**P**	**00 14 55.9**	**+0.6**
	0.4nm,0.7s,baz=110,slow=8.0,SNR=4.5						
WRA	**Warramunga Arr**	**43.17**	**276**	P	**P**	**00 15 06.7**	**+1.0**
	0.9nm,0.7s,baz=118,slow=7.6,SNR=6.6						
FINES	**FINESS Array B**	**147.62**	**337**	PKPbc	**PKPbc**	**00 26 47.1**	**-0.6**
	0.9nm,0.7s,baz=28,slow=6.3,SNR=4.3						

*IDC **27** 00:09:02.4±0.8,35.59S×179.10W,h0km,mb4.4/5, mb1 4.5/7,mb1mx4.1/38,mbtmp4.4/7,ML4.1/2,MS3.5/9, Ms1 3.5/9,ms1mx3.1/37,Error ellipse: s-maj=28.8km s-min=22.8km az=138.0*

*ISCJB **27** 00:09:03.8±1.0,35.69S±0.08×178.7W±0.1,h47km, mb4.3/6,MS3.4/8,Error ellipse: s-maj=20.0km s-min=6.5km az=31.9*

*NEIC **27** 00:09:03.7±0.6,35.65S×179.10W,h10km,mb4.2/1,Error ellipse: s-maj=21.4km s-min=12.2km az=124.0*

*WEL **27** 00:09:05.6±1.0,36.S±14.×17.9W±1.5,h33km,ML4.9/18*

ISC 27 00:09:08.6±0.8,35.74S±0.10×179.0W±0.1,h47km,n72, σ1$65/67,mb4.2/6,MS3.5/8,1D,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PKGZ	**Pakihiroa**	**3.21**	**227**	P	**Pn**	**00 09 56.0**	**-0.5**
PKGZ	**Pakihiroa**	**3.21**	**227**	S	**Sn**	**00 10 36.1**	**+2.6**
PUZ	**Puketiti**	**3.23**	**223**	P	**Pn**	**00 09 55.9**	**-0.9**
PUZ	**Puketiti**	**3.23**	**223**	S	**Sn**	**00 10 35.6**	**+1.6**
HAZ	**Te Kaha**	**3.31**	**232**	P	**Pn**	**00 09 58.0**	**+0.2**
HAZ	**Te Kaha**	**3.31**	**232**	S	**Sn**	**00 10 39.1**	**+3.3**
TWGZ	**Tauwhareparae**	**3.46**	**224**	P	**Pn**	**00 09 60.0**	**0.0**
TWGZ	**Tauwhareparae**	**3.46**	**224**	S	**Sn**	**00 10 42.9**	**+3.2**
RUGZ	**Raukumara Rang**	**3.50**	**230**	P	**Pn**	**00 10 00.3**	**-0.3**
CNGZ	**Carnagh Statio**	**3.56**	**219**	P	**Pn**	**00 10 00.7**	**-0.6**
CNGZ	**Carnagh Statio**	**3.56**	**219**	S	**Sn**	**00 10 46.9**	**+4.8**
TKGZ	**Te Karaka**	**3.71**	**223**	P	**Pn**	**00 10 03.3**	**-0.1**
TKGZ	**Te Karaka**	**3.71**	**223**	S	**Sn**	**00 10 48.3**	**+2.3**
MWZ	**Matawai**	**3.83**	**226**	P	**Pn**	**00 10 04.4**	**-0.6**
MWZ	**Matawai**	**3.83**	**226**	S	**Sn**	**00 10 50.0**	**+1.3**
WHRZ	**Whale Island**	**3.89**	**236**	P	**Pn**	**00 10 06.5**	**+0.6**
RIGZ	**Rimuhau**	**3.96**	**221**	S	**Sn**	**00 10 53.7**	**+1.8**
RIGZ	**Rimuhau**	**3.96**	**221**	P	**Pn**	**00 10 05.8**	**-1.0**
RAGZ	**Rawiri**	**4.00**	**225**	P	**Pn**	**00 10 06.9**	**-0.6**
RAGZ	**Rawiri**	**4.00**	**225**	S	**Sn**	**00 10 54.3**	**+1.3**
URZ	**Urewera**	**4.03**	**230**	Pn	**Pn**	**00 10 07.1**	**-0.6**
	23nm,0.3s,baz=274,slow=1.7,SNR=25						
URZ				Sn	**Sn**	**00 10 53.6**	**-0.1**
	22nm,0.3s,baz=141,slow=21,SNR=16						
URZ	**Urewera**	**4.03**	**230**	P	**Pn**	**00 10 07.2**	**-0.6**
URZ	**Urewera**	**4.03**	**230**	S	**Sn**	**00 10 54.8**	**+1.1**
PRGZ	**Paritu Road**	**4.06**	**217**	P	**Pn**	**00 10 07.5**	**-0.6**
PRGZ	**Paritu Road**	**4.06**	**217**	S	**Sn**	**00 10 56.3**	**+1.9**
OPRZ	**Ohinepanea**	**4.17**	**238**	P	**Pn**	**00 10 08.2**	**-1.5**
EDRZ	**Edgecumbe**	**4.18**	**234**	P	**Pn**	**00 10 09.6**	**-0.3**
MHGZ	**Mahia Peninsul**	**4.22**	**215**	P	**Pn**	**00 10 09.2**	**-1.3**
MHGZ	**Mahia Peninsul**	**4.22**	**215**	S	**Sn**	**00 11 00.7**	**+2.2**
KNZ	**Kokohu**	**4.24**	**218**	P	**Pn**	**00 10 08.5**	**-2.1**
SNGZ	**Shannon Statio**	**4.24**	**223**	S	**Sn**	**00 10 59.9**	**+1.0**
SNGZ	**Shannon Statio**	**4.24**	**223**	P	**Pn**	**00 10 10.4**	**-0.3**
RTZ	**Ruatahuna**	**4.33**	**227**	P	**Pn**	**00 10 12.1**	**0.0**
TARZ	**Mount Tarawera**	**4.41**	**234**	P	**Pn**	**00 10 13.6**	**+0.5**
RAHZ	**Arahi**	**4.47**	**224**	P	**Pn**	**00 10 13.4**	**-0.5**
MTHZ	**Maungataniwha**	**4.57**	**226**	P	**Pn**	**00 10 14.5**	**-0.8**
ALRZ	**Allen Road**	**4.70**	**232**	P	**Pn**	**00 10 17.2**	**+0.3**
ARHZ	**Aropaoanui**	**4.77**	**221**	P	**Pn**	**00 10 17.1**	**-0.8**
SNZO	**South Karori**	**7.46**	**220**	Pn

ISRV					*e*AMB	AMB	00 50 59.5		
	comp=Z,1μm,0.1s								
IZEF	**Zefreh**	**2.94**	**35**	*e*Pn	**Pn**	**00 50 17.0**	**+1.6**		
IZEF					*e*AMB	AMB	00 50 23.4		
	comp=Z,1μm,0.3s								
IKLH	**Kolahrood**	**3.02**	**20**	*e*Pn	**Pn**	**00 50 17.8**	**+1.4**		
IKLH					*e*AMB	AMB	00 50 25.0		
	comp=Z,1μm,0.1s								
KFJS		**3.10**	**223**	P	**Pb**	**00 50 20.4**	**-4.0**		
NASN	**Na'in**	**3.13**	**42**	*e*Pn	**Pn**	**00 50 18.7**	**+0.7**		
GHIR	**Ghir-Karzin**	**3.19**	**133**	*e*Pn	**Pn**	**00 50 21.9**	**+3.3**		
ISAD	**Sadrabad**	**3.21**	**63**	*e*Pn	**Pn**	**00 50 21.1**	**+2.1**		
ISAD					*e*AMB	AMB	00 51 11.5		
	comp=N,2μm,0.2s								
KHMZ	**Khomeyn**	**3.26**	**355**	*e*Pn	**Pn**	**00 50 20.6**	**+0.9**		
QAM	**Ghamsar**	**3.40**	**16**	*e*Pn	**Pn**	**00 50 23.5**	**+1.9**		
QAM					*e*AMB	AMB	00 50 29.1		
	comp=Z,2μm,0.1s								
IMEH	**Mehriz**	**3.79**	**75**	*e*Pn	**Pn**	**00 50 29.2**	**+2.2**		
IMEH					*e*AMB	AMB	00 50 31.5		
	comp=Z,737nm,0.1s								
ICHK	**Chekchek**	**3.90**	**62**	*e*Pn	**Pn**	**00 50 30.2**	**+1.7**		
ICHK					*e*AMB	AMB	00 50 36.2		
	comp=Z,951nm,0.2s								
ANAR	**Anarak**	**3.95**	**46**	*e*Pn	**Pn**	**00 50 31.1**	**+1.9**		
ANAR					*e*AMB	AMB	00 50 43.0		
	comp=Z,99nm,0.2s								
HSAM	**Samen**	**4.00**	**339**	*e*Pn	**Pn**	**00 50 31.2**	**+1.3**		
HSAM					*e*AMB	AMB	00 51 49.1		
	comp=Z,99nm,0.3s								
IBAF	**Bafgh**	**4.62**	**75**	*e*Pn	**Pn**	**00 50 40.3**	**+1.9**		
IBAF					*e*AMB	AMB	00 50 40.8		
	comp=Z,425nm,0.1s								
BOQSS		**4.67**	**191**	P	**Pn**	**00 50 42.7**	**+3.8**		
BOQSS					S	**Sn**	**00 51 37.5**	**+5.0**	
KRBR	**Kerman**	**5.58**	**94**	*e*Pn	**Pn**	**00 50 54.0**	**+2.3**		
SLWS		**5.67**	**177**	P	**Pn**	**00 50 56.0**	**+3.3**		
BTHS		**6.43**	**176**	P	**Pn**	**00 51 05.7**	**+2.6**		
SHME	**Shamm**	**6.76**	**129**	P	**Pn**	**00 51 08.8**	**+1.1**		
SHME					S	**Sn**	**00 52 22.1**	**-1.8**	
BANOM	**Banah**	**6.95**	**129**	P	**Pn**	**00 51 10.7**	**+0.4**		
BANOM					S	**Sn**	**00 52 24.4**	**-4.2**	
MSFE	**Esma-Masafi**	**7.25**	**133**	*i* P	**Pn**	**00 51 15.8**	**+1.3**		
	SNR=7.9								
UOSS	**Minazif**	**7.58**	**135**	P	**Pn**	**00 51 19.0**	**0.0**		
HATD	**Hatta, Dubai**	**7.63**	**136**	P	**Pn**	**00 51 21.0**	**+1.4**		
ASHO	**Ashiyiah**	**7.69**	**137**	*i* P	**Pn**	**00 51 21.7**	**+1.2**		
	SNR=8.0								
GEYT	**Alibeck**	**9.83**	**39**	Pn	**Pn**	**00 51 48.1**	**-1.6**		
	comp=Z,0.1nm,0.3s,baz=226,slow=16,SNR=2.9								
GEYT					Sn	Sn	00 53 29.1	-10	
	comp=Z,0.1nm,0.3s,baz=257,slow=19,SNR=2.2								
WSAR	**Wadi Sarin**	**10.34**	**132**	Pn	**Pn**	**00 51 57.0**	**+0.3**		
	comp=Z,0.3nm,0.3s,baz=309,slow=14,SNR=6.0								
WSAR					Sn	**Sn**	**00 53 46.0**	**-5.9**	
	comp=Z,0.5nm,0.3s,baz=233,slow=15,SNR=5.2								
GNI	**Garni**	**10.67**	**336**	LR	LR	00 55 41.1			
	comp=Z,14nm,20.8s,baz=277,slow=36								
MKAR	**Makanchi Array**	**29.54**	**48**	P	**P**	**00 55 33.0**	**+0.5**		
	comp=Z,0.4nm,0.5s,baz=230,slow=12,SNR=5.5								
ZALV	**Zalesovo Beam**	**34.13**	**37**	P	**P**	**00 56 12.4**	**-0.2**		
	comp=Z,0.8nm,0.4s,baz=246,slow=10,SNR=5.0								
FINES	**FINESS Array B**	**34.83**	**340**	P	**P**	**00 56 16.9**	**-1.6**		
	comp=Z,1.0nm,0.5s,baz=161,slow=8.8,SNR=4.5								
HFS	**Hagfors**	**38.40**	**331**	P	**P**	**00 56 47.6**	**-1.4**		
	comp=Z,2.4nm,1.0s,baz=129,slow=11,SNR=8.7								
SONM	**Songino Array**	**45.76**	**51**	P	**P**	**00 57 50.4**	**+1.0**		
	comp=Z,0.1nm,0.3s,baz=272,slow=11,SNR=2.6								
TORD	**Torodi Ar. Bea**	**47.95**	**260**	P	**P**	**00 58 06.8**	**0.0**		
	comp=Z,0.4nm,0.7s,baz=56,slow=8.7,SNR=5.9								
KOWA	**Kowa**	**52.20**	**265**	P	**P**	**00 58 38.8**	**-0.2**		
	comp=Z,1.1nm,0.7s,baz=78,slow=12,SNR=5.0								

WEL 27 00:57:48.8±1.5, 47°S±11'×16°6E±°, h5km, ML3.8/10, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.20**	**36**	P	Pg	00 58 11.2	-0.7
APZ	**The Paps**	**1.62**	**80**	P	Pn	00 58 17.6	-0.4
APZ	**The Paps**	**1.62**	**80**	S	Sn	00 58 39.2	-0.2
DCZ	**Deep Cove**	**1.97**	**32**	P	Pn	00 58 21.5	-1.4
WHZ	**Wether Hill Ro**	**2.01**	**52**	S	Sn	00 58 49.1	+0.1
WHZ	**Wether Hill Ro**	**2.01**	**52**	P	Pn	00 58 23.0	-0.4
SYZ	**Scrubby Hill**	**2.46**	**77**	P	Pn	00 58 30.2	+0.7
SYZ	**Scrubby Hill**	**2.46**	**77**	S	Sn	00 59 00.9	+0.9
MLZ	**Mavora Lakes**	**2.46**	**45**	P	Pn	00 58 29.4	-0.3
MLZ	**Mavora Lakes**	**2.46**	**45**	S	Sn	00 59 01.6	+1.5
TUZ	**Tuapeka**	**2.98**	**68**	P	Pn	00 58 36.5	-0.2
TUZ	**Tuapeka**	**2.98**	**68**	S	Sn	00 59 14.3	+1.4
EAZ	**Earnscleugh**	**3.17**	**54**	P	Pn	00 58 40.1	+0.7
WKZ	**Wanaka**	**3.29**	**46**	P	Pn	00 58 41.9	+0.9
JCZ	**Jackson Bay**	**3.77**	**37**	P	Pn	00 58 48.2	+0.5
ODZ	**Otahua Downs**	**4.05**	**61**	P	Pn	00 58 49.7	-1.8
FOZ	**Fox Glacier**	**4.65**	**40**	P	Pn	00 59 00.2	+0.6

*ISCJB **27** 00:59:50.9±1.0, 34°.80N±0°.05×25°.36E±0°.03, h7km±5km, mb3.6/6, MS2.6/1, Error ellipse: s-maj=8.4km s-min=3.7km az=173.8*
*ATH **27** 00:59:51.8, 34°.90N×25°.34E, h15km±1km, ML3.1/9, Error ellipse: s-maj=2.0km s-min=0.9km az=351.0*
*ISK **27** 00:59:51.1, 34°.79N×25°.36E, h11km, ML2.9/6*
*IDC **27** 00:59:51.6±3.2, 34°.89N×25°.38E, h13km±21km, mb3.6/6, mb1 3.6/8, mb1mx3.3/55, mbtmp3.6/8, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.0/58, Error ellipse: s-maj=23.8km s-min=21.9km az=7.0*
*THE **27** 00:59:51.2, 34°.84N×25°.37E, h0km±1km, ML3.2/5, Error ellipse: s-maj=2.2km s-min=0.7km az=174.0*
*CSEM **27** 00:59:52.1±0.3, 34°.87N×25°.35E, h2km, ML3.1, Error ellipse: s-maj=7.1km s-min=2.9km az=176.0*

ISC 27 00:59:51.7±1.1, 34°.85N±0°.04×25°.33E±0°.02, h14km±7km, n125, σ1°61/142, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.34**	**21**	P	**Pg**	**00 59 58.6**	**0.0**
LAST				S	**Sg**	**01 00 03.0**	**-0.3**
LAST				AML	AML	01 00 03.7	
	comp=E,8883μm,0.2s						
LAST				AML	AML	01 00 03.9	
	comp=N,6600μm,0.2s						
LAST	**Lasithi**	**0.34**	**21**	P	**Pg**	**00 59 58.1**	**-0.5**
LAST				S	**Sg**	**01 00 02.6**	**-0.7**
LAST	**Lasithi**	**0.34**	**21**	P	**Pg**	**00 59 58.1**	**-0.5**
LAST				S	**Sg**	**01 00 03.7**	**+0.4**
SIVA	**Sivas**	**0.46**	**292**	P	**Pb**	**01 00 01.2**	**-0.4**
SIVA				S	**Sb**	**01 00 08.0**	**-0.4**
SIVA				AML	AML	01 00 09.5	
	comp=E,15082μm,0.3s						
SIVA				AML	AML	01 00 10.9	
	comp=N,8731μm,0.4s						
SIVA	**Sivas**	**0.46**	**292**	P	**Pg**	**01 00 00.9**	**0.0**
SIVA				S	**Sb**	**01 00 07.6**	**-0.7**
SIVA	**Sivas**	**0.46**	**292**	P	**Pg**	**01 00 00.9**	**0.0**
SIVA				S	**Sb**	**01 00 09.4**	**+1.1**
NPS	**Neapolis**	**0.47**	**29**	P	**Pg**	**01 00 00.5**	**-0.6**
NPS				S	**Sg**	**01 00 07.2**	**-0.2**
NPS				AML	AML	01 00 11.5	
	comp=E,4824μm,0.2s						
NPS				AML	AML	01 00 13.0	
	comp=N,3929μm,0.3s						
NPS	**Neapolis**	**0.47**	**29**	P	**Pg**	**01 00 00.3**	**-0.8**
NPS				S	**Sg**	**01 00 06.8**	**-0.6**
NPS	**Neapolis**	**0.47**	**29**	P	**Pg**	**01 00 00.3**	**-0.8**
NPS				S	**Sg**	**01 00 07.8**	**+0.4**
IACM	**Heraklion**	**0.51**	**335**	P	**Pb**	**01 00 02.1**	**-0.2**
IACM				S	**Sg**	**01 00 08.7**	**+0.2**
IACM	**Heraklion**	**0.51**	**335**	P	**Pg**	**01 00 01.6**	**-0.1**
IACM				S	**Sg**	**01 00 08.1**	**-0.3**
IACM	**Heraklion**	**0.51**	**335**	P	**Pg**	**01 00 01.6**	**-0.1**
IACM				S	**Sb**	**01 00 10.2**	**+0.6**
IDI	**Anoyia**	**0.57**	**320**	Pg	**Pg**	**01 00 02.3**	**-0.6**
	comp=N,36nm,0.3s,baz=137,slow=19,SNR=738						
IDI				Lg	Lg	01 00 11.4	
	comp=N,169nm,0.3s,baz=339,slow=14,SNR=59						
ZKR	**Zakros**	**0.77**	**70**	PG	**Pg**	**01 00 05.6**	**-1.1**
ZKR				SG	**Sg**	**01 00 17.9**	**+1.1**
ZKR	**Zakros**	**0.77**	**70**	P	**Pg**	**01 00 05.1**	**-1.6**
ZKR				S	**Sg**	**01 00 17.1**	**+0.3**
ZKR				AML	AML	01 00 19.2	
	comp=N,5262μm,0.4s						
ZKR				AML	AML	01 00 20.5	
	comp=E,5687μm,0.4s						
ZKR	**Zakros**	**0.77**	**70**	P	**Pg**	**01 00 05.6**	**-1.1**
ZKR				S	**Sg**	**01 00 16.9**	**+0.1**
ZKR				*e*Sg	**Sg**	**01 00 17.9**	**+1.1**
ZKR	**Zakros**	**0.77**	**70**	P	**Pg**	**01 00 05.6**	**-1.1**
ZKR				S	**Sg**	**01 00 17.9**	**+1.1**
GVD	**Gavdhos**	**1.03**	**270**	PG	**Pn**	**01 00 12.4**	**+0.8**
GVD	**Gavdhos**	**1.03**	**270**	P	**Pb**	**01 00 11.4**	**+0.2**
GVD				AML	AML	01 00 31.9	
	comp=N,3694μm,0.4s						
GVD				AML	AML	01 00 36.8	
	comp=E,3262μm,0.6s						
GVD	**Gavdhos**	**1.03**	**270**	P	**Pb**	**01 00 11.5**	**+0.3**
GVD	**Gavdhos**	**1.03**	**270**	*e*Pg	**Pn**	**01 00 12.4**	**+0.8**
GVD	**Gavdhos**	**1.03**	**270**	P	**Pb**	**01 00 11.5**	**+0.3**
VAM	**Vamos**	**1.08**	**301**	P	**Pg**	**01 00 11.2**	**-1.4**
VAM				AML	AML	01 00 33.8	
	comp=N,1377μm,0.2s						
VAM				AML	AML	01 00 37.1	
	comp=E,1224μm,0.5s						
VAM	**Vamos**	**1.08**	**301**	P	**Pg**	**01 00 11.7**	**-0.9**
VAM	**Vamos**	**1.08**	**301**	P	**Pg**	**01 00 11.7**	**-0.9**
IMMV	**Iera Moni Meta**	**1.27**	**299**	PN	**Pg**	**01 00 15.1**	**-1.0**
IMMV	**Iera Moni Meta**	**1.27**	**299**	P	**Pg**	**01 00 14.3**	**-1.7**
IMMV				AML	AML	01 00 43.2	
	comp=N,828μm,0.4s						
IMMV				AML	AML	01 00 46.1	
	comp=E,1435μm,0.9s						
IMMV	**Iera Moni Meta**	**1.27**	**299**	P	**Pg**	**01 00 14.8**	**-1.3**
IMMV	**Iera Moni Meta**	**1.27**	**299**	*e*Pn	**Pg**	**01 00 15.1**	**-1.0**
IMMV	**Iera Moni Meta**	**1.27**	**299**	P	**Pg**	**01 00 14.8**	**-1.3**
THR6	**Thira Island,**	**1.51**	**2**	P	**Pn**	**01 00 18.4**	**+0.1**
THR6	**Thira Island,**	**1.51**	**2**	P	**Pn**	**01 00 18.8**	**+0.5**
THR6	**Thira Island,**	**1.51**	**2**	P	**Pn**	**01 00 18.7**	**+0.5**
SANT	**Santorini**	**1.52**	**4**	P	**Pn**	**01 00 18.6**	**+0.1**
SANT				AML	AML	01 00 41.9	
	comp=E,1504μm,0.4s						
SANT				AML	AML	01 00 43.8	
	comp=N,590μm,0.2s						
SANT	**Santorini**	**1.52**	**4**	P	**Pn**	**01 00 19.0**	**+0.5**
THR3	**Thira Island,**	**1.56**	**2**	P	**Pn**	**01 00 19.5**	**+0.5**
THR3	**Thira Island,**	**1.56**	**2**	P	**Pn**	**01 00 19.8**	**+0.8**
THR3	**Thira Island,**	**1.56**	**2**	P	**Pn**	**01 00 19.6**	**+0.6**
THR8	**Santorini-Mono**	**1.56**	**4**	P	**Pn**	**01 00 19.8**	**+0.8**
THR8	**Santorini-Mono**	**1.56**	**4**	P	**Pn**	**01 00 20.0**	**+1.0**
THR5	**Thira Island,**	**1.57**	**0**	P	**Pn**	**01 00 19.6**	**+0.5**
THR5	**Thira Island,**	**1.57**	**0**	P	**Pn**	**01 00 19.8**	**+0.8**
THR5	**Thira Island,**	**1.57**	**0**	P	**Pn**	**01 00 19.7**	**+0.6**
THR7	**Fira-Santorini**	**1.57**	**3**	P	**Pn**	**01 00 21.1**	**+0.5**
THR7	**Fira-Santorini**	**1.57**	**3**	P	**Pn**	**01 00 20.7**	**+1.5**
THT2	**Imerovigli**	**1.59**	**3**	P	**Pn**	**01 00 19.8**	**+0.4**
THT2				AML	AML	01 00 49.4	
	comp=N,1956μm,0.7s						
THT2				AML	AML	01 00 51.0	
	comp=E,2082μm,0.4s						
THT2	**Imerovigli**	**1.59**	**3**	P	**Pn**	**01 00 20.2**	**+0.8**
THR2	**Thira Island,**	**1.60**	**3**	P	**Pn**	**01 00 19.4**	**-0.2**
THR2	**Thira Island,**	**1.60**	**3**	P	**Pn**	**01 00 20.2**	**+0.7**
THR2	**Thira Island,**	**1.60**	**3**	P	**Pn**	**01 00 20.2**	**+0.7**
KARP	**Karpathos**	**1.65**	**64**	PN	**Pn**	**01 00 20.9**	**+0.6**
KARP	**Karpathos**	**1.65**	**64**	P	**Pn**	**01 00 22.5**	**+0.6**
KARP	**Karpathos**	**1.65**	**64**	*e*Pn	**Pn**	**01 00 20.9**	**+0.6**
KARP	**Karpathos**	**1.65**	**64**	P	**Pn**	**01 00 22.2**	**+1.9**
ANKY	**Antikythira Is**	**1.95**	**302**	P	**Pb**	**01 00 27.6**	**+0.7**
ANKY	**Antikythira Is**	**1.95**	**302**	P	**Pb**	**01 00 26.9**	**0.0**
MHLO	**Agia Marina, M**	**1.99**	**338**	P	**Pn**	**01 00 25.8**	**+0.9**
MHLO	**Agia Marina, M**	**1.99**	**338**	P	**Pn**	**01 00 26.1**	**+1.2**
MHLA	**Plaka, Milos I**	**2.03**	**339**	P	**Pn**	**01 00 26.6**	**+1.1**
MHLA	**Plaka, Milos I**	**2.03**	**339**	P	**Pn**	**01 00 26.8**	**+1.3**
APE	**Apeiranthos**	**2.22**	**4**	PN	**Pn**	**01 00 29.7**	**+1.5**
APE	**Apeiranthos**	**2.22**	**4**	P	**Pn**	**01 00 29.7**	**+1.5**
APE	**Apeiranthos**	**2.22**	**4**	P	**Pn**	**01 00 29.7**	**+1.5**
KYTH	**Kithira**	**2.34**	**308**	P	**Pn**	**01 00 32.2**	**+2.5**
ARG	**Arkhangelos**	**2.66**	**58**	P	**Pn**	**01 00 37.3**	**+3.2**
ARG	**Arkhangelos**	**2.66**	**58**	P	**Pn**	**01 00 36.6**	**+2.6**
VLI	**Veliai**	**2.70**	**314**	P	**Pn**	**01 00 35.5**	**+0.8**
VLI	**Veliai**	**2.70**	**314**	P	**Pn**	**01 00 36.0**	**+1.3**
BODT	**Bodrum**	**2.73**	**35**	PN	**Pn**	**01 00 36.9**	**+1.8**
BODT	**Bodrum**	**2.73**	**35**	*e*Pn	**Pn**	**01 00 36.9**	**+1.8**
KRND	**KRANIDI**	**3.09**	**326**	P	**Pn**	**01 00 42.4**	**+2.4**
KRND	**KRANIDI**	**3.09**	**326**	P	**Pn**	**01 00 42.2**	**+2.2**
DYR	**Agios Nikonas**	**3.10**	**309**	P	**Pb**	**01 00 44.2**	**-2.3**
DYR	**Agios Nikonas**	**3.10**	**309**	P	**Pn**	**01 00 43.3**	**+3.1**
DID	**Didima**	**3.15**	**328**	P	**Pn**	**01 00 42.0**	**+1.1**
DID	**Didima**	**3.15**	**328**	P	**Pn**	**01 00 42.4**	**+1.5**
VLY	**Voula,Athens**	**3.25**	**338**	P	**Pn**	**01 00 45.6**	**+3.4**
VLY	**Voula,Athens**	**3.25**	**338**	P	**Pn**	**01 00 44.9**	**+2.7**
KARY	**Karystos**	**3.26**	**347**	P	**Pn**	**01 00 43.7**	**+1.3**
KARY	**Karystos**	**3.26**	**347**	P	**Pn**	**01 00 44.0**	**+1.6**
YER	**Yerkesik**	**3.31**	**45**	PN	**Pn**	**01 00 45.5**	**+2.4**
YER	**Yerkesik**	**3.31**	**45**	*e*Pn	**Pn**	**01 00 45.5**	**+2.4**
DALY	**Dalyan (Mu˘la**	**3.34**	**53**	PN	**Pn**	**01 00 45.6**	**+2.2**
DALY	**Dalyan (Mu˘la**	**3.34**	**53**	*e*Pn	**Pn**	**01 00 45.6**	**+2.2**
TURN	**Turunc**	**3.34**	**52**	PN	**Pn**	**01 00 41.1**	**-2.3**
TURN	**Turunc**	**3.34**	**52**	*e*Pn	**Pn**	**01 00 41.1**	**-2.3**
ATHU	**Athens Univers**	**3.35**	**339**	P	**Pn**	**01 00 43.9**	**+2.6**
ATHU	**Athens Univers**	**3.35**	**339**	P	**Pn**	**01 00 46.0**	**+2.3**
PTL	**Penteli**	**3.41**	**340**	P	**Pn**	**01 00 47.6**	**+3.1**
PTL	**Penteli**	**3.41**	**340**	P	**Pn**	**01 00 47.0**	**+2.6**
VLX	**Vlachokerasia**	**3.47**	**317**	P	**Pn**	**01 00 47.2**	**+1.8**
VLX	**Vlachokerasia**	**3.47**	**317**	P	**Pn**	**01 00 47.4**	**+2.0**
PYL	**PYLOS**	**3.56**	**306**	P	**Pn**	**01 00 47.3**	**+0.8**
PYL	**PYLOS**	**3.56**	**306**	P	**Pn**	**01 00 48.1**	**+1.6**
ITM	**Ithomi**	**3.61**	**311**	P	**Pn**	**01 00 50.4**	**+3.2**
ITM	**Ithomi**	**3.61**	**311**	P	**Pn**	**01 00 50.0**	**+2.8**
LTK	**Loutraki**	**3.70**	**330**	P	**Pn**	**01 00 50.2**	**+1.8**
LTK	**Loutraki**	**3.70**	**330**	P	**Pn**	**01 00 50.4**	**+2.0**
AKAS	**Kas**	**3.75**	**67**	PN	**Pn**	**01 00 49.7**	**+0.5**
AKAS	**Kas**	**3.75**	**67**	*e*Pn	**Pn**	**01 00 49.7**	**+0.5**
GUR	**Goura**	**3.92**	**323**	P	**Pn**	**01 00 53.3**	**+1.8**
GUR	**Goura**	**3.92**	**323**	P	**Pn**	**01 00 53.5**	**+2.0**
KLV	**Kalavryta, Ach**	**4.09**	**322**	P	**Pn**	**01 00 55.9**	**+2.0**
KLV	**Kalavryta, Ach**	**4.09**	**322**	P	**Pn**	**01 00 56.0**	**+2.1**
ELL	**Elmali**	**4.17**	**62**	PN	**Pn**	**01 00 56.9**	**+1.9**
ELL	**Elmali**	**4.17**	**62**	*e*Pn	**Pn**	**01 00 56.9**	**+1.9**
DRO	**Drossia**	**4.26**	**318**	P	**Pn**	**01 00 59.9**	**+3.8**
DRO	**Drossia**	**4.26**	**318**	P	**Pn**	**01 00 59.3**	**+3.2**
TRIZ	**Trizonia**	**4.38**	**324**	P	**Pn**	**01 00 59.3**	**+1.5**
TRIZ	**Trizonia**	**4.38**	**324**	P	**Pn**	**01 00 59.8**	**+2.0**
KORT	**Korkueli**	**4.60**	**61**	PN	**Pn**	**01 01 03.1**	**+2.1**
KORT	**Korkueli**	**4.60**	**61**	*e*Pn	**Pn**	**01 01 03.1**	**+2.1**
AGG	**Agios Georgios**	**4.81**	**331**	P	**Pn**	**01 01 07.4**	**+3.6**
AGG	**Agios Georgios**	**4.81**	**331**	P	**Pn**	**01 01 06.8**	**+3.1**
DSL	**Palaion Diasel**	**5.46**	**323**	P	**Pn**	**01 01 15.9**	**+3.3**
DSL	**Palaion Diasel**	**5.46**	**323**	P	**Pn**	**01 01 15.7**	**+3.1**
MMAI	**Mount Meron Ar**	**8.56**	**99**	Pn	**Pn**	**01 01 53.3**	**-2.0**
	comp=E,0.9nm,0.3s,baz=313,slow=13,SNR=13						
MMAI				Sn	**Sn**	**01 03 30.8**	**-1.0**
	comp=E,0.4nm,0.3s,baz=276,slow=26,SNR=3.2						
AKASG	**Malin Array Be**	**16.10**	**9**	Pn	**Pn**	**01 03 36.5**	**-0.9**
	comp=E,0.6nm,0.3s,baz=205,slow=11,SNR=4.3						
FINES	**FINESS Array B**	**26.62**	**1**	P	**P**	**01 05 27.4**	**-2.0**
	comp=E,4.5nm,1.1s,baz=185,slow=13,SNR=3.9						
ATD	**Arta Tunnel**	**28.15**	**141**	LR	LR	01 15 22.5	
	comp=E,17nm,20.1s,baz=92,slow=33						
TORD	**Torodi Ar. Bea**	**30.40**	**231**	P	**P**	**01 06 04.3**	**+0.8**
	comp=E,0.2nm,0.3s,baz=32,slow=8.9,SNR=7.8						
ARCES	**ARCESS Array B**	**34.74**	**0**	P	**P**	**01 06 38.7**	**-2.3**
	comp=E,0.9nm,0.7s,baz=174,slow=9.1,SNR=3.8						
KURBB	**Kurchatov Arra**	**41.21**	**51**	P	**P**	**01 07 35.9**	**+0.2**
	comp=E,0.4nm,0.4s,baz=273,slow=8.6,SNR=7.0						
MKAR	**Makanchi Array**	**43.83**	**56**	P	**P**	**01 07 57.4**	**+0.2**
	comp=E,0.3nm,0.4s,baz=268,slow=8.0,SNR=3.7						
SONM	**Songino Array**	**59.57**	**51**	P	**P**	**01 09 55.6**	**+0.6**
	comp=E,0.3nm,0.3s,baz=299,slow=6.3,SNR=3.7						

IDC 27 01:00:01.8±3.1, 30°.12S×138°.69E, h0km, mb1 3.0/3, mb1mx3.0/42, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=94.5km s-min=16.1km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.05**	**126**	Pn	Pn	01 00 51.5	+0.2
	0.2nm,0.3s,baz=298,slow=17,SNR=3.2						
STKA				Pg	Pb	01 00 57.4	+0.4
	0.9nm,0.3s,baz=304,slow=17,SNR=9.7						
STKA				Sn	Sn	01 01 26.4	-2.2
	0.5nm,0.3s,baz=295,slow=15,SNR=3.7						
STKA				Lg	Lg	01 01 38.5	
	1.9nm,0.3s,baz=6.2,slow=19,SNR=6.5						
ASAR	**Alice Springs**	**7.71**	**325**	Pn	Pn	01 01 55.3	-0.2
	0.0nm,0.3s,baz=150,slow=12,SNR=7.6						
ASAR				Sn	Sn	01 03 23.4	-0.3
	0.1nm,0.3s,baz=159,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**10.87**	**338**	Pn	Pn	01 02 39.4	+0.7
	0.1nm,0.3s,baz=155,slow=12,SNR=5.6						

IDC 27 01:08:18.7±4.8, 3°.00S×100°.77E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.1/68, mbtmp3.5/3, MS2.2/1, Ms1 2.2/1, ms1mx2.0/43, Error ellipse: s-maj=192.2km s-min=29.8km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.05**	**342**	LR	LR	01 11 58.0	
	comp=Z,21nm,18.1s,baz=55,slow=37						
H08S2	**Diego Garcia H**	**28.53**	**260**	T	T	01 43 20.4	
	baz=82,slow=76,SNR=142						
H08S3	**Diego Garcia H**	**28.53**	**260**	T	T	01 43 20.9	
	baz=82,slow=76,SNR=138						
H08S1	**Diego Garcia H**	**28.54**	**260**	T	T	01 43 20.5	
	baz=82,slow=76,SNR=117						
WRA	**Warramunga Arr**	**36.83**	**120**	P	P	01 15 28.4	-0.5
	0.3nm,0.6s,baz=303,slow=9.3,SNR=3.9						
SONM	**Songino Array**	**50.86**	**5**	P	P	01 17 22.2	+0.9
	0.2nm,0.4s,baz=191,slow=7.1,SNR=3.5						
MKAR	**Makanchi Array**	**52.19**	**344**	P	P	01 17 30.2	-1.0
	0.3nm,0.5s,baz=148,slow=8.3,SNR=5.9						
TXAR	**Lajitas Array**	**145.00**	**39**	PKPbc	PKPab	01 27 57.9	-0.2
	0.3nm,0.5s,baz=230,slow=1.0,SNR=6.1						

*IDC **27** 01:18:29.5±1.4, 5°.72N×93°.08E, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.6/65, mbtmp3.9/10, ML4.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/65, Error ellipse: s-maj=54.2km s-min=19.3km az=58.0*
*ISCJB **27** 01:18:31.5±0.6, 5°.68N±0°.09×93°.02E±0°.08, h28km, mb3.9/11, Error ellipse: s-maj=15.6km s-min=8.9km az=36.5*
*NEIC **27** 01:18:33.8±1.9, 5°.70N×93°.02E, h30km±14km, mb4.3/2, Error ellipse: s-maj=9.8km s-min=5.8km az=218.0*

ISC 27 01:18:33.5±0.9, 5°.7N±0°.1×93°.0E±0°.1, h28km, n26, σ0°45/22, mb3.8/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.94**	**96**	*e*Pn	**Pn**	**01 19 32.3**	**+0.1**
KULM	**Kulim**	**7.61**	**93**	*e*Pn	**Pn**	**01 20 22.5**	**-0.1**
PALK	**Pallekele**	**12.34**	**278**	LR	LR	01 25 18.2	
	comp=Z,49nm,18.8s,baz=115,slow=33						
PALK	**Pallekele**	**12.34**	**278**	*e*Pn	**Pn**	**01 21 27.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**13.94**	**24**	Pn	**Pn**	**01 21 50.0**	**+0.6**
	0.9nm,0.3s,baz=218,slow=14,SNR=4.5						
H08S3	**Diego Garcia H**	**24.39**

ARG	**Arkhangelos**	**2.31**	**36**	P	**Pb**	01 39 52.5	**-0.4**
IMMV	**Iera Moni Meta**	**2.32**	**299**	P	**Pn**	01 39 50.0	**+0.6**
IMMV	**Iera Moni Meta**	**2.32**	**299**	P	**Pn**	01 39 50.4	**+1.0**
IMMV	**Iera Moni Meta**	**2.32**	**299**	P	**Pn**	01 39 50.4	**+1.0**
APE	**Apeiranthos**	**2.82**	**345**	P	**Pn**	01 39 56.7	**+0.4**
APE				S	**Sn**	01 40 27.5	**-2.8**
APE	**Apeiranthos**	**2.82**	**345**	P	**Pn**	01 39 56.9	**+0.6**
APE				S	**Sn**	01 40 27.0	**-3.3**
MHLA	**Plaka, Milos I**	**2.91**	**326**	P	**Pn**	01 39 59.3	**+1.7**
MHLA	**Plaka, Milos I**	**2.91**	**326**	P	**Pn**	01 39 58.7	**+1.1**
ANKY	**Antikythira Is**	**3.00**	**301**	P	**Pn**	01 39 60.0	**+1.2**
ANKY	**Antikythira Is**	**3.00**	**301**	P	**Pn**	01 39 59.9	**+1.2**
ANKY	**Antikythira Is**	**3.00**	**301**	P	**Pn**	01 40 00.5	**+1.7**
DALY	**Dalyan (Mu˘la**	**3.04**	**35**	*i* P	**Pn**	01 40 01.6	**+2.3**
DALY				*i* S	**Sn**	01 40 34.5	**-1.2**
DALY	**Dalyan (Mu˘la**	**3.04**	**35**	P	**Pn**	01 40 01.6	**+2.3**
DALY				S	**Sn**	01 40 34.5	**-1.2**
TURN	**Turunc**	**3.06**	**34**	*i* P	**Pn**	01 39 58.8	**-0.8**
TURN				*i* S	**Sn**	01 40 29.7	**-6.6**
TURN	**Turunc**	**3.06**	**34**	P	**Pn**	01 39 58.8	**-0.8**
KSL	**Kastellorizon**	**3.12**	**54**	P	**Pb**	01 40 04.2	**-2.6**
AKAS	**Kas**	**3.19**	**53**	*i* P	**Pn**	01 40 04.3	**+2.9**
AKAS				*i* S	**Sn**	01 40 37.5	**-2.0**
AKAS	**Kas**	**3.19**	**53**	P	**Pn**	01 40 04.3	**+2.9**
AKAS				S	**Sn**	01 40 37.5	**-2.0**
KYTH	**Kithira**	**3.38**	**305**	P	**Pn**	01 40 05.2	**+1.1**
TAVA	**DENIZLI_Tavas**	**3.69**	**32**	*i* P	**Pn**	01 40 09.5	**+1.1**
TAVA				*i* S	**Sn**	01 40 51.2	**-0.8**
TAVA	**DENIZLI_Tavas**	**3.69**	**32**	P	**Pn**	01 40 09.5	**+1.1**
TAVA				S	**Sn**	01 40 51.2	**-0.8**
VLI	**Veliai**	**3.72**	**310**	P	**Pn**	01 40 10.5	**+1.8**
VLI				S	**Sn**	01 40 46.6	**-5.9**
VLI	**Veliai**	**3.72**	**310**	P	**Pn**	01 40 10.0	**+1.3**
VLI				S	**Sn**	01 40 47.4	**-5.1**
GOLH	**Golhisar**	**3.83**	**40**	*i* P	**Pn**	01 40 11.7	**+1.4**
GOLH				*i* S	**Sn**	01 40 55.0	**-0.3**
GOLH	**Golhisar**	**3.83**	**40**	P	**Pn**	01 40 11.7	**+1.4**
GOLH				S	**Sn**	01 40 55.0	**-0.3**
DID	**Didima**	**4.10**	**321**	P	**Pn**	01 40 15.9	**+2.1**
DID	**Didima**	**4.10**	**321**	P	**Pn**	01 40 15.3	**+1.4**
DYR	**Agios Nikonas**	**4.14**	**307**	P	**Pn**	01 40 14.2	**-0.2**
DYR	**Agios Nikonas**	**4.14**	**307**	P	**Pn**	01 40 14.9	**+0.5**
GUR	**Goura**	**4.89**	**318**	P	**Pn**	01 40 24.8	**-0.1**
GUR	**Goura**	**4.89**	**318**	P	**Pn**	01 40 25.4	**+0.5**
KLV	**Kalavryta, Ach**	**5.08**	**318**	P	**Pn**	01 40 28.5	**+1.2**
KLV	**Kalavryta, Ach**	**5.08**	**318**	P	**Pn**	01 40 28.6	**+1.2**
VLS	**Valsamata**	**6.09**	**311**	P	**Pn**	01 40 41.4	**+0.1**
VLS	**Valsamata**	**6.09**	**311**	P	**Pn**	01 40 42.2	**+1.0**
MMAI	**Mount Meron Ar**	**7.57**	**98**	Pn	**Pn**	01 41 00.5	**-1.1**
	comp=N,1.0nm,0.3s,baz=276,slow=12,SNR=9.3						
MMAI				Sn	**Sn**	01 42 24.1	**-3.4**
	comp=N,0.8nm,0.3s,baz=329,slow=14,SNR=3.9						
GERES	**GERESS Array B**	**17.31**	**331**	P	**Pn**	01 43 12.3	**-0.6**
	comp=N,0.1nm,0.3s,baz=133,slow=10.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**30.82**	**233**	P	**P**	01 45 27.7	**+0.4**
	comp=N,0.1nm,0.5s,baz=38,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**43.33**	**56**	P	**P**	01 47 13.9	**+0.6**
	comp=N,0.3nm,0.6s,baz=280,slow=8.2,SNR=3.9						

ISCJB ***27*** *01:56:04.3±1.0,54°.8S±0°.1×28°.8W±0°.3, h10km, mb4.0/4, Error ellipse: s-maj=29.3km s-min=20.5km az=163.9*
IDC ***27*** *01:56:04.5±0.9,54°.77S×28°.83W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/29, mbtmp4.0/5, Error ellipse: s-maj=33.0km s-min=24.5km az=70.0*

ISC 27 01:56:06.1±0.9,54°.8S±0°.2×28°.8W±0°.2, h10km, n9, σ1§92/9, mb4.1/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.27**	**156**	P	**P**	**02 00 40.7**	**-0.8**
	1.9nm,0.5s,baz=309,slow=13,SNR=24						
QSPA	**South Pole Qui**	**35.47**	**180**	P	**P**	**02 03 03.0**	**+0.5**
	2.2nm,0.6s,baz=148,slow=2.6,SNR=11						
BOSA	**Boshof**	**46.58**	**78**	P	**P**	**02 04 34.5**	**+0.3**
	1.0nm,0.6s,baz=190,slow=11,SNR=3.5						
LPAZ	**La Paz**	**48.90**	**306**	P	**P**	**02 04 52.3**	**-0.5**
	2.6nm,0.7s,baz=170,slow=5.9,SNR=9.0						
TORD	**Torodi Ar. Bea**	**72.42**	**31**	P	**P**	**02 07 32.5**	**+0.1**
	0.7nm,0.8s,baz=202,slow=6.3,SNR=7.7						
YKA	**Yellowknife Ar**	**134.62**	**319**	PKP	**PKPdf**	**02 15 21.9**	**-1.3**
	0.2nm,0.5s,baz=134,slow=1.7,SNR=5.7						
KURBB	**Kurchatov Arra**	**137.58**	**64**	PKP	**PKPdf**	**02 15 26.7**	**-2.4**
	0.2nm,0.4s,baz=231,slow=2.1,SNR=3.2						
ILAR	**Eielson Array**	**148.59**	**314**	PKPbc	**PKPdf**	**02 15 51.7**	**+3.6**
	1.4nm,0.8s,baz=125,slow=2.1,SNR=18						
SONM	**Songino Array**	**151.54**	**85**	PKPbc	**PKPbc**	**02 15 59.8**	**+0.1**
	0.4nm,0.4s,baz=243,slow=3.1,SNR=4.6						

IDC ***27*** *02:14:08.2±1.1, 13°.59S×168°.32E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/46, mbtmp3.9/8, ML4.3/1, MS3.3/14, Ms1 3.3/14, ms1mx3.1/40, Error ellipse: s-maj=48.4km s-min=22.4km az=128.0*
ISCJB ***27*** *02:14:11.3±0.8, 13°.91S±0°.08×168°.4E±0°.2, h33km, mb3.9/7, MS3.3/12, Error ellipse: s-maj=29.5km s-min=9.7km az=13.7*

ISC 27 02:14:13.1±0.9, 13°.8S±0°.1×168°.4E±0°.2, h35km, n18, σ1§09/9, mb4.0/7, MS3.3/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.44**	**193**	Pn	**Pn**	**02 16 13.8**	**+0.8**
	3.5nm,0.3s,baz=71,slow=12,SNR=24						
DZM				Sn	**Sn**	**02 17 45.5**	**-1.6**
	0.3nm,0.3s,baz=273,slow=19,SNR=2.4						
DZM				LR	LR	02 19 12.1	
	comp=Z,133nm,19.4s,baz=39,slow=35						
HNR	**Honiara**	**9.36**	**297**	LR	LR	02 19 22.7	
	comp=Z,104nm,21.8s,baz=336,slow=34						
PMG	**Port Moresby**	**21.26**	**280**	LR	LR	02 25 54.2	
	comp=Z,94nm,19.7s,baz=32,slow=33						
STKA	**Stephens Creek**	**30.43**	**229**	P	**P**	**02 20 24.0**	**+1.5**
	3.1nm,0.8s,baz=12,slow=10,SNR=7.3						
STKA				LR	LR	02 30 42.9	
	comp=Z,68nm,19.4s,baz=25,slow=33						
ASAR	**Alice Springs**	**34.04**	**248**	P	**P**	**02 20 53.5**	**-0.8**
	1.5nm,0.9s,baz=78,slow=8.6,SNR=5.8						
ASAR				LR	LR	02 33 31.4	
	comp=Z,63nm,19.5s,baz=79,slow=34						
GUMO	**Guam**	**35.83**	**318**	LR	LR	02 34 38.7	
	comp=Z,48nm,19.8s,baz=90,slow=34						
JNU	**Nakatsue**	**58.83**	**323**	LR	LR	02 48 47.4	
	comp=Z,8.5nm,18.0s,baz=84,slow=36						
KSRS	**Korea Array**	**63.61**	**325**	LR	LR	02 51 36.5	
	comp=Z,13nm,18.7s,baz=155,slow=36						
VNDA	**Vanda**	**63.82**	**182**	LR	LR	02 48 33.2	
	comp=Z,48nm,19.3s,baz=30,slow=32						
USRK	**Ussuriysk Ar.**	**66.57**	**332**	LR	LR	02 50 12.2	
	comp=Z,20nm,21.4s,baz=177,slow=33						
PETK	**Petropavlovsk-**	**67.27**	**353**	LR	LR	02 51 22.9	
	comp=Z,14nm,21.1s,baz=95,slow=33						
MA2	**Magadan**	**74.50**	**351**	LR	LR	02 52 09.7	
	comp=Z,24nm,19.7s,baz=118,slow=31						
SONM	**Songino Array**	**82.41**	**323**	P	**P**	**02 26 31.5**	**-0.3**
	0.2nm,0.5s,baz=145,slow=5.3,SNR=2.4						
ILAR	**Eielson Array**	**85.31**	**18**	P	**P**	**02 26 45.4**	**-0.7**
	0.7nm,0.7s,baz=240,slow=4.9,SNR=8.8						
NVAR	**Mina Array Bea**	**85.83**	**49**	P	**P**	**02 26 50.1**	**+0.5**
	0.1nm,0.3s,baz=250,slow=13,SNR=2.4						
NVAR				LR	LR	03 03 20.8	
	comp=Z,26nm,18.1s,baz=271,slow=34						
YKA	**Yellowknife Ar**	**96.22**	**27**	P	**P**	**02 27 37.2**	**-0.1**
	0.6nm,0.6s,baz=257,slow=4.6,SNR=16						
MKAR	**Makanchi Array**	**97.30**	**316**	P	**P**	**02 27 42.6**	**0.0**
	0.6nm,0.8s,baz=101,slow=6.4,SNR=5.9						
ZALV	**Zalesovo Beam**	**97.30**	**324**	LR	LR	03 09 36.2	
	comp=Z,9.2nm,20.1s,baz=82,slow=34						

NIED ***27*** *02:34:00,40°.70N×145°.30E, h5km, Mw3.6 Best double couple: Mo3.12000×10^14 NP1:φ=30.00000°, δ36.00000°, λ=-82.00000°. NP2:φ=200.00000°, δ55.00000°, λ=-96.00000°.*
JMA ***27*** *02:34:19.4±0.2,40°.75N×145°.33E, h68km±5km, M3.7*
ISCJB ***27*** *02:34:20.8±0.7,40°.77N±0°.04×145°.06E±0°.06, h29km, mb3.5/7, Error ellipse: s-maj=6.6km s-min=4.8km az=34.4*
IDC ***27*** *02:34:20.5±2.5,40°.94N×145°.25E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.5/68, mbtmp3.6/9, ML3.0/2, MS2.3/1, Ms1 2.3/1, ms1mx2.0/53, Error ellipse: s-maj=55.9km s-min=22.5km az=176.0*

ISC 27 02:34:22.9±1.0,40°.75N±0°.06×145°.16E±0°.07, h29km, n25, σ2§37/32, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.97**	**311**	*eS*	**Sn**	**02 35 16.3**	**-1.6**
JAK	**Akkeshi**	**2.27**	**351**	P	**Pn**	**02 34 55.9**	**-2.5**
JAK				*eS*	**Sn**	**02 35 22.4**	**-3.1**
JCH	**Churui**	**2.30**	**325**	P	**Pn**	**02 34 57.4**	**-1.4**
JCH				*eS*	**Sn**	**02 35 23.4**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.37**	**311**	*eS*	**Sn**	**02 35 27.6**	**-0.2**
JOB	**Onbets**	**2.37**	**336**	*eS*	**Sn**	**02 35 25.4**	**-2.5**
NEM2	**Nemuro 2**	**2.65**	**9**	P	**Pn**	**02 35 00.8**	**-2.9**
NEM2				*eS*	**Sn**	**02 35 30.3**	**-4.5**
JAR	**Ashorobuto**	**2.75**	**338**	P	**Pn**	**02 35 02.7**	**-2.3**
JANG	**Nango**	**2.80**	**264**	P	**Pn**	**02 35 03.8**	**-1.9**
JANG				*eS*	**Sn**	**02 35 34.3**	**-4.1**
JNK	**Nakash**	**2.86**	**354**	P	**Pn**	**02 35 03.4**	**-3.1**
JOT	**Ohata**	**3.17**	**283**	P	**Pn**	**02 35 09.7**	**-1.1**
JOT				*eS*	**Sn**	**02 35 44.8**	**-2.8**
JOM	**Ohasama**	**3.22**	**248**	P	**Pn**	**02 35 10.2**	**-1.3**
JOM				*eS*	**Sn**	**02 35 46.0**	**-2.9**
JKB	**Kayabe**	**3.31**	**292**	*eS*	**Sn**	**02 35 48.8**	**-2.2**
JTKR	**Abashiri--Toko**	**3.35**	**344**	*eS*	**Sn**	**02 35 49.5**	**-2.6**
JEW	**Eniwo**	**3.47**	**308**	*eS*	**Sn**	**02 35 54.3**	**-0.7**
JMK	**Ichinoseki**	**3.52**	**241**	P	**Pn**	**02 35 14.3**	**-1.3**
JMK				*eS*	**Sn**	**02 35 52.2**	**-4.0**
ASAJ	**Asahikawa**	**3.86**	**332**	Pn	**Pn**	**02 35 20.1**	**-0.3**
	1.8nm,0.3s,baz=190,slow=8.0,SNR=9.2						
ASAJ				Sn	**Sn**	**02 36 04.4**	**-0.3**
	2.4nm,0.3s,baz=251,slow=25,SNR=4.6						
USRK	**Ussuriysk Ar.**	**10.32**	**294**	Pn	**Pn**	**02 36 49.6**	**+0.7**
	0.2nm,0.3s,baz=105,slow=12,SNR=5.5						
KSRS	**Korea Array**	**13.78**	**262**	LR	LR	02 42 28.8	
	comp=Z,13nm,18.7s,baz=115,slow=35						
SONM	**Songino Array**	**28.40**	**298**	P	**P**	**02 40 18.3**	**+3.5**
	1.1nm,0.7s,baz=96,slow=7.9,SNR=8.1						
MKAR	**Makanchi Array**	**44.72**	**300**	P	**P**	**02 42 34.3**	**+1.0**
	0.2nm,0.7s,baz=79,slow=11,SNR=2.3						
ILAR	**Eielson Array**	**44.79**	**34**	P	**P**	**02 42 34.1**	**+0.5**
	0.3nm,0.7s,baz=255,slow=6.7,SNR=6.9						
KURBB	**Kurchatov Arra**	**46.11**	**306**	P	**P**	**02 42 44.9**	**+0.6**
	0.8nm,0.7s,baz=76,slow=8.7,SNR=4.1						
INK	**Inuvik**	**49.74**	**29**	P	**P**	**02 43 13.1**	**+1.0**
	0.4nm,0.4s,baz=288,slow=6.1,SNR=5.8						
YKA	**Yellowknife Ar**	**59.13**	**32**	P	**P**	**02 44 20.7**	**+0.5**
	0.1nm,0.6s,baz=299,slow=5.5,SNR=2.9						
FINES	**FINESS Array B**	**66.87**	**333**	P	**P**	**02 45 12.3**	**+0.6**
	2.1nm,0.8s,baz=47,slow=6.5,SNR=5.7						

GUC ***27*** *02:36:57.7±0.7,30°.42S×72°.15W, h55km±16km, ML3.5*
SJA ***27*** *02:36:57.8±0.5,30°.30S×72°.36W, h40km±999km, ML3.3, MW3.8*

ISC 27 02:36:53.4±2.0,30°.57S±0°.05×72°.4W±0°.1, h19km, n15, σ1§65/19, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.43**	**74**	*eP*	**Pg**	**02 37 20.1**	**-1.0**
TLL				*i* S	**Sb**	**02 37 36.6**	**-0.9**
TLL				IAML		02 37 40.5	
	comp=N,735nm,0.3s						
GO04	**Tololo Observa**	**1.43**	**74**	⇓*i* P	**Pg**	**02 37 19.9**	**-1.2**
GO04				*i* S	**Sb**	**02 37 37.2**	**-0.4**
GO04				IAML		02 37 43.0	
	comp=N,3μm,0.4s						
LCO	**Las Campanas**	**2.14**	**44**	*i* P	**Pb**	**02 37 30.1**	**-1.6**
LCO	**Las Campanas**	**2.14**	**44**	⇑*i* P	**Pb**	**02 37 30.2**	**-1.5**
LCO				*i* S	**Sn**	**02 37 53.9**	**-0.6**
AROD	**Rodeo**	**2.56**	**82**	*i* P	**Pb**	**02 37 38.6**	**-0.2**
ROCH	**El Roble**	**2.67**	**154**	⇓*i* P	**Pb**	**02 37 41.3**	**+0.5**
ROCH				IAML		02 38 32.7	
	comp=E,113nm,0.7s						
ROC1	**El Roble**	**2.67**	**154**	*i* P	**Pg**	**02 37 43.9**	**-0.8**
RTLS	**Leoncito**	**2.92**	**116**	*i* P	**Pb**	**02 37 46.0**	**+0.9**
RTLS				*i* S	**Sb**	**02 38 21.9**	**+1.3**
RTLS				IAML		02 38 33.8	
	comp=Z,91nm,0.8s						
PEL	**Peldehue**	**2.95**	**151**	*eP*	**Pb**	**02 37 44.2**	**-1.3**
PEL				*i* S	**Sb**	**02 38 18.9**	**-2.2**
CLCH	**Cerro Calan**	**3.23**	**151**	*i* S	**Sb**	**02 38 27.4**	**-1.9**
CLCH				IAML		02 38 50.5	
	comp=E,122nm,0.8s						
AMOG	**MOGNA**	**3.38**	**97**	*i* P	**Pb**	**02 37 51.1**	**-1.6**
RTCV	**Cerro Valdivia**	**3.54**	**112**	*i* P	**Pb**	**02 37 54.2**	**-1.4**
ARCO	**CERRO ARCO**	**3.72**	**128**	*i* P	**Pb**	**02 37 57.8**	**-0.8**
ARCO				IAML		02 39 10.3	
	comp=Z,20nm,0.4s						
LMEL	**Las Melosas**	**3.76**	**151**	IAML		02 38 43.1	
	comp=N,50nm,0.2s						
VCA	**Vinchina**	**4.08**	**64**	*i* P	**Pn**	**02 37 59.0**	**+4.1**
VCA				IAML		02 39 08.2	
	comp=Z,82nm,0.8s						

KRSC 27 02:37:37.8±1.2,53°.88N×161°.48E, h27km±17km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.17**	**229**	*eP*	Pn	02 37 58.7	+0.4
SPN				*eS*	Sn	02 38 13.5	+0.2
KII	**Karymskiy**	**1.21**	**278**	*eP*	Pb	02 37 59.9	-0.1
KII				*eS*	Sn	02 38 14.3	-0.2
KZV	**Kizimen**	**1.42**	**331**	*eP*	Pb	02 38 02.8	-0.8
KZV				*eS*	Sb	02 38 20.6	-0.7
NLC	**Nalytchevo**	**1.46**	**242**	*eP*	Pb	02 38 03.3	-0.9
NLC				*eS*	Sb	02 38 21.8	-0.4
TUMR	**Tumrok**	**1.61**	**332**	*eP*	Pb	02 38 05.8	-1.0
TUMR				*eS*	Sb	02 38 25.9	-0.8
SDLR	**Sedlovina**	**1.66**	**250**	*eP*	Pb	02 38 06.6	-1.1
SMAR	**Somma**	**1.71**	**250**	*eP*	Pb	02 38 07.4	-1.2
UGLR	**Uglovaya**	**1.72**	**248**	*eP*	Pb	02 38 07.6	-1.1
AVH	**Avacha**	**1.75**	**251**	*eP*	Pb	02 38 08.7	-0.4
KRX	**Arik**	**1.76**	**254**	*eP*	Pb	02 38 08.1	-1.4
KRX				*eS*	Sn	02 38 29.7	+1.5
DALK	**Dalny**	**1.84**	**244**	*eP*	Pn	02 38 08.9	+1.4
DALK				*eS*	Sb	02 38 31.5	-1.6
PET	**Petropavlovsk**	**1.89**	**244**	*eP*	Pn	02 38 09.8	+1.5
PET				*eS*	Sn	02 38 32.7	+1.5
KMNR	**Kamenistaya**	**2.02**	**340**	*eP*	Pb	02 38 12.7	-1.0
GNL	**Ganaly**	**2.11**	**266**	*eP*	Pb	02 38 14.1	-1.2
BZMR	**Bezymyannaya**	**2.14**	**345**	*eP*	Pb	02 38 14.7	-1.2
BZWR	**Bezymyannyi-We**	**2.17**	**345**	*eP*	Pb	02 38 15.6	-0.8
KPT	**Kopyto**	**2.21**	**341**	*eS*	Sb	02 38 43.1	-1.0
LGNR	**Loginova**	**2.26**	**349**	*eP*	Pn	02 38 15.5	+2.0
KRMR	**Karymshinskiy**	**2.27**	**244**	*eP*	Pb	02 38 16.0	-1.9
KRMR				*eS*	Sb	02 38 43.0	-2.4
RUS	**Russkaya**	**2.30**	**232**	*eP*	Pb	02 38 17.2	-1.3
RUS				*eS*	Sb	02 38 45.3	-1.1
KOZ	**Kozyrevsk**	**2.37**	**338**	*eP*	Pb	02 38 18.2	-1.6
KOZ				*eS*	Sb	02 38 46.8	-1.8
KRSR	**Krestovskiy**	**2.40**	**348**	*eP*	Pn	02 38 17.1	+1.7
MTVR	**Mutnovka**	**2.43**	**236**	*eP*	Pb	02 38 18.5	-2.2
MTVR				*eS*	Sn	02 38 47.0	+2.4
KBTR	**Krutoberegovo**	**2.46**	**18**	*eP*	Pn	02 38 17.1	+1.1
KBTR				*eS*	Sn	02 38 47.5	+2.3
ESO	**Esso**	**2.60**	**323**	*eP*	Pn	02 38 19.9	+1.8
ASAK	**Asacha**	**2.62**	**237**	*eP*	Pn	02 38 20.3	+1.9
BDR	**Baidarnaya**	**2.70**	**357**	*eP*	Pn	02 38 22.2	+2.8
SMKR	**Semkarok**	**2.71**	**360**	*eP*	Pn	02 38 22.4	+2.8
SMKR				*eS*	Sn	02 38 53.9	+2.4
APC	**Apacha**	**2.76**	**251**	*eP*	Pb	02 38 24.6	-1.7
APC				*eS*	Sb	02 38 58.3	-1.3
SRKR	**Sorokina**	**2.79**	**356**	*eP*	Pn	02 38 23.7	+3.1
SRKR				*eS*	Sn	02 38 56.8	+3.4
KDTR	**Khodutka, Kamc**	**2.92**	**226**	*eP*	Pn	02 38 25.5	+3.1
KDTR				*eS*	Sn	02 38 59.5	+2.9
MIPR	**Malaya Ipel'ka**	**3.27**	**242**	*eP*	Pb	02 38 31.2	-3.8

IDC ***27*** *02:46:09.8±1.7,36°.81S×72°.90W, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.6/33, mbtmp3.5/6, ML3.9/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/21, Error ellipse: s-maj=48.8km s-min=28.6km az=72.0*
SJA ***27*** *02:46:11.7±0.5,36°.95S×73°.20W, h62km±8km, ML3.5, MW4.0*
GUC ***27*** *02:46:12.9±0.5,37°.00S×73°.28W, h22km±3km, ML4.4*
NEIC ***27*** *02:46:12.0±0.0,37°.00S×73°.28W, h22km, mb4.5/4, ML4.4(GUC), After GUC.*

NEIC Felt [IV] at Concepcion, La Laja and Talcahuano; [III] at Cauquenes, Los Angeles and San Pedro de la Paz; [II] at San Javier. Also felt at Arauco.

ISC 27 02:46:12.8±1.0,36°.92S±0°.04×73°.23W±0°.08, h27km±6km, n35, σ1§12/42, mb4.0/10, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.12**	**50**	⇑*iP*	**Pb**	**02 46 17.7**	**-0.2**
CCSP				*i* S	**Sb**	**02 46 21.6**	**+0.2**
CCSP				IAML		02 46 21.9	
	comp=N,140μm,0.3s						
COCH	**Cobquecura**	**0.87**	**24**	*i* P	**Pn**	**02 46 29.2**	**0.0**
COCH				*i* S	**Sn**	**02 46 42.3**	**+1.4**
COCH	**Cobquecura**	**0.87**	**24**	⇑*i* P	**Pn**	**02 46 29.1**	**-0.1**
COCH				*i* S	**Sn**	**02 46 41.8**	**+0.8**
CCHI	**Chillan**	**0.98**	**71**	*i* P	**Pn**	**02 46 30.7**	**-0.1**
CCHI	**Chillan**	**0.98**	**71**	⇓*i* P	**Pn**	**02 46 30.7**	**-0.1**
CCHI				*i* S	**Sb**	**02 46 44.0**	**+0.4**
CCHI				IAML		02 46 50.2	
	comp=N,7μm,0.2s						
TMU	**Temuco**	**1.88**	**165**	⇓*iP*	**Pn**	**02 46 42.7**	**-0.4**
TMU				*i* S	**Sn**	**02 47 05.7**	**-0.2**
CANA	**Caviahue**	**1.98**	**120**	*i* P	**Pn**	**02 46 44.0**	**-0.6**
CANA				IAML		02 46 46.7	
	comp=Z,297nm,0.3s						
GO06	**Curarrehue**	**2.99**	**153**	⇑*iP*	**Pn**	**02 46 58.7**	**+0.1**
GO06				*i* S	**Sn**	**02 47 36.1**	**+2.4**
ROC1	**El Roble**	**4.34**	**25**	*e*Pn	**Pn**	**02 47 18.4**	**+1.2**
ROC1				*e*Sn	**Sn**	**02 48 06.5**	**-0.5**
ROC1	**El Roble**	**4.34**	**25**	*i* P	**Pn**	**02 47 17.8**	**+0.6**
PLCA	**Paso Flores**	**4.34**	**152**	Pn	**Pn**	**02 47 17.8**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=348,slow=11,SNR=6.8						
PLCA				Lg	Lg	02 48 21.4	
	comp=Z,2.7nm,0.3s,baz=72,slow=12,SNR=4.3						
PLCA				LR	LR	02 49 13.5	
	comp=Z,160nm,21.4s,baz=350,slow=42						
PLCA	**Paso Flores**	**4.34**	**152**	*e*Pn	**Pn**	**02 47 18.2**	**+1.2**
PLCA				*e*Sn	**Sn**	**02 48 06.9**	**+0.1**
PLCA				Lg	Lg	02 48 21.4	
PLCA	**Paso Flores**	**4.34**	**152**	*i* P	**Pn**	**02 47 17.2**	**+0.2**
PLCA				IAML		02 48 33.8	
	comp=Z,52nm,0.3s						
LCO	**Las Campanas**	**8.17**	**16**	*e*Pn	**Pn**	**02 48 09.0**	**-0.8**
LCO				*e*Sn	**Sn**	**02 49 39.6**	**-1.9**
TRQA	**Tornquist**	**9.01**	**101**	*e*Pn	**Pn**	**02 48 21.7**	**+0.6**
CHRN	**Cochrane**	**10.33**	**178**	*e*Pn	**Pn**	**02 48 39.5**	**+0.4**
EFI	**East Falkland**	**18.25**	**149**	*e*P	**Pn**	**02 50 24.2**	**+0.2**
	comp=Z,177nm,1.8s						
LPAZ	**La Paz**	**21.05**	**14**	P	**P**	**02 50 54.8**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=180,slow=15,SNR=2.0						
SIV	**San Ignacio**	**23.47**	**31**	P	**P**	**02 51 19.1**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=204,slow=10.0,SNR=2.4						
NNA	**Nana**	**25.04**	**352**	LR	LR	02 59 17.5	
	comp=Z,38nm,18.2s,baz=176,slow=32						
SAML	**Samuel**	**29.30**	**21**	*e*P	**P**	**02 52 13.1**	**0.0**
	comp=Z,4.2nm,1.3s						
RPN	**Rapa Nui**	**31.97**	**277**	LR	LR	03 03 05.5	
	comp=Z,100nm,18.3s,baz=346,slow=32						
BCIP	**Isla Barro Col**	**46.26**	**351**	*e*P	**P**	**02 54 34.6**	**-1.3**
	comp=Z,83nm,1.4s						
SNAA	**Sanae**	**49.27**	**157**	*e*P	**P**	**02 54 59.0**	**+0.3**
	comp=Z,5.0nm,1.2s						
FDF	**Fort de France**	**52.62**	**15**	*e*P	**P**	**02 55 24.5**	**0.0**
	comp=Z,78nm,1.4s						
QSPA	**South Pole Qui**	**53.32**	**180**	*e*P	**P**	**02 55 29.7**	**+0.4**
	comp=Z,15nm,1.8s						
LTX	**Lajitas**	**71

VHO	**Vista Hermosa**	**2.13**	**57**	*e*P	Pn	03 02 10.4	-1.7
VHO				*e*S	Sn	03 02 27.8	-11
HUIG	**Huatulco**	**2.40**	**93**	*i* P	Pn	03 02 13.5	-2.1
HUIG				*e*S	Sn	03 02 40.5	-4.3
HUIG	**Huatulco**	**2.40**	**93**	*e*P	Pn	03 02 14.6	-1.0
HUIG				*e*S	Sn	03 02 40.5	-4.3

IDC ***27*** *03:17:14.0±1.3,26˚.46N×144˚.14E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/62, mbtmp3.7/7, Error ellipse: s-maj=29.4km s-min=27.2km az=17.0*

ISCJB ***27*** *03:17:16.5±1.0, 26˚.5N±0˚.2×144˚.1E±0˚.1, h31km, mb3.7/7, Error ellipse: s-maj=24.3km s-min=12.2km az=14.9*

ISC 27 03:17:18.7±1.1, 26˚.5N±0˚.2×144˚.0E±0˚.1, h31km, n8, σ0s90/9, mb3.9/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.78**	**291**	Pn		**Pn**		**03 17 46.0**	**-1.3**
	26nm,0.3s,baz=261,slow=19,SNR=5.0								
JCJ				Sn		**Sn**		**03 18 09.2**	**+0.3**
	39nm,0.3s,baz=290,slow=24,SNR=7.3								
SONM	**Songino Array**	**36.32**	**316**	P		**P**		**03 24 21.0**	**+1.2**
	1.4nm,0.5s,baz=117,slow=7.6,SNR=14								
WRA	**Warramunga Arr**	**47.08**	**193**	P		**P**		**03 25 47.9**	**+0.1**
	1.1nm,0.9s,baz=14,slow=8.5,SNR=5.1								
MKAR	**Makanchi Array**	**52.16**	**310**	P		**P**		**03 26 26.5**	**+0.2**
	0.7nm,0.8s,baz=87,slow=9.7,SNR=6.6								
KURBB	**Kurchatov Arra**	**54.67**	**315**	P		**P**		**03 26 44.8**	**+0.1**
	0.6nm,0.5s,baz=91,slow=8.2,SNR=7.6								
ILAR	**Eielson Array**	**57.48**	**28**	P		**P**		**03 27 04.6**	**+0.1**
	0.5nm,1.1s,baz=249,slow=4.7,SNR=3.2								
BVAR	**Borovoye Array**	**59.63**	**318**	P		**P**		**03 27 20.3**	**+0.6**
	0.5nm,0.5s,baz=90,slow=7.2,SNR=3.5								
YKA	**Yellowknife Ar**	**71.91**	**29**	P		**P**		**03 28 37.5**	**-1.0**
	0.2nm,0.5s,baz=296,slow=6.7,SNR=4.5								

IDC ***27*** *03:21:44.7±1.4, 18˚.44S×167˚.23E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.6/40, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=55.4km s-min=29.1km az=132.0*

ISCJB ***27*** *03:21:48.2±1.1, 18˚.60S±0˚.09×167˚.2E±0˚.3, h33km, mb3.9/3, Error ellipse: s-maj=35.7km s-min=11.6km az=12.0*

ISC 27 03:21:50.3±1.0, 18˚.6S±0˚.1×167˚.3E±0˚.3, h35km, n9, σ0s98/10, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.51**	**193**	Pn		**Pn**		**03 22 42.3**	**-0.1**
	3.2nm,0.3s,baz=125,slow=13,SNR=71								
DZM				Sn		**Sn**		**03 23 22.7**	**-0.1**
	6.3nm,0.3s,baz=147,slow=20,SNR=7.5								
ASAR	**Alice Springs**	**31.48**	**255**	P		**P**		**03 28 08.8**	**-0.2**
	1.2nm,0.6s,baz=81,slow=8.7,SNR=15								
NVAR	**Mina Array Bea**	**89.80**	**49**	P		**P**		**03 34 46.3**	**+0.6**
	0.3nm,0.5s,baz=216,slow=7.3,SNR=4.8								
ILAR	**Eielson Array**	**90.22**	**18**	P		**P**		**03 34 44.9**	**-1.8**
	0.4nm,0.7s,baz=234,slow=4.9,SNR=9.9								
KBA	**Koelnbreinsper**	**144.49**	**329**	*e*PKPdf		**PKPdf**		**03 41 24.5**	**+1.3**
	4.9nm,1.3s								
ABTA	**Abfaltersbach**	**145.13**	**329**	*i* PKPdf		**PKPbc**		**03 41 23.9**	**+0.1**
	3.4nm,0.9s								
RETA	**Reutte**	**145.41**	**332**	*e*PKPdf		**PKPab**		**03 41 25.8**	**+1.0**
	4.2nm,1.4s								
FETA	**Feichten**	**145.77**	**331**	*e*PKPdf		**PKPab**		**03 41 26.6**	**+0.3**
	4.4nm,0.8s								
DAVA	**Damuels**	**145.95**	**332**	*i* PKPdf		**PKPab**		**03 41 27.4**	**+0.4**
	4.6nm,1.1s								

ISCJB ***27*** *03:30:23.7±0.6, 52˚.38S±0˚.08×13˚.4E±0˚.2, h10km, mb4.2/9, MS3.5/15, Error ellipse: s-maj=21.6km s-min=11.1km az=2.4*

IDC ***27*** *03:30:24.5±0.8, 52˚.31S×13˚.44E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/42, mbtmp4.0/7, MS3.6/14, Ms1 3.6/14, ms1mx3.3/36, Error ellipse: s-maj=32.1km s-min=20.2km az=89.0*

NEIC ***27*** *03:30:25.7±0.4, 52˚.39S×13˚.53E, h10km, mb4.6/7, Error ellipse: s-maj=18.1km s-min=9.8km az=84.0*

ISC 27 03:30:25.5±0.8, 52˚.4S±0˚.1×13˚.6E±0˚.2, h10km, n33, σ0s90/21, mb4.1/9, MS3.5/15, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.67**	**18**	P		Pn		03 35 06.8	-1.1
	0.5nm,1.1s,baz=176,slow=14,SNR=2.4								
SUR				LR		LR		03 41 19.8	
	comp=Z,12nm,19.4s,baz=177,slow=32								
SUR	**Sutherland**	**20.67**	**18**	*e*P		Pn		03 35 06.8	-1.1
	46nm,1.4s								
SNAA	**Sanae**	**20.69**	**195**	P		**P**		**03 35 05.6**	**+0.2**
SNAA	**Sanae**	**20.69**	**195**	P		**P**		**03 35 05.8**	**+0.4**
	5.8nm,0.9s,baz=13,slow=10,SNR=11								
SNAA				LR		LR		03 41 09.9	
	comp=Z,120nm,21.1s,baz=102,slow=31								
SNAA	**Sanae**	**20.69**	**195**	*e*P		**P**		**03 35 05.4**	**0.0**
	9.2nm,0.8s								
VNA2	**Neumayer--Watz**	**20.88**	**199**	P		**P**		**03 35 07.5**	**+0.1**
	baz=31,slow=10								
VNA3	**Neumayer Olymp**	**21.60**	**200**	P		**P**		**03 35 12.8**	**-2.3**
BOSA	**Boshof**	**25.28**	**25**	LR		LR		03 44 07.3	
	comp=Z,144nm,20.4s,baz=212,slow=33								
MAW	**Mawson**	**28.00**	**142**	LR		LR		03 45 15.7	
	comp=Z,106nm,20.0s,baz=242,slow=32								
LBTB	**Lobatse**	**28.81**	**23**	LR		LR		03 46 23.7	
	comp=Z,98nm,19.6s,baz=192,slow=33								
QSPA	**South Pole Qui**	**37.86**	**180**	LR		LR		03 52 33.5	
	comp=Z,86nm,18.8s,baz=214,slow=35								
QSPA	**South Pole Qui**	**37.86**	**180**	*e*P		**P**		**03 37 41.8**	**-0.5**
	27nm,1.8s								
CASY	**Casey**	**46.18**	**146**	*e*P		**P**		**03 38 48.5**	**-1.3**
	66nm,1.9s								
VNDA	**Vanda**	**48.88**	**171**	P		**P**		**03 39 12.6**	**+1.9**
	0.6nm,0.8s,baz=207,slow=6.9,SNR=3.4								
VNDA				LR		LR		03 58 38.1	
	comp=Z,133nm,20.8s,baz=227,slow=35								
KMBO	**Kilima Mbogo**	**54.78**	**29**	LR		LR		04 02 29.4	
	comp=Z,39nm,18.4s,baz=60,slow=35								
CPUP	**Villa Florida**	**58.09**	**267**	P		**P**		**03 40 18.5**	**-0.4**
	0.9nm,0.9s,baz=130,slow=10,SNR=4.3								
CPUP	**Villa Florida**	**58.09**	**267**	*e*P		**P**		**03 40 18.5**	**-0.4**
	3.7nm,0.8s								
DBIC	**Dimbokro**	**60.88**	**339**	LR		LR		04 02 00.6	
	comp=Z,41nm,19.5s,baz=146,slow=31								
TORD	**Torodi Ar. Bea**	**66.06**	**347**	P		**P**		**03 41 11.9**	**-0.5**
	0.7nm,0.9s,baz=194,slow=5.3,SNR=4.6								
TORD				LR		LR		04 03 60.0	
	comp=Z,30nm,21.8s,baz=290,slow=30								
TOA1	**Torodi Ar. Sit**	**66.06**	**347**	*e*P		**P**		**03 41 11.9**	**-0.5**
KOWA	**Kowa**	**68.31**	**342**	P		**P**		**03 41 26.3**	**-0.4**
	1.5nm,1.0s,baz=255,slow=8.3,SNR=2.7								
KOWA				LR		LR		04 05 57.4	
	comp=Z,55nm,18.4s,baz=210,slow=31								
ATD	**Arta Tunnel**	**68.46**	**31**	LR		LR		04 10 21.5	
	comp=Z,26nm,18.8s,baz=82,slow=35								
LPAZ	**La Paz**	**72.23**	**266**	P		**P**		**03 41 52.3**	**+0.7**
	5.4nm,0.9s,baz=123,slow=6.0,SNR=19								
LPAZ	**La Paz**	**72.23**	**266**	*e*P		**P**		**03 41 52.3**	**+0.7**
	5.6nm,0.8s								
MMAI	**Mount Meron Ar**	**87.15**	**18**	LR		LR		04 22 09.0	
	comp=Z,29nm,18.2s,baz=215,slow=36								
ASAR	**Alice Springs**	**88.20**	**128**	P		**P**		**03 43 17.2**	**+0.4**
	0.9nm,0.8s,baz=212,slow=5.3,SNR=9.2								
AS31	**Alice Springs**	**88.20**	**128**	*e*P		**P**		**03 43 17.2**	**+0.4**
	0.6nm,0.6s								
BRTR	**Keskin Array B**	**93.37**	**15**	LR		LR		04 27 42.3	
	comp=Z,13nm,18.7s,baz=134,slow=37								
GNI	**Garni**	**96.05**	**24**	LR		LR		04 27 53.4	
	comp=Z,45nm,19.1s,baz=249,slow=36								
YKA	**Yellowknife Ar**	**151.12**	**311**	PKPbc		**PKPbc**		**03 50 17.2**	**-0.3**
	1.7nm,0.8s,baz=89,slow=2.5,SNR=36								
YKB5	**Yellowknife Ar**	**151.12**	**311**	*e*PKPbc		**PKPbc**		**03 50 17.2**	**-0.3**
ILAR	**Eielson Array**	**164.03**	**329**	PKPab		**PKPab**		**03 51 21.7**	**+0.8**
	0.6nm,1.1s,baz=28,slow=2.3,SNR=3.5								
ILB	**Eielson Array**	**164.03**	**329**	*e*PKPab		**PKPab**		**03 51 21.7**	**+0.8**

IDC ***27*** *03:36:00.3±7.8, 19˚.55S×178˚.17W, h421km±87km, mb3.2/8, mb1 3.6/8, mb1mx3.3/40, mbtmp4.0/8, Error ellipse: s-maj=87.0km s-min=24.9km az=158.0*

ISC 27 03:35:57.5±0.8, 19˚.9S±0˚.2×177˚.9W±0˚.2, h400km, n13, σ0s85/12, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.80**	**192**	S		**S**		**03 43 00.8**	**-0.8**
	0.2nm,0.3s,baz=90,slow=20,SNR=4.2								
STKA	**Stephens Creek**	**38.11**	**243**	P		**P**		**03 42 40.8**	**+0.6**
	1.3nm,0.5s,baz=88,slow=10,SNR=4.2								
ASAR	**Alice Springs**	**44.72**	**256**	P		**P**		**03 43 33.7**	**+0.4**
	1.3nm,0.6s,baz=91,slow=7.9,SNR=14								
WRA	**Warramunga Arr**	**44.75**	**261**	P		**P**		**03 43 33.1**	**-0.4**
	0.6nm,0.3s,baz=96,slow=7.3,SNR=22								
NVAR	**Mina Array Bea**	**80.54**	**43**	P		**P**		**03 47 27.6**	**+0.7**
	1.0nm,0.8s,baz=224,slow=8.9,SNR=6.4								
TXAR	**Lajitas Array**	**86.68**	**57**	P		**P**		**03 47 58.7**	**+1.0**
	0.9nm,0.7s,baz=218,slow=6.6,SNR=16								
ILAR	**Eielson Array**	**87.71**	**13**	P		**P**		**03 48 01.1**	**-0.5**
	0.9nm,0.6s,baz=222,slow=5.7,SNR=17								
PDAR	**Pinedale Array**	**88.48**	**43**	P		**P**		**03 48 05.8**	**-0.2**
	0.8nm,0.6s,baz=181,slow=3.5,SNR=8.5								
YKA	**Yellowknife Ar**	**95.94**	**25**	P		**P**		**03 48 38.6**	**-0.9**
	0.1nm,0.6s,baz=246,slow=4.6,SNR=4.5								
ARCES	**ARCESS Array B**	**128.34**	**350**	PKP		**PKPdf**		**03 54 15.6**	**-1.0**
	2.9nm,0.9s,baz=85,slow=1.5,SNR=6.8								
AKASG	**Malin Array Be**	**142.52**	**332**	PKhKP		PKPpre		03 54 39.5	
	0.6nm,0.4s,baz=38,slow=4.4,SNR=4.9								
BRTR	**Keskin Array B**	**146.48**	**313**	PKPbc		**PKPdf**		**03 54 51.9**	**+1.1**
	0.8nm,0.5s,baz=142,slow=3.6,SNR=5.9								
GERES	**GERESS Array B**	**149.64**	**345**	PKPbc		**PKPbc**		**03 55 00.2**	**-0.4**
	1.5nm,0.6s,baz=32,slow=2.6,SNR=17								

IDC ***27*** *03:40:45.7±1.1, 53˚.66N×108˚.53E, h0km, mb3.7/5, mb1 3.6/9, mb1mx3.4/69, mbtmp3.5/9, ML3.0/4, MS3.5/2, Ms1 3.5/2, ms1mx2.4/67, Error ellipse: s-maj=22.1km s-min=18.8km az=84.0*

MOS ***27*** *03:40:45.8±0.7, 53˚.63N×108˚.66E, h12km, mb3.9/3, Error ellipse: s-maj=12.1km s-min=7.8km az=58.2*

BYKL ***27*** *03:40:46.6±0.2, 53˚.67N×108˚.53E*

ISC 27 03:40:45.9±1.1, 53˚.74N±0˚.02×108˚.63E±0˚.02, h3km±8km, n54, σ2s06/113, mb3.7/5, 3C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.62**	**261**	↑ *i*Pg		**Pg**		**03 40 58.0**	**+0.2**
OGRR				*e*Sg		**Sg**		**03 41 05.5**	**-0.3**
OGRR				Pmax					
	545nm,0.3s								
OGRR				Smax					
	2µm,0.2s								
OGRR	**Ongureny**	**0.62**	**261**	*e*PG		**Pg**		**03 40 58.0**	**+0.2**
OGRR				*e*				03 41 05.8	
OGRR				pmax	pmax				
	comp=Z,538nm,0.3s								
OGRR				smax	smax				
	comp=E,2µm,0.3s								
SYVR	**Suvo**	**0.82**	**95**	↑ *i*Pg		**Pg**		**03 41 02.0**	**+0.4**
SYVR				*e*Sg		**Sg**		**03 41 13.5**	**+1.3**
SYVR				*e*Sb		**Sn**		**03 41 19.2**	**+2.3**
SYVR				Pmax					
	comp=E,259nm,0.5s								
SYVR				max					
	comp=E,724nm,0.2s								
SYVR	**Suvo**	**0.82**	**95**	*e*PG		**Pg**		**03 41 02.0**	**+0.4**
SYVR				*e*				03 41 13.5	
SYVR				pmax	pmax				
	comp=Z,270nm,0.4s								
SYVR				smax	smax				
	comp=N,852nm,0.5s								
TRG	**Tyrgan**	**1.69**	**235**	*e*Pg		**Pn**		**03 41 15.4**	**-0.8**
TRG				*e*				03 41 16.8	
TRG				*e*Sg		**Sn**		**03 41 36.8**	**-1.5**
TRG				max					
	comp=N,128nm,0.2s								
TRG				Smax					
	comp=N,2µm,0.4s								
TRG	**Tyrgan**	**1.69**	**235**	*e*PN		**Pn**		**03 41 15.4**	**-0.8**
TRG				*e*				03 41 36.5	
TRG				pmax	pmax				
	comp=Z,130nm,0.2s								
TRG				smax	smax				
	comp=E,2µm,0.4s								
YLYR	**Ulyunkhan**	**1.87**	**52**	↓ *i*Pn		**Pb**		**03 41 20.7**	**+0.1**
YLYR				*e*Pg		**Pg**		**03 41 21.7**	**0.0**
YLYR				*e*Sg		**Sg**		**03 41 47.4**	**+1.5**
YLYR				Pmax					
	comp=E,111nm,0.5s								
YLYR				Smax					
	comp=E,798nm,0.5s								
YLYR	**Ulyunkhan**	**1.87**	**52**	*e*PN		**Pb**		**03 41 20.7**	**+0.1**
YLYR				*e*				03 41 22.3	
YLYR				*e*				03 41 48.4	
YLYR				pmax	pmax				
	comp=Z,113nm,0.5s								
YLYR				smax	smax				
	comp=N,798nm,0.7s								
UUDB	**Ulan-Yde**	**1.97**	**198**	↑ *i*Pg		**Pn**		**03 41 20.6**	**+0.5**
UUDB				*e*Sg		**Sn**		**03 41 44.7**	**-0.5**
UUDB				Pmax					
	comp=N,201nm,0.2s								
UUDB				Smax					
	comp=N,1µm,0.6s								
KAB	**Kabansk**	**2.07**	**216**	*e*Pg		**Pn**		**03 41 23.1**	**+1.6**
KAB				*e*Sg		**Sn**		**03 41 47.8**	**0.0**
KAB				Pmax					
	comp=N,139nm,0.2s								
KAB				Smax					
	comp=N,2µm,0.4s								
NIZ	**Nizh Angarsk**	**2.10**	**14**	*e*Pg		**Pb**		**03 41 24.9**	**+0.3**
NIZ				*e*				03 41 31.2	
NIZ				*e*Sg		**Sg**		**03 41 53.8**	**+0.4**
NIZ				Pmax					
	comp=N,58nm,0.3s								
NIZ				Smax					
	comp=N,380nm,0.2s								
NIZ	**Nizh Angarsk**	**2.10**	**14**	*e*PN		**Pb**		**03 41 24.8**	**+0.2**
NIZ				*e*S		**Sb**		**03 41 50.3**	**-0.8**
NIZ				*e*				03 41 54.7	
NIZ				pmax	pmax				
	comp=Z,66nm,0.9s								
NIZ				smax	smax				
	comp=N,425nm,0.6s								
HRMR	**Khuramsha**	**2.35**	**206**	*e*Pn		**Pn**		**03 41 25.2**	**-0.1**
HRMR				*e*Pg		**Pb**		**03 41 27.7**	**-1.1**
HRMR				*e*Sn		**Sn**		**03 41 52.1**	**-2.5**
HRMR				*e*Sg		**Sb**		**03 41 57.5**	**-0.7**
HRMR				Pmax					
	comp=N,224nm,0.2s								
HRMR				Smax					
	comp=N,5µm,0.3s								
BGT	**Bolshoye Golou**	**2.59**	**230**	*e*Pn		**Pn**		**03 41 28.2**	**-0.4**
BGT				*e*Pg		**Pb**		**03 41 31.8**	**-1.0**
BGT				*e*Sn		**Sn**		**03 41 58.2**	**-2.3**
BGT				*e*Sg		**Sb**		**03 42 04.1**	**-0.9**
BGT				Pmax					
	comp=N,46nm,0.3s								
BGT				Smax					
	comp=N,443nm,0.6s								
KMO	**Kumora**	**2.62**	**34**	↓ *i*Pn		**Pb**		**03 41 31.5**	**-1.8**
KMO				*e*Pg		**Pg**		**03 41 34.9**	**-1.0**
KMO				*e*Sn		**Sn**		**03 42 01.6**	**+0.4**
KMO				*e*Sg		**Sg**		**03 42 10.9**	**+1.1**
KMO				Pmax					
	comp=N,140nm,0.4s								
KMO				Smax					
	comp=N,502nm,1.2s								
KMO	**Kumora**	**2.62**	**34**	*e*PN		**Pn**		**03 41 30.4**	**+1.4**
KMO				*e*				03 41 35.3	
KMO				*e*S		**Sb**		**03 42 03.9**	**-1.9**
KMO				*e*				03 42 10.9	
KMO				pmax	pmax				
	comp=Z,100nm,0.5s								
KMO				smax	smax				
	comp=N,502nm,1.2s								
LSTR	**Listvyanka**	**2.97**	**232**	*e*Pn		**Pn**		**03 41 33.6**	**-0.2**
LSTR				*e*Pg		**Pb**		**03 41 38.6**	**-0.8**
LSTR				*e*Sn		**Sn**		**03 42 05.9**	**-4.0**
LSTR				*e*Sg		**Sb**		**03 42 15.3**	**-0.7**
LSTR				Pmax					
	comp=N,29nm,0.3s								
LSTR				Smax					
	comp=N,280nm,0.7s								
YOA	**Uoyan**	**2.99**	**35**	*e*PN		**Pg**		**03 41 44.8**	**+1.7**
YOA				*e*				03 42 24.1	
YOA				pmax	pmax				
	comp=Z,119nm,0.5s								
YOA				smax	smax				
	comp=E,1µm,0.9s								
IRK	**Irkutsk**	**3.03**	**242**	*e*Pg		**Pb**		**03 41 40.0**	**-0.3**
IRK				*e*Sg		**Sb**		**03 42 16.9**	**-0.8**
IRK				Pmax					
	comp=E,213nm,0.2s								
IRK				Smax					
	comp=E,1µm,0.5s								
IRK	**Irkutsk**	**3.03**	**242**	*e*PN		**Pb**		**03 41 40.1**	**-0.3**
IRK				*e*				03 42 16.8	
IRK				pmax	pmax				
	comp=Z,215nm,0.2s								
IRK				smax	smax				
	comp=N,2µm,0.8s								
IVK	**Ivanovka**	**3.21**	**234**	*e*Pn		**Pn**		**03 41 37.0**	**-0.2**
IVK				*e*Pg		**Pb**		**03 41 42.9**	**-0.6**
IVK				*e*Sn		**Sn**		**03 42 11.8**	**-4.1**
IVK				*e*Sg		**Sb**		**03 42 22.5**	**-0.5**
IVK				Pmax					
	comp=N,29nm,0.3s								
IVK				Smax					
	comp=N,401nm,0.5s								
UKT	**Uakit**	**3.39**	**57**	*e*Pn		**Pn**		**03 41 42.2**	**+2.5**
UKT				*e*Pg		**Pg**		**03 41 50.4**	**-0.4**
UKT				*e*Sn		**Sn**		**03 42 22.3**	**+1.8**
UKT				*e*Sg		**Sg**		**03 42 34.1**	**-0.7**
UKT				*e*SgSg		Sb		03 42 42.1	+14
UKT				Pmax					
	comp=N,37nm,0.7s								
UKT				max					
	comp=N,203nm,0.7s								
CIT	**Chita**	**3.45**	**118**	*e*Pg		**Pb**		**03 41 48.1**	**+0.6**
CIT				*e*Sg		**Sb**		**03 42 32.8**	**+3.0**
CIT				Pmax					
	comp=N,149nm,0.1s								
CIT				Smax					
	comp=N,393nm,0.3s								
CIT	**Chita**	**3.45**	**118**	*e*PN		**Pn**		**03 41 39.2**	**-1.2**
CIT				*e*				03 41 47.4	
CIT				*e*S		**Sn**		**03 42 20.3**	**-1.4**
CIT				*e*				03 42 32.3	
CIT				pmax	pmax				
	comp=Z,146nm,0.5s								
CIT				smax	smax				
	comp=E,507nm,1.1s								
TLY	**Talaya**	**3.67**	**238**	*e*Pn		**Pn**		**03 41 43.2**	**-0.2**
TLY				*e*Pg		**Pb**		**03 41 50.8**	**-0.4**
TLY				*e*Sn		**Sn**		**03 42 24.4**	**-2.7**
TLY				*e*Sg		**Sb**		**03 42 36.0**	**-0.1**
TLY				Pmax					
	comp=E,33nm,0.4s								
TLY				Smax					
	comp=E,241nm,0.2s								
TLY	**Talaya**	**3.67**	**238**	*e*PN		**Pn**		**03 41 43.0**	**-0.4**
TLY				*e*				03 41 51.9	
TLY				*e*				03 42 36.4	
TLY				pmax	pmax				
	comp=Z,26nm,0.3s								
SVKR	**Severomuysk**	**3.71**	**48**	*e*Pn		**Pn**		**03 41 46.7**	**+2.7**
SVKR				*e*Pg		**Pg**		**03 41 55.9**	**-1.0**
SVKR				*e*Sn		**Sn**		**03 42 29.2**	**+1.0**
SVKR				*e*Sg		**Sg**		**03 42 45.6**	**+0.7**
SVKR				Pmax					
	comp=Z,87nm,0.4s								
SVKR				Smax					
	comp=Z,650nm,1.0s								
ARS	**Arshan**	**4.18**	**247**	*e*PN		**Pn**		**03 41 52.7**	**+2.2**
ARS				*e*				03 42 00.6	
ARS				*e*				03 42 51.1	
ARS				pmax	pmax				
	comp=Z,45nm,0.2s								
ARS				smax	smax				
	comp=E,971nm,0.6s								
KPC	**Khapcheranga**	**4.67**	**149**	*e*Pn		**Pn**		**03 41 55.5**	**-1.7**
KPC				*e*Pg		**Pb**		**03 42 09.0**	**+0.7**
KPC				*e*				03 42 10.8	
KPC				*e*Sn		**Sn**		**03 42 48.1**	**-3.8**
KPC				*e*Sg		**Sb**		**03 43 09.3**	**+4.4**
KPC				Pmax					
	comp=E,37nm,0.4s								
KPC				Smax					
	comp=E,199nm,0.8s								
KPC	**Khapcheranga**	**4.67**	**149**	*e*PN		**Pn**		**03 41 55.5**	**-1.7**
KPC				*e*				03 42 08.9	
KPC				*e*S		**Sn**		**03 42 47.7**	**-4.2**
KPC				*e*				03 43 09.7	
KPC				pmax	pmax				
	comp=Z,36nm,0.4s								
KPC				smax	smax				
	comp=E,200nm,0.8s								
ZAK	**Zakamensk**	**4.71**	**227**	*e*Pn		**Pn**		**03 41 58.1**	**+0.3**
ZAK				*e*Pg		**Pb**		**03 42 09.4**	**+0.3**
ZAK				*e*Sn		**Sn**		**03 42 48.2**	**-4.8**
ZAK				*e*Sg		**Sb**		**03 43 10.7**	**+4.5**
ZAK				Pmax					
	comp=E,10.0nm,0.4s								
ZAK				Smax					
	comp=E,78nm,0.3s								
ZAK	**Zakamensk**	**4.71**	**227**	*e*PN		**Pn**		**03 41 57.9**	**+0.1**
ZAK				*e*				03 42 12.3	
ZAK				*e*				03 43 12.4	
ZAK				pmax	pmax				
	comp=Z,10.0nm,0.3s								
ZAK				smax	smax				
	comp=N,78nm,0.5s								
MOY	**Mondy**	**5.08**	**249**	*e*Pn		**Pn**		**03 42 04.6**	**+1.6**
MOY				*e*Pg		**Pb**		**03 42 15.6**	**+0.1**
MOY				*e*				03 43 02.5	
MOY				*e*Sg		**Sb**		**03 43 19.9**	**+3.0**
MOY				*e*				03 43 30.6	
MOY				Pmax					
	comp=N,29nm,0.8s								
MOY				max					
	comp=N,479nm,1.3s								
MOY	**Mondy**	**5.08**	**249**	*e*PN		**Pn**		**03 42 04.8**	**+1.8**
MOY				*e*				03 42 18.0	
MOY				*e*				03 43 19.6	
MOY				pmax	pmax				
	comp=Z,29nm,0.7s								
MOY				smax	smax				

	comp=N,132nm,1.6s							
TUP	**Tupik**	**6.70**	**80**	*e*Pn		**Pn**	**03 42 25.7**	**+0.7**
TUP				*e*Pg		Pb	03 42 48.8	+5.9
TUP				*e*Sn		**Sn**	**03 43 38.3**	**-3.6**
TUP				*e*Sg		**Sg**	**03 44 15.7**	**-5.2**
TUP				Pmax				
	comp=N,6.0nm,0.6s							
TUP				Smax				
	comp=N,205nm,1.2s							
TUP	**Tupik**	**6.70**	**80**	*e*PN		**Pn**	**03 42 25.8**	**+0.7**
TUP				*e*			03 42 47.1	
TUP				*e*S		**Sn**	**03 43 38.4**	**-3.5**
TUP				*e*			03 44 14.3	
TUP				pmax	pmax			
	comp=Z,6.0nm,0.5s							
TUP				smax	smax			
	comp=N,205nm,1.2s							
ZALV	**Zalesovo Beam**	**14.04**	**280**	Pn		**Pn**	**03 44 06.5**	**+1.1**
	comp=N,0.2nm,0.3s,baz=76,slow=12,SNR=4.2							
ZALV				Lg	Lg		03 48 08.0	
	comp=N,0.2nm,0.3s,baz=87,slow=28,SNR=7.5							
MKAR	**Makanchi Array**	**18.14**	**258**	P		**Pn**	**03 44 58.4**	**-0.2**
	comp=N,0.1nm,0.3s,baz=70,slow=8.7,SNR=3.4							
KURK	**Kurchatov**	**18.56**	**273**	P		**P**	**03 45 03.0**	**-0.5**
KURBB	**Kurchatov Arra**	**18.65**	**273**	P		**P**	**03 45 03.0**	**-1.5**
	comp=N,0.0nm,0.3s,baz=66,slow=12,SNR=3.4							
BVAR	**Borovoye Array**	**22.64**	**284**	P		**P**	**03 45 48.2**	**+0.5**
	comp=N,0.6nm,0.5s,baz=74,slow=11,SNR=3.3							
SPITS	**Spitsbergen Ar**	**38.52**	**341**	LR		LR	04 06 47.7	
	comp=N,32nm,18.2s,baz=50,slow=40							
HFS	**Hagfors**	**47.86**	**318**	P		**P**	**03 49 24.7**	**+0.3**
	comp=N,3.2nm,0.9s,baz=74,slow=11,SNR=3.4							
ILAR	**Eielson Array**	**48.46**	**34**	P		**P**	**03 49 30.1**	**+1.2**
	comp=N,0.7nm,0.9s,baz=293,slow=6.0,SNR=6.0							
WRA	**Warramunga Arr**	**76.66**	**155**	P		**P**	**03 52 37.6**	**-0.2**
	comp=N,0.4nm,0.8s,baz=349,slow=7.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**89.24**	**291**	P		**P**	**03 53 43.2**	**0.0**
	comp=N,0.5nm,0.9s,baz=20,slow=4.3,SNR=6.4							
AFI	**Afiamalu**	**95.05**	**107**	LR		LR	04 31 21.4	
	comp=N,49nm,19.9s,baz=254,slow=32							

DJA ***27*** *03:47:15.9±1.2, 1°.5S×12°.9E±°, h10km±8km, M3.3/5, MLv3.3/5*
ISCJB ***27*** *03:47:18.1±0.7, 1°.45S±0°.07×129°.06E±0°.04, h33km, mb3.6/2, Error ellipse: s-maj=10.3km s-min=5.7km az=1.6*
IDC ***27*** *03:47:18.2±2.4, 1°.89S×129°.10E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.1/54, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=182.9km s-min=25.7km az=69.0*

ISC 27 03:47:18.9±1.2, 1°.41S±0°.08×129°.05E±0°.05, h35km, n7, σ1§23/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBMI	**Labuha**	**1.72**	**296**	P		**Pn**	**03 47 46.0**	**-0.4**
LBMI				S		**Sn**	**03 48 07.8**	**+0.6**
SWI	**Sorong**	**2.28**	**76**	P		**Pn**	**03 47 54.0**	**0.0**
SWI				S		**Sn**	**03 48 22.8**	**+1.9**
NLAI	**Namlea**	**2.66**	**227**	P		**Pn**	**03 47 59.6**	**+0.3**
NLAI				S		**Sn**	**03 48 32.0**	**+1.6**
FAKI	**Fak Fak**	**3.54**	**115**	P		**Pn**	**03 48 11.1**	**-0.2**
FAKI				S		**Sn**	**03 48 52.2**	**+0.3**
WRA	**Warramunga Arr**	**19.14**	**165**	P		**P**	**03 51 37.4**	**-1.8**
	0.1nm,0.3s,baz=348,slow=12,SNR=6.2							
ASAR	**Alice Springs**	**22.62**	**168**	P		**P**	**03 52 16.4**	**-0.5**
	1.2nm,0.4s,baz=344,slow=9.4,SNR=12							
MKAR	**Makanchi Array**	**63.07**	**326**	P		P	03 57 50.1	+7.3
	0.2nm,0.5s,baz=121,slow=7.2,SNR=2.9							

IDC ***27*** *03:49:19.1±4.1, 11°.37S×114°.41E, h0km, mb3.1/4, mb1 3.3/5, mb1mx3.2/53, mbtmp3.2/5, ML3.2/1, Error ellipse: s-maj=181.0km s-min=22.2km az=48.0*
ISCJB ***27*** *03:49:23.9±0.8, 10°.92S±0°.06×114°.97E±0°.06, h33km, mb3.2/3, Error ellipse: s-maj=10.6km s-min=6.2km az=136.9*
DJA ***27*** *03:49:27.5±0.7, 11°.5S×11°.5E±°, h23km, M3.4/7, MLv3.4/7*

ISC 27 03:49:25.8±1.0, 10°.93S±0°.09×114°.95E±0°.07, h35km, n10, σ1§32/15, mb3.6/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.57**	**342**	P		**Pn**	**03 50 05.1**	**+0.1**
JAGI				S		**Sn**	**03 50 34.0**	**-1.0**
SRBI	**Singaraja**	**2.84**	**5**	P		**Pn**	**03 50 10.2**	**+1.5**
SRBI				S		**Sn**	**03 50 41.4**	**-0.3**
GMJI	**Gumukmas**	**3.03**	**331**	P		**Pn**	**03 50 11.2**	**-0.1**
GMJI				S		**Sn**	**03 50 45.7**	**-0.7**
PLAI	**Plampang**	**3.48**	**53**	P		**Pn**	**03 50 17.7**	**+0.2**
PLAI				S		**Sn**	**03 50 54.9**	**-2.7**
PWJI	**Pagerwojo**	**4.24**	**313**	P		**Pn**	**03 50 27.9**	**-0.1**
PWJI				S		**Sn**	**03 51 14.5**	**-1.8**
FITZ	**Fitzroy Crossi**	**12.56**	**126**	Pn		**Pn**	**03 52 21.8**	**-0.4**
	0.1nm,0.3s,baz=315,slow=12,SNR=4.2							
FITZ				Sn		Sn	03 54 31.3	-10
	0.1nm,0.3s,baz=180,slow=20,SNR=3.2							
WRA	**Warramunga Arr**	**20.71**	**118**	P		**P**	**03 54 05.5**	**+2.1**
	0.2nm,0.7s,baz=290,slow=12,SNR=3.4							
ASAR	**Alice Springs**	**22.05**	**128**	P		**P**	**03 54 16.6**	**-1.2**
	0.1nm,0.5s,baz=309,slow=11,SNR=2.5							
SONM	**Songino Array**	**58.99**	**353**	P		**P**	**03 59 22.9**	**+0.8**
	0.2nm,0.4s,baz=183,slow=8.1,SNR=2.2							
MKAR	**Makanchi Array**	**64.46**	**336**	P		**P**	**03 59 59.0**	**+0.2**
	0.3nm,0.4s,baz=145,slow=6.8,SNR=3.9							

ISCJB ***27*** *03:52:52.7±0.9, 24°.48N±0°.09×122°.84E±0°.03, h90km±7km, Error ellipse: s-maj=14.9km s-min=3.7km az=4.5*
JMA ***27*** *03:52:52.8±0.2, 24°.50N×122°.87E, h93km±2km, M2.2*
TAP ***27*** *03:52:53.7, 24°.42N×122°.80E, h84km±1km, ML2.9, C*

ISC 27 03:52:52.3±1.8, 24°.5N±0°.1×122°.85E±0°.03, h96km±12km, n20, σ0§71/39, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonaguni jima**	**0.10**	**119**	P		**Pn**	**03 53 06.0**	**+0.2**
JYNG				eS		**Sn**	**03 53 15.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.15**	**104**	P		**Pn**	**03 53 06.1**	**+0.3**
	baz=75							
YOJ				S		**Sn**	**03 53 15.4**	**-0.5**
	baz=75							
YOJ	**Yonaguni jima**	**0.15**	**104**	P		**Pn**	**03 53 06.1**	**+0.3**
YOJ				S		**Sn**	**03 53 15.8**	**-0.2**
EOS1	**EOS1**	**0.66**	**275**	*e*P		**Pn**	**03 53 09.7**	**+0.8**
	baz=281							
EOS1				*e*S		**Sn**	**03 53 22.0**	**+0.6**
	baz=281							
IRIF	**Iriomote-Funau**	**0.82**	**101**	P		**Pn**	**03 53 10.7**	**+0.2**
IRIF				S		**Sn**	**03 53 23.6**	**-0.5**
TWC	**Suao**	**0.92**	**277**	P		**Pn**	**03 53 11.8**	**+0.3**
	baz=282							
TWC				S		**Sn**	**03 53 25.0**	**-1.0**
	baz=282							
HATJ	**Hateruma jima**	**0.97**	**117**	P		**Pn**	**03 53 12.9**	**+0.8**
HATJ				S		**Sn**	**03 53 27.5**	**+0.5**
NANB	**Nanao**	**1.01**	**266**	*e*P		**Pn**	**03 53 13.4**	**+0.9**
	baz=270							
NANB				*e*S		**Sn**	**03 53 26.6**	**-1.1**
	baz=270							
ENA	**Nanau**	**1.01**	**266**	*e*P		**Pn**	**03 53 13.4**	**+0.8**
	baz=270							
ENA				*e*S		**Sn**	**03 53 27.5**	**-0.4**
	baz=270							
TIPB	**Shuangxi**	**1.05**	**297**	*e*P		**Pn**	**03 53 13.0**	**0.0**
	baz=301							
TIPB				*e*S		**Sn**	**03 53 27.5**	**-1.0**
	baz=301							
JKRS	**Kuro-shima**	**1.09**	**104**	P		**Pn**	**03 53 14.0**	**+0.6**
JKRS				S		**Sn**	**03 53 29.4**	**+0.1**
ENTT	**Nioudou**	**1.18**	**277**	P		**Pn**	**03 53 15.6**	**+1.1**
	baz=280							
ENTT				S		**Sn**	**03 53 31.4**	**+0.1**
	baz=280							
JIJ	**Ishigaki jima**	**1.18**	**96**	P		**Pn**	**03 53 14.6**	**+0.1**
JIJ				S		**Sn**	**03 53 30.1**	**-1.2**
NACB	**Ninganchiao**	**1.19**	**255**	*e*P		**Pn**	**03 53 14.6**	**0.0**
	baz=257							
NACB				*e*S		**Sn**	**03 53 30.4**	**-1.1**
	baz=257							
TWD	**Chiawan**	**1.22**	**250**	P		**Pn**	**03 53 15.2**	**+0.2**
	baz=252							
TWD				S		**Sn**	**03 53 31.1**	**-0.9**
	baz=252							
NWLT	**Wulai**	**1.26**	**283**	*e*P		**Pn**	**03 53 16.5**	**+1.0**
	baz=286							
NWLT				*e*S		**Sn**	**03 53 32.7**	**-0.2**
	baz=286							
JISG	**Ishigakijimahi**	**1.33**	**86**	S		**Sn**	**03 53 33.4**	**-1.0**
NNSH	**Datong**	**1.34**	**267**	*e*P		**Pn**	**03 53 17.2**	**+0.7**
	baz=270							
NNSH				*e*S		**Sn**	**03 53 34.6**	**-0.2**
	baz=270							
WHF	**Hehuan Shan**	**1.49**	**257**	*e*P		**Pn**	**03 53 19.2**	**+0.5**
	baz=258							
WHF				*e*S		**Sn**	**03 53 38.1**	**-0.4**
	baz=258							
OWD	**Renai**	**1.62**	**251**	*e*P		**Pn**	**03 53 20.6**	**+0.5**
	baz=252							
OWD				*e*S		**Sn**	**03 53 39.7**	**-1.4**
	baz=252							

GUC 27 03:54:40.7±0.3, 35°.53S×73°.00W, h23km±12km, ML3.7, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COCH	**Cobquecura**	**0.63**	**164**	⇓*i*P		Pb	03 54 51.9	-1.2
COCH				*i* S		Sb	03 55 00.3	-1.2
CCHI	**Chillan**	**1.31**	**145**	*e*P		Pn	03 55 03.0	-0.6
CCHI				*i* S		Sb	03 55 21.0	0.0
CCHI				IAML			03 55 29.5	
	comp=E,1μm,0.4s							
CCSP	**San Pedro de C**	**1.32**	**184**	IAML			03 55 24.1	
	comp=N,1μm,0.4s							
NICH	**Los Niches**	**1.54**	**71**	⇑*i*P		Pb	03 55 08.0	-0.6
NICH				*i* S		Sb	03 55 27.5	-0.1
LMEL	**Las Melosas**	**2.85**	**55**	*e*P		Pn	03 55 25.8	+0.9
LMEL				*i* S		Sn	03 55 59.8	+1.3
LMEL				IAML			03 56 12.5	
	comp=N,310nm,0.6s							
LMEL				IAML			03 56 12.6	
	comp=N,313nm,0.9s							
CLCH	**Cerro Calan**	**2.94**	**44**	*e*P		Pn	03 55 26.9	+0.8
CLCH				IAML			03 56 20.9	
	comp=E,392nm,0.6s							
ROCH	**El Roble**	**3.03**	**33**	IAML			03 56 34.3	
	comp=N,181nm,0.6s							
PEL	**Peldehue**	**3.05**	**40**	*e*P		Pn	03 55 28.2	+0.6
TMU	**Temuco**	**3.22**	**174**	IAML			03 56 25.2	
	comp=E,130nm,0.5s							

SJA 27 03:55:23.7±0.7, 26°.53S×66°.14W, h37km±30km, ML2.9, MW3.6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FSA	**Cafayete**	**0.44**	**19**	*i* P		Pn	03 55 34.6	+1.0
FSA				IAML			03 55 42.5	
	comp=Z,785nm,0.2s							
FSA				*i* S		Sn	03 55 42.6	+1.9
AHML	**Horco Molle**	**0.76**	**109**	*i* P		Pn	03 55 39.8	+1.8
AHML				*i* S		Sn	03 55 50.8	+2.6
AHML				IAML			03 55 51.0	
	comp=Z,505nm,0.3s							
CYA	**Choya**	**1.93**	**171**	*i* P		Pn	03 55 56.2	+2.3
CYA				*i* S		Sn	03 56 19.5	+2.5
CYA				IAML			03 56 22.1	
	comp=Z,109nm,0.4s							

SJA ***27*** *04:03:33.2±0.5, 24°.20S×67°.41W, h170km±31km, ML2.1, MW2.8*
ISCJB ***27*** *04:03:35.5±1.3, 24°.19S±0°.05×67°.23W±0°.04, h179km±17km, Error ellipse: s-maj=8.5km s-min=6.0km az=14.3*
GUC ***27*** *04:03:37.2±0.5, 24°.16S×67°.67W, h210km±11km, ML4.0*

ISC 27 04:03:34.1±2.9, 24°.21S±0°.06×67°.19W±0°.05, h195km±30km, n12, σ1§50/21, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HJA	**Humahuaca**	**1.91**	**59**	*i* P		**Pn**	**04 04 12.4**	**+0.6**
HJA				IAML			04 04 14.5	
	comp=Z,16nm,0.4s							
AZAP	**Zapla**	**1.94**	**91**	*i* P		**Pn**	**04 04 12.4**	**+0.6**
AZAP				IAML			04 04 13.4	
	comp=Z,14nm,0.2s							
AZAP				*i* S		**Sn**	**04 04 41.3**	**+0.2**
FSA	**Cafayete**	**2.19**	**150**	*i* P		**Pn**	**04 04 14.1**	**-0.3**
FSA				IAML			04 04 14.4	
	comp=Z,3.8nm,0.3s							
GO02	**Mina Guanaco**	**2.38**	**246**	⇑*i*P		**Pn**	**04 04 17.9**	**+1.2**
GO02				*i* S		**Sn**	**04 04 50.0**	**+0.2**
YJA	**Yavi**	**2.54**	**38**	*i* P		**Pn**	**04 04 18.8**	**+0.1**
YJA				IAML			04 04 21.0	
	comp=Z,2.7nm,0.4s							
YJA				*i* S		**Sn**	**04 04 53.2**	**-0.1**
PB06	**IPOC Station P**	**2.65**	**304**	⇑*i*P		**Pn**	**04 04 21.1**	**+1.5**
PB06				*i* S		**Sn**	**04 04 54.1**	**-1.0**
PB06				IAML			04 04 56.5	
	comp=E,362nm,0.1s							
PB14	**IPOC Station P**	**2.96**	**261**	⇑*i*P		**Pn**	**04 04 24.4**	**+1.0**
PB14				*i* S		**Sn**	**04 05 00.1**	**-1.6**
PB09	**IPOC Station P**	**3.06**	**321**	⇑*i*P		**Pn**	**04 04 26.7**	**+2.3**
PB09				*i* S		**Sn**	**04 05 04.0**	**+0.4**
PB09				IAML			04 05 06.7	
	comp=E,276nm,0.1s							
AHML	**Horco Molle**	**3.06**	**147**	*i* P		**Pn**	**04 04 24.7**	**+0.5**
AHML				IAML			04 04 25.4	
	comp=Z,2.7nm,0.3s							
PB04	**IPOC Station P**	**3.30**	**304**	⇑*i*P		**Pn**	**04 04 28.6**	**+1.3**
PB04				*i* S		**Sn**	**04 05 07.1**	**-1.8**
PB04				IAML			04 05 09.3	
	comp=N,133nm,0.3s							
PB07	**IPOC Station P**	**3.51**	**314**	⇑*i*P		**Pn**	**04 04 31.0**	**+1.1**
PB07				*i* S		**Sn**	**04 05 10.3**	**-3.1**
PB07				IAML			04 05 12.8	
	comp=E,166nm,0.5s							
PB02	**IPOC Station P**	**3.81**	**318**	*e*P		**Pn**	**04 04 34.3**	**+0.7**
PB02				*i* S		**Sn**	**04 05 17.4**	**-2.7**
PB02				IAML			04 05 23.8	
	comp=E,113nm,0.2s							

NIED ***27*** *04:22:00, 35°.70N×140°.90E, h17km, Mw3.3 Best double couple: M0 1.09000×10^14 NP1: φ=199.00000°, δ=40.00000°, λ=-61.00000°. NP2: φ=344.00000°, δ=56.00000°, λ=-112.00000°.*

JMA 27 04:22:09.4±0.1, 35°.71N×140°.89E, h14km±1km, M3.6, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**0.03**	**254**	⇓P		Pg	04 22 11.8	-0.1
CHOJ				eS		Sg	04 22 13.6	0.0
JCN	**Nagara**	**0.63**	**243**	⇑P		Pb	04 22 22.4	+0.2
JYT	**Yasato**	**0.77**	**313**	⇑P		Pg	04 22 23.6	-0.7
JYT				S		Sg	04 22 33.6	-0.8
JHO	**Hitachi**	**0.94**	**344**	P		Pb	04 22 26.1	-1.3
JHO				eS		Sb	04 22 38.7	-1.0
BSO3	**Boso 3**	**0.96**	**199**	P		Pb	04 22 27.2	-0.4
MAT	**Matsushiro**	**2.33**	**292**	P		Pn	04 22 47.1	-0.2
MAT				eS		Sn	04 23 13.5	-2.2

IDC ***27*** *04:31:13.7±1.1, 40°.97N×141°.13E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/57, mbtmp3.5/6, Error ellipse: s-maj=28.1km s-min=27.2km az=9.0*
ISCJB ***27*** *04:31:25.2±0.5, 41°.12N±0°.05×141°.1E±0°.1, h104km±3km, mb3.4/6, Error ellipse: s-maj=13.3km s-min=7.4km az=165.1*
JMA ***27*** *04:31:26.2±0.1, 41°.16N×141°.14E, h97km±1km, M2.7*

ISC 27 04:31:26.1±0.8, 41°.13N±0°.05×141°.10E±0°.08, h99km±6km, n16, σ0§52/23, mb3.5/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOT	**Ohata**	**0.25**	**351**	P		**Pn**	**04 31 40.2**	**-0.2**
JOT				S		**Sn**	**04 31 51.2**	**+0.2**
JTM	**Tenmabayashi**	**0.35**	**184**	P		**Pn**	**04 31 40.8**	**0.0**
JTM				S		**Sn**	**04 31 51.5**	**-0.3**
JSI2	**Shiura 2**	**0.53**	**262**	P		**Pn**	**04 31 42.1**	**+0.2**
JSI2				S		**Sn**	**04 31 53.8**	**0.0**
JSR	**Shiriuchi**	**0.65**	**308**	P		**Pn**	**04 31 42.9**	**-0.1**
JKB	**Kayabe**	**0.76**	**356**	P		**Pn**	**04 31 44.0**	**+0.1**
JKB				S		**Sn**	**04 31 57.4**	**+0.1**
JANG	**Nango**	**0.82**	**157**	P		**Pn**	**04 31 44.3**	**-0.3**
JANG				S		**Sn**	**04 31 57.8**	**-0.7**
JAH	**Hinai**	**1.01**	**201**	P		**Pn**	**04 31 47.3**	**+0.8**
JAH				S		**Sn**	**04 32 02.9**	**+1.0**
JYM2	**Yakumo 2**	**1.13**	**331**	P		**Pn**	**04 31 48.0**	**+0.2**
JNB	**Noboribetsu**	**1.34**	**358**	P		**Pn**	**04 31 50.5**	**+0.2**
JOSM	**Okushiri--Mats**	**1.54**	**308**	P		**Pn**	**04 31 52.4**	**-0.4**
JOSM				eS		**Sn**	**04 32 12.8**	**-0.3**
MKAR	**Makanchi Array**	**41.85**	**298**	P		**P**	**04 39 05.8**	**-0.3**
	0.5nm,0.7s,baz=80,slow=9.2,SNR=5.4							
KURBB	**Kurchatov Arra**	**43.38**	**305**	P		**P**	**04 39 18.2**	**-0.2**
	0.6nm,0.5s,baz=81,slow=8.9,SNR=3.8							
ILAR	**Eielson Array**	**46.21**	**34**	P		**P**	**04 39 41.6**	**+0.9**
	0.3nm,0.7s,baz=261,slow=5.9,SNR=4.0							
BVAR	**Borovoye Array**	**47.70**	**310**	P		**P**	**04 39 52.7**	**+0.3**
	0.3nm,0.4s,baz=71,slow=9.7,SNR=2.4							
WRA	**Warramunga Arr**	**61.09**	**187**	P		**P**	**04 41 28.5**	**-1.1**
	0.2nm,0.4s,baz=6.7,slow=7.2,SNR=9.7							
PDAR	**Pinedale Array**	**74.98**	**46**	P		**P**	**04 42 57.0**	**+0.2**
	0.3nm,0.7s,baz=287,slow=6.5,SNR=2.4							

NDI 27 04:49:27.2±0.9, 11°.25N×78°.58E, h11km±4km, ML3.6, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SALM	**Salem**	**0.55**	**317**	*e*PG		Pg	04 49 38.0	+0.1
SALM				*e*SG		Sb	04 49 46.0	-0.7
KGF	**KGF**	**1.72**	**349**	*e*P		Pn	04 49 56.9	-0.4
KGF				*e*S		Sn	04 50 19.7	+0.4
KGF				IAML			04 50 23.5	
	comp=E,3μm,0.1s							
KGF				IAML			04 50 23.6	
	comp=N,1μm,0.1s							
PCHI	**Peechi**	**2.31**	**252**	*e*P		Pn	04 50 05.2	+0.1
PCHI				*e*S		Sn	04 50 33.8	+0.2
PCHI				IAML			04 50 35.8	
	comp=N,482nm,0.0s							
MDRS	**Chennai**	**2.44**	**42**	*e*P		Pn	04 50 07.3	+0.4
MDRS				*e*S		Sn	04 50 36.9	+0.1
MDRS				IAML			04 50 41.5	
	comp=N,105nm,0.1s							
TRD	**Trivandrum**	**3.15**	**211**	IAML			04 51 00.6	
	comp=N,196nm,0.1s							
TRD				IAML			04 51 00.6	
	comp=E,331nm,0.0s							

ATH ***27*** *05:15:51.6, 36°.06N×27°.24E, h22km±2km, ML2.5/4, Error ellipse: s-maj=5.3km s-min=1.1km az=147.0*
ISCJB ***27*** *05:15:52.7±0.8, 36°.01N±0°.04×27°.26E±0°.05, h11km±7km, Error ellipse: s-maj=9.1km s-min=3.8km az=139.0*
CSEM ***27*** *05:15:52.9±0.2, 36°.01N×27°.28E, h10km, ML2.5, Error ellipse: s-maj=7.0km s-min=3.5km az=129.0*
DDA ***27*** *05:15:52.1, 35°.93N×27°.47E, h8km, Ml2.8*
ISK ***27*** *05:15:52.4, 36°.04N×27°.34E, h9km, ML2.6/6*

ISC 27 05:15:52.5±1.1, 36°.03N±0°.03×27°.34E±0°.04, h18km±5km, n42, σ1§46/59, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**0.50**	**197**	PG		**Pb**	**05 16 03.3**	**+0.5**
KARP				SG		**Sb**	**05 16 10.2**	**+0.4**
KARP	**Karpathos**	**0.50**	**197**	P		**Pg**	**05 16 01.8**	**-0.8**
KARP				S		**Sg**	**05 16 09.7**	**+0.3**
KARP				AML	AML		05 16 10.3	
	comp=E,1164μm,0.1s							
KARP				AML	AML		05 16 10.6	
	comp=N,983μm,0.2s							
KARP	**Karpathos**	**0.50**	**197**	P		**Pg**	**05 16 01.9**	**-0.7**
KARP	**Karpathos**	**0.50**	**197**	*e*Pg		**Pb**	**05 16 03.3**	**+0.5**
KARP				S		**Sg**	**05 16 09.6**	**+0.2**
KARP				*e*Sg		**Sb**	**05 16 10.2**	**+0.4**
ARG	**Arkhangelos**	**0.66**	**73**	P		**Pg**	**05 16 05.4**	**-0.2**
ARG				S		**Sb**	**05 16 16.5**	**+2.1**
ARG				AML	AML		05 16 18.0	
	comp=E,1703μm,0.2s							
ARG				AML	AML		05 16 19.3	
	comp=N,762μm,0.2s							
ARG	**Arkhangelos**	**0.66**	**73**	P		**Pg**	**05 16 05.6**	**0.0**
ARG				S		**Sb**	**05 16 16.4**	**+2.0**
BODT	**Bodrum**	**1.03**	**359**	PG		**Pn**	**05 16 12.5**	**+0.4**
BODT	**Bodrum**	**1.03**	**359**	*e*Pg		**Pn**	**05 16 12.5**	**+0.4**
BDRM	**Kayabasi**	**1.04**	**5**	*i* P		**Pn**	**05 16 13.7**	**+1.5**
BDRM	**Kayabasi**	**1.04**	**5**	P		**Pn**	**05 16 13.7**	**+1.5**
ZKR	**Zakros**	**1.29**	**225**	P		**Pn**	**05 16 15.6**	**-0.1**
ZKR				S		**Sb**	**05 16 32.6**	**+0.1**
ZKR				AML	AML		05 16 35.6	
	comp=E,584μm,0.4s							
ZKR				AML	AML		05 16 37.0	
	comp=N,324μm,0.5s							
ZKR	**Zakros**	**1.29**	**225**	P		**Pn**	**05 16 15.5**	**-0.1**
ZKR				S		**Sb**	**05 16 32.7**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.32**	**53**	PN		**Pg**	**05 16 17.7**	**-0.3**
DALY	**Dalyan (Mu˘la**	**1.32**	**53**	*i* P		**Pg**	**05 16 18.2**	**+0.2**
DALY				*i* S		**Sg**	**05 16 35.7**	**+0.4**
DALY	**Dalyan (Mu˘la**	**1.32**	**53**	*e*Pn		**Pg**	**05 16 17.7**	**-0.3**
DALY	**Dalyan (Mu˘la**	**1.32**	**53**	P		**Pg**	**05 16 18.2**	**+0.2**
DALY				S		**Sg**	**05 16 35.6**	**+0.4**
TURN	**Turunc**	**1.32**	**50**	PG		**Pn**	**05 16 12.3**	**-3.8**
TURN	**Turunc**	**1.32**	**50**	*i* P		**Pn**	**05 16 12.6**	**-3.4**
TURN				*i* S		**Sb**	**05 16 26.9**	**-6.5**
YER	**Yerkesik**	**1.34**	**34**	PN		**Pb**	**05 16 17.3**	**+0.2**
YER	**Yerkesik**	**1.34**	**34**	*e*Pn		**Pb**	**05 16 17.3**	**+0.2**
FETY	**Fethiye**	**1.53**	**66**	PN		**Pb**	**05 16 20.9**	**+0.5**
FETY	**Fethiye**	**1.53**	**66**	*e*Pn		**Pb**	**05 16 20.9**	**+0.5**
NPS	**Neapolis**	**1.60**	**242**	P		**Pn**	**05 16 20.0**	**0.0**
NPS				S		**Sn**	**05 16 39.5**	**-0.6**
NPS				AML	AML		05 16 46.5	
	comp=N,253μm,0.3s							
NPS				AML	AML		05

SVV eS Sn 05 18 51.1 +0.2

*ISK **27** 05:21:55.8, 39.10N×29.11E, h4km, ML2.6/11*
*CSEM **27** 05:21:56.3±0.2, 39.12N×29.10E, h0km±1km, ML2.6, Error ellipse: s-maj=3.5km s-min=2.6km az=171.0*
*DDA **27** 05:21:56.0, 39.11N×29.09E, h7km, Ml2.5*

ISC 27 05:21:56.4±0.9, 39.11N±0.03×29.10E±0.02, h7km±7km, n48, σ0966/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMA	**Simav-Kutahya**	**0.09**	**251**	PG		**Pg**	**05 21 58.7**	**+0.1**
SIMA				SG		**Sg**	**05 22 00.4**	**+0.3**
SIMA	**Simav-Kutahya**	**0.09**	**251**	*e*Pg		**Pg**	**05 21 58.7**	**+0.1**
SIMA				*e*Sg		**Sg**	**05 22 00.4**	**+0.3**
GDZ	**Gediz**	**0.30**	**95**	*i* P		**Pg**	**05 22 01.9**	**-0.5**
GDZ				*i* S		**Sg**	**05 22 06.5**	**+0.1**
GDZ	**Gediz**	**0.30**	**95**	P		**Pg**	**05 22 01.9**	**-0.5**
GDZ				S		**Sg**	**05 22 06.5**	**+0.1**
DEMI	**Demirci**	**0.30**	**257**	*i* P		**Pg**	**05 22 02.0**	**-0.4**
DEMI				*i* S		**Sg**	**05 22 06.1**	**-0.3**
DEMI	**Demirci**	**0.30**	**257**	P		**Pg**	**05 22 02.0**	**-0.4**
DEMI				S		**Sg**	**05 22 06.1**	**-0.3**
TVSB	**Tavsanli**	**0.44**	**40**	PG		**Pg**	**05 22 04.0**	**-1.0**
TVSB	**Tavsanli**	**0.44**	**40**	*e*Pg		**Pg**	**05 22 04.0**	**-1.0**
DURS	**Dursunbey**	**0.68**	**316**	*i* P		**Pg**	**05 22 09.7**	**0.0**
DURS	**Dursunbey**	**0.68**	**316**	P		**Pg**	**05 22 09.6**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**210**	PG		**Pg**	**05 22 09.3**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg		**Pg**	**05 22 09.3**	**-0.4**
ORLT	**Orhaneli**	**0.94**	**351**	PG		**Pb**	**05 22 14.8**	**-0.4**
ORLT	**Orhaneli**	**0.94**	**351**	*e*Pg		**Pb**	**05 22 14.8**	**-0.4**
AKHS	**Akhisar**	**1.02**	**257**	*i* P		**Pg**	**05 22 15.9**	**-0.2**
AKHS	**Akhisar**	**1.02**	**257**	P		**Pg**	**05 22 15.9**	**-0.2**
BALB	**Balikesir**	**1.08**	**300**	PN		**Pn**	**05 22 17.7**	**-0.3**
BALB	**Balikesir**	**1.08**	**300**	*e*Pn		**Pn**	**05 22 17.7**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.10**	**284**	*i* P		**Pg**	**05 22 17.4**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.10**	**284**	P		**Pg**	**05 22 17.4**	**-0.2**
KZIL	**AFYON_Kizioren**	**1.18**	**136**	*i* P		**Pn**	**05 22 20.0**	**+0.4**
KZIL				*i* S		**Sn**	**05 22 36.4**	**+0.4**
KZIL	**AFYON_Kizioren**	**1.18**	**136**	P		**Pn**	**05 22 20.0**	**+0.4**
KZIL				S		**Sn**	**05 22 36.4**	**+0.4**
CAVI	**Cavuskoy**	**1.23**	**28**	PN		**Pb**	**05 22 20.0**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**28**	*e*Pn		**Pb**	**05 22 20.0**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	PN		**Pn**	**05 22 20.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	*e*Pn		**Pn**	**05 22 20.8**	**+0.2**
SHUT	**Suhut-Afyon**	**1.27**	**116**	PN		**Pn**	**05 22 21.1**	**+0.4**
SHUT	**Suhut-Afyon**	**1.27**	**116**	*e*Pn		**Pn**	**05 22 21.1**	**+0.4**
BORA	**Eskisehir**	**1.30**	**54**	*i* P		**Pb**	**05 22 21.4**	**+0.1**
BORA				*i* S		**Sn**	**05 22 39.3**	**+0.4**
BORA	**Eskisehir**	**1.30**	**54**	P		**Pb**	**05 22 21.4**	**+0.1**
BORA				S		**Sn**	**05 22 39.3**	**+0.4**
GONE	**Gonen-Balikesi**	**1.43**	**311**	PN		**Pb**	**05 22 23.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*Pn		**Pb**	**05 22 23.3**	**-0.2**
ARMT	**Armutlu**	**1.46**	**353**	PN		**Pg**	**05 22 24.2**	**-0.2**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn		**Pg**	**05 22 24.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**219**	PN		**Pg**	**05 22 24.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**219**	*e*Pn		**Pg**	**05 22 24.7**	**-0.5**
EDC	**Edincik**	**1.56**	**323**	PN		**Pb**	**05 22 25.3**	**-0.3**
EDC	**Edincik**	**1.56**	**323**	*e*Pn		**Pb**	**05 22 25.3**	**-0.3**
GULT	**Gulveren**	**1.71**	**39**	PN		**Pn**	**05 22 27.1**	**+0.3**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn		**Pn**	**05 22 27.1**	**+0.3**
SBT3	**Marmara-Eregli**	**1.97**	**334**	PN		**Pn**	**05 22 30.9**	**+0.8**
SBT3	**Marmara-Eregli**	**1.97**	**334**	*e*Pn		**Pn**	**05 22 30.9**	**+0.8**
CTKS	**Kestanelik-??a**	**2.17**	**348**	PN		**Pn**	**05 22 33.9**	**+0.9**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*Pn		**Pn**	**05 22 33.9**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.39**	**303**	PN		**Pn**	**05 22 37.6**	**+1.5**
GELI	**Tayfur-Gelibol**	**2.39**	**303**	*e*Pn		**Pn**	**05 22 37.6**	**+1.5**
ERIK	**Erikli-Kesan**	**2.52**	**309**	PN		**Pb**	**05 22 39.9**	**-2.1**
ERIK	**Erikli-Kesan**	**2.52**	**309**	*e*Pn		**Pb**	**05 22 39.9**	**-2.1**

*ISCJB **27** 05:34:37.9±0.7, 60.9S±0.1×26.5W±0.4, h10km, mb4.0/7, MS3.2/3, Error ellipse: s-maj=29.4km s-min=9.9km az=156.1*
*IDC **27** 05:34:38.6±0.9, 60.79S×26.64W, h0km, mb4.2/6, mb1 4.2/7, mb1mx3.9/29, mbtmp4.2/7, ML4.2/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/26, Error ellipse: s-maj=33.6km s-min=23.3km az=75.0*

ISC 27 05:34:40.4±0.8, 60.7S±0.1×26.4W±0.2, h10km, n22, σ1942/14, mb4.0/7, MS3.2/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	**Neumayer--Stat**	**12.36**	**151**	P		**Pn**	**05 37 34.4**	**-1.6**
VNA3	**Neumayer Olymp**	**12.47**	**155**	P		**Pn**	**05 37 36.4**	**-1.3**
VNA3				S		Sn	05 39 44.6	-12
VNA2	**Neumayer--Watz**	**12.76**	**151**	P		**Pn**	**05 37 40.6**	**-0.8**
	baz=306,slow=15							
VNA2				S		Sn	05 39 53.3	-10
SNAA	**Sanae**	**14.36**	**149**	P		**Pn**	**05 38 02.3**	**-1.1**
SNAA				S		Sn	05 40 32.0	-10
SNAA	**Sanae**	**14.36**	**149**	Pn		**Pn**	**05 38 02.5**	**-0.9**
	1.0nm,0.3s,baz=56,slow=4.9,SNR=27							
SNAA				Sn		Sn	05 40 27.9	-15
	0.1nm,0.3s,baz=354,slow=10,SNR=2.1							
QSPA	**South Pole Qui**	**29.50**	**180**	P		**P**	**05 40 43.3**	**-1.1**
	1.3nm,0.6s,baz=180,slow=4.1,SNR=1.6							
QSPA				LR		LR	05 52 03.4	
	comp=Z,69nm,19.8s,baz=200,slow=36							
PLCA	**Paso Flores**	**33.51**	**286**	LR		LR	05 52 47.5	
	comp=Z,36nm,18.4s,baz=202,slow=33							
CPUP	**Villa Florida**	**40.33**	**314**	P		**P**	**05 42 16.4**	**-1.4**
	0.7nm,0.4s,baz=174,slow=4.8,SNR=5.8							
VNDA	**Vanda**	**41.90**	**183**	P		**P**	**05 42 33.3**	**+3.2**
	1.0nm,1.1s,baz=184,slow=6.2,SNR=5.2							
BOSA	**Boshof**	**46.90**	**71**	LR		LR	05 58 09.2	
	comp=Z,26nm,21.6s,baz=201,slow=30							
H10S2	**ASCENSION HYDR**	**52.40**	**15**	T		T	06 41 06.1	
	baz=188,slow=74,SNR=6.9							
H10S3	**ASCENSION HYDR**	**52.41**	**15**	T		T	06 41 11.2	
	baz=188,slow=74,SNR=6.3							
H10S1	**ASCENSION HYDR**	**52.42**	**15**	T		T	06 41 16.0	
	baz=188,slow=74,SNR=5.1							
LPAZ	**La Paz**	**53.51**	**307**	P		**P**	**05 44 01.2**	**-0.4**
	0.8nm,0.4s,baz=91,slow=6.7,SNR=8.7							
H10N1	**ASCENSION HYDR**	**53.52**	**15**	T		T	06 42 17.1	
	baz=199							
H10N3	**ASCENSION HYDR**	**53.52**	**15**	T		T	06 42 20.9	
	baz=199,SNR=4.1							
H10N2	**ASCENSION HYDR**	**53.54**	**15**	T		T	06 42 20.0	
	baz=199							
DBIC	**Dimbokro**	**69.29**	**23**	P		**P**	**05 45 47.8**	**+0.2**
	3.2nm,0.7s,baz=153,slow=4.4,SNR=5.3							
TORD	**Torodi Ar. Bea**	**76.96**	**28**	P		**P**	**05 46 33.6**	**+0.8**
	3.3nm,0.6s,baz=198,slow=6.2,SNR=30							
KOWA	**Kowa**	**77.08**	**22**	P		**P**	**05 46 33.6**	**+0.1**
	1.0nm,0.6s,baz=187,slow=6.7,SNR=4.7							
YKA	**Yellowknife Ar**	**139.86**	**314**	PKP		**PKPdf**	**05 54 07.4**	**+0.5**
	0.2nm,0.7s,baz=126,slow=2.5,SNR=5.1							
SONM	**Songino Array**	**150.26**	**94**	PKPbc		**PKPbc**	**05 54 31.6**	**+0.9**
	0.2nm,0.4s,baz=191,slow=1.5,SNR=2.6							

IDC 27 05:36:04.6±2.1, 0.93S×128.05E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.1/54, mbtmp3.2/3, ML3.7/1, Error ellipse: s-maj=160.7km s-min=25.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.87**	**162**	P		P	05 40 37.2	-0.3
	0.2nm,0.3s,baz=341,slow=11,SNR=14							
ASAR	**Alice Springs**	**23.30**	**166**	P		P	05 41 14.6	+0.2
	0.1nm,0.3s,baz=340,slow=12,SNR=6.0							
MKAR	**Makanchi Array**	**62.13**	**326**	P		P	05 46 27.5	0.0
	0.1nm,0.3s,baz=107,slow=9.2,SNR=2.4							

*NIED **27** 05:58:00, 32.10N×131.70E, h38km, Mw4.0 Best double couple: M0 1.24000×10^15 NP1:φs335.00000°, δ19.00000°, λ-124.00000°. NP2:φs191.00000°, δ74.00000°, λ-79.00000°.*
*ISCJB **27** 05:58:35.7±0.6, 31.99N±0.05×131.77E±0.05, h43km±6km, mb3.6/9, MS3.2/2, Error ellipse: s-maj=9.1km s-min=5.9km az=136.8*
*JMA **27** 05:58:37.1±0.1, 32.09N×131.71E, h32km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs324.00000°, δ56.00000°, λ-130.00000°. NP2: φs200.00000°, δ50.00000°, λ-47.00000°. Principal axes: T Plg3.0000°, Azm81.0000°; N Plg32.0000°, Azm349.0000°; P Plg58.0000°, Azm176.0000°;*
JMA Felt II J1.
*IDC **27** 05:58:37.1±0.7, 32.03N×131.53E, h35km±5km, mb3.4/9, mb1 3.6/11, mb1mx3.5/66, mbtmp3.6/11, ML2.9/3, MS2.9/4, Ms1 3.0/4, ms1mx2.6/40 Error ellipse: s-maj=19.7km s-min=9.9km az=72.0*

ISC 27 05:58:36.6±0.7, 32.05N±0.04×131.72E±0.04, h33km±2km, n24, σ1916/34, mb3.8/10, 5C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTSN	**Tsuno**	**0.27**	**316**	⇓P		**Pb**	**05 58 43.6**	**-0.4**
JTSN				S		**Sn**	**05 58 48.8**	**+0.6**
JTZ	**Takazaki**	**0.56**	**254**	⇑P		**Pb**	**05 58 48.0**	**-0.2**
JTZ				eS		**Sb**	**05 58 56.4**	**+0.3**
JKIT	**Kitakata**	**0.61**	**338**	⇓P		**Pb**	**05 58 48.8**	**-0.2**
JKIT				eS		**Sn**	**05 58 58.1**	**+0.4**
JNAR	**Kushima--Naru**	**0.65**	**216**	⇑P		**Pn**	**05 58 50.3**	**+0.8**
JNAR				eS		**Sn**	**05 59 00.9**	**+2.3**
JIU2	**Izumi 2**	**0.91**	**303**	⇑P		**Pn**	**05 58 53.3**	**+0.2**
JIU2				S		**Sb**	**05 59 06.1**	**+0.2**
JZO	**Okuchi**	**0.96**	**275**	⇑P		**Pn**	**05 58 54.1**	**+0.3**
JZO				S		**Sb**	**05 59 07.8**	**+0.6**
JUS	**Usuki**	**1.01**	**1**	⇓P		**Pb**	**05 58 55.3**	**-0.3**
JUS				eS		**Sb**	**05 59 09.4**	**+0.8**
JTO	**Tosashimizu**	**1.22**	**48**	⇑P		**Pn**	**05 58 56.8**	**-0.5**
JTO				S		**Sn**	**05 59 11.7**	**-0.9**
JNU	**Nakatsue**	**1.28**	**326**	Pg		**Pb**	**05 58 59.7**	**-0.6**
	71nm,0.3s,baz=134,slow=4.4,SNR=231							
JNU				Lg		Lg	05 59 16.6	
	90nm,0.3s,baz=227,slow=19,SNR=40							
JOW	**Kunigami**	**6.01**	**211**	Pn		**Pn**	**06 00 01.9**	**-1.4**
	0.9nm,0.3s,baz=287,slow=11,SNR=3.1							
JOW				Sn		**Sn**	**06 01 08.3**	**-2.6**
	1.7nm,0.3s,baz=107,slow=19,SNR=5.1							
KSRS	**Korea Array**	**6.23**	**331**	Pn		Pn	06 00 12.3	+6.2
	0.3nm,0.3s,baz=146,slow=13,SNR=3.3							
KSRS				Lg		Lg	06 01 57.6	
	0.4nm,0.3s,baz=154,slow=31,SNR=5.9							
KSRS				LR		LR	06 02 42.5	
	comp=Z,107nm,19.3s,baz=138,slow=40							
MJAR	**Matsushiro Arr**	**6.99**	**48**	Pn		**Pn**	**06 00 18.5**	**+1.9**
	0.5nm,0.3s,baz=239,slow=14,SNR=5.1							
MJAR				LR		LR	06 02 37.2	
	comp=Z,19nm,19.8s,baz=235,slow=34							
KLR	**Kul'dur**	**17.16**	**0**	P		**P**	**06 02 35.8**	**+0.8**
	0.0nm,0.3s,baz=144,slow=14,SNR=2.4							
SONM	**Songino Array**	**24.85**	**317**	P		**P**	**06 03 55.9**	**-0.2**
	0.9nm,0.7s,baz=120,slow=9.5,SNR=8.7							
CMAR	**Chiang Mai Arr**	**32.45**	**253**	LR		LR	06 20 01.8	
	comp=Z,40nm,18.0s,baz=30,slow=40							
MKAR	**Makanchi Array**	**40.26**	**306**	P		**P**	**06 06 09.0**	**-1.3**
	0.5nm,0.5s,baz=90,slow=11,SNR=11							
MKAR				pP		**pP**	**06 06 20.0**	**-0.1**
	0.7nm,0.6s,baz=95,slow=10,SNR=5.7							
BVAR	**Borovoye Array**	**48.17**	**315**	P		**P**	**06 07 12.6**	**-0.9**
	0.4nm,0.5s,baz=122,slow=7.0,SNR=3.6							
WRA	**Warramunga Arr**	**51.76**	**177**	P		**P**	**06 07 40.8**	**-0.3**
	0.7nm,0.6s,baz=354,slow=7.9,SNR=9.1							
WRA				pP		**pP**	**06 07 52.6**	**+1.5**
	1.8nm,1.0s,baz=354,slow=8.1,SNR=7.9							
ASAR	**Alice Springs**	**55.45**	**178**	P		**P**	**06 08 08.1**	**0.0**
	0.4nm,0.7s,baz=7.9,slow=9.9,SNR=5.8							
ASAR				pP		**pP**	**06 08 19.9**	**+1.8**
	0.9nm,0.8s,baz=11,slow=8.6,SNR=4.8							
ILAR	**Eielson Array**	**57.88**	**30**	P		**P**	**06 08 25.9**	**+1.0**
	0.5nm,0.3s,baz=290,slow=8.1,SNR=6.8							
FINES	**FINESS Array B**	**69.32**	**330**	P		**P**	**06 09 38.4**	**-2.0**
	1.3nm,0.8s,baz=97,slow=8.3,SNR=4.1							
FINES				LR		LR	06 45 08.4	
	comp=Z,18nm,19.5s,baz=206,slow=40							
YKA	**Yellowknife Ar**	**71.97**	**27**	P		**P**	**06 09 57.0**	**+0.6**
	0.3nm,0.8s,baz=307,slow=5.7,SNR=7.5							
AKASG	**Malin Array Be**	**73.10**	**320**	pP		pP	06 10 12.3	-1.4
	0.6nm,0.4s,baz=55,slow=6.5,SNR=3.2							
NVAR	**Mina Array Bea**	**84.31**	**48**	P		**P**	**06 11 07.1**	**+1.5**
	0.5nm,0.7s,baz=282,slow=4.5,SNR=3.4							
NVAR				pP		**sP**	**06 11 18.4**	**-1.6**
	0.5nm,0.7s,baz=322,slow=5.7,SNR=2.7							

IDC 27 06:17:23.2±1.6, 6.94S×128.98E, h0km, mb3.9/3, mb1 4.0/6, mb1mx3.6/50, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=87.5km s-min=24.4km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	**Baumata**	**6.18**	**238**	Sn		Sn	06 20 03.8	-3.4
	4.1nm,0.3s,baz=162,slow=20,SNR=2.4							
FITZ	**Fitzroy Crossi**	**11.56**	**196**	Pn		Pn	06 20 09.1	-0.5
	0.3nm,0.3s,baz=25,slow=12,SNR=21							
FITZ				Sn		Sn	06 22 05.2	-14
	0.3nm,0.3s,baz=120,slow=20,SNR=4.0							
WRA	**Warramunga Arr**	**13.93**	**159**	Pn		Pn	06 20 42.2	+0.1
	0.4nm,0.3s,baz=341,slow=12,SNR=18							
WRA				Sn		Sn	06 23 02.4	-15
	0.7nm,0.3s,baz=338,slow=22,SNR=13							
ASAR	**Alice Springs**	**17.29**	**165**	P		Pn	06 21 26.7	+0.5
	0.2nm,0.3s,baz=337,slow=10.0,SNR=20							
MKAR	**Makanchi Array**	**67.63**	**327**	P		P	06 28 22.9	+0.9
	0.3nm,0.4s,baz=112,slow=9.6,SNR=6.9							
ZALV	**Zalesovo Beam**	**71.09**	**334**	P		P	06 28 42.7	-0.5
	0.4nm,0.4s,baz=126,slow=2.5,SNR=2.9							
KURBB	**Kurchatov Arra**	**71.93**	**329**	P		P	06 28 48.2	-0.2
	0.4nm,0.2s,baz=129,slow=5.2,SNR=3.3							

*IDC **27** 06:22:15.4±2.1, 36.23N×141.94E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/66, mbtmp3.4/5, ML3.1/1, MS2.4/1, Ms1 2.4/1, ms1mx2.0/46, Error ellipse: s-maj=55.4km s-min=27.1km az=53.0*
*JMA **27** 06:22:22.0±0.1, 36.21N×141.39E, h50km±2km, M2.7*

ISC 27 06:22:20.9±1.3, 36.18N±0.06×141.44E±0.09, h26km, n19, σ1932/16, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOJ	**Chosi**	**0.67**	**225**	P		**Pn**	**06 22 35.2**	**+0.5**
CHOJ				S		**Sb**	**06 22 44.5**	**+1.6**
JHO	**Hitachi**	**0.83**	**302**	P		**Pb**	**06 22 36.9**	**+0.2**
BSO1	**Boso 1**	**1.57**	**194**	P		**Pb**	**06 22 47.8**	**-1.1**
BSO1				eS		**Sb**	**06 23 07.6**	**-0.4**
BSO3	**Boso 3**	**1.57**	**209**	P		**Pn**	**06 22 47.5**	**+0.7**
JFT	**Otama**	**1.61**	**327**	P		**Pb**	**06 22 48.1**	**-1.8**
JRY	**Ryogami san**	**2.06**	**266**	P		**Pn**	**06 22 54.7**	**+0.8**
MJAR	**Matsushiro Arr**	**2.64**	**279**	Pn		**Pb**	**06 23 05.3**	**-2.2**
	2.4nm,0.3s,baz=110,slow=7.7,SNR=18							
MJAR				Sn		**Sb**	**06 23 40.0**	**+0.6**
	1.5nm,0.3s,baz=83,slow=15,SNR=5.7							
MAT	**Matsushiro**	**2.64**	**279**	P		**Pb**	**06 23 05.1**	**-2.4**
MAT				S		**Sn**	**06 23 32.1**	**-0.9**
KSRS	**Korea Array**	**10.91**	**281**	LR		LR	06 28 51.1	
	comp=Z,18nm,20.8s,baz=140,slow=35							
H11N2	**WAKE ISLAND Hy**	**27.70**	**119**	T		T	06 56 43.4	
	baz=310							
H11N1	**WAKE ISLAND Hy**	**27.70**	**119**	T		T	06 56 48.2	
	baz=310,SNR=3.5							
H11N3	**WAKE ISLAND Hy**	**27.71**	**119**	T		T	06 56 41.2	
	baz=310							
SONM	**Songino Array**	**28.29**	**305**	P		**P**	**06 28 13.2**	**+1.0**
	0.3nm,0.5s,baz=97,slow=7.5,SNR=3.7							
H11S1	**WAKE ISLAND Hy**	**28.38**	**122**	T		T	06 57 27.9	
	baz=314,slow=75,SNR=6.8							
H11S3	**WAKE ISLAND Hy**	**28.38**	**122**	T		T	06 57 27.7	
	baz=314,slow=75,SNR=4.4							
H11S2	**WAKE ISLAND Hy**	**28.40**	**122**	T		T	06 57 27.9	
	baz=314,slow=75,SNR=5.0							
MKAR	**Makanchi Array**	**44.60**	**303**	P		**P**	**06 30 31.7**	**+0.9**
	0.3nm,0.6s,baz=95,slow=11,SNR=3.7							
KURBB	**Kurchatov Arra**	**46.55**	**309**	P		**P**	**06 30 46.6**	**+0.4**
	0.5nm,0.3s,baz=82,slow=7.6,SNR=3.7							
WRA	**Warramunga Arr**	**56.22**	**188**	P		**P**	**06 31 58.0**	**-0.8**
	0.4nm,0.9s,baz=6.1,slow=7.4,SNR=3.3							

IDC 27 06:30:15.1±13.0, 15.52S×165.46E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/48, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=225.9km s-min=35.2km az=54.0, Vanuatu Islands

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

DZM	**Mont Dzumac**	**6.58**	**172**	Pn		Pn	06 31 53.2	0.0
	1.5nm,0.3s,baz=39,slow=9.4,SNR=15							
DZM				Sn		Sn	06 33 09.9	+0.7
	3.5nm,0.3s,baz=115,slow=22,SNR=7.5							
STKA	**Stephens Creek**	**27.16**	**229**	P		P	06 36 00.3	+0.1
	1.2nm,0.3s,baz=66,slow=12,SNR=7.3							
WRA	**Warramunga Arr**	**29.94**	**257**	P		P	06 36 24.7	-0.5
	0.3nm,0.6s,baz=87,slow=9.9,SNR=6.9							
ASAR	**Alice Springs**	**30.76**	**250**	P		P	06 36 32.8	+0.3
	1.1nm,0.4s,baz=78,slow=9.1,SNR=18							

*NNC **27** 06:34:05.9±3.2, 36.96N×70.57E, h228km±43km, mb2.5, mpv3.6, Error ellipse: s-maj=35.7km s-min=31.7km az=98.0*

ISC 27 06:34:04.6±3.0, 36.8N±0.2×70.5E±0.1, h200km, n13, σ1917/18, 4C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFK	**Sufi-Kurgan**	**3.94**	**36**	⇓P		**Pn**	**06 35 06.0**	**+0.2**
	2.3nm,0.3s							
SFK				⇓S		**Sn**	**06 35 55.9**	**+2.0**
	16nm,0.5s							
AML	**Almayashu**	**5.83**	**24**	P		**Pn**	**06 35 30.1**	**+0.2**
	SNR=96							
MNAS	**Manas**	**5.84**	**15**	⇓P		**Pn**	**06 35 30.5**	**+0.6**
	2.1nm,0.4s							
MNAS				⇑S		**Sn**	**06 36 38.6**	**+1.2**
	11nm,0.4s							
UCH	**Uchtor**	**6.20**	**29**	P		**Pn**	**06 35 35.0**	**+0.1**
	SNR=30							
KK31	**Karatay Array**	**6.26**	**360**	P		**Pn**	**06 35 35.1**	**0.0**
	1.1nm,0.3s,baz=181,slow=15,SNR=60							
KK31				⇑S		**Sn**	**06 36 46.2**	**-0.6**
	2.2nm,0.5s,baz=184,slow=24,SNR=4.4							
EKS2	**Erkin-Say**	**6.33**	**22**	P		**Pn**	**06 35 36.8**	**+0.6**
	SNR=5.8							
KZA	**Kyzart**	**6.38**	**33**	P		**Pn**	**06 35 36.4**	**-0.7**
	SNR=6.9							
AAK	**Ala-Archa**	**6.55**	**27**	⇓P		**Pn**	**06 35 39.2**	**+0.1**
	1.8nm,0.3s							
AAK				⇑S		**Sn**	**06 36 54.4**	**+0.5**
	7.8nm,0.7s							
AAK	**Ala-Archa**	**6.55**	**27**	P		**Pn**	**06 35 39.7**	**+0.6**
	SNR=13							
TKM2	**Tokmak 2**	**7.22**	**31**	⇓P		**Pn**	**06 35 48.1**	**+0.2**
	7.1nm,0.5s							
TKM2				⇑S		**Sn**	**06 37 06.4**	**-3.3**
	2.2nm,1.0s							
TKM2	**Tokmak 2**	**7.22**	**31**	P		**Pn**	**06 35 48.0**	**+0.2**
	SNR=26							
AB31	**Akbulak array**	**14.60**	**331**	⇓P		**P**	**06 37 23.3**	**+0.4**
	0.3nm,0.3s,baz=161,slow=12,SNR=9.9							
AKTO	**Aktyubinsk**	**16.30**	**330**	⇓P		**P**	**06 37 40.3**	**-1.3**
	1.6nm,0.9s							

*IDC **27** 06:37:29.2±0.8, 45.92N×154.49E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.6/68, mbtmp3.7/10, ML2.7/1, MS2.7/3, Ms1 2.7/3, ms1mx2.3/61, Error ellipse: s-maj=27.0km s-min=20.8km az=98.0*
*ISCJB **27** 06:37:30.0±0.8, 46.0N±0.1×154.5E±0.2, h19km, mb3.8/9, MS2.7/2, Error ellipse: s-maj=24.6km s-min=15.9km az=20.6*

ISC 27 06:37:31.8±1.0, 46.0N±0.1×154.6E±0.2, h19km, n20, σ1953/11, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PETK	**Petropavlovsk-**	**7.42**	**15**	Pn		**Pn**	**06 39 18.4**	**-0.7**
	0.6nm,0.3s,baz=167,slow=14,SNR=3.7							
MA2	**Magadan**	**13.81**	**352**	LR		LR	06 45 19.0	
	comp=Z,18nm,21.5s,baz=106,slow=34							
YAK	**Yakutsk**	**21.52**	**327**	LR		LR	06 50 23.5	
	comp=Z,26nm,18.7s,baz=276,slow=36							
H11N2	**WAKE ISLAND Hy**	**28.08**	**155**	T		T	07 12 50.5	
	baz=342,slow=76,SNR=4.4							
H11N1	**WAKE ISLAND Hy**	**28.09**	**155**	T		T	07 12 51.7	
	baz=342,slow=76

	baz=299									
ENTT	**Nioudou**	**0.51**	**331**	*e*P		**Pn**	**06 46 14.9**	**-0.2**
	baz=333									
ENTT				S		**Sn**	**06 46 23.6**	**-0.2**
	baz=333									
WHF	**Hehuan Shan**	**0.53**	**265**	⇓P		**Pn**	**06 46 15.2**	**-0.5**
	baz=261									
WHF				S		**Sn**	**06 46 24.4**	**-0.4**
	baz=261									
ESL	**Shilin**	**0.53**	**225**	*e*P		**Pn**	**06 46 14.7**	**-0.6**
	baz=220									
ESL				*e*S		**Sn**	**06 46 22.9**	**-1.1**
	baz=220									
TWE	**Neicheng**	**0.55**	**343**	*e*P		**Pn**	**06 46 15.5**	**0.0**
	baz=347									
TWE				*e*S		**Sn**	**06 46 24.8**	**+0.4**
	baz=347									
TWT	**Tachien**	**0.61**	**276**	P		**Pn**	**06 46 16.6**	**+0.2**
	baz=273									
TWT				S		**Sn**	**06 46 25.8**	**-0.2**
	baz=273									
CHGB	**Renai**	**0.62**	**258**	⇓*e*P		**Pn**	**06 46 16.4**	**-0.2**
	baz=255									
CHGB				*e*S		**Sn**	**06 46 25.3**	**-1.0**
	baz=255									
TDCB	**Techi**	**0.63**	**276**	⇓*e*P		**Pn**	**06 46 16.6**	**0.0**
	baz=273									
TDCB				*e*S		**Sn**	**06 46 25.8**	**-0.4**
	baz=273									
YHNB	**Yeheng**	**0.64**	**318**	⇓*e*P		**Pn**	**06 46 16.2**	**-0.4**
	baz=318									
YHNB				*e*S		**Sn**	**06 46 24.2**	**-2.1**
	baz=318									
EGFH	**Guangfu**	**0.64**	**216**	*e*P		**Pn**	**06 46 15.7**	**-0.9**
	baz=212									
EGFH				*e*S		**Sn**	**06 46 25.0**	**-1.4**
	baz=212									
OWD	**Renai**	**0.65**	**249**	*e*P		**Pn**	**06 46 16.5**	**-0.4**
	baz=245									
OWD				*e*S		**Sn**	**06 46 25.9**	**-0.9**
	baz=245									
EGS		**0.66**	**7**	*e*P		**Pn**	**06 46 17.2**	**+0.5**
	baz=11									
EGS				*e*S		**Sn**	**06 46 27.1**	**+0.6**
	baz=11									
NWLT	**Wulai**	**0.66**	**332**	*e*P		**Pn**	**06 46 16.4**	**-0.4**
	baz=333									
NWLT				*e*S		**Sn**	**06 46 25.5**	**-1.2**
	baz=333									
TIPB	**Shuangxi**	**0.78**	**359**	⇑*e*P		**Pn**	**06 46 17.5**	**-0.8**
	baz=1.0									
TIPB				*e*S		**Sn**	**06 46 28.8**	**-0.5**
	baz=1.0									
HGSD	**Ruisui**	**0.80**	**209**	*e*P		**Pn**	**06 46 18.3**	**-0.2**
	baz=206									
HGSD				*e*S		**Sn**	**06 46 30.1**	**+0.5**
	baz=206									
EHY	**Hungye**	**0.83**	**215**	*e*P		**Pn**	**06 46 18.3**	**-0.7**
	baz=211									
EHY				*e*S		**Sn**	**06 46 29.1**	**-1.5**
	baz=211									
WLTB	**Daxi**	**0.85**	**321**	*e*P		**Pn**	**06 46 19.1**	**0.0**
	baz=321									
WLTB				*e*S		**Sn**	**06 46 31.1**	**+0.1**
	baz=321									
DPDB	**Guoxing**	**0.85**	**260**	*e*P		**Pn**	**06 46 19.4**	**-0.2**
	baz=257									
DPDB				*e*S		**Sn**	**06 46 31.4**	**+0.3**
	baz=257									
NWF	**Wu-fen Shan**	**0.88**	**356**	*e*P		**Pn**	**06 46 20.1**	**+0.5**
	baz=358									
NWF				*e*S		**Sn**	**06 46 32.2**	**+0.5**
	baz=358									
LIOB	**Emei**	**0.88**	**301**	*e*P		**Pn**	**06 46 19.7**	**+0.1**
	baz=300									
LIOB				*e*S		**Sn**	**06 46 31.8**	**+0.2**
	baz=300									
NSTT	**Nanjuang**	**0.88**	**300**	*e*P		**Pn**	**06 46 19.5**	**-0.1**
	baz=299									
NSTT				*e*S		**Sn**	**06 46 31.6**	**-0.1**
	baz=299									
SSLB	**Suanglung**	**0.91**	**244**	*e*P		**Pn**	**06 46 19.6**	**-0.3**
	baz=241									
SSLB				*e*S		**Sn**	**06 46 32.0**	**-0.3**
	baz=241									
SMLT	**Sun Moon Lake**	**0.92**	**251**	*e*P		**Pn**	**06 46 20.3**	**+0.1**
	baz=248									
SMLT				*e*S		**Sn**	**06 46 33.1**	**+0.5**
	baz=248									
TYC	**Yuchr**	**0.94**	**253**	*e*P		**Pn**	**06 46 20.9**	**+0.5**
	baz=250									
TYC				*e*S		**Sn**	**06 46 33.2**	**+0.2**
	baz=250									
TWF1	**Yuli**	**0.97**	**211**	*e*P		**Pn**	**06 46 19.4**	**-1.4**
	baz=208									
TWF1				*e*S		**Sn**	**06 46 32.2**	**-1.6**
	baz=208									
JYNG	**Yonagunijimaku**	**1.04**	**75**	P		**Pn**	**06 46 21.6**	**0.0**
JYNG				S		**Sn**	**06 46 35.4**	**+0.1**
YUS	**Yu-Shan**	**1.07**	**230**	*e*P		**Pn**	**06 46 22.6**	**+0.1**
	baz=227									
YUS				*e*S		**Sn**	**06 46 36.8**	**-0.1**
	baz=227									
YOJ	**Yonaguni jima**	**1.10**	**76**	P		**Pn**	**06 46 22.2**	**-0.2**
YOJ				*e*S		**Sn**	**06 46 36.4**	**-0.3**
ALS	**Alishan**	**1.17**	**235**	*e*P		**Pn**	**06 46 24.2**	**+0.6**
	baz=232									
ALS				*e*S		**Sn**	**06 46 39.5**	**+0.7**
	baz=232									
CHN5	**Tsauling**	**1.22**	**241**	*e*P		**Pn**	**06 46 24.6**	**+0.4**
	baz=239									
CHN5				*e*S		**Sn**	**06 46 41.8**	**+2.0**
	baz=239									
CHN4	**Tsaushan**	**1.42**	**234**	⇑*e*P		**Pn**	**06 46 27.8**	**+1.0**
	baz=232									
CHN4				*e*S		**Sn**	**06 46 46.6**	**+2.2**
	baz=232									
WTP	**Ta-pu**	**1.47**	**230**	*e*P		**Pn**	**06 46 28.3**	**+0.8**
	baz=228									
WTP				*e*S		**Sn**	**06 46 47.3**	**+1.6**
	baz=228									
IRIF	**Iriomote-Funau**	**1.73**	**85**	P		**Pn**	**06 46 30.6**	**-0.3**
IRIF				S		**Sn**	**06 46 51.5**	**-0.4**
HATJ	**Hateruma jima**	**1.80**	**94**	P		**Pn**	**06 46 32.4**	**+0.5**
HATJ				S		**Sn**	**06 46 54.4**	**+0.8**
JKRS	**Kuro-shima**	**1.98**	**88**	P		**Pn**	**06 46 34.5**	**+0.2**
JKRS				S		**Sn**	**06 46 58.2**	**+0.2**
JIJ	**Ishigaki jima**	**2.11**	**85**	P		**Pn**	**06 46 35.6**	**-0.5**
JIJ				S		**Sn**	**06 47 00.0**	**-1.1**
JISG	**Ishigakijimahi**	**2.29**	**80**	P		**Pn**	**06 46 38.3**	**-0.2**
JISG				*e*S		**Sn**	**06 47 04.5**	**-1.0**
JTJ	**Tarama**	**2.65**	**80**	P		**Pn**	**06 46 43.5**	**+0.1**
JTJ				*e*S		**Sn**	**06 47 13.7**	**-0.6**

CSEM ***27*** *06:46:59.9±0.2, 37.°80N×29.°18E, h2km, ML2.4, Error ellipse: s-maj=5.1km s-min=4.6km az=151.0*
DDA ***27*** *06:46:59.4, 37.°83N×29.°14E, h2km, Ml2.6*
ISCJB ***27*** *06:47:00.2±0.6, 37.°81N±0.°03×29.°11E±0.°04, h1km±7km, Error ellipse: s-maj=5.4km s-min=4.8km az=6.9*
ISK ***27*** *06:47:00.7, 37.°81N×29.°06E, h8km, ML2.4/3*
ISC 27 06:47:00.4±1.1, 37.°82N±0.°03×29.°16E±0.°03, h8km±9km, n24, σ0s87/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.12**	**237**	PG	**Pg**	**06 47 03.1**	**0.0**
DENT	**Denizli**	**0.12**	**237**	*e*Pg	**Pg**	**06 47 03.1**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.40**	**209**	*i* P	**Pg**	**06 47 07.1**	**-1.2**
TAVA				*i* S	**Sg**	**06 47 14.0**	**+0.4**
TAVA	**DENIZLI_Tavas**	**0.40**	**209**	P	**Pg**	**06 47 07.1**	**-1.2**
TAVA				S	**Sg**	**06 47 14.0**	**+0.4**
GOLH	**Golhisar**	**0.66**	**151**	*i* P	**Pg**	**06 47 11.4**	**-1.8**
GOLH				*i* S	**Sb**	**06 47 23.6**	**-0.1**
GOLH	**Golhisar**	**0.66**	**151**	P	**Pg**	**06 47 11.4**	**-1.8**
GOLH				S	**Sb**	**06 47 23.6**	**-0.1**
BRDR	**BURDUR-Merkez**	**0.73**	**99**	*i* P	**Pg**	**06 47 14.0**	**-0.4**
BRDR				*i* S	**Sb**	**06 47 26.4**	**+1.0**
BRDR	**BURDUR-Merkez**	**0.73**	**99**	P	**Pg**	**06 47 14.0**	**-0.4**
BRDR				S	**Sb**	**06 47 26.5**	**+1.0**
KULA	**Kula-Manisa**	**0.80**	**331**	PG	**Pb**	**06 47 16.3**	**-0.3**
KULA				SG	**Sb**	**06 47 27.1**	**-0.5**
KULA	**Kula-Manisa**	**0.80**	**331**	*e*Pg	**Pb**	**06 47 16.3**	**-0.3**
KULA				*e*Sg	**Sb**	**06 47 27.1**	**-0.5**
KZIL	**AFYON_Kizioren**	**0.89**	**60**	*i* P	**Pg**	**06 47 16.3**	**-1.3**
KZIL				*i* S	**Sn**	**06 47 33.2**	**+0.6**
KZIL	**AFYON_Kizioren**	**0.89**	**60**	P	**Pg**	**06 47 16.3**	**-1.3**
KZIL				S	**Sn**	**06 47 33.2**	**+0.6**
YER	**Yerkesik**	**0.97**	**226**	PG	**Pg**	**06 47 18.6**	**-0.5**
YER	**Yerkesik**	**0.97**	**226**	*e*Pg	**Pg**	**06 47 18.6**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**278**	PG	**Pg**	**06 47 19.1**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**278**	*e*Pg	**Pg**	**06 47 19.1**	**-0.7**
AYDN	**Tasoluk**	**1.02**	**262**	*i* P	**Pg**	**06 47 19.0**	**-1.1**
AYDN				*i* S	**Sb**	**06 47 33.9**	**-0.2**
AYDN	**Tasoluk**	**1.02**	**262**	P	**Pg**	**06 47 19.0**	**-1.1**
AYDN				S	**Sb**	**06 47 33.9**	**-0.2**
DALY	**Dalyan (Mu¨la**	**1.08**	**202**	PG	**Pg**	**06 47 20.5**	**-0.6**
DALY	**Dalyan (Mu¨la**	**1.08**	**202**	*e*Pg	**Pg**	**06 47 20.5**	**-0.6**
AKAS	**Kas**	**1.62**	**167**	PN	**Pg**	**06 47 30.7**	**-0.8**
AKAS	**Kas**	**1.62**	**167**	*e*Pn	**Pg**	**06 47 30.7**	**-0.8**
TVSB	**Tavsanli**	**1.65**	**8**	PN	**Pn**	**06 47 30.6**	**+0.8**
TVSB	**Tavsanli**	**1.65**	**8**	*e*Pn	**Pn**	**06 47 30.6**	**+0.8**

IDC ***27*** *07:17:47.7±0.5, 22.°26S×170.°54E, h0km, mb4.5/17, mb1 4.6/20, mb1mx4.5/42, mbtmp4.5/20, ML4.2/3, MS4.0/30, Ms1 4.0/30, ms1mx3.8/44, Error ellipse: s-maj=16.9km s-min=14.7km az=87.0*
BJI ***27*** *07:17:47.8, 22.°20S×170.°50E, h10km, mb5.0/30, mB5.2/18, Ms4.9/5, Ms7 4.7/5*
GCMT ***27*** *07:17:49.8±0.3, 22.°44S×170.°40E, h28km, MW5.0/60, Moment Tensor Solution. s36,c42; s60,c80; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.25±.19; Mθθ-2.10±.13; Mφφ-1.15±. 11; Mrθ1.33±.20; Mθφ1.42±.07; Mφr-0.44±.19; Best double couple: M₀3.47900×10¹⁶ NP1:ϕs312.00000°, δ34.00000°, λ101.00000°. Principal axes: T 3.5650, Plg77.0000°, Azm6.0000°; N -0.1720, Plg6.0000°, Azm123.0000°; P -3.3930, Plg11.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *07:17:49.8±0.2, 22.°15S×170.°51E, h10km, mb4.9/37 Error ellipse: s-maj=6.2km s-min=5.6km az=87.0*
ISCJB ***27*** *07:17:51.7±0.2, 22.°23S±0.°04×170.°39E±0.°04, h33km, mb4.8/62, MS4.0/28, Error ellipse: s-maj=6.0km s-min=5.6km az=15.3*
MOS ***27*** *07:17:56.2±1.4, 22.°08S×170.°34E, h62km, mb5.0/14, Error ellipse: s-maj=10.5km s-min=9.3km az=8.9*
ISC 27 07:17:53.4±0.3, 22.°34S±0.°06×170.°39E±0.°05, h33km, n242, σ1s22/242, mb4.8/61, MS4.1/28, 21C-21D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.67**	**273**	Pn	**Pn**	**07 18 46.9**	**-1.0**
	54nm,0.3s,baz=118,slow=5.7,SNR=349						
DZM				Sn	**Sn**	**07 19 27.6**	**-2.5**
	105nm,0.3s,baz=319,slow=20,SNR=14						
DZM				LR	LR	07 20 15.0	
	comp=Z,1μm,18.6s,baz=59,slow=39						
DZM	**Mont Dzumac**	**3.67**	**273**	*e*Pn	**Pn**	**07 18 46.9**	**-1.0**
	317nm,0.2s						
DZM				*e*Sn	**Sn**	**07 19 27.7**	**-2.4**
	416nm,0.2s						
DZM	**Mont Dzumac**	**3.67**	**273**	*e*Pn	**Pn**	**07 18 47.3**	**-0.6**
DZM				Sn	**Sn**	**07 19 27.6**	**-2.5**
MSVF	**Nonsavu**	**8.53**	**59**	*e*P	**Pn**	**07 19 57.7**	**+3.0**
MSVF	**Nonsavu**	**8.53**	**59**	*e*Pn	**Pn**	**07 19 57.7**	**+3.0**
OUZ	**Omahuta**	**13.14**	**168**	*e*Pn	**Pn**	**07 20 59.3**	**+1.7**
HNR	**Honiara**	**16.29**	**320**	Pn	**P**	**07 21 42.3**	**-0.1**
	6.0nm,0.3s,baz=270,slow=5.2,SNR=6.9						
HNR	**Honiara**	**16.29**	**320**	*e*P	**Pn**	**07 21 40.2**	**+0.5**
HNR				pmax	pmax		
	comp=Z,110nm,0.8s						
HNR	**Honiara**	**16.29**	**320**	*e*P	**Pn**	**07 21 40.2**	**+0.5**
	comp=Z,110nm,0.8s						
URZ	**Urewera**	**16.88**	**162**	Pn	**Pn**	**07 21 47.7**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=35,slow=6.0,SNR=6.0						
URZ				LR	LR	07 27 12.3	
	comp=Z,783nm,18.2s,baz=344,slow=33						
URZ	**Urewera**	**16.88**	**162**	*e*Pn	**P**	**07 21 49.1**	**+0.3**
	comp=Z,19nm,0.9s						
BKZ	**Black Stump Fm**	**17.56**	**164**	*e*Pn	**P**	**07 21 58.1**	**+1.7**
	comp=Z,38nm,1.2s						
EIDS	**Eidsvold**	**17.92**	**256**	*e*Pn	**P**	**07 22 02.2**	**+1.7**
	comp=Z,29nm,1.1s						
ARMA	**Armidale**	**18.62**	**240**	*e*P	**Pn**	**07 22 10.7**	**+2.0**
	comp=Z,31nm,1.3s						
AFI	**Afiamalu**	**18.89**	**67**	P	**P**	**07 22 09.0**	**-2.2**
	comp=Z,1.2nm,0.3s,baz=322,slow=1.6,SNR=5.3						
AFI				LR	LR	07 27 51.5	
	comp=Z,390nm,18.4s,baz=254,slow=32						
AFI	**Afiamalu**	**18.89**	**67**	*e*P	**P**	**07 22 11.2**	**-0.1**
AFI				pmax	pmax		
	comp=Z,48nm,0.9s						
AFI	**Afiamalu**	**18.89**	**67**	*e*P	**P**	**07 22 11.2**	**-0.1**
	comp=Z,48nm,0.9s						
THZ	**Tophouse**	**19.48**	**174**	*e*P	**Pn**	**07 22 20.0**	**+1.1**
	comp=Z,52nm,1.2s						
KHZ	**Kahutara**	**20.19**	**173**	*e*P	Pn	07 22 29.1	+1.8
	comp=Z,58nm,1.1s						
OXZ	**Oxford**	**20.97**	**177**	*e*P	**P**	**07 22 34.8**	**+1.1**
	comp=Z,92nm,1.5s						
RPZ	**Rata Peaks**	**21.32**	**179**	P	**P**	**07 22 38.5**	**+1.1**
	comp=Z,12nm,0.8s,baz=90,slow=5.1,SNR=3.2						
RPZ				LR	LR	07 30 19.6	
	comp=Z,491nm,19.2s,baz=344,slow=35						
CTA	**Charters Tower**	**22.61**	**271**	P	**P**	**07 22 52.7**	**+1.2**
	comp=Z,7.1nm,0.7s,baz=99,slow=9.9,SNR=6.8						
CTAO	**Charters Tower**	**22.61**	**271**	*e*P	**P**	**07 22 53.1**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,52nm,1.6s						
CTAO	**Charters Tower**	**22.61**	**271**	*e*P	**P**	**07 22 53.1**	**+1.6**
	comp=Z,52nm,1.6s						
CAN	**Canberra**	**22.71**	**231**	*e*P	**P**	**07 22 54.3**	**+1.8**
CAN				pmax	pmax		
	comp=Z,37nm,1.1s						
CAN	**Canberra**	**22.71**	**231**	*e*P	**P**	**07 22 54.2**	**+1.8**
	comp=Z,37nm,1.1s						
PMG	**Port Moresby**	**25.73**	**296**	P	**P**	**07 23 21.8**	**+0.8**
	comp=Z,8.7nm,0.6s,baz=174,slow=10,SNR=3.0						
PMG				LR	LR	07 32 19.0	
	comp=Z,376nm,20.3s,baz=141,slow=34						
TOO	**Toolangi**	**26.27**	**229**	P	**P**	**07 23 28.2**	**+2.5**
TOO				pmax	pmax		
	comp=Z,17nm,1.1s						
COEN	**Coen**	**27.14**	**283**	*e*P	**P**	**07 23 35.5**	**+1.8**
	comp=Z,58nm,1.8s						
STKA	**Stephens Creek**	**27.27**	**243**	P	**P**	**07 23 35.8**	**+1.0**
	comp=Z,9.5nm,1.0s,baz=82,slow=9.7,SNR=14						
STKA				PcP	**PcP**	**07 26 52.1**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=0.0,slow=0.0,SNR=2.8						
STKA				LR	LR	07 33 36.7	
	comp=Z,414nm,20.4s,baz=63,slow=35						
STKA	**Stephens Creek**	**27.27**	**243**	*e*P	**P**	**07 23 35.9**	**+1.1**
STKA						07 26 52.1	
STKA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
STKA	**Stephens Creek**	**27.27**	**243**	*e*P	**P**	**07 23 35.9**	**+1.1**
	comp=Z,4.7nm,1.2s						
STKA				PcP	**PcP**	**07 26 52.1**	**-2.0**
RAR	**Rarotonga**	**27.71**	**93**	LR	LR	07 34 23.8	
	comp=Z,133nm,18.1s,baz=272,slow=36						
BBOO	**Buckleboo**	**32.05**	**244**	*e*P	**P**	**07 24 17.5**	**+0.4**
	comp=Z,21nm,1.0s						
AS01	**Alice Springs**	**33.52**	**261**	*e*P	**P**	**07 24 30.0**	**-0.1**
AS31	**Alice Springs**	**33.56**	**261**	*e*P	**P**	**07 24 29.7**	**-0.8**
	comp=Z,2.6nm,0.8s						
ASAR	**Alice Springs**	**33.56**	**261**	P	**P**	**07 24 30.3**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=81,slow=9.6,SNR=29						
ASAR				PcP	**PcP**	**07 27 09.3**	**-1.4**
	comp=Z,1.3nm,1.0s,baz=87,slow=3.2,SNR=3.7						
ASAR				ScP	**ScP**	**07 30 57.6**	**+4.7**
	comp=Z,1.2nm,1.1s,baz=95,slow=4.5,SNR=4.5						
ASAR				LR	LR	07 38 28.7	
	comp=Z,340nm,18.8s,baz=99,slow=37						
WB2	**Warramunga Arr**	**33.65**	**267**	*e*P	**P**	**07 24 30.5**	**-0.8**
WRAB	**Tennant Creek**	**33.66**	**267**	⇑*e*P	**P**	**07 24 30.4**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WRA	**Warramunga Arr**	**33.66**	**267**	P	**P**	**07 24 30.5**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=96,slow=8.5,SNR=16						
WRA				PcP	**PcP**	**07 27 09.9**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=100,slow=2.4,SNR=3.9						
WRA				LR	LR	07 38 37.7	
	comp=Z,574nm,18.2s,baz=105,slow=37						
PPT2	**Papeete2**	**37.84**	**90**	*e*LR	LR	07 35 32.8	
	comp=Z,92nm,24.5s						

MTN	**Manton Dam**	**38.50**	**277**	*e*P		**P**	**07 25 12.9**	**+0.1**
	comp=Z,13nm,0.7s									
FITZ	**Fitzroy Crossi**	**42.09**	**267**	*e*P		**P**	**07 25 42.7**	**+0.1**
	comp=Z,24nm,1.3s									
GUMO	**Guam**	**43.60**	**323**	LR		LR	07 43 18.3			
	comp=Z,96nm,18.5s,baz=129,slow=35									
BATI	**Baumata**	**46.27**	**277**	LR		LR	07 48 04.7			
	comp=Z,302nm,18.3s,baz=132,slow=39									
MBWA	**Marble Bar**	**46.89**	**261**	*e*P		**P**	**07 26 21.0**	**+0.2**
	comp=Z,8.5nm,0.8s									
SANI	**Sanana**	**47.59**	**289**	P		**P**	**07 26 26.0**	**-0.4**
	comp=Z,32nm,0.9s									
KEKH	**Kekaha**	**52.82**	**35**	*e*P		**P**	**07 27 08.3**	**+2.5**
	comp=Z,229nm,1.5s									
VNDA	**Vanda**	**55.39**	**182**	P		**P**	**07 27 23.8**	**0.0**
	comp=Z,2.0nm,1.1s,baz=341,slow=5.5,SNR=3.4									
VNDA				LR		LR	07 48 37.0			
	comp=Z,207nm,18.3s,baz=14,slow=33									
JOW	**Kunigami**	**63.64**	**318**	LR		LR	07 56 24.6			
	comp=Z,74nm,18.0s,baz=119,slow=36									
YULB	**Yu-li**	**65.93**	**310**	*e*P		**P**	**07 28 36.2**	**-0.2**
	comp=Z,39nm,1.4s									
MJAR	**Matsushiro Arr**	**65.98**	**332**	P		**P**	**07 28 35.1**	**-1.3**
	comp=Z,8.7nm,0.9s,baz=171,slow=7.3,SNR=16									
MJAR				LR		LR	07 54 42.6			
	comp=Z,28nm,21.9s,baz=200,slow=34									
MAJO	**Matsushiro**	**65.98**	**332**	⇑*i*P		**P**	**07 28 35.4**	**-1.1**
MAJO				pmax		pmax				
	comp=Z,12nm,0.6s									
MAJO	**Matsushiro**	**65.98**	**332**	*e*P		**P**	**07 28 35.8**	**-0.7**
	comp=Z,14nm,0.6s									
MAT	**Matsushiro**	**65.98**	**332**	P		**P**	**07 28 35.1**	**-1.4**
MJB9	**Matsu-Tunnel**	**65.99**	**332**	*e*P		**P**	**07 28 35.9**	**-0.6**
	comp=Z,14nm,0.6s									
MDSI	**Maura Dua**	**66.32**	**275**	P		**P**	**07 28 38.3**	**-0.8**
	comp=Z,6.5nm,0.7s,comp=Z,668nm									
YHNB	**Yeheng**	**66.70**	**312**	*e*P		**P**	**07 28 41.8**	**+0.4**
	comp=Z,77nm,1.3s									
JNU	**Nakatsue**	**66.81**	**324**	LR		LR	07 58 22.0			
	comp=Z,36nm,18.1s,baz=116,slow=36									
JNU	**Nakatsue**	**66.81**	**324**	*e*P		**P**	**07 28 41.6**	**-0.3**
	comp=Z,24nm,1.0s									
QSPA	**South Pole Qui**	**67.73**	**180**	P		**P**	**07 28 47.9**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=118,slow=0.8,SNR=3.0									
QSPA				LR		LR	07 55 32.9			
	comp=Z,107nm,18.7s,baz=36,slow=33									
RGRI	**Rengat**	**69.62**	**278**	P		**P**	**07 28 59.3**	**-0.6**
ASAJ	**Asahikawa**	**70.87**	**339**	*e*P		**P**	**07 29 07.4**	**+0.5**
	comp=Z,6.0nm,0.8s									
TJN	**Taejon**	**71.15**	**324**	⇓*e*P		**P**	**07 29 08.6**	**-0.1**
KSRS	**Korea Array**	**71.66**	**326**	P		**P**	**07 29 11.9**	**+0.1**
	comp=Z,6.3nm,0.8s,baz=143,slow=6.8,SNR=18									
KSRS				LR		LR	07 58 25.5			
	comp=Z,28nm,20.3s,baz=151,slow=34									
KSAR	**Wonju Array Be**	**71.67**	**325**	P		**P**	**07 29 11.9**	**+0.1**
KSAR	**Wonju Array Be**	**71.67**	**325**	P		**P**	**07 29 11.9**	**+0.1**
KS01	**Wonju Array Si**	**71.69**	**326**	*e*P		**P**	**07 29 11.3**	**-0.7**
RPN	**Rapa Nui**	**71.89**	**112**	LR		LR	07 52 58.4			
	comp=Z,68nm,19.0s,baz=60,slow=29									
NJ2	**Nanjing**	**73.18**	**316**	*e*P		**P**	**07 29 20.3**	**-0.6**
NJ2				pmax		pmax				
	comp=Z,6.0nm,0.7s									
YSS	**Yuzh-Sakhalins**	**73.35**	**341**	⇓*e*P		**P**	**07 29 22.3**	**+0.7**
YSS				pmax		pmax				
	comp=Z,11nm,0.8s									
USRK	**Ussuriysk Ar.**	**74.97**	**332**	P		**P**	**07 29 30.1**	**-1.0**
	comp=Z,3.6nm,0.8s,baz=146,slow=5.1,SNR=5.5									
USRK				LR		LR	08 00 46.3			
	comp=Z,34nm,19.7s,baz=168,slow=34									
PETK	**Petropavlovsk-**	**75.94**	**352**	P		**P**	**07 29 36.0**	**-0.4**
	comp=Z,8.9nm,0.9s,baz=124,slow=5.0,SNR=9.8									
PETK				LR		LR	07 57 16.0			
	comp=Z,100nm,19.6s,baz=147,slow=31									
PETK	**Petropavlovsk-**	**75.94**	**352**	*e*P		**P**	**07 29 35.8**	**-0.7**
PETK	**Petropavlovsk-**	**75.94**	**352**	*e*P		**P**	**07 29 35.8**	**-0.7**
MAW	**Mawson**	**75.98**	**202**	LR		LR	08 01 56.6			
	comp=Z,83nm,18.1s,baz=55,slow=35									
TYV	**Tymovskoe**	**76.88**	**342**	*e*P		**P**	**07 29 40.5**	**-1.4**
TYV				*e*S		**S**	**07 39 28.8**	**+1.6**
TYV				pmax		pmax				
	comp=Z,200nm,5.9s									
TYV				pmax		pmax				
	comp=Z,8.0nm,1.4s									
TIA	**Tai'an**	**76.97**	**318**	P		**P**	**07 29 42.5**	**-0.2**
TIA				pmax		pmax				
	comp=Z,24nm,0.8s									
CN2	**Changchun**	**77.65**	**328**	*e*P		**P**	**07 29 45.5**	**-0.9**
CN2				pmax		pmax				
	comp=Z,10.0nm,0.8s									
GYA	**Guiyang**	**78.47**	**305**	*e*P		**P**	**07 29 53.0**	**+1.5**

NVAR	**Mina Array Bea**	**90.05**	**48**	P		**P**	**07 30 49.3**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=226,slow=8.7,SNR=7.7							
NVAR				LR		LR	08 05 54.7	
	comp=Z,135nm,18.2s,baz=94,slow=32							
YAK	**Yakutsk**	**90.14**	**342**	⇓*i* P		**P**	**07 30 48.8**	**-0.8**
YAK				pmax		pmax		
	comp=Z,17nm,0.8s							
BILL	**Bilibino**	**90.16**	**358**	⇑*e*P		**P**	**07 30 48.2**	**-1.5**
BILL				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**90.33**	**323**	P		**P**	**07 30 51.0**	**-0.1**
	comp=Z,5.5nm,0.9s,baz=142,slow=5.3,SNR=29							
SONM				LR		LR	08 13 24.7	
	comp=Z,31nm,18.1s,baz=109,slow=37							
SONM	**Songino Array**	**90.33**	**323**	P		**P**	**07 30 51.0**	**-0.1**
SONA1	**Songino Array**	**90.33**	**323**	*e*P		**P**	**07 30 50.8**	**-0.3**
KVN	**Kaiserville**	**90.49**	**48**	*e*P		**P**	**07 30 52.8**	**+0.7**
KVN				pmax		pmax		
	comp=Z,13nm,2.0s							
KVN	**Kaiserville**	**90.49**	**48**	*e*P		**P**	**07 30 52.8**	**+0.7**
	comp=Z,13nm,2.0s							
TRF	**Thorofare Moun**	**90.90**	**17**	*e*P		**P**	**07 30 51.6**	**-1.8**
	comp=Z,23nm,1.8s							
RND	**Reindeer**	**91.25**	**17**	*e*P		**P**	**07 30 53.2**	**-1.7**
RND				pmax		pmax		
	comp=Z,5.0nm,1.2s							
RND	**Reindeer**	**91.25**	**17**	*e*P		**P**	**07 30 53.2**	**-1.7**
	comp=Z,5.2nm,1.2s							
BALM	**Baldy**	**91.39**	**21**	*e*P		**P**	**07 30 54.4**	**-1.3**
BALM				pmax		pmax		
	comp=Z,35nm,2.0s							
BALM	**Baldy**	**91.39**	**21**	*e*P		**P**	**07 30 54.4**	**-1.3**
	comp=Z,35nm,2.0s							
IM3	**Indian Mountai**	**92.16**	**14**	*e*P		**P**	**07 30 58.0**	**-1.0**
WRH	**Wood River Hil**	**92.30**	**17**	*e*P		**P**	**07 30 58.5**	**-1.1**
	comp=Z,8.9nm,1.5s							
DOT	**Dot Lake**	**92.80**	**19**	*e*P		**P**	**07 31 00.6**	**-1.4**
	comp=Z,20nm,1.6s							
IL1	**Eielson Array**	**92.86**	**17**	*e*P		**P**	**07 31 01.2**	**-1.1**
ILAR	**Eielson Array**	**92.86**	**17**	P		**P**	**07 31 00.2**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=240,slow=4.5,SNR=13							
ILAR				LR		LR	08 13 27.1	
	comp=Z,69nm,18.6s,baz=237,slow=36							
SCRK	**Sand Creek**	**93.07**	**18**	*e*P		**P**	**07 31 01.7**	**-1.7**
	comp=Z,2.9nm,0.9s							
ZAK	**Zakamensk**	**93.43**	**324**	*e*P		**P**	**07 31 03.6**	**-1.7**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.3s							
TLY	**Talaya**	**93.91**	**325**	*e*P		**P**	**07 31 07.4**	**0.0**
TLY				pmax		pmax		
	comp=Z,6.0nm,1.0s							
EGAK	**Eagle**	**94.49**	**19**	*e*P		**P**	**07 31 08.1**	**-1.7**
	comp=Z,5.2nm,0.8s							
TXAR	**Lajitas Array**	**97.30**	**61**	LR		LR	08 06 22.5	
	comp=Z,116nm,21.3s,baz=0.0,slow=30							
PDAR	**Pinedale Array**	**97.92**	**47**	LR		LR	08 16 24.9	
	comp=Z,68nm,18.2s,baz=274,slow=36							
WMQ	**Urumqi**	**100.11**	**313**	P		**Pdif**	**07 31 35.8**	**+0.1**
YKA	**Yellowknife Ar**	**102.91**	**27**	PKiKP		**PKiKP**	**07 36 05.1**	**-2.6**
	comp=Z,0.1nm,0.2s,baz=263,slow=1.6,SNR=4.5							
MKAR	**Makanchi Array**	**104.69**	**315**	Pdiff		**Pdif**	**07 31 56.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=97,slow=7.7,SNR=3.9							
MKAR				PP		**PKiKP**	**07 36 13.5**	**+2.0**
	comp=Z,1.4nm,1.0s,baz=101,slow=6.3,SNR=5.5							
MKAR				PKKPbc		**PKKPbc**	**07 47 39.0**	**-2.6**
	comp=Z,0.5nm,0.8s,baz=267,slow=4.7,SNR=4.4							
KSH	**Kashi**	**107.14**	**306**	Pdif		**Pdif**	**07 32 10.5**	**+3.3**
ARU	**Arti**	**120.36**	**323**	*i* PKiKP		**PKPdf**	**07 36 40.6**	**-0.2**
ARU							07 38 06.9	
ARU				SS		SS	07 54 29.4	-4.2
NCB	**Newcomb**	**123.23**	**51**	*e*PKPdf		**PKPdf**	**07 36 45.4**	**-1.4**
SJG	**San Juan**	**127.03**	**84**	*e*PKIKP		**PKPdf**	**07 36 53.2**	**-1.6**
SJG	**San Juan**	**127.03**	**84**	*e*PKPdf		**PKPdf**	**07 36 53.2**	**-1.6**
CBYP	**Canovanas**	**127.34**	**84**	*e*PKPdf		**PKPdf**	**07 36 54.0**	**-1.5**
ARCES	**ARCESS Array B**	**128.33**	**345**	PKP		**PKPdf**	**07 36 55.2**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=66,slow=2.7,SNR=12							
SFJD	**Kangerlussuaq**	**128.47**	**19**	*e*PKIKP		**PKPdf**	**07 36 54.7**	**-1.3**
SFJD	**Kangerlussuaq**	**128.47**	**19**	*e*PKPdf		**PKPdf**	**07 36 54.7**	**-1.3**
GNI	**Garni**	**131.02**	**304**	⇑*i* PKIKP		**PKPdf**	**07 37 03.1**	**+1.1**
NCK	**Nalchik**	**131.51**	**309**	⇑*e*PKIKP		**PKPdf**	**07 37 01.4**	**-1.2**
FINES	**FINESS Array B**	**133.85**	**337**	PKP		**PKPdf**	**07 37 04.1**	**-2.3**
	comp=Z,3.6nm,1.0s,baz=299,slow=3.9,SNR=4.1							
AKASG	**Malin Array Be**	**138.62**	**323**	PKP		**PKPdf**	**07 37 15.1**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=61,slow=2.5,SNR=4.4							
KIEV	**Kiev**	**138.63**	**323**	⇑*e*PKIKP		**PKPdf**	**07 37 14.9**	**-0.7**
MLR	**Muntele Rosu**	**142.98**	**317**	PKP		**PKPdf**	**07 37 23.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=351,slow=2.7,SNR=3.1							
VOIR		**143.57**	**318**	⇑PKIKP		**PKPdf**	**07 37 23.6**	**-1.2**
VOIR		**143.57**	**318**	⇑*i* P		**PKPdf**	**07 37 23.6**	**-1.2**
CRVS	**Cervenica-Dubn**	**143.83**	**325**	*e*PKIKP		PKPbc	07 37 22.9	+0.1
CRVS	**Cervenica-Dubn**	**143.83**	**325**	*e*PKP		PKPbc	07 37 22.9	+0.1
ARR	**Arges**	**143.86**	**318**	⇓*i* P		PKPbc	07 37 23.3	+0.2
HUMR	**Humele**	**144.03**	**316**	⇑*i* P		**PKPab**	**07 37 21.9**	**-1.1**
DRGR		**144.31**	**321**	⇓PKIKP		PKPbc	07 37 24.6	+0.2
DRGR		**144.31**	**321**	⇓*i* P		PKPbc	07 37 24.6	+0.2
LOT	**Lotru**	**144.36**	**318**	⇓*i* P		**PKPab**	**07 37 24.5**	**+0.1**
KECS	**Kecovo**	**144.60**	**325**	*e*PKIKP		PKPbc	07 37 25.3	+0.1
KECS	**Kecovo**	**144.60**	**325**	*e*PKP		PKPbc	07 37 25.3	+0.1
OKC	**Ostrava-Krasne**	**144.94**	**328**	*e*PKIKP		**PKPab**	**07 37 26.0**	**-0.2**
OKC	**Ostrava-Krasne**	**144.94**	**328**	*e*PKP		**PKPab**	**07 37 26.0**	**-0.2**
SIRR	**Siria**	**145.20**	**321**	⇓*i* P		**PKPdf**	**07 37 27.8**	**+0.2**
PSZ	**Piszkesteto**	**145.25**	**324**	⇓PKIKP		**PKPdf**	**07 37 27.6**	**-0.1**
PSZ	**Piszkesteto**	**145.25**	**324**	⇓*i* P		**PKPdf**	**07 37 27.6**	**-0.1**
PSZ	**Piszkesteto**	**145.25**	**324**	*e*PKPbc		**PKPbc**	**07 37 27.2**	**-0.2**
MORC	**Moravsky Berou**	**145.27**	**329**	*e*PKIKP		**PKPbc**	**07 37 26.9**	**-0.4**
MORC	**Moravsky Berou**	**145.27**	**329**	⇓*i* P		**PKPbc**	**07 37 27.4**	**+0.1**
MORC	**Moravsky Berou**	**145.27**	**329**	*e*PKPbc		**PKPbc**	**07 37 26.9**	**-0.4**
KARP	**Karpathos**	**145.44**	**301**	*e*PKPbc		**PKPab**	**07 37 28.6**	**+0.1**
DPC	**Dobruska-Polom**	**145.45**	**330**	*e*PKIKP		**PKPdf**	**07 37 27.8**	**-0.1**
DPC	**Dobruska-Polom**	**145.45**	**330**	*e*PKP		**PKPdf**	**07 37 27.8**	**-0.1**
DPC				*ep*PKP		**PKiKP**	**07 37 32.9**	**+1.0**
DPC				*ex*		x	07 37 36.8	
VYHS	**Vyhne**	**145.46**	**326**	*e*PKIKP		**PKPbc**	**07 37 28.0**	**+0.1**
VYHS	**Vyhne**	**145.46**	**326**	*e*PKP		**PKPbc**	**07 37 28.0**	**+0.1**
UPC	**Upice**	**145.48**	**331**	*e*PKIKP		**PKPbc**	**07 37 27.9**	**0.0**
UPC	**Upice**	**145.48**	**331**	*e*PKP		**PKPbc**	**07 37 27.9**	**0.0**
UPC				*ex*		x	07 37 37.1	
BZS	**Buzias**	**145.58**	**320**	⇑PKIKP		**PKPbc**	**07 37 28.5**	**+0.1**
BZS	**Buzias**	**145.58**	**320**	⇑*i* P		**PKPbc**	**07 37 28.5**	**+0.1**
VTS	**Vitosha**	**146.04**	**314**	⇓PKP2		**PKPab**	**07 37 31.0**	**+0.3**
VTS	**Vitosha**	**146.04**	**314**	⇓*i* P		**PKPab**	**07 37 31.0**	**+0.3**
VTS	**Vitosha**	**146.04**	**314**	*e*PKPdf		**PKPab**	**07 37 30.5**	**-0.2**
VTS	**Vitosha**	**146.04**	**314**	⇓*i* P		**PKPab**	**07 37 31.0**	**+0.3**
VRAC	**Vranov**	**146.04**	**329**	PKPbc		**PKPdf**	**07 37 29.0**	**+0.2**
	comp=Z,15nm,0.8s,baz=12,slow=3.0,SNR=14							
VRAC	**Vranov**	**146.04**	**329**	⇓*i* P		**PKPab**	**07 37 30.2**	**-0.1**
PVCC	**Panska Ves**	**146.10**	**332**	*e*PKP2		**PKPbc**	**07 37 30.1**	**+0.3**
PVCC	**Panska Ves**	**146.10**	**332**	*e*PKP		**PKPbc**	**07 37 30.1**	**+0.3**
BRG	**Berggiesshubel**	**146.11**	**333**	*i* PKP		**PKPbc**	**07 37 29.4**	**-0.5**
	comp=Z,21nm,0.9s							
BRG	**Berggiesshubel**	**146.11**	**333**	*i* PKP2		**PKPbc**	**07 37 29.4**	**-0.5**
BRG				pmax		pmax		
	comp=Z,21nm,0.9s							
CLL	**Collm**	**146.17**	**334**	⇑*i* PKP2		**PKPdf**	**07 37 29.0**	**0.0**
CLL				pmax		pmax		
	comp=Z,19nm,0.9s							
CLL	**Collm**	**146.17**	**334**	⇑*i* PKPbc		**PKPdf**	**07 37 29.0**	**0.0**
	comp=Z,19nm,0.9s							
CLL				*i* PKPab		**PKPab**	**07 37 30.5**	**-0.2**
	comp=Z,13nm,0.6s							
CLL				*i* PKiKP		**PKiKP**	**07 37 33.6**	**+0.4**
	comp=Z,13nm,0.6s							
CLL				*i*			07 37 38.8	
CLL	**Collm**	**146.17**	**334**	*e*PKPdf		**PKPbc**	**07 37 30.2**	**+0.2**
GOPC	**GO Pecny, Ondr**	**146.45**	**331**	*e*PKP2		**PKPbc**	**07 37 30.7**	**-0.3**
GOPC	**GO Pecny, Ondr**	**146.45**	**331**	*e*PKP		**PKPbc**	**07 37 30.7**	**-0.3**
PRU	**Pruhonice**	**146.51**	**331**	*e*PKP2		**PKPbc**	**07 37 30.9**	**-0.2**
PRU	**Pruhonice**	**146.51**	**331**	*e*PKP		**PKPbc**	**07 37 30.9**	**-0.2**
TREC	**Trest**	**146.57**	**330**	*e*PKP2		**PKPbc**	**07 37 31.2**	**-0.1**
TREC	**Trest**	**146.57**	**330**	*e*PKP		**PKPbc**	**07 37 31.2**	**-0.1**
SANT	**Santorini**	**146.59**	**303**	*e*PKPdf		**PKPdf**	**07 37 29.5**	**-0.8**
EKA	**Eskdalemuir Ar**	**146.70**	**353**	PKPbc		**PKPdf**	**07 37 30.6**	**+0.8**
	comp=Z,5.9nm,0.4s,baz=1.5,slow=2.5,SNR=62							
ESK	**Eskdalemuir**	**146.72**	**353**	*e*PKP2		**PKPdf**	**07 37 30.3**	**+0.5**
ESK	**Eskdalemuir**	**146.72**	**353**	*e*PKPdf		**PKPdf**	**07 37 30.3**	**+0.5**
BARS	**Barje**	**146.85**	**315**	⇓*i* P		**PKPbc**	**07 37 32.3**	**0.0**
IDI	**Anoyia**	**147.31**	**301**	PKPbc		**PKPdf**	**07 37 32.5**	**+1.0**
	comp=Z,16nm,1.0s,baz=135,slow=4.3,SNR=3.8							
IDI	**Anoyia**	**147.31**	**301**	⇓*i* P		**PKPbc**	**07 37 34.5**	**+0.6**
IDI	**Anoyia**	**147.31**	**301**	*e*PKPbc		**PKPbc**	**07 37 34.0**	**+0.1**
CONA	**Conrad Observa**	**147.33**	**328**	*i* PKPbc		**PKPdf**	**07 37 31.7**	**+0.4**
	comp=Z,8.3nm,1.0s							
DIVS	**Divibare**	**147.36**	**319**	*e*PKPbc		**PKPbc**	**07 37 33.2**	**-0.7**
KHC	**Kasperske Hory**	**147.56**	**331**	*e*PKP2		**PKPbc**	**07 37 34.3**	**+0.2**
KHC	**Kasperske Hory**	**147.56**	**331**	*e*PKP		**PKPbc**	**07 37 34.3**	**+0.2**
KHC	**Kasperske Hory**	**147.56**	**331**	*e*PKPbc		**PKPbc**	**07 37 34.8**	**+0.7**
GEC2	**GERESS Array S**	**147.72**	**331**	*e*PKP2		**PKPbc**	**07 37 34.6**	**-0.1**
GEC2	**GERESS Array S**	**147.72**	**331**	*e*PKPbc		**PKPbc**	**07 37 34.6**	**-0.1**
GERES	**GERESS Array B**	**147.72**	**331**	PKPbc		**PKPbc**	**07 37 34.3**	**-0.3**
	comp=Z,8.7nm,0.7s,baz=43,slow=2.5,SNR=29							
GEA0	**GERESS Array S**	**147.72**	**331**	*e*PKPdf		**PKPbc**	**07 37 33.8**	**-0.9**
MOA	**Molln**	**148.17**	**329**	*es*PKPdf		**PKPbc**	**07 37 35.9**	**+0.1**
	comp=Z,13nm,1.2s							
SOKA	**Soboth**	**148.59**	**327**	*es*PKPdf		**PKPbc**	**07 37 36.9**	**-0.2**
	comp=Z,7.3nm,0.9s							
BLY	**Banja Luka**	**148.66**	**322**	⇓*i* P		**PKPbc**	**07 37 37.3**	**+0.2**
BLY	**Banja Luka**	**148.66**	**322**	*e*PKPbc		**PKPbc**	**07 37 37.4**	**+0.3**
PDG	**Podgorica**	**148.69**	**317**	⇓*i* P		**PKPab**	**07 37 40.9**	**0.0**
DSB	**Dublin**	**149.05**	**356**	*e*PKPbc		**PKPbc**	**07 37 37.0**	**-0.8**
KBA	**Koelnbreinsper**	**149.15**	**329**	*i* sPKPdf		**PKPbc**	**07 37 37.9**	**-0.6**
	comp=Z,8.6nm,0.6s							
MEM	**Membach**	**149.25**	**340**	⇑PKPbc		**PKPbc**	**07 37 37.5**	**-1.0**
MEM				⇑PKPab		**PKPab**	**07 37 41.6**	**-1.4**
MYKA	**Terra Mystica**	**149.32**	**328**	*es*PKPdf		**PKPbc**	**07 37 38.4**	**-0.5**
	comp=Z,7.5nm,0.8s							
BCLA	**Clavier**	**149.63**	**341**	⇓PKPbc		**PKPbc**	**07 37 38.8**	**-0.5**
ABTA	**Abfaltersbach**	**149.79**	**329**	*e*PKPbc		**PKPbc**	**07 37 39.4**	**-0.6**
	comp=Z,8.9nm,0.6s							
WATA	**Walderalm**	**149.79**	**331**	*i* PKPbc		**PKPbc**	**07 37 39.3**	**-0.8**
	comp=Z,4.7nm,0.5s							
WTTA	**Wattenberg**	**149.82**	**331**	*i* PKPbc		**PKPbc**	**07 37 39.6**	**-0.6**
	comp=Z,5.8nm,0.8s							
MOTA	**Moosalm**	**150.00**	**331**	*e*PKPbc		**PKPbc**	**07 37 39.7**	**-0.9**
	comp=Z,23nm,1.1s,SNR=6.7							
WLF	**Walferdange**	**150.03**	**339**	⇑PKPbc		**PKPbc**	**07 37 40.6**	**+0.2**
RETA	**Reutte**	**150.04**	**332**	*i* PKiKP		**PKPbc**	**07 37 40.5**	**-0.1**
	comp=Z,2.1nm,0.5s							
DOU	**Dourbes**	**150.13**	**342**	⇑PKPbc		**PKPbc**	**07 37 39.8**	**-0.8**
DOU				⇑PKPab		**PKiKP**	**07 37 43.9**	**+2.5**
BFO	**Black Forest**	**150.37**	**335**	*i* PKIKP		**PKPbc**	**07 37 41.0**	**-0.3**
BFO	**Black Forest**	**150.37**	**335**	*e*PKPbc		**PKPbc**	**07 37 41.2**	**-0.1**
FETA	**Feichten**	**150.41**	**331**	*e*PKPbc		**PKPbc**	**07 37 40.8**	**-0.8**
	comp=Z,17nm,0.9s,SNR=9.1							
DAVA	**Damuels**	**150.58**	**332**	*i* PKiKP		**PKPbc**	**07 37 41.9**	**0.0**
	comp=Z,6.9nm,0.7s							
ECH	**Echery**	**150.91**	**337**	*e*PKIKP		**PKPbc**	**07 37 42.3**	**-0.3**
ECH	**Echery**	**150.91**	**337**	*e*PKPbc		**PKPbc**	**07 37 42.3**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**150.92**	**331**	*e*PKPbc		**PKPbc**	**07 37 42.4**	**-0.6**
TUE	**Stuetta**	**151.44**	**332**	*e*PKPbc		**PKPbc**	**07 37 42.4**	**-1.7**
SENIN	**Lac Senin/Sane**	**152.38**	**334**	*e*PKPbc		**PKPbc**	**07 37 46.1**	**-0.1**
BNI	**Bardonecchia**	**153.70**	**333**	*e*PKIKP		**PKPbc**	**07 37 47.9**	**-1.2**
BNI	**Bardonecchia**	**153.70**	**333**	*e*PKPbc		**PKPbc**	**07 37 47.9**	**-1.2**
DBIC	**Dimbokro**	**163.76**	**197**	PKP		**PKPdf**	**07 37 53.5**	**-0.4**
	comp=Z,3.5nm,1.1s,baz=207,slow=2.3,SNR=1.9							
TORD	**Torodi Ar. Bea**	**165.88**	**232**	PKP		**PKPdf**	**07 37 54.9**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=340,slow=1.4,SNR=7.7							
KOWA	**Kowa**	**170.57**	**215**	PKP		**PKPdf**	**07 37 57.8**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=104,slow=4.2,SNR=3.8							

IDC ***27*** *07:24:03.9±3.1,* **53°.46N×87°.20E, h0km, mb1 2.6/2, mb1mx2.6/68, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=30.9km s-min=16.7km az=64.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**290**	*i*		07 34 50.0	
	baz=109,slow=332,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.50**	**290**	Pg	Pn	07 24 30.9	-1.1
	0.6nm,0.3s,baz=107,slow=16,SNR=4.1						
ZALV				Lg	Lg	07 24 50.8	
	0.6nm,0.3s,baz=112,slow=36,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.06**	**246**	Pn	Pn	07 25 35.7	+1.1
	0.1nm,0.3s,baz=62,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**7.38**	**207**	Pn	Pn	07 25 53.7	+0.9
	0.1nm,0.3s,baz=28,slow=14,SNR=4.9						

NEIC ***27*** *07:29:04.6±0.0, 15°.80N×98°.50W, h20km, MD4.1(MEX), After MEX.*

MEX 27 07:29:06.2±0.8, 15°.97N×98°.29W, h2km±4km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.45**	**20**	*e*P		07 29 14.5	-0.3
PNIG				*e*S		07 29 21.1	+0.4
PNIG	**Pinotepa**	**0.45**	**20**	*e*P		07 29 14.6	-0.2
PNIG				*e*S		07 29 21.3	+0.6
TLIG	**Tlapa**	**1.61**	**350**	*e*P		07 29 31.6	-4.2
TLIG				*e*S		07 29 52.9	-4.3
TLIG	**Tlapa**	**1.61**	**350**	*e*P		07 29 31.7	-4.1
TLIG				*e*S		07 29 54.3	-2.9
ACX	**Acapulco**	**1.76**	**301**	*i* P		07 29 32.8	-4.8
ACX				*i* S		07 29 55.5	-5.2
ACX	**Acapulco**	**1.76**	**301**	*e*P		07 29 22.2	-15
ACX				*e*S		07 29 47.1	-14
VHO	**Vista Hermosa**	**1.85**	**53**	*e*P		07 29 36.3	-2.8
VHO				*i* S		07 29 58.2	-5.0
VHO	**Vista Hermosa**	**1.85**	**53**	*e*P		07 29 36.3	-2.8
VHO				*e*S		07 30 01.4	-1.8
HUIG	**Huatulco**	**2.10**	**95**	*i* P		07 29 39.3	-3.1
HUIG				*e*S		07 30 04.8	-4.4
HUIG	**Huatulco**	**2.10**	**95**	*e*P		07 29 44.8	-0.2
HUIG				*e*S		07 30 04.4	-4.8
CAIG	**El Cayaco**	**2.18**	**300**	*e*P		07 29 40.8	-2.7
CAIG				*i* S		07 30 05.9	-5.3
CAIG	**El Cayaco**	**2.18**	**300**	*e*P		07 29 40.4	-3.2
CAIG				*e*S		07 30 00.2	-11

CSEM ***27*** *07:35:37.1, 36°.62N×25°.56E, h4km, ML1.6/3, After THE*

THE 27 07:35:37.1, 36°.62N×25°.56E, h4km±24km, ML1.6/3, Error ellipse: s-maj=24.9km s-min=0.6km az=201.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THR3	**Thira Island,**	**0.25**	**210**	P		07 35 42.5	+0.6
THR3	**Thira Island,**	**0.25**	**210**	P		07 35 42.5	+0.6
THT1	**Athinios (Pele**	**0.26**	**203**	P		07 35 42.1	0.0
THT1				S		07 35 45.7	+0.3
THT1	**Athinios (Pele**	**0.26**	**203**	P		07 35 42.1	0.0
THT1				S		07 35 45.7	+0.3
SANT	**Santorini**	**0.26**	**197**	P		07 35 42.8	+0.6
SANT				S		07 35 46.4	+0.8
SANT	**Santorini**	**0.26**	**197**	P		07 35 42.8	+0.6
SANT				S		07 35 46.4	+0.8
THR5	**Thira Island,**	**0.26**	**219**	P		07 35 42.7	+0.5
THR5	**Thira Island,**	**0.26**	**219**	P		07 35 42.7	+0.5
APE	**Apeiranthos**	**0.45**	**357**	P		07 35 45.7	0.0
APE				S		07 35 52.5	+1.0
APE	**Apeiranthos**	**0.45**	**357**	P		07 35 45.7	0.0
APE				S		07 35 52.5	+1.0

CSEM ***27*** *07:36:49.9±0.3, 40°.40N×21°.85E, h2km, Error ellipse: s-maj=9.4km s-min=6.9km az=137.0, Suspected Mining explosion.*

ATH 27 07:36:49.5, 40°.43N×21°.84E, h0km±8km, ML0.0, Error ellipse: s-maj=8.6km s-min=1.8km az=175.0, Suspected Mining explosion., Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.13**	**204**	P		07 36 51.9	-0.2
KZN	**Kozani**	**0.13**	**204**	P		07 36 52.1	+0.1
FNA	**Florina**	**0.50**	**315**	P		07 36 59.2	+0.1
FNA	**Florina**	**0.50**	**315**	P		07 36 59.3	+0.2
PENT	**Pentalofos**	**0.59**	**247**	P		07 37 01.4	+0.6
PENT	**Pentalofos**	**0.59**	**247**	P		07 37 01.2	+0.5
KPRO	**Kipourio**	**0.60**	**218**	P		07 37 01.0	0.0
KPRO	**Kipourio**	**0.60**	**218**	P		07 37 01.1	+0.1
NEST	**Nestorio**	**0.61**	**269**	P		07 37 01.7	+0.6
NEST	**Nestorio**	**0.61**	**269**	P		07 37 01.6	+0.5
GRG	**Griva**	**0.68**	**39**	P		07 37 01.3	-1.2
GRG	**Griva**	**0.68**	**39**	P		07 37 02.0	-0.1
THL	**Klokotos Trika**	**0.87**	**171**	P		07 37 05.6	-0.6
THL	**Klokotos Trika**	**0.87**	**171**	P		07 37 06.0	-0.2
HORT	**Hortiatis**	**0.97**	**80**	P		07 37 09.6	+0.3
HORT	**Hortiatis**	**0.97**	**80**	P		07 37 08.9	-0.4

ISCJB ***27*** *07:40:46.7±0.8, 30°.6N±0°.1×138°.4E±0°.2, h400km, mb3.3/8, Error ellipse: s-maj=23.7km s-min=13.6km az=10.6*

IDC ***27*** *07:40:47.9±0.9, 30°.70N×138°.75E, h403km±22km, mb3.1/8, mb1 3.2/10, mb1mx2.9/61, mbtmp3.9/10, Error ellipse: s-maj=65.5km s-min=12.5km az=73.0*

ISC 27 07:40:48.1±1.1, 30°.7N±0°.1×138°.5E±0°.2, h400km, n10, σ0s67/12, mb3.4/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.66**	**23**	P		**07 41 49.8**	**+1.3**
	30nm,0.3s,baz=68,slow=19,SNR=5.3						
JHJ				S		**07 42 36.4**	**-1.1**
	29nm,0.3s,baz=252,slow=20,SNR=4.1						
MJAR	**Matsushiro Arr**	**5.86**	**358**	P		**07 42 18.9**	**-0.2**
	1.4nm,0.3s,baz=235,slow=9.7,SNR=7.8						
MKAR	**Makanchi Array**	**45.74**	**307**	P		**07 48 31.9**	**+0.4**
	0.6nm,0.6s,baz=89,slow=9.5,SNR=8.4						
KURBB	**Kurchatov Arra**	**48.26**	**312**	P		**07 48 50.6**	**+0.2**
	0.8nm,0.5s,baz=92,slow=9.2,SNR=4.5						
WRA	**Warramunga Arr**	**50.49**	**185**	P		**07 49 06.9**	**-0.5**
	1.2nm,0.4s,baz=1.4,slow=8.0,SNR=64						
BVAR	**Borovoye Array**	**53.25**	**316**	P		**07 49 27.5**	**+0.3**
	0.4nm,0.4s,baz=81,slow=9.2,SNR=4.7						
BVAR				PcP		**PcP**	**07 50 28.2**	**-0.7**
	0.7nm,0.4s,baz=119,slow=3.9,SNR=4.2						
ASAR	**Alice Springs**	**54.21**	**185**	P		**07 49 34.2**	**-0.2**
	0.4nm,0.4s,baz=358,slow=6.2,SNR=16						
AKTO	**Aktyubinsk**	**61.24**	**314**	P		**07 50 22.5**	**+0.1**
	0.9nm,0.5s,baz=67,slow=7.7,SNR=2.2						
FINES	**FINESS Array B**	**73.31**	**332**	P		**07 51 37.0**	**+0.1**
	0.5nm,0.5s,baz=48,slow=5.9,SNR=4.6						
AKASG	**Malin Array Be**	**77.84**	**322**	P		**07 52 02.6**	**+0.1**
	0.5nm,0.3s,baz=56,slow=5.5,SNR=3.1						

DDA ***27*** *07:57:16.9, 39°.58N×28°.94E, h7km, Ml2.6, Suspected Mining explosion.*

ISCJB ***27*** *07:57:17.6±0.6,

IDC 27 08:39:36.9±3.9, 53°45N×90°74E, h0km, mb1 3.1/3, mb1mx2.8/75, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=38.5km s-min=25.0km az=32.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.55**	**280**	*i*		09 03 20.0	
	baz=92,slow=340,SNR=2.4						
ZALV	**Zalesovo Beam**	**3.55**	**280**	Pn	Pn	08 40 35.4	+2.1
	1.1nm,0.3s,baz=93,slow=14,SNR=10						
ZALV				Lg	Lg	08 41 29.8	
	1.6nm,0.3s,baz=96,slow=27,SNR=7.2						
KURBB	**Kurchatov Arra**	**8.04**	**254**	Pn	Pn	08 41 34.1	-0.7
	0.1nm,0.3s,baz=64,slow=14,SNR=5.1						
KURBB				Sn	Sn	08 43 05.1	-1.4
	0.0nm,0.3s,baz=67,slow=23,SNR=3.8						
KURBB				Lg	Lg	08 43 50.8	
	0.0nm,0.3s,baz=68,slow=29,SNR=4.0						
MKAR	**Makanchi Array**	**8.59**	**223**	Pn	Pn	08 41 43.3	+0.8
	0.2nm,0.3s,baz=39,slow=12,SNR=5.9						
MKAR				Sn	Sn	08 43 15.6	-4.4
	0.1nm,0.3s,baz=42,slow=24,SNR=2.8						
MKAR				Lg	Lg	08 44 04.3	
	0.1nm,0.3s,baz=35,slow=24,SNR=2.9						
SONM	**Songino Array**	**11.41**	**113**	Lg	Lg	08 45 28.9	
	0.1nm,0.3s,baz=299,slow=21,SNR=5.2						

IDC 27 08:40:55.8±874.0, 54°02N×3°44E, h0km, Error ellipse: s-maj=388.3km s-min=140.2km az=120.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**8.24**	**125**	*i*		09 31 50.0	
	baz=314,slow=324,SNR=2.3						
I48TN	**KESRA INFRASON**	**18.67**	**165**	*i*		10 35 20.0	
	baz=350,slow=328,SNR=0.4						
I43RU	**DUBNA INFRASON**	**9.27**	**68**	*i*		10 43 00.0	
	baz=278,slow=331,SNR=0.4						

*IDC **27** 08:51:57.1±1.3, 23°58S×179°18E, h523km±13km, mb3.6/17, mb1 3.8/20, mb1mx3.6/47, mbtmp4.5/20, Error ellipse: s-maj=12.8km s-min=11.4km az=172.0*

*ISCJB **27** 08:51:58.4±0.2, 23°71S±0°04×179°04E±0°05, h548km, mb4.4/55, Error ellipse: s-maj=6.9km s-min=4.2km az=23.0*

*NEIC **27** 08:51:58.3±0.7, 23°70S×179°12E, h536km±9km, mb4.6/56, Error ellipse: s-maj=8.2km s-min=6.2km az=123.0*

ISC 27 08:51:59.0±0.4, 23°74S±0°06×179°24E±0°08, h548km, n113, σ1°48/123, mb4.4/55, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.08**	**349**	*eP*	**P**	**08 53 36.3**	**-2.2**
OUZ	**Omahuta**	**12.45**	**202**	*eP*	**P**	**08 54 45.0**	**+3.0**
AFI	**Afiamalu**	**12.95**	**43**	P	**P**	**08 54 43.4**	**-4.2**
	2.2nm,0.3s,baz=219,slow=13,SNR=2.7						
AFI				S	S	08 56 55.5	-11
	1.1nm,0.3s,baz=205,slow=17,SNR=2.4						
MXZ	**Matakaoa Point**	**13.80**	**183**	*eP*	**P**	**08 54 55.5**	**-0.5**
URZ	**Urewera**	**14.59**	**187**	P	**P**	**08 55 02.3**	**-1.8**
	6.1nm,0.3s,baz=1.9,slow=3.3,SNR=48						
URZ				S	**S**	**08 57 31.3**	**-5.4**
	0.5nm,0.3s,baz=232,slow=20,SNR=13						
URZ	**Urewera**	**14.59**	**187**	*eP*	**P**	08 55 02.0	-2.1
URZ				*eS*	**S**	08 57 35.3	-1.4
HIZ	**Hauiti**	**15.20**	**193**	*eP*	**P**	**08 55 12.3**	**+1.9**
	119nm,1.6s						
BKZ	**Black Stump Fm**	**15.56**	**188**	*eP*	**P**	**08 55 11.2**	**-2.9**
	21nm,1.2s						
BKZ				*eS*	**S**	**08 57 53.1**	**-0.9**
BFZ	**Birch Farm**	**17.08**	**188**	*eP*	**P**	**08 55 27.6**	**-0.8**
	53nm,1.1s						
BFZ				*eS*	**S**	**08 58 18.9**	**-0.3**
SNZO	**South Karori**	**17.93**	**191**	*eP*	**P**	**08 55 36.3**	**+0.2**
	117nm,1.2s						
THZ	**Tophouse**	**18.74**	**195**	*eP*	**P**	**08 55 43.0**	**-0.6**
	17nm,1.0s						
THZ				*eS*	**S**	**08 58 45.0**	**-1.2**
KHZ	**Kahutara**	**19.22**	**193**	*eP*	**P**	**08 55 47.4**	**-0.5**
	22nm,0.9s						
KHZ				*eS*	**S**	**08 58 51.7**	**-2.1**
RAR	**Rarotonga**	**19.55**	**87**	P	**P**	**08 55 50.9**	**-0.3**
	2.2nm,0.3s,baz=186,slow=9.2,SNR=3.8						
RAR	**Rarotonga**	**19.55**	**87**	*eP*	**P**	**08 55 53.2**	**+2.0**
	182nm,1.8s						
LTZ	**Lake Taylor**	**19.85**	**195**	*eP*	**P**	**08 55 53.0**	**-0.7**
	28nm,1.2s						
OXZ	**Oxford**	**20.42**	**195**	*eP*	**P**	**08 55 57.6**	**-1.2**
	22nm,0.7s						
MQZ	**McQueen's Vall**	**20.64**	**194**	*eP*	**P**	**08 56 00.5**	**-0.3**
	98nm,1.8s						
RPZ	**Rata Peaks**	**21.04**	**197**	P	**P**	**08 56 04.8**	**+0.4**
	8.9nm,0.5s,baz=42,slow=3.3,SNR=6.8						
RPZ	**Rata Peaks**	**21.04**	**197**	*eP*	**P**	**08 56 04.8**	**+0.4**
	140nm,1.8s						
FOZ	**Fox Glacier**	**21.22**	**199**	*eP*	**P**	**08 56 05.7**	**-0.3**
	99nm,1.6s						
LBZ	**Lake Benmore**	**21.89**	**198**	*eP*	**P**	**08 56 10.9**	**-1.2**
	126nm,1.9s						
WKZ	**Wanaka**	**22.64**	**199**	*eP*	**P**	**08 56 17.9**	**-0.8**
	318nm,2.0s						
MLZ	**Mavora Lakes**	**23.40**	**200**	*eP*	**P**	**08 56 26.7**	**+1.2**
	108nm,1.6s						
DCZ	**Deep Cove**	**23.80**	**201**	*eP*	**P**	**08 56 30.2**	**+1.2**
	83nm,1.5s						
WHZ	**Wether Hill Ro**	**23.92**	**200**	*eP*	**P**	**08 56 30.5**	**+0.4**
	178nm,1.7s						
ARMA	**Armidale**	**25.43**	**249**	*eP*	**P**	**08 56 44.7**	**+0.9**
	8.9nm,0.8s						
EIDS	**Eidsvold**	**25.65**	**261**	*eP*	**P**	**08 56 45.9**	**+0.2**
	83nm,1.9s						
CAN	**Canberra**	**28.62**	**239**	*eP*	**P**	**08 57 12.7**	**+1.0**
	28nm,0.7s						
CTA	**Charters Tower**	**30.78**	**270**	P	**P**	**08 57 30.3**	**-0.2**
	23nm,0.5s,baz=97,slow=11,SNR=45						
CTAO	**Charters Tower**	**30.78**	**270**	*eP*	**P**	**08 57 30.2**	**-0.2**
	27nm,0.6s						
TAU	**Tasmania Unive**	**32.54**	**226**	*eP*	**P**	**08 57 46.1**	**+1.0**
	76nm,1.5s						
PMG	**Port Moresby**	**33.78**	**290**	P	**P**	**08 57 55.0**	**-1.0**
	25nm,0.6s,baz=94,slow=4.9,SNR=9.0						
PMG	**Port Moresby**	**33.78**	**290**	*eP*	**P**	**08 57 54.9**	**-1.0**
	27nm,0.7s						
STKA	**Stephens Creek**	**34.14**	**248**	P	**P**	**08 57 59.0**	**+0.2**
	10nm,0.6s,baz=94,slow=10,SNR=50						
STKA				ScP	**ScP**	**09 03 16.1**	**+2.8**
	1.2nm,0.8s,baz=66,slow=10.0,SNR=3.4						
STKA	**Stephens Creek**	**34.14**	**248**	*eP*	**P**	**08 57 59.1**	**+0.3**
	2.3nm,0.7s						
COEN	**Coen**	**35.40**	**279**	*eP*	**P**	**08 58 08.8**	**-0.7**
	10nm,1.1s						
BBOO	**Buckleboo**	**38.87**	**247**	*eP*	**P**	**08 58 37.0**	**-0.7**
	7.9nm,0.8s						
AS01	**Alice Springs**	**41.33**	**261**	*eP*	**P**	**08 58 56.4**	**-1.2**
AS31	**Alice Springs**	**41.38**	**261**	*eP*	**P**	**08 58 57.2**	**-0.7**
	2.6nm,0.6s						
ASAR	**Alice Springs**	**41.38**	**261**	P	**P**	**08 58 57.0**	**-0.9**
	12nm,0.9s,baz=93,slow=8.1,SNR=73						
ASAR				ScP	**ScP**	**09 03 43.7**	**+2.6**
	1.3nm,0.7s,baz=106,slow=4.2,SNR=8.5						
ASAR				S	**S**	**09 04 30.5**	**-3.0**
	0.2nm,0.4s,baz=104,slow=14,SNR=3.0						
WB2	**Warramunga Arr**	**41.71**	**266**	*eP*	**P**	**08 58 59.1**	**-1.5**
WRAB	**Tennant Creek**	**41.72**	**266**	*eP*	**P**	**08 58 59.0**	**-1.6**
	12nm,0.9s						
WRA	**Warramunga Arr**	**41.73**	**266**	P	**P**	**08 58 59.1**	**-1.6**
	10nm,0.7s,baz=96,slow=8.5,SNR=100						
WRA				ScP	**ScP**	**09 03 44.5**	**+1.9**
	2.7nm,0.8s,baz=99,slow=3.9,SNR=14						
FITZ	**Fitzroy Crossi**	**50.15**	**266**	P	**P**	**09 00 03.8**	**-0.8**
	3.2nm,0.6s,baz=128,slow=7.8,SNR=13						
FITZ	**Fitzroy Crossi**	**50.15**	**266**	*eP*	**P**	**09 00 04.2**	**-0.5**
VNDA	**Vanda**	**54.48**	**185**	P	**P**	**09 00 36.5**	**+1.8**
	0.6nm,0.6s,baz=360,slow=9.2,SNR=4.2						
VNDA	**Vanda**	**54.48**	**185**	*eP*	**P**	**09 00 36.6**	**+1.8**
	19nm,2.0s						
NWAO	**Narrogin (SRO)**	**54.67**	**246**	*eP*	**P**	**09 00 35.7**	**-1.1**
	54nm,1.6s						
MBWA	**Marble Bar**	**54.72**	**260**	*eP*	**P**	**09 00 36.0**	**-1.4**
	8.0nm,0.9s						
CASY	**Casey**	**59.95**	**206**	*eP*	**P**	**09 01 12.3**	**0.0**
	71nm,1.9s						
QSPA	**South Pole Qui**	**66.34**	**180**	P	**P**	**09 01 55.0**	**+1.6**
	1.7nm,0.5s,baz=282,slow=0.9,SNR=11						
QSPA	**South Pole Qui**	**66.34**	**180**	*eP*	**P**	**09 01 55.0**	**+1.6**
	26nm,2.0s						
MJAR	**Matsushiro Arr**	**71.37**	**326**	P	**P**	**09 02 22.4**	**-1.5**
	1.3nm,0.7s,baz=152,slow=6.6,SNR=4.6						
JNU	**Nakatsue**	**72.95**	**319**	P	**P**	**09 02 32.6**	**-0.6**
	3.8nm,0.8s,baz=135,slow=4.3,SNR=2.3						
MAW	**Mawson**	**77.66**	**201**	P	**P**	**09 02 59.5**	**+0.8**
	3.2nm,0.6s,baz=117,slow=11,SNR=5.4						
MAW	**Mawson**	**77.66**	**201**	*eP*	**P**	**09 02 59.8**	**+1.1**
	4.4nm,1.4s						
PETK	**Petropavlovsk-**	**78.78**	**347**	P	**P**	**09 03 04.2**	**-0.7**
	1.3nm,0.5s,baz=124,slow=6.2,SNR=5.8						
PETK	**Petropavlovsk-**	**78.78**	**347**	*eP*	**P**	**09 03 04.5**	**-0.3**
NJ2	**Nanjing**	**80.03**	**311**	*eP*	**P**	**09 03 11.8**	**-0.1**
SLBS	**Sierra La Lagu**	**83.33**	**61**	*eP*	**P**	**09 03 30.7**	**+1.6**
ISA	**Isabella, Lake**	**83.41**	**47**	*eP*	**P**	**09 03 30.3**	**+1.1**
	4.8nm,1.0s						
CMB	**Columbia Colle**	**83.56**	**44**	*eP*	**P**	**09 03 30.3**	**+0.4**
	4.4nm,0.9s						
ORV	**Oroville**	**83.78**	**42**	*eP*	**P**	**09 03 31.8**	**+0.9**
	17nm,1.9s						
MTUM	**Tungsten Hills**	**84.33**	**45**	*eP*	**P**	**09 03 34.0**	**+0.1**
SNAA	**Sanae**	**84.84**	**179**	P	**P**	**09 03 35.5**	**-0.2**
SNAA	**Sanae**	**84.84**	**179**	P	**P**	**09 03 35.4**	**-0.2**
	0.9nm,0.4s,baz=203,slow=13,SNR=20						
SNAA	**Sanae**	**84.84**	**179**	*eP*	**P**	**09 03 35.5**	**-0.2**
	14nm,1.6s						
YERR	**Yerington**	**84.85**	**43**	*eP*	**P**	**09 03 36.8**	**+0.5**
	15nm,1.8s						
VNA3	**Neumayer Olymp**	**85.07**	**177**	P	**P**	**09 03 35.2**	**-1.6**
NV01	**Mina Array Sit**	**85.12**	**44**	*eP*	**P**	**09 03 38.1**	**+0.4**
NVAR	**Mina Array Bea**	**85.12**	**44**	P	**P**	**09 03 38.2**	**+0.5**
	0.8nm,0.6s,baz=217,slow=8.7,SNR=7.1						
VNA2	**Neumayer--Watz**	**85.48**	**178**	P	**P**	**09 03 38.8**	**+0.1**
	baz=194,slow=3.7						
KVN	**Kaiserville**	**85.61**	**44**	*eP*	**P**	**09 03 39.5**	**-0.5**
	13nm,1.7s						
TUC	**Tucson**	**86.97**	**53**	*eP*	**P**	**09 03 47.7**	**+1.2**
	3.7nm,1.1s						
WVOR	**Wild Horse Val**	**87.24**	**41**	*eP*	**P**	**09 03 48.5**	**+1.0**
	4.9nm,1.2s						
LCMT	**Little Creek M**	**87.67**	**48**	*eP*	**P**	**09 03 50.6**	**+0.8**
	3.6nm,1.3s						
U15A	**North Rim**	**88.02**	**49**	*eP*	**P**	**09 03 53.0**	**+1.5**
	3.8nm,0.8s						
HPIG		**88.27**	**60**	*eP*	**P**	**09 03 54.0**	**+1.2**
	5.1nm,0.9s						
MTPU	**Mount Pierson**	**88.93**	**47**	*eP*	**P**	**09 03 57.8**	**+1.9**
	6.0nm,1.3s						
LTY	**Liberty**	**88.95**	**36**	*eP*	**P**	**09 03 54.3**	**-1.1**
	18nm,1.6s						
HAWA	**Hanford**	**89.06**	**37**	*eP*	**P**	**09 03 56.8**	**+1.0**
	23nm,1.8s						
SCM	**Sheep Creek Mo**	**89.39**	**15**	*eP*	**P**	**09 03 55.9**	**-1.1**
	25nm,1.4s						
HHC	**Hu-ho-hao-te**	**89.81**	**315**	*eP*	**P**	**09 04 02.3**	**+2.7**
HHC				pP	pP	09 06 01.8	+1.9
HHC				sP	sP	09 06 55.0	+0.1
HHC				PP	**PP**	**09 07 47.3**	**+4.9**
HHC				SKS	**SKSac**	**09 13 41.0**	**+3.0**
HHC	**Hu-ho-hao-te**	**89.81**	**315**	S	**S**	**09 14 07.3**	**+1.9**
HHC	**Hu-ho-hao-te**	**89.81**	**315**	sS	sS	09 17 39.0	-1.2
HHC	**Hu-ho-hao-te**	**89.81**	**315**	SS	SS	09 20 25.5	+5.4
TMUT	**Trail Mountain**	**90.23**	**47**	*eP*	**P**	**09 04 03.4**	**+1.6**
	6.9nm,0.8s						
HVU	**Hansel Valley**	**90.50**	**44**	*eP*	**P**	**09 04 03.7**	**+0.9**
	16nm,2.0s						
SRU	**San Rafael Swe**	**90.59**	**47**	*eP*	**P**	**09 04 04.3**	**+0.9**
	5.4nm,0.8s						
P17A	**Butcher Ranch,**	**90.63**	**47**	*eP*	**P**	**09 04 05.1**	**+1.6**
	15nm,2.0s						
MNTX	**Cornudas Mount**	**90.69**	**56**	*eP*	**P**	**09 04 04.8**	**+1.1**
	2.2nm,0.8s						
TX31	**Lajitas Ar. Si**	**90.94**	**58**	*eP*	**P**	**09 04 06.5**	**+1.5**
TXAR	**Lajitas Array**	**90.94**	**58**	P	**P**	**09 04 06.2**	**+1.2**
	1.6nm,0.8s,baz=215,slow=6.6,SNR=16						
LZH	**Lanzhou**	**92.73**	**308**	*eP*	**P**	**09 04 13.3**	**+0.1**
LZH				pP	pP	09 06 18.8	+5.1
LZH				sP	sP	09 07 19.0	+10
PDAR	**Pinedale Array**	**93.06**	**44**	P	**P**	**09 04 14.5**	**-0.1**
	0.4nm,0.7s,baz=205,slow=4.0,SNR=4.9						
DAWY	**Dawson**	**93.27**	**17**	*eP*	**P**	**09 04 14.3**	**-0.6**
	18nm,1.9s						
WALA	**Waterton Lakes**	**93.69**	**37**	*eP*	**P**	**09 04 19.6**	**+2.4**
	12nm,1.6s						
CRZF	**Crozet Islands**	**95.49**	**214**	*eP*	**P**	**09 04 25.2**	**-0.3**
KSH	**Kashi**	**114.61**	**304**	*e*PKP	PKPdf	09 09 38.5	+1.0
ARCES	**ARCESS Array B**	**131.58**	**348**	PKP	**PKPdf**	**09 10 08.9**	**0.0**
	2.3nm,0.9s,baz=354,slow=1.7,SNR=5.7						
ARCES				SKPbc	**SKPbc**	**09 12 43.7**	**+0.2**
	2.7nm,0.8s,baz=23,slow=4.9,SNR=8.0						
FINES	**FINESS Array B**	**138.07**	**341**	SKPbc	**SKPbc**	**09 13 04.0**	**+0.1**
	1.5nm,0.5s,baz=48,slow=2.1,SNR=8.2						
HFS	**Hagfors**	**142.25**	**348**	PKhKP	PKPpre	09 10 24.2	
	2.1nm,0.5s,baz=47,slow=2.8,SNR=13						
AKASG	**Malin Array Be**	**144.46**	**327**	PKP	**PKPdf**	**09 10 31.6**	**-1.3**
	0.5nm,0.4s,baz=46,slow=3.9,SNR=7.0						
AKBB	**Malin Array Si**	**144.46**	**327**	*e*PKPbc	**PKPdf**	**09 10 31.8**	**-1.1**
KIEV	**Kiev**	**144.47**	**327**	*e*PKPbc	**PKPdf**	**09 10 31.7**	**-1.2**
AK11	**Malin Array Si**	**144.50**	**327**	*e*PKPdf	**PKPdf**	**09 10 31.2**	**-1.8**
BRTR	**Keskin Array B**	**146.93**	**307**	PKPbc	**PKPbc**	**09 10 42.0**	**+1.4**
	0.8nm,0.6s,baz=96,slow=2.4,SNR=3.1						
ANTO	**Ankara**	**147.50**	**308**	*e*PKPdf	**PKPdf**	**09 10 38.2**	**-0.2**
EKA	**Eskdalemuir Ar**	**148.39**	**3**	PKPbc	**PKPbc**	**09 10 42.8**	**-0.8**
	0.2nm,0.3s,baz=355,slow=3.9,SNR=5.0						
BUR04	**Bucovina Ar. S**	**148.44**	**326**	*e*PKPbc	**PKPbc**	**09 10 44.7**	**+0.6**
CLL	**Collm**	**150.49**	**342**	*i* PKPbc	**PKPbc**	**09 10 48.4**	**-0.3**
	comp=Z,7.0nm,0.8s						
CLL				LmV		10 13 00.0	
	comp=Z,100nm,21.7s						
BRG	**Bergqiesshubel**	**150.61**	**341**	*e*PKP	**PKPbc**	**09 10 48.9**	**-0.1**
	comp=Z,3.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**169.22**	**193**	PKP	**PKPdf**	**09 11 03.5**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=135,slow=0.2,SNR=3.9						
TORD				PKPab	**PKPab**	**09 12 20.9**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=165,slow=4.7,SNR=4.2						

*BJI **27** 09:01:38.0, 5°91S×147°10E, h47km, mb4.8/22, mB5.1/14, Ms4.5/10, Ms7 4.3/7*

*ISCJB **27** 09:01:42.0±0.2, 5°74S±0°03×146°75E±0°04, h78km, mb4.6/56, Error ellipse: s-maj=5.1km s-min=4.2km az=12.8*

*IDC **27** 09:01:43.3±1.9, 5°73S×146°91E, h79km±17km, mb4.1/20, mb1 4.2/23, mb1mx4.0/48, mbtmp4.4/23, MS4.0/26, Ms1 4.0/26, ms1mx3.9/41, Error ellipse: s-maj=15.7km s-min=9.1km az=99.0*

*GCMT **27** 09:01:44.6±0.2, 5°65S×146°81E, h48km±1km, MW5.1/91, Moment Tensor Solution. s47,c68; s91,c141; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.96±.17; Mθθ=0.73±.14; Mφφ 1.69±.15; Mrθ=0.53±.15; Mθφ 4.19±.11; Mφr2.80±.15; Best double couple: M₀5.26500×10¹⁶ NP1:φs175.00000°, δ83.00000°, λ-145.00000°. NP2: φs80.00000°, δ56.00000°, λ-9.00000°. Principal axes: T 5.4600, Plg18.0000°, Azm303.0000°; N -0.3890, Plg55.0000°, Azm186.0000°; P -5.0700, Plg29.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*DJA **27** 09:01:44.9±0.6, 6°S±4°×14°7E±1°, h84km±6km, M5.2/26, mb5.0/26, mB5.5/12, MLv5.8/3, Mw(mB)5.0/12*

*NEIC **27** 09:01:44.6±0.9, 5°75S×146°73E, h89km±9km, mb4.8/36, Error ellipse: s-maj=6.5km s-min=6.1km az=118.0*

ISC 27 09:01:43.7±0.3, 5°77S±0°04×146°82E±0°05, h78km, n152, σ1°68/142, mb4.7/55, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.62**	**175**	P	**Pn**	**09 02 36.5**	**-1.0**
	32nm,0.3s,baz=54,slow=12,SNR=43						
PMG				S	**Sn**	**09 03 20.4**	**+1.2**
	111nm,0.3s,baz=3.4,slow=17,SNR=7.0						
PMG	**Port Moresby**	**3.62**	**175**	*e*Pn	**Pn**	**09 02 36.0**	**-1.5**
PMG				*e*Sn	**Sn**	**09 03 21.0**	**+1.8**
RABL	**Rabaul**	**5.55**	**74**	*e*Pn	**Pn**	**09 02 60.0**	**-3.9**
RABL				*e*Sn	**Sn**	**09 04 06.5**	**+0.2**
JAY	**Jayapura**	**6.91**	**298**	P	**Pn**	**09 03 22.4**	**+0.1**
	824nm,1.2s,10μm4.4nm						
GENI	**Genyem**	**7.35**	**295**	P	**Pn**	**09 03 31.3**	**+3.0**
	307nm,1.3s,6μm2.3nm						
COEN	**Coen**	**8.89**	**204**	*e*Pn	**Pn**	**09 03 48.6**	**-0.7**
COEN				*e*Sn	**Sn**	**09 05 25.8**	**-2.2**
HNR	**Honiara**	**13.51**	**106**	LR	LR	09 09 19.2	
	comp=Z,1μm,21.2s,baz=270,slow=34						
HNR	**Honiara**	**13.51**	**106**	*e*Pn	**Pn**	**09 04 54.5**	**+2.4**
CTA	**Charters Tower**	**14.24**	**182**	P	**Pn**	**09 05 02.6**	**+1.0**
	1.4nm,0.3s,baz=3.4,slow=14,SNR=13						
CTA				LR	LR	09 10 11.5	
	comp=Z,678nm,21.3s,baz=4.5,slow=36						
CTAO	**Charters Tower**	**14.24**	**182**	*e*Pn	**P**	**09 05 04.8**	**-1.9**
FAKI	**Fak Fak**	**14.80**	**280**	P	**Pn**	**09 05 07.8**	**-1.2**
FAKI	**Fak Fak**	**14.80**	**280**	*e*Pn	**Pn**	**09 05 07.8**	**-1.2**
SWI	**Sorong**	**16.28**	**287**	P	**Pn**	**09 05 25.9**	**-1.8**
PATS	**Pohnpei**	**16.98**	**43**	*e*Pn	**P**	**09 05 38.3**	**+1.1**
	263nm,1.2s						
MTN	**Manton Dam**	**16.99**	**244**	*e*Pn	**Pn**	**09 05 35.9**	**-0.6**
	116nm,1.5s						
WRAB	**Tennant Creek**	**18.58**	**220**	*e*P	**P**	**09 05 53.8**	**-0.9**
	33nm,0.8s						
WB2	**Warramunga Arr**	**18.58**	**220**	*e*P	**P**	**09 05 50.2**	**-4.6**
WR1	**Warramunga Arr**	**18.59**	**220**	*e*P	**P**	**09 05 54.5**	**-0.3**
	29nm,0.8s						
WR1				*e*S	**Sn**	**09 09 27.1**	**+3.6**
WRA	**Warramunga Arr**	**18.59**	**220**	P	**P**	**09 05 54.5**	**-0.3**
	1.3nm,0.3s,baz=38,slow=11,SNR=72						
WRA				S	**Sn**	**09 09 27.1**	**+3.6**
	0.1nm,0.3s,baz=37,slow=23,SNR=2.8						
AAI	**Ambon**	**18.68**	**276**	P	**P**	**09 05 55.4**	**-0.4**
EIDS	**Eidsvold**	**19.91**	**169**	*e*P	**Pn**	**09 06 10.2**	**-1.2**
	75nm,1.4s						
SANI	**Sanana**	**21.11**	**279**	P	**P**	**09 06 21.5**	**-0.6**
AS01	**Alice Springs**	**21.68**	**214**	*e*P	**P**	**09 06 28.1**	**-0.1**
AS31	**Alice Springs**	**21.70**	**214**	*e*P	**P**	**09 06 29.0**	**+0.5**
	7.2nm,0.8s						
ASAR	**Alice Springs**	**21.70**	**214**	P	**P**	**09 06 28.6**	**+0.1**
	7.6nm,0.8s,baz=52,slow=9.4,SNR=74						
ASAR				S	**S**	**09 10 25.3**	**+0.8**
	1.8nm,0.9s,baz=29,slow=20,SNR=3.3						
ASAR				LR	LR	09 16 04.1	
	comp=Z,1μm,19.9s,baz=47,slow=40						
SOEI	**Soe**	**22.69**	**259**	P	**P**	**09 06 38.9**	**-0.3**
SOEI	**Soe**	**22.69**	**259**	*e*P	**P**	**09 06 39.0**	**-0.3**
	321nm,1.4s						
BATI	**Baumata**	**23.34**	**258**	P	**P**	**09 06 46.5**	**+0.9**
	48nm,0.6s,baz=92,slow=9.2,SNR=6.8						
BATI				LR	LR	09 18 16.9	
	comp=Z,1μm,18.7s,baz=99,slow=42						
BATI	**Baumata**	**23.34**	**258**	P	**P**	**09 06 46.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.03**	**238**	P	**P**	**09 06 51.4**	**-0.3**
	21nm,0.6s,baz=64,slow=7.3,SNR=88						
FITZ	**Fitzroy Crossi**	**24.03**	**238**	*e*P	**P**	**09 06 51.6**	**0.0**
LUWI	**Luwuk**	**24.45**	**280**	*e*P	**P**	**09 06 55.8**	**+0.3**
	150nm,1.0s						
ARMA	**Armidale**	**24.93**	**170**	*e*P	**P**	**09 07 00.7**	**+0.9**
	27nm,0.8s						
DZM	**Mont Dzumac**	**24.95**	**132**	P	**P**	**09 06 59.3**	**-0.8**
	26nm,0.9s,baz=232,slow=11,SNR=11						
DZM	**Mont Dzumac**	**24.95**	**132**	*e*P	**P**	**09 07 03.7**	**+3.6**
	78nm,1.1s						
DZM				*e*S	**S**	**09 11 25.3**	**+7.0**
	510nm,25.4s						
DZM				*e*LR	LR	09 13 20.0	
	2μm,23.5s						
DZM	**Mont Dzumac**	**24.95**	**132**	*e*P	**P**	**09 07 00.3**	**+0.2**
	31nm,0.9s						
APSI	**Ampana**	**25.58**	**280**	P	**P**	**09 07 05.8**	**0.0**
BSSI	**Bau Bau, Buton**	**26.19**	**268**	P	**P**	**09 07 11.1**	**-0.2**
BASI	**Baing, Sumba**	**26.35**	**259**	P	**P**	**09 07 13.0**	**+0.3**
STKA	**Stephens Creek**	**26.43**	**190**	P	**P**	**09 07 13.0**	**-0.2**
	6.3nm,0.7s,baz=358,slow=7.6,SNR=15						
STKA				LR	LR	09 19 03.8	
	comp=Z,356nm,18.2s,baz=6.2,slow=39						
STKA	**Stephens Creek**	**26.43**	**190**	*e*P	**P**	**09 07 12.9**	**-0.2**
	2.7nm,0.8s						
TTSI	**Tana Toraja**	**27.05**	**275**	P	**P**	**09 07 20.8**	**+1.7**
	45nm,1.1s						
WBSI	**Waikabubak, Su**	**27.44**	**260**	P	**P**	**09 07 21.8**	**-0.8**
MPSI	**Mapaga**	**27.56**	**282**	P	**P**	**09 07 22.5**	**-1.0**
BBOO	**Buckleboo**	**28.71**	**199**	*e*P	**P**	**09 07 34.3**	**+0.7**
	24nm,1.3s						
MYLDM	**Lahad Datu**

HHC	**Hu-ho-hao-te**	**56.55**	**328**	*e*P		**P**		09 11 21.5	**+3.2**
HHC				pP		pP		09 11 34.3	-3.8
HHC				sP		sP		09 11 39.5	-7.3
HHC				PP		**PP**		**09 13 29.3**	**+4.3**
HHC				S		**S**		**09 19 08.5**	**+4.3**
HHC				sS		pS		09 19 30.0	+3.8
HHC				ScS		**ScS**		**09 21 03.3**	**+2.8**
HHC				SS		**SS**		**09 22 57.0**	**+4.0**
HHC				pmax		pmax			
	comp=Z,16nm,1.2s								
HHC				pmax		pmax			
	comp=Z,45nm,5.5s								
HHC				LR		LR			
	comp=N,59nm,12.9s								
HHC				LR		LR			
	comp=E,170nm,12.9s								
HHC				LR		LR			
	comp=Z,110nm,12.7s								
LZH	**Lanzhou**	**57.92**	**319**	*e*P		P		09 11 33.3	+5.1
LZH				pP		pP		09 11 47.3	-0.7
LZH				sP		sP		09 11 52.5	-4.2
LZH				pmax		pmax			
	comp=Z,15nm,1.3s								
PETK	**Petropavlovsk-**	**59.38**	**8**	P		**P**		**09 11 38.6**	**+0.9**
	4.0nm,0.9s,baz=165,slow=6.2,SNR=4.5								
PETK				PcP		**PcP**		**09 12 22.3**	**-2.5**
	5.1nm,0.8s,baz=151,slow=3.3,SNR=4.1								
PETK				LR		LR		09 33 25.5	
	comp=Z,134nm,21.6s,baz=188,slow=32								
PETK	**Petropavlovsk-**	**59.38**	**8**	*e*P		**P**		**09 11 38.3**	**+0.6**
PEA1	**Petropavlovsk-**	**59.38**	**8**	*e*P		**P**		**09 11 38.6**	**+0.9**
PEA1				*e*PcP		**PcP**		**09 12 22.3**	**-2.5**
GTA	**Gaotai**	**62.45**	**320**	*e*P		**P**		**09 12 00.8**	**+1.8**
GTA				pP		pP		09 12 13.0	-6.1
GTA				sP		sP		09 12 19.0	-8.8
GTA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
PPT	**Papeete**	**63.13**	**107**	LR		LR		09 36 58.6	
	comp=Z,66nm,18.4s,baz=312,slow=34								
PPT2	**Papeete2**	**63.13**	**107**	*e*LR		LR		09 31 07.3	
	242nm,27.0s								
SONA0	**Songino Array**	**64.12**	**331**	*e*P		**P**		**09 12 09.2**	**-0.6**
SONM	**Songino Array**	**64.12**	**331**	P		**P**		**09 12 09.2**	**-0.6**
	1.1nm,0.6s,baz=142,slow=6.8,SNR=7.9								
SONA1	**Songino Array**	**64.12**	**331**	*e*P		**P**		**09 12 08.8**	**-1.1**
MA2	**Magadan**	**65.22**	**2**	LR		LR		09 40 43.1	
	comp=Z,39nm,18.8s,baz=172,slow=36								
VNDA	**Vanda**	**72.15**	**177**	P		**P**		**09 13 00.2**	**+0.7**
	4.7nm,0.5s,baz=332,slow=7.1,SNR=60								
VNDA				LR		LR		09 42 14.0	
	comp=Z,125nm,18.3s,baz=346,slow=34								
VNDA	**Vanda**	**72.15**	**177**	*e*P		**P**		**09 13 00.0**	**+0.5**
TAOE	**Nuku Hiva Isla**	**72.41**	**97**	*e*LR		LR		09 35 12.3	
	220nm,23.1s								
WMQ	**Urumqi**	**72.50**	**319**	P		**P**		**09 13 03.0**	**+0.7**
WMQ				sP		pP		09 13 22.5	-0.3
WMQ				pmax		pmax			
	comp=Z,16nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,250nm,4.7s								
WMQ				LR		LR			
	comp=N,140nm,39.0s								
WMQ				LR		LR			
	comp=E,130nm,31.1s								
RKT	**Rikitea**	**76.92**	**112**	*e*LR		LR		09 37 32.7	
	310nm,32.8s								
MK01	**Makanchi Array**	**77.19**	**320**	*e*P		**P**		**09 13 28.1**	**-1.1**
MK31	**Makanchi Array**	**77.21**	**321**	*e*P		**P**		**09 13 27.6**	**-1.7**
MK32	**Makanchi Array**	**77.21**	**321**	*e*P		**P**		**09 13 28.4**	**-0.9**
MKAR	**Makanchi Array**	**77.21**	**321**	P		**P**		**09 13 28.4**	**-0.9**
	0.5nm,0.5s,baz=107,slow=7.2,SNR=5.8								
MKAR	**Makanchi Array**	**77.21**	**321**	*e*P		**P**		**09 13 27.7**	**-1.6**
	14nm,0.7s								
MAKZ	**Makanchi**	**77.41**	**320**	*e*P		**P**		**09 13 29.5**	**-1.0**
	6.3nm,1.1s								
ZAA0	**Zalesovo Array**	**78.73**	**328**	*e*P		**P**		**09 13 35.9**	**-1.6**
	29nm,1.3s								
ZALV	**Zalesovo Beam**	**78.73**	**328**	LR		LR		09 47 24.9	
	comp=Z,142nm,21.7s,baz=72,slow=35								
ZALV	**Zalesovo Beam**	**78.73**	**328**	*e*P		**P**		**09 13 35.2**	**-2.3**
KSH	**Kashi**	**79.09**	**312**	*e*P		**P**		**09 13 41.8**	**+1.8**
KURK	**Kurchatov**	**80.92**	**323**	*e*P		**P**		**09 13 47.8**	**-1.6**
	18nm,1.7s								
KURBB	**Kurchatov Arra**	**80.94**	**323**	P		**P**		**09 13 48.3**	**-1.2**
	0.4nm,0.6s,baz=112,slow=5.5,SNR=3.6								
MAW	**Mawson**	**82.39**	**203**	P		**P**		**09 13 56.3**	**-0.5**
	5.0nm,0.6s,baz=114,slow=6.2,SNR=9.5								
MAW				LR		LR		09 48 28.6	
	comp=Z,38nm,21.1s,baz=62,slow=34								
MAW	**Mawson**	**82.39**	**203**	*e*P		**P**		**09 13 56.7**	**-0.2**
	2.9nm,1.0s								
KTH	**Kantishna Hill**	**83.22**	**24**	*e*P		**P**		**09 14 00.1**	**-1.2**
	10.0nm,1.2s								
IM3	**Indian Mountai**	**83.34**	**21**	*e*P		**P**		**09 14 01.7**	**-0.1**
MLY	**Manley**	**83.98**	**22**	*e*P		**P**		**09 14 04.6**	**-0.5**
	12nm,1.4s								
RND	**Reindeer**	**83.99**	**24**	*e*P		**P**		**09 14 03.4**	**-1.8**
	17nm,1.2s								
KK01	**Karatay Array**	**84.01**	**314**	*e*P		**P**		**09 14 04.7**	**-1.0**
MCK	**McKinley**	**84.10**	**24**	*e*P		**P**		**09 14 05.6**	**-0.2**
	17nm,1.2s								
QSPA	**South Pole Qui**	**84.19**	**180**	P		**P**		**09 14 06.4**	**+0.1**
	12nm,0.6s,baz=336,slow=2.3,SNR=69								
QSPA	**South Pole Qui**	**84.19**	**180**	*e*P		**P**		**09 14 06.4**	**+0.1**
	10nm,0.6s								
WRH	**Wood River Hil**	**84.75**	**23**	*e*P		**P**		**09 14 08.8**	**-0.1**
	10.0nm,1.1s								
CCB	**Clear Creek Bu**	**84.94**	**23**	*e*P		**P**		**09 14 09.5**	**-0.3**
	14nm,1.3s								
COLD	**Coldfoot**	**85.19**	**20**	*e*P		**P**		**09 14 11.5**	**+0.4**
	6.5nm,1.2s								
ILAR	**Eielson Array**	**85.35**	**23**	P		**P**		**09 14 11.1**	**-0.8**
	5.0nm,1.1s,baz=252,slow=4.7,SNR=20								
ILAR				LR		LR		09 48 12.3	
	comp=Z,80nm,19.7s,baz=260,slow=33								
ILB	**Eielson Array**	**85.35**	**23**	*e*P		**P**		**09 14 11.2**	**-0.8**
RIDG	**Independ'e Rid**	**85.76**	**24**	*e*P		**P**		**09 14 14.6**	**+0.5**
	18nm,1.4s								
DOT	**Dot Lake**	**86.05**	**25**	*e*P		**P**		**09 14 16.0**	**+0.5**
	31nm,1.2s								
BVAR	**Borovoye Array**	**86.48**	**324**	P		**P**		**09 14 15.7**	**-2.1**
	0.7nm,0.7s,baz=104,slow=6.1,SNR=3.7								
BVAR				LR		LR		09 54 21.6	
	comp=Z,62nm,19.1s,baz=110,slow=36								
EGAK	**Eagle**	**87.63**	**24**	*e*P		**P**		**09 14 23.0**	**-0.2**
	30nm,1.8s								
DAWY	**Dawson**	**88.14**	**25**	*e*P		**P**		**09 14 24.8**	**-0.9**
	10.0nm,1.2s								
WSAR	**Wadi Sarin**	**90.59**	**293**	LR		LR		09 59 02.4	
	comp=Z,28nm,20.6s,baz=112,slow=38								
SYO	**Syowa Base**	**90.74**	**200**	*e*P		**P**		**09 14 38.2**	**+0.5**
AKTO	**Aktyubinsk**	**93.64**	**320**	LR		LR		09 59 36.1	
	comp=Z,38nm,18.1s,baz=82,slow=37								
YBH	**Yreka Blue Hor**	**94.15**	**49**	LR		LR		09 49 49.6	
	comp=Z,146nm,20.7s,baz=320,slow=31								
OPO	**Ambohidratompo**	**97.25**	**251**	LR		LR		09 53 00.4	
	comp=Z,87nm,21.3s,baz=34,slow=32								
NVAR	**Mina Array Bea**	**97.37**	**52**	LR		LR		09 55 11.8	
	comp=Z,160nm,18.8s,baz=92,slow=33								
YKA	**Yellowknife Ar**	**99.06**	**28**	P		**Pdif**		**09 15 15.3**	**-0.4**
	0.6nm,1.0s,baz=276,slow=5.3,SNR=5.6								
RPN	**Rapa Nui**	**99.61**	**119**	LR		LR		09 54 11.1	
	comp=Z,31nm,19.1s,baz=12,slow=32								
PLCA	**Paso Flores**	**122.41**	**147**	PKP		**PKPdf**		**09 20 29.9**	**-0.6**
	1.4nm,0.5s,baz=266,slow=1.8,SNR=12								
PLCA	**Paso Flores**	**122.41**	**147**	*e*PKPdf		**PKPdf**		**09 20 30.7**	**+0.3**
LCO	**Las Campanas**	**130.02**	**136**	*e*PKPdf		**PKPdf**		**09 20 45.7**	**+0.1**
LPAZ	**La Paz**	**139.06**	**123**	PKP		**PKPdf**		**09 21 02.4**	**-0.9**
	4.1nm,1.2s,baz=225,slow=2.9,SNR=4.1								
LPAZ	**La Paz**	**139.06**	**123**	*e*PKPdf		**PKPdf**		**09 21 02.7**	**-0.5**
CPUP	**Villa Florida**	**140.42**	**145**	PKP		**PKPdf**		**09 21 03.1**	**-1.5**
	3.9nm,0.9s,baz=214,slow=3.6,SNR=4.9								
CPUP	**Villa Florida**	**140.42**	**145**	*e*PKPdf		**PKPdf**		**09 21 03.9**	**-0.8**
SDV	**Santo Domingo**	**142.74**	**83**	PKP		**PKPdf**		**09 21 06.1**	**-3.2**
	1.4nm,0.6s,baz=287,slow=11,SNR=2.8								
TOA0	**Torodi Ar. Sit**	**144.86**	**285**	*e*PKPdf		**PKPab**		**09 21 11.2**	**-0.8**
TOA0				*e*PKPdf		PKPbc		09 21 12.1	0.0
TORD	**Torodi Ar. Bea**	**144.86**	**285**	PKP		**PKPab**		**09 21 10.9**	**-1.2**
	2.9nm,0.7s,baz=85,slow=3.1,SNR=20								
TOA1	**Torodi Ar. Sit**	**144.86**	**285**	*e*PKPdf		**PKPab**		**09 21 10.9**	**-1.2**
SAML	**Samuel**	**146.71**	**116**	*e*PKPdf		**PKPdf**		**09 21 15.8**	**-0.2**
KOWA	**Kowa**	**150.04**	**289**	PKPbc		**PKPbc**		**09 21 25.3**	**-1.1**
	2.8nm,0.8s,baz=70,slow=2.6,SNR=5.0								
DBIC	**Dimbokro**	**151.83**	**273**	PKPab		**PKPab**		**09 21 42.0**	**+2.1**
	5.9nm,1.0s,baz=88,slow=1.4,SNR=4.5								

NEIC ***27*** *09:05:02.4±0.0, 18°.83N×68°.96W, h112km, MD3.4(RSPR), After RSPR.*

RSPR 27 09:05:02.4, 18°.83N×68°.96W, h112km±2km, MD3.4/6, 8C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.40**	**264**	⇑*e*P		Pn	09 05 18.1	-0.9
DR12				*e*S		Sn	09 05 31.2	-0.2
DR12	**Loma Pena Alta**	**0.40**	**264**	⇑*e*P		Pn	09 05 18.1	-0.9
IDE	**Isla Desecheo**	**1.48**	**107**	⇑*e*P		Pn	09 05 28.5	-0.6
IDE	**Isla Desecheo**	**1.48**	**107**	⇑*e*P		Pn	09 05 28.5	-0.6
IDE				*e*S		Sn	09 05 49.8	+0.4
AGPR	**Aguadilla, PR**	**1.79**	**101**	⇑*e*P		Pn	09 05 32.8	-0.1
AGPR	**Aguadilla, PR**	**1.79**	**101**	⇑*e*P		Pn	09 05 32.8	-0.1
AGPR				*e*S		Sn	09 05 56.4	+0.2
LSP	**Las Mesas**	**1.90**	**110**	⇓*e*P		Pn	09 05 34.5	+0.2
LSP	**Las Mesas**	**1.90**	**110**	⇓*e*P		Pn	09 05 34.5	+0.2
LSP				*e*S		Sn	09 05 58.1	-0.5
AOPR	**Arecibo Observ**	**2.15**	**103**	⇓*i*P		Pn	09 05 37.3	-0.1
AOPR	**Arecibo Observ**	**2.15**	**103**	⇓*i*P		Pn	09 05 37.3	-0.1
AOPR				*e*S		Sn	09 06 03.8	-0.4
SDDR	**Presa de Saban**	**2.21**	**274**	*e*Pn		Pn	09 05 36.8	-1.4
SDDR				*e*Sn		Sn	09 06 05.8	+0.3
CBYP	**Canovanas**	**3.00**	**100**	⇑*e*P		Pn	09 05 48.3	-0.3
CBYP	**Canovanas**	**3.00**	**100**	⇑*e*P		Pn	09 05 48.3	-0.3
CBYP				*e*S		Sn	09 06 24.3	+0.2

SOME ***27*** *09:32:42.5, 41°.80N×79°.82E, h5km*
KRNET ***27*** *09:32:43.6±0.1, 41°.85N×79°.81E, h18km, mb3.5*
NNC ***27*** *09:32:47.0±1.8, 42°.00N×79°.85E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=12.6km s-min=6.8km az=127.0*

ISC 27 09:32:43.6±2.0, 41°.92N±0°.07×79°.69E±0°.05, h3km±12km, n32, σ1°57/56, 25C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.11**	**301**	⇓*i*P		**Pn**	**09 33 06.9**	**+0.6**
PRZ	baz=2.0			⇓*i*S		**Sn**	**09 33 23.6**	**+1.3**
PDGK	**Podgornoye**	**1.42**	**354**	⇓P		**Pg**	**09 33 11.6**	**+0.9**
	43nm,0.4s							
PDGK				⇑S		**Sg**	**09 33 31.1**	**+1.9**
	66nm,0.3s							
PDGK	**Podgornoye**	**1.42**	**354**	⇓*i*P		**Pg**	**09 33 11.4**	**+0.6**
PDGK	baz=51			⇓*i*S		**Sg**	**09 33 31.9**	**+2.7**
TARG	**Taragay, Kyrgy**	**1.42**	**263**	⇓*i*P		**Pg**	**09 33 11.4**	**+0.6**
TARG	baz=66			⇓*i*S		**Sn**	**09 33 32.1**	**+1.9**
KTMS	**Ketmen**	**1.60**	**18**	*e*P		**Pg**	**09 33 14.4**	**0.0**
	90nm,0.2s							
KTMS				*e*S		**Sg**	**09 33 35.8**	**+0.7**
	258nm,0.3s							
KDJ	**Kajisay**	**1.88**	**277**	⇑*i*P		**Pg**	**09 33 20.3**	**+0.7**
KDJ	baz=79			⇑*i*S		**Sg**	**09 33 46.5**	**+2.5**
KURS	**Kuram**	**1.93**	**325**	*e*P		**Pg**	**09 33 21.8**	**+1.2**
	12nm,0.6s							
KURS				*e*S		**Sg**	**09 33 47.8**	**+2.2**
	81nm,0.4s							
KOTS	**Kotyrbulak**	**2.31**	**306**	*e*P		**Pg**	**09 33 27.8**	**-0.1**
KOTS				*e*S		**Sg**	**09 33 58.8**	**+0.9**
MDOK	**Medeo**	**2.31**	**303**	⇑Pn		**Pg**	**09 33 27.3**	**-0.7**
	17nm,0.4s							
MDOK				⇓Sn		**Sg**	**09 33 59.8**	**+1.8**
	158nm,0.4s							
MDOK	**Medeo**	**2.31**	**303**	*e*P		**Pg**	**09 33 27.7**	**-0.3**
	26nm,0.3s							
MDOK				*e*S		**Sg**	**09 33 59.3**	**+1.4**
	184nm,0.5s							
TNSS	**Tian-Shan**	**2.31**	**300**	*e*P		**Pg**	**09 33 28.7**	**+0.7**
	29nm,0.5s							
TNSS				*e*S		**Sg**	**09 33 59.4**	**+1.4**
	213nm,0.5s							
MNBS	**Baschi**	**2.36**	**337**	*e*P		**Pg**	**09 33 29.0**	**+0.2**
	36nm,0.2s							
MNBS				*e*S		**Sg**	**09 34 00.2**	**+0.8**
	1μm,0.3s							
KNDC	**Almaty**	**2.39**	**304**	⇑Pg		**Pg**	**09 33 33.5**	**+4.0**
	20nm,0.3s							
KNDC				⇑Lg		Lg	09 34 02.2	
	81nm,0.5s							
IZV	**Izvestkoviy**	**2.53**	**297**	*e*P		**Pg**	**09 33 32.1**	**-0.1**
	22nm,0.2s							
IZV				*e*S		**Sg**	**09 34 05.1**	**+0.1**
	373nm,0.7s							
ULHL	**Ulahol**	**2.59**	**278**	⇑*i*P		**Pb**	**09 33 30.2**	**-0.6**
	baz=80							
ULHL				⇑*i*S		**Sb**	**09 34 03.8**	**+0.7**
	baz=80							
ARXS	**Arharly**	**2.67**	**330**	*e*P		**Pg**	**09 33 33.9**	**-0.8**
	13nm,0.2s							
ARXS				*e*S		**Sg**	**09 34 09.6**	**+0.3**
	117nm,0.3s							
MTBS	**Maitube**	**2.70**	**298**	*e*P		**Pg**	**09 33 34.9**	**-0.4**
	9.3nm,0.2s							
MTBS				*e*S		**Sg**	**09 34 09.9**	**-0.3**
	86nm,0.2s							
CHKK	**Chushkaly**	**2.77**	**315**	*e*P		**Pg**	**09 33 36.2**	**-0.5**
	4.8nm,0.2s							
CHKK				*e*S		**Sg**	**09 34 13.2**	**+0.6**
	125nm,0.4s							
NRN	**Naryn**	**2.80**	**261**	⇑*i*P		**Pb**	**09 33 33.1**	**-1.5**
	baz=63							
NRN				⇑*i*S		**Sb**	**09 34 08.8**	**-0.6**
	baz=63							
BOOM	**Boomskoye usch**	**2.84**	**283**	⇑*e*P		**Pb**	**09 33 33.0**	**-2.1**
	baz=84							
BOOM				⇑*i*S		**Sb**	**09 34 10.0**	**-0.4**
	baz=84							
KTBS	**Karatobe**	**2.85**	**310**	*e*P		**Pg**	**09 33 36.8**	**-1.3**
KTBS				*e*S		**Sg**	**09 34 14.0**	**-1.0**
DGS	**Degeres**	**3.18**	**296**	*e*P		**Pg**	**09 33 44.5**	**0.0**
	18nm,0.6s							
DGS				*e*S		**Sg**	**09 34 27.1**	**+1.3**
	60nm,0.4s							
TKM2	**Tokmak 2**	**3.19**	**290**	⇑Pn		**Pb**	**09 33 39.1**	**-2.0**
	1.5nm,0.4s							
TKM2				⇓Pg		**Pg**	**09 33 45.8**	**+1.0**
	6.8nm,0.3s							
TKM2				⇑Lg		Lg	09 34 27.3	
	24nm,0.3s							
TKM2	**Tokmak 2**	**3.19**	**290**	⇑*i*P		**Pb**	**09 33 38.7**	**-2.4**
	baz=90							
TKM2				⇑*i*S		**Sb**	**09 34 18.0**	**-2.4**
	baz=90							
KZA	**Kyzart**	**3.31**	**274**	⇑*i*P		**Pb**	**09 33 39.9**	**-3.4**
	baz=75							
KZA				⇑*i*S		**Sb**	**09 34 21.4**	**-2.7**
	baz=75							
KAPS	**Kapalarasan**	**3.37**	**356**	*e*P		**Pg**	**09 33 47.0**	**-1.3**
	4.4nm,0.2s							
KAPS				*e*S		**Sg**	**09 34 31.3**	**-0.7**
	60nm,0.3s							
AAK	**Ala-Archa**	**3.92**	**282**	⇑Pn		**Pb**	**09 33 52.1**	**-1.4**
	1.7nm,0.6s							
AAK				⇑Pg		**Pg**	**09 34 01.6**	**+2.9**
	2.8nm,0.3s							
AAK				⇓Lg		Lg	09 34 48.1	
	16nm,0.5s							
SFK	**Sufi-Kurgan**	**5.05**	**250**	⇓Lg		Lg	09 35 31.5	
	0.5nm,0.3s							
MK31	**Makanchi Array**	**5.22**	**20**	⇓Pn		Pn	09 34 05.4	+2.8
	0.4nm,0.2s,baz=202,slow=14,SNR=89							
MK31				⇑Sn		**Sn**	**09 35 06.0**	**+2.7**
	2.6nm,0.3s,baz=204,slow=26,SNR=5.0							
MK31				⇓Lg		Lg	09 35 26.5	
	4.2nm,0.4s,baz=154,slow=37,SNR=3.6							
MNAS	**Manas**	**5.37**	**278**	⇑Pg		**Pg**	**09 34 25.8**	**-0.6**
	1.1nm,0.5s							
MNAS				⇑Lg		Lg	09 35 36.9	
	2.0nm,0.5s							
KK31	**Karatay Array**	**6.88**	**283**	⇑Pg		**Pg**	**09 34 54.2**	**-1.2**
	1.9nm,0.7s,baz=96,slow=15,SNR=12							
KK31				⇑Lg		Lg	09 36 25.1	
	2.5nm,0.5s,baz=98,slow=27,SNR=5.5							
OTUK	**Ortayu**	**8.19**	**323**	⇓Lg		Lg	09 37 13.3	
	8.5nm,0.8s							

ISCJB ***27*** *09:37:10.6±1.6, 10°.07N±0°.05×126°.08E±0°.05, h2km±9km, mb3.5/6, Error ellipse: s-maj=9.9km s-min=7.4km az=41.5*
IDC ***27*** *09:37:11.2±1.6, 10°.22N×126°.20E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/59, mbtmp3.5/6, Error ellipse: s-maj=164.2km s-min=19.4km az=68.0*
MAN ***27*** *09:37:16, 10°.08N×125°.79E, h1km, mb4.5, ML3.4, MS3.2*

ISC 27 09:37:13.9±1.3, 10°.02N±0°.04×125°.95E±0°.05, h11km±9km, n18, σ1°47/22, mb3.5/6, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**0.51**	**243**	*e*P		**Pg**	**09 37 24.0**	**+0.1**
SCPH				*i*S		**Sg**	**09 37 30.3**	**-0.3**
MSLP	**Maasin**	**1.08**	**276**	*e*P		**Pg**	**09 37 34.0**	**-0.7**
MSLP				*e*S		**Sg**	**09 37 49.1**	**+0.3**
BUTP	**Butuan**	**1.09**	**197**	*e*P		**Pg**	**09 37 34.0**	**-0.9**
PLP	**Palo**	**1.49**	**320**	⇑*e*P		**Pb**	**09 37 40.3**	**-1.2**
BESP	**Borongan**	**1.65**	**342**	*e*P		**Pg**	**09 37 45.7**	**+0.1**
BESP				*e*S		**Sg**	**09 38 09.1**	**+2.0**
BIPH	**Bislig**	**1.87**	**167**	⇓*e*P		**Pg**	**09 37 50.3**	**+0.6**
BIPH				*e*S		**Sg**	**09 38 15.3**	**+1.4**
LLP	**Lapu-Lapu**	**1.98**	**279**	*e*P		**Pn**	**09 37 48.0**	**+0.7**
LLP				*e*S		**Sn**	**09 38 13.4**	**+1.3**
BUKP	**Musuan**	**2.30**	**203**	*e*P		**Pn**	**09 37 52.5**	**+0.8**
BUKP				*e*S		**Sn**	**09 38 22.4**	**+2.3**
RCP	**Roxas**	**3.50**	**296**	⇑*e*P		**Pn**	**09 38 10.2**	**+1.9**
RCP				*e*S		**Sn**	**09 38 53.1**	**+3.3**
WRA	**Warramunga Arr**	**30.89**	**164**	P		**P**	**09 43 30.3**	**-0.4**
	0.4nm,0.7s,baz=345,slow=8.9,SNR=4.1							
ASAR	**Alice Springs**	**34.37**	**167**	P		**P**	**09 44 01.4**	**+0.4**
	0.4nm,0.5s,baz=351,slow=6.7,SNR=10							
H11N1	**WAKE ISLAND Hy**	**40.63**	**71**	T		T	10 28 07.0	
	baz=265							
H11N2	**WAKE ISLAND Hy**	**40.64**	**71**	T		T	10 28 10.2	
	baz=265							
H11N3	**WAKE ISLAND Hy**	**40.65**	**71**	T		T	10 28 08.6	
	baz=265							
SONM	**Songino Array**	**41.15**	**340**	P		**P**	**09 44 56.2**	**-2.1**
	0.2nm,0.4s,baz=167,slow=8.9,SNR=1.7							
STKA	**Stephens Creek**	**44.27**	**161**	P		**P**	**09 45 23.4**	**-0.2**
	1.1nm,0.7s,baz=349,slow=8.8,SNR=4.5							
MKAR	**Makanchi Array**	**52.04**	**323**	P		**P**	**09 46 22.7**	**-0.8**
	0.4nm,0.6s,baz=116,slow=7.1,SNR=3.7							
KURBB	**Kurchatov Arra**	**56.10**	**326**	P		**P**	**09 46 51.9**	**-1.2**
	0.2nm,0.5s,baz=125,slow=7.6,SNR=2.2							

IDC ***27*** *09:40:06.1±0.6, 9°.95N×125°.59E, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.0/63, mbtmp4.1/17, MS3.2/9, Ms1 3.2/9, ms1mx2.9/58, Error ellipse: s-maj=27.9km s-min=12.3km az=81.0*
MAN ***27*** *09:40:08, 9°.95N×125°.85E, h4km, mb4.9, ML3.8, MS3.8*
NEIC ***27*** *09:40:14.4±1.2, 9°.92N×125°.58E, h63km±12km, mb4.2/9, Error ellipse: s-maj=13.1km s-min=6.3km az=74.0*

ISC 27 09:40:08.5±1.3, 9°.96N±0°.03×125°.87E±0°.05, h14km±8km, n70, σ1°48/76, mb4.2/23, MS3.2/7, 5C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**0.41**	**245**	⇓*i*P		**Pb**	**09 40 17.6**	**-0.1**
SCPH				*i*S		**Sb**	**09 40 23.9**	**+0.1**
MSLP	**Maasin**	**1.01**	**280**	*e*P		**Pb**	**09 40 27.6**	**-0.2**
MSLP				*e*S		**Sn**	**09 40 42.9**	**+0.5**
BUTP	**Butuan**	**1.01**	**194**	*e*P		**Pg**	**09 40 27.1**	**-1.0**
BUTP				*e*S		**Sn**	**09 40 45.3**	**+2.9**
PLP	**Palo**	**1.48**	**324**	⇑*e*P		**Pn**	**09 40 33.9**	**-1.0**
PLP				*i*S		**Sg**	**09 40 56.2**	**-0.3**
OCLP	**Ormoc**	**1.65**	**311**	*e*P		**Pb**	**09 40 38.9**	**+0.1**
OCLP				*e*S		**Sg**	**09 41 06.5**	**+4.9**
BESP	**Borongan**	**1.69**	**345**	*e*P		**Pg**	**09 40 39.0**	**-0.4**
BESP				*e*S		**Sg**	**09 41 02.8**	**-0.1**
LLP	**Lapu-Lapu**	**1.91**	**281**	⇑*i*P		**Pn**	**09 40 41.4**	**+0.7**
LLP				*i*S		**Sb**	**09 41 07.1**	**+0.2**
BUKP	**Musuan**	**2.21**	**201**	*e*P		**Pn**	**09 40 46.4**	**+1.4**
BUKP				*e*S		**Sb**	**09 41 15.8**	**0.0**
CNP	**Catarman**	**2.80**	**335**	*e*P		**Pn**	**09 40 55.0**	**

PETK	**Petropavlovsk-**	**50.08**	**24**	P		**P**	**09 49 04.8**	**+1.8**
	1.7nm,0.6s,baz=142,slow=5.3,SNR=4.3							
PETK				LR		LR	10 10 05.8	
	comp=Z,28nm,19.9s,baz=200,slow=36							
PEA1	**Petropavlovsk-**	**50.09**	**24**	*e*P		**P**	**09 49 04.8**	**+1.7**
MK01	**Makanchi Array**	**52.02**	**323**	*e*P		**P**	**09 49 16.9**	**-0.8**
MK31	**Makanchi Array**	**52.04**	**323**	*e*P		**P**	**09 49 17.6**	**-0.2**
MK32	**Makanchi Array**	**52.04**	**323**	*e*P		**P**	**09 49 16.8**	**-1.1**
MK32				*e*PcP		**PcP**	**09 50 28.1**	**-1.9**
MKAR	**Makanchi Array**	**52.04**	**323**	P		**P**	**09 49 16.8**	**-1.1**
	1.7nm,0.7s,baz=122,slow=8.6,SNR=17							
MKAR				PcP		**PcP**	**09 50 28.1**	**-1.9**
	0.3nm,0.6s,baz=123,slow=5.3,SNR=3.3							
MKAR	**Makanchi Array**	**52.04**	**323**	*e*P		**P**	**09 49 17.6**	**-0.3**
	10nm,0.7s							
MKAR				PcP		**PcP**	**09 50 28.1**	**-1.9**
MA2	**Magadan**	**52.94**	**16**	P		**P**	**09 49 24.9**	**+0.7**
	3.5nm,0.6s,baz=188,slow=6.0,SNR=9.4							
AAK	**Ala-Archa**	**55.27**	**315**	LR		LR	10 15 13.2	
	comp=Z,55nm,18.8s,baz=88,slow=38							
KURK	**Kurchatov**	**56.10**	**326**	*e*P		**P**	**09 49 46.5**	**-0.9**
KURBB	**Kurchatov Arra**	**56.10**	**326**	P		**P**	**09 49 46.5**	**-1.0**
	1.2nm,0.6s,baz=124,slow=6.7,SNR=3.2							
ILAR	**Eielson Array**	**79.89**	**26**	P		**P**	**09 52 16.7**	**-0.1**
	0.8nm,0.8s,baz=235,slow=4.8,SNR=8.2							
ILB	**Eielson Array**	**79.89**	**26**	*e*P		**P**	**09 52 17.6**	**+0.9**
ARA0	**ARCESS Array S**	**84.35**	**340**	*e*P		**P**	**09 52 38.7**	**-1.3**
ARCES	**ARCESS Array B**	**84.35**	**340**	P		**P**	**09 52 38.7**	**-1.3**
	2.0nm,0.9s,baz=79,slow=6.5,SNR=4.5							
FIA0	**FINESS Array S**	**85.98**	**332**	*e*P		**P**	**09 52 46.8**	**-1.5**
FINES	**FINESS Array B**	**85.98**	**332**	P		**P**	**09 52 46.8**	**-1.5**
	1.2nm,0.7s,baz=90,slow=3.8,SNR=6.5							
YKA	**Yellowknife Ar**	**94.20**	**24**	P		**P**	**09 53 27.0**	**+0.1**
	0.5nm,0.8s,baz=297,slow=3.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**120.01**	**291**	PKP		**PKPdf**	**09 58 59.8**	**-0.2**
	0.3nm,0.5s,baz=62,slow=1.7,SNR=3.4							
TOA1	**Torodi Ar. Sit**	**120.02**	**291**	*e*PKPdf		**PKPdf**	**09 58 59.8**	**-0.2**
PLCA	**Paso Flores**	**146.07**	**157**	PKPbc		**PKPdf**	**09 59 49.0**	**+1.1**
	4.0nm,1.1s,baz=192,slow=1.4,SNR=4.9							

ISCJB ***27*** *09:52:59.5±0.9, 21.77S±0.05×68.76W±0.1, h133km±9km, mb3.5/2, Error ellipse: s-maj=21.6km s-min=6.8km az=9.7*
GUC ***27*** *09:53:00.1±0.5, 21.75S×68.70W, h122km±4km, ML3.9*
IDC ***27*** *09:53:01.1±6.7, 21.72S×68.19W, h131km±50km, mb3.5/2, mb1 3.6/4, mb1mx3.3/37, mbtmp3.9/4, MS3.5/2, Ms1 3.5/2, ms1mx2.8/25, Error ellipse: s-maj=73.3km s-min=39.0km az=12.0*

ISC 27 09:52:59.5±1.1, 21.76S±0.06×68.6W±0.1, h123km±10km, n21, σ0.96/26, 8C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.62**	**266**	⇑*i*	P	**Pn**	**09 53 19.1**	**+0.3**
PB09				*i*	S	**Sn**	**09 53 33.1**	**-0.2**
PB09					IAML		09 53 35.1	
	comp=N,9μm,0.3s							
PB01	**IPOC Station P**	**1.11**	**310**	⇓*i*	P	**Pn**	**09 53 22.9**	**-0.1**
PB01				*i*	S	**Sn**	**09 53 40.2**	**-0.6**
PB01					IAML		09 53 41.8	
	comp=E,3μm,0.2s							
PB07	**IPOC Station P**	**1.22**	**271**	⇑*i*	P	**Pn**	**09 53 24.1**	**-0.1**
PB07				*i*	S	**Sn**	**09 53 42.5**	**-0.4**
PB07					IAML		09 53 43.6	
	comp=N,3μm,0.2s							
PB02	**IPOC Station P**	**1.30**	**289**	⇑*i*	P	**Pn**	**09 53 25.0**	**-0.1**
PB02				*i*	S	**Sn**	**09 53 43.7**	**-0.7**
PB02					IAML		09 53 45.8	
	comp=E,3μm,0.2s							
PB06	**IPOC Station P**	**1.32**	**224**	⇑*i*	P	**Pn**	**09 53 25.5**	**+0.2**
PB06				*i*	S	**Sn**	**09 53 45.0**	**+0.1**
PB06					IAML		09 53 46.2	
	comp=E,1μm,0.2s							
PB04	**IPOC Station P**	**1.57**	**248**	⇑*i*	P	**Pn**	**09 53 28.0**	**-0.1**
PB04				*i*	S	**Sn**	**09 53 49.2**	**-0.7**
PB04					IAML		09 53 50.9	
	comp=N,1μm,0.1s							
PB08	**IPOC Station P**	**1.70**	**341**	⇓*i*	P	**Pn**	**09 53 31.0**	**+1.0**
PB08				*i*	S	**Sn**	**09 53 53.8**	**+0.8**
PB08					IAML		09 53 55.1	
	comp=E,577nm,0.2s							
GO01	**Chusmiza**	**2.16**	**344**	⇑*i*	P	**Pn**	**09 53 36.4**	**+0.7**
GO01				*i*	S	**Sn**	**09 54 04.4**	**+1.2**
GO01					IAML		09 54 06.5	
	comp=N,592nm,0.2s							
PB11	**IPOC Station P**	**2.23**	**333**	⇑*i*	P	**Pn**	**09 53 35.9**	**-0.3**
PB11				*i*	S	**Sn**	**09 54 04.1**	**-0.1**
PB10	**IPOC Station P**	**2.53**	**226**	IAML			09 54 21.7	
	comp=E,515nm,0.5s							
PSGC	**Pisagua**	**2.59**	**326**	IAML			09 54 21.4	
	comp=E,202nm,0.4s							
MNMC	**Minye Minye**	**2.78**	**340**	⇑*i*	P	**Pn**	**09 53 43.4**	**0.0**
MNMC				*e*S		**Sn**	**09 54 16.9**	**-0.2**
MNMC					IAML		09 54 22.1	
	comp=E,554nm,0.3s							
GO02	**Mina Guanaco**	**3.51**	**195**	IAML			09 54 36.0	
	comp=E,345nm,0.2s							
LPAZ	**La Paz**	**5.46**	**5**	P		**Pn**	**09 54 20.5**	**+1.2**
	comp=E,1.1nm,0.3s,baz=193,slow=6.3,SNR=37							
LPAZ				S		Sn	09 55 09.5	-12
	comp=E,0.1nm,0.3s,baz=172,slow=15,SNR=2.7							
SIV	**San Ignacio**	**9.13**	**52**	P		**Pn**	**09 55 05.1**	**-3.2**
	comp=E,2.0nm,0.3s,baz=253,slow=11,SNR=40							
SDV	**Santo Domingo**	**30.52**	**356**	LR		LR	10 13 02.1	
	comp=E,98nm,21.5s,baz=264,slow=39							
SNAA	**Sanae**	**61.94**	**161**	LR		LR	10 29 32.2	
	comp=E,39nm,18.6s,baz=86,slow=35							
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P		**P**	**10 04 39.0**	**-1.1**
	comp=E,0.4nm,0.4s,baz=257,slow=5.4,SNR=8.5							
YKA	**Yellowknife Ar**	**91.53**	**340**	P		**P**	**10 05 52.6**	**+0.9**
	comp=E,0.3nm,0.5s,baz=132,slow=4.5,SNR=13							
ASAR	**Alice Springs**	**129.82**	**207**	PKP		**PKPdf**	**10 11 55.5**	**+0.3**
	comp=E,0.1nm,0.5s,baz=132,slow=2.0,SNR=3.6							
WRA	**Warramunga Arr**	**132.89**	**210**	PKP		**PKPdf**	**10 12 02.0**	**+0.9**
	comp=E,0.3nm,0.7s,baz=154,slow=1.6,SNR=6.6							

SOME ***27*** *10:00:02.3, 43.70N×69.68E*

NNC 27 10:00:01.8±2.2, 43.69N×69.68E, h0km, mb3.5, mpv2.9, 1C-3D, Error ellipse: s-maj=15.0km s-min=11.5km az=77.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**0.85**	**134**	P		Pg	10 00 17.9	-0.1
	1.8nm,0.3s,baz=321,slow=16,SNR=99							
KK31				S		Sg	10 00 30.1	+1.1
	5.9nm,0.3s,baz=308,slow=26,SNR=83							
AAK	**Ala-Archa**	**3.68**	**105**	⇓Pg		Pb	10 01 09.6	+1.8
	2.9nm,0.4s							
AAK				⇑Lg		Lg	10 01 59.9	
	4.0nm,0.6s							
TKM2	**Tokmak 2**	**4.39**	**98**	⇓Pg		Pb	10 01 22.3	+2.4
	2.8nm,0.8s							
TKM2				⇓Lg		Lg	10 02 20.8	
	5.2nm,0.6s							

IDC 27 10:04:35.2±2.8, 53.74N×86.86E, h0km, mb1 2.8/2, mb1mx2.7/66, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=25.9km s-min=14.5km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**281**	*i*			10 13 10.0	
	baz=99,slow=342,SNR=1.3							
ZALV	**Zalesovo Beam**	**1.23**	**281**	Pg		Pg	10 04 57.3	-1.4
	1.5nm,0.3s,baz=100,slow=19,SNR=6.2							
ZALV				Lg		Lg	10 05 15.3	
	1.4nm,0.3s,baz=102,slow=30,SNR=5.6							
KURBB	**Kurchatov Arra**	**6.00**	**242**	Pn		Pn	10 06 06.0	+0.8
	0.1nm,0.3s,baz=58,slow=13,SNR=6.9							
MKAR	**Makanchi Array**	**7.54**	**205**	Pn		Pn	10 06 27.6	+1.2
	0.1nm,0.3s,baz=21,slow=12,SNR=4.1							
MKAR				Lg		Lg	10 08 36.2	
	0.1nm,0.3s,baz=26,slow=11,SNR=3.2							

SOME ***27*** *10:08:35.7, 44.63N×82.28E, h20km*
ISCJB ***27*** *10:08:37.8±1.4, 44.61N±0.06×82.5E±0.1, h10km, Error ellipse: s-maj=14.8km s-min=5.4km az=30.8*
NNC ***27*** *10:08:38.4±2.0, 44.70N×82.21E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=29.7km s-min=6.1km az=117.0*

ISC 27 10:08:36.8±1.9, 44.69N±0.06×82.18E±0.09, h10km, n7, σ1.18/14, 6C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KTMS	**Ketmen**	**1.81**	**227**	*e*P		**Pb**	**10 09 10.1**	**-0.1**
	3.2nm,0.2s							
KTMS				*e*S		**Sg**	**10 09 35.3**	**+0.2**
	10nm,0.3s							
KAPS	**Kapalarasan**	**2.09**	**287**	*e*P		**Pb**	**10 09 14.8**	**0.0**
	0.9nm,0.2s							
KAPS				*e*S		**Sg**	**10 09 42.8**	**-1.1**
	3.0nm,0.2s							
MK31	**Makanchi Array**	**2.10**	**2**	⇑Pn		**Pb**	**10 09 15.2**	**+0.2**
	2.5nm,0.2s,baz=181,slow=14,SNR=88							
MK31				⇑Sn		**Sg**	**10 09 42.9**	**-1.4**
	1.3nm,0.3s,baz=185,slow=27,SNR=5.7							
MAKZ	**Makanchi**	**2.12**	**356**	⇑Pn		**Pb**	**10 09 15.0**	**-0.3**
	1.0nm,0.2s							
MAKZ				⇑Sn		**Sb**	**10 09 42.9**	**+1.3**
	1.1nm,0.4s							
PDGK	**Podgornoye**	**2.37**	**236**	⇑Pn		**Pb**	**10 09 17.9**	**-1.8**
	0.2nm,0.2s							
PDGK				⇑Sn		**Sb**	**10 09 50.6**	**+1.6**
	2.0nm,0.4s							
MNBS	**Baschi**	**2.78**	**259**	*e*P		**Pb**	**10 09 25.9**	**-0.7**
	1.7nm,0.2s							
MNBS				*e*S		**Sb**	**10 10 02.0**	**+1.3**
	8.8nm,0.3s							
ARXS	**Arharly**	**3.16**	**263**	*e*P		**Pb**	**10 09 32.1**	**-0.9**
	0.8nm,0.1s							
ARXS				*e*S		**Sb**	**10 10 12.8**	**+1.3**
	6.1nm,0.4s							

GUC 27 10:12:53.7±0.6, 35.86S×73.27W, h12km±4km, ML3.5, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COCH	**Cobquecura**	**0.47**	**125**	⇓*i*	P	Pg	10 13 02.5	-0.5
COCH				*i*	S	Sg	10 13 08.9	-0.4
CCSP	**San Pedro de C**	**0.99**	**173**	*i*	S	Sg	10 13 24.0	-1.6
CCSP					IAML		10 13 26.1	
	comp=N,3μm,0.4s							
CCHI	**Chillan**	**1.21**	**128**	*e*P		Pn	10 13 14.3	-2.3
CCHI				*i*	S	Sb	10 13 30.1	-2.2
CCHI					IAML		10 13 40.3	
	comp=N,1μm,0.2s							
TMU	**Temuco**	**2.92**	**170**	*e*P		Pn	10 13 39.5	-0.5
TMU					IAML		10 14 31.5	
	comp=E,87nm,0.6s							
LMEL	**Las Melosas**	**3.22**	**52**	⇑*i*	P	Pn	10 13 45.0	+0.6
LMEL					IAML		10 14 33.5	
	comp=N,68nm,0.9s							
LMEL					IAML		10 14 35.3	
	comp=N,71nm,0.5s							
CLCH	**Cerro Calan**	**3.33**	**43**	IAML			10 14 47.7	
	comp=E,145nm,0.4s							
ROCH	**El Roble**	**3.43**	**34**	IAML			10 14 50.1	
	comp=N,62nm,0.3s							

ISK ***27*** *10:17:57.6, 37.14N×27.84E, h4km, ML2.2/5, Suspected Mining explosion.*
ISCJB ***27*** *10:17:58.0±0.5, 37.15N±0.04×27.90E±0.03, h0km, Error ellipse: s-maj=5.5km s-min=3.6km az=15.3*
CSEM ***27*** *10:17:58.4±0.2, 37.15N×27.87E, h1km, ML2.2, Error ellipse: s-maj=6.7km s-min=3.9km az=28.0, Suspected Mining explosion.*
DDA ***27*** *10:17:58.5, 37.18N×27.90E, h7km, Ml2.7, Suspected Mining explosion.*

ISC 27 10:17:57.7±0.9, 37.12N±0.03×27.95E±0.03, h0km, n24, σ0.68/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MLSB	**Milas**	**0.22**	**322**	PG		**Pg**	**10 18 01.6**	**-0.4**
MLSB	**Milas**	**0.22**	**322**	*e*Pg		**Pg**	**10 18 01.6**	**-0.4**
YER	**Yerkesik**	**0.27**	**87**	PG		**Pb**	**10 18 04.9**	**-0.5**
YER				SG		**Sb**	**10 18 10.6**	**0.0**
YER	**Yerkesik**	**0.27**	**87**	*e*Pg		**Pb**	**10 18 04.9**	**-0.5**
YER				*e*Sg		**Sb**	**10 18 10.6**	**0.0**
BDRM	**Kayabasi**	**0.41**	**262**	*i* P		**Pg**	**10 18 05.1**	**-0.4**
BDRM				*i* S		**Sg**	**10 18 11.9**	**+1.1**
BODT	**Bodrum**	**0.51**	**264**	PG		**Pg**	**10 18 06.3**	**-1.3**
BODT	**Bodrum**	**0.51**	**264**	*e*Pg		**Pg**	**10 18 06.3**	**-1.3**
AYDN	**Tasoluk**	**0.54**	**354**	*i* P		**Pg**	**10 18 08.3**	**+0.2**
AYDN				*i* S		**Sg**	**10 18 14.8**	**-0.3**
TURN	**Turunc**	**0.58**	**115**	PG		**Pg**	**10 18 07.6**	**-1.2**
TURN	**Turunc**	**0.58**	**115**	*i* P		**Pg**	**10 18 07.8**	**-1.0**
TURN				*i* S		**Sg**	**10 18 15.6**	**-0.7**
TURN	**Turunc**	**0.58**	**115**	P		**Pg**	**10 18 07.8**	**-1.0**
TURN				S		**Sg**	**10 18 15.6**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.64**	**118**	PG		**Pb**	**10 18 12.1**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.64**	**118**	*e*Pg		**Pb**	**10 18 12.1**	**+0.3**
GCAM	**G?zelcaml?**	**0.81**	**316**	PG		**Pg**	**10 18 13.5**	**+0.2**
GCAM	**G?zelcaml?**	**0.81**	**316**	*i* P		**Pg**	**10 18 13.1**	**-0.2**
GCAM				*i* S		**Sg**	**10 18 23.7**	**-0.1**
GCAM	**G?zelcaml?**	**0.81**	**316**	P		**Pg**	**10 18 13.1**	**-0.2**
GCAM	**G?zelcaml?**	**0.81**	**316**	*e*Pg		**Pg**	**10 18 13.5**	**+0.2**
GCAM				S		**Sg**	**10 18 23.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**357**	PG		**Pg**	**10 18 13.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**357**	*e*Pg		**Pg**	**10 18 13.2**	**-0.4**
TAVA	**DENIZLI_Tavas**	**0.84**	**66**	*i* P		**Pb**	**10 18 15.0**	**-0.3**
TAVA				*i* S		**Sb**	**10 18 27.4**	**+0.2**
FETY	**Fethiye**	**1.03**	**118**	PN		**Pn**	**10 18 20.0**	**+0.6**
FETY	**Fethiye**	**1.03**	**118**	*e*Pn		**Pn**	**10 18 20.0**	**+0.6**
AKAS	**Kas**	**1.60**	**123**	PN		**Pg**	**10 18 29.5**	**+1.1**
AKAS	**Kas**	**1.60**	**123**	*e*Pn		**Pg**	**10 18 29.5**	**+1.1**

ATA ***27*** *10:18:25.4±1.4, 39.24N×42.27E, h18km±4km, ML3.6, MW3.3*
ISCJB ***27*** *10:18:26.6±0.5, 39.22N±0.02×42.27E±0.02, h6km±4km, Error ellipse: s-maj=3.4km s-min=3.2km az=38.4*
CSEM ***27*** *10:18:26.2±0.2, 39.21N×42.28E, h5km, ML3.3, Error ellipse: s-maj=3.6km s-min=3.4km az=2.0*
DDA ***27*** *10:18:26.4, 39.22N×42.26E, h7km, Ml3.3*
ISK ***27*** *10:18:26.5, 39.17N×42.24E, h12km, ML2.5/8*

ISC 27 10:18:26.6±0.8, 39.22N±0.02×42.26E±0.02, h15km±5km, n59, σ0.75/92, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EKAR	**Karacoban**	**0.16**	**285**	*i* P		**Pg**	**10 18 30.1**	**-0.7**
EKAR				*e*S		**Sg**	**10 18 34.5**	**+0.9**
EKAR					IAML		10 18 37.0	
	comp=Z,1μm,0.2s							
EKAR	**Karacoban**	**0.16**	**285**	*i* P		**Pg**	**10 18 30.2**	**-0.7**
EKAR				*i* S		**Sg**	**10 18 34.6**	**+0.9**
EKAR	**Karacoban**	**0.16**	**285**	P		**Pg**	**10 18 30.2**	**-0.7**
EKAR				S		**Sg**	**10 18 34.6**	**+0.9**
TUTA	**Tutak**	**0.47**	**66**	*e*P		**Pg**	**10 18 35.6**	**-0.3**
TUTA				*e*S		**Sb**	**10 18 42.8**	**-0.7**
TUTA					IAML		10 18 45.4	
	comp=Z,483nm,0.2s							
TUTA	**Tutak**	**0.47**	**66**	*i* P		**Pg**	**10 18 35.7**	**-0.3**
TUTA				*i* S		**Sb**	**10 18 42.8**	**-0.7**
TUTA	**Tutak**	**0.47**	**66**	P		**Pg**	**10 18 35.7**	**-0.3**
TUTA				S		**Sb**	**10 18 42.8**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.54**	**138**	*i* P		**Pg**	**10 18 36.8**	**-0.6**
ADCV				*i* S		**Sb**	**10 18 45.8**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.54**	**138**	P		**Pg**	**10 18 36.8**	**-0.6**
ADCV				S		**Sb**	**10 18 45.8**	**+0.2**
VRTB	**Varto-Mus**	**0.63**	**265**	PG		**Pb**	**10 18 39.4**	**0.0**
VRTB				SG		**Sg**	**10 18 47.3**	**-0.1**
VRTB	**Varto-Mus**	**0.63**	**265**	*i* P		**Pg**	**10 18 39.0**	**0.0**
VRTB				*i* S		**Sb**	**10 18 48.7**	**+0.7**
VRTB	**Varto-Mus**	**0.63**	**265**	P		**Pg**	**10 18 39.0**	**0.0**
VRTB	**Varto-Mus**	**0.63**	**265**	*e*Pg		**Pb**	**10 18 39.4**	**0.0**
VRTB				*e*Sg		**Sg**	**10 18 47.3**	**-0.1**
VRTB				S		**Sb**	**10 18 48.7**	**+0.7**
EATA	**Eleskirt**	**0.67**	**15**	*i* P		**Pg**	**10 18 39.5**	**-0.3**
EATA				*e*S		**Sb**	**10 18 49.9**	**+0.5**
EATA	**Eleskirt**	**0.67**	**15**	*i* P		**Pg**	**10 18 39.5**	**-0.3**
EATA				*i* S		**Sb**	**10 18 49.9**	**+0.5**
EATA	**Eleskirt**	**0.67**	**15**	P		**Pg**	**10 18 39.5**	**-0.3**
EATA				S		**Sb**	**10 18 49.9**	**+0.5**
GURO	**Guroymak-BITLI**	**0.69**	**195**	PG		**Pg**	**10 18 39.4**	**-0.7**
GURO				SG		**Sg**	**10 18 48.9**	**-0.3**
GURO	**Guroymak-BITLI**	**0.69**	**195**	*e*Pg		**Pg**	**10 18 39.4**	**-0.7**
GURO				*e*Sg		**Sg**	**10 18 48.9**	**-0.3**
HOMI	**Horasan**	**0.87**	**342**	*e*P		**Pg**	**10 18 42.4**	**-1.2**
HOMI					IAML		10 19 00.3	
	comp=Z,68nm,0.4s							
HOMI	**Horasan**	**0.87**	**342**	*i* P		**Pg**	**10 18 42.4**	**-1.2**
HOMI				*i* S		**Sb**	**10 18 56.2**	**+1.0**
ERZM	**Erzurum**	**0.98**	**315**	⇓*i* P		**Pg**	**10 18 44.1**	**-1.4**
ERZM				*e*S		**Sb**	**10 18 58.8**	**+0.6**
ERZM	**Erzurum**	**0.98**	**315**	*i* P		**Pg**	**10 18 44.2**	**-1.4**
ERZM				*i* S		**Sg**	**10 18 57.9**	**-0.6**
ERZM	**Erzurum**	**0.98**	**315**	P		**Pg**	**10 18 44.2**	**-1.4**
ERZM				S		**Sg**	**10 18 57.8**	**-0.6**
ECAT	**Cat-ERZURUM**	**1.07**	**292**	*e*P		**Pb**	**10 18 46.2**	**-0.8**
ECAT				*e*S		**Sn**	**10 19 02.4**	**+0.4**
ECAT	**Cat-ERZURUM**	**1.07**	**292**	*i* P		**Pb**	**10 18 46.1**	**-0.8**
ECAT				*i* S		**Sn**	**10 19 01.9**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.07**	**292**	P		**Pb**	**10 18 46.1**	**-0.8**
ECAT				S		**Sn**	**10 19 01.9**	**-0.1**
GEVA	**Gevas**	**1.10**	**145**	*e*P		**Pb**	**10 18 46.7**	**-0.7**
GEVA					IAML		10 19 08.9	
	comp=Z,79nm,0.4s							
GEVA	**Gevas**	**1.10**	**145**	*i* P		**Pb**	**10 18 46.6**	**-0.7**
GEVA				*i* S		**Sn**	**10 19 03.7**	**+1.2**
GEVA	**Gevas**	**1.10**	**145**	P		**Pb**	**10 18 46.6**	**-0.7**
TVAN	**Van**	**1.13**	**127**	*e*P		**Pb**	**10 18 45.9**	**-2.0**
TVAN				*i* S		**Sn**	**10 19 04.9**	**+1.6**
TVAN	**Van**	**1.13**	**127**	P		**Pb**	**10 18 45.9**	**-2.0**
DYDN	**Diyadin**	**1.15**	**73**	*e*P		**Pn**	**10 18 48.6**	**+0.2**
DYDN				*e*S		**Sn**	**10 19 04.7**	**+0.7**
DYDN					IAML		10 19 05.1	
	comp=Z,32nm,0.2s							
DYDN	**Diyadin**	**1.15**	**73**	*i* P		**Pb**	**10 18 48.2**	**-0.1**
DYDN				*i* S		**Sb**	**10 19 03.4**	**+0.1**
DYDN	**Diyadin**	**1.15**	**73**	P		**Pb**	**10 18 48.2**	**-0.1**
DYDN				S		**Sb**	**10 19 03.3**	**+0.1**
SRTM	**Siirt_Merkez**	**1.25**	**192**	*i* P		**Pg**	**10 18 50.3**	**-0.4**
SRTM				*i* S		**Sg**	**10 19 08.2**	**+1.1**
SRTM	**Siirt_Merkez**	**1.25**	**192**	P		**Pg**	**10 18 50.3**	**-0.4**
SRTM				S		**Sg**	**10 19 08.2**	**+1.1**
BNGB	**Bing¨¶l**	**1.25**	**260**	PN		**Pn**	**10 18 49.8**	**+0.2**
CLDR	**Caldiran**	**1.29**	**93**	PN		**Pb**	**10 18 50.6**	**0.0**
CLDR	**Caldiran**	**1.29**	**93**	*e*Pn		**Pb**	**10 18 50.6**	**0.0**
SENK	**Senkaya-Erzuru**	**1.35**	**3**	PN		**Pg**	**10 18 52.7**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.35**	**3**	*e*Pn		**Pg**	**10 18 52.7**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.35**	**218**	PN		**Pn**	**10 18 50.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.35**	**218**	*e*Pn		**Pn**	**10 18 50.6**	**-0.3**
BINT	**Bingol**	**1.42**	**257**	*e*Pn		**Pn**	**10 18 49.8**	**-2.2**
DIGO	**Kars**	**1.47**	**35**	*e*P		**Pn**	**10 18 52.0**	**-0.8**
BTMN	**Batman**	**1.54**	**211**	*i* P		**Pg**	**10 18 55.4**	**-0.7**
BTMN				*i* S		**Sg**	**10 19 16.2**	**+0.2**
BTMN	**Batman**	**1.54**	**211**	P		**Pg**	**10 18 55.4**	**-0.7**
BTMN				S		**Sg**	**10 19 16.2**	**+0.2**
KARS	**Kars**	**1.54**	**24**	PN		**Pb**	**10 18 55.2**	**+0.2**
KARS	**Kars**	**1.54**	**24**	*e*Pn		**Pb**	**10 18 55.2**	**+0.2**
IGDI	**IGDIR**	**1.55**	**65**	*e*P		**Pn**	**10 18 53.6**	**0.0**
KOPT	**Kop Dagi**	**1.58**	**301**	*e*P		**Pg**	**10 18 56.5**	**-0.5**
SIRT	**Sirnak**	**1.72**	**175**	PN		**Pb**	**10 18 57.7**	**-0.2**
SIRT	**Sirnak**	**1.72**	**175**	*e*Pn		**Pb**	**10 18 57.7**	**-0.2**
BAYB	**BAYBURT**	**1.86**	**305**	*e*P		**Pb**	**10 19 00.6**	**+0.1**
BAYT	**Ayd¨¬ntepe-Bay**	**2.01**	**306**	PN		**Pb**	**10 19 02.3**	**-0.7**
BAYT	**Ayd¨¬ntepe-Bay**	**2.01**	**306**	*e*Pn		**Pb**	**10 19 02.3**	**-0.7**
TNCL	**Tunceli-Merkez**	**2.12**	**268**	*e*P		**Pb**	**10 19 04.8**	**+0.1**
MAZI	**Mazidag**	**2.26**	**220**	PN		**Pn**	**10 19 04.3**	**+0.8**
MAZI	**Mazidag**	**2.26**	**220**	*e*Pn		**Pn**	**10 19 04.3**	**+0.8**
KEMA	**Kemaliye**	**2.93**	**272**	*e*P		**Pn**	**10 19 13.8**	**+1.1**

NIED ***27*** *10:21:00, 35.70N×141.00E, h8km, Mw4.4 Best double couple: M0 3.97000×10^15 NP1:ϕs24.00000°, δ46.00000°, λ-65.00000°. NP2:ϕs170.00000°, δ49.00000°, λ-114.00000°.*

YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YSS				MLR	MLR			
	comp=Z,200nm,14.0s							
YSS				MLR	MLR			
	comp=N,200nm,16.0s							
YSS				MLR	MLR			
	comp=E,200nm,13.0s							
YSS	**Yuzh-Sakhalins**	**11.30**	**6**	*e*Pn	**Pn**	**10 24 39.7**	**-0.3**	
KLR	**Kul'dur**	**15.12**	**336**	LR	LR	10 31 12.0		
	comp=E,13nm,18.7s,baz=148,slow=37							
KLR	**Kul'dur**	**15.12**	**336**⇑	*e*P	**Pn**	**10 25 33.3**	**+1.1**	
TYV	**Tymovskoe**	**15.18**	**4**	*e*P	**Pn**	**10 25 30.8**	**-2.1**	
TYV				*e*		10 28 18.8		
TYV				pmax	pmax			
	comp=Z,11nm,0.9s							
NJ2	**Nanjing**	**18.77**	**265**	*e*P	**Pn**	**10 26 19.5**	**+1.2**	
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.7s							
BJI	**Beijing**	**20.07**	**290**	P	Pn	10 26 35.0	+1.2	
BJI				LR	LR			
	comp=Z,200nm,20.6s							
BJI				LR	LR			
	comp=Z,180nm,17.6s							
ZEA	**Zeya**	**20.44**	**336**	*e*P	**P**	**10 26 35.8**	**0.0**	
ZEA				pmax	pmax			
	comp=Z,16nm,0.9s							
PEA0B	**Petropavlovsk-**	**20.98**	**29**	*e*P	**P**	**10 26 40.3**	**-1.3**	
	comp=Z,22nm,1.3s							
PETK	**Petropavlovsk-**	**20.98**	**29**	P	Pn	10 26 44.8	+0.6	
	comp=Z,4.5nm,0.7s,baz=222,slow=6.0,SNR=4.1							
PETK				LR	LR	10 34 37.6		
	comp=Z,50nm,21.2s,baz=212,slow=36							
PETK	**Petropavlovsk-**	**20.98**	**29**	P	Pn	10 26 44.8	+0.6	
PETK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
PETK				MLR	MLR			
	comp=Z,50nm,21.2s							
PETK	**Petropavlovsk-**	**20.98**	**29**	*e*P	**P**	**10 26 40.3**	**-1.3**	
PEA1	**Petropavlovsk-**	**20.98**	**29**	*e*P	Pn	10 26 44.8	+0.5	
PET	**Petropavlovsk**	**21.30**	**30**	*e*P	**P**	**10 26 48.2**	**+3.2**	
PET				pmax	pmax			
	comp=Z,30nm,1.4s							
PET	**Petropavlovsk**	**21.30**	**30**	*e*P	**P**	**10 26 48.2**	**+3.2**	
	comp=Z,30nm,1.4s							
HHC	**Hu-ho-hao-te**	**23.64**	**291**	*e*P	**P**	**10 27 09.5**	**-0.4**	
HHC				pP	sP	10 27 19.0	+3.1	
HHC				sP	pP	10 27 23.0	+8.9	
HHC				PP	**PnPn**	**10 27 42.5**	**+5.5**	
HHC				S	**S**	**10 31 18.3**	**-5.8**	
HHC				sS	sS	10 31 33.5	+2.3	
HHC				SS	**SnSn**	**10 32 07.5**	**+6.3**	
HHC				pmax	pmax			
	comp=Z,19nm,1.1s							
HHC				pmax	pmax			
	comp=Z,94nm,5.0s							
HHC				LR	LR			
	comp=Z,85nm,11.6s							
HHC				LR	LR			
	comp=Z,120nm,11.2s							
MA2	**Magadan**	**24.70**	**12**	LR	LR	10 37 08.1		
	comp=Z,36nm,18.5s,baz=196,slow=37							
MA2	**Magadan**	**24.70**	**12**⇓	*e*P	**P**	**10 27 20.7**	**+1.3**	
XAN	**Xi'an**	**26.34**	**276**	P	**P**	**10 27 32.8**	**-1.9**	
XAN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,36nm,3.8s							
ENH	**Enshi**	**26.95**	**267**	*e*P	**P**	**10 27 38.5**	**-1.6**	
	comp=Z,15nm,0.8s							
YAK	**Yakutsk**	**27.29**	**348**	*e*P	**P**	**10 27 41.9**	**-0.9**	
YAK				pmax	pmax			
	comp=Z,12nm,1.0s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK	**Yakutsk**	**27.29**	**348**	*e*P	**P**	**10 27 43.1**	**+0.3**	
	comp=E,15nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**27.76**	**118**	T	T	10 56 37.8		
	baz=311,slow=75,SNR=949							
H11N1	**WAKE ISLAND Hy**	**27.77**	**118**	T	T	10 56 40.3		
	baz=311,slow=75,SNR=660							
H11N3	**WAKE ISLAND Hy**	**27.78**	**118**	T	T	10 56 47.8		
	baz=311,slow=75,SNR=860							
ULN	**Ulaanbaatar**	**27.87**	**306**⇓	*e*P	**P**	**10 27 50.0**	**+1.7**	
ULN				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SEY	**Seymchan**	**28.14**	**11**⇓	*e*P	**P**	**10 27 51.8**	**+1.5**	
SONA1	**Songino Array**	**28.29**	**306**	*e*P	**P**	**10 27 52.7**	**+0.6**	
SONA0	**Songino Array**	**28.29**	**306**	*e*P	**P**	**10 27 52.5**	**+0.4**	
SONM	**Songino Array**	**28.29**	**306**	P	**P**	**10 27 52.5**	**+0.4**	
	comp=Z,1.2nm,0.6s,baz=112,slow=9.0,SNR=8.1							
SONM				LR	LR	10 38 59.9		
	comp=Z,63nm,19.3s,baz=101,slow=36							
H11S1	**WAKE ISLAND Hy**	**28.43**	**120**	T	T	10 57 36.0		
	baz=312,slow=75,SNR=2542							
H11S3	**WAKE ISLAND Hy**	**28.43**	**120**	T	T	10 57 34.9		
	baz=312,slow=75,SNR=1450							
H11S2	**WAKE ISLAND Hy**	**28.44**	**120**	T	T	10 57 37.1		
	baz=312,slow=75,SNR=1274							
BOD	**Bodaibo**	**28.49**	**329**	*e*P	**P**	**10 27 53.2**	**-0.4**	
BOD				pmax	pmax			
	comp=Z,5.0nm,1.7s							
LZH	**Lanzhou**	**30.02**	**282**	*e*P	**P**	**10 28 09.3**	**+1.7**	
LZH				pmax	pmax			
	comp=Z,13nm,1.2s							
GYA	**Guiyang**	**30.72**	**262**	P	**P**	**10 28 14.3**	**+0.4**	
GYA				pP	sP	10 28 25.5	+5.5	
GYA				PP	**PnPn**	**10 29 16.0**	**+2.4**	
GYA				S	**S**	**10 33 14.5**	**-2.0**	
GYA				sS	sS	10 33 31.0	+7.4	
GYA				SS	**SnSn**	**10 34 55.5**	**+0.9**	
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,100nm,5.0s							
GYA				LR	LR			
	comp=Z,490nm,16.8s							
GYA				LR	LR			
	comp=Z,460nm,17.0s							
GYA				LR	LR			
	comp=Z,480nm,17.2s							
TLY	**Talaya**	**30.98**	**313**	LR	LR	10 41 35.9		
	comp=Z,36nm,18.2s,baz=109,slow=38							
TLY	**Talaya**	**30.98**	**313**⇓	*e*P	**P**	**10 28 16.0**	**+0.2**	
TLY				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CD2	**Chengdu**	**31.40**	**272**	*e*P	**P**	**10 28 18.5**	**-1.2**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.0s							
GTA	**Gaotai**	**32.68**	**289**	*e*P	**P**	**10 28 35.3**	**+4.3**	
GTA				pP	sP	10 28 44.5	+7.4	
GTA				sP	pP	10 28 48.8	+13	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BILL	**Bilibino**	**35.37**	**16**⇑	*e*P	**P**	**10 28 52.6**	**-1.2**	
BILL				*e*		10 30 18.6		
BILL				*e*S	**S**	**10 34 20.4**	**-7.1**	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,111nm,21.0s							
TIXI	**Tiksi**	**36.56**	**354**	P	**P**	**10 29 04.4**	**+0.5**	
	comp=Z,0.8nm,0.4s,baz=143,slow=5.7,SNR=4.7							
TIXI	**Tiksi**	**36.56**	**354**⇓	*e*P	**P**	**10 29 04.0**	**+0.1**	
TIXI				pmax	pmax			
	comp=Z,4.0nm,2.2s							
CMAR	**Chiang Mai Arr**	**40.89**	**256**	LR	LR	10 47 38.8		
	comp=Z,37nm,18.1s,baz=90,slow=38							
WMQ	**Urumqi**	**41.18**	**298**	P	**P**	**10 29 44.3**	**+1.2**	
WMQ				pP	sP	10 29 50.5	+1.2	
WMQ				sP	pP	10 29 56.5	+9.0	
WMQ				pmax	pmax			
	comp=Z,14nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,140nm,4.9s							
WMQ				LR	LR			
	comp=Z,240nm,24.5s							
WMQ				LR	LR			
	comp=Z,98nm,24.5s							
ZAA0	**Zalesovo Array**	**42.59**	**313**	*e*P	**P**	**10 29 54.5**	**+0.1**	
	comp=Z,4.0nm,0.7s							
ZAA1	**Zalesovo Array**	**42.59**	**313**	*e*P	**P**	**10 29 54.2**	**-0.2**	
ZALV	**Zalesovo Beam**	**42.59**	**313**	P	**P**	**10 29 54.2**	**-0.2**	
	comp=Z,3.9nm,0.7s,baz=82,slow=5.8,SNR=9.3							
ZALV				LR	LR	10 47 21.7		
	comp=Z,28nm,18.4s,baz=62,slow=36							
ZALV	**Zalesovo Beam**	**42.59**	**313**	*e*P	**P**	**10 29 54.3**	**-0.1**	
ZALV	**Zalesovo Beam**	**42.59**	**313**	*e*P	**P**	**10 29 54.3**	**-0.1**	
NVS	**Novosibirsk**	**43.54**	**315**	*e*P	**P**	**10 30 02.4**	**+0.4**	
NVS				pmax	pmax			
	comp=E,4.0nm,0.9s							
NVS				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MK01	**Makanchi Array**	**44.57**	**303**	*e*P	**P**	**10 30 10.3**	**-0.2**	
MK31	**Makanchi Array**	**44.57**	**303**	*e*P	**P**	**10 30 10.5**	**0.0**	
MK31	**Makanchi Array**	**44.57**	**303**	*e*P	**P**	**10 30 10.5**	**0.0**	
MK32	**Makanchi Array**	**44.57**	**303**	*e*P	**P**	**10 30 10.5**	**-0.1**	
MKAR	**Makanchi Array**	**44.57**	**303**	P	**P**	**10 30 10.5**	**-0.1**	
	comp=Z,2.4nm,0.8s,baz=90,slow=9.2,SNR=20							
MKAR				LR	LR	10 50 31.3		
	comp=Z,36nm,19.1s,baz=96,slow=38							
MKAR	**Makanchi Array**	**44.57**	**303**	*e*P	**P**	**10 30 10.4**	**-0.1**	
MKAR				pmax	pmax			
	comp=Z,20nm,0.8s							
MKAR	**Makanchi Array**	**44.57**	**303**	*e*P	**P**	**10 30 10.4**	**-0.1**	
	comp=Z,20nm,0.8s							
MAKZ	**Makanchi**	**44.78**	**303**	*e*P	**P**	**10 30 12.3**	**+0.1**	
MAKZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MAKZ	**Makanchi**	**44.78**	**303**	*e*P	**P**	**10 30 12.3**	**+0.1**	
	comp=Z,4.3nm,0.9s							
KURK	**Kurchatov**	**46.52**	**309**⇑	*i*P	**P**	**10 30 25.7**	**-0.1**	
KURK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KURK	**Kurchatov**	**46.52**	**309**	*e*P	**P**	**10 30 25.4**	**-0.4**	
	comp=Z,8.4nm,0.9s							
KURBB	**Kurchatov Arra**	**46.58**	**309**	P	**P**	**10 30 25.5**	**-0.8**	
	comp=Z,2.7nm,0.5s,baz=84,slow=8.3,SNR=14							
RAMN	**Ramite**	**46.81**	**275**	*e*P	**P**	**10 30 28.9**	**+0.2**	
	comp=Z,18nm,0.6s							
JIRN	**Jiri**	**46.85**	**276**	*e*P	**P**	**10 30 30.0**	**+0.8**	
	comp=Z,25nm,0.8s							
GUN	**Gumba**	**47.00**	**277**	*e*P	**P**	**10 30 31.7**	**+1.4**	
	comp=Z,8.5nm,0.6s							
PKI	**Pulchoki**	**47.52**	**276**	*e*P	**P**	**10 30 35.2**	**+0.9**	
	comp=Z,6.9nm,0.5s							
PKIN	**Phulchoki**	**47.52**	**277**	*e*P	**P**	**10 30 35.0**	**+0.7**	
DMN	**Daman**	**47.75**	**277**	*e*P	**P**	**10 30 36.6**	**+0.6**	
	comp=Z,7.5nm,0.6s							
GKN	**Gorkha**	**47.96**	**277**	*e*P	**P**	**10 30 38.3**	**+0.7**	
	comp=Z,21nm,0.8s							
HNR	**Honiara**	**48.32**	**155**	LR	LR	10 48 34.3		
	comp=Z,38nm,21.2s,baz=47,slow=33							
DANN	**Dangsing**	**48.53**	**278**	*e*P	**P**	**10 30 42.6**	**+0.5**	
	comp=Z,4.7nm,1.0s							
TARG	**Taragay, Kyrgy**	**48.72**	**297**	*e*P	**P**	**10 30 44.4**	**+0.8**	
	comp=Z,5.5nm,0.7s							
PYUN	**Piuthan**	**49.25**	**278**	*e*P	**P**	**10 30 48.0**	**+0.4**	
	comp=Z,42nm,1.0s							
MDM	**Murphy Dome**	**50.19**	**32**	*e*P	**P**	**10 30 56.2**	**+2.3**	
	comp=Z,3.9nm,0.9s							
COLA	**College**	**50.35**	**32**⇑	*e*P	**P**	**10 30 57.3**	**+2.2**	
COLA				pmax	pmax			
	comp=Z,10.0nm,2.1s							
KSH	**Kashi**	**50.68**	**295**	*e*P	**P**	**10 31 02.0**	**+3.9**	
KSH				pmax	pmax			
	comp=Z,120nm,5.0s							
IL1	**Eielson Array**	**50.77**	**32**	*e*P	**P**	**10 30 59.1**	**+0.8**	
ILAR	**Eielson Array**	**50.77**	**32**	P	**P**	**10 30 59.6**	**+1.3**	
	comp=Z,1.3nm,0.8s,baz=271,slow=6.1,SNR=14							
ILB	**Eielson Array**	**50.77**	**32**	*e*P	**P**	**10 30 59.4**	**+1.2**	
BVAR	**Borovoye Array**	**51.24**	**313**	P	**P**	**10 31 01.9**	**-0.2**	
	comp=Z,2.2nm,0.8s,baz=95,slow=11,SNR=6.7							
BRVK	**Borovoye**	**51.30**	**313**⇑	*e*P	**P**	**10 31 02.9**	**+0.5**	
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BRVK	**Borovoye**	**51.30**	**313**	*e*P	**P**	**10 31 02.1**	**-0.3**	
	comp=Z,7.1nm,1.1s							
KK05	**Karatay Array**	**53.52**	**301**	*e*P	**P**	**10 31 19.0**	**-0.2**	
KK06	**Karatay Array**	**53.52**	**301**	*e*P	**P**	**10 31 19.2**	**0.0**	
KK02	**Karatay Array**	**53.53**	**301**	*e*P	**P**	**10 31 18.1**	**-1.1**	
KK04	**Karatay Array**	**53.53**	**301**	*e*P	**P**	**10 31 19.2**	**0.0**	
KK01	**Karatay Array**	**53.53**	**301**	*e*P	**P**	**10 31 19.3**	**0.0**	
KK09	**Karatay Array**	**53.53**	**301**	*e*P	**P**	**10 31 19.4**	**+0.1**	
KK03	**Karatay Array**	**53.54**	**301**	*e*P	**P**	**10 31 19.3**	**+0.1**	
KK07	**Karatay Array**	**53.54**	**301**	*e*P	**P**	**10 31 19.7**	**+0.4**	
KK08	**Karatay Array**	**53.55**	**301**	*e*P	**P**	**10 31 19.4**	**+0.1**	
INK	**Inuvik**	**55.69**	**27**	P	**P**	**10 31 35.9**	**+1.4**	
	comp=Z,1.2nm,0.7s,baz=282,slow=7.4,SNR=10.0							
INK	**Inuvik**	**55.69**	**27**	*e*P	**P**	**10 31 35.2**	**+0.8**	
INK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
INK	**Inuvik**	**55.69**	**27**	*e*P	**P**	**10 31 35.2**	**+0.8**	
	comp=Z,1.6nm,0.8s							
WRAB	**Tennant Creek**	**55.71**	**188**⇑	*i*P	**P**	**10 31 33.8**	**-1.3**	
WRAB				pmax	pmax			
	comp=Z,8.0nm,1.3s							
WRAB	**Tennant Creek**	**55.71**	**188**	*e*P	**P**	**10 31 33.9**	**-1.3**	
	comp=Z,7.7nm,0.8s							
WR1	**Warramunga Arr**	**55.72**	**188**	*e*P	**P**	**10 31 33.7**	**-1.5**	
	comp=Z,8.4nm,0.8s							
WRA	**Warramunga Arr**	**55.72**	**188**	P	**P**	**10 31 33.7**	**-1.5**	
	comp=Z,5.8nm,0.7s,baz=8.4,slow=8.3,SNR=68							
ARU	**Arti**	**57.15**	**319**	*c i*P	**P**	**10 31 45.0**	**0.0**	
ARU				S	**S**	**10 39 40.5**	**+0.9**	
ARU				SS	**SS**	**10 43 24.7**	**-3.3**	
ARU				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ARU	**Arti**	**57.15**	**319**	*e*P	**P**	**10 31 44.5**	**-0.5**	
	comp=Z,8.7nm,0.8s							
AB06	**Akbulak array**	**58.54**	**311**	*e*P	**P**	**10 31 54.7**	**-0.2**	
AB07	**Akbulak array**	**58.55**	**311**	*e*P	**P**	**10 31 54.6**	**-0.4**	
AB01	**Akbulak array**	**58.56**	**311**	*e*P	**P**	**10 31 54.5**	**-0.5**	
AB31	**Akbulak array**	**58.56**	**311**	*e*P	**P**	**10 31 54.4**	**-0.6**	
AB31	**Akbulak array**	**58.56**	**311**	*e*P	**P**	**10 31 54.4**	**-0.6**	
ABKAR	**Akbulak array**	**58.56**	**311**	*e*P	**P**	**10 31 54.5**	**-0.6**	
	comp=Z,37nm,0.6s							
AB03	**Akbulak array**	**58.56**	**311**	*e*P	**P**	**10 31 54.5**	**-0.6**	
AB08	**Akbulak array**	**58.58**	**311**	*e*P	**P**	**10 31 52.8**	**-2.3**	
AS01	**Alice Springs**	**59.44**	**188**	*e*P	**P**	**10 31 59.9**	**-1.4**	
ASAR	**Alice Springs**	**59.45**	**188**	P	**P**	**10 31 59.7**	**-1.7**	
	comp=Z,1.6nm,0.8s,baz=7.8,slow=7.5,SNR=20							
MBWA	**Marble Bar**	**60.06**	**203**	*e*P	**P**	**10 32 05.5**	**-0.1**	
	comp=Z,18nm,1.4s							
RES	**Resolute Bay**	**63.95**	**14**	*e*P	**P**	**10 32 32.0**	**+0.9**	
RES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
RES	**Resolute Bay**	**63.95**	**14**	*e*P	**P**	**10 32 32.0**	**+0.9**	
	comp=Z,2.8nm,0.8s							
YKA	**Yellowknife Ar**	**65.09**	**30**	P	**P**	**10 32 39.4**	**+0.6**	
	comp=Z,0.8nm,0.8s,baz=298,slow=6.5,SNR=12							
STKA	**Stephens Creek**	**67.25**	**179**	P	**P**	**10 32 53.0**	**+0.2**	
	comp=Z,1.7nm,0.7s,baz=328,slow=8.5,SNR=5.6							
STKA	**Stephens Creek**	**67.25**	**179**	*e*P	**P**	**10 32 53.1**	**+0.3**	
	comp=Z,0.8nm,1.0s							
GPW	**Glacier Peak**	**69.07**	**45**	*e*P	**P**	**10 33 03.0**	**-1.6**	
FIA0	**FINESS Array S**	**69.83**	**332**	*e*P	**P**	**10 33 08.9**	**+0.1**	
FIA0	**FINESS Array S**	**69.83**	**332**	*e*P	**P**	**10 33 08.8**	**+0.1**	
FINES	**FINESS Array B**	**69.83**	**332**	P	**P**	**10 33 08.8**	**+0.1**	
	comp=Z,4.2nm,1.0s,baz=79,slow=3.0,SNR=4.0							
NCK	**Nalchik**	**71.22**	**310**⇓	*e*P	**P**	**10 33 18.0**	**+0.4**	
KBZ	**Khabaz**	**71.53**	**311**	P	**P**	**10 33 19.5**	**+0.1**	
	comp=Z,4.8nm,1.0s,baz=31,slow=12,SNR=4.2							
KIV	**Kislovodsk**	**71.54**	**311**	*e*P	**P**	**10 33 20.3**	**+0.7**	
KIV				pmax	pmax			
	comp=Z,13nm,1.0s							
KIV				MLR	MLR			
	comp=Z,32nm,18.0s							
ANN	**Anapa**	**74.22**	**314**	*e*P	**P**	**10 33 37.6**	**+2.2**	
ANN				pmax	pmax			
	comp=Z,73nm,1.5s							
AKASG	**Malin Array Be**	**75.15**	**322**	P	**P**	**10 33 40.0**	**-0.6**	
	comp=Z,0.5nm,0.3s,baz=50,slow=6.4,SNR=6.6							
AKBB	**Malin Array Si**	**75.15**	**322**	*e*P	**P**	**10 33 39.9**	**-0.8**	
AKBB				pmax	pmax			
	comp=Z,4.0nm,0.8s							
AKBB	**Malin Array Si**	**75.15**	**322**	*e*P	**P**	**10 33 39.9**	**-0.8**	
	comp=Z,3.5nm,0.8s							
KIEV	**Kiev**	**75.16**	**322**⇓	*e*P	**P**	**10 33 38.7**	**-2.0**	
KIEV				pmax	pmax			
	comp=Z,13nm,2.3s							
NB2	**NORSAR Subarra**	**75.28**	**337**	P	**P**	**10 33 41.3**	**0.0**	
	comp=Z,3.2nm,0.8s,baz=40,slow=5.9							
NB200	**NORSAR Array S**	**75.28**	**337**	*e*P	**P**	**10 33 41.2**	**-0.1**	
NOA	**NORSAR Array B**	**75.28**	**337**	P	**P**	**10 33 41.2**	**-0.1**	
	comp=Z,2.5nm,0.7s,baz=40,slow=5.7,SNR=7.1							
DLMT	**Dillon**	**75.49**	**44**	*e*P	**P**	**10 33 41.7**	**-1.2**	
	comp=Z,3.8nm,0.4s							
NV01	**Mina Array Sit**	**76.02**	**53**	*e*P	**P**	**10 33 47.2**	**+1.0**	
NVAR	**Mina Array Bea**	**76.02**	**53**	P	**P**	**10 33 48.1**	**+1.9**	
	comp=Z,0.7nm,0.7s,baz=287,slow=5.4,SNR=4.1							
GSC	**Goldstone, Bar**	**78.80**	**55**	*e*P	**P**	**10 34 01.4**	**-0.2**	
GSC	**Goldstone, Bar**	**78.80**	**55**	*e*P	**P**	**10 34 01.4**	**-0.2**	
PD31	**Pinedale Array**	**78.80**	**45**	*e*P	**P**	**10 34 02.3**	**+0.6**	
PDAR	**Pinedale Array**	**78.80**	**45**	P	**P**	**10 34 02.5**	**+0.8**	
	comp=Z,0.4nm,0.6s,baz=266,slow=1.4,SNR=5.5							
KWP	**Kalwaria Pacla**	**79.02**	**324**	*e*P	**P**	**10 33 59.5**	**-3.0**	
KWP				pmax	pmax			
	comp=Z,621nm,0.5s							
KWP	**Kalwaria Pacla**	**79.02**	**324**	*e*P	**P**	**10 33 59.5**	**-3.0**	
	comp=Z,621nm,0.5s							
O16A	**Springville**	**79.23**	**48**	*e*P	**P**	**10 34 05.2**	**+1.1**	
BR101	**Keskin Array S**	**79.50**	**312**	*e*P	**P**	**10 34 06.7**	**+1.2**	
BRTR	**Keskin Array B**	**79.50**	**312**	P	**P**	**10 34 06.7**	**+1.2**	
	comp=Z,1.2nm,0.8s,baz=64,slow=3.4,SNR=3.1							
CLL	**Collm**	**82.08**	**330**	*e*P	P	10 34 11.0	-7.8	
CLL				pmax	pmax			
	comp=Z,3.0nm,0.5s							
GEC2	**GERESS Array S**	**83.67**	**328**	*e*P	**P**	**10 34 27.2**	**-0.1**	
GEC2				pmax	pmax			
	comp=Z,3.0nm,1.4s							
GEC2	**GERESS Array S**	**83.67**	**328**	*e*P	**P**	**10 34 27.1**	**-0.1**	
	comp=Z,3.3nm,1.4s							
GERES	**GERESS Array B**	**83.67**	**328**	P	**P**	**10 34 27.1**	**-0.1**	
	comp=Z,0.4nm,0.5s,baz=39,slow=6.3,SNR=2.3							
ANMO	**Albuquerque**	**85.66**	**50**	*c e*P	**P**	**10 34 40.3**	**+2.6**	
ANMO				pmax	pmax			
	comp=Z,5.0nm,2.5s							
LTX	**Lajitas**	**91.16**	**52**	*e*P	**P**	**10 35 05.3**	**+1.4**	
LTX	**Lajitas**	**91.16**	**52**	*e*P	**P**	**10 35 05.3**	**+1.4**	
TXAR	**Lajitas Array**	**91.16**	**52**	P	**P**	**10 35 05.3**	**+1.4**	
	comp=Z,0.9nm,0.9s,baz=296,slow=3.1,SNR=8.0							
LPAZ	**La Paz**	**147.60**	**61**	PKPbc	**PKPbc**	**10 41 45.1**	**+0.9**	
	comp=Z,4.9nm,0.8s,baz=334,slow=3.6,SNR=17							
SIV	**San Ignacio**	**152.15**	**51**	PKPbc	**PKPbc**	**10 41 55.2**	**+0.5**	
	comp=Z,4.1nm,0.8s,baz=317,slow=1.1,SNR=18							

GUC 27 10:45:27.3±0.4, 35.09S×72.75W, h14km±4km, ML3.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.93**	**42**	⇑*i*	P	Pb		10 45 43.1	-2.1
CHPI				*i*	S	Sb		10 45 55.3	-2.0
COCH	**Cobquecura**	**1.04**	**182**	*e*	P	Pb		10 45 45.1	-2.0
COCH				*i*	S	Sb		10 45 58.2	-2.5
NICH	**Los Niches**	**1.25**	**87**	*e*	P	Pn		10 45 48.5	-1.9
NICH				*i*	S	Sb		10 46 04.4	-2.3
CCHI	**Chillan**	**1.61**	**160**	*e*	P	Pn		10 45 55.0	-0.3
CCHI				*i*	S	Sn		10 46 14.6	-1.3
CCHI				IAML				10 46 17.7	
	comp=E,898nm,0.4s								
LMEL	**Las Melosas**	**2.44**	**60**	*e*	P	Pn		10 46 07.4	+0.5
LMEL				*i*	S	Sn		10 46 37.8	+1.2
LMEL				IAML				10 46 47.2	
	comp=N,311nm,0.6s								
ROCH	**El Roble**	**2.56**	**35**	*e*	P	Pn		10 46 09.2	+0.7
ROCH				*i*	S	Sg		10 46 47.1	-2.3
ROCH				IAML				10 46 54.1	
	comp=N,246nm,0.6s								
PEL	**Peldehue**	**2.58**	**42**	*e*	P	Pn		10 46 10.1	+1.3
PEL				*i*	S	Sn		10 46 42.4	+2.3

DDA ***27*** *10:52:23.1, 37.2°N×28.2°E, h7km, Ml2.5, Suspected Mining explosion.*

ISK 27 10:52:20.5, 37.2°N×28.5°E, h5km, ML1.8/1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.19**	**249**	P		PG		Pg 10 52 25.9	+1.7
YER				S		SG		Sg 10 52 27.9	+1.2
YER	**Yerkesik**	**0.19**	**249**	P		PG		Pg 10 52 25.9	+1.7
YER				S		SG		Sg 10 52 28.2	+1.5
TURN	**Turunc**	**0.34**	**166**	*e*P		PG		Pn 10 52 31.9	-0.2
TURN	**Turunc**	**0.34**	**166**	P		PG		Pn 10 52 30.8	-1.3
TAVA	**DENIZLI_Tavas**	**0.42**	**51**	*i* P		Pn		10 52 35.8	+2.5
TAVA				*i*	S	Sb		10 52 43.0	+5.8
AYDN	**Tasoluk**	**0.67**	**313**	*i* P		Pg		10 52 33.2	-0.2
AYDN				*i*	S	Sg		10 52 40.9	-1.4
AYDB	**Zeytinkoy-Aydi**	**0.89**	**327**	*e*P		Pb		10 52 38.2	-0.3
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.28**	**287**	⇓P	**Pb**	**11 00 50.5**	**-0.3**
JTH				*e*S	**Sb**	**11 00 55.1**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.41**	**227**	⇓P	**Pg**	**11 00 51.6**	**-0.7**
MIYJ				*e*S	**Sg**	**11 00 57.5**	**-0.3**
JKZ	**Kuzumaki**	**0.69**	**281**	⇓P	**Pg**	**11 00 57.3**	**-0.2**
JANG	**Nango**	**0.74**	**315**	P	**Pg**	**11 00 57.7**	**-0.8**
JOM	**Ohasama**	**0.80**	**242**	⇓P	**Pg**	**11 00 58.5**	**-1.1**
OFUJ	**Ofunato**	**0.88**	**208**	⇓P	**Pb**	**11 00 58.6**	**-2.5**
JMK	**Ichinoseki**	**1.18**	**220**	⇓P	**Pn**	**11 01 04.1**	**-2.0**
JAH	**Hinai**	**1.25**	**286**	⇑P	**Pn**	**11 01 06.8**	**-0.3**
JTM	**Tenmabayashi**	**1.27**	**317**	⇑P	**Pn**	**11 01 06.3**	**-1.1**
JRG	**Rokugo**	**1.30**	**250**	⇓P	**Pn**	**11 01 07.0**	**-0.7**
JIO	**Ouri**	**1.55**	**206**	⇓P	**Pn**	**11 01 08.7**	**-2.5**
JYW	**Yuwa**	**1.57**	**259**	⇑P	**Pn**	**11 01 11.6**	**+0.1**
JYK	**Kaneyama**	**1.71**	**237**	P	**Pn**	**11 01 13.1**	**-0.3**
JOT	**Ohata**	**1.76**	**330**	⇑P	**Pn**	**11 01 13.2**	**-0.9**
JSI2	**Shiura 2**	**1.82**	**312**	⇑P	**Pn**	**11 01 15.1**	**+0.2**
JOU	**Okura**	**1.91**	**219**	⇓P	**Pn**	**11 01 14.9**	**-1.3**
JSR	**Shiriuchi**	**2.15**	**321**	⇑P	**Pn**	**11 01 19.6**	**+0.1**
ERM	**Erimo**	**2.27**	**18**	*c i*P	**Pn**	**11 01 19.6**	**-1.5**
ERM	comp=Z,1μm,0.8s			pmax	pmax		
ERM	**Erimo**	**2.27**	**18**	*e*Pn	**Pn**	**11 01 20.9**	**-0.3**
JNK	**Nakash**	**4.17**	**26**	⇓P	**Pn**	**11 01 44.8**	**-2.5**
ASAJ	**Asahikawa**	**4.27**	**4**	Pn	**Pn**	**11 01 48.7**	**+0.2**
ASAJ	comp=Z,32nm,0.3s,baz=205,slow=14,SNR=146			LR	LR	11 03 59.7	
ASAJ	**Asahikawa**	**4.27**	**4**	*e*Pn	**Pn**	**11 01 49.5**	**+1.0**
MJB9	**Matsu-Tunnel**	**4.57**	**225**	*e*Pn	**Pn**	**11 01 54.3**	**+1.6**
MAJO	**Matsushiro**	**4.57**	**225**	*ce*P	**Pn**	**11 01 53.9**	**+1.2**
MAJO	**Matsushiro**	**4.57**	**225**	*e*Pn	**Pn**	**11 01 54.0**	**+1.2**
MAT	**Matsushiro**	**4.57**	**225**	P	**Pn**	**11 01 53.9**	**+1.2**
MAT				*e*S	**Sn**	**11 02 48.9**	**+3.3**
MJAR	**Matsushiro Arr**	**4.57**	**225**	Pn	**Pn**	**11 01 54.0**	**+1.3**
MJAR	comp=Z,108nm,0.3s,baz=33,slow=12,SNR=369			LR	LR	11 03 41.3	
MJAR	**Matsushiro Arr**	**4.57**	**225**	P	**Pn**	**11 01 54.0**	**+1.3**
MJAR	comp=Z,125μm,19.4s,baz=65,slow=40			pmax	pmax		
MJAR	comp=Z,108nm,0.3s			MLR	MLR		
I30JP	**ISUMI INFRASON**	**4.78**	**199**	Pn	**Pn**	**11 01 58.1**	**+2.4**
I30JP	comp=Z,125μm,19.4s baz=25,slow=18,SNR=5.7			*i*		11 22 00.0	
GRPR	**Tuman**	**4.92**	**32**	*i* P	**Pn**	**11 01 56.5**	**-0.9**
GRPR	baz=9.1,slow=332,SNR=0.7			*e*S	**Sn**	**11 02 56.7**	**+2.6**
LAGR	**Lagunnoye**	**4.97**	**31**	*e*P	**Pn**	**11 01 56.5**	**-1.7**
LAGR				*e*S	**Sn**	**11 02 58.6**	**+3.1**
YUK	**Yuzh-Kuril'sk**	**4.99**	**32**	*i* P	**Pn**	**11 01 56.5**	**-1.9**
YUK				*i* S	**Sn**	**11 02 56.8**	**+1.0**
YUK	comp=E,5μm,0.6s			pmax	pmax		
YUK	comp=Z,9μm,0.6s			pmax	pmax		
YUK	comp=N,5μm,0.4s			pmax	pmax		
YUK	comp=N,19μm,0.4s			smax	smax		
YUK	comp=E,20μm,0.5s			smax	smax		
SHO	**Shikotan**	**5.29**	**39**	*i* P	**Pn**	**11 01 58.6**	**-4.0**
SHO				*i* S	**Sn**	**11 03 00.6**	**-2.7**
SHO	comp=E,918nm,0.4s			pmax	pmax		
SHO	comp=Z,1μm,0.4s			pmax	pmax		
SHO	comp=N,361nm,0.3s			pmax	pmax		
SHO	comp=N,5μm,0.4s			smax	smax		
SHO	comp=E,3μm,0.5s			smax	smax		
INU	**Inuyama**	**6.10**	**224**	*e*Pn	**Pn**	**11 02 16.3**	**+2.5**
TEY	**Ternei**	**6.63**	**323**	*e*P	**Pn**	**11 02 22.8**	**+1.8**
TEY	comp=N,3μm,4.0s			pmax	pmax		
TEY	comp=E,3μm,4.0s			pmax	pmax		
TEY	comp=Z,4μm,4.0s			pmax	pmax		
TEY	comp=N,19nm,0.5s			pmax	pmax		
TEY	comp=E,14nm,0.5s			pmax	pmax		
TEY	comp=Z,17nm,0.5s			MLR	MLR		
TEY	comp=E,26μm,14.0s			MLR	MLR		
TEY	comp=N,47μm,11.0s			MLR	MLR		
TEY	comp=Z,57μm,10.0s			MLR	MLR		
KUR	**Kuril'sk**	**6.81**	**36**	*i* P	**Pn**	**11 02 21.7**	**-1.7**
KUR				*i* S	**Sn**	**11 03 41.6**	**+1.0**
KUR	comp=Z,2μm,0.6s			pmax	pmax		
KUR	comp=E,405nm,0.7s			pmax	pmax		
KUR	comp=N,263nm,0.2s			pmax	pmax		
JHJ2	**Mitsune**	**7.00**	**197**	*e*Pn	**Pn**	**11 02 24.0**	**-2.1**
JHJ	**Hachijo jima 2**	**7.00**	**197**	Pn	**Pn**	**11 02 24.2**	**-1.9**
JHJ	comp=N,295nm,0.3s,baz=321,slow=20,SNR=48			Sn	**Sn**	**11 03 42.6**	**-2.9**
YSS	**Yuzh-Sakhalins**	**7.11**	**3**	*ke*P	**Pn**	**11 02 28.0**	**+0.5**
YSS	comp=N,1μm,0.3s,baz=54,slow=22,SNR=6.2			*e*S	**Sn**	**11 03 45.2**	**-2.8**
YSS	comp=Z,330nm,1.1s			pmax	pmax		
YSS	comp=Z,103μm,14.0s			MLR	MLR		
YSS	comp=N,103μm,15.0s			MLR	MLR		
YSS	comp=E,48μm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**7.11**	**3**	*e*Pn	**Pn**	**11 02 28.0**	**+0.5**
VLA	**Vladivostok**	**8.40**	**296**	*e*P	**Pn**	**11 02 44.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**8.75**	**303**	Pn	**Pn**	**11 02 52.1**	**+2.0**
USRK	comp=E,16nm,0.3s,baz=111,slow=15,SNR=179			LR	LR	11 06 06.5	
MSHR	**Mys Shultsa**	**8.76**	**292**	*de*P	**Pn**	**11 02 52.8**	**+2.6**
I45RU	**USSURIYSK INFR**	**8.76**	**303**	*i*		11 54 40.0	
MDJ	**Mudanjiang**	**10.49**	**301**	P	**Pn**	**11 03 17.8**	**+3.9**
MDJ	comp=E,460nm,1.2s			pmax	pmax		
MDJ	comp=E,19μm,6.3s			pmax	pmax		
MDJ	comp=E,109μm,12.9s			LR	LR		
MDJ	comp=E,148μm,11.9s			LR	LR		
MDJ	comp=E,182μm,14.7s			LR	LR		
MDJ	**Mudanjiang**	**10.49**	**301**	*e*Pn	**Pn**	**11 03 17.7**	**+3.9**
TYV	**Tymovskoe**	**11.01**	**1**	*e*P	**Pn**	**11 03 21.6**	**+0.6**
TYV				*e*S	**Sn**	**11 05 23.8**	**-0.1**
TYV	comp=Z,5μm,5.6s			pmax	pmax		
TYV	comp=Z,727nm,0.8s			pmax	pmax		
TYV	comp=E,107nm,1.1s			smax	smax		
TYV	comp=E,9μm,7.3s			smax	smax		
TYV	comp=Z,72μm,14.0s			MLR	MLR		
JNU	**Nakatsue**	**11.32**	**237**	Pn	**Pn**	**11 03 27.6**	**+2.2**
JNU	comp=Z,11nm,0.3s,baz=44,slow=2.9,SNR=60			LR	LR	11 07 39.6	
KSRS	**Korea Array**	**11.42**	**262**	Pn	**Pn**	**11 03 29.8**	**+3.1**
KSRS	comp=Z,17nm,0.3s,baz=71,slow=14,SNR=94			Sn	**Sn**	**11 05 42.0**	**+8.0**
KSRS	comp=Z,16nm,0.3s,baz=72,slow=23,SNR=6.6			LR	LR	11 07 02.4	
KS01	**Wonju Array Si**	**11.44**	**263**	*e*Pn	**Pn**	**11 03 30.7**	**+3.7**
KS15	**Wonju Array Si**	**11.46**	**262**	*e*Pn	**Pn**	**11 03 30.9**	**+3.7**
KS15	comp=Z,12μm,19.9s,baz=74,slow=33			*e*Sn	**Sn**	**11 05 42.0**	**+7.1**
GRNR	**Gornyy**	**11.64**	**342**	*e*P	**Pn**	**11 03 33.0**	**+3.3**
GRNR	comp=N,84nm,1.0s			pmax	pmax		
GRNR	comp=E,84nm,1.0s			pmax	pmax		
GRNR	comp=Z,52nm,1.0s			pmax	pmax		
KLR	**Kul'dur**	**11.96**	**325**	Pn	**Pn**	**11 03 36.4**	**+2.3**
KLR	comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=59			LR	LR	11 08 20.3	
KLR	**Kul'dur**	**11.96**	**325**	*c i*P	**Pn**	**11 03 36.1**	**+2.0**
TJN	**Taejon**	**12.19**	**258**	*ce*P	**Pn**	**11 03 40.1**	**+2.8**
INCN	**Inchon**	**12.40**	**264**	*e*Pn	**Pn**	**11 03 43.4**	**+3.3**
INCN	**Inchon**	**12.40**	**264**	P	Pn	11 03 45.5	+5.4
CBIJ	**Chichi jima**	**12.73**	**180**	*e*Pn	**Pn**	**11 03 41.5**	**-3.1**
CBIJ	SNR=26			*e*Sn	Sn	11 05 52.2	-14
JCJ	**Chichijima**	**12.73**	**180**	Pn	**Pn**	**11 03 40.9**	**-3.7**
JCJ	comp=Z,89nm,0.3s,baz=52,slow=7.9,SNR=29			Sn	Sn	11 05 52.2	-14
JCJ	comp=Z,87nm,0.3s,baz=295,slow=21,SNR=4.1			LR	LR	11 09 46.2	
CN2	**Changchun**	**13.10**	**293**	*e*P	**Pn**	**11 03 52.0**	**+2.4**
CN2	comp=Z,16μm,20.8s,baz=2.5,slow=43			*e*S	Sn	11 06 25.5	+10
CN2	comp=Z,40nm,1.0s			pmax	pmax		
CN2	comp=Z,68μm,14.0s			LR	LR		
CN2	comp=Z,41μm,14.0s			LR	LR		
CN2	comp=Z,34μm,14.0s			LR	LR		
NKL	**Nikolayevsk**	**13.34**	**356**	*i* P	**Pn**	**11 03 52.0**	**-0.8**
NKL				*i* S	**Sn**	**11 06 20.0**	**-0.7**
NKL	comp=N,60nm,1.3s			pmax	pmax		
NKL	comp=Z,130nm,1.3s			pmax	pmax		
NKL	comp=N,5μm,9.0s			pmax	pmax		
NKL	comp=E,900nm,9.0s			pmax	pmax		
NKL	comp=Z,7μm,9.0s			pmax	pmax		
NKL	comp=E,8μm,10.0s			smax	smax		
OKH	**Okha**	**13.71**	**2**	⇓*i*P	**Pn**	**11 03 57.0**	**-0.8**
OKH				*e*S	**Sn**	**11 06 29.7**	**0.0**
OKH	comp=Z,6μm,6.2s			pmax	pmax		
OKH	comp=Z,47μm,16.0s			smax	smax		
SNY	**Shenyang**	**14.24**	**284**	⇓P	**P**	**11 04 09.0**	**-3.5**
SNY	comp=Z,56nm,1.8s			pmax	pmax		
SNY	comp=Z,10μm,8.8s			pmax	pmax		
SNY	comp=Z,52μm,12.3s			LR	LR		
SNY	comp=Z,60μm,15.5s			LR	LR		
SNY	comp=Z,80μm,14.5s			LR	LR		
SKR	**Severo-Kuril's**	**14.57**	**37**	*e*P	Pn	11 04 03.2	-6.5
SKR				*e*S	**Sn**	**11 06 53.1**	**+2.3**
SKR	comp=Z,67nm,0.9s			pmax	pmax		
SKR	comp=Z,3μm,3.1s			pmax	pmax		
SKR	comp=Z,43μm,14.0s			MLR	MLR		
SKR	comp=Z,47μm,14.0s			MLR	MLR		
DL2	**Dalian**	**15.94**	**273**	⇑P	**Pn**	**11 04 28.3**	**+0.5**
DL2				S	**Sn**	**11 07 28.8**	**+4.5**
DL2				ScS	**ScS**	**11 16 38.3**	**+0.7**
DL2	comp=Z,390nm,1.4s			pmax	pmax		
DL2	comp=Z,10μm,8.3s			pmax	pmax		
DL2	comp=Z,57μm,19.6s			LR	LR		
DL2	comp=Z,10μm,18.0s			LR	LR		
DL2	comp=Z,33μm,15.6s			LR	LR		
PEA0B	**Petropavlovsk-**	**16.96**	**34**	*e*Pn	**Pn**	**11 04 34.4**	**-6.4**
PETK	comp=Z,494nm,1.1s **Petropavlovsk-**	**16.96**	**34**	Pn	**Pn**	**11 04 34.7**	**-6.1**
PETK	comp=Z,1.2nm,0.3s,baz=206,slow=9.0,SNR=31			LR	LR	11 11 49.7	
PETK	comp=Z,24μm,18.6s,baz=213,slow=39 **Petropavlovsk-**	**16.96**	**34**	*e*P	**Pn**	**11 04 35.1**	**-5.7**
PETK	**Petropavlovsk-**	**16.96**	**34**	*e*Pn	**Pn**	**11 04 35.1**	**-5.7**
PEA1	**Petropavlovsk-**	**16.97**	**33**	*e*Pn	**Pn**	**11 04 34.7**	**-6.2**
ZEA	**Zeya**	**17.20**	**329**	*e*P	**Pn**	**11 04 42.1**	**-1.6**
ZEA				*e*S	**Sn**	**11 07 51.0**	**-3.6**
ZEA	comp=N,220nm,0.9s			pmax	pmax		
ZEA	comp=E,110nm,0.9s			pmax	pmax		
ZEA	comp=Z,330nm,0.9s			pmax	pmax		
ZEA	comp=N,3μm,13.0s			pmax	pmax		
ZEA	comp=E,3μm,13.0s			pmax	pmax		
ZEA	comp=Z,7μm,13.0s			smax	smax		
ZEA	comp=N,3μm,9.0s			smax	smax		
ZEA	comp=E,3μm,9.0s			MLR	MLR		
ZEA	comp=E,40μm,15.0s			MLR	MLR		
ZEA	comp=Z,79μm,15.0s			MLR	MLR		
ZEA	comp=N,36μm,14.0s			MLR	MLR		
PET	**Petropavlovsk**	**17.32**	**35**	*de*P	**Pn**	**11 04 39.9**	**-5.3**
PET				*e*S	**Sn**	**11 07 51.1**	**-6.4**
PET	comp=Z,4μm,12.1s			pmax	pmax		
PET	comp=Z,6μm,13.2s			pmax	pmax		
PET	comp=Z,451nm,1.9s			pmax	pmax		
PET	comp=Z,29μm,15.0s			MLR	MLR		
PET	comp=Z,29μm,15.0s			MLR	MLR		
PET	**Petropavlovsk**	**17.32**	**35**	*e*Pn	**Pn**	**11 04 43.8**	**-1.4**
JOW	comp=Z,2μm,2.0s **Kunigami**	**17.41**	**226**	P	**Pn**	**11 04 43.9**	**-2.6**
JOW	comp=Z,7.7nm,0.3s,baz=59,slow=5.8,SNR=47			LR	LR	11 11 40.3	
JOW	comp=Z,35μm,19.6s,baz=62,slow=38 **Kunigami**	**17.41**	**226**	P	**Pn**	**11 04 43.8**	**-2.7**
JOW	**Kunigami**	**17.41**	**226**	*e*Pn	**Pn**	**11 04 44.0**	**-2.6**
HIA	comp=Z,696nm,1.0s **Hailar**	**18.51**	**308**	*e*P	**P**	**11 04 58.9**	**-0.8**
HIA	comp=Z,790nm,1.8s			pmax	pmax		
HIA	**Hailar**	**18.51**	**308**	*e*P	**P**	**11 04 58.9**	**-0.8**
SSE	comp=Z,790nm,1.8s **Sheshan**	**19.19**	**249**	P	**P**	**11 05 06.8**	**-0.5**
SSE				S	**Sn**	**11 08 40.3**	**-2.7**
SSE	comp=Z,220nm,1.0s			pmax	pmax		
SSE	comp=Z,4μm,8.7s			pmax	pmax		
SSE	comp=Z,10μm,14.4s			LR	LR		
SSE	comp=Z,4μm,14.9s			LR	LR		
BJI	**Beijing**	**19.94**	**279**	⇓*i*P	**P**	**11 05 14.0**	**-1.4**
BJI				S	**S**	**11 08 57.0**	**-2.3**
BJI	comp=Z,190nm,1.1s			pmax	pmax		
BJI	comp=Z,5μm,12.2s			pmax	pmax		
BJI	comp=Z,6μm,17.7s			LR	LR		
BJI	comp=Z,5μm,14.3s			LR	LR		
BJI	comp=Z,870nm,16.9s			LR	LR		
BJT	**Baijiatuau**	**19.95**	**279**	*e*P	**P**	**11 05 12.8**	**-2.8**
BJT	comp=Z,249nm,0.8s			pmax	pmax		
BJT	**Baijiatuau**	**19.95**	**279**	*e*P	**P**	**11 05 12.8**	**-2.8**
TIA	comp=Z,249nm,0.8s **Tai'an**	**20.07**	**268**	P	**P**	**11 05 15.8**	**-1.1**
TIA				S	**S**	**11 08 57.5**	**-4.5**
TIA	comp=Z,120nm,1.1s			pmax	pmax		
TIA	comp=Z,4μm,11.5s			pmax	pmax		
TIA	comp=Z,48μm,11.2s			LR	LR		
TIA	comp=Z,56μm,12.7s			LR	LR		
NJ2	**Nanjing**	**20.41**	**255**	*e*P	**P**	**11 05 20.3**	**-0.3**
NJ2				pP	Pn	11 05 22.3	-0.4
NJ2				S	**S**	**11 09 08.3**	**-0.4**
NJ2				sS	**sS**	**11 09 15.8**	**+0.6**
NJ2	comp=Z,96nm,0.9s			pmax	pmax		
NJ2	comp=Z,5μm,11.9s			pmax	pmax		
NJ2	comp=Z,11μm,11.9s			LR	LR		
NJ2	comp=Z,61μm,15.2s			LR	LR		
NJ2	comp=Z,48μm,16.3s			LR	LR		
CLNS	**Chul'man**	**20.42**	**332**	*e*P	**P**	**11 05 20.9**	**+0.3**
CLNS				*e*		11 05 38.7	
CLNS				*e*S	**S**	**11 09 06.2**	**-2.5**
CLNS				*e*		11 09 31.4	
CLNS	comp=E,104nm,1.1s			pmax	pmax		
CLNS	comp=N,179nm,0.9s			pmax	pmax		
CLNS	comp=Z,384nm,1.1s			pmax	pmax		
CLNS	comp=N,249nm,0.9s			pmax	pmax		
CLNS	comp=E,268nm,0.9s			pmax	pmax		
CLNS	comp=Z,210nm,0.8s			smax	smax		
CLNS	comp=E,3μm,11.3s			smax	smax		
CLNS	comp=N,9μm,11.0s			MLR	MLR		
CLNS	comp=N,24μm,13.0s			MLR	MLR		
CLNS	comp=E,22μm,14.0s			MLR	MLR		
CLNS	comp=Z,42μm,14.0s			MLR	MLR		
MA2	**Magadan**	**20.47**	**13**	P	**P**	**11 05 19.1**	**-1.9**
MA2	comp=Z,147nm,0.9s,baz=198,slow=9.9,SNR=55 **Magadan**	**20.47**	**13**	*d i*P	**P**	**11 05 19.9**	**-1.1**
YOJ	**Yonaguni jima**	**22.28**	**232**	*e*P	**P**	**11 05 37.6**	**-3.2**
YOJ				*e*S	**S**	**11 09 47.6**	**+2.1**
YOJ	comp=Z,148nm,0.8s			pmax	pmax		
YOJ	comp=Z,30μm,18.0s			MLR	MLR		
YOJ	**Yonaguni jima**	**22.28**	**232**	*e*P	**P**	**11 05 37.6**	**-3.2**
YOJ	comp=Z,148nm,0.8s			*e*S	**S**	**11 09 47.6**	**+2.1**
YOJ	comp=Z,30μm,18.0s			LR	LR		
TATO	**Taipei**	**22.86**	**236**	*e*P	**P**	**11 05 45.8**	**-1.2**
TATO	comp=Z,544nm,0.8s			LR	LR		
TATO	comp=Z,26μm,18.0s **Taipei**	**22.86**	**236**	P	**P**	**11 05 47.2**	**+0.2**
TATO	SNR=6.1 **Taipei**	**22.86**	**236**	P	**P**	**11 05 47.2**	**+0.2**
YHNB	SNR=6.1 **Yeheng**	**23.15**	**235**	*e*P	**P**	**11 05 46.5**	**-3.5**
YHNB	comp=Z,240nm,0.8s			LR	LR		
CIT	comp=Z,34μm,20.0s **Chita**	**23.18**	**311**	*e*P	**P**	**11 05 48.3**	**-1.8**
CIT				*e*		11 06 20.2	
CIT				*e*S	**S**	**11 10 03.1**	**+1.8**
CIT	comp=Z,1μm,1.2s			pmax	pmax		
TIY	**Taiyuan**	**23.26**	**274**	*e*P	**P**	**11 05 49.8**	**-1.3**
TIY				S	**S**	**11 09 59.3**	**-3.6**
TIY	comp=Z,50nm,1.1s			pmax	pmax		
TIY	comp=Z,2μm,10.9s			pmax	pmax		
TIY	comp=Z,35μm,14.4s			LR	LR		
TIY	comp=Z,10μm,13.4s			LR	LR		
TIY	comp=Z,19μm,17.8s			LR	LR		
SARN	**Sarigan**	**23.28**	**171**	*e*P	**P**	**11 05 49.9**	**-1.4**
HHC	**Hu-ho-hao-te**	**23.32**	**282**	*e*P	**P**	**11 05 50.3**	**-1.4**
HHC				pP	pP	11 05 54.5	-1.4
HHC				sP	sP	11 05 57.3	-0.4
HHC				PP	**PnPn**	**11 06 21.0**	**+3.4**
HHC				S	**S**	**11 09 57.5**	**-6.4**
HHC				sS	pS	11 10 04.5	-3.9
HHC				SS	**SnSn**	**11 10 43.0**	**+4.7**
HHC	comp=Z,39nm,1.2s			pmax	pmax		
HHC	comp=Z,2μm,6.2s			pmax	pmax		
HHC	comp=Z,23μm,13.5s			LR	LR		
HHC	comp=Z,43μm,15.3s			LR	LR		
HHC	comp=Z,52μm,15.3s			LR	LR		
NACB	**Ninganchiao**	**23.37**	**234**	*e*P	**P**	**11 05 47.7**	**-4.4**
NACB	comp=Z,204nm,0.7s			LR	LR		
YAK	comp=Z,27μm,18.0s **Yakutsk**	**23.48**	**345**	P	**P**	**11 05 50.1**	**-2.8**
YAK	comp=Z,282nm,0.6s,baz=17,slow=2.1,SNR=75			S	**S**	**11 10 00.3**	**-5.5**
YAK	comp=Z,61nm,0.8s,baz=231,slow=19,SNR=2.9			LR	LR	11 15 21.6	
YAK	comp=Z,17μm,20.4s,baz=230,slow=37 **Yakutsk**	**23.48**	**345**	*e*P	**P**	**11 05 51.6**	**-1.3**
YAK				*e*PP	**sP**	**11 05 59.3**	**+0.3**
YAK				*e*S	**S**	**11 10 02.6**	**-3.2**
YAK				*e*SSS	SSS	11 10 57.4	
YAK	comp=Z,390nm,1.0s			pmax	pmax		
YAK	comp=N,219nm,1.1s			pmax	pmax		
YAK	comp=E,69nm,1.0s			pmax	pmax		
YAK	comp=N,5μm,2.0s			smax	smax		
YAK	comp=E,3μm,2.2s			smax	smax		
YAK	comp=E,34μm,16.0s			MLR	MLR		
YAK	comp=Z,45μm,14.0s			MLR	MLR		
YAK	comp=N,49μm,15.0s			MLR	MLR		
YAK	**Yakutsk**	**23.48**	**345**	*e*P	**P**	**11 05 51.1**	**-1.9**
YAK	comp=N,1μm,0.7s			*e*S	**S**	**11 10 00.3**	**-5.5**
YAK				*e*Sn	**S**	**11 10 06.5**	**+0.7**
YAK	comp=Z,17μm,19.0s			LR	LR		
SEY	**Seymchan**	**23.91**	**12**	LR	LR	11 16 29.1	
SEY	comp=Z,17μm,18.3s,baz=177,slow=39 **Seymchan**	**23.91**	**12**	⇑*e*P	**P**	**11 05 55.5**	**-1.6**
SSLB	**Suanglung**	**24.05**	**235**	*e*P	**P**	**11 05 54.9**	**-3.9**
SSLB	comp=Z,239nm,0.8s			LR	LR		
YULB	comp=Z,24μm,19.0s **Yu-li**	**24.12**	**233**	*e*P	**P**	**11 05 55.4**	**-4.0**
YULB	comp=Z,253nm,0.9s			LR	LR		
	comp=Z,18μm,20.0s						

WHN	**Wuhan**	**24.50**	**256**	⇑P		**P**		**11 06 02.8**	**-0.1**
WHN				S		**S**		**11 10 19.0**	**-3.8**
WHN				LR	LR				
	comp=Z,245µm,15.3s								
WHN				LR	LR				
	comp=Z,167µm,15.0s								
WHN				LR	LR				
	comp=Z,69µm,14.0s								
BTO	**Baotou**	**24.51**	**282**	*e*P		**P**		**11 06 01.0**	**-2.1**
TPUB	**Ta-pu**	**24.61**	**234**	*e*P		**P**		**11 05 60.0**	**-3.9**
	comp=Z,653nm,1.0s								
TPUB				LR	LR				
	comp=Z,33µm,18.0s								
TWG	**Pinlang**	**24.68**	**233**	*e*P		**P**		**11 06 01.9**	**-2.6**
	comp=Z,3µm,0.8s								
QZH	**Quanzhou**	**24.77**	**240**	⇑*i*P		**P**		**11 06 03.3**	**-2.0**
QZH				S		**S**		**11 10 22.3**	**-4.8**
QZH				pmax	pmax				
	comp=Z,180nm,1.3s								
QZH				pmax	pmax				
	comp=Z,5µm,10.1s								
QZH				LR	LR				
	comp=Z,31µm,14.3s								
QZH				LR	LR				
	comp=Z,13µm,13.7s								
QZH				LR	LR				
	comp=Z,34µm,14.1s								
BOD	**Bodaibo**	**25.54**	**324**	*e*P		**P**		**11 06 11.6**	**-0.4**
BOD				pmax	pmax				
	comp=Z,485nm,1.2s								
GUMO	**Guam**	**26.27**	**174**	LR	LR			11 15 29.2	
	comp=Z,12µm,21.6s,baz=8.0,slow=34								
GUMO	**Guam**	**26.27**	**174**	PFAKE				11 06 30.0	+11
GUMO				LR	LR				
	comp=Z,26µm,19.0s								
ULN	**Ulaanbaatar**	**26.40**	**299***c*	*i*P		**P**		**11 06 20.3**	**+0.2**
ULN				pmax	pmax				
	comp=Z,122nm,1.2s								
ULN				MLR	MLR				
	comp=Z,40µm,16.0s								
ULN	**Ulaanbaatar**	**26.40**	**299**	*e*P		**P**		**11 06 19.3**	**-0.8**
	comp=Z,72nm,0.8s								
ULN				LR	LR				
	comp=Z,40µm,18.0s								
ULN	**Ulaanbaatar**	**26.40**	**299**	P		**P**		**11 06 19.7**	**-0.4**
	SNR=62								
ULN	**Ulaanbaatar**	**26.40**	**299**	P		**P**		**11 06 19.7**	**-0.4**
	SNR=62								
SONA1	**Songino Array**	**26.83**	**299**	*e*P		**P**		**11 06 23.7**	**-0.3**
SONA0	**Songino Array**	**26.84**	**299**	*e*P		**P**		**11 06 23.5**	**-0.6**
SONM	**Songino Array**	**26.84**	**299**	P		**P**		**11 06 23.5**	**-0.6**
	comp=Z,56nm,0.7s,baz=106,slow=8.3,SNR=149								
SONM				LR	LR			11 17 39.7	
	comp=Z,38µm,18.2s,baz=99,slow=38								
SONM				P3KPbc				11 39 02.0	
	comp=Z,1.4nm,1.1s,baz=220,slow=1.1,SNR=4.3								
XAN	**Xi'an**	**27.12**	**268**	P		**P**		**11 06 26.5**	**-0.1**
XAN				pP	pP			11 06 30.8	-0.2
XAN				sP	sP			11 06 34.0	+1.2
XAN				PP	**PnPn**			**11 07 11.8**	**+2.2**
XAN				S	**S**			**11 10 57.0**	**-7.5**
XAN				pmax	pmax				
	comp=Z,39nm,1.4s								
XAN				pmax	pmax				
	comp=Z,2µm,8.4s								
XAN				LR	LR				
	comp=Z,30µm,17.3s								
XAN				LR	LR				
	comp=Z,34µm,15.2s								
ENH	**Enshi**	**28.30**	**260**	*e*P		**P**		**11 06 35.8**	**-1.4**
	comp=Z,544nm,1.0s								
ENH				LR	LR				
	comp=Z,26µm,18.0s								
APYP	**Conner**	**28.45**	**226**	*e*P		**P**		**11 06 37.5**	**-1.1**
IRK	**Irkutsk**	**28.75**	**308**	⇓*i*P		**P**		**11 06 41.1**	**+0.1**
IRK				*e*S		**S**		**11 11 33.7**	**+4.0**
IRK				pmax	pmax				
	comp=Z,331nm,3.7s								
CAUP	**Cauayan**	**28.89**	**224**	*e*P		**P**		**11 06 47.1**	**+4.6**
TLY	**Talaya**	**29.04**	**307**	P		**P**		**11 06 43.6**	**+0.1**
	comp=Z,80nm,0.9s,baz=106,slow=6.2,SNR=121								
TLY				LR	LR			11 18 53.3	
	comp=Z,22µm,19.9s,baz=106,slow=38								
TLY	**Talaya**	**29.04**	**307***c*	*i*P		**P**		**11 06 43.0**	**-0.6**
TLY				*e*				11 07 46.9	
TLY				*e*S		**S**		**11 11 27.9**	**-6.4**
TLY				*e*SSS	SSS			11 12 59.8	
TLY				pmax	pmax				
	comp=Z,127nm,0.8s								
TLY				MLR	MLR				
	comp=Z,27µm,12.0s								
TLY	**Talaya**	**29.04**	**307**	*e*P		**P**		**11 06 43.8**	**+0.2**
TLY				LR	LR				
	comp=Z,26µm,21.0s								
TLY	**Talaya**	**29.04**	**307**	P		**P**		**11 06 44.4**	**+0.9**
	SNR=143								
TLY	**Talaya**	**29.04**	**307**	P		**P**		**11 06 44.4**	**+0.9**
	SNR=143								
ZAK	**Zakamensk**	**29.10**	**304**	*e*P		**P**		**11 06 44.2**	**0.0**
ZAK				pmax	pmax				
	comp=Z,154nm,1.5s								
H11N2	**WAKE ISLAND Hy**	**29.19**	**126**	P		**P**		**11 06 44.6**	**-0.2**
	baz=287,slow=11,SNR=2.5								
H11N2				T	T			11 37 14.4	
	baz=319,slow=75								
H11N1	**WAKE ISLAND Hy**	**29.20**	**126**	P		**P**		**11 06 47.7**	**+2.8**
	baz=287,slow=11,SNR=3.5								
H11N1				T	T			11 37 13.9	
	baz=319,slow=75								
H11N3	**WAKE ISLAND Hy**	**29.20**	**126**	P		**P**		**11 06 44.6**	**-0.3**
	baz=287,slow=11,SNR=2.9								
H11N3				T	T			11 37 12.7	
	baz=319,slow=75								
WAKE	**Wake Island**	**29.37**	**127**	PFAKE				11 07 00.0	+13
WAKE				LR	LR				
	comp=Z,14µm,22.0s								
H11S1	**WAKE ISLAND Hy**	**29.99**	**128**	P		**P**		**11 06 53.9**	**+1.9**
H11S1				T	T			11 38 16.2	
	baz=320,slow=76,SNR=4019								
H11S3	**WAKE ISLAND Hy**	**29.99**	**128**	P		**P**		**11 06 54.2**	**+2.2**
H11S3				T	T			11 38 14.3	
	baz=320,slow=76,SNR=2887								
H11S2	**WAKE ISLAND Hy**	**30.01**	**128**	P		**P**		**11 06 55.2**	**+3.1**
H11S2				T	T			11 38 10.9	
	baz=320,slow=76,SNR=3137								
MCO	**Taipa Grande**	**30.07**	**243**	P		**P**		**11 06 56.0**	**+3.1**
LZH	**Lanzhou**	**30.32**	**275**	*e*P		**P**		**11 06 57.0**	**+1.8**
LZH				pP	pP			11 06 59.3	-0.3
LZH				sP	sP			11 07 02.0	+0.6
LZH				PP	**PnPn**			**11 07 53.0**	**-0.1**
LZH				PcP	**PcP**			**11 09 55.8**	**+0.6**
LZH				*e*S	**S**			**11 11 58.0**	**+3.1**
LZH				sS	sS			11 12 04.5	+2.3
LZH				ScP	**ScP**			**11 13 39.5**	**+2.4**
LZH				ScS	**ScS**			**11 17 34.8**	**+1.7**
LZH				pmax	pmax				
	comp=Z,250nm,1.1s								
LZH				pmax	pmax				
	comp=Z,1µm,5.3s								
LZH				LR	LR				
	comp=Z,31µm,11.8s								
LZH				LR	LR				
	comp=Z,52µm,12.8s								
LZH				LR	LR				
	comp=Z,58µm,13.5s								
PVCP	**Virac**	**30.60**	**216**	*e*P		**P**		**11 07 02.1**	**+4.5**
MOY	**Mondy**	**30.68**	**306**	*e*P		**P**		**11 06 58.1**	**0.0**
MOY				pmax	pmax				
	comp=Z,375nm,2.1s								
BILL	**Bilibino**	**31.15**	**17***d*	*i*P		**P**		**11 07 01.0**	**-1.0**
BILL				*e*				11 08 01.6	
BILL				*i*S		**S**		**11 12 02.7**	**-4.3**
BILL				pmax	pmax				
	comp=Z,66nm,0.9s								
TGY	**Tagaytay City**	**31.73**	**222**	P		**P**		**11 07 08.7**	**+1.1**
	comp=Z,392nm,0.4s,baz=202,slow=3.5,SNR=9.1								
TGY				LR	LR			11 21 46.9	
	comp=Z,8µm,18.8s,baz=10.0,slow=40								
BOAC	**Boac**	**31.82**	**220**	*e*P		**P**		**11 07 11.0**	**+2.7**
CD2	**Chengdu**	**32.39**	**266**	P		**P**		**11 07 12.0**	**-1.3**
CD2				pP	pP			11 07 15.0	-2.7
CD2				PP	**PP**			**11 08 25.0**	**-1.5**
CD2				S	**S**			**11 12 26.3**	**-0.9**
CD2				sS	pS			11 12 31.5	-0.7
CD2				pmax	pmax				
	comp=Z,270nm,0.9s								
CD2				pmax	pmax				
	comp=Z,2µm,6.0s								
CD2				LR	LR				
	comp=Z,79µm,15.3s								
CD2				LR	LR				
	comp=Z,49µm,13.5s								
CD2				LR	LR				
	comp=Z,37µm,15.1s								
GYA	**Guiyang**	**32.40**	**257**	⇑*i*P		**P**		**11 07 12.3**	**-1.2**
GYA				PP	**PP**			**11 08 26.0**	**-0.7**
GYA				PcP	**PcP**			**11 10 03.0**	**+2.1**
GYA				S	**S**			**11 12 19.5**	**-8.0**
GYA				ScP	**ScP**			**11 13 45.5**	**+1.4**
GYA				SS	**SnSn**			**11 14 21.0**	**+0.9**
GYA				ScS	**ScS**			**11 17 43.3**	**-0.3**
GYA				pmax	pmax				
	comp=Z,270nm,0.7s								
GYA				pmax	pmax				
	comp=Z,1µm,11.2s								
GYA				LR	LR				
	comp=Z,47µm,16.8s								
GYA				LR	LR				
	comp=Z,28µm,14.9s								
GYA				LR	LR				
	comp=Z,9µm,19.3s								
TIXI	**Tiksi**	**32.57**	**352**	P		**P**		**11 07 13.3**	**-1.1**
	comp=Z,37nm,0.7s,baz=137,slow=6.4,SNR=45								
TIXI				LR	LR			11 21 53.6	
	comp=Z,23µm,18.4s,baz=161,slow=39								
TIXI	**Tiksi**	**32.57**	**352***c*	*i*P		**P**		**11 07 13.8**	**-0.6**
TIXI				pmax	pmax				
	comp=Z,68nm,1.0s								
TIXI				MLR	MLR				
	comp=Z,21µm,17.0s								
TIXI	**Tiksi**	**32.57**	**352**	*e*P		**P**		**11 07 13.8**	**-0.6**
TIXI				LR	LR				
	comp=Z,24µm,18.0s								
KNGR	**Kungurtug, Tuv**	**32.79**	**304**	*i* P		**P**		**11 07 17.6**	**+0.9**
RCP	**Roxas**	**33.03**	**217**	⇑*e*P		**P**		**11 07 23.2**	**+4.3**
MSLP	**Maasin**	**33.38**	**212**	*e*P		**P**		**11 07 21.1**	**-0.9**
SCPH	**Surigao**	**33.45**	**211**	⇑*e*P		**P**		**11 07 25.8**	**+3.2**
LLP	**Lapu-Lapu**	**33.59**	**214**	*e*P		**P**		**11 07 19.6**	**-4.3**
LLP				*e*S		**S**		**11 12 52.9**	**+7.0**
BUSP	**Coron**	**33.88**	**221**	*e*P		**P**		**11 07 25.4**	**-1.0**
BUTP	**Butuan**	**34.14**	**210**	*e*P		**P**		**11 07 29.0**	**+0.4**
QIZ	**Qiongzhong**	**34.72**	**243**	P		**P**		**11 07 37.5**	**+3.9**
QIZ				S		**S**		**11 13 08.5**	**+5.2**
QIZ				pmax	pmax				
	comp=Z,62nm,1.4s								
QIZ				pmax	pmax				
	comp=Z,2µm,9.5s								
QIZ				LR	LR				
	comp=Z,22µm,14.2s								
QIZ				LR	LR				
	comp=Z,30µm,14.2s								
QIZ				LR	LR				
	comp=Z,18µm,13.7s								
QIZ	**Qiongzhong**	**34.72**	**243**	PFAKE				11 07 40.0	+6.4
QIZ				LR	LR				
	comp=Z,12µm,20.0s								
MIDW	**Midway**	**35.18**	**97**	PFAKE				11 07 50.0	+12
MIDW				LR	LR				
	comp=Z,6µm,20.0s								
HVS	**Khovu-Aksy**	**35.21**	**305***c*	*i*P		**P**		**11 07 38.9**	**+1.2**
HVS				pmax	pmax				
	comp=Z,217nm,1.0s								
HVS				MLR	MLR				
	comp=Z,53µm,14.0s								
BUKP	**Musuan**	**35.35**	**210**	*e*P		**P**		**11 07 42.4**	**+3.3**
MATI	**Mati**	**35.76**	**208**	*e*P		**P**		**11 07 40.9**	**-1.7**
DAV	**Davao City (W)**	**35.90**	**209**	⇑*e*P		**P**		**11 07 41.9**	**-1.9**
PATS	**Pohnpei**	**35.92**	**152**	PFAKE				11 08 00.0	+16
PATS				LR	LR				
	comp=Z,14µm,20.0s								
GAMB	**Gambell**	**36.00**	**33**	*e*P		**P**		**11 07 44.5**	**+0.3**
	comp=Z,84nm,1.0s								
GAMB				LR	LR				
	comp=Z,8µm,20.0s								
KMI	**Kunming**	**36.08**	**258**	P		**P**		**11 07 45.3**	**-0.3**
KMI				pP	pP			11 07 49.8	-0.2
KMI				sP	sP			11 07 51.8	0.0
KMI				PP	**PP**			**11 09 08.8**	**+1.2**
KMI				S	**S**			**11 13 21.8**	**-2.8**
KMI				sS	pS			11 13 28.5	-1.3
KMI				pmax	pmax				
	comp=Z,210nm,1.0s								
KMI				pmax	pmax				
	comp=Z,1µm,3.1s								
KMI				LR	LR				
	comp=Z,37µm,16.7s								
KMI				LR	LR				
	comp=Z,26µm,16.1s								
KMI				LR	LR				
	comp=Z,21µm,18.3s								
CTBH	**Cotabato--PC H**	**36.27**	**211**	⇓*i*P		**P**		**11 07 47.3**	**+0.3**
UNV	**Unalaska Valle**	**36.92**	**50**	PFAKE				11 08 10.0	+18
UNV				LR	LR				
	comp=Z,6µm,22.0s								
AKUT	**Akutan**	**37.36**	**50**	PFAKE				11 08 10.0	+14
AKUT				LR	LR				
	comp=Z,8µm,21.0s								
BATP	**Bataraza**	**37.83**	**222**	*e*P		**P**		**11 08 02.9**	**+2.7**
FALS	**False Pass**	**38.74**	**49**	PFAKE				11 08 20.0	+13
FALS				LR	LR				
	comp=Z,6µm,19.0s								
SGSI	**Sangihe**	**39.05**	**207**	P		**P**		**11 08 10.1**	**-0.4**
SGSI				S		**S**		**11 14 14.7**	**+5.4**
DGZ	**Jazzator, Alta**	**39.31**	**303**	⇓*e*P		**P**		**11 08 14.1**	**+1.5**
LKP	**Lekhapani**	**40.17**	**266**	*e*P		**P**		**11 08 20.4**	**+0.6**
SKNT	**Sakolnakorn**	**40.19**	**247**	P		**P**		**11 08 19.3**	**-0.7**
	comp=Z,100nm,1.1s,corr=Z,1µm								
WMQ	**Urumqi**	**40.19**	**294**	P		**P**		**11 08 20.5**	**+0.6**
WMQ				pP	pP			11 08 23.5	-0.8
WMQ				sP	sP			11 08 28.3	+2.2
WMQ				PP	**PP**			**11 09 51.8**	**-0.4**
WMQ				S	**S**			**11 14 24.0**	**-2.2**
WMQ				SS	**SS**			**11 17 22.5**	**-1.5**
WMQ				pmax	pmax				
	comp=Z,620nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,4µm,3.7s								
WMQ				LR	LR				
	comp=Z,39µm,11.3s								
WMQ				LR	LR				
	comp=Z,27µm,13.5s								
WMQ				LR	LR				
	comp=Z,10µm,30.1s								
SDPT	**Sand Point**	**40.41**	**48**	*e*P		**P**		**11 08 19.8**	**-1.7**
	comp=Z,238nm,1.4s								
ZAA1	**Zalesovo Array**	**40.52**	**310**	*e*P		**P**		**11 08 21.7**	**-0.7**
ZAA1				*e*PcP		**PcP**		**11 10 24.6**	**0.0**
ZAA0	**Zalesovo Array**	**40.53**	**310**	*e*P		**P**		**11 08 21.8**	**-0.6**
	comp=Z,173nm,0.7s								
ZAA0				LR	LR				
	comp=Z,30nm,18.0s								
ZALV	**Zalesovo Beam**	**40.53**	**310**	P		**P**		**11 08 21.7**	**-0.7**
	comp=Z,149nm,0.5s,baz=89,slow=7.5,SNR=125								
ZALV				PcP		**PcP**		**11 10 24.6**	**0.0**
	comp=Z,22nm,0.4s,baz=98,slow=3.0,SNR=4.2								
ZALV				LR	LR			11 25 55.5	
	comp=Z,27µm,18.6s,baz=90,slow=37								
ZALV	**Zalesovo Beam**	**40.53**	**310**	*e*P		**P**		**11 08 21.2**	**-1.2**
ZALV	**Zalesovo Beam**	**40.53**	**310**	*e*P		**P**		**11 08 21.2**	**-1.2**
MYLDM	**Lahad Datu**	**40.60**	**218**	*e*P		**P**		**11 08 25.3**	**+1.8**
	comp=Z,904nm,1.2s								
KKM	**Kota Kinabalu**	**40.98**	**222**	*e*P		**P**		**11 08 26.9**	**+0.2**
	comp=Z,243nm,1.3s								
NRIK	**Noril'sk**	**40.99**	**334**	LR	LR			11 26 31.0	
	comp=Z,13µm,18.8s,baz=241,slow=38								
TNTI	**Ternate**	**41.19**	**203**	*e*P		**P**		**11 08 28.0**	**-0.2**
	comp=Z,458nm,0.9s								
TNTI				LR	LR				
	comp=Z,11µm,19.0s								
NVS	**Novosibirsk**	**41.39**	**311**	⇑*i*P		**P**		**11 08 30.3**	**+0.8**
NVS				*e*				11 10 29.2	
NVS				*e*S		**S**		**11 14 40.1**	**-3.5**
NVS				*e*				11 18 35.3	
NVS				pmax	pmax				
	comp=N,60nm,0.9s								
NVS				pmax	pmax				
	comp=E,131nm,0.9s								
NVS				pmax	pmax				
	comp=Z,194nm,0.9s								
NVS				smax	smax				
	comp=N,25nm,1.1s								
NVS				smax	smax				
	comp=E,114nm,1.7s								
KHON	**Khomkaen**	**41.44**	**247**	P		**P**		**11 08 30.5**	**+0.2**
	comp=E,127nm,0.9s								
ZIRO	**ZIRO**	**41.61**	**268**	*e*P		**P**		**11 08 32.6**	**+0.7**
JORH	**JORHAT**	**41.69**	**267**	*e*P		**P**		**11 08 32.9**	**+0.6**
JORH				IAmb	IAmb			11 08 34.4	
	comp=Z,732nm,0.7s								
MOKO	**MOKOCHONG**	**41.71**	**266**	*e*P		**P**		**11 08 33.5**	**+0.9**
SWI	**Sorong**	**41.74**	**197**	P		**P**		**11 08 32.0**	**-0.8**
	comp=Z,347nm,0.8s,comp=Z,6µm								
SWI	**Sorong**	**41.74**	**197**	P		**P**		**11 08 32.5**	**-0.3**
SWI				pmax	pmax				
	comp=Z,342nm,0.8s								
RKPI	**Ransiki, Papua**	**41.82**	**192**	P		**P**		**11 08 32.9**	**-0.5**
	comp=Z,293nm,0.9s,comp=Z,16µm								
CMAI	**Chiengmai2**	**41.88**	**255**	P		**P**		**11 08 34.9**	**+0.8**
	comp=Z,1µm,1.5s,comp=Z,25µm								
MANU	**Manus Island**	**41.97**	**172**	*e*P		**P**		**11 08 34.4**	**-0.2**
	comp=Z,295nm,1.4s								
JAY	**Jayapura**	**42.19**	**182**	P		**P**		**11 08 36.4**	**0.0**
	comp=Z,2µm,1.1s,comp=Z,26µm								
JAY	**Jayapura**	**42.19**	**182**	P		**P**		**11 08 37.4**	**+1.0**
GENI	**Genyem**	**42.28**	**183**	P		**P**		**11 08 37.2**	**0.0**
	comp=Z,539nm,1.0s,comp=Z,9µm								
LAMP	**Lampang**	**42.32**	**252**	P		**P**		**11 08 38.0**	**+0.5**
	comp=Z,77nm,0.7s,comp=Z,736nm								
CHAI	**Chaiyaphum**	**42.32**	**247**	P		**P**		**11 08 37.2**	**-0.3**
	comp=Z,78nm,0.9s,comp=Z,664nm								
KOHI	**KOHIMA**	**42.33**	**266**	*e*P		**P**		**11 08 36.9**	**-0.9**
KMSI	**Cibinong**	**42.48**	**208**	P		**P**		**11 08 39.0**	**+0.2**
	comp=Z,1µm,0.8s,comp=Z,10µm								
LBMI	**Labuha**	**42.48**	**202**	P		**P**		**11 08 38.3**	**-0.5**
	comp=Z,232nm,1.0s,comp=Z,5µm								
PHIT	**Phitsanulok**	**42.60**	**250**	P		**P**		**11 08 40.0**	**+0.2**
	comp=Z,116nm,1.1s,comp=Z,979nm								
CMMT	**Chiang Mai**	**42.64**	**253**	P		**P**		**11 08 38.9**	**-1.3**
	comp=Z,168nm,1.3s,comp=Z,3µm								
LSA	**Lhasa**	**42.64**	**273**	P		**P**		**11 08 41.5**	**+0.9**
LSA				S		**S**		**11 14 57.3**	**-6.3**
LSA				pmax	pmax				
	comp=Z,140nm,1.1s								
LSA				pmax	pmax				
	comp=Z,2µm,8.2s								
LSA				LR	LR				
	comp=Z,4µm,14.6s								
LSA				LR	LR				
	comp=Z,6µm,15.8s								
LSA				LR	LR				
	comp=Z,16µm,15.8s								
LSA	**Lhasa**	**42.64**	**273**	*e*P		**P**		**11 08 41.8**	**+1.2**
LSA				pmax	pmax				
	comp=Z,882nm,1.8s								
LSA				MLR	MLR				
	comp=Z,13µm,18.0s								
LSA	**Lhasa**	**42.64**	**273**	*e*P		**P**		**11 08 41.8**	**+1.2**
	comp=Z,882nm,1.8s								
LSA				LR	LR				
	comp=Z,13µm,18.0s								
LSA	**Lhasa**	**42.64**	**273**	*i* P		**P**		**11 08 41.3**	**+0.7**
	SNR=23								
CHTO	**Chiang Mai**	**42.64**	**253**	P		**P**		**11 08 39.9**	**-0.2**
	comp=Z,751nm,1.4s,comp=Z,12µm								
CHTO	**Chiang Mai**	**42.64**	**253**	*e*P		**P**		**11 08 39.5**	**-0.6**
CHTO				pmax	pmax				
	comp=Z,389nm,1.5s								
CHTO				MLR	MLR				
	comp=Z,10µm,20.0s								
CHTO	**Chiang Mai**	**42.64**	**253**	*e*P		**P**		**11 08 39.5**	**-0.6**
	comp=Z,389nm,1.5s								
CHTO				LR	LR				
	comp=Z,10µm,20.0s								
CHTO	**Chiang Mai**	**42.64**	**253**	P		**P**		**11 08 40.0**	**-0.2**
	SNR=116								
CHTO	**Chiang Mai**	**42.64**	**253**	P		**P**		**11 08 40.0**	**-0.2**
	SNR=116								
CM31	**Chiang Mai Arr**	**42.87**	**253**	*e*P		**P**		**11 08 42.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**42.87**	**253**	P		**P**		**11 08 41.8**	**-0.2**
	comp=Z,34nm,0.8s,baz=50,slow=6.0,SNR=119								
CMAR				ScP		**ScP**		**11 14 25.5**	**+2.1**
	comp=Z,10nm,0.9s,baz=25,slow=3.1,SNR=8.7								
CMAR				LR	LR			11 27 14.8	
	comp=Z,9µm,20.0s,baz=50,slow=37								
CMAR	**Chiang Mai Arr**	**42.87**	**253**	P		**P**		**11 08 41.8**	**-0.2**
CMAR				pmax	pmax				
	comp=Z,29nm,0.9s								
CMAR				MLR	MLR				
	comp=Z,9µm,20.0s								
TEZP	**TEZPUR**	**42.87**	**268**	*e*P		**P**		**11 08 41.6**	**-0.3**
CM01	**Chiang Mai Arr**	**42.88**	**253**	*e*P		**P**		**11 08 41.6**	**-0.4**
SVW2	**Sparrevohn**	**42.92**	**39**	*e*P		**P**		**11 08 42.9**	**+0.9**
	comp=Z,276nm,1.4s								
IMP	**Imphal**	**42.92**	**265**	*e*P		**P**		**11 08 41.7**	**-0.8**
TAWA	**Tawang**	**43.10**	**269**	*e*P		**P**		**11 08 44.6**	**+0.4**
MK01	**Makanchi Array**	**43.20**	**300**	*e*P		**P**		**11 08 44.0**	**-0.4**
MK31	**Makanchi Array**	**43.20**	**300**	*i* P		**P**		**11 08 44.0**	**-0.5**
MK31				pmax	pmax				
	comp=Z,199nm,0.6s								
MK31	**Makanchi Array**	**43.20**	**300**	*e*P		**P**		**11 08 44.4**	**-0.1**
MK32	**Makanchi Array**	**43.20**	**300**	*e*P		**P**		**11 08 44.0**	**-0.5**
MK32				*e*S		**S**		**11 15 10.6**	**-0.1**
MKAR	**Makanchi Array**	**43.20**	**300**	P		**P**		**11 08 44.0**	**-0.5**
	comp=Z,189nm,0.7s,baz=84,slow=8.3,SNR=320								
MKAR				S		**S**		**11 15 10.6**	**-0.1**
	comp=Z,11nm,1.1s,baz=95,slow=16,SNR=3.7								
MKAR				LR	LR			11 27 28.3	
	comp=Z,17µm,20.2s,baz=78,slow=37								
MKAR	**Makanchi Array**	**43.20**	**300**	*e*P		**P**		**11 08 44.3**	**-0.1**
MKAR				pmax	pmax				
	comp=Z,2µm,0.8s								
MKAR				MLR	MLR				
	comp=Z,3µm,22.0s								
MKAR	**Makanchi Array**	**43.20**	**300**	*e*P		**P**		**11 08 44.3**	**-0.1**
	comp=Z,2µm,0.8s								
MKAR				LR	LR				
	comp=Z,3µm,22.0s								
MRSI	**Marisa**	**43.33**	**210**	P		**P**		**11 08 45.2**	**-0.5**
	comp=Z,396nm,1.1s,comp=Z,4µm								
MAKZ	**Makanchi**	**43.41**	**300**	*e*P		**P**		**11 08 45.8**	**-0.3**
MAKZ				pmax	pmax				
	comp=Z,256nm,0.8s								
MAKZ				MLR	MLR				
	comp=Z,22nm,18.0s								
MAKZ	**Makanchi**	**43.41**	**300**	*e*P		**P**		**11 08 45.8**	**-0.3**
	comp

KDAK **Kodiak Island** 44.61 44 *e*P P 11 08 55.0 -0.4
comp=Z,262nm,0.8s
KDAK LR LR
comp=Z,7µm,20.0s
SPU **Mount Spurr** 44.63 39 *e*P P 11 08 56.4 +0.7
MSAI **Masohi** 44.69 199 P P 11 08 59.0 +2.4
comp=Z,96nm,1.0s,comp=Z,1µm
APSI **Ampana** 44.72 210 P P 11 08 56.3 -0.5
comp=Z,680nm,1.2s,comp=Z,7µm
KURK **Kurchatov** 44.73 306*c* *i*P P 11 08 55.8 -0.8
KURK pmax pmax
comp=Z,789nm,1.0s
KURK MLR MLR
comp=Z,13µm,17.0s
KURK **Kurchatov** 44.73 306 *e*P P 11 08 56.0 -0.6
comp=Z,619nm,0.8s
KURK *e*S S 11 15 34.7 +2.0
KURK LR LR
comp=Z,14µm,18.0s
KURK **Kurchatov** 44.73 306 P P 11 08 56.4 -0.2
SNR=213
KURK **Kurchatov** 44.73 306 P P 11 08 56.4 -0.2
SNR=213
KURBB **Kurchatov Arra** 44.80 306 P P 11 08 56.6 -0.6
comp=Z,469nm,0.8s,baz=81,slow=8.8,SNR=481
KURBB S S 11 15 31.7 -2.1
comp=Z,2.6nm,0.8s,baz=81,slow=11,SNR=2.7
KURBB PKP2ab 11 41 43.5
comp=Z,0.6nm,1.0s,baz=257,slow=4.9,SNR=4.2
SKT **Skwentna** 44.85 38 *e*P P 11 08 58.0 +0.6
comp=Z,68nm,0.9s
HOM **Homer** 44.93 41 *e*P P 11 08 57.1 -1.0
comp=Z,340nm,1.0s
SAIH **SAIHA** 44.94 262 *e*P P 11 08 58.0 -0.8
NLAI **Namlea** 45.08 202 P P 11 08 59.9 +0.2
comp=Z,272nm,0.9s,comp=Z,4µm
KTH **Kantishna Hill** 45.08 36 *e*P P 11 09 00.3 +1.0
comp=Z,283nm,1.1s
MLY **Manley** 45.14 33 *e*P P 11 09 00.9 +1.1
comp=Z,91nm,0.7s
AAI **Ambon** 45.21 200 P P 11 09 00.9 +0.2
comp=Z,499nm,0.9s,comp=Z,7µm
SUA **Susitna One** 45.25 39 *e*P P 11 09 00.8 +0.1
comp=Z,262nm,0.8s
BRLK **Bradley Lake** 45.30 41 *e*P P 11 09 00.8 -0.3
comp=Z,155nm,1.1s
TURI **Tura** 45.32 268 *e*P P 11 09 02.0 +0.4
DHUB **DHUBRI** 45.34 269 *e*P P 11 09 00.6 -1.1
DHUB IAmb IAmb 11 09 02.6
comp=Z,216nm,1.1s
TRF **Thorofare Moun** 45.37 36 *e*P P 11 09 00.2 -1.5
comp=Z,170nm,1.2s
COLD **Coldfoot** 45.40 30 *e*P P 11 09 02.5 +0.8
comp=Z,200nm,0.9s
SRDT **SRDT** 45.41 248 P P 11 09 01.6 -0.7
comp=Z,157nm,1.3s,comp=Z,5µm
PCI **Palu** 45.43 212 P P 11 09 01.6 -0.9
comp=Z,837nm,1.1s,comp=Z,6µmcomp=Z,8µm
AGT **Agartala** 45.50 265 *e*P P 11 09 04.3 +1.3
TOLK **Toolik Lake Re** 45.69 28 P P 11 09 04.1 +0.1
baz=268
TOLK S S 11 15 46.4 +0.1
baz=268
TOLK **Toolik Lake Re** 45.69 28 *e*P P 11 09 04.7 +0.6
comp=Z,548nm,1.5s
TOLK LR LR
comp=Z,10µm,22.0s
BELO **BELONIA** 45.70 264 *e*P P 11 09 04.3 -0.3
GTK **Tadong** 45.75 271 *e*P P 11 09 05.9 +0.7
RC01 **Rabbit Creek A** 45.76 39 *e*P P 11 09 04.8 +0.1
comp=Z,180nm,0.8s
MCK **McKinley** 45.96 35 *e*P P 11 09 06.5 +0.3
MCK pmax pmax
comp=Z,99nm,0.7s
MCK **McKinley** 45.96 35 *e*P P 11 09 06.5 +0.3
comp=Z,99nm,0.7s
PMR **Palmer** 46.01 38 *e*P P 11 09 06.1 -0.5
PMR pmax pmax
comp=Z,114nm,0.8s
PMR **Palmer** 46.01 38 *e*P P 11 09 06.1 -0.5
comp=Z,114nm,0.8s
RND **Reindeer** 46.01 36 *e*P P 11 09 06.6 -0.1
RND pmax pmax
comp=Z,331nm,1.2s
RND MLR MLR
comp=Z,9µm,22.0s
RND **Reindeer** 46.01 36 *e*P P 11 09 06.6 -0.1
comp=Z,331nm,1.2s
RND LR LR
comp=Z,9µm,22.0s
PHET **Kaeng Krachan** 46.02 246 P P 11 09 07.6 +0.4
comp=Z,144nm,0.9s,comp=Z,896nm
SGKI **Sangatta, Kali** 46.05 215 P P 11 09 02.1 -5.3
PDGK **Podgornoye** 46.06 296 *i*P P 11 09 06.6 -0.8
PDGK pmax pmax
comp=Z,264nm,1.0s
GHO **Glory Hole Cre** 46.09 38 *e*P P 11 09 07.0 -0.4
comp=Z,357nm,0.8s
SBUM **Sibu** 46.11 224 *e*P P 11 09 07.8 -0.2
comp=Z,126nm,1.1s
SMKI **Samarinda** 46.16 216 P P 11 09 09.9 +1.7
comp=Z,236nm,1.1s,comp=Z,10µm
MDM **Murphy Dome** 46.21 34 *e*P P 11 09 08.9 +0.7
comp=Z,246nm,1.0s
TDK **Taldyqorghan** 46.29 298 *e*P P 11 09 09.0 -0.1
comp=Z,9µm,1.1s
TDK *i*S S 11 15 57.0 +1.5
TDK LR LR 11 28 19.6
comp=Z,20µm,15.2s
WRH **Wood River Hil** 46.29 34 *e*P P 11 09 09.4 +0.7
comp=Z,141nm,0.8s
SML **Sawmill** 46.37 38 PFAKE 11 09 20.0 +11
SML LR LR
comp=Z,5µm,18.0s
COLA **College** 46.38 34 *e*P P 11 09 10.3 +0.9
COLA pmax pmax
comp=Z,410nm,0.9s
COLA **College** 46.38 34 *e*P P 11 09 10.3 +0.9
comp=Z,410nm,0.9s
CCB **Clear Creek Bu** 46.41 34 *e*P P 11 09 09.8 +0.2
comp=Z,75nm,0.8s
TAPN **Taplejung** 46.42 272 *e*P P 11 09 10.9 +0.2
comp=Z,862nm,1.0s
UZB **Uzynbulak** 46.44 296⇑ *i*P P 11 09 09.8 -0.7
comp=Z,1µm,1.0s
UZB *i*S S 11 15 58.7 +0.8
KPKS **Kokpek** 46.57 296 *e*P P 11 09 11.8 +0.4
KPKS *i*S S 11 16 02.0 +2.4
KPKS LR LR 11 28 55.9
comp=Z,4µm,13.7s
DHY **Denali Highway** 46.70 36 *e*P P 11 09 12.6 +0.4
comp=Z,164nm,1.0s
HDA **Harding Lake** 46.79 34 *e*P P 11 09 12.6 -0.1
comp=Z,150nm,1.0s
IL1 **Eielson Array** 46.79 34 *e*P P 11 09 12.8 +0.1
ILAR **Eielson Array** 46.79 34 P P 11 09 12.6 -0.1
comp=Z,37nm,0.7s,baz=265,slow=5.7,SNR=190
ILAR S S 11 16 04.8 +2.7
comp=Z,1.0nm,1.0s,baz=245,slow=7.1,SNR=2.3
ILAR LR LR 11 30 41.4
comp=Z,3µm,19.4s,baz=285,slow=38
ILAR PKPPKP P'P'df 11 40 30.4 -12
comp=Z,2.6nm,1.3s,baz=0.3,slow=4.0,SNR=5.2
ILAR P4KPbc 11 46 59.7
comp=Z,0.2nm,0.8s,baz=262,slow=4.5,SNR=3.2
ILB **Eielson Array** 46.79 34 *e*P P 11 09 12.7 0.0
ILB *e*S S 11 16 04.8 +2.7
SCM **Sheep Creek Mo** 46.84 38 *e*P P 11 09 13.5 +0.3
SCM pmax pmax
comp=Z,188nm,0.8s
SCM **Sheep Creek Mo** 46.84 38 *e*P P 11 09 13.5 +0.3
comp=Z,188nm,0.8s
SATY **Saty** 46.89 296⇑ *i*P P 11 09 13.9 -0.1
comp=Z,2µm,1.1s
SATY *i*S S 11 16 05.8 +1.4
SATY LR LR 11 29 09.4
comp=Z,11µm,14.7s
ODAN **Odare** 46.91 271 *e*P P 11 09 14.7 +0.3
comp=Z,1µm,1.3s
BKB **Balikpapan** 47.02 216 P P 11 09 15.2 +0.2
comp=Z,1µm,1.0s,comp=Z,10µmcomp=Z,15µm
GLI **Glacier Island** 47.06 39 *e*P P 11 09 15.0 +0.2
comp=Z,215nm,1.1s
PRZ **Przheval'sk** 47.09 295 P P 11 09 17.2 +1.6
KDI **Kendari** 47.17 207 P P 11 09 16.3 +0.1
FYU **Fort Yukon** 47.37 31 *e*P P 11 09 18.8 +1.7
comp=Z,959nm,1.4s

TTSI **Tana Toraja** 47.38 211 P P 11 09 16.7 -1.1
comp=Z,151nm,0.9s,comp=Z,3µm
TARA **Tarawa** 47.42 136 *e*P P 11 09 19.6 +1.4
comp=Z,939nm,1.4s
TARA LR LR
comp=Z,9µm,20.0s
JIRN **Jiri** 47.44 273 *e*P P 11 09 19.3 +0.6
comp=Z,686nm,0.6s
RAMN **Ramite** 47.48 272 *e*P P 11 09 19.3 +0.5
comp=Z,1µm,1.0s
GUN **Gumba** 47.55 274 *e*P P 11 09 19.5 0.0
comp=Z,720nm,0.6s
KLU **Klutina** 47.55 38 *e*P P 11 09 19.4 +0.7
comp=Z,406nm,1.3s
PAX **Paxson** 47.58 36 *e*P P
PAX pmax pmax
comp=Z,90nm,0.9s
PAX **Paxson** 47.58 36 *e*P P 11 09 20.4 +1.4
comp=Z,90nm,0.9s
JOHN **Johnston Islan** 47.65 105 PFAKE
JOHN LR LR 11 09 30.0 +10
comp=Z,7µm,20.0s
MTKI **Muara Teweh, K** 47.66 218 P P 11 09 19.7 -0.4
comp=Z,751nm,1.2s
DIV **Divide** 47.67 39 *e*P P 11 09 20.7 +1.0
comp=Z,745nm,1.5s
DIV LR LR
comp=Z,8µm,19.0s
EYAK **Cordova Ski Ar** 47.76 39 *e*P P 11 09 21.5 +1.2
comp=Z,216nm,0.9s
RIDG **Independ'e Rid** 47.77 35 *e*P P 11 09 20.1 -0.3
comp=Z,291nm,1.2s
HARP **HAARP** 47.79 37 *e*P P 11 09 21.9 +1.4
comp=Z,1µm,1.8s
MDOK **Medeo** 47.80 296 *i*P P 11 09 21.2 +0.1
comp=Z,2µm,1.2s
MDOK *i*S S 11 16 18.9 +1.5
MDOK LR LR 11 29 22.9
comp=Z,10µm,17.6s
AAA **Alma-Ata** 47.88 296 *e*P P 11 09 21.5 0.0
AAA *e*S S 11 16 16.6 -1.6
AAA pmax pmax
comp=Z,2µm,4.9s
AAA smax smax
comp=E,3µm,10.3s
AAA **Alma-Ata** 47.88 296⇑ *i*P P 11 09 22.5 +0.9
comp=E,794nm,1.1s
AAA *i*S S 11 16 20.3 +2.1
AAA *i*S S 11 16 20.3 +2.1
AAA LR LR 11 29 14.7
comp=E,4µm,17.6s
KSM **Kuching** 47.96 225 *e*P P 11 09 22.9 +0.5
comp=E,193nm,0.9s
KUU **Kurty** 48.04 297 *i*P P 11 09 21.9 -0.9
comp=E,2µm,1.1s
KUU *i*S S 11 16 21.4 +0.8
KUU LR LR 11 28 48.3
comp=E,4µm,15.2s
KDJ **Kajisay** 48.06 295 P P 11 09 22.7 -0.4
KDJ **Kajisay** 48.06 295 *e*P P 11 09 22.6 -0.4
comp=E,111nm,0.8s
KDJ LR LR
comp=Z,21µm,18.0s
KKN **Kakani** 48.07 274 *e*P P 11 09 23.6 +0.2
comp=Z,780nm,0.7s
PKI **Pulchoki** 48.08 273 *e*P P 11 09 23.4 -0.2
comp=Z,380nm,0.9s
PKIN **Phulchoki** 48.09 273 *e*P P 11 09 23.3 -0.3
comp=Z,437nm,1.0s
SCRK **Sand Creek** 48.12 35 *e*P P 11 09 23.1 -0.1
comp=Z,197nm,0.8s
DOT **Dot Lake** 48.13 35 *e*P P 11 09 23.0 -0.2
comp=Z,209nm,0.6s
BMRM **Bremner River** 48.26 39 *e*P P 11 09 24.8 +0.6
comp=Z,328nm,1.0s
DMN **Daman** 48.29 274 *e*P P 11 09 25.7 +0.5
comp=Z,342nm,0.8s
RAGM **Ragged Mountai** 48.31 40 *e*P P 11 09 23.6 -1.1
comp=Z,186nm,0.7s
MENT **Mentasta** 48.38 36 *e*P P 11 09 26.3 +1.2
comp=Z,364nm,1.3s
GKN **Gorkha** 48.46 274 *e*P P 11 09 26.3 0.0
comp=Z,855nm,0.9s
BNSI **Bone** 48.51 210 P P 11 09 26.8 +0.3
STKI **Sintang** 48.52 223 P P 11 09 27.2 +0.6
BRZS **Berezniki** 48.60 306 *i*P P 11 09 27.2 +0.2
comp=Z,223nm,1.2s
BRZS *i*S S 11 16 29.9 +1.7
BRZS LR LR 11 29 28.1
comp=Z,239nm,14.1s
BBSI **Bau Bau** 48.62 206 P P 11 09 28.1 +0.7
SAUI **Saumlaki** 48.66 194 P P 11 09 27.9 +0.2
SAUI **Saumlaki** 48.66 194 *e*P P 11 09 28.6 +1.0
comp=Z,3µm,1.9s
ULHL **Ulahol** 48.67 295 P P 11 09 28.5 +0.6
SNR=28
BMNS **Besmoynak** 48.77 297⇑ *i*P P 11 09 28.5 0.0
comp=Z,4µm,1.1s
BMNS *i*S S 11 16 32.5 +1.5
BMNS LR LR 11 29 42.8
comp=Z,4µm,13.5s
TKM2 **Tokmak 2** 48.88 296 P P 11 09 29.8 +0.3
SNR=526
DANN **Dangsing** 48.96 275 *e*P P 11 09 30.7 +0.3
NRN **Naryn** 49.13 295 *e*P P 11 09 32.0 +0.4
NRN pmax pmax
comp=Z,126nm,1.0s
NRN MLR MLR
comp=Z,15µm,21.0s
NRN **Naryn** 49.13 295 *e*P P 11 09 32.0 +0.4
comp=Z,126nm,1.0s
NRN LR LR
comp=Z,15µm,21.0s
KBKI **Kotabaru** 49.16 215 P P 11 09 30.6 -0.9
BVAR **Borovoye Array** 49.17 311 P P 11 09 30.9 -0.4
comp=Z,53nm,0.6s,baz=76,slow=7.8,SNR=100
BVAR S S 11 16 36.6 +0.5
comp=Z,3.9nm,0.9s,baz=0.0,slow=1.5,SNR=2.8
BVAR LR LR 11 30 12.5
comp=Z,8µm,21.9s,baz=73,slow=36
BVAR P4KPbc 11 47 08.6
comp=Z,1.0nm,0.7s,baz=103,slow=6.7,SNR=7.4
KAPI **Kappang** 49.21 210 PFAKE
KAPI LR LR 11 09 40.0 +8.1
comp=Z,900nm,18.0s
KAPI **Kappang** 49.21 210 P P 11 09 31.9 0.0
SNR=74
KAPI **Kappang** 49.21 210 P P 11 09 31.9 0.0
SNR=74
BTLS **Baital** 49.22 300 *e*P P 11 09 30.8 -1.0
comp=Z,7µm,14.1s
BTLS LR LR 11 30 51.3
comp=Z,7µm,14.1s
BRVK **Borovoye** 49.22 311*d* *i*P P 11 09 32.5 +0.8
BRVK pmax pmax
comp=Z,124nm,1.1s
BRVK MLR MLR
comp=Z,23µm,16.0s
BRVK **Borovoye** 49.22 311 *e*P P 11 09 31.8 +0.1
comp=Z,92nm,0.7s
BRVK LR LR
comp=Z,15µm,18.0s
BRVK **Borovoye** 49.22 311 P P 11 09 32.6 +0.9
SNR=34
BRVK **Borovoye** 49.22 311 P P 11 09 32.6 +0.9
SNR=34
PMG **Port Moresby** 49.23 174 LR LR 11 27 09.0
comp=Z,3µm,22.0s,baz=2.0,slow=32
PMG **Port Moresby** 49.23 174*c* *i*P P 11 09 32.7 +0.7
PMG pmax pmax
comp=Z,840nm,2.5s
PMG MLR MLR
comp=Z,6µm,17.0s
PMG **Port Moresby** 49.23 174 *e*P P 11 09 31.6 -0.4
comp=Z,126nm,0.9s
PMG LR LR
comp=Z,5µm,19.0s
EGAK **Eagle** 49.23 33 *e*P P 11 09 31.1 -0.5
comp=Z,182nm,0.8s
SURT **Suratani** 49.37 243 P P 11 09 32.8 -0.4
comp=Z,71nm,1.2s,comp=Z,921nm
KOLN **Koldanda** 49.37 275 *e*P P 11 09 33.5 +0.1
comp=Z,610nm,1.0s
KZA **Kyzart** 49.42 296 P P 11 09 34.6 +0.8
SNR=140
KBK **Karagaybulak** 49.42 296 P P 11 09 33.7 +0.1
SNR=209

SKLT **Songkhla** 49.42 240 P P 11 09 33.5 -0.1
comp=Z,181nm,1.8s,comp=Z,2µm
CHMS **Chumysh** 49.44 297 P P 11 09 34.2 +0.7
SNR=34
USP **Ospenovka** 49.51 297 P P 11 09 34.9 +0.8
SNR=39
TRTT **Trang** 49.56 242 P P 11 09 34.1 -0.6
comp=Z,67nm,1.0s,comp=Z,749nm
FRU **Bishkek** 49.59 297‖ *e*P P 11 09 36.0 +1.3
FRU *i* 11 09 42.0
FRU *e* 11 11 35.0
FRU *e*S S 11 16 46.0 +3.7
FRU *e* 11 19 23.0
FRU pmax pmax
comp=Z,520nm,1.8s
FRU1 **Bishkek** 49.59 297 P P 11 09 35.7 +1.0
FRU1 pmax pmax
comp=Z,207nm,0.9s
PYUN **Piuthan** 49.67 275 *e*P P 11 09 35.8 +0.1
comp=Z,2µm,1.2s
BOK **Bokaro** 49.67 269 *e*P P 11 09 35.9 +0.4
BOK IAmb IAmb 11 09 37.4
comp=Z,94nm,0.8s
BOK IAMs_20 IAMs_20 11 32 33.3
comp=Z,8µm,8.7s
AAK **Ala-Archa** 49.74 297 P P 11 09 35.6 -0.4
comp=Z,83nm,0.7s,baz=93,slow=4.9,SNR=126
AAK LR LR 11 31 33.6
comp=Z,12µm,18.9s,baz=70,slow=37
AAK **Ala-Archa** 49.74 297*c* *i*P P 11 09 35.5 -0.5
AAK pmax pmax
comp=Z,247nm,1.7s
AAK MLR MLR
comp=Z,13µm,19.0s
AAK **Ala-Archa** 49.74 297 P P 11 09 36.0 0.0
SNR=9.2
AAK **Ala-Archa** 49.74 297 *e*P P 11 09 35.6 -0.4
AAK LR LR
comp=Z,12µm,19.0s
AAK **Ala-Archa** 49.74 297 P P 11 09 35.9 -0.1
SNR=113
AAK **Ala-Archa** 49.74 297 P P 11 09 35.9 -0.1
SNR=113
AAK **Ala-Archa** 49.74 297 *i*P P 11 09 35.5 -0.5
SNR=111
KSH **Kashi** 49.87 292 P P 11 09 40.5 +3.5
KSH pP sP 11 09 44.5 +1.2
KSH PcP **PcP** 11 11 00.0 +2.6
KSH S S 11 16 50.5 +4.0
KSH sS sS 11 16 57.8 +3.8
KSH SS SS 11 20 19.3 +0.4
KSH pmax pmax
comp=Z,240nm,1.6s
KSH pmax pmax
comp=Z,3µm,6.6s
KSH LR LR
comp=Z,10µm,14.0s
KSH LR LR
comp=Z,6µm,12.7s
KSH LR LR
comp=Z,18µm,16.6s
UCH **Uchtor** 49.88 296 P P 11 09 38.5 +1.1
SNR=72
BSSI **Bau Bau, Buton** 49.97 209 P P 11 09 36.1 -1.6
DAWY **Dawson** 50.11 34 *e*P P 11 09 38.7 +0.3
comp=Z,32nm,0.6s
EKS2 **Erkin-Say** 50.23 297 P P 11 09 39.4 -0.3
SNR=113
AML **Almayashu** 50.48 296 P P 11 09 42.1 +0.2
SNR=282
DGPR **DIGLIPUR** 50.67 253 *e*P P 11 09 43.7 +0.6
PBKI **Pangkalan Bun** 50.77 221 P P 11 09 43.1 -0.7
KULM **Kulim** 50.80 238 *e*P P 11 09 43.2 -0.9
comp=Z,133nm,0.8s
KULM LR LR
comp=Z,8µm,18.0s
IPM **Ipoh** 51.16 237 *e*P P 11 09 46.5 -0.4
comp=Z,121nm,0.9s
IPM LR LR
comp=Z,7µm,18.0s
MNAS **Manas** 51.16 297 *i*P P 11 09 46.7 0.0
MNAS pmax pmax
comp=Z,371nm,0.7s
SFK **Sufi-Kurgan** 51.42 294 *i*P P 11 09 48.4 -0.4
SFK pmax pmax
comp=Z,278nm,0.9s
MYKOM **Kota Tinggi** 51.45 232 *e*P P 11 09 49.4 +0.4
comp=Z,81nm,0.8s
INK **Inuvik** 51.60 28 P P 11 09 49.7 +0.3
comp=Z,133nm,0.9s,baz=291,slow=6.2,SNR=123
INK S S 11 17 11.2 +1.8
comp=Z,5.5nm,0.9s,baz=18,slow=30,SNR=4.8
INK LR LR 11 33 18.7
comp=Z,8µm,22.0s,baz=282,slow=38
INK **Inuvik** 51.60 28 *e*P P 11 09 49.8 +0.4
comp=Z,256nm,0.7s
INK *e*S S 11 17 11.2 +1.8
INK LR LR
comp=Z,9µm,20.0s
HYT **Haines Junctio** 51.68 38 *e*P P 11 09 51.4 +1.1
HNR **Honiara** 51.72 157 LR LR 11 30 05.5
comp=Z,10µm,21.7s,baz=328,slow=34
HNR **Honiara** 51.72 157 *e*P P 11 09 56.0 +5.1
HNR **Honiara** 51.72 157 *e*P P 11 09 53.6 +2.7
HNR pmax pmax
comp=Z,427nm,1.0s
HNR MLR MLR
comp=Z,10µm,21.0s
HNR **Honiara** 51.72 157 *e*P P 11 09 53.6 +2.7
comp=Z,427nm,1.0s
HNR LR LR
comp=Z,10µm,21.0s
TPRI **Tanjung Pinang** 51.73 231 P P 11 09 51.4 +0.3
PBA **Port Blair** 51.81 251 *e*P P 11 09 54.3 +2.7
DZA **Taraz** 51.81 298 *i*P P 11 09 51.5 +0.1
comp=Z,3µm,1.1s
DZA LR LR 11 32 10.4
comp=Z,3µm,11.7s
EDFI **Ende, Flores** 51.96 206 P P 11 09 58.8 +6.0
SOEI **Soe** 52.09 203 P P 11 09 52.2 -1.6
SOEI **Soe** 52.09 203 *e*P P 11 09 52.5 -1.2
comp=Z,689nm,0.9s
SOEI *e*S S 11 17 19.9 +2.5
KK05 **Karatay Array** 52.27 298 *e*P P 11 09 54.2 -0.7
KK06 **Karatay Array** 52.28 298 *e*P P 11 09 54.2 -0.7
KK02 **Karatay Array** 52.29 298 *e*P P 11 09 54.1 -0.8
KK31 **Karatay Array** 52.29 298 *i*P P 11 09 54.2 -0.8
KK31 pmax pmax
comp=Z,140nm,0.7s
KK31 **Karatay Array** 52.29 298 *e*P P 11 09 53.2 -1.7
KKAR **Karatay Array** 52.29 298 *e*P P 11 09 53.3 -1.7
KKAR **Karatay Array** 52.29 298 *e*P P 11 09 53.2 -1.7
KK04 **Karatay Array** 52.29 298 *e*P P 11 09 54.1 -0.8
KK09 **Karatay Array** 52.29 299 *e*P P 11 09 53.1 -1.8
KK01 **Karatay Array** 52.29 298 *e*P P 11 09 54.3 -0.7
KK03 **Karatay Array** 52.29 298 *e*P P 11 09 54.3 -0.7
KK07 **Karatay Array** 52.30 298 *e*P P 11 09 54.4 -0.7
KK08 **Karatay Array** 52.30 298 *e*P P 11 09 54.4 -0.7
DDI **Dehra Dun** 52.35 281 *e*P P 11 09 56.7 +1.1
DDI IAmb IAmb 11 09 58.4
comp=Z,116nm,0.9s
SMLA **Simla** 52.63 282 *e*P P 11 09 57.3 -0.3
SMLA IAmb IAmb 11 09 58.7
comp=Z,494nm,0.9s
SMLA IAMs_20 IAMs_20 11 34 08.6
comp=Z,8µm,14.2s
BATI **Baumata** 52.70 203 P P 11 09 56.2 -2.0
comp=Z,273nm,0.8s,baz=201,slow=1.1,SNR=42
BATI S S 11 17 21.6 -3.9
comp=Z,6.8nm,0.5s,baz=313,slow=17,SNR=2.3
BATI LR LR 11 31 39.8
comp=Z,3µm,21.1s,baz=39,slow=35
BATI **Baumata** 52.70 203 P P 11 09 56.6 -1.6
DHRM **DHARAMSHALA** 52.75 284 *e*P P 11 09 57.6 -1.2
DHRM IAmb IAmb 11 10 02.4
comp=Z,217nm,0.8s
DHRM IAMs_20 IAMs_20 11 37 33.8
comp=Z,8µm,13.7s
BRLS **Boroldoy** 52.77 299 *i*P P 11 09 59.3 +0.7
comp=Z,1µm,1.1s
BRLS *i*S S 11 17 29.5 +3.2
WHY **Whitehorse** 52.96 38 *e*P P 11 10 01.2 +1.4
comp=Z,156nm,0.9s
WHY LR LR
comp=Z,6µm,22.0s
IUG **Iuzhnay** 52.99 298⇑ *i*P P 11 10 00.2 -0.1

IUG LR LR 11 32 56.1
comp=Z,5µm,14.7s
SKAG Skagway 53.10 39 *e*P **P** **11 10 01.7 +1.0**
comp=Z,75nm,1.0s
CHM Chimkent 53.21 298⇑ *i*P **P** **11 10 02.4 +0.6**
comp=Z,2µm,1.1s
CHM *e*S **S** **11 17 34.4 +2.1**
CHM LR LR 11 32 56.7
comp=Z,7µm,15.8s
PPBI Pangkal Pinang 53.28 227 P P 11 09 56.6 -5.9
WSI Waingapu 53.30 207 P P 11 10 09.4 +6.8
LHMI Lhok Sumawe 53.31 242 P **P** **11 10 03.4 +0.6**
LHMI Lhok Sumawe 53.31 242 *e*P **P** **11 10 04.2 +1.4**
comp=Z,229nm,0.9s
MTN Manton Dam 53.43 193 *e*P **P** **11 10 02.2 -1.3**
comp=Z,245nm,0.8s
MTN LR LR
comp=Z,6µm,22.0s
PLAI Plampang 53.46 211 P **P** **11 10 01.1 -2.7**
KMMI Kalianget 53.47 216 P **P** **11 10 03.1 -0.7**
SVE Sverdlovsk 53.47 317 *d i*P **P** **11 10 04.3 +0.9**
SVE *e* 11 12 08.6
SVE *e*S **S** **11 17 37.0 +1.7**
SVE *e* 11 19 55.6
SVE pmax pmax
comp=Z,445nm,0.8s
SVE MLR MLR
comp=E,33µm,15.0s
SVE MLR MLR
comp=Z,47µm,15.0s
SVE MLR MLR
comp=N,12µm,13.0s
COEN Coen 53.54 179 *e*P **P** **11 10 03.5 -0.8**
comp=N,191nm,0.8s
COEN LR LR
comp=Z,4µm,20.0s
WBSI Waikabubak, Su 53.60 208 P **P** **11 10 01.1 -3.7**
BESE Bessie Mountai 53.61 40 *e*P **P** **11 10 06.1 +1.6**
comp=Z,308nm,1.6s
BESE LR LR
comp=Z,4µm,20.0s
BASI Baing, Sumba 53.71 207 P **P** **11 10 01.5 -4.1**
PSI Prapat 53.79 238 *e*P **P** **11 10 06.2 -0.3**
PSI pmax pmax
comp=Z,116nm,0.9s
PSI MLR MLR
comp=Z,4µm,18.0s
PSI Prapat 53.79 238 *e*P **P** **11 10 06.2 -0.3**
comp=Z,116nm,0.9s
PSI LR LR
comp=Z,4µm,18.0s
SRBI Singaraja 53.84 214 P **P** **11 10 05.7 -0.9**
SIT Sitka 53.86 42 *e*P **P** **11 10 08.5 +2.3**
SIT pmax pmax
comp=Z,118nm,0.9s
SIT MLR MLR
comp=Z,3µm,19.0s
SIT Sitka 53.86 42 *e*P **P** **11 10 08.5 +2.3**
comp=Z,118nm,0.9s
SIT LR LR
comp=Z,3µm,19.0s
ABJI Asem Bagus 54.01 215 P **P** **11 10 07.0 -0.8**
GRJI Gresik 54.03 217 P **P** **11 10 07.5 -0.5**
TBJI Tambak Boyo 54.24 218 P **P** **11 10 08.8 -0.7**
BLJI Banyuglugur 54.25 216 P **P** **11 10 10.0 +0.4**
BKNI Bangkinang 54.33 234 P **P** **11 10 10.3 +0.1**
BKNI Bangkinang 54.33 234 *e*P **P** **11 10 10.8 +0.6**
comp=Z,546nm,1.0s
BKNI LR LR
comp=Z,9µm,18.0s
DNP Denpasar 54.38 214 P **P** **11 10 09.6 -0.9**
MLSI Meulaboh, Aceh 54.38 242 P **P** **11 10 09.5 -1.1**
SOKR Solikamsk 54.49 321 *d i*P **P** **11 10 09.5 -1.2**
SOKR 11 12 13.4
SOKR S **S** **11 17 50.0 +1.1**
SOKR SS **SS** **11 21 26.9 -3.8**
SOKR pmax pmax
comp=Z,460nm,1.9s
SOKR MLR MLR
comp=Z,13µm,15.0s
IGBI Denpasar 54.53 214 P **P** **11 10 11.0 -0.6**
TPTI 54.60 240 P **P** **11 10 09.6 -2.6**
JAGI Jajag, Banyuwa 54.65 215 P **P** **11 10 12.2 -0.3**
JAGI Jajag, Banyuwa 54.65 215 *e*P **P** **11 10 09.5 -3.0**
comp=Z,121nm,0.9s
ARU Arti 54.68 317 P **P** **11 10 12.4 +0.1**
comp=Z,244nm,0.8s,baz=76,slow=3.7,SNR=156
ARU S **S** **11 17 51.5 -0.2**
comp=Z,1.7nm,0.3s,baz=140,slow=20,SNR=3.8
ARU LR LR 11 36 08.1
comp=Z,35µm,18.0s,baz=58,slow=39
ARU PKPPKP **P'P'df** **11 40 24.1 -6.3**
comp=Z,0.9nm,0.4s,baz=192,slow=1.9,SNR=3.7
ARU Arti 54.68 317 *c*P **P** **11 10 12.0 -0.3**
ARU 11 12 13.5
ARU S **S** **11 17 58.7 +7.0**
ARU S **SKiKP** **11 21 26.9 +6.8**
ARU pmax pmax
comp=Z,614nm,1.2s
ARU MLR MLR
comp=Z,38µm,16.0s
ARU Arti 54.68 317 *e*P **P** **11 10 12.0 -0.3**
comp=Z,384nm,0.9s
ARU *e*S **S** **11 17 51.5 -0.2**
ARU LR LR
comp=Z,35µm,18.0s
PMBI Palembang 54.68 228 P **P** **11 10 16.9 +4.1**
GMJI Gumukmas 54.79 216 P **P** **11 10 11.7 -1.8**
MNSI Mandailing Nat 54.89 236 P **P** **11 10 13.4 -0.9**
SDSI Sungai Dareh 55.07 233 P **P** **11 10 16.3 +0.7**
VIS Vishakhapatnam 55.09 264 *e*P **P** **11 10 14.8 -0.9**
VIS IAmb IAmb 11 10 19.1
comp=Z,140nm,1.0s
VIS *i* x x 11 18 05.0
SMRI Semarang 55.13 220 P **P** **11 10 15.8 -0.2**
SMRI Semarang 55.13 220 *e*P **P** **11 10 15.7 -0.2**
comp=Z,427nm,1.0s
CRAG Craig 55.57 43 *e*P **P** **11 10 21.8 +3.1**
comp=Z,155nm,1.2s
CRAG LR LR
comp=Z,4µm,21.0s
WRAK Wrangell Islan 55.62 42 PFAKE 11 10 30.0 +11
WRAK LR LR
comp=Z,4µm,18.0s
PDSI Padang 55.65 234 P **P** **11 10 19.9 +0.1**
PCJI Pacitan 55.77 218 P **P** **11 10 20.3 -0.2**
GSI Gunungsitoli 55.80 238 P **P** **11 10 20.2 -0.7**
GSI Gunungsitoli 55.80 238 *e*P **P** **11 10 19.9 -1.0**
comp=Z,624nm,1.1s
GSI *e*S **S** **11 18 09.8 +2.3**
GSI LR LR
comp=Z,9µm,19.0s
UGM Wanagama 55.83 219 P **P** **11 10 19.2 -1.9**
UGM Wanagama 55.83 219 *e*P **P** **11 10 18.7 -2.4**
comp=Z,858nm,1.2s
DLBC Dease Lake 56.04 39 PFAKE 11 10 40.0 +18
DLBC LR LR
comp=Z,3µm,19.0s
KPJI Karang Pucung 56.12 221 P **P** **11 10 21.6 -1.5**
KLI Kotabumi 56.22 227 P **P** **11 10 22.8 -1.0**
MDSI Maura Dua 56.29 228 P **P** **11 10 23.4 -0.9**
MASI Maura Aman, Be 56.33 230 P **P** **11 10 24.2 -0.5**
LEM Lembang 56.36 223 P **P** **11 10 23.7 -1.3**
comp=Z,424nm,1.0s,baz=68,slow=9.4,SNR=46
LEM LR LR 11 34 09.4
comp=Z,2µm,21.7s,baz=2.0,slow=36
NGP Nagpur 56.40 270 *e*P **P** **11 10 24.5 -0.6**
NGP IAmb IAmb 11 10 25.6
comp=Z,233nm,1.0s
NGP *e*x x 11 33 36.0
comp=Z,6µm,18.7s
BLSI Bandar Lampung 56.42 226 P **P** **11 10 26.3 +1.0**
BHPL Bhopal 56.48 274 *e*P **P** **11 10 24.3 -1.5**
BHPL IAmb IAmb 11 10 25.8
comp=Z,117nm,0.9s
POHA Pohakuloa 56.50 91 *e*P **P** **11 10 30.0 +3.8**
comp=Z,191nm,1.0s
SBJI Serang 56.56 225 P **P** **11 10 29.0 +2.8**
AB06 Akbulak array 56.60 309 *e*P **P** **11 10 25.5 -0.7**
AB05 Akbulak array 56.62 309 *e*P **P** **11 10 25.6 -0.6**
AB07 Akbulak array 56.62 309 *e*P **P** **11 10 25.7 -0.6**
AB02 Akbulak array 56.62 309 *e*P **P** **11 10 25.6 -0.8**
AB01 Akbulak array 56.62 309 *e*P **P** **11 10 25.7 -0.7**
AB31 Akbulak array 56.62 309 *i*P **P** **11 10 25.5 -0.8**
AB31 pmax pmax
comp=Z,148nm,0.6s
AB31 Akbulak array 56.62 309 *e*P **P** **11 10 25.8 -0.5**
ABKAR Akbulak array 56.62 309 *e*P **P** **11 10 25.8 -0.5**
comp=Z,2µm,0.6s
ABKAR LR LR
comp=Z,4µm,18.0s
AB03 Akbulak array 56.62 309 *e*P **P** **11 10 25.6 -0.8**
AB04 Akbulak array 56.63 309 *e*P **P** **11 10 25.7 -0.6**
AB09 Akbulak array 56.64 309 *e*P **P** **11 10 25.8 -0.6**
AB08 Akbulak array 56.64 309 *e*P **P** **11 10 25.8 -0.7**
PVM Polavaram 56.67 265 *e*P **P** **11 10 26.6 -0.4**
PVM IAmb IAmb 11 10 31.9
comp=Z,88nm,0.9s
PVM *e*S **S** **11 18 18.5 -0.7**
PVM IVMs_BB IVMs_BB 11 37 19.1
comp=Z,2µm,16.2s
KHU Kahuku 56.73 92 *e*P **P** **11 10 31.8 +4.0**
KHU Kahuku 56.73 92 *e*P **P** **11 10 31.8 +4.0**
CMJI Cimerak 56.75 221 P **P** **11 10 23.8 -3.8**
DIB Dawson Inlet, 56.79 46 *e*P **P** **11 10 28.7 +1.3**
comp=Z,172nm,1.0s
DIB LR LR
comp=Z,3µm,20.0s
H02S1 DAWSON INLET T 56.79 46 P **P** **11 10 28.5 +1.0**
LWLI Liwa 56.80 227 P **P** **11 10 26.4 -1.7**
SISI Saibi 56.83 235 P **P** **11 10 26.7 -1.5**
CISI Cisompet, Garu 56.88 222 P **P** **11 10 26.4 -2.2**
CISI Cisompet, Garu 56.88 222 *e*P **P** **11 10 25.9 -2.7**
comp=Z,107nm,0.9s
MNAI Manna 56.89 229 PFAKE 11 10 40.0 +11
MNAI LR LR
comp=Z,3µm,22.0s
KASI Kota Agung 56.96 227 P **P** **11 10 26.5 -2.6**
KBL Kabul 57.02 290 *e*P **P** **11 10 29.1 -0.6**
KBL pmax pmax
comp=Z,276nm,0.8s
KBL MLR MLR
comp=Z,10µm,18.0s
KBL Kabul 57.02 290 *e*P **P** **11 10 29.1 -0.6**
comp=Z,276nm,0.8s
KBL LR LR
comp=Z,10µm,18.0s
CGJI Cibinong 57.21 225 P **P** **11 10 27.0 -3.8**
AKTO Aktyubinsk 57.28 311 P **P** **11 10 30.9 0.0**
comp=Z,107nm,0.6s,baz=76,slow=8.1,SNR=92
AKTO S **S** **11 18 26.0 -0.4**
comp=Z,4.0nm,0.9s,baz=325,slow=20,SNR=5.6
AKTO LR LR 11 36 20.6
comp=Z,12µm,18.9s,baz=57,slow=37
AKTO PKPPKP **P'P'df** **11 40 19.2 -6.9**
comp=Z,0.9nm,0.8s,baz=211,slow=7.4,SNR=3.1
AKTO P4KPbc 11 47 43.1
comp=Z,1.3nm,0.7s,baz=55,slow=12,SNR=3.1
AKTO Aktyubinsk 57.28 311 P **P** **11 10 31.0 0.0**
AKTO S **S** **11 18 26.0 -0.4**
AKTO pmax pmax
comp=Z,107nm,0.6s
AKTO smax smax
comp=N,4.0nm,0.9s
AKTO MLR MLR
comp=Z,12µm,18.9s
PPSI Pulau Pagai 57.38 233 P **P** **11 10 32.0 -0.1**
HOPEN Hopen 57.46 346 *e*P **P** **11 10 33.0 +1.2**
RPR Rampur 57.52 268 *e*P **P** **11 10 32.4 -0.7**
RPR IAmb IAmb 11 10 34.2
comp=Z,246nm,1.0s
RPR *e*S **S** **11 18 30.9 +0.6**
RPR IVMs_BB IVMs_BB 11 41 17.9
comp=Z,2µm,13.8s
SPA0 Spitsbergen Ar 57.88 349 *e*P **P** **11 10 34.9 0.0**
SPITS Spitsbergen Ar 57.88 349 P **P** **11 10 34.9 0.0**
comp=Z,424nm,0.4s,baz=50,slow=7.8,SNR=25
SPITS LR LR 11 38 56.4
comp=Z,6µm,18.9s,baz=30,slow=40
SPITS Spitsbergen Ar 57.88 349 P **P** **11 10 34.9 0.0**
SPITS pmax pmax
comp=Z,12nm,0.5s
SPITS MLR MLR
comp=Z,6µm,18.9s
KBS Kingsbay 57.99 350 *e*P **P** **11 10 37.9 +2.4**
KBS pmax pmax
comp=Z,234nm,1.0s
KBS MLR MLR
comp=Z,6µm,19.0s
KBS Kingsbay 57.99 350 *e*P **P** **11 10 37.9 +2.4**
comp=Z,234nm,1.0s
KBS LR LR
comp=Z,6µm,19.0s
KBS Kingsbay 57.99 350 *e*P **P** **11 10 37.9 +2.4**
KBS *e*S **S** **11 18 37.2 +2.3**
SRSP Sriramsagar 58.21 269 *e*P **P** **11 10 37.0 -0.9**
SRSP IAmb IAmb 11 10 38.9
comp=Z,419nm,1.0s
SRSP *e*S **S** **11 18 39.4 0.0**
SRSP IVMs_BB IVMs_BB 11 37 02.0
comp=Z,3µm,16.6s
ADKI Addanki 58.78 265 *e*P **P** **11 10 41.7 -0.2**
ADKI IAmb IAmb 11 10 43.6
comp=Z,99nm,1.0s
ADKI *e*S **S** **11 18 45.8 -1.0**
ADKI IVMs_BB IVMs_BB 11 35 59.8
comp=Z,3µm,18.6s
HSPB Hornsund (broa 58.82 348 *e*P **P** **11 10 42.9 +1.5**
HSPB *e**PP **sP** **11 10 51.4 +3.7**
HSPB *e*S **S** **11 18 51.2 +5.4**
HSPB Hornsund (broa 58.82 348 *e*P **P** **11 10 42.9 +1.5**
HSPB *e*S **S** **11 18 47.9 +2.1**
NJS Nagarjunasagar 58.86 266 *e*P **P** **11 10 41.6 -0.9**
NJS IAmb IAmb 11 10 43.5
comp=Z,80nm,1.0s
NJS *e*S **S** **11 18 46.8 -1.2**
NJS IVMs_BB IVMs_BB 11 36 05.7
comp=Z,2µm,17.1s
HYBB Hyderabad (bro 58.93 267 *e*P **P** **11 10 42.0 -1.1**
HYBB IAmb IAmb 11 10 43.8
comp=Z,161nm,1.1s
HYBB *e*S **S** **11 18 48.6 -0.3**
HYBB IVMs_BB IVMs_BB 11 36 00.2
comp=Z,2µm,19.4s
HYB Hyderabad 58.93 267 *i* P **P** **11 10 41.0 -2.0**
comp=Z,160nm,1.0s
HYB *e*PcP **PcP** **11 11 31.0 -1.2**
HYB *e*S **S** **11 18 40.0 -8.9**
HYB Hyderabad 58.93 267 *e*P **P** **11 10 41.6 -1.4**
HYB IAmb IAmb 11 10 43.2
comp=Z,116nm,0.8s
HYB IAMs_20 IAMs_20 11 36 03.1
comp=Z,7µm,15.6s
SRLM Srisailam 59.45 266 *e*P **P** **11 10 45.5 -1.1**
SRLM IAmb IAmb 11 10 47.4
comp=Z,98nm,1.0s
SRLM *e*S **S** **11 18 53.8 -1.9**
SRLM IVMs_BB IVMs_BB 11 40 21.6
comp=Z,2µm,14.7s
BBB Bella Bella 59.63 46 *e*P **P** **11 10 50.6 +3.3**
comp=Z,123nm,1.1s
RES Resolute Bay 59.72 15 *e*P **P** **11 10 47.6 0.0**
RES pmax pmax
comp=Z,191nm,1.0s
RES MLR MLR
comp=Z,5µm,18.0s
RES Resolute Bay 59.72 15 *e*P **P** **11 10 47.6 0.0**
comp=Z,191nm,1.0s
RES LR LR
comp=Z,5µm,18.0s
CTAO Charters Tower 59.75 176 *e*P **P** **11 10 48.5 +0.1**
CTAO pmax pmax
comp=Z,69nm,1.0s
CTAO MLR MLR
comp=Z,4µm,21.0s
CTAO Charters Tower 59.75 176 *e*P **P** **11 10 48.5 +0.1**
comp=Z,69nm,1.0s
CTAO LR LR
comp=Z,4µm,21.0s
WB0 Warramunga Arr 59.76 189 PFAKE 11 11 00.0 +12
WB0 LR LR
comp=Z,5µm,22.0s
WB9 Warramunga Arr 59.78 189 PFAKE 11 11 00.0 +11
WB9 LR LR
comp=Z,11µm,22.0s
LVZ Lovozero 59.80 335⇑ *i*P **P** **11 10 48.9 +0.6**
LVZ pmax pmax
comp=Z,102nm,1.2s
LVZ MLR MLR
comp=Z,7µm,17.0s
LVZ Lovozero 59.80 335 *e*P **P** **11 10 48.7 +0.4**
comp=Z,209nm,1.4s
LVZ LR LR
comp=Z,9µm,18.0s
WB8 Warramunga Arr 59.81 189 PFAKE 11 11 00.0 +11
WB8 LR LR
comp=Z,6µm,22.0s
KNTN Kanton 59.82 124 *e*P **P** **11 10 51.4 +2.3**
comp=Z,370nm,1.1s
KNTN LR LR
comp=Z,5µm,21.0s
WB6 Warramunga Arr 59.85 189 PFAKE 11 11 00.0 +11
WB6 LR LR
comp=Z,5µm,22.0s
WB5 Warramunga Arr 59.87 189 PFAKE 11 11 00.0 +11
WB5 LR LR
comp=Z,5µm,21.0s
WB4 Warramunga Arr 59.90 189 PFAKE 11 11 00.0 +11
WB4 LR LR
comp=Z,5µm,21.0s
WB3 Warramunga Arr 59.92 189 PFAKE 11 11 00.0 +10
WB3 LR LR
comp=Z,5µm,22.0s
WC2 Warramunga Arr 59.92 189 PFAKE 11 11 00.0 +10
WC2 LR LR
comp=Z,6µm,22.0s
WC1 Warramunga Arr 59.92 189 PFAKE 11 11 00.0 +10
WC1 LR LR
comp=Z,4µm,22.0s
WRAB Tennant Creek 59.93 189 *c i*P **P** **11 10 47.8 -1.9**
WRAB pmax pmax
comp=Z,321nm,1.1s
WRAB MLR MLR
comp=Z,3µm,17.0s
WRAB Tennant Creek 59.93 189 *e*P **P** **11 10 47.7 -1.9**
comp=Z,381nm,1.0s
WRAB LR LR
comp=Z,6µm,22.0s
WR0 Warramunga Arr 59.93 188 PFAKE 11 11 00.0 +10
WR0 LR LR
comp=Z,6µm,22.0s
WR8 Warramunga Arr 59.93 188 PFAKE 11 11 00.0 +10
WR8 LR LR
comp=Z,6µm,22.0s
WR9 Warramunga Arr 59.93 188 PFAKE 11 11 00.0 +10
WR9 LR LR
comp=Z,6µm,22.0s
WR7 Warramunga Arr 59.94 188 PFAKE 11 11 00.0 +10
WR7 LR LR
comp=Z,6µm,22.0s
WR6 Warramunga Arr 59.94 188 PFAKE 11 11 00.0 +10
WR6 LR LR
comp=Z,5µm,22.0s
WB2 Warramunga Arr 59.94 189 *e*S **S** **11 18 58.5 -2.9**
WR5 Warramunga Arr 59.94 188 PFAKE 11 11 00.0 +10
WR5 LR LR
comp=Z,5µm,21.0s
WR1 Warramunga Arr 59.94 189 *e*P **P** **11 10 47.4 -2.3**
comp=Z,297nm,0.9s
WR1 *e*S **S** **11 18 58.6 -2.8**
WR3 Warramunga Arr 59.94 189 PFAKE 11 11 00.0 +10
WR3 LR LR
comp=Z,5µm,21.0s
WR4 Warramunga Arr 59.94 188 PFAKE 11 11 00.0 +10
WR4 LR LR
comp=Z,5µm,21.0s
WRA Warramunga Arr 59.94 189 P **P** **11 10 47.4 -2.3**
comp=Z,229nm,0.9s,baz=6.4,slow=7.0,SNR=271
WRA S **S** **11 18 58.6 -2.8**
comp=Z,20nm,1.2s,baz=4.0,slow=12,SNR=15
WRA LR LR 11 35 52.4
comp=Z,6µm,21.9s,baz=355,slow=35
WRA P4KPbc 11 47 54.7
comp=Z,2.1nm,1.0s,baz=4.6,slow=5.0,SNR=6.8
WR2 Warramunga Arr 59.94 189 PFAKE 11 11 00.0 +10
WR2 LR LR
comp=Z,5µm,22.0s
WC3 Warramunga Arr 59.95 189 PFAKE 11 11 00.0 +10
WC3 LR LR
comp=Z,5µm,22.0s
WC4 Warramunga Arr 59.96 189 PFAKE 11 11 00.0 +10
WC4 LR LR
comp=Z,6µm,22.0s
KLRI Killari 60.05 269 *e*P **P** **11 10 49.6 -1.2**
KLRI IAmb IAmb 11 10 51.3
comp=Z,409nm,1.1s
KLRI *e*S **S** **11 19 02.0 -1.4**
KLRI IVMs_BB IVMs_BB 11 38 14.3
comp=Z,5µm,15.2s
SKHT Srikalahasti 60.26 263 *e*P **P** **11 10 51.9 -0.2**
SKHT IAmb IAmb 11 10 53.8
comp=Z,157nm,1.0s
SKHT *e*S **S** **11 19 05.6 -0.3**
SKHT IVMs_BB IVMs_BB 11 35 34.8
comp=Z,2µm,21.6s
MDRS Chennai 60.26 262 *e*P **P** **11 10 53.4 +1.3**
MDRS IAmb IAmb 11 10 54.7
comp=Z,141nm,0.8s
APA Apatity 60.38 335⇓ *i*P **P** **11 10 52.0 -0.2**
APA *i* S **S** **11 19 00.0 -6.1**
APA pmax pmax
comp=Z,86nm,0.8s
XMIS Christmas Isla 60.47 222 *e*P **P** **11 10 52.0 -1.6**
comp=Z,156nm,1.1s
TMCR Tamitsa 60.58 331 *e*P **P** **11 10 53.8 +0.2**
TMCR *e*S **S** **11 19 11.3 +2.6**
TMCR pmax pmax
comp=Z,345nm,0.9s
YKW3 Yellowknife Ar 61.03 31 *e*P **P** **11 10 56.6 -0.1**
comp=Z,74nm,0.7s
YKW3 LR LR
comp=Z,4µm,18.0s
KEV Kevo 61.03 339 *e*P **P** **11 10 56.7 +0.1**
KEV pmax pmax
comp=Z,146nm,1.2s
KEV MLR MLR
comp=Z,10µm,18.0s
KEV Kevo 61.03 339 *e*P **P** **11 10 56.7 +0.1**
comp=Z,146nm,1.2s
KEV LR LR
comp=Z,10µm,18.0s
YKA Yellowknife Ar 61.07 31 P **P** **11 10 56.7 -0.3**
comp=Z,78nm,1.1s,baz=299,slow=6.2,SNR=182
YKA LR LR 11 39 42.2
comp=Z,298nm,20.4s,baz=0.0,slow=38
YKA PKPPKP **P'P'df** **11 40 15.8 -5.0**
comp=Z,4.2nm,0.9s,baz=120,slow=2.3,SNR=13
YKA P4KPbc 11 48 00.8
comp=Z,0.5nm,1.0s,baz=302,slow=4.8,SNR=5.2
YKB5 Yellowknife Ar 61.07 31 *e*P **P** **11 10 56.2 -0.7**
HAMF Hammerfest 61.36 340 *e*P **P** **11 10 58.6 -0.3**
URV Uravakonda 61.40 266 *e*P **P** **11 10 59.0 -0.9**
URV IAmb IAmb 11 11 03.0
comp=Z,66nm,1.0s
URV *e*S **S** **11 19 19.6 -1.1**
URV IVMs_BB IVMs_BB 11 37 41.6
comp=Z,2µm,18.4s
ARA0 ARCESS Array S 61.58 339 *e*P **P** **11 11 00.4 0.0**
ARCES ARCESS Array B 61.58 339 P **P** **11 11 00.4 0.0**
comp=Z,41nm,1.0s,baz=56,slow=7.7,SNR=53
ARCES LR LR 11 42 38.8
comp=Z,9µm,18.1s,baz=46,slow=41
ARCES ARCESS Array B 61.58 339 *e*P **P** **11 11 00.5 +0.1**
ARE0 ARCESS Array S 61.58 339 *e*P **P** **11 11 00.8 +0.4**
comp=Z,135nm,1.3s
ARE0 LR LR
comp=Z,10µm,21.0s
ARE0 ARCESS Array S 61.58 339 *e*P **P** **11 11 00.5 +0.1**
KLMR Klimovskoe 61.72 327 *e*P **P** **11 10 58.6 -2.8**
KLMR *e* 11 13 14.9
KLMR *e*S **S** **11 19 19.1 -4.2**
KLMR *e*SS **SS** **11 23 20.8 -3.3**
KLMR pmax pmax
comp=Z,564nm,1.3s
KLMR MLR MLR
comp=Z,2µm,14.0s
KLMR Klimovskoe 61.72 327 *e*P **P** **11 10 58.7 -2.7**
KLMR AMP 11 11 04.4
comp=Z,564nm,1.3s
KLMR *e*PP **PP** **11 13 15.0 -1.8**
KLMR *e*S **S** **11 19 19.1 -4.2**
KLMR *e*S **S** **11 19 19.1 -4.2**
KLMR *e*SS **SS** **11 23 20.8 -3.3**
KLMR *e*SS **SS** **11 23 20.8 -3.3**
KLMR LQ LQ 11 32 07.5

KLMR LQ LQ 11 32 07.5
KLMR LR LR 11 37 34.5
KLMR AMP 11 40 16.7
comp=Z,2μm,14.2s
POO Poona 61.90 271 *e*P **P 11 11 03.4 0.0**
POO IAMs_20 IAMs_20 11 39 43.8
comp=Z,10μm,16.4s
TULEG Thule 62.22 8 *e*P **P 11 11 03.8 -0.7**
comp=Z,195nm,0.8s
TULEG LR LR
comp=Z,11μm,19.0s
BHJ Bhuj 62.43 278 *e*P **P 11 11 07.5 +0.7**
BHJ IAmb IAmb 11 11 12.4
comp=Z,69nm,0.6s
BHJ IAMs_20 IAMs_20 11 39 45.6
comp=Z,12μm,10.4s
BOM Bombay 62.48 272 *i* x P 11 11 15.6 +8.4
BOM *ex* **S 11 19 36.4 +2.2**
KTK1 Kautokeino 62.54 339 *e*P **P 11 11 07.1 +0.3**
KTK1 IAmb IAmb 11 11 09.2
comp=Z,176nm,1.3s
KTK1 *e*S **S 11 19 34.6 +1.0**
DAG Danmarks Havn 63.02 355 *i* P **P 11 11 09.8 -0.1**
DAG pmax pmax
comp=Z,64nm,0.9s
DAG Danmarks Havn 63.02 355 *i* P **P 11 11 09.8 -0.1**
comp=Z,64nm,0.9s
GEYT Alibeck 63.03 298 P **P 11 11 10.2 -0.5**
comp=Z,250nm,1.0s,baz=31,slow=3.5,SNR=89
GEYT S **S 11 19 42.7 +1.9**
comp=Z,1.1nm,0.3s,baz=103,slow=39,SNR=3.2
GEYT LR LR 11 39 59.3
comp=Z,5μm,19.6s,baz=40,slow=37
TRO Tromso 63.25 341 *e*P **P 11 11 11.2 -0.3**
TRO IAmb IAmb 11 11 13.7
comp=Z,109nm,0.9s
TRO *e*S **S 11 19 44.5 +2.1**
PALK Pallekele 63.60 257 P **P 11 11 14.1 -0.6**
comp=Z,39nm,0.8s,baz=116,slow=3.5,SNR=22
PALK Pallekele 63.60 257 *i* P **P 11 11 15.0 +0.3**
PALK Pallekele 63.60 257 *e*P **P 11 11 14.0 -0.6**
comp=Z,60nm,0.9s
PALK LR LR
comp=Z,8μm,22.0s
PALK Pallekele 63.60 257 P **P 11 11 14.4 -0.3**
SNR=18
PALK Pallekele 63.60 257 P **P 11 11 14.4 -0.3**
SNR=18
PALK Pallekele 63.60 257 *i* P **P 11 11 14.1 -0.6**
SNR=17
AS01 Alice Springs 63.66 188 *e*P **P 11 11 12.7 -2.1**
AS31 Alice Springs 63.66 188 *e*P **P 11 11 13.3 -1.4**
comp=Z,48nm,0.8s
AS31 *e*S **S 11 19 44.0 -4.6**
AS31 LR LR
comp=Z,100nm,20.0s
ASAR Alice Springs 63.67 188 P **P 11 11 13.4 -1.3**
comp=Z,103nm,0.7s,baz=6.9,slow=5.0,SNR=432
ASAR S **S 11 19 44.0 -4.6**
comp=Z,1.3nm,1.1s,baz=122,slow=28,SNR=2.6
ASAR LR LR 11 39 04.1
comp=Z,4μm,20.7s,baz=7.5,slow=36
ASAR PKPPKP **P'P'df 11 40 09.6 +7.4**
comp=Z,2.0nm,0.9s,baz=166,slow=2.5,SNR=8.0
ASAR P4KPbc 11 48 11.2
comp=Z,2.8nm,1.1s,baz=0.1,slow=4.4,SNR=8.2
ASAR Alice Springs 63.67 188 P **P 11 11 13.5 -1.3**
ASAR S **S 11 19 44.0 -4.6**
ASAR pmax pmax
comp=Z,101nm,0.7s
ASAR smax smax
comp=N,1.0nm,1.1s
ASAR MLR MLR
comp=Z,4μm,20.7s
GOA Goa 63.71 269 *e*P **P 11 11 15.9 +0.5**
GOA IAMs_20 IAMs_20 11 41 28.6
comp=Z,11μm,4.0s
LLLB Lillooet 63.80 45 *e*P **P 11 11 16.4 +0.8**
comp=Z,126nm,1.0s
LLLB LR LR
comp=Z,4μm,22.0s
PGC Sidney 63.95 47 *e*P **P 11 11 19.2 +2.7**
comp=Z,101nm,0.9s
PGC LR LR
comp=Z,3μm,21.0s
MBWA Marble Bar 64.22 203 *e*P **P 11 11 17.8 -0.7**
comp=Z,148nm,0.8s
MBWA Marble Bar 64.22 203 P **P 11 11 18.4 -0.1**
SNR=28
MBWA Marble Bar 64.22 203 P **P 11 11 18.4 -0.1**
SNR=28
A04D Lummi Island 64.34 47 P **P 11 11 19.7 +0.7**
baz=302
NLWA Neilton Lookou 64.37 49 *e*P **P 11 11 21.3 +1.9**
comp=Z,164nm,1.0s
NLWA LR LR
comp=Z,3μm,20.0s
B05A Bryant 64.92 47 P **P 11 11 23.4 +0.6**
baz=302,SNR=10.0
B05A S **S 11 20 03.2 -0.5**
baz=302
E03A Lebam 65.00 49 *e*P **P 11 11 24.8 +1.5**
comp=Z,288nm,1.0s
KULLO Kullorsuaq 65.11 6 *i* P **P 11 11 23.1 -0.6**
KULLO pmax pmax
comp=Z,62nm,0.8s
KULLO MLR MLR
comp=Z,8μm,22.0s
KULLO Kullorsuaq 65.11 6 *i* P **P 11 11 23.1 -0.6**
comp=Z,62nm,0.8s
B06A Marblemount 65.13 47 *e*P **P 11 11 24.8 +0.6**
comp=Z,119nm,0.9s
B06A LR LR
comp=Z,2μm,21.0s
MOS Moscow 65.36 323 *e*P **P 11 11 24.9 -0.7**
MOS *e* 11 11 31.0
MOS *e* 11 11 57.1
MOS *e* 11 13 51.1
MOS *e*PPP PPP 11 15 26.8
MOS *e*S **S 11 20 08.3 -0.6**
MOS *e* 11 20 27.5
MOS *e* 11 21 18.8
MOS pmax pmax
comp=Z,900nm,1.3s
MOS pmax pmax
comp=N,400nm,1.2s
MOS pmax pmax
comp=Z,800nm,1.3s
MOS pmax pmax
comp=N,355nm,1.2s
MOS MLR MLR
comp=E,13μm,16.0s
MOS MLR MLR
comp=Z,18μm,16.0s
STEI Steigen 65.41 341 *e*P **P 11 11 25.7 0.0**
STEI IAmb IAmb 11 11 27.6
comp=Z,102nm,1.1s
EIDS Eidsvold 65.42 171 *e*P **P 11 11 26.2 +0.1**
comp=Z,251nm,1.3s
EIDS LR LR
comp=Z,4μm,20.0s
D05A Enumclaw 65.56 48 *e*P **P 11 11 28.7 +1.6**
comp=Z,232nm,1.0s
F04D Rainier, OR 65.57 50 P **P 11 11 26.1 -1.0**
baz=303
TRD Trivandrum 65.63 260 *e*P **P 11 11 28.1 +0.2**
TRD IAmb IAmb 11 11 29.3
comp=Z,104nm,0.8s
DZM Mont Dzumac 65.63 155 P **P 11 11 28.2 +0.4**
comp=Z,324nm,1.1s,baz=354,slow=10,SNR=36
DZM LR LR 11 36 55.5
comp=Z,9μm,21.9s,baz=329,slow=33
DZM Mont Dzumac 65.63 155 *e*P **P 11 11 28.6 +0.9**
comp=Z,877nm,1.2s
DZM *e*S **S 11 20 08.4 -4.6**
comp=Z,5μm,27.4s
DZM *e*LQ LQ 11 27 56.6
comp=Z,13μm,33.5s
DZM *e*LR LR 11 31 17.5
comp=Z,22μm,22.7s
DZM Mont Dzumac 65.63 155 *e*P **P 11 11 28.9 +1.1**
comp=Z,308nm,1.0s
DZM LR LR
comp=Z,13μm,22.0s
C06D Leavenworth 65.79 47 P **P 11 11 28.4 -0.1**
baz=303
G03D McMinnville, O 65.89 51 P **P 11 11 27.6 -1.5**
baz=303
LON Longmire 65.90 49 *e*P **P 11 11 30.5 +1.2**
LON pmax pmax
comp=Z,78nm,1.0s
LON MLR MLR
comp=Z,2μm,20.0s
LON Longmire 65.90 49 *e*P **P 11 11 30.5 +1.2**
comp=Z,78nm,1.0s
LON LR LR
comp=Z,2μm,20.0s
VRH Novokhopyorsk 65.92 317 *e*P **P 11 11 29.0 -0.2**
VRH *e* 11 11 29.4
VRH *e*S **S 11 20 14.4 -1.4**
VRH pmax pmax
comp=Z,360nm,0.9s
VRH smax smax
comp=E,80nm,0.8s
VRH MLR MLR
comp=Z,27μm,16.0s
PUL Pulkovo 66.09 329⇑ *e*P **P 11 11 30.6 +0.4**
PUL pmax pmax
comp=Z,339nm,1.0s
PUL MLR MLR
comp=Z,10μm,18.0s
COR Corvallis 66.20 51 *e*P **P 11 11 33.4 +2.2**
COR pmax pmax
comp=Z,247nm,1.0s
COR Corvallis 66.20 51 *e*P **P 11 11 33.4 +2.2**
comp=Z,247nm,1.0s
OBN Obninsk 66.22 323 P **P 11 11 31.1 0.0**
comp=Z,255nm,0.8s,baz=23,slow=0.6,SNR=81
OBN S **S 11 20 19.3 0.0**
comp=Z,16nm,0.3s,baz=187,slow=24,SNR=3.0
OBN Obninsk 66.22 323 *c i*P **P 11 11 30.6 -0.5**
OBN *e* 11 12 00.3
OBN *e* 11 14 00.0
OBN *i* S **S 11 20 15.4 -3.9**
OBN *i* SS **SS 11 24 31.4 -3.1**
OBN pmax pmax
comp=Z,542nm,1.0s
OBN MLR MLR
comp=Z,23μm,15.0s
OBN Obninsk 66.22 323 *e*P **P 11 11 31.1 0.0**
comp=Z,420nm,0.9s
OBN *e*S **S 11 20 19.3 0.0**
OBN LR LR
comp=Z,4μm,19.0s
XMAS Kiritimati 66.22 108 PFAKE 11 11 40.0 +8.3
XMAS LR LR
comp=Z,11μm,21.0s
LTY Liberty 66.28 48 *e*P **P 11 11 32.1 +0.3**
LTY comp=Z,90nm,1.0s
LTY LR LR
comp=Z,2μm,22.0s
MSVF Nonsavu 66.33 142 *e*P **P 11 11 34.3 +2.0**
MSVF pmax pmax
comp=Z,214nm,1.3s
MSVF MLR MLR
comp=Z,5μm,20.0s
MSVF Nonsavu 66.33 142 *e*P **P 11 11 34.3 +2.0**
comp=Z,214nm,1.3s
MSVF LR LR
comp=Z,5μm,20.0s
B08A Colville Reser 66.42 46 *e*P **P 11 11 33.1 +0.6**
comp=Z,181nm,1.3s
LPSR Galich'ya Gora 66.55 320 *e*P **P 11 11 33.1 -0.1**
LPSR *e* 11 11 33.7
LPSR *e*S **S 11 20 23.2 -0.2**
LPSR pmax pmax
comp=Z,440nm,0.8s
LPSR smax smax
comp=N,50nm,1.2s
LPSR MLR MLR
comp=Z,15μm,13.0s
FIA1 FINESS Array S 66.61 332 *e*P **P 11 11 33.2 -0.3**
FIA0 FINESS Array S 66.61 332 *e*P **P 11 11 33.2 -0.3**
FIA0 FINESS Array S 66.61 332 *e*P **P 11 11 33.1 -0.3**
FINES FINESS Array B 66.61 332 P **P 11 11 33.1 -0.3**
comp=Z,108nm,0.8s,baz=46,slow=8.2,SNR=138
FINES LR LR 11 43 00.7
comp=Z,15μm,19.1s,baz=43,slow=38
I03D Drain, OR 66.66 52 P **P 11 11 35.4 +1.2**
baz=304,SNR=10
COCO West Island 66.75 229 *i* P **P 11 11 36.5 +1.6**
COCO West Island 66.75 229 *e*P **P 11 11 36.6 +1.6**
comp=Z,725nm,1.4s
EDM Edmonton 66.76 39 *e*P **P 11 11 34.9 +0.2**
EDM pmax pmax
comp=Z,139nm,1.0s
EDM MLR MLR
comp=Z,4μm,22.0s
EDM Edmonton 66.76 39 *e*P **P 11 11 34.9 +0.2**
comp=Z,139nm,1.0s
EDM LR LR
comp=Z,4μm,22.0s
H04A Detroit Lake 66.82 51 *e*P **P 11 11 36.2 +1.0**
comp=Z,131nm,0.8s
MOR8 Moi Rana 66.94 340 *e*P **P 11 11 34.1 -1.4**
MOR8 IAmb IAmb 11 11 36.3
comp=Z,202nm,1.0s
VORR Voronezh 66.94 319⇓ *i*P **P 11 11 34.0 -1.8**
VORR pmax pmax
comp=Z,750nm,1.4s
G05D Wamic, OR 67.02 50 P **P 11 11 37.6 +1.1**
baz=304,SNR=6.8
KONS Konsvik 67.04 340 *e*P **P 11 11 36.1 0.0**
KONS IAmb IAmb 11 11 38.0
comp=Z,120nm,1.2s
E07A Sunnyside 67.13 48 *e*P **P 11 11 38.2 +1.1**
comp=Z,153nm,1.0s
I04A Tendick Farm, 67.17 51 P **P 11 11 38.4 +0.9**
baz=304,SNR=21
STOK Stokkvaagen 67.19 340 *e*P **P 11 11 40.0 +2.9**
MAK Makhachkala 67.22 307 *e*P **P 11 11 35.9 -1.8**
MAK *e* 11 14 06.1
MAK *e*S **S 11 20 27.2 -4.7**
MAK *e*SS **SS 11 24 49.9 -0.7**
MAK pmax pmax
comp=Z,253nm,1.2s
MAK MLR MLR
comp=Z,12μm,14.0s
VSR Storozhevoye 67.23 318 *e*P **P 11 11 37.1 -0.5**
VSR *e* 11 11 37.8
VSR *e*S **S 11 20 28.7 -3.0**
VSR pmax pmax
comp=Z,430nm,1.1s
VSR smax smax
comp=E,50nm,0.8s
VSR MLR MLR
comp=Z,28μm,15.0s
C09A Chrisman Ranch 67.32 46 *e*P **P 11 11 39.0 +0.7**
comp=Z,159nm,1.0s
C09A LR LR
comp=Z,2μm,20.0s
L02D Cave Junction, 67.36 53 P **P 11 11 40.2 +1.6**
baz=304
D08A Wollman Farm, 67.38 47 *e*P **P 11 11 39.3 +0.6**
comp=Z,122nm,0.9s
HAWA Hanford 67.41 48 *e*P **P 11 11 40.0 +1.1**
comp=Z,84nm,1.0s
G06A Carlson Farm, 67.42 49 *e*P **P 11 11 40.0 +1.0**
comp=Z,83nm,1.0s
F07A Phinny Hill Vi 67.46 49 *e*P **P 11 11 40.4 +1.2**
comp=Z,162nm,0.9s
HUMO Hull Mountain 67.50 53 *e*P **P 11 11 43.0 +3.4**
comp=Z,66nm,1.2s
I05D Terrebonne, OR 67.51 51 P **P 11 11 40.2 +0.6**
baz=304,SNR=13
E08A Dider Farm, El 67.62 48 *e*P **P 11 11 41.4 +1.2**
comp=Z,116nm,1.0s
J04D Umpqua Nationa 67.67 52 P **P 11 11 41.0 +0.2**
baz=304
NEW Newport 67.69 45 P **P 11 11 40.7 +0.1**
baz=305,SNR=72
NEW Newport 67.69 45 *e*P **P 11 11 41.3 +0.6**
NEW pmax pmax
comp=Z,112nm,1.0s
NEW MLR MLR
comp=Z,2μm,22.0s
NEW Newport 67.69 45 *e*P **P 11 11 41.3 +0.6**
comp=Z,112nm,1.0s
NEW LR LR
comp=Z,2μm,22.0s
SUMG Summit 67.87 0⇓ *i*P **P 11 11 42.7 +0.9**
SUMG pmax pmax
comp=Z,150nm,0.7s
SUMG MLR MLR
comp=Z,10μm,21.0s
SUMG Summit 67.87 0⇓ *i*P **P 11 11 42.7 +0.9**
comp=Z,153nm,0.7s
SUMG Summit 67.87 0 *e*P **P 11 11 42.3 +0.5**
comp=Z,185nm,0.8s
SUMG LR LR
comp=Z,11μm,21.0s
KHMM Horse Mountain 67.99 55 *e*P **P 11 11 46.5 +3.6**
comp=Z,241nm,1.3s
PINE Pine Mountain 68.06 51 *e*P **P 11 11 44.6 +1.3**
comp=Z,336nm,0.9s
GROC Groznyy 68.12 308 *e*P **P 11 11 42.4 -1.0**
GROC *e* 11 12 07.7
GROC *e* 11 14 12.4
GROC pmax pmax
comp=Z,197nm,0.9s
E09A Wood Farm, Sta 68.13 47 *e*P **P 11 11 44.4 +1.0**
comp=Z,199nm,1.1s
YBH Yreka Blue Hor 68.15 53 P **P 11 11 44.9 +1.2**
comp=Z,47nm,1.1s,baz=267,slow=0.6,SNR=19
YBH LR LR 11 37 47.0
comp=Z,971nm,21.9s,baz=311,slow=32
YBH Yreka Blue Hor 68.15 53 *e*P **P 11 11 45.6 +1.9**
comp=Z,97nm,1.1s
J05D Fort Rock, OR 68.17 51 P **P 11 11 44.7 +0.8**
baz=305,SNR=36
KCRM Chalk Rock 68.19 55 *e*P **P 11 11 46.3 +2.3**
K04D Chiloquin, OR 68.23 52 P **P 11 11 43.7 -0.6**
baz=305
M02C Callahan 68.25 54 P **P 11 11 45.3 +0.9**
baz=304,SNR=13
VSU Vasula 68.34 329 *c i*P **P 11 11 44.2 -0.3**
VSU pmax pmax
comp=Z,905nm,1.0s
VSU MLR MLR
comp=Z,30μm,18.0s
G08A Pilot Rock 68.37 49 *e*P **P 11 11 45.4 +0.3**
comp=Z,129nm,1.4s
SEKA Sheki 68.39 306 P **P 11 11 42.5 -2.7**
AFI Afiamalu 68.49 131 P **P 11 11 47.1 +1.0**
comp=Z,70nm,0.9s,baz=151,slow=6.6,SNR=8.5
AFI LR LR 11 35 43.2
comp=Z,4μm,21.4s,baz=330,slow=31
AFI Afiamalu 68.49 131 *e*P **P 11 11 48.0 +1.9**
AFI pmax pmax
comp=Z,112nm,1.0s
AFI MLR MLR
comp=Z,5μm,20.0s
AFI Afiamalu 68.49 131 *e*P **P 11 11 48.0 +1.9**
comp=Z,112nm,1.0s
AFI LR LR
comp=Z,5μm,20.0s
ZKTA Zakatala 68.51 307 P **P 11 11 43.6 -2.3**
N02D Trinity Center 68.58 54 P **P 11 11 46.6 +0.2**
baz=305,SNR=16
M04C Macdoel 68.65 53 P **P 11 11 47.4 +0.4**
baz=305,SNR=17
GOF Gofitskoye 68.69 311⇑ *e*P **P 11 11 47.3 +0.4**
GOF *e*S **S 11 20 51.1 +1.7**
GOF pmax pmax
comp=Z,987nm,1.1s
MNGR Mingechevir, A 68.71 306 P **P 11 11 44.9 -2.2**
I07A Izee 68.74 50 *e*P **P 11 11 48.9 +1.4**
comp=Z,61nm,1.0s
MNCY Minicoy 68.77 263 *e*P **P 11 11 46.9 -0.9**
LKRN Lenkeran, Azer 68.80 303 P **P 11 11 45.6 -2.1**
NSS Namsos 68.86 339 *e*P **P 11 11 47.3 -0.4**
WDC Whiskeytown Da 68.90 54 *e*P **P 11 11 49.4 +1.0**
WDC pmax pmax
comp=Z,123nm,1.2s
WDC Whiskeytown Da 68.90 54 *e*P **P 11 11 49.4 +1.0**
comp=Z,123nm,1.2s
WALA Waterton Lakes 68.94 43 *e*P **P 11 11 49.3 +0.7**
comp=Z,128nm,1.0s
WALA LR LR
comp=Z,4μm,22.0s
F10A Beach Ranch, E 68.96 47 *e*P **P 11 11 49.8 +1.0**
comp=Z,99nm,1.1s
F10A LR LR
comp=Z,3μm,19.0s
GANJ Ganja 69.26 306 P **P 11 11 48.3 -2.3**
NCK Nalchik 69.27 310⇓ *e*P **P 11 11 51.3 +0.7**
NCK pmax pmax
comp=Z,428nm,1.2s
NCK MLR MLR
comp=Z,7μm,17.0s
GGUM Gualala 69.28 56 *e*P **P 11 11 52.4 +1.6**
SCO Scoresbysund 69.37 354 *i* P **P 11 11 51.5 +0.8**
SCO pmax pmax
comp=Z,75nm,1.3s
SCO Scoresbysund 69.37 354 *i* P **P 11 11 51.5 +0.8**
comp=Z,75nm,1.3s
SCO Scoresbysund 69.37 354 *e*P **P 11 11 51.4 +0.7**
comp=Z,98nm,1.3s
SCO LR LR
comp=Z,5μm,22.0s
ZEI Tsey 69.50 309 *e*P P 11 11 47.1 -5.2
ZEI pmax pmax
comp=Z,191nm,0.9s
MOD Modoc Plateau 69.53 52 *e*P **P 11 11 53.4 +1.0**
comp=Z,103nm,1.1s
O03D Paynes Creek 69.53 54 P **P 11 11 52.6 +0.2**
baz=305,SNR=25
KVAR Kislovodsk Arr 69.53 311 LR LR 11 47 33.7
comp=Z,9μm,18.5s,baz=27,slow=40
JTMT Jette 69.53 44 *e*P **P 11 11 53.3 +1.0**
comp=Z,187nm,1.0s
JTMT LR LR
comp=Z,4μm,18.0s
KIV Kislovodsk 69.54 311 *e*P **P 11 11 53.1 +0.8**
KIV *e* 11 14 26.8
KIV *e*S **S 11 21 01.8 +2.1**
KIV *e*SS **SS 11 25 29.7 +3.1**
KIV pmax pmax
comp=Z,1μm,1.1s
KIV pmax pmax
comp=Z,332nm,6.7s
KIV Kislovodsk 69.54 311 *e*P **P 11 11 52.3 -0.1**
comp=Z,30nm,1.6s
KIV LR LR
comp=Z,16μm,21.0s
KIV Kislovodsk 69.54 311 P **P 11 11 53.7 +1.4**
SNR=162
KIV Kislovodsk 69.54 311 P **P 11 11 53.7 +1.4**
SNR=162
KIV Kislovodsk 69.54 311 *i* P **P 11 11 52.7 +0.4**
SNR=79
KBZ Khabaz 69.55 310 P **P 11 11 52.4 +0.2**
comp=Z,220nm,0.9s,baz=49,slow=3.6,SNR=120
KBZ PKPPKP **P'P'df 11 39 59.8 -5.8**
comp=Z,1.9nm,0.9s,baz=208,slow=11,SNR=4.0
KBZ LR LR 11 47 22.7
comp=Z,9μm,18.0s,baz=24,slow=40
BMO Blue Mountains 69.57 48 *e*P **P 11 11 53.3 +0.8**
BMO pmax pmax
comp=Z,71nm,1.0s
BMO MLR MLR
comp=Z,2μm,22.0s
BMO Blue Mountains 69.57 48 *e*P **P 11 11 53.3 +0.8**
comp=Z,71nm,1.0s
BMO LR LR
comp=Z,2μm,22.0s
TBLG Delisi 69.61 308 *e*P **P 11 11 51.5 -1.2**
TBLG Delisi 69.61 308 *e*P **P 11 11 53.2 +0.5**
TBLG pmax pmax
comp=Z,270nm,1.1s
TBLG Delisi 69.61 308 *e*P **P 11 11 53.2 +0.5**
comp=Z,270nm,1.1s
GDXM Geysers 69.76 56 *e*P **P 11 11 57.0 +3.3**
J08A Circle Bar Ran 69.77 50 *e*P **P 11 11 55.0 +1.2**
comp=Z,159nm,1.0s
NEY Neytrino 69.93 310 *c i*P **P 11 11 55.6 +0.7**
NEY pmax pmax
comp=Z,16nm,0.8s
ORV Oroville 70.15 55 *e*P **P 11 11 56.0 0.0**
ORV pmax pmax
comp=Z,81nm,1.3s
ORV Oroville 70.15 55 *e*P **P 11 11 56.0 0.0**
comp=Z,81nm,1.3s
WVOR Wild Horse Val 70.22 51 *e*P **P 11 11 57.5 +0.9**
WVOR pmax pmax
comp=Z,81nm,1.0s
WVOR Wild Horse Val 70.22 51 *e*P **P 11 11 57.5 +0.9**
comp=Z,81nm,1.0s
MSO Missoula 70.27 45 P **P 11 11 56.9 +0.1**
baz=308,SNR=72

MSO Missoula 70.27 45 *e*P P 11 11 57.3 +0.4
comp=Z,113nm,1.1s
MSO LR LR
comp=Z,2µm,19.0s
TBLU Trondheim 70.34 339 *e*P P 11 11 55.0 -1.8
IZAR Zarasai 70.37 327 *e*P P 11 11 57.5 +0.5
IZAR lAmb lAmb 11 12 00.1
comp=Z,114nm,1.0s
IDID Didziasalis 70.45 327 *e*P P 11 11 58.0 +0.4
IDID lAmb lAmb 11 12 00.8
comp=Z,165nm,1.0s
ARMA Armidale 70.47 171 *e*P P 11 11 58.3 +0.3
comp=Z,156nm,0.9s
ARMA LR LR
comp=Z,6µm,21.0s
MICGM Minsk 70.51 326 ⇓ *i*P P 11 11 58.0 0.0
MICGM PM 11 12 00.0
comp=Z,0.8nm,1.0s
MICGM PM 11 12 02.0
comp=N,0.6nm,1.0s
MICGM PM 11 12 02.0
comp=E,0.4nm,1.0s
MICGM *e*PP PP 11 14 37.0 +3.4
MICGM *e*PPP PPP 11 16 15.0
MICGM *e*S S 11 21 12.0 +1.5
MICGM *e*SS SS 11 25 40.0 -0.8
MICGM *e*SSS SSS 11 28 40.0
MICGM *e*LQ LQ 11 36 20.0
MICGM *e*LR LR 11 39 14.0
MICGM LRM MLR 11 45 50.0
comp=E,15nm,17.0s
MICGM LRM MLR 11 45 56.0
comp=N,19nm,16.0s
MICGM LRM MLR 11 46 00.0
comp=Z,23nm,16.0s
MNK Minsk 70.51 326 ⇓ *i*P P 11 11 58.0 0.0
MNK *e* 11 14 37.0
MNK *e*PPP PPP 11 16 15.0
MNK *e*S S 11 21 12.0 +1.5
MNK *e*SS SS 11 25 40.0 -0.8
MNK *e*SSS SSS 11 28 40.0
MNK pmax pmax
comp=Z,770nm,1.0s
MNK pmax pmax
comp=N,590nm,1.0s
MNK pmax pmax
comp=E,360nm,1.0s
MNK MLR MLR
comp=N,17µm,16.0s
MNK MLR MLR
comp=Z,23µm,16.0s
GNI Garni 70.53 306 P P 11 11 58.9 +0.3
comp=Z,115nm,1.0s,baz=158,slow=1.6,SNR=46
GNI Garni 70.53 306 *c i*P P 11 11 59.6 +1.0
GNI pmax pmax
comp=Z,918nm,1.3s
GNI MLR MLR
comp=Z,25µm,17.0s
GNI Garni 70.53 306 *e*P P 11 11 59.4 +0.9
GNI LR LR
comp=Z,10µm,18.0s
GNI Garni 70.53 306 P P 11 11 59.9 +1.3
SNR=47
GNI Garni 70.53 306 P P 11 11 59.9 +1.3
SNR=47
GNI Garni 70.53 306 *i* P P 11 11 59.1 +0.5
SNR=35
ISAL Salakas 70.54 327 *e*P P 11 11 58.7 +0.6
ISAL lAmb lAmb 11 12 01.4
comp=Z,264nm,1.0s
AKH Akhalkalaki 70.55 308 *e*P P 11 11 58.9 +0.2
AKH Akhalkalaki 70.55 308 *e*P P 11 11 59.7 +1.0
AKH pmax pmax
comp=Z,115nm,0.9s
AKH MLR MLR
comp=Z,5µm,20.0s
AKH Akhalkalaki 70.55 308 ⇑ *i*P P 11 12 00.3 +1.6
AKH Akhalkalaki 70.55 308 *e*P P 11 11 59.7 +1.0
AKH LR LR
comp=Z,115nm,0.9s
comp=Z,5µm,20.0s
NAX Nakhchivan 70.63 305 P P 11 11 56.9 -2.2
IIGN Ignalina 70.65 327 *e*P P 11 11 59.3 +0.5
IIGN lAmb lAmb 11 12 02.0
comp=Z,194nm,0.9s
BEKR Beckworth 70.68 54 *e*P P 11 12 00.6 +1.1
NACGM Naroch 70.72 326 *e*P P 11 11 58.0 -1.2
NACGM *e*P pP 11 12 00.0 -3.9
NACGM PM 11 12 01.0
comp=Z,1.5nm,1.0s
NACGM *e*PP PP 11 14 36.0 +0.7
NACGM *e*PPP PPP 11 16 26.0
NACGM *e*S S 11 21 12.0 -0.9
NACGM *e*SS SS 11 25 38.0 -5.9
NACGM *e*SSS SSS 11 28 48.0
NACGM *e*LQ LQ 11 34 49.0
NACGM *e*LR LR 11 40 38.0
NACGM LRM MLR 11 46 34.0
comp=Z,34nm,20.0s
WSAR Wadi Sarin 70.75 284 LR LR 11 47 33.3
comp=Z,3µm,19.0s,baz=102,slow=40
ILULI Ilulissat 70.80 5 ⇑ *i*P P 11 11 59.5 0.0
ILULI pmax pmax
comp=Z,55nm,0.7s
ILULI MLR MLR
comp=Z,8µm,22.0s
ILULI Ilulissat 70.80 5 ⇑ *i*P P 11 11 59.5 0.0
comp=Z,55nm,0.7s
ILULI Ilulissat 70.80 5 *e*P P 11 11 59.9 +0.4
comp=Z,339nm,1.6s
ILULI LR LR
comp=Z,7µm,21.0s
AFDM Forest Hills D 70.83 55 *e*P P 11 12 00.9 +0.6
comp=Z,109nm,1.4s
WBK Wadi Bani Khal 70.86 284 P P 11 12 03.0 +2.3
SNR=13
WBK Wadi Bani Khal 70.86 284 P P 11 12 03.0 +2.3
SNR=13
BANOM Banah 70.91 288 P P 11 12 01.9 +0.9
SNR=28
BANOM Banah 70.91 288 P P 11 12 01.9 +0.9
SNR=28
BANOM Banah 70.91 288 *i* P P 11 12 00.6 -0.3
SNR=66
SHME Shamm 70.95 288 *i* P P 11 12 01.1 -0.1
SNR=63
BIDO Bidbid 70.96 285 P P 11 12 03.0 +1.7
SNR=31
BIDO Bidbid 70.96 285 P P 11 12 03.0 +1.7
SNR=31
FFC Flin Flon 71.00 34 *e*P P 11 12 01.0 0.0
FFC pmax pmax
comp=Z,91nm,0.9s
FFC MLR MLR
comp=Z,4µm,20.0s
FFC Flin Flon 71.00 34 *e*P P 11 12 01.0 0.0
comp=Z,91nm,0.9s
FFC LR LR
comp=Z,4µm,20.0s
FCC Fort Churchill 71.21 27 *e*P P 11 12 01.9 -0.2
FCC pmax pmax
comp=Z,139nm,1.1s
FCC MLR MLR
comp=Z,5µm,22.0s
FCC Fort Churchill 71.21 27 *e*P P 11 12 01.9 -0.2
comp=Z,139nm,1.1s
FCC LR LR
comp=Z,5µm,22.0s
RDG13 Poverty Ridge 71.23 57 *e*P P 11 12 03.9 +1.1
comp=Z,124nm,1.2s
MDH Madha 71.28 288 *i* P P 11 12 03.4 +0.3
SNR=9.5
MFID Camas Ranch 71.29 49 *e*P P 11 12 03.9 +0.8
comp=Z,265nm,1.8s
SMDO Samad 71.29 285 P P 11 12 06.0 +2.6
SNR=18
SMDO Samad 71.29 285 P P 11 12 06.0 +2.6
SNR=18
MSFE Esma-Masafi 71.34 288 *i* P P 11 12 03.2 -0.4
SNR=34
STKA Stephens Creek 71.37 181 P P 11 12 02.4 -0.9
comp=Z,41nm,0.7s,baz=353,slow=7.9,SNR=64
STKA PKPPKP P'P'df 11 39 59.8 +11
comp=Z,3.1nm,1.0s,baz=102,slow=4.1,SNR=4.5
STKA LR LR 11 48 36.1
comp=Z,2µm,18.9s,baz=356,slow=40
STKA Stephens Creek 71.37 181 *e*P P 11 12 02.2 -1.1
comp=Z,20nm,0.9s
PAHR Pah Rah Range 71.38 54 *e*P P 11 12 04.5 +0.8
comp=Z,160nm,1.0s
VCNR Virginia City 71.46 54 *e*P P 11 12 05.3 +1.0
comp=Z,85nm,1.0s
SOC Sochi 71.48 312 *c i*P P 11 12 03.5 -0.6
SOC *e*PPP PPP 11 16 21.0
SOC *e*S S 11 21 22.2 0.0
SOC *e* 11 22 05.1
SOC pmax pmax
comp=Z,148nm,0.6s
SOC MLR MLR
comp=Z,5µm,16.0s
HRY Holter Researc 71.49 44 *e*P P 11 12 05.1 +0.8
HOQ Hoqain 71.53 286 P P 11 12 06.0 +1.2
SNR=19
HOQ Hoqain 71.53 286 P P 11 12 06.0 +1.2
SNR=19
UOSS Minazif 71.55 287 *e*P P 11 12 04.4 -0.4
comp=Z,173nm,0.8s
UOSS LR LR
comp=Z,3µm,21.0s
UOSS Minazif 71.55 287 *i* P P 11 12 03.8 -1.0
SNR=82
NC405 NORSAR Array S 71.62 337 *e*P P 11 12 03.6 -1.0
MOL Molde 71.63 340 *e*S S 11 21 24.1 +0.9
NC303 NORSAR Array S 71.63 337 *e*P P 11 12 04.8 +0.1
CLDR Caldiran 71.64 306 *e*P P 11 12 05.2 -0.2
DOMB Dombas 71.64 339 *e*P P 11 12 04.7 -0.1
DOMB lAmb lAmb 11 12 06.9
comp=Z,128nm,1.0s
JMDO Jabal Madar 71.65 284 P P 11 12 09.0 +3.5
SNR=10
JMDO Jabal Madar 71.65 284 P P 11 12 09.0 +3.5
SNR=10
HATD Hatta, Dubai 71.67 287 P P 11 12 06.0 +0.5
SNR=55
HATD Hatta, Dubai 71.67 287 P P 11 12 06.0 +0.5
SNR=55
HATD Hatta, Dubai 71.67 287 *i* P P 11 12 05.3 -0.3
SNR=72
LRM Limekiln Ridge 71.71 45 *e*P P 11 12 06.5 +0.7
CMB Columbia Colle 71.74 56 *e*P P 11 12 06.5 +0.6
CMB pmax pmax
comp=Z,95nm,0.9s
CMB Columbia Colle 71.74 56 *e*P P 11 12 06.5 +0.6
comp=Z,95nm,0.9s
SENK Senkaya-Erzuru 71.75 308 *e*P P 11 12 07.1 +1.0
EGMT Eagleton 71.75 42 P P 11 12 05.3 -0.5
baz=310,SNR=74
EGMT Eagleton 71.75 42 *e*P P 11 12 06.4 +0.6
comp=Z,153nm,0.9s
EGMT LR LR
comp=Z,2µm,19.0s
NC204 NORSAR Array S 71.77 338 *e*P P 11 12 05.7 0.0
HFS Hagfors 71.78 336 LR LR 11 48 53.3
comp=Z,11µm,18.6s,baz=40,slow=40
SOHO SOHO 71.78 286 *i* P P 11 12 06.0 -0.2
SNR=62
NB201 NORSAR Array S 71.80 337 *e*P P 11 12 04.6 -1.1
ASHO Ashiyiah 71.81 287 P P 11 12 07.7 +1.3
SNR=55
ASHO Ashiyiah 71.81 287 P P 11 12 07.7 +1.3
SNR=55
ASHO Ashiyiah 71.81 287 *i* P P 11 12 06.0 -0.5
SNR=82
SAO San Andreas Ge 71.82 57 *e*P P 11 12 06.6 +0.3
SAO pmax pmax
comp=Z,46nm,1.0s
SAO San Andreas Ge 71.82 57 *e*P P 11 12 06.6 +0.3
comp=Z,46nm,1.0s
NB2 NORSAR Subarra 71.83 337 P P 11 12 05.6 -0.3
comp=Z,171nm,1.0s,baz=38,slow=6.2
NB2 NORSAR Subarra 71.83 337 P P 11 12 07.2 +1.3
NB2 pmax pmax
comp=Z,138nm,1.0s
NB2 NORSAR Subarra 71.83 337 P P 11 12 05.6 -0.3
baz=38,slow=6.2
NB200 NORSAR Array S 71.83 337 *e*P P 11 12 05.7 -0.3
NOA NORSAR Array B 71.83 337 P P 11 12 05.7 -0.3
comp=Z,45nm,0.6s,baz=38,slow=6.0,SNR=112
NOA LR LR 11 48 58.2
comp=Z,11µm,19.5s,baz=30,slow=40
NOA NORSAR Array B 71.83 337 P P 11 12 05.7 -0.3
NOA pmax pmax
comp=Z,46nm,0.6s
NOA MLR MLR
comp=Z,11µm,19.5s
YERR Yerington 71.90 54 *e*P P 11 12 08.0 +1.0
comp=Z,239nm,1.1s
DLMT Dillon 71.92 46 *e*P P 11 12 07.3 +0.5
comp=Z,130nm,0.9s
NAZ Nazwa, Dubai 71.92 288 P P 11 12 08.0 +1.0
SNR=19
NAZ Nazwa, Dubai 71.92 288 P P 11 12 08.0 +1.0
SNR=19
NAZ Nazwa, Dubai 71.92 288 *i* P P 11 12 06.5 -0.5
SNR=18
NBO02 NORSAR Array S 71.92 337 *e*P P 11 12 06.5 +0.1
NBO00 NORSAR Array S 71.96 337 *e*P P 11 12 06.5 -0.2
NC602 NORSAR Array S 71.97 337 *e*P P 11 12 05.9 -0.9
NC602 NORSAR Array S 71.97 337 *e*P P 11 12 05.8 -0.9
HLID Hailey 72.01 48 P P 11 12 06.8 -0.7
baz=308,SNR=70
HLID Hailey 72.01 48 *e*P P 11 12 08.4 +0.9
comp=Z,82nm,1.2s
HLID LR LR
comp=Z,2µm,22.0s
ANN Anapa 72.03 314 *e*P P 11 12 05.7 -1.6
ANN *i* *PP pP 11 12 08.6 -3.4
ANN *e* 11 12 21.6
ANN *e* 11 14 45.0
ANN *e*PPP PPP 11 16 32.5
ANN *e*S S 11 21 27.8 -0.6
ANN *e*SS SS 11 26 00.5 -4.0
ANN pmax pmax
comp=Z,286nm,1.2s
ANN pmax pmax
comp=N,62nm,1.3s
ANN pmax pmax
comp=E,69nm,1.3s
ANN smax smax
comp=N,2µm,8.2s
ANN smax smax
comp=E,2µm,8.2s
ANN MLR MLR
comp=N,11µm,17.0s
ANN MLR MLR
comp=E,15µm,17.0s
ANN MLR MLR
comp=E,10µm,17.0s
WAKR Walker 72.06 55 *e*P P 11 12 08.9 +0.9
comp=E,65nm,1.0s
NAO01 NORSAR Array S 72.08 337 *e*P P 11 12 07.2 -0.2
AKN Aaknes 72.10 340 *i* P P 11 12 08.0 +0.5
AKN *e*S S 11 21 31.0 +2.3
MCMT McKenzie Canyo 72.11 46 *e*P P 11 12 08.7 +0.6
ARQ Araqi 72.26 286 P P 11 12 12.0 +2.9
SNR=17
ARQ Araqi 72.26 286 P P 11 12 12.0 +2.9
SNR=17
BOZ Bozeman (W) 72.30 45 P P 11 12 09.1 -0.1
baz=309,SNR=146
BOZ Bozeman (W) 72.30 45 *e*P P 11 12 09.7 +0.5
BOZ pmax pmax
comp=Z,158nm,1.0s
BOZ MLR MLR
comp=Z,3µm,19.0s
BOZ Bozeman (W) 72.30 45 *e*P P 11 12 09.7 +0.5
comp=Z,158nm,1.0s
BOZ LR LR
comp=Z,3µm,19.0s
BGMT Barton Gulch 72.30 46 *e*P P 11 12 10.1 +0.8
ALNE Al Ain 72.41 287 *i* P P 11 12 09.3 -0.7
SNR=42
AKASG Malin Array Be 72.45 322 P P 11 12 09.2 -0.6
comp=Z,68nm,0.4s,baz=46,slow=6.1,SNR=283
AKASG S S 11 21 31.8 -1.2
comp=Z,5.0nm,1.0s,baz=44,slow=12,SNR=10.0
AKASG LR LR 11 47 07.3
comp=Z,8µm,20.1s,baz=65,slow=38
AKASG Malin Array Be 72.45 322 *i* P P 11 12 09.1 -0.6
AKASG pmax pmax
comp=Z,71nm,0.4s
AKBB Malin Array Si 72.45 322 *e*P P 11 12 09.4 -0.4
AKBB *e*S S 11 21 34.4 +1.4
AKBB pmax pmax
comp=Z,363nm,1.1s
AKBB Malin Array Si 72.45 322 *e*P P 11 12 09.3 -0.4
comp=Z,363nm,1.1s
AKBB *e*S S 11 21 34.4 +1.4
KIEV Kiev 72.46 322 *c i*P P 11 12 09.2 -0.5
KIEV pmax pmax
comp=Z,337nm,1.0s
KIEV MLR MLR
comp=Z,8µm,16.0s
KIEV Kiev 72.46 322 *e*P P 11 12 09.3 -0.5
comp=Z,295nm,1.0s
KIEV *e*S S 11 21 33.9 +0.7
KIEV LR LR
comp=Z,9µm,21.0s
KIEV Kiev 72.46 322 *i* P P 11 12 09.3 -0.5
SNR=17
AK11 Malin Array Si 72.49 322 *e*P P 11 12 09.2 -0.8
BBOO Buckleboo 72.53 185 *e*P P 11 12 09.8 -0.4
comp=Z,168nm,1.0s
BBOO LR LR
comp=Z,6µm,22.0s
COMI Craters of Moo 72.54 48 *e*P P 11 12 12.0 +1.3
RYN Ryan 72.56 54 *e*P P 11 12 12.0 +1.1
comp=Z,77nm,1.0s
PMPB Monarch Peak 72.56 57 *e*P P 11 12 14.4 +3.7
comp=Z,95nm,1.1s
KVN Kaiserville 72.57 54 *e*P P 11 12 12.0 +1.0
KVN Kaiserville 72.57 54 *e*P P 11 12 12.0 +1.0
AJN Ajban 72.67 288 *i* P P 11 12 11.0 -0.5
SNR=12
LHI Lord Howe Isla 72.72 165 *e*P P 11 12 13.3 +2.0
comp=Z,230nm,1.0s
LHV Little Huntoon 72.80 54 *e*P P 11 12 13.8 +1.8
NV01 Mina Array Sit 72.82 54 *e*P P 11 12 12.8 +0.3
NVAR Mina Array Bea 72.82 54 P P 11 12 13.4 +1.0
comp=Z,51nm,1.0s,baz=287,slow=5.7,SNR=84
NVAR LR LR 11 37 08.1
comp=Z,1µm,21.7s,baz=60,slow=30
NVAR PKPPKP P'P'df 11 39 42.5 -17
comp=Z,0.2nm,0.3s,baz=158,slow=2.3,SNR=4.4
SUW Suwalki 72.85 327 *e*P P 11 12 12.6 +0.6
SUW *e*S S 11 21 31.7 -5.8
SUW LMZ LR 11 46 12.8
comp=Z,14µm,20.0s
SUW Suwalki 72.85 327 *e*P P 11 12 12.4 +0.4
SUW pmax pmax
comp=Z,507nm,1.2s
SUW MLR MLR
comp=Z,16µm,19.0s
SUW Suwalki 72.85 327 *e*P P 11 12 12.4 +0.4
comp=Z,507nm,1.2s
SUW LR LR
comp=Z,16µm,19.0s
OSL Oslo 72.85 337 *e*P P 11 12 12.6 +0.6
OSL lAmb lAmb 11 12 14.4
comp=Z,185nm,1.1s
NV11 Mina Array Sit 72.91 54 *e*P P 11 12 13.8 +0.9
comp=Z,11nm,1.3s
MLAC Mammoth, Mammo 72.97 55 P P 11 12 13.1 -0.3
baz=308
SFJD Kangerlussuaq 73.02 5 P P 11 12 12.9 0.0
comp=Z,109nm,0.9s,baz=352,slow=8.3,SNR=19
SFJD LR LR 11 46 19.0
comp=Z,5µm,20.1s,baz=348,slow=37
SFJD Kangerlussuaq 73.02 5 *e*P P 11 12 13.3 +0.4
SFJD MLR MLR
comp=Z,7µm,22.0s
SFJD Kangerlussuaq 73.02 5 *i* P P 11 12 13.1 +0.2
comp=Z,123nm,1.1s
SFJD *i* 11 12 21.7
SFJD Kangerlussuaq 73.02 5 *e*P P 11 12 13.3 +0.4
SFJD LR LR
comp=Z,7µm,22.0s
YHB Horse Butte 73.07 46 *e*P P 11 12 14.8 +1.0
comp=Z,82nm,0.9s
YHB LR LR
comp=Z,2µm,21.0s
FOO Floro 73.10 340 *e*P P 11 12 14.1 +0.7
HYA Hoyanger 73.15 339 *e*P P 11 12 13.6 -0.1
GURO Guroymak-BITLI 73.17 306 *e*P P 11 12 14.9 +0.5
BAYT Ayd¯–ntepe-Bay 73.19 309 *e*P P 11 12 15.6 +1.0
CRMT Chrome Mountai 73.19 44 *e*P P 11 12 15.5 +0.8
PAGB Antelope Grade 73.21 57 *e*P P 11 12 15.8 +1.2
comp=Z,177nm,1.2s
GCMT Greycliff 73.23 44 *e*P P 11 12 16.4 +1.7
YHH Holmes Hill 73.24 45 *e*P P 11 12 15.8 +0.9
comp=Z,109nm,1.2s
YHH LR LR
comp=Z,2µm,18.0s
YMR Madison River 73.25 45 *e*P P 11 12 16.5 +1.6
comp=Z,80nm,0.9s
YMR LR LR
comp=Z,2µm,20.0s
KONO Kongsberg 73.42 337 *c e*P P 11 12 15.6 +0.2
KONO pmax pmax
comp=Z,92nm,1.4s
KONO MLR MLR
comp=Z,10µm,18.0s
KONO Kongsberg 73.42 337 *e*P P 11 12 15.7 +0.4
comp=Z,131nm,1.3s
KONO LR LR
comp=Z,11µm,18.0s
KONO Kongsberg 73.42 337 *e*P P 11 12 15.4 +0.1
KONO *e*S SKiKP 11 21 44.8 -0.8
MCID Moose Creek 73.44 46 *e*P P 11 12 17.8 +1.8
YFT Old Faithful 73.46 46 *e*P P 11 12 18.6 +2.4
comp=Z,88nm,1.0s
RCTC Rector, Farmer 73.51 56 P P 11 12 16.1 -0.2
baz=308,SNR=10
SIRT Sirnak 73.55 305 *e*P P 11 12 17.2 +0.5
LKWY Lake 73.63 45 PFAKE 11 12 30.0 +13
LKWY LR LR
comp=Z,2µm,18.0s
SMMC Simmler 73.63 58 P P 11 12 18.0 +1.0
baz=308,SNR=12
SUE Sulen 73.63 340 *e*P P 11 12 17.0 +0.5
H17A Grant Village 73.64 46 P P 11 12 19.1 +1.9
baz=310,SNR=100
H17A Grant Village 73.64 46 *e*P P 11 12 19.8 +2.5
comp=Z,233nm,1.3s
H17A LR LR
comp=Z,5µm,21.0s
TIN Tinemaha, Big 73.70 55 P P 11 12 18.5 +0.9
baz=308,SNR=7.1
BNGB Bing¶ll 73.73 307 *e*P P 11 12 18.3 +0.6
SIM Simferopol' 73.76 315 *d i*P P 11 12 18.4 +0.8
SIM *e* 11 15 08.0
SIM *e*PPP PPP 11 16 55.0
SIM *i* S S 11 21 50.2 +2.1
SIM *i* SS SS 11 26 32.0 +1.1
SIM pmax pmax
comp=Z,290nm,1.2s
SIM pmax pmax
comp=Z,310nm,12.2s
IMW Indian Meadow 73.76 46 *e*P P 11 12 19.5 +1.5
comp=Z,91nm,1.1s
IMW LR LR
comp=Z,2µm,22.0s
YTP The Promontory 73.80 45 *e*P P 11 12 20.2 +2.0
FXWY Fox Creek 73.88 46 *e*P P 11 12 20.1 +1.4
comp=Z,83nm,1.0s
RLMT Red Lodge 73.88 44 P P 11 12 19.3 +0.6
baz=311,SNR=21
RLMT Red Lodge 73.88 44 *e*P P 11 12 19.7 +1.0
comp=Z,228nm,1.6s
RLMT LR LR
comp=Z,3µm,20.0s
VES Vestal, Richgr 73.89 57 P P 11 12 18.5 -0.1
baz=308,SNR=24
SVAN Silvan-Diyarba 73.93 306 *e*P P 11 12 19.6 +0.8
ERZN Erzincan 73.94 308 *e*P P 11 12 18.7 -0.3
MOOW Moose Ponds 73.96 46 *e*P P 11 12 20.5 +1.4
comp=Z,74nm,1.1s
MOOW LR LR
comp=Z,2µm,20.0s
ASK Askoy 73.99 339 *e*P P 11 12 18.8 +0.2
ASK lAmb lAmb 11 12 21.3
comp=Z,95nm,1.0s
PKM Mcpherson Peak 74.00 58 P P 11 12 20.1 +0.7
baz=308,SNR=23
TPAW Teton Pass 74.01 46 *e*P P 11 12 20.9 +1.4
comp=Z,81nm,1.0s
TPAW LR LR
comp=Z,2µm,20.0s

BER Bergen 74.04 339 *e*P **P** **11 12 19.6 +0.6**
BER *e*S **S** **11 21 52.7 +2.0**
HVU Hansel Valley 74.07 49 *e*P **P** **11 12 20.8 +1.1**
HVU pmax pmax
comp=Z,68nm,1.0s
HVU MLR MLR
comp=Z,2µm,20.0s
HVU Hansel Valley 74.07 49 *e*P **P** **11 12 20.8 +1.1**
comp=Z,68nm,1.0s
HVU LR LR
comp=Z,2µm,20.0s
ODD1 Odda 74.07 338 *e*P **P** **11 12 19.8 +0.6**
ODD1 lAmb lAmb 11 12 21.8
comp=Z,160nm,1.3s
LOHW Long Hollow 74.13 46 *e*P **P** **11 12 21.3 +1.2**
comp=Z,30nm,0.9s
SNOW Snow King Moun 74.14 46 *e*P **P** **11 12 22.0 +1.8**
comp=Z,64nm,1.0s
REDW Red Top Meadow 74.15 46 *e*P **P** **11 12 21.3 +1.1**
comp=Z,72nm,1.1s
REDW LR LR
comp=Z,2µm,21.0s
CWC Cottonwood Cre 74.17 56 P **P** **11 12 20.9 +0.5**
baz=308
GRAC Grapevine Rang 74.28 55 P **P** **11 12 21.4 +0.5**
baz=308,SNR=64
MTUT Morton Thiokol 74.30 49 *e*P **P** **11 12 22.4 +1.3**
SBC Santa Barbara 74.34 58 P **P** **11 12 21.0 -0.1**
baz=308
AHID Auburn Hatcher 74.39 47 *e*P **P** **11 12 22.8 +1.2**
comp=Z,34nm,0.8s
AHID LR LR
comp=Z,3µm,22.0s
ISA Isabella, Lake 74.40 57 P **P** **11 12 21.4 -0.2**
baz=308,SNR=38
ISA Isabella, Lake 74.40 57 *e*P **P** **11 12 21.5 -0.2**
ISA pmax pmax
comp=Z,56nm,1.0s
ISA Isabella, Lake 74.40 57 *e*P **P** **11 12 21.5 -0.2**
comp=Z,56nm,1.0s
LAO LASA Array 74.44 42 P **P** **11 12 22.8 +1.2**
baz=312,SNR=19
LAO LASA Array 74.44 42 *e*P **P** **11 12 23.1 +1.4**
comp=Z,129nm,1.0s
LAO LR LR
comp=Z,3µm,20.0s
BGU Big Grassy Mou 74.46 50 *e*P **P** **11 12 23.0 +1.0**
comp=Z,95nm,1.3s
BGU LR LR
comp=Z,2µm,20.0s
LTU Little Mountai 74.49 49 *e*P **P** **11 12 23.2 +1.1**
ARVC Arvin 74.50 57 P **P** **11 12 22.7 +0.6**
baz=308,SNR=28
BLS5 Blasjo 74.53 338 *e*P **P** **11 12 22.4 +0.5**
R11A Troy Canyon, C 74.55 53 P **P** **11 12 23.0 +0.4**
baz=309,SNR=145
R11A Troy Canyon, C 74.55 53 *e*P **P** **11 12 23.2 +0.6**
comp=Z,88nm,1.0s
SPUT South Promonto 74.56 49 *e*P **P** **11 12 24.0 +1.5**
comp=Z,107nm,1.4s
SPUT LR LR
comp=Z,2µm,20.0s
PTK Pertek 74.58 308 *e*P **P** **11 12 23.5 +0.7**
DAC Darwin (Calif) 74.58 56 *e*P **P** **11 12 23.3 +0.5**
DAC pmax pmax
comp=Z,77nm,1.3s
DAC Darwin (Calif) 74.58 56 *e*P **P** **11 12 23.3 +0.5**
comp=Z,76nm,1.3s
SORM Soroca 74.61 321 P **P** **11 12 22.7 +0.3**
SORM Soroca 74.61 321 ⇓*i*P **P** **11 12 22.8 +0.3**
SCZ2 Santa Cruz Isl 74.66 59 P **P** **11 12 23.3 +0.2**
baz=308
DYBB Diyarbakir 74.71 307 *e*P **P** **11 12 24.9 +1.5**
GZU Grizzly Peak 74.76 49 *e*P **P** **11 12 24.9 +1.0**
MPMC Manual Prospec 74.78 56 P **P** **11 12 24.5 +0.4**
baz=308,SNR=94
SNUT Stansbury Nort 74.79 49 *e*P **P** **11 12 25.2 +1.3**
MAZI Mazidag 74.83 306 *e*P **P** **11 12 24.3 +0.2**
ANGG Ammassalik, Gr 74.86 360 *e*P **P** **11 12 23.7 +0.1**
comp=Z,48nm,0.9s
ANGG LR LR
comp=Z,9µm,21.0s
HWUT Hardware Ranch 74.88 48 *e*P **P** **11 12 25.4 +0.9**
comp=Z,172nm,1.5s
HWUT LR LR
comp=Z,2µm,21.0s
HOMB Homborsund 74.88 337 *e*P **P** **11 12 23.9 +0.1**
HOMB lAmb lAmb 11 12 26.1
comp=Z,142nm,1.2s
OSI Osito Audit: C 74.88 58 P **P** **11 12 24.2 -0.2**
baz=308
OSI Osito Audit: C 74.88 58 *e*P **P** **11 12 26.3 +1.9**
comp=Z,73nm,0.8s
FURC Furnace Creek, 74.93 55 P **P** **11 12 24.9 +0.4**
baz=309,SNR=64
BORG Borgarnes 74.93 353 LR LR 11 48 33.9
comp=Z,2µm,18.1s,baz=16,slow=38
BLG Laguna Peak, P 74.97 58 P **P** **11 12 24.3 -0.6**
baz=308
MCU Monte Cristo P 75.00 48 *e*P **P** **11 12 26.3 +1.0**
FSU Fish Springs 75.01 51 *e*P **P** **11 12 26.3 +1.1**
LRMC Laurel Mtn Rad 75.02 56 P **P** **11 12 25.6 +0.3**
baz=308,SNR=39
SNOP Sinop 75.05 312 *e*P **P** **11 12 25.4 +0.2**
KMY Karmoy 75.05 339 *e*P **P** **11 12 25.6 +0.8**
KMY lAmb lAmb 11 12 27.5
comp=Z,215nm,1.4s
DUG Dugway, Tooele 75.05 50 P **P** **11 12 26.1 +0.7**
baz=310,SNR=85
DUG Dugway, Tooele 75.05 50 *e*P **P** **11 12 26.3 +0.9**
DUG pmax pmax
comp=Z,131nm,1.1s
DUG Dugway, Tooele 75.05 50 *e*P **P** **11 12 26.3 +0.9**
comp=Z,131nm,1.1s
CAN Canberra 75.07 174 *e*P **P** **11 12 24.7 -0.5**
CAN pmax pmax
comp=Z,100nm,1.3s
CAN MLR MLR
comp=Z,3µm,19.0s
CAN Canberra 75.07 174 *e*P **P** **11 12 24.6 -0.5**
comp=Z,100nm,1.3s
CAN LR LR
comp=Z,3µm,19.0s
KIS Kishinev 75.15 319 ⇓*i*P **P** **11 12 25.0 -0.7**
comp=Z,600nm,1.4s
KIS Kishinev 75.15 319 *i* PcP **PcP** **11 12 34.0 -5.2**
KIS Kishinev 75.15 319 *e*PP PP 11 15 20.0 +6.7
KIS Kishinev 75.15 319 *i* PS **PnS** **11 22 36.0 -2.8**
KIS *i* SS SS 11 26 58.0 +6.1
KIS *i* SSS SSS 11 30 50.0
KIS LRM MLR 11 48 50.0
comp=Z,12µm,14.0s
KIS Kishinev 75.15 319ĸ *i*P **P** **11 12 25.0 -0.7**
KIS *i* 11 12 34.0
KIS *e* 11 15 20.0
KIS *e*PPP PPP 11 17 05.0
KIS *i* S **S** **11 22 04.0 +0.3**
KIS *i* 11 22 24.0
KIS *i* PS **PnS** **11 22 36.0 -2.8**
KIS *i* SS **SS** **11 26 58.0 +6.1**
KIS pmax pmax
comp=Z,600nm,1.4s
KIS pmax pmax
comp=Z,500nm,1.6s
KIS smax smax
comp=N,2µm,10.0s
KIS smax smax
comp=E,2µm,8.0s
KIS MLR MLR
comp=Z,16µm,13.0s
KIS MLR MLR
comp=N,12µm,14.0s
KIS MLR MLR
comp=E,12µm,14.0s
KIS MLR MLR
comp=Z,16µm,14.0s
STAV Stavanger 75.15 338 *e*P **P** **11 12 25.8 +0.4**
KVT Kavak 75.17 311 *e*P **P** **11 12 27.7 +1.7**
EDW2 Edwards Air Fo 75.19 57 P **P** **11 12 26.9 +0.7**
baz=308,SNR=58
SNCC San Nicolas Is 75.19 59 P **P** **11 12 26.8 +0.6**
baz=308
SNART Snartemo 75.21 337 *e*P **P** **11 12 26.3 +0.5**
SNART lAmb lAmb 11 12 28.3
comp=Z,75nm,1.0s
BSD Bornholm Skovb 75.25 332 *i* P **P** **11 12 26.0 -0.1**
comp=Z,391nm,1.3s
BSD *i* 11 12 34.8
BW06 Boulder Array 75.26 46 P **P** **11 12 26.1 -0.6**
baz=311,SNR=34
BW06 Boulder Array 75.26 46 *e*P **P** **11 12 26.5 -0.2**
comp=Z,44nm,0.9s
BW06 LR LR
comp=Z,2µm,18.0s
DIKM Dikmen 75.26 312 *e*P **P** **11 12 26.9 +0.5**
PD31 Pinedale Array 75.26 46 *e*P **P** **11 12 26.8 0.0**
PDAR Pinedale Array 75.26 46 P **P** **11 12 26.7 0.0**
comp=Z,18nm,0.6s,baz=273,slow=2.6,SNR=74
PDAR PKPPKP P'P'df 11 39 41.5 -15
comp=Z,1.2nm,1.1s,baz=48,slow=2.2,SNR=5.4
PDAR Pinedale Array 75.26 46 *e*P **P** **11 12 26.1 -0.6**
RBU Red Butte Cany 75.27 49 *e*P **P** **11 12 27.6 +0.9**
TCUT Toone Canyon 75.28 49 *e*P **P** **11 12 27.9 +1.1**
comp=Z,178nm,0.9s
TCUT LR LR
comp=Z,3µm,21.0s
DECC Green Verdugo 75.36 58 P **P** **11 12 25.8 -1.3**
baz=308
CTU Camp Tracy 75.36 49 *e*P **P** **11 12 28.5 +1.2**
comp=Z,58nm,1.2s
CTU LR LR
comp=Z,2µm,20.0s
SVSK Karacayir 75.36 310 *e*P **P** **11 12 28.1 +1.1**
TOKT Tokat 75.37 310 *e*P **P** **11 12 28.9 +1.8**
GMU Granite Mounta 75.42 49 *e*P **P** **11 12 28.3 +0.7**
BEL Belsk 75.43 327 *e*P **P** **11 12 28.0 +0.9**
BEL *e*S **S** **11 22 12.8 +6.3**
BEL LMZ LR 11 47 29.1
comp=Z,12µm,21.8s
BEL Belsk 75.43 327 *e*P **P** **11 12 28.0 +0.9**
BEL *e*S **S** **11 22 12.8 +6.3**
BEL MLR MLR
comp=Z,12µm,21.8s
LVV L'vov 75.47 324 *e*P **P** **11 12 25.9 -1.5**
LVV *e* 11 15 16.9
LVV *e*PPP PPP 11 17 02.9
LVV *e*S **S** **11 22 03.3 -3.8**
LVV MLR MLR
comp=N,17µm,14.0s
LVV MLR MLR
comp=E,14µm,14.0s
LVV MLR MLR
comp=Z,21µm,14.0s
PASC Pasadena Art C 75.50 58 *e*P **P** **11 12 29.2 +1.3**
comp=Z,68nm,1.1s
MALT Malatya 75.53 308 *e*P **P** **11 12 29.9 +1.8**
HOLC Holcomb Ridge 75.55 57 *e*P **P** **11 12 29.4 +1.1**
MWC Mount Wilson 75.55 57 *e*P **P** **11 12 29.3 +0.9**
MWC Mount Wilson 75.55 57 *e*P **P** **11 12 29.3 +0.9**
JLU Jordanelle 75.59 49 *e*P **P** **11 12 29.7 +1.0**
comp=Z,50nm,1.0s
JLU LR LR
comp=Z,2µm,20.0s
NLU North Lily Min 75.64 50 *e*P **P** **11 12 30.0 +1.1**
comp=Z,88nm,1.1s
IAS Iasi 75.64 320 ⇓*i*P **P** **11 12 30.4 +1.9**
SHOC Shoshone, Teco 75.65 55 P **P** **11 12 29.0 +0.2**
baz=309,SNR=36
COP Copenhagen 75.69 333 *i* P **P** **11 12 29.6 +1.1**
COP pmax pmax
comp=Z,150nm,1.1s
COP MLR MLR
comp=Z,10µm,23.0s
COP Copenhagen 75.69 333 *i* P **P** **11 12 29.6 +1.1**
comp=Z,150nm,1.1s
GSC Goldstone, Bar 75.69 56 P **P** **11 12 28.9 -0.2**
baz=309,SNR=52
GSC Goldstone, Bar 75.69 56 *e*P **P** **11 12 29.8 +0.7**
GSC pmax pmax
comp=Z,82nm,1.0s
GSC Goldstone, Bar 75.69 56 *e*P **P** **11 12 29.8 +0.7**
comp=Z,82nm,1.0s
FMP Fort Macarthur 75.72 58 P **P** **11 12 29.5 +0.4**
baz=309
BZK Bozkurt 75.77 313 *e*P **P** **11 12 29.5 +0.2**
GKP Gorka Klasztor 75.80 329 *e*P **P** **11 12 30.0 +0.8**
GKP *e*S **S** **11 22 10.8 +0.3**
GKP LMZ LR 11 48 41.3
comp=Z,14µm,18.8s
GKP Gorka Klasztor 75.80 329 *e*P **P** **11 12 30.0 +0.8**
GKP *e*S **S** **11 22 10.8 +0.3**
GKP MLR MLR
comp=Z,14µm,18.8s
LEOM Leova 75.80 319 ⇓*i*P **P** **11 12 30.2 +0.8**
BFSC Mount Baldy Ra 75.80 57 P **P** **11 12 30.6 +0.7**
baz=309,SNR=41
CIS Catalina Islan 75.83 58 P **P** **11 12 30.3 +0.4**
baz=309,SNR=7.3
RRX Edison Barstow 75.83 56 P **P** **11 12 29.4 -0.4**
baz=309
URFA Urfa 75.84 307 *e*P **P** **11 12 31.5 +1.6**
MPU Maple Canyon 75.86 50 *e*P **P** **11 12 31.2 +1.0**
comp=Z,108nm,1.0s
MPU LR LR
comp=Z,2µm,20.0s
DARE Darende-Malaty 75.94 309 *e*P **P** **11 12 31.8 +1.3**
FLU Fool Peak 75.96 50 *e*P **P** **11 12 31.9 +1.1**
SHPR Sheep Range 75.97 54 *e*P **P** **11 12 32.0 +1.2**
comp=Z,131nm,1.2s
SCI2 San Clemente I 76.00 59 P **P** **11 12 31.2 +0.4**
baz=309
NWAO Narrogin (SRO) 76.02 201 *e*P **P** **11 12 30.2 -0.4**
NWAO pmax pmax
comp=Z,120nm,1.1s
NWAO Narrogin (SRO) 76.02 201 *e*P **P** **11 12 30.2 -0.4**
comp=Z,120nm,1.1s
LLD Lille Linde 76.04 333 *e*P **P** **11 12 31.3 +0.7**
LLD Lille Linde 76.04 333 *i* P **P** **11 12 31.3 +0.7**
SHAO Shalim 76.11 282 P **P** **11 12 32.7 +1.0**
SNR=9.4
SHAO Shalim 76.11 282 P **P** **11 12 32.7 +1.0**
SNR=9.4
SHAO Shalim 76.11 282 *i* P **P** **11 12 31.3 -0.3**
SNR=13
MUD Monsted U'grnd 76.16 335 *i* P **P** **11 12 32.2 +1.0**
MUD *i* 11 12 40.8
MUD pmax pmax
comp=Z,210nm,1.4s
MUD MLR MLR
comp=Z,15µm,19.0s
MUD Monsted U'grnd 76.16 335 *i* P **P** **11 12 32.2 +1.0**
comp=Z,211nm,1.4s
MUD *i* 11 12 40.8
TUQ Turquoise Moun 76.17 55 P **P** **11 12 32.7 +0.8**
baz=309,SNR=94
PRAR RASCA 76.18 321 ⇑*i*P **P** **11 12 32.8 +1.2**
KWP Kalwaria Pacla 76.20 324 *e*P **P** **11 12 32.8 +1.2**
KWP *e*S **S** **11 22 18.5 +3.3**
KWP LMZ LR 11 49 10.5
comp=Z,30µm,16.2s
KWP Kalwaria Pacla 76.20 324 *e*P **P** **11 12 32.5 +0.9**
KWP Kalwaria Pacla 76.20 324 *e*P **P** **11 12 32.5 +0.9**
KWP LR LR
comp=Z,85µm,20.0s
BBRC Big Bear Solar 76.26 57 P **P** **11 12 32.6 +0.1**
baz=309,SNR=18
WCU Willow Creek 76.27 51 *e*P **P** **11 12 33.9 +1.3**
RGN Rugen 76.27 332 *e*P **P** **11 12 31.6 -0.3**
comp=Z,323nm,1.0s
RGN LR LR
comp=Z,15µm,20.0s
DWU Dry Willow Pea 76.28 52 *e*P **P** **11 12 33.9 +1.2**
HEC Hector,Ludlow 76.28 56 P **P** **11 12 33.0 +0.5**
baz=309,SNR=16
TCRU Three Creeks R 76.29 51 PFAKE 11 12 50.0 +17
TCRU LR LR
comp=Z,2µm,21.0s
TLCR 76.40 318 ⇓*i*P **P** **11 12 33.2 +0.4**
CCUT Cedar City 76.41 52 *e*P **P** **11 12 34.5 +1.1**
comp=Z,124nm,1.1s
BUR08 Bucovina Ar. S 76.47 322 *e*P **P** **11 12 33.6 +0.3**
BUR04 Bucovina Ar. S 76.48 322 *e*P **P** **11 12 33.4 0.0**
BURAR Bucovina Array 76.48 322 P **P** **11 12 33.8 +0.4**
BURAR Bucovina Array 76.48 322 ⇓*i*P **P** **11 12 33.9 +0.5**
MURC Murrieta 76.50 58 P **P** **11 12 33.9 +0.2**
baz=309,SNR=14
MSU Marysvale 76.51 51 *e*P **P** **11 12 35.3 +1.4**
MSU Marysvale 76.51 51 *e*P **P** **11 12 35.3 +1.4**
ILGA Ilgaz 76.53 312 *e*P **P** **11 12 35.2 +1.2**
comp=Z,222nm,0.8s
ILGA LR LR
comp=Z,3µm,21.0s
YOZ Yozgat 76.53 311 *e*P **P** **11 12 34.8 +0.9**
SZCU Shurtz Canyon 76.55 52 *e*P **P** **11 12 35.2 +1.1**
comp=Z,78nm,1.2s
TESR Tescani 76.57 320 ⇑*i*P **P** **11 12 33.9 +0.1**
CORM Corum 76.58 311 *e*P **P** **11 12 34.8 +0.7**
TMUT Trail Mountain 76.58 50 *e*P **P** **11 12 35.2 +0.9**
comp=Z,82nm,1.1s
TMUT LR LR
comp=Z,2µm,21.0s
BNN Bunyan 76.73 310 *e*P **P** **11 12 34.7 -0.3**
P17A Butcher Ranch, 76.74 49 *e*P **P** **11 12 36.2 +1.1**
comp=Z,129nm,1.0s
P17A LR LR
comp=Z,2µm,21.0s
GMRC Granite Mounta 76.74 56 P **P** **11 12 35.7 +0.5**
baz=310,SNR=57
CFR Carcaliu 76.75 318 ⇑*i*P **P** **11 12 35.2 +0.4**
MTPU Mount Pierson 76.81 51 *e*P **P** **11 12 37.2 +1.4**
comp=Z,81nm,0.9s
MTPU LR LR
comp=Z,2µm,19.0s
ULM Lac du Bonnet 76.81 34 P **P** **11 12 34.7 -0.4**
comp=Z,60nm,1.0s,baz=307,slow=6.6,SNR=28
ULM LR LR 11 49 05.1
comp=Z,3µm,19.8s,baz=342,slow=38
ULM Lac du Bonnet 76.81 34 *e*P **P** **11 12 34.7 -0.4**
comp=Z,172nm,1.5s
ULM LR LR
comp=Z,4µm,19.0s
PETR Petresti 76.83 319 ⇓*i*P **P** **11 12 37.2 +2.0**
LCMT Little Creek M 76.83 53 *e*P **P** **11 12 36.9 +1.2**
comp=Z,135nm,1.0s
Q16A Castle Valley 76.85 50 *e*P **P** **11 12 37.3 +1.6**
comp=Z,101nm,1.1s
Q16A LR LR
comp=Z,2µm,19.0s
MDND Maddock 76.89 38 P **P** **11 12 34.6 -1.0**
baz=316,SNR=49
MDND Maddock 76.89 38 *e*P **P** **11 12 36.1 +0.6**
comp=Z,283nm,1.1s
MDND LR LR
comp=Z,4µm,20.0s
ODBI Odobesti 76.89 319 ⇑*i*P **P** **11 12 37.7 +2.1**
LDFC Landfair 76.91 55 *e*P **P** **11 12 36.7 +0.7**
comp=Z,205nm,1.0s
P18A Preston Nutter 76.92 49 *e*P **P** **11 12 37.4 +1.1**
comp=Z,126nm,1.1s
P18A LR LR
comp=Z,2µm,20.0s
PFO Pinyon Flats O 76.97 57 P **P** **11 12 35.4 -1.1**
baz=309,SNR=25
PFO Pinyon Flats O 76.97 57 *e*P **P** **11 12 35.6 -0.9**
PFO pmax pmax
comp=Z,86nm,1.3s
PFO Pinyon Flats O 76.97 57 *e*P **P** **11 12 35.6 -0.9**
comp=Z,86nm,1.3s
KMRS Kahramanmaras 76.97 308 *e*P **P** **11 12 36.9 +0.6**
XPFO Piæon Flat 76.97 57 *e*P **P** **11 12 35.6 -0.9**
comp=Z,91nm,1.3s
VRI Vrincioaia 76.98 320 ⇑*i*P **P** **11 12 37.5 +1.4**
GAZ Gaziantep 77.00 308 *e*P **P** **11 12 37.4 +0.9**
K22A Casper 77.00 45 P **P** **11 12 36.5 0.0**
baz=313,SNR=22
K22A Casper 77.00 45 *e*P **P** **11 12 37.0 +0.4**
comp=Z,99nm,1.0s
K22A LR LR
comp=Z,2µm,19.0s
109C Camp Elliot, M 77.01 58 P **P** **11 12 37.1 +0.6**
baz=309
CPE Camp Elliot 77.01 58 *e*P **P** **11 12 37.9 +1.5**
comp=Z,94nm,1.3s
STHS Stebnicka Huta 77.01 325 *e*P **P** **11 12 37.6 +1.4**
STHS pmax pmax
comp=Z,139nm,1.0s
STHS Stebnicka Huta 77.01 325 *e*P **P** **11 12 37.6 +1.4**
BELC Belle Mtn. Jos 77.02 57 P **P** **11 12 36.8 0.0**
baz=310,SNR=28
PLOR Plostina 77.03 320 ⇓*i*P **P** **11 12 37.8 +1.3**
OJC Ojcow 77.04 326 *e*P **P** **11 12 36.6 +0.2**
OJC *e*S **S** **11 22 22.9 -1.5**
OJC LMZ LR 11 49 05.0
comp=Z,14µm,20.1s
OJC Ojcow 77.04 326 *e*P **P** **11 12 36.6 +0.2**
OJC *e*S **S** **11 22 22.9 -1.5**
OJC MLR MLR
comp=Z,14µm,20.1s
OJC Ojcow 77.04 326 *e*P **P** **11 12 36.8 +0.3**
comp=Z,323nm,1.0s
KNB Kanab 77.09 52 *e*P **P** **11 12 38.6 +1.5**
KNB pmax pmax
comp=Z,174nm,1.2s
KNB Kanab 77.09 52 *e*P **P** **11 12 38.6 +1.5**
comp=Z,174nm,1.2s
SRU San Rafael Swe 77.10 50 *e*P **P** **11 12 37.8 +0.6**
SRU pmax pmax
comp=Z,106nm,0.9s
SRU MLR MLR
comp=Z,2µm,21.0s
SRU San Rafael Swe 77.10 50 *e*P **P** **11 12 37.8 +0.6**
comp=Z,106nm,0.9s
SRU LR LR
comp=Z,2µm,21.0s
TIRR Tirgusor 77.11 318 *e*P **P** **11 12 37.0 +0.2**
TIRR pmax pmax
comp=Z,140nm,1.1s
TIRR MLR MLR
comp=Z,19µm,18.0s
TIRR Tirgusor 77.11 318 ⇓*i*P **P** **11 12 37.7 +0.9**
TIRR Tirgusor 77.11 318 *e*P **P** **11 12 37.0 +0.2**
comp=Z,140nm,1.1s
TIRR LR LR
comp=Z,19µm,18.0s
UZH Uzhgorod 77.11 324 *e*P **P** **11 12 35.8 -1.0**
UZH *e* 11 12 37.6
UZH *e* 11 12 47.2
UZH *e* 11 15 28.2
UZH *e* 11 17 19.8
UZH *e*S **S** **11 22 25.0 -0.2**
UZH *e* 11 22 47.6
UZH *e* 11 23 10.4
UZH MLR MLR
comp=N,16µm,15.0s
UZH MLR MLR
comp=E,39µm,15.0s
UZH MLR MLR
comp=Z,21µm,15.0s
PKCU Pink Cliffs 77.12 52 *e*P **P** **11 12 39.2 +1.8**
comp=Z,134nm,1.1s
HARR Harsova 77.19 318 ⇓*i*P **P** **11 12 38.1 +0.8**
GRER 77.20 319 ⇑*i*P **P** **11 12 39.0 +1.7**
TLB Topalu 77.21 318 ⇓*i*P **P** **11 12 37.8 +0.4**
A31A Linda, St. Vin 77.21 36 P **P** **11 12 36.0 -1.3**
baz=317
MMU Miners Mountai 77.24 51 *e*P **P** **11 12 39.2 +1.2**
EKU East Kanab 77.25 52 *e*P **P** **11 12 39.5 +1.5**
EFOR EFORIE 77.25 317 ⇑*i*P **P** **11 12 39.0 +1.4**
BMR Baia Mare 77.26 323 ⇓*i*P **P** **11 12 39.2 +1.6**
ARCR ARCALIA 77.27 322 ⇓*i*P **P** **11 12 39.7 +1.9**
CRVS Cervenica-Dubn 77.29 324 *e*P **P** **11 12 38.4 +0.6**
CRVS *e*S **S** **11 22 29.5 +2.3**
CRVS Cervenica-Dubn 77.29 324 *e*P **P** **11 12 38.4 +0.6**
CRVS *e*S **S** **11 22 29.5 +2.3**
RSSD Black Hills 77.32 43 P **P** **11 12 37.7 -0.7**
baz=314
RSSD Black Hills 77.32 43 *e*P **P** **11 12 38.6 +0.2**
RSSD pmax pmax
comp=Z,78nm,1.0s
RSSD MLR MLR
comp=Z,3µm,19.0s
RSSD Black Hills 77.32 43 *e*P **P** **11 12 38.6 +0.2**
comp=Z,78nm,1.0s
RSSD LR LR
comp=Z,3µm,19.0s
TRPA Tarpa 77.37 323 ⇓*e*P **P** **11 12 39.6 +1.4**
B31A Greenbush Farm 77.37 36 P **P** **11 12 38.3 0.0**
baz=317,SNR=34
NEE2 Needles Airpor 77.41 55 P **P** **11 12 39.1 +0.3**
baz=310,SNR=11
BAR Barrett 77.42 58 *e*P **P** **11 12 39.7 +0.8**
comp=Z,76nm,1.3s
NIE Niedzica 77.42 325 *e*P **P** **11 12 39.2 +0.6**
NIE *e*S **S** **11 22 32.3 +3.7**
NIE LMZ LR 11 50 15.9
comp=Z,11µm,17.0s
NIE Niedzica 77.42 325 *e*P **P** **11 12 39.2 +0.6**

NIE eS S 11 22 32.3 +3.7
NIE MLR MLR
comp=Z,11µm,17.0s
BR101 Keskin Array S 77.45 311 eP P 11 12 38.9 -0.1
BR131 Keskin Array S 77.45 311 eP P 11 12 39.2 +0.2
BRTR Keskin Array B 77.45 311 P P 11 12 38.9 -0.1
comp=Z,81nm,1.0s,baz=66,slow=3.6,SNR=104
BRTR LR LR 11 51 56.4
comp=Z,6µm,18.8s,baz=48,slow=40
MONP2 Monument Peak 77.45 58 P P 11 12 39.7 +0.5
baz=310,SNR=19
IRM Iron Mountain 77.47 56 P P 11 12 39.4 +0.3
baz=310,SNR=79
RBK Rabkut 77.50 282 P P 11 12 41.0 +1.5
SNR=13
RBK Rabkut 77.50 282 P P 11 12 41.0 +1.5
SNR=13
PGOR Pogoanele 77.52 319⇓iP P 11 12 40.7 +1.6
A32A Rocking H Ranc 77.53 35 P P 11 12 38.8 -0.4
baz=318,SNR=32
AMRR Amara 77.55 318⇓iP P 11 12 41.0 +1.7
DOPR Dopca 77.57 320⇓iP P 11 12 41.6 +2.1
WHFO Wadi Hawf 77.57 283 P P 11 12 40.0 +0.1
SNR=7.8
WHFO Wadi Hawf 77.57 283 P P 11 12 40.0 +0.1
SNR=7.8
BC3 Big Chuckawall 77.59 57 P P 11 12 40.2 +0.3
baz=310,SNR=53
ISR Istrita 77.60 319⇓iP P 11 12 41.4 +1.7
MLR Muntele Rosu 77.63 320 LR LR 11 50 34.1
comp=Z,3µm,18.2s,baz=44,slow=38
MLR Muntele Rosu 77.63 320 eP P 11 12 39.8 -0.1
MLR pmax pmax
comp=Z,35nm,2.0s
MLR MLR MLR
comp=Z,12µm,21.0s
MLR Muntele Rosu 77.63 320⇓iP P 11 12 41.2 +1.2
MLR Muntele Rosu 77.63 320 eP P 11 12 39.8 -0.1
comp=Z,35nm,2.0s
MLR LR LR
comp=Z,12µm,21.0s
KOZT Kozan 77.64 309 eP P 11 12 40.4 +0.4
W13A Hualapai Mount 77.66 55 eP P 11 12 41.1 +0.7
comp=Z,72nm,1.3s
O20A White River Ci 77.74 48 P P 11 12 40.7 0.0
baz=312,SNR=36
O20A White River Ci 77.74 48 eP P 11 12 41.2 +0.4
comp=Z,64nm,0.9s
O20A LR LR
comp=Z,2µm,19.0s
PSN Preselentsi 77.76 317 iP P 11 12 41.2 +0.7
U15A North Rim 77.79 53 eP P 11 12 42.4 +1.2
comp=Z,207nm,1.2s
C31A Landman Farms, 77.80 37 P P 11 12 40.8 +0.1
baz=317,SNR=29
IKP In-Ko-Pah, Jac 77.81 58 P P 11 12 42.0 +0.9
baz=310,SNR=25
SWSC Sam W. Stewart 77.82 57 P P 11 12 41.9 +0.8
baz=310,SNR=13
ANTO Ankara 77.84 312 eP P 11 12 42.8 +1.7
ANTO Ankara 77.84 312 eP P 11 12 41.7 +0.6
ANTO pmax pmax
comp=Z,275nm,1.1s
ANTO MLR MLR
comp=Z,4µm,19.0s
ANTO Ankara 77.84 312 eP P 11 12 41.7 +0.6
comp=Z,274nm,1.1s
ANTO LR LR
comp=Z,4µm,19.0s
ANTO Ankara 77.84 312 P P 11 12 42.6 +1.5
SNR=35
ANTO Ankara 77.84 312 P P 11 12 42.6 +1.5
SNR=35
BR231 Keskin MP Arra 77.87 312 eP P 11 12 39.5 -1.8
SECR 77.89 319⇓iP P 11 12 43.0 +1.7
B32A Ashes, Strandq 77.90 36 P P 11 12 40.8 -0.4
baz=318,SNR=39
CJR Cluj-Napoca 77.90 322 P P 11 12 43.0 +1.7
CJR Cluj-Napoca 77.90 322⇓iP P 11 12 43.1 +1.7
AFSR Af¯ar-Bala (A 77.96 312 eP P 11 12 41.1 -0.8
LANS Liptovska Anna 77.99 326 eP P 11 12 43.2 +1.5
LANS Liptovska Anna 77.99 326 eP P 11 12 43.2 +1.5
CEYT Ceyhan 77.99 308 eP P 11 12 43.4 +1.5
PLAR PLOIESTI 78.00 319⇓iP P 11 12 42.9 +1.1
A33A Warroad 78.00 35 P P 11 12 41.6 -0.2
baz=319,SNR=39
SERE Sereflikochisa 78.01 311 eP P 11 12 42.9 +0.7
PDMCI Parker Dam,Lak 78.01 55 P P 11 12 42.4 +0.4
baz=310,SNR=57
KSP Ksiaz 78.03 328 eP P 11 12 42.7 +0.8
KSP eS S 11 22 33.0 -2.0
KSP LMZ LR 11 49 55.7
comp=Z,14µm,19.1s
KSP Ksiaz 78.03 328 eP P 11 12 42.7 +0.8
KSP eS S 11 22 33.0 -2.0
KSP MLR MLR
comp=Z,14µm,19.1s
OKC Ostrava-Krasne 78.03 327 eP P 11 12 43.1 +1.2
OKC e 11 12 57.8
OKC e 11 15 41.3
OKC eS S 11 22 32.4 -2.7
OKC MLR MLR
comp=Z,15µm,14.1s
OKC Ostrava-Krasne 78.03 327 eP P 11 12 43.1 +1.2
OKC ex x 11 12 57.8
OKC ePP PP 11 15 41.3 +3.8
OKC eS S 11 22 32.4 -2.7
OKC AMS AMS 11 51 10.0
comp=Z,15µm,14.1s
KECS Kecovo 78.04 325 eP P 11 12 42.9 +0.9
KECS pmax pmax
comp=Z,35nm,1.1s
KECS Kecovo 78.04 325 eP P 11 12 42.9 +0.9
SULR 78.05 319⇑iP P 11 12 43.9 +1.8
MLA1 Latheron 78.06 342 eP P 11 12 41.7 -0.2
VOIR 78.12 320 P P 11 12 43.9 +1.4
VOIR 78.12 320⇓iP P 11 12 44.0 +1.4
RAO Raoul Island 78.12 145 LR LR 11 41 19.5
comp=Z,1µm,21.4s,baz=324,slow=31
RAO Raoul Island 78.12 145 eP P 11 12 44.4 +1.9
RAO Raoul Island 78.12 145 eP P 11 12 44.4 +1.9
comp=Z,2µm,0.6s
Y12C Blythe 78.13 56 P P 11 12 43.5 +0.7
baz=310,SNR=33
Y12C Blythe 78.13 56 eP P 11 12 43.8 +1.0
comp=Z,117nm,1.0s
YURE YUREGIR 78.18 308 eP P 11 12 44.1 +1.1
KARA Karaisali 78.25 309 eP P 11 12 43.9 +0.5
DRGR 78.26 322 P P 11 12 44.5 +1.1
DRGR 78.26 322⇓iP P 11 12 44.5 +1.1
AGMN Agassiz Nation 78.27 35 P P 11 12 42.8 -0.5
baz=318,SNR=20
AGMN Agassiz Nation 78.27 35 eP P 11 12 43.0 -0.3
comp=Z,125nm,1.4s
AGMN LR LR
comp=Z,4µm,19.0s
ABTO Aybut 78.27 283 P P 11 12 44.0 +0.2
SNR=24
ABTO Aybut 78.27 283 P P 11 12 44.0 +0.2
SNR=24
PV09 Paradox Valley 78.32 49 eP P 11 12 45.1 +0.9
C32A Crookston 78.32 36 P P 11 12 42.4 -1.2
baz=318
MORC Moravsky Berou 78.33 327 eP P 11 12 43.8 +0.1
MORC Moravsky Berou 78.33 327⇓iP P 11 12 45.1 +1.4
MORC Moravsky Berou 78.33 327 eP P 11 12 43.8 +0.1
comp=Z,814nm,1.0s
MORC LR LR
comp=Z,54µm,20.0s
MDUB Mudurnu 78.33 313 eP P 11 12 43.3 -0.6
D31A Mcclaflin, Tow 78.35 37 P P 11 12 43.1 -0.6
baz=317
ARR Arges 78.37 320⇓iP P 11 12 46.2 +2.2
GLA Glamis 78.38 57 P P 11 12 44.6 +0.4
baz=310,SNR=16
GLA Glamis 78.38 57 eP P 11 12 45.5 +1.3
GLA pmax pmax
comp=Z,69nm,0.8s
GLA MLR MLR
comp=Z,3µm,19.0s
GLA Glamis 78.38 57 eP P 11 12 45.5 +1.3
comp=Z,69nm,0.8s
GLA LR LR
comp=Z,3µm,19.0s
DPC Dobruska-Polom 78.40 328 eP P 11 12 44.9 +0.9
DPC e 11 12 54.1
DPC e 11 15 48.1
DPC eS S 11 22 38.7 -0.4
DPC MLR MLR
comp=Z,11µm,14.0s
DPC Dobruska-Polom 78.40 328 eP P 11 12 44.9 +0.9
DPC ePCP PcP 11 12 54.1 +0.9
DPC ePP PP 11 15 48.1 +7.5
DPC eS S 11 22 38.7 -0.4
DPC AMS AMS 11 51 10.0
comp=Z,11µm,14.0s
UPC Upice 78.40 328 eP P 11 12 44.8 +0.8
UPC e 11 12 54.3
UPC e 11 15 40.7
UPC eS S 11 22 38.0 -1.1
UPC smax smax
comp=Z,14µm,16.8s
UPC Upice 78.40 328 eP P 11 12 44.8 +0.8
UPC ePCP PcP 11 12 54.3 +1.1
UPC ePP PP 11 15 40.7 +0.2
UPC eS S 11 22 38.0 -1.1
UPC AMS AMS 11 50 00.0
comp=Z,14µm,16.8s
B33A Robert and Kas 78.41 35 P P 11 12 42.4 -1.6
baz=318,SNR=16
YAYL Yayladag 78.41 307 eP P 11 12 44.8 +0.4
KRLC Kraliky 78.42 328 eP P 11 12 45.3 +1.2
KRLC e 11 12 54.5
KRLC Kraliky 78.42 328 eP P 11 12 45.3 +1.2
KRLC ePCP PcP 11 12 54.5 +1.1
RSC Scourie 78.43 343 eP P 11 12 44.5 +0.6
PV10 Paradox Valley 78.46 49 eP P 11 12 46.1 +1.2
KRTS Karatas 78.50 308 eP P 11 12 45.9 +1.1
PHWY Pilot Hill 78.50 45 eP P 11 12 48.6 +3.5
comp=Z,50nm,0.9s
PHWY LR LR
comp=Z,2µm,22.0s
PRD Provadia 78.51 317 iP P 11 12 45.2 +0.6
N23A Red Feather La 78.52 46 P P 11 12 45.7 +0.6
baz=313,SNR=96
N23A Red Feather La 78.52 46 eP P 11 12 46.2 +1.0
comp=Z,208nm,1.2s
N23A LR LR
comp=Z,2µm,19.0s
SGRR Singureni 78.52 319⇑iP P 11 12 45.9 +1.2
SULT Sultanhani-AKS 78.53 310 eP P 11 12 45.2 +0.2
D32A Dogwood Acres, 78.61 37 P P 11 12 44.7 -0.4
baz=318
PV05 Paradox Valley 78.62 50 eP P 11 12 46.8 +1.1
E31A Nome 78.63 38 P P 11 12 45.1 -0.2
baz=317,SNR=25
CHBY Cihanbeyli 78.64 311 eP P 11 12 45.4 -0.2
B34A Aery, Baudette 78.66 35 P P 11 12 45.0 -0.5
baz=319,SNR=21
MCD Coleburn Disti 78.68 342 eP P 11 12 45.3 -0.1
C33A Trail 78.71 36 P P 11 12 45.3 -0.5
baz=318,SNR=9.9
PSZ Piszkesteto 78.72 325 eP P 11 12 46.3 +0.4
PSZ pmax pmax
comp=Z,211nm,1.0s
PSZ MLR MLR
comp=Z,25µm,18.0s
PSZ Piszkesteto 78.72 325⇓iP P 11 12 47.5 +1.6
PSZ Piszkesteto 78.72 325⇓eP P 11 12 47.1 +1.2
PSZ Piszkesteto 78.72 325 eP P 11 12 46.3 +0.4
comp=Z,211nm,1.0s
PSZ LR LR
comp=Z,25µm,18.0s
LOT Lotru 78.73 321⇑iP P 11 12 47.5 +1.5
VYHS Vyhne 78.76 326 eP P 11 12 46.7 +0.7
VYHS e 11 12 56.2
VYHS eS S 11 22 47.0 +4.0
VYHS pmax pmax
comp=Z,97nm,1.2s
VYHS MLR MLR
comp=Z,6µm,19.2s
VYHS Vyhne 78.76 326 eP P 11 12 46.7 +0.7
VYHS e 11 12 56.2
VYHS eS S 11 22 47.0 +4.0
VYHS eL L 11 50 20.8
HUMR Humele 78.80 320⇓iP P 11 12 47.2 +0.9
SVRH Sivrihisar-ESK 78.85 312 eP P 11 12 46.7 0.0
MME1 Meikle Cairn 78.85 342 eP P 11 12 46.5 +0.1
PV01 Paradox Valley 78.89 49 eP P 11 12 48.0 +0.7
IVI Ivigtut 78.93 5 eP P 11 12 46.9 +0.3
comp=Z,30µm,1.9s
BRG Berggiesshubel 78.94 330 iP P 11 12 47.8 +0.9
comp=Z,133nm,1.2s
BRG iPCP PcP 11 12 55.5 0.0
comp=Z,180nm,1.2s
BRG iPP PP 11 15 41.4 -3.5
comp=Z,51nm,1.2s
BRG S S 11 22 43.0 -1.8
BRG SS SS 11 27 31.0 -18
BRG Berggiesshubel 78.94 330 iP P 11 12 47.8 +0.9
BRG i 11 12 55.5
BRG i 11 15 41.4
BRG S S 11 22 43.0 -1.8
BRG pmax pmax
comp=Z,133nm,1.2s
BRG pmax pmax
comp=Z,51nm,1.2s
WUAZ Wupatki 78.95 53 P P 11 12 48.6 +1.2
baz=311,SNR=132
WUAZ Wupatki 78.95 53 eP P 11 12 48.8 +1.3
comp=Z,227nm,1.2s
WUAZ LR LR
comp=Z,3µm,21.0s
CLL Collm 78.96 330 eP P 11 12 47.0 0.0
CLL i 11 12 52.0
CLL e 11 12 56.0
CLL eS S 11 22 42.0 -2.9
CLL pmax pmax
comp=Z,193nm,1.0s
CLL Collm 78.96 330 eP P 11 12 47.0 0.0
comp=Z,193nm,1.0s
CLL ePmax 11 12 48.0
CLL ipP pP 11 12 52.0 +0.3
CLL iPcP PcP 11 12 55.5 -0.1
CLL ePP PP 11 15 40.0 -5.1
CLL eS S 11 22 42.0 -2.9
CLL ePS PnS 11 23 25.0 -2.2
CLL eSS SS 11 27 54.0 +5.0
CLL eSSS SSS 11 31 06.0
CLL e 11 31 47.0
CLL eSSSS 11 34 00.0
CLL LmH 11 48 00.0
comp=N,9µm,19.1s
CLL LmH 11 48 00.0
comp=E,9µm,19.5s
CLL Lmax 11 50 00.0
CLL Collm 78.96 330 eP P 11 12 46.4 -0.6
comp=E,201nm,1.0s
CLL LR LR
comp=Z,11µm,22.0s
PVCC Panska Ves 78.97 329 eP P 11 12 47.0 -0.1
PVCC MLR MLR
comp=Z,14µm,17.0s
PVCC Panska Ves 78.97 329 eP P 11 12 47.0 -0.1
PVCC AMS AMS 11 50 40.0
comp=Z,14µm,17.0s
F31A Hecla 78.97 38 P P 11 12 47.2 0.0
baz=317,SNR=17
E32A Braaten, Kindr 78.99 37 P P 11 12 46.3 -1.0
baz=318
RRR Rubha Reidh 79.02 343 eP P 11 12 46.6 -0.6
MDO Dochfour 79.07 342 eP P 11 12 46.9 -0.6
VRAC Vranov 79.09 327⇓iP P 11 12 49.4 +1.6
DRUM Mains of Drumt 79.09 341 eP P 11 12 47.8 +0.2
DRUM IAMs_20 IAMs_20 11 52 30.0
comp=Z,8µm,17.4s
SMCO Snowmass 79.11 48 eP P 11 12 49.2 +0.7
comp=Z,120nm,1.4s
SMCO LR LR
comp=Z,2µm,20.0s
D33A AnnSam, Waubun 79.14 36 P P 11 12 47.6 -0.5
baz=318
SIRR Siria 79.14 323⇑iP P 11 12 49.5 +1.4
NRS Narsarsuaq 79.14 4 iP P 11 12 48.3 +0.5
NRS pmax pmax
comp=Z,43nm,1.0s
NRS MLR MLR
comp=Z,10µm,22.0s
NRS Narsarsuaq 79.14 4 iP P 11 12 48.3 +0.5
comp=Z,43nm,1.0s
NRS Narsarsuaq 79.14 4 PFAKE 11 13 00.0 +12
NRS LR LR
comp=Z,10µm,22.0s
RRH Rhenigidale 79.16 344 eP P 11 12 48.4 +0.5
B35A Bob, Littlefor 79.16 34 P P 11 12 47.3 -0.8
baz=320,SNR=20
C34A RKJ Ranch, Bem 79.18 35 P P 11 12 47.8 -0.5
baz=319
SZH Strazhica 79.22 318 iP P 11 12 48.4 -0.2
ZIMR 79.23 319⇓iP P 11 12 49.5 +0.9
113A Mohawk Valley, 79.24 56 eP P 11 12 48.5 -0.4
comp=Z,92nm,1.3s
113A LR LR
comp=Z,3µm,18.0s
KIZK Mersin 79.31 309 eP P 11 12 48.9 -0.3
SMOL Smolenice 79.35 326 eP P 11 12 50.7 +1.5
SMOL Smolenice 79.35 326 eP P 11 12 50.7 +1.5
GOPC GO Pecny, Ondr 79.36 329 eP P 11 12 49.8 +0.5
GOPC e 11 12 59.3
GOPC eS S 11 22 46.9 -2.4
GOPC MLR MLR
comp=Z,14µm,14.4s
GOPC GO Pecny, Ondr 79.36 329 eP P 11 12 49.8 +0.5
GOPC ePCP PcP 11 12 59.3 +1.9
GOPC eS S 11 22 46.9 -2.4
GOPC AMS AMS 11 53 20.0
comp=Z,14µm,14.4s
PRU Pruhonice 79.40 329 eP P 11 12 49.7 +0.3
PRU e 11 12 59.5
PRU e 11 15 48.6
PRU eS S 11 22 48.9 -0.8
PRU MLR MLR
comp=Z,15µm,15.1s
PRU Pruhonice 79.40 329 eP P 11 12 49.7 +0.3
PRU ePCP PcP 11 12 59.5 +2.0
PRU ePP PP 11 15 48.6 -0.2
PRU eS S 11 22 48.9 -0.8
PRU AMS AMS 11 53 50.0
comp=Z,15µm,15.1s
BUD Budapest 79.44 325 P P 11 12 51.5 +1.8
BUD Budapest 79.44 325⇓eP P 11 12 50.9 +1.2
JMB Yambol 79.45 317 iP P 11 12 50.3 +0.5
ISCO Idaho Springs 79.45 47 P P 11 12 50.8 +0.5
baz=314,SNR=51
ISCO Idaho Springs 79.45 47 eP P 11 12 51.4 +1.1
ISCO pmax pmax
comp=Z,61nm,0.9s
ISCO MLR MLR
comp=Z,2µm,19.0s
ISCO Idaho Springs 79.45 47 eP P 11 12 51.4 +1.1
comp=Z,61nm,0.9s
ISCO LR LR
comp=Z,2µm,19.0s
G31A Conde 79.45 39 P P 11 12 49.9 0.0
baz=317,SNR=22
D34A Park Rapids 79.48 36 P P 11 12 48.5 -1.4
baz=319
DGAR Diego Garcia 79.49 251 eP P 11 12 50.9 +0.5
DGAR pmax pmax
comp=Z,633nm,1.0s
DGAR Diego Garcia 79.49 251 eP P 11 12 50.9 +0.5
comp=Z,633nm,1.0s
DGAR Diego Garcia 79.49 251 P P 11 12 51.3 +0.9
SNR=6.6
DGAR Diego Garcia 79.49 251 P P 11 12 51.3 +0.9
SNR=6.6
F32A Veblen 79.49 38 P P 11 12 50.0 -0.1
baz=318
SRO Srobarova 79.50 325 eP P 11 12 51.8 +1.8
SRO Srobarova 79.50 325 eP P 11 12 51.8 +1.8
E33A Westby DABS, E 79.55 37 P P 11 12 50.2 -0.1
baz=318,SNR=15
EDU Dundee 79.55 341 eP P 11 12 51.0 +0.9
C35A Jirik Farms, M 79.55 35 P P 11 12 49.9 -0.5
baz=320,SNR=10
MVCO Mesa Verde 79.56 50 P P 11 12 51.1 +0.3
baz=313,SNR=91
MVCO Mesa Verde 79.56 50 eP P 11 12 51.5 +0.7
comp=Z,189nm,1.3s
MVCO LR LR
comp=Z,2µm,22.0s
TREC Trest 79.56 328 eP P 11 12 51.4 +1.0
TREC eS S 11 22 52.2 +0.7
TREC smax smax
comp=Z,10µm,14.8s
TREC Trest 79.56 328 eP P 11 12 51.4 +1.0
TREC eS S 11 22 52.2 +0.7
TREC AMS AMS 11 53 40.0
comp=Z,10µm,14.8s
SRE Strehaia 79.58 321⇓iP P 11 12 52.4 +1.9
H08S3 Diego Garcia H 79.61 251 P P 11 12 50.4 -0.4
baz=4.9,slow=9.2,SNR=25
H08S2 Diego Garcia H 79.62 251 P P 11 12 51.0 +0.2
baz=4.9,slow=9.2,SNR=33
H08S1 Diego Carcia H 79.63 251 P P 11 12 51.0 +0.1
baz=4.9,slow=9.2,SNR=18
X16A Lo Mia Camp, P 79.63 54 eP P 11 12 52.6 +1.4
comp=Z,151nm,1.3s
BZS Buzias 79.64 322⇓iP P 11 12 51.7 +0.9
SUSD Miller 79.66 40 P P 11 12 50.9 -0.1
baz=317,SNR=7.5
BOLV Bolvadin 79.67 312 iP P 11 12 51.5 +0.2
ZST Bratislava 79.73 326 eP P 11 12 52.6 +1.3
ZST pmax pmax
comp=Z,97nm,1.2s
ZST Bratislava 79.73 326 eP P 11 12 52.6 +1.3
ZST Bratislava 79.73 326 eS S 11 22 55.8 +2.5
ZST eL L 11 52 01.7
G32A Webster 79.77 38 P P 11 12 51.7 +0.1
baz=318,SNR=10
H08N1 Diego Carcia H 79.83 253 P P 11 12 48.7 -3.2
baz=8.0,slow=1.7,SNR=13
H08N2 Diego Garcia H 79.83 253 P P 11 12 49.1 -2.8
baz=8.0,slow=1.7,SNR=12
H08N3 Diego Garcia H 79.84 253 P P 11 12 48.9 -3.0
baz=8.0,slow=1.7,SNR=11
CSKK Csˆ‡kako 79.87 325⇓eP P 11 12 52.5 +0.5
CSKK ⇓eP PcP 11 13 00.6 +1.0
H31A Wolsey 79.87 39 P P 11 12 51.5 -0.6
baz=317
AKKU Akkuyu-Mersin 79.88 309 eP P 11 12 51.9 -0.4
F33A 5 Mile Ranch, 79.91 37 P P 11 12 52.1 -0.2
baz=318,SNR=30
E34A Wadena 79.92 36 P P 11 12 51.7 -0.7
baz=319
D35A Remer 79.99 35 P P 11 12 51.1 -1.6
baz=320
C36A Pine Crest Far 80.01 34 P P 11 12 52.6 -0.2
baz=320,SNR=13
ESY Stoneypath 80.02 341 eP P 11 12 53.0 +0.3
MOX Moxa 80.02 331 P P 11 12 53.6 +0.8
NKC Novy Kostel 80.03 330 eP P 11 12 53.5 +0.6
NKC eS S 11 22 56.3 -0.1
NKC MLR MLR
comp=Z,11µm,16.1s
NKC Novy Kostel 80.03 330 eP P 11 12 53.5 +0.6
NKC eS S 11 22 56.3 -0.1
NKC AMS AMS 11 51 40.0
comp=Z,11µm,16.1s
OUZ Omahuta 80.12 154 eP P 11 12 55.2 +2.0
comp=Z,122nm,1.2s
OUZ LR LR
comp=Z,8µm,21.0s
OUZ Omahuta 80.12 154 P P 11 12 54.8 +1.5
TEKE Tekeli-Mersin 80.15 309 eP P 11 12 53.2 -0.6
RAYN Ar Rayn 80.16 292 P P 11 12 53.2 -0.9
RAYN pmax pmax
comp=Z,109nm,1.0s
RAYN Ar Rayn 80.16 292 eP P 11 12 53.2 -0.9
comp=Z,109nm,1.0s
RAYN LR LR
comp=Z,5µm,18.0s
S22A 4UR Ranch, Cre 80.17 49 P P 11 12 55.2 +1.0
baz=313,SNR=77
S22A 4UR Ranch, Cre 80.17 49 eP P 11 12 55.5 +1.3
comp=Z,61nm,1.0s
I31A Royce, Wessing 80.17 40 P P 11 12 54.2 +0.5
baz=317
EAB Aberfoyle 80.20 342 eP P 11 12 54.4 +0.7
W18A Petrified Fore 80.22 52 P P 11 12 55.2 +0.8
baz=312
W18A Petrified Fore 80.22 52 eP P 11 12 57.6 +3.2
comp=Z,97nm,1.1s
W18A LR LR

comp=Z,2µm,18.0s
E35A Pequot Lakes 80.23 36 P P 11 12 53.5 -0.6
baz=320,SNR=8.5
GDZ Gediz 80.24 313 *i* P P 11 12 53.3 -1.1
BAGO Egridir - ISPA 80.26 312 *i* P P 11 12 55.4 +1.0
Q24A Divide 80.29 47 P P 11 12 54.9 0.0
baz=314,SNR=14
Q24A Divide 80.29 47 *eP* P 11 12 56.0 +1.1
comp=Z,55nm,1.0s
Q24A LR LR
comp=Z,2µm,18.0s
C37A Embarrass 80.31 34 P P 11 12 53.7 -0.8
baz=321,SNR=16
D36A Goodland 80.31 35 P P 11 12 53.8 -0.7
baz=320,SNR=8.1
G33A Ortonville 80.32 38 P P 11 12 54.6 +0.1
baz=318,SNR=48
H32A Carlson Farm, 80.36 39 P P 11 12 55.2 +0.4
baz=318
SOP Sopron 80.36 326 P P 11 12 56.3 +1.6
SOP Sopron 80.36 326⇓ *eP* P 11 12 56.3 +1.6
214A Organ Pipe Nat 80.38 56 P P 11 12 55.6 +0.5
baz=311,SNR=72
F34A Alexandria 80.42 37 P P 11 12 54.2 -0.8
baz=319
EYMN Ely 80.44 33 P P 11 12 54.9 -0.2
baz=321,SNR=17
EYMN Ely 80.44 33 *eP* P 11 12 55.3 +0.2
comp=Z,236nm,1.5s
EYMN LR LR
comp=Z,3µm,21.0s
KZIL AFYON_Kizioren 80.45 312 *i* P P 11 12 55.8 +0.3
ASF Jabal al Asfar 80.45 304 LR LR 11 52 04.8
comp=Z,3µm,19.6s,baz=10.0,slow=38
KHC Kasperske Hory 80.46 329 *eP* P 11 12 55.4 +0.1
KHC pmax pmax
comp=Z,75nm,1.0s
KHC MLR MLR
comp=Z,6µm,19.0s
KHC Kasperske Hory 80.46 329 *eP* P 11 12 55.7 +0.4
KHC *ex* x 11 13 05.3
KHC *ePP* **PP 11 15 56.1 -1.6**
KHC *eS* **S 11 22 59.7 -1.3**
KHC AMS AMS 11 52 30.0
comp=Z,16µm,14.2s
KHC Kasperske Hory 80.46 329 *eP* P 11 12 55.4 +0.1
comp=Z,76nm,1.0s
KHC LR LR
comp=Z,6µm,19.0s
CONA Conrad Observa 80.47 327 *epP* P 11 12 57.0 +1.6
comp=Z,194nm,1.2s,SNR=88
X18A Snowflake 80.48 53 PFAKE 11 13 10.0 +14
X18A LR LR
comp=Z,3µm,21.0s
LFK Lefkose 80.48 308 *eP* P 11 12 55.4 -0.2
SUTC Sutluce-Ispart 80.49 311 *eP* P 11 12 55.5 -0.2
ISP Isparta 80.53 312 *eP* P 11 12 55.9 0.0
ISP pmax pmax
comp=Z,197nm,1.4s
ISP MLR MLR
comp=Z,5µm,20.0s
ISP Isparta 80.53 312⇓ *iP* P 11 12 57.3 +1.4
ISP Isparta 80.53 312 *eP* P 11 12 55.9 0.0
comp=Z,197nm,1.4s
ISP LR LR
comp=Z,5µm,20.0s
KEPZ Antalya-Kepez 80.53 310 *i* P P 11 12 55.6 -0.3
H33A Prehn Over Nor 80.56 38 P P 11 12 56.0 +0.1
baz=318,SNR=50
PGBU Glenifferbraes 80.58 342 *eP* P 11 12 56.4 +0.7
PGBU IAmb IAmb 11 12 58.4
comp=Z,338nm,1.2s
PGBU IAMs_20 IAMs_20 11 54 04.5
comp=Z,6µm,15.7s
OGNE Ogallala 80.60 44 P P 11 12 55.8 -0.4
baz=316,SNR=10
OGNE Ogallala 80.60 44 *eP* P 11 12 57.6 +1.4
comp=Z,174nm,0.9s
OGNE LR LR
comp=Z,4µm,22.0s
J31A Geddes 80.61 40 P P 11 12 55.7 -0.5
baz=317,SNR=18
PGB Panagyurishte 80.64 319 *i* P P 11 12 57.2 +0.9
GEC2 GERESS Array S 80.64 328 *eP* P 11 12 56.8 +0.5
GEC2 pmax pmax
comp=Z,83nm,1.0s
GEC2 MLR MLR
comp=Z,13µm,20.0s
GEC2 GERESS Array S 80.64 328 *eP* P 11 12 56.8 +0.5
comp=Z,83nm,1.0s
GEC2 LR LR
comp=Z,13µm,20.0s
GERES GERESS Array B 80.64 328 P P 11 12 55.9 -0.4
comp=Z,48nm,1.0s,baz=39,slow=5.1,SNR=92
GERES LR LR 11 51 41.4
comp=Z,12µm,19.4s,baz=20,slow=38
KDZ Kurdzhali 80.64 317 *i* P P 11 12 56.2 -0.1
GEA0 GERESS Array S 80.65 328 *eP* P 11 12 56.0 -0.3
D37A Cotton 80.65 34 P P 11 12 55.2 -1.0
baz=321,SNR=6.7
WTSB Winterswijk 80.66 334 *eP* P 11 12 56.6 +0.5
comp=Z,187nm,1.1s
G34A Benson 80.66 37 P P 11 12 56.3 -0.1
baz=319,SNR=13
EKA Eskdalemuir Ar 80.68 341 P P 11 12 55.8 -0.4
comp=Z,9.2nm,0.5s,baz=28,slow=4.8,SNR=43
EKA LR LR 11 53 35.1
comp=Z,5µm,18.7s,baz=20,slow=39
PLD Plovdiv 80.68 318 *iP* P 11 12 56.7 +0.2
F35A Swanville 80.69 36 P P 11 12 56.0 -0.5
baz=320,SNR=13
I32A Karley and Nic 80.69 39 P P 11 12 55.4 -1.2
baz=318
ESK Eskdalemuir 80.70 341 *eP* P 11 12 56.9 +0.5
ESK pmax pmax
comp=Z,66nm,1.0s
ESK MLR MLR
comp=Z,7µm,18.0s
ESK Eskdalemuir 80.70 341 *eP* P 11 12 56.9 +0.5
comp=Z,66nm,1.0s
ESK LR LR
comp=Z,7µm,18.0s
ESK Eskdalemuir 80.70 341 *eP* P 11 12 55.7 -0.7
ESK IAMs_20 IAMs_20 11 53 18.4
comp=Z,7µm,17.1s
C38A Sawbill Land. 80.71 33 P P 11 12 55.9 -0.7
baz=321,SNR=15
WET Wettzell 80.73 329 P P 11 12 58.0 +1.3
E36A McGregor 80.78 35 P P 11 12 56.6 -0.4
baz=320,SNR=16
ECK Cauldkaine Hil 80.81 341 *eP* P 11 12 57.5 +0.5
CSS Mathiatis 80.81 308 *eP* P 11 12 57.6 +0.2
CSS Mathiatis 80.81 308 *eP* P 11 12 57.8 +0.4
comp=Z,22nm,0.9s
CSS LR LR
comp=Z,900nm,20.0s
CSS Mathiatis 80.81 308 P P 11 12 57.8 +0.4
EDMD Edmundbyers 80.82 340 *eP* P 11 12 57.2 +0.2
EDMD IAMs_20 IAMs_20 11 53 13.0
comp=Z,9µm,18.4s
MMAI Mount Meron Ar 80.84 305 P P 11 12 58.5 +0.9
comp=Z,75nm,1.0s,baz=36,slow=5.4,SNR=26
MMAI LR LR 11 52 47.5
comp=Z,6µm,18.8s,baz=45,slow=39
ALN Alexandroupoli 80.85 316 *eP* P 11 12 57.5 +0.1
ALN Alexandroupoli 80.85 316 *eP* P 11 12 57.5 +0.1
ALN Alexandroupoli 80.85 316 P P 11 12 57.5 +0.1
GDLE Glaisdale, N Y 80.87 339 *eP* P 11 12 58.1 +0.8
GDLE IAMs_20 IAMs_20 11 52 41.0
comp=Z,9µm,17.4s
BRDR BURDUR-Merkez 80.88 312 *iP* P 11 12 57.8 0.0
BHH Howats Hill 80.91 341 *eP* P 11 12 58.2 +0.7
SDCO Great Sand Dun 80.93 48 P P 11 12 58.7 +0.4
baz=314,SNR=81
SDCO Great Sand Dun 80.93 48 *eP* P 11 12 59.3 +0.9
comp=Z,87nm,1.2s
SDCO LR LR
comp=Z,2µm,19.0s
GRF Grafenberg Arr 80.94 330 P P 11 12 58.6 +0.8
GRFO Grafenberg 80.94 330 *eP* P 11 12 58.5 +0.8
GRFO pmax pmax
comp=Z,548nm,1.3s
GRFO MLR MLR
comp=Z,6µm,20.0s
GRFO Grafenberg 80.94 330 *eP* P 11 12 58.5 +0.8
comp=Z,548nm,1.3s
GRFO LR LR
comp=Z,6µm,20.0s
RDO Rodhopi 80.94 317 *eP* P 11 12 57.4 -0.5
RDO Rodhopi 80.94 317 P P 11 12 57.4 -0.5
LEF Lefka 80.97 308 *eP* P 11 13 01.2 +3.0
RZN Rozhen 80.98 318 *iP* P 11 12 58.8 +0.5
J32A Parkston 80.99 40 P P 11 12 57.8 -0.4
baz=318,SNR=8.2
I33A Coleman 81.00 39 P P 11 12 57.8 -0.4
baz=318,SNR=26
H34A Spellman Lake, 81.03 38 P P 11 12 58.4 +0.1
baz=319,SNR=7.8
WCZ Waipu Caves 81.03 154 P P 11 13 01.3 +3.2
K31A O'Neill 81.09 41 P P 11 12 59.0 +0.3
baz=317,SNR=23
VTS Vitosha 81.09 319 *eP* P 11 12 58.7 -0.1
VTS pmax pmax
comp=Z,146nm,0.8s
VTS Vitosha 81.09 319⇓ *iP* P 11 13 00.2 +1.3
VTS Vitosha 81.09 319 *eP* P 11 12 58.7 -0.1
comp=Z,146nm,0.8s
VTS Vitosha 81.09 319 *i* P P 11 12 59.0 +0.1
VTS Vitosha 81.09 319 P P 11 12 58.8 -0.1
C39A Grand Marais 81.11 33 P P 11 12 58.4 -0.3
baz=322
ARSA Arzberg 81.14 326 *epP* P 11 13 00.1 +1.2
comp=Z,117nm,1.4s,SNR=42
F36A Milaca 81.16 36 P P 11 12 59.2 +0.2
baz=320,SNR=12
KORT Korkueli 81.19 311 *iP* P 11 12 59.5 0.0
MOA Molln 81.20 327 *epP* P 11 13 00.2 +1.0
comp=Z,98nm,1.1s,SNR=46
BEHE Becsehely 81.20 325⇓ *eP* P 11 13 00.3 +1.1
G35A Watkins 81.21 37 P P 11 12 59.4 +0.1
baz=320,SNR=10
BBO1 Bothel 81.24 341 *eP* P 11 13 00.1 +0.9
GMK Mull of Kintyr 81.26 342 *eP* P 11 13 00.0 +0.7
ECSD EROS Data Cent 81.33 39 P P 11 12 59.8 -0.1
baz=318,SNR=45
ECSD EROS Data Cent 81.33 39 *eP* P 11 13 00.0 +0.1
comp=Z,127nm,1.4s
ECSD LR LR
comp=Z,4µm,19.0s
RAR Rarotonga 81.33 127 LR LR 11 42 38.1
comp=Z,3µm,21.3s,baz=312,slow=31
KESW Keswick, Cumbr 81.33 340 *eP* P 11 13 01.1 +1.3
KESW IAmb IAmb 11 13 03.2
comp=Z,266nm,1.2s
KESW IAMs_20 IAMs_20 11 53 26.3
comp=Z,7µm,18.9s
TUC Tucson 81.44 55 P P 11 12 60.0 -0.9
baz=312
TUC Tucson 81.44 55 *eP* P 11 13 01.7 +0.8
TUC pmax pmax
comp=Z,88nm,1.2s
TUC Tucson 81.44 55 *eP* P 11 13 01.7 +0.8
comp=Z,88nm,1.2s
H35A Sunnyside Ranc 81.44 37 P P 11 13 00.2 -0.4
baz=319,SNR=22
E38A The Farm, Brul 81.45 34 P P 11 13 00.1 -0.4
baz=321,SNR=18
K32A Verdigre 81.45 40 P P 11 13 00.4 -0.3
baz=318,SNR=14
I34A Hadley 81.46 38 P P 11 12 59.4 -1.2
baz=319
J33A Davis 81.46 39 P P 11 13 00.6 -0.1
baz=318,SNR=8.6
GOLH Golhisar 81.48 312 *iP* P 11 12 59.7 -1.4
GAL1 Galloway 81.49 341 *eP* P 11 13 00.9 +0.4
GAL1 IAmb IAmb 11 13 04.0
comp=Z,100nm,1.2s
GAL1 IAMs_20 IAMs_20 11 55 36.2
comp=Z,3µm,16.2s
HPK Haverah Park 81.50 339 *eP* P 11 13 01.1 +0.5
HPK IAMs_20 IAMs_20 11 53 10.2
comp=Z,8µm,20.1s
G36A St. Michael 81.53 36 P P 11 13 00.3 -0.7
baz=320
DIVS Divibare 81.55 322 *eP* P 11 13 01.0 -0.2
comp=Z,106nm,1.0s
DIVS LR LR
comp=Z,5µm,19.0s
MMB Musomiste 81.56 318 *iP* P 11 13 01.5 +0.2
KAVA Kavala 81.58 317 *eP* P 11 13 01.8 +0.5
KAVA Kavala 81.58 317 P P 11 13 01.8 +0.5
CLGH Cloghs, Cushen 81.63 342 *eP* P 11 13 01.9 +0.6
CLGH IAMs_20 IAMs_20 11 54 03.0
comp=Z,6µm,18.0s
KSCO Kaye Shedlock' 81.66 45 P P 11 13 02.1 +0.2
baz=316,SNR=14
KSCO Kaye Shedlock' 81.66 45 *eP* P 11 13 03.2 +1.3
comp=Z,239nm,1.5s
KSCO LR LR
comp=Z,3µm,21.0s
NVR Nevrokopi 81.66 318 *eP* P 11 13 02.1 +0.3
NVR Nevrokopi 81.66 318 P P 11 13 02.1 +0.3
F37A Hinrichs Farm, 81.67 35 P P 11 13 01.3 -0.4
baz=321,SNR=6.0
KKB Krupnik 81.68 319 *iP* P 11 13 02.1 +0.2
TAVA DENIZLI_Tavas 81.69 312 *iP* P 11 13 01.9 -0.2
PERS Pernice 81.79 326 *iP* P 11 13 02.3 -0.2
PERS *ePP* PP 11 16 19.8 +11
SOKA Soboth 81.80 326 *epP* P 11 13 03.4 +0.9
comp=Z,403nm,1.3s,SNR=198
F38A Piece - Schro 81.81 35 P P 11 13 02.3 -0.1
baz=321,SNR=33
MHTCO State Highway 81.82 48 *eP* P 11 13 04.3 +1.3
comp=Z,247nm,1.5s
MHTCO LR LR
comp=Z,2µm,20.0s
L32A Elgin 81.92 41 P P 11 13 03.2 +0.1
baz=318,SNR=20
H36A Jesseniand, He 81.96 37 P P 11 13 03.4 +0.2
baz=320,SNR=9.1
WACR West Acre 81.96 338 *eP* P 11 13 02.6 -0.5
WACR IAmb IAmb 11 13 08.8
comp=Z,218nm,1.0s
WACR IAMs_20 IAMs_20 11 53 20.3
comp=Z,8µm,16.5s
HGN Heimansgroeve 81.96 334 *eP* P 11 13 08.5 +5.4
comp=Z,173nm,1.2s
HGN *ePP* **PP 11 16 13.9 +4.0**
HGN *eS* **S 11 23 24.8 +8.4**
HGN *eSS* SS 11 29 24.3 +51
SPMN Marine on St. 81.97 36 P P 11 13 02.8 -0.5
baz=321
SPMN Marine on St. 81.97 36 *eP* P 11 13 03.4 +0.1
comp=Z,119nm,1.4s
SPMN LR LR
comp=Z,3µm,18.0s
SRS Serrai 81.97 318 *eP* P 11 13 02.9 -0.5
SRS Serrai 81.97 318 *eP* P 11 13 02.9 -0.5
SRS Serrai 81.97 318 P P 11 13 02.9 -0.5
T25A Trinidad 81.97 48 P P 11 13 04.3 +0.6
baz=315,SNR=80
T25A Trinidad 81.97 48 *eP* P 11 13 04.6 +0.8
comp=Z,92nm,0.9s
K33A Hardington 81.98 40 P P 11 13 03.5 +0.1
baz=318,SNR=14
J34A George 81.98 39 P P 11 13 03.1 -0.3
baz=319,SNR=11
IOMK Kirk Michael 82.00 341 *eP* P 11 13 03.4 +0.1
IOMK IAMs_20 IAMs_20 11 53 59.4
comp=Z,6µm,18.3s
I35A Creekview Farm 82.01 38 P P 11 13 03.3 -0.3
baz=319
BEBN Eben Emael 82.02 334 ⇑P P 11 13 01.6 -1.8
LBWR Ladybower, Pea 82.03 339 *eP* P 11 13 04.0 +0.5
LBWR IAmb IAmb 11 13 07.2
comp=Z,474nm,1.3s
LBWR IAMs_20 IAMs_20 11 53 26.0
comp=Z,8µm,19.4s
E39A Mellen 82.06 34 P P 11 13 03.5 -0.2
baz=322,SNR=7.5
MEM Memibach 82.07 334 ⇓P P 11 13 04.1 +0.4
comp=Z,71nm,1.2s
OBKA Obir 82.14 326 *eP* P 11 13 05.0 +0.7
comp=Z,83nm,0.8s,SNR=26
FUR Furstenfeldbru 82.15 329 P P 11 13 05.8 +1.6
L33A Hoskins 82.17 40 P P 11 13 03.9 -0.6
baz=318,SNR=8.0
KBA Koelnbreinsper 82.19 328 P P 11 13 05.2 +0.6
KBA Koelnbreinsper 82.19 328 *i* pP P 11 13 05.4 +0.8
comp=Z,278nm,1.1s,SNR=194
KSL Kastellorizon 82.23 311 *eP* P 11 13 05.0 +0.2
KSL Kastellorizon 82.23 311 P P 11 13 05.0 +0.2
KUZ Kuaotunu 82.23 153 P P 11 13 06.5 +2.1
LEGS Legarje 82.25 326 *i* P P 11 13 04.1 -0.6
LEGS *ePP* PP 11 16 22.9 +10
F39A Loretta 82.27 34 P P 11 13 03.8 -1.1
baz=322,SNR=16
LAZ Ladron 82.27 51 *eP* P 11 13 06.6 +1.3
J35A Milford 82.28 38 P P 11 13 03.9 -1.0
baz=319
BGNE Belgrade 82.29 41 P P 11 13 04.8 -0.3
baz=318,SNR=33
BGNE Belgrade 82.29 41 *eP* P 11 13 05.1 0.0
comp=Z,436nm,1.0s
BGNE LR LR
comp=Z,4µm,20.0s
E40A Wakefield 82.29 33 P P 11 13 04.5 -0.4
baz=322,SNR=32
DALY Dalyan (Mu˘la 82.30 312 *i* P P 11 13 05.7 +0.6
ANMO Albuquerque 82.31 51 P P 11 13 06.0 +0.5
baz=314
ANMO Albuquerque 82.31 51⇑ *eP* P 11 13 05.8 +0.3
ANMO pmax pmax
comp=Z,83nm,1.1s
ANMO MLR MLR
comp=Z,2µm,19.0s
ANMO Albuquerque 82.31 51 *eP* P 11 13 06.2 +0.7
comp=Z,180nm,1.2s
ANMO LR LR
comp=Z,2µm,20.0s
OUR Ouranopolis 82.34 317 *eP* P 11 13 05.0 -0.3
OUR Ouranopolis 82.34 317 *eP* P 11 13 05.0 -0.3
OUR Ouranopolis 82.34 317 P P 11 13 05.0 -0.3
I36A Fitzsimmons Fa 82.34 37 P P 11 13 04.9 -0.4
baz=320,SNR=6.7
VAY Valandovo 82.35 319 *eP* P 11 13 06.2 +0.9
VAY Valandovo 82.35 319 *eP* P 11 13 06.2 +0.9
VAY Valandovo 82.35 319 P P 11 13 06.2 +0.9
VAY Valandovo 82.35 319 *iP* P 11 13 05.9 +0.6
BLY Banja Luka 82.35 324 ⇓ *iP* P 11 13 06.2 +0.9
BLY Banja Luka 82.35 324 *eP* P 11 13 06.3 +0.9
comp=Z,115nm,1.4s
BLY LR LR
comp=Z,6µm,18.0s
D41A Chassel 82.36 32 P P 11 13 04.6 -0.7
baz=323
K34A Le Mars 82.36 39 P P 11 13 05.1 -0.3
baz=319,SNR=29
GMM Mts of Mourne 82.36 342 *eP* P 11 13 05.4 +0.2
MKAZ Moumakai 82.36 154 P P 11 13 07.5 +2.4
PLE Pljevlja 82.41 322 ⇑ *iP* P 11 13 05.5 -0.3
H37A Dierke Farm, C 82.42 36 P P 11 13 05.2 -0.5
baz=321,SNR=10
MYKA Terra Mystica 82.42 327 *eP* P 11 13 06.0 +0.3
comp=Z,191nm,1.2s,SNR=56
SKO Skopje 82.43 320 *eP* P 11 13 06.3 +0.5
SKO Skopje 82.43 320 *eP* P 11 13 06.3 +0.5
SKO Skopje 82.43 320 P P 11 13 06.3 +0.5
SKO Skopje 82.43 320 *iP* P 11 13 06.7 +0.9
G38A Ridgeland 82.44 35 P P 11 13 05.0 -0.8
baz=321,SNR=12
OZLJ Ozalj 82.44 325 P P 11 13 06.1 +0.4
STU Stuttgart 82.45 331 *eP* P 11 13 06.0 +0.2
STU pmax pmax
comp=Z,274nm,1.0s
STU MLR MLR
comp=Z,7µm,19.0s
STU Stuttgart 82.45 331 *eP* P 11 13 06.0 +0.2
comp=Z,274nm,1.0s
STU LR LR
comp=Z,7µm,19.0s
SCHQ Schefferville 82.46 16 P P 11 13 05.7 0.0
comp=Z,50nm,1.0s,baz=354,slow=5.0,SNR=14
SCHQ Schefferville 82.46 16 *eP* P 11 13 05.9 +0.2
comp=Z,66nm,1.1s
SCHQ LR LR
comp=Z,4µm,19.0s
UCC Uccle 82.46 335 PFAKE 11 13 20.0 +14
UCC LR LR
comp=Z,14µm,18.0s
BCLA Clavier 82.47 334 P P 11 13 06.1 +0.3
comp=Z,63nm,1.2s
CWF Charnwood Fore 82.50 339 IAmb IAmb 11 13 08.3
comp=Z,171nm,1.2s
CWF IAMs_20 IAMs_20 11 57 10.4
comp=Z,8µm,15.7s
IVA Berane 82.52 321 ⇑ *iP* P 11 13 06.2 -0.1
TAU Tasmania Unive 82.52 176 *eP* P 11 13 07.5 +1.7
TAU pmax pmax
comp=Z,95nm,1.0s
TAU MLR MLR
comp=Z,6µm,22.0s
TAU Tasmania Unive 82.52 176 *eP* P 11 13 07.5 +1.7
comp=Z,95nm,1.0s
TAU LR LR
comp=Z,6µm,22.0s
PLG Polygyros 82.59 318 *eP* P 11 13 06.3 -0.4
PLG Polygyros 82.59 318 *eP* P 11 13 06.3 -0.4
PLG Polygyros 82.59 318 P P 11 13 06.3 -0.4
CRNS Crni Vrh 82.60 326 *iP* P 11 13 05.5 -1.1
CRNS *eS* **S 11 23 23.8 +0.5**
CRNS *e* 11 24 10.7
HORT Hortiatis 82.61 318 *eP* P 11 13 07.2 +0.4
HORT Hortiatis 82.61 318 P P 11 13 07.2 +0.4
F40A Park Falls 82.61 34 P P 11 13 06.0 -0.6
baz=322,SNR=9.3
Y22D IRIS PASSCAL I 82.63 51 P P 11 13 05.9 -1.2
baz=314
Y22D IRIS PASSCAL I 82.63 51 *eP* P 11 13 09.2 +2.0
comp=Z,112nm,0.9s
Y22D LR LR
comp=Z,3µm,22.0s
Y22E IRIS PASSCAL I 82.63 51 P P 11 13 05.6 -1.6
baz=314
H38A Maiden Rock 82.63 36 P P 11 13 06.0 -0.8
baz=321,SNR=12
I37A Lemond, Waseca 82.63 37 P P 11 13 06.9 +0.1
baz=320,SNR=21
LPM Los Pinos Moun 82.64 51 *eP* P 11 13 08.3 +1.0
M33A Taylor Creek F 82.65 41 P P 11 13 05.9 -1.0
baz=318,SNR=23
G39A Holcombe 82.65 35 P P 11 13 06.5 -0.3
baz=322,SNR=9.4
E41A Kenton 82.67 33 P P 11 13 06.8 -0.2
baz=323,SNR=17
PVY Plav 82.69 321 *eP* P 11 13 06.6 -0.7
GRG Griva 82.70 319 *eP* P 11 13 07.0 -0.3
GRG Griva 82.70 319 *eP* P 11 13 07.0 -0.3
GRG Griva 82.70 319 P P 11 13 07.0 -0.3
CADS Cadrg 82.70 327 *iP* P 11 13 05.4 -1.8
CADS *e* 11 18 12.3
CADS *eS* **S 11 23 24.4 0.0**
CADS *e* 11 24 11.9
WATA Walderalm 82.70 329 *i* pP P 11 13 08.0 +0.7
comp=Z,144nm,1.2s,SNR=25
KOME Kolasin 82.71 321 ⇑ *iP* P 11 13 07.4 0.0
J36A Seneca 1, Swea 82.72 38 P P 11 13 06.9 -0.4
baz=320,SNR=13
SNF Seneffe 82.73 334 ⇓P P 11 13 07.5 +0.3
comp=Z,75nm,1.2s
WTTA Wattenberg 82.74 329 *i* pP P 11 13 08.5 +0.9
comp=Z,116nm,1.3s,SNR=31
BNM Barren Site 82.75 51 *eP* P 11 13 09.0 +1.1
K35A Storm Lake 82.75 39 P P 11 13 07.2 -0.3
baz=319
L34A Svendsen Farm, 82.76 40 P P 11 13 06.7 -0.8
baz=319,SNR=19
PAIG Paliouri 82.80 317 *eP* P 11 13 07.8 +0.1
PAIG Paliouri 82.80 317 *eP* P 11 13 07.8 +0.1
PAIG Paliouri 82.80 317 P P 11 13 07.8 +0.1
ABTA Abfaltersbach 82.80 328 *eP* P 11 13 07.6 -0.1
comp=Z,126nm,1.2s,SNR=56
WLF Walferdange 82.81 333 ⇑AP P 11 13 09.4 +1.8
WLF Walferdange 82.81 333 *eP* P 11 13 08.7 +1.1
WLF pmax pmax
comp=Z,71nm,1.0s
WLF MLR MLR
comp=Z,10µm,19.0s
WLF Walferdange 82.81 333 *eP* P 11 13 08.7 +1.1
comp=Z,71nm,1.0s
WLF LR LR
comp=Z,10µm,19.0s
COWI Conover 82.88 33 *eP* P 11 13 08.5 +0.4
comp=Z,44nm,0.9s
COWI LR LR
comp=Z,4µm,20.0s
MOTA Moosalm 82.88 329 *ePcP* P 11 13 09.0 +0.8
comp=Z,281nm,1.2s,SNR=68

GIVF	**Givet**	**82.90**	**334**	*e*P		**P**		**11 13 08.0**	**-0.1**
GIVF				pmax		pmax				
	comp=Z,180nm,1.7s									
RETA	**Reutte**	**82.90**	**329**	*i* PcP		**P**		**11 13 09.3**	**+1.1**
	comp=Z,314nm,1.2s,SNR=79									
KRUS	**Krusevo**	**82.98**	**319**	*i* P		**P**		**11 13 08.6**	**-0.1**
DOU	**Dourbes**	**82.98**	**334**	⇓P		**P**		**11 13 08.6**	**+0.2**
	comp=Z,31nm,1.4s									
NKY	**Niksic**	**82.99**	**322**	⇑*i*P		**P**		**11 13 08.5**	**-0.3**
M34A	**Aspy Farms, Fr**	**83.01**	**40**	P		**P**		**11 13 08.1**	**-0.7**
	baz=319,SNR=37									
319A	**Douglas**	**83.01**	**55**	*e*P		**P**		**11 13 10.2**	**+1.0**
	comp=Z,157nm,1.0s									
319A				LR		LR				
	comp=Z,2μm,20.0s									
TOZ	**Tahuroa Road**	**83.04**	**154**	P		**P**		**11 13 11.0**	**+2.4**
NKME	**Niksic**	**83.05**	**322**	⇑*i*P		**P**		**11 13 08.7**	**-0.3**
L35A	**Bielow Farm, R**	**83.06**	**39**	P		**P**		**11 13 08.6**	**-0.5**
	baz=319									
H39A	**Augusta**	**83.08**	**35**	P		**P**		**11 13 08.7**	**-0.4**
	baz=322,SNR=11									
G40A	**Rib Lake**	**83.09**	**34**	P		**P**		**11 13 08.9**	**-0.3**
	baz=322,SNR=18									
J37A	**Redenius Farm,**	**83.10**	**37**	P		**P**		**11 13 08.9**	**-0.4**
	baz=320,SNR=9.4									
I38A	**Scanlan Farm,**	**83.10**	**36**	P		**P**		**11 13 08.9**	**-0.3**
	baz=321,SNR=14									
TRI	**Trieste**	**83.10**	**326**	*e*P		**P**		**11 13 08.3**	**-0.9**
TRI				pmax		pmax				
	comp=Z,170nm,1.1s									
TRI				MLR		MLR				
	comp=Z,10μm,19.0s									
TRI	**Trieste**	**83.10**	**326**	*e*P		**P**		**11 13 08.3**	**-0.9**
	comp=Z,170nm,1.1s									
TRI				LR		LR				
	comp=Z,10μm,19.0s									
E42A	**Champion**	**83.13**	**32**	P		**P**		**11 13 08.8**	**-0.6**
	baz=324,SNR=12									
HLM1	**Long Mynd**	**83.13**	**339**	*e*P		**P**		**11 13 10.0**	**+0.7**
HLM1				IAmb		IAmb		11 13 13.6		
	comp=Z,41nm,1.0s									
HLM1				IAMs_20		IAMs_20		11 54 32.1		
	comp=Z,5μm,20.3s									
N33A	**J Bar K, Exete**	**83.14**	**41**	P		**P**		**11 13 08.1**	**-1.4**
	baz=318									
PUK	**Puka**	**83.14**	**321**	*i* P		**P**		**11 13 10.2**	**+0.6**
BFO	**Black Forest**	**83.14**	**331**	*e*P		**P**		**11 13 08.9**	**-0.5**
BFO				pmax		pmax				
	comp=Z,192nm,1.3s									
BFO				MLR		MLR				
	comp=Z,6μm,18.0s									
BFO	**Black Forest**	**83.14**	**331**	*e*P		**P**		**11 13 08.9**	**-0.5**
	comp=Z,192nm,1.3s									
BFO				LR		LR				
	comp=Z,6μm,18.0s									
121A	**Cookes Peak, D**	**83.16**	**53**	P		**P**		**11 13 11.0**	**+1.0**
	baz=314,SNR=69									
PDG	**Podgorica**	**83.16**	**321**	⇓*i*P		**P**		**11 13 10.2**	**+0.7**
TTG	**Podgorica**	**83.16**	**321**	⇑*i*P		**P**		**11 13 09.7**	**+0.2**
TTG	**Podgorica**	**83.16**	**321**	*e*P		**P**		**11 13 09.1**	**-0.4**
TTG				pmax		pmax				
	comp=Z,348nm,1.1s									
TTG				MLR		MLR				
	comp=Z,10μm,19.0s									
TTG	**Podgorica**	**83.16**	**321**	*e*P		**P**		**11 13 09.1**	**-0.4**
	comp=Z,348nm,1.1s									
TTG				LR		LR				
	comp=Z,10μm,19.0s									
F41A	**Three Lakes**	**83.19**	**33**	P		**P**		**11 13 09.4**	**-0.3**
	baz=323,SNR=26									
K36A	**Gilmore City**	**83.19**	**38**	P		**P**		**11 13 09.1**	**-0.7**
	baz=320,SNR=16									
CEME	**Cevo**	**83.23**	**322**	⇑*i*P		**P**		**11 13 09.9**	**-0.1**
SKP1	**Kophill**	**83.26**	**338**	*e*P		**P**		**11 13 10.5**	**+0.6**
LIT	**Litokhoron**	**83.29**	**318**	*e*P		**P**		**11 13 10.5**	**+0.2**
LIT	**Litokhoron**	**83.29**	**318**	*e*P		**P**		**11 13 10.5**	**+0.2**
LIT	**Litokhoron**	**83.29**	**318**	P		**P**		**11 13 10.5**	**+0.2**
FETA	**Feichten**	**83.30**	**329**	*i* PcP		**P**		**11 13 11.3**	**+0.9**
	comp=Z,182nm,1.2s,SNR=81									
SSW	**Stow on the Wo**	**83.34**	**339**	*e*P		**P**		**11 13 11.7**	**+1.4**
FNA	**Florina**	**83.35**	**319**	*i* P		**P**		**11 13 09.5**	**-1.1**
FNA	**Florina**	**83.35**	**319**	P		**P**		**11 13 10.9**	**+0.3**
EIL	**Elat**	**83.36**	**303**	P		P		11 13 19.6	+8.8
	comp=Z,124nm,1.2s,baz=42,slow=2.6,SNR=38									
CBKS	**Cedar Bluff**	**83.36**	**44**	P		**P**		**11 13 10.0**	**-0.7**
	baz=317,SNR=28									
CBKS	**Cedar Bluff**	**83.36**	**44**	*e*P		**P**		**11 13 10.4**	**-0.4**
CBKS				pmax		pmax				
	comp=Z,110nm,0.9s									
CBKS				MLR		MLR				
	comp=Z,3μm,20.0s									
CBKS	**Cedar Bluff**	**83.36**	**44**	*e*P		**P**		**11 13 10.4**	**-0.4**
	comp=Z,110nm,0.9s									
CBKS				LR		LR				
	comp=Z,3μm,20.0s									
DSB	**Dublin**	**83.37**	**342**	*e*P		**P**		**11 13 10.8**	**+0.4**
	comp=Z,134nm,1.3s									
DSB				LR		LR				
	comp=Z,4μm,20.0s									
DRME	**Dracevica, Mon**	**83.38**	**321**	⇑*i*P		**P**		**11 13 10.6**	**-0.1**
OHR	**Ohrid**	**83.39**	**320**	*i* P		**P**		**11 13 10.7**	**-0.2**
DAVA	**Damuels**	**83.41**	**330**	*i* PcP		**P**		**11 13 11.8**	**+0.9**
	comp=Z,282nm,1.1s,SNR=99									
BUM	**Brajici-Budva**	**83.43**	**321**	⇑*i*P		**P**		**11 13 10.5**	**-0.5**
XOR	**Xorichti**	**83.46**	**317**	*e*P		**P**		**11 13 09.9**	**-1.3**
XOR	**Xorichti**	**83.46**	**317**	P		**P**		**11 13 09.9**	**-1.3**
M35A	**Neola**	**83.47**	**40**	P		**P**		**11 13 10.8**	**-0.4**
	baz=319,SNR=22									
K37A	**Belmond**	**83.48**	**38**	P		**P**		**11 13 10.5**	**-0.7**
	baz=320,SNR=20									
NEO	**Neokhori**	**83.49**	**317**	*e*P		**P**		**11 13 09.6**	**-1.8**
NEO	**Neokhori**	**83.49**	**317**	P		**P**		**11 13 09.6**	**-1.8**
L36A	**Harm Buss Farm**	**83.49**	**39**	P		**P**		**11 13 11.0**	**-0.3**
	baz=320,SNR=7.7									
KZN	**Kozani**	**83.50**	**318**	*e*P		**P**		**11 13 11.4**	**-0.1**
KZN	**Kozani**	**83.50**	**318**	*e*P		**P**		**11 13 11.4**	**-0.1**
KZN	**Kozani**	**83.50**	**318**	P		**P**		**11 13 11.4**	**-0.1**
HCY	**Herceg Novi**	**83.51**	**322**	⇑*i*P		**P**		**11 13 11.1**	**-0.3**
H40A	**Chili**	**83.52**	**35**	P		**P**		**11 13 11.1**	**-0.2**
	baz=322,SNR=16									
ULC	**Ulcinj**	**83.52**	**321**	⇑*i*P		**P**		**11 13 11.3**	**-0.1**
HSIG		**83.53**	**58**	*e*P		**P**		**11 13 11.9**	**+0.2**
HSIG				LR		LR				
	comp=Z,2μm,20.0s									
NVLJ	**Novalja**	**83.53**	**325**	P		**P**		**11 13 10.2**	**-1.1**
HIZ	**Hauiti**	**83.53**	**155**	*e*P		**P**		**11 13 13.6**	**+2.4**
	comp=Z,237nm,1.2s									
HIZ				LR		LR				
	comp=Z,4μm,21.0s									
N34A	**Lincoln**	**83.54**	**41**	P		**P**		**11 13 11.0**	**-0.5**
	baz=319,SNR=21									
E43A	**Lone Tree Farm**	**83.55**	**32**	P		**P**		**11 13 10.6**	**-0.9**
	baz=324,SNR=7.6									
SLE	**Schleitheim**	**83.55**	**331**	P		**P**		**11 13 11.8**	**+0.3**
STON	**Ston**	**83.56**	**322**	P		**P**		**11 13 09.3**	**-2.3**
O33A	**Hebron**	**83.56**	**42**	P		**P**		**11 13 11.0**	**-0.7**
	baz=318,SNR=16									
G41A	**Antigo**	**83.57**	**34**	P		**P**		**11 13 11.3**	**-0.4**
	baz=323									
F42A	**Maple Grove Fa**	**83.58**	**33**	P		**P**		**11 13 10.2**	**-1.5**
	baz=324									
J38A	**Wedel Dairy, R**	**83.59**	**37**	P		**P**		**11 13 11.3**	**-0.5**
	baz=321,SNR=9.6									
STRD	**Stroud**	**83.60**	**339**	*e*P		**P**		**11 13 12.2**	**+0.6**
STRD				IAmb		IAmb		11 13 14.1		
	comp=Z,245nm,1.0s									
I39A	**Houston**	**83.61**	**36**	P		**P**		**11 13 11.2**	**-0.7**
	baz=322,SNR=23									
MCH1	**Michaelchurch**	**83.63**	**339**	*e*P		**P**		**11 13 12.1**	**+0.4**
MCH1				IAmb		IAmb		11 13 17.6		
	comp=Z,56nm,0.8s									
MCH1				IAMs_20		IAMs_20		11 58 06.2		
	comp=Z,8μm,15.8s									
ECH	**Echery**	**83.67**	**332**	*e*P		**P**		**11 13 11.2**	**-0.9**
ECH				pmax		pmax				
	comp=Z,102nm,1.0s									
ECH				MLR		MLR				
	comp=Z,6μm,19.0s									
ECH	**Echery**	**83.67**	**332**	*e*P		**P**		**11 13 11.2**	**-0.9**
	comp=Z,102nm,1.0s									
ECH				LR		LR				
	comp=Z,6μm,19.0s									
TIR	**Tirane**	**83.68**	**320**	*i* P		**P**		**11 13 12.9**	**+0.6**
TIR	**Tirane**	**83.68**	**320**	*e*P		**P**		**11 13 12.5**	**+0.2**
TIR				pmax		pmax				
	comp=Z,149nm,0.8s									
TIR				MLR		MLR				
	comp=Z,10μm,20.0s									
TIR	**Tirane**	**83.68**	**320**	⇓*i*P		**P**		**11 13 13.1**	**+0.8**
TIR	**Tirane**	**83.68**	**320**	*e*P		**P**		**11 13 12.5**	**+0.2**
	comp=Z,149nm,0.8s									
TIR				LR		LR				
	comp=Z,10μm,20.0s									
MONM	**Monmouth**	**83.72**	**339**	*e*P		**P**		**11 13 13.1**	**+0.8**
MONM				IAmb		IAmb		11 13 14.6		
	comp=Z,112nm,1.1s									
MONM				IAMs_20		IAMs_20		11 57 58.4		
	comp=Z,6μm,15.6s									
SWN1	**Swindon**	**83.73**	**338**	*e*P		**P**		**11 13 13.2**	**+0.9**
SWN1				IAmb		IAmb		11 13 14.9		
	comp=Z,276nm,1.1s									
SWN1				IAMs_20		IAMs_20		11 54 09.5		
	comp=Z,7μm,17.4s									
WOL	**Wolverton**	**83.75**	**338**	*e*P		**P**		**11 13 12.8**	**+0.4**
WOL				IAmb		IAmb		11 13 13.9		
	comp=Z,160nm,1.1s									
WOL				IAMs_20		IAMs_20		11 55 39.0		
	comp=Z,6μm,16.1s									
KBN	**Korca**	**83.77**	**319**	*i* P		**P**		**11 13 13.2**	**+0.4**
E44A	**Grand Marais A**	**83.78**	**31**	P		**P**		**11 13 11.4**	**-1.3**
	baz=325									
NEST	**Nestorio**	**83.79**	**319**	P		**P**		**11 13 12.8**	**-0.2**
FUORN	**Ofenpass-Fuorn**	**83.81**	**329**	*e*P		**P**		**11 13 13.6**	**+0.4**
	comp=Z,386nm,1.0s									
FUORN				LR		LR				
	comp=Z,11μm,21.0s									
SRIG	**Santa Rosalia**	**83.81**	**60**	*e*P		**P**		**11 13 14.1**	**+0.9**
LPW	**Lampeter**	**83.82**	**340**	*e*P		**P**		**11 13 13.1**	**+0.3**
LPW				IAmb		IAmb		11 13 15.2		
	comp=Z,185nm,1.2s									
LPW				IAMs_20		IAMs_20		11 54 52.3		
	comp=Z,6μm,19.6s									
H41A	**Junction City**	**83.84**	**34**	P		**P**		**11 13 12.3**	**-0.7**
	baz=323,SNR=13									
H41A	**Junction City**	**83.84**	**34**	*e*P		**P**		**11 13 12.3**	**-0.7**
	comp=Z,77nm,1.1s									
H41A				LR		LR				
	comp=Z,3μm,19.0s									
HAZ	**Te Kaha**	**83.86**	**152**	P		**P**		**11 13 14.2**	**+1.4**
G42A	**Mountain**	**83.87**	**33**	P		**P**		**11 13 13.0**	**-0.2**
	baz=323									
G42A	**Mountain**	**83.87**	**33**	*e*P		**P**		**11 13 13.2**	**+0.1**
	comp=Z,133nm,1.4s									
G42A				LR		LR				
	comp=Z,4μm,20.0s									
APE	**Apeiranthos**	**83.87**	**314**	⇑*i*P		**P**		**11 13 12.9**	**-0.5**
MXZ	**Matakaoa Point**	**83.87**	**152**	PFAKE				11 13 20.0	+7.1
MXZ				LR		LR				
	comp=Z,2μm,20.0s									
PENT	**Pentalofos**	**83.91**	**319**	P		**P**		**11 13 13.4**	**-0.2**
L37A	**Phoenix Point,**	**83.91**	**38**	P		**P**		**11 13 13.2**	**-0.3**
	baz=320,SNR=38									
F43A	**Flat Rock, Esc**	**83.92**	**32**	P		**P**		**11 13 12.5**	**-0.9**
	baz=324,SNR=8.3									
M36A	**Felix, Anita**	**83.92**	**39**	P		**P**		**11 13 12.6**	**-0.9**
	baz=320,SNR=8.9									
THL	**Klokotos Trika**	**83.93**	**318**	P		**P**		**11 13 12.7**	**-0.8**
J39A	**Decorah**	**83.93**	**36**	P		**P**		**11 13 12.7**	**-0.9**
	baz=322,SNR=25									
O34A	**Beatrice**	**83.94**	**41**	P		**P**		**11 13 12.9**	**-0.7**
	baz=319,SNR=17									
N35A	**Tabor**	**83.96**	**40**	P		**P**		**11 13 13.7**	**0.0**
	baz=319,SNR=27									
K38A	**Parkersburg**	**83.98**	**37**	P		**P**		**11 13 13.6**	**-0.1**
	baz=321,SNR=5.7									
MOF	**Molkenrain**	**83.99**	**331**	*e*P		**P**		**11 13 14.3**	**+0.5**
I40A	**Norwalk**	**83.99**	**35**	P		**P**		**11 13 13.6**	**-0.3**
	baz=322,SNR=13									
RUGZ	**Raukumara Rang**	**84.01**	**153**	P		**P**		**11 13 13.6**	**-0.2**
KARP	**Karpathos**	**84.05**	**312**	*e*P		**P**		**11 13 15.0**	**+0.7**
	comp=Z,106nm,1.2s									
KARP				LR		LR				
	comp=Z,2μm,19.0s									
URZ	**Urewera**	**84.07**	**153**	LR		LR		11 47 12.9		
	comp=Z,3μm,20.9s,baz=338,slow=33									
URZ	**Urewera**	**84.07**	**153**	*e*P		**P**		**11 13 13.0**	**-0.9**
	comp=Z,196nm,1.7s									
URZ				LR		LR				
	comp=Z,4μm,20.0s									
URZ	**Urewera**	**84.07**	**153**	P		**P**		**11 13 14.5**	**+0.6**
PKGZ	**Pakihiroa**	**84.08**	**152**	P		**P**		**11 13 16.1**	**+2.0**
LKR	**Lokris**	**84.09**	**317**	*e*P		**P**		**11 13 13.6**	**-0.8**
LKR	**Lokris**	**84.09**	**317**	P		**P**		**11 13 13.6**	**-0.8**
F44A	**Big Bay de Noc**	**84.11**	**32**	P		**P**		**11 13 14.3**	**-0.1**
	baz=325,SNR=7.9									
HINF	**Hinteralfeld**	**84.12**	**332**	*e*P		**P**		**11 13 14.3**	**-0.1**
HINF				pmax		pmax				
	comp=Z,44nm,1.0s									
WMGZ	**Waiomatatini S**	**84.14**	**152**	P		**P**		**11 13 16.0**	**+1.8**
HAU	**Haudompre**	**84.14**	**332**	*e*P		**P**		**11 13 14.4**	**-0.1**
HAU				pmax		pmax				
	comp=Z,33nm,0.7s									
G43A	**Wallace**	**84.17**	**33**	P		**P**		**11 13 14.7**	**0.0**
	baz=324,SNR=6.6									
G43A	**Wallace**	**84.17**	**33**	*e*P		**P**		**11 13 15.1**	**+0.4**
	comp=Z,188nm,1.4s									
G43A				LR		LR				
	comp=Z,4μm,22.0s									
I41A	**Arkdale**	**84.19**	**35**	P		**P**		**11 13 14.5**	**-0.3**
	baz=323,SNR=9.5									
VLY	**Voula,Athens**	**84.25**	**316**	*e*P		**P**		**11 13 14.6**	**-0.6**
VLY	**Voula,Athens**	**84.25**	**316**	P		**P**		**11 13 14.6**	**-0.6**
IWEX	**Carrickbyrne,**	**84.27**	**341**	*e*P		**P**		**11 13 16.7**	**+1.6**
O35A	**Humboldt**	**84.27**	**41**	P		**P**		**11 13 14.8**	**-0.5**
	baz=319,SNR=8.7									
L38A	**Oak Wood Farm,**	**84.28**	**38**	P		**P**		**11 13 15.1**	**-0.2**
	baz=321,SNR=13									
MWZ	**Matawai**	**84.28**	**153**	P		**P**		**11 13 14.9**	**-0.2**
TUE	**Stuetta**	**84.29**	**329**	*e*P		**P**		**11 13 15.4**	**-0.1**
	comp=Z,268nm,1.3s									
TUE				LR		LR				
	comp=Z,12μm,18.0s									
E45A	**Wooded Hills,**	**84.29**	**31**	P		**P**		**11 13 14.9**	**-0.4**
	baz=326,SNR=5.6									
PUZ	**Puketiti**	**84.31**	**152**	P		**P**		**11 13 11.5**	**-3.7**
M37A	**Trindle Farm,**	**84.32**	**39**	P		**P**		**11 13 15.1**	**-0.5**
	baz=320,SNR=12									
WTVZ	**West Tongariro**	**84.32**	**155**	P		**P**		**11 13 17.4**	**+2.0**
J40A	**Soldiers Grove**	**84.32**	**36**	P		**P**		**11 13 14.9**	**-0.6**
	baz=322,SNR=7.8									
N36A	**Muff Farm, Cla**	**84.33**	**40**	P		**P**		**11 13 15.4**	**-0.2**
	baz=320,SNR=14									
SCIA	**State Center**	**84.34**	**38**	P		**P**		**11 13 15.6**	**0.0**
	baz=321,SNR=18									
SCIA	**State Center**	**84.34**	**38**	*e*P		**P**		**11 13 16.5**	**+0.9**
	comp=Z,174nm,1.0s									
SCIA				LR		LR				
	comp=Z,4μm,20.0s									
K39A	**Oelwein**	**84.34**	**37**	P		**P**		**11 13 15.0**	**-0.6**
	baz=321,SNR=22									
MRHZ	**Matea Rd**	**84.35**	**154**	P		**P**		**11 13 16.3**	**+0.8**
COVZ	**Chateau Observ**	**84.38**	**155**	P		**P**		**11 13 16.9**	**+1.2**
PKVZ	**Pokaka**	**84.40**	**155**	P		**P**		**11 13 18.1**	**+2.4**
H42A	**Shiocton**	**84.41**	**34**	P		**P**		**11 13 15.6**	**-0.3**
	baz=323,SNR=5.7									
H42A	**Shiocton**	**84.41**	**34**	*e*P		**P**		**11 13 16.3**	**+0.4**
	comp=Z,62nm,0.7s									
H42A				LR		LR				
	comp=Z,4μm,21.0s									
SANT	**Santorini**	**84.42**	**314**	*e*P		**P**		**11 13 14.8**	**-1.4**
	comp=Z,179nm,1.0s									
SANT				LR		LR				
	comp=Z,4μm,18.0s									
FWVZ	**Far West T-bar**	**84.44**	**155**	P		**P**		**11 13 20.4**	**+4.3**
JAN	**Janina**	**84.46**	**319**	*e*P		**P**		**11 13 16.3**	**0.0**
JAN	**Janina**	**84.46**	**319**	*e*P		**P**		**11 13 16.3**	**0.0**
JAN	**Janina**	**84.46**	**319**	P		**P**		**11 13 16.3**	**0.0**
TRVZ	**Turoa**	**84.47**	**155**	P		**P**		**11 13 18.8**	**+2.5**
DSF	**Desfina**	**84.52**	**317**	*e*P		**P**		**11 13 15.9**	**-0.7**
DSF	**Desfina**	**84.52**	**317**	P		**P**		**11 13 15.9**	**-0.7**
EVR	**Evrytania**	**84.52**	**317**	*e*P		**P**		**11 13 16.9**	**+0.2**
EVR	**Evrytania**	**84.52**	**317**	P		**P**		**11 13 16.9**	**+0.2**
LOMF	**Lomont**	**84.52**	**331**	P		**P**		**11 13 17.3**	**+0.8**
SNGZ	**Shannon Statio**	**84.62**	**153**	P		**P**		**11 13 18.0**	**+1.3**
RAHZ	**Arahi**	**84.65**	**153**	P		**P**		**11 13 18.5**	**+1.6**
BKZ	**Black Stump Fm**	**84.67**	**154**	*e*P		**P**		**11 13 16.9**	**-0.1**
	comp=Z,140nm,1.4s									
BKZ				LR		LR				
	comp=Z,8μm,21.0s									
BKZ	**Black Stump Fm**	**84.67**	**154**	P		**P**		**11 13 17.7**	**+0.7**
J41A	**Loganville**	**84.67**	**35**	P		**P**		**11 13 16.5**	**-0.8**
	baz=323,SNR=18									
K40A	**Colesburg**	**84.69**	**36**	P		**P**		**11 13 17.0**	**-0.4**
	baz=322,SNR=24									
RIGZ	**Rimuhau**	**84.70**	**153**	P		**P**		**11 13 18.7**	**+1.6**
ANX	**Ano Chora**	**84.70**	**317**	P		**P**		**11 13 16.4**	**-1.2**
F45A	**CMU Biological**	**84.71**	**31**	P		**P**		**11 13 16.9**	**-0.5**
	baz=325									
SRN	**Sarande**	**84.72**	**319**	*i* P		**P**		**11 13 14.7**	**-2.8**
M38A	**Pleasantville**	**84.72**	**38**	P		**P**		**11 13 16.9**	**-0.7**
	baz=321,SNR=54									
N37A	**Lee Faris, Mou**	**84.74**	**39**	P		**P**		**11 13 17.6**	**-0.1**
	baz=320,SNR=16									
I42A	**Draeger Farm,**	**84.74**	**34**	P		**P**		**11 13 17.2**	**-0.4**
	baz=323,SNR=11									
I42A	**Draeger Farm,**	**84.74**	**34**	*e*P		**P**		**11 13 18.0**	**+0.4**
	comp=Z,109nm,1.0s									
I42A				LR		LR				
	comp=Z,3μm,20.0s									
L39A	**Vinton**	**84.74**	**37**	P		**P**		**11 13 17.2**	**-0.5**
	baz=321,SNR=39									
SERG	**Sergoula**	**84.76**	**317**	P		**P**		**11 13 17.1**	**-0.8**
H43A	**Windswept, Lux**	**84.77**	**33**	P		**P**		**11 13 17.5**	**-0.3**
	baz=324,SNR=6.7									
H43A	**Windswept, Lux**	**84.77**	**33**	*e*P		**P**		**11 13 18.7**	**+1.0**
	comp=Z,127nm,0.9s									
H43A				LR		LR				
	comp=Z,4μm,19.0s									
KSU1	**Kansas State U**	**84.79**	**42**	P		**P**		**11 13 17.3**	**-0.6**
	baz=319,SNR=20									
KSU1	**Kansas State U**	**84.79**	**42**	*e*P		**P**		**11 13 17.7**	**-0.2**
	comp=Z,67nm,0.8s									
KSU1				LR		LR				
	comp=Z,5μm,22.0s									
SGD	**Sagiada**	**84.81**	**319**	P		**P**		**11 13 17.1**	**-0.9**
IGT	**Igoumenitsa**	**84.82**	**319**	*e*P		**P**		**11 13 17.8**	**-0.3**
IGT	**Igoumenitsa**	**84.82**	**319**	*e*P		**P**		**11 13 17.8**	**-0.3**
IGT	**Igoumenitsa**	**84.82**	**319**	P		**P**		**11 13 17.8**	**-0.3**
BHHZ	**Black Hill Sta**	**84.82**	**154**	P		**P**		**11 13 18.8**	**+1.0**
EFP	**Efpalio**	**84.83**	**317**	P		**P**		**11 13 18.1**	**0.0**
WHHZ	**Waihua**	**84.84**	**153**	P		**P**		**11 13 19.4**	**+1.6**
ZKR	**Zakros**	**84.89**	**312**	P		**P**		**11 13 18.8**	**+0.3**
JFWS	**Jewell Farm**	**84.93**	**36**	P		**P**		**11 13 17.4**	**-1.1**
	baz=322,SNR=8.9									
JFWS	**Jewell Farm**	**84.93**	**36**	*e*P		**P**		**11 13 18.4**	**-0.1**
JFWS				pmax		pmax				
	comp=Z,128nm,1.4s									
JFWS				MLR		MLR				
	comp=Z,3μm,21.0s									
JFWS	**Jewell Farm**	**84.93**	**36**	*e*P		**P**		**11 13 18.4**	**-0.1**
	comp=Z,128nm,1.4s									
JFWS				LR		LR				
	comp=Z,3μm,21.0s									
F46A	**Macinaw City C**	**84.94**	**31**	P		**P**		**11 13 17.8**	**-0.7**
	baz=326									
HTL	**Hartland**	**84.94**	**340**	*e*P		**P**		**11 13 19.6**	**+1.1**
HTL				IAmb		IAmb		11 13 21.1		
	comp=Z,115nm,1.2s									
HTL				IAMs_20		IAMs_20		11 55 15.6		
	comp=Z,3μm,19.8s									
KEK	**Kerkira**	**84.95**	**319**	*e*P		**P**		**11 13 19.4**	**+0.7**
KEK	**Kerkira**	**84.95**	**319**	P		**P**		**11 13 19.4**	**+0.7**
GUR	**Goura**	**84.97**	**316**	*e*P		**P**		**11 13 17.4**	**-1.6**
GUR	**Goura**	**84.97**	**316**	P		**P**		**11 13 17.4**	**-1.6**
KLV	**Kalavryta, Ach**	**84.99**	**317**	*e*P		**P**		**11 13 17.5**	**-1.5**
KLV	**Kalavryta, Ach**	**84.99**	**317**	P		**P**		**11 13 17.5**	**-1.5**
KRHZ	**Kereru**	**85.06**	**154**	P		**P**		**11 13 22.0**	**+3.0**
PDO	**Prodromos**	**85.08**	**318**	P		**P**		**11 13 19.1**	**-0.3**
J42A	**Columbus**	**85.11**	**35**	P		**P**		**11 13 18.6**	**-0.9**
	baz=323,SNR=13									
AMTX	**Amarillo**	**85.13**	**48**	P		**P**		**11 13 19.9**	**+0.1**
	baz=316									
AMTX	**Amarillo**	**85.13**	**48**	*e*P		**P**		**11 13 20.7**	**+0.9**
	comp=Z,192nm,1.4s									
AMTX				LR		LR				
	comp=Z,

comp=Z,12nm,0.3s
ITM Ithomi 85.75 316 P **P** 11 13 22.4 -0.4
MATE Matera 85.75 322 ⇓*iP* **P** 11 13 23.2 +0.5
VLC Villacollemand 85.77 327 *eP* **P** 11 13 23.3 +0.5
comp=Z,91nm,1.0s
VLC LR LR
comp=Z,12µm,19.0s
GLMI Grayling 85.78 31 P **P** 11 13 22.6 -0.2
baz=326,SNR=9.0
GLMI Grayling 85.78 31 *eP* **P** 11 13 23.5 +0.7
comp=Z,269nm,1.0s
GLMI LR LR
comp=Z,4µm,18.0s
FLN La Foliniere 85.78 336 *eP* **P** 11 13 24.0 +1.3
FLN pmax pmax
comp=Z,137nm,1.3s
JQE Queens East 85.87 337 *eP* **P** 11 13 23.0 -0.1
JQE *eP* **PcP** 11 13 23.8 -2.1
THZ Tophouse 85.89 157 *eP* **P** 11 13 23.5 +0.4
comp=Z,208nm,1.6s
THZ LR LR
comp=Z,5µm,21.0s
N40A Mertquake, Sal 85.91 38 P **P** 11 13 23.3 -0.1
baz=322,SNR=20
L42A Oliver, Polo 85.91 36 P **P** 11 13 22.8 -0.7
baz=323,SNR=9.0
AQU L'Aquila 85.93 325 *eP* **P** 11 13 24.3 +0.6
AQU pmax pmax
comp=Z,242nm,1.4s
AQU MLR MLR
comp=Z,11µm,18.0s
AQU L'Aquila 85.93 325 *eP* **P** 11 13 24.2 +0.6
comp=Z,242nm,1.4s
AQU LR LR
comp=Z,11µm,18.0s
O39A Kirksville 85.94 39 P **P** 11 13 23.4 -0.3
baz=321,SNR=18
P38A Dawn 85.94 40 P **P** 11 13 23.4 -0.3
baz=321,SNR=42
K43A Burlington 85.94 35 P **P** 11 13 22.6 -1.1
baz=324
BFZ Birch Farm 85.95 155 *eP* **P** 11 13 25.8 +2.4
comp=Z,125nm,1.1s
M41A Milan 86.01 37 P **P** 11 13 23.6 -0.4
baz=322,SNR=27
SNZO South Karori 86.03 156 PFAKE 11 13 40.0 +16
SNZO LR LR
comp=Z,5µm,21.0s
Q37A Longview Farm, 86.06 41 P **P** 11 13 23.8 -0.5
baz=320,SNR=9.9
PYL PYLOS 86.06 316 *eP* **P** 11 13 23.7 -0.6
PYL PYLOS 86.06 316 P **P** 11 13 23.7 -0.6
LPL La Plagne 86.10 330 *eP* **P** 11 13 24.9 +0.3
LPL pmax pmax
comp=Z,125nm,0.9s
LPG La Plagne 86.11 330 *eP* **P** 11 13 25.0 +0.2
LPG pmax pmax
comp=Z,158nm,1.0s
L43A Garden Prairie 86.18 35 P **P** 11 13 23.7 -1.1
baz=323
GRR Gorron 86.23 336 *eP* **P** 11 13 25.4 +0.5
GRR pmax pmax
comp=Z,165nm,1.2s
TAOE Nuku Hiva Isla 86.27 105 *eP* **P** 11 13 27.0 +1.3
comp=Z,356nm,1.4s
TAOE Nuku Hiva Isla 86.27 105 *e*LR LR 11 40 37.9
comp=Z,3µm,23.5s,baz=317
TAOE Nuku Hiva Isla 86.27 105 *e*T T 12 48 33.8
comp=Z,144nm,0.2s
M42A Sheffield 86.30 36 P **P** 11 13 23.6 -1.8
baz=323
O40A La Belle 86.36 38 P **P** 11 13 25.4 -0.3
baz=322,SNR=36
N41A Harden Midland 86.39 38 P **P** 11 13 25.5 -0.3
baz=322,SNR=10
Q38A Cooks Store, C 86.41 40 P **P** 11 13 25.7 -0.3
baz=321,SNR=53
P39B Salisbury 86.43 39 P **P** 11 13 25.9 -0.2
baz=321,SNR=29
BNI Bardonecchia 86.51 330 *eP* **P** 11 13 26.8 +0.2
BNI pmax pmax
comp=Z,69nm,0.9s
BNI MLR MLR
comp=Z,8µm,18.0s
BNI Bardonecchia 86.51 330 *eP* **P** 11 13 26.8 +0.2
comp=Z,69nm,0.9s
BNI LR LR
comp=Z,8µm,18.0s
L44A Lake County Fo 86.55 35 P **P** 11 13 26.5 -0.2
baz=324
TOBO Tobermory, Bru 86.64 29 P **P** 11 13 26.7 -0.3
baz=328,SNR=6.1
LTZ Lake Taylor 86.65 158 *eP* **P** 11 13 30.8 +4.0
comp=Z,45nm,1.0s
LTZ LR LR
comp=Z,5µm,19.0s
DAMY Dhamar 86.66 286 *eP* **P** 11 13 29.1 +1.2
comp=Z,193nm,1.3s
DAMY LR LR
comp=Z,3µm,18.0s
N42A Yates City 86.67 37 P **P** 11 13 26.6 -0.7
baz=323,SNR=20
FOZ Fox Glacier 86.68 160 *eP* **P** 11 13 27.9 +1.1
comp=Z,85nm,1.1s
FOZ LR LR
comp=Z,4µm,21.0s
KHZ Kahutara 86.68 157 *eP* **P** 11 13 28.2 +1.4
comp=Z,62nm,1.1s
KHZ LR LR
comp=Z,8µm,22.0s
M43A Waltham Townsh 86.68 36 P **P** 11 13 27.0 -0.2
baz=323,SNR=20
CUC Castrocucco 86.69 322 *eP* **P** 11 13 26.8 -0.6
comp=Z,52nm,1.2s
CUC LR LR
comp=Z,7µm,18.0s
P40A Paris 86.74 39 P **P** 11 13 27.5 -0.1
baz=322,SNR=74
O41A Passleys Farm, 86.84 38 P **P** 11 13 27.7 -0.4
baz=322,SNR=24
R38A Fenwick Farm, 86.86 41 P **P** 11 13 27.1 -1.1
baz=320,SNR=53
TIP Timpagrande 86.87 321 ⇓*iP* **P** 11 13 28.9 +0.6
TIP Timpagrande 86.87 321 *eP* **P** 11 13 27.9 -0.4
comp=Z,161nm,1.5s
TIP LR LR
comp=Z,10µm,19.0s
WMOK Wichita Mounta 86.87 46 P **P** 11 13 28.3 -0.1
baz=318,SNR=21
WMOK Wichita Mounta 86.87 46 *eP* **P** 11 13 28.7 +0.3
WMOK pmax pmax
comp=Z,73nm,1.3s
WMOK MLR MLR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 86.87 46 *eP* **P** 11 13 28.7 +0.3
comp=Z,73nm,1.3s
WMOK LR LR
comp=Z,2µm,20.0s
ORIF Oris-en-Rattie 86.92 331 *eP* **P** 11 13 29.8 +1.3
ORIF pmax pmax
comp=Z,99nm,1.1s
N43A Stutzman Famil 86.98 36 P **P** 11 13 27.3 -1.4
baz=323
KLBO Killbear Provi 87.02 28 P **P** 11 13 28.6 -0.2
baz=329,SNR=8.6
OXZ Oxford 87.08 159 *eP* **P** 11 13 29.6 +0.7
comp=Z,90nm,0.9s
OXZ LR LR
comp=Z,4µm,20.0s
P41A Barry, Barry 87.10 38 P **P** 11 13 29.4 +0.1
baz=322,SNR=49
SSB Saint Sauveur 87.12 332 *eP* **P** 11 13 29.7 +0.3
SSB pmax pmax
comp=Z,60nm,0.9s
SSB MLR MLR
comp=Z,5µm,19.0s
SSB Saint Sauveur 87.12 332 *eP* **P** 11 13 29.7 +0.3
comp=Z,60nm,0.9s
SSB LR LR
comp=Z,5µm,19.0s
M44A Midewin, Midew 87.13 35 P **P** 11 13 28.9 -0.6
baz=324,SNR=9.0
Q40A Laux Farm, Aux 87.14 39 P **P** 11 13 29.0 -0.6
baz=322,SNR=47
O42A Bath 87.15 37 P **P** 11 13 29.1 -0.5
baz=323,SNR=5.6
RPZ Rata Peaks 87.17 159 LR LR 11 48 11.0
comp=Z,3µm,21.3s,baz=338,slow=33
RPZ Rata Peaks 87.17 159 PFAKE 11 13 40.0 +11
RPZ LR LR
comp=Z,5µm,21.0s
R39A Chumby, Stover 87.20 40 P **P** 11 13 29.0 -0.8
baz=321,SNR=44
HDIL Hopedale 87.23 37 P **P** 11 13 29.9 0.0
baz=323,SNR=22
HDIL Hopedale 87.23 37 *eP* **P** 11 13 30.2 +0.3
comp=Z,176nm,1.0s
HDIL LR LR
comp=Z,3µm,22.0s
BUKO Buck Lake 87.24 28 P **P** 11 13 29.3 -0.6
baz=329,SNR=7.5
LPIG La Paz 87.26 61 P **P** 11 13 31.5 +1.2
comp=Z,89nm,1.2s,baz=12,slow=3.0,SNR=7.3
LPIG LR LR 11 42 06.4
comp=Z,796nm,21.4s,baz=307,slow=28
S38A Stockton 87.29 41 P **P** 11 13 29.7 -0.6
baz=320,SNR=28
BMRO Meriville Lake 87.29 29 P **P** 11 13 29.7 -0.5
baz=328,SNR=6.7
QUIF Quistinic 87.35 338 *eP* **P** 11 13 30.7 +0.3
VIVF Saint-Julien-l 87.43 331 *eP* **P** 11 13 31.2 +0.3
VIVF pmax pmax
comp=Z,104nm,1.2s
O43A Sugar Creek Fa 87.44 37 P **P** 11 13 30.3 -0.7
baz=323,SNR=9.6
CRLZ Canterbury Las 87.48 158 PFAKE 11 13 40.0 +9.3
CRLZ LR LR
comp=Z,4µm,21.0s
M45A Boilermakers S 87.48 35 P **P** 11 13 30.1 -1.1
baz=324
P42A Winchester 87.51 38 P **P** 11 13 31.0 -0.3
baz=322,SNR=39
S39A Bolivar 87.54 41 P **P** 11 13 30.8 -0.7
baz=321,SNR=60
T38A Diamond 87.55 42 P **P** 11 13 31.4 -0.2
baz=320,SNR=79
N44A Piper City 87.57 36 P **P** 11 13 31.4 -0.2
baz=324,SNR=12
LBZ Lake Benmore 87.57 160 *eP* **P** 11 13 32.7 +1.5
comp=Z,98nm,0.9s
LBZ LR LR
comp=Z,7µm,22.0s
Q41A Truxton 87.58 39 P **P** 11 13 32.0 +0.3
baz=322,SNR=68
R40A Maddies Statio 87.60 40 P **P** 11 13 31.4 -0.4
baz=321,SNR=56
MQZ McQueen's Vall 87.61 158 PFAKE 11 13 40.0 +8.7
MQZ LR LR
comp=Z,4µm,22.0s
BASO Ashfield 87.62 30 P **P** 11 13 31.9 +0.2
baz=328,SNR=6.1
TUL1 Leonard 87.62 44 P **P** 11 13 31.6 -0.3
baz=319,SNR=9.3
TUL1 Leonard 87.62 44 *eP* **P** 11 13 32.6 +0.7
comp=Z,89nm,1.3s
TUL1 LR LR
comp=Z,4µm,22.0s
WKZ Wanaka 87.69 161 PFAKE 11 13 40.0 +8.3
WKZ LR LR
comp=Z,9µm,22.0s
FRF La Foret Royal 87.78 329 *eP* **P** 11 13 32.5 0.0
FRF pmax pmax
comp=Z,62nm,1.5s
SLBS Sierra La Lagu 87.78 61 *eP* **P** 11 13 34.9 +1.9
comp=Z,155nm,1.6s
N45A Kentland 87.80 35 P **P** 11 13 32.0 -0.7
baz=324,SNR=13
P43A Skaggs, Pawnee 87.85 37 P **P** 11 13 32.3 -0.7
baz=323,SNR=16
M46A Old House Fiel 87.86 34 P **P** 11 13 32.4 -0.6
baz=325,SNR=7.6
SADO Sadowa 87.92 28 *eP* **P** 11 13 34.0 +0.8
comp=Z,93nm,1.6s
SADO LR LR
comp=Z,5µm,22.0s
LTX Lajitas 87.92 53 *eP* **P** 11 13 33.7 +0.1
LTX Lajitas 87.92 53 *eP* **P** 11 13 33.7 +0.1
TXAR Lajitas Array 87.92 53 P **P** 11 13 33.7 +0.1
comp=Z,46nm,1.1s,baz=292,slow=3.2,SNR=97
TXAR PKKPbc **PKKPbc** 11 31 18.2 +0.1
comp=Z,1.1nm,0.6s,baz=157,slow=5.7,SNR=10
O44A Mansfield 87.93 36 P **P** 11 13 32.7 -0.7
baz=324,SNR=13
ABTX Abilene, Hawle 87.94 48 P **P** 11 13 33.3 -0.2
baz=318,SNR=31
ABTX Abilene, Hawle 87.94 48 *eP* **P** 11 13 34.9 +1.4
comp=Z,108nm,1.1s
ABTX LR LR
comp=Z,2µm,21.0s
Q42A Golden Eagle 87.95 38 P **P** 11 13 32.8 -0.7
baz=322,SNR=22
CEL Celeste 88.01 321 *eP* **P** 11 13 33.7 -0.1
comp=Z,55nm,1.0s
CEL LR LR
comp=Z,10µm,19.0s
S40A Lebanon 88.02 40 P **P** 11 13 33.1 -0.8
baz=321,SNR=41
T39A Clever 88.02 41 P **P** 11 13 33.1 -0.7
baz=321,SNR=14
R41A Rosebud 88.03 39 P **P** 11 13 33.5 -0.4
baz=322,SNR=91
N46A Monticello 88.11 35 P **P** 11 13 33.5 -0.7
baz=325
BANO Bancroft 88.13 27 P **P** 11 13 33.8 -0.4
baz=330,SNR=18
RJF Les Rejaudoux 88.17 333 *eP* **P** 11 13 33.8 -0.6
RJF pmax pmax
comp=Z,125nm,1.3s
O45A Potomac 88.19 36 P **P** 11 13 34.2 -0.3
baz=324,SNR=25
TRQ Mont Tremblant 88.21 25 *eP* **P** 11 13 34.8 +0.1
AAM Ann Arbor 88.26 32 P **P** 11 13 34.5 -0.4
baz=327
AAM Ann Arbor 88.26 32 *eP* **P** 11 13 35.8 +0.9
AAM pmax pmax
comp=Z,109nm,1.1s
AAM MLR MLR
comp=Z,4µm,20.0s
AAM Ann Arbor 88.26 32 *eP* **P** 11 13 35.8 +0.9
comp=Z,109nm,1.1s
AAM LR LR
comp=Z,4µm,20.0s
ODZ Otahua Downs 88.30 160 PFAKE 11 13 50.0 +15
ODZ LR LR
comp=Z,6µm,19.0s
HHAR Hobbs 88.31 42 *eP* **P** 11 13 35.3 +0.1
comp=Z,104nm,1.3s
HHAR LR LR
comp=Z,4µm,19.0s
CAF Calviac 88.31 333 *eP* **P** 11 13 34.9 -0.2
CAF pmax pmax
comp=Z,133nm,1.3s
SLM Saint Louis 88.31 38 *eP* **P** 11 13 35.5 +0.3
SLM pmax pmax
comp=Z,166nm,1.0s
SLM MLR MLR
comp=Z,3µm,20.0s
SLM Saint Louis 88.31 38 *eP* **P** 11 13 35.5 +0.3
comp=Z,166nm,1.0s
SLM LR LR
comp=Z,3µm,20.0s
R42A Luebbering 88.33 39 P **P** 11 13 35.2 0.0
baz=322,SNR=43
Q43A New Douglas 88.33 38 P **P** 11 13 34.7 -0.6
baz=323,SNR=13
HPIG 88.35 56 *eP* **P** 11 13 36.1 +0.3
comp=Z,98nm,1.4s
T40A Mansfield 88.36 41 P **P** 11 13 34.8 -0.7
baz=321,SNR=31
SFIN Lafayette 88.37 35 P **P** 11 13 34.3 -1.1
baz=324
SFIN Lafayette 88.37 35 *eP* **P** 11 13 36.0 +0.6
comp=Z,97nm,1.0s
SFIN LR LR
comp=Z,3µm,20.0s
S41A Jillco Farms, 88.40 40 P **P** 11 13 34.8 -0.9
baz=322,SNR=31
P44A Sand Creek, Wi 88.41 37 P **P** 11 13 34.9 -0.8
baz=324,SNR=37
PLVO Plevna 88.41 27 P **P** 11 13 35.0 -0.5
baz=331,SNR=10
PLVO Plevna 88.41 27 *eP* **P** 11 13 35.7 +0.2
comp=Z,45nm,1.0s
ELFO Elginfield 88.44 30 P **P** 11 13 35.3 -0.4
baz=328,SNR=12
U39A Green Forest 88.46 42 P **P** 11 13 35.5 -0.5
baz=321,SNR=96
ALFO Alfred 88.63 25 P **P** 11 13 36.1 -0.4
baz=332,SNR=18
DELO Deloro Mine 88.68 27 P **P** 11 13 36.5 -0.3
baz=331,SNR=15
Q44A Meyer Farm, Va 88.68 37 P **P** 11 13 36.7 -0.2
baz=323,SNR=29
S42A Caledonia 88.73 39 P **P** 11 13 36.9 -0.3
baz=322,SNR=80
FVM French Village 88.74 39 *eP* **P** 11 13 37.6 +0.4
FVM pmax pmax
comp=Z,99nm,1.0s
FVM MLR MLR
comp=Z,4µm,21.0s
FVM French Village 88.74 39 *eP* **P** 11 13 37.6 +0.4
comp=Z,99nm,1.0s
FVM LR LR
comp=Z,4µm,21.0s
R43A Red Bud 88.75 38 P **P** 11 13 36.5 -0.8
baz=323,SNR=32
P45A Graceland, Par 88.77 36 P **P** 11 13 36.6 -0.7
baz=324,SNR=18
V39A Pettigrew 88.80 42 P **P** 11 13 37.1 -0.5
baz=321,SNR=63
U40A Yellville 88.81 41 P **P** 11 13 37.0 -0.6
baz=321,SNR=122
T41A Mountain View 88.82 40 P **P** 11 13 36.7 -0.9
baz=322,SNR=83
DRWO Darlington Wes 88.84 28 P **P** 11 13 36.6 -0.9
baz=330
O47A Sheridan 88.89 35 P **P** 11 13 36.7 -1.2
baz=325,SNR=15
P46A Rosedale 88.94 36 P **P** 11 13 37.8 -0.3
baz=324,SNR=30
TYNO Tyneside 89.08 29 P **P** 11 13 38.3 -0.4
baz=329,SNR=8.4
Q45A Warren Harvey, 89.08 37 P **P** 11 13 39.1 +0.3
baz=324,SNR=40
T42A Van Buren 89.16 40 P **P** 11 13 38.7 -0.5
baz=322,SNR=68
R44A Waltonville 89.17 38 P **P** 11 13 38.9 -0.3
baz=323,SNR=16
W39A Magazine 89.22 43 P **P** 11 13 39.3 -0.2
baz=321,SNR=20
S43A Fulton Ridge, 89.23 39 P **P** 11 13 39.2 -0.3
baz=323,SNR=19
OLIL Olney 89.24 37 *eP* **P** 11 13 40.1 +0.6
comp=Z,167nm,1.0s
OLIL LR LR
comp=Z,3µm,19.0s
V40A Witts Springs 89.25 42 P **P** 11 13 39.1 -0.6
baz=321,SNR=20
U41A Viola 89.29 41 P **P** 11 13 39.3 -0.5
baz=322,SNR=36
VAE Valgurnera 89.34 321 LR LR 11 58 58.0
comp=Z,7µm,20.2s,baz=38,slow=39
Q46A CEJHS Indians, 89.35 36 P **P** 11 13 38.8 -1.3
baz=324
JCT Junction City 89.41 50 P **P** 11 13 40.3 -0.3
baz=317,SNR=19
JCT Junction City 89.41 50 *eP* **P** 11 13 40.3 -0.3
JCT pmax pmax
comp=Z,38nm,0.8s
JCT MLR MLR
comp=Z,2µm,20.0s
JCT Junction City 89.41 50 *eP* **P** 11 13 40.3 -0.3
comp=Z,38nm,0.8s
JCT LR LR
comp=Z,2µm,20.0s
P47A Martinsville 89.46 35 P **P** 11 13 40.0 -0.6
baz=325,SNR=20
R45A Skylar, Fairfi 89.51 37 P **P** 11 13 40.6 -0.2
baz=323,SNR=13
T43A Greenville 89.52 39 P **P** 11 13 40.4 -0.5
baz=323,SNR=36
S44A Carbondale 89.53 38 P **P** 11 13 40.2 -0.7
baz=323,SNR=58
SIUC Southern Illin 89.53 38 *eP* **P** 11 13 41.4 +0.5
comp=Z,198nm,1.0s
SIUC LR LR
comp=Z,3µm,19.0s
MEDO Medina 89.55 28 P **P** 11 13 40.8 -0.1
baz=330,SNR=10
X39A Fountain Ranch 89.57 43 P **P** 11 13 40.8 -0.4
baz=320,SNR=28
W40A Ferguson Farm, 89.59 42 P **P** 11 13 40.8 -0.4
baz=321,SNR=27
W40A Ferguson Farm, 89.59 42 *eP* **P** 11 13 41.6 +0.3
comp=Z,123nm,0.9s
W40A LR LR
comp=Z,4µm,20.0s
V41A Mountainview 89.60 41 P **P** 11 13 41.0 -0.3
baz=322,SNR=57
BLO Bloomington 89.61 36 *eP* **P** 11 13 42.1 +0.8
BLO pmax pmax
comp=Z,102nm,1.1s
BLO MLR MLR
comp=Z,4µm,19.0s
BLO Bloomington 89.61 36 *eP* **P** 11 13 42.1 +0.8
comp=Z,102nm,1.1s
BLO LR LR
comp=Z,4µm,19.0s
LONY Lake Ozonia 89.62 25 P **P** 11 13 40.8 -0.5
baz=333
LONY Lake Ozonia 89.62 25 *eP* **P** 11 13 42.4 +1.1
comp=Z,54nm,1.3s
LONY LR LR
comp=Z,4µm,18.0s
U42A Revenden 89.62 40 P **P** 11 13 41.1 -0.3
baz=322,SNR=12
WHTX Lake Whitney, 89.65 47 P **P** 11 13 41.6 0.0
baz=319,SNR=19
WHTX Lake Whitney, 89.65 47 *eP* **P** 11 13 42.4 +0.8
comp=Z,166nm,1.4s
WHTX LR LR
comp=Z,3µm,20.0s
PBMO Poplar Bluff 89.69 40 PFAKE 11 13 50.0 +8.3
PBMO LR LR
comp=Z,3µm,20.0s
PQI Presque Isle 89.72 20 *eP* **P** 11 13 42.0 +0.4
comp=Z,293nm,1.9s
FRNY Flat Rock 89.75 25 *eP* **P** 11 13 42.6 +0.8
comp=Z,126nm,1.9s
FRNY LR LR
comp=Z,4µm,21.0s
ATD Arta Tunnel 89.77 285 P **P** 11 13 42.7 +0.3
comp=Z,74nm,1.1s,baz=357,slow=3.0,SNR=14
ATD LR LR 11 59 03.4
comp=Z,1µm,18.9s,baz=52,slow=39
CLTB Caltabellotta 89.84 322 PFAKE 11 13 50.0 +7.5
CLTB LR LR
comp=Z,11µm,18.0s
Q47A Bedord North L 89.84 36 P **P** 11 13 42.3 -0.1
baz=325,SNR=26
T44A Benton 89.85 39 P **P** 11 13 42.3 -0.1
baz=323,SNR=8.6
S45A Carrier Mills 89.86 38 P **P** 11 13 42.3 -0.2
baz=324,SNR=25
ERPA Erie 89.87 30 P **P** 11 13 42.4 -0.1
baz=329,SNR=16
ERPA Erie 89.87 30 *eP* **P** 11 13 43.1 +0.7
comp=Z,233nm,1.1s
ERPA LR LR
comp=Z,3µm,19.0s
WHAR Wooly Hollow 89.92 42 *eP* **P** 11 13 43.3 +0.5
comp=Z,126nm,1.0s
WHAR LR LR
comp=Z,3µm,18.0s
R46A Gibon Southern 89.93 37 P **P** 11 13 42.2 -0.6
baz=324,SNR=14
V42A Cord 89.97 41 P **P** 11 13 42.6 -0.5
baz=322,SNR=27
U43A Rector 90.02 40 P **P** 11 13 43.1 -0.1
baz=322
VSL Villasalto 90.03 325 *eP* **P** 11 13 43.2 0.0
comp=Z,53nm,1.3s
VSL LR LR
comp=Z,6µm,19.0s
W41B Gary Mavity, V 90.03 42 P **P** 11 13 42.9 -0.4
baz=322,SNR=26
USIN University of 90.06 37 *eP* **P** 11 13 44.6 +1.2
comp=Z,78nm,1.1s
USIN LR LR
comp=Z,3µm,21.0s
MMNY Mt. Morris Dam 90.12 28 *eP* **P** 11 13 44.2 +0.6
comp=Z,108nm,1.0s
MMNY LR LR
comp=Z,4µm,22.0s

ALLY Alegheny Colle 90.21 30 *e*P P 11 13 45.1 +1.1
comp=Z,199nm,1.1s
ALLY LR LR
comp=Z,3µm,20.0s
X40A Basin Creek Fa 90.26 43 P P 11 13 44.4 0.0
baz=321,SNR=23
S46A Don Dixon Farm 90.27 37 P P 11 13 44.1 -0.2
baz=324,SNR=9.5
ACSO Alum Creek Sta 90.27 33 P P 11 13 44.5 +0.1
baz=327,SNR=24
ACSO Alum Creek Sta 90.27 33 *e*P P 11 13 44.8 +0.5
comp=Z,111nm,0.9s
ACSO LR LR
comp=Z,4µm,20.0s
U44A Portageville 90.27 39 P P 11 13 44.1 -0.3
baz=323
UALR University of 90.29 42 *e*P P 11 13 44.9 +0.3
comp=Z,61nm,1.4s
UALR LR LR
comp=Z,4µm,18.0s
NCB Newcomb 90.32 25 *e*P P 11 13 45.1 +0.6
comp=Z,50nm,1.0s
NCB LR LR
comp=Z,4µm,19.0s
R47A Wooly Knot Far 90.32 36 P P 11 13 44.3 -0.3
baz=325,SNR=15
H06N1 SOCORRO T-PHAS 90.33 65 T T 12 54 38.0
SNR=7.1
W42A Bald Knob 90.33 41 P P 11 13 44.4 -0.3
baz=322
PVMO Portageville 90.33 39 PFAKE 11 14 00.0 +15
PVMO LR LR
comp=Z,4µm,20.0s
T45A Paducah 90.36 38 P P 11 13 44.8 0.0
baz=324
Y40A Okolona 90.39 43 P P 11 13 44.4 -0.6
baz=321
V43A Jonesboro 90.41 40 P P 11 13 44.6 -0.5
baz=322
H06E1 SOCORRO T-PHAS 90.42 65 T T 12 54 28.7
SNR=75
X41A Kaden, Bauxite 90.42 42 P P 11 13 44.0 -1.2
baz=321
H06S1 SOCORRO T 90.43 65 P P 11 13 46.6 +1.2
H06S1 T T 12 54 47.2
SNR=44
VT1 Waterbury 90.47 24 *e*P P 11 13 46.6 +1.4
comp=Z,117nm,1.1s
435B Jarrell 90.47 48 P P 11 13 45.4 0.0
baz=318
WCI Wyandotte Cave 90.48 36 P P 11 13 43.9 -1.5
baz=325
WCI Wyandotte Cave 90.48 36 *e*P P 11 13 46.1 +0.7
WCI pmax pmax
comp=Z,64nm,0.9s
WCI MLR MLR
comp=Z,4µm,20.0s
WCI Wyandotte Cave 90.48 36 *e*P P 11 13 46.1 +0.7
comp=Z,64nm,0.9s
WCI LR LR
comp=Z,4µm,20.0s
M54A Oil Creek Stat 90.52 30 P P 11 13 45.4 -0.1
baz=329,SNR=27
M54A Oil Creek Stat 90.52 30 *e*P P 11 13 46.0 +0.5
comp=Z,152nm,1.0s
M54A LR LR
comp=Z,3µm,20.0s
R48A Northridge Ran 90.53 36 P P 11 13 45.5 -0.1
baz=325,SNR=15
U44B Burton Farm, H 90.56 39 P P 11 13 45.1 -0.7
baz=323
WDD Wied Dalam 90.59 320 *e*P P 11 13 46.2 +0.3
comp=Z,63nm,1.0s
WDD LR LR
comp=Z,5µm,21.0s
PKME Peaks-Kenny Pk 90.66 22 P P 11 13 45.9 -0.1
baz=336
PKME Peaks-Kenny Pk 90.66 22 *e*P P 11 13 47.0 +1.0
comp=Z,47nm,0.9s
PKME LR LR
comp=Z,5µm,20.0s
T46A Princeton 90.70 38 P P 11 13 46.2 -0.2
baz=324,SNR=42
WLAR White Oak Lake 90.73 43 *e*P P 11 13 47.8 +1.2
comp=Z,142nm,1.2s
WLAR LR LR
comp=Z,3µm,21.0s
UTMT University of 90.80 39 *e*P P 11 13 48.7 +1.9
comp=Z,507nm,1.2s
LBNH Lisbon 90.81 24 P P 11 13 47.0 +0.2
baz=335
LBNH Lisbon 90.81 24 *e*P P 11 13 48.2 +1.4
LBNH pmax pmax
comp=Z,129nm,1.6s
LBNH MLR MLR
comp=Z,5µm,22.0s
LBNH Lisbon 90.81 24 *e*P P 11 13 48.2 +1.4
comp=Z,129nm,1.6s
LBNH LR LR
comp=Z,5µm,22.0s
U45A Rockin P Farm, 90.84 39 P P 11 13 47.2 +0.1
baz=324,SNR=9.4
Y41A Eaglette Beard 90.85 43 P P 11 13 47.5 +0.4
baz=321,SNR=10
N54A Moraine State 90.86 31 P P 11 13 47.0 -0.1
baz=329,SNR=18
N54A Moraine State 90.86 31 *e*P P 11 13 48.0 +0.9
comp=Z,118nm,1.1s
N54A LR LR
comp=Z,3µm,20.0s
Z40A Long Farm, Mag 90.91 44 P P 11 13 48.0 +0.6
baz=321,SNR=9.7
ACCN Adirondack Com 91.02 25 *e*P P 11 13 48.4 +0.6
comp=Z,73nm,1.0s
ACCN LR LR
comp=Z,3µm,21.0s
S48A Wiedeman Farm, 91.05 36 P P 11 13 48.2 +0.2
baz=325,SNR=26
T47A Sharon Grove 91.11 37 P P 11 13 48.4 +0.1
baz=324,SNR=32
U46A Springville 91.11 38 P P 11 13 47.8 -0.5
baz=324
HNH Hanover 91.18 24 *e*P P 11 13 50.6 +2.1
comp=Z,66nm,1.1s
Z41A Richland Creek 91.23 43 P P 11 13 49.2 +0.3
baz=321
833A Chaparral WMA, 91.23 51 P P 11 13 48.7 -0.3
baz=318
V45A Humboldt 91.23 39 P P 11 13 47.8 -1.1
baz=323
MET Memphis--Engin 91.24 40 PFAKE 11 14 00.0 +11
MET LR LR
comp=Z,3µm,18.0s
X43A Marvell 91.24 41 P P 11 13 49.0 +0.1
baz=322
CCAR Cane Creek 91.26 42 *e*P P 11 13 50.3 +1.3
comp=Z,168nm,1.2s
CCAR LR LR
comp=Z,4µm,19.0s
BINY Binghamton 91.28 27 P P 11 13 48.9 -0.2
baz=332,SNR=14
BINY Binghamton 91.28 27 *e*P P 11 13 49.5 +0.5
comp=Z,102nm,1.1s
BINY LR LR
comp=Z,4µm,20.0s
140A Cam and Jess, 91.30 44 P P 11 13 49.0 -0.2
baz=321
Y42A Garnett, Star 91.31 42 P P 11 13 49.3 0.0
baz=322,SNR=12
T48A Bowling Green 91.34 37 P P 11 13 49.0 -0.4
baz=325,SNR=17
NATX Nacogdoches 91.38 46 PFAKE 11 14 00.0 +10
NATX LR LR
comp=Z,3µm,19.0s
WVT Waverly 91.47 38 P P 11 13 49.6 -0.3
baz=324
WVT Waverly 91.47 38 *e*P P 11 13 50.2 +0.2
WVT pmax pmax
comp=Z,42nm,1.0s
WVT MLR MLR
comp=Z,3µm,21.0s
WVT Waverly 91.47 38 *e*P P 11 13 50.2 +0.2
comp=Z,42nm,1.0s
WVT LR LR
comp=Z,3µm,21.0s
U47A Clarksville 91.47 38 P P 11 13 49.5 -0.4
baz=324,SNR=18
W45A Hickory Valley 91.59 40 P P 11 13 50.3 -0.2
baz=323,SNR=19
V46A Holladay 91.59 39 P P 11 13 50.3 -0.2
baz=324,SNR=30
FFD Franklin Falls 91.59 24 *e*P P 11 13 53.3 +2.9
comp=Z,83nm,0.3s
TRY Troy 91.61 26 *e*P P 11 13 52.3 +1.8
comp=Z,72nm,1.0s
X44A Crenshaw 91.63 41 P P 11 13 50.6 -0.1
baz=323
240A Hunter Patters 91.66 45 P P 11 13 50.3 -0.6
baz=321
Z42A Norrel Spur, H 91.67 43 P P 11 13 51.9 +1.0
baz=322
141A Papa Simpson, 91.68 44 P P 11 13 51.1 +0.1
baz=321
Y43A Makayla and Ka 91.69 42 P P 11 13 50.4 -0.7
baz=322
U48A Cassie Pea, Po 91.77 37 P P 11 13 50.8 -0.6
baz=325,SNR=13
V47A Nunnelly 91.86 38 P P 11 13 51.6 -0.2
baz=324,SNR=24
SSPA Standing Stone 91.95 29 P P 11 13 52.6 +0.4
baz=330
SSPA Standing Stone 91.95 29 *e*P P 11 13 53.4 +1.3
comp=Z,62nm,1.1s
SSPA LR LR
comp=Z,3µm,21.0s
OXF Oxford 91.99 40 P P 11 13 52.1 -0.3
baz=323,SNR=28
OXF Oxford 91.99 40 *e*P P 11 13 52.8 +0.4
OXF pmax pmax
comp=Z,216nm,1.1s
OXF MLR MLR
comp=Z,3µm,19.0s
OXF Oxford 91.99 40 *e*P P 11 13 52.8 +0.4
comp=Z,216nm,1.1s
OXF LR LR
comp=Z,3µm,19.0s
W46A Michie 92.00 39 P P 11 13 51.8 -0.7
baz=324
O56A Blue Knob Stat 92.01 30 P P 11 13 51.8 -0.7
baz=330,SNR=8.3
O56A Blue Knob Stat 92.01 30 *e*P P 11 13 53.2 +0.7
comp=Z,38nm,0.8s
O56A LR LR
comp=Z,4µm,18.0s
Y44A Strider, Charl 92.02 41 P P 11 13 52.6 +0.1
baz=323
MCWV Mont Chateau 92.03 31 P P 11 13 52.3 -0.3
baz=329
MCWV Mont Chateau 92.03 31 *e*P P 11 13 53.6 +1.0
comp=Z,30nm,0.7s
MCWV LR LR
comp=Z,3µm,19.0s
X45A UM Field Stati 92.07 40 P P 11 13 51.5 -1.2
baz=323
HKT Hockley 92.10 47 *e*P P 11 13 54.8 +1.9
HKT pmax pmax
comp=Z,49nm,1.4s
HKT MLR MLR
comp=Z,3µm,19.0s
HKT Hockley 92.10 47 *e*P P 11 13 54.8 +1.9
comp=Z,50nm,1.4s
HKT LR LR
comp=Z,3µm,19.0s
241A Mo Tay, Goldon 92.12 44 P P 11 13 53.5 +0.5
baz=321
142A Monroe 92.23 43 P P 11 13 53.8 +0.3
baz=322
V48A Smith Brothers 92.26 38 P P 11 13 53.7 +0.1
baz=325,SNR=17
PLAL Pickwick Lake 92.27 39 *e*P P 11 13 53.5 -0.3
comp=Z,32nm,0.9s
PLAL LR LR
comp=Z,3µm,21.0s
W47A Westpoint 92.29 39 P P 11 13 53.3 -0.5
baz=324,SNR=20
X46A Booneville 92.36 40 P P 11 13 53.7 -0.4
baz=324,SNR=7.3
143A Socs Landing, 92.40 43 P P 11 13 53.7 -0.6
baz=322
Y45A Yeager Farm, C 92.44 41 P P 11 13 54.1 -0.4
baz=323,SNR=14
Z44A Pea Ridge, Bel 92.45 42 P P 11 13 55.2 +0.6
baz=322
N59A State Game Lan 92.49 28 P P 11 13 54.3 -0.4
baz=332,SNR=11
N59A State Game Lan 92.49 28 *e*P P 11 13 55.5 +0.9
comp=Z,83nm,1.2s
N59A LR LR
comp=Z,4µm,20.0s
HRV Adam Dziewonsk 92.49 24 P P 11 13 54.8 +0.2
baz=335
HRV Adam Dziewonsk 92.49 24 *e*P P 11 13 56.7 +2.1
HRV pmax pmax
comp=Z,101nm,1.2s
HRV MLR MLR
comp=Z,4µm,20.0s
HRV Adam Dziewonsk 92.49 24 *e*P P 11 13 56.7 +2.1
comp=Z,101nm,1.2s
HRV LR LR
comp=Z,4µm,20.0s
WES Weston 92.68 24 *e*P P 11 13 57.3 +1.9
WES pmax pmax
comp=Z,140nm,1.4s
WES Weston 92.68 24 *e*P P 11 13 57.2 +1.9
comp=Z,140nm,1.4s
W48A Pulaski 92.69 38 P P 11 13 55.3 -0.4
baz=325,SNR=34
PAGS Pennsylvania G 92.74 29 PFAKE 11 14 10.0 +14
PAGS LR LR
comp=Z,4µm,19.0s
X47A Russelville 92.75 39 P P 11 13 55.6 -0.4
baz=324,SNR=15
ODNJ Ogdensburg 92.75 27 *e*P P 11 13 57.8 +2.0
comp=Z,109nm,1.8s
ODNJ LR LR
comp=Z,4µm,18.0s
Z45A Winona 92.75 41 P P 11 13 56.4 +0.4
baz=323
Y46A Houston 92.77 40 P P 11 13 56.0 0.0
baz=323,SNR=21
LUPA Lehigh Univers 92.91 28 PFAKE 11 14 10.0 +13
LUPA LR LR
comp=Z,400nm,22.0s
441A DeRidder 92.96 45 P P 11 13 57.6 +0.6
baz=321
144A Alexander Plac 92.96 42 P P 11 13 57.4 +0.4
baz=322
243A Waterproof 93.00 43 P P 11 13 57.9 +0.8
baz=322
PAL Palisades 93.06 27 PFAKE 11 14 10.0 +13
PAL LR LR
comp=Z,4µm,19.0s
TZTN Tazewell 93.10 35 P P 11 13 57.6 +0.1
baz=327,SNR=16
TZTN Tazewell 93.10 35 *e*P P 11 13 58.1 +0.5
comp=Z,79nm,1.1s
TZTN LR LR
comp=Z,3µm,19.0s
YLE Yale 93.11 26 PFAKE 11 14 10.0 +13
YLE LR LR
comp=Z,3µm,21.0s
BRNJ Basking Ridge 93.12 27 PFAKE 11 14 10.0 +13
BRNJ LR LR
comp=Z,4µm,19.0s
KEST Kesra 93.14 323 P P 11 13 57.6 -0.2
comp=Z,15nm,1.1s,baz=296,slow=0.9,SNR=12
KEST PP PP 11 17 42.2 +2.0
comp=Z,27nm,1.2s,baz=314,slow=3.8,SNR=5.0
KEST LR LR 12 02 05.6
comp=Z,7µm,19.2s,baz=329,slow=40
KEST Kesra 93.14 323 *e*P P 11 13 58.0 +0.1
comp=Z,23nm,1.1s
X48A Hartselle 93.20 39 P P 11 13 57.3 -0.7
baz=324,SNR=12
VBMS Vicksburg 93.24 42 P P 11 13 57.9 -0.3
baz=322
VBMS Vicksburg 93.24 42 *e*P P 11 13 00.4 +2.2
comp=Z,79nm,1.1s
VBMS LR LR
comp=Z,3µm,19.0s
145A Houston Renfro 93.24 42 P P 11 13 59.2 +1.0
baz=323
Y47A UCPARC, Winfie 93.25 40 P P 11 13 58.1 -0.2
baz=324,SNR=7.8
CMAH Djebel Manchou 93.27 325 P P 11 13 57.9 -0.5
Z46A Louisville 93.27 41 P P 11 13 58.9 +0.6
baz=323,SNR=12
ZAIG Zacatecas 93.28 57 *e*P P 11 13 60.0 +1.0
244A Avery, Jackson 93.29 43 P P 11 13 59.3 +0.9
baz=322,SNR=9.8
SDMD Soldier's Deli 93.41 29 PFAKE 11 14 10.0 +11
SDMD LR LR
comp=Z,2µm,18.0s
PSUB Penn St. - Bra 93.47 28 *e*P P 11 14 01.4 +2.3
comp=Z,23nm,1.0s
PSUB LR LR
comp=Z,4µm,20.0s
X49A Woodville 93.49 38 P P 11 13 59.1 -0.3
baz=325,SNR=14
ABSA Djebel Ababsia 93.54 325 P P 11 13 58.4 -1.3
Y48A Jasper 93.57 39 P P 11 13 59.2 -0.6
baz=324,SNR=9.9
146A Union 93.66 41 P P 11 14 00.3 +0.2
baz=323
LNIG Linares 93.70 53 *e*P P 11 14 00.4 -0.1
comp=Z,44nm,1.3s
LNIG LR LR
comp=Z,2µm,20.0s
Z47A Carrollton 93.70 40 P P 11 14 00.4 +0.1
baz=324,SNR=9.6
245A Little AP, Sta 93.71 42 P P 11 14 00.1 -0.3
baz=323
344A Westbrook Farm 93.73 43 P P 11 14 00.9 +0.4
baz=322
TKL Tuckaleechee C 93.74 36 LR LR 11 57 25.1
comp=Z,3µm,21.4s,baz=339,slow=36
TKL Tuckaleechee C 93.74 36 *e*P P 11 14 00.6 +0.1
TKL pmax pmax
comp=Z,51nm,1.1s
TKL Tuckaleechee C 93.74 36 *e*P P 11 14 00.6 +0.1
comp=Z,51nm,1.1s
CKFL Kef-Lekhel 93.77 325 P P 11 14 00.8 0.0
Z48A Northport 93.82 40 P P 11 14 00.8 -0.1
baz=324,SNR=6.6
X50A Fort Payne 93.86 38 P P 11 13 59.7 -1.4
baz=325
BLA Blacksburg 93.89 33 P P 11 14 00.4 -0.8
baz=329,SNR=6.8
BLA Blacksburg 93.89 33 *e*P P 11 14 01.3 +0.1
BLA pmax pmax
comp=Z,65nm,1.0s
BLA MLR MLR
comp=Z,4µm,21.0s
BLA Blacksburg 93.89 33 *e*P P 11 14 01.3 +0.1
comp=Z,65nm,1.0s
BLA LR LR
comp=Z,4µm,21.0s
PBRG Braganca 93.96 337 *e*P P 11 14 02.2 +0.7
comp=Z,58nm,1.6s
PBRG Braganca 93.96 337 *e*LR LR 11 46 01.2
comp=Z,8µm,18.0s
Y49A Blount Mountai 93.98 39 P P 11 14 01.1 -0.6
baz=325,SNR=12
DFRA Djebel Bou Aff 94.01 326 P P 11 14 02.2 +0.3
147A Livingston 94.03 41 P P 11 14 01.2 -0.6
baz=324,SNR=12
VWCC Virginia Weste 94.04 32 *e*P P 11 14 03.6 +1.7
IP04 Greensprings 94.08 31 *e*P P 11 14 03.5 +1.6
comp=Z,38nm,1.2s
IP04 LR LR
comp=Z,4µm,19.0s
IP03 Louisa 94.17 31 *e*P P 11 14 03.9 +1.5
comp=Z,25nm,1.3s
IP03 LR LR
comp=Z,4µm,18.0s
CTEI Djebel Teioual 94.19 326 P P 11 14 02.6 -0.1
CVRD Centerville Ro 94.21 31 *e*P P 11 14 04.0 +1.4
comp=Z,40nm,1.1s
SPRD Spring Road, M 94.22 31 *e*P P 11 14 03.6 +0.9
comp=Z,39nm,1.4s
IP07 Quail 94.25 31 *e*P P 11 14 04.6 +1.9
comp=Z,35nm,1.3s
IP07 LR LR
comp=Z,4µm,18.0s
IP06 Yanceyville 94.26 31 PFAKE 11 14 10.0 +7.2
IP06 LR LR
comp=Z,3µm,18.0s
CBN Corbin Frederi 94.26 30 PFAKE 11 14 10.0 +7.2
CBN LR LR
comp=Z,4µm,21.0s
PGAV Gavieira, Arco 94.26 338 *e*P P 11 14 04.2 +1.3
comp=Z,48nm,2.2s
PGAV Gavieira, Arco 94.26 338 *e*SKS SKSac 11 24 45.3 +7.7
PGAV Gavieira, Arco 94.26 338 *e*LQ LQ 11 43 19.2
PGAV eLR LR 11 47 58.5
comp=Z,4µm,18.0s
IP01 Cuckoo 94.26 31 *e*P P 11 14 04.7 +1.9
comp=Z,27nm,1.2s
IP01 LR LR
comp=Z,4µm,18.0s
Y50A Piedmont 94.28 38 P P 11 14 02.4 -0.6
baz=325,SNR=13
247A Quitman 94.35 41 P P 11 14 03.5 +0.2
baz=324
LRAL Lakeview Retre 94.37 40 P P 11 14 03.4 0.0
baz=324,SNR=12
LRAL Lakeview Retre 94.37 40 *e*P P 11 14 03.8 +0.4
comp=Z,34nm,1.0s
LRAL LR LR
comp=Z,3µm,20.0s
148A Greensboro 94.40 40 P P 11 14 03.5 0.0
baz=324,SNR=12
IP05 Hopewell Churc 94.44 31 PFAKE 11 14 20.0 +16
IP05 LR LR
comp=Z,3µm,19.0s
Z49A Columbiana 94.47 39 P P 11 14 03.5 -0.4
baz=325,SNR=13
FURI Furi 94.58 285 PFAKE 11 14 20.0 +15
FURI LR LR
comp=Z,2µm,19.0s
CKHR Kef el Ahmar 94.61 326 P P 11 14 05.0 +0.3
MVO Moncorvo 94.64 337 *e*P P 11 14 04.9 +0.3
comp=Z,46nm,0.9s
MVO Moncorvo 94.64 337 *e*SKS SKSac 11 24 47.0 +7.4
MVO Moncorvo 94.64 337 *e*LQ LQ 11 43 02.5
MVO eLR LR 11 46 41.3
comp=Z,7µm,18.0s
POLO Lamas de Olo 94.67 338 *e*P P 11 14 04.1 -0.7
comp=Z,17nm,1.4s
POLO Lamas de Olo 94.67 338 *e*LR LR 11 46 28.7
comp=Z,3µm,18.0s
BG3 Lake Jocassee 94.67 36 *e*P P 11 14 05.5 +0.7
comp=Z,52nm,1.1s
BG3 LR LR
comp=Z,3µm,20.0s
Z50A Ashland 94.71 39 P P 11 14 04.6 -0.4
baz=325,SNR=47
PVRL Vila Real 94.74 338 *e*P P 11 14 06.1 +1.1
URVA University of 94.75 31 *e*P P 11 14 06.5 +1.5
149A Jones 94.82 40 P P 11 14 05.5 0.0
baz=325,SNR=26
ES19 SONSECA Array 94.98 334 *e*P P 11 14 05.8 -0.4
ESDC Sonseca Array 95.03 334 P P 11 14 05.9 -0.5
comp=Z,3.7nm,0.5s,baz=26,slow=3.0,SNR=27
ESDC PP PP 11 17 57.6 +2.9
comp=Z,5.7nm,0.8s,baz=30,slow=7.5,SNR=6.0
ESDC LR LR 12 02 53.8
comp=Z,5µm,18.2s,baz=35,slow=39
ESLA Sonseca Array 95.03 334 *e*P P 11 14 06.5 +0.1
comp=Z,12nm,0.8s
ESLA LR LR
comp=Z,7µm,18.0s
NCAT North Carolina 95.12 33 *e*P P 11 14 07.5 +0.7
comp=Z,37nm,1.2s
NCAT LR LR
comp=Z,3µm,20.0s
249A Camden 95.16 40 P P 11 14 07.2 +0.2
baz=324,SNR=14
150A Eclectic 95.19 39 P P 11 14 07.0 -0.1
baz=325,SNR=15
KMSC Kings Mountain 95.25 35 P P 11 14 07.2 -0.2
baz=328,SNR=8.6
KMSC Kings Mountain 95.25 35 *e*P P 11 14 07.6 +0.2
comp=Z,58nm,1.4s
KMSC LR LR
comp=Z,3µm,20.0s
PAB San Pablo 95.27 335 *e*P P 11 14 08.5 +1.0
PAB pmax pmax
comp=Z,20nm,1.0s
PAB MLR MLR
comp=Z,8µm,20.0s
PAB San Pablo 95.27 335 *e*P P 11 14 08.5 +1.0
comp=Z,20nm,1.0s

PAB LR LR
comp=Z,8µm,20.0s
PVIS Viseu 95.30 338 *e*P **P 11 14 08.6 +1.0**
comp=Z,26nm,1.5s
PAULI Pauline 95.31 35 *e*P **P 11 14 08.7 +1.0**
comp=Z,27nm,1.2s
PAULI LR LR
comp=Z,2µm,18.0s
MTE Manteigas 95.49 337 *e*P **P 11 14 07.4 -1.1**
comp=Z,33nm,1.3s
MTE Manteigas 95.49 337 *e*SKS **SKSac 11 24 47.3 +3.1**
MTE Manteigas 95.49 337 *e*LQ LQ 11 43 57.5
MTE *e*LR LR 11 45 59.7
comp=Z,8µm,20.0s
MTE Manteigas 95.49 337 *e*P **P 11 14 09.5 +1.0**
comp=Z,18nm,0.9s
MTE LR LR
comp=Z,8µm,19.0s
250A Grady 95.58 40 P **P 11 14 08.8 -0.1**
baz=325,SNR=12
151A Opelika 95.59 39 P **P 11 14 09.1 +0.1**
baz=326
HODGE Hodges 95.61 36 *e*P **P 11 14 09.8 +0.8**
comp=Z,32nm,1.1s
HODGE LR LR
comp=Z,3µm,20.0s
GOGA Godfrey 95.74 37 P **P 11 14 09.4 -0.3**
baz=327
GOGA Godfrey 95.74 37 *e*P **P 11 14 10.5 +0.8**
GOGA pmax pmax
comp=Z,25nm,1.0s
GOGA MLR MLR
comp=Z,3µm,19.0s
GOGA Godfrey 95.74 37 *e*P **P 11 14 10.5 +0.8**
comp=Z,25nm,1.0s
GOGA LR LR
comp=Z,3µm,19.0s
BRAL Brewton 95.85 41 PFAKE 11 14 20.0 +10
BRAL LR LR
comp=Z,2µm,20.0s
CART Cartagena 95.85 331 PFAKE 11 14 20.0 +10
CART LR LR
comp=Z,4µm,20.0s
251A Midway 95.91 39 P **P 11 14 10.0 -0.4**
baz=325,SNR=13
350A Dozier 96.00 40 P **P 11 14 11.4 +0.5**
baz=325
JSC Jenkinsville 96.01 35 *e*P **P 11 14 11.1 +0.2**
JSC pmax pmax
comp=Z,33nm,1.3s
JSC MLR MLR
comp=Z,4µm,20.0s
JSC Jenkinsville 96.01 35 *e*P **P 11 14 11.1 +0.2**
comp=Z,33nm,1.3s
JSC LR LR
comp=Z,4µm,20.0s
PCAS Casmilo, Conde 96.09 338 A A 12 02 30.3
comp=Z,6µm,20.0s
JRQG Juriquilla Cam 96.13 57 *e*P **P 11 14 14.0 +2.1**
comp=Z,158nm,1.5s
JRQG LR LR
comp=Z,4µm,21.0s
PMRV Marv??o 96.34 337 *e*SKS **SKSac 11 24 54.8 +6.2**
PMRV Marv??o 96.34 337 *e*LQ LQ 11 46 04.3
PMRV *e*LR LR 11 47 11.7
comp=Z,4µm,18.0s
351A Pinckard 96.48 40 P **P 11 14 13.0 -0.1**
baz=325,SNR=5.9
253A Americus 96.55 38 P **P 11 14 14.0 +0.6**
baz=326
154A Montrose 96.57 37 P **P 11 14 13.9 +0.4**
baz=327
CNNC Cliffs of the 96.62 32 PFAKE 11 14 30.0 +16
CNNC LR LR
comp=Z,3µm,18.0s
352A Blakely 96.64 39 P **P 11 14 13.9 +0.1**
baz=326
PESTR Estremoz 96.92 337 *e*P **P 11 14 15.4 +0.5**
comp=Z,70nm,1.5s
PESTR Estremoz 96.92 337 *e*LR LR 11 47 10.4
comp=Z,5µm,18.0s
PESTR Estremoz 96.92 337 PFAKE 11 14 30.0 +15
PESTR LR LR
comp=Z,3µm,18.0s
PMTG Montargil 96.92 337 *e*LR LR 11 46 29.9
comp=Z,6µm,18.0s
ALMR Almeirim 96.94 338 *e*PP PP 11 18 10.3 +0.9
ALMR *e*S **SKSac 11 24 52.2 +0.5**
ALMR AMS AMS 12 03 07.3
comp=Z,7µm,20.8s
451A Vernon 96.95 40 P **P 11 14 15.8 +0.7**
baz=325
452A Marianna 97.04 40 P Pdif 11 14 16.2 +0.5
baz=325
254A Abbeville 97.04 38 P **P 11 14 15.4 -0.2**
baz=327,SNR=10.0
353A Camilla 97.10 39 P **P 11 14 15.4 -0.5**
baz=326,SNR=6.7
TIGA Tifton 97.32 38 P Pdif 11 14 17.1 +0.2
baz=326
TIGA Tifton 97.32 38 *e*P Pdif 11 14 17.8 +0.9
comp=Z,59nm,1.1s
TIGA LR LR
comp=Z,4µm,19.0s
PMAFR Mafra 97.34 338 *e*LR LR 11 47 10.0
comp=Z,6µm,18.0s
PBAR Barrancos 97.38 336 *e*LR LR 11 46 43.2
comp=Z,22µm,20.0s
453A Whigham 97.45 39 P Pdif 11 14 18.8 +1.3
baz=326
NHSC New Hope 97.48 35 PFAKE 11 14 30.0 +12
NHSC LR LR
comp=Z,3µm,20.0s
LIS Lisbon 97.52 338 *e*PP PP 11 18 14.9 +1.1
LIS *e*S **SKSac 11 24 55.2 +0.5**
LIS AMS AMS 12 03 27.1
comp=Z,7µm,20.5s
256A Glennville 97.67 37 P Pdif 11 14 19.0 +0.5
baz=328
PNCL Nicolau / Gran 97.89 337 *e*LR LR 11 46 27.4
comp=Z,6µm,18.0s
454A Quitman 97.90 39 P Pdif 11 14 19.9 +0.4
baz=326
UNM Universidad Na 97.94 57 PFAKE 11 14 30.0 +10
UNM LR LR
comp=Z,2µm,20.0s
MESJ Messejana 98.05 337 *e*P Pdif 11 14 20.3 +0.2
MESJ *e*PP **PP 11 18 19.2 +1.2**
MESJ *e*S **SKSac 11 24 57.6 +0.2**
MESJ AMS AMS 12 01 16.0
comp=Z,4µm,26.7s
MESJ Messejana 98.05 337 *e*P Pdif 11 14 20.3 +0.2
MESJ Messejana 98.05 337 A A 12 01 16.0
comp=Z,4µm,26.7s
455A Stateville 98.17 38 P Pdif 11 14 21.4 +0.7
baz=327
PCVE Castro Verde 98.19 337 *e*LR LR 11 47 16.0
comp=Z,5µm,18.0s
PVAQ Vaqueiros 98.30 336 *e*SKS **SKSac 11 25 05.5 +6.8**
PVAQ Vaqueiros 98.30 336 *e*LR LR 11 47 06.3
comp=Z,11µm,20.0s
PVAQ *e*LQ LQ 11 52 08.9
PBDV Barranco-do-Ve 98.51 336 *e*LR LR 11 47 14.7
comp=Z,10µm,20.0s
SFS San Fernando 98.67 335 PFAKE 11 14 30.0 +7.1
SFS LR LR
comp=Z,8µm,19.0s
MORF Marmelete 98.68 337 *e*P Pdif 11 14 23.4 +0.4
MORF *e*PP **PP 11 18 23.9 +1.1**
MORF *e*S **SKSac 11 25 01.0 +0.3**
MORF AMS AMS 11 56 20.2
comp=E,5µm,20.1s
MORF Marmelete 98.68 337 *e*LR LR 11 48 57.8
comp=E,4µm,18.0s
MRIV Mauritius Mete 98.83 251 PFAKE 11 14 30.0 +6.3
MRIV LR LR
comp=Z,2µm,19.0s
PFVI Vila Bisbo 98.89 337 *e*LR LR 11 47 23.2
comp=Z,3µm,18.0s
PFVI Vila Bisbo 98.89 337 PFAKE 11 14 40.0 +16
PFVI LR LR
comp=Z,5µm,18.0s
556A Lake Butler 99.08 38 Pdiff **Pdif 11 14 24.9 +0.2**
baz=327
RKT Rikitea 99.25 112 *e*S **S 11 25 52.6 -4.2**
comp=Z,2µm,27.5s
RKT *e*SS **SS 11 32 45.7 -0.6**
comp=Z,286nm,27.5s
RKT *e*LQ LQ 11 42 36.5
comp=Z,3µm,35.0s
RKT *e*LR LR 11 46 08.6
comp=Z,4µm,24.0s,baz=308
LVIG Laguna Verde 99.41 55 PFAKE 11 14 40.0 +14
LVIG LR LR
comp=Z,1µm,20.0s
656A Willston 99.54 39 Pdiff **Pdif 11 14 27.6 +0.7**
baz=327
DWPF Disney Wildern 101.12 38 PFAKE 11 14 50.0 +16
DWPF LR LR
comp=Z,4µm,20.0s
RTC Rabat Centre 101.15 334 PFAKE 11 14 50.0 +16
RTC LR LR
comp=Z,19µm,19.0s
KMBO Kilima Mbogo 102.18 279 P **Pdif 11 14 39.2 +0.1**
comp=Z,15nm,1.1s,baz=18,slow=5.3,SNR=13
KMBO PP **PP 11 18 51.3 +0.3**
comp=Z,8.7nm,1.1s,baz=29,slow=7.4,SNR=7.8
KMBO Kilima Mbogo 102.18 279 *e*P **Pdif 11 14 39.5 +0.4**
KMBO *e* 11 18 52.8
KMBO MLR MLR
comp=Z,2µm,21.0s
KMBO Kilima Mbogo 102.18 279 *e*Pdif **Pdif 11 14 39.5 +0.4**
KMBO *e*PP **PP 11 18 52.8 +1.8**
KMBO LR LR
comp=Z,2µm,21.0s
KMBO Kilima Mbogo 102.18 279 P **Pdif 11 14 39.3 +0.1**
SNR=6.6
KMBO Kilima Mbogo 102.18 279 Pdiff **Pdif 11 14 39.3 +0.1**
SNR=6.6
KMBO Kilima Mbogo 102.18 279 *i*P **Pdif 11 14 38.9 -0.2**
SNR=11
MYIG MØrida 102.50 49 PFAKE 11 14 50.0 +10
MYIG LR LR
comp=Z,1µm,22.0s
TEIG Tepich 103.92 48 PFAKE 11 15 00.0 +14
TEIG LR LR
comp=Z,2µm,21.0s
BBSR BB Station 103.93 23 PFAKE 11 15 00.0 +14
BBSR LR LR
comp=Z,3µm,20.0s
PMOZ Porto Moniz, M 105.21 342 *e*SKS SKSac 11 25 45.3 +13
PMOZ Porto Moniz, M 105.21 342 *e*LR LR 11 50 37.0
comp=Z,2µm,20.0s
ABPO Ambohimpanom 105.66 258 PFAKE 11 19 20.0
ABPO LR LR
comp=Z,3µm,20.0s
TAM Tamanrasset 105.72 319 PFAKE 11 19 20.0
TAM LR LR
comp=Z,3µm,22.0s
MBAR Mbarara 106.76 284 PP PP 11 19 27.8 +2.9
comp=Z,8.2nm,0.8s,baz=50,slow=13,SNR=4.7
TGUH Tegucigalpa,Un 109.35 51 PFAKE 11 19 30.0
TGUH LR LR
comp=Z,2µm,22.0s
GTBY Guantanamo Bay 111.08 38 PFAKE 11 19 30.0
GTBY LR LR
comp=Z,2µm,22.0s
MTDJ Mount Denham 111.36 41 PFAKE 11 19 30.0
MTDJ LR LR
comp=Z,2µm,20.0s
GRTK Grand Turk 111.48 33 PFAKE 11 19 30.0
GRTK LR LR
comp=Z,3µm,20.0s
SDDR Presa de Saban 113.65 35 PFAKE 11 19 30.0
SDDR LR LR
comp=Z,4µm,22.0s
HDC Heredia 114.43 51 PFAKE 11 19 40.0 +16
HDC LR LR
comp=Z,2µm,21.0s
TOC1 Torodi Ar. Sit 115.72 317 PFAKE 11 19 40.0 +14
TOC1 LR LR
comp=Z,5µm,18.0s
TOC2 Torodi Ar. Sit 115.73 317 PFAKE 11 19 40.0 +14
TOC2 LR LR
comp=Z,5µm,19.0s
TOB2 Torodi Ar. Sit 115.74 317 PFAKE 11 19 40.0 +14
TOB2 LR LR
comp=Z,5µm,18.0s
TOC3 Torodi Ar. Sit 115.74 317 PFAKE 11 19 40.0 +14
TOC3 LR LR
comp=Z,5µm,18.0s
TOC7 Torodi Ar. Sit 115.74 317 PFAKE 11 19 40.0 +14
TOC7 LR LR
comp=Z,4µm,19.0s
TOA2 Torodi Ar. Sit 115.74 317 PFAKE 11 19 40.0 +14
TOA2 LR LR
comp=Z,5µm,18.0s
TOA1 Torodi Ar. Sit 115.75 317 *e*PKPdf **PKPdf 11 19 25.7 -0.8**
TOA1 *e*PP **PP 11 20 26.9 -1.7**
TOA0 Torodi Ar. Sit 115.75 317 *e*PKPdf **PKPdf 11 19 26.2 -0.2**
TOA0 LR LR
comp=Z,5µm,18.0s
TORD Torodi Ar. Bea 115.75 317 PKP **PKPdf 11 19 25.7 -0.8**
comp=Z,9.9nm,1.1s,baz=2.1,slow=2.2,SNR=13
TORD PP **PP 11 20 26.9 -1.7**
comp=Z,54nm,1.1s,baz=24,slow=7.1,SNR=16
TORD PKKPbc **PKKPbc 11 29 56.3 -0.7**
comp=Z,1.9nm,0.9s,baz=231,slow=3.7,SNR=4.4
TOB5 Torodi Ar. Sit 115.75 317 PFAKE 11 19 40.0 +14
TOB5 LR LR
comp=Z,5µm,18.0s
TOB3 Torodi Ar. Sit 115.75 317 PFAKE 11 19 40.0 +14
TOB3 LR LR
comp=Z,5µm,18.0s
TOA3 Torodi Ar. Sit 115.75 317 PFAKE 11 19 40.0 +14
TOA3 LR LR
comp=Z,5µm,18.0s
TOB4 Torodi Ar. Sit 115.76 317 PFAKE 11 19 40.0 +13
TOB4 LR LR
comp=Z,5µm,18.0s
TOC6 Torodi Ar. Sit 115.76 317 PFAKE 11 19 40.0 +13
TOC6 LR LR
comp=Z,4µm,18.0s
TOC4 Torodi Ar. Sit 115.77 317 PFAKE 11 19 40.0 +13
TOC4 LR LR
comp=Z,5µm,18.0s
TOC5 Torodi Ar. Sit 115.77 317 PFAKE 11 19 40.0 +13
TOC5 LR LR
comp=Z,5µm,19.0s
MPR Mayaguez 116.07 31 PFAKE 11 19 40.0 +13
MPR LR LR
comp=Z,1µm,21.0s
CBYP Canovanas 116.52 30 PFAKE 11 19 40.0 +12
CBYP LR LR
comp=Z,2µm,21.0s
SJG San Juan 116.55 30 PFAKE 11 19 40.0 +12
SJG LR LR
comp=Z,2µm,20.0s
SJG San Juan 116.55 30 *e*P PKPdf 11 19 42.4 +14
STVI Saint Thomas 116.79 29 *e*PKPdf **PKPdf 11 19 27.2 -1.2**
KOWA Kowa 117.45 323 PKP **PKPdf 11 19 29.0 -0.7**
comp=Z,16nm,1.2s,baz=48,slow=2.1,SNR=9.3
KOWA PP **PP 11 20 38.1 -2.3**
comp=Z,23nm,0.8s,baz=22,slow=3.2,SNR=9.1
KOWA PKKPbc **PKKPbc 11 29 51.5 +0.3**
comp=Z,1.4nm,0.5s,baz=86,slow=22,SNR=3.8
KOWA Kowa 117.45 323 *e*PKPdf **PKPdf 11 19 29.0 -0.7**
KOWA *e*PKPdf **PKPdf 11 19 29.1 -0.7**
KOWA *e*PP **PP 11 20 38.1 -2.3**
KOWA LR LR
comp=Z,3µm,20.0s
BCIP Isla Barro Col 117.61 48 PFAKE 11 19 40.0 +10
BCIP LR LR
comp=Z,1µm,21.0s
VNDA Vanda 117.73 175 PKP **PKPdf 11 19 27.6 -0.8**
comp=Z,3.4nm,1.1s,baz=325,slow=5.1,SNR=8.7
VNDA PKKPbc **PKKPbc 11 29 52.0 +0.8**
comp=Z,2.3nm,1.0s,baz=244,slow=6.2,SNR=3.6
VNDA Vanda 117.73 175 *e*PKPdf **PKPdf 11 19 28.1 -0.3**
VNDA *e*PKKPbc **PKKPbc 11 29 53.2 +2.0**
SMRT St. Maarten 117.75 27 *e*PKPdf **PKPdf 11 19 31.5 +1.3**
LSZ Lusaka 118.00 273 *e*PKIKP **PKPdf 11 19 31.4 +0.6**
LSZ MLR MLR
comp=Z,2µm,21.0s
LSZ Lusaka 118.00 273 *e*PKPdf **PKPdf 11 19 31.4 +0.6**
LSZ LR LR
comp=Z,2µm,21.0s
SABA Saba 118.09 28 PFAKE 11 19 40.0 +9.1
SABA LR LR
comp=Z,2µm,20.0s
SEUS St. Eustatius 118.30 27 PFAKE 11 19 40.0 +8.7
SEUS LR LR
comp=Z,2µm,22.0s
ANWB Willy Bob 118.55 26 PFAKE 11 19 40.0 +8.2
ANWB LR LR
comp=Z,2µm,22.0s
GDHS Morne Mazeau, 119.85 27 PFAKE 11 19 50.0 +16
GDHS LR LR
comp=Z,2µm,21.0s
MOTC Monteria, Cord 120.25 45 *e*P **PKPdf 11 19 37.2 +2.0**
CODC Agust´›n Codaz 120.45 42 *e*P **PKPdf 11 19 32.0 -3.6**
FDF Fort de France 121.50 27 PFAKE 11 19 50.0 +12
FDF LR LR
comp=Z,2µm,21.0s
ZARC Zaragoza, Cauc 121.76 45 *e*P **PKPdf 11 19 39.8 +1.7**
OCAC Ocana 121.95 43 *e*P **PKPdf 11 19 40.9 +2.2**
MAW Mawson 122.34 206 PKP **PKPdf 11 19 37.5 +0.1**
comp=Z,11nm,0.6s,baz=93,slow=5.9,SNR=7.9
MAW PKKPbc **PKKPbc 11 29 32.6 -1.2**
comp=Z,8.1nm,1.0s,baz=280,slow=14,SNR=3.4
HELC Santa Helena 122.47 46 PFAKE 11 19 50.0 +10
HELC LR LR
comp=Z,4µm,22.0s
HELC Santa Helena 122.47 46 *e*P **PKPdf 11 19 42.4 +2.5**
BRRC Barranca, Sant 122.70 44 *e*P **PKPdf 11 19 40.7 +0.8**
SDV Santo Domingo 122.76 40 PKP **PKPdf 11 19 40.1 -0.1**
comp=Z,49nm,0.9s,baz=300,slow=4.8,SNR=29
SDV Santo Domingo 122.76 40 *e*PKPdf **PKPdf 11 19 40.6 +0.4**
SDV LR LR
comp=Z,3µm,22.0s
SDV Santo Domingo 122.76 40 *e*P **PKPdf 11 19 39.1 -1.1**
PTBC PUERTO BERRIO 122.77 45 *e*P **PKPdf 11 19 39.5 -0.6**
SVB Belmont 122.81 27 PFAKE 11 19 50.0 +10
SVB LR LR
comp=Z,2µm,22.0s
GUYC Guyana, Colomb 123.35 47 *e*P **PKPdf 11 19 41.1 -0.6**
NORC Norcasia 123.36 46 *e*P **PKPdf 11 19 42.8 +1.6**
BARC Barichara 123.41 44 *e*P **PKPdf 11 19 42.4 +0.9**
BBGH Gun Hill 123.52 26 PFAKE 11 19 50.0 +8.6
BBGH LR LR
comp=Z,4µm,22.0s
RREF El Recreo 123.64 47 *e*P **PKPdf 11 19 45.4 +2.9**
GRGR Grenville 123.72 28 PFAKE 11 19 50.0 +8.2
GRGR LR LR
comp=Z,2µm,22.0s
YOTC Yotoco, Valle 123.82 48 *e*P **PKPdf 11 19 40.9 -1.3**
SACV Santiago Islan 123.88 343 PFAKE 11 19 50.0 +7.9
SACV LR LR
comp=Z,1µm,21.0s
TOLC Tolima 123.91 47 *e*P **PKPdf 11 19 41.2 -1.5**
RUSC La Rusia 124.05 44 *e*PKPdf **PKPdf 11 19 42.3 -0.8**
RUSC La Rusia 124.05 44 *e*P **PKPdf 11 19 43.3 +0.2**
HORQ Saladito 124.06 49 *e*P **PKPdf 11 19 42.4 -0.4**
TUMC Tumaco 124.13 52 PFAKE 11 19 50.0 +7.4
TUMC LR LR
comp=Z,2µm,21.0s
ROSC El Rosal 124.26 46 PKP **PKPdf 11 19 44.9 +1.5**
comp=Z,57nm,1.2s,baz=234,slow=3.0,SNR=14
ROSC El Rosal 124.26 46 *e*PKPdf **PKPdf 11 19 44.6 +1.2**
ROSC LR LR
comp=Z,800nm,22.0s
ROSC El Rosal 124.26 46 *e*P **PKPdf 11 19 44.7 +1.3**
DBIC Dimbokro 124.61 319 PKP **PKPdf 11 19 42.6 -0.9**
comp=Z,32nm,1.2s,baz=350,slow=2.5,SNR=11
DBIC PP **PP 11 21 26.4 -3.0**
comp=Z,38nm,1.1s,baz=9.8,slow=9.0,SNR=8.3
DBIC Dimbokro 124.61 319 *e*PKPdf **PKPdf 11 19 43.0 -0.5**
DBIC *e*PP **PP 11 21 27.6 -1.9**
TIC Toumodi 124.72 319 *e*PKIKP **PKPdf 11 19 43.1 -0.7**
CHIC Chingaza 124.75 45 *e*P **PKPdf 11 19 44.6 +0.2**
KIC Kosan Boka 124.82 319 *e*PKIKP **PKPdf 11 19 43.3 -0.7**
comp=Z,69nm,1.2s
PRAC Prado 124.87 47 *e*PKPdf **PKPdf 11 19 44.1 0.0**
PRAC LR LR
comp=Z,2µm,22.0s
PRAC Prado 124.87 47 *e*P **PKPdf 11 19 44.7 +0.6**
LIC Lamto 125.08 319 *e*PKIKP **PKPdf 11 19 43.6 -0.9**
comp=Z,101nm,1.3s
PCON Cinco Dias 125.12 50 *e*P **PKPdf 11 19 45.6 +0.3**
SOTA Rioblanco 125.15 50 *e*P **PKPdf 11 19 46.1 +0.9**
VILC Villavicencio, 125.20 46 *e*P **PKPdf 11 19 44.4 -0.4**
LBTB Lobatse 125.54 265 *e*PKIKP **PKPdf 11 19 45.4 +0.3**
LBTB Lobatse 125.54 265 *e*PKPdf **PKPdf 11 19 45.4 +0.3**
OTAV Otavalo 125.55 53 PKIKP **PKPdf 11 19 46.7 +0.8**
OTAV Otavalo 125.55 53 *e*PKPdf **PKPdf 11 19 47.3 +1.4**
OTAV LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 125.55 53 *e*P **PKPdf 11 19 43.8 -2.1**
FLOC Florencia 126.16 49 *e*P **PKPdf 11 19 46.8 +0.2**
BOSA Boshof 127.65 262 PKP **PKPdf 11 19 49.1 +0.1**
comp=Z,11nm,1.0s,baz=84,slow=1.7,SNR=8.0
BOSA Boshof 127.65 262 *e*PKPdf **PKPdf 11 19 49.1 +0.1**
BOSA *e*PKPdf **PKiKP 11 19 49.5 -0.1**
TSUM Tsumeb 128.46 277 *e*PKPdf **PKPdf 11 19 51.4 +0.6**
TSUM LR LR
comp=Z,2µm,20.0s
QSPA South Pole Qui 129.59 180 PKP **PKPdf 11 19 50.5 -0.9**
comp=Z,11nm,0.6s,baz=334,slow=1.6,SNR=18
QSPA PP **PP 11 22 00.6 -1.9**
comp=Z,24nm,1.0s,baz=8.9,slow=2.7,SNR=3.8
QSPA South Pole Qui 129.59 180 *e*PKPdf **PKPdf 11 19 50.5 -0.9**
QSPA *e*PKPdf **PKPdf 11 19 50.6 -0.9**
QSPA *e*PP **PP 11 22 00.6 -1.9**
QSPA LR LR
comp=Z,2µm,19.0s
SYO Syowa Base 131.00 208 ||*i*PKiKP PKPdf 11 20 03.0 +9.1
SUR Sutherland 132.80 260 PFAKE 11 20 10.0 +11
SUR LR LR
comp=Z,2µm,20.0s
NNA Nana 135.78 62 *e*PKIKP PKPpre 11 19 58.1
NNA MLR MLR
comp=Z,2µm,20.0s
NNA Nana 135.78 62 *e*PKPpre PKPpre 11 19 58.1
NNA LR LR
comp=Z,2µm,20.0s
NVL N'lazarevskaya 140.13 203 *e*PKHKP PKPpre 11 20 03.3
SAML Samuel 141.79 43 *e*PKPpre PKPpre 11 20 10.5
SAML LR LR
comp=Z,1µm,21.0s
SNAA Sanae 143.62 198 PKP PKPab 11 20 13.3 -0.6
SNAA Sanae 143.62 198 PKhKP PKPpre 11 20 13.6
comp=Z,72nm,0.8s,baz=118,slow=3.7,SNR=130
SNAA Sanae 143.62 198 *e*PKPpre PKPpre 11 20 12.2
SNAA LR LR
comp=Z,2µm,20.0s
LPAZ La Paz 144.68 57 PKP **PKPab 11 20 19.8 -0.3**
comp=Z,9.0nm,0.5s,baz=355,slow=4.4,SNR=36
LPAZ La Paz 144.68 57 *e*PKIKP **PKPab 11 20 19.7 -0.4**
LPAZ La Paz 144.68 57 *e*PKPdf **PKPab 11 20 19.7 -0.4**
VNA2 Neumayer--Watz 145.20 197 PKP **PKPbc 11 20 18.6 -1.0**
baz=121,slow=1.5
VNA3 Neumayer Olymp 145.45 196 PKP **PKPdf 11 20 19.1 -1.3**
VNA1 Neumayer--Stat 145.59 197 PKP **PKPdf 11 20 19.9 -0.6**
MNMC Minye Minye 145.74 62 *e*PKPdf **PKPab 11 20 23.4 -0.1**
RCBR Riachuelo 146.08 357 *e*PKPdf **PKPab 11 20 24.5 -0.1**
RCBR LR LR
comp=Z,2µm,20.0s
PB11 IPOC Station P 146.13 63 *e*PKPdf **PKPbc 11 20 23.9 -0.3**
PB01 IPOC Station P 147.11 65 *e*PKPdf **PKPdf 11 20 24.9 +0.1**
PB01 LR LR
comp=Z,2µm,20.0s
PB04 IPOC Station P 147.48 67 *e*PKPdf **PKPbc 11 20 26.9 -1.2**
PMSA Palmer Station 150.76 157 PFAKE 11 20 40.0 -1.9
PMSA LR LR
comp=Z,200nm,22.0s
LCO Las Campanas 150.93 78 PKIKP **PKPdf 11 20 32.8 +1.8**
LCO Las Campanas 150.93 78 PFAKE 11 20 40.0 +3.3
LCO LR LR
comp=Z,2µm,19.0s
ROC1 El Roble 152.51 86 *e*PKPdf **PKPdf 11 20 33.7 +0.5**
GO05 HualaæØ 152.57 91 PFAKE 11 20 40.0 +0.1
GO05 LR LR
comp=Z,2µm,22.0s
GO09 Cerro Castillo 153.50 127 *e*PKPbc **PKPbc 11 20 41.3 -0.1**
PLCA Paso Flores 155.08 103 PKP **PKPdf 11 20 36.7 +0.3**
comp=Z,5.2nm,1.1s,baz=338,slow=3.7,SNR=3.8
PLCA PKPbc **sPKPdf 11 20 44.9 +1.9**
comp=Z,28nm,1.0s,baz=283,slow=3.0,SNR=18
PLCA PKPab **PKPab 11 21 00.6 -0.5**
comp=Z,21nm,1.0s,baz=293,slow=2.4,SNR=9.5
PLCA Paso Flores 155.08 103 *e*PKPdf **PKPdf 11 20 37.4 +1.0**
PLCA *e*PKPbc **sPKPdf 11 20 44.9 +1.9**
PLCA *e*PKPab **PKPab 11 21 00.6 -0.5**
CPUP Villa Florida 158.85 56 PKP **PKPdf 11 20 42.1 +0.6**
comp=Z,9.6nm,1.1s,baz=16,slow=3.0,SNR=7.6
CPUP PKPab **PKPab 11 21 18.1 +0.6**
comp=Z,25nm,1.0s,baz=330,slow=4.4,SNR=8.5

CPUP	**Villa Florida**	**158.85**	**56**	*e*PKIKP	**PKPdf**	**11**	**20**	**42.0**	**+0.5**
TRQA	**Tornquist**	**161.12**	**92**	PKIKP	**PKPdf**	**11**	**20**	**43.2**	**-0.6**

JMA 27 11:01:59.8, 39.77N×142.28E, h17km±1km, M5.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
JTH	**Tanohata**	**0.36**	**298**	P		Pg	11	02	07.2 -0.1
JTH				*e*S		Sg	11	02	12.5 0.0
MIYJ	**Miyakonagasawa**	**0.40**	**242**	P		Pg	11	02	07.9 -0.2
MIYJ				*e*S		Sg	11	02	13.5 -0.2
JKZ	**Kuzumaki**	**0.76**	**287**	P		Pb	11	02	14.5 -0.1
JKZ				*e*S		Sb	11	02	24.5 -0.2
JOM	**Ohasama**	**0.82**	**249**	P		Pb	11	02	15.2 -0.4
JOM				*e*S		Sb	11	02	26.1 -0.2
OFUJ	**Ofunato**	**0.84**	**215**	*e*S		Sb	11	02	25.9 -0.9
JANG	**Nango**	**0.84**	**316**	P		Pb	11	02	14.9 -1.1
JMK	**Ichinoseki**	**1.16**	**226**	*e*S		Sb	11	02	35.5 -0.6
MAT	**Matsushiro**	**4.55**	**226**	P		Pn	11	03	06.9 -1.0

JMA 27 11:03:16.9, 39.77N×142.28E, h20km±1km, M4.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
JTH	**Tanohata**	**0.36**	**298**	P		Pb	11	03	24.6 0.0
JTH				S		Sb	11	03	29.9 0.0
MIYJ	**Miyakonagasawa**	**0.40**	**242**	P		Pb	11	03	25.3 0.0
MIYJ				S		Sb	11	03	31.1 0.0
JKZ	**Kuzumaki**	**0.76**	**287**	P		Pb	11	03	31.6 +0.1
JKZ				*e*S		Sb	11	03	41.3 -0.2
JOM	**Ohasama**	**0.82**	**249**	P		Pb	11	03	32.3 -0.1
JOM				*e*S		Sb	11	03	43.0 0.0
OFUJ	**Ofunato**	**0.84**	**215**	P		Pb	11	03	32.2 -0.5
OFUJ				S		Sb	11	03	43.1 -0.4
JANG	**Nango**	**0.84**	**316**	P		Pb	11	03	32.3 -0.5
JANG				*e*S		Sb	11	03	42.8 -0.9
JMK	**Ichinoseki**	**1.16**	**226**	S		Sb	11	03	52.6 -0.2

JMA 27 11:09:02.8±0.1, 39.79N×142.30E, h20km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
JTH	**Tanohata**	**0.37**	**294**	P		Pb	11	09	10.6 0.0
JTH				S		Sb	11	09	16.1 +0.2
MIYJ	**Miyakonagasawa**	**0.43**	**240**	P		Pb	11	09	11.4 -0.2
MIYJ				S		Sb	11	09	17.4 -0.2
JKZ	**Kuzumaki**	**0.77**	**285**	*e*S		Sb	11	09	28.5 +0.9
JANG	**Nango**	**0.84**	**314**	P		Pb	11	09	18.2 -0.5
JOM	**Ohasama**	**0.84**	**248**	S		Sb	11	09	29.6 +0.1
OFUJ	**Ofunato**	**0.86**	**215**	P		Pb	11	09	17.8 -1.3
OFUJ				S		Sb	11	09	28.7 -1.4
JMK	**Ichinoseki**	**1.18**	**225**	P		Pb	11	09	24.7 +0.2
JMK				S		Sb	11	09	38.7 -0.7

*ISCJB **27** 11:11:00.6±1.5, 39.74N±0.04×142.36E±0.10, h19km±10km, mb3.8/3, Error ellipse: s-maj=12.8km s-min=6.3km az=0.2*
*JMA **27** 11:11:01.2±0.1, 39.74N×142.31E, h22km±1km, M3.8*
JMA Felt I J1.
*IDC **27** 11:11:05.7±3.3, 39.76N×142.49E, h59km±29km, mb3.5/3, mb1 3.6/5, mb1mx3.3/70, mbtmp3.7/5, ML2.9/2, Error ellipse: s-maj=49.4km s-min=23.8km az=84.0*
ISC 27 11:10:60.0±2.4, 39.74N±0.04×142.30E±0.10, h13km±12km, n20, σ0°88/21, mb3.9/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
JTH	**Tanohata**	**0.39**	**300**	P	**Pn**	**11**	**11**	**09.4**	**-1.9**
JTH				*e*S	**Sb**	**11**	**11**	**15.1**	**+0.4**
MIYJ	**Miyakonagasawa**	**0.41**	**246**	P	**Pn**	**11**	**11**	**09.8**	**-1.7**
MIYJ				*e*S	**Sb**	**11**	**11**	**15.6**	**+0.5**
JKZ	**Kuzumaki**	**0.79**	**288**	P	**Pn**	**11**	**11**	**16.3**	**-0.5**
JKZ				*e*S	**Sb**	**11**	**11**	**26.5**	**+0.4**
OFUJ	**Ofunato**	**0.82**	**217**	P	**Pn**	**11**	**11**	**16.3**	**-1.0**
OFUJ				*e*S	**Sb**	**11**	**11**	**26.9**	**-0.2**
JOM	**Ohasama**	**0.82**	**251**	P	**Pn**	**11**	**11**	**16.8**	**-0.5**
JOM				*e*S	**Sb**	**11**	**11**	**27.6**	**+0.4**
JANG	**Nango**	**0.87**	**317**	P	**Pn**	**11**	**11**	**17.1**	**-0.9**
JANG				*e*S	**Sb**	**11**	**11**	**28.1**	**-0.5**
JMK	**Ichinoseki**	**1.15**	**227**	P	**Pg**	**11**	**11**	**22.1**	**-0.1**
JMK				*e*S	**Sn**	**11**	**11**	**36.6**	**-0.8**
JRG	**Rokugo**	**1.33**	**256**	P	**Pg**	**11**	**11**	**25.9**	**+0.3**
JRG				*e*S	**Sg**	**11**	**11**	**43.3**	**+0.3**
JAH	**Hinai**	**1.36**	**290**	P	**Pg**	**11**	**11**	**26.1**	**0.0**
JAH				*e*S	**Sg**	**11**	**11**	**43.4**	**-0.3**
ASAJ	**Asahikawa**	**4.38**	**3**	P	Pb	11	12	09.3	-7.4
	0.5nm,0.3s,baz=213,slow=15,SNR=3.4								
MJAR	**Matsushiro Arr**	**4.54**	**227**	P	Pb	11	12	13.5	-6.0
	0.9nm,0.3s,baz=38,slow=12,SNR=7.8								
H11N2	**WAKE ISLAND Hy 29.06**	**126**		T	T	11	47	31.5	
	baz=319,slow=75,SNR=8.6								
H11N1	**WAKE ISLAND Hy 29.07**	**126**		T	T	11	47	29.7	
	baz=319,slow=75,SNR=9.7								
H11N3	**WAKE ISLAND Hy 29.08**	**126**		T	T	11	47	30.3	
	baz=319,slow=75,SNR=7.1								
H11S1	**WAKE ISLAND Hy 29.86**	**128**		T	T	11	48	32.6	
	baz=320,slow=76,SNR=12								
H11S3	**WAKE ISLAND Hy 29.86**	**128**		T	T	11	48	31.0	
	baz=320,slow=76,SNR=11								
H11S2	**WAKE ISLAND Hy 29.88**	**128**		T	T	11	48	32.8	
	baz=320,slow=76,SNR=7.9								
MKAR	**Makanchi Array**	**43.33**	**300**	P	**P**	**11**	**19**	**02.7**	**+1.2**
	1.0nm,0.8s,baz=83,slow=8.2,SNR=3.5								
KURBB	**Kurchatov Arra**	**44.93**	**306**	P	**P**	**11**	**19**	**15.2**	**+0.9**
	0.8nm,0.5s,baz=82,slow=8.4,SNR=4.3								
WRA	**Warramunga Arr**	**59.84**	**189**	P	**P**	**11**	**21**	**05.3**	**+0.2**
	0.7nm,0.4s,baz=6.6,slow=7.0,SNR=8.0								

*CSEM **27** 11:11:47.2, 35.01N×24.89E, h30km, ML2.5/7, After ATH*
ATH 27 11:11:47.1, 35.01N×24.89E, h30km±2km, ML2.5/7, Error ellipse: s-maj=3.6km s-min=1.2km az=350.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
SIVA	**Sivas**	**0.06**	**281**	P	Pb	11	11	51.9	-0.3
SIVA					AML AML	11	11	57.5	
	comp=E,14863μm,0.3s								
SIVA					AML AML	11	11	57.7	
	comp=N,7399μm,0.7s								
SIVA				S	Sb	11	11	58.1	+2.5
SIVA	**Sivas**	**0.06**	**281**	P	Pb	11	11	52.1	-0.1
SIVA				S	Sb	11	11	57.1	+1.4
IACM	**Heraklion**	**0.34**	**27**	P	Pn	11	11	56.4	+0.3
IACM	**Heraklion**	**0.34**	**27**	P	Pn	11	11	55.8	-0.2
LAST	**Lasithi**	**0.51**	**72**	P	Pb	11	11	56.6	-1.2
LAST				S	Sn	11	12	06.0	-0.4
LAST				AML	AML	11	12	06.1	
	comp=N,1134μm,0.4s								
LAST				AML	AML	11	12	06.3	
	comp=E,2056μm,0.4s								
LAST	**Lasithi**	**0.51**	**72**	P	Pb	11	11	57.3	-0.5
LAST				S	Sn	11	12	05.9	-0.4
NPS	**Neapolis**	**0.65**	**66**	P	Pb	11	11	59.1	-0.9
NPS				S	Sb	11	12	08.1	-0.7
NPS				AML	AML	11	12	10.5	
	comp=N,514μm,0.3s								
NPS				AML	AML	11	12	13.2	
	comp=E,743μm,0.3s								
NPS	**Neapolis**	**0.65**	**66**	P	Pb	11	11	59.7	-0.3
NPS				S	Sb	11	12	09.0	+0.2
GVD	**Gavdhos**	**0.68**	**256**	P	Pb	11	11	59.0	-1.5
GVD				S	Sn	11	12	11.5	+1.1
GVD				AML	AML	11	12	15.6	
	comp=E,1104μm,0.4s								
GVD				AML	AML	11	12	16.4	
	comp=N,756μm,0.3s								
GVD	**Gavdhos**	**0.68**	**256**	P	Pb	11	11	59.9	-0.6
GVD				S	Sn	11	12	11.1	+0.8
VAM	**Vamos**	**0.69**	**306**	P	Pb	11	12	00.8	0.0
VAM				AML	AML	11	12	15.5	
	comp=E,818μm,0.4s								
VAM				AML	AML	11	12	20.2	
	comp=N,722μm,0.4s								
VAM	**Vamos**	**0.69**	**306**	P	Pn	11	12	00.9	0.0

IMMV	**Iera Moni Meta**	**0.87**	**302**	P	Pb	11	12	04.9	+1.2
IMMV				S	Sn	11	12	16.2	+1.1
IMMV				AML	AML	11	12	18.4	
	comp=E,587μm,0.3s								
IMMV				AML	AML	11	12	20.9	
	comp=N,639μm,0.4s								
IMMV	**Iera Moni Meta**	**0.87**	**302**	P	Pb	11	12	04.6	+0.9
IMMV				S	Sn	11	12	16.4	+1.3
ZKR	**Zakros**	**1.10**	**84**	P	Pb	11	12	09.8	+2.3
ZKR				S	Sb	11	12	24.3	+2.8
ZKR				AML	AML	11	12	27.3	
	comp=N,88μm,0.4s								
ZKR				AML	AML	11	12	31.2	
	comp=E,343μm,0.6s								
ZKR	**Zakros**	**1.10**	**84**	P	Pb	11	12	08.9	+1.4
ZKR				S	Sb	11	12	23.7	+2.2

BUC 27 11:21:52.8±0.5, 45.29N×25.33E, h4km±5km, MD2.3/3, 14C-2D, Error ellipse: s-maj=6.5km s-min=2.6km az=356.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
MTUR	**Matau**	**0.20**	**251**	*i* P		Pg	11	21	57.5 +0.8
MTUR	**Matau**	**0.20**	**251**	*i* P		Pg	11	21	57.5 +0.8
VOIR		**0.24**	**307**	*i* P		Pg	11	21	57.8 +0.2
VOIR				S		Sg	11	22	01.9 +1.1
VOIR		**0.24**	**307**	*i* P		Pg	11	21	57.8 +0.2
VOIR				*i* S		Sg	11	22	01.9 +1.1
MLR	**Muntele Rosu**	**0.48**	**65**	*i* P		Pg	11	22	02.8 +0.8
MLR	**Muntele Rosu**	**0.48**	**65**	S		Sg	11	22	09.2 +0.9
MLR	**Muntele Rosu**	**0.48**	**65**	*i* P		Pg	11	22	02.8 +0.8
MLR				*i* S		Sg	11	22	09.2 +0.9
ARR	**Arges**	**0.49**	**279**	*i* P		Pg	11	22	03.0 +0.7
ARR	**Arges**	**0.49**	**279**	S		Sb	11	22	10.7 -1.1
ARR	**Arges**	**0.49**	**279**	*i* P		Pg	11	22	03.0 +0.7
ARR				*i* S		Sb	11	22	10.7 -1.1
DOPR	**Dopca**	**0.68**	**4**	*i* P		Pb	11	22	07.3 0.0
DOPR	**Dopca**	**0.68**	**4**	*i* P		Pb	11	22	07.3 0.0
DOPR				*i* S		Sb	11	22	17.2 +0.1
PLOR	**Plostina**	**1.09**	**58**	*i* P		Pn	11	22	14.9 0.0
PLOR	**Plostina**	**1.09**	**58**	*i* P		Pn	11	22	14.9 0.0
PLOR				*i* S		Sn	11	22	30.4 0.0
LOT	**Lotru**	**1.11**	**279**	*i* P		Pb	11	22	14.5 -0.1
LOT	**Lotru**	**1.11**	**279**	*i* P		Pb	11	22	14.5 -0.1
LOT				*i* S		Sn	11	22	30.5 -0.6
VRI	**Vrincioaia**	**1.14**	**59**	*i* P		Pb	11	22	15.2 +0.1
VRI	**Vrincioaia**	**1.14**	**59**	*i* P		Pb	11	22	15.2 +0.1
VRI				*i* S		Sn	11	22	31.4 -0.3

IDC 27 11:31:46.6±2.8, 54.23N×87.22E, h0km, mb1 2.9/2, mb1mx2.8/70, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.8km s-min=16.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**260**	*i*		11	41	30.0	
	baz=80,slow=342,SNR=40								
ZALV	**Zalesovo Beam**	**1.44**	**260**	Pg	Pn	11	32	12.2	-1.7
	1.4nm,0.3s,baz=78,slow=16,SNR=9.6								
ZALV				Lg	Lg	11	32	32.7	
	2.8nm,0.3s,baz=73,slow=26,SNR=12								
KURBB	**Kurchatov Arra**	**6.42**	**239**	Pn	Pn	11	33	23.2	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=8.4								
KURBB				Sn	Sn	11	34	34.5	-1.8
	0.0nm,0.3s,baz=50,slow=22,SNR=2.6								
KURBB				Lg	Lg	11	35	10.7	
	0.1nm,0.3s,baz=57,slow=32,SNR=3.8								
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	11	33	46.3	+1.2
	0.1nm,0.3s,baz=26,slow=14,SNR=6.1								
MKAR				Sn	Sn	11	35	17.7	+0.5
	0.1nm,0.3s,baz=24,slow=26,SNR=5.1								
MKAR				Lg	Lg	11	36	02.7	
	0.1nm,0.3s,baz=27,slow=30,SNR=4.5								

*NEIC **27** 11:33:06.2±0.0, 16.24N×98.31W, h4km, MD4.0(MEX), After MEX.*
MEX 27 11:33:05.3±0.4, 16.20N×98.34W, h5km±2km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
PNIG	**Pinotepa**	**0.28**	**47**	*e*P	Pg	11	33	10.4	-0.4
PNIG				*e*S	Sg	11	33	14.8	+0.1
PNIG	**Pinotepa**	**0.28**	**47**	*e*P	Pg	11	33	10.4	-0.5
PNIG				*e*S	Sg	11	33	14.4	-0.3
TLIG	**Tlapa**	**1.38**	**351**	*e*P	Pn	11	33	27.5	-3.9
TLIG				*e*S	Sg	11	33	44.9	-4.8
TLIG	**Tlapa**	**1.38**	**351**	*e*P	Pn	11	33	27.7	-3.7
TLIG				*e*S	Sg	11	33	44.9	-4.8
ACX	**Acapulco**	**1.60**	**295**	*i* P	Pn	11	32	52.4	-1.9
ACX				*e*S	Sn	11	33	52.3	-3.2
VHO	**Vista Hermosa**	**1.77**	**60**	*i* P	Pn	11	33	33.8	-3.1
VHO				*e*S	Sn	11	33	55.1	-4.8
VHO	**Vista Hermosa**	**1.77**	**60**	*e*P	Pn	11	33	35.1	-1.8
VHO				*e*S	Sn	11	33	54.8	-5.2
CAIG	**El Cayaco**	**2.03**	**295**	*e*P	Pn	11	33	36.7	-3.5
CAIG				*e*S	Sn	11	34	01.7	-4.3
CAIG	**El Cayaco**	**2.03**	**295**	*e*P	Pn	11	33	38.2	-2.0
CAIG				*e*S	Sn	11	34	03.4	-2.6
HUIG	**Huatulco**	**2.19**	**101**	*e*P	Pn	11	33	39.5	-2.9
HUIG				*i* S	Sn	11	34	04.9	-5.1
HUIG	**Huatulco**	**2.19**	**101**	*e*P	Pn	11	33	39.5	-2.9
HUIG				*e*S	Sn	11	33	58.1	-12

*ISK **27** 11:33:50.7, 40.93N×38.00E, h5km, ML2.6/4*
*CSEM **27** 11:33:51.9±0.2, 40.92N×38.02E, h5km, ML2.8, Error ellipse: s-maj=6.8km s-min=4.3km az=13.0*
*DDA **27** 11:33:51.5, 40.93N×38.06E, h7km, Ml2.8*
*ISCJB **27** 11:33:52.3±0.6, 40.91N±0.05×38.01E±0.04, h4km±7km, Error ellipse: s-maj=8.1km s-min=4.6km az=22.2*
ISC 27 11:33:52.0±1.0, 40.89N±0.03×38.02E±0.02, h7km±9km, n22, σ0°75/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
ORDU	**Ordu-Boztepe**	**0.16**	**311**	*i* P		**Pg**	**11**	**33**	**55.4**	**+0.1**
ORDU				*i* S		**Sg**	**11**	**33**	**58.3**	**+0.8**
ORDU	**Ordu-Boztepe**	**0.16**	**311**	P		**Pg**	**11**	**33**	**55.4**	**+0.1**
ORDU				S		**Sg**	**11**	**33**	**58.3**	**+0.8**
GRSN	**GIRESUNGRSN**	**0.19**	**79**	*i* P		**Pg**	**11**	**33**	**55.2**	**-0.6**
GRSN	**GIRESUNGRSN**	**0.19**	**79**	P		**Pg**	**11**	**33**	**55.2**	**-0.6**
ESPY	**Espiye-Giresun**	**0.54**	**87**	PG		**Pg**	**11**	**34**	**02.4**	**0.0**
ESPY				SG		**Sb**	**11**	**34**	**11.2**	**-0.6**
ESPY	**Espiye-Giresun**	**0.54**	**87**	*e*Pg		**Pg**	**11**	**34**	**02.4**	**0.0**
ESPY				*e*Sg		**Sb**	**11**	**34**	**11.2**	**-0.6**
SUSE	**Susehri**	**0.69**	**168**	*i* P		**Pg**	**11**	**34**	**05.5**	**+0.2**
SUSE				*i* S		**Sb**	**11**	**34**	**16.8**	**+0.5**
SUSE	**Susehri**	**0.69**	**168**	P		**Pg**	**11**	**34**	**05.5**	**+0.2**
SUSE				S		**Sb**	**11**	**34**	**16.8**	**+0.5**
ERBA	**Erbaa**	**0.98**	**258**	*i* P		**Pg**	**11**	**34**	**10.3**	**-0.5**
ERBA				*i* S		**Sn**	**11**	**34**	**25.9**	**-0.6**
ERBA	**Erbaa**	**0.98**	**258**	P		**Pg**	**11**	**34**	**10.3**	**-0.5**
ERBA				S		**Sn**	**11**	**34**	**25.9**	**-0.6**
CUZAR	**Zara_SIVAS**	**1.01**	**191**	*i* P		**Pb**	**11**	**34**	**12.3**	**+0.3**
CUZAR				*i* S		**Sg**	**11**	**34**	**22.0**	**-2.7**
CUZAR	**Zara_SIVAS**	**1.01**	**191**	P		**Pb**	**11**	**34**	**12.3**	**+0.3**
KELT	**Kelkit**	**1.20**	**128**	*i* P		**Pg**	**11**	**34**	**14.9**	**-0.1**
KELT				*i* S		**Sn**	**11**	**34**	**33.1**	**+1.1**
KELT	**Kelkit**	**1.20**	**128**	P		**Pg**	**11**	**34**	**14.9**	**-0.1**
KELT				S		**Sn**	**11**	**34**	**33.1**	**+1.1**
SVSK	**Karacayir**	**1.24**	**219**	PN		**Pb**	**11**	**34**	**16.2**	**+0.4**
SVSK	**Karacayir**	**1.24**	**219**	*e*Pn		**Pb**	**11**	**34**	**16.2**	**+0.4**
KVT	**Kavak**	**1.51**	**278**	PN		**Pb**	**11**	**34**	**19.7**	**-0.6**
KVT	**Kavak**	**1.51**	**278**	*e*Pn		**Pb**	**11**	**34**	**19.7**	**-0.6**
REFA	**Refahiye_ERZ¯**	**1.59**	**159**	*i* P		Pn	11	34	12.9	-7.9
REFA				*i* S		Sn	11	34	29.7	-12
BAYT	**Ayd¯–ntepe-Bay**	**1.69**	**106**	PN		**Pb**	**11**	**34**	**23.2**	**-0.3**
DIKM	**Dikmen**	**2.22**	**291**	PN		**Pn**	**11**	**34**	**29.6**	**+0.4**
DIKM	**Dikmen**	**2.22**	**291**	*e*Pn		**Pn**	**11**	**34**	**29.6**	**+0.4**

MEX 27 11:46:00.0±0.6, 16.39N×98.48W, h1km±4km, MD3.8, Near coast of Guerrero

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

PNIG	**Pinotepa**	**0.34**	**89**	*i* P		Pg	11	46	06.2 -0.2
PNIG				*i* S		Sg	11	46	11.1 +0.2
TLIG	**Tlapa**	**1.17**	**356**	*e*P		Pg	11	46	20.1 -2.4
TLIG				*e*S		Sg	11	46	35.2 -2.6
ACX	**Acapulco**	**1.41**	**290**	*e*P		Pn	11	46	22.7 -4.1
ACX				*e*S		Sg	11	46	41.7 -3.6
VHO	**Vista Hermosa**	**1.81**	**68**	*i* P		Pn	11	46	29.4 -3.0
VHO				*i* S		Sn	11	46	52.2 -4.0
CAIG	**El Cayaco**	**1.84**	**291**	*e*P		Pn	11	46	28.7 -4.0
CAIG				*i* S		Sn	11	46	51.5 -5.0
HUIG	**Huatulco**	**2.36**	**105**	*e*P		Pn	11	46	37.3 -2.6
HUIG				*e*S		Sn	11	47	05.1 -4.4

*ISCJB **27** 11:46:07.2±0.8, 53.85N±0.09×164.34W±0.09, h57km±9km, mb3.5/4, Error ellipse: s-maj=16.9km s-min=4.9km az=154.1*
*NEIC **27** 11:46:07.2±0.0, 53.86N×164.36W, h54km, ML3.5(AEIC), After AEIC.*
*IDC **27** 11:46:08.9±4.6, 54.06N×164.27W, h41km±40km, mb3.3/5, mb1 3.6/7, mb1mx3.2/82, mbtmp3.5/7, ML3.1/2, Error ellipse: s-maj=43.9km s-min=20.7km az=175.0*
ISC 27 11:46:07.5±1.6, 53.82N±0.10×164.30W±0.05, h41km±18km, n35, σ1°05/36, mb3.5/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
WESE	**West Dahl East**	**0.68**	**346**	P	**Pn**	**11**	**46**	**20.6**	**-0.2**
WESP	**Westdahl Peak**	**0.72**	**340**	P	**Pn**	**11**	**46**	**21.4**	**+0.1**
WESP				S	**Sn**	**11**	**46**	**31.8**	**+0.5**
WESN	**West Dahl Nort**	**0.77**	**348**	P	**Pn**	**11**	**46**	**22.2**	**+0.2**
AKSA	**Akutan Strait**	**0.89**	**292**	P	**Pn**	**11**	**46**	**23.2**	**-0.3**
AKSA				S	**Sn**	**11**	**46**	**35.1**	**-0.1**
SSLS	**Shishaldin Sou**	**0.92**	**11**	P	**Pn**	**11**	**46**	**23.9**	**-0.1**
SSLS				S	**Sn**	**11**	**46**	**36.1**	**+0.1**
AKUT	**Akutan**	**0.93**	**291**	P	**Pn**	**11**	**46**	**23.9**	**-0.2**
AKUT				S	**Sn**	**11**	**46**	**36.2**	**+0.1**
AHB	**Akutan Harbor**	**0.95**	**289**	P	**Pn**	**11**	**46**	**24.2**	**-0.1**
SSLW	**Shishaldin Wes**	**0.96**	**6**	P	**Pn**	**11**	**46**	**24.5**	**-0.1**
ISLZ	**Isanotski Laza**	**0.97**	**20**	P	**Pn**	**11**	**46**	**24.4**	**-0.4**
ZRO	**Akutan Zero**	**1.03**	**286**	P	**Pn**	**11**	**46**	**25.4**	**-0.1**
AKRB	**Akutan Reef Bi**	**1.09**	**287**	P	**Pn**	**11**	**46**	**26.3**	**0.0**
FALS	**False Pass**	**1.17**	**26**	P	**Pn**	**11**	**46**	**27.2**	**-0.1**
FALS				S	**Sn**	**11**	**46**	**42.3**	**+0.4**
UNV	**Unalaska Valle**	**1.31**	**272**	P	**Pn**	**11**	**46**	**28.3**	**-0.9**
UNV				S	**Sn**	**11**	**46**	**46.1**	**+0.6**
MSW	**Makushin Switc**	**1.48**	**275**	P	**Pn**	**11**	**46**	**30.2**	**-1.3**
MGOD	**Makushin Gods**	**1.53**	**270**	P	**Pn**	**11**	**46**	**32.3**	**0.0**
MCIR	**Makushin Cirqu**	**1.54**	**276**	P	**Pn**	**11**	**46**	**32.9**	**+0.4**
BALA	**Baldy Mountain**	**1.64**	**32**	P	**Pn**	**11**	**46**	**35.8**	**+2.0**
DT1	**Dutton Round H**	**1.75**	**41**	P	**Pn**	**11**	**46**	**35.4**	**+0.1**
DOL	**Dolgoi Island**	**1.95**	**46**	P	**Pn**	**11**	**46**	**38.1**	**+0.1**
PS4A	**Pavlof South-4**	**2.09**	**42**	P	**Pn**	**11**	**46**	**41.4**	**+1.4**
OKSP	**Okmok Steeple**	**2.45**	**258**	P	**Pn**	**11**	**46**	**45.7**	**+0.7**
SDPT	**Sand Point**	**2.70**	**54**	P	**Pn**	**11**	**46**	**49.0**	**+0.6**
KDAK	**Kodiak Island**	**7.70**	**54**	P	**Pn**	**11**	**47**	**56.6**	**-0.3**
	0.6nm,0.3s,baz=206,slow=5.5,SNR=11								
KDAK				S	**Sn**	**11**	**49**	**18.7**	**-4.1**
	0.3nm,0.3s,baz=30,slow=20,SNR=2.9								
ILAR	**Eielson Array**	**14.07**	**32**	P	**Pn**	**11**	**49**	**23.4**	**-0.5**
	0.0nm,0.3s,baz=218,slow=12,SNR=2.9								
INK	**Inuvik**	**20.46**	**33**	P	**P**	**11**	**50**	**40.1**	**-1.1**
	0.6nm,0.5s,baz=236,slow=5.4,SNR=12								
PETK	**Petropavlovsk-**	**22.46**	**284**	P	**P**	**11**	**51**	**03.4**	**+0.6**
	0.8nm,0.3s,baz=87,slow=14,SNR=16								
YKA	**Yellowknife Ar**	**26.97**	**51**	P	**P**	**11**	**51**	**46.5**	**+1.7**
	0.2nm,0.5s,baz=273,slow=10,SNR=6.0								
H11N2	**WAKE ISLAND Hy 40.56**	**224**		T	T

mb1mx2.9/70,mbtmp2.9/4,ML2.6/4,Error ellipse: s-maj=19.1km s-min=10.7km az=88.0

ISC 27 12:09:00.3±1.5, 48.62N±0.07×77.7E±0.1, h0km, n9, σ1§11/9, 4C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.08**	**15**		**Pn**	**12 09 35.8**	**-0.5**
	1.2nm,0.3s,baz=201,slow=16,SNR=53						
KURBB				Lg	Lg	12 10 03.5	
	0.8nm,0.3s,baz=203,slow=29,SNR=11						
KURK	**Kurchatov**	**2.18**	**16**	⇑Pn	**Pn**	**12 09 38.5**	**+0.7**
	2.3nm,0.3s						
KURK				⇓Sn	**Sn**	**12 10 06.1**	**+0.6**
	4.9nm,0.5s						
MAKZ	**Makanchi**	**3.42**	**121**	⇑Pg	**Pb**	**12 10 00.2**	**-1.5**
	0.4nm,0.3s						
MAKZ				⇓Lg	Lg	12 10 42.2	
	1.2nm,0.3s						
OTUK	**Ortayu**	**3.58**	**266**	⇓Pn	**Pn**	**12 09 57.8**	**+0.6**
	1.3nm,0.6s						
OTUK				⇑Lg	Lg	12 10 53.3	
	0.7nm,0.3s						
MK31	**Makanchi Array**	**3.60**	**119**	⇑Pn	**Pn**	**12 09 58.2**	**+0.8**
	0.6nm,0.5s,baz=303,slow=9.8,SNR=43						
MK31				⇓Lg	Lg	12 10 48.8	
	0.4nm,0.2s,baz=310,slow=27,SNR=14						
MKAR	**Makanchi Array**	**3.60**	**119**	Pn	**Pn**	**12 09 58.3**	**+0.9**
	0.3nm,0.3s,baz=298,slow=12,SNR=18						
MKAR				Lg	Lg	12 10 52.4	
	0.7nm,0.3s,baz=299,slow=25,SNR=16						
AAK	**Ala-Archa**	**6.39**	**202**	Pn	**Pn**	**12 10 36.7**	**+0.9**
	0.3nm,0.3s,baz=18,slow=18,SNR=3.6						
I46RU	**ZALESOVO INFRA**	**6.96**	**37**	*i*			
	baz=222,slow=329,SNR=1.4					12 50 20.0	
ZALV	**Zalesovo Beam**	**6.96**	**37**	Pn	**Pn**	**12 10 44.5**	**+1.1**
	0.5nm,0.3s,baz=226,slow=16,SNR=2.4						

MEX 27 12:14:07.2±0.5, 16.10N×98.51W, h8km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.47**	**52**	*e*P	Pg	12 14 16.2	-0.2
PNIG				*e*S	Sg	12 14 22.7	0.0
TLIG	**Tlapa**	**1.46**	**358**	*e*P	Pn	12 14 29.7	-4.3
TLIG				*i* S	Sn	12 14 48.5	-4.8
ACX	**Acapulco**	**1.50**	**301**	*i* P	Pn	12 14 29.5	-4.9
ACX				*e*S	Sn	12 14 48.5	-5.7
CAIG	**El Cayaco**	**1.93**	**300**	*e*P	Pn	12 14 37.3	-3.0
CAIG				*e*S	Sn	12 15 00.8	-4.0
VHO	**Vista Hermosa**	**1.96**	**60**	*i* P	Pn	12 14 36.9	-4.1
VHO				*i* S	Sn	12 15 00.8	-5.1
HUIG	**Huatulco**	**2.34**	**98**	*i* P	Pn	12 14 42.1	-3.8
HUIG				*i* S	Sn	12 15 10.8	-4.1

*JMA **27** 13:00:46.8±0.2, 40.74N×145.34E, h64km, MJ3.6*

*IDC **27** 13:00:46.6±1.0, 40.46N×145.75E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/57, mbtmp3.5/7, MS3.2/1, Ms1 3.2/1, ms1mx2.7/51, Error ellipse: s-maj=30.3km s-min=22.8km az=92.0*

*ISCJB **27** 13:00:47.9±0.8, 40.74N±0.03×145.06E±0.06, h29km, mb3.4/7, Error ellipse: s-maj=6.8km s-min=4.5km az=9.8*

ISC 27 13:00:49.8±1.1, 40.73N±0.05×145.15E±0.08, h29km, n28, σ2§20/29, mb3.4/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.98**	**311**	P	**Pn**	**13 01 20.7**	**-0.5**
JEM				*e*S	**Sn**	**13 01 44.0**	**-1.0**
JAK	**Akkeshi**	**2.29**	**352**	*e*S	**Sn**	**13 01 49.7**	**-3.1**
JCH	**Churui**	**2.31**	**325**	P	**Pn**	**13 01 24.8**	**-1.1**
JCH				*e*S	**Sn**	**13 01 51.0**	**-2.3**
JNBK	**Urakawa-nobuka**	**2.38**	**312**	*e*S	**Sn**	**13 01 55.1**	**+0.2**
JOB	**Onbets**	**2.38**	**336**	*e*S	**Sn**	**13 01 53.1**	**-2.0**
JAR	**Ashorobuto**	**2.76**	**339**	P	**Pn**	**13 01 30.5**	**-1.6**
JAR				*e*S	**Sn**	**13 02 01.9**	**-2.6**
JANG	**Nango**	**2.79**	**264**	P	**Pn**	**13 01 31.0**	**-1.5**
JANG				*e*S	**Sn**	**13 02 02.2**	**-3.0**
JNK	**Nakash**	**2.87**	**354**	*e*S	**Sn**	**13 02 02.0**	**-5.2**
JBT2	**Biratori 2**	**2.92**	**315**	*e*S	**Sn**	**13 02 08.6**	**+0.2**
JFR	**Furan**	**3.09**	**323**	*e*S	**Sn**	**13 02 09.8**	**-2.8**
JOT	**Ohata**	**3.17**	**283**	P	**Pn**	**13 01 37.3**	**-0.4**
JOT				*e*S	**Sn**	**13 02 11.9**	**-2.6**
JOM	**Ohasama**	**3.21**	**248**	P	**Pn**	**13 01 37.2**	**-1.1**
JOM				*e*S	**Sn**	**13 02 13.4**	**-2.2**
JKB	**Kayabe**	**3.31**	**292**	P	**Pn**	**13 01 39.1**	**-0.5**
JTKR	**Abashiri--Toko**	**3.37**	**345**	*e*S	**Sn**	**13 02 16.8**	**-2.6**
JEW	**Eniwo**	**3.48**	**309**	*e*S	**Sn**	**13 02 21.7**	**-0.4**
JMK	**Ichinoseki**	**3.51**	**241**	P	**Pn**	**13 01 41.5**	**-0.8**
JMK				*e*S	**Sn**	**13 02 19.7**	**-3.1**
ASAJ	**Asahikawa**	**3.88**	**332**	Pn	**Pn**	**13 01 48.2**	**+0.8**
	1.1nm,0.3s,baz=201,slow=15,SNR=14						
ASAJ				Sn	**Sn**	**13 02 31.4**	**-0.6**
	0.8nm,0.3s,baz=198,slow=20,SNR=5.7						
USRK	**Ussuriysk Ar.**	**10.32**	**294**	LR	LR	13 07 34.6	
	comp=Z,138nm,20.3s,baz=342,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.98**	**132**	T	T	13 34 14.7	
	baz=319,slow=75,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**28.00**	**132**	T	T	13 34 13.0	
	baz=319,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**28.00**	**132**	T	T	13 34 10.9	
	baz=319,slow=75,SNR=4.5						
SONM	**Songino Array**	**28.41**	**298**	P	**P**	**13 06 45.9**	**+4.2**
	0.3nm,0.4s,baz=90,slow=8.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**41.70**	**309**	P	P	13 08 40.8	+5.1
	0.3nm,0.3s,baz=98,slow=5.0,SNR=2.9						
MKAR	**Makanchi Array**	**44.73**	**300**	P	P	13 09 07.4	+7.1
	0.5nm,0.9s,baz=81,slow=7.5,SNR=3.8						
ILAR	**Eielson Array**	**44.81**	**34**	P	**P**	**13 09 01.1**	**+0.5**
	0.2nm,0.6s,baz=256,slow=5.9,SNR=4.5						
INK	**Inuvik**	**49.76**	**29**	P	P	13 09 40.4	+1.3
	1.0nm,0.8s,baz=306,slow=4.6,SNR=4.6						
WRA	**Warramunga Arr**	**61.19**	**192**	P	**P**	**13 11 01.6**	**-0.1**
	0.7nm,0.8s,baz=11,slow=6.7,SNR=5.3						
ASAR	**Alice Springs**	**64.91**	**191**	P	**P**	**13 11 26.8**	**+0.3**
	0.2nm,0.8s,baz=0.0,slow=5.6,SNR=3.4						

MAN 27 13:10:46, 9.80N×125.90E, h72km, mb4.5, ML3.4, MS3.2, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.40**	**268**	⇓*i*	P	13 10 53.9	-4.2
SCPH				*i* S	Sn	13 11 00.2	-6.8
BUTP	**Butuan**	**0.86**	**198**	*e*P	Pn	13 11 03.9	+0.9
BUTP				*e*S	Sn	13 11 19.1	+3.5
MSLP	**Maasin**	**1.07**	**288**	*e*P	Pn	13 11 04.1	-1.4
MSLP				*e*S	Sn	13 11 19.0	-1.1
PLP	**Palo**	**1.63**	**327**	⇓*e*P	Pn	13 11 10.6	-2.2
BESP	**Borongan**	**1.85**	**346**	*e*P	Pn	13 11 17.3	+1.6
BESP				*e*S	Sn	13 11 40.6	+2.4
LLP	**Lapu-Lapu**	**1.97**	**285**	*e*P	Pn	13 11 18.9	+1.6
LLP				*e*S	Sn	13 11 43.3	+2.2
BUKP	**Musuan**	**2.07**	**203**	*e*P	Pn	13 11 22.5	+3.7
DCPH	**Dipolog City**	**2.79**	**245**	*e*P	Pn	13 11 30.2	+1.9

*IDC **27** 13:20:59.5±0.5, 39.71N×143.66E, h0km, mb4.5/33, mb1 4.6/38, mb1mx4.5/69, mbtmp4.5/38, ML3.9/5, MS4.3/37, Ms1 4.3/37, ms1mx4.0/67, Error ellipse: s-maj=13.3km s-min=11.5km az=105.0*

*NIED **27** 13:21:00, 39.70N×143.80E, h11km, Mw5.0 Best double couple: M0 3.01000×10^16 NP1:φs=164.00000°, δ39.00000°, λ43.00000°. NP2:φs=39.00000°, δ65.00000°, λ121.00000°.*

*ISCJB **27** 13:21:00.2±0.8, 39.81N±0.02×143.60E±0.02, h12km±4km, mb4.7/173, MS4.6/60, Error ellipse: s-maj=4.0km s-min=2.6km az=141.1*

*BJI **27** 13:21:01.6, 39.76N×143.50E, h25km, mb4.9/73, mB5.1/53, Ms4.8/73, Ms7 4.7/69*

*JMA **27** 13:21:01.4±0.2, 39.83N×143.70E, h32km, M4.8*

JMA Felt I J1.

*MOS **27** 13:21:02.1±0.9, 39.90N×143.59E, h24km, mb5.0/80, MS4.6/17, Error ellipse: s-maj=6.5km s-min=3.8km az=105.4*

*GCMT **27** 13:21:03.3±0.3, 39.69N×143.80E, h15km, MW5.1/85, Moment Tensor Solution. s18,c21; s85,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mw2.72±.12;*

Mθθ-0.30±.11; Mϕϕ-2.42±.08; Mrθ3.82±.45; Mrϕ-0.63±.08; Mϕr4.11±.36; Best double couple: M0 6.19000×10^16 NP1:φs=40.00000°, δ78.00000°, λ99.00000°. NP2: φs=182.00000°, δ15.00000°, λ53.00000°. Principal axes: T 6.4720, Plg56.0000°, Azm321.0000°; N -0.5650, Plg9.0000°, Azm218.0000°; P -5.9070, Plg33.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **27** 13:21:03.3±1.2, 39.75N×143.50E, h24km±8km, mb4.7/77 Error ellipse: s-maj=4.6km s-min=3.2km az=136.0*

NEIC Recorded [1 JMA] in Iwate.

ISC 27 13:21:02.2±0.6, 39.79N±0.03×143.61E±0.04, h17km±3km, n416, σ1§71/450, mb4.8/182, MS4.7/61, 19C-16D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.35**	**277**	P	**Pn**	**13 21 25.6**	**-0.6**
JTH				*e*S	**Sn**	**13 21 42.3**	**-1.4**
MIYJ	**Miyakonagasawa**	**1.40**	**262**	P	**Pn**	**13 21 26.6**	**-0.3**
MIYJ				*e*S	**Sn**	**13 21 44.0**	**-0.9**
JANG	**Nango**	**1.71**	**291**	P	**Pn**	**13 21 30.7**	**-0.4**
JOM	**Ohasama**	**1.81**	**261**	P	**Pn**	**13 21 33.0**	**+0.4**
JMK	**Ichinoseki**	**2.03**	**246**	P	**Pn**	**13 21 35.3**	**-0.3**
ERM	**Erimo**	**2.25**	**351**	*d* iP	**Pn**	**13 21 38.3**	**-0.2**
ERM	**Erimo**	**2.25**	**351**	*e*Pn	**Pn**	**13 21 37.6**	**-0.9**
JOT	**Ohata**	**2.51**	**310**	P	**Pn**	**13 21 42.4**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.57**	**346**	P	**Pn**	**13 21 42.4**	**-0.6**
JNBK				*e*S	**Sn**	**13 22 12.0**	**-1.8**
JYK	**Kaneyama**	**2.66**	**252**	P	**Pn**	**13 21 44.8**	**+0.5**
JYK				*e*S	**Sn**	**13 22 16.0**	**-0.2**
JCH	**Churui**	**2.82**	**356**	P	**Pn**	**13 21 46.0**	**-0.5**
JCH				*e*S	**Sn**	**13 22 18.2**	**-1.9**
JKB	**Kayabe**	**2.86**	**318**	P	**Pn**	**13 21 47.1**	**+0.1**
JKB				*e*S	**Sn**	**13 22 21.9**	**+0.9**
JAK	**Akkeshi**	**3.30**	**14**	P	**Pn**	**13 21 51.7**	**-1.4**
JAK				*e*S	**Sn**	**13 22 28.9**	**-3.0**
JFT	**Otama**	**3.42**	**229**	P	**Pn**	**13 21 53.4**	**-1.3**
JFT				*e*S	**Sn**	**13 22 34.5**	**-0.4**
JEW	**Eniwo**	**3.45**	**333**	P	**Pn**	**13 21 55.9**	**+0.8**
JEW				*e*S	**Sn**	**13 22 36.1**	**+0.6**
JFR	**Furan**	**3.45**	**348**	P	**Pn**	**13 21 56.0**	**+0.8**
JAR	**Ashorobuto**	**3.50**	**2**	P	**Pn**	**13 21 54.5**	**-1.3**
JAR				*e*S	**Sn**	**13 22 34.5**	**-2.4**
GLVR	**Golovnino**	**4.19**	**19**	*e*P	**Pn**	**13 22 04.6**	**-0.7**
GLVR				*e*S	**Sn**	**13 22 50.3**	**-3.6**
ASAJ	**Asahikawa**	**4.38**	**350**	Pn	**Pn**	**13 22 08.5**	**+0.6**
	6.6nm,0.3s,baz=189,slow=14,SNR=51						
ASAJ				Sn	**Sn**	**13 23 00.1**	**+1.5**
	18nm,0.3s,baz=101,slow=28,SNR=6.6						
GRPR	**Tuman**	**4.50**	**20**	*e*P	**Pn**	**13 22 08.4**	**-1.1**
GRPR				*e*S	**Sn**	**13 22 56.8**	**-4.5**
LAGR	**Lagunnoye**	**4.56**	**20**	*e*P	**Pn**	**13 22 10.3**	**0.0**
LAGR				*e*S	**Sn**	**13 23 00.1**	**-2.8**
YUK	**Yuzh-Kuril'sk**	**4.56**	**21**	*c iP*	**Pn**	**13 22 09.3**	**-1.0**
YUK				*e*S	**Sn**	**13 22 58.5**	**-4.4**
YUK				pmax	pmax		
	comp=Z,371nm,0.4s						
YUK				pmax	pmax		
	comp=N,151nm,0.3s						
YUK				pmax	pmax		
	comp=E,233nm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
YUK				MLR	MLR		
	comp=Z,481nm,15.0s						
SHO	**Shikotan**	**4.73**	**30**	*c iP*	**Pn**	**13 22 10.2**	**-2.5**
SHO				*i* S	**Sn**	**13 23 00.1**	**-7.0**
SHO				pmax	pmax		
	comp=Z,88nm,0.3s						
SHO				pmax	pmax		
	comp=E,42nm,0.2s						
SHO				pmax	pmax		
	comp=N,38nm,0.3s						
SHO				smax	smax		
	comp=N,876nm,0.4s						
SHO				smax	smax		
	comp=E,546nm,0.4s						
SHO				MLR	MLR		
	comp=Z,308nm,6.0s						
MJAR	**Matsushiro Arr**	**5.35**	**234**	Pn	**Pn**	**13 22 21.9**	**+0.7**
	comp=Z,5.1nm,0.3s,baz=43,slow=11,SNR=148						
MJAR				LR	LR	13 24 46.6	
	comp=Z,2μm,19.0s,baz=55,slow=43						
MAJO	**Matsushiro**	**5.35**	**234**	*c iP*	**Pn**	**13 22 21.9**	**+0.6**
MAJO	**Matsushiro**	**5.35**	**234**	*e*Pn	**Pn**	**13 22 21.8**	**+0.5**
MAT	**Matsushiro**	**5.35**	**234**	P	**Pn**	**13 22 21.9**	**+0.6**
MAT				S	**Sn**	**13 23 24.4**	**+1.9**
MJB9	**Matsu-Tunnel**	**5.35**	**234**	*e*Pn	**Pn**	**13 22 21.8**	**+0.5**
KUR	**Kuril'sk**	**6.28**	**29**	*e*P	**Pn**	**13 22 33.4**	**-0.6**
KUR				*e*S	**Sn**	**13 23 41.7**	**-3.6**
KUR				pmax	pmax		
	comp=N,62nm,0.5s						
KUR				pmax	pmax		
	comp=Z,142nm,0.5s						
KUR				pmax	pmax		
	comp=E,40nm,0.3s						
KUR				smax	smax		
	comp=N,485nm,0.5s						
KUR				smax	smax		
	comp=E,276nm,0.5s						
KUR				MLR	MLR		
	comp=Z,304nm,14.0s						
INU	**Inuyama**	**6.86**	**232**	*e*Pn	**Pn**	**13 22 41.9**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.18**	**355**	⇓*e*P	**Pn**	**13 22 46.9**	**+0.5**
YSS				*e*S	**Sn**	**13 24 05.5**	**-2.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=Z,3μm,15.0s						
YSS				MLR	MLR		
	comp=N,2μm,10.0s						
YSS				MLR	MLR		
	comp=E,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.18**	**355**	*e*Pn	**Pn**	**13 22 46.4**	**+0.1**
JHJ2	**Mitsune**	**7.33**	**206**	*e*Pn	**Pn**	**13 22 46.0**	**-2.4**
JHJ	**Hachijo jima 2**	**7.34**	**206**	Pn	**Pn**	**13 22 46.1**	**-2.4**
	comp=E,20nm,0.3s,baz=261,slow=13,SNR=15						
JHJ				Sn	**Sn**	**13 24 03.9**	**-7.5**
	comp=E,35nm,0.3s,baz=64,slow=23,SNR=11						
TEY	**Ternei**	**7.37**	**318**	*e*P	**Pn**	**13 22 50.0**	**+1.1**
TEY				MLR	MLR		
	comp=N,6μm,15.0s						
TEY				MLR	MLR		
	comp=Z,7μm,14.0s						
VLA	**Vladivostok**	**9.41**	**294**	⇑*e*P	**Pn**	**13 23 17.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**9.70**	**301**	Pn	**Pn**	**13 23 24.0**	**+3.1**
	comp=Z,2.5nm,0.3s,baz=104,slow=12,SNR=58						
MSHR	**Mys Shultsa**	**9.79**	**291**	⇓*e*P	**Pn**	**13 23 25.3**	**+3.2**
TYV	**Tymovskoe**	**11.09**	**357**	*e*P	**Pn**	**13 23 39.1**	**-0.8**
TYV				*e*S	**Sn**	**13 25 38.3**	**-5.1**
TYV				pmax	pmax		
	comp=Z,11nm,1.6s						
TYV				pmax	pmax		
	comp=Z,300nm,3.8s						
TYV				smax	smax		
	comp=N,7.0nm,1.5s						
TYV				smax	smax		
	comp=E,600nm,9.6s						
TYV				MLR	MLR		
	comp=Z,3μm,14.0s						
TYV				MLR	MLR		
	comp=N,3μm,15.0s						
MDJ	**Mudanjiang**	**11.45**	**299**	P	**Pn**	**13 23 44.8**	**-0.1**
MDJ				pmax	pmax		
	comp=N,28nm,1.7s						
MDJ				pmax	pmax		
	comp=N,760nm,6.3s						
MDJ				LR	LR		
	comp=N,2μm,14.7s						
MDJ				LR	LR		
	comp=N,3μm,13.5s						
MDJ				LR	LR		
	comp=N,5μm,13.7s						
MDJ	**Mudanjiang**	**11.45**	**299**	*e*Pn	**Pn**	**13 23 44.6**	**-0.3**
GRNR	**Gornyy**	**12.08**	**338**	*e*P	**Pn**	**13 23 55.8**	**+2.4**
GRNR				pmax	pmax		
	comp=N,84nm,1.0s						
GRNR				pmax	pmax		
	comp=E,42nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,55nm,1.0s						
JNU	**Nakatsue**	**12.21**	**241**	Pn	**Pn**	**13 23 54.4**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=116,slow=18,SNR=4.4						
JNU				LR	LR	13 29 05.0	
	comp=Z,3μm,18.3s,baz=50,slow=40						
KSRS	**Korea Array**	**12.49**	**264**	Pn	**Pn**	**13 24 03.0**	**+4.0**
	comp=Z,0.5nm,0.3s,baz=80,slow=13,SNR=14						
KSRS				LR	LR	13 28 22.0	
	comp=Z,1μm,18.3s,baz=68,slow=35						
KS01	**Wonju Array Si**	**12.50**	**264**	*e*Pn	**Pn**	**13 23 59.0**	**-0.3**
KS15	**Wonju Array Si**	**12.52**	**264**	*e*Pn	**Pn**	**13 23 56.6**	**-2.9**
KSAR	**Wonju Array Be**	**12.52**	**264**	P	**Pn**	**13 24 03.0**	**+3.5**
KSAR	**Wonju Array Be**	**12.52**	**264**	Pn	**Pn**	**13 24 03.0**	**+3.5**
KLR	**Kul'dur**	**12.66**	**322**	Pn	**Pn**	**13 24 02.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=28						
KLR				LR	LR	13 29 25.5	
	comp=Z,261nm,18.1s,baz=134,slow=40						
CBIJ	**Chichi jima**	**12.72**	**186**	*e*Pn	**Pn**	**13 23 58.5**	**-3.8**
TJN	**Taejon**	**13.24**	**260**	⇓*i*P	**Pn**	**13 24 12.5**	**+3.2**
NKL	**Nikolayevsk**	**13.51**	**352**	*e*P	**Pn**	**13 24 12.0**	**-0.9**
NKL				pmax	pmax		
	comp=N,20nm,1.2s						
NKL				pmax	pmax		
	comp=Z,41nm,1.2s						
SKR	**Severo-Kuril's**	**13.99**	**35**	*e*P	**P**	**13 24 25.7**	**-1.6**
SKR				*e*S	**Sn**	**13 26 55.4**	**+1.3**
SKR				pmax	pmax		
	comp=Z,27nm,0.7s						
SKR				pmax	pmax		
	comp=Z,400nm,5.2s						
SKR				pmax	pmax		
	comp=Z,200nm,5.9s						
SKR				MLR	MLR		
	comp=Z,800nm,17.0s						
CN2	**Changchun**	**14.12**	**292**	*e*P	**Pn**	**13 24 20.8**	**-0.5**
CN2				*e*S	**Sn**	**13 26 58.3**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,3μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
SNY	**Shenyang**	**15.30**	**284**	⇓P	**P**	**13 24 41.5**	**-0.5**
SNY				S	**Sn**	**13 27 16.0**	**-10**
SNY				pmax	pmax		
	comp=Z,18nm,0.5s						
SNY				pmax	pmax		
	comp=Z,650nm,12.0s						
SNY				LR	LR		
	comp=Z,2μm,15.1s						
SNY				LR	LR		
	comp=Z,2μm,15.7s						
SNY				LR	LR		
	comp=Z,3μm,16.0s						
PEA0B	**Petropavlovsk-**	**16.44**	**31**	*e*Pn	**P**	**13 24 54.6**	**+0.1**
	comp=Z,45nm,1.3s						
PETK	**Petropavlovsk-**	**16.44**	**31**	Pn	**Pn**	**13 24 52.9**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=200,slow=8.9,SNR=10.0						
PETK				LR	LR	13 30 49.8	
	comp=Z,434nm,19.7s,baz=219,slow=36						
PETK	**Petropavlovsk-**	**16.44**	**31**	*e*P	**P**	**13 24 55.5**	**+0.9**
PETK	**Petropavlovsk-**	**16.44**	**31**	*e*Pn	**P**	**13 24 55.5**	**+0.9**
PET	**Petropavlovsk**	**16.77**	**33**	*e*P	**P**	**13 24 59.4**	**+1.2**
PET				*e*S	**Sn**	**13 28 05.6**	**+3.9**
PET				pmax	pmax		
	comp=Z,37nm,1.4s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET	**Petropavlovsk**	**16.77**	**33**	*e*Pn	**P**	**13 24 58.2**	**0.0**
	comp=Z,44nm,1.2s						
DL2	**Dalian**	**17.02**	**274**	P	**Pn**	**13 24 59.0**	**-0.3**
DL2				S	**Sn**	**13 28 07.0**	**-1.1**
DL2				pmax	pmax		
	comp=Z,67nm,1.2s						
DL2				pmax	pmax		
	comp=Z,430nm,6.4s						
DL2				LR	LR		
	comp=Z,1μm,13.0s						
DL2				LR	LR		
	comp=Z,660nm,16.6s						
DL2				LR	LR		
	comp=Z,1μm,16.8s						
ZEA	**Zeya**	**17.83**	**327**	*e*P	**Pn**	**13 25 07.0**	**-2.2**
ZEA				pmax	pmax		
	comp=N,30nm,1.0s						
ZEA				pmax	pmax		
	comp=E,41nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,46nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,3μm,14.0s						
ZEA				MLR	MLR		
	comp=E,2μm,16.0s						
ZEA				MLR	MLR		
	comp=N,1μm,12.0s						
JOW	**Kunigami**	**18.17**	**229**	Pn	**P**	**13 25 19.2**	**+5.4**
	comp=N,0.6nm,0.3s,baz=21,slow=14,SNR=2.7						
JOW				LR	LR	13 32 00.9	
	comp=N,580nm,20.6s,baz=71,slow=36						
HIA	**Hailar**	**19.40**	**307**	*e*P	**P**	**13 25 24.9**	**-2.4**
HIA				pmax	pmax		
	comp=Z,64nm,1.4s						
HIA	**Hailar**	**19.40**	**307**	*e*P	**P**	**13 25 24.9**	**-2.4**
	comp=Z,64nm,1.4s						
MA2	**Magadan**	**20.31**	**11**	LR	LR	13 34 18.0	
	comp=Z,883nm,19.5s,baz=198,slow=39						
MA2	**Magadan**	**20.31**	**11**	*c iP*	Pn	13 25 38.2	-0.9
CLNS	**Chul'man**	**20.99**	**331**	*e*P	**P**	**13 25 42.6**	**-1.9**
CLNS				*e**PP	**sP**	**13 25 51.6**	**0.0**
CLNS				*e*SS	**S**	**13 29 31.3**	**-6.2**
CLNS				*e*		13 30 06.9	
CLNS				pmax	pmax		
	comp=Z,35nm,1.2s						
CLNS				pmax	pmax		
	comp=E,18nm,1.0s						
CLNS				pmax	pmax		
	comp=N,51nm,1.4s						
CLNS				pmax	pmax		
	comp=E,34nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,34nm,1.0s						
CLNS				pmax	pmax		
	comp=N,34nm,1.3s						
CLNS				MLR	MLR		
	comp=E,3μm,17.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,14.0s						
CLNS				MLR	MLR		
	comp=N,2μm,14.0s						
BJI	**Beijing**	**21.02**	**280**	⇓*i*P	**P**	**13 25 43.5**	**-1.3**
BJI				S	**S**	**13 29 37.5**	**-0.6**
BJI				pmax	pmax		
	comp=N,32nm,1.7s						
BJI				LR	LR		
	comp=N,2μm,14.1s						
BJI				LR	LR		
	comp=N,2μm,15.5s						
BJI				LR	LR		
	comp=N,1μm,18.1s						
BJT	**Baijiatuan**	**21.

NJ2 LR LR
comp=Z,2µm,16.3s
SEY Seymchan 23.77 10 P P 13 26 13.2 -0.2
comp=Z,36nm,0.8s,baz=188,slow=6.8,SNR=89
SEY Seymchan 23.77 10⇓eP P 13 26 13.4 0.0
YAK Yakutsk 23.83 344 P P 13 26 13.1 -0.9
comp=Z,20nm,0.4s,baz=152,slow=1.3,SNR=12
YAK LR LR 13 36 07.3
comp=Z,661nm,18.6s,baz=38,slow=38
YAK Yakutsk 23.83 344c iP P 13 26 12.2 -1.8
YAK e*PP pP 13 26 19.4 +0.2
YAK e 13 30 24.1
YAK eSS S 13 30 34.3 +5.5
YAK pmax pmax
comp=Z,49nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,38nm,1.1s
YAK pmax pmax
comp=N,44nm,1.2s
YAK pmax pmax
comp=E,23nm,1.3s
YAK Yakutsk 23.83 344 eP P 13 26 11.8 -2.3
comp=E,48nm,0.8s
CIT Chita 24.04 311 eP P 13 26 14.8 -1.4
CIT e 13 26 23.7
CIT e 13 26 51.6
CIT e 13 27 00.7
CIT pmax pmax
comp=Z,134nm,2.0s
HHC Hu-ho-hao-te 24.39 283 eP P 13 26 15.5 -4.1
HHC pP pP 13 26 22.5 -2.3
HHC sP sP 13 26 26.3 -0.7
HHC PP PnPn 13 26 50.5 +0.6
HHC S S 13 30 29.5 -8.9
HHC SS SnSn 13 31 22.5 +0.5
HHC pmax pmax
comp=Z,28nm,1.1s
HHC pmax pmax
comp=Z,230nm,5.9s
HHC LR LR
comp=Z,840nm,12.2s
HHC LR LR
comp=Z,1µm,15.1s
HHC LR LR
comp=Z,1µm,14.1s
WHN Wuhan 25.54 258 ⇓P P 13 26 30.5 +0.5
WHN S S 13 30 59.3 +2.5
WHN pmax pmax
comp=Z,200nm,1.1s
WHN LR LR
comp=Z,5µm,14.6s
WHN LR LR
comp=Z,3µm,14.3s
WHN LR LR
comp=Z,3µm,13.7s
BTO Baotou 25.58 283 eP P 13 26 30.5 +0.1
QZH Quanzhou 25.69 242 eP P 13 26 34.3 +3.0
QZH LR LR
comp=Z,1µm,19.8s
QZH LR LR
comp=Z,850nm,18.8s
QZH LR LR
comp=Z,1µm,15.9s
BOD Bodaibo 26.23 323 eP P 13 26 35.3 -0.7
BOD pmax pmax
comp=Z,32nm,1.5s
ULN Ulaanbaatar 27.37 299c iP P 13 26 47.7 +1.2
ULN pmax pmax
comp=Z,33nm,1.2s
ULN Ulaanbaatar 27.37 299 eP P 13 26 45.1 -1.4
comp=Z,41nm,1.3s
ULN Ulaanbaatar 27.37 299 P P 13 26 48.0 +1.4
SNR=20
ULN Ulaanbaatar 27.37 299 P P 13 26 48.0 +1.4
SNR=20
SONA1 Songino Array 27.81 299 eP P 13 26 50.0 -0.4
SONM Songino Array 27.81 299 P P 13 26 51.6 +1.1
comp=Z,9.4nm,0.7s,baz=98,slow=7.6,SNR=42
SONM LR LR 13 37 53.2
comp=Z,266nm,20.2s,baz=92,slow=36
XAN Xi'an 28.20 269 P P 13 26 54.8 +0.8
XAN pP sP 13 27 02.0 +0.6
XAN sP pP 13 27 05.0 +5.8
XAN pmax pmax
comp=Z,25nm,1.1s
XAN pmax pmax
comp=Z,220nm,6.0s
XAN LR LR
comp=Z,1µm,14.1s
XAN LR LR
comp=Z,1µm,14.1s
XAN LR LR
comp=Z,1µm,14.6s
H11N2 WAKE ISLAND Hy 28.29 128 T T 13 56 27.2
baz=320
H11N1 WAKE ISLAND Hy 28.30 128 T T 13 56 19.1
baz=320
H11N3 WAKE ISLAND Hy 28.31 128 T T 13 56 18.6
baz=320
H11S1 WAKE ISLAND Hy 29.11 130 T T 13 57 29.5
baz=326,slow=74
H11S3 WAKE ISLAND Hy 29.12 130 T T 13 57 29.1
baz=326
H11S2 WAKE ISLAND Hy 29.13 130 T T 13 57 22.7
baz=326,slow=74
ENH Enshi 29.36 262 eP P 13 27 03.9 -0.4
comp=Z,74nm,1.1s
IRK Irkutsk 29.64 308 eP P 13 27 06.5 0.0
IRK pmax pmax
comp=Z,44nm,3.6s
TLY Talaya 29.94 307 P P 13 27 11.2 +2.0
comp=Z,2.1nm,0.5s,baz=120,slow=11,SNR=6.8
TLY LR LR 13 38 53.2
comp=Z,154nm,20.4s,baz=92,slow=36
TLY Talaya 29.94 307 eP P 13 27 10.5 +1.3
TLY eS S 13 32 08.8 +2.9
TLY pmax pmax
comp=Z,14nm,1.3s
TLY MLR MLR
comp=Z,647nm,13.0s
TLY Talaya 29.94 307 eP P 13 27 09.4 +0.2
comp=Z,8.0nm,0.9s
TLY Talaya 29.94 307 P P 13 27 10.6 +1.4
SNR=7.8
TLY Talaya 29.94 307 P P 13 27 10.6 +1.4
SNR=7.8
ZAK Zakamensk 30.03 304 eP P 13 27 10.7 +0.6
ZAK pmax pmax
comp=Z,13nm,1.4s
BILL Bilibino 30.90 16d iP P 13 27 17.8 +0.4
BILL e 13 28 22.0
BILL eS S 13 32 17.3 -3.1
BILL pmax pmax
comp=Z,8.0nm,1.0s
LZH Lanzhou 31.40 276 eP P 13 27 24.0 +1.6
LZH pP sP 13 27 32.0 +2.2
LZH sP pP 13 27 36.0 +8.3
LZH PcP PcP 13 30 21.0 +5.3
LZH eS S 13 32 27.5 -1.8
LZH sS sS 13 32 42.5 +4.6
LZH SS SnSn 13 34 14.8 +1.5
LZH pmax pmax
comp=Z,94nm,1.3s
LZH pmax pmax
comp=Z,250nm,4.4s
LZH LR LR
comp=Z,1µm,13.6s
LZH LR LR
comp=Z,2µm,13.0s
LZH LR LR
comp=Z,2µm,13.9s
MOY Mondy 31.58 306 eP P 13 27 24.9 +1.1
TIXI Tiksi 32.79 351 ⇓iP P 13 27 34.0 0.0
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI Tiksi 32.79 351 eP P 13 27 32.3 -1.7
comp=Z,3.1nm,0.8s
GYA Guiyang 33.43 258⇑iP P 13 27 39.8 -0.5
GYA pP sP 13 27 49.5 +1.8
GYA PP PnPn 13 28 53.0 +1.7
GYA PcP PcP 13 30 23.3 +1.9
GYA S S 13 32 59.5 -1.5
GYA sS sS 13 33 12.0 +2.3
GYA SS SnSn 13 35 01.5 -1.4
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=Z,460nm,16.6s
GYA LR LR
comp=Z,430nm,17.0s
GYA LR LR
comp=Z,410nm,17.4s
CD2 Chengdu 33.46 267 eP P 13 27 38.5 -1.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
GTA Gaotai 33.49 284 P P 13 27 41.5 +0.8
GTA pP sP 13 27 49.3 +1.2
GTA sP pP 13 27 52.5 +6.5
GTA PcP PcP 13 30 22.5 +1.1
GTA S S 13 32 58.5 -3.3
GTA sS sS 13 33 13.0 +2.5
GTA SS SnSn 13 35 00.5 -3.5
GTA pmax pmax
comp=Z,36nm,1.2s
GTA pmax pmax
comp=Z,170nm,6.4s
GTA LR LR
comp=Z,440nm,15.2s
GTA LR LR
comp=Z,1µm,15.4s
GTA LR LR
comp=Z,1µm,16.4s
KNGR Kungurtug, Tuv 33.72 304⇓iP P 13 27 43.8 +1.3
QIZ Qiongzhong 35.65 244 P P 13 27 59.5 +0.1
QIZ S S 13 33 36.0 +0.9
QIZ LR LR
comp=Z,1µm,14.1s
QIZ LR LR
comp=Z,950nm,11.8s
QIZ LR LR
comp=Z,750nm,15.2s
HVS Khovu-Aksy 36.13 305d iP P 13 28 01.5 -1.8
HVS pmax pmax
comp=Z,10.0nm,0.5s
DAV Davao City (W) 36.38 211 LR LR 13 40 21.4
comp=Z,355nm,21.1s,baz=67,slow=32
KMI Kunming 37.12 259 P P 13 28 12.3 +0.1
KMI pP sP 13 28 20.3 +0.7
KMI PP PP 13 29 36.8 0.0
KMI S S 13 34 00.5 +2.5
KMI pmax pmax
comp=Z,21nm,1.2s
KMI LR LR
comp=Z,1µm,15.9s
KMI LR LR
comp=Z,560nm,15.9s
KMI LR LR
comp=Z,960nm,13.7s
WMQ Urumqi 41.20 294 P P 13 28 46.8 +0.9
WMQ pP sP 13 28 55.3 +1.9
WMQ S S 13 35 00.0 +1.4
WMQ SS SS 13 37 57.5 -4.0
WMQ pmax pmax
comp=Z,67nm,1.3s
WMQ pmax pmax
comp=Z,560nm,3.7s
WMQ LR LR
comp=Z,1µm,15.1s
WMQ LR LR
comp=Z,2µm,15.1s
WMQ LR LR
comp=Z,1µm,17.7s
MYLDM Lahad Datu 41.23 220 eP P 13 28 44.1 -2.1
comp=Z,34nm,1.1s
ZAA0 Zalesovo Array 41.39 310 eP P 13 28 46.7 -0.5
comp=Z,31nm,1.4s
ZALV Zalesovo Beam 41.39 310 P P 13 28 48.1 +0.9
comp=Z,9.2nm,0.5s,baz=96,slow=7.8,SNR=44
ZALV PcP PcP 13 30 45.3 +0.2
comp=Z,2.7nm,0.5s,baz=78,slow=3.6,SNR=5.1
ZALV Zalesovo Beam 41.39 310 eP P 13 28 47.0 -0.2
ZALV 13 30 45.3
ZALV Zalesovo Beam 41.39 310 eP P 13 28 47.0 -0.2
ZALV PcP PcP 13 30 45.3 +0.2
NVS Novosibirsk 42.24 312 eP P 13 28 54.9 +0.8
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,18nm,1.5s
NVS pmax pmax
comp=Z,20nm,1.5s
CMAI Chiengmai2 42.90 256 P P 13 29 01.1 +1.0
comp=Z,88nm,0.7s
CHAI Chaiyaphum 43.30 249 P P 13 29 03.4 +0.2
comp=Z,6.4nm,1.0s
LAMP Lampang 43.33 254 P P 13 29 04.9 +1.5
comp=Z,4.4nm,1.1s
IM3 Indian Mountai 43.40 32 eP P 13 29 04.5 +1.1
PHIT Phitsanulok 43.60 252 P P 13 29 07.3 +1.7
comp=Z,10nm,1.0s,comp=Z,177nm
CMMT Chiang Mai 43.66 255 P P 13 29 05.4 -0.7
comp=Z,10nm,2.1s
CHTO Chiang Mai 43.66 255 P P 13 29 06.5 +0.4
comp=Z,45nm,1.3s
CHTO Chiang Mai 43.66 255 eP P 13 29 05.9 -0.2
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 43.66 255 eP P 13 29 05.9 -0.2
comp=Z,8.4nm,0.9s
LSA Lhasa 43.72 273 P P 13 29 08.8 +1.8
LSA Lhasa 43.72 273 eP P 13 29 05.7 -1.3
LSA pmax pmax
comp=Z,36nm,1.5s
LSA Lhasa 43.72 273 eP P 13 29 05.7 -1.3
comp=Z,36nm,1.5s
CMAR Chiang Mai Arr 43.88 254 P P 13 29 08.8 +1.0
comp=Z,1.7nm,0.4s,baz=49,slow=6.4,SNR=15
CMAR LR LR 13 47 52.8
comp=Z,292nm,18.0s,baz=68,slow=37
CMAR Chiang Mai Arr 43.88 254 iP P 13 29 08.8 +1.0
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CM01 Chiang Mai Arr 43.89 254 eP P 13 29 07.7 -0.2
MK01 Makanchi Array 44.17 300 eP P 13 29 09.9 0.0
MK31 Makanchi Array 44.17 300 iP P 13 29 10.0 +0.1
MK31 pmax pmax
comp=Z,38nm,1.3s
MK31 Makanchi Array 44.17 300 eP P 13 29 10.0 +0.1
MKAR Makanchi Array 44.17 300 P P 13 29 10.4 +0.5
comp=Z,11nm,0.9s,baz=84,slow=8.9,SNR=75
MKAR LR LR 13 47 00.3
comp=Z,259nm,20.4s,baz=354,slow=35
MKAR Makanchi Array 44.17 300 iP P 13 29 10.3 +0.4
MKAR pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 44.17 300 eP P 13 29 10.0 +0.1
comp=Z,124nm,1.3s
MAKZ Makanchi 44.38 300 eP P 13 29 11.3 -0.3
MAKZ pmax pmax
comp=Z,18nm,1.0s
MAKZ Makanchi 44.38 300 eP P 13 29 11.3 -0.3
comp=Z,18nm,1.0s
KTH Kantishna Hill 44.50 36 eP P 13 29 12.4 0.0
comp=Z,19nm,1.3s
SRAK Srakaew 44.53 247 P P 13 29 10.8 -2.2
comp=Z,46nm,1.1s
NAYO Nakonayok 44.83 248 P P 13 29 16.8 +1.3
comp=Z,7.6nm,1.5s,comp=Z,1µm
COLD Coldfoot 44.91 30 eP P 13 29 15.4 0.0
comp=Z,8.3nm,1.3s
SHL Shillong 45.20 268 eP P 13 29 20.0 +1.5
TOLK Toolik Lake Re 45.23 28 eP P 13 29 19.5 +1.4
comp=Z,32nm,1.7s
KURK Kurchatov 45.64 306c iP P 13 29 21.8 +0.3
KURK pmax pmax
comp=Z,41nm,1.2s
KURK Kurchatov 45.64 306 eP P 13 29 21.6 +0.2
comp=Z,26nm,0.8s
KURK Kurchatov 45.64 306 P P 13 29 22.2 +0.7
SNR=19
KURK Kurchatov 45.64 306 P P 13 29 22.2 +0.7
SNR=19
MDM Murphy Dome 45.67 34 eP P 13 29 23.0 +1.4
comp=Z,18nm,1.4s
KURBB Kurchatov Arra 45.71 306 P P 13 29 22.5 +0.4
comp=Z,21nm,0.9s,baz=80,slow=8.6,SNR=86
IL1 Eielson Array 46.25 34 eP P 13 29 26.3 +0.2
ILAR Eielson Array 46.25 34 P P 13 29 26.8 +0.7
comp=Z,0.8nm,0.6s,baz=260,slow=6.5,SNR=21
ILB Eielson Array 46.25 34 eP P 13 29 26.4 +0.3
FYU Fort Yukon 46.86 31 eP P 13 29 32.6 +1.8
comp=Z,69nm,1.8s
PHET Kaeng Krachan 46.99 248 P P 13 29 34.3 +1.8
comp=Z,7.6nm,1.1s
PDGK Podgornoye 47.05 296 iP P 13 29 33.0 +0.1
PDGK pmax pmax
comp=Z,14nm,1.0s
TAPN Taplejung 47.50 273 eP P 13 29 37.5 +0.7
comp=Z,68nm,1.3s
SCRK Sand Creek 47.56 35 eP P 13 29 37.0 +0.5
comp=Z,9.7nm,1.2s
ODAN Odare 47.99 272 eP P 13 29 41.3 +0.8
comp=Z,30nm,0.7s
JIRN Jiri 48.52 274 eP P 13 29 45.5 +0.8
comp=Z,43nm,0.7s
RAMN Ramite 48.56 273 eP P 13 29 45.5 +0.6
comp=Z,111nm,1.1s
GUN Gumba 48.63 274 eP P 13 29 46.3 +0.7
comp=Z,73nm,0.5s
EGAK Eagle 48.69 33 eP P 13 29 45.0 -0.1
comp=Z,13nm,1.3s
KKN Kakani 49.15 275 eP P 13 29 49.9 +0.5
comp=Z,58nm,0.6s
PKI Pulchoki 49.16 274 eP P 13 29 49.9 +0.3
comp=Z,46nm,1.1s
PKIN Phulchoki 49.17 274 eP P 13 29 49.9 +0.3
comp=Z,18nm,0.7s
DMN Daman 49.37 275 eP P 13 29 51.5 +0.3
comp=Z,44nm,1.1s
GKN Gorkha 49.54 275 eP P 13 29 52.9 +0.6
comp=Z,35nm,0.8s
TKM2 Tokmak 2 49.87 297 iP P 13 29 55.5 +0.8
TKM2 pmax pmax
comp=Z,40nm,1.1s
TKM2 Tokmak 2 49.87 297 P P 13 29 55.8 +1.0
SNR=37
BVAR Borovoye Array 50.03 311 P P 13 29 56.3 +0.8
comp=Z,5.5nm,0.6s,baz=72,slow=8.2,SNR=37
BVAR LR LR 13 52 18.1
comp=Z,347nm,20.0s,baz=304,slow=38
DANN Dangsing 50.04 276 eP P 13 29 57.2 +0.9
comp=Z,3.8nm,0.7s
BRVK Borovoye 50.08 311c iP P 13 29 56.7 +0.8
BRVK pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye 50.08 311 eP P 13 29 56.4 +0.5
comp=Z,12nm,0.9s
BRVK Borovoye 50.08 311 P P 13 29 57.2 +1.3
SNR=6.9
BRVK Borovoye 50.08 311 P P 13 29 57.2 +1.3
SNR=6.9
KBK Karagaybulak 50.41 297 P P 13 29 59.7 +0.9
SNR=23
KZA Kyzart 50.42 296 P P 13 30 00.7 +1.6
SNR=10
KOLN Koldanda 50.45 276 eP P 13 30 00.0 +0.7
comp=Z,15nm,0.5s
FRU Bishkek 50.58 297⇓iP P 13 30 00.0 +0.2
FRU i 13 30 10.0
FRU pmax pmax
comp=Z,80nm,2.2s
AAK Ala-Archa 50.73 297 P P 13 30 01.7 +0.6
comp=Z,3.9nm,0.8s,baz=100,slow=8.6
AAK Ala-Archa 50.73 297 iP P 13 30 01.3 +0.1
AAK pmax pmax
comp=Z,10.0nm,1.1s
AAK Ala-Archa 50.73 297 P P 13 30 01.8 +0.6
SNR=6.9
AAK Ala-Archa 50.73 297 eP P 13 30 01.3 +0.1
comp=Z,6.8nm,0.6s
AAK Ala-Archa 50.73 297 P P 13 30 02.0 +0.8
SNR=7.4
AAK Ala-Archa 50.73 297 P P 13 30 02.0 +0.8
SNR=7.4
PYUN Piuthan 50.75 276 eP P 13 30 02.2 +0.6
comp=Z,223nm,1.5s
UCH Uchtor 50.87 297 P P 13 30 04.0 +1.4
SNR=5.6
KSH Kashi 50.89 293 P P 13 30 06.0 +3.6
KSH sP sP 13 30 17.5 +7.6
KSH PcP PcP 13 31 20.8 +2.0
KSH S S 13 37 20.0 +1.9
KSH sS sS 13 37 33.0 +6.0
KSH SS SS 13 40 53.0 +0.5
KSH pmax pmax
comp=Z,26nm,1.5s
KSH pmax pmax
comp=Z,160nm,6.3s
KSH LR LR
comp=Z,350nm,14.3s
KSH LR LR
comp=Z,220nm,9.9s
KSH LR LR
comp=Z,740nm,15.6s
HYT Haines Junctio 51.06 38 eP P 13 30 04.5 +1.1
comp=Z,12nm,1.0s
INK Inuvik 51.15 28 eP P 13 30 04.9 +1.2
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 51.15 28 eP P 13 30 04.9 +1.2
comp=Z,4.4nm,0.7s
EKS2 Erkin-Say 51.22 297 P P 13 30 05.5 +0.7
SNR=6.1
HNR Honiara 51.27 159 LR LR 13 47 54.2
comp=Z,160nm,21.8s,baz=216,slow=32
HNR Honiara 51.27 159 eP P 13 30 07.0 +1.9
HNR pmax pmax
comp=Z,58nm,0.6s
HNR Honiara 51.27 159 eP P 13 30 07.0 +1.9
comp=Z,58nm,0.6s
PKDT Phuket 51.38 244 P P 13 30 06.8 +0.7
comp=Z,13nm,1.1s
AML Almayashu 51.47 297 P P 13 30 08.2 +1.2
SNR=20
MNAS Manas 52.15 298 iP P 13 30 12.5 +0.7
MNAS pmax pmax
comp=Z,19nm,0.9s
BATI Baumata 53.08 205 LR LR 13 51 31.9
comp=Z,284nm,21.7s,baz=178,slow=35
KK31 Karatay Array 53.26 299 iP P 13 30 19.6 -0.2
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 53.26 299 eP P 13 30 19.6 -0.2
KKAR Karatay Array 53.26 299 eP P 13 30 19.6 -0.2
MTN Manton Dam 53.64 195 eP P 13 30 22.0 -0.7
comp=Z,7.4nm,0.8s
SVE Sverdlovsk 54.24 318⇑eP P 13 30 28.4 +1.7
SVE pmax pmax
comp=Z,36nm,1.1s
SVE MLR MLR
comp=Z,2µm,15.0s
SOKR Solikamsk 55.20 322 eP P 13 30 43.1 +9.5
SOKR pmax pmax
comp=Z,24nm,1.5s
SOKR MLR MLR
comp=Z,601nm,16.0s
ARU Arti 55.46 318c iP P 13 30 36.2 +0.7
ARU 13 31 32.4
ARU 13 32 36.9
ARU S S 13 38 22.9 +3.5
ARU SS SS 13 42 05.9 +2.3
ARU pmax pmax
comp=Z,52nm,1.7s
ARU MLR MLR
comp=Z,2µm,16.0s
ARU Arti 55.46 318 eP P 13 30 35.5 0.0
comp=Z,40nm,1.2s
GSI Gunungsitoli 56.69 239 eP P 13 30 45.3 +0.4
comp=Z,34nm,1.2s
ABKAR Akbulak array 57.50 309 eP P 13 30 50.5 +0.3
comp=Z,79nm,0.6s
KBL Kabul 58.05 290 eP P 13 30 54.2 -0.4
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 58.05 290 eP P 13 30 54.1 -0.4
comp=Z,9.4nm,0.8s
AKTO Aktyubinsk 58.13 311 P P 13 30 54.9 +0.3
comp=Z,6.2nm,0.9s,baz=67,slow=12,SNR=11
SPITS Spitsbergen Ar 58.15 349 LR LR 13 59 20.8
comp=Z,412nm,18.1s,baz=35,slow=40
RES Resolute Bay 59.50 15 eP P 13 31 04.2 +0.5

RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 59.50 15 *eP* **P 13 31 04.2 +0.5**
comp=Z,8.3nm,0.8s
FITZ Fitzroy Crossi 59.99 200 *eP* **P 13 31 06.7 -1.0**
HYB Hyderabad 60.01 268 *i* P **P 13 31 07.0 -1.1**
WRAB Tennant Creek 60.04 190⇑ *iP* **P 13 31 07.2 -0.9**
WRAB pmax pmax
comp=Z,19nm,1.8s
WRAB Tennant Creek 60.04 190 *eP* **P 13 31 06.9 -1.1**
comp=Z,12nm,1.1s
WRA Warramunga Arr 60.05 190 P **P 13 31 06.8 -1.3**
comp=Z,6.2nm,0.6s,baz=7.8,slow=6.9,SNR=130
YKA Yellowknife Ar 60.56 31 P **P 13 31 12.0 +0.8**
comp=Z,0.9nm,0.6s,baz=300,slow=6.5,SNR=24
YKA Yellowknife Ar 60.56 31 P **P 13 31 12.0 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.6s
TMCR Tamitsa 61.16 331 *eP* **P 13 31 15.6 +0.4**
ARCES ARCESS Array B 62.02 339 P **P 13 31 21.1 0.0**
comp=Z,3.4nm,0.9s,baz=39,slow=7.8,SNR=7.9
ARCES LR LR 14 01 08.7
comp=Z,347nm,20.2s,baz=27,slow=39
KLMR Klimovskoe 62.35 328 *eP* **P 13 31 20.3 -3.0**
KLMR *e* 13 33 36.3
KLMR pmax pmax
comp=Z,20nm,1.3s
KLMR Klimovskoe 62.35 328 *eP* **P 13 31 20.3 -3.0**
KLMR AMP 13 31 24.9
comp=Z,20nm,1.3s
KLMR *ePP* **PP 13 33 36.4 -3.6**
KLMR LQ LQ 13 54 58.2
KLMR LQ LQ 13 54 58.2
KLMR LR LR 13 58 13.0
AS01 Alice Springs 63.77 190 *eP* **P 13 31 31.8 -1.3**
AS31 Alice Springs 63.77 190 *eP* **P 13 31 32.0 -1.2**
comp=Z,2.7nm,1.4s
ASAR Alice Springs 63.78 190 P **P 13 31 32.5 -0.7**
comp=Z,2.2nm,0.7s,baz=6.2,slow=5.6,SNR=55
GEYT Alibeck 64.02 299 P **P 13 31 35.1 +0.3**
comp=Z,4.1nm,1.0s,baz=23,slow=5.0,SNR=8.6
GEYT LR LR 14 01 52.2
comp=Z,166nm,20.8s,baz=45,slow=38
MBWA Marble Bar 64.61 205 *eP* **P 13 31 37.6 -1.0**
MOS Moscow 66.06 323 *eP* **P 13 31 47.2 -0.5**
MOS MLR MLR
comp=Z,800nm,15.0s
VRH Novokhopyorsk 66.69 318 *eP* **P 13 31 51.2 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 66.92 323⇑ *eP* **P 13 31 53.6 +0.4**
OBN *e* 13 32 23.0
OBN *e* 13 34 21.7
OBN *eS* **S 13 40 52.3 +7.2**
OBN pmax pmax
comp=Z,44nm,1.9s
OBN MLR MLR
comp=Z,998nm,16.0s
FIA1 FINESS Array S 67.17 332 *eP* **P 13 31 54.6 -0.1**
FINES FINESS Array B 67.17 332 P **P 13 31 55.3 +0.6**
comp=Z,6.3nm,0.7s,baz=47,slow=7.4,SNR=17
FINES LR LR 14 04 29.2
comp=Z,807nm,18.3s,baz=31,slow=39
LPSR Galich'ya Gora 67.29 320 *eP* **P 13 31 55.1 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
AFI Afiamalu 67.65 132 LR LR 14 03 04.6
comp=Z,101nm,18.1s,baz=207,slow=37
SUMG Summit 67.92 1 *eP* **P 13 32 00.5 +0.7**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 67.92 1 *eP* **P 13 32 00.5 +0.7**
comp=Z,8.9nm,0.9s
VSR Storozhevoye 67.99 319 *eP* **P 13 31 59.3 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.2s
BMO Blue Mountains 68.81 49 *eP* **P 13 32 06.5 +1.0**
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 68.81 49 *eP* **P 13 32 06.5 +1.0**
comp=Z,4.4nm,1.0s
JTMT Jette 68.82 45 *eP* **P 13 32 06.8 +1.2**
comp=Z,7.1nm,1.0s
VSU Vasula 68.94 330⇓ *iP* **P 13 32 06.8 +0.9**
VSU pmax pmax
comp=Z,61nm,1.0s
GOF Gofitskoye 69.54 312⇑ *eP* **P 13 32 10.0 +0.2**
GOF pmax pmax
comp=Z,64nm,1.3s
BEKR Beckworth 69.84 55 *eP* **P 13 32 12.1 0.0**
comp=Z,34nm,1.9s
NCK Nalchik 70.14 310⇓ *iP* **P 13 32 15.1 +1.5**
NCK pmax pmax
comp=Z,10.0nm,0.4s
KVAR Kislovodsk Arr 70.39 311 P **P 13 32 16.3 +1.0**
comp=Z,30nm,1.0s,baz=232,slow=7.5,SNR=11
KIV Kislovodsk 70.39 311 *eP* **P 13 32 16.7 +1.4**
KIV pmax pmax
comp=Z,56nm,1.0s
KIV Kislovodsk 70.39 311 *eP* **P 13 32 16.2 +1.0**
comp=Z,76nm,1.2s
KIV Kislovodsk 70.39 311 P **P 13 32 17.6 +2.3**
SNR=7.0
KIV Kislovodsk 70.39 311 P **P 13 32 17.6 +2.3**
SNR=7.0
KBZ Khabaz 70.41 311 P **P 13 32 16.3 +1.1**
comp=Z,15nm,1.0s,baz=61,slow=2.6,SNR=13
FFC Flin Flon 70.46 34 *eP* **P 13 32 15.7 +0.4**
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 70.46 34 *eP* **P 13 32 15.7 +0.4**
comp=Z,8.0nm,1.0s
FCC Fort Churchill 70.76 28 *eP* **P 13 32 17.3 +0.2**
FCC pmax pmax
comp=Z,38nm,2.0s
FCC Fort Churchill 70.76 28 *eP* **P 13 32 17.3 +0.2**
comp=Z,38nm,2.0s
HRY Holter Researc 70.78 45 *eP* **P 13 32 17.4 -0.2**
NEY Neytrino 70.80 311⇑ *eP* **P 13 32 17.6 -0.2**
NEY pmax pmax
comp=Z,2.0nm,1.0s
LRM Limekiln Ridge 70.98 46 *eP* **P 13 32 19.3 +0.3**
IZAR Zarasai 71.00 328 *eP* **P 13 32 19.5 +0.9**
IZAR IAmb IAmb 13 32 24.3
comp=Z,14nm,0.5s
YERR Yerington 71.06 55 *eP* **P 13 32 20.2 +0.7**
comp=Z,7.6nm,0.9s
IDID Didziasalis 71.09 327 *eP* **P 13 32 20.0 +0.9**
IDID IAmb IAmb 13 32 21.4
comp=Z,10.0nm,0.9s
ISAL Salakas 71.17 328 *eP* **P 13 32 20.6 +1.0**
ISAL IAmb IAmb 13 32 22.1
comp=Z,19nm,1.2s
HLID Hailey 71.25 49 *eP* **P 13 32 21.5 +0.9**
comp=Z,6.9nm,1.4s
IIGN Ignalina 71.28 328 *eP* **P 13 32 21.6 +1.3**
IIGN IAmb IAmb 13 32 22.8
comp=Z,13nm,1.1s
STKA Stephens Creek 71.33 182 P **P 13 32 20.5 -0.2**
comp=Z,2.6nm,0.5s,baz=345,slow=6.6,SNR=16
STKA Stephens Creek 71.33 182 *eP* **P 13 32 20.3 -0.4**
STKA pmax pmax
comp=Z,3.0nm,1.7s
STKA Stephens Creek 71.33 182 *eP* **P 13 32 20.3 -0.4**
comp=Z,3.0nm,1.7s
BOZ Bozeman (W) 71.57 46 *eP* **P 13 32 22.8 +0.3**
BOZ pmax pmax
comp=Z,10.0nm,1.3s
BOZ Bozeman (W) 71.57 46 *eP* **P 13 32 22.8 +0.3**
comp=Z,10nm,1.3s
NV01 Mina Array Sit 71.97 55 *eP* **P 13 32 24.3 -0.8**
NVAR Mina Array Bea 71.97 55 P **P 13 32 26.1 +1.0**
comp=Z,4.3nm,0.9s,baz=294,slow=6.8,SNR=13
NC204 NORSAR Array S 72.24 338 *eP* **P 13 32 26.0 -0.1**
HFS Hagfors 72.27 336 P **P 13 32 26.4 +0.2**
comp=Z,5.8nm,0.8s,baz=64,slow=6.8,SNR=7.4
HFS LR LR 14 07 37.3
comp=Z,504nm,18.4s,baz=32,slow=39
NB2 NORSAR Subarra 72.30 338 P **P 13 32 26.5 +0.1**
comp=Z,9.7nm,0.9s,baz=40,slow=5.9
NOA NORSAR Array B 72.30 338 P **P 13 32 26.8 +0.4**
comp=Z,6.1nm,0.9s,baz=37,slow=6.0,SNR=11
NOA LR LR 14 08 27.1
comp=Z,356nm,18.4s,baz=25,slow=39
NBO02 NORSAR Array S 72.39 338 *eP* **P 13 32 25.4 -1.5**
UOSS Minazif 72.60 288 *eP* **P 13 32 28.1 -0.6**

comp=Z,12nm,1.1s
ANN Anapa 72.85 314 *eP* **P 13 32 26.2 -3.7**
ANN *e**PP **pP 13 32 33.8 -1.7**
ANN *eS* **S 13 41 50.2 -4.9**
ANN *eSS* **SS 13 46 32.2 -2.2**
ANN pmax pmax
comp=Z,34nm,1.0s
H17A Grant Village 72.91 46 P **P 13 32 31.0 +0.4**
comp=Z,7.4nm,0.9s
IMW Indian Meadow 73.02 47 *eP* **P 13 32 32.2 +0.9**
comp=Z,7.1nm,1.1s
FXWY Fox Creek 73.13 47 *eP* **P 13 32 32.8 +0.9**
comp=Z,4.9nm,1.1s
AKASG Malin Array Be 73.16 323 P **P 13 32 31.7 +0.1**
comp=Z,3.6nm,0.5s,baz=45,slow=6.4,SNR=27
AKASG LR LR 14 06 55.0
comp=Z,132nm,20.3s,baz=35,slow=38
AKBB Malin Array Si 73.16 323 *eP* **P 13 32 31.1 -0.5**
AKBB pmax pmax
comp=Z,10.0nm,1.0s
AKBB Malin Array Si 73.16 323 *eP* **P 13 32 31.1 -0.5**
comp=Z,10.0nm,1.0s
KIEV Kiev 73.17 323 *c iP* **P 13 32 31.8 +0.1**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 73.17 323 *eP* **P 13 32 31.1 -0.5**
comp=Z,9.9nm,1.0s
HVU Hansel Valley 73.29 49 *eP* **P 13 32 34.3 +1.5**
HVU pmax pmax
comp=Z,4.0nm,0.9s
HVU Hansel Valley 73.29 49 *eP* **P 13 32 34.3 +1.5**
comp=Z,3.6nm,0.9s
R11A Troy Canyon, C 73.72 54 *eP* **P 13 32 36.3 +0.9**
comp=Z,5.2nm,1.1s
DUG Dugway, Tooele 74.26 51 *eP* **P 13 32 39.3 +0.8**
DUG pmax pmax
comp=Z,7.0nm,1.3s
DUG Dugway, Tooele 74.26 51 *eP* **P 13 32 39.2 +0.8**
comp=Z,1.1nm,1.3s
PD31 Pinedale Array 74.52 47 *eP* **P 13 32 40.6 +0.5**
PDAR Pinedale Array 74.52 47 P **P 13 32 40.8 +0.7**
comp=Z,1.2nm,0.6s,baz=254,slow=1.4,SNR=14
PDAR Pinedale Array 74.52 47 *eP* **P 13 32 40.2 +0.2**
SIM Simferopol' 74.56 316 P **P 13 32 40.0 +0.1**
SIM pmax pmax
comp=Z,11nm,0.8s
BORG Borgarnes 75.12 353 LR LR 14 06 30.5
comp=Z,91nm,19.4s,baz=216,slow=36
CCUT Cedar City 75.59 53 *eP* **P 13 32 46.7 +0.3**
comp=Z,6.9nm,1.2s
MSU Marysvale 75.71 52 *eP* **P 13 32 47.4 +0.4**
MSU pmax pmax
comp=Z,2.0nm,1.7s
MSU Marysvale 75.71 52 *eP* **P 13 32 47.4 +0.4**
comp=Z,1.9nm,1.7s
P17A Butcher Ranch, 75.95 50 *eP* **P 13 32 49.1 +0.9**
comp=Z,10.0nm,1.2s
MTPU Mount Pierson 76.00 52 *eP* **P 13 32 48.5 -0.4**
comp=Z,35nm,1.9s
LCMT Little Creek M 76.01 53 *eP* **P 13 32 49.1 +0.5**
comp=Z,7.6nm,1.1s
ULM Lac du Bonnet 76.26 35 P **P 13 32 49.9 +0.3**
comp=Z,1.5nm,0.7s,baz=108,slow=2.4,SNR=3.2
SRU San Rafael Swe 76.31 50 *eP* **P 13 32 49.5 -0.9**
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael Swe 76.31 50 *eP* **P 13 32 49.5 -0.9**
comp=Z,4.8nm,0.9s
KWP Kalwaria Pacla 76.88 325 *eP* **P 13 32 54.8 +1.7**
KWP Kalwaria Pacla 76.88 325 *eP* **P 13 32 54.8 +1.7**
U15A North Rim 76.97 53 *eP* **P 13 32 53.9 -0.3**
comp=Z,9.9nm,1.3s
BUR08 Bucovina Ar. S 77.19 322 *eP* **P 13 32 55.2 +0.2**
BUR04 Bucovina Ar. S 77.20 322 *eP* **P 13 32 55.3 +0.2**
PV10 Paradox Valley 77.67 50 *eP* **P 13 33 00.0 +1.9**
OJC Ojcow 77.69 327 *eP* **P 13 32 58.7 +1.0**
OJC Ojcow 77.69 327 *eP* **P 13 32 57.5 -0.2**
OJC pmax pmax
comp=Z,26nm,1.1s
OJC Ojcow 77.69 327 *eP* **P 13 32 57.5 -0.2**
comp=Z,26nm,1.1s
UZH Uzhgorod 77.80 325 *eP* **P 13 32 56.4 -1.9**
UZH *e* 13 32 59.6
UZH *e* 13 33 04.8
NIE Niedzica 78.08 326 *eP* **P 13 33 01.8 +1.9**
NIE Niedzica 78.08 326 *eP* **P 13 33 01.8 +1.9**
WUAZ Wupatki 78.12 54 *eP* **P 13 33 01.2 +0.6**
comp=Z,4.3nm,0.8s
BRTR Keskin Array B 78.29 312 P **P 13 33 01.8 +0.3**
comp=Z,2.0nm,0.9s,baz=64,slow=3.4,SNR=3.9
BRTR LR LR 14 14 27.5
comp=Z,116nm,18.7s,baz=16,slow=41
MLR Muntele Rosu 78.37 320 LR LR 14 11 00.6
comp=Z,84nm,19.0s,baz=9.5,slow=38
OKC Ostrava-Krasne 78.67 327 AMS AMS 14 10 50.0
comp=Z,400nm,15.6s
X16A Lo Mia Camp, P 78.80 55 *eP* **P 13 33 04.9 +0.6**
comp=Z,3.3nm,0.9s
MORC Moravsky Berou 78.97 328 *eP* **P 13 33 05.0 +0.2**
MORC pmax pmax
comp=Z,48nm,1.1s
MORC Moravsky Berou 78.97 328 *eP* **P 13 33 05.0 +0.2**
comp=Z,48nm,1.1s
DPC Dobruska-Polom 79.02 329 *eP* **P 13 33 06.2 +1.1**
DPC *e* 13 33 13.0
DPC MLR MLR
comp=Z,600nm,14.5s
DPC Dobruska-Polom 79.02 329 *eP* **P 13 33 06.2 +1.1**
DPC *epP* **sP 13 33 13.0 +0.2**
DPC AMS AMS 14 13 10.0
comp=Z,600nm,14.5s
UPC Upice 79.02 329 AMS AMS 14 13 20.0
comp=Z,800nm,14.1s
PSZ Piszkesteto 79.39 325 *eP* **P 13 33 07.6 +0.4**
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ Piszkesteto 79.39 325 *eP* **P 13 33 07.6 +0.4**
comp=Z,12nm,1.0s
S22A 4UR Ranch, Cre 79.39 49 *eP* **P 13 33 08.7 +1.0**
comp=Z,6.6nm,1.2s
VYHS Vyhne 79.41 326 *eP* **P 13 33 08.4 +1.2**
VYHS pmax pmax
comp=Z,5.0nm,1.2s
VYHS Vyhne 79.41 326 *eP* **P 13 33 08.4 +1.2**
BRG Berggiesshubel 79.53 330 *eP* **P 13 33 08.5 +0.7**
comp=Z,7.8nm,1.4s
BRG Berggiesshubel 79.53 330 *eP* **P 13 33 08.5 +0.7**
BRG pmax pmax
comp=Z,8.0nm,1.4s
CLL Collm 79.54 331⇑ *iP* **P 13 33 08.1 +0.3**
CLL pmax pmax
comp=Z,11nm,1.1s
CLL MLR MLR
comp=Z,400nm,18.3s
CLL Collm 79.54 331⇑ *iP* **P 13 33 08.1 +0.3**
comp=Z,11nm,1.1s
CLL LmH 14 06 00.0
comp=N,600nm,19.1s
CLL LmH 14 06 00.0
comp=E,800nm,19.8s
CLL LmV 14 14 00.0
comp=Z,400nm,18.3s
PVCC Panska Ves 79.57 330 AMS AMS 14 12 30.0
comp=Z,600nm,18.8s
VRAC Vranov 79.72 328 P **P 13 33 09.2 +0.3**
comp=Z,4.2nm,0.5s,baz=48,slow=5.1,SNR=9.2
GOPC GO Pecny, Ondr 79.97 329 AMS AMS 14 11 50.0
comp=Z,500nm,17.0s
PRU Pruhonice 80.01 329 *eP* **P 13 33 10.4 0.0**
PRU MLR MLR
comp=Z,600nm,16.9s
PRU Pruhonice 80.01 329 *eP* **P 13 33 10.4 0.0**
PRU AMS AMS 14 12 00.0
comp=Z,600nm,16.9s
TREC Trest 80.18 328 AMS AMS 14 14 20.0
comp=Z,500nm,16.1s
RAR Rarotonga 80.43 128 LR LR 14 02 58.5
comp=Z,148nm,21.8s,baz=296,slow=31
NKC Novy Kostel 80.62 331 AMS AMS 14 15 10.0
comp=Z,600nm,16.2s
KHC Kasperske Hory 81.07 329 *eP* **P 13 33 16.6 +0.4**
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 81.07 329 *eP* **P 13 33 17.3 +1.1**
KHC *epP* **sP 13 33 25.7 +1.8**
KHC AMS AMS 14 12 40.0

comp=Z,700nm,18.1s
KHC Kasperske Hory 81.07 329 *eP* **P 13 33 16.6 +0.4**
comp=Z,2.3nm,0.8s
EKA Eskdalemuir Ar 81.09 342 P **P 13 33 16.9 +0.9**
comp=Z,0.3nm,0.4s,baz=24,slow=5.5,SNR=4.8
EKA LR LR 14 13 28.4
comp=Z,155nm,18.9s,baz=220,slow=39
EKA Eskdalemuir Ar 81.09 342 P **P 13 33 17.0 +0.9**
EKA pmax pmax
comp=Z,1.0nm,0.6s
EKA MLR MLR
comp=Z,155nm,18.9s
CONA Conrad Observa 81.11 327 P **P 13 33 17.6 +1.2**
comp=Z,9.4nm,1.4s
RAYN Ar Rayn 81.18 293 *eP* **P 13 33 16.8 -0.4**
comp=Z,7.7nm,1.1s
GERES GERESS Array B 81.25 329 P **P 13 33 18.0 +0.8**
comp=Z,1.2nm,0.6s,baz=22,slow=7.6,SNR=9.0
GERES LR LR 14 13 14.5
comp=Z,448nm,18.4s,baz=12,slow=38
GERES GERESS Array B 81.25 329 P **P 13 33 18.0 +0.8**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,448nm,18.4s
GEA0 GERESS Array S 81.26 329 *eP* **P 13 33 16.4 -0.9**
LAZ Ladron 81.46 52 P **P 13 33 20.0 +1.2**
comp=Z,2.3nm,1.3s
ANMO Albuquerque 81.51 51⇓ *iP* **P 13 33 20.4 +1.4**
ANMO pmax pmax
comp=Z,5.0nm,1.5s
ANMO Albuquerque 81.51 51 *eP* **P 13 33 20.1 +1.2**
comp=Z,8.8nm,1.4s
ARSA Arzberg 81.78 327 *eP* **P 13 33 19.4 -0.6**
comp=Z,1.3nm,0.5s
VTS Vitosha 81.84 320 *eP* **P 13 33 21.0 +0.5**
VTS pmax pmax
comp=Z,7.0nm,0.9s
VTS Vitosha 81.84 320 *eP* **P 13 33 21.0 +0.5**
comp=Z,6.6nm,0.9s
SCHQ Schefferville 82.20 17 LR LR 14 15 30.6
comp=Z,155nm,18.0s,baz=2.5,slow=40
DIVS Divibare 82.25 323 *eP* **P 13 33 22.7 +0.1**
comp=Z,31nm,2.0s
SOKA Soboth 82.44 327 P **P 13 33 24.3 +0.8**
comp=Z,5.7nm,0.9s,SNR=7.8
KBA Koelnbreinsper 82.82 328 *ePcP* **P 13 33 27.0 +1.4**
comp=Z,5.5nm,1.1s
MYKA Terra Mystica 83.06 328 P **P 13 33 27.0 +0.3**
comp=Z,3.5nm,0.8s
WTTA Wattenberg 83.35 329 *ePcP* **P 13 33 28.9 +0.5**
comp=Z,2.3nm,0.5s
ABTA Abfaltersbach 83.42 329 *eP* **P 13 33 28.7 +0.1**
comp=Z,2.6nm,0.7s
MOTA Moosalm 83.49 330 *eP* **P 13 33 29.3 +0.3**
comp=Z,6.7nm,1.0s
RETA Reutte 83.50 330 *ePcP* **P 13 33 29.6 +0.7**
comp=Z,14nm,1.5s
BAIF Baives 83.66 335 *eP* **P 13 33 28.1 -1.5**
BAIF pmax pmax
comp=Z,2.0nm,0.3s
BFO Black Forest 83.72 332 *i* P **P 13 33 31.4 +1.4**
FETA Feichten 83.90 330 *ePcP* **P 13 33 31.5 +0.4**
comp=Z,5.7nm,1.0s
DAVA Damuels 84.01 330 *ePcP* **P 13 33 32.3 +0.7**
comp=Z,10nm,1.2s
CDF Champ du Feu 84.03 332 *eP* **P 13 33 31.7 0.0**
CDF pmax pmax
comp=Z,7.0nm,1.0s
EIL Elat 84.29 304 P **P 13 33 34.8 +1.6**
comp=Z,5.2nm,0.8s,baz=96,slow=5.1,SNR=5.4
PPT Papeete 84.37 118 LR LR 14 03 03.7
comp=Z,167nm,21.7s,baz=304,slow=30
MNTX Cornudas Mount 84.39 53 *eP* **P 13 33 34.1 +0.4**
comp=Z,5.3nm,1.4s
FUORN Ofenpass-Fuorn 84.41 330 *eP* **P 13 33 34.3 +0.5**
comp=Z,18nm,1.1s
TUE Stuetta 84.89 330 *eP* **P 13 33 35.9 -0.3**
comp=Z,6.0nm,0.8s
LOR Lormes 86.19 334 *eP* **P 13 33 42.4 -0.1**
LOR pmax pmax
comp=Z,16nm,1.1s
IDI Anoyia 86.34 314 LR LR 14 16 58.7
comp=Z,80nm,18.2s,baz=298,slow=39
LPIG La Paz 86.34 62 LR LR 14 10 53.8
comp=Z,93nm,18.1s,baz=293,slow=35
SSF Saint Saulge 86.50 334 *eP* **P 13 33 44.0 +0.1**
SSF pmax pmax
comp=Z,6.0nm,0.8s
LPL La Plagne 86.68 331 *eP* **P 13 33 45.3 +0.2**
LPL pmax pmax
comp=Z,6.0nm,1.0s
LPG La Plagne 86.69 331 *eP* **P 13 33 45.4 +0.1**
LPG pmax pmax
comp=Z,6.0nm,0.8s
GRR Gorron 86.72 337 *eP* **P 13 33 45.1 +0.1**
GRR pmax pmax
comp=Z,10.0nm,1.0s
SMF Signal de Mont 86.74 334 *eP* **P 13 33 45.2 0.0**
SMF pmax pmax
comp=Z,31nm,1.6s
AVF Avril sur Loir 86.78 334 *eP* **P 13 33 45.4 +0.1**
AVF pmax pmax
comp=Z,18nm,1.2s
TX31 Lajitas Ar. Si 87.09 54 *eP* **P 13 33 48.4 +1.1**
TXAR Lajitas Array 87.09 54 P **P 13 33 47.5 +0.2**
comp=Z,0.7nm,0.7s,baz=295,slow=3.8,SNR=14
TCF Toulx Ste Croi 87.61 334 *eP* **P 13 33 49.8 +0.4**
TCF pmax pmax
comp=Z,8.0nm,1.1s
VIVF Saint-Julien-l 88.00 332 *eP* **P 13 33 49.2 -2.1**
VIVF pmax pmax
comp=Z,1.0nm,0.4s
MFF Saint Martin d 88.09 336 *eP* **P 13 33 51.9 +0.3**
MFF pmax pmax
comp=Z,8.0nm,1.0s
FRF La Foret Royal 88.37 330 *eP* **P 13 33 52.7 -0.3**
FRF pmax pmax
comp=Z,3.0nm,0.5s
ATD Arta Tunnel 90.82 286 LR LR 14 19 53.8
comp=Z,79nm,18.5s,baz=30,slow=39
ETSF Etsaut 91.53 335 *eP* P 13 34 11.8 +3.9
ETSF pmax pmax
comp=Z,19nm,1.6s
KEST Kesra 93.83 324 LR LR 14 21 47.0
comp=Z,329nm,19.0s,baz=330,slow=39
ESDC Sonseca Array 95.54 335 LR LR 14 23 31.4
comp=Z,221nm,18.0s,baz=20,slow=39
TORD Torodi Ar. Bea 116.53 318 PP PP 13 40 49.6 -2.1
comp=Z,2.4nm,1.1s,baz=22,slow=7.3,SNR=8.3
SNAA Sanae 143.89 197 PKP PKPab 13 40 32.6 0.0
comp=Z,1.6nm,0.6s,baz=185,slow=3.3,SNR=7.2
MNMC Minye Minye 144.81 64 *ePKPdf* PKPbc 13 40 38.2 +0.4

IDC 27 13:33:28.5±531.0, 48.32N×50.03E, h0km, Error ellipse: s-maj=194.2km s-min=116.8km az=58.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.63**	**65**	*i*				14 12 20.0	
	baz=252,slow=316,SNR=0.2								
I43RU	**DUBNA INFRASONI**	**11.46**	**322**	*i*				14 46 30.0	
	baz=132,slow=340,SNR=0.6								
I46RU	**ZALESOVO INFRA**	**22.39**	**62**	*i*				15 48 00.0	
	baz=270,slow=330,SNR=1.0								

IDC 27 13:46:13.9±8.4, 32.13S×179.97E, h369km±98km, mb3.0/2, mb1 3.2/3, mb1mx2.9/36, mbtmp3.7/3, Error ellipse: s-maj=112.0km s-min=43.9km az=2.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.55**	**200**	P		P		13 47 52.3	-0.2
	0.7nm,0.3s,baz=337,slow=13,SNR=5.7								
URZ				S		S		13 49 10.3	-0.6
	1.1nm,0.3s,baz=119,slow=19,SNR=8.5								
ASAR	**Alice Springs**	**41.32**	**270**	P		P		13 53 24.7	-0.5
	0.4nm,0.4s,baz=108,slow=8.0,SNR=8.1								
WRA	**Warramunga Arr**	**42.47**	**275**	P		P		13 53 34.6	+0.2
	0.9nm,0.4s,baz=110,slow=8.1,SNR=49								
FINES	**FINESS Array B**	**146.12**	**338**	PKPbc		PKPdf		14 05 09.4	+0.7
	3.0nm,1.0s,baz=31,slow=4.4,SNR=5.2								

*ATH **27** 13:46:29.4,41.88N×20.20E,h13km±4km,ML2.5/3,Error ellipse: s-maj=6.2km s-min=1.9km az=182.0*
*TIR **27** 13:46:30.0,41.86N×20.16E,h25km,ML2.7*
*PDG **27** 13:46:30.7±0.5,41.80N×20.13E,h12km±1km,MD2.8/1, ML2.7/9,Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*ISCJB **27** 13:46:30.5±0.3,41.83N±0.02×20.17E±0.02,h2km±2km, Error ellipse: s-maj=3.3km s-min=2.0km az=136.0*
*SKO **27** 13:46:31.9,41.81N×20.12E,h16km,M2.3,ML2.7*
*BEO **27** 13:46:31.9±0.3,41.81N×20.15E,h8km±2km,M2.7/1*
*CSEM **27** 13:46:31.2±0.2,41.81N×20.13E,h10km,ML2.7,Error ellipse: s-maj=4.4km s-min=3.3km az=69.0*

ISC 27 13:46:30.3±1.1,41.79N±0.02×20.06E±0.02,h5km±9km, n72,σ1°9.06/133,8C-15D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.28**	**334**	*i*	Pg		**Pb**	**13 46 37.0**	**-0.9**
PUK				*i*	Sg		**Sb**	**13 46 42.0**	**-0.9**
PUK	**Puka**	**0.28**	**334**	*i*	Pg		**Pb**	**13 46 37.0**	**-0.9**
PUK				*i*	Sg		**Sb**	**13 46 42.0**	**-0.9**
PHP	**Peshkopia**	**0.31**	**111**	*i*	Pg		Pg	13 46 30.0	-6.3
PHP				*i*	Sg		**Sg**	**13 46 42.0**	**+1.6**
TIR	**Tirane**	**0.47**	**198**	*i*	Pg		**Pb**	**13 46 40.2**	**-0.9**
TIR				*i*	SG		**Sb**	**13 46 50.5**	**+2.2**
TIR	**Tirane**	**0.47**	**198**	*e*	Pg		**Pb**	**13 46 40.9**	**-0.2**
TIR	**Tirane**	**0.47**	**198**	P			**Pb**	**13 46 40.6**	**-0.5**
TIR				S			**Sb**	**13 46 48.9**	**+0.6**
TIR				AML			AML	13 46 53.0	
	comp=E,1267μm,0.4s								
TIR				AML			AML	13 46 53.0	
	comp=N,1203μm,0.4s								
TIR	**Tirane**	**0.47**	**198**	*i*	Pg		**Pb**	**13 46 40.2**	**-0.9**
TIR	**Tirane**	**0.47**	**198**	P			**Pb**	**13 46 40.7**	**-0.4**
TIR				S			**Sb**	**13 46 48.9**	**+0.6**
ULC	**Ulcinj**	**0.63**	**286**	⇑ *i*	Pg		**Pb**	**13 46 43.4**	**-0.5**
ULC					eSg		**Sn**	**13 46 54.4**	**-2.0**
ULC	**Ulcinj**	**0.63**	**286**	⇑ *i*	Pg		**Pb**	**13 46 43.4**	**-0.5**
ULC					eSg		**Sn**	**13 46 54.4**	**-2.0**
DRME	**Dracevica, Mon**	**0.76**	**301**	⇓ *i*	Pg		**Pb**	**13 46 45.5**	**-0.6**
DRME					eSg		**Sn**	**13 46 58.4**	**-1.2**
DRME	**Dracevica, Mon**	**0.76**	**301**	⇓ *i*	Pg		**Pb**	**13 46 45.5**	**-0.6**
DRME					eSg		**Sn**	**13 46 58.3**	**-1.3**
PVY	**Plav**	**0.80**	**355**	⇑ *i*	Pg		**Pg**	**13 46 45.4**	**-0.4**
PVY					eSg		**Sb**	**13 46 58.5**	**+0.4**
PVY	**Plav**	**0.80**	**355**	⇑ *i*	Pg		**Pg**	**13 46 45.4**	**-0.4**
PVY					eSg		**Sb**	**13 46 58.5**	**+0.4**
PDG	**Podgorica**	**0.87**	**317**	*e*	Pg		**Pb**	**13 46 47.3**	**-0.6**
PDG					eSg		**Sn**	**13 47 01.5**	**-0.8**
PDG	**Podgorica**	**0.87**	**317**	*e*	Pg		**Pb**	**13 46 47.3**	**-0.6**
PDG					eSg		**Sn**	**13 47 01.5**	**-0.8**
TTG	**Podgorica**	**0.87**	**317**	⇓ *i*	Pg		**Pb**	**13 46 47.3**	**-0.6**
TTG					eSg		**Sn**	**13 47 02.2**	**-0.1**
OHR	**Ohrid**	**0.88**	**140**	*i*	Pg		**Pg**	**13 46 47.1**	**-0.1**
OHR				*i*	Sg		**Sb**	**13 47 01.7**	**+1.4**
OHR				*e*	Lg		Lg	13 47 02.6	
	comp=N,225nm,0.5s								
OHR				*e*	Lg		Lg	13 47 02.9	
	comp=E,128nm,0.3s								
KRUS	**Krusevo**	**0.99**	**115**	*i*	Pg		**Pg**	**13 46 48.1**	**-1.3**
KRUS				*i*	Sg		**Sg**	**13 47 02.2**	**+0.1**
BUM	**Brajici-Budva**	**1.00**	**301**	⇓ *i*	Pg		**Pn**	**13 46 50.3**	**-0.9**
BUM					eSg		**Sn**	**13 47 06.8**	**+1.1**
BUM	**Brajici-Budva**	**1.00**	**301**	⇓ *i*	Pg		**Pn**	**13 46 50.3**	**-0.9**
BUM					eSg		**Sn**	**13 47 06.8**	**+1.1**
SKO	**Skopje**	**1.05**	**80**	*e*	Pg		**Pg**	**13 46 49.6**	**-0.8**
SKO				*i*	Sg		**Sg**	**13 47 04.5**	**+0.5**
BEY	**Berane**	**1.08**	**354**	⇑ *i*	Pg		**Pg**	**13 46 50.5**	**-0.6**
BEY					eSg		**Sn**	**13 47 07.6**	**-0.1**
IVA	**Berane**	**1.08**	**354**	⇑ *i*	Pg		**Pg**	**13 46 50.5**	**-0.6**
IVA					eSg		**Sn**	**13 47 07.6**	**-0.1**
KOME	**Kolasin**	**1.13**	**339**	⇓ *i*	Pg		**Pg**	**13 46 51.8**	**-0.2**
KOME					eSg		**Sn**	**13 47 09.8**	**+0.9**
KOME	**Kolasin**	**1.13**	**339**	⇓ *i*	Pg		**Pg**	**13 46 51.8**	**-0.2**
KOME					eSg		**Sn**	**13 47 09.8**	**+0.9**
CEME	**Cevo**	**1.13**	**312**	⇓ *i*	Pg		**Pb**	**13 46 51.9**	**-0.6**
CEME					eSg		**Sn**	**13 47 10.7**	**+1.8**
CEME	**Cevo**	**1.13**	**312**	⇓ *i*	Pg		**Pb**	**13 46 51.9**	**-0.6**
CEME					eSg		**Sn**	**13 47 10.7**	**+1.8**
BIA	**Bitola**	**1.23**	**129**	*i*	Pg		**Pg**	**13 46 54.3**	**+0.4**
BIA				*i*	Sg		**Sb**	**13 47 11.2**	**+1.0**
NKME	**Niksic**	**1.27**	**320**	⇑ *i*	Pg		**Pb**	**13 46 54.5**	**-0.3**
NKME					eSg		**Sn**	**13 47 15.1**	**+2.8**
NKME	**Niksic**	**1.27**	**320**	⇑ *i*	Pg		**Pb**	**13 46 54.5**	**-0.3**
NKME					eSg		**Sn**	**13 47 15.1**	**+2.8**
NKY	**Niksic**	**1.29**	**323**	⇓ *i*	Pg		**Pn**	**13 46 55.1**	**0.0**
NKY					eSg		**Sn**	**13 47 15.7**	**+2.9**
NKY	**Niksic**	**1.29**	**323**	⇓ *i*	Pg		**Pn**	**13 46 55.1**	**0.0**
NKY					eSg		**Sn**	**13 47 15.7**	**+2.9**
HCY	**Herceg Novi**	**1.33**	**300**	⇓ *i*	Pg		**Pb**	**13 46 55.8**	**0.0**
HCY					eSg		**Sn**	**13 47 17.8**	**+4.0**
HCY	**Herceg Novi**	**1.33**	**300**	⇓ *i*	Pg		**Pb**	**13 46 55.8**	**0.0**
HCY					eSg		**Sn**	**13 47 16.2**	**+2.4**
FNA	**Florina**	**1.42**	**135**	*i*	PN		**Pn**	**13 46 56.1**	**-0.7**
FNA				*i*	SN		**Sb**	**13 47 15.4**	**-0.3**
FNA	**Florina**	**1.42**	**135**	P			**Pn**	**13 46 56.7**	**-0.1**
FNA				S			**Sb**	**13 47 14.6**	**-1.1**
FNA				AML			AML	13 47 17.2	
	comp=N,450μm,0.4s								
FNA				AML			AML	13 47 19.5	
	comp=E,536μm,0.4s								
FNA	**Florina**	**1.42**	**135**	P			**Pn**	**13 46 56.3**	**-0.5**
FNA				S			**Sb**	**13 47 15.0**	**-0.7**
SJES	**Sjenica**	**1.47**	**358**	*e*	Pg		**Pg**	**13 46 59.0**	**+0.5**
SJES					eSg		**Sg**	**13 47 18.1**	**+0.6**
SJES	**Sjenica**	**1.47**	**358**	*e*	Pg		**Pg**	**13 46 59.0**	**+0.5**
SJES					eSg		**Sg**	**13 47 18.1**	**+0.6**
TREB	**Trebinje**	**1.57**	**307**	*e*	Pn		**Pg**	**13 46 59.7**	**-0.7**
TREB					eSn		**Sg**	**13 47 21.8**	**+1.1**
NEST	**Nestorio**	**1.57**	**151**	P			**Pg**	**13 47 00.5**	**+0.1**
NEST				S			**Sg**	**13 47 22.4**	**+1.6**
NEST				AML			AML	13 47 28.9	
	comp=E,161μm,0.5s								
NEST				AML			AML	13 47 29.4	
	comp=N,119μm,0.6s								
NEST	**Nestorio**	**1.57**	**151**	P			**Pb**	**13 47 00.0**	**+0.1**
NEST				S			**Sg**	**13 47 21.8**	**+1.0**
PLE	**Pljevlja**	**1.61**	**342**	⇓ *i*	Pn		**Pb**	**13 47 00.1**	**-0.6**
PLE					eSn		**Sg**	**13 47 23.0**	**+0.8**
PLE	**Pljevlja**	**1.61**	**342**	⇓ *i*	Pn		**Pb**	**13 47 00.1**	**-0.6**
PLE					eSn		**Sg**	**13 47 23.0**	**+0.8**
SELS	**Selova**	**1.63**	**29**	*e*	Pg		**Pn**	**13 47 00.7**	**+1.0**
SELS					eSg		**Sn**	**13 47 20.9**	**-0.1**
BARS	**Barje**	**1.66**	**51**	*e*	Pg		**Pn**	**13 46 59.9**	**-0.2**
BARS					eSg		**Sb**	**13 47 23.6**	**+1.1**
BARS	**Barje**	**1.66**	**51**	*e*	Pg		**Pn**	**13 46 59.9**	**-0.2**
BARS					eSg		**Sb**	**13 47 23.6**	**+1.1**
IVAS	**Ivanjica**	**1.78**	**2**	*e*	Pn		**Pb**	**13 47 03.5**	**0.0**
IVAS					eSn		**Sn**	**13 47 25.0**	**+0.1**
IVAS	**Ivanjica**	**1.78**	**2**	*e*	Pn		**Pb**	**13 47 03.5**	**0.0**
IVAS					eSn		**Sn**	**13 47 25.0**	**+0.1**
VAY	**Valandovo**	**1.94**	**103**	*i*	Pn		**Pn**	**13 47 26.5**	**-0.5**
VAY					eSn		**Sn**	**13 47 26.9**	**-1.9**
VAY				*i*	Sg		**Sb**	**13 47 31.6**	**+0.8**
VAY				*e*	Lg		Lg	13 47 32.5	
	comp=E,38nm,0.6s								
VAY				*e*	Lg		Lg	13 47 32.9	
	comp=N,52nm,0.8s								
GRG	**Griva**	**1.95**	**115**	P			**Pn**	**13 47 03.1**	**-1.1**
GRG	**Griva**	**1.95**	**115**	P			**Pn**	**13 47 03.4**	**-0.8**
STON	**Ston**	**2.05**	**302**	*e*	Pn		**Pb**	**13 47 06.4**	**-1.6**
STON					Sn		**Sg**	**13 47 35.7**	**-0.5**
STON	**Ston**	**2.05**	**302**	*e*	Pn		**Pb**	**13 47 07.0**	**-1.1**
STON					eSn		**Sb**	**13 47 33.6**	**-0.3**
STON	**Ston**	**2.05**	**302**	*e*	Pn		**Pb**	**13 47 07.0**	**-1.1**
STON					eSn		**Sb**	**13 47 33.6**	**-0.3**
KEK	**Kerkira**	**2.09**	**185**	P			**Pb**	**13 47 07.5**	**-1.2**
KEK	**Kerkira**	**2.09**	**185**	P			**Pb**	**13 47 07.7**	**-1.0**
SCTE	**Santa Cesarea**	**2.10**	**216**	P			**Pb**	**13 47 07.6**	**-1.3**
SCTE	**Santa Cesarea**	**2.10**	**216**	P			**Pb**	**13 47 08.0**	**-0.9**
BBLS	**Lazići**	**2.12**	**347**	*e*	Pn		**Pb**	**13 47 09.1**	**-0.3**
BBLS					eSn		**Sb**	**13 47 35.2**	**-0.9**
BBLS	**Lazići**	**2.12**	**347**	*e*	Pn		**Pn**	**13 47 07.4**	**+0.8**
BBLS					eSn		**Sb**	**13 47 35.2**	**-0.9**
GRUS	**Gruza**	**2.15**	**13**	*e*	Pn		**Pb**	**13 47 08.7**	**-1.0**
GRUS					eSn		**Sn**	**13 47 34.5**	**+0.6**
GRUS	**Gruza**	**2.15**	**13**	*e*	Pn		**Pb**	**13 47 08.7**	**-1.0**
GRUS					eSn		**Sn**	**13 47 34.5**	**+0.6**
DIVS	**Divibare**	**2.30**	**359**	*e*	Pn		**Pn**	**13 47 09.8**	**+0.8**
DIVS					eSn		**Sn**	**13 47 37.9**	**+0.1**
DIVS	**Divibare**	**2.30**	**359**	*e*	Pn		**Pn**	**13 47 09.6**	**+0.6**
DIVS					eSn		**Sn**	**13 47 37.9**	**+0.1**
HAPS	**Han Pijesak,Bl**	**2.43**	**341**	*e*	Pn		**Pn**	**13 47 11.7**	**+0.9**
HAPS					eSn		**Sb**	**13 47 43.3**	**-1.6**
TRUS	**Trudelj**	**2.44**	**6**	*e*	Pn		**Pn**	**13 47 11.3**	**+0.4**
TRUS					eSn		**Sn**	**13 47 41.1**	**0.0**
TRUS	**Trudelj**	**2.44**	**6**	*e*	Pn		**Pn**	**13 47 11.3**	**+0.4**
TRUS					eSn		**Sn**	**13 47 41.1**	**0.0**
TEKS	**Tekeris**	**2.78**	**352**	*e*	Pn		**Pn**	**13 47 16.3**	**+0.8**
KUBS	**Kucevo**	**2.87**	**24**	*e*	Pn		**Pn**	**13 47 16.3**	**-0.5**
KUBS	**Kucevo**	**2.87**	**24**	*e*	Pn		**Pn**	**13 47 16.3**	**-0.5**

IDC 27 13:57:08.7±2.3,57.45N×126.92E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.1/56,mbtmp3.1/3,Error ellipse: s-maj=171.0km s-min=26.8km az=66.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.27**	**164**	P		P		14 02 46.1	+0.1
	0.1nm,0.4s,baz=344,slow=10,SNR=10.0								
ASAR	**Alice Springs**	**29.73**	**167**	P		P		14 03 16.8	-0.2
	0.1nm,0.4s,baz=345,slow=7.0,SNR=4.3								
MKAR	**Makanchi Array**	**56.26**	**325**	P		P		14 06 51.0	-0.1
	0.1nm,0.4s,baz=112,slow=7.5,SNR=5.1								

*ISCJB **27** 13:58:19.5±0.7,57.49S±0.09×25.0W±0.2,h15km,mb4.1/6, Error ellipse: s-maj=19.3km s-min=10.1km az=151.3*
*IDC **27** 13:58:19.3±0.8,57.46S×24.87W,h0km,mb4.1/6, mb1 4.1/7,mb1mx3.8/29,mbtmp4.0/7,ML3.3/1,Error ellipse: s-maj=28.7km s-min=24.0km az=63.0*
*NEIC **27** 13:58:24.5±0.5,57.48S×25.02W,h35km,mb4.7/2,Error ellipse: s-maj=14.8km s-min=11.1km az=70.0*

ISC 27 13:58:21.3±0.7,57.5S±0.1×24.8W±0.1,h15km,n20, σ1°14.20,mb4.1/6,1C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.96**	**158**	P		P	**Pn**	**14 01 53.4**	**+1.5**
VNA3	**Neumayer Olymp**	**15.19**	**161**	P		P	**Pn**	**14 01 55.2**	**+0.3**
VNA2	**Neumayer--Watz**	**15.36**	**158**	P		P	**Pn**	**14 01 56.1**	**-1.0**
	baz=324,slow=14								
SNAA	**Sanae**	**16.89**	**156**	P			**Pn**	**14 02 16.6**	**-0.1**
SNAA	**Sanae**	**16.89**	**156**	Pn			**Pn**	**14 02 18.6**	**+1.9**
	0.1nm,0.3s,baz=327,slow=13,SNR=6.4								
SNAA	**Sanae**	**16.89**	**156**	*e*	P		**Pn**	**14 02 18.7**	**+2.0**
	73nm,0.7s								
PMSA	**Palmer Station**	**19.98**	**232**	P		P	**P**	**14 02 52.3**	**-0.4**
SYO	**Syowa Base**	**29.64**	**139**	⇑ *e*	P	P	**P**	**14 04 23.4**	**-2.1**
SYO	**Syowa Base**	**29.64**	**139**	⇓ *e*	pP	pP		14 04 32.8	+2.7
QSPA	**South Pole Qui**	**32.74**	**180**	P		P	**P**	**14 04 53.9**	**+0.7**
	1.2nm,0.6s,baz=124,slow=6.1,SNR=6.7								
QSPA	**South Pole Qui**	**32.74**	**180**	*e*	P	P	**P**	**14 04 54.2**	**+1.0**
	2.4nm,0.4s								
PLCA	**Paso Flores**	**33.53**	**280**	P		P	**P**	**14 04 58.8**	**-1.3**
	3.7nm,1.0s,baz=179,slow=6.7,SNR=5.0								
CPUP	**Villa Florida**	**38.74**	**310**	P		P	**P**	**14 05 44.5**	**-0.2**
	2.0nm,0.6s,baz=147,slow=8.4,SNR=3.6								
LPAZ	**La Paz**	**52.27**	**304**	P		P	**P**	**14 07 33.4**	**+0.8**
	1.5nm,0.6s,baz=138,slow=6.2,SNR=6.1								
DBIC	**Dimbokro**	**66.00**	**22**	P		P	**P**	**14 09 07.5**	**+0.6**
	0.9nm,0.6s,baz=207,slow=6.8,SNR=2.6								
TORD	**Torodi Ar. Bea**	**73.73**	**27**	P		P	**P**	**14 09 54.1**	**-0.3**
	1.1nm,0.8s,baz=200,slow=6.1,SNR=5.8								
YKA	**Yellowknife Ar**	**138.12**	**316**	PKP			**PKPdf**	**14 17 44.1**	**+0.2**
	0.6nm,1.0s,baz=117,slow=1.5,SNR=5.5								
INK	**Inuvik**	**147.75**	**319**	PKPbc			**PKPbc**	**14 18 03.5**	**-0.1**
	1.1nm,0.7s,baz=133,slow=4.1,SNR=4.7								
SONM	**Songino Array**	**149.52**	**87**	PKPbc			**PKPbc**	**14 18 08.3**	**-0.7**
	0.6nm,0.8s,baz=247,slow=3.0,SNR=2.6								
ILAR	**Eielson Array**	**152.04**	**309**	PKPbc			**PKPbc**	**14 18 14.8**	**+0.6**
	1.7nm,0.9s,baz=122,slow=1.8,SNR=14								
ILAR				PKPab			**PKPab**	**14 18 25.1**	**+1.2**
	1.2nm,0.9s,baz=141,slow=1.8,SNR=5.6								

MAN 27 14:00:20,8.85N×126.56E,h30km,mb4.2,ML3.0,MS2.7, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.69**	**197**	⇓ *i*	P		Pn	14 00 34.5	+0.8
BIPH				*i*	S		Sb	14 00 41.5	-1.3
BUTP	**Butuan**	**0.94**	**277**	*e*	P		Pb	14 00 38.0	+0.2
BUTP				*e*	S		Sb	14 00 50.8	+1.0
SCPH	**Surigao**	**1.41**	**311**	*e*	P		Pn	14 00 44.4	+0.7
SCPH				*e*	S		Sb	14 01 05.5	+2.3
BUKP	**Musuan**	**1.77**	**237**	*e*	P		Pn	14 00 50.1	+1.5
BUKP				*e*	S		Sn	14 01 11.4	+1.2

*NEIC **27** 14:04:58.5±0.0,43.58S×172.64E,h10km,ML3.8(WEL), After WEL.*
NEIC Felt at Christchurch.

WEL 27 14:04:57.5,43.6S±0.8×172.6E±0.8,h10km,ML3.4/1, ML3.7/24,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.01**	**355**	Pg		Pg		14 05 00.5	+1.2
CRLZ	**Canterbury Las**	**0.01**	**355**	P		Pg		14 05 00.5	+1.2
CRLZ	**Canterbury Las**	**0.01**	**355**	S		Sg		14 05 01.5	+1.0
MQZ	**McQueen's Vall**	**0.12**	**170**	*e*	Pg	Pb		14 05 01.7	-0.2
MQZ	**McQueen's Vall**	**0.12**	**170**	P		Pb		14 05 01.7	-0.2
MQZ	**McQueen's Vall**	**0.12**	**170**	S		Sg		14 05 03.9	+1.4
EYCZ	**Eyrewell**	**0.26**	**310**	P		Pb		14 05 04.1	-0.2
EYCZ	**Eyrewell**	**0.26**	**310**	S		Sb		14 05 07.8	-0.9
OXZ	**Oxford**	**0.50**	**301**	P*		Pb		14 05 08.2	-0.2
OXZ	**Oxford**	**0.50**	**301**	P		Pb		14 05 08.4	0.0
LTZ	**Lake Taylor**	**0.85**	**342**	P*		Pb		14 05 14.2	-0.1
LTZ	**Lake Taylor**	**0.85**	**342**	P		Pn		14 05 14.9	-0.6
RPZ	**Rata Peaks**	**1.15**	**263**	P*		Pg		14 05 19.6	0.0
RPZ	**Rata Peaks**	**1.15**	**263**	P		Pn		14 05 19.6	0.0
RPZ	**Rata Peaks**	**1.15**	**263**	P		Pn		14 05 19.6	0.0
INZ	**Inchbonnie**	**1.22**	**315**	P		Pb		14 05 20.7	0.0
KHZ	**Kahutara**	**1.35**	**30**	Pn		Pn		14 05 21.7	-0.6
KHZ	**Kahutara**	**1.35**	**30**	P		Pn		14 05 21.8	-0.6
WVZ	**Waitaha Valley**	**1.47**	**290**	Pn		Pn		14 05 24.5	+0.4
WVZ	**Waitaha Valley**	**1.47**	**290**	P		Pb		14 05 24.5	-0.4
THZ	**Tophouse**	**1.84**	**7**	Pn		Pn		14 05 28.8	-0.4
THZ	**Tophouse**	**1.84**	**7**	P		Pn		14 05 28.8	-0.3
LBZ	**Lake Benmore**	**1.93**	**245**	Pn		Pn		14 05 31.0	+0.6
LBZ	**Lake Benmore**	**1.93**	**245**	P		Pn		14 05 31.2	+0.7
DSZ	**Denniston Nort**	**1.94**	**342**	Pn		Pn		14 05 30.5	0.0
DSZ	**Denniston Nort**	**1.94**	**342**	P		Pn		14 05 30.7	+0.1
ODZ	**Otahua Downs**	**2.03**	**224**	Pn		Pn		14 05 31.9	+0.1
ODZ	**Otahua Downs**	**2.03**	**224**	P		Pn		14 05 31.9	+0.1
FOZ	**Fox Glacier**	**2.04**	**271**	Pn		Pb		14 05 33.6	-1.0
FOZ	**Fox Glacier**	**2.04**	**271**	P		Pb		14 05 33.6	-1.1
BSWZ	**Blackbirch Sta**	**2.09**	**27**	Pn		Pn		14 05 32.3	-0.2
BSWZ	**Blackbirch Sta**	**2.09**	**27**	P		Pn		14 05 32.3	-0.2
TUWZ	**Tuamarina**	**2.37**	**25**	Pn		Pn		14 05 35.7	-0.6
TUWZ	**Tuamarina**	**2.37**	**25**	P		Pn		14 05 35.8	-0.6
NNZ	**Nelson**	**2.44**	**14**	Pn		Pn		14 05 37.4	+0.1
NNZ	**Nelson**	**2.44**	**14**	P		Pn		14 05 37.5	+0.2
TCW	**Tory Channel**	**2.67**	**28**	P		Pn		14 05 40.3	-0.2
SNZO	**South Karori**	**2.75**	**35**	*e*	Pn	Pn		14 05 42.0	+0.5
QRZ	**Quartz Range**	**2.76**	**358**	Pn		Pn		14 05 41.9	+0.1
QRZ	**Quartz Range**	**2.76**	**358**	P		Pn		14 05 41.9	+0.1
PLWZ	**Palliser**	**2.80**	**45**	Pn		Pn		14 05 41.2	-1.2
PLWZ	**Palliser**	**2.80**	**45**	P		Pn		14 05 41.2	-1.1
JCZ	**Jackson Bay**	**2.82**	**259**	Pn		Pn		14 05 43.9	+1.2
JCZ	**Jackson Bay**	**2.82**	**259**	P		Pn		14 05 44.0	+1.3
WKZ	**Wanaka**	**2.87**	**243**	Pn		Pn		14 05 44.3	+0.9
WKZ	**Wanaka**	**2.87**	**243**	P		Pn		14 05 44.0	+0.6
EAZ	**Earnscleugh**	**2.89**	**234**	Pn		Pn		14 05 44.0	+0.4
EAZ	**Earnscleugh**	**2.89**	**234**	P		Pn		14 05 43.9	+0.3
MSWZ	**Moikau Station**	**2.91**	**43**	P		Pn		14 05 42.7	-1.2
CAW	**Cannon Point**	**3.07**	**37**	Pn		Pn		14 05 44.7	-1.4
CAW	**Cannon Point**	**3.07**	**37**	P		Pn		14 05 44.7	-1.3
TUZ	**Tuapeka**	**3.18**	**221**	Pn		Pn		14 05 47.6	0.0
TUZ	**Tuapeka**	**3.18**	**221**	P		Pn		14 05 47.7	+0.1
KIW	**Kapiti Island**	**3.21**	**33**	Pn		Pn		14 05 47.5	-0.4
KIW	**Kapiti Island**	**3.21**	**33**	P		Pn		14 05 47.6	-0.4
MTW	**Mount Morrison**	**3.23**	**42**	Pn		Pn		14 05 47.1	-1.2
MTW	**Mount Morrison**	**3.23**	**42**	P		Pn		14 05 47.0	-1.3
OGWZ	**Otaki Gorge**	**3.35**	**35**	Pn		Pn		14 05 49.0	-0.9
OGWZ	**Otaki Gorge**	**3.35**	**35**	P		Pn		14 05 48.9	-1.1
MRZ	**Mangatainoka R**	**3.66**	**38**	P		Pn		14 05 52.8	-1.4
MLZ	**Mavora Lakes**	**3.68**	**240**	Pn		Pn		14 05 54.9	+0.4
MLZ	**Mavora Lakes**	**3.68**	**240**	P		Pn		14 05 55.0	+0.5
SYZ	**Scrubby Hill**	**3.85**	**219**	Pn		Pn		14 05 57.2	+0.5
SYZ	**Scrubby Hill**	**3.85**	**219**	P		Pn		14 05 57.0	+0.3
BFZ	**Birch Farm**	**3.96**	**44**	P		Pn		14 05 56.9	-1.4
WHZ	**Wether Hill Ro**	**4.05**	**234**	P		Pn		14 05 59.2	-0.3
PREZ	**Palmer Road**	**4.40**	**16**	Pn		Pn		14 06 05.0	+0.7
PREZ	**Palmer Road**	**4.40**	**16**	P		Pn		14 06 05.1	+0.8
KHEZ	**Kahui Hut**	**4.42**	**14**	Pn		Pn		14 06 06.6	+2.0
NEZ	**North Egmont**	**4.45**	**15**	Pn		Pn		14 06 06.5	+1.4
PKE	**Pukeiti**	**4.51**	**14**	P		Pn		14 06 07.0	+1.2
APZ	**The Paps**	**4.61**	**224**	Pn		Pn		14 06 07.4	+0.1
APZ	**The Paps**	**4.61**	**224**	P		Pn		14 06 07.4	+0.1
VRZ	**Vera Road**	**4.74**	**21**	Pn		Pn		14 06 10.6	+1.6
VRZ	**Vera Road**	**4.74**	**21**	P		Pn		14 06 09.7	+0.7
WNVZ	**Wahianoa**	**4.81**	**29**	Pn		Pn		14 06 10.2	+0.1
TRVZ	**Turoa**	**4.82**	**28**	Pn		Pn		14 06 10.6	+0.3
TRVZ	**Turoa**	**4.82**	**28**	P		Pn		14 06 10.7	+0.4
KAHZ	**Kahuranaki**	**4.95**	**41**	P		Pn		14 06 11.1	-0.8
OTVZ	**Oturere**	**4.98**	**28**	Pn		Pn		14 06 12.1	-0.4
BKZ	**Black Stump Fm**	**5.29**	**35**	Pn		Pn		14 06 14.3	-2.3
BKZ	**Black Stump Fm**	**5.29**	**35**	P		Pn		14 06 15.0	-1.6
HIZ	**Hauiti**	**5.34**	**19**	Pn		Pn		14 06 17.0	-0.3
HIZ	**Hauiti**	**5.34**	**19**	P		Pn		14 06 17.0	-0.3

MEX 27 14:08:42.4±0.4,16.25N×98.43W,h7km±3km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**64**	*i*	P		Pg	14 08 48.6	-0.3
PNIG				*i*	S		Sg	14 08 53.3	+0.1
TLIG	**Tlapa**	**1.31**	**354**	*e*	P		Pn	14 09 04.3	-3.0
TLIG				*e*	S		Sb	14 09 20.0	-4.6
VHO	**Vista Hermosa**	**1.82**	**63**	*e*	P		Pn	14 09 11.0	-3.4
VHO				*e*	S		Sn	14 09 33.2	-4.6
CAIG	**El C

ASAR				PcP	**PP**	**14 24 55.3**	**-0.2**	
	0.3nm,0.6s,baz=37,slow=4.8,SNR=2.9							
ASAR				ScP	**ScP**	**14 28 32.3**	**-1.9**	
	0.4nm,0.7s,baz=28,slow=2.6,SNR=4.3							
CMAR	**Chiang Mai Arr**	**44.40**	**278**	P	**P**	**14 23 17.1**	**-0.6**	
	1.2nm,0.8s,baz=75,slow=6.8,SNR=7.0							
DZM	**Mont Dzumac**	**45.14**	**153**	P	**P**	**14 23 24.2**	**+0.8**	
	4.8nm,0.6s,baz=32,slow=17,SNR=4.4							
MBWA	**Marble Bar**	**47.07**	**214**	*e*P	**P**	**14 23 38.5**	**0.0**	
	40nm,0.7s							
STKA	**Stephens Creek**	**50.34**	**185**	P	**P**	**14 24 03.0**	**-0.2**	
	1.5nm,0.4s,baz=354,slow=8.6,SNR=13							
GSI	**Gunungsitoli**	**50.36**	**256**	*e*P	**P**	**14 24 04.5**	**+0.7**	
	17nm,0.5s							
ZALV	**Zalesovo Beam**	**58.20**	**323**	P	**P**	**14 24 58.6**	**-1.3**	
	0.2nm,0.3s,baz=104,slow=12,SNR=2.1							
MKAR	**Makanchi Array**	**58.66**	**314**	P	**P**	**14 25 03.0**	**-0.3**	
	0.2nm,0.4s,baz=90,slow=7.7,SNR=4.9							
KDAK	**Kodiak Island**	**59.36**	**33**	P	**P**	**14 25 06.9**	**-0.9**	
	32nm,1.3s,baz=289,slow=18,SNR=2.1							
KURK	**Kurchatov**	**61.47**	**318**	P	**P**	**14 25 23.8**	**+1.6**	
KURBB	**Kurchatov Arra**	**61.51**	**318**	P	**P**	**14 25 23.8**	**+1.3**	
	0.6nm,0.2s,baz=97,slow=6.6,SNR=3.0							
KTH	**Kantishna Hill**	**61.66**	**27**	*e*P	**P**	**14 25 24.7**	**+1.3**	
ILAR	**Eielson Array**	**63.67**	**26**	P	**P**	**14 25 36.5**	**-0.1**	
	2.0nm,0.6s,baz=249,slow=5.7,SNR=34							
PAX	**Paxson**	**63.93**	**28**	*e*P	**P**	**14 25 39.1**	**+0.7**	
	9.9nm,1.3s							
DOT	**Dot Lake**	**64.67**	**28**	*e*P	**P**	**14 25 43.9**	**+0.7**	
	7.9nm,1.0s							
BVAR	**Borovoye Array**	**66.67**	**320**	P	**P**	**14 25 55.6**	**-0.6**	
	1.0nm,0.5s,baz=82,slow=6.8,SNR=5.1							
INK	**Inuvik**	**69.41**	**23**	P	**P**	**14 26 11.9**	**-1.1**	
	0.8nm,0.5s,baz=270,slow=6.3,SNR=9.3							
ABKAR	**Akbulak array**	**73.53**	**317**	*e*P	**P**	**14 26 37.3**	**-0.8**	
	0.7nm,0.4s							
AKTO	**Aktyubinsk**	**74.56**	**318**	P	**P**	**14 26 43.4**	**-0.7**	
	0.6nm,0.5s,baz=101,slow=13,SNR=5.6							
YKA	**Yellowknife Ar**	**78.01**	**28**	P	**P**	**14 27 03.8**	**+0.5**	
	0.8nm,0.6s,baz=290,slow=5.5,SNR=14							
YKA				pP	**pP**	**14 27 36.6**	**-2.4**	
	0.8nm,0.6s,baz=289,slow=5.5,SNR=4.9							
ARCES	**ARCESS Array B**	**82.65**	**342**	P	**P**	**14 27 27.6**	**-0.3**	
	2.1nm,0.8s,baz=52,slow=8.0,SNR=3.8							
NVAR	**Mina Array Bea**	**83.08**	**52**	P	**P**	**14 27 32.5**	**+1.5**	
	2.3nm,0.8s,baz=263,slow=6.2,SNR=12							
FINES	**FINESS Array B**	**87.06**	**335**	P	**P**	**14 27 48.1**	**-2.0**	
	0.8nm,0.4s,baz=72,slow=6.2,SNR=4.3							
PDAR	**Pinedale Array**	**87.78**	**46**	P	**P**	**14 27 54.9**	**+0.6**	
	0.1nm,0.4s,baz=270,slow=3.6,SNR=3.9							
PDAR				pP	**pP**	**14 28 29.7**	**-1.2**	
	0.3nm,0.6s,baz=204,slow=3.3,SNR=3.4							
HFS	**Hagfors**	**92.55**	**338**	P	**P**	**14 28 14.8**	**-1.0**	
	2.9nm,0.9s,baz=91,slow=8.9,SNR=3.0							
LPAZ	**La Paz**	**147.50**	**91**	PKPbc	**PKPbc**	**14 34 49.8**	**0.0**	
	1.2nm,0.5s,baz=203,slow=15,SNR=3.7							
LPAZ				pPKPbc	**pPKPdf**	**14 35 26.8**	**+1.3**	
	1.1nm,0.5s,baz=248,slow=5.4,SNR=2.1							

*ISCJB **27** 14:22:47.7±0.6,67.79N×20.03×20.25E±0.10,h0km, Error ellipse: s-maj=5.5km s-min=4.0km az=161.0*
*CSEM **27** 14:22:47.9±0.2,67.79N×20.26E,h2km,ML2.2, Error ellipse: s-maj=5.3km s-min=4.5km az=40.0,Mining explosion.*
*HEL **27** 14:22:48.7±0.0,67.83N×20.19E,h0km,ML1.4, ML2.2(UPP), Explosion*
*UPP **27** 14:22:48.2,67.83N×20.20E,h0km,ML2.2, Suspected Mining explosion.*

ISC 27 14:22:48.0±0.9, 67.82N±0.03×20.23E±0.03, h0km, n36, σ0.980/51, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**17**	P		**Pg**		**14 22 51.1**	**+0.4**
KUA				S		**Sg**		**14 22 53.0**	**+0.5**
KUA	**Kurravaara**	**0.14**	**17**	P		**Pg**		**14 22 51.1**	**+0.4**
KUA				S		**Sg**		**14 22 53.0**	**+0.5**
KUA	**Kurravaara**	**0.14**	**17**	*i* P		**Pg**		**14 22 51.1**	**+0.4**
KUA				*i* S		**Sg**		**14 22 53.0**	**+0.5**
RATU	**Laukkuluspa**	**0.24**	**270**	P		**Pg**		**14 22 52.8**	**+0.1**
RATU	**Laukkuluspa**	**0.24**	**270**	P		**Pg**		**14 22 52.8**	**+0.1**
RATU	**Laukkuluspa**	**0.24**	**270**	*i* P		**Pg**		**14 22 52.8**	**+0.1**
NIKU	**Nikkaluokta**	**0.46**	**276**	P		**Pg**		**14 22 56.7**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**276**	P		**Pg**		**14 22 56.7**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**276**	*i* P		**Pg**		**14 22 56.7**	**0.0**
LANU	**Lannavaara**	**0.70**	**70**	P		**Pg**		**14 23 01.6**	**+0.2**
LANU	**Lannavaara**	**0.70**	**70**	P		**Pg**		**14 23 01.7**	**+0.2**
LANU	**Lannavaara**	**0.70**	**70**	*i* P		**Pg**		**14 23 01.7**	**+0.2**
DUNU	**Dundret**	**0.72**	**169**	P		**Pg**		**14 23 01.7**	**0.0**
DUNU	**Dundret**	**0.72**	**169**	P		**Pg**		**14 23 01.7**	**0.0**
DUNU	**Dundret**	**0.72**	**169**	*i* P		**Pg**		**14 23 01.7**	**0.0**
MASU	**Masugnsbyn**	**0.77**	**118**	P		**Pg**		**14 23 02.9**	**+0.2**
MASU	**Masugnsbyn**	**0.77**	**118**	P		**Pg**		**14 23 02.9**	**+0.2**
MASU	**Masugnsbyn**	**0.77**	**118**	*i* P		**Pg**		**14 23 02.9**	**+0.2**
KIF	**Kilpisjarvi**	**1.21**	**10**	Pn		**Pn**		**14 23 12.2**	**+0.1**
KIF				S		**Sn**		**14 23 29.1**	**0.0**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PN		**Pn**		**14 23 12.3**	**+0.1**
KIF				MSG				14 23 28.1	
	comp=Z,3.4nm,0.2s								
KIF				*e*S		**Sn**		**14 23 29.1**	**0.0**
PAJU	**Pajala**	**1.37**	**124**	P		**Pg**		**14 23 13.5**	**-0.7**
PAJU	**Pajala**	**1.37**	**124**	P		**Pg**		**14 23 13.5**	**-0.7**
PAJU	**Pajala**	**1.37**	**124**	*e*P		**Pg**		**14 23 13.5**	**-0.7**
HEF	**Hetta**	**1.41**	**64**	Pg		**Pn**		**14 23 14.4**	**-0.6**
HEF				S		**Sg**		**14 23 33.0**	**-0.4**
HEF	**Hetta**	**1.41**	**64**	*e*PG		**Pn**		**14 23 14.5**	**-0.6**
HEF				MSG				14 23 32.0	
	comp=Z,1.8nm,0.2s								
HEF				*e*S		**Sg**		**14 23 33.0**	**-0.4**
ERTU	**Ertsjaerv**	**1.48**	**148**	P		**Pn**		**14 23 16.0**	**+0.1**
ERTU	**Ertsjaerv**	**1.48**	**148**	P		**Pn**		**14 23 16.0**	**+0.1**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*P		**Pn**		**14 23 16.0**	**+0.1**
TOF	**Tornio**	**2.38**	**135**	Pb		**Pn**		**14 23 29.9**	**+1.7**
TOF				Sb		**Sb**		**14 24 01.0**	**-0.5**
TOF	**Tornio**	**2.38**	**135**	*e*PB		**Pn**		**14 23 29.9**	**+1.7**
TOF				MSG				14 23 57.6	
	comp=Z,2.3nm,0.2s								
TOF				*e*SB		**Sb**		**14 24 01.1**	**-0.5**
SGF	**Sodankyl**	**2.44**	**96**	Pb		**Pb**		**14 23 32.0**	**-0.7**
SGF				Sg		**Sb**		**14 24 04.3**	**+1.1**
SGF	**Sodankyl**	**2.44**	**96**	*e*PB		**Pb**		**14 23 32.0**	**-0.7**
SGF				*e*SG		**Sb**		**14 24 04.3**	**+1.1**
RNF	**Rovaniemi**	**2.56**	**116**	Pb		**Pn**		**14 23 32.9**	**+2.2**
RNF				Sb		**Sb**		**14 24 06.0**	**-0.7**
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB		**Pn**		**14 23 32.9**	**+2.2**
RNF				*e*SB		**Sb**		**14 24 06.0**	**-0.7**
ARE0	**ARCESS Array S**	**2.58**	**46**	P		**Pn**		**14 23 31.9**	**+0.9**
ARE0				S		**Sb**		**14 24 05.9**	**-1.5**
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P		**Pn**		**14 23 31.9**	**+0.9**
ARE0				*e*S		**Sb**		**14 24 05.9**	**-1.5**

IDC 27 14:24:08.1±4.2, 2.76S×140.34E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.0/48, mbtmp3.1/3, ML3.1/1, MS3.5/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=156.5km s-min=29.5km az=90.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.06**	**199**	P		Pn		14 28 20.5	-0.2
	0.1nm,0.3s,baz=18,slow=12,SNR=4.9								
ASAR	**Alice Springs**	**21.70**	**196**	P		P		14 29 00.9	0.0
	0.3nm,0.6s,baz=26,slow=11,SNR=4.6								
STKA	**Stephens Creek**	**28.99**	**178**	LR		LR		14 42 19.0	
	comp=Z,90nm,19.6s,baz=27,slow=38								
MKAR	**Makanchi Array**	**70.83**	**322**	P		P		14 35 26.8	+0.1
	0.2nm,0.8s,baz=103,slow=6.5,SNR=2.5								

*ATH **27** 14:28:52.0,41.93N×20.14E,h11km±1km,ML2.4/3, Error ellipse: s-maj=3.8km s-min=1.9km az=174.0*
*SKO **27** 14:28:53.4,41.93N×20.09E,h0km,M2.3,ML2.7*
*PDG **27** 14:28:54.7±0.2,41.83N×20.09E,h16km,ML2.5/9, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
*CSEM **27** 14:28:54.6±0.2,41.83N×20.13E,h10km,ML2.5, Error ellipse: s-maj=6.3km s-min=3.7km az=57.0*
*TIR **27** 14:28:54.0,41.82N×20.13E,h25km,ML2.5*
*BEO **27** 14:28:55.3±0.6,41.81N×20.25E,h0km±3km,M2.5/7*

ISC 27 14:28:54.9±0.9, 41.83N±0.02×20.13E±0.02, h14km±8km, n60, σ0.992/113, 14C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.27**	**121**	*i* PG		**Pg**		**14 29 00.6**	**-0.1**
PHP				*i* SG		**Sb**		**14 29 05.2**	**-0.9**
PHP	**Peshkopia**	**0.27**	**121**	*i* Pg		**Pg**		**14 29 00.6**	**-0.1**
	baz=119								
PHP				*i* Sg		**Sb**		**14 29 05.2**	**-0.9**
	baz=119								
PUK	**Puka**	**0.28**	**321**	*i* PG		**Pg**		**14 29 00.4**	**-0.4**
PUK				*i* SG		**Sb**		**14 29 05.7**	**-0.6**
PUK	**Puka**	**0.28**	**321**	*i* Pg		**Pg**		**14 29 00.4**	**-0.4**
	baz=322								
PUK				*i* Sg		**Sb**		**14 29 05.7**	**-0.6**
	baz=322								
TIR	**Tirane**	**0.52**	**202**	*i* PG		**Pg**		**14 29 04.3**	**-0.7**
TIR				*i* SG		**Sb**		**14 29 12.8**	**-0.1**
TIR	**Tirane**	**0.52**	**202**	*e*Pg		**Pg**		**14 29 04.2**	**-0.8**
TIR				*e*Sg		**Sb**		**14 29 13.1**	**+0.1**
TIR	**Tirane**	**0.52**	**202**	P		**Pg**		**14 29 04.8**	**-0.2**
TIR				S		**Sg**		**14 29 12.0**	**+0.1**
TIR				AML		AML		14 29 14.9	
	comp=N,868μm,0.2s								
TIR				AML		AML		14 29 15.6	
	comp=E,662μm,0.3s								
TIR	**Tirane**	**0.52**	**202**	P		**Pg**		**14 29 04.3**	**-0.7**
TIR				S		**Sg**		**14 29 12.3**	**+0.4**
ULC	**Ulcinj**	**0.67**	**282**	*i* Pg		**Pg**		**14 29 07.0**	**-1.0**
ULC				*e*Sg		**Sb**		**14 29 17.5**	**-0.1**
ULC	**Ulcinj**	**0.67**	**282**	*i* Pg		**Pg**		**14 29 07.0**	**-1.0**
ULC				*e*Sg		**Sb**		**14 29 17.5**	**-0.1**
PVY	**Plav**	**0.78**	**351**	*i* Pg		**Pg**		**14 29 09.2**	**-0.8**
PVY				*e*Sg		**Sb**		**14 29 21.4**	**+0.7**
PVY	**Plav**	**0.78**	**351**	*i* Pg		**Pg**		**14 29 09.2**	**-0.8**
PVY				*e*Sg		**Sb**		**14 29 21.4**	**+0.7**
DRME	**Dracevica, Mon**	**0.79**	**298**	*i* Pg		**Pg**		**14 29 08.9**	**-1.3**
DRME				*e*Sg		**Sb**		**14 29 21.3**	**+0.4**
DRME	**Dracevica, Mon**	**0.79**	**298**	*i* Pg		**Pg**		**14 29 08.9**	**-1.3**
DRME				*e*Sg		**Sb**		**14 29 21.3**	**+0.4**
OHR	**Ohrid**	**0.87**	**144**	*i* Pg		**Pg**		**14 29 10.8**	**-1.0**
OHR				*i* Sg		**Sb**		**14 29 24.4**	**+1.0**
	comp=E,70nm,0.4s								
OHR				*e*Lg		Lg		14 29 26.5	
	comp=N,176nm,0.4s								
OHR				*e*Lg		Lg		14 29 29.0	
	comp=E,70nm,0.4s								
PDG	**Podgorica**	**0.89**	**313**	*e*Pg		**Pg**		**14 29 10.7**	**-1.3**
PDG	**Podgorica**	**0.89**	**313**	*e*Pg		**Pg**		**14 29 10.8**	**-1.3**
PDG				*e*Sg		**Sb**		**14 29 24.6**	**+0.9**
TTG	**Podgorica**	**0.89**	**313**	*i* Pg		**Pg**		**14 29 10.4**	**-1.6**
TTG				*e*Sg		**Sb**		**14 29 24.6**	**+0.9**
KRUS	**Krusevo**	**0.96**	**118**	*i* Pg		**Pg**		**14 29 11.5**	**-1.8**
KRUS				*i* Sg		**Sb**		**14 29 26.5**	**+0.7**
SKO	**Skopje**	**0.99**	**81**	*i* Pg		**Pg**		**14 29 11.5**	**-2.5**
BUM	**Brajici-Budva**	**1.03**	**298**	*i* Pg		**Pg**		**14 29 13.9**	**-0.9**
BUM				*e*Sg		**Sn**		**14 29 29.4**	**+0.1**
BUM	**Brajici-Budva**	**1.03**	**298**	*i* Pg		**Pg**		**14 29 13.9**	**-0.9**
BUM				*e*Sg		**Sn**		**14 29 29.4**	**+0.1**
BEY	**Berane**	**1.06**	**351**	*i* Pg		**Pb**		**14 29 14.1**	**-0.9**
BEY				*e*Sg		**Sn**		**14 29 30.8**	**+0.8**
IVA	**Berane**	**1.06**	**351**	*i* Pg		**Pb**		**14 29 14.1**	**-0.9**
IVA				*e*Sg		**Sn**		**14 29 30.8**	**+0.8**
KOME	**Kolasin**	**1.12**	**336**	*i* Pg		**Pb**		**14 29 15.6**	**-0.5**
KOME				*e*Sg		**Sn**		**14 29 32.5**	**+1.0**
KOME	**Kolasin**	**1.12**	**336**	*i* Pg		**Pb**		**14 29 15.6**	**-0.5**
KOME				*e*Sg		**Sn**		**14 29 32.5**	**+1.0**
CEME	**Cevo**	**1.15**	**309**	*i* Pg		**Pb**		**14 29 15.4**	**-1.2**
CEME				*e*Sg		**Sn**		**14 29 33.4**	**+1.2**
CEME	**Cevo**	**1.15**	**309**	*i* Pg		**Pb**		**14 29 15.4**	**-1.2**
CEME				*e*Sg		**Sn**		**14 29 33.4**	**+1.2**
BIA	**Bitola**	**1.21**	**131**	*i* Pg		**Pn**		**14 29 17.5**	**+0.1**
NKME	**Niksic**	**1.28**	**318**	*i* Pg		**Pn**		**14 29 17.8**	**-0.6**
NKME				*e*Sg		**Sg**		**14 29 37.9**	**+1.6**
NKME	**Niksic**	**1.28**	**318**	*i* Pg		**Pn**		**14 29 17.8**	**-0.6**
NKME				*e*Sg		**Sg**		**14 29 37.9**	**+1.6**
NKY	**Niksic**	**1.30**	**320**	*i* Pg		**Pn**		**14 29 18.4**	**-0.2**
NKY				*e*Sg		**Sg**		**14 29 38.4**	**+1.7**
NKY	**Niksic**	**1.30**	**320**	*i* Pg		**Pn**		**14 29 18.4**	**-0.2**
NKY				*e*Sg		**Sg**		**14 29 38.4**	**+1.7**
HCY	**Herceg Novi**	**1.36**	**298**	*i* Pg		**Pn**		**14 29 19.2**	**-0.3**
HCY				*e*Sg		**Sg**		**14 29 39.5**	**+0.7**
HCY	**Herceg Novi**	**1.36**	**298**	*i* Pg		**Pn**		**14 29 19.2**	**-0.3**
HCY				*e*Sg		**Sg**		**14 29 39.5**	**+0.7**
FNA	**Florina**	**1.40**	**137**	*i* PN		**Pn**		**14 29 19.4**	**-0.6**
FNA				*i* SN		**Sg**		**14 42 1.1**	**+2.0**
FNA	**Florina**	**1.40**	**137**	P		**Pn**		**14 29 19.9**	**-0.2**
FNA				S		**Sg**		**14 29 40.0**	**0.0**
FNA				AML		AML		14 29 42.2	
	comp=E,518μm,0.3s								
FNA				AML		AML		14 29 46.7	
	comp=N,527μm,0.3s								
FNA	**Florina**	**1.40**	**137**	*i* Pn		**Pn**		**14 29 19.4**	**-0.6**
	baz=137								
FNA	**Florina**	**1.40**	**137**	P		**Pn**		**14 29 19.9**	**-0.2**
FNA				S		**Sg**		**14 29 40.1**	**0.0**
FNA				*i* Sn		**Sg**		**14 29 42.1**	**+2.0**
SJES	**Sjenica**	**1.44**	**356**	*e*Pg		**Pg**		**14 29 22.7**	**+0.1**
SJES				*e*Sg		**Sg**		**14 29 42.3**	**+1.0**
SJES	**Sjenica**	**1.44**	**356**	*e*Pg		**Pg**		**14 29 22.7**	**+0.1**
SJES				*e*Sg		**Sg**		**14 29 42.3**	**+1.0**
NEST	**Nestorio**	**1.57**	**153**	P		**Pn**		**14 29 23.1**	**+0.7**
NEST				S		**Sg**		**14 29 46.4**	**+0.9**
NEST				AML		AML		14 29 52.3	
	comp=E,79μm,0.4s								
NEST				AML		AML		14 29 54.0	
	comp=N,125μm,0.3s								
NEST	**Nestorio**	**1.57**	**153**	P		**Pn**		**14 29 23.1**	**+0.7**
NEST				S		**Sg**		**14 29 46.2**	**+0.7**
TREB	**Trebinje**	**1.59**	**305**	*e*Pn		**Pn**		**14 29 22.9**	**+0.3**
TREB				*e*Sn		**Sg**		**14 29 45.6**	**-0.5**
PLE	**Pljevlja**	**1.60**	**340**	*i* Pn		**Pn**		**14 29 23.4**	**+0.6**
PLE				*e*Sn		**Sg**		**14 29 45.6**	**-0.8**
PLE	**Pljevlja**	**1.60**	**340**	*i* Pn		**Pn**		**14 29 23.4**	**+0.6**
PLE				*e*Sn		**Sg**		**14 29 45.6**	**-0.8**
IVAS	**Ivanjica**	**1.75**	**1**	*e*Pg		**Pg**		**14 29 27.7**	**-0.8**
IVAS				*e*Sg		**Sg**		**14 29 50.5**	**-0.7**
IVAS	**Ivanjica**	**1.75**	**1**	*e*Pg		**Pg**		**14 29 27.7**	**-0.8**
IVAS				*e*Sg		**Sg**		**14 29 50.5**	**-0.7**
GRG	**Griva**	**1.92**	**116**	P		**Pn**		**14 29 27.0**	**-0.1**
GRG	**Griva**	**1.92**	**116**	P		**Pn**		**14 29 27.2**	**+0.1**
STON	**Ston**	**2.08**	**301**	*e*Pn		**Pn**		**14 29 29.9**	**+0.6**
STON				Sn		**Sb**		**14 29 58.4**	**+0.4**
STON	**Ston**	**2.08**	**301**	*e*Pn		**Pb**		**14 29 31.2**	**-1.1**
STON				*e*Sn		**Sg**		**14 30 1.4**	**-0.3**
STON	**Ston**	**2.08**	**301**	*e*Pn		**Pn**		**14 29 30.0**	**+0.7**
STON				*e*Sn		**Sb**		**14 29 56.7**	**-1.3**
BBLS	**Lazići**	**2.11**	**346**	*e*Pn		**Pb**		**14 29 32.5**	**-0.4**
BBLS				*e*Sn		**Sb**		**14 29 59.8**	**+0.9**
BBLS	**Lazići**	**2.11**	**346**	*e*Pn		**Pn**		**14 29 31.1**	**+1.3**
BBLS				*e*Sn		**Sb**		**14 29 58.2**	**-0.7**
KEK	**Kerkira**	**2.12**	**187**	P		**Pn**		**14 29 30.5**	**+0.6**
KEK	**Kerkira**	**2.12**	**187**	P		**Pn**		**14 29 30.8**	**+0.9**
DIVS	**Divibare**	**2.27**	**358**	*e*Pn		**Pb**		**14 29 35.7**	**0.0**
DIVS				*e*Sn		**Sn**		**14 30 01.3**	**+1.4**
DIVS	**Divibare**	**2.27**	**358**	*e*Pn		**Pn**		**14 29 32.5**	**+0.4**
DIVS				*e*Sn		**Sn**		**14 30 01.3**	**+1.4**
HAPS	**Han Pijesak,Bl**	**2.42**	**340**	*e*Pn		**Pn**		**14 29 35.4**	**+1.3**
HAPS				*e*Sn		**Sb**		**14 30 06.5**	**-1.4**

*ISCJB **27** 14:29:10.4±0.5,50.00N×0.04×0.86E±0.06,h6km, Error ellipse: s-maj=6.5km s-min=5.6km az=175.8*
*STR **27** 14:29:12.8±0.2,50°N±3°×±°, h5km,M3.6/13,mB4.0/1, mb3.8/3,MLv3.5/13,Mw(mB)3.0/1*

ISC 27 14:29:11.8±1.1, 50.04N±0.06×0.90E±0.04, h6km, n26, σ0.978/26, United Kingdom

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.90**	**337**	Pg		**Pg**		**14 29 28.6**	**-0.5**
MENF	**Mencas**	**0.96**	**57**	Pg		**Pg**		**14 29 29.2**	**-1.1**
ELSH	**Elham, Standar**	**1.12**	**8**	Pg		**Pg**		**14 29 33.0**	**-0.3**
BOST	**Ostende**	**1.77**	**47**	P		**Pn**		**14 29 42.7**	**-0.3**
BBOU	**Bougnies**	**1.99**	**79**	P		**Pn**		**14 29 46.5**	**+0.5**
BSKQ	**Steenkerk**	**2.13**	**72**	P		**Pn**		**14 29 48.0**	**+0.1**
JSA	**Saint Aubin**	**2.17**	**248**	Pn		**Pn**		**14 29 47.5**	**-0.9**
JSA	**Saint Aubin**	**2.17**	**248**	Sn		**Sn**		**14 30 18.2**	**+2.7**
BRQR	**Ronqui¨ere**	**2.21**	**74**	P		**Pn**		**14 29 48.8**	**-0.2**
DOU	**Dourbes**	**2.38**	**87**	P		**Pn**		**14 29 51.6**	**+0.2**
BMRD	**Maredsous**	**2.50**	**82**	P		**Pn**		**14 29 53.4**	**+0.3**
BGES	**Gesves**	**2.71**	**81**	P		**Pn**		**14 29 56.0**	**+0.1**
RCHB	**Rochefort**	**2.79**	**86**	P		**Pn**		**14 29 57.4**	**+0.4**
BCLA	**Clavier**	**2.86**	**81**	P		**Pn**		**14 29 58.8**	**+0.9**
DYA	**Yadsworthy**	**3.12**	**279**	Pn		**Pn**		**14 30 00.3**	**-1.3**
ROSF	**Rostrenen**	**3.22**	**240**	Pn		**Pn**		**14 30 02.9**	**0.0**
LOR	**Lormes**	**3.40**	**144**	Pn		**Pn**		**14 30 05.0**	**-0.4**
CCA1	**Carnmenellis**	**3.94**	**274**	Pn		**Pn**		**14 30 12.5**	**-0.3**
AGO	**Saint Agoulin**	**4.26**	**159**	Pn		**Pn**		**14 30 16.7**	**-0.5**
ABH	**Alteburg**	**4.30**	**90**	Pn		**Pn**		**14 30 17.6**	**-0.2**
ECH	**Echery**	**4.50**	**112**	Pn		**Pn**		**14 30 19.9**	**-0.6**
LBL	**Lubilhac**	**5.07**	**161**	Pn		**Pn**		**14 30 28.0**	**-0.3**
KIZ	**Kirchzarten**	**5.07**	**112**	Pn		**Pn**		**14 30 28.0**	**-0.4**
RSL	**Roselend**	**5.81**	**136**	Pn		**Pn**		**14 30 38.8**	**+0.1**
ORIF	**Oris-en-Rattie**	**6.13**	**145**	Pn		**Pn**		**14 30 43.3**	**+0.2**
RUSF	**Rustrel**	**6.86**	**151**	Pn		**Pn**		**14 30 52.9**	**0.0**

*NIED **27** 14:31:00,39.70N×142.30E,h5km,Mw3.4 Best double couple: M0 1.67000×10^14 NP1:φs=307.00000°,δ58.00000°, λ-13.00000°. NP2:φs=44.00000°,δ79.00000°, λ-147.00000°.*
*IDC **27** 14:31:07.0±1.1,39.75N×142.59E,h0km,mb3.5/6, mb1 3.5/8,mb1mx3.3/60,mbtmp3.4/8,ML3.0/2,Error ellipse: s-maj=31.1km s-min=18.3km az=90.0*
*ISCJB **27** 14:31:08.8±1.6,39.73N±0.04×142.4E±0.1,h21km±11km, mb3.4/6,Error ellipse: s-maj=15.0km s-min=5.8km az=5.5*
*JMA **27** 14:31:10.1±0.1,39.73N×142.30E,h22km±1km,M3.7*

ISC 27 14:31:08.9±2.1, 39.73N±0.04×142.4E±0.1, h11km±12km, n21, σ1.903/23, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.44**	**299**	P		**Pg**		**14 31 18.3**	**+0.7**
JTH				S		**Sg**		**14 31 23.9**	**+0.5**
MIYJ	**Miyakonagasawa**	**0.45**	**250**	P		**Pg**		**14 31 18.5**	**+0.8**
MIYJ				S		**Sg**		**14 31 24.1**	**+0.5**
JKZ	**Kuzumaki**	**0.84**	**288**	P		**Pg**		**14 31 24.9**	**-0.2**
JKZ				S		**Sg**		**14 31 35.3**	**-0.7**
OFUJ	**Ofunato**	**0.84**	**220**	P		**Pg**		**14 31 25.0**	**-0.2**
OFUJ				S		**Sg**		**14 31 35.6**	**-0.6**
JOM	**Ohasama**	**0.87**	**253**	P		**Pg**		**14 31 25.4**	**-0.3**
JOM				S		**Sg**		**14 31 36.3**	**-0.7**
JANG	**Nango**	**0.92**	**315**	P		**Pg**		**14 31 25.8**	**-0.8**
JANG				S		**Sg**		**14 31 37.3**	**-1.2**
JMK	**Ichinoseki**	**1.18**	**229**	P		**Pn**		**14 31 30.6**	**-0.8**
JMK				S		**Sb**		**14 31 45.2**	**-1.4**
ASAJ	**Asahikawa**	**4.39**	**2**	Pn		**Pn**		**14 32 16.5**	**+1.0**
	0.8nm,0.3s,baz=200,slow=14,SNR=8.6								
ASAJ				Sn		**

SEY	**Seymchan**	**23.99**	**11**	P		**P**	**14 49 20.2**	**-1.1**
	0.4nm,0.4s,baz=166,slow=12							
SONM	**Songino Array**	**26.91**	**299**	P		**P**	**14 49 49.3**	**+1.1**
	0.3nm,0.6s,baz=95,slow=7.6,SNR=4.9							
H11N2	**WAKE ISLAND Hy**	**29.10**	**126**	T		T	15 20 36.3	
	baz=319,slow=75,SNR=1023							
H11N1	**WAKE ISLAND Hy**	**29.11**	**126**	T		T	15 20 36.8	
	baz=319,slow=75,SNR=974							
H11N3	**WAKE ISLAND Hy**	**29.12**	**126**	T		T	15 20 36.8	
	baz=319,slow=75,SNR=1188							
H11S1	**WAKE ISLAND Hy**	**29.91**	**128**	T		T	15 21 39.8	
	baz=320,slow=76,SNR=99							
H11S3	**WAKE ISLAND Hy**	**29.91**	**128**	T		T	15 21 40.4	
	baz=320,slow=76,SNR=43							
H11S2	**WAKE ISLAND Hy**	**29.92**	**128**	T		T	15 21 39.2	
	baz=320,slow=76,SNR=79							
TIXI	**Tiksi**	**32.87**	**352**	LR		LR	15 03 40.9	
	comp=Z,19nm,18.5s,baz=214,slow=36							
ZALV	**Zalesovo Beam**	**40.61**	**310**	P		**P**	**14 51 46.3**	**-0.4**
	1.5nm,0.5s,baz=91,slow=6.8,SNR=7.3							
MKAR	**Makanchi Array**	**43.28**	**300**	P		**P**	**14 52 09.1**	**+0.5**
	1.6nm,0.6s,baz=86,slow=9.6,SNR=6.6							
KURBB	**Kurchatov Arra**	**44.89**	**306**	P		**P**	**14 52 21.7**	**+0.4**
	2.1nm,0.4s,baz=80,slow=8.4,SNR=13							
ILAR	**Eielson Array**	**46.85**	**34**	P		**P**	**14 52 35.6**	**-1.1**
	0.2nm,0.7s,baz=274,slow=5.7,SNR=2.9							
BVAR	**Borovoye Array**	**49.26**	**311**	P		**P**	**14 52 54.7**	**-0.7**
	0.3nm,0.4s,baz=70,slow=9.9,SNR=5.3							
INK	**Inuvik**	**51.66**	**28**	P		**P**	**14 53 11.9**	**-1.4**
	0.5nm,0.6s,baz=342,slow=20,SNR=2.2							
WRA	**Warramunga Arr**	**59.85**	**189**	P		**P**	**14 54 12.5**	**-0.1**
	1.1nm,0.9s,baz=6.8,slow=6.9,SNR=8.3							
YKA	**Yellowknife Ar**	**61.12**	**31**	P		**P**	**14 54 19.2**	**-1.7**
	0.1nm,0.4s,baz=299,slow=6.5,SNR=3.3							
ASAR	**Alice Springs**	**63.58**	**189**	P		**P**	**14 54 38.1**	**+0.4**
	0.2nm,0.6s,baz=9.1,slow=9.0,SNR=6.8							
FINES	**FINESS Array B**	**66.71**	**332**	P		**P**	**14 54 57.5**	**-0.1**
	1.4nm,0.7s,baz=36,slow=12,SNR=3.0							
HFS	**Hagfors**	**71.87**	**336**	P		**P**	**14 55 30.3**	**+0.7**
	1.2nm,0.7s,baz=10,slow=8.9,SNR=3.7							
NOA	**NORSAR Array B**	**71.92**	**337**	P		**P**	**14 55 31.0**	**+1.0**
	0.6nm,0.8s,baz=38,slow=7.4,SNR=2.3							
AKASG	**Malin Array Be**	**72.55**	**322**	P		**P**	**14 55 33.1**	**-0.7**
	0.3nm,0.4s,baz=42,slow=5.6,SNR=4.2							
MLR	**Muntele Rosu**	**77.73**	**320**	P		**P**	**14 56 04.5**	**+0.5**
	0.7nm,0.5s,baz=6.3,slow=18,SNR=3.3							

*ISCJB **27** 14:44:48.8±0.4,39.61N±0.02×26.07E±0.03,h3km±4km,*
Error ellipse: s-maj=4.0km s-min=2.8km az=178.5
*ATH **27** 14:44:48.7,39.61N×26.10E,h13km±4km,ML2.3/6,Error*
ellipse: s-maj=4.5km s-min=0.8km az=245.0
*ISK **27** 14:44:48.4,39.60N×26.06E,h4km,ML2.7/13*
*CSEM **27** 14:44:49.2±0.1,39.60N×26.06E,h5km,ML2.7,Error*
ellipse: s-maj=3.2km s-min=2.2km az=89.0
*THE **27** 14:44:49.1,39.61N×26.05E,h6km±1km,ML2.2/6,Error*
ellipse: s-maj=1.1km s-min=0.4km az=72.0

ISC 27 14:44:49.4±0.9,39.61N±0.01×26.06E±0.02,h10km±8km,
n86,σ0.75/113,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.16**	**158**	PG	**Pg**	**14 44 52.4**	**-0.5**
GPNR	**Gulpinar-Canak**	**0.16**	**158**	*e*Pg	**Pg**	**14 44 52.4**	**-0.5**
BOZC	**Bozcaada**	**0.23**	**359**	PG	**Pg**	**14 44 54.2**	**0.0**
BOZC	**Bozcaada**	**0.23**	**359**	*e*Pg	**Pg**	**14 44 54.2**	**0.0**
EZN	**Ezine**	**0.30**	**43**	PG	**Pg**	**14 44 55.3**	**-0.2**
EZN				SG	**Sg**	**14 44 59.9**	**+0.4**
EZN	**Ezine**	**0.30**	**43**	P	**Pg**	**14 44 55.2**	**-0.2**
EZN				S	**Sg**	**14 44 59.5**	**0.0**
EZN	**Ezine**	**0.30**	**43**	P	**Pg**	**14 44 55.2**	**-0.2**
EZN				S	**Sg**	**14 44 59.5**	**0.0**
PRK	**Paraskevi**	**0.40**	**155**	P	**Pg**	**14 44 57.6**	**+0.5**
PRK				S	**Sg**	**14 45 02.1**	**-0.3**
PRK				AML	AML	14 45 03.1	
	comp=N,3763μm,0.3s						
PRK				AML	AML	14 45 04.0	
	comp=E,3528μm,0.4s						
PRK	**Paraskevi**	**0.40**	**155**	P	**Pg**	**14 44 57.0**	**-0.2**
PRK				S	**Sg**	**14 45 02.1**	**-0.3**
PRK	**Paraskevi**	**0.40**	**155**	P	**Pg**	**14 44 57.0**	**-0.2**
PRK				S	**Sg**	**14 45 02.6**	**-0.2**
SIGR	**SIGRI**	**0.42**	**202**	PG	**Pg**	**14 44 57.4**	**-0.3**
SIGR	**SIGRI**	**0.42**	**202**	P	**Pg**	**14 44 57.1**	**-0.6**
SIGR				S	**Sg**	**14 45 03.1**	**-0.2**
SIGR				AML	AML	14 45 05.1	
	comp=N,1283μm,0.4s						
SIGR				AML	AML	14 45 05.5	
	comp=E,726μm,0.2s						
SIGR	**SIGRI**	**0.42**	**202**	*e*Pg	**Pg**	**14 44 57.4**	**-0.3**
SIGR				S	**Sg**	**14 45 03.4**	**+0.1**
SIGR	**SIGRI**	**0.42**	**202**	P	**Pg**	**14 44 57.3**	**-0.4**
SIGR				S	**Sg**	**14 45 03.4**	**+0.1**
GADA	**Gvkgeada**	**0.59**	**348**	PG	**Pg**	**14 45 00.6**	**-0.4**
GADA	**Gvkgeada**	**0.59**	**348**	*e*Pg	**Pg**	**14 45 00.6**	**-0.4**
GADA				S	**Sg**	**14 45 08.7**	**-0.1**
GADA	**Gvkgeada**	**0.59**	**348**	P	**Pg**	**14 45 00.5**	**-0.4**
GADA				S	**Sg**	**14 45 08.7**	**-0.1**
GOKC	**Gokceada-Canak**	**0.60**	**350**	PG	**Pg**	**14 45 01.3**	**+0.3**
GOKC	**Gokceada-Canak**	**0.60**	**350**	*e*Pg	**Pg**	**14 45 01.3**	**+0.3**
LIA	**Limnos Island**	**0.73**	**294**	P	**Pg**	**14 45 03.4**	**-0.1**
LIA				S	**Sb**	**14 45 14.0**	**-0.3**
LIA				AML	AML	14 45 16.7	
	comp=E,335μm,0.3s						
LIA				AML	AML	14 45 17.2	
	comp=N,327μm,0.3s						
LIA	**Limnos Island**	**0.73**	**294**	P	**Pg**	**14 45 03.4**	**-0.1**
LIA				S	**Sb**	**14 45 13.9**	**-0.3**
LIA	**Limnos Island**	**0.73**	**294**	P	**Pg**	**14 45 03.3**	**-0.2**
LIA				S	**Sb**	**14 45 13.9**	**-0.3**
EFSA	**Agios Efstrati**	**0.83**	**266**	P	**Pb**	**14 45 06.5**	**+0.7**
EFSA				S	**Sb**	**14 45 16.9**	**-0.1**
EFSA	**Agios Efstrati**	**0.83**	**266**	P	**Pb**	**14 45 05.8**	**0.0**
EFSA				S	**Sb**	**14 45 17.0**	**0.0**
DKL	**Dikili**	**0.85**	**129**	PG	**Pg**	**14 45 05.5**	**-0.2**
DKL	**Dikili**	**0.85**	**129**	*e*Pg	**Pg**	**14 45 05.5**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.85**	**22**	PG	**Pg**	**14 45 05.4**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.85**	**22**	*e*Pg	**Pg**	**14 45 05.4**	**-0.4**
CAND	**Candarli**	**0.87**	**138**	PG	**Pg**	**14 45 05.5**	**-0.7**
LPK	**Lapseki**	**0.94**	**35**	PG	**Pg**	**14 45 05.9**	**-1.5**
LPK	**Lapseki**	**0.94**	**35**	*e*Pg	**Pg**	**14 45 05.9**	**-1.5**
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pg**	**14 45 07.5**	**-0.2**
SMTH				S	**Sb**	**14 45 20.6**	**-0.1**
SMTH				AML	AML	14 45 23.8	
	comp=E,150μm,0.4s						
SMTH				AML	AML	14 45 24.4	
	comp=N,137μm,0.2s						
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pg**	**14 45 07.3**	**-0.5**
SMTH				S	**Sg**	**14 45 20.2**	**+0.1**
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pg**	**14 45 07.2**	**-0.5**
SMTH				S	**Sg**	**14 45 20.2**	**+0.1**
FOCM	**Fo˘ça**	**1.04**	**149**	PG	**Pg**	**14 45 08.4**	**-0.9**
FOCM	**Fo˘ça**	**1.04**	**149**	*e*Pg	**Pg**	**14 45 08.4**	**-0.9**
KRBN	**Karaburun**	**1.08**	**159**	PG	**Pg**	**14 45 09.6**	**-0.6**
KRBN	**Karaburun**	**1.08**	**159**	*e*Pg	**Pg**	**14 45 09.6**	**-0.6**
ERIK	**Erikli-Kesan**	**1.12**	**18**	PN	**Pg**	**14 45 09.8**	**-1.1**
ERIK	**Erikli-Kesan**	**1.12**	**18**	*e*Pn	**Pg**	**14 45 09.8**	**-1.1**
ENEZ	**Enez**	**1.13**	**4**	PN	**Pg**	**14 45 10.6**	**-0.5**
ENEZ	**Enez**	**1.13**	**4**	*e*Pn	**Pg**	**14 45 10.6**	**-0.5**
PSRA	**Psara**	**1.13**	**200**	P	**Pg**	**14 45 09.1**	**-2.0**
PSRA				S	**Sb**	**14 45 26.6**	**+1.0**
PSRA	**Psara**	**1.13**	**200**	P	**Pg**	**14 45 09.7**	**-1.4**
PSRA				S	**Sb**	**14 45 26.4**	**+0.7**
CHOS	**Chios island**	**1.22**	**180**	PN	**Pg**	**14 45 12.4**	**-0.4**
CHOS	**Chios island**	**1.22**	**180**	P	**Pg**	**14 45 11.1**	**-1.7**
CHOS				S	**Sb**	**14 45 28.9**	**+0.6**
CHOS				AML	AML	14 45 31.8	
	comp=N,296μm,0.3s						
CHOS				AML	AML	14 45 33.1	
	comp=E,392μm,0.5s						
CHOS	**Chios island**	**1.22**	**180**	P	**Pg**	**14 45 11.4**	**-1.4**
CHOS	**Chios island**	**1.22**	**180**	*e*Pn	**Pg**	**14 45 12.4**	**-0.4**
CHOS				S	**Sb**	**14 45 28.8**	**+0.5**
CHOS	**Chios island**	**1.22**	**180**	P	**Pg**	**14 45 11.2**	**-1.6**
CHOS				S	**Sb**	**14 45 29.0**	**+0.6**
KRBG	**Karabiga-Canak**	**1.23**	**50**	PN	**Pg**	**14 45 12.1**	**-1.0**
KRBG	**Karabiga-Canak**	**1.23**	**50**	*e*Pn	**Pg**	**14 45 12.1**	**-1.0**
ALN	**Alexandroupoli**	**1.29**	**360**	PN	**Pg**	**14 45 14.1**	**0.0**
ALN	**Alexandroupoli**	**1.29**	**360**	P	**Pn**	**14 45 12.8**	**-0.6**
ALN				S	**Sb**	**14 45 29.8**	**-0.5**
ALN				AML	AML	14 45 31.4	
	comp=E,217μm,0.4s						
ALN				AML	AML	14 45 32.3	
	comp=N,153μm,0.7s						
ALN	**Alexandroupoli**	**1.29**	**360**	P	**Pn**	**14 45 12.9**	**-0.5**
ALN	**Alexandroupoli**	**1.29**	**360**	*e*Pn	**Pg**	**14 45 14.1**	**0.0**
ALN				S	**Sb**	**14 45 30.4**	**+0.1**
ALN	**Alexandroupoli**	**1.29**	**360**	P	**Pn**	**14 45 12.7**	**-0.6**
ALN				S	**Sb**	**14 45 30.4**	**+0.1**
URLA	**Izmir**	**1.31**	**161**	PN	**Pn**	**14 45 13.4**	**-0.4**
URLA	**Izmir**	**1.31**	**161**	*e*Pn	**Pn**	**14 45 13.4**	**-0.4**
GONE	**Gonen-Balikesi**	**1.33**	**70**	PN	**Pg**	**14 45 14.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.33**	**70**	*e*Pn	**Pg**	**14 45 14.7**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.38**	**38**	PN	**Pn**	**14 45 14.5**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.38**	**38**	*e*Pn	**Pn**	**14 45 14.5**	**-0.2**
BALB	**Balikesir**	**1.41**	**88**	PN	**Pn**	**14 45 15.1**	**+0.1**
BALB	**Balikesir**	**1.41**	**88**	*e*Pn	**Pn**	**14 45 15.1**	**+0.1**
EDC	**Edincik**	**1.57**	**61**	PN	**Pb**	**14 45 18.2**	**-0.3**
EDC	**Edincik**	**1.57**	**61**	*e*Pn	**Pb**	**14 45 18.2**	**-0.3**
OUR	**Ouranopolis**	**1.75**	**295**	PN	**Pn**	**14 45 20.3**	**+0.6**
OUR	**Ouranopolis**	**1.75**	**295**	*e*Pn	**Pn**	**14 45 20.3**	**+0.6**
KCTX	**Karacabey (Bur**	**1.89**	**69**	PN	**Pn**	**14 45 22.6**	**+0.9**
KCTX	**Karacabey (Bur**	**1.89**	**69**	*e*Pn	**Pn**	**14 45 22.6**	**+0.9**
SBT3	**Marmara-Eregli**	**1.95**	**48**	PN	**Pb**	**14 45 24.1**	**-0.7**
SBT3	**Marmara-Eregli**	**1.95**	**48**	*e*Pn	**Pb**	**14 45 24.1**	**-0.7**
SMG	**Samos**	**1.99**	**162**	P	**Pn**	**14 45 24.4**	**+1.3**
SMG	**Samos**	**1.99**	**162**	P	**Pn**	**14 45 24.4**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.19**	**139**	PN	**Pn**	**14 45 26.5**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.19**	**139**	*e*Pn	**Pn**	**14 45 26.5**	**+0.6**
ARMT	**Armutlu**	**2.36**	**65**	PN	**Pn**	**14 45 29.2**	**+1.1**
ARMT	**Armutlu**	**2.36**	**65**	*e*Pn	**Pn**	**14 45 29.2**	**+1.1**
CTKS	**Kestanelik-??a**	**2.48**	**48**	PN	**Pn**	**14 45 31.6**	**+1.8**
CTKS	**Kestanelik-??a**	**2.48**	**48**	*e*Pn	**Pn**	**14 45 31.6**	**+1.8**
BGKT	**Bogazkoy**	**2.60**	**52**	PN	**Pn**	**14 45 32.9**	**+1.4**
BGKT	**Bogazkoy**	**2.60**	**52**	*e*Pn	**Pn**	**14 45 32.9**	**+1.4**
BUY	**Buyukada**	**2.65**	**61**	PN	**Pn**	**14 45 33.4**	**+1.2**
BUY	**Buyukada**	**2.65**	**61**	*e*Pn	**Pn**	**14 45 33.4**	**+1.2**
ISK	**Istanbul-Kandi**	**2.72**	**57**	PN	**Pn**	**14 45 34.4**	**+1.3**
ISK	**Istanbul-Kandi**	**2.72**	**57**	*e*Pn	**Pn**	**14 45 34.4**	**+1.3**

*CSEM **27** 14:45:34.1±0.8,32.61N×47.23E,h10km,ML2.8,Error*
ellipse: s-maj=30.9km s-min=10.8km az=56.0
*ISN **27** 14:45:40.7±0.3,32.56N×46.39E,h0km,ML2.8*

TEH 27 14:45:36.5,32.73N×47.31E,h28km,ML2.7,Iran-Iraq
border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.91**	**29**	*e*Pg	Pn	14 45 53.2	-0.2
IKFM				*e*AMB	AMB	14 46 15.9	
	comp=Z,99nm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.41**	**116**	*e*Pn	Pn	14 46 00.3	+0.1
IKOM	**Komasi**	**1.45**	**7**	*e*Pg	Pn	14 45 59.2	-1.8
IVIS	**Veis**	**1.83**	**348**	*e*Sg	Sb	14 46 34.7	+2.7
IVIS				*e*Pn	Pn	14 46 06.0	-0.2
IVIS				*e*AMB	AMB	14 46 35.7	
	comp=Z,756nm,0.2s						
IDHR	**Dehrash**	**2.11**	**339**	*e*Pn	Pn	14 46 09.4	-0.7
SNGE	**Sanandaj**	**2.36**	**1**	*e*Pn	Pn	14 46 14.7	+1.2
KHMZ	**Khomeyn**	**2.44**	**65**	*e*Pn	Pn	14 46 15.5	+0.9
ASAO	**Ashtian**	**2.90**	**51**	*e*Pn	Pn	14 46 22.7	+1.6
QAM	**Ghamsar**	**3.61**	**72**	*e*Pn	Pn	14 46 29.8	-1.0
QAM				*e*AMB	AMB	14 46 47.3	
	comp=Z,282nm,0.1s						
IZEF	**Zefreh**	**4.23**	**86**	*e*Pn	Pn	14 46 38.8	-0.5
IZEF				*e*AMB	AMB	14 46 41.4	
	comp=Z,80nm,0.1s						
IRAM	**Ramesheh**	**4.39**	**101**	*e*Pn	Pn	14 46 41.4	-0.1
IRAM				*e*AMB	AMB	14 47 38.4	
	comp=Z,47nm,0.2s						

*ISCJB **27** 14:46:36.9±0.2, 19.65S±0.02×69.32W±0.05,h110km±2km,*
mb4.2/27, Error ellipse: s-maj=7.6km s-min=3.9km
az=174.9
*NEIC **27** 14:46:37.4±0.5, 19.53S×69.10W,h99km±4km,mb4.6/14,*
Error ellipse: s-maj=9.5km s-min=5.5km az=81.0
NEIC Felt at Arica.
*IDC **27** 14:46:38.7±0.6, 19.53S×69.05W,h107km±4km,mb3.9/17,*
mb1 4.0/20,mb1mx3.9/42,mbtmp4.3/20,MS3.4/4,
Ms1 3.4/4,ms1mx2.9/39,Error ellipse: s-maj=16.7km
s-min=11.9km az=68.0
*GUC **27** 14:46:38.5±0.5, 19.69S×69.39W,h94km±2km,ML4.5*
*SCB **27** 14:46:41.8±0.4, 19.18S×68.51W,h125km,Ml3.7/1,Error*
ellipse: s-maj=15.4km s-min=4.0km az=60.0

ISC 27 14:46:37.5±0.4,19.68S±0.03×69.29W±0.05,h103km±3km,
n112,σ1.63/125,mb4.3/27,7C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.35**	**256**	*e*Pn	**Pn**	**14 46 52.7**	**0.0**
PB11				*e*Sn	**Sn**	**14 47 03.6**	**-0.7**
PB11	**IPOC Station P**	**0.35**	**256**	*e*P	**Pn**	**14 46 52.8**	**0.0**
PB11				*e*S	**Sn**	**14 47 03.6**	**-0.7**
PB11				IAML		14 47 05.0	
	comp=N,74μm,0.2s						
PB08	**IPOC Station P**	**0.48**	**164**	*e*P	**Pn**	**14 46 54.7**	**+0.8**
PB08				*e*S	**Sn**	**14 47 06.7**	**+0.6**
PB08				IAML		14 47 08.9	
	comp=N,20μm,0.6s						
MNMC	**Minye Minye**	**0.61**	**332**	*e*Pn	**Pn**	**14 46 54.9**	**+0.1**
MNMC				*e*Sn	**Sn**	**14 47 06.9**	**-0.7**
MNMC	**Minye Minye**	**0.61**	**332**	*e*P	**Pn**	**14 46 55.0**	**+0.2**
MNMC				*e*S	**Sn**	**14 47 07.6**	**0.0**
MNMC				IAML		14 47 08.4	
	comp=N,64μm,0.5s						
PSGC	**Pisagua**	**0.79**	**276**	*e*P	**Pn**	**14 46 55.9**	**-0.1**
PSGC				*e*S	**Sn**	**14 47 09.1**	**-0.9**
PSGC				IAML		14 47 10.0	
	comp=E,11μm,0.2s						
PB01	**IPOC Station P**	**1.37**	**188**	*e*Pn	**Pn**	**14 47 03.5**	**+1.1**
PB01				*e*Sn	**Sn**	**14 47 22.8**	**+1.5**
PB01	**IPOC Station P**	**1.37**	**188**	*e*P	**Pn**	**14 47 03.3**	**+0.9**
PB01				*e*S	**Sn**	**14 47 22.7**	**+0.9**
PB01				IAML		14 47 24.2	
	comp=E,7μm,0.2s						
ARCH	**Arica**	**1.51**	**321**	*e*P	**Pn**	**14 47 04.4**	**+0.4**
ARCH				*e*S	**Sn**	**14 47 24.2**	**0.0**
PB02	**IPOC Station P**	**1.73**	**199**	*e*P	**Pn**	**14 47 07.2**	**+0.4**
PB02				*e*S	**Sn**	**14 47 29.0**	**-0.1**
PB02				IAML		14 47 36.6	
	comp=E,6μm,0.3s						
PB09	**IPOC Station P**	**2.11**	**179**	*e*P	**Pn**	**14 47 13.2**	**+1.5**
PB09				*e*S	**Sn**	**14 47 39.6**	**+1.7**
PB09				IAML		14 47 45.5	
	comp=N,9μm,0.6s						
PB07	**IPOC Station P**	**2.11**	**195**	*e*P	**Pn**	**14 47 12.2**	**+0.5**
PB07				*e*S	**Sn**	**14 47 39.1**	**+1.1**
PB07				IAML		14 47 46.6	
	comp=N,2μm,0.7s						
PB04	**IPOC Station P**	**2.76**	**197**	*e*Pn	**Pn**	**14 47 21.9**	**+1.6**
PB04	**IPOC Station P**	**2.76**	**197**	*e*P	**Pn**	**14 47 21.9**	**+1.6**
PB04				*e*S	**Sn**	**14 47 48.2**	**-5.0**
BBOJ	**La Paz, Jacaqu**	**2.88**	**21**	*e*Pn	**Pn**	**14 47 23.2**	**+0.9**
PB06	**IPOC Station P**	**3.02**	**185**	*e*P	**Pn**	**14 47 24.0**	**+0.3**
PB06				*e*S	**Sn**	**14 47 58.7**	**-0.7**
PB06				IAML		14 48 10.7	
	comp=N,1μm,0.8s						
BBOD	**La Paz, Gloria**	**3.10**	**12**	*e*Pn	**Pn**	**14 47 27.4**	**+2.3**
BBOE	**La Paz, Chanca**	**3.11**	**24**	*e*Pn	**Pn**	**14 47 26.1**	**+0.8**
LPAZ	**La Paz**	**3.55**	**18**	P	**Pn**	**14 47 33.5**	**+2.3**
	comp=N,24nm,0.3s,baz=191,slow=8.8,SNR=302						
LPAZ				S	**Sn**	**14 48 10.2**	**-2.5**
	comp=N,4.9nm,0.3s,baz=6.9,slow=11,SNR=1.8						
LPAZ				LR	LR	14 49 13.6	
	comp=N,370nm,20.6s,baz=226,slow=46						
LPAZ	**La Paz**	**3.55**	**18**	*e*Pn	**Pn**	**14 47 32.6**	**+1.4**
BBOB	**La Paz, Bander**	**3.69**	**18**	*e*Pn	**Pn**	**14 47 33.7**	**+0.7**
MOCB	**Mochara**	**3.77**	**115**	*e*Pn	Pn	14 47 38.5	+4.5
MOCB				*e*Sn	**Sn**	**14 48 20.6**	**+2.9**
	comp=N,204nm,1.3s						
SIV	**San Ignacio**	**8.64**	**66**	P	**Pn**	**14 48 37.5**	**-2.4**
	comp=N,2.4nm,0.3s,baz=263,slow=12,SNR=119						
SIV				S	Sn	14 50 04.9	-11
	comp=N,0.4nm,0.3s,baz=42,slow=18,SNR=2.1						
SIV	**San Ignacio**	**8.64**	**66**	*e*Pn	**Pn**	**14 48 37.4**	**-2.4**
LCO	**Las Campanas**	**9.38**	**188**	*e*Pn	**Pn**	**14 48 45.6**	**-4.3**
NNA	**Nana**	**10.54**	**315**	P	**Pn**	**14 49 06.4**	**+0.7**
	comp=N,2.1nm,0.3s,baz=176,slow=15,SNR=4.0						
NNA	**Nana**	**10.54**	**315**	*e*Pn	**Pn**	**14 49 01.8**	**-3.8**
SAML	**Samuel**	**12.20**	**30**	*e*Pn	Pn	14 49 21.7	-6.0
CPUP	**Villa Florida**	**12.85**	**123**	P	**Pn**	**14 49 35.6**	**-0.7**
	comp=N,0.2nm,0.3s,baz=289,slow=13,SNR=4.8						
CPUP	**Villa Florida**	**12.85**	**123**	*e*Pn	**Pn**	**14 49 32.1**	**-4.2**
ROC1	**El Roble**	**13.33**	**186**	*e*Pn	**Pn**	**14 49 43.7**	**+0.8**
TRQA	**Tornquist**	**19.39**	**162**	*e*P	**Pn**	**14 50 56.5**	**-0.9**
	comp=N,21nm,0.9s						
PLCA	**Paso Flores**	**21.01**	**183**	P	**P**	**14 51 14.6**	**+1.8**
	comp=N,12nm,0.9s,baz=29,slow=11,SNR=19						
PLCA	**Paso Flores**	**21.01**	**183**	*e*P	**P**	**14 51 13.5**	**+0.7**
	comp=N,22nm,1.0s						
OTAV	**Otavalo**	**21.73**	**335**	*e*P	**P**	**14 51 21.7**	**+0.6**
	comp=N,12nm,0.9s						
OTAV	**Otavalo**	**21.73**	**335**	*e*P	**P**	**14 51 23.3**	**+2.1**
CMBC	**Cumbal**	**22.13**	**337**	*e*P	**P**	**14 51 28.1**	**+2.8**
CRUC	**La Cruz**	**22.41**	**340**	*e*P	**P**	**14 51 27.1**	**-1.0**
SOTA	**Rioblanco**	**22.84**	**341**	*e*P	**P**	**14 51 30.2**	**-2.4**
PCON	**Cinco Dias**	**22.95**	**342**	*e*P	**P**	**14 51 34.2**	**+0.3**
HORQ	**Saladito**	**24.12**	**342**	*e*P	**P**	**14 51 44.5**	**+0.3**
YOTC	**Yotoco, Valle**	**24.51**	**343**	*e*P	P	14 51 38.8	-8.8
ROSC	**El Rosal**	**24.86**	**348**	LR	LR	15 02 56.4	
	comp=N,74nm,19.2s,baz=243,slow=40						
RREF	**El Recreo**	**25.14**	**346**	*e*P	**P**	**14 51 55.5**	**+1.6**
RUSC	**La Rusia**	**25.68**	**351**	*e*P	**P**	**14 51 58.1**	**-0.5**
	comp=N,11nm,0.5s						
RUSC	**La Rusia**	**25.68**	**351**	*e*P	**P**	**14 51 59.3**	**+0.7**
HELC	**Santa Helena**	**26.43**	**346**	*e*P	**P**	**14 52 04.3**	**-0.9**
	comp=N,16nm,0.6s						
HELC	**Santa Helena**	**26.43**	**346**	*e*P	**P**	**14 51 59.4**	**-5.8**
PTBC	**PUERTO BERRIO,**	**26.54**	**348**	*e*P	**P**	**14 52 03.3**	**-2.5**
ZARC	**Zaragoza, Cauc**	**27.55**	**348**	*e*P	**P**	**14 52 09.1**	**-5.7**
SDV	**Santo Domingo**	**28.41**	**357**	P	**P**	**14 52 22.2**	**-0.5**
	comp=N,4.2nm,0.4s,baz=203,slow=4.7,SNR=8.6						
SDV				LR	LR	15 04 14.0	
	comp=N,80nm,20.6s,baz=330,slow=37						
SDV	**Santo Domingo**	**28.41**	**357**	*e*P	**P**	**14 52 21.6**	**-1.1**
	comp=N,5.9nm,0.6s						
PCRV	**Puerto La Cruz**	**30.02**	**9**	P	**P**	**14 52 36.3**	**-0.4**
	comp=N,6.4nm,0.5s,baz=165,slow=7.1,SNR=4.0						
CBYP	**Canovanas**	**37.86**	**5**	*e*P	**P**	**14 53 42.3**	**-2.3**
	comp=N,18nm,1.2s						
WVT	**Waverly**	**58.21**	**342**	*e*P	**P**	**14 56 19.6**	**-1.4**
	comp=N,42nm,1.9s						
TXAR	**Lajitas Array**	**58.94**	**325**	P	**P**	**14 56 26.4**	**+0.2**
	comp=N,0.4nm,0.8s,baz=148,slow=11,SNR=3.6						
FVM	**French Village**	**60.70**	**341**	*e*P	**P**	**14 56 37.7**	**-0.4**
	comp=N,8.3nm,0.8s						
VNA3	**Neumayer Olymp**	**61.91**	**162**	P	**P**	**14 56 47.6**	**+1.7**
VNA2	**Neumayer--Watz**	**62.48**	**161**	P	**P**	**14 56 51.4**	**+1.8**
	baz=282,slow=8.1						
SNAA	**Sanae**	**64.11**	**161**	P	**P**	**14 57 02.1**	**+1.6**
SNAA	**Sanae**	**64.11**	**161**	P	**P**	**14 57 01.2**	**+0.8**
	comp=N,4.2nm,0.7s,baz=276,slow=8.1,SNR=15						
SNAA	**Sanae**	**64.11**	**161**	*e*P	**P**	**14 57 01.8**	**+1.4**
	comp=N,16nm,1.3s						
DBIC	**Dimbokro**	**68.58**	**74**	P	**P**	**14 57 27.8**	**-1.9**
	comp=N,3.0nm,0.7s,baz=188,slow=4.4,SNR=4.9						
DBIC				pP	**pP**	**14 57 56.8**	**+1.2**
	comp=N,4.0nm,0.8s,baz=225,slow=7.6,SNR=4.3						
QSPA	**South Pole Qui**	**70.50**	**180**	P	**P**	**14 57 42.8**	**+2.0**
	comp=N,3.2nm,0.6s,baz=162,slow=5.4,SNR=13						
QSPA	**South Pole Qui**	**70.50**	**180**	*e*P

MAN 27 14:52:52.9±89.89N×125.81E, h2km, mb4.7, ML3.5, MS3.4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.33**	**252**	⇑*i*P	Pb	14 53 01.0	+0.3
SCPH				*i* S	Sb	14 53 07.2	+0.8
BUTP	**Butuan**	**0.93**	**191**	*e*P	Pb	14 53 10.6	-0.2
BUTP				*e*S	Sn	14 53 25.6	-0.4
MSLP	**Maasin**	**0.97**	**285**	*e*P	Pb	14 53 11.3	-0.2
MSLP				*e*S	Sn	14 53 26.0	-1.0
PLP	**Palo**	**1.51**	**327**	⇑*e*P	Pn	14 53 16.8	-3.3
PLP				*i* S	Sn	14 53 39.7	-0.6
OCLP	**Ormoc**	**1.65**	**315**	*e*P	Pn	14 53 21.7	-0.4
OCLP				*e*S	Sg	14 53 50.5	+5.4
BESP	**Borongan**	**1.74**	**348**	*e*P	Pn	14 53 23.1	-0.2
BESP				*e*S	Sn	14 53 46.5	+0.4
BIPH	**Bislig**	**1.78**	**162**	⇓*e*P	Pn	14 53 24.3	+0.6
BIPH				*e*S	Sb	14 53 47.6	-0.5
LLP	**Lapu-Lapu**	**1.86**	**283**	⇓*e*P	Pn	14 53 24.8	-0.1
LLP				*i* S	Sb	14 53 50.4	-0.2
BUKP	**Musuan**	**2.13**	**200**	*e*P	Pn	14 53 29.4	+0.8
BUKP				*e*S	Sb	14 53 59.2	+1.0

IDC 27 14:53:37.8±1.5, 3°.06N×129°.14E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/55, mbtmp3.6/6, Error ellipse: s-maj=93.4km s-min=17.5km az=71.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.31**	**189**	P	P	14 58 26.7	+0.3
	0.5nm,0.5s,baz=18,slow=16,SNR=2.4						
WRA	**Warramunga Arr**	**23.42**	**168**	P	P	14 58 48.4	-0.4
	0.8nm,0.4s,baz=345,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**26.97**	**170**	P	P	14 59 20.4	-1.0
	0.4nm,0.5s,baz=352,slow=7.5,SNR=26						
STKA	**Stephens Creek**	**36.71**	**162**	P	P	15 00 46.2	-0.6
	0.4nm,0.3s,baz=342,slow=8.1,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**39.82**	**65**	T	T	15 43 16.6	
	baz=254,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**39.83**	**65**	T	T	15 43 19.3	
	baz=254,slow=75,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**39.83**	**65**	T	T	15 43 20.3	
	baz=254,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**40.39**	**63**	T	T	15 43 44.0	
	baz=265,slow=74,SNR=30						
H11N2	**WAKE ISLAND Hy**	**40.40**	**63**	T	T	15 43 45.7	
	baz=265,slow=74,SNR=15						
H11N3	**WAKE ISLAND Hy**	**40.41**	**63**	T	T	15 43 47.6	
	baz=265,slow=74,SNR=28						
MKAR	**Makanchi Array**	**59.49**	**324**	P	P	15 03 43.6	+0.8
	0.2nm,0.4s,baz=113,slow=7.9,SNR=7.3						
KURBB	**Kurchatov Arra**	**63.61**	**327**	P	P	15 04 11.0	+0.4
	0.5nm,0.5s,baz=128,slow=6.2,SNR=5.5						

IDC 27 15:12:40.5±2.6, 39°.30N×143°.13E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/63, mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=69.1km s-min=28.4km az=73.0
ISCJB 27 15:12:48.5±1.4, 39°.11N±0°.05×142°.3E±0°.1, h48km±10km, mb3.4/4, Error ellipse: s-maj=18.9km s-min=8.0km az=10.1
JMA 27 15:12:48.8±0.1, 39°.12N×142°.34E, h36km±1km, M2.8
ISC 27 15:12:48.2±2.1, 39°.13N±0°.05×142°.4E±0°.1, h32km±11km, n21, σ1°43/21, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.56**	**265**	P	**Pb**	**15 12 59.7**	**-0.1**
OFUJ				S	**Sb**	**15 13 07.2**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.63**	**315**	P	**Pb**	**15 13 00.6**	**-0.2**
MIYJ				S	**Sb**	**15 13 09.1**	**-0.3**
JTH	**Tanohata**	**0.90**	**333**	P	**Pn**	**15 13 05.4**	**+0.7**
JOM	**Ohasama**	**0.92**	**292**	P	**Pn**	**15 13 05.1**	**+0.2**
JOM				S	**Sn**	**15 13 16.9**	**-0.1**
JMK	**Ichinoseki**	**0.93**	**259**	P	**Pn**	**15 13 05.0**	**0.0**
JMK				S	**Sn**	**15 13 16.7**	**-0.5**
JIO	**Ouri**	**1.06**	**231**	P	**Pn**	**15 13 06.3**	**-0.5**
JIO				S	**Sn**	**15 13 18.7**	**-1.7**
JKZ	**Kuzumaki**	**1.18**	**317**	P	**Pn**	**15 13 09.4**	**+0.8**
JKZ				S	**Sn**	**15 13 24.4**	**+0.8**
JRG	**Rokugo**	**1.39**	**282**	P	**Pn**	**15 13 12.7**	**+1.3**
JANG	**Nango**	**1.41**	**332**	P	**Pn**	**15 13 12.7**	**+1.0**
MJAR	**Matsushiro Arr**	**4.20**	**233**	Pn	**Pn**	**15 13 53.5**	**+3.5**
	0.4nm,0.3s,baz=39,slow=12,SNR=10						
MAT	**Matsushiro**	**4.20**	**233**	P	**Pn**	**15 13 53.6**	**+3.5**
H11N2	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	15 49 04.6	
	baz=318,slow=75,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	15 49 04.3	
	baz=318,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	15 49 06.0	
	baz=318,slow=75,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	15 50 03.5	
	baz=315						
H11S3	**WAKE ISLAND Hy**	**29.44**	**127**	T	T	15 50 05.3	
	baz=315						
H11S2	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	15 50 04.2	
	baz=315						
ZALV	**Zalesovo Beam**	**41.10**	**311**	P	**P**	**15 20 28.2**	**-0.7**
	0.3nm,0.2s,baz=101,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**43.69**	**300**	P	**P**	**15 20 50.3**	**+0.2**
	0.4nm,0.9s,baz=79,slow=7.5,SNR=3.9						
KURBB	**Kurchatov Arra**	**45.35**	**307**	P	**P**	**15 21 03.2**	**0.0**
	0.4nm,0.5s,baz=78,slow=8.5,SNR=3.3						
WRA	**Warramunga Arr**	**59.24**	**189**	P	**P**	**15 22 45.4**	**-1.1**
	0.3nm,0.8s,baz=6.4,slow=7.0,SNR=6.7						

ISCJB 27 15:32:47.6±0.7, 43°.82N±0°.03×8°.83E±0°.03, h13km±3km, Error ellipse: s-maj=5.3km s-min=3.9km az=160.4
CSEM 27 15:32:48.3±0.3, 43°.83N×8°.85E, h16km±2km, ML2.5/10, Error ellipse: s-maj=5.3km s-min=3.6km az=159.0
ROM 27 15:32:48.8±0.2, 43°.91N±0°.83E, h34km±1km, Md2.1/6, Ml1.7/4, Error ellipse: s-maj=4.2km s-min=1.4km az=170.0
GEN 27 15:32:49.0, 43°.85N×8°.86E, h7km, ML1.7
LDG 27 15:32:49.0±0.1, 43°.85N×8°.86E, h10km, Md2.5/2, Ml2.5/7, Error ellipse: s-maj=3.0km s-min=2.3km az=9.0
ISC 27 15:32:47.7±1.2, 43°.84N±0°.03×8°.87E±0°.03, h17km±9km, n36, σ0°78/70, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RORO	**Rocca Rossa**	**0.64**	**295**	P	**Pb**	**15 33 01.0**	**+0.7**
RORO				S	**Sb**	**15 33 09.5**	**+0.5**
RORO				Sg	**Sb**	**15 33 10.0**	**+1.0**
	71nm,0.1s						
RORO	**Rocca Rossa**	**0.64**	**295**	Pg	**Pb**	**15 33 01.2**	**+0.8**
RORO				Sg	**Sb**	**15 33 10.0**	**+1.0**
	71nm,0.1s						
MSSA	**Maissana**	**0.67**	**44**	Pg	**Pb**	**15 33 01.6**	**+0.7**
MSSA				Sg	**Sb**	**15 33 11.4**	**+1.5**
	29nm,1.2s						
MSSA	**Maissana**	**0.67**	**44**	Pg	**Pb**	**15 33 01.6**	**+0.7**
MSSA				Sg	**Sb**	**15 33 11.4**	**+1.5**
	29nm,1.2s						
IMI	**Imperia**	**0.71**	**276**	P	**Pb**	**15 33 02.4**	**+0.8**
IMI	**Imperia**	**0.71**	**276**	Pg	**Pb**	**15 33 02.8**	**+1.2**
IMI				S	**Sg**	**15 33 11.5**	**+0.5**
IMI				Sg	**Sb**	**15 33 12.2**	**+1.2**
	36nm,0.2s						
IMI	**Imperia**	**0.71**	**276**	Pg	**Pb**	**15 33 02.8**	**+1.2**
IMI				Sg	**Sb**	**15 33 12.2**	**+1.2**
	36nm,0.2s						
PCP	**Piancastagn**	**0.74**	**342**	P	**Pb**	**15 33 02.5**	**+0.4**
PCP				S	**Sb**	**15 33 12.0**	**+0.1**
PCP	**Piancastagn**	**0.74**	**342**	Pg	**Pb**	**15 33 02.5**	**+0.4**
PCP				Sg	**Sb**	**15 33 11.8**	**-0.1**
	17nm,0.4s						
GORR	**Gorreto**	**0.82**	**22**	P	**Pn**	**15 33 04.4**	**-0.1**
GORR				S	**Sb**	**15 33 14.3**	**-0.1**
NEGI	**Seborga**	**0.84**	**271**	Pg	**Pb**	**15 33 04.8**	**+1.0**
NEGI				S	**Sg**	**15 33 15.3**	**+0.1**
NEGI	**Seborga**	**0.84**	**271**	Pg	**Pb**	**15 33 04.8**	**+1.0**
NEGI				Sg	**Sb**	**15 33 15.9**	**+1.0**
GBOS	**Grotte di Boss**	**0.84**	**299**	P	**Pb**	**15 33 04.6**	**+0.7**
GBOS				S	**Sg**	**15 33 14.8**	**-0.5**
GBOS				Sg	**Sb**	**15 33 15.7**	**+0.8**
GBOS	**Grotte di Boss**	**0.84**	**299**	Pg	**Pb**	**15 33 04.6**	**+0.7**
GBOS				Sg	**Sb**	**15 33 15.7**	**+0.8**
SBF	**Sospel**	**1.04**	**272**	*e*Pn	**Pb**	**15 33 07.9**	**+0.7**
SBF				*e*Sn	**Sb**	**15 33 21.3**	**+0.8**
	33nm,0.3s						
SBF	**Sospel**	**1.04**	**272**	*e*Pn	**Pb**	**15 33 07.9**	**+0.7**
SBF				*e*Sn	**Sb**	**15 33 21.3**	**+0.8**
	17nm,0.3s						
PGF	**Pioggiola**	**1.29**	**176**	*e*Pn	**Pn**	**15 33 11.9**	**+0.9**
PGF				*e*Sn	**Sb**	**15 33 26.8**	**-1.2**
	2.6nm,0.2s						
PGF	**Pioggiola**	**1.29**	**176**	*e*Pn	**Pn**	**15 33 11.9**	**+0.9**
PGF				*e*Sn	**Sb**	**15 33 26.8**	**-1.2**
	1.3nm,0.2s						
FRF	**La Foret Royal**	**1.64**	**261**	*e*Pn	**Pn**	**15 33 16.0**	**+0.4**
FRF				*e*Sn	**Sn**	**15 33 35.5**	**-0.7**
	9.4nm,0.2s						
FRF	**La Foret Royal**	**1.64**	**261**	*e*Pn	**Pn**	**15 33 16.0**	**+0.4**
FRF				*e*Sn	**Sn**	**15 33 35.5**	**-0.7**
	4.7nm,0.2s						
MBDF	**Montbardon**	**1.75**	**301**	*e*Pn	**Pn**	**15 33 17.9**	**+0.6**
MBDF	**Montbardon**	**1.75**	**301**	*e*Pg	**Pg**	**15 33 21.2**	**-0.1**
MBDF				*e*Sn	**Sn**	**15 33 38.4**	**-0.8**
MBDF				*e*Sg	**Sg**	**15 33 43.9**	**-0.1**
	4.2nm,0.2s						
MBDF	**Montbardon**	**1.75**	**301**	*e*Pn	**Pn**	**15 33 17.9**	**+0.6**
MBDF	**Montbardon**	**1.75**	**301**	*e*Pg	**Pg**	**15 33 21.2**	**-0.1**
MBDF				*e*Sn	**Sn**	**15 33 38.4**	**-0.8**
MBDF				*e*Sg	**Sg**	**15 33 43.9**	**-0.1**
	2.1nm,0.2s						
LMR	**La Mourre**	**1.79**	**254**	*e*Pn	**Pn**	**15 33 17.8**	**+0.1**
LMR				*e*Sn	**Sn**	**15 33 39.1**	**-0.9**
	7.3nm,0.2s						
LMR	**La Mourre**	**1.79**	**254**	*e*Pn	**Pn**	**15 33 17.8**	**+0.1**
LMR				*e*Sn	**Sn**	**15 33 39.1**	**-0.9**
	3.7nm,0.2s						
LPG	**La Plagne**	**2.24**	**318**	*e*Pg	**Pg**	**15 33 30.9**	**+0.2**
LPG	**La Plagne**	**2.24**	**318**	*e*Pg	**Pg**	**15 33 30.9**	**+0.2**
LPL	**La Plagne**	**2.26**	**318**	*e*P	**Pb**	**15 33 27.4**	**-0.8**
LPL	**La Plagne**	**2.26**	**318**	*e*P	**Pb**	**15 33 27.4**	**-0.8**
SMRF	**Simiane la Rot**	**2.38**	**274**	*e*Pg	**Pg**	**15 33 33.5**	**+0.1**
SMRF				*e*Sn	**Sn**	**15 33 54.0**	**-0.8**
SMRF				*e*Sg	**Sg**	**15 34 03.7**	**-0.6**
	4.1nm,0.3s						
SMRF	**Simiane la Rot**	**2.38**	**274**	*e*Pg	**Pg**	**15 33 33.5**	**+0.1**
SMRF				*e*Sn	**Sn**	**15 33 54.0**	**-0.8**
SMRF				*e*Sg	**Sg**	**15 34 03.7**	**-0.6**
	2.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.40**	**298**	*e*P	**Pb**	**15 33 29.2**	**-1.2**
ORIF	**Oris-en-Rattie**	**2.40**	**298**	*e*Pg	**Pg**	**15 33 33.4**	**-0.3**
ORIF				*e*Sg	**Sg**	**15 34 04.2**	**-0.6**
	2.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.40**	**298**	*e*P	**Pb**	**15 33 29.2**	**-1.2**
ORIF	**Oris-en-Rattie**	**2.40**	**298**	*e*Pg	**Pg**	**15 33 33.4**	**-0.3**
ORIF				*e*Sg	**Sg**	**15 34 04.2**	**-0.6**
	1.1nm,0.3s						

IDC 27 15:38:31.4±1.9, 26°.58N×144°.19E, h0km, mb3.6/7, mb1 3.6/8, mb1mx3.4/57, mbtmp3.5/8, ML2.9/1, Error ellipse: s-maj=53.0km s-min=21.3km az=69.0
ISCJB 27 15:38:34.2±1.0, 26°.6N±0°.1×144°.1E±0°.1, h31km, mb3.6/7, Error ellipse: s-maj=23.7km s-min=12.3km az=37.0
ISC 27 15:38:36.7±1.4, 26°.5N±0°.2×144°.0E±0°.2, h31km, n9, σ0°82/10, mb3.7/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.74**	**289**	Pn	**Pn**	**15 39 04.3**	**-0.4**
	11nm,0.3s,baz=242,slow=17,SNR=5.3						
JCJ				Sn	**Sn**	**15 39 25.9**	**+0.1**
	17nm,0.3s,baz=127,slow=20,SNR=6.9						
KSRS	**Korea Array**	**17.43**	**313**	P	**Pn**	**15 42 36.9**	**-0.6**
	0.0nm,0.3s,baz=123,slow=10,SNR=3.1						
SONM	**Songino Array**	**36.25**	**316**	P	**P**	**15 45 37.7**	**+0.6**
	1.2nm,0.7s,baz=122,slow=7.8,SNR=7.6						
CMAR	**Chiang Mai Arr**	**42.25**	**269**	P	**P**	**15 46 27.9**	**+0.6**
	0.2nm,0.3s,baz=59,slow=8.7,SNR=3.2						
WRA	**Warramunga Arr**	**47.16**	**192**	P	**P**	**15 47 05.4**	**-1.0**
	0.8nm,0.9s,baz=9.3,slow=8.7,SNR=4.8						
ASAR	**Alice Springs**	**50.87**	**192**	P	**P**	**15 47 35.3**	**+0.5**
	0.2nm,0.8s,baz=9.8,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**52.09**	**310**	P	**P**	**15 47 44.6**	**+0.8**
	0.6nm,0.9s,baz=105,slow=9.3,SNR=4.9						
BVAR	**Borovoye Array**	**59.56**	**318**	P	**P**	**15 48 35.8**	**-1.3**
	0.3nm,0.4s,baz=117,slow=8.5,SNR=3.6						
AKTO	**Aktyubinsk**	**67.57**	**316**	P	**P**	**15 49 30.1**	**0.0**
	0.6nm,0.5s,baz=158,slow=5.4,SNR=2.6						

IDC 27 15:49:46.1±3.4, 36°.51N×71°.15E, h217km±30km, mb3.3/10, mb1 3.4/16, mb1mx3.1/63, mbtmp3.9/16, MS3.1/1, Ms1 3.1/1, ms1mx2.3/40, Error ellipse: s-maj=24.2km s-min=16.4km az=32.0
MOS 27 15:49:47.7±0.7, 36°.64N×71°.19E, h241km, mb4.1/4, Error ellipse: s-maj=18.5km s-min=7.0km az=85.4
NEIC 27 15:49:48.6±0.8, 36°.66N×71°.25E, h227km±14km, mb4.1/3, Error ellipse: s-maj=17.4km s-min=11.7km az=140.0
ISCJB 27 15:49:48.9±0.4, 36°.75N±0°.03×71°.08E±0°.06, h250km, mb3.6/11, Error ellipse: s-maj=6.8km s-min=4.3km az=170.9
BJI 27 15:49:49.3, 36°.74N×71°.26E, h241km, mb4.2/5, mB4.6/2
NNC 27 15:49:51.3±2.6, 36°.87N×71°.17E, h226km±33km, mb2.9, mpv4.3, Error ellipse: s-maj=25.6km s-min=18.2km az=11.0
ISC 27 15:49:50.0±0.6, 36°.73N±0°.06×71°.20E±0°.07, h250km, n76, σ1°92/83, mb3.8/11, 7C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.80**	**219**	*e*PN	**Pn**	**15 50 37.6**	**-3.0**
KBL	**Kabul**	**2.80**	**219**	*e*Pn	**Pn**	**15 50 37.6**	**-3.0**
CHCP	**Chirah Chowk**	**3.50**	**150**	P	**Pn**	**15 50 46.9**	**-1.2**
SFK	**Sufi-Kurgan**	**3.75**	**28**	PN	Pn	15 50 59.4	+8.4
SFK				pmax	pmax		
	comp=Z,26nm,0.3s						
THW	**Thamme Wali**	**3.95**	**173**	P	**Pn**	**15 50 51.2**	**-2.1**
KSH	**Kashi**	**4.68**	**52**	P	Pn	15 50 56.8	-5.2
KSH				S	S	15 51 45.8	-14
KSH				smax	smax		
	comp=Z,140nm,0.6s						
KSH				smax	smax		
	comp=Z,110nm,0.3s						
SARP	**Sargodha**	**4.95**	**165**	P	**Pn**	**15 51 01.6**	**-3.6**
AML	**Almayashu**	**5.73**	**19**	P	**Pn**	**15 51 14.3**	**-0.7**
	SNR=256						
MNAS	**Manas**	**5.84**	**10**	⇓P	**Pn**	**15 51 15.7**	**-0.5**
	comp=Z,40nm,0.7s						
MNAS				⇑S	**S**	**15 52 23.2**	**-1.9**
	comp=Z,12nm,0.5s						
MNAS	**Manas**	**5.84**	**10**	*i* PN	**Pn**	**15 51 15.6**	**-0.5**
MNAS				pmax	pmax		
	comp=Z,41nm,0.6s						
UCH	**Uchtor**	**6.06**	**24**	P	**Pn**	**15 51 18.8**	**-0.5**
	SNR=152						
KZA	**Kyzart**	**6.20**	**29**	P	**Pn**	**15 51 20.2**	**-0.6**
	SNR=29						
EKS2	**Erkin-Say**	**6.25**	**18**	P	**Pn**	**15 51 20.9**	**-0.4**
	SNR=21						
KK31	**Karatay Array**	**6.39**	**355**	P	**Pn**	**15 51 21.7**	**-1.2**
	comp=Z,18nm,0.6s,baz=174,slow=12,SNR=152						
KK31				⇑S	**S**	**15 52 34.4**	**-2.9**
	comp=Z,3.5nm,0.3s,baz=168,slow=22,SNR=4.2						
KK31	**Karatay Array**	**6.39**	**355**	*i* PN	**Pn**	**15 51 21.7**	**-1.2**
KK31				pmax	pmax		
	comp=Z,18nm,0.5s						
KKAR	**Karatay Array**	**6.39**	**355**	*e*PN	**Pn**	**15 51 21.9**	**-1.0**
KKAR	**Karatay Array**	**6.39**	**355**	*e*Pn	**Pn**	**15 51 21.9**	**-1.0**
AAK	**Ala-Archa**	**6.43**	**22**	P	**Pn**	**15 51 23.5**	**0.0**
	comp=Z,8.2nm,0.3s,baz=173,slow=4.5,SNR=123						
AAK				S	**S**	**15 52 36.2**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=180,slow=20,SNR=6.0						
AAK	**Ala-Archa**	**6.43**	**22**	⇓P	**Pn**	**15 51 23.2**	**-0.2**
	comp=Z,17nm,0.6s						
AAK				⇑S	**S**	**15 52 37.1**	**-1.3**
	comp=Z,5.2nm,0.5s						
AAK	**Ala-Archa**	**6.43**	**22**	*d* iPN	**Pn**	**15 51 23.2**	**-0.2**
AAK	**Ala-Archa**	**6.43**	**22**	P	**Pn**	**15 51 23.3**	**-0.2**
	SNR=40						
AAK	**Ala-Archa**	**6.43**	**22**	*e*Pn	**Pn**	**15 51 23.1**	**-0.4**
KBK	**Karagaybulak**	**6.59**	**25**	P	**Pn**	**15 51 25.4**	**-0.1**
	SNR=26						
ULHL	**Ulahol**	**6.75**	**34**	P	**Pn**	**15 51 27.3**	**-0.3**
	SNR=33						
CHMS	**Chumysh**	**6.83**	**22**	P	**Pn**	**15 51 28.6**	**+0.1**
	SNR=14						
TKM2	**Tokmak 2**	**7.05**	**27**	⇑P	**Pn**	**15 51 31.0**	**-0.4**
	comp=Z,4.0nm,0.3s						
TKM2				⇑S	**S**	**15 52 50.4**	**-2.4**
	comp=Z,5.2nm,0.8s						
TKM2	**Tokmak 2**	**7.05**	**27**	*i* PN	**Pn**	**15 51 31.0**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.3s						
TKM2	**Tokmak 2**	**7.05**	**27**	P	**Pn**	**15 51 31.2**	**-0.2**
	SNR=14						
MAKZ	**Makanchi**	**12.88**	**35**	*e*P	**Pn**	**15 52 43.9**	**-0.4**
MAKZ	**Makanchi**	**12.88**	**35**	*e*Pn	**Pn**	**15 52 43.9**	**-0.4**
MK01	**Makanchi Array**	**13.00**	**36**	*e*Pn	**Pn**	**15 52 45.4**	**-0.4**
MK31	**Makanchi Array**	**13.01**	**36**	⇑P	**Pn**	**15 52 45.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=222,slow=13,SNR=13						
MK31	**Makanchi Array**	**13.01**	**36**	*e*P	**Pn**	**15 52 45.3**	**-0.6**
MK31	**Makanchi Array**	**13.01**	**36**	*e*Pn	**Pn**	**15 52 45.3**	**-0.6**
MKAR	**Makanchi Array**	**13.01**	**36**	P	**Pn**	**15 52 45.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=222,slow=14,SNR=18						
MKAR	**Makanchi Array**	**13.01**	**36**	*e*P	**Pn**	**15 52 45.3**	**-0.6**
MKAR	**Makanchi Array**	**13.01**	**36**	*e*Pn	**Pn**	**15 52 45.3**	**-0.6**
KOLN	**Koldanda**	**13.77**	**127**	*e*P	**P**	**15 52 58.4**	**+1.9**
	comp=Z,3.0nm,0.3s						
GKN	**Gorkha**	**14.29**	**124**	*e*P	**P**	**15 53 04.3**	**+2.1**
	comp=Z,8.6nm,0.3s						
WMQ	**Urumqi**	**14.44**	**56**	P	**P**	**15 53 04.8**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
KURBB	**Kurchatov Arra**	**14.86**	**18**	P	**P**	**15 53 07.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=7.1						
KKN	**Kakani**	**14.87**	**123**	*e*P	**Pn**	**15 53 10.7**	**+1.9**
	comp=Z,3.2nm,0.2s						
DMN	**Daman**	**14.87**	**124**	*e*P	**Pn**	**15 53 11.1**	**+2.2**
	comp=Z,6.7nm,0.4s						
AB31	**Akbulak array**	**14.96**	**330**	⇓P	**Pn**	**15 53 10.2**	**+0.7**
	comp=Z,0.8nm,0.5s						
AB31	**Akbulak array**	**14.96**	**330**	*i* P	**Pn**	**15 53 10.0**	**+0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**14.96**	**330**	*e*Pn	**Pn**	**15 53 10.0**	**+0.5**
	comp=Z,1.9nm,0.5s						
KURK	**Kurchatov**	**14.96**	**19**	⇓*e*P	**Pn**	**15 53 09.4**	**-0.1**
PKIN	**Phulchoki**	**15.08**	**123**	*e*P	**Pn**	**15 53 13.4**	**+1.9**
	comp=Z,3.1nm,0.2s						
PKI	**Pulchoki**	**15.09**	**123**	*e*P	**Pn**	**15 53 13.7**	**+2.0**
	comp=Z,4.8nm,0.4s						
JIRN	**Jiri**	**15.57**	**121**	*e*P	**Pn**	**15 53 18.6**	**+1.2**
	comp=Z,14nm,0.4s						
BVA0	**Borovoye Array**	**16.31**	**358**	⇓P	**Pn**	**15 53 29.0**	**+3.5**
	comp=Z,0.1nm,0.2s,baz=159,slow=11,SNR=5.9						
BVA0	**Borovoye Array**	**16.31**	**358**	P	**Pn**	**15 53 29.0**	**+3.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.2s						
BVAR	**Borovoye Array**	**16.31**	**358**	P	**Pn**	**15 53 25.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=156,slow=10.0,SNR=7.2						
BRVK	**Borovoye**	**16.34**	**358**	⇓*e*P	**Pn**	**15 53 25.9**	**+0.1**
BRVK	**Borovoye**	**16.34**	**358**	*e*P	**Pn**	**15 53 24.9**	**-1.0**
	comp=Z,12nm,1.9s						
AKTO	**Aktyubinsk**	**16.66**	**329**	P	**Pn**	**15 53 28.9**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=138,slow=8.9,SNR=19						
AKTO				S	**S**	**15 56 28.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=168,slow=20,SNR=2.1						
AKTO	**Aktyubinsk**	**16.66**	**329**	⇓P	**P**	**15 53 28.3**	**+0.4**
	comp=Z,3.0nm,0.5s						
ZAA0	**Zalesovo Array**	**19.64**	**24**	*e*P	**P**	**15 54 01.1**	**+1.2**
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**19.64**	**24**	P	**P**	**15 53 59.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=209,slow=10,SNR=7.5						
ZALV	**Zalesovo Beam**	**19.64**	**24**	*e*P	**P**	**15 54 00.8**	**+0.9**
ZALV	**Zalesovo Beam**	**19.64**	**24**	*e*P	**P**	**15 54 00.8**	**+0.9**
ARU	**Arti**	**21.47**	**341**	P	**P**	**15 54 18.4**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=59,slow=4.5,SNR=3.4						
ARU	**Arti**	**21.47**	**341**	*c iP*	**P**	**15 54 19.9**	**+1.1**
ARU				S	**S**	**15 58 04.3**	**+5.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SONM	**Songino Array**	**28.07**	**56**	LR	LR	16 06 47.4	
	comp=Z,35nm,18.2s,baz=182,slow=36						
HHC	**Hu-ho-hao-te**	**31.54**	**70**	*e*P	**P**	**15 55 50.0**	**+0.9**
HHC				pP	pP	15 56 35.5	-3.2
HHC				PP	**PP**	**15 57 03.5**	**-2.2**
HHC				S	**S**	**16 00 40.0**	**+1.3**
HHC				SS	**SS**	**16 02 47.3**	**-11**
HHC				pmax	pmax		
	comp=Z,11nm,1.2s						
HHC				pmax	pmax		
	comp=Z,68nm,5.7s						
FINES	**FINESS Array B

ASAR	**Alice Springs**	**63.52**	**189**	P		**P**	**16 00 33.5**	**-3.1**
	0.2nm,0.9s,baz=7.1,slow=6.3,SNR=2.8							

MAN 27 15:54:57,11˚03N×122˚11E, h31km, mb4.4, ML3.2, MS3.0, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**0.81**	**50**	*eP*	Pb	15 55 17.8	+5.1
RCP				*eS*	Sb	15 55 33.3	+10
OTRP	**Odiongan**	**1.32**	**356**	*eP*	Pn	15 55 20.3	+0.9
OTRP				*eS*	Sn	15 55 36.3	+0.3
SJMP	**San Jose**	**1.72**	**326**	*eP*	Pn	15 55 25.8	+1.0

IDC ***27*** *16:02:04.2±1.0, 17˚92N×122˚92E, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.3/63, mbtmp3.4/6, MS2.4/1, Ms1 2.4/1, ms1mx2.0/38, Error ellipse: s-maj=66.1km s-min=19.5km az=70.0*

ISCJB ***27*** *16:02:08.9±1.2, 17˚87N±0˚05×122˚72E±0˚09, h48km±12km, mb3.3/6, MS2.2/1, Error ellipse: s-maj=15.3km s-min=7.9km az=163.2*

MAN ***27*** *16:02:11, 17˚73N×122˚42E, h85km, mb4.8, ML3.7, MS3.6*

ISC 27 16:02:08.7±2.6, 17˚89N±0˚06×122˚74E±0˚09, h31km±18km, n20, σ1§50/20, mb3.3/6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.75**	**298**	*eP*	**Pn**	**16 02 22.8**	**-0.3**
SGCP				*eS*	**Sb**	**16 02 32.6**	**-0.6**
CAUP	**Cauayan**	**1.28**	**223**	*eP*	**Pn**	**16 02 31.7**	**+1.3**
CAUP				*eS*	**Sn**	**16 02 46.7**	**+0.1**
APYP	**Conner**	**1.43**	**269**	*eP*	**Pn**	**16 02 32.4**	**0.0**
APYP				*eS*	**Sn**	**16 02 50.0**	**-0.1**
ABRA	**Dolores**	**1.94**	**263**	*eP*	**Pn**	**16 02 40.2**	**+0.6**
ABRA				*eS*	**Sn**	**16 03 03.6**	**+0.6**
BALP	**Baler**	**2.41**	**208**	*eP*	**Pn**	**16 02 46.9**	**+1.0**
BALP				*eS*	**Sn**	**16 03 11.8**	**-2.5**
POLP	**Polilio Island**	**3.23**	**194**	*eP*	**Pn**	**16 02 58.9**	**+1.6**
POLP				*eS*	**Sn**	**16 03 31.9**	**-2.9**
GQP	**Guinayangan**	**3.97**	**184**	*eP*	**Pn**	**16 03 09.2**	**+1.8**
GQP				*eS*	**Sn**	**16 03 50.3**	**-2.6**
KSRS	**Korea Array**	**20.02**	**12**	LR	LR	16 15 09.3	
	comp=Z,9.6nm,19.3s,baz=165,slow=39						
SONM	**Songino Array**	**32.73**	**339**	P	**P**	**16 08 37.9**	**-0.8**
	0.2nm,0.6s,baz=154,slow=7.0,SNR=2.7						
WRA	**Warramunga Arr**	**39.28**	**163**	P	**P**	**16 09 34.5**	**-0.3**
	2.1nm,0.6s,baz=342,slow=9.2,SNR=30						
H11S3	**WAKE ISLAND Hy**	**41.68**	**82**	T	T	16 55 11.0	
	baz=277,slow=74,SNR=53						
H11S1	**WAKE ISLAND Hy**	**41.69**	**82**	T	T	16 55 11.2	
	baz=277,slow=74,SNR=68						
H11S2	**WAKE ISLAND Hy**	**41.70**	**82**	T	T	16 55 11.5	
	baz=277,slow=74,SNR=46						
H11N1	**WAKE ISLAND Hy**	**41.75**	**80**	T	T	16 55 16.0	
	baz=275,slow=75,SNR=27						
H11N2	**WAKE ISLAND Hy**	**41.76**	**80**	T	T	16 55 19.3	
	baz=275,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**41.77**	**80**	T	T	16 55 20.4	
	baz=275,slow=75,SNR=14						
ASAR	**Alice Springs**	**42.71**	**165**	P	**P**	**16 10 03.0**	**0.0**
	0.4nm,0.4s,baz=338,slow=6.8,SNR=31						
MKAR	**Makanchi Array**	**43.97**	**320**	P	**P**	**16 10 15.1**	**+2.1**
	0.1nm,0.5s,baz=110,slow=7.6,SNR=2.6						
KURBB	**Kurchatov Arra**	**47.92**	**323**	P	**P**	**16 10 44.1**	**0.0**
	0.1nm,0.4s,baz=116,slow=8.0,SNR=3.0						
ILAR	**Eielson Array**	**74.15**	**26**	P	**P**	**16 13 41.8**	**-0.1**
	0.2nm,0.6s,baz=263,slow=4.8,SNR=3.0						

IDC 27 16:15:46.8±14.0, 7˚35S×128˚99E, h98km±158km, mb3.0/1, mb1 3.4/4, mb1mx3.0/47, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=121.6km s-min=58.1km az=28.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.98**	**241**	S	Sn	16 18 27.1	+6.9
	2.5nm,0.3s,baz=118,slow=18,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.17**	**197**	P	Pn	16 18 24.2	+0.7
	0.3nm,0.3s,baz=21,slow=12,SNR=14						
FITZ				S	Sn	16 20 18.7	-7.8
	0.3nm,0.3s,baz=343,slow=17,SNR=3.5						
WRA	**Warramunga Arr**	**13.55**	**158**	P	Pn	16 18 53.5	-1.6
	0.7nm,0.3s,baz=336,slow=13,SNR=39						
WRA				S	Sn	16 21 13.6	-11
	0.7nm,0.3s,baz=337,slow=22,SNR=7.7						
ASAR	**Alice Springs**	**16.89**	**164**	P	P	16 19 38.2	+0.4
	0.2nm,0.3s,baz=338,slow=9.6,SNR=46						
ASAR				S	Sn	16 22 35.7	-9.4
	0.2nm,0.3s,baz=345,slow=27,SNR=6.4						
MKAR	**Makanchi Array**	**67.98**	**327**	P	P	16 26 35.4	0.0
	0.4nm,1.0s,baz=126,slow=6.8,SNR=3.5						

MEX 27 16:16:39.8±0.5, 16˚53N×98˚47W, h13km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**112**	*eP*	Pg	16 16 46.3	-0.6
PNIG				*eS*	Sg	16 16 52.1	+0.3
TLIG	**Tlapa**	**1.04**	**355**	*i P*	Pb	16 16 56.5	-3.3
TLIG				*eS*	Sb	16 17 09.4	-3.9
VHO	**Vista Hermosa**	**1.75**	**72**	*eP*	Pn	16 17 06.4	-3.7
VHO				*eS*	Sn	16 17 27.0	-5.5
PLIG	**Platanillo**	**2.10**	**332**	*eP*	Pn	16 17 11.1	-3.8
PLIG				*eS*	Sn	16 17 36.4	-4.6
HUIG	**Huatulco**	**2.39**	**108**	*i P*	Pn	16 17 16.1	-2.6
HUIG				*i S*	Sn	16 17 43.6	-4.4

IDC ***27*** *16:22:41.7±1.0, 60˚11N×152˚94W, h102km±12km, mb3.4/11, mb1 3.6/15, mb1mx3.3/76, mbtmp3.8/15, Error ellipse: s-maj=13.7km s-min=9.5km az=101.0*

ISCJB ***27*** *16:22:42.4±0.2, 60˚10N±0˚03×152˚93W±0˚06, h130km±2km, mb3.6/12, Error ellipse: s-maj=5.0km s-min=3.8km az=41.1*

NEIC ***27*** *16:22:44.1±0.0, 60˚08N×153˚03W, h123km, ML3.5(AEIC), After AEIC.*

ISC 27 16:22:43.8±0.7, 60˚10N±0˚04×152˚94W±0˚05, h124km±5km, n107, σ0§97/115, mb3.8/12, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.02**	**205**	P	**Pn**	**16 23 00.3**	**-0.5**
IVE	**Iliamna Volcan**	**0.09**	**205**	P	**Pn**	**16 23 00.3**	**-0.6**
ILW	**Iliamna West**	**0.10**	**250**	P	**Pn**	**16 23 00.3**	**-0.6**
ILS	**Iliamna Low So**	**0.15**	**204**	P	**Pn**	**16 23 00.3**	**-0.6**
RSO	**Redoubt South**	**0.38**	**14**	*ePn*	**Pn**	**16 23 01.6**	**-0.3**
RDWB	**Redoubt West**	**0.40**	**7**	P	**Pn**	**16 23 01.5**	**-0.4**
RDWB				S	**Sn**	**16 23 14.6**	**-0.9**
REF	**Redoubt East F**	**0.41**	**17**	P	**Pn**	**16 23 01.8**	**-0.2**
RDJH	**Redoubt Jeurge**	**0.50**	**8**	P	**Pn**	**16 23 02.1**	**-0.3**
RDJH				S	**Sn**	**16 23 16.3**	**-0.1**
AUNW	**Augustine NWes**	**0.77**	**201**	P	**Pn**	**16 23 03.8**	**-0.3**
AUW	**Augustine West**	**0.78**	**200**	P	**Pn**	**16 23 03.9**	**-0.3**
HOM	**Homer**	**0.79**	**123**	P	**Pn**	**16 23 04.3**	**+0.1**
HOM				S	**Sn**	**16 23 20.2**	**+0.5**
AUI	**Augustine Isla**	**0.80**	**198**	P	**Pn**	**16 23 03.8**	**-0.5**
BRLK	**Bradley Lake**	**1.09**	**107**	P	**Pn**	**16 23 06.8**	**-0.2**
BRLK				S	**Sn**	**16 23 23.8**	**-0.9**
CKL	**Chakachamna La**	**1.14**	**15**	P	**Pn**	**16 23 08.0**	**+0.3**
SPWE	**Spurr West**	**1.20**	**9**	P	**Pn**	**16 23 08.8**	**+0.5**
CDD	**Cape Douglas**	**1.22**	**197**	P	**Pn**	**16 23 07.6**	**-0.9**
SPCP	**Crater Peak Br**	**1.24**	**18**	P	**Pn**	**16 23 09.0**	**+0.3**
FOSS	**Fourpeaked Sta**	**1.36**	**197**	P	**Pn**	**16 23 09.0**	**-0.8**
FONW	**Fourpeaked Sta**	**1.36**	**202**	P	**Pn**	**16 23 09.2**	**-0.7**
SLKM	**Skilak Lake**	**1.42**	**72**	P	**Pn**	**16 23 10.1**	**-0.5**
STLK	**Strandline Lak**	**1.51**	**21**	P	**Pn**	**16 23 11.9**	**+0.3**
SVW2	**Sparrevohn**	**1.64**	**309**	P	**Pn**	**16 23 12.6**	**-0.6**
FIB	**Fire Island**	**1.74**	**51**	P	**Pn**	**16 23 15.0**	**+0.9**
SUA	**Susitna One**	**1.75**	**37**	P	**Pn**	**16 23 14.7**	**+0.2**
SUA				S	**Sn**	**16 23 38.1**	**+0.2**
KARR	**Katmai Rainbow**	**1.84**	**210**	P	**Pn**	**16 23 15.0**	**-0.5**
RC01	**Rabbit Creek A**	**1.87**	**56**	*ePn*	**Pn**	**16 23 15.4**	**-0.4**
SKT	**Skwentna**	**2.01**	**19**	P	**Pn**	**16 23 17.5**	**0.0**
KABU	**Katmai Buttres**	**2.19**	**214**	P	**Pn**	**16 23 19.5**	**-0.4**
KELA	**Mount Kelaz**	**2.19**	**222**	P	**Pn**	**16 23 19.1**	**-0.8**
KDAK	**Kodiak Island**	**2.33**	**175**	P	**Pn**	**16 23 19.7**	**-1.8**
	64nm,0.3s,baz=34,slow=6.7,SNR=1056						
KDAK				S	**Sn**	**16 23 47.4**	**-3.0**
	41nm,0.3s,baz=312,slow=23,SNR=34						
KDAK	**Kodiak Island**	**2.33**	**175**	P	**Pn**	**16 23 19.8**	**-1.7**
PMR	**Palmer**	**2.40**	**50**	*ePn*	**Pn**	**16 23 20.9**	**-1.4**
KNK	**Knik Glacier**	**2.57**	**57**	P	**Pn**	**16 23 23.5**	**-1.1**
GHO	**Glory Hole Cre**	**2.58**	**48**	P	**Pn**	**16 23 23.7**	**-1.1**
SML	**Sawmill**	**2.83**	**51**	P	**Pn**	**16 23 26.9**	**-1.1**
PPLA	**Purkeypile**	**2.83**	**7**	*ePn*	**Pn**	**16 23 28.7**	**+0.6**
OHAK	**Old Harbor**	**2.89**	**184**	P	**Pn**	**16 23 26.4**	**-2.3**
GLI	**Glacier Island**	**3.00**	**72**	P	**Pn**	**16 23 29.2**	**-1.0**
TT01	**Tatalina**	**3.18**	**334**	P	**Pn**	**16 23 32.0**	**-0.5**
SCM	**Sheep Creek Mo**	**3.25**	**55**	P	**Pn**	**16 23 32.5**	**-0.9**
JPK	**Jack Peak**	**3.28**	**70**	P	**Pn**	**16 23 32.7**	**-1.1**
CAST	**Castle Rocks**	**3.36**	**7**	P	**Pn**	**16 23 34.8**	**-0.1**
MID	**Middleton Isla**	**3.41**	**98**	*ePn*	**Pn**	**16 23 35.3**	**-0.2**
TRF	**Thorofare Moun**	**3.60**	**19**	P	**Pn**	**16 23 37.7**	**-0.4**
KTH	**Kantishna Hill**	**3.60**	**15**	*ePn*	**Pn**	**16 23 37.2**	**-0.8**
DIV	**Divide**	**3.69**	**71**	*ePn*	**Pn**	**16 23 37.9**	**-1.3**
KLU	**Klutina**	**3.72**	**65**	P	**Pn**	**16 23 38.5**	**-1.1**
RND	**Reindeer**	**3.85**	**29**	P	**Pn**	**16 23 40.7**	**-0.6**
DHY	**Denali Highway**	**4.00**	**39**	P	**Pn**	**16 23 42.9**	**-0.6**
MCK	**McKinley**	**4.11**	**26**	*ePn*	**Pn**	**16 23 44.6**	**-0.2**
BPAW	**Bear Paw Mtn.**	**4.12**	**12**	P	**Pn**	**16 23 44.4**	**-0.6**
ANNW	**Aniakchak Nort**	**4.18**	**224**	P	**Pn**	**16 23 45.8**	**0.0**
BMRM	**Bremner River**	**4.21**	**74**	*ePn*	**Pn**	**16 23 45.6**	**-0.6**
HARP	**HAARP**	**4.42**	**55**	P	**Pn**	**16 23 48.4**	**-0.5**
PAX	**Paxson**	**4.59**	**48**	P	**Pn**	**16 23 50.9**	**-0.5**
PS10	**TAPS Pump St10**	**4.77**	**43**	P	**Pn**	**16 23 53.7**	**+0.1**
VRDI	**Verde Repeater**	**4.81**	**72**	P	**Pn**	**16 23 53.5**	**-0.8**
KHIT	**Khitrov Hills**	**4.84**	**82**	P	**Pn**	**16 23 53.9**	**-0.8**
WRH	**Wood River Hil**	**4.94**	**25**	P	**Pn**	**16 23 55.2**	**-0.6**
MLY	**Manley**	**5.06**	**11**	P	**Pn**	**16 23 56.6**	**-0.9**
KULT	**Kultieth River**	**5.11**	**84**	P	**Pn**	**16 23 58.0**	**-0.2**
CCB	**Clear Creek Bu**	**5.16**	**25**	P	**Pn**	**16 23 57.8**	**-0.9**
HDA	**Harding Lake**	**5.16**	**30**	P	**Pn**	**16 23 58.1**	**-0.7**
ISLE	**Juniper Island**	**5.29**	**80**	P	**Pn**	**16 24 00.5**	**-0.3**
RIDG	**Independ'e Rid**	**5.29**	**43**	P	**Pn**	**16 24 00.5**	**-0.1**
PS08	**TAPS Pump Stn8**	**5.30**	**30**	P	**Pn**	**16 23 59.9**	**-0.7**
KIAG	**Kiagna River**	**5.30**	**76**	P	**Pn**	**16 24 00.9**	**+0.1**
BALM	**Baldy**	**5.31**	**75**	P	**Pn**	**16 24 01.1**	**+0.1**
COLA	**College**	**5.34**	**24**	*ePn*	**Pn**	**16 24 00.1**	**-1.1**
MDM	**Murphy Dome**	**5.35**	**22**	P	**Pn**	**16 24 00.6**	**-0.7**
BAGL	**Bagley Icefiel**	**5.42**	**81**	P	**Pn**	**16 24 02.8**	**+0.6**
ILAR	**Eielson Array**	**5.47**	**28**	P	**Pn**	**16 24 02.2**	**-0.7**
	9.8nm,0.3s,baz=215,slow=14,SNR=610						
ILAR				S	**Sn**	**16 24 59.7**	**-5.0**
	3.2nm,0.3s,baz=214,slow=22,SNR=7.9						
ILB	**Eielson Array**	**5.47**	**28**	P	**Pn**	**16 24 02.0**	**-0.9**
MESA	**MESA**	**5.50**	**84**	P	**Pn**	**16 24 03.8**	**+0.3**
DOT	**Dot Lake**	**5.51**	**46**	*ePn*	**Pn**	**16 24 02.8**	**-0.7**
BARN	**Barnard Glacie**	**5.65**	**75**	P	**Pn**	**16 24 06.0**	**+0.4**
SCRK	**Sand Creek**	**5.74**	**43**	P	**Pn**	**16 24 05.5**	**-1.1**
RKAV	**Rock Avalanche**	**5.79**	**83**	P	**Pn**	**16 24 08.2**	**+0.7**
IM3	**Indian Mountai**	**5.92**	**357**	P	**Pn**	**16 24 08.8**	**-0.3**
SAMH	**Samovar Hills**	**6.08**	**84**	P	**Pn**	**16 24 12.1**	**+0.8**
BCA3	**Beaver Creek A**	**6.10**	**56**	P	**Pn**	**16 24 11.0**	**-0.5**
PRP	**Porcupine Dome**	**6.41**	**29**	P	**Pn**	**16 24 15.3**	**-0.5**
BCPM	**Bancas Point**	**6.67**	**85**	P	**Pn**	**16 24 19.7**	**+0.5**
PS05	**TAPS Pump Stn5**	**6.82**	**8**	P	**Pn**	**16 24 21.6**	**+0.5**
EGAK	**Eagle**	**7.20**	**44**	P	**Pn**	**16 24 25.3**	**-1.0**
COLD	**Coldfoot**	**7.26**	**8**	P	**Pn**	**16 24 27.1**	**0.0**
YUKS	**Granite Creek**	**7.55**	**76**	P	**Pn**	**16 24 30.2**	**-0.2**
DAWY	**Dawson**	**7.80**	**52**	P	**Pn**	**16 24 30.6**	**+0.3**
BM3	**Bunt Mountain**	**8.22**	**23**	P	**Pn**	**16 24 38.4**	**-1.6**
SKAG	**Skagway**	**8.91**	**86**	*ePn*	**Pn**	**16 24 51.1**	**+1.8**
INK	**Inuvik**	**11.75**	**37**	P	**Pn**	**16 25 26.4**	**-0.8**
	0.4nm,0.3s,baz=247,slow=15,SNR=9.7						
DLBC	**Dease Lake**	**11.83**	**88**	*ePn*	**Pn**	**16 25 31.2**	**+2.8**
YKA	**Yellowknife Ar**	**18.39**	**66**	P	**P**	**16 26 49.5**	**+0.8**
	0.5nm,0.3s,baz=277,slow=10.0,SNR=44						
YKA				ScP	**ScP**	**16 34 37.1**	**-0.2**
	0.0nm,0.3s,baz=292,slow=2.2,SNR=4.6						
SEY	**Seymchan**	**25.57**	**300**	P	**P**	**16 27 60.0**	**-0.7**
	0.5nm,0.5s,baz=85,slow=19,SNR=5.7						
PETK	**Petropavlovsk-**	**27.48**	**277**	P	**P**	**16 28 17.9**	**0.0**
	0.5nm,0.4s,baz=74,slow=16,SNR=8.0						
NVAR	**Mina Array Bea**	**30.74**	**119**	P	**P**	**16 28 49.1**	**+1.9**
	0.1nm,0.4s,baz=340,slow=4.9,SNR=2.7						
ASAJ	**Asahikawa**	**40.89**	**277**	P	**P**	**16 30 13.2**	**-0.2**
	1.7nm,0.7s,baz=16,slow=16,SNR=4.7						
SPITS	**Spitsbergen Ar**	**41.82**	**3**	P	**P**	**16 30 20.8**	**+0.3**
	21nm,1.1s,baz=347,slow=12,SNR=4.1						
TXAR	**Lajitas Array**	**44.99**	**111**	P	**P**	**16 30 45.3**	**-1.2**
	0.3nm,0.7s,baz=320,slow=2.4,SNR=3.3						
KSRS	**Korea Array**	**53.19**	**283**	P	**P**	**16 31 49.4**	**+0.6**
	1.1nm,0.6s,baz=37,slow=7.2,SNR=5.9						
KSAR	**Wonju Array Be**	**53.21**	**283**	P	**P**	**16 31 49.4**	**+0.4**
SONM	**Songino Array**	**54.76**	**306**	P	**P**	**16 32 01.2**	**+1.0**
	1.6nm,0.7s,baz=42,slow=6.9,SNR=14						
ZALV	**Zalesovo Beam**	**57.31**	**324**	P	**P**	**16 32 18.4**	**+0.3**
	0.7nm,0.5s,baz=23,slow=6.7,SNR=3.9						
KURK	**Kurchatov**	**61.97**	**326**	P	**P**	**16 32 50.3**	**+0.3**
BVAR	**Borovoye Array**	**62.00**	**332**	P	**P**	**16 32 50.1**	**0.0**
	1.2nm,0.5s,baz=116,slow=3.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**62.07**	**326**	P	**P**	**16 32 50.3**	**-0.4**
	0.6nm,0.7s,baz=30,slow=6.3,SNR=3.8						
MKAR	**Makanchi Array**	**64.37**	**321**	P	**P**	**16 33 05.3**	**-0.6**
	0.3nm,0.6s,baz=37,slow=6.8,SNR=4.4						

IDC 27 16:24:13.1±6.3, 5˚87S×127˚69E, h417km±77km, mb2.5/1, mb1 2.8/4, mb1mx2.5/53, mbtmp3.6/4, Error ellipse: s-maj=110.1km s-min=27.1km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.87**	**223**	P	P	16 25 45.0	+0.2
	3.7nm,0.3s,baz=59,slow=16,SNR=5.6						
WRA	**Warramunga Arr**	**15.41**	**156**	P	P	16 27 29.3	-0.3
	0.2nm,0.3s,baz=334,slow=11,SNR=19						
ASAR	**Alice Springs**	**18.68**	**162**	P	P	16 28 04.2	+0.2
	0.2nm,0.3s,baz=344,slow=12,SNR=17						
MKAR	**Makanchi Array**	**66.04**	**328**	P	P	16 34 16.9	-0.1
	0.2nm,0.7s,baz=131,slow=8.0,SNR=2.8						

IDC 27 16:33:20.4±526.0, 48˚20N×49˚80E, h0km, Error ellipse: s-maj=192.8km s-min=119.5km az=57.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.83**	**65**	*i*		17 15 00.0	
	baz=252,slow=317,SNR=0.3						
I43RU	**DUBNA INFRASON**	**11.46**	**323**	*i*		17 47 40.0	
	baz=134,slow=342,SNR=0.5						
I46RU	**ZALESOVO INFRA**	**22.58**	**62**	*i*		18 47 40.0	
	baz=269,slow=331,SNR=1.5						

IDC ***27*** *16:34:02.2±0.8, 3˚69N×126˚60E, h0km, mb3.7/9, mb1 3.7/9, mb1mx3.5/58, mbtmp3.7/9, Error ellipse: s-maj=44.8km s-min=14.5km az=81.0*

ISCJB ***27*** *16:34:06.9±0.7, 3˚66N±0˚09×126˚5E±0˚3, h53km, mb3.6/9, Error ellipse: s-maj=40.2km s-min=12.4km az=172.1*

ISC 27 16:34:09.0±0.8, 3˚7N±0˚1×126˚6E±0˚3, h53km, n10, σ1§35/10, mb3.8/9, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.21**	**327**	*i P*	Pn	16 35 17.8	+7.0
FITZ	**Fitzroy Crossi**	**21.66**	**182**	P	**P**	**16 38 53.7**	**-1.6**
	0.9nm,0.7s,baz=356,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**24.68**	**162**	P	**P**	**16 39 24.4**	**-0.7**
	1.2nm,0.4s,baz=334,slow=11,SNR=30						
ASAR	**Alice Springs**	**28.10**	**166**	P	**P**	**16 39 56.1**	**+0.1**
	0.1nm,0.4s,baz=351,slow=15,SNR=9.7						
ASAR				PcP	**PcP**	**16 43 10.9**	**+1.4**
	0.2nm,0.6s,baz=350,slow=2.0,SNR=4.9						
KSRS	**Korea Array**	**33.64**	**2**	P	**P**	**16 40 42.4**	**-2.2**
	0.4nm,0.5s,baz=187,slow=9.7,SNR=3.0						
STKA	**Stephens Creek**	**38.14**	**159**	P	**P**	**16 41 23.4**	**+0.3**
	0.7nm,0.6s,baz=336,slow=18,SNR=2.6						
ASAJ	**Asahikawa**	**42.69**	**17**	P	**P**	**16 42 00.3**	**-0.3**
	1.5nm,0.7s,baz=195,slow=12,SNR=3.5						
PETK	**Petropavlovsk-**	**55.54**	**22**	P	**P**	**16 43 40.0**	**+1.3**
	1.0nm,0.5s,baz=193,slow=4.1,SNR=7.1						
MKAR	**Makanchi Array**	**57.51**	**325**	P	**P**	**16 43 53.4**	**+0.5**
	0.7nm,0.6s,baz=118,slow=7.4,SNR=10						
KURBB	**Kurchatov Arra**	**61.70**	**327**	P	**P**	**16 44 22.7**	**+1.0**
	0.5nm,0.4s,baz=127,slow=6.6,SNR=7.6						

IDC ***27*** *16:58:07.5±1.8, 26˚46N×143˚79E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/56, mbtmp3.5/5, MS2.3/1, Ms1 2.3/1, ms1mx2.0/41, Error ellipse: s-maj=52.8km s-min=24.5km az=57.0*

ISC 27 16:58:12.2±1.5, 26˚4N±0˚2×143˚7E±0˚2, h31km, n7, σ1§60/7, mb3.6/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.52**	**296**	Pn	**Pn**	**16 58 34.9**	**-2.4**
	7.4nm,0.3s,baz=143,slow=8.1,SNR=3.7						
JCJ				Sn	**Sb**	**16 59 00.3**	**+1.6**
	15nm,0.3s,baz=53,slow=20,SNR=4.0						
JOW	**Kunigami**	**13.81**	**275**	LR	LR	17 05 24.8	
	comp=Z,13nm,22.0s,baz=202,slow=32						
SONM	**Songino Array**	**36.14**	**316**	P	**P**	**17 05 12.5**	**+0.8**
	0.7nm,0.6s,baz=114,slow=6.6,SNR=6.3						
WRA	**Warramunga Arr**	**46.98**	**192**	P	**P**	**17 06 40.9**	**+0.4**
	0.5nm,0.8s,baz=16,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**51.95**	**310**	P	**P**	**17 07 19.2**	**+0.9**
	0.4nm,0.8s,baz=86,slow=9.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**54.48**	**315**	P	**P**	**17 07 36.6**	**-0.2**
	0.2nm,0.3s,baz=85,slow=8.3,SNR=2.7						
BVAR	**Borovoye Array**	**59.45**	**318**	P	**P**	**17 08 11.6**	**-0.4**
	0.3nm,0.5s,baz=94,slow=9.5,SNR=3.5						

ISCJB ***27*** *17:21:41.1±0.4, 44˚12N±0˚03×105˚31W±0˚05, h0km, mb3.6/3, MS4.0/1, Error ellipse: s-maj=5.2km s-min=4.8km az=136.0*

IDC ***27*** *17:21:42.8±1.2, 44˚18N×105˚65W, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/66, mbtmp3.4/6, ML3.9/3, MS3.4/2, Ms1 3.4/2, ms1mx2.5/54, Error ellipse: s-maj=22.9km s-min=10.7km az=143.0*

NEIC ***27*** *17:21:43.0±0.3, 44˚13N×105˚31W, h0km, ML3.3, Error ellipse: s-maj=4.7km s-min=4.3km az=140.0, Suspected Mining explosion.*

NEIC 23 km [15 miles] SE of Gillette.

ISC 27 17:21:42.6±0.7, 44˚12N±0˚06×105˚33W±0˚05, h0km, n50, σ1§25/46, mb3.7/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**89**	*ePg*	**Pb**	**17 22 01.4**	**-0.4**
K22A	**Casper**	**1.70**	**211**	*ePn*	**Pn**	**17 22 13.1**	**-0.7**
LAO	**LASA Array**	**2.65**	**347**	*ePn*	**Pn**	**17 22 28.0**	**+1.3**
RLMT	**Red Lodge**	**2.98**	**291**	*ePn*	**Pn**	**17 22 32.7**	**+1.3**
BW06	**Boulder Array**	**3.36**	**248**	*ePn*	**Pn**	**17 22 36.9**	**+0.3**
PDAR	**Pinedale Array**	**3.36**	**248**	Pn	**Pn**	**17 22 37.7**	**+1.1**
	10nm,0.3s,baz=73,slow=15,SNR=45						
PDAR				Pg	**Pb**	**17 22 42.0**	**-1.1**
	20nm,0.3s,baz=60,slow=18,SNR=59						
PDAR				Lg	Lg	17 23 22.5	
	29nm,0.3s,baz=70,slow=30,SNR=11						
GCMT	**Greycliff**	**3.50**	**300**	*ePn*	**Pn**	**17 22 39.8**	**+1.3**
H17A	**Grant Village**	**3.78**	**276**	*ePn*	**Pn**	**17 22 44.4**	**+2.0**
YFT	**Old Faithful**	**3.97**	**277**	*ePn*	**Pn**	**17 22 45.6**	**+0.7**
OGNE	**Ogallala**	**4.00**	**141**	*ePn*	**Pn**	**17 22 46.0**	**+0.8**
YMR	**Madison River**	**4.07**	**280**	*ePn*	**Pn**	**17 22 44.8**	**-1.6**
ISCO	**Idaho Springs**	**4.32**	**183**	*ePn*	**Pn**	**17 22 50.5**	**+0.7**
AHID	**Auburn Hatcher**	**4.41**	**254**	*ePn*	**Pn**	**17 22 54.5**	**+3.5**
QLMT	**Earthquake Lak**	**4.42**	**281**	*ePn*	Pn	17 22 46.8	-4.3
O20A	**White River Ci**	**4.53**	**210**	*ePn*	**Pn**	**17 22 53.2**	**+0.6**
BOZ	**Bozeman (W)**	**4.71**	**290**	*ePn*	**Pn**	**17 22 55.2**	**+0

*ISK **27** 17:32:23.8, 38.76N×43.48E, h5km, ML2.2/5*
*CSEM **27** 17:32:24.7±0.3, 38.75N×43.58E, h12km, ML2.2, Error ellipse: s-maj=9.7km s-min=5.3km az=111.0*
*ISCJB **27** 17:32:25.4±0.6, 38.74N±0.03×43.58E±0.06, h13km±4km, Error ellipse: s-maj=8.2km s-min=4.1km az=19.4*
*DDA **27** 17:32:25.2, 38.72N×43.52E, h7km, Ml2.9*

ISC 27 17:32:24.5±1.1, 38.76N±0.03×43.58E±0.04, h20km±2km, n24, σ1§07/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**223**	PG	**Pb**	**17 32 30.2**	**-0.2**
VANB				SG	**Sb**	**17 32 34.7**	**+0.2**
VANB	**Van**	**0.22**	**223**	*e*Pg	**Pb**	**17 32 30.2**	**-0.2**
VANB				*e*Sg	**Sb**	**17 32 34.7**	**+0.2**
VMUR	**Van-Muradiye**	**0.23**	**358**	*i* P	**Pb**	**17 32 30.8**	**+0.2**
VMUR				*i* S	**Sb**	**17 32 36.5**	**+1.6**
VMUR	**Van-Muradiye**	**0.23**	**358**	P	**Pb**	**17 32 30.8**	**+0.2**
VMUR				S	**Sb**	**17 32 36.5**	**+1.6**
TVAN	**Van**	**0.26**	**211**	*i* P	**Pb**	**17 32 30.0**	**-0.9**
TVAN				*i* S	**Sb**	**17 32 34.9**	**-0.5**
TVAN	**Van**	**0.26**	**211**	P	**Pb**	**17 32 30.0**	**-0.9**
TVAN				S	**Sb**	**17 32 34.8**	**-0.5**
ERCV	**ERCIS-VAN**	**0.33**	**325**	PG	**Pb**	**17 32 31.1**	**-0.6**
ERCV	**ERCIS-VAN**	**0.33**	**325**	*e*Pg	**Pb**	**17 32 31.1**	**-0.6**
CLDR	**Caldiran**	**0.47**	**34**	PG	**Pn**	**17 32 34.7**	**-1.6**
CLDR	**Caldiran**	**0.47**	**34**	*i* P	**Pb**	**17 32 34.4**	**+0.2**
CLDR				*i* S	**Sn**	**17 32 44.3**	**+0.2**
CLDR	**Caldiran**	**0.47**	**34**	P	**Pb**	**17 32 34.4**	**+0.2**
CLDR	**Caldiran**	**0.47**	**34**	*e*Pg	**Pn**	**17 32 34.7**	**-1.6**
CLDR				S	**Sn**	**17 32 44.3**	**+0.2**
GEVA	**Gevas**	**0.60**	**223**	*i* P	**Pb**	**17 32 35.3**	**-1.2**
GEVA				*i* S	**Sb**	**17 32 44.9**	**+0.2**
GEVA	**Gevas**	**0.60**	**223**	P	**Pb**	**17 32 35.3**	**-1.2**
GEVA				S	**Sb**	**17 32 44.9**	**+0.2**
TUTA	**Tutak**	**0.88**	**318**	*i* P	**Pn**	**17 32 41.1**	**-0.8**
TUTA				*i* S	**Sn**	**17 32 54.3**	**+0.1**
TUTA	**Tutak**	**0.88**	**318**	P	**Pn**	**17 32 41.1**	**-0.8**
TUTA				S	**Sn**	**17 32 54.3**	**+0.1**
HAKT	**HAKKARI**	**1.20**	**175**	*e*P	**Pb**	**17 32 46.4**	**-0.2**
HAKT				*i* S	**Sb**	**17 33 03.5**	**+1.7**
HAKT	**HAKKARI**	**1.20**	**175**	P	**Pb**	**17 32 46.4**	**-0.2**
HAKT				S	**Sb**	**17 33 03.5**	**+1.7**
GURO	**Guroymak-BITLI**	**1.23**	**261**	PN	**Pb**	**17 32 46.4**	**-0.7**
GURO	**Guroymak-BITLI**	**1.23**	**261**	*e*Pn	**Pb**	**17 32 46.4**	**-0.7**
SRTM	**Siirt_Merkez**	**1.51**	**240**	*i* P	**Pb**	**17 32 52.8**	**+1.0**
SRTM				*i* S	**Sb**	**17 33 13.0**	**+2.4**
SRTM	**Siirt_Merkez**	**1.51**	**240**	P	**Pb**	**17 32 52.8**	**+1.0**
SRTM				S	**Sb**	**17 33 13.0**	**+2.4**
SIRT	**Sirnak**	**1.54**	**216**	PN	**Pb**	**17 32 53.6**	**+1.2**
SIRT	**Sirnak**	**1.54**	**216**	*e*Pn	**Pb**	**17 32 53.6**	**+1.2**

IDC 27 17:36:27.8±2.5, 34.87N×82.86E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/69, mbtmp3.3/5, ML2.5/2, Error ellipse: s-maj=100.0km s-min=24.0km az=57.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.13**	**322**	Pn	Pn	17 38 56.7	+2.0
	0.1nm,0.3s,baz=135,slow=19,SNR=2.7						
MKAR	**Makanchi Array**	**11.92**	**358**	Pn	Pn	17 39 19.2	+0.2
	0.0nm,0.3s,baz=183,slow=13,SNR=2.4						
KURBB	**Kurchatov Arra**	**16.05**	**350**	Pn	P	17 40 18.4	0.0
	0.1nm,0.3s,baz=179,slow=10,SNR=2.2						
BVAR	**Borovoye Array**	**20.19**	**338**	P	P	17 41 04.8	+0.8
	1.2nm,0.7s,baz=143,slow=12,SNR=8.0						
CMAR	**Chiang Mai Arr**	**21.72**	**135**	P	P	17 41 20.9	+0.2
	1.9nm,0.8s,baz=310,slow=11,SNR=18						
YKA	**Yellowknife Ar**	**81.95**	**8**	P	P	17 48 48.7	-0.4
	0.1nm,0.6s,baz=343,slow=4.9,SNR=5.5						

*NNC **27** 17:39:06.6±6.8, 39.38N×79.03E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=58.5km s-min=28.2km az=154.0*
*SOME **27** 17:39:35.0, 40.08N×78.30E, h10km*

ISC 27 17:39:03.0±3.2, 38.9N±0.2×79.15E±0.09, h10km, n9, σ3§57/18, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**4.41**	**3**	⇑Pn	**Pn**	**17 40 10.0**	**-0.2**
	4.2nm,0.5s						
PDGK				⇑Sn	**Sn**	**17 40 58.0**	**-3.7**
	14nm,0.6s						
IZV	**Izvestkoviy**	**4.54**	**336**	*e*P	**Pg**	**17 40 33.4**	**+3.4**
	6.4nm,0.5s						
IZV				*e*S	**Sb**	**17 41 15.8**	**-1.8**
	19nm,0.6s						
KST	**Kastek**	**4.77**	**331**	*e*P	**Pg**	**17 40 36.3**	**+1.9**
	1.0nm,0.2s						
KST				*e*S	**Sb**	**17 41 20.4**	**-4.0**
	4.0nm,0.6s						
DGS	**Degeres**	**5.01**	**330**	*e*P	**Pg**	**17 40 41.5**	**+2.4**
	3.5nm,0.6s						
DGS				*e*S	**Sb**	**17 41 29.8**	**-1.5**
	4.0nm,0.5s						
KTBS	**Karatobe**	**5.13**	**340**	*e*P	**Pg**	**17 40 46.0**	**+4.6**
KTBS				*e*S	**Sb**	**17 41 36.7**	**+2.0**
CHKK	**Chushkaly**	**5.19**	**342**	*e*P	**Pg**	**17 40 46.3**	**+4.0**
	3.6nm,0.4s						
CHKK				*e*S	**Sb**	**17 41 37.1**	**+0.9**
	39nm,0.5s						
ARXS	**Arharly**	**5.38**	**350**	*e*P	**Pg**	**17 40 50.6**	**+4.6**
	3.4nm,0.5s						
ARXS				*e*S	**Sb**	**17 41 45.0**	**+3.3**
	6.4nm,0.3s						
MNAS	**Manas**	**6.18**	**307**	⇓Pn	**Pn**	**17 40 32.9**	**-1.5**
	0.7nm,0.4s						
MNAS				⇓Sn	**Sn**	**17 41 43.9**	**-1.3**
	0.8nm,0.4s						
MK31	**Makanchi Array**	**8.20**	**15**	Pn	**Pn**	**17 41 01.8**	**-0.2**
	0.3nm,0.2s,baz=201,slow=12,SNR=71						
MK31				⇓Sn	**Sn**	**17 42 27.1**	**-7.6**
	3.2nm,0.5s,baz=200,slow=24,SNR=28						

*ISCJB **27** 17:43:28.6±0.2, 5.04S±0.04×153.56E±0.04, h76km, mb4.6/45, Error ellipse: s-maj=5.7km s-min=4.9km az=43.7*
*IDC **27** 17:43:30.8±0.7, 5.07S×153.52E, h76km±5km, mb3.9/19, mb1 4.0/21, mb1mx3.8/54, mbtmp4.3/21, MS3.0/12, Ms1 3.0/12, ms1mx2.9/41, Error ellipse: s-maj=13.6km s-min=11.5km az=64.0*
*NEIC **27** 17:43:31.1±0.5, 5.08S×153.53E, h84km±4km, mb4.9/29, Error ellipse: s-maj=6.1km s-min=5.4km az=70.0*

ISC 27 17:43:30.2±0.3, 5.05S±0.05×153.57E±0.05, h76km, n89, σ1§25/99, mb4.7/47, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.64**	**301**	*e*Pn	**Pn**	**17 43 56.1**	**-1.1**
RABL				*e*Sn	**Sn**	**17 44 18.2**	**+0.5**
HNR	**Honiara**	**7.68**	**125**	P	**Pn**	**17 45 19.9**	**+0.4**
	15nm,0.3s,baz=229,slow=12,SNR=9.7						
HNR				S	**Sn**	**17 46 46.5**	**+1.4**
	baz=18,slow=20,SNR=2.3						
HNR				LR	LR	17 48 48.3	
	comp=Z,166nm,18.9s,baz=242,slow=41						
HNR	**Honiara**	**7.68**	**125**	P	**Pn**	**17 45 23.0**	**+3.5**
HNR				S	**Sn**	**17 46 38.0**	**-7.1**
HNR	**Honiara**	**7.68**	**125**	*e*Pn	**Pn**	**17 45 17.8**	**-1.7**
HNR				*e*Sn	**Sn**	**17 46 46.5**	**+1.4**
PMG	**Port Moresby**	**7.69**	**235**	P	**Pn**	**17 45 19.8**	**+0.2**
	5.0nm,0.3s,baz=91,slow=3.9,SNR=20						
PMG				S	**Sn**	**17 46 42.9**	**-2.4**
	4.4nm,0.3s,baz=128,slow=18,SNR=3.9						
PMG	**Port Moresby**	**7.69**	**235**	*e*Pn	**Pn**	**17 45 19.1**	**-0.5**
PMG				*e*		17 46 42.9	
PMG				*e*Sn	**Sn**	**17 46 45.3**	**0.0**
PATS	**Pohnpei**	**12.72**	**22**	*e*Pn	**Pn**	**17 46 25.6**	**-2.6**
COEN	**Coen**	**13.54**	**228**	*e*Pn	**Pn**	**17 46 38.0**	**-1.1**
GUMO	**Guam**	**20.43**	**335**	LR	LR	17 56 35.2	
	comp=Z,7.4nm,18.1s,baz=104,slow=38						
DZM	**Mont Dzumac**	**21.02**	**145**	P	**P**	**17 48 08.6**	**+0.6**
	17nm,1.0s,baz=299,slow=19,SNR=11						
DZM				LR	LR	17 55 16.5	
	comp=Z,91nm,18.1s,baz=245,slow=34						
DZM	**Mont Dzumac**	**21.02**	**145**	*e*P	**P**	**17 48 07.7**	**-0.3**
	40nm,1.2s						
FAKI	**Fak Fak**	**21.37**	**275**	*e*P	**P**	**17 48 13.0**	**+1.3**
	34nm,0.9s						
SARN	**Sarigan**	**22.94**	**341**	*e*P	**P**	**17 48 27.0**	**-1.3**
MTN	**Manton Dam**	**23.46**	**249**	*e*P	**P**	**17 48 32.5**	**-0.8**
	10nm,0.8s						
WRAB	**Tennant Creek**	**23.85**	**230**	*e*P	**P**	**17 48 36.4**	**-0.3**
	9.4nm,0.6s						
WB2	**Warramunga Arr**	**23.85**	**230**	*e*P	**P**	**17 48 34.1**	**-2.7**
WR1	**Warramunga Arr**	**23.86**	**230**	*e*P	**P**	**17 48 37.5**	**+0.6**
	26nm,1.4s						
WR1				*e*PcP	**PcP**	**17 52 18.9**	**+0.7**
WR1				*e*ScP	**ScP**	**17 55 51.1**	**+1.1**
WRA	**Warramunga Arr**	**23.86**	**230**	P	**P**	**17 48 37.5**	**+0.6**
	4.8nm,0.5s,baz=53,slow=9.9,SNR=20						
WRA				PcP	**PcP**	**17 52 18.9**	**+0.7**
	1.6nm,0.7s,baz=51,slow=2.7,SNR=4.8						
WRA				ScP	**ScP**	**17 55 51.1**	**+1.0**
	0.4nm,0.6s,baz=55,slow=3.3,SNR=5.1						
ARMA	**Armidale**	**25.30**	**184**	*e*P	**P**	**17 48 51.8**	**+1.9**
	8.5nm,0.8s						
FUNA	**Funafuti**	**25.68**	**99**	*e*P	**P**	**17 48 54.4**	**+1.0**
AS01	**Alice Springs**	**26.46**	**224**	*e*P	**P**	**17 49 00.3**	**-0.1**
AS31	**Alice Springs**	**26.49**	**224**	*e*P	**P**	**17 48 59.9**	**-0.8**
	1.4nm,0.6s						
ASAR	**Alice Springs**	**26.49**	**224**	P	**P**	**17 49 01.1**	**+0.3**
	0.9nm,0.4s,baz=56,slow=9.1,SNR=13						
ASAR				PcP	**PcP**	**17 52 24.9**	**+0.8**
	1.3nm,0.6s,baz=49,slow=2.5,SNR=7.2						
ASAR				ScP	**ScP**	**17 55 58.1**	**+0.7**
	0.4nm,0.6s,baz=44,slow=3.0,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**26.73**	**29**	T	T	18 17 23.1	
	baz=206,slow=73,SNR=14						
H11S2	**WAKE ISLAND Hy**	**26.74**	**29**	T	T	18 17 23.0	
	baz=206,slow=73,SNR=10						
H11S1	**WAKE ISLAND Hy**	**26.75**	**29**	T	T	18 17 20.7	
	baz=206,slow=73,SNR=10						
LHI	**Lord Howe Isla**	**26.84**	**170**	*e*P	**P**	**17 49 04.3**	**+0.7**
	118nm,1.1s						
STKA	**Stephens Creek**	**28.95**	**201**	P	**P**	**17 49 22.5**	**-0.1**
	0.6nm,0.7s,baz=15,slow=16,SNR=3.8						
STKA				LR	LR	18 00 47.7	
	comp=Z,53nm,18.4s,baz=197,slow=36						
STKA	**Stephens Creek**	**28.95**	**201**	*e*P	**P**	**17 49 21.8**	**-0.8**
	2.2nm,1.6s						
BATI	**Baumata**	**30.07**	**258**	P	**P**	**17 49 31.8**	**-0.8**
	11nm,0.7s,baz=90,slow=4.0,SNR=4.3						
BATI				LR	LR	18 03 45.3	
	comp=Z,70nm,19.6s,baz=94,slow=40						
FITZ	**Fitzroy Crossi**	**30.21**	**242**	P	**P**	**17 49 33.6**	**-0.3**
	4.4nm,0.7s,baz=63,slow=6.0,SNR=6.9						
FITZ				PcP	**PcP**	**17 52 34.0**	**+0.7**
	2.0nm,0.8s,baz=23,slow=7.7,SNR=2.2						
FITZ				ScP	**ScP**	**17 56 10.0**	**+0.9**
	1.4nm,0.8s,baz=28,slow=15,SNR=2.6						
FITZ				LR	LR	18 02 58.5	
	comp=Z,28nm,21.2s,baz=72,slow=39						
FITZ	**Fitzroy Crossi**	**30.21**	**242**	*e*P	**P**	**17 49 33.6**	**-0.3**
	6.4nm,0.8s						
FITZ				PcP	**PcP**	**17 52 34.0**	**+0.7**
FITZ				ScP	**ScP**	**17 56 10.0**	**+0.9**
DAV	**Davao City (W)**	**30.41**	**293**	LR	LR	18 00 31.9	
	comp=Z,19nm,20.7s,baz=166,slow=34						
MBWA	**Marble Bar**	**36.51**	**241**	*e*P	**P**	**17 50 28.7**	**0.0**
	15nm,1.4s						
JAGI	**Jajag, Banyuwa**	**39.27**	**263**	*e*P	**P**	**17 50 51.0**	**-1.0**
	30nm,1.1s						
BKZ	**Black Stump Fm**	**39.81**	**152**	*e*P	**P**	**17 50 56.0**	**-0.1**
	16nm,1.1s						
JOW	**Kunigami**	**40.04**	**324**	P	**P**	**17 50 58.7**	**+0.6**
	5.8nm,0.8s,baz=90,slow=5.1,SNR=3.4						
JOW	**Kunigami**	**40.04**	**324**	*e*P	**P**	**17 50 58.4**	**+0.2**
	28nm,1.3s						
THZ	**Tophouse**	**40.43**	**158**	*e*P	**P**	**17 51 01.9**	**+0.6**
	31nm,1.3s						
SNZO	**South Karori**	**40.76**	**155**	*e*P	**P**	**17 51 03.6**	**-0.2**
	72nm,1.1s						
BFZ	**Birch Farm**	**40.91**	**153**	*e*P	**P**	**17 51 03.6**	**-1.5**
	152nm,1.6s						
LTZ	**Lake Taylor**	**41.08**	**159**	*e*P	**P**	**17 51 07.5**	**+0.9**
	134nm,2.0s						
OXZ	**Oxford**	**41.47**	**160**	*e*P	**P**	**17 51 09.1**	**-0.7**
	124nm,2.0s						
RPZ	**Rata Peaks**	**41.49**	**161**	P	**P**	**17 51 09.5**	**-0.3**
	13nm,0.6s,baz=290,slow=3.3,SNR=8.7						
LBZ	**Lake Benmore**	**41.81**	**162**	*e*P	**P**	**17 51 12.5**	**0.0**
	133nm,1.8s						
MQZ	**McQueen's Vall**	**42.02**	**159**	*e*P	**P**	**17 51 14.8**	**+0.6**
	73nm,1.2s						
MLZ	**Mavra Lakes**	**42.12**	**165**	*e*P	**P**	**17 51 15.2**	**+0.2**
	122nm,1.7s						
MJAR	**Matsushiro Arr**	**43.80**	**342**	LR	LR	18 07 05.7	
	comp=Z,14nm,20.8s,baz=160,slow=32						
CISI	**Cisompet, Garu**	**45.53**	**264**	*e*P	**P**	**17 51 41.8**	**-1.0**
	21nm,0.7s						
LEM	**Lembang**	**45.72**	**265**	P	**P**	**17 51 44.7**	**+0.2**
	5.0nm,0.4s,baz=156,slow=20,SNR=2.9						
LEM				LR	LR	18 14 31.2	
	comp=Z,32nm,18.0s,baz=240,slow=41						
KSRS	**Korea Array**	**48.56**	**333**	P	**P**	**17 52 06.3**	**+0.3**
	0.8nm,0.8s,baz=158,slow=8.2,SNR=2.7						
KSRS				pP	**pP**	**17 52 25.4**	**+0.5**
	1.4nm,0.8s,baz=127,slow=8.3,SNR=4.9						
KSRS				LR	LR	18 13 05.8	
	comp=Z,8.1nm,18.1s,baz=20,slow=36						
KSAR	**Wonju Array Be**	**48.57**	**333**	P	**P**	**17 52 06.3**	**+0.2**
YSS	**Yuzh-Sakhalins**	**52.65**	**351**	*e*P	**P**	**17 52 36.8**	**+0.3**
	7.3nm,1.1s						
IPM	**Ipoh**	**53.33**	**279**	*e*P	**P**	**17 52 41.4**	**-0.8**
	12nm,1.3s						
KULM	**Kulim**	**53.83**	**280**	*e*P	**P**	**17 52 45.1**	**-0.8**
	16nm,1.4s						
MDJ	**Mudanjiang**	**53.92**	**339**	*e*P	**P**	**17 52 47.0**	**+1.1**
	37nm,1.8s						
HON	**Honolulu**	**54.22**	**59**	*e*P	**P**	**17 52 48.6**	**+0.1**
	174nm,1.1s						
POHA	**Pohakuloa**	**55.78**	**62**	*e*P	**P**	**17 52 58.8**	**-1.4**
	325nm,1.5s						
GSI	**Gunungsitoli**	**56.28**	**275**	*e*P	**P**	**17 53 01.9**	**-1.6**
	18nm,1.5s						
KLR	**Kul'dur**	**57.30**	**343**	pP	pP	17 53 30.1	+0.7
	0.1nm,0.7s,baz=154,slow=2.2,SNR=3.4						
PETK	**Petropavlovsk-**	**58.04**	**3**	pP	pP	17 53 38.2	+3.5
	4.1nm,0.6s,baz=157,slow=6.2,SNR=7.2						
PEA1	**Petropavlovsk-**	**58.05**	**3**	*e*pP	pP	17 53 38.2	+3.5
CM01	**Chiang Mai Arr**	**58.65**	**295**	*e*P	**P**	**17 53 21.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**58.67**	**295**	P	**P**	**17 53 21.6**	**+1.4**
	1.0nm,0.7s,baz=106,slow=5.2,SNR=7.2						
CMAR				pP	**pP**	**17 53 40.9**	**+1.2**
	0.5nm,0.6s,baz=119,slow=5.7,SNR=2.2						
CMAR				LR	LR	18 18 34.9	
	comp=Z,5.7nm,19.2s,baz=205,slow=36						
SONA0	**Songino Array**	**66.94**	**328**	*e*P	**P**	**17 54 15.0**	**+0.1**
SONM	**Songino Array**	**66.94**	**328**	P	**P**	**17 54 15.0**	**+0.1**
	0.4nm,0.3s,baz=152,slow=6.4,SNR=5.9						
SONA1	**Songino Array**	**66.94**	**328**	*e*P	**P**	**17 54 15.1**	**+0.2**
VNDA	**Vanda**	**72.56**	**178**	P	**P**	**17 54 50.0**	**+1.2**
	4.5nm,0.8s,baz=324,slow=6.7,SNR=25						
VNDA	**Vanda**	**72.56**	**178**	*e*P	**P**	**17 54 49.9**	**+1.2**
	6.6nm,0.8s						
IM3	**Indian Mountai**	**80.36**	**19**	*e*P	**P**	**17 55 32.4**	**-0.6**
MK01	**Makanchi Array**	**81.00**	**319**	*e*P	**P**	**17 55 36.6**	**-0.2**
MK32	**Makanchi Array**	**81.01**	**319**	*e*P	**P**	**17 55 36.9**	**0.0**
MKAR	**Makanchi Array**	**81.01**	**319**	P	**P**	**17 55 36.9**	**0.0**
	0.5nm,0.5s,baz=94,slow=7.7,SNR=12						
ILAR	**Eielson Array**	**82.10**	**22**	P	**P**	**17 55 42.8**	**+0.6**
	0.2nm,0.4s,baz=250,slow=5.0,SNR=4.5						
ILAR				pP	**pP**	**17 56 03.6**	**+0.9**
	1.7nm,0.8s,baz=256,slow=5.3,SNR=12						
ILB	**Eielson Array**	**82.10**	**22**	*e*P	**P**	**17 55 42.0**	**-0.2**
IL1	**Eielson Array**	**82.10**	**22**	*e*P	**P**	**17 55 40.3**	**-1.8**
QSPA	**South Pole Qui**	**84.92**	**180**	P	**P**	**17 55 57.7**	**+0.9**
	10nm,0.7s,baz=321,slow=2.9,SNR=31						
QSPA	**South Pole Qui**	**84.92**	**180**	*e*P	**P**	**17 55 56.4**	**-0.4**
	9.8nm,0.8s						
MAW	**Mawson**	**85.64**	**203**	P	**P**	**17 55 59.8**	**-0.3**
	3.0nm,1.0s,baz=255,slow=18,SNR=3.6						
MAW	**Mawson**	**85.64**	**203**	*e*P	**P**	**17 55 59.8**	**-0.3**
	8.9nm,1.9s						
LGBM	**Gray Butte**	**88.98**	**49**	*e*P	**P**	**17 56 15.7**	**-1.4**
BVAR	**Borovoye Array**	**89.89**	**323**	P	**P**	**17 56 20.1**	**-0.7**
	0.9nm,0.7s,baz=72,slow=4.8,SNR=6.0						
PASC	**Pasadena Art C**	**91.35**	**56**	*e*P	**P**	**17 56 28.7**	**+0.6**
TIN	**Tinemaha, Big**	**91.57**	**53**	*e*P	**P**	**17 56 31.8**	**+2.7**
SYO	**Syowa Base**	**93.69**	**199**	⇑*e*P	**P**	**17 56 37.8**	**-0.3**
YKA	**Yellowknife Ar**	**95.29**	**28**	P	**P**	**17 56 45.3**	**-0.2**
	0.1nm,0.6s,baz=289,slow=5.6,SNR=3.5						
YKA				pP	**pP**	**17 57 06.9**	**+0.6**
	0.2nm,0.8s,baz=266,slow=4.3,SNR=2.6						
AKTO	**Aktyubinsk**	**97.40**	**320**	LR	LR	18 42 53.1	
	comp=Z,14nm,18.7s,baz=237,slow=37						
TORD	**Torodi Ar. Bea**	**151.11**	**288**	PKPbc	**PKPbc**	**18 03 15.7**	**-0.1**
	2.3nm,0.4s,baz=56,slow=2.0,SNR=23						
TOA1	**Torodi Ar. Sit**	**151.11**	**288**	*e*PKPbc	**PKPbc**	**18 03 15.7**	**-0.1**

*IDC **27** 17:46:05.1±1.4, 39.56N×142.86E, h0km, mb3.5/5, mb1 3.5/7, mb1mx3.3/68, mbtmp3.4/7, ML3.2/2, Error ellipse: s-maj=35.1km s-min=24.8km az=110.0*
*ISCJB **27** 17:46:06.3±1.1, 39.74N±0.03×142.27E±0.06, h14km±5km, mb3.5/5, Error ellipse: s-maj=8.1km s-min=5.2km az=17.8*
*JMA **27** 17:46:06.5±0.1, 39.75N×142.25E, h23km±1km, M3.4*
JMA Felt I J1

ISC 27 17:46:05.9±2.0, 39.66N±0.05×142.23E±0.07, h4km±11km, n22, σ1§69/25, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.33**	**255**	P	**Pb**	**17 46 14.5**	**+0.2**
MIYJ				S	**Sb**	**17 46 19.8**	**-0.1**
JTH	**Tanohata**	**0.40**	**314**	P	**Pg**	**17 46 14.2**	**+0.7**
JTH				S	**Sg**	**17 46 19.6**	**+0.9**
OFUJ	**Ofunato**	**0.73**	**217**	P	**Pb**	**17 46 21.2**	**+0.2**
OFUJ				S	**Sn**	**17 46 32.4**	**-2.0**
JOM	**Ohasama**	**0.75**	**256**	P	**Pb**	**17 46 21.4**	**-0.1**
JOM				S	**Sb**	**17 46 31.6**	**-0.4**
JKZ	**Kuzumaki**	**0.77**	**295**	P	**Pg**	**17 46 20.7**	**+0.1**
JKZ				S	**Sg**	**17 46 30.4**	**-0.1**
JANG	**Nango**	**0.90**	**322**	P	**Pg**	**17 46 21.5**	**-1.6**
JANG				S	**Sg**	**17 46 32.8**	**-2.0**
JMK	**Ichinoseki**	**1.06**	**228**	P	**Pn**	**17 46 26.7**	**-0.7**
JMK				S	**Sn**	**17 46 40.9**	**-1.7**
JRG	**Rokugo**	**1.27**	**258**	P	**Pb**	**17 46 30.5**	**+0.3**
JRG				S	**Sg**	**17 46 47.4**	**+0.9**
JAH	**Hinai**	**1.34**	**294**	P	**Pn**	**17 46 30.4**	**-0.8**
JAH				S	**Sn**	**17 46 47.5**	**-1.9**
MJAR	**Matsushiro Arr**	**4.45**	**227**	Pn	Pb	17 47 19.4	-5.0
	0.4nm,0.3s,baz=39,slow=11,SNR=7.6						
ASAJ	**Asahikawa**	**4.46**	**3**	Pn	**Pn**	**17 47 13.6**	**-0.6**
	1.4nm,0.3s,baz=206,slow=9.9,SNR=15						
ASAJ				Sn	**Sn**	**17 48 05.8**	**-0.7**
	0.4nm,0.3s,baz=233,slow=20,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**29.05**	**126**	T	T	18 22 35.4	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	18 22 34.3	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**29.07**	**126**	T	T	18 22 34.8	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**29.85**	**128**	T	T	18 23 34.8	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.86**	**128**	T	T	18 23 35.8	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**29.87**	**128**	T	T	18 23 34.5	
	baz=318						
ZALV	**Zalesovo Beam**	**40.67**	**310**	P	**P**	**17 53 50.1**	**+3.2**
	0.3nm,0.4s,baz=102,slow=6.7,SNR=2.6						
MKAR	**Makanchi Array**	**43.32**	**300**	P	**P**	**17 54 12.2**	**+3.5**
	0.2nm,0.5s,baz=72,slow=9.7,SNR=3.2						
KURBB	**Kurchatov Arra**	**44.94**	**306**	P	**P**	**17 54 25.3**	**+3.7**
	1.0nm,0.2s,baz=79,slow=9.5,SNR=2.7						
ILAR	**Eielson Array**	**46.94**	**34**	P	**P**	**17 54 36.4**	**-0.8**
	0.2nm,0.5s,baz=273,slow=5.3,SNR=3.3						
WRA	**Warramunga Arr**	**59.75**	**189**	P	**P**	**17 56 10.7**	**-1.1**
	0.4nm,0.8s,baz=6.0,slow=7.5,SNR=3.7						

IDC 27 17:52:51.9±450.0, 65.93N×44.00E, h0km, Error ellipse: s-maj=273.1km s-min=155.3km az=44.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**17.16**	**148**	*i*		19 44 50.0	
	baz=341,slow=328,SNR=0.6						
I46RU	**ZALESOVO INFRA**	**23.20**	**101**	*i*		20 14 00.0	
	baz=315,slow=329,SNR=1.4						
I18DK	**QAANAAQ INFRAS**	**31.28**	**337**	*i*		21 04 00.0	
	baz=48,slow=344,SNR=0.5						

*IDC **27** 17:57:57.4±2.0, 35.05N×30.88E, h0km, mb3.9/3, mb1 3.6/8, mb1mx3.3/60, mbtmp3.5/8, ML3.2/4, Error ellipse: s-maj=36.7km s-

TCW	Tory Channel	0.68	34	P	Pb	18 31 12.5	+0.1
SNZO	South Karori	0.84	57	*e*Pg	Pn	18 31 15.7	+0.4
SNZO				*e*Sg	Sn	18 31 28.8	+1.9
WEL	Wellington	0.89	57	P*	Pn	18 31 16.8	+0.7
BHW	Baring Head	0.90	66	P*	Pn	18 31 17.3	+1.1
BHW	Baring Head	0.90	66	P	Pn	18 31 17.4	+1.2
BHW	Baring Head	0.90	66	S	Sn	18 31 31.8	+3.4
DUWZ	D'Urville Isla	0.98	6	P*	Pb	18 31 18.0	+0.5
DUWZ	D'Urville Isla	0.98	6	P	Pb	18 31 18.0	+0.5
DUWZ	D'Urville Isla	0.98	6	P	Pb	18 31 18.1	+0.5
PLWZ	Palliser	1.13	80	P*	Pb	18 31 20.2	+0.1
PLWZ	Palliser	1.13	80	P	Pb	18 31 20.3	+0.3
MSWZ	Moikau Station	1.16	73	P*	Pb	18 31 20.9	+0.2
MSWZ	Moikau Station	1.16	73	P	Pb	18 31 20.9	+0.3
CAW	Cannon Point	1.18	56	P*	Pb	18 31 21.3	+0.4
CAW	Cannon Point	1.18	56	P	Pb	18 31 21.4	+0.5
KIW	Kapiti Island	1.25	43	P*	Pb	18 31 22.1	0.0
KIW	Kapiti Island	1.25	43	P	Pb	18 31 22.2	+0.1
PAWZ	Paruwai Farm	1.30	73	P*	Pb	18 31 22.6	-0.4
PAWZ	Paruwai Farm	1.30	73	P	Pb	18 31 22.5	-0.5
QRZ	Quartz Range	1.33	315	Pn	Pb	18 31 24.5	+0.9
QRZ	Quartz Range	1.33	315	P	Pb	18 31 24.4	+0.9
QRZ	Quartz Range	1.33	315	P	Pb	18 31 24.4	+0.9
OGWZ	Otaki Gorge	1.42	48	P*	Pb	18 31 25.1	+0.1
OGWZ	Otaki Gorge	1.42	48	P	Pb	18 31 25.1	+0.1
MTW	Mount Morrison	1.44	65	P*	Pn	18 31 24.4	+0.7
MTW	Mount Morrison	1.44	65	P	Pn	18 31 24.4	+0.8
DSZ	Denniston Nort	1.48	270	Pn	Pb	18 31 26.8	+0.8
DSZ	Denniston Nort	1.48	270	P	Pb	18 31 27.0	+1.0
TRWZ	Traveller	1.48	76	P*	Pn	18 31 24.6	+0.3
TRWZ	Traveller	1.48	76	P	Pn	18 31 24.7	+0.4
LTZ	Lake Taylor	1.50	227	Pn	Pb	18 31 26.4	-0.1
LTZ	Lake Taylor	1.50	227	P	Pb	18 31 26.5	0.0
HOWZ	Holdsworth Sta	1.57	57	Pn	Pn	18 31 26.4	+0.8
HOWZ	Holdsworth Sta	1.57	57	P	Pn	18 31 26.5	+0.9
TMWZ	Te Maipa	1.72	68	Pn	Pn	18 31 28.0	+0.3
TMWZ	Te Maipa	1.72	68	P	Pn	18 31 28.0	+0.3
MRZ	Mangatainoka R	1.76	51	Pn	Pn	18 31 29.2	+1.1
MRZ	Mangatainoka R	1.76	51	P	Pn	18 31 29.2	+1.1
TIWZ	Tintock	1.88	59	Pn	Pn	18 31 30.4	+0.6
TIWZ	Tintock	1.88	59	P	Pn	18 31 30.5	+0.7
EYCZ	Eyrewell	1.95	212	P	Pn	18 31 31.5	+0.8
OHWZ	Ohakea	1.95	37	P	Pb	18 31 33.6	-0.5
INZ	Inchbonnie	1.98	240	P	Pb	18 31 33.6	-0.8
CRLZ	Canterbury Las	1.99	205	Pn	Pn	18 31 32.2	+1.0
CRLZ	Canterbury Las	1.99	205	P	Pn	18 31 32.7	+1.4
OXZ	Oxford	2.01	219	P	Pn	18 31 32.3	+0.7
CPWZ	Castlepoint	2.02	65	P	Pn	18 31 39.9	+4.7
CPWZ	Castlepoint	2.02	65	P	Pb	18 31 39.9	+4.7
POWZ	Post Office Ro	2.04	48	Pn	Pn	18 31 33.6	+1.5
POWZ	Post Office Ro	2.04	48	P	Pn	18 31 33.6	+1.6
PRWZ	Pori Road	2.06	54	Pn	Pn	18 31 32.9	+0.7
PRWZ	Pori Road	2.06	54	P	Pn	18 31 33.2	+1.0
MQZ	McQueen's Vall	2.10	203	Pn	Pn	18 31 32.3	-0.5
MQZ	McQueen's Vall	2.10	203	P	Pn	18 31 32.5	-0.3
BFZ	Birch Farm	2.16	60	Pn	Pn	18 31 33.5	-0.1
BFZ	Birch Farm	2.16	60	P	Pn	18 31 33.5	-0.1
DVHZ	Dannevirke	2.33	52	Pn	Pn	18 31 36.2	+0.2
DVHZ	Dannevirke	2.33	52	P	Pn	18 31 36.3	+0.3
NMEZ	Namu Road	2.36	2	Pn	Pb	18 31 42.3	+1.3
NMEZ	Namu Road	2.36	2	P	Pb	18 31 42.1	+1.1
LREZ	Lake Rotokare	2.36	12	P	Pb	18 31 41.8	+0.7
TSZ	Takapari Road	2.38	45	Pn	Pn	18 31 37.6	+0.9
TSZ	Takapari Road	2.38	45	P	Pn	18 31 37.7	+1.0
ANWZ	Angora Road	2.42	58	P	Pn	18 31 37.7	+0.4
PREZ	Palmer Road	2.45	7	P	Pb	18 31 44.4	+1.8
KHEZ	Kahui Hut	2.48	4	Pn	Pb	18 31 43.4	+0.2
NEZ	North Egmont	2.51	6	Pn	Pb	18 31 43.7	0.0
PKE	Pukeiti	2.58	4	P	Pb	18 31 44.6	-0.2
WVZ	Waitaha Valley	2.60	239	P	Pb	18 31 42.7	-2.4
DREZ	Durham Road	2.60	7	P	Pb	18 31 44.9	-0.3
PNHZ	Pukenui	2.61	45	P	Pn	18 31 41.1	+1.2
PNHZ	Pukenui	2.61	45	P	Pb	18 31 47.7	+2.3
WPHZ	Waipukurau	2.64	51	P	Pb	18 31 49.0	+3.1
MTVZ	Mangateitei	2.71	29	P	Pb	18 31 49.0	+1.9
VRZ	Vera Road	2.75	16	Pn	Pb	18 31 45.9	-1.8
VRZ	Vera Road	2.75	16	P	Pb	18 31 45.9	-1.8
PKVZ	Pokaka	2.75	26	P	Pb	18 31 46.1	-1.7
RPZ	Rata Peaks	2.79	225	Pn	Pn	18 31 43.4	+1.1
RPZ	Rata Peaks	2.79	225	P	Pn	18 31 43.6	+1.3
MOVZ	Moawhango	2.80	33	P	Pb	18 31 49.1	+0.4
WNVZ	Wahianoa	2.81	30	Pn	Pb	18 31 46.1	-2.7
TRVZ	Turoa	2.82	29	Pn	Pb	18 31 46.4	-2.6
TRVZ	Turoa	2.82	29	P	Pb	18 31 47.3	-1.7
DRZ	Dome Shelter	2.84	29	Pn	Pb	18 31 50.4	+2.4
DRZ	Dome Shelter	2.84	29	P	Pb	18 31 49.8	+0.3
WHVZ	Whangaehu Hut	2.85	30	Pn	Pb	18 31 47.9	-1.6
WHVZ	Whangaehu Hut	2.85	30	P	Pb	18 31 48.0	-1.5
FWVZ	Far West T-bar	2.86	29	Pn	Pb	18 31 46.8	-2.9
FWVZ	Far West T-bar	2.86	29	P	Pb	18 31 48.4	-1.3
BHHZ	Black Hill Sta	2.87	38	Pn	Pn	18 31 45.3	+1.9
BHHZ	Black Hill Sta	2.87	38	P	Pn	18 31 45.5	+2.0
TUVZ	Tukino	2.88	30	Pn	Pb	18 31 50.7	+0.6
TUVZ	Tukino	2.88	30	P	Pb	18 31 47.6	-2.5
KRHZ	Kereru	2.90	44	P	Pn	18 31 44.3	+0.5
COVZ	Chateau Observ	2.90	28	P	Pb	18 31 48.6	-1.7
NGZ	Ngauruhoe	2.94	29	Pn	Pn	18 31 47.7	+3.2
NGZ	Ngauruhoe	2.94	29	P	Pn	18 31 47.7	+3.2
TWVZ	Taurewa	2.98	26	Pn	Pb	18 31 52.0	+0.3
TWVZ	Taurewa	2.98	26	P	Pb	18 31 50.6	-1.1
WTVZ	West Tongariro	2.99	28	Pn	Pn	18 31 48.5	+3.2
WTVZ	West Tongariro	2.99	28	P	Pn	18 31 48.6	-3.3
KRVZ	Karewarewa	3.03	29	Pn	Pb	18 31 51.5	-1.1
KRVZ	Karewarewa	3.03	29	P	Pb	18 31 50.1	-2.5
KAHZ	Kahuranaki	3.07	51	P	Pb	18 31 46.5	+0.3
KWHZ	Kaweka Forest	3.09	42	P	Pb	18 31 55.2	+1.6
KATZ	Kakaramea	3.16	28	P	Pb	18 31 56.7	+2.0
RATZ	Rangitukua	3.28	28	Pn	Pb	18 31 58.5	+1.7
RATZ	Rangitukua	3.28	28	P	Pb	18 31 56.6	-0.2
BKZ	Black Stump Fm	3.33	39	P	Pb	18 31 57.8	+0.2
HIZ	Hauiti	3.36	15	Pn	Pb	18 31 54.1	-4.0
HIZ	Hauiti	3.36	15	P	Pb	18 31 54.5	-3.6
FOZ	Fox Glacier	3.41	238	Pn	Pn	18 31 53.2	+2.4
FOZ	Fox Glacier	3.41	238	P	Pn	18 31 53.9	+3.1
MRHZ	Matea Rd	3.56	35	P	Pn	18 31 55.9	+2.9
KUTZ	Kaahu Road	3.64	26	Pn	Pb	18 32 04.5	+1.7
TLZ	Tolley Road	3.70	22	P	Pb	18 32 00.3	-3.6
LBZ	Lake Benmore	3.71	224	Pn	Pn	18 31 56.2	+1.3
LBZ	Lake Benmore	3.71	224	P	Pn	18 31 56.1	+1.2
MTHZ	Maungataniwha	3.76	4	P	Pn	18 31 56.5	+1.1
ODZ	Otahua Downs	3.99	214	Pn	Pn	18 31 58.6	+1.1
ODZ	Otahua Downs	3.99	214	P	Pn	18 31 58.7	-0.1
TOZ	Tahuroa Road	4.25	19	P	Pb	18 32 08.9	-4.4
JCZ	Jackson Bay	4.33	236	Pn	Pn	18 32 06.0	+2.5
JCZ	Jackson Bay	4.33	236	P	Pn	18 32 04.9	+1.5
URZ	Urewera	4.34	37	P	Pb	18 32 05.2	+1.6
WKZ	Wanaka	4.62	227	P	Pn	18 32 08.4	+0.9
AWAZ	Awhitu Peninsu	4.75	8	P	Pn	18 32 13.7	+4.5
MKAZ	Moumakai	4.79	13	Pn	Pn	18 32 14.1	+4.4
MKAZ	Moumakai	4.79	13	P	Pn	18 32 14.2	+4.5
RUGZ	Raukumara Rang	4.84	40	P	Pn	18 32 11.6	+1.0
WIAZ	Waiheke Island	5.08	12	P	Pn	18 32 18.4	+4.6
PKGZ	Pakihiroa	5.10	42	P	Pn	18 32 14.2	+0.1
TUZ	Tuapeka	5.14	214	Pn	Pn	18 32 14.5	-0.1
TUZ	Tuapeka	5.14	214	P	Pn	18 32 14.8	+0.2

*ISCJB **27** 18:39:19.0±0.4, 13°.10N±0°.04×89°.21W±0°.04, h76km±3km, mb4.2/23, Error ellipse: s-maj=9.1km s-min=3.6km az=39.3*

*IDC **27** 18:39:18.8±1.0, 13°.24N×88°.80W, h63km±5km, mb3.7/10, mb1 4.0/12, mb1mx3.6/49, mbtmp4.0/12, MS3.2/12, Ms1 3.2/12, ms1mx2.9/46, Error ellipse: s-maj=29.6km s-min=17.1km az=39.0*

*NEIC **27** 18:39:18.4±1.8, 12°.97N×89°.22W, h60km±14km, mb4.3/21, MD4.7(SNET), Error ellipse: s-maj=23.9km s-min=11.0km az=222.0*

NEIC Felt [III] at San Salvador. Also felt at Antiguo Cuscatlan.

*CASC **27** 18:39:20.2±1.7, 13°.12N×89°.21W, h61km±14km, MD4.6, ML4.3, mb4.3(NEIC)*

ISC 27 18:39:19.2±0.7,**13°.08N**±0°.07×**89°.20W**±0°.05,**h69**km±5km, **n97**,σ1°**60**/113,**mb4.3**/23,**7C,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UESV	Ojushtada	0.50	53	*e*P	Pn	18 39 33.9	+1.9
LFRS	El Faro	0.56	14	*e*P	Pn	18 39 32.3	-0.4
LOMA	San Marcos	0.57	3	*i*P	Pn	18 39 32.6	-0.1
LOMA				*e*S	Sn	18 39 42.8	+0.2
COLS	Colinas	0.59	351	*e*P	Pn	18 39 32.6	-0.5
COLS				*e*S	Sn	18 39 42.5	-0.7
SNET	Serv Nac Est T	0.61	357	*e*Pn	Pn	18 39 33.0	-0.2
SNET				*e*Sn	Sn	18 39 42.9	-0.6
SNET	Serv Nac Est T	0.61	357	*i*eP	Pn	18 39 33.0	-0.2
SNET				*e*S	Sn	18 39 43.2	-0.2
SNET				IAML		18 39 44.3	
	comp=Z,51μm,0.3s						
OPAM	San Salvador	0.64	360	*e*P	Pn	18 39 33.4	-0.1
OPAM				IAML		18 39 46.4	
	comp=Z,19μm,0.2s						
SNVI	San Vicente	0.64	33	*e*P	Pn	18 39 33.5	-0.2
SNVI				*e*S	Sn	18 39 43.9	-0.2
UDBS	Soyapango	0.65	4	*e*P	Pn	18 39 33.4	-0.2
UEES	San Salvador	0.65	356	*i*eP	Pn	18 39 33.5	-0.2
UEES				*e*S	Sn	18 39 44.4	+0.2
BOQS	Boqueron	0.66	353	*e*P	Pn	18 39 34.0	+0.1
BOQS				*e*S	Sn	18 39 44.4	-0.3
BOQS				AML	AML	18 39 52.0	
	comp=Z,4μm,0.6s						
LFU	La Fuente	0.67	7	*e*P	Pn	18 39 34.0	+0.1
LBRS	Las Brisas	0.68	13	*e*P	Pn	18 39 34.2	+0.3
TECA	Tecapa	0.80	58	*i*eP	Pn	18 39 35.5	+0.1
SBLS	San Blas	0.86	332	*e*P	Pn	18 39 36.2	-0.1
SBLS				AML	AML	18 40 10.4	
	comp=Z,1μm,0.5s						
SNJE	San Jose	0.88	333	*i*eP	Pn	18 39 36.4	-0.1
RTR	El Retiro	0.93	332	*e*P	Pn	18 39 37.4	+0.4
LCY	Lacayo	0.95	68	*e*P	Pn	18 39 37.5	+0.3
VSM	San Miguel	0.97	69	*e*P	Pn	18 39 38.1	+0.5
UNIC	Santa Ana	0.97	339	*e*P	Pn	18 39 37.9	+0.4
LLGN	La Laguna	1.11	12	*e*P	Pn	18 39 39.5	+0.3
CAHU	Cacacuatique	1.19	54	*e*P	Pn	18 39 40.9	+0.7
CAHU				*e*S	Sn	18 39 57.8	+1.9
LCND	La Ca˜–ada	1.30	80	*e*P	Pn	18 39 41.9	+0.3
LCND				*e*S	Sn	18 40 00.4	+2.1
MTO3	Montecristo	1.32	353	*i*eP	Pn	18 39 42.8	+0.7
CNCH	Conchagua	1.35	81	*e*P	Pn	18 39 42.7	+0.4
CNCH				*e*S	Sn	18 40 00.2	+0.7
IXG	Ixpaco	1.64	312	*e*P	Pn	18 39 46.0	-0.2
TGUH	Tegucigalpa,Un	2.11	62	*e*Pn	Pn	18 39 53.6	+1.2
CRIN	San Cristobal	2.13	100	*e*P	Pn	18 39 53.7	+1.0
MOMN	Momotombo	2.68	104	*e*P	Pn	18 40 00.7	+0.6
COPN	Copaltepe	2.70	109	*e*P	Pn	18 40 00.1	-0.2
ESTN	Estel	2.76	89	*e*P	Pn	18 40 01.5	+0.2
MATN	Matagalpa	3.19	92	*e*P	Pn	18 40 07.5	+0.3
CRZ1	La Cruz	4.01	119	*e*P	Pn	18 40 36.0	+18
CUI	Cuipilapa	4.62	121	*e*P	Pn	18 40 28.0	+1.3
JTS	JuntasÀbangare	5.00	123	P	Pn	18 40 32.5	+0.7
	comp=Z,2.5nm,0.3s,baz=13,slow=20,SNR=6.5						
JTS				S	Sn	18 41 24.4	-3.8
	comp=Z,5.1nm,0.3s,baz=333,slow=20,SNR=4.6						
SRA1	San Ram‡n	5.50	122	*e*S	Sn	18 41 39.9	-0.8
CGA2	Cerro Gallo 2	5.55	123	*e*P	Pn	18 40 42.1	+2.7
LCR2	La Lucha 2	6.08	122	*e*P	Pn	18 40 50.3	+3.5
CVTR	Volcan Turrial	6.14	119	*e*P	Pn	18 40 52.1	+4.4
URSC	Urasca	6.21	121	*e*P	Pn	18 40 52.1	+3.6
URSC				*e*S	Sn	18 41 60.0	+1.6
BUS	Buena Vista	6.38	123	*e*P	Pn	18 40 53.7	+2.6
CMIG	Matias Romero	6.79	307	P	Pn	18 40 57.4	+1.2
	comp=Z,0.9nm,0.3s,baz=99,slow=10,SNR=9.1						
CMIG				S	Sn	18 42 17.3	+5.2
	comp=Z,2.0nm,0.3s,baz=69,slow=18,SNR=3.8						
CMIG				LR	LR	18 44 02.8	
	comp=Z,125nm,20.8s,baz=188,slow=40						
TEIG	Tepich	7.17	7	*e*Pn	Pn	18 40 58.9	-2.5
ICCO	Coco Island	7.78	164	*e*P	Pn	18 41 12.1	+2.3
MYIG	MÓrida	7.86	356	*e*Pn	Pn	18 41 11.4	+0.6
BCIP	Isla Barro Col	9.97	112	*e*Pn	Pn	18 41 38.9	-0.9
LNIG	Linares	15.24	322	*e*Pn	P	18 42 55.7	+1.8
	comp=Z,34nm,1.5s						
ZAIG	Zacatecas	15.95	309	*e*Pn	P	18 43 06.0	+3.9
	comp=Z,3.7nm,0.6s						
SDV	Santo Domingo	18.69	101	P	P	18 43 30.3	-2.0
	comp=Z,0.6nm,0.3s,baz=285,slow=7.4,SNR=9.8						
SDV	Santo Domingo	18.69	101	*e*P	P	18 43 31.9	-0.5
	comp=Z,7.7nm,0.8s						
TIGA	Tifton	18.99	15	*e*P	Pn	18 43 38.0	+1.4
	comp=Z,26nm,0.9s						
JCT	Junction City	19.90	332	*e*P	P	18 43 46.4	+1.1
	comp=Z,8.1nm,0.8s						
LRAL	Lakeview Retre	19.97	5	*e*P	Pn	18 43 48.2	0.0
	comp=Z,6.0nm,0.6s						
HPIG		20.69	314	*e*P	P	18 43 54.6	+0.6
	comp=Z,17nm,1.6s						
WLAR	White Oak Lake	20.83	351	*e*P	P	18 43 54.8	-0.3
	comp=Z,48nm,1.3s						
TX31	Lajitas Ar. Si	21.03	323	*e*P	P	18 43 59.6	+2.1
TXAR	Lajitas Array	21.03	323	P	P	18 43 59.6	+2.1
	comp=Z,1.7nm,0.5s,baz=145,slow=10,SNR=33						
TXAR				pP	pP	18 44 12.7	+0.7
	comp=Z,0.8nm,0.4s,baz=138,slow=9.8,SNR=7.5						
TXAR				PcP	PcP	18 48 02.5	+0.3
	comp=Z,0.7nm,1.0s,baz=142,slow=3.4,SNR=4.3						
OXF	Oxford	21.34	360	*e*P	P	18 44 02.0	+1.3
	comp=Z,20nm,0.9s						
ABTX	Abilene, Hawle	21.68	336	*e*P	P	18 44 03.7	-0.6
	comp=Z,6.3nm,0.8s						
MIAR	Mount Ida	21.74	350	*e*P	P	18 44 07.4	+2.4
	comp=Z,8.7nm,0.8s						
UALR	University of	21.79	353	*e*P	P	18 44 09.1	+3.6
	comp=Z,13nm,1.0s						
SJG	San Juan	22.75	74	LR	LR	18 53 37.5	
	comp=Z,51nm,19.9s,baz=261,slow=38						
ATAH	Atahualpa	22.77	151	LR	LR	18 52 21.6	
	comp=Z,31nm,18.5s,baz=344,slow=34						
LPIG	La Paz	22.78	302	LR	LR	18 52 13.2	
	comp=Z,27nm,18.9s,baz=334,slow=34						
TKL	Tuckaleechee C	23.01	11	P	P	18 44 16.5	-1.9
	comp=Z,4.2nm,1.0s,baz=199,slow=13,SNR=3.3						
TKL				LR	LR	18 53 49.3	
	comp=Z,31nm,18.6s,baz=261,slow=38						
KMSC	Kings Mountain	23.09	17	*e*P	P	18 44 20.1	+0.8
	comp=Z,27nm,1.4s						
PBMO	Poplar Bluff	23.63	358	*e*P	P	18 44 22.7	-1.5
	comp=Z,17nm,0.6s						
MSTX	Muleshoe	24.19	332	*e*P	P	18 44 29.8	+0.4
	comp=Z,9.9nm,0.9s						
AMTX	Amarillo	24.48	335	*e*P	P	18 44 33.2	+1.2
	comp=Z,38nm,1.6s						
CCM	Cathedral Cave	24.95	356	*e*P	P	18 44 36.6	+0.6
	comp=Z,11nm,0.8s						
T25A	Trinidad	27.56	333	*e*P	P	18 45 01.8	+1.8
	comp=Z,3.8nm,1.0s						
RWWY	Rawlins	32.54	334	*e*P	P	18 45 42.4	-1.6
	comp=Z,22nm,0.6s						
GSC	Goldstone, Bar	33.32	316	*e*P	P	18 45 48.8	-1.9
GSC				*e*S	S	18 51 02.7	-3.9
SAML	Samuel	33.86	129	*e*P	P	18 45 54.6	-0.9
	comp=Z,2.1nm,0.7s						
SBI	Santa Barbara	33.91	312	*e*P	P	18 45 58.1	+2.4
SBI				*e*S	S	18 51 18.6	+3.1
ALPC	Antelope	34.01	314	*e*P	P	18 45 58.4	+1.8
PDAR	Pinedale Array	34.43	333	P	P	18 46 00.6	+0.2
	comp=Z,0.3nm,0.6s,baz=124,slow=11,SNR=2.3						
PDAR				PcP	PcP	18 48 34.5	0.0
	comp=Z,0.7nm,0.6s,baz=150,slow=3.8,SNR=5.5						
PDAR				LR	LR	19 04 36.9	
	comp=Z,43nm,18.8s,baz=224,slow=44						
LPAZ	La Paz	35.85	144	LR	LR	19 00 55.0	
	comp=Z,60nm,18.1s,baz=313,slow=36						
NVAR	Mina Array Bea	36.12	320	P	P	18 46 17.6	+2.7
	comp=Z,0.3nm,0.4s,baz=126,slow=7.5,SNR=4.3						
NVAR				pP	pP	18 46 33.2	+1.4
	comp=Z,1.8nm,0.6s,baz=137,slow=9.4,SNR=6.0						
NVAR				PcP	PcP	18 48 40.4	+0.8
	comp=Z,1.3nm,0.8s,baz=147,slow=3.5,SNR=4.8						
NVAR				LR	LR	19 01 25.8	
	comp=Z,44nm,18.2s,baz=272,slow=37						
CMB	Columbia Colle	37.23	317	*e*P	P	18 46 25.2	+1.0
ULM	Lac du Bonnet	37.47	353	P	P	18 46 24.9	-1.0
	comp=Z,3.8nm,0.6s,baz=167,slow=9.5,SNR=10						
ULM				LR	LR	19 06 10.1	
	comp=Z,36nm,18.8s,baz=50,slow=43						
YBH	Yreka Blue Hor	40.78	321	LR	LR	19 05 12.3	
	comp=Z,45nm,18.0s,baz=159,slow=38						
YKA	Yellowknife Ar	52.57	345	P	P	18 48 25.1	-0.4
	comp=Z,1.7nm,0.7s,baz=143,slow=7.6,SNR=28						
YKA				pP	pP	18 48 41.1	-2.2
	comp=Z,2.3nm,1.0s,baz=144,slow=7.7,SNR=7.7						
YKA				PcP	PcP	18 49 32.4	-2.5
	comp=Z,0.2nm,0.5s,baz=144,slow=5.5,SNR=3.8						
YKW3	Yellowknife Ar	52.63	346	*e*P	P	18 48 24.9	-1.1
	comp=Z,22nm,2.0s						
ILAR	Eielson Array	64.76	336	P	P	18 49 49.9	-0.3
	comp=Z,0.7nm,0.9s,baz=143,slow=4.6,SNR=6.5						
HFS	Hagfors	85.08	29	LR	LR	19 25 26.1	
	comp=Z,14nm,21.9s,baz=312,slow=33						
ARCES	ARCESS Array B	86.15	19	P	P	18 51 51.7	-0.8
	comp=Z,7.0nm,1.1s,baz=298,slow=5.1,SNR=3.6						
TORD	Torodi Ar. Bea	87.94	77	LR	LR	19 26 53.6	
	comp=Z,15nm,21.2s,baz=190,slow=33						
SEY	Seymchan	90.70	336	P	P	18 52 14.2	+0.1
	comp=Z,0.6nm,0.6s,baz=84,slow=19						
TIXI	Tiksi	91.71	349	P	P	18 52 18.0	-0.7
	comp=Z,0.9nm,0.3s,baz=58,slow=0.6,SNR=6.8						
KURBB	Kurchatov Arra	115.67	9	PKP	PKPdf	18 57 53.2	-0.4
	comp=Z,0.7nm,0.8s,baz=359,slow=2.2,SNR=8.9						
SONM	Songino Array	117.79	348	PKP	PKPdf	18 57 58.0	0.0
	comp=Z,0.4nm,0.6s,baz=10,slow=1.7,SNR=3.6						
SONM				pPKP	pPKPdf	18 58 15.9	-2.0
	comp=Z,0.6nm,0.8s,baz=158,slow=2.5,SNR=3.4						
MKAR	Makanchi Array	119.92	7	PKP	PKPdf	18 58 00.8	-1.3
	comp=Z,0.2nm,0.4s,baz=330,slow=2.0,SNR=5.4						
WRA	Warramunga Arr	137.79	255	PKP	PKPdf	18 58 37.2	+0.6
	comp=Z,1.1nm,0.8s,baz=88,slow=2.4,SNR=11						
ASAR	Alice Springs	137.90	249	PKP	PKPdf	18 58 37.9	+1.1
	comp=Z,0.4nm,0.7s,baz=110,slow=1.4,SNR=4.3						
FITZ	Fitzroy Crossi	146.11	257	PKPbc	PKPab	18 58 53.7	+0.6
	comp=Z,3.8nm,0.6s,baz=115,slow=1.2,SNR=20						
CMAR	Chiang Mai Arr	147.65	345	PKPbc	PKPbc	18 58 56.2	-0.6
	comp=Z,2.4nm,0.7s,baz=346,slow=3.7,SNR=19						
CMAR				pPKPbc	pPKPdf	18 59 13.8	-0.2
	comp=Z,1.7nm,0.8s,baz=338,slow=3.6,SNR=5.7						

*IDC **27** 18:46:35.5±1.7, 59°.67S×25°.56W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/29, mbtmp4.2/5, ML4.7/1, Error ellipse: s-maj=109.6km s-min=26.0km az=99.0*

*ISCJB **27** 18:46:39.9±0.6, 59°.78S±0°.09×25°.0W±0°.3, h35km, mb4.4/9, Error ellipse: s-maj=21.7km s-min=9.4km az=156.0*

*NEIC **27** 18:46:41.2±0.5, 59°.77S×25°.13W, h35km, mb4.7/6, Error ellipse: s-maj=19.5km s-min=11.8km az=64.0*

ISC 27 18:46:41.1±0.7,**59°.9S**±0°.1×**24°.9W**±0°.2,**h35**km,**n27, s28/29**,**mb4.3/9,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.79	154	P	Pn	18 49 43.8	+3.6
VNA3	Neumayer Olymp	12.97	158	P	Pn	18 49 45.5	+2.8
VNA3				S	Sn	18 52 04.8	-0.7
VNA2	Neumayer--Watz	13.19	154	P	Pn	18 49 48.3	+2.7
	baz=300,slow=15						
VNA2				S	Sn	18 52 08.8	-2.0
SNAA	Sanae	14.76	152	P	P	18 50 10.4	-2.2
SNAA				S	Sn	18 52 49.8	+0.7
SNAA	Sanae	14.76	152	Pn	P	18 50 10.3	-2.3
	3.0nm,0.3s,baz=311,slow=16,SNR=82						
SNAA				Sn	S

BUSP	**Coron**	**3.69**	**304**	*e*P	**Pn**	**19 22 51.9**	**-0.1**
BATI	**Baumata**	**20.00**	**179**	P	**P**	**19 26 28.5**	**+0.7**
	9.8nm,0.6s,baz=349,slow=5.2,SNR=3.0						
CMAR	**Chiang Mai Arr**	**25.08**	**292**	P	**P**	**19 27 20.8**	**+0.9**
	0.9nm,0.9s,baz=116,slow=7.0,SNR=4.7						
CMAR				LR	LR	19 37 03.9	
	comp=Z,12nm,19.4s,baz=245,slow=36						
MJAR	**Matsushiro Arr**	**29.74**	**25**	LR	LR	19 38 38.3	
	comp=Z,17nm,21.9s,baz=180,slow=34						
WRA	**Warramunga Arr**	**31.60**	**160**	P	**P**	**19 28 17.2**	**-0.9**
	0.4nm,0.8s,baz=344,slow=9.3,SNR=4.1						
ASAR	**Alice Springs**	**34.95**	**163**	P	**P**	**19 28 47.1**	**-0.2**
	0.6nm,0.8s,baz=341,slow=6.8,SNR=7.1						
SONM	**Songino Array**	**40.40**	**342**	P	**P**	**19 29 33.9**	**+0.6**
	0.4nm,0.7s,baz=159,slow=7.9,SNR=3.5						
TLY	**Talaya**	**44.64**	**343**	LR	LR	19 50 05.0	
	comp=Z,12nm,19.1s,baz=98,slow=38						
MKAR	**Makanchi Array**	**50.58**	**324**	P	**P**	**19 30 54.2**	**+0.3**
	0.4nm,0.9s,baz=128,slow=7.9,SNR=3.8						
MKAR				PcP	**PcP**	**19 32 11.4**	**-0.3**
	0.3nm,0.6s,baz=134,slow=4.2,SNR=3.9						
NOA	**NORSAR Array B**	**91.77**	**333**	LR	LR	20 17 45.6	
	comp=Z,8.0nm,20.6s,baz=10.0,slow=36						

ATH ***27*** *19:32:05.9, 40.78N×21.23E, h21km, ML3.2/14, Error ellipse: s-maj=1.2km s-min=0.8km az=157.0*
SKO ***27*** *19:32:05.2, 40.74N×21.18E, h15km, M3.0, ML3.3*
PDG ***27*** *19:32:06.9±0.4, 40.77N×21.22E, h10km, ML3.4/9, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
TIR ***27*** *19:32:06.2, 40.79N×21.16E, h12km, ML3.3*
CSEM ***27*** *19:32:06.4±0.1, 40.75N×21.25E, h5km, ML3.3, Error ellipse: s-maj=2.3km s-min=1.7km az=58.0*
BEO ***27*** *19:32:07.6±0.2, 40.82N×21.23E, h8km±2km, M3.0/1*
SOF ***27*** *19:32:07.0, 40.79N×21.21E, h13km, MD2.5*
THE ***27*** *19:32:07.2, 40.74N×21.26E, h8km, ML3.3/9, Error ellipse: s-maj=0.5km s-min=0.3km az=300.0*

ISC 27 19:32:06.8±0.8, 40.76N±0.01×21.22E±0.01, h15km±4km, n221, σ1°17/329, 19C-13D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.12**	**79**	*i* PG		**Pg**	**19 32 10.5**	**+0.2**
FNA				*i* SG		**Sg**	**19 32 13.3**	**+0.7**
FNA	**Florina**	**0.12**	**79**	*e*Pg		**Pg**	**19 32 10.6**	**+0.2**
FNA	**Florina**	**0.12**	**79**	P		**Pb**	**19 32 11.1**	**+0.3**
FNA				S		**Sg**	**19 32 13.7**	**+1.0**
FNA				AML		AML	19 32 13.9	
FNA				AML		AML	19 32 14.0	
FNA	**Florina**	**0.12**	**79**	P		**Pg**	**19 32 09.9**	**-0.4**
FNA	**Florina**	**0.12**	**79**	*i* Pg		**Pg**	**19 32 10.5**	**+0.2**
FNA				S		**Sg**	**19 32 12.0**	**-0.7**
FNA				*i* Sg		Sg	19 32 13.4	+0.7
FNA	**Florina**	**0.12**	**79**	P		**Pg**	**19 32 09.9**	**-0.4**
FNA				S		**Sg**	**19 32 12.0**	**-0.7**
BIA	**Bitola**	**0.27**	**17**	P		**Pg**	**19 32 12.8**	**+0.2**
BIA				S		**Sb**	**19 32 17.0**	**-0.9**
BIA	**Bitola**	**0.27**	**17**	P		**Pg**	**19 32 12.8**	**+0.2**
BIA				S		**Sb**	**19 32 17.0**	**-0.9**
BIA	**Bitola**	**0.27**	**17**	⇓*i* Pg		**Pg**	**19 32 12.8**	**+0.2**
BIA				*i* Sg		**Sb**	**19 32 17.5**	**-0.3**
KBN	**Korca**	**0.36**	**248**	*i* PG		**Pg**	**19 32 13.0**	**-1.2**
KBN				*i* SG		**Sg**	**19 32 18.5**	**-0.7**
KBN	**Korca**	**0.36**	**248**	*i* Pg		**Pg**	**19 32 13.0**	**-1.2**
KBN				*i* Sg		**Sg**	**19 32 18.5**	**-0.7**
NEST	**Nestorio**	**0.37**	**201**	P		**Pg**	**19 32 13.6**	**-0.7**
NEST				S		**Sg**	**19 32 19.7**	**+0.2**
NEST				AML		AML	19 32 22.5	
	comp=E,13441μm,0.5s							
NEST				AML		AML	19 32 23.2	
	comp=N,10816μm,0.2s							
NEST	**Nestorio**	**0.37**	**201**	P		**Pg**	**19 32 13.8**	**-0.6**
NEST				S		**Sg**	**19 32 19.7**	**+0.2**
NEST	**Nestorio**	**0.37**	**201**	P		**Pg**	**19 32 13.8**	**-0.6**
NEST				S		**Sg**	**19 32 19.7**	**+0.2**
OHR	**Ohrid**	**0.47**	**318**	⇑*i* Pg		**Sg**	**19 32 14.9**	**-1.4**
OHR				*i* Sg		**Sg**	**19 32 22.6**	**0.0**
OHR				*e*Lg		Lg	19 32 22.9	
	comp=N,4μm,0.7s							
OHR				*e*Lg		Lg	19 32 23.5	
	comp=E,4μm,0.4s							
PENT	**Pentalofos**	**0.57**	**187**	P		**Pg**	**19 32 17.7**	**-0.4**
PENT				S		**Sg**	**19 32 25.1**	**-0.5**
PENT				AML		AML	19 32 29.4	
	comp=N,6626μm,0.6s							
PENT				AML		AML	19 32 30.3	
	comp=E,9260μm,0.3s							
PENT	**Pentalofos**	**0.57**	**187**	P		**Pg**	**19 32 17.5**	**-0.5**
PENT				S		**Sg**	**19 32 25.5**	**-0.1**
PENT	**Pentalofos**	**0.57**	**187**	P		**Pg**	**19 32 17.5**	**-0.5**
PENT				S		**Sg**	**19 32 25.5**	**-0.1**
KRUS	**Krusevo**	**0.61**	**2**	*i* Pg		**Pg**	**19 32 17.4**	**-1.3**
KRUS				*i* Sg		**Sg**	**19 32 26.6**	**-0.3**
KZN	**Kozani**	**0.62**	**137**	P		**Pg**	**19 32 18.5**	**-0.5**
KZN				S		**Sg**	**19 32 26.4**	**-0.7**
KZN				AML		AML	19 32 30.6	
	comp=N,5397μm,0.2s							
KZN				AML		AML	19 32 30.8	
	comp=E,7277μm,0.3s							
KZN	**Kozani**	**0.62**	**137**	P		**Pg**	**19 32 18.4**	**-0.5**
KZN				S		**Sg**	**19 32 26.7**	**-0.4**
KZN	**Kozani**	**0.62**	**137**	P		**Pg**	**19 32 18.3**	**-0.6**
KZN				S		**Sg**	**19 32 26.7**	**-0.4**
KTI	**Kastanea**	**0.77**	**118**	P		**Pg**	**19 32 21.0**	**-0.9**
KTI	**Kastanea**	**0.77**	**118**	P		**Pg**	**19 32 21.0**	**-0.9**
KPRO	**Kipourio**	**0.81**	**172**	P		**Pg**	**19 32 20.8**	**-1.8**
KPRO				S		**Sg**	**19 32 34.0**	**+0.7**
KPRO				AML		AML	19 32 39.0	
	comp=E,8410μm,0.4s							
KPRO				AML		AML	19 32 39.4	
	comp=N,10332μm,0.4s							
KPRO	**Kipourio**	**0.81**	**172**	P		**Pg**	**19 32 21.4**	**-1.2**
KPRO				S		**Sg**	**19 32 33.7**	**+0.5**
KPRO	**Kipourio**	**0.81**	**172**	P		**Pg**	**19 32 21.4**	**-1.2**
KPRO				S		**Sg**	**19 32 33.8**	**+0.5**
GRG	**Griva**	**0.92**	**77**	P		**Pg**	**19 32 24.3**	**-0.3**
GRG				S		**Sb**	**19 32 37.1**	**+0.7**
GRG				AML		AML	19 32 40.4	
	comp=E,1950μm,0.5s							
GRG				AML		AML	19 32 43.4	
	comp=N,3381μm,0.6s							
GRG	**Griva**	**0.92**	**77**	P		**Pg**	**19 32 23.8**	**-0.7**
GRG				S		**Sb**	**19 32 36.6**	**+0.2**
GRG	**Griva**	**0.92**	**77**	P		**Pg**	**19 32 23.9**	**-0.6**
PHP	**Peshkopia**	**1.09**	**328**	*i* PG		**Pb**	**19 32 25.1**	**-2.4**
PHP				*i* SG		**Sg**	**19 32 42.2**	**0.0**
PHP	**Peshkopia**	**1.09**	**328**	*i* Pg		**Pg**	**19 32 25.1**	**-2.4**
PHP				*i* Sg		**Sg**	**19 32 42.2**	**0.0**
JAN	**Janina**	**1.14**	**195**	P		**Pb**	**19 32 28.0**	**-0.2**
JAN	**Janina**	**1.14**	**195**	P		**Pb**	**19 32 27.9**	**-0.3**
JAN				S		**Sn**	**19 32 44.7**	**+1.0**
JAN	**Janina**	**1.14**	**195**	P		**Pb**	**19 32 27.9**	**-0.3**
JAN				S		**Sn**	**19 32 44.7**	**+1.0**
VAY	**Valandovo**	**1.16**	**61**	*e*Pg		**Pb**	**19 32 28.3**	**-0.3**
VAY				*e*Sg		**Sb**	**19 32 43.6**	**+0.1**
VAY	**Valandovo**	**1.16**	**61**	P		**Pb**	**19 32 28.3**	**-0.3**
VAY				*e*Sg		**Sb**	**19 32 43.6**	**+0.1**
VAY				S		**Sn**	**19 32 45.5**	**+1.4**
VAY	**Valandovo**	**1.16**	**61**	P		**Pb**	**19 32 28.3**	**-0.3**
VAY				S		**Sn**	**19 32 45.5**	**+1.4**
VAY	**Valandovo**	**1.16**	**61**	*i* Pg		**Pb**	**19 32 28.2**	**-0.3**
VAY				*i* Sg		**Sn**	**19 32 45.5**	**+1.4**
VAY				*e*Lg		Lg	19 32 50.4	
	comp=E,587nm,1.0s							
VAY				*e*Lg		Lg	19 32 52.6	
	comp=N,292nm,0.7s							
LIT	**Litokhoron**	**1.17**	**124**	P		**Pn**	**19 32 29.3**	**+0.6**
LIT				S		**Sn**	**19 32 45.8**	**+1.4**
LIT				AML		AML	19 32 48.5	
	comp=E,2365μm,0.4s							
LIT				AML		AML	19 32 52.0	
	comp=N,1486μm,0.3s							
LIT	**Litokhoron**	**1.17**	**124**	P		**Pb**	**19 32 28.6**	**-0.2**
LIT				S		**Sn**	**19 32 45.2**	**+0.8**
LIT	**Litokhoron**	**1.17**	**124**	P		**Pb**	**19 32 28.6**	**-0.2**
TIR	**Tirane**	**1.18**	**300**	*i* PN		**Pg**	**19 32 31.2**	**+1.6**
TIR				*i* SN		**Sn**	**19 32 49.3**	**+4.7**
TIR	**Tirane**	**1.18**	**300**	*e*Pg		**Pb**	**19 32 28.4**	**-0.5**
TIR				*e*Sg		**Sn**	**19 32 45.0**	**+0.3**
TIR	**Tirane**	**1.18**	**300**	⇑*iP*		**Pb**	**19 32 28.7**	**-0.2**
TIR	**Tirane**	**1.18**	**300**	S		**Sn**	**19 32 46.6**	**+1.9**
TIR	**Tirane**	**1.18**	**300**	P		**Pb**	**19 32 26.9**	**-2.0**
TIR				S		**Sb**	**19 32 44.3**	**+0.3**
TIR				AML		AML	19 32 50.0	
	comp=N,2417μm,0.5s							
TIR				AML		AML	19 32 51.7	
	comp=E,1681μm,0.4s							
TIR	**Tirane**	**1.18**	**300**	P		**Pb**	**19 32 27.6**	**-1.3**
TIR	**Tirane**	**1.18**	**300**	*e*Pg		**Pb**	**19 32 28.4**	**-0.5**
TIR	**Tirane**	**1.18**	**300**	*i* Pn		**Pg**	**19 32 31.2**	**+1.6**
TIR				S		**Sb**	**19 32 44.4**	**+0.3**
TIR				*e*Sg		**Sn**	**19 32 45.0**	**+0.3**
TIR				*i* Sn		**Sn**	**19 32 49.3**	**+4.7**
SKO	**Skopje**	**1.22**	**8**	*e*Pg		**Pn**	**19 32 28.6**	**-0.8**
SKO				*e*Sg		**Sb**	**19 32 44.1**	**-1.1**
SKO	**Skopje**	**1.22**	**8**	*e*Pg		**Pn**	**19 32 28.6**	**-0.8**
SKO				*e*Sg		**Sb**	**19 32 44.1**	**-1.1**
SKO	**Skopje**	**1.22**	**8**	*i* Pg		**Pn**	**19 32 28.9**	**-0.5**
SKO				*i* Sg		**Sn**	**19 32 46.4**	**+0.8**
SRN	**Sarande**	**1.28**	**227**	*i* PN		**Pn**	**19 32 27.9**	**-2.3**
SRN				*i* SN		**Sb**	**19 32 47.2**	**+0.2**
SRN	**Sarande**	**1.28**	**227**	*i* Pn		**Pn**	**19 32 27.9**	**-2.3**
SRN				*i* Sn		**Sb**	**19 32 47.2**	**+0.2**
THE	**Thessaloniki**	**1.33**	**95**	P		**Pn**	**19 32 30.5**	**-0.4**
THE				AML		AML	19 32 49.4	
	comp=E,326μm,0.4s							
THE				AML		AML	19 32 55.1	
	comp=N,438μm,0.8s							
THE	**Thessaloniki**	**1.33**	**95**	P		**Pn**	**19 32 30.7**	**-0.1**
THE	**Thessaloniki**	**1.33**	**95**	P		**Pn**	**19 32 30.6**	**-0.2**
THL	**Klokotos Trika**	**1.34**	**153**	P		**Pn**	**19 32 30.2**	**-0.7**
THL				S		**Sb**	**19 32 49.3**	**+0.7**
THL				AML		AML	19 32 54.7	
	comp=E,1052μm,0.4s							
THL				AML		AML	19 32 58.5	
	comp=N,1149μm,0.5s							
THL	**Klokotos Trika**	**1.34**	**153**	P		**Pn**	**19 32 30.8**	**-0.2**
THL				S		**Sn**	**19 32 49.5**	**+1.0**
THL	**Klokotos Trika**	**1.34**	**153**	P		**Pn**	**19 32 30.6**	**-0.4**
THL				S		**Sn**	**19 32 49.5**	**+1.0**
SGD	**Sagiada**	**1.38**	**214**	P		**Pn**	**19 32 32.2**	**+0.7**
SGD	**Sagiada**	**1.38**	**214**	P		**Pn**	**19 32 32.0**	**+0.5**
SGD	**Sagiada**	**1.38**	**214**	P		**Pn**	**19 32 32.0**	**+0.5**
IGT	**Igoumenitsa**	**1.41**	**209**	*i* PN		**Pg**	**19 32 33.7**	**-0.1**
IGT				*i* SN		**Sg**	**19 32 53.1**	**+1.0**
IGT	**Igoumenitsa**	**1.41**	**209**	*e*Pg		**Pb**	**19 32 33.2**	**+0.5**
IGT				*e*Sg		**Sg**	**19 32 54.1**	**+2.0**
IGT	**Igoumenitsa**	**1.41**	**209**	P		**Pn**	**19 32 32.4**	**+0.5**
IGT				S		**Sg**	**19 32 53.3**	**+1.2**
IGT				AML		AML	19 32 56.3	
	comp=E,1100μm,0.4s							
IGT				AML		AML	19 32 56.7	
	comp=N,1127μm,0.7s							
IGT	**Igoumenitsa**	**1.41**	**209**	P		**Pn**	**19 32 32.5**	**+0.6**
IGT	**Igoumenitsa**	**1.41**	**209**	*e*Pg		**Pb**	**19 32 33.2**	**+0.5**
IGT	**Igoumenitsa**	**1.41**	**209**	*i* Pn		**Pg**	**19 32 33.7**	**-0.1**
IGT				S		**Sg**	**19 32 52.0**	**-0.1**
IGT				*i* Sn		**Sg**	**19 32 53.1**	**+1.0**
IGT				*e*Sg		**Sg**	**19 32 54.1**	**+2.0**
IGT	**Igoumenitsa**	**1.41**	**209**	P		**Pn**	**19 32 32.2**	**+0.3**
IGT				S		**Sg**	**19 32 52.0**	**-0.1**
KASA	**Kassiopi**	**1.41**	**225**	P		**Pb**	**19 32 33.4**	**+0.5**
KASA	**Kassiopi**	**1.41**	**225**	P		**Pb**	**19 32 33.0**	**+0.1**
HORT	**Hortiatis**	**1.44**	**96**	P		**Pn**	**19 32 31.6**	**-0.8**
HORT				S		**Sg**	**19 32 53.2**	**+0.1**
HORT				AML		AML	19 32 57.9	
	comp=N,386μm,0.4s							
HORT				AML		AML	19 32 59.6	
	comp=E,459μm,0.3s							
HORT	**Hortiatis**	**1.44**	**96**	P		**Pn**	**19 32 32.2**	**-0.2**
HORT				S		**Sg**	**19 32 52.9**	**-0.2**
HORT	**Hortiatis**	**1.44**	**96**	P		**Pn**	**19 32 32.2**	**-0.2**
KEK	**Kerkira**	**1.51**	**227**	P		**Pb**	**19 32 34.7**	**+0.1**
KEK				S		**Sg**	**19 32 55.6**	**+0.1**
KEK				AML		AML	19 33 02.7	
	comp=E,710μm,0.7s							
KEK				AML		AML	19 33 03.4	
	comp=N,838μm,0.6s							
KEK	**Kerkira**	**1.51**	**227**	P		**Pn**	**19 32 34.2**	**+0.8**
KEK				S		**Sg**	**19 32 55.1**	**-0.4**
KEK	**Kerkira**	**1.51**	**227**	P		**Pn**	**19 32 34.2**	**+0.8**
SOH	**Sokhos**	**1.62**	**87**	P		**Pn**	**19 32 34.7**	**-0.2**
SOH				S		**Sn**	**19 32 56.1**	**+0.6**
SOH				AML		AML	19 33 03.2	
	comp=N,1011μm,0.4s							
SOH				AML		AML	19 33 05.1	
	comp=E,898μm,0.7s							
SOH	**Sokhos**	**1.62**	**87**	P		**Pn**	**19 32 35.0**	**+0.1**
SOH				S		**Sn**	**19 32 56.5**	**+1.0**
SOH	**Sokhos**	**1.62**	**87**	P		**Pn**	**19 32 34.8**	**-0.1**
PUK	**Puka**	**1.62**	**322**	*i* PN		**Pn**	**19 32 35.5**	**+0.5**
PUK				*i* SN		**Sg**	**19 32 59.2**	**0.0**
PUK	**Puka**	**1.62**	**322**	*i* Pn		**Pn**	**19 32 35.5**	**+0.5**
PUK				*i* Sn		**Sg**	**19 32 59.2**	**0.0**
DSL	**Palaion Diasel**	**1.63**	**183**	P		**Pb**	**19 32 35.5**	**-0.1**
DSL	**Palaion Diasel**	**1.63**	**183**	P		**Pn**	**19 32 36.1**	**+1.1**
PLG	**Polygyros**	**1.74**	**102**	P		**Pn**	**19 32 36.5**	**0.0**
PLG	**Polygyros**	**1.74**	**102**	P		**Pn**	**19 32 36.8**	**+0.3**
PLG	**Polygyros**	**1.74**	**102**	P		**Pn**	**19 32 36.3**	**-0.2**
KKB	**Krupnik**	**1.78**	**51**	*i* P		**Pn**	**19 32 38.1**	**+1.0**
SRS	**Serrai**	**1.83**	**78**	*e*Pn		**Pn**	**19 32 37.7**	**0.0**
SRS				*e*Sn		**Sb**	**19 33 03.8**	**+1.1**
SRS	**Serrai**	**1.83**	**78**	P		**Pn**	**19 32 37.9**	**+0.2**
SRS				*e*Sn		**Sb**	**19 33 03.8**	**+1.1**
SRS	**Serrai**	**1.83**	**78**	P		**Pn**	**19 32 37.9**	**+0.2**
FYTO	**Fytoko, Volos**	**1.89**	**135**	P		**Pn**	**19 32 38.9**	**+0.4**
FYTO	**Fytoko, Volos**	**1.89**	**135**	P		**Pn**	**19 32 38.9**	**+0.4**
EVR	**Evrytania**	**1.90**	**166**	P		**Pn**	**19 32 38.8**	**+0.1**
EVR	**Evrytania**	**1.90**	**166**	P		**Pn**	**19 32 38.8**	**+0.1**
ULC	**Ulcinj**	**1.91**	**310**	⇑*i* Pn		**Pb**	**19 32 40.6**	**-0.8**
ULC				*e*Sn		**Sg**	**19 33 06.9**	**-1.4**
ULC	**Ulcinj**	**1.91**	**310**	⇑*i* Pn		**Pb**	**19 32 40.6**	**-0.8**
ULC				*e*Sn		**Sg**	**19 33 06.9**	**-1.4**
AGG	**Agios Georgios**	**1.94**	**154**	P		**Pn**	**19 32 39.6**	**+0.4**
AGG	**Agios Georgios**	**1.94**	**154**	P		**Pn**	**19 32 39.6**	**+0.4**
AGG				S		**Sn**	**19 33 04.4**	**+1.1**
AGG	**Agios Georgios**	**1.94**	**154**	P		**Pn**	**19 32 39.6**	**+0.4**
AGG				S		**Sn**	**19 33 04.4**	**+1.1**
LKD2	**Lefkada island**	**2.02**	**193**	P		**Pn**	**19 32 40.5**	**+0.2**
LKD2	**Lefkada island**	**2.02**	**193**	P		**Pn**	**19 32 40.5**	**+0.2**
PAIG	**Paliouri**	**2.05**	**113**	P		**Pn**	**19 32 40.2**	**-0.6**
PAIG	**Paliouri**	**2.05**	**113**	P		**Pn**	**19 32 40.8**	**0.0**
PAIG	**Paliouri**	**2.05**	**113**	P		**Pn**	**19 32 40.8**	**0.0**
XOR	**Xorichti**	**2.06**	**132**	P		**Pn**	**19 32 41.0**	**+0.1**
XOR	**Xorichti**	**2.06**	**132**	P		**Pn**	**19 32 41.0**	**+0.1**
PVY	**Plav**	**2.06**	**333**	⇓*i* Pn		**Pb**	**19 32 42.9**	**-1.1**
PVY				*e*Sn		**Sb**	**19 33 10.5**	**+1.0**
PVY	**Plav**	**2.06**	**333**	⇓*i* Pn		**Pb**	**19 32 42.9**	**-1.1**
PVY				*e*Sn		**Sb**	**19 33 10.5**	**+1.0**
MMB	**Musomiste**	**2.06**	**66**	*i* P		**Pn**	**19 32 41.8**	**+0.8**
NVR	**Nevrokopi**	**2.08**	**73**	P		**Pn**	**19 32 41.5**	**+0.3**
NVR	**Nevrokopi**	**2.08**	**73**	P		**Pn**	**19 32 41.5**	**+0.3**
DRME	**Dracevica, Mon**	**2.09**	**314**	⇑*i* Pn		**Pn**	**19 32 43.1**	**+1.8**
DRME				*e*Sn		**Sb**	**19 33 11.8**	**+1.6**
DRME	**Dracevica, Mon**	**2.09**	**314**	⇑*i* Pn		**Pn**	**19 32 43.1**	**+1.8**
DRME				*e*Sn		**Sb**	**19 33 11.8**	**+1.6**
BARS	**Barje**	**2.10**	**12**	*e*Pn		**Pn**	**19 32 41.4**	**-0.1**
BARS				*e*Sn		**Sn**	**19 33 08.3**	**+0.9**
BARS	**Barje**	**2.10**	**12**	*e*Pn		**Pn**	**19 32 41.4**	**-0.1**
BARS				*e*Sn		**Sn**	**19 33 08.3**	**+0.9**
NEO	**Neokhori**	**2.11**	**133**	P		**Pn**	**19 32 41.9**	**+0.2**
NEO	**Neokhori**	**2.11**	**133**	P		**Pn**	**19 32 41.9**	**+0.2**
OUR	**Ouranopolis**	**2.15**	**101**	P		**Pn**	**19 32 42.5**	**+0.5**
OUR	**Ouranopolis**	**2.15**	**101**	P		**Pn**	**19 32 42.5**	**+0.5**
PDG	**Podgorica**	**2.23**	**319**	*e*Pn		**Pn**	**19 32 45.0**	**+1.8**
PDG				*e*Sn		**Sn**	**19 33 11.6**	**+1.2**
PDG	**Podgorica**	**2.23**	**319**	⇑*iP*		**Pb**	**19 32 45.4**	**-1.3**
PDG	**Podgorica**	**2.23**	**319**	S		**Sb**	**19 33 14.0**	**-0.1**
PDG	**Podgorica**	**2.23**	**319**	*e*Pn		**Pn**	**19 32 45.0**	**+1.8**
PDG	**Podgorica**	**2.23**	**319**	⇑*iP*		**Pb**	**19 32 45.4**	**-1.3**
PDG				*e*Sn		**Sn**	**19 33 11.6**	**+1.2**
TTG	**Podgorica**	**2.23**	**319**	⇓*i* Pn		**Pb**	**19 32 45.2**	**-1.5**
TTG				*e*Sn		**Sb**	**19 33 14.5**	**+0.4**
BUM	**Brajici-Budva**	**2.33**	**312**	⇑*i* Pn		**Pn**	**19 32 46.5**	**+1.8**
BUM				*e*Sn		**Sb**	**19 33 17.2**	**+0.1**
BUM	**Brajici-Budva**	**2.33**	**312**	⇑*i* Pn		**Pn**	**19 32 46.5**	**+1.8**
BUM				*e*Sn		**Sb**	**19 33 17.2**	**+0.1**
BEY	**Berane**	**2.33**	**335**	⇑*i* Pn		**Pn**	**19 32 46.2**	**+1.5**
BEY				*e*Sn		**Sb**	**19 33 17.4**	**+0.2**
IVA	**Berane**	**2.33**	**335**	⇑*i* Pn		**Pn**	**19 32 46.2**	**+1.5**
IVA				*e*Sn		**Sb**	**19 33 17.4**	**+0.2**
SKIA	**Skiathos**	**2.35**	**132**	P		**Pn**	**19 32 45.0**	**+0.2**
SKIA	**Skiathos**	**2.35**	**132**	P		**Pn**	**19 32 45.0**	**+0.2**
VTS	**Vitosha**	**2.36**	**38**	*e*Pn		**Pn**	**19 32 46.0**	**+0.8**
VTS	**Vitosha**	**2.36**	**38**	⇑*iP*		**Pn**	**19 32 46.6**	**+1.5**
VTS	**Vitosha**	**2.36**	**38**	S		**Sg**	**19 33 22.3**	**-0.3**
VTS	**Vitosha**	**2.36**	**38**	P		**Pn**	**19 32 45.9**	**+0.8**
VTS	**Vitosha**	**2.36**	**38**	*i* P		**Pn**	**19 32 46.2**	**+1.1**
VTS	**Vitosha**	**2.36**	**38**	P		**Pn**	**19 32 45.9**	**+0.8**
SMIA	**Simia**	**2.42**	**140**	P		**Pn**	**19 32 46.3**	**+0.4**
SMIA	**Simia**	**2.42**	**140**	P		**Pn**	**19 32 46.3**	**+0.4**
SERG	**Sergoula**	**2.43**	**164**	P		**Pn**	**19 32 46.7**	**+0.7**
SERG	**Sergoula**	**2.43**	**164**	P		**Pn**	**19 32 46.7**	**+0.7**
KOME	**Kolasin**	**2.45**	**329**	⇓*i* Pn		**Pn**	**19 32 48.6**	**+2.3**
KOME				*e*Sn		**Sb**	**19 33 20.5**	**-0.1**
KOME	**Kolasin**	**2.45**	**329**	⇓*i* Pn		**Pn**	**19 32 48.6**	**+2.3**
KOME				*e*Sn		**Sb**	**19 33 20.5**	**-0.1**
SELS	**Selova**	**2.46**	**358**	*e*Pn		**Pn**	**19 32 46.4**	**0.0**
SELS				*e*Sn		**Sn**	**19 33 17.0**	**+0.8**
KALE	**Kalithea**	**2.47**	**163**	P		**Pn**	**19 32 47.1**	**+0.5**
KALE	**Kalithea**	**2.47**	**163**	P		**Pn**	**19 32 47.1**	**+0.5**
CEME	**Cevo**	**2.48**	**317**	⇑*i* Pn		**Pn**	**19 32 48.3**	**+1.5**
CEME				*e*Sn		**Sb**	**19 33 20.9**	**-0.7**
CEME	**Cevo**	**2.48**	**317**	⇑*i* Pn		**Pn**	**19 32 48.3**	**+1.5**
CEME				*e*Sn		**Sb**	**19 33 20.9**	**-0.7**
KAVA	**Kavala**	**2.51**	**84**	P		**Pn**	**19 32 47.1**	**+0.1**
KAVA	**Kavala**	**2.51**	**84**	P		**Pn**	**19 32 47.1**	**+0.1**
DSF	**Desfina**	**2.56**	**156**	P		**Pn**	**19 32 47.8**	**+0.1**
DSF	**Desfina**	**2.56**	**156**	P		**Pn**	**19 32 47.8**	**+0.1**
NKME	**Niksic**	**2.63**	**320**	*e*Pn		**Pn**	**19 32 50.8**	**+2.1**
NKME				*e*Sn		**Sb**	**19 33 24.1**	**-1.6**
NKME	**Niksic**	**2.63**	**320**	*e*Pn		**Pn**	**19 32 50.8**	**+2.1**
NKME				*e*Sn		**Sb**	**19 33 24.1**	**-1.6**
NKY	**Niksic**	**2.64**	**322**	⇓*i* Pn		**Pn**	**19 32 51.1**	**+2.1**
NKY				*e*Sn		**Sb**	**19 33 24.8**	**-1.4**
NKY	**Niksic**	**2.64**	**322**	⇓*i* Pn		**Pn**	**19 32 51.1**	**+2.1**
NKY				*e*Sn		**Sb**	**19 33 24.8**	**-1.4**
HCY	**Herceg Novi**	**2.65**	**310**	⇑*i* Pn		**Pn**	**19 32 50.4**	**+1.4**
HCY				*e*Sn		**Sb**	**19 33 24.8**	**-1.5**
HCY	**Herceg Novi**	**2.65**	**310**	⇑*i* Pn		**Pn**	**19 32 50.4**	**+1.4**
HCY				*e*Sn		**Sb**	**19 33 24.8**	**-1.5**
SJES	**Sjenica**	**2.67**	**340**	*e*Pn		**Pn**	**19 32 50.4**	**+1.1**
SJES				*e*Sn		**Sn**	**19 33 22.2**	**+0.8**
ZAPS	**Zavoj**	**2.72**	**22**	*e*Pn		**Pn**	**19 32 51.1**	**+1.1**
ZAPS				*e*Sn		**Sn**	**19 33 23.0**	**+0.3**
TREB	**Trebinje**	**2.91**	**313**	*e*Pn		**Pn**	**19 32 52.8**	**+0.3**
PLE	**Pljevlja**	**2.91**	**333**	⇓*i*

s-maj=26.5km s-min=11.3km az=163.0
ISC 27 19:45:24.2±0.5, 47°28N±0.06, 147°85E±0.06, h400km, n67, σ1998/84, mb3.3/12, 5C-5D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.04**	**180**	*e*PN	**Pn**	**19 46 21.3**	**+0.8**
KUR	**Kuril'sk**	**2.04**	**180**	*e*P	**Pn**	**19 46 21.3**	**+0.8**
KUR				AMB	AMB	19 46 23.2	
	260nm,3.0s						
KUR				*e*S	**S**	**19 47 07.3**	**+1.4**
KUR				A	A	19 47 08.5	
	80nm,0.5s						
KUR				A	A	19 47 08.5	
	60nm,0.5s						
KUR				A	A	19 47 10.6	
	320nm,3.0s						
KUR				A	A	19 47 10.6	
	580nm,3.0s						
SHO	**Shikotan**	**3.48**	**192**	*i*PN	**Pn**	**19 46 29.6**	**-2.0**
SHO				*i* S	**S**	**19 47 21.5**	**-4.6**
SHO				pmax	pmax		
	comp=Z,30nm,0.2s						
SHO				smax	smax		
	comp=N,60nm,0.2s						
SHO				smax	smax		
	comp=E,95nm,0.2s						
SHO	**Shikotan**	**3.48**	**192**	*e*P	**Pn**	**19 46 29.7**	**-1.9**
SHO				AMB	AMB	19 46 30.7	
	comp=E,30nm,0.2s						
SHO				*e*S	**S**	**19 47 21.5**	**-4.6**
SHO				A	A	19 47 24.2	
	comp=E,95nm,0.4s						
SHO				A	A	19 47 24.2	
	comp=E,60nm,0.4s						
YSS	**Yuzh-Sakhalins**	**3.49**	**267**	*i*PN	**Pn**	**19 46 31.9**	**+0.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**3.49**	**267**	*e*P	**Pn**	**19 46 32.0**	**+0.4**
YSS				AMB	AMB	19 46 32.2	
	comp=Z,33nm,0.8s						
YSS				*e*S	**S**	**19 47 25.3**	**-0.8**
YSS				A	A	19 47 26.7	
	comp=Z,79nm,0.3s						
YSS				A	A	19 47 26.7	
	comp=Z,14nm,0.3s						
YSS				A	A	19 47 31.6	
	comp=Z,67nm,4.0s						
YSS				A	A	19 47 31.6	
	comp=Z,137nm,4.0s						
YUK	**Yuzh-Kuril'sk**	**3.53**	**204**	*d i*PN	**Pn**	**19 46 32.7**	**+0.7**
YUK				*i* S	**S**	**19 47 30.8**	**+4.0**
YUK				pmax	pmax		
	comp=Z,48nm,0.3s						
YUK				pmax	pmax		
	comp=N,27nm,0.2s						
YUK				pmax	pmax		
	comp=E,25nm,0.2s						
YUK				smax	smax		
	comp=N,43nm,0.4s						
YUK				smax	smax		
	comp=E,17nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**3.53**	**204**	*e*P	**Pn**	**19 46 32.7**	**+0.7**
YUK				AMB	AMB	19 46 35.9	
	comp=E,27nm,0.3s						
YUK				AMB	AMB	19 46 35.9	
	comp=E,25nm,0.3s						
YUK				AMB	AMB	19 46 35.9	
	comp=E,48nm,0.3s						
YUK				AMB	AMB	19 46 36.7	
	comp=E,160nm,2.0s						
YUK				*e*S	**S**	**19 47 28.2**	**+1.4**
YUK				A	A	19 47 30.5	
	comp=E,770nm,3.0s						
YUK				A	A	19 47 30.5	
	comp=E,410nm,3.0s						
YUK				A	A	19 47 36.5	
	comp=E,43nm,0.3s						
YUK				A	A	19 47 36.5	
	comp=E,17nm,0.3s						
LAGR	**Lagunnoye**	**3.53**	**205**	PN	**Pn**	**19 46 33.1**	**+1.1**
LAGR	**Lagunnoye**	**3.53**	**205**	*e*P	**Pn**	**19 46 33.1**	**+1.1**
GRPR	**Tuman**	**3.59**	**205**	*e*PN	**Pn**	**19 46 33.4**	**+0.8**
GRPR				S	**S**	**19 47 31.0**	**+3.1**
GRPR	**Tuman**	**3.59**	**205**	*e*P	**Pn**	**19 46 33.4**	**+0.8**
GRPR				*e*S	**S**	**19 47 31.0**	**+3.1**
JRA	**Rausu**	**3.85**	**211**	P	**Pn**	**19 46 35.3**	**+0.4**
GLVR	**Golovnino**	**3.90**	**206**	*e*PN	**Pn**	**19 46 35.8**	**+0.4**
GLVR				*e*S	**S**	**19 47 35.2**	**+2.2**
GLVR	**Golovnino**	**3.90**	**206**	*e*P	**Pn**	**19 46 35.8**	**+0.4**
GLVR				*e*S	**S**	**19 47 35.2**	**+2.2**
NEM2	**Nemuro 2**	**4.18**	**202**	P	**Pn**	**19 46 36.7**	**-1.4**
NEM2				*e*S	**S**	**19 47 34.4**	**-3.6**
UGL	**Uglegorsk**	**4.27**	**297**	*e*P	**Pn**	**19 46 39.0**	**+0.3**
JTKR	**Abashiri--Toko**	**4.31**	**221**	P	**Pn**	**19 46 40.3**	**+1.0**
JSE	**Soyaes**	**4.33**	**240**	P	**Pn**	**19 46 41.0**	**+1.5**
JWK2	**Keihoku**	**4.57**	**247**	P	**Pn**	**19 46 44.0**	**+2.2**
JAK	**Akkeshi**	**4.83**	**209**	P	**Pn**	**19 46 43.5**	**-1.0**
JAK				*e*S	**S**	**19 47 46.3**	**-3.3**
ASAJ	**Asahikawa**	**4.85**	**231**	P	**Pn**	**19 46 46.6**	**+1.9**
	comp=E,1.2nm,0.3s,baz=67,slow=9.8,SNR=24						
JAR	**Ashorobuto**	**4.91**	**217**	P	**Pn**	**19 46 45.8**	**+0.5**
JCH	**Churui**	**5.64**	**216**	P	**Pn**	**19 46 52.5**	**-0.5**
JCH				*e*S	**S**	**19 48 01.5**	**-3.8**
JNBK	**Urakawa-nobuka**	**6.17**	**218**	P	**Pn**	**19 46 57.8**	**-0.9**
JNBK				*e*S	**S**	**19 48 11.1**	**-4.7**
ERM	**Erimo**	**6.23**	**214**	*de*PN	**Pn**	**19 47 00.1**	**+0.7**
ERM	**Erimo**	**6.23**	**214**	*e*P	**Pn**	**19 47 00.1**	**+0.7**
SKR	**Severo-Kuril's**	**6.42**	**55**	*i*PN	**Pn**	**19 47 00.9**	**-0.3**
SKR	**Severo-Kuril's**	**6.42**	**55**	*e*P	**Pn**	**19 47 00.5**	**-0.7**
PAU	**Pauzhetka**	**7.20**	**51**	*e*P	**P**	**19 47 08.6**	**-1.9**
JKB	**Kayabe**	**7.26**	**225**	P	**Pn**	**19 47 10.0**	**-0.8**
JKB				*e*S	**S**	**19 48 32.1**	**-5.7**
JOT	**Ohata**	**7.64**	**222**	P	**Pn**	**19 47 14.6**	**-0.6**
JOT				*e*S	S	19 48 39.7	-6.2
PETK	**Petropavlovsk-**	**8.60**	**44**	P	**P**	**19 47 24.6**	**-1.5**
	comp=E,0.1nm,0.3s,baz=234,slow=5.9,SNR=5.5						
PET	**Petropavlovsk**	**9.01**	**46**	*e*P	**P**	**19 47 27.6**	**-2.9**
KLR	**Kul'dur**	**10.91**	**286**	P	**Pn**	**19 47 52.1**	**-0.6**
	comp=E,0.0nm,0.3s,baz=86,slow=10,SNR=12						
KLR	**Kul'dur**	**10.91**	**286**	*i*PN	**Pn**	**19 47 53.9**	**+1.2**
KLR	**Kul'dur**	**10.91**	**286**	*e*P	**Pn**	**19 47 53.9**	**+1.2**
EKMR	**Ekimchan**	**11.17**	**307**	*e*P	**Pn**	**19 47 53.9**	**-1.7**
EKMR				AMB	AMB	19 47 54.8	
	comp=E,7.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**11.50**	**260**	P	**P**	**19 47 58.5**	**+0.2**
	comp=E,0.1nm,0.3s,baz=61,slow=12,SNR=4.3						
MA2	**Magadan**	**12.44**	**7**	*i*PN	**Pn**	**19 48 07.7**	**-2.5**
MA2	**Magadan**	**12.44**	**7**	*e*P	**Pn**	**19 48 07.7**	**-2.5**
MJAR	**Matsushiro Arr**	**12.89**	**217**	P	**Pn**	**19 48 19.5**	**+3.7**
	comp=E,0.2nm,0.3s,baz=24,slow=9.6,SNR=4.5						
BMKR	**Bomnak**	**14.06**	**309**	*e*P	**Pn**	**19 48 26.0**	**-0.2**
KROS	**Kirovskiy**	**14.97**	**306**	*e*P	**P**	**19 48 36.0**	**-0.1**
SEY	**Seymchan**	**15.90**	**8**	P	**P**	**19 48 45.1**	**-0.8**
	comp=E,0.4nm,0.3s,baz=214,slow=11,SNR=12						
KSRS	**Korea Array**	**17.65**	**243**	P	**P**	**19 49 08.4**	**+3.4**
	comp=E,0.2nm,0.3s,baz=47,slow=9.8,SNR=5.5						
SONM	**Songino Array**	**27.74**	**287**	P	**P**	**19 50 38.4**	**+0.3**
	comp=E,0.2nm,0.6s,baz=72,slow=9.3,SNR=2.3						
COLA	**College**	**37.97**	**39**	*i*P	**P**	**19 52 06.0**	**+0.9**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
COLA	**College**	**37.97**	**39**	*e*P	**P**	**19 52 06.0**	**+0.9**
ILAR	**Eielson Array**	**38.39**	**39**	P	**P**	**19 52 08.1**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=268,slow=7.3,SNR=11						
ILAR	**Eielson Array**	**38.39**	**39**	*e*P	**P**	**19 52 08.8**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**38.39**	**39**	*e*P	**P**	**19 52 08.8**	**+0.2**
MKAR	**Makanchi Array**	**43.47**	**295**	P	**P**	**19 52 50.1**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=68,slow=8.0,SNR=8.8						
MKAR	**Makanchi Array**	**43.47**	**295**	*e*P	**P**	**19 52 49.9**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**44.04**	**301**	*i*P	**P**	**19 52 53.6**	**-0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
KURK	**Kurchatov**	**44.04**	**301**	*e*P	**P**	**19 52 53.6**	**-0.4**
KURBB	**Kurchatov Arra**	**44.13**	**301**	P	**P**	**19 52 54.7**	**0.0**
	comp=Z,0.4nm,0.6s,baz=74,slow=8.8,SNR=3.5						
ARU	**Arti**	**52.15**	**315**	*c i*P	**P**	**19 53 55.1**	**0.0**
ARU				*PP	**pP**	**19 55 15.8**	**-0.5**
ARU				SS	**SKiKP**	**20 04 28.2**	**-3.9**
ARU				pmax	pmax		
	comp=Z,13nm,2.8s						
ARU	**Arti**	**52.15**	**315**	*e*P	**P**	**19 53 54.9**	**-0.2**
YKA	**Yellowknife Ar**	**52.62**	**35**	P	**P**	**19 53 58.9**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=305,slow=7.1,SNR=8.1						
YKA	**Yellowknife Ar**	**52.62**	**35**	*e*P	**P**	**19 53 58.5**	**+0.1**
YKA	**Yellowknife Ar**	**52.62**	**35**	*e*P	**P**	**19 53 58.5**	**+0.1**
GEYT	**Alibeck**	**63.20**	**298**	P	**P**	**19 55 12.6**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=45,slow=4.3,SNR=3.2						
NVAR	**Mina Array Bea**	**65.33**	**60**	P	**P**	**19 55 27.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=299,slow=2.6,SNR=2.8						
PDAR	**Pinedale Array**	**67.28**	**51**	P	**P**	**19 55 39.5**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=323,slow=0.8,SNR=6.5						
TXAR	**Lajitas Array**	**80.30**	**57**	P	**P**	**19 56 54.5**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=295,slow=2.8,SNR=5.1						
TXAR	**Lajitas Array**	**80.30**	**57**	*e*P	**P**	**19 56 54.4**	**+2.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC 27 19:52:08.2±4.3, 18°55S×178°44W, h662km±57km, mb3.1/3, mb1 3.4/4, mb1mx2.8/44, mbtmp4.5/4, Error ellipse: s-maj=93.2km s-min=19.9km az=171.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**17.76**	**102**	P	P	19 55 39.7	+0.4
	0.9nm,0.3s,baz=279,slow=8.1,SNR=6.0						
STKA	**Stephens Creek**	**38.30**	**242**	P	P	19 58 35.4	-0.2
	1.0nm,0.3s,baz=77,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	**44.49**	**260**	P	P	19 59 24.1	0.0
	1.8nm,0.4s,baz=97,slow=7.8,SNR=64						
WRA				PcP	PcP	20 00 52.3	0.0
	0.4nm,1.0s,baz=90,slow=3.4,SNR=4.6						
ASAR	**Alice Springs**	**44.59**	**255**	P	P	19 59 25.1	+0.3
	3.7nm,0.6s,baz=90,slow=7.7,SNR=67						
ASAR				PcP	PcP	20 00 52.5	-0.2
	0.5nm,0.5s,baz=108,slow=3.8,SNR=5.1						
ARCES	**ARCESS Array B**	**126.94**	**350**	PKP	PKPdf	20 09 57.7	-0.5
	1.6nm,0.8s,baz=48,slow=1.3,SNR=3.0						
MMAI	**Mount Meron Ar**	**146.46**	**302**	PKPbc	PKPbc	20 10 37.0	-0.7
	0.6nm,0.3s,baz=87,slow=5.9,SNR=5.5						

IDC 27 19:53:15.1±8.0, 17°20S×174°37W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/41, mbtmp3.7/3, Error ellipse: s-maj=361.8km s-min=35.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.55**	**258**	P	P	20 01 60.0	-0.6
	0.6nm,0.8s,baz=95,slow=6.8,SNR=4.5						
ASAR	**Alice Springs**	**48.69**	**253**	P	P	20 02 02.1	+0.5
	1.1nm,0.5s,baz=88,slow=7.9,SNR=13						
ILAR	**Eielson Array**	**84.38**	**11**	P	P	20 05 49.5	+0.6
	0.3nm,0.6s,baz=216,slow=5.7,SNR=7.0						
BRTR	**Keskin Array B**	**146.92**	**318**	PKPbc	PKPdf	20 12 58.0	-0.2
	0.4nm,0.5s,baz=108,slow=2.3,SNR=3.6						

IDC 27 20:01:52.7±1.8, 8°36S×128°50E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.2/47, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=38.0km s-min=27.8km az=63.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.12**	**249**	Pn	Pn	20 03 11.0	+0.2
	3.4nm,0.3s,baz=56,slow=3.6,SNR=9.5						
BATI				Sn	Sn	20 04 11.4	+0.8
	1.3nm,0.3s,baz=37,slow=20,SNR=4.4						
WRA	**Warramunga Arr**	**12.83**	**154**	Pn	Pn	20 04 56.6	+0.1
	0.1nm,0.3s,baz=330,slow=13,SNR=10						
WRA				Sn	Sn	20 07 20.4	+0.2
	0.2nm,0.3s,baz=334,slow=23,SNR=7.3						
ASAR	**Alice Springs**	**16.08**	**162**	Pn	Pn	20 05 40.8	+0.4
	0.1nm,0.3s,baz=339,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**68.56**	**328**	P	P	20 12 57.3	0.0
	0.3nm,1.0s,baz=114,slow=6.8,SNR=2.3						

IDC 27 20:17:39.8±856.0, 53°78N×3°67E, h0km, Error ellipse: s-maj=381.4km s-min=139.8km az=120.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**8.00**	**124**	*i*		21 06 50.0	
	baz=313,slow=320,SNR=0.7						
I48TN	**KESRA INFRASON**	**18.41**	**165**	*i*		22 06 54.1	
	baz=352,slow=323,SNR=3.2						
I43RU	**DUBNA INFRASON**	**19.24**	**68**	*i*		22 20 10.0	
	baz=279,slow=325,SNR=1.1						

*ISCJB **27** 20:32:00.3±0.5, 18°.3S±0°.1×177°.9W±0°.1, h500km, mb3.8/15, Error ellipse: s-maj=18.5km s-min=13.0km az=140.9*
*IDC **27** 20:32:00.0±2.0, 18°.32S×177°.91W, h485km±22km, mb3.5/15, mb1 3.7/16, mb1mx3.5/42, mbtmp4.3/16, Error ellipse: s-maj=18.5km s-min=13.3km az=135.0*
ISC 27 20:32:00.7±0.6, 18°3S±0°.1×177°7W±0°.1, h500km, n48, σ1924/48, mb3.7/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.16**	**54**	P	**P**	**20 33 48.9**	**+0.2**
	9.8nm,0.3s,baz=229,slow=0.5,SNR=7.8						
AFI				S	**S**	**20 35 12.5**	**-4.6**
	0.4nm,0.3s,baz=72,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**39.04**	**242**	P	**P**	**20 38 43.4**	**-0.6**
	6.8nm,0.5s,baz=89,slow=10,SNR=35						
WRA	**Warramunga Arr**	**45.21**	**260**	P	**P**	**20 39 30.9**	**-1.9**
	2.4nm,0.3s,baz=96,slow=7.1,SNR=118						
WRA				PcP	**PcP**	**20 41 02.4**	**-0.3**
	0.9nm,0.4s,baz=93,slow=3.4,SNR=5.2						
ASAR	**Alice Springs**	**45.33**	**255**	P	**P**	**20 39 32.5**	**-1.3**
	22nm,0.4s,baz=90,slow=8.4,SNR=389						
ASAR				PcP	**PcP**	**20 41 02.9**	**-0.2**
	1.6nm,0.5s,baz=93,slow=4.1,SNR=6.7						
MJAR	**Matsushiro Arr**	**68.57**	**323**	P	**P**	**20 42 13.1**	**0.0**
	3.1nm,0.6s,baz=159,slow=5.9,SNR=13						
MAT	**Matsushiro**	**68.57**	**323**	P	**P**	**20 42 13.3**	**+0.2**
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**20 42 32.8**	**+0.8**
	2.3nm,0.5s,baz=219,slow=1.2,SNR=11						
KSRS	**Korea Array**	**75.39**	**318**	P	**P**	**20 42 53.3**	**+0.7**
	0.9nm,0.6s,baz=131,slow=6.5,SNR=4.3						
USRK	**Ussuriysk Ar.**	**77.26**	**325**	P	**P**	**20 43 04.3**	**+1.4**
	1.3nm,0.7s,baz=180,slow=3.0,SNR=4.1						
NVAR	**Mina Array Bea**	**79.22**	**43**	P	**P**	**20 43 16.1**	**+2.2**
	0.7nm,0.6s,baz=235,slow=10,SNR=3.8						
MAW	**Mawson**	**83.76**	**200**	P	**P**	**20 43 36.9**	**+0.5**
	1.8nm,0.8s,baz=131,slow=9.3,SNR=3.4						
TXAR	**Lajitas Array**	**85.63**	**57**	P	**P**	**20 43 49.0**	**+2.6**
	0.5nm,0.7s,baz=213,slow=5.3,SNR=7.5						
ILAR	**Eielson Array**	**86.07**	**13**	P	**P**	**20 43 48.0**	**+0.4**
	0.6nm,0.9s,baz=210,slow=6.5,SNR=4.8						
XAN	**Xi'an**	**86.98**	**307**	P	**P**	**20 43 54.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**89.61**	**289**	P	**P**	**20 44 05.9**	**+0.7**
	1.2nm,0.8s,baz=80,slow=2.7,SNR=9.0						
SNAA	**Sanae**	**90.24**	**178**	P	**P**	**20 44 05.9**	**-1.3**
	2.3nm,1.1s,baz=90,slow=4.0,SNR=5.1						
SONM	**Songino Array**	**94.23**	**319**	P	**P**	**20 44 26.4**	**+0.4**
	0.3nm,0.5s,baz=142,slow=4.8,SNR=4.1						
YKA	**Yellowknife Ar**	**94.37**	**25**	P	**P**	**20 44 26.5**	**+0.5**
	0.2nm,0.7s,baz=240,slow=4.5,SNR=3.6						
MKAR	**Makanchi Array**	**109.84**	**314**	PKiKP	**PKiKP**	**20 49 33.9**	**-0.8**
	0.6nm,0.5s,baz=183,slow=0.8,SNR=17						
KURBB	**Kurchatov Arra**	**112.57**	**318**	PKiKP	**PKiKP**	**20 49 39.0**	**-0.7**
	0.7nm,0.7s,baz=73,slow=1.3,SNR=11						
BVAR	**Borovoye Array**	**117.52**	**321**	PKP	**PKPdf**	**20 49 48.8**	**-0.4**
	1.1nm,0.4s,baz=94,slow=1.2,SNR=17						
ARCES	**ARCESS Array B**	**126.76**	**350**	PKP	**PKPdf**	**20 50 06.7**	**+0.3**
	4.7nm,0.9s,baz=80,slow=0.5,SNR=11						
FINES	**FINESS Array B**	**133.69**	**344**	PKhKP	PKPpre	20 50 12.8	
	2.0nm,1.0s,baz=48,slow=2.1,SNR=3.0						
HFS	**Hagfors**	**137.37**	**352**	PKhKP	PKPpre	20 50 19.8	
	1.8nm,0.9s,baz=70,slow=1.7,SNR=6.1						
AKASG	**Malin Array Be**	**141.16**	**333**	PKhKP	PKPpre	20 50 28.4	
	0.8nm,0.5s,baz=58,slow=5.0,SNR=6.8						
EKA	**Eskdalemuir Ar**	**142.75**	**5**	PKP	**PKPdf**	**20 50 36.9**	**+0.4**
	0.2nm,0.5s,baz=322,slow=2.2,SNR=3.1						
BRTR	**Keskin Array B**	**145.48**	**315**	PKPbc	**PKPab**	**20 50 43.0**	**-1.3**
	3.3nm,0.6s,baz=132,slow=4.8,SNR=22						
CLL	**Collm**	**145.94**	**348**	*i* PKPbc	**PKPab**	**20 50 44.6**	**-0.9**
	comp=Z,10.0nm,0.8s						
DPC	**Dobruska-Polom**	**146.06**	**344**	*e*PKP	**PKPab**	**20 50 45.4**	**-0.7**
KRLC	**Kraliky**	**146.18**	**343**	*e*PKP	**PKPab**	**20 50 45.3**	**-1.3**
PVCC	**Panska Ves**	**146.33**	**346**	*e*PKP	**PKPab**	**20 50 46.1**	**-1.0**
MLR	**Muntele Rosu**	**146.46**	**329**	PKPbc	**PKPab**	**20 50 46.1**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=7.1,slow=8.1,SNR=4.4						
PRU	**Pruhonice**	**146.84**	**345**	*e*PKP	**PKPab**	**20 50 47.3**	**-1.8**
MMAI	**Mount Meron Ar**	**146.87**	**303**	PKPbc	**PKPab**	**20 50 47.6**	**-2.4**
	comp=Z,4.2nm,0.6s,baz=57,slow=5.3,SNR=9.7						
KHC	**Kasperske Hory**	**147.87**	**346**	*e*PKP	**PKPbc**	**20 50 49.7**	**+0.6**
GERES	**GERESS Array B**	**148.11**	**346**	PKPbc	**PKPbc**	**20 50 50.2**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=26,slow=3.4,SNR=18						
CONA	**Conrad Observa**	**148.39**	**342**	*e*PKPbc	**PKPbc**	**20 50 51.3**	**+0.8**
	comp=Z,6.9nm,1.1s						
MOA	**Molln**	**148.89**	**344**	*e*PKPdf	**PKPdf**	**20 50 46.3**	**-0.8**
	comp=Z,3.6nm,1.1s						
SOKA	**Soboth**	**149.76**	**342**	*e*PKPbc	**PKPbc**	**20 50 53.6**	**-0.3**
	comp=Z,5.3nm,1.1s						
KBA	**Koelnbreinsper**	**149.84**	**345**	*e*PKPbc	**PKPbc**	**20 50 54.5**	**+0.3**
	comp=Z,3.0nm,0.8s						
WATA	**Walderalm**	**150.00**	**347**	*e*PKPbc	**PKPbc**	**20 50 54.7**	**+0.1**
	comp=Z,3.0nm,0.5s						
RETA	**Reutte**	**150.02**	**348**	*e*PKPbc	**PKPbc**	**20 50 54.8**	**+0.3**
	comp=Z,1.3nm,0.8s						
WTTA	**Wattenberg**	**150.06**	**347**	*e*PKPbc	**PKPbc**	**20 50 54.9**	**+0.2**
	comp=Z,5.9nm,0.6s						
MOTA	**Moosalm**	**150.09**	**348**	*e*PKPbc	**PKPbc**	**20 50 54.2**	**-0.5**
	comp=Z,4.9nm,1.0s						
MYKA	**Terra Mystica**	**150.18**	**344**	*e*PKPbc	**PKPbc**	**20 50 54.1**	**-0.7**
	comp=Z,3.5nm,0.6s						
ABTA	**Abfaltersbach**	**150.35**	**346**	*e*PKPbc	**PKPbc**	**20 50 55.4**	**+0.1**
	comp=Z,10nm,1.3s						
DAVA	**Damuels**	**150.38**	**349**	*e*PKPbc	**PKPbc**	**20 50 56.0**	**+0.6**
	comp=Z,3.6nm,0.7s						
FETA	**Feichten**	**150.47**	**348**	*e*PKPbc	**PKPbc**	**20 50 55.8**	**+0.1**
	comp=Z,3.5nm,0.8s						

*GUC **27** 20:32:55.5±0.6, 30°.90S×70°.69W, h100km, ML3.9*
*ISCJB **27** 20:32:58.3±1.0, 31°.04S±0°.03×71°.21W±0°.06, h63km±20km, Error ellipse: s-maj=9.0km s-min=5.2km az=16.6*
*SJA **27** 20:32:59.3±0.9, 31°.10S×71°.04W, h75km±5km, ML3.7, MW3.8*
ISC 27 20:32:59.0±6.2, 31°04S±0°.04×71°24W±0°.07, h37km±7km, n20, σ0°95/34, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**0.95**	**24**	*i*P	**Pn**	**20 33 14.8**	**-1.2**
GO04				*e*S	**Sn**	**20 33 28.7**	**+0.3**
TLL	**Tololo Astrono**	**0.95**	**24**	*i*P	**Pn**	**20 33 14.9**	**-1.1**
TLL				*e*S	**Sn**	**20 33 28.8**	**+0.3**
TLL				IAML		20 33 30.4	
	comp=N,10μm,0.9s						
RTLS	**Leoncito**	**1.83**	**115**	*e*P	**Pn**	**20 33 28.8**	**+0.6**
RTLS				*e*S	**Sn**	**20 33 50.2**	**+0.1**
RTLS				IAML		20 33 54.4	
	comp=Z,509nm,0.3s						
ROCH	**El Roble**	**1.93**	**174**	IAML		20 34 06.6	
	comp=E,632nm,0.7s						
ROC1	**El Roble**	**1.94**	**174**	*e*P	**Pn**	**20 33 31.1**	**+1.4**
ROC1				*e*S	**Sn**	**20 33 54.6**	**+1.8**
AUSP	**Uspallata**	**1.97**	**127**	*e*P	**Pn**	**20 33 30.5**	**+0.3**
AUSP				*e*S	**Sn**	**20 33 53.9**	**+0.2**
ACDV	**Cuesta del Vie**	**2.02**	**65**	*e*P	**Pn**	**20 33 32.0**	**+1.3**
ACDV				*e*S	**Sn**	**20 33 55.4**	**+0.5**
PEL	**Peldehue**	**2.15**	**167**	*e*P	**Pn**	**20 33 30.5**	**-1.9**
PEL				*e*S	**Sn**	**20 33 56.9**	**-0.9**
SJA	**San Juan**	**2.35**	**103**	*e*P	**Pn**	**20 33 34.9**	**-0.2**
SJA				*e*S	**Sn**	**20 34 01.6**	**-1.0**
SJA				IAML		20 34 11.1	
	comp=Z,381nm,0.5s						
AMOG	**MOGNA**	**2.36**	**88**	*e*P	**Pn**	**20 33 35.6**	**+0.3**
AMOG				*e*S	**Sn**	**20 34 02.3**	**-0.8**
RTLL	**Cerro Villicun**	**2.39**	**98**	*e*P	**Pn**	**20 33 35.6**	**0.0**
RTLL				*e*S	**Sn**	**20 34 02.8**	**-0.8**
FCH	**Farellones**	**2.42**	**161**	*e*P	**Pn**	**20 33 36.0**	**-0.2**
FCH				IAML		20 34 30.5	
	comp=E,475nm,0.8s						
RTCV	**Cerro Valdivia**	**2.45**	**110**	*e*P	**Pn**	**20 33 36.5**	**0.0**
RTCV				*e*S	**Sn**	**20 34 04.0**	**-1.2**
ASAL	**Salagasta**	**2.57**	**128**	*e*P	**Pn**	**20 33 39.0**	**+0.9**
ASAL				*e*S	**Sn**	**20 34 07.4**	**-0.7**
ARCO	**CERRO ARCO**	**2.66**	**133**	*e*P	**Pn**

KRBG	Karabiga-Canak	1.86 312	ePn	Pn	20 37 33.4	+0.6
SBT3	Marmara-Eregli	1.93 334	PN	Pn	20 37 33.7	+0.1
SBT3	Marmara-Eregli	1.93 334	ePn	Pn	20 37 33.7	+0.1
RKY	Sarkoy-Tekirda	2.13 316	PN	Pn	20 37 37.2	+0.6
RKY	Sarkoy-Tekirda	2.13 316	ePn	Pn	20 37 37.2	+0.6
SART	Tekirdag	2.13 316	*i* P	Pb	20 37 40.4	+0.8
SART			*i* S	Sg	20 38 08.4	-0.8
SART	Tekirdag	2.13 316	P	Pb	20 37 40.3	+0.8
SART			S	Sg	20 38 08.4	-0.8

ISCJB ***27*** *20:47:46.4±0.6, 36°.19N±0°.04×139°.84E±0°.06, h73km±5km, mb3.2/3, Error ellipse: s-maj=8.7km s-min=6.4km az=173.1*

IDC ***27*** *20:47:46.4±4.4, 36°.21N×139°.94E, h62km±32km, mb3.0/3, mb1 3.2/4, mb1mx2.9/71, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=53.2km s-min=9.0km az=57.0*

JMA ***27*** *20:47:48.0±0.1, 36°.20N×139°.81E, h61km±1km, M2.9*

ISC 27 20:47:47.3±1.0, 36°.20N±0°.04×139°.83E±0°.06, h67km±8km, n14, σ0ˢ54/23, mb3.2/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.30**	**84**	P		**Pn**	**20 47 58.4**	**+0.3**
JYT				S		**Sn**	**20 48 06.0**	**0.0**
JAG	**Ashikaga**	**0.38**	**307**	P		**Pn**	**20 47 58.7**	**-0.1**
JAG				*i* S		**Sn**	**20 48 06.6**	**-0.5**
JKT	**Katashina**	**0.73**	**321**	P		**Pn**	**20 48 02.5**	**0.0**
JKT				S		**Sn**	**20 48 13.5**	**-0.2**
JRY	**Ryogami san**	**0.77**	**257**	P		**Pn**	**20 48 03.2**	**+0.3**
JRY				S		**Sn**	**20 48 14.3**	**0.0**
JOD2	**Odawara 2**	**1.11**	**213**	P		**Pn**	**20 48 07.8**	**+0.7**
JOD2				S		**Sn**	**20 48 22.2**	**+0.4**
JFY	**Yanaizu**	**1.21**	**355**	P		**Pn**	**20 48 09.1**	**+0.7**
JFY				eS		**Sn**	**20 48 24.9**	**+0.7**
JHK	**Hiroka**	**1.23**	**328**	P		**Pn**	**20 48 09.2**	**+0.5**
JYN	**Shimob**	**1.25**	**237**	P		**Pn**	**20 48 10.0**	**+1.0**
MJAR	**Matsushiro Arr**	**1.35**	**285**	P		**Pn**	**20 48 09.6**	**-0.7**
	3.5nm,0.3s,baz=95,slow=9.0,SNR=58							
MJAR				S		**Sn**	**20 48 27.5**	**+0.1**
	4.2nm,0.3s,baz=226,slow=31,SNR=9.3							
MAT	**Matsushiro**	**1.35**	**285**	P		**Pn**	**20 48 11.1**	**+0.8**
MAT				eS		**Sn**	**20 48 27.5**	**0.0**
JHJ	**Hachijo jima 2**	**3.07**	**181**	P		**Pn**	**20 48 33.5**	**+0.1**
	7.7nm,0.3s,baz=120,slow=20,SNR=9.9							
JHJ				S		**Sn**	**20 49 08.5**	**-0.6**
	12nm,0.3s,baz=59,slow=19,SNR=6.8							
MKAR	**Makanchi Array**	**43.49**	**303**	P		**P**	**20 55 44.1**	**+0.1**
	0.3nm,0.7s,baz=88,slow=9.1,SNR=3.1							
KURBB	**Kurchatov Arra**	**45.52**	**308**	P		**P**	**20 55 59.2**	**-0.8**
	0.2nm,0.6s,baz=79,slow=7.4,SNR=3.3							
WRA	**Warramunga Arr**	**56.08**	**186**	P		**P**	**20 57 19.5**	**-0.1**
	0.2nm,0.5s,baz=2.9,slow=7.6,SNR=5.4							

MAN 27 21:05:27, 11°.37N×124°.70E, h32km, mb4.3, ML3.1, MS2.8, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.35**	**126**	eP		Pn	21 05 37.2	+1.4
PLP				*i* S		Sn	21 05 41.4	-0.3
MSLP	**Maasin**	**1.24**	**173**	eP		Pn	21 05 48.4	+0.3
MSLP				eS		Sb	21 06 05.4	-0.1
LLP	**Lapu-Lapu**	**1.27**	**214**	eP		Pn	21 05 49.0	+0.5
LLP				eS		Sn	21 06 05.3	+0.8

ISCJB ***27*** *21:35:04.9±1.6, 55°.3S±0°.1×27°.7W±0°.7, h10km, mb3.9/3, Error ellipse: s-maj=57.7km s-min=20.1km az=176.1*

IDC ***27*** *21:35:05.4±0.9, 55°.27S×27°.50W, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.7/32, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=59.3km s-min=23.5km az=90.0*

ISC 27 21:35:06.6±0.9, 55°.3S±0°.1×27°.5W±0°.4, h10km, n12, σ0ˢ79/12, mb4.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.78**	**161**	P		**P**	**21 39 14.3**	**-0.2**
VNA2	**Neumayer--Watz**	**17.97**	**159**	P		**P**	**21 39 17.2**	**+0.5**
SNAA	**Sanae**	**19.52**	**157**	P		**Pn**	**21 39 34.9**	**0.0**
SNAA	**Sanae**	**19.52**	**157**	P		**Pn**	**21 39 34.7**	**-0.3**
	0.2nm,0.3s,baz=306,slow=13,SNR=9.4							
QSPA	**South Pole Qui**	**34.98**	**180**	P		**P**	**21 41 58.9**	**+0.2**
	2.1nm,0.9s,baz=204,slow=9.2,SNR=3.9							
VNDA	**Vanda**	**47.34**	**183**	P		**P**	**21 43 40.0**	**+0.1**
	1.3nm,0.7s,baz=184,slow=5.9,SNR=6.5							
TORD	**Torodi Ar. Bea**	**72.46**	**30**	P		**P**	**21 46 33.7**	**+0.6**
	0.5nm,0.6s,baz=202,slow=5.8,SNR=7.2							
YKA	**Yellowknife Ar**	**135.49**	**319**	PKP		**PKPdf**	**21 54 25.8**	**+0.5**
	0.2nm,0.8s,baz=134,slow=1.8,SNR=3.3							
MKAR	**Makanchi Array**	**136.78**	**71**	PKP		**PKPdf**	**21 54 26.2**	**-2.1**
	0.2nm,0.8s,baz=338,slow=1.6,SNR=2.2							
INK	**Inuvik**	**145.10**	**321**	PKPbc		**PKPab**	**21 54 42.0**	**-0.1**
	2.2nm,0.9s,baz=129,slow=4.2,SNR=7.2							
ILAR	**Eielson Array**	**149.48**	**313**	PKPbc		**PKPbc**	**21 54 54.3**	**-0.2**
	0.9nm,0.8s,baz=129,slow=1.9,SNR=9.7							
SONM	**Songino Array**	**150.83**	**85**	PKPbc		**PKPbc**	**21 54 58.8**	**+0.4**
	0.3nm,0.4s,baz=209,slow=2.6,SNR=4.3							

MEX 27 21:39:02.7±0.4, 15°.94N×98°.54W, h19km±7km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.60**	**41**	eP		Pb	21 39 12.5	-2.0
PNIG				*i* S		Sb	21 39 20.6	-2.0
CAIG	**El Cayaco**	**2.00**	**304**	*i* P		Pn	21 39 33.1	-2.3
CAIG				eS		Sn	21 39 55.8	-4.0
VHO	**Vista Hermosa**	**2.06**	**57**	*i* P		Pn	21 39 33.3	-3.3
VHO				eS		Sn	21 39 57.8	-4.1
PLIG	**Platanillo**	**2.61**	**339**	*i* P		Pn	21 39 42.1	-1.8
PLIG				eS		Sn	21 40 11.9	-3.3

ISCJB ***27*** *21:40:20.1±1.0, 60°.35N±0°.08×60°.0E±0°.2, h10km, mb3.4/2, MS3.6/1, Error ellipse: s-maj=14.6km s-min=9.5km az=151.3*

IDC ***27*** *21:40:24.2±1.2, 59°.98N×59°.76E, h0km, mb3.5/2, mb1 3.6/9, mb1mx3.3/78, mbtmp3.5/9, ML3.5/6, MS3.6/1, Ms1 3.6/1, ms1mx2.1/57, Error ellipse: s-maj=18.3km s-min=11.3km az=57.0*

ISC 27 21:40:22.4±1.1, 60°.22N±0°.09×60°.20E±0°.09, h10km, n11, σ3ˢ20/13, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARU	**Arti**	**3.90**	**194**	Pn		**Pn**	**21 41 23.4**	**+1.1**
	0.0nm,0.3s,baz=58,slow=5.6,SNR=9.1							
ARU				Pg		**Pb**	**21 41 31.4**	**+0.3**
	0.0nm,0.3s,baz=18,slow=4.2,SNR=14							
ARU				Sn		**Sn**	**21 42 10.8**	**+2.9**
	0.0nm,0.3s,baz=299,slow=20,SNR=3.9							
ARU				Lg		Lg	21 42 19.8	
	0.0nm,0.3s,baz=108,slow=19,SNR=14							
BVAR	**Borovoye Array**	**9.13**	**138**	Pn		**Pn**	**21 42 36.1**	**+2.1**
	0.8nm,0.3s,baz=330,slow=13,SNR=18							
BVAR				Sn		**Sn**	**21 44 11.5**	**-5.2**
	0.3nm,0.3s,baz=327,slow=23,SNR=3.7							
AKTO	**Aktyubinsk**	**9.88**	**188**	Sn		**Sn**	**21 44 30.0**	**-5.3**
	0.1nm,0.3s,baz=162,slow=20,SNR=2.8							
FINES	**FINESS Array B**	**16.57**	**289**	Pn		**Pn**	**21 44 10.7**	**-3.8**
	0.1nm,0.3s,baz=84,slow=13,SNR=6.2							
ARCES	**ARCESS Array B**	**17.16**	**317**	Pn		**Pn**	**21 44 19.6**	**-2.3**
	0.4nm,0.3s,baz=107,slow=12,SNR=6.6							
MKAR	**Makanchi Array**	**18.67**	**126**	P		**Pn**	**21 44 43.3**	**+2.6**
	0.0nm,0.3s,baz=334,slow=7.7,SNR=2.5							
KVAR	**Kislovodsk Arr**	**19.41**	**221**	P		**P**	**21 44 48.3**	**-0.3**
	baz=192,slow=6.4,SNR=5.3							
AKASG	**Malin Array Be**	**19.80**	**255**	P		**P**	**21 44 52.8**	**+0.2**
	0.5nm,0.3s,baz=47,slow=10,SNR=5.7							
HFS	**Hagfors**	**22.76**	**290**	P		**P**	**21 45 26.1**	**+1.7**
	1.3nm,0.6s,baz=76,slow=12,SNR=3.5							
NOA	**NORSAR Array B**	**23.60**	**293**	P		**P**	**21 45 34.9**	**+1.9**
	0.6nm,0.5s,baz=70,slow=9.1,SNR=2.7							
JNU	**Nakatsue**	**52.42**	**88**	LR		LR	22 12 18.7	
	comp=Z,53nm,19.0s,baz=314,slow=36							

WEL 27 21:40:32.0±0.9, 37°S±6°×17°9E±°, h5km, ML3.8/27, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.13**	**225**	P		Pg	21 40 51.3	-2.5
MXZ	**Matakaoa Point**	**1.13**	**225**	S		Sg	21 41 07.8	-0.7
WMGZ	**Waiomatatini S**	**1.28**	**214**	P		Pg	21 40 56.0	-0.5
WMGZ	**Waiomatatini S**	**1.28**	**214**	S		Sb	21 41 13.6	+0.3
PKGZ	**Pakihiroa**	**1.50**	**221**	S		Sn	21 41 18.9	-0.7
PKGZ	**Pakihiroa**	**1.50**	**221**	P		Pn	21 40 59.6	0.0
PUZ	**Puketiti**	**1.56**	**212**	P		Pn	21 41 00.6	+0.2
PUZ	**Puketiti**	**1.56**	**212**	S		Sn	21 41 20.6	-0.4
HAZ	**Te Kaha**	**1.57**	**230**	S		Sb	21 41 22.0	+0.3
HAZ	**Te Kaha**	**1.57**	**230**	P		Pb	21 41 01.8	+0.3
TWGZ	**Tauwhareparae**	**1.77**	**216**	P		Pn	21 41 03.9	+0.6
RUGZ	**Raukumara Rang**	**1.77**	**227**	P		Pn	21 41 02.6	-0.9
CNGZ	**Carnagh Statio**	**1.93**	**207**	P		Pn	21 41 06.1	+0.6
CNGZ	**Carnagh Statio**	**1.93**	**207**	S		Sn	21 41 30.5	+0.2
TKGZ	**Te Karaka**	**2.04**	**214**	P		Pn	21 41 07.0	0.0
MWZ	**Matawai**	**2.12**	**221**	P		Pn	21 41 08.6	+0.5
WHRZ	**Whale Island**	**2.16**	**239**	P		Pn	21 41 09.8	+1.1
RAGZ	**Rawiri**	**2.29**	**220**	P		Pn	21 41 10.9	+0.3
RIGZ	**Rimuhau**	**2.30**	**212**	P		Pn	21 41 10.4	-0.2
URZ	**Urewera**	**2.30**	**229**	P		Pn	21 41 09.7	-0.9
PRGZ	**Paritu Road**	**2.44**	**207**	P		Pn	21 41 12.0	-0.5
SNGZ	**Shannon Statio**	**2.55**	**217**	P		Pn	21 41 14.2	+0.2
KNZ	**Kokohu**	**2.60**	**209**	P		Pn	21 41 13.6	-1.2
RTZ	**Ruatahuna**	**2.62**	**224**	P		Pn	21 41 15.1	+0.1
MHGZ	**Mahia Peninsul**	**2.63**	**204**	P		Pn	21 41 14.6	-0.6
MUGZ	**Murupara**	**2.65**	**229**	P		Pn	21 41 14.1	-1.3
TARZ	**Mount Tarawera**	**2.67**	**236**	P		Pn	21 41 16.9	+1.1
RRRZ	**Republican Roa**	**2.72**	**234**	P		Pn	21 41 17.3	+0.9
RAHZ	**Arahi**	**2.78**	**219**	P		Pn	21 41 17.5	+0.2
WHHZ	**Waihua**	**2.84**	**215**	P		Pn	21 41 17.6	-0.4
MTHZ	**Maungataniwha**	**2.86**	**222**	P		Pn	21 41 18.6	+0.2
KUZ	**Kuaotunu**	**2.88**	**269**	P		Pn	21 41 17.0	-1.6
KUZ	**Kuaotunu**	**2.88**	**269**	S		Sn	21 41 47.9	-5.6
ALRZ	**Allen Road**	**2.96**	**232**	P		Pn	21 41 20.2	+0.5
NMHZ	**Naumai**	**3.06**	**220**	P		Pn	21 41 21.1	0.0
MRHZ	**Matea Rd**	**3.09**	**227**	P		Pn	21 41 21.4	0.0
ARHZ	**Aropaoanui**	**3.10**	**215**	P		Pn	21 41 21.2	-0.3
TOZ	**Tahuroa Road**	**3.19**	**251**	P		Pn	21 41 23.5	+0.8
BKZ	**Black Stump Fm**	**3.28**	**222**	P		Pn	21 41 23.7	-0.3
MKAZ	**Moumakai**	**3.34**	**263**	P		Pn	21 41 24.1	-0.8
MCHZ	**McNeill Hill**	**3.38**	**217**	P		Pn	21 41 25.0	-0.5
CKHZ	**Cape Kidnapper**	**3.39**	**211**	P		Pn	21 41 24.0	-1.5
KWHZ	**Kaweka Forest**	**3.50**	**220**	P		Pn	21 41 26.6	-0.6
KAHZ	**Kahuranaki**	**3.58**	**212**	P		Pn	21 41 26.6	-1.7
KRHZ	**Kereru**	**3.69**	**218**	P		Pn	21 41 28.4	-1.4
KRVZ	**Karewarewa**	**3.72**	**230**	P		Pn	21 41 30.4	+0.2
BHHZ	**Black Hill Sta**	**3.74**	**222**	P		Pn	21 41 30.1	-0.3
WTVZ	**West Tongariro**	**3.77**	**230**	P		Pn	21 41 31.3	+0.4
NGZ	**Ngauruhoe**	**3.80**	**229**	P		Pn	21 41 31.2	-0.1
TWVZ	**Taurewa**	**3.83**	**232**	P		Pn	21 41 32.3	+0.5
HIZ	**Hauiti**	**3.94**	**242**	P		Pn	21 41 35.1	+1.9
PNHZ	**Pukenui**	**3.99**	**217**	P		Pn	21 41 32.4	-1.4
VRZ	**Vera Road**	**4.30**	**235**	P		Pn	21 41 39.5	+1.3
DVHZ	**Dannevirke**	**4.31**	**214**	P		Pn	21 41 35.8	-2.4

ISCJB ***27*** *21:41:22.0±0.7, 43°.56N±0°.05×105°.05W±0°.07, h0km, Error ellipse: s-maj=7.8km s-min=6.8km az=21.2*

IDC ***27*** *21:41:22.8±1.9, 43°.42N×105°.31W, h0km, mb1 3.6/4, mb1mx3.2/73, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=40.5km s-min=7.5km az=150.0*

NEIC ***27*** *21:41:23.1±0.7, 43°.53N×105°.11W, h0km, MN3.0, Error ellipse: s-maj=10.0km s-min=9.5km az=49.0, Suspected Mining explosion.*

NEIC 78 km [48 miles] WSW of Newcastle.

ISC 27 21:41:23.4±1.0, 43°.57N±0°.05×105°.09W±0°.04, h0km, n14, σ1ˢ42/21, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**54**	ePn		**Pn**	**21 41 43.3**	**-0.8**
RSSD				eS		**Sn**	**21 42 00.2**	**+1.9**
K22A	**Casper**	**1.40**	**229**	ePn		**Pn**	**21 41 48.0**	**-2.3**
LAO	**LASA Array**	**3.22**	**346**	ePn		**Pn**	**21 42 15.8**	**+0.6**
LAO				eS		**Sb**	**21 42 59.4**	**-1.8**
BW06	**Boulder Array**	**3.37**	**258**	ePn		**Pn**	**21 42 17.7**	**+0.2**
BW06				eS		**Sn**	**21 43 01.3**	**+3.1**
PDAR	**Pinedale Array**	**3.37**	**258**	Pn		**Pn**	**21 42 17.3**	**-0.1**
	2.5nm,0.3s,baz=73,slow=15,SNR=39							
PDAR				Pg		**Pb**	**21 42 23.4**	**-0.7**
	8.1nm,0.3s,baz=74,slow=17,SNR=51							
PDAR				Lg		Lg	21 43 01.3	
	9.3nm,0.3s,baz=82,slow=34,SNR=12							
RLMT	**Red Lodge**	**3.37**	**299**	ePn		**Pn**	**21 42 16.6**	**-0.9**
RLMT				eS		**Sn**	**21 42 59.0**	**+0.6**
OGNE	**Ogallala**	**3.47**	**138**	ePn		**Pn**	**21 42 19.3**	**+0.5**
ISCO	**Idaho Springs**	**3.79**	**186**	ePn		**Pn**	**21 42 21.6**	**-1.7**
GCMT	**Greycliff**	**3.95**	**306**	ePn		**Pn**	**21 42 25.2**	**-0.1**
GCMT				eS		**Sn**	**21 43 13.6**	**+1.3**
H17A	**Grant Village**	**4.04**	**284**	ePn		**Pn**	**21 42 28.6**	**+1.8**
H17A				eS		**Sb**	**21 43 24.2**	**-0.9**
I10CA	**LAC DU BONNET**	**9.08**	**40**	*i*			22 39 10.0	
	baz=220,slow=314,SNR=4.7							
ULM	**Lac du Bonnet**	**9.18**	**40**	Pn		**Pn**	**21 43 36.5**	**-0.5**
	0.6nm,0.3s,baz=227,slow=14,SNR=7.6							
ULM				Sn		**Sn**	**21 45 19.8**	**-1.2**
	0.4nm,0.3s,baz=230,slow=16,SNR=3.7							
ULM				Lg		Lg	21 46 13.5	
	0.4nm,0.3s,baz=311,slow=19,SNR=3.8							
NVAR	**Mina Array Bea**	**11.23**	**247**	Pn		**Pn**	**21 44 06.3**	**+1.0**
	baz=70,slow=13,SNR=2.4							
YKA	**Yellowknife Ar**	**19.76**	**347**	P		**Pn**	**21 45 55.8**	**-0.2**
	0.1nm,0.3s,baz=158,slow=11,SNR=5.9							

TAP 27 21:45:27.4, 24°.31N×121°.05E, h6km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SANB	**Taian**	**0.11**	**329**	P		Pg	21 45 30.5	+0.7
	baz=328							
SANB				S		Sg	21 45 32.5	+1.0
	baz=328							
TDCB	**Techi**	**0.11**	**117**	eP		Pg	21 45 29.4	-0.5
	baz=117							
TDCB				eS		Sg	21 45 32.4	+0.8
	baz=117							
TWT	**Tachien**	**0.13**	**114**	eP		Pg	21 45 31.0	+0.8
	baz=118							
TWT				eS		Sg	21 45 32.9	+0.9
	baz=118							
WHF	**Hehuan Shan**	**0.26**	**129**	eP		Pb	21 45 34.0	-0.6
	baz=128							
CHGB	**Renai**	**0.27**	**155**	eP		Pb	21 45 34.0	-0.8
	baz=154							
CHGB				eS		Sg	21 45 37.2	+0.8
	baz=154							
NNS	**Nan Shan**	**0.33**	**66**	eP		Pb	21 45 35.2	-0.5
	baz=66							
NNS				eS		Sb	21 45 40.6	-0.6
	baz=66							
NNSH	**Datong**	**0.33**	**68**	eP		Pb	21 45 35.1	-0.6
	baz=68							
NNSH				eS		Sb	21 45 39.9	-1.4
	baz=68							
OWD	**Renai**	**0.37**	**161**	eP		Pg	21 45 35.4	+0.8
	baz=161							
OWD				eS		Sb	21 45 42.0	-0.5
	baz=161							

TAP 27 21:45:32.3, 24°.29N×121°.04E, h16km±1km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TDCB	**Techi**	**0.11**	**110**	eP		Pb	21 45 37.3	+1.1
	baz=109							
TDCB				eS		Sb	21 45 39.1	+0.4
	baz=109							
SANB	**Taian**	**0.12**	**334**	*i* P		Pb	21 45 37.1	+0.8
	baz=334							
SANB				*i* S		Sb	21 45 39.0	+0.1
	baz=334							
TWT	**Tachien**	**0.13**	**107**	eP		Pb	21 45 36.5	0.0
	baz=110							
TWT				S		Sb	21 45 39.4	+0.2
	baz=110							
WHF	**Hehuan Shan**	**0.25**	**125**	eP		Pg	21 45 38.4	+0.2
	baz=124							
WHF				eS		Sb	21 45 44.2	+1.3
	baz=124							
WHF	**Hehuan Shan**	**0.25**	**125**	eS		Pg	21 45 38.4	+0.2
	baz=128							
TWQ1	**Liyutan**	**0.25**	**283**	eS		Sb	21 45 43.1	+0.5
	baz=282							
CHGB	**Renai**	**0.26**	**152**	eP		Pb	21 45 40.1	+1.4
	baz=152							
CHGB				eS		Sb	21 45 43.5	+0.5
	baz=152							
DPDB	**Guoxing**	**0.28**	**202**	eS		Sb	21 45 43.8	+0.4
	baz=202							
NNSH	**Datong**	**0.34**	**66**	eS		Sb	21 45 45.6	+0.3
	baz=66							
OWD	**Renai**	**0.36**	**160**	eP		Pg	21 45 39.9	+0.1
	baz=159							
OWD				eS		Sb	21 45 46.1	+0.4
	baz=159							

ISCJB ***27*** *21:54:52.4±0.2, 33°.18N±0°.02×95°.49E±0°.03, h10km, mb4.1/36, MS3.4/19, Error ellipse: s-maj=3.6km s-min=3.3km az=29.6*

IDC ***27*** *21:54:52.2±0.6, 33°.15N×95°.51E, h0km, mb4.0/20, mb1 4.1/23, mb1mx3.9/63, mbtmp4.0/23, ML3.6/3, MS3.4/20, Ms1 3.4/20, ms1mx3.2/63, Error ellipse: s-maj=24.5km s-min=12.5km az=47.0*

BJI ***27*** *21:54:53.4, 33°.21N×95°.57E, h19km, mb4.4/17, mB4.3/7, ML4.0/4, Ms3.8/20, Ms7 3.7/24*

NEIC ***27*** *21:54:54.4±2.5, 33°.28N×95°.61E, h11km±17km, mb4.1/8, Error ellipse: s-maj=7.9km s-min=5.1km az=64.0*

MOS ***27*** *21:54:55.6±1.4, 33°.20N×95°.54E, h33km, mb4.3/21, Error ellipse: s-maj=8.8km s-min=5.3km az=113.5*

ISC 27 21:54:54.6±0.3, 33°.27N±0°.04×95°.52E±0°.04, h10km, n148, σ2ˢ05/153, mb4.2/37, MS3.4/19, 6C-6D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.16**	**228**	P		**Pn**	**21 56 15.3**	**+3.0**
LSA	**Lhasa**	**5.16**	**228**	eP		**Pn**	**21 56 15.0**	**+2.7**
LSA	**Lhasa**	**5.16**	**228**	ePn		**Pn**	**21 56 15.0**	**+2.7**
LSA				eS		Sn	21 56 58.5	-14
GTA	**Gaotai**	**7.04**	**28**	ePn		**Pn**	**21 56 39.3**	**+1.5**
CD2	**Chengdu**	**7.37**	**106**	Pn		**Pn**	**21 56 44.8**	**+2.4**
CD2				Sn		Sn	21 57 56.0	-10
CD2				Sg		**Sg**	**21 58 46.0**	**-5.3**
CD2				smax		smax		
	comp=N,100nm,1.3s							
CD2				smax		smax		
	comp=E,60nm,1.3s							
CD2				LR		LR		
	comp=Z,710nm,6.2s							
LZH	**Lanzhou**	**7.41**	**65**	ePn		**Pn**	**21 56 45.0**	**+2.1**
LZH				eSn		**Sn**	**21 58 06.0**	**-1.1**
LZH				LR		LR		
	comp=N,2μm,8.5s							
LZH				LR		LR		
	comp=E,350nm,8.3s							
LZH				LR		LR		
	comp=Z,400nm,9.0s							
SHL	**Shillong**	**8.31**	**203**	eP		**Pn**	**21 56 54.0**	**-1.3**
SHL				ex		**Sn**	**21 58 24.6**	**-4.7**
ODAN	**Odare**	**9.51**	**230**	eP		**Pn**	**21 57 11.7**	**-0.1**
	74nm,0.8s							
JIRN	**Jiri**	**9.80**	**238**	eP		**Pn**	**21 57 15.0**	**-1.0**
	15nm,0.5s							
GUN	**Gumba**	**9.88**	**240**	eP		**Pn**	**21 57 16.1**	**-0.9**
	17nm,0.4s							
RAMN	**Ramite**	**9.97**	**233**	eP		**Pn**	**21 57 17.5**	**-0.6**
	12nm,0.5s							
KMI	**Kunming**	**10.28**	**140**	P		**Pn**	**21 57 22.3**	**-0.1**
KMI				pP			21 57 28.5	
KMI				S		**Sn**	**21 59 22.3**	**+4.5**
KMI				LR		LR		
	comp=Z,470nm,10.9s							
KKN	**Kakani**	**10.38**	**241**	eP		**Pn**	**21 57 22.6**	**-1.2**
	19nm,0.5s							
PKI	**Pulchoki**	**10.41**	**240**	eP		**Pn**	**21 57 22.9**	**-1.4**
	19nm,0.5s							
PKIN	**Phulchoki**	**10.42**	**240**	eP		**Pn**	**21 57 22.8**	**-1.5**
	17nm,0.5s							
DMN	**Daman**	**10.61**	**241**	eP		**Pn**	**21 57 25.8**	**-1.2**
	20nm,0.8s							
GKN	**Gorkha**	**10.74**	**244**	eP		**Pn**	**21 57 27.0**	**-1.7**
	8.0nm,0.5s							
XAN	**Xi'an**	**11.19**	**82**	P		**Pn**	**21 57 37.8**	**+3.1**
XAN				pP			21 57 42.8	
XAN				S		**Sn**	**21 59 45.3**	**+5.3**
XAN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
XAN				LR		LR		
	comp=E,320nm,11.4s							
XAN				LR		LR		
	comp=Z,390nm,10.3s							
DANN	**Dangsing**	**11.24**	**247**	eP		**Pn**	**21 57 33.5**	**-2.1**
	5.9nm,0.9s							
KOLN	**Koldanda**	**11.65**	**245**	eP		**Pn**	**21 57 39.4**	**-1.7**
	22nm,0.7s							
GYA	**Guiyang**	**11.81**	**122**	P		**Pn**	**21 57 43.8**	**+0.5**
GYA				PP		**PnPn**	**21 57 54.0**	**+3.0**
GYA				S		**Sn**	**21 59 54.5**	**-0.7**
GYA				SS		**SnSn**	**22 00 09.8**	**+2.6**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
GYA				LR		LR		
	comp=N,

MKAR	**Makanchi Array**	**16.85**	**327**	*e*P	**Pn**	**21 58 49.5**	**-1.1**
MKAR	**Makanchi Array**	**16.85**	**327**	*e*Pn	**Pn**	**21 58 49.5**	**-1.1**
KSH	**Kashi**	**16.92**	**297**	*e*P	**P**	**21 58 54.3**	**+0.8**
KSH				pP	sP	21 59 04.5	+6.8
KSH				S	**Sn**	**22 02 00.0**	**+0.4**
KSH				sS	sS	22 02 13.3	-1.2
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,55nm,6.1s						
KSH				LR	LR		
	comp=Z,270nm,12.4s						
KSH				LR	LR		
	comp=Z,110nm,9.5s						
KDJ	**Kajisay**	**16.97**	**307**	P	**Pn**	**21 58 52.9**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,21nm,1.1s						
ULN	**Ulaanbaatar**	**16.98**	**27***d*	*i*P	**P**	**21 58 54.0**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ULN	**Ulaanbaatar**	**16.98**	**27**	*e*Pn	**Pn**	**21 58 51.4**	**-0.9**
	comp=Z,3.9nm,0.7s						
MAKZ	**Makanchi**	**17.00**	**327**	*e*P	**Pn**	**21 58 51.0**	**-1.5**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	**Makanchi**	**17.00**	**327**	*e*Pn	**Pn**	**21 58 51.0**	**-1.5**
	comp=Z,4.9nm,0.9s						
KNGR	**Kungurtug, Tuv**	**17.38**	**4**	*e*P	**P**	**21 58 59.6**	**+1.0**
NRN	**Naryn**	**17.50**	**303**	P	**P**	**21 59 01.0**	**+0.7**
NRN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULHL	**Ulahol**	**17.65**	**306**	P	**P**	**21 59 05.3**	**+3.5**
	SNR=15						
BJI	**Beijing**	**17.88**	**62**	P	**P**	**21 59 08.0**	**+4.0**
HVS	**Khovu-Aksy**	**17.90**	**356**‖	*e*P	**P**	**21 59 05.9**	**+1.6**
HVS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZAK	**Zakamensk**	**18.03**	**16**	*e*P	**Pn**	**21 59 04.3**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
CHAI	**Chaiyaphum**	**18.26**	**160**	P	**P**	**21 59 08.4**	**+0.1**
	comp=Z,3.4nm,0.9s						
KZA	**Kyzart**	**18.27**	**305**	P	**P**	**21 59 10.4**	**+1.7**
	SNR=21						
TKM2	**Tokmak 2**	**18.37**	**307**	P	**Pn**	**21 59 12.6**	**+3.0**
	SNR=5.6						
KBK	**Karagaybulak**	**18.70**	**306**	P	**Pn**	**21 59 17.2**	**+3.7**
	SNR=18						
BHPL	**Bhopal**	**18.79**	**243**	*e*P	**P**	**21 59 13.0**	**-1.2**
BHPL				IAmb	IAmb	21 59 18.2	
	comp=Z,8.8nm,0.9s						
NGP	**Nagpur**	**18.95**	**235**	*e*P	**P**	**21 59 16.5**	**+0.5**
CHMS	**Chumysh**	**18.96**	**307**	P	**Pn**	**21 59 18.4**	**+1.7**
	SNR=6.7						
FRU1	**Bishkek**	**18.97**	**306**	P	**Pn**	**21 59 17.7**	**+0.9**
FRU1				pmax	pmax		
	comp=Z,11nm,0.9s						
VIS	**Vishakhapatnam**	**18.97**	**218**	*e*P	**P**	**21 59 14.9**	**-1.3**
VIS				IAmb	IAmb	21 59 19.7	
	comp=Z,30nm,0.2s						
FRU	**Bishkek**	**18.99**	**306**	*e*P	**Pn**	**21 59 18.0**	**+1.0**
AAK	**Ala-Archa**	**19.00**	**306**	P	**Pn**	**21 59 18.7**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=111,slow=7.1,SNR=29						
AAK				LR	LR	22 07 51.7	
	comp=Z,149nm,20.9s,baz=146,slow=41						
AAK	**Ala-Archa**	**19.00**	**306***d*	*i*P	**Pn**	**21 59 19.3**	**+2.1**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AAK	**Ala-Archa**	**19.00**	**306**	P	**Pn**	**21 59 19.0**	**+1.8**
	SNR=16						
AAK	**Ala-Archa**	**19.00**	**306**	*e*P	**Pn**	**21 59 18.6**	**+1.4**
	comp=Z,12nm,1.0s						
SRDT	**SRDT**	**19.12**	**169**	P	**Pn**	**21 59 20.5**	**+1.9**
	comp=Z,13nm,0.9s,comp=Z,3μm						
TLY	**Talaya**	**19.32**	**15**	LR	LR	22 07 21.0	
	comp=Z,109nm,21.9s,baz=192,slow=38						
AML	**Almayashu**	**19.36**	**303**	P	**Pn**	**21 59 23.5**	**+1.6**
	SNR=5.6						
EKS2	**Erkin-Say**	**19.50**	**305**	P	**Pn**	**21 59 27.2**	**+4.1**
	SNR=14						
NAYO	**Nakonayok**	**19.59**	**163**	P	**Pn**	**21 59 28.6**	**+4.3**
	comp=Z,28nm,0.7s						
DGPR	**DIGLIPUR**	**20.14**	**187**	*e*P	**P**	**21 59 27.1**	**-1.9**
DGPR				IAmb	IAmb	21 59 32.7	
	comp=Z,6.8nm,0.6s						
KURBB	**Kurchatov Arra**	**21.37**	**329**	P	**P**	**21 59 41.9**	**-0.1**
	comp=Z,21nm,0.6s,baz=136,slow=11,SNR=101						
KURK	**Kurchatov**	**21.40**	**330***c*	*i*P	**P**	**21 59 41.7**	**-0.6**
KURK				pmax	pmax		
	comp=Z,14nm,0.9s						
KURK	**Kurchatov**	**21.40**	**330**	*e*P	**P**	**21 59 42.1**	**-0.3**
KKAR	**Karatay Array**	**21.90**	**304**	*e*P	**P**	**21 59 48.4**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**21.90**	**304**	*e*P	**P**	**21 59 48.4**	**+0.5**
	comp=Z,0.6nm,0.3s						
HYB	**Hyderabad**	**21.96**	**228**	*i*P	**P**	**21 59 50.0**	**+1.4**
HYB	**Hyderabad**	**21.96**	**228**	*e*P	**P**	**21 59 48.2**	**-0.4**
HYB				IAmb	IAmb	21 59 55.4	
	comp=Z,12nm,1.1s						
KBL	**Kabul**	**22.00**	**281**	*e*P	**P**	**21 59 49.3**	**+0.2**
KBL				pmax	pmax		
	comp=Z,41nm,0.8s						
KBL	**Kabul**	**22.00**	**281**	*e*P	**P**	**21 59 49.3**	**+0.2**
	comp=Z,41nm,0.8s						
ZALV	**Zalesovo Beam**	**22.03**	**343**	P	**P**	**21 59 49.5**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=152,slow=9.9,SNR=13						
ZALV				LR	LR	22 09 02.1	
	comp=Z,70nm,18.5s,baz=250,slow=38						
NVS	**Novosibirsk**	**23.23**	**342**	*e*P	**P**	**22 00 00.0**	**-1.7**
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.5s						
HIA	**Hailar**	**24.07**	**41**‖	*e*P	**P**	**22 00 10.2**	**+0.2**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CN2	**Changchun**	**25.53**	**57**	*e*P	**P**	**22 00 28.0**	**+4.7**
CN2				*e*S	**S**	**22 04 44.3**	**-6.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
TRTT	**Trang**	**25.60**	**170**	P	**P**	**22 00 27.3**	**+3.1**
KSAR	**Wonju Array Be**	**26.65**	**72**	P	**P**	**22 00 33.5**	**0.0**
KSAR	**Wonju Array Be**	**26.65**	**72**	P	**P**	**22 00 33.5**	**0.0**
KSRS	**Korea Array**	**26.68**	**72**	P	**P**	**22 00 33.5**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=274,slow=9.8,SNR=3.8						
KSRS				LR	LR	22 10 35.2	
	comp=Z,26nm,18.7s,baz=266,slow=35						
BVAR	**Borovoye Array**	**26.71**	**325**	P	**P**	**22 00 35.4**	**+1.5**
	comp=Z,2.1nm,0.6s,baz=108,slow=9.3,SNR=12						
BVAR				LR	LR	22 11 33.7	
	comp=Z,94nm,20.9s,baz=114,slow=37						
BRVK	**Borovoye**	**26.78**	**325**‖	*e*P	**P**	**22 00 35.7**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.8s						
BRVK	**Borovoye**	**26.78**	**325**	*e*P	**P**	**22 00 34.5**	**0.0**
	comp=Z,3.4nm,0.8s						
JOW	**Kunigami**	**28.99**	**94**	LR	LR	22 12 00.6	
	comp=Z,82nm,20.4s,baz=281,slow=36						
PALK	**Pallekele**	**29.29**	**211**	LR	LR	22 14 50.6	
	comp=Z,41nm,18.8s,baz=296,slow=41						
PSI	**Prapat**	**30.48**	**173**	LR	LR	22 12 36.6	
	comp=Z,72nm,19.3s,baz=278,slow=35						
GEYT	**Alibeck**	**30.63**	**289**	P	**P**	**22 01 09.3**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=81,slow=9.2,SNR=4.0						
ABKAR	**Akbulak array**	**30.80**	**312**	*e*P	**P**	**22 01 10.2**	**-0.2**
	comp=Z,7.5nm,0.6s						
KLR	**Kul'dur**	**31.20**	**48**‖	*e*P	**P**	**22 01 15.9**	**+2.0**
AKTO	**Aktyubinsk**	**32.35**	**313**	P	**P**	**22 01 24.3**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=105,slow=12,SNR=7.2						
AKTO				LR	LR	22 16 18.9	
	comp=Z,52nm,18.4s,baz=125,slow=40						
ARU	**Arti**	**34.32**	**324***c*	*i*P	**P**	**22 01 41.0**	**-0.1**
ARU						22 02 52.5	
ARU				S	**S**	**22 07 05.7**	**-2.5**
ARU				SS	**SnSn**	**22 09 14.2**	**-3.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ARU	**Arti**	**34.32**	**324**	*e*P	**P**	**22 01 41.5**	**+0.4**
	comp=Z,27nm,1.8s						
MJAR	**Matsushiro Arr**	**34.95**	**72**	LR	LR	22 15 48.8	
	comp=Z,62nm,18.6s,baz=285,slow=36						
NKL	**Nikolayevsk**	**37.66**	**44**	*e*P	**P**	**22 02 09.0**	**-0.6**
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
LKRN	**Lenkeran, Azer**	**37.89**	**292**	P	**P**	**22 02 10.3**	**-1.5**
DAV	**Davao City (W)**	**38.15**	**126**	LR	LR	22 18 36.4	
	comp=Z,55nm,19.9s,baz=328,slow=37						
SEKA	**Sheki**	**38.86**	**296**	P	**P**	**22 02 17.8**	**-2.3**
MNGR	**Mingechevir, A**	**38.98**	**295**	P	**P**	**22 02 19.4**	**-1.6**
ZKTA	**Zakatala**	**39.26**	**297**	P	**P**	**22 02 21.7**	**-1.7**
GANJ	**Ganja**	**39.57**	**295**	P	**P**	**22 02 24.3**	**-1.7**
NAX	**Nakhchivan**	**40.37**	**293**	P	**P**	**22 02 30.9**	**-1.8**
LEM	**Lembang**	**41.50**	**162**	LR	LR	22 21 38.5	
	comp=Z,104nm,18.1s,baz=247,slow=39						
KIV	**Kislovodsk**	**42.00**	**301**	*e*P	**P**	**22 02 47.7**	**+1.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,36nm,16.0s						
TIXI	**Tiksi**	**42.30**	**15**‖	*e*P	**P**	**22 02 50.3**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KLMR	**Klimovskoe**	**45.13**	**325**	*e*P	**P**	**22 03 13.1**	**+2.2**
KLMR				pmax	pmax		
	comp=Z,18nm,1.4s						
KLMR	**Klimovskoe**	**45.13**	**325**	*e*P	**P**	**22 03 13.2**	**+2.3**
KLMR				AMP		22 03 29.8	
	comp=Z,18nm,1.4s						
OBN	**Obninsk**	**45.96**	**317**‖	*e*P	**P**	**22 03 20.7**	**+3.2**
OBN				*e*		22 05 07.4	
OBN				*e*S	**S**	**22 09 57.7**	**-4.4**
OBN				pmax	pmax		
	comp=Z,57nm,3.8s						
OBN				MLR	MLR		
	comp=Z,56nm,17.0s						
PETK	**Petropavlovsk-**	**47.83**	**46**	LR	LR	22 26 54.2	
	comp=Z,36nm,18.3s,baz=298,slow=40						
BRTR	**Keskin Array B**	**49.30**	**296**	P	**P**	**22 03 44.1**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=93,slow=7.4,SNR=4.5						
BRTR	**Keskin Array B**	**49.30**	**296**	*i*P	**P**	**22 03 45.7**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**50.54**	**311**	P	**P**	**22 03 52.0**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=70,slow=6.9,SNR=3.3						
AKASG				LR	LR	22 27 40.8	
	comp=Z,38nm,18.1s,baz=5.0,slow=39						
FINES	**FINESS Array B**	**51.67**	**325**	P	**P**	**22 04 00.8**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=74,slow=5.9,SNR=2.9						
FINES	**FINESS Array B**	**51.67**	**325**	*i*P	**P**	**22 04 05.0**	**+3.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**52.28**	**335**	P	**P**	**22 04 05.4**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=91,slow=9.0,SNR=5.4						
BILL	**Bilibino**	**52.42**	**27**‖	*e*P	**P**	**22 04 07.1**	**+0.2**
BILL				*e*		22 06 01.0	
BILL				*e*S	**S**	**22 11 36.0**	**+3.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MLR	**Muntele Rosu**	**53.58**	**305**	LR	LR	22 29 31.2	
	comp=Z,23nm,18.1s,baz=1.5,slow=39						
SPITS	**Spitsbergen Ar**	**55.47**	**346**	LR	LR	22 31 17.4	
	comp=Z,40nm,18.5s,baz=170,slow=39						
HFS	**Hagfors**	**57.84**	**324**	P	**P**	**22 04 45.9**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=99,slow=9.3,SNR=3.9						
NB2	**NORSAR Subarra**	**58.84**	**326**	P	**P**	**22 04 52.0**	**-1.1**
	comp=Z,3.1nm,0.8s,baz=77,slow=7.4						
NOA	**NORSAR Array B**	**58.84**	**326**	P	**P**	**22 04 52.2**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=77,slow=7.0,SNR=8.0						
NOA				LR	LR	22 32 26.6	
	comp=Z,34nm,18.4s,baz=75,slow=38						
GERES	**GERESS Array B**	**60.75**	**311**	P	**P**	**22 05 06.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=74,slow=7.2,SNR=3.2						
GERES				LR	LR	22 33 04.6	
	comp=Z,47nm,19.6s,baz=52,slow=38						
WRAB	**Tennant Creek**	**64.60**	**139**‖	*e*P	**P**	**22 05 31.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WRA	**Warramunga Arr**	**64.60**	**139**	P	**P**	**22 05 30.6**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=332,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**67.41**	**142**	P	**P**	**22 05 49.0**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=325,slow=6.4,SNR=14						
AS01	**Alice Springs**	**67.43**	**142**	*e*P	**P**	**22 05 49.3**	**-1.3**
EKA	**Eskdalemuir Ar**	**67.92**	**322**	P	**P**	**22 05 52.5**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=53,slow=6.3,SNR=3.7						
ILAR	**Eielson Array**	**70.91**	**24**	P	**P**	**22 06 11.8**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=290,slow=5.6,SNR=5.8						
STKA	**Stephens Creek**	**78.02**	**141**	P	**P**	**22 06 52.7**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=322,slow=6.3,SNR=5.4						
YKA	**Yellowknife Ar**	**81.54**	**14**	P	**P**	**22 07 12.1**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=334,slow=4.8,SNR=5.4						
TOA0	**Torodi Ar. Sit**	**86.05**	**283**	*e*P	**P**	**22 07 34.4**	**-1.6**
TORD	**Torodi Ar. Bea**	**86.05**	**283**	P	**P**	**22 07 34.5**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=46,slow=4.6,SNR=5.3						
KOWA	**Kowa**	**89.92**	**287**	P	**P**	**22 07 57.0**	**+2.5**
	comp=Z,1.1nm,0.6s,baz=51,slow=6.5,SNR=3.7						
BOZ	**Bozeman (W)**	**97.73**	**19**	*e*P	**P**	**22 08 25.7**	**-4.4**
BOZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BOZ	**Bozeman (W)**	**97.73**	**19**	*e*P	**P**	**22 08 25.7**	**-4.4**
	comp=Z,10.0nm,0.7s						

GUC 27 22:03:32.6±0.6, 35.05S×72.45W, h17km±5km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.43**	**85**	*e*P	Pg	22 03 40.8	-0.5
GO05				*e*S	Sg	22 03 46.5	-0.7
GO05				IAML		22 03 47.3	
	comp=N,18μm,0.3s						
COCH	**Cobquecura**	**1.12**	**194**	*e*P	Pb	22 03 51.1	-2.4
COCH				*e*S	Sb	22 04 05.8	-2.0
CCHI	**Chillan**	**1.58**	**169**	*e*P	Pn	22 03 59.1	-0.8
CCHI				*e*S	Sn	22 04 18.9	-1.1
CCHI				IAML		22 04 26.5	
	comp=E,2μm,0.5s						
LMEL	**Las Melosas**	**2.21**	**58**	*e*P	Pn	22 04 09.3	+0.7
LMEL				*e*S	Sb	22 04 40.8	+1.4
LMEL				IAML		22 04 43.5	
	comp=N,606nm,0.1s						
CLCH	**Cerro Calan**	**2.29**	**44**	*e*P	Pb	22 04 12.4	-1.1
CLCH				*e*S	Sn	22 04 38.5	+0.9
CLCH				IAML		22 04 47.0	
	comp=N,398nm,0.9s						
ROCH	**El Roble**	**2.39**	**30**	*e*P	Pn	22 04 11.6	+0.4
ROCH				*e*S	Sb	22 04 43.0	-1.7
ROCH				IAML		22 04 53.3	
	comp=N,361nm,0.5s						
PEL	**Peldehue**	**2.40**	**38**	*e*P	Pn	22 04 11.7	+0.5
PEL				*e*S	Sn	22 04 41.6	+1.3

MEX 27 22:05:59.9±0.6, 16.08N×98.50W, h3km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**49**	*i*P	Pg	22 06 08.4	-0.6
PNIG				*i*S	Sg	22 06 16.0	+0.8
CAIG	**El Cayaco**	**1.95**	**300**	*i*P	Pn	22 06 30.0	-3.9
CAIG				*e*S	Sn	22 06 54.9	-3.9
VHO	**Vista Hermosa**	**1.96**	**60**	*e*P	Pn	22 06 31.2	-3.0
VHO				*e*S	Sn	22 06 54.8	-4.7
PLIG	**Platanillo**	**2.49**	**338**	*e*P	Pn	22 06 38.4	-3.1
PLIG				*e*S	Sn	22 07 07.9	-4.5

*IDC **27** 22:06:58.3±1.5, 19°.37N×147°.74E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.7/57, mbtmp4.0/9, Error ellipse: s-maj=59.1km s-min=19.8km az=88.0*
*ISCJB **27** 22:07:00.6±1.3, 19°.4N±0°.1×147°.8E±0°.4, h29km, mb4.0/9, Error ellipse: s-maj=49.9km s-min=17.5km az=0.1*

ISC 27 22:07:02.5±1.4, 19°.4N±0°.2×147°.7E±0°.4, h29km, n10, σ1§09/10, mb4.2/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**34.53**	**11**	P	**P**	**22 13 47.5**	**-0.7**
	3.2nm,0.5s,baz=217,slow=1.5,SNR=4.5						
WRA	**Warramunga Arr**	**41.23**	**199**	P	**P**	**22 14 45.0**	**-0.1**
	2.6nm,0.6s,baz=24,slow=8.5,SNR=46						
SONM	**Songino Array**	**43.82**	**320**	P	**P**	**22 15 04.6**	**-1.5**
	0.2nm,0.5s,baz=100,slow=8.4,SNR=2.4						
ASAR	**Alice Springs**	**44.87**	**198**	P	**P**	**22 15 14.1**	**-0.5**
	0.5nm,0.5s,baz=13,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**59.37**	**313**	P	**P**	**22 17 02.1**	**-0.1**
	0.7nm,0.7s,baz=93,slow=8.8,SNR=9.2						
KURBB	**Kurchatov Arra**	**62.09**	**318**	P	**P**	**22 17 21.1**	**+0.5**
	1.5nm,0.8s,baz=96,slow=7.4,SNR=14						
BVAR	**Borovoye Array**	**67.17**	**320**	P	**P**	**22 17 55.1**	**+1.4**
	1.5nm,0.4s,baz=97,slow=7.2,SNR=21						
AKTO	**Aktyubinsk**	**75.12**	**319**	P	**P**	**22 18 42.5**	**+0.6**
	0.4nm,0.4s,baz=73,slow=11,SNR=3.3						
FINES	**FINESS Array B**	**87.05**	**336**	P	**P**	**22 19 46.8**	**+1.7**
	1.0nm,0.4s,baz=70,slow=4.7,SNR=21						
TORD	**Torodi Ar. Bea**	**133.47**	**311**	PKP	**PKPdf**	**22 26 16.7**	**-0.3**
	0.4nm,0.9s,baz=45,slow=2.0,SNR=2.6						

*CSEM **27** 22:12:51.9±0.3, 67°.17N×20°.69E, h2km, ML1.4, Error ellipse: s-maj=6.9km s-min=4.4km az=64.0, Mining explosion.*
*UPP **27** 22:12:52.3, 67°.19N×20°.63E, h0km, ML1.4, Mining explosion.*

HEL 27 22:12:52.8±0.0, 67°.18N×20°.65E, h0km, ML1.5, ML1.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**208**	P	Pg	22 12 53.9	-0.2
DUNU				S	Sg	22 12 55.1	+0.1
DUNU	**Dundret**	**0.07**	**208**	*i*P	Pg	22 12 54.0	-0.1
DUNU				*i*S	Sg	22 12 55.1	+0.1
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	22 13 03.6	-0.5
MASU	**Masugnsbyn**	**0.59**	**62**	*i*P	Pg	22 13 03.7	-0.4
RATU	**Laukkuluspa**	**0.76**	**328**	P	Pg	22 13 06.4	-1.0
RATU	**Laukkuluspa**	**0.76**	**328**	*i*P	Pg	22 13 06.4	-1.0
KUA	**Kurravaara**	**0.79**	**351**	P	Pg	22 13 06.8	-1.0
KUA	**Kurravaara**	**0.79**	**351**	*i*P	Pg	22 13 06.8	-1.0
ERTU	**Ertsjaerv**	**0.88**	**135**	P	Pg	22 13 08.5	-1.0
ERTU				Sb	Sg	22 13 20.5	-0.4
ERTU	**Ertsjaerv**	**0.88**	**135**	*e*P	Pg	22 13 08.4	-1.2
ERTU				*e*SB	Sg	22 13 20.6	-0.3
NIKU	**Nikkaluokta**	**0.93**	**319**	P	Pg	22 13 09.4	-1.1
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	22 13 09.4	-1.1
PAJU	**Pajala**	**0.98**	**98**	P	Pg	22 13 10.4	-1.1
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	22 13 10.4	-1.1
LANU	**Lannavaara**	**1.01**	**30**	P	Pg	22 13 10.8	-1.3
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	22 13 10.8	-1.3
HEF	**Hetta**	**1.68**	**41**	P	Pn	22 13 44.4	-1.0
HEF				Sg	Sn	22 13 44.5	-1.1
HEF	**Hetta**	**1.68**	**41**	*e*P	Pn	22 13 22.4	-1.0
HEF				MSG		22 13 42.7	
	comp=Z,2.1nm,0.2s						
HEF				*e*SG	Sn	22 13 44.5	-1.1
KALU	**Kalix**	**1.71**	**140**	Pg	Pn	22 13 23.3	-0.5
KALU	**Kalix**	**1.71**	**140**	P	Pn	22 13 23.7	-0.1
KALU				Sn	Sb	22 13 47.3	+0.2
KALU	**Kalix**	**1.71**	**140**	*e*PG	Pn	22 13 23.3	-0.5
KALU				*e*SN	Sb	22 13 47.4	+0.2
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	22 13 23.4	-0.6
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	22 13 23.5	-0.5
KIF	**Kilpisjarvi**	**1.83**	**2**	P	Pn	22 13 25.6	+0.1
KIF				Sg	Sg	22 13 51.8	+0.2
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	22 13 25.6	+0.2
	baz=179						
KIF				MSG		22 13 47.9	
	comp=Z,2.9nm,0.2s						
KIF				*e*SG	Sg	22 13 51.8	+0.2
TOF	**Tornio**	**1.84**	**125**	Pn	Pn	22 13 25.5	0.0
TOF				Sn	Sb	22 13 50.6	0.0
TOF	**Tornio**	**1.84**	**125**	*e*PN	Pn	22 13 25.5	0.0
TOF				MSG		22 13 47.1	
	comp=Z,4.0nm,0.2s						
TOF				*e*SN	Sb	22 13 50.6	0.0
RNF	**Rovaniemi**	**2.19**	**103**	Pb	Pn	22 13 31.0	+0.6
RNF				Sg	Sb	22 13 59.7	-1.2
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB	Pn	22 13 31.0	+0.6
RNF				*e*SG	Sb	22 13 59.8	-1.2
SGF	**Sodankyl**	**2.29**	**81**	Pb	Pn	22 13 32.7	+0.9
SGF				Sg	Sb	22 14 03.5	-0.3
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pn	22 13 32.8	+1.0
	baz=270						
SGF				*e*SG	Sb	22 14 03.5	-0.3
BURU	**Burvik**	**2.63**	**173**	Pb	Pn	22 13 37.6	+1.2
BURU	**Burvik**	**2.63**	**173**	*e*PB	Pn	22 13 37.7	+1.3
ARE0	**ARCESS Array S**	**2.97**	**35**	P	Pn	22 13 41.0	-0.1
ARE0				S	Sn	22 14 18.6	+1.2
ARE0	**ARCESS Array S**	**2.97**	**35**	*e*P	Pn	22 13 41.0	-0.1
ARE0				*e*S	Sn	22 14 18.6	+1.2
VRF	**Varrio**	**3.50**	**77**	P	Pn	22 13 48.1	-0.2
VRF	**Varrio**	**3.50**	**77**	*e*P	Pn	22 13 48.2	-0.2

*CSEM **27** 22:14:20.3±0.3, 67°.21N×20°.75E, h2km, ML1.6, Error ellipse: s-maj=6.5km s-min=4.0km az=63.0, Mining explosion.*
*HEL **27** 22:14:20.8±0.0, 67°.18N×

BURU	**Burvik**	**2.63 173**	P	Pn	22 15 04.9	+1.0
BURU			Sg	Sb	22 15 41.9	+0.9
BURU	**Burvik**	**2.63 173**	*e*P	Pn	22 15 04.9	+1.0
	baz=358					
BURU			*e*SG	Sb	22 15 42.0	+0.9
OUF	**Merijarvi**	**3.30 147**	Sg	Sb	22 16 02.0	+1.9
OUF	**Merijarvi**	**3.30 147**	*e*SG	Sb	22 16 02.0	+1.9
MSF	**Maaselka**	**3.60 107**	Sg	Sg	22 16 12.4	-3.2
MSF	**Maaselka**	**3.60 107**	*e*SG	Sg	22 16 12.4	-3.2
KU6	**Riekki**	**3.87 103**	P	Pn	22 15 21.3	+0.4
KU6			Sg	Sg	22 16 20.7	-3.8
KU6	**Riekki**	**3.87 103**	*e*P	Pn	22 15 21.4	+0.5
KU6			*e*SG	Sg	22 16 20.8	-3.7
VAF	**Ylistaro**	**4.25 167**	*e*SG	Sb	22 16 30.8	+3.2

IDC ***27*** *22:34:44.3±0.5,5°.21S×133°.64E, h0^{km}, mb4.4/22, mb1 4.5/28, mb1mx4.4/50, mbtmp4.5/28, ML4.6/5, MS3.6/17, Ms1 3.6/17, ms1mx3.4/45, Error ellipse: s-maj=17.9km s-min=10.9km az=75.0*

NEIC ***27*** *22:34:45.6±2.9, 5°.24S×133°.77E, h10^{km}±19^{km}, mb4.8/21, Error ellipse: s-maj=9.0km s-min=5.3km az=52.0*

BJI ***27*** *22:34:45.0, 5°.32S×133°.61E, h17^{km}, mb4.6/40, mB4.8/23, Ms4.4/9, Ms7 4.2/8*

ISCJB ***27*** *22:34:47.2±0.2, 5°.31S±0°.03×133°.73E±0°.03, h35^{km}, mb4.5/55, MS3.6/15, Error ellipse: s-maj=5.2km s-min=3.9km az=152.5*

DJA ***27*** *22:34:48.7±0.7, 5°S±2°×13°4E±°, h26^{km}±6^{km}, M5.4/18, mb4.9/18, mB5.4/8, MLv6.4/1, Mw(mB)4.8/8*

ISC 27 22:34:48.5±0.3, 5°.40S±0°.04×133°.73E±0°.04, h35^{km}, n138, σ2^{s}10/142, mb4.6/55, MS3.6/15, 1C, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.73**	**359**	P	**Pn**	**22 35 13.7**	**-2.4**
FAKI	**Fak Fak**	**2.88**	**329**	P	**Pn**	**22 35 29.5**	**-2.4**
FAKI	**Fak Fak**	**2.88**	**329**	*e*Pn	**Pn**	**22 35 29.6**	**-2.2**
FAKI				*e*S	**Sn**	**22 35 59.4**	**-5.9**
SAUI	**Saumlaki**	**3.52**	**223**	P	Pn	22 35 45.9	+5.2
SAUI	**Saumlaki**	**3.52**	**223**	*e*Pn	Pn	22 35 46.0	+5.3
RKPI	**Ransiki, Papua**	**3.89**	**7**	P	**Pn**	**22 35 46.1**	**+0.2**
SWI	**Sorong**	**5.14**	**331**	P	**Pn**	**22 36 01.2**	**-1.8**
MSAI	**Masohi**	**5.20**	**293**	P	**Pn**	**22 36 04.7**	**+0.8**
AAI	**Ambon**	**5.77**	**287**	P	**Pn**	**22 36 12.1**	**+0.4**
NLAI	**Namlea**	**6.95**	**288**	P	**Pn**	**22 36 30.4**	**+2.5**
GENI	**Genyem**	**7.00**	**67**	P	**Pn**	**22 36 30.0**	**+1.4**
JAY	**Jayapura**	**7.53**	**68**	P	**Pn**	**22 36 32.8**	**-3.1**
LBMI	**Labuha**	**7.81**	**307**	P	**Pn**	**22 36 39.0**	**-0.8**
MTN	**Manton Dam**	**7.82**	**199**	*e*Pn	**Pn**	**22 36 43.6**	**+3.8**
SANI	**Sanana**	**8.41**	**293**	P	**Pn**	**22 36 45.6**	**-2.3**
TNTI	**Ternate**	**8.83**	**314**	*e*Pn	**Pn**	**22 36 53.2**	**-0.5**
SOEI	**Soe**	**10.32**	**245**	P	**Pn**	**22 37 16.2**	**+1.9**
SOEI	**Soe**	**10.32**	**245**	*e*Pn	**Pn**	**22 37 16.4**	**+2.1**
SOEI				*e*S	**Sn**	**22 39 06.2**	**-2.7**
BATI	**Baumata**	**11.05**	**244**	Pn	**Pn**	**22 37 24.9**	**+0.7**
	11nm,0.3s,baz=146,slow=6.3,SNR=15						
BATI				Sn	**Sn**	**22 39 22.9**	**-3.7**
	9.6nm,0.3s,baz=153,slow=18,SNR=3.2						
BATI	**Baumata**	**11.05**	**244**	P	**Pn**	**22 37 26.9**	**+2.7**
KMSI	**Cibinong**	**11.40**	**301**	P	**Pn**	**22 37 28.6**	**-0.4**
LUWI	**Luwuk**	**11.76**	**291**	P	**Pn**	**22 37 32.9**	**-1.0**
LUWI	**Luwuk**	**11.76**	**291**	*e*Pn	**Pn**	**22 37 32.7**	**-1.2**
LUWI				*e*S	**Sn**	**22 39 41.5**	**-2.5**
COEN	**Coen**	**12.60**	**133**	*e*Pn	**Pn**	**22 37 45.5**	**+0.1**
APSI	**Ampana**	**12.86**	**290**	P	**Pn**	**22 37 47.9**	**-1.0**
MRSI	**Marisa**	**13.14**	**296**	P	**Pn**	**22 37 50.6**	**-2.1**
BSSI	**Bau Bau, Buton**	**13.19**	**266**	P	**P**	**22 38 00.7**	**-2.2**
PMG	**Port Moresby**	**13.90**	**107**	Pn	**Pn**	**22 38 02.8**	**-0.3**
	1.9nm,0.3s,baz=357,slow=12,SNR=3.9						
PMG				Sn	**Sn**	**22 40 29.1**	**-7.1**
	1.5nm,0.3s,baz=180,slow=20,SNR=2.6						
PMG				LR	LR	22 44 42.6	
	comp=Z,592nm,18.0s,baz=339,slow=43						
KAPI	**Kappang**	**13.92**	**271**	*e*Pn	**Pn**	**22 38 05.7**	**+2.3**
	27nm,0.8s						
TTSI	**Tana Toraja**	**14.07**	**279**	P	P	22 38 18.8	+6.1
WRAB	**Tennant Creek**	**14.46**	**178**	*e*Pn	**Pn**	**22 38 10.5**	**-0.2**
WRAB				*e*S	Sn	22 40 42.4	-7.4
WRA	**Warramunga Arr**	**14.46**	**178**	Pn	**Pn**	**22 38 11.1**	**+0.2**
	2.5nm,0.3s,baz=4.9,slow=13,SNR=133						
WRA				Sn	**Sn**	**22 40 43.4**	**-6.7**
	4.3nm,0.3s,baz=0.1,slow=23,SNR=8.8						
WRA				LR	LR	22 44 37.1	
	comp=Z,313nm,18.3s,baz=0.0,slow=40						
WB2	**Warramunga Arr**	**14.46**	**178**	*e*Pn	**Pn**	**22 38 10.1**	**-0.7**
WB2				*e*Sn	**Sn**	**22 40 43.9**	**-6.1**
PCI	**Palu**	**14.57**	**287**	P	**Pn**	**22 38 12.8**	**+0.5**
	106nm,1.2s,1μm						
DAV	**Davao City (W)**	**14.82**	**327**	LR	LR	22 44 50.8	
	comp=Z,184nm,18.4s,baz=158,slow=42						
WBSI	**Waikabubak, Su**	**14.82**	**253**	P	**Pn**	**22 38 17.4**	**+1.7**
	59nm,0.7s,631nm						
FITZ	**Fitzroy Crossi**	**14.89**	**211**	Pn	**Pn**	**22 38 16.3**	**-0.2**
	1.2nm,0.3s,baz=38,slow=14,SNR=50						
FITZ				Sn	Sn	22 40 51.9	-8.4
	2.2nm,0.3s,baz=189,slow=19,SNR=5.5						
MPSI	**Mapaga**	**14.94**	**292**	P	**Pn**	**22 38 19.4**	**+2.1**
	57nm,0.7s,1μm						
PLAI	**Plampang**	**16.19**	**257**	P	**Pn**	**22 38 34.6**	**+1.2**
AS01	**Alice Springs**	**18.16**	**179**	*e*P	**P**	**22 38 58.8**	**+0.8**
AS31	**Alice Springs**	**18.16**	**179**	*e*P	**Pn**	**22 38 59.9**	**+1.9**
	11nm,0.6s						
ASAR	**Alice Springs**	**18.16**	**179**	P	**Pn**	**22 38 59.1**	**+1.2**
	2.1nm,0.3s,baz=356,slow=8.9,SNR=105						
ASAR				S	**Sn**	**22 42 13.7**	**-6.1**
	1.6nm,0.3s,baz=5.0,slow=27,SNR=7.4						
ASAR				LR	LR	22 46 31.0	
	comp=Z,301nm,19.7s,baz=358,slow=38						
RABL	**Rabaul**	**18.41**	**87**	*e*Pn	**P**	**22 38 56.7**	**-4.2**
	144nm,0.4s						
MYLDM	**Lahad Datu**	**18.49**	**304**	*e*P	**Pn**	**22 39 04.2**	**+2.1**
	170nm,1.0s						
CTA	**Charters Tower**	**19.01**	**141**	P	**Pn**	**22 39 11.2**	**+2.9**
	1.1nm,0.3s,baz=314,slow=12,SNR=9.7						
CTAO	**Charters Tower**	**19.01**	**141**	*e*P	**Pn**	**22 39 10.4**	**+2.1**
	19nm,0.8s						
JAGI	**Jajag, Banyuwa**	**19.67**	**260**	P	**P**	**22 39 14.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**19.67**	**260**	*e*P	**P**	**22 39 14.8**	**+0.1**
	24nm,0.8s						
KMMI	**Kalianget**	**19.71**	**264**	P	**Pn**	**22 39 18.3**	**+1.5**
BLJI	**Banyuglugur**	**20.13**	**262**	P	Pn	22 39 25.1	+3.3
	42nm,0.6s,2μm						
MBWA	**Marble Bar**	**20.73**	**220**	*e*P	Pn	22 39 30.0	+1.4
	19nm,0.8s						
MBWA				*e*S	**S**	**22 43 08.0**	**-7.8**
KKM	**Kota Kinabalu**	**20.86**	**303**	*e*P	**P**	**22 39 27.6**	**-0.1**
	114nm,1.5s						
PWJI	**Pagerwojo**	**21.93**	**262**	P	P	**22 39 44.4**	**+5.3**
	22nm,0.8s						
SBUM	**Sibu**	**22.86**	**289**	*e*P	**P**	**22 39 50.0**	**+0.9**
	47nm,1.3s						
KSM	**Kuching**	**24.37**	**286**	*e*P	**P**	**22 40 03.3**	**-0.3**
	43nm,0.8s						
KPJI	**Karang Pucung**	**24.72**	**264**	P	**P**	**22 40 07.0**	**+0.3**
	38nm,0.9s						
CISI	**Cisompet, Garu**	**25.83**	**264**	P	**P**	**22 40 17.8**	**+0.8**
CISI	**Cisompet, Garu**	**25.83**	**264**	*e*P	**P**	**22 40 17.8**	**+0.8**
	38nm,0.6s						
EIDS	**Eidsvold**	**25.90**	**142**	*e*P	**P**	**22 40 19.9**	**+2.6**
	26nm,1.1s						
LEM	**Lembang**	**26.00**	**266**	P	**P**	**22 40 18.6**	**0.0**
	19nm,0.6s,baz=287,slow=19,SNR=4.8						
LEM				LR	LR	22 52 25.7	
	comp=Z,196nm,21.2s,baz=126,slow=41						
HNR	**Honiara**	**26.30**	**100**	LR	LR	22 51 08.7	
	comp=Z,207nm,21.1s,baz=283,slow=37						
STKA	**Stephens Creek**	**27.35**	**165**	P	**P**	**22 40 33.4**	**+3.1**
	8.1nm,0.9s,baz=350,slow=8.3,SNR=18						
STKA				LR	LR	22 52 40.1	
	comp=Z,440nm,18.4s,baz=0.7,slow=39						
BBOO	**Buckleboo**	**27.35**	**176**	*e*P	**P**	**22 40 33.5**	**+3.1**
	11nm,0.9s						
MDSI	**Maura Dua**	**29.45**	**270**	P	**P**	**22 40 50.2**	**+0.9**
	11nm,1.2s						
JOW	**Kunigami**	**32.48**	**351**	LR	LR	22 53 44.0	
	comp=Z,126nm,20.9s,baz=136,slow=35						
IPM	**Ipoh**	**34.10**	**286**	*e*P	**P**	**22 41 30.5**	**+0.3**
	17nm,1.0s						
MNSI	**Mandailing Nat**	**34.66**	**279**	P	**P**	**22 41 35.4**	**+0.4**
PSI	**Prapat**	**35.71**	**282**	P	**P**	**22 41 43.4**	**-0.8**
	6.9nm,0.4s,baz=121,slow=5.9,SNR=11						
PSI				LR	LR	22 57 37.2	
	comp=Z,64nm,19.1s,baz=175,slow=39						

PSI	**Prapat**	**35.71**	**282**	*e*P	**P**	**22 41 44.0**	**-0.2**
TRTT	**Trang**	**36.41**	**291**	P	**P**	**22 41 51.6**	**+1.5**
	5.6nm,1.3s						
GSI	**Gunungsitoli**	**36.72**	**279**	P	**P**	**22 41 52.2**	**-0.5**
GSI	**Gunungsitoli**	**36.72**	**279**	*e*P	**P**	**22 41 51.6**	**-1.1**
	14nm,0.7s						
JNU	**Nakatsue**	**38.41**	**356**	P	**P**	**22 42 04.5**	**-2.3**
	10nm,0.8s,baz=142,slow=4.2,SNR=2.9						
JNU				LR	LR	22 58 04.8	
	comp=Z,70nm,19.4s,baz=157,slow=37						
MLSI	**Meulaboh, Aceh**	**38.50**	**284**	P	**P**	**22 42 07.5**	**-0.2**
PHIT	**Phitsanulok**	**39.84**	**305**	P	**P**	**22 42 20.3**	**+1.4**
	12nm,1.0s						
NJ2	**Nanjing**	**39.85**	**340**	*e*P	**P**	**22 42 19.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NANT	**Nan**	**40.47**	**307**	P	**P**	**22 42 25.8**	**+1.7**
	3.0nm,0.8s						
GYA	**Guiyang**	**41.12**	**322**	i*P*	**P**	**22 42 29.0**	**-0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LAMP	**Lampang**	**41.17**	**306**	P	**P**	**22 42 31.4**	**+1.5**
	3.4nm,0.9s						
CM01	**Chiang Mai Arr**	**41.66**	**305**	*e*P	**P**	**22 42 34.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**41.69**	**305**	P	**P**	**22 42 33.4**	**-0.8**
	2.3nm,0.8s,baz=133,slow=6.8,SNR=17						
CMMT	**Chiang Mai**	**41.87**	**306**	P	**P**	**22 42 35.2**	**-0.5**
	12nm,0.7s						
CHTO	**Chiang Mai**	**41.88**	**306**	P	**P**	**22 42 36.2**	**+0.5**
	52nm,1.2s						
CHTO	**Chiang Mai**	**41.88**	**306**	*e*P	**P**	**22 42 35.3**	**-0.4**
	7.4nm,0.8s						
MJAR	**Matsushiro Arr**	**41.94**	**5**	P	**P**	**22 42 33.8**	**-2.1**
	0.9nm,0.5s,baz=184,slow=9.3,SNR=4.4						
CMAI	**Chiengmai2**	**42.39**	**307**	P	**P**	**22 42 40.2**	**+0.1**
	88nm,1.3s						
KMI	**Kunming**	**42.76**	**317**	P	**P**	**22 42 43.3**	**+0.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSAR	**Wonju Array Be**	**42.97**	**353**	P	**P**	**22 42 44.9**	**+0.6**
KSRS	**Korea Array**	**42.98**	**353**	P	**P**	**22 42 44.9**	**+0.5**
	1.1nm,0.8s,baz=96,slow=33,SNR=4.4						
KSRS				LR	LR	23 00 53.4	
	comp=Z,43nm,19.4s,baz=165,slow=37						
XAN	**Xi'an**	**45.71**	**331**	P	**P**	**22 43 05.0**	**-1.3**
XAN				pP	pP	22 43 12.3	-4.4
XAN				sP	sP	22 43 17.3	-3.5
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,75nm,7.3s						
CD2	**Chengdu**	**46.09**	**323**	*e*P	**P**	**22 43 10.0**	**+0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
USRK	**Ussuriysk Ar.**	**49.40**	**358**	P	**P**	**22 43 34.1**	**-0.6**
	2.8nm,0.6s,baz=186,slow=7.1,SNR=6.0						
LZH	**Lanzhou**	**49.88**	**328**	*e*P	**P**	**22 43 39.3**	**+0.5**
LZH				pP	pP	22 43 45.8	-3.5
LZH				sP	sP	22 43 48.5	-4.9
LZH				SS	SS	22 54 14.8	-5.2
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				pmax	pmax		
	comp=Z,240nm,4.4s						
ASAJ	**Asahikawa**	**49.94**	**8**	P	**P**	**22 43 38.9**	**0.0**
	2.0nm,0.5s,baz=204,slow=12,SNR=5.2						
HHC	**Hu-ho-hao-te**	**50.32**	**338**	*e*P	**P**	**22 43 43.5**	**+1.6**
HHC				pP	pP	22 43 49.5	-2.9
HHC				sP	sP	22 43 52.3	-4.3
HHC				PP	**PP**	**22 45 39.8**	**+2.1**
HHC				S	**S**	**22 50 54.3**	**+1.8**
HHC				sS	sS	22 51 04.0	-5.8
HHC				SS	**SS**	**22 54 24.5**	**-2.2**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,86nm,5.6s						
HHC				LR	LR		
	comp=N,77nm,15.1s						
HHC				LR	LR		
	comp=E,170nm,14.9s						
HHC				LR	LR		
	comp=Z,62nm,14.1s						
RPZ	**Rata Peaks**	**50.32**	**145**	P	**P**	**22 43 44.7**	**+2.9**
	12nm,0.9s,baz=360,slow=3.6,SNR=3.1						
BKZ	**Black Stump Fm**	**51.17**	**137**	*e*P	**P**	**22 43 50.8**	**+2.4**
	13nm,0.8s						
LSA	**Lhasa**	**53.72**	**313**	*e*P	**P**	**22 44 08.3**	**+0.4**
	3.1nm,0.8s						
PALK	**Pallekele**	**54.39**	**283**	P	**P**	**22 44 12.2**	**-0.4**
	1.9nm,0.8s,baz=116,slow=11,SNR=3.6						
GTA	**Gaotai**	**54.48**	**328**	*e*P	**P**	**22 44 13.0**	**+0.1**
GTA				pP	pP	22 44 17.5	-6.0
GTA				sP	sP	22 44 20.8	-6.8
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TAPN	**Taplejung**	**55.09**	**309**	*e*P	**P**	**22 44 17.7**	**-0.1**
	14nm,0.8s						
ODAN	**Odare**	**55.11**	**308**	*e*P	**P**	**22 44 17.6**	**-0.2**
	12nm,0.8s						
RAMN	**Ramite**	**55.77**	**308**	*e*P	**P**	**22 44 22.5**	**-0.1**
	29nm,1.0s						
JIRN	**Jiri**	**56.43**	**308**	*e*P	**P**	**22 44 27.4**	**0.0**
	10nm,0.7s						
GUN	**Gumba**	**56.79**	**308**	*e*P	**P**	**22 44 29.9**	**0.0**
	15nm,0.8s						
PKI	**Pulchoki**	**57.00**	**308**	*e*P	**P**	**22 44 31.0**	**-0.4**
	2.1nm,0.4s						
PKIN	**Phulchoki**	**57.01**	**308**	*e*P	**P**	**22 44 31.3**	**-0.1**
	6.3nm,0.8s						
KKN	**Kakani**	**57.20**	**308**	*e*P	**P**	**22 44 32.7**	**0.0**
	6.3nm,0.6s						
DMN	**Daman**	**57.26**	**308**	*e*P	**P**	**22 44 33.3**	**+0.2**
	12nm,1.0s						
GKN	**Gorkha**	**57.80**	**308**	*e*P	**P**	**22 44 36.9**	**0.0**
	16nm,1.0s						
SONM	**Songino Array**	**58.21**	**339**	P	**P**	**22 44 39.7**	**+0.3**
	0.7nm,0.5s,baz=154,slow=7.1,SNR=9.8						
SONM				LR	LR	23 10 02.4	
	comp=Z,35nm,20.4s,baz=140,slow=36						
KOLN	**Koldanda**	**58.52**	**307**	*e*P	**P**	**22 44 42.2**	**+0.2**
	9.8nm,0.8s						
PYUN	**Piuthan**	**59.15**	**307**	*e*P	**P**	**22 44 46.6**	**+0.3**
	31nm,0.9s						
PETK	**Petropavlovsk-**	**61.72**	**16**	P	**P**	**22 45 03.6**	**+0.5**
	1.9nm,0.7s,baz=232,slow=8.8,SNR=3.4						
PETK				LR	LR	23 07 10.8	
	comp=Z,24nm,22.0s,baz=124,slow=32						
WMQ	**Urumqi**	**64.17**	**325**	P	**P**	**22 45 21.0**	**+1.3**
WMQ				pP	pP	22 45 30.3	-0.1
WMQ				sP	sP	22 45 36.5	+2.0
WMQ				pmax	pmax		
	comp=Z,36nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,240nm,3.8s						
WMQ				LR	LR		
	comp=N,75nm,19.7s						
WMQ				LR	LR		
	comp=E,45nm,16.9s						
WMQ				LR	LR		
	comp=Z,54nm,21.1s						
RAR	**Rarotonga**	**66.17**	**111**	LR	LR	23 13 49.2	
	comp=Z,40nm,18.6s,baz=292,slow=35						
MK01	**Makanchi Array**	**68.98**	**325**	*e*P	**P**	**22 45 51.0**	**+0.6**
MK31	**Makanchi Array**	**69.00**	**325**	*e*P	**P**	**22 45 51.1**	**+0.6**
MKAR	**Makanchi Array**	**69.00**	**325**	P	**P**	**22 45 51.2**	**+0.8**
	5.9nm,0.6s,baz=114,slow=8.1,SNR=90						
MKAR				LR	LR	23 18 20.3	
	comp=Z,21nm,18.1s,baz=110,slow=38						
MKAR	**Makanchi Array**	**69.00**	**325**	*e*P	**P**	**22 45 51.1**	**+0.6**
KSH	**Kashi**	**69.41**	**316**	P	**P**	**22 45 54.5**	**+1.2**
KSH				sP	pP	22 46 00.5	-3.6
KSH				PcP	**PcP**	**22 46 19.8**	**+3.3**
KSH				S	**S**	**22 54 56.0**	**-2.3**
KSH				sS	sS	22 55 13.3	-2.9
KSH				ScS	**SKSac**	**22 55 47.0**	**-4.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,52nm,5.3s						
KSH				LR	LR		
	comp=N,48nm,6.7s						
KSH				LR	LR		
	comp=E,55nm,7.6s						

KSH				LR	LR		
	comp=Z,65nm,6.5s						
AAK	**Ala-Archa**	**71.78**	**318**	*e*P	**P**	**22 46 08.1**	**+0.4**
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**71.86**	**332**	P	**P**	**22 46 06.8**	**-0.9**
	1.1nm,0.3s,baz=128,slow=5.6,SNR=9.2						
KURK	**Kurchatov**	**73.15**	**327**	*e*P	**P**	**22 46 15.4**	**-0.1**
	10nm,0.6s						
KURBB	**Kurchatov Arra**	**73.15**	**327**	P	**P**	**22 46 15.7**	**+0.2**
	2.4nm,0.9s,baz=124,slow=5.2,SNR=19						
VNDA	**Vanda**	**73.60**	**174**	P	**P**	**22 46 19.8**	**+2.1**
	3.4nm,0.9s,baz=318,slow=6.5,SNR=12						
PPT	**Papeete**	**75.72**	**107**	LR	LR	23 17 45.8	
	comp=Z,48nm,19.0s,baz=190,slow=34						
MAW	**Mawson**	**77.79**	**202**	P	**P**	**22 46 43.5**	**+1.8**
	5.1nm,1.0s,baz=77,slow=21,SNR=3.6						
BVAR	**Borovoye Array**	**78.74**	**327**	P	**P**	**22 46 47.8**	**+0.5**
	2.0nm,0.5s,baz=120,slow=8.5,SNR=19						
BRVK	**Borovoye**	**78.81**	**327**	*e*P	**P**	**22 46 47.8**	**+0.1**
	6.8nm,0.6s						
GEYT	**Alibeck**	**82.05**	**309**	P	**P**	**22 47 06.2**	**+0.7**
	0.8nm,0.6s,baz=134,slow=4.2,SNR=3.3						
ABKAR	**Akbulak array**	**83.60**	**321**	*e*P	**P**	**22 47 13.3**	**+0.1**
	3.2nm,0.8s						
QSPA	**South Pole Qui**	**84.56**	**180**	P	**P**	**22 47 19.7**	**+1.7**
	4.6nm,0.9s,baz=308,slow=3.6,SNR=7.7						
ILAR	**Eielson Array**	**90.34**	**25**	P	**P**	**22 47 44.6**	**-1.1**
	0.6nm,0.7s,baz=272,slow=5.5,SNR=7.6						
KMBO	**Kilima Mbogo**	**96.34**	**268**	LR	LR	23 28 30.1	
	comp=Z,31nm,21.1s,baz=92,slow=34						
TORD	**Torodi Ar. Bea**	**132.11**	**283**	PKP	**PKPdf**	**22 54 00.6**	**+1.0**
	1.4nm,0.7s,baz=51,slow=2.2,SNR=10						
CPUP	**Villa Florida**	**146.68**	**162**	PKPbc	**PKPab**	**22 54 29.2**	**+0.8**
	16nm,1.0s,baz=196,slow=2.5,SNR=13						
LPAZ	**La Paz**	**149.47**	**135**	PKPbc	**PKPab**	**22 54 38.8**	**-1.9**
	12nm,0.9s,baz=144,slow=0.6,SNR=32						

ISCJB ***27*** *22:53:20.7±1.1, 38°.86N±0°.05×27°.74E±0°.09, h10^{km}±5^{km}, Error ellipse: s-maj=12.4km s-min=7.1km az=150.1*

CSEM ***27*** *22:53:20.9±0.5, 38°.88N×27°.75E, h10^{km}, ML2.6, Error ellipse: s-maj=11.9km s-min=7.1km az=68.0*

DDA ***27*** *22:53:21.5, 38°.92N×27°.78E, h11^{km}, Ml2.6*

ISK ***27*** *22:53:21.4, 38°.87N×27°.82E, h6^{km}, ML1.8/3*

ISC 27 22:53:20.6±1.1, 38°.89N±0°.05×27°.75E±0°.06, h10^{km}±6^{km}, n14, σ0^{s}41/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.05**	**106**	PG	**Pg**	**22 53 22.9**	**+0.2**
AKS				SG	**Sg**	**22 53 23.9**	**-0.3**
AKS	**Akhisar**	**0.05**	**106**	*e*Pg	**Pg**	**22 53 22.9**	**+0.2**
AKS				*e*Sg	**Sg**	**22 53 23.9**	**-0.3**
STEP	**BALIKESIR_Sava**	**0.48**	**357**	*i* P	**Pg**	**22 53 30.8**	**+0.7**
STEP				*i* S	**Sg**	**22 53 38.5**	**+0.1**
STEP	**BALIKESIR_Sava**	**0.48**	**357**	P	**Pg**	**22 53 30.8**	**+0.7**
STEP				S	**Sg**	**22 53 38.5**	**+0.1**
BALB	**Balikesir**	**0.75**	**8**	PG	**Pn**	**22 53 36.9**	**-0.4**
BALB	**Balikesir**	**0.75**	**8**	*e*Pg	**Pn**	**22 53 36.9**	**-0.4**
DEMI	**Demirci**	**0.77**	**78**	*i* P	**Pb**	**22 53 36.6**	**+0.6**
DEMI				*i* S	**Sb**	**22 53 46.5**	**-0.1**
DEMI	**Demirci**	**0.77**	**78**	P	**Pb**	**22 53 36.7**	**+0.6**
DEMI				S	**Sb**	**22 53 46.5**	**-0.1**
BALY	**Balya**	**0.85**	**353**	*i* P	**Pg**	**22 53 36.5**	**-0.5**
BALY				*i* S	**Sb**	**22 53 49.2**	**+0.2**
BALY	**Balya**	**0.85**	**353**	P	**Pg**	**22 53 36.5**	**-0.5**
BALY				S	**Sb**	**22 53 49.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**173**	PG	**Pb**	**22 53 39.5**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**173**	*e*Pg	**Pb**	**22 53 39.5**	**+0.3**
SIMA	**Simav-Kutahya**	**0.98**	**78**	PG	**Pb**	**22 53 39.7**	**0.0**
SIMA	**Simav-Kutahya**	**0.98**	**78**	*e*Pg	**Pb**	**22 53 39.7**	**0.0**

DDA ***27*** *22:53:45.0, 38°.99N×30°.07E, h7^{km}, Ml2.6*

ISK ***27*** *22:53:44.8, 38°.99N×30°.13E, h5^{km}, ML2.2/8*

CSEM ***27*** *22:53:45.9±0.2, 39°.00N×30°.10E, h2^{km}, ML2.6, Error ellipse: s-maj=5.0km s-min=3.9km az=15.0*

ISC 27 22:53:44.9±1.0, 38°.98N±0°.02×30°.09E±0°.02, h10^{km}±10^{km}, n45, σ0^{s}75/63, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.49**	**283**	*i* P	**Pg**	**22 53 53.7**	**-0.8**
GDZ				*i* S	**Sg**	**22 54 01.0**	**0.0**
GDZ	**Gediz**	**0.49**	**283**	*i* P

MXZ	**Matakaoa Point**	**4.65**	**214**	S	**Sn**	**22 55 45.0**	**-0.4**
WMGZ	**Waiomatatini S**	**4.81**	**211**	P	**Pn**	**22 54 56.1**	**+1.1**
WMGZ	**Waiomatatini S**	**4.81**	**211**	S	**Sn**	**22 55 51.6**	**+2.2**
PKGZ	**Pakihiroa**	**5.02**	**213**	P	**Pn**	**22 54 56.7**	**-1.2**
PKGZ	**Pakihiroa**	**5.02**	**213**	S	**Sn**	**22 55 54.1**	**-0.5**
HAZ	**Te Kaha**	**5.05**	**216**	P	**Pn**	**22 54 58.6**	**+0.3**
HAZ	**Te Kaha**	**5.05**	**216**	S	**Sn**	**22 55 57.1**	**+1.8**
PUZ	**Puketiti**	**5.09**	**211**	P	**Pn**	**22 54 57.8**	**-1.0**
RUGZ	**Raukumara Rang**	**5.27**	**215**	P	**Pn**	**22 55 00.7**	**-0.6**
TWGZ	**Tauwhareparae**	**5.30**	**212**	P	**Pn**	**22 55 03.3**	**+1.6**
TWGZ	**Tauwhareparae**	**5.30**	**212**	S	**Sn**	**22 56 02.2**	**+0.7**
CNGZ	**Carnagh Station**	**5.46**	**209**	P	**Pn**	**22 55 04.4**	**+0.5**
TKGZ	**Te Karaka**	**5.58**	**211**	P	**Pn**	**22 55 06.3**	**+0.9**
TKGZ	**Te Karaka**	**5.58**	**211**	S	**Sn**	**22 56 07.3**	**-0.9**
MWZ	**Matawai**	**5.64**	**214**	P	**Pn**	**22 55 04.9**	**-1.4**
MWZ	**Matawai**	**5.64**	**214**	S	**Sn**	**22 56 08.7**	**-1.0**
OPRZ	**Ohinepanea**	**5.78**	**223**	P	**Pn**	**22 55 09.5**	**+1.4**
URZ	**Urewera**	**5.78**	**217**	Pn	**Pn**	**22 55 07.6**	**-0.5**
	8.5nm,0.3s,baz=244,slow=1.9,SNR=28						
URZ				Sn	**Sn**	**22 56 12.4**	**-0.8**
	4.6nm,0.3s,baz=195,slow=20,SNR=8.6						
URZ	**Urewera**	**5.78**	**217**	P	**Pn**	**22 55 07.7**	**-0.5**
URZ	**Urewera**	**5.78**	**217**	S	**Sn**	**22 56 12.2**	**-1.0**
RAGZ	**Rawiri**	**5.82**	**214**	P	**Pn**	**22 55 10.0**	**+1.2**
RIGZ	**Rimuhau**	**5.84**	**210**	P	**Pn**	**22 55 09.5**	**+0.5**
PRGZ	**Paritu Road**	**5.97**	**209**	P	**Pn**	**22 55 11.3**	**+0.4**
RTZ	**Ruatahuna**	**6.12**	**216**	P	**Pn**	**22 55 12.0**	**-0.9**
MHGZ	**Mahia Peninsul**	**6.16**	**207**	P	**Pn**	**22 55 12.2**	**-1.2**
DZM	**Mont Dzumac**	**17.66**	**307**	LR	LR	23 03 27.4	
	comp=Z,148nm,18.0s,baz=240,slow=34						
STKA	**Stephens Creek**	**33.49**	**262**	LR	LR	23 12 22.2	
	comp=Z,72nm,18.9s,baz=202,slow=34						
ASAR	**Alice Springs**	**42.65**	**271**	P	**P**	**23 01 36.7**	**-0.4**
	1.0nm,0.8s,baz=121,slow=7.9,SNR=7.9						
WRA	**Warramunga Arr**	**43.94**	**276**	P	**P**	**23 01 47.6**	**+0.1**
	0.9nm,0.5s,baz=115,slow=8.1,SNR=19						
FINES	**FINESS Array B**	**148.10**	**338**	PKPbc	**PKPab**	**23 13 27.7**	**+0.2**
	2.5nm,1.0s,baz=37,slow=3.1,SNR=8.3						

MEX 27 23:27:50.1±0.3,**16°23N**×**98°39W,h10**km±3km,**MD3.8,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**58**	*i* P	Pg	23 27 55.8	-0.3
PNIG				*e*S	Sg	23 28 00.2	0.0
VHO	**Vista Hermosa**	**1.80**	**62**	*e*P	Pn	23 28 17.8	-3.6
VHO				*e*S	Sn	23 28 40.1	-4.4
CAIG	**El Cayaco**	**1.97**	**295**	*e*P	Pn	23 28 20.5	-3.1
CAIG				*e*S	Sn	23 28 43.5	-4.9
PLIG	**Platanillo**	**2.40**	**334**	*i* P	Pn	23 28 27.0	-2.6
PLIG				*e*S	Sn	23 28 55.0	-4.1

*SJA **27** 23:32:24.4±1.1,33°.37S×71°.90W,h12km,ML3.2,MW3.3*
*GUC **27** 23:32:27.6±0.5,33°.17S×71°.51W,h50km±10km,ML3.5*
ISC 27 23:32:22.8±2.1,**33°.25S**±0°.04×**71°.80W**±0°.07,**h7**km±14km,
n17,σ1§**10**/33,**1C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.71**	**68**	*e*P	**Pn**	**23 32 39.9**	**+0.3**
ROC1				*e*S	**Sb**	**23 32 49.3**	**+1.5**
ROCH	**El Roble**	**0.72**	**67**	*e*P	**Pn**	**23 32 39.6**	**-0.1**
ROCH				*e*S	**Sb**	**23 32 48.9**	**+0.9**
ROCH				IAML		23 32 52.1	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**0.94**	**84**	*e*P	**Pn**	**23 32 42.5**	**-0.1**
PEL				*e*S	**Sg**	**23 32 53.5**	**+0.4**
CLCH	**Cerro Calan**	**1.06**	**98**	*e*P	**Pn**	**23 32 44.6**	**+0.3**
CLCH				*e*S	**Sg**	**23 32 57.1**	**-0.1**
CLCH				IAML		23 33 01.4	
	comp=N,3μm,0.5s						
FCH	**Farellones**	**1.26**	**94**⇑	*e*P	**Pn**	**23 32 47.9**	**+0.6**
FCH				*e*S	**Sg**	**23 33 03.1**	**-0.5**
FCH				IAML		23 33 06.2	
	comp=N,2μm,0.2s						
LMEL	**Las Melosas**	**1.46**	**115**	*e*P	**Pb**	**23 32 50.5**	**+0.1**
LMEL				*e*S	**Sb**	**23 33 08.4**	**-0.8**
LMEL				IAML		23 33 11.2	
	comp=N,3μm,0.2s						
GO05	**HualaæØ**	**1.76**	**184**	*e*P	**Pn**	**23 32 54.9**	**+1.1**
GO05				*e*S	**Sb**	**23 33 18.4**	**+0.5**
GO05	**HualaæØ**	**1.76**	**184**	*e*P	**Pn**	**23 32 54.8**	**+1.0**
GO05				*e*S	**Sn**	**23 33 14.9**	**-1.6**
AUSP	**Uspallata**	**2.27**	**64**	*e*P	**Pg**	**23 33 06.3**	**-0.1**
AUSP				*e*S	**Sg**	**23 33 38.0**	**+2.0**
ARCO	**CERRO ARCO**	**2.44**	**81**	*e*P	**Pb**	**23 33 08.0**	**+0.8**
ARCO				IAML		23 33 20.9	
	comp=Z,110nm,0.6s						
ARCO				*e*S	**Sg**	**23 33 40.9**	**-0.4**
AAGR	**Agrelo**	**2.50**	**87**	*e*P	**Pb**	**23 33 08.5**	**+0.4**
AAGR				*e*S	**Sg**	**23 33 41.8**	**-1.3**
RTLS	**Leoncito**	**2.56**	**56**	*e*P	**Pb**	**23 33 10.6**	**+1.3**
RTLS				*e*S	**Sg**	**23 33 45.8**	**+0.7**
RTLS				IAML		23 33 49.7	
	comp=Z,90nm,0.3s						
ASAL	**Salagasta**	**2.58**	**76**	*e*P	**Pb**	**23 33 10.5**	**+1.0**
ASAL				*e*S	**Sg**	**23 33 43.7**	**-1.9**
AVIZ	**Vizcacheras**	**2.75**	**96**	*e*P	**Pb**	**23 33 11.9**	**-0.6**
RTCV	**Cerro Valdivia**	**3.08**	**64**	*e*P	**Pb**	**23 33 17.5**	**-0.5**
RTCV				*e*S	**Sb**	**23 33 56.8**	**+1.0**
AMOG	**MOGNA**	**3.63**	**51**	*e*P	**Pb**	**23 33 24.8**	**-2.6**
AMOG				*e*S	**Sb**	**23 34 11.7**	**0.0**
AROD	**Rodeo**	**3.66**	**33**	*e*P	**Pb**	**23 33 26.6**	**-1.4**
AROD				*e*S	**Sb**	**23 34 13.9**	**+1.2**

*NEIC **27** 23:33:50.2±0.0,16°.11N×98°.49W,h5km,MD4.1(MEX),*
After MEX.
MEX 27 23:33:51.0±0.7,**16°20N**×**98°49W,h1**km±13km,**MD4.1,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**61**	*e*P	Pg	23 33 58.7	+0.1
PNIG				*e*S	Sg	23 34 03.3	-0.4
PNIG	**Pinotepa**	**0.39**	**61**	*e*P	Pg	23 33 58.6	+0.1
PNIG				*e*S	Sg	23 34 02.7	-1.0
ACX	**Acapulco**	**1.47**	**297**	*i* P	Pn	23 34 15.6	-3.1
ACX				*i* S	Sg	23 34 35.5	-2.9
VHO	**Vista Hermosa**	**1.89**	**63**	*i* P	Pn	23 34 21.8	-2.8
VHO				*i* S	Sn	23 34 44.6	-4.6
VHO	**Vista Hermosa**	**1.89**	**63**	*e*P	Pb	23 34 25.5	-0.9
VHO				*e*S	Sn	23 34 44.0	-5.2
CAIG	**El Cayaco**	**1.90**	**296**	*i* P	Pn	23 34 21.1	-3.4
CAIG				*e*S	Sn	23 34 44.0	-5.2
CAIG	**El Cayaco**	**1.90**	**296**	*e*P	Pn	23 34 23.9	-0.6
CAIG				*e*S	Sn	23 34 44.0	-5.2
PLIG	**Platanillo**	**2.38**	**336**	*i* P	Pn	23 34 27.6	-3.7
PLIG				*e*S	Sn	23 34 57.8	-3.4
PLIG	**Platanillo**	**2.38**	**336**	*e*P	Pn	23 34 24.3	-7.0
PLIG				*e*S	Sn	23 34 57.8	-3.4

*BJI **27** 23:40:09.8,26°.07N×87°.66E,h30km,mb4.7/59,mB4.7/39,*
Ms4.3/50,Ms7 4.1/40
*ISCJB **27** 23:40:10.6±0.6,25°.99N±0°.02×87°.76E±0°.02,h29km±4km,*
mb4.8/206,MS4.0/47,Error ellipse: s-maj=2.8km
s-min=2.2km az=24.3
*MOS **27** 23:40:11.3±1.0,26°.07N×87°.80E,h33km,mb5.0/86,*
MS4.0/12,Error ellipse: s-maj=6.3km s-min=3.6km
az=120.4
*IDC **27** 23:40:12.3±0.3,26°.08N×87°.79E,h28km±2km,mb4.3/43,*
mb1 4.3/46,mb1mx4.3/63,mbtmp4.5/46,ML4.6/2,MS3.9/36,
Ms1 3.9/36,ms1mx3.8/67,Error ellipse: s-maj=8.9km
s-min=7.8km az=40.0
*NEIC **27** 23:40:12.6±0.1,26°.09N×87°.78E,mb5.0/91,Error ellipse:*
s-maj=4.3km s-min=2.8km az=221.0
NEIC Felt [IV] at Dharan Bazar and [II] at Patan, Nepal. Also felt
at Biratnagar, Ilam and Kathmandu. Felt at Banka,
Darjiling, Gangtok, Purnia and Shiliguri, India and at
Dinajpur, Nilphamari and Rajshahi, Bangladesh.
*NDI **27** 23:40:12.6±3.2,26°.12N×87°.79E,h28km±13km,mb5.0,*
ML4.9,mb5.0(NEIC)
*DMN **27** 23:40:15.5±0.7,26°.14N×87°.86E,h30km,Ml5.5/2,Error*
ellipse: s-maj=14.7km s-min=9.6km az=139.0
ISC 27 23:40:12.3±0.2,**26°.01N**±0°.03×**87°.70E**±0°.02,**h30**km±1km,

h31km:**pP-P,n514,**σ1§**97**/634,**mb4.9**/210,**MS3.9**/49,
23C-26D,Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**0.89**	**342**	*e*Pg	**Pb**	**23 40 29.4**	**-0.1**
ODAN				*e*Sg	**Sb**	**23 40 40.8**	**-0.4**
TAPN	**Taplejung**	**1.34**	**0**	*e*Pg	**Pn**	**23 40 35.7**	**+0.5**
TAPN				*e*Sg	**Sn**	**23 40 50.1**	**-2.0**
RAMN	**Ramite**	**1.36**	**314**	*e*Pg	**Pb**	**23 40 38.3**	**+0.9**
GTK	**Tadong**	**1.54**	**31**	*e*P	**Pn**	**23 40 37.7**	**-0.1**
GTK				*e*S	**Sn**	**23 40 55.4**	**-1.4**
DHUB	**DHUBRI**	**2.06**	**89**	*e*P	**Pn**	**23 40 44.3**	**-0.6**
DHUB				*e*S	**Sn**	**23 41 07.3**	**-2.3**
JIRN	**Jiri**	**2.13**	**321**	*e*Pg	**Pb**	**23 40 48.7**	**-1.8**
TURI	**Tura**	**2.42**	**100**	*e*S	**Sn**	**23 41 14.2**	**-4.1**
GUN	**Gumba**	**2.50**	**320**	*e*Pg	**Pn**	**23 40 53.8**	**+2.6**
GUN				*e*Sn	**Sn**	**23 41 21.2**	**+0.4**
PKI	**Pulchoki**	**2.57**	**308**	*e*Pn	**Pn**	**23 40 55.2**	**+3.0**
PKIN	**Phulchoki**	**2.59**	**308**	*e*Pn	**Pn**	**23 40 55.2**	**+2.8**
PKIN				*e*Sn	**Sn**	**23 41 23.1**	**+0.2**
	4μm,0.3s						
BOK	**Bokaro**	**2.75**	**217**	*e*P	**Pn**	**23 40 57.9**	**+3.5**
BOK				*e*S	**Sn**	**23 41 29.4**	**+2.8**
KKN	**Kakani**	**2.80**	**310**	*e*Pn	**Pn**	**23 40 57.6**	**+2.4**
DMN	**Daman**	**2.81**	**305**	*e*Pn	**Pn**	**23 40 58.1**	**+2.6**
GKN	**Gorkha**	**3.38**	**307**	*e*Pn	**Pn**	**23 41 05.5**	**+2.3**
GUWA	**GUWAHATI**	**3.59**	**86**	*e*S	**Sn**	**23 41 42.7**	**-4.6**
SHL	**Shillong**	**3.79**	**96**	*e*P	**Pn**	**23 41 07.2**	**-1.7**
SHL				*e*S	**Sn**	**23 41 47.1**	**-5.5**
SHL				IAML		23 42 11.7	
	comp=N,7μm,0.7s						
SHL				IAML		23 42 12.1	
	comp=E,5μm,1.0s						
AGT	**Agartala**	**3.85**	**123**	*e*P	**Pn**	**23 41 11.3**	**+1.8**
AGT				*e*S	**Sn**	**23 41 53.2**	**-0.5**
TAWA	**Tawang**	**4.04**	**66**	*e*P	**Pn**	**23 41 13.5**	**+1.0**
TAWA				*e*S	**Sn**	**23 41 53.2**	**-5.8**
KOLN	**Koldanda**	**4.06**	**297**	*e*Pn	**Pn**	**23 41 14.4**	**+1.8**
KOLN				*e*Sn	**Sn**	**23 41 59.8**	**+0.6**
	comp=E,3μm,0.3s						
TEZP	**TEZPUR**	**4.62**	**81**	*e*S	**Sn**	**23 42 10.2**	**-2.4**
PYUN	**Piuthan**	**4.69**	**297**	*e*Pn	**Pn**	**23 41 23.1**	**+1.9**
LSA	**Lhasa**	**4.78**	**39**	Pg	**Pb**	**23 41 36.8**	**+1.1**
LSA				Sn	**Sn**	**23 42 19.0**	**+1.7**
LSA	**Lhasa**	**4.78**	**39**	*e*P	**Pn**	**23 41 23.8**	**+1.1**
LSA	**Lhasa**	**4.78**	**39**	*e*Pn	**Pn**	**23 41 23.8**	**+1.1**
AIZW	**AIZWAL**	**5.06**	**115**	*e*P	**Pn**	**23 41 26.3**	**+0.1**
AIZW				*e*S	**Sn**	**23 42 20.6**	**-3.2**
IMP	**Imphal**	**5.77**	**100**	*e*P	**Pn**	**23 41 36.5**	**+0.6**
IMP				*e*S	**Sn**	**23 42 37.4**	**-3.7**
KOHI	**KOHIMA**	**5.78**	**91**	*e*P	**Pn**	**23 41 35.0**	**-1.1**
KOHI				*e*S	**Sn**	**23 42 36.4**	**-5.1**
JORH	**JORHAT**	**5.92**	**81**	*e*P	Pn	23 41 44.4	+6.4
JORH				*e*S	**Sn**	**23 42 43.1**	**-1.7**
SAIH	**SAIHA**	**5.96**	**125**	*e*P	**Pn**	**23 41 39.4**	**+0.8**
SAIH				*e*S	**Sn**	**23 42 41.7**	**-4.3**
MOKO	**MOKOCHONG**	**6.13**	**86**	*e*P	**Pn**	**23 41 40.5**	**-0.5**
MOKO				*e*S	**Sn**	**23 42 43.1**	**-7.1**
GKD	**Gaurikund**	**8.94**	**303**	*e*P	**Pn**	**23 42 18.6**	**-1.0**
GKD				*e*S	**Sn**	**23 43 52.4**	**-6.9**
GTU	**Guttu**	**9.09**	**302**	*e*P	**Pn**	**23 42 20.1**	**-1.5**
GTU				*e*S	**Sn**	**23 43 56.1**	**-6.9**
VIS	**Vishakhapatnam**	**9.19**	**207**	*e*P	**Pn**	**23 42 24.1**	**+1.3**
VIS				*e*S	**Sn**	**23 43 59.1**	**-6.2**
NGP	**Nagpur**	**9.29**	**240**	*e*P	**Pn**	**23 42 26.1**	**+1.9**
NGP				*e*S	**Sn**	**23 44 03.0**	**-4.8**
NGP				IAML		23 45 13.3	
	comp=E,670nm,0.2s						
NGP				IAML		23 45 14.3	
	comp=N,594nm,0.7s						
DDI	**Dehra Dun**	**9.54**	**299**	*e*P	**Pn**	**23 42 27.5**	**-0.1**
DDI				*e*S	**Sn**	**23 44 07.2**	**-6.6**
DDI				IAML		23 45 50.0	
	comp=E,404nm,1.1s						
DDI				IAML		23 45 51.6	
	comp=N,519nm,0.4s						
BHPL	**Bhopal**	**9.75**	**256**	*e*P	**Pn**	**23 42 29.9**	**-0.6**
BHPL				*ex*	x	23 44 10.6	
BHPL				IAML		23 45 35.5	
	comp=N,753nm,0.6s						
BHPL				IAML		23 45 35.7	
	comp=E,339nm,0.3s						
NHN	**Nahan**	**10.24**	**298**	*e*P	**Pn**	**23 42 36.7**	**-0.6**
PVM	**Polavaram**	**10.38**	**214**	*e*P	**Pn**	**23 42 40.5**	**+1.3**
PVM				IAmb	IAmb	23 42 43.8	
	comp=Z,84nm,0.6s						
PVM				*e*S	**Sn**	**23 44 31.7**	**-2.9**
PVM				IVMs_BB	IVMs_BB	23 45 36.6	
	comp=E,2μm,3.2s						
RPR	**Rampur**	**10.54**	**229**	*e*P	**Pn**	**23 42 42.2**	**+0.9**
RPR				IAmb	IAmb	23 42 44.5	
	comp=Z,70nm,0.5s						
RPR				*e*S	**Sn**	**23 44 31.8**	**-6.5**
RPR				IVMs_BB	IVMs_BB	23 45 47.9	
	comp=E,2μm,2.4s						
SMLA	**Simla**	**10.57**	**301**	*e*P	**Pn**	**23 42 40.6**	**-1.2**
SMLA				*e*S	**Sn**	**23 44 31.9**	**-7.2**
SMLA				IAML		23 46 53.0	
	comp=N,222nm,0.8s						
SMLA				IAML		23 46 53.1	
	comp=E,288nm,0.3s						
KHET	**Khetri**	**10.80**	**284**	*e*P	**Pn**	**23 42 43.6**	**-1.3**
KHET				*e*S	**Sn**	**23 44 36.8**	**-8.0**
SRSP	**Sriramsagar**	**11.15**	**233**	*e*P	**Pn**	**23 42 50.3**	**+0.6**
SRSP				IAmb	IAmb	23 42 55.4	
	comp=Z,40nm,0.6s						
SRSP				*e*S	**Sn**	**23 44 47.1**	**-6.3**
SRSP				IVMs_BB	IVMs_BB	23 46 22.4	
	comp=Z,957nm,3.0s						
DHRM	**DHARAMSHALA**	**11.74**	**305**	*e*P	**Pn**	**23 42 55.7**	**-2.3**
DHRM				*e*S	Sn	23 44 57.0	-11
DHRM				IAML		23 47 07.4	
	comp=E,252nm,0.1s						
DHRM				IAML		23 47 13.2	
	comp=N,273nm,1.6s						
HYBB	**Hyderabad (bro**	**12.05**	**227**	*e*P	**Pn**	**23 43 02.9**	**+0.8**
HYBB				IAmb	IAmb	23 43 04.7	
	comp=Z,30nm,0.4s						
HYBB				*e*S	**Sn**	**23 45 12.7**	**-2.8**
HYBB				IVMs_BB	IVMs_BB	23 46 34.5	
	comp=Z,1μm,3.0s						
HYB	**Hyderabad**	**12.05**	**227**	*i* P	**Pn**	**23 43 01.5**	**-0.6**
HYB				*e*S	**Sn**	**23 45 22.0**	**+6.5**
HYB	**Hyderabad**	**12.05**	**227**	*e*P	**Pn**	**23 43 02.0**	**-0.1**
HYB				IAmb	IAmb	23 43 03.8	
	comp=Z,25nm,0.5s						
NJS	**Nagarjunasagar**	**12.23**	**221**	*e*P	**Pn**	**23 43 04.1**	**-0.4**
NJS				IAmb	IAmb	23 43 05.8	
	comp=Z,30nm,0.7s						
NJS				*e*S	**Sn**	**23 45 13.8**	**-6.1**
NJS				IVMs_BB	IVMs_BB	23 46 38.6	
	comp=Z,2μm,3.4s						
ADKI	**Addanki**	**12.42**	**217**	*e*P	**Pn**	**23 43 07.3**	**+0.2**
ADKI				IAmb	IAmb	23 43 08.6	
	comp=Z,24nm,0.6s						
ADKI				*e*S	**Sn**	**23 45 21.4**	**-3.1**
ADKI				IVMs_BB	IVMs_BB	23 46 39.3	
	comp=Z,3μm,3.5s						
CHTO	**Chiang Mai**	**12.62**	**122**	*e*P	**Pn**	**23 43 11.3**	**+1.5**
CHTO	**Chiang Mai**	**12.62**	**122**	*e*Pn	**Pn**	**23 43 11.3**	**+1.5**
CHTO				*e*Sn	Sn	23 45 18.7	-11
SRLM	**Srisailam**	**12.83**	**222**	*e*P	**Pn**	**23 43 12.4**	**-0.4**
SRLM				IAmb	IAmb	23 43 14.2	
	comp=Z,56nm,0.6s						
SRLM				*e*S	**Sn**	**23 45 27.1**	**-7.5**
SRLM				IVMs_BB	IVMs_BB	23 46 55.1	
	comp=Z,2μm,3.0s						
CM31	**Chiang Mai Arr**	**12.83**	**124**	*e*Pn	**Pn**	**23 43 13.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**12.83**	**124**	Pn	**Pn**	**23 43 12.4**	**-0.3**
	baz=299,slow=13,SNR=4.3						
CMAR				Sn	**Sn**	**23 45 35.8**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=313,slow=24,SNR=3.4						
CMAR				LR	LR	23 49 45.0	
	comp=Z,336nm,18.3s,baz=320,slow=45						
CM01	**Chiang Mai Arr**	**12.87**	**124**	*e*Pn	**Pn**	**23 43 12.9**	**-0.3**
KLRI	**Killari**	**12.97**	**235**	*e*P	**Pn**	**23 43 14.2**	**-0.5**
KLRI				IAmb	IAmb	23 43 18.5	
	comp=Z,45nm,0.4s						
KLRI				*e*S	**Sn**	**23 45 31.5**	**-6.5**
KLRI				IVMs_BB	IVMs_BB	23 47 17.0	
	comp=Z,1μm,2.8s						
KMI	**Kunming**	**13.60**	**90**	P	**Pn**	**23 43 22.3**	**-1.2**
KMI				S	**Sn**	**23 45 58.3**	**+4.6**
KMI				pmax	pmax		
	comp=Z,27nm,0.9s						
KMI				LR	LR		
	comp=Z,430nm,11.1s						
KMI				LR	LR		
	comp=Z,790nm,15.3s						
KMI				LR	LR		
	comp=Z,770nm,13.9s						
DGPR	**DIGLIPUR**	**13.68**	**158**	*e*P	**Pn**	**23 43 24.4**	**+0.2**
SKHT	**Srikalahasti**	**14.32**	**213**	*e*P	**Pn**	**23 43 33.2**	**+0.1**
SKHT				IAmb	IAmb	23 43 34.9	
	comp=Z,37nm,0.7s						
SKHT				*e*S	**Sn**	**23 46 06.0**	**-5.0**
SKHT				IVMs_BB	IVMs_BB	23 47 36.9	
	comp=Z,563nm,3.6s						
MDRS	**Chennai**	**14.66**	**210**	*e*P	**Pn**	**23 43 38.7**	**+1.1**
MDRS				IAmb	IAmb	23 43 41.7	
	comp=Z,54nm,0.6s						
CHCP	**Chirah Chowk**	**14.66**	**305**	P	**Pn**	**23 43 33.4**	**-4.2**
URV	**Uravakonda**	**14.71**	**224**	*e*P	**Pn**	**23 43 36.7**	**-1.8**
URV				IAmb	IAmb	23 43 38.7	
	comp=Z,26nm,0.7s						
URV				*e*S	Sn	23 46 12.6	-8.0
URV				IVMs_BB	IVMs_BB	23 48 23.5	
	comp=Z,996nm,5.3s						
POO	**Poona**	**14.82**	**243**	*e*P	**Pn**	**23 43 39.6**	**-0.2**
POO				*ex*	x	23 46 10.9	
CD2	**Chengdu**	**14.94**	**67**	P	**Pn**	**23 43 40.0**	**-1.4**
CD2				S	**Sn**	**23 46 24.5**	**-1.5**
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				pmax	pmax		
	comp=Z,180nm,4.6s						
CD2				LR	LR		
	comp=Z,1μm,11.9s						
CD2				LR	LR		
	comp=Z,910nm,10.9s						
CD2				LR	LR		
	comp=Z,1μm,12.4s						
PBA	**Port Blair**	**15.05**	**161**	*e*P	Pn	23 43 42.9	0.0
PBA				IAmb	IAmb	23 43 45.0	
	comp=Z,149nm,1.4s						
THW	**Thamme Wali**	**15.46**	**300**	P	**Pn**	**23 43 42.6**	**-5.6**
BOM	**Bombay**	**15.47**	**246**	*e*P	**Pn**	**23 43 50.9**	**+2.5**
BOM				AMb	AMB	23 43 54.3	
	comp=Z,50nm,0.5s						
BOM				*e*S	Sn	23 46 28.8	-10
BOM				AML	AML	23 48 32.4	
	comp=E,1μm,1.4s						
BOM				AML	AML	23 48 33.5	
	comp=N,2μm,0.9s						
CEP	**Cherat**	**15.74**	**303**	P	**Pn**	**23 43 47.0**	**-5.0**
CEP				S	**Sn**	**23 46 36.0**	**-10**
BHJ	**Bhuj**	**16.64**	**264**	*e*P	**Pn**	**23 44 04.2**	**+0.8**
GOA	**Goa**	**16.65**	**234**	*e*P	**Pn**	**23 44 04.0**	**+0.4**
GOA				IAmb	IAmb	23 44 13.9	
	comp=Z,36nm,0.7s						
KSH	**Kashi**	**16.68**	**327**	P	**Pn**	**23 43 58.8**	**-5.0**
KSH				pP	pP	23 44 10.5	-3.6
KSH				PP	**sP**	**23 44 18.5**	**+0.5**
KSH				S	Sn	23 46 55.3	-13
KSH				pmax	pmax		
	comp=Z,150nm,0.8s						
KSH				pmax	pmax		
	comp=Z,200nm,5.1s						
KSH				LR	LR		
	comp=Z,380nm,5.1s						
KSH				LR	LR		
	comp=Z,400nm,4.6s						
KSH				LR	LR		
	comp=Z,200nm,5.8s						
GTA	**Gaotai**	**16.79**	**34**	*e*P	**Pn**	**23 44 05.3**	**0.0**
GTA				pP	pP	23 44 14.3	-1.0
GTA				sP	sP	23 44 19.5	+0.3
GTA				S	**Sn**	**23 47 10.0**	**-0.9**
GTA				sS	S	23 47 24.3	+3.3
GTA				SS	**SnSn**	**23 47 30.5**	**+6.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GTA				pmax	pmax		
	comp=Z,91nm,4.8s						
GTA				LR	LR		
	comp=Z,510nm,15.7s						
GTA				LR	LR		
	comp=Z,680nm,16.4s						
GTA				LR	LR		
	comp=Z,440nm,13.1s						
GYA	**Guiyang**	**17.02**	**84**⇑	*i*P	**P**	**23 44 09.8**	**-0.1**
GYA				pP	pP	23 44 18.0	0.0
GYA				PP	**sP**	**23 44 25.5**	**+3.6**
GYA				S	**Sn**	**23 47 15.5**	**-1.2**
GYA				sS	S	23 47 29.3	+3.3
GYA				SS	**SnSn**	**23 47 37.0**	**+7.0**
GYA				pmax	pmax		
	comp=Z,80nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=Z,560nm,10.6s						
GYA				LR	LR		
	comp=Z,530nm,11.0s						
GYA				LR	LR		
	comp=Z,510nm,12.4s						
LZH	**Lanzhou**	**17.07**	**50**	*e*P	**Pn**	**23 44 06.8**	**-2.1**
LZH				pP	pP	23 44 16.5	-2.1
LZH				sP	sP	23 44 20.3	-2.2
LZH				PP	**PnPn**	**23 44 22.5**	**+3.6**
LZH				*e*S	**Sn**	**23 47 12.0**	**-6.0**
LZH				sS	S	23 47 23.0	-4.

UCH Uchtor 19.48 329 P Pn 23 44 40.0 +1.5
SNR=10
TKM2 Tokmak 2 19.57 333 *i* P P 23 44 38.0 +0.1
TKM2 pmax pmax
comp=Z,31nm,1.0s
TKM2 Tokmak 2 19.57 333 P Pn 23 44 39.0 -0.3
SNR=39
KBK Karagaybulak 19.63 331 P Pn 23 44 40.9 +0.8
SNR=40
ENH Enshi 19.67 73 *e*P P 23 44 38.4 -0.5
comp=Z,70nm,0.7s
AML Almayashu 19.79 328 P Pn 23 44 43.1 +0.9
SNR=84
PALK Pallekele 19.79 201 P Pn 23 44 42.3 +0.3
comp=Z,1.4nm,0.3s,baz=303,slow=3.2,SNR=14
PALK S S 23 48 10.6 -11
comp=Z,2.1nm,0.3s,baz=295,slow=22,SNR=4.2
PALK LR LR 23 52 13.6
comp=Z,199nm,20.9s,baz=116,slow=36
PALK Pallekele 19.79 201 *ce*P Pn 23 44 45.2 +3.2
PALK Pallekele 19.79 201 *e*P Pn 23 44 43.0 +1.0
comp=Z,19nm,0.9s
PALK *e*S S 23 48 05.7 -16
AAK Ala-Archa 19.81 330 P P 23 44 41.3 +0.8
comp=Z,1.9nm,0.3s,baz=143,slow=9.6,SNR=261
AAK S S 23 48 18.0 -4.1
comp=Z,0.3nm,0.3s,baz=308,slow=17,SNR=2.1
AAK LR LR 23 52 11.6
comp=Z,195nm,18.5s,baz=124,slow=36
AAK Ala-Archa 19.81 330 *c i*P Pn 23 44 42.6 +0.4
AAK pmax pmax
comp=Z,73nm,0.9s
AAK Ala-Archa 19.81 330 P Pn 23 44 42.6 +0.4
SNR=93
AAK Ala-Archa 19.81 330 *e*P Pn 23 44 42.5 +0.4
comp=Z,64nm,0.8s
AAK S S 23 48 18.0 -4.1
FRU1 Bishkek 19.89 331 P Pn 23 44 43.9 +0.9
FRU1 pmax pmax
comp=Z,55nm,0.7s
FRU Bishkek 19.91 331 *e*P Pn 23 44 44.0 +0.7
FRU *e*S Sn 23 48 28.0 +1.7
FRU pmax pmax
comp=Z,80nm,1.7s
CHMS Chumysh 19.99 331 P Pn 23 44 44.0 -0.2
SNR=11
XAN Xi'an 20.02 61 P P 23 44 42.5 -0.2
XAN pP sP 23 44 52.8 -2.0
XAN sP pP 23 44 58.8 +7.9
XAN PP PnPn 23 45 07.5 +8.3
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,160nm,4.9s
XAN LR LR
comp=Z,320nm,11.9s
XAN LR LR
comp=Z,230nm,10.3s
XAN LR LR
comp=Z,280nm,10.8s
KUU Kurty 20.09 336 *i* P P 23 44 44.3 +0.9
comp=Z,246nm,1.0s
KUU *e*S Sn 23 48 29.9 -0.6
KUU LR LR 23 52 14.6
comp=Z,41nm,10.5s
EKS2 Erkin-Say 20.16 329 P Pn 23 44 46.5 +0.3
SNR=82
TRD Trivandrum 20.18 212 *e*P Pn 23 44 53.8 +7.3
USP Ospenovka 20.31 331 P P 23 44 46.9 +1.1
SNR=69
TDK Taldyqorghan 20.38 341 *i* P P 23 44 46.9 +0.3
comp=Z,1μm,0.8s
TDK *i* S Sn 23 48 35.3 -2.2
TDK LR LR 23 52 24.3
comp=Z,594nm,16.9s
MNAS Manas 20.64 327 *i* P P 23 44 50.7 +1.2
MNAS pmax pmax
comp=Z,31nm,0.7s
MK01 Makanchi Array 21.16 350 *e*P P 23 44 54.3 -0.7
MK31 Makanchi Array 21.19 350 *i* P P 23 44 55.0 -0.2
MK31 pmax pmax
comp=Z,12nm,0.5s
MK31 Makanchi Array 21.19 350 *e*P P 23 44 54.5 -0.7
MKAR Makanchi Array 21.19 350 P P 23 44 55.1 -0.1
comp=Z,9.1nm,0.4s,baz=177,slow=12,SNR=224
MKAR S S 23 48 45.9 -3.3
comp=Z,2.5nm,0.8s,baz=185,slow=16,SNR=3.4
MKAR LR LR 23 54 45.5
comp=Z,468nm,18.7s,baz=158,slow=41
MKAR Makanchi Array 21.19 350 *e*P P 23 44 54.6 -0.6
MKAR S S 23 48 45.9 -3.3
MKAR pmax pmax
comp=Z,190nm,0.6s
MKAR Makanchi Array 21.19 350 *e*P P 23 44 54.6 -0.6
comp=Z,190nm,0.6s
MKAR S S 23 48 45.9 -3.3
MAKZ Makanchi 21.25 349 *e*P P 23 44 55.9 0.0
MAKZ pmax pmax
comp=Z,33nm,0.9s
MAKZ Makanchi 21.25 349 *e*P P 23 44 55.9 0.0
comp=Z,32nm,0.9s
ZSN Zaisan 21.52 355 *e*P P 23 44 59.4 +0.6
comp=Z,68nm,1.2s
ZSN *e*S S 23 48 58.0 +2.3
DZA Taraz 21.52 326 *i* P P 23 45 00.2 +1.3
comp=Z,537nm,0.9s
TAS Tashkent 21.58 320 P P 23 45 01.6 +2.2
TAS pmax pmax
comp=Z,121nm,0.7s
QIZ Qiongzhong 21.58 104 *e*P P 23 45 00.5 +0.8
comp=Z,184nm,1.4s
IUG luzhnay 21.69 322 *i* P P 23 45 02.5 +1.7
comp=Z,2μm,0.6s
IUG *e*S S 23 49 02.9 +3.6
IUG LR LR 23 52 31.9
comp=Z,290nm,13.1s
CHM Chimkent 22.04 322 *e*P P 23 45 06.1 +1.7
comp=Z,1μm,0.6s
CHM *e*S S 23 49 09.7 +3.8
CHM LR LR 23 53 03.9
comp=Z,257nm,11.8s
KKAR Karatay Array 22.09 325 *e*P P 23 45 05.9 +0.9
KKAR Karatay Array 22.09 325 *e*P P 23 45 05.9 +0.9
LHMI Lhok Sumawe 22.48 155 P P 23 45 12.1 +2.9
LHMI Lhok Sumawe 22.48 155 *e*P P 23 45 11.2 +1.9
comp=Z,210nm,0.8s
MLSI Meulaboh, Aceh 23.17 157 P P 23 45 17.8 +1.3
BTO Baotou 23.57 46 *e*P P 23 45 16.5 -3.9
WHN Wuhan 23.88 73 ⇓P P 23 45 24.0 +0.8
WHN S S 23 49 34.5 -3.0
WHN pmax pmax
comp=Z,110nm,0.9s
WHN LR LR
comp=Z,1μm,16.9s
WHN LR LR
comp=Z,1μm,15.2s
KULM Kulim 24.04 147 *e*P P 23 45 26.4 +1.6
comp=Z,131nm,1.7s
TPTI 24.38 157 P P 23 45 27.4 -0.6
HHC Hu-ho-hao-te 24.71 47 *e*P P 23 45 31.3 +0.4
HHC pP sP 23 45 42.8 -0.7
HHC PP PnPn 23 46 08.5 +5.2
HHC S S 23 49 46.5 -4.5
HHC sS sS 23 50 05.8 +0.3
HHC SS SnSn 23 50 44.3 +5.9
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.6s
HHC LR LR
comp=Z,470nm,12.0s
HHC LR LR
comp=Z,380nm,12.9s
HHC LR LR
comp=Z,570nm,13.9s
IPM Ipoh 24.92 147 *e*P P 23 45 33.8 +0.9
comp=Z,36nm,1.3s
OTUK Ortayu 25.26 335 *i* P P 23 45 36.3 +0.6
OTUK pmax pmax
comp=Z,35nm,0.7s
PSI Prapat 25.47 153 P P 23 45 38.5 +0.5
comp=Z,111nm,0.8s,baz=17,slow=14,SNR=8.7
PSI LR LR 23 58 55.3
comp=Z,197nm,18.3s,baz=359,slow=44
PSI Prapat 25.47 153 *e*P P 23 45 38.7 +0.7
PSI pmax pmax
comp=Z,13nm,0.9s
PSI Prapat 25.47 153 *e*P P 23 45 38.7 +0.7
comp=Z,13nm,0.9s
HVS Khovu-Aksy 25.51 9⇓ *e*P P 23 45 38.6 +0.6
HVS pmax pmax
comp=Z,10.0nm,0.7s
KURBB Kurchatov Arra 25.57 346 P P 23 45 38.6 +0.2
comp=Z,19nm,1.0s,baz=166,slow=9.4,SNR=72
KURBB pP pP 23 45 46.4 -0.9
comp=Z,28nm,0.8s,baz=168,slow=9.4,SNR=33
KURBB S S 23 50 01.9 -2.3
comp=Z,2.3nm,1.0s,baz=182,slow=14,SNR=4.3
KURK Kurchatov 25.64 347 *c i*P P 23 45 39.3 +0.3
KURK pmax pmax
comp=Z,33nm,1.1s
KURK Kurchatov 25.64 347 *e*P P 23 45 39.4 +0.3
comp=Z,50nm,0.8s
KURK pP pP 23 45 46.4 -1.5
KURK S S 23 50 01.9 -3.4
KNGR Kungurtug, Tuv 25.69 15⇓ *e*P P 23 45 40.7 +1.0
SONM Songino Array 26.29 29 P P 23 45 45.4 +0.2
comp=Z,9.6nm,0.9s,baz=216,slow=10,SNR=78
SONM pP pP 23 45 53.2 -0.8
comp=Z,14nm,0.5s,baz=216,slow=10.0,SNR=25
SONM LR LR 23 57 16.8
comp=Z,282nm,21.6s,baz=214,slow=39
SONA1 Songino Array 26.30 29 *e*P P 23 45 45.4 +0.1
GSI Gunungsitoli 26.34 157 P P 23 45 48.8 +3.0
GSI Gunungsitoli 26.34 157 *e*P P 23 45 48.7 +3.0
comp=Z,107nm,0.9s
WSAR Wadi Sarin 26.55 270 P P 23 45 50.9 +3.2
comp=Z,2.7nm,0.7s,baz=69,slow=14,SNR=2.5
ULN Ulaanbaatar 26.60 30 *e*P P 23 45 48.0 -0.1
ULN pmax pmax
comp=Z,18nm,0.7s
ULN MLR MLR
comp=Z,319nm,21.0s
ULN Ulaanbaatar 26.60 30 *e*P P 23 45 48.0 -0.1
comp=Z,18nm,0.7s
ULN LR LR
comp=Z,319nm,21.0s
ZAK Zakamensk 27.13 22 *e*P P 23 45 52.5 -0.2
ZAK pmax pmax
comp=Z,9.0nm,1.2s
BJI Beijing 27.53 52 P P 23 45 56.8 +0.5
BJI pmax pmax
comp=Z,11nm,0.6s
BJI LR LR
comp=Z,1μm,14.4s
BJI LR LR
comp=Z,1μm,14.6s
BJI LR LR
comp=Z,720nm,15.7s
MNSI Mandailing Nat 27.56 154 P P 23 45 57.9 +1.2
GEYT Alibeck 27.65 303 P P 23 46 00.1 +2.6
comp=Z,4.7nm,0.8s,baz=132,slow=4.2,SNR=10
NJ2 Nanjing 27.84 70 *e*P P 23 45 59.3 +0.2
NJ2 pmax pmax
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 27.99 356 P P 23 46 00.3 +0.1
comp=Z,3.4nm,0.7s,baz=176,slow=9.7,SNR=18
ZALV LR LR 23 58 56.0
comp=Z,324nm,20.2s,baz=251,slow=40
TLY Talaya 28.36 21 P P 23 46 03.8 +0.3
comp=Z,0.5nm,0.3s,baz=36,slow=19,SNR=1.8
TLY pP pP 23 46 11.7 -0.7
comp=Z,1.0nm,0.4s,baz=235,slow=7.2,SNR=2.4
TLY LR LR 23 58 23.3
comp=Z,305nm,18.1s,baz=204,slow=39
TLY Talaya 28.36 21 *e*P P 23 45 56.9 -6.7
TLY pmax pmax
comp=Z,2.0nm,1.1s
TLY MLR MLR
comp=Z,282nm,15.0s
NVS Novosibirsk 28.99 355 *e*P P 23 46 10.8 +1.7
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS pmax pmax
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 29.95 339 P P 23 46 17.9 +0.3
comp=Z,1.5nm,0.5s,baz=146,slow=9.5,SNR=11
BVAR pP pP 23 46 25.8 -0.7
comp=Z,4.8nm,0.5s,baz=149,slow=9.9,SNR=20
BVAR PcP PcP 23 49 20.0 +0.4
comp=Z,2.1nm,0.6s,baz=159,slow=3.1,SNR=3.6
BVAR pPcP 23 49 29.4
comp=Z,4.1nm,0.6s,baz=184,slow=2.0,SNR=7.8
BVAR LR LR 23 59 36.9
comp=Z,310nm,18.4s,baz=150,slow=39
BRVK Borovoye 30.01 339⇑ *e*P P 23 46 18.9 +0.8
BRVK pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 30.01 339 *e*P P 23 46 18.6 +0.5
comp=Z,6.3nm,0.6s
AB31 Akbulak array 31.66 324 *i* P P 23 46 33.9 +1.2
AB31 pmax pmax
comp=Z,26nm,0.5s
ABKAR Akbulak array 31.66 324 *e*P P 23 46 33.8 +1.1
comp=Z,31nm,0.5s
ABKAR *e*pP pP 23 46 42.4 +0.8
AKTO Aktyubinsk 33.36 325 P P 23 46 48.0 +0.3
comp=Z,6.2nm,0.7s,baz=118,slow=9.2,SNR=15
AKTO pP pP 23 46 56.1 -0.4
comp=Z,22nm,0.6s,baz=122,slow=8.4,SNR=27
AKTO LR LR 00 02 02.8
comp=Z,433nm,18.2s,baz=134,slow=39
AKTO Aktyubinsk 33.36 325 *i* P P 23 46 48.2 +0.5
AKTO pmax pmax
comp=Z,12nm,0.7s
KKM Kota Kinabalu 33.69 121 *e*P P 23 46 53.0 +2.0
comp=Z,81nm,1.4s
LKRN Lenkeran, Azer 34.98 301 P P 23 47 01.7 -0.1
CN2 Changchun 35.31 50 *e*P P 23 47 04.5 -0.1
CN2 *e*S S 23 52 37.3 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,300nm,14.0s
KSAR Wonju Array Be 35.78 61 P P 23 47 06.9 -1.9
KSAR *PP pP 23 47 16.9 -0.9
KSAR Wonju Array Be 35.78 61 P P 23 47 06.9 -1.9
KSAR pP pP 23 47 16.9 -0.9
KSRS Korea Array 35.82 61 P P 23 47 06.9 -2.1
comp=Z,1.6nm,0.5s,baz=257,slow=8.2,SNR=6.8
KSRS pP pP 23 47 16.9 -1.1
comp=Z,2.5nm,0.6s,baz=261,slow=8.5,SNR=5.6
KSRS LR LR 00 03 47.1
comp=Z,105nm,18.4s,baz=256,slow=40
JOW Kunigami 36.24 79 P P 23 47 12.3 -0.5
comp=Z,8.1nm,0.7s,baz=87,slow=10.0,SNR=3.9
JOW LR LR 00 03 43.9
comp=Z,183nm,18.9s,baz=306,slow=39
JOW Kunigami 36.24 79 *e*P P 23 47 12.2 -0.7
comp=Z,6.8nm,0.6s
AKT Akhty 36.30 305 *e*P P 23 47 15.3 +2.0
AKT *e*S S 23 52 56.3 +4.1
AKT pmax pmax
comp=Z,65nm,1.2s
SVE Sverdlovsk 36.41 335 *e*P pP 23 47 23.4 +0.6
SVE pmax pmax
comp=Z,78nm,1.0s
MNGR Mingechevir, A 36.63 304 P P 23 47 15.8 -0.2
SEKA Sheki 36.63 305 P P 23 47 15.2 -0.9
MAK Makhachkala 36.80 308 *e*P P 23 47 16.0 -1.4
MAK *e* 23 48 37.8
MAK *e*S S 23 52 57.4 -2.1
MAK *e*SS SnSn 23 55 33.5 +1.2
MAK pmax pmax
comp=Z,120nm,1.6s
BOD Bodaibo 36.86 23 *e*P P 23 47 16.9 -0.8
BOD pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 36.94 333 P P 23 47 19.1 +0.7
comp=Z,4.4nm,0.5s,baz=139,slow=1.6,SNR=9.9
ARU pP pP 23 47 27.6 +0.2
comp=Z,32nm,0.5s,baz=115,slow=4.7,SNR=22
ARU Arti 36.94 333 *c i*P P 23 47 19.3 +0.9
ARU 23 48 41.3
ARU S S 23 53 04.0 +2.6
ARU SS SnSn 23 55 34.4 -0.9
ARU pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 36.94 333 *e*P P 23 47 19.0 +0.6
comp=Z,35nm,0.5s
ARU *e*pP pP 23 47 27.4 +0.1
ARU LR LR
comp=Z,296nm,19.0s
ZKTA Zakatala 37.14 305 P P 23 47 20.1 -0.3
GANJ Ganja 37.18 304 P P 23 47 23.9 +3.2
NAX Nakhchivan 37.58 301 P P 23 47 23.9 -0.3
LEM Lembang 37.94 147 LR LR 00 08 36.4
comp=Z,164nm,18.1s,baz=292,slow=45
JNU Nakatsue 38.01 69 LR LR 00 04 49.3
comp=Z,142nm,20.1s,baz=257,slow=39
GROC Groznyy 38.07 308 *e*P P 23 47 29.8 +1.6
GROC *e**PP sP 23 47 40.7 -0.2
GROC *e**SP pP 23 47 45.8 +8.6
GROC *e* 23 48 57.9
GROC *e*S S 23 53 21.0 +2.1
GROC *e**SS sS 23 53 39.6 +5.8
GROC pmax pmax
comp=Z,35nm,1.3s
RAYN Ar Rayn 38.28 276 P P 23 47 31.3 +1.1
RAYN pmax pmax
comp=Z,21nm,1.4s
RAYN Ar Rayn 38.28 276 *e*P P 23 47 30.7 +0.4
comp=Z,21nm,1.4s
RAYN LR LR
comp=Z,119nm,20.0s
GNI Garni 38.29 303 *e*P P 23 47 33.1 +2.8
GNI pmax pmax
comp=Z,107nm,0.8s
GNI Garni 38.29 303 *e*P P 23 47 33.1 +2.8
comp=Z,107nm,0.8s
ZEI Tsey 39.35 307 *e*P P 23 47 36.7 -2.4
ZEI pmax pmax
comp=Z,49nm,0.8s
AKH Akhalkalaki 39.41 304 *e*P P 23 47 43.1 +3.4
AKH pmax pmax
comp=Z,61nm,1.0s
AKH Akhalkalaki 39.41 304 *e*P P 23 47 43.1 +3.4
comp=Z,61nm,1.0s
SMRI Semarang 39.59 143 *e*P P 23 47 43.0 +1.8
comp=Z,91nm,1.1s
NCK Nalchik 39.70 308⇓ *e*P P 23 47 43.6 +1.7
NCK pmax pmax
comp=Z,8.0nm,0.5s
SOKR Solikamsk 39.81 336 *c i*P pP 23 47 49.6 -1.8
SOKR pmax pmax
comp=Z,66nm,0.8s
SOKR MLR MLR
comp=Z,199nm,18.0s
USRK Ussuriysk Ar. 39.98 51 P P 23 47 43.0 -1.0
comp=Z,2.9nm,0.6s,baz=248,slow=7.9,SNR=6.7
KBZ Khabaz 40.25 308 P P 23 47 47.7 +1.4
comp=Z,2.4nm,0.8s,baz=114,slow=7.3,SNR=9.3
KBZ LR LR 00 09 26.8
comp=Z,141nm,18.1s,baz=87,slow=44
ZEA Zeya 40.27 36 *e*P P 23 47 47.2 +0.8
ZEA pmax pmax
comp=Z,15nm,0.8s
NEY Neytrino 40.28 307⇓ *e*P P 23 47 49.8 +2.9
NEY pmax pmax
comp=Z,5.0nm,0.7s
GOF Gofitskoye 40.42 310⇑ *e*P pP 23 47 57.9 +1.1
GOF pmax pmax
comp=Z,32nm,1.3s
KIV Kislovodsk 40.44 308 *e*P P 23 47 48.4 +0.3
KIV pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 40.44 308 *e*P P 23 47 47.6 -0.4
comp=Z,10nm,0.9s
DAV Davao City (W) 40.69 111 LR LR 00 05 12.6
comp=Z,98nm,21.8s,baz=306,slow=37
KLR Kul'dur 41.12 44 P P 23 47 52.5 -1.0
comp=Z,0.2nm,0.5s,baz=261,slow=7.7,SNR=16
KLR Kul'dur 41.12 44⇑ *i*P P 23 47 52.7 -0.8
VRH Novokhopyorsk 42.91 318 *e*P P 23 48 08.6 +0.6
VRH *e* 23 48 17.1
VRH *e*S S 23 54 29.7 -1.1
VRH pmax pmax
comp=Z,20nm,0.6s
VRH smax smax
comp=N,140nm,1.8s
LUWI Luwuk 43.24 123 *e*P P 23 48 11.8 +0.7
KAPI Kappang 43.78 130 *e*P P 23 48 15.8 +0.4
comp=N,9.5nm,0.6s
MAJO Matsushiro 43.99 63⇑ *e*P P 23 48 16.3 -0.7
MAJO pmax pmax
comp=Z,5.0nm,0.7s
MAJO Matsushiro 43.99 63 *e*P P 23 48 16.0 -1.0
comp=Z,9.3nm,0.7s
MAT Matsushiro 43.99 63 P P 23 48 16.0 -1.0
MJAR Matsushiro Arr 43.99 63 P P 23 48 15.9 -1.1
comp=Z,3.7nm,0.7s,baz=274,slow=11,SNR=7.8
MJAR pP pP 23 48 26.3 +0.1
comp=Z,4.4nm,0.7s,baz=273,slow=10,SNR=5.3
ANN Anapa 44.29 308 *e*P P 23 48 18.4 -0.9
ANN *e**PP pP 23 48 24.0 -4.4
ANN *e*S S 23 54 52.7 +1.5
ANN pmax pmax
comp=Z,82nm,0.9s
GRNR Gornyy 44.45 43 *e*P P 23 48 22.1 +1.7
GRNR pmax pmax
comp=Z,17nm,1.0s
VSR Storozhevoye 44.45 318 *e*P P 23 48 20.0 -0.4
VSR *e* 23 48 28.9
VSR *e*S S 23 54 51.5 -1.9
VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR smax smax
comp=N,80nm,1.0s
ATD Arta Tunnel 44.62 260 LR LR 00 05 43.7
comp=N,66nm,18.7s,baz=99,slow=34
LPSR Galich'ya Gora 44.98 320 *e*P P 23 48 25.0 +0.4
LPSR *e* 23 48 33.5
LPSR pmax pmax
comp=Z,30nm,0.8s
YAK Yakutsk 45.57 26⇓ *e*P P 23 48 30.5 +1.3
YAK pmax pmax
comp=Z,14nm,0.9s
MMAI Mount Meron Ar 45.66 292 P P 23 48 31.3 +0.9
comp=Z,0.6nm,0.4s,baz=87,slow=7.3,SNR=3.2
MMAI LR LR 00 11 13.6
comp=Z,262nm,18.3s,baz=90,slow=41
SIM Simferopol' 46.65 308 *ce*P pP 23 48 47.2 +0.1
SIM pmax pmax
comp=Z,39nm,1.0s
MOS Moscow 46.66 323 *e*P pP 23 48 45.4 -1.6
MOS *e* 23 50 34.7
MOS pmax pmax
comp=Z,54nm,1.0s
BRTR Keskin Array B 46.77 301 P P 23 48 39.9 +0.7
comp=Z,0.7nm,0.5s,baz=136,slow=11,SNR=7.1
BRTR LR LR 00 11 48.6
comp=Z,76nm,19.0s,baz=89,slow=40
OBN Obninsk 47.05 322⇓ *e*P P 23 48 41.6 +0.8
OBN *e* 23 50 37.9
OBN pmax pmax
comp=Z,33nm,1.9s
OBN MLR MLR
comp=Z,225nm,17.0s
OBN Obninsk 47.05 322 *e*P P 23 48 40.8 0.0
comp=Z,97nm,1.3s
CSS Mathiatis 47.21 295 *e*P P 23 48 43.0 +0.5
comp=Z,1.9nm,0.7s
CSS LR LR
comp=Z,51nm,20.0s
BR231 Keskin MP Arra 47.43 301 *e*P P 23 48 40.7 -3.6
ASAJ Asahikawa 47.52 53 P P 23 48 43.8 -1.0
comp=Z,2.5nm,0.6s,baz=133,slow=19,SNR=4.2
NKL Nikolayevsk 47.59 41 *e*P P 23 48 44.2 -0.9
NKL pmax pmax
comp=E,6.0nm,0.9s
NKL pmax pmax
comp=Z,33nm,0.9s
KLMR Klimovskoe 47.62 330 *e*P P 23 48 44.4 -0.9
KLMR pmax pmax
comp=Z,76nm,1.3s
KLMR Klimovskoe 47.62 330 *e*P P 23 48 44.4 -0.9
KLMR AMP 23 48 55.6
comp=Z,76nm,1.3s
KLMR LQ LQ 00 06 23.6
KLMR LQ LQ 00 06 23.6

YSS Yuzh-Sakhalins 47.87 49⇓ eP P 23 48 47.6 +0.2
YSS e 23 48 56.2
YSS pmax pmax
comp=Z,60nm,1.1s
YSS Yuzh-Sakhalins 47.87 49 eP P 23 48 47.4 0.0
comp=Z,73nm,1.1s
TMCR Tamitsa 49.67 334 eP pP 23 49 09.7 -0.4
TMCR pmax pmax
comp=Z,66nm,1.0s
BATI Baumata 50.19 131 P P 23 49 04.7 -0.9
comp=Z,11nm,0.4s,baz=90,slow=13,SNR=3.8
SOEI Soe 50.28 130 eP P 23 49 05.3 -1.0
comp=Z,42nm,0.7s
AKASG Malin Array Be 50.52 315 P P 23 49 07.4 -0.2
comp=Z,2.7nm,0.5s,baz=77,slow=7.2,SNR=15
AKASG pP pP 23 49 15.5 -1.4
comp=Z,5.4nm,0.4s,baz=82,slow=6.9,SNR=14
AKBB Malin Array Si 50.52 315 eP P 23 49 07.7 +0.1
AKBB pmax pmax
comp=Z,22nm,0.8s
AKBB Malin Array Si 50.52 315 eP P 23 49 07.7 +0.1
comp=Z,22nm,0.8s
KIEV Kiev 50.53 315⇑ eP P 23 49 07.4 -0.3
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 50.53 315 eP P 23 49 07.5 -0.3
comp=Z,22nm,0.8s
KIEV LR LR
comp=Z,205nm,19.0s
AK11 Malin Array Si 50.56 315 eP P 23 49 08.1 +0.2
SORM Soroca 50.87 312 P pP 23 49 19.3 -0.2
SORM Soroca 50.87 312 ⇓ iP pP 23 49 19.3 -0.2
TIXI Tiksi 51.08 16 P P 23 49 10.7 -0.7
comp=Z,5.7nm,0.4s,baz=219,slow=4.3,SNR=21
TIXI pP pP 23 49 19.3 -1.4
comp=Z,4.8nm,0.4s,baz=217,slow=3.6,SNR=6.1
TIXI LR LR 00 12 00.4
comp=Z,179nm,18.1s,baz=210,slow=37
TIXI Tiksi 51.08 16⇑ iP P 23 49 10.8 -0.7
TIXI pmax pmax
comp=Z,4.0nm,0.5s
FAKI Fak Fak 51.80 117 eP P 23 49 17.3 -0.4
VRI Vrincioaia 51.90 309 ⇓ P P 23 49 19.6 +1.5
VRI Vrincioaia 51.90 309 ⇓ iP P 23 49 19.6 +1.5
PLOR Plostina 51.95 309 ⇑ P P 23 49 20.2 +1.7
PLOR Plostina 51.95 309⇑ iP P 23 49 20.1 +1.6
MLR Muntele Rosu 52.45 309 P P 23 49 23.3 +1.1
comp=Z,1.6nm,0.7s,baz=129,slow=19,SNR=8.4
MLR LR LR 00 16 26.6
comp=Z,39nm,18.1s,baz=53,slow=41
MLR Muntele Rosu 52.45 309 eP P 23 49 23.9 +1.6
MLR pmax pmax
comp=Z,31nm,0.9s
MLR Muntele Rosu 52.45 309⇑ iP P 23 49 22.4 +0.1
MLR Muntele Rosu 52.45 309 eP P 23 49 23.9 +1.6
comp=Z,31nm,0.9s
NACGM Naroch 52.51 320 e pP 23 49 30.0 -1.7
IDID Didziasalis 52.59 321 eP P 23 49 23.4 +0.4
IDID IAmb IAmb 23 49 33.4
comp=Z,6.9nm,0.8s
APA Apatity 52.83 337⇓ iP P 23 49 38.0 +13
APA pmax pmax
comp=Z,9.0nm,1.0s
IIGN Ignalina 52.89 321 eP P 23 49 25.6 +0.4
IIGN IAmb IAmb 23 49 35.8
comp=Z,16nm,0.8s
IZAR Zarasai 52.93 322 eP P 23 49 25.8 +0.3
IZAR IAmb IAmb 23 49 36.0
comp=Z,17nm,0.8s
BURAR Bucovina Array 52.96 311 ⇑ P P 23 49 26.5 +0.5
BURAR Bucovina Array 52.96 311⇑ iP P 23 49 26.5 +0.5
BUR04 Bucovina Ar. S 52.96 311 eP P 23 49 26.4 +0.4
BUR08 Bucovina Ar. S 52.97 311 eP P 23 49 26.6 +0.6
ISAL Salakas 52.97 321 eP P 23 49 26.2 +0.4
ISAL IAmb IAmb 23 49 36.4
comp=Z,13nm,0.8s
VOIR 53.08 309 ⇓ P P 23 49 27.8 +0.9
VOIR 53.08 309⇓ iP P 23 49 27.8 +0.9
VSU Vasula 53.09 325⇓ eP P 23 49 26.8 +0.2
VSU pmax pmax
comp=Z,54nm,1.5s
ARCR ARCALIA 53.54 311⇓ iP pP 23 49 38.0 -1.5
LVV L'vov 53.79 314 eP P 23 49 33.9 +2.0
FIA1 FINESS Array S 53.99 328 eP P 23 49 33.3 +0.7
comp=Z,36nm,0.7s
FINES FINESS Array B 53.99 328 P P 23 49 33.3 +0.1
comp=Z,4.1nm,0.5s,baz=111,slow=7.6,SNR=31
FINES pP pP 23 49 42.4 -0.1
comp=Z,27nm,0.6s,baz=103,slow=7.9,SNR=35
FINES LR LR 00 14 44.5
comp=Z,196nm,19.2s,baz=95,slow=38
IDI Anoyia 54.04 296 P P 23 49 34.2 +0.1
comp=Z,11nm,0.9s,baz=60,slow=16,SNR=4.8
IDI LR LR 00 16 09.6
comp=Z,46nm,20.5s,baz=95,slow=40
MA2 Magadan 54.35 34⇓ iP P 23 49 35.4 -0.5
SUW Suwalki 54.51 319 eP pP 23 49 46.1 -0.3
SUW Suwalki 54.51 319 eP pP 23 49 46.1 -0.3
VTS Vitosha 54.53 305 ⇑ P P 23 49 38.8 +1.1
VTS Vitosha 54.53 305⇑ iP P 23 49 38.8 +1.1
VTS Vitosha 54.53 305 eP P 23 49 38.2 +0.5
comp=Z,16nm,0.9s
KWP Kalwaria Pacla 54.64 314 eP pP 23 49 47.8 +0.3
KWP Kalwaria Pacla 54.64 314 eP pP 23 49 47.8 +0.3
DRGR 54.67 310 ⇓ P P 23 49 39.5 +1.0
DRGR 54.67 310⇓ iP P 23 49 39.5 +1.0
GUMO Guam 54.81 91 eP P 23 49 38.2 -1.7
GUMO Guam 54.81 91 eP P 23 49 38.2 -1.7
UZH Uzhgorod 54.92 313 eP P 23 49 43.5 +3.4
UZH e 23 49 55.7
BZS Buzias 55.48 309 ⇓ P P 23 49 44.4 +0.1
BZS Buzias 55.48 309⇓ iP P 23 49 44.4 +0.1
AGG Agios Georgios 55.56 301 eP P 23 49 44.3 -0.7
AGG pmax pmax
comp=Z,24nm,1.0s
AGG Agios Georgios 55.56 301 eP P 23 49 44.3 -0.7
comp=Z,24nm,1.0s
KMBO Kilima Mbogo 55.64 249 P P 23 49 47.4 +1.3
comp=Z,1.6nm,0.6s,baz=50,slow=13,SNR=6.7
KMBO pP pP 23 49 56.8 +1.4
comp=Z,1.5nm,0.5s,baz=117,slow=6.2,SNR=4.0
KMBO LR LR 00 14 54.6
comp=Z,44nm,18.2s,baz=90,slow=37
KMBO Kilima Mbogo 55.64 249 eP P 23 49 47.5 +1.3
KMBO *PP pP 23 49 56.8 +1.4
KMBO pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 55.64 249 eP P 23 49 47.5 +1.4
comp=Z,8.2nm,1.3s
KMBO pP pP 23 49 56.8 +1.4
SEY Seymchan 55.68 30⇑ iP P 23 49 45.5 +0.1
BEL Belsk 55.88 316 eP pP 23 49 56.4 +0.1
BEL Belsk 55.88 316 eP pP 23 49 56.4 +0.1
FNA Florina 56.07 303 P P 23 49 49.5 +0.8
FNA pmax pmax
comp=Z,10.0nm,0.8s
KECS Kecovo 56.12 312 eP pP 23 49 58.1 -0.1
KECS pmax pmax
comp=Z,4.0nm,1.3s
KECS Kecovo 56.12 312 eP pP 23 49 58.1 -0.1
NIE Niedzica 56.21 313 eP pP 23 49 59.6 +0.8
NIE Niedzica 56.21 313 eP pP 23 49 59.6 +0.8
ARCES ARCESS Array B 56.23 338 P P 23 49 48.0 -1.2
comp=Z,2.0nm,0.7s,baz=105,slow=6.9,SNR=13
ARCES pP pP 23 49 58.1 -0.5
comp=Z,10nm,0.9s,baz=106,slow=6.6,SNR=7.6
MBWA Marble Bar 56.25 143 eP P 23 49 51.0 +1.0
comp=Z,19nm,0.8s
PSZ Piszkesteto 56.54 312 eP P 23 49 53.4 +1.5
PSZ pmax pmax
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 56.54 312 eP P 23 49 53.4 +1.5
comp=Z,5.3nm,0.9s
VYHS Vyhne 57.22 312 eP pP 23 50 05.6 -0.4
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 57.22 312 eP pP 23 50 05.6 -0.4
TTG Podgorica 57.46 305 eP P 23 49 59.1 +0.7
TTG pmax pmax
comp=Z,42nm,1.3s
TTG Podgorica 57.46 305 eP P 23 49 59.1 +0.7
comp=Z,42nm,1.3s
OKC Ostrava-Krasne 57.60 314 eP P 23 50 01.4 +2.1
OKC e 23 50 08.6
OKC e 23 50 16.6
OKC Ostrava-Krasne 57.60 314 eP P 23 50 01.4 +2.1
OKC epP pP 23 50 08.6 0.0
OKC ex x 23 50 16.6
PETK Petropavlovsk- 57.76 42 P P 23 49 59.8 -0.5
comp=Z,1.6nm,0.7s,baz=278,slow=10.0,SNR=2.8
PETK LR LR 00 17 08.6
comp=Z,115nm,19.5s,baz=266,slow=38
MORC Moravsky Berou 57.99 314 eP P 23 50 01.2 -0.9
MORC pmax pmax
comp=Z,26nm,1.0s
MORC Moravsky Berou 57.99 314⇑ iP pP 23 50 11.3 -0.2
MORC Moravsky Berou 57.99 314 eP P 23 50 01.2 -0.9
comp=Z,26nm,1.0s
KRLC Kraliky 58.46 314 eP P 23 50 07.5 +2.1
KRLC e 23 50 14.6
KRLC Kraliky 58.46 314 eP P 23 50 07.5 +2.1
KRLC epP pP 23 50 14.6 -0.2
VRAC Vranov 58.64 314 ⇓ iP pP 23 50 16.1 +0.1
VRAC Vranov 58.64 314⇓ iP pP 23 50 16.1 +0.1
BLY Banja Luka 58.68 308 eP P 23 50 08.0 +1.0
comp=Z,15nm,1.4s
KSP Ksiaz 58.73 315 eP pP 23 50 16.6 +0.1
KSP Ksiaz 58.73 315 eP pP 23 50 16.6 +0.1
DPC Dobruska-Polom 58.74 315 eP P 23 50 09.0 +1.7
DPC e 23 50 16.8
DPC e 23 50 23.1
DPC Dobruska-Polom 58.74 315 eP P 23 50 09.0 +1.7
DPC epP pP 23 50 16.8 +0.1
DPC ex x 23 50 23.1
CONA Conrad Observa 59.24 312 eP P 23 50 12.1 +1.2
comp=Z,16nm,1.5s
OPO Ambohidratompo 59.27 226 P P 23 50 13.2 +1.7
comp=Z,8.8nm,0.7s,baz=37,slow=6.3,SNR=11
OPO pP pP 23 50 21.1 +0.2
comp=Z,5.3nm,0.7s,baz=350,slow=1.8,SNR=4.5
BSD Bornholm Skovb 59.34 320 *i* P pP 23 50 19.4 -1.3
TREC Trest 59.36 314 eP P 23 50 14.0 +2.4
TREC e 23 50 21.0
TREC Trest 59.36 314 eP P 23 50 14.0 +2.4
TREC epP pP 23 50 21.0 0.0
ARSA Arzberg 59.54 311 eP P 23 50 14.7 +1.8
comp=Z,4.1nm,0.7s
CRES Cresnjev 59.76 310 eP P 23 50 16.4 +2.0
GOPC GO Pecny, Ondr 59.76 314 eP P 23 50 15.6 +1.3
GOPC e 23 50 23.6
GOPC GO Pecny, Ondr 59.76 314 eP P 23 50 15.6 +1.3
GOPC epP pP 23 50 23.6 -0.1
TIP Timpagrande 59.82 302 eP P 23 50 14.8 -0.2
comp=Z,13nm,1.2s
HFS Hagfors 59.89 326 P P 23 50 15.0 0.0
comp=Z,4.6nm,0.7s,baz=93,slow=7.2,SNR=19
HFS LR LR 00 17 49.3
comp=Z,184nm,18.5s,baz=92,slow=38
HFS Hagfors 59.89 326 P P 23 50 15.0 0.0
HFS pmax pmax
comp=Z,5.0nm,0.7s
HFS MLR MLR
comp=Z,184nm,18.5s
PERS Pernice 59.89 311 eP P 23 50 17.2 +1.9
PRU Pruhonice 59.91 314 eP P 23 50 16.5 +1.2
PRU e 23 50 24.3
PRU Pruhonice 59.91 314 eP P 23 50 16.5 +1.2
PRU epP pP 23 50 24.3 -0.4
SOKA Soboth 59.94 311 eP P 23 50 17.5 +1.7
comp=Z,6.7nm,0.6s
BRG Berggiesshubel 60.21 315 eP pP 23 50 25.4 -1.3
comp=Z,7.6nm,1.0s
BRG e 23 50 34.8
comp=Z,5.9nm,0.8s
BRG Berggiesshubel 60.21 315 eP pP 23 50 25.4 -1.3
BRG e 23 50 34.8
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=N,162nm,20.3s
BRG MLR MLR
comp=E,245nm,21.2s
BRG MLR MLR
comp=Z,274nm,17.1s
OBKA Obir 60.30 310 eP P 23 50 19.2 +1.0
comp=Z,9.6nm,0.9s
MOA Molln 60.32 312 eP P 23 50 19.6 +1.4
comp=Z,7.1nm,0.8s
CUC Castrocucco 60.39 303 eP P 23 50 20.8 +1.9
comp=Z,8.8nm,0.8s
GEA0 GERESS Array S 60.58 313 eP P 23 50 20.4 +0.3
GERES GERESS Array B 60.58 313 P P 23 50 20.4 +0.4
comp=Z,0.9nm,0.7s,baz=79,slow=6.9,SNR=9.8
GERES pP pP 23 50 29.1 -0.4
comp=Z,3.1nm,0.8s,baz=79,slow=6.9,SNR=15
KHC Kasperske Hory 60.62 314 eP P 23 50 22.4 +2.1
KHC e 23 50 29.3
KHC e 23 50 37.0
KHC Kasperske Hory 60.62 314 eP P 23 50 22.4 +2.1
KHC epP pP 23 50 29.3 -0.4
KHC ex x 23 50 37.0
KHC Kasperske Hory 60.62 314 eP P 23 50 20.6 +0.3
comp=Z,2.7nm,0.9s
KHC epP pP 23 50 29.3 -0.4
CEL Celeste 60.65 301 eP P 23 50 22.0 +1.3
comp=Z,20nm,0.6s
CEL epP pP 23 50 30.1 0.0
CEL LR LR
comp=Z,85nm,20.0s
CLL Collm 60.76 316 eP pP 23 50 29.0 -1.5
CLL e 23 50 37.0
CLL Collm 60.76 316 eP pP 23 50 29.0 -1.5
CLL e 23 50 37.0
CLL ePP PP 23 52 37.0 +2.1
CLL Lm MLR 00 19 00.0
comp=N,100nm,19.3s
CLL Lm MLR 00 19 00.0
comp=E,100nm,18.3s
CLL Lm MLR 00 19 00.0
comp=Z,200nm,18.6s
NC405 NORSAR Array S 60.85 327 eP P 23 50 23.4 +1.8
SPITS Spitsbergen Ar 60.91 347 P P 23 50 21.4 -0.4
comp=Z,8.2nm,1.1s,baz=34,slow=11,SNR=3.9
SPITS LR LR 00 22 52.7
comp=Z,124nm,18.1s,baz=55,slow=42
TRI Trieste 60.95 310 eP P 23 50 22.2 -0.3
TRI pmax pmax
comp=Z,16nm,1.0s
TRI Trieste 60.95 310 eP P 23 50 22.2 -0.3
comp=Z,16nm,1.0s
KBA Koelnbreinsper 61.04 311 eP P 23 50 23.8 +0.4
comp=Z,1.8nm,0.8s
NB2 NORSAR Subarra 61.10 327 P P 23 50 22.6 -0.8
comp=Z,1.2nm,0.5s,baz=86,slow=6.9
NB2 NORSAR Subarra 61.10 327 P P 23 50 22.6 -0.8
NB2 pmax pmax
comp=Z,13nm,0.8s
NOA NORSAR Array B 61.10 327 P P 23 50 22.5 -0.8
comp=Z,1.5nm,0.6s,baz=90,slow=6.7,SNR=7.8
NOA pP pP 23 50 31.7 -1.1
comp=Z,16nm,0.8s,baz=88,slow=6.8,SNR=23
NOA LR LR 00 19 04.8
comp=Z,98nm,18.9s,baz=90,slow=38
ABTA Abfaltersbach 61.65 311 eP P 23 50 28.8 +1.4
comp=Z,3.8nm,0.9s
BILL Bilibino 61.89 25 *d iP P 23 50 28.8 +0.3*
BILL e 23 51 08.1
BILL e 23 52 43.0
BILL eS S 23 58 44.7 -5.3
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,196nm,20.0s
GRFO Grafenberg 62.08 314 eP P 23 50 28.9 -1.2
GRFO *eP P 23 50 39.5 0.0
GRFO pmax pmax
comp=Z,23nm,1.5s
GRFO Grafenberg 62.08 314 eP P 23 50 28.9 -1.2
comp=Z,23nm,1.5s
GRFO epP pP 23 50 39.5 0.0
WTTA Wattenberg 62.17 312 eP P 23 50 32.3 +1.4
comp=Z,4.4nm,0.6s
MOTA Moosalm 62.51 312 eP P 23 50 34.2 +1.0
comp=Z,5.4nm,0.6s
RETA Reutte 62.72 312 eP P 23 50 36.4 +1.9
comp=Z,12nm,1.4s
FETA Feichten 62.82 311 eP P 23 50 37.0 +1.8
comp=Z,7.4nm,1.1s
FUORN Ofenpass-Fuorn 63.20 311 eP P 23 50 39.1 +1.2
comp=Z,5.2nm,0.8s
DAVA Damuels 63.34 312 eP P 23 50 39.8 +1.1
comp=Z,9.2nm,0.8s
VLC Villacollemand 63.58 308 eP P 23 50 38.8 -1.4
comp=Z,18nm,1.1s
TUE Stuetta 63.85 311 eP P 23 50 42.3 +0.1
comp=Z,5.4nm,0.7s
WRA Warramunga Arr 64.32 131 P P 23 50 46.0 +0.7
comp=Z,24nm,0.6s,baz=324,slow=6.8,SNR=351
WRA PKP2bc 00 19 39.5
comp=Z,1.0nm,1.1s,baz=128,slow=2.7,SNR=5.7
WRAB Tennant Creek 64.32 131 *d iP P 23 50 45.9 +0.6*
WRAB pmax pmax
comp=Z,25nm,0.7s
WRAB Tennant Creek 64.32 131 eP P 23 50 46.1 +0.8
comp=Z,27nm,0.6s
ECH Echery 64.97 313 eP P 23 50 49.2 -0.1
ECH *ePP pP 23 50 57.8 -0.9
ECH pmax pmax
comp=Z,2.0nm,0.8s
ECH Echery 64.97 313 eP P 23 50 49.2 -0.1
comp=Z,2.5nm,0.8s
ECH epP pP 23 50 57.8 -0.9
MEM Membach 65.23 316 ⇓ AP pP 23 50 59.9 -0.4
SENIN Lac Senin/Sane 65.26 311 eP P 23 50 52.8 +1.4
comp=Z,9.8nm,0.9s
WLF Walferdange 65.33 315 AP pP 23 50 60.0 -1.0
comp=Z,9.8nm,0.9s
WLF Walferdange 65.33 315 eP P 23 50 51.9 +0.4
WLF *ePP pP 23 51 00.5 -0.5
WLF pmax pmax
comp=Z,5.0nm,0.8s
WLF Walferdange 65.33 315 eP P 23 50 51.9 +0.4
comp=Z,4.6nm,0.8s
WLF epP pP 23 51 00.5 -0.5
SBF Sospel 65.72 309 eP P 23 50 55.1 +0.9
SBF pmax pmax
comp=Z,12nm,1.0s
LPG La Plagne 65.82 310 eP P 23 50 56.2 +1.1
LPG pmax pmax
comp=Z,10.0nm,1.0s
LPL La Plagne 65.83 310 eP P 23 50 56.7 +1.6
LPL pmax pmax
comp=Z,9.0nm,0.8s
BNI Bardonecchia 65.97 310 eP P 23 50 55.6 -0.3
BNI pmax pmax
comp=Z,11nm,1.2s
BNI Bardonecchia 65.97 310 eP P 23 50 55.6 -0.3
comp=Z,11nm,1.2s
MBDF Montbardon 65.98 310 eP P 23 50 57.1 +1.1
MBDF pmax pmax
comp=Z,3.0nm,0.7s
KEST Kesra 66.34 300 P P 23 50 59.2 +0.8
comp=Z,6.0nm,0.9s,baz=331,slow=0.9,SNR=8.6
KEST LR LR 00 26 22.4
comp=Z,52nm,18.6s,baz=278,slow=42
KEST Kesra 66.34 300 eP P 23 50 59.6 +1.2
comp=Z,49nm,1.2s
ORIF Oris-en-Rattie 66.56 310 eP P 23 51 00.5 +0.9
ORIF pmax pmax
comp=Z,3.0nm,0.8s
AS31 Alice Springs 66.61 134 eP P 23 51 00.8 +0.8
comp=Z,7.9nm,0.6s
ASAR Alice Springs 66.61 134 P P 23 51 00.8 +0.8
comp=Z,22nm,0.7s,baz=317,slow=6.6,SNR=229
ASAR pP pP 23 51 09.6 +0.1
comp=Z,10nm,0.7s,baz=314,slow=6.4,SNR=16
ASAR PcP PcP 23 51 30.9 +1.7
comp=Z,3.7nm,0.7s,baz=315,slow=5.5,SNR=4.8
ASAR PKP2ab 00 19 41.0
comp=Z,0.4nm,0.3s,baz=136,slow=3.6,SNR=6.4
AS01 Alice Springs 66.64 134 eP P 23 51 00.6 +0.4
COEN Coen 67.00 120 eP P 23 51 02.2 -0.5
comp=Z,6.5nm,0.8s
SSB Saint Sauveur 67.39 311 eP P 23 51 04.8 0.0
SSB pmax pmax
comp=Z,6.0nm,0.7s
SSB Saint Sauveur 67.39 311 eP P 23 51 04.8 0.0
comp=Z,5.8nm,0.7s
SMF Signal de Mont 67.52 312 eP P 23 51 07.5 +1.9
SMF pmax pmax
comp=Z,12nm,1.0s
PMG Port Moresby 67.64 113 eP P 23 51 06.3 -0.5
PMG pmax pmax
comp=Z,28nm,1.0s
PMG Port Moresby 67.64 113 eP P 23 51 06.3 -0.5
comp=Z,28nm,1.0s
DAG Danmarks Havn 68.53 346 *i* P **pP 23 51 19.9 -1.0**
DAG pmax pmax
comp=Z,9.0nm,0.9s
DAG Danmarks Havn 68.53 346 *i* P pP 23 51 19.9 -1.0
comp=Z,9.4nm,0.9s
TCF Toulx Ste Croi 68.70 312 eP P 23 51 13.4 +0.4
TCF pmax pmax
comp=Z,12nm,0.9s
CAF Calviac 69.17 311 eP P 23 51 16.4 +0.4
CAF pmax pmax
comp=Z,7.0nm,0.9s
RJF Les Rejaudoux 69.44 311 eP P 23 51 18.2 +0.6
RJF pmax pmax
comp=Z,9.0nm,0.9s
EKA Eskdalemuir Ar 69.50 322 P P 23 51 17.5 -0.3
comp=Z,0.7nm,0.4s,baz=74,slow=6.3,SNR=12
EKA LR LR 00 23 54.2
comp=Z,129nm,19.5s,baz=45,slow=38
ESK Eskdalemuir 69.53 322 eP P 23 51 18.2 +0.2
ESK *ePP pP 23 51 26.4 -1.1
ESK pmax pmax
comp=Z,8.0nm,0.9s
ESK Eskdalemuir 69.53 322 eP P 23 51 18.2 +0.2
comp=Z,7.5nm,0.9s
ESK epP pP 23 51 26.4 -1.1
LFF La Frestale 70.07 311 eP P 23 51 22.0 +0.5
LFF pmax pmax
comp=Z,9.0nm,0.8s
LSZ Lusaka 70.95 242 eP P 23 51 28.5 +1.1
LSZ pmax pmax
comp=Z,6.0nm,0.8s
LSZ Lusaka 70.95 242 eP P 23 51 28.5 +1.1
comp=Z,6.0nm,0.8s
ETSF Etsaut 71.59 309 eP P 23 51 31.0 +0.1
ETSF pmax pmax
comp=Z,3.0nm,0.6s
SJPF Ste Jean 71.98 310 eP P 23 51 34.2 +1.0
SJPF pmax pmax
comp=Z,20nm,1.4s
SCO Scoresbysund 72.00 341 *i* P pP 23 51 42.4 +0.1
SCO Scoresbysund 72.00 341 *i* P pP 23 51 42.4 +0.1
CTAO Charters Tower 73.00 123 eP P 23 51 40.0 +0.6
CTAO pmax pmax
comp=Z,137nm,1.1s
CTAO Charters Tower 73.00 123 eP P 23 51 40.0 +0.6
comp=Z,137nm,1.1s
TAM Tamanrasset 73.68 288 eP P 23 51 44.4 +0.6
TAM pmax pmax
comp=Z,6.0nm,1.2s
TAM Tamanrasset 73.68 288 eP P 23 51 44.4 +0.6
comp=Z,6.4nm,1.2s
BBOO Buckleboo 74.43 139 eP P 23 51 47.2 -0.4
comp=Z,26nm,0.9s
BBOO epP pP 23 51 56.6 -0.6
BORG Borgarnes 74.45 335 LR LR 00 25 40.2
comp=Z,57nm,19.8s,baz=161,slow=37
ES19 SONSECA Array 75.04 307 eP P 23 51 51.8 +0.5
ESDC Sonseca Array 75.10 307 P P 23 51 51.7 +0.1
comp=Z,1.5nm,0.7s,baz=63,slow=5.5,SNR=9.9
ESDC pP pP 23 52 00.4 -0.8
comp=Z,4.7nm,0.9s,baz=66,slow=6.1,SNR=12
SUMG Summit 75.17 345 *i* P pP 23 52 00.2 -1.3
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 75.17 345 *i* P pP 23 52 00.2 -1.3
comp=Z,12nm,1.1s
PAB San Pablo 75.42 307 eP P 23 51 53.8 +0.3
PAB pmax pmax
comp=Z,6.0nm,0.9s
PAB San Pablo 75.42 307 eP P 23 51 53.8 +0.3
comp=Z,6.5nm,0.9s
MVO Moncorvo 76.71 309 eP P 23 52 01.8 +1.0
comp=Z,16nm,1.5s
MVO epP pP 23 52 10.0 -0.4
TOLK Toolik Lake Re 76.85 18 eP P 23 52 01.6 +0.6
comp=Z,17nm,0.7s
PVRL Vila Real 77.14 310 eP P 23 52 04.8 +1.6
comp=Z,25nm,1.6s

PVRL					*e*P		**pP**		**23 52 12.0**	**-0.8**	
POLO	**Lamas de Olo**	**77.16**	**310**		*e*P		pP		23 52 12.5	-0.5	
STKA	**Stephens Creek**	**77.17**	**135**		P		**P**		**23 52 03.6**	**+0.3**	
	comp=Z,14nm,0.8s,baz=320,slow=6.4,SNR=36										
STKA	**Stephens Creek**	**77.17**	**135**		*e*P		**P**		**23 52 03.6**	**+0.3**	
	comp=Z,4.1nm,1.0s										
MTE	**Manteigas**	**77.37**	**309**		*e*P		**P**		**23 52 06.3**	**+1.8**	
MTE					*e*pP		**pP**		**23 52 14.0**	**-0.1**	
PCBR	**Castelo Branco**	**77.54**	**308**		*e*P		**P**		**23 52 07.0**	**+1.6**	
PCBR					*e*pP		**pP**		**23 52 14.7**	**-0.3**	
COLD	**Coldfoot**	**77.55**	**20**		*e*P		**P**		**23 52 04.9**	**0.0**	
	comp=Z,17nm,1.2s										
COLD					*e*pP		**pP**		**23 52 14.7**	**+0.1**	
PBAR	**Barrancos**	**77.89**	**307**		*e*P		**P**		**23 52 08.3**	**+1.0**	
PBAR					*e*pP		**pP**		**23 52 16.5**	**-0.5**	
PTOM	**Tomar**	**78.29**	**308**		*e*P		**P**		**23 52 10.4**	**+0.9**	
PTOM					*e*pP		**PcP**		**23 52 19.1**	**+0.2**	
EVO	**Evora**	**78.45**	**307**		*e*pP		pP		23 52 19.9	-0.2	
LBTB	**Lobatse**	**78.55**	**235**		*e*P		**P**		**23 52 12.7**	**+1.5**	
LBTB					pmax		pmax				
	comp=Z,13nm,0.8s										
LBTB	**Lobatse**	**78.55**	**235**		*e*P		**P**		**23 52 12.7**	**+1.5**	
	comp=Z,13nm,0.8s										
PVAQ	**Vaqueiros**	**78.69**	**306**		*e*P		**P**		**23 52 13.6**	**+1.8**	
PVAQ					*e*pP		**pP**		**23 52 21.3**	**-0.2**	
MLY	**Manley**	**78.76**	**22**		*e*P		**P**		**23 52 12.7**	**+0.9**	
	comp=Z,10nm,0.8s										
PNCL	**Nicolau / Gran**	**78.99**	**307**		*e*P		**P**		**23 52 15.0**	**+1.6**	
PNCL					*e*pP		**pP**		**23 52 23.2**	**+0.1**	
BPAW	**Bear Paw Mtn.**	**79.26**	**22**		*e*P		**P**		**23 52 14.4**	**-0.1**	
	comp=Z,1.8nm,0.8s										
CAST	**Castle Rocks**	**79.30**	**23**		*e*P		**P**		**23 52 15.7**	**+1.0**	
	comp=Z,38nm,0.8s										
FYU	**Fort Yukon**	**79.47**	**19**		*e*P		**P**		**23 52 16.1**	**+0.6**	
	comp=Z,46nm,1.5s										
RES	**Resolute Bay**	**79.54**	**1**		*e*P		**P**		**23 52 15.3**	**-0.4**	
RES					*e**PP		**pP**		**23 52 24.6**	**-0.8**	
RES					pmax		pmax				
	comp=Z,15nm,1.4s										
RES	**Resolute Bay**	**79.54**	**1**		*e*P		**P**		**23 52 15.3**	**-0.4**	
	comp=Z,15nm,1.4s										
RES					*e*pP		**pP**		**23 52 24.6**	**-0.8**	
MDM	**Murphy Dome**	**79.62**	**21**		*e*P		**P**		**23 52 17.0**	**+0.6**	
	comp=Z,23nm,0.9s										
COLA	**College**	**79.80**	**21**		*e*P		**P**		**23 52 17.1**	**-0.2**	
COLA					*e**PP		**pP**		**23 52 26.4**	**-0.6**	
COLA					pmax		pmax				
	comp=Z,4.0nm,0.9s										
COLA	**College**	**79.80**	**21**		*e*P		**P**		**23 52 17.1**	**-0.2**	
	comp=Z,4.3nm,0.9s										
COLA					*e*pP		**pP**		**23 52 26.4**	**-0.6**	
CCB	**Clear Creek Bu**	**79.97**	**21**		*e*P		**P**		**23 52 18.0**	**-0.2**	
	comp=Z,5.0nm,0.6s										
WRH	**Wood River Hil**	**79.99**	**21**		*e*P		**P**		**23 52 18.4**	**0.0**	
	comp=Z,17nm,1.6s										
IL1	**Eielson Array**	**80.18**	**21**		*e*P		**P**		**23 52 17.5**	**-1.9**	
ILAR	**Eielson Array**	**80.18**	**21**		P		**P**		**23 52 19.0**	**-0.4**	
	comp=Z,2.4nm,0.8s,baz=303,slow=4.8,SNR=31										
ILAR					pP		**pP**		**23 52 28.1**	**-1.0**	
	comp=Z,6.2nm,0.9s,baz=298,slow=4.6,SNR=20										
ILB	**Eielson Array**	**80.18**	**21**		*e*P		**P**		**23 52 19.3**	**-0.1**	
MCK	**McKinley**	**80.19**	**22**		*e*P		**P**		**23 52 20.0**	**+0.5**	
MCK					*e**PP		**pP**		**23 52 28.7**	**-0.5**	
MCK					pmax		pmax				
	comp=Z,8.0nm,0.6s										
MCK	**McKinley**	**80.19**	**22**		*e*P		**P**		**23 52 20.0**	**+0.5**	
	comp=Z,8.1nm,0.6s										
MCK					*e*pP		**pP**		**23 52 28.7**	**-0.5**	
RND	**Reindeer**	**80.43**	**22**		*e*P		**P**		**23 52 20.7**	**-0.2**	
RND					pmax		pmax				
	comp=Z,10.0nm,0.8s										
RND	**Reindeer**	**80.43**	**22**		*e*P		**P**		**23 52 20.7**	**-0.2**	
	comp=Z,10nm,0.8s										
TOA0	**Torodi Ar. Sit**	**80.81**	**280**		*e*P		**P**		**23 52 24.1**	**+0.5**	
TORD	**Torodi Ar. Bea**	**80.81**	**280**		P		**P**		**23 52 24.1**	**+0.4**	
	comp=Z,4.3nm,0.6s,baz=67,slow=4.5,SNR=88										
TORD					pP		**pP**		**23 52 32.9**	**-0.5**	
	comp=Z,4.0nm,0.7s,baz=54,slow=4.2,SNR=12										
BOSA	**Boshof**	**80.90**	**232**		P		**P**		**23 52 24.8**	**+0.9**	
	comp=Z,12nm,1.2s,baz=321,slow=6.1,SNR=10										
BOSA					LR		LR		00 25 49.2		
	comp=Z,67nm,18.8s,baz=142,slow=34										
BOSA	**Boshof**	**80.90**	**232**		*e*P		**P**		**23 52 25.3**	**+1.4**	
BOSA					pmax		pmax				
	comp=Z,87nm,2.0s										
BOSA	**Boshof**	**80.90**	**232**		*e*P		**P**		**23 52 25.2**	**+1.4**	
	comp=Z,87nm,2.0s										
DHY	**Denali Highway**	**81.16**	**22**		*e*P		**P**		**23 52 24.6**	**-0.2**	
	comp=Z,28nm,1.6s										
INK	**Inuvik**	**81.19**	**14**		*e*P		**P**		**23 52 24.8**	**+0.1**	
INK					*e**PP		**pP**		**23 52 33.8**	**-0.6**	
INK					pmax		pmax				
	comp=Z,16nm,0.8s										
INK	**Inuvik**	**81.19**	**14**		*e*P		**P**		**23 52 24.8**	**+0.1**	
	comp=Z,16nm,0.8s										
INK					*e*pP		**pP**		**23 52 33.8**	**-0.6**	
PMR	**Palmer**	**81.51**	**24**		*e*P		**P**		**23 52 26.5**	**0.0**	
PMR					*e**PP		**pP**		**23 52 35.4**	**-0.8**	
PMR					pmax		pmax				
	comp=Z,14nm,0.7s										
PMR	**Palmer**	**81.51**	**24**		*e*P		**P**		**23 52 26.5**	**0.0**	
	comp=Z,14nm,0.7s										
PMR					*e*pP		**pP**		**23 52 35.4**	**-0.8**	
RIDG	**Independ'e Rid**	**81.54**	**21**		*e*P		**P**		**23 52 26.9**	**+0.2**	
	comp=Z,16nm,1.1s										
TSUM	**Tsumeb**	**81.57**	**244**		*e*P		**P**		**23 52 27.6**	**0.0**	
	comp=Z,3.6nm,1.0s										
SCRK	**Sand Creek**	**81.65**	**20**		*e*P		**P**		**23 52 27.7**	**+0.4**	
	comp=Z,16nm,0.8s										
SML	**Sawmill**	**81.66**	**23**		*e*P		**P**		**23 52 27.7**	**+0.3**	
SML					pmax		pmax				
	comp=Z,7.0nm,0.8s										
SML	**Sawmill**	**81.66**	**23**		*e*P		**P**		**23 52 27.7**	**+0.3**	
	comp=Z,6.8nm,0.8s										
DOT	**Dot Lake**	**81.85**	**21**		*e*P		**P**		**23 52 28.8**	**+0.4**	
	comp=Z,16nm,0.8s										
EGAK	**Eagle**	**81.93**	**19**		*e*P		**P**		**23 52 29.4**	**+0.7**	
	comp=Z,8.8nm,1.0s										
SFJD	**Kangerlussuaq**	**82.14**	**345**		LR		LR		00 34 34.1		
	comp=Z,54nm,18.5s,baz=28,slow=40										
SFJD	**Kangerlussuaq**	**82.14**	**345**	*i*	P		pP		23 52 37.7	-1.7	
SFJD	**Kangerlussuaq**	**82.14**	**345**	*i*	P		pP		23 52 37.7	-1.7	
HARP	**HAARP**	**82.36**	**22**		*e*P		**P**		**23 52 32.8**	**+1.7**	
	comp=Z,26nm,0.8s										
KDAK	**Kodiak Island**	**82.57**	**28**	*i*	P		**P**		**23 52 32.4**	**+0.3**	
KLU	**Klutina**	**82.73**	**23**		*e*P		**P**		**23 52 34.3**	**+1.3**	
	comp=Z,17nm,1.1s										
DAWY	**Dawson**	**82.98**	**19**		*e*P		**P**		**23 52 34.5**	**+0.2**	
	comp=Z,7.6nm,1.0s										
DAWY					*e*pP		**pP**		**23 52 43.2**	**-0.7**	
CAN	**Canberra**	**84.12**	**134**		*e*P		**P**		**23 52 41.3**	**+0.8**	
CAN					*e**PP		**pP**		**23 52 49.7**	**-0.5**	
CAN					pmax		pmax				
	comp=Z,21nm,1.2s										
CAN	**Canberra**	**84.12**	**134**		*e*P		**P**		**23 52 41.2**	**+0.8**	
	comp=Z,21nm,1.2s										
CAN					*e*pP		**pP**		**23 52 49.6**	**-0.5**	
KOWA	**Kowa**	**85.28**	**284**		P		**P**		**23 52 46.9**	**+0.1**	
	comp=Z,3.5nm,0.5s,baz=42,slow=9.0,SNR=16										
KOWA					pP		**pP**		**23 52 56.9**	**+0.4**	
	comp=Z,4.0nm,0.5s,baz=88,slow=3.6,SNR=5.9										
KOWA					LR		LR		00 37 41.9		
	comp=Z,64nm,18.7s,baz=62,slow=40										
KOWA	**Kowa**	**85.28**	**284**		*e*P		**P**		**23 52 48.0**	**+1.2**	
	comp=Z,46nm,1.9s										
KOWA					pP		**pP**		**23 52 56.9**	**+0.4**	
HYT	**Haines Junctio**	**86.02**	**20**		*e*P		**P**		**23 52 50.1**	**+0.4**	
	comp=Z,12nm,0.8s										
WHY	**Whitehorse**	**86.95**	**19**		*e*P		**P**		**23 52 55.0**	**+0.6**	
	comp=Z,7.1nm,0.8s										
SKAG	**Skagway**	**87.76**	**20**		*e*P		**P**		**23 52 57.8**	**-0.3**	
	comp=Z,13nm,0.8s										
SKAG					*e*pP		**pP**		**23 53 08.2**	**+0.3**	
DBIC	**Dimbokro**	**89.40**	**277**		P		**P**		**23 53 07.5**	**+0.8**	
	comp=Z,2.8nm,0.7s,baz=62,slow=6.9,SNR=7.5										
DBIC					pP		**pP**		**23 53 16.7**	**+0.2**	
	comp=Z,3.0nm,0.7s,baz=39,slow=6.2,SNR=3.6										
DBIC					LR		LR		00 36 48.2		
	comp=Z,45nm,18.7s,baz=46,slow=38										
YKW3	**Yellowknife Ar**	**89.95**	**10**		*e*P		**P**		**23 53 08.2**	**-0.1**	
YKA	**Yellowknife Ar**	**90.02**	**10**		P		**P**		**23 53 08.3**	**-0.4**	
	comp=Z,1.3nm,0.8s,baz=335,slow=4.7,SNR=23										
YKA					pP		**pP**		**23 53 17.4**	**-1.0**	
	comp=Z,3.4nm,0.7s,baz=332,slow=4.8,SNR=26										
YKA					PKKPbc		**PKKPbc**		**00 10 38.2**	**-2.5**	
	comp=Z,0.1nm,0.3s,baz=157,slow=2.5,SNR=4.6										
MAW	**Mawson**	**95.16**	**189**		P		**P**		**23 53 31.9**	**-0.1**	
	comp=Z,2.3nm,0.8s,baz=308,slow=12,SNR=4.4										
PDAR	**Pinedale Array**	**109.74**	**13**		PKKP		**PKKPab**		**00 09 54.0**	**-5.0**	
	comp=Z,0.4nm,0.6s,baz=153,slow=8.3,SNR=4.2										
MNTX	**Cornudas Mount**	**121.27**	**13**		*e*PKPdf		**PKPdf**		**23 59 03.1**	**+0.2**	
NATX	**Nacogdoches**	**122.51**	**2**		*e*PKPdf		**PKPdf**		**23 59 06.2**	**+1.0**	
JCT	**Junction City**	**123.38**	**8**		*e*PKIKP		**PKPdf**		**23 59 06.3**	**-0.7**	
JCT	**Junction City**	**123.38**	**8**		*e*PKPdf		**PKPdf**		**23 59 06.2**	**-0.7**	
TXAR	**Lajitas Array**	**123.90**	**12**		PKP		**PKPdf**		**23 59 07.5**	**-0.5**	
	comp=Z,0.7nm,0.5s,baz=156,slow=0.8,SNR=9.7										
TXAR					pPKP		**pPKPdf**		**23 59 17.4**	**-0.7**	
	comp=Z,1.4nm,0.5s,baz=21,slow=0.8,SNR=12										
SDV	**Santo Domingo**	**139.42**	**326**		PKP		**PKPdf**		**23 59 36.6**	**-1.1**	
	comp=Z,2.1nm,0.4s,baz=11,slow=5.3,SNR=5.4										
ROSC	**El Rosal**	**144.72**	**328**		PKP		**PKPdf**		**23 59 47.4**	**-0.1**	
	comp=Z,14nm,0.7s,baz=214,slow=23,SNR=7.5										
ROSC					pPKP		**pPKPdf**		**23 59 56.8**	**-0.8**	
	comp=Z,37nm,0.7s,baz=114,slow=6.4,SNR=9.4										
SAML	**Samuel**	**147.58**	**296**		*e*PKPbc		**PKPbc**		**23 59 54.7**	**+0.2**	
CPUP	**Villa Florida**	**148.67**	**262**		PKPbc		**PKPdf**		**23 59 55.0**	**+1.8**	
	comp=Z,4.1nm,0.8s,baz=80,slow=2.9,SNR=7.5										
OTAV	**Otavalo**	**150.68**	**331**		*e*PKPbc		**PKPbc**		**00 00 03.5**	**+0.6**	
OTAV					*e*PKPab		**pPKPbc**		**00 00 12.9**	**0.0**	
TRQA	**Tornquist**	**151.75**	**237**		*e*PKPbc		**PKPbc**		**00 00 04.8**	**+0.7**	
TRQA					*e*PKPab		**pPKPbc**		**00 00 13.9**	**-0.3**	
LPAZ	**La Paz**	**155.51**	**288**		PKP		**PKPdf**		**00 00 04.0**	**-0.4**	
	comp=Z,0.8nm,0.7s,baz=313,slow=21,SNR=2.6										
LPAZ					PKPab		**PKPab**		**00 00 29.1**	**-1.2**	
	comp=Z,3.3nm,0.7s,baz=101,slow=1.7,SNR=11										

BJI ***28*** *00:13:43.9,21.˚61N×144.˚34E,h84km,mb4.5/27,mB4.8/19, Ms4.2/8,Ms7 4.1/5*

MOS ***28*** *00:13:49.9±1.0,22.˚11N×143.˚74E,h91km,mb4.4/9,Error ellipse: s-maj=14.1km s-min=6.8km az=101.2*

ISCJB ***28*** *00:13:50.4±1.1,22.˚18N±0.˚04×143.˚82E±0.˚07,h94km±9km, mb4.4/53,Error ellipse: s-maj=10.9km s-min=7.4km az=175.0*

NEIC ***28*** *00:13:51.5±1.2,22.˚17N×143.˚81E,h90km±10km,mb4.4/19, Error ellipse: s-maj=8.8km s-min=5.9km az=91.0*

IDC ***28*** *00:13:52.6±0.7,22.˚13N×143.˚80E,h99km±5km,mb4.0/26, mb1 4.1/28,mb1mx3.9/64,mbtmp4.3/28,Error ellipse: s-maj=15.2km s-min=10.3km az=83.0*

JMA ***28*** *00:13:55.5±0.1,22.˚51N×143.˚97E,h123km,M4.9*

ISC 28 00:13:52.1±0.7,22.˚18N±0.˚05×143.˚81E±0.˚09,h95km±4km, h95km:pP-P,n117,σ1s37/135,mb4.4/53,5C-4D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.68**	**342**	P	**Pn**	**00 15 01.8**	**+1.4**
JHHJ				*e*S	**Sn**	**00 15 52.3**	**-1.2**
CBIJ	**Chichi jima**	**5.12**	**344**	P	**Pn**	**00 15 07.3**	**+0.9**
CBIJ				S	**Sn**	**00 16 02.7**	**-1.5**
CBIJ	**Chichi jima**	**5.12**	**344**	*e*Pn	**Pn**	**00 15 06.8**	**+0.5**
CBIJ				*e*Sn	**Sn**	**00 16 04.0**	**-0.2**
JCJ	**Chichijima**	**5.12**	**344**	P	**Pn**	**00 15 07.7**	**+1.3**
	45nm,0.3s,baz=295,slow=21,SNR=25						
JCJ				S	**Sn**	**00 16 02.1**	**-2.0**
	108nm,0.3s,baz=138,slow=23,SNR=15						
JRY	**Ryogami san**	**14.44**	**344**	P	**Pn**	**00 17 11.1**	**-0.8**
JRY				*e*S	**Sn**	**00 19 45.0**	**-6.0**
MJAR	**Matsushiro Arr**	**15.12**	**342**	P	**Pn**	**00 17 21.6**	**+1.0**
	0.8nm,0.3s,baz=164,slow=9.9,SNR=7.9						
MAJO	**Matsushiro**	**15.12**	**342**	*e*P	**Pn**	**00 17 18.6**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,36nm,1.9s						
MAJO	**Matsushiro**	**15.12**	**342**	*e*Pn	**Pn**	**00 17 18.1**	**-2.5**
	comp=Z,62nm,1.8s						
MAT	**Matsushiro**	**15.12**	**342**	P	**P**	**00 17 25.0**	**+1.4**
MJB9	**Matsu-Tunnel**	**15.12**	**342**	*e*Pn	**Pn**	**00 17 18.3**	**-2.4**
	comp=Z,63nm,1.8s						
JNU	**Natsue**	**15.80**	**316**	*e*Pn	**Pn**	**00 17 26.2**	**-3.0**
KSRS	**Korea Array**	**20.49**	**322**	P	**P**	**00 18 23.2**	**+0.8**
	comp=Z,3.1nm,0.4s,baz=142,slow=12,SNR=4.9						
KSAR	**Wonju Array Be**	**20.51**	**321**	P	**P**	**00 18 23.2**	**+0.6**
KSAR	**Wonju Array Be**	**20.51**	**321**	P	**P**	**00 18 23.2**	**+0.6**
KS01	**Wonju Array Si**	**20.52**	**322**	*e*P	**P**	**00 18 23.0**	**+0.2**
YHNB	**Yeheng**	**20.73**	**281**	*e*P	**P**	**00 18 25.7**	**+0.4**
	comp=Z,11nm,0.5s						
SSLB	**Suanglung**	**21.10**	**279**	*e*P	**P**	**00 18 30.9**	**+1.7**
	comp=Z,32nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**21.69**	**92**	T	T	00 41 16.0	
	baz=291,slow=74						
H11N2	**WAKE ISLAND Hy**	**21.69**	**92**	T	T	00 41 16.5	
	baz=291						
H11N3	**WAKE ISLAND Hy**	**21.71**	**92**	T	T	00 41 19.0	
	baz=291,slow=74						
H11S3	**WAKE ISLAND Hy**	**21.76**	**96**	T	T	00 41 29.7	
	baz=283,slow=74,SNR=24						
H11S1	**WAKE ISLAND Hy**	**21.77**	**96**	T	T	00 41 34.5	
	baz=283,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**21.77**	**96**	T	T	00 41 33.5	
	baz=283,slow=74,SNR=14						
USRK	**Ussuriysk Ar.**	**24.04**	**339**	P	**P**	**00 19 00.2**	**+1.9**
	comp=Z,5.5nm,0.8s,baz=153,slow=12,SNR=12						
NJ2	**Nanjing**	**24.24**	**299**	*e*P	**P**	**00 19 01.8**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
YSS	**Yuzh-Sakhalins**	**24.73**	**358**	*e*P	**P**	**00 19 09.3**	**+4.7**
YSS				*e*		00 19 31.5	
MDJ	**Mudanjiang**	**25.26**	**336**	P	**P**	**00 19 10.8**	**+1.4**
MDJ				S	**S**	**00 23 31.3**	**+3.2**
MDJ				sS	sS	00 24 02.3	-2.6
MDJ				ScP	**ScP**	**00 26 08.8**	**-2.2**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,100nm,6.4s						
MDJ				LR	LR		
	comp=Z,170nm,4.8s						
MDJ				LR	LR		
	comp=Z,190nm,4.4s						
MDJ				LR	LR		
	comp=Z,90nm,9.2s						
CN2	**Changchun**	**26.39**	**329**	*e*P	**P**	**00 19 22.8**	**+3.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**28.64**	**343**	P	**P**	**00 19 40.7**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=151,slow=7.9,SNR=41						
NKL	**Nikolayevsk**	**31.02**	**356**	*e*P	**P**	**00 20 01.8**	**+1.3**
NKL				pmax	pmax		
	comp=N,6.0nm,1.0s						
NKL				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC	**Hu-ho-hao-te**	**32.94**	**312**	*e*P	**P**	**00 20 19.0**	**+1.2**
HHC				pP	pP	00 20 38.5	-0.8
HHC				S	**S**	**00 25 28.8**	**-0.2**
HHC				sS	sS	00 26 11.0	+4.7
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.4s						
HHC				LR	LR		
	comp=Z,190nm,11.2s						
HHC				LR	LR		
	comp=Z,160nm,11.6s						
HHC				LR	LR		
	comp=Z,87nm,12.0s						
COEN	**Coen**	**35.91**	**181**	*e*P	**P**	**00 20 43.8**	**+0.4**
	comp=Z,6.3nm,0.6s						
CD2	**Chengdu**	**36.71**	**292**	*e*P	**P**	**00 20 49.0**	**-1.3**
SOEI	**Soe**	**37.07**	**213**	*e*P	**P**	**00 20 53.0**	**-0.5**
LZH	**Lanzhou**	**37.30**	**301**	*e*P	**P**	**00 20 55.0**	**-0.3**
LZH				pP	pP	00 21 15.0	-2.2
LZH				*e*PP	**PnPn**	**00 22 26.0**	**+2.2**
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,80nm,5.4s						
LZH				LR	LR		
	comp=Z,280nm,13.0s						
LZH				LR	LR		
	comp=Z,290nm,13.4s						
LZH				LR	LR		
	comp=Z,370nm,16.8s						
MA2	**Magadan**	**37.69**	**6**	P	**P**	**00 20 59.0**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=142,slow=19,SNR=5.2						
MA2	**Magadan**	**37.69**	**6**	*e*P	**P**	**00 20 59.0**	**+0.9**
ULN	**Ulaanbaatar**	**38.97**	**320**	*i*P	**P**	**00 21 10.2**	**+1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULN	**Ulaanbaatar**	**38.97**	**320**	*e*P	**P**	**00 21 09.3**	**+0.1**
	comp=Z,1.5nm,0.7s						
SONM	**Songino Array**	**39.35**	**320**	P	**P**	**00 21 12.5**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=134,slow=8.4,SNR=11						
SONM				pP	**pP**	**00 21 34.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=128,slow=9.3,SNR=1.9						
SONA1	**Songino Array**	**39.35**	**320**	*e*P	**P**	**00 21 12.0**	**-0.3**
YAK	**Yakutsk**	**41.00**	**350**	*e*P	**P**	**00 21 25.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s						
GTA	**Gaotai**	**41.07**	**305**	*e*P	**P**	**00 21 26.0**	**-0.7**
GTA				pP	pP	00 21 47.5	-1.3
GTA				sP	sP	00 21 59.8	+0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SEY	**Seymchan**	**41.15**	**6**	P	**P**	**00 21 28.0**	**+1.3**
	comp=Z,1.0nm,0.2s,baz=178,slow=7.3,SNR=15						
CTA	**Charters Tower**	**42.07**	**177**	P	**P**	**00 21 33.5**	**-1.3**
	comp=Z,3.8nm,0.4s,baz=11,slow=10,SNR=5.6						
CTAO	**Charters Tower**	**42.07**	**177**	*e*P	**P**	**00 21 35.1**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,26nm,0.6s						
CTAO	**Charters Tower**	**42.07**	**177**	*e*P	**P**	**00 21 35.1**	**+0.3**
	comp=Z,26nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.13**	**273**	P	**P**	**00 21 35.2**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=90,slow=7.1,SNR=4.2						
ZAK	**Zakamensk**	**42.33**	**322**	*e*P	**P**	**00 21 34.2**	**-2.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
WRAB	**Tennant Creek**	**42.86**	**193**	*e*P	**P**	**00 21 41.3**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WRAB	**Tennant Creek**	**42.86**	**193**	*e*P	**P**	**00 21 41.0**	**-0.2**
	comp=Z,3.0nm,0.5s						
WRA	**Warramunga Arr**	**42.87**	**193**	P	**P**	**00 21 41.2**	**0.0**
	comp=Z,1.1nm,0.3s,baz=17,slow=9.1,SNR=45						
AS01	**Alice Springs**	**46.56**	**192**	*e*P	**P**	**00 22 11.0**	**+0.4**
ASAR	**Alice Springs**	**46.58**	**193**	P	**P**	**00 22 10.1**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=11,slow=8.8,SNR=13						
WMQ	**Urumqi**	**50.73**	**309**	P	**P**	**00 22 43.5**	**+1.1**
STKA	**Stephens Creek**	**53.79**	**182**	P	**P**	**00 23 05.0**	**0.0**
	comp=Z,2.6nm,0.4s,baz=17,slow=9.9,SNR=4.1						
STKA	**Stephens Creek**	**53.79**	**182**	P	**P**	**00 23 05.0**	**0.0**
ZALV	**Zalesovo Beam**	**54.20**	**321**	P	**P**	**00 23 07.7**	**-0.1**
	comp=Z,2.3nm,0.4s,baz=109,slow=8.0,SNR=13						
ZALV				pP	**pP**	**00 23 31.9**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=116,slow=8.9,SNR=1.6						
MK01	**Makanchi Array**	**54.80**	**312**	*e*P	**P**	**00 23 11.8**	**-0.5**
MK31	**Makanchi Array**	**54.80**	**312**	*e*P	**P**	**00 23 12.8**	**+0.5**
MK31	**Makanchi Array**	**54.80**	**312**	*e*P	**P**	**00 23 12.8**	**+0.5**
MKAR	**Makanchi Array**	**54.80**	**312**	P	**P**	**00 23 12.8**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=87,slow=9.1,SNR=48						
MKAR				pP	**pP**	**00 23 36.2**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=92,slow=9.3,SNR=4.3						
MKAR				PcP	**PcP**	**00 24 13.2**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=77,slow=3.9,SNR=8.0						
MKAR	**Makanchi Array**	**54.80**	**312**	*e*P	**P**	**00 23 12.8**	**+0.5**
MKAR				*PP	**pP**	**00 23 36.3**	**+0.8**
MKAR						00 24 13.2	
MKAR				pmax	pmax		
	comp=Z,20nm,0.6s			

comp=Z,5.0nm,0.8s,baz=95,slow=3.9,SNR=11
FINES FINESS Array B 83.00 335 P **P 00 26 05.4 -1.2**
comp=Z,1.8nm,0.3s,baz=60,slow=5.0,SNR=38
FINES FINESS Array B 83.00 335 *i* P **P 00 26 05.6 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FFC Flin Flon 85.11 32 *e*P **P 00 26 17.5 0.0**
FFC pmax pmax
comp=Z,3.0nm,0.7s
FFC Flin Flon 85.11 32 *e*P **P 00 26 17.5 0.0**
comp=Z,2.9nm,0.7s
RAYN Ar Rayn 88.51 295 *e*P **P 00 26 34.0 -0.7**
comp=Z,0.7nm,0.5s
HFS Hagfors 88.51 337 P **P 00 26 31.8 -2.1**
comp=Z,1.0nm,0.5s,baz=65,slow=6.8,SNR=11
BRTR Keskin Array B 90.44 314 P **P 00 26 42.2 -1.3**
comp=Z,0.6nm,0.7s,baz=64,slow=2.9,SNR=3.9
BRTR Keskin Array B 90.44 314*e*P **P 00 26 44.0 +0.5**
CLL Collm 95.05 332 *e*pP pP 00 27 27.0 -2.5
TORD Torodi Ar. Bea 128.89 310 PKP **PKPdf 00 32 49.0 -0.6**
comp=Z,0.3nm,0.8s,baz=19,slow=0.7,SNR=5.0
PLCA Paso Flores 145.63 131 PKPbc **PKPab 00 33 20.6 +0.1**
comp=Z,2.3nm,0.7s,baz=200,slow=4.7,SNR=5.4
LPAZ La Paz 149.32 85 PKPbc **PKPbc 00 33 31.1 -0.5**
comp=Z,0.8nm,0.6s,baz=276,slow=9.2,SNR=3.4
LPAZ pPKPbc **pPKPbc 00 33 58.6 +1.0**
comp=Z,0.8nm,0.7s,baz=323,slow=5.1,SNR=2.0

*IDC **28** 00:15:46.3±0.5, 28.°66S×176.°50W, h0km, mb4.6/18, mb1 4.7/19, mb1mx4.6/38, mbtmp4.6/19, ML3.4/1, MS4.4/19, Ms1 4.4/19, ms1mx4.1/41, Error ellipse: s-maj=18.3km s-min=13.9km az=152.0*
*ISCJB **28** 00:15:50.3±0.4, 28.°8S±0.°1×176.°62W±0.°08, h29km, mb4.8/39, MS4.4/17, Error ellipse: s-maj=14.6km s-min=9.3km az=167.9*
*NEIC **28** 00:15:54.1±1.7, 28.°73S×176.°65W, h52km±14km, mb4.8/10, Error ellipse: s-maj=13.4km s-min=10.5km az=171.0*
ISC 28 00:15:51.3±0.5, 28.°7S±0.°1×176.°53W±0.°08, h29km, n84, σ1§33/68, mb4.7/39, MS4.5/17, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.33**	**246**	Pn	**Pn**	**00 16 14.7**	**+0.8**
	101nm,0.3s,baz=39,slow=1.3,SNR=13						
RAO				Sn	**Sb**	**00 16 33.9**	**+1.5**
	616nm,0.3s,baz=270,slow=20,SNR=11						
RAO				LR	LR	00 16 49.3	
	comp=Z,1μm,20.2s,baz=128,slow=46						
URZ	**Urewera**	**10.90**	**207**	Pn	Pn	00 18 17.9	-7.4
	0.4nm,0.3s,baz=322,slow=18,SNR=3.1						
URZ				Sn	Sn	00 20 17.0	-9.3
	3.2nm,0.3s,baz=172,slow=18,SNR=9.0						
AFI	**Afiamalu**	**15.38**	**18**	Sn	Sn	00 21 56.6	-19
	0.4nm,0.3s,baz=252,slow=19,SNR=1.7						
DZM	**Mont Dzumac**	**16.74**	**289**	Pn	**Pn**	**00 19 44.0**	**+0.1**
	0.1nm,0.3s,baz=131,slow=19,SNR=2.0						
DZM				LR	LR	00 25 07.5	
	comp=Z,977nm,19.7s,baz=133,slow=34						
DZM	**Mont Dzumac**	**16.74**	**289**	*e*LR	LR	00 23 27.2	
	1μm,26.1s						
RAR	**Rarotonga**	**16.91**	**68**	LR	LR	00 25 19.7	
	comp=Z,1μm,18.9s,baz=270,slow=34						
PPT2	**Papeete2**	**27.07**	**72**	*e*LQ	LQ	00 26 52.4	
	706nm,24.2s						
PPT2				*e*LR	LR	00 28 16.4	
	644nm,21.0s						
PPT	**Papeete**	**27.09**	**72**	LR	LR	00 30 11.9	
	comp=Z,762nm,18.6s,baz=194,slow=32						
HNR	**Honiara**	**29.26**	**306**	LR	LR	00 31 50.1	
	comp=Z,218nm,20.3s,baz=168,slow=33						
CAN	**Canberra**	**29.86**	**248**	*e*P	**P**	**00 21 57.8**	**+1.5**
	23nm,1.1s						
CTA	**Charters Tower**	**34.85**	**276**	P	**P**	**00 22 38.5**	**-1.7**
	5.7nm,0.6s,baz=97,slow=8.1,SNR=3.6						
CTAO	**Charters Tower**	**34.85**	**276**	*e*P	**P**	**00 22 39.4**	**-0.7**
	202nm,1.2s						
STKA	**Stephens Creek**	**36.14**	**254**	P	**P**	**00 22 51.0**	**-0.1**
	6.1nm,0.9s,baz=83,slow=9.4,SNR=14						
STKA				LR	LR	00 37 35.6	
	comp=Z,875nm,18.1s,baz=71,slow=36						
RKT	**Rikitea**	**37.65**	**91**	*e*LR	LR	00 32 57.6	
	508nm,21.2s						
TAOE	**Nuku Hiva Isla**	**39.47**	**67**	*e*LR	LR	00 33 57.4	
	574nm,21.0s						
COEN	**Coen**	**40.10**	**283**	*e*P	**P**	**00 23 24.2**	**-0.4**
	18nm,1.1s						
BBOO	**Buckleboo**	**40.69**	**252**	*e*P	**P**	**00 23 28.6**	**-0.7**
	15nm,1.3s						
ASAR	**Alice Springs**	**44.52**	**265**	P	**P**	**00 23 59.2**	**-1.4**
	14nm,1.1s,baz=117,slow=8.0,SNR=41						
ASAR				PcP	**PcP**	**00 25 44.0**	**+0.3**
	1.2nm,0.9s,baz=120,slow=3.9,SNR=3.3						
ASAR				LR	LR	00 43 01.1	
	comp=Z,745nm,18.6s,baz=118,slow=37						
WRAB	**Tennant Creek**	**45.35**	**270**	*e*P	**P**	**00 24 05.9**	**-1.3**
	28nm,1.3s						
WRA	**Warramunga Arr**	**45.35**	**270**	P	**P**	**00 24 06.3**	**-0.9**
	20nm,1.3s,baz=105,slow=7.8,SNR=19						
WRA				LR	LR	00 42 47.3	
	comp=Z,159nm,18.4s,baz=120,slow=36						
VNDA	**Vanda**	**49.90**	**186**	LR	LR	00 42 17.8	
	comp=Z,273nm,20.3s,baz=339,slow=32						
GUMO	**Guam**	**56.23**	**313**	LR		00 47 21.4	
	comp=Z,137nm,21.4s,baz=110,slow=34						
MBWA	**Marble Bar**	**57.71**	**262**	*e*P	**P**	**00 25 38.7**	**-0.9**
	104nm,1.3s						
RPN	**Rapa Nui**	**58.65**	**106**	LR	LR	00 46 55.2	
	comp=Z,302nm,18.3s,baz=263,slow=32						
BATI	**Baumata**	**58.74**	**276**	LR	LR	00 52 33.4	
	comp=Z,712nm,18.2s,baz=141,slow=38						
QSPA	**South Pole Qui**	**61.39**	**180**	P	**P**	**00 26 04.6**	**0.0**
	7.3nm,0.9s,baz=44,slow=2.7,SNR=11						
MAW	**Mawson**	**74.33**	**200**	P	**P**	**00 27 25.5**	**-0.2**
	3.4nm,0.9s,baz=109,slow=6.7,SNR=3.1						
LEM	**Lembang**	**74.36**	**271**	P	**P**	**00 27 25.5**	**-1.5**
	11nm,0.3s,baz=149,slow=19,SNR=3.2						
JOW	**Kunigami**	**76.50**	**311**	P	**P**	**00 27 38.0**	**-0.7**
	8.9nm,0.9s,baz=180,slow=11,SNR=3.5						
MJAR	**Matsushiro Arr**	**77.61**	**324**	P	**P**	**00 27 44.1**	**-0.7**
	0.6nm,0.3s,baz=147,slow=5.2,SNR=5.4						
SNAA	**Sanae**	**79.80**	**178**	P	**P**	**00 27 56.1**	**-0.4**
	3.0nm,1.0s,baz=207,slow=11,SNR=4.1						
SNAA	**Sanae**	**79.80**	**178**	*e*P	**P**	**00 27 55.9**	**-0.5**
LPIG	**La Paz**	**82.55**	**57**	LR	LR	00 57 49.6	
	comp=Z,396nm,19.1s,baz=218,slow=31						
PLCA	**Paso Flores**	**82.71**	**133**	P	**P**	**00 28 12.0**	**-0.5**
	4.5nm,1.0s,baz=294,slow=5.3,SNR=4.0						
PETK	**Petropavlovsk-**	**84.52**	**345**	P	**P**	**00 28 20.9**	**-0.2**
	2.1nm,0.7s,baz=117,slow=8.5,SNR=3.6						
PETK				LR	LR	01 02 50.1	
	comp=Z,184nm,19.2s,baz=138,slow=33						
YBH	**Yreka Blue Hor**	**85.92**	**37**	LR	LR	01 01 41.1	
	comp=Z,169nm,18.6s,baz=188,slow=32						
NVAR	**Mina Array Bea**	**86.13**	**42**	P	**P**	**00 28 29.0**	**-0.8**
	2.6nm,0.8s,baz=235,slow=4.0,SNR=9.3						
KULM	**Kulim**	**86.25**	**278**	*e*P	**P**	**00 28 29.7**	**-1.0**
	25nm,1.3s						
USRK	**Ussuriysk Ar.**	**86.48**	**326**	P	**P**	**00 28 33.1**	**+2.0**
	1.8nm,0.6s,baz=182,slow=5.0,SNR=4.7						
PSI	**Prapat**	**86.55**	**275**	P	**P**	**00 28 31.4**	**-1.0**
	3.2nm,0.6s,baz=172,slow=14,SNR=9.8						
PSI				LR	LR	01 06 38.2	
	comp=Z,56nm,21.4s,baz=117,slow=35						
GSI	**Gunungsitoli**	**87.02**	**273**	*e*P	**P**	**00 28 35.6**	**+1.0**
	79nm,1.5s						
TUC	**Tucson**	**87.05**	**51**	*e*P	**P**	**00 28 36.1**	**+1.8**
	28nm,1.5s						
TRTT	**Trang**	**88.31**	**280**	P	**P**	**00 28 42.1**	**+1.4**
	5.8nm,1.6s						
LCO	**Las Campanas**	**88.81**	**123**	*e*P	**P**	**00 28 43.8**	**+0.6**
	8.2nm,0.8s						
SKNT	**Sakolnakorn**	**89.16**	**290**	P	**P**	**00 28 46.1**	**+1.5**
	16nm,1.0s						
SRAK	**Srakaew**	**89.31**	**286**	P	**P**	**00 28 48.4**	**+3.1**
	27nm,1.4s						
SURT	**Suratani**	**89.62**	**280**	P	**P**	**00 28 48.8**	**+2.0**
	4.9nm,1.7s						
NAYO	**Nakonayok**	**90.07**	**286**	P	**P**	**00 28 51.8**	**+2.9**
	18nm,1.2s						
CHAI	**Chaiyaphum**	**90.29**	**288**	P	**P**	**00 28 52.3**	**+2.4**
	3.9nm,1.0s						
TXAR	**Lajitas Array**	**90.39**	**57**	P	**P**	**00 28 50.1**	**-0.2**
	2.0nm,1.1s,baz=216,slow=5.6,SNR=10						
TXAR				LR	LR	01 02 37.1	
	comp=Z,237nm,19.7s,baz=0.0,slow=31						
MNTX	**Cornudas Mount**	**90.45**	**54**	*e*P	**P**	**00 28 52.5**	**+2.2**
	2.0nm,1.1s						
LAZ	**Ladron**	**90.75**	**51**	*e*P	**P**	**00 28 54.5**	**+2.6**
	3.0nm,1.4s						
PHET	**Kaeng Krachan**	**90.82**	**284**	P	**P**	**00 28 55.9**	**+3.5**
ENH	**Enshi**	**91.72**	**304**	*e*P	**P**	**00 28 57.8**	**+1.5**
MCMT	**McKenzie Canyo**	**93.36**	**40**	*e*P	**P**	**00 29 05.9**	**+2.1**
	2.6nm,1.3s						
PDAR	**Pinedale Array**	**94.03**	**43**	P	**P**	**00 29 06.5**	**-0.4**
	0.3nm,0.7s,baz=207,slow=1.8,SNR=4.0						
PDAR				LR	LR	01 06 37.5	
	comp=Z,346nm,18.8s,baz=252,slow=32						
CMAR	**Chiang Mai Arr**	**94.07**	**289**	P	**P**	**00 29 07.6**	**+0.3**
	2.2nm,0.3s,baz=106,slow=3.2,SNR=14						
CHTO	**Chiang Mai**	**94.24**	**289**	*e*P	**P**	**00 29 10.1**	**+2.0**
	11nm,1.4s						
MCK	**McKinley**	**94.68**	**12**	*e*P	**P**	**00 29 08.4**	**-0.7**
	12nm,1.4s						
ILAR	**Eielson Array**	**96.00**	**12**	P	**P**	**00 29 14.2**	**-0.9**
	1.0nm,0.9s,baz=210,slow=4.3,SNR=5.2						
JTS	**JuntasAbangare**	**96.23**	**82**	LR	LR	01 03 45.1	
	comp=Z,240nm,19.3s,baz=162,slow=30						
LPAZ	**La Paz**	**97.64**	**113**	LR	LR	01 05 32.6	
	comp=Z,50nm,19.9s,baz=198,slow=31						
SONM	**Songino Array**	**102.76**	**318**	P	**Pdif**	**00 29 47.4**	**+1.5**
	0.2nm,0.7s,baz=120,slow=8.5,SNR=2.6						
MKAR	**Makanchi Array**	**117.67**	**310**	PKP	**PKPdf**	**00 34 33.6**	**-0.8**
	0.7nm,0.9s,baz=62,slow=3.1,SNR=5.8						
KURK	**Kurchatov**	**120.80**	**314**	PKP	**PKPdf**	**00 34 39.7**	**-0.5**
KURBB	**Kurchatov Arra**	**120.84**	**314**	PKP	**PKPdf**	**00 34 39.7**	**-0.6**
	0.7nm,0.9s,baz=101,slow=2.1,SNR=6.6						
BVAR	**Borovoye Array**	**126.08**	**317**	PKP	**PKPdf**	**00 34 50.4**	**+0.1**
	0.8nm,0.8s,baz=46,slow=4.2,SNR=5.7						
FINES	**FINESS Array B**	**143.98**	**342**	PKP	PKPab	00 35 21.1	+0.4
	3.9nm,0.8s,baz=54,slow=3.3,SNR=15						
GNI	**Garni**	**144.39**	**300**	*e*PKPdf	PKPbc	00 35 24.2	+0.7
KBZ	**Khabaz**	**145.19**	**306**	PKPbc	**PKPbc**	**00 35 24.5**	**-1.1**
	4.6nm,1.1s,baz=140,slow=1.6,SNR=3.7						
KIV	**Kislovodsk**	**145.29**	**307**	*e*PKPbc	**PKPdf**	**00 35 27.0**	**+0.7**
NB2	**NORSAR Subarra**	**147.26**	**353**	PKP	**PKPbc**	**00 35 31.1**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=11,slow=2.9						
NOA	**NORSAR Array B**	**147.26**	**353**	PKPbc	**PKPbc**	**00 35 31.2**	**-0.1**
	comp=Z,4.0nm,0.9s,baz=15,slow=4.5,SNR=6.9						
HFS	**Hagfors**	**147.82**	**350**	PKPbc	**PKPdf**	**00 35 31.2**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=62,slow=6.7,SNR=4.7						
AKASG	**Malin Array Be**	**150.69**	**326**	PKPbc	**PKPbc**	**00 35 40.5**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=43,slow=2.6,SNR=16						
KIEV	**Kiev**	**150.70**	**326**	*e*PKPbc	**PKPbc**	**00 35 40.1**	**-0.2**
MMAI	**Mount Meron Ar**	**152.32**	**287**	PKPab	**PKPab**	**00 35 52.6**	**-2.2**
	comp=Z,6.1nm,0.9s,baz=67,slow=3.7,SNR=4.8						
BRTR	**Keskin Array B**	**152.87**	**302**	PKPbc	**PKPbc**	**00 35 46.0**	**+0.1**
	comp=Z,1.5nm,1.1s,baz=9.5,slow=3.8,SNR=5.0						
EKA	**Eskdalemuir Ar**	**152.97**	**8**	PKPab	**PKPab**	**00 35 55.7**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=352,slow=3.7,SNR=5.1						
CLL	**Collm**	**156.32**	**345**	*e*PKPab	**PKPab**	**00 36 11.0**	**0.0**
PSZ	**Piszkesteto**	**156.99**	**331**	*e*PKPab	**PKPab**	**00 36 13.9**	**-0.2**
GERES	**GERESS Array B**	**158.41**	**341**	PKPab	**PKPab**	**00 36 21.2**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=27,slow=9.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**164.43**	**174**	PKP	**PKPdf**	**00 35 52.2**	**-0.7**
	comp=Z,0.6nm,1.0s,baz=231,slow=1.6,SNR=2.8						
TORD				PKPab	**PKPab**	**00 36 46.6**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=190,slow=3.7,SNR=6.7						
ESDC	**Sonseca Array**	**167.46**	**27**	PKPab	**PKPab**	**00 36 58.8**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=334,slow=4.3,SNR=2.8						

*DDA **28** 00:21:15.6, 41.°35N×44.°10E, h7km, Ml2.7*
*TIF **28** 00:21:15.6, 41.°38N×44.°08E, h13km±4km*
*ISCJB **28** 00:21:16.4±0.5, 41.°34N±0.°03×44.°11E±0.°03, h11km±4km, Error ellipse: s-maj=5.1km s-min=3.1km az=143.1*
*CSEM **28** 00:21:16.2±0.2, 41.°34N×44.°12E, h10km, ML2.4, Error ellipse: s-maj=4.8km s-min=2.5km az=147.0*
ISC 28 00:21:16.1±0.9, 41.°35N±0.°03×44.°09E±0.°02, h17km±7km, n26, σ0§39/51, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZR	**Kazreti**	**0.24**	**82**	P	**Pg**	**00 21 21.8**	**+0.1**
KZR				S	**Sg**	**00 21 25.2**	**-0.2**
KZR	**Kazreti**	**0.24**	**82**	P	**Pg**	**00 21 21.8**	**+0.1**
KZR				S	**Sg**	**00 21 25.2**	**-0.2**
BGD	**Bogdanovka**	**0.38**	**258**	P	**Pb**	**00 21 24.6**	**+0.1**
BGD				S	**Sb**	**00 21 30.5**	**+0.2**
BGD	**Bogdanovka**	**0.38**	**258**	P	**Pb**	**00 21 24.6**	**+0.1**
BGD				S	**Sb**	**00 21 30.5**	**+0.2**
AKH	**Akhalkalaki**	**0.46**	**278**	P	**Pb**	**00 21 25.5**	**-0.3**
AKH				S	**Sg**	**00 21 31.8**	**+0.2**
AKH	**Akhalkalaki**	**0.46**	**278**	P	**Pb**	**00 21 25.5**	**-0.3**
AKH				S	**Sg**	**00 21 31.8**	**+0.2**
TBLG	**Delisi**	**0.62**	**51**	P	**Pg**	**00 21 27.8**	**-0.5**
TBLG				S	**Sg**	**00 21 36.4**	**-0.2**
TBLG	**Delisi**	**0.62**	**51**	P	**Pg**	**00 21 27.8**	**-0.5**
TBLG				S	**Sg**	**00 21 36.4**	**-0.2**
BTNK	**Botanikuri**	**0.63**	**57**	P	**Pg**	**00 21 28.1**	**-0.4**
BTNK				S	**Sg**	**00 21 36.6**	**-0.2**
BTNK	**Botanikuri**	**0.63**	**57**	P	**Pg**	**00 21 28.1**	**-0.4**
BTNK				S	**Sg**	**00 21 36.6**	**-0.2**
SEAG	**Tbilisi Sea**	**0.68**	**52**	P	**Pb**	**00 21 29.6**	**+0.1**
SEAG				S	**Sb**	**00 21 39.0**	**+0.4**
SEAG	**Tbilisi Sea**	**0.68**	**52**	P	**Pb**	**00 21 29.6**	**+0.1**
SEAG				S	**Sb**	**00 21 39.0**	**+0.4**
EAK	**Akyaka**	**0.76**	**209**	*i* P	**Pg**	**00 21 30.5**	**-0.4**
EAK				*i* S	**Sb**	**00 21 41.4**	**+0.5**
EAK	**Akyaka**	**0.76**	**209**	P	**Pg**	**00 21 30.5**	**-0.4**
EAK				S	**Sb**	**00 21 41.4**	**+0.5**
DUS	**Dusheti**	**0.87**	**31**	P	**Pb**	**00 21 33.3**	**+0.4**
DUS				S	**Sn**	**00 21 45.8**	**-0.3**
DUS	**Dusheti**	**0.87**	**31**	P	**Pb**	**00 21 33.3**	**+0.4**
DUS				S	**Sn**	**00 21 45.8**	**-0.3**
DGRG	**David-gareji**	**0.97**	**83**	P	**Pg**	**00 21 34.2**	**-0.7**
DGRG				S	**Sb**	**00 21 47.5**	**+0.5**
DGRG	**David-gareji**	**0.97**	**83**	P	**Pg**	**00 21 34.2**	**-0.7**
DGRG				S	**Sb**	**00 21 47.5**	**+0.5**
DIGO	**Kars**	**1.08**	**211**	*i* P	**Pg**	**00 21 36.5**	**-0.5**
DIGO				*i* S	**Sn**	**00 21 51.5**	**+0.2**
DIGO	**Kars**	**1.08**	**211**	P	**Pg**	**00 21 36.5**	**-0.5**
GUDG	**Gudauri**	**1.15**	**14**	P	**Pb**	**00 21 37.4**	**-0.3**
GUDG				S	**Sn**	**00 21 53.6**	**+0.4**
GUDG	**Gudauri**	**1.15**	**14**	P	**Pb**	**00 21 37.4**	**-0.3**
GUDG				S	**Sn**	**00 21 53.6**	**+0.4**
ONI	**Oni**	**1.33**	**339**	P	**Pn**	**00 21 40.1**	**+0.1**
ONI				S	**Sb**	**00 21 57.7**	**+0.2**
IGDI	**IGDIR**	**1.48**	**180**	*i* P	**Pb**	**00 21 43.3**	**+0.2**
IGDI				*i* S	**Sn**	**00 22 00.2**	**-0.8**
DDEM	**Demirkent**	**1.83**	**256**	*i* P	**Pb**	**00 21 49.8**	**+0.7**
DDEM				*i* S	**Sb**	**00 22 11.8**	**+0.1**
DDEM	**Demirkent**	**1.83**	**256**	P	**Pb**	**00 21 49.8**	**+0.7**
DDEM				S	**Sb**	**00 22 11.8**	**+0.1**

*GCMT **28** 00:30:00.0±1.0, 4.°42S×104.°88W, h34km±2km, MW4.9/66, Moment Tensor Solution. s21,c23; s66,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.13±.24; Mθθ0.65±.17; Mϕϕ-0.78±.20; Mrθ0.61±.22; Mθϕ2.43±.14; Mϕr0.41±.21; Best double couple: Mw2.64100×10^16 NP1:ϕs99.00000°, δ79.00000°, λ12.00000°. NP2: ϕs7.00000°, δ78.00000°, λ169.00000°. Principal axes: T 2.6800, Plg16.0000°, Azm323.0000°; N -0.0790, Plg74.0000°, Azm140.0000°; P -2.6010, Plg1.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC 28 00:30:08.7±15.0, 5.°17S×104.°49W, h0km, mb3.3/4, mb1 3.8/4, mb1mx3.6/36, mbtmp3.3/4, MS3.8/9, Ms1 3.8/9, ms1mx3.5/20 Error ellipse: s-maj=577.0km s-min=138.6km az=116.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**24.07**	**23**	LR	LR	00 42 35.2	
	comp=Z,204nm,21.2s,baz=200,slow=31						
JTS	**JuntasAbangare**	**24.79**	**52**	LR	LR	00 42 41.7	
	comp=Z,428nm,20.7s,baz=250,slow=30						
ATAH	**Atahualpa**	**26.02**	**96**	LR	LR	00 43 41.4	
	comp=Z,165nm,18.9s,baz=262,slow=31						
NNA	**Nana**	**28.15**	**106**	LR	LR	00 44 27.1	
	comp=Z,187nm,21.2s,baz=304,slow=30						
ROSC	**El Rosal**	**31.73**	**72**	LR	LR	00 47 08.9	
	comp=Z,102nm,18.9s,baz=235,slow=32						
TXAR	**Lajitas Array**	**34.31**	**1**	P	P	00 36 57.6	+0.4
	0.2nm,0.7s,baz=183,slow=7.2,SNR=2.2						
SDV	**Santo Domingo**	**36.53**	**68**	LR	LR	00 49 46.8	
	comp=Z,131nm,20.3s,baz=248,slow=32						
LPAZ	**La Paz**	**37.32**	**110**	LR	LR	00 50 02.8	
	comp=Z,60nm,20.4s,baz=252,slow=32						
PPT	**Papeete**	**45.76**	**251**	LR	LR	00 52 04.6	
	comp=Z,153nm,20.1s,baz=151,slow=29						
PDAR	**Pinedale Array**	**47.93**	**355**	P	P	00 38 48.6	-0.6
	0.3nm,0.6s,baz=156,slow=8.9,SNR=4.6						
SADO	**Sadowa**	**54.67**	**22**	LR	LR	01 03 11.7	
	comp=Z,92nm,18.7s,baz=267,slow=36						
YKA	**Yellowknife Ar**	**67.91**	**355**	P	P	00 41 08.9	0.0
	0.2nm,0.6s,baz=165,slow=6.2,SNR=3.0						
ILAR	**Eielson Array**	**76.44**	**343**	P	P	00 42 00.2	+0.2
	0.3nm,0.6s,baz=138,slow=9.5,SNR=2.8						
H11N3	**WAKE ISLAND Hy**	**80.41**	**290**	T	T	02 22 38.0	
	baz=96,slow=74,SNR=58						
H11N2	**WAKE ISLAND Hy**	**80.42**	**290**	T	T	02 22 45.1	
	baz=96,slow=74,SNR=75						
H11N1	**WAKE ISLAND Hy**	**80.42**	**290**	T	T	02 22 38.2	
	baz=96,slow=74,SNR=48						
H11S2	**WAKE ISLAND Hy**	**80.48**	**288**	T	T	02 22 43.3	
	baz=94,slow=74,SNR=53						
H11S1	**WAKE ISLAND Hy**	**80.49**	**288**	T	T	02 22 42.3	
	baz=94,slow=74,SNR=63						
H11S3	**WAKE ISLAND Hy**	**80.50**	**288**	T	T	02 22 46.1	
	baz=94,slow=74,SNR=34						

*NIED **28** 00:34:00, 36.°90N×141.°10E, h47km, Mw3.5 Best double couple: Mo1.76000×10^14 NP1:ϕs114.00000°, δ26.00000°, λ-12.00000°. NP2:ϕs214.00000°, δ85.00000°, λ-116.00000°.*
*IDC **28** 00:34:00.4±2.3, 37.°13N×141.°58E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.3/67, mbtmp3.5/6, ML3.6/2, MS2.9/3, Ms1 2.9/3, ms1mx2.5/43, Error ellipse: s-maj=55.7km s-min=24.6km az=73.0*
*ISCJB **28** 00:34:06.9±0.8, 36.°92N±0.°04×141.°20E±0.°07, h51km±6km, mb3.4/4, MS3.6/1, Error ellipse: s-maj=10.0km s-min=6.2km az=14.6*
*JMA **28** 00:34:08.7±0.1, 36.°94N×141.°06E, h51km±1km, M3.5*
JMA Felt I J1
ISC 28 00:34:07.8±1.3, 36.°93N±0.°04×141.°20E±0.°08, h43km±11km, n26, σ0§74/28, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.36**	**299**	P	**Pn**	**00 34 17.5**	**+0.5**
ONAJ				S	**Sn**	**00 34 23.4**	**-0.1**
JFK	**Kawauchi**	**0.51**	**330**	P	**Pn**	**00 34 19.1**	**+0.3**
JFK				*i* S	**Sn**	**00 34 26.4**	**-0.2**
JHO	**Hitachi**	**0.60**	**238**	P	**Pn**	**00 34 20.0**	**+0.1**
JHO				S	**Sn**	**00 34 27.7**	**-0.8**
JFT	**Otama**	**0.91**	**311**	P	**Pn**	**00 34 24.6**	**+0.5**
JFT				S	**Sn**	**00 34 36.0**	**0.0**
JMM	**Marumori**	**0.99**	**341**	P	**Pn**	**00 34 25.4**	**+0.2**
JMM				S	**Sn**	**00 34 37.5**	**-0.5**
JSB	**Shiboa**	**1.02**	**273**	P	**Pn**	**00 34 25.7**	**0.0**
JSB				*e*S	**Sn**	**00 34 38.2**	**-0.7**
JFY	**Yanaizu**	**1.28**	**292**	P	**Pn**	**00 34 29.0**	**-0.3**
JFY				*e*S	**Sn**	**00 34 44.7**	**-0.6**
JAG	**Ashikaga**	**1.49**	**251**	P	**Pn**	**00 34 31.9**	**-0.1**
JAG				S	**Sn**	**00 34 48.8**	**-1.5**
JOU	**Okura**	**1.50**	**344**	P	**Pn**	**00 34 32.8**	**+0.6**
JKT	**Katashina**	**1.57**	**265**	P	**Pn**	**00 34 33.7**	**+0.4**
MJAR	**Matsushiro Arr**	**2.43**	**262**	Pn	**Pn**	**00 34 45.7**	**+0.7**
	3.3nm,0.3s,baz=83,slow=14,SNR=17						
MJAR				Sn	**Sn**	**00 35 15.2**	**+1.7**
	2.4nm,0.3s,baz=94,slow=14,SNR=5.2						
MAT	**Matsushiro**	**2.43**	**262**	P	**Pn**	**00 34 45.9**	**+0.9**
MAT				S	**Sn**	**00 35 14.8**	**+1.2**
JHJ	**Hachijo jima 2**	**3.97**	**197**	Pn	**Pn**	**00 35 06.0**	**-0.1**
	24nm,0.3s,baz=1.9,slow=12,SNR=4.0						
JHJ				Sn	**Sn**	**00 35 52.1**	**+0.6**
	14nm,0.3s,baz=291,slow=16,SNR=3.3						
JNU	**Nakatsue**	**9.28**	**249**	LR	LR	00 39 39.0	
	comp=Z,55nm,18.7s,baz=104,slow=35						
KSRS	**Korea Array**	**10.61**	**277**	LR	LR	00 40 29.6	
	comp=Z,18nm,19.1s,baz=195,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.24**	**120**	T	T	01 09 53.8	
	baz=313,slow=75						

SNR=6.7
USP Ospenovka 8.24 32 P **Pn** **00 41 48.3 +2.1**
SNR=6.5
ULHL Ulahol 8.34 43 P **Pn** **00 41 48.1 +0.3**
SNR=6.4
GEYT Alibeck 8.46 283 Pn Pn 00 41 49.0 -0.2
4.3nm,0.3s,baz=102,slow=11,SNR=4.3
GEYT Sn **Sn** **00 43 22.8 -1.0**
1.9nm,0.3s,baz=105,slow=11,SNR=5.7
TKM2 Tokmak 2 8.48 38 ⇓P **Pn** **00 41 50.0 +0.4**
4.4nm,0.6s
TKM2 ⇑Sn **Sn** **00 43 24.4 -0.3**
11nm,0.8s
TKM2 ⇑Lg Lg 00 44 17.6
3.8nm,0.6s
AB31 Akbulak array 14.29 337 ⇓Pn **Pn** **00 43 07.6 -1.2**
1.1nm,0.3s
AB31 ⇓Sn Sn 00 45 40.8 -5.6
4.1nm,0.7s
ABKAR Akbulak array 14.29 337 *e*Pn **Pn** **00 43 07.4 -1.5**
3.4nm,0.4s
MKAR Makanchi Array 14.59 40 Pn **Pn** **00 43 12.3 -0.7**
0.0nm,0.3s,baz=221,slow=11,SNR=4.9
KOLN Koldanda 15.39 120 *e*P **Pn** **00 43 21.8 -2.1**
5.5nm,0.4s
KURBB Kurchatov Area 15.93 24 Pn **Pn** **00 43 29.3 -1.3**
0.0nm,0.3s,baz=208,slow=9.2,SNR=2.3
AKTO Aktyubinsk 15.94 335 Pn **Pn** **00 43 31.6 +0.8**
0.3nm,0.3s,baz=119,slow=15,SNR=4.0
AKTO Sn **Sn** **00 46 20.6 -6.0**
0.1nm,0.3s,baz=31,slow=19,SNR=2.5
AKTO Aktyubinsk 15.94 335 ⇑Pn **Pn** **00 43 27.5 -3.2**
1.6nm,0.5s
AKTO ⇑Sn **Sn** **00 46 27.0 +0.3**
3.0nm,0.8s
GKN Gorkha 15.98 117 *e*P **Pn** **00 43 32.5 +0.9**
8.1nm,0.2s
KURK Kurchatov 16.04 24 *e*Pn **Pn** **00 43 31.6 -0.3**
KKN Kakani 16.57 116 *e*P **Pn** **00 43 39.5 +0.4**
13nm,0.6s
BVAR Borovoye Array 16.67 4 Pn **Pn** **00 43 39.4 -0.6**
0.2nm,0.3s,baz=184,slow=13,SNR=4.2
PKIN Phulchoki 16.78 117 *e*P **Pn** **00 43 41.0 -0.8**
8.7nm,0.5s
PKI Pulchoki 16.79 117 *e*P **Pn** **00 43 41.6 -0.4**
7.8nm,0.4s
GUN Gumba 16.94 115 *e*P **Pn** **00 43 45.3 +1.4**
7.5nm,0.4s
JIRN Jiri 17.30 115 *e*P **Pn** **00 43 48.8 +0.3**
23nm,0.4s
RAMN Ramite 18.01 116 *e*P **Pn** **00 43 53.6 -3.5**
8.6nm,0.4s
TAPN Taplejung 18.59 114 *e*P **P** **00 44 02.9 -1.1**
4.3nm,0.3s
ODAN Odare 18.64 115 *e*P **P** **00 44 01.6 -2.8**
4.3nm,0.3s
GNI Garni 19.04 289 *e*P **P** **00 44 10.9 +2.3**
20nm,0.8s
ZALV Zalesovo Beam 20.87 28 P **P** **00 44 27.6 -0.7**
1.0nm,0.3s,baz=216,slow=10.0,SNR=3.3
ZALV LR LR 00 52 46.1
comp=Z,22nm,18.4s,baz=70,slow=37
ARU Arti 21.13 345 P **P** **00 44 32.5 +1.4**
0.8nm,0.3s,baz=270,slow=20,SNR=3.1
ARU Arti 21.13 345 *e*P **P** **00 44 31.8 +0.8**
3.0nm,0.6s
AKASG Malin Array Be 31.46 309 P **P** **00 46 09.0 +1.4**
0.5nm,0.4s,baz=84,slow=7.4,SNR=3.1
FINES FINESS Array B 36.46 327 P **P** **00 46 52.1 +1.2**
1.4nm,0.9s,baz=122,slow=5.1,SNR=3.4
ARCES ARCESS Array B 40.48 338 P **P** **00 47 25.8 +1.2**
2.1nm,0.9s,baz=112,slow=9.8,SNR=4.1
HFS Hagfors 41.92 322 P **P** **00 47 36.8 +0.3**
0.7nm,0.5s,baz=96,slow=9.0,SNR=7.5
NB2 NORSAR Subarra 43.26 323 P **P** **00 47 47.9 +0.5**
comp=Z,0.3nm,0.4s,baz=98,slow=7.9
NOA NORSAR Array B 43.26 323 P **P** **00 47 48.1 +0.7**
comp=Z,0.4nm,0.4s,baz=98,slow=7.9,SNR=3.0
KLR Kul'dur 46.80 53 LR LR 01 07 22.4
comp=Z,20nm,20.8s,baz=190,slow=35
SPITS Spitsbergen Ar 47.13 347 P **P** **00 48 18.8 +0.9**
comp=Z,9.0nm,0.9s,baz=119,slow=12,SNR=2.9
TORD Torodi Ar. Bea 63.73 267 P **P** **00 50 17.9 -0.3**
comp=Z,0.1nm,0.4s,baz=49,slow=7.0,SNR=6.2
WRA Warramunga Arr 83.64 120 P **P** **00 52 12.8 -2.1**
comp=Z,0.2nm,0.6s,baz=327,slow=4.2,SNR=2.8

IDC 28 01:05:12.2±6.0, 20.74N×94.39E, h77km±53km, mb3.4/4, mb1 3.5/5, mb1mx3.0/61, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=77.9km s-min=19.7km az=56.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.86**	**117**	P	Pn	01 06 23.5	+0.6
	0.9nm,0.3s,baz=290,slow=13,SNR=16						
CMAR				S	Sn	01 07 18.2	+0.3
	1.0nm,0.3s,baz=303,slow=15,SNR=5.0						
MKAR	**Makanchi Array**	**27.80**	**342**	P	P	01 10 54.2	+0.3
	0.7nm,0.5s,baz=143,slow=11,SNR=16						
KURBB	**Kurchatov Arra**	**32.34**	**341**	P	P	01 11 33.8	-0.1
	1.0nm,0.6s,baz=150,slow=8.6,SNR=10						
ZALV	**Zalesovo Beam**	**33.95**	**350**	P	P	01 11 47.3	-0.6
	0.8nm,0.6s,baz=171,slow=8.6,SNR=3.3						
WRA	**Warramunga Arr**	**56.25**	**133**	P	P	01 14 45.0	+0.1
	0.2nm,0.4s,baz=318,slow=7.7,SNR=5.2						

AUST 28 01:12:05.6±0.0, 32.47S×149.33E, h0km, Error ellipse: s-maj=1.7km s-min=0.9km az=9.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGCD	**Mangrove Creek**	**1.67**	**117**	P	Pn	01 12 34.3	-1.8
	baz=4.7,SNR=123						
MGCD				S	Sn	01 12 45.9	-12
	baz=4.7,SNR=5.0						
MGCD	**Mangrove Creek**	**1.67**	**117**	P	Pn	01 12 34.3	-1.8
	baz=1.7,SNR=123						
MGCD				S	Sn	01 12 45.9	-12
	baz=1.7,SNR=5.0						
YNG	**Young**	**1.98**	**203**	P	Sn	01 13 00.6	-5.5
	baz=6.9,SNR=7.4						
YNG	**Young**	**1.98**	**203**	P	Sn	01 13 00.6	-5.5
	baz=2.0,SNR=7.4						
RIV	**Riverview**	**2.04**	**132**	P	Pg	01 12 44.9	+0.1
	baz=5.3,SNR=7.3						
RIV	**Riverview**	**2.04**	**132**	P	Pg	01 12 44.9	+0.1
	baz=2.0,SNR=7.3						
ARMA	**Armidale**	**2.83**	**44**	P	Pn	01 12 54.3	+2.1
	baz=2.1,SNR=17						
ARMA	**Armidale**	**2.83**	**44**	P	Pn	01 12 54.3	+2.1
	baz=2.8,SNR=17						
STKA	**Stephens Creek**	**6.59**	**273**	P	Pn	01 13 44.8	+1.0
	baz=11,SNR=4.9						
STKA	**Stephens Creek**	**6.59**	**273**	P	Pn	01 13 44.8	+1.0
	baz=6.6,SNR=4.9						
HTT	**Hallett**	**8.80**	**261**	P	Pn	01 14 13.3	-0.8
	baz=13,SNR=30						
HTT	**Hallett**	**8.80**	**261**	P	Pn	01 14 13.3	-0.8
	baz=8.8,SNR=30						

*SJA **28** 01:14:05.0±0.5, 34.05S×73.13W, h44km±13km, ML3.5, MW3.6*
*GUC **28** 01:14:11.6±0.4, 34.05S×72.22W, h23km±2km, ML3.1*
ISC 28 01:14:06.0±1.9, 33.94S±0.05×72.61W±0.10, h17km±11km, n18, σ1s59/29, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.68**	**132**	⇓*i* P	**Pb**	**01 14 20.4**	**+1.0**
CHPI				*i* S	**Sg**	**01 14 26.6**	**-1.8**
GO05	**Hualaæø**	**1.21**	**152**	⇑*i* P	**Pg**	**01 14 30.3**	**+0.9**
GO05				*i* S	**Sb**	**01 14 44.5**	**+0.7**
GO05				IAML		01 14 48.8	
	comp=E,1μm,0.4s						
NICH	**Los Niches**	**1.56**	**133**	*e*P	**Pb**	**01 14 34.5**	**+0.1**
NICH				*i* S	**Sn**	**01 14 52.2**	**-0.6**
ROC1	**El Roble**	**1.65**	**55**	*i* P	**Pg**	**01 14 39.0**	**+1.3**
ROC1				*i* S	**Sg**	**01 15 04.6**	**+5.5**
ROCH	**El Roble**	**1.65**	**55**	⇓*i* P	**Pg**	**01 14 38.0**	**+0.1**
ROCH				*i* S	**Sg**	**01 14 57.6**	**-1.8**
ROCH				IAML		01 15 01.8	
	comp=N,688nm,0.5s						
PEL	**Peldehue**	**1.80**	**64**	⇑*i* P	**Pg**	**01 14 39.6**	**-0.9**
PEL				*i* S	**Sb**	**01 15 01.2**	**+0.5**
PEL				IAML		01 15 07.4	
	comp=N,202nm,0.2s						
CLCH	**Cerro Calan**	**1.82**	**73**	⇑*i* P	**Pg**	**01 14 39.5**	**-1.4**
CLCH				*i* S	**Sb**	**01 15 00.6**	**-0.7**
LMEL	**Las Melosas**	**2.01**	**88**	⇑*i* P	**Pb**	**01 14 42.0**	**-0.2**
LMEL				*i* S	**Sn**	**01 15 04.3**	**+0.2**
LMEL				IAML		01 15 08.1	
	comp=N,572nm,0.1s						
FCH	**Farellones**	**2.03**	**73**	*e*P	**Pb**	**01 14 42.7**	**0.0**
FCH				*i* S	**Sn**	**01 15 04.8**	**-0.1**
COCH	**Cobquecura**	**2.19**	**184**	*e*P	**Pg**	**01 14 47.2**	**-0.9**
COCH				*i* S	**Sg**	**01 15 17.8**	**+1.3**
CCHI	**Chillan**	**2.69**	**171**	*e*P	**Pg**	**01 14 58.4**	**+0.7**
CCHI				*i* S	**Sg**	**01 15 31.0**	**-1.6**
AUSP	**Uspallata**	**3.21**	**59**	*i* P	**Pb**	**01 15 02.2**	**-0.4**
ARCO	**CERRO ARCO**	**3.27**	**71**	*i* P	**Pb**	**01 15 02.5**	**-1.2**
ARCO				IAML		01 15 10.3	
	comp=Z,84nm,0.4s						
ARCO				*i* S	**Sb**	**01 15 45.1**	**+1.9**
AAGR	**Agrelo**	**3.28**	**76**	*i* P	**Pb**	**01 15 02.8**	**-1.0**
ASAL	**Salagasta**	**3.44**	**68**	*i* P	**Pb**	**01 15 05.0**	**-1.5**
RTLS	**Leoncito**	**3.51**	**53**	*i* P	**Pb**	**01 15 06.0**	**-1.9**
RTLS				*i* S	**Sb**	**01 15 51.4**	**+0.9**
RTLS				IAML		01 16 02.3	
	comp=Z,69nm,0.6s						
AMOG	**MOGNA**	**4.59**	**50**	*i* P	Pb	01 15 20.2	-6.1
AGUA	**GUANDACOL**	**5.66**	**39**	*i* P	Pn	01 15 34.7	+5.2

*NIED **28** 01:27:00, 39.60N×143.80E, h17km, Mw4.2 Best double couple: M0 2.42000×10^15 NP1:φs176.00000°, δ36.00000°, λ55.00000°. NP2:φs37.00000°, δ61.00000°, λ113.00000°.*
*BJI **28** 01:27:21.9, 39.57N×143.71E, h14km, mb4.6/45, mB4.8/28, Ms4.1/26, Ms7 3.8/19*
*ISCJB **28** 01:27:21.5±1.0, 39.58N±0.03×143.69E±0.03, h5km±6km, mb4.4/73, MS3.8/13, Error ellipse: s-maj=4.9km s-min=3.4km az=137.0*
*IDC **28** 01:27:22.9±0.6, 39.53N×143.55E, h0km, mb4.1/30, mb1 4.3/35, mb1mx4.2/69, mbtmp4.2/35, ML3.3/6, MS3.4/8, Ms1 3.4/8, ms1mx3.0/60, Error ellipse: s-maj=14.2km s-min=12.2km az=121.0*
*JMA **28** 01:27:22.0±0.2, 39.61N×143.75E, h13km, M4.2*
*MOS **28** 01:27:24.1±1.0, 39.67N×143.58E, h18km, mb4.6/35, Error ellipse: s-maj=7.8km s-min=5.0km az=99.7*
*NEIC **28** 01:27:26.4±1.6, 39.56N×143.58E, h24km±11km, mb4.4/21, Error ellipse: s-maj=6.0km s-min=4.6km az=131.0*
ISC 28 01:27:24.1±1.1, 39.56N±0.04×143.73E±0.04, h13km±6km, n212, σ1s77/236, mb4.5/73, MS3.9/13, 10C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.48**	**271**	P	**Pn**	**01 27 48.7**	**-1.8**
MIYJ				*e*S	**Sn**	**01 28 08.2**	**-1.5**
JTH	**Tanohata**	**1.49**	**286**	P	**Pn**	**01 27 48.6**	**-2.0**
JTH				*e*S	**Sn**	**01 28 07.4**	**-2.6**
OFUJ	**Ofunato**	**1.67**	**254**	P	**Pn**	**01 27 51.6**	**-1.5**
OFUJ				S	**Sn**	**01 28 13.9**	**-0.5**
JOM	**Ohasama**	**1.89**	**268**	P	**Pn**	**01 27 55.1**	**-1.0**
JANG	**Nango**	**1.89**	**296**	P	**Pn**	**01 27 53.9**	**-2.2**
JMK	**Ichinoseki**	**2.04**	**254**	P	**Pn**	**01 27 57.0**	**-1.2**
ERM	**Erimo**	**2.50**	**350**	⇓*e*P	**Pn**	**01 28 04.0**	**-0.5**
ERM				pmax	pmax		
	comp=Z,38nm,1.2s						
ERM	**Erimo**	**2.50**	**350**	*e*Pn	**Pn**	**01 28 04.4**	**-0.1**
ERM				*e*Sn	**Sn**	**01 28 29.5**	**-5.3**
JYK	**Kaneyama**	**2.69**	**257**	P	**Pn**	**01 28 06.5**	**-0.7**
JOT	**Ohata**	**2.74**	**313**	P	**Pn**	**01 28 06.8**	**-1.0**
JNBK	**Urakawa-nobuka**	**2.82**	**345**	P	**Pn**	**01 28 09.3**	**+0.4**
JNBK				*e*S	**Sn**	**01 28 42.6**	**-0.2**
JCH	**Churui**	**3.07**	**355**	P	**Pn**	**01 28 11.5**	**-0.8**
JCH				*e*S	**Sn**	**01 28 46.4**	**-2.5**
JKB	**Kayabe**	**3.10**	**320**	P	**Pn**	**01 28 12.5**	**-0.3**
JFT	**Otama**	**3.35**	**234**	P	**Pn**	**01 28 15.3**	**-0.9**
JAK	**Akkeshi**	**3.52**	**12**	P	**Pn**	**01 28 17.6**	**-0.8**
JAK				*e*S	**Sn**	**01 28 57.2**	**-2.7**
ASAJ	**Asahikawa**	**4.64**	**350**	Pn	**Pn**	**01 28 34.1**	**+0.2**
	comp=Z,3.3nm,0.3s,baz=198,slow=13,SNR=12						
ASAJ				Sn	**Sn**	**01 29 27.4**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=270,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**4.64**	**350**	*e*Pn	**Pn**	**01 28 33.8**	**-0.1**
ASAJ				*e*Sn	**Sn**	**01 29 28.1**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**4.75**	**19**	*d i* P	**Pn**	**01 28 34.5**	**-0.9**
YUK				*i* S	**Sn**	**01 29 26.2**	**-4.2**
YUK				pmax	pmax		
	comp=Z,183nm,0.5s						
YUK				pmax	pmax		
	comp=E,128nm,0.3s						
YUK				pmax	pmax		
	comp=N,76nm,0.4s						
YUK				smax	smax		
	comp=N,555nm,0.8s						
YUK				smax	smax		
	comp=E,975nm,0.5s						
SHO	**Shikotan**	**4.90**	**27**	⇑*i* P	**Pn**	**01 28 35.3**	**-2.1**
SHO				*i* S	**Sn**	**01 29 27.9**	**-6.0**
SHO				pmax	pmax		
	comp=Z,41nm,0.6s						
SHO				pmax	pmax		
	comp=N,22nm,0.3s						
SHO				pmax	pmax		
	comp=E,38nm,0.3s						
SHO				smax	smax		
	comp=E,239nm,0.3s						
SHO				smax	smax		
	comp=N,164nm,0.4s						
MAJO	**Matsushiro**	**5.29**	**237**	*de*P	**Pn**	**01 28 42.7**	**-0.3**
MAJO	**Matsushiro**	**5.29**	**237**	*e*Pn	**Pn**	**01 28 43.5**	**+0.5**
MAJO				*e*Sn	**Sn**	**01 29 41.9**	**-2.0**
MAT	**Matsushiro**	**5.29**	**237**	P	**Pn**	**01 28 43.2**	**+0.2**
MAT				*e*S	**Sn**	**01 29 43.8**	**-0.1**
MJAR	**Matsushiro Arr**	**5.29**	**237**	Pn	**Pn**	**01 28 43.5**	**+0.5**
	comp=N,4.7nm,0.3s,baz=40,slow=12,SNR=104						
MJB9	**Matsu-Tunnel**	**5.30**	**237**	*e*Pn	**Pn**	**01 28 43.6**	**+0.6**
KUR	**Kuril'sk**	**6.45**	**27**	*e*P	**Pn**	**01 29 00.5**	**+1.8**
KUR				*e*S	**Sn**	**01 30 06.8**	**-5.3**
KUR				pmax	pmax		
	comp=Z,45nm,0.4s						
KUR				pmax	pmax		
	comp=N,19nm,0.2s						
KUR				pmax	pmax		
	comp=E,24nm,0.4s						
KUR				smax	smax		
	comp=E,129nm,0.8s						
KUR				smax	smax		
	comp=N,73nm,0.5s						
INU	**Inuyama**	**6.79**	**234**	*e*Pn	**Pn**	**01 29 02.2**	**-1.3**
JHJ2	**Mitsune**	**7.16**	**207**	*e*Pn	**Pn**	**01 29 04.3**	**-4.3**
JHJ2				*e*Sn	Sn	01 30 20.4	-9.5
JHJ	**Hachijo jima 2**	**7.17**	**208**	Pn	**Pn**	**01 29 06.3**	**-2.4**
	comp=N,12nm,0.3s,baz=59,slow=19,SNR=4.1						
JHJ				Sn	**Sn**	**01 30 21.6**	**-8.3**
	comp=N,27nm,0.3s,baz=53,slow=24,SNR=6.6						
JHJ				LR	LR	01 31 40.9	
	comp=N,193nm,21.2s,baz=84,slow=36						
YSS	**Yuzh-Sakhalins**	**7.43**	**355**	*e*P	**Pn**	**01 29 13.4**	**+1.2**
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=E,400nm,14.0s						
TEY	**Ternei**	**7.61**	**318**	*e*P	**Pn**	**01 29 15.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.91**	**302**	Pn	**Pn**	**01 29 47.1**	**+0.9**
	comp=E,0.6nm,0.3s,baz=93,slow=12,SNR=23						
USRK				LR	LR	01 32 49.6	
	comp=E,105nm,21.5s,baz=95,slow=33						
TYV	**Tymovskoe**	**11.33**	**357**	*e*P	**Pn**	**01 30 04.3**	**-1.4**
TYV				*e*S	**Sn**	**01 32 09.9**	**-2.2**
TYV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TYV				smax	smax		
	comp=E,6.0nm,0.4s						
MDJ	**Mudanjiang**	**11.66**	**300**	P	**Pn**	**01 30 09.8**	**-0.3**
MDJ				sP		01 30 15.8	
MDJ				S	**Sn**	**01 32 21.3**	**+1.2**
MDJ				sS		01 32 27.5	
MDJ				ScP	**ScP**	**01 39 28.3**	**-4.0**
MDJ				PcS	**PcS**	**01 39 30.8**	**-2.9**
MDJ				pmax	pmax		
	comp=E,14nm,1.0s						
MDJ				pmax	pmax		
	comp=E,88nm,2.9s						
MDJ				LR	LR		
	comp=E,360nm,12.3s						
MDJ				LR	LR		
	comp=E,530nm,11.5s						
MDJ				LR	LR		
	comp=E,580nm,13.8s						
JNU	**Nakatsue**	**12.18**	**242**	LR	LR	01 35 23.8	
	comp=E,309nm,18.3s,baz=54,slow=40						
KSRS	**Korea Array**	**12.56**	**265**	Pn	**Pn**	**01 30 24.5**	**+2.0**
	comp=E,0.3nm,0.3s,baz=86,slow=13,SNR=7.1						
KSRS				LR	LR	01 34 50.2	
	comp=E,157nm,18.5s,baz=76,slow=36						
KS15	**Wonju Array Si**	**12.60**	**265**	*e*Pn	**Pn**	**01 30 24.5**	**+1.6**
KSAR	**Wonju Array Be**	**12.60**	**265**	P	**Pn**	**01 30 24.5**	**+1.5**
KSAR	**Wonju Array Be**	**12.60**	**265**	Pn	**Pn**	**01 30 24.5**	**+1.5**
KLR	**Kul'dur**	**12.90**	**322**	Pn	**Pn**	**01 30 25.7**	**-1.5**
	comp=E,0.0nm,0.3s,baz=142,slow=13,SNR=8.5						
KLR				LR	LR	01 35 10.1	
	comp=E,7.6nm,19.9s,baz=122,slow=36						
KLR	**Kul'dur**	**12.90**	**322**	⇓*e*P	**Pn**	**01 30 26.9**	**-0.3**
TJN	**Taejon**	**13.30**	**261**	⇓*e*P	**Pn**	**01 30 33.6**	**+1.0**
NKL	**Nikolayevsk**	**13.76**	**352**	*e*P	**Pn**	**01 30 38.8**	**0.0**
NKL				pmax	pmax		
	comp=N,6.0nm,1.0s						
NKL				pmax	pmax		
	comp=Z,15nm,1.0s						
CN2	**Changchun**	**14.30**	**293**	*e*P	**P**	**01 30 51.0**	**-2.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
PEA0B	**Petropavlovsk-**	**16.59**	**31**	*e*Pn	**Pn**	**01 31 14.4**	**-2.0**
	comp=Z,35nm,1.5s						
PETK	**Petropavlovsk-**	**16.59**	**31**	Pn	**Pn**	**01 31 17.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=195,slow=10,SNR=6.3						
PETK	**Petropavlovsk-**	**16.59**	**31**	*e*P	**Pn**	**01 31 14.6**	**-1.8**
PETK	**Petropavlovsk-**	**16.59**	**31**	*e*Pn	**Pn**	**01 31 14.6**	**-1.8**
PETK				*e*Sn	Sn	01 34 00.2	-20
PEA1	**Petropavlovsk-**	**16.60**	**31**	*e*Pn	**Pn**	**01 31 17.3**	**+0.9**
ZEA	**Zeya**	**18.08**	**327**	*e*P	**Pn**	**01 31 31.1**	**-3.8**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,13.0s						
ZEA				MLR	MLR		
	comp=E,200nm,14.0s						
MA2	**Magadan**	**20.53**	**10**	P	Pn	01 32 03.5	-0.7
	comp=E,20nm,0.8s,baz=190,slow=9.0,SNR=18						
BJI	**Beijing**	**21.15**	**280**	⇓*e*P	**P**	**01 32 05.5**	**-3.4**
BJI				S	**S**	**01 36 01.8**	**-2.0**
BJI				pmax	pmax		
	comp=E,16nm,0.9s						
BJI				LR	LR		
	comp=E,260nm,14.4s						
BJI				LR	LR		
	comp=E,340nm,15.4s						
BJT	**Baijiatuau**	**21.16**	**280**	*e*P	**P**	**01 32 06.9**	**-2.1**
BJT				pmax	pmax		
	comp=Z,27nm,1.4s						
BJT	**Baijiatuau**	**21.16**	**280**	*e*P	**P**	**01 32 06.9**	**-2.1**
	comp=Z,27nm,1.4s						
TIA	**Tai'an**	**21.24**	**269**	P	**P**	**01 32 07.8**	**-2.1**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
NJ2	**Nanjing**	**21.48**	**257**	*e*P	**P**	**01 32 11.0**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
ANA2	**Anatahan**	**23.19**	**175**	*e*P	**P**	**01 32 29.7**	**-1.0**
SEY	**Seymchan**	**23.98**	**10**	P	**P**	**01 32 39.1**	**+1.0**
	comp=Z,11nm,0.8s,baz=191,slow=9.1,SNR=15						
SEY	**Seymchan**	**23.98**	**10**	⇓*e*P	**P**	**01 32 38.7**	**+0.6**
HHC	**Hu-ho-hao-te**	**24.53**	**283**	*e*P	**P**	**01 32 44.3**	**+0.8**
HHC				S	**S**	**01 37 03.5**	**-0.4**
HHC				SS	**SnSn**	**01 37 57.8**	**+9.4**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,66nm,4.5s						
HHC				LR	LR		
	comp=Z,150nm,11.8s						
HHC				LR	LR		
	comp=Z,220nm,13.0s						
HHC				LR	LR		
	comp=Z,220nm,14.5s						
WHN	**Wuhan**	**25.59**	**259**	⇓P	**P**	**01 32 52.5**	**-0.5**
WHN				pP	**pP**	**01 32 57.3**	**+0.5**
BOD	**Bodaibo**	**26.48**	**323**	*e*P	**P**	**01 33 00.3**	**-0.5**
BOD				pmax	pmax		
	comp=Z,14nm,1.1s						
ULN	**Ulaanbaatar**	**27.57**	**300**	*c i* P	**P**	**01 33 10.9**	**-0.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.57**	**300**	*e*P	**P**	**01 33 10.3**	**-0.7**
	comp=Z,9.2nm,1.1s						
SONA1	**Songino Array**	**28.01**	**300**	*e*P	**P**	**01 33 14.8**	**0.0**
SONA0	**Songino Array**	**28.01**	**300**	*e*P	**P**	**01 33 15.0**	**+0.1**
SONM	**Songino Array**	**28.01**	**300**	P	**P**	**01 33 15.0**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=98,slow=8.6,SNR=20						
SONM				LR	LR	01 44 57.3	
	comp=Z,121nm,20.0s,baz=76,slow=38						
SONM	**Songino Array**	**28.01**	**300**	P	**P**	**01 33 15.0**	**+0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,121nm,20.0s						
H11N2	**WAKE ISLAND Hy**	**28.07**	**128**	T	T	02 02 41.9	
	baz=321,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.07**	**128**	T	T	02 02 43.1	
	baz=321,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.08**	**128**	T	T	02 02 43.1	
	baz=321,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.89**	**130**	T	T	02 03 51.3	
	baz=322,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.89**	**130**	T	T	02 04 04.1	
	baz=322,slow=76,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**28.90**	**130**	T	T	02 03 46.3	
	baz=322,slow=76,SNR=8.5						
TLY	**Talaya**	**30.16**	**307**	P	**P**	**01 33 34.1**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=134,slow=6.7,SNR=4.6						
TLY	**Talaya**	**30.16**	**307**	*e*P	**P**	**01 33 34.5**	**+0.7**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.6s						
TLY				MLR	MLR		
	comp=Z,64nm,12.0s						
BILL	**Bilibino**	**31.10**	**16**	⇑*e*P	**P**	**01 33 42.2**	**+0.4**
BILL				*e*		01 34 48.8	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,175nm,22.0s						
LZH	**Lanzhou**	**31.52**	**276**	*e*P	**P**	**01 33 49.3**	**+3.2**
LZH				pP	sP	01 33 55.0	+3.4
LZH				sP	pP	01 33 58.3	+8.3
LZH				*e*PP	**PP**	**01 34 54.0**	**-3.2**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,85nm,4.9s						
LZH				LR	LR		
	comp=Z,400nm,15.3s						
LZH				LR	LR		
	comp=Z,500nm,14.2s						
LZH				LR	LR		
	comp=Z,560nm,16.5s			

CD2 pmax pmax
comp=Z,120nm,5.0s
GTA Gaotai 33.64 284 P **P** 01 34 05.3 +0.7
GTA pP sP 01 34 10.8 +0.7
GTA sP pP 01 34 14.0 +5.5
GTA S **S** 01 39 28.3 +1.1
GTA sS sS 01 39 39.0 +5.4
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,66nm,5.0s
GTA LR LR
comp=Z,170nm,18.1s
GTA LR LR
comp=Z,320nm,18.1s
GTA LR LR
comp=Z,250nm,17.1s
KMI Kunming 37.17 260 P **P** 01 34 35.3 +0.1
KMI pmax pmax
comp=Z,11nm,0.5s
DGZ Jazzator, Alta 40.46 304 *i* P **P** 01 35 01.8 -0.6
WMQ Urumqi 41.39 295 P **P** 01 35 10.8 +0.7
WMQ pP sP 01 35 16.0 +0.4
WMQ sP pP 01 35 20.5 +6.5
WMQ pmax pmax
comp=Z,28nm,0.9s
WMQ LR LR
comp=Z,98nm,16.3s
WMQ LR LR
comp=Z,83nm,20.3s
ZAA1 Zalesovo Array 41.62 310 *e*P **P** 01 35 11.2 -0.5
ZAA1 *e*PcP **PcP** 01 37 08.7 +0.2
ZALV Zalesovo Beam 41.62 310 P **P** 01 35 11.2 -0.5
comp=Z,3.8nm,0.5s,baz=92,slow=8.2,SNR=15
ZALV PcP **PcP** 01 37 08.7 +0.2
comp=Z,1.7nm,0.6s,baz=70,slow=3.3,SNR=3.8
IM3 Indian Mountai 43.55 32 *e*P **P** 01 35 26.7 -0.6
CM31 Chiang Mai Arr 43.91 255 *e*P **P** 01 35 30.7 -0.1
CMAR Chiang Mai Arr 43.91 255 P **P** 01 35 30.7 -0.1
comp=Z,1.1nm,0.3s,baz=44,slow=7.1,SNR=6.1
KDAK Kodiak Island 44.01 44 P **P** 01 35 33.2 +2.1
comp=Z,9.3nm,0.9s,baz=338,slow=11,SNR=3.2
KDAK Kodiak Island 44.01 44 *e*P **P** 01 35 33.2 +2.1
comp=Z,59nm,1.4s
CAST Castle Rocks 44.12 36 *e*P **P** 01 35 35.1 +3.2
comp=Z,3.4nm,0.9s
MK01 Makanchi Array 44.37 300 *e*P **P** 01 35 33.7 -0.5
MK31 Makanchi Array 44.37 300 *i* P **P** 01 35 33.5 -0.7
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 44.37 300 *e*P **P** 01 35 33.3 -0.9
MK32 Makanchi Array 44.37 300 *e*P **P** 01 35 33.9 -0.3
MKAR Makanchi Array 44.37 300 P **P** 01 35 33.9 -0.3
comp=Z,4.6nm,0.7s,baz=84,slow=9.5,SNR=54
MKAR LR LR 01 53 36.2
comp=Z,41nm,18.2s,baz=50,slow=36
MKAR Makanchi Array 44.37 300 *e*P **P** 01 35 33.3 -0.9
MKAR pmax pmax
comp=Z,33nm,0.6s
MKAR Makanchi Array 44.37 300 *e*P **P** 01 35 33.3 -0.9
comp=Z,33nm,0.6s
MAKZ Makanchi 44.58 300 *e*P **P** 01 35 35.5 -0.3
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 44.58 300 *e*P **P** 01 35 35.5 -0.3
comp=Z,6.3nm,1.0s
KURK Kurchatov 45.86 307 *c i*P **P** 01 35 45.2 -0.7
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 45.86 307 *e*P **P** 01 35 45.4 -0.4
comp=Z,13nm,1.0s
WRH Wood River Hil 45.88 34 *e*P **P** 01 35 46.9 +1.0
comp=Z,13nm,2.0s
KURBB Kurchatov Arra 45.93 306 P **P** 01 35 46.1 -0.4
comp=Z,9.6nm,0.7s,baz=80,slow=8.4,SNR=72
CCB Clear Creek Bu 46.00 34 *e*P **P** 01 35 45.3 -1.5
comp=Z,5.1nm,1.6s
IL1 Eielson Array 46.39 34 *e*P **P** 01 35 47.4 -2.5
ILAR Eielson Array 46.39 34 P **P** 01 35 51.2 +1.4
comp=Z,1.2nm,0.7s,baz=261,slow=6.8,SNR=16
ILB Eielson Array 46.39 34 *e*P **P** 01 35 51.2 +1.4
PDGK Podgornoye 47.25 296 *i* P **P** 01 35 56.1 -0.9
PDGK pmax pmax
comp=Z,6.0nm,0.9s
JIRN Jiri 48.63 274 *e*P **P** 01 36 08.2 0.0
comp=Z,20nm,0.6s
RAMN Ramite 48.66 273 *e*P **P** 01 36 08.3 -0.1
comp=Z,26nm,0.9s
GUN Gumba 48.74 275 *e*P **P** 01 36 08.9 -0.2
comp=Z,45nm,0.8s
PMG Port Moresby 48.81 176⇑ *e*P **P** 01 36 12.3 +3.1
PMG pmax pmax
comp=Z,428nm,2.4s
KDJ Kajisay 49.25 296 *e*P **P** 01 36 13.1 +0.5
comp=Z,3.0nm,0.9s
KKN Kakani 49.27 275 *e*P **P** 01 36 12.8 -0.1
comp=Z,16nm,0.4s
PKI Pulchoki 49.27 275 *e*P **P** 01 36 13.4 +0.3
comp=Z,6.4nm,0.4s
PKIN Phulchoki 49.28 275 *e*P **P** 01 36 13.4 +0.3
comp=Z,5.7nm,0.5s
DMN Daman 49.49 275 *e*P **P** 01 36 14.7 0.0
GKN Gorkha 49.66 275 *e*P **P** 01 36 16.5 +0.6
comp=Z,10.0nm,0.4s
TKM2 Tokmak 2 50.07 297 *i* P **P** 01 36 19.0 +0.1
TKM2 pmax pmax
comp=Z,8.0nm,0.7s
DANN Dangsing 50.16 276 *e*P **P** 01 36 20.3 +0.5
comp=Z,4.0nm,0.9s
BVA0 Borovoye Array 50.26 311 *i* P **P** 01 36 19.6 -0.3
BVA0 pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 50.26 311 P **P** 01 36 19.7 -0.2
comp=Z,3.7nm,0.6s,baz=73,slow=8.1,SNR=32
BRVK Borovoye 50.31 311⇑ *i*P **P** 01 36 20.4 +0.2
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 50.31 311 *e*P **P** 01 36 20.5 +0.2
comp=Z,5.0nm,0.8s
KOLN Koldanda 50.57 276 *e*P **P** 01 36 23.3 +0.5
comp=Z,10nm,0.6s
PYUN Piuthan 50.88 277 *e*P **P** 01 36 25.2 +0.1
comp=Z,36nm,1.0s
AAK Ala-Archa 50.93 297⇑ *e*P **P** 01 36 24.8 -0.5
AAK pmax pmax
comp=Z,5.0nm,2.1s
AAK Ala-Archa 50.93 297 *e*P **P** 01 36 25.3 0.0
comp=Z,2.9nm,1.0s
KSH Kashi 51.07 293 P **P** 01 36 30.0 +3.6
KSH sP sP 01 36 39.0 +7.1
KSH PcP **PcP** 01 37 43.5 +1.4
KSH S **S** 01 43 47.5 +3.8
KSH sS sS 01 43 57.5 +7.2
KSH pmax pmax
comp=Z,6.0nm,1.2s
KSH pmax pmax
comp=Z,88nm,5.6s
KSH LR LR
comp=Z,65nm,7.0s
KSH LR LR
comp=Z,85nm,5.6s
KSH LR LR
comp=Z,84nm,8.5s
INK Inuvik 51.31 28 P **P** 01 36 29.2 +1.7
comp=Z,2.3nm,0.7s,baz=282,slow=3.9,SNR=15
INK Inuvik 51.31 28 *e*P **P** 01 36 29.7 +2.1
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 51.31 28 *e*P **P** 01 36 29.6 +2.1
comp=Z,2.5nm,0.8s
MNAS Manas 52.35 298 *i* P **P** 01 36 34.8 -1.1
MNAS pmax pmax
comp=Z,4.0nm,0.6s
SFK Sufi-Kurgan 52.62 295 *i* P **P** 01 36 37.6 -0.5
SFK pmax pmax
comp=Z,6.0nm,1.0s
SVE Sverdlovsk 54.48 318 *e*P **P** 01 36 51.6 +0.4
ARU Arti 55.70 318 *c i*P **P** 01 37 00.0 +0.1
ARU 01 37 57.2
ARU 01 39 04.8
ARU S **S** 01 44 47.4 +1.6
ARU SS **SS** 01 48 26.7 -3.8
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 55.70 318 *e*P **P** 01 36 58.8 -1.1
comp=Z,6.7nm,0.7s

AB06 Akbulak array 57.71 310 *e*P **P** 01 37 14.1 -0.3
AB05 Akbulak array 57.72 310 *e*P **P** 01 37 14.1 -0.3
AB02 Akbulak array 57.72 310 *e*P **P** 01 37 14.1 -0.4
AB07 Akbulak array 57.72 310 *e*P **P** 01 37 14.2 -0.2
AB01 Akbulak array 57.73 310 *e*P **P** 01 37 14.2 -0.2
AB31 Akbulak array 57.73 310 *i* P **P** 01 37 14.1 -0.4
AB31 pmax pmax
comp=Z,3.0nm,0.6s
AB31 Akbulak array 57.73 310 *e*P **P** 01 37 14.2 -0.2
ABKAR Akbulak array 57.73 310 *e*P **P** 01 37 14.2 -0.2
comp=Z,34nm,0.6s
AB03 Akbulak array 57.73 310 *e*P **P** 01 37 14.3 -0.2
AB04 Akbulak array 57.73 310 *e*P **P** 01 37 14.3 -0.2
AB09 Akbulak array 57.74 310 *e*P **P** 01 37 14.3 -0.2
AB08 Akbulak array 57.74 310 *e*P **P** 01 37 14.3 -0.2
AKTO Aktyubinsk 58.36 311 P **P** 01 37 20.6 +1.7
comp=Z,2.4nm,0.7s,baz=75,slow=12,SNR=6.1
RES Resolute Bay 59.70 15 *e*P **P** 01 37 28.9 +1.1
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 59.70 15 *e*P **P** 01 37 28.9 +1.1
comp=Z,3.0nm,0.8s
WRAB Tennant Creek 59.82 190⇓ *e*P **P** 01 37 31.4 +2.1
WRAB pmax pmax
comp=Z,5.0nm,1.2s
WB2 Warramunga Arr 59.83 190 *e*P **P** 01 37 28.2 -1.1
comp=Z,21nm,1.8s
WR1 Warramunga Arr 59.83 190 *e*P **P** 01 37 28.7 -0.6
comp=Z,17nm,1.6s
WRA Warramunga Arr 59.83 190 P **P** 01 37 28.7 -0.6
comp=Z,0.6nm,0.7s,baz=9,9,slow=7.1,SNR=7.9
YKA Yellowknife Ar 60.71 31 P **P** 01 37 36.0 +1.1
comp=Z,0.6nm,0.6s,baz=302,slow=6.5,SNR=15
YKA Yellowknife Ar 60.71 31 P **P** 01 37 36.0 +1.1
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 60.71 31 P **P** 01 37 36.0 +1.1
YKB5 Yellowknife Ar 60.71 31 *e*P **P** 01 37 36.0 +1.1
ARA0 ARCESS Array S 62.28 340 *e*P **P** 01 37 46.0 +0.6
ARCES ARCESS Array B 62.28 340 P **P** 01 37 46.0 +0.6
comp=Z,2.6nm,0.8s,baz=33,slow=5.4,SNR=3.3
AS31 Alice Springs 63.56 190 *e*P **P** 01 37 54.1 -0.3
comp=Z,1.2nm,1.1s
ASAR Alice Springs 63.56 190 P **P** 01 37 54.1 -0.3
comp=Z,0.8nm,0.7s,baz=11,slow=6.9,SNR=9.4
GEYT Alibeck 64.21 299 P **P** 01 37 58.7 -0.1
comp=Z,1.4nm,0.7s,baz=71,slow=6.2,SNR=3.6
OBN Obninsk 67.17 323⇓ *e*P **P** 01 38 19.7 +2.3
OBN pmax pmax
comp=Z,11nm,1.3s
OBN MLR MLR
comp=Z,88nm,15.0s
FIA0 FINESS Array S 67.43 333 *e*P **P** 01 38 19.0 0.0
FIA0 FINESS Array S 67.43 333 *e*P **P** 01 38 19.0 0.0
FINES FINESS Array B 67.43 333 P **P** 01 38 19.0 0.0
comp=Z,3.6nm,0.7s,baz=49,slow=8.8,SNR=8.8
GDXM Geysers 68.94 57 *e*P **P** 01 38 30.1 +1.0
comp=Z,76nm,1.7s
VSU Vasula 69.20 330⇓ *e*P **P** 01 38 29.9 -0.2
VSU pmax pmax
comp=Z,22nm,0.9s
KIV Kislovodsk 70.62 311 *e*P **P** 01 38 40.3 +1.0
KIV pmax pmax
comp=Z,15nm,1.1s
KBZ Khabaz 70.64 311 P **P** 01 38 40.2 +0.9
comp=Z,4.4nm,0.8s,baz=59,slow=3.3,SNR=8.1
CSR Chase Ranch 70.78 58 *e*P **P** 01 38 37.8 -2.6
STKA Stephens Creek 71.10 182 P **P** 01 38 44.0 +2.0
comp=Z,0.4nm,0.4s,baz=333,slow=11,SNR=2.3
STKA Stephens Creek 71.10 182 P **P** 01 38 44.0 +2.0
STKA Stephens Creek 71.10 182 *e*P **P** 01 38 44.0 +2.0
comp=Z,3.3nm,1.8s
NV01 Mina Array Sit 72.03 55 *e*P **P** 01 38 50.8 +2.7
NVAR Mina Array Bea 72.03 55 P **P** 01 38 50.8 +2.7
comp=Z,1.4nm,1.0s,baz=288,slow=5.5,SNR=4.1
HFS Hagfors 72.53 336 P **P** 01 38 50.1 -0.3
comp=Z,2.7nm,0.6s,baz=46,slow=6.2,SNR=12
NB2 NORSAR Subarra 72.56 338 P **P** 01 38 50.7 +0.1
comp=Z,1.3nm,0.7s,baz=36,slow=6.2
NB200 NORSAR Array S 72.56 338 *e*P **P** 01 38 50.1 -0.5
NOA NORSAR Array B 72.56 338 P **P** 01 38 50.1 -0.5
comp=Z,2.1nm,0.8s,baz=38,slow=6.0,SNR=7.9
NOA LR LR 02 14 52.3
comp=Z,27nm,18.5s,baz=195,slow=39
ANN Anapa 73.08 314 *e*P P 01 39 03.2 +9.3
ANN pmax pmax
comp=Z,224nm,1.3s
AKASG Malin Array Be 73.41 323 P **P** 01 38 55.5 -0.2
comp=Z,1.7nm,0.7s,baz=44,slow=5.7,SNR=9.1
AKBB Malin Array Si 73.41 323 *e*P **P** 01 38 55.6 -0.2
AKBB pmax pmax
comp=Z,4.0nm,1.0s
AKBB Malin Array Si 73.41 323 *e*P **P** 01 38 55.5 -0.2
comp=Z,4.1nm,1.0s
WHFM Hanning Flat 73.64 57 *e*P **P** 01 39 00.7 +3.1
ALPC Antelope 74.28 58 *e*P **P** 01 38 57.5 -3.7
PD31 Pinedale Array 74.61 47 *e*P **P** 01 39 04.7 +1.4
PDAR Pinedale Array 74.61 47 P **P** 01 39 04.7 +1.4
comp=Z,0.4nm,0.6s,baz=185,slow=1.7,SNR=5.3
GSC Goldstone, Bar 74.88 57 *e*P **P** 01 39 02.2 -2.5
GSC Goldstone, Bar 74.88 57 *e*P **P** 01 39 02.2 -2.5
DSCC Desert Studies 75.43 56 *e*P **P** 01 39 08.1 +0.3
BUR04 Bucovina Ar. S 77.45 322 *e*P **P** 01 39 19.5 +0.3
BR101 Keskin Array S 78.53 312 *e*P **P** 01 39 25.5 +0.1
BRTR Keskin Array B 78.53 312 P **P** 01 39 25.5 +0.1
comp=Z,0.3nm,0.4s,baz=75,slow=4.6,SNR=2.6
DPC Dobruska-Polom 79.27 329 *e*P **P** 01 39 30.6 +1.5
DPC Dobruska-Polom 79.27 329 *e*P **P** 01 39 30.6 +1.5
CLL Collm 79.80 331 *e*P **P** 01 39 32.0 +0.1
CLL Collm 79.80 331 *e*P **P** 01 39 32.0 +0.1
KHC Kasperske Hory 81.33 329 *e*P **P** 01 39 41.1 +0.9
KHC Kasperske Hory 81.33 329 *e*P **P** 01 39 41.1 +0.9
EKA Eskdalemuir Ar 81.34 342 P **P** 01 39 40.9 +0.8
comp=Z,0.3nm,0.5s,baz=38,slow=4.8,SNR=3.3
GERES GERESS Array B 81.51 329 P **P** 01 39 41.4 +0.1
comp=Z,0.3nm,0.5s,baz=28,slow=6.0,SNR=4.0
PPT Papeete 84.17 118 LR LR 02 11 47.9
comp=Z,34nm,21.0s,baz=343,slow=32
LTX Lajitas 87.15 54 *e*P **P** 01 40 11.9 +1.6
LTX Lajitas 87.15 54 *e*P **P** 01 40 11.9 +1.6
TXAR Lajitas Array 87.15 54 P **P** 01 40 11.9 +1.7
comp=Z,0.4nm,0.8s,baz=269,slow=4.0,SNR=4.3
PBMO Poplar Bluff 89.16 41 *e*P **P** 01 40 18.9 -0.6
comp=Z,35nm,0.8s

MEX 28 01:31:31.5±0.7, 16°10N×93°55W, h96km±11km, MD3.6, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.51**	**141**	*e*P	Pn	01 31 46.0	-0.9
PCIG				*e*S	Sn	01 31 56.4	-2.0
TGIG		**0.79**	**31**	*i* P	Pn	01 31 47.7	-1.8
TGIG				*e*S	Sn	01 32 01.6	-1.3
CCIG	**Comitan**	**1.37**	**82**	*e*P	Pn	01 31 55.3	-0.9
CCIG				*e*S	Sn	01 32 13.2	-1.5

*ISCJB **28** 01:44:13.8±0.4, 30°.85N±0°.03×140°.8E±0°.1, h110km, mb3.7/14, Error ellipse: s-maj=13.6km s-min=3.7km az=166.4*
*JMA **28** 01:44:14.9±0.2, 30°.92N×140°.87E, h93km±4km, M3.8*
*IDC **28** 01:44:14.3±1.1, 30°.69N×140°.27E, h91km±10km, mb3.4/13, mb1 3.5/15, mb1mx3.3/62, mbtmp3.7/15, MS2.1/1, Ms1 2.1/1, ms1mx1.8/41, Error ellipse: s-maj=26.4km s-min=7.7km az=74.0*

ISC 28 01:44:15.9±0.6, 30°.82N±0°.05×140°.6E±0°.1, h110km, n36, σ1°49/40, mb3.6/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.35**	**343**	*e*S	**Sn**	**01 45 20.8**	**-1.3**
JHJ2	**Mitsune**	**2.38**	**343**	P	**Pn**	**01 44 52.9**	**-0.9**
JHJ2				S	**Sn**	**01 45 21.2**	**-1.6**
JHJ	**Hachijo jima 2**	**2.40**	**343**	P	**Pn**	**01 44 53.6**	**-0.3**
JHJ	69nm,0.3s,baz=253,slow=21,SNR=16			LR	LR	01 45 16.3	
JHJ	comp=Z,43nm,21.7s,baz=88,slow=25 68nm,0.3s,baz=73,slow=19,SNR=8.2			S	**Sn**	**01 45 22.3**	**-0.9**
BSO1	**Boso 1**	**3.83**	**4**	P	**Pn**	**01 45 10.9**	**-1.5**
BSO1				*e*S	**Sn**	**01 45 54.6**	**-1.7**
CBIJ	**Chichi jima**	**3.96**	**159**	S	**Sn**	**01 45 59.7**	**-0.5**
JCJ	**Chichijima**	**3.96**	**159**	P	**Pn**	**01 45 12.7**	**-2.0**
	8.0nm,0.3s,baz=229,slow=20,SNR=4.3						
JCJ				S	**Sn**	**01 45 58.0**	**-2.2**
	19nm,0.3s,baz=292,slow=19,SNR=4.1						
BSO3	**Boso 3**	**3.97**	**359**	P	**Pn**	**01 45 12.9**	**-1.6**
BSO3				*e*S	**Sn**	**01 45 58.0**	**-2.0**
BSO4	**Boso 4**	**4.16**	**357**	P	**Pn**	**01 45 16.9**	**-0.4**
BSO4				S	**Sn**	**01 46 03.3**	**-1.6**
JIE	**Ise**	**4.86**	**318**	P	**Pn**	**01 45 27.1**	**+0.4**
JNY	**Yasuok**	**5.08**	**334**	P	**Pn**	**01 45 30.9**	**+1.1**
JRY	**Ryogami san**	**5.38**	**345**	P	**Pn**	**01 45 33.9**	**+0.1**
JRY				S	**Sn**	**01 46 35.2**	**-0.7**
JAG	**Ashikaga**	**5.67**	**350**	P	**Pn**	**01 45 36.2**	**-1.5**
JHO	**Hitachi**	**5.77**	**360**	P	**Pn**	**01 45 36.8**	**-2.3**
MJAR	**Matsushiro Arr**	**6.05**	**341**	P	**Pn**	**01 45 47.0**	**+4.1**
	1.2nm,0.3s,baz=158,slow=14,SNR=5.7						
MJAR				S	**Sn**	**01 46 49.5**	**-1.2**
	baz=127,slow=14,SNR=2.6						
KSRS	**Korea Array**	**12.42**	**306**	P	**Pn**	**01 47 10.0**	**+1.2**
	0.2nm,0.3s,baz=116,slow=14,SNR=4.9						
KLR	**Kul'dur**	**19.57**	**342**	P	**P**	**01 48 35.0**	**0.0**
	0.0nm,0.3s,baz=173,slow=16,SNR=3.6						
H11N2	**WAKE ISLAND Hy 26.13**	**109**		T	T	02 17 31.8	
	baz=300,slow=75,SNR=5.6						
H11N1	**WAKE ISLAND Hy 26.14**	**109**		T	T	02 17 32.1	
	baz=300,slow=75,SNR=2.5						
H11N3	**WAKE ISLAND Hy 26.15**	**109**		T	T	02 17 33.1	
	baz=300,slow=75,SNR=3.2						
H11S3	**WAKE ISLAND Hy 26.60**	**111**		T	T	02 17 34.5	
	baz=302						
H11S1	**WAKE ISLAND Hy 26.61**	**111**		T	T	02 17 32.4	
	baz=302						
H11S2	**WAKE ISLAND Hy 26.62**	**111**		T	T	02 17 34.5	
	baz=302						
SONM	**Songino Array**	**31.13**	**313**	P	**P**	**01 50 22.6**	**-1.5**
	0.2nm,0.5s,baz=96,slow=4.3,SNR=2.1						
MKAR	**Makanchi Array**	**47.10**	**307**	P	**P**	**01 52 35.5**	**-1.2**
	0.4nm,0.6s,baz=95,slow=9.4,SNR=6.7						
MKAR				PcP	**PcP**	**01 54 05.9**	**-0.9**
	0.3nm,0.6s,baz=114,slow=4.4,SNR=3.6						
KURBB	**Kurchatov Arra**	**49.50**	**312**	P	**P**	**01 52 53.1**	**-1.9**
	0.5nm,0.5s,baz=91,slow=6.4,SNR=15						
WRA	**Warramunga Ar**	**50.83**	**188**	P	**P**	**01 53 04.3**	**-1.0**
	0.5nm,0.3s,baz=5.8,slow=7.7,SNR=18						
BVAR	**Borovoye Array**	**54.41**	**316**	P	**P**	**01 53 30.7**	**-0.6**
	0.2nm,0.4s,baz=99,slow=8.7,SNR=2.9						
BVAR				PcP	**PcP**	**01 54 32.9**	**-0.8**
	0.4nm,0.5s,baz=118,slow=5.7,SNR=2.8						
ASAR	**Alice Springs**	**54.56**	**188**	P	**P**	**01 53 33.3**	**+0.6**
	0.3nm,0.5s,baz=354,slow=6.1,SNR=4.3						
INK	**Inuvik**	**60.24**	**25**	P	**P**	**01 54 13.9**	**+1.9**
	0.3nm,0.5s,baz=296,slow=3.5,SNR=3.8						
SPITS	**Spitsbergen Ar**	**66.48**	**349**	P	**P**	**01 54 54.9**	**+1.8**
	20nm,1.1s,baz=20,slow=4.6,SNR=3.5						
YKA	**Yellowknife Ar**	**69.53**	**29**	P	**P**	**01 55 14.2**	**+1.9**
	0.1nm,0.6s,baz=294,slow=8.0,SNR=3.1						
ARCES	**ARCESS Array B**	**69.58**	**340**	P	**P**	**01 55 13.5**	**+0.9**
	1.8nm,0.8s,baz=38,slow=6.1,SNR=5.0						
FINES	**FINESS Array B**	**74.01**	**333**	P	**P**	**01 55 39.5**	**+0.3**
	1.1nm,0.7s,baz=72,slow=6.2,SNR=4.5						
AKASG	**Malin Array Be**	**78.82**	**323**	P	**P**	**01 56 06.0**	**-0.6**
	0.3nm,0.3s,baz=52,slow=5.6,SNR=4.4						
NOA	**NORSAR Array B**	**79.66**	**338**	P	**P**	**01 56 11.5**	**+0.6**
	0.6nm,0.6s,baz=41,slow=5.4,SNR=3.2						
BRTR	**Keskin Array B**	**82.49**	**312**	P	**P**	**01 56 27.3**	**+0.8**
	1.0nm,0.7s,baz=95,slow=2.3,SNR=6.5						

*THE **28** 01:46:11.7, 39°.62N×26°.02E, h8km±1km, ML2.4/9, Error ellipse: s-maj=1.3km s-min=0.6km az=93.0*
*CSEM **28** 01:46:11.6±0.1, 39°.61N×26°.04E, h10km, ML3.0, Error ellipse: s-maj=1.8km s-min=1.5km az=82.0*
*ISCJB **28** 01:46:11.3±0.3, 39°.61N±0°.01×26°.04E±0°.02, h8km±2km, Error ellipse: s-maj=2.9km s-min=2.4km az=167.9*
*ATH **28** 01:46:11.0, 39°.60N×26°.05E, h26km±1km, ML2.6/7, Error ellipse: s-maj=1.9km s-min=0.7km az=229.0*
*ISK **28** 01:46:11.1, 39°.62N×26°.08E, h7km, ML3.0/33*
*DDA **28** 01:46:12.5, 39°.60N×26°.18E, h24km, Ml3.1*

ISC 28 01:46:11.6±0.8, 39°.61N±0°.01×26°.04E±0°.02, h11km±6km, n148, σ0°59/198, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.17**	**155**	PG	**Pg**	**01 46 15.1**	**-0.3**
GPNR				SG	**Sg**	**01 46 18.1**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.17**	**155**	*e*Pg	**Pg**	**01 46 15.1**	**-0.3**
GPNR				*e*Sg	**Sg**	**01 46 18.1**	**+0.1**
BOZC	**Bozcaada**	**0.23**	**3**	PG	**Pg**	**01 46 16.2**	**-0.2**
BOZC				SG	**Sg**	**01 46 20.0**	**+0.3**
BOZC	**Bozcaada**	**0.23**	**3**	*e*Pg	**Pg**	**01 46 16.2**	**-0.2**
BOZC				*e*Sg	**Sg**	**01 46 20.0**	**+0.3**
EZN	**Ezine**	**0.31**	**46**	PG	**Pg**	**01 46 17.8**	**0.0**
EZN				SG	**Sg**	**01 46 22.4**	**+0.4**
EZN	**Ezine**	**0.31**	**46**	*e*Pg	**Pg**	**01 46 17.8**	**0.0**
EZN				S	**Sg**	**01 46 22.4**	**+0.2**
EZN	**Ezine**	**0.31**	**46**	P	**Pg**	**01 46 17.7**	**0.0**
EZN				S	**Sg**	**01 46 22.2**	**+0.2**
PRK	**Paraskevi**	**0.41**	**154**	P	**Pg**	**01 46 19.9**	**+0.2**
PRK				S	**Sg**	**01 46 25.8**	**+0.8**
PRK				AML	AML	01 46 27.2	
	comp=E,2982μm,0.5s						
PRK				AML	AML	01 46 27.6	
	comp=N,2903μm,0.2s						
PRK	**Paraskevi**	**0.41**	**154**	P	**Pg**	**01 46 19.8**	**+0.2**
PRK				S	**Sg**	**01 46 25.8**	**+0.8**
PRK	**Paraskevi**	**0.41**	**154**	P	**Pg**	**01 46 19.8**	**+0.2**
PRK				S	**Sg**	**01 46 25.8**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**0.41**	**72**	*i* P	**Pg**	**01 46 19.8**	**0.0**
BAYC				*i* S	**Sg**	**01 46 25.5**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.41**	**72**	P	**Pg**	**01 46 19.8**	**0.0**
BAYC				S	**Sg**	**01 46 25.3**	**0.0**
SIGR	**SIGRI**	**0.42**	**200**	PG	**Pb**	**01 46 20.8**	**-0.3**
SIGR				SG	**Sg**	**01 46 26.4**	**+0.8**
SIGR	**SIGRI**	**0.42**	**200**	P	**Pg**	**01 46 19.8**	**-0.1**
SIGR				S	**Sg**	**01 46 25.5**	**-0.1**
SIGR				AML	AML	01 46 26.7	
	comp=N,2370μm,0.3s						
SIGR				AML	AML	01 46 27.7	
	comp=E,1369μm,0.3s						
SIGR	**SIGRI**	**0.42**	**200**	P	**Pg**	**01 46 19.9**	**-0.1**
SIGR	**SIGRI**	**0.42**	**200**	*e*Pg	**Pb**	**01 46 20.8**	**-0.3**
SIGR				S	**Sg**	**01 46 26.0**	**+0.4**
SIGR	**SIGRI**	**0.42**	**200**	P	**Pg**	**01 46 19.9**	**-0.1**
SIGR				S	**Sg**	**01 46 26.0**	**+0.4**
GADA	**Gvkgeada**	**0.59**	**350**	PG	**Pg**	**01 46 22.8**	**-0.3**
GADA	**Gvkgeada**	**0.59**	**350**	*e*Pg	**Pg**	**01 46 22.8**	**-0.3**
GADA				S	**Sg**	**01 46 30.9**	**+0.1**
GADA	**Gvkgeada**	**0.59**	**350**	P	**Pg**	**01 46 22.7**	**-0.3**
GADA				S	**Sg**	**01 46 30.9**	**+0.1**
GOKC	**Gokceada-Canak**	**0.59**	**351**	PG	**Pg**	**01 46 23.1**	**-0.1**
GOKC	**Gokceada-Canak**	**0.59**	**351**	*e*Pg	**Pg**	**01 46 23.1**	**-0.1**
LIA	**Limnos Island**	**0.72**	**294**	P	**Pb**	**01 46 26.2**	**+0.1**
LIA				S	**Sg**	**01 46 35.2**	**+0.3**
LIA				AML	AML	01 46 36.3	
	comp=N,782μm,0.4s						
LIA				AML	AML	01 46 38.8	
	comp=E,736μm,0.3s						
LIA	**Limnos Island**	**0.72**	**294**	P	**Pg**	**01 46 25.7**	**+0.2**
LIA				S	**Sg**	**01 46 35.6**	**+0.7**
LIA	**Limnos Island**	**0.72**	**294**	P	**Pg**	**01 46 25.7**	**+0.2**
LIA				S	**Sg**	**01 46 35.6**	**+0.7**
EFSA	**Agios Efstrati**	**0.81**	**265**	P	**Pg**	**01 46 27.5**	**+0.2**
EFSA				S	**Sb**	**01 46 38.8**	**0.0**
EFSA				AML	AML	01 46 41.2	
	comp=N,836μm,0.3s						
EFSA				AML	AML	01 46 41.4	
	comp=E,962μm,0.3s						
EFSA	**Agios Efstrati**	**0.81**	**265**	P	**Pg**	**01 46 27.3**	**0.0**
EFSA				S	**Sb**	**01 46 38.8**	**0.0**
GELI	**Tayfur-Gelibol**	**0.85**	**23**	PG	**Pg**	**01 46 28.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.85**	**23**	*e*Pg	**Pg**	**01 46 28.0**	**-0.1**
DKL	**Dikili**	**0.86**	**128**	PG	**Pg**	**01 46 27.3**	**-0.9**
DKL	**Dikili**	**0.86**	**128**	*e*Pg	**Pg**	**01 46 27.3**	**-0.9**
CAND	**Candarli**	**0.89**	**138**	PG	**Pg**	**01 46 28.2**	**-0.5**
LPK	**Lapseki**	**0.94**	**36**	PG	**Pg**	**01 46 28.8**	**-0.9**
LPK	**Lapseki**	**0.94**	**36**	*e*Pg	**Pg**	**01 46 28.8**	**-0.9**
SMTH	**Samothraki Isl**	**0.94**	**336**	P	**Pg**	**01 46 29.6**	**-0.2**
SMTH				S	**Sb**	**01 46 43.0**	**+0.4**
SMTH				AML	AML	01 46 44.2	
	comp=E,328μm,0.2s						
SMTH				AML	AML	01 46 45.2	
	comp=N,466μm,0.2s						
SMTH	**Samothraki Isl

SMTH				S	Sb	01 46 42.9	+0.4	
SMTH	**Samothraki Isl**	**0.94**	**336**	P	Pg	01 46 29.5	-0.2	
SMTH				S	Sb	01 46 43.0	+0.4	
FOCM	**Foˇşa**	**1.05**	**149**	PG	Pg	01 46 31.0	-0.7	
FOCM	**Foˇşa**	**1.05**	**149**	*e*Pg	Pg	01 46 31.0	-0.7	
KRBN	**Karaburun**	**1.09**	**158**	PN	Pb	01 46 32.2	-0.3	
KRBN	**Karaburun**	**1.09**	**158**	*e*Pn	Pb	01 46 32.2	-0.3	
ERIK	**Erikli-Kesan**	**1.12**	**19**	PN	Pb	01 46 32.2	-0.8	
ERIK	**Erikli-Kesan**	**1.12**	**19**	*e*Pn	Pb	01 46 32.2	-0.8	
ENEZ	**Enez**	**1.13**	**4**	PN	Pg	01 46 33.3	0.0	
ENEZ	**Enez**	**1.13**	**4**	P	Pb	01 46 32.8	-0.3	
ENEZ	**Enez**	**1.13**	**4**	*e*Pn	Pg	01 46 33.3	0.0	
ENEZ				S	Sn	01 46 49.1	+0.3	
ENEZ	**Enez**	**1.13**	**4**	P	Pb	01 46 32.8	-0.3	
ENEZ				S	Sn	01 46 49.1	+0.3	
PSRA	**Psara**	**1.13**	**199**	P	Pb	01 46 31.8	-1.4	
PSRA				S	Sn	01 46 49.2	+0.3	
PSRA				AML	AML	01 46 52.0		
	comp=E,1137µm,0.2s							
PSRA				AML	AML	01 46 53.7		
	comp=N,846µm,0.2s							
PSRA	**Psara**	**1.13**	**199**	P	Pb	01 46 32.2	-1.0	
PSRA				S	Sn	01 46 48.8	-0.1	
CHOS	**Chios island**	**1.22**	**179**	PN	Pg	01 46 35.1	0.0	
CHOS	**Chios island**	**1.22**	**179**	P	Pn	01 46 34.3	-0.5	
CHOS	**Chios island**	**1.22**	**179**	P	Pn	01 46 34.2	-0.5	
CHOS	**Chios island**	**1.22**	**179**	*e*Pn	Pg	01 46 35.1	0.0	
CHOS				S	Sn	01 46 51.8	+0.5	
CHOS	**Chios island**	**1.22**	**179**	P	Pn	01 46 34.2	-0.5	
CHOS				S	Sn	01 46 51.8	+0.5	
BALY	**Balya**	**1.23**	**83**	*i* P	Pn	01 46 33.6	-1.1	
BALY				*i* S	Sb	01 46 49.9	-0.8	
BALY	**Balya**	**1.23**	**83**	P	Pn	01 46 33.7	-1.1	
BALY				S	Sb	01 46 49.9	-0.8	
KRBG	**Karabiga-Canak**	**1.24**	**51**	PN	Pn	01 46 34.2	-0.7	
KRBG	**Karabiga-Canak**	**1.24**	**51**	*e*Pn	Pn	01 46 34.2	-0.7	
ALN	**Alexandroupoli**	**1.28**	**0**	PN	Pg	01 46 36.1	-0.2	
ALN	**Alexandroupoli**	**1.28**	**0**	P	Pn	01 46 35.3	-0.2	
ALN				S	Sb	01 46 52.6	+0.3	
ALN				AML	AML	01 46 54.3		
	comp=E,249µm,0.4s							
ALN				AML	AML	01 46 54.4		
	comp=N,379µm,0.5s							
ALN	**Alexandroupoli**	**1.28**	**0**	P	Pn	01 46 35.3	-0.2	
ALN	**Alexandroupoli**	**1.28**	**0**	*e*Pn	Pg	01 46 36.1	-0.2	
ALN				S	Sn	01 46 52.8	+0.1	
ALN	**Alexandroupoli**	**1.28**	**0**	P	Pn	01 46 35.1	-0.4	
ALN				S	Sn	01 46 52.8	+0.1	
KESN	**Edirne-Kesan**	**1.31**	**22**	*i* P	Pb	01 46 36.6	+0.1	
KESN				*i* S	Sn	01 46 54.8	+0.9	
KESN	**Edirne-Kesan**	**1.31**	**22**	P	Pb	01 46 36.6	+0.1	
KESN				S	Sn	01 46 54.8	+0.9	
STEP	**BALIKESIR_Sava**	**1.32**	**100**	*i* P	Pn	01 46 36.1	0.0	
STEP				*i* S	Sg	01 46 56.1	+2.0	
STEP	**BALIKESIR_Sava**	**1.32**	**100**	P	Pn	01 46 36.1	0.0	
STEP				S	Sg	01 46 56.1	+2.0	
URLA	**Izmir**	**1.32**	**161**	PN	Pn	01 46 35.0	-1.1	
URLA	**Izmir**	**1.32**	**161**	*e*Pn	Pn	01 46 35.0	-1.1	
GONE	**Gonen-Balikesi**	**1.34**	**71**	PN	Pn	01 46 35.9	-0.4	
GONE	**Gonen-Balikesi**	**1.34**	**71**	*e*Pn	Pn	01 46 35.9	-0.4	
RKY	**Sarkoy-Tekirda**	**1.39**	**39**	PN	Pn	01 46 36.8	-0.2	
RKY	**Sarkoy-Tekirda**	**1.39**	**39**	*e*Pn	Pn	01 46 36.8	-0.2	
BALB	**Balikesir**	**1.42**	**88**	PN	Pn	01 46 37.7	+0.3	
BALB	**Balikesir**	**1.42**	**88**	*e*Pn	Pn	01 46 37.7	+0.3	
RDO	**Rodhopi**	**1.58**	**346**	P	Pb	01 46 40.4	-0.5	
RDO	**Rodhopi**	**1.58**	**346**	P	Pn	01 46 40.0	+0.4	
RDO				S	Sn	01 46 59.7	-0.3	
RDO	**Rodhopi**	**1.58**	**346**	P	Pn	01 46 40.0	+0.4	
RDO				S	Sn	01 46 59.7	-0.3	
EDC	**Edincik**	**1.58**	**62**	PN	Pn	01 46 39.7	+0.1	
EDC	**Edincik**	**1.58**	**62**	*e*Pn	Pn	01 46 39.7	+0.1	
OUR	**Ouranopolis**	**1.74**	**295**	PN	Pn	01 46 42.5	+0.8	
OUR	**Ouranopolis**	**1.74**	**295**	P	Pn	01 46 41.5	-0.2	
OUR	**Ouranopolis**	**1.74**	**295**	P	Pn	01 46 41.6	-0.1	
OUR	**Ouranopolis**	**1.74**	**295**	*e*Pn	Pn	01 46 42.5	+0.8	
OUR				S	Sn	01 47 02.9	-1.0	
OUR	**Ouranopolis**	**1.74**	**295**	P	Pn	01 46 41.6	-0.1	
OUR				S	Sn	01 47 02.9	-1.0	
TKR	**Tekirdag**	**1.79**	**39**	PN	Pn	01 46 42.9	+0.4	
TKR	**Tekirdag**	**1.79**	**39**	*e*Pn	Pn	01 46 42.9	+0.4	
KAVA	**Kavala**	**1.81**	**320**	P	Pn	01 46 41.5	-1.2	
KAVA	**Kavala**	**1.81**	**320**	P	Pn	01 46 42.6	-0.1	
KAVA				S	Sn	01 47 04.3	-1.4	
KAVA	**Kavala**	**1.81**	**320**	P	Pn	01 46 42.6	-0.1	
KAVA				S	Sn	01 47 04.3	-1.4	
PAIG	**Paliouri**	**1.84**	**281**	P	Pn	01 46 44.2	+1.0	
PAIG	**Paliouri**	**1.84**	**281**	P	Pn	01 46 43.8	+0.6	
DURS	**Dursunbey**	**1.88**	**90**	*i* P	Pn	01 46 43.9	+0.1	
DURS				*i* S	Sn	01 47 08.0	+0.4	
DURS	**Dursunbey**	**1.88**	**90**	P	Pn	01 46 43.9	+0.1	
DURS				S	Sn	01 47 08.0	+0.4	
KCTX	**Karacabey (Bur**	**1.90**	**69**	PN	Pn	01 46 44.0	0.0	
KCTX	**Karacabey (Bur**	**1.90**	**69**	*e*Pn	Pn	01 46 44.0	0.0	
SBT3	**Marmara-Eregli**	**1.95**	**49**	PN	Pn	01 46 45.3	+0.8	
SBT3	**Marmara-Eregli**	**1.95**	**49**	*e*Pn	Pn	01 46 45.6	+0.8	
CRLT	**Corlu**	**2.00**	**40**	PN	Pn	01 46 45.6	+0.3	
CRLT	**Corlu**	**2.00**	**40**	*e*Pn	Pn	01 46 45.6	+0.3	
GCAM	**G?zelcaml?**	**2.13**	**154**	PN	Pn	01 46 48.1	+1.0	
GCAM	**G?zelcaml?**	**2.13**	**154**	*e*Pn	Pn	01 46 48.1	+1.0	
AYDB	**Zeytinkoy-Aydi**	**2.21**	**138**	PN	Pn	01 46 48.8	+0.5	
AYDB	**Zeytinkoy-Aydi**	**2.21**	**138**	*e*Pn	Pn	01 46 48.8	+0.5	
EDRB	**Edirne**	**2.30**	**13**	PN	Pn	01 46 50.2	+0.8	
EDRB	**Edirne**	**2.30**	**13**	*e*Pn	Pn	01 46 50.2	+0.8	
PHSR	**Pinarhisar**	**2.31**	**29**	PN	Pn	01 46 50.1	+0.4	
PHSR	**Pinarhisar**	**2.31**	**29**	*e*Pn	Pn	01 46 50.1	+0.4	
MDNY	**Mudanya-Bursa**	**2.31**	**70**	PN	Pn	01 46 50.2	+0.5	
MDNY	**Mudanya-Bursa**	**2.31**	**70**	*e*Pn	Pn	01 46 50.2	+0.5	
SLVT	**Silivri**	**2.31**	**45**	PN	Pn	01 46 50.2	+0.5	
SLVT	**Silivri**	**2.31**	**45**	*e*Pn	Pn	01 46 50.2	+0.5	
KULA	**Kula-Manisa**	**2.32**	**117**	PN	Pn	01 46 50.4	+0.6	
KULA	**Kula-Manisa**	**2.32**	**117**	*e*Pn	Pn	01 46 50.4	+0.6	
SIMA	**Simav-Kutahya**	**2.34**	**102**	PN	Pn	01 46 50.6	+0.4	
SIMA	**Simav-Kutahya**	**2.34**	**102**	*e*Pn	Pn	01 46 50.6	+0.4	
ARMT	**Armutlu**	**2.37**	**65**	PN	Pn	01 46 51.3	+0.9	
ARMT	**Armutlu**	**2.37**	**65**	*e*Pn	Pn	01 46 51.3	+0.9	
SOH	**Sokhos**	**2.38**	**301**	P	Pn	01 46 50.7	0.0	
SOH	**Sokhos**	**2.38**	**301**	P	Pn	01 46 50.8	+0.1	
ELBA	**Catalca**	**2.39**	**49**	*i* P	Pn	01 46 50.2	-0.5	
ELBA	**Catalca**	**2.39**	**49**	P	Pn	01 46 50.2	-0.5	
SRS	**Serrai**	**2.40**	**310**	P	Pn	01 46 49.9	-0.9	
SRS	**Serrai**	**2.40**	**310**	P	Pn	01 46 50.8	-0.1	
SRS	**Serrai**	**2.40**	**310**	P	Pn	01 46 50.8	-0.1	
NVR	**Nevrokopi**	**2.40**	**317**	P	Pn	01 46 50.6	-0.3	
NVR	**Nevrokopi**	**2.40**	**317**	P	Pn	01 46 51.0	+0.1	
NVR	**Nevrokopi**	**2.40**	**317**	P	Pn	01 46 51.0	+0.1	
CTKS	**Kestanelik-??a**	**2.49**	**48**	PN	Pn	01 46 52.6	+0.6	
CTKS	**Kestanelik-??a**	**2.49**	**48**	*e*Pn	Pn	01 46 52.6	+0.6	
CTYL	**Yalikoy Yolu**	**2.53**	**42**	PN	Pn	01 46 53.6	+1.0	
CTYL	**Yalikoy Yolu**	**2.53**	**42**	*e*Pn	Pn	01 46 53.6	+1.0	
BGKT	**Bogazkoy**	**2.61**	**52**	PN	Pn	01 46 54.1	+0.3	
BGKT	**Bogazkoy**	**2.61**	**52**	*e*Pn	Pn	01 46 54.1	+0.3	
TVSB	**Tavsanli**	**2.65**	**92**	PN	Pn	01 46 54.9	+0.5	
TVSB	**Tavsanli**	**2.65**	**92**	*e*Pn	Pn	01 46 54.9	+0.5	
BUY	**Buyukada**	**2.66**	**61**	PN	Pn	01 46 54.9	+0.4	
BUY	**Buyukada**	**2.66**	**61**	*i* P	Pn	01 46 54.1	-0.4	
BUY				*i* S	Sg	01 47 36.1	-1.0	
BUY	**Buyukada**	**2.66**	**61**	P	Pn	01 46 54.1	-0.4	
BUY	**Buyukada**	**2.66**	**61**	*e*Pn	Pn	01 46 54.9	+0.4	
KAVV	**Kandilli-Istan**	**2.73**	**57**	PN	Pn	01 46 55.8	+0.4	
KAVV	**Kandilli-Istan**	**2.73**	**57**	*e*Pn	Pn	01 46 55.8	+0.4	
ISK	**Istanbul-Kandi**	**2.73**	**57**	PN	Pn	01 46 56.2	+0.8	
ISK	**Istanbul-Kandi**	**2.73**	**57**	*e*Pn	Pn	01 46 56.2	+0.8	
KLYT	**Kilyos**	**2.82**	**53**	PN	Pn	01 46 57.3	+0.7	
KLYT	**Kilyos**	**2.82**	**53**	*e*Pn	Pn	01 46 57.3	+0.7	
ADVT	**Abdulvahap**	**2.96**	**73**	PN	Pn	01 46 59.6	+1.1	
ADVT	**Abdulvahap**	**2.96**	**73**	*e*Pn	Pn	01 46 59.6	+1.1	

IDC ***28*** *01:51:29.1±1.2,6˚.42S×108˚.72E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.3/57, mbtmp3.7/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/51, Error ellipse: s-maj=28.5km s-min=19.5km az=2.0*

ISCJB ***28*** *01:51:31.7±0.9, 8˚.03S±0˚.07×107˚.25E±0˚.05, h35km, mb3.6/4, MS3.6/1, Error ellipse: s-maj=10.3km s-min=6.3km az=30.5*

DJA ***28*** *01:51:31.8±0.6, 8˚.5S×10˚7E±˚, h18km±6km, M4.1/12, MLv4.1/12*

ISC 28 01:51:31.8±1.0**, 7˚.98S**±0˚.08×**107˚.25E**±0˚.06**, h35**km**, n18, σ1§72/19, mb3.7/4, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.67**	**350**	P	**Pn**	**01 51 45.5**	**+0.7**
CISI	**Cisompet, Garu**	**0.70**	**53**	P	**Pn**	**01 51 45.3**	**+0.1**
CISI				S	**Sn**	**01 51 54.4**	**-0.5**
SKJI	**Sukabumi**	**1.18**	**325**	P	**Pn**	**01 51 53.1**	**+1.2**
SKJI				S	**Sn**	**01 52 07.6**	**+0.8**
LEM	**Lembang**	**1.20**	**18**	Pn	**Pn**	**01 51 53.6**	**+1.4**
	333nm,0.3s,baz=329,slow=5.9,SNR=54						
LEM				Sn	**Sn**	**01 52 09.4**	**+2.0**
	146nm,0.3s,baz=330,slow=20,SNR=4.4						
LEM				LR	LR	01 52 27.6	
	comp=Z,139nm,18.3s,baz=231,slow=50						
LEM	**Lembang**	**1.20**	**18**	P	**Pn**	**01 51 53.0**	**+0.8**
CMJI	**Cimerak**	**1.20**	**81**	P	**Pn**	**01 51 52.7**	**+0.6**
KPJI	**Karang Pucung**	**1.79**	**69**	P	**Pn**	**01 52 01.7**	**+1.6**
CGJI	**Cibinong**	**2.05**	**311**	P	**Pn**	**01 52 04.6**	**+0.8**
UGM	**Wanagama**	**3.24**	**89**	P	**Pn**	**01 52 23.5**	**+3.3**
PCJI	**Pacitan**	**3.90**	**93**	P	**Pn**	**01 52 30.8**	**+1.6**
PWJI	**Pagerwojo**	**4.51**	**91**	P	**Pn**	**01 52 38.8**	**+1.2**
MDSI	**Maura Dua**	**4.62**	**318**	P	**Pn**	**01 52 41.8**	**+2.7**
WRA	**Warramunga Arr**	**28.80**	**117**	P	**P**	**01 57 25.6**	**-1.1**
	0.3nm,0.8s,baz=286,slow=12,SNR=2.0						
STKA	**Stephens Creek**	**39.81**	**131**	P	**P**	**01 59 03.0**	**+1.2**
	2.2nm,0.7s,baz=308,slow=9.0,SNR=8.0						
SONM	**Songino Array**	**55.57**	**359**	PcP	**PcP**	**02 02 01.2**	**-2.2**
	0.6nm,0.4s,baz=194,slow=3.1,SNR=5.8						
MKAR	**Makanchi Array**	**58.88**	**340**	P	P	02 01 22.8	-4.4
	0.4nm,0.9s,baz=147,slow=6.9,SNR=3.7						
BVAR	**Borovoye Array**	**68.36**	**337**	P	**P**	**02 02 27.4**	**-2.2**
	0.6nm,0.6s,baz=134,slow=12,SNR=2.6						
VAE	**Valguarnera**	**97.04**	**307**	LR	LR	02 56 59.9	
	comp=Z,18nm,18.1s,baz=322,slow=40						

ISCJB ***28*** *01:51:41.0±1.1, 51˚.42N±0˚.05×16˚.21E±0˚.05, h0km, Error ellipse: s-maj=7.2km s-min=3.5km az=24.1*

CSEM ***28*** *01:51:42.9±0.6, 51˚.41N×16˚.17E, h2km, ML2.5/9, Error ellipse: s-maj=9.2km s-min=5.2km az=24.0, Suspected Mining induced.*

PRU ***28*** *01:51:43.8, 51˚.40N×16˚.19E, h0km*

VIE ***28*** *01:51:46.2±1.2, 51˚.21N×16˚.06E, h0km, ML2.1/4, Error ellipse: s-maj=8.4km s-min=6.1km az=29.0, Suspected Mining induced.*

ISC 28 01:51:43.2±1.5**, 51˚.41N**±0˚.07×**16˚.18E**±0˚.04**, h0**km**, n27, σ0§50/50, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.57**	**173**	*e*Pg	**Pg**	**01 51 54.8**	**+0.6**
KSP				*e*Sg	**Sg**	**01 52 02.9**	**+1.3**
UPC	**Upice**	**0.91**	**187**	*e*PG	**Pg**	**01 52 01.1**	**+0.5**
UPC				*e*SG	**Sg**	**01 52 12.6**	**+0.2**
	comp=Z,18nm,0.3s						
UPC	**Upice**	**0.91**	**187**	Pg	**Pg**	**01 52 01.1**	**+0.5**
UPC				Sg	**Sg**	**01 52 12.6**	**+0.2**
	18nm,0.3s						
DPC	**Dobruska-Polom**	**1.06**	**175**	*e*PG	**Pg**	**01 52 03.6**	**0.0**
DPC				*e*SG	**Sg**	**01 52 17.6**	**+0.2**
	comp=Z,5.5nm,0.3s						
DPC	**Dobruska-Polom**	**1.06**	**175**	Pg	**Pg**	**01 52 03.6**	**0.0**
DPC				Sg	**Sg**	**01 52 17.6**	**+0.2**
	5.5nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**230**	*e*PG	**Pg**	**01 52 09.1**	**0.0**
PVCC				*e*SG	**Sn**	**01 52 27.5**	**-0.4**
	comp=Z,32nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**230**	Pg	**Pg**	**01 52 09.1**	**0.0**
PVCC				Sg	**Sn**	**01 52 27.5**	**-0.4**
	32nm,0.3s						
KRLC	**Kraliky**	**1.39**	**164**	*e*PG	**Pg**	**01 52 09.4**	**-0.4**
KRLC				*e*SG	**Sb**	**01 52 28.2**	**-0.1**
	comp=Z,1.1nm,0.3s						
KRLC	**Kraliky**	**1.39**	**164**	Pg	**Pg**	**01 52 09.4**	**-0.4**
KRLC				Sg	**Sb**	**01 52 28.2**	**-0.1**
	1.1nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**250**	SG	**Sn**	**01 52 32.3**	**+0.4**
	9.0nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.74**	**211**	*e*PG	**Pb**	**01 52 15.7**	**-0.4**
GOPC				*e*SG	**Sg**	**01 52 39.6**	**+0.5**
	comp=Z,5.3nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.74**	**211**	Pg	**Pb**	**01 52 15.7**	**-0.4**
GOPC				Sg	**Sg**	**01 52 39.6**	**+0.5**
	5.3nm,0.3s						
PRU	**Pruhonice**	**1.76**	**217**	*e*PG	**Pn**	**01 52 15.6**	**+0.6**
PRU				*e*SG	**Sg**	**01 52 39.8**	**-0.1**
	comp=Z,3.9nm,0.3s						
PRU	**Pruhonice**	**1.76**	**217**	Pg	**Pn**	**01 52 15.6**	**+0.6**
PRU				Sg	**Sg**	**01 52 39.8**	**-0.1**
	3.9nm,0.3s						
MORC	**Moravsky Berou**	**1.85**	**152**	*e*Sg	**Sn**	**01 52 39.5**	**-0.8**
CLL	**Collm**	**2.00**	**268**	*e*Pg	**Pb**	**01 52 20.0**	**-0.4**
CLL				*e*Sg	**Sg**	**01 52 48.0**	**+0.7**
	comp=Z,3.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.01**	**141**	*e*SG	**Sb**	**01 52 46.2**	**0.0**
OKC	**Ostrava-Krasne**	**2.01**	**141**	Sg	**Sb**	**01 52 46.2**	**0.0**
NKC	**Novy Kostel**	**2.65**	**245**	*e*PG	**Pg**	**01 52 33.8**	**-0.1**
NKC				*e*SG	**Sg**	**01 53 07.8**	**-0.4**
NKC	**Novy Kostel**	**2.65**	**245**	Pg	**Pg**	**01 52 33.8**	**-0.1**
NKC				Sg	**Sg**	**01 53 07.8**	**-0.4**
KHC	**Kasperske Hory**	**2.83**	**217**	*e*PN	**Pn**	**01 52 29.9**	**+0.2**
KHC				*e*PG	**Pb**	**01 52 35.5**	**+0.9**
KHC				*e*SN	**Sn**	**01 53 04.0**	**-0.5**
KHC				*e*SG	**Sg**	**01 53 12.5**	**-1.5**
	comp=Z,1.7nm,0.4s						
KHC	**Kasperske Hory**	**2.83**	**217**	Pn	**Pn**	**01 52 29.9**	**+0.2**
LANS	**Liptovska Anna**	**3.09**	**136**	*e*SG	**Sg**	**01 53 22.1**	**-0.4**
CONA	**Conrad Observa**	**3.49**	**184**	Pg	**Pg**	**01 52 49.9**	**-0.2**
	comp=Z,0.3nm,0.3s						
CONA				Sg	**Sg**	**01 53 34.8**	**-0.5**
	comp=Z,1.8nm,0.3s						
CONA	**Conrad Observa**	**3.49**	**184**	Pg	**Pg**	**01 52 49.9**	**-0.2**
	comp=Z,0.3nm,0.3s						
CONA				Sg	**Sg**	**01 53 34.8**	**-0.5**
	comp=Z,1.8nm,0.3s						
MOA	**Molln**	**3.77**	**200**	Pn	**Pn**	**01 52 43.1**	**+0.4**
	comp=Z,0.3nm,0.2s						
MOA				Sg	**Sg**	**01 53 43.9**	**-0.5**
	comp=Z,0.6nm,0.3s						
MOA	**Molln**	**3.77**	**200**	*e*Pn	**Pn**	**01 52 43.1**	**+0.4**
	comp=Z,0.3nm,0.2s						
MOA				Sg	**Sg**	**01 53 43.9**	**-0.5**
	comp=Z,0.6nm,0.3s						

NIED ***28*** *01:53:00, 39˚.70N×142˚.30E, h11km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φ=285.00000°, δ54.00000°, λ-4.00000°. NP2:φ=17.00000°, δ87.00000°, λ-144.00000°.*

ISCJB ***28*** *01:53:55.0±0.7, 39˚.76N±0˚.03×142˚.35E±0˚.04, h21km±4km, mb4.2/29, MS3.1/1, Error ellipse: s-maj=6.2km s-min=3.7km az=31.3*

JMA ***28*** *01:53:55.8, 39˚.74N×142˚.28E, h23km±1km, M4.1*

JMA Felt II J1.

MOS ***28*** *01:53:58.2±1.2, 39˚.74N×142˚.41E, h49km, mb4.3/14, Error ellipse: s-maj=10.2km s-min=6.5km az=87.5*

IDC ***28*** *01:54:00.6±1.9, 39˚.70N×142˚.21E, h52km±17km, mb3.7/19, mb1 3.8/23, mb1mx3.6/65, mbtmp4.0/23, ML3.8/3, MS2.8/8, Ms1 2.8/8, ms1mx2.7/59, Error ellipse: s-maj=18.3km s-min=11.5km az=101.0*

NEIC ***28*** *01:54:01.1±0.7, 39˚.73N×142˚.32E, h59km±5km, mb4.9/10, Error ellipse: s-maj=7.8km s-min=5.6km az=120.0*

NEIC Recorded [2 JMA] in Iwate.

ISC 28 01:53:53.6±1.7**, 39˚.73N**±0˚.03×**142˚.34E**±0˚.05**, h1**km±10km**, n115, σ1§50/115, mb4.3/29, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.42**	**300**	P	**Pb**	**01 54 03.8**	**0.0**
JTH				S	**Sb**	**01 54 09.4**	**-1.3**
MIYJ	**Miyakonagasawa**	**0.43**	**249**	P	**Pb**	**01 54 04.0**	**0.0**
MIYJ				S	**Sb**	**01 54 09.4**	**-1.5**
JKZ	**Kuzumaki**	**0.82**	**288**	P	**Pb**	**01 54 10.3**	**-0.3**
JKZ				S	**Sb**	**01 54 20.3**	**-1.8**
OFUJ	**Ofunato**	**0.83**	**219**	P	**Pb**	**01 54 10.6**	**-0.2**
OFUJ				S	**Sb**	**01 54 21.0**	**-1.5**
JOM	**Ohasama**	**0.85**	**253**	P	**Pb**	**01 54 10.9**	**-0.2**
JOM				S	**Sb**	**01 54 21.4**	**-1.6**
JANG	**Nango**	**0.90**	**316**	P	**Pb**	**01 54 11.2**	**-0.8**
JANG				*e*S	**Sg**	**01 54 22.2**	**-0.4**
JMK	**Ichinoseki**	**1.17**	**228**	P	**Pn**	**01 54 16.3**	**-0.7**
JMK				S	**Sg**	**01 54 31.0**	**-0.1**
JRG	**Rokugo**	**1.36**	**256**	P	**Pb**	**01 54 19.3**	**-0.5**
JRG				S	**Sn**	**01 54 37.4**	**-0.9**
JAH	**Hinai**	**1.39**	**290**	P	**Pg**	**01 54 19.8**	**-0.4**
JAH				S	**Sg**	**01 54 37.2**	**-1.0**
ERM	**Erimo**	**2.37**	**15**	*e*P	**Pb**	**01 54 36.8**	**-0.2**
ERM				*e*		01 55 02.1	
ERM	**Erimo**	**2.37**	**15**	*e*Pn	**Pb**	**01 54 36.8**	**-0.2**
ERM				*e*Sn	**Sn**	**01 55 02.1**	**-1.0**
ASAJ	**Asahikawa**	**4.39**	**2**	P	**Pn**	**01 55 03.2**	**+1.9**
	4.7nm,0.3s,baz=242,slow=14,SNR=10						
ASAJ				S	**Sn**	**01 55 56.8**	**+3.8**
	2.1nm,0.3s,baz=216,slow=33,SNR=4.3						
MJAR	**Matsushiro Arr**	**4.55**	**227**	P	**Pn**	**01 55 06.8**	**+3.2**
	3.6nm,0.3s,baz=39,slow=10,SNR=28						
MJAR				S	**Sb**	**01 56 07.8**	**-1.9**
	baz=52,slow=24,SNR=2.3						
MJB9	**Matsu-Tunnel**	**4.55**	**227**	*e*Pn	**Pn**	**01 55 06.8**	**+3.1**
MAJO	**Matsushiro**	**4.55**	**227**	*e*P	**Pn**	**01 55 06.6**	**+2.9**
MAJO				*e*		01 56 07.8	
MAJO	**Matsushiro**	**4.55**	**227**	*e*Pn	**Pn**	**01 55 06.6**	**+2.9**
MAJO				*e*Sn	**Sb**	**01 56 07.8**	**-1.9**
MAT	**Matsushiro**	**4.55**	**227**	P	**Pn**	**01 55 06.2**	**+2.6**
MAT				*e*S	**Sn**	**01 55 59.6**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**5.04**	**30**	*e*P	**Pn**	**01 55 12.0**	**+1.7**
YUK				*i* S	**Sn**	**01 56 08.2**	**-0.9**
YUK				smax	smax		
	comp=E,183nm,0.3s						
YUK				smax	smax		
	comp=N,209nm,0.4s						
SHO	**Shikotan**	**5.33**	**38**	*e*P	**Pn**	**01 55 14.3**	**+0.1**
SHO				*e*S	**Sn**	**01 56 10.4**	**-5.7**
SHO				pmax	pmax		
	comp=Z,22nm,0.6s						
SHO				smax	smax		
	comp=N,58nm,0.2s						
SHO				smax	smax		
	comp=E,57nm,0.4s						
INU	**Inuyama**	**6.08**	**226**	*e*Pn	**Pn**	**01 55 28.7**	**+4.1**
TEY	**Ternei**	**6.79**	**323**	*e*P	Pn	01 55 40.0	+5.7
KUR	**Kuril'sk**	**6.85**	**35**	*e*P	**Pn**	**01 55 38.7**	**+3.6**
KUR				*e*S	**Sn**	**01 56 53.3**	**-0.3**
KUR				pmax	pmax		
	comp=Z,27nm,0.5s						
JHJ	**Hachijo jima 2**	**6.91**	**198**	P	**Pn**	**01 55 37.6**	**+1.6**
	comp=E,6.4nm,0.3s,baz=60,slow=20,SNR=2.9						
JHJ				S	**Sn**	**01 56 51.0**	**-4.3**
	comp=Z,14nm,0.3s,baz=73,slow=19,SNR=2.7						
YSS	**Yuzh-Sakhalins**	**7.23**	**2**	*e*P	**Pn**	**01 55 42.3**	**+2.0**
USRK	**Ussuriysk Ar.**	**8.91**	**303**	P	Pn	01 56 07.6	+4.2
	comp=Z,0.3nm,0.3s,baz=117,slow=16,SNR=4.0						
USRK				LR	LR	01 59 14.9	
	comp=Z,163nm,19.7s,baz=155,slow=36						
JNU	**Nakatsue**	**11.34**	**238**	LR	LR	02 01 35.1	
	comp=Z,56nm,19.8s,baz=94,slow=40						
KSRS	**Korea Array**	**11.51**	**263**	P	Pn	01 56 44.2	+5.2
	comp=Z,0.8nm,0.3s,baz=71,slow=14,SNR=4.2						
KSRS				LR	LR	02 00 50.6	
	comp=Z,49nm,18.4s,baz=96

comp=Z,15nm,1.6s
WRA Warramunga Arr 59.83 189 P **P** 02 04 00.1 -0.5
comp=Z,1.2nm,0.5s,baz=6.7,slow=6.9,SNR=38
YKA Yellowknife Ar 61.12 31 P **P** 02 04 10.9 +2.0
comp=Z,0.2nm,0.5s,baz=299,slow=6.4,SNR=5.5
YKA Yellowknife Ar 61.12 31 P **P** 02 04 11.0 +2.0
YKB5 Yellowknife Ar 61.12 31 *eP* **P** 02 04 10.9 +2.0
GEYT Alibeck 63.19 298 P **P** 02 04 23.0 -0.3
comp=Z,1.2nm,0.6s,baz=90,slow=2.0,SNR=3.6
AS31 Alice Springs 63.56 189 *eP* **P** 02 04 25.7 0.0
comp=Z,1.0nm,0.9s
ASAR Alice Springs 63.56 189 P **P** 02 04 25.7 0.0
comp=Z,0.6nm,0.5s,baz=5.7,slow=5.3,SNR=8.0
FIA0 FINESS Array S 66.77 332 *eP* **P** 02 04 45.1 -1.1
FIA0 FINESS Array S 66.77 332 *eP* **P** 02 04 45.1 -1.1
FINES FINESS Array B 66.77 332 P **P** 02 04 45.1 -1.1
comp=Z,3.5nm,0.9s,baz=60,slow=11,SNR=5.0
KBZ Khabaz 69.71 310 P **P** 02 05 04.5 -0.3
comp=Z,2.2nm,0.9s,baz=62,slow=5.4,SNR=3.3
BGC Bolinger Road 70.78 57 *eP* **P** 02 05 10.4 -1.3
HFS Hagfors 71.93 336 P **P** 02 05 18.4 +0.3
comp=Z,2.9nm,1.1s,baz=44,slow=6.4,SNR=5.6
NB200 NORSAR Array S 71.98 337 *eP* **P** 02 05 18.6 +0.1
NOA NORSAR Array B 71.98 337 P **P** 02 05 18.6 +0.1
comp=Z,0.2nm,0.4s,baz=48,slow=5.4,SNR=2.8
WAKR Walker 72.05 55 *eP* **P** 02 05 18.4 -1.1
comp=Z,12nm,0.8s
AKASG Malin Array Be 72.61 322 P **P** 02 05 22.1 -0.3
comp=Z,0.8nm,0.4s,baz=46,slow=6.7,SNR=7.6
AKBB Malin Array Si 72.61 322 *eP* **P** 02 05 22.1 -0.3
AKBB pmax pmax
comp=Z,23nm,1.8s
AKBB Malin Array Si 72.61 322 *eP* **P** 02 05 22.1 -0.3
comp=Z,22nm,1.8s
MDPB Devils Postpil 72.80 55 *eP* **P** 02 05 20.0 -4.1
comp=Z,8.6nm,0.6s
WBSM Bird Springs 74.67 57 *eP* **P** 02 05 36.8 +1.7
GSC Goldstone, Bar 75.67 56 *eP* **P** 02 05 39.2 -1.5
GSC Goldstone, Bar 75.67 56 *eP* **P** 02 05 39.2 -1.5
BR101 Keskin Array S 77.61 312 *eP* **P** 02 05 52.1 +0.5
BRTR Keskin Array B 77.61 312 P **P** 02 05 52.1 +0.5
comp=Z,0.8nm,0.9s,baz=36,slow=4.3,SNR=2.8
CLL Collm 79.12 330 *i* P **P** 02 05 59.3 -0.3
ODZ Otahua Downs 88.15 160 *eP* **P** 02 06 49.0 +3.4
comp=Z,20nm,0.9s
H06E1 SOCORRO T-PHAS 90.38 65 T T 03 47 38.3
SNAA Sanae 143.54 198 PKP **PKPdf** 02 13 27.9 -0.9
comp=Z,1.2nm,0.9s,baz=0.0,slow=6.1,SNR=4.5

*CSEM **28** 02:21:57.8, 40°.29N×25°.24E, h15km, ML1.0/4, After ATH*
ATH 28 02:21:57.8, 40°.29N×25°.24E, h15km±6km, ML1.0/4, Error ellipse: s-maj=6.9km s-min=1.1km az=119.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.29**	**50**	P	Pg	02 22 04.0	+0.1
SMTH				S	Sg	02 22 08.0	0.0
SMTH				AML	AML	02 22 09.1	
	comp=N,69μm,0.3s						
SMTH				AML	AML	02 22 13.0	
	comp=E,79μm,0.4s						
SMTH	**Samothraki Isl**	**0.29**	**50**	P	Pg	02 22 03.9	0.0
SMTH				S	Sg	02 22 07.8	-0.2
SMTH				AML	AML	02 22 08.3	
	comp=E,68μm,0.2s						
SMTH				AML	AML	02 22 09.1	
	comp=N,69μm,0.3s						
SMTH	**Samothraki Isl**	**0.29**	**50**	P	Pg	02 22 03.9	0.0
SMTH				S	Sg	02 22 08.1	+0.1
LIA	**Limnos Island**	**0.39**	**187**	P	Pg	02 22 05.3	-0.4
LIA				S	Sb	02 22 12.3	0.0
LIA				AML	AML	02 22 13.8	
	comp=E,47μm,0.5s						
LIA				AML	AML	02 22 13.8	
	comp=N,36μm,0.2s						
LIA	**Limnos Island**	**0.39**	**187**	P	Pb	02 22 06.9	+0.5
LIA				S	Sb	02 22 12.1	-0.1
LIA				AML	AML	02 22 13.5	
	comp=E,48μm,0.2s						
LIA				AML	AML	02 22 17.2	
	comp=N,42μm,0.3s						
LIA	**Limnos Island**	**0.39**	**187**	P	Pg	02 22 05.5	-0.2
LIA				S	Sb	02 22 11.9	-0.4
ALN	**Alexandroupoli**	**0.86**	**45**	P	Pb	02 22 14.2	-0.3
ALN				S	Sg	02 22 26.5	+0.6
ALN				AML	AML	02 22 28.3	
	comp=E,30μm,0.4s						
ALN				AML	AML	02 22 29.4	
	comp=N,36μm,0.6s						
ALN	**Alexandroupoli**	**0.86**	**45**	P	Pb	02 22 14.0	-0.5
ALN				S	Sg	02 22 26.6	+0.7
ALN				AML	AML	02 22 27.7	
	comp=E,40μm,0.8s						
ALN				AML	AML	02 22 29.4	
	comp=N,36μm,0.6s						
ALN	**Alexandroupoli**	**0.86**	**45**	P	Pb	02 22 14.2	-0.3
ALN				S	Sg	02 22 26.4	+0.5
RDO	**Rodhopi**	**0.89**	**15**	P	Pb	02 22 14.8	-0.1
RDO				S	Sg	02 22 27.2	+0.6
RDO				AML	AML	02 22 30.1	
	comp=E,16μm,0.3s						
RDO				AML	AML	02 22 32.2	
	comp=N,13μm,0.3s						
RDO	**Rodhopi**	**0.89**	**15**	P	Pg	02 22 15.1	+0.1
RDO				S	Sg	02 22 26.9	+0.3
RDO				AML	AML	02 22 28.6	
	comp=N,12μm,0.5s						
RDO				AML	AML	02 22 30.1	
	comp=E,16μm,0.3s						
RDO	**Rodhopi**	**0.89**	**15**	P	Pb	02 22 14.7	-0.2
RDO				S	Sg	02 22 27.1	+0.4
KAVA	**Kavala**	**0.90**	**322**	P	Pb	02 22 14.0	-1.2
KAVA				S	Sb	02 22 26.9	0.0
KAVA				AML	AML	02 22 28.7	
	comp=E,29μm,0.2s						
KAVA				AML	AML	02 22 31.6	
	comp=N,24μm,0.4s						
OUR	**Ouranopolis**	**0.97**	**273**	P	Pb	02 22 16.1	-0.2
OUR	**Ouranopolis**	**0.97**	**273**	P	Pb	02 22 16.1	-0.2
OUR	**Ouranopolis**	**0.97**	**273**	P	Pb	02 22 16.1	-0.1

*ISCJB **28** 02:36:57.9±0.6, 35°.88N±0°.04×139°.57E±0°.07, h99km±4km, mb3.5/3, Error ellipse: s-maj=10.5km s-min=5.5km az=154.5*
*JMA **28** 02:36:59.5±0.1, 35°.89N×139°.60E, h88km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕs340.00000°, δ70.00000°, λ85.00000°. NP2: ϕs174.00000°, δ21.00000°, λ103.00000°. Principal axes: T Plg65.0000°, Azm242.0000°; N Plg5.0000°, Azm342.0000°; P Plg25.0000°, Azm74.0000°;*
JMA Felt I J1.
*IDC **28** 02:37:00.4±2.4, 35°.76N×139°.34E, h102km±10km, mb3.2/3, mb1 3.4/4, mb1mx3.0/61, mbtmp3.7/4 Error ellipse: s-maj=63.4km s-min=7.8km az=65.0*
ISC 28 02:36:58.8±1.0, 35°.88N±0°.05×139°.56E±0°.06, h95km±7km, n19, σ0s55/27, mb3.8/3, 3C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHU	**Hanno**	**0.23**	**262**	⇓P	**Pn**	**02 37 13.0**	**+0.5**
JHU				S	**Sn**	**02 37 22.7**	**0.0**
TOK	**Tokyo**	**0.25**	**141**	P	**Pn**	**02 37 13.4**	**+0.9**
JAG	**Ashikaga**	**0.55**	**351**	⇑P	**Pn**	**02 37 14.4**	**-0.1**
JAG				S	**Sn**	**02 37 25.3**	**-0.8**
JRY	**Ryogami san**	**0.55**	**284**	⇓P	**Pn**	**02 37 15.1**	**+0.6**
JRY				S	**Sn**	**02 37 26.7**	**+0.5**
JOD2	**Odawara 2**	**0.73**	**212**	⇓P	**Pn**	**02 37 15.7**	**-0.4**
JOD2				S	**Sn**	**02 37 28.0**	**-1.0**
JYN	**Shimob**	**0.91**	**245**	⇓P	**Pn**	**02 37 18.1**	**+0.1**
JYN				S	**Sn**	**02 37 32.4**	**0.0**
JKT	**Katashina**	**0.92**	**344**	⇑P	**Pn**	**02 37 18.2**	**+0.1**
JKT				S	**Sn**	**02 37 31.9**	**-0.6**
JIM2	**Oshima 3**	**1.17**	**185**	P	**Pn**	**02 37 20.8**	**-0.1**
JIM2				S	**Sn**	**02 37 36.4**	**-1.0**
MJAR	**Matsushiro Arr**	**1.27**	**301**	P	**Pn**	**02 37 21.9**	**-0.2**
	12nm,0.3s,baz=127,slow=10.0,SNR=40						
MJAR				S	**Sn**	**02 37 40.2**	**+0.6**
	10nm,0.3s,baz=93,slow=29,SNR=6.8						
MAT	**Matsushiro**	**1.28**	**301**	P	**Pn**	**02 37 22.1**	**0.0**
MAT				S	**Sn**	**02 37 40.2**	**+0.5**
MAT	**Matsushiro**	**1.28**	**301**	P	**Pn**	**02 37 22.2**	**+0.1**
BSO1	**Boso 1**	**1.69**	**136**	⇑P	**Pn**	**02 37 26.7**	**0.0**
BSO1				*e*S	**Sn**	**02 37 48.0**	**+0.1**
JHJ	**Hachijo jima 2**	**2.76**	**176**	P	**Pn**	**02 37 42.5**	**+1.2**
	55nm,0.3s,baz=240,slow=2.3,SNR=12						
JHJ				S	**Sn**	**02 38 13.9**	**-0.1**
	36nm,0.3s,baz=106,slow=23,SNR=8.0						
H11N2	**WAKE ISLAND Hy 28.91 117**			T	T	03 12 26.6	
	baz=319,slow=75,SNR=6.3						
H11N1	**WAKE ISLAND Hy 28.91 117**			T	T	03 12 26.1	
	baz=319,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy 28.93 117**			T	T	03 12 27.6	
	baz=319,slow=75,SNR=5.1						
MKAR	**Makanchi Array 43.48 303**			P	**P**	**02 44 52.5**	**0.0**
	0.2nm,0.6s,baz=88,slow=9.2,SNR=2.5						
KURBB	**Kurchatov Arra 45.54 309**			P	**P**	**02 45 09.0**	**+0.1**
	1.1nm,0.6s,baz=84,slow=7.7,SNR=8.6						
WRA	**Warramunga Arr 55.74 186**			P	**P**	**02 46 25.5**	**-0.3**
	0.4nm,0.4s,baz=1.2,slow=7.7,SNR=14						

*ISCJB **28** 02:52:55.6±0.6, 50°.14N±0°.04×19°.17E±0°.03, h0km, Error ellipse: s-maj=5.8km s-min=2.7km az=12.0*
*CSEM **28** 02:52:56.6±0.4, 50°.14N×19°.21E, h1km, ML2.7/7, Error ellipse: s-maj=9.5km s-min=4.3km az=10.0*
*PRU **28** 02:52:57.3, 50°.13N×19°.23E, h0km*
*WAR **28** 02:52:58.2, 50°.09N×19°.33E, h1km, Mw2.6*
ISC 28 02:52:56.9±0.8, 50°.08N±0°.03×19°.22E±0°.02, h0km, n33, σ0s89/57, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.26**	**325**	*e*Pg	**Pb**	**02 53 04.7**	**+0.2**
CHZP				*e*Sg	**Sb**	**02 53 10.1**	**+0.6**
CHZP	**Chorzow**	**0.26**	**325**	*e*Pg	**Pb**	**02 53 04.7**	**+0.2**
CHZP				*e*Sg	**Sb**	**02 53 10.1**	**+0.6**
OJC	**Ojcow**	**0.40**	**69**	*e*Pg	**Pg**	**02 53 04.4**	**-0.1**
OJC				*e*Sg	**Sg**	**02 53 09.1**	**-0.5**
OJC	**Ojcow**	**0.40**	**69**	*e*Pg	**Pg**	**02 53 04.4**	**-0.1**
OJC				*e*Sg	**Sg**	**02 53 09.1**	**-0.5**
OJC	**Ojcow**	**0.40**	**69**	*e*Pg	**Pg**	**02 53 04.4**	**-0.1**
OJC				*e*Sg	**Sg**	**02 53 09.1**	**-0.5**
OKC	**Ostrava-Krasne**	**0.73**	**251**	*e*PG	**Pb**	**02 53 12.5**	**-0.1**
OKC				*e*SG	**Sg**	**02 53 21.4**	**+0.9**
	comp=Z,18nm,0.4s						
OKC	**Ostrava-Krasne**	**0.73**	**251**	Pg	**Pb**	**02 53 12.5**	**-0.1**
OKC				Sg	**Sg**	**02 53 21.4**	**+0.9**
	18nm,0.4s						
LANS	**Liptovska Anna**	**0.94**	**170**	*e*Pg	**Pb**	**02 53 15.9**	**-0.3**
LANS				*e*Sg	**Sb**	**02 53 29.3**	**+0.1**
LANS	**Liptovska Anna**	**0.94**	**170**	*e*PG	**Pb**	**02 53 15.9**	**-0.3**
LANS				*e*SG	**Sb**	**02 53 29.3**	**+0.1**
NIE	**Niedzica**	**0.96**	**133**	*e*Pg	**Pg**	**02 53 15.7**	**+0.3**
NIE				*e*Sg	**Sb**	**02 53 28.8**	**-1.0**
NIE	**Niedzica**	**0.96**	**133**	*e*Pg	**Pg**	**02 53 15.7**	**+0.3**
NIE				*e*Sg	**Sb**	**02 53 28.8**	**-1.0**
NIE	**Niedzica**	**0.96**	**133**	*e*Pg	**Pg**	**02 53 15.7**	**+0.3**
NIE				*e*Sg	**Sb**	**02 53 28.8**	**-1.0**
MORC	**Moravsky Berou**	**1.13**	**255**	*e*Pg	**Pn**	**02 53 19.9**	**-0.1**
MORC				*e*Sg	**Sb**	**02 53 35.3**	**+0.8**
STHS	**Stebnicka Huta**	**1.47**	**116**	*e*Sn	**Sn**	**02 53 46.2**	**+1.6**
STHS	**Stebnicka Huta**	**1.47**	**116**	*e*SN	**Sn**	**02 53 46.2**	**+1.6**
STHS				*e*LG	Lg	02 53 52.9	
KRLC	**Kraliky**	**1.57**	**271**	*e*PG	**Pn**	**02 53 25.8**	**-0.3**
KRLC				*e*SG	**Sn**	**02 53 46.6**	**-0.6**
	comp=Z,2.3nm,0.4s						
KRLC	**Kraliky**	**1.57**	**271**	Pg	**Pn**	**02 53 25.8**	**-0.3**
KRLC				Sg	**Sn**	**02 53 46.6**	**-0.6**
	2.3nm,0.4s						
VYHS	**Vyhne**	**1.61**	**189**	*e*Pn	**Pn**	**02 53 26.6**	**0.0**
VYHS				*e*Sn	**Sn**	**02 53 47.6**	**-0.4**
VYHS	**Vyhne**	**1.61**	**189**	*e*PN	**Pn**	**02 53 26.6**	**0.0**
VYHS				*e*SN	**Sn**	**02 53 47.6**	**-0.4**
VYHS				*e*LG	Lg	02 53 49.0	
KECS	**Kecovo**	**1.80**	**152**	*e*Pn	**Pn**	**02 53 29.6**	**+0.4**
KECS				*e*Sn	**Sn**	**02 53 52.6**	**-0.1**
KECS	**Kecovo**	**1.80**	**152**	*e*PN	**Pn**	**02 53 29.6**	**+0.4**
KECS				*e*SN	**Sn**	**02 53 52.6**	**-0.1**
KECS				*e*LG	Lg	02 53 55.3	
VRAC	**Vranov**	**1.87**	**247**	*e*Pn	**Pg**	**02 53 32.6**	**-0.2**
VRAC				*e*Sg	**Sg**	**02 53 57.1**	**0.0**
DPC	**Dobruska-Polom**	**1.88**	**279**	*e*PG	**Pb**	**02 53 32.0**	**-0.2**
DPC				*e*SG	**Sb**	**02 53 56.3**	**0.0**
	comp=Z,12nm,0.5s						
DPC	**Dobruska-Polom**	**1.88**	**279**	Pg	**Pb**	**02 53 32.0**	**-0.2**
DPC				Sg	**Sb**	**02 53 56.3**	**0.0**
	12nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.87**	**268**	*e*SG	**Sg**	**02 54 29.2**	**+0.2**
	comp=Z,7.9nm,0.6s						
GOPC	**GO Pecny, Ondr**	**2.87**	**268**	Sg	**Sg**	**02 54 29.2**	**+0.2**
	7.9nm,0.6s						
PVCC	**Panska Ves**	**3.02**	**280**	*e*SG	**Sg**	**02 54 33.7**	**-0.1**
	comp=Z,12nm,0.5s						
PVCC	**Panska Ves**	**3.02**	**280**	Sg	**Sg**	**02 54 33.7**	**-0.1**
	12nm,0.5s						
PRU	**Pruhonice**	**3.02**	**270**	*e*SG	**Sg**	**02 54 32.0**	**-1.9**
	comp=Z,4.9nm,0.6s						
PRU	**Pruhonice**	**3.02**	**270**	Sg	**Sg**	**02 54 32.0**	**-1.9**
	4.9nm,0.6s						
BRG	**Berggiesshubel**	**3.46**	**285**	SG	**Sg**	**02 54 45.4**	**-2.8**
	4.2nm,0.7s						
KHC	**Kasperske Hory**	**3.79**	**258**	*e*PG	**Pb**	**02 54 06.9**	**+2.2**
KHC				*e*SG	**Sg**	**02 54 57.2**	**-1.5**
	comp=Z,5.2nm,0.6s						
KHC	**Kasperske Hory**	**3.79**	**258**	Pg	**Pb**	**02 54 06.9**	**+2.2**
KHC				Sg	**Sg**	**02 54 57.2**	**-1.5**
	5.2nm,0.6s						

*CSEM **28** 03:07:28.9±0.4, 50°.18N×19°.06E, h1km, Error ellipse: s-maj=9.0km s-min=5.2km az=5.0*
PRU 28 03:07:29.4, 50°.14N×19°.09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.16**	**337**	*e*Pg	Pg	03 07 35.6	+3.1
CHZP				*e*Sg	Sg	03 07 37.9	+3.2
OJC	**Ojcow**	**0.46**	**80**	*e*Pg	Pg	03 07 38.5	+0.3
OJC				*e*Sg	Sg	03 07 44.8	+0.5
OJC	**Ojcow**	**0.46**	**80**	*e*Pg	Pg	03 07 38.6	+0.4
OJC				*e*Sg	Sg	03 07 44.8	+0.6
OKC	**Ostrava-Krasne**	**0.68**	**244**	*e*PG	Pg	03 07 42.8	+0.4
OKC				*e*SG	Sg	03 07 52.1	+0.9
	comp=Z,3.8nm,0.4s						
OKC	**Ostrava-Krasne**	**0.68**	**244**	Pg	Pg	03 07 42.8	+0.4
OKC				Sg	Sg	03 07 52.1	+0.9
	3.8nm,0.4s						
LANS	**Liptovska Anna**	**1.02**	**166**	*e*Pg	Pg	03 07 48.5	-0.4
LANS				*e*Sg	Sg	03 08 02.0	-0.1
LANS	**Liptovska Anna**	**1.02**	**166**	*e*PG	Pg	03 07 48.5	-0.4
LANS				*e*SG	Sg	03 08 02.0	-0.1
MORC	**Moravsky Berou**	**1.06**	**251**	*e*Pg	Pb	03 07 50.3	-0.4
MORC				*e*Sg	Sb	03 08 04.4	-0.8
KRLC	**Kraliky**	**1.49**	**268**	*e*PG	Pn	03 07 56.2	-1.2
KRLC				*e*SG	Sg	03 08 16.6	-0.6
	comp=Z,0.8nm,0.4s						
KRLC	**Kraliky**	**1.49**	**268**	Pg	Pn	03 07 56.2	-1.2
KRLC				Sg	Sg	03 08 16.6	-0.6
	0.8nm,0.4s						
VYHS	**Vyhne**	**1.66**	**186**	*e*Pg	Pn	03 07 58.4	-1.3
VYHS				*e*Sn	Sn	03 08 20.3	-1.4
VYHS	**Vyhne**	**1.66**	**186**	*e*PG	Pn	03 07 58.4	-1.3
VYHS				*e*SN	Sn	03 08 20.3	-1.4
VYHS				*e*LG	Lg	03 08 23.0	
DPC	**Dobruska-Polom**	**1.79**	**278**	*e*PG	Pn	03 08 01.8	+0.2
DPC				*e*SG	Sn	03 08 25.4	+0.4
DPC	**Dobruska-Polom**	**1.79**	**278**	Pg	Pn	03 08 01.8	+0.2
DPC				Sg	Sn	03 08 25.4	+0.4
PRU	**Pruhonice**	**2.94**	**269**	*e*SG	Sg	03 09 03.2	-0.4
KHC	**Kasperske Hory**	**3.72**	**256**	*e*SG	Sg	03 09 27.5	-1.4

IDC 28 03:14:44.2±2.9, 17°.50S×176°.65W, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.7/53, mbtmp4.3/4, ML3.8/1, Error ellipse: s-maj=180.7km s-min=33.0km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.90**	**53**	Pn	Pn	03 16 13.1	+0.1
	2.3nm,0.3s,baz=274,slow=18,SNR=1.5						
AFI				S	Sn	03 17 08.1	-13
	28nm,0.3s,baz=113,slow=18,SNR=6.9						
STKA	**Stephens Creek 40.29 241**			P	P	03 22 23.8	+0.4
	0.7nm,0.4s,baz=98,slow=14,SNR=4.1						
WRA	**Warramunga Arr 46.35 259**			P	P	03 23 12.2	-0.3
	1.3nm,0.3s,baz=96,slow=7.0,SNR=35						
ASAR	**Alice Springs 46.51 254**			P	P	03 23 13.4	-0.3
	8.4nm,0.6s,baz=89,slow=8.4,SNR=75						

*NIED **28** 03:18:00, 40°.70N×145°.30E, h5km, Mw3.8 Best double couple: M0 6.40000×10^14 NP1:ϕs344.00000°, δ21.00000°, λ-89.00000°. NP2:ϕs163.00000°, δ69.00000°, λ-90.00000°.*
*IDC **28** 03:18:23.7±1.0, 40°.67N×145°.34E, h0km, mb3.8/7, mb1 3.9/10, mb1mx3.6/75, mbtmp3.8/10, ML3.3/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/53, Error ellipse: s-maj=25.6km s-min=21.5km az=135.0*
*JMA **28** 03:18:24.0±0.2, 40°.73N×145°.35E, h58km, M3.9*
*ISCJB **28** 03:18:24.9±0.5, 40°.78N±0°.03×145°.18E±0°.05, h29km, mb4.1/13, MS3.2/1, Error ellipse: s-maj=5.6km s-min=4.4km az=173.7*
*MOS **28** 03:18:25.6±1.6, 40°.70N×145°.26E, h33km, mb4.1/6, Error ellipse: s-maj=18.2km s-min=10.7km az=82.2*
*NEIC **28** 03:18:28.4±0.5, 40°.72N×145°.00E, h35km, mb4.5/6, Error ellipse: s-maj=12.2km s-min=8.9km az=87.0*
ISC 28 03:18:27.3±0.8, 40°.74N±0°.05×145°.26E±0°.06, h29km, n55, σ2s67/64, mb4.2/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**2.03**	**310**	*e*P	**Pn**	**03 18 57.7**	**-1.9**
ERM				*e*		03 19 21.0	
ERM	**Erimo**	**2.03**	**310**	*e*Pn	**Pn**	**03 18 57.7**	**-1.9**
ERM				*e*Sn	**Sn**	**03 19 21.0**	**-3.0**
JEM	**Erimo**	**2.03**	**310**	P	**Pn**	**03 18 57.9**	**-1.7**
JEM				*e*S	**Sn**	**03 19 21.0**	**-3.0**
JAK	**Akkeshi**	**2.29**	**350**	P	**Pn**	**03 19 00.4**	**-2.8**
JAK				*e*S	**Sn**	**03 19 26.8**	**-3.6**
JCH	**Churui**	**2.35**	**323**	P	**Pn**	**03 19 01.9**	**-2.1**
JCH				S	**Sn**	**03 19 28.1**	**-3.8**
JOB	**Onbets**	**2.41**	**334**	P	**Pn**	**03 19 02.6**	**-2.2**
JOB				*e*S	**Sn**	**03 19 30.1**	**-3.2**
JNBK	**Urakawa-nobuka**	**2.43**	**310**	P	**Pn**	**03 19 03.8**	**-1.3**
JNBK				*e*S	**Sn**	**03 19 32.4**	**-1.4**
NEM2	**Nemuro 2**	**2.65**	**8**	P	**Pn**	**03 19 05.2**	**-2.8**
JTH	**Tanohata**	**2.72**	**254**	*e*S	**Sn**	**03 19 35.4**	**-5.5**
JAR	**Ashorobuto**	**2.79**	**337**	P	**Pn**	**03 19 07.2**	**-2.8**
JAR				*e*S	**Sn**	**03 19 38.0**	**-4.6**
JANG	**Nango**	**2.88**	**264**	P	**Pn**	**03 19 08.7**	**-2.5**
JANG				*e*S	**Sn**	**03 19 39.4**	**-5.4**
JFR	**Furan**	**3.13**	**321**	P	**Pn**	**03 19 12.8**	**-2.0**
JRA	**Rausu**	**3.20**	**358**	P	**Pn**	**03 19 12.7**	**-2.9**
JRA				*e*S	**Sn**	**03 19 47.1**	**-5.6**
JOT	**Ohata**	**3.25**	**283**	P	**Pn**	**03 19 14.4**	**-1.9**
JOM	**Ohasama**	**3.29**	**249**	P	**Pn**	**03 19 15.3**	**-1.7**
SHO	**Shikotan**	**3.34**	**20**	*e*P	**Pn**	**03 19 14.2**	**-3.3**
SHO				*e*S	**Sn**	**03 19 49.1**	**-7.1**
SHO				pmax	pmax		
	comp=Z,29nm,0.2s						
SHO				smax	smax		
	comp=N,80nm,0.3s						
SHO				smax	smax		
	comp=E,115nm,0.3s						
JTKR	**Abashiri--Toko**	**3.38**	**343**	P	**Pn**	**03 19 16.5**	**-1.6**
JTKR				*e*S	**Sn**	**03 19 54.0**	**-3.2**
JKB	**Kayabe**	**3.38**	**291**	P	**Pn**	**03 19 16.6**	**-1.6**
JEW	**Eniwo**	**3.54**	**308**	P	**Pn**	**03 19 19.6**	**-0.7**
JEW				*e*S	**Sn**	**03 19 59.2**	**-1.9**
JMK	**Ichinoseki**	**3.59**	**241**	*e*S	**Sn**	**03 19 56.9**	**-5.4**
JKK2	**Kamakawa 2**	**3.64**	**330**	*e*S	**Sn**	**03 20 02.2**	**-1.6**
ASAJ	**Asahikawa**	**3.91**	**331**	Pn	**Pn**	**03 19 24.3**	**-1.1**
	comp=E,2.5nm,0.3s,baz=177,slow=12,SNR=15						
ASAJ				Sn	**Sn**	**03 20 08.3**	**-1.9**
	comp=E,2.5nm,0.3s,baz=180,slow=20,SNR=6.4						
ASAJ	**Asahikawa**	**3.91**	**331**	P	**Pn**	**03 19 24.3**	**-1.1**
ASAJ						03 20 08.3	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,3.0nm,0.3s						
ASAJ	**Asahikawa**	**3.91**	**331**	*e*Pn	**Pn**	**03 19 24.6**	**-0.7**
ASAJ				*e*Sn	**Sn**	**03 20 08.3**	**-1.9**
JYK	**Kaneyama**	**4.19**	**246**	P	**Pn**	**03 19 27.7**	**-1.5**
KUR	**Kuril'sk**	**4.88**	**22**	*e*P	**Pn**	**03 19 37.3**	**-1.4**
KUR				*i* S	**Sn**	**03 20 30.4**	**-3.8**
KUR				pmax	pmax		
	comp=Z,37nm,0.2s						
KUR				pmax	pmax		
	comp=N,17nm,0.3s						
KUR				pmax	pmax		
	comp=E,27nm,0.1s						
KUR				smax	smax		
	comp=E,83nm,0.3s						
KUR				smax	smax		
	comp=N,34nm,0.2s						
MJAR	**Matsushiro Arr 6.93 235**			Pn	**Pn**	**03 20 05.7**	**-1.2**
	comp=N,0.6nm,0.3s,baz=52,slow=10.0,SNR=4.7						
MAJO	**Matsushiro 6.93 235**			*e*P	**Pn**	**03 20 04.7**	**-2.2**
MAJO	**Matsushiro 6.93 235**			*e*Pn	**Pn**	**03 20 04.7**	**-2.2**
USRK	**Ussuriysk Ar. 10.40 294**			Pn	**Pn**	**03 20 53.3**	**-1.0**
	comp=N,0.9nm,0.3s,baz=95,slow=12,SNR=9.8						
JNU	**Nakatsue 13.78 241**			LR	LR	03 27 16.4	
	comp=N,32nm,19.8s,baz=106,slow=39						
KSRS	**Korea Array 13.86 262**			LR	LR	03 27 21.2	
	comp=N,26nm,18.0s,baz=75,slow=39						
SONA1	**Songino Array 28.47 298**			*e*P	**P**	**03 24 23.1**	**+3.2**
SONA0	**Songino Array 28.48 298**			*e*P	**P**	**03 24 22.7**	**+2.8**
SONM	**Songino Array 28.48 298**			P	**P**	**03 24 22.7**	**+2.8**
	comp=N,1.3nm,0.8

Ms4.3/21,Ms7 4.0/21
ISC 28 03:19:21.6±0.3,**28:77N**±0'04×**66:75E**±0'04,**h8**km,**n267,**
σ2s04/270,mb4.4/92,MS3.7/41,12C-13D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**5.88**	**46**	P	**Pn**	**03 20 50.6**	**+1.5**
SARP	**Sargodha**	**6.01**	**57**	P	**Pn**	**03 20 51.5**	**+0.7**
KBL	**Kabul**	**6.08**	**18**	*e*P	**Pn**	**03 20 53.8**	**+1.9**
KBL				*e*		03 22 04.5	
KBL	**Kabul**	**6.08**	**18**	*e*Pn	**Pn**	**03 20 53.8**	**+1.9**
KBL				*e*Sn	**Sn**	**03 22 04.5**	**+2.7**
BHJ	**Bhuj**	**6.08**	**154**	*e*P	**Pn**	**03 20 52.2**	**+0.4**
BHJ				*e*S	**Sn**	**03 22 01.6**	**0.0**
BHJ	comp=N,89nm,0.6s			IAML		03 22 40.5	
BHJ	comp=E,99nm,0.4s			IAML		03 22 43.1	
CEP	**Cherat**	**6.70**	**40**	P	**Pn**	**03 21 01.9**	**+1.5**
CHCP	**Chirah Chowk**	**7.41**	**47**	P	**Pn**	**03 21 11.7**	**+1.6**
DHRM	**DHARAMSHALA**	**8.94**	**65**	*e*P	**Pn**	**03 21 32.0**	**+0.8**
DHRM				*e*S	**Sn**	**03 23 07.6**	**-4.7**
DHRM	comp=N,237nm,0.1s			IAML		03 23 22.1	
DHRM	comp=E,362nm,1.1s			IAML		03 23 26.4	
WSAR	**Wadi Sarin**	**9.14**	**235**	Pn	**Pn**	**03 21 30.6**	**-3.3**
WSAR	comp=E,4.4nm,0.3s,baz=91,slow=11,SNR=39			Sn	Sn	03 23 05.1	-12
WSAR	comp=E,8.4nm,0.3s,baz=293,slow=18,SNR=12			LR	LR	03 26 18.4	
WBK	**Wadi Bani Khal** SNR=8.8	**9.31**	**231**	P	**Pn**	**03 21 34.0**	**-2.3**
WBK	**Wadi Bani Khal** SNR=8.8	**9.31**	**231**	Pn	**Pn**	**03 21 34.0**	**-2.3**
SMLA	**Simla**	**9.34**	**73**	*e*P	**Pn**	**03 21 37.2**	**+0.7**
SMLA				*e*S	**Sn**	**03 23 19.7**	**-2.0**
SMLA	comp=N,298nm,1.1s			IAML		03 23 26.1	
SMLA	comp=E,267nm,0.8s			IAML		03 23 26.6	
SMDO	**Samad** SNR=12	**9.68**	**236**	P	**Pn**	**03 21 42.0**	**+0.7**
SMDO	**Samad** SNR=12	**9.68**	**236**	Pn	**Pn**	**03 21 42.0**	**+0.7**
BANOM	**Banah**	**9.71**	**255**	Pn	**Pn**	**03 21 38.6**	**-3.1**
BANOM				Sn	Sn	03 23 16.1	-15
SHME	**Shamm** SNR=8.1	**9.81**	**256**	*i* Pn	**Pn**	**03 21 41.0**	**-2.0**
HOQ	**Hoqain** SNR=11	**9.92**	**241**	Pn	Pn	03 21 50.0	+5.4
MDH	**Madha** SNR=19	**9.94**	**252**	*i* Pn	**Pn**	**03 21 40.7**	**-4.0**
DDI	**Dehra Dun**	**9.97**	**78**	*e*P	**Pn**	**03 21 46.1**	**+0.9**
MSFE	**Esma-Masafi** SNR=12	**10.03**	**253**	*i* Pn	**Pn**	**03 21 42.5**	**-3.5**
JMDO	**Jabal Madar** SNR=12	**10.07**	**233**	P	**Pn**	**03 21 47.0**	**+0.4**
JMDO	**Jabal Madar** SNR=12	**10.07**	**233**	Pn	**Pn**	**03 21 47.0**	**+0.4**
UOSS	**Minazif**	**10.15**	**250**	*e*Pn	**Pn**	**03 21 43.6**	**-4.2**
UOSS				*e*Sn	Sn	03 23 26.6	-15
UOSS	**Minazif** SNR=10.0	**10.15**	**250**	*i* Pn	**Pn**	**03 21 43.1**	**-4.7**
SOHO	**SOHO** SNR=13	**10.25**	**246**	*i* Pn	**Pn**	**03 21 46.0**	**-3.1**
HATD	**Hatta, Dubai** SNR=17	**10.26**	**250**	*i* Pn	**Pn**	**03 21 46.0**	**-3.3**
ASHO	**Ashiyiah** SNR=14	**10.38**	**249**	P	**Pn**	**03 21 50.7**	**-0.2**
ASHO	**Ashiyiah** SNR=14	**10.38**	**249**	Pn	**Pn**	**03 21 50.7**	**-0.2**
ASHO	**Ashiyiah** SNR=31	**10.38**	**249**	*i* Pn	**Pn**	**03 21 47.7**	**-3.2**
NAZ	**Nazwa, Dubai**	**10.59**	**252**	Pn	**Pn**	**03 21 51.7**	**-1.9**
ALNE	**Al Ain**	**10.91**	**247**	Pn	**Pn**	**03 21 56.6**	**-1.6**
BHPL	**Bhopal**	**11.07**	**117**	*e*P	**Pn**	**03 22 00.3**	**+0.1**
BHPL				*e*S	**Sn**	**03 23 59.8**	**-4.6**
GEYT	**Alibeck** comp=E,0.5nm,0.3s,baz=130,slow=17,SNR=3.0	**11.63**	**324**	Pn	**Pn**	**03 22 10.5**	**+2.5**
GEYT	baz=154,slow=37,SNR=2.8			Lg	Lg	03 25 41.3	
POO	**Poona**	**12.09**	**146**	*e*P	**Pn**	**03 22 14.9**	**+0.6**
SFK	**Sufi-Kurgan**	**12.52**	**25**	P	**Pn**	**03 22 20.3**	**0.0**
SFK	comp=E,28nm,0.5s			pmax	pmax		
IUG	**Iuzhnay** comp=E,103nm,0.9s	**13.61**	**10**	*e*P	**Pn**	**03 22 34.4**	**-0.7**
IUG				*e*S	**Sn**	**03 25 05.6**	**-0.9**
CHM	**Chimkent**	**13.72**	**9**	*e*P	**Pn**	**03 22 35.4**	**-1.0**
CHM				*e*S	**Sn**	**03 25 07.9**	**-1.0**
CHM	comp=Z,741nm,12.8s			LR	LR	03 26 56.0	
PYUN	**Piuthan** comp=E,40nm,0.6s	**14.31**	**89**	*e*P	**Pn**	**03 22 45.1**	**+0.3**
MNAS	**Manas**	**14.46**	**17**	*i* P	**Pn**	**03 22 45.5**	**-1.2**
MNAS	comp=E,21nm,1.0s			pmax	pmax		
AML	**Almayashu** SNR=38	**14.47**	**21**	P	**Pn**	**03 22 44.8**	**-2.4**
DZA	**Taraz** comp=Z,269nm,0.7s	**14.57**	**14**	*e*P	**Pn**	**03 22 47.8**	**-0.3**
DZA				*i* S	**Sn**	**03 25 29.4**	**-0.3**
KK07	**Karatay Array**	**14.61**	**11**	*e*Pn	Pn	03 22 42.3	-6.2
KK06	**Karatay Array**	**14.62**	**11**	*e*Pn	**Pn**	**03 22 49.9**	**+1.2**
KK08	**Karatay Array**	**14.62**	**11**	*e*Pn	**Pn**	**03 22 48.8**	**+0.1**
KK03	**Karatay Array**	**14.62**	**11**	*e*Pn	**P**	**03 22 52.5**	**-2.7**
KK02	**Karatay Array**	**14.62**	**11**	*e*Pn	**Pn**	**03 22 48.6**	**-0.2**
KK31	**Karatay Array** comp=E,3.0nm,0.5s	**14.62**	**11**	*ce*P	**Pn**	**03 22 48.9**	**+0.1**
KK31				pmax	pmax		
KK31	**Karatay Array**	**14.62**	**11**	*e*Pn	**Pn**	**03 22 48.8**	**0.0**
KKAR	**Karatay Array**	**14.62**	**11**	*e*P	**Pn**	**03 22 48.8**	**0.0**
KKAR	**Karatay Array**	**14.62**	**11**	*e*Pn	**Pn**	**03 22 48.8**	**0.0**
KK01	**Karatay Array**	**14.62**	**11**	*e*Pn	**P**	**03 22 53.0**	**-2.3**
KK04	**Karatay Array**	**14.63**	**11**	*e*Pn	**Pn**	**03 22 49.5**	**+0.6**
KK05	**Karatay Array**	**14.64**	**11**	*e*Pn	**Pn**	**03 22 49.2**	**+0.2**
UCH	**Uchtor** SNR=16	**14.83**	**23**	P	**Pn**	**03 22 50.5**	**-1.6**
KOLN	**Koldanda** comp=Z,16nm,0.4s	**14.89**	**90**	*e*P	**Pn**	**03 22 51.5**	**-1.1**
DANN	**Dangsing**	**14.96**	**88**	*e*P	**Pn**	**03 22 53.1**	**-0.6**
KZA	**Kyzart** SNR=7.1	**14.97**	**25**	P	**Pn**	**03 22 51.4**	**-2.5**
EKS2	**Erkin-Say** SNR=11	**14.98**	**20**	P	**Pn**	**03 22 51.6**	**-2.1**
AAK	**Ala-Archa** comp=Z,0.7nm,0.3s,baz=189,slow=5.6,SNR=15	**15.19**	**22**	Pn	**Pn**	**03 22 55.0**	**-1.6**
AAK	comp=Z,0.2nm,0.3s,baz=333,slow=18,SNR=3.5			Sn	**Sn**	**03 25 38.1**	**-7.0**
AAK	comp=Z,337nm,20.8s,baz=210,slow=42			LR	LR	03 30 05.4	
AAK	**Ala-Archa** comp=Z,10.0nm,1.0s	**15.19**	**22**	‖*e*P	**Pn**	**03 22 54.4**	**-2.2**
AAK				pmax	pmax		
AAK	**Ala-Archa** SNR=8.5	**15.19**	**22**	P	**Pn**	**03 22 56.2**	**-0.4**
AAK	**Ala-Archa**	**15.19**	**22**	*e*Pn	**Pn**	**03 22 55.0**	**-1.6**
AAK				*e*Sn	**Sn**	**03 25 40.5**	**-4.6**
AAK	**Ala-Archa** SNR=6.5	**15.19**	**22**	P	**Pn**	**03 22 56.5**	**-0.1**
AAK	**Ala-Archa** SNR=6.5	**15.19**	**22**	Pn	**Pn**	**03 22 56.5**	**-0.1**
FRU	**Bishkek**	**15.40**	**22**	*e*P	**Pn**	**03 22 57.0**	**-2.3**
FRU				*e*S	**Sn**	**03 25 46.0**	**-4.1**
FRU	comp=Z,35nm,2.1s			pmax	pmax		
FRU	comp=N,50nm,2.1s			smax	smax		
FRU	comp=E,600nm,13.0s			MLR	MLR		
GKN	**Gorkha** comp=E,25nm,0.7s	**15.77**	**88**	*e*P	**Pn**	**03 23 05.0**	**+0.8**
KDJ	**Kajisay** comp=E,9.7nm,0.8s	**15.79**	**30**	*e*Pn	**Pn**	**03 23 02.2**	**-2.3**
TKM2	**Tokmak 2** SNR=9.2	**15.82**	**24**	P	**Pn**	**03 23 03.0**	**-1.9**
DMN	**Daman** comp=E,36nm,0.8s	**16.23**	**90**	*e*P	**Pn**	**03 23 11.1**	**+0.8**
KKN	**Kakani** comp=E,23nm,0.6s	**16.36**	**89**	*e*P	**Pn**	**03 23 12.7**	**+0.8**
PKI	**Pulchoki** comp=E,18nm,0.6s	**16.50**	**90**	*e*P	**Pn**	**03 23 14.6**	**+0.8**
MDOK	**Medeo**	**16.59**	**27**	*i* P	**Pn**	**03 23 13.4**	**-1.3**
MDOK				LR	LR	03 29 05.2	
GUN	**Gumba** comp=E,337nm,14.8s	**16.87**	**88**	*e*P	**Pn**	**03 23 18.2**	**-0.3**
KUU	**Kurty** comp=E,67nm,0.6s	**16.94**	**24**	*e*P	**Pn**	**03 23 18.3**	**-0.6**
KUU	comp=E,131nm,1.1s			LR	LR	03 29 49.1	
SATY	**Saty** comp=E,59nm,10.8s	**17.08**	**30**	*e*P	**Pn**	**03 23 21.1**	**+0.3**
SATY	comp=E,107nm,1.0s			LR	LR	03 30 04.4	
JIRN	**Jiri** comp=E,180nm,9.9s	**17.18**	**89**	*e*P	**Pn**	**03 23 22.3**	**-0.1**
UZB	**Uzynbulak** comp=E,56nm,0.6s	**17.42**	**31**	*e*P	**Pn**	**03 23 24.7**	**-0.5**
UZB	comp=E,135nm,1.3s			LR	LR	03 29 28.9	
RAMN	**Ramite** comp=E,172nm,11.3s	**17.65**	**91**	*e*P	**Pn**	**03 23 28.5**	**+0.3**
BOK	**Bokaro** comp=E,40nm,0.7s	**17.86**	**102**	*e*P	**Pn**	**03 23 30.6**	**+0.1**
ODAN	**Odare** comp=E,49nm,0.7s	**18.36**	**91**	*e*P	**P**	**03 23 38.0**	**+1.0**
TAPN	**Taplejung** comp=E,38nm,0.8s	**18.56**	**89**	*e*P	**Pn**	**03 23 40.6**	**+1.2**
RAYN	**Ar Rayn**	**19.77**	**260**	P	**P**	**03 23 49.8**	**-2.4**
RAYN	comp=Z,13nm,0.9s			pmax	pmax		
RAYN	**Ar Rayn** comp=Z,13nm,0.9s	**19.77**	**260**	*e*P	**P**	**03 23 49.8**	**-2.4**
OTUK	**Ortayu** comp=Z,10.0nm,1.0s	**19.92**	**11**	P	**P**	**03 23 53.9**	**+0.2**
OTUK				pmax	pmax		
AB07	**Akbulak array**	**21.09**	**348**	*e*P	**P**	**03 24 06.0**	**-0.3**
AB08	**Akbulak array**	**21.10**	**348**	*e*P	**P**	**03 24 05.8**	**-0.7**
AB03	**Akbulak array**	**21.11**	**348**	*e*P	**P**	**03 24 06.8**	**+0.3**
AB01	**Akbulak array**	**21.11**	**348**	*e*P	**P**	**03 24 06.2**	**-0.3**
AB06	**Akbulak array**	**21.11**	**348**	*e*P	**P**	**03 24 06.3**	**-0.3**
AB31	**Akbulak array**	**21.11**	**348**	*ce*P	**P**	**03 24 06.5**	**-0.1**
AB31	comp=Z,3.0nm,0.6s			pmax	pmax		
AB31	**Akbulak array**	**21.11**	**348**	*e*P	**P**	**03 24 06.6**	**+0.1**
ABKAR	**Akbulak array** comp=Z,48nm,0.9s	**21.11**	**348**	*e*P	**P**	**03 24 06.4**	**-0.1**
AB02	**Akbulak array**	**21.11**	**348**	*e*P	**P**	**03 24 06.0**	**-0.6**
AB04	**Akbulak array**	**21.11**	**348**	*e*P	**P**	**03 24 06.2**	**-0.4**
AB09	**Akbulak array**	**21.12**	**348**	*e*P	**P**	**03 24 06.0**	**-0.7**
AB05	**Akbulak array**	**21.13**	**348**	*e*P	**P**	**03 24 06.1**	**-0.7**
LSA	**Lhasa**	**21.31**	**82**	P	**P**	**03 24 12.5**	**+3.1**
LSA	comp=Z,7.0nm,1.4s			pmax	pmax		
GNI	**Garni**	**21.34**	**308**	*e*P	**P**	**03 24 11.8**	**+2.4**
GNI	comp=Z,22nm,1.1s			pmax	pmax		
GNI	**Garni** comp=Z,22nm,1.1s	**21.34**	**308**	*e*P	**P**	**03 24 11.8**	**+2.4**
MAKZ	**Makanchi**	**21.59**	**29**	*e*P	**P**	**03 24 12.0**	**+0.2**
MAKZ	comp=Z,15nm,0.9s			pmax	pmax		
MAKZ	**Makanchi** comp=Z,15nm,0.9s	**21.59**	**29**	*e*P	**P**	**03 24 12.0**	**+0.2**
MK01	**Makanchi Array**	**21.70**	**30**	*e*P	**P**	**03 24 12.0**	**-1.0**
MK31	**Makanchi Array**	**21.72**	**30**	*e*P	**P**	**03 24 12.5**	**-0.7**
MK31	**Makanchi Array**	**21.72**	**30**	*e*P	**P**	**03 24 12.4**	**-0.7**
MK32	**Makanchi Array**	**21.72**	**30**	*e*P	**P**	**03 24 12.2**	**-0.9**
MKAR	**Makanchi Array** comp=Z,7.7nm,0.9s,baz=210,slow=9.4,SNR=28	**21.72**	**30**	P	**P**	**03 24 12.2**	**-0.9**
MKAR	comp=Z,525nm,21.7s,baz=220,slow=42			LR	LR	03 34 37.8	
MKAR	**Makanchi Array** comp=Z,8.0nm,0.9s	**21.72**	**30**	*ce*P	**P**	**03 24 13.8**	**+0.7**
MKAR	comp=Z,48nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**21.72**	**30**	*e*P	**P**	**03 24 12.4**	**-0.7**
GROC	**Groznyy**	**22.16**	**316**	*e*P	**P**	**03 24 18.7**	**+0.8**
GROC				*e*		03 24 38.3	
GROC				*e*		03 28 14.7	
GROC	comp=Z,42nm,1.2s			pmax	pmax		
WMQ	**Urumqi**	**22.51**	**43**	P	**P**	**03 24 23.5**	**+1.8**
WMQ				pP	sP	03 24 27.3	+2.3
WMQ				sP	pP	03 24 30.8	+6.8
WMQ				PP	**PnPn**	**03 24 51.5**	**+6.6**
WMQ				ScP	**ScP**	**03 31 59.5**	**+6.0**
WMQ	comp=Z,55nm,0.9s			pmax	pmax		
WMQ	comp=Z,220nm,5.5s			pmax	pmax		
WMQ	comp=Z,1μm,14.5s			LR	LR		
WMQ	comp=Z,1μm,14.5s			LR	LR		
WMQ	comp=Z,600nm,17.9s			LR	LR		
SHL	**Shillong**	**22.58**	**92**	*e*P	**P**	**03 24 22.3**	**-0.4**
SHL				*ex*	x	03 28 28.6	
AKTO	**Aktyubinsk** comp=Z,2.1nm,0.9s,baz=158,slow=11,SNR=5.8	**22.63**	**345**	P	**P**	**03 24 23.7**	**+0.9**
AKTO	comp=Z,158nm,18.2s,baz=154,slow=39			LR	LR	03 34 12.4	
AKH	**Akhalkalaki**	**22.75**	**310**	*e*P	**P**	**03 24 26.7**	**+2.3**
AKH	comp=Z,24nm,1.1s			pmax	pmax		
AKH	**Akhalkalaki** comp=Z,24nm,1.1s	**22.75**	**310**	*e*P	**P**	**03 24 26.7**	**+2.3**
ZEI	**Tsey**	**23.13**	**313**	*e*P	**P**	**03 24 31.5**	**+3.1**
ZEI	comp=Z,14nm,1.2s			pmax	pmax		
ZSN	**Zaisan**	**23.37**	**32**	*e*P	**P**	**03 24 28.7**	**-1.9**
ZSN				*e*S	**S**	**03 28 41.0**	**-2.7**
KURBB	**Kurchatov Arra** comp=Z,2.5nm,0.8s,baz=210,slow=9.2,SNR=13	**23.58**	**19**	P	**P**	**03 24 32.1**	**-0.4**
NCK	**Nalchik** comp=Z,10.0nm,0.3s	**23.68**	**315**	‖*e*P	**P**	**03 24 31.3**	**-2.3**
NCK				pmax	pmax		
KURK	**Kurchatov** comp=Z,5.0nm,1.0s	**23.68**	**19**	*ce*P	**P**	**03 24 33.5**	**-0.1**
KURK				pmax	pmax		
KURK	**Kurchatov**	**23.68**	**19**	*e*P	**P**	**03 24 33.9**	**+0.3**
SEM	**Semipalatinsk** comp=Z,52nm,0.9s	**23.91**	**22**	*i* P	**P**	**03 24 35.6**	**-0.4**
NEY	**Neytrino** comp=Z,2.0nm,1.2s	**24.11**	**313**	‖*e*P	**P**	**03 24 36.0**	**-1.9**
NEY				pmax	pmax		
KBZ	**Khabaz** comp=Z,6.1nm,0.8s,baz=131,slow=6.2,SNR=10.0	**24.23**	**314**	P	**P**	**03 24 38.2**	**-0.6**
KBZ	comp=Z,79nm,19.1s,baz=128,slow=39			LR	LR	03 35 01.8	
BVA0	**Borovoye Array** comp=Z,5.0nm,0.7s	**24.38**	**5**	P	**P**	**03 24 38.4**	**-1.8**
BVA0				pmax	pmax		
BVAR	**Borovoye Array** comp=Z,5.7nm,0.7s,baz=169,slow=8.9,SNR=29	**24.38**	**5**	P	**P**	**03 24 39.7**	**-0.5**
BVAR	comp=Z,111nm,19.9s,baz=192,slow=38			LR	LR	03 34 59.6	
BRVK	**Borovoye** comp=Z,13nm,0.8s	**24.41**	**5**	‖*i*P	**P**	**03 24 40.4**	**+0.1**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,7.8nm,0.8s	**24.41**	**5**	*e*P	**P**	**03 24 40.5**	**+0.1**
KVAR	**Kislovodsk Arr** comp=Z,75nm,18.1s,baz=116,slow=39	**24.47**	**315**	LR	LR	03 35 19.1	
KIV	**Kislovodsk** comp=Z,15nm,1.0s	**24.48**	**315**	*e*P	**P**	**03 24 42.6**	**+1.4**
KIV	comp=Z,46nm,15.0s			pmax	pmax		
KIV	**Kislovodsk** comp=Z,14nm,1.0s	**24.48**	**315**	*e*P	**P**	**03 24 46.0**	**+4.8**
PALK	**Pallekele** comp=Z,132nm,21.7s,baz=296,slow=36	**25.11**	**146**	LR	LR	03 34 16.0	
MMAI	**Mount Meron Ar** comp=Z,153nm,18.1s,baz=70,slow=41	**27.17**	**287**	LR	LR	03 37 58.5	
EIL	**Elat** comp=Z,132nm,18.2s,baz=92,slow=39	**27.72**	**280**	LR	LR	03 37 28.1	
ATD	**Arta Tunnel** comp=Z,126nm,18.2s,baz=42,slow=42	**28.15**	**237**	LR	LR	03 38 45.3	
ARU	**Arti** comp=Z,175nm,18.2s,baz=168,slow=38	**28.25**	**350**	LR	LR	03 37 26.1	
ARU	**Arti**	**28.25**	**350**	*d* *i*P	P	03 25 23.4	+8.4
ARU						03 26 13.1	
ARU				SS	SS	03 31 39.6	-21
ARU	comp=Z,4.0nm,1.0s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,1.8nm,0.4s,baz=226,slow=10,SNR=4.4	**28.41**	**23**	P	**P**	**03 25 15.8**	**-0.7**
ZALV				LR	LR	03 37 55.2	
ZAA1	**Zalesovo Array** comp=Z,333nm,18.5s,baz=248,slow=39	**28.42**	**23**	*e*P	**P**	**03 25 15.8**	**-0.7**
DGPR	**DIGLIPUR**	**28.86**	**117**	*e*P	**P**	**03 25 18.1**	**-2.7**
GTA	**Gaotai**	**29.22**	**60**	*e*P	**P**	**03 25 23.5**	**-0.5**
GTA				pP	sP	03 25 27.5	0.0
GTA				sP	pP	03 25 30.5	+4.0
GTA				S	**S**	**03 30 13.8**	**-3.1**
GTA				sS	sS	03 30 23.3	+2.3
GTA				SS	**SnSn**	**03 31 42.8**	**+1.2**
GTA	comp=Z,4.0nm,0.9s			pmax	pmax		
GTA	comp=Z,68nm,5.0s			pmax	pmax		
GTA	comp=Z,480nm,16.6s			LR	LR		
GTA	comp=Z,450nm,15.2s			LR	LR		
GTA	comp=Z,190nm,16.6s			LR	LR		
BR101	**Keskin Array S**	**29.32**	**301**	*e*P	**P**	**03 25 26.4**	**+1.5**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.6s,baz=98,slow=8.0,SNR=3.4	**29.32**	**301**	P	**P**	**03 25 26.4**	**+1.5**
BR231	**Keskin MP Arra**	**29.99**	**301**	*e*P	**P**	**03 25 27.6**	**-3.2**
VSR	**Storozhevoye**	**30.50**	**325**	*e*P	**P**	**03 25 33.9**	**-1.1**
VSR	comp=Z,7.0nm,1.3s			pmax	pmax		
CM31	**Chiang Mai Arr**	**31.14**	**102**	*e*P	**P**	**03 25 39.6**	**-1.4**
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.3s,baz=297,slow=7.9,SNR=3.4	**31.14**	**102**	P	**P**	**03 25 39.6**	**-1.4**
CMAR	comp=Z,68nm,19.9s,baz=288,slow=44			LR	LR	03 42 13.1	
LPSR	**Galich'ya Gora**	**31.46**	**327**	*e*P	**P**	**03 25 42.8**	**-0.6**
LPSR	comp=Z,6.0nm,0.6s			pmax	pmax		
KNGR	**Kungurtug, Tuv**	**31.82**	**38**	‖*e*P	**P**	**03 25 48.1**	**+1.3**
LZH	**Lanzhou**	**32.01**	**67**	*e*P	**P**	**03 25 52.3**	**+3.6**
LZH				pP	sP	03 25 53.5	+1.4
LZH				sP	pP	03 25 54.5	+3.4
LZH				*e*PP	**PP**	**03 26 59.5**	**-1.4**
LZH	comp=Z,19nm,1.1s			pmax	pmax		
LZH	comp=Z,50nm,5.2s			pmax	pmax		
LZH	comp=Z,200nm,13.2s			LR	LR		
LZH	comp=Z,210nm,13.5s			LR	LR		
LZH	comp=Z,250nm,16.8s			LR	LR		
CD2	**Chengdu**	**32.08**	**77**	*e*P	**P**	**03 25 52.0**	**+2.7**
OBN	**Obninsk**	**34.11**	**329**	‖*e*P	**P**	**03 26 04.8**	**-1.8**
OBN				*i*		03 26 09.3	
OBN	comp=Z,4.0nm,0.7s			pmax	pmax		
OBN	comp=Z,84nm,15.0s			MLR	MLR		
ZAK	**Zakamensk**	**34.97**	**42**	*e*P	**P**	**03 26 12.1**	**-2.2**
ZAK	comp=Z,3.0nm,1.3s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,0.8nm,0.5s,baz=111,slow=7.6,SNR=5.3	**35.68**	**318**	P	**P**	**03 26 18.4**	**-1.8**
AKBB	**Malin Array Si**	**35.68**	**318**	*e*P	**P**	**03 26 18.4**	**-1.8**
AKBB	comp=Z,4.0nm,0.7s			pmax	pmax		
AKBB	**Malin Array Si** comp=Z,3.7nm,0.7s	**35.68**	**318**	*e*P	**P**	**03 26 18.4**	**-1.8**
KIEV	**Kiev**	**35.69**	**318**	‖*e*P	**P**	**03 26 19.9**	**-0.3**
KIEV	comp=Z,5.0nm,1.1s			pmax	pmax		
TLY	**Talaya**	**35.73**	**40**	*e*P	**P**	**03 26 23.1**	**+2.4**
TLY	comp=Z,1.0nm,0.3s			pmax	pmax		
TLY	comp=Z,165nm,17.0s			MLR	MLR		
SONA0	**Songino Array**	**35.98**	**47**	*e*P	**P**	**03 26 23.9**	**+0.9**
SONM	**Songino Array** comp=Z,1.8nm,0.8s,baz=255,slow=9.2,SNR=9.7	**35.98**	**47**	P	**P**	**03 26 23.9**	**+0.9**
SONM	comp=Z,156nm,19.9s,baz=216,slow=38			LR	LR	03 42 18.8	
SONA1	**Songino Array**	**35.98**	**47**	*e*P	**P**	**03 26 24.7**	**+1.6**
MLR	**Muntele Rosu** comp=Z,1.8nm,0.9s,baz=249,slow=20,SNR=4.2	**36.12**	**309**	P	**P**	**03 26 24.7**	**+0.4**
MLR	**Muntele Rosu** comp=Z,24nm,1.4s	**36.12**	**309**	*e*P	**P**	**03 26 27.5**	**+3.3**
MLR				pmax	pmax		
MLR	**Muntele Rosu** comp=Z,24nm,1.4s	**36.12**	**309**	*e*P	**P**	**03 26 27.5**	**+3.3**
ULN	**Ulaanbaatar**	**36.41**	**47**	‖*e*P	**P**	**03 26 28.5**	**+1.8**
ULN	comp=Z,6.0nm,1.7s			pmax	pmax		
KLMR	**Klimovskoe**	**36.90**	**338**	*e*P	**P**	**03 26 27.7**	**-2.8**
KLMR				*e*		03 27 51.4	
KLMR	comp=Z,8.0nm,1.2s			pmax	pmax		
KLMR	**Klimovskoe**	**36.90**	**338**	*e*P	**P**	**03 26 27.7**	**-2.8**
KLMR	comp=Z,8.0nm,1.2s			AMP		03 26 32.6	
KLMR				*e*PP	**PP**	**03 27 51.4**	**-3.0**
BUR04	**Bucovina Ar. S**	**37.14**	**312**	*e*P	**P**	**03 26 31.4**	**-1.4**
BUR04				*e*pP	**pP**	**03 26 31.6**	**-3.7**
VTS	**Vitosha**	**37.55**	**303**	*e*P	**P**	**03 26 33.1**	**-3.4**
VTS	comp=Z,5.0nm,1.0s			pmax	pmax		
VTS	**Vitosha** comp=Z,4.9nm,1.0s	**37.55**	**303**	*e*P	**P**	**03 26 33.1**	**-3.4**
HHC	**Hu-ho-hao-te**	**38.34**	**60**	*e*P	**P**	**03 26 46.0**	**+2.9**
HHC				S	**S**	**03 32 43.5**	**+5.7**
HHC				SS	**SnSn**	**03 35 13.0**	**-10**
HHC	comp=Z,16nm,1.1s			pmax	pmax		
HHC	comp=Z,92nm,6.1s			pmax	pmax		
HHC	comp=Z,190nm,16.7s			LR	LR		
HHC	comp=Z,150nm,14.5s			LR	LR		
HHC	comp=Z,130nm,14.7s			LR	LR		
PSI	**Prapat** comp=Z,173nm,18.0s,baz=314,slow=39	**40.05**	**124**	LR	LR	03 45 23.7	
VSU	**Vasula**	**40.47**	**329**	‖*e*P	**P**	**03 26 58.6**	**-1.9**
VSU	comp=Z,22nm,0.9s			pmax	pmax		
KMBO	**Kilima Mbogo** comp=Z,0.9nm,0.3s,baz=66,slow=11,SNR=3.2	**41.01**	**229**	P	**P**	**03 27 05.3**	**-0.4**
KMBO	comp=Z,85nm,18.1s,baz=88,slow=39			LR	LR	03 46 08.8	
KMBO	**Kilima Mbogo** comp=Z,1.0nm,0.4s	**41.01**	**229**	*ce*P	P	03 27 10.8	+5.1
KMBO				pmax	pmax		
KMBO	**Kilima Mbogo** comp=Z,8.8nm,1.5s	**41.01**	**229**	*e*P	**P**	**03 27 05.3**	**-0.4**
FIA1	**FINESS Array S**	**42.28**	**332**	*e*P	**P**	**03 27 15.7**	**+0.4**
FIA0	**FINESS Array S**	**42.28**	**332**	*e*P	**P**	**03 27 16.0**	**+0.7**
FIA0	**FINESS Array S**	**42.28**	**332**	*e*P	**P**	**03 27 16.0**	**+0.7**
FINES	**FINESS Array B** comp=Z,2.7nm,0.8s,baz=116,slow=8.9,SNR=7.2	**42.28**	**332**	P	**P**	**03 27 16.0**	**+0.7**
FINES	comp=Z,127nm,19.4s,baz=92,slow=40			LR	LR	03 47 21.4	
FINES	**FINESS Array B**	**42.28**	**332**	*i* P	**P**	**03 27 16.5**	**+1.2**
FINES	comp=Z,3.0nm,0.8s			pmax	pmax		
CUC	**Castrocucco**	**42.98**	**299**	*e*P	**P**	**03 27 20.0**	**-1.4**
CUC				*es*P	**pP**	**03 27 22.6**	**-1.3**
DPC	**Dobruska-Polom**	**43.45**	**314**	*e*P	P	03 27 33.9	+8.8
DPC	**Dobruska-Polom**	**43.45**	**314**	*e*P	P	03 27 33.9	+8.8
APA	**Apatity**	**43.65**	**342**	‖*i*P	P	03 27 31.9	+5.6
APA	comp=Z,4.0nm,0.9s			pmax	pmax		
APA	comp=Z,1μm,15.0s			MLR	MLR		
**MO

CLL	**Collm**	**45.68**	**315**	*ep*P	**pP**	**03 27 52.0**	**+6.7**
CLL				*es*P	sP	03 27 57.0	+11
MOX	**Moxa**	**46.47**	**314**	P	**P**	**03 27 51.5**	**+2.5**
MOX				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MOTA	**Moosalm**	**46.53**	**309**	P	**P**	**03 27 47.0**	**-2.8**
	comp=Z,1.5nm,0.6s						
FETA	**Feichten**	**46.77**	**309**	*e*P	**P**	**03 27 48.8**	**-2.9**
	comp=Z,2.9nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**47.08**	**308**	*e*P	**P**	**03 27 51.0**	**-3.1**
	comp=Z,4.6nm,0.8s						
ARA0	**ARCESS Array S**	**47.13**	**342**	*e*P	**P**	**03 27 53.4**	**-0.6**
ARCES	**ARCESS Array B**	**47.13**	**342**	P	**P**	**03 27 53.3**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=130,slow=6.8,SNR=8.5						
HFS	**Hagfors**	**47.26**	**327**	P	**P**	**03 27 53.1**	**-2.0**
	comp=Z,4.0nm,0.7s,baz=120,slow=8.5,SNR=11						
HFS				LR	LR	03 49 12.6	
	comp=Z,75nm,20.9s,baz=86,slow=38						
DAVA	**Damuels**	**47.36**	**309**	P	**P**	**03 27 54.9**	**-1.3**
	comp=Z,5.6nm,0.8s						
VSL	**Villasalto**	**47.96**	**299**	*e*P	**P**	**03 27 58.4**	**-2.5**
	comp=Z,17nm,1.6s						
KEST	**Kesra**	**48.45**	**294**	P	**P**	**03 28 07.0**	**+2.2**
	comp=Z,2.5nm,0.8s,baz=358,slow=4.1,SNR=5.8						
KEST				LR	LR	03 51 29.9	
	comp=Z,53nm,18.6s,baz=249,slow=40						
KEST	**Kesra**	**48.45**	**294**	*e*P	**P**	**03 28 08.8**	**+3.9**
	comp=Z,26nm,1.8s						
NB2	**NORSAR Subarra**	**48.69**	**328**	P	**P**	**03 28 06.8**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=110,slow=7.4						
NB200	**NORSAR Array S**	**48.69**	**328**	*e*P	**P**	**03 28 05.5**	**-0.8**
NOA	**NORSAR Array B**	**48.69**	**328**	P	**P**	**03 28 05.5**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=108,slow=7.5,SNR=5.9						
NOA				LR	LR	03 52 24.4	
	comp=Z,65nm,18.1s,baz=110,slow=41						
SAOF	**Saorge**	**49.01**	**305**	P	**P**	**03 28 10.8**	**+1.9**
SAOF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SBF	**Sospel**	**49.10**	**305**	*e*P	**P**	**03 28 09.0**	**-0.6**
SBF				pmax	pmax		
	comp=Z,12nm,0.9s						
HINF	**Hinteralfeld**	**49.42**	**310**	*e*P	**P**	**03 28 13.3**	**+1.3**
HINF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPG	**La Plagne**	**49.52**	**307**	*e*P	**P**	**03 28 13.3**	**+0.2**
LPG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MBDF	**Montbardon**	**49.54**	**306**	*e*P	**P**	**03 28 12.1**	**-1.0**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BNI	**Bardonecchia**	**49.59**	**306**	*e*P	**P**	**03 28 12.5**	**-0.9**
BNI	**Bardonecchia**	**49.59**	**306**	*e*P	**P**	**03 28 12.5**	**-0.9**
BNI				*es*P	**P**	**03 28 13.5**	**0.0**
CABF	**La Chapelle**	**49.95**	**308**	*e*P	**P**	**03 28 16.4**	**+0.3**
CABF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TJN	**Taejon**	**50.92**	**65**↑	*e*P	**P**	**03 28 24.2**	**+0.7**
VIVF	**Saint-Julien-l**	**51.02**	**306**	*e*P	**P**	**03 28 24.6**	**+0.4**
VIVF				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KS15	**Wonju Array Si**	**51.16**	**64**	*e*P	**P**	**03 28 25.4**	**+0.1**
KSAR	**Wonju Array Be**	**51.16**	**64**	P	**P**	**03 28 25.4**	**+0.1**
KSAR	**Wonju Array Be**	**51.16**	**64**	P	**P**	**03 28 25.4**	**+0.1**
KSRS	**Korea Array**	**51.19**	**63**	P	**P**	**03 28 25.4**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=274,slow=7.8,SNR=8.0						
KSRS				LR	LR	03 51 04.5	
	comp=Z,39nm,19.4s,baz=306,slow=37						
SMF	**Signal de Mont**	**51.50**	**308**	*e*P	**P**	**03 28 26.6**	**-1.1**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AVF	**Avril sur Loir**	**51.83**	**309**	*e*P	**P**	**03 28 31.1**	**+1.0**
AVF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YAK	**Yakutsk**	**52.37**	**32**↓	*e*P	**P**	**03 28 34.4**	**+0.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.5s						
KLR	**Kul'dur**	**52.79**	**48**	P	**P**	**03 28 36.2**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=280,slow=11,SNR=8.1						
KLR				LR	LR	03 53 54.4	
	comp=Z,10nm,20.5s,slow=39						
KLR	**Kul'dur**	**52.79**	**48**↓	*e*P	**P**	**03 28 37.9**	**+0.7**
CAF	**Calviac**	**52.87**	**306**	*e*P	**P**	**03 28 37.1**	**-0.8**
CAF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RJF	**Les Rejaudoux**	**53.22**	**307**	*e*P	**P**	**03 28 39.0**	**-1.5**
RJF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**54.25**	**20**	P	**P**	**03 28 46.7**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=290,slow=2.7,SNR=6.7						
TIXI	**Tiksi**	**54.25**	**20**↓	*i*P	**P**	**03 28 47.4**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TIXI	**Tiksi**	**54.25**	**20**	*e*P	**P**	**03 28 49.0**	**+1.4**
FLN	**La Foliniere**	**54.28**	**311**	*e*P	**P**	**03 28 50.3**	**+2.1**
FLN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TAM	**Tamanrasset**	**54.94**	**279**	*e*P	**P**	**03 28 54.1**	**+0.6**
TAM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TAM	**Tamanrasset**	**54.94**	**279**	*e*P	**P**	**03 28 54.1**	**+0.6**
	comp=Z,3.0nm,1.1s						
ETSF	**Etsaut**	**55.00**	**304**	*e*P	**P**	**03 28 51.1**	**-2.5**
ETSF				pmax	pmax		
	comp=Z,16nm,1.8s						
EKA	**Eskdalemuir Ar**	**55.58**	**319**	P	**P**	**03 28 55.1**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=95,slow=7.9,SNR=4.6						
QUIF	**Quistinic**	**56.14**	**310**	*e*P	**P**	**03 29 02.8**	**+1.2**
QUIF				pmax	pmax		
	comp=Z,36nm,1.7s						
NKL	**Nikolayevsk**	**58.09**	**43**	*e*P	**P**	**03 29 17.2**	**+1.9**
ESDC	**Sonseca Array**	**58.11**	**301**	P	**P**	**03 29 15.2**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=72,slow=6.6,SNR=5.7						
YSS	**Yuzh-Sakhalins**	**60.38**	**50**	*e*P	**P**	**03 29 35.4**	**+4.1**
YSS				*e*		03 31 51.0	
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
ERM	**Erimo**	**61.77**	**55**↓	*e*P	**P**	**03 29 41.7**	**+0.9**
TOA0	**Torodi Ar. Sit**	**62.03**	**270**	*e*P	**P**	**03 29 41.0**	**-2.0**
TOA1	**Torodi Ar. Sit**	**62.03**	**270**	*e*P	**P**	**03 29 41.3**	**-1.7**
TORD	**Torodi Ar. Bea**	**62.03**	**270**	P	**P**	**03 29 41.3**	**-1.7**
	comp=Z,3.4nm,0.7s,baz=55,slow=5.9,SNR=20						
TORD				LR	LR	03 59 56.8	
	comp=Z,128nm,18.7s,baz=75,slow=39						
MA2	**Magadan**	**62.70**	**35**↑	*e*P	**P**	**03 29 47.4**	**+0.7**
SEY	**Seymchan**	**62.85**	**31**	P	**P**	**03 29 47.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=274,slow=7.0,SNR=8.0						
SEY	**Seymchan**	**62.85**	**31**↓	*i*P	**P**	**03 29 48.5**	**+0.8**
KOWA	**Kowa**	**66.47**	**274**	P	**P**	**03 30 11.7**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=86,slow=4.7,SNR=6.9						
KOWA				LR	LR	04 02 47.9	
	comp=Z,103nm,18.6s,baz=36,slow=39						
BILL	**Bilibino**	**67.11**	**24**↑	*i*P	**P**	**03 30 16.5**	**+1.2**
BILL				*e*		03 30 43.4	
BILL				*e*		03 32 45.3	
BILL				*e*SS	SS	03 43 28.9	+1.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,233nm,18.0s						
BATI	**Baumata**	**67.20**	**117**	LR	LR	04 02 00.6	
	comp=Z,68nm,18.0s,baz=186,slow=38						
PETK	**Petropavlovsk-**	**68.09**	**41**	LR	LR	04 04 06.3	
	comp=Z,100nm,19.0s,baz=287,slow=39						
BOSA	**Boshof**	**69.51**	**218**	P	**P**	**03 30 30.2**	**-0.8**
	comp=Z,3.6nm,1.0s,baz=22,slow=9.0,SNR=3.5						
BOSA				LR	LR	04 00 12.5	
	comp=Z,56nm,19.7s,baz=45,slow=35						
BOSA	**Boshof**	**69.51**	**218**	P	**P**	**03 30 30.2**	**-0.8**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**81.23**	**118**	P	**P**	**03 31 37.1**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=319,slow=4.6,SNR=8.2						
WRA				LR	LR	04 10 26.5	
	comp=Z,32nm,19.4s,baz=200,slow=38						
WRA	**Warramunga Arr**	**81.23**	**118**	*i*P	**P**	**03 31 40.7**	**+2.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WR1	**Warramunga Arr**	**81.23**	**118**	*e*P	**P**	**03 31 37.1**	**-1.3**
	comp=Z,3.3nm,0.8s						
MDM	**Murphy Dome**	**82.70**	**14**	*e*P	**P**	**03 31 47.8**	**+2.3**
	comp=Z,9.3nm,1.4s						
COLA	**College**	**82.85**	**14**↓	*e*P	**P**	**03 31 47.0**	**+0.8**
COLA				pmax	pmax		
	comp=Z,21nm,3.3s						

AS31	**Alice Springs**	**83.03**	**122**	*e*P	**P**	**03 31 47.5**	**-0.4**
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**83.03**	**122**	P	**P**	**03 31 47.5**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=304,slow=6.0,SNR=9.5						
AS01	**Alice Springs**	**83.06**	**122**	*e*P	**P**	**03 31 50.7**	**+2.7**
ILAR	**Eielson Array**	**83.15**	**14**	P	**P**	**03 31 47.2**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=314,slow=4.4,SNR=9.1						
ILAR				LR	LR	04 16 25.0	
	comp=Z,65nm,18.3s,baz=310,slow=41						
ILB	**Eielson Array**	**83.15**	**14**	*e*P	**P**	**03 31 47.2**	**-0.6**
STKA	**Stephens Creek**	**93.23**	**125**	LR	LR	04 18 55.8	
	comp=Z,27nm,18.7s,baz=205,slow=38						
ULM	**Lac du Bonnet**	**99.83**	**349**	LR	LR	04 22 29.6	
	comp=Z,29nm,19.2s,baz=20,slow=38						
LTX	**Lajitas**	**121.50**	**350**	*e*PKIKP	**PKPdf**	**03 38 17.2**	**+0.9**
LTX	**Lajitas**	**121.50**	**350**	*e*PKPdf	**PKPdf**	**03 38 17.2**	**+0.9**
TXAR	**Lajitas Array**	**121.50**	**350**	PKP	**PKPdf**	**03 38 17.2**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=350,slow=2.1,SNR=3.1						

*IDC **28** 03:23:35.9±1.4, 35.52S×73.00W, h0km, mb4.1/5, mb1 4.1/7, mb1mx3.8/37, mbtmp4.0/7, ML3.7/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=56.3km s-min=19.8km az=89.0*
*ISCJB **28** 03:23:39.0±1.2, 35.58S±0.05×73.00W±0.08, h28km±8km, mb4.3/6, MS3.5/2, Error ellipse: s-maj=12.4km s-min=6.3km az=27.3*
*GUC **28** 03:23:39.9±0.5, 35.54S×73.00W, h16km±3km, ML4.1*
*NEIC **28** 03:23:39.0±0.0, 35.54S×73.00W, h16km, mb4.7/3, ML4.1(GUC), After GUC.*
NEIC Felt [II] at Cauquenes, Constitucion, Parral, Pelluhue, Pencahue, Retiro and Villa Alegre.

ISC 28 03:23:38.2±1.8, 35.48S±0.05×73.00W±0.08, h11km±11km, n35, σ1°30/40, mb4.3/6, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.67**	**165**	*i*P	**Pg**	**03 23 50.7**	**-0.5**
COCH				*i* S	**Sg**	**03 23 58.9**	**-1.1**
GO05	**HualaæØ**	**0.99**	**62**	*e*Pn	**Pb**	**03 23 57.2**	**-0.2**
GO05	**HualaæØ**	**0.99**	**62**	*i*P	**Pb**	**03 23 57.1**	**-0.2**
GO05				*i* S	**Sb**	**03 24 10.4**	**0.0**
GO05				IAML		03 24 12.9	
	comp=E,7μm,0.3s						
CCHI	**Chillan**	**1.34**	**147**	*e*P	**Pn**	**03 24 01.9**	**-1.0**
CHPI	**Pichilemu**	**1.36**	**37**	*e*P	**Pn**	**03 24 03.4**	**+0.3**
CHPI				*i* S	**Sn**	**03 24 21.4**	**+0.3**
NICH	**Los Niches**	**1.52**	**72**	*e*P	**Pn**	**03 24 05.7**	**+0.4**
NICH				*i* S	**Sn**	**03 24 25.3**	**+0.1**
LMEL	**Las Melosas**	**2.82**	**56**	*e*P	**Pn**	**03 24 25.3**	**+1.9**
LMEL				*i* S	**Sn**	**03 25 00.2**	**+2.8**
LMEL				IAML		03 25 12.7	
	comp=N,1μm,0.5s						
ROC1	**El Roble**	**2.99**	**34**	*e*Pn	**Pn**	**03 24 26.5**	**+0.7**
PEL	**Peldehue**	**3.02**	**40**	*e*P	**Pn**	**03 24 26.8**	**+0.9**
PLCA	**Paso Flores**	**5.59**	**161**	Pn	**Pn**	**03 25 01.4**	**+0.1**
	comp=N,0.5nm,0.3s,baz=352,slow=12,SNR=28						
PLCA				Pg	**Pb**	**03 25 18.5**	**+2.8**
	comp=N,0.7nm,0.3s,baz=9.3,slow=17,SNR=9.7						
PLCA				Lg	Lg	03 26 26.8	
	comp=N,1.2nm,0.3s,baz=296,slow=20,SNR=2.9						
PLCA				LR	LR	03 27 24.4	
	comp=N,197nm,19.1s,baz=342,slow=41						
PLCA	**Paso Flores**	**5.59**	**161**	*e*Pn	**Pn**	**03 25 01.8**	**+0.5**
PLCA				Pg	**Pb**	**03 25 18.5**	**+2.8**
PLCA				*e*Sn	Sn	03 25 54.0	-12
PLCA				Lg	Lg	03 26 26.8	
LCO	**Las Campanas**	**6.74**	**17**	*e*Pn	**Pn**	**03 25 15.3**	**-1.9**
TRQA	**Tornquist**	**9.21**	**109**	*e*Pn	**Pn**	**03 25 51.3**	**+0.4**
MNMC	**Minye Minye**	**16.56**	**11**	*e*Pn	**P**	**03 27 34.4**	**+1.2**
	comp=N,27nm,0.3s						
LPAZ	**La Paz**	**19.60**	**14**	P	**Pn**	**03 28 08.8**	**+0.4**
	comp=N,0.1nm,0.3s,baz=186,slow=6.3,SNR=6.7						
LPAZ	**La Paz**	**19.60**	**14**	*e*P	**Pn**	**03 28 10.9**	**+2.5**
	comp=N,6.5nm,1.1s						
SIV	**San Ignacio**	**22.14**	**32**	P	**P**	**03 28 33.3**	**-0.8**
	comp=N,5.3nm,1.0s,baz=227,slow=12,SNR=14						
NNA	**Nana**	**23.65**	**351**	LR	LR	03 36 06.8	
	comp=N,51nm,18.2s,baz=174,slow=32						
SDV	**Santo Domingo**	**44.18**	**3**	P	**P**	**03 31 47.4**	**0.0**
	comp=N,1.8nm,0.3s,baz=275,slow=7.3,SNR=3.5						
SNAA	**Sanae**	**50.52**	**157**	P	**P**	**03 32 35.0**	**-1.0**
	comp=N,2.8nm,0.9s,baz=248,slow=9.0,SNR=3.8						
BBTS	**Babate**	**73.08**	**57**	LR	LR	04 07 17.5	
	comp=N,56nm,18.6s,baz=98,slow=36						
CCM	**Cathedral Cave**	**75.10**	**345**	*e*P	**P**	**03 35 20.0**	**+0.1**
	comp=N,37nm,1.9s						
KOWA	**Kowa**	**81.96**	**66**	P	**P**	**03 35 58.1**	**-0.3**
	comp=N,2.8nm,0.6s,baz=238,slow=6.3,SNR=14						
TOA0	**Torodi Ar. Sit**	**85.45**	**70**	*e*P	**P**	**03 36 15.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**85.45**	**70**	P	**P**	**03 36 15.0**	**-1.2**
	comp=N,1.1nm,1.0s,baz=246,slow=4.0,SNR=4.1						
TOA1	**Torodi Ar. Sit**	**85.45**	**70**	*e*P	**P**	**03 36 15.0**	**-1.2**
GULW	**Guler Mountain**	**92.12**	**328**	*e*P	**P**	**03 36 48.2**	**+0.9**
NIHS	**Ingelmoor High**	**93.82**	**329**	*e*P	**P**	**03 36 56.0**	**+1.0**
WR1	**Warramunga Arr**	**119.09**	**210**	*e*PKPdf	**PKPdf**	**03 42 26.2**	**-1.5**
WRA	**Warramunga Arr**	**119.09**	**210**	PKP	**PKPdf**	**03 42 26.2**	**-1.5**
	comp=N,0.2nm,0.5s,baz=159,slow=2.0,SNR=5.6						
BVAR	**Borovoye Array**	**148.89**	**44**	PKPbc	**PKPbc**	**03 43 25.7**	**+0.3**
	comp=N,1.2nm,0.7s,baz=323,slow=2.2,SNR=7.5						
KURBB	**Kurchatov Arra**	**154.48**	**45**	PKPbc	**PKPbc**	**03 43 38.0**	**-0.3**
	comp=N,0.6nm,0.8s,baz=296,slow=3.1,SNR=4.4						
KURK	**Kurchatov**	**154.49**	**45**	*e*PKPbc	**PKPbc**	**03 43 38.0**	**-0.3**
MK32	**Makanchi Array**	**158.32**	**51**	*e*PKPab	**PKPab**	**03 44 07.6**	**-1.9**
MKAR	**Makanchi Array**	**158.32**	**51**	PKPab	**PKPab**	**03 44 07.6**	**-1.9**
	comp=N,0.3nm,0.8s,baz=258,slow=2.7,SNR=2.7						

IDC 28 03:25:51.1±2.1, 3.83S×130.50E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.3/58, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=105.2km s-min=28.9km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.45**	**167**	Pn	P	03 29 45.3	-1.1
	0.1nm,0.3s,baz=347,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**20.00**	**171**	P	P	03 30 24.7	-0.8
	0.2nm,0.3s,baz=351,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**65.88**	**326**	P	P	03 36 38.8	0.0
	0.1nm,0.4s,baz=114,slow=6.8,SNR=2.5						

MEX 28 03:36:11.7±0.7, 16.50N×98.46W, h15km±8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**108**	*e*P	Pg	03 36 17.7	-1.0
PNIG				*e*S	Sg	03 36 22.9	-0.6
TLIG	**Tlapa**	**1.06**	**355**	*e*P	Pb	03 36 28.1	-3.8
TLIG				*i* S	Sb	03 36 41.8	-3.9
ACX	**Acapulco**	**1.39**	**286**	*e*P	Pn	03 36 30.4	-6.1
ACX				*i* S	Sn	03 36 47.2	-7.5
VHO	**Vista Hermosa**	**1.75**	**71**	*e*P	Pn	03 36 38.7	-3.0
VHO				*i* S	Sn	03 36 59.2	-4.7
CAIG	**El Cayaco**	**1.81**	**288**	*e*P	Pn	03 36 39.5	-2.9
CAIG				*e*S	Sn	03 36 59.8	-5.4
PLIG	**Platanillo**	**2.13**	**332**	*e*P	Pn	03 36 44.6	-2.3
PLIG				*i* S	Sn	03 37 08.7	-4.4

*TAP **28** 03:51:57.8, 23.54N×121.67E, h33km, ML3.3, C*
*JMA **28** 03:51:57.7±0.1, 23.56N×121.62E, h41km±3km, M2.7*
*ISCJB **28** 03:51:58.3±0.3, 23.54N±0.01×121.68E±0.02, h35km±6km, Error ellipse: s-maj=2.8km s-min=2.0km az=136.7*

ISC 28 03:51:58.3±0.9, 23.56N±0.02×121.65E±0.02, h33km±7km, n72, σ0°65/141, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.21**	**253**	P	**Pn**	**03 52 05.8**	**+0.7**
	baz=259						
EGFH	**Guangfu**	**0.23**	**299**	*e*P	**Pn**	**03 52 05.5**	**+0.1**
	baz=301						
EGFH				*e*S	**Sn**	**03 52 12.0**	**+2.7**
	baz=301						
EHY	**Hungye**	**0.30**	**261**	*i* P	**Pb**	**03 52 06.1**	**0.0**
	baz=264						
EHY				S	**Sb**	**03 52 11.7**	**+0.3**
	baz=264						
ESL	**Shilin**	**0.32**	**323**	*i* P	**Pb**	**03 52 06.2**	**-0.2**
	baz=323						
ESL				*e*S	**Sn**	**03 52 12.1**	**-0.2**
	baz=323						

ENLB	**Shoufeng**	**0.35**	**353**	P	**Pn**	**03 52 07.1**	**0.0**
	baz=350						
ENLB				S	**Sn**	**03 52 14.6**	**+1.7**
	baz=350						
YULB	**Yu-li**	**0.36**	**243**	P	**Pb**	**03 52 06.8**	**-0.1**
	baz=247						
YULB				*e*S	**Sb**	**03 52 12.8**	**+0.1**
	baz=247						
TWF1	**Yuli**	**0.38**	**238**↓	*i*P	**Pb**	**03 52 07.0**	**-0.2**
	baz=241						
TWF1				*i* S	**Sb**	**03 52 13.3**	**+0.1**
	baz=241						
HWA	**Hwalien**	**0.42**	**355**	P	**Pn**	**03 52 08.4**	**+0.3**
	baz=353						
HWA				*e*S	**Sn**	**03 52 15.4**	**+0.7**
	baz=353						
FULB	**Fuli**	**0.48**	**222**	P	**Pb**	**03 52 08.9**	**+0.2**
	baz=225						
FULB				S	**Sn**	**03 52 16.4**	**+0.1**
	baz=225						
TWD	**Chiawan**	**0.52**	**355**	P	**Pb**	**03 52 09.1**	**-0.2**
	baz=354						
TWD				*e*S	**Sn**	**03 52 18.0**	**+0.7**
	baz=354						
CHKT	**Chengkung**	**0.52**	**210**	P	**Pb**	**03 52 09.0**	**-0.3**
	baz=211						
CHKT				S	**Sb**	**03 52 16.8**	**0.0**
	baz=211						
OWD	**Renai**	**0.59**	**313**	P	**Pb**	**03 52 09.8**	**-0.7**
	baz=312						
OWD				S	**Sb**	**03 52 17.9**	**-0.8**
	baz=312						
NACB	**Ninganchiao**	**0.62**	**355**	*e*P	**Pb**	**03 52 09.7**	**-1.1**
	baz=354						
NACB				S	**Sn**	**03 52 19.9**	**+0.3**
	baz=354						
YUS	**Yu-Shan**	**0.64**	**264**	*i* P	**Pb**	**03 52 11.2**	**-0.4**
	baz=265						
YUS				S	**Sb**	**03 52 20.2**	**-0.3**
	baz=265						
CHGB	**Renai**	**0.66**	**319**	P	**Pb**	**03 52 11.1**	**-0.6**
	baz=319						
CHGB				*e*S	**Sb**	**03 52 20.5**	**-0.4**
	baz=319						
SSLB	**Suanglung**	**0.68**	**290**	P	**Pn**	**03 52 11.0**	**-0.7**
	baz=291						
SSLB				*e*S	**Sn**	**03 52 21.8**	**+0.7**
	baz=291						
ELDTW	**Lidau**	**0.69**	**238**	P	**Pn**	**03 52 10.4**	**-1.4**
	baz=239						
ELDTW				S	**Sb**	**03 52 19.7**	**-1.6**
	baz=239						
SMLT	**Sun Moon Lake**	**0.76**	**296**	P	**Pn**	**03 52 12.6**	**-0.3**
	baz=296						
SMLT				S	**Sb**	**03 52 23.8**	**+0.5**
	baz=296						
ALS	**Alishan**	**0.78**	**267**	*i* P	**Pn**	**03 52 13.2**	**-0.1**
	baz=268						
ALS				*i* S	**Sn**	**03 52 23.9**	**0.0**
	baz=268						
TYC	**Yuchr**	**0.80**	**296**	*i* P	**Pn**	**03 52 13.1**	**-0.2**
	baz=296						
TYC				S	**Sb**	**03 52 24.6**	**+0.1**
	baz=296						
DPDB	**Guoxing**	**0.81**	**306**	P	**Pn**	**03 52 13.3**	**-0.3**
	baz=306						
DPDB				*e*S	**Sb**	**03 52 25.4**	**+0.5**
	baz=306						
TWT	**Tachien**	**0.82**	**328**	*i* P	**Pn**	**03 52 13.6**	**-0.1**
	baz=327						
TWT				S	**Sn**	**03 52 24.1**	**-0.8**
	baz=327						
TDCB	**Techi**	**0.83**	**327**	P	**Pn**	**03 52 13.6**	**-0.2**
	baz=326						
TDCB				*e*S	**Sn**	**03 52 23.7**	**-1.2**
	baz=326						
TWH	**Lutao**	**0.86**	**191**	*e*P	**Pn**	**03 52 13.3**	**-0.8**
	baz=191						
TWH				*e*S	**Sn**	**03 52 25.1**	**-0.4**
	baz=191						
ENA	**Nanau**	**0.87**	**6**	*e*P	**Pn**	**03 52 14.0**	**-0.3**
	baz=4.0						
ENA				*e*S	**Sb**	**03 52 26.3**	**-0.2**
	baz=4.0						
NANB	**Nanao**	**0.87**	**6**	*e*P	**Pn**	**03 52 13.8**	**-0.5**
	baz=4.0						
NANB				*e*S	**Sb**	**03 52 26.1**	**-0.3**
	baz=4.0						
WJS	**Zhushan**	**0.88**	**288**	P	**Pb**	**03 52 15.1**	**-0.1**
	baz=288						
WJS				*e*S	**Sb**	**03 52 26.8**	**0.0**
	baz=288						
CHN5	**Tsauling**	**0.89**	**273**	P	**Pn**	**03 52 14.8**	**+0.1**
	baz=273						
CHN5				S	**Sb**	**03 52 27.2**	**+0.2**
	baz=273						
ENAH	**Nanao**	**0.90**	**9**	*e*P	**Pn**	**03 52 14.7**	**0.0**
	baz=8.0						
ENAH				*e*S	**Sb**	**03 52 27.9**	**+0.6**
	baz=8.0						
NNSB	**Datong**	**0.90**	**344**	*e*P	**Pn**	**03 52 14.4**	**-0.4**
	baz=343						
NNSB				*e*S	**Sn**	**03 52 25.6**	**-1.2**
	baz=343						
NNSH	**Datong**	**0.90**	**344**	*e*P	**Pn**	**03 52 14.1**	**-0.8**

TWK	**Hsinying**	**1.10**	**255**	P		**Pn**	**03 52 18.2**	**+0.6**
	baz=255								
TWK				*i* S		**Sb**	**03 52 33.0**	**-0.1**
	baz=255								
TWQ1	**Liyutan**	**1.12**	**315**	P		**Pn**	**03 52 18.5**	**+0.7**
	baz=314								
TWQ1				*i* S		**Sb**	**03 52 33.7**	**+0.1**
	baz=314								
CHY	**Chiayi**	**1.12**	**267**	*e*S		**Sb**	**03 52 33.1**	**-0.4**
	baz=268								
WCHH	**Zhanghua**	**1.12**	**298**	*e*P		**Pn**	**03 52 18.5**	**+0.7**
	baz=298								
WCHH				*e*S		**Sb**	**03 52 34.8**	**+1.2**
	baz=298								
YHNB	**Yeheng**	**1.14**	**347**	*e*P		**Pn**	**03 52 17.9**	**-0.1**
	baz=346								
YHNB				*e*S		**Sn**	**03 52 32.5**	**-0.1**
	baz=346								
TWE	**Neicheng**	**1.16**	**1**	*e*P		**Pb**	**03 52 19.5**	**-0.4**
TWE				*e*S		**Sb**	**03 52 33.8**	**-0.8**
NSY	**Sanyi**	**1.18**	**317**	*e*P		**Pn**	**03 52 19.3**	**+0.7**
	baz=316								
NSY				*e*S		**Sb**	**03 52 35.2**	**0.0**
	baz=316								
SLBB	**Yuanshan**	**1.19**	**359**	*e*P		**Pb**	**03 52 20.1**	**-0.3**
	baz=358								
SLBB				*e*S		**Sn**	**03 52 34.3**	**+0.4**
	baz=358								
NSTT	**Nanjuang**	**1.22**	**331**	P		**Pn**	**03 52 19.9**	**+0.7**
	baz=331								
NSTT				S		**Sn**	**03 52 35.3**	**+0.7**
	baz=331								
NWLT	**Wulai**	**1.22**	**354**	*e*P		**Pn**	**03 52 19.5**	**+0.3**
	baz=353								
NWLT				*e*S		**Sn**	**03 52 34.7**	**+0.1**
	baz=353								
RLNB	**Erlin**	**1.23**	**286**	*e*P		**Pn**	**03 52 20.1**	**+0.9**
	baz=286								
RLNB				*e*S		**Sn**	**03 52 35.3**	**+0.7**
	baz=286								
LIOB	**Emei**	**1.23**	**332**	*e*P		**Pn**	**03 52 20.0**	**+0.8**
	baz=331								
LIOB				*e*S		**Sb**	**03 52 36.0**	**-0.6**
	baz=331								
PTSB	**Yuanli**	**1.24**	**316**	*e*P		**Pn**	**03 52 19.8**	**+0.4**
	baz=315								
PTSB				*e*S		**Sb**	**03 52 36.3**	**-0.5**
	baz=315								
WTCT	**Ta-ch'eng**	**1.29**	**284**	*e*P		**Pn**	**03 52 20.5**	**+0.5**
	baz=284								
WTCT				*e*S		**Sn**	**03 52 37.2**	**+1.0**
	baz=284								
MASBT	**Mashibuluo**	**1.33**	**225**	*e*P		**Pn**	**03 52 21.0**	**+0.5**
	baz=226								
MASBT				*e*S		**Sn**	**03 52 37.5**	**+0.4**
	baz=226								
TIPB	**Shuangxi**	**1.42**	**7**	*e*P		**Pn**	**03 52 22.5**	**+0.6**
	baz=5.0								
TIPB				*e*S		**Sn**	**03 52 40.3**	**+0.8**
	baz=5.0								
JYNG	**Yonagunijimaku**	**1.48**	**53**	P		**Pn**	**03 52 23.7**	**+1.0**
JYNG				S		**Sn**	**03 52 41.2**	**+0.2**
YOJ	**Yonaguni jima**	**1.54**	**54**	*e*P		**Pn**	**03 52 24.0**	**+0.5**
	baz=52								
YOJ				*e*S		**Sn**	**03 52 42.9**	**+0.6**
	baz=52								
YOJ	**Yonaguni jima**	**1.54**	**54**	P		**Pn**	**03 52 24.2**	**+0.7**
YOJ				S		**Sn**	**03 52 43.3**	**+1.0**
PNG	**Penghu**	**1.92**	**271**	*e*P		**Pn**	**03 52 28.4**	**-0.4**
	baz=270								
PNG				*e*S		**Sn**	**03 52 50.7**	**-1.1**
	baz=270								
HATJ	**Hateruma jima**	**2.04**	**75**	P		**Pn**	**03 52 30.7**	**+0.4**
HATJ				S		**Sn**	**03 52 55.3**	**+0.6**
JKRS	**Kuro-shima**	**2.27**	**72**	P		**Pn**	**03 52 34.3**	**+0.8**
JKRS				S		**Sn**	**03 53 01.2**	**+0.9**
JIJ	**Ishigaki jima**	**2.42**	**70**	P		**Pn**	**03 52 35.7**	**+0.1**
JIJ				S		**Sn**	**03 53 03.6**	**-0.5**
JISG	**Ishigakijimahi**	**2.64**	**67**	P		**Pn**	**03 52 38.7**	**0.0**
JISG				S		**Sn**	**03 53 08.4**	**-1.2**
JTJ	**Tarama**	**2.99**	**68**	P		**Pn**	**03 52 44.3**	**+0.8**
JTJ				S		**Sn**	**03 53 18.4**	**+0.2**
JIRB	**Irabujima**	**3.46**	**68**	S		**Sn**	**03 53 30.6**	**+0.8**

*ISCJB **28** 03:53:56.3±0.7,51°46N±0°03×16°14E±0°04, h0km, Error ellipse: s-maj=5.1km s-min=3.3km az=21.6*
*IPEC **28** 03:53:56.2±0.3,51°59N×16°27E, h0km, ML1.7/3, Error ellipse: s-maj=2.0km s-min=1.5km az=36.0*
*CSEM **28** 03:53:57.3±0.3,51°50N×16°13E, h2km, ML2.8/13, Error ellipse: s-maj=5.6km s-min=3.8km az=8.0*
*PRU **28** 03:53:58.1,51°50N×16°14E, h0km*
*VIE **28** 03:53:59.6±0.8,51°33N×16°00E, h0km, mb2.1/6, ML2.2/6, Error ellipse: s-maj=6.4km s-min=4.8km az=41.0, Suspected Mining induced.*

ISC 28 03:53:57.1±1.2, 51°54N±0°05×16°13E±0°03, h0km, n35, σ0s85/63, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.70**	**171**	*e*Pg		**Pg**	**03 54 10.9**	**+0.4**
KSP				*e*Sg		**Sg**	**03 54 20.1**	**+0.5**
KSP	**Ksiaz**	**0.70**	**171**	*e*Pg		**Pg**	**03 54 10.9**	**+0.4**
KSP				*e*Sg		**Sg**	**03 54 20.1**	**+0.5**
UPC	**Upice**	**1.03**	**184**	*e*PG		**Pg**	**03 54 17.0**	**+0.2**
UPC				*e*SG		**Sg**	**03 54 29.2**	**-1.0**
	comp=Z,30nm,0.5s							
UPC	**Upice**	**1.03**	**184**	Pg		**Pg**	**03 54 17.0**	**+0.2**
UPC				Sg		**Sg**	**03 54 29.2**	**-1.0**
	30nm,0.5s							
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG		**Pg**	**03 54 19.8**	**-0.1**
DPC				*e*SG		**Sg**	**03 54 35.3**	**-0.1**
	comp=Z,12nm,0.5s							
DPC	**Dobruska-Polom**	**1.20**	**174**	Pg		**Pg**	**03 54 19.8**	**-0.1**
DPC				Sg		**Sg**	**03 54 35.3**	**-0.1**
	12nm,0.5s							
PVCC	**Panska Ves**	**1.41**	**225**	*e*PG		**Pg**	**03 54 24.2**	**+0.2**
PVCC				*e*SG		**Sn**	**03 54 43.5**	**+0.3**
	comp=Z,44nm,0.3s							
PVCC	**Panska Ves**	**1.41**	**225**	Pg		**Pg**	**03 54 24.2**	**+0.2**
PVCC				Sg		**Sn**	**03 54 43.5**	**+0.3**
	44nm,0.3s							
BRG	**Berggiesshubel**	**1.52**	**245**	PG		**Pn**	**03 54 26.0**	**+0.4**
BRG				SG		**Sn**	**03 54 46.9**	**+0.9**
	39nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*PN		**Pn**	**03 54 29.8**	**0.0**
GOPC				*e*PG		**Pb**	**03 54 31.3**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	Pn		**Pn**	**03 54 29.8**	**0.0**
PRU	**Pruhonice**	**1.85**	**214**	*e*PN		**Pn**	**03 54 30.1**	**+0.1**
PRU				*e*PG		**Pb**	**03 54 31.4**	**-0.3**
PRU				*e*SG		**Sb**	**03 54 55.8**	**+0.5**
	comp=Z,8.4nm,0.3s							
PRU	**Pruhonice**	**1.85**	**214**	Pn		**Pn**	**03 54 30.1**	**+0.1**
CLL	**Collm**	**1.97**	**265**	*i* Pn		**Pn**	**03 54 30.6**	**-1.0**
CLL				*e*Pg		**Pb**	**03 54 34.0**	**+0.3**
CLL				*i*			03 54 37.7	
CLL				*e*Sg		**Sb**	**03 54 59.0**	**+0.2**
	comp=Z,9.0nm,0.4s							
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn		**Pn**	**03 54 30.9**	**-1.0**
MORC				*e*Sg		**Sb**	**03 54 58.4**	**-0.8**
	comp=Z,5.2nm,0.3s							
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*SG		**Sb**	**03 55 03.6**	**+0.1**
OKC	**Ostrava-Krasne**	**2.13**	**142**	Sg		**Sb**	**03 55 03.6**	**+0.1**
VRAC	**Vranov**	**2.25**	**172**	*e*Pn		**Pn**	**03 54 35.2**	**-0.4**
VRAC				*e*Sg		**Sg**	**03 55 07.9**	**-1.4**
	comp=Z,5.4nm,0.3s							
TREC	**Trest**	**2.28**	**191**	*e*PG		**Pb**	**03 54 39.7**	**+0.6**
TREC	**Trest**	**2.28**	**191**	Pg		**Pb**	**03 54 39.7**	**+0.6**
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn		**Pn**	**03 54 38.8**	**+0.1**
KRUC				*e*Sg		**Sg**	**03 55 15.3**	**-1.5**
	comp=Z,3.0nm,0.3s							
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN		**Pn**	**03 54 41.3**	**0.0**
NKC				*e*PG		**Pg**	**03 54 47.4**	**-0.8**
NKC				*e*SG		**Sg**	**03 55 24.4**	**+1.6**
	comp=Z,19nm,0.3s							
NKC	**Novy Kostel**	**2.67**	**242**	Pn		**Pn**	**03 54 41.3**	**0.0**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg		**Pg**	**03 54 48.4**	**+0.1**
OJC				*e*Sg		**Sg**	**03 55 22.5**	**-0.4**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg		**Pg**	**03 54 48.4**	**+0.1**
OJC				*e*Sg		**Sg**	**03 55 22.5**	**-0.4**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN		**Pn**	**03 54 44.3**	**-0.3**
KHC				*e*PG		**Pb**	**03 54 50.4**	**+0.6**
KHC				*e*SG		**Sg**	**03 55 28.9**	**-1.6**
	comp=Z,3.8nm,0.4s							
KHC	**Kasperske Hory**	**2.91**	**215**	Pn		**Pn**	**03 54 44.3**	**-0.3**
KHC				Sg		**Sg**	**03 55 28.9**	**-1.6**
	comp=Z,3.8nm,0.4s							
CONA	**Conrad Observa**	**3.62**	**183**	Pn		**Pn**	**03 54 54.7**	**+0.3**
	comp=Z,0.2nm,0.1s							
CONA				Sg		**Sg**	**03 55 52.5**	**-0.7**
	comp=Z,3.4nm,0.4s							
CONA	**Conrad Observa**	**3.62**	**183**	*e*Pn		**Pn**	**03 54 54.7**	**+0.3**
	comp=Z,0.2nm,0.1s							
CONA				Sg		**Sg**	**03 55 52.5**	**-0.7**
	comp=Z,3.4nm,0.4s							
MOA	**Molln**	**3.88**	**199**	Pn		**Pn**	**03 54 58.1**	**+0.1**
	comp=Z,1.1nm,0.2s							
MOA				Sg		**Sg**	**03 56 02.2**	**+0.4**
	comp=Z,4.4nm,0.6s							
MOA	**Molln**	**3.88**	**199**	*e*Pn		**Pn**	**03 54 58.1**	**+0.1**
	comp=Z,1.1nm,0.2s							
MOA				Sg		**Sg**	**03 56 02.2**	**+0.4**
	comp=Z,4.4nm,0.6s							
ARSA	**Arzberg**	**4.31**	**185**	Sg		**Sg**	**03 56 17.2**	**+1.8**
	comp=Z,1.6nm,0.5s							
ARSA	**Arzberg**	**4.31**	**185**	Sg		**Sg**	**03 56 17.2**	**+1.8**
	comp=Z,1.6nm,0.5s							
KBA	**Koelnbreinsper**	**4.82**	**203**	Sg		**Sg**	**03 56 29.2**	**-2.6**
	comp=Z,1.8nm,0.5s							
KBA	**Koelnbreinsper**	**4.82**	**203**	Sg		**Sg**	**03 56 29.2**	**-2.6**
	comp=Z,1.6nm,0.5s							

*CSEM **28** 03:57:07.6, 40°31N×25°28E, h30km, ML1.2/5, After ATH*
ATH 28 03:57:07.6, 40°31N×25°28E, h30km±4km, ML1.2/5, Error ellipse: s-maj=5.6km s-min=1.6km az=71.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMTH	**Samothraki Isl**	**0.26**	**50**	P		Pb	03 57 14.4	-0.1
SMTH				S		Sb	03 57 18.1	-1.2
SMTH				AML		AML	03 57 19.1	
	comp=N,86μm,0.2s							
SMTH				AML		AML	03 57 19.8	
	comp=E,67μm,0.2s							
SMTH	**Samothraki Isl**	**0.26**	**50**	P		Pb	03 57 14.4	-0.1
SMTH				S		Sb	03 57 18.1	-1.1
SMTH				AML		AML	03 57 19.1	
	comp=N,86μm,0.2s							
SMTH				AML		AML	03 57 19.8	
	comp=E,67μm,0.2s							
SMTH	**Samothraki Isl**	**0.26**	**50**	P		Pb	03 57 14.5	0.0
SMTH				S		Sb	03 57 18.9	-0.3
LIA	**Limnos Island**	**0.41**	**190**	P		Pn	03 57 17.8	+0.3
LIA				AML		AML	03 57 23.9	
	comp=N,47μm,0.1s							
LIA				AML		AML	03 57 23.9	
	comp=E,58μm,0.3s							
LIA	**Limnos Island**	**0.41**	**190**	P		Pn	03 57 17.6	0.0
LIA				S		Sb	03 57 22.5	-0.4
LIA				AML		AML	03 57 23.8	
	comp=N,47μm,0.1s							
LIA				AML		AML	03 57 24.0	
	comp=E,54μm,0.2s							
LIA	**Limnos Island**	**0.41**	**190**	P		Pn	03 57 17.4	-0.1
ALN	**Alexandroupoli**	**0.83**	**45**	P		Pb	03 57 25.9	+2.3
ALN				AML		AML	03 57 39.7	
	comp=N,21μm,0.4s							
ALN				AML		AML	03 57 46.2	
	comp=E,21μm,0.8s							
ALN	**Alexandroupoli**	**0.83**	**45**	P		Pb	03 57 25.0	+1.4
ALN				S		Sn	03 57 38.0	+3.4
ALN				AML		AML	03 57 39.3	
	comp=E,18μm,0.5s							
ALN				AML		AML	03 57 39.7	
	comp=N,21μm,0.4s							
ALN	**Alexandroupoli**	**0.83**	**45**	P		Pb	03 57 25.0	+1.4
RDO	**Rodhopi**	**0.86**	**13**	P		Pb	03 57 24.2	+0.1
RDO	**Rodhopi**	**0.86**	**13**	P		Pb	03 57 24.1	0.0
RDO	**Rodhopi**	**0.86**	**13**	P		Pb	03 57 24.4	+0.3
KAVA	**Kavala**	**0.90**	**320**	P		Pb	03 57 26.4	+1.7
KAVA				AML		AML	03 57 38.7	
	comp=N,30μm,0.2s							
KAVA				S		Sb	03 57 38.8	+2.4
KAVA				AML		AML	03 57 39.3	
	comp=E,43μm,0.4s							
KAVA	**Kavala**	**0.90**	**320**	P		Pb	03 57 26.2	+1.4
KAVA	**Kavala**	**0.90**	**320**	P		Pb	03 57 25.8	+1.1
KAVA				S		Sb	03 57 38.5	+2.1
OUR	**Ouranopolis**	**0.99**	**272**	P		Pb	03 57 26.6	+0.4
OUR				S		Sn	03 57 38.1	-0.3
OUR				AML		AML	03 57 41.4	
	comp=N,38μm,0.2s							
OUR				AML		AML	03 57 42.7	
	comp=E,46μm,0.2s							
OUR	**Ouranopolis**	**0.99**	**272**	P		Pb	03 57 26.4	+0.2
OUR	**Ouranopolis**	**0.99**	**272**	P		Pb	03 57 26.6	+0.4
OUR				S		Sb	03 57 39.3	+0.4

MEX 28 04:14:04.4±0.8, 16°84N×100°06W, h2km±5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ACX	**Acapulco**	**0.19**	**81**	*e*P		Pg	04 14 06.5	-1.6
ACX				*e*S		Sg	04 14 09.2	-1.4
CAIG	**El Cayaco**	**0.29**	**316**	*e*P		Pg	04 14 09.9	-0.1
CAIG				*e*S		Sg	04 14 14.1	+0.4
ZIIG	**Zihuatanejo**	**1.55**	**300**	*e*P		Pn	04 14 29.9	-3.0
ZIIG				*i* S		Sn	04 14 48.1	-5.5
TLIG	**Tlapa**	**1.59**	**63**	*e*P		Pn	04 14 30.8	-2.9
TLIG				*i* S		Sn	04 14 50.2	-4.8
PLIG	**Platanillo**	**1.63**	**19**	*e*P		Pn	04 14 30.1	-4.1
PLIG				*i* S		Sn	04 14 50.8	-5.0

*IDC **28** 04:42:41.9±2.9, 31°37S×68°83W, h96km±25km, mb3.6/6, mb1 3.7/9, mb1mx3.5/38, mbtmp3.8/9, Error ellipse: s-maj=26.9km s-min=21.2km az=89.0*
*ISCJB **28** 04:42:42.2±0.3, 31°35S±0°03×68°85W±0°05, h115km±3km, mb3.7/6, Error ellipse: s-maj=6.5km s-min=4.3km az=177.3*
*GUC **28** 04:42:42.2±0.7, 31°34S×68°96W, h100km±4km, ML3.8*
*SJA **28** 04:42:42.1±0.8, 31°33S×68°91W, h109km±3km, ML3.8, MW4.0*

ISC 28 04:42:43.0±0.7, 31°35S±0°04×68°88W±0°05, h108km±5km, n36, σ0s62/51, mb3.9/6, 5C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZON	**Zonda**	**0.26**	**139**	*i* P		**Pn**	**04 42 58.1**	**-0.3**
ZON				*i* S		**Sn**	**04 43 10.4**	**+0.4**
SJA	**San Juan**	**0.32**	**123**	*i* P		**Pn**	**04 42 58.7**	**0.0**
SJA				IAML			04 42 59.4	
	comp=Z,8μm,0.2s							
RTLL	**Cerro Villicun**	**0.34**	**87**	*i* P		**Pn**	**04 42 58.4**	**-0.4**
RTLL				*i* S		**Sn**	**04 43 11.2**	**+0.5**
RTLL	**Cerro Villicun**	**0.34**	**87**	*i* P		**Pn**	**04 42 58.6**	**-0.1**
RTLL				*i* S		**Sn**	**04 43 10.4**	**-0.2**
AMOG	**MOGNA**	**0.53**	**39**	*i* P		**Pn**	**04 42 59.9**	**0.0**
RTLS	**Leoncito**	**0.57**	**218**	*i* P		**Pn**	**04 43 00.6**	**+0.1**
RTLS				*i* S		**Sn**	**04 43 14.5**	**+0.8**
RTLS				IAML			04 43 14.9	
	comp=Z,3μm,0.2s							
RTCV	**Cerro Valdivia**	**0.59**	**151**	*i* P		**Pn**	**04 43 00.2**	**-0.2**
AUSP	**Uspallata**	**0.97**	**206**	*i* P		**Pn**	**04 43 04.5**	**+0.5**
ACDV	**Cuesta del Vie**	**1.19**	**350**	*i* P		**Pn**	**04 43 06.8**	**+0.5**
ACDV				*i* S		**Sn**	**04 43 24.4**	**+0.5**
ASAL	**Salagasta**	**1.24**	**178**	*i* P		**Pn**	**04 43 07.5**	**+0.8**
ASAL				*i* S		**Sn**	**04 43 25.6**	**+0.9**
AROD	**Rodeo**	**1.28**	**336**	*i* P		**Pn**	**04 43 08.1**	**+0.6**
AROD				*i* S		**Sn**	**04 43 26.6**	**+0.7**
ARCO	**CERRO ARCO**	**1.49**	**182**	*i* P		**Pn**	**04 43 10.4**	**+0.7**
ARCO				*i* S		**Sn**	**04 43 30.8**	**+0.8**
ARCO				IAML			04 43 33.2	
	comp=Z,925nm,0.6s							
AGUA	**GUANDACOL**	**1.89**	**10**	*i* P		**Pn**	**04 43 14.6**	**0.0**
AGUA				*i* S		**Sn**	**04 43 38.7**	**+0.1**
GO04	**Tololo Observa**	**2.03**	**305**	*i* P		**Pn**	**04 43 16.5**	**0.0**
GO04				*i* S		**Sn**	**04 43 42.1**	**+0.1**
GO04				IAML			04 43 47.3	
	comp=N,2μm,0.3s							
TLL	**Tololo Astrono**	**2.03**	**305**	*e*P		**Pn**	**04 43 16.6**	**0.0**
TLL				*i* S		**Sn**	**04 43 41.8**	**-0.4**
TLL				IAML			04 43 48.5	
	comp=N,696nm,0.4s							
AVIZ	**Vizcaceras**	**2.14**	**172**	*i* P		**Pn**	**04 43 18.4**	**+0.7**
APLL	**PUNTA DE LOS L**	**2.23**	**65**	*i* P		**Pn**	**04 43 19.1**	**+0.1**
APLL				IAML			04 43 46.5	
	comp=Z,132nm,0.2s							
ROCH	**El Roble**	**2.43**	**228**	⇑*i* P		**Pn**	**04 43 21.3**	**-0.3**
ROCH				*i* S		**Sn**	**04 43 51.5**	**+0.3**
ROCH				IAML			04 43 53.9	
	comp=N,404nm,0.3s							
ROC1	**El Roble**	**2.43**	**228**	*i* P		**Pn**	**04 43 21.3**	**-0.4**
VCA	**Vinchina**	**2.67**	**13**	⇑*i* P		**Pn**	**04 43 25.4**	**+0.7**
VCA				*i* S		**Sn**	**04 43 57.8**	**+1.0**
LCO	**Las Campanas**	**2.81**	**325**	⇑*i* P		**Pn**	**04 43 26.6**	**-0.2**
LCO				*i* S		**Sn**	**04 44 00.2**	**-0.1**
LCO				IAML			04 44 02.7	
	comp=E,271nm,0.4s							
CYA	**Choya**	**3.94**	**43**	⇑*i* P		**Pn**	**04 43 40.4**	**-1.1**
PLCA	**Paso Flores**	**9.46**	**188**	P		**Pn**	**04 44 55.2**	**-1.0**
	comp=E,0.1nm,0.3s,baz=28,slow=12,SNR=5.3							
CPUP	**Villa Florida**	**11.29**	**67**	P		**Pn**	**04 45 18.9**	**-2.2**
	comp=E,0.3nm,0.3s,baz=242,slow=12,SNR=7.3							
LPAZ	**La Paz**	**15.01**	**3**	P		**Pn**	**04 46 10.6**	**+0.5**
	comp=E,0.1nm,0.3s,baz=164,slow=5.9,SNR=6.2							
SIV	**San Ignacio**	**16.87**	**27**	P		**P**	**04 46 32.2**	**-0.7**
	comp=E,0.1nm,0.3s,baz=238,slow=11,SNR=3.6							
SNAA	**Sanae**	**53.06**	**159**	P		**P**	**04 51 48.7**	**+0.1**
	comp=E,2.0nm,0.9s,baz=348,slow=7.9,SNR=4.1							
TXAR	**Lajitas Array**	**68.83**	**328**	P		**P**	**04 53 36.7**	**+0.9**
	comp=E,0.4nm,0.7s,baz=160,slow=6.8,SNR=5.9							
DBIC	**Dimbokro**	**71.79**	**70**	P		**P**	**04 53 54.5**	**+0.4**
	comp=E,3.4nm,0.9s,baz=209,slow=10,SNR=3.0							
TORD	**Torodi Ar. Bea**	**80.78**	**69**	P		**P**	**04 54 44.8**	**-0.1**
	comp=E,0.8nm,0.7s,baz=249,slow=4.0,SNR=12							
PDAR	**Pinedale Array**	**82.67**	**331**	P		**P**	**04 54 54.9**	**+0.3**
	comp=E,0.2nm,0.6s,baz=142,slow=4.6,SNR=2.4							
ULM	**Lac du Bonnet**	**84.69**	**343**	P		**P**	**04 55 04.2**	**-0.1**
	comp=E,1.2nm,0.6s,baz=203,slow=7.7,SNR=3.1							
WRA	**Warramunga Arr**	**124.34**	**207**	PKP		**PKPdf**	**05 01 29.0**	**-0.8**
	comp=E,0.4nm,0.8s,baz=165,slow=1.7,SNR=4.3							
KURBB	**Kurchatov Arra**	**149.12**	**42**	PKPbc		**PKPbc**	**05 02 18.2**	**0.0**
	comp=E,0.3nm,0.6s,baz=292,slow=3.2,SNR=5.2							
ZALV	**Zalesovo Beam**	**150.57**	**32**	PKPbc		**PKPbc**	**05 02 21.7**	**+0.1**
	comp=E,1.8nm,0.5s,baz=318,slow=2.5,SNR=6.9							
MKAR	**Makanchi Array**	**153.01**	**47**	PKPbc		**PKPbc**	**05 02 27.3**	**-0.2**
	comp=E,0.6nm,0.8s,baz=297,slow=0.6,SNR=5.3							
MKAR				PKPab		**PKPab**	**05 02 39.5**	**+0.2**
	comp=E,0.4nm,0.6s,baz=283,slow=5.2,SNR=4.3							

*ISN **28** 04:50:45.0±0.3, 32°19N×46°61E, h0km, ML3.7*
*THR **28** 04:50:45.1±0.4, 31°87N×46°56E, h38km±6km, ML3.5*
*ISCJB **28** 04:50:48.9±1.2, 32°24N±0°09×46°89E±0°05, h10km, Error ellipse: s-maj=14.2km s-min=5.0km az=17.3*
*CSEM **28** 04:50:48.2±0.9, 32°12N×46°86E, h10km, ML3.7, Error ellipse: s-maj=23.0km s-min=7.2km az=18.0*
*TEH **28** 04:50:48.5, 32°13N×47°17E, h10km, ML3.7*

ISC 28 04:50:50.7±1.3, 32°33N±0°09×47°07E±0°04, h10km, n25, σ1s54/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**1.36**	**29**	*e*Pn		**Pn**	**04 51 15.4**	**-0.3**
IKFM				*e*Sg		**Sb**	**04 51 35.5**	**+1.8**
IKFM				*e*AMB		AMB	04 51 43.5	
	comp=Z,99nm,0.4s							
IKFM	**Kafar-mosalman**	**1.36**	**29**	*e*Pn		**Pn**	**04 51 15.4**	**-0.3**
IKFM				*e*Sg		**Sb**	**04 51 35.5**	**+1.8**
SHGR	**Shooshtar-Gavs**	**1.48**	**98**	*e*Pg		**Pg**	**04 51 19.5**	**+0.3**
SHGR	**Shooshtar-Gavs**	**1.48**	**98**	*e*Pg		**Pg**	**04 51 19.5**	**+0.3**
SHGR				*e*Sg		Sg	04 51 44.5	+6.1
IKOM	**Komasi**	**1.88**	**11**	*e*Pn		**Pn**	**04 51 23.5**	**+0.5**
IKOM				*e*AMB		AMB	04 51 58.3	
	comp=Z,8μm,0.4s							
IKOM	**Komasi**	**1.88**	**11**	*e*Pn		**Pn**	**04 51 23.5**	**+0.5**
IGHG	**Ghaleghazi**	**2.04**	**348**	*e*Pn		**Pn**	**04 51 26.2**	**+0.9**
IGHG				*e*AMB		AMB	04 52 01.6	
	comp=Z,7μm,0.4s							
IGHG	**Ghaleghazi**	**2.04**	**348**	*e*Pn		**Pn**	**04 51 26.2**	**+0.9**
IVIS	**Veis**	**2.20**	**355**	*e*Pn		**Pn**	**04 51 27.3**	**-0.1**
IVIS				*e*AMB		AMB	04 51 59.1	
	comp=Z,4μm,0.2s							
IVIS	**Veis**	**2.20**	**355**	*e*Pn		**Pn**	**04 51 27.3**	**-0.1**
IDHR	**Dehrash**	**2.43**	**347**	*e*Pn		**Pn**	**04 51 30.5**	**-0.2**
IDHR				*e*AMB		AMB	04 52 07.8	
	comp=N,7μm,0.2s							
IDHR	**Dehrash**	**2.43**	**347**	*e*Pn		**Pn**	**04 51 30.5**	**-0.2**
BHD	**Baghdad**	**2.45**	**293**	*e*Pg		**Pb**	**04 51 33.2**	**-1.6**
	baz=120,SNR=90							
BHD				*e*Sg		**Sb**	**04 52 06.9**	**+1.8**
	SNR=90							
ILIN	**Lien**	**2.58**	**358**	*e*Pn		**Pn**	**04 51 33.8**	**+1.0**
ILIN				*e*A

PNIG	**Pinotepa**	**0.28**	**23**	*e*P		Pg	04 52 28.3	-0.6
PNIG				*e*S		Sg	04 52 33.0	+0.2
PNIG	**Pinotepa**	**0.28**	**23**	*e*P		Pg	04 52 28.4	-0.6
PNIG				*e*S		Sg	04 52 32.2	-0.6
TLIG	**Tlapa**	**1.46**	**348**	*e*P		Pn	04 52 45.6	-4.2
TLIG				*i* S		Sn	04 53 03.9	-5.3
TLIG	**Tlapa**	**1.46**	**348**	*e*P		Pn	04 52 45.4	-4.5
TLIG				*e*S		Sn	04 52 56.3	-13
ACX	**Acapulco**	**1.71**	**296**	*e*P		Pn	04 52 46.0	-7.3
ACX				*i* S		Sn	04 53 07.2	-8.2
ACX	**Acapulco**	**1.71**	**296**	*e*P		Pn	04 52 46.0	-7.3
ACX				*e*S		Sn	04 53 06.0	-9.3
VHO	**Vista Hermosa**	**1.73**	**57**	*e*P		Pn	04 52 50.5	-3.0
VHO				*i* S		Sn	04 53 10.9	-5.0
VHO	**Vista Hermosa**	**1.73**	**57**	*e*P		Pn	04 52 50.7	-2.9
VHO				*e*S		Sb	04 53 17.4	+0.3
CAIG	**El Cayaco**	**2.14**	**296**	*e*P		Pn	04 52 56.4	-2.7
CAIG				*i* S		Sn	04 53 22.1	-3.8
CAIG	**El Cayaco**	**2.14**	**296**	*e*P		Pn	04 52 56.4	-2.7
CAIG				*e*S		Sn	04 53 23.0	-2.9
PLIG	**Platanillo**	**2.55**	**332**	*i* P		Pn	04 53 02.2	-2.6
PLIG				*i* S		Sn	04 53 32.3	-3.8
PLIG	**Platanillo**	**2.55**	**332**	*e*P		Pn	04 53 03.8	-1.0
PLIG				*e*S		Sn	04 53 20.2	-16

MEX 28 04:57:32.1±0.5, 16°34N×98°47W, h4km±6km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**80**	*e*P	Pg	04 57 38.0	-0.5
PNIG				*i* S	Sg	04 57 43.3	+0.4
TLIG	**Tlapa**	**1.22**	**356**	*e*P	Pg	04 57 52.4	-3.2
TLIG				*e*S	Sg	04 58 07.7	-3.7
ACX	**Acapulco**	**1.43**	**292**	*e*P	Pn	04 57 52.5	-6.4
ACX				*e*S	Sb	04 58 11.2	-6.8
VHO	**Vista Hermosa**	**1.82**	**66**	*e*P	Pn	04 58 01.4	-3.0
VHO				*i* S	Sn	04 58 23.0	-5.0
CAIG	**El Cayaco**	**1.86**	**293**	*e*P	Pn	04 58 01.2	-3.6
CAIG				*i* S	Sn	04 58 24.7	-4.2
PLIG	**Platanillo**	**2.27**	**334**	*e*P	Pn	04 58 07.9	-2.6
PLIG				*i* S	Sn	04 58 35.3	-3.7

IDC 28 05:03:54.3±2.2, 6°46S×129°45E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.4/51, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=92.0km s-min=28.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.16**	**197**	Pn	Pn	05 06 50.6	+1.8
	baz=0.2,slow=12						
FITZ				Sn	Sn	05 08 55.2	-10
	baz=229,slow=19						
WRA	**Warramunga Arr**	**14.22**	**161**	Pn	Pn	05 07 16.2	-1.0
	0.3nm,0.3s,baz=340,slow=13,SNR=11						
WRA				Sn	Sn	05 09 41.0	-15
	0.3nm,0.3s,baz=341,slow=20,SNR=6.6						
ASAR	**Alice Springs**	**17.64**	**166**	P	Pn	05 08 00.9	-0.7
	0.1nm,0.3s,baz=352,slow=12,SNR=8.5						
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	05 14 52.1	0.0
	0.3nm,0.5s,baz=123,slow=5.3,SNR=4.5						

*IDC **28** 05:13:58.7±0.6, 36°10N×141°81E, h0km, mb4.1/25, mb1 4.2/30, mb1mx4.1/75, mbtmp4.1/30, ML4.1/3, MS3.3/13, Ms1 3.3/13, ms1mx3.0/68, Error ellipse: s-maj=16.2km s-min=13.6km az=108.0*

*NEIC **28** 05:13:59.9±0.2, 36°12N×141°86E, h10km, mb4.6/13, Error ellipse: s-maj=5.2km s-min=4.2km az=155.0*

*MOS **28** 05:13:59.7±1.1, 36°20N×141°88E, h19km, mb4.4/32, Error ellipse: s-maj=8.7km s-min=5.3km az=109.3*

*ISCJB **28** 05:13:59.5±0.3, 36°10N±0°03×141°98E±0°04, h23km, mb4.2/47, MS3.5/9, Error ellipse: s-maj=5.0km s-min=3.7km az=34.9*

*NIED **28** 05:14:00, 36°20N×141°90E, h23km, Mw4.2 Best double couple: M0 1.90000×10^15 NP1:φ=213.00000°, δ30.00000°, λ97.00000°. NP2:φ=25.00000°, δ61.00000°, λ86.00000°.*

*JMA **28** 05:14:01.3±0.2, 36°20N×141°86E, h39km, M3.9*

ISC 28 05:14:01.4±0.5, 36°03N±0°04×141°96E±0°05, h23km, n178, σ1°63/188, mb4.3/47, MS3.5/9, 10C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.95**	**250**	P	**Pb**	**05 14 18.5**	**-0.7**
CHOJ				S	**Sb**	**05 14 31.2**	**-0.1**
JHO	**Hitachi**	**1.26**	**298**	P	**Pn**	**05 14 20.7**	**-2.9**
BSO1	**Boso 1**	**1.59**	**211**	P	**Pn**	**05 14 29.0**	**+1.4**
BSO1				*e*S	**Sn**	**05 14 50.0**	**+2.9**
JFK	**Kawauchi**	**1.59**	**327**	P	**Pn**	**05 14 25.7**	**-2.5**
BSO3	**Boso 3**	**1.70**	**224**	P	**Pn**	**05 14 30.5**	**+1.1**
JFT	**Otama**	**1.98**	**319**	P	**Pn**	**05 14 32.2**	**-1.3**
JMM	**Marumori**	**2.06**	**333**	P	**Pn**	**05 14 32.7**	**-1.9**
JAG	**Ashikaga**	**2.06**	**282**	P	**Pn**	**05 14 32.8**	**-1.8**
JFY	**Yanaizu**	**2.27**	**308**	P	**Pn**	**05 14 36.3**	**-1.3**
JKT	**Katashina**	**2.31**	**289**	P	**Pn**	**05 14 37.0**	**-1.1**
MJAR	**Matsushiro Arr**	**3.07**	**281**	Pn	**Pn**	**05 14 47.9**	**-0.7**
	15nm,0.3s,baz=113,slow=7.3,SNR=194						
MJAR				LR	LR	05 16 01.4	
	comp=Z,344nm,19.7s,baz=120,slow=42						
MAJO	**Matsushiro**	**3.07**	**281**	*d* iP	**Pn**	**05 14 48.1**	**-0.5**
MAJO	**Matsushiro**	**3.07**	**281**	*e*Pn	**Pn**	**05 14 48.3**	**-0.3**
MAT	**Matsushiro**	**3.07**	**281**	P	**Pn**	**05 14 48.0**	**-0.6**
MAT				*e*S	**Sn**	**05 15 25.1**	**+0.5**
MJB9	**Matsu-Tunnel**	**3.08**	**281**	*e*Pn	**Pn**	**05 14 48.3**	**-0.3**
JHJ2	**Mitsune**	**3.40**	**212**	*e*Pn	**Pn**	**05 14 49.6**	**-3.5**
JHJ	**Hachijo jima 2**	**3.41**	**212**	Pn	**Pn**	**05 14 54.7**	**+1.5**
	65nm,0.3s,baz=318,slow=22,SNR=13						
JHJ				Sn	**Sn**	**05 15 32.3**	**-0.6**
	153nm,0.3s,baz=173,slow=20,SNR=8.9						
INU	**Inuyama**	**4.08**	**262**	*e*Pn	**Pn**	**05 15 02.9**	**+0.5**
ERM	**Erimo**	**6.05**	**9**	*ce*P	**Pn**	**05 15 27.0**	**-2.4**
ERM	**Erimo**	**6.05**	**9**	*e*Pn	**Pn**	**05 15 27.2**	**-2.2**
ASAJ	**Asahikawa**	**8.09**	**3**	Pn	**Pn**	**05 15 55.9**	**-1.6**
	2.6nm,0.3s,baz=135,slow=23,SNR=9.3						
ASAJ				Sn	**Sn**	**05 17 22.9**	**-5.3**
	1.3nm,0.3s,baz=112,slow=19,SNR=3.3						
ASAJ	**Asahikawa**	**8.09**	**3**	*e*Pn	**Pn**	**05 15 54.2**	**-3.2**
ASAJ				*e*Sn	**Sn**	**05 17 22.9**	**-5.3**
YUK	**Yuzh-Kuril'sk**	**8.54**	**19**	⇑iP	**Pn**	**05 16 05.0**	**+1.5**
SHO	**Shikotan**	**8.68**	**24**	P	**Pn**	**05 16 02.7**	**-2.8**
CBIJ	**Chichi jima**	**8.91**	**179**	*e*Pn	**Pn**	**05 16 08.7**	**0.0**
CBIJ				*e*Sn	**Sn**	**05 17 42.8**	**-5.5**
JCJ	**Chichijima**	**8.91**	**179**	Pn	**Pn**	**05 16 07.8**	**-0.9**
	17nm,0.3s,baz=276,slow=23,SNR=7.9						
JCJ				Sn	**Sn**	**05 17 42.8**	**-5.5**
	12nm,0.3s,baz=294,slow=19,SNR=4.2						
KUR	**Kuril'sk**	**10.23**	**24**	⇑*e*P	**Pn**	**05 16 27.8**	**+1.1**
YSS	**Yuzh-Sakhalins**	**10.93**	**3**	*e*P	**Pn**	**05 16 33.5**	**-2.8**
YSS				MLR	MLR		
	comp=Z,200nm,12.0s						
USRK	**Ussuriysk Ar.**	**11.17**	**320**	Pn	**Pn**	**05 16 39.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=139,slow=15,SNR=4.7						
USRK				LR	LR	05 20 34.4	
	comp=Z,184nm,19.9s,baz=114,slow=36						
KSRS	**Korea Array**	**11.35**	**281**	Pn	**Pn**	**05 16 44.7**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=87,slow=13,SNR=6.1						
KSRS				LR	LR	05 20 56.3	
	comp=Z,122nm,20.0s,baz=84,slow=37						
KSAR	**Wonju Array Be**	**11.38**	**281**	P	**Pn**	**05 16 44.7**	**+2.2**
KSAR	**Wonju Array Be**	**11.38**	**281**	Pn	**Pn**	**05 16 44.7**	**+2.2**
MDJ	**Mudanjiang**	**12.74**	**316**	P	**Pn**	**05 16 59.5**	**-1.6**
MDJ				pP	P	05 17 05.3	-6.7
MDJ				sP		05 17 12.8	
MDJ				S	**Sn**	**05 19 27.0**	**+4.9**
JOW	**Kunigami**	**14.83**	**236**	LR	LR	05 22 54.1	
	comp=Z,79nm,21.0s,baz=145,slow=36						
JOW	**Kunigami**	**14.83**	**236**	*e*Pn	**Pn**	**05 17 29.1**	**-0.7**
CN2	**Changchun**	**14.84**	**307**	*e*P	**Pn**	**05 17 30.0**	**+0.3**
KLR	**Kul'dur**	**15.16**	**334**	LR	LR	05 23 21.2	
	comp=Z,12nm,18.5s,baz=111,slow=37						
KLR	**Kul'dur**	**15.16**	**334**	⇑*e*P	**Pn**	**05 17 31.6**	**-2.4**
NKL	**Nikolayevsk**	**17.14**	**357**	*e*P	**P**	**05 18 04.5**	**+3.7**
ZEA	**Zeya**	**20.47**	**334**	*e*P	**P**	**05 18 36.0**	**-1.3**
ZEA				pmax	pmax		
	comp=Z,26nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,200nm,16.0s						

WHN	**Wuhan**	**23.68**	**265**	⇑P		**P**	**05 19 10.8**	**-0.5**
WHN				pP		**pP**	**05 19 18.5**	**+0.5**
HHC	**Hu-ho-hao-te**	**24.22**	**291**	*e*P		**P**	**05 19 16.5**	**0.0**
HHC				pP		sP	05 19 27.3	+1.1
HHC				S		**S**	**05 23 31.5**	**-2.2**
HHC				sS		sS	05 23 42.8	-2.2
MA2	**Magadan**	**24.25**	**11**	P		**P**	**05 19 17.2**	**+0.8**
	comp=Z,2.0nm,0.4s,baz=156,slow=20,SNR=4.6							
MA2	**Magadan**	**24.25**	**11**	⇑*e*P		**P**	**05 19 16.8**	**+0.4**
YAK	**Yakutsk**	**27.14**	**347**	LR		LR	05 31 45.4	
	comp=Z,87nm,18.1s,baz=110,slow=39							
YAK	**Yakutsk**	**27.14**	**347**	*e*P		**P**	**05 19 41.1**	**-1.4**
YAK				*e**PP		**sP**	**05 19 52.6**	**+0.3**
YAK				*e*S		**S**	**05 24 19.8**	**+0.4**
YAK				*e*SS		**SnSn**	**05 25 31.3**	**+4.1**
YAK				*e*			05 30 26.5	
YAK				pmax	pmax			
	comp=Z,23nm,0.9s							
YAK				pmax	pmax			
	comp=N,12nm,1.2s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.3s							
YAK				pmax	pmax			
	comp=Z,14nm,0.8s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.0s							
YAK				pmax	pmax			
	comp=N,11nm,1.1s							
YAK				smax	smax			
	comp=N,39nm,4.3s							
YAK				smax	smax			
	comp=E,46nm,4.7s							
YAK				MLR	MLR			
	comp=Z,124nm,16.0s							
YAK				MLR	MLR			
	comp=N,145nm,15.0s							
H11N2	**WAKE ISLAND Hy**	**27.26**	**120**	T	T		05 48 31.2	
	baz=312,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**27.27**	**120**	T	T		05 48 27.2	
	baz=312,slow=75,SNR=28							
H11N3	**WAKE ISLAND Hy**	**27.28**	**120**	T	T		05 48 36.3	
	baz=312,slow=75,SNR=26							
SEY	**Seymchan**	**27.70**	**10**	P		**P**	**05 19 48.2**	**+0.8**
	comp=N,0.4nm,0.3s,baz=175,slow=8.1,SNR=5.0							
SEY	**Seymchan**	**27.70**	**10**	⇓*i*P		**P**	**05 19 49.4**	**+1.9**
ENH	**Enshi**	**27.70**	**267**	*e*P		**P**	**05 19 47.0**	**-0.9**
	comp=N,18nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**27.95**	**122**	T	T		05 49 17.5	
	baz=314,slow=75,SNR=74							
H11S3	**WAKE ISLAND Hy**	**27.95**	**122**	T	T		05 49 17.2	
	baz=314,slow=75,SNR=77							
H11S2	**WAKE ISLAND Hy**	**27.97**	**122**	T	T		05 49 16.2	
	baz=314,slow=75,SNR=51							
ULN	**Ulaanbaatar**	**28.29**	**306**	⇓*i*P		**P**	**05 19 53.5**	**+0.3**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ULN	**Ulaanbaatar**	**28.29**	**306**	*e*P		**P**	**05 19 52.7**	**-0.4**
	comp=Z,2.3nm,0.7s							
BOD	**Bodaibo**	**28.61**	**328**	*e*P		**P**	**05 19 52.8**	**-2.9**
BOD				pmax	pmax			
	comp=Z,7.0nm,1.8s							
SONA1	**Songino Array**	**28.71**	**305**	*e*P		**P**	**05 19 55.9**	**-1.0**
SONA0	**Songino Array**	**28.72**	**305**	*e*P		**P**	**05 19 56.0**	**-1.0**
SONM	**Songino Array**	**28.72**	**305**	P		**P**	**05 19 56.0**	**-1.0**
	comp=Z,5.2nm,0.8s,baz=107,slow=9.0,SNR=21							
SONM	**Songino Array**	**28.72**	**305**	P		**P**	**05 19 56.0**	**-1.0**
SONM				pmax	pmax			
	comp=Z,5.0nm,0.8s							
LZH	**Lanzhou**	**30.68**	**282**	*e*P		**P**	**05 20 17.5**	**+3.0**
LZH				pP		sP	05 20 27.5	+3.2
LZH				sP		pP	05 20 31.5	+10
LZH				*e*PP		**PP**	**05 21 19.3**	**-4.5**
ZAK	**Zakamensk**	**31.24**	**310**	*e*P		**P**	**05 20 18.5**	**-0.7**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
TLY	**Talaya**	**31.32**	**312**	LR		LR	05 33 41.0	
	comp=Z,98nm,19.0s,baz=108,slow=38							
TLY	**Talaya**	**31.32**	**312**	*e*P		**P**	**05 20 20.5**	**+0.7**
TLY				pmax	pmax			
	comp=Z,7.0nm,0.8s							
TLY				MLR	MLR			
	comp=Z,120nm,14.0s							
TLY	**Talaya**	**31.32**	**312**	*e*P		**P**	**05 20 19.8**	**-0.1**
	comp=Z,6.8nm,0.7s							
MOY	**Mondy**	**32.93**	**311**	*e*P		**P**	**05 20 34.1**	**+0.1**
GTA	**Gaotai**	**33.29**	**289**	P		**P**	**05 20 37.5**	**+0.2**
GTA				pP		sP	05 20 46.5	-0.6
GTA				sP		pP	05 20 50.8	+6.5
GTA				S		**S**	**05 25 56.8**	**+0.3**
TIXI	**Tiksi**	**36.34**	**353**	⇓*e*P		**P**	**05 21 03.2**	**+0.1**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.1s							
HVS	**Khovu-Aksy**	**37.37**	**309**	⇓*e*P		**P**	**05 21 12.2**	**0.0**
HVS				pmax	pmax			
	comp=Z,15nm,1.0s							
CMAR	**Chiang Mai Arr**	**41.68**	**257**	P		**P**	**05 21 48.8**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=48,slow=5.4,SNR=4.3							
CMAR				LR		LR	05 42 09.3	
	comp=Z,29nm,18.1s,baz=180,slow=41							
CMAR	**Chiang Mai Arr**	**41.68**	**257**	*i* P		**P**	**05 21 49.7**	**+1.3**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
WMQ	**Urumqi**	**41.69**	**298**	P		**P**	**05 21 48.5**	**+0.2**
WMQ				pP		sP	05 22 00.0	+1.8
ZAA0	**Zalesovo Array**	**42.92**	**313**	*e*P		**P**	**05 21 57.9**	**-0.2**
	comp=Z,4.2nm,0.7s							
ZAA1	**Zalesovo Array**	**42.92**	**313**	*e*P		**P**	**05 21 57.5**	**-0.6**
ZALV	**Zalesovo Beam**	**42.92**	**313**	P		**P**	**05 21 57.5**	**-0.6**
	comp=Z,3.8nm,0.6s,baz=91,slow=7.2,SNR=12							
ZALV	**Zalesovo Beam**	**42.92**	**313**	*e*P		**P**	**05 21 57.8**	**-0.3**
ZALV	**Zalesovo Beam**	**42.92**	**313**	*e*P		**P**	**05 21 57.8**	**-0.3**
NVS	**Novosibirsk**	**43.85**	**314**	*e*P		**P**	**05 22 05.1**	**-0.5**
MK01	**Makanchi Array**	**45.02**	**303**	*e*P		**P**	**05 22 14.5**	**-0.7**
MK31	**Makanchi Array**	**45.03**	**303**	*e*P		**P**	**05 22 15.1**	**-0.1**
MK31	**Makanchi Array**	**45.03**	**303**	*e*P		**P**	**05 22 15.1**	**-0.1**
MK32	**Makanchi Array**	**45.03**	**303**	*e*P		**P**	**05 22 14.8**	**-0.3**
MKAR	**Makanchi Array**	**45.03**	**303**	P		**P**	**05 22 14.8**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=87,slow=10,SNR=21							
MKAR				LR		LR	05 41 38.1	
	comp=Z,44nm,19.7s,baz=70,slow=37							
MKAR	**Makanchi Array**	**45.03**	**303**	*e*P		**P**	**05 22 15.0**	**-0.1**
	comp=Z,21nm,0.6s							
MAKZ	**Makanchi**	**45.24**	**303**	*e*P		**P**	**05 22 16.7**	**-0.1**
MAKZ				*e*S		**S**	**05 28 55.5**	**-0.1**
MAKZ				pmax	pmax			
	comp=Z,7.0nm,1.2s							
MAKZ	**Makanchi**	**45.24**	**303**	*e*P		**P**	**05 22 16.7**	**-0.1**
	comp=Z,7.4nm,1.2s							
MAKZ				*e*S		**S**	**05 28 55.5**	**-0.1**
KURK	**Kurchatov**	**46.90**	**309**	*c iP*		**P**	**05 22 29.1**	**-0.7**
KURK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KURK	**Kurchatov**	**46.90**	**309**	*e*P		**P**	**05 22 29.2**	**-0.6**
	comp=Z,7.4nm,0.6s							
KURK				*e*P		**P**	**05 22 29.8**	**0.0**
KURBB	**Kurchatov Arra**	**46.97**	**309**	P		**P**	**05 22 29.8**	**-0.6**
	comp=Z,5.2nm,0.6s,baz=84,slow=8.1,SNR=29							
ILAR	**Eielson Array**	**50.11**	**32**	P		**P**	**05 22 55.4**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=267,slow=6.3,SNR=13							
ILB	**Eielson Array**	**50.11**	**32**	*e*P		**P**	**05 22 54.7**	**+0.4**
AAK	**Ala-Archa**	**51.36**	**299**	P		**P**	**05 23 05.8**	**+1.5**
	comp=Z,1.8nm,0.6s,baz=122,slow=4.4,SNR=6.5							
AAK	**Ala-Archa**	**51.36**	**299**	⇑*e*P		**P**	**05 23 04.2**	**-0.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,1.4s							
AAK	**Ala-Archa**	**51.36**	**299**	*e*P		**P**	**05 23 04.3**	**+0.1**
	comp=Z,2.6nm,0.9s							
AAK				*e*P		**P**	**05 23 05.8**	**+1.5**
OTUK	**Ortayu**	**51.37**	**307**	P		**P**	**05 23 03.2**	**-0.9**
OTUK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BVAR	**Borovoye Array**	**51.58**	**313**	P		**P**	**05 23 05.1**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=69,slow=8.1,SNR=9.9							
BVAR				LR		LR	05 46 59.5	
	comp=Z,49nm,19.6s,baz=80,slow=38							
BRVK	**Borovoye**	**51.63**	**313**	⇓*i*P		**P**	**05 23 06.0**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BRVK	**Borovoye**	**51.63**	**313**	*e*P		**P**	**05 23 06.0**	**+0.1**
	comp=Z,3.2nm,0.8s							
SFK	**Sufi-Kurgan**	**52.87**	**296**	P		**P**	**05 23 14.8**	**-0.8**
SFK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KK05	**Karatay Array**	**54.00**	**301**	*e*P		**P**	**05 23 22.2**	**-1.5**
KK06	**Karatay Array**	**54.01**	**301**	*e*P		**P**	**05 23 23.4**	**-0.3**

KK02	**Karatay Array**	**54.01**	**301**	*e*P		**P**	**05 23 22.6**	**-1.1**
KK31	**Karatay Array**	**54.01**	**301**	*e*P		**P**	**05 23 23.5**	**-0.2**
KK31	**Karatay Array**	**54.01**	**301**	*e*P		**P**	**05 23 23.5**	**-0.2**
KKAR	**Karatay Array**	**54.01**	**301**	*e*P		**P**	**05 23 22.5**	**-1.2**
KKAR	**Karatay Array**	**54.01**	**301**	*e*P		**P**	**05 23 22.5**	**-1.2**
KK04	**Karatay Array**	**54.01**	**301**	*e*P		**P**	**05 23 23.5**	**-0.2**
KK01	**Karatay Array**	**54.02**	**301**	*e*P		**P**	**05 23 23.6**	**-0.2**
KK03	**Karatay Array**	**54.02**	**301**	*e*P		**P**	**05 23 23.4**	**-0.3**
KK07	**Karatay Array**	**54.02**	**301**	*e*P		**P**	**05 23 23.3**	**-0.5**
KK08	**Karatay Array**	**54.03**	**301**	*e*P		**P**	**05 23 23.7**	**-0.2**
INK	**Inuvik**	**55.08**	**27**	P		**P**	**05 23 32.5**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=309,slow=7.8,SNR=12							
INK	**Inuvik**	**55.08**	**27**	*e*P		**P**	**05 23 32.5**	**+1.5**
	comp=Z,2.3nm,0.6s							
WRAB	**Tennant Creek**	**56.12**	**189**	⇓*e*P		**P**	**05 23 40.0**	**+1.0**
WRAB				pmax	pmax			
	comp=Z,9.0nm,1.7s							
WR1	**Warramunga Arr**	**56.13**	**189**	*e*P		**P**	**05 23 40.0**	**+0.9**
	comp=Z,19nm,1.6s							
WRA	**Warramunga Arr**	**56.13**	**189**	P		**P**	**05 23 40.0**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=4.9,slow=7.5,SNR=18							
WRA	**Warramunga Arr**	**56.13**	**189**	P		**P**	**05 23 40.0**	**+0.9**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ARU	**Arti**	**57.41**	**319**	P		**P**	**05 23 47.5**	**-0.3**
	comp=Z,6.9nm,0.2s,baz=322,slow=0.4,SNR=4.5							
ARU	**Arti**	**57.41**	**319**	*d* iP		**P**	**05 23 47.9**	**+0.1**
ARU							05 25 49.5	
ARU				S		**S**	**05 31 42.7**	**-0.4**
ARU				SS		**SS**	**05 35 30.7**	**-1.5**
ARU				pmax	pmax			
	comp=Z,21nm,2.5s							
ARU	**Arti**	**57.41**	**319**	*e*P		**P**	**05 23 47.5**	**-0.3**
	comp=Z,4.1nm,0.6s							
AB06	**Akbulak array**	**58.91**	**311**	*e*P		**P**	**05 23 57.5**	**-1.0**
AB05	**Akbulak array**	**58.92**	**311**	*e*P		**P**	**05 23 57.9**	**-0.6**
AB07	**Akbulak array**	**58.92**	**311**	*e*P		**P**	**05 23 58.1**	**-0.5**
AB02	**Akbulak array**	**58.92**	**311**	*e*P		**P**	**05 23 58.1**	**-0.5**
AB01	**Akbulak array**	**58.92**	**311**	*e*P		**P**	**05 23 57.9**	**-0.7**
AB31	**Akbulak array**	**58.92**	**311**	*e*P		**P**	**05 23 58.1**	**-0.4**
AB31	**Akbulak array**	**58.92**	**311**	*e*P		**P**	**05 23 58.1**	**-0.4**
AB03	**Akbulak array**	**58.93**	**311**	*e*P		**P**	**05 23 58.1**	**-0.5**
AB04	**Akbulak array**	**58.93**	**311**	*e*P		**P**	**05 23 58.1**	**-0.5**
AB09	**Akbulak array**	**58.94**	**311**	*e*P		**P**	**05 23 58.1**	**-0.5**
AB08	**Akbulak array**	**58.94**	**311**	*e*P		**P**	**05 23 58.2**	**-0.5**
AKTO	**Aktyubinsk**	**59.67**	**313**	P		**P**	**05 24 03.2**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=77,slow=13,SNR=6.0							
AKTO				LR		LR	05 50 59.1	
	comp=Z,46nm,19.0s,baz=127,slow=37							
ASAR	**Alice Springs**	**59.86**	**189**	P		**P**	**05 24 06.5**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=17,slow=6.8,SNR=6.1							
YKA	**Yellowknife Ar**	**64.46**	**30**	P		**P**	**05 24 36.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=301,slow=6.6,SNR=11							
GEYT	**Alibeck**	**64.71**	**300**	LR		LR	05 53 44.1	
	comp=Z,18nm,19.9s,baz=115,slow=37							
KLMR	**Klimovskoe**	**64.84**	**328**	*e*P		**P**	**05 24 34.1**	**-4.0**
KLMR				pmax	pmax			
	comp=Z,12nm,1.5s							
KLMR	**Klimovskoe**	**64.84**	**328**	*e*P		**P**	**05 24 34.2**	**-3.9**
KLMR				AMP			05 24 41.5	
	comp=Z,12nm,1.5s							
ARA0	**ARCESS Array S**	**65.09**	**340**	*e*P		**P**	**05 24 39.7**	**0.0**
ARCES	**ARCESS Array B**	**65.09**	**340**	P		**P**	**05 24 39.7**	**0.0**
	comp=Z,2.8nm,0.9s,baz=65,slow=9.5,SNR=5.6							
SGF	**Sodankyl**	**66.05**	**338**	*e*P		**P**	**05 24 46.0**	**+0.2**
FIA0	**FINESS Array S**	**69.91**	**333**	*e*P		**P**	**05 25 10.1**	**-0.1**
FIA0	**FINESS Array S**	**69.91**	**333**	*e*P		**P**	**05 25 10.1**	**-0.1**
FINES	**FINESS Array B**	**69.91**	**333**	P		**P**	**05 25 10.1**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=55,slow=7.4,SNR=8.8							
FINES

ZALV				Lg	Lg	05 20 11.1		
	2.1nm,0.3s,baz=88,slow=29,SNR=8.7							
KURBB	**Kurchatov Arra**	**6.04**	**238**	Pn	Pn	05 21 07.4	+1.1	
	0.1nm,0.3s,baz=54,slow=14,SNR=3.4							
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	Pn	05 21 31.8	+1.0	
	0.1nm,0.3s,baz=24,slow=15,SNR=5.1							

IDC ***28*** *05:39:36.8±1.3, 16°.38N×98°.23W, h0km, mb4.1/8, mb1 4.1/11, mb1mx3.9/54, mbtmp4.0/11, ML3.5/3, MS3.7/16, Ms1 3.7/16, ms1mx3.5/43, Error ellipse: s-maj=25.7km s-min=17.2km az=28.0*

NEIC ***28*** *05:39:39.4±0.0, 16°.25N×98°.30W, h10km, mb4.6/10, MD4.4(MEX), After MEX.*

MEX ***28*** *05:39:39.5±0.3, 16°.28N×98°.31W, h4km±3km, MD4.0*

ISC 28 05:39:40.1±0.6, 16°.48N±0°.05×98°.14W±0°.03, h16km±3km, n385, σ1§43/390, mb4.5/15, MS3.7/14, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.09**	**173**	*e*P		**Pg**	**05 39 43.4**	**-0.2**
PNIG				*e*S		**Sb**	**05 39 46.3**	**+0.7**
PNIG	**Pinotepa**	**0.09**	**173**	*e*Pg		**Pg**	**05 39 43.3**	**-0.2**
PNIG				*e*Sg		**Sb**	**05 39 46.3**	**+0.7**
TLIG	**Tlapa**	**1.15**	**339**	*e*P		**Pb**	**05 40 01.0**	**-0.7**
TLIG				*e*S		**Sn**	**05 40 17.1**	**-0.1**
TLIG	**Tlapa**	**1.15**	**339**	*e*P		**Pb**	**05 40 01.2**	**-0.6**
TLIG				*e*S		**Sn**	**05 40 17.1**	**-0.1**
VHO	**Vista Hermosa**	**1.47**	**66**	*e*P		**Pb**	**05 40 06.6**	**-0.6**
VHO				*i*S		**Sg**	**05 40 27.9**	**+0.3**
VHO	**Vista Hermosa**	**1.47**	**66**	*e*Pn		**Pb**	**05 40 06.9**	**-0.3**
VHO				*e*Sn		**Sn**	**05 40 24.2**	**-0.9**
ACX	**Acapulco**	**1.69**	**283**	*e*P		Pn	05 40 01.5	-7.6
ACX				*e*S		Sn	05 40 21.7	-8.8
ACX	**Acapulco**	**1.69**	**283**	*e*P		Pn	05 40 01.9	-7.2
ACX				*e*Sn		**Sn**	**05 40 24.8**	**-5.6**
CAIG	**El Cayaco**	**2.12**	**286**	*e*P		**Pn**	**05 40 10.9**	**-4.0**
CAIG				*e*S		**Sn**	**05 40 35.9**	**-5.0**
CAIG	**El Cayaco**	**2.12**	**286**	*e*Pn		**Pn**	**05 40 14.1**	**-0.7**
CAIG				*e*Sn		**Sn**	**05 40 42.8**	**+1.9**
PLIG	**Platanillo**	**2.31**	**326**	*e*P		**Pn**	**05 40 16.6**	**-1.0**
PLIG				*e*S		**Sn**	**05 40 45.3**	**-0.4**
PLIG	**Platanillo**	**2.31**	**326**	*e*Pn		**Pb**	**05 40 20.3**	**-1.1**
PLIG				*e*Sn		**Sn**	**05 40 41.8**	**-3.9**
UNM	**Universidad Na**	**3.00**	**341**	*e*Pn		**Pn**	**05 40 29.9**	**+2.6**
CMIG	**Matias Romero**	**3.18**	**78**	Pn		**Pn**	**05 40 28.9**	**-0.5**
	21nm,0.3s,baz=242,slow=11,SNR=380							
CMIG				Pg		**Pg**	**05 40 39.8**	**-1.3**
	111nm,0.3s,baz=259,slow=15,SNR=120							
CMIG				Lg		Lg	05 41 21.5	
	331nm,0.3s,baz=350,slow=18,SNR=8.9							
CMIG				LR		LR	05 42 09.9	
	comp=Z,2μm,19.6s,baz=250,slow=47							
LVIG	**Laguna Verde**	**3.62**	**27**	*e*Pn		**Pn**	**05 40 34.8**	**-0.7**
MOIG	**Morelia**	**4.31**	**318**	*e*Pn		**Pn**	**05 40 46.5**	**+1.3**
JRQG	**Juriquilla Cam**	**4.74**	**333**	*e*Pn		**Pn**	**05 40 53.1**	**+1.9**
ZAIG	**Zacatecas**	**7.52**	**327**	*e*Pn		**Pn**	**05 41 32.1**	**+2.6**
LNIG	**Linares**	**8.47**	**352**	*e*Pn		**Pn**	**05 41 45.4**	**+3.2**
TGUH	**Tegucigalpa,Un**	**10.76**	**101**	*e*Pn		**Pn**	**05 42 12.0**	**-1.6**
833A	**Chaparral WMA,**	**11.85**	**355**	P		**Pn**	**05 42 30.0**	**+1.5**
	baz=175							
HKT	**Hockley**	**13.57**	**9**	*e*Pn		**P**	**05 42 56.6**	**-4.4**
LTX	**Lajitas**	**13.77**	**339**	*e*Pn		**Pn**	**05 42 57.0**	**+2.1**
TXAR	**Lajitas Array**	**13.77**	**339**	Pn		**Pn**	**05 42 57.0**	**+2.1**
	0.0nm,0.3s,baz=159,slow=16,SNR=3.2							
TXAR				Lg		Lg	05 47 08.0	
	0.0nm,0.3s,baz=163,slow=20,SNR=6.6							
TXAR				LR		LR	05 48 49.9	
	comp=Z,1μm,18.2s,baz=0.0,slow=40							
TX31	**Lajitas Ar. Si**	**13.77**	**339**	*e*Pn		**Pn**	**05 42 57.1**	**+2.3**
TX31				*e*Pn		**P**	**05 42 59.0**	**-4.3**
JCT	**Junction City**	**14.02**	**354**	P		**Pn**	**05 42 59.6**	**+1.4**
	baz=174,SNR=5.2							
JCT	**Junction City**	**14.02**	**354**	*e*Pn		**Pn**	**05 43 01.0**	**+2.8**
JTS	**JuntasAbangare**	**14.22**	**114**	Pn		**Pn**	**05 43 03.9**	**+2.9**
	2.8nm,0.3s,baz=25,slow=10.0,SNR=13							
HDC	**Heredia**	**15.09**	**114**	*e*Pn		**Pn**	**05 43 11.6**	**-1.3**
WHTX	**Lake Whitney,**	**15.46**	**2**	P		**Pn**	**05 43 18.5**	**+1.0**
	baz=183,SNR=5.6							
WHTX	**Lake Whitney,**	**15.46**	**2**	*e*Pn		**P**	**05 43 20.5**	**-1.5**
341A	**Kurthwood**	**15.46**	**16**	P		**Pn**	**05 43 17.5**	**-0.2**
	baz=198							
NATX	**Nacogdoches**	**15.54**	**11**	P		**Pn**	**05 43 19.2**	**+0.6**
	baz=193							
NATX	**Nacogdoches**	**15.54**	**11**	*e*Pn		**Pn**	**05 43 19.8**	**+1.2**
342A	**Flagon Creek P**	**15.75**	**19**	P		**Pn**	**05 43 21.3**	**0.0**
	baz=201							
343A	**Vidalia**	**15.89**	**21**	P		**Pn**	**05 43 23.7**	**+0.6**
	baz=204							
ABTX	**Abilene, Hawle**	**16.13**	**355**	P		**P**	**05 43 30.1**	**+0.6**
	baz=175,SNR=6.6							
ABTX	**Abilene, Hawle**	**16.13**	**355**	*e*Pn		**P**	**05 43 30.0**	**+0.5**
446A	**Poplarville**	**16.34**	**28**	P		**Pn**	**05 43 28.7**	**-0.3**
	baz=211							
345A	**Thompson Farm,**	**16.51**	**25**	P		**Pn**	**05 43 31.0**	**-0.1**
	baz=208							
MNTX	**Cornudas Mount**	**16.52**	**338**	P		**P**	**05 43 34.4**	**+0.5**
	baz=156							
MNTX	**Cornudas Mount**	**16.52**	**338**	*e*Pn		**P**	**05 43 35.3**	**+1.5**
140A	**Cam and Jess,**	**16.61**	**14**	P		**Pn**	**05 43 32.9**	**+0.5**
	baz=196							
GDL2	**Guadalupe Moun**	**16.64**	**341**	*e*Pn		**P**	**05 43 36.2**	**+1.0**
346A	**Big Creek Wild**	**16.81**	**26**	P		**Pn**	**05 43 34.6**	**-0.3**
	baz=210							
244A	**Avery, Jackson**	**16.91**	**22**	P		**Pn**	**05 43 35.9**	**-0.2**
	baz=205							
SRIG	**Santa Rosalia**	**16.94**	**312**	*e*Pn		**P**	**05 43 41.2**	**+2.8**
	19nm,1.0s							
VBMS	**Vicksburg**	**17.13**	**22**	*e*Pn		**P**	**05 43 41.0**	**+0.5**
HSIG		**17.17**	**319**	*e*Pn		**P**	**05 43 41.3**	**+0.3**
Z40A	**Long Farm, Mag**	**17.25**	**14**	P		**P**	**05 43 41.4**	**-0.3**
	baz=196							
Z41A	**Richland Creek**	**17.39**	**15**	P		**P**	**05 43 43.4**	**0.0**
	baz=198							
Z42A	**Norrel Spur, H**	**17.63**	**17**	P		**P**	**05 43 45.9**	**-0.1**
	baz=200							
WLAR	**White Oak Lake**	**17.72**	**14**	*e*Pn		**P**	**05 43 47.6**	**+0.5**
CBCY	**The Bluff, Cay**	**17.77**	**77**	*e*Pn		**Pn**	**05 43 43.5**	**-3.4**
	165nm,1.3s							
MSTX	**Muleshoe**	**17.91**	**347**	P		**P**	**05 43 49.1**	**-0.2**
	baz=166							
MSTX	**Muleshoe**	**17.91**	**347**	*e*Pn		**Pn**	**05 43 48.7**	**0.0**
MSTX				*e*Sn		**S**	**05 47 13.8**	**-0.7**
319A	**Douglas**	**17.97**	**328**	*e*Pn		**P**	**05 43 51.1**	**+1.1**
248A	**Dixon Mills**	**18.19**	**29**	P		**Pn**	**05 43 51.5**	**-0.5**
	baz=214							
WMOK	**Wichita Mounta**	**18.19**	**358**	P		**P**	**05 43 53.7**	**+1.4**
	baz=178							
WMOK	**Wichita Mounta**	**18.19**	**358**	*e*Pn		**P**	**05 43 53.9**	**+1.6**
121A	**Cookes Peak, D**	**18.22**	**333**	P		**P**	**05 43 55.4**	**+2.7**
	baz=150							
CCAR	**Cane Creek**	**18.29**	**17**	*e*P		**P**	**05 43 53.6**	**+0.3**
X39A	**Fountain Ranch**	**18.32**	**11**	P		**P**	**05 43 53.9**	**+0.3**
	baz=193							
350A	**Dozier**	**18.35**	**34**	P		**P**	**05 43 54.0**	**0.0**
	baz=218							
249A	**Camden**	**18.39**	**31**	P		**P**	**05 43 54.6**	**+0.2**
	baz=215							
X40A	**Basin Creek Fa**	**18.55**	**14**	P		**Pn**	**05 43 56.9**	**+0.5**
	baz=196							
AMTX	**Amarillo**	**18.60**	**351**	P		**Pn**	**05 43 57.5**	**+0.4**
	baz=170							
AMTX	**Amarillo**	**18.60**	**351**	*e*P		**Pn**	**05 43 57.1**	**0.0**
	31nm,1.2s							
X41A	**Kaden, Bauxite**	**18.64**	**15**	P		**Pn**	**05 43 57.2**	**-0.3**
	baz=197							
655A	**Horseshoe Beac**	**18.84**	**44**	P		**P**	**05 43 58.1**	**-1.3**
	baz=229							
059A	**Moore Haven**	**18.90**	**54**	P		**P**	**05 43 58.7**	**-1.4**
	baz=240							
UALR	**University of**	**18.95**	**15**	*e*P		**P**	**05 44 00.5**	**0.0**
Y45A	**Yeager Farm, C**	**18.96**	**22**	P		**P**	**05 44 00.7**	**0.0**
	baz=206							
W39A	**Magazine**	**19.04**	**11**	P		**Pn**	**05 44 02.6**	**+0.2**
	baz=193							
149A	**Jones**	**19.06**	**31**	P		**P**	**05 44 01.8**	**0.0**
	baz=215							
X43A	**Marvell**	**19.11**	**19**	P		**Pn**	**05 44 03.2**	**0.0**
	baz=202							
BNM	**Barren Site**	**19.18**	**338**	*e*P		**Pn**	**05 44 05.8**	**+1.4**
Y46A	**Houston**	**19.24**	**24**	P		**P**	**05 44 04.0**	**+0.2**
	baz=208							
LRAL	**Lakeview Retre**	**19.32**	**29**	P		**P**	**05 44 04.3**	**-0.3**
	baz=214							
LRAL	**Lakeview Retre**	**19.32**	**29**	*e*P		**Pn**	**05 44 05.3**	**-0.3**
LRAL				*e*Sn		**S**	**05 47 42.1**	**-0.7**
LPM	**Los Pinos Moun**	**19.33**	**338**	*e*P		**Pn**	**05 44 06.7**	**+0.6**
Z48A	**Northport**	**19.34**	**28**	P		**Pn**	**05 44 05.3**	**-0.8**
	baz=212							
251A	**Midway**	**19.37**	**34**	P		**P**	**05 44 04.8**	**-0.4**
	baz=220							
150A	**Eclectic**	**19.45**	**32**	P		**Pn**	**05 44 06.5**	**-0.7**
	baz=217							
WHAR	**Wooly Hollow**	**19.45**	**14**	*e*P		**P**	**05 44 05.0**	**-1.1**
TUL1	**Leonard**	**19.46**	**6**	P		**Pn**	**05 44 07.2**	**-0.3**
	baz=187							
TUL1	**Leonard**	**19.46**	**6**	*e*P		**P**	**05 44 05.4**	**-0.8**
TUC	**Tucson**	**19.49**	**326**	P		**Pn**	**05 44 08.6**	**+0.6**
	baz=142							
TUC	**Tucson**	**19.49**	**326**	*e*P		**Pn**	**05 44 08.5**	**+0.6**
LAZ	**Ladron**	**19.59**	**337**	*e*P		**P**	**05 44 07.8**	**-0.1**
252A	**Lumpkin**	**19.67**	**36**	P		**P**	**05 44 07.1**	**-1.3**
	baz=221							
Z49A	**Columbiana**	**19.67**	**30**	P		**P**	**05 44 07.8**	**-0.7**
	baz=215							
V39A	**Pettigrew**	**19.69**	**11**	P		**P**	**05 44 08.6**	**-0.2**
	baz=193,SNR=18							
151A	**Opelika**	**19.75**	**34**	P		**P**	**05 44 08.3**	**-1.1**
	baz=219,SNR=5.5							
V40A	**Witts Springs**	**19.82**	**13**	P		**P**	**05 44 10.1**	**-0.1**
	baz=195							
ANMO	**Albuquerque**	**19.84**	**340**	P		**Pn**	**05 44 12.0**	**-0.2**
	0.1nm,0.3s,baz=315,slow=9.1,SNR=11							
ANMO	**Albuquerque**	**19.84**	**340**	P		**Pn**	**05 44 12.2**	**0.0**
	baz=157							
ANMO	**Albuquerque**	**19.84**	**340**	*e*P		**Pn**	**05 44 11.6**	**-0.6**
TIGA	**Tifton**	**19.93**	**39**	*e*P		**P**	**05 44 10.9**	**-0.4**
	30nm,0.8s							
X46A	**Booneville**	**19.94**	**24**	P		**P**	**05 44 10.8**	**-0.6**
	baz=208,SNR=6.0							
V41A	**Mountainview**	**19.95**	**14**	P		**P**	**05 44 11.4**	**-0.2**
	baz=197							
Z50A	**Ashland**	**20.01**	**31**	P		**P**	**05 44 11.1**	**-1.1**
	baz=216							
HHAR	**Hobbs**	**20.07**	**10**	*e*P		Pn	05 44 15.1	+0.4
V42A	**Cord**	**20.17**	**16**	P		**P**	**05 44 13.3**	**-0.6**
	baz=199							
X47A	**Russelville**	**20.19**	**25**	P		**P**	**05 44 13.2**	**-1.0**
	baz=210							
U39A	**Green Forest**	**20.25**	**11**	P		**P**	**05 44 14.5**	**-0.3**
	baz=193							
Y49A	**Blount Mountai**	**20.27**	**29**	P		**P**	**05 44 13.7**	**-1.3**
	baz=214							
U40A	**Yellville**	**20.35**	**12**	P		**P**	**05 44 15.6**	**-0.2**
	baz=195							
214A	**Organ Pipe Nat**	**20.37**	**322**	P		Pn	05 44 17.7	-0.6
	baz=137							
254A	**Abbeville**	**20.47**	**39**	P		**P**	**05 44 15.8**	**-1.4**
	baz=224							
X48A	**Hartselle**	**20.48**	**27**	P		**P**	**05 44 16.5**	**-0.8**
	baz=212							
PLAL	**Pickwick Lake**	**20.51**	**24**	*e*P		**P**	**05 44 16.9**	**-0.7**
U41A	**Viola**	**20.54**	**14**	P		**P**	**05 44 17.5**	**-0.5**
	baz=197							
GNAR	**Gosnell**	**20.71**	**19**	*e*P		Pn	05 44 21.3	-0.8
U42A	**Revenden**	**20.72**	**16**	P		**P**	**05 44 18.6**	**-1.3**
	baz=199,SNR=5.7							
T38A	**Diamond**	**20.76**	**9**	P		**P**	**05 44 19.7**	**-0.6**
	baz=191,SNR=6.3							
X49A	**Woodville**	**20.85**	**28**	P		**P**	**05 44 20.1**	**-1.2**
	baz=213							
X18A	**Snowflake**	**20.87**	**332**	*e*P		Pn	05 44 23.6	-0.6
HALT	**Halls**	**20.88**	**20**	*e*P		**P**	**05 44 22.6**	**+1.0**
T39A	**Clever**	**20.89**	**11**	P		**P**	**05 44 21.2**	**-0.6**
	baz=193							
W47A	**Westpoint**	**20.94**	**25**	P		**P**	**05 44 20.8**	**-1.5**
	baz=209							
154A	**Montrose**	**21.05**	**38**	P		**P**	**05 44 21.4**	**-2.1**
	baz=224							
W48A	**Pulaski**	**21.11**	**26**	P		**P**	**05 44 23.1**	**-1.1**
	baz=211							
X50A	**Fort Payne**	**21.12**	**30**	P		**P**	**05 44 22.4**	**-1.9**
	baz=215							
T40A	**Mansfield**	**21.18**	**13**	P		**P**	**05 44 24.1**	**-0.8**
	baz=195,SNR=10							
V46A	**Holladay**	**21.21**	**23**	P		**P**	**05 44 24.2**	**-1.1**
	baz=208							
T41A	**Mountain View**	**21.25**	**14**	P		**P**	**05 44 25.0**	**-0.6**
	baz=197							
T25A	**Trinidad**	**21.32**	**346**	P		**P**	**05 44 27.7**	**+1.1**
	baz=164,SNR=7.5							
T25A	**Trinidad**	**21.32**	**346**	*e*P		**P**	**05 44 28.3**	**+1.8**
PBMO	**Poplar Bluff**	**21.34**	**17**	*e*P		**P**	**05 44 26.3**	**-0.3**
	19nm,1.0s							
256A	**Glennville**	**21.35**	**41**	P		**P**	**05 44 24.7**	**-2.0**
	baz=227							
MHTCO	**State Highway**	**21.37**	**346**	*e*P		**P**	**05 44 29.8**	**+2.6**
S38A	**Stockton**	**21.40**	**9**	P		**P**	**05 44 26.8**	**-0.4**
	baz=191							
T42A	**Van Buren**	**21.40**	**16**	P		**P**	**05 44 26.6**	**-0.6**
	baz=199,SNR=8.3							
GOGA	**Godfrey**	**21.43**	**35**	P		**P**	**05 44 25.6**	**-2.0**
	baz=222,SNR=6.6							
GOGA	**Godfrey**	**21.43**	**35**	*e*P		**P**	**05 44 27.0**	**-0.5**
PARMO	**Parma**	**21.44**	**19**	*e*P		**P**	**05 44 29.3**	**+1.7**
V47A	**Nunnelly**	**21.47**	**24**	P		**P**	**05 44 27.0**	**-0.9**
	baz=209							
X16A	**Lo Mia Camp, P**	**21.49**	**329**	*e*P		**P**	**05 44 30.5**	**+2.2**
S39A	**Bolivar**	**21.55**	**10**	P		**P**	**05 44 28.9**	**0.0**
	baz=193							
WVT	**Waverly**	**21.61**	**23**	P		**P**	**05 44 28.4**	**-1.1**
	baz=208							
WVT	**Waverly**	**21.61**	**23**	*e*P		**P**	**05 44 28.1**	**-1.4**
SWET	**Sewanee**	**21.62**	**28**	*e*P		**P**	**05 44 29.5**	**-0.1**
S40A	**Lebanon**	**21.62**	**12**	P		**P**	**05 44 28.4**	**-1.2**
	baz=195,SNR=11							
T43A	**Greenville**	**21.67**	**17**	P		**P**	**05 44 29.1**	**-1.0**
	baz=201							
V48A	**Smith Brothers**	**21.67**	**26**	P		**P**	**05 44 29.0**	**-1.1**
	baz=211							
S41A	**Jillco Farms,**	**21.77**	**14**	P		**P**	**05 44 30.3**	**-0.9**
	baz=197							
Y14A	**Wickenburg**	**21.93**	**325**	*e*P		**P**	**05 44 34.8**	**+1.8**
R38A	**Fenwick Farm,**	**21.94**	**9**	P		**P**	**05 44 32.2**	**-0.8**
	baz=191							
U47A	**Clarksville**	**22.09**	**24**	P		**P**	**05 44 32.8**	**-1.8**
	baz=209							
SDCO	**Great Sand Dun**	**22.16**	**344**	P		**P**	**05 44 36.6**	**+0.9**
	baz=162							
SDCO	**Great Sand Dun**	**22.16**	**344**	*e*P		**P**	**05 44 36.3**	**+0.7**
S42A	**Caledonia**	**22.18**	**16**	P		**P**	**05 44 34.5**	**-1.1**
	baz=199,SNR=11							
R39A	**Chumby, Stover**	**22.21**	**11**	P		**P**	**05 44 35.0**	**-0.8**
	baz=193,SNR=5.6							
CBKS	**Cedar Bluff**	**22.30**	**357**	P		**P**	**05 44 37.0**	**+0.2**
	baz=176							
CBKS	**Cedar Bluff**	**22.30**	**357**	*e*P		**P**	**05 44 38.4**	**+1.5**
R40A	**Maddies Statio**	**22.33**	**12**	P		**P**	**05 44 37.7**	**+0.5**
	baz=195,SNR=8.3							
CCM	**Cathedral Cave**	**22.34**	**14**	P		**P**	**05 44 36.7**	**-0.5**
	baz=198							
CCM	**Cathedral Cave**	**22.34**	**14**	*e*P		**P**	**05 44 37.7**	**+0.5**
WUAZ	**Wupatki**	**22.34**	**331**	P		**P**	**05 44 39.4**	**+1.9**
	baz=145							
WUAZ	**Wupatki**	**22.34**	**331**	*e*P		**P**	**05 44 39.5**	**+2.0**
T46A	**Princeton**	**22.40**	**22**	P		**P**	**05 44 36.8**	**-1.1**
	baz=207							
U48A	**Cassie Pea, Po**	**22.45**	**25**	P		**P**	**05 44 37.4**	**-1.1**
	baz=210							
CPCT	**Cooper Cave**	**22.47**	**30**	*e*P		**P**	**05 44 38.4**	**-0.3**
FVM	**French Village**	**22.47**	**16**	*e*P		**P**	**05 44 39.2**	**+0.5**
S22A	**4UR Ranch, Cre**	**22.53**	**342**	P		**P**	**05 44 40.5**	**+0.9**
	baz=158,SNR=5.7							
S22A	**4UR Ranch, Cre**	**22.53**	**342**	*e*P		**P**	**05 44 40.8**	**+1.2**
R41A	**Rosebud**	**22.53**	**14**	P		**P**	**05 44 39.7**	**+0.4**
	baz=197							
S44A	**Carbondale**	**22.54**	**19**	P		**P**	**05 44 39.6**	**+0.2**
	baz=203							
Q37A	**Longview Farm,**	**22.55**	**8**	P		**P**	**05 44 39.8**	**+0.3**
	baz=190							
SIUC	**Southern Illin**	**22.57**	**19**	*e*P		**P**	**05 44 39.8**	**+0.1**
KSU1	**Kansas State U**	**22.58**	**3**	P		**P**	**05 44 39.9**	**+0.1**
	baz=184							
MVCO	**Mesa Verde**	**22.59**	**338**	P		**P**	**05 44 41.3**	**+1.0**
	baz=154							
MVCO	**Mesa Verde**	**22.59**	**338**	*e*P		**P**	**05 44 41.3**	**+1.0**
T47A	**Sharon Grove**	**22.64**	**23**	P		**P**	**05 44 40.2**	**-0.3**
	baz=208,SNR=7.5							
R42A	**Luebbering**	**22.66**	**15**	P		**P**	**05 44 39.9**	**-0.8**
	baz=199							
HODGE	**Hodges**	**22.71**	**36**	*e*P		**P**	**05 44 39.7**	**-1.6**
S45A	**Carrier Mills**	**22.74**	**20**	P		**P**	**05 44 40.8**	**-0.7**
	baz=204							
Q38A	**Cooks Store, C**	**22.75**	**9**	P		**P**	**05 44 41.1**	**-0.5**
	baz=192							
KSCO	**Kaye Shedlock'**	**22.79**	**351**	P		**P**	**05 44 42.5**	**+0.3**
	baz=169							
KSCO	**Kaye Shedlock'**	**22.79**	**351**	*e*P		**P**	**05 44 42.5**	**+0.3**
PDMCI	**Parker Dam,Lak**	**22.84**	**324**	P		**P**	**05 44 43.9**	**+1.3**
	baz=138							
R43A	**Red Bud**	**22.88**	**17**	P		**P**	**05 44 42.8**	**-0.3**
	baz=201							
BG3	**Lake Jocassee**	**22.91**	**34**	*e*P		**P**	**05 44 43.6**	**+0.2**
Q39A	**Willow Grove F**	**22.93**	**10**	P		**P**	**05 44 43.2**	**-0.3**
	baz=193							
TKL	**Tuckaleechee C**	**23.00**	**31**	P		**P**	**05 44 44.6**	**+0.3**
	3.4nm,0.8s,baz=190,slow=16,SNR=4.0							
TKL				LR		LR	05 57 30.7	
	comp=Z,42nm,19.1s,baz=192,slow=46							
TKL	**Tuckaleechee C**	**23.00**	**31**	*e*P		**P**	**05 44 44.6**	**+0.3**
TKL				*e*P		**sP**	**05 44 50.4**	**-0.6**
T48A	**Bowling Green**	**23.03**	**25**	P		**P**	**05 44 42.7**	**-1.8**
	baz=210							
Q40A	**Laux Farm, Aux**	**23.05**	**12**	P		**P**	**05 44 44.3**	**-0.5**
	baz=195							
R44A	**Waltonville**	**23.10**	**18**	P		**P**	**05 44 44.7**	**-0.5**
	baz=203							
BC3	**Big Chuckawall**	**23.15**	**321**	P		**P**	**05 44 47.0**	**+1.0**
	baz=134							
Q41A	**Luxton**	**23.19**	**14**	P		**P**	**05 44 45.8**	**-0.4**
	baz=197,SNR=5.4							
Q24A	**Divide**	**23.23**	**346**	*e*P		**P**	**05 44 48.6**	**+1.6**
P37A	**Lathrop**	**23.26**	**7**	P		**P**	**05 44 46.2**	**-0.7**
	baz=190							
W13A	**Hualapai Mount**	**23.28**	**326**	*e*P		**P**	**05 44 50.0**	**+2.6**
USIN	**University of**	**23.31**	**21**	*e*P		**P**	**05 44 47.7**	**+0.4**
Q42A	**Golden Eagle**	**23.32**	**15**	P		**P**	**05 44 47.0**	**-0.5**
	baz=199							
JSC	**Jenkinsville**	**23.32**	**37**	*e*P		**P**	**05 44 47.3**	**-0.2**
R45A	**Skylar, Fairfi**	**23.39**	**20**	P		**P**	**05 44 46.9**	**-1.3**
	baz=204							
P39B	**Salisbury**	**23.40**	**11**	P		**P**	**05 44 47.6**	**-0.7**
	baz=193							
P38A	**Dawn**	**23.41**	**9**	P		**P**	**05 44 48.1**	**-0.3**
	baz=191							
PV01	**Paradox Valley**	**23.45**	**339**	*e*P		**P**	**05 44 50.1**	**+1.1**
U15A	**North Rim**	**23.51**	**330**	*e*P		**P**	**05 44 52.2**	**+2.4**
O33A	**Hebron**	**23.52**	**1**	P		**P**	**05 44 48.8**	**-0.7**
	baz=182							
Q43A	**New Douglas**	**23.57**	**17**	P		**P**	**05 44 48.9**	**-1.1**
	baz=201							
S48A	**Wiedeman Farm,**	**23.64**	**24**	P		**P**	**05 44 48.4**	**-2.2**
	baz=210							
O34A	**Beatrice**	**23.65**	**3**	P		**P**	**05 44 50.4**	**-0.4**
	baz=184,SNR=6.5							
Q44A	**Meyer Farm, Va**	**23.73**	**18**	P		**P**	**05 44 50.1**	**-1.4**
	baz=202							
PFO	**Pinyon Flats O**	**23.74**	**319**	P		**P**	**05 44 53.0**	**+1.2**
	baz=132							
O35A	**Humboldt**	**23.78**	**4**	P		**P**	**05 44 52.0**	**-0.1**
	baz=186							
O37A	**Wolven Farm, M**	**23.86**	**8**	P		**P**	**05 44 52.1**	**-0.6**
	baz=190							
CRY	**Cary Ranch**	**23.88**	**319**	*e*PcP		**PcP**	**05 48 37.7**	**+1.7**
KMSC	**Kings Mountain**	**23.90**	**36**	P		**P**	**05 44 51.4**	**-1.7**
	baz=223							
SMCO	**Snowmass**	**23.90**	**343**	*e*P		**P**	**05 44 51.0**	**-2.6**
	20nm,1.3s							
O38A	**Galt**	**23.90**	**9**	P		**P**	**05 44 52.4**	**-0.8**
	baz=191							
P41A	**Barry, Barry**	**23.92**	**14**	P		**P**	**05 44 51.8**	**-1.5**
	baz=197							
PV09	**Paradox Valley**	**23.97**	**338**	*e*P		**P**	**05 44 55.1**	**+0.9**
Q45A	**Warren Harvey,**	**23.98**	**19**	P		**P**	**05 44 52.7**	**-1.2**
	baz=204							
P42A	**Winchester**	**24.00**	**15**	P		**P**	**05 44 53.

SOTA	Rioblanco	25.54	122	*e*P		P	05 45 12.3	+3.4
N43A	Stutzman Famil	25.58	16	P		P	05 45 07.8	-0.6
	baz=200							
PCON	Cinco Dias	25.60	121	*e*P		P	05 45 10.3	+0.8
L33A	Hoskins	25.61	1	P		P	05 45 08.5	-0.2
	baz=182							
L35A	Bielow Farm, R	25.64	4	P		P	05 45 08.7	-0.3
	baz=186							
M41A	Milan	25.66	13	P		P	05 45 08.8	-0.3
	baz=197							
SFIN	Lafayette	25.67	20	P		P	05 45 08.1	-1.2
	baz=205							
SDDR	Presa de Saban	25.69	80	*e*P		P	05 45 10.8	+1.0
SCIA	State Center	25.69	8	P		P	05 45 09.3	-0.2
	baz=191							
SCIA	State Center	25.69	8	*e*P		P	05 45 09.5	+0.1
L36A	Harm Buss Farm	25.71	6	P		P	05 45 09.4	-0.2
	baz=188							
BLG	Laguna Peak, P	25.72	317	P		P	05 45 11.6	+1.7
	baz=129							
N44A	Piper City	25.73	18	P		P	05 45 08.9	-1.0
	baz=203							
O47A	Sheridan	25.85	21	P		P	05 45 10.2	-0.7
	baz=207							
M42A	Sheffield	25.92	15	P		P	05 45 11.0	-0.5
	baz=199							
BLA	Blacksburg	25.92	34	P		P	05 45 09.5	-2.2
	baz=222							
BLA	Blacksburg	25.92	34	*e*P		P	05 45 13.6	+1.9
L38A	Oak Wood Farm,	25.96	9	P		P	05 45 11.8	-0.1
	baz=192							
N45A	Kentland	25.97	19	P		P	05 45 10.6	-1.4
	baz=204							
CNNC	Cliffs of the	26.00	40	*e*P		P	05 45 12.5	+0.2
L39A	Vinton	26.09	10	P		P	05 45 12.9	-0.2
	baz=194							
M43A	Waltham Townsh	26.10	16	P		P	05 45 12.4	-0.7
	baz=200							
K34A	Le Mars	26.18	3	P		P	05 45 14.1	+0.2
	baz=185							
L40A	Anamosa	26.18	12	P		P	05 45 13.6	-0.3
	baz=195							
MPU	Maple Canyon	26.23	336	*e*P		P	05 45 16.4	+1.8
K36A	Gilmore City	26.26	6	P		P	05 45 14.2	-0.4
	baz=188							
K35A	Storm Lake	26.27	5	P		P	05 45 14.1	-0.6
	baz=187							
M44A	Midewin, Midew	26.31	17	P		P	05 45 14.2	-0.8
	baz=202							
RWWY	Rawlins	26.31	345	*e*P		P	05 45 16.5	+1.1
L41A	Preston	26.34	13	P		P	05 45 14.7	-0.7
	baz=197							
L42A	Oliver, Polo	26.46	14	P		P	05 45 15.7	-0.8
	baz=199							
PAMC	Pamplona, Colo	26.47	107	*e*P		P	05 45 16.3	-1.0
K37A	Belmond	26.48	7	P		P	05 45 15.7	-0.9
	baz=190,SNR=6.1							
K38A	Parkersburg	26.48	9	P		P	05 45 16.0	-0.6
	baz=192							
K39A	Oelwein	26.68	10	P		P	05 45 17.6	-0.8
	baz=194							
CHIC	Chingaza	26.68	113	*e*P		P	05 45 26.2	+7.1
PKM	Mcpherson Peak	26.69	317	P		P	05 45 19.0	+0.2
	baz=129							
RUSC	La Rusia	26.70	110	*e*P		P	05 45 18.9	-0.5
J32A	Parkston	26.81	0	P		P	05 45 19.4	-0.1
	baz=181							
J35A	Milford	26.91	5	P		P	05 45 19.6	-1.0
	baz=186							
J36A	Seneca 1, Swea	26.96	6	P		P	05 45 19.6	-1.3
	baz=188,SNR=7.0							
J37A	Redenius Farm,	27.03	7	P		P	05 45 20.5	-1.1
	baz=190							
K22A	Casper	27.05	346	P		P	05 45 21.3	-0.7
	baz=163,SNR=6.2							
K22A	Casper	27.05	346	*e*P		P	05 45 23.0	+1.1
ACSO	Alum Creek Sta	27.08	26	P		P	05 45 20.2	-1.8
	baz=213							
TCUT	Toone Canyon	27.10	338	*e*P		P	05 45 26.9	+4.4
	31nm,1.4s							
J38A	Wedel Dairy, R	27.18	9	P		P	05 45 21.9	-1.1
	baz=192							
JFWS	Jewell Farm	27.20	13	P		P	05 45 22.1	-0.9
	baz=197							
ECSD	EROS Data Cent	27.20	2	P		P	05 45 22.0	-1.1
	baz=184							
K42A	Prairie Point,	27.27	14	P		P	05 45 22.1	-1.6
	baz=199							
I35A	Creekview Farm	27.42	5	P		P	05 45 24.5	-0.6
	baz=187							
I32A	Karley and Nic	27.47	1	P		P	05 45 24.7	-0.8
	baz=182							
I36A	Fitzsimmons Fa	27.67	6	P		P	05 45 26.6	-0.7
	baz=189							
J41A	Loganville	27.68	13	P		P	05 45 26.2	-1.1
	baz=197							
I37A	Lemond, Waseca	27.74	7	P		P	05 45 26.8	-1.1
	baz=190							
J42A	Columbus	27.83	14	P		P	05 45 27.8	-1.0
	baz=199							
SDV	Santo Domingo	27.85	102	P		P	05 45 30.3	+0.9
	8.0nm,0.7s,baz=292,slow=5.2,SNR=12							
SDV				LR		LR	05 58 13.1	
	comp=Z,66nm,18.8s,baz=310,slow=40							
SDV	Santo Domingo	27.85	102	*e*P		P	05 45 30.1	+0.7
I39A	Houston	27.86	10	P		P	05 45 28.1	-0.9
	baz=194							
I38A	Scanlan Farm,	27.91	9	P		P	05 45 28.8	-0.7
	baz=192							
H32A	Carlson Farm,	27.94	1	P		P	05 45 29.2	-0.6
	baz=182							
PDAR	Pinedale Array	27.96	342	LR		LR	05 57 46.6	
	comp=Z,278nm,18.8s,baz=170,slow=39							
J43A	Natural Harves	28.06	15	P		P	05 45 29.8	-1.0
	baz=200							
NVAR	Mina Array Bea	28.13	325	LR		LR	05 58 27.5	
	comp=Z,192nm,18.1s,baz=274,slow=40							
H34A	Spellman Lake,	28.17	4	P		P	05 45 31.5	-0.3
	baz=185							
H36A	Jessenland, He	28.23	6	P		P	05 45 31.8	-0.5
	baz=189							
H35A	Sunnyside Ranc	28.27	5	P		P	05 45 31.9	-0.7
	baz=187							
ELK	Elko	28.35	332	LR		LR	05 56 47.3	
	comp=Z,120nm,19.7s,baz=226,slow=36							
I41A	Arkdale	28.37	13	P		P	05 45 32.3	-1.2
	baz=197							
G33A	Ortonville	28.66	3	P		P	05 45 35.4	-0.7
	baz=184							
H40A	Chili	28.81	12	P		P	05 45 36.0	-1.4
	baz=196							
H41A	Junction City	28.95	13	P		P	05 45 37.9	-0.8
	baz=197							
LOHW	Long Hollow	29.05	341	*e*P		P	05 45 43.1	+3.3
	8.5nm,1.0s							
F33A	5 Mile Ranch,	29.31	3	P		P	05 45 41.2	-0.7
	baz=184							
F35A	Swanville	29.44	5	P		P	05 45 42.8	-0.2
	baz=187							
F37A	Hinrichs Farm,	29.52	8	P		P	05 45 43.5	-0.3
	baz=191							
F36A	Milaca	29.55	7	P		P	05 45 42.8	-1.1
	baz=189							
YMS	Mount Sheridan	29.61	342	*e*P		P	05 45 44.7	-0.3
YMS				*e*S		S	05 50 40.9	+0.9
H17A	Grant Village	29.75	342	*e*P		P	05 45 45.9	-0.2
	11nm,1.2s							
RLMT	Red Lodge	30.05	344	*e*P		P	05 45 45.2	-3.5
	16nm,1.1s							
F40A	Park Falls	30.11	11	P		P	05 45 48.1	-0.8
	baz=196							
SJG	San Juan	30.57	82	LR		LR	05 59 28.7	
	comp=Z,99nm,20.4s,baz=284,slow=39							
C31A	Landman Farms,	31.23	1	P		P	05 45 57.8	-1.0
	baz=181							
MDND	Maddock	31.30	358	P		P	05 45 59.3	-0.2
	baz=178							
C36A	Pine Crest Far	31.50	7	P		P	05 46 00.7	-0.5
	baz=190							
AGMN	Agassiz Nation	31.79	3	P		P	05 46 02.7	-1.0
	baz=184							
AGMN	Agassiz Nation	31.79	3	*e*P		P	05 46 03.4	-0.4
AGMN				*e*pP		pP	05 46 08.4	-0.3
B32A	Ashes, Strandq	31.86	2	P		P	05 46 03.5	-0.8
	baz=183							
A32A	Rocking H Ranc	32.38	2	P		P	05 46 08.6	-0.3
	baz=183							
YBH	Yreka Blue Hor	32.85	325	LR		LR	06 01 38.4	
	comp=Z,170nm,20.8s,baz=155,slow=40							
K04D	Chiloquin, OR	32.96	327	P		P	05 46 14.9	+0.6
	baz=136							
J05D	Fort Rock, OR	33.17	328	P		P	05 46 17.0	+0.9
	baz=137							
ULM	Lac du Bonnet	33.73	3	P		P	05 46 20.2	-0.6
	2.7nm,0.8s,baz=197,slow=11,SNR=3.8							
NNA	Nana	35.26	142	LR		LR	05 58 09.8	
	comp=Z,92nm,18.7s,baz=307,slow=32							
FCC	Fort Churchill	42.32	3	*e*P		P	05 47 33.0	0.0
LPAZ	La Paz	44.00	136	LR		LR	06 05 08.4	
	comp=Z,74nm,19.2s,baz=295,slow=35							
SCHQ	Schefferville	45.23	25	P		P	05 47 55.6	-1.0
	7.3nm,1.1s,baz=226,slow=9.7,SNR=4.4							
YKA	Yellowknife Ar	47.40	350	P		P	05 48 12.5	-0.8
	0.6nm,0.7s,baz=158,slow=6.4,SNR=2.5							
YKA				LR		LR	06 09 42.7	
	comp=Z,13nm,21.1s,baz=180,slow=38							
INK	Inuvik	56.46	345	P		P	05 49 20.7	-0.1
	1.8nm,0.8s,baz=127,slow=6.7,SNR=4.5							
ILAR	Eielson Array	58.27	338	P		P	05 49 33.9	+0.1
	0.6nm,0.8s,baz=138,slow=5.5,SNR=5.4							
ILAR				LR		LR	06 16 53.0	
	comp=Z,230nm,18.1s,baz=127,slow=38							
TOLK	Toolik Lake Re	61.22	341	P		P	05 49 53.8	-0.2
	baz=121							
PLCA	Paso Flores	62.42	157	P		P	05 50 00.8	-1.7
	2.3nm,0.9s,baz=337,slow=8.6,SNR=3.4							
PLCA				LR		LR	06 10 31.0	
	comp=Z,89nm,21.9s,baz=252,slow=30							
DAG	Danmarks Havn	71.66	14	*i* P		P	05 50 58.8	-1.8
	1.9nm,0.7s							
DAG				*i*			05 51 05.8	
BBTS	Babate	78.08	78	LR		LR	06 21 47.3	
	comp=Z,46nm,21.3s,baz=265,slow=32							
KOWA	Kowa	89.81	75	LR		LR	06 30 38.1	
	comp=Z,40nm,18.3s,baz=218,slow=34							
HHC	Hu-ho-hao-te	116.65	335	*e*PKP		PKPdf	05 58 26.0	+1.9
HHC				PP		PP	05 59 36.8	+6.3
HHC				SKS		SKSdf	06 05 34.5	-1.4
HHC	Hu-ho-hao-te	116.65	335	SS		SS	06 15 46.3	+11
NJ2	Nanjing	120.12	324	*e*P		PKPdf	05 58 32.8	+2.0
LZH	Lanzhou	123.73	339	*e*PKP		PKPdf	05 58 34.8	-3.1
LZH				pPKP		sPKPdf	05 58 58.0	+13
LZH				sPKP			05 58 59.3	
KSH	Kashi	124.03	5	*e*PKP		PKPdf	05 58 40.3	+2.0
KSH				PP		PP	06 00 28.8	+8.0
CD2	Chengdu	128.39	336	PKP		PKPdf	05 58 47.0	+0.2

IDC ***28*** *05:40:58.1±1.4,35°.55S×72°.89W,h0km,mb3.9/5, mb1 4.0/7,mb1mx3.7/39,mbtmp3.8/7,ML3.8/2,Error ellipse: s-maj=45.5km s-min=18.2km az=80.0*

GUC ***28*** *05:41:01.2±0.5,35°.59S×72°.76W,h14km±3km,ML4.1*

ISC 28 05:40:58.9±2.0,35°.48S±0°.05×72°.85W±0°.08,h3km±13km, n18,σ1°45/25,mb3.8/5,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
COCH	Cobquecura	0.65	176	*e*P			Pg	05 41 12.2	+0.8
COCH				*i* S			Sg	05 41 20.1	+0.3
GO05	HualaæØ	0.89	58	*i* P			Pn	05 41 18.6	+0.3
GO05				*i* S			Sn	05 41 31.9	+0.2
GO05				IAML				05 41 34.3	
	comp=E,12μm,0.4s								
CCHI	Chillan	1.28	151	*e*P			Pg	05 41 23.4	-0.1
CCHI				*i* S			Sg	05 41 39.3	-0.9
CCHI				IAML				05 41 45.7	
	comp=N,3μm,0.7s								
LMEL	Las Melosas	2.72	54	*e*P			Pb	05 41 47.4	-0.9
LMEL				*e*S			Sb	05 42 22.3	+0.2
LMEL				IAML				05 42 32.8	
	comp=N,1μm,0.8s								
CANA	Caviahue	2.80	150	*i* P			Pn	05 41 47.1	+2.4
CANA				*i* S			Sg	05 42 28.1	-0.8
CANA				IAML				05 42 42.5	
	comp=N,329nm,0.7s								
CLCH	Cerro Calan	2.82	43	*e*P			Pb	05 41 49.5	-0.5
CLCH				*i* S			Sb	05 42 25.6	+0.6
CLCH				IAML				05 42 37.1	
	comp=N,2μm,0.5s								
ROC1	El Roble	2.92	32	*i* P			Pn	05 41 48.5	+2.0
PEL	Peldehue	2.94	38	*e*P			Pn	05 41 48.2	+1.7
RFA	San Rafael	3.66	80	*i* P			Pb	05 42 03.8	-0.5
RFA				*i* S			Sg	05 42 58.4	+1.9
AAGR	Agrelo	4.10	55	*i* P			Pb	05 42 08.7	-3.1
ARCO	CERRO ARCO	4.18	52	*i* P			Pb	05 42 09.6	-3.5
ARCO				IAML				05 43 28.3	
	comp=Z,54nm,0.6s								
PLCA	Paso Flores	5.55	162	Pn			Pn	05 42 23.2	+0.8
	comp=Z,0.6nm,0.3s,baz=352,slow=12,SNR=14								
PLCA				Lg			Lg	05 43 50.9	
	comp=Z,0.6nm,0.3s,baz=280,slow=23,SNR=5.4								
LPAZ	La Paz	19.57	14	P			Pn	05 45 30.6	+0.7
	comp=Z,0.2nm,0.3s,baz=195,slow=5.3,SNR=8.6								
SIV	San Ignacio	22.08	31	P			P	05 45 54.8	-0.4
	comp=Z,1.2nm,0.5s,baz=219,slow=11,SNR=12								
SNAA	Sanae	50.48	157	P			P	05 49 56.8	-0.9
	comp=Z,1.6nm,0.9s,baz=309,slow=9.0,SNR=4.3								
TXAR	Lajitas Array	70.71	332	P			P	05 52 15.9	-0.3
	comp=Z,0.2nm,0.5s,baz=147,slow=8.6,SNR=4.4								
KOWA	Kowa	81.85	66	P			P	05 53 20.0	+0.2
	comp=Z,2.7nm,0.6s,baz=238,slow=3.1,SNR=9.1								
TORD	Torodi Ar. Bea	85.34	70	P			P	05 53 37.5	-0.2
	comp=Z,0.7nm,1.0s,baz=224,slow=4.9,SNR=2.8								

IDC ***28*** *05:42:21.9±0.7,43°.60N×127°.44W,h0km,mb4.1/20, mb1 4.2/25,mb1mx4.1/75,mbtmp4.0/25,ML3.7/4,MS3.7/24, Ms1 3.7/24,ms1mx3.4/63,Error ellipse: s-maj=19.7km s-min=10.3km az=38.0*

ISCJB ***28*** *05:42:24.0±0.2,43°.59N±0°.02×127°.41W±0°.03,h15km, mb4.3/58,MS3.7/22,Error ellipse: s-maj=3.2km s-min=2.3km az=143.3*

NEIC ***28*** *05:42:24.8±0.3,43°.61N×127°.52W,h10km,mb4.4/39, Error ellipse: s-maj=4.0km s-min=2.5km az=56.0*

MOS ***28*** *05:42:24.5±1.4,43°.57N×127°.47W,h23km,mb4.7/23, Error ellipse: s-maj=6.9km s-min=5.4km az=124.2*

ISC 28 05:42:25.0±0.4,43°.55N±0°.05×127°.54W±0°.05,h15km, n327,σ1°45/318,mb4.4/59,MS3.8/22,11C,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
KEBM	Edson Butte	2.44	105	*e*Pn			Pn	05 43 00.5	-3.8
I03D	Drain, OR	3.05	86	P			Pn	05 43 09.9	-2.7
	baz=270,SNR=162								
I03D				S			Sn	05 43 46.5	-2.3
	baz=270								
UMPQ	Umpqua Communi	3.08	93	*e*Sn			Sb	05 43 58.9	+2.1
DBO	Dodson Butte	3.17	96	*e*Pn			Pn	05 43 09.8	-4.5
L02D	Cave Junction,	3.21	114	P			Pn	05 43 12.2	-2.7
	baz=298								
COR	Corvallis	3.23	70	P			Pn	05 43 13.5	-1.5
COR				pmax			pmax		
	comp=Z,109nm,1.7s								
COR	Corvallis	3.23	70	*e*Pn			Pn	05 43 13.5	-1.5
HSO	Harness Mounta	3.24	89	*e*P			Pn	05 43 13.3	-2.0
HSO	Harness Mounta	3.24	89	*e*Pn			Pn	05 43 13.3	-2.0
HUMO	Hull Mountain	3.49	104	*e*Pn			Pn	05 43 17.1	-1.6
G03D	McMinnville, O	3.49	60	P			Pn	05 43 17.0	-1.7
	baz=244,SNR=67								
G03D				S			Sn	05 43 58.8	-0.9
	baz=244								
KMOR	Kings Mountain	3.57	53	*e*Pn			Pn	05 43 18.3	-1.5
F03A	Seaside	3.70	49	*e*Pn			Pn	05 43 20.4	-1.2
I04A	Tendick Farm,	3.73	84	P			Pn	05 43 20.0	-2.1
	baz=269,SNR=25								
J04D	Umpqua Nationa	3.97	93	P			Pn	05 43 24.0	-1.5
	baz=277,SNR=7.4								
G04A	Mulino	3.99	64	*e*Pn			Pn	05 43 25.1	-0.5
YBH	Yreka Blue Hor	4.00	115	Pn			Pn	05 43 24.1	-1.7
	comp=Z,1.2nm,0.3s,baz=286,slow=13,SNR=30								
YBH				LR			LR	05 44 51.3	
	comp=Z,389nm,21.5s,baz=260,slow=38								
YBH	Yreka Blue Hor	4.00	115	*e*P			Pn	05 43 24.8	-1.0
YBH	Yreka Blue Hor	4.00	115	*e*Pn			Pn	05 43 24.8	-1.0
H04A	Detroit Lake	4.02	72	*e*Pn			Pn	05 43 24.7	-1.3
B023	Clatskanie	4.08	50	*e*Pn			Pn	05 43 25.5	-1.3
F04D	Rainier, OR	4.10	50	P			Pn	05 43 25.5	-1.6
	baz=234,SNR=7.9								
F04D				S			Sn	05 44 13.7	-1.1
	baz=234								
E03A	Lebam	4.11	42	*e*Pn			Pn	05 43 26.3	-1.0
WIFE	Three Sisters-	4.17	81	*e*Pn			Pn	05 43 27.3	-1.0
BMW	Boistfort Moun	4.23	45	*e*P			Pn	05 43 27.9	-1.1
BMW	Boistfort Moun	4.23	45	*e*Pn			Pn	05 43 27.9	-1.1
K04D	Chiloquin, OR	4.34	100	P			Pn	05 43 28.4	-2.1
	baz=285,SNR=5.3								
KMRM	Mail Ridge	4.38	138	*e*Pn			Pn	05 43 31.9	+0.8
LVP	Lakeview Peak	4.44	54	*e*Pn			Pn	05 43 31.5	-0.3
TDH	Tom, Dick, Har	4.47	65	*e*Pn			Pn	05 43 31.7	-0.5
MTMW	Mount Mitchell	4.53	55	*e*Pn			Pn	05 43 32.7	-0.4
I05D	Terrebonne, OR	4.55	78	P			Pn	05 43 31.8	-1.5
	baz=263,SNR=16								
ERK	Elk Rock	4.61	51	*e*Pn			Pn	05 43 34.1	-0.1
JLK	June Lake	4.63	54	*e*Pn			Pn	05 43 34.2	-0.2
NLWA	Neilton Lookou	4.63	33	*e*Pn			Pn	05 43 33.8	-0.6
VALT	Mount Saint He	4.64	53	*e*Pn			Pn	05 43 34.6	-0.1
B201	Coldwater, Mou	4.65	52	*e*Pn			Pn	05 43 34.3	-0.4
SOSW	Source of Smit	4.69	53	*e*Pn			Pn	05 43 35.5	+0.1
TDL	Tradedollar La	4.71	52	*e*Pn			Pn	05 43 35.4	-0.1
WDC	Whiskeytown Da	4.76	127	*e*P			Pn	05 43 36.9	+0.7
WDC	Whiskeytown Da	4.76	127	*e*Pn			Pn	05 43 36.9	+0.7
G05D	Wamic, OR	4.77	67	P			Pn	05 43 35.3	-1.1
	baz=252,SNR=55								
PINE	Pine Mountain	4.79	85	*e*Pn			Pn	05 43 28.8	-8.0
PINE				*e*				05 43 35.6	
B941	Kapowsin	5.09	46	*e*Pn			Pn	05 43 40.1	-0.5
LON	Longmire	5.17	50	*e*Pn			Pn	05 43 41.7	0.0
HDW	Hoodsport	5.17	36	*e*Pn			Pn	05 43 41.2	-0.6
GLK	Glacier Lake	5.17	52	*e*Pn			Pn	05 43 42.3	+0.4
GMW	Gold Mountain	5.21	38	*e*P			Pn	05 43 41.4	-1.0
GMW	Gold Mountain	5.21	38	*e*Pn			Pn	05 43 41.4	-1.0
G06A	Carlson Farm,	5.23	69	*e*Pn			Pn	05 43 41.4	-1.2
WPW	White Pass	5.28	51	*e*Pn			Pn	05 43 43.4	0.0
PANH	Panhandle Gap,	5.32	49	*e*Pn			Pn	05 43 44.0	-0.1
D05A	Enumclaw	5.34	45	*e*Pn			Pn	05 43 44.2	0.0
FMW	Mount Fremont	5.35	49	*e*Pn			Pn	05 43 44.3	-0.1
MOD	Modoc Plateau	5.58	105	*e*Pn			Pn	05 43 47.9	+0.4
TRW	Toppenish Rdg	5.67	59	*e*Pn			Pn	05 43 48.9	+0.1
C05A	Tolt Reservoir	5.83	43	*e*Pn			Pn	05 43 51.2	+0.3
I07A	Izee	5.84	82	*e*Pn			Pn	05 43 50.1	-1.0
PGC	Sidney	5.84	28	*e*Pn			Pn	05 43 50.3	-0.7
HTW	Haystack Looko	5.87	42	*e*Pn			Pn	05 43 51.5	0.0
F07A	Phinny Hill Vi	5.91	64	*e*Pn			Pn	05 43 51.2	-0.7
EBG	Ellensburg	5.96	53	*e*Pn			Pn	05 43 53.0	+0.2
ORV	Oroville	6.04	129	*e*P			Pn	05 43 55.3	+1.6
ORV	Oroville	6.04	129	*e*Pn			Pn	05 43 55.3	+1.6
B05A	Bryant	6.05	37	P			Pn	05 43 53.3	-0.6
	baz=221								
B05A				S			Sn	05 45 03.1	+0.2
	baz=221								
JCW	Jim Creek	6.08	38	*e*Pn			Pn	05 43 54.2	-0.1
LTY	Liberty	6.09	50	*e*Pn			Pn	05 43 54.5	0.0
A04D	Lummi Island	6.17	31	P			Pn	05 43 55.3	-0.1
	baz=215,SNR=5.2								
A04D				S			Sn	05 45 05.2	-0.4
	baz=215								
E07A	Sunnyside	6.22	58	*e*Pn			Pn	05 43 56.4	+0.2
HAWA	Hanford	6.35	61	*e*Pn			Pn	05 43 57.5	-0.5
G08A	Pilot Rock	6.39	71	*e*Pn			Pn	05 43 57.8	-0.9
BEKR	Beckworth	6.51	122	*e*Pn			Pn	05 44 02.0	+1.6
B06A	Marblemount	6.52	38	*e*Pn			Pn	05 43 59.8	-0.5
MBW	Mount Baker	6.54	35	*e*Pn			Pn	05 44 01.9	+1.2
J08A	Circle Bar Ran	6.60	89	*e*Pn			Pn	05 44 00.9	-0.7
WVOR	Wild Horse Val	6.62	97	*e*P			Pn	05 43 59.7	-2.2
WVOR	Wild Horse Val	6.62	97	*e*Pn			Pn	05 43 59.7	-2.2
E08A	Dider Farm, El	6.69	61	*e*Pn			Pn	05 44 02.5	-0.2
AFDM	Forest Hills D	6.75	131	*e*Pn			Pn	05 44 05.2	+1.7
D08A	Wollman Farm,	7.02	57	*e*Pn			Pn	05 44 07.1	0.0
BGC	Bolinger Road	7.08	142	*e*Pn			Pn	05 44 13.7	+5.6
PAHR	Pah Rah Range	7.21	119	*e*Pn			Pn	05 44 11.6	+1.5
E09A	Wood Farm, Sta	7.29	63	*e*Pn			Pn	05 44 11.0	+0.2
VCNR	Virginia City	7.29	123	*e*Pn			Pn	05 44 11.6	+0.4
BMO	Blue Mountains	7.47	76	*e*P			Pn	05 44 12.0	-1.5
BMO	Blue Mountains	7.47	76	*e*Pn			Pn	05 44 12.0	-1.5
B08A	Colville Reser	7.47	47	*e*Pn			Pn	05 44 13.8	+0.4
CMB	Columbia Colle	7.73	133	*e*P			Pn	05 44 19.3	+2.3
CMB	Columbia Colle	7.73	133	*e*Pn			Pn	05 44 19.3	+2.3
F10A	Beach Ranch, E	7.73	68	*e*Pn			Pn	05 44 16.0	-1.1
YERR	Yerington	7.74	123	*e*Pn			Pn	05 44 18.1	+0.9
C09A	Chrisman Ranch	7.76	54	*e*Pn			Pn	05 44 17.0	-0.3
C09A				*e*Sn			Sn	05 45 28.8	-16
WAKR	Walker	7.93	127	*e*Pn			Pn	05 44 21.7	+1.8
LLLB	Lillooet	8.05	27	*e*Pn			Pn	05 44 21.9	+0.6
RYN	Ryan	8.40	123	*e*Pn			Pn	05 44 25.3	-1.0
KVN	Kaiserville	8.40	119	*e*P			Pn	05 44 28.3	+1.9
KVN	Kaiserville	8.40	119	*e*Pn			Pn	05 44 28.3	+1.9
MFID	Camas Ranch	8.52	87	*e*

PD31	**Pinedale Array**	**13.16**	**87**	*e*Pn	**Pn**	**05 45 33.2**	**+1.7**
PDAR	**Pinedale Array**	**13.16**	**87**	Pn	**Pn**	**05 45 32.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=276,slow=14,SNR=17						
PDAR	**Pinedale Array**	**13.16**	**87**	*e*P	**Pn**	**05 45 32.0**	**+0.5**
PDAR	**Pinedale Array**	**13.16**	**87**	*e*Pn	**Pn**	**05 45 32.0**	**+0.5**
PLM	**Palomar**	**13.16**	**137**	*e*Sn	**Sn**	**05 47 53.7**	**-4.0**
EDM	**Edmonton**	**13.49**	**39**	*e*P	**P**	**05 45 44.4**	**-0.6**
EDM	**Edmonton**	**13.49**	**39**	*e*Pn	**P**	**05 45 44.4**	**-0.6**
W13A	**Hualapai Mount**	**13.51**	**124**	*e*Pn	**Pn**	**05 45 36.8**	**+0.5**
Y12C	**Blythe**	**14.10**	**130**	*e*Pn	**Pn**	**05 45 44.8**	**+0.7**
PV01	**Paradox Valley**	**15.33**	**104**	*e*Pn	**Pn**	**05 46 01.2**	**+0.2**
W18A	**Petrified Fore**	**16.12**	**115**	*e*Pn	**Pn**	**05 46 11.0**	**-0.2**
	comp=Z,100nm,1.9s						
N23A	**Red Feather La**	**16.21**	**92**	*e*Pn	**Pn**	**05 46 13.0**	**+0.6**
	comp=Z,28nm,1.1s						
X18A	**Snowflake**	**16.34**	**118**	*e*Pn	**Pn**	**05 46 15.0**	**+1.0**
	comp=Z,45nm,1.4s						
SKAG	**Skagway**	**16.64**	**346**	*e*Pn	**P**	**05 46 19.1**	**-0.6**
	comp=Z,40nm,1.5s						
ISCO	**Idaho Springs**	**16.80**	**95**	*e*P	**P**	**05 46 22.2**	**+0.2**
ISCO				pmax	pmax		
	comp=Z,20nm,1.0s						
ISCO	**Idaho Springs**	**16.80**	**95**	*e*Pn	**P**	**05 46 22.2**	**+0.2**
	comp=Z,20nm,1.0s						
RSSD	**Black Hills**	**16.96**	**80**	*e*P	**P**	**05 46 23.1**	**-0.6**
RSSD				pmax	pmax		
	comp=Z,13nm,0.9s						
RSSD	**Black Hills**	**16.96**	**80**	*e*Pn	**P**	**05 46 23.1**	**-0.6**
	comp=Z,13nm,0.9s						
TUC	**Tucson**	**17.30**	**125**	*e*P	**P**	**05 46 27.6**	**+0.2**
TUC				pmax	pmax		
	comp=Z,21nm,1.3s						
TUC	**Tucson**	**17.30**	**125**	*e*Pn	**P**	**05 46 27.6**	**+0.2**
	comp=Z,21nm,1.3s						
Q24A	**Divide**	**17.43**	**98**	*e*Pn	**Pn**	**05 46 27.4**	**-0.5**
	comp=Z,36nm,1.1s						
SDCO	**Great Sand Dun**	**17.68**	**102**	*e*Pn	**Pn**	**05 46 31.3**	**+0.4**
	comp=Z,13nm,1.0s						
LAZ	**Ladron**	**18.27**	**113**	*e*P	**P**	**05 46 41.5**	**+3.3**
HYT	**Haines Junctio**	**18.31**	**344**	*e*Pn	**P**	**05 46 39.1**	**+0.7**
	comp=Z,12nm,1.0s						
ANMO	**Albuquerque**	**18.41**	**111**	P	**P**	**05 46 39.5**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=129,slow=11,SNR=3.7						
ANMO	**Albuquerque**	**18.41**	**111**	*e*P	**Pn**	**05 46 41.0**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ANMO	**Albuquerque**	**18.41**	**111**	*e*P	**Pn**	**05 46 40.8**	**+0.9**
	comp=Z,6.1nm,1.0s						
LPM	**Los Pinos Moun**	**18.66**	**113**	*e*P	**Pn**	**05 46 43.7**	**+0.8**
T25A	**Trinidad**	**18.73**	**102**	*e*P	**Pn**	**05 46 43.6**	**-0.1**
	comp=Z,14nm,1.1s						
BNM	**Barren Site**	**18.76**	**113**	*e*P	**Pn**	**05 46 44.2**	**+0.2**
319A	**Douglas**	**18.87**	**124**	*e*P	**Pn**	**05 46 47.0**	**+1.7**
	comp=Z,22nm,1.0s						
KSCO	**Kaye Shedlock'**	**19.24**	**95**	*e*P	**Pn**	**05 46 49.5**	**-0.2**
	comp=Z,35nm,1.4s						
FFC	**Flin Flon**	**20.00**	**47**	*e*P	**Pn**	**05 46 57.8**	**-0.7**
FFC				pmax	pmax		
	comp=Z,11nm,0.8s						
FFC	**Flin Flon**	**20.00**	**47**	*e*P	**Pn**	**05 46 57.8**	**-0.7**
	comp=Z,11nm,0.8s						
YKA	**Yellowknife Ar**	**20.43**	**17**	P	**P**	**05 47 01.4**	**0.0**
	comp=Z,5.4nm,0.8s,baz=206,slow=11,SNR=46						
YKA				PcP	**PcP**	**05 51 11.7**	**-1.3**
	comp=Z,1.2nm,1.0s,baz=194,slow=2.1,SNR=8.2						
YKA				LR	LR	05 54 52.5	
	comp=Z,27nm,19.9s,baz=180,slow=37						
YKW3	**Yellowknife Ar**	**20.49**	**17**	*e*P	**P**	**05 47 02.3**	**+0.3**
	comp=Z,12nm,0.8s						
MNTX	**Cornudas Mount**	**21.09**	**117**	*e*P	**P**	**05 47 10.5**	**+1.7**
KDAK	**Kodiak Island**	**21.16**	**321**	LR	LR	05 53 03.6	
	comp=Z,465nm,21.6s,baz=120,slow=30						
GDL2	**Guadalupe Moun**	**21.45**	**114**	*e*P	**P**	**05 47 14.3**	**+1.5**
MENT	**Mentasta**	**21.58**	**340**	*e*P	**P**	**05 47 15.5**	**+1.7**
	comp=Z,13nm,0.8s						
DAWY	**Dawson**	**21.64**	**346**	*e*P	**P**	**05 47 15.9**	**+1.4**
	comp=Z,14nm,1.0s						
AMTX	**Amarillo**	**21.76**	**105**	*e*P	**P**	**05 47 16.9**	**+0.9**
	comp=Z,38nm,1.0s						
PAX	**Paxson**	**22.07**	**338**	P	**P**	**05 47 21.1**	**+2.0**
PAX				pmax	pmax		
	comp=Z,21nm,1.6s						
ECSD	**EROS Data Cent**	**22.32**	**79**	*e*P	**P**	**05 47 22.5**	**+0.5**
	comp=Z,15nm,1.0s						
RIDG	**Independ'e Rid**	**22.53**	**340**	*e*P	**P**	**05 47 26.0**	**+1.9**
	comp=Z,10nm,0.9s						
ULM	**Lac du Bonnet**	**22.53**	**62**	P	**P**	**05 47 22.2**	**-1.9**
	comp=Z,4.4nm,0.9s,baz=296,slow=9.3,SNR=4.7						
EGAK	**Eagle**	**22.61**	**345**	*e*P	**P**	**05 47 26.3**	**+1.5**
	comp=Z,6.6nm,0.9s						
DHY	**Denali Highway**	**22.69**	**336**	*e*P	**P**	**05 47 26.8**	**+0.9**
	comp=Z,16nm,1.0s						
SPU	**Mount Spurr**	**22.91**	**329**	*e*P	**P**	**05 47 29.6**	**+1.5**
LTX	**Lajitas**	**23.77**	**119**	*e*P	**P**	**05 47 37.5**	**+0.5**
LTX				*e*		05 51 19.5	
LTX	**Lajitas**	**23.77**	**119**	*e*P	**P**	**05 47 37.5**	**+0.5**
LTX				*e*PcP	**PcP**	**05 51 19.5**	**-1.0**
TXAR	**Lajitas Array**	**23.77**	**119**	P	**P**	**05 47 37.5**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=300,slow=7.2,SNR=22						
TXAR				PcP	**PcP**	**05 51 19.5**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=320,slow=0.5,SNR=7.8						
TXAR				LR	LR	05 57 20.0	
	comp=Z,99nm,20.9s,baz=0.0,slow=38						
WMOK	**Wichita Mounta**	**23.88**	**102**	*e*P	**P**	**05 47 38.9**	**+0.9**
WMOK				pmax	pmax		
	comp=Z,30nm,1.2s						
WMOK	**Wichita Mounta**	**23.88**	**102**	*e*P	**P**	**05 47 38.9**	**+0.9**
	comp=Z,30nm,1.2s						
IL1	**Eielson Array**	**23.89**	**339**	*e*P	**P**	**05 47 37.9**	**+0.2**
ILAR	**Eielson Array**	**23.89**	**339**	P	**P**	**05 47 37.9**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=150,slow=9.0,SNR=44						
ILAR				PcP	**PcP**	**05 51 18.9**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=179,slow=1.9,SNR=11						
ILAR				LR	LR	05 55 35.2	
	comp=Z,115nm,22.0s,baz=151,slow=33						
ILB	**Eielson Array**	**23.89**	**339**	*e*P	**P**	**05 47 38.5**	**+0.7**
WRH	**Wood River Hil**	**23.97**	**338**	*e*P	**P**	**05 47 39.5**	**+1.0**
	comp=Z,7.1nm,0.9s						
LPIG	**La Paz**	**24.02**	**138**	LR	LR	05 56 03.6	
	comp=Z,222nm,19.2s,baz=316,slow=34						
CCB	**Clear Creek Bu**	**24.03**	**339**	*e*P	**P**	**05 47 40.7**	**+1.7**
	comp=Z,7.0nm,0.9s						
COLA	**College**	**24.22**	**339**⇑	*e*P	**P**	**05 47 40.6**	**-0.2**
COLA				pmax	pmax		
	comp=Z,23nm,3.0s						
ABTX	**Abilene, Hawle**	**24.41**	**107**	*e*P	**P**	**05 47 43.6**	**+0.8**
	comp=Z,30nm,1.3s						
SPMN	**Marine on St.**	**24.77**	**74**	*e*P	**P**	**05 47 47.7**	**+1.7**
	comp=Z,20nm,0.9s						
INK	**Inuvik**	**25.02**	**355**	P	**P**	**05 47 47.4**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=159,slow=11,SNR=14						
INK				LR	LR	05 57 18.3	
	comp=Z,376nm,18.8s,baz=156,slow=36						
INK	**Inuvik**	**25.02**	**355**	*e*P	**P**	**05 47 49.5**	**+1.6**
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
INK	**Inuvik**	**25.02**	**355**	*e*P	**P**	**05 47 49.5**	**+1.6**
	comp=Z,5.2nm,0.9s						
MLY	**Manley**	**25.14**	**337**	*e*P	**P**	**05 47 49.9**	**+0.7**
	comp=Z,7.7nm,1.0s						
TUL1	**Leonard**	**25.47**	**97**	*e*P	**P**	**05 47 53.5**	**+1.1**
	comp=Z,16nm,1.2s						
FCC	**Fort Churchill**	**25.57**	**42**	*e*P	**P**	**05 47 54.8**	**+1.8**
FCC				pmax	pmax		
	comp=Z,20nm,1.3s						
FCC	**Fort Churchill**	**25.57**	**42**	*e*P	**P**	**05 47 54.8**	**+1.8**
	comp=Z,20nm,1.3s						
IM3	**Indian Mountai**	**26.70**	**336**	*e*P	**P**	**05 48 03.9**	**+0.7**
TOLK	**Toolik Lake Re**	**27.66**	**343**	*e*P	**P**	**05 48 13.8**	**+2.0**
	comp=Z,7.8nm,1.0s						
WLAR	**White Oak Lake**	**28.47**	**99**	*e*P	**P**	**05 48 20.4**	**+1.1**
	comp=Z,26nm,1.1s						
HKT	**Hockley**	**28.61**	**108**	*e*P	**P**	**05 48 22.2**	**+1.6**
HKT				pmax	pmax		
	comp=Z,37nm,1.6s						
HKT	**Hockley**	**28.61**	**108**	*e*P	**P**	**05 48 22.2**	**+1.6**
	comp=Z,37nm,1.6s						
OXF	**Oxford**	**30.74**	**94**	P	**P**	**05 48 40.9**	**+1.4**
OXF				pmax	pmax		
	comp=Z,32nm,1.0s						
KIP	**Kipapa**	**33.57**	**239**⇑	*e*P	**P**	**05 49 04.2**	**-0.2**
RES	**Resolute Bay**	**34.46**	**15**	P	**P**	**05 49 12.6**	**+1.0**
RES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BILL	**Bilibino**	**41.71**	**329**⇑	*e*P	**P**	**05 50 13.5**	**+0.8**
BILL				*e*SS	SS	06 00 12.7	+39
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,140nm,17.0s						
SFJD	**Kangerlussuaq**	**45.90**	**32**	LR	LR	06 10 26.6	
	comp=Z,179nm,18.0s,baz=277,slow=37						
PET	**Petropavlovsk**	**47.96**	**309**	*e*P	**P**	**05 51 03.2**	**+0.5**
PET				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SEY	**Seymchan**	**48.10**	**323**	P	**P**	**05 51 03.0**	**-0.6**
	comp=Z,0.6nm,0.2s,baz=106,slow=6.1,SNR=5.1						
SEY	**Seymchan**	**48.10**	**323**	*e*P	**P**	**05 51 02.4**	**-1.3**
PETK	**Petropavlovsk-**	**48.47**	**309**	LR	LR	06 08 25.3	
	comp=Z,26nm,21.6s,baz=87,slow=32						
SUMG	**Summit**	**48.84**	**24**	*i* P	**P**	**05 51 10.2**	**+0.5**
SUMG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SUMG	**Summit**	**48.84**	**24**	*i* P	**P**	**05 51 10.2**	**+0.5**
	comp=Z,8.6nm,0.9s						
MA2	**Magadan**	**49.88**	**319**	*c*e*P*	**P**	**05 51 15.9**	**-1.4**
TIXI	**Tiksi**	**53.34**	**337**	*e*P	**P**	**05 51 42.5**	**-0.5**
SPITS	**Spitsbergen Ar**	**56.59**	**8**	LR	LR	06 17 38.8	
	comp=Z,85nm,18.1s,baz=245,slow=37						
BORG	**Borgarnes**	**57.79**	**29**	LR	LR	06 16 46.9	
	comp=Z,67nm,20.8s,baz=208,slow=36						
HELC	**Santa Helena**	**58.77**	**114**	*e*P	**P**	**05 52 22.6**	**-0.4**
	comp=Z,12nm,0.9s						
HELC	**Santa Helena**	**58.77**	**114**	*e*P	**P**	**05 52 20.2**	**-2.8**
H11N3	**WAKE ISLAND Hy**	**59.08**	**268**	T	T	06 56 12.5	
	baz=50,slow=75,SNR=275						
H11N2	**WAKE ISLAND Hy**	**59.09**	**268**	T	T	06 56 08.3	
	baz=50,slow=75,SNR=254						
H11N1	**WAKE ISLAND Hy**	**59.10**	**268**	T	T	06 56 09.4	
	baz=50,slow=75,SNR=171						
PTBC	**PUERTO BERRIO,**	**59.23**	**112**	*e*P	**P**	**05 52 24.9**	**-0.9**
PAMC	**Pamplona, Colo**	**59.84**	**110**	*e*P	**P**	**05 52 30.6**	**+0.1**
RREF	**El Recreo**	**59.84**	**114**	*e*P	**P**	**05 52 29.7**	**-1.1**
YOTC	**Yotoco, Valle**	**59.87**	**116**	*e*P	**P**	**05 52 29.7**	**-0.7**
H11S1	**WAKE ISLAND Hy**	**60.01**	**267**	T	T	06 57 17.2	
	baz=50,slow=75,SNR=1018						
H11S2	**WAKE ISLAND Hy**	**60.01**	**267**	T	T	06 57 20.3	
	baz=50,slow=75,SNR=747						
H11S3	**WAKE ISLAND Hy**	**60.02**	**267**	T	T	06 57 18.5	
	baz=50,slow=75,SNR=638						
BARC	**Barichara**	**60.05**	**111**	*e*P	**P**	**05 52 32.0**	**+0.3**
TOLC	**Tolima**	**60.10**	**115**	*e*P	**P**	**05 52 32.6**	**+0.4**
SDV	**Santo Domingo**	**60.16**	**107**	P	**P**	**05 52 32.3**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=72,slow=4.2,SNR=3.1						
RUSC	**La Rusia**	**60.63**	**112**	*e*P	**P**	**05 52 35.4**	**-0.6**
	comp=Z,8.2nm,1.4s						
RUSC	**La Rusia**	**60.63**	**112**	*e*P	**P**	**05 52 33.9**	**-2.1**
SOTA	**Rioblanco**	**61.10**	**118**	*e*P	**P**	**05 52 38.6**	**-0.5**
CHIC	**Chingaza**	**61.12**	**113**	*e*P	**P**	**05 52 38.2**	**-1.1**
CMBC	**Cumbal**	**61.23**	**120**	*e*P	**P**	**05 52 39.6**	**-0.5**
CRUC	**La Cruz**	**61.31**	**118**	*e*P	**P**	**05 52 40.8**	**+0.4**
OTAV	**Otavalo**	**61.38**	**121**	*e*P	**P**	**05 52 41.6**	**+0.5**
OTAV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OTAV	**Otavalo**	**61.38**	**121**	*e*P	**P**	**05 52 41.6**	**+0.5**
	comp=Z,9.9nm,1.0s						
OTAV	**Otavalo**	**61.38**	**121**	*e*P	**P**	**05 52 41.0**	**-0.1**
PPT	**Papeete**	**64.09**	**203**	LR	LR	06 15 09.4	
	comp=Z,44nm,20.7s,baz=338,slow=31						
KLR	**Kuldur**	**64.54**	**314**	*e*P	**P**	**05 53 00.4**	**-0.7**
MAJO	**Matsushiro**	**68.68**	**300**	*e*P	**P**	**05 53 26.0**	**-1.8**
MAJO	**Matsushiro**	**68.68**	**300**	*e*P	**P**	**05 53 26.0**	**-1.8**
MJAR	**Matsushiro Arr**	**68.68**	**300**	P	**P**	**05 53 26.0**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=35,slow=4.6,SNR=4.2						
NB200	**NORSAR Array S**	**70.51**	**20**	*e*P	**P**	**05 53 38.1**	**-0.6**
NOA	**NORSAR Array B**	**70.51**	**20**	P	**P**	**05 53 38.1**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=332,slow=6.0,SNR=3.1						
NOA				LR	LR	06 24 05.2	
	comp=Z,37nm,18.7s,baz=310,slow=36						
HFS	**Hagfors**	**71.90**	**19**	LR	LR	06 23 57.8	
	comp=Z,68nm,18.3s,baz=313,slow=35						
FIA0	**FINESS Array S**	**73.20**	**13**	*e*P	**P**	**05 53 54.2**	**-0.6**
FIA0	**FINESS Array S**	**73.20**	**13**	*e*P	**P**	**05 53 54.1**	**-0.6**
FINES	**FINESS Array B**	**73.20**	**13**	P	**P**	**05 53 54.1**	**-0.6**
	comp=Z,6.4nm,1.1s,baz=23,slow=6.8,SNR=5.3						
FINES	**FINESS Array B**	**73.20**	**13**	*c*e*P*	**P**	**05 53 54.9**	**+0.2**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TLY	**Talaya**	**75.32**	**330**	*e*P	**P**	**05 54 07.7**	**+0.4**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ULN	**Ulaanbaatar**	**77.06**	**326**	*i* P	**P**	**05 54 16.6**	**-0.9**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONA0	**Songino Array**	**77.35**	**326**	*e*P	**P**	**05 54 18.6**	**-0.5**
SONM	**Songino Array**	**77.35**	**326**	P	**P**	**05 54 18.6**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=64,slow=3.4,SNR=5.8						
SONM				LR	LR	06 27 06.2	
	comp=Z,75nm,21.8s,baz=48,slow=35						
NVS	**Novosibirsk**	**78.54**	**342**	*e*P	**P**	**05 54 25.1**	**-0.2**
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZAA1	**Zalesovo Array**	**79.00**	**341**	*e*P	**P**	**05 54 26.8**	**-1.1**
ZALV	**Zalesovo Beam**	**79.01**	**341**	P	**P**	**05 54 26.8**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=15,slow=6.0,SNR=3.5						
ZALV				LR	LR	06 31 47.6	
	comp=Z,40nm,18.3s,baz=66,slow=38						
CLL	**Collm**	**79.51**	**24**	*i* P	**P**	**05 54 31.3**	**+0.6**
CLL				*i*		05 54 43.5	
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**79.51**	**24**	*i* P	**P**	**05 54 31.3**	**+0.6**
	comp=Z,6.0nm,0.8s						
CLL				*i*		05 54 43.5	
BRG	**Berggiesshubel**	**80.17**	**24**	*e*P	**P**	**05 54 34.5**	**+0.2**
	comp=Z,6.8nm,1.1s						
BRG	**Berggiesshubel**	**80.17**	**24**	*e*P	**P**	**05 54 34.5**	**+0.2**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARU	**Arti**	**80.26**	**357**	*c i*P	**P**	**05 54 32.1**	**-2.6**
ARU				S	**S**	**06 04 34.5**	**-4.6**
ARU				pmax	pmax		
	comp=Z,11nm,2.5s						
HHC	**Hu-ho-hao-te**	**80.56**	**319**	*e*P	**P**	**05 54 38.0**	**+1.2**
LPAZ	**La Paz**	**80.56**	**123**	P	**P**	**05 54 36.3**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=326,slow=5.0,SNR=14						
LPAZ	**La Paz**	**80.56**	**123**	*e*P	**P**	**05 54 36.6**	**-1.0**
LPAZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LPAZ	**La Paz**	**80.56**	**123**	*e*P	**P**	**05 54 36.6**	**-1.0**
	comp=Z,5.5nm,0.9s						
BFO	**Black Forest**	**80.62**	**28**	*c*e*P*	**P**	**05 54 37.9**	**+1.1**
OBN	**Obninsk**	**80.78**	**9**	*e*P	**P**	**05 54 38.6**	**+1.1**
OBN				pmax	pmax		
	comp=Z,11nm,1.2s						
OBN				MLR	MLR		
	comp=Z,40nm,14.0s						
GERES	**GERESS Array B**	**81.90**	**25**	P	**P**	**05 54 42.7**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=351,slow=4.2,SNR=6.7						
VRAC	**Vranov**	**82.33**	**23**	LR	LR	06 31 38.0	
	comp=Z,39nm,19.2s,baz=305,slow=36						
BRVK	**Borovoye**	**82.56**	**349**	*c*e*P*	**P**	**05 54 47.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,15nm,1.7s						
BVAR	**Borovoye Array**	**82.57**	**349**	P	**P**	**05 54 46.6**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=20,slow=4.7,SNR=8.5						
ESDC	**Sonseca Array**	**82.75**	**40**	P	**P**	**05 54 47.4**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=328,slow=4.3,SNR=4.8						
KURK	**Kurchatov**	**83.39**	**344**	*c*e*P*	**P**	**05 54 51.8**	**+0.5**
KURK				pmax	pmax		
	comp=Z,20nm,1.7s						
KURK	**Kurchatov**	**83.39**	**344**	*e*P	**P**	**05 54 51.3**	**0.0**
KURBB	**Kurchatov Arra**	**83.50**	**344**	P	**P**	**05 54 51.3**	**-0.6**
	comp=Z,3.2nm,1.0s,baz=18,slow=4.7,SNR=12						
ISO	**Isola**	**83.71**	**31**	P	**P**	**05 54 55.4**	**+2.2**
ISO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
AKASG	**Malin Array Be**	**83.97**	**15**	P	**P**	**05 54 53.2**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=354,slow=4.1,SNR=5.4						
AKASG	**Malin Array Be**	**83.97**	**15**	*c*e*P*	**P**	**05 54 54.7**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIEV	**Kiev**	**83.98**	**15**	*e*P	**P**	**05 54 52.6**	**-1.7**
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SIV	**San Ignacio**	**84.77**	**118**	P	**P**	**05 54 57.4**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=306,slow=1.7,SNR=13						
MK32	**Makanchi Array**	**86.25**	**340**	*e*P	**P**	**05 55 04.9**	**-1.0**
MKAR	**Makanchi Array**	**86.25**	**340**	*e*P	**P**	**05 55 04.9**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=28,slow=6.5,SNR=7.2						
MKAR				LR	LR	06 35 41.9	
	comp=Z,48nm,18.7s,baz=4.5,slow=37						
MKAR	**Makanchi Array**	**86.25**	**340**	*c*e*P*	**P**	**05 55 06.0**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**86.27**	**356**	LR	LR	06 37 57.2	
	comp=Z,44nm,18.1s,baz=6.2,slow=39						
WMQ	**Urumqi**	**87.49**	**335**	P	**P**	**05 55 15.0**	**+3.0**
LZH	**Lanzhou**	**87.99**	**321**	*e*P	**P**	**05 55 16.3**	**+1.6**
LZH				pP	pP	05 55 19.5	-0.2
LZH				sP	sP	05 55 21.0	-0.5
LZH				*e*PP	**PP**	**05 58 44.5**	**+4.2**
PDGK	**Podgornoye**	**90.18**	**341**	P	**P**	**05 55 25.8**	**+1.0**
PDGK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KSH	**Kashi**	**94.62**	**342**	*e*P	**P**	**05 55 46.8**	**+1.4**
KSH	**Kashi**	**94.62**	**342**	S	**S**	**06 06 54.0**	**-3.9**
BRTR	**Keskin Array B**	**95.38**	**14**	LR	LR	06 41 45.8	
	comp=Z,36nm,18.1s,baz=316,slow=37						
IDI	**Anoyia**	**97.61**	**22**	LR	LR	06 44 14.2	
	comp=Z,16nm,18.3s,baz=336,slow=38						

ISCJB ***28*** *05:48:02.3±1.6,22.°60S±0.°08×148.°0E±0.°1,h10km, mb3.7/1,Error ellipse: s-maj=18.0km s-min=10.6km az=11.2*

IDC ***28*** *05:48:02.8±1.8,22.°48S×148.°04E,h0km,mb3.9/1, mb1 3.8/5,mb1mx3.6/39,mbtmp3.7/5,ML3.6/4,Error ellipse: s-maj=26.2km s-min=18.4km az=76.0*

ISC 28 05:48:03.8±1.7,22.°50S±0.°08×148.°1E±0.°1,h10km,n6, σ0s87/9,Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.93**	**325**	Pn	**Pn**	**05 48 50.5**	**+0.1**
	7.8nm,0.3s,baz=130,slow=16,SNR=52						
CTA				Pg	**Pb**	**05 48 55.9**	**-0.2**
	14nm,0.3s,baz=156,slow=17,SNR=29						
CTA				Lg	Lg	05 49 34.2	
	9.3nm,0.3s,baz=225,slow=23,SNR=6.1						
STKA	**Stephens Creek**	**10.96**	**210**	Pn	**Pn**	**05 50 40.4**	**-0.3**
	0.5nm,0.3s,baz=39,slow=15,SNR=7.5						
STKA				Sn	**Sn**	**05 52 43.1**	**-0.2**
	0.3nm,0.3s,baz=270,slow=20,SNR=3.1						
STKA				Lg	Lg	05 53 52.8	
	0.2nm,0.3s,baz=324,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**13.04**	**279**	Pn	**Pn**	**05 51 07.8**	**-1.4**
	0.2nm,0.3s,baz=99,slow=12,SNR=14						
WRA				Lg	Lg	05 54 57.9	
	0.1nm,0.3s,baz=102,slow=29,SNR=5.9						
ASAR	**Alice Springs**	**13.07**	**262**	Pn	**Pn**	**05 51 10.2**	**+0.5**
	0.3nm,0.3s,baz=90,slow=13,SNR=8.4						
ASAR				Sn	**Sn**	**05 53 36.0**	**+0.8**
	0.1nm,0.3s,baz=88,slow=21,SNR=4.2						
ASAR				Lg	Lg	05 54 59.6	
	0.2nm,0.3s,baz=90,slow=28,SNR=5.8						
SONM	**Songino Array**	**79.38**	**333**	P	**P**	**06 00 11.0**	**+1.0**
	0.6nm,0.6s,baz=150,slow=6.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**146.71**	**260**	PKPbc	**PKPbc**	**06 07 46.2**	**-0.6**
	1.2nm,0.7s,baz=100,slow=3.1,SNR=7.9						

CSEM ***28*** *06:16:14.6,38.°70N×43.°09E,h7km,ML2.7,After DDA*
DDA ***28*** *06:16:14.6,38.°70N×43.°09E,h7km,Ml2.7*

ISC 28 06:16:14.7±1.0,38.°69N±0.°03×43.°05E±0.°02,h7km±9km, n19,σ0s81/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADCV	**BITLIS_Adilcev**	**0.28**	**294**	*i* P	**Pg**	**06 16 21.0**	**+0.6**
ADCV				*i* S	**Sb**	**06 16 26.3**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.28**	**294**	P	**Pg**	**06 16 21.0**	**+0.6

	3.0nm,0.3s,baz=195,slow=12,SNR=13							
JNU				Sn	**Sn**	06 34 57.8	**-1.4**
	0.9nm,0.3s,baz=81,slow=19,SNR=6.8							
JNU	**Nakatsue**	**7.34**	**14**	*e*Pn	**Pn**	06 33 37.0	**+1.0**
JNU				*e*Sn	**Sn**	06 34 57.8	**-1.4**
KSRS	**Korea Array**	**11.46**	**356**	LR	LR	06 39 08.1	
	comp=Z,43nm,20.1s,baz=158,slow=38							
KLR	**Kul'dur**	**23.32**	**5**	P	**P**	06 36 57.5	**+0.7**
	0.1nm,0.6s,baz=233,slow=5.4,SNR=6.3							
ULN	**Ulaanbaatar**	**27.74**	**328**	*e*P	**P**	06 37 37.5	**+0.1**
	5.0nm,0.9s							
SONA0	**Songino Array**	**28.04**	**327**	*e*P	**P**	06 37 42.3	**+2.2**
SONM	**Songino Array**	**28.04**	**327**	P	**P**	06 37 42.3	**+2.2**
	2.9nm,0.4s,baz=146,slow=11,SNR=14							
SONA1	**Songino Array**	**28.04**	**327**	*e*P	**P**	06 37 40.7	**+0.5**
CMAR	**Chiang Mai Arr**	**28.59**	**261**	P	**P**	06 37 45.8	**+0.7**
	0.6nm,0.3s,baz=70,slow=7.8,SNR=3.0							
TAPN	**Taplejung**	**36.63**	**282**	*e*P	**P**	06 38 56.9	**+1.2**
	4.8nm,0.6s							
ODAN	**Odare**	**36.98**	**281**	*e*P	**P**	06 38 58.8	**+0.2**
	19nm,0.6s							
GUN	**Gumba**	**38.17**	**283**	*e*P	**P**	06 39 10.0	**+1.2**
	4.3nm,0.3s							
PKI	**Pulchoki**	**38.63**	**282**	*e*P	**P**	06 39 12.6	**0.0**
	8.4nm,0.4s							
PKIN	**Phulchoki**	**38.64**	**282**	*e*P	**P**	06 39 12.6	**-0.1**
	11nm,0.5s							
KKN	**Kakani**	**38.71**	**283**	*e*P	**P**	06 39 13.5	**+0.3**
	9.1nm,0.4s							
DMN	**Daman**	**38.89**	**282**	*e*P	**P**	06 39 14.7	**-0.1**
	13nm,0.8s							
GKN	**Gorkha**	**39.25**	**283**	*e*P	**P**	06 39 18.4	**+0.8**
	11nm,0.5s							
KOLN	**Koldanda**	**40.19**	**283**	*e*P	**P**	06 39 25.5	**0.0**
	13nm,0.8s							
PYUN	**Piuthan**	**40.67**	**284**	*e*P	**P**	06 39 30.0	**+0.4**
MK01	**Makanchi Array**	**42.07**	**312**	*e*P	**P**	06 39 40.1	**-0.4**
MK31	**Makanchi Array**	**42.08**	**312**	*e*P	**P**	06 39 40.1	**-0.5**
MK32	**Makanchi Array**	**42.08**	**312**	*e*P	**P**	06 39 40.1	**-0.5**
MKAR	**Makanchi Array**	**42.08**	**312**	P	**P**	06 39 40.1	**-0.5**
	1.2nm,0.5s,baz=101,slow=9.0,SNR=17							
MKAR	**Makanchi Array**	**42.08**	**312**	*e*P	**P**	06 39 40.2	**-0.5**
	9.2nm,0.6s							
ZALV	**Zalesovo Beam**	**42.75**	**323**	P	**P**	06 39 44.7	**-1.3**
	0.5nm,0.3s,baz=113,slow=8.5,SNR=3.8							
ZAA1	**Zalesovo Array**	**42.76**	**323**	*e*P	**P**	06 39 44.7	**-1.3**
KURK	**Kurchatov**	**45.35**	**317**	*e*P	**P**	06 40 06.5	**-0.3**
KURBB	**Kurchatov Arra**	**45.38**	**317**	P	**P**	06 40 06.5	**-0.6**
	0.7nm,0.5s,baz=101,slow=8.7,SNR=4.5							
WR1	**Warramunga Arr**	**45.97**	**173**	*e*P	**P**	06 40 12.3	**+0.3**
	29nm,1.9s							
WRA	**Warramunga Arr**	**45.97**	**173**	P	**P**	06 40 12.3	**+0.3**
	1.5nm,0.4s,baz=354,slow=8.5,SNR=27							
AS31	**Alice Springs**	**49.60**	**174**	*e*P	**P**	06 40 41.1	**+0.9**
	0.9nm,0.9s							
ASAR	**Alice Springs**	**49.60**	**174**	P	**P**	06 40 41.1	**+0.9**
	0.6nm,0.5s,baz=4.9,slow=15,SNR=12							
BVAR	**Borovoye Array**	**50.80**	**318**	P	**P**	06 40 50.1	**+1.1**
	1.0nm,0.6s,baz=82,slow=11,SNR=5.6							
HMDM	**Hanimaadhoo**	**56.23**	**260**	*e*P	**P**	06 41 27.1	**-2.3**
	84nm,0.6s							
AB31	**Akbulak array**	**57.19**	**313**	*e*P	**P**	06 41 35.4	**-0.3**
ABKAR	**Akbulak array**	**57.19**	**313**	*e*P	**P**	06 41 35.5	**-0.2**
	13nm,1.1s							
GEYT	**Alibeck**	**59.86**	**300**	P	**P**	06 41 53.2	**-1.3**
	1.8nm,0.4s,baz=46,slow=4.2,SNR=2.9							
ILAR	**Eielson Array**	**64.41**	**28**	P	**P**	06 42 26.0	**+1.4**
	0.3nm,0.7s,baz=240,slow=4.9,SNR=2.9							
KBZ	**Khabaz**	**69.71**	**310**	P	**P**	06 42 59.7	**+1.0**
	2.9nm,0.9s,baz=96,slow=6.8,SNR=6.6							
FIA0	**FINESS Array S**	**73.33**	**331**	*e*P	**P**	06 43 20.2	**+0.1**
FINES	**FINESS Array B**	**73.33**	**331**	P	**P**	06 43 20.2	**+0.1**
	1.4nm,0.5s,baz=55,slow=6.0,SNR=11							
AKASG	**Malin Array Be**	**76.05**	**320**	P	**P**	06 43 36.1	**0.0**
	0.4nm,0.3s,baz=58,slow=6.3,SNR=5.6							
BR101	**Keskin Array S**	**77.59**	**308**	*e*P	**P**	06 43 45.4	**+0.1**
BRTR	**Keskin Array B**	**77.59**	**308**	P	**P**	06 43 45.4	**+0.1**
	1.4nm,0.9s,baz=71,slow=5.4,SNR=5.2							
BR231	**Keskin MP Arra**	**78.15**	**309**	*e*P	**P**	06 43 46.8	**-1.5**
YKA	**Yellowknife Ar**	**78.53**	**25**	P	**P**	06 43 51.1	**+1.3**
	0.1nm,0.5s,baz=302,slow=5.6,SNR=4.6							
NOA	**NORSAR Array B**	**79.76**	**334**	LR	LR	07 24 18.5		
	comp=Z,20nm,20.2s,baz=345,slow=40							
MLR	**Muntele Rosu**	**80.28**	**316**	LR	LR	07 20 44.2		
	comp=Z,9.6nm,18.6s,baz=20,slow=37							
YMS	**Mount Sheridan**	**91.54**	**38**	*e*P	**P**	06 44 55.1	**-0.9**
MSU	**Marysvale**	**94.15**	**43**	*e*P	**P**	06 45 11.8	**+3.7**

GUC 28 06:39:29.1±0.7, 35°11'S×72°43'W, h22km±3km, ML3.8, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.42**	**76**	⇑*i*	Pb	06 39 37.6	-0.4
GO05				*i* S	Sb	06 39 43.3	-0.7
CHPI	**Pichilemu**	**0.80**	**26**	⇑*i*	Pb	06 39 43.2	-1.2
CHPI				*i* S	Sb	06 39 53.6	-1.2
COCH	**Cobquecura**	**1.06**	**196**	⇓*i*	Pn	06 39 47.5	-1.0
COCH				*i* S	Sb	06 40 00.4	-1.7
CCHI	**Chillan**	**1.51**	**169**	⇑*i*	Pn	06 39 55.4	+0.6
CCHI				*e*S	Sn	06 40 14.2	+0.3
CCHI				IAML		06 40 20.4	
	comp=E,2μm,0.4s						
RCDM	**Rinconada Maip**	**2.11**	**40**	*e*P	Pn	06 40 03.5	+0.5
LMEL	**Las Melosas**	**2.23**	**56**	*e*P	Pn	06 40 05.7	+0.8
LMEL				*i* S	Sn	06 40 33.8	+2.0
LMEL				IAML		06 40 39.5	
	comp=N,894nm,0.2s						
ROCH	**El Roble**	**2.44**	**29**	*e*P	Pn	06 40 08.4	+0.6
PEL	**Peldehue**	**2.44**	**37**	*e*P	Pn	06 40 08.7	+1.0
PEL				*e*S	Sn	06 40 37.7	+0.9
FCH	**Farellones**	**2.52**	**45**	*e*P	Pn	06 40 09.9	+1.0
FCH				IAML		06 40 49.3	
	comp=E,523nm,0.3s						

IDC 28 06:40:12.4±1.6, 4°77'N×122°98'E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.3/60, mbtmp3.7/4, Error ellipse: s-maj=221.1km s-min=21.2km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.98**	**156**	P	P	06 45 56.1	0.0
	0.3nm,0.3s,baz=334,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**30.21**	**160**	P	P	06 46 24.9	0.0
	0.4nm,0.5s,baz=337,slow=7.5,SNR=7.2						
MKAR	**Makanchi Array**	**54.60**	**327**	P	P	06 49 43.7	+0.9
	0.5nm,0.3s,baz=122,slow=7.5,SNR=12						
KURBB	**Kurchatov Arra**	**58.88**	**329**	P	P	06 50 11.8	-1.3
	0.5nm,0.6s,baz=131,slow=6.0,SNR=5.5						

NNC 28 07:14:39.1±1.9, 38°57'N×71°51'E, h0km, mb3.6, mpv3.2, 3C-7D, Error ellipse: s-maj=15.0km s-min=12.5km az=37.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.12**	**46**	⇓Pn	Pn	07 15 15.3	-0.6
	9.9nm,0.5s						
SFK				⇓Lg	Lg	07 15 46.6	
	36nm,0.3s						
MNAS	**Manas**	**3.99**	**11**	⇓Pn	Pn	07 15 42.1	+0.5
	2.6nm,0.4s						
MNAS				⇓Sn	Sn	07 16 30.1	+1.0
	5.1nm,0.6s						
KK31	**Karatay Array**	**4.59**	**351**	Pn	Pn	07 15 49.6	-0.2
	1.1nm,0.3s,baz=177,slow=13,SNR=38						
KK31				⇓Sn	Sn	07 16 45.2	+1.3
	3.2nm,0.7s,baz=180,slow=22,SNR=4.9						
KK31				⇓Lg	Lg	07 17 02.2	
	1.8nm,0.4s,baz=172,slow=18,SNR=6.9						
AAK	**Ala-Archa**	**4.66**	**28**	⇑Pn	Pn	07 15 51.5	+0.7
	5.1nm,0.8s						
AAK				⇓Sn	Sn	07 16 47.8	+2.2
	3.9nm,0.6s						
TKM2	**Tokmak 2**	**5.34**	**34**	⇑Pn	Pn	07 16 01.1	+0.8
	1.6nm,0.9s						
TKM2				⇓Lg	Lg	07 17 24.2	
	8.3nm,1.4s						

*NNC **28** 07:18:20.9±3.0, 38°.51N×71°.52E, h0km±15km, mb4.2, mpv3.9, Error ellipse: s-maj=19.3km s-min=16.2km az=149.0*

*IDC **28** 07:18:27.6±2.3, 39°.16N×72°.13E, h0km, mb3.7/3, mb1 3.7/8, mb1mx3.4/69, mbtmp3.6/8, ML3.2/5, MS2.8/2, Ms1 2.9/2, ms1mx2.3/62, Error ellipse: s-maj=31.4km s-min=19.5km az=166.0*

ISC 28 07:18:30.9±1.8, 38°.9N±0°.1×71°.54E±0°.09, h42km, n25, σ2s68/26, mb3.8/3, 12C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.88**	**53**	⇑Pn	**Pn**	**07 18 57.9**	**-2.9**
	48nm,0.5s						
SFK				⇑Lg	Lg	07 19 28.0	
	181nm,0.5s						
AML	**Almayashu**	**3.62**	**26**	P	**Pn**	**07 19 22.8**	**-2.0**
	SNR=14						
MNAS	**Manas**	**3.66**	**11**	⇑Pn	**Pn**	**07 19 25.7**	**+0.7**
	19nm,0.7s						
MNAS				⇑Sn	Sn	07 20 14.6	+7.6
	16nm,0.5s						
MNAS				⇓Lg	Lg	07 20 31.9	
	21nm,0.6s						
UCH	**Uchtor**	**4.02**	**33**	P	**Pn**	**07 19 30.8**	**+0.4**
	SNR=12						
EKS2	**Erkin-Say**	**4.12**	**24**	P	**Pn**	**07 19 30.6**	**-0.8**
	SNR=5.0						
KZA	**Kyzart**	**4.25**	**41**	P	**Pn**	**07 19 34.6**	**+1.1**
	SNR=10						
KK31	**Karatay Array**	**4.27**	**350**	Pn	**Pn**	**07 19 31.4**	**-2.0**
	5.3nm,0.4s,baz=177,slow=13,SNR=99						
KK31				⇓Lg	Lg	07 20 47.3	
	4.6nm,0.4s,baz=180,slow=22,SNR=5.1						
AAK	**Ala-Archa**	**4.35**	**30**	Pn	**Pn**	**07 19 32.5**	**-2.1**
	3.1nm,0.3s,baz=196,slow=6.0,SNR=22						
AAK				Lg	Lg	07 20 30.8	
	0.9nm,0.3s,baz=309,slow=19,SNR=4.5						
AAK	**Ala-Archa**	**4.35**	**30**	⇑Pn	**Pn**	**07 19 35.5**	**+0.8**
	20nm,0.8s						
AAK				⇑Sn	**Sn**	**07 20 28.7**	**+4.5**
	14nm,0.7s						
AAK				⇓Lg	Lg	07 20 50.5	
	29nm,1.1s						
AAK	**Ala-Archa**	**4.35**	**30**	P	**Pn**	**07 19 35.6**	**+1.0**
	SNR=10						
KBK	**Karagaybulak**	**4.55**	**33**	P	Pn	07 19 26.1	-11
	SNR=7.6						
CHMS	**Chumysh**	**4.76**	**30**	P	**Pn**	**07 19 41.2**	**+1.1**
	SNR=5.4						
TKM2	**Tokmak 2**	**5.05**	**36**	⇑Pn	**Pn**	**07 19 42.6**	**-1.7**
	6.2nm,0.6s						
TKM2				⇑Lg	Lg	07 21 15.9	
	22nm,1.3s						
TKM2	**Tokmak 2**	**5.05**	**36**	P	**Pn**	**07 19 45.1**	**+0.8**
	SNR=10						
MKAR	**Makanchi Array**	**11.15**	**42**	Pn	**Pn**	**07 21 03.8**	**-3.8**
	0.1nm,0.3s,baz=227,slow=13,SNR=4.0						
AB31	**Akbulak array**	**13.28**	**325**	⇑Pn	**Pn**	**07 21 34.4**	**-2.3**
	1.0nm,0.5s,baz=130,slow=14,SNR=18						
AB31				⇑Sn	**Sn**	**07 24 02.0**	**-0.7**
	2.0nm,0.7s,baz=142,slow=23,SNR=6.8						
BVAR	**Borovoye Array**	**14.15**	**357**	Pn	**Pn**	**07 21 44.3**	**-4.2**
	0.2nm,0.3s,baz=245,slow=39,SNR=3.5						
BVAR				Sn	Sn	07 24 04.3	-20
	0.5nm,0.3s,baz=172,slow=23,SNR=4.7						
AKTO	**Aktyubinsk**	**14.99**	**325**	Pn	**Pn**	**07 21 59.5**	**-0.2**
	0.2nm,0.3s,baz=125,slow=15,SNR=5.4						
AKTO				Sn	**Sn**	**07 24 40.6**	**-3.9**
	0.1nm,0.3s,baz=122,slow=9.4,SNR=1.9						
AKTO	**Aktyubinsk**	**14.99**	**325**	⇑Pn	**Pn**	**07 21 57.9**	**-1.8**
	2.9nm,0.9s						
AKTO				⇑Sn	**Sn**	**07 24 49.8**	**+5.3**
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**17.57**	**27**	Pn	**Pn**	**07 22 27.7**	**-4.7**
	0.1nm,0.3s,baz=217,slow=12,SNR=5.2						
CMAR	**Chiang Mai Arr**	**31.31**	**123**	LR	LR	07 37 25.0	
	comp=Z,13nm,18.7s,baz=10.0,slow=37						
EIL	**Elat**	**31.43**	**264**	LR	LR	07 38 47.9	
	comp=Z,24nm,19.0s,baz=340,slow=38						
ARCES	**ARCESS Array B**	**39.11**	**336**	P	**P**	**07 25 54.9**	**+1.2**
	1.9nm,0.8s,baz=109,slow=8.1,SNR=5.2						
HFS	**Hagfors**	**41.47**	**320**	P	**P**	**07 26 14.6**	**+1.3**
	0.9nm,0.5s,baz=96,slow=14,SNR=3.1						
YKA	**Yellowknife Ar**	**78.83**	**3**	P	**P**	**07 30 31.4**	**+2.5**
	0.2nm,0.6s,baz=350,slow=5.4,SNR=5.5						

IDC 28 07:26:49.2±2.1, 6°.04S×129°.77E, h0km, mb3.6/1, mb1 3.8/5, mb1mx3.5/54, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=54.2km s-min=27.6km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.32**	**235**	Pn	Pn	07 28 39.6	+2.0
	5.3nm,0.3s,baz=340,slow=8.2,SNR=3.3						
BATI				Sn	Sn	07 29 52.6	-8.9
	5.9nm,0.3s,baz=210,slow=20,SNR=4.9						
FITZ	**Fitzroy Crossi**	**12.64**	**198**	Pn	Pn	07 29 48.4	-2.0
	baz=23,slow=15						
WRA	**Warramunga Arr**	**14.51**	**163**	Pn	Pn	07 30 17.4	+1.3
	0.2nm,0.3s,baz=343,slow=12,SNR=12						
WRA				Sn	Sn	07 32 45.7	-12
	0.4nm,0.3s,baz=332,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**17.97**	**118**	P	Pn	07 31 00.0	-0.6
	0.1nm,0.3s,baz=342,slow=10,SNR=11						
ASAR				S	Sn	07 34 07.0	-15
	0.1nm,0.3s,baz=343,slow=25,SNR=3.1						
MKAR	**Makanchi Array**	**67.31**	**327**	P	P	07 37 45.9	-0.1
	0.3nm,0.5s,baz=115,slow=7.9,SNR=5.9						

IDC 28 07:29:20.6±0.6, 27°.35N×140°.21E, h453km±10km, mb3.1/10, mb1 3.2/10, mb1mx2.9/63, mbtmp3.9/10, Error ellipse: s-maj=29.2km s-min=14.1km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.77**	**98**	P	P	07 30 21.2	+0.9
	baz=0.0,slow=12						
JCJ				S	S	07 31 08.7	+0.1
	24nm,0.3s,baz=287,slow=19,SNR=14						
WRA	**Warramunga Arr**	**47.36**	**188**	P	P	07 37 12.3	-0.1
	0.5nm,0.3s,baz=5.9,slow=7.6,SNR=12						
WRA				S	S	07 43 19.6	-12
	0.3nm,0.9s,baz=39,slow=9.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**48.15**	**319**	P	P	07 37 17.6	-0.3
	0.3nm,0.3s,baz=101,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**48.96**	**309**	P	P	07 37 24.4	+0.2
	0.2nm,0.4s,baz=87,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**51.09**	**187**	P	P	07 37 39.8	-0.2
	0.2nm,0.3s,baz=6.9,slow=5.1,SNR=6.0						
KURBB	**Kurchatov Arra**	**51.61**	**314**	P	P	07 37 43.4	-0.1
	1.9nm,0.5s,baz=92,slow=8.1,SNR=25						
BVAR	**Borovoye Array**	**56.66**	**317**	P	P	07 38 19.6	+0.3
	2.1nm,0.4s,baz=86,slow=7.2,SNR=17						
ARCES	**ARCESS Array B**	**72.72**	**340**	P	P	07 40 01.4	+0.3
	2.4nm,0.9s,baz=32,slow=8.6,SNR=2.7						
YKA	**Yellowknife Ar**	**72.75**	**28**	P	P	07 40 01.7	+0.5
	0.3nm,0.5s,baz=296,slow=6.0,SNR=7.0						
FINES	**FINESS Array B**	**76.94**	**333**	P	P	07 40 24.7	-0.2
	1.0nm,0.4s,baz=72,slow=5.2,SNR=12						
HFS	**Hagfors**	**82.49**	**336**	P	P	07 40 53.2	-1.2
	1.6nm,0.9s,baz=65,slow=10,SNR=3.3						

*ISCJB **28** 07:29:37.0±0.5, 38°.95N±0°.03×43°.41E±0°.04, h11km±5km, Error ellipse: s-maj=6.0km s-min=5.1km az=136.4*
*CSEM **28** 07:29:36.4±0.4, 38°.96N×43°.47E, h5km, ML2.8, Error ellipse: s-maj=9.1km s-min=7.9km az=86.0*
*DDA **28** 07:29:36.2, 38°.87N×43°.55E, h7km, Ml2.8*
*ISK **28** 07:29:36.8, 38°.90N×43°.34E, h2km, ML2.5/4*

ISC 28 07:29:36.5±0.9, 38°.92N±0°.03×43°.48E±0°.03, h10km±7km, n23, σ0s80/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.10**	**45**	*i* P	**Pg**	**07 29 38.8**	**-0.5**
VMUR				*i* S	**Sg**	**07 29 41.9**	**+0.5**
VMUR	**Van-Muradiye**	**0.10**	**45**	P	**Pg**	**07 29 38.8**	**-0.5**
VMUR				S	**Sg**	**07 29 41.8**	**+0.5**
ERCV	**ERCIS-VAN**	**0.15**	**314**	PG	**Pg**	**07 29 40.1**	**+0.1**
ERCV				SG	**Sg**	**07 29 42.0**	**-0.4**
ERCV	**ERCIS-VAN**	**0.15**	**314**	*e*Pg	**Pg**	**07 29 40.1**	**+0.1**
ERCV				*e*Sg	**Sg**	**07 29 42.0**	**-0.4**
VANB	**Van**	**0.33**	**192**	PG	**Pb**	**07 29 44.9**	**+0.3**
VANB				SG	**Sb**	**07 29 51.9**	**+2.0**
VANB	**Van**	**0.33**	**192**	*e*Pg	**Pb**	**07 29 44.9**	**+0.3**
VANB				*e*Sg	**Sb**	**07 29 51.9**	**+2.0**
TVAN	**Van**	**0.39**	**188**	*i* P	**Pg**	**07 29 44.0**	**-0.3**
TVAN				*i* S	**Sb**	**07 29 52.9**	**+1.0**
TVAN	**Van**	**0.39**	**188**	P	**Pg**	**07 29 44.0**	**-0.3**
TVAN				S	**Sb**	**07 29 52.8**	**+1.0**
CLDR	**Caldiran**	**0.41**	**56**	*i* P	**Pg**	**07 29 44.0**	**-0.7**
CLDR				*i* S	**Sb**	**07 29 53.0**	**+0.5**
CLDR	**Caldiran**	**0.41**	**56**	P	**Pg**	**07 29 44.0**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.60**	**260**	*i* P	**Pb**	**07 29 49.2**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.60**	**260**	P	**Pb**	**07 29 49.2**	**0.0**
GEVA	**Gevas**	**0.69**	**209**	*i* P	**Pg**	**07 29 49.3**	**-0.5**
GEVA	**Gevas**	**0.69**	**209**	P	**Pg**	**07 29 49.3**	**-0.5**
TUTA	**Tutak**	**0.71**	**314**	*i* P	**Pg**	**07 29 50.7**	**+0.4**
TUTA	**Tutak**	**0.71**	**314**	P	**Pg**	**07 29 50.7**	**+0.4**
GURO	**Guroymak-BITLI**	**1.19**	**253**	PG	**Pg**	**07 29 58.5**	**-0.8**
GURO				SG	**Sg**	**07 30 13.9**	**-0.9**
GURO	**Guroymak-BITLI**	**1.19**	**253**	*e*Pg	**Pg**	**07 29 58.5**	**-0.8**
GURO				*e*Sg	**Sg**	**07 30 13.9**	**-0.9**
SIRT	**Sirnak**	**1.63**	**210**	PN	**Pb**	**07 30 06.5**	**-0.3**
SIRT	**Sirnak**	**1.63**	**210**	*e*Pn	**Pb**	**07 30 06.5**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.86**	**333**	PN	**Pb**	**07 30 10.6**	**-0.2**
BNGB	**Bing¨¶l**	**2.18**	**273**	PN	**Pn**	**07 30 13.7**	**+0.7**
BINT	**Bingol**	**2.33**	**270**	*e*Pn	**Pn**	**07 30 13.7**	**-1.4**

DJA 28 07:31:56.0±0.3, 9°S±4°×111°9E±°, h38km±5km, M3.6/6, MLv3.6/6, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.41**	**126**	P	Pn	07 32 06.0	+0.8
WBSI				S	Sn	07 32 14.3	+2.2
WSI	**Waingapu**	**1.25**	**102**	P	Pn	07 32 15.9	-1.0
WSI				S	Sn	07 32 34.6	+2.1
PLAI	**Plampang**	**1.39**	**294**	P	Pn	07 32 19.3	+0.4
PLAI				S	Sn	07 32 35.9	-0.1
BASI	**Baing, Sumba**	**1.70**	**119**	P	Pn	07 32 23.5	+0.3
BSSI	**Bau Bau, Buton**	**3.53**	**24**	P	Pn	07 32 48.5	+0.1
BSSI				S	Sn	07 33 29.0	+0.1

IDC 28 07:43:01.7±1.7, 19°93S×66°57W, h250km±27km, mb3.2/2, mb1 3.0/4, mb1mx2.9/36, mbtmp3.5/4, Error ellipse: s-maj=35.6km s-min=20.9km az=112.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.91**	**338**	P	Pn	07 44 06.2	+1.0
	0.4nm,0.3s,baz=134,slow=7.3,SNR=9.2						
LPAZ				S	S	07 44 55.5	+0.1
	0.1nm,0.3s,baz=191,slow=11,SNR=9.3						
SIV	**San Ignacio**	**6.54**	**54**	P	Pn	07 44 36.5	-0.2
	0.3nm,0.3s,baz=253,slow=15,SNR=11						
PLCA	**Paso Flores**	**21.02**	**188**	P	P	07 47 26.3	-0.1
	2.3nm,0.8s,baz=20,slow=8.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**74.77**	**70**	P	P	07 54 15.1	+0.1
	0.4nm,0.3s,baz=256,slow=5.6,SNR=8.2						

*ISK **28** 07:43:25.8, 40°.02N×44°.70E, h6km, ML2.6/3*
*CSEM **28** 07:43:28.0±0.5, 40°.05N×44°.56E, h2km, ML2.6, Error ellipse: s-maj=11.9km s-min=5.9km az=95.0*
*TIF **28** 07:43:28.1, 39°.99N×44°.75E, h22km±5km*
*DDA **28** 07:43:28.4, 40°.07N×44°.50E, h10km, Ml3.1*

ISC 28 07:43:28.1±1.2, 40°.07N±0°.02×44°.55E±0°.05, h15km±8km, n42, σ1s25/58, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASB	**TASBURUN-IGDIR**	**0.26**	**251**	PG	**Pg**	**07 43 33.1**	**-0.6**
TASB				SG	**Sb**	**07 43 38.7**	**-0.1**
TASB	**TASBURUN-IGDIR**	**0.26**	**251**	*e*Pg	**Pg**	**07 43 33.1**	**-0.6**
TASB				*e*Sg	**Sb**	**07 43 38.7**	**-0.1**
IGDI	**IGDIR**	**0.42**	**241**	*i* P	**Pg**	**07 43 35.8**	**-0.7**
IGDI				*i* S	**Sg**	**07 43 41.8**	**-0.3**
DYDN	**Diyadin**	**0.85**	**232**	P	**Pn**	**07 43 44.7**	**-1.1**
DYDN	**Diyadin**	**0.85**	**232**	P	**Pn**	**07 43 44.7**	**-1.1**
EAK	**Akyaka**	**0.95**	**311**	*i* P	**Pg**	**07 43 46.6**	**0.0**
EAK				*i* S	**Sg**	**07 44 00.1**	**+1.1**
EAK	**Akyaka**	**0.95**	**311**	P	**Pg**	**07 43 46.6**	**0.0**
EAK				S	**Sg**	**07 44 00.1**	**+1.1**
DIGO	**Kars**	**0.97**	**291**	*i* P	**Pb**	**07 43 45.5**	**-1.2**
DIGO				*i* S	**Sb**	**07 43 59.3**	**-0.2**
DIGO	**Kars**	**0.97**	**291**	P	**Pb**	**07 43 45.5**	**-1.2**
DIGO				S	**Sb**	**07 43 59.3**	**-0.2**
**

KK31	**Karatay Array**	**5.24**	**342**	⇑Pn	**Pn**	**07 47 39.1**	**+2.2**
	1.3nm,0.3s,baz=158,slow=11,SNR=56						
KK31				Sn	**Sn**	**07 48 36.1**	**-0.3**
	3.9nm,0.3s,baz=149,slow=22,SNR=28						
TKM2	**Tokmak 2**	**5.24**	**24**	⇑Pn	**Pn**	**07 47 39.2**	**+2.0**
	1.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**07 48 41.0**	**+4.3**
	2.0nm,0.7s						
MKAR	**Makanchi Array**	**11.15**	**36**	P	**Pn**	**07 48 54.5**	**-1.8**
	0.1nm,0.3s,baz=215,slow=12,SNR=5.3						
KURBB	**Kurchatov Arra**	**13.14**	**16**	P	**P**	**07 49 23.4**	**-4.3**
	0.1nm,0.3s,baz=204,slow=11,SNR=6.4						
AB31	**Akbulak array**	**14.44**	**324**	⇑Pn	**Pn**	**07 49 40.7**	**+1.8**
	1.1nm,0.8s,baz=132,slow=13,SNR=7.3						
AB31				Sn	**Sn**	**07 52 17.0**	**-1.5**
	0.9nm,0.6s,baz=136,slow=23,SNR=6.0						
AKTO	**Aktyubinsk**	**16.16**	**324**	P	**P**	**07 50 03.0**	**+1.8**
	0.3nm,0.3s,baz=128,slow=14,SNR=4.7						
AKTO				S	**Sn**	**07 52 54.5**	**-5.3**
	0.1nm,0.3s,baz=156,slow=20,SNR=2.3						
AKTO	**Aktyubinsk**	**16.16**	**324**	⇓Pn	**P**	**07 50 04.4**	**+3.2**
	3.1nm,0.9s						
AKTO				⇑Sn	**Sn**	**07 52 59.8**	**0.0**
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**17.85**	**24**	P	**Pn**	**07 50 18.6**	**-2.2**
	0.2nm,0.3s,baz=216,slow=11,SNR=7.2						
TORD	**Torodi Ar. Bea**	**67.15**	**269**	P	**P**	**07 57 00.7**	**-0.4**
	0.2nm,0.5s,baz=53,slow=6.1,SNR=3.1						

GUC 28 07:48:27.9±0.4,35°51S×73°01W,h27km±7km,ML3.6,1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.65**	**164**	*eP*	Pb	07 48 39.4	-1.2
COCH				*i* S	Sb	07 48 48.4	-0.9
GO05	**Hualaæø**	**1.01**	**61**	⇑*i*P	Pn	07 48 45.6	-0.8
GO05				*i* S	Sb	07 48 58.4	-1.3
CCHI	**Chillan**	**1.33**	**146**	*eP*	Pn	07 48 51.0	+0.3
CCHI				*eS*	Sn	07 49 08.0	+0.5
CLCH	**Cerro Calan**	**2.93**	**45**	*eP*	Pn	07 49 13.6	+0.8
CLCH				IAML		07 50 08.2	
	comp=E,227nm,0.6s						
ROCH	**El Roble**	**3.02**	**34**	*eP*	Pn	07 49 15.2	+1.0
ROCH				IAML		07 50 09.7	
	comp=N,148nm,0.5s						

WEL 28 07:59:11.9,40°2S±0.6×17°5E±°,h20km±2km,ML3.7/48, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.29**	**87**	P	Pb	07 59 18.9	+0.5
OHWZ	**Ohakea**	**0.29**	**87**	S	Sb	07 59 24.4	+1.6
OGWZ	**Otaki Gorge**	**0.62**	**164**	P	Pb	07 59 24.2	+0.1
OGWZ	**Otaki Gorge**	**0.62**	**164**	S	Sb	07 59 32.4	0.0
KIW	**Kapiti Island**	**0.64**	**182**	P	Pb	07 59 24.2	-0.2
KIW	**Kapiti Island**	**0.64**	**182**	S	Sb	07 59 32.6	-0.4
MRZ	**Mangatainoka R**	**0.65**	**132**	P	Pb	07 59 24.8	+0.1
MRZ	**Mangatainoka R**	**0.65**	**132**	S	Sb	07 59 33.8	+0.4
POWZ	**Post Office Ro**	**0.65**	**105**	P	Pb	07 59 24.7	0.0
POWZ	**Post Office Ro**	**0.65**	**105**	S	Sb	07 59 33.5	+0.1
TSZ	**Takapari Road**	**0.80**	**79**	P	Pb	07 59 26.9	-0.2
HOWZ	**Holdsworth Sta**	**0.80**	**147**	P	Pb	07 59 27.4	+0.2
HOWZ	**Holdsworth Sta**	**0.80**	**147**	S	Sb	07 59 38.0	+0.4
PRWZ	**Pori Road**	**0.85**	**113**	P	Pn	07 59 28.5	-0.3
PRWZ	**Pori Road**	**0.85**	**113**	S	Sn	07 59 40.1	-0.6
LREZ	**Lake Rotokare**	**0.87**	**331**	P	Pn	07 59 29.6	+0.7
CAW	**Cannon Point**	**0.89**	**174**	P	Pb	07 59 28.6	0.0
TIWZ	**Tintock**	**0.91**	**128**	P	Pn	07 59 29.4	-0.2
MTVZ	**Mangateitei**	**0.93**	**26**	P	Pb	07 59 28.9	-0.5
DVHZ	**Dannevirke**	**0.94**	**95**	P	Pb	07 59 29.7	+0.1
DUWZ	**D'Urville Isla**	**0.97**	**233**	P	Pn	07 59 30.3	-0.1
PKVZ	**Pokaka**	**0.98**	**19**	P	Pb	07 59 29.8	-0.5
PNHZ	**Pukenui**	**1.01**	**73**	P	Pb	07 59 30.3	-0.5
MOVZ	**Moawhango**	**1.03**	**38**	P	Pb	07 59 29.9	-1.1
MTW	**Mount Morrison**	**1.03**	**156**	P	Pb	07 59 31.0	0.0
TRVZ	**Turoa**	**1.03**	**27**	P	Pb	07 59 30.5	-0.7
DRZ	**Dome Shelter**	**1.06**	**27**	P	Pb	07 59 31.3	-0.5
WHVZ	**Whangaehu Hut**	**1.06**	**28**	P	Pb	07 59 31.1	-0.6
PREZ	**Palmer Road**	**1.07**	**325**	P	Pn	07 59 32.6	+0.9
FWVZ	**Far West T-bar**	**1.07**	**26**	P	Pb	07 59 31.2	-0.8
BFZ	**Birch Farm**	**1.10**	**115**	P	Pn	07 59 31.8	-0.4
TUVZ	**Tukino**	**1.10**	**30**	P	Pn	07 59 31.7	-0.6
VRZ	**Vera Road**	**1.10**	**353**	P	Pn	07 59 32.3	0.0
TCW	**Tory Channel**	**1.11**	**207**	P	Pn	07 59 31.8	-0.5
COVZ	**Chateau Observ**	**1.12**	**25**	P	Pn	07 59 31.9	-0.7
BHHZ	**Black Hill Sta**	**1.13**	**50**	P	Pb	07 59 32.5	-0.3
TMWZ	**Te Maipa**	**1.14**	**141**	P	Pn	07 59 32.5	-0.3
NMEZ	**Namu Road**	**1.15**	**314**	P	Pb	07 59 34.2	+1.1
WPHZ	**Waipukurau**	**1.16**	**83**	P	Pb	07 59 33.7	+0.5
NGZ	**Ngauruhoe**	**1.16**	**26**	P	Pn	07 59 33.0	-0.2
CPWZ	**Castlepoint**	**1.18**	**126**	P	Pb	07 59 34.6	+1.0
BHW	**Baring Head**	**1.19**	**183**	P	Pb	07 59 33.8	0.0
ANWZ	**Angora Road**	**1.20**	**102**	P	Pn	07 59 33.5	0.0
TWVZ	**Taurewa**	**1.21**	**19**	P	Pn	07 59 33.0	-0.8
WTVZ	**West Tongariro**	**1.21**	**25**	P	Pn	07 59 33.2	-0.6
MSWZ	**Moikau Station**	**1.22**	**169**	P	Pb	07 59 34.1	-0.1
PAWZ	**Paruwai Farm**	**1.22**	**163**	P	Pb	07 59 34.1	-0.1
MHEZ	**Mangahewa**	**1.24**	**337**	P	Pb	07 59 35.6	+1.0
KRHZ	**Kereru**	**1.24**	**63**	P	Pn	07 59 34.1	0.0
KRVZ	**Karewarewa**	**1.25**	**26**	P	Pn	07 59 34.3	-0.1
PKE	**Pukeiti**	**1.26**	**324**	P	Pb	07 59 36.3	+1.3
PRHZ	**Porangahau**	**1.30**	**93**	P	Pb	07 59 35.3	-0.3
TRWZ	**Traveller**	**1.30**	**155**	P	Pb	07 59 35.5	-0.2
PLWZ	**Palliser**	**1.37**	**170**	P	Pn	07 59 36.3	+0.4
KATZ	**Kakaramea**	**1.38**	**25**	P	Pn	07 59 35.9	-0.2
KWHZ	**Kaweka Forest**	**1.39**	**56**	P	Pn	07 59 36.7	+0.4
TUWZ	**Tuamarina**	**1.43**	**212**	P	Pn	07 59 37.1	+0.5
RITZ	**Rihia Road**	**1.43**	**30**	P	Pb	07 59 37.4	-0.6
PXZ	**Pawanui**	**1.48**	**83**	P	Pn	07 59 37.5	0.0
RATZ	**Rangitukua**	**1.50**	**26**	P	Pb	07 59 38.8	-0.2
KAHZ	**Kahuranaki**	**1.55**	**75**	P	Pn	07 59 38.5	+0.2
NNZ	**Nelson**	**1.55**	**230**	P	Pn	07 59 38.9	+0.6
MCHZ	**McNeill Hill**	**1.56**	**61**	P	Pb	07 59 39.4	-0.7
BKZ	**Black Stump Fm**	**1.59**	**49**	P	Pn	07 59 39.6	+0.5
HATZ	**Hinemaiaia**	**1.60**	**34**	P	Pn	07 59 39.8	+0.7
WATZ	**Wairara**	**1.63**	**22**	P	Pn	07 59 40.2	+0.6
BSWZ	**Blackbirch Sta**	**1.70**	**208**	P	Pb	07 59 41.5	-0.9
HIZ	**Hauiti**	**1.71**	**358**	P	Pn	07 59 40.7	+0.1
NMHZ	**Naumai**	**1.83**	**53**	P	Pn	07 59 43.4	+1.1
ARHZ	**Aropaoanui**	**1.85**	**59**	P	Pb	07 59 43.9	-1.2
KUTZ	**Kaahu Road**	**1.86**	**22**	P	Pb	07 59 44.5	-0.7
QRZ	**Quartz Range**	**1.94**	**251**	P	Pn	07 59 44.1	+0.4
WPRZ	**Whakapapatarin**	**1.94**	**29**	P	Pb	07 59 46.5	-0.2
TLZ	**Tolley Road**	**1.95**	**14**	P	Pn	07 59 43.8	0.0
ALRZ	**Allen Road**	**1.98**	**34**	P	Pn	07 59 44.4	+0.1
MTHZ	**Maungataniwha**	**2.01**	**48**	P	Pn	07 59 45.3	+0.6
PRRZ	**Plateau Road**	**2.06**	**34**	P	Pn	07 59 46.0	+0.7
GRRZ	**Galatos Road**	**2.08**	**26**	P	Pb	07 59 50.1	+1.1
HRRZ	**Handcock Road**	**2.10**	**30**	P	Pb	07 59 48.2	-1.2
WHHZ	**Waihua**	**2.11**	**58**	P	Pb	07 59 51.8	+2.4
RAHZ	**Arahi**	**2.11**	**52**	P	Pb	07 59 49.4	-0.1
THZ	**Tophouse**	**2.18**	**224**	P	Pn	07 59 48.1	+1.1
RRRZ	**Republican Roa**	**2.24**	**33**	P	Pb	07 59 51.8	+0.1
MUGZ	**Murupara**	**2.25**	**40**	P	Pb	07 59 52.1	+0.3
HLRZ	**Highlands Stat**	**2.25**	**30**	P	Pb	07 59 55.3	+3.4
RTZ	**Ruatahuna**	**2.25**	**45**	P	Pb	07 59 52.3	+0.4
UTU	**Utuhina**	**2.26**	**26**	P	Pb	07 59 53.0	+1.0
TARZ	**Mount Tarawera**	**2.33**	**32**	P	Pb	07 59 54.7	+1.5
NGRZ	**Ngongotaha**	**2.33**	**25**	P	Pb	07 59 54.3	+1.1
SNGZ	**Shannon Statio**	**2.35**	**53**	P	Pb	07 59 52.0	-1.5
KARZ	**Kaharoa**	**2.42**	**25**	P	Pb	07 59 56.1	+1.3
KHZ	**Kahutara**	**2.43**	**205**	P	Pn	07 59 50.6	+0.1
MHGZ	**Mahia Peninsul**	**2.52**	**66**	P	Pn	07 59 50.9	-0.9
TOZ	**Tahuroa Road**	**2.52**	**10**	P	Pn	07 59 51.8	+0.1
URZ	**Urewera**	**2.58**	**41**	P	Pn	07 59 52.2	-0.4
PRGZ	**Paritu Road**	**2.62**	**61**	P	Pn	07 59 52.0	-1.1
TGRZ	**Tauranga**	**2.69**	**23**	P	Pb	07 59 56.9	-2.5
MWZ	**Matawai**	**2.75**	**48**	P	Pn	07 59 54.9	-0.1
DSZ	**Denniston Nort**	**2.82**	**236**	P	Pn	07 59 57.0	+1.1
TKGZ	**Te Karaka**	**2.87**	**53**	P	Pn	07 59 56.2	-0.3
RUGZ	**Raukumara Rang**	**3.10**	**44**	P	Pn	08 00 00.5	+0.7
MKAZ	**Moumakai**	**3.12**	**3**	P	Pn	07 59 59.8	-0.1
AWAZ	**Awhitu Peninsu**	**3.16**	**356**	P	Pn	08 00 01.6	+1.1
LTZ	**Lake Taylor**	**3.25**	**217**	P	Pn	08 00 01.9	+0.1
HAZ	**Te Kaha**	**3.31**	**43**	P	Pn	08 00 02.6	+0.1
WIAZ	**Waiheke Island**	**3.43**	**3**	P	Pn	08 00 04.8	+0.6
RVAZ	**Riverhead Bore**	**3.46**	**355**	P	Pn	08 00 05.8	+1.2
KUZ	**Kuaotunu**	**3.52**	**10**	P	Pn	08 00 07.9	+2.4
WMGZ	**Waiomatatini S**	**3.62**	**50**	P	Pn	08 00 05.3	-1.4
INZ	**Inchbonnie**	**3.63**	**225**	P	Pn	08 00 06.3	-0.6
OXZ	**Oxford**	**3.79**	**214**	P	Pn	08 00 07.8	-1.3

IDC ***28*** *08:25:46.9±0.6,56°.97S×141°.58W,h0km,mb4.3/10, mb1 4.4/10,mb1mx4.2/34,mbtmp4.3/10,MS4.7/28, Ms1 4.7/28,ms1mx4.7/32,Error ellipse: s-maj=24.8km s-min=18.1km az=169.0*

ISCJB ***28*** *08:25:49.1±0.7,57°.4S±0°.1×140°.3W±0°.2,h10km,mb4.6/16, MS5.0/94,Error ellipse: s-maj=20.4km s-min=12.8km az=27.0*

GCMT ***28*** *08:25:51.3±0.1,57°.15S×140°.77W,h25km,MW5.6/132, Moment Tensor Solution. s115,c194; s132,c305; Duration: 1s5 Moment tensor: Scale 10¹⁷Nm; Mrr=0.28±.03; Mθθ2.26±.04; Mϕϕ-1.98±.03; Mrθ-0.10±.08; Mθϕ2.30±.03; Mϕr-0.27±.07; Best double couple: M₀3.14100×10¹⁷ NP1:ϕs21.00000°,δ89.00000°, λ-175.00000°. NP2:ϕs291.00000°,δ85.00000°, λ-1.00000°. Principal axes: T 3.2790, Plg3.0000°, Azm156.0000°; N -0.2770, Plg85.0000°, Azm29.0000°; P -3.0030, Plg4.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***28*** *08:25:51.4±0.5,57°.33S×140°.01W,h10km,mb5.1/12, MS5.1/65,MW5.5 Error ellipse: s-maj=19.8km s-min=15.0km az=151.0,Moment Tensor Solution. s11 Moment tensor: Scale 10¹⁷Nm; Mrr-0.24; Mθθ1.96; Mϕϕ-1.73; Mrθ0.56; Mθϕ1.55; Mϕr-0.37; Best double couple: M₀2.50000×10¹⁷ NP1:ϕs294.00000°,δ86.00000°, λ-16.00000°. NP2:ϕs25.00000°,δ74.00000°, λ-176.00000°. Principal axes: T 2.5800, Plg8.0000°, Azm341.0000°; N -0.1600, Plg74.0000°, Azm101.0000°; P -2.4200, Plg14.0000°, Azm249.0000°;*

ISC 28 08:25:50.8±0.5,57.3S±0.1×140.4W±0.1,h10km,n158, σ2s22/59,mb4.9/16,MS5.0/94,1C-1D,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.13**	**202**	PFAKE		08 31 50.0	+17
SBA				LR	LR		
	comp=Z,3μm,19.0s						
VNDA	**Vanda**	**28.05**	**203**	LR	LR	08 40 07.0	
	comp=Z,1μm,19.0s,baz=80,slow=31						
ODZ	**Otahua Downs**	**32.35**	**271**	PFAKE		08 32 30.0	+10
ODZ				LR	LR		
	comp=Z,3μm,20.0s						
SNZO	**South Karori**	**32.67**	**280**	PFAKE		08 32 40.0	+17
SNZO				LR	LR		
	comp=Z,2μm,21.0s						
QSPA	**South Pole Qui**	**32.88**	**180**	P	**P**	**08 32 25.5**	**+0.8**
	comp=Z,11nm,1.0s,baz=82,slow=4.9,SNR=14						
QSPA				LR	LR	08 43 19.6	
	comp=Z,4μm,21.2s,baz=70,slow=32						
QSPA	**South Pole Qui**	**32.88**	**180**	*eP*	**P**	**08 32 25.6**	**+1.0**
	comp=Z,21nm,1.1s						
BKZ	**Black Stump Fm**	**33.26**	**284**	PFAKE		08 32 40.0	+12
BKZ				LR	LR		
	comp=Z,3μm,21.0s						
URZ	**Urewera**	**33.61**	**286**	PFAKE		08 32 50.0	+19
URZ				LR	LR		
	comp=Z,2μm,21.0s						
RKT	**Rikitea**	**34.34**	**9**	*eS*	S	08 37 49.6	-15
	comp=Z,1μm,32.4s						
RKT				*eLQ*	LQ	08 40 08.8	
	comp=Z,5μm,29.5s						
RKT				*eLR*	LR	08 41 25.7	
	comp=Z,5μm,28.5s,baz=180						
RKT	**Rikitea**	**34.34**	**9**	*eT*	T	09 08 19.6	
	comp=Z,4.8nm,0.2s						
RPN	**Rapa Nui**	**37.28**	**49**	LR	LR	08 45 01.0	
	comp=Z,821nm,20.5s,baz=210,slow=31						
RAR	**Rarotonga**	**38.74**	**330**	LR	LR	08 44 23.0	
	comp=Z,1μm,19.2s,baz=168,slow=29						
TVO	**Taravao**	**39.99**	**347**	*eT*	T	09 15 20.0	
	comp=Z,1.9nm,0.2s						
PPT2	**Papeete2**	**40.22**	**346**	*eS*	S	08 39 21.6	-13
	comp=Z,1μm,26.2s						
PPT2				*eLQ*	LQ	08 42 26.2	
	comp=Z,836nm,26.5s						
PPT2				*eLR*	LR	08 44 02.0	
	comp=Z,7μm,28.5s,baz=178						
PPT2	**Papeete2**	**40.22**	**346**	*eT*	T	09 15 37.7	
	comp=Z,2.7nm,0.3s						
PPT	**Papeete**	**40.24**	**346**	LR	LR	08 45 30.5	
	comp=Z,2μm,19.4s,baz=174,slow=30						
VAH	**Vaihoa**	**42.32**	**350**	*eT*	T	09 18 15.2	
	comp=Z,42nm,0.2s						
PMOR	**Pomariorio Ree**	**42.58**	**349**	*eT*	T	09 18 34.2	
	comp=Z,1.9nm,0.2s						
CASY	**Casey**	**45.90**	**212**	PFAKE		08 34 30.0	+17
CASY				LR	LR		
	comp=Z,2μm,20.0s						
PLCA	**Paso Flores**	**46.51**	**101**	P	**P**	**08 34 20.2**	**+2.2**
	comp=Z,7.7nm,1.1s,baz=227,slow=5.2,SNR=6.0						
PLCA				LR	LR	08 49 13.0	
	comp=Z,1μm,18.0s,baz=248,slow=30						
PLCA	**Paso Flores**	**46.51**	**101**	*eP*	**P**	**08 34 17.7**	**-0.4**
	comp=Z,59nm,1.5s						
VNA3	**Neumayer Olymp**	**47.16**	**160**	P	**P**	**08 34 22.6**	**-0.1**
VNA2	**Neumayer--Watz**	**47.84**	**161**	P	**P**	**08 34 27.7**	**-0.2**
	baz=214,slow=6.8						
VNA1	**Neumayer--Stat**	**47.91**	**161**	P	**P**	**08 34 27.2**	**-1.3**
SNAA	**Sanae**	**47.95**	**163**	P	**P**	**08 34 27.9**	**-1.1**
SNAA	**Sanae**	**47.95**	**163**	P	**P**	**08 34 28.7**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=221,slow=6.8,SNR=20						
SNAA	**Sanae**	**47.95**	**163**	*eP*	**P**	**08 34 27.4**	**-1.5**
	comp=Z,14nm,0.9s						
SNAA				LR	LR		
	comp=Z,1μm,19.0s						
TAOE	**Nuku Hiva Isla**	**48.30**	**0**	*eS*	S	08 41 20.9	-11
	comp=Z,839nm,26.7s						
TAOE				*eLQ*	LQ	08 45 41.0	
	comp=Z,3μm,29.5s						
TAOE				*eLR*	LR	08 47 56.2	
	comp=Z,4μm,27.9s,baz=192						
AFI	**Afiamalu**	**49.41**	**318**	LR	LR	08 49 26.6	
	comp=Z,741nm,21.7s,baz=156,slow=29						
ROC1	**El Roble**	**51.98**	**93**	*eP*	**P**	**08 34 59.9**	**-0.4**
	comp=Z,10.0nm,1.0s						
DZM	**Mont Dzumac**	**52.01**	**290**	LR	LR	08 52 00.8	
	comp=Z,757nm,21.5s,baz=150,slow=31						
DZM	**Mont Dzumac**	**52.01**	**290**	*eLQ*	LQ	08 47 34.8	
	comp=Z,3μm,27.1s						
DZM				*eLR*	LR	08 49 49.4	
	comp=Z,2μm,24.9s						
SYO	**Syowa Base**	**54.02**	**180**	⇑*eP*	**P**	**08 35 11.6**	**-2.8**
SYO	**Syowa Base**	**54.02**	**180**	⇓*epP*	**P**	**08 35 14.0**	**-0.4**
MAW	**Mawson**	**54.25**	**191**	P	**P**	**08 35 15.8**	**-0.3**
	comp=Z,4.9nm,1.0s,baz=160,slow=12,SNR=1.9						
MAW				LR	LR	08 55 40.9	
	comp=Z,1μm,20.5s,baz=158,slow=33						
LCO	**Las Campanas**	**55.21**	**90**	*eP*	**P**	**08 35 23.9**	**-0.1**
	comp=Z,26nm,1.5s						
EIDS	**Eidsvold**	**57.50**	**273**	PFAKE		08 35 50.0	+10
EIDS				LR	LR		
	comp=Z,900nm,20.0s						
STKA	**Stephens Creek**	**57.52**	**261**	LR	LR	08 55 08.4	
	comp=Z,900nm,21.2s,baz=128,slow=31						
BBOO	**Buckleboo**	**59.74**	**256**	PFAKE		08 36 10.0	+14
BBOO				LR	LR		
	comp=Z,1μm,22.0s						
PB11	**IPOC Station P**	**63.17**	**85**	*eP*	**P**	**08 36 19.2**	**+0.1**
	comp=Z,26nm,1.1s						
MNMC	**Minye Minye**	**63.72**	**85**	*eP*	**P**	**08 36 21.6**	**-1.3**
	comp=Z,28nm,0.9s						
CTA	**Charters Tower**	**64.37**	**273**	LR	LR	09 00 49.8	
	comp=Z,316nm,19.9s,baz=144,slow=33						
CPUP	**Villa Florida**	**64.56**	**99**	P	**P**	**08 36 30.3**	**+2.4**
	comp=Z,5.6nm,1.2s,baz=241,slow=13,SNR=2.9						
CPUP				LR	LR	09 00 12.7	
	comp=Z,1μm,19.1s,baz=225,slow=32						
CPUP	**Villa Florida**	**64.56**	**99**	*eP*	**P**	**08 36 26.2**	**-1.7**
	comp=Z,60nm,1.9s						
NNA	**Nana**	**65.78**	**74**	PFAKE		08 36 50.0	+14
NNA				LR	LR		
	comp=Z,1μm,22.0s						
LPAZ	**La Paz**	**66.84**	**84**	P	**P**	**08 36 44.0**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=187,slow=3.4,SNR=10						
LPAZ				LR	LR	08 58 42.3	
	comp=Z,594nm,21.7s,baz=206,slow=29						
LPAZ	**La Paz**	**66.84**	**84**	*eP*	**P**	**08 36 41.4**	**-2.1**
	comp=Z,30nm,1.3s						
AS01	**Alice Springs**	**68.13**	**260**	*eP*	**P**	**08 36 51.7**	**+0.8**
ASAR	**Alice Springs**	**68.15**	**260**	P	P	08 36 43.9	-7.2
	comp=Z,0.7nm,0.8s,baz=139,slow=6.7,SNR=7.9						
ASAR				LR	LR	09 03 02.2	
	comp=Z,320nm,20.0s,baz=72,slow=33						
H01W1	**Cape Leeuwin H**	**68.97**	**238**	T	T	09 52 47.0	
	baz=145						
H01W2	**Cape Leeuwin H**	**68.97**	**238**	T	T	09 52 46.1	
	baz=145						
H01W3	**Cape Leeuwin H**	**68.98**	**238**	T	T	09 52 58.2	
	baz=145						
NWAO	**Narrogin (SRO)**	**69.14**	**242**	LR	LR	08 59 46.3	
	comp=Z,560nm,18.7s,slow=30						
WR0	**Warramunga Arr**	**70.82**	**263**	PFAKE		08 37 20.0	+12
WR0				LR	LR		
	comp=Z,700nm,20.0s						
WR9	**Warramunga Arr**	**70.84**	**263**	PFAKE		08 37 20.0	+12
WR9				LR	LR		
	comp=Z,700nm,21.0s						
WR8	**Warramunga Arr**	**70.84**	**263**	PFAKE		08 37 20.0	+12
WR8				LR	LR		
	comp=Z,700nm,21.0s						
WRA	**Warramunga Arr**	**70.94**	**263**	P	P	08 37 01.6	-6.7
	comp=Z,0.6nm,0.6s,baz=146,slow=5.4,SNR=12						
WRA				LR	LR	09 03 54.1	
	comp=Z,605nm,20.6s,baz=230,slow=32						
PMG	**Port Moresby**	**72.69**	**280**	LR	LR	09 04 03.4	
	comp=Z,435nm,20.8s,baz=172,slow=32						
OTAV	**Otavalo**	**75.39**	**66**	*eP*	**P**	**08 37 35.7**	**+0.6**
	comp=Z,23nm,1.6s						
OTAV				LR	LR		
	comp=Z,400nm,20.0s						
SAML	**Samuel**	**75.59**	**84**	*eP*	**P**	**08 37 34.5**	**-1.2**
	comp=Z,14nm,1.2s						
TUMC	**Tumaco**	**76.62**	**65**	PFAKE		08 37 50.0	+8.5
TUMC				LR	LR		
	comp=Z,800nm,20.0s						
MBWA	**Marble Bar**	**77.64**	**250**	PFAKE		08 38 00.0	+13
MBWA				LR	LR		
	comp=Z,900nm,20.0s						
JTS	**JuntasAbangare**	**81.11**	**55**	LR	LR	09 04 36.4	
	comp=Z,258nm,20.1s,baz=241,slow=29						
HDC	**Heredia**	**81.23**	**56**	PFAKE		08 38 20.0	+13
HDC				LR	LR		
	comp=Z,400nm,19.0s						
ROSC	**El Rosal**	**81.41**	**67**	P	**P**	**08 38 09.6**	**+1.4**
	comp=Z,1.4nm,0.4s,baz=310,slow=17,SNR=3.3						
ROSC				LR	LR	09 08 11.5	
	comp=Z,184nm,20.4s,baz=218,slow=31						
ROSC	**El Rosal**	**81.41**	**67**	*eP*	**P**	**08 38 09.3**	**+1.1**
	comp=Z,12nm,1.2s						
SAUI	**Saumlaki**	**82.45**	**267**	PFAKE		08 38 30.0	+17
SAUI				LR	LR		
	comp=Z,1μm,19.0s						
BATI	**Baumata**	**84.72**	**259**	LR	LR	09 13 39.3	
	comp=Z,1μm,21.0s,baz=278,slow=34						
SOEI	**Soe**	**84.77**	**260**	PFAKE		08 38 40.0	+15
SOEI				LR	LR		
	comp=Z,1μm,21.0s						
LPIG	**La Paz**	**84.91**	**27**	LR	LR	09 07 20.0	
	comp=Z,249nm,20.7s,baz=204,slow=29						
FAKI	**Fak Fak**	**86.15**	**271**	PFAKE		08 38 40.0	+7.9
FAKI				LR	LR		
	comp=Z,800nm,22.0s						
SDV	**Santo Domingo**	**86.72**	**68**	LR	LR	09 12 51.3	
	comp=Z,379nm,18.4s,baz=213,slow=32						
PCRV	**Puerto La Cruz**	**90.89**	**73**	LR	LR	09 14 40.1	
	comp=Z,1μm,18.6s,baz=184,slow=32						
KAPI	**Kappang**	**91.15**	**259**	PFAKE		08 39 10.0	+14
KAPI				LR	LR		
	comp=Z,600nm,21.0s						
MTDJ	**Mount Denham**	**91.44**	**58**	PFAKE		08 39 10.0	+13
MTDJ				LR	LR		
	comp=Z,400nm,22.0s						
TXAR	**Lajitas Array**	**91.66**	**31**	P	**P**	**08 38 56.6**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=200,slow=6.7,SNR=3.0						
RCBR	**Riachuelo**	**92.88**	**105**	PFAKE		08 39 10.0	+6.1
RCBR				LR	LR		
	comp=Z,14μm,22.0s						
GUMO	**Guam**	**93.29**	**290**	LR	LR	09 15 51.7	
	comp=Z,94nm,19.5s,baz=124,slow=32						
BOSA	**Boshof**

KMBO				LR	LR			
	comp=Z,1μm,22.0s							
ILAR	**Eielson Array**	**121.83**	**357**	PKP	**PKPdf**	**08 44 39.8**	**-3.6**
	comp=Z,1.8nm,0.9s,baz=207,slow=1.9,SNR=11							
GAMB	**Gambell**	**123.10**	**344**	PFAKE		08 45 00.0	+14
GAMB				LR	LR			
	comp=Z,200nm,18.0s							
GYA	**Guiyang**	**124.21**	**266**	*e*Pdif	**Pdif**	**08 41 26.0**	**+2.4**
GYA				PKP	**pPKPdf**	**08 44 51.5**	**-1.3**
GYA				PP	**PP**	**08 46 41.0**	**+6.4**
MDJ	**Mudanjiang**	**126.02**	**298**	PFAKE		08 45 00.0	+7.9
MDJ				LR	LR			
	comp=Z,400nm,20.0s							
KOWA	**Kowa**	**126.12**	**124**	PFAKE		08 45 00.0	+6.8
KOWA				LR	LR			
	comp=Z,500nm,21.0s							
TORD	**Torodi Ar. Bea**	**127.37**	**131**	PKP	**PKPdf**	**08 44 55.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=187,slow=1.2,SNR=3.2							
CD2	**Chengdu**	**129.27**	**267**	PKP	**PKPdf**	**08 45 00.0**	**+1.1**
CD2				pPKP	sPKPdf	08 45 03.5	+0.1
CD2				sPKP		08 45 04.8	
CD2				PP	**PP**	**08 47 10.0**	**+1.9**
CD2				SKS	**SKSdf**	**08 52 11.5**	**+1.2**
CD2	**Chengdu**	**129.27**	**267**	SS	SS	09 04 34.0	+5.0
FURI	**Furi**	**131.73**	**179**	PFAKE		08 45 20.0	+16
FURI				LR	LR			
	comp=Z,800nm,20.0s							
HHC	**Hu-ho-hao-te**	**132.45**	**282**	*e*PKP	**PKPdf**	**08 45 05.0**	**+0.4**
HHC				PP	**PP**	**08 47 28.3**	**-0.5**
HHC	**Hu-ho-hao-te**	**132.45**	**282**	SS	SS	09 05 12.0	+4.0
DAMY	**Dhamar**	**137.22**	**187**	PFAKE		08 45 30.0	+15
DAMY				LR	LR			
	comp=Z,500nm,20.0s							
TAM	**Tamanrasset**	**137.59**	**130**	PFAKE		08 45 30.0	+15
TAM				LR	LR			
	comp=Z,300nm,20.0s							
YAK	**Yakutsk**	**137.76**	**315**	PFAKE		08 45 30.0	+16
YAK				LR	LR			
	comp=Z,300nm,20.0s							
TIXI	**Tiksi**	**143.01**	**328**	PKP	**PKPdf**	**08 45 19.1**	**-3.8**
	comp=Z,0.8nm,0.4s,baz=16,slow=2.2,SNR=3.2							
TIXI	**Tiksi**	**143.01**	**328**	PKP	**PKPdf**	**08 45 19.1**	**-3.8**
TIXI				LR	LR			
	comp=Z,401nm,20.0s							
PCBR	**Castelo Branco**	**145.12**	**99**	*e*PKPdf	**PKPdf**	**08 45 33.3**	**+5.7**
MTE	**Manteigas**	**145.48**	**99**	*e*PKPdf	**PKPab**	**08 45 29.5**	**+0.8**
PVIS	**Viseu**	**145.52**	**98**	*e*PKPdf	**PKPab**	**08 45 29.6**	**+0.8**
UOSS	**Minazif**	**145.57**	**207**	*e*PKPdf	**PKPdf**	**08 45 27.5**	**-1.3**
UOSS				LR	LR			
	comp=Z,400nm,20.0s							
RAYN	**Ar Rayn**	**146.01**	**190**	*e*PKPdf	**PKPdf**	**08 45 29.2**	**-0.5**
POLO	**Lamas de Olo**	**146.03**	**97**	*e*PKPdf	**PKPab**	**08 45 36.5**	**+5.8**
MVO	**Moncorvo**	**146.30**	**98**	*e*PKPdf	**PKPab**	**08 45 32.2**	**+0.5**
ESDC	**Sonseca Array**	**146.87**	**103**	PKPbc	**PKPbc**	**08 45 32.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=273,slow=4.4,SNR=6.8							
ES19	**SONSECA Array**	**146.92**	**103**	*e*PKPdf	**PKPdf**	**08 45 30.7**	**-0.1**
KEST	**Kesra**	**150.43**	**124**	PFAKE		08 45 50.0	+1.6
KEST				LR	LR			
	comp=Z,500nm,21.0s							
KSH	**Kashi**	**150.53**	**249**	*e*PKPbc	**PKPbc**	**08 45 40.0**	**-2.1**
KSH				PP	PP	08 49 26.0	+7.3
NRN	**Naryn**	**151.94**	**251**	*e*PKPdf	**PKPbc**	**08 45 44.5**	**-1.1**
MK01	**Makanchi Array**	**152.18**	**266**	*e*PKPdf	**PKPdf**	**08 45 41.6**	**+2.8**
MK31	**Makanchi Array**	**152.20**	**266**	*e*PKPdf	**PKPdf**	**08 45 40.9**	**+2.0**
MKAR	**Makanchi Array**	**152.20**	**266**	PKPbc	**PKPbc**	**08 45 41.9**	**-3.8**
	comp=Z,1.4nm,0.8s,baz=259,slow=1.5,SNR=9.7							
MKAR	**Makanchi Array**	**152.20**	**266**	*e*PKPdf	**PKPdf**	**08 45 40.0**	**+1.1**
MAKZ	**Makanchi**	**152.38**	**266**	*e*PKPdf	**PKPbc**	**08 45 42.2**	**-3.8**
WDD	**Wied Dalam**	**152.75**	**131**	PFAKE		08 45 50.0	+2.9
WDD				LR	LR			
	comp=Z,400nm,19.0s							
VSL	**Villasalto**	**153.49**	**119**	PFAKE		08 45 50.0	+1.3
VSL				LR	LR			
	comp=Z,300nm,19.0s							
CLTB	**Caltabellotta**	**153.68**	**127**	PFAKE		08 45 50.0	+0.8
CLTB				LR	LR			
	comp=Z,600nm,20.0s							
CEL	**Celeste**	**155.39**	**130**	PFAKE		08 46 00.0	-9.2
CEL				LR	LR			
	comp=Z,400nm,21.0s							
IDI	**Anoyia**	**155.86**	**149**	PFAKE		08 46 00.0	-11
IDI				LR	LR			
	comp=Z,300nm,19.0s							
TIP	**Timpagrande**	**156.52**	**131**	PFAKE		08 46 00.0	-14
TIP				LR	LR			
	comp=Z,500nm,22.0s							
KARP	**Karpathos**	**156.70**	**154**	PFAKE		08 46 00.0	+14
KARP				LR	LR			
	comp=Z,300nm,22.0s							
SANT	**Santorini**	**157.04**	**150**	PFAKE		08 46 00.0	+14
SANT				LR	LR			
	comp=Z,300nm,20.0s							
CSS	**Mathiatis**	**157.28**	**166**	PFAKE		08 46 00.0	+14
CSS				LR	LR			
	comp=Z,100nm,20.0s							
AQU	**L'Aquila**	**157.62**	**121**	PFAKE		08 46 00.0	+13
AQU				LR	LR			
	comp=Z,500nm,22.0s							
FUORN	**Ofenpass-Fuorn**	**159.16**	**108**	PFAKE		08 46 00.0	+12
FUORN				LR	LR			
	comp=Z,400nm,21.0s							
ISP	**Isparta**	**159.62**	**159**	PFAKE		08 46 00.0	+11
ISP				LR	LR			
	comp=Z,300nm,20.0s							
AKTO	**Aktyubinsk**	**167.20**	**245**	PKPab	**PKPab**	**08 46 56.8**	**-3.7**
	comp=Z,2.0nm,0.8s,baz=108,slow=4.0,SNR=2.8							
AKASG	**Malin Array Be**	**171.00**	**133**	PKPab	**PKPab**	**08 47 18.7**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=193,slow=3.7,SNR=2.3							

IDC 28 08:31:07.3±3.0, 53.72N×88.15E, h0km, mb1 3.0/2, mb1mx2.8/71, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=24.4km s-min=17.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**278**	*i*		08 43 53.7	
	baz=96,slow=335,SNR=12						
ZALV	**Zalesovo Beam**	**1.99**	**278**	Pn	Pn	08 31 42.6	+0.5
	3.9nm,0.3s,baz=96,slow=12,SNR=20						
ZALV				Lg	Lg	08 32 10.3	
	4.0nm,0.3s,baz=92,slow=36,SNR=13						
KURBB	**Kurchatov Arra**	**6.68**	**246**	Pn	Pn	08 32 47.1	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=5.1						
KURBB				Sn	Sn	08 34 01.5	-1.8
	0.0nm,0.3s,baz=79,slow=29,SNR=3.0						
KURBB				Lg	Lg	08 34 40.5	
	0.1nm,0.3s,baz=61,slow=31,SNR=7.0						
MKAR	**Makanchi Array**	**7.88**	**211**	Pn	Pn	08 33 03.8	+0.7
	0.1nm,0.3s,baz=22,slow=15,SNR=4.9						
MKAR				Sn	Sn	08 34 33.7	+0.7
	0.1nm,0.3s,baz=30,slow=17,SNR=3.6						
MKAR				Lg	Lg	08 35 17.4	
	0.1nm,0.3s,baz=26,slow=27,SNR=5.8						

TRN 28 08:45:10.5, 11.97N×61.27W, h2km, MD3.6, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRGR	**Grenville**	**0.41**	**294**	*e*P	Pg	08 45 18.6	+0.2
GRGR				*e*S	Sg	08 45 24.4	+0.6
SVB	**Belmont**	**1.30**	**1**	*e*P	Pn	08 45 36.6	+0.9
SVB				*e*S	Sn	08 45 54.2	+0.5
SVCV	**St. Vincent, C**	**1.30**	**5**	*e*P	Pn	08 45 36.0	+0.2
SVCV				*e*S	Sn	08 45 54.2	+0.3
SVV	**Soufriere Volc**	**1.35**	**2**	*e*P	Pg	08 45 36.2	-0.1
SVV				*e*S	Sn	08 45 55.9	+1.0
SSV	**Crater Summit**	**1.36**	**3**	*e*P	Pg	08 45 36.4	-0.1
SSV				*e*S	Sn	08 45 56.2	+1.0
MCLT	**Moule a Chique**	**1.76**	**10**	*e*P	Pn	08 45 42.3	+0.2
MCLT				*e*S	Sb	08 46 06.0	-0.2

IDC 28 08:48:03.9±3.4, 8.73S×120.83E, h158km±26km, mb3.8/1, mb1 3.4/5, mb1mx3.0/65, mbtmp3.7/5, MS3.4/2, Ms1 3.4/2, ms1mx2.8/55, Error ellipse: s-maj=81.7km s-min=29.1km az=36.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.16**	**118**	P	Pn	08 48 52.8	-0.8
	6.1nm,0.3s,baz=288,slow=3.2,SNR=8.9						
BATI				S	Sn	08 49 32.8	+0.6
	13nm,0.3s,baz=323,slow=20,SNR=4.8						
BATI				LR	LR	08 49 49.9	
	comp=Z,93nm,21.0s,baz=288,slow=34						
FITZ	**Fitzroy Crossi**	**10.42**	**154**	P	Pn	08 50 29.0	-0.5
FITZ				S	Sn	08 52 19.2	-5.8
	baz=180,slow=20						
WRA	**Warramunga Arr**	**17.18**	**132**	P	P	08 51 53.5	-0.3
	0.3nm,0.3s,baz=305,slow=13,SNR=15						
WRA				S	S	08 54 57.6	-7.3
	0.5nm,0.3s,baz=300,slow=23,SNR=11						
ASAR	**Alice Springs**	**19.43**	**141**	P	P	08 52 18.9	+0.7
	0.5nm,0.3s,baz=321,slow=11,SNR=32						
ASAR				S	S	08 55 50.1	+0.6
	0.1nm,0.3s,baz=317,slow=19,SNR=3.5						
STKA	**Stephens Creek**	**30.05**	**143**	P	P	08 53 58.1	-0.1
	1.6nm,0.5s,baz=329,slow=8.7,SNR=8.5						
IDI	**Anoyia**	**99.81**	**304**	LR	LR	09 56 20.3	
	comp=Z,99nm,19.3s,baz=138,slow=41						

BJI ***28*** *08:54:09.5, 5.10S×101.36E, h20km, mb5.2/76, mB5.1/49, Ms4.7/56, Ms7 4.5/55*
IDC ***28*** *08:54:13.7±0.4, 4.37S×101.26E, h0km, mb4.9/47, mb1 4.9/49, mb1mx4.8/64, mbtmp4.9/49, ML4.8/2, MS4.2/16, Ms1 4.2/16, ms1mx3.9/61, Error ellipse: s-maj=12.8km s-min=8.9km az=49.0*
DJA ***28*** *08:54:15.9±0.2, 5.5S±2.2°×10.1°E±.°, h10km, M4.9/49, mb5.2/49, mB5.3/30, MLv5.3/19, Mw(mB)4.8/30*
NEIC ***28*** *08:54:16.2±1.6, 4.40S×101.24E, h16km±9km, mb5.2/46, Error ellipse: s-maj=6.5km s-min=2.9km az=47.0*
MOS ***28*** *08:54:17.4±1.1, 4.29S×101.32E, h33km, mb5.3/61, MS4.3/7, Error ellipse: s-maj=8.4km s-min=4.8km az=112.5*
ISCJB ***28*** *08:54:17.1±1.0, 4.41S±0.03×101.23E±0.03, h33km±6km, mb5.1/133, MS4.5/39, Error ellipse: s-maj=6.5km s-min=3.1km az=135.3*

ISC 28 08:54:16.1±0.5, 4.44S±0.04×101.26E±0.04, h16km±2km, h17km; pP-P, n652, σ1s25/651, mb5.2/133, MS4.6/39, 31C-13D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.62**	**37**	P	**Pb**	**08 54 45.5**	**-0.2**
MNAI	**Manna**	**1.69**	**87**	P	**Pb**	**08 54 46.7**	**-0.2**
MNAI	**Manna**	**1.69**	**87**	*e*Pn	**Pb**	**08 54 46.8**	**-0.2**
PPSI	**Pulau Pagai**	**2.08**	**323**	P	**Pn**	**08 54 50.4**	**0.0**
LWLI	**Liwa**	**2.85**	**102**	P	**Pn**	**08 55 02.9**	**+1.8**
MDSI	**Maura Dua**	**2.91**	**91**	P	**Pn**	**08 55 03.8**	**+2.0**
KASI	**Kota Agung**	**3.40**	**109**	P	**Pn**	**08 55 09.9**	**+1.4**
PDSI	**Padang**	**3.60**	**347**	P	**Pn**	**08 55 12.0**	**+0.7**
KLI	**Kotabumi**	**3.61**	**97**	P	**Pn**	**08 55 14.3**	**+2.9**
JMBI	**JAMBI**	**3.67**	**41**	P	**Pn**	**08 55 15.2**	**+3.0**
SISI	**Saibi**	**3.78**	**325**	P	**Pn**	**08 55 13.8**	**+0.1**
BLSI	**Bandar Lampung**	**4.08**	**103**	P	**Pn**	**08 55 20.7**	**+2.8**
RGRI	**Rengat**	**4.21**	**15**	P	**Pn**	**08 55 21.9**	**+2.3**
BKNI	**Bangkinang**	**4.74**	**357**	P	**Pn**	**08 55 28.5**	**+1.5**
BKNI	**Bangkinang**	**4.74**	**357**	*e*Pn	**Pn**	**08 55 27.9**	**+0.9**
CGJI	**Cibinong**	**4.91**	**116**	P	**Pn**	**08 55 29.7**	**+0.4**
SBJI	**Serang**	**5.13**	**109**	P	**Pg**	**08 55 51.8**	**-2.7**
DSRI	**Dabo**	**5.15**	**40**	P	**Pn**	**08 55 35.3**	**+2.7**
PPBI	**Pangkal Pinang**	**5.37**	**65**	P	**Pb**	**08 55 45.4**	**-4.3**
MNSI	**Mandailing Nat**	**5.47**	**342**	P	**Pn**	**08 55 37.4**	**+0.4**
SKJI	**Sukabumi**	**5.85**	**116**	P	**Pb**	**08 55 56.7**	**-1.2**
MYKOM	**Kota Tinggi**	**6.71**	**23**	*e*Pn	**Pn**	**08 55 55.6**	**+1.6**
LEM	**Lembang**	**6.76**	**111**	Pn	**Pn**	**08 55 56.8**	**+1.9**
	28nm,0.3s,baz=324,slow=19,SNR=38						
LEM				LR	LR	08 59 05.3	
	comp=Z,2μm,20.5s,baz=221,slow=43						
LEM	**Lembang**	**6.76**	**111**	P	**Pn**	**08 55 56.7**	**+1.8**
LEM	**Lembang**	**6.76**	**111**	P	**Pn**	**08 55 56.8**	**+1.9**
LEM				pmax	pmax		
	comp=Z,28nm,0.3s						
LEM				MLR	MLR		
	comp=Z,2μm,20.5s						
GSI	**Gunungsitoli**	**6.79**	**327**	P	**Pn**	**08 55 54.3**	**-0.9**
GSI	**Gunungsitoli**	**6.79**	**327**	*e*Pn	**Pn**	**08 55 55.4**	**+0.2**
CISI	**Cisompet, Garu**	**7.22**	**116**	*e*Pn	**Pn**	**08 55 59.8**	**-1.3**
XMIS	**Christmas Isla**	**7.41**	**144**	*e*Pn	**Pn**	**08 56 01.7**	**-2.1**
PSI	**Prapat**	**7.56**	**342**	Pn	**Pn**	**08 56 04.5**	**-1.4**
	comp=Z,8.6nm,0.3s,baz=157,slow=12,SNR=33						
PSI	**Prapat**	**7.56**	**342**	*e*P	**Pn**	**08 56 04.1**	**-1.8**
PSI	**Prapat**	**7.56**	**342**	*e*Pn	**Pn**	**08 56 04.1**	**-1.8**
CMJI	**Cimerak**	**7.88**	**115**	P	**Pn**	**08 56 12.0**	**+1.8**
KPJI	**Karang Pucung**	**8.15**	**111**	P	**Pn**	**08 56 15.9**	**+2.0**
TSI	**Tuntungan**	**8.34**	**341**	P	Pb	08 56 32.9	-7.3
TPTI		**8.67**	**332**	P	**Pn**	**08 56 21.4**	**+0.4**
COCO	**West Island**	**8.85**	**209**	*ce*P	**Pn**	**08 56 20.7**	**-2.8**
COCO	**West Island**	**8.85**	**209**	*e*Pn	**Pn**	**08 56 19.0**	**-4.5**
IPM	**Ipoh**	**8.87**	**358**	*e*Pn	**Pn**	**08 56 25.3**	**+1.6**
SMRI	**Semarang**	**9.50**	**106**	*e*Pn	**Pn**	**08 56 32.3**	**-0.1**
KULM	**Kulim**	**9.69**	**356**	*e*Pn	**Pn**	**08 56 35.7**	**+0.8**
UGM	**Wanagama**	**9.84**	**111**	P	**Pn**	**08 56 38.9**	**+1.9**
UGM	**Wanagama**	**9.84**	**111**	*e*Pn	**Pn**	**08 56 37.5**	**+0.5**
MLSI	**Meulaboh, Aceh**	**9.92**	**331**	P	**Pn**	**08 56 38.5**	**+0.4**
LHMI	**Lhok Sumawe**	**10.53**	**336**	*e*Pn	**Pn**	**08 56 46.0**	**-0.4**
PCJI	**Pacitan**	**10.54**	**111**	P	**Pn**	**08 56 49.1**	**+2.5**
PWJI	**Pagerwojo**	**11.07**	**109**	P	**Pn**	**08 56 55.5**	**+1.6**
STKI	**Sintang**	**11.15**	**67**	P	Pn	08 57 04.5	+10
GRJI	**Gresik**	**11.43**	**103**	P	**Pn**	**08 57 02.3**	**+3.4**
SKLT	**Songkhla**	**11.55**	**357**	P	**Pn**	**08 56 59.0**	**-1.5**
	comp=Z,94nm,1.1s,comp=Z,860nm						
TRTT	**Trang**	**12.30**	**353**	P	**Pn**	**08 57 08.7**	**-2.0**
	comp=Z,11nm,1.3s						
KMMI	**Kalianget**	**12.91**	**102**	P	**P**	**08 57 30.7**	**+1.0**
SBUM	**Sibu**	**12.92**	**58**	*e*Pn	Pn	08 57 24.3	+5.1
ABJI	**Asem Bagus**	**13.32**	**105**	P	**Pn**	**08 57 27.4**	**+2.7**
JAGI	**Jajag, Banyuwa**	**13.42**	**108**	P	**Pn**	**08 57 27.8**	**+1.7**
JAGI	**Jajag, Banyuwa**	**13.42**	**108**	*e*Pn	**Pn**	**08 57 26.1**	**0.0**
SURT	**Suratani**	**13.54**	**350**	P	**Pn**	**08 57 25.4**	**-2.2**
	comp=Z,10nm,0.8s						
SURT				P	**P**	**08 57 37.0**	**+0.3**
	comp=Z,10nm,0.8s						
MTKI	**Muara Teweh, K**	**14.06**	**76**	P	**P**	**08 57 45.8**	**+3.3**
KBKI	**Kotabaru**	**14.92**	**86**	P	**P**	**08 57 55.5**	**+3.4**
PLAI	**Plampang**	**16.97**	**106**	P	**Pn**	**08 58 13.3**	**+0.2**
PHET	**Kaeng Krachan**	**17.32**	**355**	P	**P**	**08 58 18.5**	**-0.2**
	comp=Z,5.8nm,0.8s						
KKM	**Kota Kinabalu**	**18.21**	**55**	*e*P	**P**	**08 58 28.8**	**+0.1**
	comp=Z,66nm,1.1s						
SRAK	**Srakaew**	**18.35**	**2**	P	**Pn**	**08 58 29.9**	**-0.2**
	comp=Z,208nm,0.8s,comp=Z,2μm						
KAPI	**Kappang**	**18.44**	**93**	*e*P	**Pn**	**08 58 31.8**	**+0.5**
	comp=Z,26nm,0.8s						
TTSI	**Tana Toraja**	**18.57**	**86**	P	**Pn**	**08 58 35.0**	**+2.1**
NAYO	**Nakonayok**	**18.64**	**0**	P	**P**	**08 58 32.6**	**-0.6**
	comp=Z,16nm,1.0s						
WBSI	**Waikabubak, Su**	**18.72**	**107**	P	**Pn**	**08 58 34.9**	**+0.2**
BNSI	**Bone**	**18.79**	**91**	P	**Pn**	**08 58 37.4**	**+1.9**
PCI	**Palu**	**18.89**	**80**	P	**Pn**	**08 58 38.6**	**+1.9**
PCI	**Palu**	**18.89**	**80**	P	**Pn**	**08 58 37.9**	**+1.2**
PCI				pmax	pmax		
	comp=Z,246nm,0.9s						
MPSI	**Mapaga**	**19.22**	**76**	P	**Pn**	**08 58 41.9**	**+1.2**
	comp=Z,108nm,0.8s,comp=Z,1μm						
MYLDM	**Lahad Datu**	**19.70**	**61**	*e*P	**Pn**	**08 58 46.9**	**+0.5**
	comp=Z,132nm,1.0s						
BASI	**Baing, Sumba**	**20.00**	**108**	P	**Pn**	**08 58 50.1**	**+0.1**
CHAI	**Chaiyaphum**	**20.23**	**2**	P	**P**	**08 58 51.0**	**+0.3**
	comp=Z,18nm,1.2s,comp=Z,167nm						
APSI	**Ampana**	**20.66**	**81**	P	Pn	08 58 57.9	+0.1
	comp=Z,212nm,0.8s,comp=Z,3μm						
KHON	**Khomkaen**	**20.70**	**4**	P	**P**	**08 58 56.2**	**+0.4**
	comp=Z,29nm,0.8s,comp=Z,1μm						
MRSI	**Marisa**	**21.23**	**77**	P	**P**	**08 59 02.7**	**+1.1**
SKNT	**Sakolnakorn**	**21.45**	**7**	P	**P**	**08 59 02.1**	**-1.8**
	comp=Z,15nm,1.1s						
PHIT	**Phitsanulok**	**21.51**	**358**	P	**P**	**08 59 04.9**	**+0.4**
	comp=Z,60nm,0.8s,comp=Z,500nm						
LUWI	**Luwuk**	**21.75**	**82**	P	**P**	**08 59 09.8**	**+2.6**
	comp=Z,241nm,1.2s,comp=Z,5μm						
LUWI	**Luwuk**	**21.75**	**82**	*e*P	**P**	**08 59 07.1**	**-0.1**
	comp=Z,278nm,1.1s						
CM01	**Chiang Mai Arr**	**22.83**	**354**	*e*P	**P**	**08 59 17.2**	**-1.5**
CM31	**Chiang Mai Arr**	**22.87**	**354**	*e*P	**P**	**08 59 18.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**22.87**	**354**	P	**P**	**08 59 17.6**	**-1.4**
	comp=Z,43nm,0.8s,baz=186,slow=9.0,SNR=69						
CMAR				PcP	**PcP**	**09 03 11.4**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=211,slow=3.6,SNR=4.3						
CMAR				LR	LR	09 10 00.4	
	comp=Z,761nm,18.8s,baz=90,slow=42						
LAMP	**Lampang**	**22.88**	**356**	P	**P**	**08 59 19.8**	**+0.7**
	comp=Z,26nm,1.0s,comp=Z,188nm						
BATI	**Baumata**	**22.94**	**106**	P	**P**	**08 59 19.2**	**-0.7**
	comp=Z,56nm,0.7s,baz=260,slow=6.1,SNR=7.6						
BATI	**Baumata**	**22.94**	**106**	P	**P**	**08 59 20.4**	**+0.5**
CMMT	**Chiang Mai**	**23.22**	**354**	P	**P**	**08 59 21.5**	**-1.2**
	comp=Z,54nm,1.0s						
CHTO	**Chiang Mai**	**23.22**	**354**	P	**P**	**08 59 22.6**	**-0.1**
	comp=Z,239nm,1.1s						
CHTO	**Chiang Mai**	**23.22**	**354**	*e*P	**P**	**08 59 22.3**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,50nm,1.0s						
CHTO	**Chiang Mai**	**23.22**	**354**	*e*P	**P**	**08 59 22.3**	**-0.4**
	comp=Z,50nm,1.0s						
CHTO	**Chiang Mai**	**23.22**	**354**	P	**P**	**08 59 23.0**	**+0.3**
	SNR=18						
CHTO	**Chiang Mai**	**23.22**	**354**	P	**P**	**08 59 23.0**	**+0.3**
	SNR=18						
SOEI	**Soe**	**23.43**	**104**	P	**P**	**08 59 25.2**	**+0.2**
SOEI	**Soe**	**23.43**	**104**	*e*P	**P**	**08 59 23.4**	**-1.6**
	comp=Z,77nm,0.8s						
SOEI				*e*S	**S**	**09 03 37.9**	**-0.1**
PALK	**Pallekele**	**23.59**	**299**	P	**P**	**08 59 25.8**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=112,slow=9.0,SNR=1.9						
PALK				LR	LR	09 08 17.5	
	comp=Z,513nm,19.3s,baz=116,slow=36						
PALK	**Pallekele**	**23.59**	**299**	*e*P	**P**	**08 59 25.6**	**-0.8**
PALK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PALK	**Pallekele**	**23.59**	**299**	*e*P	**P**	**08 59 25.6**	**-0.8**
	comp=Z,7.1nm,0.9s						
CMAI	**Chiengmai2**	**24.32**	**355**	P	**P**	**08 59 34.1**	**+0.7**
	comp=Z,362nm,1.1s						
MBWA	**Marble Bar**	**24.45**	**134**	*e*P	**P**	**08 59 35.2**	**+0.7**
	comp=Z,19nm,0.9s						
SANI	**Sanana**	**24.80**	**85**	P	**P**	**08 59 37.6**	**-0.1**
QIZ	**Qiongzhong**	**24.81**	**20**	P	**P**	**08 59 39.0**	**+1.3**
QIZ				S	**S**	**09 04 02.8**	**+3.0**
QIZ				pmax	pmax		
	comp=Z,43nm,1.6s						
QIZ				LR	LR		
	comp=Z,460nm,9.0s						
QIZ				LR	LR		
	comp=Z,610nm,16.5s						
QIZ				LR	LR		
	comp=Z,540nm,18.6s						
NLAI	**Namlea**	**25.81**	**88**	P	**P**	**08 59 49.1**	**+2.2**
	comp=Z,39nm,0.9s						
LBMI	**Labuha**	**26.48**	**83**	P	P	09 00 03.1	+10
FITZ	**Fitzroy Crossi**	**27.44**	**122**	P	**P**	**09 00 02.0**	**+0.5**
	comp=Z,22nm,0.8s,baz=301,slow=8.5						
H08S2	**Diego Garcia H**	**28.78**	**262**	T	T	09 30 09.9	
	baz=85,slow=75						
H08S3	**Diego Garcia H**	**28.78**	**262**	T	T	09 30 10.2	
	baz=85,slow=75						
H08S1	**Diego Carcia H**	**28.80**	**262**	T	T	09 30 10.6	
	baz=85,slow=75						
KNRA	**Kununurra**	**29.25**	**114**	P	**P**	**09 00 17.2**	**-0.4**
	baz=29,SNR=9.6						
KMI	**Kunming**	**29.42**	**3**	P	**P**	**09 00 20.8**	**+1.5**
KMI				pP	pP	09 00 25.3	+0.9
KMI				sP	sP	09 00 28.3	+1.9
KMI				S	**S**	**09 05 07.8**	**-5.2**
KMI				pmax	pmax		
	comp=Z,47nm,1.0s						
KMI				pmax	pmax		
	comp=Z,140nm,4.0s						
KMI				LR	LR		
	comp=Z,720nm,19.0s						
KMI				LR	LR		
	comp=Z,920nm,16.0s						
KMI				LR	LR		
	comp=Z,840nm,18.4s						
H08N1	**Diego Carcia H**	**30.17**	**265**	T	T	09 32 18.5	
	baz=142						
SWI	**Sorong**	**30.18**	**84**	P	**P**	**09 00 24.3**	**-1.6**
SWI				pmax	pmax		
	comp=Z,36nm,0.9s						
H08N2	**Diego Carcia H**	**30.18**	**265**	T	T	09 32 19.7	
	baz=142						
H08N3	**Diego Carcia H**	**30.19**	**265**	T	T	09 32 18.2	
	baz=142						
MTN	**Manton Dam**	**30.66**	**108**	P	**P**	**09 00 29.3**	**-1.0**
	baz=31,SNR=4.4						
MTN	**Manton Dam**	**30.66**	**108**	*e*P	**P**	**09 00 29.2**	**-1.0**
	comp=Z,39nm,1.3s						
GYA	**Guiyang**	**31.16**	**9**	*i*P	**P**	**09 00 34.8**	**+0.2**
GYA				pP	sP	09 00 43.3	+1.7

WRAB pmax pmax
comp=Z,26nm,0.8s
WRAB Tennant Creek 35.71 118 *e*P **P 09 01 14.6 +0.3**
comp=Z,32nm,0.8s
WB2 Warramunga Arr 35.72 118 *e*P **P 09 01 14.6 +0.2**
comp=Z,31nm,0.8s
GKN Gorkha 36.02 335 *e*P **P 09 01 17.8 +0.9**
comp=Z,115nm,1.0s
KOLN Koldanda 36.27 333 *e*P **P 09 01 20.2 +1.0**
comp=Z,50nm,0.7s
DANN Dangsing 36.70 334 *e*P **P 09 01 24.3 +1.4**
comp=Z,11nm,1.0s
ASAR Alice Springs 36.83 124 P **P 09 01 24.4 +0.6**
comp=Z,5.2nm,0.8s,baz=293,slow=8.2,SNR=52
ASAR PcP **PcP 09 03 46.1 +0.4**
comp=Z,3.0nm,0.8s,baz=304,slow=2.7,SNR=5.6
ASAR LR LR 09 18 05.3
comp=Z,297nm,20.4s,baz=298,slow=39
AS31 Alice Springs 36.83 124 *e*P **P 09 01 24.7 +0.9**
comp=Z,9.3nm,1.1s
PYUN Piuthan 36.83 332 *e*P **P 09 01 24.9 +1.0**
comp=Z,72nm,1.1s
AS01 Alice Springs 36.86 124 *e*P **P 09 01 24.3 +0.2**
WHN Wuhan 36.97 19 ⇓P **P 09 01 25.5 +0.7**
WHN pP **pP 09 01 28.3 -1.6**
WHN S **S 09 07 08.0 -1.6**
WHN LR LR
comp=Z,1μm,14.4s
XAN Xi'an 38.95 10 P **P 09 01 39.8 -1.8**
XAN pP sP 09 01 48.5 -0.2
XAN sP pP 09 01 51.8 +5.2
XAN pmax pmax
comp=Z,53nm,1.0s
XAN pmax pmax
comp=Z,150nm,5.4s
XAN LR LR
comp=Z,490nm,16.3s
XAN LR LR
comp=Z,500nm,14.1s
NJ2 Nanjing 39.97 24 *e*P **P 09 01 48.5 -1.5**
NJ2 pmax pmax
comp=Z,14nm,0.5s
LZH Lanzhou 40.39 3 ⇓P **P 09 01 54.8 +1.2**
LZH pP sP 09 02 00.5 -0.3
LZH sP pP 09 02 04.3 +5.6
LZH PP **PnPn 09 03 30.0 -0.6**
LZH S **S 09 08 02.5 +1.1**
LZH sS sS 09 08 13.3 +3.5
LZH pmax pmax
comp=Z,77nm,1.0s
LZH pmax pmax
comp=Z,360nm,5.2s
LZH LR LR
comp=Z,2μm,14.4s
LZH LR LR
comp=Z,2μm,14.9s
LZH LR LR
comp=Z,2μm,17.1s
QIS Mount Isa 40.57 117 P **P 09 01 55.7 +0.5**
baz=41,SNR=8.7
JOW Kunigami 40.61 39 P **P 09 01 54.7 -0.7**
comp=Z,25nm,1.0s,baz=244,slow=5.0,SNR=9.3
JOW Kunigami 40.61 39 *e*P **P 09 01 55.5 +0.1**
comp=Z,20nm,0.9s
COEN Coen 42.38 106 P **P 09 02 09.9 -0.2**
baz=43,SNR=6.9
COEN Coen 42.38 106 *e*P **P 09 02 10.0 -0.2**
comp=Z,18nm,0.9s
BBOO Buckleboo 43.03 135 P **P 09 02 15.7 +0.5**
baz=43,SNR=6.3
BBOO Buckleboo 43.03 135 *e*P **P 09 02 15.5 +0.2**
comp=Z,12nm,1.0s
TIA Tai'an 43.08 19 P **P 09 02 15.0 -0.5**
TIA pmax pmax
comp=Z,23nm,0.9s
TIA LR LR
comp=Z,400nm,14.0s
TIA LR LR
comp=Z,220nm,12.3s
TIA LR LR
comp=Z,710nm,13.7s
GTA Gaotai 43.66 358 ⇑*i*P **P 09 02 20.8 +0.6**
GTA pP sP 09 02 27.3 -0.1
GTA sP pP 09 02 30.0 +4.6
GTA PcP **PcP 09 04 08.5 +1.1**
GTA S **S 09 08 52.8 +3.3**
GTA sS sS 09 09 04.3 +6.4
GTA SS **SS 09 12 02.5 -2.6**
GTA pmax pmax
comp=Z,22nm,1.0s
GTA pmax pmax
comp=Z,170nm,5.4s
GTA LR LR
comp=Z,360nm,15.7s
GTA LR LR
comp=Z,900nm,18.5s
GTA LR LR
comp=Z,450nm,14.3s
MTSU Mount Surprise 44.23 111 P **P 09 02 25.8 +0.7**
baz=44,SNR=15
HTT Hallett 45.40 134 P **P 09 02 35.2 +1.0**
baz=46,SNR=6.7
PMG Port Moresby 45.80 99 P **P 09 02 37.5 -0.2**
comp=Z,36nm,1.0s,baz=230,slow=4.7,SNR=7.2
PMG Port Moresby 45.80 99*de*P **P 09 02 37.9 +0.3**
PMG pmax pmax
comp=Z,261nm,1.3s
HHC Hu-ho-hao-te 46.05 11 *e*P **P 09 02 40.5 +1.2**
HHC sP sP 09 02 51.8 +5.3
HHC S **S 09 09 27.8 +3.6**
HHC pmax pmax
comp=Z,49nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.9s
HHC LR LR
comp=Z,870nm,16.5s
HHC LR LR
comp=Z,2μm,18.6s
HHC LR LR
comp=Z,450nm,13.7s
BJT Baijiatuau 46.32 16 *e*P **P 09 02 42.0 +0.7**
BJT pmax pmax
comp=Z,49nm,0.9s
BJT Baijiatuau 46.32 16 *e*P **P 09 02 42.0 +0.7**
comp=Z,49nm,0.9s
BJI Beijing 46.34 16⇑*e*P **P 09 02 42.0 +0.6**
BJI pP **pP 09 02 48.0 +1.4**
BJI S S 09 09 38.0 +10
BJI pmax pmax
comp=Z,73nm,0.9s
BJI LR LR
comp=Z,620nm,15.7s
BJI LR LR
comp=Z,660nm,19.2s
BJI LR LR
comp=Z,4μm,59.7s
CTA Charters Tower 46.45 114 P **P 09 02 42.8 +0.1**
comp=Z,18nm,0.9s,baz=290,slow=9.8,SNR=8.4
CTA Charters Tower 46.45 114 P **P 09 02 43.6 +0.9**
baz=47
CTAO Charters Tower 46.45 114 *e*P **P 09 02 43.8 +1.1**
CTAO pmax pmax
comp=Z,47nm,1.1s
CTAO Charters Tower 46.45 114 *e*P **P 09 02 43.8 +1.1**
comp=Z,47nm,1.1s
QLP Quilpie 46.57 123 P **P 09 02 45.1 +1.6**
baz=47,SNR=8.9
STKA Stephens Creek 46.61 131 P **P 09 02 44.4 +0.7**
comp=Z,7.3nm,0.7s,baz=305,slow=8.6,SNR=23
STKA LR LR 09 23 55.3
comp=Z,397nm,20.4s,baz=290,slow=38
STKA Stephens Creek 46.61 131 P **P 09 02 44.7 +1.0**
baz=47,SNR=17
STKA Stephens Creek 46.61 131 *e*P **P 09 02 44.8 +1.0**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 46.61 131 *e*P **P 09 02 44.8 +1.0**
comp=Z,3.4nm,0.9s
JNU Nakatsue 46.72 35 P **P 09 02 42.7 -1.9**
comp=Z,28nm,1.0s,baz=116,slow=2.8,SNR=7.2
JNU Nakatsue 46.72 35 *e*P **P 09 02 44.1 -0.5**
comp=Z,67nm,1.2s
DL2 Dalian 47.07 22 P **P 09 02 47.0 -0.1**
DL2 S **S 09 09 37.0 -1.5**
DL2 pmax pmax
comp=Z,20nm,0.6s
DL2 LR LR
comp=Z,370nm,17.8s
DL2 LR LR
comp=Z,250nm,19.4s
DL2 LR LR
comp=Z,400nm,20.8s
KS15 Wonju Array Si 48.48 28 *e*P **P 09 02 58.6 +0.5**
KS15 *e*PcP **PcP 09 04 24.6 +0.5**
KSAR Wonju Array Be 48.48 28 P **P 09 02 58.3 +0.2**
KSAR 09 04 24.6
KSAR Wonju Array Be 48.48 28 P **P 09 02 58.3 +0.2**
KSAR PcP **PcP 09 04 24.6 +0.5**
KSRS Korea Array 48.51 28 P **P 09 02 58.3 0.0**
comp=Z,34nm,0.9s,baz=218,slow=8.0,SNR=112
KSRS PcP **PcP 09 04 24.6 +0.4**
comp=Z,3.4nm,0.9s,baz=220,slow=3.9,SNR=3.8
KS01 Wonju Array Si 48.52 28 *e*P **P 09 02 58.1 -0.3**
KSH Kashi 49.56 334 P **P 09 03 05.5 -1.1**
KSH sP sP 09 03 17.0 +3.2
KSH PP **PP 09 05 03.8 +2.7**
KSH S **S 09 10 09.5 -4.6**
KSH sS sS 09 10 24.0 +1.3
KSH pmax pmax
comp=Z,18nm,0.9s
KSH pmax pmax
comp=Z,78nm,4.6s
KSH LR LR
comp=Z,350nm,17.2s
KSH LR LR
comp=Z,370nm,19.4s
KSH LR LR
comp=Z,77nm,9.2s
WMQ Urumqi 49.57 347 P **P 09 03 07.5 +1.0**
WMQ pP sP 09 03 15.8 +2.1
WMQ sP pP 09 03 19.3 +7.6
WMQ pmax pmax
comp=Z,170nm,1.1s
WMQ pmax pmax
comp=Z,490nm,4.7s
WMQ LR LR
comp=Z,520nm,18.1s
WMQ LR LR
comp=Z,620nm,18.1s
WMQ LR LR
comp=Z,470nm,22.7s
CMSA Cobar Meteorol 49.61 128 P **P 09 03 08.5 +1.5**
baz=50,SNR=14
WSAR Wadi Sarin 49.87 305 P **P 09 03 10.0 +1.0**
comp=Z,2.9nm,0.8s,baz=134,slow=13,SNR=3.0
RMQ Roma 50.37 121 P **P 09 03 15.3 +2.5**
baz=51,SNR=4.3
SFK Sufi-Kurgan 51.07 333 P **P 09 03 19.0 +0.9**
SFK pmax pmax
comp=Z,24nm,0.9s
PRZ Przheval'sk 51.11 338 P **P 09 03 20.5 +2.2**
PRZ pmax pmax
comp=Z,69nm,1.5s
NRN Naryn 51.15 336 P **P 09 03 20.5 +1.7**
NRN pmax pmax
comp=Z,200nm,1.2s
KDJ Kajisay 51.27 337 P **P 09 03 20.4 +0.9**
KDJ pmax pmax
comp=Z,578nm,0.7s
KDJ Kajisay 51.27 337 *e*P **P 09 03 20.4 +0.9**
comp=Z,52nm,0.8s
PDGK Podgornoye 51.46 340 *i* P **P 09 03 20.9 0.0**
PDGK pmax pmax
comp=Z,72nm,0.9s
ULHL Ulahol 51.73 336 P **P 09 03 23.8 +0.8**
SNR=5.3
KZA Kyzart 52.00 336 P **P 09 03 25.8 +0.6**
SNR=11
EIDS Eidsvold 52.07 119 *e*P **P 09 03 25.4 -0.2**
comp=Z,44nm,1.3s
JHJ Hachijo jima 2 52.21 41 P **P 09 03 26.9 +0.4**
comp=Z,102nm,0.9s,baz=90,slow=20,SNR=2.6
SONA0 Songino Array 52.25 4 *e*P **P 09 03 27.8 +1.1**
SONA0 *e*PcP **PcP 09 04 38.4 +0.4**
SONM Songino Array 52.25 4 P **P 09 03 27.8 +1.1**
comp=Z,55nm,0.8s,baz=185,slow=9.1,SNR=75
SONM PcP **PcP 09 04 38.4 +0.4**
comp=Z,7.0nm,0.6s,baz=187,slow=3.6,SNR=3.5
SONA1 Songino Array 52.26 4 *e*P **P 09 03 27.7 +0.9**
ULN Ulaanbaatar 52.34 5*ce*P **P 09 03 28.0 +0.7**
ULN pmax pmax
comp=Z,39nm,1.0s
ULN Ulaanbaatar 52.34 5 *e*P **P 09 03 28.2 +0.8**
comp=Z,40nm,0.9s
ULN Ulaanbaatar 52.34 5 P **P 09 03 28.5 +1.2**
SNR=15
ULN Ulaanbaatar 52.34 5 P **P 09 03 28.5 +1.2**
SNR=15
TKM2 Tokmak 2 52.56 336 P **P 09 03 29.5 +0.3**
SNR=38
KBK Karagaybulak 52.60 336 P **P 09 03 30.4 +0.9**
SNR=11
AML Almayashu 52.70 334 P **P 09 03 30.6 +0.2**
SNR=5.9
CN2 Changchun 52.74 22⇑*i*P **P 09 03 29.8 -0.4**
CN2 *es*P sP 09 03 37.5 +0.1
CN2 pmax pmax
comp=Z,70nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,17.0s
AAK Ala-Archa 52.77 335 P **P 09 03 31.3 +0.6**
comp=Z,7.2nm,0.9s,baz=139,slow=6.1,SNR=14
AAK Ala-Archa 52.77 335*c i*P **P 09 03 30.7 0.0**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 52.77 335 P **P 09 03 31.5 +0.8**
SNR=7.1
AAK Ala-Archa 52.77 335 *e*P **P 09 03 31.3 +0.6**
AAK *e*P **P 09 03 31.4 +0.8**
AAK Ala-Archa 52.77 335 P **P 09 03 31.7 +1.0**
SNR=6.6
AAK Ala-Archa 52.77 335 P **P 09 03 31.7 +1.0**
SNR=6.6
FRU Bishkek 52.88 336 *i* P **P 09 03 31.0 -0.3**
FRU *i* 09 03 44.0
FRU pmax pmax
comp=Z,26nm,1.4s
EKS2 Erkin-Say 53.09 335 P **P 09 03 33.9 +0.9**
SNR=18
USP Ospenovka 53.29 336 P **P 09 03 34.7 +0.4**
SNR=13
MAJO Matsushiro 53.41 37 *e*P **P 09 03 34.4 -0.9**
MAJO pmax pmax
comp=Z,31nm,1.0s
MAJO Matsushiro 53.41 37 *e*P **P 09 03 34.4 -0.9**
comp=Z,30nm,1.0s
MAT Matsushiro 53.41 37 P **P 09 03 33.9 -1.4**
MAT S **S 09 10 58.6 -8.5**
MJAR Matsushiro Arr 53.41 37 P **P 09 03 34.2 -1.2**
comp=Z,26nm,0.9s,baz=218,slow=8.1,SNR=56
MJB9 Matsu-Tunnel 53.41 37 *e*P **P 09 03 34.5 -0.9**
comp=Z,32nm,1.0s
MNAS Manas 53.50 334 *i* P **P 09 03 35.5 -0.6**
MNAS pmax pmax
comp=Z,29nm,1.1s
MK01 Makanchi Array 53.68 344 *e*P **P 09 03 37.0 -0.1**
MK31 Makanchi Array 53.71 344 *i* P **P 09 03 37.2 -0.1**
MK31 pmax pmax
comp=Z,28nm,0.7s
MK31 Makanchi Array 53.71 344 *e*P **P 09 03 37.3 -0.1**
MK32 Makanchi Array 53.71 344 *e*P **P 09 03 37.2 -0.1**
MKAR Makanchi Array 53.71 344 P **P 09 03 37.2 0.0**
comp=Z,34nm,0.8s,baz=148,slow=8.2,SNR=240
MKAR Makanchi Array 53.71 344 *e*P **P 09 03 37.3 0.0**
comp=Z,199nm,0.9s
MAKZ Makanchi 53.81 344 *i* P **P 09 03 37.0 -1.0**
MAKZ pmax pmax
comp=Z,25nm,1.1s
MAKZ Makanchi 53.81 344 *e*P **P 09 03 37.9 -0.1**
comp=Z,20nm,1.0s
OPO Ambohidratompo 54.60 250 P **P 09 03 45.2 +0.7**
comp=Z,5.8nm,0.8s,baz=66,slow=6.9,SNR=6.0
ZAK Zakamensk 54.63 2 *e*P **P 09 03 44.2 +0.1**
ZAK *e* 09 04 46.0
ZAK pmax pmax
comp=Z,15nm,0.9s
ZAK pmax pmax
comp=Z,6.0nm,0.8s
KK06 Karatay Array 54.87 333 *e*P **P 09 03 45.1 -0.7**
KK07 Karatay Array 54.88 333 *e*P **P 09 03 45.3 -0.6**
KK02 Karatay Array 54.89 333 *e*P **P 09 03 45.3 -0.7**
KK31 Karatay Array 54.89 333 *e*P **P 09 03 45.7 -0.3**
KK31 Karatay Array 54.89 333 *e*P **P 09 03 45.7 -0.3**
KKAR Karatay Array 54.89 333 *e*P **P 09 03 45.7 -0.3**
KKAR Karatay Array 54.89 333 *e*P **P 09 03 45.7 -0.3**
KK01 Karatay Array 54.89 333 *e*P **P 09 03 45.3 -0.7**
KK03 Karatay Array 54.89 333 *e*P **P 09 03 45.2 -0.8**
KK04 Karatay Array 54.89 333 *e*P **P 09 03 45.4 -0.7**
KK08 Karatay Array 54.90 333 *e*P **P 09 03 45.2 -0.8**
MDJ Mudanjiang 55.05 24 P **P 09 03 46.0 -1.1**
MDJ pP pP 09 03 53.3 +1.0
MDJ S **S 09 11 31.5 +2.7**
MDJ pmax pmax
comp=Z,31nm,0.9s
MDJ pmax pmax
comp=Z,170nm,3.8s
MDJ LR LR
comp=Z,370nm,19.1s
MDJ LR LR
comp=Z,340nm,16.7s
MDJ LR LR
comp=Z,470nm,17.9s
MDJ Mudanjiang 55.05 24 *e*P **P 09 03 47.6 +0.5**
comp=Z,21nm,0.8s
USRK Ussuriysk Ar. 55.74 26 P **P 09 03 52.1 +0.1**
comp=Z,69nm,0.8s,baz=220,slow=5.9,SNR=152
USRK LR LR 09 29 32.5
comp=Z,340nm,19.7s,baz=141,slow=38
TLY Talaya 55.94 2 P **P 09 03 54.3 +0.9**
comp=Z,19nm,0.8s,baz=210,slow=6.1,SNR=47
TLY Talaya 55.94 2 *e*P **P 09 03 54.6 +1.2**
TLY pmax pmax
comp=Z,31nm,0.9s
TLY MLR MLR
comp=Z,247nm,14.0s
TLY Talaya 55.94 2 *e*P **P 09 03 54.0 +0.6**
comp=Z,26nm,0.9s
TLY *e*P **P 09 03 54.3 +0.9**
TLY Talaya 55.94 2 P **P 09 03 54.7 +1.2**
SNR=16
TLY Talaya 55.94 2 P **P 09 03 54.7 +1.2**
SNR=16
IRK Irkutsk 56.53 2 *e*P **P 09 03 57.8 +0.2**
IRK pmax pmax
comp=Z,33nm,1.8s
GEYT Alibeck 58.12 320 P **P 09 04 09.1 0.0**
comp=Z,9.5nm,0.8s,baz=145,slow=8.7,SNR=15
KURBB Kurchatov Arra 58.23 343 P **P 09 04 09.1 -0.5**
comp=Z,22nm,0.9s,baz=160,slow=6.7,SNR=92
KURK Kurchatov 58.29 343*ce*P **P 09 04 09.5 -0.5**
KURK pmax pmax
comp=Z,49nm,0.9s
KURK Kurchatov 58.29 343 *e*P **P 09 04 09.1 -0.9**
KURK *e*P **P 09 04 10.0 0.0**
KURK Kurchatov 58.29 343 P **P 09 04 10.4 +0.4**
SNR=14
KURK Kurchatov 58.29 343 P **P 09 04 10.4 +0.4**
SNR=14
KLR Kul'dur 59.66 23*c i*P **P 09 04 19.5 -0.1**
comp=Z,3.2nm,0.8s,baz=230,slow=5.6,SNR=114
KLR LR LR 09 32 48.5
comp=Z,29nm,19.3s,baz=184,slow=39
KLR Kul'dur 59.66 23*c i*P **P 09 04 19.3 -0.3**
ZAA0 Zalesovo Array 59.79 349 *e*P **P 09 04 20.1 -0.2**
comp=Z,41nm,0.9s
ZALV Zalesovo Beam 59.79 349 P **P 09 04 20.1 -0.2**
comp=Z,36nm,0.8s,baz=179,slow=5.1,SNR=46
ZALV Zalesovo Beam 59.79 349 *e*P **P 09 04 20.0 -0.3**
ZALV Zalesovo Beam 59.79 349 *e*P **P 09 04 20.0 -0.3**
ZAA1 Zalesovo Array 59.79 349 *e*P **P 09 04 20.1 -0.2**
ASAJ Asahikawa 60.94 33 P **P 09 04 27.7 -0.7**
comp=Z,15nm,0.6s,baz=237,slow=8.6,SNR=30
ASAJ Asahikawa 60.94 33 *e*P **P 09 04 27.6 -0.8**
comp=Z,14nm,0.6s
NVS Novosibirsk 60.94 348 *e*P **P 09 04 27.0 -1.2**
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
NVS pmax pmax
comp=Z,14nm,1.0s
ZEA Zeya 61.93 17 *e*P **P 09 04 35.3 +0.4**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
BVAR Borovoye Array 62.90 340 P **P 09 04 40.6 -0.8**
comp=Z,18nm,0.7s,baz=141,slow=7.6,SNR=74
YSS Yuzh-Sakhalins 62.90 31⇑*i*P **P 09 04 41.4 -0.1**
YSS *e* 09 04 49.8
YSS *e* 09 13 18.0
YSS pmax pmax
comp=Z,70nm,1.0s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS Yuzh-Sakhalins 62.90 31 *e*P **P 09 04 41.6 0.0**
comp=Z,88nm,1.0s
BOD Bodaibo 62.91 8⇓*i*P **P 09 04 41.1 -0.3**
BOD pmax pmax
comp=Z,35nm,1.0s
BRVK Borovoye 62.96 340*ce*P **P 09 04 41.2 -0.6**
BRVK pmax pmax
comp=Z,19nm,0.9s
BRVK Borovoye 62.96 340 *e*P **P 09 04 41.3 -0.5**
comp=Z,16nm,0.8s
BRVK Borovoye 62.96 340 P **P 09 04 41.5 -0.3**
SNR=6.5
BRVK Borovoye 62.96 340 P **P 09 04 41.5 -0.3**
SNR=6.5
AB07 Akbulak array 64.35 331 *e*P **P 09 04 50.5 -0.6**
AB06 Akbulak array 64.36 331 *e*P **P 09 04 50.0 -1.2**
AB08 Akbulak array 64.37 331 *e*P **P 09 04 49.8 -1.4**
AB03 Akbulak array 64.37 331 *e*P **P 09 04 50.1 -1.1**
AB01 Akbulak array 64.37 331 *e*P **P 09 04 50.5 -0.7**
AB02 Akbulak array 64.37 331 *e*P **P 09 04 50.5 -0.7**
AB31 Akbulak array 64.37 331 *i* P **P 09 04 50.5 -0.7**
AB31 pmax pmax
comp=Z,18nm,0.6s
AB31 Akbulak array 64.37 331 *e*P **P 09 04 50.6 -0.7**
ABKAR Akbulak array 64.37 331 *e*P **P 09 04 50.6 -0.6**
comp=Z,216nm,0.6s
AB04 Akbulak array 64.38 331 *e*P **P 09 04 50.6 -0.6**
AB05 Akbulak array 64.38 331 *e*P **P 09 04 50.6 -0.7**
AB09 Akbulak array 64.39 331 *e*P **P 09 04 50.6 -0.7**
DZM Mont Dzumac 65.36 112 LR LR 09 36 54.2
comp=Z,134nm,18.3s,baz=236,slow=39
AKTO Aktyubinsk 66.09 331 P **P 09 05 01.4 -0.9**
comp=Z,7.2nm,1.0s,baz=135,slow=6.8,SNR=13
AKTO Aktyubinsk 66.09 331 *i* P **P 09 05 00.2 -2.2**
AKTO pmax pmax
comp=Z,14nm,1.2s
NKL Nikolayevsk 66.27 25 *e*P **P 09 05 03.2 -0.2**
NKL pmax pmax
comp=N,5.0nm,0.9s
NKL pmax pmax
comp=Z,29nm,0.9s
MAW Mawson 68.25 195 P **P 09 05 16.7 +0.9**
comp=Z,3.1nm,0.7s,baz=359,slow=8.4,SNR=5.0
MAW LR LR 09 28 58.4
comp=Z,250nm,19.4s,baz=53,slow=30
MAW Mawson 68.25 195 P **P 09 05 16.5 +0.8**
baz=68
MAW Mawson 68.25 195 *e*P **P 09 05 16.7 +0.9**
comp=Z,13nm,2.0s
SVE Sverdlovsk 69.41 338*de*P **P 09 05 23.5 +0.4**
SVE pmax pmax
comp=Z,56nm,1.0s
YAK Yakutsk 69.78 14 P **P 09 05 24.7 -0.6**
comp=Z,92nm,1.0s,baz=301,slow=2.3,SNR=12
YAK LR LR 09 37 04.6
comp=Z,316nm,20.9s,baz=118,slow=37
YAK Yakutsk 69.78 14 *e*P **P 09 05 24.2 -1.1**
YAK *e**PP **pP 09 05 31.8 +1.1**
YAK *e* 09 05 42.9
YAK *e*PPP PPP 09 09 36.0
YAK *e*S **S 09 14 31.6 -2.1**
YAK *e* 09 15 20.4

YAK eSS SS 09 19 03.4 +0.8
YAK pmax pmax
comp=Z,100nm,1.1s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,23nm,1.5s
YAK pmax pmax
comp=Z,16nm,0.6s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK smax smax
comp=N,64nm,4.3s
YAK smax smax
comp=E,53nm,5.3s
YAK MLR MLR
comp=Z,552nm,19.0s
YAK MLR MLR
comp=N,398nm,20.0s
YAK MLR MLR
comp=E,207nm,22.0s
YAK Yakutsk 69.78 14 *e*P **P 09 05 24.7 -0.6**
comp=E,73nm,0.8s
ZEI Tsey 69.89 319 *e*P **P 09 05 26.1 -0.6**
ZEI pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 69.93 336 P **P 09 05 26.0 -0.3**
comp=Z,12nm,0.2s,baz=131,slow=2.1,SNR=25
ARU Arti 69.93 336⇑ *e*P **P 09 05 26.1 -0.3**
ARU pmax pmax
comp=Z,33nm,1.1s
ARU Arti 69.93 336 *e*P **P 09 05 26.2 -0.2**
comp=Z,29nm,1.0s
NCK Nalchik 70.41 319 *e*P **P 09 05 28.9 -0.7**
NCK pmax pmax
comp=Z,71nm,0.3s
NEY Neytrino 70.87 319 *e*P **P 09 05 32.3 -0.3**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 70.96 319 P **P 09 05 32.8 -0.1**
comp=Z,8.8nm,0.8s,baz=125,slow=6.7,SNR=21
KIV Kislovodsk 71.20 319 *e*P **P 09 05 33.8 -0.7**
KIV pmax pmax
comp=Z,12nm,1.0s
GOF Gofitskoye 71.46 321⇑ *e*P **P 09 05 35.9 -0.1**
EIL Elat 71.89 303 LR LR 09 37 52.5
comp=Z,220nm,18.3s,baz=76,slow=36
MMAI Mount Meron Ar 72.49 306 P **P 09 05 43.4 +0.9**
comp=Z,0.8nm,0.3s,baz=73,slow=5.0,SNR=1.9
SOKR Solikamsk 72.80 338*d i*P **P 09 05 42.0 -1.6**
SOKR pmax pmax
comp=Z,36nm,0.8s
PETK Petropavlovsk- 74.28 31 P **P 09 05 51.4 -1.2**
comp=Z,9.8nm,0.8s,baz=207,slow=2.5,SNR=8.4
PETK Petropavlovsk- 74.28 31 *e*P **P 09 05 52.3 -0.3**
PETK Petropavlovsk- 74.28 31 *e*P **P 09 05 52.2 -0.3**
PEA1 Petropavlovsk- 74.28 31 *e*P **P 09 05 51.4 -1.2**
MA2 Magadan 74.74 24*ce*P **P 09 05 55.2 +0.2**
PET Petropavlovsk 74.74 32 *e*P **P 09 05 54.5 -0.6**
PET *e*S **S 09 15 28.0 -2.8**
PET pmax pmax
comp=Z,37nm,0.8s
PET Petropavlovsk 74.74 32 *e*P **P 09 05 54.5 -0.6**
comp=Z,24nm,0.8s
ANN Anapa 74.98 319 *e*P **P 09 05 53.6 -3.1**
ANN pmax pmax
comp=Z,156nm,1.3s
VRH Novokhopyorsk 75.04 326 *e*P **P 09 05 56.5 -0.4**
VRH *e**SP **sP 09 06 04.7 +0.4**
VRH pmax pmax
comp=Z,20nm,0.7s
BOSA Boshof 75.60 242 P **P 09 06 00.4 -0.5**
comp=Z,2.1nm,0.9s,baz=100,slow=12,SNR=2.6
BKZ Black Stump Fm 75.76 129 *e*P **P 09 06 02.1 +0.6**
comp=Z,21nm,0.7s
BR101 Keskin Array S 75.89 313 *e*P **P 09 06 01.6 -0.7**
BR131 Keskin Array S 75.89 313 *e*P **P 09 06 01.6 -0.7**
BRTR Keskin Array B 75.89 313 P **P 09 06 01.6 -0.7**
comp=Z,3.4nm,0.8s,baz=138,slow=7.7,SNR=14
VSR Storozhevoye 76.49 325 *e*P **P 09 06 03.6 -1.6**
VSR *e**SP **pP 09 06 11.7 +1.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BR231 Keskin MP Arra 76.56 313 *e*P **P 09 06 02.3 -3.8**
LPSR Galich'ya Gora 77.21 326 *e*P **P 09 06 08.1 -1.1**
LPSR *e**SP **sP 09 06 16.8 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 77.42 21*ce*P **P 09 06 10.5 +0.3**
TIXI Tiksi 78.06 9 P **P 09 06 12.6 -1.1**
comp=Z,17nm,0.6s,baz=181,slow=2.8,SNR=51
TIXI Tiksi 78.06 9*c i*P **P 09 06 12.3 -1.3**
TIXI pmax pmax
comp=Z,19nm,0.7s
TIXI Tiksi 78.06 9 *e*P **P 09 06 11.8 -1.8**
comp=Z,20nm,0.6s
TIXI *e*P **P 09 06 12.6 -1.1**
OBN Obninsk 79.52 328 P **P 09 06 21.3 -0.7**
comp=Z,9.1nm,0.4s,baz=0.0,slow=20,SNR=3.9
OBN Obninsk 79.52 328⇓⇓ *e*P **P 09 06 22.1 +0.2**
OBN *i* 09 06 30.8
OBN *e* 09 09 21.9
OBN *i* S **S 09 16 29.9 +7.2**
OBN *i* SS **SS 09 21 35.0 +4.2**
OBN pmax pmax
comp=Z,30nm,1.7s
OBN Obninsk 79.52 328 *e*P **P 09 06 21.3 -0.7**
comp=Z,28nm,0.4s
VNDA Vanda 79.54 169 P **P 09 06 22.4 +0.7**
comp=Z,0.5nm,0.6s,baz=3.9,slow=1.0,SNR=3.4
VNDA LR LR 09 35 44.1
comp=Z,95nm,20.8s,baz=312,slow=31
KLMR Klimovskoe 80.56 334 *e*P **P 09 06 26.1 -1.4**
KLMR pmax pmax
comp=Z,27nm,1.2s
KLMR Klimovskoe 80.56 334 *e*P **P 09 06 26.1 -1.4**
KLMR AMP 09 06 28.7
comp=Z,27nm,1.2s
IDI Anoyia 81.49 306 P **P 09 06 33.6 +0.5**
comp=Z,7.2nm,0.8s,baz=48,slow=13,SNR=3.3
IDI Anoyia 81.49 306 *e*P **P 09 06 33.2 +0.1**
comp=Z,33nm,1.3s
SORM Soroca 82.00 320⇑ P **P 09 06 35.1 -0.3**
SORM Soroca 82.00 320⇑ *i*P **P 09 06 35.1 -0.3**
AKASG Malin Array Be 82.17 322 P **P 09 06 35.5 -0.7**
comp=Z,2.8nm,0.8s,baz=86,slow=4.9,SNR=13
AKBB Malin Array Si 82.17 322 *e*P **P 09 06 35.6 -0.7**
AKBB pmax pmax
comp=Z,31nm,1.9s
AKBB Malin Array Si 82.17 322 *e*P **P 09 06 35.5 -0.7**
comp=Z,31nm,1.9s
KIEV Kiev 82.18 322 *e*P **P 09 06 34.7 -1.6**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
VRI Vrincioaia 82.48 317⇑ P **P 09 06 38.8 +0.7**
VRI Vrincioaia 82.48 317⇑ *i*P **P 09 06 38.8 +0.7**
TMCR Tamitsa 82.67 337 *e*P **P 09 06 38.7 +0.2**
TMCR pmax pmax
comp=Z,31nm,1.0s
TESR Tescani 82.70 318⇑ *i*P **P 09 06 38.9 -0.2**
MLR Muntele Rosu 82.93 317 P **P 09 06 39.8 -0.7**
comp=Z,1.4nm,0.9s,baz=127,slow=5.1,SNR=5.6
MLR Muntele Rosu 82.93 317⇑⇑ P **P 09 06 40.9 +0.4**
MLR Muntele Rosu 82.93 317⇑ *i*P **P 09 06 40.9 +0.4**
MLR Muntele Rosu 82.93 317 *e*P **P 09 06 40.0 -0.5**
comp=Z,18nm,1.1s
PRAR RASCA 83.19 319⇑ *i*P P 09 06 51.0 +9.3
MTUR Matau 83.47 316⇓⇓ P P 09 06 52.8 +10
MTUR Matau 83.47 316⇓⇓ *i*P P 09 06 52.8 +10
VOIR 83.53 317⇑⇑ P **P 09 06 47.9 +4.3**
VOIR 83.53 317⇑ *i*P **P 09 06 47.8 +4.2**
BURAR Bucovina Array 83.91 319⇑⇑ P **P 09 06 46.6 +1.1**
BURAR Bucovina Array 83.91 319⇑⇑ *i*P **P 09 06 46.6 +1.1**
BUR04 Bucovina Ar. S 83.92 319 *e*P **P 09 06 46.2 +0.7**
BUR08 Bucovina Ar. S 83.93 319 *e*P **P 09 06 46.8 +1.2**
VTS Vitosha 84.23 313 *e*P **P 09 06 47.4 +0.1**
VTS pmax pmax
comp=Z,7.0nm,0.8s
VTS Vitosha 84.23 313 *e*P **P 09 06 47.4 +0.1**
comp=Z,7.1nm,0.8s
BILL Bilibino 85.00 20⇑ *i*P **P 09 06 49.7 -0.7**
BILL *e* 09 10 03.6
BILL *e*SS SS 09 22 44.7 -7.1
BILL pmax pmax
comp=Z,17nm,1.3s
DRGR 85.40 318⇓⇓ P **P 09 06 54.2 +1.2**
DRGR 85.40 318⇓ *i*P **P 09 06 54.2 +1.2**
QSPA South Pole Qui 85.53 180 LR LR 09 39 48.5
comp=Z,98nm,20.7s,baz=340,slow=32
APA Apatity 85.80 339⇑ *i*P P 09 06 49.4 -5.0
APA MLR MLR
comp=Z,1μm,13.0s
BZS Buzias 85.93 316⇓⇓ P **P 09 06 55.9 +0.4**
BZS Buzias 85.93 316⇓ *i*P **P 09 06 55.9 +0.4**
SUW Suwalki 86.59 325 P **P 09 06 58.7 +0.1**
SUW pmax pmax
comp=Z,502nm,0.9s
FIA1 FINESS Array S 86.84 332 *e*P **P 09 07 00.0 +0.4**
FIA0 FINESS Array S 86.84 332 *e*P **P 09 07 00.1 +0.4**
FIA0 FINESS Array S 86.84 332 *e*P **P 09 07 00.1 +0.4**
FINES FINESS Array B 86.84 332 P **P 09 07 00.1 +0.4**
comp=Z,5.5nm,0.9s,baz=116,slow=8.7,SNR=11
MSF Maaselka 86.86 337 P **P 09 07 00.4 +0.7**
MSF pmax pmax
comp=Z,20nm,1.4s
OUL Oulu 87.88 336 P **P 09 07 05.2 +0.6**
OUL pmax pmax
comp=Z,17nm,1.9s
SGF Sodankyl 88.26 338 *e*P **P 09 07 06.2 -0.2**
ARA0 ARCESS Array S 89.18 340 *e*P **P 09 07 10.6 -0.1**
ARCES ARCESS Array B 89.18 340 P **P 09 07 10.6 -0.1**
comp=Z,11nm,0.8s,baz=76,slow=5.1,SNR=19
MORC Moravsky Berou 89.30 320 P **P 09 07 12.3 +0.6**
MORC pmax pmax
comp=Z,29nm,0.9s
DPC Dobruska-Polom 90.16 320 *e*P **P 09 07 17.0 +1.3**
DPC *e* 09 07 25.2
DPC Dobruska-Polom 90.16 320 *e*P **P 09 07 17.0 +1.3**
DPC *ex* x 09 07 25.2
SNAA Sanae 90.22 198 P P 09 07 24.4 +8.7
SNAA Sanae 90.22 198 P **P 09 07 16.8 +1.1**
comp=Z,2.5nm,1.0s,baz=46,slow=9.4,SNR=3.2
SNAA LR LR 09 43 25.2
comp=Z,104nm,18.3s,baz=115,slow=33
SNAA Sanae 90.22 198 *e*P **P 09 07 17.0 +1.3**
SNAA Sanae 90.22 198 *e*P **P 09 07 16.8 +1.1**
comp=Z,13nm,1.0s
UPC Upice 90.37 320 AMS AMS 10 00 30.0
comp=Z,400nm,18.2s
GOPC GO Pecny, Ondr 91.09 320 AMS AMS 09 54 30.0
comp=Z,300nm,19.6s
PRU Pruhonice 91.25 320 AMS AMS 09 54 20.0
comp=Z,400nm,21.4s
GEA0 GERESS Array S 91.70 319 *e*P **P 09 07 23.3 +0.3**
GERES GERESS Array B 91.70 319 P **P 09 07 22.5 -0.5**
comp=Z,1.2nm,0.7s,baz=98,slow=5.5,SNR=6.2
KHC Kasperske Hory 91.81 319 AMS AMS 09 51 30.0
comp=Z,500nm,25.6s
VNA2 Nemanar--Watz 91.84 198 P P 09 07 32.8 +10
baz=80,slow=5.8
CLL Collm 92.34 321 *es*P sP 09 07 34.0 +0.8
HFS Hagfors 92.60 330 P **P 09 07 25.9 -0.8**
comp=Z,5.3nm,1.0s,baz=24,slow=3.9,SNR=4.9
SPITS Spitsbergen Ar 93.27 348 P **P 09 07 28.1 -1.4**
comp=Z,12nm,1.0s,baz=64,slow=3.4,SNR=3.4
SPITS LR LR 09 55 30.2
comp=Z,249nm,18.5s,baz=185,slow=39
IM3 Indian Mountai 100.12 24 *e*Pdif **Pdif 09 08 00.5 -0.3**
ILAR Eielson Array 103.21 24 PP PP 09 12 26.6 -2.8
comp=Z,1.0nm,0.9s,baz=280,slow=6.1,SNR=6.9
YKA Yellowknife Ar 116.31 18 PKP **PKPdf 09 12 57.9 -0.7**
comp=Z,0.9nm,0.9s,baz=314,slow=2.3,SNR=10
YKB5 Yellowknife Ar 116.31 18 *e*PKPdf **PKPdf 09 12 57.9 -0.7**
FCC Fort Churchill 124.52 10 *e*PKIKP **PKPdf 09 13 14.2 -0.3**
FCC Fort Churchill 124.52 10 *e*PKPdf **PKPdf 09 13 14.2 -0.3**
J05D Fort Rock, OR 126.12 38 P **PKPdf 09 13 19.7 +1.4**
baz=304
J08A Circle Bar Ran 127.73 36 *e*PKPdf **PKPdf 09 13 21.8 +0.5**
MSO Missoula 127.98 30 *e*PKPdf **PKPdf 09 13 22.5 +0.8**
MFID Camas Ranch 129.22 35 *e*PKPdf **PKPdf 09 13 25.9 +1.8**
DLMT Dillon 129.67 31 *e*PKPdf **PKPdf 09 13 26.9 +1.9**
HLID Hailey 129.91 34 P **PKPdf 09 13 26.7 +1.2**
baz=311
HLID Hailey 129.91 34 *e*PKPdf **PKPdf 09 13 27.5 +2.0**
NV01 Mina Array Sit 130.64 41 *e*PKPdf **PKPdf 09 13 27.7 +0.6**
NVAR Mina Array Bea 130.64 41 PKP **PKPdf 09 13 27.7 +0.6**
comp=Z,1.2nm,0.6s,baz=263,slow=1.7,SNR=9.5
NVAR SKPbc **SKPbc 09 16 50.1 -0.2**
comp=Z,1.0nm,0.7s,baz=284,slow=3.6,SNR=7.1
YHH Holmes Hill 130.95 30 *e*PKPdf **PKPdf 09 13 29.6 +2.0**
FXWY Fox Creek 131.67 31 *e*PKPdf **PKPdf 09 13 29.0 0.0**
SNOW Snow Kiring Moun 131.94 31 *e*PKPdf **PKPdf 09 13 30.3 +0.8**
REDW Red Top Meadow 131.96 31 *e*PKPdf **PKPdf 09 13 29.8 +0.3**
HVU Hansel Valley 131.99 34 *e*PKIKP **PKPdf 09 13 29.7 +0.2**
HVU Hansel Valley 131.99 34 *e*PKPdf **PKPdf 09 13 29.7 +0.2**
ULM Lac du Bonnet 132.12 15 PKP **PKPdf 09 13 29.3 0.0**
comp=Z,3.5nm,0.7s,baz=336,slow=3.7,SNR=7.7
R11A Troy Canyon, C 132.45 40 P **PKPdf 09 13 32.5 +2.0**
baz=306
R11A Troy Canyon, C 132.45 40 *e*PKPdf **PKPdf 09 13 32.1 +1.6**
MPMC Manual Prospec 132.47 43 P **PKPdf 09 13 32.2 +1.6**
baz=302
LEOC Leona Valley 132.64 46 *e*PKPdf **PKPdf 09 13 31.8 +0.9**
EDW2 Edwards Air Fo 132.73 45 P **PKPdf 09 13 32.8 +1.9**
baz=301
HWUT Hardware Ranch 132.78 34 *e*PKPdf **PKPdf 09 13 32.2 +1.1**
DUG Dugway, Tooele 133.01 36 P **PKPdf 09 13 33.0 +1.6**
baz=310
PD31 Pinedale Array 133.05 31 *e*PKPdf **PKPdf 09 13 31.2 -0.3**
PDAR Pinedale Array 133.05 31 PKP **PKPdf 09 13 31.2 -0.3**
comp=Z,0.9nm,0.9s,baz=263,slow=1.2,SNR=5.1
GSC Goldstone, Bar 133.34 44 *e*PKIKP **PKPdf 09 13 33.8 +1.7**
GSC Goldstone, Bar 133.34 44 *e*PKPdf **PKPdf 09 13 33.8 +1.7**
GMRC Granite Mounta 134.41 44 P **PKPdf 09 13 36.0 +1.7**
baz=303
RSSD Black Hills 134.64 26 *e*PKIKP **PKPdf 09 13 34.4 -0.1**
RSSD Black Hills 134.64 26 *e*PKPdf **PKPdf 09 13 34.4 -0.1**
LCMT Little Creek M 134.73 40 *e*PKPdf **PKPdf 09 13 36.4 +1.6**
X16A Lo Mia Camp, P 137.47 41 *e*PKPdf **PKPdf 09 13 41.4 +1.4**
ECSD EROS Data Cent 137.80 19 *e*PKPdf **PKPdf 09 13 40.9 +0.7**
ANMO Albuquerque 140.26 37 PKhKP PKPpre 09 13 40.2
baz=11,slow=3.9
ANMO Albuquerque 140.26 37 *e*PKIKP **PKPdf 09 13 42.0 -3.1**
ANMO Albuquerque 140.26 37 *e*PKPdf **PKPdf 09 13 42.0 -3.1**
P38A Dawn 142.50 19 P **PKPdf 09 13 44.8 -3.9**
baz=335
CPUP Villa Florida 143.04 213 PKP **PKPdf 09 13 51.1 +1.1**
comp=Z,2.3nm,0.9s,baz=113,slow=7.7,SNR=3.1
Q38A Cooks Store, C 143.08 19 P PKPbc 09 13 46.9 +0.4
baz=335
MSTX Muleshoe 143.09 34 P PKPbc 09 13 47.6 +0.7
baz=318
MNTX Cornudas Mount 143.12 40 P PKPbc 09 13 47.6 +0.7
baz=312
P41A Barry, Barry 143.20 16 P PKPbc 09 13 46.7 -0.1
baz=339
Q39A Willow Grove F 143.21 19 P PKPbc 09 13 46.9 0.0
baz=336
GDL2 Guadalupe Moun 143.41 38 *e*PKPdf **PKPdf 09 13 49.5 -1.2**
Q40A Laux Farm, Aux 143.54 18 P PKPbc 09 13 48.0 +0.2
baz=337
R38A Fenwick Farm, 143.68 20 P PKPab 09 13 47.5 0.0
baz=334
Q41A Truxton 143.82 17 P PKPbc 09 13 48.4 -0.2
baz=339
R39A Chumby, Stover 143.85 19 P PKPab 09 13 48.2 0.0
baz=336
P44A Sand Creek, Wi 144.00 13 P PKPbc 09 13 49.4 +0.3
baz=343
Q42A Golden Eagle 144.05 16 P PKPbc 09 13 49.5 +0.1
baz=340
R40A Maddies Statio 144.12 18 P **PKPab 09 13 49.2 0.0**
baz=337
P45A Graceland, Par 144.13 12 P PKPbc 09 13 49.7 +0.1
baz=345
ACSO Alum Creek Sta 144.17 6 P **PKPab 09 13 49.5 +0.2**
baz=353
S38A Stockton 144.17 21 P **PKPab 09 13 49.0 -0.3**
baz=334
Q43A New Douglas 144.25 15 P PKPbc 09 13 49.9 0.0
baz=341
S39A Bolivar 144.32 20 P **PKPab 09 13 49.7 -0.2**
baz=335
O56A Blue Knob Stat 144.33 360 P **PKPab 09 13 50.1 +0.2**
baz=0.3
O56A Blue Knob Stat 144.33 360 *e*PKPdf PKPbc 09 13 50.1 -0.1
R41A Rosebud 144.39 17 P **PKPab 09 13 50.2 +0.1**
baz=338
Q44A Meyer Farm, Va 144.45 14 P PKPbc 09 13 50.5 -0.1
baz=342
P47A Martinsville 144.45 10 P **PKPab 09 13 50.2 -0.1**
baz=347
T38A Diamond 144.56 22 P **PKPab 09 13 50.7 -0.1**
baz=333
R42A Luebbering 144.57 16 P **PKPab 09 13 50.5 -0.3**
baz=339
WMOK Wichita Mounta 144.59 29 P **PKPab 09 13 51.0 0.0**
baz=324
WMOK Wichita Mounta 144.59 29 *e*PKIKP **PKPab 09 13 51.1 0.0**
WMOK Wichita Mounta 144.59 29 *e*PKPdf **PKPab 09 13 51.1 0.0**
CCM Cathedral Cave 144.65 17 P **PKPab 09 13 50.9 -0.2**
baz=338
CCM Cathedral Cave 144.65 17 *e*PKIKP **PKPab 09 13 51.0 -0.1**
CCM Cathedral Cave 144.65 17 *e*PKPdf **PKPab 09 13 51.0 -0.1**
Q45A Warren Harvey, 144.65 13 P **PKPab 09 13 51.1 0.0**
baz=344
S40A Lebanon 144.68 19 P **PKPab 09 13 50.9 -0.4**
baz=336
BLO Bloomington 144.72 10 *e*PKIKP **PKPab 09 13 51.4 +0.1**
BLO Bloomington 144.72 10 *e*PKPdf **PKPab 09 13 51.4 +0.1**
R43A Red Bud 144.81 15 P **PKPab 09 13 51.1 -0.5**
baz=340
OLIL Olney 144.82 13 *e*PKPdf PKPbc 09 13 52.0 +0.2
T39A Clever 144.90 21 P **PKPab 09 13 51.7 -0.4**
baz=334
MCWV Mont Chateau 144.93 1 P PKPbc 09 13 52.3 +0.2
baz=358
MCWV Mont Chateau 144.93 1 *e*PKPdf PKPbc 09 13 52.4 +0.3
S41A Jillco Farms, 144.93 18 P **PKPab 09 13 51.9 -0.3**
baz=337
FVM French Village 144.95 16 *e*PKIKP **PKPab 09 13 52.1 -0.1**
FVM French Village 144.95 16 *e*PKPdf **PKPab 09 13 52.1 -0.1**
TUL1 Leonard 144.96 24 P **PKPab 09 13 52.4 0.0**
baz=330
TUL1 Leonard 144.96 24 *e*PKPdf **PKPab 09 13 52.3 0.0**
Q47A Bedord North L 144.96 10 P **PKPab 09 13 51.9 -0.3**
baz=347
S42A Caledonia 145.05 17 P **PKPbc 09 13 51.9 -0.7**
baz=339
R44A Waltonville 145.06 14 P **PKPbc 09 13 52.3 -0.3**
baz=342
T40A Mansfield 145.08 19 P **PKPbc 09 13 52.1 -0.7**
baz=336
SDMD Soldier's Deli 145.15 357 *e*PKPbc **PKPbc 09 13 52.4 -0.4**
R45A Skylar, Fairfi 145.20 13 P **PKPbc 09 13 52.8 -0.2**
baz=343
HHAR Hobbs 145.36 22 *e*PKPbc **PKPbc 09 13 53.2 -0.5**
T41A Mountain View 145.43 19 P **PKPbc 09 13 53.5 -0.3**
baz=337
S43A Fulton Ridge, 145.44 16 P **PKPbc 09 13 53.1 -0.8**
baz=340
U39A Green Forest 145.44 21 P **PKPbc 09 13 53.5 -0.4**
baz=334
R46A Gibon Southern 145.45 12 P **PKPbc 09 13 53.5 -0.4**
baz=345
SIUC Southern Illin 145.53 15 *e*PKPdf **PKPbc 09 13 54.1 0.0**
S44A Carbondale 145.54 15 P **PKPdf 09 13 53.9 -0.2**
baz=341
R47A Wooly Knot Far 145.56 11 P **PKPdf 09 13 53.8 -0.3**
baz=346
R48A Northridge Ran 145.58 10 P **PKPdf 09 13 54.2 0.0**
baz=348
T42A Van Buren 145.65 18 P **PKPdf 09 13 54.3 0.0**
baz=338
USIN University of 145.65 13 *e*PKPdf **PKPbc 09 13 54.5 0.0**
WCI Wyandotte Cave 145.67 11 P **PKPdf 09 13 54.3 -0.1**
baz=347
WCI Wyandotte Cave 145.67 11 *e*PKP2 **PKPdf 09 13 54.2 -0.1**
WCI Wyandotte Cave 145.67 11 *e*PKPdf **PKPdf 09 13 54.2 -0.1**
U40A Yellville 145.69 20 P **PKPdf 09 13 54.3 -0.1**
baz=335
S45A Carrier Mills 145.72 14 P **PKPdf 09 13 54.6 +0.2**
baz=342
LTX Lajitas 145.79 41 *e*PKP2 **PKPab 09 13 55.8 +0.1**
LTX Lajitas 145.79 41 *e*PKPdf **PKPab 09 13 55.8 +0.1**
TX31 Lajitas Ar. Si 145.79 41 *e*PKPdf **PKPbc 09 13 55.4 0.0**
TX31 *e*PKPdf **PKPab 09 13 55.8 0.0**
TXAR Lajitas Array 145.79 41 PKPbc **PKPab 09 13 55.8 +0.1**
comp=Z,22nm,0.8s,baz=283,slow=1.6,SNR=176
ABTX Abilene, Hawle 145.82 32 P **PKPab 09 13 55.6 0.0**
baz=321
ABTX Abilene, Hawle 145.82 32 *e*PKPdf **PKPbc 09 13 55.4 +0.1**
T43A Greenville 145.83 17 P **PKPdf 09 13 54.5 -0.1**
baz=339
V39A Pettigrew 145.87 22 P **PKPdf 09 13 54.6 -0.2**
baz=333
S46A Don Dixon Farm 145.91 13 P **PKPdf 09 13 54.8 +0.1**
baz=344
HPIG 145.92 46 *e*PKPdf **PKPab 09 13 56.3 -0.1**
U41A Viola 146.01 19 P **PKPbc 09 13 55.5 -0.2**
baz=336
T44A Benton 146.02 16 P **PKPbc 09 13 55.5 -0.2**
baz=340
PBMO Poplar Bluff 146.07 17 *e*PKPdf **PKPdf 09 13 55.4 +0.4**
V40A Witts Springs 146.19 21 P **PKPbc 09 13 55.9 -0.4**
baz=334
U42A Revenden 146.23 18 P **PKPbc 09 13 56.0 -0.3**
baz=337
W39A Magazine 146.38 23 P **PKPbc 09 13 56.6 -0.2**
baz=332
V41A Mountainview 146.44 20 P **PKPbc 09 13 56.5 -0.6**
baz=335
T46A Princeton 146.49 13 P **PKPbc 09 13 57.1 0.0**
baz=343
IP04 Greensprings 146.50 359 *e*PKPdf **PKPbc 09 13 56.9 -0.1**
CVRD Centerville Ro 146.52 359 *e*PKPdf **PKPbc 09 13 57.3 +0.2**
U44A Portageville 146.54 16 P **PKPbc 09 13 57.4 +0.2**
baz=340
SPRD Spring Road, M 146.57 359 *e*PKPdf **PKPbc 09 13 57.3 +0.1**
IP03 Louisa 146.57 359 *e*PKPdf **PKPbc 09 13 57.3 +0.1**
IP01 Cuckoo 146.63 359 *e*PKPdf **PKPbc 09 13 57.6 +0.1**
W40A Ferguson Farm, 146.65 22 P **PKPbc 09 13 57.6 0.0**
baz=334
W40A Ferguson Farm, 146.65 22 *e*PKPdf **PKPbc 09 13 57.7 +0.1**
IP06 Yanceyville 146.66 359 *e*PKPdf **PKPbc 09 13 57.7 +0.2**
V42A Cord 146.68 19 P **PKPbc 09 13 57.6 -0.1**
baz=337
T47A Sharon Grove 146.71 12 P **PKPbc 09 13 57.5 -0.2**
baz=345
T48A Bowling Green 146.74 11 P **PKPbc 09 13 57.5 -0.3**
baz=346
IP05 Hopewell Churc 146.76 359 *e*PKPdf **PKPbc 09 13 58.1 +0.3**
U44B Burton Farm, H 146.79 16 P **PKPbc 09 13 57.8 -0.1**
baz=341
WHAR Wooly Hollow 146.84 21 *e*PKPdf **PKPbc 09 13 58.0 -0.2**
X39A Fountain Ranch 146.85 24 P **PKPbc 09 13 58.3 0.0**
baz=331
W41B Gary Mavity, V 146.97 21 P **PKPbc 09 13 57.7 -0.8**
baz=335
U47A Clarksville 147.20 13 P **PKPbc 09 13 58.9 -0.3**
baz=344
U48A Cassie Pea, Po 147.29 12 P **PKPbc 09 13 58.9 -0.5**
baz=346
UALR University of 147.29 21 *e*PKPdf **PKPbc 09 13 58.4 -1.0**
JCT Junction City 147.36 35 P **PKPbc 09 14 00.3 +0.4**
baz=319
JCT Junction City 147.36 35 *e*PKP2 **PKPdf 09 13 58.4 +0.9**
JCT Junction City 147.36 35 *e*PKPdf **PKPdf 09 13 58.4 +0.9**
X40A Basin Creek Fa 147.37 22 P **PKPbc 09 14 00.3 +0.6**
baz=333
WVT Waverly 147.37 14 P **PKPbc 09 13 59.4 -0.3**
baz=343
WVT Waverly 147.37 14 *e*PKP2 **PKPbc 09 13 59.5 -0.1**
WVT Waverly 147.37 14 *e*PKPbc **PKPbc 09 13 59.5 -0.1**
WHTX Lake Whitney, 147.46 30 P **PKPbc 09 14 00.5 +0.5**
baz=324
V45A Humboldt 147.46 16 P **PKPbc 09 13 59.2 -0.6**
baz=341
V46A Holladay 147.62 14 P **PKPbc 09 13 59.8 -0.5**
baz=342
Y40A Okolona 147.62 23 P **PKPbc 09 14 00.5 +0.2**
baz=332
V47A Nunnelly 147.73 13 P **PKPbc 09 14 00.2 -0.5**
baz=344
X42A Stuttgart 147.74 20 P **PKPbc 09 14 00.5 -0.2**
baz=336
TZTN Tazewell 147.75 7 P **PKPbc 09 14 00.6 -0.1**
baz=351
TZTN Tazewell 147.75 7 *e*PKPdf **PKPbc 09 14 00.2 -0.5**
W45A Hickory Valley 147.94 16 P **PKPbc 09 14 00.7 -0.5**
baz=340
WLAR White Oak Lake 147.97 23 *e*PKPbc **PKPbc 09 14 01.8 +0.5**
V48A Smith Brothers 147.97 12 P **PKPbc 09 14 00.6 -0.7**
baz=345

X43A	Marvell baz=337	148.02	19	P	PKPbc	09 14 01.5	+0.1
W46A	Michie baz=342	148.18	15	P	PKPbc	09 14 01.0	-0.9
CCAR	Cane Creek	148.27	21	ePKPdf	PKPdf	09 14 00.3	+1.6
W47A	Westpoint baz=343	148.27	14	P	PKPbc	09 14 01.5	-0.5
X44A	Crenshaw baz=338	148.27	18	P	PKPbc	09 14 01.8	-0.3
PLAL	Pickwick Lake	148.41	15	ePKPdf	PKPdf	09 14 00.1	+1.1
Z41A	Richland Creek baz=333	148.47	23	P	PKPbc	09 14 03.2	+0.5
OXF	Oxford baz=340	148.49	17	P	PKPbc	09 14 02.2	-0.5
OXF	Oxford	148.49	17	ePKP2	PKPbc	09 14 02.0	-0.7
OXF	Oxford	148.49	17	ePKPdf	PKPbc	09 14 01.9	-0.7
NCAT	North Carolina	148.50	2	ePKPbc	PKPbc	09 14 02.3	-0.4
W48A	Pulaski baz=344	148.53	13	P	PKPbc	09 14 02.0	-0.8
Y43A	Makayla and Ka baz=336	148.56	20	P	PKPbc	09 14 03.2	+0.3
X45A	UM Field Stati baz=339	148.57	17	P	PKPbc	09 14 02.3	-0.6
TKL	Tuckaleechee C comp=Z,37nm,1.0s,baz=128,slow=2.1,SNR=33	148.59	8	PKPbc	PKPbc	09 14 02.6	-0.3
X46A	Booneville baz=341	148.68	16	P	PKPbc	09 14 02.6	-0.5
Y44A	Strider, Charl baz=338	148.75	19	P	PKPbc	09 14 03.2	-0.1
Z42A	Norrel Spur, H baz=334	148.78	22	P	PKPbc	09 14 03.9	+0.5
X47A	Russelville baz=342	148.90	15	P	PKPbc	09 14 02.7	-1.0
NATX	Nacogdoches baz=328	148.99	27	P	PKPbc	09 14 04.2	+0.2
Y45A	Yeager Farm, C baz=339	149.05	18	P	PKPbc	09 14 04.4	+0.3
X48A	Hartselle baz=344	149.16	13	P	PKPbc	09 14 03.6	-0.8
Y46A	Houston baz=340	149.23	17	P	PKPbc	09 14 04.1	-0.5
X49A	Woodville baz=345	149.26	12	P	PKPbc	09 14 04.3	-0.3
Z44A	Pea Ridge, Bel baz=337	149.31	19	P	PKPbc	09 14 05.0	+0.2
BG3	Lake Jocassee	149.35	7	ePKPbc	PKPbc	09 14 05.3	+0.4
KMSC	Kings Mountain baz=355	149.36	4	P	PKPbc	09 14 04.8	-0.1
KMSC	Kings Mountain	149.36	4	ePKPbc	PKPbc	09 14 04.2	-0.7
X50A	Fort Payne baz=346	149.45	11	P	PKPbc	09 14 04.5	-0.7
Y47A	UCPARC, Winfie baz=342	149.49	15	P	PKPbc	09 14 04.7	-0.5
143A	Socs Landing, baz=335	149.49	21	P	PKPbc	09 14 05.8	+0.6
PAULI	Pauline	149.64	5	ePKPbc	PKPbc	09 14 05.3	-0.3
Y48A	Jasper baz=343	149.65	14	P	PKPbc	09 14 04.8	-0.8
Z46A	Louisville baz=340	149.85	17	P	PKPbc	09 14 06.5	+0.3
Y49A	Blount Mountai baz=345	149.87	13	P	PKPbc	09 14 05.7	-0.5
HKT	Hockley	149.92	31	ePKP2	PKPbc	09 14 07.7	+1.4
HKT	Hockley	149.92	31	ePKPbc	PKPbc	09 14 07.7	+1.4
Y50A	Piedmont baz=346	149.99	12	P	PKPbc	09 14 06.2	-0.3
Z48A	Northport baz=342	150.06	15	P	PKPbc	09 14 06.1	-0.6
145A	Houston Renfro baz=337	150.09	19	P	PKPbc	09 14 06.9	+0.2
Z47A	Carrollton baz=341	150.09	16	P	PKPbc	09 14 06.3	-0.4
HODGE	Hodges	150.18	6	ePKPbc	PKPbc	09 14 06.2	-0.7
JSC	Jenkinsville	150.22	4	ePKIKP	PKPbc	09 14 06.3	-0.7
JSC	Jenkinsville	150.22	4	ePKPbc	PKPbc	09 14 06.3	-0.7
VBMS	Vicksburg baz=336	150.25	20	P	PKPbc	09 14 07.4	+0.3
VBMS	Vicksburg	150.25	20	ePKPbc	PKPbc	09 14 07.7	+0.6
146A	Union baz=339	150.34	18	P	PKPbc	09 14 07.9	+0.6
244A	Avery, Jackson baz=336	150.35	21	P	PKPbc	09 14 07.7	+0.3
Z49A	Columbiana baz=344	150.49	13	P	PKPbc	09 14 07.2	-0.5
LRAL	Lakeview Retre	150.53	14	ePKPbc	PKPbc	09 14 07.3	-0.4
147A	Livingston baz=341	150.53	16	P	PKPbc	09 14 07.7	0.0
Z50A	Ashland baz=345	150.56	12	P	PKPbc	09 14 07.4	-0.5
245A	Little AP, Sta baz=337	150.63	20	P	PKPbc	09 14 08.5	+0.5
ZAIG	Zacatecas	150.63	49	ePKPbc	PKPbc	09 14 08.3	-0.4
148A	Greensboro baz=342	150.75	15	P	PKPbc	09 14 08.1	-0.2
GOGA	Godfrey baz=350	150.84	8	P	PKPbc	09 14 08.5	0.0
GOGA	Godfrey	150.84	8	ePKIKP	PKPbc	09 14 07.9	-0.6
GOGA	Godfrey	150.84	8	ePKPbc	PKPbc	09 14 07.9	-0.6
344A	Westbrook Farm baz=335	150.86	21	P	PKPbc	09 14 09.4	+0.8
149A	Jones baz=343	150.99	14	P	PKPbc	09 14 08.8	-0.1
150A	Eclectic baz=345	151.16	13	P	PKPbc	09 14 09.2	-0.1
248A	Dixon Mills baz=341	151.23	16	P	PKPbc	09 14 09.8	+0.4
345A	Thompson Farm, baz=336	151.24	20	P	PKPbc	09 14 10.1	+0.6
346A	Big Creek Wild baz=337	151.36	19	P	PKPbc	09 14 10.2	+0.4
151A	Opelika baz=346	151.39	12	P	PKPbc	09 14 09.7	-0.1
249A	Camden baz=342	151.50	15	P	PKPbc	09 14 10.4	+0.4
LNIG	Linares	151.53	42	ePKPbc	PKPbc	09 14 10.5	+0.1
347A	Saraland baz=339	151.64	18	P	PKPbc	09 14 11.1	+0.7
250A	Grady baz=344	151.71	14	P	PKPbc	09 14 10.6	+0.1
251A	Midway baz=346	151.79	12	P	PKPbc	09 14 11.0	+0.3
348A	Jackson baz=340	151.82	17	P	PKPbc	09 14 11.5	+0.7
252A	Lumpkin baz=347	152.02	11	P	PKPbc	09 14 11.5	+0.2
253A	Americus baz=349	152.06	10	P	PKPbc	09 14 11.7	+0.4
350A	Dozier baz=344	152.23	14	P	PKPbc	09 14 11.5	-0.2
BRAL	Brewton baz=342	152.29	15	P	PKPbc	09 14 12.8	+0.9
BRAL	Brewton	152.29	15	ePKPdf	PKPdf	09 14 04.4	-0.8
352A	Blakely baz=347	152.48	11	P	PKPbc	09 14 12.5	+0.2
TIGA	Tifton	152.76	9	ePKPdf	PKPdf	09 14 06.2	+0.3
SIV	San Ignacio comp=Z,0.6nm,0.6s,baz=11,slow=4.5,SNR=3.4	153.21 220		PKPbc	PKPbc	09 14 13.3	-1.1

IDC 28 08:54:52.9±2.8, 53°52.N×87°82.E, h0km, mb1 3.3/2, mb1mx2.9/74, mbtmp3.3/2, ML2.8/2, Error ellipse: s-maj=23.2km s-min=14.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=101,slow=334,SNR=12	1.83 285	*i*			09 06 40.0	
ZALV	Zalesovo Beam 3.1nm,0.3s,baz=102,slow=14,SNR=39	1.83 285		Pg	Pn	08 55 24.9	-0.7
ZALV	5.6nm,0.3s,baz=102,slow=28,SNR=19			Lg	Lg	08 55 51.5	
KURBB	Kurchatov Arra 0.2nm,0.3s,baz=62,slow=14,SNR=7.9	6.42 247		Pn	Pn	08 56 29.3	+0.8
KURBB	0.1nm,0.3s,baz=67,slow=29,SNR=3.8			Sn	Sn	08 57 41.4	-1.1
KURBB	0.1nm,0.3s,baz=64,slow=32,SNR=13			Lg	Lg	08 58 17.1	
MKAR	Makanchi Array 0.2nm,0.3s,baz=33,slow=13,SNR=15	7.61 210		Pn	Pn	08 56 46.4	+1.5
MKAR	0.2nm,0.3s,baz=32,slow=22,SNR=9.3			Sn	Sn	08 58 11.2	-0.6
MKAR	0.2nm,0.3s,baz=26,slow=27,SNR=7.8			Lg	Lg	08 58 53.8	
BVAR	Borovoye Array 0.1nm,0.3s,baz=81,slow=26,SNR=4.0	10.45 274		Sn	Sn	08 59 16.3	-5.3

*ISK **28** 08:56:00.9, 35°.32N×27°.09E, h31km, ML3.0/4*
*THE **28** 08:56:00.1, 35°.24N×27°.33E, h20km±3km, ML3.4/5, Error ellipse: s-maj=4.1km s-min=1.5km az=21.0*
*ATH **28** 08:56:01.7, 35°.44N×27°.04E, h29km±1km, ML3.3/4, Error ellipse: s-maj=5.8km s-min=1.0km az=135.0*
*CSEM **28** 08:56:01.2±0.3, 35°.33N×27°.17E, h25km±2km, ML3.3, Error ellipse: s-maj=8.7km s-min=3.6km az=161.0*
*ISCJB **28** 08:56:01.0±0.9, 35°.33N±0°.06×27°.22E±0°.04, h32km±5km, Error ellipse: s-maj=10.5km s-min=4.5km az=157.7*
*DDA **28** 08:56:30.0, 35°.27N×27°.25E, h25km, Ml3.4*

ISC 28 08:56:01.3±1.1, 35°.33N±0°.05×27°.18E±0°.03, h32km±6km, n66, σ1s05/88, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.22	357	PG	Pb	08 56 08.2	+0.2
KARP				SG	Sb	08 56 13.4	+0.8
KARP	Karpathos	0.22	357	P	Pb	08 56 07.8	-0.3
KARP				S	Sb	08 56 11.7	-0.9
KARP	comp=N,15780μm,0.2s			AML	AML	08 56 13.5	
KARP	comp=E,18214μm,0.3s			AML	AML	08 56 14.1	
KARP	Karpathos	0.22	357	P	Pb	08 56 07.5	-0.5
KARP	Karpathos	0.22	357	ePg	Pb	08 56 08.2	+0.2
KARP				S	Sb	08 56 11.5	-1.1
KARP	Karpathos	0.22	357	P	Pb	08 56 07.5	-0.5
KARP				S	Sb	08 56 13.4	+0.8
ZKR	Zakros	0.81	255	P	Pb	08 56 15.0	-2.0
ZKR				S	Sb	08 56 27.9	+0.2
ZKR	comp=N,3699μm,0.6s			AML	AML	08 56 31.3	
ZKR	comp=E,7537μm,1.0s			AML	AML	08 56 33.2	
ZKR	Zakros	0.81	255	P	Pb	08 56 15.7	-1.3
ZKR				S	Sn	08 56 28.3	+0.8
ZKR	Zakros	0.81	255	P	Pb	08 56 15.6	-1.4
ZKR				S	Sn	08 56 28.3	+0.8
NPS	Neapolis	1.28	268	P	Pb	08 56 24.7	-0.2
NPS				S	Sb	08 56 41.6	+0.6
NPS	comp=N,3239μm,1.1s			AML	AML	08 56 44.1	
NPS	comp=E,3147μm,0.5s			AML	AML	08 56 44.9	
NPS	Neapolis	1.28	268	P	Pn	08 56 24.1	+1.1
NPS				S	Sb	08 56 40.9	-0.1
NPS	Neapolis	1.28	268	P	Pn	08 56 24.1	+1.1
NPS				S	Sb	08 56 42.1	+1.1
NISR	Nisiros	1.28	358	P	Pn	08 56 21.9	-1.1
NISR				S	Sn	08 56 39.6	+0.5
NISR	Nisiros	1.28	358	P	Pn	08 56 22.9	-0.1
NISR				S	Sn	08 56 39.8	+0.7
NISR	Nisiros	1.28	358	P	Pn	08 56 22.9	-0.1
LAST	Lasithi	1.40	264	P	Pb	08 56 26.5	-0.4
LAST				S	Sb	08 56 43.8	-0.6
LAST	comp=N,1512μm,0.7s			AML	AML	08 56 51.9	
LAST	comp=E,1399μm,0.8s			AML	AML	08 56 52.8	
LAST	Lasithi	1.40	264	P	Pn	08 56 25.6	+0.9
LAST				S	Sb	08 56 43.7	-0.7
LAST	Lasithi	1.40	264	P	Pn	08 56 25.6	+0.9
LAST				S	Sb	08 56 44.0	-0.4
SANT	Santorini	1.74	307	P	Pn	08 56 29.2	-0.1
SANT				S	Sn	08 56 51.7	+1.1
SANT	Santorini	1.74	307	P	Pn	08 56 29.6	+0.2
SANT				S	Sn	08 56 51.0	+0.5
SANT	Santorini	1.74	307	P	Pn	08 56 29.6	+0.2
SANT				S	Sb	08 56 52.7	-1.5
BDRM	Kayabasi	1.75	7	*i* P	Pn	08 56 29.6	+0.1
BDRM	Kayabasi	1.75	7	P	Pn	08 56 29.6	+0.1
THT1	Athinios (Pele	1.77	307	P	Pn	08 56 28.5	-1.2
THT1	Athinios (Pele	1.77	307	P	Pn	08 56 29.4	-0.3
THR6	Thira Island,	1.77	306	P	Pn	08 56 30.2	+0.5
THR6	Thira Island,	1.77	306	P	Pn	08 56 30.3	+0.5
THR3	Thira Island,	1.80	307	P	Pn	08 56 30.1	0.0
THR3	Thira Island,	1.80	307	P	Pn	08 56 30.4	+0.2
THR2	Thira Island,	1.80	309	P	Pn	08 56 30.2	0.0
THR2	Thira Island,	1.80	309	P	Pn	08 56 30.4	+0.2
THR5	Thira Island,	1.84	307	P	Pn	08 56 31.2	+0.5
THR5	Thira Island,	1.84	307	P	Pn	08 56 30.8	+0.1
THR5	Thira Island,	1.84	307	P	Pn	08 56 30.8	+0.1
DALY	Dalyan (Mu¨la	1.91	38	PN	Pn	08 56 32.9	+1.3
DALY	Dalyan (Mu¨la	1.91	38	*i* P	Pn	08 56 33.2	+1.6
DALY				*i* S	Sb	08 57 02.1	+3.2
DALY	Dalyan (Mu¨la	1.91	38	ePn	Pn	08 56 32.9	+1.3
DALY	Dalyan (Mu¨la	1.91	38	P	Pn	08 56 33.2	+1.6
TURN	Turunc	1.93	36	*i* P	Pn	08 56 29.3	-2.6
TURN				*i* S	Sn	08 56 53.6	-1.4
TURN	Turunc	1.93	36	P	Pn	08 56 29.3	-2.6
TURN				S	Sn	08 56 53.6	-1.4
YER	Yerkesik	2.02	26	PN	Pn	08 56 33.7	+0.6
YER	Yerkesik	2.02	26	ePn	Pn	08 56 33.7	+0.6
FETY	Fethiye	2.02	49	P	Pn	08 56 32.7	-0.5
MLSB	Milas	2.02	14	PN	Pn	08 56 33.4	+0.1
MLSB	Milas	2.02	14	ePn	Pn	08 56 33.4	+0.1
AKAS	Kas	2.17	65	*i* P	Pn	08 56 34.6	-0.8
AKAS	Kas	2.17	65	P	Pn	08 56 34.6	-0.8
APE	Apeiranthos	2.19	323	PN	Pn	08 56 35.4	-0.2
APE	Apeiranthos	2.19	323	P	Pn	08 56 35.0	-0.6
APE	Apeiranthos	2.19	323	ePn	Pn	08 56 35.4	-0.2
APE	Apeiranthos	2.19	323	P	Pn	08 56 35.0	-0.6
GCAM	G?zelcaml?	2.37	1	*i* P	Pn	08 56 38.6	+0.6
GCAM	G?zelcaml?	2.37	1	P	Pn	08 56 38.6	+0.6
AYDN	Tasoluk	2.40	13	*i* P	Pn	08 56 40.4	+2.0
AYDN	Tasoluk	2.40	13	P	Pn	08 56 40.4	+2.0
TAVA	DENIZLI_Tavas	2.55	33	*i* P	Pn	08 56 41.4	+0.8
TAVA				*i* S	Sb	08 57 15.8	-1.7
TAVA	DENIZLI_Tavas	2.55	33	P	Pn	08 56 41.4	+0.8
IMMV	Iera Moni Meta	2.62	274	P	Pn	08 56 41.9	+0.6
IMMV	Iera Moni Meta	2.62	274	P	Pn	08 56 41.9	+0.6
ELL	Elmali	2.63	57	PN	Pn	08 56 43.4	+1.7
ELL	Elmali	2.63	57	ePn	Pn	08 56 43.4	+1.7
AYDB	Zeytinkoy-Aydi	2.68	12	PN	Pn	08 56 43.9	+1.6
AYDB	Zeytinkoy-Aydi	2.68	12	ePn	Pn	08 56 43.9	+1.6
GOLH	Golhisar	2.71	45	*i* P	Pn	08 56 43.0	+0.2
GOLH	Golhisar	2.71	45	P	Pn	08 56 43.0	+0.2
KEPZ	Antalya-Kepez	3.91	65	*i* P	Pn	08 56 59.6	+0.4
KEPZ	Antalya-Kepez	3.91	65	P	Pn	08 56 59.6	+0.4

*CSEM **28** 09:04:15.5±0.9, 51°.48N×16°.07E, h2km, ML2.8/7, Error ellipse: s-maj=13.8km s-min=8.2km az=8.0*
*PRU **28** 09:04:15.7, 51°.49N×16°.17E, h0km*

ISC 28 09:04:15.0±2.2, 51°.5N±0°.1×16°.17E±0°.05, h0km, n18, σ0s40/34, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	174	ePg	Pg	09 04 28.5	+0.6
KSP				eSg	Sg	09 04 37.1	+0.5
KSP	Ksiaz	0.67	174	ePg	Pg	09 04 28.5	+0.6
KSP				eSg	Sg	09 04 37.1	+0.5
UPC	Upice	1.01	186	ePG	Pg	09 04 34.6	+0.2
UPC	comp=Z,14nm,0.3s			eSG	Sg	09 04 47.5	+0.1
UPC	Upice	1.01	186	Pg	Pg	09 04 34.6	+0.2
UPC	14nm,0.3s			Sg	Sg	09 04 47.5	+0.1
DPC	Dobruska-Polom	1.17	175	ePG	Pg	09 04 37.2	-0.2
DPC	comp=Z,7.3nm,0.2s			eSG	Sg	09 04 51.8	-0.7
DPC	Dobruska-Polom	1.17	175	Pg	Pg	09 04 37.2	-0.2
DPC	7.3nm,0.2s			Sg	Sg	09 04 51.8	-0.7
PVCC	Panska Ves	1.41	226	ePG	Pg	09 04 42.2	+0.1
PVCC	comp=Z,36nm,0.2s			eSG	Sb	09 05 00.9	+0.1
PVCC	Panska Ves	1.41	226	Pg	Pg	09 04 42.2	+0.1
PVCC	36nm,0.2s			Sg	Sb	09 05 00.9	+0.1
BRG	Berggiesshubel	1.54	246	PG	Pb	09 04 44.3	-0.2
BRG	11nm,0.3s			SG	Sn	09 05 04.3	-0.1
GOPC	GO Pecny, Ondr	1.83	209	ePG	Pb	09 04 48.7	-0.6
GOPC	comp=Z,4.1nm,0.5s			eSG	Sb	09 05 12.6	-0.1
GOPC	GO Pecny, Ondr	1.83	209	Pg	Pb	09 04 48.7	-0.6
GOPC	4.1nm,0.5s			Sg	Sb	09 05 12.6	-0.1
PRU	Pruhonice	1.84	215	ePG	Pn	09 04 48.1	+0.2
PRU	comp=Z,5.9nm,0.3s			eSG	Sg	09 05 13.7	-0.5
PRU	Pruhonice	1.84	215	Pg	Pn	09 04 48.1	+0.2
PRU	5.9nm,0.3s			Sg	Sg	09 05 13.7	-0.5
MORC	Moravsky Berou	1.94	153	ePn	Pb	09 04 50.8	-0.5
MORC				eSg	Sg	09 05 17.3	-0.1
NKC	Novy Kostel comp=Z,7.4nm,0.3s	2.69	243	eSG	Sg	09 05 41.0	-0.2
NKC	Novy Kostel 7.4nm,0.3s	2.69	243	Sg	Sg	09 05 41.0	-0.2
KHC	Kasperske Hory	2.91	216	ePN	Pn	09 05 02.6	+0.1
KHC				ePG	Pb	09 05 08.6	+0.9
KHC				eSG	Sg	09 05 48.5	+0.2
KHC	comp=Z,3.1nm,0.3s						
KHC	Kasperske Hory	2.91	216	Pn	Pn	09 05 02.6	+0.1

*JMA **28** 09:04:57.7±0.2, 24°.30N×121°.91E, h52km±3km, M2.0*
*ISCJB **28** 09:04:58.7±0.3, 24°.42N±0°.02×122°.00E±0°.02, h24km±3km, Error ellipse: s-maj=3.9km s-min=2.7km az=152.5*
*TAP **28** 09:04:58.3, 24°.42N×121°.96E, h25km, ML3.1, C*

ISC 28 09:04:58.5±0.9, 24°.42N±0°.02×121°.97E±0°.02, h27km±5km, n46, σ0s61/77, 1C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	Nanao baz=281	0.15	281	P	Pb	09 05 03.6	-0.3
ENAH	baz=281			S	Sb	09 05 07.6	+0.1
EOS1	EOS1 baz=50	0.19	48	eP	Pb	09 05 04.8	+0.5
NANB	Nanao baz=271	0.20	272	eP	Pb	09 05 04.1	-0.4
NANB	baz=271			eS	Sb	09 05 08.5	0.0
ENA	Nanau baz=271	0.21	272	P	Pb	09 05 04.1	-0.4
ENA	baz=271			eS	Sb	09 05 08.6	-0.1
TWC	Suao baz=334	0.22	329	⇑ *i* P	Pb	09 05 04.5	-0.2
TWC	baz=334			S	Sb	09 05 08.7	-0.1
TWE	Neicheng baz=319	0.41	317	P	Pb	09 05 07.4	+0.1
TWE	baz=319			eS	Sb	09 05 13.5	+0.1
NACB	Ninganchiao baz=233	0.42	235	eP	Pb	09 05 07.2	-0.4
NACB	baz=233			eS	Sn	09 05 14.8	-1.0
EGS	baz=358	0.42	355	eP	Pn	09 05 08.1	-0.8
EGS	baz=358			eS	Sn	09 05 14.6	-1.2
ENTT	Nioudou baz=301	0.43	301	P	Pb	09 05 07.7	0.0
ENTT	baz=301			S	Sb	09 05 14.2	+0.2
TWD	Chiawan baz=223	0.48	226	*i* P	Pb	09 05 08.1	-0.4
TWD	baz=223			eS	Sn	09 05 16.7	-0.5
NNSB	Datong baz=270	0.54	271	eP	Pb	09 05 09.2	-0.3
NNSB	baz=270			eS	Sb	09 05 17.4	+0.3
NNSH	Datong baz=270	0.54	271	P	Pb	09 05 09.2	-0.4
NNSH	baz=270			eS	Sb	09 05 17.1	+0.1
NNS	Nan Shan baz=271	0.55	272	P	Pb	09 05 09.5	-0.2
NNS	baz=271			eS	Sb	09 05 17.6	+0.3
NWLT	Wulai baz=310	0.56	310	P	Pb	09 05 09.7	-0.1
NWLT	baz=310			eS	Sb	09 05 17.7	+0.2
TIPB	Shuangxi baz=347	0.57	346	eP	Pb	09 05 09.1	-0.9
TIPB	baz=347			eS	Sb	09 05 17.1	-0.6
YHNB	Yeheng baz=295	0.60	295	eP	Pb	09 05 10.4	-0.1
YHNB	baz=295			eS	Sn	09 05 19.2	-1.0
ENLB	Shoufeng baz=212	0.61	213	eP	Pn	09 05 10.9	-0.6
ENLB	baz=212			eS	Sn	09 05 21.8	+1.3
NWF	Wu-fen Shan baz=346	0.67	345	eP	Pn	09 05 12.5	+0.1
WFSB	Wu-fen Shan baz=345	0.67	345	eP	Pn	09 05 12.2	-0.1
WFSB	baz=345			eS	Sn	09 05 21.9	0.0
WHF	Hehuan Shan baz=246	0.70	247	⇓ *i* P	Pb	09 05 11.9	-0.6
WHF	baz=246			S	Sn	09 05 22.3	-0.9
TATO	Taipei baz=322	0.71	322	eP	Pn	09 05 12.9	+0.1
TWT	Tachien baz=256	0.74	257	eP	Pn	09 05 13.4	-0.1
TWT	baz=256			eS	Sn	09 05 24.4	+0.4
TDCB	Techi baz=257	0.76	258	eP	Pn	09 05 13.1	-0.5
TDCB	baz=257			eS	Sn	09 05 23.9	-0.4
ESL	Shilin baz=217	0.78	219	eP	Pb	09 05 12.6	-0.9
CHGB	Renai baz=243	0.81	244	eP	Pb	09 05 13.7	-0.5
CHGB	baz=243			eS	Sn	09 05 26.4	+0.7
YM07	YM07 baz=337	0.82	337	eP	Pb	09 05 13.8	-0.4
YM07	baz=337			eS	Sn	09 05 25.6	0.0
TWS1	Kuangyinshan baz=324	0.84	323	eP	Pn	09 05 15.2	+0.5
OWD	Renai baz=236	0.86	238	P	Pb	09 05 14.2	-0.9
OWD	baz=236			eS	Sn	09 05 26.2	-0.6
JYNG	Yonagunijimaku	0.89	88	P	Pb	09 05 15.0	-0.3
JYNG				eS	Sn	09 05 27.3	+0.1
EGFH	Guangfu baz=212	0.90	214	eP	Pb	09 05 15.0	-0.5
LIOB	Emei baz=284	0.90	285	P	Pn	09 05 16.3	+0.8
LIOB	baz=284			eS	Sn	09 05 29.1	+1.5
SANB	Taian baz=268	0.90	269	eP	Pn	09 05 15.8	+0.3
NSTT	Nanjuang baz=283	0.91	284	eP	Pn	09 05 16.4	+0.8
NSTT	baz=283			eS	Sn	09 05 28.7	+0.9
YOJ	Yonaguni jima	0.95	87	P	Pn	09 05 15.9	-0.2
YOJ				S	Sb	09 05 28.6	+0.1
EHY	Hungye baz=212	1.09	213	eP	Pn	09 05 17.0	-1.0
TWQ1	Liyutan baz=266	1.10	267	eP	Pb	09 05 19.6	+0.8
SMLT	Sun Moon Lake baz=240	1.12	242	eP	Pb	09 05 19.5	+0.2
TYC	Yuchr baz=242	1.14	243	eP	Pb	09 05 19.5	-0.1
YUS	Yu-Shan baz=224	1.31	225	eP	Pn	09 05 21.6	0.0
FULB	Fuli baz=206	1.36	207	eP	Pn	09 05 22.3	+0.5
CHN5	Tsauling baz=235	1.44	236	eP	Pb	09 05 24.7	-0.1
IRIF	Iriomote-Funau	1.60	93	P	Pn	09 05 25.2	+0.1
IRIF				eS	Sn	09 05 45.1	+0.2
CHN4	Tsaushan baz=229	1.65	230	eP	Pb	09 05 28.1	-0.2
CHN4	baz=229			eS	Sb	09 05 50.4	+1.7
TWK	Hsinying	1.78	230	eP	Pb	09 05 29.6	-0.9

baz=229
JKRS Kuro-shima 1.87 95 P **Pn** 09 05 29.4 **+0.7**
JKRS *eS* **Sn** 09 05 51.7 **+0.3**
JIJ Ishigaki jima 1.98 91 P **Pn** 09 05 31.4 **+1.1**
JIJ *eS* **Sn** 09 05 53.6 **-0.6**

*ISCJB **28** 09:11:20.6±2.0, 35°.14N±0°.09×27°.36E±0°.05, h10km±10km, Error ellipse: s-maj=16.8km s-min=4.7km az=160.0*
*CSEM **28** 09:11:20.8±0.4, 35°.13N×27°.34E, h10km, ML2.7, Error ellipse: s-maj=10.3km s-min=4.0km az=160.0*
*ATH **28** 09:11:21.7, 35°.17N×27°.24E, h19km±2km, ML2.8/4, Error ellipse: s-maj=5.1km s-min=1.4km az=324.0*
*THE **28** 09:11:22.3, 35°.20N×27°.21E, h0km±3km, ML2.7/4, Error ellipse: s-maj=10.1km s-min=1.1km az=124.0*
*DDA **28** 09:12:12.9, 35°.15N×27°.24E, h16km, Ml2.8*

ISC 28 09:11:22.7±1.6, 35°.23N±0°.08×27°.26E±0°.06, h24km±12km, n27, σ1§19/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.33**	**346**	P	**Pb**	**09 11 30.1**	**-0.1**
KARP				S	**Sb**	**09 11 35.3**	**0.0**
KARP				AML	AML	09 11 37.2	
	comp=N,3670μm,0.4s						
KARP				AML	AML	09 11 37.5	
	comp=E,4673μm,0.4s						
KARP	**Karpathos**	**0.33**	**346**	P	**Pb**	**09 11 29.8**	**-0.4**
KARP				S	**Sb**	**09 11 35.8**	**+0.5**
KARP	**Karpathos**	**0.33**	**346**	P	**Pb**	**09 11 29.8**	**-0.4**
KARP				S	**Sb**	**09 11 35.8**	**+0.5**
ZKR	**Zakros**	**0.86**	**263**	P	**Pb**	**09 11 38.2**	**-0.8**
ZKR				S	**Sb**	**09 11 49.9**	**-0.2**
ZKR				AML	AML	09 11 56.8	
	comp=E,1707μm,0.7s						
ZKR				AML	AML	09 11 59.0	
	comp=N,825μm,0.5s						
ZKR	**Zakros**	**0.86**	**263**	P	**Pb**	**09 11 38.0**	**-1.0**
ZKR				S	**Sn**	**09 11 51.3**	**+0.2**
ZKR	**Zakros**	**0.86**	**263**	P	**Pb**	**09 11 38.0**	**-1.0**
ZKR				S	**Sn**	**09 11 51.3**	**+0.2**
NPS	**Neapolis**	**1.35**	**272**	P	**Pb**	**09 11 46.3**	**-1.0**
NPS				S	**Sb**	**09 12 05.4**	**+1.3**
NPS				AML	AML	09 12 06.9	
	comp=N,679μm,0.5s						
NPS				AML	AML	09 12 08.0	
	comp=E,767μm,0.6s						
NPS	**Neapolis**	**1.35**	**272**	P	**Pb**	**09 11 46.6**	**-0.8**
NPS				S	**Sb**	**09 12 05.2**	**+1.0**
NPS	**Neapolis**	**1.35**	**272**	P	**Pb**	**09 11 46.5**	**-0.8**
NPS				S	**Sb**	**09 12 05.2**	**+1.0**
LAST	**Lasithi**	**1.46**	**268**	P	**Pb**	**09 11 48.6**	**-0.6**
LAST				S	**Sb**	**09 12 09.7**	**+2.3**
LAST				AML	AML	09 12 17.2	
	comp=N,269μm,0.6s						
LAST				AML	AML	09 12 19.3	
	comp=E,319μm,0.8s						
LAST	**Lasithi**	**1.46**	**268**	P	**Pb**	**09 11 48.5**	**-0.7**
LAST				S	**Sb**	**09 12 08.5**	**+1.1**
LAST	**Lasithi**	**1.46**	**268**	P	**Pb**	**09 11 48.5**	**-0.7**
LAST				S	**Sb**	**09 12 08.5**	**+1.1**
BDRM	**Kayabasi**	**1.84**	**5**	*i* P	**Pn**	**09 11 51.9**	**-0.9**
BDRM	**Kayabasi**	**1.84**	**5**	P	**Pn**	**09 11 51.9**	**-0.9**
DALY	**Dalyan (Mu¨la**	**1.95**	**35**	*i* P	**Pn**	**09 11 55.6**	**+1.3**
DALY	**Dalyan (Mu¨la**	**1.95**	**35**	P	**Pn**	**09 11 55.6**	**+1.3**
TURN	**Turunc**	**1.97**	**33**	*i* P	**Pn**	**09 11 51.9**	**-2.7**
TURN				*i* S	**Sn**	**09 12 15.2**	**-3.3**
TURN	**Turunc**	**1.97**	**33**	P	**Pn**	**09 11 51.9**	**-2.7**
FETY	**Fethiye**	**2.04**	**46**	P	**Pn**	**09 11 55.3**	**-0.3**
AKAS	**Kas**	**2.16**	**62**	*i* P	**Pn**	**09 11 56.9**	**-0.4**
AKAS				*i* S	**Sn**	**09 12 23.7**	**+0.4**
AKAS	**Kas**	**2.16**	**62**	P	**Pn**	**09 11 56.9**	**-0.4**
AKAS				S	**Sn**	**09 12 23.7**	**+0.4**
AYDN	**Tasoluk**	**2.48**	**11**	*i* P	**Pn**	**09 12 02.3**	**+0.6**
AYDN	**Tasoluk**	**2.48**	**11**	P	**Pn**	**09 12 02.3**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.60**	**30**	*i* P	**Pn**	**09 12 03.9**	**+0.5**
TAVA	**DENIZLI_Tavas**	**2.60**	**30**	P	**Pn**	**09 12 03.9**	**+0.5**
GOLH	**Golhisar**	**2.74**	**42**	*i* P	**Pn**	**09 12 05.5**	**+0.3**
GOLH				*i* S	**Sn**	**09 12 39.3**	**+1.7**
GOLH	**Golhisar**	**2.74**	**42**	P	**Pn**	**09 12 05.5**	**+0.3**
GOLH				S	**Sn**	**09 12 39.3**	**+1.7**

*ATH **28** 09:21:46.7, 34°.10N×23°.14E, h11km±4km, ML3.4/2, Error ellipse: s-maj=9.8km s-min=2.7km az=32.0*
*CSEM **28** 09:21:46.7, 34°.10N×23°.14E, h11km, ML3.4/2, After ATH*
*IDC **28** 09:21:50.6±1.6, 34°.29N×23°.51E, h0km, mb3.9/4, mb1 3.8/6, mb1mx3.4/65, mbtmp3.7/6, ML4.1/2, Error ellipse: s-maj=35.2km s-min=20.9km az=147.0*
*ISCJB **28** 09:21:51.2±0.9, 34°.27N±0°.08×23°.36E±0°.09, h10km, mb3.7/4, Error ellipse: s-maj=12.5km s-min=8.4km az=139.7*

ISC 28 09:21:52.6±1.2, 34°.41N±0°.08×23°.36E±0°.06, h10km, n27, σ1§31/32, mb3.9/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.74**	**54**	P	**Pg**	**09 22 07.7**	**+0.9**
GVD				S	**Sn**	**09 22 22.1**	**+1.8**
GVD				AML	AML	09 22 24.4	
	comp=N,2946μm,0.3s						
GVD				AML	AML	09 22 29.6	
	comp=E,3058μm,0.6s						
GVD	**Gavdhos**	**0.74**	**54**	P	**Pg**	**09 22 07.4**	**+0.6**
GVD				S	**Sn**	**09 22 22.0**	**+1.7**
GVD	**Gavdhos**	**0.74**	**54**	P	**Pg**	**09 22 07.5**	**+0.6**
GVD				S	**Sn**	**09 22 22.1**	**+1.8**
IMMV	**Iera Moni Meta**	**1.17**	**26**	P	**Pb**	**09 22 15.2**	**+0.3**
IMMV				AML	AML	09 22 45.0	
	comp=N,2237μm,0.9s						
IMMV				AML	AML	09 22 47.1	
	comp=E,1797μm,0.6s						
IMMV	**Iera Moni Meta**	**1.17**	**26**	P	**Pb**	**09 22 15.3**	**+0.4**
IMMV	**Iera Moni Meta**	**1.17**	**26**	P	**Pb**	**09 22 15.5**	**+0.6**
IMMV				S	**Sn**	**09 22 31.6**	**+0.6**
VAM	**Vamos**	**1.21**	**34**	P	**Pb**	**09 22 15.4**	**-0.2**
VAM	**Vamos**	**1.21**	**34**	P	**Pb**	**09 22 15.8**	**+0.2**
SIVA	**Sivas**	**1.34**	**63**	P	**Pn**	**09 22 18.1**	**+0.7**
SIVA	**Sivas**	**1.34**	**63**	P	**Pn**	**09 22 18.0**	**+0.7**
SIVA	**Sivas**	**1.34**	**63**	P	**Pn**	**09 22 17.2**	**-0.1**
ANKY	**Antikythira Is**	**1.46**	**358**	P	**Pn**	**09 22 19.8**	**+0.9**
ANKY	**Antikythira Is**	**1.46**	**358**	P	**Pn**	**09 22 19.6**	**+0.6**
IDI	**Anoyia**	**1.53**	**55**	Pn	**Pn**	**09 22 20.6**	**+0.5**
	comp=E,1.9nm,0.3s,baz=235,slow=18,SNR=6.1						
IDI				Sn	**Sn**	**09 22 39.6**	**-0.5**
	comp=E,5.7nm,0.3s,baz=356,slow=20,SNR=7.0						
LAST	**Lasithi**	**1.90**	**66**	P	**Pn**	**09 22 25.8**	**+0.7**
LAST	**Lasithi**	**1.90**	**66**	P	**Pn**	**09 22 25.7**	**+0.7**
DID	**Didima**	**3.09**	**358**	P	**Pn**	**09 22 42.3**	**+0.8**
DID	**Didima**	**3.09**	**358**	P	**Pn**	**09 22 42.4**	**+0.8**
KARP	**Karpathos**	**3.32**	**69**	P	**Pn**	**09 22 44.2**	**-0.5**
KARP	**Karpathos**	**3.32**	**69**	P	**Pn**	**09 22 44.8**	**+0.2**
MLR	**Muntele Rosu**	**11.24**	**9**	Sn	**Sn**	**09 26 34.9**	**-4.4**
	comp=E,0.1nm,0.3s,baz=245,slow=14,SNR=5.2						
GERES	**GERESS Array B**	**16.11**	**336**	P	**P**	**09 25 43.7**	**+1.2**
	comp=E,0.2nm,0.3s,baz=157,slow=13,SNR=6.3						
AKASG	**Malin Array Be**	**16.84**	**13**	Pn	**Pn**	**09 25 46.4**	**-1.9**
	comp=E,0.8nm,0.3s,baz=206,slow=10,SNR=4.9						
EKA	**Eskdalemuir Ar**	**27.83**	**327**	P	**P**	**09 27 43.0**	**+1.1**
	comp=E,1.1nm,0.6s,baz=121,slow=9.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**28.88**	**228**	P	**P**	**09 27 51.2**	**-0.4**
	comp=E,0.4nm,0.7s,baz=46,slow=8.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**42.74**	**50**	P	**P**	**09 29 50.8**	**+1.0**
	comp=E,0.9nm,0.3s,baz=269,slow=8.7,SNR=3.0						
MKAR	**Makanchi Array**	**45.42**	**56**	P	**P**	**09 30 09.0**	**-2.5**
	comp=E,1.1nm,0.6s,baz=284,slow=6.7,SNR=4.9						

NNC 28 09:21:57.1±4.1, 38°.46N×72°.30E, h0km, mb3.5, mpv3.1, 4C-2D, Error ellipse: s-maj=31.7km s-min=22.5km az=165.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.81**	**31**	Pn	Pn	09 22 29.7	0.0
	6.7nm,0.3s						
SFK				Sn	Sg	09 22 55.3	+0.1
	51nm,0.5s						
MNAS	**Manas**	**4.02**	**2**	Pn	Pn	09 23 00.6	+0.5
	0.7nm,0.3s						
MNAS				Sn	Sn	09 23 49.3	+1.3
	5.8nm,0.4s						
AAK	**Ala-Archa**	**4.49**	**21**	||Pn	Pn	09 23 05.3	-1.2
	1.6nm,0.7s						
AAK				⇑Sn	Sn	09 23 56.7	-2.9
	3.0nm,0.5s						
KK31	**Karatay Array**	**4.83**	**344**	⇑Pn	Pn	09 23 12.6	+1.6
	2.7nm,0.3s,baz=145,slow=10,SNR=99						
KK31				||Sn	Sn	09 24 10.0	+2.3
	8.4nm,0.3s,baz=154,slow=20,SNR=43						
AB31	**Akbulak array**	**13.97**	**325**	⇑Pn	Pn	09 25 13.4	-2.9
	0.5nm,0.6s,baz=131,slow=14,SNR=7.0						
AB31				⇑Sn	Sn	09 27 50.3	-1.7
	0.9nm,0.6s,baz=149,slow=21,SNR=9.6						

*IDC **28** 09:22:07.2±1.3, 14°.76S×172°.37W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/47, mbtmp3.8/4, Error ellipse: s-maj=59.1km s-min=16.0km az=130.0*
*ISCJB **28** 09:22:10.6±1.0, 14°.8S±0°.2×172°.5W±0°.3, h35km, mb3.8/4, Error ellipse: s-maj=46.1km s-min=9.4km az=41.0*

ISC 28 09:22:12.0±1.3, 14°.8S±0°.3×172°.4W±0°.3, h35km, n12, σ0§79/7, mb3.7/4, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.01**	**33**	Pn	**Pn**	**09 22 28.9**	**-0.9**
	162nm,0.3s,baz=126,slow=1.1,SNR=213						
AFI				Sn	**Sn**	**09 22 43.1**	**+0.3**
	baz=49,slow=20						
URZ	**Urewera**	**25.20**	**200**	P	**P**	**09 27 34.2**	**-0.2**
	6.3nm,0.6s,baz=37,slow=4.9,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**38.95**	**327**	T	T	10 11 44.4	
	baz=145,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**38.97**	**327**	T	T	10 11 51.3	
	baz=145,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**38.97**	**327**	T	T	10 11 45.8	
	baz=145,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**39.88**	**329**	T	T	10 12 55.4	
	baz=142						
H11N1	**WAKE ISLAND Hy**	**39.88**	**329**	T	T	10 12 56.9	
	baz=142						
H11N2	**WAKE ISLAND Hy**	**39.89**	**329**	T	T	10 12 56.9	
	baz=142						
WRA	**Warramunga Arr**	**50.98**	**256**	P	**P**	**09 31 10.4**	**-0.3**
	0.5nm,0.9s,baz=90,slow=6.1,SNR=4.8						
ASAR	**Alice Springs**	**51.27**	**251**	P	**P**	**09 31 12.7**	**-0.2**
	0.6nm,0.6s,baz=88,slow=8.2,SNR=12						
YKA	**Yellowknife Ar**	**89.11**	**23**	P	**P**	**09 35 04.5**	**+1.1**
	0.3nm,0.8s,baz=242,slow=4.9,SNR=5.8						
BRTR	**Keskin Array B**	**146.28**	**322**	PKPbc	**PKPab**	**09 41 50.6**	**+0.3**
	0.4nm,0.7s,baz=54,slow=2.5,SNR=2.4						

*CSEM **28** 09:22:56.2, 37°.61N×39°.26E, h17km, ML1.9, After ISK*

ISK 28 09:22:56.2, 37°.61N×39°.26E, h17km, ML1.9/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.39**	**244**	PG	Pg	09 23 03.6	-0.6
URFA				SG	Sb	09 23 11.0	+0.7
URFA	**Urfa**	**0.39**	**244**	*e*Pg	Pg	09 23 03.6	-0.6
URFA				*e*Sg	Sb	09 23 11.0	+0.7
DYBB	**Diyarbakir**	**0.78**	**64**	PG	Pn	09 23 12.1	-0.4
DIY	**Diyarbakir**	**0.82**	**69**	*e*Pg	Pb	09 23 12.1	+0.1
MALT	**Malatya**	**0.96**	**317**	PG	Pn	09 23 15.9	+0.9
MALT	**Malatya**	**0.96**	**317**	*e*Pg	Pn	09 23 15.9	+0.9
MAZI	**Mazidag**	**0.96**	**99**	PG	Pn	09 23 15.3	+0.3
MAZI	**Mazidag**	**0.96**	**99**	*e*Pg	Pn	09 23 15.3	+0.3
BINT	**Bingol**	**1.59**	**37**	*i* Pn	Pg	09 23 26.7	-0.2
SVAN	**Silvan-Diyarba**	**1.63**	**70**	PN	Pb	09 23 25.6	-0.2
SVAN	**Silvan-Diyarba**	**1.63**	**70**	*e*Pn	Pb	09 23 25.6	-0.2

*ATA **28** 09:23:03.3±1.1, 39°.23N×42°.28E, h19km±5km, ML2.8, MW2.6*
*ISCJB **28** 09:23:04.6±0.5, 39°.23N±0°.03×42°.28E±0°.03, h10km±5km, Error ellipse: s-maj=6.0km s-min=4.2km az=23.4*
*CSEM **28** 09:23:04.5, 39°.24N×42°.27E, h7km, ML2.6, After DDA*
*DDA **28** 09:23:04.5, 39°.24N×42°.27E, h7km, Ml2.6*

ISC 28 09:23:04.5±0.9, 39°.24N±0°.03×42°.28E±0°.02, h14km±7km, n25, σ0§74/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.17**	**277**	*i* P	**Pg**	**09 23 08.4**	**-0.3**
EKAR				*e*S	**Sb**	**09 23 13.0**	**+0.2**
EKAR				IAML		09 23 16.2	
	comp=Z,201nm,0.4s						
EKAR	**Karacoban**	**0.17**	**277**	*i* P	**Pg**	**09 23 08.6**	**-0.1**
EKAR				*i* S	**Sb**	**09 23 13.3**	**+0.6**
EKAR	**Karacoban**	**0.17**	**277**	P	**Pg**	**09 23 08.6**	**-0.1**
EKAR				S	**Sb**	**09 23 13.3**	**+0.6**
TUTA	**Tutak**	**0.45**	**68**	*e*P	**Pg**	**09 23 13.3**	**-0.2**
TUTA				*e*S	**Sg**	**09 23 20.4**	**+0.8**
TUTA				IAML		09 23 21.4	
	comp=Z,128nm,0.2s						
TUTA	**Tutak**	**0.45**	**68**	*i* P	**Pg**	**09 23 13.4**	**-0.2**
TUTA				*i* S	**Sg**	**09 23 20.5**	**+0.8**
TUTA	**Tutak**	**0.45**	**68**	P	**Pg**	**09 23 13.4**	**-0.1**
TUTA				S	**Sg**	**09 23 20.5**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.55**	**141**	*i* P	**Pg**	**09 23 14.9**	**-0.5**
ADCV				*i* S	**Sb**	**09 23 23.9**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.55**	**141**	P	**Pg**	**09 23 14.9**	**-0.5**
ADCV				S	**Sb**	**09 23 23.9**	**+0.1**
VRTB	**Varto-Mus**	**0.64**	**263**	*e*PG	**Pg**	**09 23 17.1**	**+0.1**
VRTB				*e*SG	**Sb**	**09 23 27.3**	**+0.9**
EATA	**Eleskirt**	**0.65**	**15**	*e*P	**Pg**	**09 23 16.7**	**-0.6**
EATA				*e*S	**Sb**	**09 23 27.5**	**+0.7**
EATA				IAML		09 23 28.7	
	comp=Z,9.9nm,0.2s						
EATA	**Eleskirt**	**0.65**	**15**	*i* P	**Pg**	**09 23 17.0**	**-0.2**
EATA	**Eleskirt**	**0.65**	**15**	P	**Pg**	**09 23 17.0**	**-0.2**
GURO	**Guroymak-BITLI**	**0.71**	**196**	*i* PG	Pn	09 23 27.3	+7.1
HOMI	**Horasan**	**0.86**	**341**	*e*P	**Pb**	**09 23 20.3**	**-0.9**
HOMI	**Horasan**	**0.86**	**341**	*i* P	**Pb**	**09 23 20.4**	**-0.9**
HOMI				*i* S	**Sb**	**09 23 33.9**	**+1.3**
ERZM	**Erzurum**	**0.97**	**314**	*e*P	**Pb**	**09 23 22.8**	**-0.3**
ERZM				*e*S	**Sg**	**09 23 37.0**	**+1.0**
ERZM	**Erzurum**	**0.97**	**314**	*i* P	**Pb**	**09 23 22.3**	**-0.9**
ERZM	**Erzurum**	**0.97**	**314**	P	**Pb**	**09 23 22.3**	**-0.9**
GEVA	**Gevas**	**1.11**	**146**	*e*P	**Pb**	**09 23 25.2**	**-0.3**
GEVA				*e*S	**Sg**	**09 23 40.3**	**0.0**
GEVA				IAML		09 23 44.2	
	comp=Z,8.3nm,0.5s						
GEVA	**Gevas**	**1.11**	**146**	*i* P	**Pb**	**09 23 25.2**	**-0.3**
GEVA				*i* S	**Sn**	**09 23 42.3**	**+1.5**
GEVA	**Gevas**	**1.11**	**146**	P	**Pb**	**09 23 25.2**	**-0.3**
GEVA				S	**Sn**	**09 23 42.3**	**+1.5**
BNGB	**Bing¨ol**	**1.27**	**259**	*e*PG	**Pn**	**09 23 26.9**	**-0.9**
BNGB	**Bing¨ol**	**1.27**	**259**	PN	**Pn**	**09 23 26.7**	**-1.1**
CLDR	**Caldiran**	**1.28**	**94**	*e*PG	**Pn**	**09 23 26.9**	**-1.2**
KOPT	**Kop Dagi**	**1.58**	**300**	*e*P	**Pb**	**09 23 33.5**	**-0.1**
KOPT				*i* Pg	**Pg**	**09 23 34.3**	**-0.5**

IDC 28 09:23:24.3±3.1, 53°.58N×87°.84E, h0km, mb1 3.2/2, mb1mx2.9/67, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=26.4km s-min=14.9km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**283**	*i*		09 35 25.8	
	baz=102,slow=334,SNR=11						
ZALV	**Zalesovo Beam**	**1.83**	**283**	Pg	Pn	09 23 57.0	0.0
	1.7nm,0.3s,baz=102,slow=14,SNR=16						
ZALV				Lg	Lg	09 24 22.2	
	4.1nm,0.3s,baz=100,slow=24,SNR=17						
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn	Pn	09 25 01.3	+0.8
	0.2nm,0.3s,baz=60,slow=14,SNR=3.0						
KURBB				Lg	Lg	09 26 50.1	
	0.1nm,0.3s,baz=63,slow=32,SNR=5.5						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	09 25 18.3	+1.1
	0.2nm,0.3s,baz=26,slow=13,SNR=7.5						
MKAR				Sn	Sn	09 26 44.8	+0.1
	0.1nm,0.3s,baz=28,slow=26,SNR=8.6						
MKAR				Lg	Lg	09 27 26.6	
	0.1nm,0.3s,baz=26,slow=26,SNR=3.7						

IDC 28 09:32:20.6±3.2, 53°.57N×87°.97E, h0km, mb1 3.0/2, mb1mx2.7/67, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=27.1km s-min=15.7km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**283**	*i*		09 44 37.9	
	baz=101,slow=334,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.91**	**283**	Pg	Pn	09 32 54.4	+0.1
	1.5nm,0.3s,baz=102,slow=13,SNR=7.5						
ZALV				Lg	Lg	09 33 21.7	
	6.0nm,0.3s,baz=103,slow=24,SNR=18						
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	09 33 58.2	+0.6
	0.2nm,0.3s,baz=61,slow=14,SNR=4.1						
KURBB				Lg	Lg	09 35 44.9	
	0.1nm,0.3s,baz=59,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	09 34 14.8	+1.0
	0.1nm,0.3s,baz=27,slow=13,SNR=6.0						
MKAR				Sn	Sn	09 35 42.8	+1.0
	0.1nm,0.3s,baz=31,slow=29,SNR=2.8						
MKAR				Lg	Lg	09 36 24.5	
	0.1nm,0.3s,baz=35,slow=30,SNR=6.6						

*ISCJB **28** 09:39:06.3±0.9, 21°.70N±0°.09×143°.6E±0°.2, h200km, mb3.2/7, Error ellipse: s-maj=26.4km s-min=12.1km az=168.4*
*IDC **28** 09:39:08.2±2.8, 21°.77N×143°.59E, h199km±23km, mb3.1/8, mb1 3.3/9, mb1mx3.0/65, mbtmp3.7/9, Error ellipse: s-maj=24.4km s-min=20.9km az=80.0*

ISC 28 09:39:07.9±0.9, 21°.8N±0°.1×143°.6E±0°.2, h200km, n10, σ0§86/11, mb3.3/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.48**	**347**	P	**Pn**	**09 40 28.8**	**+0.3**
	6.9nm,0.3s,baz=168,slow=16,SNR=13						
JCJ				S	**Sn**	**09 41 31.4**	**-0.7**
	4.5nm,0.3s,baz=285,slow=20,SNR=3.6						
KSRS	**Korea Array**	**20.71**	**323**	P	**P**	**09 43 34.2**	**+1.4**
	0.4nm,0.4s,baz=144,slow=8.4,SNR=4.4						
WRA	**Warramunga Arr**	**42.41**	**193**	P	**P**	**09 46 43.0**	**0.0**
	0.1nm,0.3s,baz=14,slow=9.4,SNR=3.9						
MKAR	**Makanchi Array**	**54.95**	**313**	P	**P**	**09 48 16.6**	**-1.6**
	0.2nm,0.6s,baz=91,slow=7.3,SNR=3.8						
KURBB	**Kurchatov Arra**	**57.76**	**317**	P	**P**	**09 48 38.4**	**+0.5**
	1.3nm,0.6s,baz=92,slow=7.6,SNR=9.5						
ILAR	**Eielson Array**	**61.81**	**27**	P	**P**	**09 49 05.0**	**-0.3**
	0.3nm,0.7s,baz=270,slow=5.4,SNR=3.2						
BVAR	**Borovoye Array**	**62.89**	**319**	P	**P**	**09 49 13.0**	**+0.3**
	0.8nm,0.5s,baz=106,slow=6.9,SNR=6.4						
YKA	**Yellowknife Ar**	**76.23**	**28**	P	**P**	**09 50 34.5**	**+0.6**
	0.5nm,0.4s,baz=291,slow=5.8,SNR=14						
NVAR	**Mina Array Bea**	**82.80**	**52**	P	**P**	**09 51 10.0**	**-0.2**
	0.3nm,0.5s,baz=265,slow=7.6,SNR=3.4						
PLCA	**Paso Flores**	**145.49**	**131**	PKPbc	**PKPab**	**09 58 23.3**	**0.0**
	0.7nm,0.5s,baz=287,slow=4.2,SNR=4.4						

GUC 28 09:46:43.1±0.7, 35°.10S×72°.40W, h25km±3km, ML3.5, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.39**	**78**	⇑*i* P	Pn	09 46 52.7	-0.5
GO05				*i* S	Sn	09 46 58.8	-1.0
GO05				IAML		09 46 58.9	
	comp=N,10μm,0.4s						
CHPI	**Pichilemu**	**0.77**	**25**	*e*P	Pb	09 46 58.1	+0.2
CHPI				*i* S	Sn	09 47 09.2	0.0
NICH	**Los Niches**	**0.96**	**85**	*e*P	Pb	09 47 01.2	+0.1
NICH				*i* S	Sn	09 47 15.1	+1.2
COCH	**Cobquecura**	**1.08**	**197**	||*i* P	Pb	09 47 03.2	0.0
COCH				*i* S	Sb	09 47 18.2	+1.3
COCH				IAML		09 47 19.7	
	comp=E,832nm,0.7s						
CCHI	**Chillan**	**1.53**	**170**	⇑*i* P	Pb	09 47 10.6	-0.2
CCHI				*i* S	Sb	09 47 30.7	+1.0
CCHI				IAML		09 47 37.0	
	comp=E,2μm,0.4s						
LMEL	**Las Melosas**	**2.20**	**56**	*e*P	Pb	09 47 20.9	-1.3
LMEL				*i* S	Sb	09 47 49.1	0.0
LMEL				IAML		09 47 55.3	
	comp=N,620nm,0.2s						
CLCH	**Cerro Calan**	**2.29**	**43**	*e*P	Pb	09 47 23.2	-0.6
CLCH				*i* S	Sb	09 47 51.6	-0.1
PEL	**Peldehue**	**2.41**	**37**	*e*P	Pb	09 47 23.5	-2.3
PEL				*i* S	Sb	09 47 55.1	0.0
ROCH	**El Roble**	**2.41**	**29**	*e*P	Pn	09 47 23.4	+2.3
ROCH				*e*S	Sb	09 47 55.6	+0.3

*ATA **28** 09:51:34.4±1.5, 38°.50N×43°.22E, h53km±19km, ML3.5, MW3.3*
*ISK **28** 09:51:34.8, 38°.69N×43°.27E, h5km, ML2.8/9*
*ISCJB **28** 09:51:36.6±0.4, 38°.70N±0°.02×43°.30E±0°.03, h3km±4km, Error ellipse: s-maj=4.3km s-min=3.0km az=24.3*
*CSEM **28** 09:51:36.2±0.2, 38°.70N×43°.31E, h2km, ML2.8, Error ellipse: s-maj=4.7km s-min=3.5km az=119.0*
*DDA **28** 09:51:36.0, 38°.70N×43°.30E, h7km, Ml3.1*

ISC 28 09:51:36.7±0.8, 38°.69N±0°.02×43°.30E±0°.02, h13km±6km, n62, σ1§20/101, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.12**	**143**	PG	**Pg**	**09 51 39.6**	**-0.

EATA	**Eleskirt**	**1.33**	**332**	*e*P	**Pb**	**09 52 01.3**	**-0.3**
EATA				⇓*e*S	**Sn**	**09 52 20.1**	**+1.1**
EATA	**Eleskirt**	**1.33**	**332**	*i* P	**Pn**	**09 52 01.2**	**-0.1**
EATA				*i* S	**Sn**	**09 52 19.7**	**+0.7**
EATA	**Eleskirt**	**1.33**	**332**	P	**Pn**	**09 52 01.2**	**-0.1**
EATA				S	**Sn**	**09 52 19.7**	**+0.7**
SIRT	**Sirnak**	**1.37**	**210**	PN	**Pb**	**09 52 01.9**	**-0.3**
SIRT	**Sirnak**	**1.37**	**210**	*e*Pn	**Pb**	**09 52 01.9**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.48**	**29**	PN	**Pb**	**09 52 03.8**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.48**	**29**	*e*Pn	**Pb**	**09 52 03.8**	**-0.4**
VRTB	**Varto-Mus**	**1.51**	**289**	PN	**Pn**	**09 52 03.9**	**+0.3**
VRTB	**Varto-Mus**	**1.51**	**289**	*i* P	**Pg**	**09 52 05.1**	**-0.7**
VRTB				*i* S	**Sg**	**09 52 29.6**	**+4.2**
VRTB	**Varto-Mus**	**1.51**	**289**	*e*Pn	**Pn**	**09 52 12.9**	**+0.3**
VRTB	**Varto-Mus**	**1.51**	**289**	P	**Pg**	**09 52 05.1**	**-0.7**
DIGO	**Kars**	**1.72**	**2**	*i* P	**Pn**	**09 52 07.0**	**+0.3**
DIGO				*i* S	**Sg**	**09 52 32.4**	**+0.2**
DIGO	**Kars**	**1.72**	**2**	P	**Pn**	**09 52 07.0**	**+0.3**
DIGO				S	**Sg**	**09 52 32.4**	**+0.2**
HOMI	**Horasan**	**1.73**	**322**	*e*P	**Pn**	**09 52 06.3**	**-0.5**
HOMI				*e*S	**Sg**	**09 52 31.2**	**-1.3**
HOMI	**Horasan**	**1.73**	**322**	*i* P	**Pb**	**09 52 07.5**	**-1.0**
HOMI				*i* S	**Sg**	**09 52 33.5**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.73**	**253**	PN	**Pn**	**09 52 07.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.73**	**253**	*i* P	**Pg**	**09 52 08.9**	**-1.1**
SVAN				*i* S	**Sg**	**09 52 32.3**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.73**	**253**	*e*Pn	**Pn**	**09 52 07.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.73**	**253**	P	**Pg**	**09 52 08.9**	**-1.1**
SVAN				S	**Sg**	**09 52 32.3**	**-0.3**
BTMN	**Batman**	**1.79**	**244**	*i* P	**Pb**	**09 52 09.2**	**-0.1**
BTMN				*i* S	**Sg**	**09 52 34.1**	**-0.1**
BTMN	**Batman**	**1.79**	**244**	P	**Pn**	**09 52 09.2**	**-0.1**
BTMN				S	**Sg**	**09 52 34.1**	**-0.1**
ERZM	**Erzurum**	**1.93**	**310**	*e*P	**Pn**	**09 52 08.1**	**-1.3**
ERZM	**Erzurum**	**1.93**	**310**	*i* P	**Pb**	**09 52 10.8**	**-1.1**
ERZM	**Erzurum**	**1.93**	**310**	P	**Pb**	**09 52 10.8**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.01**	**339**	PN	**Pn**	**09 52 10.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.01**	**339**	*e*Pn	**Pn**	**09 52 10.9**	**+0.4**
EAK	**Akyaka**	**2.01**	**7**	*e*P	**Pn**	**09 52 11.4**	**+0.9**
ECAT	**Cat-ERZURUM**	**2.03**	**298**	*e*P	**Pn**	**09 52 08.9**	**-1.8**
BNGB	**Bing¨l**	**2.07**	**279**	PN	**Pn**	**09 52 11.9**	**+0.7**
BINT	**Bingol**	**2.20**	**276**	*e*Pn	**Pn**	**09 52 11.9**	**-1.2**
MAZI	**Mazidag**	**2.56**	**242**	PN	**Pn**	**09 52 18.9**	**+0.8**
MAZI	**Mazidag**	**2.56**	**242**	*e*Pn	**Pn**	**09 52 18.9**	**+0.8**

IDC 28 09:58:50.0±2.1, 54°.61N×83°.46E, h0km, mb1 2.6/2, mb1mx2.5/69, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=17.5km s-min=10.7km az=162.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**129**	*i*		10 04 52.9	
	baz=308,slow=334,SNR=24						
ZALV	**Zalesovo Beam**	**1.03**	**129**	Pg	Pg	09 59 09.2	-0.6
	2.1nm,0.3s,baz=307,slow=18,SNR=27						
ZALV				Lg	Lg	09 59 24.3	
	4.9nm,0.3s,baz=310,slow=28,SNR=36						
KURBB	**Kurchatov Arra**	**5.00**	**219**	Pn	Pn	10 00 06.0	-0.1
	0.0nm,0.3s,baz=38,slow=13,SNR=3.2						
KURBB				Lg	Lg	10 01 29.1	
	0.1nm,0.3s,baz=30,slow=29,SNR=4.9						
MKAR	**Makanchi Array**	**7.86**	**186**	Pn	Pn	10 00 45.5	0.0
	0.1nm,0.3s,baz=2.0,slow=12,SNR=9.0						
MKAR				Sn	Sn	10 02 15.3	+0.2
	0.0nm,0.3s,baz=12,slow=17,SNR=3.5						
MKAR				Lg	Lg	10 03 01.1	
	0.1nm,0.3s,baz=7.0,slow=25,SNR=3.2						
BVAR	**Borovoye Array**	**7.90**	**264**	Lg	Lg	10 03 04.2	
	0.1nm,0.3s,baz=239,slow=37,SNR=2.8						

*ISK **28** 10:00:52.7, 39°.83N×33°.08E, h9km, ML1.9/3*
*ISCJB **28** 10:00:53.3±0.6, 39°.85N±0°.04×33°.10E±0°.06, h9km, Error ellipse: s-maj=6.5km s-min=4.8km az=153.1*
*DDA **28** 10:00:53.3, 39°.88N×33°.08E, h7km, Ml2.5*
*CSEM **28** 10:00:53.1±0.2, 39°.87N×33°.09E, h10km, ML1.9, Error ellipse: s-maj=4.6km s-min=3.8km az=70.0*
ISC 28 10:00:53.1±0.9, 39°.86N±0°.03×33°.10E±0°.03, h9km, n20, σ0842/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.24**	**272**	PG	**Pg**	**10 00 58.0**	**+0.1**
ANTO				SG	**Sg**	**10 01 01.3**	**+0.1**
ANTO	**Ankara**	**0.24**	**272**	*e*Pg	**Pg**	**10 00 58.0**	**+0.1**
ANTO				*e*Sg	**Sg**	**10 01 01.3**	**+0.1**
BBAL	**Bala**	**0.32**	**177**	*i* P	**Pb**	**10 01 01.0**	**0.0**
BBAL	**Bala**	**0.32**	**177**	P	**Pb**	**10 01 01.0**	**0.0**
AFSR	**Af¨ar-Bala (A**	**0.41**	**184**	PG	**Pg**	**10 01 00.7**	**-0.5**
AFSR				SG	**Sg**	**10 01 06.6**	**0.0**
AFSR	**Af¨ar-Bala (A**	**0.41**	**184**	*e*Pg	**Pg**	**10 01 00.7**	**-0.5**
AFSR				*e*Sg	**Sg**	**10 01 06.6**	**0.0**
ELDT	**Eldivan**	**0.68**	**21**	*i* P	**Pg**	**10 01 06.4**	**+0.2**
ELDT	**Eldivan**	**0.68**	**21**	P	**Pg**	**10 01 06.4**	**+0.2**
KKUL	**Konya-Kulu**	**0.70**	**192**	*i* P	**Pg**	**10 01 07.2**	**+0.6**
KKUL	**Konya-Kulu**	**0.70**	**192**	P	**Pg**	**10 01 07.2**	**+0.6**
CMDR	**Camlidere-ANKA**	**0.80**	**323**	*i* P	**Pg**	**10 01 08.6**	**+0.1**
CMDR	**Camlidere-ANKA**	**0.80**	**323**	P	**Pg**	**10 01 08.6**	**+0.1**
CDAG	**Cicekdag**	**1.00**	**103**	*i* P	**Pb**	**10 01 12.8**	**+0.1**
CDAG	**Cicekdag**	**1.00**	**103**	P	**Pb**	**10 01 12.8**	**+0.1**
CORM	**Corum**	**1.21**	**74**	PN	**Pg**	**10 01 16.6**	**+0.2**
CORM	**Corum**	**1.21**	**74**	*e*Pn	**Pg**	**10 01 16.6**	**+0.2**
BCAM	**Yenicaga**	**1.24**	**321**	*i* P	**Pn**	**10 01 15.7**	**-1.0**
BCAM				*i* S	**Sn**	**10 01 34.2**	**+0.5**
BCAM	**Yenicaga**	**1.24**	**321**	P	**Pn**	**10 01 15.7**	**-1.0**
BCAM				S	**Sn**	**10 01 34.2**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.29**	**252**	PN	**Pn**	**10 01 17.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.29**	**252**	*e*Pn	**Pn**	**10 01 17.3**	**0.0**

*ISCJB **28** 10:09:53.1±0.2, 32°.98N±0°.02×116°.44W±0°.02, h20km±3km, Error ellipse: s-maj=2.8km s-min=2.5km az=20.0*
*NEIC **28** 10:09:53.5±0.0, 33°.01N×116°.45W, h11km, ML3.3(PAS), After PAS.*
NEIC Felt [III] at Escondido, Julian, Valley Center and Vista; [II] at Borrego Springs, El Cajon, Lakeside, Long Beach, Poway, Ramona, San Diego and San Marcos. Felt from Warner Springs south to the Mexico border.
*ECX **28** 10:09:54.4±0.6, 32°.97N×116°.46W, h10km, MD3.0, ML3.3*
ISC 28 10:09:52.6±0.8, 33°.00N±0°.02×116°.42W±0°.02, h16km±6km, n64, σ1330/97, 6C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP2	**Monument Peak**	**0.11**	**183**	P	**Pg**	**10 09 56.4**	**+0.1**
	baz=351,SNR=1000						
MONP2				S	**Sg**	**10 09 58.4**	**-0.4**
	baz=351						
BAR	**Barrett**	**0.38**	**214**	*e*Sg	**Sg**	**10 10 05.3**	**-0.6**
BAR	**Barrett**	**0.38**	**214**	⇑*e*P	**Pb**	**10 10 00.6**	**-0.5**
BAR				*e*S	**Sg**	**10 10 05.9**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.43**	**143**	P	**Pb**	**10 10 02.2**	**+0.2**
	baz=323,SNR=173						
IKP				S	**Sb**	**10 10 08.2**	**0.0**
	baz=323						
IKP	**In-Ko-Pah, Jac**	**0.43**	**143**	⇓*i*P	**Pb**	**10 10 02.1**	**+0.2**
IKP				*e*S	**Sb**	**10 10 08.3**	**+0.1**
RMX	**La Rumorosa**	**0.49**	**144**	*e*P	**Pb**	**10 10 02.3**	**-0.6**
RMX				⇓*e*P	**Pn**	**10 10 04.2**	**-0.9**
RMX				*e*S	**Sb**	**10 10 11.9**	**+2.0**
SDRC	**San Diego Road**	**0.52**	**239**	⇑*i*P	**Pg**	**10 10 02.6**	**-0.3**
SDRC				*e*S	**Sg**	**10 10 09.2**	**-0.6**
SWSC	**Sam W. Stewart**	**0.52**	**96**	P	**Pb**	**10 10 03.8**	**+0.4**
	baz=279,SNR=219						
SWSC				S	**Sb**	**10 10 11.1**	**+0.4**
	baz=279						
SWSC	**Sam W. Stewart**	**0.52**	**96**	⇑*i*P	**Pb**	**10 10 03.8**	**+0.4**
YUH	**Yuha Desert**	**0.54**	**130**	⇓*i*P	**Pb**	**10 10 04.1**	**+0.3**
YUH				*e*S	**Sb**	**10 10 11.4**	**0.0**
109C	**Camp Elliot, M**	**0.59**	**259**	P	**Pg**	**10 10 03.8**	**-0.5**
	baz=76,SNR=282						
109C				S	**Sg**	**10 10 11.3**	**-0.9**
	baz=76						
CPE	**Camp Elliot**	**0.59**	**259**	*e*Pg	**Pg**	**10 10 03.8**	**-0.4**
CPE				*e*Sg	**Sg**	**10 10 11.4**	**-0.7**
COK	**Cook Ranch**	**0.60**	**104**	⇑*i*P	**Pn**	**10 10 05.7**	**-0.7**
XPFO	**Piæon Flat**	**0.61**	**357**	*e*Pg	**Pg**	**10 10 04.6**	**-0.1**
XPFO				*e*Sg	**Sg**	**10 10 12.0**	**-0.9**
PFO	**Pinyon Flats O**	**0.61**	**357**	P	**Pg**	**10 10 04.6**	**-0.2**
	baz=179,SNR=94						
PFO				S	**Sg**	**10 10 12.4**	**-0.6**
	baz=179						
PFO	**Pinyon Flats O**	**0.61**	**357**	*e*Pg	**Pg**	**10 10 04.6**	**-0.2**
PFO				*e*Sg	**Sg**	**10 10 12.1**	**-0.8**
WESC	**Westside Schoo**	**0.62**	**112**	*e*P	**Pn**	**10 10 06.3**	**-0.5**
SGL	**Mount Signal**	**0.68**	**121**	*e*P	**Pn**	**10 10 06.8**	**-0.8**
CBX	**Cerro Bola**	**0.71**	**197**	⇑*e*P	**Pb**	**10 10 06.6**	**-0.2**
CBX				*e*S	**Sb**	**10 10 16.3**	**-0.1**
CBX				IAML		10 10 19.1	
	comp=N,2μm,0.4s						
CBX				IAML		10 10 20.8	
	comp=E,2μm,0.6s						
DREC	**Desert Rsrch C**	**0.84**	**103**	⇑*e*P	**Pn**	**10 10 09.6**	**-0.2**
MURC	**Murrieta**	**0.89**	**313**	P	**Pg**	**10 10 09.1**	**-0.8**
	baz=132,SNR=92						
MURC				S	**Sg**	**10 10 20.7**	**-0.8**
	baz=132						
BC3	**Big Chuckawall**	**1.04**	**51**	P	**Pg**	**10 10 11.9**	**-0.9**
	baz=233,SNR=214						
BC3				S	**Sn**	**10 10 26.6**	**-0.3**
	baz=233						
BELC	**Belle Mtn. Jos**	**1.06**	**19**	P	**Pg**	**10 10 12.4**	**-0.7**
	baz=201,SNR=84						
BELC				S	**Sb**	**10 10 26.7**	**+0.4**
	baz=201						
BBRC	**Big Bear Solar**	**1.33**	**342**	Pg	**Pn**	**10 10 17.4**	**+0.6**
	baz=162,SNR=58						
BBRC				Sb	**Sb**	**10 10 34.4**	**+0.1**
	baz=162						
GLA	**Glamis**	**1.34**	**87**	P	**Pn**	**10 10 16.2**	**-0.5**
	baz=269,SNR=188						
IRM	**Iron Mountain**	**1.57**	**42**	P	**Pn**	**10 10 19.7**	**-0.2**
	baz=224,SNR=64						
IRM				Sb	**Sg**	**10 10 42.4**	**-0.9**
	baz=224						
BFSC	**Mount Baldy Ra**	**1.61**	**320**	Pb	**Pn**	**10 10 21.3**	**+0.7**
	baz=140						
BFSC				Sb	**Sn**	**10 10 42.1**	**+1.0**
	baz=140						
CIS	**Catalina Islan**	**1.72**	**284**	Pb	**Pn**	**10 10 23.0**	**+1.0**
	baz=102						
CIS				S	**Sn**	**10 10 43.6**	**0.0**
	baz=102						
FMP	**Fort Macarthur**	**1.73**	**295**	Pg	**Pb**	**10 10 24.8**	**+0.8**
	baz=114						
FMP				S	**Sn**	**10 10 43.9**	**+0.2**
	baz=114						
Y12C	**Blythe**	**1.75**	**64**	P	**Pn**	**10 10 22.2**	**-0.1**
	baz=246,SNR=8.2						
Y12C	**Blythe**	**1.75**	**64**	*e*Pn	**Pn**	**10 10 22.2**	**-0.1**
Y12C				*e*Sn	**Sb**	**10 10 45.4**	**-0.8**
SCI2	**San Clemente I**	**1.79**	**270**	P	**Pn**	**10 10 22.5**	**-0.4**
	baz=88						
SCI2				S	**Sn**	**10 10 44.9**	**-0.4**
	baz=88						
HEC	**Hector,Ludlow**	**1.83**	**2**	Pg	**Pg**	**10 10 27.0**	**-0.8**
	baz=183						
HEC				Sb	**Sb**	**10 10 49.3**	**+0.9**
	baz=183						
PASC	**Pasadena Art C**	**1.88**	**309**	*e*Pn	**Pb**	**10 10 26.0**	**-0.6**
PASC				*e*Sn	**Sb**	**10 10 50.5**	**+0.5**
GMRC	**Granite Mounta**	**1.89**	**19**	P	**Pn**	**10 10 24.2**	**-0.1**
	baz=201						
GMRC				Sb	**Sg**	**10 10 51.9**	**-1.6**
	baz=201						
RRX	**Edison Barstow**	**1.93**	**346**	Pb	**Pb**	**10 10 26.9**	**-0.6**
	baz=166						
RRX				Sb	**Sb**	**10 10 53.2**	**+1.7**
	baz=166						
DECC	**Green Verdugo**	**2.03**	**309**	Sb	**Sb**	**10 10 55.1**	**+0.9**
	baz=128						
113A	**Mohawk Valley,**	**2.24**	**95**	*e*Pn	**Pn**	**10 10 29.1**	**0.0**
113A				*e*Sn	**Sn**	**10 10 55.6**	**-0.8**
EDW2	**Edwards Air Fo**	**2.29**	**325**	Pb	**Pb**	**10 10 33.1**	**-0.5**
	baz=145						
EDW2				Sb	**Sb**	**10 11 02.7**	**+1.0**
	baz=145						
NEE2	**Needles Airpor**	**2.31**	**40**	Pb	**Pb**	**10 10 33.9**	**0.0**
	baz=222						
NEE2				Sb	**Sg**	**10 11 05.1**	**-2.0**
	baz=222						
GSC	**Goldstone, Bar**	**2.32**	**352**	Sb	**Sb**	**10 11 04.5**	**+1.8**
	baz=172						
GSC	**Goldstone, Bar**	**2.32**	**352**	*e*Pn	**Pn**	**10 10 31.7**	**+1.5**
LDFC	**Landfair**	**2.34**	**27**	*e*Pn	**Pn**	**10 10 31.3**	**+0.8**
OSI	**Osito Audit: C**	**2.51**	**311**	*e*Pn	**Pb**	**10 10 38.0**	**+0.7**
W13A	**Hualapai Mount**	**2.97**	**44**	*e*Pn	**Pn**	**10 10 39.8**	**+0.5**
ISA	**Isabella, Lake**	**3.16**	**328**	*e*Pn	**Pn**	**10 10 43.6**	**+1.8**
214A	**Organ Pipe Nat**	**3.22**	**108**	*e*Pn	**Pn**	**10 10 42.6**	**+0.1**
DAC	**Darwin (Calif)**	**3.41**	**344**	*e*Pn	**Pn**	**10 10 46.8**	**+1.4**
SHPR	**Sheep Range**	**3.65**	**16**	*e*Pn	**Pn**	**10 10 49.3**	**+0.7**
X16A	**Lo Mia Camp, P**	**4.38**	**70**	*e*Pn	**Pn**	**10 10 60.0**	**+1.3**
LCMT	**Little Creek M**	**4.78**	**32**	*e*Pn	**Pn**	**10 11 05.9**	**+1.8**
U15A	**North Rim**	**4.82**	**44**	*e*Pn	**Pn**	**10 11 06.5**	**+1.7**
WUAZ	**Wupatki**	**4.87**	**58**	*e*Pn	**Pn**	**10 11 08.3**	**+2.9**
KNB	**Kanab**	**4.98**	**35**	*e*Pn	**Pn**	**10 11 09.1**	**+2.2**
MDPB	**Devils Postpil**	**5.11**	**336**	*e*Pg	**Pg**	**10 11 27.5**	**-3.0**
MDPB				*e*Sg	**Sg**	**10 12 35.2**	**-1.5**
R11A	**Troy Canyon, C**	**5.38**	**7**	*e*Pg	**Pg**	**10 11 32.6**	**-3.0**
R11A				*e*Lg	Lg	10 12 42.8	
NV11	**Mina Array Sit**	**5.60**	**346**	*e*Pg	**Pg**	**10 11 36.8**	**-3.1**
NV01	**Mina Array Sit**	**5.63**	**345**	*e*Pg	**Pg**	**10 11 38.2**	**-2.3**
RYN	**Ryan**	**5.87**	**344**	*e*Pg	**Pg**	**10 11 43.2**	**-1.8**
W18A	**Petrified Fore**	**5.93**	**67**	*e*Pg	**Pg**	**10 11 47.2**	**+0.9**
Q16A	**Castle Valley**	**7.28**	**34**	*e*Sn	**Sn**	**10 13 03.9**	**+3.1**
PV01	**Paradox Valley**	**8.19**	**49**	*e*Pn	**Sn**	**10 11 54.9**	**+3.9**
TCUT	**Toone Canyon**	**9.04**	**25**	*e*Sn	**Sn**	**10 13 43.1**	**-1.1**
AHID	**Auburn Hatcher**	**10.61**	**22**	*e*Pn	**Pn**	**10 12 28.9**	**+4.7**

*ISCJB **28** 10:14:57.6±0.6, 6°.82N±0°.03×73°.12W±0°.04, h154km±5km, mb3.4/1, Error ellipse: s-maj=7.0km s-min=4.5km az=22.6*
*IDC **28** 10:14:58.2±0.8, 6°.76N×72°.91W, h165km±11km, mb3.0/1, mb1 3.3/3, mb1mx2.9/40, mbtmp3.6/3, Error ellipse: s-maj=52.6km s-min=8.3km az=131.0*
*RSNC **28** 10:14:59.3±0.7, 6°.79N×73°.14W, h147km±4km, ML3.1*
ISC 28 10:14:57.8±1.0, 6°.82N±0°.04×73°.11W±0°.05, h154km±6km, n22, σ0889/40, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**198**	*i* P	**Pn**	**10 15 19.1**	**+0.2**
BARC				*i*		10 15 19.7	
	comp=Z,259nm,0.4s						
BARC				*e*S	**Sn**	**10 15 34.1**	**-1.0**
PAMC	**Pamplona, Colo**	**0.66**	**38**	*e*P	**Pn**	**10 15 21.9**	**+0.9**
PAMC				*e*S	**Sn**	**10 15 38.9**	**+0.1**
BRRC	**Barranca, Sant**	**0.67**	**296**	⇑*i*P	**Pn**	**10 15 21.1**	**+0.6**
BRRC				*i*		10 15 21.5	
	comp=Z,341nm,0.1s						
BRRC				*e*S	**Sn**	**10 15 38.0**	**+0.2**
RUSC	**La Rusia**	**0.92**	**178**	*e*P	**Pn**	**10 15 23.0**	**+0.2**
RUSC				*i*		10 15 24.6	
	comp=Z,75nm,0.4s						
RUSC				*e*S	**Sn**	**10 15 41.3**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	*e*P	**Pn**	**10 15 25.6**	**-0.7**
PTBC				*e*S	**Sn**	**10 15 46.8**	**-1.4**
PTBC				*i*		10 15 53.2	
	comp=Z,111nm,0.2s						
OCAC	**Ocana**	**1.43**	**352**	*e*P	**Pn**	**10 15 27.7**	**+0.6**
OCAC				*e*S	**Sn**	**10 15 49.8**	**+0.1**
YOPC	**Yopal, Colombi**	**1.60**	**155**	*e*P	**Pn**	**10 15 29.6**	**+0.7**
YOPC				*e*S	**Sn**	**10 15 52.9**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P	**Pn**	**10 15 31.9**	**+0.3**
ZARC				*e*S	**Sn**	**10 15 57.8**	**+0.2**
ZARC				*i*		10 16 03.3	
	comp=Z,201nm,0.5s						
NORC	**Norcasia**	**2.15**	**235**	*e*P	**Pn**	**10 15 35.0**	**+0.1**
NORC				*e*S	**Sn**	**10 16 02.9**	**-0.6**
CHIC	**Chingaza**	**2.26**	**196**	*e*P	**Pn**	**10 15 37.2**	**+0.6**
CHIC				*e*S	**Sn**	**10 16 06.0**	**-0.5**
CHIC				*i*		10 16 12.6	
	comp=Z,56nm,0.2s						
ROSC	**El Rosal**	**2.30**	**212**	P	**Pn**	**10 15 39.1**	**+2.0**
	comp=Z,9.9nm,0.3s,baz=177,slow=2.3,SNR=40						
ROSC				S	**Sn**	**10 16 10.7**	**+3.2**
	comp=Z,12nm,0.3s,baz=47,slow=19,SNR=7.5						
HELC	**Santa Helena**	**2.48**	**256**	*e*P	**Pn**	**10 15 39.5**	**+0.2**
HELC				*e*S	**Sn**	**10 16 11.2**	**-0.1**
HELC				*i*		10 16 20.7	
	comp=Z,78nm,0.3s						
VILC	**Villavicencio,**	**2.75**	**192**	*e*P	**Pn**	**10 15 42.7**	**+0.4**
VILC				*e*S	**Sn**	**10 16 16.5**	**-0.3**
VILC				*i*		10 16 24.3	
	comp=Z,36nm,0.3s						
RREF	**El Recreo**	**2.93**	**230**	*e*P	**Pn**	**10 15 45.8**	**+0.7**
RREF				*e*S	**Sn**	**10 16 21.9**	**+0.4**
RREF				*i*		10 16 32.8	
	comp=Z,68nm,0.4s						
CODC	**Agust¨›n Codaz**	**3.12**	**354**	*e*P	**Pn**	**10 15 47.4**	**+0.6**
CODC				*e*S	**Sn**	**10 16 25.6**	**+0.8**
TOLC	**Tolima**	**3.12**	**225**	*e*P	**Pn**	**10 15 48.1**	**+0.9**
TOLC				*e*S	**Sn**	**10 16 25.2**	**-0.2**
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**10 15 48.8**	**+0.7**
	comp=Z,10nm,0.3s,baz=238,slow=13,SNR=39						
SDV				S	**Sn**	**10 16 25.8**	**-1.2**
	comp=Z,3.7nm,0.3s,baz=45,slow=20,SNR=7.4						
PRAC	**Prado**	**3.55**	**210**	*e*P	**Pn**	**10 15 52.5**	**0.0**
PRAC				*e*S	**Sn**	**10 16 35.3**	**+0.4**
SJAC	**San Juan de Ar**	**3.62**	**193**	*e*P	**Pn**	**10 15 53.1**	**-0.3**
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**10 25 09.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=133,slow=6.6,SNR=11						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**10 34 27.7**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=120,slow=3.3,SNR=3.6						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**10 34 31.0**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=106,slow=2.7,SNR=8.5						

*DDA **28** 10:16:28.7, 39°.04N×27°.36E, h7km, Ml2.6*
*ISK **28** 10:16:29.6, 39°.06N×25°.92E, h8km, ML2.3/6*
*ATH **28** 10:16:30.6, 39°.13N×26°.05E, h22km±1km, ML1.8/3, Error ellipse: s-maj=2.1km s-min=1.3km az=89.0*
*ISCJB **28** 10:16:31.1±0.5, 39°.08N±0°.02×26°.06E±0°.04, h8km±4km, Error ellipse: s-maj=5.6km s-min=3.3km az=174.4*
*CSEM **28** 10:16:31.0±0.2, 39°.08N×26°.05E, h8km, ML1.8, Error ellipse: s-maj=6.3km s-min=3.3km az=85.0*
ISC 28 10:16:30.4±0.9, 39°.06N±0°.03×26°.07E±0°.03, h17km±6km, n36, σ0940/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.23**	**312**	P	**Pb**	**10 16 36.3**	**+0.2**
SIGR				S	**Sg**	**10 16 38.8**	**-0.3**
SIGR				AML	AML	10 16 39.4	
	comp=E,1003μm,0.3s						
SIGR				AML	AML	10 16 39.4	
	comp=N,711μm,0.3s						
SIGR	**SIGRI**	**0.23**	**312**	P	**Pb**	**10 16 35.9**	**-0.2**
SIGR				S	**Sg**	**10 16 39.0**	**-0.1**
PRK	**Paraskevi**	**0.24**	**40**	P	**Pg**	**10 16 36.0**	**+0.1**
PRK				S	**Sg**	**10 16 39.9**	**+0.3**
PRK				AML	AML	10 16 42.5	
	comp=N,280μm,0.2s						
PRK				AML	AML	10 16 42.5	
	comp=E,320μm,0.5s						
PRK	**Paraskevi**	**0.24**	**40**	P	**Pg**	**10 16 36.0**	**+0.1**
PRK				S	**Sg**	**10 16 39.9**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.40**	**7**	PG	**Pg**	**10 16 38.3**	**-0.2**
GPNR				SG	**Sb**	**10 16 44.9**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.40**	**7**	*e*Pg	**Pg**	**10 16 38.3**	**-0.2**
GPNR				*e*Sg	**Sb**	**10 16 44.9**	**+0.1**
AYVA	**Ayvalik**	**0.54**	**63**	*i* P	**Pg**	**10 16 40.4**	**-0.7**
AYVA				*i* S	**Sb**	**10 16 49.1**	**+0.1**
AYVA	**Ayvalik**	**0.54**	**63**	P	**Pg**	**10 16 40.4**	**-0.7**
AYVA				S	**Sb**	**10 16 49.1**	**+0.1**
CHOS	**Chios island**	**0.67**	**181**	P	**Pn**	**10 16 44.6**	**-0.7**
CHOS				S	**Sn**	**10 16 55.5**	**0.0**
CHOS				AML	AML	10 16 57.5	
	comp=N,136μm,0.3s						
CHOS				AML	AML	10 16 57.8	
	comp=E,303μm,0.2s						
CHOS	**Chios island**	**0.67**	**181**	P	**Pn**	**10 16 44.8**	**-0.5**
CHOS				S	**Sn**	**10 16 55.5**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.77**	**28**	*i* P	**Pn**	**10 16 46.1**	**-0.4**
BAYC				*i* S	**Sg**	**10 16 56.5**	**+0.7**
BAYC	**CANAKKALE_Bayr**	**0.77**	**28**	P	**Pn**	**10 16 46.2**	**-0.4**
BAYC				S	**Sg**	**10 16 56.5**	**+0.7**
BOZC	**Bozcaada**	**0.78**	**359**	PG	**Pb**	**10 16 45.2**	**-0.3**
BOZC				S

LIA	**Limnos Island**	**0.43**	**183**	P	**Pg**	**10 24 41.5**	**+0.4**
LIA				S	**Sg**	**10 24 46.7**	**-0.1**
GADA	**Gvkgeada**	**0.54**	**104**	PG	**Pg**	**10 24 43.3**	**+0.1**
GADA				SG	**Sb**	**10 24 51.4**	**0.0**
GADA	**Gvkgeada**	**0.54**	**104**	*i* Pg	**Pg**	**10 24 43.3**	**+0.1**
GADA				*i* Sg	**Sb**	**10 24 51.4**	**0.0**
BOZC	**Bozcaada**	**0.80**	**127**	PG	**Pg**	**10 24 48.5**	**+0.3**
BOZC				SG	**Sb**	**10 24 59.5**	**+0.5**
BOZC	**Bozcaada**	**0.80**	**127**	*i* P	**Pg**	**10 24 48.3**	**+0.2**
BOZC				*i* S	**Sg**	**10 24 58.8**	**+0.1**
BOZC	**Bozcaada**	**0.80**	**127**	*e*Pg	**Pg**	**10 24 48.5**	**+0.3**
BOZC				*e*Sg	**Sb**	**10 24 59.5**	**+0.5**
ENEZ	**Enez**	**0.82**	**60**	PG	**Pg**	**10 24 48.7**	**+0.1**
ENEZ				SG	**Sb**	**10 25 00.9**	**+1.3**
ENEZ	**Enez**	**0.82**	**60**	*e*Pg	**Pg**	**10 24 48.7**	**+0.1**
ENEZ				*e*Sg	**Sb**	**10 25 00.9**	**+1.3**
ALN	**Alexandroupoli**	**0.85**	**48**	P	**Pg**	**10 24 49.0**	**-0.2**
ALN				S	**Sb**	**10 25 02.0**	**+1.6**
ALN				AML	AML	10 25 04.0	
	comp=E,99μm,0.3s						
ALN				AML	AML	10 25 04.8	
	comp=N,64μm,0.2s						
ALN	**Alexandroupoli**	**0.85**	**48**	P	**Pg**	**10 24 48.9**	**-0.2**
ALN				S	**Sb**	**10 25 01.7**	**+1.2**
ALN	**Alexandroupoli**	**0.85**	**48**	P	**Pg**	**10 24 48.9**	**-0.2**
ALN				S	**Sb**	**10 25 02.0**	**+1.6**
RDO	**Rodhopi**	**0.86**	**16**	P	**Pg**	**10 24 47.8**	**-1.4**
RDO	**Rodhopi**	**0.86**	**16**	P	**Pg**	**10 24 48.4**	**-0.8**
KAVA	**Kavala**	**0.86**	**322**	P	**Pb**	**10 24 50.0**	**+0.8**
KAVA				S	**Sb**	**10 25 01.4**	**+0.7**
KAVA				AML	AML	10 25 02.6	
	comp=N,100μm,0.2s						
KAVA				AML	AML	10 25 02.7	
	comp=E,128μm,0.2s						
KAVA	**Kavala**	**0.86**	**322**	P	**Pg**	**10 24 49.5**	**+0.3**
KAVA				S	**Sb**	**10 25 01.5**	**+0.9**
KAVA	**Kavala**	**0.86**	**322**	P	**Pg**	**10 24 49.8**	**+0.6**
KAVA				S	**Sb**	**10 25 01.9**	**+1.3**
OUR	**Ouranopolis**	**0.94**	**271**	P	**Pg**	**10 24 50.8**	**-0.1**
OUR				S	**Sg**	**10 25 03.2**	**0.0**
OUR				AML	AML	10 25 06.1	
	comp=N,169μm,0.4s						
OUR				AML	AML	10 25 06.9	
	comp=E,157μm,0.3s						
OUR	**Ouranopolis**	**0.94**	**271**	P	**Pg**	**10 24 50.7**	**-0.1**
OUR				S	**Sg**	**10 25 03.4**	**+0.2**
OUR	**Ouranopolis**	**0.94**	**271**	P	**Pg**	**10 24 50.7**	**-0.1**
OUR				S	**Sg**	**10 25 03.4**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.96**	**85**	PG	**Pg**	**10 24 51.2**	**0.0**
GELI				SG	**Sb**	**10 25 04.6**	**+0.9**
GELI	**Tayfur-Gelibol**	**0.96**	**85**	*e*Pg	**Pg**	**10 24 51.2**	**0.0**
ERIK	**Erikli-Kesan**	**1.05**	**70**	PG	**Pg**	**10 24 52.9**	**+0.1**
ERIK				SG	**Sg**	**10 25 06.7**	**+0.2**
ERIK	**Erikli-Kesan**	**1.05**	**70**	*e*Pg	**Pg**	**10 24 52.9**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.18**	**119**	*i* P	**Pb**	**10 24 55.0**	**+0.3**
BAYC				*i* S	**Sn**	**10 25 11.4**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**1.18**	**119**	P	**Pb**	**10 24 55.0**	**+0.3**
BAYC				S	**Sn**	**10 25 11.4**	**+0.9**
LPK	**Lapseki**	**1.18**	**87**	PN	**Pb**	**10 24 54.6**	**-0.2**
LPK	**Lapseki**	**1.18**	**87**	*e*Pn	**Pb**	**10 24 54.6**	**-0.2**
SIGR	**SIGRI**	**1.22**	**156**	P	**Pb**	**10 24 55.6**	**+0.2**
SIGR				S	**Sb**	**10 25 11.7**	**+0.8**
SIGR	**SIGRI**	**1.22**	**156**	P	**Pb**	**10 24 55.6**	**+0.2**
SIGR				S	**Sb**	**10 25 11.7**	**+0.8**
KESN	**Edirne-Kesan**	**1.22**	**65**	*i* P	**Pg**	**10 24 55.1**	**-1.1**
KESN				*i* S	**Sg**	**10 25 11.9**	**-0.2**
KESN	**Edirne-Kesan**	**1.22**	**65**	P	**Pg**	**10 24 55.1**	**-1.1**
KESN				S	**Sg**	**10 25 11.9**	**-0.2**
PAIG	**Paliouri**	**1.24**	**252**	P	**Pn**	**10 24 53.3**	**-2.2**
PAIG	**Paliouri**	**1.24**	**252**	P	**Pn**	**10 24 53.9**	**-1.6**
RKY	**Sarkoy-Tekirda**	**1.54**	**76**	PN	**Pg**	**10 25 02.2**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.54**	**76**	*e*Pn	**Pg**	**10 25 02.2**	**0.0**
BALY	**Balya**	**1.94**	**107**	*i* P	Pg	10 25 16.4	+6.7
BALY				*i* S	**Sb**	**10 25 32.4**	**+0.7**

WEL 28 10:38:45.6,38°S±7′×18°0W±°,h33km,ML3.6/2,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.33**	**263**	P	Pn	10 39 08.3	+0.4
MXZ	**Matakaoa Point**	**1.42**	**274**	P	Pn	10 39 09.2	+0.1
MXZ	**Matakaoa Point**	**1.42**	**274**	S	Sn	10 39 25.6	-0.9
PUZ	**Puketiti**	**1.50**	**254**	P	Pn	10 39 11.2	+1.0
PKGZ	**Pakihiroa**	**1.60**	**262**	P	Pn	10 39 12.2	+0.6
CNGZ	**Carnagh Statio**	**1.69**	**241**	P	Pb	10 39 15.6	-0.4
TWGZ	**Tauwhareparae**	**1.74**	**253**	P	Pn	10 39 14.9	+1.4
TWGZ	**Tauwhareparae**	**1.74**	**253**	S	Sn	10 39 35.7	+1.1
HAZ	**Te Kaha**	**1.83**	**267**	P	Pn	10 39 15.7	+1.0
HAZ	**Te Kaha**	**1.83**	**267**	S	Sn	10 39 36.7	0.0
TKGZ	**Te Karaka**	**1.92**	**246**	P	Pn	10 39 17.6	+1.6
TKGZ	**Te Karaka**	**1.92**	**246**	S	Sn	10 39 40.6	+1.5
RUGZ	**Raukumara Rang**	**1.93**	**261**	P	Pn	10 39 17.0	+0.8
RIGZ	**Rimuhau**	**2.10**	**240**	P	Pn	10 39 20.7	+2.2
RIGZ	**Rimuhau**	**2.10**	**240**	S	Sn	10 39 45.6	+2.1
MWZ	**Matawai**	**2.12**	**251**	P	Pn	10 39 19.7	+0.8
PRGZ	**Paritu Road**	**2.13**	**234**	P	Pn	10 39 21.2	+2.2
MHGZ	**Mahia Peninsul**	**2.26**	**229**	P	Pb	10 39 23.3	-2.5
KNZ	**Kokohu**	**2.33**	**234**	P	Pn	10 39 23.2	+1.7
URZ	**Urewera**	**2.42**	**255**	P	Pn	10 39 24.6	+1.8
WHRZ	**Whale Island**	**2.47**	**265**	P	Pn	10 39 25.1	+1.5
RTZ	**Ruatahuna**	**2.62**	**248**	P	Pn	10 39 27.8	+2.1
RTZ	**Ruatahuna**	**2.62**	**248**	S	Sn	10 39 57.2	+0.8
RAHZ	**Arahi**	**2.67**	**241**	P	Pn	10 39 27.9	+1.7
OPRZ	**Ohinepanea**	**2.80**	**265**	P	Pn	10 39 28.6	+0.5
MTHZ	**Maungataniwha**	**2.81**	**244**	P	Pn	10 39 29.8	+1.6
ARHZ	**Aropaoanui**	**2.90**	**236**	P	Pn	10 39 31.9	+2.5
NMHZ	**Naumai**	**2.94**	**240**	P	Pn	10 39 31.8	+1.7
TGRZ	**Tauranga**	**3.03**	**268**	P	Pn	10 39 31.9	+0.7
ALRZ	**Allen Road**	**3.08**	**252**	P	Pn	10 39 33.3	+1.4
BKZ	**Black Stump Fm**	**3.19**	**241**	P	Pn	10 39 35.0	+1.5
BKZ	**Black Stump Fm**	**3.19**	**241**	S	Sn	10 40 10.5	+0.1
MCHZ	**McNeill Hill**	**3.19**	**235**	P	Pn	10 39 35.4	+2.0
KAHZ	**Kahuranaki**	**3.28**	**229**	P	Pn	10 39 36.3	+1.6
KWHZ	**Kaweka Forest**	**3.36**	**238**	P	Pn	10 39 37.4	+1.6
PXZ	**Pawanui**	**3.44**	**226**	P	Pn	10 39 38.2	+1.3
KRHZ	**Kereru**	**3.51**	**235**	P	Pn	10 39 39.0	+1.2
KUZ	**Kuaotunu**	**3.60**	**284**	P	Pn	10 39 39.1	0.0
BHHZ	**Black Hill Sta**	**3.64**	**239**	P	Pn	10 39 40.8	+1.1
PNHZ	**Pukenui**	**3.77**	**232**	P	Pn	10 39 42.2	+0.7
TRVZ	**Turoa**	**3.91**	**244**	P	Pn	10 39 45.4	+1.8
MKAZ	**Moumakai**	**3.96**	**277**	P	Pn	10 39 44.4	+0.4
GRZ	**Great Barrier**	**3.97**	**290**	P	Pn	10 39 44.6	+0.5
TSZ	**Takapari Road**	**4.00**	**232**	P	Pn	10 39 45.4	+0.7
ETAZ	**East Tamaki Re**	**4.17**	**278**	P	Pn	10 39 47.8	+0.9
HIZ	**Hauiti**	**4.21**	**257**	P	Pn	10 39 49.2	+1.8
AWAZ	**Awhitu Peninsu**	**4.38**	**276**	P	Pn	10 39 51.1	+1.3
RVAZ	**Riverhead Bore**	**4.49**	**280**	P	Pn	10 39 52.6	+1.4

*JMA **28** 10:41:19.6,24′.18N×122′.30E,h57km±2km,M2.3*
*ISCJB **28** 10:41:20.1±0.3,24′.26N±0′.03×122′.32E±0′.02,h49km±6km, Error ellipse: s-maj=4.5km s-min=2.4km az=167.3*
*TAP **28** 10:41:20.0,24′.26N×122′.29E,h54km,ML2.9,C*
ISC 28 10:41:20.7±1.2,24°27N±0′.04×122°31E±0′.02,h47km±10km, n67,σ0s77/104,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.33**	**329**	*e*P	**Pn**	**10 41 30.2**	**+0.3**
	baz=324						
EOS1				*e*S	**Sn**	**10 41 37.4**	**+1.2**
	baz=324						
ENAH	**Nanao**	**0.49**	**292**	*e*P	**Pn**	**10 41 31.5**	**-0.2**
	baz=293						
ENAH				*e*S	**Sn**	**10 41 39.7**	**+0.2**
	baz=293						
NANB	**Nanao**	**0.54**	**287**	*e*P	**Pn**	**10 41 32.0**	**-0.3**
	baz=294						
NANB				*e*S	**Sn**	**10 41 40.7**	**+0.2**
	baz=294						
TWC	**Suao**	**0.54**	**309**	P	**Pn**	**10 41 32.1**	**-0.2**
	baz=311						
TWC				S	**Sn**	**10 41 40.1**	**-0.5**
	baz=311						
ENA	**Nanau**	**0.55**	**287**	P	**Pn**	**10 41 32.1**	**-0.2**
	baz=293						
ENA				*e*S	**Sn**	**10 41 40.7**	**0.0**
	baz=293						
JYNG	**Yonagunijimaku**	**0.61**	**72**	P	**Pn**	**10 41 33.1**	**0.0**
JYNG				S	**Sn**	**10 41 42.7**	**+0.7**
NACB	**Ninganchiao**	**0.66**	**262**	*e*P	**Pn**	**10 41 33.1**	**-0.7**
	baz=262						
NACB				*e*S	**Sn**	**10 41 42.8**	**-0.5**
	baz=262						
YOJ	**Yonaguni jima**	**0.67**	**73**	P	**Pn**	**10 41 34.1**	**+0.2**
	baz=72						
YOJ				S	**Sn**	**10 41 43.9**	**+0.4**
	baz=72						
YOJ	**Yonaguni jima**	**0.67**	**73**	P	**Pn**	**10 41 33.8**	**-0.1**
YOJ				*e*S	**Sn**	**10 41 44.0**	**+0.6**
EGS		**0.67**	**329**	*e*P	**Pn**	**10 41 34.1**	**+0.2**
	baz=331						
TWD	**Chiawan**	**0.68**	**254**	*i* P	**Pn**	**10 41 33.3**	**-0.7**
	baz=246						
TWD				S	**Sn**	**10 41 43.2**	**-0.5**
	baz=246						
TWE	**Neicheng**	**0.74**	**308**	P	**Pn**	**10 41 35.0**	**+0.1**
	baz=303						
TWE				*e*S	**Sn**	**10 41 45.9**	**+0.8**
	baz=303						
ENLB	**Shoufeng**	**0.74**	**241**	P	**Pn**	**10 41 34.5**	**-0.4**
	baz=233						
ENLB				*e*S	**Sn**	**10 41 45.0**	**-0.2**
	baz=233						
ENTT	**Nioudou**	**0.78**	**299**	⇓*i* P	**Pn**	**10 41 35.4**	**0.0**
	baz=293						
ENTT				*e*S	**Sn**	**10 41 46.6**	**+0.6**
	baz=293						
TWB1	**Santiao Chiao**	**0.79**	**338**	*e*P	**Pn**	**10 41 34.6**	**-0.9**
	baz=329						
TWB1				*e*S	**Sn**	**10 41 45.4**	**-1.0**
	baz=329						
TIPB	**Shuangxi**	**0.83**	**328**	*e*P	**Pn**	**10 41 34.8**	**-1.3**
	baz=338						
TIPB				*e*S	**Sn**	**10 41 45.8**	**-1.5**
	baz=338						
NNSB	**Datong**	**0.86**	**281**	*e*P	**Pn**	**10 41 36.2**	**-0.5**
	baz=281						
NNSB				*e*S	**Sn**	**10 41 47.6**	**-0.7**
	baz=281						
NNSH	**Datong**	**0.86**	**281**	P	**Pn**	**10 41 36.1**	**-0.5**
	baz=281						
NNSH				*e*S	**Sn**	**10 41 47.6**	**-0.6**
	baz=281						
NNS	**Nan Shan**	**0.87**	**282**	P	**Pn**	**10 41 36.4**	**-0.4**
	baz=282						
NNS				*e*S	**Sn**	**10 41 48.5**	**-0.1**
	baz=282						
NWLT	**Wulai**	**0.90**	**305**	P	**Pn**	**10 41 37.1**	**+0.1**
	baz=312						
NWLT				*e*S	**Sn**	**10 41 49.0**	**+0.1**
	baz=312						
ESL	**Shilin**	**0.92**	**241**	P	**Pn**	**10 41 36.3**	**-1.0**
	baz=240						
YHNB	**Yeheng**	**0.94**	**295**	*e*P	**Pn**	**10 41 37.6**	**-0.1**
	baz=288						
YHNB				*e*S	**Sn**	**10 41 49.4**	**-0.7**
	baz=288						
WHF	**Hehuan Shan**	**0.96**	**263**	P	**Pn**	**10 41 37.5**	**-0.7**
	baz=253						
WHF				*e*S	**Sn**	**10 41 50.4**	**-0.7**
	baz=253						
EGFH	**Guangfu**	**1.00**	**234**	*e*P	**Pn**	**10 41 37.7**	**-0.7**
	baz=227						
EGFH				*e*S	**Sn**	**10 41 50.5**	**-0.9**
	baz=227						
TATO	**Taipei**	**1.03**	**313**	*e*P	**Pn**	**10 41 39.0**	**+0.3**
	baz=327						
TWT	**Tachien**	**1.04**	**269**	*e*P	**Pn**	**10 41 39.0**	**-0.1**
	baz=270						
TWT				*e*S	**Sn**	**10 41 52.6**	**+0.1**
	baz=270						
TDCB	**Techi**	**1.05**	**269**	*e*P	**Pn**	**10 41 39.3**	**+0.1**
	baz=270						
TDCB				*e*S	**Sn**	**10 41 52.6**	**-0.3**
	baz=270						
CHGB	**Renai**	**1.06**	**259**	*e*P	**Pn**	**10 41 39.0**	**-0.4**
	baz=252						
OWD	**Renai**	**1.08**	**254**	P	**Pn**	**10 41 39.1**	**-0.5**
	baz=254						
OWD				S	**Sn**	**10 41 52.6**	**-1.1**
	baz=254						
YM07	**YM07**	**1.10**	**325**	*e*P	**Pn**	**10 41 39.6**	**-0.2**
	baz=326						
YM10	**YM10**	**1.12**	**322**	*e*P	**Pn**	**10 41 40.1**	**0.0**
	baz=324						
HGSD	**Ruisui**	**1.12**	**227**	*e*P	**Pn**	**10 41 38.9**	**-1.1**
	baz=221						
YM04	**YM04**	**1.13**	**322**	*e*P	**Pn**	**10 41 40.6**	**+0.5**
	baz=332						
YM04				*e*S	**Sn**	**10 41 53.8**	**-0.8**
	baz=332						
TWS1	**Kuangyinshan**	**1.16**	**316**	*e*P	**Pn**	**10 41 39.2**	**-1.4**
	baz=328						
EHY	**Hungye**	**1.18**	**230**	*e*P	**Pn**	**10 41 39.9**	**-0.9**
	baz=239						
TWY	**Chenhua**	**1.20**	**327**	*e*P	**Pn**	**10 41 40.8**	**-0.2**
	baz=329						
SANB	**Taian**	**1.22**	**276**	*e*P	**Pn**	**10 41 42.0**	**+0.5**
	baz=271						
SANB				*e*S	**Sn**	**10 41 56.7**	**-0.2**
	baz=271						
LIOB	**Emei**	**1.24**	**288**	*e*P	**Pn**	**10 41 42.2**	**+0.6**
	baz=289						
LIOB				*e*S	**Sn**	**10 41 58.7**	**+1.4**
	baz=289						
NSTT	**Nanjuang**	**1.25**	**287**	*e*P	**Pn**	**10 41 42.2**	**+0.5**
	baz=288						
YULB	**Yu-li**	**1.27**	**227**	*e*P	**Pn**	**10 41 40.9**	**-1.2**
	baz=237						
DPDB	**Guoxing**	**1.29**	**260**	*e*P	**Pn**	**10 41 42.0**	**-0.3**
	baz=255						
IRIF	**Iriomote-Funau**	**1.29**	**87**	P	**Pn**	**10 41 41.9**	**-0.5**
IRIF				S	**Sn**	**10 41 58.2**	**-0.3**
TWF1	**Yuli**	**1.30**	**226**	*e*P	**Pn**	**10 41 41.3**	**-1.1**
	baz=237						
SSLB	**Suanglung**	**1.33**	**249**	*e*P	**Pn**	**10 41 42.8**	**-0.1**
	baz=241						
SMLT	**Sun Moon Lake**	**1.35**	**254**	*e*P	**Pn**	**10 41 43.4**	**+0.2**
	baz=246						
TYC	**Yuchr**	**1.38**	**255**	*e*P	**Pn**	**10 41 43.7**	**+0.2**
	baz=248						
HATJ	**Hateruma jima**	**1.38**	**98**	P	**Pn**	**10 41 42.9**	**-0.6**
TWQ1	**Liyutan**	**1.41**	**274**	*e*P	**Pn**	**10 41 43.9**	**0.0**
	baz=274						
FULB	**Fuli**	**1.42**	**221**	P	**Pn**	**10 41 42.8**	**-1.3**
	baz=211						
FULB				*e*S	**Sn**	**10 42 00.6**	**-1.0**
	baz=211						
YUS	**Yu-Shan**	**1.47**	**238**	*e*P	**Pn**	**10 41 45.0**	**-0.1**
	baz=238						
JKRS	**Kuro-shima**	**1.55**	**91**	P	**Pn**	**10 41 46.0**	**+0.2**
JKRS				*e*S	**Sn**	**10 42 05.1**	**+0.3**
ALS	**Alishan**	**1.57**	**242**	*e*P	**Pn**	**10 41 46.4**	**0.0**
	baz=233						
ELDTW	**Lidau**	**1.60**	**228**	*e*P	**Pn**	**10 41 45.5**	**-1.2**
	baz=228						
CHN5	**Tsauling**	**1.64**	**246**	*e*P	**Pn**	**10 41 48.0**	**+0.9**
	baz=237						
CHN5				*e*S	**Sn**	**10 42 08.5**	**+1.4**
	baz=237						
JIJ	**Ishigaki jima**	**1.67**	**86**	P	**Pn**	**10 41 46.9**	**-0.6**
JIJ				S	**Sn**	**10 42 06.7**	**-1.1**
STYT	**Tauyuan**	**1.80**	**233**	*e*P	**Pn**	**10 41 49.6**	**+0.3**
	baz=225						
TPUB	**Ta-pu**	**1.82**	**238**	*e*P	**Pn**	**10 41 48.0**	**-1.5**
	baz=238						
CHN4	**Tsaushan**	**1.82**	**240**	*e*P	**Pn**	**10 41 50.8**	**+1.3**
	baz=240						
JISG	**Ishigakijimahi**	**1.85**	**80**	P	**Pn**	**10 41 49.3**	**-0.6**
JISG				*e*S	**Sn**	**10 42 11.2**	**-0.9**
TWK	**Hsinying**	**1.95**	**240**	*e*P	**Pn**	**10 41 52.4**	**+1.0**
	baz=239						
TWK				*e*S	**Sn**	**10 42 16.4**	**+1.8**
	baz=239						
CHN1	**Nanshi**	**1.96**	**237**	*e*P	**Pn**	**10 41 53.3**	**+1.8**
	baz=237						
CHN1				*e*S	**Sn**	**10 42 16.1**	**+1.2**
	baz=237						
SGST	**Jiashian**	**1.98**	**234**	*e*P	**Pn**	**10 41 52.7**	**+1.0**
	baz=234						
SLGT	**Liugui**	**1.99**	**231**	*e*P	**Pn**	**10 41 52.8**	**+1.0**
	baz=240						
SLGT				*e*S	**Sn**	**10 42 17.3**	**+1.8**
	baz=240						
JTJ	**Tarama**	**2.21**	**80**	S	**Sn**	**10 42 21.1**	**+0.1**
MASBT	**Mashibuluo**	**2.26**	**223**	*e*P	**Pn**	**10 41 55.7**	**+0.1**
	baz=223						
JIRB	**Irabujima**	**2.66**	**77**	P	**Pn**	**10 42 01.4**	**+0.3**
JOGS	**Gusukube**	**2.86**	**79**	S	**Sn**	**10 42 38.3**	**+1.3**

*NNC **28** 10:41:33.1±2.4,51′.27N×74′.97E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=81.3km s-min=7.0km az=22.0, Suspected Mining explosion.*
IDC 28 10:41:35.6±1.0,51°.74N×75°.53E,h0km,mb1 2.7/2, mb1mx2.6/68,mbtmp2.7/2,ML2.4/2,5C-1D,Error ellipse: s-maj=29.5km s-min=7.5km az=30.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.19**	**119**	Pg	Pn	10 42 13.9	+0.7
	0.3nm,0.3s,baz=299,slow=19,SNR=26						
KURBB				Lg	Lg	10 42 44.0	
	0.3nm,0.3s,baz=298,slow=33,SNR=11						
KURK	**Kurchatov**	**2.19**	**117**	⇑Pn	Pn	10 42 12.7	-0.6
	1.9nm,0.6s						
KURK				⇓Sn	Sb	10 42 44.2	+0.5
	1.9nm,0.4s						
BVA0	**Borovoye Array**	**3.41**	**294**	⇑Pg	Pn	10 42 32.2	+2.2
	1.4nm,0.6s,baz=120,slow=16,SNR=5.4						
BVA0				⇑Lg	Lg	10 43 20.1	
	6.4nm,0.8s,baz=108,slow=27,SNR=9.0						
BVAR	**Borovoye Array**	**3.41**	**294**	Pg	Pb	10 42 35.2	-1.6
	0.5nm,0.3s,baz=117,slow=15,SNR=7.4						
BVAR				Sn	Sn	10 43 10.9	-0.1
	0.6nm,0.3s,baz=114,slow=23,SNR=5.1						
BVAR				Lg	Lg	10 43 19.9	
	1.0nm,0.3s,baz=114,slow=28,SNR=8.5						
BRVK	**Borovoye**	**3.48**	**294**	⇑Pg	Pb	10 42 36.2	-1.8
	2.7nm,0.9s						
BRVK				⇑Lg	Lg	10 43 22.7	
	11nm,1.1s						
I46RU	**ZALESOVO INFRA**	**6.05**	**65**	*i*		11 16 10.6	
	baz=253,slow=340,SNR=6.1						
ZALV	**Zalesovo Beam**	**6.05**	**65**	Pn	Pn	10 43 08.2	+2.0
	0.4nm,0.3s,baz=252,slow=11,SNR=3.2						
MK31	**Makanchi Array**	**6.63**	**136**	Lg	Lg	10 45 04.2	
	1.3nm,0.8s,baz=315,slow=27,SNR=4.4						
MKAR	**Makanchi Array**	**6.63**	**136**	Pn	Pn	10 43 14.7	+0.5
	0.1nm,0.3s,baz=310,slow=13,SNR=3.0						
MKAR				Sn	Sn	10 44 31.7	+1.2
	0.1nm,0.3s,baz=293,slow=30,SNR=7.0						
MKAR				Lg	Lg	10 45 03.7	
	0.1nm,0.3s,baz=318,slow=23,SNR=6.1						

IDC 28 10:44:13.8±0.9,2°.60N×125°.54E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.5/67,mbtmp3.7/7,Error ellipse: s-maj=54.8km s-min=16.4km az=75.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.01**	**159**	P	P	10 49 30.1	-0.5
	2.2nm,0.4s,baz=337,slow=10,SNR=50						
ASAR	**Alice Springs**	**27.35**	**163**	P	P	10 50 01.6	+0.7
	0.4nm,0.5s,baz=343,slow=11,SNR=9.3						
KSRS	**Korea Array**	**34.76**	**3**	P	P	10 51 05.8	-0.1
	0.4nm,0.4s,baz=182,slow=8.7,SNR=2.9						
STKA	**Stephens Creek**	**37.53**	**157**	P	P	10 51 29.5	-0.2
	1.6nm,0.7s,baz=0.0,slow=10,SNR=5.4						
ASAJ	**Asahikawa**	**44.02**	**18**	P	P	10 52 22.9	-0.3
	2.2nm,0.8s,baz=204,slow=10.0,SNR=3.6						
MKAR	**Makanchi Array**	**57.81**	**326**	P	P	10 54 07.4	+0.3
	0.2nm,0.5s,baz=121,slow=6.7,SNR=2.9						
KURBB	**Kurchatov Arra**	**62.05**	**328**	P	P	10 54 35.8	-0.4
	0.2nm,0.3s,baz=139,slow=7.1,SNR=5.4						

IDC 28 10:44:44.8±3.3,54°.07N×87°.62E,h0km,mb1 2.8/2, mb1mx2.6/68,mbtmp2.8/2,ML2.5/2,Error ellipse: s-maj=26.3km s-min=16.5km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**267**	*i*		10 55 00.1	
	baz=86,slow=330,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.66**	**267**	Pg	Pn	10 45 13.5	-1.5
	4.0nm,0.3s,baz=87,slow=17,SNR=26						
ZALV				Lg	Lg	10 45 38.3	
	4.7nm,0.3s,baz=84,slow=24,SNR=12						
KURBB	**Kurchatov Arra**	**6.55**	**242**	Pn	Pn	10 46 22.3	0.0
	0.1nm,0.3s,baz=55,slow=14,SNR=3.0						
KURBB				Lg	Lg	10 48 11.9	
	0.0nm,0.3s,baz=57,slow=31,SNR=3.8						
MKAR	**Makanchi Array**	**8.04**	**207**	Pn	Pn	10 46 44.5	+1.8
	0.1nm,0.3s,baz=25,slow=14,SNR=4.0						
MKAR				Sn	Sn	10 48 14.9	+0.6
	0.1nm,0.3s,baz=26,slow=30,SNR=5.0						
MKAR				Lg	Lg	10 48 56.6	
	0.1nm,0.3s,baz=26,slow=28,SNR=4.2						

DJA 28 11:13:16.8±1.5,11°S±18′×11°8E±°,h13km±26km,M3.5/5, MLv3.5/5,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.18**	**51**	P	Pn	11 13 52.1	-0.8
WBSI				S	Sn	11 14 21.3	+1.5
PLAI	**Plampang**	**2.20**	**2**	P	Pn	11 13 53.3	+0.2

MEX 28 11:35:48.9±0.6,16°.43N×98°.38W,h3km±8km,MD4.0,Near coast of Guerrero

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

AFI	**Afiamalu**	**3.65**	**20**	Sn	Sb	11 38 28.3	-4.2			
	2.1nm,0.3s,baz=225,slow=20,SNR=2.6									
HNR	**Honiara**	**27.40**	**283**	LR	LR	11 51 54.6				
	comp=Z,70nm,18.6s,baz=30,slow=33									
WRA	**Warramunga Arr**	**49.75**	**258**	P	P	11 45 36.8	-0.1			
	1.3nm,0.6s,baz=96,slow=7.6,SNR=25									
ASAR	**Alice Springs**	**49.85**	**253**	P	P	11 45 37.5	-0.1			
	1.5nm,0.8s,baz=89,slow=7.8,SNR=19									
TGY	**Tagaytay City**	**72.25**	**291**	LR	LR	12 19 24.6				
	comp=Z,114nm,19.1s,baz=108,slow=36									
PDAR	**Pinedale Array**	**83.50**	**42**	P	P	11 49 12.3	0.0			
	0.2nm,0.4s,baz=216,slow=4.1,SNR=3.5									

*ISK **28** 11:46:42.7, 37.21N×38.98E, h9km, MD3.0/3*
*CSEM **28** 11:46:42.7±0.2, 37.23N×39.03E, h2km, MD3.0, Error ellipse: s-maj=5.8km s-min=4.7km az=168.0*
*DDA **28** 11:46:43.1, 37.25N×38.98E, h7km, Ml2.6*
ISC 28 11:46:43.4±1.1, 37.23N±0.03×38.98E±0.02, h7km±9km, n27, σ0.950/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.25**	**330**	PG	**Pg**	**11 46 48.1**	**-0.2**
URFA				SG	**Sg**	**11 46 52.4**	**+0.8**
URFA	**Urfa**	**0.25**	**330**	*i* Pg	**Pg**	**11 46 48.1**	**-0.2**
URFA				*i* Sg	**Sg**	**11 46 52.4**	**+0.8**
SURC	**SANLIURFA_SURC**	**0.45**	**220**	*i* P	**Pg**	**11 46 52.2**	**+0.1**
SURC				*i* S	**Sb**	**11 47 01.6**	**+0.9**
SURC	**SANLIURFA_SURC**	**0.45**	**220**	P	**Pg**	**11 46 52.2**	**+0.1**
SURC				S	**Sb**	**11 47 01.6**	**+0.9**
ATAB	**Bozova**	**0.59**	**294**	*i* P	**Pg**	**11 46 54.3**	**-0.5**
ATAB				*i* S	**Sg**	**11 47 02.5**	**-0.1**
ATAB	**Bozova**	**0.59**	**294**	P	**Pg**	**11 46 54.3**	**-0.5**
ATAB				S	**Sg**	**11 47 02.5**	**-0.1**
MALT	**Malatya**	**1.17**	**338**	PN	**Pb**	**11 47 05.9**	**-0.1**
MALT				SN	**Sn**	**11 47 23.1**	**+0.4**
MALT	**Malatya**	**1.17**	**338**	*e*Pn	**Pb**	**11 47 05.9**	**-0.1**
MALT				*e*Sn	**Sn**	**11 47 23.1**	**+0.4**
DYBB	**Diyarbakir**	**1.18**	**51**	PN	**Pg**	**11 47 05.9**	**0.0**
MAZI	**Mazidag**	**1.20**	**78**	PN	**Pg**	**11 47 06.1**	**-0.2**
MAZI				SN	**Sn**	**11 47 22.9**	**-0.4**
MAZI	**Mazidag**	**1.20**	**78**	*e*Pn	**Pg**	**11 47 06.1**	**-0.2**
MAZI				*e*Sn	**Sn**	**11 47 22.9**	**-0.4**
DIY	**Diyarbakir**	**1.20**	**56**	*e*Pn	**Pg**	**11 47 05.9**	**-0.5**
AKCD	**Akcadag**	**1.36**	**322**	*i* P	**Pg**	**11 47 09.8**	**+0.4**
AKCD				*i* S	**Sn**	**11 47 27.6**	**+0.3**
AKCD	**Akcadag**	**1.36**	**322**	P	**Pg**	**11 47 09.8**	**+0.4**
AKCD				S	**Sn**	**11 47 27.6**	**+0.3**
GAZ	**Gaziantep**	**1.41**	**268**	PN	**Pn**	**11 47 09.3**	**-0.3**
GAZ	**Gaziantep**	**1.41**	**268**	*e*Pn	**Pn**	**11 47 09.3**	**-0.3**
MARD	**Mardin**	**1.44**	**86**	*i* P	**Pn**	**11 47 09.8**	**-0.3**
MARD				*i* S	**Sg**	**11 47 31.2**	**+1.5**
KUZU	**Kuzuini**	**1.59**	**254**	*i* P	**Pg**	**11 47 13.8**	**0.0**
KUZU				*i* S	**Sg**	**11 47 33.8**	**-0.6**
KUZU	**Kuzuini**	**1.59**	**254**	P	**Pg**	**11 47 13.8**	**0.0**
KUZU				S	**Sg**	**11 47 33.8**	**-0.6**
KMRS	**Kahramanmaras**	**1.68**	**280**	PN	**Pn**	**11 47 13.0**	**-0.2**
KMRS	**Kahramanmaras**	**1.68**	**280**	*e*Pn	**Pn**	**11 47 13.0**	**-0.2**
PTK	**Pertek**	**1.70**	**11**	PN	**Pn**	**11 47 13.0**	**-0.7**
PTK	**Pertek**	**1.70**	**11**	*e*Pn	**Pn**	**11 47 13.0**	**-0.7**
DARE	**Darende-Malaty**	**1.79**	**319**	PN	**Pn**	**11 47 14.9**	**+0.1**
DARE	**Darende-Malaty**	**1.79**	**319**	*e*Pn	**Pn**	**11 47 14.9**	**+0.1**
HEKM	**Malatya_Hekimh**	**1.83**	**334**	*i* P	**Pb**	**11 47 16.9**	**-0.6**
HEKM				*i* S	**Sg**	**11 47 42.6**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.83**	**334**	P	**Pb**	**11 47 16.9**	**-0.6**

*NNC **28** 11:48:15.2±2.9, 48.66N×78.53E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=40.4km s-min=10.4km az=66.0, Suspected Mining explosion.*
IDC 28 11:48:14.8±1.3, 48.74N×77.77E, h0km, mb1 2.7/3, mb1mx2.7/69, mbtmp2.7/3, ML2.1/3, 2C-4D, Error ellipse: s-maj=18.5km s-min=10.4km az=51.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**1.95**	**14**	Pn	Pn	11 48 49.5	+0.4
	0.5nm,0.3s,baz=196,slow=16,SNR=25						
KURBB				Lg	Lg	11 49 16.1	
	0.3nm,0.3s,baz=196,slow=29,SNR=11						
KURK	**Kurchatov**	**2.06**	**15**	⇓Pn	Pn	11 48 51.4	+0.8
	7.1nm,0.7s						
KURK				⇑Sn	Sb	11 49 18.3	-0.7
	9.9nm,0.8s						
MAKZ	**Makanchi**	**3.43**	**123**	⇓Pg	Pn	11 49 08.4	-1.1
	1.2nm,0.8s						
MAKZ				⇑Lg	Lg	11 49 51.2	
	2.5nm,0.6s						
MK31	**Makanchi Array**	**3.61**	**121**	⇓Pg	Pn	11 49 11.6	-0.4
	0.7nm,0.6s,baz=302,slow=11,SNR=27						
MK31				⇓Lg	Lg	11 49 59.1	
	3.5nm,0.8s,baz=310,slow=28,SNR=7.9						
MKAR	**Makanchi Array**	**3.61**	**121**	Pn	Pn	11 49 12.3	+0.3
	0.1nm,0.3s,baz=304,slow=11,SNR=15						
MKAR				Lg	Lg	11 50 01.3	
	0.4nm,0.3s,baz=308,slow=31,SNR=12						
BVAR	**Borovoye Array**	**6.34**	**315**	Pn	Pn	11 49 50.2	+0.8
	0.1nm,0.3s,baz=107,slow=7.7,SNR=2.5						
BVAR				Sn	Sn	11 51 00.4	-2.2
	0.1nm,0.3s,baz=130,slow=27,SNR=3.4						
BVAR				Lg	Lg	11 51 33.7	
	0.1nm,0.3s,baz=130,slow=27,SNR=2.5						
ZALV	**Zalesovo Beam**	**6.83**	**38**	Pn	Pn	11 49 57.5	+1.3
	0.1nm,0.3s,baz=221,slow=15,SNR=4.6						
ZALV				Sn	Sn	11 51 16.0	+1.4
	0.2nm,0.3s,baz=225,slow=22,SNR=4.0						
I46RU	**ZALESOVO INFRA**	**6.83**	**38**	*i*		12 33 03.7	
	baz=224,slow=334,SNR=2.5						

*ISCJB **28** 11:51:16.9±0.5, 38.68N±0.04×43.27E±0.04, h31km±5km, Error ellipse: s-maj=7.0km s-min=5.7km az=21.4*
*DDA **28** 11:51:17.5, 38.73N×43.27E, h7km, Ml2.5*
*CSEM **28** 11:51:17.5, 38.73N×43.27E, h7km, ML2.5, After DDA*
ISC 28 11:51:16.4±1.2, 38.68N±0.05×43.26E±0.04, h30km±9km, n15, σ0.938/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.14**	**129**	*i* PG	**Pb**	**11 51 22.5**	**+0.3**
VANB				SG	**Sb**	**11 51 26.9**	**+0.7**
TVAN	**Van**	**0.19**	**142**	*i* P	**Pb**	**11 51 22.6**	**-0.3**
TVAN				*i* S	**Sb**	**11 51 26.6**	**-0.7**
TVAN	**Van**	**0.19**	**142**	P	**Pb**	**11 51 22.6**	**-0.3**
TVAN				S	**Sb**	**11 51 26.6**	**-0.7**
VMUR	**Van-Muradiye**	**0.40**	**39**	*i* P	**Pb**	**11 51 25.6**	**+0.2**
VMUR				*i* S	**Sb**	**11 51 32.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.40**	**39**	P	**Pb**	**11 51 25.6**	**+0.2**
VMUR				S	**Sb**	**11 51 32.0**	**+0.4**
GEVA	**Gevas**	**0.40**	**203**	*i* P	**Pb**	**11 51 25.8**	**+0.3**
GEVA	**Gevas**	**0.40**	**203**	P	**Pb**	**11 51 25.8**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.43**	**287**	*i* P	**Pb**	**11 51 26.0**	**0.0**
ADCV				*i* S	**Sn**	**11 51 33.5**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.43**	**287**	P	**Pb**	**11 51 26.0**	**0.0**
ADCV				S	**Sn**	**11 51 33.5**	**-0.3**
CLDR	**Caldiran**	**0.69**	**48**	*e*PG	**Pb**	**11 51 30.2**	**0.0**
CLDR				SG	**Sn**	**11 51 40.6**	**+0.4**
CLDR	**Caldiran**	**0.69**	**48**	*i* P	Pb	11 51 22.7	-7.5
CLDR				*i* S	**Sb**	**11 51 39.4**	**-0.2**
CLDR	**Caldiran**	**0.69**	**48**	P	Pb	11 51 22.7	-7.5
CLDR				S	**Sb**	**11 51 39.4**	**-0.2**
TUTA	**Tutak**	**0.80**	**335**	*i* P	**Pb**	**11 51 31.9**	**-0.1**
TUTA				*i* S	**Sn**	**11 51 42.5**	**-0.3**
TUTA	**Tutak**	**0.80**	**335**	P	**Pb**	**11 51 31.9**	**-0.1**
TUTA				S	**Sn**	**11 51 42.5**	**-0.3**
GURO	**Guroymak-BITLI**	**0.97**	**263**	*e*PG	**Pb**	**11 51 34.7**	**0.0**
GURO				SG	**Sb**	**11 51 47.8**	**+0.6**

*NEIC **28** 12:03:52.6±0.0, 15.94N×98.84W, h16km, MD4.1(MEX), After MEX.*
MEX 28 12:03:52.4±0.6, 15.95N×98.79W, h16km±10km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.78**	**55**	*e*P	Pb	12 04 04.5	-3.0
PNIG				*e*S	Sg	12 04 14.1	-3.8
PNIG	**Pinotepa**	**0.78**	**55**	*e*P	Pb	12 04 04.8	-2.8
PNIG				*e*S	Sg	12 04 14.5	-3.3

ACX	**Acapulco**	**1.37**	**312**	*e*P	Pn	12 04 09.8	-7.2			
ACX				*i* S	Sn	12 04 26.9	-7.9			
ACX	**Acapulco**	**1.37**	**312**	*e*P	Pn	12 04 06.4	-11			
ACX				*e*S	Sn	12 04 30.3	-4.5			
TLIG	**Tlapa**	**1.62**	**8**	*e*P	Pn	12 04 17.2	-3.2			
TLIG				*e*S	Sn	12 04 36.3	-4.7			
TLIG	**Tlapa**	**1.62**	**8**	*e*P	Pn	12 04 17.2	-3.2			
TLIG				*e*S	Sn	12 04 36.3	-4.7			
CAIG	**El Cayaco**	**1.79**	**308**	*e*P	Pn	12 04 19.3	-3.3			
CAIG				*e*S	Sn	12 04 39.8	-5.2			
CAIG	**El Cayaco**	**1.79**	**308**	*e*P	Pn	12 04 19.3	-3.3			
CAIG				*e*S	Sn	12 04 39.0	-6.0			
VHO	**Vista Hermosa**	**2.27**	**60**	*e*P	Pn	12 04 26.9	-2.5			
VHO				*i* S	Sn	12 04 52.7	-4.4			
VHO	**Vista Hermosa**	**2.27**	**60**	*e*P	Pn	12 04 27.8	-1.6			
VHO				*e*S	Sn	12 04 56.8	-0.4			
PLIG	**Platanillo**	**2.52**	**344**	*e*P	Pn	12 04 29.0	-3.8			
PLIG				*e*S	Sn	12 04 59.4	-3.9			
PLIG	**Platanillo**	**2.52**	**344**	*e*P	Pn	12 04 31.3	-1.5			
PLIG				*e*S	Sn	12 05 03.0	-0.3			

*IDC **28** 12:04:07.8±1.7, 28.85S×76.03W, h0km, mb4.2/2, mb1 4.0/5, mb1mx3.7/34, mbtmp3.9/5, ML3.9/3, MS3.0/1, Ms1 3.2/1, ms1mx2.6/30, Error ellipse: s-maj=66.7km s-min=29.0km az=99.0*
ISC 28 12:04:14.1±1.2, 28.76S±0.09×75.9W±0.1, h35km, n18, σ1.990/26, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**4.55**	**94**	*e*P	**Pn**	**12 05 21.3**	**+0.6**
LCO				*e*S	**Sn**	**12 06 11.5**	**-1.0**
AROD	**Rodeo**	**5.76**	**106**	*e*P	**Pn**	**12 05 39.5**	**+2.1**
AROD				*e*S	**Sn**	**12 06 42.1**	**-0.4**
ACDV	**Cuesta del Vie**	**6.06**	**105**	*e*P	**Pn**	**12 05 43.7**	**+2.3**
ACDV				*e*S	**Sn**	**12 06 48.4**	**-1.3**
RTLS	**Leoncito**	**6.45**	**120**	*e*P	**Pn**	**12 05 49.4**	**+2.5**
RTLS				IAML		12 05 50.6	
	comp=Z,146nm,0.9s						
RTLS				*e*S	**Sn**	**12 06 59.2**	**-0.2**
AGUA	**GUANDACOL**	**6.51**	**98**	*e*P	**Pn**	**12 05 49.6**	**+2.2**
AGUA				*e*S	**Sn**	**12 06 57.9**	**-2.7**
AUSP	**Uspallata**	**6.58**	**123**	*e*P	**Pn**	**12 05 51.4**	**+2.7**
AUSP				*e*S	**Sn**	**12 07 02.8**	**+0.2**
VCA	**Vinchina**	**6.74**	**92**	*e*P	**Pn**	**12 05 52.3**	**+1.6**
VCA				IAML		12 05 55.9	
	comp=Z,79nm,0.3s						
VCA				*e*S	**Sn**	**12 07 04.0**	**-2.4**
AMOG	**MOGNA**	**6.78**	**110**	*e*P	**Pn**	**12 05 53.5**	**+2.4**
RTCV	**Cerro Valdivia**	**7.06**	**118**	*e*P	**Pn**	**12 05 56.9**	**+1.9**
ASAL	**Salagasta**	**7.17**	**124**	*e*P	**Pn**	**12 05 59.0**	**+2.5**
ASAL				*e*S	**Sn**	**12 07 15.6**	**-1.2**
ARCO	**CERRO ARCO**	**7.23**	**126**	*e*P	**Pn**	**12 06 00.0**	**+2.6**
ARCO				IAML		12 06 01.3	
	comp=Z,67nm,0.5s						
PLCA	**Paso Flores**	**12.72**	**161**	Pn	**Pn**	**12 07 09.6**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=345,slow=12,SNR=5.8						
LPAZ	**La Paz**	**14.32**	**32**	Pn	**Pn**	**12 07 36.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=218,slow=7.4,SNR=5.1						
LPAZ				LR	LR	12 12 20.2	
	comp=Z,61nm,18.0s,baz=188,slow=34						
SIV	**San Ignacio**	**18.66**	**50**	P	**P**	**12 08 28.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=242,slow=16,SNR=2.6						
SNAA	**Sanae**	**57.65**	**159**	P	**P**	**12 13 59.3**	**-1.2**
	comp=Z,2.6nm,1.0s,baz=302,slow=9.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**85.65**	**73**	P	**P**	**12 16 49.8**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=250,slow=4.6,SNR=9.6						
KURBB	**Kurchatov Arra**	**150.86**	**34**	PKPbc	**PKPbc**	**12 24 01.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=308,slow=2.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**151.15**	**24**	PKPbc	**PKPbc**	**12 24 02.7**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=302,slow=3.4,SNR=18						

*CSEM **28** 12:09:46.1, 38.73N×43.22E, h7km, ML2.7, After DDA*
*DDA **28** 12:09:46.1, 38.73N×43.22E, h7km, Ml2.7*
ISC 28 12:09:46.2±1.2, 38.69N±0.04×43.18E±0.05, h4km±18km, n10, σ0.968/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.19**	**121**	PG	**Pg**	**12 09 49.3**	**-0.6**
TVAN	**Van**	**0.24**	**133**	*i* P	**Pg**	**12 09 51.7**	**+0.8**
TVAN	**Van**	**0.24**	**133**	P	**Pg**	**12 09 51.7**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.38**	**288**	*i* P	**Pb**	**12 09 55.0**	**-0.6**
ADCV				*i* S	**Sb**	**12 10 03.1**	**+1.3**
ADCV	**BITLIS_Adilcev**	**0.38**	**288**	P	**Pb**	**12 09 55.0**	**-0.6**
ADCV				S	**Sb**	**12 10 03.1**	**+1.3**
GEVA	**Gevas**	**0.39**	**195**	*i* P	**Pg**	**12 09 53.9**	**+0.1**
GEVA				*i* S	**Sb**	**12 10 01.9**	**-0.3**
GEVA	**Gevas**	**0.39**	**195**	P	**Pg**	**12 09 53.9**	**+0.1**
GEVA				S	**Sb**	**12 10 01.9**	**-0.3**
TUTA	**Tutak**	**0.77**	**338**	*i* P	**Pg**	**12 10 00.8**	**-0.1**
TUTA				*i* S	**Sg**	**12 10 10.9**	**0.0**
TUTA	**Tutak**	**0.77**	**338**	P	**Pg**	**12 10 00.8**	**-0.1**
TUTA				S	**Sg**	**12 10 10.9**	**0.0**
GURO	**Guroymak-BITLI**	**0.91**	**261**	PG	**Pg**	**12 10 03.7**	**0.0**
GURO				SG	**Sb**	**12 10 17.6**	**+0.4**

*KRNET **28** 12:11:38.7±0.1, 41.23N×70.78E, h16km, mb2.6*
*SOME **28** 12:11:38.7, 41.13N×70.98E, h0km*
*NNC **28** 12:11:42.8±2.4, 41.20N×70.95E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=20.1km s-min=12.5km az=49.0*
ISC 28 12:11:40.6±1.6, 41.21N±0.05×70.99E±0.04, h2km±11km, n19, σ1.961/35, 18C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.94**	**51**	⇓*i*P	**Pg**	**12 11 58.6**	**0.0**
	baz=58						
ARK				⇓*i*S	**Sn**	**12 12 13.7**	**-1.4**
	baz=58						
IUG	**Iuzhnay**	**1.19**	**323**	*e*P	**Pb**	**12 12 03.4**	**-0.5**
	13nm,0.3s						
IUG				*e*S	**Sn**	**12 12 19.7**	**-1.4**
	24nm,0.3s						
ARSB	**Arslanbob**	**1.50**	**85**	⇓*i*P	**Pg**	**12 12 09.5**	**+0.1**
	baz=86						
ARSB				⇓*i*S	**Sg**	**12 12 31.8**	**+2.9**
	baz=86						
TOKL	**Toktogul**	**1.59**	**62**	⇓*i*P	**Pg**	**12 12 10.6**	**-0.4**
	baz=65						
TOKL				⇓*i*S	**Sg**	**12 12 33.5**	**+1.9**
	baz=65						
MNAS	**Manas**	**1.71**	**41**	⇓Pn	**Pb**	**12 12 11.8**	**-1.0**
	2.4nm,0.4s						
MNAS				⇓Sn	**Sg**	**12 12 38.8**	**+3.3**
	3.9nm,0.5s						
MNAS	**Manas**	**1.71**	**41**	⇓*i*P	**Pb**	**12 12 12.2**	**-0.6**
	baz=45						
MNAS				⇓*i*S	**Sg**	**12 12 35.8**	**+0.4**
	baz=45						
KK31	**Karatay Array**	**1.93**	**349**	Pn	**Pb**	**12 12 16.1**	**-0.4**
	4.3nm,0.3s,baz=166,slow=18,SNR=71						
KK31				⇑Sn	**Sg**	**12 12 43.3**	**+0.7**
	19nm,0.7s,baz=169,slow=26,SNR=19						
AML	**Almayashu**	**2.23**	**65**	⇑*i*P	**Pb**	**12 12 21.2**	**-0.6**
	baz=67						
AML				⇑*i*S	**Sg**	**12 12 51.2**	**-0.9**
	baz=67						
SFK	**Sufi-Kurgan**	**2.25**	**121**	⇓Pn	**Pg**	**12 12 23.5**	**-0.2**
	0.7nm,0.3s						
SFK				⇑Lg	Lg	12 12 53.5	
	4.5nm,0.5s						
SFK	**Sufi-Kurgan**	**2.25**	**121**	⇑*i*P	**Pb**	**12 12 21.2**	**-0.9**
	baz=19						
SFK				⇑*i*S	**Sg**	**12 12 52.3**	**-0.6**
	baz=19						
MRKS	**Merke**	**2.27**	**47**	*e*P	**Pb**	**12 12 22.8**	**+0.4**
	4.7nm,0.6s						
MRKS				*e*S	**Sg**	**12 12 53.0**	**-0.4**
	5.7nm,0.3s						
EKS2	**Erkin-Say**	**2.54**	**54**	⇑*i*P	**Pb**	**12 12 26.3**	**-0.6**
	baz=56						
EKS2				⇑*i*S	**Sg**	**12 12 59.9**	**-2.2**
	baz=56						
UCH	**Uchtor**	**2.83**	**68**	⇓*e*P	**Pb**	**12 12 30.6**	**-1.5**
	baz=69						
UCH				⇓*i*S	**Sb**	**12 13 07.9**	**+0.6**
	baz=69						
AAK	**Ala-Archa**	**2.98**	**60**	⇑Pn	**Pb**	**12 12 33.6**	**-0.8**
	2.2nm,0.4s						
AAK				⇑Lg	Lg	12 13 17.8	
	1.5nm,0.4s						
AAK	**Ala-Archa**	**2.98**	**60**	⇑*e*P	**Pn**	**12 12 30.0**	**+1.0**
	baz=62						
AAK				⇑*i*S	**Sb**	**12 13 09.2**	**-2.2**
	baz=62						
KBK	**Karagaybulak**	**3.29**	**63**	⇓*i*P	**Pb**	**12 12 37.1**	**-2.7**
	baz=64						
KBK				⇓*i*S	**Sb**	**12 13 18.2**	**-2.1**
	baz=64						
KZA	**Kyzart**	**3.31**	**73**	⇑*e*P	**Pb**	**12 12 37.1**	**-3.1**
	baz=74						
KZA				⇑*i*S	**Sn**	**12 13 15.7**	**+1.8**
	baz=74						
NRN	**Naryn**	**3.78**	**85**	⇑*e*P	**Pn**	**12 12 42.5**	**+2.3**
	baz=85						
NRN				⇑*i*S	**Sn**	**12 13 27.4**	**+2.0**
	baz=85						
TKM2	**Tokmak 2**	**3.83**	**62**	⇑Pg	**Pg**	**12 12 54.0**	**0.0**
	2.4nm,0.9s						
TKM2				⇑Lg	Lg	12 13 40.9	
	0.9nm,0.5s						

*IDC **28** 12:25:44.2±1.1, 40.72N×145.02E, h0km, mb3.6/9, mb1 3.7/11, mb1mx3.5/63, mbtmp3.6/11, ML3.0/2, Error ellipse: s-maj=27.4km s-min=20.4km az=123.0*
*JMA **28** 12:25:45.8±0.3, 40.82N×144.98E, h68km±4km, M3.3*
*ISCJB **28** 12:25:47.0±0.6, 40.81N±0.03×144.80E±0.05, h35km, mb3.6/9, Error ellipse: s-maj=6.0km s-min=4.3km az=20.3*
ISC 28 12:25:49.0±0.8, 40.81N±0.05×144.90E±0.07, h35km, n30, σ2.905/36, mb3.7/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.78**	**313**	P	**Pn**	**12 26 15.7**	**-1.6**
JEM				*e*S	**Sn**	**12 26 36.0**	**-2.7**
JCH	**Churui**	**2.14**	**328**	P	**Pn**	**12 26 20.3**	**-1.9**
JCH				*e*S	**Sn**	**12 26 44.5**	**-3.0**
JNBK	**Urakawa-nobuka**	**2.18**	**313**	P	**Pn**	**12 26 22.2**	**-0.6**
JNBK				*e*S	**Sn**	**12 26 47.8**	**-0.7**
JOB	**Onbets**	**2.24**	**340**	P	**Pn**	**12 26 22.1**	**-1.5**
JOB				*e*S	**Sn**	**12 26 48.2**	**-1.8**
JANG	**Nango**	**2.61**	**262**	P	**Pn**	**12 26 26.6**	**-2.1**
JANG				*e*S	**Sn**	**12 26 55.9**	**-3.3**
JAR	**Ashorobuto**	**2.62**	**342**	P	**Pn**	**12 26 26.7**	**-2.2**
JAR				*e*S	**Sn**	**12 26 56.6**	**-2.9**
NEM2	**Nemuro 2**	**2.63**	**14**	P	**Pn**	**12 26 26.4**	**-2.6**
NEM2				*e*S	**Sn**	**12 26 55.6**	**-4.1**
JBT2	**Biratori 2**	**2.73**	**317**	*e*S	**Sn**	**12 27 02.0**	**-0.2**
JOT	**Ohata**	**2.96**	**282**	P	**Pn**	**12 26 32.2**	**-1.4**
JOT				*e*S	**Sn**	**12 27 05.4**	**-2.5**
JOM	**Ohasama**	**3.07**	**245**	P	**Pn**	**12 26 33.5**	**-1.5**
JOM				*e*S	**Sn**	**12 27 07.7**	**-2.8**
JTKR	**Abashiri--Toko**	**3.25**	**347**	P	**Pn**	**12 26 35.8**	**-1.6**
JTKR				*e*S	**Sn**	**12 27 12.5**	**-2.3**
JEW	**Eniwo**	**3.28**	**309**	*e*S	**Sn**	**12 27 15.0**	**-0.7**
JMK	**Ichinoseki**	**3.38**	**238**	P	**Pn**	**12 26 37.8**	**-1.5**
JMK				*e*S	**Sn**	**12 27 15.5**	**-2.7**
ASAJ	**Asahikawa**	**3.72**	**334**	Pn	**Pn**	**12 26 44.3**	**+0.4**
	0.8nm,0.3s,baz=204,slow=8.8,SNR=10						
ASAJ				Sn	**Sn**	**12 27 24.9**	**-1.6**
	1.0nm,0.3s,baz=304,slow=24,SNR=6.1						
MJAR	**Matsushiro Arr**	**6.75**	**233**	Pn	**Pn**	**12 27 24.1**	**-1.5**
	0.4nm,0.3s,baz=38,slow=11,SNR=4.2						
SEY	**Seymchan**	**22.60**	**9**	P	**P**	**12 30 44.9**	**-1.4**
	0.3nm,0.3s,baz=164,slow=11,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**28.18**	**132**	T	T	13 01 10.6	
	baz=328						
H11N1	**WAKE ISLAND Hy**	**28.19**	**132**	T	T	13 01 14.0	
	baz=328						
H11N3	**WAKE ISLAND Hy**	**28.20**	**132**	T	T	13 01 11.3	
	baz=328						
SONM	**Songino Array**	**28.20**	**297**	P	**P**	**12 31 41.6**	**+3.2**
	0.6nm,0.5s,baz=97,slow=12,SNR=2.3						
H11S1	**WAKE ISLAND Hy**	**29.05**	**133**	T	T	13 02 13.3	
	baz=326						
H11S3	**WAKE ISLAND Hy**	**29.06**	**134**	T	T	13 02 13.4	
	baz=326						
H11S2	**WAKE ISLAND Hy**	**29.07**	**133**	T	T	13 02 14.1	
	baz=326						
ILAR	**Eielson Array**	**44.85**	**34**	P	**P**	**12 33 59.9**	**+0.5**
	0.6nm,0.9s,baz=250,slow=7.3,SNR=5.0						
KURBB	**Kurchatov Arra**	**45.92**	**306**	P	**P**	**12 34 08.7**	**+0.7**
	1.0nm,0.8s,baz=76,slow=8.6,SNR=5.9						
INK	**Inuvik**	**49.79**	**29**	P	**P**	**12 34 39.2**	**+1.6**
	0.7nm,0.9s,baz=305,slow=3.0,SNR=4.3						
YKA	**Yellowknife Ar**	**59.18**

comp=Z,96nm,20.8s,baz=185,slow=31
CPUP Villa Florida 64.92 100 LR LR 13 02 53.9
comp=Z,114nm,19.0s,baz=214,slow=32
LPAZ La Paz 67.04 85 P P 12 39 37.0 +5.2
2.9nm,0.6s,baz=185,slow=2.4,SNR=11
LPAZ LR LR 13 01 08.6
comp=Z,114nm,21.6s,baz=190,slow=29
ASAR Alice Springs 68.00 260 P **P 12 39 36.3 -0.8**
1.6nm,0.8s,baz=138,slow=6.4,SNR=25
ASAR LR LR 13 04 01.6
comp=Z,46nm,21.4s,baz=150,slow=31
H01W1 Cape Leeuwin H 69.07 238 T T 13 55 27.1
baz=145,slow=76,SNR=31
H01W2 Cape Leeuwin H 69.07 238 T T 13 55 27.4
baz=145,slow=76,SNR=46
H01W3 Cape Leeuwin H 69.08 238 T T 13 55 28.2
baz=145,slow=76,SNR=42
NWAO Narrogin (SRO) 69.20 242 LR LR 13 00 46.5
comp=Z,54nm,20.1s,baz=26,slow=28
WRA Warramunga Arr 70.76 263 P **P 12 39 53.6 -0.6**
1.4nm,0.6s,baz=147,slow=5.5,SNR=22
PMG Port Moresby 72.33 280 LR LR 13 08 00.1
comp=Z,61nm,19.9s,baz=165,slow=33
JTS JuntasAbangare 80.98 56 LR LR 13 08 29.8
comp=Z,92nm,21.6s,baz=272,slow=29
BATI Baumata 84.57 260 LR LR 13 15 45.4
comp=Z,96nm,19.3s,baz=199,slow=34
SDV Santo Domingo 86.74 69 LR LR 13 13 05.0
comp=Z,52nm,20.2s,baz=354,slow=31
NVAR Mina Aray Bea 96.64 18 LR LR 13 15 50.7
comp=Z,69nm,21.5s,baz=271,slow=29
DAV Davao City (W) 97.83 271 LR LR 13 25 23.0
comp=Z,26nm,19.1s,baz=185,slow=35
YBH Yreka Blue Hor 99.22 14 LR LR 13 17 31.6
comp=Z,81nm,18.8s,baz=178,slow=30
H10S3 ASCENSION HYDR 101.12 126 T T 14 35 49.1
baz=207,slow=75,SNR=6.2
H10S2 ASCENSION HYDR 101.13 126 T T 14 35 50.2
baz=207,slow=75,SNR=5.7
H10S1 ASCENSION HYDR 101.14 126 T T 14 35 50.5
baz=207,slow=75,SNR=7.7
H10N3 ASCENSION HYDR 102.18 125 T T 14 37 06.0
baz=206,slow=75,SNR=9.1
H10N1 ASCENSION HYDR 102.19 125 T T 14 37 01.5
baz=206,slow=75,SNR=12
H10N2 ASCENSION HYDR 102.20 125 T T 14 37 07.5
baz=206,slow=75,SNR=7.8
ILAR Eielson Array 121.21 357 PKP **PKPdf 12 47 30.2 +0.9**
0.6nm,0.7s,baz=228,slow=2.1,SNR=8.0
ESDC Sonseca Array 147.26 103 PKPbc **PKPab 12 48 22.4 -0.1**
0.8nm,0.6s,baz=266,slow=2.1,SNR=9.2
MKAR Makanchi Array 151.97 268 PKPbc **PKPbc 12 48 31.8 -0.3**
1.0nm,0.9s,baz=150,slow=1.0,SNR=5.2
ZALV Zalesovo Beam 154.25 283 PKPab **PKPab 12 48 50.6 -0.3**
0.7nm,0.7s,baz=108,slow=3.2,SNR=3.7

GUC 28 12:33:37.8±0.4, 34.99S×72.49W, h20km±4km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.46**	**93**	*e*P	Pb	12 33 46.4	-0.9
GO05				*e*S	Sg	12 33 52.9	-0.7
GO05				IAML		12 33 54.0	
	comp=E,8μm,0.3s						
COCH	**Cobquecura**	**1.16**	**192**	*e*P	Pn	12 33 57.5	-1.5
COCH				*e*S	Sb	12 34 12.2	-1.7
CCHI	**Chillan**	**1.64**	**168**	*e*P	Pn	12 34 06.2	+0.7
CCHI				*e*S	Sb	12 34 28.2	+0.5
CCHI				IAML		12 34 31.9	
	comp=E,1μm,0.4s						
LMEL	**Las Melosas**	**2.21**	**60**	*e*P	Pn	12 34 14.3	+0.9
LMEL				*e*S	Sn	12 34 42.0	+1.8
LMEL				IAML		12 34 46.5	
	comp=N,467nm,0.3s						
CLCH	**Cerro Calan**	**2.27**	**46**	*e*P	Pn	12 34 14.7	+0.5
CLCH				*e*S	Sn	12 34 43.0	+1.3
CLCH				IAML		12 34 54.7	
	comp=E,437nm,0.7s						
ROCH	**El Roble**	**2.36**	**32**	*e*P	Pn	12 34 13.5	-2.1
ROCH				*e*S	Sn	12 34 42.7	-1.4
ROCH				IAML		12 34 56.3	
	comp=N,282nm,0.4s						
PEL	**Peldehue**	**2.37**	**40**	*e*P	Pn	12 34 15.3	-0.4
PEL				*e*S	Sn	12 34 44.4	+0.2
FCH	**Farellones**	**2.46**	**48**	IAML		12 34 58.0	
	comp=E,234nm,0.3s						

*NNC **28** 12:40:07.8±3.5,51.04N×73.94E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=69.3km s-min=9.3km az=25.0, Suspected Mining explosion.*
IDC 28 12:40:13.9±1.4, 50.94N×73.89E, h0km, mb1 2.6/4, mb1mx2.6/74, mbtmp2.6/4, ML2.1/4, 1C-5D, Error ellipse: s-maj=32.3km s-min=10.0km az=30.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.96**	**94**	Pn	Pn	12 41 01.6	-0.4
	0.1nm,0.3s,baz=279,slow=14,SNR=22						
KURBB				Lg	Lg	12 41 46.8	
	0.3nm,0.3s,baz=269,slow=31,SNR=14						
KURK	**Kurchatov**	**3.01**	**92**	⇓Pg	Pn	12 41 01.0	-1.7
	8.3nm,1.1s						
KURK				⇓Lg	Lg	12 41 45.1	
	63nm,1.1s						
BVA0	**Borovoye Array**	**3.01**	**315**	⇑Pg	Pn	12 41 03.0	+0.3
	3.7nm,0.7s,baz=144,slow=13,SNR=4.8						
BVA0				⇓Lg	Lg	12 41 41.6	
	24nm,0.8s,baz=128,slow=29,SNR=11						
BVAR	**Borovoye Array**	**3.01**	**315**	Pn	Pn	12 41 02.6	-0.1
	1.2nm,0.3s,baz=151,slow=18,SNR=17						
BVAR				Lg	Lg	12 41 42.0	
	3.0nm,0.3s,baz=123,slow=30,SNR=16						
BRVK	**Borovoye**	**3.08**	**315**	⇓Pg	Pn	12 41 02.2	-1.5
	3.6nm,0.6s						
BRVK				⇓Lg	Lg	12 41 44.3	
	36nm,0.9s						
MK31	**Makanchi Array**	**6.92**	**124**	Lg	Lg	12 43 51.1	
	10.0nm,0.8s,baz=317,slow=26,SNR=16						
MKAR	**Makanchi Array**	**6.92**	**124**	Pn	Pn	12 41 55.0	-1.6
	0.1nm,0.3s,baz=304,slow=11,SNR=3.6						
MKAR				Sn	Sn	12 43 15.2	-0.7
	0.1nm,0.3s,baz=330,slow=25,SNR=3.2						
MKAR				Lg	Lg	12 43 50.2	
	0.4nm,0.3s,baz=314,slow=26,SNR=12						
ZALV	**Zalesovo Beam**	**7.33**	**61**	Pn	Pn	12 42 02.0	0.0
	0.1nm,0.3s,baz=246,slow=15,SNR=4.3						
ZALV				Sn	Sn	12 43 29.1	+3.4
	0.1nm,0.3s,baz=252,slow=23,SNR=6.0						
I46RU	**ZALESOVO INFRA**	**7.33**	**61**	*i*		13 22 21.3	
	baz=252,slow=342,SNR=4.6						
AAK	**Ala-Archa**	**8.32**	**177**	Lg	Lg	12 44 35.3	
	0.2nm,0.3s,baz=44,slow=21,SNR=7.9						
AKTO	**Aktyubinsk**	**10.09**	**273**	Lg	Lg	12 45 29.8	
	0.0nm,0.3s,baz=72,slow=20,SNR=4.3						

*ISCJB **28** 12:49:50.0±0.5, 18.0S±0.1×178.49W±0.10, h579km, mb4.1/16, Error ellipse: s-maj=18.0km s-min=8.4km az=147.7*
*IDC **28** 12:49:50.7±1.3, 17.91S×178.45W, h574km±17km, mb3.7/17, mb1 3.9/19, mb1mx3.5/52, mbtmp4.6/19, Error ellipse: s-maj=16.0km s-min=9.8km az=147.0*
ISC 28 12:49:50.9±0.6, 17.9S±0.1×178.4W±0.1, h579km, n20, σ0s76/21, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.54**	**59**	P	**P**	**12 51 44.6**	**-0.7**
	6.7nm,0.3s,baz=119,slow=12,SNR=8.4						
AFI				S	**S**	**12 53 18.6**	**-0.2**
	2.5nm,0.3s,baz=197,slow=20,SNR=3.5						
DZM	**Mont Dzumac**	**14.80**	**251**	P	**P**	**12 52 58.2**	**+0.3**
	0.6nm,0.3s,baz=113,slow=20,SNR=6.4						
URZ	**Urewera**	**20.65**	**190**	P	**P**	**12 53 51.3**	**0.0**
	9.0nm,0.8s,baz=13,slow=12,SNR=3.6						
CTA	**Charters Tower**	**33.42**	**261**	P	**P**	**12 55 42.7**	**-0.3**
	15nm,0.6s,baz=91,slow=10.0,SNR=16						
PMG	**Port Moresby**	**34.43**	**280**	P	**P**	**12 55 52.5**	**+1.0**
	58nm,0.9s,baz=90,slow=5.3,SNR=15						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**12 56 26.1**	**+0.5**
	23nm,0.9s,baz=86,slow=8.9,SNR=37						
WRA	**Warramunga Arr**	**44.61**	**260**	P	**P**	**12 57 11.7**	**-1.2**
	8.5nm,0.5s,baz=95,slow=8.3,SNR=234						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**12 57 13.6**	**-0.6**
	56nm,0.7s,baz=87,slow=8.6,SNR=576						
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**12 58 56.4**	**-1.0**
	3.1nm,0.8s,baz=243,slow=1.8,SNR=3.2						
VNDA	**Vanda**	**60.45**	**185**	P	**P**	**12 59 05.0**	**+0.2**
	0.8nm,0.9s,baz=6.2,slow=8.7,SNR=2.7						
QSPA	**South Pole Qui**	**72.15**	**180**	P	**P**	**13 00 17.3**	**-0.2**
	4.2nm,1.0s,baz=224,slow=0.3,SNR=11						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**13 00 59.4**	**+1.2**
	2.7nm,0.7s,baz=224,slow=8.7,SNR=20						
SEY	**Seymchan**	**83.76**	**347**	P	**P**	**13 01 18.8**	**-0.6**
	1.9nm,0.9s,baz=129,slow=5.1,SNR=10						
ILAR	**Eielson Array**	**85.89**	**13**	P	**P**	**13 01 28.6**	**-1.0**
	0.8nm,0.4s,baz=223,slow=5.0,SNR=28						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**13 01 32.5**	**+1.3**
	4.1nm,0.8s,baz=222,slow=6.1,SNR=39						
PDAR	**Pinedale Array**	**87.36**	**43**	P	**P**	**13 01 37.8**	**+0.3**
	1.9nm,0.7s,baz=208,slow=2.9,SNR=14						
CMAR	**Chiang Mai Arr**	**88.86**	**290**	P	**P**	**13 01 45.6**	**+1.0**
	0.8nm,0.4s,baz=107,slow=2.9,SNR=11						
INK	**Inuvik**	**91.89**	**15**	P	**P**	**13 01 57.1**	**-0.3**
	4.6nm,1.2s,baz=206,slow=9.8,SNR=6.5						
YKA	**Yellowknife Ar**	**94.34**	**25**	P	**P**	**13 02 08.4**	**-0.4**
	0.6nm,0.9s,baz=239,slow=4.8,SNR=9.2						
BRTR	**Keskin Array B**	**144.76**	**315**	PKP	**PKPdf**	**13 08 22.8**	**-0.1**
	1.3nm,0.8s,baz=90,slow=2.5,SNR=4.1						

*KRNET **28** 12:54:01.6±0.1, 42.49N×74.73E, h20km, mb3.9*
*KNET **28** 12:54:01.0±0.2, 42.52N×74.76E, h19km±2km, ml3.2, Error ellipse: s-maj=2.1km s-min=2.0km az=152.0*
*ISCJB **28** 12:54:01.4±0.4, 42.48N±0.02×74.71E±0.02, h1km±3km, mb4.1/3, Error ellipse: s-maj=3.2km s-min=2.2km az=159.2*
*SOME **28** 12:54:02.0, 42.48N×74.78E, h10km*
*NNC **28** 12:54:03.2±0.8, 42.61N×74.73E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=14.1km s-min=4.7km az=168.0*
*MOS **28** 12:54:04.3±2.7, 42.69N×74.62E, h24km, mb4.2/3, Error ellipse: s-maj=12.8km s-min=8.5km az=49.3*
ISC 28 12:54:02.1±0.8, 42.49N±0.02×74.71E±0.01, h11km±6km, n83, σ1s90/143, mb4.0/3, 40C-35D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**0.22**	**313**	⇑P	**Pg**	**12 54 06.6**	**-0.2**
	459nm,0.2s						
AAK				S	**Sg**	**12 54 10.1**	**+0.1**
	3μm,0.5s						
AAK	**Ala-Archa**	**0.22**	**313**	*d* iPG	**Pg**	**12 54 05.8**	**-1.0**
AAK	**Ala-Archa**	**0.22**	**313**	⇓P	**Pg**	**12 54 06.7**	**-0.1**
	2μm,0.2s,SNR=3483						
AAK				⇑S	**Sg**	**12 54 10.1**	**+0.1**
	5μm,0.3s						
AAK	**Ala-Archa**	**0.22**	**313**	⇓*i*P	**Pg**	**12 54 06.7**	**-0.1**
	baz=11						
AAK				⇓*i*S	**Sg**	**12 54 10.1**	**+0.1**
	baz=11						
KBK	**Karagaybulak**	**0.24**	**46**	⇓P	**Pg**	**12 54 07.0**	**-0.2**
	793nm,0.1s,SNR=2965						
KBK				⇑S	**Sg**	**12 54 10.7**	**+0.1**
	11μm,0.2s						
KBK	**Karagaybulak**	**0.24**	**46**	⇓*i*P	**Pg**	**12 54 07.0**	**-0.2**
	baz=44						
KBK				⇓*i*S	**Sg**	**12 54 10.7**	**+0.1**
	baz=44						
UCH	**Uchtor**	**0.30**	**210**	⇑P	**Pg**	**12 54 08.1**	**-0.3**
	1μm,0.3s,SNR=1350						
UCH	**Uchtor**	**0.30**	**210**	⇑*i*P	**Pg**	**12 54 08.1**	**-0.3**
	baz=11						
UCH				⇑*i*S	**Sg**	**12 54 12.4**	**-0.1**
	baz=11						
FRU1	**Bishkek**	**0.33**	**349**	⇑*i*P	**Pg**	**12 54 09.0**	**+0.3**
	baz=48						
FRU1				⇑*i*S	**Sg**	**12 54 13.5**	**+0.4**
	baz=48						
CHMS	**Chumysh**	**0.51**	**3**	⇓P	**Pg**	**12 54 11.6**	**-0.5**
	556nm,0.1s,SNR=709						
CHMS				⇑S	**Sg**	**12 54 18.7**	**-0.1**
	817nm,0.1s						
CHMS	**Chumysh**	**0.51**	**3**	⇓*i*P	**Pg**	**12 54 11.6**	**-0.5**
	baz=2.0						
CHMS				⇓*i*S	**Sg**	**12 54 18.7**	**-0.1**
	baz=2.0						
KZA	**Kyzart**	**0.57**	**136**	⇓P	**Pg**	**12 54 12.8**	**-0.4**
	1μm,0.2s,SNR=5125						
KZA				⇑S	**Sg**	**12 54 20.8**	**-0.1**
	3μm,0.3s						
KZA	**Kyzart**	**0.57**	**136**	⇓*i*P	**Pg**	**12 54 12.9**	**-0.4**
	baz=36						
KZA				⇓*i*S	**Sg**	**12 54 20.8**	**-0.1**
	baz=36						
EKS2	**Erkin-Say**	**0.71**	**284**	⇑P	**Pg**	**12 54 15.8**	**-0.1**
	54nm,0.1s,SNR=12						
EKS2				⇓S	**Sb**	**12 54 26.5**	**-0.1**
	714nm,0.2s						
EKS2	**Erkin-Say**	**0.71**	**284**	⇓*i*P	**Pg**	**12 54 15.8**	**-0.1**
	baz=84						
EKS2				⇓*i*S	**Sb**	**12 54 25.7**	**-0.8**
	baz=84						
TKM2	**Tokmak 2**	**0.78**	**56**	⇑P	**Pg**	**12 54 15.8**	**-1.5**
	42nm,0.5s						
TKM2				⇓S	**Sg**	**12 54 26.1**	**-1.3**
	78nm,0.2s						
TKM2	**Tokmak 2**	**0.78**	**56**	*i* PG	**Pg**	**12 54 15.7**	**-1.5**
TKM2				pmax	pmax		
	comp=Z,42nm,0.4s						
TKM2	**Tokmak 2**	**0.78**	**56**	P	**Pg**	**12 54 16.1**	**-1.2**
	comp=Z,114nm,0.1s,SNR=527						
TKM2				⇓S	**Sg**	**12 54 26.2**	**-1.2**
	comp=Z,372nm,0.1s						
TKM2	**Tokmak 2**	**0.78**	**56**	⇑*i*P	**Pg**	**12 54 16.0**	**-1.2**
	baz=56						
TKM2				⇑*i*S	**Sg**	**12 54 26.2**	**-1.2**
	baz=56						
USP	**Ospenovka**	**0.79**	**349**	⇓P	**Pg**	**12 54 16.7**	**-0.7**
	comp=Z,316nm,0.1s,SNR=213						
USP				⇑S	**Sg**	**12 54 27.4**	**-0.4**
	comp=Z,457nm,0.1s						
USP	**Ospenovka**	**0.79**	**349**	⇓*i*P	**Pg**	**12 54 16.7**	**-0.7**
	baz=48						
USP				⇓*i*S	**Sg**	**12 54 27.3**	**-0.5**
	baz=48						
AML	**Almayashu**	**0.84**	**245**	P	**Pg**	**12 54 17.8**	**-0.5**
	comp=Z,78nm,0.1s,SNR=422						
AML	**Almayashu**	**0.84**	**245**	⇑*i*P	**Pg**	**12 54 17.8**	**-0.5**
	baz=45						
AML				⇑*i*S	**Sg**	**12 54 29.1**	**-0.2**
	baz=45						
BOOM	**Boomskoye usch**	**0.91**	**90**	⇑*i*P	**Pg**	**12 54 18.5**	**-1.1**
	baz=89						
BOOM				⇑*i*S	**Sg**	**12 54 30.7**	**-0.7**
	baz=89						
KST	**Kastek**	**1.07**	**59**	*e*P	**Pb**	**12 54 21.6**	**-1.2**
	comp=Z,12nm,0.1s						
KST				*e*S	**Sb**	**12 54 35.7**	**-1.3**
	comp=Z,199nm,0.2s						
KST	**Kastek**	**1.07**	**59**	*e*P	**Pb**	**12 54 21.6**	**-1.2**
	baz=58						
KST				*e*S	**Sb**	**12 54 35.6**	**-1.3**
	baz=58						
DGS	**Degeres**	**1.08**	**46**	*e*P	**Pb**	**12 54 22.0**	**-0.9**
	comp=Z,59nm,0.3s						
DGS				*e*S	**Sb**	**12 54 36.1**	**-1.0**
	comp=Z,290nm,0.3s						
DGS	**Degeres**	**1.08**	**46**	*e*P	**Pb**	**12 54 21.7**	**-1.2**
	baz=45						
DGS				*e*S	**Sb**	**12 54 36.3**	**-0.9**
	baz=45						
MRKS	**Merke**	**1.13**	**284**	*e*P	**Pb**	**12 54 23.0**	**-0.7**
	comp=Z,83nm,0.1s						
MRKS				*e*S	**Sn**	**12 54 38.3**	**-1.3**
	comp=Z,484nm,0.2s						
MRKS	**Merke**	**1.13**	**284**	*e*P	**Pb**	**12 54 23.0**	**-0.7**
	baz=84						
MRKS				*e*S	**Sn**	**12 54 38.3**	**-1.3**
	baz=84						
ULHL	**Ulahol**	**1.16**	**102**	⇑P	**Pb**	**12 54 22.6**	**-1.7**
	comp=Z,42nm,0.1s,SNR=276						
ULHL	**Ulahol**	**1.16**	**102**	⇑*i*P	**Pb**	**12 54 22.5**	**-1.8**
	baz=2.0						
ULHL				⇑*i*S	**Sb**	**12 54 37.8**	**-1.6**
	baz=2.0						
MTBS	**Maitube**	**1.42**	**62**	*e*P	**Pn**	**12 54 27.6**	**-0.3**
	comp=Z,90nm,0.1s						
MTBS				*e*S	**Sn**	**12 54 46.4**	**-0.2**
	comp=Z,139nm,0.2s						
MTBS	**Maitube**	**1.42**	**62**	*e*P	**Pn**	**12 54 27.6**	**-0.3**
	baz=62						
MTBS				*e*S	**Sn**	**12 54 46.4**	**-0.2**
	baz=62						
NRN	**Naryn**	**1.43**	**137**	⇓*i*P	**Pn**	**12 54 28.1**	**-0.2**
	baz=38						
NRN				⇓*i*S	**Sn**	**12 54 46.4**	**-0.8**
	baz=38						
TOKL	**Toktogul**	**1.48**	**249**	⇑*i*P	**Pn**	**12 54 27.6**	**-1.2**
	baz=49						
TOKL				⇑*i*S	**Sb**	**12 54 47.6**	**-0.8**
	baz=49						
IZV	**Izvestkoviy**	**1.50**	**68**	*e*P	**Pn**	**12 54 29.2**	**0.0**
	comp=Z,154nm,0.1s						
IZV				*e*S	**Sb**	**12 54 49.5**	**+0.2**
	comp=Z,274nm,0.1s						
IZV	**Izvestkoviy**	**1.50**	**68**	*e*P	**Pn**	**12 54 29.2**	**0.0**
	baz=68						
IZV				*e*S	**Sb**	**12 54 49.5**	**+0.2**
	baz=68						
MNAS	**Manas**	**1.64**	**271**	⇓P	**Pb**	**12 54 31.8**	**-0.7**
	comp=Z,12nm,0.5s						
MNAS				⇑S	**Sb**	**12 54 52.5**	**-0.5**
	comp=Z,29nm,0.4s						
MNAS	**Manas**	**1.64**	**271**	*i* PN	**Pb**	**12 54 31.7**	**-0.7**
MNAS				pmax	pmax		
	comp=Z,12nm,0.5s						
MNAS	**Manas**	**1.64**	**271**	⇓*i*P	**Pb**	**12 54 31.4**	**-1.0**
	baz=71						
MNAS				⇓*i*S	**Sb**	**12 54 52.6**	**-0.5**
	baz=71						
TNSS	**Tian-Shan**	**1.73**	**71**	*e*P	**Pb**	**12 54 34.0**	**-0.2**
	comp=Z,125nm,0.2s						
TNSS				*e*S	**Sg**	**12 54 57.4**	**-0.4**
	comp=Z,173nm,0.4s						
TNSS	**Tian-Shan**	**1.73**	**71**	*e*P	**Pb**	**12 54 34.0**	**-0.2**
	baz=71						
TNSS				*e*S	**Sg**	**12 54 57.5**	**-0.4**
	baz=71						
ARSB	**Arslanbob**	**1.74**	**229**	⇑*e*P	**Pn**	**12 54 32.4**	**0.0**
	baz=29						
ARSB				⇑*i*S	**Sb**	**12 54 55.7**	**-0.4**
	baz=29						
AAA	**Alma-Ata**	**1.77**	**65**	*e*PN	**Pb**	**12 54 34.6**	**-0.1**
AAA				*e*S	**Sb**	**12 54 58.0**	**+1.1**
AAA				pmax	pmax		
	comp=Z,180nm,0.2s						
AAA				smax	smax		
	comp=N,394nm,0.2s						
KNDC	**Almaty**	**1.81**	**65**	⇑Pn	**Pb**	**12 54 35.2**	**-0.1**
	comp=N,31nm,0.2s						
KNDC				⇓Sn	**Sg**	**12 54 59.3**	**-0.9**
	comp=N,80nm,0.5s						
KUU	**Kurty**	**1.84**	**40**	*e*P	**Pb**	**12 54 35.1**	**-0.7**
	comp=N,152nm,0.2s						
KUU				*e*S	**Sb**	**12 54 59.1**	**+0.2**
	comp=N,792nm,0.4s						
KUU	**Kurty**	**1.84**	**40**	*e*P	**Pb**	**12 54 35.1**	**-0.7**
	baz=39						
KUU				*e*S	**Sb**	**12 54 59.0**	**+0.2**
	baz=39						
MDOK	**Medeo**	**1.84**	**68**	⇓Pn	**Pb**	**12 54 35.2**	**-0.8**
	comp=N,50nm,0.3s						
MDOK				⇑Sn	**Sb**	**12 54 59.6**	**+0.5**
	comp=N,78nm,0.4s						
MDOK	**Medeo**	**1.84**	**68**	*e*P	**Pb**	**12 54 35.3**	**-0.7**
	comp=N,76nm,0.3s						
MDOK				*e*S	**Sb**	**12 54 59.5**	**+0.4**
	comp=N,135nm,0.1s						
MDOK	**Medeo**	**1.84**	**68**	*e*P	**Pb**	**12 54 35.3**	**-0.7**
	baz=68						
MDOK				*e*S	**Sb**	**12 54 59.5**	**+0.4**
	baz=68						
KDJ	**Kajisay**	**1.86**	**100**	⇑*e*P	**Pn**	**12 54 34.9**	**+0.7**
	baz=0.0						
KDJ				⇑*i*S	**Sn**	**12 54 58.7**	**+0.9**
	baz=0.0						
KTBS	**Karatobe**	**1.89**	**49**	*e*P	**Pb**	**12 54 35.9**	**-0.8**
	comp=N,100nm,0.2s						
KTBS				*e*S	**Sb**	**12 55 00.9**	**+0.5**
	comp=N,675nm,0.3s						
KOTS	**Kotyrbulak**	**1.91**	**66**	*e*P	**Pb**	**12 54 36.6**	**-0.5**
	comp=N,102nm,0.2s						
KOTS				*e*S	**Sb**	**12 55 01.6**	**+0.5**
	comp=N,69nm,0.3s						
CHKK	**Chushkaly**	**2.15**	**50**	*e*P	**Pb**	**12 54 40.5**	**-0.6**
	comp=N,116nm,0.4s						
CHKK				*e*S	**Sb**	**12 55 08.5**	**+0.7**
	comp=N,430nm,0.3s						
ARK	**Arkit**	**2.16**	**252**	⇑*i*P	**Pn**	**12 54 39.1**	**+0.9**
	baz=52						
ARK				⇑*i*S	**Sb**	**12 55 06.2**	**-1.9**
	baz=52						
SFK	**Sufi-Kurgan**	**2.64**	**201**	⇓Pn	**Pb**	**12 54 48.5**	**-1.1**
	comp=N,19nm,0.4s						
SFK				⇓Sn	**Sb**	**12 55 24.1**	**+2.1**
	comp=N,63nm,0.4s						
SFK	**Sufi-Kurgan**	**2.64**	**201**	*i* PN	**Pb**	**12 54 48.4**	**-1.1**
SFK				pmax	pmax		
	comp=Z,19nm,0.4s						
SFK	**Sufi-Kurgan**	**2.64**	**201**	⇓*i*P	**Pn**	**12 54 45.1**	**+0.3**
	baz=1.0						
SFK				⇓*i*S	**Sn**	**12 55 18.2**	**+1.2**
	baz=1.0						
KURS	**Kuram**	**2.73**	**67**	*e*P	**Pb**	**12 54 50.6**	**-0.3**
	comp=Z,7.4nm,0.2s						
KURS				*e*S	**Sb**	**12 55 26.0**	**+1.6**
	comp=Z,50nm,0.2s						
SATY	**Saty**	**2.78**	**77**	*e*P	**Pb**	**12 54 51.9**	**+0.1**
	comp=Z,77nm,0.2s						
SATY				*e*S	**Sb**	**12 55 28.6**	**+2.7**
	comp=Z,246nm,0.3s						
ARXS	**Arharly**	**2.85**	**52**	*e*P	**Pb**	**12 54 52.5**	**-0.6**
ARXS				*e*S	**Sb**	**12 55 29.1**	**+1.1**
MNBS	**Baschi**	**3.13**	**58**	*e*P	**Pb**	**12 54 57.3**	**-0.4**
	comp=Z,36nm,0.3s						
MNBS				*e*S	**Sb**	**12 55 37.4**	**+1.4**
	comp=Z,132nm,0.4s						
KK31	**Karatay Array**	**3.15**	**283**	⇓Pn	**Pb**	**12 54 56.9**	**-1.3**
	comp=Z,5.6nm,0.3s,baz=100,slow=15,SNR=94						
KK31				⇓Sn	**Sb**	**12 55 37.1**	**+0.4**
	comp=Z,1nm,0.3s,baz=92,slow=30,SNR=12						
KK31	**Karatay Array**	**3.15**	**283**	*i* PN	**Pb**	**12 54 57.7**	**-0.5**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.3s						
IUG	**Iuzhnay**	**3.49**	**266**	*e*P	**Pb**	**12 55 05.6**	**+1.6**
	comp=Z,15nm,0.2s						
IUG				*e*S	**Sg**	**12 55 51.8**	**-2.3**
	comp=Z,85nm,0.6s						
PDGK	**Podgornoye**	**3.61**	**75**	⇑Pn	**Pb**	**12 55 02.5**	**-3.5**
	comp=Z,20nm,0.4s						
PDGK				⇓Sn	**Sb**	**12 55 47.7**	**-2.1**
	comp=Z,63nm,0.6s						
PDGK	**Podgornoye**	**3.61**	**75**	*i* PN	**Pb**	**12 55 05.3**	**-0.7**
PDGK			

comp=Z,1.0nm,0.5s
ZALV **Zalesovo Beam** **13.28** **27** *e*P **Pn** **12 57 10.7 +0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
KIV **Kislovodsk** **23.31** **285** *e*P **P** **12 59 11.5 +1.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
ULN **Ulaanbaatar** **23.31** **66** *e*P **P** **12 59 12.9 +2.7**
ULN pmax pmax
comp=Z,1.0nm,1.1s
OBN **Obninsk** **27.75** **310** *e*P **P** **12 59 50.7 +0.2**
OBN pmax pmax
comp=Z,13nm,0.5s

*ISCJB **28** 12:55:19.8±0.3,24.˚42N±0.˚02×122.˚03E±0.˚02,h20km±3km, Error ellipse: s-maj=3.3km s-min=2.2km az=147.0*
*TAP **28** 12:55:19.6,24.˚43N×121.˚95E,h28km,ML2.9,B*
*JMA **28** 12:55:19.5±0.1,24.˚36N×121.˚94E,h46km±3km,M2.2*
ISC 28 12:55:19.8±0.9,**24.˚44N**±0.˚02×**121.˚96E**±0.˚02,**h29**km±4km, **n58**,σ0**88**/116,**7C-3D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao** baz=279	**0.14**	**276**	⇑*i*P	**Pn**	**12 55 25.0**	**-1.1**
ENAH				S	**Sb**	**12 55 28.8**	**-0.2**
baz=279							
EOS1	**EOS1** baz=54	**0.19**	**53**	⇑*e*P	**Pn**	**12 55 26.1**	**-0.7**
EOS1				*e*S	**Sb**	**12 55 31.1**	**+1.4**
baz=54							
NANB	**Nanao** baz=269	**0.19**	**268**	*e*P	**Pn**	**12 55 25.5**	**-1.3**
NANB				*e*S	**Sn**	**12 55 29.4**	**-0.5**
baz=269							
ENA	**Nanau** baz=269	**0.20**	**268**	⇑*i*P	**Pn**	**12 55 25.6**	**-1.4**
ENA				S	**Sn**	**12 55 29.7**	**-0.4**
baz=269							
TWC	**Suao** baz=335	**0.20**	**329**	⇑P	**Pn**	**12 55 25.8**	**-1.1**
TWC				S	**Sb**	**12 55 29.8**	**-0.3**
baz=335							
TWE	**Neicheng** baz=320	**0.39**	**317**	⇑P	**Pb**	**12 55 28.6**	**0.0**
TWE				*e*S	**Sb**	**12 55 34.6**	**+0.2**
baz=320							
EGS		**0.41**	**356**	P	**Pn**	**12 55 29.1**	**-0.7**
EGS				*e*S	**Sb**	**12 55 35.6**	**+0.8**
baz=356							
ENTT	**Nioudou** baz=301	**0.41**	**299**	P	**Pb**	**12 55 29.0**	**+0.1**
ENTT				*e*S	**Sb**	**12 55 35.5**	**+0.4**
baz=301							
NACB	**Ninganchiao** baz=235	**0.42**	**232**	*e*P	**Pb**	**12 55 28.9**	**-0.1**
NACB				*e*S	**Sb**	**12 55 35.9**	**+0.6**
baz=235							
SLBB	**Yuanshan** baz=318	**0.43**	**317**	*e*P	**Pn**	**12 55 29.6**	**-0.6**
SLBB				*e*S	**Sn**	**12 55 36.3**	**-0.9**
baz=318							
TWD	**Chiawan** baz=228	**0.49**	**223**	P	**Pn**	**12 55 29.9**	**-0.9**
TWD				*e*S	**Sb**	**12 55 37.7**	**+0.8**
baz=228							
NNSB	**Datong** baz=273	**0.53**	**269**	⇓*e*P	**Pn**	**12 55 30.8**	**-0.8**
NNSB				*e*S	**Sn**	**12 55 38.6**	**-1.0**
baz=273							
NNSH	**Datong** baz=273	**0.53**	**269**	*e*P	**Pn**	**12 55 30.7**	**-0.8**
NNSH				*e*S	**Sb**	**12 55 38.3**	**+0.1**
baz=273							
NNS	**Nan Shan** baz=274	**0.54**	**271**	*e*P	**Pn**	**12 55 30.9**	**-0.8**
NNS				*e*S	**Sb**	**12 55 38.8**	**+0.3**
baz=274							
NWLT	**Wulai** baz=310	**0.54**	**309**	*e*P	**Pb**	**12 55 31.0**	**+0.1**
NWLT				*e*S	**Sn**	**12 55 38.5**	**-1.3**
baz=310							
TIPB	**Shuangxi** baz=348	**0.55**	**347**	⇑*e*P	**Pn**	**12 55 30.3**	**-1.5**
TIPB				*e*S	**Sb**	**12 55 37.3**	**-1.4**
baz=348							
YHNB	**Yeheng** baz=300	**0.58**	**294**	⇓*e*P	**Pb**	**12 55 31.8**	**+0.1**
YHNB				*e*S	**Sb**	**12 55 39.8**	**+0.1**
baz=300							
ENLB	**Shoufeng** baz=211	**0.62**	**212**	*e*P	**Pn**	**12 55 31.5**	**-1.3**
ENLB				*e*S	**Sb**	**12 55 42.1**	**+1.4**
baz=211							
TWA	**Mucha** baz=322	**0.64**	**328**	*e*P	**Pb**	**12 55 33.3**	**+0.7**
TWA				*e*S	**Sb**	**12 55 42.3**	**+1.0**
baz=322							
WHF	**Hehuan Shan** baz=254	**0.70**	**246**	⇓P	**Pn**	**12 55 33.6**	**-0.6**
WHF				*e*S	**Sb**	**12 55 44.2**	**+0.9**
baz=254							
TWT	**Tachien** baz=256	**0.74**	**256**	*e*P	**Pb**	**12 55 34.8**	**+0.5**
TWT				*e*S	**Sb**	**12 55 45.5**	**+1.3**
baz=256							
TDCB	**Techi** baz=256	**0.76**	**256**	*e*P	**Pb**	**12 55 34.8**	**+0.3**
TDCB				*e*S	**Sb**	**12 55 44.8**	**+0.2**
baz=256							
WLTB	**Daxi** baz=306	**0.77**	**303**	*e*P	**Pb**	**12 55 35.3**	**+0.6**
WLTB				*e*S	**Sb**	**12 55 46.0**	**+1.2**
baz=306							
ESL	**Shilin** baz=231	**0.79**	**218**	*e*P	**Pn**	**12 55 34.5**	**-0.4**
ESL				*e*S	**Sn**	**12 55 45.6**	**-0.1**
baz=231							
YM10	**YM10** baz=345	**0.80**	**333**	*e*P	**Pb**	**12 55 36.3**	**+0.9**
YM10				*e*S	**Sb**	**12 55 47.1**	**+1.2**
baz=345							
CHGB	**Renai** baz=243	**0.81**	**243**	*e*P	**Pn**	**12 55 35.5**	**-0.1**
CHGB				*e*S	**Sb**	**12 55 46.7**	**+0.4**
baz=243							
OWD	**Renai** baz=227	**0.86**	**236**	*e*P	**Pn**	**12 55 35.9**	**-0.2**
OWD				*e*S	**Sn**	**12 55 47.7**	**-0.2**
baz=227							
LIOB	**Emei** baz=284	**0.89**	**284**	*e*P	**Pb**	**12 55 37.7**	**+1.0**
LIOB				*e*S	**Sb**	**12 55 49.8**	**+1.6**
baz=284							
SANB	**Taian** baz=268	**0.89**	**268**	*e*P	**Pb**	**12 55 37.4**	**+0.6**
SANB				*e*S	**Sb**	**12 55 50.2**	**+1.8**
baz=268							
JYNG	**Yonagunijimaku**	**0.90**	**89**	P	**Pn**	**12 55 35.9**	**-0.6**
JYNG				S	**Sb**	**12 55 49.0**	**+0.6**
NSTT	**Nanjuang** baz=283	**0.90**	**283**	*e*P	**Pb**	**12 55 37.6**	**+0.8**
NSTT				*e*S	**Sb**	**12 55 49.7**	**+1.2**
baz=283							
EGFH	**Guangfu** baz=226	**0.91**	**213**	*e*P	**Pn**	**12 55 36.1**	**-0.5**
EGFH				*e*S	**Sb**	**12 55 49.1**	**+0.4**
baz=226							
YOJ	**Yonaguni jima** baz=80	**0.96**	**88**	⇑*e*P	**Pn**	**12 55 37.2**	**-0.1**
YOJ				*e*S	**Sn**	**12 55 48.0**	**-2.0**
baz=80							
YOJ	**Yonaguni jima**	**0.96**	**88**	P	**Pn**	**12 55 37.2**	**-0.1**
YOJ				S	**Sn**	**12 55 50.1**	**+0.1**
DPDB	**Guoxing** baz=247	**1.03**	**247**	*e*P	**Pb**	**12 55 39.2**	**+0.2**
DPDB				*e*S	**Sb**	**12 55 53.6**	**+1.4**
baz=247							
TWQ1	**Liyutan** baz=266	**1.09**	**266**	*e*P	**Pb**	**12 55 40.7**	**+0.6**
TWQ1				*e*S	**Sb**	**12 55 55.6**	**+1.7**
baz=266							
EHY	**Hungye** baz=213	**1.09**	**212**	*e*P	**Pn**	**12 55 38.5**	**-0.8**
EHY				*e*S	**Sn**	**12 55 54.0**	**+0.5**
baz=213							
SMLT	**Sun Moon Lake** baz=234	**1.12**	**241**	*e*P	**Pb**	**12 55 41.3**	**+0.7**
SMLT				*e*S	**Sb**	**12 55 57.0**	**+2.2**
baz=234							
SSLB	**Suanglung** baz=227	**1.12**	**235**	*e*P	**Pn**	**12 55 39.9**	**+0.2**
SSLB				*e*S	**Sb**	**12 55 55.5**	**+0.5**
baz=227							
TYC	**Yuchr** baz=243	**1.14**	**243**	*e*P	**Pb**	**12 55 41.0**	**+0.1**
TYC				*e*S	**Sb**	**12 55 56.9**	**+1.6**
baz=243							
TWF1	**Yuli** baz=222	**1.24**	**210**	*e*P	**Pn**	**12 55 40.3**	**-1.0**
TWF1				*e*S	**Sn**	**12 55 55.5**	**-1.5**
baz=222							
WJS	**Zhushan** baz=242	**1.28**	**242**	*e*P	**Pb**	**12 55 44.2**	**+0.9**
WJS				*e*S	**Sb**	**12 56 00.9**	**+1.4**
baz=242							
YUS	**Yu-Shan** baz=213	**1.32**	**225**	*e*P	**Pn**	**12 55 43.4**	**+0.7**
YUS				*e*S	**Sb**	**12 56 00.7**	**-0.3**
baz=213							
FULB	**Fuli** baz=220	**1.38**	**207**	*e*P	**Pn**	**12 55 43.6**	**+0.4**
FULB				*e*S	**Sb**	**12 56 02.2**	**+0.1**
baz=220							
ALS	**Alishan** baz=219	**1.40**	**229**	*e*P	**Pb**	**12 55 45.2**	**-0.4**
ALS				*e*S	**Sb**	**12 56 03.9**	**+0.7**
baz=219							
CHN5	**Tsauling** baz=235	**1.44**	**235**	*e*P	**Pb**	**12 55 46.1**	**0.0**
CHN5				*e*S	**Sn**	**12 56 02.9**	**+0.8**
baz=235							
ELDTW	**Lidau** baz=215	**1.51**	**215**	*e*P	**Pn**	**12 55 45.1**	**0.0**
ELDTW				*e*S	**Sn**	**12 56 04.8**	**+0.9**
baz=215							
IRIF	**Iriomote-Funau**	**1.61**	**93**	P	**Pn**	**12 55 46.3**	**-0.1**
IRIF				*e*S	**Sn**	**12 56 06.1**	**-0.1**
CHN4	**Tsaushan** baz=230	**1.65**	**230**	*e*P	**Pb**	**12 55 49.3**	**-0.4**
CHN4				*e*S	**Sb**	**12 56 10.9**	**+0.8**
baz=230							
STYT	**Tauyuan** baz=213	**1.68**	**221**	*e*P	**Pb**	**12 55 48.9**	**-1.2**
STYT				*e*S	**Sb**	**12 56 10.5**	**-0.4**
baz=213							
WTP	**Ta-pu** baz=226	**1.71**	**226**	*e*P	**Pb**	**12 55 49.8**	**-0.9**
WTP				*e*S	**Sb**	**12 56 13.4**	**+1.6**
baz=226							
TWK	**Hsinying** baz=230	**1.78**	**230**	*e*P	**Pb**	**12 55 50.5**	**-1.4**
TWK				*e*S	**Sb**	**12 56 14.9**	**+1.0**
baz=230							
CHN1	**Nanshi** baz=228	**1.81**	**227**	*e*P	**Pb**	**12 55 51.7**	**-0.6**
CHN1				*e*S	**Sb**	**12 56 14.9**	**+0.3**
baz=228							
SGST	**Jiashian** baz=212	**1.85**	**223**	*e*P	**Pb**	**12 55 51.6**	**-1.3**
SGST				*e*S	**Sb**	**12 56 15.9**	**+0.3**
baz=212							
SLGT	**Liugui** baz=221	**1.88**	**220**	*e*P	**Pb**	**12 55 52.1**	**-1.4**
SLGT				*e*S	**Sb**	**12 56 16.9**	**+0.5**
baz=221							
JKRS	**Kuro-shima**	**1.88**	**96**	P	**Pn**	**12 55 50.2**	**+0.2**
JKRS				*e*S	**Sn**	**12 56 13.0**	**+0.3**
JIJ	**Ishigaki jima**	**1.99**	**92**	P	**Pn**	**12 55 51.9**	**+0.4**
JIJ				*e*S	**Sn**	**12 56 15.4**	**-0.1**
JISG	**Ishigakijimahi**	**2.14**	**85**	P	**Pn**	**12 55 53.9**	**+0.2**
JISG				*e*S	**Sn**	**12 56 18.5**	**-0.8**

ISC 28 13:02:32.2±2.9,**37.˚62N**±0.˚07×**42.˚7E**±0.˚2,**h15**km,**n6**, σ0**43**/10,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.26**	**244**	*i* PG	**Pg**	**13 02 38.4**	**+0.5**
SIRT				SG	**Sg**	**13 02 42.0**	**+0.2**
SRTM	**Siirt_Merkez**	**0.74**	**300**	*i* P	**Pg**	**13 02 46.7**	**-0.1**
SRTM				*i* S	**Sg**	**13 02 56.8**	**+0.1**
GURO	**Guroymak-BITLI**	**1.08**	**330**	PG	**Pb**	**13 02 53.0**	**+0.2**
GURO				SG	**Sn**	**13 03 08.1**	**+0.2**
BTMN	**Batman**	**1.19**	**284**	*i* P	**Pn**	**13 02 53.8**	**-0.7**
BTMN				*i* S	**Sn**	**13 03 10.6**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.33**	**294**	*e*PG	**Pb**	**13 02 57.4**	**+0.5**
MAZI	**Mazidag**	**1.82**	**266**	*e*PG	**Pb**	**13 03 05.0**	**-0.4**

*ISCJB **28** 13:07:47.8±0.2,9.˚47S±0.˚04×118.˚40E±0.˚03,h100km, mb4.2/29,Error ellipse: s-maj=5.8km s-min=3.5km az=18.1*
*NEIC **28** 13:07:48.0±0.6,9.˚30S×118.˚41E,h82km±6km,mb4.4/22, Error ellipse: s-maj=7.6km s-min=4.6km az=218.0*
*IDC **28** 13:07:47.8±2.8,9.˚36S×118.˚38E,h76km±25km,mb3.9/19, mb1 4.0/20,mb1mx3.8/55,mbtmp4.2/20,MS3.3/5, Ms1 3.3/5,ms1mx2.8/53,Error ellipse: s-maj=20.9km s-min=10.0km az=69.0*
*DJA **28** 13:07:49.1±0.3,10.˚5S±4.˚x11.˚8E±.˚,h51km±7km,M4.7/28, mb4.9/18,mB5.2/13,MLv5.0/28,Mw(mB)4.5/13*
ISC 28 13:07:49.7±0.4,**9.˚46S**±0.˚06×**118.˚46E**±0.˚05,**h100**km,**n109**, σ1°**83**/104,**mb4.3**/29,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.92**	**313**	P	**Pn**	**13 08 06.9**	**-2.4**
WBSI	**Waikabubak, Su**	**0.93**	**101**	P	**Pn**	**13 08 06.7**	**-2.8**
WSI	**Waingapu**	**1.82**	**97**	P	**Pn**	**13 08 19.0**	**-1.0**
BASI	**Baing, Sumba**	**2.22**	**110**	P	**Pn**	**13 08 24.0**	**-1.1**
EDFI	**Ende, Flores**	**3.27**	**78**	P	**Pn**	**13 08 38.8**	**-0.3**
DNP	**Denpasar**	**3.30**	**283**	P	**Pn**	**13 08 37.8**	**-1.7**
IGBI	**Denpasar**	**3.34**	**281**	P	**Pn**	**13 08 38.1**	**-1.8**
SRBI	**Singaraja**	**3.49**	**293**	P	**Pn**	**13 08 40.4**	**-1.6**
BSSI	**Bau Bau, Buton**	**3.86**	**32**	P	**Pn**	**13 08 47.9**	**+0.9**
JAGI	**Jajag, Banyuwa**	**4.37**	**283**	P	**Pn**	**13 08 51.3**	**-2.6**
JAGI	**Jajag, Banyuwa**	**4.37**	**283**	*e*Pn	**Pn**	**13 08 51.2**	**-2.7**
ABJI	**Asem Bagus**	**4.50**	**291**	P	**Pn**	**13 08 54.5**	**-1.1**
KAPI	**Kappang**	**4.60**	**16**	*e*Pn	**Pn**	**13 08 55.3**	**-1.7**
KMMI	**Kalianget**	**5.05**	**298**	P	**Pn**	**13 09 03.1**	**0.0**
GMJI	**Gumukmas**	**5.10**	**283**	P	**Pn**	**13 09 02.2**	**-1.5**
BLJI	**Banyuglugur** 133nm,0.6s,2μm1.4nm	**5.11**	**289**	P	**Pn**	**13 09 02.3**	**-1.6**
BATI	**Baumata** 53nm,0.3s,baz=252,slow=1.9,SNR=43	**5.18**	**99**	P	**Pn**	**13 09 05.4**	**+0.5**
BATI				S	**Sn**	**13 10 01.6**	**-1.9**
59nm,0.3s,baz=292,slow=19,SNR=12							
BATI	**Baumata** 101nm,0.5s,3μm	**5.18**	**99**	P	**Pn**	**13 09 04.5**	**-0.4**
BNSI	**Bone** 224nm,0.6s,2μm	**5.28**	**18**	P	**Pn**	**13 09 08.6**	**+2.3**
BBSI	**Bau Bau** 25nm,0.9s,1μm	**5.67**	**46**	P	**Pn**	**13 09 12.9**	**+1.3**
SOEI	**Soe** 288nm,0.8s,3μm	**5.73**	**93**	P	**Pn**	**13 09 12.6**	**+0.1**
SOEI	**Soe**	**5.73**	**93**	*e*Pn	**Pn**	**13 09 12.4**	**-0.1**
GRJI	**Gresik**	**6.44**	**293**	P	**Pn**	**13 09 21.3**	**-0.7**
TTSI	**Tana Toraja** 92nm,0.7s,795nm	**6.51**	**12**	P	**Pn**	**13 09 25.0**	**+2.0**
PWJI	**Pagerwojo**	**6.74**	**282**	P	**Pn**	**13 09 24.0**	**-2.0**
BWJI	**Bawean**	**6.78**	**302**	P	**Pn**	**13 09 26.3**	**-0.3**
PCJI	**Pacitan**	**7.31**	**279**	P	**Pn**	**13 09 32.5**	**-1.3**
UGM	**Wanagama**	**8.00**	**280**	P	**Pn**	**13 09 42.0**	**-1.2**
UGM	**Wanagama**	**8.00**	**280**	*e*Pn	**Pn**	**13 09 42.0**	**-1.2**
SGKI	**Sangatta, Kali**	**8.91**	**354**	P	**Pn**	**13 09 57.7**	**+2.0**
APSI	**Ampana**	**9.06**	**21**	P	Pn	13 10 10.4	+13
KPJI	**Karang Pucung**	**9.66**	**282**	P	**Pn**	**13 10 04.9**	**-1.0**
MRSI	**Marisa**	**10.46**	**20**	P	**Pn**	**13 10 21.1**	**+4.4**
SANI	**Sanana**	**10.50**	**46**	P	**Pn**	**13 10 19.4**	**+2.2**
CISI	**Cisompet, Garu**	**10.70**	**279**	P	**Pn**	**13 10 18.8**	**-1.2**
CNJI	**Cibinong**	**11.41**	**280**	P	**Pn**	**13 10 28.7**	**-0.9**
MBWA	**Marble Bar**	**11.70**	**174**	*e*Pn	**Pn**	**13 10 31.4**	**-2.0**
BNDI	**Bandanaira**	**12.37**	**67**	P	**P**	**13 10 52.1**	**+1.8**
LBMI	**Labuha**	**12.56**	**46**	P	**P**	**13 10 57.0**	**+4.6**
SAUI	**Saumlaki**	**12.78**	**84**	P	**Pn**	**13 10 45.5**	**-2.2**
SAUI	**Saumlaki**	**12.78**	**84**	*e*Pn	**Pn**	**13 10 44.0**	**-3.8**
MTN	**Manton Dam**	**12.88**	**106**	*e*Pn	**Pn**	**13 10 45.7**	**-3.4**
KSM	**Kuching**	**13.56**	**323**	*e*Pn	Pn	13 10 53.5	-4.6
KASI	**Kota Agung**	**14.39**	**285**	P	P	13 11 18.1	+5.4
MYLDM	**Lahad Datu**	**14.54**	**0**	*e*Pn	Pn	13 11 06.8	-3.9
MDSI	**Maura Dua**	**15.01**	**288**	P	**P**	**13 11 22.2**	**+2.5**
FAKI	**Fak Fak** 26nm,0.9s	**15.16**	**66**	*e*Pn	**Pn**	**13 11 15.9**	**-2.7**
SWI	**Sorong**	**15.33**	**57**	P	**Pn**	**13 11 22.4**	**+1.7**
KKM	**Kota Kinabalu** 54nm,1.3s	**15.56**	**352**	*e*Pn	**Pn**	**13 11 19.0**	**-4.7**
MNAI	**Manna** 84nm,0.7s	**16.20**	**287**	*e*Pn	**Pn**	**13 11 27.6**	**-4.1**
DAV	**Davao City (W)** 334nm,0.4s	**17.89**	**24**	*e*P	**P**	**13 11 48.1**	**-3.4**
MYKOM	**Kota Tinggi** 9.7nm,0.6s	**18.35**	**307**	*e*P	**P**	**13 11 54.9**	**-1.6**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=301,slow=14,SNR=42	**18.54**	**126**	P	**Pn**	**13 11 59.0**	**-1.0**
WRA				S	S	13 15 11.5	-14
1.0nm,0.3s,baz=291,slow=24,SNR=11							
WRAB	**Tennant Creek** 8.3nm,0.7s	**18.55**	**126**	*e*P	**Pn**	**13 11 59.5**	**-0.6**
WB2	**Warramunga Arr** 6.7nm,0.6s	**18.55**	**126**	*e*P	**Pn**	**13 11 59.9**	**-0.3**
BKNI	**Bangkinang**	**19.88**	**298**	*e*Pn	**P**	**13 12 13.6**	**+0.3**
AS31	**Alice Springs** 4.7nm,0.5s	**20.43**	**136**	*e*P	Pn	13 12 20.0	-2.2
ASAR	**Alice Springs** 5.5nm,0.8s,baz=306,slow=9.7,SNR=54	**20.43**	**136**	P	Pn	13 12 20.3	-1.9
ASAR				S	**S**	**13 16 00.6**	**-2.0**
4.4nm,0.8s,baz=305,slow=20,SNR=12							
AS01	**Alice Springs**	**20.46**	**136**	*e*P	Pn	13 12 19.9	-2.6
IPM	**Ipoh** 8.7nm,0.6s	**22.22**	**308**	*e*P	**P**	**13 12 36.2**	**-2.1**
PSI	**Prapat** 12nm,0.5s,baz=162,slow=15,SNR=18	**22.96**	**301**	P	**P**	**13 12 44.1**	**-1.9**
PSI				LR	LR	13 23 14.2	
comp=Z,70nm,18.7s,baz=123,slow=41							
PSI	**Prapat** 76nm,1.4s	**22.96**	**301**	*e*P	**P**	**13 12 44.0**	**-1.9**
KULM	**Kulim** 9.9nm,0.8s	**23.02**	**309**	*e*P	**P**	**13 12 44.8**	**-1.6**
NWAO	**Narrogin (SRO)** 7.7nm,0.8s,baz=220,slow=4.9,SNR=3.6	**23.38**	**183**	P	**P**	**13 12 49.9**	**+0.3**
NWAO				S	**S**	**13 16 59.2**	**+4.2**
11nm,0.5s,baz=142,slow=3.5,SNR=7.4							
NWAO	**Narrogin (SRO)** 18nm,1.0s	**23.38**	**183**	*e*P	**P**	**13 12 49.6**	**0.0**
NWAO				S	**S**	**13 16 59.2**	**+4.2**
PMG	**Port Moresby** comp=Z,46nm,19.6s,baz=244,slow=39	**28.31**	**92**	LR	LR	13 26 13.3	
STKA	**Stephens Creek** 1.3nm,0.5s,baz=305,slow=9.9,SNR=5.2	**30.94**	**139**	P	**P**	**13 13 58.6**	**+1.3**
CM01	**Chiang Mai Arr**	**33.73**	**325**	*e*P	**P**	**13 14 21.6**	**-0.2**
CMAR	**Chiang Mai Arr** 1.9nm,0.7s,baz=150,slow=6.5,SNR=17	**33.77**	**325**	P	**P**	**13 14 22.4**	**+0.2**
CMAR				PcP	**PcP**	**13 17 01.2**	**+1.8**
0.8nm,0.6s,baz=168,slow=2.8,SNR=5.3							
KMI	**Kunming**	**37.63**	**336**	P	**P**	**13 14 56.5**	**+1.1**
ENH	**Enshi** 12nm,0.6s	**40.43**	**348**	*e*P	**P**	**13 15 18.5**	**+0.1**
XAN	**Xi'an**	**44.20**	**349**	P	**P**	**13 15 48.5**	**-0.4**
XAN				pP	pP	13 15 59.5	-13
LZH	**Lanzhou**	**47.35**	**344**	*e*P	**P**	**13 16 13.8**	**0.0**
LZH				pP	pP	13 16 23.5	-14
LZH				sP	sP	13 16 43.0	-5.8
KSAR	**Wonju Array Be**	**47.48**	**10**	P	**P**	**13 16 15.4**	**+0.8**
KSRS	**Korea Array** 1.5nm,0.6s,baz=186,slow=9.7,SNR=9.1	**47.50**	**10**	P	**P**	**13 16 15.4**	**+0.7**
HHC	**Hu-ho-hao-te**	**50.46**	**353**	*e*P	**P**	**13 16 40.0**	**+2.6**
GTA	**Gaotai**	**51.62**	**342**	*e*P	**P**	**13 16 46.5**	**+0.4**
GTA				pP	pP	13 17 05.8	-4.4
GTA				sP	sP	13 17 14.5	-6.9
USRK	**Ussuriysk Ar.** 1.9nm,0.5s,baz=171,slow=6.2,SNR=7.7	**54.80**	**12**	P	**P**	**13 17 09.5**	**+0.3**
ASAJ	**Asahikawa** 0.6nm,0.4s,baz=328,slow=19,SNR=2.8	**57.64**	**20**	P	**P**	**13 17 29.6**	**+0.1**
SONM	**Songino Array** 1.4nm,0.5s,baz=173,slow=9.5,SNR=6.3	**58.04**	**350**	P	**P**	**13 17 31.2**	**-1.1**
WMQ	**Urumqi**	**59.94**	**335**	P	**P**	**13 17 46.3**	**+0.8**
MK01	**Makanchi Array**	**64.60**	**333**	*e*P	**P**	**13 18 15.5**	**-1.0**
MK31	**Makanchi Array**	**64.62**	**333**	*e*P	**P**	**13 18 15.8**	**-0.8**
MKAR	**Makanchi Array** 3.5nm,0.6s,baz=146,slow=7.6,SNR=52	**64.62**	**333**	P	**P**	**13 18 15.9**	**-0.7**
MKAR	**Makanchi Array** 24nm,0.8s	**64.62**	**333**	*e*P	**P**	**13 18 15.7**	**-0.9**
MAKZ	**Makanchi** 3.1nm,1.1s	**64.77**	**333**	*e*P	**P**	**13 18 16.5**	**-1.1**
AAK	**Ala-Archa** 1.9nm,0.6s	**65.56**	**326**	*e*P	**P**	**13 18 22.2**	**-0.8**
WSAR	**Wadi Sarin** 2.1nm,0.4s,baz=164,slow=7.2,SNR=5.1	**66.92**	**300**	P	**P**	**13 18 32.4**	**+0.5**
KURBB	**Kurchatov Arra** 1.8nm,0.5s,baz=135,slow=5.7,SNR=14	**69.14**	**334**	P	**P**	**13 18 44.3**	**-0.8**
KURK	**Kurchatov** 6.0nm,1.1s	**69.17**	**334**	*e*P	**P**	**13 18 44.4**	**-0.9**
ZAA0	**Zalesovo Array** 8.2nm,1.4s	**69.28**	**340**	*e*P	**P**	**13 18 44.4**	**-1.5**
ZALV	**Zalesovo Beam** 3.2nm,0.5s,baz=150,slow=4.9,SNR=17	**69.28**	**340**	P	**P**	**13 18 44.5**	**-1.4**
ZALV				LR	LR	13 52 53.4	
comp=Z,17nm,18.2s,baz=72,slow=39							
ZALV	**Zalesovo Beam**	**69.28**	**340**	*e*P	**P**	**13 18 44.2**	**-1.7**
VNDA	**Vanda** 0.5nm,0.6s,baz=314,slow=9.8,SNR=5.1	**71.62**	**171**	P	**P**	**13 19 02.1**	**+2.2**
BVAR	**Borovoye Array** 1.3nm,0.8s,baz=138,slow=11,SNR=8.8	**74.45**	**332**	P	**P**	**13 19 16.7**	**-0.2**
ABKAR	**Akbulak array** 19nm,0.5s	**77.63**	**325**	*e*P	**P**	**13 19 34.0**	**-1.0**
RAYN	**Ar Rayn** 6.2nm,0.9s	**78.43**	**296**	*e*P	**P**	**13 19 38.9**	**-1.1**
QSPA	**South Pole Qui** 0.9nm,0.9s,baz=248,slow=0.8,SNR=6.1	**80.54**	**180**	P	**P**	**13 19 52.0**	**+1.2**
KMBO	**Kilima Mbogo** 2.5nm,0.9s,baz=77,slow=8.0,SNR=5.7	**81.14**	**270**	P	**P**	**13 19 57.1**	**+1.9**
KMBO	**Kilima Mbogo** 2.0nm,0.8s	**81.14**	**270**	*e*P	**P**	**13 19 55.8**	**+0.5**
TIXI	**Tiksi** 2.5nm,0.6s	**81.23**	**3**	*e*P	**P**	**13 19 53.0**	**-1.1**
KBZ	**Khabaz** 2.5nm,0.9s,baz=181,slow=4.0,SNR=4.7	**86.22**	**315**	P	**P**	**13 20 20.6**	**+0.5**
LSZ	**Lusaka** 4.1nm,1.0s	**87.81**	**255**	*e*P	**P**	**13 20 29.9**	**+1.3**
BOSA	**Boshof** 1.2nm,0.4s,baz=150,slow=2.6,SNR=4.0	**88.32**	**241**	P	**P**	**13 20 32.1**	**+1.3**
AKASG	**Malin Array Be** comp=Z,26nm,19.6s,baz=25,slow=40	**96.76**	**320**	LR	LR	14 12 33.2	
MLR	**Muntele Rosu** comp=Z,12nm,21.1s,baz=46,slow=39	**98.43**	**315**	LR	LR	14 10 58.5	
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=304,slow=1.8,SNR=7.9	**114.83**	**24**	PKP	**PKPdf**	**13 26 18.9**	**+0.7**
TORD	**Torodi Ar. Bea** 0.4nm,0.6s,baz=117,slow=2.3,SNR=5.4	**118.02**	**280**	PKP	**PKPdf**	**13 26 26.4**	**+0.6**
TKL	**Tuckaleechee C** 1.8nm,0.5s,baz=18,slow=6.4,SNR=4.0	**146.97**	**34**	PKPbc	**PKPab**	**13 27 22.5**	**-0.4**

*NNC **28** 13:17:48.7±7.0,38.˚90N×75.˚64E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=63.8km s-min=48.0km az=26.0*
ISC 28 13:17:48.5±4.1,**38.˚8N**±0.˚3×**75.˚6E**±0.˚1,**h10**km,**n4**,σ1°**80**/7, **3C-3

AFI				Sn	Sn	13 21 36.0	-8.6		
	8.1nm,0.3s,baz=87,slow=20,SNR=8.5								
PPT	**Papeete**	**22.76**	**96**	LR	LR	13 31 46.1			
	comp=Z,28nm,19.0s,baz=139,slow=30								
WRA	**Warramunga Arr**	**49.60**	**258**	P	P	13 29 09.4	-0.2		
	0.2nm,0.9s,baz=97,slow=7.2,SNR=2.5								
ASAR	**Alice Springs**	**49.76**	**253**	P	P	13 29 10.6	-0.2		
	0.4nm,0.6s,baz=89,slow=8.8,SNR=7.9								
ILAR	**Eielson Array**	**83.65**	**11**	P	P	13 32 46.6	+0.5		
	0.3nm,0.8s,baz=215,slow=6.2,SNR=4.9								

*CSEM **28** 13:41:11.7±0.1,50.10N×16.79E,h15km,ML2.9/12,Error ellipse: s-maj=2.9km s-min=2.0km az=31.0*
*IPEC **28** 13:41:12.3±0.1,50.14N×16.84E,h10km±1km,ML2.0/9, Error ellipse: s-maj=0.7km s-min=0.4km az=36.0*

ISC 28 13:41:12.3±0.9,50.13N±0.02×16.84E±0.02,h12km±5km, n33,σ0.967/55,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRLC	**Kraliky**	**0.06**	**215**	*e*Pg		**Pg**	**13 41 14.9**	**+0.1**
KRLC				*e*SG		**Sg**	**13 41 16.5**	**-0.2**
	comp=Z,51nm,0.3s							
KRLC	**Kraliky**	**0.06**	**215**	Pg		**Pg**	**13 41 14.9**	**+0.1**
KRLC				Sg		**Sg**	**13 41 16.5**	**-0.2**
	51nm,0.3s							
ANAC	**Anensky vrch**	**0.35**	**98**	*e*Pg		**Pg**	**13 41 19.2**	**-0.2**
ANAC				*e*Sg		**Sg**	**13 41 23.5**	**-0.7**
	130nm,0.1s							
DPC	**Dobruska-Polom**	**0.40**	**305**	*e*PG		**Pg**	**13 41 20.3**	**0.0**
DPC				*e*SG		**Sg**	**13 41 25.2**	**-0.4**
	comp=Z,70nm,0.2s							
DPC	**Dobruska-Polom**	**0.40**	**305**	Pg		**Pg**	**13 41 20.3**	**0.0**
DPC				Sg		**Sg**	**13 41 25.2**	**-0.4**
	70nm,0.2s							
MUTC	**Mutkov**	**0.44**	**138**	*e*Pg		**Pg**	**13 41 20.9**	**0.0**
MORC	**Moravsky Berou**	**0.57**	**127**	*e*Pg		**Pg**	**13 41 23.2**	**-0.3**
MORC				*e*Sg		**Sg**	**13 41 30.6**	**-0.5**
	71nm,0.3s							
UPC	**Upice**	**0.65**	**306**	*e*PG		**Pb**	**13 41 25.0**	**-0.6**
UPC				*e*SG		**Sg**	**13 41 32.7**	**-0.9**
	comp=Z,15nm,0.2s							
UPC	**Upice**	**0.65**	**306**	Pg		**Pb**	**13 41 25.0**	**-0.6**
UPC				Sg		**Sg**	**13 41 32.7**	**-0.9**
	15nm,0.2s							
KSP	**Ksiaz**	**0.80**	**334**	*e*Pg		**Pg**	**13 41 27.6**	**-0.1**
KSP				*e*Sg		**Sg**	**13 41 37.8**	**-0.4**
KSP	**Ksiaz**	**0.80**	**334**	*e*Pg		**Pg**	**13 41 27.6**	**-0.1**
KSP				*e*Sg		**Sg**	**13 41 37.8**	**-0.4**
VRAC	**Vranov**	**0.83**	**191**	*e*Pg		**Pg**	**13 41 27.9**	**-0.5**
VRAC				*e*Sg		**Sg**	**13 41 38.8**	**-0.4**
	41nm,0.2s							
OKC	**Ostrava-Krasne**	**0.89**	**108**	*e*Pg		**Pg**	**13 41 28.9**	**-0.6**
OKC				*e*SG		**Sg**	**13 41 40.7**	**-0.5**
	comp=Z,26nm,0.3s							
OKC	**Ostrava-Krasne**	**0.89**	**108**	Pg		**Pg**	**13 41 28.9**	**-0.6**
OKC				Sg		**Sg**	**13 41 40.7**	**-0.5**
	26nm,0.3s							
KRUC	**Moravsky**	**1.10**	**195**	*e*Pg		**Pb**	**13 41 32.7**	**-0.5**
KRUC				*e*Sg		**Sg**	**13 41 47.1**	**-0.7**
	33nm,0.1s							
GOPC	**GO Pecny, Ondr**	**1.34**	**262**	*e*PG		**Pb**	**13 41 37.0**	**-0.3**
GOPC				*e*SG		**Sg**	**13 41 54.9**	**-0.5**
	comp=Z,23nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.34**	**262**	Pg		**Pb**	**13 41 37.0**	**-0.3**
PRU	**Pruhonice**	**1.48**	**266**	*e*PG		**Pb**	**13 41 39.7**	**0.0**
PRU				*e*SG		**Sg**	**13 41 59.2**	**-0.8**
	comp=Z,16nm,0.2s							
PRU	**Pruhonice**	**1.48**	**266**	Pg		**Pb**	**13 41 39.7**	**0.0**
PVCC	**Panska Ves**	**1.51**	**286**	*e*PG		**Pb**	**13 41 39.7**	**-0.4**
PVCC				*e*SG		**Sg**	**13 42 00.5**	**-0.3**
	comp=Z,40nm,0.2s							
PVCC	**Panska Ves**	**1.51**	**286**	Pg		**Pb**	**13 41 39.7**	**-0.4**
PVCC				Sg		**Sg**	**13 42 00.5**	**-0.3**
	40nm,0.2s							
LANS	**Liptovska Anna**	**1.97**	**119**	*e*Sg		**Sg**	**13 42 15.7**	**+0.1**
LANS	**Liptovska Anna**	**1.97**	**119**	*e*SG		**Sg**	**13 42 15.7**	**+0.1**
VYHS	**Vyhne**	**2.09**	**141**	*e*Sn		**Sn**	**13 42 13.8**	**+0.8**
VYHS	**Vyhne**	**2.09**	**141**	*e*SN		**Sn**	**13 42 13.8**	**+0.8**
CONA	**Conrad Observa**	**2.29**	**197**	Pn		**Pb**	**13 41 53.4**	**-0.1**
	3.0nm,0.2s							
CONA				Sg		**Sb**	**13 42 23.2**	**+1.4**
	14nm,0.4s							
CONA	**Conrad Observa**	**2.29**	**197**	*e*Pn		**Pb**	**13 41 53.4**	**-0.1**
	3.0nm,0.2s							
CONA				Sg		**Sb**	**13 42 23.2**	**+1.4**
	14nm,0.4s							
KHC	**Kasperske Hory**	**2.34**	**246**	*e*PG		**Pb**	**13 41 55.0**	**+0.7**
KHC				*e*SG		**Sb**	**13 42 23.7**	**+0.5**
	comp=Z,7.3nm,0.4s							
KHC	**Kasperske Hory**	**2.34**	**246**	Pg		**Pb**	**13 41 55.0**	**+0.7**
KHC				Sg		**Sb**	**13 42 23.7**	**+0.5**
	7.3nm,0.4s							
MOA	**Molln**	**2.84**	**218**	Sg		**Sg**	**13 42 42.3**	**-1.1**
	3.8nm,0.2s							
MOA	**Molln**	**2.84**	**218**	*i* Sg		**Sg**	**13 42 42.3**	**-1.1**
	3.8nm,0.2s							
ARSA	**Arzberg**	**3.01**	**197**	Sg		**Sg**	**13 42 47.0**	**-1.7**
	1.7nm,0.3s							
ARSA	**Arzberg**	**3.01**	**197**	*i* Sg		**Sg**	**13 42 47.0**	**-1.7**
	1.7nm,0.3s							

MAN 28 13:42:21.9±0.64N×123.91E,h15km,mb4.3,ML3.2,MS2.9, 2C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.07**	**315**	*e*P		Pg	13 42 25.1	+1.1
TBP				*i* S		Sg	13 42 30.0	+4.1
LLP	**Lapu-Lapu**	**0.67**	**5**	*e*P		Pg	13 42 33.5	-0.7
LLP				*i* S		Sn	13 42 46.7	+0.4
SNPH	**Sibulan**	**0.73**	**246**	⇑*i* P		Pg	13 42 35.1	-0.1
SNPH				*i* S		Sn	13 42 47.9	+0.2
MSLP	**Maasin**	**1.05**	**62**	*e*P		Pb	13 42 39.4	-1.5
MSLP				*e*S		Sb	13 42 52.5	-2.1
DCPH	**Dipolog City**	**1.19**	**208**	⇑*e*P		Pn	13 42 39.9	-3.2
DCPH				*e*S		Sb	13 42 55.8	-2.7
OCLP	**Ormoc**	**1.56**	**26**	*e*P		Pg	13 42 50.4	-0.6
OCLP				*e*S		Sg	13 43 11.0	-0.3
SCPH	**Surigao**	**1.56**	**85**	*e*P		Pn	13 42 47.6	-0.6
SCPH				*e*S		Sn	13 43 05.6	-2.6
BUTP	**Butuan**	**1.81**	**111**	*e*P		Pg	13 43 08.5	+13
BUTP				*e*S		Sb	13 43 15.7	-0.9
BUKP	**Musuan**	**2.09**	**147**	*e*P		Pn	13 42 53.0	-2.6
CTBH	**Cotabato--PC H**	**2.43**	**172**	⇓*i* P		Pn	13 42 57.6	-2.6

*BJI **28** 13:45:12.1,3.89N×94.84E,h64km,mb4.6/24,mB4.9/12, Ms4.2/6,Ms7 4.1/3*
*ISCJB **28** 13:45:16.1±0.3,4.57N±0.04×94.98E±0.04,h48km, mb4.3/30,MS3.5/10,Error ellipse: s-maj=7.0km s-min=4.5km az=138.3*
*IDC **28** 13:45:18.3±0.9,4.76N×95.12E,h49km±7km,mb3.9/17, mb1 4.0/18,mb1mx3.7/67,mbtmp4.1/18,MS3.2/12, Ms1 3.3/12,ms1mx3.0/68,Error ellipse: s-maj=33.7km s-min=13.8km az=43.0*
*NEIC **28** 13:45:18.1±1.2,4.58N×95.01E,h55km±11km,mb4.6/7, Error ellipse: s-maj=14.6km s-min=6.9km az=65.0*
*DJA **28** 13:45:18.2±1.0,5°N±5°×9°E±1°3,h29km±14km,M4.3/11, mb4.3/5,mB5.0/3,MLv4.2/11,Mw(mB)4.3/3*

ISC 28 13:45:17.9±0.6,4.63N±0.06×95.02E±0.07,h48km,n90, σ1.949/86,mb4.4/30,MS3.4/10,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.91**	**18**	P		**Pn**	**13 45 34.4**	**0.0**
BSI				S		**Sn**	**13 45 45.9**	**-0.6**
MLSI	**Meulaboh, Aceh**	**1.42**	**104**	P		**Pn**	**13 45 41.3**	**-0.1**
LHMI	**Lhok Sumawe**	**2.01**	**73**	P		**Pn**	**13 45 49.9**	**+0.5**
LHMI	**Lhok Sumawe**	**2.01**	**73**	*e*Pn		**Pn**	**13 45 50.6**	**+1.1**
TPTI		**2.54**	**122**	P		**Pn**	**13 45 56.3**	**-0.5**
TSI	**Tuntungan**	**3.71**	**107**	P		**Pn**	**13 46 13.3**	**+0.6**
GSI	**Gunungsitoli**	**4.17**	**142**	P		**Pn**	**13 46 19.6**	**+0.5**
GSI	**Gunungsitoli**	**4.17**	**142**	*e*Pn		**Pn**	**13 46 17.9**	**-1.2**
PSI	**Prapat**	**4.30**	**115**	P		**Pn**	**13 46 23.2**	**+2.3**
	2.2nm,0.3s,baz=315,slow=14,SNR=7.2							
PSI				LR		LR	13 48 24.0	
	comp=Z,334nm,18.0s,baz=284,slow=43							
PSI	**Prapat**	**4.30**	**115**	*e*Pn		**Pn**	**13 46 22.4**	**+1.4**
TRTT	**Trang**	**5.63**	**55**	P		**Pn**	**13 46 38.6**	**-0.6**
TRTT				S		**Sn**	**13 47 37.0**	**-5.6**
KULM	**Kulim**	**5.65**	**83**	*e*Pn		**Pn**	**13 46 39.5**	**+0.2**
SURT	**Suratani**	**5.71**	**41**	P		**Pn**	**13 46 40.3**	**+0.1**
MNSI	**Mandailing Nat**	**5.93**	**130**	P		**Pn**	**13 46 43.9**	**+0.6**
	35nm,0.6s,1μm0.2nm							
IPM	**Ipoh**	**5.99**	**91**	*e*Pn		**Pn**	**13 46 44.5**	**+0.4**
SKLT	**Songkhla**	**6.12**	**65**	P		**Pn**	**13 46 45.6**	**-0.2**
	32nm,0.8s,1μm0.1nm							
SISI	**Saibi**	**7.17**	**145**	P		**Pn**	**13 47 01.8**	**+1.4**
PHET	**Kaeng Krachan**	**9.41**	**29**	P		**Pn**	**13 47 33.0**	**+2.1**
	4.3nm,0.8s							
NAYO	**Nakayok**	**11.46**	**32**	P		**Pn**	**13 48 01.6**	**+2.6**
	5.5nm,1.5s							
SRAK	**Srakaew**	**11.62**	**36**	P		Pn	13 48 09.2	+8.0
MNAI	**Manna**	**11.94**	**138**	*e*Pn		**Pn**	**13 48 04.3**	**-1.3**
PHIT	**Phitsanulok**	**13.56**	**23**	P		**Pn**	**13 48 31.4**	**+3.7**
	6.4nm,0.8s							
CM01	**Chiang Mai Arr**	**14.24**	**15**	*e*Pn		**P**	**13 48 42.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**14.27**	**15**	P		**Pn**	**13 48 39.1**	**+1.8**
	0.4nm,0.3s,baz=208,slow=10,SNR=5.5							
CMAR				LR		LR	13 54 14.4	
	comp=Z,60nm,18.9s,baz=197,slow=38							
PALK	**Pallekele**	**14.48**	**281**	S		Sn	13 51 08.4	-11
	1.2nm,0.3s,baz=106,slow=1.0,SNR=6.5							
PALK				LR		LR	13 53 39.8	
	comp=Z,91nm,20.9s,baz=116,slow=34							
CHTO	**Chiang Mai**	**14.61**	**15**	P		**P**	**13 48 47.1**	**-0.2**
	41nm,0.9s							
CHTO	**Chiang Mai**	**14.61**	**15**	*e*Pn		**P**	**13 48 46.2**	**-1.1**
CMMT	**Chiang Mai**	**14.61**	**15**	P		**P**	**13 48 46.1**	**-1.2**
	9.3nm,0.9s							
LEM	**Lembang**	**16.96**	**132**	LR		LR	13 55 51.1	
	comp=Z,74nm,20.5s,baz=228,slow=37							
KMI	**Kunming**	**21.69**	**19**	P		**P**	**13 50 07.5**	**+2.4**
KMI				pmax		pmax		
	comp=Z,7.0nm,0.6s							
H08S2	**Diego Garcia H**	**25.57**	**242**	T		T	14 17 47.4	
	baz=61,slow=75,SNR=135							
H08S3	**Diego Garcia H**	**25.57**	**242**	T		T	14 17 43.0	
	baz=61,slow=75,SNR=8.2							
H08S1	**Diego Garcia H**	**25.59**	**242**	T		T	14 17 53.5	
	baz=61,slow=75,SNR=105							
CD2	**Chengdu**	**27.41**	**16**	*e*P		**P**	**13 51 00.5**	**+1.3**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
DAV	**Davao City (W)**	**30.49**	**84**	LR		LR	14 05 07.7	
	comp=Z,30nm,18.4s,baz=215,slow=39							
LZH	**Lanzhou**	**32.35**	**13**	*e*P		**P**	**13 51 46.0**	**+3.0**
LZH				pP		sP	13 52 01.8	+0.5
LZH				sP		pP	13 52 09.5	+14
LZH				*e*PP		**PP**	**13 52 56.5**	**-0.3**
LZH				pmax		pmax		
	comp=Z,23nm,1.1s							
LZH				pmax		pmax		
	comp=Z,85nm,5.0s							
LZH				LR		LR		
	comp=N,370nm,13.3s							
LZH				LR		LR		
	comp=E,370nm,13.5s							
LZH				LR		LR		
	comp=Z,420nm,16.9s							
GTA	**Gaotai**	**34.90**	**6**	*e*P		**P**	**13 52 03.5**	**-1.6**
GTA				pP		pP	13 52 18.5	+0.7
GTA				sP		sP	13 52 26.0	+2.5
GTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
NJ2	**Nanjing**	**35.26**	**36**	*e*P		**P**	**13 52 09.0**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,15nm,0.5s							
KSH	**Kashi**	**38.78**	**336**	*e*P		**P**	**13 52 37.0**	**-1.1**
KSH				S		**S**	**13 58 27.3**	**-5.0**
KSH				sS		sS	13 58 58.8	+5.0
KSH				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KSH				pmax		pmax		
	comp=Z,110nm,5.3s							
KSH				LR		LR		
	comp=N,83nm,6.3s							
KSH				LR		LR		
	comp=E,61nm,7.7s							
KSH				LR		LR		
	comp=Z,120nm,7.6s							
HHC	**Hu-ho-hao-te**	**39.01**	**20**	*e*P		**P**	**13 52 42.5**	**+2.5**
HHC				pP		pP	13 52 54.0	+1.2
HHC				PP		**PnPn**	**13 54 16.5**	**+3.6**
HHC				S		**S**	**13 58 37.5**	**+1.8**
HHC				pmax		pmax		
	comp=Z,17nm,1.0s							
HHC				pmax		pmax		
	comp=Z,110nm,5.1s							
HHC				LR		LR		
	comp=N,130nm,11.8s							
HHC				LR		LR		
	comp=E,280nm,16.7s							
HHC				LR		LR		
	comp=Z,79nm,13.5s							
WMQ	**Urumqi**	**39.57**	**352**	P		**P**	**13 52 45.5**	**+1.0**
BJI	**Beijing**	**40.09**	**25**	⇑*e*P		**P**	**13 52 49.0**	**+0.2**
BJI				pmax		pmax		
	comp=Z,10.0nm,0.8s							
BJI				pmax		pmax		
	comp=Z,47nm,3.6s							
KZA	**Kyzart**	**41.25**	**338**	P		**P**	**13 52 59.4**	**+0.5**
	SNR=6.1							
UCH	**Uchtor**	**41.66**	**337**	P		**P**	**13 53 03.2**	**+0.9**
	SNR=13							
TKM2	**Tokmak 2**	**41.85**	**339**	P		**P**	**13 53 04.3**	**+0.7**
	SNR=5.7							
KBK	**Karagaybulak**	**41.86**	**338**	P		**P**	**13 53 04.6**	**+1.0**
	SNR=7.0							
AML	**Almayashu**	**41.91**	**336**	P		**P**	**13 53 05.3**	**+1.1**
	SNR=17							
AAK	**Ala-Archa**	**42.02**	**337**	P		**P**	**13 53 07.1**	**+2.2**
	SNR=7.3							
AAK	**Ala-Archa**	**42.02**	**337**	*e*P		**P**	**13 53 06.0**	**+1.1**
	6.0nm,0.8s							
EKS2	**Erkin-Say**	**42.32**	**337**	P		**P**	**13 53 08.5**	**+1.2**
	SNR=5.2							
USP	**Ospenovka**	**42.56**	**338**	P		**P**	**13 53 09.5**	**+0.4**
	SNR=11							
MK01	**Makanchi Array**	**43.41**	**347**	*e*P		**P**	**13 53 15.0**	**-0.9**
MK31	**Makanchi Array**	**43.43**	**347**	*e*P		**P**	**13 53 15.4**	**-0.7**
MKAR	**Makanchi Array**	**43.43**	**347**	P		**P**	**13 53 15.3**	**-0.8**
	1.2nm,0.3s,baz=165,slow=7.9,SNR=59							
MKAR	**Makanchi Array**	**43.43**	**347**	*e*P		**P**	**13 53 15.4**	**-0.7**
	26nm,0.9s							
MAKZ	**Makanchi**	**43.51**	**347**	*e*P		**P**	**13 53 15.8**	**-0.9**
	2.5nm,0.8s							
JNU	**Nakatsue**	**43.82**	**45**	LR		LR	14 14 05.4	
	comp=Z,32nm,18.1s,baz=224,slow=40							
KKAR	**Karatay Array**	**44.04**	**334**	*e*P		**P**	**13 53 21.2**	**+0.1**
SONM	**Songino Array**	**44.15**	**11**	LR		LR	14 13 07.3	
	comp=Z,56nm,18.9s,baz=40,slow=38							
KSAR	**Wonju Array Be**	**44.37**	**38**	P		**P**	**13 53 23.1**	**-0.6**
KSRS	**Korea Array**	**44.40**	**38**	P		**P**	**13 53 23.2**	**-0.8**
	0.3nm,0.4s,baz=216,slow=9.6,SNR=5.3							
KSRS				LR		LR	14 12 34.1	
	comp=Z,13nm,19.8s,baz=186,slow=37							
WRA	**Warramunga Arr**	**45.71**	**124**	P		**P**	**13 53 34.7**	**0.0**
	7.2nm,0.9s,baz=302,slow=9.2,SNR=58							
WRAB	**Tennant Creek**	**45.71**	**124**	*e*P		**P**	**13 53 34.4**	**-0.3**
	9.9nm,0.9s							
WB2	**Warramunga Arr**	**45.72**	**124**	*e*P		**P**	**13 53 34.3**	**-0.4**
ASAR	**Alice Springs**	**47.20**	**128**	P		**P**	**13 53 46.4**	**0.0**
	1.2nm,0.6s,baz=298,slow=7.8,SNR=24							
GEYT	**Alibeck**	**47.21**	**320**	P		**P**	**13 53 47.1**	**+0.9**
	2.9nm,0.7s,baz=153,slow=7.6,SNR=7.6							
GEYT				pP		**pP**	**13 54 00.7**	**+1.3**
	1.8nm,0.6s,baz=147,slow=8.8,SNR=3.9							
TLY	**Talaya**	**47.45**	**7**	LR		LR	14 15 36.7	
	comp=Z,30nm,18.9s,baz=172,slow=38							
KURBB	**Kurchatov Arra**	**47.89**	**346**	P		**P**	**13 53 51.2**	**0.0**
	2.1nm,0.8s,baz=170,slow=7.1,SNR=18							
KURK	**Kurchatov**	**47.95**	**346**	P		**P**	**13 53 51.2**	**-0.5**
ZALV	**Zalesovo Beam**	**49.87**	**352**	P		**P**	**13 54 05.5**	**-0.9**
	2.0nm,0.5s,baz=184,slow=7.0,SNR=11							
ZALV	**Zalesovo Beam**	**49.87**	**352**	*e*P		**P**	**13 54 05.1**	**-1.3**
MJAR	**Matsushiro Arr**	**50.74**	**45**	LR		LR	14 17 11.1	
	comp=Z,22nm,19.9s,baz=335,slow=38							
BVAR	**Borovoye Array**	**52.33**	**341**	P		**P**	**13 54 24.9**	**+0.1**
	5.3nm,0.7s,baz=134,slow=8.4,SNR=22							
BRVK	**Borovoye**	**52.39**	**341**	*e*P		**P**	**13 54 24.2**	**-1.1**
	15nm,1.4s							
ABKAR	**Akbulak array**	**53.49**	**332**	*e*P		**P**	**13 54 33.2**	**-0.2**
	22nm,0.8s							
AKTO	**Aktyubinsk**	**55.21**	**332**	P		**P**	**13 54 45.5**	**-0.4**
	0.5nm,0.4s,baz=112,slow=5.4,SNR=3.5							
KMBO	**Kilima Mbogo**	**58.00**	**266**	LR		LR	14 17 51.4	
	comp=Z,34nm,18.8s,baz=90,slow=34							
BRTR	**Keskin Array B**	**65.22**	**312**	P		**P**	**13 55 54.3**	**-0.5**
	1.2nm,0.6s,baz=132,slow=7.5,SNR=8.3							
BRTR				pP		**pP**	**13 56 07.5**	**-1.0**
	1.3nm,0.7s,baz=129,slow=6.5,SNR=5.1							
TIXI	**Tiksi**	**70.23**	**11**	P		**P**	**13 56 23.5**	**-2.1**
	2.1nm,0.6s,baz=204,slow=3.1,SNR=9.4							
TIXI	**Tiksi**	**70.23**	**11**	*e*P		**P**	**13 56 23.1**	**-2.4**
	2.9nm,0.8s							
AKASG	**Malin Array Be**	**71.23**	**322**	P		**P**	**13 56 31.1**	**-0.9**
	0.5nm,0.4s,baz=91,slow=5.3,SNR=7.1							
MLR	**Muntele Rosu**	**72.10**	**316**	P		**P**	**13 56 38.7**	**+1.1**
	0.6nm,0.6s,baz=336,slow=20,SNR=3.3							
BUR04	**Bucovina Ar. S**	**73.04**	**318**	*e*P		**P**	**13 56 43.3**	**+0.2**
BOSA	**Boshof**	**74.64**	**239**	LR		LR	14 26 28.1	
	comp=Z,51nm,19.2s,baz=176,slow=33							
FINES	**FINESS Array B**	**75.98**	**332**	P		**P**	**13 56 59.3**	**-0.4**
	1.4nm,0.3s,baz=115,slow=5.2,SNR=16							
ARCES	**ARCESS Array B**	**78.60**	**340**	P		**P**	**13 57 14.1**	**-0.2**
	1.0nm,0.4s,baz=99,slow=6.7,SNR=19							
GEA0	**GERESS Array S**	**80.82**	**319**	*e*P		**P**	**13 57 26.7**	**-0.1**
GERES	**GERESS Array B**	**80.82**	**319**	P		**P**	**13 57 27.6**	**+0.8**
	1.3nm,0.6s,baz=112,slow=2.2,SNR=8.9							
GERES				pP		**pP**	**13 57 41.2**	**+0.3**
	0.3nm,0.3s,baz=90,slow=8.3,SNR=2.5							
CLL	**Collm**	**81.42**	**321**	*i* P		**P**	**13 57 30.3**	**+0.5**
HFS	**Hagfors**	**81.69**	**330**	P		**P**	**13 57 31.1**	**0.0**
	0.9nm,0.4s,baz=132,slow=4.3,SNR=8.9							

IDC 28 13:51:03.4±8.4,46.93N×151.85E,h108km±59km,mb3.2/4, mb1 3.4/5,mb1mx2.9/67,mbtmp3.6/5,MS3.1/1,Ms1 3.1/1, ms1mx2.2/25,Error ellipse: s-maj=72.4km s-min=27.7km az=175.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.24**	**29**	P		Pn	13 52 47.1	+0.8
	0.3nm,0.3s,baz=202,slow=11,SNR=8.9							
PETK				S		Sn	13 54 07.5	+0.7
	0.1nm,0.3s,baz=201,slow=20,SNR=2.7							
JOW	**Kunigami**	**27.35**	**231**	LR		LR	14 07 36.3	
	comp=Z,39nm,20.5s,baz=259,slow=36							
H11N2	**WAKE ISLAND Hy**	**29.79**	**151**	T		T	14 28 59.9	
	baz=340,slow=76,SNR=3.3							
H11N1	**WAKE ISLAND Hy**	**29.81**	**151**	T		T	14 28 45.8	
	baz=340,slow=76,SNR=3.7							
H11N3	**WAKE ISLAND Hy**	**29.81**	**151**	T		T	14 29 12.0	
	baz=340,slow=76,SNR=3.5							
H11S1	**WAKE ISLAND Hy**	**30.87**	**152**	T		T	14 30 33.2	
	baz=359							
H11S3	**WAKE ISLAND Hy**	**30.88**	**152**	T		T	14 30 23.7	
	baz=359,SNR=2.9							
H11S2	**WAKE ISLAND Hy**	**30.89**	**152**	T		T	14 30 29.4	
	baz=359							
ILAR	**Eielson Array**	**36.94**	**39**	P		P	13 58 00.0	-1.4
	0.4nm,0.9s,baz=280,slow=6.2,SNR=4.3							
KURBB	**Kurchatov Arra**	**46.63**	**303**	P		P	13 59 19.5	-0.9
	0.5nm,0.8s,baz=69,slow=7.8,SNR=3.2							
FINES	**FINESS Array B**	**63.50**	**334**	P		P	14 01 22.4	+1.0
	1.7nm,0.9s,baz=32,slow=11,SNR=4.6							
TXAR	**Lajitas Array**	**78.15**	**60**	P		P	14 02 51.8	+1.1
	0.3nm,0.6s,baz=310,slow=5.0,SNR=4.4							

*TIR **28** 13:51:26.8,42.25N×19.46E,h1km,ML2.2*
*ISCJB **28** 13:51:44.4±0.5,42.30N±0.03×19.48E±0.03,h16km±5km, Error ellipse: s-maj=4.6km s-min=3.6km az=158.8*
*PDG **28** 13:51:44.7±0.1,42.37N×19.43E,h20km,ML2.0/8,Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
*BEO **28** 13:51:44.3±0.9,42.29N×19.47E,h9km±2km,M2.1/7*
*CSEM **28** 13:51:44.5±0.3,42.36N×19.46E,h12km,ML2.0,Error ellipse: s-maj=5.1km s-min=3.1km az=143.0*

ISC 28 13:51:44.2±0.9,42.33N±0.02×19.48E±0.02,h15km±7km, n42,σ0.987/81,10C-10D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.20**	**302**	*e*Pg		**Pg**	**13 51 48.9**	**+0.1**
PDG				*e*Sg		**Sb**	**13 51 52.4**	**-0.6**
PDG	**Podgorica**	**0.20**	**302**	*e*Pg		**Pg**	**13 51 48.9**	**+0.1**
PDG				*e*Sg		**Sb**	**13 51 52.4**	**-0.6**
TTG	**Podgorica**	**0.20**	**302**	⇓*i* Pg		**Pg**	**13 51 49.1**	**+0.3**
TTG				*e*Sg		**Sb**	**13 51 52.5**	**-0.6**
DRME	**Dracevica, Mon**	**0.26**	**238**	⇑*i* Pg		**Pg**	**13 51 50.4**	**+0.5**

NNC 28 13:54:04.2±5.7, 37°.24N×71°.02E, h110km±145km, mb3.0, mpv3.6, 5C-4D, Error ellipse: s-maj=48.7km s-min=43.1km az=102.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.38	34	⇓Pn	Pn	13 54 55.6	+0.1
	4.3nm,0.4s						
SFK				⇑Sn	Sn	13 55 35.7	+0.6
	8.4nm,0.4s						
AML	Almayashu	5.30	22	P	Pn	13 55 22.2	+0.8
	SNR=45						
MNAS	Manas	5.36	12	⇓Pn	Pn	13 55 22.6	+0.6
	4.1nm,0.6s						
MNAS				⇓Sn	Sn	13 56 22.2	-0.4
	2.4nm,0.4s						
UCH	Uchtor	5.66	27	P	Pn	13 55 26.4	+0.1
	SNR=6.9						
EKS2	Erkin-Say	5.81	21	P	Pn	13 55 29.7	+1.6
	SNR=20						
KK31	Karatay Array	5.87	356	⇑Pn	Pn	13 55 29.8	+1.1
	5.4nm,0.4s,baz=181,slow=13,SNR=35						
KK31				⇑Sn	Sn	13 56 37.9	+3.2
	1.7nm,0.5s,baz=183,slow=24,SNR=3.5						
AAK	Ala-Archa	6.01	25	Pn	Pn	13 55 30.9	0.0
	4.4nm,0.4s						
AAK				⇑Sn	Sn	13 56 37.5	-0.9
	1.5nm,0.4s						
AAK	Ala-Archa	6.01	25	P	Pn	13 55 31.4	+0.5
	SNR=7.5						
CHMS	Chumysh	6.42	25	P	Pn	13 55 36.6	+0.3
	SNR=6.1						
TKM2	Tokmak 2	6.67	30	⇑Pn	Pn	13 55 38.9	-0.9
	2.3nm,0.5s						
TKM2				⇓Sn	Sn	13 56 54.0	-0.4
	0.8nm,0.5s						
TKM2	Tokmak 2	6.67	30	P	Pn	13 55 39.8	0.0
	SNR=5.5						

CSEM 28 14:01:55.9±0.2, 42°.35N×19°.45E, h19km, ML1.5, Error ellipse: s-maj=4.6km s-min=4.1km az=125.0
TIR 28 14:02:03.2, 42°.21N×19°.65E, h7km, ML2.1
PDG 28 14:01:56.0±0.1, 42°.37N×19°.42E, h23km, ML1.5/7, 14C-2D, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDG	Podgorica	0.14	299	⇓iPg	Pb	14 02 00.6	-0.1
PDG				eSg	Sb	14 02 04.2	+0.3
TTG	Podgorica	0.14	299	⇓iPg	Pb	14 02 00.6	-0.1
TTG				eSg	Sb	14 02 04.2	+0.3
DRME	Dracevica, Mon	0.25	224	⇑iPg	Pb	14 02 02.0	-0.1
DRME				eSg	Sb	14 02 07.0	+0.8
DRME	Dracevica, Mon	0.25	224	⇑iPg	Pb	14 02 02.0	-0.1
DRME				eSg	Sb	14 02 07.0	+0.8
BUM	Brajici-Budva	0.39	261	⇑iPg	Pb	14 02 04.4	0.0
BUM				eSg	Sb	14 02 11.4	+1.3
BUM	Brajici-Budva	0.39	261	⇑iPg	Pb	14 02 04.4	0.0
BUM				eSg	Sb	14 02 11.4	+1.3
CEME	Cevo	0.41	296	ePg	Pb	14 02 04.6	-0.1
CEME				eSg	Sb	14 02 11.8	+1.2
CEME	Cevo	0.41	296	ePg	Pb	14 02 04.6	-0.1
CEME				eSg	Sb	14 02 11.8	+1.2
ULC	Ulcinj	0.42	198	⇑iPg	Pb	14 02 04.7	-0.1
ULC				eSg	Sb	14 02 12.2	+1.4
ULC	Ulcinj	0.42	198	⇑iPg	Pb	14 02 04.7	-0.1
ULC				eSg	Sb	14 02 12.2	+1.4
PUK	Puka	0.48	132	i PG	Pb	14 02 05.2	-0.6
PUK				i SG	Sn	14 02 15.2	0.0
PUK	Puka	0.48	132	i Pg	Pb	14 02 05.2	-0.6
PUK				i Sg	Sn	14 02 15.2	-0.1
	baz=80						
KOME	Kolasin	0.49	9	ePg	Pb	14 02 06.1	0.0
KOME				eSg	Sn	14 02 14.3	-1.3
KOME	Kolasin	0.49	9	ePg	Pb	14 02 06.1	0.0
KOME				eSg	Sn	14 02 14.3	-1.3
NKME	Niksic	0.53	320	⇑iPg	Pb	14 02 06.4	-0.3
NKME				eSg	Sn	14 02 15.4	-1.0
NKME	Niksic	0.53	320	⇑iPg	Pb	14 02 06.4	-0.3
NKME				eSg	Sn	14 02 15.4	-1.0
BEY	Berane	0.62	35	⇑iPg	Pb	14 02 08.1	-0.1
BEY				eSg	Sn	14 02 18.3	-0.4
IVA	Berane	0.62	35	⇑iPg	Pb	14 02 08.1	-0.1
IVA				eSg	Sn	14 02 18.3	-0.4
HCY	Herceg Novi	0.69	277	⇑iPg	Pb	14 02 09.3	0.0
HCY				eSg	Sn	14 02 20.7	+0.4
HCY	Herceg Novi	0.69	277	⇑iPg	Pb	14 02 09.3	0.0
HCY				eSg	Sn	14 02 20.7	+0.4
PLE	Pljevlja	0.96	359	⇑iPg	Pn	14 02 14.3	0.0
PLE				eSg	Sn	14 02 29.7	+2.4
PLE	Pljevlja	0.96	359	⇑iPg	Pn	14 02 14.3	0.0
PLE				eSg	Sn	14 02 29.7	+2.4
PHP	Peshkopia	1.02	131	i PG	Pb	14 02 22.3	+7.2
PHP				i SG	Sn	14 02 35.5	+6.8
FNA	Florina	2.16	136	i PG	Pn	14 02 25.9	-4.7
FNA				i SG	Sn	14 02 38.5	-18

MAN 28 14:07:59, 10°.02N×123°.14E, h1km, mb4.3, ML3.1, MS2.8, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.68	172	⇓iP	Pg	14 08 12.6	+0.7
SNPH				i S	Sb	14 08 22.3	-1.2
TBP	Tagbilaran	0.78	114	eP	Pg	14 08 14.4	+0.4
TBP				i S	Sn	14 08 29.6	0.0
GUIM	Jordan	0.81	318	eP	Pb	14 08 16.2	+0.2
GUIM				eS	Sb	14 08 28.7	+1.2
LLP	Lapu-Lapu	0.87	70	eP	Pb	14 08 16.3	-0.6
LLP				i S	Sb	14 08 28.4	-0.6
DCPH	Dipolog City	1.44	172	⇑eP	Pn	14 08 24.1	-2.1
DCPH				eS	Sg	14 08 42.4	-2.9
MSLP	Maasin	1.70	86	eP	Pb	14 08 30.6	-0.5
MSLP				eS	Sb	14 08 53.0	+0.1
IPIL	Ipil	2.28	194	eP	Pn	14 08 38.9	+1.0

IDC 28 14:12:46.0±2.3, 4°.32S×135°.00E, h0km, mb3.6/2, mb1 3.4/4, mb1mx3.2/47, mbtmp3.2/4, ML2.9/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/40, Error ellipse: s-maj=118.6km s-min=26.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.54	182	Pn	Pn	14 16 27.4	+0.8
	0.0nm,0.3s,baz=0.2,slow=13,SNR=4.8						
ASAR	Alice Springs	19.26	183	P	Pn	14 17 13.6	+0.3
	0.1nm,0.3s,baz=350,slow=9.8,SNR=8.2						
LEM	Lembang	27.37	264	LR	LR	14 30 00.5	
	comp=Z,35nm,19.9s,baz=210,slow=38						
STKA	Stephens Creek	28.10	168	P	P	14 18 38.5	-1.2
	1.1nm,0.9s,baz=318,slow=14,SNR=3.8						
KSRS	Korea Array	42.08	352	LR	LR	14 37 01.9	
	comp=Z,11nm,20.8s,baz=58,slow=35						
MKAR	Makanchi Array	68.86	324	P	P	14 23 52.7	+0.1
	0.1nm,0.4s,baz=104,slow=6.1,SNR=3.8						

IDC 28 14:14:30.0±1.8, 6°.14S×130°.36E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/51, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=130.5km s-min=25.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.25	165	Pn	Pn	14 17 54.8	+1.5
	0.2nm,0.3s,baz=347,slow=13,SNR=9.9						
WRA				Sn	Sn	14 20 20.0	-12
	0.3nm,0.3s,baz=335,slow=21,SNR=4.2						
ASAR	Alice Springs	17.75	169	P	P	14 18 40.0	+0.3
	0.3nm,0.3s,baz=345,slow=8.8,SNR=22						
ASAR				S	Sn	14 21 47.8	-10
	0.1nm,0.3s,baz=354,slow=28,SNR=4.1						
STKA	Stephens Creek	27.67	159	P	P	14 20 19.0	-0.9
	1.3nm,1.0s,baz=351,slow=13,SNR=2.7						
MKAR	Makanchi Array	67.71	326	P	P	14 25 29.5	+0.1
	0.2nm,0.4s,baz=111,slow=8.5,SNR=6.7						

IDC 28 14:27:56.5±1.2, 29°.12N×51°.50E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.5/61, mbtmp3.9/8, ML2.8/1, Error ellipse: s-maj=25.9km s-min=24.6km az=179.0
ISCJB 28 14:27:57.2±0.7, 28°.98N±0°.06×51°.49E±0°.09, h20km, mb3.9/7, Error ellipse: s-maj=12.7km s-min=7.5km az=147.5
TEH 28 14:27:59.9, 29°.39N×51°.43E, h6km, ML3.1
ISC 28 14:27:59.6±0.9, 29°.10N±0°.07×51°.41E±0°.08, h20km, n15, σ1s.50/16, mb3.9/7, Southern Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKAZ	Kazeroun	0.77	29	ePg	Pb	14 28 11.7	-2.9
IKAZ				eAMB	AMB	14 28 28.9	
	comp=Z,29μm,0.2s						
ISRV	Sarvestan	1.52	79	ePn	Pb	14 28 29.3	+2.0
ISRV				eAMB	AMB	14 28 55.9	
	comp=Z,4μm,0.1s						
IRAM	Ramesheh	2.83	17	ePn	Pn	14 28 45.2	+1.4
IRAM				eSg	Sb	14 29 24.9	+1.1
IRAM				eAMB	AMB	14 29 30.3	
	comp=Z,650nm,0.3s						
IGAR	Gharneh	3.34	9	ePn	Pn	14 28 52.4	+1.5
IGAR				eAMB	AMB	14 28 54.7	
	comp=Z,423nm,0.1s						
IZEF	Zefreh	3.86	12	ePn	Pn	14 28 59.0	+0.9
IZEF				eAMB	AMB	14 29 01.1	
	comp=Z,265nm,0.1s						
BTHS		5.06	186	P	Pn	14 29 18.9	+4.5
IVIS	Veis	6.65	326	ePn	Pn	14 29 37.7	+1.4
IVIS				eAMB	AMB	14 29 39.6	
	comp=Z,162nm,0.1s						
WSAR	Wadi Sarin	8.73	130	Pn	Pn	14 30 03.0	-1.8
	comp=Z,0.1nm,0.3s,baz=288,slow=3.2,SNR=1.8						
WSAR				Sn	Sn	14 31 41.0	-1.6
	comp=Z,0.2nm,0.3s,baz=87,slow=18,SNR=2.5						
ZALV	Zalesovo Beam	34.71	35	P	P	14 34 48.2	+0.3
	comp=Z,0.5nm,0.5s,baz=216,slow=7.1,SNR=3.1						
FINES	FINESS Array B	36.44	340	P	P	14 35 01.9	-0.9
	comp=Z,5.0nm,1.2s,baz=147,slow=7.9,SNR=3.0						
HFS	Hagfors	40.05	332	P	P	14 35 32.5	-0.6
	comp=Z,1.0nm,0.4s,baz=139,slow=7.7,SNR=6.2						
ARCES	ARCESS Array B	43.13	347	P	P	14 35 58.4	+0.1
	comp=Z,2.6nm,1.0s,baz=153,slow=8.1,SNR=3.1						
TORD	Torodi Ar. Bea	48.65	262	P	P	14 36 43.5	+0.9
	comp=Z,1.0nm,0.5s,baz=56,slow=8.0,SNR=9.6						
KOWA	Kowa	53.03	267	P	P	14 37 16.3	+0.8
	comp=Z,1.0nm,0.4s,baz=78,slow=9.3,SNR=3.0						
ILAR	Eielson Array	85.35	8	P	P	14 40 34.8	-0.3
	comp=Z,0.4nm,1.0s,baz=338,slow=4.3,SNR=4.5						

MAN 28 14:42:02, 10°.14N×123°.26E, h5km, mb4.7, ML3.5, MS3.4, 4C, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.72	76	⇑eP	Pg	14 42 15.6	-0.3
LLP				i S	Sg	14 42 26.2	+0.9
TBP	Tagbilaran	0.74	126	eP	Pb	14 42 17.3	-0.1
TBP				i S	Sb	14 42 29.2	+1.3
SNPH	Sibulan	0.79	181	⇑iP	Pb	14 42 18.3	0.0
SNPH				i S	Sb	14 42 29.1	-0.2
GUIM	Jordan	0.82	307	eP	Pg	14 42 17.6	-0.1
GUIM				eS	Sb	14 42 29.2	-0.8
RCP	Roxas	1.50	341	⇑eP	Pn	14 42 29.1	-0.5
RCP				eS	Sg	14 42 51.7	+1.4
DCPH	Dipolog City	1.55	176	⇑eP	Pn	14 42 29.5	-0.7
DCPH				eS	Sn	14 42 49.9	-0.8
MSLP	Maasin	1.58	90	eP	Pn	14 42 31.0	+0.3
MSLP				eS	Sg	14 42 52.5	-0.3
OCLP	Ormoc	1.61	56	eP	Pn	14 42 31.2	0.0
OCLP				eS	Sg	14 42 53.6	-0.3
SCPH	Surigao	2.23	99	eP	Pg	14 42 45.8	+1.0
SCPH				eS	Sn	14 43 06.8	-0.7
PAGZ	Pagadian	2.28	177	eP	Pn	14 42 41.7	+1.4
IPIL	Ipil	2.43	196	eP	Pn	14 42 43.0	+0.6
IPIL				eS	Sn	14 43 14.0	+1.5

ISCJB 28 14:47:56.7±1.2, 55°.2S±0°.2×27°.6W±0°.3, h10km, mb3.9/3, Error ellipse: s-maj=27.3km s-min=18.0km az=40.8
IDC 28 14:47:57.0±1.2, 55°.19S×27°.75W, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.6/31, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=72.9km s-min=24.8km az=92.0
NEIC 28 14:48:02.7±3.1, 55°.24S×27°.73W, h39km±30km, mb4.6/1, Error ellipse: s-maj=34.3km s-min=15.7km az=67.0
ISC 28 14:47:58.6±1.2, 55°.2S±0°.2×27°.6W±0°.2, h10km, n7, σ0s.58/7, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.25	276	ePn	Pn	14 49 17.3	+0.2
SNAA	Sanae	19.60	157	P	P	14 52 27.3	+0.6
	0.2nm,0.3s,baz=324,slow=17,SNR=3.8						
QSPA	South Pole Qui	35.05	180	P	P	14 54 51.6	+0.3
	1.3nm,0.6s,baz=220,slow=0.6,SNR=21						
QSPA	South Pole Qui	35.05	180	eP	P	14 54 51.5	+0.2
	4.6nm,0.5s						
VNDA	Vanda	47.41	183	P	P	14 56 31.7	-0.7
	0.6nm,0.6s,baz=160,slow=5.7,SNR=5.1						
TORD	Torodi Ar. Bea	72.43	30	P	P	14 59 25.1	+0.2
	0.5nm,0.5s,baz=206,slow=6.3,SNR=6.2						
ILAR	Eielson Array	149.39	313	PKPbc	PKPbc	15 07 45.8	-0.5
	0.6nm,0.7s,baz=116,slow=2.2,SNR=10						

IDC 28 14:48:01.4±2.3, 1°.76N×128°.17E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/59, mbtmp3.2/3, Error ellipse: s-maj=169.7km s-min=25.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.40	165	P	P	14 53 02.5	+0.8
	0.4nm,0.7s,baz=344,slow=10,SNR=5.3						
ASAR	Alice Springs	25.88	168	P	P	14 53 34.4	-0.8
	0.3nm,0.9s,baz=359,slow=10,SNR=3.1						
MKAR	Makanchi Array	59.98	325	P	P	14 58 09.9	+0.2
	0.2nm,0.4s,baz=115,slow=8.5,SNR=7.5						

ISCJB 28 14:58:23.4±0.8, 0°.18N±0°.08×124°.18E±0°.04, h110km, mb3.5/5, Error ellipse: s-maj=10.9km s-min=5.0km az=8.7
IDC 28 14:58:24.8±10.0, 0°.37N×123°.98E, h147km±101km, mb3.2/5, mb1 3.3/6, mb1mx3.0/56, mbtmp3.6/6, MS2.9/1, Ms1 2.9/1, ms1mx2.3/20, Error ellipse: s-maj=137.3km s-min=20.4km az=61.0
DJA 28 14:58:24.6±0.4, 0°N±4°×12°4E±°, h89km±12km, M4.0/9, mB5.1/2, mb4.1/2, MLv3.9/9, Mw(mB)4.4/2
ISC 28 14:58:24.1±1.0, 0°.17N±0°.07×124°.16E±0°.04, h110km, n15, σ1s.49/21, mb3.4/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.44	335	P	Pn	14 58 40.8	+0.3
KMSI				S	Sn	14 58 56.5	+3.6
LUWI	Luwuk	1.84	229	P	Pn	14 58 55.7	+0.6
LUWI				S	Sn	14 59 19.4	+0.7
MRSI	Marisa	2.24	278	P	Pn	14 58 58.8	-1.3
APSI	Ampana	2.73	247	P	Pn	14 59 07.6	+1.0
SANI	Sanana	2.87	140	P	Pn	14 59 08.3	0.0
SANI				S	Sn	14 59 41.4	-1.0
LBMI	Labuha	3.43	104	P	Pn	14 59 16.9	+1.0
LBMI				S	Sn	14 59 56.4	+0.5
NLAI	Namlea	4.48	139	P	Pn	14 59 30.7	+0.7
NLAI				S	Sn	15 00 22.1	+1.0
TTSI	Tana Toraja	5.39	234	P	Pn	14 59 42.8	+0.6
TTSI				S	Sn	15 00 45.1	+2.0
AAI	Ambon	5.56	134	P	Pn	14 59 45.6	+1.1
AAI				S	Sn	15 00 49.0	+1.7
FITZ	Fitzroy Crossi	18.21	176	P	P	15 02 28.6	-0.1
	baz=22,slow=5.4						
WRA	Warramunga Arr	22.34	154	P	P	15 03 12.2	-0.9
	2.6nm,0.6s,baz=334,slow=9.9,SNR=34						
ASAR	Alice Springs	25.52	159	P	P	15 03 42.5	0.0
	0.5nm,0.4s,baz=341,slow=8.7,SNR=24						
ASAR				PcP	PcP	15 07 08.3	-3.2
	0.1nm,0.3s,baz=352,slow=2.7,SNR=4.3						
ASAR				LR	LR	15 15 46.4	
	comp=Z,26nm,18.7s,baz=165,slow=40						
STKA	Stephens Creek	35.89	154	P	P	15 05 13.5	-0.2
	0.6nm,0.4s,baz=350,slow=7.0,SNR=4.3						
MKAR	Makanchi Array	59.08	328	P	P	15 08 07.3	-5.6
	0.1nm,0.3s,baz=122,slow=7.3,SNR=5.8						
KURBB	Kurchatov Arra	63.40	329	P	P	15 08 37.1	-4.7
	0.1nm,0.3s,baz=133,slow=6.7,SNR=2.8						

IDC 28 15:08:53.2±3.9, 9°.31S×122°.44E, h85km±44km, mb2.9/1, mb1 2.9/3, mb1mx2.7/54, mbtmp3.0/3, Error ellipse: s-maj=70.6km s-min=37.1km az=63.0, Savu Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.50	126	P	Pn	15 09 18.4	-0.4
	4.8nm,0.3s,baz=285,slow=4.3,SNR=13						
BATI				S	Sn	15 09 38.0	0.0
	15nm,0.3s,baz=44,slow=18,SNR=27						
FITZ	Fitzroy Crossi	9.27	161	P	Pn	15 11 04.2	+0.2
	baz=270,slow=10						
FITZ				S	Sn	15 12 40.8	-5.9
	baz=278,slow=7.1						
WRA	Warramunga Arr	15.62	134	P	Pn	15 12 29.1	+0.5
	0.1nm,0.3s,baz=309,slow=13,SNR=6.1						
WRA				S	Sn	15 15 03.6	-17
	0.1nm,0.3s,baz=324,slow=20,SNR=6.3						
ASAR	Alice Springs	18.00	144	P	P	15 12 57.0	-0.3
	0.0nm,0.3s,baz=323,slow=14,SNR=5.8						
MKAR	Makanchi Array	66.33	331	P	P	15 19 32.8	0.0
	0.1nm,0.3s,baz=125,slow=7.4,SNR=3.4						

GUC 28 15:12:12.7±0.6, 29°.11S×70°.82W, h80km±4km, ML3.4
SJA 28 15:12:12.5±1.2, 28°.93S×70°.82W, h85km±6km, ML3.5, MW3.5
ISCJB 28 15:12:14.0±0.9, 29°.03S±0°.04×70°.84W±0°.06, h85km±8km, Error ellipse: s-maj=9.1km s-min=5.8km az=17.8
ISC 28 15:12:15.3±1.7, 29°.04S±0°.05×70°.81W±0°.07, h74km±9km, n17, σ1s.07/33, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.10	77	eP	Pn	15 12 26.3	-0.1
LCO				eS	Sn	15 12 35.2	+0.7
LCO	Las Campanas	0.10	77	eP	Pn	15 12 25.8	-0.6
LCO				i S	Sn	15 12 35.4	+0.9
LCO				IAML		15 12 37.1	
	comp=E,2μm,0.2s						
TLL	Tololo Astrono	1.13	180	eP	Pn	15 12 33.8	-2.1
TLL				i S	Sn	15 12 49.9	-1.3
TLL				IAML		15 12 52.9	
	comp=E,1μm,0.7s						
GO03	Copiap	1.52	20	eP	Pn	15 12 40.6	-0.2
GO03				i S	Sn	15 13 01.2	+1.2
GO03				IAML		15 13 01.7	
	comp=N,1μm,0.7s						
AROD	Rodeo	1.62	134	eP	Pn	15 12 41.7	-0.7
ACDV	Cuesta del Vie	1.86	128	eP	Pn	15 12 45.2	-0.2
ACDV				eS	Sn	15 13 09.4	+1.3
AGUA	GUANDACOL	2.08	103	eP	Pn	15 12 47.8	-0.4
AGUA				eS	Sn	15 13 13.5	+0.2
VCA	Vinchina	2.31	83	eP	Pn	15 12 51.1	-0.2
VCA				eS	Sn	15 13 17.9	-0.9
VCA				IAML		15 13 26.2	
	comp=Z,356nm,0.3s						
AMOG	MOGNA	2.77	134	eP	Pn	15 12 57.2	-0.3
AMOG				eS	Sn	15 13 30.8	+1.0
RTLS	Leoncito	3.05	155	eP	Pn	15 13 01.9	+0.4
RTLS				eS	Sn	15 13 39.4	+2.3
RTLS				IAML		15 13 44.6	
	comp=Z,73nm,0.3s						
AUSP	Uspallata	3.41	159	eP	Pn	15 13 07.5	+1.1
AUSP				eS	Sn	15 13 47.8	+2.0
RTCV	Cerro Valdivia	3.44	146	eP	Pn	15 13 07.0	+0.4
RTCV				eS	Sn	15 13 46.8	+0.7
ASAL	Salagasta	3.93	155	eP	Pn	15 13 13.8	+0.5
ASAL				⇓eS	Sn	15 13 58.8	+0.5
ROC1	El Roble	3.93	182	eP	Pn	15 13 12.8	-0.7
ROC1				eS	Sn	15 13 59.2	+0.7
APLL	PUNTA DE LOS L	3.97	111	eP	Pn	15 13 11.7	-2.1
APLL				eS	Sn	15 13 58.2	-0.9
ARCO	CERRO ARCO	4.12	157	eP	Pn	15 13 16.2	+0.2
ARCO				eS	Sn	15 14 03.2	+0.1
ARCO				IAML		15 14 09.0	
	comp=Z,51nm,0.3s						
FCH	Farellones	4.30	174	eP	Pn	15 13 18.9	+0.3
FCH				i S	Sn	15 14 06.4	-1.3

IDC 28 15:21:55.2±2.5, 16°.44N×98°.34W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/43, mbtmp3.6/5, ML4.0/1, MS3.0/7, Ms1 3.0/7, ms1mx2.8/44, Error ellipse: s-maj=47.6km s-min=18.6km az=16.0
NEIC 28 15:22:00.8±0.0, 16°.51N×98°.29W, h20km, MD4.0(MEX), After MEX.
MEX 28 15:22:00.9±0.6, 16°.52N×98°.28W, h20km±15km, MD4.0
ISC 28 15:21:58.4±0.9, 16°.57N±0°.06×98°.27W±0°.04, h26km±7km, n19, σ1s.10/27, mb3.4/3, MS2.9/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.22	141	i P	Pb	15 22 04.7	+0.2
PNIG				eS	Sb	15 22 08.7	+0.1
PNIG	Pinotepa	0.22	141	i P	Pb	15 22 04.7	+0.2
PNIG				eS	Sb	15 22 08.7	+0.1
TLIG	Tlapa	1.03	344	eP	Pn	15 22 17.9	+0.6
TLIG				eS	Sb	15 22 30.1	-0.8
TLIG	Tlapa	1.03	344	eP	Pn	15 22 17.9	+0.6
TLIG				eS	Sb	15 22 30.1	-0.8
VHO	Vista Hermosa	1.56	71	eP	Pn	15 22 25.4	+0.8
VHO				eS	Sn	15 22 43.7	-0.3
VHO	Vista Hermosa	1.56	71	eP	Pn	15 22 25.4	+0.8
VHO				eS	Sn	15 22 43.7	-0.3
CAIG	El Cayaco	1.97	284	eP	Pn	15 22 30.5	+0.4
CAIG				eS	Sn	15 22 54.2	+0.2
CAIG	El Cayaco	1.97	284	eP	Pn	15 22 30.4	+0.4
CAIG				eS	Sn	15 22 54.1	+0.2
HUIG	Huatulco	2.23	111	eP	Pn	15 22 33.6	0.0
HUIG				i S	Sn	15 22 59.6	-0.6
HUIG	Huatulco	2.23	111	eP	Pn	15 22 33.6	0.0
HUIG				eS	Sn	15 22 58.3	-1.9
CMIG	Matias Romero	3.29	80	Pn	Pn	15 22 48.2	0.0
	16nm,0.3s,baz=259,slow=10,SNR=106						
CMIG				Pg	Pb	15 22 57.3	+1.3
	17nm,0.3s,baz=264,slow=15,SNR=27						
CMIG				Sn	Sn	15 23 26.0	-0.4
	8.4nm,0.3s,baz=330,slow=8.6,SNR=4.2						
CMIG				Lg	Lg	15 23 42.7	
	33nm,0.3s,baz=356,slow=17,SNR=17						
CMIG				LR	LR	15 24 18.4	
	comp=Z,579nm,18.0s,baz=196,slow=42						
LPIG	La Paz	13.54	306	LR	LR	15 30 22.4	
	comp=Z,98nm,21.2s,baz=59,slow=37						
TXAR	Lajitas Array	13.64	340	Pn	P	15 25 15.3	-3.6
	baz=163,slow=9.4,SNR=2.7						
TXAR				LR	LR	15 31 00.0	
	comp=Z,65nm,21.2s,baz=0.0,slow=40						
TKL	Tuckaleechee C	22.99	31	LR	LR	15 37 52.9	
	comp=Z,19nm,18.3s,baz=247,slow=41						
PDAR	Pinedale Array	27.84	342	P	P	15 27 47.5	+1.5
	0.4nm,0.6s,baz=148,slow=10,SNR=4.3						
SDV	Santo Domingo	27.99	102	P	P	15 27 48.9	+1.3
	4.2nm,0.8s,baz=323,slow=10,SNR=5.5						
SDV				LR	LR	15 38 34.9	
	comp=Z,56nm,20.7s,baz=104,slow=36						
ATAH	Atahualpa	30.68	139	LR	LR	15 38 02.1	
	comp=Z,49nm,21.2s,baz=320,slow=32						
SJG	San Juan	30.68	82	LR	LR	15 40 25.4	
	comp=Z,7.8nm,21.8s,baz=249,slow=36						
YKA	Yellowknife Ar	47.29	350	P	P	15 30 30.3	+1.0
	0.3nm,0.7s,baz=152,slow=7.7,SNR=5.1						

IDC 28 15:25:41.0±2.1, 11°.84N×89°.67W, h0km, mb3.5/3, mb1 4.0/4, mb1mx3.6/43, mbtmp3.6/4, ML3.5/1, MS2.8/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=78.3km s-min=30.4km az=42.0
CASC 28 15:25:51.5±1.3, 12°.68N×88°.79W, h37km±273km, ML3.9
ISC 28 15:25:49.3±1.5, 12°.66N±0°.06×88°.81W±0°.04, h17km±9km, n40, σ0s.86/53, mb3.5/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TECA	Tecapa	0.88	20	eP	Pg	15 26 07.1	+0.6
VSM	San Miguel	0.93	34	eP	Pg	15 26 08.0	+0.7
PACA	Pacayal	0.94	30	eP	Pg	15 26 08.0	+0.5

PACA				*e*S		**Sg**	**15 26 20.0 +0.1**
SNVI	**San Vicente**	**0.95**	**358**	*e*P		**Pg**	**15 26 08.1 +0.3**
BLLM	**Bellamira**	**0.96**	**35**	*e*P		**Pg**	**15 26 08.6 +0.7**
LFRS	**El Faro**	**0.99**	**346**	*e*P		**Pg**	**15 26 08.1 -0.5**
LOMA	**San Marcos**	**1.05**	**340**	*e*P		**Pg**	**15 26 09.3 -0.3**
LOMA				*e*S		**Sg**	**15 26 23.0 -0.4**
LBRS	**Las Brisas**	**1.10**	**348**	*e*P		**Pg**	**15 26 10.2 -0.4**
SNET	**Serv Nac Est T**	**1.10**	**338**	*e*P		**Pg**	**15 26 10.2 -0.5**
SNET				IAML			15 26 27.4
	comp=Z,2µm,0.3s						
LCND	**La Ca¯–ada**	**1.10**	**54**	*e*P		**Pg**	**15 26 10.1 -0.6**
LCND				*e*S		**Sg**	**15 26 24.2 -1.0**
COLS	**Colinas**	**1.11**	**335**	*e*P		**Pg**	**15 26 10.3 -0.5**
OPAM	**San Salvador**	**1.12**	**340**	*e*P		**Pb**	**15 26 11.2 +1.0**
OPAM				IAML			15 26 26.9
	comp=Z,2µm,0.4s						
LFU	**La Fuente**	**1.13**	**345**	*e*P		**Pb**	**15 26 10.6 +0.3**
CNCH	**Conchagua**	**1.13**	**57**	*e*P		**Pg**	**15 26 10.8 -0.4**
CNCH				*e*P		**Pg**	**15 26 10.8 -0.4**
CNCH				*e*S		**Sg**	**15 26 25.7 -0.3**
CUSC	**San Salvador**	**1.13**	**341**	*e*P		**Pb**	**15 26 10.8 +0.3**
UEES	**San Salvador**	**1.15**	**338**	IAML			15 26 26.7
	comp=Z,2µm,0.3s						
BOQS	**Boqueron**	**1.17**	**337**	*e*P		**Pb**	**15 26 11.4 +0.3**
BOQS				*e*S		**Sg**	**15 26 27.2 0.0**
CAHU	**Cacacuatique**	**1.25**	**28**	*e*P		**Pb**	**15 26 12.7 +0.2**
CAHU				*e*S		**Sb**	**15 26 29.4 +1.0**
CAHU				AML	AML		15 26 30.8
	comp=Z,4µm,0.5s						
SBLS	**San Blas**	**1.42**	**326**	*e*P		**Pn**	**15 26 15.3 +0.8**
SNJE	**San Jose**	**1.43**	**327**	*e*P		**Pn**	**15 26 15.2 +0.5**
SNJE				*e*S		**Sn**	**15 26 34.4 +1.1**
RTR	**El Retiro**	**1.48**	**327**	*e*P		**Pn**	**15 26 16.6 +1.3**
RTR				*e*S		**Sn**	**15 26 35.5 +1.2**
CRIN	**San Cristobal**	**1.72**	**88**	*e*P		**Pn**	**15 26 19.7 +1.2**
CRIN				*e*S		**Sn**	**15 26 40.4 +0.3**
CRIN				AML	AML		15 26 41.5
	comp=N,6µm,0.3s						
MTO3	**Montecristo**	**1.81**	**343**	*e*P		**Pn**	**15 26 20.5 +0.6**
TELN	**Telica**	**1.93**	**91**	*e*P		**Pn**	**15 26 22.1 +0.7**
TELN				*e*S		**Sn**	**15 26 57.2 -0.2**
XAVN	**Gruta Xavier**	**2.48**	**101**	*e*P		**Pn**	**15 26 28.7 -0.1**
TISN	**Laguna Tiscapa**	**2.53**	**101**	*e*P		**Pn**	**15 26 29.2 -0.4**
MGAN	**Managua**	**2.55**	**101**	*e*P		**Pn**	**15 26 30.9 +1.0**
MGAN				*e*S		**Sn**	**15 26 59.6 -1.0**
MATN	**Matagalpa**	**2.83**	**84**	*e*P		**Pn**	**15 26 34.3 +0.6**
MATN				*e*S		**Sn**	**15 27 06.3 -1.2**
JTS	**JuntasAbangare**	**4.45**	**121**	Pn		**Pn**	**15 26 57.5 +1.5**
	comp=Z,1.9nm,0.3s,baz=173,slow=22,SNR=8.2						
JTS				Pg		**Pb**	**15 27 07.9 +0.9**
	comp=Z,22nm,0.3s,baz=22,slow=16,SNR=30						
JTS				Sn		**Sn**	**15 27 49.6 +2.1**
	comp=Z,2.9nm,0.3s,baz=348,slow=20,SNR=2.5						
JTS				Lg		Lg	15 28 04.9
	comp=Z,1.9nm,0.3s,baz=261,slow=5.5,SNR=4.8						
TXAR	**Lajitas Array**	**21.59**	**323**	P		**P**	**15 30 36.2 -2.2**
	comp=Z,0.6nm,0.5s,baz=135,slow=7.1,SNR=4.0						
TXAR				LR		LR	15 40 22.1
	comp=Z,22nm,19.4s,baz=0.0,slow=40						
PDAR	**Pinedale Array**	**34.98**	**333**	P		**P**	**15 32 39.6 -1.2**
	comp=Z,0.4nm,0.6s,baz=122,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**53.07**	**345**	P		P	15 35 02.0 -3.3
	comp=Z,0.6nm,0.4s,baz=148,slow=6.7,SNR=21						
WRA	**Warramunga Arr**	**138.05**	**254**	PKP		PKPdf	15 45 07.7 -6.4
	comp=Z,0.3nm,0.9s,baz=88,slow=2.5,SNR=2.4						
ASAR	**Alice Springs**	**138.11**	**249**	PKP		PKPdf	15 45 04.3 -10
	comp=Z,0.2nm,0.6s,baz=118,slow=3.4,SNR=3.5						

*ATA **28** 15:53:17.6±1.0,39.°22N×42.°28E,h16km±5km, ML3.2, MW3.0*
*ISCJB **28** 15:53:18.7±0.5,39.°19N±0.°03×42.°30E±0.°03,h8km±4km, Error ellipse: s-maj=4.3km s-min=3.9km az=172.3*
*CSEM **28** 15:53:18.0,39.°18N×42.°28E,h11km, ML2.6, After ISK*
*ISK **28** 15:53:18.0,39.°18N×42.°28E,h11km, ML2.6/8*
ISC 28 15:53:18.5±1.0,39.°20N±0.°02×42.°25E±0.°02,h14km±8km, n34,σ0ş77/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.15**	**291**	*i* P	**Pg**	**15 53 22.4**	**-0.2**
EKAR				*e*S	**Sb**	**15 53 26.7**	**+0.2**
EKAR				IAML		15 53 30.0	
	comp=Z,1µm,0.4s						
TUTA	**Tutak**	**0.48**	**65**	*e*P	**Pg**	**15 53 27.6**	**-0.5**
TUTA				*e*S	**Sg**	**15 53 34.6**	**-0.1**
TUTA				IAML		15 53 37.6	
	comp=Z,389nm,0.2s						
GURO	**Guroymak-BITLI**	**0.67**	**195**	PG	**Pg**	**15 53 31.4**	**-0.2**
GURO				SG	**Sb**	**15 53 40.9**	**-0.3**
GURO	**Guroymak-BITLI**	**0.67**	**195**	*e*Pg	**Pg**	**15 53 31.4**	**-0.2**
GURO				*e*Sg	**Sb**	**15 53 40.9**	**-0.3**
EATA	**Eleskirt**	**0.69**	**16**	*e*P	**Pg**	**15 53 31.6**	**-0.4**
EATA				*e*S	**Sb**	**15 53 41.9**	**0.0**
EATA				IAML		15 53 45.3	
	comp=Z,27nm,0.5s						
AGRB	**Hanur-Agry**	**0.69**	**57**	PG	**Pg**	**15 53 31.6**	**-0.4**
AGRB				SG	**Sb**	**15 53 41.7**	**-0.1**
AGRB	**Hanur-Agry**	**0.69**	**57**	*e*Pg	**Pg**	**15 53 31.6**	**-0.4**
AGRB				*e*Sg	**Sb**	**15 53 41.7**	**-0.1**
HOMI	**Horasan**	**0.88**	**343**	*i* P	**Pb**	**15 53 34.5**	**-1.2**
HOMI				*e*S	**Sg**	**15 53 48.1**	**+0.8**
HOMI				IAML		15 53 50.6	
	comp=Z,65nm,0.5s						
ERZM	**Erzurum**	**0.98**	**316**	*e*P	**Pb**	**15 53 36.1**	**-1.3**
ERZM				*e*S	**Sn**	**15 53 52.5**	**+0.6**
ECAT	**Cat-ERZURUM**	**1.07**	**293**	*e*P	**Pb**	**15 53 38.5**	**-0.3**
ECAT				*e*S	**Sn**	**15 53 55.7**	**+1.8**
ECAT				IAML		15 53 58.3	
	comp=Z,31nm,0.4s						
VANB	**Van**	**1.08**	**124**	PN	**Pg**	**15 53 39.7**	**+0.4**
VANB	**Van**	**1.08**	**124**	*e*Pn	**Pg**	**15 53 39.7**	**+0.4**
GEVA	**Gevas**	**1.09**	**144**	*e*P	**Pb**	**15 53 38.5**	**-0.7**
GEVA				*e*S	**Sn**	**15 53 55.3**	**+0.8**
GEVA				IAML		15 54 00.9	
	comp=Z,38nm,0.4s						
DYDN	**Diyadin**	**1.17**	**73**	*e*P	**Pn**	**15 53 40.1**	**-0.5**
DYDN				IAML		15 53 57.1	
	comp=Z,28nm,0.3s						
BNGB	**Bing ¶ll**	**1.24**	**261**	PN	**Pb**	**15 53 41.9**	**+0.2**
BNGB				SN	**Sg**	**15 53 59.6**	**+1.1**
CLDR	**Caldiran**	**1.30**	**92**	PN	**Pn**	**15 53 42.3**	**-0.1**
CLDR	**Caldiran**	**1.30**	**92**	*e*Pn	**Pn**	**15 53 42.3**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.36**	**3**	PN	**Pb**	**15 53 43.8**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.36**	**3**	*e*Pn	**Pb**	**15 53 43.8**	**-0.1**
BINT	**Bingol**	**1.41**	**257**	*e*Pn	**Pn**	**15 53 41.9**	**-1.9**
BINT				*e*Sn	**Sn**	**15 53 59.6**	**-2.6**
DIGO	**Kars**	**1.49**	**35**	*e*P	**Pb**	**15 53 45.9**	**-0.2**
DIGO				IAML		15 54 11.9	
	comp=Z,5.6nm,0.6s						
IGDI	**IGDIR**	**1.56**	**64**	*e*P	**Pb**	**15 53 47.1**	**-0.2**
IGDI				IAML		15 54 11.9	
	comp=Z,8.9nm,0.5s						
KOPT	**Kop Dagi**	**1.58**	**302**	*e*P	**Pg**	**15 53 48.9**	**+0.1**
KOPT				IAML		15 53 59.3	
	comp=Z,11nm,0.5s						
SIRT	**Sirnak**	**1.70**	**175**	PN	**Pn**	**15 53 48.2**	**+0.3**
SIRT	**Sirnak**	**1.70**	**175**	*e*Pn	**Pn**	**15 53 48.2**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.73**	**62**	PN	**Pn**	**15 53 48.7**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.73**	**62**	*e*Pn	**Pn**	**15 53 48.7**	**+0.6**
BAYB	**BAYBURT**	**1.86**	**305**	*e*P	**Pg**	**15 53 54.1**	**-0.2**
BAYB				IAML		15 53 57.5	
	comp=Z,4.9nm,0.6s						
ARTV	**Artvin**	**2.00**	**353**	*e*P	**Pb**	**15 53 54.2**	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**2.01**	**307**	PN	**Pn**	**15 53 52.9**	**+0.7**
BAYT	**Ayd¯–ntepe-Bay**	**2.01**	**307**	*e*Pn	**Pn**	**15 53 52.9**	**+0.7**
TNCL	**Tunceli-Merkez**	**2.10**	**269**	*e*P	**Pg**	**15 53 58.2**	**-0.7**
KELT	**Kelkit**	**2.50**	**293**	*e*P	**Pb**	**15 54 04.0**	**+0.8**
KEMA	**Kemaliye**	**2.92**	**273**	*e*P	**Pb**	**15 54 10.7**	**+0.4**

*NIED **28** 16:02:00,40.°90N×145.°30E,h5km,Mw3.8 Best double couple: M≈5.02000×10^14 NP1:φs195.00000°,δ40.00000°, λ-88.00000°. NP2:φs13.00000°,δ50.00000°,λ-91.00000°.*
*IDC **28** 16:02:56.2±0.8,40.°84N×145.°10E,h0km,mb3.7/12, mb1 3.8/15,mb1mx3.6/70,mbtmp3.6/15,ML3.0/3,MS2.8/5, Ms1 2.8/5,ms1mx2.4/64,Error ellipse: s-maj=20.4km s-min=17.3km az=82.0*
*JMA **28** 16:02:57.6±0.2,40.°90N×145.°27E,h60km±3km,M4.0*
*ISCJB **28** 16:02:59.2±0.6,40.°93N±0.°03×145.°03E±0.°05,h33km, mb3.7/12,MS3.1/3,Error ellipse: s-maj=5.9km s-min=4.7km az=177.6*
ISC 28 16:03:01.2±0.8,40.°92N±0.°05×145.°08E±0.°07,h35km,n42, σ1ş45/43,mb3.7/12,MS3.0/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.81**	**308**	P	**Pn**	**16 03 29.1**	**-0.7**
JEM				S	**Sn**	**16 03 49.9**	**-1.6**
JAK	**Akkeshi**	**2.09**	**352**	P	**Pn**	**16 03 31.6**	**-2.1**
JCH	**Churui**	**2.12**	**323**	P	**Pn**	**16 03 33.0**	**-1.1**
JCH				S	**Sn**	**16 03 57.6**	**-1.6**
JOB	**Onbets**	**2.19**	**335**	P	**Pn**	**16 03 33.9**	**-1.1**
JOB				S	**Sn**	**16 03 59.9**	**-0.9**
JNBK	**Urakawa-nobuka**	**2.21**	**309**	P	**Pn**	**16 03 35.4**	**+0.1**
JNBK				S	**Sn**	**16 04 02.1**	**+0.7**
NEM2	**Nemuro 2**	**2.49**	**11**	P	**Pn**	**16 03 36.9**	**-2.3**
JAR	**Ashorobuto**	**2.56**	**338**	P	**Pn**	**16 03 38.5**	**-1.7**
JAR				S	**Sn**	**16 04 07.5**	**-2.7**
JNK	**Nakash**	**2.67**	**354**	P	**Pn**	**16 03 39.3**	**-2.4**
JBT2	**Biratori 2**	**2.75**	**313**	S	**Sn**	**16 04 15.8**	**+1.1**
JANG	**Nango**	**2.76**	**260**	P	**Pn**	**16 03 41.3**	**-1.7**
JFR	**Furan**	**2.90**	**321**	P	**Pn**	**16 03 44.0**	**-0.9**
JFR				S	**Sn**	**16 04 16.1**	**-2.5**
JRA	**Rausu**	**3.01**	**1**	S	**Sn**	**16 04 19.1**	**-2.1**
JOT	**Ohata**	**3.08**	**280**	P	**Pn**	**16 03 46.2**	**-1.0**
JOT				S	**Sn**	**16 04 19.9**	**-2.9**
JTKR	**Abashiri--Toko**	**3.17**	**345**	P	**Pn**	**16 03 47.9**	**-0.6**
JTKR				S	**Sn**	**16 04 23.2**	**-1.8**
JKB	**Kayabe**	**3.19**	**289**	P	**Pn**	**16 03 48.1**	**-0.7**
JOM	**Ohasama**	**3.24**	**245**	P	**Pn**	**16 03 48.5**	**-1.0**
JOM				S	**Sn**	**16 04 23.9**	**-2.9**
JEW	**Eniwo**	**3.32**	**306**	P	**Pn**	**16 03 51.0**	**+0.4**
JEW				S	**Sn**	**16 04 28.6**	**-0.1**
ASAJ	**Asahikawa**	**3.68**	**331**	Pn	**Pn**	**16 03 54.4**	**-1.2**
	1.5nm,0.3s,baz=185,slow=19,SNR=11						
ASAJ				Sn	**Sn**	**16 04 37.0**	**-0.7**
	3.4nm,0.3s,baz=287,slow=28,SNR=8.8						
MJAR	**Matsushiro Arr**	**6.92**	**233**	Pn	**Pn**	**16 04 38.7**	**-1.4**
	0.5nm,0.3s,baz=39,slow=12,SNR=6.0						
USRK	**Ussuriysk Ar.**	**10.20**	**293**	Pn	**Pn**	**16 05 24.4**	**-0.6**
	0.1nm,0.3s,baz=89,slow=15,SNR=2.6						
KLR	**Kul'dur**	**12.54**	**316**	LR	LR	16 11 21.0	
	comp=Z,4.0nm,18.4s,baz=126,slow=40						
KSRS	**Korea Array**	**13.75**	**261**	LR	LR	16 11 15.0	
	comp=Z,28nm,18.4s,baz=78,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.16**	**132**	T	T	16 38 24.4	
	baz=324,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**28.17**	**132**	T	T	16 38 22.1	
	baz=324,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**28.18**	**132**	T	T	16 38 22.3	
	baz=324,slow=76,SNR=4.2						
SONM	**Songino Array**	**28.27**	**297**	P	**P**	**16 08 52.1**	**+0.9**
	0.4nm,0.6s,baz=103,slow=9.3,SNR=2.1						
H11S1	**WAKE ISLAND Hy**	**29.03**	**134**	T	T	16 39 25.0	
	baz=325,slow=76,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**29.04**	**134**	T	T	16 39 26.1	
	baz=325,slow=76,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**29.05**	**134**	T	T	16 39 32.9	
	baz=325,slow=76,SNR=4.8						
TLY	**Talaya**	**30.19**	**305**	LR	LR	16 21 28.4	
	comp=Z,24nm,19.7s,baz=123,slow=37						
ZALV	**Zalesovo Beam**	**41.53**	**309**	P	**P**	**16 10 46.0**	**+1.1**
	0.6nm,0.5s,baz=81,slow=13,SNR=2.9						
ZALV				PcP	**PcP**	**16 12 42.3**	**+0.5**
	0.5nm,0.3s,baz=90,slow=4.4,SNR=3.9						
ZALV				LR	LR	16 29 18.9	
	comp=Z,20nm,19.1s,baz=78,slow=38						
MKAR	**Makanchi Array**	**44.58**	**299**	P	**P**	**16 11 10.2**	**+0.5**
	0.3nm,0.8s,baz=74,slow=7.3,SNR=3.5						
ILAR	**Eielson Array**	**44.68**	**34**	P	**P**	**16 11 10.9**	**+0.7**
	0.7nm,0.7s,baz=260,slow=7.1,SNR=9.5						
KURBB	**Kurchatov Arra**	**45.96**	**306**	P	**P**	**16 11 21.5**	**+1.0**
	1.3nm,0.6s,baz=78,slow=8.8,SNR=6.8						
BVAR	**Borovoye Array**	**50.14**	**311**	P	**P**	**16 11 53.8**	**+1.0**
	0.7nm,0.6s,baz=77,slow=8.1,SNR=3.5						
AKTO	**Aktyubinsk**	**58.23**	**311**	LR	LR	16 42 21.4	
	comp=Z,31nm,18.0s,baz=348,slow=41						
YKA	**Yellowknife Ar**	**59.01**	**32**	P	**P**	**16 12 58.0**	**+1.0**
	0.2nm,0.6s,baz=297,slow=6.2,SNR=3.7						
WRA	**Warramunga Arr**	**61.37**	**192**	P	**P**	**16 13 12.9**	**-0.7**
	1.8nm,0.8s,baz=8.1,slow=6.7,SNR=15						
ASAR	**Alice Springs**	**65.09**	**191**	P	**P**	**16 13 38.2**	**0.0**
	0.6nm,0.6s,baz=10,slow=6.6,SNR=15						
FINES	**FINESS Array B**	**66.69**	**333**	P	**P**	**16 13 48.0**	**0.0**
	1.8nm,0.9s,baz=11,slow=3.9,SNR=3.9						
AKASG	**Malin Array Be**	**72.93**	**323**	P	**P**	**16 14 26.7**	**+0.1**
	0.3nm,0.4s,baz=44,slow=6.9,SNR=4.1						
TXAR	**Lajitas Array**	**85.52**	**55**	P	P	16 15 36.9	+1.0
	0.3nm,0.6s,baz=299,slow=2.6,SNR=4.3						

IDC 28 16:03:38.7±1.4,33.°49N×95.°85E,h0km,mb3.3/3, mb1 3.4/5,mb1mx3.1/70,mbtmp3.3/5,ML3.3/2,MS3.1/2, Ms1 3.1/2,ms1mx2.4/39,Error ellipse: s-maj=144.5km s-min=23.9km az=58.0,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.23**	**169**	Pn	Pn	16 07 15.9	+0.8
	0.1nm,0.3s,baz=342,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**16.82**	**326**	Pn	Pn	16 07 33.6	-1.9
	0.1nm,0.3s,baz=138,slow=13,SNR=4.9						
KURBB	**Kurchatov Arra**	**21.32**	**329**	P	P	16 08 26.7	-0.3
	1.9nm,0.6s,baz=136,slow=11,SNR=23						
BVAR	**Borovoye Array**	**26.69**	**325**	LR	LR	16 21 43.1	
	comp=Z,39nm,18.1s,baz=122,slow=41						
GEYT	**Alibeck**	**30.82**	**289**	LR	LR	16 24 21.5	
	comp=Z,24nm,18.7s,baz=345,slow=40						
WRA	**Warramunga Arr**	**64.59**	**140**	P	P	16 14 18.7	+0.7
	0.2nm,0.7s,baz=324,slow=8.9,SNR=2.9						
ASAR	**Alice Springs**	**67.41**	**142**	P	P	16 14 35.4	-0.8
	0.2nm,0.8s,baz=329,slow=6.5,SNR=4.3						

KRSC 28 16:06:32.4±1.4,48.°69N×156.°39E,h15km±14km,ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.00**	**355**	*e*P	Pn	16 07 05.8	+0.2
SKR				*e*S	Sn	16 07 30.3	-0.1
PAU	**Pauzhetka**	**2.79**	**5**	*e*P	Pb	16 07 19.5	-2.4
PAU				*e*S	Sb	16 07 53.3	-2.6
KDTR	**Khodutka, Kamc**	**3.31**	**18**	*e*P	Pb	16 07 27.1	-3.6
KDTR				*e*S	Sb	16 08 06.7	-3.9
ASAK	**Asacha**	**3.82**	**14**	*e*P	Pn	16 07 35.0	+4.3
MTVR	**Mutnovka**	**3.97**	**16**	*e*P	Pn	16 07 36.3	+3.6
MTVR				*e*S	Sn	16 08 24.0	+5.0
RUS	**Russkaya**	**3.99**	**19**	*e*P	Pn	16 07 36.7	+3.9
RUS				*e*S	Sn	16 08 24.5	+5.3
KRMR	**Karymshinskiy**	**4.29**	**14**	*e*P	Pn	16 07 40.7	+3.7
PET	**Petropavlovsk**	**4.57**	**17**	*e*P	Pn	16 07 44.3	+3.4
PET				*e*S	Sn	16 08 39.0	+5.4
DALK	**Dalny**	**4.60**	**18**	*e*P	Pn	16 07 45.0	+3.8
DALK				*e*S	Sn	16 08 40.8	+6.5
UGLR	**Uglovaya**	**4.78**	**18**	*e*P	Pn	16 07 48.1	+4.2
AVH	**Avacha**	**4.82**	**17**	*e*P	Pn	16 07 49.6	+5.3
SMAR	**Somma**	**4.83**	**17**	*e*P	Pn	16 07 49.3	+4.7
SDLR	**Sedlovina**	**4.86**	**18**	*e*P	Pn	16 07 49.2	+4.3
SPN	**Mys Shipunski**	**4.98**	**26**	*e*P	Pn	16 07 50.0	+3.5
SPN				*e*S	Sn	16 08 48.7	+5.0
GNL	**Ganaly**	**5.11**	**10**	*e*P	Pn	16 07 52.2	+3.8
KBTR	**Krutoberegovo**	**8.49**	**25**	*e*P	Pn	16 08 39.3	+4.7

MAN 28 16:10:59,8.°95N×126.°16E,h24km,mb4.0,ML2.7,MS2.3, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.54**	**272**	*e*P	Pn	16 11 10.7	-0.4
BUTP				*e*S	Sn	16 11 21.3	+1.8
BIPH	**Bislig**	**0.79**	**166**	*e*P	Pn	16 11 14.5	-0.1
BIPH				*e*S	Sn	16 11 25.1	-0.6
SCPH	**Surigao**	**1.06**	**321**	*e*P	Pb	16 11 18.7	0.0
SCPH				*e*S	Sb	16 11 29.5	-2.6
BUKP	**Musuan**	**1.52**	**226**	*e*P	Pn	16 11 25.1	+0.2
BUKP				*e*S	Sb	16 11 45.9	+0.3

IDC 28 16:17:18.3±8.3,30.°81S×179.°69W,h490km±107km, mb2.3/2,mb1 2.7/3,mb1mx2.5/38,mbtmp3.4/3,Error ellipse: s-maj=108.1km s-min=47.1km az=7.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.89**	**199**	P	P	16 19 13.2	+0.1
	1.2nm,0.3s,baz=277,slow=4.8,SNR=12						
URZ				S	S	16 20 48.0	+0.6
	1.0nm,0.3s,baz=258,slow=23,SNR=11						
ASAR	**Alice Springs**	**41.64**	**268**	P	P	16 24 23.1	-0.1
	0.2nm,0.6s,baz=101,slow=6.9,SNR=5.6						
WRA	**Warramunga Arr**	**42.66**	**274**	P	P	16 24 30.7	-0.6
	0.2nm,0.5s,baz=113,slow=6.7,SNR=4.7						
FINES	**FINESS Array B**	**145.01**	**339**	PKPbc	PKPdf	16 35 58.5	0.0
	1.8nm,0.9s,baz=80,slow=1.6,SNR=4.5						

*ISCJB **28** 16:26:01.5±1.1,41.°08N±0.°06×38.°62E±0.°04,h14km±4km, Error ellipse: s-maj=10.9km s-min=4.7km az=173.1*
*CSEM **28** 16:26:01.8±0.3,41.°03N×38.°61E,h15km,ML2.2,Error ellipse: s-maj=6.3km s-min=2.8km az=174.0*
*DDA **28** 16:26:02.0,40.°99N×38.°66E,h7km,Ml2.6*
*ISK **28** 16:26:02.3,40.°93N×38.°61E,h16km, ML2.2/4*
ISC 28 16:26:01.6±1.2,41.°04N±0.°05×38.°61E±0.°02,h16km±7km, n26,σ0ş46/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESPY	**Espiye-Giresun**	**0.15**	**144**	PG	**Pb**	**16 26 06.3**	**+0.2**
ESPY				SG	**Sg**	**16 26 09.0**	**+0.6**
ESPY	**Espiye-Giresun**	**0.15**	**144**	*e*Pg	**Pb**	**16 26 06.3**	**+0.2**
ESPY				*e*Sg	**Sg**	**16 26 09.0**	**+0.6**
GRSN	**GIRESUNGRSN**	**0.28**	**245**	*i* P	**Pb**	**16 26 08.3**	**0.0**
GRSN				*i* S	**Sb**	**16 26 12.7**	**-0.1**
GRSN	**GIRESUNGRSN**	**0.28**	**245**	P	**Pb**	**16 26 08.3**	**0.0**
GRSN				S	**Sb**	**16 26 12.7**	**-0.1**
GUMT	**Gumushane**	**0.88**	**131**	PG	**Pb**	**16 26 18.5**	**-0.1**
GUMT	**Gumushane**	**0.88**	**131**	*e*Pg	**Pb**	**16 26 18.5**	**-0.1**
MACK	**Trabzon**	**0.89**	**96**	*i* P	**Pg**	**16 26 18.6**	**-0.2**
MACK				*i* S	**Sg**	**16 26 30.0**	**-0.4**
MACK	**Trabzon**	**0.89**	**96**	P	**Pg**	**16 26 18.6**	**-0.2**
MACK				S	**Sg**	**16 26 30.0**	**-0.4**
SUSE	**Susehri**	**0.89**	**200**	*i* P	**Pg**	**16 26 18.1**	**-0.7**
SUSE				*i* S	**Sb**	**16 26 30.9**	**+0.5**
SUSE	**Susehri**	**0.89**	**200**	P	**Pg**	**16 26 18.1**	**-0.7**
SUSE				S	**Sb**	**16 26 30.9**	**+0.5**
KELT	**Kelkit**	**1.02**	**151**	*i* P	**Pb**	**16 26 21.0**	**0.0**
KELT				*i* S	**Sg**	**16 26 33.6**	**-1.2**
KELT	**Kelkit**	**1.02**	**151**	P	**Pb**	**16 26 21.0**	**0.0**
KELT				S	**Sg**	**16 26 33.6**	**-1.2**
RSDY	**Resadiye-TOKAT**	**1.17**	**237**	PN	**Pb**	**16 26 23.5**	**+0.1**
RSDY				SN	**Sg**	**16 26 38.8**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.17**	**237**	*e*Pn	**Pb**	**16 26 23.5**	**+0.1**
RSDY				*e*Sn	**Sg**	**16 26 38.8**	**-0.5**
CUZAR	**Zara_SIVAS**	**1.32**	**209**	*i* P	**Pb**	**16 26 26.1**	**+0.1**
CUZAR				*i* S	**Sg**	**16 26 44.5**	**+0.3**
CUZAR	**Zara_SIVAS**	**1.32**	**209**	P	**Pb**	**16 26 26.1**	**+0.1**
CUZAR				S	**Sg**	**16 26 44.5**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.33**	**119**	PN	**Pn**	**16 26 26.2**	**+0.5**
BAYT				SN	**Sb**	**16 26 42.7**	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.33**	**119**	*e*Pn	**Pn**	**16 26 26.2**	**+0.5**
BAYT				*e*Sn	**Sb**	**16 26 42.7**	**-0.5**
BAYB	**BAYBURT**	**1.48**	**121**	*i* P	**Pb**	**16 26 28.9**	**+0.1**
BAYB				*i* S	**Sn**	**16 26 47.4**	**+0.5**
BAYB	**BAYBURT**	**1.48**	**121**	P	**Pb**	**16 26 28.9**	**+0.1**
BAYB				S	**Sn**	**16 26 47.4**	**+0.5**
SVSK	**Karacayir**	**1.66**	**228**	PN	**Pn**	**16 26 30.3**	**+0.2**
SVSK	**Karacayir**	**1.66**	**228**	*e*Pn	**Pn**	**16 26 30.3**	**+0.2**
KEMA	**Kemaliye**	**

*ISCJB **28** 17:01:17.3±0.3,67.01N±0.02×20.83E±0.06,h0km,Error ellipse: s-maj=3.7km s-min=3.0km az=31.0*
*UPP **28** 17:01:18.4,67.06N×20.90E,h0km,ML2.1,Mining explosion.*
*NAO **28** 17:01:19.5±0.8,67.06N×21.04E,ML3.0*
*IDC **28** 17:01:19.9±0.7,67.10N×21.55E,h0km,mb1 3.4/5, mb1mx3.1/71,mbtmp3.4/5,ML2.4/5,Error ellipse: s-maj=14.1km s-min=6.4km az=109.0*
*CSEM **28** 17:01:19.0±0.2,67.05N×20.94E,h2km,ML2.1,Error ellipse: s-maj=5.4km s-min=4.5km az=115.0,Mining explosion.*
*BER **28** 17:01:21.9±3.5,67.04N×20.81E,h0km,ML2.0, ML3.0(NAO),Suspected explosion*

ISC 28 17:01:18.7±0.7, 67.07N±0.03×20.90E±0.03, h0km, n59, σ0s81/84, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.58**	**47**	P	**Pg**	**17 01 29.6**	**-0.2**
MASU	**Masugnsbyn**	**0.58**	**47**	P	**Pg**	**17 01 29.6**	**-0.2**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**17 01 32.0**	**-0.6**
ERTU				S	**Sg**	**17 01 42.8**	**+0.9**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**17 01 32.0**	**-0.6**
ERTU				S	**Sg**	**17 01 42.8**	**+0.9**
PAJU	**Pajala**	**0.87**	**92**	P	**Pg**	**17 01 34.5**	**-0.8**
PAJU				S	**Sg**	**17 01 46.1**	**-0.5**
PAJU	**Pajala**	**0.87**	**92**	P	**Pg**	**17 01 34.5**	**-0.8**
PAJU				S	**Sg**	**17 01 46.1**	**-0.5**
RATU	**Laukkuluspa**	**0.91**	**327**	P	**Pg**	**17 01 35.6**	**-0.6**
RATU	**Laukkuluspa**	**0.91**	**327**	P	**Pg**	**17 01 35.6**	**-0.6**
KUA	**Kurravaara**	**0.92**	**347**	P	**Pg**	**17 01 35.5**	**-0.8**
KUA	**Kurravaara**	**0.92**	**347**	P	**Pg**	**17 01 35.5**	**-0.8**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 01 38.2**	**-1.1**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 01 38.2**	**-1.1**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**17 01 38.7**	**-0.7**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**17 01 38.7**	**-0.7**
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**17 01 49.5**	**-0.3**
	SNR=50						
HEF				*e*S	**Sn**	**17 02 12.5**	**+0.2**
	SNR=50						
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**17 01 49.5**	**-0.3**
HEF				*e*S	**Sn**	**17 02 12.5**	**+0.2**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pn	**Pb**	**17 01 54.4**	**-0.6**
KIF				Sn	**Sg**	**17 02 22.5**	**+1.3**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pn	**Pb**	**17 01 54.4**	**-0.6**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pb**	**17 01 54.8**	**-0.2**
	SNR=50						
KIF				*e*S	**Sg**	**17 02 21.6**	**+0.4**
	SNR=50						
KIF				Sn	**Sg**	**17 02 22.5**	**+1.3**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pb**	**17 01 54.8**	**-0.2**
KIF				*e*S	**Sg**	**17 02 21.6**	**+0.4**
KTK1	**Kautokeino**	**2.14**	**23**	*e*P	**Pn**	**17 01 56.8**	**+1.1**
	SNR=50						
KTK1				*e*S	**Sb**	**17 02 25.2**	**-0.3**
	SNR=50						
KTK1	**Kautokeino**	**2.14**	**23**	*e*P	**Pn**	**17 01 56.8**	**+1.1**
KTK1				*e*S	**Sb**	**17 02 25.2**	**-0.3**
KTK1				IAML		17 02 29.9	
	comp=Z,18nm,0.2s						
STEI	**Steigen**	**2.34**	**294**	*e*P	**Pb**	**17 02 01.4**	**-0.3**
	SNR=50						
STEI				*e*Sg	**Sg**	**17 02 33.5**	**-0.4**
	SNR=90						
STEI	**Steigen**	**2.34**	**294**	*e*P	**Pb**	**17 02 01.4**	**-0.3**
STEI				*e*Sg	**Sg**	**17 02 33.5**	**-0.4**
TRO	**Tromso**	**2.68**	**345**	*e*P	**Pn**	**17 02 03.8**	**+0.8**
	SNR=50						
TRO	**Tromso**	**2.68**	**345**	*e*P	**Pn**	**17 02 03.8**	**+0.8**
TRO				IAML		17 02 48.4	
	comp=Z,11nm,0.2s						
MOR8	**Moi Rana**	**2.73**	**254**	*e*P	**Pn**	**17 02 04.0**	**+0.3**
	comp=Z,13nm,0.2s,SNR=50						
MOR8	**Moi Rana**	**2.73**	**254**	*e*P	**Pn**	**17 02 04.0**	**+0.3**
	comp=Z,13nm,0.2s						
MOR8				IAML		17 02 44.6	
	comp=Z,13nm,0.2s						
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**17 02 07.8**	**+0.1**
	baz=212,slow=16						
ARA0				Sn	**Sn**	**17 02 45.6**	**+1.3**
	baz=223,slow=22						
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**17 02 07.8**	**+0.1**
	SNR=50						
ARA0				Sn	**Sn**	**17 02 45.7**	**+1.3**
	SNR=50						
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**17 02 07.8**	**+0.1**
	baz=212,slow=16						
ARA0				Sn	**Sn**	**17 02 45.6**	**+1.3**
	baz=223,slow=22						
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**17 02 07.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=216,slow=14,SNR=105						
ARCES				Lg	Lg	17 02 46.6	
	comp=Z,1.7nm,0.3s,baz=222,slow=22,SNR=7.6						
ARE0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**17 02 08.0**	**+0.4**
	SNR=50						
ARE0				*e*S	**Sn**	**17 02 45.7**	**+1.3**
	SNR=50						
ARE0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**17 02 08.0**	**+0.4**
ARE0				*e*S	**Sn**	**17 02 45.7**	**+1.3**
ARE0				IAML		17 02 50.8	
	comp=Z,14nm,0.2s						
LOF	**Lofoten**	**3.01**	**294**	*e*P	**Pn**	**17 02 07.8**	**+0.2**
	SNR=50						
LOF	**Lofoten**	**3.01**	**294**	*e*P	**Pn**	**17 02 07.8**	**+0.2**
KONS	**Konsvik**	**3.13**	**263**	*e*P	**Pn**	**17 02 10.5**	**+1.2**
	SNR=50						
KONS	**Konsvik**	**3.13**	**263**	*e*P	**Pn**	**17 02 10.5**	**+1.2**
STOK	**Stokkvaagen**	**3.22**	**260**	*e*P	**Pn**	**17 02 11.6**	**+1.2**
HAMF	**Hammerfest**	**3.73**	**14**	*e*P	**Pn**	**17 02 19.1**	**+1.6**
	SNR=50						
HAMF	**Hammerfest**	**3.73**	**14**	*e*P	**Pn**	**17 02 19.1**	**+1.6**
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**17 02 50.4**	**+0.8**
	baz=347,slow=16						
FIA0				Sn	**Sn**	**17 04 00.0**	**+0.2**
	baz=347,slow=28						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**17 02 50.4**	**+0.8**
	SNR=50						
FIA0				Sn	**Sn**	**17 04 00.0**	**+0.2**
	SNR=50						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**17 02 50.4**	**+0.8**
	baz=347,slow=16						
FIA0				Sn	**Sn**	**17 04 00.0**	**+0.2**
	baz=347,slow=28						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**17 02 50.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=350,slow=13,SNR=9.3						
FINES				Sn	**Sn**	**17 03 59.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=347,slow=22,SNR=9.2						
FINES				Lg	Lg	17 04 28.0	
	comp=Z,0.2nm,0.3s,baz=350,slow=30,SNR=3.4						
NB201	**NORSAR Array S**	**7.35**	**219**	*e*P	**Pn**	**17 03 07.0**	**-0.2**
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn	**Pn**	**17 03 06.8**	**-0.8**
	baz=22,slow=12						
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn	**Pn**	**17 03 06.8**	**-0.8**
	baz=22,slow=12						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**17 03 08.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=16,slow=20,SNR=3.7						
NOA				Sn	**Sn**	**17 04 31.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=73,slow=19,SNR=4.5						
NOA				Lg	Lg	17 05 10.2	
	comp=Z,0.2nm,0.3s,baz=336,slow=15,SNR=1.4						
NC602	**NORSAR Array S**	**7.57**	**217**	*e*P	**Pn**	**17 03 11.6**	**+1.5**
NRA0	**NORESS Array S**	**7.57**	**217**	Pn	**Pn**	**17 03 09.3**	**-0.8**
	baz=30,slow=16						
NRA0	**NORESS Array S**	**7.57**	**217**	Pn	**Pn**	**17 03 09.3**	**-0.8**
	baz=30,slow=16						
NAO01	**NORSAR Array S**	**7.63**	**220**	*e*P	**Pn**	**17 03 10.0**	**-1.1**
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**17 03 11.0**	**-0.4**
	baz=27,slow=14						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**17 03 12.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=7.1						
HFS				Sn	**Sn**	**17 04 41.0**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=38,slow=22,SNR=5.4						
HFS				Lg	Lg	17 05 17.4	
	comp=Z,0.2nm,0.3s,baz=35,slow=25,SNR=3.5						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**17 03 11.0**	**-0.4**
	baz=27,slow=14						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**17 03 59.9**	**-0.5**
	baz=163,slow=10						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**17 03 59.9**	**-0.5**
	baz=163,slow=10						
SPITS	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**17 04 00.6**	**+0.2**
	baz=168,slow=15,SNR=11						

MEX 28 17:14:13.6±0.4, 16.59N×98.48W, h9km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**120**	*e*P	Pg	17 14 21.0	-0.3
PNIG				*e*S	Sg	17 14 26.4	0.0
TLIG	**Tlapa**	**0.97**	**355**	*i* P	Pg	17 14 29.5	-2.9
TLIG				*e*S	Sg	17 14 42.8	-2.3
VHO	**Vista Hermosa**	**1.74**	**74**	*e*P	Pn	17 14 41.0	-3.1
VHO				*i* S	Sn	17 15 01.6	-4.9
CAIG	**El Cayaco**	**1.77**	**285**	*e*P	Pn	17 14 41.2	-3.2
CAIG				*e*S	Sn	17 15 02.0	-5.2
HUIG	**Huatulco**	**2.42**	**109**	*e*P	Pn	17 14 50.3	-3.0

*ISCJB **28** 17:22:39.7±0.2,37.33N±0.02×4.34W±0.02,h12km,Error ellipse: s-maj=2.6km s-min=1.7km az=177.0*
*CSEM **28** 17:22:41.1±0.1,37.24N×4.33W,h15km,ML3.6/39,Error ellipse: s-maj=3.2km s-min=2.2km az=173.0*
*LDG **28** 17:22:41.2±0.1,37.17N×4.31W,h2km,Ml3.2/4,Error ellipse: s-maj=3.0km s-min=1.8km az=166.0*
*SFS **28** 17:22:42.0,37.10N×4.20W,h30km,ML3.3*
*IGIL **28** 17:22:42.8,37.12N×4.30W,h30km*
*MDD **28** 17:22:43.0±0.2,37.12N×4.28W,h30km±1km,mbLg3.4/32, Error ellipse: s-maj=3.3km s-min=2.5km az=3.0,PRXIMO*
*INMG **28** 17:22:42.7±1.2,37.09N×4.29W,h31km±3km,MD3.4, ML3.1,Error ellipse: s-maj=2.8km s-min=1.7km az=12.0*

ISC 28 17:22:40.3±0.7, 37.20N±0.02×4.27W±0.02, h12km, n166, σ2s16/297, 3C-17D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGOR	**Sierra Gorda,**	**0.15**	**126**	⇓Pg	**Pb**	**17 22 48.5**	**+3.3**
	27nm,0.1s,SNR=18						
EGOR				Lg	Lg	17 22 53.4	
	1μm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**0.15**	**126**	Pg	**Pb**	**17 22 48.5**	**+3.3**
	27nm,0.1s,SNR=18						
EGOR				Lg	Lg	17 22 53.4	
	1μm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.46**	**197**	*i* P	**Pn**	**17 22 50.8**	**-1.9**
EMAL				*i* S	**Sb**	**17 22 57.6**	**+0.6**
ELGU	**Los Guajares,**	**0.61**	**123**	⇓Pg	**Pb**	**17 22 53.5**	**+0.6**
	23nm,0.2s,SNR=18						
ELGU				Lg	Lg	17 23 02.6	
	461nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**0.61**	**123**	Pg	**Pb**	**17 22 53.5**	**+0.6**
	23nm,0.2s,SNR=18						
ELGU				Lg	Lg	17 23 02.6	
	461nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**0.66**	**89**	⇓Pg	**Pb**	**17 22 55.3**	**+1.5**
	56nm,0.3s,SNR=18						
EQUE				Lg	Lg	17 23 05.1	
	491nm,0.2s,SNR=31						
EQUE	**Quentar**	**0.66**	**89**	Pg	**Pb**	**17 22 55.3**	**+1.5**
	56nm,0.3s,SNR=18						
EQUE				Lg	Lg	17 23 05.1	
	491nm,0.2s,SNR=31						
EMIJ	**Mijas**	**0.75**	**213**	⇑Pg	**Pb**	**17 22 55.4**	**0.0**
	4.0nm,0.1s,SNR=18						
EMIJ				Lg	Lg	17 23 04.9	
	444nm,0.2s,SNR=280						
EMIJ	**Mijas**	**0.75**	**213**	Pg	**Pb**	**17 22 55.4**	**0.0**
	4.0nm,0.1s,SNR=18						
EMIJ				Lg	Lg	17 23 04.9	
	444nm,0.2s,SNR=280						
EADA	**Adamuz**	**1.00**	**346**	⇓Pn	**Pb**	**17 23 01.0**	**+1.4**
	8.1nm,0.1s,SNR=18						
EADA				Pg	**Pn**	**17 23 02.3**	**+2.1**
	63nm,0.1s,SNR=7.9						
EADA				Sn	**Sb**	**17 23 14.4**	**+1.7**
	101nm,0.1s,SNR=7.9						
EADA				Lg	Lg	17 23 16.5	
	1μm,0.1s,SNR=5.0						
EADA	**Adamuz**	**1.00**	**346**	Pn	**Pb**	**17 23 01.0**	**+1.4**
	8.1nm,0.1s,SNR=18						
EADA				Lg	Lg	17 23 16.5	
	1μm,0.1s,SNR=5.0						
GORA	**Gorafe**	**1.01**	**74**	Pg	**Pn**	**17 23 01.7**	**+1.2**
	48nm,0.1s,SNR=7.9						
GORA				Lg	Lg	17 23 16.2	
	697nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**1.01**	**74**	Pg	**Pn**	**17 23 01.7**	**+1.2**
	48nm,0.1s,SNR=7.9						
GORA				Lg	Lg	17 23 16.2	
	697nm,0.2s,SNR=7.9						
REAL	**Reales**	**1.04**	**227**	*e*P	**Pn**	**17 23 01.8**	**+0.9**
REAL				*e*S	**Sg**	**17 23 10.2**	**-3.7**
EQES	**Quesada**	**1.12**	**57**	⇑Pg	**Pb**	**17 23 02.6**	**+0.8**
	11nm,0.2s,SNR=18						
EQES				Lg	Lg	17 23 19.4	
	396nm,0.2s,SNR=22						
EQES	**Quesada**	**1.12**	**57**	Pg	**Pb**	**17 23 02.6**	**+0.8**
	11nm,0.2s,SNR=18						
EQES				Lg	Lg	17 23 19.4	
	396nm,0.2s,SNR=22						
EBER	**Berja**	**1.14**	**105**	⇓Pg	**Pg**	**17 23 03.2**	**+0.9**
	7.2nm,0.2s,SNR=18						
EBER				Lg	Lg	17 23 18.2	
	326nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.14**	**105**	Pg	**Pg**	**17 23 03.2**	**+0.9**
	7.2nm,0.2s,SNR=18						
EBER				Lg	Lg	17 23 18.2	
	326nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.22**	**233**	⇑Pg	**Pg**	**17 23 05.2**	**+1.4**
	26nm,0.2s,SNR=18						
EJIF				Lg	Lg	17 23 17.7	
	79nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.22**	**233**	Pg	**Pg**	**17 23 05.2**	**+1.4**
	26nm,0.2s,SNR=18						
EJIF				Lg	Lg	17 23 17.7	
	79nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**1.27**	**314**	Pn	**Pn**	**17 23 03.8**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
ECAB				Pg	**Pg**	**17 23 06.3**	**+1.7**
	18nm,0.1s,SNR=152						
ECAB				Sn	**Sb**	**17 23 19.3**	**-1.1**
	12nm,0.1s,SNR=7.9						
ECAB				Lg	Lg	17 23 23.5	
	138nm,0.2s,SNR=5.0						
ECAB	**El Cabril**	**1.27**	**314**	Pn	**Pn**	**17 23 03.8**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
ECAB				Sn	**Sb**	**17 23 19.3**	**-1.1**
	12nm,0.1s,SNR=7.9						
ECAB				Lg	Lg	17 23 23.5	
	138nm,0.2s,SNR=5.0						
ALJ	**Aljibe**	**1.30**	**239**	*e*P	**Pn**	**17 23 02.8**	**-1.5**
ALJ				*e*S	**Sg**	**17 23 24.9**	**+2.8**
GIBL	**Gibalbin**	**1.41**	**255**	*e*P	**Pg**	**17 23 10.4**	**+3.0**
SESP	**Santiago Espad**	**1.65**	**56**	Pn	**Pn**	**17 23 09.2**	**0.0**
	8.2nm,0.2s,SNR=7.9						
SESP				Pg	**Pb**	**17 23 12.4**	**+1.7**
	15nm,0.2s,SNR=7.9						
SESP				Sn	**Sn**	**17 23 29.9**	**-0.5**
	32nm,0.2s,SNR=7.9						
SESP				Lg	Lg	17 23 34.4	
	690nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**1.65**	**56**	Pn	**Pn**	**17 23 09.2**	**0.0**
	8.2nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.66**	**97**	Pn	**Pn**	**17 23 09.3**	**0.0**
	1.8nm,0.2s,SNR=7.9						
ENIJ				Sn	**Sn**	**17 23 28.3**	**-2.3**
	32nm,0.2s,SNR=7.9						
ENIJ				Lg	Lg	17 23 33.1	
	146nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**1.66**	**97**	Pn	**Pn**	**17 23 09.3**	**0.0**
	1.8nm,0.2s,SNR=7.9						
ENIJ				Lg	Lg	17 23 33.1	
	146nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.00**	**287**	⇓Pn	**Pn**	**17 23 13.3**	**-0.6**
	17nm,0.1s,SNR=18						
EMIN				Sn	**Sn**	**17 23 36.1**	**-2.7**
	6.2nm,0.1s,SNR=6.1						
EMIN				Lg	Lg	17 23 42.2	
	57nm,0.1s,SNR=13						
EMIN	**Mina Concepcio**	**2.00**	**287**	Pn	**Pn**	**17 23 13.3**	**-0.6**
	17nm,0.1s,SNR=18						
EMIN				Sn	**Sn**	**17 23 36.1**	**-2.7**
	6.2nm,0.1s,SNR=6.1						
EMIN				Lg	Lg	17 23 42.2	
	57nm,0.1s,SNR=13						
PAB	**San Pablo**	**2.34**	**358**	Pn	**Pn**	**17 23 19.5**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
PAB				Sn	**Sn**	**17 23 46.7**	**-0.8**
	5.7nm,0.1s,SNR=7.9						
PAB				Lg	Lg	17 23 55.2	
	48nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**2.34**	**358**	Pn	**Pn**	**17 23 19.5**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
PAB				Sn	**Sn**	**17 23 46.7**	**-0.8**
	5.7nm,0.1s,SNR=7.9						
PAB				Lg	Lg	17 23 55.2	
	48nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**2.41**	**295**	⇓*e*Pn	**Pn**	**17 23 19.1**	**-0.4**
PBAR				*e*Sn	**Sn**	**17 23 47.3**	**-1.6**
PBAR				*e*Sg	**Sg**	**17 23 59.7**	**+2.1**
PBAR				A	A	17 24 09.3	
	104nm,0.2s						
PBAR	**Barrancos**	**2.41**	**295**	⇓*e*Pn	**Pn**	**17 23 19.1**	**-0.4**
PBAR				*e*Sn	**Sn**	**17 23 47.3**	**-1.6**
PBAR				*e*Sg	**Sg**	**17 23 59.7**	**+2.1**
	104nm,0.2s						
ESDC	**Sonseca Array**	**2.48**	**5**	Pn	**Pn**	**17 23 22.3**	**+1.7**
	2.7nm,0.2s,baz=182,slow=12,SNR=12						
ESDC				Pg	**Pb**	**17 23 26.9**	**+2.0**
	15nm,0.2s,baz=187,slow=17,SNR=33						
ESDC				Sn	**Sn**	**17 23 50.4**	**-0.5**
	11nm,0.1s,baz=182,slow=16,SNR=7.9						
ESDC				Lg	Lg	17 23 60.0	
	66nm,0.3s,baz=186,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**2.48**	**5**	Pg	**Pb**	**17 23 26.9**	**+2.0**
	15nm,0.2s,SNR=33						
ESDC				Sn	**Sn**	**17 23 50.4**	**-0.5**
	11nm,0.1s,SNR=7.9						
ESDC				Lg	Lg	17 24 00.0	
	66nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.49**	**74**	Pn	**Pn**	**17 23 20.7**	**0.0**
	2.7nm,0.3s,SNR=7.6						
EMUR				Pg	**Pb**	**17 23 25.7**	**+0.7**
	1.8nm,0.2s,SNR=7.9						
EMUR				Lg	Lg	17 23 58.3	
	64nm,0.4s,SNR=5.0						
EMUR	**La Murta**	**2.49**	**74**	Pn	**Pn**	**17 23 20.7**	**0.0**
	2.7nm,0.3s,SNR=7.6						
EMUR				Lg	Lg	17 23 58.3	
	64nm,0.4s,SNR=5.0						
EGRO	**El Granado**	**2.58**	**278**	⇓Pn	**Pn**	**17 23 21.1**	**-0.8**
	11nm,0.1s,SNR=18						
EGRO				Sn	**Sn**	**17 23 50.7**	**-2.6**
	8.3nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	17 24 00.4	
	42nm,0.1s,SNR=7.5						
EGRO	**El Granado**	**2.58**	**278**	Pn	**Pn**	**17 23 21.1**	**-0.8**
	11nm,0.1s,SNR=18						
EGRO				Sn	**Sn**	**17 23 50.7**	**-2.6**
	8.3nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	17 24 00.4	
	42nm,0.1s,SNR=7.5						
ETOB	**Tobarra**	**2.59**	**55**	Pn	**Pn**	**17 23 22.1**	**0.0**
	3.5nm,0.1s,SNR=24						
ETOB				Pg	**Pb**	**17 23 27.1**	**+0.4**
	6.2nm,0.1s,SNR=7.9						
ETOB				Sn	**Sn**	**17 23 52.5**	**-1.0**
	15nm,0.2s,SNR=4.6						
ETOB				Lg	Lg	17 24 01.9	
	41nm,0.1s,SNR=5.0						
ETOB	**Tobarra**	**2.59**	**55**	Pn	**Pn**	**17 23 22.1**	**0.0**
	3.5nm,0.1s,SNR=24						
ETOB				Sn	**Sn**	**17 23 52.5**	**-1.0**
	15nm,0.2s,SNR=4.6						
ETOB				Lg	Lg	17 24 01.9	
	41nm,0.1s,SNR=5.0						
CART	**Cartagena**	**2.63**	**81**	*e*P	**Pn**	**17 23 24.9**	**+2.4**
CART				*e*S	**Sn**	**17 23 54.6**	**+0.2**
EBAD	**Badajoz**	**2.67**	**306**	⇓Pn	**Pn**	**17 23 22.9**	**-0.2**
	4.4nm,0.1s,SNR=18						
EBAD				Sn	**Sn**	**17 23 53.1**	**-2.3**
	32nm,0.1s,SNR=7.4						
EBAD				Lg	Lg	17 24 05.6	
	176nm,0.2s,SNR=7.7						
EBAD	**Badajoz**	**2.67**	**306**	Pn	**Pn**	**17 23 22.9**	**-0.2**
	4.4nm,0.1s,SNR=18						
EBAD				Sn	**Sn**	**17 23 53.1**	**-2.3**
	32nm,0.1s,SNR=7.4						
EBAD				Lg	Lg	17 24 05.6	
	176nm,0.2s,SNR=7.7						
PVAQ	**Vaqueiros**	**2.76**	**275**	⇓*e*Pn	**Pn**	**17 23 23.4**	**-1.0**
PVAQ				*e*Sn	**Sn**	**17 23 54.9**	**-2.7**
PVAQ				A	A	17 24 11.6	
	42nm,0.5s						
PVAQ	**Vaqueiros**	**2.76**	**275**	⇓*e*Pn	**Pn**	**17 23 23.4**	**-1.0**
PVAQ				*e*Sn	**Sn**	**17 23 54.9**	**-2.7**
	42nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.93**	**272**	*e*Pn	**Pn**	**17 23 25.9**	**-0.8**
PBDV				*e*Sn	**Sn**	**17 23 58.7**	**-3.1**
PBDV				A	A	17 24 18.2	
	27nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.93**	**272**	*e*Pn	**Pn**	**17 23 25.9**	**-0.8**
PBDV				*e*Sn	**Sn**	**17 23 58.7**	**-3.1**
	27nm,0.2s						
PBEJ	**Beja**	**2.98**	**287**	*e*Pn	**Pn**	**17 23 27.5**	**+0.2**
PBEJ				*e*Sn	**Sn**	**17 24 01.0**	**-2.0**
PBEJ				*e*Sg	**Sg**	**17 24 14.5**	**-1.4**
PBEJ				A	A	17 24 23.6	
	29nm,0.4s						
PBEJ	**Beja**	**2.98**	**287**	*e*Pn	**Pn**	**17 23 27.5**	**+0.2**
PBEJ				*e*Sn	**Sn**	**17 24 01.0**	**-2.0**
PBEJ				*e*Sg	**Sg**	**17 24 14.5**	**-1.4**
	29nm,0.4s						
PCVE	**Castro Verde**	**3.04**	**279**	*e*Pn	**Pn**	**17 23 27.3**	**-0.9**
PCVE				*e*Sn	**Sn**	**17 24 02.6**	**-1.8**
PCVE				A	A	17 24 25.5	
	33nm,0.3s						
PCVE	**Castro Verde**	**3.04**	**279**	*e*Pn	**Pn**

PNCL				*e*Sn		**Sn**	**17 24 13.3**	**-2.7**
PNCL				A		A	17 24 36.4	
	19nm,0.3s							
PNCL	**Nicolau / Gran**	**3.50**	**286**	⇓*e*Pn		**Pn**	**17 23 34.1**	**-0.5**
PNCL				*e*Sn		**Sn**	**17 24 13.3**	**-2.7**
	19nm,0.3s							
PTEO	**Sao Teotonio**	**3.57**	**277**	*e*Pn		**Pn**	**17 23 34.6**	**-0.9**
PTEO				*e*Sn		**Sn**	**17 24 14.6**	**-3.0**
PTEO				A		A	17 24 49.4	
	25nm,0.5s							
PTEO	**Sao Teotonio**	**3.57**	**277**	*e*Pn		**Pn**	**17 23 34.6**	**-0.9**
PTEO				*e*Sn		**Sn**	**17 24 14.6**	**-3.0**
	25nm,0.5s							
PMTG	**Montargil**	**3.64**	**302**	*e*Pn		**Pn**	**17 23 36.7**	**+0.3**
PMTG				*e*Sn		**Sn**	**17 24 16.8**	**-2.5**
PMTG				A		A	17 24 54.4	
	28nm,0.4s							
PMTG	**Montargil**	**3.64**	**302**	*e*Pn		**Pn**	**17 23 36.7**	**+0.3**
PMTG				*e*Sn		**Sn**	**17 24 16.8**	**-2.5**
	28nm,0.4s							
PFVI	**Vila Bisbo**	**3.64**	**270**	*e*Pn		**Pn**	**17 23 35.6**	**-0.9**
PFVI				*e*Sn		**Sn**	**17 24 15.2**	**-4.2**
PFVI				A		A	17 24 37.7	
	10nm,0.2s							
PFVI	**Vila Bisbo**	**3.64**	**270**	Pn		**Pn**	**17 23 36.0**	**-0.5**
	6.2nm,0.1s,SNR=8.5							
PFVI				Sn		**Sn**	**17 24 15.2**	**-4.2**
	14nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**3.64**	**270**	Pn		**Pn**	**17 23 36.0**	**-0.5**
	6.2nm,0.1s,SNR=8.5							
PFVI				*e*Sn		**Sn**	**17 24 15.2**	**-4.2**
	10nm,0.2s							
PCBR	**Castelo Branco**	**3.65**	**317**	*e*Pn		**Pn**	**17 23 37.7**	**+1.2**
PCBR				*e*Sn		**Sn**	**17 24 16.2**	**-3.3**
PCBR				A		A	17 24 49.2	
	28nm,0.4s							
PCBR	**Castelo Branco**	**3.65**	**317**	*e*Pn		**Pn**	**17 23 37.7**	**+1.2**
PCBR				*e*Sn		**Sn**	**17 24 16.2**	**-3.3**
	28nm,0.4s							
ALMR	**Almeirim**	**3.92**	**301**	*e*P		**Pn**	**17 23 39.9**	**-0.4**
ALMR	**Almeirim**	**3.92**	**301**	*e*Pn		**Pn**	**17 23 40.7**	**+0.4**
ALMR				*e*Sn		**Sn**	**17 24 24.7**	**-1.5**
ALMR				A		A	17 24 57.3	
	52nm,0.8s							
ALMR	**Almeirim**	**3.92**	**301**	*e*Pn		**Pn**	**17 23 40.7**	**+0.4**
ALMR				*e*Sn		**Sn**	**17 24 24.7**	**-1.5**
	52nm,0.8s							
ETOR	**Torete**	**4.00**	**25**	⇓Pn		**Pn**	**17 23 42.3**	**+0.7**
	2.2nm,0.2s,SNR=18							
ETOR				Pg		**Pb**	**17 23 51.6**	**+0.8**
	5.9nm,0.2s,SNR=7.9							
ETOR				Sn		**Sn**	**17 24 26.1**	**-2.4**
	7.6nm,0.1s,SNR=6.5							
ETOR				Lg		Lg	17 24 46.1	
	19nm,0.2s,SNR=5.0							
ETOR	**Torete**	**4.00**	**25**	Pn		**Pn**	**17 23 42.3**	**+0.7**
	2.2nm,0.2s,SNR=18							
ETOR				Sn		**Sn**	**17 24 26.1**	**-2.4**
	7.6nm,0.1s,SNR=6.5							
ETOR				Lg		Lg	17 24 46.1	
	19nm,0.2s,SNR=5.0							
PTOM	**Tomar**	**4.05**	**308**	*e*Pn		**Pn**	**17 23 42.6**	**+0.5**
PTOM				*e*Sn		**Sn**	**17 24 25.5**	**-4.0**
PTOM				A		A	17 25 03.4	
	34nm,0.4s							
PTOM	**Tomar**	**4.05**	**308**	*e*Pn		**Pn**	**17 23 42.6**	**+0.5**
PTOM				*e*Sn		**Sn**	**17 24 25.5**	**-4.0**
	34nm,0.4s							
MTE	**Manteigas**	**4.09**	**322**	*e*Pn		**Pn**	**17 23 43.9**	**+1.1**
MTE				*e*Sn		**Sn**	**17 24 28.6**	**-2.1**
MTE				A		A	17 24 57.2	
	83nm,0.6s							
MTE	**Manteigas**	**4.09**	**322**	*e*Pn		**Pn**	**17 23 43.9**	**+1.1**
MTE				*e*Sn		**Sn**	**17 24 28.6**	**-2.1**
	83nm,0.6s							
PMAFR	**Mafra**	**4.33**	**295**	*e*Pn		**Pn**	**17 23 46.3**	**+0.3**
PMAFR				*e*Sn		**Sn**	**17 24 34.0**	**-2.4**
PMAFR				A		A	17 25 15.5	
	36nm,0.7s							
PMAFR	**Mafra**	**4.33**	**295**	Pn		**Pn**	**17 23 45.5**	**-0.5**
	13nm,0.1s,SNR=11							
PMAFR				Sn		**Sn**	**17 24 32.5**	**-3.8**
	11nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**4.33**	**295**	Pn		**Pn**	**17 23 45.5**	**-0.5**
	13nm,0.1s,SNR=11							
PMAFR				*e*Sn		**Sn**	**17 24 34.0**	**-2.4**
	36nm,0.7s							
EMOS	**Mosqueruela**	**4.33**	**42**	Pn		**Pn**	**17 23 47.1**	**+1.0**
	0.6nm,0.2s,SNR=7.9							
EMOS				Pg		**Pb**	**17 23 55.5**	**-1.0**
	1.4nm,0.3s,SNR=7.9							
EMOS				Sn		**Sn**	**17 24 34.4**	**-2.3**
	4.6nm,0.2s,SNR=7.9							
EMOS				Lg		Lg	17 24 49.6	
	6.4nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**4.33**	**42**	Pn		**Pn**	**17 23 47.1**	**+1.0**
	0.6nm,0.2s,SNR=7.9							
EMOS				Sn		**Sn**	**17 24 34.4**	**-2.3**
	4.6nm,0.2s,SNR=7.9							
EMOS				Lg		Lg	17 24 49.6	
	6.4nm,0.3s,SNR=7.9							
PCAS	**Casmilo, Conde**	**4.37**	**312**	*e*Pn		**Pn**	**17 23 47.3**	**+0.8**
PCAS				*e*Sn		**Sn**	**17 24 34.1**	**-3.3**
PCAS				A		A	17 25 10.8	
	36nm,0.5s							
PCAS	**Casmilo, Conde**	**4.37**	**312**	*e*Pn		**Pn**	**17 23 47.3**	**+0.8**
PCAS				*e*Sn		**Sn**	**17 24 34.1**	**-3.3**
	36nm,0.5s							
COI	**Coimbra**	**4.42**	**314**	*e*Pn		**Pn**	**17 23 46.2**	**-1.0**
COI				*e*Sn		**Sn**	**17 24 35.4**	**-3.2**
MVO	**Moncorvo**	**4.50**	**332**	*e*Pn		**Pn**	**17 23 49.6**	**+1.2**
MVO				*e*Sn		**Sn**	**17 24 36.9**	**-3.8**
MVO				A		A	17 25 09.2	
	44nm,0.4s							
MVO	**Moncorvo**	**4.50**	**332**	Pn		**Pn**	**17 23 49.6**	**+1.2**
	12nm,0.2s,SNR=29							
MVO				Sn		**Sn**	**17 24 38.1**	**-2.6**
	12nm,0.1s,SNR=5.0							
MVO				Lg		Lg	17 24 58.5	
	31nm,0.2s,SNR=13							
MVO	**Moncorvo**	**4.50**	**332**	Pn		**Pn**	**17 23 49.6**	**+1.2**
	12nm,0.2s,SNR=29							
MVO				Sn		**Sn**	**17 24 38.1**	**-2.6**
	12nm,0.1s,SNR=5.0							
MVO				Lg		Lg	17 24 58.5	
	31nm,0.2s,SNR=13							
PVIS	**Viseu**	**4.51**	**322**	*e*Pn		**Pn**	**17 23 49.5**	**+1.0**
PVIS				*e*Sn		**Sn**	**17 24 37.1**	**-3.7**
PVIS				A		A	17 25 08.4	
	23nm,0.5s							
PVIS	**Viseu**	**4.51**	**322**	*e*Pn		**Pn**	**17 23 49.5**	**+1.0**
PVIS				*e*Sn		**Sn**	**17 24 37.1**	**-3.7**
	23nm,0.5s							
EIBI	**Ibiza**	**4.79**	**66**	Pn		**Pn**	**17 23 51.7**	**-0.5**
	1.6nm,0.1s,SNR=7.9							
EIBI				Sn		**Sn**	**17 24 45.0**	**-2.6**
	1.1nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**4.79**	**66**	Pn		**Pn**	**17 23 51.7**	**-0.5**
	1.6nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**4.98**	**338**	*e*Pn		**Pn**	**17 23 56.1**	**+1.1**
PBRG				*e*Sn		**Sn**	**17 24 48.9**	**-3.6**
PBRG				A		A	17 25 25.1	
	16nm,0.6s							
PBRG	**Braganca**	**4.98**	**338**	*e*Pn		**Pn**	**17 23 56.1**	**+1.1**
PBRG				*e*Sn		**Sn**	**17 24 48.9**	**-3.6**
	16nm,0.6s							
POLO	**Lamas de Olo**	**4.99**	**328**	*e*Pn		**Pn**	**17 23 56.3**	**+1.2**
POLO				*e*Sn		**Sn**	**17 24 48.6**	**-4.1**
POLO				A		A	17 25 22.3	
	9.5nm,0.4s							
POLO	**Lamas de Olo**	**4.99**	**328**	*e*Pn		**Pn**	**17 23 56.3**	**+1.2**
POLO				*e*Sn		**Sn**	**17 24 48.6**	**-4.1**
	9.5nm,0.4s							
ECAL	**Calabor**	**5.11**	**339**	Pn		**Pn**	**17 23 57.5**	**+0.8**
	0.9nm,0.2s,SNR=5.8							
ECAL				Sn		**Sn**	**17 24 51.6**	**-4.0**
	4.3nm,0.2s,SNR=5.0							
ECAL				Lg		Lg	17 25 12.4	
	47nm,0.6s,SNR=5.1							
ECAL	**Calabor**	**5.11**	**339**	Pn		**Pn**	**17 23 57.5**	**+0.8**
	0.9nm,0.2s,SNR=5.8							
ECAL				Sn		**Sn**	**17 24 51.6**	**-4.0**
	4.3nm,0.2s,SNR=5.0							
ECAL				Lg		Lg	17 25 12.4	
	47nm,0.6s,SNR=5.1							
ERTA	**Horta de San J**	**5.18**	**42**	Pn		**Pn**	**17 23 58.3**	**+0.6**
	0.5nm,0.1s,SNR=7.9							
ERTA				Sn		**Sn**	**17 24 56.0**	**-1.4**
	1.8nm,0.2s,SNR=7.9							
ERTA				Lg		Lg	17 25 14.1	
	4.1nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**5.18**	**42**	Pn		**Pn**	**17 23 58.3**	**+0.6**
	0.5nm,0.1s,SNR=7.9							
ERTA				Sn		**Sn**	**17 24 56.0**	**-1.4**
	1.8nm,0.2s,SNR=7.9							
ERTA				Lg		Lg	17 25 14.1	
	4.1nm,0.3s,SNR=7.9							
PCAB	**Cabril**	**5.36**	**328**	*e*Pn		**Pn**	**17 24 00.8**	**+0.6**
PCAB				*e*Sn		**Sn**	**17 24 57.0**	**-4.9**
PCAB				A		A	17 25 42.4	
	20nm,0.6s							
PCAB	**Cabril**	**5.36**	**328**	*e*Pn		**Pn**	**17 24 00.8**	**+0.6**
PCAB				*e*Sn		**Sn**	**17 24 57.0**	**-4.9**
	20nm,0.6s							
ESAC	**San Caprasio**	**5.39**	**32**	Pn		**Pn**	**17 24 01.8**	**+1.2**
	4.0nm,0.2s,SNR=7.9							
ESAC				Sn		**Sn**	**17 24 58.8**	**-3.7**
	6.6nm,0.3s,SNR=7.9							
ESAC				Lg		Lg	17 25 19.6	
	21nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**5.39**	**32**	Pn		**Pn**	**17 24 01.8**	**+1.2**
	4.0nm,0.2s,SNR=7.9							
ESAC				Lg		Lg	17 25 19.6	
	21nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**5.51**	**329**	Pn		**Pn**	**17 24 03.0**	**+0.8**
	1.5nm,0.1s,SNR=14							
ELOB				Sn		**Sn**	**17 25 00.2**	**-5.3**
	3.9nm,0.2s,SNR=5.0							
ELOB				Lg		Lg	17 25 27.9	
	23nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**5.51**	**329**	Pn		**Pn**	**17 24 03.0**	**+0.8**
	1.5nm,0.1s,SNR=14							
ELOB				Lg		Lg	17 25 27.9	
	23nm,0.3s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.67**	**328**	*e*Pn		**Pn**	**17 24 05.7**	**+1.2**
PGAV				*e*Sn		**Sn**	**17 25 04.6**	**-5.1**
PGAV				A		A	17 25 45.1	
	18nm,0.6s							
PGAV	**Gavieira, Arco**	**5.67**	**328**	*e*Pn		**Pn**	**17 24 05.7**	**+1.2**
EPOB	**Poblet**	**5.86**	**43**	Pn		**Pn**	**17 24 07.6**	**+0.5**
	1.4nm,0.2s,SNR=5.9							
EPOB	**Poblet**	**5.86**	**43**	Pn		**Pn**	**17 24 07.6**	**+0.5**
	1.4nm,0.2s,SNR=5.9							
ELAN	**Lanestosa**	**6.06**	**6**	Pn		**Pn**	**17 24 11.0**	**+1.3**
	0.2nm,0.2s,SNR=7.9							
ELAN				Sn		**Sn**	**17 25 16.0**	**-3.0**
	0.8nm,0.1s,SNR=7.9							
ELAN				Lg		Lg	17 25 44.2	
	6.6nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**6.06**	**6**	Pn		**Pn**	**17 24 11.0**	**+1.3**
	0.2nm,0.2s,SNR=7.9							
ELAN				Sn		**Sn**	**17 25 16.0**	**-3.0**
	0.8nm,0.1s,SNR=7.9							
ELAN				Lg		Lg	17 25 44.2	
	6.6nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**6.10**	**21**	Pn		**Pn**	**17 24 10.2**	**-0.1**
	1.0nm,0.1s,SNR=7.9							
IELO				Sn		**Sn**	**17 25 17.0**	**-3.0**
	0.9nm,0.2s,SNR=7.9							
IELO				Lg		Lg	17 25 43.4	
	3.2nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**6.10**	**21**	Pn		**Pn**	**17 24 10.2**	**-0.1**
	1.0nm,0.1s,SNR=7.9							
IELO				Sn		**Sn**	**17 25 17.0**	**-3.0**
	0.9nm,0.2s,SNR=7.9							
IELO				Lg		Lg	17 25 43.4	
	3.2nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**6.12**	**63**	Pn		**Pn**	**17 24 11.1**	**+0.6**
	0.4nm,0.2s,SNR=7.9							
ETOS				Sn		**Sn**	**17 25 14.3**	**-6.1**
	0.3nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**6.12**	**63**	Pn		**Pn**	**17 24 11.1**	**+0.6**
	0.4nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**6.12**	**21**	Pn		**Pn**	**17 24 11.9**	**+1.3**
	0.4nm,0.1s,SNR=5.5							
EORO				Sn		**Sn**	**17 25 16.1**	**-4.5**
	1.7nm,0.1s,SNR=5.0							
EORO				Lg		Lg	17 25 42.0	
	10nm,0.4s,SNR=7.9							
EORO	**Oroz-Betelu**	**6.12**	**21**	Pn		**Pn**	**17 24 11.9**	**+1.3**
	0.4nm,0.1s,SNR=5.5							
EORO				Lg		Lg	17 25 42.0	
	10nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**6.14**	**354**	Pn		**Pn**	**17 24 12.3**	**+1.5**
	0.9nm,0.3s,SNR=7.9							
EARI				Sn		**Sn**	**17 25 16.7**	**-4.3**
	1.2nm,0.3s,SNR=7.9							
EARI				Lg		Lg	17 25 43.8	
	33nm,1.0s,SNR=7.9							
EARI	**Arriondas**	**6.14**	**354**	Pn		**Pn**	**17 24 12.3**	**+1.5**
	0.9nm,0.3s,SNR=7.9							
EARI				Sn		**Sn**	**17 25 16.7**	**-4.3**
	1.2nm,0.3s,SNR=7.9							
EARI				Lg		Lg	17 25 43.8	
	33nm,1.0s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.32**	**334**	Pn		**Pn**	**17 24 14.2**	**+0.9**
	0.8nm,0.1s,SNR=7.9							
EAGO				Sn		**Sn**	**17 25 20.8**	**-4.6**
	1.1nm,0.1s,SNR=7.9							
EAGO				Lg		Lg	17 25 45.2	
	13nm,0.4s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.32**	**334**	Pn		**Pn**	**17 24 14.2**	**+0.9**
	0.8nm,0.1s,SNR=7.9							
EAGO				Sn		**Sn**	**17 25 20.8**	**-4.6**
	1.1nm,0.1s,SNR=7.9							
EAGO				Lg		Lg	17 25 45.2	
	13nm,0.4s,SNR=7.9							
SJPF	**Ste Jean**	**6.35**	**21**	*e*Pn		**Pn**	**17 24 14.8**	**+1.1**
SJPF				*e*Sn		**Sn**	**17 25 24.0**	**-2.1**
	2.6nm,0.2s							
SJPF	**Ste Jean**	**6.35**	**21**	Pn		**Pn**	**17 24 14.8**	**+1.1**
SJPF				Sn		**Sn**	**17 25 24.0**	**-2.1**
	1.3nm,0.2s							
SJPF	**Ste Jean**	**6.35**	**21**	Pn		**Pn**	**17 24 14.8**	**+1.1**
SJPF				*e*Sn		**Sn**	**17 25 24.0**	**-2.1**
	1.3nm,0.2s							
ETSF	**Etsaut**	**6.36**	**25**	*e*Pn		**Pn**	**17 24 15.5**	**+1.6**
ETSF				*e*Sg		**Sg**	**17 26 02.5**	**-2.0**
	4.3nm,0.4s							
ETSF	**Etsaut**	**6.36**	**25**	Pn		**Pn**	**17 24 15.5**	**+1.6**
ETSF	**Etsaut**	**6.36**	**25**	Pn		**Pn**	**17 24 15.5**	**+1.6**
ETSF				*e*Sg		**Sg**	**17 26 02.5**	**-2.0**
	2.2nm,0.4s							
EALK	**Alkurruntz**	**6.37**	**18**	Pn		**Pn**	**17 24 14.9**	**+0.8**
	1.5nm,0.2s,SNR=11							
EALK				Sn		**Sn**	**17 25 23.2**	**-3.6**
	4.9nm,0.3s,SNR=7.9							
EALK				Lg		Lg	17 25 47.8	
	26nm,0.8s,SNR=5.0							
EALK	**Alkurruntz**	**6.37**	**18**	Pn		**Pn**	**17 24 14.9**	**+0.8**
	1.5nm,0.2s,SNR=11							
EALK				Sn		**Sn**	**17 25 23.2**	**-3.6**
	4.9nm,0.3s,SNR=7.9							
EALK				Lg		Lg	17 25 47.8	
	26nm,0.8s,SNR=5.0							
ECHI	**Chisagues Biel**	**6.44**	**31**	Pn		**Pn**	**17 24 14.9**	**-0.2**
	0.2nm,0.2s,SNR=7.9							
ECHI				Sn		**Sn**	**17 25 23.4**	**-5.2**
	0.7nm,0.1s,SNR=7.9							
ECHI	**Chisagues Biel**	**6.44**	**31**	Pn		**Pn**	**17 24 14.9**	**-0.2**
	0.2nm,0.2s,SNR=7.9							
ATE	**Arette**	**6.48**	**24**	Pn		**Pn**	**17 24 16.8**	**+1.3**
	0.7nm,0.1s,SNR=7.9							
ATE				Sn		**Sn**	**17 25 25.8**	**-3.6**
	0.9nm,0.1s,SNR=7.9							
ATE	**Arette**	**6.48**	**24**	Pn		**Pn**	**17 24 16.8**	**+1.3**
	0.7nm,0.1s,SNR=7.9							
ATE				Sn		**Sn**	**17 25 25.8**	**-3.6**
	0.9nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**6.49**	**42**	Pn		**Pn**	**17 24 16.1**	**+0.3**
	1.4nm,0.2s,SNR=7.9							
EMIR				Sn		**Sn**	**17 25 25.9**	**-3.9**
	0.6nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**6.49**	**42**	Pn		**Pn**	**17 24 16.1**	**+0.3**
	1.4nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**6.50**	**341**	Pn		**Pn**	**17 24 17.4**	**+1.5**
	0.6nm,0.2s,SNR=7.9							
EPON				Sn		**Sn**	**17 25 24.7**	**-5.2**
	SNR=7.9							
CSOR	**Sort**	**6.63**	**37**	Pn		**Pn**	**17 24 17.6**	**-0.1**
	0.4nm,0.1s,SNR=7.9							
CSOR				Sn		**Sn**	**17 25 28.5**	**-4.8**
	0.6nm,0.1s,SNR=7.9							
CSOR	**Sort**	**6.63**	**37**	Pn		**Pn**	**17 24 17.6**	**-0.1**
	0.4nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.78**	**329**	Pn		**Pn**	**17 24 21.1**	**+1.5**
	1.4nm,0.2s,SNR=7.9							
EMAZ				Sn		**Sn**	**17 25 30.8**	**-6.0**
	0.7nm,0.1s,SNR=7.9							
EPF	**Esparros**	**6.81**	**30**	*e*Pn		**Pn**	**17 24 21.3**	**+1.2**
EPF				*e*Sn		**Sn**	**17 25 33.8**	**-3.7**
	4.1nm,0.4s							
EPF				*e*Sg		**Sg**	**17 26 17.0**	**-1.8**
	4.1nm,0.4s							
EPF	**Esparros**	**6.81**	**30**	Pn		**Pn**	**17 24 21.3**	**+1.2**
EPF				Sn		**Sn**	**17 25 33.8**	**-3.7**
	2.0nm,0.4s							
EPF	**Esparros**	**6.81**	**30**	Pn		**Pn**	**17 24 21.3**	**+1.2**
EPF				*e*Sg		**Sg**	**17 26 17.0**	**-1.8**
	2.0nm,0.4s							
CFON	**Fontmartina**	**6.90**	**47**	Pn		**Pn**	**17 24 20.9**	**-0.4**
	0.8nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**6.90**	**47**	Pn		**Pn**	**17 24 20.9**	**-0.4**
	0.8nm,0.2s,SNR=7.9							
CLLI	**Llivia**	**7.13**	**40**	Pn		**Pn**	**17 24 24.7**	**+0.2**
	0.1nm,0.1s,SNR=7.9							
CLLI	**Llivia**	**7.13**	**40**	Pn		**Pn**	**17 24 24.7**	**+0.2**
	0.1nm,0.1s,SNR=7.9							
CAF	**Calviac**	**9.08**	**30**	*e*Pn		**Pn**	**17 24 51.7**	**+0.6**
CAF	**Calviac**	**9.08**	**30**	Pn		**Pn**	**17 24 51.7**	**+0.6**
CAF	**Calviac**	**9.08**	**30**	Pn		**Pn**	**17 24 51.7**	**+0.6**
RJF	**Les Rejaudoux**	**9.19**	**26**	*e*Pn		**Pn**	**17 24 52.5**	**-0.2**
RJF	**Les Rejaudoux**	**9.19**	**26**	*e*P		**Pn**	17 24 57.9	+5.2
RJF	**Les Rejaudoux**	**9.19**	**26**	Pn		**Pn**	**17 24 52.5**	**-0.2**
RJF	**Les Rejaudoux**	**9.19**	**26**	Pn		**Pn**	**17 24 52.5**	**-0.2**

NIED ***28*** *17:28:00,34.˚60N×140.˚20E,h59km,Mw3.7 Best double couple: M0 3.62000×10^14 NP1:φs303.00000°,δ50.00000°, λ170.00000°. NP2:φs39.00000°,δ82.00000°,λ40.00000°.*

IDC ***28*** *17:28:44.7±2.0,34.˚65N×140.˚37E,h46km±15km,mb3.4/8, mb1 3.6/12,mb1mx3.3/69,mbtmpb3.8/12,ML3.5/3,MS1.7/2, Ms1 1.7/2,ms1mx1.7/39,Error ellipse: s-maj=29.1km s-min=5.9km az=79.0*

ISCJB ***28*** *17:28:45.2±0.5,34.˚61N±0.˚04×140.˚15E±0.˚05,h62km±4km, mb3.7/8,Error ellipse: s-maj=7.4km s-min=6.2km az=145.3*

JMA ***28*** *17:28:45.7±0.2,34.˚61N×140.˚16E,h55km±2km,M3.6*

JMA Felt I J1.

ISC 28 17:28:45.1±0.8,34.˚62N±0.˚04×140.˚20E±0.˚05,h56km±8km, n31,σ1°53/34,mb3.7/8,3C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.31**	**54**	⇑P	**Pn**	**17 28 56.0**	**+1.4**
BSO3				X		17 29 03.0	
BSO4	**Boso 4**	**0.39**	**17**	⇑P	**Pn**	**17 28 56.8**	**+1.3**
BSO4				*e*X		17 29 05.4	
TATJ	**Tateyama 2**	**0.49**	**328**	⇓P	**Pn**	**17 28 57.8**	**+1.2**
KTR	**Katsuura**	**0.54**	**10**	⇓P	**Pn**	**17 28 58.0**	**+0.8**
KTR				S	**Sn**	**17 29 06.9**	**+1.0**
BSO1	**Boso 1**	**0.64**	**87**	⇑P	**Pn**	**17 28 59.0**	**+1.2**
JIM2	**Oshima 3**	**0.64**	**279**	⇓P	**Pn**	**17 28 58.8**	**+0.3**
JIM2				S	**Sn**	**17 29 07.8**	**-0.4**
JKO	**Kozu shima**	**0.98**	**244**	P	**Pn**	**17 29 03.6**	**+0.9**
KTJJ	**Kamata 2**	**0.98**	**288**	⇓P	**Pn**	**17 29 02.9**	**+0.1**
KTJJ				S	**Sn**	**17 29 14.8**	**-1.1**
JIZS	**Izushimoda**	**1.09**	**276**	P	**Pn**	**17 29 04.6**	**+0.4**
JIZS				S	**Sn**	**17 29 18.4**	**-0.1**
JOD2	**Odawara 2**	**1.12**	**305**	⇓P	**Pn**	**17 29 04.7**	**+0.1**
JOD2				S	**Sn**	**17 29 18.3**	**-0.8**
JHJ	**Hachijo jima 2**	**1.53**	**193**	P	**Pn**	**17 29 11.5**	**+1.3**
	373nm,0.3s,baz=328,slow=19,SNR=186						
JHJ				S	**Sn**	**17 29 29.9**	**+0.9**
	332nm,0.3s,baz=42,slow=23,SNR=25						
MJAR	**Matsushiro Arr**	**2.52**	**320**	P	**Pn**	**17 29 24.8**	**+1.3**
	37nm,0.3s,baz=157,slow=12,SNR=440						
MJAR				LR	LR	17 29 52.0	
	comp=Z,11nm,22.0s,baz=135,slow=26						
MJAR				S	**Sn**	**17 29 53.8**	**+0.7**
	21nm,0.3s,baz=144,slow=15,SNR=12						
MAT	**Matsushiro**	**2.52**	**320**	P	**Pn**	**17 29 25.1**	**+1.5**
MAT				S	**Sn**	**17 29 53.6**	**+0.5**
JCJ	**Chichijima**	**7.69**	**167**	P	**Pn**	**17 30 33.6**	**-0.8**
	baz=308,slow=19						
JCJ				S	**Sn**	**17 31 57.6**	**-2.5**
	3.7nm,0.3s,baz=308,slow=19,SNR=2.2						
JNU	**Nakatsue**	**7.90**	**262**	P	**Pn**	**17 30 38.0**	**+0.7**
	0.5nm,0.3s,baz=357,slow=22,SNR=5.9						
ASAJ	**Asahikawa**	**9.67**	**10**	P	**Pn**	**

baz=321
ENAH eS Sn 17 38 28.7 +0.8
baz=321
TWD Chiawan 0.45 268 P Pn 17 38 21.1 -0.1
baz=264
TWD eS Sn 17 38 28.4 +0.1
baz=264
ENA Nanau 0.46 316 *i* P Pn 17 38 21.3 0.0
baz=314
ENA S Sn 17 38 28.7 +0.2
baz=314
ENLB Shoufeng 0.49 247 eP Pn 17 38 22.0 +0.4
baz=243
ENLB eS Sn 17 38 30.3 +1.2
baz=243
TWC Suao 0.56 337 eP Pn 17 38 22.4 -0.2
baz=336
TWC eS Sb 17 38 30.0 -0.1
baz=336
ESL Shilin 0.67 245 eP Pb 17 38 23.9 -0.1
baz=242
ESL eS Sb 17 38 33.4 +0.4
baz=242
ENTT Nioudou 0.72 319 P Pn 17 38 24.7 -0.2
baz=317
ENTT eS Sb 17 38 34.5 -0.2
baz=317
NNSH Datong 0.73 297 eP Pn 17 38 24.9 -0.2
baz=295
NNSH eS Sb 17 38 34.6 -0.3
baz=295
TWE Neicheng 0.73 328 *i* P Pb 17 38 25.1 -0.1
baz=327
TWE S Sn 17 38 35.1 -0.1
baz=327
ILA Ilan 0.74 335 eP Pb 17 38 25.4 +0.1
baz=334
ILA eS Sn 17 38 36.1 +0.8
baz=334
NNS Nan Shan 0.74 298 P Pn 17 38 25.0 -0.3
baz=295
NNS S Sb 17 38 35.2 0.0
baz=295
EGFH Guangfu 0.74 235 eP Pn 17 38 25.2 0.0
baz=233
EGFH eS Sb 17 38 35.4 +0.3
baz=233
WHF Hehuan Shan 0.76 274 eP Pn 17 38 25.3 -0.5
baz=271
WHF eS Sb 17 38 35.9 -0.2
baz=271
EGS 0.76 349 eP Pb 17 38 25.8 +0.2
baz=349
EGS eS Sn 17 38 35.8 -0.1
baz=349
OWD Renai 0.85 261 eP Pn 17 38 26.6 -0.2
baz=258
OWD eS Sn 17 38 37.4 -0.9
baz=258
TWT Tachien 0.85 281 eP Pn 17 38 27.1 +0.3
baz=278
TWT eS Sb 17 38 38.6 +0.2
baz=278
JYNG Yonagunijimaku 0.85 65 P Pb 17 38 26.9 -0.3
JYNG eS Sb 17 38 38.8 +0.5
NWLT Wulai 0.87 322 P Pn 17 38 26.8 -0.2
baz=320
NWLT eS Sn 17 38 37.6 -0.9
baz=320
TIPB Shuangxi 0.91 344 P Pn 17 38 26.8 -0.6
baz=344
TIPB eS Sn 17 38 38.3 -1.2
baz=344
YOJ Yonaguni jima 0.91 66 P Pn 17 38 27.7 +0.2
YOJ S Sb 17 38 39.8 -0.2
EHY Hungye 0.92 230 eP Pn 17 38 27.6 0.0
baz=228
NWF Wu-fen Shan 1.01 344 eP Pb 17 38 29.8 -0.1
baz=343
TWF1 Yuli 1.04 225 eP Pn 17 38 28.9 -0.4
baz=222
SANB Taian 1.05 287 eP Pb 17 38 30.3 -0.4
baz=285
SANB eS Sb 17 38 44.0 -0.2
baz=285
DPDB Guoxing 1.07 267 eP Pn 17 38 30.1 +0.4
baz=265
DPDB eS Sn 17 38 44.0 +0.5
baz=265
SMLT Sun Moon Lake 1.11 259 eP Pn 17 38 31.0 +0.6
baz=257
SMLT eS Sn 17 38 45.1 +0.4
baz=257
LIOB Emei 1.12 299 P Pb 17 38 31.6 -0.2
baz=297
LIOB eS Sb 17 38 46.4 +0.4
baz=297
NSTT Nanjuang 1.13 298 eP Pb 17 38 31.4 -0.4
baz=297
NSTT eS Sb 17 38 46.0 -0.1
baz=297
TYC Yuchr 1.15 261 eP Pn 17 38 31.2 +0.5
baz=258
TYC eS Sn 17 38 45.8 +0.5
baz=258
FULB Fuli 1.15 220 eP Pn 17 38 30.9 0.0
baz=218
FULB eS Sn 17 38 45.9 +0.2
baz=218
YM10 YM10 1.16 335 eP Pn 17 38 31.3 +0.3
baz=334
YM10 eS Sn 17 38 45.6 -0.3
baz=334
YM04 YM04 1.17 334 eP Pn 17 38 31.1 0.0
baz=333
YM04 eS Sn 17 38 46.1 +0.1
baz=333
TWS1 Kuangyinshan 1.18 329 eP Pn 17 38 31.5 +0.3
baz=328
TWS1 eS Sb 17 38 47.0 -0.4
baz=328
YM03 YM03 1.19 335 eP Pn 17 38 31.1 -0.3
baz=334
YUS Yu-Shan 1.21 240 eP Pn 17 38 32.4 +0.4
baz=238
YUS eS Sn 17 38 47.2 -0.4
baz=238
TWQ1 Liyutan 1.23 282 eP Pb 17 38 33.1 -0.4
baz=280
TWQ1 eS Sb 17 38 49.4 +0.4
baz=280
NSY Sanyi 1.26 285 eP Pb 17 38 34.0 0.0
baz=283
NMLH Miaoli 1.27 291 eP Pn 17 38 33.2 +0.8
baz=289
NMLH eS Sb 17 38 49.8 -0.3
baz=289
WJS Zhushan 1.28 258 eP Pb 17 38 34.7 +0.4
baz=256
WJS eS Sb 17 38 51.3 +0.9
baz=256
TCU Taichung 1.29 273 eP Pb 17 38 34.3 -0.3
baz=270
TCU eS Sb 17 38 50.6 -0.2
baz=270
WNT Mingjian 1.31 261 eP Pb 17 38 34.6 -0.2
baz=259
WNT eS Sb 17 38 51.8 +0.6
baz=259
ALS Alishan 1.31 244 eP Pn 17 38 34.2 +0.9
baz=242
ALS eS Sn 17 38 50.9 +1.0
baz=242
ELDTW Lidau 1.34 228 eP Pn 17 38 33.5 0.0
baz=226
CHN5 Tsauling 1.39 249 eP Pb 17 38 35.7 -0.5
baz=247
CHN5 eS Sb 17 38 53.8 +0.2
baz=247
WGK Gukeng 1.46 254 eP Pb 17 38 36.6 -0.8
baz=252
WGK eS Sb 17 38 56.2 +0.7
baz=252
WDLH Douliu 1.48 254 eP Pb 17 38 37.0 -0.7
baz=252
WDLH eS Sb 17 38 56.2 0.0
baz=252
TWH Lutao 1.49 202 eS Sn 17 38 52.7 -1.2
baz=201
IRIF Iriomote-Funau 1.51 81 P Pn 17 38 36.1 +0.3
IRIF S Sn 17 38 54.2 -0.2
STYT Tauyuan 1.54 233 eP Pn 17 38 37.5 +1.3
baz=231
STYT eS Sb 17 38 57.0 -0.8
baz=231
CHN4 Tsaushan 1.56 242 eP Pb 17 38 38.5 -0.6
baz=240
CHN4 eS Sb 17 38 58.5 0.0
baz=240
WTP Ta-pu 1.60 238 eP Pb 17 38 38.9 -0.8
baz=236
WTP eS Sb 17 38 58.8 -0.8
baz=236
TWK Hsinying 1.69 241 eP Pb 17 38 40.0 -1.2
baz=239
TWK eS Sn 17 39 00.4 +1.6
baz=239
CHN1 Nanshi 1.70 238 eP Pb 17 38 40.4 -1.0
baz=236
CHN1 eS Sn 17 39 00.5 +1.4
baz=236
SGST Jiashian 1.71 234 eP Pb 17 38 40.6 -1.1
baz=232
SGST eS Sb 17 39 02.3 -0.5
baz=232
SLGT Liugui 1.72 231 eP Pb 17 38 40.8 -1.1
baz=229
SLGT eS Sb 17 39 02.3 -0.8
baz=229
JKRS Kuro-shima 1.76 85 P Pn 17 38 40.2 +1.1
JKRS S Sn 17 39 01.6 +1.2
JIJ Ishigaki jima 1.89 81 P Pn 17 38 41.2 +0.2
JIJ S Sn 17 39 03.1 -0.7
JISG Ishigakijimahi 2.08 76 P Pn 17 38 43.5 -0.1
JISG S Sn 17 39 08.0 -0.5
JTJ Tarama 2.44 77 P Pn 17 38 49.3 +0.8
JIRB Irabujima 2.90 75 P Pn 17 38 55.3 +0.4
JIRB S Sn 17 39 28.9 +0.2

IDC ***28*** *17:38:17.8±1.3,27˚.96N×56˚.61E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/64, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=28.3km s-min=24.4km az=106.0*

ISCJB ***28*** *17:38:20.4±0.7,28˚.00N±0˚.03×56˚.81E±0˚.06, h5km±5km, mb3.4/5, Error ellipse: s-maj=9.5km s-min=4.0km az=11.2*

OMAN ***28*** *17:38:20.9±5.3,28˚.06N×56˚.97E, h13km, Error ellipse: s-maj=79.6km s-min=24.9km az=128.0*

CSEM ***28*** *17:38:21.7±0.5,28˚.00N×56˚.75E, h10km, ML3.2, Error ellipse: s-maj=13.2km s-min=9.1km az=113.0*

TEH ***28*** *17:38:23.6,27˚.99N×56˚.77E, h13km, ML3.3*

ISC 28 17:38:21.0±1.2, 28°01N±0˚.03×56°.73E±0˚.05, h13km±9km, n35,σ1§61/44, mb3.5/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIAN	**Nian**	**0.46**	**168**	*e*Pg	**Pb**	**17 38 31.2**	**+0.2**
NIAN				*e*AMB	AMB	17 38 41.5	
	comp=N,36μm,0.1s						
GENO	**Geno**	**0.78**	**219**	*e*Pg	**Pn**	**17 38 38.4**	**+0.5**
GENO				*e*AMB	AMB	17 38 55.6	
	comp=E,26μm,0.1s						
BNDS	**Bandar-Abbas**	**0.78**	**219**	*e*Pg	**Pg**	**17 38 35.2**	**-1.1**
BNDS				*e*Sg	**Sg**	**17 38 45.7**	**-0.9**
KHSK	**Kohestak**	**1.28**	**167**	*e*Pg	**Pg**	**17 38 46.4**	**+0.7**
KHSK				*e*AMB	AMB	17 38 47.1	
	comp=Z,18μm,0.2s						
NGRK	**Negar Kerman**	**1.63**	**0**	*e*Pn	**Pb**	**17 38 51.8**	**+0.7**
NGRK				*e*AMB	AMB	17 38 53.1	
	comp=Z,99nm,0.1s						
NGRK				*e*Sg	**Sg**	**17 39 15.2**	**+1.6**
KRBR	**Kerman**	**1.96**	**1**	*e*Pn	**Pb**	**17 38 56.2**	**-0.6**
CHMN	**Cheshme madani**	**1.98**	**21**	*e*Pn	**Pb**	**17 38 57.4**	**+0.3**
CHMN				*e*AMB	AMB	17 39 01.2	
	comp=Z,99nm,0.2s						
SHME	**Shamm**	**2.02**	**195**	P	**Pn**	**17 38 56.1**	**+1.3**
	SNR=10						
SHME				S	**Sb**	**17 39 23.8**	**+1.1**
BANOM	**Banah**	**2.11**	**190**	P	**Pn**	**17 38 57.1**	**+1.0**
	SNR=20						
BANOM				S	**Sb**	**17 39 25.0**	**-0.3**
BANOM	**Banah**	**2.11**	**190**	P	**Pn**	**17 38 57.1**	**+1.0**
	SNR=20						
BANOM				S	**Sb**	**17 39 25.0**	**-0.3**
KHGB	**Koh Gabri**	**2.37**	**355**	*e*AMB	AMB	17 39 08.0	
	comp=Z,99nm,0.2s						
KHGB				*e*Pn	**Pb**	**17 39 03.2**	**-0.5**
MSFE	**Esma-Masafi**	**2.69**	**191**	P	**Pn**	**17 39 06.2**	**+2.2**
MSFE				S	**Sn**	**17 39 39.5**	**+3.1**
UOSS	**Minazif**	**3.09**	**189**	P	**Pn**	**17 39 11.8**	**+2.3**
UOSS	**Minazif**	**3.09**	**189**	P	**Pn**	**17 39 11.8**	**+2.3**
GHIR	**Ghir-Karzin**	**3.31**	**276**	*e*Pn	**Pn**	**17 39 14.1**	**+1.4**
ASHO	**Ashiyiah**	**3.37**	**190**	P	**Pn**	**17 39 14.9**	**+1.5**
	SNR=8.4						
ASHO				S	**Sn**	**17 39 56.6**	**+3.4**
ASHO	**Ashiyiah**	**3.37**	**190**	P	**Pn**	**17 39 14.9**	**+1.5**
	SNR=8.4						
ASHO				S	**Sn**	**17 39 56.6**	**+3.4**
IBAF	**Bafgh**	**3.71**	**345**	*e*Pn	**Pn**	**17 39 20.0**	**+1.9**
IBAF				*e*AMB	AMB	17 40 24.5	
	comp=Z,343nm,0.3s						
SOHO	**SOHO**	**3.86**	**183**	P	**Pn**	**17 39 19.5**	**-0.6**
ZHSF	**Zahedan**	**3.90**	**65**	*e*Pn	**Pn**	**17 39 21.9**	**+1.2**
CHBR	**Chabahar**	**4.13**	**125**	*e*Pn	**Pn**	**17 39 24.2**	**+0.4**
IKOO	**Kooshah**	**4.82**	**24**	*e*Pn	**Pn**	**17 39 35.8**	**+2.3**
IKOO				*e*AMB	AMB	17 40 13.8	
	comp=N,317nm,0.1s						
WSAR	**Wadi Sarin**	**5.05**	**160**	Pn	**Pn**	**17 39 36.5**	**0.0**
	comp=N,1.9nm,0.3s,baz=349,slow=13,SNR=32						
WSAR				Sn	**Sn**	**17 40 32.0**	**-2.8**
	comp=N,2.2nm,0.3s,baz=163,slow=14,SNR=7.1						
WSAR	**Wadi Sarin**	**5.05**	**160**	P	**Pn**	**17 39 35.3**	**-1.2**
WSAR	**Wadi Sarin**	**5.05**	**160**	P	**Pn**	**17 39 35.3**	**-1.2**
SMDO	**Samad**	**5.07**	**166**	P	**Pn**	**17 39 38.6**	**+1.7**
SMDO	**Samad**	**5.07**	**166**	P	**Pn**	**17 39 38.6**	**+1.7**
BSY	**Bisya**	**5.26**	**175**	P	**Pn**	**17 39 38.7**	**-0.7**
BSYO	**Bisya**	**5.28**	**175**	P	**Pn**	**17 39 38.7**	**-0.9**
MHTO	**MHTO**	**7.08**	**171**	P	**Pn**	**17 40 04.7**	**+0.3**
BRTR	**Keskin Array B**	**22.38**	**307**	P	**P**	**17 43 18.2**	**-1.0**
	comp=N,0.4nm,0.6s,baz=105,slow=9.1,SNR=3.3						
BVAR	**Borovoye Array**	**26.97**	**18**	P	**P**	**17 44 01.9**	**-0.3**
	comp=N,0.7nm,0.6s,baz=201,slow=7.3,SNR=5.7						
MKAR	**Makanchi Array**	**27.45**	**40**	P	**P**	**17 44 06.4**	**-0.2**
	comp=N,0.1nm,0.5s,baz=226,slow=8.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**33.08**	**31**	P	**P**	**17 44 55.6**	**-0.7**
	comp=N,1.0nm,0.5s,baz=248,slow=7.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**53.19**	**266**	P	**P**	**17 47 36.7**	**-2.5**
	comp=N,0.6nm,0.5s,baz=64,slow=7.7,SNR=6.0						

IDC 28 17:39:48.9±22.0, 4°.12S×141°.19E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/44, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=365.6km s-min=116.2km az=161.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.09**	**202**	P	Pn	17 43 48.4	-0.9
	0.1nm,0.3s,baz=21,slow=13,SNR=6.4						
ASAR	**Alice Springs**	**20.67**	**199**	P	P	17 44 31.2	+0.7
	0.1nm,0.4s,baz=29,slow=9.6,SNR=8.3						
STKA	**Stephens Creek**	**27.61**	**179**	P	P	17 45 37.9	-0.2
	1.7nm,0.8s,baz=344,slow=15,SNR=4.1						

ISCJB ***28*** *17:42:16.3±0.4,51˚.68N±0˚.07×178˚.33W±0˚.05, h10km, mb4.1/24, MS2.9/3, Error ellipse: s-maj=9.8km s-min=4.0km az=172.9*

IDC ***28*** *17:42:16.3±0.8,51˚.79N×178˚.19W, h0km, mb3.7/14, mb1 4.0/18, mb1mx3.8/78, mbtmp3.8/18, ML4.4/3, MS2.8/5, Ms1 2.8/5, ms1mx2.6/64, Error ellipse: s-maj=21.4km s-min=13.4km az=165.0*

NEIC ***28*** *17:42:18.8±0.0,51˚.78N×178˚.27W, h15km, mb4.4/25, ML4.1(AEIC), After AEIC.*

ISC 28 17:42:17.9±0.7, 51°.7N±0˚.1×178°.26W±0˚.04, h10km, n83, σ1§13/75, mb4.0/24, MS3.1/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPA	**Tanaga Point A**	**0.30**	**67**	*e*Pg	**Pb**	**17 42 25.3**	**-0.1**
GALAA	**Gareloi Lava P**	**0.32**	**282**	*e*Pg	**Pb**	**17 42 26.0**	**+0.3**
KICM	**Kanaga Island**	**0.70**	**71**	*e*Pg	**Pb**	**17 42 32.7**	**+0.5**
KIKV	**Kanaga Island**	**0.70**	**74**	*e*Pg	**Pg**	**17 42 32.2**	**+0.8**
KIRH	**Kanaga Island**	**0.76**	**74**	*e*Pg	**Pg**	**17 42 33.1**	**+0.6**
ADAG	**Mount Adagdak**	**1.07**	**74**	*e*Pg	**Pg**	**17 42 38.4**	**0.0**
ETKA	**Kagalaska Isla**	**1.17**	**81**	*e*Pn	**Pb**	**17 42 39.7**	**-0.4**
GSTD	**Great Sitkin T**	**1.36**	**74**	*e*Pn	**Pn**	**17 42 42.5**	**-0.5**
GSTD				*e*Sn	**Sb**	**17 43 00.7**	**-0.3**
KONW	**Korovin Northw**	**2.60**	**73**	P	**Pn**	**17 43 00.3**	**+0.3**
KOFP	**Korovin Flat P**	**2.64**	**76**	*e*Pn	**Pn**	**17 43 00.9**	**+0.3**
SMY	**Shemya**	**4.81**	**285**	*e*Pn	**Pn**	**17 43 30.4**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**6.46**	**71**	*e*Pn	**Pn**	**17 43 55.2**	**+2.2**
MSOM	**Makushin Julie**	**7.19**	**68**	*e*Pn	**Pn**	**17 44 04.8**	**+1.8**
MGOD	**Makushin Gods**	**7.23**	**69**	*e*Pn	**Pn**	**17 44 04.5**	**+1.0**
MSW	**Makushin Switc**	**7.31**	**68**	*e*Pn	**Pn**	**17 44 04.3**	**-0.3**
UNV	**Unalaska Valle**	**7.45**	**69**	*e*Pn	**Pn**	**17 44 08.1**	**+1.5**
PEA1	**Petropavlovsk-**	**14.72**	**285**	*e*Pn	**Pn**	**17 45 47.8**	**+1.8**
PETK	**Petropavlovsk-**	**14.72**	**285**	Pn	**Pn**	**17 45 47.8**	**+1.8**
	0.1nm,0.3s,baz=73,slow=15,SNR=3.4						
PETK				LR	LR	17 50 44.0	
	comp=Z,38nm,22.0s,baz=113,slow=34						
KDAK	**Kodiak Island**	**15.97**	**58**	Pn	**Pn**	**17 46 00.1**	**-2.2**
	1.3nm,0.3s,baz=199,slow=3.9,SNR=14						
KDAK	**Kodiak Island**	**15.97**	**58**	*e*Pn	**Pn**	**17 46 00.8**	**-1.6**
	64nm,1.4s						
SKT	**Skwentna**	**17.74**	**44**	*e*Pn	**P**	**17 46 27.5**	**+1.9**
	11nm,0.8s						
PPLA	**Purkeypile**	**17.86**	**41**	*e*P	**P**	**17 46 28.4**	**+1.4**
	13nm,1.4s						
CAST	**Castle Rocks**	**18.14**	**40**	*e*Pn	**P**	**17 46 32.5**	**+2.6**
	6.3nm,0.7s						
KTH	**Kantishna Hill**	**18.66**	**40**	*e*P	**Pn**	**17 46 37.9**	**+1.8**
	18nm,0.7s						
TRF	**Thorofare Moun**	**18.88**	**41**	*e*P	**Pn**	**17 46 40.0**	**+1.2**
	19nm,1.2s						
BPAW	**Bear Paw Mtn.**	**18.89**	**38**	*e*P	**Pn**	**17 46 40.2**	**+1.5**
	2.3nm,0.7s						
IM3	**Indian Mountai**	**18.93**	**32**	*e*P	**Pn**	**17 46 39.4**	**+0.2**
MA2	**Magadan**	**19.03**	**307**	P	**Pn**	**17 46 40.8**	**+0.4**
	0.3nm,0.3s,baz=75,slow=5.4,SNR=6.3						
MA2				LR	LR	17 53 30.3	
	comp=Z,24nm,19.2s,baz=56,slow=36						
SEY	**Seymchan**	**19.24**	**317**	P	**Pn**	**17 46 43.1**	**+0.2**
	0.2nm,0.3s,baz=117,slow=9.9,SNR=16						
MLY	**Manley**	**19.44**	**36**	*e*P	**Pn**	**17 46 46.3**	**+0.8**
	15nm,1.0s						
MCK	**McKinley**	**19.54**	**41**	*e*P	**P**	**17 46 46.1**	**+0.7**
	7.3nm,0.9s						
MDM	**Murphy Dome**	**20.35**	**38**	*e*P	**P**	**17 46 54.7**	**+0.6**
	23nm,0.8s						
CCB	**Clear Creek Bu**	**20.38**	**39**	*e*P	**P**	**17 46 55.3**	**+1.0**
	16nm,1.4s						
COLA	**College**	**20.46**	**38**	*e*Pn	Pn	17 46 56.9	-0.4
	21nm,1.0s						
PAX	**Paxson**	**20.73**	**44**	*e*P	**P**	**17 46 59.1**	**+0.8**
	17nm,1.0s						
IL1	**Eielson Array**	**20.79**	**39**	*e*P	**P**	**17 46 59.7**	**+0.9**
ILAR	**Eielson Array**	**20.79**	**39**	P	**P**	**17 46 57.0**	**-1.8**
	1.4nm,0.7s,baz=239,slow=9.3,SNR=12						
COLD	**Coldfoot**	**20.81**	**31**	*e*P	**P**	**17 46 59.9**	**+0.9**
	15nm,1.0s						
RIDG	**Independ'e Rid**	**21.24**	**43**	*e*P	**P**	**17 47 04.0**	**+0.3**
	12nm,1.0s						
TOLK	**Tcolik Lake Re**	**21.83**	**28**	*e*P	**P**	**17 47 10.4**	**+0.4**
	18nm,1.4s						
FYU	**Fort Yukon**	**22.17**	**35**	*e*P	**P**	**17 47 15.1**	**+1.5**
	16nm,0.8s						
EGAK	**Eagle**	**23.09**	**41**	*e*P	**P**	**17 47 23.4**	**0.0**
	15nm,0.9s						
DAWY	**Dawson**	**23.65**	**43**	*e*P	**P**	**17 47 28.6**	**-0.4**
	33nm,1.8s						
INK	**Inuvik**	**27.01**	**35**	P	**P**	**17 47 57.5**	**-2.0**
	2.5nm,0.6s,baz=247,slow=6.5,SNR=17						
INK	**Inuvik**	**27.01**	**35**	*e*P	**P**	**17 48 00.7**	**+1.1**
	2.8nm,0.8s						
TIXI	**Tiksi**	**30.53**	**330**	P	**P**	**17 48 30.1**	**-0.7**
	0.7nm,0.3s,baz=148,slow=0.4,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**33.96**	**206**	T	T	18 25 09.0	
	baz=20,SNR=462						
H11N3	**WAKE ISLAND Hy**	**33.97**	**206**	T	T	18 25 04.0	
	baz=20,slow=74,SNR=410						
H11N1	**WAKE ISLAND Hy**	**33.98**	**206**	T	T	18 25 04.1	
	baz=20,slow=74,SNR=340						
MJAR	**Matsushiro Arr**	**34.16**	**261**	P	**P**	**17 49 03.7**	**+0.7**
	1.4nm,0.7s,baz=47,slow=6.8,SNR=4.7						
MAJO	**Matsushiro**	**34.16**	**261**	*e*P	**P**	**17 49 03.7**	**+0.7**
YKA	**Yellowknife Ar**	**34.77**	**47**	P	**P**	**17 49 06.7**	**-1.3**
	0.6nm,0.5s,baz=276,slow=9.1,SNR=19						
YKA				LR	LR	18 04 49.8	
	comp=Z,4.7nm,18.1s,baz=180,slow=39						
H11S1	**WAKE ISLAND Hy**	**35.18**	**205**	T	T	18 26 35.4	
	baz=17,slow=76,SNR=574						
H11S2	**WAKE ISLAND Hy**	**35.20**	**205**	T	T	18 26 36.6	
	baz=17,slow=76,SNR=194						
H11S3	**WAKE ISLAND Hy**	**35.20**	**205**	T	T	18 26 35.7	
	baz=17,slow=76,SNR=217						
KSMM	**Slide Mountain**	**38.49**	**86**	*e*P	**P**	**17 49 37.5**	**-2.6**
RES	**Resolute Bay**	**39.32**	**25**	P	**P**	**17 49 45.7**	**-0.7**
	0.4nm,0.6s,baz=243,slow=6.8,SNR=3.9						
NV01	**Mina Array Sit**	**43.18**	**83**	*e*P	**P**	**17 50 18.9**	**0.0**
NVAR	**Mina Array Bea**	**43.18**	**83**	P	**P**	**17 50 18.9**	**0.0**
	0.9nm,0.7s,baz=287,slow=7.6,SNR=4.0						
PD31	**Pinedale Array**	**45.90**	**73**	*e*P	**P**	**17 50 40.6**	**0.0**
PDAR	**Pinedale Array**	**45.90**	**73**	P	**P**	**17 50 40.6**	**0.0**
	0.6nm,0.4s,baz=319,slow=3.1,SNR=7.9						
PDAR	**Pinedale Array**	**45.90**	**73**	*e*P	**P**	**17 50 40.1**	**-0.4**
FRD	**Ford Ranch, An**	**47.41**	**88**	*e*P	**P**	**17 50 54.2**	**+1.9**
U15A	**North Rim**	**48.15**	**81**	*e*P	**P**	**17 50 59.9**	**+1.5**
	4.1nm,0.6s						
PV10	**Paradox Valley**	**48.90**	**77**	*e*P	**P**	**17 51 02.9**	**-1.1**
Y14A	**Wickenburg**	**49.34**	**84**	*e*P	**P**	**17 51 05.7**	**-1.5**
	8.8nm,0.9s						
SPA0	**Spitsbergen Ar**	**50.08**	**356**	*e*P	**P**	**17 51 11.5**	**-0.7**
SPITS	**Spitsbergen Ar**	**50.08**	**356**	P	**P**	**17 51 11.5**	**-0.7**
	16nm,1.1s,baz=17,slow=10,SNR=8.3						
MHTCO	**State Highway**	**52.33**	**76**	*e*P	**P**	**17 51 29.3**	**-0.6**
	35nm,1.8s						
SFJD	**Kangerlussuaq**	**55.23**	**22**	LR	LR	18 16 03.0	
	comp=Z,18nm,21.0s,baz=330,slow=37						
MNTX	**Cornudas Mount**	**55.57**	**81**	*e*P	**P**	**17 51 54.4**	**+1.0**
	3.8nm,1.0s						
LTX	**Lajitas**	**58.28**	**82**	*e*P	**P**	**17 52 12.5**	**-0.2**
TXAR	**Lajitas Array**	**58.28**	**82**	P	**P**	**17 52 12.5**	**-0.2**
	0.5nm,0.5s,baz=304,slow=4.5,SNR=5.7						
KURK	**Kurchatov**	**59.04**	**314**	*e*P	**P**	**17 52 18.1**	**+0.5**
KURBB	**Kurchatov Arra**	**59.15**	**314**	P	**P**	**17 52 18.1**	**-0.3**
	0.3nm,0.3s,baz=45,slow=6.6,SNR=3.3						
MK32	**Makanchi Array**	**60.10**	**309**	*e*P	**P**	**17 52 23.8**	**-1.2**
MKAR	**Makanchi Array**	**60.10**	**309**	P	**P**	**17 52 23.8**	**-1.2**
	0.1nm,0.4s,baz=43,slow=9.6,SNR=2.8						
CMAR	**Chiang Mai Arr**	**71.31**	**276**	P	**P**	**17 53 37.2**	**-0.5**
	0.5nm,0.6s,baz=24,slow=7.2,SNR=5.1						
CLL	**Collm**	**76.93**	**353**	*e*P	**P**	**17 54 09.0**	**-1.0**
WR1	**Warramunga Arr**	**82.47**	**224**	*e*P	**P**	**17 54 40.4**	**0.0**
	21nm,1.7s						
WRA	**Warramunga Arr**	**82.47**	**224**	P	**P**	**17 54 40.4**	**0.0**
	0.5nm,0.5s,baz=33,slow=5.9,SNR=11						
ASAR	**Alice Springs**	**85.95**	**223**	P	**P**	**17 54 59.0**	**+1.0**
	0.5nm,0.5s,baz=24,slow=5.4,SNR=18						
ESDC	**Sonseca Array**	**88.87**	**4**	LR	LR	18 37 36.2	
	comp=Z,9.9nm,18.2s,baz=165,slow=37						

TIR ***28*** *18:13:41.2,42˚.42N×19˚.37E, h7km, ML2.6*

ISCJB ***28*** *18:13:43.2±0.3,42˚.39N±0˚.02×19˚.46E±0˚.02, h13km±3km, Error ellipse: s-maj=2.7km s-min=2.5km az=151.0*

CSEM ***28*** *18:13:43.0±0.2,42˚.36N×19˚.48E, h15km, ML2.2, Error ellipse: s-maj=3.1km s-min=2.8km az=124.0*

PDG ***28*** *18:13:43.0±0.1,42˚.37N×19˚.43E, h21km, MD2.2/1, ML2.2/9, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*

BEO ***28*** *18:13:45.0±0.3,42˚.41N×19˚.45E, h5km±2km, M2.1/1*

ISC 28 18:13:43.2±0.8, 42°.38N±0˚.02×19°.48E±0˚.02, h16km±6km, n55,σ1§03/103, 14C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDG	**Podgorica**	**0.17**	**286**	*e*Pg	**Pg**	**18 13 47.5**	**0.0**
PDG				*e*Sg	**Sb**	**18 13 50.9**	**-0.4**
PDG	**Podgorica**	**0.17**	**286**	↑*i*Pg	**Pg**	**18 13 47.4**	**0.0**
PDG				*e*Sg	**Sg**	**18 13 50.7**	**+0.4**
TTG	**Podgorica**	**0.17**	**286**	↓*i*Pg	**Pg**	**18 13 47.5**	**0.0**
TTG				*e*Sg	**Sb**	**18 13 51.2**	**-0.1**
DRME	**Dracevica, Mon**	**0.29**	**228**	↑*i*Pg	**Pg**	**18 13 48.9**	**-0.6**
DRME				*e*Sg	**Sb**	**18 13 54.2**	**-0.6**
DRME	**Dracevica, Mon**	**0.29**	**228**	↑*i*Pg	**Pg**	**18 13 48.9**	**-0.6**
DRME				*e*Sg	**Sg**	**18 13 53.5**	**-0.2**
PVY	**Plav**	**0.41**	**59**	↑*i*Pg	**Pb**	**18 13 52.2**	**-0.1**

PVY				*e*Sg		**Sb**	18 13 59.8	+1.4
BUM	**Brajici-Budva**	0.44	259			*i*Pg	**Pg**	18 13 51.6	-0.5
BUM				*e*Sg		**Sg**	18 13 58.4	+0.3
BUM	**Brajici-Budva**	0.44	259			*i*Pg	**Pg**	18 13 51.6	-0.5
BUM				*e*Sg		**Sg**	18 13 58.4	+0.3
CEME	**Cevo**	0.45	292	⇑*i*Pg		**Pg**	18 13 51.6	-0.6
CEME				*e*Sg		**Sb**	18 13 58.9	-0.4
CEME	**Cevo**	0.45	292	⇑*i*Pg		**Pg**	18 13 51.6	-0.6
CEME				*e*Sg		**Sb**	18 13 58.9	-0.4
ULC	**Ulcinj**	0.45	202	⇑*i*Pg		**Pg**	18 13 51.6	-0.7
ULC				*e*Sg		**Sb**	18 13 59.0	-0.4
ULC	**Ulcinj**	0.45	202	⇑*i*Pg		**Pg**	18 13 51.6	-0.7
ULC				*e*Sg		**Sb**	18 13 59.0	-0.4
PUK	**Puka**	0.46	138	*i*PG		**Pg**	18 13 52.1	-0.3
PUK				*i*SG		**Sn**	18 14 02.2	-1.0
PUK	**Puka**	0.46	138	*i*Pg		**Pg**	18 13 52.1	-0.3
KOME	**Kolasin**	0.47	3	*e*Pg		**Pg**	18 13 52.6	0.0
KOME				*e*Sg		**Sb**	18 14 00.9	+1.0
KOME	**Kolasin**	0.47	3	*e*Pg		**Pg**	18 13 52.6	0.0
KOME				*e*Sg		**Sb**	18 14 00.9	+1.0
NKME	**Niksic**	0.55	315			*i*Pg	**Pg**	18 13 53.6	-0.4
NKME				*e*Sg		**Sb**	18 14 02.4	+0.3
NKME	**Niksic**	0.55	315			*i*Pg	**Pg**	18 13 53.6	-0.4
NKME				*e*Sg		**Sb**	18 14 02.4	+0.3
NKY	**Niksic**	0.56	320	*e*Pg		**Pg**	18 13 53.9	-0.4
NKY				*e*Sg		**Sb**	18 14 02.8	+0.2
NKY	**Niksic**	0.56	320	*e*Pg		**Pg**	18 13 53.9	-0.4
NKY				*e*Sg		**Sb**	18 14 02.8	+0.2
BEY	**Berane**	0.58	32	⇑*i*Pg		**Pb**	18 13 55.0	-0.1
BEY				*e*Sg		**Sn**	18 14 04.8	-1.4
IVA	**Berane**	0.58	32	⇑*i*Pg		**Pb**	18 13 55.0	-0.1
IVA				*e*Sg		**Sn**	18 14 04.8	-1.4
HCY	**Herceg Novi**	0.73	275	⇑*i*Pg		**Pg**	18 13 56.5	-1.0
HCY				*e*Sg		**Sb**	18 14 07.7	+0.3
HCY	**Herceg Novi**	0.73	275	⇑*i*Pg		**Pg**	18 13 56.5	-1.0
HCY				*e*Sg		**Sb**	18 14 07.6	+0.2
TREB	**Trebinje**	0.90	292	*e*Pg		**Pb**	18 14 00.2	-0.3
TREB				*e*Sg		**Sn**	18 14 13.5	-0.4
PLE	**Pljevlja**	0.95	356	⇑*i*Pg		**Pb**	18 14 01.2	-0.2
PLE				*e*Sg		**Sn**	18 14 16.5	+1.1
PLE	**Pljevlja**	0.95	356	⇑*i*Pg		**Pb**	18 14 01.2	-0.2
PLE				*e*Sg		**Sn**	18 14 16.5	+1.1
SJES	**Sjenica**	0.95	22	*e*Pg		**Pn**	18 14 01.7	-0.4
SJES				*e*Sg		**Sn**	18 14 15.4	0.0
SJES	**Sjenica**	0.95	22	*e*Pg		**Pn**	18 14 01.7	-0.4
SJES				*e*Sg		**Sn**	18 14 15.4	0.0
PHP	**Peshkopia**	1.00	134	*i*PG		**Pb**	18 14 01.0	-1.3
PHP				*i*SG		**Sn**	18 14 18.2	+1.7
PHP	**Peshkopia**	1.00	134	*i*Pg		**Pb**	18 14 01.0	-1.3
TIR	**Tirane**	1.07	164	*i*PN		**Pb**	18 14 02.9	-0.6
TIR	**Tirane**	1.07	164	*e*Pg		**Pg**	18 14 05.2	+1.2
TIR				*e*Sg		**Sn**	18 14 21.0	+2.7
TIR	**Tirane**	1.07	164	*i*Pn		**Pb**	18 14 02.9	-0.6
TIR	**Tirane**	1.07	164	*e*Pg		**Pg**	18 14 05.2	+1.2
TIR				*e*Sg		**Sn**	18 14 21.0	+2.7
IVAS	**Ivanjica**	1.29	22	*e*Pg		**Pg**	18 14 07.6	-0.5
IVAS				*e*Sg		**Sg**	18 14 26.0	+1.0
IVAS	**Ivanjica**	1.29	22	*e*Pg		**Pg**	18 14 07.6	-0.5
IVAS				*e*Sg		**Sg**	18 14 26.0	+1.0
STON	**Ston**	1.40	291	*e*Pn		**Pn**	18 14 07.6	-0.5
STON				Sg		**Sb**	18 14 27.4	+0.8
STON	**Ston**	1.40	291	*e*Pg		**Pn**	18 14 08.4	+0.3
STON				*e*Sg		**Sg**	18 14 28.6	+0.2
STON	**Ston**	1.40	291	*e*Pn		**Pn**	18 14 07.6	-0.5
STON	**Ston**	1.40	291	*e*Pg		**Pb**	18 14 08.6	-0.4
STON				*e*Sg		**Sg**	18 14 28.6	+0.2
SELS	**Selova**	1.47	55	*e*Pg		**Pb**	18 14 09.9	-0.3
SELS				*e*Sg		**Sg**	18 14 31.0	+0.4
BBLS	**Lazići**	1.48	358	*e*Pg		**Pg**	18 14 11.2	-0.6
BBLS				*e*Sg		**Sg**	18 14 32.2	+1.1
BBLS	**Lazići**	1.48	358	*e*Pg		**Pg**	18 14 11.2	-0.6
BBLS				*e*Sg		**Sg**	18 14 31.0	-0.1
OHR	**Ohrid**	1.61	142	*e*Pn		**Pn**	18 14 06.6	-4.5
OHR				*e*Sg		**Sg**	18 14 37.4	+2.3
KRUS	**Krusevo**	1.67	127	*e*Pn		**Pb**	18 14 14.0	+0.4
KRUS				*e*Sg		**Sg**	18 14 38.6	+1.7
HAPS	**Han Pijesak,BI**	1.75	347	*e*Pn		**Pn**	18 14 13.8	+0.8
HAPS				*e*Sn		**Sb**	18 14 36.9	+0.2
DIVS	**Divibare**	1.75	12	*e*Pn		**Pb**	18 14 14.4	-0.7
DIVS				*e*Sn		**Sb**	18 14 37.3	+0.3
DIVS	**Divibare**	1.75	12	*e*Pn		**Pb**	18 14 14.0	-1.1
DIVS				*e*Sn		**Sb**	18 14 36.1	-0.9
GRUS	**Gruza**	1.76	31	*e*Sg		**Sg**	18 14 40.5	+0.7
GRUS	**Gruza**	1.76	31	*e*Sg		**Sg**	18 14 40.5	+0.7
TRUS	**Trudelj**	1.96	20	*e*Pn		**Pg**	18 14 19.6	-1.3
TRUS				*e*Sn		**Sg**	18 14 44.6	-1.7
TRUS	**Trudelj**	1.96	20	*e*Pn		**Pg**	18 14 19.6	-1.3
TRUS				*e*Sn		**Sg**	18 14 44.6	-1.7
UDBI	**Udbina**	3.45	310	*e*Pn		**Pn**	18 14 38.9	+2.4
UDBI				Sn		**Sn**	18 15 17.7	+0.7
UDBI	**Udbina**	3.45	310	*e*Pn		**Pn**	18 14 38.8	+2.4
UDBI				Sn		**Sn**	18 15 17.6	+0.7

IDC ***28*** *18:26:14.6±0.7,32.°53N×89.°16E, h0km, mb3.8/19, mb1 3.9/22,mb1mx3.8/68,mbtmp3.8/22,ML3.5/2, MS3.2/7, Ms1 3.2/7,ms1mx2.9/68,Error ellipse: s-maj=22.8km s-min=14.1km az=44.0*

ISCJB ***28*** *18:26:15.5±0.2,32.°73N±0.°02×89.°30E±0.°04, h10km, mb3.9/23,MS3.2/5,Error ellipse: s-maj=4.8km s-min=3.4km az=172.7*

BJI ***28*** *18:26:18.9,32.°79N×88.°80E, h7km, mb3.9/2,ML3.4/1*

NEIC ***28*** *18:26:22.3±0.7,32.°75N×89.°24E, h49km±8km, mb4.1/10, Error ellipse: s-maj=8.3km s-min=4.7km az=222.0*

ISC 28 18:26:17.9±0.4,32.78N±0.°05×89.11E±0.°06,h10km,n93,
σ1ᵍ35/89,mb3.9/23,MS3.1/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.54**	**150**	Pn	**Pn**	**18 27 17.0**	**+3.7**
LSA				Pg	**Pb**	**18 27 21.3**	**+0.5**
LSA				Sn	**Sb**	**18 28 05.0**	**+1.0**
LSA				Sg	**Sg**	**18 28 10.3**	**-1.3**
LSA	comp=N,61nm,0.9s			smax	smax		
LSA	comp=E,150nm,1.1s			smax	smax		
LSA	**Lhasa**	**3.54**	**150**	*e*Pg	**Pn**	**18 27 16.0**	**+2.7**
TAPN	**Taplejung**	**5.55**	**193**	*e*P	**Pn**	**18 27 39.9**	**-0.9**
GUN	**Gumba**	**5.60**	**211**	*e*P	**Pn**	**18 27 43.3**	**+1.7**
JIRN	**Jiri** 39nm,0.3s	**5.70**	**207**	*e*P	**Pn**	**18 27 43.9**	**+1.0**
KKN	**Kakani** 23nm,0.5s	**5.98**	**215**	*e*P	**Pn**	**18 27 48.0**	**+1.4**
ODAN	**Odare** 35nm,0.4s	**6.09**	**195**	*e*P	**Pn**	**18 27 47.1**	**-1.1**
PKI	**Pulchoki** 44nm,0.6s	**6.10**	**213**	*e*P	**Pn**	**18 27 49.6**	**+1.2**
PKIN	**Phulchoki** 27nm,0.5s	**6.10**	**213**	*e*P	**Pn**	**18 27 49.6**	**+1.2**
GKN	**Gorkha** 60nm,0.5s	**6.13**	**220**	*e*P	**Pn**	**18 27 50.7**	**+2.0**
RAMN	**Ramite** 68nm,0.5s	**6.21**	**201**	*e*P	**Pn**	**18 27 49.7**	**-0.1**
DMN	**Daman** 31nm,0.5s	**6.21**	**215**	*e*P	**Pn**	**18 27 51.7**	**+1.8**
KOLN	**Koldanda** 11nm,0.4s	**6.90**	**225**	*e*P	**Pn**	**18 28 00.7**	**+1.4**
PYUN	**Piuthan** 11nm,0.4s	**7.05**	**230**	*e*P	**Pn**	**18 28 01.7**	**+0.4**
SHL	**Shillong**	**7.59**	**161**	*e*P	**Pn**	**18 28 09.6**	**+0.9**
SHL				*e*S	Sn	18 29 27.5	-7.5
BOK	**Bokaro**	**9.39**	**198**	*e*P	**Pn**	**18 28 32.0**	**-1.3**
BOK				*ex*	x	18 29 57.1	
DDI	**Dehra Dun**	**9.74**	**258**	*e*P	**Pn**	**18 28 40.0**	**+1.9**
SMLA	**Simla**	**10.28**	**264**	*e*P	**Pn**	**18 28 45.6**	**+0.2**
DHRM	**DHARAMSHALA**	**10.83**	**271**	*e*P	**Pn**	**18 28 52.4**	**-0.7**
GTA	**Gaotai**	**10.89**	**50**	*e*P	**Pn**	**18 28 53.8**	**-0.1**
GTA				*p*P		18 28 59.5	
GTA				sP		18 29 02.0	
JBP	**Jabalpur**	**12.51**	**222**	*e*P	**Pn**	**18 29 16.6**	**+0.6**
JBP				*ex*	x	18 32 51.7	
CD2	**Chengdu**	**12.60**	**95**	*e*P	Pn	18 29 13.0	-4.2
BHPL	**Bhopal**	**14.02**	**230**	*e*P	**Pn**	**18 29 37.0**	**+0.3**
BHPL				IAmb	IAmb	18 29 53.1	
	comp=Z,11nm,1.4s						
MK01	**Makanchi Array**	**14.91**	**342**	*e*Pn	**Pn**	**18 29 50.0**	**+1.3**
MK31	**Makanchi Array**	**14.93**	**342**	*e*Pn	**Pn**	**18 29 50.4**	**+1.4**
MK32	**Makanchi Array**	**14.93**	**342**	*e*Pn	**Pn**	**18 29 49.1**	**+0.2**
MKAR	**Makanchi Array**	**14.93**	**342**	Pn	**Pn**	**18 29 49.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=145,slow=15,SNR=5.0						
MKAR	**Makanchi Array**	**14.93**	**342**	*e*Pn	**Pn**	**18 29 49.5**	**+0.6**
	comp=Z,12nm,0.7s						
AAK	**Ala-Archa**	**15.16**	**315**	Pn	**P**	**18 29 57.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=9.3						
AAK				LR	LR	18 36 11.1	
	comp=Z,45nm,18.5s,baz=162,slow=39						
AAK	**Ala-Archa**	**15.16**	**315**	*e*Pn	**P**	**18 29 56.5**	**-0.8**
	comp=Z,8.6nm,1.2s						
CHTO	**Chiang Mai**	**16.48**	**145**	P	**P**	**18 30 14.5**	**+2.6**
	comp=Z,24nm,0.8s						
CHTO	**Chiang Mai**	**16.48**	**145**	*e*Pn	**Pn**	**18 30 10.1**	**+0.9**
	comp=Z,4.1nm,1.0s						
CMMT	**Chiang Mai**	**16.48**	**145**	P	**Pn**	**18 30 13.4**	**+4.1**
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.78**	**146**	Pn	Pn	18 30 07.6	-5.5
	comp=Z,0.2nm,0.3s,baz=321,slow=14,SNR=4.8						
CMAR				LR	LR	18 37 00.6	
	comp=Z,55nm,18.5s,baz=325,slow=39						
CM01	**Chiang Mai Arr**	**16.82**	**146**	*e*Pn	**Pn**	**18 30 11.6**	**-2.0**
ENH	**Enshi**	**17.55**	**93**	*e*Pn	**Pn**	**18 30 21.9**	**-0.8**
	comp=Z,11nm,0.9s						
KK06	**Karatay Array**	**17.87**	**310**	*e*P	**P**	**18 30 28.7**	**+1.4**
KK05	**Karatay Array**	**17.89**	**311**	*e*Pn	**P**	**18 30 27.7**	**+0.3**
KK02	**Karatay Array**	**17.89**	**310**	*e*Pn	**P**	**18 30 28.7**	**+1.3**
KK07	**Karatay Array**	**17.89**	**310**	*e*Pn	**P**	**18 30 28.7**	**+1.3**
KK31	**Karatay Array**	**17.89**	**310**	*e*P	**P**	**18 30 28.9**	**+1.5**
KKAR	**Karatay Array**	**17.89**	**310**	*e*P	**P**	**18 30 28.8**	**+1.4**
KK01	**Karatay Array**	**17.89**	**310**	*e*Pn	**P**	**18 30 28.8**	**+1.4**
KK03	**Karatay Array**	**17.89**	**310**	*e*Pn	**P**	**18 30 28.8**	**+1.3**
KK04	**Karatay Array**	**17.89**	**311**	*e*Pn	**P**	**18 30 28.8**	**+1.4**
KK08	**Karatay Array**	**17.90**	**310**	*e*Pn	**P**	**18 30 29.0**	**+1.4**
KK09	**Karatay Array**	**17.90**	**311**	*e*Pn	**P**	**18 30 28.9**	**+1.4**
HYB	**Hyderabad**	**18.02**	**214**	*e*P	**Pn**	**18 30 27.8**	**-0.8**
PHIT	**Phitsanulok**	**18.58**	**144**	P	**P**	**18 30 37.1**	**+1.9**
	comp=Z,8.3nm,1.0s						
KURBB	**Kurchatov Arra** baz=148,slow=12,SNR=10	**19.46**	**339**	P	**P**	**18 30 44.2**	**-0.3**
KURK	**Kurchatov**	**19.52**	**340**	*e*P	**P**	**18 30 44.2**	**-0.9**
DGPR	**DIGLIPUR**	**19.83**	**169**	*e*P	**P**	**18 30 48.0**	**-0.8**
DGPR				IAmb	IAmb	18 30 55.2	
	comp=Z,7.2nm,0.9s						
SONA0	**Songino Array**	**19.93**	**36**	*e*P	**P**	**18 30 49.7**	**-0.2**
SONM	**Songino Array**	**19.93**	**36**	P	**P**	**18 30 49.7**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=243,slow=11,SNR=2.2						
SONA1	**Songino Array**	**19.94**	**36**	*e*P	**P**	**18 30 50.6**	**+0.6**
ULN	**Ulaanbaatar**	**20.27**	**37**	*e*P	**P**	**18 30 54.2**	**+0.5**
	comp=Z,5.9nm,0.7s						
PBA	**Port Blair**	**21.29**	**170**	*ex*	P	18 31 00.4	-4.3
ZAA0	**Zalesovo Array**	**21.38**	**353**	*e*P	**P**	**18 31 06.7**	**+1.3**
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**21.38**	**353**	P	**P**	**18 31 05.2**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=170,slow=9.0,SNR=12						
ZALV				LR	LR	18 40 16.9	
	comp=Z,100nm,18.6s,baz=74,slow=39						
ZALV	**Zalesovo Beam**	**21.38**	**353**	*e*P	**P**	**18 31 05.6**	**+0.3**
ZAA1	**Zalesovo Array**	**21.38**	**353**	*e*P	**P**	**18 31 05.2**	**-0.1**
TLY	**Talaya**	**21.66**	**25**	LR	LR	18 40 07.0	
	comp=Z,59nm,18.7s,baz=215,slow=38						
BVAR	**Borovoye Array**	**24.30**	**332**	P	**P**	**18 31 36.4**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=125,slow=9.3,SNR=10						
BRVK	**Borovoye**	**24.37**	**332**	*e*P	**P**	**18 31 37.0**	**+1.0**
	comp=Z,2nm,1.1s						
GEYT	**Alibeck**	**25.72**	**290**	P	**P**	**18 31 47.2**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=87,slow=11,SNR=3.6						
PALK	**Pallekele**	**26.56**	**199**	LR	LR	18 44 08.3	
	comp=Z,45nm,18.2s,baz=295,slow=41						
AB31	**Akbulak array**	**27.24**	**316**	*e*P	**P**	**18 32 03.5**	**+1.5**
ABKAR	**Akbulak array**	**27.24**	**316**	*e*P	**P**	**18 32 03.5**	**+1.5**
	comp=Z,19nm,0.9s						
AKTO	**Aktyubinsk**	**28.88**	**317**	LR	LR	18 43 55.1	
	comp=Z,65nm,20.2s,baz=172,slow=36						
KSAR	**Wonju Array Be**	**31.90**	**71**	P	**P**	**18 32 42.2**	**-1.3**
KSRS	**Korea Array**	**31.93**	**71**	P	**P**	**18 32 42.2**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=276,slow=9.8,SNR=5.8						
TIXI	**Tiksi**	**44.25**	**17**	P	**P**	**18 34 27.3**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=161,slow=0.6,SNR=8.5						
AKASG	**Malin Array Be**	**46.79**	**311**	P	**P**	**18 34 47.1**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=78,slow=7.5,SNR=5.3						
FIA0	**FINESS Array S**	**48.99**	**325**	*e*P	**P**	**18 35 06.1**	**+1.8**
FINES	**FINESS Array B**	**48.99**	**325**	P	**P**	**18 35 06.1**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=92,slow=4.4,SNR=2.3						
MLR	**Munnar Rotu**	**49.42**	**304**	*e*P	**P**	**18 35 08.6**	**+0.6**
	comp=Z,7.2nm,0.9s						
ARA0	**ARCESS Array S**	**50.49**	**336**	*e*P	**P**	**18 35 16.2**	**+0.6**
ARCES	**ARCESS Array B**	**50.49**	**336**	P	**P**	**18 35 16.2**	**+0.6**
	comp=Z,5.3nm,1.1s,baz=92,slow=8.5,SNR=4.2						
HFS	**Hagfors**	**55.06**	**324**	P	**P**	**18 35 49.5**	**0.0**
	comp=Z,3.3nm,0.9s,baz=224,slow=4.0,SNR=2.4						
NB200	**NORSAR Array S**	**56.17**	**325**	*e*P	**P**	**18 35 57.8**	**+0.2**
NOA	**NORSAR Array B**	**56.17**	**325**	P	**P**	**18 35 57.8**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=83,slow=7.2,SNR=2.4						
GEC2	**GERESS Array S**	**56.99**	**310**	*e*P	**P**	**18 36 03.9**	**+0.2**
	comp=Z,2.7nm,1.0s						
GERES	**GERESS Array B**	**56.99**	**310**	P	**P**	**18 36 03.1**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=86,slow=6.8,SNR=12						
GERES				LR	LR	19 05 00.2	
	comp=Z,48nm,18.8s,baz=316,slow=41						
GEA0	**GERESS Array S**	**56.99**	**310**	*e*P	**P**	**18 36 04.5**	**+0.8**
EKA	**Eskdalemuir Ar**	**64.96**	**321**	P	**P**	**18 36 57.0**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=61,slow=7.4,SNR=4.3						
WRA	**Warramunga Arr**	**67.95**	**134**	P	**P**	**18 37 14.9**	**-2.3**
	comp=Z,1.8nm,0.8s,baz=324,slow=6.2,SNR=20						
WR1	**Warramunga Arr**	**67.95**	**134**	*e*P	**P**	**18 37 14.9**	**-2.3**
	comp=Z,12nm,1.6s						
ASAR	**Alice Springs**	**70.55**	**137**	P	P	18 37 30.2	-3.0
	comp=Z,0.5nm,0.7s,baz=315,slow=6.0,SNR=8.6						
ESDC	**Sonseca Array**	**72.07**	**306**	P	**P**	**18 37 42.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=75,slow=5.5,SNR=3.2						
ILAR	**Eielson Array**	**73.44**	**22**	P	**P**	**18 37 49.8**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=319,slow=4.9,SNR=4.2						
TOA1	**Torodi Ar. Sit**	**80.86**	**280**	*e*P	**P**	**18 38 30.4**	**-2.1**
TORD	**Torodi Ar. Bea**	**80.86**	**280**	P	**P**	**18 38 30.4**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=40,slow=4.2,SNR=3.9						
YKA	**Yellowknife Ar**	**83.15**	**11**	P	**P**	**18 38 42.1**	**-1.7**
	comp=Z,0.2nm,0.8s,baz=332,slow=5.1,SNR=4.2						

ISCJB ***28*** *18:31:36.6±0.5,33.°10N±0.°04×95.°40E±0.°07, h13km, mb3.7/8,MS4.2/1,Error ellipse: s-maj=8.6km s-min=6.0km az=21.6*

IDC ***28*** *18:31:36.9±0.9,33.°18N×95.°43E, h0km, mb3.4/6, mb1 3.6/10,mb1mx3.3/69,mbtmp3.4/10,ML3.4/4, MS4.2/1, Ms1 4.2/1,ms1mx2.6/46,Error ellipse: s-maj=37.3km s-min=17.3km az=56.0*

NEIC ***28*** *18:31:39.0±4.3,33.°21N×95.°50E, h14km±29km, mb4.1/4, Error ellipse: s-maj=9.5km s-min=7.2km az=67.0*

ISC 28 18:31:38.8±0.8,33.21N±0.°06×95.4E±0.1,h13km,n38,
σ0ᵍ86/37,mb3.6/8,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.06**	**227**	*e*Pn	**Pn**	**18 32 57.4**	**+2.6**
TAPN	**Taplejung** 2.9nm,0.4s	**8.87**	**231**	*e*P	**Pn**	**18 33 47.3**	**+0.4**
ODAN	**Odare** 6.6nm,0.4s	**9.41**	**230**	*e*P	**Pn**	**18 33 54.6**	**+0.3**
JIRN	**Jiri** 11nm,1.0s	**9.70**	**238**	*e*P	**Pn**	**18 33 57.2**	**-1.2**
GUN	**Gumba** 5.9nm,0.4s	**9.78**	**240**	*e*P	**Pn**	**18 33 58.2**	**-1.3**
RAMN	**Ramite** 3.6nm,0.4s	**9.87**	**233**	*e*P	**Pn**	**18 33 59.8**	**-0.8**
KKN	**Kakani** 3.8nm,0.4s	**10.29**	**241**	*e*P	**Pn**	**18 34 05.5**	**-0.8**
PKI	**Pulchoki** 5.3nm,0.4s	**10.32**	**240**	*e*P	**Pn**	**18 34 05.7**	**-1.1**
PKIN	**Phulchoki** 4.7nm,0.4s	**10.32**	**240**	*e*P	**Pn**	**18 34 05.5**	**-1.3**
DMN	**Daman** 3.7nm,0.6s	**10.52**	**241**	*e*P	**Pn**	**18 34 08.2**	**-1.2**
KOLN	**Koldanda** 1.9nm,0.3s	**11.55**	**245**	*e*P	**Pn**	**18 34 23.2**	**-0.4**
PYUN	**Piuthan** 14nm,0.7s	**11.86**	**248**	*e*P	**Pn**	**18 34 29.1**	**+1.3**
CMAR	**Chiang Mai Arr** 0.0nm,0.3s,baz=339,slow=12,SNR=3.5	**15.02**	**167**	Pn	**Pn**	**18 35 09.3**	**-1.5**
SONA0	**Songino Array**	**16.80**	**26**	*e*Pn	**Pn**	**18 35 33.5**	**-0.2**
SONM	**Songino Array** 0.2nm,0.3s,baz=218,slow=16,SNR=3.5	**16.80**	**26**	Pn	**Pn**	**18 35 33.5**	**-0.2**
MK31	**Makanchi Array**	**16.87**	**327**	*e*Pn	**P**	**18 35 36.5**	**0.0**
MK32	**Makanchi Array**	**16.87**	**327**	*e*Pn	**Pn**	**18 35 33.8**	**-0.8**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=131,slow=14,SNR=7.3	**16.87**	**327**	Pn	**Pn**	**18 35 33.8**	**-0.8**
MKAR	**Makanchi Array** 11nm,1.2s	**16.87**	**327**	*e*Pn	**P**	**18 35 36.4**	**-0.2**
KDJ	**Kajisay** 3.8nm,0.8s	**16.95**	**307**	*e*Pn	**Pn**	**18 35 35.9**	**+0.2**
AAK	**Ala-Archa** 0.2nm,0.3s,baz=101,slow=9.8,SNR=4.1	**18.97**	**306**	P	**Pn**	**18 36 01.0**	**+0.3**
KURBB	**Kurchatov Arra** 2.7nm,0.6s,baz=136,slow=11,SNR=18	**21.39**	**329**	P	**P**	**18 36 24.6**	**-1.3**
KK02	**Karatay Array**	**21.88**	**304**	*e*P	**P**	**18 36 31.7**	**+0.4**
KK31	**Karatay Array**	**21.88**	**304**	*e*P	**P**	**18 36 31.8**	**+0.5**
KKAR	**Karatay Array**	**21.88**	**304**	*e*P	**P**	**18 36 31.6**	**+0.3**
KK01	**Karatay Array**	**21.88**	**304**	*e*P	**P**	**18 36 31.7**	**+0.4**
KK04	**Karatay Array**	**21.88**	**304**	*e*P	**P**	**18 36 31.6**	**+0.2**
KK03	**Karatay Array**	**21.89**	**304**	*e*P	**P**	**18 36 31.1**	**-0.3**
KK08	**Karatay Array**	**21.89**	**304**	*e*P	**P**	**18 36 31.9**	**+0.4**
KBL	**Kabul** 8.3nm,0.6s	**21.94**	**281**	*e*P	**P**	**18 36 32.3**	**+0.1**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=158,slow=9.3,SNR=2.8	**22.07**	**343**	P	**P**	**18 36 33.1**	**-0.1**
ZAA1	**Zalesovo Array**	**22.07**	**343**	*e*P	**P**	**18 36 33.1**	**-0.1**
GEYT	**Alibeck** 0.5nm,0.5s,baz=101,slow=7.5,SNR=2.5	**30.58**	**290**	P	**P**	**18 37 52.6**	**+0.3**
NRIK	**Noril'sk** comp=Z,413nm,20.6s,baz=61,slow=38	**36.45**	**355**	LR	LR	18 54 44.3	
WR1	**Warramunga Arr** 22nm,1.8s	**64.60**	**139**	*e*P	**P**	**18 42 15.9**	**-0.1**
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=321,slow=7.8,SNR=4.2	**64.60**	**139**	P	**P**	**18 42 15.9**	**-0.1**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=322,slow=6.9,SNR=4.3	**67.40**	**142**	P	**P**	**18 42 34.3**	**+0.3**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=314,slow=5.4,SNR=3.3	**81.62**	**14**	P	**P**	**18 43 57.3**	**+1.2**

IDC ***28*** *18:37:49.8±0.9,1.°54S×81.°63W, h0km, mb3.8/8, mb1 4.0/11,mb1mx3.8/48,mbtmp3.9/11,ML3.7/3,Error ellipse: s-maj=34.7km s-min=17.4km az=62.0*

IGQ ***28*** *18:37:52.0±1.1,2.°5S×8.°2W±°, h10km,M5.0/24, MLv5.0/19,MLv5.0/24*

ISCJB ***28*** *18:37:53.4±0.5,1.°53S±0.°05×81.°68W±0.°03, h33km, mb3.8/9,Error ellipse: s-maj=7.8km s-min=4.9km az=178.5*

NEIC ***28*** *18:37:56.1±1.5,1.°53S×81.°44W, h43km±15km, mb4.3/3, Error ellipse: s-maj=16.1km s-min=9.2km az=70.0*

ISC 28 18:37:55.2±0.7,1.°53S±0.°07×81.°68W±0.°07,h35km,n90,
σ1ᵍ71/104,mb3.7/9,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUAY	**Guayaquil**	**1.81**	**107**	P	**Pn**	**18 38 23.1**	**-0.8**
MAG1	**Magdalena**	**2.40**	**53**	P	**Pn**	**18 38 30.8**	**-1.3**
MAG1	**Magdalena**	**2.40**	**53**	P	**Pn**	**18 38 30.8**	**-1.3**
**

ESDC	**Sonseca Array**	**81.53**	**50**	P		**P**	**18 50 09.1**	**-0.5**
	0.5nm,0.6s,baz=262,slow=5.2,SNR=4.3							
QSPA	**South Pole Qui**	**88.53**	**180**	P		**P**	**18 50 44.1**	**-0.1**
	0.7nm,0.6s,baz=45,slow=5.7,SNR=8.3							
ASAR	**Alice Springs**	**137.29**	**232**	PKP		**PKPdf**	**18 57 15.9**	**-0.1**
	0.2nm,0.7s,baz=132,slow=3.1,SNR=3.6							
WR1	**Warramunga Arr**	**138.73**	**237**	*e*PKPdf		**PKPdf**	**18 57 19.1**	**+0.4**
WRA	**Warramunga Arr**	**138.73**	**237**	PKP		**PKPdf**	**18 57 19.1**	**+0.4**
	0.4nm,0.7s,baz=113,slow=2.3,SNR=6.5							

IDC ***28*** *18:39:02.6*±*0.7, 1.°65*S*×81.°55W, h0km, mb3.9/12, mb1 4.1/15, mb1mx4.0/48, mbtmp4.0/15, ML4.2/2, MS3.7/7, Ms1 3.7/7, ms1mx3.3/40, Error ellipse: s-maj=31.8km s-min=13.5km az=60.0*

ISCJB ***28*** *18:39:05.9*±*0.5, 1.°68S*±*0.°06×81.°51W*±*0.°09, h33km, mb3.8/12, MS3.6/3, Error ellipse: s-maj=13.5km s-min=6.6km az=152.4*

NEIC ***28*** *18:39:08.6*±*2.0, 1.°67S×81.°52W, h41km*±*20km, mb4.3/3, Error ellipse: s-maj=18.1km s-min=7.8km az=73.0*

ISC 28 18:39:07.8±0.7, 1.°70S±0.°08×81.°6W±0.°1, h35km, n26, σ1s21/26, mb3.7/12, MS3.5/3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**6.25**	**150**	Pn			**Pn**	**18 40 36.8**	**-1.2**
	3.6nm,0.3s,baz=358,slow=7.1,SNR=6.4								
ATAH				Sn			**Sn**	**18 41 49.1**	**+0.7**
	3.0nm,0.3s,baz=114,slow=20,SNR=3.4								
ATAH				LR		LR		18 43 28.1	
	comp=Z,947nm,19.1s,baz=336,slow=42								
RUSC	**La Rusia**	**11.33**	**48**	*e*Pn			**Pn**	**18 41 49.8**	**+2.1**
JTS	**JuntasAbangare**	**12.38**	**344**	LR		LR		18 45 32.3	
	comp=Z,290nm,18.9s,baz=356,slow=32								
SDV	**Santo Domingo**	**15.13**	**46**	Pn			**Pn**	**18 42 37.9**	**-1.4**
	0.2nm,0.3s,baz=237,slow=14,SNR=2.7								
SDV				LR		LR		18 48 45.5	
	comp=Z,247nm,21.2s,baz=224,slow=39								
SDV	**Santo Domingo**	**15.13**	**46**	*e*Pn			**Pn**	**18 42 38.0**	**-1.3**
	17nm,0.9s								
LPAZ	**La Paz**	**19.62**	**138**	P			**P**	**18 43 33.2**	**-0.8**
	0.4nm,0.3s,baz=331,slow=11,SNR=7.4								
LPAZ				LR		LR		18 52 58.3	
	comp=Z,494nm,19.0s,baz=298,slow=42								
LPAZ	**La Paz**	**19.62**	**138**	*e*P			**P**	**18 43 33.1**	**-1.0**
LPAZ				*e*Pn			**Pn**	**18 43 33.8**	**-1.7**
SAML	**Samuel**	**19.64**	**112**	*e*P			**P**	**18 43 33.2**	**-0.5**
	15nm,0.8s								
PCRV	**Puerto La Cruz**	**20.56**	**55**	P			**P**	**18 43 43.1**	**-0.6**
	13nm,0.6s,baz=172,slow=8.9,SNR=3.3								
PCRV				LR		LR		18 51 26.5	
	comp=Z,241nm,21.2s,baz=234,slow=36								
PB11	**IPOC Station P**	**21.39**	**148**	*e*P			**P**	**18 43 53.5**	**+0.8**
	16nm,0.9s								
SIV	**San Ignacio**	**24.67**	**126**	P			**P**	**18 44 25.4**	**-0.3**
	4.2nm,0.8s,baz=305,slow=9.6,SNR=8.8								
CPUP	**Villa Florida**	**33.79**	**139**	P			**P**	**18 45 47.5**	**+0.9**
	1.9nm,0.8s,baz=305,slow=6.2,SNR=2.9								
CPUP				LR		LR		19 02 59.6	
	comp=Z,126nm,19.0s,baz=308,slow=42								
LTX	**Lajitas**	**37.42**	**327**	*e*P			**P**	**18 46 18.4**	**+0.6**
TXAR	**Lajitas Array**	**37.42**	**327**	P			**P**	**18 46 18.4**	**+0.6**
	0.2nm,0.6s,baz=133,slow=7.5,SNR=2.7								
PLCA	**Paso Flores**	**40.11**	**167**	P			**P**	**18 46 41.2**	**+1.0**
	1.9nm,1.1s,baz=351,slow=5.6,SNR=4.5								
GSC	**Goldstone, Bar**	**49.41**	**322**	*e*P			**P**	**18 47 56.9**	**+2.4**
PDAR	**Pinedale Array**	**50.95**	**334**	P			**P**	**18 48 05.7**	**-0.5**
	0.3nm,0.5s,baz=134,slow=14,SNR=3.0								
NV01	**Mina Array Sit**	**52.36**	**324**	*e*P			**P**	**18 48 15.2**	**-1.6**
NVAR	**Mina Array Bea**	**52.36**	**324**	P			**P**	**18 48 15.2**	**-1.6**
	0.3nm,0.4s,baz=148,slow=5.3,SNR=2.9								
ULM	**Lac du Bonnet**	**53.19**	**349**	P			**P**	**18 48 23.0**	**+0.6**
	4.1nm,0.6s,baz=168,slow=9.2,SNR=6.0								
SCHQ	**Schefferville**	**57.63**	**10**	LR		LR		19 15 13.7	
	comp=Z,35nm,18.3s,baz=339,slow=38								
YKA	**Yellowknife Ar**	**68.72**	**344**	P			**P**	**18 50 05.9**	**-1.8**
	0.3nm,0.8s,baz=125,slow=6.9,SNR=3.8								
ILAR	**Eielson Array**	**81.25**	**337**	P			**P**	**18 51 20.3**	**+0.3**
	0.5nm,0.8s,baz=120,slow=5.4,SNR=3.4								
TOA1	**Torodi Ar. Sit**	**83.80**	**77**	*e*P			**P**	**18 51 34.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**83.80**	**77**	P			**P**	**18 51 34.9**	**+0.6**
	0.2nm,0.4s,baz=273,slow=5.8,SNR=4.3								
QSPA	**South Pole Qui**	**88.36**	**180**	P			**P**	**18 51 56.4**	**+0.5**
	2.4nm,0.7s,baz=90,slow=0.9,SNR=5.0								

IGQ 28 18:44:24.1±1.6, 1.°S±18.°×8.°3W±1.°5, h5km, MLv4.7/9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**2.90**	**71**	P			Pn	18 45 10.9	-0.1
MAG1				S			Sn	18 45 47.3	+1.0
ILLI	**Illinizas Sur**	**3.80**	**86**	P			Pn	18 45 21.1	-2.8
TERV	**Terraza Guagua**	**4.00**	**78**	P			Pn	18 45 27.0	+0.3
PINO	**Pino**	**4.00**	**78**	P			Pn	18 45 25.0	-1.8
CAMI	**Rancho Maria**	**4.03**	**85**	P			Pn	18 45 26.8	-0.2
YANA	**Yana**	**4.05**	**77**	P			Pn	18 45 25.1	-2.1
BNAS	**Cotopaxi Volca**	**4.05**	**85**	P			Pn	18 45 26.8	-0.5
NAS2	**Nasa**	**4.07**	**85**	P			Pn	18 45 27.8	+0.2
BMOR	**Cotopaxi Volca**	**4.07**	**86**	P			Pn	18 45 28.4	+0.8
BREF	**Cotopaxi Volca**	**4.09**	**85**	P			Pn	18 45 26.4	-1.6
BVC2	**Cotopaxi Volca**	**4.12**	**85**	P			Pn	18 45 27.8	-0.5
BULB	**Ulba Tungurahu**	**4.13**	**96**	P			Pn	18 45 22.9	-5.4
VC1	**Cotopaxi 1**	**4.13**	**85**	P			Pn	18 45 28.4	0.0
BTAM	**Cotopaxi Volca**	**4.13**	**85**	P			Pn	18 45 26.6	-2.0
COV1	**Cotopaxi Volc**	**4.19**	**85**	P			Pn	18 45 27.7	-1.6
CUIC	**Cuicocha-Domo**	**4.36**	**73**	P			Pn	18 45 32.2	+0.7
COTA	**Cotacachi**	**4.39**	**72**	P			Pn	18 45 31.6	-0.4
URCU	**Urcuqui**	**4.50**	**71**	P			Pn	18 45 33.1	-0.3

DJA 28 18:53:17.0±1.0, 3.°S±4.°×12.°8E±°, h11km±11km, M4.0/6, mB5.1/1, mb4.7/1, MLv3.7/6, Mw(mB)4.5/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.83**	**245**	P			Pg	18 53 33.1	+0.1
NLAI				S			Sg	18 53 44.0	+0.1
AAI	**Ambon**	**0.87**	**157**	P			Pg	18 53 31.3	-2.6
MSAI	**Masohi**	**1.17**	**113**	P			Pb	18 53 38.5	-0.8
MSAI				S			Sb	18 53 54.1	-0.4
SANI	**Sanana**	**2.04**	**294**	P			Pn	18 53 49.7	-1.5
LBMI	**Labuha**	**2.25**	**351**	P			Pn	18 53 54.4	+0.1
BNDI	**Bandanaira**	**2.62**	**129**	P			Pn	18 53 59.7	+0.4
SWI	**Sorong**	**3.95**	**60**	P			Pn	18 54 16.7	-0.9
APSI	**Ampana**	**6.50**	**287**	P			Pn	18 54 53.0	+0.3

IDC 28 18:53:49.0±2.1, 2.°71S×128.°48E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/60, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=96.8km s-min=12.9km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.06**	**162**	P			P	18 58 02.6	+0.5
	0.4nm,0.3s,baz=340,slow=11,SNR=22								
WRA				S			Sn	19 01 24.0	+0.2
	0.0nm,0.3s,baz=345,slow=21,SNR=3.5								
ASAR	**Alice Springs**	**21.48**	**166**	P			P	18 58 40.6	+1.1
	3.2nm,0.7s,baz=345,slow=11,SNR=22								
CMAR	**Chiang Mai Arr**	**35.89**	**307**	P			P	19 00 50.6	-0.6
	0.2nm,0.4s,baz=112,slow=8.9,SNR=2.8								
MKAR	**Makanchi Array**	**63.83**	**326**	P			P	19 04 23.8	+0.4
	0.3nm,0.6s,baz=125,slow=7.6,SNR=3.7								

SJA ***28*** *18:55:39.6*±*1.0, 34.°13S×72.°67W, h24km*±*21km, ML3.4, MW3.6*

GUC ***28*** *18:55:40.6*±*0.6, 34.°24S×72.°41W, h35km*±*3km, ML3.7*

ISCJB ***28*** *18:55:41.2*±*1.9, 34.°27S*±*0.°05×72.°4W*±*0.°1, h9km*±*15km, Error ellipse: s-maj=16.3km s-min=5.6km az=19.7*

ISC 28 18:55:39.5±2.3, 34.°24S±0.°05×72.°46W±0.°10, h1km±15km, n19, σ1s84/23, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.89**	**151**	*e*P			**Pg**	**18 55 56.4**	**-0.1**
GO05				*i* S			**Sg**	**18 56 08.2**	**+0.2**
GO05				IAML				18 56 10.0	
	comp=E,6µm,0.1s								
ROC1	**El Roble**	**1.74**	**44**	*e*P			**Pn**	**18 56 10.7**	**-0.4**
ROCH	**El Roble**	**1.75**	**44**	*i*P			**Pn**	**18 56 10.3**	**-0.8**
ROCH				*i* S			**Sn**	**18 56 33.6**	**-0.5**
COCH	**Cobquecura**	**1.91**	**188**	*e*P			**Pn**	**18 56 14.4**	**+1.3**
COCH				*e*S			**Sb**	**18 56 39.7**	**+0.3**
COCH	**Cobquecura**	**1.91**	**188**	*e*P			**Pn**	**18 56 12.4**	**-0.8**
COCH				*i* S			**Sn**	**18 56 37.2**	**-0.6**
LMEL	**Las Melosas**	**1.91**	**79**	*e*P			**Pn**	**18 56 13.1**	**-0.3**
LMEL				*i* S			**Sn**	**18 56 37.0**	**-1.2**
LMEL				IAML				18 56 46.0	
	comp=N,868nm,0.9s								
FCH	**Farellones**	**2.02**	**64**	*e*P			**Pn**	**18 56 14.7**	**-0.3**
FCH				*i* S			**Sn**	**18 56 40.1**	**-1.0**
FCH				IAML				18 56 48.8	
	comp=N,651nm,0.5s								
CCHI	**Chillan**	**2.38**	**173**	*e*P			**Pn**	**18 56 21.2**	**+1.6**
AUSP	**Uspallata**	**3.26**	**53**	*e*P			**Pb**	**18 56 39.2**	**+0.8**
RFA	**San Rafael**	**3.34**	**100**	*e*P			**Pb**	**18 56 38.8**	**-0.8**
RFA				IAML				18 57 38.2	
	comp=Z,47nm,0.7s								
RTLS	**Leoncito**	**3.60**	**48**	*e*P			**Pn**	**18 56 39.2**	**+2.5**
RTLS				IAML				18 57 45.7	
	comp=Z,65nm,0.5s								
RTCV	**Cerro Valdivia**	**4.05**	**55**	*e*P			**Pn**	**18 56 47.0**	**+4.3**
ZON	**Zonda**	**4.16**	**51**	*e*P			**Pb**	**18 56 50.4**	**-3.2**
RTLL	**Cerro Villicun**	**4.43**	**50**	*e*P			**Pn**	**18 56 50.3**	**+2.4**
RTLL				IAML				18 58 01.3	
	comp=Z,52nm,0.7s								
AMOG	**MOGNA**	**4.69**	**47**	*e*P			**Pn**	**18 56 53.0**	**+1.5**
ACAN	**Cantantal**	**4.83**	**68**	*e*P			**Pn**	**18 56 56.4**	**+3.0**
ACDV	**Cuesta del Vie**	**4.94**	**36**	*e*P			**Pn**	**18 56 56.7**	**+1.6**
MRA	**San Martin**	**5.93**	**74**	IAML				18 58 54.3	
	comp=Z,28nm,0.8s								
APLL	**PUNTA DE LOS L**	**6.31**	**54**	IAML				18 58 44.4	
	comp=Z,7.8nm,0.5s								

NEIC ***28*** *19:00:53.3*±*0.8, 36.°54N×144.°41E, h10km, mb4.8/5, Error ellipse: s-maj=18.8km s-min=10.5km az=172.0*

NEIC Recorded [2 JMA] in Miyagi.

NIED ***28*** *19:01:00, 38.°00N×141.°90E, h41km, Mw4.1 Best double couple: M*o*1.41000×10*15 *NP1:*φs*189.00000°, δ28.00000°, λ153.00000°. NP2:*φs*303.00000°, δ78.00000°, λ64.00000°.*

ISCJB ***28*** *19:01:15.9*±*0.7, 37.°98N*±*0.°03×141.°93E*±*0.°06, h50km*±*6km, mb4.2/29, MS3.0/2, Error ellipse: s-maj=8.8km s-min=4.5km az=16.4*

JMA ***28*** *19:01:16.8*±*0.1, 38.°01N×141.°86E, h45km*±*1km, M4.0*

JMA Felt II J1.

IDC ***28*** *19:01:19.8*±*1.9, 37.°97N×141.°93E, h70km*±*18km, mb3.7/24, mb1 3.8/30, mb1mx3.7/78, mbtmp4.0/30, MS2.9/8, Ms1 2.9/8, ms1mx2.6/63, Error ellipse: s-maj=15.6km s-min=9.8km az=105.0*

ISC 28 19:01:15.5±1.1, 37.°95N±0.°04×141.°89E±0.°05, h31km±4km, n64, σ1s28/71, mb4.0/29, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.66**	**320**	P			**Pb**	**19 01 29.1**	**+0.4**
JIO				S			**Sb**	**19 01 37.5**	**-0.2**
JMM	**Marumori**	**0.87**	**265**	P			**Pb**	**19 01 32.5**	**+0.3**
JMM				*e*S			**Sb**	**19 01 43.7**	**+0.1**
JFK	**Kawauchi**	**0.99**	**235**	P			**Pb**	**19 01 34.3**	**0.0**
JFK				*e*S			**Sb**	**19 01 47.2**	**+0.2**
JOU	**Okura**	**1.05**	**294**	P			**Pb**	**19 01 35.0**	**-0.3**
JOU				*e*S			**Sn**	**19 01 48.2**	**+0.4**
JMK	**Ichinoseki**	**1.13**	**332**	P			**Pn**	**19 01 35.6**	**+0.4**
JMK				S			**Sn**	**19 01 49.3**	**-0.4**
JFT	**Otama**	**1.30**	**251**	P			**Pb**	**19 01 39.4**	**-0.1**
JYS	**Shirataka**	**1.47**	**281**	P			**Pn**	**19 01 40.9**	**+1.1**
JYS				*e*S			**Sb**	**19 01 59.8**	**-0.7**
JYK	**Kaneyama**	**1.55**	**309**	P			**Pn**	**19 01 41.8**	**+0.9**
JYK				*e*S			**Sn**	**19 02 00.4**	**+0.5**
JOM	**Ohasama**	**1.59**	**343**	P			**Pn**	**19 01 42.1**	**+0.5**
JOM				*e*S			**Sn**	**19 02 00.8**	**-0.3**
JRG	**Rokugo**	**1.75**	**326**	P			**Pn**	**19 01 44.8**	**+1.1**
JRG				*e*S			**Sn**	**19 02 06.0**	**+1.0**
JFY	**Yanaizu**	**1.82**	**253**	P			**Pn**	**19 01 46.4**	**+1.7**
JYA	**Atsumi**	**1.83**	**291**	P			**Pn**	**19 01 46.0**	**+1.1**
MJAR	**Matsushiro Arr**	**3.26**	**246**	P			**Pn**	**19 02 07.0**	**+2.5**
	9.9nm,0.3s,baz=51,slow=10,SNR=69								
MJAR				S			**Sb**	**19 02 49.1**	**-2.8**
	6.7nm,0.3s,baz=98,slow=26,SNR=4.5								
MJAR				LR		LR		19 03 38.4	
	comp=Z,274nm,20.7s,baz=65,slow=42								
MAJO	**Matsushiro**	**3.26**	**246**	*e*Pn			**Pn**	**19 02 07.5**	**+3.1**
MAT	**Matsushiro**	**3.26**	**246**	P			**Pn**	**19 02 07.1**	**+2.6**
MAT				S			**Sb**	**19 02 50.0**	**-1.9**
MJB9	**Matsu-Tunnel**	**3.26**	**246**	*e*Pn			**Pn**	**19 02 07.5**	**+3.0**
ERM	**Erimo**	**4.18**	**13**	*e*Pn			**Pn**	**19 02 16.5**	**-0.6**
JHJ	**Hachijo jima 2**	**5.11**	**200**	P			**Pn**	**19 02 32.1**	**+2.2**
	53nm,0.3s,baz=60,slow=13,SNR=9.4								
JHJ				S			**Sn**	**19 03 26.9**	**-1.1**
	13nm,0.3s,baz=9.9,slow=19,SNR=2.4								
ASAJ	**Asahikawa**	**6.19**	**5**	P			**Pn**	**19 02 44.5**	**-0.2**
	4.1nm,0.3s,baz=208,slow=14,SNR=61								
ASAJ				S			**Sn**	**19 03 57.5**	**+3.2**
	3.9nm,0.3s,baz=215,slow=18,SNR=2.8								
ASAJ	**Asahikawa**	**6.19**	**5**	*e*Pn			**Pn**	**19 02 44.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**9.74**	**313**	P			**Pn**	**19 03 35.9**	**+2.5**
	0.2nm,0.3s,baz=128,slow=7.9,SNR=2.9								
JNU	**Nakatsue**	**10.18**	**245**	P			**Pn**	**19 03 43.2**	**+3.7**
	0.6nm,0.3s,baz=41,slow=20,SNR=6.9								
JNU				LR		LR		19 08 00.5	
	comp=Z,116nm,21.0s,baz=53,slow=39								
KSRS	**Korea Array**	**11.08**	**272**	P			Pn	19 03 57.0	+5.2
	0.1nm,0.3s,baz=83,slow=14,SNR=7.9								
KSRS				LR		LR		19 07 48.6	
	comp=Z,43nm,18.4s,baz=79,slow=35								
KLR	**Kul'dur**	**13.45**	**330**	P			**Pn**	**19 04 24.8**	**+0.8**
	0.0nm,0.3s,baz=140,slow=14,SNR=2.3								
KLR				LR		LR		19 09 39.8	
	comp=Z,5.3nm,18.7s,baz=66,slow=37								
JOW	**Kunigami**	**15.95**	**230**	P			**Pn**	**19 04 58.0**	**+0.4**
	0.8nm,0.3s,baz=63,slow=6.8,SNR=2.5								
JOW				LR		LR		19 11 17.1	
	comp=Z,42nm,19.1s,baz=35,slow=37								
PETK	**Petropavlovsk-**	**18.71**	**31**	P			**P**	**19 05 31.6**	**+0.4**
	0.2nm,0.3s,baz=238,slow=8.5,SNR=4.7								
PETK				LR		LR		19 12 12.5	
	comp=Z,32nm,19.1s,baz=201,slow=35								
MA2	**Magadan**	**22.38**	**12**	P			**P**	**19 06 10.5**	**-0.4**
	2.9nm,0.7s,baz=207,slow=5.3,SNR=7.7								
MA2				LR		LR		19 14 30.9	
	comp=Z,44nm,19.1s,baz=239,slow=35								
GUMO	**Guam**	**24.40**	**173**	P			**P**	**19 06 32.2**	**+1.0**
	196nm,1.1s,baz=342,slow=3.2,SNR=2.8								
YAK	**Yakutsk**	**25.27**	**346**	P			**P**	**19 06 40.1**	**+1.4**
	5.2nm,0.5s,baz=82,slow=1.2,SNR=1.9								
YAK				LR		LR		19 16 40.5	
	comp=Z,49nm,20.3s,baz=100,slow=36								
SEY	**Seymchan**	**25.82**	**11**	P			**P**	**19 06 44.4**	**+0.8**
	3.4nm,0.9s,baz=189,slow=6.1,SNR=15								
SONM	**Songino Array**	**27.61**	**302**	P			**P**	**19 07 00.2**	**+0.1**
	0.6nm,0.6s,baz=100,slow=9.1,SNR=3.3								
SONM				PcP			**PcP**	**19 10 14.6**	**-2.3**
	0.5nm,0.4s,baz=119,slow=1.8,SNR=3.7								
ENH	**Enshi**	**27.80**	**264**	*e*P			**P**	**19 07 00.3**	**-1.5**
	10nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**28.30**	**123**	T			T	19 37 23.4	
	baz=316,slow=75,SNR=1298								
H11N1	**WAKE ISLAND Hy**	**28.31**	**123**	T			T	19 37 24.1	
	baz=316,slow=75,SNR=1500								
H11N3	**WAKE ISLAND Hy**	**28.32**	**123**	T			T	19 37 24.8	
	baz=316,slow=75,SNR=905								
H11S1	**WAKE ISLAND Hy**	**29.05**	**125**	T			T	19 38 16.5	
	baz=317,slow=76,SNR=371								
H11S3	**WAKE ISLAND Hy**	**29.05**	**125**	T			T	19 38 23.5	
	baz=317,slow=76,SNR=405								
H11S2	**WAKE ISLAND Hy**	**29.07**	**125**	T			T	19 38 24.7	
	baz=317,slow=76,SNR=278								
TIXI	**Tiksi**	**34.43**	**353**	P			**P**	**19 07 58.8**	**-0.9**
	0.9nm,0.3s,baz=107,slow=17,SNR=4.0								
ZALV	**Zalesovo Beam**	**41.59**	**312**	P			**P**	**19 09 00.2**	**-0.1**
	0.5nm,0.4s,baz=88,slow=9.1,SNR=3.2								
CMAR	**Chiang Mai Arr**	**42.10**	**255**	P			**P**	**19 09 05.5**	**+0.6**
	0.3nm,0.6s,baz=46,slow=5.2,SNR=3.6								
MK31	**Makanchi Array**	**43.96**	**301**	*e*P			**P**	**19 09 20.1**	**+0.5**
MKAR	**Makanchi Array**	**43.96**	**301**	P			**P**	**19 09 19.1**	**-0.5**
	0.4nm,0.5s,baz=85,slow=9.0,SNR=9.5								
MKAR	**Makanchi Array**	**43.96**	**301**	*e*P			**P**	**19 09 20.1**	**+0.5**
	7.4nm,0.8s								
KURK	**Kurchatov**	**45.67**	**307**	*e*P			**P**	**19 09 32.9**	**-0.3**
	3.4nm,0.9s								
KURBB	**Kurchatov Arra**	**45.75**	**307**	P			**P**	**19 09 32.9**	**-0.8**
	0.8nm,0.4s,baz=81,slow=7.8,SNR=7.9								
KDAK	**Kodiak Island**	**46.17**	**43**	P			**P**	**19 09 37.1**	**+0.2**
	8.4nm,0.9s,baz=284,slow=14,SNR=3.8								
PMG	**Port Moresby**	**47.36**	**173**	P			**P**	**19 09 46.1**	**-0.6**
	11nm,0.9s,baz=320,slow=17,SNR=2.4								
ILAR	**Eielson Array**	**48.52**	**33**	P			**P**	**19 09 55.1**	**0.0**
	1.1nm,0.7s,baz=271,slow=6.8,SNR=12								
BVAR	**Borovoye Array**	**50.24**	**312**	P			**P**	**19 10 09.7**	**+1.2**
	0.4nm,0.5s,baz=73,slow=11,SNR=2.5								
BATI	**Baumata**	**50.85**	**203**	P			**P**	**19 10 13.5**	**+0.1**
	3.0nm,0.4s,baz=9.5,slow=6.1,SNR=2.8								
AB31	**Akbulak array**	**57.65**	**310**	*e*P			**P**	**19 11 01.7**	**-0.9**
ABKAR	**Akbulak array**	**57.65**	**310**	*e*P			**P**	**19 11 01.9**	**-0.6**
	8.7nm,0.6s								
WRA	**Warramunga Arr**	**58.02**	**188**	P			**P**	**19 11 05.3**	**-0.1**
	3.9nm,0.7s,baz=6.8,slow=7.4,SNR=55								
BBB	**Bella Bella**	**61.15**	**45**	P			**P**	**19 11 27.6**	**+1.0**
	97nm,1.3s,baz=270,slow=8.1,SNR=2.8								
RES	**Resolute Bay**	**61.62**	**15**	P			**P**	**19 11 29.8**	**+0.3**
	0.7nm,0.6s,baz=330,slow=8.1,SNR=3.0								
ASAR	**Alice Springs**	**61.74**	**188**	P			**P**	**19 11 31.2**	**+0.3**
	0.9nm,0.8s,baz=15,slow=4.6,SNR=12								
YKA	**Yellowknife Ar**	**62.83**	**30**	P			**P**	**19 11 37.3**	**-0.5**
	0.3nm,0.6s,baz=300,slow=6.6,SNR=6.8								
FINES	**FINESS Array B**	**68.19**	**332**	P			**P**	**19 12 12.5**	**+0.1**
	1.4nm,0.8s,baz=224,slow=13,SNR=2.6								
STKA	**Stephens Creek**	**69.47**	**180**	P			**P**	**19 12 20.9**	**+0.3**
	1.1nm,0.7s,baz=337,slow=15,SNR=3.4								
SFJD	**Kangerlussuaq**	**74.94**	**5**	P			**P**	**19 12 52.6**	**-0.4**
	5.5nm,0.7s,baz=0.0,slow=6.1,SNR=3.7								
FRB	**Frobisher Bay**	**75.80**	**13**	P			**P**	**19 12 57.7**	**-0.3**
	0.7nm,0.3s,baz=315,slow=4.3,SNR=3.2								
PDAR	**Pinedale Array**	**76.76**	**46**	P			**P**	**19 13 04.3**	**+0.1**
	0.5nm,0.7s,baz=315,slow=0.4,SNR=4.8								
TXAR	**Lajitas Array**	**89.26**	**53**	P			**P**	**19 14 09.2**	**+0.3**
	0.3nm,0.8s,baz=282,slow=4.5,SNR=3.2								

ISK ***28*** *19:08:13.5, 38.°74N×43.°47E, h5km, ML2.7/8*

ISCJB ***28*** *19:08:14.8*±*0.5, 38.°72N*±*0.°02×43.°53E*±*0.°04, h5km*±*4km, Error ellipse: s-maj=5.4km s-min=3.2km az=22.0*

CSEM ***28*** *19:08:14.0*±*0.3, 38.°70N×43.°54E, h5km, ML2.7, Error ellipse: s-maj=6.8km s-min=4.1km az=116.0*

DDA ***28*** *19:08:14.5, 38.°71N×43.°52E, h7km, Ml3.0*

ATA ***28*** *19:08:14.0*±*1.5, 38.°70N×43.°45E, h23km*±*8km, ML2.9, MW2.8*

ISC 28 19:08:15.2±0.8, 38.°71N±0.°02×43.°53E±0.°03, h17km±5km, n44, σ1s29/74, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**224**	PG			**Pg**	**19 08 18.9**	**-0.6**
VANB				SG			**Sg**	**19 08 24.4**	**+1.9**
VANB	**Van**	**0.16**	**224**	*e*Pg			**Pg**	**19 08 18.9**	**-0.6**
VANB				*e*Sg			**Sg**	**19 08 24.4**	**+1.9**
TVAN	**Van**	**0.20**	**208**	*i* P			**Pg**	**19 08 18.8**	**-1.5**
TVAN				*i* S			**Sg**	**19 08 23

STKA	**Stephens Creek**	**26.09**	**192**	P		P	19 34 07.5	+0.6
	0.6nm,0.5s,baz=347,slow=19,SNR=3.1							

IDC 28 19:45:43.7±2.5, 6°93S×131°55E, **h0**km, **mb3.4**/1, **mb1 3.7**/5, **mb1mx3.4**/51, **mbtmp3.5**/5, **ML3.3**/3, **Error ellipse: s-maj=58.3km s-min=31.1km az=82.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**8.45**	**247**	Pn		Pn	19 47 47.8	+0.3
	0.6nm,0.3s,baz=66,slow=10.0,SNR=3.2							
BATI				Sn		Sn	19 49 14.6	-9.0
	0.8nm,0.3s,baz=53,slow=20,SNR=3.4							
FITZ	**Fitzroy Crossi**	**12.51**	**207**	Pn		Pn	19 48 42.5	-0.6
	baz=90,slow=5.4							
WRA	**Warramunga Arr**	**13.21**	**168**	Pn		Pn	19 48 54.2	+1.4
	0.1nm,0.3s,baz=352,slow=13,SNR=14							
WRA				Sn		Sn	19 51 13.2	-7.5
	0.5nm,0.3s,baz=346,slow=24,SNR=9.1							
ASAR	**Alice Springs**	**16.79**	**172**	Pn		Pn	19 49 39.5	-1.0
	0.1nm,0.3s,baz=345,slow=12,SNR=6.5							
ASAR				Sn		Sn	19 52 35.7	-12
	0.0nm,0.3s,baz=356,slow=24,SNR=3.1							
MKAR	**Makanchi Array**	**69.02**	**326**	P		P	19 56 51.2	0.0
	0.2nm,0.5s,baz=131,slow=7.5,SNR=2.9							

BEO **28** *19:47:20.3±1.1, 38°11N×21°99E, h4km±7km, M3.6/1*
MOS **28** *19:47:21.8±1.1, 38°34N×21°87E, h14km, mb4.2/22, Error ellipse: s-maj=8.2km s-min=3.8km az=79.0*
IDC **28** *19:47:21.8±0.8, 38°51N×21°83E, h0km, mb3.9/20, mb1 3.9/25, mb1mx3.8/65, mbtmp3.8/25, ML3.0/5, MS3.2/6, Ms1 3.2/6, ms1mx2.7/73, Error ellipse: s-maj=16.3km s-min=13.7km az=176.0*
ATH **28** *19:47:22.3, 38°42N×21°83E, h18km±1km, ML3.6/23, Error ellipse: s-maj=1.0km s-min=0.7km az=332.0*
THE **28** *19:47:22.8, 38°41N×21°82E, h0km±1km, ML3.6/26, Error ellipse: s-maj=1.2km s-min=0.4km az=23.0*
ISCJB **28** *19:47:22.7±0.2, 38°42N±0°01×21°81E±0°02, h13km±1km, mb3.9/25, MS3.5/5, Error ellipse: s-maj=2.2km s-min=1.7km az=141.2*
PDG **28** *19:47:23.2±0.6, 38°41N×21°84E, h11km, ML3.7/7, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
CSEM **28** *19:47:23.0±0.1, 38°39N×21°84E, h8km, mb4.0/20, Error ellipse: s-maj=2.6km s-min=2.0km az=52.0*

ISC 28 19:47:**23.2**±0.6, **38°40N**±0°01×**21°82E**±0°01, **h12**km±3km, **n399**, σ1**§38**/505, **mb3.9**/25, **MS3.6**/5, **30C-25D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.07**	**69**	P		**Pg**	**19 47 25.0**	**-0.8**
EFP				S		**Sg**	**19 47 26.9**	**-0.7**
EFP				AML	AML		19 47 28.6	
EFP				AML	AML		19 47 28.7	
EFP	**Efpalio**	**0.07**	**69**	P		**Pg**	**19 47 25.3**	**-0.5**
EFP				S		**Sg**	**19 47 27.5**	**-0.1**
EFP	**Efpalio**	**0.07**	**69**	P		**Pg**	**19 47 25.3**	**-0.5**
EFP				S		**Sg**	**19 47 26.6**	**-1.0**
UPR	**University Cam**	**0.12**	**192**	P		**Pg**	**19 47 26.2**	**0.0**
UPR				S		**Sg**	**19 47 29.9**	**+1.3**
UPR	**University Cam**	**0.12**	**192**	P		**Pg**	**19 47 26.3**	**0.0**
UPR				S		**Sg**	**19 47 29.6**	**+1.1**
UPR	**University Cam**	**0.12**	**192**	P		**Pg**	**19 47 26.3**	**0.0**
UPR				S		**Sg**	**19 47 27.6**	**-0.9**
SERG	**Sergoula**	**0.19**	**86**	P		**Pg**	**19 47 27.1**	**-0.3**
SERG				S		**Sg**	**19 47 30.5**	**+0.2**
SERG	**Sergoula**	**0.19**	**86**	P		**Pg**	**19 47 27.1**	**-0.3**
SERG				S		**Sg**	**19 47 30.5**	**+0.2**
TRIZ	**Trizonia**	**0.20**	**100**	P		**Pg**	**19 47 27.8**	**+0.1**
TRIZ				S		**Sg**	**19 47 31.6**	**+0.9**
TRIZ	**Trizonia**	**0.20**	**100**	P		**Pg**	**19 47 27.5**	**-0.1**
TRIZ				S		**Sg**	**19 47 31.2**	**+0.5**
LAKA	**Lakka**	**0.20**	**141**	P		**Pb**	**19 47 27.7**	**-1.2**
LAKA	**Lakka**	**0.20**	**141**	P		**Pg**	**19 47 27.6**	**-0.1**
LAKA	**Lakka**	**0.20**	**141**	P		**Pg**	**19 47 27.6**	**-0.1**
ANX	**Ano Chora**	**0.21**	**23**	P		**Pg**	**19 47 27.4**	**-0.5**
ANX				AML	AML		19 47 30.9	
ANX				AML	AML		19 47 31.1	
ANX				S		**Sg**	**19 47 31.2**	**+0.3**
ANX	**Ano Chora**	**0.21**	**23**	P		**Pg**	**19 47 27.2**	**-0.6**
ANX				S		**Sg**	**19 47 30.7**	**-0.3**
ANX	**Ano Chora**	**0.21**	**23**	P		**Pg**	**19 47 27.2**	**-0.6**
ANX				S		**Sg**	**19 47 30.7**	**-0.3**
KALE	**Kalithea**	**0.25**	**92**	P		**Pg**	**19 47 28.5**	**-0.1**
KALE	**Kalithea**	**0.25**	**92**	P		**Pg**	**19 47 28.2**	**-0.3**
KALE	**Kalithea**	**0.25**	**92**	P		**Pg**	**19 47 28.3**	**-0.3**
PVO	**Paravola**	**0.31**	**314**	P		**Pg**	**19 47 28.8**	**-0.8**
PVO				AML	AML		19 47 38.0	
	comp=N,26678μm,0.4s							
PVO				AML	AML		19 47 38.0	
	comp=E,68557μm,0.3s							
PVO	**Paravola**	**0.31**	**314**	P		**Pg**	**19 47 28.8**	**-0.8**
PVO				S		**Sg**	**19 47 33.5**	**-0.4**
PVO	**Paravola**	**0.31**	**314**	P		**Pg**	**19 47 27.2**	**-2.4**
PVO				S		**Sg**	**19 47 33.5**	**-0.4**
RLS	**Riolos of Patr**	**0.44**	**219**	P		**Pg**	**19 47 32.1**	**+0.2**
RLS				AML	AML		19 47 39.4	
	comp=N,13323μm,0.6s							
RLS				S		**Sb**	**19 47 39.8**	**+0.4**
RLS				AML	AML		19 47 40.0	
	comp=E,9382μm,0.5s							
RLS	**Riolos of Patr**	**0.44**	**219**	P		**Pg**	**19 47 31.8**	**-0.1**
RLS				S		**Sb**	**19 47 39.1**	**-0.3**
RLS	**Riolos of Patr**	**0.44**	**219**	P		**Pg**	**19 47 31.7**	**-0.1**
RLS				S		**Sb**	**19 47 38.9**	**-0.5**
KLV	**Kalavryta, Ach**	**0.44**	**143**	P		**Pg**	**19 47 31.7**	**-0.4**
KLV				S		**Sb**	**19 47 38.3**	**-1.3**
KLV				AML	AML		19 47 41.1	
	comp=N,6259μm,0.3s							
KLV				AML	AML		19 47 41.9	
	comp=E,7970μm,0.2s							
KLV	**Kalavryta, Ach**	**0.44**	**143**	P		**Pg**	**19 47 31.6**	**-0.4**
KLV				S		**Sb**	**19 47 37.6**	**-2.0**
KLV	**Kalavryta, Ach**	**0.44**	**143**	P		**Pg**	**19 47 31.6**	**-0.4**
KLV				S		**Sg**	**19 47 37.4**	**-0.5**
DRO	**Drossia**	**0.46**	**191**	P		**Pg**	**19 47 31.9**	**-0.3**
DRO				AML	AML		19 47 40.5	
	comp=E,57449μm,0.2s							
DRO				AML	AML		19 47 41.1	
	comp=N,35986μm,0.2s							
DRO	**Drossia**	**0.46**	**191**	P		**Pg**	**19 47 31.9**	**-0.3**
DRO				S		**Sb**	**19 47 39.6**	**-0.3**
DRO	**Drossia**	**0.46**	**191**	P		**Pg**	**19 47 31.9**	**-0.3**
DRO				S		**Sb**	**19 47 39.2**	**-0.7**
EVR	**Evrytania**	**0.52**	**359**	P		**Pg**	**19 47 32.3**	**-1.0**
EVR				S		**Sg**	**19 47 40.8**	**+0.6**
EVR				AML	AML		19 47 42.5	
	comp=N,25652μm,0.5s							
EVR				AML	AML		19 47 45.0	
	comp=E,25119μm,0.5s							
EVR	**Evrytania**	**0.52**	**359**	P		**Pg**	**19 47 32.1**	**-1.3**
EVR				S		**Sg**	**19 47 40.1**	**-0.1**
EVR	**Evrytania**	**0.52**	**359**	P		**Pg**	**19 47 32.1**	**-1.3**
EVR				S		**Sg**	**19 47 40.8**	**+0.6**
PDO	**Prodromos**	**0.54**	**292**	P		**Pg**	**19 47 31.8**	**-1.9**
PDO				S		**Sg**	**19 47 42.0**	**+1.2**
PDO				AML	AML		19 47 46.1	
	comp=N,37497μm,0.3s							
PDO				AML	AML		19 47 46.5	
	comp=E,30975μm,0.3s							
PDO	**Prodromos**	**0.54**	**292**	P		**Pg**	**19 47 32.0**	**-1.7**
PDO				S		**Sg**	**19 47 41.8**	**+1.0**
PDO	**Prodromos**	**0.54**	**292**	P		**Pg**	**19 47 32.0**	**-1.7**
PDO				S		**Sg**	**19 47 41.0**	**+0.2**
DLFA	**Delphi**	**0.54**	**81**	P		**Pg**	**19 47 33.1**	**-0.7**
DLFA				AML	AML		19 47 43.3	
	comp=N,9965μm,0.5s							
DLFA				AML	AML		19 47 43.4	
	comp=E,7930μm,0.2s							
DLFA	**Delphi**	**0.54**	**81**	P		**Pg**	**19 47 32.9**	**-0.9**
DSF	**Desfina**	**0.56**	**89**	P		**Pg**	**19 47 33.0**	**-1.2**
DSF				S		**Sb**	**19 47 42.5**	**-0.5**
DSF				AML	AML		19 47 43.8	
	comp=N,32087μm,0.2s							
DSF				AML	AML		19 47 44.4	
	comp=E,14398μm,0.2s							
DSF	**Desfina**	**0.56**	**89**	P		**Pg**	**19 47 33.1**	**-1.0**
DSF				S		**Sg**	**19 47 41.8**	**+0.2**
DSF	**Desfina**	**0.56**	**89**	P		**Pg**	**19 47 33.2**	**-0.9**
DSF				S		**Sg**	**19 47 41.9**	**+0.3**
GUR	**Goura**	**0.62**	**138**	P		**Pg**	**19 47 34.3**	**-1.1**
GUR				S		**Sb**	**19 47 44.3**	**-0.5**
GUR				AML	AML		19 47 45.3	
	comp=E,21997μm,0.6s							
GUR				AML	AML		19 47 47.0	
	comp=N,23159μm,0.5s							
GUR	**Goura**	**0.62**	**138**	P		**Pg**	**19 47 34.4**	**-1.0**
GUR				S		**Sb**	**19 47 44.0**	**-0.8**
GUR	**Goura**	**0.62**	**138**	P		**Pg**	**19 47 34.4**	**-1.0**
GUR				S		**Sb**	**19 47 44.0**	**-0.8**
VTN	**Vitineika**	**0.69**	**226**	P		**Pb**	**19 47 37.8**	**+0.5**
VTN	**Vitineika**	**0.69**	**226**	P		**Pb**	**19 47 36.9**	**-0.3**
AGG	**Agios Georgios**	**0.74**	**33**	P		**Pg**	**19 47 36.3**	**-1.3**
AGG	**Agios Georgios**	**0.74**	**33**	P		**Pg**	**19 47 36.0**	**-1.6**
AGG				S		**Sg**	**19 47 47.4**	**+0.1**
AGG	**Agios Georgios**	**0.74**	**33**	P		**Pg**	**19 47 36.0**	**-1.6**
AGG				S		**Sg**	**19 47 47.4**	**+0.1**
THAL	**Thalero**	**0.76**	**118**	P		**Pg**	**19 47 35.3**	**-2.6**
THAL				AML	AML		19 47 51.6	
	comp=E,17456μm,0.2s							
THAL				AML	AML		19 47 56.4	
	comp=N,20756μm,0.4s							
THAL	**Thalero**	**0.76**	**118**	P		**Pg**	**19 47 36.2**	**-1.7**
KFL	**Anninata**	**0.86**	**251**	P		**Pg**	**19 47 39.0**	**-0.8**
KFL				S		**Sb**	**19 47 52.0**	**+0.5**
KFL				AML	AML		19 47 56.1	
	comp=N,5860μm,0.5s							
KFL				AML	AML		19 47 57.4	
	comp=E,11287μm,0.4s							
KFL	**Anninata**	**0.86**	**251**	P		**Pg**	**19 47 38.9**	**-0.9**
KFL				S		**Sb**	**19 47 51.7**	**+0.1**
KFL	**Anninata**	**0.86**	**251**	P		**Pg**	**19 47 38.9**	**-0.9**
KFL				S		**Sb**	**19 47 52.6**	**+1.0**
PROD	**Prodromos**	**0.86**	**99**	P		**Pg**	**19 47 39.1**	**-0.9**
PROD	**Prodromos**	**0.86**	**99**	P		**Pg**	**19 47 38.9**	**-1.0**
AMT	**Artemida-Makis**	**0.87**	**186**	P		**Pg**	**19 47 39.4**	**-0.6**
AMT				AML	AML		19 47 56.6	
	comp=N,5963μm,0.5s							
AMT				AML	AML		19 47 57.8	
	comp=E,7514μm,0.7s							
AMT	**Artemida-Makis**	**0.87**	**186**	P		**Pb**	**19 47 39.7**	**-0.6**
AMT				S		**Sn**	**19 47 52.2**	**-1.8**
AMT	**Artemida-Makis**	**0.87**	**186**	P		**Pg**	**19 47 39.4**	**-0.6**
AMT				S		**Sn**	**19 47 52.2**	**-1.8**
DSL	**Palaion Diasel**	**0.92**	**323**	P		**Pg**	**19 47 37.6**	**-3.4**
DSL	**Palaion Diasel**	**0.92**	**323**	P		**Pg**	**19 47 38.7**	**-2.4**
DSL				S		**Sg**	**19 47 53.9**	**+0.8**
DSL	**Palaion Diasel**	**0.92**	**323**	P		**Pg**	**19 47 38.7**	**-2.4**
DSL				S		**Sg**	**19 47 53.9**	**+0.8**
LKR	**Lokris**	**0.96**	**75**	P		**Pg**	**19 47 40.0**	**-1.8**
LKR				AML	AML		19 47 58.7	
	comp=N,3112μm,0.2s							
LKR				AML	AML		19 47 59.1	
	comp=E,5306μm,0.2s							
LKR	**Lokris**	**0.96**	**75**	P		**Pg**	**19 47 39.7**	**-2.1**
LKR	**Lokris**	**0.96**	**75**	P		**Pg**	**19 47 39.7**	**-2.1**
LTK	**Loutraki**	**0.98**	**112**	P		**Pb**	**19 47 41.9**	**-0.2**
LTK				AML	AML		19 47 58.6	
	comp=E,8758μm,0.8s							
LTK				AML	AML		19 47 59.2	
	comp=N,6884μm,0.6s							
LTK	**Loutraki**	**0.98**	**112**	P		**Pg**	**19 47 41.5**	**-0.6**
LTK				S		**Sn**	**19 47 55.9**	**-0.8**
LTK	**Loutraki**	**0.98**	**112**	P		**Pg**	**19 47 41.5**	**-0.6**
LTK				S		**Sn**	**19 47 55.9**	**-0.8**
FSK	**Fiskardo**	**0.99**	**274**	P		**Pg**	**19 47 40.6**	**-1.6**
FSK				S		**Sn**	**19 47 57.0**	**+0.2**
LKD2	**Lefkada island**	**0.99**	**293**	P		**Pg**	**19 47 40.9**	**-1.4**
LKD2	**Lefkada island**	**0.99**	**293**	P		**Pg**	**19 47 40.9**	**-1.4**
VLS	**Valsamata**	**0.99**	**257**	P		**Pg**	**19 47 40.9**	**-1.4**
VLS	**Valsamata**	**0.99**	**257**	P		**Pg**	**19 47 40.0**	**-2.3**
VLS				AML	AML		19 47 58.1	
	comp=N,6721μm,0.2s							
VLS				AML	AML		19 47 58.6	
	comp=E,3562μm,0.2s							
VLS	**Valsamata**	**0.99**	**257**	P		**Pg**	**19 47 40.7**	**-1.6**
VLS				S		**Sn**	**19 47 56.7**	**-0.2**
VLS	**Valsamata**	**0.99**	**257**	P		**Pg**	**19 47 40.7**	**-1.6**
VLS				S		**Sn**	**19 47 56.7**	**-0.2**
LOUT	**Loutraki**	**1.00**	**114**	P		**Pg**	**19 47 42.0**	**-0.5**
LOUT	**Loutraki**	**1.00**	**114**	P		**Pg**	**19 47 41.7**	**-0.8**
LOUT	**Loutraki**	**1.00**	**114**	P		**Pg**	**19 47 41.7**	**-0.8**
VLX	**Vlachokerasia**	**1.12**	**156**	P		**Pb**	**19 47 43.1**	**-1.5**
VLX	**Vlachokerasia**	**1.12**	**156**	P		**Pb**	**19 47 43.5**	**-1.1**
VLX	**Vlachokerasia**	**1.12**	**156**	P		**Pb**	**19 47 43.5**	**-1.1**
MES3	**Kyparissia**	**1.16**	**186**	P		**Pb**	**19 47 44.4**	**-0.8**
MES3	**Kyparissia**	**1.16**	**186**	P		**Pb**	**19 47 44.5**	**-0.6**
THL	**Klokotos Trika**	**1.17**	**7**	P		**Pn**	**19 47 44.1**	**-1.3**
THL				AML	AML		19 48 04.2	
	comp=E,5977μm,0.8s							
THL				AML	AML		19 48 04.7	
	comp=N,3439μm,0.7s							
THL	**Klokotos Trika**	**1.17**	**7**	P		**Pn**	**19 47 43.8**	**-1.7**
THL				S		**Sb**	**19 48 01.8**	**+1.2**
THL	**Klokotos Trika**	**1.17**	**7**	P		**Pn**	**19 47 43.8**	**-1.7**
THL				S		**Sb**	**19 48 01.8**	**+1.2**
SMIA	**Simia**	**1.19**	**66**	P		**Pb**	**19 47 46.0**	**+0.3**
SMIA	**Simia**	**1.19**	**66**	P		**Pb**	**19 47 44.7**	**-1.1**
SMIA	**Simia**	**1.19**	**66**	P		**Pb**	**19 47 44.7**	**-1.1**
VILL	**Villia**	**1.20**	**101**	P		**Pb**	**19 47 45.2**	**-0.7**
VILL				S		**Sn**	**19 48 03.5**	**+1.4**
VILL	**Villia**	**1.20**	**101**	P		**Pb**	**19 47 45.2**	**-0.7**
VILL				S		**Sn**	**19 48 03.5**	**+1.4**
ITM	**Ithomi**	**1.22**	**176**	P		**Pb**	**19 47 44.5**	**-1.8**
ITM	**Ithomi**	**1.22**	**176**	P		**Pb**	**19 47 45.2**	**-1.1**
ITM				S		**Sn**	**19 48 05.0**	**+2.4**
ITM	**Ithomi**	**1.22**	**176**	P		**Pb**	**19 47 45.4**	**-0.9**
ITM				S		**Sn**	**19 48 05.0**	**+2.4**
FYTO	**Fytoko, Volos**	**1.33**	**41**	P		**Pn**	**19 47 48.2**	**+0.5**
FYTO	**Fytoko, Volos**	**1.33**	**41**	P		**Pn**	**19 47 47.6**	**-0.1**
FYTO	**Fytoko, Volos**	**1.33**	**41**	P		**Pn**	**19 47 47.6**	**-0.1**
LRSO	**Larissa Observ**	**1.35**	**19**	P		**Pn**	**19 47 48.1**	**+0.3**
LRSO				S		**Sn**	**19 48 06.9**	**+1.2**
LRSO	**Larissa Observ**	**1.35**	**19**	P		**Pn**	**19 47 48.1**	**+0.3**
LRSO				S		**Sn**	**19 48 06.9**	**+1.2**
NEO	**Neokhori**	**1.42**	**50**	P		**Pn**	**19 47 48.8**	**-0.1**
NEO				AML	AML		19 48 12.2	
	comp=E,2884μm,0.6s							
NEO				AML	AML		19 48 15.5	
	comp=N,3230μm,0.5s							
NEO	**Neokhori**	**1.42**	**50**	P		**Pn**	**19 47 48.5**	**-0.5**
NEO				S		**Sb**	**19 48 08.6**	**+0.8**
NEO	**Neokhori**	**1.42**	**50**	P		**Pn**	**19 47 48.5**	**-0.5**
NEO				S		**Sb**	**19 48 08.6**	**+0.8**
DID	**Didima**	**1.43**	**128**	P		**Pn**	**19 47 49.0**	**0.0**
DID				AML	AML		19 48 12.5	
	comp=E,3849μm,0.4s							
DID				AML	AML		19 48 12.6	
	comp=N,5064μm,0.5s							
DID	**Didima**	**1.43**	**128**	P		**Pn**	**19 47 49.1**	**0.0**
DID				S		**Sg**	**19 48 10.4**	**+1.0**
DID	**Didima**	**1.43**	**128**	P		**Pn**	**19 47 49.1**	**0.0**
DID				S		**Sg**	**19 48 10.4**	**+1.0**
XOR	**Xorichti**	**1.44**	**48**	P		**Pn**	**19 47 48.8**	**-0.4**
XOR	**Xorichti**	**1.44**	**48**	P		**Pn**	**19 47 48.8**	**-0.4**
JAN	**Janina**	**1.46**	**329**	P		**Pb**	**19 47 51.7**	**+1.3**
JAN	**Janina**	**1.46**	**329**	P		**Pn**	**19 47 50.4**	**+0.9**
JAN				AML	AML		19 48 17.7	
	comp=E,4705μm,0.5s							
JAN				AML	AML		19 48 19.9	
	comp=N,3331μm,0.4s							
JAN	**Janina**	**1.46**	**329**	P		**Pn**	**19 47 50.0**	**+0.5**
JAN	**Janina**	**1.46**	**329**	P		**Pn**	**19 47 50.9**	**+1.4**
KRND	**KRANIDI**	**1.47**	**134**	P		**Pb**	**19 47 49.5**	**-0.9**
KRND				S		**Sg**	**19 48 10.5**	**+0.1**
KRND	**KRANIDI**	**1.47**	**134**	P		**Pb**	**19 47 49.5**	**-0.9**
KRND				S		**Sg**	**19 48 10.5**	**+0.1**
SKIA	**Skiathos**	**1.50**	**59**	P		**Pn**	**19 47 49.7**	**-0.3**
SKIA				AML	AML		19 48 13.1	
	comp=E,779μm,0.4s							
SKIA				AML	AML		19 48 16.7	
	comp=N,1173μm,0.9s							
SKIA	**Skiathos**	**1.50**	**59**	P		**Pn**	**19 47 49.7**	**-0.3**
SKIA	**Skiathos**	**1.50**	**59**	P		**Pn**	**19 47 49.7**	**-0.3**
PYL	**PYLOS**	**1.50**	**182**	P		**Pb**	**19 47 50.1**	**-0.9**
PYL	**PYLOS**	**1.50**	**182**	P		**Pb**	**19 47 50.3**	**-0.8**
PYL	**PYLOS**	**1.50**	**182**	P		**Pb**	**19 47 50.3**	**-0.8**
ATH	**Athens Observa**	**1.56**	**105**	P		**Pg**	**19 47 52.5**	**-0.6**
ATH	**Athens Observa**	**1.56**	**105**	P		**Pn**	**19 47 51.1**	**+0.4**
ATH				AML	AML		19 48 21.4	
	comp=N,2342μm,0.7s							
ATH				AML	AML		19 48 21.5	
	comp=E,2934μm,0.5s							
ATH	**Athens Observa**	**1.56**	**105**	P		**Pn**	**19 47 51.1**	**+0.4**
ATH				S		**Sg**	**19 48 12.2**	**-1.1**
ATH	**Athens Observa**	**1.56**	**105**	P		**Pb**	**19 47 51.3**	**-0.7**
ATH				S		**Sg**	**19 48 12.2**	**-1.1**
MES2	**Methoni**	**1.58**	**183**	P		**Pb**	**19 47 51.6**	**-0.6**
MES2	**Methoni**	**1.58**	**183**	P		**Pb**	**19 47 51.7**	**-0.6**
KPRO	**Kipourio**	**1.59**	**347**	P		**Pn**	**19 47 52.4**	**+1.1**
KPRO	**Kipourio**	**1.59**	**347**	P		**Pn**	**19 47 52.4**	**+1.1**
ATHU	**Athens Univers**	**1.61**	**105**	P		**Pn**	**19 47 50.9**	**-0.6**
ATHU	**Athens Univers**	**1.61**	**105**	P		**Pn**	**19 47 51.4**	**-0.1**
IGT	**Igoumenitsa**	**1.62**	**315**	*e*Pn		**Pn**	**19 47 52.8**	**+1.2**
IGT	**Igoumenitsa**	**1.62**	**315**	P		**Pb**	**19 47 53.4**	**+0.4**
IGT	**Igoumenitsa**	**1.62**	**315**	P		**Pn**	**19 47 52.5**	**+0.9**
IGT	**Igoumenitsa**	**1.62**	**315**	*e*Pn		**Pn**	**19 47 52.8**	**+1.2**
IGT	**Igoumenitsa**	**1.62**	**315**	P		**Pn**	**19 47 52.5**	**+0.9**
PTL	**Penteli**	**1.65**	**102**	P		**Pb**	**19 47 53.2**	**-0.4**
PTL	**Penteli**	**1.65**	**102**	P		**Pb**	**19 47 52.7**	**-0.9**
PTL				S		**Sb**	**19 48 14.5**	**+0.1**
PTL	**Penteli**	**1.65**	**102**	P		**Pb**	**19 47 52.7**	**-0.9**
PTL				S		**Sb**	**19 48 14.5**	**+0.1**
VLY	**Voula,Athens**	**1.65**	**109**	P		**Pn**	**19 47 52.4**	**+0.3**
VLY	**Voula,Athens**	**1.65**	**109**	P		**Pn**	**19 47 52.4**	**+0.3**
VLY	**Voula,Athens**	**1.65**	**109**	P		**Pn**	**19 47 52.4**	**+0.3**
DYR	**Agios Nikonas**	**1.69**	**166**	P		**Pb**	**19 47 53.7**	**-0.5**
DYR	**Agios Nikonas**	**1.69**	**166**	P		**Pb**	**19 47 53.5**	**-0.7**
SGD	**Sagiada**	**1.73**	**315**	P		**Pn**	**19 47 54.6**	**+1.5**
SGD	**Sagiada**	**1.73**	**315**	P		**Pn**	**19 47 54.6**	**+1.5**
LIT	**Litokhoron**	**1.78**	**17**	P		**Pn**	**19 47 54.5**	**+0.7**
LIT	**Litokhoron**	**1.78**	**17**	P		**Pn**	**19 47 53.8**	**0.0**
LIT				S		**Sn**	**19 48 17.1**	**+0.7**
LIT	**Litokhoron**	**1.78**	**17**	P		**Pn**	**19 47 53.8**	**0.0**
LIT				S		**Sn**	**19 48 17.1**	**+0.7**
PENT	**Pentalofos**	**1.87**	**344**	P		**Pn**	**19 47 56.6**	**+1.5**
PENT	**Pentalofos**	**1.87**	**344**	P		**Pn**	**19 47 56.6**	**+1.5**
VLI	**Veliai**	**1.90**	**152**	P		**Pn**	**19 47 54.7**	**-0.8**
VLI	**Veliai**	**1.90**	**152**	P		**Pn**	**19 47 55.3**	**-0.2**
VLI				S		**Sb**	**19 48 21.2**	**-0.3**
VLI	**Veliai**	**1.90**	**152**	P		**Pn**	**19 47 55.3**	**-0.2**
VLI				S		**Sb**	**19 48 21.2**	**-0.3**
KZN	**Kozani**	**1.90**	**359**	P		**Pn**	**19 47 57.4**	**+1.8**
KZN	**Kozani**	**1.90**	**359**	P		**Pn**	**19 47 56.7**	**+1.1**
KZN	**Kozani**	**1.90**	**359**	P		**Pn**	**19 47 56.7**	**+1.1**
KEK	**Kerkira**	**2.05**	**310**	P		**Pn**	**19 47 59.8**	**+2.3**
KEK	**Kerkira**	**2.05**	**310**	P		**Pn**	**19 47 58.9**	**+1.4**
KEK	**Kerkira**	**2.05**	**310**	P		**Pn**	**19 47 58.9**	**+1.4**
KARY	**Karystos**	**2.10**	**99**	P		**Pn**	**19 47 58.6**	**+0.4**
KARY	**Karystos**	**2.10**	**99**	P		**Pn**	**19 47 58.6**	**+0.4**
NEST	**Nestorio**	**2.10**	**344**	P		**Pb**	**19 48 01.2**	**-0.1**
NEST	**Nestorio**	**2.10**	**344**	P		**Pb**	**19 48 01.2**	**-0.1**
PAIG	**Paliouri**	**2.10**	**43**	P		**Pn**	**19 47 57.8**	**-0.5**
PAIG	**Paliouri**	**2.10**	**43**	P		**Pn**	**19 47 57.6**	**-0.7**
PAIG	**Paliouri**	**2.10**	**43**	P		**Pn**	**19 47 57.6**	**-0.7**
SKY	**Skiros Island**	**2.19**	**77**	P		**Pn**	**19 47 59.5**	**0.0**
SKY	**Skiros Island**	**2.19**	**77**	P		**Pn**	**19 47 59.5**	**0.0**
PLG	**Polygyros**	**2.34**	**32**	P		**Pn**	**19 48 02.2**	**+0.6**
PLG	**Polygyros**	**2.34**	**32**	P		**Pn**	**19 48 00.8**	**-0.8**
PLG	**Polygyros**	**2.34**	**32**	P		**Pn**	**19 48 00.8**	**-0.8**
KYTH	**Kithira**	**2.35**	**155**	P		**Pb**	**19 48 04.2**	**-1.3**
FNA	**Florina**	**2.40**	**352**	*e*Pn		**Pb**	**19 48 05.9**	**-0.6**
FNA				*e*Sn		**Sb**	**19 48 36.8**	**+0.7**
FNA	**Florina**	**2.40**	**352**	P		**Pn**	**19 48 04.5**	**+2.0**
FNA	**Florina**	**2.40**	**352**	P		**Pn**	**19 48 04.2**	**+1.7**
FNA	**Florina**	**2.40**	**352**	*e*Pn		**Pb**	**19 48 05.0**	**-0.6**
FNA				S		**Sn**	**19 48 34.4**	**+2.5**
FNA	**Florina

TTG					*e*Sn		**Sn**	**19 49 24.6**	**+1.8**
BUM	**Brajici-Budva**	**4.49**	**331**	⇓	*i*Pn		**Pn**	**19 48 31.9**	**+0.8**
BUM					*e*Sn		**Sn**	**19 49 25.5**	**+2.2**
BUM	**Brajici-Budva**	**4.49**	**331**	⇓	*i*Pn		**Pn**	**19 48 31.9**	**+0.8**
BUM					*e*Sn		**Sn**	**19 49 25.5**	**+2.2**
MATE	**Matera**	**4.55**	**301**	⇓	*i*P		**Pn**	**19 48 33.0**	**+1.2**
MATE	**Matera**	**4.55**	**301**	⇓	*i*P		**Pn**	**19 48 33.0**	**+1.2**
SG1	**Sgolgore (BA)**	**4.66**	**303**		*e*Pn		**Pn**	**19 48 33.9**	**+0.5**
BAI	**Bari**	**4.67**	**307**		*e*Pn		**Pn**	**19 48 34.0**	**+0.5**
CEME	**Cevo**	**4.69**	**333**	⇓	*i*Pn		**Pn**	**19 48 34.9**	**+1.0**
CEME					*e*Sn		**Sn**	**19 49 29.9**	**+1.5**
CEME	**Cevo**	**4.69**	**333**	⇓	*i*Pn		**Pn**	**19 48 34.9**	**+1.0**
CEME					*e*Sn		**Sn**	**19 49 29.9**	**+1.5**
BEY	**Berane**	**4.70**	**342**		*e*Pn		**Pn**	**19 48 35.6**	**+1.6**
BEY					*e*Sn		**Sn**	**19 49 30.2**	**+1.7**
IVA	**Berane**	**4.70**	**342**		*e*Pn		**Pn**	**19 48 35.6**	**+1.6**
IVA					*e*Sn		**Sn**	**19 49 30.2**	**+1.7**
HCY	**Herceg Novi**	**4.77**	**329**	⇑	*i*Pn		**Pn**	**19 48 35.5**	**+0.6**
HCY					*e*Sn		**Sn**	**19 49 31.8**	**+1.6**
HCY	**Herceg Novi**	**4.77**	**329**		*e*Pn		**Pn**	**19 48 34.4**	**-0.5**
HCY					*e*Sn		**Sn**	**19 49 31.8**	**+1.6**
KOME	**Kolasin**	**4.78**	**339**		*e*Pn		**Pn**	**19 48 36.6**	**+1.5**
KOME					*e*Sn		**Sn**	**19 49 31.9**	**+1.4**
KOME	**Kolasin**	**4.78**	**339**		*e*Pn		**Pn**	**19 48 36.6**	**+1.5**
KOME					*e*Sn		**Sn**	**19 49 31.9**	**+1.4**
SELS	**Selova**	**4.84**	**354**		*e*Pn		**Pn**	**19 48 37.1**	**+1.1**
NKME	**Niksic**	**4.88**	**334**		*e*Pn		**Pn**	**19 48 38.0**	**+1.6**
NKME					*e*Sn		**Sn**	**19 49 34.2**	**+1.4**
NKME	**Niksic**	**4.88**	**334**		*e*Pn		**Pn**	**19 48 38.0**	**+1.6**
NKME					*e*Sn		**Sn**	**19 49 34.2**	**+1.4**
ZAPS	**Zavoj**	**4.91**	**7**		*e*Pn		**Pn**	**19 48 38.7**	**+1.8**
SJES	**Sjenica**	**5.05**	**345**		*e*Pn		**Pn**	**19 48 41.0**	**+2.1**
TREB	**Trebinje**	**5.05**	**330**		*e*Pn		**Pn**	**19 48 38.4**	**+0.4**
BOVS	**Bovan**	**5.23**	**359**		*e*Pn		**Pn**	**19 48 42.3**	**+1.1**
BOVS	**Bovan**	**5.23**	**359**		*e*Pn		**Pn**	**19 48 42.3**	**+1.1**
PLE	**Pljevlja**	**5.26**	**340**	⇑	*i*Pn		**Pn**	**19 48 42.9**	**+1.2**
PLE					*e*Sn		**Sn**	**19 49 43.2**	**+0.9**
PLE	**Pljevlja**	**5.26**	**340**	⇑	*i*Pn		**Pn**	**19 48 42.9**	**+1.2**
PLE					*e*Sn		**Sn**	**19 49 43.2**	**+0.9**
IVAS	**Ivanjica**	**5.32**	**347**		*e*Pn		**Pn**	**19 48 44.1**	**+1.5**
IVAS	**Ivanjica**	**5.32**	**347**		*e*Pn		**Pn**	**19 48 44.1**	**+1.5**
ZAGS	**Zajecar**	**5.42**	**3**		*e*Pn		**Pn**	**19 48 44.4**	**+0.6**
STON	**Ston**	**5.45**	**326**		*e*Pn		**Pn**	**19 48 42.9**	**-1.4**
STON					Sn		**Sn**	**19 49 41.0**	**-5.9**
STON	**Ston**	**5.45**	**326**		*e*Pn		**Pn**	**19 48 45.8**	**+1.5**
STON	**Ston**	**5.45**	**326**		*e*Pn		**Pn**	**19 48 42.3**	**-2.0**
GRUS	**Gruza**	**5.54**	**352**		*e*Pn		**Pn**	**19 48 47.9**	**+2.3**
BBLS	**Lazići**	**5.75**	**342**		*e*Pn		**Pn**	**19 48 48.8**	**+0.3**
BBLS	**Lazići**	**5.75**	**342**		*e*Pn		**Pn**	**19 48 48.0**	**-0.5**
DIVS	**Divibare**	**5.86**	**347**		*e*Pn		**Pn**	**19 48 50.8**	**+0.9**
DIVS	**Divibare**	**5.86**	**347**		*e*Pn		**Pn**	**19 48 50.2**	**+0.3**
TRUS	**Trudelj**	**5.91**	**350**		*e*Pn		**Pn**	**19 48 52.5**	**+1.9**
VAE	**Valguarnera**	**5.92**	**263**		Pn		**Pn**	**19 48 52.0**	**+1.1**
	comp=E,0.5nm,0.3s,baz=100,slow=8.0,SNR=3.1								
VAE					Sn		**Sn**	**19 50 04.7**	**+6.0**
	comp=E,0.6nm,0.3s,baz=9.2,slow=18,SNR=3.5								
KUBS	**Kucevo**	**6.01**	**359**		*e*Pn		**Pn**	**19 48 53.7**	**+1.8**
TEKS	**Tekeris**	**6.38**	**345**		*e*Pn		**Pn**	**19 48 57.4**	**+0.4**
TEKS	**Tekeris**	**6.38**	**345**		*e*Pn		**Pn**	**19 48 56.7**	**-0.3**
FRGS	**Fruska Gora**	**6.92**	**348**		*e*Pn		**Pn**	**19 49 05.1**	**+0.7**
LOT	**Lotru**	**7.19**	**11**	⇓	*i*P		Pn	19 49 04.0	-4.3
BZS	**Buzias**	**7.21**	**359**		*e*Pn		**Pn**	**19 49 10.5**	**+2.1**
BZS	**Buzias**	**7.21**	**359**	⇓	*i*P		**Pn**	**19 49 09.3**	**+0.9**
BLY	**Banja Luka**	**7.23**	**333**	⇑	*i*P		**Pn**	**19 49 09.5**	**+0.8**
VOIR		**7.43**	**18**		P		**Pn**	**19 49 12.7**	**+1.2**
VOIR		**7.43**	**18**	⇑	*i*P		**Pn**	**19 49 12.8**	**+1.2**
VOIR		**7.43**	**18**	⇑	*i*P		**Pn**	**19 49 12.8**	**+1.2**
ISR	**Istrita**	**7.58**	**26**		P		**Pn**	**19 49 14.5**	**+1.0**
ISR	**Istrita**	**7.58**	**26**	⇑	*i*P		**Pn**	**19 49 14.6**	**+1.0**
ISR	**Istrita**	**7.58**	**26**	⇑	*i*P		**Pn**	**19 49 14.6**	**+1.0**
UDBI	**Udbina**	**7.62**	**325**		*i*Pn		**Pn**	**19 49 14.6**	**+0.5**
UDBI					Sn		**Sn**	**19 50 35.9**	**-4.5**
MLR	**Muntele Rosu**	**7.72**	**22**		Pn		**Pn**	**19 49 17.3**	**+1.7**
	comp=E,0.1nm,0.3s,baz=172,slow=14,SNR=2.5								
MLR					Sn		**Sn**	**19 50 47.9**	**+4.9**
	comp=E,0.1nm,0.3s,baz=127,slow=20,SNR=2.0								
MLR					LR		LR	19 52 22.2	
	comp=E,20nm,19.6s,baz=254,slow=39								
MLR	**Muntele Rosu**	**7.72**	**22**	⇓	*i*P		**Pn**	**19 49 16.8**	**+1.2**
MLR	**Muntele Rosu**	**7.72**	**22**	⇓	*i*P		**Pn**	**19 49 16.8**	**+1.2**
TLB	**Topalu**	**7.75**	**35**		P		**Pn**	**19 49 17.6**	**+1.9**
TLB	**Topalu**	**7.75**	**35**	⇓	*i*P		**Pn**	**19 49 17.6**	**+1.9**
TLB	**Topalu**	**7.75**	**35**	⇓	*i*P		**Pn**	**19 49 17.6**	**+1.9**
NVLJ	**Novalja**	**8.06**	**322**		*i*Pn		**Pn**	**19 49 20.0**	**-0.1**
NVLJ					Sn		**Sn**	**19 50 48.6**	**-2.6**
CFR	**Carcaliu**	**8.25**	**33**		P		**Pn**	**19 49 24.4**	**+1.7**
CFR	**Carcaliu**	**8.25**	**33**	⇑	*i*P		**Pn**	**19 49 24.4**	**+1.7**
CFR	**Carcaliu**	**8.25**	**33**	⇑	*i*P		**Pn**	**19 49 24.4**	**+1.7**
PLOR	**Plostina**	**8.26**	**24**		P		**Pn**	**19 49 23.4**	**+0.5**
PLOR	**Plostina**	**8.26**	**24**	⇓	*i*P		**Pn**	**19 49 23.5**	**+0.5**
PLOR	**Plostina**	**8.26**	**24**	⇓	*i*P		**Pn**	**19 49 23.5**	**+0.5**
VRI	**Vrincioaia**	**8.30**	**24**		P		**Pn**	**19 49 23.9**	**+0.5**
VRI	**Vrincioaia**	**8.30**	**24**	⇓	*i*P		**Pn**	**19 49 24.0**	**+0.5**
VRI	**Vrincioaia**	**8.30**	**24**	⇓	*i*P		**Pn**	**19 49 24.0**	**+0.5**
DRGR		**8.41**	**4**		P		**Pn**	**19 49 26.2**	**+1.3**
DRGR		**8.41**	**4**	⇑	*i*P		**Pn**	**19 49 26.3**	**+1.3**
DRGR		**8.41**	**4**	⇑	*i*P		**Pn**	**19 49 26.3**	**+1.3**
BOJS	**Bojanci**	**8.62**	**328**		*i*Pn		**Pn**	**19 49 28.8**	**+1.1**
BOJS					*i*Sn		**Sn**	**19 51 02.9**	**-1.9**
CRES	**Cresnjev**	**8.79**	**330**		*i*Pn		**Pn**	**19 49 30.0**	**-0.2**
CRES					*e*Sn		**Sn**	**19 51 05.3**	**-3.9**
CRES	**Cresnjev**	**8.79**	**330**		*i*Pn		**Pn**	**19 49 30.0**	**-0.2**
TESR	**Tescani**	**8.86**	**22**	⇓	*i*P		**Pn**	**19 49 32.7**	**+1.7**
SKDS	**Skadanscina**	**9.20**	**323**		*i*Pn		**Pn**	**19 49 34.5**	**-1.2**
SKDS					*i*Sn		**Sn**	**19 51 14.9**	**-4.3**
BRTR	**Keskin Array B**	**9.29**	**78**		Pn		**Pn**	**19 49 39.2**	**+2.1**
	comp=E,0.3nm,0.3s,baz=262,slow=12,SNR=7.9								
BRTR	**Keskin Array B**	**9.29**	**78**		*i*P		**Pn**	**19 49 39.5**	**+2.4**
BRTR					pmax		pmax		
	comp=Z,2.0nm,0.6s								
JAVS	**Javornik**	**9.44**	**325**		*i*Pn		**Pn**	**19 49 38.2**	**-0.9**
JAVS					*i*Sn		**Sn**	**19 51 22.1**	**-3.1**
BURAR	**Bucovina Array**	**9.54**	**14**		P		**Pn**	**19 49 42.1**	**+1.7**
BURAR	**Bucovina Array**	**9.54**	**14**	⇓	*i*P		**Pn**	**19 49 42.2**	**+1.8**
PSZ	**Piszkesteto**	**9.62**	**352**		P		**Pn**	**19 49 45.6**	**+4.1**
PSZ					pmax		pmax		
	comp=Z,19nm,0.8s								
PSZ	**Piszkesteto**	**9.62**	**352**	⇑	*i*P		**Pn**	**19 49 43.5**	**+2.0**
PSZ	**Piszkesteto**	**9.62**	**352**	⇑	*i*P		**Pn**	**19 49 43.5**	**+2.0**
SOKA	**Soboth**	**9.66**	**331**		Pn		**Pn**	**19 49 42.2**	**+0.1**
	comp=Z,2.0nm,0.4s								
SOKA	**Soboth**	**9.66**	**331**		*e*Pn		**Pn**	**19 49 42.2**	**+0.1**
	comp=Z,2.0nm,0.4s								
SOKA					*i*Sn		**Sn**	**19 51 26.9**	**-3.8**
	comp=Z,2.0nm,0.6s								
OBKA	**Obir**	**9.72**	**329**		Pn		**Pn**	**19 49 44.3**	**+1.4**
	comp=Z,1.5nm,0.4s								
OBKA					Sn		**Sn**	**19 51 32.6**	**+0.6**
	comp=Z,11nm,0.7s								
OBKA	**Obir**	**9.72**	**329**		*e*Pn		**Pn**	**19 49 44.3**	**+1.4**
	comp=Z,1.5nm,0.4s								
OBKA					*i*Sn		**Sn**	**19 51 32.6**	**+0.6**
	comp=Z,11nm,0.7s								
ARSA	**Arzberg**	**9.98**	**334**		*e*Pn		**Pn**	**19 49 51.0**	**+4.6**
	comp=Z,1.7nm,0.4s								
KECS	**Kecovo**	**10.12**	**355**		*e*P		Pn	19 49 54.5	+6.1
KECS	**Kecovo**	**10.12**	**355**		*e*PN		Pn	19 49 54.5	+6.1
VYHS	**Vyhne**	**10.32**	**349**		*e*P		Pn	19 49 57.1	+6.1
VYHS					*e*			19 51 48.5	
VYHS	**Vyhne**	**10.32**	**349**		*e*S		**Sn**	**19 51 48.5**	**+1.9**
VYHS	**Vyhne**	**10.32**	**349**		*e*PN		Pn	19 49 57.1	+6.1
VYHS					*e*SN		**Sn**	**19 51 48.5**	**+1.9**
ABTA	**Abfaltersbach**	**10.79**	**324**		*e*Pn		**Pn**	**19 49 57.7**	**+0.1**
	comp=Z,1.9nm,0.5s								
ABTA					*i*Sn		**Sn**	**19 51 55.0**	**-3.4**
	comp=Z,4.8nm,0.6s								
LANS	**Liptovska Anna**	**10.88**	**352**		*e*P		Pn	19 50 07.0	+8.3
LANS	**Liptovska Anna**	**10.88**	**352**		*e*PN		Pn	19 50 07.0	+8.3
FETA	**Feichten**	**11.85**	**320**		*e*Pn		Pn	19 50 20.3	+8.2
	comp=Z,1.7nm,0.7s								
FETA					*i*Sn		**Sn**	**19 52 23.7**	**-0.7**
	comp=Z,1.8nm,0.6s								
GERES	**GERESS Array B**	**11.97**	**333**		Pn		**Pn**	**19 50 13.8**	**0.0**
	comp=E,0.1nm,0.3s,baz=157,slow=13,SNR=4.1								
GERES					LR		LR	19 55 35.0	
	comp=Z,69nm,20.3s,baz=160,slow=42								
KIEV	**Kiev**	**13.36**	**21**		*e*P		**Pn**	**19 50 32.7**	**+0.1**
KIEV	**Kiev**	**13.36**	**21**		*e*P		**Pn**	**19 50 32.7**	**+0.1**
KIV	**Kislovodsk**	**16.65**	**64**		*e*P		**Pn**	**19 51 16.2**	**-0.2**
KIV					pmax		pmax		
	comp=Z,5.0nm,1.0s								
KIV	**Kislovodsk**	**16.65**	**64**		*e*P		**Pn**	**19 51 16.2**	**-0.2**
	comp=Z,5.0nm,1.0s								
OBN	**Obninsk**	**19.46**	**26**		*e*P		**P**	**19 51 47.7**	**-1.9**
OBN					pmax		pmax		
	comp=Z,6.0nm,0.6s								
ESDC	**Sonseca Array**	**20.05**	**282**		P		**P**	**19 51 56.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=79,slow=12,SNR=5.2								
VSU	**Vasula**	**20.33**	**7**		*i*P		**P**	**19 51 59.2**	**+0.2**
VSU					pmax		pmax		
	comp=Z,26nm,0.9s								
HFS	**Hagfors**	**22.36**	**349**		P		**P**	**19 52 20.0**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=162,slow=10,SNR=11								
FINES	**FINESS Array B**	**23.22**	**5**		P		**P**	**19 52 27.6**	**-2.2**
	comp=Z,7.1nm,1.1s,baz=174,slow=10,SNR=5.3								
FINES	**FINESS Array B**	**23.22**	**5**		*ce*P		**P**	**19 52 29.2**	**-0.7**
FINES					pmax		pmax		
	comp=Z,7.0nm,1.1s								
NB2	**NORSAR Subarra**	**23.61**	**347**		P		**P**	**19 52 32.5**	**-1.4**
	comp=Z,2.2nm,0.7s,baz=150,slow=10								
NOA	**NORSAR Array B**	**23.61**	**347**		P		**P**	**19 52 31.9**	**-2.0**
	comp=Z,1.5nm,0.7s,baz=147,slow=8.8,SNR=6.5								
NOA	**NORSAR Array B**	**23.61**	**347**		P		**P**	**19 52 31.9**	**-2.0**
NOA					pmax		pmax		
	comp=Z,1.0nm,0.5s								
EKA	**Eskdalemuir Ar**	**23.85**	**323**		P		**P**	**19 52 35.6**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=124,slow=11,SNR=7.7								
KLMR	**Klimovskoe**	**25.07**	**21**		*e*P		**P**	**19 52 44.3**	**-2.9**
KLMR					pmax		pmax		
	comp=Z,12nm,1.5s								
KLMR	**Klimovskoe**	**25.07**	**21**		*e*P		**P**	**19 52 44.3**	**-2.9**
KLMR					AMP			19 52 47.3	
	comp=Z,12nm,1.5s								
AKTO	**Aktyubinsk**	**28.23**	**53**		P		**P**	**19 53 15.2**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=284,slow=8.3,SNR=3.4								
GEYT	**Alibeck**	**28.43**	**80**		LR		LR	20 06 03.1	
	comp=Z,45nm,18.8s,baz=145,slow=40								
ARU	**Arti**	**30.22**	**41**		P		**P**	**19 53 33.2**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=266,slow=16,SNR=3.7								
ARU	**Arti**	**30.22**	**41**	*d*	*i*P		**P**	**19 53 33.5**	**+0.1**
ARU								19 54 30.3	
ARU								19 56 29.1	
ARU					S		**S**	**19 58 36.5**	**+4.1**
ARU					SS		**SnSn**	**20 00 06.7**	**+0.8**
ARU					pmax		pmax		
	comp=Z,9.0nm,2.5s								
TORD	**Torodi Ar. Bea**	**30.85**	**221**		P		**P**	**19 53 40.2**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=39,slow=9.3,SNR=11								
ARCES	**ARCESS Array B**	**31.26**	**2**		P		**P**	**19 53 41.2**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=187,slow=8.6,SNR=6.1								
BRVK	**Borovoye**	**36.13**	**50**	*ce*	P		**P**	**19 54 25.8**	**+0.8**
BRVK					pmax		pmax		
	comp=Z,3.0nm,1.0s								
BVAR	**Borovoye Array**	**36.19**	**50**		P		**P**	**19 54 25.8**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=254,slow=5.4,SNR=5.5								
AAK	**Ala-Archa**	**39.73**	**67**		*i*P		**P**	**19 54 55.4**	**-0.4**
AAK					pmax		pmax		
	comp=Z,9.0nm,3.3s								
SPITS	**Spitsbergen Ar**	**39.95**	**358**		P		**P**	**19 54 57.3**	**+0.4**
	comp=Z,15nm,1.2s,baz=234,slow=4.8,SNR=3.3								
BBTS	**Babate**	**41.24**	**246**		LR		LR	20 13 08.7	
	comp=Z,26nm,18.1s,baz=136,slow=38								
KURBB	**Kurchatov Arra**	**41.28**	**54**		P		**P**	**19 55 07.3**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=281,slow=8.8,SNR=11								
KURBB					PcP		**PcP**	**19 57 07.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=283,slow=3.6,SNR=4.9								
KURK	**Kurchatov**	**41.33**	**54**	*ce*	P		**P**	**19 55 07.5**	**-1.1**
KURK					pmax		pmax		
	comp=Z,3.0nm,1.1s								
MKAR	**Makanchi Array**	**44.31**	**59**		P		**P**	**19 55 33.1**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=280,slow=6.9,SNR=64								
MKAR					PcP		**PP**	**19 57 16.2**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=274,slow=3.9,SNR=4.7								
ZALV	**Zalesovo Beam**	**44.78**	**48**		P		**P**	**19 55 36.1**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=276,slow=8.7,SNR=16								
NRIK	**Noril'sk**	**46.14**	**27**		LR		LR	20 17 34.9	
	comp=Z,146nm,18.5s,baz=60,slow=39								
SFJD	**Kangerlussuaq**	**48.55**	**330**		P		**P**	**19 56 05.8**	**0.0**
	comp=Z,4.4nm,0.7s,baz=130,slow=7.9,SNR=3.4								
TLY	**Talaya**	**56.38**	**48**		*e*P		**P**	**19 57 03.1**	**-1.1**
TLY					pmax		pmax		
	comp=Z,1.0nm,1.0s								
SONM	**Songino Array**	**59.53**	**51**		P		**P**	**19 57 25.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=260,slow=8.6,SNR=3.1								
ULN	**Ulaanbaatar**	**59.92**	**51**		*e*P		**P**	**19 57 27.7**	**-1.5**
ULN					pmax		pmax		
	comp=Z,1.0nm,0.6s								
BILL	**Bilibino**	**70.57**	**13**	⇑	*i*P		**P**	**19 58 37.3**	**-0.4**
BILL					*e*			19 58 55.0	
BILL					*e*			20 01 15.9	
BILL					*e*SS		SS	20 12 30.4	+10
BILL					pmax		pmax		
	comp=Z,2.0nm,1.2s								
BILL					MLR		MLR		
	comp=Z,31nm,14.0s								
YKA	**Yellowknife Ar**	**73.53**	**341**		P		**P**	**19 58 55.3**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=38,slow=5.5,SNR=3.6								
ILAR	**Eielson Array**	**76.78**	**355**		P		**P**	**19 59 14.6**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=3.0,slow=5.2,SNR=4.3								
KSRS	**Korea Array**	**78.40**	**51**		P		**P**	**19 59 23.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=318,slow=7.1,SNR=3.3								
TKL	**Tuckaleechee C**	**79.22**	**307**		LR		LR	20 33 37.5	
	comp=Z,25nm,18.1s,baz=30,slow=35								
TXAR	**Lajitas Array**	**95.55**	**314**		P		**P**	**20 00 49.4**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=69,slow=5.1,SNR=2.9								
WRA	**Warramunga Arr**	**119.53**	**93**		PKP		**PKPdf**	**20 06 15.0**	**+1.8**
	comp=Z,0.6nm,1.1s,baz=330,slow=2.0,SNR=3.1								
WRA	**Warramunga Arr**	**119.53**	**93**		PKIKP		**PKPdf**	**20 06 15.0**	**+1.8**
WRA					pmax		pmax		
	comp=Z,1.0nm,1.1s								
AGUA	**GUANDACOL**	**4.63**	**151**		*e*P		**Pn**	**20 06 12.9**	**+1.6**
AGUA					*e*S		**Sn**	**20 07 06.4**	**+2.5**
FSA	**Cafayete**	**4.64**	**99**		*e*P		**Pn**	**20 06 11.7**	**+0.2**
FSA					IAML			20 06 37.2	
	comp=Z,19nm,0.7s								
AROD	**Rodeo**	**4.91**	**164**		*e*P		**Pn**	**20 06 17.6**	**+2.2**
AROD					*e*S		**Sn**	**20 07 15.8**	**+4.8**
AHML	**Horco Molle**	**5.33**	**106**		*e*P		**Pn**	**20 06 21.0**	**+0.2**
AHML					IAML			20 06 52.8	
	comp=Z,16nm,0.6s								
CYA	**Choya**	**5.57**	**124**		*e*P		**Pn**	**20 06 24.5**	**+0.4**
CYA					IAML			20 06 51.0	
	comp=Z,20nm,0.4s								
AZAP	**Zapla**	**5.59**	**79**		*e*P		**Pn**	**20 06 25.4**	**+0.7**
HJA	**Humahuaca**	**5.63**	**68**		*e*P		**Pn**	**20 06 26.4**	**+1.1**
PB11	**IPOC Station P**	**5.81**	**13**		*e*Pn		**Pn**	**20 06 27.2**	**-0.5**
AMOG	**MOGNA**	**5.92**	**158**		*e*P		**Pn**	**20 06 30.1**	**+1.1**
YJA	**Yavi**	**6.04**	**58**		*e*P		**Pn**	**20 06 32.1**	**+1.0**
YJA					IAML			20 06 42.6	
	comp=Z,5.1nm,0.6s								
APLL	**PUNTA DE LOS L**	**6.36**	**142**		*e*P		**Pn**	**20 06 35.1**	**+0.1**
MNMC	**Minye Minye**	**6.44**	**13**		*e*Pn		**Pn**	**20 06 36.6**	**+0.3**
ALOL	**LOMAS DE OLMED**	**6.65**	**77**		*e*P		**Pn**	**20 06 39.2**	**+0.1**
ASAL	**Salagasta**	**7.38**	**165**		*e*P		**Pn**	**20 06 49.0**	**0.0**
ACAN	**Cantantal**	**7.60**	**154**		*e*P		**Pn**	**20 06 52.3**	**+0.2**
ARE	**Arequipa**	**8.95**	**357**		*e*P		**Pn**	**20 07 12.0**	**+1.1**
ARE					*e*S		**Sn**	**20 08 50.0**	**-0.7**
LPAZ	**La Paz**	**9.52**	**17**		Pn		**Pn**	**20 07 19.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=195,slow=6.5,SNR=6.7								
LPAZ					LR		LR	20 11 22.0	
	comp=Z,84nm,19.1s,baz=200,slow=40								
LPAZ	**La Paz**	**9.52**	**17**		*e*Pn		**Pn**	**20 07 19.8**	**+0.8**
SIV	**San Ignacio**	**13.26**	**47**		Pn		**Pn**	**20 08 07.3**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=245,slow=14,SNR=4.6								
PLCA	**Paso Flores**	**15.25**	**178**		Pn		**Pn**	**20 08 33.8**	**-2.6**
	comp=Z,0.0nm,0.3s,baz=343,slow=14,SNR=2.1								
PLCA	**Paso Flores**	**15.25**	**178**		*e*Pn		**Pn**	**20 08 33.8**	**-2.6**
	comp=Z,49nm,2.0s								
SNAA	**Sanae**	**59.24**	**160**		P		**P**	**20 15 00.3**	**-0.8**
	comp=Z,3.2nm,1.1s,baz=274,slow=13,SNR=8.9								
SNCC	**San Nicolas Is**	**74.38**	**319**		*e*P		P	20 16 42.0	+4.1
TOA1	**Torodi Ar. Sit**	**80.54**	**71**		*e*P		**P**	**20 17 12.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**80.54**	**71**		P		**P**	**20 17 12.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=267,slow=4.4,SNR=9.1								
KTRM	**Thompson Ridge**	**82.63**	**323**		*e*P		**P**	**20 17 26.5**	**+3.1**
YKA	**Yellowknife Ar**	**94.26**	**341**		P		**P**	**20 18 19.2**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=134,slow=4.4,SNR=4.2								
ASAR	**Alice Springs**	**125.51**	**208**		PKP		**PKPdf**	**20 24 02.4**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=135,slow=1.8,SNR=14								
H11S2	**WAKE ISLAND Hyd**	**126.31**	**275**		T		T	22 43 41.7	
	baz=109,slow=75,SNR=56								
H11S1	**WAKE ISLAND Hyd**	**126.33**	**275**		T		T	22 43 34.7	
	baz=109,slow=75,SNR=60								
H11S3	**WAKE ISLAND Hyd**	**126.33**	**275**		T		T	22 43 41.6	
	baz=109,slow=75,SNR=56								
H11N3	**WAKE ISLAND Hyd**	**126.51**	**276**		T		T	22 43 53.6	
	baz=108,slow=75,SNR=9.3								
H11N1	**WAKE ISLAND Hyd**	**126.52**	**276**		T		T	22 43 53.8	
	baz=108,slow=75,SNR=7.1								
H11N2	**WAKE ISLAND Hyd**	**126.52**	**276**		T		T	22 43 53.7	
	baz=108,slow=75,SNR=9.5								
WR1	**Warramunga Arr**	**128.56**	**211**		*e*PKPdf		**PKPdf**	**20 24 08.8**	**+1.0**
WRA	**Warramunga Arr**	**128.56**	**211**		PKP		**PKPdf**	**20 24 08.8**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=157,slow=1.8,SNR=18								
KURK	**Kurchatov**	**145.70**	**35**		*e*PKPdf		**PKPab**	**20 24 39.1**	**+0.2**
KURBB	**Kurchatov Arra**	**145.71**	**35**		PKPbc		**PKPab**	**20 24 39.1**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=308,slow=3.4,SNR=13								
ZAA1	**Zalesovo Array**	**146.35**	**26**		*e*PKPdf		**PKPab**	**20 24 40.6**

10nm,1.2s
MNAI Manna 21.99 258 *e*P **P 20 24 54.2 -0.4**
69nm,0.9s
WRAB Tennant Creek 22.33 155 *e*P **P 20 24 60.0 +1.9**
4.7nm,1.0s
WR1 Warramunga Arr 22.34 155 *e*P **P 20 24 58.6 +0.5**
8.4nm,1.3s
WR1 *e*PcP **PcP 20 28 50.3 +0.3**
WRA Warramunga Arr 22.34 155 P **P 20 24 58.6 +0.5**
2.4nm,0.6s,baz=334,slow=10.0,SNR=25
WRA PcP **PcP 20 28 50.3 +0.3**
0.3nm,0.4s,baz=333,slow=2.1,SNR=5.1
WB2 Warramunga Arr 22.34 155 *e*P **P 20 24 58.9 +0.7**
3.9nm,0.8s
IPM Ipoh 23.78 280 *e*P **P 20 25 12.1 0.0**
12nm,1.3s
AS31 Alice Springs 25.54 160 *e*P **P 20 25 29.2 +1.3**
0.7nm,0.6s
ASAR Alice Springs 25.54 160 P **P 20 25 29.2 +1.3**
1.0nm,0.6s,baz=336,slow=8.1,SNR=23
ASAR PcP **PcP 20 28 57.7 +0.8**
0.7nm,0.4s,baz=332,slow=2.1,SNR=13
CMAR Chiang Mai Arr 30.88 307 P **P 20 26 15.3 -0.2**
0.5nm,0.7s,baz=134,slow=7.7,SNR=5.5
CMAR PcP **PcP 20 29 09.9 -0.2**
0.5nm,0.7s,baz=152,slow=2.3,SNR=5.3
STKA Stephens Creek 35.89 155 P **P 20 27 00.2 +1.3**
3.0nm,1.0s,baz=336,slow=8.7,SNR=6.0
MK01 Makanchi Array 59.11 327 *e*P **P 20 29 57.7 -0.6**
MK01 *e*PcP **PcP 20 30 45.5 -0.4**
MK31 Makanchi Array 59.13 327 *e*P **P 20 29 57.8 -0.7**
MK32 Makanchi Array 59.13 327 *e*P **P 20 29 58.2 -0.2**
MK32 *e*PcP **PcP 20 30 45.5 -0.5**
MKAR Makanchi Array 59.13 327 P **P 20 29 58.2 -0.2**
1.4nm,0.4s,baz=123,slow=8.1,SNR=32
MKAR PcP **PcP 20 30 45.5 -0.5**
0.7nm,0.5s,baz=120,slow=5.2,SNR=6.5
MKAR Makanchi Array 59.13 327 *e*P **P 20 29 57.8 -0.7**
16nm,0.4s
MKAR PcP **PcP 20 30 45.5 -0.5**
PETK Petropavlovsk- 59.42 23 P **P 20 29 59.8 -0.5**
3.9nm,1.0s,baz=175,slow=5.2,SNR=3.1
PEA1 Petropavlovsk- 59.43 23 *e*P **P 20 29 59.8 -0.6**
ZALV Zalesovo Beam 62.64 335 P **P 20 30 21.0 -1.0**
0.5nm,0.3s,baz=117,slow=5.2,SNR=4.5
ZAA1 Zalesovo Array 62.65 335 *e*P **P 20 30 21.0 -1.0**
KURBB Kurchatov Arra 63.44 329 P **P 20 30 26.5 -0.9**
1.3nm,0.5s,baz=136,slow=6.4,SNR=20
KURK Kurchatov 63.45 329 *e*P **P 20 30 26.7 -0.7**
4.4nm,0.4s
BVAR Borovoye Array 68.98 328 P **P 20 31 01.4 -1.3**
0.3nm,0.3s,baz=144,slow=8.1,SNR=4.0
TIXI Tiksi 71.28 1 P **P 20 31 16.5 +0.2**
1.7nm,0.3s,baz=182,slow=5.4,SNR=21
AKTO Aktyubinsk 74.95 323 P **P 20 31 37.5 -0.9**
2.4nm,0.7s,baz=110,slow=8.0,SNR=10
OPO Ambohidratompo 78.05 251 P **P 20 31 56.5 -0.2**
3.7nm,0.7s,baz=87,slow=6.6,SNR=5.3
VNDA Vanda 80.36 172 P **P 20 32 08.8 +0.8**
1.0nm,1.1s,baz=328,slow=8.5,SNR=3.2
QSPA South Pole Qui 90.25 180 P **P 20 32 58.6 +1.1**
0.7nm,0.5s,baz=307,slow=20,SNR=1.4
ARA0 ARCESS Array S 92.85 340 *e*P **P 20 33 08.3 -1.1**
ARA0 *e* 21 18 02.4
ARCES ARCESS Array B 92.85 340 P **P 20 33 08.3 -1.1**
0.8nm,0.6s,baz=83,slow=7.4,SNR=8.7
ARCES LR LR 21 18 02.4
comp=Z,38nm,20.2s,baz=250,slow=37
SPITS Spitsbergen Ar 93.36 349 P **P 20 33 11.5 -0.1**
12nm,1.0s,baz=79,slow=7.5,SNR=6.3
FIA0 FINESS Array S 93.75 332 *e*P **P 20 33 11.5 -2.1**
FINES FINESS Array B 93.75 332 P **P 20 33 11.5 -2.1**
2.1nm,1.0s,baz=90,slow=5.7,SNR=4.6
TORD Torodi Ar. Bea 121.74 286 PKP **PKPdf 20 38 50.5 -1.1**
0.4nm,0.6s,baz=64,slow=3.4,SNR=4.1
TOA1 Torodi Ar. Sit 121.75 286 *e*PKPdf **PKPdf 20 38 50.5 -1.1**

CSEM ***28*** *20:29:13.2±0.4,38.67N×43.59E, h24km±3km, ML2.4, Error ellipse: s-maj=10.8km s-min=4.8km az=129.0*
ISK ***28*** *20:29:13.8,38.69N×43.53E, h22km, ML2.4/5*
ISCJB ***28*** *20:29:14.4±1.0,38.68N±0.04×43.55E±0.07, h24km±7km, Error ellipse: s-maj=10.6km s-min=5.2km az=33.8*
DDA ***28*** *20:29:14.5,38.69N×43.48E, h7km, Ml2.4*
ATA ***28*** *20:29:14.0±1.6,38.73N×43.44E, h0km±7km, ML2.6, MW2.8*
ISC 28 20:29:13.7±1.1, 38°67N±0'.04×43°58E±0'.04, h27km±6km, n26, σ0s71/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VANB	**Van**	**0.17**	**242**	PG		**Pb**	**20 29 19.2**	**-0.1**
VANB				SG		**Sb**	**20 29 23.8**	**+0.7**
VANB	**Van**	**0.17**	**242**	*e*Pg		**Pb**	**20 29 19.2**	**-0.1**
VANB				*e*Sg		**Sb**	**20 29 23.8**	**+0.7**
TVAN	**Van**	**0.20**	**223**	*i* P		**Pb**	**20 29 19.0**	**-0.7**
TVAN	**Van**	**0.20**	**223**	P		**Pb**	**20 29 19.0**	**-0.7**
VMUR	**Van-Muradiye**	**0.32**	**359**	*i* P		**Pb**	**20 29 20.5**	**-0.8**
VMUR				*i* S		**Sb**	**20 29 26.1**	**-0.3**
VMUR	**Van-Muradiye**	**0.32**	**359**	P		**Pb**	**20 29 20.5**	**-0.8**
VMUR				S		**Sb**	**20 29 26.1**	**-0.3**
ERCV	**ERCIS-VAN**	**0.39**	**332**	PG		**Pb**	**20 29 22.1**	**-0.3**
ERCV	**ERCIS-VAN**	**0.39**	**332**	*e*Pg		**Pb**	**20 29 22.1**	**-0.3**
CLDR	**Caldiran**	**0.54**	**29**	PG		**Pb**	**20 29 24.5**	**-0.3**
CLDR				SG		**Sn**	**20 29 34.2**	**0.0**
CLDR	**Caldiran**	**0.54**	**29**	*i* P		**Pb**	**20 29 23.9**	**-0.9**
CLDR				*i* S		**Sn**	**20 29 34.0**	**-0.2**
CLDR	**Caldiran**	**0.54**	**29**	P		**Pb**	**20 29 23.9**	**-0.9**
CLDR	**Caldiran**	**0.54**	**29**	*e*Pg		**Pb**	**20 29 24.5**	**-0.3**
CLDR				S		**Sn**	**20 29 34.0**	**-0.2**
GEVA	**Gevas**	**0.54**	**229**	*e*P		**Pb**	**20 29 24.4**	**-0.3**
GEVA				*e*S		**Sn**	**20 29 34.2**	**0.0**
GEVA	**Gevas**	**0.54**	**229**	*i* P		**Pb**	**20 29 24.3**	**-0.5**
GEVA				*i* S		**Sn**	**20 29 34.1**	**0.0**
GEVA	**Gevas**	**0.54**	**229**	P		**Pb**	**20 29 24.3**	**-0.5**
GEVA				S		**Sn**	**20 29 34.1**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.68**	**282**	*i* P		**Pb**	**20 29 25.9**	**-1.2**
ADCV				*i* S		**Sb**	**20 29 35.8**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.68**	**282**	P		**Pb**	**20 29 25.9**	**-1.2**
ADCV				S		**Sb**	**20 29 35.8**	**-0.4**
DYDN	**Diyadin**	**0.87**	**6**	*e*P		**Pn**	**20 29 30.9**	**+0.5**
DYDN				*e*S		**Sn**	**20 29 45.0**	**+2.6**
TUTA	**Tutak**	**0.94**	**321**	*e*P		**Pb**	**20 29 30.9**	**-0.6**
TUTA				*e*S		**Sn**	**20 29 43.9**	**-0.2**
TUTA				IAML			20 29 45.8	
	comp=Z,24nm,0.4s							
TUTA	**Tutak**	**0.94**	**321**	*i* P		**Pb**	**20 29 30.9**	**-0.6**
TUTA				*i* S		**Sn**	**20 29 43.9**	**-0.2**
TUTA	**Tutak**	**0.94**	**321**	P		**Pb**	**20 29 30.9**	**-0.6**
TUTA				S		**Sn**	**20 29 43.9**	**-0.2**
AGRB	**Hanur-Agry**	**1.01**	**333**	PG		**Pn**	**20 29 32.5**	**+0.2**
AGRB	**Hanur-Agry**	**1.01**	**333**	*e*Pg		**Pn**	**20 29 32.5**	**+0.2**
GURO	**Guroymak-BITLI**	**1.22**	**265**	PN		**Pb**	**20 29 35.6**	**-0.5**
GURO	**Guroymak-BITLI**	**1.22**	**265**	*e*Pn		**Pb**	**20 29 35.6**	**-0.5**
EKAR	**Karacoban**	**1.31**	**297**	*e*P		**Pb**	**20 29 39.1**	**+1.2**
EKAR				IAML			20 30 13.1	
	comp=Z,3.1nm,0.6s							

ISCJB ***28*** *20:30:52.4±0.8,35.94N±0.04×139.61E±0.08, h58km±6km, mb3.3/3, Error ellipse: s-maj=11.5km s-min=6.0km az=171.8*
JMA ***28*** *20:30:54.2,35.96N×139.57E, h43km±1km, M2.7*
IDC ***28*** *20:30:57.2±1.0,35.60N×138.75E, h66km±12km, mb3.0/3, mb1 3.2/4, mb1mx2.9/59, mbtmp3.4/4, Error ellipse: s-maj=28.5km s-min=8.8km az=66.0*
ISC 28 20:30:53.2±1.1, 35°95N±0'.04×139°60E±0'.08, h49km±9km, n12, σ0s66/21, mb3.4/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHU	**Hanno**	**0.27**	**250**	P		**Pn**	**20 31 02.4**	**+0.3**
JHU				S		**Sn**	**20 31 07.9**	**-0.5**
JAG	**Ashikaga**	**0.49**	**346**	P		**Pn**	**20 31 04.8**	**+0.4**
JAG				*e*S		**Sn**	**20 31 12.1**	**-0.2**
JRY	**Ryogami san**	**0.57**	**277**	P		**Pn**	**20 31 05.6**	**+0.3**
JRY				S		**Sn**	**20 31 13.9**	**-0.1**
JOD2	**Odawara 2**	**0.80**	**211**	P		**Pn**	**20 31 08.4**	**+0.1**
JOD2				S		**Sn**	**20 31 19.2**	**0.0**
JKT	**Katashina**	**0.86**	**341**	P		**Pn**	**20 31 09.7**	**+0.5**
JKT				S		**Sn**	**20 31 21.5**	**+0.6**
JYN	**Shimob**	**0.97**	**243**	P		**Pn**	**20 31 11.2**	**+0.7**
JYN				S		**Sn**	**20 31 23.5**	**+0.2**
MJAR	**Matsushiro Arr**	**1.27**	**298**	P		**Pn**	**20 31 14.9**	**+0.3**
	6.3nm,0.3s,baz=151,slow=11,SNR=67							
MJAR				S		**Sn**	**20 31 30.2**	**-0.4**
	5.6nm,0.3s,baz=158,slow=21,SNR=5.0							
MAT	**Matsushiro**	**1.27**	**298**	P		**Pn**	**20 31 15.5**	**+0.9**
MAT				S		**Sn**	**20 31 32.0**	**+1.4**
JHJ	**Hachijo jima 2**	**2.83**	**177**	P		**Pn**	**20 31 36.8**	**+0.9**
	24nm,0.3s,baz=348,slow=19,SNR=1.9							
JHJ				S		**Sn**	**20 32 08.8**	**+0.2**
	12nm,0.3s,baz=110,slow=19,SNR=1.4							
MKAR	**Makanchi Array**	**43.47**	**303**	P		**P**	**20 38 50.2**	**-1.2**
	0.1nm,0.5s,baz=97,slow=7.4,SNR=1.5							
KURBB	**Kurchatov Arra**	**45.52**	**309**	P		**P**	**20 39 07.2**	**-0.5**
	0.3nm,0.6s,baz=78,slow=7.2,SNR=1.9							
WRA	**Warramunga Arr**	**55.81**	**186**	P		**P**	**20 40 25.4**	**0.0**
	0.3nm,0.5s,baz=0.8,slow=7.7,SNR=2.4							

NNC ***28*** *20:31:15.5±0.7,40.24N×73.32E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=13.4km s-min=2.9km az=65.0*
SOME ***28*** *20:31:15.5,40.27N×73.25E, h5km*
KRNET ***28*** *20:31:16.2±0.1,40.22N×73.59E, h17km, mb3.4*
ISC 28 20:31:16.1±1.1, 40°25N±0'.03×73°59E±0'.03, h6km±10km, n48, σ1s67/82, 40C-14D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFK	**Sufi-Kurgan**	**0.25**	**196**	⇑P		**Pg**	**20 31 20.6**	**-0.4**
	70nm,0.3s							
SFK				⇑S		**Sg**	**20 31 24.8**	**+0.5**
	903nm,0.4s							
SFK	**Sufi-Kurgan**	**0.25**	**196**	⇓*i*P		**Pg**	**20 31 20.8**	**-0.2**
	baz=0.0							
SFK				⇓*i*S		**Sg**	**20 31 24.2**	**-0.2**
	baz=0.0							
ARSB	**Arslanbob**	**1.17**	**337**	⇑*i*P		**Pb**	**20 31 38.6**	**-0.2**
	baz=37							
ARSB				⇑*i*S		**Sg**	**20 31 56.1**	**+2.5**
	baz=37							
TOKL	**Toktogul**	**1.77**	**342**	⇑*i*P		**Pb**	**20 31 48.8**	**-0.3**
	baz=43							
TOKL				⇑*i*S		**Sg**	**20 32 13.1**	**+0.1**
	baz=43							
AML	**Almayashu**	**1.88**	**2**	P		**Pb**	**20 31 51.1**	**+0.1**
	SNR=140							
AML	**Almayashu**	**1.88**	**2**	⇑*i*P		**Pb**	**20 31 51.1**	**+0.1**
	baz=2.0							
AML				⇑*i*S		**Sg**	**20 32 17.4**	**+1.0**
	baz=2.0							
UCH	**Uchtor**	**2.09**	**19**	P		**Pb**	**20 31 55.6**	**+0.8**
	SNR=32							
UCH	**Uchtor**	**2.09**	**19**	⇑*i*P		**Pb**	**20 31 54.9**	**+0.2**
	baz=19							
UCH				⇑*i*S		**Sg**	**20 32 23.1**	**-0.2**
	baz=19							
KZA	**Kyzart**	**2.21**	**34**	P		**Pg**	**20 31 58.3**	**-0.1**
	SNR=18							
KZA	**Kyzart**	**2.21**	**34**	⇑*i*P		**Pb**	**20 31 55.8**	**-0.9**
	baz=33							
KZA				⇑*i*S		**Sb**	**20 32 25.8**	**+1.3**
	baz=33							
MNAS	**Manas**	**2.38**	**340**	⇓Pn		**Pn**	**20 31 56.8**	**+1.0**
	13nm,0.4s							
MNAS				⇓Lg		Lg	20 32 27.2	
	116nm,0.7s							
MNAS	**Manas**	**2.38**	**340**	⇑*i*P		**Pb**	**20 31 58.4**	**-1.0**
	baz=41							
MNAS				⇑*i*S		**Sb**	**20 32 29.4**	**+0.3**
	baz=41							
EKS2	**Erkin-Say**	**2.41**	**3**	P		**Pb**	**20 31 59.3**	**-0.7**
	SNR=12							
EKS2	**Erkin-Say**	**2.41**	**3**	⇑P		**Pb**	**20 31 59.1**	**-0.9**
	baz=3.0							
EKS2				⇑*i*S		**Sb**	**20 32 30.5**	**+0.5**
	baz=3.0							
AAK	**Ala-Archa**	**2.48**	**16**	⇑Pn		**Pb**	**20 32 00.6**	**-0.5**
	7.3nm,0.3s							
AAK				⇑Lg		Lg	20 32 34.5	
	112nm,0.8s							
AAK	**Ala-Archa**	**2.48**	**16**	P		**Pb**	**20 32 01.0**	**-0.1**
	SNR=36							
AAK	**Ala-Archa**	**2.48**	**16**	⇓*i*P		**Pb**	**20 32 00.3**	**-0.8**
	baz=15							
AAK				⇓*i*S		**Sb**	**20 32 32.0**	**+0.1**
	baz=15							
MRKS	**Merke**	**2.50**	**354**	*e*P		**Pb**	**20 32 01.1**	**-0.4**
	26nm,0.5s							
MRKS				*e*S		**Sb**	**20 32 34.7**	**+2.0**
	114nm,0.3s							
KBK	**Karagaybulak**	**2.61**	**23**	P		**Pb**	**20 32 03.4**	**+0.1**
	SNR=11							
KBK	**Karagaybulak**	**2.61**	**23**	⇑*i*P		**Pb**	**20 32 02.2**	**-1.2**
	baz=22							
KBK				⇑*i*S		**Sb**	**20 32 35.3**	**-0.4**
	baz=22							
FRU1	**Bishkek**	**2.67**	**17**	⇑*i*P		**Pb**	**20 32 03.0**	**-1.4**
	baz=16							
FRU1				⇑*i*S		**Sb**	**20 32 36.4**	**-1.0**
	baz=16							
ULHL	**Ulahol**	**2.82**	**44**	P		**Pb**	**20 32 07.3**	**+0.3**
	SNR=13							
ULHL	**Ulahol**	**2.82**	**44**	⇑*i*P		**Pb**	**20 32 05.0**	**-2.0**
	baz=44							
ULHL				⇑*i*S		**Sb**	**20 32 40.6**	**-1.3**
	baz=44							
BOOM	**Boomskoye usch**	**2.85**	**38**	⇓*e*P		**Pb**	**20 32 04.4**	**-3.0**
	baz=37							
BOOM				⇓*i*S		**Sb**	**20 32 40.5**	**-2.1**
	baz=37							
CHMS	**Chumysh**	**2.88**	**17**	P		**Pb**	**20 32 06.4**	**-1.4**
	SNR=11							
CHMS	**Chumysh**	**2.88**	**17**	⇓*i*P		**Pb**	**20 32 05.8**	**-2.1**
	baz=17							
CHMS				⇓*i*S		**Sb**	**20 32 41.7**	**-1.6**
	baz=17							
TKM2	**Tokmak 2**	**3.06**	**29**	⇑Pn		**Pb**	**20 32 09.0**	**-2.1**
	5.0nm,0.8s							
TKM2				⇓Lg		Lg	20 32 56.7	
	19nm,0.6s							
TKM2	**Tokmak 2**	**3.06**	**29**	⇑*i*P		**Pb**	**20 32 08.0**	**-3.1**
	baz=28							
TKM2				⇑*i*S		**Sb**	**20 32 46.4**	**-2.4**
	baz=28							
USP	**Ospenovka**	**3.09**	**12**	P		**Pb**	**20 32 08.7**	**-2.8**
	SNR=7.5							
USP	**Ospenovka**	**3.09**	**12**	⇑*i*P		**Pb**	**20 32 08.5**	**-2.9**
	baz=12							
USP				⇑*i*S		**Sb**	**20 32 46.4**	**-3.0**
	baz=12							
IUG	**Iuzhnay**	**3.29**	**306**	*e*P		**Pb**	**20 32 13.1**	**-1.8**
	102nm,0.3s							
IUG				*e*S		**Sb**	**20 32 54.8**	**-0.4**
	83nm,0.4s							
KDJ	**Kajisay**	**3.29**	**54**	⇑*i*P		**Pn**	**20 32 10.9**	**+2.5**
	baz=54							
KDJ				⇑*i*S		**Sb**	**20 32 51.2**	**-4.2**
	baz=54							
KST	**Kastek**	**3.30**	**32**	*e*P		**Pg**	**20 32 18.0**	**-1.4**
	2.0nm,0.3s							
KST				*e*S		**Sg**	**20 33 04.4**	**+2.2**
	9.3nm,0.6s							
DGS	**Degeres**	**3.40**	**28**	*e*P		**Pg**	**20 32 20.3**	**-1.0**
	7.7nm,0.7s							
DGS				*e*S		**Sg**	**20 33 07.3**	**+2.0**
	15nm,0.8s							
TAS	**Tashkent**	**3.44**	**290**	⇑*i*P		**Pn**	**20 32 12.5**	**+2.2**
	baz=90							
TAS				⇑*i*S		**Sn**	**20 32 53.4**	**+1.9**
	baz=90							
TARG	**Taragay, Kyrgy**	**3.51**	**64**	⇑*i*P		**Pn**	**20 32 12.8**	**+1.2**
	baz=63							
TARG				⇑*i*S		**Sn**	**20 32 54.2**	**+0.5**
	baz=63							
MTBS	**Maitube**	**3.57**	**36**	*e*P		**Pg**	**20 32 23.2**	**-1.3**
	11nm,0.6s							
MTBS				*e*S		**Sg**	**20 33 12.6**	**+1.8**
	16nm,0.6s							
IZV	**Izvestkoviy**	**3.58**	**38**	*e*P		**Pg**	**20 32 23.8**	**-0.9**
	4.2nm,0.6s							
IZV				*e*S		**Sg**	**20 33 14.1**	**+2.9**
	41nm,0.7s							
KK31	**Karatay Array**	**3.67**	**322**	⇑Pn		**Pn**	**20 32 12.4**	**-1.0**
	0.7nm,0.3s,baz=132,slow=13,SNR=72							
KK31				⇓Pg		**Pb**	**20 32 20.6**	**-0.7**
	8.2nm,0.5s,baz=142,slow=16,SNR=32							
KK31				⇑Sn		**Sn**	**20 32 55.4**	**-1.6**
	16nm,0.6s,baz=127,slow=25,SNR=5.9							
KK31				⇓Lg		Lg	20 33 06.4	
	13nm,0.5s,baz=127,slow=25,SNR=5.9							
TNSS	**Tian-Shan**	**3.75**	**41**	*e*P		**Pb**	**20 32 25.3**	**+2.4**
	3.8nm,0.8s							
TNSS				*e*S		**Sg**	**20 33 16.2**	**-0.2**
	6.6nm,0.6s							
KNDC	**Almaty**	**3.89**	**39**	⇑Pg		**Pb**	**20 32 27.0**	**+1.8**
	8.6nm,0.6s							
KNDC				⇑Lg		Lg	20 33 24.9	
	36nm,0.7s							
MDOK	**Medeo**	**3.89**	**41**	Pg		**Pb**	**20 32 27.3**	**+2.1**
	7.4nm,0.7s							
MDOK				Lg		Lg	20 33 23.3	
	16nm,0.6s							
MDOK	**Medeo**	**3.89**	**41**	*e*P		**Pg**	**20 32 29.5**	**-1.1**
	3.8nm,0.6s							
MDOK				*e*S		**Sg**	**20 33 23.8**	**+2.8**
	14nm,0.7s							
KOTS	**Kotyrbulak**	**3.97**	**40**	*e*P		**Pg**	**20 32 31.6**	**-0.6**
KOTS				*e*S		**Sg**	**20 33 27.5**	**+3.8**
KUU	**Kurty**	**4.17**	**28**	*e*P		**Pg**	**20 32 34.2**	**-1.8**
	2.9nm,0.4s							
KUU				*e*S		**Sg**	**20 33 30.9**	**+0.9**
	28nm,0.8s							
CHKK	**Chushkaly**	**4.40**	**34**	*e*P		**Pg**	**20 32 38.8**	**-1.5**
	1.5nm,0.3s							
CHKK				*e*S		**Sg**	**20 33 39.4**	**+2.1**
	12nm,0.3s							
MNBS	**Baschi**	**5.23**	**41**	*e*P		**Pg**	**20 32 54.3**	**-2.0**
	2.3nm,0.6s							
MNBS				*e*S		**Sg**	**20 34 05.5**	**+1.4**
	8.1nm,0.6s							
PDGK	**Podgornoye**	**5.37**	**53**	⇑Pn		**Pn**	**20 32 36.8**	**-0.1**
	1.3nm,0.7s							
PDGK				⇓Lg		Lg	20 34 09.3	
	21nm,0.9s							

MEX 28 20:38:39.7±0.6, 16°49N×98°53W, h17km±10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.40**	**104**	*e*P		Pg	20 38 46.6	-1.3
PNIG				*e*S		Sg	20 38 52.0	-1.5
TLIG	**Tlapa**	**1.06**	**358**	*e*P		Pb	20 38 56.2	-3.6
TLIG				*i* S		Sb	20 39 09.0	-4.5
CAIG	**El Cayaco**	**1.75**	**289**	*e*P		Pn	20 39 06.8	-2.5
CAIG				*i* S		Sn	20 39 26.9	-4.4
VHO	**Vista Hermosa**	**1.82**	**71**	*e*P		Pn	20 39 08.1	-2.3
VHO				*i* S		Sn	20 39 29.3	-3.8

NIED ***28*** *20:41:00,40.80N×145.10E, h5km, Mw4.1 Best double couple: M0 1.63000×10^15 NP1:φs225.00000°,δ41.00000°, λ-91.00000°. NP2:φs47.00000°,δ49.00000°,λ-89.00000°.*
BJI ***28*** *20:41:35.0,41.07N×145.06E, h5km, mb4.1/13, mB4.6/6*
JMA ***28*** *20:41:37.7±0.2,40.77N×145.05E, h67km±4km, M4.0*
IDC ***28*** *20:41:37.5±0.6,40.80N×144.88E, h0km, mb4.0/23, mb1 4.2/26, mb1mx4.0/63, mbtmp4.0/26, ML3.0/3, MS3.2/15, Ms1 3.2/15, ms1mx2.9/67, Error ellipse: s-maj=15.3km s-min=14.0km az=129.0*
ISCJB ***28*** *20:41:39.0±1.0,40.83N±0.02×144.78E±0.03, h15km±6km, mb4.3/63, MS3.3/13, Error ellipse: s-maj=4.6km s-min=3.5km az=140.9*
NEIC ***28*** *20:41:39.2±2.6,40.76N×144.91E, h12km±16km, mb4.7/19, Error ellipse: s-maj=6.9km s-min=5.4km az=140.0*
MOS ***28*** *20:41:40.9±1.1,40.80N×144.90E, h33km, mb4.8/34, Error ellipse: s-maj=10.7km s-min=5.8km az=105.2*
ISC 28 20:41:39.4±1.1, 40°80N±0'.04×144°94E±0'.05, h15km±6km, n200, σ1s77/219, mb4.5/71, MS3.4/13, 17C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERM	**Erimo**	**1.81**	**313**	*i* P		**Pn**	**20 42 09.0**	**-1.0**
ERM	**Erimo**	**1.81**	**313**	*e*Pn		**Pn**	**20 42 08.8**	**-1.2**
JEM	**Erimo**	**1.81**	**313**	P		**Pn**	**20 42 08.5**	**-1.5**
JEM				*e*S		**Sn**	**20 42 30.0**	**-2.7**
JCH	**Churui**	**2.17**	**327**	P		**Pn**	**20 42 13.2**	**-1.7**
JCH				*e*S		**Sn**	**20 42 38.1**	**-3.4**
JAK	**Akkeshi**	**2.21**	**355**	P		**Pn**	**20 42 13.1**	**-2.3**
JAK				*e*S		**Sn**	**20 42 39.9**	**-2.5**
JNBK	**Urakawa-nobuka**	**2.21**	**313**	P		**Pn**	**20 42 14.8**	**-0.7**
JNBK				*e*S		**Sn**	**20 42 40.9**	**-1.7**
JTH	**Tanohata**	**2.50**	**251**	P		**Pn**	**20 42 17.5**	**-2.0**
JTH				*e*S		**Sn**	**20 42 45.2**	**-4.5**
NEM2	**Nemuro 2**	**2.64**	**13**	P		**Pn**	**20 42 18.8**	**-2.5**
NEM2				*e*S		**Sn**	**20 42 49.1**	**-3.9**
JANG	**Nango**	**2.64**	**262**	P		**Pn**	**20 42 19.6**	**-1.9**
JANG				*e*S		**Sn**	**20 42 48.8**	**-4.4**
JAR	**Ashorobuto**	**2.65**	**341**	P		**Pn**	**20 42 19.3**	**-2.2**
JAR				*e*S		**Sn**	**20 42 49.9**	**-3.4**
MIYJ	**Miyakonagasawa**	**2.68**	**244**	P		**Pn**	**20 42 20.4**	**-1.6**
MIYJ				*e*S		**Sn**	**20 42 49.8**	**-4.4**
JTM	**Tenmabayashi**	**2.94**	**271**	P		**Pn**	**20 42 24.5**	**-1.0**
JTM				*e*S		**Sn**	**20 42 57.3**	**-3.2**
JFR	**Furan**	**2.94**	**324**	P		**Pn**	**20 42 24.5**	**-1.1**
JFR				*e*S		**Sn**	**20 42 57.2**	**-3.4**
JOT	**Ohata**	**3.00**	**283**	P		**Pn**	**20 42 25.2**	**-1.1**
JOT				*e*S		**Sn**	**20 42 58.2**	**-3.8**
JOM	**Ohasama**	**3.09**	**246**	P		**Pn**	**20 42 26.7**	**-0.9**
JOM				*e*S		**Sn**	**20 43 00.5**	**-3.8**
JKB	**Kayabe**	**3.14**	**292**	P		**Pn**	**20 42 28.3**	**+0.1**
JKB				*e*S		**Sn**	**20 43 02.6**	**-2.8**
JRA	**Rausu**	**3.14**	**2**	P		**Pn**	**20 42 26.6**	**-1.7**
JTKR	**Abashiri--Toko**	**3.26**	**347**	P		**Pn**	**20 42 29.2**	**-0.8**
JTKR				*e*S		**Sn**	**20 43 05.7**	**-2.8**
YUK	**Yuzh-Kuril'sk**	**3.31**	**12**	*e*P		**Pn**	**20 42 29.0**	**-1.6**
YUK				*e*S		**Sn**	**20 43 06.0**	**-3.6**
YUK				pmax	pmax			
	comp=Z,93nm,0.2s							

USRK					LR	LR	20 48 04.7		
	comp=E,62nm,18.2s,baz=149,slow=38								
KLR	**Kul'dur**	**12.56**	**317**		Pn	**Pn**	**20 44 39.6**	**+2.1**	
	comp=E,0.0nm,0.3s,baz=121,slow=16,SNR=5.7								
KLR	**Kul'dur**	**12.56**	**317**	*i*	P	**Pn**	**20 44 39.8**	**+2.3**	
NKL	**Nikolayevsk**	**12.69**	**348**	*e*	P	**Pn**	**20 44 37.7**	**-1.5**	
JNU	**Nakatsue**	**13.59**	**240**		LR	LR	20 50 08.4		
	comp=E,16nm,18.1s,baz=329,slow=38								
KSRS	**Korea Array**	**13.63**	**261**		LR	LR	20 49 11.6		
	comp=E,30nm,20.3s,baz=74,slow=33								
SEY	**Seymchan**	**22.61**	**9**		P	**P**	**20 46 38.8**	**-0.4**	
	comp=E,3.2nm,0.8s,baz=190,slow=7.0,SNR=11								
SEY	**Seymchan**	**22.61**	**9**	*ce*	P	**P**	**20 46 38.3**	**-0.9**	
YAK	**Yakutsk**	**23.18**	**342**	*e*	P	**P**	**20 46 40.3**	**-4.8**	
YAK				*e*	*PP	**pP**	**20 46 48.9**	**-0.6**	
YAK				*e*	S	**S**	**20 50 48.4**	**-7.6**	
YAK				*e*	*SS	**pS**	**20 51 00.4**	**+0.2**	
YAK					pmax	pmax			
	comp=E,6.0nm,1.1s								
YAK					pmax	pmax			
	comp=N,2.0nm,1.5s								
YAK					pmax	pmax			
	comp=E,3.0nm,1.5s								
YAK					pmax	pmax			
	comp=Z,3.0nm,0.7s								
YAK					pmax	pmax			
	comp=N,2.0nm,0.7s								
YAK					pmax	pmax			
	comp=E,4.0nm,0.9s								
YAK					smax	smax			
	comp=E,20nm,1.3s								
YAK					smax	smax			
	comp=N,57nm,3.4s								
YAK					MLR	MLR			
	comp=Z,47nm,12.0s								
HHC	**Hu-ho-hao-te**	**25.18**	**281**	*e*	P	**P**	**20 47 03.5**	**-0.7**	
HHC					S	**S**	**20 51 25.8**	**-3.0**	
HHC					pmax	pmax			
	comp=Z,13nm,0.7s								
HHC					pmax	pmax			
	comp=Z,29nm,3.9s								
GUMO	**Guam**	**27.10**	**180**		LR	LR	20 56 02.6		
	comp=Z,24nm,20.8s,baz=83,slow=32								
ULN	**Ulaanbaatar**	**27.79**	**298**	*e*	P	**P**	**20 47 30.3**	**+2.5**	
ULN					pmax	pmax			
	comp=Z,5.0nm,1.9s								
H11N2	**WAKE ISLAND Hy**	**28.15**	**132**		T	T	21 17 04.9		
	baz=324,slow=76								
H11N1	**WAKE ISLAND Hy**	**28.16**	**132**		T	T	21 17 03.9		
	baz=324,slow=76								
H11N3	**WAKE ISLAND Hy**	**28.17**	**132**		T	T	21 17 08.6		
	baz=324,slow=76								
SONA0	**Songino Array**	**28.23**	**297**	*e*	P	**P**	**20 47 32.8**	**+1.1**	
SONM	**Songino Array**	**28.23**	**297**		P	**P**	**20 47 32.8**	**+1.1**	
	comp=Z,1.0nm,0.5s,baz=81,slow=8.9,SNR=2.3								
H11S1	**WAKE ISLAND Hy**	**29.02**	**134**		T	T	21 18 07.7		
	baz=325,slow=76								
H11S3	**WAKE ISLAND Hy**	**29.02**	**134**		T	T	21 18 14.4		
	baz=325,slow=76								
H11S2	**WAKE ISLAND Hy**	**29.04**	**134**		T	T	21 18 10.6		
	baz=325,slow=76								
BILL	**Bilibino**	**29.65**	**16**	⇑*i*	P	**P**	**20 47 44.5**	**+0.6**	
BILL				*e*			20 48 38.4		
BILL					pmax	pmax			
	comp=Z,5.0nm,1.1s								
BILL					MLR	MLR			
	comp=Z,30nm,19.0s								
TLY	**Talaya**	**30.18**	**305**	*e*	P	**P**	**20 47 51.0**	**+2.2**	
TLY					pmax	pmax			
	comp=Z,2.0nm,0.7s								
ZAK	**Zakamensk**	**30.33**	**303**	*e*	P	**P**	**20 47 49.5**	**-0.8**	
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.4s								
TIXI	**Tiksi**	**31.96**	**350**	*i*	P	**P**	**20 48 03.0**	**-1.2**	
TIXI					pmax	pmax			
	comp=Z,1.0nm,1.1s								
GTA	**Gaotai**	**34.26**	**283**	*e*	P	**P**	**20 48 25.5**	**+0.7**	
GTA					pP	sP	20 48 33.5	+2.1	
GTA					sP	pP	20 48 35.8	+6.3	
GTA					pmax	pmax			
	comp=Z,3.0nm,1.1s								
DAV	**Davao City (W)**	**37.77**	**212**		LR	LR	21 04 42.2		
	comp=Z,16nm,18.3s,baz=106,slow=37								
ZAA1	**Zalesovo Array**	**41.54**	**309**	*e*	P	**P**	**20 49 26.1**	**+0.1**	
ZAA1				*e*	PcP	**PcP**	**20 51 22.7**	**-0.3**	
ZALV	**Zalesovo Beam**	**41.54**	**309**		P	**P**	**20 49 26.1**	**+0.1**	
	comp=Z,0.8nm,0.6s,baz=106,slow=7.9,SNR=6.0								
ZALV					PcP	**PcP**	**20 51 22.7**	**-0.3**	
	comp=Z,1.3nm,0.7s,baz=94,slow=4.5,SNR=5.1								
ZALV					LR	LR	21 07 24.2		
	comp=Z,44nm,19.6s,baz=70,slow=37								
IM3	**Indian Mountai**	**42.01**	**32**	*e*	P	**P**	**20 49 30.6**	**+0.9**	
MLY	**Manley**	**43.20**	**34**	*e*	P	**P**	**20 49 41.0**	**+1.6**	
	comp=Z,14nm,1.6s								
TOLK	**Toolik Lake Re**	**43.86**	**29**	*e*	P	**P**	**20 49 46.7**	**+2.0**	
	comp=Z,5.2nm,0.9s								
MDM	**Murphy Dome**	**44.27**	**34**	*e*	P	**P**	**20 49 50.3**	**+2.4**	
	comp=Z,14nm,1.4s								
MK01	**Makanchi Array**	**44.56**	**300**	*e*	P	**P**	**20 49 50.5**	**0.0**	
MK31	**Makanchi Array**	**44.56**	**300**	*e*	P	**P**	**20 49 50.6**	**+0.1**	
MK31	**Makanchi Array**	**44.56**	**300**	*e*	P	**P**	**20 49 50.6**	**+0.1**	
MK32	**Makanchi Array**	**44.56**	**300**	*e*	P	**P**	**20 49 50.4**	**-0.1**	
MKAR	**Makanchi Array**	**44.56**	**300**		P	**P**	**20 49 50.4**	**-0.1**	
	comp=Z,0.6nm,0.6s,baz=86,slow=10,SNR=8.4								
MKAR	**Makanchi Array**	**44.56**	**300**	*e*	P	**P**	**20 49 50.6**	**+0.1**	
MKAR					pmax	pmax			
	comp=Z,9.0nm,0.6s								
MKAR	**Makanchi Array**	**44.56**	**300**	*e*	P	**P**	**20 49 50.6**	**+0.1**	
	comp=Z,9.3nm,0.6s								
IL1	**Eielson Array**	**44.84**	**34**	*e*	P	**P**	**20 49 52.9**	**+0.4**	
ILAR	**Eielson Array**	**44.84**	**34**		P	**P**	**20 49 53.4**	**+0.8**	
	comp=Z,2.0nm,0.9s,baz=259,slow=6.2,SNR=14								
ILB	**Eielson Array**	**44.84**	**34**	*e*	P	**P**	**20 49 53.4**	**+0.8**	
CMAR	**Chiang Mai Arr**	**45.13**	**254**		P	**P**	**20 49 55.9**	**+0.5**	
	comp=Z,0.4nm,0.7s,baz=47,slow=9.3,SNR=3.9								
KURK	**Kurchatov**	**45.87**	**306**	*ce*	P	**P**	**20 50 01.5**	**+0.7**	
KURK					pmax	pmax			
	comp=Z,23nm,1.2s								
KURK	**Kurchatov**	**45.87**	**306**	*e*	P	**P**	**20 50 01.0**	**+0.2**	
	comp=Z,4.7nm,0.9s								
KURK				*e*	PcP	**PcP**	**20 51 38.7**	**+0.9**	
KURBB	**Kurchatov Arra**	**45.95**	**306**		P	**P**	**20 50 01.2**	**-0.3**	
	comp=Z,4.0nm,0.8s,baz=76,slow=8.7,SNR=16								
KURBB					PcP	**PcP**	**20 51 38.7**	**+0.6**	
	comp=Z,0.6nm,0.9s,baz=75,slow=2.4,SNR=2.6								
HYT	**Haines Junctio**	**49.65**	**39**	*e*	P	**P**	**20 50 31.9**	**+1.8**	
	comp=Z,12nm,0.9s								
INK	**Inuvik**	**49.78**	**29**		P	**P**	**20 50 32.4**	**+1.5**	
	comp=Z,2.9nm,0.8s,baz=295,slow=7.8,SNR=12								
INK	**Inuvik**	**49.78**	**29**	*e*	P	**P**	**20 50 32.6**	**+1.8**	
INK					pmax	pmax			
	comp=Z,5.0nm,1.0s								
INK	**Inuvik**	**49.78**	**29**	*e*	P	**P**	**20 50 32.6**	**+1.8**	
	comp=Z,4.9nm,1.0s								
BVAR	**Borovoye Array**	**50.15**	**311**		P	**P**	**20 50 34.3**	**+0.4**	
	comp=Z,1.6nm,0.7s,baz=69,slow=8.3,SNR=9.1								
BVAR					PcP	**PcP**	**20 51 53.8**	**+0.7**	
	comp=Z,0.3nm,0.5s,baz=27,slow=33,SNR=2.2								
BRVK	**Borovoye**	**50.20**	**311**	*ce*	P	**P**	**20 50 35.3**	**+1.0**	
BRVK					pmax	pmax			
	comp=Z,19nm,2.5s								
BRVK	**Borovoye**	**50.20**	**311**	*e*	P	**P**	**20 50 35.1**	**+0.8**	
	comp=Z,3.1nm,0.9s								
AAK	**Ala-Archa**	**51.19**	**297**		LR	LR	21 13 00.8		
	comp=Z,41nm,20.4s,baz=69,slow=37								
ARU	**Arti**	**55.40**	**318**		LR	LR	21 17 11.9		
	comp=Z,77nm,18.6s,baz=143,slow=38								
ARU	**Arti**	**55.40**	**318**	*c*	*iP	**P**	**20 51 15.2**	**+2.5**	
ARU							20 53 13.6		
ARU					S	**S**	**20 59 01.9**	**+5.5**	
ARU					SS	**SS**	**21 02 40.5**	**+0.1**	
ARU					pmax	pmax			
	comp=Z,13nm,2.5s								
ARU	**Arti**	**55.40**	**318**	*e*	P	**P**	**20 51 12.5**	**-0.2**	
	comp=Z,9.6nm,1.3s								
AB31	**Akbulak array**	**57.65**	**309**	*e*	P	**P**	**20 51 29.2**	**+0.4**	
AB31	**Akbulak array**	**57.65**	**309**	*e*	P	**P**	**20 51 29.2**	**+0.4**	
ABKAR	**Akbulak array**	**57.65**	**309**	*e*	P	**P**	**20 51 29.2**	**+0.4**	
	comp=Z,15nm,0.8s								
AB09	**Akbulak array**	**57.66**	**309**	*e*	P	**P**	**20 51 29.0**	**+0.2**	
RES	**Resolute Bay**	**58.26**	**16**	*e*	P	**P**	**20 51 32.5**	**-0.1**	
RES					pmax	pmax			
	comp=Z,7.0nm,0.7s								
RES	**Resolute Bay**	**58.26**	**16**	*e*	P	**P**	**20 51 32.5**	**-0.1**	
	comp=Z,7.0nm,0.7s								
YKA	**Yellowknife Ar**	**59.17**	**32**		P	**P**	**20 51 39.8**	**+0.6**	
	comp=Z,6.0nm,0.7s,baz=300,slow=6.7,SNR=12								
TULEG	**Thule**	**61.00**	**9**	*e*	P	**P**	**20 51 51.6**	**+0.1**	
	comp=Z,3.3nm,0.7s								
WRAB	**Tennant Creek**	**61.21**	**191**	*ce*	P	**P**	**20 51 54.5**	**+0.9**	
WRAB					pmax	pmax			
	comp=Z,21nm,1.7s								
WR1	**Warramunga Arr**	**61.23**	**191**	*e*	P	**P**	**20 51 53.4**	**-0.2**	
	comp=Z,14nm,1.4s								
WRA	**Warramunga Arr**	**61.23**	**191**		P	**P**	**20 51 53.4**	**-0.2**	
	comp=Z,4.8nm,0.9s,baz=9.8,slow=6.9,SNR=30								
ASAR	**Alice Springs**	**64.95**	**191**		P	**P**	**20 52 19.3**	**+1.0**	
	comp=Z,1.0nm,0.9s,baz=8.1,slow=6.6,SNR=7.8								
ASAR	**Alice Springs**	**64.95**	**191**	*e*	P	**P**	**20 52 18.3**	**-0.1**	
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
OBN	**Obninsk**	**66.72**	**324**		LR	LR	21 23 53.0		
	comp=Z,32nm,21.0s,baz=100,slow=38								
OBN	**Obninsk**	**66.72**	**324**	*e*	P	**P**	**20 52 30.6**	**+1.2**	
OBN					pmax	pmax			
	comp=Z,5.0nm,1.2s								
FIA0	**FINESS Array S**	**66.75**	**333**	*e*	P	**P**	**20 52 29.9**	**+0.3**	
FIA0	**FINESS Array S**	**66.75**	**333**	*e*	P	**P**	**20 52 29.9**	**+0.3**	
FINES	**FINESS Array B**	**66.75**	**333**		P	**P**	**20 52 29.9**	**+0.3**	
	comp=Z,2.2nm,0.6s,baz=47,slow=7.4,SNR=15								
FINES					LR	LR	21 23 09.7		
	comp=Z,23nm,21.2s,baz=351,slow=37								
FINES	**FINESS Array B**	**66.75**	**333**	*e*	P	**P**	**20 52 29.8**	**+0.2**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.6s								
COCO	**West Island**	**68.95**	**231**	*ce*	P	**P**	**20 52 45.5**	**+1.5**	
KIV	**Kislovodsk**	**70.50**	**312**	*e*	P	**P**	**20 52 53.9**	**+0.5**	
KIV					pmax	pmax			
	comp=Z,14nm,1.1s								
KIV	**Kislovodsk**	**70.50**	**312**	*e*	P	**P**	**20 52 55.5**	**+2.0**	
	comp=Z,11nm,0.9s								
KBZ	**Khabaz**	**70.52**	**311**		P	**P**	**20 52 54.5**	**+1.1**	
	comp=Z,2.8nm,0.8s,baz=55,slow=4.1,SNR=8.6								
NVAR	**Mina Array Bea**	**70.57**	**56**		P	**P**	**20 52 55.4**	**+1.3**	
	comp=Z,0.5nm,0.6s,baz=303,slow=5.0,SNR=3.1								
NB2	**NORSAR Subarra**	**71.75**	**338**		P	**P**	**20 52 59.9**	**-0.7**	
	comp=Z,1.3nm,0.7s,baz=37,slow=6.2								
NB200	**NORSAR Array S**	**71.75**	**338**	*e*	P	**P**	**20 53 00.5**	**-0.2**	
NOA	**NORSAR Array B**	**71.75**	**338**		P	**P**	**20 53 00.5**	**-0.2**	
	comp=Z,1.5nm,0.6s,baz=36,slow=6.1,SNR=5.6								
NOA					LR	LR	21 28 37.8		
	comp=Z,24nm,19.7s,baz=280,slow=39								
NOA	**NORSAR Array B**	**71.75**	**338**	*e*	P	**P**	**20 53 00.3**	**-0.3**	
NOA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
HFS	**Hagfors**	**71.76**	**337**		P	**P**	**20 53 00.5**	**-0.1**	
	comp=Z,2.3nm,0.6s,baz=51,slow=5.7,SNR=6.6								
AKASG	**Malin Array Be**	**72.97**	**323**		P	**P**	**20 53 07.8**	**-0.2**	
	comp=Z,3.1nm,0.7s,baz=43,slow=5.9,SNR=18								
AKASG					LR	LR	21 28 21.3		
	comp=Z,36nm,19.8s,baz=0.0,slow=38								
AKASG	**Malin Array Be**	**72.97**	**323**	*e*	P	**P**	**20 53 08.3**	**+0.3**	
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.6s								
AKBB	**Malin Array Si**	**72.97**	**323**	*e*	P	**P**	**20 53 07.8**	**-0.2**	
AKBB					pmax	pmax			
	comp=Z,35nm,1.9s								
AKBB	**Malin Array Si**	**72.97**	**323**	*e*	P	**P**	**20 53 07.8**	**-0.2**	
	comp=Z,35nm,1.9s								
PD31	**Pinedale Array**	**73.09**	**48**	*e*	P	**P**	**20 53 08.5**	**-0.7**	
PDAR	**Pinedale Array**	**73.09**	**48**		P	**P**	**20 53 10.3**	**+1.2**	
	comp=Z,0.5nm,0.7s,baz=210,slow=1.2,SNR=4.3								
GSC	**Goldstone, Bar**	**73.42**	**58**	*e*	P	**P**	**20 53 08.2**	**-2.9**	
GSC	**Goldstone, Bar**	**73.42**	**58**	*e*	P	**P**	**20 53 08.2**	**-2.9**	
DSCC	**Desert Studies**	**73.97**	**57**	*e*	P	**P**	**20 53 13.2**	**-1.1**	
SORM	**Soroca**	**75.19**	**322**	⇑*i*	P	P	20 53 13.7	-7.3	
SORM	**Soroca**	**75.19**	**322**	⇑*i*	P	P	20 53 13.7	-7.3	
PV05	**Paradox Valley**	**76.41**	**51**	*e*	P	**P**	**20 53 27.1**	**-1.4**	
BUR08	**Bucovina Ar. S**	**77.01**	**323**	*e*	P	**P**	**20 53 32.5**	**+0.9**	
BUR04	**Bucovina Ar. S**	**77.02**	**323**	*e*	P	**P**	**20 53 32.0**	**+0.4**	
BURAR	**Bucovina Array**	**77.02**	**323**	⇑*i*	P	**P**	**20 53 32.3**	**+0.7**	
BURAR	**Bucovina Array**	**77.02**	**323**	⇑*i*	P	**P**	**20 53 32.3**	**+0.7**	
TESR	**Tescani**	**77.16**	**321**	⇑*i*	P	**P**	**20 53 32.7**	**+0.4**	
CFR	**Carcaliu**	**77.41**	**320**	⇓*i*	P	**P**	**20 53 34.4**	**+0.7**	
CFR	**Carcaliu**	**77.41**	**320**	⇓*i*	P	**P**	**20 53 34.3**	**+0.6**	
STHS	**Stebnicka Huta**	**77.42**	**326**	*e*	P	**P**	**20 53 35.4**	**+1.7**	
STHS	**Stebnicka Huta**	**77.42**	**326**	*e*	P	**P**	**20 53 35.4**	**+1.7**	
VRI	**Vrincioaia**	**77.59**	**321**	⇓*i*	P	**P**	**20 53 35.0**	**+0.2**	
VRI	**Vrincioaia**	**77.59**	**321**	⇓*i*	P	**P**	**20 53 35.0**	**+0.2**	
BR101	**Keskin Array S**	**78.37**	**313**	*e*	P	**P**	**20 53 39.8**	**+0.5**	
BRTR	**Keskin Array B**	**78.37**	**313**		P	**P**	**20 53 39.8**	**+0.5**	
	comp=Z,1.3nm,0.9s,baz=58,slow=3.6,SNR=4.9								
BRTR					LR	LR	21 33 19.7		
	comp=Z,14nm,20.2s,baz=304,slow=40								
BRTR	**Keskin Array B**	**78.37**	**313**	*e*	P	**P**	**20 53 41.4**	**+2.1**	
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
MORC	**Moravsky Berou**	**78.66**	**328**	⇑*i*	P	**P**	**20 53 42.2**	**+1.6**	
MORC	**Moravsky Berou**	**78.66**	**328**	⇑*i*	P	**P**	**20 53 42.2**	**+1.6**	
DPC	**Dobruska-Polom**	**78.69**	**329**	*e*	P	**P**	**20 53 42.1**	**+1.3**	
DPC	**Dobruska-Polom**	**78.69**	**329**	*e*	P	**P**	**20 53 42.1**	**+1.3**	
VOIR		**78.71**	**322**	⇓*i*	P	**P**	**20 53 42.2**	**+1.2**	
VOIR		**78.71**	**322**	⇓*i*	P	**P**	**20 53 42.2**	**+1.2**	
DRGR		**78.77**	**324**	⇓*i*	P	**P**	**20 53 41.7**	**+0.4**	
DRGR		**78.77**	**324**	⇓*i*	P	**P**	**20 53 41.7**	**+0.4**	
ARR	**Arges**	**78.96**	**322**	⇓*i*	P	**P**	**20 53 44.0**	**+1.6**	
PSZ	**Piszkesteto**	**79.14**	**326**		P	**P**	**20 53 48.0**	**+4.6**	
PSZ					pmax	pmax			
	comp=Z,6.0nm,2.7s								
CLL	**Collm**	**79.15**	**332**	*i*	P	**P**	**20 53 44.1**	**+0.9**	
CLL	**Collm**	**79.15**	**332**	*i*	P	**P**	**20 53 44.1**	**+0.9**	
BZS	**Buzias**	**80.16**	**323**	⇑*i*	P	**P**	**20 53 48.7**	**-0.1**	
BZS	**Buzias**	**80.16**	**323**	⇑*i*	P	**P**	**20 53 48.7**	**-0.1**	
EKA	**Eskdalemuir Ar**	**80.45**	**342**		P	**P**	**20 53 50.6**	**+0.5**	
	comp=Z,0.8nm,0.5s,baz=27,slow=5.2,SNR=5.3								
KHC	**Kasperske Hory**	**80.72**	**330**	*e*	P	**P**	**20 53 52.9**	**+1.0**	
KHC					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KHC	**Kasperske Hory**	**80.72**	**330**	*e*	P	**P**	**20 53 52.8**	**+1.0**	
KHC	**Kasperske Hory**	**80.72**	**330**	*e*	P	**P**	**20 53 52.9**	**+1.0**	
	comp=Z,2.0nm,1.0s								
CONA	**Conrad Observa**	**80.81**	**328**	*i*	PcP	**P**	**20 53 55.2**	**+2.8**	
	comp=Z,4.2nm,1.1s								
GEC2	**GERESS Array S**	**80.91**	**330**	*e*	P	**P**	**20 53 53.3**	**+0.4**	
GEC2					pmax	pmax			
	comp=Z,16nm,2.0s								
GEC2	**GERESS Array S**	**80.91**	**330**	*e*	P	**P**	**20 53 53.3**	**+0.4**	
	comp=Z,16nm,2.0s								
GERES	**GERESS Array B**	**80.91**	**330**		P	**P**	**20 53 53.3**	**+0.4**	
	comp=Z,0.8nm,0.7s,baz=44,slow=7.1,SNR=5.9								
GERES					LR	LR	21 32 47.5		
	comp=Z,44nm,21.4s,baz=318,slow=38								
GERES	**GERESS Array B**	**80.91**	**330**	*e*	P	**P**	**20 53 53.0**	**+0.1**	
GERES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
VTS	**Vitosha**	**81.72**	**321**	*e*	P	**P**	**20 53 58.6**	**+1.2**	
VTS					pmax	pmax			
	comp=Z,3.0nm,0.8s								
VTS	**Vitosha**	**81.72**	**321**	⇓*i*	P	**P**	**20 53 58.7**	**+1.3**	
VTS	**Vitosha**	**81.72**	**321**	*e*	P	**P**	**20 53 58.6**	**+1.3**	
	comp=Z,2.8nm,0.8s								
SOKA	**Soboth**	**82.15**	**328**	*i*	pP	**P**	**20 54 00.4**	**+1.0**	
	comp=Z,4.4nm,0.8s								
KBA	**Koelnbreinsper**	**82.49**	**329**		P	**P**	**20 54 05.9**	**+4.5**	
KBA					pmax	pmax			
	comp=Z,8.0nm,1.1s								
KBA	**Koelnbreinsper**	**82.49**	**329**	*i*	PcP	**P**	**20 54 03.4**	**+2.0**	
	comp=Z,4.3nm,0.8s								
WATA	**Walderalm**	**82.96**	**330**	*i*	PcP	**P**	**20 54 05.6**	**+1.8**	
	comp=Z,2.3nm,0.8s								
WTTA	**Wattenberg**	**83.00**	**330**	*i*	pP	**P**	**20 54 04.9**	**+0.9**	
	comp=Z,3.5nm,0.8s								
MOTA	**Moosalm**	**83.13**	**330**	*i*	PcP	**P**	**20 54 05.7**	**+1.0**	
	comp=Z,4.7nm,0.9s								
RETA	**Reutte**	**83.14**	**331**	*i*	PcP	**P**	**20 54 05.7**	**+1.1**	
	comp=Z,4.5nm,0.9s								
FETA	**Feichten**	**83.54**	**330**	*i*	pP	**P**	**20 54 07.5**	**+0.6**	
	comp=Z,6.9nm,1.7s								
DAVA	**Damuels**	**83.63**	**331**	*i*	PcP	**P**	**20 54 08.2**	**+0.9**	
	comp=Z,6.9nm,1.4s								
PDG	**Podgorica**	**83.71**	**323**	⇑*i*	P	**P**	**20 54 08.2**	**+0.7**	
FUORN	**Ofenpass-Fuorn**	**84.05**	**330**	*e*	P	**P**	**20 54 10.8**	**+1.2**	
	comp=Z,6.9nm,1.0s								
CABF	**La Chapelle**	**85.56**	**333**	*e*	P	**P**	**20 54 18.6**	**+1.6**	
CABF					pmax	pmax			
	comp=Z,3.0nm,0.8s								
LTX	**Lajitas**	**85.67**	**55**	*e*	P	**P**	**20 54 18.3**	**+0.5**	
LTX	**Lajitas**	**85.67**	**55**	*e*	P	**P**	**20 54 18.3**	**+0.5**	
TXAR	**Lajitas Array**	**85.67**	**55**		P	**P**	**20 54 18.3**	**+0.5**	
	comp=Z,0.3nm,0.3s,baz=299,slow=2.6,SNR=7.2								
TXAR	**Lajitas Array**	**85.67**	**55**	*e*	P	**P**	**20 54 19.4**	**+1.6**	
FLN	**La Foliniere**	**85.73**	**338**	*e*	P	**P**	**20 54 17.4**	**-0.2**	
FLN					pmax	pmax			
	comp=Z,16nm,1.4s								
LDF	**La Druitiere**	**85.78**	**338**	*e*	P	**P**	**20 54 19.0**	**+1.1**	
LDF					pmax	pmax			
	comp=Z,9.0nm,1.3s								
SSF	**Saint Saulge**	**86.03**	**335**	*e*	P	**P**	**20 54 19.1**	**-0.1**	
GRR	**Gorron**	**86.18**	**338**	*e*	P	**P**	**20 54 19.9**	**+0.1**	
GRR					pmax	pmax			
	comp=Z,7.0nm,1.0s								
LPL	**La Plagne**	**86.28**	**332**	*e*	P	**P**	**20 54 21.0**	**+0.3**	
LPL					pmax	pmax			
	comp=Z,5.0nm,0.9s								
LPG	**La Plagne**	**86.29**	**332**	*e*	P	**P**	**20 54 21.1**	**+0.3**	
LPG					pmax	pmax			
	comp=Z,5.0nm,0.8s								
AVF	**Avril sur Loir**	**86.32**	**335**	*e*	P	**P**	**20 54 20.7**	**+0.1**	
AVF					pmax	pmax			
	comp=Z,8.0nm,1.0s								
MBDF	**Montbardon**	**86.95**	**332**	*e*	P	**P**	**20 54 23.4**	**-0.5**	
ORIF	**Oris-en-Rattie**	**87.10**	**332**	*e*	P	**P**	**20 54 24.7**	**+0.1**	
TCF	**Toulx Ste Croi**	**87.14**	**335**	*e*	P	**P**	**20 54 24.9**	**+0.3**	
TCF					pmax	pmax			
	comp=Z,8.0nm,1.4s								
VIVF	**Saint-Julien-l**	**87.58**	**333**	*e*	P	**P**	**20 54 27.1**	**+0.3**	
VIVF					pmax	pmax			
	comp=Z,4.0nm,1.1s								
CAF	**Calviac**	**88.39**	**335**	*e*	P	**P**	**20 54 30.2**	**-0.5**	
CAF					pmax	pmax			
	comp=Z,9.0nm,1.2s								
MTLF	**Montolieu**	**89.75**	**334**	*e*	P	**P**	**20 54 37.5**	**+0.5**	
MTLF					pmax	pmax			
	comp=Z,4.0nm,1.4s								
ETSF	**Etsaut**	**91.05**	**335**	*e*	P	**P**	**20 54 46.2**	**+3.0**	
ETSF					pmax	pmax			
	comp=Z,4.0nm,1.2s								
SNAA	**Sanae**	**145.15**	**197**		PKPbc	**PKPbc**	**21 01 14.3**	**-0.3**	
	comp=Z,3.7nm,0.8s,baz=149,slow=2.7,SNR=7.2								
SIV	**San Ignacio**	**146.56**	**50**		PKPbc	**PKPbc**	**21 01 20.6**	**+0.1**	
	comp=Z,3.9nm,0.9s,baz=342,slow=2.6,SNR=12								

IDC ***28*** *20:52:29.8±1.3, 35.°14S×72.°29W, h0km, mb4.0/5, mb1 4.0/7, mb1mx3.9/32, mbtmp3.9/7, ML4.3/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/33, Error ellipse: s-maj=47.8km s-min=17.9km az=81.0*

GUC ***28*** *20:52:34.3±0.7, 35.°13S×72.°46W, h17km±5km, ML4.1*

NEIC ***28*** *20:52:34.0±0.0, 35.°13S×72.°46W, h17km, ML4.1(GUC), After GUC.*

NEIC Felt [IV] at Constitucion and [II] at Pencahue, Rancagua, San Fernando and Talca.

ISC 28 20:52:32.4±0.8, 35.°13S±0.°03×72.°38W±0.°06, h18km±3km, n51, σ1°973/60, mb3.9/5, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.39**	**72**	⇓*i*	P	**Pn**	**20 52 42.6**	**-0.6**

baz=122,SNR=3.5
H11N2 **WAKE ISLAND Hyl** 25.92 270 T T 23 30 01.4
baz=122

KRSC 28 21:06:36.1±1.6, 53°.13N×163°.60E, h80km±38km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.50**	**33**	*eP*	Pn	21 07 16.5	+1.9
BKI				*eS*	Sn	21 07 44.3	+0.2
KII	**Karymskiy**	**2.64**	**292**	*eP*	Pn	21 07 19.7	+3.2
KII				*eS*	Sn	21 07 49.4	+1.8
KZV	**Kizimen**	**2.78**	**317**	*eP*	Pn	21 07 21.4	+2.9
KZV				*eS*	Sn	21 07 52.4	+1.3
SDLR	**Sedlovina**	**2.84**	**275**	*eP*	Pn	21 07 22.4	+3.1
SDLR				*eS*	Sn	21 07 54.2	+1.6
UGLR	**Uglovaya**	**2.88**	**273**	*eP*	Pn	21 07 23.1	+3.3
SMAR	**Somma**	**2.89**	**275**	*eP*	Pn	21 07 23.1	+3.0
DALK	**Dalny**	**2.93**	**270**	*eP*	Pn	21 07 23.0	+2.7
DALK				*eS*	Sn	21 07 55.8	+1.4
AVH	**Avacha**	**2.93**	**275**	*eP*	Pn	21 07 24.0	+3.5
TUMR	**Tumrok**	**2.96**	**318**	*eP*	Pn	21 07 23.8	+2.9
KRX	**Arik**	**2.98**	**276**	*eP*	Pn	21 07 23.8	+2.5
KBTR	**Krutoberegovo**	**3.12**	**352**	*eP*	Pn	21 07 24.6	+1.7
KBTR				*eS*	Sn	21 08 01.1	+2.1
RUS	**Russkaya**	**3.17**	**259**	*eP*	Pn	21 07 26.3	+2.7
RUS				*eS*	Sn	21 08 01.3	+1.0
KMNR	**Kamenistaya**	**3.28**	**325**	*eP*	Pn	21 07 29.4	+4.1
KMNR				*eS*	Sn	21 08 06.7	+3.5
KRMR	**Karymshinskiy**	**3.32**	**267**	*eP*	Pn	21 07 28.7	+3.0
KRMR				*eS*	Sn	21 08 05.2	+1.2
MTVR	**Mutnovka**	**3.35**	**261**	*eP*	Pn	21 07 29.2	+2.9
MTVR				*eS*	Sn	21 08 06.2	+1.2
GNL	**Ganaly**	**3.43**	**282**	*eP*	Pn	21 07 31.3	+4.0
GNL				*eS*	Sn	21 08 09.8	+2.9
ASAK	**Asacha**	**3.54**	**260**	*eP*	Pn	21 07 32.3	+3.5
KDTR	**Khodutka, Kamc**	**3.63**	**251**	*eP*	Pn	21 07 32.2	+2.3
KDTR				*eS*	Sn	21 08 10.5	-1.0

*IDC **28** 21:07:12.6±5.0, 35°.85N×69°.51E, h0km, mb3.8/5, mb1 3.8/11, mb1mx3.5/75, mbtmp3.8/11, ML3.7/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/68, Error ellipse: s-maj=79.9km s-min=23.0km az=159.0*
*ISCJB **28** 21:07:17.7±0.5, 36°.25N±0°.04×69°.17E±0°.05, h35km, mb3.8/4, MS2.6/1, Error ellipse: s-maj=6.3km s-min=5.0km az=157.4*
*NNC **28** 21:07:23.3±1.9, 36°.51N×68°.99E, h96km±58km, mb3.6, mpv3.9, Error ellipse: s-maj=22.2km s-min=9.3km az=153.0*

ISC 28 21:07:19.0±0.9, 36°.26N±0°.07×69°.16E±0°.06, h35km, n39, σ2s75/45, mb3.8/4, 5C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**5.07**	**41**	⇓*P*	Pn	21 08 35.9	+3.2
SFK	3.9nm,0.3s			⇓*S*	**Sn**	**21 09 33.2**	**+3.0**
	5.0nm,0.2s						
MNAS	**Manas**	**6.73**	**22**	⇓*P*	**Pn**	**21 08 57.4**	**+2.0**
MNAS	5.5nm,0.4s			⇑*S*	**Sn**	**21 10 12.1**	**+1.1**
	3.2nm,0.3s						
AML	**Almayashu**	**6.83**	**30**	*P*	**Pn**	**21 08 59.4**	**+2.3**
	SNR=66						
KK31	**Karatay Array**	**6.91**	**8**	*P*	**Pn**	**21 08 59.6**	**+1.9**
KK31	2.5nm,0.4s,baz=187,slow=10,SNR=62			*S*	**Sn**	**21 10 14.7**	**-0.4**
	22nm,0.5s,baz=188,slow=21,SNR=8.2						
UCH	**Uchtor**	**7.26**	**33**	*P*	**Pn**	**21 09 05.4**	**+2.4**
	SNR=48						
EKS2	**Erkin-Say**	**7.32**	**28**	*P*	**Pn**	**21 09 05.9**	**+2.5**
	SNR=12						
KZA	**Kyzart**	**7.49**	**37**	*P*	**Pn**	**21 09 08.2**	**+2.1**
	SNR=22						
AAK	**Ala-Archa**	**7.58**	**31**	*Pn*	**Pn**	**21 09 09.6**	**+2.5**
	6.0nm,0.3s,baz=180,slow=4.0,SNR=88						
AAK				*Sn*	**Sn**	**21 10 31.7**	**-0.2**
	1.4nm,0.3s,baz=322,slow=22,SNR=10						
AAK	**Ala-Archa**	**7.58**	**31**	⇓*P*	**Pn**	**21 09 09.2**	**+2.0**
	5.9nm,0.3s						
AAK				⇓*S*	**Sn**	**21 10 33.7**	**+1.8**
	7.5nm,0.8s						
AAK	**Ala-Archa**	**7.58**	**31**	*P*	**Pn**	**21 09 09.6**	**+2.5**
	SNR=30						
KBK	**Karagaybulak**	**7.79**	**33**	*P*	**Pn**	**21 09 12.7**	**+2.7**
	SNR=13						
CHMS	**Chumysh**	**7.99**	**31**	*P*	**Pn**	**21 09 14.7**	**+2.1**
	SNR=17						
USP	**Ospenovka**	**8.11**	**29**	*P*	**Pn**	**21 09 15.9**	**+1.7**
	SNR=13						
ULHL	**Ulahol**	**8.11**	**40**	*P*	**Pn**	**21 09 16.4**	**+1.9**
	SNR=6.8						
TKM2	**Tokmak 2**	**8.30**	**35**	⇑*P*	**Pn**	**21 09 18.4**	**+1.4**
	7.4nm,0.8s						
TKM2				⇓*S*	**Sn**	**21 10 49.2**	**-0.3**
	3.0nm,0.6s						
TKM2	**Tokmak 2**	**8.30**	**35**	*P*	**Pn**	**21 09 19.0**	**+2.0**
	SNR=10						
GEYT	**Alibeck**	**8.98**	**284**	*Pn*	**Pn**	**21 09 28.4**	**+2.2**
	1.2nm,0.3s,baz=100,slow=11,SNR=10						
GEYT				*Sn*	**Sn**	**21 11 06.2**	**+0.2**
	1.0nm,0.3s,baz=318,slow=22,SNR=4.2						
PYUN	**Piuthan**	**14.25**	**121**	*eP*	**Pn**	**21 10 37.3**	**-1.2**
	7.6nm,0.3s						
MKAR	**Makanchi Array**	**14.38**	**39**	*Pn*	**Pn**	**21 10 39.2**	**-0.8**
	0.1nm,0.3s,baz=226,slow=13,SNR=4.5						
AB31	**Akbulak array**	**14.63**	**335**	⇑*P*	**Pn**	**21 10 42.3**	**-1.0**
	3.8nm,0.4s,baz=154,slow=12,SNR=135						
AB31				⇓*S*	**Sn**	**21 13 16.1**	**-7.9**
	0.8nm,0.4s,baz=154,slow=23,SNR=5.8						
GKN	**Gorkha**	**15.47**	**118**	*eP*	**P**	**21 10 53.5**	**-5.3**
	9.6nm,0.4s						
KURBB	**Kurchatov Arra**	**15.86**	**22**	*Pn*	**Pn**	**21 10 56.8**	**-2.6**
	0.0nm,0.3s,baz=213,slow=12,SNR=4.0						
DMN	**Daman**	**16.04**	**118**	*eP*	**P**	**21 11 01.6**	**-3.6**
	5.2nm,0.4s						
KKN	**Kakani**	**16.06**	**117**	*eP*	**P**	**21 11 02.4**	**-3.0**
	5.2nm,0.4s						
PKI	**Pulchoki**	**16.28**	**118**	*eP*	**P**	**21 11 04.1**	**-3.8**
	4.3nm,0.3s						
AKTO	**Aktyubinsk**	**16.29**	**334**	*Pn*	**P**	**21 11 06.0**	**-1.6**
	0.8nm,0.3s,baz=147,slow=15,SNR=9.6						
AKTO	**Aktyubinsk**	**16.29**	**334**	⇑*P*	**P**	**21 11 05.3**	**-2.2**
	1.2nm,0.5s						
AKTO				⇑*S*	**Sn**	**21 13 58.9**	**-5.5**
	0.9nm,0.7s						
GUN	**Gumba**	**16.42**	**116**	*eP*	**P**	**21 11 07.1**	**-2.5**
	7.5nm,0.4s						
BVAR	**Borovoye Array**	**16.78**	**3**	*Pn*	**Pn**	**21 11 10.1**	**-1.0**
	0.6nm,0.3s,baz=170,slow=12,SNR=12						
JIRN	**Jiri**	**16.79**	**116**	*eP*	**P**	**21 11 11.8**	**-1.9**
	11nm,0.3s						
RAMN	**Ramite**	**17.50**	**117**	*eP*	**P**	**21 11 19.9**	**-1.5**
	8.8nm,0.5s						
TAPN	**Taplejung**	**18.08**	**114**	*eP*	**P**	**21 11 27.6**	**-0.2**
	10nm,0.7s						
ODAN	**Odare**	**18.12**	**116**	*eP*	**P**	**21 11 28.2**	**0.0**
	8.1nm,0.5s						
ZALV	**Zalesovo Beam**	**20.77**	**27**	*P*	*Pn*	21 11 57.1	-2.1
	1.5nm,0.4s,baz=219,slow=11,SNR=12						
ARU	**Arti**	**21.41**	**344**	*P*	**P**	**21 12 07.5**	**+4.0**
	1.2nm,0.3s,baz=108,slow=9.6,SNR=5.9						
KVAR	**Kislovodsk Arr**	**21.59**	**299**	*LR*	LR	21 22 01.8	
	comp=Z,22nm,18.6s,baz=192,slow=40						
FINES	**FINESS Array B**	**36.86**	**327**	*P*	**P**	**21 14 26.6**	**+3.0**
	1.3nm,0.6s,baz=116,slow=8.7,SNR=7.6						
HFS	**Hagfors**	**42.34**	**322**	*P*	**P**	**21 15 12.1**	**+2.8**
	2.0nm,0.7s,baz=99,slow=9.2,SNR=4.0						
NOA	**NORSAR Array B**	**43.68**	**323**	*P*	**P**	**21 15 22.8**	**+2.7**
	0.9nm,0.6s,baz=99,slow=8.0,SNR=3.3						

MAN 28 21:22:52.1±3.2, 13°.22N×122°.30E, h11km, mb4.4, ML3.3, MS3.1, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.38**	**73**	*eP*	Pb	21 23 01.5	+0.8
AUQP				*eS*	Sb	21 23 09.4	+2.8
BOAC	**Boac**	**0.51**	**298**	*eP*	Pg	21 23 02.5	+0.5
BOAC				*eS*	Sb	21 23 10.1	-0.3
GQP	**Guinayangan**	**0.70**	**11**	⇓*eP*	Pg	21 23 05.1	-0.5
GQP				*i S*	Sb	21 23 15.6	-0.3
OTRP	**Odiongan**	**0.89**	**198**	*eP*	Pn	21 23 10.0	-0.5
OTRP				*eS*	Sn	21 23 22.5	-0.9
LQP	**Lukban**	**1.16**	**320**	⇑*eP*	Pn	21 23 15.7	+1.3
SJMP	**San Jose**	**1.38**	**237**	*eP*	Pb	21 23 17.9	+0.1
SJMP				*eS*	Sg	21 23 36.5	+0.1
POLP	**Polilio Island**	**1.54**	**347**	*eP*	Pn	21 23 19.7	+0.2
POLP				*eS*	Sn	21 23 37.7	-1.9
RCP	**Roxas**	**1.70**	**165**	⇑*eP*	Pn	21 23 21.4	-0.2
BUSP	**Coron**	**2.38**	**240**	*eP*	Pn	21 23 31.7	+0.7
BALP	**Baler**	**2.61**	**344**	*eP*	Pn	21 23 35.6	+1.4
BALP				*eS*	Sn	21 24 07.9	+2.0

*ISCJB **28** 21:36:51.7±0.5, 6°.83N±0°.04×73°.12W±0°.04, h157km±5km, mb3.1/2, Error ellipse: s-maj=7.4km s-min=5.7km az=33.4*
*IDC **28** 21:36:52.3±0.9, 6°.86N×73°.06W, h155km±26km, mb2.9/2, mb1 3.5/5, mb1mx3.1/45, mbtmp3.8/5, Error ellipse: s-maj=60.2km s-min=7.9km az=135.0*
*RSNC **28** 21:36:53.6±1.1, 6°.78N×73°.15W, h148km±6km, ML3.5*

ISC 28 21:36:52.2±0.9, 6°.82N±0°.05×73°.10W±0°.05, h154km±7km, n21, σ0s77/33, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**199**	*eP*	**Pn**	**21 37 13.6**	**+0.1**
BARC				*eS*	**Sn**	**21 37 29.0**	**-0.6**
BARC				*i*		21 37 32.1	
	comp=Z,674nm,0.6s						
PAMC	**Pamplona, Colo**	**0.65**	**38**	*eP*	**Pn**	**21 37 16.4**	**+0.9**
PAMC				*eS*	**Sn**	**21 37 33.5**	**+0.3**
BRRC	**Barranca, Sant**	**0.67**	**295**	*eP*	**Pn**	**21 37 15.5**	**+0.5**
BRRC				*eS*	**Sn**	**21 37 32.9**	**+0.6**
BRRC				*i*		21 37 34.3	
	comp=Z,584nm,0.1s						
RUSC	**La Rusia**	**0.93**	**179**	*eP*	**Pn**	**21 37 17.4**	**-0.1**
RUSC				*eS*	**Sn**	**21 37 35.9**	**-0.7**
RUSC				*i*		21 37 38.7	
	comp=Z,337nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	*eP*	**Pn**	**21 37 20.0**	**-0.8**
PTBC				*eS*	**Sn**	**21 37 41.4**	**-1.4**
PTBC				*i*		21 37 43.1	
	comp=Z,361nm,0.3s						
OCAC	**Ocana**	**1.42**	**351**	*eP*	**Pn**	**21 37 22.2**	**+0.7**
YOPC	**Yopal, Colombi**	**1.61**	**155**	*eP*	**Pn**	**21 37 24.0**	**+0.5**
YOPC				*eS*	**Sn**	**21 37 47.1**	**-0.2**
YOPC				*i*		21 37 48.7	
	comp=Z,232nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*eP*	**Pn**	**21 37 26.0**	**-0.1**
ZARC				*eS*	**Sn**	**21 37 51.9**	**-0.2**
ZARC				*i*		21 37 58.9	
	comp=Z,482nm,0.4s						
NORC	**Norcasia**	**2.16**	**235**	*eP*	**Pn**	**21 37 29.2**	**-0.4**
NORC				*eS*	**Sn**	**21 37 56.8**	**-1.4**
CHIC	**Chingaza**	**2.27**	**196**	*eP*	**Pn**	**21 37 30.4**	**-0.8**
CHIC				*eS*	**Sn**	**21 38 00.7**	**-0.5**
CHIC				*i*		21 38 06.6	
	comp=Z,123nm,0.3s						
ROSC	**El Rosal**	**2.31**	**212**	*P*	**Pn**	**21 37 32.9**	**+1.2**
	comp=Z,55nm,0.3s,baz=0.5,slow=2.9,SNR=39						
ROSC				*S*	**Sn**	**21 38 03.6**	**+1.5**
	comp=Z,63nm,0.3s,baz=311,slow=23,SNR=8.0						
HELC	**Santa Helena**	**2.49**	**256**	*eP*	**Pn**	**21 37 33.8**	**0.0**
HELC				*i*		21 38 12.8	
	comp=Z,317nm,0.3s						
VILC	**Villavicencio,**	**2.76**	**192**	*eP*	**Pn**	**21 37 36.3**	**-0.6**
VILC				*eS*	**Sn**	**21 38 11.4**	**-0.1**
VILC				*i*		21 38 20.5	
	comp=Z,141nm,0.4s						
GUYC	**Guyana, Colomb**	**2.77**	**235**	*eP*	**Pn**	**21 37 38.4**	**+1.0**
DBBC	**Dabeiba**	**3.09**	**274**	*eP*	**Pn**	**21 37 41.6**	**+0.6**
TOLC	**Tolima**	**3.13**	**225**	*eP*	**Pn**	**21 37 42.8**	**+1.0**
TOLC				*e*		21 37 42.8	
SDV	**Santo Domingo**	**3.19**	**50**	*P*	**Pn**	**21 37 42.8**	**+0.4**
	comp=Z,51nm,0.3s,baz=216,slow=5.1,SNR=160						
SDV				*S*	**Sn**	**21 38 20.2**	**-1.0**
	comp=Z,20nm,0.3s,baz=335,slow=17,SNR=14						
SJAC	**San Juan de Ar**	**3.63**	**193**	*eP*	**Pn**	**21 37 48.2**	**+0.3**
PCRV	**Puerto La Cruz**	**9.01**	**68**	*P*	**Pn**	**21 38 59.6**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=263,slow=5.5,SNR=5.5						
TXAR	**Lajitas Array**	**36.47**	**312**	*P*	**P**	**21 43 43.0**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=115,slow=11,SNR=3.5						
YKA	**Yellowknife Ar**	**63.27**	**340**	*P*	**P**	**21 47 03.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=130,slow=6.8,SNR=4.5						

*MOS **28** 21:37:04.7±1.1, 0°.94S×100°.69E, h85km, mb4.8/24, Error ellipse: s-maj=13.6km s-min=5.9km az=111.2*
*BJI **28** 21:37:05.2, 1°.20S×100°.30E, h99km, mb4.8/42, mB5.0/24*
*IDC **28** 21:37:06.3±0.6, 1°.01S×100°.59E, h86km±5km, mb4.3/29, mb1 4.3/31, mb1mx4.1/66, mbtmp4.6/31, MS2.9/6, Ms1 3.0/6, ms1mx2.7/61, Error ellipse: s-maj=12.7km s-min=10.2km az=60.0*
*ISCJB **28** 21:37:06.0±0.3, 1°.11S±0°.03×100°.44E±0°.03, h102km±2km, mb4.7/71, Error ellipse: s-maj=5.9km s-min=4.2km az=40.4*
*NEIC **28** 21:37:07.5±0.6, 1°.09S×100°.52E, h100km±5km, mb4.8/19, Error ellipse: s-maj=8.5km s-min=4.6km az=52.0*
NEIC Felt [III] at Padang and Painan and [II] at Padangpanjang.
*DJA **28** 21:37:08.0±0.3, 1°.S±2°×10°.0E±°, h67km±5km, M4.7/18, mB4.9/2, mb5.0/4, MLv4.6/18, Mw(mB)4.2/2*

ISC 28 21:37:06.0±0.5, 1°.16S±0°.04×100°.46E±0°.04, h88km±4km, n332, σ1s22/341, mb4.8/78, 12C-13D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.25**	**1**	*P*	**Pn**	**21 37 19.4**	**+0.3**
PDSI				*S*	**Sn**	**21 37 28.8**	**+0.1**
SDSI	**Sungai Dareh**	**1.00**	**77**	*P*	**Pn**	**21 37 27.3**	**+1.8**
SISI	**Saibi**	**1.38**	**263**	*P*	**Pn**	**21 37 30.9**	**+0.8**
SISI				*S*	**Sn**	**21 37 48.7**	**-0.4**
BKNI	**Bangkinang**	**1.59**	**22**	*P*	**Pn**	**21 37 34.1**	**+1.2**
BKNI	**Bangkinang**	**1.59**	**22**	*ePn*	**Pn**	**21 37 34.1**	**+1.2**
BKNI				*eS*	**Sn**	**21 37 54.8**	**+1.6**
PPSI	**Pulau Pagai**	**1.65**	**196**	*P*	**Pn**	**21 37 34.9**	**+1.2**
RGRI	**Rengat**	**2.04**	**67**	*P*	**Pn**	**21 37 40.9**	**+2.2**
MNSI	**Mandailing Nat**	**2.13**	**336**	*P*	**Pn**	**21 37 41.0**	**+1.1**
MASI	**Maura Aman, Be**	**2.65**	**138**	*P*	**Pn**	**21 37 50.5**	**+3.6**
JMBI	**JAMBI**	**3.22**	**98**	*P*	**Pn**	**21 37 57.3**	**+2.8**
GSI	**Gunungsitoli**	**3.78**	**310**	*P*	**Pn**	**21 38 02.3**	**+0.1**
GSI	**Gunungsitoli**	**3.78**	**310**	*ePn*	**Pn**	**21 38 02.2**	**+0.1**
GSI				*eS*	Sn	21 38 31.2	-14
MNAI	**Manna**	**4.04**	**142**	*P*	**Pn**	**21 38 08.4**	**+2.8**
MNAI	**Manna**	**4.04**	**142**	*ePn*	**Pn**	**21 38 07.8**	**+2.1**
MNAI				*eS*	**Sn**	**21 38 47.2**	**-4.7**
DSRI	**Dabo**	**4.18**	**81**	*P*	**Pn**	**21 38 10.0**	**+2.5**
PSI	**Prapat**	**4.22**	**339**	*P*	**Pn**	**21 38 07.3**	**-0.9**
	4.5nm,0.3s,baz=150,slow=8.4,SNR=36						
PSI	**Prapat**	**4.22**	**339**	*eP*	**Pn**	**21 38 07.8**	**-0.4**
PSI	**Prapat**	**4.22**	**339**	*ePn*	**Pn**	**21 38 07.8**	**-0.4**
MYKOM	**Kota Tinggi**	**4.48**	**49**	*ePn*	**Pn**	**21 38 13.2**	**+1.6**
TPRI	**Tanjung Pinang**	**4.56**	**63**	*P*	**Pn**	**21 38 14.5**	**+1.8**
MDSI	**Maura Dua**	**4.97**	**132**	*P*	**Pn**	**21 38 21.3**	**+3.0**
LWLI	**Liwa**	**5.25**	**137**	*P*	Pn	21 38 35.5	+13
TPTI		**5.48**	**323**	*P*	**Pn**	**21 38 26.0**	**+0.8**
IPM	**Ipoh**	**5.63**	**6**	*ePn*	**Pn**	**21 38 29.8**	**+2.5**
KASI	**Kota Agung**	**5.92**	**137**	*P*	**Pn**	**21 38 32.8**	**+1.6**
KULM	**Kulim**	**6.41**	**2**	*ePn*	**Pn**	**21 38 39.2**	**+1.3**
MLSI	**Meulaboh, Aceh**	**6.74**	**323**	*P*	**Pn**	**21 38 41.9**	**-0.5**
LHMI	**Lhok Sumawe**	**7.25**	**331**	*ePn*	**Pn**	**21 38 49.8**	**+0.4**
SKLT	**Songkhla**	**8.28**	**1**	*P*	**Pn**	**21 39 04.4**	**+1.0**
	49nm,0.8s,2μm0.2nm						
TRTT	**Trang**	**8.97**	**355**	*P*	**Pn**	**21 39 13.6**	**+0.8**
	24nm,0.6s,256nm						
LEM	**Lembang**	**9.09**	**128**	*LR*	LR	21 43 03.2	
	comp=Z,64nm,19.6s,baz=254,slow=39						
CISI	**Cisompet, Garu**	**9.70**	**131**	*ePn*	**Pn**	**21 39 21.7**	**-1.1**
KSM	**Kuching**	**10.19**	**75**	*ePn*	**Pn**	**21 39 33.9**	**+4.4**
XMIS	**Christmas Isla**	**10.60**	**151**	*Pn*	Pn	21 39 30.1	-5.0
UGM	**Wanagama**	**12.06**	**124**	*ePn*	**Pn**	**21 39 55.0**	**+0.1**
SBUM	**Sibu**	**12.29**	**73**	*ePn*	**P**	**21 40 02.6**	**-4.0**
PBA	**Port Blair**	**14.86**	**329**	*eP*	Pn	21 40 32.6	+1.0
SRAK	**Srakaew**	**15.16**	**6**	*P*	**P**	**21 40 40.3**	**+1.9**
	44nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.45**	**118**	*ePn*	**P**	**21 40 40.8**	**-0.9**
	58nm,1.5s						
DGPR	**DIGLIPUR**	**16.08**	**333**	*eP*	**Pn**	**21 40 46.2**	**-0.8**
MYLDM	**Lahad Datu**	**19.09**	**71**	*eP*	**Pn**	**21 41 24.0**	**+0.4**
	58nm,1.2s						
CM01	**Chiang Mai Arr**	**19.52**	**356**	*eP*	**P**	**21 41 24.9**	**-1.6**
CM31	**Chiang Mai Arr**	**19.55**	**356**	*eP*	**Pn**	**21 41 28.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**19.55**	**356**	*P*	**P**	**21 41 24.7**	**-2.1**
	1.6nm,0.3s,baz=187,slow=9.9,SNR=54						
CMAR				*PcP*	**PcP**	**21 45 44.9**	**+0.9**
	0.0nm,0.3s,baz=212,slow=2.7,SNR=4.0						
CMAR				*ScP*	**ScP**	**21 49 10.9**	**-1.4**
	0.1nm,0.3s,baz=205,slow=2.7,SNR=7.9						
CMAR				*LR*	LR	21 49 31.0	
	comp=Z,23nm,21.7s,baz=194,slow=38						
CMAR	**Chiang Mai Arr**	**19.55**	**356**	*ceP*	**P**	**21 41 25.3**	**-1.6**
CMAR				*pmax*	pmax		
	comp=Z,9.0nm,0.5s						
LAMP	**Lampang**	**19.58**	**358**	*P*	**Pn**	**21 41 32.1**	**+2.8**
	comp=Z,4.7nm,0.8s						
CMMT	**Chiang Mai**	**19.90**	**356**	*P*	**Pn**	**21 41 32.5**	**-0.6**
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**19.91**	**356**	*P*	**Pn**	**21 41 33.6**	**+0.5**
	comp=Z,35nm,1.8s						
CHTO	**Chiang Mai**	**19.91**	**356**	*eP*	**P**	**21 41 30.8**	**+0.1**
CHTO				*pmax*	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**19.91**	**356**	*eP*	**P**	**21 41 30.8**	**+0.1**
	comp=Z,4.6nm,0.8s						
PALK	**Pallekele**	**21.42**	**293**	*P*	**P**	**21 41 50.0**	**+2.9**
	comp=Z,1.9nm,0.5s,baz=107,slow=9.1,SNR=4.6						
PALK				*LR*	LR	21 48 49.1	
	comp=Z,53nm,19.4s,baz=116,slow=33						
PALK	**Pallekele**	**21.42**	**293**	*P*	**P**	**21 41 50.0**	**+2.9**
LUWI	**Luwuk**	**22.31**	**90**	*P*	**P**	**21 41 58.2**	**+1.7**
	comp=Z,39nm,0.8s						
MDRS	**Chennai**	**24.53**	**306**	*eP*	**P**	**21 42 19.5**	**+1.9**
MDRS				*IAmb*	IAmb	21 42 21.1	
	comp=Z,7.2nm,0.5s						
VIS	**Vishakhapatnam**	**25.23**	**319**	*eP*	**P**	**21 42 23.9**	**0.0**
VIS				*IAmb*	IAmb	21 42 28.8	
	comp=Z,8.3nm,0.7s						
TRD	**Trivandrum**	**25.32**	**293**	*eP*	**P**	**21 42 25.0**	**+0.3**
KMI	**Kunming**	**26.22**	**5**	*P*	**P**	**21 42 35.3**	**+2.2**
KMI				*pmax*	pmax		
	comp=Z,6.0nm,0.6s						
SHL	**Shillong**	**27.84**	**343**	*eP*	**P**	**21 42 46.9**	**-0.6**
HYB	**Hyderabad**	**28.40**	**312**	*eP*	**P**	**21 42 52.2**	**-0.3**
HYB				*IAmb*	IAmb	21 42 55.9	
BOK	**Bokaro**	**28.57**	**331**	*eP*	**P**	**21 42 54.2**	**+0.4**
BOK				*IAmb*	IAmb	21 42 55.4	
	comp=Z,20nm,0.4s						
H08S2	**Diego Garcia H**	**28.60**	**256**	*T*	T	22 11 15.3	
	baz=77,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**28.61**	**256**	*T*	T	22 11 17.1	
	baz=77,slow=75,SNR=23						
H08S1	**Diego Garcia H**	**28.62**	**256**	*T*	T	22 11 18.1	
	baz=77,slow=75,SNR=19						
NGP	**Nagpur**	**30.50**	**318**	*eP*	**P**	**21 43 11.1**	**+0.1**
ODAN	**Odare**	**30.57**	**337**	*eP*	**P**	**21 43 12.2**	**+0.4**
	comp=Z,17nm,0.5s						
TAPN	**Taplejung**	**30.89**	**338**	*eP*	**P**	**21 43 14.7**	**+0.1**
	comp=Z,21nm,0.4s						
RAMN	**Ramite**	**30.97**	**335**	*eP*	**P**	**21 43 16.2**	**+0.8**
	comp=Z,11nm,0.4s						
GOA	**Goa**	**31.09**	**303**	*eP*	**P**	**21 43 15.7**	**-0.6**
JIRN	**Jiri**	**31.77**	**335**	*eP*	**P**	**21 43 23.0**	**+0.5**
	comp=Z,20nm,0.3s						
FAKI	**Fak Fak**	**31.82**	**94**	*eP*	**P**	**21 43 22.9**	**+0.2**
	comp=Z,59nm,1.4s						
LSA	**Lhasa**	**31.95**	**345**	*eP*	**P**	**21 43 23.8**	**-0.3**
LSA				*pmax*	pmax		
	comp=Z,9.0nm,0.5s						
LSA	**Lhasa**	**31.95**	**345**	*eP*	**P**	**21 43 23.8**	**-0.3**
	comp=Z,8.8nm,0.5s						
PKI	**Pulchoki**	**32.02**	**334**	*eP*	**P**	**21 43 24.8**	**+0.1**
	comp=Z,8.1nm,0.5s						
PKIN	**Phulchoki**	**32.03**	**334**	*eP*	**P**	**21 43 24.8**	**+0.1**
	comp=Z,5.6nm,0.4s						
CD2	**Chengdu**	**32.05**	**5**	*eP*	**P**	**21 43 26.0**	**+1.5**
CD2				*pmax*	pmax		
	comp=Z,10.0nm,0.5s						
CD2				*pmax*	pmax		
	comp=Z,120nm,5.0s						
GUN	**Gumba**	**32.12**	**335**	*eP*	**P**	**21 43 26.1**	**+0.6**
	comp=Z,24nm,0.3s						
DMN	**Daman**	**32.19**	**334**	*eP*	**P**	**21 43 26.1**	**+0.1**
	comp=Z,5.6nm,0.3s			

JNU Nakatsue 44.56 37 eP P 21 45 09.6 +0.3
comp=Z,19nm,1.2s
KSAR Wonju Array Be 46.04 31 P P 21 45 20.4 -0.6
KSAR 21 46 56.0
KSAR Wonju Array Be 46.04 31 P P 21 45 20.4 -0.6
KSAR PcP PcP 21 46 56.0 -0.1
KSRS Korea Array 46.07 31 P P 21 45 20.4 -0.8
comp=Z,4.7nm,0.9s,baz=226,slow=8.7,SNR=18
KSRS PcP PcP 21 46 56.0 -0.1
comp=Z,1.4nm,0.8s,baz=226,slow=3.4,SNR=4.4
KSRS LR LR 22 05 01.5
comp=Z,9.6nm,19.2s,baz=202,slow=36
KBL Kabul 46.13 323 eP P 21 45 25.5 +3.5
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 46.13 323 eP P 21 45 25.5 +3.5
comp=Z,5.0nm,0.8s
WMQ Urumqi 46.22 347 P P 21 45 23.0 +0.7
WMQ sP sP 21 45 54.8 +1.2
WMQ pmax pmax
comp=Z,73nm,0.7s
WMQ pmax pmax
comp=Z,380nm,5.1s
KSH Kashi 46.28 334 P P 21 45 22.3 -0.7
KSH pP pP 21 45 44.8 +0.5
KSH S S 21 51 59.5 -4.0
KSH sS sS 21 52 39.5 -0.5
KSH pmax pmax
comp=Z,11nm,0.5s
KSH pmax pmax
comp=Z,110nm,6.3s
KSH LR LR
comp=Z,72nm,9.6s
KSH LR LR
comp=Z,77nm,10.9s
KSH LR LR
comp=Z,74nm,6.3s
NRN Naryn 47.85 335 P P 21 45 35.5 +0.1
KDJ Kajisay 47.95 337 P P 21 45 37.1 +1.1
ULHL Ulahol 48.43 336 P P 21 45 40.4 +0.7
SNR=20
KZA Kyzart 48.70 335 P P 21 45 42.8 +0.8
SNR=26
SONM Songino Array 49.07 5 P P 21 45 44.0 -0.4
comp=Z,18nm,0.5s,baz=188,slow=9.7,SNR=49
SONM PcP PcP 21 47 07.0 +0.1
comp=Z,5.6nm,0.6s,baz=189,slow=4.0,SNR=9.7
SONM ScP ScP 21 50 52.5 -1.7
comp=Z,3.0nm,0.9s,baz=180,slow=3.9,SNR=7.2
SONA1 Songino Array 49.08 5 eP P 21 45 44.1 -0.4
UCH Uchtor 49.14 335 P P 21 45 46.4 +1.0
SNR=26
ULN Ulaanbaatar 49.16 6 ceP P 21 45 44.8 -0.4
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 49.16 6 eP P 21 45 44.7 -0.4
comp=Z,13nm,0.7s
TKM2 Tokmak 2 49.25 336 P P 21 45 46.9 +0.8
SNR=60
KBK Karagaybulak 49.30 335 P P 21 45 47.8 +1.4
SNR=28
STKA Stephens Creek 49.37 132 P P 21 45 47.1 +0.3
comp=Z,8.4nm,0.7s,baz=304,slow=7.3,SNR=13
STKA Stephens Creek 49.37 132 eP P 21 45 47.6 +0.7
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 49.37 132 eP P 21 45 47.5 +0.7
comp=Z,1.6nm,0.7s
AML Almayashu 49.41 334 P P 21 45 48.5 +1.0
SNR=60
AAK Ala-Archa 49.48 335 ceP P 21 45 48.0 +0.3
AAK pmax pmax
comp=Z,10.0nm,0.7s
AAK Ala-Archa 49.48 335 P P 21 45 48.8 +1.2
SNR=22
AAK Ala-Archa 49.48 335 eP P 21 45 48.7 +1.1
comp=Z,11nm,0.6s
FRU1 Bishkek 49.56 335 P P 21 45 49.1 +0.9
CHMS Chumysh 49.67 335 P P 21 45 49.5 +0.6
SNR=16
EKS2 Erkin-Say 49.81 334 P P 21 45 51.4 +1.3
SNR=94
USP Ospenovka 49.99 335 P P 21 45 52.0 +0.6
SNR=55
CN2 Changchun 50.04 24 eP P 21 45 51.3 -0.4
CN2 pmax pmax
comp=Z,20nm,0.5s
MK01 Makanchi Array 50.33 344 eP P 21 45 53.1 -0.7
MK31 Makanchi Array 50.35 344 eP P 21 45 53.6 -0.4
MK31 Makanchi Array 50.35 344 eP P 21 45 53.6 -0.4
MKAR Makanchi Array 50.35 344 P P 21 45 53.8 -0.2
comp=Z,7.1nm,0.4s,baz=158,slow=8.6,SNR=197
MKAR Makanchi Array 50.35 344 eP P 21 45 53.6 -0.4
MAT Matsushiro 51.34 39 P P 21 46 00.8 -0.8
MJAR Matsushiro Arr 51.34 39 P P 21 46 01.0 -0.6
comp=Z,2.0nm,0.6s,baz=204,slow=7.8,SNR=9.7
MJAR Matsushiro Arr 51.34 39 P P 21 46 01.0 -0.6
ZAK Zakamensk 51.40 2 eP P 21 46 00.7 -1.2
ZAK e 21 47 15.2
ZAK pmax pmax
comp=Z,3.0nm,0.9s
ZAK pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 51.63 332 ceP P 21 46 03.5 -0.1
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 51.63 332 eP P 21 46 03.7 +0.1
KKAR pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 51.63 332 eP P 21 46 03.7 +0.1
comp=Z,3.9nm,0.4s
MOY Mondy 52.63 0 eP P 21 46 10.4 -0.7
TLY Talaya 52.72 2 eP P 21 46 11.9 +0.3
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY Talaya 52.72 2 eP P 21 46 11.2 -0.3
comp=Z,5.7nm,0.7s
USRK Ussuriysk Ar. 53.21 28 P P 21 46 15.2 0.0
comp=Z,13nm,0.6s,baz=231,slow=4.7,SNR=39
KURBB Kurchatov Arra 54.88 343 P P 21 46 26.6 -0.7
comp=Z,6.4nm,0.6s,baz=162,slow=6.9,SNR=38
KURK Kurchatov 54.94 343 ceP P 21 46 27.2 -0.5
KURK pmax pmax
comp=Z,14nm,1.0s
KURK Kurchatov 54.94 343 eP P 21 46 26.3 -1.4
comp=Z,57nm,0.6s
OPO Ambohidratompo 55.00 248 P P 21 46 31.2 +2.2
comp=Z,5.0nm,0.8s,baz=59,slow=5.3,SNR=4.4
GEYT Alibeck 55.11 320 P P 21 46 29.3 +0.1
comp=Z,2.0nm,0.5s,baz=145,slow=6.2,SNR=7.0
ZALV Zalesovo Beam 56.44 349 P P 21 46 37.6 -0.8
comp=Z,8.5nm,0.3s,baz=179,slow=6.0,SNR=78
KLR Kul'dur 56.98 24 ciP P 21 46 42.3 -0.1
NVS Novosibirsk 57.59 348 ⇓iP P 21 46 45.6 -0.9
NVS pmax pmax
comp=N,4.0nm,0.7s
NVS pmax pmax
comp=Z,6.0nm,0.7s
ASAJ Asahikawa 58.67 34 P P 21 46 54.5 +0.3
comp=Z,9.4nm,0.4s,baz=238,slow=7.6,SNR=38
BVAR Borovoye Array 59.56 339 P P 21 46 59.5 -0.8
comp=Z,15nm,0.5s,baz=144,slow=9.5,SNR=91
BVAR pP pP 21 47 20.9 -1.6
comp=Z,3.3nm,0.5s,baz=143,slow=9.3,SNR=3.8
BRVK Borovoye 59.63 339 eP P 21 46 59.8 -0.9
BRVK pmax pmax
comp=Z,26nm,0.3s
BRVK Borovoye 59.63 339 eP P 21 46 59.8 -0.9
comp=Z,26nm,0.3s
BOD Bodaibo 59.79 8 eP P 21 47 01.1 -0.6
BOD pmax pmax
comp=Z,10.0nm,0.9s
YSS Yuzh-Sakhalins 60.53 32 eP P 21 47 07.2 +0.2
AB31 Akbulak array 61.13 331 ceP P 21 47 10.4 -0.6
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 61.13 331 eP P 21 47 10.3 -0.7
comp=Z,9.5nm,0.5s
AKTO Aktyubinsk 62.85 331 P P 21 47 21.9 -0.6
comp=Z,3.1nm,0.5s,baz=113,slow=4.9,SNR=17
KMBO Kilima Mbogo 63.19 269 P P 21 47 27.8 +2.0
comp=Z,2.3nm,0.8s,baz=62,slow=10,SNR=9.8
KMBO LR LR 22 09 58.9
comp=Z,24nm,20.9s,baz=93,slow=31
SVE Sverdlovsk 66.09 337 deP P 21 47 43.4 -0.1
SVE pmax pmax
comp=Z,27nm,0.9s
ARU Arti 66.63 336 ciP P 21 47 46.2 -0.8
ARU 21 48 13.2
ARU 21 50 11.1
ARU S S 21 56 34.1 +2.8
ARU SS SS 22 00 49.9 -0.5
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 66.63 336 eP P 21 47 46.0 -1.0
comp=Z,6.5nm,0.6s
YAK Yakutsk 66.82 15 eP P 21 47 45.9 -2.1
YAK pmax pmax
comp=Z,24nm,0.9s
KBZ Khabaz 67.98 319 P P 21 47 56.6 +0.8
comp=Z,3.8nm,0.7s,baz=131,slow=7.1,SNR=16
KIV Kislovodsk 68.21 319 eP P 21 47 56.4 -1.0
KIV pmax pmax
comp=Z,6.0nm,1.1s
VRH Novokhopyorsk 71.89 326 eP P 21 48 19.1 -0.5
VRH pmax pmax
comp=Z,20nm,0.7s
MA2 Magadan 72.08 24 ceP P 21 48 20.9 +0.3
BRTR Keskin Array B 73.10 312 P P 21 48 27.0 -0.2
comp=Z,2.2nm,0.6s,baz=144,slow=7.0,SNR=10
VSR Storozhevoye 73.36 325 eP P 21 48 27.2 -1.1
VSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 74.05 326 eP P 21 48 32.1 -0.2
LPSR pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 74.68 22 P P 21 48 35.8 +0.1
comp=Z,3.3nm,0.8s,baz=226,slow=5.0,SNR=15
SEY Seymchan 74.68 22 ceP P 21 48 33.8 -1.9
TIXI Tiksi 74.96 9 ceP P 21 48 35.9 -1.3
TIXI pmax pmax
comp=Z,27nm,1.7s
TIXI Tiksi 74.96 9 eP P 21 48 35.8 -1.4
comp=Z,10nm,0.6s
OBN Obninsk 76.33 328 eP P 21 48 44.5 -0.8
OBN pmax pmax
comp=Z,41nm,2.5s
BOSA Boshof 76.46 241 P P 21 48 48.7 +1.9
comp=Z,9.6nm,0.7s,baz=84,slow=4.4,SNR=29
KLMR Klimovskoe 77.28 334 eP P 21 48 48.9 -1.6
KLMR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 77.28 334 eP P 21 48 48.9 -1.6
KLMR AMP 21 48 51.1
comp=Z,10.0nm,1.1s
AKASG Malin Array Be 79.11 322 P P 21 49 00.1 -0.7
comp=Z,1.9nm,0.5s,baz=92,slow=5.3,SNR=8.2
KIEV Kiev 79.11 322 eP P 21 49 01.4 +0.5
KIEV pmax pmax
comp=Z,2.0nm,0.9s
TMCR Tamitsa 79.36 337 eP P 21 49 02.1 +0.2
TMCR pmax pmax
comp=Z,10.0nm,0.4s
VRI Vrincioaia 79.55 317 ⇓P P 21 49 02.8 -0.6
VRI Vrincioaia 79.55 317 ⇓iP P 21 49 02.8 -0.6
TESR Tescani 79.75 318 ⇓iP P 21 49 04.3 -0.2
MLR Muntele Rosu 80.01 317 ⇓P P 21 49 07.6 +1.5
MLR Muntele Rosu 80.01 317 ⇓iP P 21 49 07.6 +1.5
VOIR 80.61 316 ⇓P P 21 49 09.7 +0.4
VOIR 80.61 316 ⇓iP P 21 49 09.7 +0.4
BURAR Bucovina Array 80.94 319 ⇓P P 21 49 12.1 +1.1
BURAR Bucovina Array 80.94 319 ⇓iP P 21 49 12.1 +1.1
VTS Vitosha 81.41 313 ⇓P P 21 49 14.1 +0.5
VTS Vitosha 81.41 313 ⇓iP P 21 49 14.1 +0.5
VNDA Vanda 82.89 169 P P 21 49 22.6 +2.1
comp=Z,0.9nm,0.5s,baz=300,slow=9.8,SNR=8.9
FINES FINESS Array B 83.59 332 P P 21 49 24.6 +0.3
comp=Z,3.5nm,0.6s,baz=101,slow=5.8,SNR=35
FINES pP pP 21 49 46.6 -1.0
comp=Z,3.6nm,0.9s,baz=100,slow=5.4,SNR=2.6
STHS Stebnicka Huta 83.86 320 eP P 21 49 28.3 +2.3
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 83.86 320 eP P 21 49 28.3 +2.3
KECS Kecovo 84.21 319 eP P 21 49 28.1 +0.3
KECS Kecovo 84.21 319 eP P 21 49 28.1 +0.3
ARCES ARCESS Array B 85.84 340 P P 21 49 35.8 +0.2
comp=Z,2.9nm,0.6s,baz=99,slow=4.9,SNR=27
GERES GERESS Array B 88.72 319 P P 21 49 50.6 +0.6
comp=Z,0.5nm,0.6s,baz=97,slow=3.1,SNR=3.8
GERES pP pP 21 50 13.3 -0.2
comp=Z,0.6nm,0.7s,baz=57,slow=4.9,SNR=3.1
HFS Hagfors 89.38 330 P P 21 49 53.6 +1.0
comp=Z,4.6nm,1.0s,baz=120,slow=5.2,SNR=6.0
SPITS Spitsbergen Ar 89.91 348 P P 21 49 54.4 -0.5
comp=Z,4.6nm,0.6s,baz=69,slow=7.9,SNR=14
YKA Yellowknife Ar 113.44 17 PKiKP PKiKP 21 55 32.7 -0.8
comp=Z,0.1nm,0.5s,baz=302,slow=1.9,SNR=4.2
MSO Missoula 125.53 28 P PKPdf 21 55 56.9 -0.5
baz=316
EGMT Eagleton 126.51 25 P PKPdf 21 55 58.8 -0.4
baz=321
BOZ Bozeman (W) 127.52 28 P PKPdf 21 56 01.0 -0.2
baz=318
HLID Hailey 127.60 32 P PKPdf 21 56 01.1 -0.4
baz=314
NVAR Mina Array Bea 128.66 39 PKP PKPdf 21 56 04.8 +1.0
comp=Z,1.0nm,0.6s,baz=260,slow=2.2,SNR=5.0
RLMT Red Lodge 128.97 27 P PKPdf 21 56 03.6 -0.6
baz=320
ULM Lac du Bonnet 129.15 13 PKP PKPdf 21 56 03.9 -0.2
comp=Z,1.6nm,0.5s,baz=19,slow=6.4,SNR=4.9
PDAR Pinedale Array 130.63 29 PKP PKPdf 21 56 07.3 -0.1
comp=Z,0.5nm,0.4s,baz=211,slow=2.7,SNR=5.6
C31A Landman Farms, 130.94 16 P PKPdf 21 56 07.7 +0.1
baz=336
C35A Jirik Farms, M 131.98 13 P PKPdf 21 56 09.7 +0.2
baz=340
C37A Embarrass 132.34 12 P PKPdf 21 56 11.0 +0.8
baz=343
F33A 5 Mile Ranch, 133.13 16 P PKPdf 21 56 12.1 +0.4
baz=337
IKP In-Ko-Pah, Jac 133.49 44 P PKPdf 21 56 13.1 +0.2
baz=305
F36A Milaca 133.82 14 P PKPdf 21 56 13.3 +0.3
baz=340
E39A Mellen 133.94 11 P PKPdf 21 56 14.0 +0.8
baz=345
F40A Park Falls 134.47 10 P PKPdf 21 56 15.0 +0.7
baz=345
S22A 4UR Ranch, Cre 135.78 31 P PKPdf 21 56 18.0 +0.7
baz=319
M43A Waltham Townsh 139.01 11 P PKPdf 21 56 24.1 +1.3
baz=346
M44A Midewin, Midew 139.23 10 P PKPdf 21 56 24.5 +1.4
baz=347
N46A Monticello 139.91 8 P PKPdf 21 56 26.0 +1.5
baz=349
P40A Paris 140.14 15 P PKPdf 21 56 26.8 +1.9
baz=340
Q38A Cooks Store, C 140.24 17 P PKPdf 21 56 26.5 +1.4
baz=338
R39A Chumby, Stover 141.00 17 P PKPdf 21 56 28.2 +1.7
baz=338
Q42A Golden Eagle 141.10 14 P PKPdf 21 56 28.6 +2.0
baz=342
R40A Maddies Statio 141.25 16 P PKPdf 21 56 28.2 +1.3
baz=339
S38A Stockton 141.37 18 P PKPdf 21 56 28.4 +1.2
baz=337
S39A Bolivar 141.50 18 P PKPdf 21 56 28.6 +1.2
baz=338
CCM Cathedral Cave 141.74 15 P PKPdf 21 56 29.0 +1.2
baz=341
T39A Clever 142.09 18 P PKPdf 21 56 30.1 +1.5
baz=337
TXAR Lajitas Array 143.76 37 PKP PKPbc 21 56 29.6 +0.1
comp=Z,4.3nm,0.5s,baz=216,slow=1.1,SNR=87
TXAR SKPbc SKPbc 22 00 01.7 -1.1
comp=Z,0.9nm,0.5s,baz=204,slow=1.9,SNR=14
W40A Ferguson Farm, 143.87 19 P PKPab 21 56 29.0 +0.1
baz=337
U46A Springville 144.07 12 P PKPbc 21 56 29.9 -0.2
baz=345
X39A Fountain Ranch 144.14 21 P PKPbc 21 56 30.3 -0.1
baz=335,SNR=18
W41B Gary Mavity, V 144.15 18 P PKPab 21 56 30.0 +0.1
baz=338
U47A Clarksville 144.17 11 P PKPab 21 56 29.9 0.0
baz=347
U48A Cassie Pea, Po 144.23 10 P PKPab 21 56 29.8 -0.4
baz=348,SNR=8.2
WVT Waverly 144.37 12 P PKPab 21 56 30.5 -0.2
baz=346
X40A Basin Creek Fa 144.59 19 P PKPab 21 56 31.3 -0.3
baz=337,SNR=7.7
TZTN Tazewell 144.60 6 P PKPab 21 56 31.0 -0.6
baz=353,SNR=13
TZTN Tazewell 144.60 6 ePKPdf PKPab 21 56 31.2 -0.4
V46A Holladay 144.63 12 P PKPab 21 56 31.3 -0.4
baz=345,SNR=10.0
W43A Forest City 144.68 16 P PKPab 21 56 30.7 -1.1
baz=340
X41A Kaden, Bauxite 144.69 19 P PKPab 21 56 30.7 -1.3
baz=337
V47A Nunnelly 144.72 11 P PKPab 21 56 31.1 -0.9
baz=346,SNR=8.6
W44A Shelby Farms P 144.87 15 P PKPab 21 56 31.9 -0.7
baz=342
Y40A Okolona 144.88 20 P PKPab 21 56 32.1 -0.5
baz=336,SNR=5.5
V48A Smith Brothers 144.94 10 P PKPab 21 56 32.0 -0.8
baz=347,SNR=19
WHTX Lake Whitney, 144.98 27 P PKPab 21 56 32.3 -0.8
baz=328
W45A Hickory Valley 145.00 14 P PKPbc 21 56 32.5 -0.6
baz=343
JCT Junction City 145.07 31 P PKPdf 21 56 33.7 -0.3
baz=323
JCT Junction City 145.07 31 ePKIKP PKPab 21 56 33.5 -0.1
JCT Junction City 145.07 31 ePKPdf PKPab 21 56 33.5 -0.1
W46A Michie 145.21 13 P PKPbc 21 56 33.0 -0.7
baz=344,SNR=8.3
Y41A Eaglette Beard 145.22 19 P PKPbc 21 56 33.5 -0.3
baz=337,SNR=6.1
CPUP Villa Florida 145.26 217 PKPbc PKPab 21 56 36.0 +1.7
comp=Z,7.1nm,0.9s,baz=131,slow=6.0,SNR=8.1
CPUP pPKPbc pPKPab 21 56 58.4 +0.1
comp=Z,6.4nm,0.8s,baz=94,slow=4.4,SNR=6.0
W47A Westpoint 145.26 12 P PKPbc 21 56 33.3 -0.6
baz=346,SNR=40
X44A Crenshaw 145.38 16 P PKPbc 21 56 34.0 -0.3
baz=341
TKL Tuckaleechee C 145.45 6 PKPbc PKPdf 21 56 33.9 -0.5
comp=Z,26nm,0.6s,baz=124,slow=4.0,SNR=42
W48A Pulaski 145.50 11 P PKPdf 21 56 33.8 -0.7
baz=347,SNR=18
Y42A Garnett, Star 145.53 18 P PKPdf 21 56 34.4 -0.1
baz=338
OXF Oxford 145.56 14 P PKPdf 21 56 34.2 -0.4
baz=342,SNR=8.1
OXF Oxford 145.56 14 ePKIKP PKPdf 21 56 34.2 -0.4
OXF Oxford 145.56 14 ePKPbc PKPdf 21 56 34.2 -0.4
CPCT Cooper Cave 145.57 7 ePKPbc PKPdf 21 56 34.4 -0.2
SWET Sewanee 145.60 9 ePKPbc PKPdf 21 56 34.2 -0.5
X45A UM Field Stati 145.65 15 P PKPdf 21 56 34.6 -0.2
baz=342
Y43A Makayla and Ka 145.72 17 P PKPdf 21 56 34.8 -0.1
baz=340
X46A Booneville 145.72 13 P PKPdf 21 56 34.8 -0.1
baz=344
X47A Russelville 145.92 12 P PKPdf 21 56 35.1 -0.1
baz=345,SNR=8.4
435B Jarrell 145.93 28 P PKPbc 21 56 35.9 -0.3
baz=326
Z42A Norrel Spur, H 146.00 19 P PKPbc 21 56 35.8 -0.4
baz=337
Y45A Yeager Farm, C 146.14 15 P PKPdf 21 56 35.6 0.0
baz=342
X48A Hartselle 146.15 11 P PKPdf 21 56 35.5 -0.1
baz=346,SNR=14
KMSC Kings Mountain 146.15 3 P PKPdf 21 56 35.9 +0.2
baz=357
KMSC Kings Mountain 146.15 3 ePKPbc PKPdf 21 56 36.0 +0.4
X49A Woodville 146.22 10 P PKPdf 21 56 36.0 +0.3
baz=348,SNR=15
Y46A Houston 146.30 14 P PKPdf 21 56 36.3 +0.4
baz=343
X50A Fort Payne 146.38 9 P PKPdf 21 56 36.5 +0.4
baz=349
Z44A Pea Ridge, Bel 146.46 17 P PKPbc 21 56 37.4 -0.2
baz=340
Y47A UCPARC, Winfie 146.51 13 P PKPdf 21 56 36.8 +0.5
baz=345,SNR=9.3
Y48A Jasper 146.64 12 P PKPdf 21 56 37.0 +0.5
baz=346,SNR=6.9
Y49A Blount Mountai 146.84 10 P PKPbc 21 56 37.8 -0.9
baz=347
Y50A Piedmont 146.93 9 P PKPbc 21 56 38.1 -0.8
baz=349
Z46A Louisville 146.94 15 P PKPbc 21 56 38.3 -0.7
baz=343
Z48A Northport 147.08 12 P PKPbc 21 56 38.3 -1.1
baz=345
Z47A Carrollton 147.14 13 P PKPbc 21 56 38.7 -0.8
baz=344
145A Houston Renfro 147.23 16 P PKPbc 21 56 39.2 -0.6
baz=341
341A Kurthwood 147.34 22 P PKPbc 21 56 39.3 -0.8
baz=334
Z49A Columbiana 147.47 11 P PKPbc 21 56 39.8 -0.7
baz=347
LRAL Lakeview Retre 147.53 12 P PKPbc 21 56 40.0 -0.6
baz=346
244A Avery, Jackson 147.53 18 P PKPbc 21 56 40.5 -0.2
baz=339
147A Livingston 147.59 14 P PKPbc 21 56 40.4 -0.4
baz=344
GOGA Godfrey 147.71 6 P PKPbc 21 56 40.8 -0.3
baz=353
148A Greensboro 147.78 13 P PKPbc 21 56 40.9 -0.5
baz=345
149A Jones 147.99 12 P PKPbc 21 56 41.3 -0.6
baz=346
344A Westbrook Farm 148.07 18 P PKPbc 21 56 42.1 -0.1
baz=338
247A Quitman 148.10 15 P PKPbc 21 56 42.4 +0.2
baz=343
150A Eclectic 148.13 10 P PKPbc 21 56 42.4 +0.1
baz=348
151A Opelika 148.33 9 P PKPbc 21 56 42.9 +0.1
baz=349
345A Thompson Farm, 148.42 17 P PKPbc 21 56 43.2 +0.2
baz=340
346A Big Creek Wild 148.50 16 P PKPbc 21 56 43.6 +0.4
baz=341
251A Midway 148.74 10 P PKPbc 21 56 44.0 +0.1
baz=349
347A Saraland 148.74 15 P PKPbc 21 56 44.4 +0.5
baz=342
252A Lumpkin 148.94 9 P PKPbc 21 56 44.4 0.0
baz=350
253A Americus 148.96 8 P PKPbc 21 56 44.2 -0.2
baz=351
446A Poplarville 149.09 17 P PKPbc 21 56 45.2 +0.4
baz=341
254A Abbeville 149.18 6 P PKPbc 21 56 45.1 +0.2
baz=353
352A Blakely 149.42 9 P PKPbc 21 56 45.9 +0.4
baz=349
351A Pinckard 149.50 10 P PKPbc 21 56 46.0 +0.2
baz=348
TIGA Tifton 149.64 7 P PKPbc 21 56 45.9 -0.2
baz=352
353A Camilla 149.65 8 P PKPbc 21 56 46.1 -0.1
baz=351
452A Marianna 149.99 10 P PKPbc 21 56 46.5 -0.4
baz=349
453A Whigham 150.12 8 P PKPbc 21 56 46.9 -0.4
baz=350
455A Stateville 150.40 6 P PKPbc 21 56 47.6 -0.4
baz=353
552A Lynn Haven 150.67 10 P PKPbc 21 56 48.1 -0.5
baz=348
553A Crawfordville 150.76 9 P PKPbc 21 56 48.2 -0.6
baz=350
554A Perry 150.97 7 P PKPbc 21 56 48.6 -0.8
baz=351
555A McAlpin 151.02 6 P PKPbc 21 56 49.2 -0.2
baz=353
556A Lake Butler 151.19 5 P PKPbc 21 56 49.9 +0.1
baz=354
656A Willston 151.80 6 P PKPbc 21 56 51.0 -0.2
baz=354
658A Bunnell 151.85 3 P PKPbc 21 56 51.3 -0.1
baz=356
060A Indiantown 154.26 2 P PKPbc 21 56 55.7 -1.0
baz=358

*ISCJB **28** 21:37:18.9±0.5, 18°.7S±0°.1×177°.7W±0°.1, h600km,*

mb4.0/15, Error ellipse: s-maj=19.0km s-min=10.1km az=145.2

*IDC **28** 21:37:21.6±1.6, 18°.59S×177°.73W, h618km±20km, mb3.5/14, mb1 3.8/16, mb1mx3.5/47, mbtmp4.5/16, Error ellipse: s-maj=19.3km s-min=11.7km az=145.0*

ISC 28 21:37:19.9±0.6, 18°.6S±0°.1×177°.8W±0°.1, h600km, n59, σ1§10/60, mb4.0/15, 10C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.41**	**52**	P	**P**	**21 39 15.0**	**+1.1**
	10nm,0.3s,baz=41,slow=4.1,SNR=11						
DZM	**Mont Dzumac**	**15.21**	**254**	P	**P**	**21 40 31.4**	**+1.2**
	1.1nm,0.3s,baz=86,slow=21,SNR=8.6						
URZ	**Urewera**	**20.06**	**192**	P	**P**	**21 41 11.8**	**-2.2**
	6.9nm,0.4s,baz=56,slow=3.3,SNR=7.0						
CTA	**Charters Tower**	**33.95**	**262**	P	**P**	**21 43 16.8**	**+1.5**
	8.0nm,0.3s,baz=97,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.84**	**242**	P	**P**	**21 43 56.2**	**+1.1**
	8.0nm,0.7s,baz=87,slow=9.3,SNR=23						
WRA	**Warramunga Arr**	**45.12**	**260**	P	**P**	**21 44 44.9**	**+0.3**
	6.4nm,0.4s,baz=98,slow=6.6,SNR=39						
WRA				S	**S**	**21 50 38.3**	**-3.2**
	1.0nm,0.8s,baz=95,slow=14,SNR=7.2						
ASAR	**Alice Springs**	**45.20**	**255**	P	**P**	**21 44 45.4**	**+0.2**
	8.6nm,0.5s,baz=89,slow=8.1,SNR=64						
ASAR				S	**S**	**21 50 41.3**	**-1.4**
	1.4nm,0.6s,baz=88,slow=15,SNR=9.3						
VNDA	**Vanda**	**59.78**	**185**	P	**P**	**21 46 28.6**	**+0.8**
	0.7nm,0.3s,baz=8.2,slow=8.3,SNR=12						
MJAR	**Matsushiro Arr**	**68.86**	**323**	P	**P**	**21 47 25.9**	**+0.1**
	3.2nm,0.7s,baz=162,slow=6.2,SNR=9.1						
PETK	**Petropavlovsk-**	**74.54**	**345**	P	**P**	**21 47 58.3**	**+0.1**
	5.2nm,0.6s,baz=110,slow=8.0,SNR=12						
KSRS	**Korea Array**	**75.66**	**318**	P	**P**	**21 48 05.7**	**+0.9**
	1.5nm,1.0s,baz=142,slow=6.3,SNR=4.7						
YBH	**Yreka Blue Hor**	**78.69**	**39**	P	**P**	**21 48 22.1**	**+0.9**
	1.8nm,0.6s,baz=141,slow=2.9,SNR=4.7						
NVAR	**Mina Array Bea**	**79.51**	**43**	P	**P**	**21 48 26.3**	**+0.5**
	1.3nm,0.7s,baz=220,slow=8.8,SNR=12						
TXAR	**Lajitas Array**	**85.85**	**57**	P	**P**	**21 48 58.6**	**+1.0**
	2.3nm,0.8s,baz=216,slow=6.5,SNR=30						
ILAR	**Eielson Array**	**86.45**	**13**	P	**P**	**21 48 58.2**	**-1.2**
	1.1nm,0.4s,baz=224,slow=4.7,SNR=22						
PDAR	**Pinedale Array**	**87.45**	**43**	P	**P**	**21 49 04.5**	**-0.5**
	2.2nm,0.9s,baz=212,slow=5.3,SNR=8.5						
CMAR	**Chiang Mai Arr**	**89.72**	**289**	P	**P**	**21 49 17.1**	**+1.4**
	2.0nm,1.0s,baz=113,slow=3.3,SNR=7.0						
YKA	**Yellowknife Ar**	**94.73**	**25**	P	**P**	**21 49 35.0**	**-2.7**
	0.5nm,0.7s,baz=245,slow=4.6,SNR=8.3						
MKAR	**Makanchi Array**	**110.09**	**314**	PKiKP	**PKiKP**	**21 54 42.6**	**-1.7**
	0.5nm,0.5s,baz=206,slow=0.6,SNR=12						
ARCES	**ARCESS Array B**	**127.14**	**350**	PKP	**PKPdf**	**21 55 15.5**	**-0.8**
	1.8nm,0.6s,baz=333,slow=1.4,SNR=10						
FINES	**FINESS Array B**	**134.05**	**344**	PKP	**PKPdf**	**21 55 29.4**	**-0.2**
	1.4nm,0.6s,baz=29,slow=3.2,SNR=7.1						
AKASG	**Malin Array Bea**	**141.49**	**332**	PKhKP	PKPpre	21 55 37.8	
	1.2nm,0.4s,baz=42,slow=4.1,SNR=8.8						
EKA	**Eskdalemuir Ar**	**143.13**	**5**	PKP	PKPab	21 55 43.3	-1.0
	4.5nm,0.7s,baz=335,slow=2.7,SNR=25						
SORM	**Soroca**	**143.73**	**330**⇑	*i*P	PKPbc	21 55 46.0	-0.7
BURAR	**Bucovina Array**	**145.55**	**332**⇑	*i*P	**PKPab**	**21 55 53.5**	**-0.5**
BRTR	**Keskin Array B**	**145.74**	**314**	PKPbc	**PKPdf**	**21 55 52.1**	**+0.6**
	3.3nm,0.9s,baz=131,slow=4.0,SNR=14						
CFR	**Carcaliu**	**145.88**	**327**⇑	*i*P	**PKPbc**	**21 55 52.9**	**-0.3**
VRI	**Vrincioaia**	**146.12**	**329**⇑	*i*P	**PKPdf**	**21 55 53.0**	**+1.3**
CLL	**Collm**	**146.30**	**348**	*i* PKPbc	**PKPbc**	**21 55 53.5**	**-0.7**
	comp=Z,12nm,1.1s						
CLL				*i* PKiKP	**PKiKP**	**21 55 55.9**	**-0.5**
	comp=Z,6.0nm,0.9s						
CLL				*ep*PKPbc	pPKPbc	21 57 31.0	-39
ARCR	**ARCALIA**	**146.33**	**332**⇓	*i*P	**PKPbc**	**21 55 54.8**	**+0.4**
DPC	**Dobruska-Polom**	**146.42**	**344**	*e*P	**PKPdf**	**21 55 53.5**	**+1.4**
DPC				*ex*	x	21 55 57.2	
BRG	**Berggiesshubel**	**146.52**	**347**	*e*P	**PKPbc**	**21 55 54.3**	**-0.5**
	comp=Z,4.8nm,0.8s						
DOPR	**Dopca**	**146.70**	**330**⇑	*i*P	**PKPbc**	**21 55 56.0**	**+0.5**
PRU	**Pruhonice**	**147.21**	**345**	*e*P	**PKPbc**	**21 55 56.5**	**-0.2**
PRU				*ex*	x	21 56 00.4	
VOIR		**147.25**	**330**⇓	*i*P	**PKPbc**	**21 55 56.0**	**-1.0**
DRGR		**147.27**	**334**⇑	*i*P	**PKPbc**	**21 55 56.4**	**-0.6**
VRAC	**Vranov**	**147.29**	**343**⇑	*i*P	**PKPab**	**21 56 00.1**	**-0.7**
ARR	**Arges**	**147.50**	**330**⇓	*i*P	**PKPbc**	**21 55 58.3**	**+0.6**
HUMR	**Humele**	**147.94**	**329**⇓	*i*P	**PKPdf**	**21 55 56.6**	**+1.8**
KHC	**Kasperske Hory**	**148.23**	**346**	*e*P	**PKPbc**	**21 55 59.4**	**0.0**
KHC				*ex*	x	21 56 04.8	
GERES	**GERESS Array B**	**148.47**	**345**	PKPbc	**PKPbc**	**21 55 59.6**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=28,slow=3.2,SNR=14						
GERES				PKPab	**PKPab**	**21 56 05.3**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=29,slow=3.0,SNR=4.6						
BZS	**Buzias**	**148.66**	**333**⇑	*i*P	**PKPbc**	**21 56 00.0**	**-0.5**
CONA	**Conrad Observa**	**148.74**	**342**	*i* PKPbc	**PKPbc**	**21 56 00.7**	**-0.1**
	comp=Z,11nm,1.5s						
MOA	**Molln**	**149.25**	**344**	*i* PKPbc	**PKPbc**	**21 56 01.4**	**-0.5**
	comp=Z,2.7nm,0.8s						
SOKA	**Soboth**	**150.12**	**342**	*i* PKPbc	**PKPbc**	**21 56 02.8**	**-1.2**
	comp=Z,3.9nm,0.8s						
PERS	**Pernice**	**150.13**	**342**	*i* P	**PKPbc**	**21 56 02.9**	**-1.1**
KBA	**Koelnbreinsper**	**150.21**	**345**	*i* PKPbc	**PKPbc**	**21 56 03.5**	**-0.8**
	comp=Z,4.1nm,0.6s,SNR=6.0						
VTS	**Vitosha**	**150.24**	**328**⇑	*i*P	**PKPbc**	**21 56 02.6**	**-1.9**
WATA	**Walderalm**	**150.37**	**347**	*i* PKPbc	**PKPbc**	**21 56 03.9**	**-0.8**
	comp=Z,4.4nm,0.5s						
WTTA	**Wattenberg**	**150.43**	**347**	*i* PKPbc	**PKPbc**	**21 56 04.3**	**-0.5**
	comp=Z,6.7nm,0.5s,SNR=4.1						
MOTA	**Moosalm**	**150.46**	**348**	*i* PKPbc	**PKPbc**	**21 56 04.0**	**-0.9**
	comp=Z,5.2nm,0.8s,SNR=6.2						
MYKA	**Terra Mystica**	**150.54**	**344**	*i* PKPbc	**PKPbc**	**21 56 03.6**	**-1.4**
	comp=Z,4.2nm,0.5s						
ABTA	**Abfaltersbach**	**150.72**	**346**	*i* PKPbc	**PKPbc**	**21 56 04.3**	**-1.1**
	comp=Z,9.3nm,0.6s,SNR=14						
DAVA	**Damuels**	**150.75**	**349**	*i* PKPbc	**PKPbc**	**21 56 05.0**	**-0.5**
	comp=Z,8.8nm,1.2s						
FETA	**Feichten**	**150.84**	**348**	*i* PKPbc	**PKPbc**	**21 56 05.4**	**-0.4**
	comp=Z,4.7nm,0.7s,SNR=9.3						
VISS	**Visnje**	**150.97**	**342**	*i* P	**PKPbc**	**21 56 04.9**	**-1.0**
JAVS	**Javornik**	**151.11**	**343**	*i* P	**PKPbc**	**21 56 05.1**	**-1.2**
BOJS	**Bojanci**	**151.11**	**341**	*e*P	**PKPbc**	**21 56 05.7**	**-0.5**
BLY	**Banja Luka**	**151.13**	**338**⇑	*i*P	**PKPbc**	**21 56 06.4**	**+0.1**

WEL 28 21:40:14.2, 43°S±1°×17°3E±°, h10km±2km, ML3.6/29, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.17**	**239**	P	Pb	21 40 20.2	+0.6
CRLZ	**Canterbury Las**	**0.17**	**239**	S	Sg	21 40 22.9	+2.4
MQZ	**McQueen's Vall**	**0.25**	**210**	P	Pb	21 40 21.2	+0.2
MQZ	**McQueen's Vall**	**0.25**	**210**	S	Sb	21 40 25.0	-0.4
EYCZ	**Eyrewell**	**0.35**	**280**	P	Pb	21 40 22.7	+0.2
OXZ	**Oxford**	**0.60**	**285**	P	Pb	21 40 27.1	+0.3
LTZ	**Lake Taylor**	**0.81**	**330**	P	Pn	21 40 31.5	-0.2
LTZ	**Lake Taylor**	**0.81**	**330**	S	Sb	21 40 42.7	+1.1
KHZ	**Kahutara**	**1.19**	**26**	P	Pg	21 40 37.0	0.0
INZ	**Inchbonnie**	**1.27**	**306**	P	Pb	21 40 38.2	0.0
RPZ	**Rata Peaks**	**1.31**	**259**	P	Pb	21 40 38.8	-0.2
WVZ	**Waitaha Valley**	**1.58**	**284**	P	Pb	21 40 43.2	-0.3
THZ	**Tophouse**	**1.72**	**2**	P	Pn	21 40 44.9	+0.5
DSZ	**Denniston Nort**	**1.90**	**336**	P	Pn	21 40 47.8	+1.1
BSWZ	**Blackbirch Sta**	**1.93**	**24**	P	Pn	21 40 47.9	+0.8
CMWZ	**Cape Campbell**	**2.01**	**31**	P	Pb	21 40 49.9	-1.0
LBZ	**Lake Benmore**	**2.11**	**244**	P	Pn	21 40 50.7	+1.1
FOZ	**Fox Glacier**	**2.19**	**268**	P	Pb	21 40 52.5	-1.5
ODZ	**Otahua Downs**	**2.21**	**224**	P	Pn	21 40 51.5	+0.5
TUWZ	**Tuamarina**	**2.21**	**22**	P	Pn	21 40 51.5	+0.6
NNZ	**Nelson**	**2.30**	**10**	P	Pn	21 40 53.5	+1.3
TCW	**Tory Channel**	**2.51**	**26**	P	Pn	21 40 55.2	+0.1
BHW	**Baring Head**	**2.57**	**37**	P	Pn	21 40 56.1	+0.3
PLWZ	**Palliser**	**2.62**	**44**	P	Pn	21 40 56.4	-0.3
QRZ	**Quartz Range**	**2.67**	**355**	P	Pn	21 40 58.5	+1.2
MSWZ	**Moikau Station**	**2.74**	**42**	P	Pn	21 40 57.9	-0.3
PAWZ	**Paruwai Farm**	**2.85**	**42**	P	Pn	21 40 59.4	-0.3
HHSZ	**Highcliff Hill**	**2.88**	**213**	P	Pn	21 41 00.7	+0.6
CAW	**Cannon Point**	**2.90**	**36**	P	Pn	21 41 00.5	+0.1
TRWZ	**Traveller**	**2.97**	**46**	P	Pn	21 41 00.9	-0.6
JCZ	**Jackson Bay**	**2.99**	**257**	P	Pn	21 41 02.9	+1.2
KIW	**Kapiti Island**	**3.04**	**31**	P	Pn	21 41 02.8	+0.4
WKZ	**Wanaka**	**3.05**	**243**	P	Pn	21 41 04.2	+1.6
MTW	**Mount Morrison**	**3.06**	**41**	P	Pn	21 41 02.0	-0.5
EAZ	**Earnscleugh**	**3.07**	**234**	P	Pn	21 41 03.4	+0.6
OGWZ	**Otaki Gorge**	**3.19**	**34**	P	Pn	21 41 04.8	+0.4
HOWZ	**Holdsworth Sta**	**3.27**	**39**	P	Pn	21 41 05.5	0.0
TMWZ	**Te Maipa**	**3.29**	**45**	P	Pn	21 41 05.2	-0.6
TUZ	**Tuapeka**	**3.36**	**222**	P	Pn	21 41 07.4	+0.7
MRZ	**Mangatainoka R**	**3.49**	**37**	P	Pn	21 41 08.1	-0.4
PRWZ	**Pori Road**	**3.75**	**40**	P	Pn	21 41 11.7	-0.4
BFZ	**Birch Farm**	**3.78**	**43**	P	Pn	21 41 11.7	-0.9
MLZ	**Mavora Lakes**	**3.86**	**239**	P	Pn	21 41 13.9	+0.3
SYZ	**Scrubby Hill**	**4.02**	**219**	P	Pn	21 41 16.8	+1.1
DVHZ	**Dannevirke**	**4.04**	**39**	P	Pn	21 41 15.2	-0.9
ANWZ	**Angora Road**	**4.07**	**43**	P	Pn	21 41 15.7	-0.7
WHZ	**Wether Hill Ro**	**4.23**	**234**	P	Pn	21 41 18.7	0.0
PREZ	**Palmer Road**	**4.26**	**14**	P	Pn	21 41 22.0	+2.8
PKE	**Pukeiti**	**4.38**	**12**	P	Pn	21 41 23.2	+2.5
TRVZ	**Turoa**	**4.66**	**27**	P	Pn	21 41 24.6	-0.1
KRHZ	**Kereru**	**4.67**	**36**	P	Pn	21 41 24.1	-0.7
WHVZ	**Whangaehu Hut**	**4.68**	**27**	P	Pn	21 41 27.1	+1.9
FWVZ	**Far West T-bar**	**4.70**	**27**	P	Pn	21 41 25.8	+0.4
APZ	**The Paps**	**4.79**	**224**	P	Pn	21 41 27.2	+0.8

MEX 28 21:43:04.0±0.5, 16°.50N×98°.51W, h17km±11km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**106**	*e*P	Pg	21 43 10.5	-1.3
PNIG				*e*S	Sg	21 43 16.1	-1.2
TLIG	**Tlapa**	**1.06**	**357**	*i* P	Pb	21 43 20.4	-3.6
TLIG				*e*S	Sb	21 43 32.8	-4.8
CAIG	**El Cayaco**	**1.77**	**288**	*e*P	Pn	21 43 30.8	-3.1
CAIG				*e*S	Sn	21 43 51.9	-4.2
VHO	**Vista Hermosa**	**1.79**	**71**	*i* P	Pn	21 43 31.9	-2.5
VHO				*i* S	Sn	21 43 52.6	-4.3

*ISN **28** 21:55:45.5±1.1, 39°.05N×43°.66E, h21km±181km, ML3.0*
*ISK **28** 21:55:48.5, 38°.85N×43°.63E, h5km, ML3.5/8*
*DDA **28** 21:55:49.2, 38°.87N×43°.63E, h10km, Ml3.2*
*ATA **28** 21:55:49.3±0.8, 38°.87N×43°.56E, h5km±20km, ML3.7, MW4.2*
*CSEM **28** 21:55:50.4±0.2, 38°.88N×43°.57E, h5km, ML3.2, Error ellipse: s-maj=5.1km s-min=3.8km az=152.0*

ISC 28 21:55:50.5±0.9, 38°.86N±0°.02×43°.58E±0°.02, h10km±7km, n86, σ1§25/112, 6C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**357**	*i* P	**Pg**	**21 55 53.0**	**-0.7**
VMUR	**Van-Muradiye**	**0.13**	**357**	P	**Pg**	**21 55 53.0**	**-0.7**
ERCV	**ERCIS-VAN**	**0.25**	**311**	PG	**Pg**	**21 55 55.1**	**-0.6**
ERCV				SG	**Sg**	**21 56 00.7**	**+1.5**
ERCV	**ERCIS-VAN**	**0.25**	**311**	*e*Pg	**Pg**	**21 55 55.1**	**-0.6**
ERCV				*e*Sg	**Sg**	**21 56 00.7**	**+1.5**
VANB	**Van**	**0.30**	**210**	PG	**Pb**	**21 55 56.9**	**-1.1**
VANB	**Van**	**0.30**	**210**	*e*Pg	**Pb**	**21 55 56.9**	**-1.1**
TVAN	**Van**	**0.35**	**203**	*i* P	**Pg**	**21 55 57.1**	**-0.5**
TVAN				*i* S	**Sb**	**21 56 03.9**	**-0.8**
TVAN	**Van**	**0.35**	**203**	P	**Pg**	**21 55 57.1**	**-0.5**
TVAN				S	**Sb**	**21 56 03.9**	**-0.8**
CLDR	**Caldiran**	**0.39**	**42**	PG	**Pg**	**21 55 56.4**	**-1.9**
CLDR				SG	**Sg**	**21 56 03.6**	**+0.2**
CLDR	**Caldiran**	**0.39**	**42**	*i* P	**Pg**	**21 55 56.4**	**-1.9**
CLDR				*i* S	**Sg**	**21 56 04.1**	**+0.7**
CLDR	**Caldiran**	**0.39**	**42**	P	**Pg**	**21 55 56.4**	**-1.9**
CLDR				*e*Sg	**Sg**	**21 56 03.6**	**+0.2**
CLDR				S	**Sg**	**21 56 04.1**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.67**	**266**	*i* P	**Pg**	**21 56 02.8**	**-0.7**
ADCV				*i* S	**Sb**	**21 56 13.1**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.67**	**266**	P	**Pg**	**21 56 02.8**	**-0.7**
ADCV				S	**Sb**	**21 56 13.1**	**-0.7**
GEVA	**Gevas**	**0.68**	**217**	*i* P	**Pg**	**21 56 02.3**	**-1.4**
GEVA				*e*S	**Sb**	**21 56 14.4**	**+0.3**
GEVA				IAML		21 56 22.6	
	comp=Z,282nm,0.6s						
GEVA	**Gevas**	**0.68**	**217**	*i* P	**Pg**	**21 56 02.2**	**-1.4**
GEVA				*i* S	**Sb**	**21 56 14.8**	**+0.7**
GEVA	**Gevas**	**0.68**	**217**	P	**Pg**	**21 56 02.2**	**-1.4**
GEVA				S	**Sb**	**21 56 14.8**	**+0.7**
DYDN	**Diyadin**	**0.69**	**7**	*e*P	**Pg**	**21 56 02.7**	**-1.2**
DYDN				*i* Pg	**Pb**	**21 56 03.6**	**-1.2**
TUTA	**Tutak**	**0.81**	**313**	*e*P	**Pg**	**21 56 05.0**	**-1.2**
TUTA	**Tutak**	**0.81**	**313**	*i* P	**Pg**	**21 56 04.7**	**-1.4**
TUTA				*i* S	**Sb**	**21 56 18.3**	**+0.4**
TUTA	**Tutak**	**0.81**	**313**	P	**Pg**	**21 56 04.7**	**-1.4**
AGRB	**Hanur-Agry**	**0.85**	**328**	PG	**Pg**	**21 56 06.2**	**-0.8**
AGRB	**Hanur-Agry**	**0.85**	**328**	*e*Pg	**Pg**	**21 56 06.2**	**-0.8**
IGDI	**IGDIR**	**1.08**	**21**	*e*P	**Pg**	**21 56 10.1**	**-1.2**
IGDI				IAML		21 56 31.8	
	comp=Z,52nm,0.6s						
IGDI	**IGDIR**	**1.08**	**21**	*i* P	**Pg**	**21 56 09.8**	**-1.5**
IGDI				*i* S	**Sn**	**21 56 30.2**	**+3.3**
TASB	**TASBURUN-IGDIR**	**1.24**	**24**	PN	**Pn**	**21 56 13.3**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.24**	**24**	*e*Pn	**Pn**	**21 56 13.3**	**-0.6**
EKAR	**Karacoban**	**1.25**	**289**	*e*P	**Pg**	**21 56 13.2**	**-1.3**
EKAR	**Karacoban**	**1.25**	**289**	*i* P	**Pg**	**21 56 12.5**	**-2.0**
EKAR				*i* S	**Sn**	**21 56 31.7**	**+0.5**
EKAR	**Karacoban**	**1.25**	**289**	P	**Pg**	**21 56 12.5**	**-2.0**
EKAR				S	**Sn**	**21 56 31.7**	**+0.5**
GURO	**Guroymak-BITLI**	**1.25**	**256**	PN	**Pg**	**21 56 12.5**	**-2.0**
GURO	**Guroymak-BITLI**	**1.25**	**256**	*e*Pn	**Pg**	**21 56 12.5**	**-2.0**
HAKT	**HAKKARI**	**1.30**	**176**	*i* P	**Pn**	**21 56 13.0**	**-2.0**
HAKT				*i* S	**Sn**	**21 56 33.7**	**+1.2**
HYR	**Heyderabad**	**1.31**	**48**	⇑P	**Pb**	**21 56 15.2**	**0.0**
	SNR=13						
EATA	**Eleskirt**	**1.31**	**320**	*e*P	**Pn**	**21 56 14.4**	**-0.8**
EATA	**Eleskirt**	**1.31**	**320**	*i* P	**Pn**	**21 56 14.4**	**-0.8**
EATA				*i* S	**Sn**	**21 56 33.6**	**+0.6**
EATA	**Eleskirt**	**1.31**	**320**	P	**Pn**	**21 56 14.4**	**-0.8**
EATA				S	**Sn**	**21 56 33.6**	**+0.6**
YOVA	**Hakkari_Y˙˙˙kse**	**1.38**	**156**	*i* P	**Pn**	**21 56 14.9**	**-1.1**
YOVA	**Hakkari_Y˙˙˙kse**	**1.38**	**156**	P	**Pn**	**21 56 14.9**	**-1.1**
NAX	**Nakhchivan**	**1.52**	**77**	P	**Pb**	**21 56 18.8**	**-0.1**
	SNR=14						
NAX				⇑S	**Sg**	**21 56 43.9**	**+4.4**
SRTM	**Siirt_Merkez**	**1.56**	**237**	*i* P	**Pg**	**21 56 19.3**	**-1.2**
SRTM	**Siirt_Merkez**	**1.56**	**237**	P	**Pg**	**21 56 19.3**	**-1.2**
DIGO	**Kars**	**1.56**	**354**	*e*P	**Pn**	**21 56 18.9**	**+0.3**
SIRT	**Sirnak**	**1.62**	**214**	PN	**Pb**	**21 56 20.0**	**-0.6**
SIRT	**Sirnak**	**1.62**	**214**	*e*Pn	**Pb**	**21 56 20.0**	**-0.6**
SBZ	**Shahbuz**	**1.63**	**70**	P	**Pb**	**21 56 20.6**	**-0.1**
	SNR=70						
VRTB	**Varto-Mus**	**1.68**	**281**	PN	**Pb**	**21 56 20.8**	**-0.9**
VRTB	**Varto-Mus**	**1.68**	**281**	*i* P	**Pb**	**21 56 21.2**	**-0.4**
VRTB				*i* S	**Sg**	**21 56 45.8**	**+1.2**
VRTB	**Varto-Mus**	**1.68**	**281**	*e*Pn	**Pb**	**21 56 20.8**	**-0.9**
VRTB	**Varto-Mus**	**1.68**	**281**	P	**Pb**	**21 56 20.8**	**-0.4**
HOMI	**Horasan**	**1.76**	**313**	*e*P	**Pb**	**21 56 22.5**	**-0.5**
HOMI				IAML		21 56 53.5	
	comp=Z,39nm,0.6s						
HOMI	**Horasan**	**1.76**	**313**	*i* P	**Pn**	**21 56 21.7**	**+0.4**
KARS	**Kars**	**1.81**	**348**	PN	**Pn**	**21 56 21.9**	**0.0**
KARS	**Kars**	**1.81**	**348**	*e*Pn	**Pn**	**21 56 21.9**	**0.0**
EAK	**Akyaka**	**1.83**	**1**	*e*P	**Pg**	**21 56 24.9**	**-0.7**
EAK				IAML		21 57 10.6	
	comp=Z,37nm,0.6s						
EAK	**Akyaka**	**1.83**	**1**	*i* P	**Pb**	**21 56 24.1**	**-0.1**
EAK	**Akyaka**	**1.83**	**1**	P	**Pb**	**21 56 24.1**	**-0.1**
ORD	**Ordubad**	**1.88**	**87**	P	**Pb**	**21 56 24.2**	**-0.8**
	SNR=30						
SENK	**Senkaya-Erzuru**	**1.95**	**331**	PN	**Pn**	**21 56 24.6**	**+0.7**
SENK	**Senkaya-Erzuru**	**1.95**	**331**	*e*Pn	**Pn**	**21 56 24.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.00**	**250**	PN	**Pb**	**21 56 25.4**	**-1.5**
SVAN	**Silvan-Diyarba**	**2.00**	**250**	*e*Pn	**Pb**	**21 56 25.4**	**-1.5**
ERZM	**Erzurum**	**2.01**	**302**	*e*P	**Pb**	**21 56 27.3**	**0.0**
ERZM	**Erzurum**	**2.01**	**302**	*i* P	**Pb**	**21 56 26.0**	**-1.3**
ERZM	**Erzurum**	**2.01**	**302**	P	**Pb**	**21 56 26.0**	**-1.3**
BTMN	**Batman**	**2.06**	**243**	*i* P	**Pb**	**21 56 27.3**	**-0.6**
BTMN	**Batman**	**2.06**	**243**	P	**Pb**	**21 56 27.3**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.16**	**291**	*e*P	**Pb**	**21 56 29.5**	**-0.3**
ECAT	**Cat-ERZURUM**	**2.16**	**291**	*i* P	**Pb**	**21 56 29.0**	**-0.8**
ECAT	**Cat-ERZURUM**	**2.16**	**291**	P	**Pb**	**21 56 29.0**	**-0.8**
BNGB	**Bing˙¶l**	**2.27**	**274**	PN	**Pn**	**21 56 29.1**	**+1.0**
BINT	**Bingol**	**2.41**	**271**	*e*Pn	**Pn**	**21 56 29.1**	**-1.1**
GDB	**GEDABAY**	**2.50**	**41**	⇑P	**Pn**	**21 56 30.2**	**-1.2**
	SNR=6.3						
GDB				⇓S	**Sb**	**21 57 05.2**	**-1.4**
QZX	**Qazax, Azerbai**	**2.59**	**31**	⇓P	**Pn**	**21 56 30.2**	**-2.4**
	SNR=7.5						
QZX				⇓S	**Sn**	**21 57 05.2**	**+1.0**
KOPT	**Kop Dagi**	**2.66**	**297**	*i* P	**Pg**	**21 56 40.6**	**-0.8**
EPOS	**Posof**	**2.72**	**346**	*e*P	**Pn**	**21 56 35.6**	**+1.1**
GANJ	**Ganja**	**2.77**	**49**	⇓P	**Pn**	**21 56 34.2**	**-0.7**
	SNR=8.2						
GANJ				⇑S	**Sb**	**21 57 12.6**	**-1.4**
DIY	**Diyarbakir**	**2.81**	**251**	*e*Pn	**Pn**	**21 56 37.5**	**+2.0**
MAZI	**Mazidag**	**2.84**	**242**	PN	**Pn**	**21 56 37.2**	**+1.2**
MAZI	**Mazidag**	**2.84**	**242**	*e*Pn	**Pn**	**21 56 37.2**	**+1.2**
DYBB	**Diyarbakir**	**2.85**	**253**	PN	**Pn**	**21 56 37.5**	**+1.4**
DGRG	**David-gareji**	**2.93**	**27**	*e*P	**Pb**	**21 56 40.8**	**-2.1**
SEKA	**Sheki**	**3.64**	**49**	⇑P	**Pn**	**21 56 47.7**	**+0.8**
LRK	**Lerik**	**3.73**	**92**	⇓P	**Pn**	**21 56 49.7**	**+1.5**
GLBA	**Clilabad**	**3.77**	**83**	⇑P	**Pn**	**21 56 49.7**	**+1.1**
LKRN	**Lenkeran, Azer**	**4.06**	**90**	⇓P	**Pn**	**21 56 55.2**	**+2.5**
ASTR	**Astara**	**4.09**	**93**	⇓P	**Pn**	**21 56 55.0**	**+2.0**

IDC 28 22:00:32.3±9.5, 24°.18S×179°.95E, h506km±106km, mb3.4/4, mb1 3.6/5, mb1mx3.1/47, mbtmp4.5/5, Error ellipse: s-maj=90.1km s-min=35.3km az=14.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.24**	**189**	P	P	22 03 33.7	-0.6
	2.2nm,0.3s,baz=13,slow=1.7,SNR=8.5						
CTA	**Charters Tower**	**31.43**	**271**	P	P	22 06 12.5	+0.7
	9.4nm,0.3s,baz=92,slow=11,SNR=20						
STKA	**Stephens Creek**	**34.58**	**248**	P	P	22 06 38.6	+0.3
	1.9nm,0.6s,baz=75,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**41.95**	**261**	P	P	22 07 38.1	-0.4
	0.8nm,0.4s,baz=90,slow=7.0,SNR=12						
WRA	**Warramunga Arr**	**42.35**	**266**	P	P	22 07 41.0	-0.7
	2.8nm,0.5s,baz=101,slow=8.5,SNR=72						
HFS	**Hagfors**	**142.81**	**349**	PKP	PKPdf	22 19 04.8	-2.4
	1.9nm,0.4s,baz=47,slow=2.8,SNR=20					

JTS	JuntasAbangare	14.26	113	Pn		Pn		22 36 26.3	+1.1			
	1.1nm,0.3s,baz=350,slow=16,SNR=2.8											
JTS	JuntasAbangare	14.26	113	ePn		Pn		22 36 25.1	0.0			
	21nm,1.0s											
WHTX	Lake Whitney,	15.59	2	P		Pn		22 36 44.7	+2.0			
	baz=182											
NATX	Nacogdoches	15.68	11	P		Pn		22 36 45.0	+1.0			
	baz=192											
NATX	Nacogdoches	15.68	11	ePn		Pn		22 36 45.0	+1.0			
ABTX	Abilene, Hawle	16.25	356	P		Pn		22 36 52.5	+1.2			
	baz=175,SNR=14											
ABTX	Abilene, Hawle	16.25	356	ePn		P		22 36 54.7	+0.5			
	47nm,1.1s											
MNTX	Cornudas Mount	16.61	338	P		Pn		22 36 56.6	+0.9			
	baz=155,SNR=6.6											
MNTX	Cornudas Mount	16.61	338	ePn		Pn		22 36 56.0	+0.3			
	8.4nm,1.3s											
244A	Avery, Jackson	17.07	22	P		Pn		22 37 01.6	+0.1			
	baz=205											
HSIG		17.20	319	ePn		Pn		22 37 04.3	+1.1			
MSTX	Muleshoe	18.01	348	P		Pn		22 37 13.6	+0.2			
	baz=166											
MSTX	Muleshoe	18.01	348	ePn		Pn		22 37 13.5	+0.2			
	26nm,1.3s											
319A	Douglas	18.03	328	ePn		P		22 37 15.4	+1.6			
	12nm,0.8s											
Y40A	Okolona	18.15	13	P		Pn		22 37 14.8	-0.1			
	baz=195											
146A	Union	18.23	26	P		P		22 37 16.1	+0.2			
	baz=209											
121A	Cookes Peak, D	18.29	333	P		P		22 37 18.1	+1.3			
	baz=149											
121A	Cookes Peak, D	18.29	333	ePn		P		22 37 18.9	+2.1			
	12nm,1.0s											
248A	Dixon Mills	18.35	29	P		P		22 37 17.2	0.0			
	baz=213											
X39A	Fountain Ranch	18.46	11	P		Pn		22 37 19.1	+0.4			
	baz=192											
AMTX	Amarillo	18.71	351	P		P		22 37 21.5	+0.1			
	baz=169											
AMTX	Amarillo	18.71	351	ePn		P		22 37 21.6	+0.3			
	718nm,1.2s											
Z46A	Louisville	18.76	25	P		P		22 37 21.9	+0.1			
	baz=208											
148A	Greensboro	18.89	29	P		Pn		22 37 23.9	0.0			
	baz=213											
Y45A	Yeager Farm, C	19.12	23	P		Pn		22 37 26.3	-0.4			
	baz=206											
W39A	Magazine	19.19	11	P		Pn		22 37 27.7	+0.2			
	baz=193											
BNM	Barren Site	19.26	338	eP		Pn		22 37 30.9	+2.2			
Y46A	Houston	19.40	24	P		P		22 37 28.4	-0.3			
	baz=208											
757A	Oxford	19.46	47	P		P		22 37 28.5	-1.0			
	baz=233											
LRAL	Lakeview Retre	19.48	29	P		P		22 37 30.0	+0.4			
	baz=214											
Z48A	Northport	19.51	28	P		P		22 37 29.7	-0.2			
	baz=212											
251A	Midway	19.53	34	P		P		22 37 29.9	-0.3			
	baz=219											
TUC	Tucson	19.54	327	eP		Pn		22 37 32.0	+0.1			
	6.3nm,1.3s											
454A	Quitman	19.56	40	P		P		22 37 30.6	0.0			
	baz=226											
TUL1	Leonard	19.60	6	P		P		22 37 30.5	-0.6			
	baz=187											
TUL1	Leonard	19.60	6	eP		P		22 37 29.5	-1.5			
	26nm,1.3s											
150A	Eclectic	19.61	32	P		P		22 37 31.0	-0.1			
	baz=217											
353A	Camilla	19.65	38	P		P		22 37 30.9	-0.6			
	baz=223											
Y47A	UCPARC, Winfie	19.83	26	P		P		22 37 33.1	-0.3			
	baz=210											
Z49A	Columbiana	19.83	30	P		P		22 37 33.6	+0.1			
	baz=214,SNR=5.2											
V39A	Pettigrew	19.84	11	P		P		22 37 33.6	-0.1			
	baz=193											
151A	Opelika	19.91	34	P		P		22 37 33.9	-0.5			
	baz=218,SNR=6.3											
ANMO	Albuquerque	19.93	340	P		P		22 37 35.4	+0.6			
	0.4nm,0.3s,baz=340,slow=12,SNR=16											
ANMO	Albuquerque	19.93	340	P		P		22 37 35.8	+1.0			
	baz=156											
ANMO	Albuquerque	19.93	340	eP		Pn		22 37 36.5	-0.1			
	11nm,1.0s											
V41A	Mountainview	20.10	15	P		P		22 37 36.5	0.0			
	baz=197											
Z50A	Ashland	20.18	31	P		P		22 37 37.0	-0.3			
	baz=216,SNR=5.7											
HHAR	Hobbs	20.22	10	eP		Pn		22 37 40.4	+0.6			
	12nm,1.1s											
V42A	Cord	20.32	16	P		P		22 37 38.8	0.0			
	baz=199											
X47A	Russelville	20.35	25	P		P		22 37 38.8	-0.4			
	baz=209											
214A	Organ Pipe Nat	20.41	322	P		P		22 37 40.5	+0.7			
	baz=136											
Y49A	Blount Mountai	20.43	29	P		P		22 37 39.9	-0.1			
	baz=214											
U40A	Yellville	20.50	13	P		P		22 37 41.2	+0.5			
	baz=194,SNR=12											
X48A	Hartselle	20.64	27	P		P		22 37 41.8	-0.5			
	baz=211											
PLAL	Pickwick Lake	20.67	24	eP		P		22 37 42.2	-0.4			
	16nm,1.0s											
U41A	Viola	20.69	15	P		P		22 37 42.8	0.0			
	baz=197											
U42A	Revenden	20.87	16	P		P		22 37 44.5	-0.3			
	baz=199,SNR=5.6											
T38A	Diamond	20.90	9	P		P		22 37 45.3	+0.2			
	baz=190,SNR=7.1											
X18A	Snowflake	20.93	332	eP		Pn		22 37 48.2	-0.1			
	20nm,1.1s											
X49A	Woodville	21.01	28	P		P		22 37 45.9	-0.4			
	baz=213											
T39A	Clever	21.04	11	P		P		22 37 47.1	+0.5			
	baz=193,SNR=8.3											
W47A	Westpoint	21.09	25	P		P		22 37 47.0	-0.2			
	baz=209											
W48A	Pulaski	21.27	26	P		P		22 37 48.5	-0.6			
	baz=211											
X50A	Fort Payne	21.29	30	P		P		22 37 49.0	-0.3			
	baz=215											
T40A	Mansfield	21.33	13	P		P		22 37 49.5	-0.2			
	baz=195											
V46A	Holladay	21.37	23	P		P		22 37 49.6	-0.6			
	baz=207,SNR=8.2											
T41A	Mountain View	21.40	14	P		P		22 37 50.4	0.0			
	baz=197											
T25A	Trinidad	21.42	346	P		P		22 37 51.7	+0.9			
	baz=163,SNR=9.6											
T25A	Trinidad	21.42	346	eP		P		22 37 52.9	+2.0			
	38nm,1.2s											
PBMO	Poplar Bluff	21.50	17	eP		P		22 37 54.7	+3.2			
	36nm,1.0s											
S38A	Stockton	21.54	9	P		P		22 37 52.1	+0.1			
	baz=191,SNR=5.7											
X16A	Lo Mia Camp, P	21.55	329	eP		P		22 37 54.5	+2.3			
	12nm,0.9s											
T42A	Van Buren	21.55	16	P		P		22 37 51.8	-0.2			
	baz=198,SNR=7.5											
GOGA	Godfrey	21.59	35	P		P		22 37 52.2	-0.4			
	baz=221,SNR=8.3											
GOGA	Godfrey	21.59	35	eP		P		22 37 51.5	-1.0			
	20nm,1.0s											
V47A	Nunnelly	21.63	24	P		P		22 37 52.3	-0.6			
	baz=208											
U45A	Rockin P Farm,	21.63	21	P		P		22 37 52.4	-0.5			
	baz=205											
S39A	Bolivar	21.70	11	P		P		22 37 53.7	0.0			
	baz=192,SNR=8.8											
S40A	Lebanon	21.77	12	P		P		22 37 54.3	-0.1			
	baz=195											
WVT	Waverly	21.77	23	P		P		22 37 53.7	-0.7			
	baz=207											
WVT	Waverly	21.77	23	eP		P		22 37 53.7	-0.7			
	31nm,1.0s											
SWET	Sewanee	21.78	28	eP		P		22 37 54.0	-0.5			
	8.2nm,1.0s											
T43A	Greenville	21.82	17	P		P		22 37 54.5	-0.4			
	baz=200,SNR=7.5											
V48A	Smith Brothers	21.83	26	P		P		22 37 54.4	-0.8			
	baz=210,SNR=6.5											
S41A	Jillco Farms,	21.92	14	P		P		22 37 55.2	-0.8			
	baz=196											
Y14A	Wickenburg	21.98	326	eP		P		22 37 58.5	+1.6			
	7.4nm,1.0s											
R38A	Fenwick Farm,	22.09	9	P		P		22 37 56.8	-1.0			
	baz=191											
U47A	Clarksville	22.25	24	P		P		22 37 58.9	-0.7			
	baz=208,SNR=6.0											
SDCO	Great Sand Dun	22.26	345	P		P		22 37 59.9	0.0			
	baz=161											
SDCO	Great Sand Dun	22.26	345	eP		P		22 37 60.0	0.0			
	8.9nm,1.0s											
S42A	Caledonia	22.33	16	P		P		22 38 00.3	-0.1			
	baz=199,SNR=5.2											
S43A	Fulton Ridge,	22.34	17	P		P		22 38 00.5	0.0			
	baz=201											
R39A	Chumby, Stover	22.36	11	P		P		22 38 00.9	+0.2			
	baz=193,SNR=6.5											
GLA	Glamis	22.39	321	P		P		22 38 02.2	+1.1			
	baz=134											
WUAZ	Wupatki	22.40	331	P		P		22 38 02.5	+1.0			
	baz=145											
WUAZ	Wupatki	22.40	331	eP		P		22 38 03.8	+2.4			
	14nm,1.1s											
CBKS	Cedar Bluff	22.42	357	eP		P		22 38 06.8	+5.3			
	22nm,1.2s											
R40A	Maddies Statio	22.48	12	P		P		22 38 02.8	+0.7			
	baz=195,SNR=14											
CCM	Cathedral Cave	22.48	15	P		P		22 38 02.6	+0.5			
	baz=197											
CCM	Cathedral Cave	22.48	15	eP		P		22 38 02.5	+0.4			
	42nm,1.8s											
T46A	Princeton	22.56	22	P		P		22 38 03.1	+0.2			
	baz=206,SNR=5.5											
U48A	Cassie Pea, Po	22.61	25	P		P		22 38 03.6	+0.2			
	baz=210,SNR=8.9											
S22A	4UR Ranch, Cre	22.62	342	P		P		22 38 04.7	+0.8			
	baz=158											
S22A	4UR Ranch, Cre	22.62	342	eP		P		22 38 04.9	+1.0			
	9.0nm,1.0s											
FVM	French Village	22.63	16	eP		P		22 38 04.7	+1.1			
	10nm,0.9s											
CPCT	Cooper Cave	22.63	30	eP		P		22 38 03.0	-0.6			
MVCO	Mesa Verde	22.68	338	P		P		22 38 05.0	+0.7			
	baz=154,SNR=8.8											
MVCO	Mesa Verde	22.68	338	eP		P		22 38 05.1	+0.7			
	18nm,1.0s											
R41A	Rosebud	22.68	14	P		P		22 38 04.7	+0.5			
	baz=197											
S44A	Carbondale	22.69	19	P		P		22 38 05.1	+0.8			
	baz=202,SNR=7.3											
Y12C	Blythe	22.70	323	P		P		22 38 05.3	+0.9			
	baz=136											
SIUC	Southern Illin	22.72	19	eP		P		22 38 05.5	+0.8			
	30nm,1.0s											
T47A	Sharon Grove	22.80	24	P		P		22 38 05.5	0.0			
	baz=208,SNR=8.8											
R42A	Luebering	22.81	15	P		P		22 38 05.1	-0.4			
	baz=198											
HODGE	Hodges	22.88	36	eP		P		22 38 05.5	-0.7			
	24nm,1.0s											
PDMCI	Parker Dam,Lak	22.88	324	P		P		22 38 07.1	+0.8			
	baz=137											
Q38A	Cooks Store, C	22.89	9	P		P		22 38 06.5	+0.1			
	baz=191											
S45A	Carrier Mills	22.89	20	P		P		22 38 06.1	-0.2			
	baz=214,SNR=6.8											
KSCO	Kaye Shedlock'	22.90	351	P		P		22 38 06.9	+0.2			
	baz=169											
KSCO	Kaye Shedlock'	22.90	351	eP		P		22 38 07.5	+0.8			
	28nm,1.1s											
R43A	Red Bud	23.03	17	P		P		22 38 07.4	-0.5			
	baz=200,SNR=7.3											
BG3	Lake Jocassee	23.08	34	eP		P		22 38 08.1	-0.3			
	28nm,1.2s											
Q39A	Willow Grove F	23.08	11	P		P		22 38 08.3	0.0			
	baz=193											
TKL	Tuckaleechee C	23.16	31	P		P		22 38 08.8	-0.4			
	5.8nm,0.9s,baz=183,slow=7.7,SNR=3.8											
TKL						LR		LR	22 49 50.0			
	comp=Z,69nm,18.2s,baz=196,slow=43											
TKL	Tuckaleechee C	23.16	31	eP		P		22 38 10.7	+1.5			
	20nm,1.3s											
BC3	Big Chuckawall	23.18	321	P		P		22 38 10.5	+1.0			
	baz=134											
T48A	Bowling Green	23.19	25	P		P		22 38 09.0	-0.4			
	baz=210,SNR=6.6											
S46A	Don Dixon Farm	23.20	22	P		P		22 38 08.8	-0.7			
	baz=206											
Q40A	Laux Farm, Aux	23.20	12	P		P		22 38 09.3	-0.2			
	baz=195											
R44A	Waltonville	23.26	19	P		P		22 38 10.3	+0.2			
	baz=202											
MONP2	Monument Peak	23.27	318	P		P		22 38 11.5	+1.0			
	baz=131											
Q24A	Divide	23.33	346	P		P		22 38 11.3	+0.1			
	baz=163											
NHSC	New Hope	23.34	41	P		P		22 38 10.5	-0.4			
	baz=228											
NHSC	New Hope	23.34	41	eP		P		22 38 12.7	+1.7			
	131nm,1.1s											
Q41A	Truxton	23.34	14	P		P		22 38 10.9	0.0			
	baz=197											
IRM	Iron Mountain	23.35	323	P		P		22 38 11.8	+0.6			
	baz=135											
P37A	Lathrop	23.40	8	P		P		22 38 11.2	-0.3			
	baz=189											
USIN	University of	23.46	21	eP		P		22 38 12.8	+0.6			
	37nm,0.9s											
Q42A	Golden Eagle	23.47	15	P		P		22 38 12.3	+0.1			
	baz=198											
JSC	Jeffersonville	23.48	37	eP		P		22 38 11.8	-0.6			
	22nm,1.1s											
P39B	Salisbury	23.55	11	P		P		22 38 12.5	-0.4			
	baz=193											
R45A	Skylar, Fairfi	23.55	20	P		P		22 38 12.8	-0.1			
	baz=204											
P38A	Dawn	23.55	9	P		P		22 38 12.7	-0.2			
	baz=191											
U15A	North Rim	23.57	331	eP		P		22 38 15.8	+2.2			
	9.4nm,1.0s											
P40A	Paris	23.72	12	P		P		22 38 14.1	-0.5			
	baz=194,SNR=7.9											
Q43A	New Douglas	23.72	17	P		P		22 38 14.0	-0.6			
	baz=200											
BELC	Belle Mtn. Jos	23.75	321	P		P		22 38 15.5	+0.4			
	baz=133											
PFO	Pinyon Flats O	23.77	320	P		P		22 38 14.5	-0.8			
	baz=132											
O34A	Beatrice	23.79	3	P		P		22 38 15.3	+0.1			
	baz=133											
S48A	Wiedeman Farm,	23.80	25	P		P		22 38 14.9	-0.4			
	baz=210											
Q44A	Meyer Farm, Va	23.88	18	P		P		22 38 15.0	-1.1			
	baz=202											
TZTN	Tazewell	23.97	30	P		P		22 38 15.9	-1.1			
	baz=216											
TZTN	Tazewell	23.97	30	eP		P		22 38 18.3	+1.3			
	42nm,1.5s											
SMCO	Snowmass	23.99	343	eP		P		22 38 19.4	+1.8			
	22nm,1.3s											
KMSC	Kings Mountain	24.06	36	P		P		22 38 17.3	-0.6			
	baz=223											
KMSC	Kings Mountain	24.06	36	eP		P		22 38 16.9	-0.9			
	20nm,1.1s											
P41A	Barry, Barry	24.07	14	P		P		22 38 17.6	-0.3			
	baz=197											
GMRC	Granite Mounta	24.10	323	P		P		22 38 19.3	+1.0			
	baz=135											
P42A	Winchester	24.16	15	P		P		22 38 18.7	0.0			
	baz=198											
R47A	Wooly Knot Far	24.17	23	P		P		22 38 18.1	-0.7			
	baz=208,SNR=7.0											
WCI	Wyandotte Cave	24.20	23	P		P		22 38 18.8	-0.2			
	baz=209											
WCI	Wyandotte Cave	24.20	23	eP		P		22 38 18.4	-0.7			
	31nm,1.3s											
ISCO	Idaho Springs	24.23	346	P		P		22 38 20.4	+0.7			
	baz=162,SNR=18											
ISCO	Idaho Springs	24.23	346	eP		P		22 38 21.0	+1.3			
	14nm,1.0s											
KNB	Kanab	24.30	331	eP		P		22 38 22.8	+2.6			
	11nm,1.1s											
O40A	La Belle	24.33	12	P		P		22 38 20.0	-0.2			
	baz=195											
O39A	Kirksville	24.33	11	P		P		22 38 20.4	+0.1			
	baz=193											
R48A	Northridge Ran	24.51	24	P		P		22 38 22.0	0.0			
	baz=209											
HEC	Hector,Ludlow	24.52	322	P		P		22 38 22.8	+0.6			
	baz=134											
O41A	Passleys Farm,	24.53	14	P		P		22 38 22.2	+0.1			
	baz=197											
OGNE	Ogallala	24.73	353	P		P		22 38 24.4	+0.4			
	baz=171											
OGNE	Ogallala	24.73	353	eP		P		22 38 25.9	+1.9			
	42nm,1.2s											
Q47A	Bedord North L	24.77	22	P		P		22 38 23.5	-0.8			
	baz=208											
P45A	Graceland, Par	24.85	20	P		P		22 38 24.7	-0.2			
	baz=204											
MTPU	Mount Pierson	24.85	333	eP		P		22 38 27.9	+2.5			
	11nm,1.0s											
CIS	Catalina Islan	24.89	317	P		P		22 38 26.1	+0.6			
	baz=128											
N39A	Derby Farms, D	24.94	10	P		P		22 38 25.7	-0.1			
	baz=193											
SRU	San Rafael Swe	25.10	337	eP		P		22 38 29.2	+1.7			
	12nm,1.2s											
P46A	Rosedale	25.10	20	P		P		22 38 27.2	-0.1			
	baz=205											
N40A	Mertquake, Sal	25.12	12	P		P		22 38 27.2	-0.2			
	baz=195											
M37A	Trindle Farm,	25.23	7	P		P		22 38 27.9	-0.5			
	baz=189											
MSU	Marysvale	25.25	334	eP		P		22 38 30.4	+1.5			
O20A	White River Ci	25.25	342	P		P		22 38 28.6	-0.2			
	baz=157											
O20A	White River Ci	25.25	342	eP		P		22 38 31.2	+2.4			
	17nm,1.0s											
P47A	Martinsville	25.31	22	P		P		22 38 28.1	-1.1			
	baz=207											
HDIL	Hopedale	25.34	16	P		P		22 38 29.0	-0.4			
	baz=200											
N23A	Red Feather La	25.35	346	P		P		22 38 30.4	+0.6			
	baz=162,SNR=8.6											
N23A	Red Feather La	25.35	346	eP		P		22 38 32.0	+2.1			
	20nm,1.1s											
M38A	Pleasantville	25.36	9	P		P		22 38 29.4	-0.2			
	baz=191											
N42A	Yates City	25.41	15	P		P		22 38 29.0	-1.0			
	baz=198											
O45A	Potomac	25.51	19	P		P		22 38 30.4	-0.5			
	baz=204											
M39A	Webster	25.58	11	P		P		22 38 31.0	-0.7			
	baz=193											
NCAT	North Carolina	25.62	36	eP		P		22 38 33.1	+1.1			
	48nm,1.1s											
N43A	Stutzman Famil	25.73	16	P		P		22 38 32.7	-0.2			
	baz=200											
M41A	Milan	25.81	13	P		P		22 38 33.4	-0.3			
	baz=197											
SFIN	Lafayette	25.83	20	P		P		22 38 32.2	-1.6			
	baz=205											
N44A	Piper City	25.89	18	P		P		22 38 34.3	-0.1			
	baz=202											
O47A	Sheridan	26.01	21	P		P		22 38 35.3	-0.2			
	baz=207											
L38A	Oak Wood Farm,	26.10	9	P		P		22 38 36.7	+0.4			
	baz=191											
L39A	Vinton	26.24	11	P		P		22 38 37.7	+0.1			
	baz=193											
M43A	Waltham Townsh	26.25	16	P		P		22 38 37.8	+0.2			
	baz=200											
L40A	Anamosa	26.33	12	P		P		22 38 38.8	+0.4			
	baz=195											
NLU	North Lily Min	26.43	336	eP		P		22 38 41.4	+1.9			
	6.8nm,1.0s											
M44A	Midewin, Midew	26.46	17	P		P		22 38 39.5	0.0			
	baz=202											
L41A	Preston	26.49	13	P		P		22 38 39.8	0.0			
	baz=196											
L42A	Oliver, Polo	26.61	14	P		P		22 38 40.9	0.0			
	baz=198											
K37A	Belmond	26.62	8	P		P		22 38 41.2	+0.2			
	baz=190											
R11A	Troy Canyon, C	26.70	329	P		P		22 38 42.8	+0.8			
	baz=140											
RUSC	La Rusia	26.75	110	eP		P		22 38 44.3	+1.3			
	5.4nm,1.2s											
K39A	Oelwein	26.82	10	P		P		22 38 42.9	+0.1			
	baz=193											
DUG	Dugway, Tooele	26.93	335	P		P		22 38 44.0	+0.1			
	baz=148											
K40A	Colesburg	26.96	12	P		P		22 38 44.0	-0.1			
	baz=195											
L43A	Garden Prairie	27.01	16	P		P		22 38 44.3	-0.2			
	baz=200											
K41A	Shullsburg	27.04	13	P		P		22 38 44.9	+0.1			
	baz=197											
J36A	Seneca 1, Swea	27.10	6	P		P		22 38 44.7	-0.6			
	baz=188											
J37A	Redenius Farm,	27.17	8	P		P		22 38 45.1	-0.8			
	baz=190											
J38A	Wedel Dairy, R	27.33	9	P		P		22 38 46.9	-0.5			
	baz=192											
BGU	Big Grassy Mou	27.63	335	eP		P		22 38 52.5	+2.2			
	6.1nm,1.2s											
J41A	Loganville	27.83	13	P		P		22 38 51.3	-0.5			
	baz=197											
SDV	Santo Domingo	27.92	102	P		P		22 38 52.8	-0.3			
	1.8nm,0.4s,baz=344,slow=15,SNR=4.3											
J42A	Columbus	27.98	14	P		P		22 38 52.1	-1.1			
	baz=199											
BW06	Boulder Array	28.05	342	P		P		22 38 54.0	-0.2			
	baz=156											
PDAR	Pinedale Array	28.05	342	P		P		22 38

	baz=152									
F10A	**Beach Ranch, E**	**33.53**	**336**	*e*P		**P**		**22 39 43.1**	**+0.9**	
	7.1nm,0.9s									
ULM	**Lac du Bonnet**	**33.87**	**3**	P		**P**		**22 39 44.3**	**-0.7**	
	3.5nm,1.0s,baz=225,slow=7.5,SNR=3.4									
ULM				LR		LR		22 55 42.8		
	comp=Z,52nm,18.6s,baz=129,slow=40									
LBNH	**Lisbon**	**35.60**	**33**	P		**P**		**22 39 58.6**	**-1.5**	
	baz=227									
A04D	**Lummi Island**	**37.97**	**334**	P		**P**		**22 40 19.6**	**-0.5**	
	baz=140									
FFC	**Flin Flon**	**38.41**	**357**	*e*P		**P**		**22 40 23.7**	**-0.1**	
	11nm,1.2s									
EDM	**Edmonton**	**38.66**	**345**	*e*P		**P**		**22 40 26.9**	**+0.9**	
	13nm,1.1s									
FCC	**Fort Churchill**	**42.46**	**3**	*e*P		**P**		**22 40 57.5**	**+0.4**	
	20nm,1.7s									
LPAZ	**La Paz**	**43.98**	**136**	LR		LR		22 56 45.0		
	comp=Z,61nm,19.3s,baz=280,slow=32									
RPN	**Rapa Nui**	**44.54**	**194**	LR		LR		22 55 16.8		
	comp=Z,87nm,20.0s,baz=243,slow=30									
SCHQ	**Schefferville**	**45.39**	**25**	P		**P**		**22 41 20.3**	**-0.5**	
	7.5nm,0.8s,baz=228,slow=3.3,SNR=7.5									
SCHQ				LR		LR		23 03 12.4		
	comp=Z,72nm,18.5s,baz=18,slow=40									
SCHQ	**Schefferville**	**45.39**	**25**	*e*P		**P**		**22 41 20.8**	**-0.1**	
	15nm,1.1s									
YKA	**Yellowknife Ar**	**47.51**	**350**	P		**P**		**22 41 36.4**	**-0.9**	
	1.4nm,1.0s,baz=158,slow=7.5,SNR=14									
HPAH	**Hawaii Prepara**	**54.49**	**283**	*e*P		P		22 42 37.1	+6.5	
	107nm,0.5s									
INK	**Inuvik**	**56.56**	**345**	*e*P		**P**		**22 42 44.8**	**+0.2**	
	5.7nm,1.0s									
RIDG	**Independ'e Rid**	**57.05**	**337**	*e*P		**P**		**22 42 49.9**	**+1.7**	
	16nm,1.2s									
IL1	**Eielson Array**	**58.36**	**338**	*e*P		**P**		**22 42 57.0**	**-0.3**	
ILAR	**Eielson Array**	**58.36**	**338**	P		**P**		**22 42 56.9**	**-0.4**	
	2.4nm,1.1s,baz=141,slow=5.5,SNR=14									
ILAR				LR		LR		23 10 54.3		
	comp=Z,122nm,20.1s,baz=141,slow=39									
RND	**Reindeer**	**58.40**	**336**	*e*P		**P**		**22 42 58.6**	**+0.8**	
	13nm,1.2s									
TRF	**Thorofare Moun**	**58.98**	**336**	*e*P		**P**		**22 43 01.9**	**-0.1**	
	13nm,1.0s									
CAST	**Castle Rocks**	**59.69**	**335**	*e*P		**P**		**22 43 06.4**	**-0.3**	
	8.4nm,1.1s									
MLY	**Manley**	**59.91**	**337**	*e*P		**P**		**22 43 08.5**	**+0.4**	
	7.1nm,1.1s									
TOLK	**Toolik Lake Re**	**61.31**	**341**	P		**P**		**22 43 16.9**	**-0.8**	
	baz=121									
PLCA	**Paso Flores**	**62.34**	**157**	LR		LR		23 04 00.6		
	comp=Z,60nm,20.5s,baz=258,slow=30									
JMIC	**Jan Mayen**	**74.59**	**20**	LR		LR		23 21 45.5		
	comp=Z,32nm,19.1s,baz=250,slow=39									
SPITS	**Spitsbergen Ar**	**78.97**	**11**	LR		LR		23 21 30.5		
	comp=Z,58nm,18.3s,baz=155,slow=37									
ESDC	**Sonseca Array**	**82.96**	**51**	P		**P**		**22 45 26.9**	**-0.8**	
	0.2nm,0.4s,baz=288,slow=6.8,SNR=4.8									
NOA	**NORSAR Array B**	**84.91**	**27**	LR		LR		23 26 21.4		
	comp=Z,13nm,18.1s,baz=350,slow=38									
TIXI	**Tiksi**	**86.65**	**347**	LR		LR		23 29 03.1		
	comp=Z,21nm,18.6s,baz=12,slow=39									
VRAC	**Vranov**	**93.00**	**36**	LR		LR		23 32 27.6		
	comp=Z,23nm,18.1s,baz=8.5,slow=38									
OBN	**Obninsk**	**99.19**	**24**	LR		LR		23 31 22.6		
	comp=Z,34nm,18.7s,baz=274,slow=35									
LZH	**Lanzhou**	**123.82**	**338**	*e*PKP		**PKPdf**		**22 52 02.5**	**+1.6**	
LZH				pPKP		PKiKP		22 52 05.8	+4.6	
LZH				sPKP				22 52 07.0		
KSH	**Kashi**	**124.16**	**5**	*e*PKP		**PKPdf**		**22 52 05.0**	**+3.5**	
ASAR	**Alice Springs**	**130.68**	**253**	PKP		**PKPdf**		**22 52 14.2**	**+0.1**	
	0.7nm,0.9s,baz=88,slow=5.1,SNR=5.1									

MEX 28 22:34:46.3±0.3, 15°.90N×98°.22W, h4km±3km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.50**	**11**	*e*P	Pg	22 34 55.4	-0.4
PNIG				*i* S	Sg	22 35 02.9	+0.5
TLIG	**Tlapa**	**1.68**	**349**	*e*P	Pn	22 35 12.9	-3.8
TLIG				eS	Sn	22 35 33.7	-5.1
VHO	**Vista Hermosa**	**1.84**	**51**	*e*P	Pn	22 35 15.4	-3.5
VHO				eS	Sn	22 35 38.5	-4.4
CAIG	**El Cayaco**	**2.27**	**300**	*e*P	Pn	22 35 21.7	-2.9

*BJI **28** 23:09:44.8,9°.30S×113°.50E, h50km, mb4.7/39, mB5.0/26, Ms4.4/11, Ms7 4.1/8*
*ISCJB **28** 23:09:46.5±0.4, 9°.30S±0°.03×113°.46E±0°.02, h69km±3km, mb4.5/53, Error ellipse: s-maj=5.4km s-min=3.1km az=22.0*
*NEIC **28** 23:09:46.6±0.5, 9°.27S×113°.50E, h55km±4km, mb4.8/25, Error ellipse: s-maj=7.4km s-min=4.1km az=209.0*
*IDC **28** 23:09:46.6±0.5, 9°.21S×113°.50E, h52km±3km, mb4.2/23, mb1 4.3/25, mb1mx4.1/63, mbtmp4.5/25, MS3.6/29, Ms1 3.7/29, ms1mx3.5/52, Error ellipse: s-maj=19.2km s-min=10.4km az=57.0*
*DJA **28** 23:09:48.1±0.2, 9°S±3°×11°3E±°, h50km±4km, M4.9/31, mb5.1/31, mB5.4/18, MLv5.0/31, Mw(mB)4.8/18*
ISC 28 23:09:46.7±0.5, 9°.30S±0°.05×113°.44E±0°.04, h53km±3km, h53km:pP-P, n202, σ1°53/211, mb4.7/53, MS3.7/32, 2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.02**	**0**	P	**Pn**	**23 10 04.7**	**0.0**
GMJI				S	**Sn**	**23 10 18.0**	**0.0**
JAGI	**Jajag, Banyuwa**	**1.08**	**41**	P	**Pn**	**23 10 05.4**	**-0.2**
JAGI				S	**Sn**	**23 10 19.9**	**+0.3**
JAGI	**Jajag, Banyuwa**	**1.08**	**41**	*e*Pn	**Pn**	**23 10 05.3**	**-0.2**
JAGI				*e*S	**Sn**	**23 10 19.9**	**+0.3**
BLJI	**Banyuglugur**	**1.55**	**6**	P	**Pn**	**23 10 14.1**	**+2.2**
ABJI	**Asem Bagus**	**1.69**	**28**	P	**Pn**	**23 10 16.7**	**+2.9**
ABJI				S	**Sn**	**23 10 36.4**	**+2.1**
IGBI	**Denpasar**	**1.75**	**74**	P	**Pn**	**23 10 14.5**	**-0.2**
DNP	**Denpasar**	**1.85**	**71**	P	**Pn**	**23 10 17.0**	**+0.9**
DNP				S	**Sn**	**23 10 39.8**	**+1.4**
PWJI	**Pagerwojo**	**2.05**	**308**	P	**Pn**	**23 10 19.9**	**+1.1**
PWJI				S	**Sn**	**23 10 43.3**	**0.0**
SRBI	**Singaraja**	**2.13**	**56**	P	**Pn**	**23 10 20.7**	**+0.9**
SRBI				S	**Sn**	**23 10 46.3**	**+1.2**
KMMI	**Kalianget**	**2.29**	**13**	P	**Pn**	**23 10 24.8**	**+2.7**
PCJI	**Pacitan**	**2.49**	**296**	P	**Pn**	**23 10 25.7**	**+0.9**
GRJI	**Gresik**	**2.55**	**338**	P	**Pn**	**23 10 28.5**	**+2.9**
TBJI	**Tambak Boyo**	**2.92**	**327**	P	**Pn**	**23 10 33.5**	**+2.8**
UGM	**Wanagama**	**3.19**	**295**	P	**Pn**	**23 10 36.1**	**+1.6**
UGM	**Wanagama**	**3.19**	**295**	*e*Pn	**Pn**	**23 10 36.0**	**+1.5**
BWJI	**Bawean**	**3.51**	**347**	P	**Pn**	**23 10 40.6**	**+1.8**
SMRI	**Semarang**	**3.71**	**307**	*e*Pn	**Pn**	**23 10 44.0**	**+2.4**
PLAI	**Plampang**	**4.31**	**84**	P	**Pn**	**23 10 50.4**	**+0.7**
KPJI	**Karang Pucung**	**4.87**	**293**	P	**Pn**	**23 11 00.2**	**+2.8**
CMJI	**Cimerak**	**5.16**	**287**	P	**Pn**	**23 11 02.2**	**+0.8**
	310nm,0.9s,5μm1.4nm						
CISI	**Cisompet, Garu**	**5.83**	**287**	P	**Pn**	**23 11 11.9**	**+1.3**
CISI	**Cisompet, Garu**	**5.83**	**287**	*e*Pn	**Pn**	**23 11 11.5**	**+0.9**
CISI				*e*S	**Sn**	**23 12 21.9**	**+5.7**
WBSI	**Waikabubak, Su**	**5.88**	**94**	P	**Pn**	**23 11 11.9**	**+0.5**
LEM	**Lembang**	**6.26**	**293**	P	**Pn**	**23 11 16.5**	**-0.2**
	5.3nm,0.3s,baz=90,slow=14,SNR=2.6						
LEM				LR	LR	23 14 28.3	
	comp=Z,323nm,20.4s,baz=118,slow=45						
LEM	**Lembang**	**6.26**	**293**	P	**Pn**	**23 11 18.7**	**+2.0**
KBKI	**Kotabaru**	**6.55**	**25**	P	**Pn**	**23 11 21.8**	**+1.4**
CNJI	**Cibinong**	**6.55**	**287**	P	**Pn**	**23 11 22.2**	**+1.7**
WSI	**Waingapu**	**6.78**	**94**	P	**Pn**	**23 11 24.6**	**+1.0**
PBKI	**Pangkalan Bun**	**6.78**	**345**	P	**Pn**	**23 11 25.8**	**+2.1**
BASI	**Baing, Sumba**	**7.10**	**98**	P	**Pn**	**23 11 28.8**	**+0.8**
	288nm,0.7s,3μm1.6nm						
SKJI	**Sukabumi**	**7.18**	**288**	P	**Pn**	**23 11 32.2**	**+3.0**
	263nm,0.8s,5μm2.1nm						
KAPI	**Kappang**	**7.57**	**56**	*e*Pn	**Pn**	**23 11 33.8**	**-0.7**
	57nm,1.0s						
KAPI				*e*S	**Sn**	**23 12 57.2**	**-1.8**
BSSI	**Bau Bau, Buton**	**7.66**	**66**	P	**Pn**	**23 11 36.1**	**+0.4**
	121nm,0.9s,1μm0.5nm						
XMIS	**Christmas Isla**	**7.76**	**261**	*e*Pn	**Pn**	**23 11 35.6**	**-1.6**
XMIS				*e*S	Sn	23 12 53.6	-10
CGJI	**Cibinong**	**8.12**	**289**	P	**Pn**	**23 11 43.7**	**+1.7**
	668nm,0.4s,10μm						
BNSI	**Bone**	**8.21**	**54**	P	**Pn**	**23 11 46.8**	**+3.5**
	55nm,1.2s,911nm						

TTSI	**Tana Toraja**	**8.88**	**46**	P		**Pn**		**23 11 53.8**	**+1.4**	
STKI	**Sintang**	**9.51**	**348**	P		**Pn**		**23 12 05.3**	**+4.3**	
KASI	**Kota Agung**	**9.63**	**292**	P		**Pn**		**23 12 04.4**	**+1.7**	
	74nm,0.5s,2μm									
BATI	**Baumata**	**10.12**	**96**	P		**Pn**		**23 12 09.1**	**-0.3**	
	14nm,0.3s,baz=277,slow=1.1,SNR=16									
BATI	**Baumata**	**10.12**	**96**	P		**Pn**		**23 12 09.6**	**+0.2**	
	36nm,0.6s,587nm									
PPBI	**Pangkal Pinang**	**10.15**	**314**	P		**Pn**		**23 12 11.9**	**+2.1**	
LWLI	**Liwa**	**10.23**	**294**	P		**Pn**		**23 12 13.5**	**+2.5**	
MDSI	**Maura Dua**	**10.36**	**297**	P		**Pn**		**23 12 13.9**	**+1.2**	
SOEI	**Soe**	**10.69**	**93**	P		**Pn**		**23 12 17.3**	**0.0**	
SOEI	**Soe**	**10.69**	**93**	*e*Pn		**Pn**		**23 12 17.5**	**+0.1**	
SOEI				*e*S		**Sn**		**23 14 20.9**	**+5.2**	
MNAI	**Manna**	**11.51**	**295**	P		**Pn**		**23 12 28.9**	**+0.5**	
MNAI	**Manna**	**11.51**	**295**	*e*Pn		**Pn**		**23 12 28.2**	**-0.1**	
SBUM	**Sibu**	**11.73**	**354**	*e*Pn		Pn		23 12 36.3	+4.8	
MASI	**Maura Aman, Be**	**12.70**	**298**	P		**Pn**		**23 12 45.3**	**+0.6**	
MBWA	**Marble Bar**	**13.26**	**154**	*e*Pn		Pn		23 12 45.9	-6.4	
MBWA				*e*S		Sn		23 14 59.2	-19	
SANI	**Sanana**	**14.41**	**61**	P		**Pn**		**23 13 09.0**	**+1.2**	
MYKOM	**Kota Tinggi**	**14.58**	**319**	*e*Pn		**P**		**23 13 15.2**	**-0.1**	
FITZ	**Fitzroy Crossi**	**14.72**	**128**	P		**Pn**		**23 13 07.6**	**-4.3**	
AAI	**Ambon**	**15.68**	**70**	P		**P**		**23 13 32.6**	**+5.1**	
KNRA	**Kununurra**	**16.24**	**114**	P		**Pn**		**23 13 29.3**	**-2.2**	
	baz=16,SNR=6.8									
SISI	**Saibi**	**16.33**	**298**	P		**Pn**		**23 13 27.9**	**-4.6**	
LBMI	**Labuha**	**16.43**	**59**	P		**P**		**23 13 35.4**	**-0.4**	
SAUI	**Saumlaki**	**17.71**	**87**	P		**Pn**		**23 13 48.0**	**-1.7**	
SAUI	**Saumlaki**	**17.71**	**87**	*e*Pn		**Pn**		**23 13 47.9**	**-1.8**	
	312nm,1.0s									
MTN	**Manton Dam**	**17.72**	**103**	P		**Pn**		**23 13 49.0**	**-0.8**	
	baz=18,SNR=17									
MTN	**Manton Dam**	**17.72**	**103**	*e*Pn		**Pn**		**23 13 47.3**	**-2.5**	
	60nm,0.8s									
MEEK	**Meekatharra**	**17.93**	**165**	P		**P**		**23 13 49.8**	**-2.6**	
	baz=18,SNR=33									
PSI	**Prapat**	**18.81**	**309**	LR		LR		23 21 52.6		
	comp=Z,446nm,21.2s,baz=137,slow=39									
SWI	**Sorong**	**19.61**	**66**	P		**Pn**		**23 14 11.9**	**-0.8**	
FAKI	**Fak Fak**	**19.74**	**72**	*e*P		**P**		**23 14 10.3**	**-1.9**	
	44nm,0.8s									
MORW	**Morawa**	**19.82**	**173**	P		**P**		**23 14 13.7**	**+0.7**	
	baz=20,SNR=7.4									
DAV	**Davao City (W)**	**20.27**	**37**	LR		LR		23 24 24.4		
	comp=Z,105nm,19.1s,baz=156,slow=44									
WRKA	**Warakurna**	**21.10**	**140**	P		**P**		**23 14 26.7**	**-0.2**	
	baz=21,SNR=30									
TRTT	**Trang**	**21.85**	**321**	P		**P**		**23 14 35.3**	**+0.3**	
	7.4nm,0.9s									
WRA	**Warramunga Arr**	**22.80**	**120**	P		**P**		**23 14 43.5**	**-1.7**	
	32nm,0.8s,baz=296,slow=11,SNR=173									
WRA				LR		LR		23 23 46.1		
	comp=Z,474nm,21.2s,baz=295,slow=37									
WRAB	**Tennant Creek**	**22.80**	**120**	*e*P		**P**		**23 14 43.4**	**-1.8**	
	36nm,0.8s									
WB2	**Warramunga Arr**	**22.81**	**120**	*e*P		**P**		**23 14 43.7**	**-1.5**	
WC3	**Warramunga Arr**	**22.83**	**120**	*e*P		**P**		**23 14 44.7**	**-0.8**	
	38nm,0.8s									
SURT	**Suratani**	**23.27**	**321**	P		**P**		**23 14 48.5**	**-1.4**	
	8.8nm,1.1s,198nm									
NWAO	**Narrogin (SRO)**	**23.77**	**172**	P		**P**		**23 14 55.0**	**+0.5**	
	16nm,0.9s,baz=219,slow=9.9,SNR=7.3									
NWAO				LR		LR		23 25 25.9		
	comp=Z,110nm,18.4s,baz=204,slow=39									
NWAO	**Narrogin (SRO)**	**23.77**	**172**	*e*P		**P**		**23 14 54.8**	**+0.3**	
	42nm,0.7s									
AS31	**Alice Springs**	**24.22**	**129**	*e*P		**P**		**23 14 58.2**	**-0.5**	
	6.6nm,0.6s									
ASAR	**Alice Springs**	**24.22**	**129**	P		**P**		**23 14 58.3**	**-0.4**	
	18nm,0.7s,baz=305,slow=9.0,SNR=176									
ASAR				PcP		**PcP**		**23 18 39.2**	**+1.0**	
	2.1nm,0.6s,baz=324,slow=1.7,SNR=5.9									
ASAR				pPcP				23 18 55.2		
	1.2nm,0.6s,baz=310,slow=1.5,SNR=4.4									
ASAR				ScP		**ScP**		**23 22 11.8**	**-0.8**	
	1.6nm,0.8s,baz=334,slow=2.5,SNR=6.0									
ASAR				LR		LR		23 24 33.7		
	comp=Z,152nm,21.9s,baz=292,slow=37									
AS01	**Alice Springs**	**24.26**	**129**	*e*P		**P**		**23 14 57.5**	**-1.6**	
AS01				*e*PcP		**PcP**		**23 18 39.4**	**+1.1**	
AS17	**Alice Springs**	**24.29**	**129**	P		**P**		**23 14 58.9**	**-0.5**	
	baz=24									
FORT	**Forrest**	**25.35**	**150**	P		**P**		**23 15 08.7**	**-0.1**	
	baz=25,SNR=28									
FORT	**Forrest**	**25.35**	**150**	*e*P		**P**		**23 15 08.8**	**0.0**	
RKGY	**Rocky Gully**	**25.40**	**173**	P		**P**		**23 15 10.5**	**+1.3**	
	baz=25,SNR=4.9									
QIS	**Mount Isa**	**27.60**	**117**	P		**P**		**23 15 29.1**	**-0.2**	
	baz=28,SNR=4.8									
LAMP	**Lampang**	**30.82**	**334**	P		**P**		**23 16 00.4**	**+2.6**	
	3.7nm,1.0s									
CM01	**Chiang Mai Arr**	**31.03**	**333**	*e*P		**P**		**23 16 00.2**	**+0.6**	
CMAR	**Chiang Mai Arr**	**31.07**	**333**	P		**P**		**23 16 00.6**	**+0.6**	
	10nm,0.9s,baz=166,slow=8.1,SNR=45									
CMAR				ScP		**ScP**		**23 22 33.8**	**+0.4**	
	1.2nm,0.8s,baz=194,slow=3.4,SNR=5.9									
CMAR				LR		LR		23 30 31.8		
	comp=Z,116nm,18.2s,baz=169,slow=40									
MTSU	**Mount Surprise**	**31.21**	**110**	P		**P**		**23 16 02.2**	**+0.8**	
	baz=31,SNR=5.6									
BBOO	**Buckleboo**	**31.37**	**142**	P		**P**		**23 16 01.9**	**-0.6**	
	baz=31,SNR=14									
BBOO	**Buckleboo**	**31.37**	**142**	*e*P		**P**		**23 16 02.4**	**-0.2**	
	220nm,0.8s									
CMMT	**Chiang Mai**	**31.38**	**333**	P		**P**		**23 16 03.3**	**+0.6**	
	6.5nm,1.1s,413nm									
CHTO	**Chiang Mai**	**31.38**	**333**	P		**P**		**23 16 04.4**	**+1.7**	
	29nm,1.1s									
CHTO	**Chiang Mai**	**31.38**	**333**	*e*P		**P**		**23 16 03.0**	**+0.2**	
	4.7nm,0.9s									
PMG	**Port Moresby**	**33.27**	**93**	LR		LR		23 32 45.5		
	comp=Z,96nm,18.3s,baz=254,slow=42									
HTT	**Hallett**	**33.58**	**139**	P		**P**		**23 16 22.3**	**+0.4**	
	baz=33,SNR=7.4									
QLP	**Quilpie**	**33.83**	**125**	P		**P**		**23 16 24.8**	**+0.6**	
	baz=34,SNR=4.9									
STKA	**Stephens Creek**	**34.44**	**135**	P		**P**		**23 16 29.6**	**+0.3**	
	35nm,0.8s,baz=308,slow=8.7,SNR=90									
STKA				LR		LR		23 31 00.1		
	comp=Z,392nm,21.7s,baz=319,slow=37									
STKA	**Stephens Creek**	**34.44**	**135**	P		**P**		**23 16 29.7**	**+0.3**	
	baz=34,SNR=26									
STKA	**Stephens Creek**	**34.44**	**135**	*e*P		**P**		**23 16 29.7**	**+0.3**	
	7.1nm,0.8s									
KMI	**Kunming**	**35.77**	**343**	P		**P**		**23 16 43.5**	**+2.4**	
KMI				pmax		pmax				
	comp=Z,9.0nm,0.8s									
CMSA	**Cobar Meteorol**	**37.22**	**131**	P		**P**		**23 16 54.0**	**+0.8**	
	baz=37,SNR=11									
ARPS	**Mount Arapiles**	**37.55**	**141**	P		**P**		**23 16 56.6**	**+0.7**	
	baz=37,SNR=9.0									
TOO	**Toolangi**	**40.34**	**139**	P		**P**		**23 17 21.2**	**+1.8**	
	baz=40,SNR=4.7									
H08S2	**Diego Garcia H**	**40.52**	**269**	T		T		00 00 29.3		
	baz=95,slow=75,SNR=8.6									
H08S3	**Diego Garcia H**	**40.53**	**269**	T		T		00 00 27.3		
	baz=95,slow=75,SNR=8.5									
H08S1	**Diego Carcia H**	**40.54**	**269**	T		T		00 00 25.9		
	baz=95,slow=75,SNR=7.6									
YNG	**Young**	**40.56**	**133**	P		**P**		**23 17 22.2**	**+1.1**	
	baz=40,SNR=20									
CD2	**Chengdu**	**41.04**	**347**	*e*P		**P**		**23 17 25.8**	**+0.7**	
CD2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
CD2				pmax		pmax				
	comp=Z,120nm,5.0s									
NJ2	**Nanjing**	**41.44**	**7**	*e*P		**P**		**23 17 27.8**	**-0.4**	
NJ2				pmax		pmax				
	comp=Z,14nm,0.6s									
CAN	**Canberra**	**41.49**	**134**	P		**P**		**23 17 30.0**	**+1.1**	
	baz=41									
HYB	**Hyderabad**	**43.51**	**308**	*i* P		**P**		**23 17 44.0**	**-1.4**	
LSA	**Lhasa**	**44.32**	**332**	*e*P		**P**		**23 17 52.6**	**+0.4**	
	16nm,1.1s									
JNU	**Nakatsue**	**45.34**	**21**	LR		LR		23 40 41.9		
	comp=Z,18nm,18.6s,baz=182,slow=41									
HNR	**Honiara**	**45.86**	**94**	LR		LR		23 39 10.8		
	comp=Z,45nm,21.6s,baz=250,slow=38									
JBP	**Jabalpur**	**45.97**	**315**	*e*P		**P**		**23 18 05.8**	**+1.0**	
LZH	**Lanzhou**	**46.04**	**349**	*e*P		**P**		**23 18 05.0**	**-0.4**	
LZH				pP		pP		23 18 18.5	-0.9	
LZH				sP		sP		23 18 25.0	-0.5	
LZH				*e*PP		**PP**		**23 19 54.0**	**-0.2**	
LZH				pmax		pmax				
	comp=Z,21nm,1.3s									
LZH				pmax		pmax				
	comp=Z,85nm,6.7s									
LZH				LR		LR				
	comp=N,350nm,14.5s									
LZH				LR		LR				
	comp=E,370nm,15.0s									
LZH				LR		LR				
	comp=Z,420nm,18.2s									
KSAR	**Wonju Array Be**	**48.42**	**15**	P		**P**		**23 18 24.7**	**+1.0**	
KSRS	**Korea Array**	**48.45**	**15**	P		**P**		**23 18 24.7**	**+0.9**	
	0.6nm,0.4s,baz=201,slow=6.5,SNR=2.9									
KSRS				LR		LR		23 42 53.7		
	comp=Z,20nm,18.4s,baz=183,slow=41									
BJI	**Beijing**	**49.15**	**3**	*e*P		**P**		**23 18 29.0**	**-0.2**	
BJI				pmax		pmax				
	comp=Z,10.0nm,0.8s									
HHC	**Hu-ho-hao-te**	**49.93**	**358**	*e*P		**P**		**23 18 38.8**	**+3.5**	
HHC				S		**S**		**23 25 44.5**	**+2.6**	
HHC				sS		sS		23 26 08.0	+2.3	
HHC				pmax		pmax				
	comp=Z,5.0nm,1.0s									
HHC				pmax		pmax				
	comp=Z,110nm,5.1s									
HHC				LR		LR				
	comp=N,81nm,16.5s									
HHC				LR		LR				
	comp=E,90nm,14.3s									
GTA	**Gaotai**	**50.09**	**346**	P		**P**		**23 18 37.0**	**+0.5**	
GTA				pP		pP		23 18 48.5	-2.2	
GTA				sP		sP		23 18 53.3	-3.5	
GTA				S		**S**		**23 25 45.8**	**+1.6**	
GTA				sS		sS		23 26 06.5	-1.5	
GTA				SS		**SS**		**23 29 17.5**	**-0.7**	
GTA				pmax		pmax				
	comp=Z,4.0nm,1.0s									
GTA				pmax		pmax				
	comp=Z,71nm,6.9s									
GTA				LR		LR				
	comp=N,110nm,16.6s									
GTA				LR		LR				
	comp=E,210nm,18.5s									
GTA				LR		LR				
	comp=Z,120nm,15.7s									
USRK	**Ussuriysk Ar.**	**55.84**	**16**	P		**P**		**23 19 17.9**	**-0.8**	
	1.1nm,0.4s,baz=186,slow=3.8,SNR=4.6									
ULN	**Ulaanbaatar**	**57.19**	**355**	*e*P		**P**		**23 19 27.7**	**-0.8**	
	6.6nm,1.2s									
SONM	**Songino Array**	**57.22**	**354**	P		**P**		**23 19 28.1**	**-0.6**	
	2.4nm,0.3s,baz=174,slow=8.8,SNR=15									
SONM				pP		**pP**		**23 19 42.6**	**-0.5**	
	2.3nm,0.7s,baz=188,slow=7.8,SNR=5.5									
SONA1	**Songino Array**	**57.23**	**354**	*e*P		**P**		**23 19 28.2**	**-0.5**	
WMQ	**Urumqi**	**57.81**	**338**	P		**P**		**23 19 32.8**	**+0.1**	
WMQ				pP		pP		23 19 48.5	+1.3	
WMQ				sP		sP		23 19 55.8	+2.6	
WMQ				pmax		pmax				
	comp=Z,15nm,0.7s									
WMQ				pmax		pmax				
	comp=Z,130nm,5.5s									
WMQ				LR		LR				
	comp=N,130nm,33.7s									
WMQ				LR		LR				
	comp=E,71nm,17.9s									
WMQ				LR		LR				
	comp=Z,140nm,26.5s									
KSH	**Kashi**	**59.72**	**327**	P		**P**		**23 19 44.5**	**-1.7**	
KSH				pP		pP		23 19 59.5	-1.2	
KSH				PP		**PP**		**23 22 00.0**	**+1.4**	
KSH				S		**S**		**23 27 46.5**	**-6.9**	
KSH				pmax		pmax				
	comp=Z,5.

comp=Z,124nm,21.5s,baz=92,slow=31
AKTO Aktyubinsk 76.42 327 P **P** 23 21 30.4 -0.2
1.4nm,0.4s,baz=104,slow=6.8,SNR=6.8
AKTO pP **pP** 23 21 45.3 -0.2
6.6nm,0.8s,baz=120,slow=5.0,SNR=12
AKTO LR LR 00 01 22.5
comp=Z,23nm,19.1s,baz=115,slow=40
SEY Seymchan 77.97 17 P **P** 23 21 39.0 0.0
1.3nm,0.4s,baz=221,slow=3.0,SNR=7.1
ARU Arti 79.51 332 P **P** 23 21 47.1 -0.4
1.4nm,0.3s,baz=151,slow=3.0,SNR=4.9
ARU pP **pP** 23 22 02.2 -0.4
3.9nm,0.6s,baz=233,slow=1.5,SNR=4.7
ARU Arti 79.51 332 *e*P **P** 23 21 46.3 -1.2
11nm,0.9s
ARU pP **pP** 23 22 02.2 -0.4
TBLG Delisi 80.68 315 *e*P **P** 23 21 55.4 +1.1
10nm,0.9s
QSPA South Pole Qui 80.70 180 P **P** 23 21 54.7 +0.6
2.6nm,1.0s,baz=311,slow=3.2,SNR=4.0
QSPA LR LR 23 55 50.7
comp=Z,70nm,18.5s,baz=265,slow=34
TIXI Tiksi 81.42 5 P **P** 23 21 56.3 -1.2
3.6nm,0.8s,baz=198,slow=1.6,SNR=6.9
TIXI pP **pP** 23 22 12.2 -0.5
5.3nm,0.8s,baz=172,slow=2.2,SNR=6.1
TIXI Tiksi 81.42 5 *e*P **P** 23 21 56.0 -1.5
6.3nm,0.8s
TIXI pP **pP** 23 22 12.2 -0.5
KBZ Khabaz 82.66 316 P **P** 23 22 05.0 +0.4
5.8nm,1.0s,baz=182,slow=2.2,SNR=5.7
LSZ Lusaka 83.06 256 *e*P **P** 23 22 08.0 +0.5
7.4nm,1.1s
BOSA Boshof 84.03 242 LR LR 23 53 54.0
comp=Z,48nm,19.4s,baz=94,slow=32
MMAI Mount Meron Ar 85.13 304 LR LR 00 04 49.4
comp=Z,23nm,19.1s,baz=185,slow=39
BRTR Keskin Array B 88.13 311 P **P** 23 22 32.1 0.0
3.0nm,0.9s,baz=122,slow=5.9,SNR=11
BRTR pP **pP** 23 22 47.6 +0.2
11nm,1.0s,baz=124,slow=6.1,SNR=18
BRTR LR LR 00 05 51.7
comp=Z,14nm,20.1s,baz=110,slow=38
BR231 Keskin MP Arra 88.80 311 *e*P **P** 23 22 32.9 -2.4
AKASG Malin Array Be 93.47 321 P **P** 23 22 56.1 -0.5
0.2nm,0.3s,baz=90,slow=3.7,SNR=4.1
AKASG pP **pP** 23 23 11.7 -0.2
2.7nm,0.8s,baz=85,slow=4.8,SNR=4.4
AKASG LR LR 00 09 57.4
comp=Z,24nm,21.9s,baz=100,slow=39
FINES FINESS Array B 96.83 331 LR LR 00 14 47.6
comp=Z,41nm,18.6s,baz=98,slow=40
CLL Collm 103.72 321 *e*PS PS 23 37 24.0 +13
CLL *es*SS 23 43 12.0
NVAR Mina Array Bea 125.41 49 PKP **PKPdf** 23 28 43.9 +1.4
0.4nm,0.7s,baz=183,slow=1.6,SNR=3.7
ULM Lac du Bonnet 132.50 25 SKPbc **SKPbc** 23 32 16.8 -1.1
6.1nm,1.0s,baz=357,slow=2.1,SNR=5.1
S42A Caledonia 144.21 34 P PKPbc 23 29 15.6 +0.2
baz=316
X39A Fountain Ranch 144.41 41 P PKPbc 23 29 16.9 +0.8
baz=308
U41A Viola 144.57 37 P **PKPab** 23 29 16.4 +0.1
baz=313
T42A Van Buren 144.57 35 P PKPbc 23 29 16.6 +0.1
baz=315
S43A Fulton Ridge, 144.75 33 P **PKPab** 23 29 16.6 -0.3
baz=317
V41A Mountainview 144.81 38 P PKPbc 23 29 17.4 0.0
baz=312
U42A Revenden 144.96 36 P **PKPdf** 23 29 18.2 -0.3
baz=314
T43A Greenville 144.98 34 P **PKPab** 23 29 17.8 0.0
baz=316
V42A Cord 145.25 37 P **PKPab** 23 29 18.9 0.0
baz=313
Y40A Okolona 145.26 41 P **PKPab** 23 29 19.0 0.0
baz=309
ACSO Alum Creek Sta 145.90 23 P **PKPab** 23 29 21.1 0.0
baz=330
ACSO Alum Creek Sta 145.90 23 *e*PKPbc **PKPbc** 23 29 20.7 +0.1
WCI Wyandotte Cave 146.16 29 *e*PKPbc **PKPbc** 23 29 21.7 +0.2
WVT Waverly 147.02 33 P **PKPbc** 23 29 24.6 +0.5
baz=319
W47A Westpoint 147.81 33 P **PKPbc** 23 29 26.4 +0.2
baz=318

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*LDG **28** 23:17:03.9±0.1,38°.54N×15°.00E,h245km,Ml3.3/3,Error ellipse: s-maj=2.8km s-min=2.4km az=26.0*
*CSEM **28** 23:17:04.7±0.1,38°.56N×15°.01E,h244km±1km, mb4.4/7, ML4.0/15,Error ellipse: s-maj=3.2km s-min=2.7km az=175.0*
*ISCJB **28** 23:17:04.2±0.2,38°.55N±0°.02×15°.00E±0°.02,h246km±1km, mb4.0/22,Error ellipse: s-maj=3.2km s-min=2.7km az=7.3*
*ROM **28** 23:17:04.2±0.2,38°.59N×14°.99E,h243km±2km,Ml3.6/66, Error ellipse: s-maj=2.4km s-min=1.5km az=127.0*
*NEIC **28** 23:17:04.0±0.0,38°.58N×15°.02E,h242km,mb4.4/8,After ROM.*
*IDC **28** 23:17:05.7±0.9,38°.75N×14°.81E,h247km±10km,mb3.6/20, mb1 3.6/29,mb1mx3.4/82,mbtmp4.2/29,Error ellipse: s-maj=10.4km s-min=10.1km az=39.0*

ISC 28 23:17:05.0±0.5,38°.65N±0°.05×15°.01E±0°.04,h237km±5km, n517,σ1$31/565,mb4.0/22,106C-83D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLI	**Lipari**	**0.21**	**194**	Pg	**Pn**	**23 17 36.5**	**+0.7**
LLI	**Lipari**	**0.21**	**194**	Pg	**Pn**	**23 17 36.5**	**+0.7**
VPL	**Vulcano Piano**	**0.27**	**185**	Pg	**Pn**	**23 17 35.9**	**0.0**
	2µm,0.5s						
VPL	**Vulcano Piano**	**0.27**	**185**	Pg	**Pn**	**23 17 35.9**	**0.0**
	2µm,0.5s						
MILZ	**Milazzo**	**0.42**	**156**	⇓*i*Pg	**Pn**	**23 17 35.8**	**-0.4**
MILZ				Sg	**S**	**23 17 59.6**	**-0.9**
	1µm,0.4s						
MILZ	**Milazzo**	**0.42**	**156**	⇓*i*Pg	**Pn**	**23 17 35.8**	**-0.4**
MILZ				Sg	**S**	**23 17 59.6**	**-0.9**
	1µm,0.4s						
IACL	**Alicudi**	**0.53**	**257**	⇓*i*Pg	**Pn**	**23 17 36.8**	**+0.3**
IACL	**Alicudi**	**0.53**	**257**	⇓*i*Pg	**Pn**	**23 17 36.8**	**+0.3**
MSRU	**Castanea**	**0.55**	**135**	⇓*i*Pg	**Pn**	**23 17 36.3**	**-0.3**
MSRU				Sg	**S**	**23 18 00.6**	**-0.7**
	2µm,0.3s						
MSRU	**Castanea**	**0.55**	**135**	⇓*i*Pg	**Pn**	**23 17 36.3**	**-0.3**
MSRU				Sg	**S**	**23 18 00.6**	**-0.7**
	2µm,0.3s						
MPNC	**Port Mandanici**	**0.57**	**152**	⇓*i*Pg	**Pn**	**23 17 36.4**	**-0.3**
	2µm,0.5s						
MPNC	**Port Mandanici**	**0.57**	**152**	⇓*i*Pg	**Pn**	**23 17 36.4**	**-0.3**
	2µm,0.5s						
ATN	**Antennamare**	**0.60**	**144**	Pg	**Pn**	**23 17 36.6**	**-0.4**
ATN				Sg	**S**	**23 18 01.1**	**-0.8**
	2µm,0.3s						
ATN	**Antennamare**	**0.60**	**144**	Pg	**Pn**	**23 17 36.6**	**-0.4**
ATN				Sg	**S**	**23 18 01.1**	**-0.8**
	2µm,0.3s						
MCSR	**Castroreale**	**0.61**	**162**	Pg	**Pn**	**23 17 37.1**	**+0.1**
	3µm,0.3s						
MCSR	**Castroreale**	**0.61**	**162**	Pg	**Pn**	**23 17 37.1**	**+0.1**
	3µm,0.3s						
MUCR	**Ucria**	**0.62**	**190**	Pg	**Pn**	**23 17 36.4**	**-0.6**
	507nm,0.5s						
MUCR	**Ucria**	**0.62**	**190**	Pg	**Pn**	**23 17 36.4**	**-0.6**
	507nm,0.5s						
NOV	**Novara**	**0.63**	**171**	Pg	**Pn**	**23 17 37.4**	**+0.4**
NOV	**Novara**	**0.63**	**171**	Pg	**Pn**	**23 17 37.4**	**+0.4**
JOPP	**Joppolo**	**0.68**	**93**	Pg	**Pn**	**23 17 37.2**	**+0.1**
JOPP				Sg	**S**	**23 18 01.3**	**-0.9**
	586nm,0.2s						
JOPP	**Joppolo**	**0.68**	**93**	Pg	**Pn**	**23 17 37.2**	**+0.1**
JOPP				Sg	**S**	**23 18 01.3**	**-0.9**
	586nm,0.2s						
MSFR	**San Fratello**	**0.70**	**208**	Pg	**Pn**	**23 17 37.2**	**-0.1**
	142nm,0.8s						
MSFR	**San Fratello**	**0.70**	**208**	Pg	**Pn**	**23 17 37.2**	**-0.1**
	142nm,0.8s						
MMME	**Mongiuffi-Meli**	**0.74**	**165**	⇓*i*Pg	**Pn**	**23 17 37.7**	**+0.2**
	989nm,0.5s						
MMME	**Mongiuffi-Meli**	**0.74**	**165**	⇓*i*Pg	**Pn**	**23 17 37.7**	**+0.2**
	989nm,0.5s						
MSCL	**Scilla**	**0.74**	**124**	Pg	**Pn**	**23 17 37.2**	**-0.2**
	2µm,0.6s						
MSCL	**Scilla**	**0.74**	**124**	Pg	**Pn**	**23 17 37.2**	**-0.2**
	2µm,0.6s						
CEL	**Celeste**	**0.79**	**119**	*e*Pn	**Pn**	**23 17 37.5**	**-0.1**
CEL				*e*S	**S**	**23 18 01.0**	**-2.1**
CEL	**Celeste**	**0.79**	**119**	Pg	**Pn**	**23 17 37.6**	**-0.1**
CEL				*e*S	**S**	**23 18 01.0**	**-2.1**
CEL	**Celeste**	**0.79**	**119**	Pg	**Pn**	**23 17 37.6**	**-0.1**
GMB	**Gambarie**	**0.80**	**127**	Pg	**Pn**	**23 17 37.8**	**0.0**
GMB				Sg	**S**	**23 18 03.7**	**+0.3**
	5µm,0.6s						
GMB	**Gambarie**	**0.80**	**127**	Pg	**Pn**	**23 17 37.8**	**0.0**
GMB				Sg	**S**	**23 18 03.7**	**+0.3**
	5µm,0.6s						
PLLN	**Pollina**	**0.95**	**226**	Pg	**Pn**	**23 17 37.9**	**-0.6**
	205nm,0.7s						
PLLN	**Pollina**	**0.95**	**226**	Pg	**Pn**	**23 17 37.9**	**-0.6**
	205nm,0.7s						
SOI	**Samo**	**1.00**	**125**	⇓*i*Pg	**Pn**	**23 17 38.9**	**+0.2**
SOI				Sg	**S**	**23 18 03.9**	**-1.1**
SOI	**Samo**	**1.00**	**125**	⇓*i*Pg	**Pn**	**23 17 38.9**	**+0.2**
SOI				Sg	**S**	**23 18 03.9**	**-1.1**
GALF	**Gagliano Caste**	**1.00**	**201**	Pg	**Pn**	**23 17 39.1**	**+0.3**
	239nm,0.6s						
GALF	**Gagliano Caste**	**1.00**	**201**	Pg	**Pn**	**23 17 39.1**	**+0.3**
	239nm,0.6s						
GIB	**Gibilmanna**	**1.02**	**230**	Pg	**Pn**	**23 17 38.2**	**-0.7**
	280nm,0.5s						
GIB	**Gibilmanna**	**1.02**	**230**	Pg	**Pn**	**23 17 38.2**	**-0.7**
	280nm,0.5s						
MPAZ	**Palizzi**	**1.05**	**131**	⇓*i*Pg	**Pn**	**23 17 39.2**	**+0.2**
MPAZ	**Palizzi**	**1.05**	**131**	⇓*i*Pg	**Pn**	**23 17 39.2**	**+0.2**
ECNV	**Catenanuova**	**1.08**	**193**	⇓*i*Pg	**Pn**	**23 17 40.2**	**+1.0**
	712nm,1.0s						
ECNV	**Catenanuova**	**1.08**	**193**	⇓*i*Pg	**Pn**	**23 17 40.2**	**+1.0**
	712nm,1.0s						
CAGR	**Agira**	**1.10**	**202**	⇓*i*Pg	**Pn**	**23 17 40.4**	**+1.0**
	439nm,0.3s						
CAGR	**Agira**	**1.10**	**202**	⇓*i*Pg	**Pn**	**23 17 40.4**	**+1.0**
	439nm,0.3s						
GRI	**Girifalco**	**1.11**	**81**	Pg	**Pn**	**23 17 40.2**	**+0.9**
GRI				Sg	**S**	**23 18 05.9**	**-0.3**
	537nm,0.4s						
GRI	**Girifalco**	**1.11**	**81**	Pg	**Pn**	**23 17 40.2**	**+0.9**
GRI				Sg	**S**	**23 18 05.9**	**-0.3**
	537nm,0.4s						
CET2	**Cetraro**	**1.14**	**40**	⇑*i*Pg	**Pn**	**23 17 40.1**	**+0.6**
	453nm,0.2s						
CET2	**Cetraro**	**1.14**	**40**	⇑*i*Pg	**Pn**	**23 17 40.1**	**+0.6**
	453nm,0.2s						
RESU	**Resuttano**	**1.25**	**217**	Pg	**Pn**	**23 17 41.4**	**+1.0**
	155nm,0.5s						
RESU	**Resuttano**	**1.25**	**217**	Pg	**Pn**	**23 17 41.4**	**+1.0**
	155nm,0.5s						
VAE	**Valguarnera**	**1.26**	**202**	P	**Pn**	**23 17 41.3**	**+0.9**
	8.0nm,0.3s,baz=352,slow=23,SNR=33						
SOLUN	**Solunto**	**1.29**	**245**	⇓*i*Pg	**Pn**	**23 17 40.1**	**-0.4**
SOLUN				Sg	**S**	**23 18 07.2**	**-1.1**
	109nm,0.3s						
SOLUN	**Solunto**	**1.29**	**245**	⇓*i*Pg	**Pn**	**23 17 40.1**	**-0.4**
SOLUN				Sg	**S**	**23 18 07.2**	**-1.1**
	109nm,0.3s						
HLNI	**Lentini**	**1.31**	**185**	⇑*i*Pg	**Pn**	**23 17 40.6**	**-0.1**
HLNI				Sg	**S**	**23 18 08.2**	**-0.4**
	381nm,0.2s						
HLNI	**Lentini**	**1.31**	**185**	⇑*i*Pg	**Pn**	**23 17 40.6**	**-0.1**
HLNI				Sg	**S**	**23 18 08.2**	**-0.4**
	381nm,0.2s						
T0712	**Santa Domenica**	**1.34**	**29**	Pg	**Pn**	**23 17 41.7**	**+0.9**
	61nm,0.2s						
ALJA	**Alia**	**1.34**	**228**	⇓*i*Pg	**Pn**	**23 17 41.4**	**+0.4**
	348nm,0.6s						
ALJA	**Alia**	**1.34**	**228**	⇓*i*Pg	**Pn**	**23 17 41.4**	**+0.4**
	348nm,0.6s						
SERS	**Sersale**	**1.36**	**73**	⇑*i*Pg	**Pn**	**23 17 42.1**	**+0.9**
SERS				Sg	**S**	**23 18 10.0**	**+0.5**
	320nm,0.4s						
SERS	**Sersale**	**1.36**	**73**	⇑*i*Pg	**Pn**	**23 17 42.1**	**+0.9**
SERS				Sg	**S**	**23 18 10.0**	**+0.5**
	320nm,0.4s						
HCRL	**Carlentini**	**1.37**	**179**	⇓*i*Pg	**Pn**	**23 17 41.2**	**+0.1**
HCRL				Sg	**S**	**23 18 09.1**	**-0.3**
	1µm,1.1s						
HCRL	**Carlentini**	**1.37**	**179**	⇓*i*Pg	**Pn**	**23 17 41.2**	**+0.1**
HCRL				Sg	**S**	**23 18 09.1**	**-0.3**
	1µm,1.1s						
HAGA	**Augusta**	**1.37**	**175**	⇓*i*Pg	**Pn**	**23 17 41.0**	**-0.1**
HAGA				Sg	**S**	**23 18 08.6**	**-0.8**
HAGA	**Augusta**	**1.37**	**175**	⇓*i*Pg	**Pn**	**23 17 41.0**	**-0.1**
HAGA				Sg	**S**	**23 18 08.6**	**-0.8**
MPG	**Monte Pellegri**	**1.39**	**250**	⇓*i*Pg	**Pn**	**23 17 41.1**	**-0.2**
MPG				Sg	**S**	**23 18 08.8**	**-0.8**
	358nm,0.3s						
MPG	**Monte Pellegri**	**1.39**	**250**	⇓*i*Pg	**Pn**	**23 17 41.1**	**-0.2**
MPG				Sg	**S**	**23 18 08.8**	**-0.8**
	358nm,0.3s						
USI	**Ustica**	**1.44**	**273**	⇓*i*Pg	**Pn**	**23 17 42.2**	**+0.6**
USI	**Ustica**	**1.44**	**273**	⇓*i*Pg	**Pn**	**23 17 42.2**	**+0.6**
MMN	**Mormanno**	**1.45**	**31**	Pg	**Pn**	**23 17 42.7**	**+1.1**
	65nm,0.2s						
MMN	**Mormanno**	**1.45**	**31**	Pg	**Pn**	**23 17 42.7**	**+1.1**
	65nm,0.2s						
TIP	**Timpagrande**	**1.46**	**68**	⇓*i*P	**S**	**23 18 06.6**	**-4.0**
TIP	**Timpagrande**	**1.46**	**68**	*e*Pn	**Pn**	**23 17 42.6**	**+0.9**
TIP				*e*S	**S**	**23 18 10.7**	**+0.1**
TIP	**Timpagrande**	**1.46**	**68**	*e*Pn	**Pn**	**23 17 42.7**	**+0.9**
TIP				Sg	**S**	**23 18 10.7**	**+0.1**
	360nm,0.8s						
TIP	**Timpagrande**	**1.46**	**68**	⇑*i*Pg	**Pn**	**23 17 42.8**	**+1.0**
TIP				Sg	**S**	**23 18 10.7**	**+0.1**
	360nm,0.8s						
CUC	**Castrocucco**	**1.48**	**25**	*e*Pn	**Pn**	**23 17 42.7**	**+0.9**
CUC				*e*S	**S**	**23 18 04.1**	**-6.8**
CUC	**Castrocucco**	**1.48**	**25**	⇑*i*Pg	**Pn**	**23 17 42.8**	**+0.9**
	56nm,0.5s						
CUC	**Castrocucco**	**1.48**	**25**	⇑*i*Pg	**Pn**	**23 17 42.8**	**+0.9**
	56nm,0.5s						
HVZN	**Vizzini**	**1.49**	**189**	⇓*i*Pg	**Pn**	**23 17 42.3**	**+0.2**
	650nm,0.5s						
HVZN	**Vizzini**	**1.49**	**189**	⇓*i*Pg	**Pn**	**23 17 42.3**	**+0.2**
	650nm,0.5s						
MCT	**Mte Cammarata**	**1.49**	**227**	Pg	**Pn**	**23 17 42.9**	**+0.7**
	237nm,0.5s						
MCT	**Mte Cammarata**	**1.49**	**227**	Pg	**Pn**	**23 17 42.9**	**+0.7**
	237nm,0.5s						
SSY	**Sortino**	**1.50**	**178**	⇓*i*Pg	**Pn**	**23 17 42.0**	**-0.2**
SSY	**Sortino**	**1.50**	**178**	⇓*i*Pg	**Pn**	**23 17 42.0**	**-0.2**
RAFF	**Raffo Rosso**	**1.52**	**200**	⇓*i*Pg	**Pn**	**23 17 42.6**	**+0.3**
	210nm,0.7s						
RAFF	**Raffo Rosso**	**1.52**	**200**	⇓*i*Pg	**Pn**	**23 17 42.6**	**+0.3**
	210nm,0.7s						
CORL	**Corleone**	**1.54**	**241**	⇓*i*Pg	**Pn**	**23 17 42.3**	**-0.2**
CORL				Sg	**S**	**23 18 11.8**	**0.0**
	342nm,0.3s						
CORL	**Corleone**	**1.54**	**241**	⇓*i*Pg	**Pn**	**23 17 42.3**	**-0.2**
CORL				Sg	**S**	**23 18 11.8**	**0.0**
	342nm,0.3s						
MGR	**Morigerati**	**1.54**	**16**	⇑*i*Pg	**Pn**	**23 17 43.5**	**+1.1**
	81nm,0.7s						
MGR	**Morigerati**	**1.54**	**16**	⇑*i*Pg	**Pn**	**23 17 43.5**	**+1.1**
	81nm,0.7s						
MEU	**Monte Lauro**	**1.55**	**182**	⇓*i*Pg	**Pn**	**23 17 42.8**	**+0.1**
MEU	**Monte Lauro**	**1.55**	**182**	⇓*i*Pg	**Pn**	**23 17 42.8**	**+0.1**
SALB	**San Lorenzo Be**	**1.60**	**40**	Pg	**Pn**	**23 17 44.6**	**+1.6**
	183nm,0.3s						
SALB	**San Lorenzo Be**	**1.60**	**40**	Pg	**Pn**	**23 17 44.6**	**+1.6**
	183nm,0.3s						
PIPA	**Pietrapaola**	**1.63**	**59**	Pg	**Pn**	**23 17 44.4**	**+1.3**
	329nm,0.4s						
PIPA	**Pietrapaola**	**1.63**	**59**	Pg	**Pn**	**23 17 44.4**	**+1.3**
	329nm,0.4s						
LADO	**San Nicola del**	**1.66**	**67**	Pg	**Pn**	**23 17 44.1**	**+0.7**
LADO	**San Nicola del**	**1.66**	**67**	Pg	**Pn**	**23 17 44.1**	**+0.7**
CMPR	**Campora**	**1.68**	**8**	⇑*i*Pg	**Pn**	**23 17 45.0**	**+1.4**
CMPR	**Campora**	**1.68**	**8**	⇑*i*Pg	**Pn**	**23 17 45.0**	**+1.4**
CMPR				Sg	**S**	**23 18 15.5**	**+1.6**
HAVL	**Avola**	**1.69**	**177**	⇓*i*Pg	**Pn**	**23 17 43.7**	**0.0**
HAVL	**Avola**	**1.69**	**177**	⇓*i*Pg	**Pn**	**23 17 43.7**	**0.0**
HMDC	**Modica**	**1.70**	**186**	⇓*i*Pg	**Pn**	**23 17 44.2**	**+0.4**
HMDC	**Modica**	**1.70**	**186**	⇓*i*Pg	**Pn**	**23 17 44.2**	**+0.4**
MTSN	**Montesano sull**	**1.71**	**19**	⇑*i*Pg	**Pn**	**23 17 44.8**	**+0.9**
	83nm,0.9s						
MTSN	**Montesano sull**	**1.71**	**19**	⇑*i*Pg	**Pn**	**23 17 44.8**	**+0.9**
	83nm,0.9s						
FAVR	**Favara**	**1.74**	**218**	Pg	**Pn**	**23 17 44.9**	**+0.8**
	259nm,0.7s						
FAVR	**Favara**	**1.74**	**218**	Pg	**Pn**	**23 17 44.9**	**+0.8**
	259nm,0.7s						
SCHR	**S. Chirico Rap**	**1.75**	**28**	⇑*i*Pg	**Pn**	**23 17 45.5**	**+1.3**
	39nm,0.6s						
CLTB	**Caltabellotta**	**1.78**	**234**	*e*Pn	**Pn**	**23 17 44.1**	**-0.3**
CLTB				*e*S	**S**	**23 18 14.2**	**-1.2**
CLTB	**Caltabellotta**	**1.78**	**234**	⇓*i*Pg	**Pn**	**23 17 44.2**	**-0.3**
	898nm,0.6s						
CLTB				*e*S	**S**	**23 18 14.2**	**-1.2**
CLTB	**Caltabellotta**	**1.78**	**234**	⇓*i*Pg	**Pn**	**23 17 44.2**	**-0.3**
	898nm,0.6s						
MCEL	**Monticello**	**1.78**	**20**	⇑*i*Pg	**Pn**	**23 17 45.5**	**+1.1**
	51nm,0.5s						
MCEL	**Monticello**	**1.78**	**20**	⇑*i*Pg	**Pn**	**23 17 45.5**	**+1.1**
	51nm,0.5s						
CRJA	**Costa Raja**	**1.79**	**242**	⇑*i*Pg	**Pn**	**23 17 44.8**	**+0.2**
	156nm,0.2s						
CRJA	**Costa Raja**	**1.79**	**242**	⇑*i*Pg	**Pn**	**23 17 44.8**	**+0.2**
	156nm,0.2s						
ORI	**Oriolo Calabro**	**1.80**	**38**	Pg	**Pn**	**23 17 46.1**	**+1.6**
ORI	**Oriolo Calabro**	**1.80**	**38**	Pg	**Pn**	**23 17 46.1**	**+1.6**
SLCN	**Sala Consilina**	**1.80**	**15**	Pg	**Pn**	**23 17 45.9**	**+1.3**
	96nm,0.5s						
SLCN	**Sala Consilina**	**1.80**	**15**	Pg	**Pn**	**23 17 45.9**	**+1.3**
	96nm,0.5s						
CDRU	**Civita di Ruta**	**1.85**	**7**	⇑*i*Pg	**Pn**	**23 17 46.5**	**+1.4**
	56nm,0.7s						
CDRU	**Civita di Ruta**	**1.85**	**7**	⇑*i*Pg	**Pn**	**23 17 46.5**	**+1.4**
	56nm,0.7s						
MMGO	**Monte Magaggia**	**1.89**	**239**	⇑*i*Pg	**Pn**	**23 17 45.1**	**-0.3**
	637nm,0.5s						
MMGO	**Monte Magaggia**	**1.89**	**239**	⇑*i*Pg	**Pn**	**23 17 45.1**	**-0.3**
	637nm,0.5s						
MTGR	**Montagna Grand**	**1.93**	**248**	⇓*i*Pg	**Pn**	**23 17 45.5**	**-0.3**
	66nm,0.3s						
MTGR	**Montagna Grand**	**1.93**	**248**	⇓*i*Pg	**Pn**	**23 17 45.5**	**-0.3**
	66nm,0.3s						
MCRV	**Calabrutti - M**	**2.13**	**3**	⇑*i*Pg	**Pn**	**23 17 49.3**	**+1.6**
	110nm,0.9s						
MCRV	**Calabrutti - M**	**2.13**	**3**	⇑*i*Pg	**Pn**	**23 17 49.3**	**+1.6**
	110nm,0.9s						
MRLC	**Muro Lucano**	**2.13**	**10**	⇑*i*Pg	**Pn**	**23 17 49.4**	**+1.7**
	43nm,0.6s						
MRLC	**Muro Lucano**	**2.13**	**10**	⇑*i*Pg	**Pn**	**23 17 49.4**	**+1.7**
	43nm,0.6s						
ACER	**Acerenza**	**2.25**	**18**	⇑*i*Pg	**Pn**	**23 17 49.9**	**+1.1**
	79nm,0.4s						
ACER	**Acerenza**	**2.25**	**18**	⇑*i*Pg	**Pn**	**23 17 49.9**	**+1.1**
	79nm,0.4s						
SNAL	**S. Angelo Dei**	**2.28**	**4**	⇑*i*Pg	**Pn**	**23 17 50.8**	**+1.7**
	131nm,1.1s						
SNAL	**S. Angelo Dei**	**2.28**	**4**	⇑*i*Pg	**Pn**	**23 17 50.8**	**+1.7**
	131nm,1.1s						
CAFE	**Carife**	**2.38**	**4**	⇑*i*Pg	**Pn**	**23 17 51.9**	**+1.7**
	63nm,0.9s						
CAFE	**Carife**	**2.38**	**4**	⇑*i*Pg	**Pn**	**23 17 51.9**	**+1.7**
	63nm,0.9s						
MATE	**Matera**	**2.38**	**33**	⇓*i*P	**S**	**23 18 24.0**	**-1.5**
PAOL	**Paolisi**	**2.40**	**352**	⇑*i*Pg	**Pn**	**23 17 51.6**	**+1.3**
	37nm,0.5s						
PAOL	**Paolisi**	**2.40**	**352**	⇑*i*Pg	**Pn**	**23 17 51.6**	**+1.3**
	37nm,0.5s						
VENT	**Ventotene**	**2.47**	**331**	⇑*i*Pg	**Pn**	**23 17 52.4**	**+1.5**
	228nm,0.6s						
VENT	**Ventotene**	**2.47**	**331**	⇑*i*Pg	**Pn**	**23 17 52.4**	**+1.5**
	228nm,0.6s						
SG1	**Sgolgore (BA)**	**2.54**	**30**	*i*P	**Pn**	**23 17 51.8**	**+0.1**
TAR1	**Taranto**	**2.57**	**42**	*i*P	**Pn**	**23 17 50.5**	**-1.4**
MASS	**Massafra**	**2.57**	**39**	*i*P	**Pn**	**23 17 51.6**	**-0.4**
PSB1	**Pescosannita**	**2.57**	**357**	⇑*i*Pg	**Pn**	**23 17 53.8**	**+1.7**
	51nm,0.8s						
PSB1	**Pescosannita**	**2.57**	**357**	⇑*i*Pg	**Pn**	**23 17 53.8**	**+1.7**
	51nm,0.8s						
CGL1	**Ceglie Messapi**	**2.76**	**43**	*i*P	**Pn**	**23 17 54.0**	**0.0**
FASA	**Fasano**	**2.82**	**39**	*i*P	**Pn**	**23 17 54.2**	**-0.4**
WDD	**Wied Dalam**	**2.83**	**188**	*e*Pn	**Pn**	**23 17 55.2**	**+0.2**
BAI	**Bari**	**2.84**	**30**	*i*P	**Pn**	**23 17 55.2**	**+0.3**
BSSO	**Busso**	**2.91**	**354**	⇑*i*Pg	**Pn**	**23 17 57.8**	**+2.1**
	62nm,0.8s						
BSSO	**Busso**	**2.91**	**354**	⇑*i*Pg	**Pn**	**23 17 57.8**	**+2.1**
	62nm,0.8s						
CERA	**Filignano**	**3.04**	**346**	⇑*i*Pg	**Pn**	**23 17 58.9**	**+1.8**
	93nm,1.0s						
CERA	**Filignano**	**3.04**	**346**	⇑*i*Pg	**Pn**	**23 17 58.9**	**+1.8**
	93nm,1.0s						
MIDA	**Miranda**	**3.04**	**349**	⇑*i*Pg	**Pn**	**23 17 59.1**	**+1.9**
	65nm,0.9s						
MIDA	**Miranda**	**3.04**	**349**	⇑*i*Pg	**Pn**	**23 17 59.1**	**+1.9**
	65nm,0.9s						
RNI2	**Rionero Sannit**	**3.12**	**348**	⇑*i*Pg	**Pn**	**23 18 00.6**	**+2.6**
	76nm,0.6s						
RNI2	**Rionero Sannit**	**3.12**	**348**	⇑*i*Pg	**Pn**	**23 18 00.6**	**+2.6**
	76nm,0.6s						
GIUL	**Giuliano Di Ro**	**3.20**	**336**	⇑*i*Pg	**Pn**	**23 18 00.4**	**+1.5**
	65nm,1.0s						
GIUL	**Giuliano Di Ro**	**3.20**	**336**	⇑*i*Pg	**Pn**	**23 18 00.4**	**+1.5**
	65nm

NVLJ Novalja 5.91 359 P Pn 23 18 32.4 +0.8
NVLJ Novalja 5.91 359 *i* P Pn 23 18 32.4 +0.8
PGF Pioggiola 6.01 312 *e*P Pn 23 18 34.2 +1.2
PGF *e*Sn S 23 19 43.5 +0.3
12nm,1.0s
PGF Pioggiola 6.01 312 *e*P Pn 23 18 34.2 +1.2
PGF *e*Sn S 23 19 43.5 +0.3
5.9nm,1.0s
BBLS Lazići 6.17 31 *e*Pn Pn 23 18 36.1 +1.1
HAPS Han Pijesak,BI 6.18 27⇑P Pn 23 18 35.2 0.0
IVAS Ivanjica 6.27 37 *e*Pn Pn 23 18 37.3 +1.1
BLY Banja Luka 6.30 14⇑P Pn 23 18 37.9 +1.4
BLY Banja Luka 6.30 14 *e*Pn Pn 23 18 38.0 +1.4
BLY Banja Luka 6.30 14 *e*Pn Pn 23 18 38.0 +1.4
SELS Selova 6.50 43 *e*Pn Pn 23 18 38.9 -0.2
VLC Villacollemand 6.51 329 *e*Pn Pn 23 18 39.9 +0.7
VLC Villacollemand 6.51 329 *e*Pn Pn 23 18 39.9 +0.7
DIVS Divibare 6.61 33 *e*Pn Pn 23 18 40.8 +0.3
DIVS Divibare 6.61 33⇓P Pn 23 18 40.8 +0.3
GRUS Gruza 6.77 38 *e*Pn Pn 23 18 42.9 +0.4
TEKS Tekeris 6.79 28 *e*Pn Pn 23 18 43.3 +0.5
BOJS Bojanci 6.85 1 *i* P Pn 23 18 45.2 +1.7
BOJS *i* 23 18 46.5
BOJS *i* 23 18 54.8
BOJS Bojanci 6.85 1 *i* P Pn 23 18 45.2 +1.7
TRUS Trudelj 6.88 34 *i* Pn Pn 23 18 44.2 +0.2
SKDS Skadanscina 6.93 354 *i* P Pn 23 18 45.1 +0.5
SKDS *i* 23 19 55.1
SKDS Skadanscina 6.93 354 *i* P Pn 23 18 45.1 +0.5
BOVS Bovan 7.09 43 *e*Pn Pn 23 18 47.0 +0.4
CEY Cerknica 7.10 357 *e*P Pn 23 18 48.0 +1.3
TRI Trieste 7.11 353 *e*Pn Pn 23 18 49.4 +2.6
TRI Trieste 7.11 353 *e*Pn Pn 23 18 49.4 +2.6
VISS Visnje 7.15 359 *i* P Pn 23 18 49.4 +2.1
VISS Visnje 7.15 359 *i* P Pn 23 18 49.4 +2.1
CRES Cresnjev 7.18 2⇓P Pn 23 18 49.3 +1.6
JAVS Javornik 7.27 355 *i* P Pn 23 18 49.5 +0.6
JAVS *i* 23 18 57.0
JAVS Javornik 7.27 355 *i* P Pn 23 18 49.5 +0.6
VTS Vitosha 7.37 55⇑P Pn 23 18 52.1 +1.8
VTS Vitosha 7.37 55 *e*Pn Pn 23 18 51.1 +0.8
VTS Vitosha 7.37 55 *e*Pn Pn 23 18 51.1 +0.8
VTS Vitosha 7.37 55⇑P Pn 23 18 52.1 +1.8
ZAPS Zavoj 7.39 49⇓P Pn 23 18 51.8 +1.4
LJU Ljubljana 7.40 357 *e*P Pn 23 18 52.4 +1.9
ZAGS Zajecar 7.49 44⇓P Pn 23 18 52.1 +0.4
KUBS Kucevo 7.62 39 *e*Pn Pn 23 18 52.9 -0.4
SBF Sospel 7.72 315 *e*P Pn 23 18 55.4 +0.7
SBF Sospel 7.72 315 *e*P Pn 23 18 55.4 +0.7
OBKA Obir 7.86 358 Pn Pn 23 18 58.0 +1.5
6.6nm,0.6s,SNR=7.3
OBKA Obir 7.86 358 *i* Pn Pn 23 18 58.0 +1.5
6.6nm,0.6s,SNR=7.3
BEHE Becsehely 7.92 9 *e*P Pn 23 18 57.5 +0.4
LMR La Mourre 7.95 309 *e*P Pn 23 18 57.4 -0.1
LMR La Mourre 7.95 309 *e*P Pn 23 18 57.4 -0.1
PERS Pernice 7.98 1 *i* P Pn 23 18 59.3 +1.3
PERS *i* 23 19 06.6
PERS Pernice 7.98 1 *i* P Pn 23 18 59.3 +1.3
FRF La Foret Royal 8.00 310 *e*P Pn 23 18 58.5 +0.5
FRF La Foret Royal 8.00 310 *e*P Pn 23 18 58.6 +0.5
MORH M¯‡r¡gy, Hung 8.02 18⇓*e*Pn Pn 23 18 59.0 +0.6
MORH M¯‡r¡gy, Hung 8.02 18⇓*e*P Pn 23 18 59.0 +0.6
SOKA Soboth 8.02 0 Pn Pn 23 19 00.0 +1.5
16nm,0.5s,SNR=15
SOKA Soboth 8.02 0 *i* Pn Pn 23 18 60.0 +1.5
16nm,0.5s,SNR=15
ABTA Abfaltersbach 8.30 348 Pn Pn 23 19 03.4 +1.4
10nm,0.5s,SNR=11
ABTA Abfaltersbach 8.30 348 *i* Pn Pn 23 19 03.4 +1.4
10nm,0.5s,SNR=11
KBA Koelnbreinsper 8.51 352 Pn Pn 23 19 07.3 +2.4
5.1nm,1.5s
KBA Koelnbreinsper 8.51 352 *i* Pn Pn 23 19 07.3 +2.4
5.1nm,1.5s
BZS Buzias 8.51 33⇓P Pn 23 19 05.6 +0.9
BZS Buzias 8.51 33⇓P Pn 23 19 05.6 +0.9
IDI Anoyia 8.59 110 P Pn 23 19 06.9 +1.1
2.4nm,0.3s,baz=294,slow=14,SNR=18
IDI Anoyia 8.59 110 ⇓P Pn 23 19 06.9 +1.1
IDI Anoyia 8.59 110 *e*Pn Pn 23 19 06.8 +1.0
IDI Anoyia 8.59 110 *e*Pn Pn 23 19 06.8 +1.0
ARSA Arzberg 8.60 2 Pn Pn 23 19 07.2 +1.3
13nm,1.1s,SNR=7.4
ARSA Arzberg 8.60 2 *i* Pn Pn 23 19 07.2 +1.3
13nm,1.1s,SNR=7.4
MBDF Montbardon 8.65 317 *e*P Pn 23 19 08.2 +1.6
MBDF *e*Sn S 23 20 44.4 -0.1
2.2nm,0.6s
MBDF Montbardon 8.65 317 *e*P Pn 23 19 08.2 +1.6
MBDF *e*Sn S 23 20 44.4 -0.1
1.1nm,0.6s
FUORN Ofenpass-Fuorn 8.70 338 *e*Pn Pn 23 19 08.8 +1.5
FUORN Ofenpass-Fuorn 8.70 338 *e*Pn Pn 23 19 08.8 +1.5
TUE Stuetta 8.86 334 *e*Pn Pn 23 19 09.6 +0.3
TUE *e*S S 23 20 53.7 +4.2
TUE Stuetta 8.86 334 *e*Pn Pn 23 19 09.6 +0.3
SMRF Simiane la Rot 8.87 310 *e*P Pn 23 19 10.1 +0.8
SMRF Simiane la Rot 8.87 310 *e*P Pn 23 19 10.1 +0.8
BNI Bardonecchia 8.92 318 *e*Pn Pn 23 19 10.9 +0.9
BNI *e*S S 23 21 01.2 +11
BNI Bardonecchia 8.92 318 *e*Pn Pn 23 19 10.9 +0.9
FETA Feichten 8.94 341 Pn Pn 23 19 12.5 +2.3
28nm,0.7s,SNR=17
FETA Feichten 8.94 341 *i* Pn Pn 23 19 12.5 +2.3
28nm,0.7s,SNR=17
CSKK Cs¯‡kako 9.03 14⇓*e*Pn Pn 23 19 13.0 +1.8
CSKK Cs¯‡kako 9.03 14⇓*e*P Pn 23 19 13.0 +1.8
WATA Walderalm 9.04 345 *i* Pn Pn 23 19 15.5 +4.0
19nm,0.6s,SNR=16
SIRR Siria 9.05 31⇑P Pn 23 19 13.1 +1.5
SIRR Siria 9.05 31⇑P Pn 23 19 13.1 +1.5
MOTA Moosalm 9.15 343 Pn Pn 23 19 16.2 +3.3
8.9nm,0.5s,SNR=16
MOTA Moosalm 9.15 343 *i* Pn Pn 23 19 16.2 +3.3
8.9nm,0.5s,SNR=16
LPG La Plagne 9.19 321 *e*P Pn 23 19 15.8 +2.2
LPG La Plagne 9.19 321 *e*P Pn 23 19 15.8 +2.2
MOA Molln 9.21 357 Pn Pn 23 19 15.2 +1.6
5.7nm,0.5s
MOA Molln 9.21 357 *i* Pn Pn 23 19 15.2 +1.6
5.7nm,0.5s
LPL La Plagne 9.21 321 *e*P Pn 23 19 15.3 +1.5
LPL *e*Sn S 23 20 57.7 -0.1
3.4nm,0.6s
LPL La Plagne 9.21 321 *e*P Pn 23 19 15.3 +1.5
LPL *e*Sn S 23 20 57.7 -0.1
1.7nm,0.6s
ORIF Oris-en-Rattie 9.26 315 *e*P Pn 23 19 15.4 +1.1
ORIF Oris-en-Rattie 9.26 315 *e*P Pn 23 19 15.4 +1.1
CONA Conrad Observa 9.29 4 Pn Pn 23 19 16.2 +1.5
11nm,0.9s,SNR=5.9
CONA Conrad Observa 9.29 4 *i* Pn Pn 23 19 16.2 +1.5
11nm,0.9s,SNR=5.9
RETA Reutte 9.36 342 Pn Pn 23 19 18.2 +2.6
7.8nm,0.5s,SNR=6.8
RETA Reutte 9.36 342 *i* Pn Pn 23 19 18.2 +2.6
7.8nm,0.5s,SNR=6.8
LOT Lotru 9.40 41⇑P Pn 23 19 17.6 +1.4
LOT Lotru 9.40 41⇑P Pn 23 19 17.6 +1.4
DAVA Damuels 9.41 338 Pn Pn 23 19 19.0 +2.7
11nm,0.6s
DAVA Damuels 9.41 338 *i* Pn Pn 23 19 19.0 +2.7
11nm,0.6s
HUMR Humele 9.49 49⇓P Pn 23 19 18.1 +0.9
HUMR Humele 9.49 49⇓P Pn 23 19 18.1 +0.9
SENIN Lac Senin/Sane 9.58 326 *e*Pn Pn 23 19 19.4 +1.0
SENIN Lac Senin/Sane 9.58 326 *e*Pn Pn 23 19 19.5 +1.0
VIVF Saint-Julien-l 9.90 312 *e*P Pn 23 19 23.3 +0.9
VIVF Saint-Julien-l 9.90 312 *e*P Pn 23 19 23.3 +0.9
DRGR 9.91 32⇑P Pn 23 19 23.6 +1.1
DRGR 9.91 32⇑P Pn 23 19 23.6 +1.1
PSZ Piszkesteto 9.92 19⇓P Pn 23 19 23.4 +0.7
PSZ Piszkesteto 9.92 19 *e*Pn Pn 23 19 23.3 +0.6
PSZ Piszkesteto 9.92 19 *e*Pn Pn 23 19 23.3 +0.6
SGRR Singureni 9.93 52⇑P Pn 23 19 24.1 +1.4
SGRR Singureni 9.93 52⇑P Pn 23 19 24.1 +1.4
LASF Ste Croix 9.98 306 *e*P Pn 23 19 23.3 -0.1
LASF Ste Croix 9.98 306 *e*P Pn 23 19 23.3 -0.1
VOIR 10.08 45⇓P Pn 23 19 27.2 +2.5
VOIR 10.08 45⇓P Pn 23 19 27.2 +2.5
KARP Karpathos 10.19 104 *e*Pn Pn 23 19 26.2 +0.1
KARP Karpathos 10.19 104 *e*Pn Pn 23 19 26.2 +0.1
GEA0 GERESS Array S 10.23 355 *e*Pn Pn 23 19 26.7 +0.2
GEA0 GERESS Array S 10.23 355 *e*Pn Pn 23 19 26.7 +0.2
CJR Cluj-Napoca 10.23 35⇑P Pn 23 19 28.7 +2.1
CJR Cluj-Napoca 10.23 35⇑P Pn 23 19 28.7 +2.1
GEC2 GERESS Array S 10.23 355 *e*Pn Pn 23 19 27.7 +1.0
GEC2 GERESS Array S 10.23 355 *e*Pn Pn 23 19 27.7 +1.0
GERES GERESS Array B 10.23 355 P Pn 23 19 27.6 +1.0
0.8nm,0.3s,baz=167,slow=12,SNR=36
CABF La Chapelle 10.31 323 *e*P Pn 23 19 27.9 +0.2
CABF La Chapelle 10.31 323 *e*P Pn 23 19 27.9 +0.2
SPAK Spaichingen-Ko 10.47 336 *e*P Pn 23 19 30.5 +0.8
KHC Kasperske Hory 10.53 355 *e*P Pn 23 19 31.3 +1.0
KHC *e*x 23 19 34.8
KHC Kasperske Hory 10.53 355 *e*Pn Pn 23 19 30.7 +0.4
KHC Kasperske Hory 10.53 355 *e*Pn Pn 23 19 30.7 +0.4
KHC Kasperske Hory 10.53 355 P Pn 23 19 31.3 +1.0
KECS Kecovo 10.60 20 *e* P 23 19 38.4 +1.8
DOPR Dopca 10.60 43⇓P Pn 23 19 33.0 +1.8
DOPR Dopca 10.60 43⇓P Pn 23 19 33.0 +1.8
MLR Muntele Rosu 10.61 46 P Pn 23 19 34.3 +2.9
0.4nm,0.3s,baz=178,slow=8.2,SNR=12
MLR Muntele Rosu 10.61 46⇓P Pn 23 19 33.9 +2.4
MLR Muntele Rosu 10.61 46 *e*Pn Pn 23 19 33.9 +2.4
MLR Muntele Rosu 10.61 46⇓P Pn 23 19 33.9 +2.4
TREC Trest 10.65 2 *e*P Pn 23 19 34.3 +2.5
TREC *e*x 23 19 38.6
TREC Trest 10.65 2 P Pn 23 19 34.3 +2.5
VRAC Vranov 10.71 6 P Pn 23 19 33.9 +1.2
1.0nm,0.3s,baz=185,slow=12,SNR=14
VRAC Vranov 10.71 6⇓P Pn 23 19 33.8 +1.2
VRAC Vranov 10.71 6 *e*Pn Pn 23 19 34.2 +1.6
MTLF Montolieu 10.74 300 *e*P Pn 23 19 32.6 -0.5
MTLF Montolieu 10.74 300 *e*P Pn 23 19 32.6 -0.5
BFO Black Forest 10.82 336 *e*Pn Pn 23 19 33.9 -0.2
BFO *e*S S 23 21 35.5 +0.5
BFO Black Forest 10.82 336 *e*Pn Pn 23 19 33.8 -0.2
BFO *e*S S 23 21 35.5 +0.5
ARCR ARCALIA 10.86 36⇓P Pn 23 19 36.4 +2.0
ARCR ARCALIA 10.86 36⇓P Pn 23 19 36.4 +2.0
HINF Hinteralfeld 10.92 330 *e*P Pn 23 19 34.5 -0.7
LBL Lubilhac 10.95 311 *e*P Pn 23 19 37.1 +1.4
LANS Liptovska Anna 10.97 16 *e*Pn Pn 23 19 38.3 +2.4
LANS Liptovska Anna 10.97 16 *e*PN Pn 23 19 38.3 +2.4
LANS *e* 23 19 42.8
CDF Champ du Feu 11.25 333 *e*P Pn 23 19 39.5 0.0
CDF Champ du Feu 11.25 333 *e*P Pn 23 19 39.5 0.0
CRVS Cervenica-Dubn 11.25 22 *e* P 23 19 45.7 +1.8
GOPC GO Pecny, Ondr 11.26 359 *e*P Pn 23 19 41.8 +2.3
GOPC *e*x 23 19 45.3
GOPC GO Pecny, Ondr 11.26 359 P Pn 23 19 41.8 +2.3
MORC Moravsky Berou 11.27 8⇑P Pn 23 19 40.8 +1.2
MORC Moravsky Berou 11.27 8 *e*Pn Pn 23 19 41.1 +1.5
MORC Moravsky Berou 11.27 8⇑P Pn 23 19 40.8 +1.2
MORC Moravsky Berou 11.27 8 *e*Pn Pn 23 19 41.1 +1.5
HAU Haudompre 11.27 329 *e*P Pn 23 19 39.6 -0.1
HAU Haudompre 11.27 329 *e*P Pn 23 19 39.6 -0.1
VRI Vrincioaia 11.28 47⇓P Pn 23 19 41.6 +1.9
VRI Vrincioaia 11.28 47⇓P Pn 23 19 41.6 +1.9
PRU Pruhonice 11.34 358 *e*P P 23 19 43.1 -1.7
PRU *e*x 23 19 45.3
PRU Pruhonice 11.34 358 P P 23 19 43.1 -1.7
GRFO Grafenberg 11.37 347 *e*Pn Pn 23 19 42.5 +1.7
GRFO Grafenberg 11.37 347 *e*Pn Pn 23 19 42.5 +1.7
PYM Petit Puy Mans 11.38 312 *e*P Pn 23 19 40.9 -0.2
HARR Harsova 11.38 54⇓P P 23 19 47.1 +1.7
OKC Ostrava-Krasne 11.41 10 *e*P Pn 23 19 42.2 +0.9
OKC *e*x 23 19 46.3
OKC Ostrava-Krasne 11.41 10 P Pn 23 19 42.2 +0.9
TLB Topalu 11.41 55⇑P Pn 23 19 42.8 +1.4
TLB Topalu 11.41 55⇑P Pn 23 19 42.8 +1.4
NIE Niedzica 11.41 18 *e*P P 23 19 44.0 -1.7
NIE Niedzica 11.41 18 *e*P P 23 19 44.0 -1.7
SMF Signal de Mont 11.46 318 *e*P Pn 23 19 42.0 0.0
SMF Signal de Mont 11.46 318 *e*P Pn 23 19 42.0 0.0
AGO Saint Agoulin 11.48 314 *e*P Pn 23 19 42.4 +0.1
CAF Calviac 11.52 307 *e*P Pn 23 19 43.0 +0.2
CAF Calviac 11.52 307 *e*P Pn 23 19 43.0 +0.2
TESR Tescani 11.62 44⇓P Pn 23 19 44.4 +0.4
TESR Tescani 11.62 44⇓P Pn 23 19 44.4 +0.4
BUR04 Bucovina Ar. S 11.64 36 *e*Pn P 23 19 46.8 -1.6
BUR04 Bucovina Ar. S 11.64 36 *e*Pn P 23 19 46.8 -1.6
BURAR Bucovina Array 11.64 36⇑P Pn 23 19 46.5 +2.1
BURAR Bucovina Array 11.64 36⇑P Pn 23 19 46.5 +2.1
STHS Stebnicka Huta 11.65 21 *e*Pn P 23 19 47.1 -1.3
STHS Stebnicka Huta 11.65 21 *e*PN P 23 19 47.1 -1.3
BUR08 Bucovina Ar. S 11.66 36 *e*Pn Pn 23 19 46.8 +2.2
BUR08 Bucovina Ar. S 11.66 36 *e*Pn Pn 23 19 46.8 +2.2
NKC Novy Kostel 11.72 352 *e*P Pn 23 19 46.4 +1.1
NKC *e*x 23 19 48.7
NKC Novy Kostel 11.72 352 P Pn 23 19 46.4 +1.1
DPC Dobruska-Polom 11.73 4 *e*P P 23 19 50.0 +0.7
DPC Dobruska-Polom 11.73 4 P P 23 19 50.0 +0.7
CFR Carcaliu 11.74 52⇑P Pn 23 19 47.2 +1.6
CFR Carcaliu 11.74 52⇑P Pn 23 19 47.2 +1.6
AVF Avril sur Loir 11.81 317 *e*P Pn 23 19 46.0 -0.4
LOR Lormes 11.86 320 *e*P Pn 23 19 48.0 +0.9
UPC Upice 11.88 3 *e*P P 23 19 51.5 +0.7
UPC Upice 11.88 3 P P 23 19 51.5 +0.7
PVCC Panska Ves 11.88 359 *e*P Pn 23 19 49.0 +1.8
SSF Saint Saulge 11.90 319 *e*P Pn 23 19 48.7 +1.1
BGF Bois d'Agland 11.94 315 *e*P Pn 23 19 48.8 +0.8
GIUM Giurgiulesti 11.94 51⇑P P 23 19 50.4 -1.1
GIUM Giurgiulesti 11.94 51⇑P P 23 19 50.4 -1.1
EPF Esparros 11.94 296 *e*P Pn 23 19 47.6 -0.6
PRAR RASCA 11.95 40⇓P Pn 23 19 50.2 +2.0
PRAR RASCA 11.95 40⇓P Pn 23 19 50.2 +2.0
SFTF Sexfontaines 11.98 326 *e*P Pn 23 19 49.0 +0.5
baz=130
RJF Les Rejaudoux 12.04 308 *e*P Pn 23 19 49.1 -0.2
OJC Ojcow 12.06 15 *e*P P 23 19 54.0 +1.2
OJC Ojcow 12.06 15 *e*P P 23 19 54.0 +1.2
TLCR 12.17 53⇑P Pn 23 19 52.7 +1.8
TLCR 12.17 53⇑P Pn 23 19 52.7 +1.8
MEZF Maizieres J'vi 12.20 327 *e*P Pn 23 19 52.6 +1.4
KSP Ksiaz 12.22 4 *e*P P 23 19 55.7 +1.1
KSP Ksiaz 12.22 4 *e*P P 23 19 55.7 +1.1
BRG Berggiesshubel 12.24 357 *e*P Pn 23 19 53.4 +1.6
5.1nm,0.8s
BRG *i* 23 19 55.5
12nm,0.8s
KWP Kalwaria Pacla 12.28 24 *e*P P 23 19 55.1 -0.2
KWP Kalwaria Pacla 12.28 24 *e*Pn P 23 19 54.3 -1.0
KWP Kalwaria Pacla 12.28 24 *e*Pn P 23 19 54.3 -1.0
KWP Kalwaria Pacla 12.28 24 *e*P P 23 19 55.1 -0.2
LFF La Frestale 12.36 305 *e*P Pn 23 19 53.6 +0.3
LEOM Leova 12.48 47⇓P Pn 23 19 55.0 +0.2
ETSF Etsaut 12.54 295 *e*P Pn 23 19 56.0 +0.4
CLL Collm 12.73 354 *i* (P) P 23 19 59.8 -0.5
comp=Z,12nm,0.9s
CLL Collm 12.73 354 *e*Pn P 23 20 00.3 0.0
CLL Collm 12.73 354 *e*Pn P 23 20 00.3 0.0
MILM Milestii Mici 13.06 46⇑P Pn 23 20 02.1 +0.2
SJPF Ste Jean 13.07 295 *e*P Pn 23 20 01.6 -0.5
SORM Soroca 13.54 41⇑P P 23 20 09.3 0.0
MFF Saint Martin d 13.69 310 *e*P Pn 23 20 09.8 +0.2
MFF Saint Martin d 13.69 310 *e*P Pn 23 20 09.8 +0.2
BAIF Baives 13.76 329 *e*P P 23 20 11.7 0.0
BAIF Baives 13.76 329 *e*P P 23 20 11.7 0.0
BRTR Keskin Array B 14.49 80 P P 23 20 22.0 +2.0
comp=Z,0.1nm,0.3s,baz=265,slow=13,SNR=5.9
ESDC Sonseca Array 14.76 280 P Pn 23 20 22.2 -0.6
comp=Z,0.2nm,0.3s,baz=81,slow=12,SNR=7.6
LDF La Druitiere 14.77 317 *e*P Pn 23 20 21.8 -1.0
LDF La Druitiere 14.77 317 *e*P Pn 23 20 21.8 -1.0
GRR Gorron 15.05 315 *e*P P 23 20 25.9 -0.1
FLN La Foliniere 15.06 317 *e*P Pn 23 20 26.6 +0.3
baz=134
FLN La Foliniere 15.06 317 *e*P Pn 23 20 26.6 +0.3
CSS Mathiatis 15.13 98 *e*Pn P 23 20 26.6 -0.5
AK11 Malin Array Si 15.65 35 *e*P P 23 20 32.3 -0.2
KIEV Kiev 15.68 35 *e*P P 23 20 32.5 -0.4
comp=Z,11nm,0.7s
AKASG Malin Array Be 15.69 35 P P 23 20 32.6 -0.4
comp=Z,12nm,0.3s,baz=228,slow=10,SNR=33
AKBB Malin Array Si 15.69 35 *e*P P 23 20 32.7 -0.3
comp=Z,12nm,0.7s
AKBB Malin Array Si 15.69 35 *e*P P 23 20 32.7 -0.3
comp=Z,12nm,0.7s
SGMF Saint Gilles 15.93 313 *e*P P 23 20 35.4 -0.3
QUIF Quistinic 16.12 311 *e*P P 23 20 37.5 -0.3
ROSF Rostrenen 16.39 312 *e*P P 23 20 40.2 -0.5
BSD Bornholm Skovb 16.47 360 *i* P P 23 20 40.9 -0.6
comp=Z,5.2nm,0.4s
BSD Bornholm Skovb 16.47 360 *i* P P 23 20 40.9 -0.6
comp=Z,5.2nm,0.4s
MMAI Mount Meron Ar 17.45 103 P Pn 23 20 54.7 -0.1
comp=Z,1.5nm,0.3s,baz=293,slow=11,SNR=9.1
IIGN Ignalina 18.33 21 *e*P P 23 21 01.5 -0.2
IIGN IAmb IAmb 23 21 02.2
comp=Z,7.3nm,0.7s
IDID Didziasalis 18.45 22 *e*P P 23 21 02.5 -0.4
SNR=35
IDID Didziasalis 18.45 22 *e*P P 23 21 02.5 -0.4
IDID IAmb IAmb 23 21 03.0
comp=Z,8.3nm,0.4s
ISAL Salakas 18.50 20 *e*P P 23 21 03.3 -0.2
ISAL IAmb IAmb 23 21 03.9
comp=Z,7.1nm,0.7s
IZAR Zarasai 18.69 20 *e*P P 23 21 05.4 -0.2
IZAR IAmb IAmb 23 21 06.0
comp=Z,19nm,0.6s
EIL Elat 18.75 113 P Pn 23 21 17.5 +7.6
comp=Z,0.5nm,0.3s,baz=296,slow=7.7,SNR=5.0
EKA Eskdalemuir Ar 20.68 330 P P 23 21 24.5 -2.4
comp=Z,0.5nm,0.3s,baz=139,slow=12,SNR=16
DSB Dublin 20.72 322 *e*P P 23 21 27.4 +0.1
comp=Z,29nm,1.9s
DSB Dublin 20.72 322 *e*P P 23 21 27.4 +0.1
comp=Z,29nm,1.9s
HFS Hagfors 21.52 358 P P 23 21 33.0 -2.3
comp=Z,3.8nm,0.5s,baz=174,slow=12,SNR=22
KBZ Khabaz 21.54 67 P P 23 21 37.1 +1.5
comp=Z,2.4nm,0.8s,baz=252,slow=9.7,SNR=6.7
OBN Obninsk 21.95 34 P P 23 21 38.0 -1.3
comp=Z,13nm,0.3s,baz=36,slow=2.5,SNR=7.8
OBN Obninsk 21.95 34 *e*P P 23 21 38.0 -1.3
comp=Z,28nm,1.0s
NB2 NORSAR Subarra 22.54 355 P P 23 21 43.1 -1.6
comp=Z,1.1nm,0.5s,baz=172,slow=11
NOA NORSAR Array B 22.54 355 P P 23 21 43.2 -1.5
comp=Z,0.8nm,0.7s,baz=174,slow=10,SNR=5.2
NBO00 NORSAR Array S 22.56 355 *e*P P 23 21 44.2 -0.7
NC405 NORSAR Array S 22.58 356 *e*P P 23 21 42.6 -2.4
NC303 NORSAR Array S 22.71 355 *e*P P 23 21 44.6 -1.7
NC204 NORSAR Array S 22.80 355 *e*P P 23 21 45.9 -1.3
FINES FINESS Array B 23.83 13 P P 23 21 55.4 -1.0
comp=Z,14nm,0.3s,baz=192,slow=9.4,SNR=195
FIA1 FINESS Array S 23.83 13 *e*P P 23 21 55.4 -1.0
TORD Torodi Ar. Bea 28.02 209 P P 23 22 34.4 +0.1
comp=Z,0.4nm,0.5s,baz=11,slow=9.8,SNR=5.9
ARCES ARCESS Array B 31.45 7 P P 23 23 02.1 -1.9
comp=Z,1.5nm,0.4s,baz=199,slow=8.5,SNR=8.3
AKTO Aktyubinsk 32.39 55 P P 23 23 12.8 +0.4
comp=Z,2.1nm,0.4s,baz=260,slow=5.4,SNR=10
ABKAR Akbulak array 33.58 57 *e*P P 23 23 23.2 +0.5
comp=Z,39nm,0.4s
GEYT Alibeck 33.61 77 P P 23 23 24.7 +1.5
comp=Z,0.7nm,0.6s,baz=260,slow=8.6,SNR=3.3
ARU Arti 33.65 44 P P 23 23 23.2 0.0
comp=Z,3.6nm,0.3s,baz=264,slow=5.4,SNR=10
ARU Arti 33.65 44 *e*P P 23 23 22.7 -0.5
comp=Z,8.2nm,1.0s
SPITS Spitsbergen Ar 39.64 0 P P 23 24 13.0 -0.4
comp=Z,3.7nm,0.6s,baz=171,slow=7.6,SNR=15
BRVK Borovoye 40.08 50 *e*P P 23 24 18.0 +0.8
comp=Z,5.7nm,0.6s
BVAR Borovoye Array 40.14 50 P P 23 24 18.3 +0.5
comp=Z,1.7nm,0.5s,baz=262,slow=8.9,SNR=15
KURBB Kurchatov Arra 45.42 53 P P 23 24 59.8 -0.2
comp=Z,2.0nm,0.6s,baz=294,slow=7.9,SNR=13
KURK Kurchatov 45.46 53 *e*P P 23 25 00.7 +0.3
comp=Z,4.5nm,0.6s
KSH Kashi 46.51 69 *e*P P 23 25 08.5 -0.4
KSH PP PP 23 26 53.3 -7.7
KSH S S 23 31 36.8 -2.2
ZALV Zalesovo Beam 48.59 48 P P 23 25 24.2 -0.3
comp=Z,2.6nm,0.3s,baz=280,slow=8.9,SNR=11
ZALV Zalesovo Beam 48.59 48 *e*P P 23 25 24.0 -0.5
MK31 Makanchi Array 48.72 57 *e*P P 23 25 25.8 +0.2
MKAR Makanchi Array 48.72 57 P P 23 25 25.8 +0.2
comp=Z,2.4nm,0.3s,baz=283,slow=6.9,SNR=48
MKAR Makanchi Array 48.72 57 *e*P P 23 25 25.8 +0.2
comp=Z,23nm,0.6s
MK01 Makanchi Array 48.73 58 *e*P P 23 25 25.6 -0.2
WMQ Urumqi 53.28 60 P P 23 26 00.3 +0.7
WMQ pP pP 23 26 52.3 +0.9
WMQ PcP PcP 23 27 04.5 +0.6
SCHQ Schefferville 55.14 316 P P 23 26 10.9 -1.8
comp=Z,2.7nm,0.9s,baz=71,slow=2.6,SNR=6.9
SONM Songino Array 63.45 49 P P 23 27 09.8 0.0
comp=Z,1.3nm,0.7s,baz=292,slow=9.3,SNR=5.2
BOSA Boshof 67.60 170 P P 23 27 36.5 +0.2
comp=Z,1.2nm,0.4s,baz=334,slow=5.1,SNR=8.7
LZH Lanzhou 67.81 61 ⇓P P 23 27 37.5 -0.3
LZH pP pP 23 28 33.3 +1.0
LZH sP sP 23 28 58.5 +0.7
LZH PP PP 23 30 11.8 +1.6
HHC Hu-ho-hao-te 70.27 53 *e*P P 23 27 56.3 +3.5
YKA Yellowknife Ar 71.39 338 P P 23 27 58.0 -0.9
comp=Z,0.3nm,0.4s,baz=40,slow=5.9,SNR=11
KMI Kunming 73.09 71 P P 23 28 11.0 +1.1

*CSEM **28** 23:27:07.5±1.8, 68°.24N×18°.74E, h1km, ML2.2, Error ellipse: s-maj=37.5km s-min=17.1km az=107.0, Mining explosion.*
*BER **28** 23:27:08.4±1.7, 67°.89N×20°.65E, h0km, ML1.4, Suspected explosion*

UPP 28 23:27:04.8, 67°.83N×20°.21E, h0km, ML2.2, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	21	P	P	Pg	23 27 07.5	+0.2
KUA				S		Sg	23 27 09.0	0.0
RATU	Laukkuluspa	0.24	268	P		Pg	23 27 09.7	+0.4
NIKU	Nikkaluokta	0.45	275	P		Pg	23 27 13.5	+0.1
NIKU	Nikkaluokta	0.45	275	P		Pg	23 27 13.5	+0.1
LANU	Lannavaara	0.70	71	P		Pg	23 27 18.3	+0.1
DUNU	Dundret	0.73	169	P		Pg	23 27 18.0	-0.7
MASU	Masugnsbyn	0.78	118	P		Pg	23 27 20.0	+0.3
KIF	Kilpisjarvi SNR=90	1.20	10	*e*P		Pg	23 27 27.8	+0.1
KIF	Kilpisjarvi	1.20	10	*e*P		Pg	23 27 27.8	+0.1
KIF				*e*S		Sb	23 27 44.2	-0.1
PAJU	Pajala	1.38	125	P		Pg	23 27 30.5	-0.8
HEF	Hetta	1.42	64	*e*P		Pn	23 27 31.1	-0.7
KTK1	Kautokeino SNR=50	1.63	42	*e*P		Pn	23 27 34.7	0.0
KTK1	Kautokeino	1.63	42	*e*P		Pn	23 27 34.7	0.0
KTK1				IAML			23 28 16.1	
ARE0	comp=Z,7.8nm,0.3s ARCESS Array S SNR=50	2.58	46	*e*P		Pn	23 27 47.4	-0.4
ARE0	ARCESS Array S	2.58	46	*e*P		Pn	23 27 47.4	-0.4

*CSEM **28** 23:27:21.3±0.3, 67°.83N×20°.28E, h0km, ML2.3, Error ellipse: s-maj=6.1km s-min=4.9km az=34.0, Mining explosion.*
*UPP **28** 23:27:21.7, 67°.87N×20°.20E, h0km, ML2.3, Mining explosion.*

HEL 28 23:27:21.9±0.1, 67°.85N×20°.23E, h0km, ML1.9, ML2.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.12	20	P	P	Pg	23 27 23.9	-0.2
KUA				S		Sg	23 27 25.6	0.0
KUA	Kurravaara	0.12	20	P	P	Pg	23 27 23.9	-0.2
KUA				S		Sg	23 27 25.6	-0.1
KUA	Kurravaara	0.12	20	*i* P	P	Pg	23 27 23.9	-0.2
KUA				*i* S		Sg	23 27 25.6	-0.1
RATU	Laukkuluspa	0.24	265	P	P	Pg	23 27 26.4	-0.1
RATU	Laukkuluspa	0.24	265	P	P	Pg	23 27 26.4	-0.2
RATU	Laukkuluspa	0.24	265	*i* P	P	Pg	23 27 26.4	-0.2
NIKU	Nikkaluokta	0.45	273	P	P	Pg	23 27 30.0	-0.6
NIKU	Nikkaluokta	0.45	273	P	P	Pg	23 27 30.0	-0.6
NIKU	Nikkaluokta	0.45	273	*i* P	P	Pg	23 27 30.0	-0.6
LANU	Lannavaara	0.69	72	Pb	P	Pg	23 27 34.8	-0.4
LANU	Lannavaara	0.69	72	S	P	Sg	23 27 44.2	+0.1
LANU	Lannavaara	0.69	72	P	P	Pg	23 27 34.9	-0.2
LANU	Lannavaara	0.69	72	*e*PB	P	Pg	23 27 34.9	-0.3
LANU				*e*S		Sg	23 27 44.2	+0.1

KIF	**Kilpisjarvi**	**1.18**	**10**	P	Pg	23 27 43.5	-1.1
KIF				Sb	Sg	23 28 00.1	+0.2
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pg	23 27 43.5	-1.1
KIF				MSG		23 27 59.0	
	comp=Z,16nm,0.2s						
KIF				*e*SB	Sg	23 28 00.1	+0.2
PAJU	**Pajala**	**1.38**	**125**	P	Pg	23 27 47.0	-1.4
PAJU	**Pajala**	**1.38**	**125**	P	Pg	23 27 47.0	-1.4
PAJU	**Pajala**	**1.38**	**125**	*e*P	Pg	23 27 47.0	-1.4
HEF	**Hetta**	**1.40**	**65**	Pg	Pn	23 27 47.4	-1.3
HEF				Sn	Sn	23 28 10.2	+2.3
HEF	**Hetta**	**1.40**	**65**	*e*PG	Pn	23 27 47.4	-1.3
HEF				MSG		23 28 05.0	
	comp=Z,9.8nm,0.2s						
HEF				*e*SN	Sn	23 28 10.2	+2.3
HEF	**Hetta**	**1.40**	**65**	*e*S	Pg	23 27 47.5	-1.2
ERTU	**Ertsjaerv**	**1.50**	**149**	Sn	Sg	23 28 09.4	-0.7
ERTU	**Ertsjaerv**	**1.50**	**149**	*e*SN	Sg	23 28 09.4	-0.7
KTK1	**Kautokeino**	**1.61**	**42**	*e*S	Pg	23 27 51.8	-1.0
KALU	**Kalix**	**2.35**	**147**	Pb	Pn	23 28 02.2	+0.6
KALU	**Kalix**	**2.35**	**147**	*e*PB	Pn	23 28 02.3	+0.7
	baz=327						
KALU				*e*SG	Sb	23 28 34.1	-0.3
TOF	**Tornio**	**2.40**	**136**	Pb	Pn	23 28 03.3	+1.0
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	23 28 03.3	+1.1
TOF				MSG		23 28 31.9	
	comp=Z,3.6nm,0.2s						
TOF				*e*SG	Sb	23 28 35.8	0.0
SGF	**Sodankyl**	**2.44**	**97**	Pb	Pn	23 28 04.6	+1.7
SGF	**Sodankyl**	**2.44**	**97**	*e*PB	Pn	23 28 04.6	+1.7
	baz=286						
SGF				*e*SG	Sb	23 28 38.2	+1.1
ARE0	**ARCESS Array S**	**2.57**	**46**	P	Pn	23 28 04.8	+0.1
ARE0	**ARCESS Array S**	**2.57**	**46**	*e*P	Pn	23 28 04.8	+0.1
ARE0				*e*SB	Sb	23 28 39.4	-1.4
ARE0	**ARCESS Array S**	**2.57**	**46**	Sb	Sb	23 28 39.4	-1.4
RNF	**Rovaniemi**	**2.57**	**116**	Pb	Pn	23 28 06.4	+1.7
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	23 28 06.4	+1.7
RNF				*e*SG	Sb	23 28 40.1	-0.7
VRF	**Varrio**	**3.56**	**87**	Pg	Pb	23 28 25.6	-0.1
VRF	**Varrio**	**3.56**	**87**	*e*PG	Pb	23 28 25.6	-0.1
MSF	**Maaselka**	**3.98**	**115**	P	Pn	23 28 24.9	+0.8
MSF	**Maaselka**	**3.98**	**115**	*e*P	Pn	23 28 24.9	+0.8
	baz=304						
KU6	**Riekki**	**4.22**	**111**	*e*PG	Pb	23 28 37.1	+0.3

CASC 28 23:30:53.3±1.0, 11°74.N×86°49.W, h70km±6km, MD3.8, ML2.9, 5C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAVN	**Gruta Xavier**	**0.44**	**21**	*e*P	Pn	23 31 05.2	-0.3
COPN	**Copaltepe**	**0.45**	**347**	*e*P	Pn	23 31 05.4	-0.3
COPN				*e*S	Sn	23 31 15.2	+0.4
TISN	**Laguna Tiscapa**	**0.45**	**28**	*e*P	Pn	23 31 05.7	0.0
TISN				*e*S	Sn	23 31 15.8	+1.0
MGAN	**Managua**	**0.47**	**30**	*e*P	Pn	23 31 04.9	-0.9
MGAN				*e*S	Sn	23 31 16.2	+1.2
MGAN				AML	AML	23 31 17.0	
	comp=E,373nm,0.5s						
MOMN	**Momotombo**	**0.67**	**355**	*e*P	Pn	23 31 08.0	0.0
MOMN				*e*S	Sn	23 31 18.7	0.0
TELN	**Telica**	**0.93**	**339**	*e*P	Pn	23 31 11.1	+0.1
TELN				*e*S	Sn	23 31 25.1	+1.0
CRIN	**San Cristobal**	**1.10**	**330**	*e*P	Pn	23 31 13.3	+0.2
ACON	**Acoyapa**	**1.30**	**80**	*e*P	Pn	23 31 15.7	0.0
ACON				*e*S	Sn	23 31 32.8	+0.3
MATN	**Matagalpa**	**1.30**	**25**	*e*P	Pn	23 31 16.3	+0.5
MATN				*e*S	Sn	23 31 33.6	+0.9
ESTN	**Estel**	**1.36**	**5**	*e*P	Pn	23 31 17.3	+0.8
GBS3	**Finca Las Im¯¡**	**1.39**	**133**⇑	*e*P	Pn	23 31 16.4	-0.4
NY14	**Universidad de**	**1.43**	**139**⇑	*e*P	Pn	23 31 17.8	+0.4
GPS1	**Guardaparques**	**1.47**	**131**	*e*P	Pn	23 31 18.1	+0.2
GPS3	**Bodega del ICE**	**1.47**	**132**	*e*P	Pn	23 31 17.6	-0.3
LIM1	**Limonal**	**1.59**	**130**	*e*P	Pn	23 31 20.0	+0.5
MESS	**Mesas**	**1.61**	**128**⇑	*i*P	Pn	23 31 19.9	+0.1
HORNC	**Hornillas**	**1.64**	**128**⇑	*e*P	Pn	23 31 20.3	+0.1
COLC	**Colonia**	**1.65**	**130**	*e*P	Pn	23 31 20.8	+0.5
CUI	**Cuipilapa**	**1.68**	**130**	*e*P	Pn	23 31 21.1	+0.3
PTEN	**Parque Tenorio**	**1.79**	**125**⇓	*e*P	Pn	23 31 22.1	-0.1
ACAL	**Aguas Claras**	**1.80**	**127**⇑	*e*P	Pn	23 31 22.6	+0.3
CNCH	**Conchagua**	**2.02**	**319**	*e*P	Pn	23 31 25.6	+0.2
LCND	**La Ca˜¯ada**	**2.08**	**319**	*e*P	Pn	23 31 25.9	-0.1
JTS	**JuntasAbangare**	**2.08**	**134**	*e*P	Pn	23 31 25.7	-0.4
CEDE	**Laguna Cede˜¯o**	**2.15**	**125**	*e*P	Pn	23 31 28.0	+1.0
PACA	**Pacayal**	**2.49**	**314**	*e*P	Pn	23 31 32.4	+0.8
LFRS	**El Faro**	**3.14**	**307**	*e*P	Pn	23 31 40.8	+0.3
LFRS				*e*S	Sn	23 32 14.8	-2.1
IXG	**Ixpaco**	**4.56**	**302**	*e*P	Pn	23 32 01.0	+0.9

*IDC **28** 23:36:55.5±3.5, 33°.45N×69°.67E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.3/63, mbtmp3.4/7, ML3.3/3, Error ellipse: s-maj=96.0km s-min=27.6km az=135.0*
*ISCJB **28** 23:36:58.3±0.8, 33°.52N±0°.05×69°.93E±0°.10, h35km, mb3.6/4, Error ellipse: s-maj=12.6km s-min=5.4km az=158.8*
*NNC **28** 23:37:04.2±6.6, 34°.04N×69°.66E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=73.6km s-min=48.6km az=115.0*

ISC 28 23:36:59.8±1.1, 33°.46N±0°.08×69°.8E±0°.1, h35km, n23, σ1°.84/29, mb3.6/4, 4C-4D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**7.17**	**23**	⇓P*n*	**Pn**	**23 38 45.0**	**+2.6**
	2.0nm,0.3s						
SFK				⇑S*n*	**Sn**	**23 40 03.5**	**+0.8**
	5.8nm,0.5s						
MNAS	**Manas**	**9.26**	**12**	⇓P*n*	**Pn**	**23 39 13.0**	**+2.1**
	1.2nm,0.5s						
MNAS				⇓S*n*	**Sn**	**23 40 52.9**	**-0.9**
	1.6nm,0.4s						
KK31	**Karatay Array**	**9.64**	**3**	⇑P*n*	**Pn**	**23 39 16.0**	**0.0**
	0.8nm,0.4s,baz=177,slow=12,SNR=14						
KK31				⇑S*n*	**Sn**	**23 41 01.9**	**-1.2**
	0.5nm,0.3s,baz=188,slow=25,SNR=4.2						
AAK	**Ala-Archa**	**9.87**	**20**	P*n*	**Pn**	**23 39 20.4**	**+1.1**
	0.3nm,0.3s,baz=136,slow=4.2,SNR=6.7						
AAK				S*n*	**Sn**	**23 41 06.6**	**-2.2**
	0.2nm,0.3s,baz=335,slow=21,SNR=4.4						
AAK	**Ala-Archa**	**9.87**	**20**	⇑P*n*	**Pn**	**23 39 19.3**	**+0.1**
	0.7nm,0.5s						
AAK				⇓S*n*	**Sn**	**23 41 05.2**	**-3.6**
	2.9nm,0.8s						
PYUN	**Piuthan**	**12.50**	**112**	*e*P	**Pn**	**23 39 55.8**	**+0.4**
	5.6nm,0.3s						
KOLN	**Koldanda**	**13.14**	**112**	*e*P	**Pn**	**23 40 03.1**	**-0.9**
	5.5nm,0.5s						
GKN	**Gorkha**	**13.84**	**109**	*e*P	**Pn**	**23 40 14.5**	**+0.9**
	7.0nm,0.3s						
DMN	**Daman**	**14.39**	**110**	*e*P	**Pn**	**23 40 20.6**	**-0.6**
	4.5nm,0.3s						
KKN	**Kakani**	**14.44**	**109**	*e*P	**Pn**	**23 40 21.6**	**-0.3**
	11nm,0.5s						
PKIN	**Phulchoki**	**14.63**	**109**	*e*P	**Pn**	**23 40 23.4**	**-1.1**
	8.4nm,0.4s						
PKI	**Pulchoki**	**14.64**	**109**	*e*P	**Pn**	**23 40 23.7**	**-1.0**
	5.8nm,0.3s						
GUN	**Gumba**	**14.87**	**108**	*e*P	**Pn**	**23 40 28.8**	**+1.1**
	4.5nm,0.3s						
JIRN	**Jiri**	**15.22**	**108**	*e*P	**Pn**	**23 40 32.5**	**0.0**
	10.0nm,0.3s						
RAMN	**Ramite**	**15.87**	**110**	*e*P	**Pn**	**23 40 37.8**	**-3.0**
	8.5nm,0.5s						
MKAR	**Makanchi Array**	**16.34**	**32**	P*n*	**Pn**	**23 40 46.7**	**+0.2**
	0.1nm,0.3s,baz=215,slow=9.6,SNR=4.4						
ODAN	**Odare**	**16.54**	**109**	*e*P	**Pn**	**23 40 45.6**	**-3.6**
	3.5nm,0.4s						
TAPN	**Taplejung**	**16.57**	**107**	*e*P	**Pn**	**23 40 48.6**	**-1.1**
	2.2nm,0.3s						
BVAR	**Borovoye Array**	**19.56**	**1**	P	**P**	**23 41 24.0**	**-0.4**
	0.1nm,0.3s,baz=165,slow=14,SNR=4.3						
ZALV	**Zalesovo Beam**	**23.08**	**23**	P	**P**	**23 42 04.5**	**+2.4**
	0.4nm,0.3s,baz=213,slow=10,SNR=2.6						
ARCES	**ARCESS Array B**	**43.61**	**339**	P	**P**	**23 45 01.4**	**+1.2**
	5.8nm,1.2s,baz=107,slow=4.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**64.71**	**269**	P	**P**	**23 47 34.6**	**-0.1**
	0.4nm,0.9s,baz=55,slow=5.8,SNR=4.8						
YKA	**Yellowknife Ar**	**84.31**	**2**	P	**P**	**23 49 28.9**	**+1.2**
	0.1nm,0.3s,baz=351,slow=5.2,SNR=3.7						
YKA				pP	**pP**	**23 49 34.6**	**-4.1**
	0.2nm,0.4s,baz=352,slow=5.5,SNR=5.8						

MEX 28 23:59:23.8±0.7, 16°.76N×98°.38W, h15km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.44**	**146**	*e*P	Pg	23 59 31.8	-0.8
PNIG				*e*S	Sg	23 59 37.1	-1.4
TLIG	**Tlapa**	**0.82**	**348**	*e*P	Pg	23 59 36.6	-3.2
TLIG				*i* S	Sg	23 59 48.0	-2.6
CAIG	**El Cayaco**	**1.83**	**279**	*i* P	Pn	23 59 51.5	-3.2
CAIG				*e*S	Sn	00 00 12.4	-5.2

*SJA **29** 00:09:55.8±0.6, 24°.84S×68°.45W, h35km±9km, ML2.6, MW2.8*
*ISCJB **29** 00:09:56.0±1.0, 24°.76S±0°.04×68°.55W±0°.06, h119km±16km, Error ellipse: s-maj=9.5km s-min=7.3km az=7.5*
*GUC **29** 00:09:57.5±0.6, 24°.70S×68°.68W, h112km±9km, ML3.6*

ISC 29 00:09:56.2±1.7, 24°.73S±0°.05×68°.57W±0°.06, h123km±21km, n9, σ1°.54/17, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.02**	**245**⇑	*i*P	**Pn**	**00 10 19.5**	**+0.4**
GO02				*i* S	**Sn**	**00 10 35.7**	**-0.6**
GO02				IAML		00 10 36.7	
	comp=N,3μm,0.3s						
PB14	**IPOC Station P**	**1.67**	**273**	*i* P	**Pn**	**00 10 26.4**	**+0.2**
PB14				*i* S	**Sn**	**00 10 49.7**	**+0.7**
PB14	**IPOC Station P**	**1.67**	**273**	*e*P	**Pn**	**00 10 26.4**	**+0.2**
PB14				*i* S	**Sn**	**00 10 48.7**	**-0.2**
PB14				IAML		00 10 50.1	
	comp=E,350nm,0.2s						
PB06	**IPOC Station P**	**2.21**	**335**⇑	*i*P	**Pn**	**00 10 33.9**	**+1.2**
PB06				*i* S	**Sn**	**00 11 01.1**	**+0.6**
PB06				IAML		00 11 05.3	
	comp=E,291nm,0.3s						
PB04	**IPOC Station P**	**2.79**	**328**⇑	*i*P	**Pn**	**00 10 40.7**	**+0.7**
PB04				*i* S	**Sn**	**00 11 12.6**	**-1.1**
PB04				IAML		00 11 25.6	
	comp=N,198nm,0.3s						
PB09	**IPOC Station P**	**2.98**	**348**⇑	*i*P	**Pn**	**00 10 44.5**	**+1.9**
PB09				*i* S	**Sn**	**00 11 13.9**	**-4.4**
PB09				IAML		00 11 46.0	
	comp=N,319nm,0.8s						
GO03	**Copiap**	**3.22**	**207**⇑	*i*P	**Pn**	**00 10 45.2**	**-0.3**
GO03				*i* S	**Sn**	**00 11 22.8**	**-0.8**
GO03				IAML		00 11 29.2	
	comp=E,55nm,0.3s						
AZAP	**Zapla**	**3.23**	**82**	*i* P	**Pn**	**00 10 46.5**	**+0.7**
AZAP				IAML		00 10 48.7	
	comp=Z,16nm,0.8s						
AZAP				*i* S	**Sn**	**00 11 23.4**	**-0.8**
AGUA	**GUANDACOL**	**4.74**	**179**	*i* P	**Pn**	**00 11 06.9**	**+1.1**

IDC 29 00:15:18.6±6.1, 18°.22S×176°.57W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/49, mbtmp3.6/3, Error ellipse: s-maj=286.8km s-min=36.3km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.30**	**260**	P	P	00 23 46.4	-0.1
	0.5nm,0.5s,baz=96,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**46.39**	**254**	P	P	00 23 47.2	0.0
	0.8nm,0.7s,baz=87,slow=9.2,SNR=11						
ILAR	**Eielson Array**	**85.81**	**12**	P	P	00 28 00.1	+0.6
	0.2nm,0.6s,baz=204,slow=6.5,SNR=1.8						
GERES	**GERESS Array B**	**148.34**	**347**	PKPbc	PKPbc	00 35 05.5	-1.5
	0.4nm,0.6s,baz=20,slow=4.7,SNR=4.2						

*ISCJB **29** 00:19:08.2±0.4, 5°.08N±0°.04×94°.73E±0°.04, h50km, mb4.1/21, MS3.3/1, Error ellipse: s-maj=7.8km s-min=3.9km az=41.7*
*IDC **29** 00:19:09.9±0.8, 5°.16N×94°.82E, h48km±8km, mb3.7/16, mb1 3.9/18, mb1mx3.6/70, mbtmp4.0/18, ML4.1/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/68, Error ellipse: s-maj=25.9km s-min=11.0km az=46.0*
*NEIC **29** 00:19:14.6±0.8, 5°.25N×95°.07E, h92km±9km, mb4.3/6, Error ellipse: s-maj=12.0km s-min=7.5km az=49.0*
NEIC Felt [III] at Banda Aceh.
*DJA **29** 00:19:14.4±0.6, 5°N±3°×9°5E±°, h19km±6km, M4.2/10, mB5.2/2, mb4.3/9, MLv4.2/10, Mw(mB)4.6/2*

ISC 29 00:19:10.1±0.5, 5°.10N±0°.06×94°.81E±0°.06, h50km, n63, σ1°52/73, mb4.1/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.62**	**51**	P	**Pn**	**00 19 23.4**	**+0.5**
MLSI	**Meulaboh, Aceh**	**1.79**	**117**	P	**Pn**	**00 19 38.9**	**+0.3**
MLSI				S	**Sn**	**00 19 57.4**	**-2.8**
LHMI	**Lhok Sumawe**	**2.13**	**86**	P	**Pn**	**00 19 45.1**	**+1.8**
LHMI				S	**Sn**	**00 20 06.2**	**-2.4**
LHMI	**Lhok Sumawe**	**2.13**	**86**	*e*Pn	**Pn**	**00 19 45.3**	**+2.0**
LHMI				*e*S	**Sn**	**00 20 10.5**	**+1.9**
TPTI		**2.99**	**128**	P	**Pn**	**00 19 55.3**	**+0.3**
TPTI				S	**Sn**	**00 20 28.5**	**-1.2**
GSI	**Gunungsitoli**	**4.67**	**144**	P	**Pn**	**00 20 19.9**	**+1.7**
GSI	**Gunungsitoli**	**4.67**	**144**	*e*Pn	**Pn**	**00 20 21.4**	**+3.2**
PSI	**Prapat**	**4.70**	**119**	P	**Pn**	**00 20 20.9**	**+2.3**
	4.8nm,0.3s,baz=328,slow=12,SNR=20						
PSI				S	**Sn**	**00 21 14.1**	**+2.2**
	2.5nm,0.3s,baz=267,slow=17,SNR=2.7						
PSI				LR	LR	00 22 34.5	
	comp=Z,132nm,19.4s,baz=310,slow=43						
SURT	**Suratani**	**5.51**	**46**	P	**Pn**	**00 20 30.8**	**+1.2**
TRT	**Trang**	**5.56**	**60**	P	**Pn**	**00 20 30.8**	**+0.5**
KULM	**Kulim**	**5.82**	**88**	*e*Pn	**Pn**	**00 20 35.0**	**+1.1**
KULM				*e*S	**Sn**	**00 21 37.4**	**-1.9**
SKLT	**Songkhla**	**6.13**	**70**	P	**Pn**	**00 20 41.3**	**+3.1**
	42nm,0.6s,830nm0.2nm						
IPM	**Ipoh**	**6.22**	**95**	*e*Pn	**Pn**	**00 20 40.5**	**+1.0**
IPM				*e*S	**Sn**	**00 21 48.6**	**-0.8**
MNSI	**Mandailing Nat**	**6.40**	**132**	P	**Pn**	**00 20 42.9**	**+1.0**
	26nm,0.4s,2μm0.3nm						
SISI	**Saibi**	**7.68**	**146**	P	**Pn**	**00 21 01.6**	**+2.1**
PHET	**Kaeng Krachan**	**9.10**	**31**	P	**Pn**	**00 21 22.9**	**+4.0**
	5.1nm,0.7s						
MNAI	**Manna**	**12.43**	**139**	*e*Pn	**Pn**	**00 22 03.8**	**-0.7**
MDSI	**Maura Dua**	**13.35**	**135**	P	**Pn**	**00 22 18.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**13.88**	**17**	P	**Pn**	**00 22 24.8**	**+0.6**
	0.4nm,0.3s,baz=202,slow=14,SNR=3.0						
PALK	**Pallekele**	**14.19**	**279**	P	**P**	**00 22 37.0**	**+2.4**
	0.6nm,0.3s,baz=115,slow=7.3,SNR=8.6						
CHTO	**Chiang Mai**	**14.21**	**16**	P	**P**	**00 22 36.5**	**+1.6**
	32nm,0.9s						
CMMT	**Chiang Mai**	**14.21**	**16**	P	**P**	**00 22 35.4**	**+0.5**
	10.0nm,1.1s						
HYB	**Hyderabad**	**20.08**	**309**	*i* P	Pn	00 23 43.0	+1.2
KMI	**Kunming**	**21.31**	**20**	P	**P**	**00 23 55.0**	**+1.9**
H08S3	**Diego Garcia H**	**25.61**	**241**	T	T	00 51 48.8	
	baz=61,slow=75,SNR=44						
H08S2	**Diego Garcia H**	**25.61**	**241**	T	T	00 51 46.9	
	baz=61,slow=75,SNR=58						
H08S1	**Diego Garcia H**	**25.63**	**241**	T	T	00 51 50.0	
	baz=61,slow=75,SNR=38						
LZH	**Lanzhou**	**31.94**	**14**	*e*P	**P**	**00 25 31.5**	**+0.1**
LZH				pP	sP	00 25 48.3	-2.0
LZH				sP	pP	00 25 57.0	+13
LZH				*e*PP	**PnPn**	**00 26 40.5**	**+2.7**
GTA	**Gaotai**	**34.45**	**7**	*e*P	**P**	**00 25 55.8**	**+2.6**
GTA				pP	sP	00 26 11.0	-1.2
GTA				sP	pP	00 26 18.0	+12
NJ2	**Nanjing**	**35.01**	**37**	*e*P	**P**	**00 25 57.3**	**-0.6**
KSH	**Kashi**	**38.26**	**336**	P	**P**	**00 26 25.8**	**+0.1**
KSH				pP	sP	00 26 44.3	-0.5
KSH				PP	**PnPn**	**00 27 56.8**	**+0.8**
KSH				S	**S**	**00 32 13.0**	**-3.3**
KSH				PcS	**PcS**	**00 32 27.0**	**-1.4**
KSH				sS	sS	00 32 44.5	+6.0
HHC	**Hu-ho-hao-te**	**38.64**	**20**	*e*P	**P**	**00 26 29.0**	**+0.1**
WMQ	**Urumqi**	**39.07**	**352**	P	**P**	**00 26 31.5**	**-0.9**
MTN	**Manton Dam**	**40.25**	**117**	*e*P	**P**	**00 26 41.6**	**-0.9**
	20nm,1.4s						
MTN				*e*S	**S**	**00 32 45.8**	**-0.8**
AAK	**Ala-Archa**	**41.50**	**337**	P	**P**	**00 26 53.6**	**+0.9**
	1.8nm,0.7s,baz=129,slow=16,SNR=8.1						
AAK	**Ala-Archa**	**41.50**	**337**	*e*P	**P**	**00 26 53.4**	**+0.7**
	1.9nm,0.8s						
MK01	**Makanchi Array**	**42.90**	**347**	*e*P	**P**	**00 27 02.9**	**-0.9**
MK31	**Makanchi Array**	**42.92**	**347**	*e*P	**P**	**00 27 03.3**	**-0.7**
MKAR	**Makanchi Array**	**42.92**	**347**	P	**P**	**00 27 03.3**	**-0.7**
	0.5nm,0.4s,baz=164,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**42.92**	**347**	*e*P	**P**	**00 27 03.3**	**-0.7**
	8.9nm,0.8s						
SONM	**Songino Array**	**43.72**	**11**	P	**P**	**00 27 09.0**	**-1.5**
	0.6nm,0.4s,baz=192,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**46.15**	**124**	P	**P**	**00 27 29.9**	**-0.2**
	1.9nm,0.8s,baz=301,slow=9.1,SNR=9.0						
WRA				pP	**pP**	**00 27 42.9**	**-0.7**
	3.6nm,0.6s,baz=303,slow=9.2,SNR=10						
WRAB	**Tennant Creek**	**46.15**	**124**	*e*P	**P**	**00 27 30.2**	**+0.1**
	3.5nm,0.8s						
WB2	**Warramunga Arr**	**46.16**	**124**	*e*P	**P**	**00 27 30.4**	**+0.3**
GEYT	**Alibeck**	**46.71**	**320**	P	**P**	**00 27 34.1**	**-0.2**
	1.8nm,0.6s,baz=136,slow=9.8,SNR=6.9						
GEYT				pP	**pP**	**00 27 47.1**	**-0.7**
	0.8nm,0.5s,baz=181,slow=11,SNR=3.3						
CN2	**Changchun**	**47.04**	**30**	*e*P	**P**	**00 27 33.5**	**-3.2**
CN2				*e*pP	pP	00 27 52.0	+1.8
KURBB	**Kurchatov Arra**	**47.38**	**346**	P	**P**	**00 27 39.2**	**0.0**
	0.8nm,0.5s,baz=169,slow=6.7,SNR=8.9						
KURK	**Kurchatov**	**47.45**	**346**	P	**P**	**00 27 39.2**	**-0.5**
ASAR	**Alice Springs**	**47.66**	**129**	P	**P**	**00 27 42.0**	**+0.1**
	1.0nm,0.5s,baz=299,slow=7.5,SNR=13						
ASAR				pP	**pP**	**00 27 54.9**	**-0.5**
	2.1nm,0.6s,baz=301,slow=7.3,SNR=8.0						
ZALV	**Zalesovo Beam**	**49.38**	**352**	P	**P**	**00 27 53.7**	**-0.8**
	1.2nm,0.4s,baz=186,slow=4.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**49.38**	**352**	*e*P	**P**	**00 27 54.0**	**-0.5**
RAYN	**Ar Rayn**	**50.86**	**296**	*e*P	**P**	**00 28 05.8**	**-0.6**
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**51.81**	**341**	P	**P**	**00 28 12.1**	**-0.9**
	0.9nm,0.5s,baz=134,slow=6.4,SNR=9.0						
BRVK	**Borovoye**	**51.87**	**341**	*e*P	**P**	**00 28 13.4**	**0.0**
	3.0nm,1.0s						
ABKAR	**Akbulak array**	**52.97**	**332**	*e*P	**P**	**00 28 20.8**	**-0.8**
	23nm,0.7s						
AKTO	**Aktyubinsk**	**54.69**	**332**	P	**P**	**00 28 33.2**	**-0.9**
	0.6nm,0.3s,baz=142,slow=9.6,SNR=3.6						
BRTR	**Keskin Array B**	**64.75**	**312**	P	**P**	**00 29 42.4**	**-1.3**
	0.4nm,0.7s,baz=141,slow=7.7,SNR=3.3						
TIXI	**Tiksi**	**69.81**	**11**	LR	LR	01 02 42.9	
	comp=Z,16nm,20.7s,baz=21,slow=38						
BOSA	**Boshof**	**74.70**	**239**	P	**P**	**00 30 45.7**	**+0.5**
	1.6nm,0.6s,baz=80,slow=5.2,SNR=5.0						
FINES	**FINESS Array B**	**75.46**	**332**	P	**P**	**00 30 47.7**	**-1.0**
	0.8nm,0.5s,baz=109,slow=4.7,SNR=7.4						
ARCES	**ARCESS Array B**	**78.08**	**340**	P	**P**	**00 31 02.8**	**-0.6**
	4.2nm,1.0s,baz=100,slow=6.8,SNR=8.0						
GERES	**GERESS Array B**	**80.33**	**319**	P	**P**	**00 31 16.4**	**+0.2**
	0.9nm,0.6s,baz=104,slow=5.6,SNR=8.8						
HFS	**Hagfors**	**81.17**	**330**	P	**P**	**00 31 21.9**	**+1.6**
	2.1nm,0.9s,baz=116,slow=13,SNR=3.1						

*ISCJB **29** 00:23:18.5±0.3, 21°.62N±0°.03×94°.55E±0°.03, h97km, mb4.2/34, Error ellipse: s-maj=5.2km s-min=2.8km az=40.5*
*BJI **29** 00:23:19.8, 21°.60N×94°.80E, h111km, mb4.5/36, mB4.5/17*
*NEIC **29** 00:23:21.7±0.7, 21°.62N×94°.75E, h120km±7km, mb4.5/12, Error ellipse: s-maj=9.7km s-min=5.8km az=67.0*
*IDC **29** 00:23:21.1±1.4, 21°.72N×94°.83E, h112km±11km, mb3.8/24, mb1 3.9/26, mb1mx3.6/70, mbtmp4.2/26, MS2.9/2, Ms1 2.9/2, ms1mx2.4/62, Error ellipse: s-maj=18.0km s-min=11.1km az=59.0*

ISC 29 00:23:18.9±0.4, 21°.54N±0°.05×94°.58E±0°.04, h97km, n89, σ2°.24/132, mb4.3/34, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**1.75**	**303**	*e*P	**Pn**	**00 23 51.5**	**+3.2**
SAIH				*e*S	**Sn**	**00 24 11.2**	**+0.6**
SAIH				IAML		00 24 22.5	
	comp=N,14μm,0.6s						
SAIH				IAML		00 24 23.0	
	comp=E,11μm,0.3s						
IMP	**Imphal**	**3.32**	**350**	*e*P	**Pn**	**00 24 13.7**	**+4.6**
IMP				*e*S	**Sn**	**00 24 48.2**	**+0.5**
KOHI	**KOHIMA**	**4.18**	**354**	*e*P	**Pn**	**00 24 23.5**	**+2.9**
KOHI				*e*S	**Sn**	**00 25 09.6**	**+1.1**
CMAI	**Chiengmai2**	**4.48**

GKN **Gorkha** 11.08 307 *e*Pn **Pn** 00 25 55.0 +0.5
VIS **Vishakhapatnam** 11.26 252 *e*P **Pn** 00 25 58.4 +1.6
VIS *e*S **Sn** 00 27 54.0 -6.7
KOLN **Koldanda** 11.74 304 *e*Pn **Pn** 00 26 03.6 +0.1
KOLN *e*Sn **Sn** 00 28 08.1 -4.6
comp=N,56nm,0.4s
GYA **Guiyang** 12.08 64 *e*P **Pn** 00 26 07.0 -0.9
GYA PP **P** 00 26 19.3 +2.7
GYA S **Sn** 00 28 17.0 -3.8
GYA pmax pmax
comp=N,10.0nm,0.6s
PYUN **Piuthan** 12.38 304 *e*Pn **Pn** 00 26 12.2 +0.3
PYUN *e*Sn **Sn** 00 28 23.7 -4.4
comp=N,54nm,0.6s
CD2 **Chengdu** 12.44 40 *e*P **Pn** 00 26 12.5 -0.1
CD2 pmax pmax
comp=N,10.0nm,0.5s
JBP **Jabalpur** 13.60 280 *i* P **P** 00 26 33.6 +0.3
JBP *ex* **Sn** 00 28 54.8 -2.6
HYB **Hyderabad** 15.65 258 *i* P **P** 00 26 59.0 +2.7
HYB *e*S **Sn** 00 29 51.0 +3.7
ENH **Enshi** 15.97 54 *e*P **P** 00 26 59.4 -0.3
comp=N,29nm,0.7s
LZH **Lanzhou** 16.60 27 *e*P **Pn** 00 27 05.3 -0.6
LZH *e*PP **pP** 00 27 18.5 -6.4
LZH pP P 00 27 21.3 +15
LZH sP sP 00 27 36.5 -0.7
LZH pmax pmax
comp=N,25nm,1.0s
LZH pmax pmax
comp=N,78nm,4.1s
LZH LR LR
comp=N,83nm,13.2s
LZH LR LR
comp=N,97nm,13.6s
LZH LR LR
comp=N,150nm,17.2s
PALK **Pallekele** 19.52 225 P **Pn** 00 27 43.6 +2.7
comp=N,1.5nm,0.3s,baz=120,slow=1.8,SNR=11
PALK S **S** 00 31 08.2 -6.0
comp=N,0.5nm,0.3s,baz=117,slow=16,SNR=6.7
PALK LR LR 00 37 30.8
comp=N,48nm,18.3s,baz=116,slow=43
PALK **Pallekele** 19.52 225 *e*P **Pn** 00 27 43.1 +2.1
comp=N,8.4nm,0.7s
PALK S **S** 00 31 08.2 -6.0
WHN **Wuhan** 19.88 59 P **Pn** 00 27 45.5 +0.5
GSI **Gunungsitoli** 20.33 171 *e*P **P** 00 27 47.8 +0.2
comp=N,31nm,0.9s
WMQ **Urumqi** 22.94 347 P **P** 00 28 15.5 +0.6
WMQ pP sP 00 28 44.0 -2.4
WMQ PP **PnPn** 00 28 49.0 +4.1
WMQ sP pP 00 28 52.5 +18
WMQ pmax pmax
comp=N,24nm,1.1s
WMQ LR LR
comp=N,77nm,14.9s
WMQ LR LR
comp=N,55nm,16.3s
WMQ LR LR
comp=N,60nm,14.3s
KSH **Kashi** 23.95 323 P **P** 00 28 25.5 +1.2
KSH pP pP 00 28 50.5 +5.3
KSH sP sP 00 29 01.0 +3.9
KSH S **S** 00 32 30.0 -4.1
KSH SS **SnSn** 00 33 31.8 +6.9
KSH pmax pmax
comp=N,8.0nm,0.6s
KSH pmax pmax
comp=N,95nm,5.8s
KSH LR LR
comp=N,93nm,10.2s
KSH LR LR
comp=N,110nm,6.3s
KSH LR LR
comp=N,74nm,6.4s
NJ2 **Nanjing** 24.02 59 *e*P **P** 00 28 23.0 -1.8
NJ2 pmax pmax
comp=N,18nm,0.5s
HHC **Hu-ho-hao-te** 24.04 33 *e*P **P** 00 28 23.5 -1.5
HHC pmax pmax
comp=N,11nm,0.7s
HHC pmax pmax
comp=N,99nm,5.3s
AAK **Ala-Archa** 26.92 326 P **P** 00 28 53.5 +2.3
comp=N,1.5nm,0.5s,baz=110,slow=5.8,SNR=6.4
AAK ScP **ScP** 00 35 41.1 -1.4
comp=N,0.8nm,0.5s,baz=150,slow=4.9,SNR=12
AAK **Ala-Archa** 26.92 326 *e*P **P** 00 28 53.4 +2.2
comp=N,10nm,1.6s
AAK ScP **ScP** 00 35 41.1 -1.4
MK01 **Makanchi Array** 27.07 341 *e*P **P** 00 28 52.8 +0.5
MK31 **Makanchi Array** 27.09 341 *e*P **P** 00 28 53.5 +1.0
MKAR **Makanchi Array** 27.09 341 P **P** 00 28 53.3 +0.8
comp=N,2.4nm,0.5s,baz=148,slow=9.4,SNR=22
MKAR PcP **PcP** 00 32 11.3 +0.2
comp=N,0.6nm,0.6s,baz=149,slow=1.8,SNR=5.8
MKAR ScP **ScP** 00 35 41.0 -1.7
comp=N,0.9nm,0.7s,baz=164,slow=2.4,SNR=9.5
MKAR **Makanchi Array** 27.09 341 *e*P **P** 00 28 53.5 +1.0
comp=N,26nm,0.7s
MKAR PcP **PcP** 00 32 11.3 +0.2
MKAR ScP **ScP** 00 35 41.0 -1.7
SONM **Songino Array** 27.91 17 P **P** 00 28 59.4 -0.5
comp=N,0.6nm,0.6s,baz=174,slow=5.8,SNR=2.3
KURBB **Kurchatov Arra** 31.64 340 P **P** 00 29 33.3 +0.6
comp=N,4.8nm,0.6s,baz=150,slow=8.6,SNR=32
KURBB PcP **PcP** 00 32 22.6 +0.1
comp=N,0.7nm,0.5s,baz=145,slow=1.6,SNR=5.4
KURBB ScP **ScP** 00 35 55.6 -1.5
comp=N,1.3nm,0.6s,baz=154,slow=3.1,SNR=14
KURK **Kurchatov** 31.70 341 *e*P **P** 00 29 33.8 +0.6
comp=N,6.1nm,0.6s
KURK PcP **PcP** 00 32 22.6 -0.1
KURK ScP **ScP** 00 35 55.6 -1.7
KSRS **Korea Array** 32.86 54 LR LR 00 45 37.7
comp=N,13nm,18.2s,baz=295,slow=41
ZAA0 **Zalesovo Array** 33.20 349 *e*P **P** 00 29 46.5 +0.3
comp=N,8.6nm,0.8s
ZALV **Zalesovo Beam** 33.20 349 P **P** 00 29 45.9 -0.3
comp=N,6.0nm,0.6s,baz=173,slow=8.8,SNR=24
ZALV **Zalesovo Beam** 33.20 349 *e*P **P** 00 29 46.2 0.0
GEYT **Alibeck** 35.35 306 P **P** 00 30 07.4 +2.2
comp=N,0.7nm,0.5s,baz=94,slow=5.8,SNR=3.8
GEYT ScP **ScP** 00 36 10.4 -0.1
comp=N,3.2nm,0.7s,baz=116,slow=3.4,SNR=12
BVAR **Borovoye Array** 36.49 335 P **P** 00 30 15.0 +0.4
comp=N,2.0nm,0.6s,baz=141,slow=9.6,SNR=12
BVAR PcP **PcP** 00 32 36.7 +0.3
comp=N,0.5nm,0.3s,baz=177,slow=2.9,SNR=5.0
BVAR ScP **ScP** 00 36 13.2 -1.1
comp=N,0.6nm,0.6s,baz=122,slow=5.4,SNR=5.5
BRVK **Borovoye** 36.56 335 *e*P **P** 00 30 15.6 +0.4
comp=N,3.0nm,0.6s
ABKAR **Akbulak array** 38.95 324 *e*P **P** 00 30 36.7 +1.3
comp=N,33nm,0.6s
AKTO **Aktyubinsk** 40.63 324 P **P** 00 30 50.3 +1.0
comp=N,1.9nm,0.6s,baz=123,slow=8.9,SNR=6.6
AKTO ScP **ScP** 00 36 27.7 -2.5
comp=N,2.7nm,0.8s,baz=101,slow=4.2,SNR=7.8
TIXI **Tiksi** 53.85 13 P **P** 00 32 29.7 -1.7
comp=N,4.8nm,0.3s,baz=159,slow=4.8,SNR=10
TIXI **Tiksi** 53.85 13 *e*P **P** 00 32 31.5 0.0
comp=N,5.3nm,0.4s
WRA **Warramunga Arr** 56.67 134 P **P** 00 32 52.4 -0.1
comp=N,0.5nm,0.3s,baz=320,slow=7.5,SNR=29
AKASG **Malin Array Be** 58.09 317 P **P** 00 33 01.6 -0.4
comp=N,1.6nm,0.5s,baz=80,slow=6.8,SNR=9.2
ASAR **Alice Springs** 59.03 137 P **P** 00 33 09.9 +0.9
comp=N,0.6nm,0.5s,baz=321,slow=7.1,SNR=9.4
MLR **Muntele Rosu** 60.12 311 P **P** 00 33 17.7 +1.3
comp=N,0.8nm,0.7s,baz=123,slow=17,SNR=5.8
FINES **FINESS Array B** 61.04 329 P **P** 00 33 22.2 +0.1
comp=N,2.1nm,0.9s,baz=96,slow=5.7,SNR=4.0
IDI **Anoyia** 61.68 299 P **P** 00 33 27.8 +0.7
comp=N,10.0nm,1.0s,baz=48,slow=8.7,SNR=3.7
ARCES **ARCESS Array B** 62.70 338 P **P** 00 33 33.1 0.0
comp=N,1.6nm,0.5s,baz=95,slow=7.4,SNR=20
SPITS **Spitsbergen Ar** 66.64 347 P **P** 00 33 58.5 -0.2
comp=N,1.9nm,0.5s,baz=86,slow=7.4,SNR=16
HFS **Hagfors** 67.05 328 P **P** 00 34 01.1 -0.4
comp=N,2.5nm,0.6s,baz=97,slow=6.1,SNR=10
GERES **GERESS Array B** 68.18 315 P **P** 00 34 09.6 +0.5
comp=N,1.3nm,0.6s,baz=76,slow=5.6,SNR=9.7
NOA **NORSAR Array B** 68.20 329 P **P** 00 34 07.9 -0.9
comp=N,0.9nm,0.6s,baz=85,slow=6.6,SNR=3.7

EKA **Eskdalemuir Ar** 76.82 324 P **P** 00 35 00.2 +0.2
comp=N,0.5nm,0.4s,baz=82,slow=5.7,SNR=8.4
SUMG **Summit** 80.98 347 *e*P **P** 00 35 22.3 -0.6
comp=N,6.4nm,0.8s
ILAR **Eielson Array** 82.00 22 P **P** 00 35 26.1 -1.8
comp=N,0.5nm,0.6s,baz=290,slow=5.3,SNR=9.4
BOSA **Boshof** 83.39 236 P **P** 00 35 37.6 +1.8
comp=N,2.0nm,0.7s,baz=122,slow=3.8,SNR=5.3
RES **Resolute Bay** 83.81 3 *e*P **P** 00 35 36.0 -1.0
comp=N,3.8nm,1.2s
INK **Inuvik** 83.81 16 *e*P **P** 00 35 36.1 -1.1
TORD **Torodi Ar. Bea** 87.88 283 P **P** 00 35 59.3 +1.0
comp=N,0.3nm,0.7s,baz=85,slow=3.3,SNR=2.6
SDV **Santo Domingo** 146.45 333 PKPbc **PKPbc** 00 42 49.7 -0.2
comp=N,12nm,0.7s,baz=329,slow=2.2,SNR=13

BJI ***29*** *00:36:38.7, 40.˚90S×44.˚60E, h10km, mb5.3/35, mB5.5/24, Ms5.0/13, MS7 4.7/11*
IDC ***29*** *00:36:38.7±0.3, 40.˚91S×44.˚68E, h0km, mb4.9/35, mb1 5.0/35, mb1mx4.9/51, mbtmp4.8/35, MS4.4/34, Ms1 4.4/34, ms1mx4.3/43, Error ellipse: s-maj=13.0km s-min=11.2km az=68.0*
MOS ***29*** *00:36:39.5±1.0, 40.˚88S×44.˚62E, h10km, mb5.3/56, MS4.3/7, Error ellipse: s-maj=14.3km s-min=6.4km az=96.4*
ISCJB ***29*** *00:36:39.3±0.2, 40.˚93S±0.˚04×44.˚60E±0.˚05, h10km, mb5.2/137, MS4.4/43, Error ellipse: s-maj=5.7km s-min=4.7km az=33.1*
NEIC ***29*** *00:36:40.4±0.1, 40.˚96S×44.˚61E, h10km, mb5.3/77, Error ellipse: s-maj=5.5km s-min=4.7km az=63.0*
GCMT ***29*** *00:36:40.4±0.1, 40.˚84S×44.˚58E, h12km, MW5.2/114, Moment Tensor Solution. s56,c86; s114,c207; Duration: 0 Moment tensor: Scale 10^17Nm; Mrr-0.74±.01; Mθθ0.66±.01; Mϕϕ0.08±.01; Mrθ0.04±.03; Mϕθ0.19±.01; Mϕr-0.06±.03; Best double couple: M0.73400×10^17 NP1:ϕs68.00000°, δ44.00000°, λ-97.00000°. NP2: ϕs258.00000°, δ46.00000°, λ-83.00000°. Principal axes: T 0.7200, Plg1.0000°, Azm343.0000°; N 0.0280, Plg5.0000°, Azm73.0000°; P -0.7480, Plg85.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 00:36:41.7±0.5, 40.˚92S±0.˚06×44.˚55E±0.˚06, h17km±2km, h17km:pP-P, n874, σ0.˚95/898, mb5.2/137, MS4.5/42, 24C-31D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BOSA	**Boshof**	**20.00**	**302**	P	**P**	**00 41 14.3**	**+0.8**
	33nm,0.8s,baz=146,slow=7.2,SNR=3.7						
BOSA				S	S	00 44 45.1	-13
	2.7nm,0.7s,baz=263,slow=20,SNR=2.3						
BOSA				LR	LR	00 47 32.6	
	comp=Z,1μm,21.3s,baz=136,slow=33						
BOSA	**Boshof**	**20.00**	**302**	*e*P	Pn	00 41 14.5	-0.8
BOSA				S	S	00 44 45.1	-13
BOSA				pmax	pmax		
	comp=Z,61nm,1.1s						
BOSA	**Boshof**	**20.00**	**302**	*e*P	Pn	00 41 14.4	-0.8
	comp=Z,60nm,1.1s						
BOSA				S	S	00 44 45.1	-13
SUR	**Sutherland**	**20.82**	**287**	P	**P**	**00 41 23.0**	**+0.5**
	comp=Z,4.5nm,1.0s,baz=119,slow=12,SNR=34						
SUR				S	S	00 45 02.7	-12
	comp=Z,0.1nm,0.7s,baz=150,slow=19,SNR=2.8						
SUR				LR	LR	00 47 47.6	
	comp=Z,48nm,21.0s,baz=122,slow=32						
SUR	**Sutherland**	**20.82**	**287**	*e*P	**P**	**00 41 23.0**	**+0.5**
	comp=Z,143nm,1.4s						
SUR				S	S	00 45 02.7	-12
ABPO	**Ambohimpanom**	**21.95**	**7**	*e*P	**P**	**00 41 34.9**	**+0.2**
ABPO				pmax	pmax		
	comp=Z,386nm,1.9s						
ABPO	**Ambohimpanom**	**21.95**	**7**	*e*P	**P**	**00 41 34.9**	**+0.2**
	comp=Z,386nm,1.9s						
LBTB	**Lobatse**	**22.39**	**309**	P	**P**	**00 41 38.4**	**-0.8**
	comp=Z,39nm,1.0s,baz=141,slow=6.8,SNR=53						
LBTB				LR	LR	00 49 08.2	
	comp=Z,1μm,20.9s,baz=128,slow=33						
LBTB	**Lobatse**	**22.39**	**309**	*e*P	**P**	**00 41 38.9**	**-0.4**
LBTB				pmax	pmax		
	comp=Z,135nm,1.1s						
LBTB	**Lobatse**	**22.39**	**309**	*e*P	**P**	**00 41 38.9**	**-0.4**
	comp=Z,135nm,1.1s						
OPO	**Ambohidratompo**	**22.39**	**7**	P	**P**	**00 41 39.3**	**-0.1**
	comp=Z,23nm,1.0s,baz=194,slow=7.6,SNR=9.3						
MRIV	**Mauritius Mete**	**23.33**	**32**	*e*P	**P**	**00 41 52.2**	**+3.1**
	comp=Z,316nm,1.8s						
SYO	**Syowa Base**	**28.27**	**184**	*e*P	**P**	**00 42 31.4**	**-2.2**
SYO	**Syowa Base**	**28.27**	**184**	*e*pP	**P**	**00 42 33.3**	**-0.3**
MAW	**Mawson**	**28.55**	**165**	LR	LR	00 51 34.0	
	comp=Z,1μm,19.5s,baz=358,slow=31						
LSZ	**Lusaka**	**29.24**	**326**	P	**P**	**00 42 42.9**	**0.0**
	comp=Z,9.7nm,0.8s,baz=160,slow=9.5,SNR=24						
LSZ				LR	LR	00 53 06.2	
	comp=Z,2μm,21.4s,baz=134,slow=34						
LSZ	**Lusaka**	**29.24**	**326**	*e*P	**P**	**00 42 42.7**	**-0.2**
LSZ				*e*		00 45 49.5	
LSZ				pmax	pmax		
	comp=Z,45nm,1.5s						
LSZ	**Lusaka**	**29.24**	**326**	*e*P	**P**	**00 42 42.7**	**-0.2**
	comp=Z,46nm,1.5s						
LSZ				*e*PcP	**PcP**	**00 45 49.5**	**-0.3**
LSZ	**Lusaka**	**29.24**	**326**	P	**P**	**00 42 43.0**	**+0.1**
	SNR=8.2						
WIN	**Windhoek**	**29.48**	**300**	P	**P**	**00 42 45.1**	**+0.1**
WIN				pmax	pmax		
	comp=Z,31nm,1.2s						
TSUM	**Tsumeb**	**31.61**	**305**	LR	LR	00 54 34.5	
	comp=Z,1μm,20.4s,baz=138,slow=34						
TSUM	**Tsumeb**	**31.61**	**305**	*e*P	**P**	**00 43 03.3**	**-0.6**
	comp=Z,36nm,1.0s						
TSUM				*e*PcP	**PcP**	**00 45 54.1**	**-1.9**
NVL	**N'lazarevskaya**	**34.21**	**199**	*i*P	**P**	**00 43 25.5**	**-0.4**
NVL				*e*		00 45 02.6	
NVL				pmax	pmax		
	comp=Z,25nm,0.8s						
MIR	**Mirnyy**	**36.96**	**150**	*e*P	P	00 43 59.0	+10
MIR				pmax	pmax		
	comp=Z,85nm,1.0s						
SNAA	**Sanae**	**38.62**	**202**	P	**P**	**00 44 04.2**	**+0.6**
SNAA	**Sanae**	**38.62**	**202**	P	**P**	**00 44 04.4**	**+0.8**
	comp=Z,18nm,1.0s,baz=90,slow=9.4,SNR=26						
SNAA				LR	LR	00 56 42.8	
	comp=Z,509nm,18.5s,baz=96,slow=31						
SNAA	**Sanae**	**38.62**	**202**	*e*P	**P**	**00 44 03.6**	**0.0**
SNAA				pmax	pmax		
	comp=Z,50nm,1.3s						
SNAA	**Sanae**	**38.62**	**202**	*e*P	**P**	**00 44 03.6**	**0.0**
	comp=Z,50nm,1.3s						
VNA2	**Neumayer--Watz**	**39.66**	**204**	P	**P**	**00 44 13.2**	**+1.0**
	baz=60,slow=7.3						
VNA1	**Neumayer--Stat**	**39.84**	**204**	P	**P**	**00 44 14.9**	**+1.3**
KMBO	**Kilima Mbogo**	**40.16**	**349**	P	**P**	**00 44 16.9**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=168,slow=11,SNR=9.5						
KMBO	**Kilima Mbogo**	**40.16**	**349**	*e*P	**P**	**00 44 19.3**	**+2.1**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KMBO	**Kilima Mbogo**	**40.16**	**349**	*e*P	**P**	**00 44 19.0**	**+1.8**
	comp=Z,11nm,1.4s						
KMBO	**Kilima Mbogo**	**40.16**	**349**	P	**P**	**00 44 19.1**	**+1.9**
	SNR=8.6						
VNA3	**Neumayer Olymp**	**40.47**	**204**	P	**P**	**00 44 19.4**	**+0.4**
QSPA	**South Pole Qui**	**49.28**	**180**	P	**P**	**00 45 28.3**	**-1.0**
	comp=Z,60nm,1.1s,baz=250,slow=3.1,SNR=47						
QSPA				LR	LR	01 05 02.3	
	comp=Z,1μm,18.1s,baz=255,slow=35						
ATD	**Arta Tunnel**	**52.21**	**358**	LR	LR	01 05 40.6	
	comp=Z,417nm,20.8s,baz=166,slow=33						
HOPE	**Hope Point**	**53.29**	**226**	*e*P	**P**	**00 45 59.7**	**+0.5**
	comp=Z,62nm,0.8s						
H01W2	**Cape Leeuwin H**	**53.92**	**108**	T	T	01 44 02.6	
	baz=242,slow=75,SNR=189						
H01W3	**Cape Leeuwin H**	**53.93**	**108**	T	T	01 44 03.1	
	baz=242,slow=75,SNR=193						
H01W1	**Cape Leeuwin H**	**53.94**	**108**	T	T	01 44 03.7	
	baz=242,slow=75,SNR=216						
VNDA	**Vanda**	**55.85**	**166**	P	**P**	**00 46 16.9**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=255,slow=8.3,SNR=8.6						
VNDA				LR	LR	01 09 32.4	
	comp=Z,660nm,18.2s,baz=234,slow=35						
VNDA	**Vanda**	**55.85**	**166**	*e*P	**P**	**00 46 18.7**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,29nm,1.8s						
VNDA	**Vanda**	**55.85**	**166**	*e*P	**P**	**00 46 18.7**	**+1.1**
	comp=Z,29nm,1.8s						
SBA	**Scott Base**	**56.48**	**168**	*e*P	**P**	**00 46 22.4**	**+0.3**
SBA	**Scott Base**	**56.48**	**168**	*e*P	**P**	**00 46 22.4**	**+0.3**
PALK	**Pallekele**	**58.34**	**43**	*ce*P	**P**	**00 46 36.7**	**+0.7**
PALK	**Pallekele**	**58.34**	**43**	*e*P	**P**	**00 46 35.7**	**-0.3**
	comp=Z,16nm,0.9s						
PALK	**Pallekele**	**58.34**	**43**	P	**P**	**00 46 34.5**	**-1.5**
	SNR=5.8						
PALK	**Pallekele**	**58.34**	**43**	*i* P	**P**	**00 46 36.0**	**0.0**
	SNR=6.3						
SISI	**Saibi**	**62.97**	**66**	P	**P**	**00 47 09.2**	**+1.6**
KASI	**Kota Agung**	**63.89**	**74**	P	**P**	**00 47 15.8**	**+2.1**
CGJI	**Cibinong**	**64.03**	**75**	P	**P**	**00 47 16.5**	**+1.9**
RAYN	**Ar Rayn**	**64.12**	**1**	*e*P	**P**	**00 47 15.3**	**+0.3**
	comp=Z,14nm,1.3s						
PDSI	**Padang**	**64.22**	**67**	P	**P**	**00 47 17.1**	**+1.2**
MDSI	**Maura Dua**	**64.36**	**73**	P	**P**	**00 47 16.8**	**0.0**
MNSI	**Mandailing Nat**	**64.83**	**65**	P	**P**	**00 47 21.1**	**+1.3**
TPTI		**65.02**	**61**	P	**P**	**00 47 23.4**	**+2.4**
WSAR	**Wadi Sarin**	**65.16**	**14**	P	**P**	**00 47 22.2**	**+0.5**
	comp=Z,6.2nm,0.8s,baz=178,slow=4.8,SNR=4.4						
WSAR				LR	LR	01 12 14.0	
	comp=Z,252nm,18.9s,baz=208,slow=33						
KIC	**Kosan Boka**	**65.20**	**304**	*e*P	**P**	**00 47 22.7**	**+0.5**
	comp=Z,69nm,1.1s						
MLSI	**Meulaboh, Aceh**	**65.26**	**60**	P	**P**	**00 47 24.4**	**+1.8**
LIC	**Lamto**	**65.28**	**304**	*e*P	**P**	**00 47 22.8**	**+0.1**
	comp=Z,72nm,0.9s						
LEM	**Lembang**	**65.30**	**77**	P	**P**	**00 47 25.2**	**+2.1**
	comp=Z,20nm,0.4s,baz=155,slow=14,SNR=9.5						
LEM				LR	LR	01 09 35.0	
	comp=Z,89nm,21.5s,baz=230,slow=30						
ALNE	**Al Ain**	**65.48**	**11**	*i* P	**P**	**00 47 23.9**	**+0.2**
	SNR=5.7						
BKNI	**Bangkinang**	**65.50**	**66**	P	**P**	**00 47 26.7**	**+2.5**
DBIC	**Dimbokro**	**65.51**	**304**	P	**P**	**00 47 24.9**	**+0.7**
	comp=Z,27nm,1.0s,baz=130,slow=6.0,SNR=18						
DBIC	**Dimbokro**	**65.51**	**304**	*e*P	**P**	**00 47 24.9**	**+0.7**
	comp=Z,37nm,1.1s						
TIC	**Toumodi**	**65.60**	**304**	*e*P	**P**	**00 47 25.4**	**+0.6**
SOHO	**SOHO**	**65.68**	**12**	*i* P	**P**	**00 47 24.6**	**-0.4**
	SNR=8.4						
PSI	**Prapat**	**65.85**	**63**	P	**P**	**00 47 26.7**	**+0.2**
	comp=Z,27nm,0.8s,baz=225,slow=7.1,SNR=23						
PSI	**Prapat**	**65.85**	**63**	*e*P	**P**	**00 47 26.6**	**+0.1**
PSI				pmax	pmax		
	comp=Z,44nm,1.0s						
PSI	**Prapat**	**65.85**	**63**	*e*P	**P**	**00 47 26.6**	**+0.1**
	comp=Z,44nm,1.0s						
KPJI	**Karang Pucung**	**65.94**	**78**	P	**P**	**00 47 26.7**	**-0.3**
HYB	**Hyderabad**	**66.07**	**36**	*i* P	**P**	**00 47 26.0**	**-1.7**
ASHO	**Ashiyiah**	**66.14**	**11**	P	**P**	**00 47 27.8**	**-0.3**
ASHO	**Ashiyiah**	**66.14**	**11**	*i* P	**P**	**00 47 27.8**	**-0.3**
	SNR=9.0						
HATD	**Hatta, Dubai**	**66.29**	**11**	P	**P**	**00 47 28.8**	**-0.2**
HATD	**Hatta, Dubai**	**66.29**	**11**	*i* P	**P**	**00 47 28.8**	**-0.2**
	SNR=7.8						
LHMI	**Lhok Sumawe**	**66.33**	**59**	P	**P**	**00 47 31.7**	**+2.2**
LHMI	**Lhok Sumawe**	**66.33**	**59**	*e*P	**P**	**00 47 30.8**	**+1.2**
	comp=Z,79nm,0.8s						
UOSS	**Minazif**	**66.42**	**12**	*e*P	**P**	**00 47 29.3**	**-0.4**
	comp=Z,16nm,1.1s						
UOSS	**Minazif**	**66.42**	**12**	P	**P**	**00 47 29.8**	**0.0**
UOSS	**Minazif**	**66.42**	**12**	P	**P**	**00 47 28.8**	**-0.9**
TOA0	**Torodi Ar. Sit**	**66.82**	**314**	*e*P	**P**	**00 47 33.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**66.82**	**314**	P	**P**	**00 47 33.0**	**+0.5**
	comp=Z,23nm,1.1s,baz=137,slow=5.1,SNR=69						
TORD				PP	**PP**	**00 49 54.4**	**-5.6**
	comp=Z,2.5nm,0.9s,baz=140,slow=7.3,SNR=4.6						
TORD				PKKP	**PKKPdf**	**01 07 48.0**	**+3.0**
	comp=Z,0.2nm,0.2s,baz=261,slow=2.1,SNR=5.4						
MSFE	**Esma-Masafi**	**66.82**	**11**	P	**P**	**00 47 33.0**	**+0.7**
PCJI	**Pacitan**	**67.05**	**81**	P	**P**	**00 47 36.0**	**+1.9**
PWJI	**Pagerwojo**	**67.63**	**81**	P	**P**	**00 47 38.6**	**+0.8**
IPM	**Ipoh**	**68.49**	**63**	*e*P	**P**	**00 47 41.9**	**-1.3**
	comp=Z,60nm,1.0s						
MYKOM	**Kota Tinggi**	**68.50**	**67**	*e*P	**P**	**00 47 42.9**	**-0.4**
	comp=Z,24nm,1.1s						
GMJI	**Gumukmas**	**68.69**	**82**	P	**P**	**00 47 45.9**	**+1.4**
KULM	**Kulim**	**68.83**	**62**	*e*P	**P**	**00 47 44.7**	**-0.6**
	comp=Z,56nm,1.2s						
TRTT	**Trang**	**70.08**	**60**	P	**P**	**00 47 51.3**	**-1.7**
	comp=Z,16nm,1.1s,comp=Z,226nm						
SRBI	**Singaraja**	**70.15**	**83**	P	**P**	**00 47 54.2**	**+0.7**
SURT	**Suratani**	**70.34**	**58**	P	**P**	**00 47 53.2**	**-1.4**
	comp=Z,29nm,1.0s,comp=Z,287nm						
BBOO	**Buckleboo**	**70.42**	**117**	*e*P	**P**	**00 47 53.4**	**-1.6**
	comp=Z,32nm,1.4s						
KOWA	**Kowa**	**71.13**	**310**	P	**P**	**00 48 00.1**	**+0.8**
	comp=Z,18nm,0.9s,baz=134,slow=6.1,SNR=23						
KOWA	**Kowa**	**71.13**	**310**	*e*P	**P**	**00 48 00.6**	**+1.2**
	comp=Z,86nm,1.6s						
PLAI	**Plampang**	**71.60**	**86**	P	**P**	**00 48 02.4**	**0.0**
STKI	**Sintang**	**72.77**	**74**	P	**P**	**00 48 12.3**	**+3.0**
KSM	**Kuching**	**72.88**	**73**	*e*P	**P**	**00 48 10.3**	**+0.3**
	comp=Z,29nm,1.1s						
TAM	**Tamanrasset**	**73.03**	**323**	*e*P	**P**	**00 48 12.0**	**+1.2**
TAM				pmax	pmax		
	comp=Z,17nm,1.3s						
TAM	**Tamanrasset**	**73.03**	**323**	*e*P	**P**	**00 48 12.0**	**+1.2**
	comp=Z,17nm,1.3s						
PHET	**Kaeng Krachan**	**73.86**	**56**	P	**P**	**00 48 15.8**	**+0.2**
	comp=Z,21nm,0.8s,comp=Z,168nm						
MMAI	**Mount Meron Ar**	**74.06**	**352**	P	**P**	**00 48 16.4**	**-0.1**
	comp=Z,8.4nm,0.9s,baz=166,slow=7.4,SNR=3.2						
MMAI				LR	LR	01 19 08.6	
	comp=Z,216nm,20.7s,baz=165,slow=34						
ASAR	**Alice Springs**	**74.44**	**108**	P	**P**	**00 48 18.4**	**-0.7**
	comp=Z,8.9nm,0.9s,baz=226,slow=5.3,SNR=58						
ASAR				LR	LR	01 16 08.6	
	comp=Z,264nm,19.6s,baz=236,slow=32						
AS31	**Alice Springs**	**74.44**	**108**	*e*P	**P**	**00 48 18.4**	**-0.8**
	comp=Z,4.7nm,1.1s						
AS01	**Alice Springs**	**74.47**	**108**	*e*P	**P**	**00 48 18.2**	**-1.1**
SRDT	**SRDT**	**74.63**	**55**	P	**P**	**00 48 19.3**	**-0.8**
	comp=Z,63nm,1.0s						
STKA	**Stephens Creek**	**74.70**	**119**	P	**P**	**00 48 20.1**	**-0.4**
	comp=Z,14nm,0.9s,baz=218,slow=4.8,SNR=26						
STKA				LR	LR	01 14 31.2	
	comp=Z,249nm,19.4s,baz=207,slow=30						
STKA	**Stephens Creek**	**74.70**	**119**	*e*P	**P**	**00 48 20.1**	**-0.4**
	comp=Z,6.3nm,1.1s						
SBUM	**Sibu**	**74.93**	**73**	*e*P	**P**	**00 48 22.2**	**+0.2**
	comp=Z,36nm,1.2s						
BATI	**Baumata**	**75.18**	**91**	LR	LR	01 18 04.6	
	comp=Z,43nm,18.4s,baz=242,slow=33						
SOEI	**Soe**	**75.93**	**91**	P	**P**	**00 48 28.5**	**+0.6**
SOEI	**Soe**	**75.93**	**91**	*e*P	**P**	**00 48 28.1**	**+0.3**
	comp=Z,45nm,1.0s						
SRAK	**Srakaew**	**76.22**	**57**	P	**P**	**00 48 31.6**	**+2.4**
	comp=Z,72nm,0.8s,comp=Z,3

DANN Dangsing 77.92 35 *e*P P 00 48 38.6 -0.3
comp=Z,8.9nm,1.0s
CHTO Chiang Mai 77.95 52 *e*P P 00 48 38.2 -0.7
CHTO pmax pmax
comp=Z,26nm,0.9s
CHTO Chiang Mai 77.95 52 *e*P P 00 48 38.2 -0.7
comp=Z,26nm,0.9s
CHTO Chiang Mai 77.95 52 P P 00 48 37.6 -1.4
SNR=9.6
IDI Anoyia 77.97 344 P P 00 48 36.9 -1.8
comp=Z,15nm,0.8s,baz=175,slow=9.3,SNR=9.2
IDI Anoyia 77.97 344 ⇓ *i*P P 00 48 37.5 -1.2
PKI Pulchoki 77.98 36 *e*P P 00 48 38.5 -0.8
comp=Z,166nm,1.4s
RAMN Ramite 77.99 38 *e*P P 00 48 39.3 0.0
comp=Z,208nm,1.2s
GKN Gorkha 78.00 36 *e*P P 00 48 38.7 -0.5
comp=Z,129nm,1.0s
KKN Kakani 78.11 36 *e*P P 00 48 39.5 -0.4
comp=Z,141nm,1.2s
ODAN Odare 78.28 38 *e*P P 00 48 40.8 -0.1
comp=Z,174nm,0.9s
JIRN Jiri 78.41 37 *e*P P 00 48 41.5 -0.2
comp=Z,148nm,0.7s
KBL Kabul 78.41 20 *e*P P 00 48 41.8 +0.4
KBL pmax pmax
comp=Z,25nm,1.1s
KBL Kabul 78.41 20 *e*P P 00 48 41.8 +0.4
comp=Z,24nm,1.1s
GUN Gumba 78.48 37 *e*P P 00 48 42.1 0.0
comp=Z,198nm,1.0s
TAPN Taplejung 78.85 38 *e*P P 00 48 44.0 -0.1
comp=Z,108nm,1.1s
BBTS Babate 79.02 300 LR LR 01 20 59.6
comp=Z,230nm,20.0s,baz=122,slow=34
MTN Manton Dam 79.15 98 *e*P P 00 48 45.9 +0.1
comp=Z,36nm,1.2s
MPSI Mapaga 79.17 80 P P 00 48 46.1 +0.2
SHL Shillong 79.41 43 ⇓ *i*P P 00 48 46.0 -1.0
GEYT Alibeck 79.45 11 P P 00 48 47.0 +0.2
comp=Z,12nm,1.1s,baz=228,slow=5.8,SNR=33
GEYT LR LR 01 21 24.7
comp=Z,268nm,22.0s,baz=200,slow=34
PLCA Paso Flores 79.64 224 P P 00 48 48.1 0.0
comp=Z,7.5nm,0.7s,baz=147,slow=5.7,SNR=20
PLCA LR LR 01 17 14.6
comp=Z,179nm,21.6s,baz=161,slow=31
PLCA Paso Flores 79.64 224 *e*P P 00 48 48.2 0.0
PLCA pmax pmax
comp=Z,17nm,0.9s
PLCA Paso Flores 79.64 224 *e*P P 00 48 48.2 0.0
comp=Z,16nm,0.9s
LUWI Luwuk 80.42 83 P P 00 48 54.3 +1.7
GNI Garni 80.69 0 *de*P P 00 48 54.1 +0.5
GNI pmax pmax
comp=Z,87nm,1.2s
GNI Garni 80.69 0 *e*P P 00 48 53.9 +0.3
comp=Z,26nm,1.1s
GNI Garni 80.69 0 *i*P P 00 48 54.3 +0.7
SNR=7.0
BRTR Keskin Array B 80.88 351 P P 00 48 54.1 -0.4
comp=Z,6.8nm,0.8s,baz=170,slow=7.9,SNR=42
BRTR LR LR 01 24 31.1
comp=Z,67nm,21.0s,baz=134,slow=36
BR131 Keskin Array S 80.88 351 *e*P P 00 48 53.8 -0.8
LTK Loutraki 81.01 343 P P 00 48 54.9 -0.3
LTK Loutraki 81.01 343 P P 00 48 54.9 -0.3
GUR Goura 81.07 342 P P 00 48 55.9 +0.3
GUR Goura 81.07 342 P P 00 48 55.9 +0.3
BR231 Keskin MP Arra 81.10 351 *e*P P 00 48 54.9 -0.8
ANTO Ankara 81.12 351 *e*P P 00 48 56.3 +0.5
ANTO pmax pmax
comp=Z,18nm,1.1s
ANTO Ankara 81.12 351 *e*P P 00 48 56.3 +0.5
comp=Z,18nm,1.1s
MYLDM Lahad Datu 81.37 75 *e*P P 00 48 58.3 +0.7
comp=Z,44nm,1.4s
RLS Riolos of Patr 81.39 342 P P 00 48 57.7 +0.6
RLS Riolos of Patr 81.39 342 P P 00 48 57.7 +0.6
DSF Desfina 81.48 343 P P 00 48 56.7 -1.0
DSF Desfina 81.48 343 P P 00 48 56.7 -1.0
CPUP Villa Florida 81.50 243 P P 00 48 58.6 +0.3
comp=Z,28nm,1.0s,baz=117,slow=4.9,SNR=23
CPUP LR LR 01 19 51.0
comp=Z,97nm,19.3s,baz=140,slow=32
CPUP Villa Florida 81.50 243 *e*P P 00 48 58.5 +0.3
comp=Z,52nm,1.2s
PRK Paraskevi 81.51 346 P P 00 48 57.9 +0.2
PRK Paraskevi 81.51 346 P P 00 48 57.9 +0.2
PRK Paraskevi 81.51 346 P P 00 48 57.9 +0.2
SIGR SIGRI 81.56 345 P P 00 48 57.5 -0.5
SIGR SIGRI 81.56 345 P P 00 48 57.5 -0.5
SERG Sergoula 81.59 342 P P 00 48 58.3 +0.1
LKR Lokris 81.61 343 P P 00 48 57.9 -0.4
LKR Lokris 81.61 343 P P 00 48 57.9 -0.4
EFP Efpalio 81.64 342 P P 00 48 59.7 +1.3
ANX Ano Chora 81.80 342 P P 00 49 00.1 +0.7
AKH Akhalkalaki 81.96 359 *e*P P 00 49 01.3 +1.0
AKH pmax pmax
comp=Z,25nm,1.4s
AKH Akhalkalaki 81.96 359 ⇓ *i*P P 00 49 00.9 +0.6
AKH Akhalkalaki 81.96 359 *e*P P 00 49 01.3 +1.0
comp=Z,25nm,1.4s
AGG Agios Georgios 82.11 343 P P 00 48 58.6 -2.4
AGG Agios Georgios 82.11 343 P P 00 48 58.6 -2.4
AGG Agios Georgios 82.11 343 P P 00 48 58.6 -2.4
ARMA Armidale 82.16 124 *e*P P 00 49 01.1 -0.7
comp=Z,20nm,1.0s
SANI Sanana 82.19 86 P P 00 49 03.6 +1.6
XOR Xorichti 82.25 343 P P 00 49 01.3 -0.4
XOR Xorichti 82.25 343 P P 00 49 01.3 -0.4
TBLG Delisi 82.27 0 *e*P P 00 49 02.5 +0.7
TBLG pmax pmax
comp=Z,26nm,0.9s
TBLG Delisi 82.27 0 *e*P P 00 49 02.5 +0.7
comp=Z,26nm,0.9s
LIA Limnos Island 82.35 345 P P 00 49 01.8 -0.3
LIA Limnos Island 82.35 345 P P 00 49 01.8 -0.3
LSA Lhasa 82.45 40 P P 00 49 04.3 +0.8
LSA pmax pmax
comp=Z,68nm,0.9s
LSA Lhasa 82.45 40 *e*P P 00 49 04.1 +0.5
LSA pmax pmax
comp=Z,58nm,0.8s
LSA Lhasa 82.45 40 *e*P P 00 49 04.1 +0.5
comp=Z,58nm,0.8s
LSA Lhasa 82.45 40 *i*P P 00 49 03.8 +0.3
SNR=11
FOZ Fox Glacier 82.55 143 *e*P P 00 49 04.2 +0.7
comp=Z,71nm,1.3s
THL Klokotos Trika 82.70 343 P P 00 49 04.5 +0.5
VAE Valguarnera 82.76 336 LR LR 01 28 10.4
comp=Z,423nm,18.2s,baz=160,slow=37
KEST Kesra 82.86 332 P P 00 49 07.2 +2.3
comp=Z,16nm,1.1s,baz=130,slow=1.1,SNR=12
KEST LR LR 01 27 53.0
comp=Z,416nm,18.2s,baz=127,slow=37
KEST Kesra 82.86 332 *e*P P 00 49 07.3 +2.3
comp=Z,18nm,1.0s
RPZ Rata Peaks 82.96 144 P P 00 49 02.0 -3.7
comp=Z,12nm,1.1s,baz=232,slow=12,SNR=3.0
RPZ LR LR 01 18 24.8
comp=Z,209nm,21.1s,baz=212,slow=30
CEL Celeste 83.05 338 *e*P P 00 49 08.4 +2.5
comp=Z,38nm,0.9s
JAN Janina 83.06 342 P P 00 49 06.8 +0.9
JAN Janina 83.06 342 P P 00 49 06.8 +0.9
JAN Janina 83.06 342 P P 00 49 06.8 +0.9
IGT Igoumenitsa 83.06 341 P P 00 49 05.2 -0.7
IGT Igoumenitsa 83.06 341 P P 00 49 05.2 -0.7
IGT Igoumenitsa 83.06 341 P P 00 49 05.2 -0.7
ZEI Tsey 83.33 360 *e*P P 00 49 06.3 -1.1
ZEI pmax pmax
comp=Z,19nm,1.1s
HORT Hortiatis 83.45 344 P P 00 49 07.6 -0.4
HORT Hortiatis 83.45 344 P P 00 49 07.6 -0.4
RDO Rodhopi 83.49 346 P P 00 49 08.2 +0.2
RDO Rodhopi 83.49 346 P P 00 49 08.2 +0.2
THE Thessaloniki 83.51 344 P P 00 49 08.3 +0.2
THE Thessaloniki 83.51 344 P P 00 49 08.3 +0.2
THE Thessaloniki 83.51 344 P P 00 49 08.3 +0.2
TIP Timpagrande 83.66 339 ⇑ *i*P P 00 49 10.2 +1.2
TIP Timpagrande 83.66 339 *e*P P 00 49 10.3 +1.2
comp=Z,45nm,1.5s
GROC Groznyy 83.75 1 *e*P P 00 49 09.6 +0.3
GROC *e* 00 52 22.5
GROC *e*S S 00 59 31.6 +0.5
GROC pmax pmax
comp=Z,58nm,1.2s
NEY Neytrino 83.81 359 *i*P P 00 49 11.7 +1.9
NEY pmax pmax
comp=Z,1.0nm,1.0s
FNA Florina 84.01 343 P P 00 49 10.6 -0.2
FNA Florina 84.01 343 P P 00 49 10.6 -0.2
FNA Florina 84.01 343 P P 00 49 10.6 -0.2
KNT Kendrikon 84.03 344 P P 00 49 11.2 +0.4
KNT Kendrikon 84.03 344 P P 00 49 11.2 +0.4
KNT Kendrikon 84.03 344 P P 00 49 11.2 +0.4
LTZ Lake Taylor 84.25 144 *e*P P 00 49 13.2 +0.9
comp=Z,104nm,1.3s
LBMI Labuha 84.25 86 P P 00 49 13.8 +1.1
KBZ Khabaz 84.28 359 P P 00 49 11.6 -0.4
comp=Z,6.9nm,1.0s,baz=202,slow=4.0,SNR=10.0
KBZ LR LR 01 27 25.1
comp=Z,254nm,20.5s,baz=148,slow=36
KIV Kislovodsk 84.51 359 *e*P P 00 49 13.0 -0.3
KIV *e*SS SS 01 05 11.5 +0.7
KIV pmax pmax
comp=Z,30nm,1.1s
KIV pmax pmax
comp=Z,46nm,4.8s
KIV MLR MLR
comp=Z,228nm,20.0s
KIV Kislovodsk 84.51 359 *e*P P 00 49 12.7 -0.6
comp=Z,42nm,1.3s
KIV Kislovodsk 84.51 359 P P 00 49 13.4 +0.1
SNR=5.7
KIV Kislovodsk 84.51 359 *i*P P 00 49 13.0 -0.3
SNR=10
TIR Tirane 84.90 342 *e*P P 00 49 16.3 +1.1
TIR pmax pmax
comp=Z,28nm,0.8s
TIR Tirane 84.90 342 ⇑ *i*P P 00 49 15.7 +0.5
TIR Tirane 84.90 342 *e*P P 00 49 16.3 +1.1
comp=Z,28nm,0.8s
KSH Kashi 85.03 24 P P 00 49 14.0 -2.1
KSH pP PcP 00 49 19.3 0.0
KSH sP pP 00 49 21.3 -0.4
KSH SKS **SKSac** 00 59 32.8 -6.9
KSH S **S** 00 59 37.8 -6.6
KSH sS SKKSac 00 59 46.5 +0.6
KSH pmax pmax
comp=Z,45nm,0.8s
KSH pmax pmax
comp=Z,180nm,3.8s
KSH LR LR
comp=Z,99nm,8.1s
KSH LR LR
comp=Z,56nm,7.1s
KSH LR LR
comp=Z,170nm,10.1s
KMI Kunming 85.04 51 P P 00 49 19.0 +2.4
KMI pmax pmax
comp=Z,25nm,0.9s
KMI pmax pmax
comp=Z,160nm,4.6s
VTS Vitosha 85.34 344 *e*P P 00 49 17.2 -0.4
VTS pmax pmax
comp=Z,11nm,1.0s
VTS Vitosha 85.34 344 ⇓ *i*P P 00 49 17.8 +0.2
VTS Vitosha 85.34 344 *e*P P 00 49 17.2 -0.4
comp=Z,11nm,1.0s
DRME Dracevica, Mon 85.86 341 ⇓ *i*P P 00 49 20.4 +0.5
PVY Plav 86.06 342 ⇓ *i*P P 00 49 21.7 +0.6
PDG Podgorica 86.07 342 ⇓ *i*P P 00 49 21.9 +1.1
TTG Podgorica 86.07 342 ⇓ *i*P P 00 49 22.0 +1.1
TTG Podgorica 86.07 342 *e*P P 00 49 22.1 +1.1
TTG pmax pmax
comp=Z,24nm,1.2s
TTG Podgorica 86.07 342 *e*P P 00 49 22.1 +1.1
comp=Z,24nm,1.2s
VSL Villasalto 86.22 333 *e*P P 00 49 22.4 +0.5
comp=Z,36nm,1.8s
CEME Cevo 86.26 341 ⇓ *i*P P 00 49 22.5 +0.5
IVA Berane 86.33 342 ⇓ *i*P P 00 49 23.4 +1.0
KOME Kolasin 86.40 342 ⇓ *i*P P 00 49 23.8 +1.0
NKME Niksic 86.46 341 ⇓ *i*P P 00 49 23.7 +0.7
NKY Niksic 86.49 341 ⇓ *i*P P 00 49 24.2 +1.0
AML Almayashu 86.78 21 P P 00 49 25.1 +0.1
SNR=7.0
NRN Naryn 86.80 23 P P 00 49 25.0 0.0
NRN pmax pmax
comp=Z,10.0nm,1.3s
KKAR Karatay Array 86.86 19 *e*P P 00 49 25.4 +0.5
KKAR Karatay Array 86.86 19 *e*P P 00 49 25.4 +0.5
PLE Pljevlja 86.89 342 ⇓ *i*P P 00 49 25.5 +0.3
CFR Carcaliu 86.97 348 *e*P P 00 49 25.3 0.0
CFR Carcaliu 86.97 348 ⇑ *i*P P 00 49 25.3 0.0
UCH Uchtor 87.10 22 P P 00 49 26.7 0.0
SNR=12
KZA Kyzart 87.17 22 P P 00 49 27.1 +0.1
SNR=9.4
EKS2 Erkin-Say 87.30 21 P P 00 49 27.2 +0.1
SNR=8.4
AAK Ala-Archa 87.47 22 *d*P P 00 49 27.1 -1.0
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 87.47 22 P P 00 49 28.4 +0.3
SNR=8.7
AAK Ala-Archa 87.47 22 *e*P P 00 49 28.2 +0.2
comp=Z,6.6nm,0.8s
AAK Ala-Archa 87.47 22 P P 00 49 27.9 -0.2
SNR=7.5
AAK Ala-Archa 87.47 22 *i*P P 00 49 28.3 +0.2
SNR=11
DIVS Divibare 87.47 343 *e*P P 00 49 28.7 +0.8
comp=Z,16nm,1.1s
AQU L'Aquila 87.55 337 *e*P P 00 49 28.8 +0.5
AQU pmax pmax
comp=Z,15nm,0.9s
AQU L'Aquila 87.55 337 *e*P P 00 49 28.8 +0.5
comp=Z,16nm,0.9s
ULHL Ulahol 87.61 23 P P 00 49 28.9 +0.1
SNR=14
KBK Karagaybulak 87.62 22 P P 00 49 28.6 -0.2
SNR=9.9
MLR Muntele Rosu 87.63 347 P P 00 49 29.0 +0.3
comp=Z,2.9nm,0.7s,baz=199,slow=1.5,SNR=23
MLR Muntele Rosu 87.63 347 *e*P P 00 49 28.9 +0.2
MLR pmax pmax
comp=Z,126nm,1.9s
MLR Muntele Rosu 87.63 347 *e*P P 00 49 28.9 +0.2
comp=Z,126nm,1.9s
VOIR 87.73 346 P P 00 49 29.0 -0.1
VOIR 87.73 346 ⇓ *i*P P 00 49 29.1 -0.1
DAV Davao City (W) 87.85 79 LR LR 01 24 15.0
comp=Z,29nm,20.9s,baz=173,slow=32
PLOR Plostina 87.86 348 P P 00 49 30.1 +0.4
VRI Vrincioaia 87.86 348 P P 00 49 30.1 +0.4
VRI Vrincioaia 87.86 348 ⇓ *i*P P 00 49 30.1 +0.4
CHMS Chumysh 87.88 22 P P 00 49 29.6 -0.3
SNR=5.1
LOT Lotru 87.98 346 ⇑ *i*P P 00 49 31.1 +0.7
TKM2 Tokmak 2 88.04 22 P P 00 49 30.0 -0.8
SNR=7.7
DOPR Dopca 88.19 347 ⇓ *i*P P 00 49 30.8 -0.4
LEOM Leova 88.22 349 ⇑ *i*P P 00 49 31.5 +0.2
GYA Guiyang 88.36 52 ⇑ *i*P P 00 49 32.5 -0.2
GYA PP **PP** 00 53 05.0 +4.2
GYA SKS **SKSac** 01 00 01.5 +0.6
GYA S **S** 01 00 19.3 +2.0
GYA sS pS 01 00 24.3 -0.3
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.2s
TESR Tescani 88.50 348 ⇑ *i*P P 00 49 32.2 -0.5
BZS Buzias 88.57 344 ⇓ *i*P P 00 49 33.6 +0.6
MILM Milestii Mici 88.58 349 ⇑ *i*P P 00 49 33.2 +0.2
BLY Banja Luka 88.76 341 ⇓ *i*P P 00 49 34.2 +0.3
BLY Banja Luka 88.76 341 *e*P P 00 49 34.8 +0.9
comp=Z,17nm,1.1s
BKZ Black Stump Fm 89.04 145 *e*P P 00 49 35.9 0.0
comp=Z,49nm,1.1s
SIRR Siria 89.18 344 ⇓ *i*P P 00 49 37.0 +1.1
CJR Cluj-Napoca 89.23 346 P P 00 49 36.9 +0.8
DRGR 89.47 345 ⇑ *i*P P 00 49 38.0 +0.7
MORH M¯‡r¯igy, Hung 89.79 342 ⇓ *e*P P 00 49 39.1 +0.4
BURAR Bucovina Array 89.81 347 P P 00 49 40.4 +1.5
BURAR Bucovina Array 89.81 347 ⇓ *i*P P 00 49 40.4 +1.5
BUR04 Bucovina Ar. S 89.82 347 *e*P P 00 49 39.4 +0.5
BUR08 Bucovina Ar. S 89.84 347 *e*P P 00 49 40.4 +1.3
CD2 Chengdu 90.01 48 *e*P P 00 49 41.0 +0.8
CD2 S **S** 01 00 35.3 +2.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,270nm,22.9s
CD2 LR LR
comp=Z,390nm,19.4s
URZ Urewera 90.06 145 P P 00 49 39.7 -0.8
comp=Z,12nm,0.8s,baz=6.4,slow=17,SNR=4.1
URZ LR LR 01 24 54.8
comp=Z,136nm,19.4s,baz=209,slow=32
CEY Cerknica 90.39 339 *i*P P 00 49 42.4 +0.9
PDKS Podkum 90.54 340 *i*P P 00 49 43.4 +1.1
TRI Trieste 90.54 339 *e*P P 00 49 43.0 +0.8
TRI pmax pmax
comp=Z,14nm,0.9s
TRI Trieste 90.54 339 *e*P P 00 49 43.0 +0.8
comp=Z,14nm,0.9s
LJU Ljubljana 90.64 340 *i*P P 00 49 43.4 +0.7
TRPA Tarpa 90.79 345 ⇓ *e*P P 00 49 43.6 +0.3
ABKAR Akbulak array 90.82 10 *e*P P 00 49 42.2 -1.2
comp=Z,17nm,1.0s
SIV San Ignacio 91.01 248 P P 00 49 45.9 +0.6
comp=Z,14nm,1.1s,baz=139,slow=5.3
CADS Cadrg 91.03 339 *i*P P 00 49 45.1 +0.5
OBKA Obir 91.07 340 *i*P P 00 49 46.1 +1.3
comp=Z,19nm,0.9s,SNR=15
SOKA Soboth 91.10 340 *i*P P 00 49 46.1 +1.1
comp=Z,20nm,0.7s,SNR=14
PSZ Piszkesteto 91.12 344 *e*P P 00 49 44.7 -0.3
PSZ pmax pmax
comp=Z,16nm,1.1s
PSZ Piszkesteto 91.12 344 ⇓ *i*P P 00 49 45.1 +0.1
PSZ Piszkesteto 91.12 344 ⇓ *e*P P 00 49 44.9 -0.1
PSZ Piszkesteto 91.12 344 *e*P P 00 49 44.7 -0.3
comp=Z,16nm,1.1s
UZH Uzhgorod 91.32 345 ⇓ *i*P P 00 49 46.0 +0.3
UZH *i* 00 49 51.6
MYKA Terra Mystica 91.42 339 *i*P P 00 49 47.5 +1.2
comp=Z,6.6nm,1.0s
ARSA Arzberg 91.51 341 *i*P P 00 49 47.9 +1.1
comp=Z,16nm,0.9s,SNR=12
KECS Kecovo 91.54 344 *e*P P 00 49 45.0 -1.8
KECS pmax pmax
comp=Z,5.0nm,1.3s
KECS Kecovo 91.54 344 *e*P P 00 49 45.0 -1.8
ES19 SONSECA Array 91.57 325 *e*P P 00 49 47.9 +0.7
ESDC Sonseca Array 91.58 325 P P 00 49 47.2 0.0
comp=Z,6.2nm,1.0s,baz=155,slow=4.9,SNR=20
ESDC LR LR 01 31 28.5
comp=Z,222nm,20.9s,baz=150,slow=36
ESLA Sonseca Array 91.58 325 *e*P P 00 49 48.1 +0.8
comp=Z,18nm,1.4s
SOP Sopron 91.66 342 ⇓ *e*P P 00 49 47.8 +0.5
CRVS Cervenica-Dubn 91.74 345 *e*P P 00 49 48.2 +0.5
CRVS Cervenica-Dubn 91.74 345 *e*P P 00 49 48.2 +0.5
AKTO Aktyubinsk 91.74 9 P P 00 49 46.2 -1.4
comp=Z,1.8nm,0.9s,baz=180,slow=7.1,SNR=3.4
AKTO LR LR 01 32 02.0
comp=Z,119nm,19.5s,baz=190,slow=36
ABTA Abfaltersbach 91.84 339 *i*P P 00 49 49.7 +1.4
comp=Z,24nm,0.9s,SNR=18
KBA Koelnbreinsper 91.91 339 *e*P P 00 49 49.3 +0.5
comp=Z,15nm,1.8s
CONA Conrad Observa 92.05 341 *i*P P 00 49 49.9 +0.6
comp=Z,16nm,1.2s,SNR=9.5
BNI Bardonecchia 92.08 334 *e*P P 00 49 50.0 +0.4
BNI pmax pmax
comp=Z,24nm,1.1s
BNI Bardonecchia 92.08 334 *e*P P 00 49 50.0 +0.4
comp=Z,24nm,1.1s
LVV L'vov 92.15 347 *e*P P 00 49 49.5 -0.1
AK11 Malin Array Si 92.21 350 *e*P P 00 49 49.6 -0.2
KIEV Kiev 92.22 350 *d*P P 00 49 48.5 -1.4
KIEV pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 92.22 350 *e*P P 00 49 49.4 -0.5
comp=Z,17nm,1.2s
AKASG Malin Array Be 92.23 350 P P 00 49 49.5 -0.4
comp=Z,3.6nm,0.6s,baz=172,slow=4.5,SNR=28
AKASG Malin Array Be 92.23 350 *ce*P P 00 49 49.9 0.0
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 92.23 350 *e*P P 00 49 49.7 -0.2
AKBB Malin Array Si 92.23 350 *e*P P 00 49 49.6 -0.2
FUORN Ofenpass-Fuorn 92.36 337 *e*P P 00 49 52.0 +1.1
comp=Z,9.6nm,0.9s
MOA Molln 92.38 340 *i*P P 00 49 51.7 +0.9
comp=Z,17nm,0.8s,SNR=11
TUE Stuetta 92.50 336 *e*P P 00 49 52.0 +0.4
comp=Z,7.4nm,0.8s
WTTA Wattenberg 92.55 338 *i*P P 00 49 52.1 +0.4
comp=Z,5.6nm,0.9s
FETA Feichten 92.59 338 *i*P P 00 49 52.4 +0.5
comp=Z,13nm,1.1s,SNR=9.8
WATA Walderalm 92.64 338 *i*P P 00 49 52.3 +0.2
comp=Z,10nm,1.0s
MOTA Moosalm 92.78 338 *i*P P 00 49 53.1 +0.4
comp=Z,10nm,1.0s,SNR=5.5
WMQ Urumqi 92.87 30 P P 00 49 53.5 +0.3
WMQ pP pP 00 49 58.5 -0.4
WMQ sP sP 00 50 03.5 +2.6
WMQ S **S** 01 00 49.8 -8.0
WMQ pmax pmax
comp=Z,33nm,1.3s
WMQ pmax pmax
comp=Z,340nm,3.6s
WMQ LR LR
comp=Z,310nm,28.1s
WMQ LR LR
comp=Z,240nm,26.3s
WMQ LR LR
comp=Z,390nm,28.1s
RETA Reutte 93.00 338 *i*P P 00 49 54.2 +0.5
comp=Z,17nm,1.1s,SNR=10
SENIN Lac Senin/Sane 93.04 335 *e*P P 00 49 54.4 +0.3
comp=Z,3.6nm,0.8s
DAVA Damuels 93.08 337 *i*P P 00 49 54.3 +0.1
comp=Z,8.1nm,0.8s
PMG Port Mesby 93.28 105 LR LR 01 26 44.8
comp=Z,165nm,20.5s,baz=194,slow=32
OKC Ostrava-Krasne 93.31 343 *e*P P 00 49 57.0 +2.0
OKC Ostrava-Krasne 93.31 343 *e*P P 00 49 57.0 +2.0
TREC Trest 93.42 341 *e*P P 00 49 55.6 +0.1
TREC Trest 93.42 341 *e*P P 00 49 55.6 +0.1
GERES GERESS Array B 93.45 340 P P 00 49 55.1 -0.7
comp=Z,0.9nm,0.7s,baz=156,slow=3.6,SNR=8.5
GERES LR LR 01 33 21.2
comp=Z,123nm,21.5s,baz=118,slow=36
MAKZ Makanchi 93.49 25 *e*P P 00 49 55.6 -0.3
MAKZ pmax pmax
comp=Z,20nm,1.4s
MAKZ Makanchi 93.49 25 *e*P P 00 49 55.6 -0.3
comp=Z,20nm,1.4s
MK01 Makanchi Array 93.56 25 *e*P P 00 49 54.7 -1.5
MK31 Makanchi Array 93.58 25 *e*P P 00 49 55.5 -0.8
MK31 Makanchi Array 93.58 25 *e*P P 00 49 55.5 -0.8
MKAR Makanchi Array 93.58 25 P P 00 49 55.1 -1.2
comp=Z,1.9nm,0.7s,baz=215,slow=5.3,SNR=24
MKAR Makanchi Array 93.58 25 *ce*P P 00 49 55.5 -0.8
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 93.58 25 *e*P P 00 49 55.5 -0.8
comp=Z,74nm,1.5s
KHC Kasperske Hory 93.74 340 *e*P P 00 49 56.5 -0.5
KHC Kasperske Hory 93.74 340 *e*P P 00 49 56.5 -0.5
LZH Lanzhou 93.97 44 *e*P P 00 50 01.5 +2.9
LZH pP sP 00 50 04.8 -1.5
LZH sP pP 00 50 06.3 +2.0
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,85nm,9.3s
LZH LR LR
comp=Z,370nm,17.5s
LZH LR LR
comp=Z,380nm,17.0s
LZH LR LR
comp=Z,520nm,19.6s
PB11 IPOC Station P 94.20 239 *e*P P 00 50 01.0 +0.8
comp=Z,42nm,0.9s

DPC	Dobruska-Polom	94.20	342	*e*P		P		00 49 59.6	+0.5
DPC	Dobruska-Polom	94.20	342	*e*P		P		00 49 59.6	+0.5
PRU	Pruhonice	94.29	341	*e*P		P		00 49 59.3	-0.2
PRU	Pruhonice	94.29	341	*e*P		P		00 49 59.3	-0.2
UPC	Upice	94.42	342	*e*P		P		00 50 00.9	+0.8
UPC	Upice	94.42	342	*e*P		P		00 50 00.9	+0.8
BFO	Black Forest	94.47	337	*i* P		P		00 50 02.1	+1.7
GTA	Gaotai	94.48	40	P		P		00 50 00.8	0.0
GTA				pP		pP		00 50 06.3	-0.2
GTA				sP		sP		00 50 08.8	+0.3
GTA				SKS		SKSac		01 00 33.5	-1.6
GTA				S		S		01 01 11.5	-0.8
GTA				pmax	pmax				
	comp=Z,14nm,1.4s								
GTA				pmax	pmax				
	comp=Z,110nm,4.7s								
GTA				LR	LR				
	comp=Z,220nm,22.9s								
GTA				LR	LR				
	comp=Z,160nm,22.8s								
GTA				LR	LR				
	comp=Z,230nm,24.7s								
MNMC	Minye Minye	94.62	240	*e*P		P		00 50 02.7	+0.4
	comp=Z,19nm,0.9s								
GRFO	Grafenberg	94.88	339	*e*P		P		00 50 03.3	+1.1
GRFO				pmax	pmax				
	comp=Z,19nm,1.4s								
GRFO	Grafenberg	94.88	339	*e*P		P		00 50 03.3	+1.1
	comp=Z,19nm,1.4s								
GRF	Grafenberg Arr	94.88	339	P		P		00 50 03.2	+1.0
GRF				pmax	pmax				
	comp=Z,25nm,1.5s								
LPAZ	La Paz	95.67	243	P		P		00 50 07.7	+0.2
	comp=Z,1.8nm,0.8s,baz=99,slow=6.0,SNR=6.0								
LPAZ				LR	LR			01 28 18.8	
	comp=Z,184nm,19.9s,baz=132,slow=32								
LPAZ	La Paz	95.67	243	*e*P		P		00 50 08.5	+1.0
LPAZ				pmax	pmax				
	comp=Z,7.0nm,1.1s								
LPAZ	La Paz	95.67	243	*e*P		P		00 50 08.5	+1.0
	comp=Z,6.8nm,1.1s								
CLL	Collm	95.89	341	*i* P		P		00 50 07.2	+0.5
CLL				pmax	pmax				
	comp=Z,5.0nm,0.9s								
CLL	Collm	95.89	341	*i* P		P		00 50 07.2	+0.5
	comp=Z,5.0nm,0.9s								
CLL				LmV				01 39 00.0	
	comp=Z,200nm,19.0s								
KURBB	Kurchatov Arra	95.90	21	P		P		00 50 05.7	-1.1
	comp=Z,1.6nm,0.7s,baz=214,slow=4.8,SNR=22								
OBN	Obninsk	95.91	355	*i* P		P		00 50 05.5	-1.2
OBN				*i*				00 53 57.2	
OBN				pmax	pmax				
	comp=Z,6.0nm,1.1s								
OBN				MLR	MLR				
	comp=Z,96nm,18.0s								
KURK	Kurchatov	96.01	21	*i* P		P		00 50 07.6	+0.3
KURK				pmax	pmax				
	comp=Z,3.0nm,1.2s								
KURK	Kurchatov	96.01	21	*e*P		P		00 50 06.9	-0.4
	comp=Z,7.0nm,1.4s								
BVAR	Borovoye Array	96.20	15	P		P		00 50 07.3	-0.8
	comp=Z,1.6nm,0.7s,baz=188,slow=4.9,SNR=15								
BRVK	Borovoye	96.22	15	*ce*P		P		00 50 07.8	-0.4
BRVK				pmax	pmax				
	comp=Z,19nm,2.5s								
BRVK	Borovoye	96.22	15	*e*P		P		00 50 09.6	+1.4
	comp=Z,8.1nm,1.5s								
MEM	Membach	97.20	336	⇑P		Pdif		00 50 14.7	+1.9
BCLA	Clavier	97.25	336	⇑P		Pdif		00 50 13.8	+0.8
DZM	Mont Dzumac	97.33	127	LR		LR		01 27 41.7	
	comp=Z,117nm,18.1s,baz=180,slow=32								
DZM	Mont Dzumac	97.33	127	*e*LR		LR		01 21 46.1	
	comp=Z,256nm,24.8s								
NJ2	Nanjing	99.82	56	*e*P		Pdif		00 50 24.3	-0.6
NJ2				pmax	pmax				
	comp=Z,23nm,0.6s								
ZALV	Zalesovo Beam	100.64	23	P		Pdif		00 50 27.0	-1.0
	comp=Z,3.5nm,0.6s,baz=218,slow=4.5,SNR=23								
NVS	Novosibirsk	100.96	22	*e*P		Pdif		00 50 27.7	-1.7
HHC	Hu-ho-hao-te	101.58	45	*e*P		Pdif		00 50 33.5	+0.8
HHC				pmax	pmax				
	comp=Z,19nm,0.8s								
HHC				pmax	pmax				
	comp=Z,79nm,4.5s								
MJAR	Matsushiro Arr	115.20	63	PKKPbc		PKKPbc		01 05 57.4	+1.1
	comp=Z,2.3nm,0.9s,baz=67,slow=3.4,SNR=5.4								
RKT	Rikitea	116.28	180	*e*LR		LR		01 30 36.1	
	comp=Z,434nm,26.8s								
KLR	Kul'dur	117.94	48	*e*PKIKP		PKPdf		00 55 27.0	+0.3
PPT2	Papeete2	120.33	164	*e*SS		SS		01 13 33.6	+10
	comp=Z,169nm,28.0s								
PPT2	Papeete2	120.33	164	*e*LR		LR		01 32 27.4	
	comp=Z,652nm,25.8s								
NKL	Nikolayevsk	124.72	47	*e*PKIKP		PKPdf		00 55 39.5	0.0
NKL				pmax	pmax				
	comp=Z,23nm,1.0s								
SUMG	Summit	126.47	338	*i* PKIKP		PKPdf		00 55 42.8	-0.1
SUMG				pmax	pmax				
	comp=Z,23nm,1.2s								
SUMG	Summit	126.47	338	*e*PKPdf		PKPdf		00 55 42.7	-0.1
TIXI	Tiksi	126.53	23	PKP		PKPdf		00 55 40.5	-2.0
	comp=Z,1.1nm,0.3s,baz=34,slow=2.6,SNR=8.4								
TIXI	Tiksi	126.53	23	*i* PKIKP		PKPdf		00 55 41.1	-1.4
TIXI				pmax	pmax				
	comp=Z,8.0nm,1.2s								
TIXI	Tiksi	126.53	23	*e*PKPdf		PKPdf		00 55 40.6	-1.8
ILULI	Ilulissat	129.51	333	*e*PKIKP		PKPdf		00 55 48.2	0.0
ILULI	Ilulissat	129.51	333	*e*PKPdf		PKPdf		00 55 48.2	0.0
TAOE	Nuku Hiva Isla	130.28	174	*e*LR		LR		01 37 06.8	
	comp=Z,332nm,35.8s								
MA2	Magadan	132.02	41	*c i*PKIKP		PKPdf		00 55 54.2	+0.9
PKME	Peaks-Kenny Pk	132.71	298	P		PKPdf		00 55 56.0	+0.9
	baz=110								
HRV	Adam Dziewonsk	133.30	294	P		PKPdf		00 55 57.3	+1.1
	baz=111								
SEY	Seymchan	133.35	37	*c i*PKIKP		PKPdf		00 55 57.0	+1.3
959A	Okeechobee	133.63	271	P		PKPdf		00 55 58.2	+0.8
	baz=122								
SCHQ	Schefferville	133.79	312	PKP		PKPdf		00 55 56.4	-0.4
	comp=Z,5.2nm,0.8s,baz=69,slow=4.0,SNR=6.2								
859A	Kempfer Cattle	133.93	272	P		PKPdf		00 55 58.4	+0.6
	baz=121								
PETK	Petropavlovsk-	134.44	51	PKP		PKPdf		00 55 57.6	-0.5
	comp=Z,4.9nm,0.8s,baz=316,slow=4.1,SNR=3.7								
PETK	Petropavlovsk-	134.44	51	PKIKP		PKPdf		00 55 57.6	-0.5
PETK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
PET	Petropavlovsk	134.99	51	⇑*e*PKIKP		PKPdf		00 56 00.6	+1.6
PET				pmax	pmax				
	comp=Z,41nm,2.5s								
457A	Yulee	135.70	274	P		PKPdf		00 56 02.1	+1.0
	baz=119								
N59A	State Game Lan	135.70	291	P		PKPdf		00 56 02.1	+1.3
	baz=111								
NHSC	New Hope	135.81	278	P		PKPdf		00 56 01.9	+0.6
	baz=117								
257A	Skidaway Islan	135.93	276	P		PKPdf		00 56 02.0	+0.5
	baz=118								
556A	Lake Butler	136.04	273	P		PKPdf		00 56 02.0	+0.3
	baz=119								
LONY	Lake Ozonia	136.07	296	P		PKPdf		00 56 01.8	+0.4
	baz=108								
BINY	Binghamton	136.28	292	P		PKPdf		00 56 02.0	+0.2
	baz=109								
256A	Glennville	136.59	276	P		PKPdf		00 56 03.6	+0.9
	baz=118								
455A	Stateville	136.87	274	P		PKPdf		00 56 03.7	+0.4
	baz=119								
355A	Pearson	137.02	274	P		PKPdf		00 56 03.8	+0.2
	baz=118								
554A	Perry	137.05	272	P		PKPdf		00 56 03.8	+0.2
	baz=119								
SSPA	Standing Stone	137.11	289	P		PKPdf		00 56 05.1	+1.7
	baz=110								
O56A	Blue Knob Stat	137.47	289	P		PKPdf		00 56 05.8	+1.6
	baz=110								
254A	Abbeville	137.63	275	P		PKPdf		00 56 05.9	+1.2
	baz=118								
353A	Camilla	138.05	274	P		PKPdf		00 56 06.5	+1.1
	baz=118								
MCWV	Mont Chateau	138.18	287	P		PKPdf		00 56 07.1	+1.7
	baz=110								
253A	Americus	138.31	275	P		PKPdf		00 56 07.2	+1.3
	baz=117								
GOGA	Godfrey	138.42	277	P		PKPdf		00 56 07.4	+1.3
	baz=116								
M54A	Oil Creek Stat	138.66	290	P		PKPdf		00 56 08.0	+1.7
	baz=108								
252A	Lumpkin	138.74	274	P		PKPdf		00 56 07.9	+1.2
	baz=117								
BILL	Bilibino	138.98	29	⇓*e*PKIKP		PKPdf		00 56 06.7	+0.7
BILL				*i*				00 56 10.3	
BILL								00 58 57.7	
BILL				pmax	pmax				
	comp=Z,5.0nm,1.4s								
BILL				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BILL				MLR	MLR				
	comp=Z,103nm,23.0s								
151A	Opelika	139.43	275	P		PKPdf		00 56 09.3	+1.3
	baz=117								
250A	Grady	139.89	273	P		PKPdf		00 56 10.4	+1.6
	baz=117								
150A	Eclectic	139.99	274	P		PKPdf		00 56 10.5	+1.5
	baz=117								
Y50A	Piedmont	140.33	276	P		PKPdf		00 56 10.8	+1.2
	baz=115								
X50A	Fort Payne	140.50	277	P		PKPdf		00 56 11.3	+1.4
	baz=115								
149A	Jones	140.57	274	P		PKPdf		00 56 11.9	+1.8
	baz=117								
Z49A	Columbiana	140.63	275	P		PKPdf		00 56 11.4	+1.3
	baz=116								
Y49A	Blount Mountai	140.83	276	P		PKPdf		00 56 11.4	+0.9
	baz=115								
LRAL	Lakeview Retre	140.91	274	P		PKPdf		00 56 12.0	+1.4
	baz=116								
X49A	Woodville	141.03	277	P		PKPdf		00 56 11.6	+0.8
	baz=114								
Y48A	Jasper	141.42	275	P		PKPdf		00 56 12.1	+0.6
	baz=115								
Z48A	Northport	141.48	274	P		PKPdf		00 56 12.1	+0.4
	baz=116								
X48A	Hartselle	141.55	276	P		PKPdf		00 56 11.7	0.0
	baz=114								
WCI	Wyandotte Cave	142.41	282	*e*PKHKP		PKPpre		00 56 08.4	
WCI	Wyandotte Cave	142.41	282	*e*PKPpre		PKPpre		00 56 08.4	
PLAL	Pickwick Lake	142.54	277	*e*PKPpre		PKPpre		00 56 07.8	
WVT	Waverly	142.80	278	*e*PKHKP		PKPpre		00 56 09.3	
WVT	Waverly	142.80	278	*e*PKPpre		PKPpre		00 56 09.3	
BLO	Bloomington	142.89	284	*e*PKHKP		PKPpre		00 56 09.7	
BLO	Bloomington	142.89	284	*e*PKPpre		PKPpre		00 56 09.7	
GLMI	Grayling	143.04	293	*e*PKPpre		PKPpre		00 56 12.2	
USIN	University of	143.34	281	*e*PKPpre		PKPpre		00 56 11.0	
OXF	Oxford	143.36	275	*e*PKIKP		PKPpre		00 56 11.0	
OXF	Oxford	143.36	275	*e*PKPpre		PKPpre		00 56 10.9	
OLIL	Olney	143.91	282	*e*PKPpre		PKPpre		00 56 12.8	
GLAT	Glass	143.95	278	*e*PKPpre		PKPpre		00 56 13.1	
MOIG	Morelia	143.96	244	*e*PKPdf		PKPbc		00 56 14.7	+0.1
342A	Flagon Creek P	144.21	269	P		PKPbc		00 56 14.6	-0.1
	baz=118,SNR=5.9								
Y43A	Makayla and Ka	144.26	273	P		PKPab		00 56 14.6	+0.1
	baz=115,SNR=9.4								
GNAR	Gosnell	144.38	277	*e*PKPdf		PKPab		00 56 14.7	-0.1
242A	Grayson	144.39	270	P		PKPab		00 56 15.0	0.0
	baz=117								
SIUC	Southern Illin	144.41	280	*e*PKPdf		PKPab		00 56 14.8	0.0
S44A	Carbondale	144.43	280	P		PKPab		00 56 14.8	-0.1
	baz=110,SNR=29								
PARMO	Parma	144.44	278	*e*PKPdf		PKPab		00 56 14.8	-0.2
142A	Monroe	144.45	271	P		PKPab		00 56 14.5	-0.7
	baz=116								
T44A	Benton	144.47	279	P		PKPab		00 56 14.8	-0.3
	baz=111,SNR=23								
X43A	Marvell	144.47	274	P		PKPab		00 56 15.1	-0.1
	baz=114,SNR=9.2								
R44A	Waltonville	144.48	281	P		PKPab		00 56 14.8	-0.3
	baz=109,SNR=38								
F44A	Big Bay de Noc	144.50	295	P		PKPbc		00 56 15.2	0.0
	baz=100,SNR=6.4								
P44A	Sand Creek, Wi	144.53	283	P		PKPab		00 56 14.9	-0.4
	baz=108,SNR=14								
N44A	Piper City	144.56	286	P		PKPab		00 56 15.0	-0.4
	baz=106,SNR=17								
W43A	Forest City	144.56	275	P		PKPab		00 56 15.1	-0.5
	baz=113								
441A	DeRidder	144.57	267	P		PKPdf		00 56 16.7	-0.4
	baz=119								
O44A	Mansfield	144.62	285	P		PKPab		00 56 15.2	-0.4
	baz=107,SNR=12								
Q44A	Meyer Farm, Va	144.65	282	P		PKPab		00 56 15.2	-0.5
	baz=108,SNR=13								
M44A	Midewin, Midew	144.65	287	P		PKPab		00 56 15.4	-0.3
	baz=106,SNR=17								
HBAR	Harrisburg	144.71	276	*e*PKPdf		PKPbc		00 56 16.3	+0.1
V43A	Jonesboro	144.71	276	P		PKPab		00 56 15.5	-0.6
	baz=112								
L44A	Lake County Fo	144.76	288	P		PKPab		00 56 15.9	-0.1
	baz=104								
Z42A	Norrel Spur, H	144.76	272	P		PKPab		00 56 15.8	-0.6
	baz=116,SNR=5.8								
U43A	Rector	144.82	278	P		PKPab		00 56 16.0	-0.5
	baz=112								
341A	Kurthwood	144.82	268	P		PKPbc		00 56 16.8	+0.1
	baz=118,SNR=49								
Y42A	Garnett, Star	144.88	273	P		PKPab		00 56 16.6	-0.2
	baz=115,SNR=15								
241A	Mo Tay, Goldon	144.95	269	P		PKPbc		00 56 17.2	+0.2
	baz=117								
E43A	Lone Tree Farm	144.96	295	P		PKPbc		00 56 17.0	+0.3
	baz=99,SNR=8.2								
T43A	Greenville	144.99	279	P		PKPbc		00 56 16.7	-0.4
	baz=111,SNR=89								
F43A	Flat Rock, Esc	145.00	295	P		PKPab		00 56 17.0	+0.2
	baz=100,SNR=10								
S43A	Fulton Ridge,	145.00	280	P		PKPbc		00 56 16.9	-0.2
	baz=110,SNR=40								
X42A	Stuttgart	145.05	274	P		PKPbc		00 56 17.3	0.0
	baz=114,SNR=11								
R43A	Red Bud	145.13	281	P		PKPbc		00 56 17.4	-0.1
	baz=109,SNR=65								
Q43A	New Douglas	145.16	282	P		PKPab		00 56 17.7	+0.1
	baz=108,SNR=19								
H43A	Windswept, Lux	145.17	292	P		PKPbc		00 56 17.1	-0.3
	baz=101,SNR=6.9								
K43A	Burlington	145.19	289	P		PKPbc		00 56 17.6	+0.1
	baz=104,SNR=24								
141A	Papa Simpson,	145.20	270	P		PKPbc		00 56 17.6	-0.2
	baz=116,SNR=8.7								
P43A	Skaggs, Pawnee	145.25	283	P		PKPbc		00 56 17.8	0.0
	baz=107,SNR=11								
W42A	Bald Knob	145.25	275	P		PKPbc		00 56 17.6	-0.4
	baz=113,SNR=7.8								
G43A	Wallace	145.25	293	P		PKPbc		00 56 17.6	0.0
	baz=100								
O43A	Sugar Creek Fa	145.28	284	P		PKPab		00 56 18.0	0.0
	baz=106,SNR=22								
I43A	Langenfeld Bro	145.31	291	P		PKPbc		00 56 18.0	+0.1
	baz=102,SNR=14								
M43A	Waltham Townsh	145.33	287	P		PKPdf		00 56 18.1	0.0
	baz=105,SNR=44								
HDIL	Hopedale	145.34	285	P		PKPbc		00 56 18.1	0.0
	baz=106,SNR=29								
HDIL	Hopedale	145.34	285	*e*PKPdf		PKPbc		00 56 18.1	0.0
V42A	Cord	145.36	276	P		PKPbc		00 56 17.5	-0.8
	baz=112,SNR=25								
N43A	Stutzman Famil	145.36	286	P		PKPdf		00 56 18.2	0.0
	baz=106,SNR=34								
L43A	Garden Prairie	145.36	288	P		PKPab		00 56 18.3	0.0
	baz=104,SNR=26								
J43A	Natural Harves	145.40	290	P		PKPdf		00 56 18.2	0.0
	baz=102,SNR=9.3								
Z41A	Richland Creek	145.40	271	P		PKPdf		00 56 18.5	0.0
	baz=116,SNR=15								
U42A	Revenden	145.44	277	P		PKPdf		00 56 17.8	-0.7
	baz=112,SNR=24								
Y41A	Eaglette Beard	145.52	272	P		PKPdf		00 56 18.6	-0.1
	baz=115,SNR=19								
T42A	Van Buren	145.57	278	P		PKPdf		00 56 18.6	-0.1
	baz=111,SNR=84								
240A	Hunter Patters	145.60	269	P		PKPab		00 56 19.5	0.0
	baz=117,SNR=7.7								
E42A	Champion	145.60	295	P		PKPbc		00 56 18.7	0.0
	baz=98,SNR=6.1								
S42A	Caledonia	145.60	280	P		PKPbc		00 56 19.0	0.0
	baz=110,SNR=74								
F42A	Maple Grove Fa	145.65	294	P		PKPbc		00 56 19.0	+0.1
	baz=99,SNR=5.7								
UALR	University of	145.68	274	*e*PKPbc		PKPdf		00 56 19.1	+0.1
X41A	Kaden, Bauxite	145.70	273	P		PKPdf		00 56 18.8	-0.2
	baz=114,SNR=9.3								
H42A	Shiocton	145.71	292	P		PKPdf		00 56 18.8	+0.1
	baz=101								
140A	Cam and Jess,	145.72	270	P		PKPab		00 56 20.0	+0.1
	baz=116,SNR=12								
W41B	Gary Mavity, V	145.76	275	P		PKPdf		00 56 19.3	+0.2
	baz=113,SNR=84								
G42A	Mountain	145.77	293	P		PKPbc		00 56 19.2	-0.1
	baz=100,SNR=7.0								
R42A	Luebbering	145.77	280	P		PKPbc		00 56 19.5	0.0
	baz=109,SNR=19								
Q42A	Golden Eagle	145.78	282	P		PKPbc		00 56 19.4	-0.1
	baz=108,SNR=16								
O42A	Bath	145.82	284	P		PKPbc		00 56 19.7	+0.1
	baz=106,SNR=11								
P42A	Winchester	145.84	283	P		PKPab		00 56 20.0	-0.2
	baz=107,SNR=8.0								
Z40A	Long Farm, Mag	145.86	271	P		PKPbc		00 56 20.0	0.0
	baz=115,SNR=9.1								
I42A	Draeger Farm,	145.86	291	P		PKPbc		00 56 19.6	0.0
	baz=102,SNR=8.6								
J42A	Columbus	145.89	290	P		PKPbc		00 56 19.8	+0.1
	baz=102,SNR=20								
M42A	Sheffield	145.92	286	P		PKPbc		00 56 19.8	0.0
	baz=105,SNR=6.7								
V41A	Mountainview	145.93	276	P		PKPdf		00 56 19.5	+0.1
	baz=112,SNR=41								
K42A	Prairie Point,	145.93	289	P		PKPbc		00 56 20.1	+0.2
	baz=103,SNR=20								
X40A	Basin Creek Fa	145.94	273	P		PKPdf		00 56 19.5	+0.1
	baz=114								
U41A	Viola	145.95	277	P		PKPdf		00 56 19.7	+0.3
	baz=111,SNR=30								
N42A	Yates City	145.96	285	P		PKPbc		00 56 19.9	-0.1
	baz=106,SNR=15								
L42A	Oliver, Polo	145.99	287	P		PKPbc		00 56 20.3	+0.3
	baz=104,SNR=34								
CCM	Cathedral Cave	146.03	280	P		PKPbc		00 56 20.5	+0.2
	baz=109								
CCM	Cathedral Cave	146.03	280	*e*PKP2		PKPdf		00 56 19.8	+0.3
CCM	Cathedral Cave	146.03	280	*e*PKPdf		PKPdf		00 56 19.8	+0.3
CCM				*e*PKPbc		PKPab		00 56 20.6	-0.3
Y40A	Okolona	146.08	272	P		PKPdf		00 56 20.1	+0.5
	baz=114,SNR=8.9								
T41A	Mountain View	146.08	278	P		PKPbc		00 56 20.4	-0.1
	baz=110,SNR=82								
D41A	Chassel	146.13	296	P		PKPab		00 56 20.9	-0.1
	baz=97								
NATX	Nacogdoches	146.15	268	P		PKPbc		00 56 20.9	+0.1
	baz=118								
NATX	Nacogdoches	146.15	268	*e*PKPbc		PKPab		00 56 21.2	-0.3
HKT	Hockley	146.18	264	*e*PKP2		PKPbc		00 56 21.1	+0.2
HKT	Hockley	146.18	264	*e*PKPbc		PKPbc		00 56 21.1	+0.2
R41A	Rosebud	146.21	280	P		PKPbc		00 56 20.8	-0.1
	baz=109,SNR=43								
S41A	Jillco Farms,	146.25	279	P		PKPbc		00 56 20.9	-0.1
	baz=110,SNR=55								
G41A	Antigo	146.29	293	P		PKPbc		00 56 20.5	-0.4
	baz=100,SNR=5.6								
Q41A	Truxton	146.31	281	P		PKPbc		00 56 21.2	+0.1
	baz=108,SNR=54								
F41A	Three Lakes	146.32	294	P		PKPbc		00 56 20.7	-0.3
	baz=99,SNR=10								
E41A	Kenton	146.32	295	P		PKPbc		00 56 21.0	0.0
	baz=98								
O41A	Passleys Farm,	146.38	284	P		PKPbc		00 56 21.2	-0.2
	baz=106,SNR=16								
W40A	Ferguson Farm,	146.39	274	P		PKPbc		00 56 21.6	+0.2
	baz=113,SNR=41								
COWI	Conover	146.39	295	*e*PKPbc		PKPbc		00 56 20.9	-0.2
P41A	Barry, Barry	146.39	283	P		PKPbc		00 56 21.4	+0.1
	baz=107,SNR=24								
V40A	Witts Springs	146.44	275	P		PKPbc		00 56 21.4	-0.2
	baz=112,SNR=65								
M41A	Milan	146.47	286	P		PKPbc		00 56 21.3	-0.2
	baz=104,SNR=13								
H41A	Junction City	146.52	292	P		PKPbc		00 56 21.3	-0.3
	baz=100,SNR=12								
MIAR	Mount Ida	146.52	273	*e*PKP2		PKPdf		00 56 21.1	+0.7
MIAR	Mount Ida	146.52	273	*e*PKPdf		PKPdf		00 56 21.1	+0.7
MIAR				*e*PKPbc		PKPbc		00 56 21.6	-0.3
N41A	Harden Midland	146.53	285	P		PKPbc		00 56 21.4	-0.3
	baz=105,SNR=13								
J41A	Loganville	146.54	290	P		PKPbc		00 56 21.7	0.0
	baz=102,SNR=19								
I41A	Arkdale	146.57	291	P		PKPbc		00 56 21.7	0.0
	baz=101,SNR=21								
K41A	Shullsburg	146.59	288	P		PKPbc		00 56 21.9	+0.1
	baz=103,SNR=13								
L41A	Preston	146.60	287	P		PKPbc		00 56 21.7	-0.2
	baz=104,SNR=15								
JFWS	Jewell Farm	146.61	289	P		PKPbc		00 56 22.0	+0.1
	baz=102,SNR=27								
JFWS	Jewell Farm	146.61	289	*e*PKP2		PKPbc		00 56 22.0	+0.1
JFWS	Jewell Farm	146.61	289	*e*PKPbc		PKPbc		00 56 21.9	+0.1
U40A	Yellville	146.66	276	P		PKPbc		00 56 22.0	-0.2
	baz=111,SNR=58								
T40A	Mansfield	146.69	278	P		PKPbc		00 56 22.3	0.0
	baz=110,SNR=46								
S40A	Lebanon	146.82	279	P		PKPbc		00 56 22.6	0.0

S38A	Stockton baz=109,SNR=51	147.89	278	P	PKPbc	00 56 25.4	-0.3
435B	Jarrell baz=119	147.90	264	P	PKPbc	00 56 25.9	0.0
T38A	Diamond baz=110,SNR=54	147.98	277	P	PKPbc	00 56 25.6	-0.3
833A	Chaparral WMA, baz=123	148.00	258	P	PKPbc	00 56 26.0	-0.1
C38A	Sawbill Land. baz=94,SNR=8.9	148.02	297	P	PKPbc	00 56 25.0	-0.7
R38A	Fenwick Farm, baz=108,SNR=61	148.06	279	P	PKPbc	00 56 25.7	-0.4
Q38A	Cooks Store, C baz=107,SNR=36	148.08	280	P	PKPbc	00 56 26.0	-0.1
E38A	The Farm, Brul baz=96,SNR=19	148.12	295	P	PKPbc	00 56 25.9	-0.1
G38A	Ridgeland baz=98,SNR=14	148.15	292	P	PKPbc	00 56 25.6	-0.4
EYMN	Ely baz=94,SNR=18	148.19	298	P	PKPbc	00 56 26.0	0.0
EYMN	Ely	148.19	298	*e*PKPdf	PKPdf	00 56 23.6	+0.8
EYMN				*e*PKPbc	PKPbc	00 56 26.1	0.0
P38A	Dawn baz=106,SNR=16	148.21	282	P	PKPbc	00 56 25.9	-0.5
F38A	Pierce - Schro baz=97,SNR=25	148.27	294	P	PKPbc	00 56 26.7	+0.4
J38A	Wedel Dairy, R baz=101,SNR=30	148.29	289	P	PKPbc	00 56 26.4	-0.1
N38A	Joes South For baz=104	148.30	284	P	PKPbc	00 56 26.5	-0.1
O38A	Galt baz=105,SNR=9.6	148.30	283	P	PKPbc	00 56 26.6	0.0
I38A	Scanlan Farm, baz=100,SNR=16	148.31	290	P	PKPbc	00 56 26.3	-0.2
WHTX	Lake Whitney, baz=117	148.37	266	P	PKPbc	00 56 26.9	-0.2
WHTX	Lake Whitney,	148.37	266	*e*PKPbc	PKPbc	00 56 26.2	-0.9
WHTX				*e*PKPab	sPKPdf	00 56 31.3	-0.1
K38A	Parkersburg baz=102,SNR=7.6	148.37	287	P	PKPbc	00 56 26.7	0.0
H38A	Maiden Rock baz=99,SNR=6.1	148.38	291	P	PKPbc	00 56 26.4	-0.3
L38A	Oak Wood Farm, baz=102,SNR=7.9	148.41	286	P	PKPbc	00 56 26.9	+0.1
M38A	Pleasantville baz=104,SNR=16	148.42	285	P	PKPbc	00 56 27.2	+0.3
SCIA	State Center baz=103	148.54	286	P	PKPbc	00 56 27.4	+0.2
FCC	Fort Churchill	148.57	319	*e*PKHKP	PKPdf	00 56 20.9	-2.1
FCC				*e*		00 56 26.2	
FCC	Fort Churchill	148.57	319	*e*PKPdf	PKPdf	00 56 20.9	-2.1
FCC				*e*PKPbc	PKPbc	00 56 26.2	-0.4
C37A	Embarrass baz=94,SNR=17	148.64	297	P	PKPbc	00 56 27.4	+0.1
Q37A	Longview Farm, baz=107,SNR=7.8	148.68	280	P	PKPbc	00 56 27.1	-0.5
E37A	Wrenshall baz=96	148.69	295	P	PKPbc	00 56 27.4	0.0
TUL1	Leonard baz=112	148.72	274	P	PKPbc	00 56 27.6	-0.3
TUL1	Leonard	148.72	274	*e*PKPdf	PKPdf	00 56 23.7	-0.3
TUL1				*e*PKPbc	PKPbc	00 56 27.0	-0.8
F37A	Hinrichs Farm, baz=97,SNR=15	148.76	293	P	PKPbc	00 56 27.9	+0.3
D37A	Cotton baz=94,SNR=19	148.76	296	P	PKPbc	00 56 27.7	+0.1
P37A	Lathrop baz=106,SNR=23	148.81	281	P	PKPbc	00 56 27.8	-0.2
O37A	Wolven Farm, M baz=105,SNR=6.6	148.81	282	P	PKPbc	00 56 27.8	-0.1
H37A	Dierke Farm, C baz=98	148.81	291	P	PKPbc	00 56 27.6	-0.2
SPMN	Marine on St. baz=98,SNR=14	148.82	292	P	PKPbc	00 56 27.6	-0.2
SPMN	Marine on St.	148.82	292	*e*PKPbc	PKPbc	00 56 27.6	-0.2
GAMB	Gambell	148.88	31	*e*PKPbc	PKPbc	00 56 27.8	+0.5
L37A	Phoenix Point, baz=102	148.98	286	P	PKPbc	00 56 28.1	-0.2
N37A	Lee Faris, Mou baz=104	149.00	283	P	PKPbc	00 56 28.5	+0.1
K37A	Belmond baz=101,SNR=18	149.02	287	P	PKPbc	00 56 28.4	0.0
M37A	Trindle Farm, baz=103,SNR=5.5	149.04	285	P	PKPbc	00 56 28.7	+0.2
J37A	Redenius Farm, baz=100,SNR=10	149.06	289	P	PKPbc	00 56 28.5	+0.1
I37A	Lemond, Waseca baz=99,SNR=19	149.07	290	P	PKPbc	00 56 28.7	+0.2
C36A	Pine Crest Far baz=93,SNR=20	149.08	297	P	PKPbc	00 56 28.4	0.0
D36A	Goodland baz=94,SNR=18	149.26	296	P	PKPbc	00 56 28.8	0.0
E36A	McGregor baz=95,SNR=27	149.28	295	P	PKPbc	00 56 28.8	-0.1
F36A	Milaca baz=96,SNR=26	149.40	293	P	PKPbc	00 56 29.1	-0.2
JCT	Junction City baz=120	149.42	261	P	PKPbc	00 56 29.5	-0.3
JCT	Junction City	149.42	261	*e*PKHKP	PKPdf	00 56 25.4	0.0
JCT	Junction City	149.42	261	*e*PKPdf	PKPdf	00 56 25.4	0.0
JCT				*e*PKPbc	PKPbc	00 56 29.4	-0.5
JCT				*e*PKPab	pPKPbc	00 56 35.4	-0.3
G36A	St. Michael baz=97,SNR=7.4	149.49	292	P	PKPbc	00 56 29.5	0.0
I36A	Fitzsimmons Fa baz=99	149.51	290	P	PKPbc	00 56 29.5	0.0
H36A	Jessenland, He baz=98,SNR=12	149.53	291	P	PKPbc	00 56 29.7	+0.2
N36A	Muff Farm, Cla baz=104	149.57	283	P	PKPbc	00 56 30.2	+0.3
K36A	Gilmore City baz=101	149.59	287	P	PKPbc	00 56 30.0	+0.2
M36A	Felix, Anita baz=103	149.60	285	P	PKPbc	00 56 29.9	0.0
J36A	Seneca 1, Swea baz=100,SNR=12	149.63	288	P	PKPbc	00 56 30.1	+0.2
L36A	Harn Buss Farm baz=102	149.64	286	P	PKPbc	00 56 30.1	+0.1
B35A	Bob, Littlefor baz=92,SNR=19	149.70	298	P	PKPbc	00 56 29.9	0.0
C35A	Jirik Farms, M baz=92,SNR=15	149.84	297	P	PKPbc	00 56 29.9	-0.4
D35A	Remer baz=94,SNR=26	149.86	296	P	PKPbc	00 56 30.2	-0.1
G35A	Watkins baz=96,SNR=8.4	150.00	292	P	PKPbc	00 56 30.9	+0.2
E35A	Pequot Lakes baz=94,SNR=6.1	150.07	295	P	PKPbc	00 56 30.6	-0.2
N35A	Tabor baz=104,SNR=8.4	150.09	283	P	PKPbc	00 56 31.5	+0.4
F35A	Swanville baz=95,SNR=7.4	150.13	293	P	PKPbc	00 56 30.8	-0.2
O35A	Humboldt baz=104,SNR=6.2	150.14	282	P	PKPbc	00 56 31.1	-0.1
K35A	Storm Lake baz=100,SNR=8.0	150.17	287	P	PKPbc	00 56 31.4	+0.1
I35A	Creekview Farm baz=99	150.18	289	P	PKPbc	00 56 30.9	-0.3
H35A	Sunnyside Ranc baz=97,SNR=13	150.18	291	P	PKPbc	00 56 31.2	0.0
M35A	Neola baz=102	150.26	284	P	PKPbc	00 56 31.8	+0.3
J35A	Milford baz=99,SNR=8.5	150.26	288	P	PKPbc	00 56 31.1	-0.3
L35A	Bielow Farm, R baz=101,SNR=13	150.28	286	P	PKPbc	00 56 32.0	+0.5
ABTX	Abilene, Hawle baz=117	150.31	265	P	PKPbc	00 56 32.0	+0.1
ABTX	Abilene, Hawle	150.31	265	*e*PKPdf	PKPdf	00 56 27.0	+0.3
ABTX				*e*PKPbc	PKPbc	00 56 31.9	0.0
ABTX				*e*PKPab	sPKPbc	00 56 38.7	-1.0
B34A	Aery, Baudette baz=91,SNR=27	150.32	299	P	PKPbc	00 56 31.5	+0.1
KSU1	Kansas State U baz=106	150.36	279	P	PKPbc	00 56 31.8	+0.1
KSU1	Kansas State U	150.36	279	*e*PKPdf	PKPdf	00 56 26.4	-0.1
KSU1				*e*PKPbc	pPKPdf	00 56 31.9	-0.4
C34A	RKJ Ranch, Bem baz=92,SNR=15	150.47	297	P	PKPbc	00 56 31.3	-0.5
WMOK	Wichita Mounta baz=113	150.54	270	P	PKPbc	00 56 32.2	-0.1
WMOK	Wichita Mounta	150.54	270	*e*PKIKP	PKPdf	00 56 26.9	-0.1
WMOK				*e*		00 56 32.3	
WMOK	Wichita Mounta	150.54	270	*e*PKPdf	PKPdf	00 56 26.9	-0.1
WMOK				*e*PKPbc	PKPbc	00 56 32.3	-0.1
E34A	Wadena baz=94,SNR=6.7	150.59	295	P	PKPbc	00 56 31.8	-0.3
F34A	Alexandria baz=95	150.60	293	P	PKPbc	00 56 32.0	-0.2
D34A	Park Rapids baz=93,SNR=17	150.64	296	P	PKPbc	00 56 32.0	-0.2
O34A	Beatrice baz=104,SNR=10	150.70	281	P	PKPbc	00 56 32.2	-0.3
N34A	Lincoln baz=103,SNR=6.1	150.71	283	P	PKPbc	00 56 32.4	-0.2
J34A	George baz=99	150.79	288	P	PKPbc	00 56 32.3	-0.3
K34A	Le Mars baz=100	150.79	287	P	PKPbc	00 56 32.7	0.0
A33A	Warroad baz=89,SNR=13	150.81	300	P	PKPbc	00 56 32.6	+0.1
G34A	Benson baz=96,SNR=12	150.81	292	P	PKPbc	00 56 32.7	0.0
I34A	Hadley baz=98,SNR=5.1	150.83	289	P	PKPbc	00 56 32.6	-0.2
H34A	Spellman Lake, baz=97,SNR=7.7	150.85	291	P	PKPbc	00 56 32.7	-0.1
L34A	Svendsen Farm, baz=101,SNR=20	150.86	285	P	PKPbc	00 56 33.1	+0.2
M34A	Aspy Farms, Fr baz=102	150.92	284	P	PKPbc	00 56 33.2	+0.2
B33A	Robert and Kas baz=90,SNR=11	150.94	298	P	PKPbc	00 56 32.9	0.0
C33A	Trail baz=91,SNR=13	151.06	297	P	PKPbc	00 56 33.0	-0.2
ULM	Lac du Bonnet comp=Z,5.9nm,1.0s,baz=28,slow=1.6,SNR=7.9	151.08	302	PKP	PKPdf	00 56 24.6	-2.6
ULM				PKPbc	pPKPdf	00 56 32.8	-0.3
	comp=Z,76nm,0.6s,baz=84,slow=2.6,SNR=163						
ULM				PKPab	sPKPbc	00 56 39.4	-1.5
	comp=Z,19nm,0.8s,baz=60,slow=2.2,SNR=6.1						
D33A	AnnSam, Wauburn baz=92,SNR=10	151.09	296	P	PKPbc	00 56 33.2	-0.1
AGMN	Agassiz Nation baz=90,SNR=18	151.12	298	P	PKPbc	00 56 33.2	-0.2
AGMN	Agassiz Nation	151.12	298	*e*PKPdf	PKPdf	00 56 26.2	-1.2
AGMN				*e*PKPbc	PKPbc	00 56 33.1	-0.2
AGMN				*e*PKPab	sPKPbc	00 56 40.7	-0.4
E33A	Westby DABS, E baz=93,SNR=9.9	151.17	294	P	PKPbc	00 56 33.4	-0.1
TOLK	Toolik Lake Re baz=337	151.21	11	P	PKPbc	00 56 33.4	+0.5
F33A	5 Mile Ranch, baz=94,SNR=20	151.32	293	P	PKPbc	00 56 33.8	0.0
ECSD	EROS Data Cent baz=98,SNR=17	151.33	289	P	PKPbc	00 56 33.8	-0.2
ECSD	EROS Data Cent	151.33	289	*e*PKPdf	PKPdf	00 56 27.3	-0.6
ECSD				*e*PKPbc	PKPbc	00 56 33.7	-0.2
O33A	Hebron baz=104	151.34	281	P	PKPbc	00 56 34.0	-0.1
G33A	Ortonville baz=96	151.37	292	P	PKPbc	00 56 33.6	-0.4
M33A	Taylor Creek F baz=102	151.38	284	P	PKPbc	00 56 34.1	-0.1
N33A	J Bar K, Exete baz=103	151.39	282	P	PKPbc	00 56 34.0	-0.2
K33A	Hardington baz=100	151.43	286	P	PKPbc	00 56 34.3	0.0
I33A	Coleman baz=97,SNR=5.4	151.50	289	P	PKPbc	00 56 34.0	-0.3
J33A	Davis baz=99,SNR=8.3	151.52	288	P	PKPbc	00 56 34.1	-0.3
H33A	Prehn Over Nor baz=96,SNR=34	151.54	291	P	PKPbc	00 56 34.5	+0.1
A32A	Rocking H Ranc baz=88,SNR=10	151.54	300	P	PKPbc	00 56 34.2	0.0
L33A	Hoskins baz=101,SNR=7.5	151.55	285	P	PKPbc	00 56 34.6	+0.1
C32A	Crookston baz=90	151.57	297	P	PKPbc	00 56 34.1	-0.2
B32A	Ashes, Strandq baz=90	151.57	298	P	PKPbc	00 56 34.1	-0.2
TXAR	Lajitas Array comp=Z,7.2nm,1.0s,baz=147,slow=1.4,SNR=44	151.70	256	PKP	PKPdf	00 56 29.2	+0.2
TXAR				PKPbc	PKPbc	00 56 35.4	+0.1
	comp=Z,38nm,0.8s,baz=126,slow=4.6,SNR=119						
TXAR				PKPab	PKPab	00 56 44.3	+0.1
	comp=Z,9.6nm,0.9s,baz=116,slow=5.7,SNR=6.2						
TXAR				PP	PP	01 00 14.9	-0.8
	comp=Z,1.7nm,1.0s,baz=134,slow=10,SNR=5.9						
D32A	Dogwood Acres, baz=92	151.89	296	P	PKPbc	00 56 34.7	-0.3
E32A	Braaten, Kindr baz=92	151.91	295	P	PKPbc	00 56 35.1	-0.1
I32A	Karley and Nic baz=97	151.97	289	P	PKPbc	00 56 35.2	-0.2
A31A	Linda, St. Vin baz=88	152.00	300	P	PKPbc	00 56 35.1	-0.1
H32A	Carlson Farm, baz=96,SNR=9.3	152.01	290	P	PKPbc	00 56 35.5	0.0
BGNE	Belgrade baz=102	152.05	283	P	PKPbc	00 56 35.5	-0.2
BGNE	Belgrade	152.05	283	*e*PKPdf	PKPdf	00 56 29.8	+0.7
BGNE				*e*PKPbc	PKPbc	00 56 35.9	+0.2
L32A	Elgin baz=101	152.06	285	P	PKPbc	00 56 35.9	+0.2
G32A	Webster baz=95	152.12	292	P	PKPbc	00 56 35.8	0.0
K32A	Verdigre baz=99	152.15	286	P	PKPbc	00 56 35.9	0.0
J32A	Parkston baz=98,SNR=8.2	152.16	288	P	PKPbc	00 56 35.6	-0.3
B31A	Greenbush Farm baz=88,SNR=7.9	152.31	299	P	PKPbc	00 56 35.6	-0.4
D31A	Mcclaflin, Tow baz=91	152.37	296	P	PKPbc	00 56 35.9	-0.2
C31A	Landman Farms, baz=90,SNR=14	152.38	297	P	PKPbc	00 56 35.7	-0.5
COLD	Coldfoot	152.41	12	*e*PKPdf	PKPdf	00 56 29.5	+0.7
COLD				*e*PKPbc	sPKPdf	00 56 35.9	-0.7
COLD				*e*PKPab	PKPab	00 56 46.1	+0.2
E31A	Nome baz=92	152.47	294	P	PKPbc	00 56 35.9	-0.5
INK	Inuvik comp=Z,19nm,0.8s,baz=21,slow=3.9,SNR=9.1	152.54	358	PKP	PKPdf	00 56 27.3	-1.6
INK				PKPbc	PKPbc	00 56 35.4	-0.4
	comp=Z,19nm,0.8s,baz=10,slow=4.3,SNR=73						
INK	Inuvik	152.54	358	*e*PKIKP	PKPdf	00 56 27.6	-1.3
INK						00 56 35.4	
INK				*e*		00 56 46.2	
INK	Inuvik	152.54	358	*e*PKPdf	PKPdf	00 56 27.6	-1.3
INK				PKPbc	PKPbc	00 56 35.4	-0.4
INK				*e*PKPab	PKPab	00 56 46.2	-0.1
G31A	Conde baz=94	152.62	292	P	PKPbc	00 56 36.5	-0.3
CBKS	Cedar Bluff baz=106	152.62	277	P	PKPbc	00 56 37.0	0.0
CBKS	Cedar Bluff	152.62	277	*e*PKIKP	PKPdf	00 56 29.6	-0.5
CBKS				*e*		00 56 37.2	
CBKS	Cedar Bluff	152.62	277	*e*PKPdf	PKPdf	00 56 29.6	-0.5
CBKS				*e*PKPbc	sPKPdf	00 56 37.2	-0.7
CBKS				*e*PKPab	PKPab	00 56 48.6	+0.8
F31A	Hecla baz=93,SNR=6.8	152.69	293	P	PKPbc	00 56 36.6	-0.4
K31A	O'Neill baz=99	152.71	286	P	PKPbc	00 56 36.9	-0.2
I31A	Royce, Wessing baz=96	152.74	289	P	PKPbc	00 56 36.9	-0.2
H31A	Wolsey baz=96	152.75	290	P	PKPbc	00 56 37.0	-0.1
AMTX	Amarillo baz=113	152.79	268	P	PKPbc	00 56 37.4	-0.3
AMTX	Amarillo	152.79	268	*e*PKPdf	PKPdf	00 56 30.3	-0.2
AMTX				*e*PKPbc	PKiKP	00 56 37.9	+0.1
J31A	Geddes baz=98	152.80	287	P	PKPbc	00 56 37.0	-0.2
SUSD	Miller baz=95	153.09	290	P	PKPbc	00 56 37.7	-0.1
MSTX	Muleshoe baz=115	153.25	266	P	PKPdf	00 56 30.8	-0.4
MSTX	Muleshoe	153.25	266	*e*PKPdf	PKPdf	00 56 31.1	-0.1
MSTX				*e*PKPbc	sPKPdf	00 56 38.4	-0.6
MSTX				*e*PKPab	PKPab	00 56 49.9	-0.7
MDND	Maddock baz=88	153.64	297	P	PKPbc	00 56 39.3	+0.4
FFC	Flin Flon	153.92	313	*e*PKIKP	PKPdf	00 56 30.2	-1.1
FFC				*e*		00 56 38.5	
FFC	Flin Flon	153.92	313	*e*PKPdf	PKPdf	00 56 30.2	-1.1
FFC				*e*PKPbc	sPKPdf	00 56 38.5	-0.6
MNTX	Cornudas Mount baz=120	154.18	259	P	PKPdf	00 56 32.5	+0.1
MNTX	Cornudas Mount	154.18	259	*e*PKPdf	PKPdf	00 56 31.6	-0.9
MNTX				*e*PKPab	PKPab	00 56 54.6	+0.1
OGNE	Ogallala	154.84	281	P	PKPdf	00 56 33.7	+0.5
YKA	Yellowknife Ar comp=Z,2.1nm,0.8s,baz=39,slow=1.7,SNR=30	155.06	337	PKP	PKPdf	00 56 30.4	-2.2
YKA				PKPbc	PKPbc	00 56 40.0	
	comp=Z,7.0nm,0.9s,baz=38,slow=2.2,SNR=34						
YKA				PKPab	PKPab	00 56 57.1	-0.1
	comp=Z,12nm,0.7s,baz=36,slow=4.8,SNR=74						
YKA				PP	PP	01 00 37.2	+3.8
	comp=Z,0.4nm,0.9s,baz=60,slow=5.2,SNR=3.5						
ILAR	Eielson Array comp=Z,2.1nm,1.1s,baz=298,slow=3.0,SNR=11	155.21	12	PKP	PKPdf	00 56 30.9	-1.9
ILAR				PKPbc	PKPbc	00 56 40.7	
	comp=Z,2.1nm,0.8s,baz=324,slow=3.2,SNR=13						
ILAR				PKPab	PKPab	00 56 56.1	-1.7
	comp=Z,1.3nm,0.7s,baz=319,slow=4.2,SNR=5.8						
ILAR	Eielson Array	155.21	12	PKIKP	PKPdf	00 56 30.9	-1.9
ILAR						00 56 56.1	
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KTH	Kantishna Hill	155.57	17	*e*PKPdf	PKPdf	00 56 32.2	-1.2
T25A	Trinidad baz=109	155.66	271	P	PKPdf	00 56 34.9	+0.3
LPM	Los Pinos Moun	156.30	263	*e*PKPdf	PKPdf	00 56 35.5	0.0
LPM				*e*PKPab	PKPab	00 57 04.3	+0.5
121A	Cookes Peak, D baz=119	156.37	258	P	PKPdf	00 56 36.3	+0.7
ANMO	Albuquerque baz=114	156.43	265	P	PKPdf	00 56 36.1	+0.4
RSSD	Black Hills	156.70	288	*e*PKIKP	PKPdf	00 56 33.7	-2.0
RSSD	Black Hills	156.70	288	*e*PKPdf	PKPdf	00 56 33.7	-2.0
RSSD				*e*PKPab	PKPab	00 57 05.9	+0.7
LAZ	Ladron	156.72	263	*e*PKPdf	PKPdf	00 56 36.4	+0.3
LAZ				*e*PKPab	PKPab	00 57 05.7	+0.1
HSIG		156.76	247	*e*PKPdf	PKPdf	00 56 36.1	+0.1
HSIG				*e*PKPab	PKPab	00 57 06.0	+0.5
ISCO	Idaho Springs baz=103	157.28	277	P	PKPdf	00 56 36.3	-0.4
S22A	4UR Ranch, Cre baz=107	157.68	271	P	PKPdf	00 56 37.0	-0.3
N23A	Red Feather La baz=100	157.74	280	P	PKPdf	00 56 37.1	-0.1
LAO	LASA Array baz=85	158.21	295	P	PKPdf	00 56 36.8	-0.5
K22A	Casper baz=95	158.40	284	P	PKPdf	00 56 36.8	-1.0
TUC	Tucson baz=121	158.47	254	P	PKPdf	00 56 38.4	+0.2
MVCO	Mesa Verde baz=109	158.78	269	P	PKPdf	00 56 38.5	0.0
MVCO	Mesa Verde	158.78	269	*e*PKPdf	PKPdf	00 56 38.3	-0.2
MVCO				*e*PKPab	PKPab	00 57 15.5	+1.1
W18A	Petrified Fore baz=114	158.97	262	P	PKPdf	00 56 38.5	-0.3
W18A	Petrified Fore	158.97	262	*e*PKPdf	PKPdf	00 56 39.0	+0.3
W18A				*e*PKPab	PKPab	00 57 16.4	+1.1
PV01	Paradox Valley	159.11	271	*e*PKPdf	PKPdf	00 56 38.2	-0.7
PV01				*e*PKPab	PKPab	00 57 16.2	+0.4
O20A	White River Ci baz=101	159.33	277	P	PKPdf	00 56 38.9	-0.1
214A	Organ Pipe Nat baz=123	159.75	251	P	PKPdf	00 56 40.1	+0.5
WUAZ	Wupatki baz=113	160.35	262	P	PKPdf	00 56 39.2	-1.1
WUAZ	Wupatki	160.35	262	*e*PKPdf	PKPdf	00 56 40.6	+0.2
WUAZ				*e*PKPab	PKPab	00 57 21.4	+0.2
EGMT	Eagleton baz=78	160.40	300	P	PKPdf	00 56 39.1	-0.7
RLMT	Red Lodge baz=87	160.44	291	P	PKPdf	00 56 39.2	-1.0
BW06	Boulder Array baz=93	160.64	284	P	PKPdf	00 56 39.4	-1.1
PDAR	Pinedale Array comp=Z,7.2nm,0.9s,baz=130,slow=2.3,SNR=26	160.64	284	PKP	PKPdf	00 56 39.0	-1.5
PDAR				PKPab	PKPab	00 57 22.4	0.0
	comp=Z,3.4nm,0.9s,baz=72,slow=4.8,SNR=4.5						
EDM	Edmonton	160.66	317	*e*PKIKP	PKPdf	00 56 38.7	-1.2
EDM	Edmonton	160.66	317	*e*PKPdf	PKPdf	00 56 38.7	-1.2
SRU	San Rafael Swe	160.84	273	*e*PKIKP	PKPdf	00 56 40.7	-0.1
SRU	San Rafael Swe	160.84	273	*e*PKPdf	PKPdf	00 56 40.7	-0.1
SRU				*e*PKPab	PKPab	00 57 23.9	+0.7
H17A	Grant Village baz=88	161.40	289	P	PKPdf	00 56 41.7	+0.4
YMR	Madison River	161.67	290	*e*PKPdf	PKPdf	00 56 41.6	+0.1
YMR				*e*PKPab	PKPab	00 57 27.4	+0.6
GLA	Glamis baz=122	161.77	251	P	PKPdf	00 56 42.1	+0.3
PDMCI	Parker Dam,Lak baz=118	161.89	255	P	PKPdf	00 56 42.2	+0.5
Y12C	Blythe baz=120	161.91	253	P	PKPdf	00 56 42.5	+0.7
MSU	Marysvale	161.94	270	*e*PKIKP	PKPdf	00 56 42.5	+0.5
MSU	Marysvale	161.94	270	*e*PKPdf	PKPdf	00 56 42.5	+0.5
MSU				*e*PKPab	PKPab	00 57 29.1	+0.9
BOZ	Bozeman (W) baz=83	162.06	293	P	PKPdf	00 56 41.9	+0.1
CTU	Camp Tracy	162.06	277	*e*PKPdf	PKPdf	00 56 41.8	-0.2
NLU	North Lily Min	162.19	275	*e*PKPdf	PKPdf	00 56 42.4	+0.2
NLU				*e*PKPab	PKPab	00 57 29.9	+0.7
IKP	In-Ko-Pah, Jac baz=124	162.47	248	P	PKPdf	00 56 43.1	+0.5
BC3	Big Chuckawall baz=121	162.53	252	P	PKPdf	00 56 43.6	+1.0
IRM	Iron Mountain baz=119	162.56	254	P	PKPdf	00 56 43.4	+0.9
DUG	Dugway, Tooele baz=100	162.78	275	P	PKPdf	00 56 43.4	+0.7
DUG	Dugway, Tooele	162.78	275	*e*PKIKP	PKPdf	00 56 42.8	+0.1
DUG				*e*		00 57 32.2	
DUG	Dugway, Tooele	162.78	275	*e*PKPdf	PKPdf	00 56 42.8	+0.1
DUG				*e*PKPab	PKPab	00 57 32.2	+0.4
MONP2	Monument Peak baz=124	162.82	248	P	PKPdf	00 56 43.7	+0.6
BELC	Belle Mtn. Jos baz=120	163.10	252	P	PKPdf	00 56 44.4	+1.2
GMRC	Granite Mounta baz=118	163.22	255	P	PKPdf	00 56 43.8	+0.5
PFO	Pinyon Flats O baz=122	163.23	250	P	PKPdf	00 56 43.6	+0.3
HEC	Hector,Ludlow baz=118	163.74	254	P	PKPdf	00 56 44.5	+0.9
HLID	Hailey baz=88	164.20	287	P	PKPdf	00 56 45.0	+1.0
GSC	Goldstone, Bar baz=117	164.30	255	P	PKPdf	00 56 45.3	+1.1
BFSC	Mount Baldy Ra baz=121	164.41	250	P	PKPdf	00 56 44.1	-0.2
R11A	Troy Canyon, C baz=106	164.48	267	P	PKPdf	00 56 45.0	+0.6
ELK	Elko comp=Z,4.4nm,1.2s,baz=0.0,slow=3.0,SNR=9.6	164.70	276	PKP	PKPdf	00 56 46.2	+1.6
ELK				PKPab	PKPab	00 57 41.4	+1.2
	comp=Z,1.6nm,0.9s,baz=129,slow=4.1,SNR=4.4						
ELK				PP	PP	01 01 30.7	+3.5
	comp=Z,0.2nm,0.3s,baz=106,slow=2.9,SNR=2.5						
FUR

comp=Z,2.5nm,1.0s,baz=110,slow=3.8,SNR=8.4

I05D	**Terrebonne, OR**	**169.06**	**293**	P	**PKPdf**	**00 56 48.5**	**+1.0**
	baz=77						
J05D	**Fort Rock, OR**	**169.18**	**287**	P	**PKPdf**	**00 56 48.6**	**+0.9**
	baz=82						
O03D	**Paynes Creek**	**169.60**	**271**	P	**PKPdf**	**00 56 48.6**	**+0.6**
	baz=98						
M04C	**Macdoel**	**169.73**	**279**	P	**PKPdf**	**00 56 48.4**	**+0.3**
	baz=90						
I04A	**Tendick Farm,**	**169.93**	**291**	P	**PKPdf**	**00 56 48.3**	**+0.3**
	baz=78						
N02D	**Trinity Center**	**170.35**	**274**	P	**PKPdf**	**00 56 48.8**	**+0.4**
	baz=94						
M02C	**Callahan**	**170.49**	**277**	P	**PKPdf**	**00 56 49.1**	**+0.7**
	baz=92						
I03D	**Drain, OR**	**170.62**	**291**	P	**PKPdf**	**00 56 49.2**	**+0.9**
	baz=77						

MEX 29 00:42:56.0±0.5, 16°68N×98°62W, h16km±8km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.88**	**3**	*e*P	Pb	00 43 10.0	-2.9
TLIG				*e*S	Sb	00 43 20.6	-3.9
CAIG	**El Cayaco**	**1.62**	**283**	*e*P	Pn	00 43 20.0	-3.9
CAIG				*e*S	Sn	00 43 39.3	-5.1
VHO	**Vista Hermosa**	**1.85**	**78**	*i* P	Pn	00 43 24.5	-2.8
VHO				*i* S	Sn	00 43 45.3	-5.2
PLIG	**Platanillo**	**1.90**	**334**	*i* P	Pn	00 43 24.9	-2.9
PLIG				*i* S	Sn	00 43 47.5	-3.9
ARIG	**Puente Sto Nin**	**2.29**	**314**	*i* P	Pn	00 43 29.8	-3.3
ARIG				*i* S	Sn	00 43 56.1	-5.0

*THE **29** 00:47:54.4, 38°.33N×22°.02E, h12km, ML2.2/12, Error ellipse: s-maj=0.9km s-min=0.3km az=39.0*
*CSEM **29** 00:47:54.5±0.1, 38°.32N×22°.02E, h5km, ML2.0, Error ellipse: s-maj=1.6km s-min=1.4km az=74.0*
ATH 29 00:47:54.5, 38°.32N×22°.03E, h10km±1km, ML2.0/17**, Error ellipse: s-maj=1.7km s-min=0.6km az=17.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.06**	**36**	P	Pg	00 47 56.2	-0.4
TRIZ				S	Sg	00 47 57.5	-0.7
TRIZ	**Trizonia**	**0.06**	**36**	P	Pg	00 47 56.4	-0.2
TRIZ				S	Sg	00 47 57.8	-0.3
LAKA	**Lakka**	**0.09**	**207**	P	Pg	00 47 56.5	-0.4
LAKA				S	Sg	00 47 58.5	-0.3
LAKA	**Lakka**	**0.09**	**207**	P	Pg	00 47 56.9	-0.1
LAKA				S	Sg	00 47 58.8	0.0
LAKA	**Lakka**	**0.09**	**207**	P	Pg	00 47 56.9	-0.1
LAKA				S	Sg	00 47 58.8	0.0
SERG	**Sergoula**	**0.10**	**13**	P	Pg	00 47 56.7	-0.4
SERG				S	Sg	00 47 58.6	-0.4
SERG				AML	AML	00 47 59.2	
	comp=N,4498μm,0.3s						
SERG				AML	AML	00 48 00.5	
	comp=E,3169μm,0.3s						
SERG	**Sergoula**	**0.10**	**13**	P	Pg	00 47 57.0	-0.1
SERG				S	Sg	00 47 58.8	-0.2
SERG	**Sergoula**	**0.10**	**13**	P	Pg	00 47 57.0	-0.1
SERG				S	Sg	00 47 59.1	+0.1
KALE	**Kalithea**	**0.11**	**50**	P	Pg	00 47 57.0	-0.4
KALE				S	Sg	00 48 00.1	+0.6
KALE				AML	AML	00 48 00.4	
	comp=E,4858μm,0.2s						
KALE				AML	AML	00 48 00.6	
	comp=N,4379μm,0.3s						
KALE	**Kalithea**	**0.11**	**50**	P	Pg	00 47 57.4	0.0
KALE				S	Sg	00 47 59.7	+0.3
KALE	**Kalithea**	**0.11**	**50**	P	Pg	00 47 57.4	0.0
KALE				S	Sg	00 47 59.7	+0.3
EFP	**Efpalio**	**0.14**	**318**	P	Pg	00 47 57.4	-0.4
EFP				S	Sg	00 48 00.4	+0.3
EFP				AML	AML	00 48 00.5	
	comp=E,4540μm,0.2s						
EFP				AML	AML	00 48 00.6	
	comp=N,2662μm,0.2s						
EFP	**Efpalio**	**0.14**	**318**	P	Pg	00 47 57.6	-0.2
EFP				S	Sg	00 48 00.2	+0.1
EFP	**Efpalio**	**0.14**	**318**	P	Pg	00 47 57.6	-0.2
EFP				S	Sg	00 48 00.2	+0.1
UPR	**University Cam**	**0.19**	**260**	P	Pg	00 47 59.0	+0.3
UPR				S	Sg	00 48 02.9	+1.5
UPR	**University Cam**	**0.19**	**260**	P	Pg	00 47 58.8	+0.2
UPR				S	Sg	00 48 01.4	0.0
UPR	**University Cam**	**0.19**	**260**	P	Pg	00 47 58.7	+0.1
UPR				S	Sg	00 48 01.4	0.0
ANX	**Ano Chora**	**0.29**	**343**	P	Pg	00 47 60.0	-0.4
ANX				S	Sg	00 48 04.8	+0.5
ANX				AML	AML	00 48 05.8	
	comp=N,1746μm,0.2s						
ANX				AML	AML	00 48 06.7	
	comp=E,1724μm,0.4s						
ANX	**Ano Chora**	**0.29**	**343**	P	Pg	00 48 00.1	-0.3
ANX				S	Sg	00 48 04.5	+0.2
ANX	**Ano Chora**	**0.29**	**343**	P	Pg	00 48 00.1	-0.3
ANX				S	Sg	00 48 04.5	+0.2
KLV	**Kalavryta, Ach**	**0.29**	**161**	P	Pg	00 48 00.4	0.0
KLV				S	Sg	00 48 05.1	+0.8
KLV				AML	AML	00 48 06.4	
	comp=N,243μm,0.2s						
KLV				AML	AML	00 48 06.6	
	comp=E,282μm,0.2s						
KLV	**Kalavryta, Ach**	**0.29**	**161**	P	Pg	00 48 00.4	0.0
KLV				S	Sg	00 48 04.9	+0.6
KLV	**Kalavryta, Ach**	**0.29**	**161**	P	Pg	00 48 00.4	0.0
KLV				S	Sb	00 48 05.6	-1.1
DSF	**Desfina**	**0.40**	**77**	P	Pg	00 48 02.5	+0.1
DSF				S	Sg	00 48 08.7	+0.9
DSF				AML	AML	00 48 10.0	
	comp=N,716μm,0.2s						
DSF				AML	AML	00 48 10.4	
	comp=E,367μm,0.1s						
DSF	**Desfina**	**0.40**	**77**	P	Pg	00 48 02.5	0.0
DSF				S	Sg	00 48 08.4	+0.6
DSF	**Desfina**	**0.40**	**77**	P	Pg	00 48 02.3	-0.2
DSF				S	Sb	00 48 08.9	-1.1
DRO	**Drossia**	**0.44**	**215**	P	Pg	00 48 03.3	+0.1
DRO				S	Sb	00 48 10.2	-0.9
DRO				AML	AML	00 48 12.4	
	comp=N,844μm,0.3s						
DRO				AML	AML	00 48 13.7	
	comp=E,910μm,0.2s						
DRO	**Drossia**	**0.44**	**215**	P	Pg	00 48 03.2	0.0
DRO				S	Sg	00 48 09.8	+0.7
DRO	**Drossia**	**0.44**	**215**	P	Pg	00 48 03.2	0.0
DRO				S	Sg	00 48 09.9	+0.8
GUR	**Goura**	**0.45**	**147**	P	Pg	00 48 03.4	0.0
GUR				S	Sb	00 48 11.3	-0.2
GUR				AML	AML	00 48 16.3	
	comp=N,402μm,0.4s						
GUR				AML	AML	00 48 18.5	
	comp=E,321μm,0.3s						
GUR	**Goura**	**0.45**	**147**	P	Pg	00 48 03.4	0.0
GUR				S	Sb	00 48 10.5	-1.0
GUR	**Goura**	**0.45**	**147**	P	Pg	00 48 03.4	0.0
GUR				S	Sb	00 48 10.6	-0.9
PVO	**Paravola**	**0.49**	**307**	P	Pb	00 48 04.8	-0.6
PVO				S	Sb	00 48 12.1	-0.5
PVO				AML	AML	00 48 15.9	
	comp=N,392μm,0.2s						
PVO				AML	AML	00 48 16.3	
	comp=E,430μm,0.4s						
PVO	**Paravola**	**0.49**	**307**	P	Pg	00 48 04.4	+0.2
PVO				S	Sg	00 48 11.6	+0.9
RLS	**Riolos of Patr**	**0.51**	**240**	P	Pg	00 48 04.6	+0.1
RLS				S	Sb	00 48 12.9	-0.2
RLS				AML	AML	00 48 14.7	
	comp=N,491μm,0.2s						
RLS				AML	AML	00 48 14.7	
	comp=E,512μm,0.3s						
RLS	**Riolos of Patr**	**0.51**	**240**	P	Pg	00 48 04.5	0.0
RLS				S	Sg	00 48 12.1	+0.8
RLS	**Riolos of Patr**	**0.51**	**240**	P	Pg	00 48 04.4	-0.1
RLS				S	Sg	00 48 12.1	+0.8
EVR	**Evrytania**	**0.62**	**344**	P	Pg	00 48 06.0	-0.6
EVR				S	Sb	00 48 15.9	-0.5
EVR				AML	AML	00 48 18.4	
	comp=N,257μm,0.2s						
EVR				AML	AML	00 48 18.6	
	comp=E,332μm,0.2s						
EVR	**Evrytania**	**0.62**	**344**	P	Pg	00 48 06.2	-0.4
EVR				S	Sg	00 48 14.6	-0.2
EVR	**Evrytania**	**0.62**	**344**	P	Pg	00 48 06.1	-0.5
EVR				S	Sg	00 48 14.6	-0.2
PROD	**Prodromos**	**0.69**	**95**	P	Pn	00 48 09.8	-0.5
PROD	**Prodromos**	**0.69**	**95**	P	Pb	00 48 08.7	+0.1
PDO	**Prodromos**	**0.72**	**293**	P	Pg	00 48 08.5	+0.1
PDO				S	Sg	00 48 18.4	+0.6
PDO				AML	AML	00 48 21.1	
	comp=N,622μm,0.3s						
PDO				AML	AML	00 48 24.6	
	comp=E,346μm,0.3s						
PDO	**Prodromos**	**0.72**	**293**	P	Pg	00 48 08.4	0.0
PDO				S	Sg	00 48 18.4	+0.5
PDO	**Prodromos**	**0.72**	**293**	P	Pg	00 48 07.9	-0.5
PDO				S	Sb	00 48 18.6	-0.5
AGG	**Agios Georgios**	**0.74**	**18**	P	Pb	00 48 09.3	-0.2
AGG				S	Sb	00 48 19.9	+0.2
AGG	**Agios Georgios**	**0.74**	**18**	P	Pg	00 48 09.0	+0.1
AGG				S	Sg	00 48 18.6	0.0
AGG	**Agios Georgios**	**0.74**	**18**	P	Pg	00 48 07.5	-1.4
AGG				S	Sg	00 48 18.6	0.0
VTN	**Vitineika**	**0.78**	**239**	P	Pn	00 48 11.2	-0.3
VTN	**Vitineika**	**0.78**	**239**	P	Pb	00 48 10.2	+0.1
LTK	**Loutraki**	**0.80**	**111**	P	Pb	00 48 10.9	+0.5
LTK	**Loutraki**	**0.80**	**111**	P	Pb	00 48 10.3	-0.1
AMT	**Artemida-Makis**	**0.82**	**198**	P	Pg	00 48 10.3	-0.1
AMT				S	Sg	00 48 21.3	+0.1
AMT				AML	AML	00 48 28.3	
	comp=N,288μm,0.5s						
AMT				AML	AML	00 48 29.5	
	comp=E,207μm,0.3s						
AMT	**Artemida-Makis**	**0.82**	**198**	P	Pg	00 48 10.3	-0.1
AMT				S	Sg	00 48 21.4	+0.3
AMT	**Artemida-Makis**	**0.82**	**198**	P	Pg	00 48 10.3	-0.1
AMT				S	Sb	00 48 22.2	+0.1
LKR	**Lokris**	**0.83**	**66**	P	Pg	00 48 10.6	+0.1
LKR				S	Sg	00 48 20.5	-0.8
LKR				AML	AML	00 48 24.2	
	comp=N,138μm,0.3s						
LKR				AML	AML	00 48 25.1	
	comp=E,142μm,0.2s						
LKR	**Lokris**	**0.83**	**66**	P	Pg	00 48 10.4	-0.1
LKR				S	Sg	00 48 21.2	-0.2
VLX	**Vlachokerasia**	**0.99**	**164**	P	Pg	00 48 12.4	-1.1
VLX				S	Sn	00 48 28.0	-0.5
VLX				AML	AML	00 48 32.5	
	comp=N,180μm,0.8s						
VLX				AML	AML	00 48 36.0	
	comp=E,177μm,1.1s						
VLX	**Vlachokerasia**	**0.99**	**164**	P	Pg	00 48 12.8	-0.7
VLX				S	Sb	00 48 27.4	+0.6
DSL	**Palaion Diasel**	**1.09**	**318**	P	Pg	00 48 15.6	0.0
DSL	**Palaion Diasel**	**1.09**	**318**	P	Pb	00 48 15.3	-0.2
ITM	**Ithomi**	**1.14**	**184**	P	Pb	00 48 15.1	-1.2
ITM	**Ithomi**	**1.14**	**184**	P	Pb	00 48 15.5	-0.8
VLS	**Valsamata**	**1.14**	**263**	P	Pb	00 48 14.6	-1.8
VLS				S	Sn	00 48 31.9	-0.3
VLS				AML	AML	00 48 34.5	
	comp=E,116μm,0.2s						
VLS				AML	AML	00 48 35.0	
	comp=N,178μm,0.2s						
VLS	**Valsamata**	**1.14**	**263**	P	Pb	00 48 15.3	-1.0
VLS				S	Sn	00 48 31.9	-0.4
THL	**Klokotos Trika**	**1.25**	**359**	P	Pn	00 48 16.9	-1.1
THL				S	Sn	00 48 35.0	+0.2
THL				AML	AML	00 48 39.9	
	comp=E,76μm,0.5s						
THL				AML	AML	00 48 40.3	
	comp=N,42μm,0.3s						
THL	**Klokotos Trika**	**1.25**	**359**	P	Pn	00 48 17.4	-0.6
THL				S	Sn	00 48 35.0	+0.2
KRND	**KRANIDI**	**1.29**	**136**	P	Pg	00 48 19.3	+0.1
KRND	**KRANIDI**	**1.29**	**136**	P	Pb	00 48 19.0	+0.2
PYL	**PYLOS**	**1.44**	**189**	P	Pn	00 48 20.6	0.0
PYL	**PYLOS**	**1.44**	**189**	P	Pb	00 48 21.1	-0.3
DYR	**Agios Nikonas**	**1.57**	**171**	P	Pn	00 48 22.5	0.0
DYR	**Agios Nikonas**	**1.57**	**171**	P	Pb	00 48 23.2	-0.5
VLI	**Veliai**	**1.75**	**155**	P	Pn	00 48 25.2	+0.2
VLI	**Veliai**	**1.75**	**155**	P	Pb	00 48 26.1	-0.6

*IDC **29** 00:51:32.4±1.4, 6°.66N×127°.08E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/65, mbtmp3.8/5, ML4.6/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/45, Error ellipse: s-maj=40.6km s-min=18.3km az=52.0*
*MAN **29** 00:51:40, 6°.66N×126°.72E, h30km, mb4.8, ML3.7, MS3.6*
*DJA **29** 00:51:56.0±1.0, 6°N±7°×12°6E±°, h101km±8km, M4.5/7, mb4.6/7, mB4.9/4, MLv4.5/5, Mw(mB)4.2/4*
ISC 29 00:51:35.4±2.0, 6°.40N±0°.04×126°.80E±0°.07, h14km±13km, n30, σ1s44/24, mb3.6/5, MS3.0/3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.76**	**315**	*e*P	**Pn**	**00 51 52.5**	**+0.7**
MATI				*e*S	**Sn**	**00 52 02.0**	**-1.1**
DAV	**Davao City (W)**	**1.38**	**299**	Pn	**Pg**	**00 52 02.7**	**+0.7**
	98nm,0.3s,baz=68,slow=2.5,SNR=7.6						
DAV				Sn	**Sn**	**00 52 21.3**	**+2.9**
	152nm,0.3s,baz=285,slow=23,SNR=15						
KCP	**Kidapawan**	**1.80**	**290**	*i* P	**Pb**	**00 52 07.4**	**-0.9**
KCP				*i* S	**Sn**	**00 52 28.4**	**-0.4**
BIPH	**Bislig**	**1.82**	**346**	*e*P	**Pb**	**00 52 07.5**	**-1.1**
BIPH				*i* S	**Sn**	**00 52 27.2**	**-2.2**
GSPH	**General Santos**	**1.86**	**260**	*e*P	**Pn**	**00 52 06.7**	**-0.4**
BUKP	**Musuan**	**2.26**	**311**	*e*P	**Pb**	**00 52 14.7**	**-1.4**
BUKP				*e*S	**Sb**	**00 52 44.1**	**+0.1**
CTBH	**Cotabato--PC H**	**2.66**	**288**	*i* P	**Pb**	**00 52 20.2**	**-2.7**
BUTP	**Butuan**	**2.81**	**336**	*e*P	Pg	00 52 36.5	+7.2
BUTP				*e*S	**Sb**	**00 53 00.5**	**+0.9**
SGSI	**Sangihe**	**2.98**	**205**	P	**Pb**	**00 52 27.6**	**-0.7**
SGSI				S	**Sn**	**00 52 58.2**	**+0.4**
SCPH	**Surigao**	**3.60**	**339**	*e*P	**Pb**	**00 52 38.2**	**-0.7**
SCPH				*e*S	**Sb**	**00 53 23.8**	**+1.3**
LBMI	**Labuha**	**7.03**	**174**	P	Pn	00 53 26.6	+8.6
LBMI				S	**Sn**	**00 54 36.5**	**-1.3**
LUWI	**Luwuk**	**8.41**	**209**	P	Pn	00 53 44.1	+7.1
	87nm,1.1s,0.3nm						
SANI	**Sanana**	**8.43**	**186**	P	Pn	00 53 45.4	+8.1
APSI	**Ampana**	**8.90**	**215**	P	Pn	00 53 49.3	+5.6
TTSI	**Tana Toraja**	**11.69**	**217**	P	Pn	00 54 27.7	+5.8
	47nm,1.0s,2μm						
BATI	**Baumata**	**16.79**	**191**	P	**P**	**00 55 32.8**	**+0.3**
	2.1nm,0.3s,baz=278,slow=4.7,SNR=1.8						
WRA	**Warramunga Arr**	**27.21**	**164**	P	**P**	**00 57 19.7**	**+0.6**
	0.5nm,0.6s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**30.68**	**167**	P	**P**	**00 57 50.7**	**+0.8**
	0.3nm,0.3s,baz=338,slow=7.1,SNR=5.1						
MJAR	**Matsushiro Arr**	**31.77**	**18**	LR	LR	01 10 20.8	
	comp=Z,10.0nm,21.9s,baz=315,slow=36						
HNR	**Honiara**	**36.59**	**115**	LR	LR	01 11 42.7	
	comp=Z,28nm,21.6s,baz=85,slow=33						
H11S3	**WAKE ISLAND Hy**	**40.66**	**69**	T	T	01 43 18.9	
	baz=260,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.68**	**69**	T	T	01 43 32.1	
	baz=260						
H11S2	**WAKE ISLAND Hy**	**40.68**	**69**	T	T	01 43 23.2	
	baz=260,slow=74						
H11N1	**WAKE ISLAND Hy**	**41.12**	**67**	T	T	01 44 02.7	
	baz=250						
H11N2	**WAKE ISLAND Hy**	**41.12**	**67**	T	T	01 44 12.9	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**41.13**	**67**	T	T	01 44 15.2	
	baz=250						
MKAR	**Makanchi Array**	**55.43**	**324**	P	**P**	**01 01 08.1**	**-1.4**
	0.3nm,0.4s,baz=111,slow=8.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**59.55**	**327**	P	**P**	**01 01 40.4**	**+1.9**
	0.2nm,0.4s,baz=129,slow=7.2,SNR=2.4						
BVAR	**Borovoye Array**	**65.14**	**326**	P	**P**	**01 02 14.4**	**-1.5**
	0.3nm,0.6s,baz=123,slow=10,SNR=2.5						
SPITS	**Spitsbergen Ar**	**87.89**	**349**	LR	LR	01 50 23.4	
	comp=Z,67nm,19.8s,baz=165,slow=40						

GUC 29 01:01:20.7±0.6, 24°.13S×68°.86W, h92km±15km, ML3.9, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.23**	**213**	*i* P	Pn	01 01 44.2	+0.6
GO02				*i* S	Sn	01 02 02.0	+1.3
GO02				IAML		01 02 04.3	
	comp=N,3μm,0.1s						
PB14	**IPOC Station P**	**1.50**	**250**	*i* P	Pn	01 01 47.3	+0.5
PB14				*i* S	Sn	01 02 07.7	+1.1
PB14				IAML		01 02 08.5	
	comp=E,602nm,0.5s						
PB10	**IPOC Station P**	**1.67**	**291**	*e*P	Pn	01 01 49.3	+0.6
PB10				*i* S	Sn	01 02 10.4	+0.5
PB10				IAML		01 02 19.9	
	comp=N,1μm,0.2s						
PB04	**IPOC Station P**	**2.14**	**326**	*i* P	Pn	01 01 55.2	+0.1
PB04				*i* S	Sn	01 02 22.1	+0.8
PB04				IAML		01 02 31.4	
	comp=N,817nm,0.1s						
PB09	**IPOC Station P**	**2.35**	**351**	*i* P	Pn	01 01 58.6	+0.9
PB09				*i* S	Sn	01 02 27.8	+1.8
PB09				IAML		01 02 32.1	
	comp=E,2μm,0.8s						
PB07	**IPOC Station P**	**2.57**	**338**	*e*P	Pn	01 02 00.6	-0.2
PB07				*i* S	Sn	01 02 31.6	+0.2
PB07				IAML		01 02 37.9	
	comp=E,520nm,0.2s						
PB02	**IPOC Station P**	**2.95**	**341**	*e*P	Pn	01 02 05.4	-0.4
PB02				*i* S	Sn	01 02 41.0	+0.5
PB02				IAML		01 02 50.8	
	comp=E,715nm,0.3s						
PB01	**IPOC Station P**	**3.12**	**349**	*e*P	Pn	01 02 07.6	-0.4
PB01				*i* S	Sn	01 02 43.1	-1.4
PB01				IAML		01 02 52.4	
	comp=E,350nm,0.3s						

*CSEM **29** 01:23:39.9±0.1, 50°.29N×7°.41E, h10km, ML2.7/18, Error ellipse: s-maj=2.4km s-min=2.1km az=77.0*
*UCC **29** 01:23:40.7, 50°.32N×7°.40E, h13km, ML1.7*
*BGR **29** 01:23:40.2±0.3, 50°.32N×7°.41E, h10km, ML2.1/4, Error ellipse: s-maj=3.3km s-min=3.3km az=88.0*
*STR **29** 01:23:40.5±0.3, 50°.27N±0°.01×7°.18E±0°.03, h10km, MLv2.4/12*
*LDG **29** 01:23:41.0±0.1, 50°.33N×7°.42E, h11km, Ml2.7/18, Error ellipse: s-maj=2.3km s-min=1.9km az=55.0*
*BNS **29** 01:23:41.0±0.7, 50°.34N×7°.43E, h12km±3km, ML2.1*
ISC 29 01:23:40.4±0.8, 50°.33N±0°.01×7°.40E±0°.01, h17km±4km, n143, σ1s10/229, 13C-11D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.13**	**198**	*i* Pg	**Pb**	**01 23 44.4**	**0.0**
BGG				*e*Sg	**Sg**	**01 23 46.5**	**-0.2**
	401nm,0.2s						
BGG	**Burgeitz**	**0.13**	**198**	Pg	**Pb**	**01 23 44.4**	**0.0**
BGG				Sg	**Sg**	**01 23 46.5**	**-0.2**
	401nm,0.2s						
BHE	**Schloss Buerre**	**0.14**	**281**	*i* Pg	**Pg**	**01 23 44.4**	**-0.1**
BHE				*e*Sg	**Sg**	**01 23 46.6**	**-0.5**
	392nm,0.1s						
BHE	**Schloss Buerre**	**0.14**	**281**	Pg	**Pg**	**01 23 44.4**	**-0.1**
BHE				Sg	**Sg**	**01 23 46.6**	**-0.5**
	392nm,0.1s						
KOE	**Koeppel**	**0.24**	**65**	*i* Pg	**Pg**	**01 23 45.6**	**-0.3**
KOE				*e*Sg	**Sg**	**01 23 48.6**	**-1.0**
	234nm,0.2s						
KOE	**Koeppel**	**0.24**	**65**	Pg	**Pg**	**01 23 45.6**	**-0.3**
KOE				Sg	**Sg**	**01 23 48.6**	**-1.0**
	234nm,0.2s						
AHRW	**Bad Neuenahr-A**	**0.30**	**317**	*i* P*	**Pg**	**01 23 46.9**	**0.0**
AHRW				S*	**Sg**	**01 23 50.5**	**-0.8**
AHRW	**Bad Neuenahr-A**	**0.30**	**317**	Pb	**Pg**	**01 23 46.9**	**0.0**
AHRW				Sb	**Sg**	**01 23 50.5**	**-0.8**
FSH	**Hochheid**	**0.31**	**217**	*i* P*	**Pg**	**01 23 47.2**	**+0.1**
FSH				S*	**Sg**	**01 23 51.4**	**-0.2**
FSH	**Hochheid**	**0.31**	**217**	Pb	**Pg**	**01 23 47.2**	**+0.1**
FSH				Sb	**Sg**	**01 23 51.4**	**-0.2**
FACH	**Fachingen**	**0.38**	**85**	*i* P*	**Pg**	**01 23 48.1**	**-0.2**
FACH				*i* S*	**Sg**	**01 23 52.6**	**-1.1**
FACH	**Fachingen**	**0.38**	**85**	Pb	**Pg**	**01 23 48.1**	**-0.2**
FACH				Sb	**Sg**	**01 23 52.6**	**-1.1**
STB	**Steinbach**	**0.45**	**307**	*e*Pg	**Pg**	**01 23 49.7**	**+0.2**
STB	**Steinbach**	**0.45**	**307**	Pg	**Pg**	**01 23 49.7**	**+0.2**
ABH	**Alteburg**	**0.46**	**168**	P*	**Pb**	**01 23 51.4**	**+1.4**
ABH				S*	**Sg**	**01 23 55.6**	**-0.2**
ABH	**Alteburg**	**0.46**	**168**	Sb	**Sg**	**01 23 55.6**	**-0.2**
HILG	**Hillesheim**	**0.46**	**266**	*e*Pg	**Pg**	**01 23 49.9**	**+0.2**
HILG	**Hillesheim**	**0.46**	**266**	Pg	**Pg**	**01 23 49.9**	**+0.2**
WBS	**Wahnbachtalspe**	**0.49**	**351**	*e*Pg	**Pg**	**01 23 50.0**	**-0.2**
WBS				*e*Sg	**Sg**	**01 23 56.0**	**-0.8**
	114nm,0.1s						
BIW	**Bindweide**	**0.49**	**35**	P*	**Pg**	**01 23 49.5**	**-0.8**
BIW				S*	**Sg**	**01 23 55.2**	**-1.8**
BIW	**Bindweide**	**0.49**	**35**	Pb	**Pg**	**01 23 49.5**	**-0.8**
BIW				Sb	**Sg**	**01 23 55.2**	**-1.8**
LOH	**Wallersheim-Lo**	**0.57**	**256**	*i* Pg	**Pg**	**01 23 52.0**	**+0.2**
LOH				*e*Sg	**Sg**	**01 23 59.6**	**+0.2**
	55nm,0.2s						
LOH	**Wallersheim-Lo**	**0.57**	**256**	Pg	**Pg**	**01 23 52.0**	**+0.2**
LOH				Sg	**Sg**	**01 23 59.6**	**+0.2**
	55nm,0.2s						
OLFT	**Oleftalsperre**	**0.65**	**285**	*e*Pg	**Pg**	**01 23 53.1**	**-0.1**
OLFT				*e*Sg	**Sg**	**01 24 01.4**	**-0.4**
OLFT	**Oleftalsperre**	**0.65**	**285**	Pg	**Pg**	**01 23 53.1**	**-0.1**
OLFT				Sg	**Sg**	**01 24 01.4**	**-0.4**
BNS	**Bensberg**	**0.66**	**348**	*e*Pg	**Pg**	**01 23 53.2**	**-0.1**
BNS	**Bensberg**	**0.66**	**348**	Pg	**Pg**	**01 23 53.2**	**-0.1**
RUP	**Ruppelstein**	**0.66**	**199**	P*	**Pg**	**01 23 53.3**	**-0.2**
RUP				Pg	**Pb**	**01 23 53.5**	**0.0**
TNS	**Taunus Mts**	**0.68**	**98**	P*	**Pg**	**01 23 53.6**	**-0.3**
TNS				*e*Sg	**Sg**	**01 24 02.5**	**-0.4**
TNS				SmS		01 24 05.0	
TNS	**Taunus Mts**	**0.68**	**98**	Pb	**Pg**	**01 23 53.6**	**-0.3**
TNS				Sg	**Sg**	**01 24 02.5**	**-0.4**
BLI	**Bleialf**	**0.72**	**263**	P*	**Pg**	**01 23 54.6**	**+0.1**
BLI				S*	**Sg**	**01 24 02.9**

HKB			S	Sb	01 24 17.6	+0.8		
BLCH	**La Chartreuse**	**1.19 286**	⇑P	Pn	01 24 02.7	+0.4		
BLCH			S	Sb	01 24 17.1	-0.5		
	comp=E,5.8nm,0.2s							
BLCH	**La Chartreuse**	**1.19 286**	P	Pn	01 24 02.7	+0.4		
BLCH			S	Sb	01 24 17.1	-0.5		
	comp=E,5.8nm,0.2s							
SWS	**Schriesheim-Wi**	**1.19 134**	Pg	Pg	01 24 03.3	-0.1		
SWS			Sg	Sg	01 24 18.8	-0.2		
BEBN	**Eben Emael**	**1.19 294**	⇓P	Pn	01 24 02.9	+0.6		
BEBN			S	Sb	01 24 19.0	+1.2		
	comp=N,8.0nm,0.3s							
BEBN	**Eben Emael**	**1.19 294**	P	Pn	01 24 02.9	+0.6		
BEBN			S	Sb	01 24 18.9	+1.2		
	comp=N,8.0nm,0.3s							
BSTI	**Sart Tilman**	**1.20 283**	P	Pn	01 24 03.1	+0.7		
BSTI	**Sart Tilman**	**1.20 283**	P	Pn	01 24 03.1	+0.7		
PEB	**Petersbachel**	**1.28 171**	Pg	Pb	01 24 04.6	+0.6		
PEB			Sg	Sn	01 24 21.4	+1.2		
BCLA	**Clavier**	**1.34 275**	⇑P	Pn	01 24 05.0	+0.5		
BCLA			S	Sb	01 24 21.0	-1.0		
	comp=N,6.9nm,0.1s							
BCLA	**Clavier**	**1.34 275**	P	Pn	01 24 04.9	+0.5		
BCLA			S	Sb	01 24 21.0	-1.0		
	comp=N,6.9nm,0.1s							
LANF	**Langenberg**	**1.37 169**	Pg	Pg	01 24 06.6	-0.3		
LANF	**Langenberg**	**1.37 169**	Pn	Pn	01 24 04.1	-0.7		
LANF	**Langenberg**	**1.37 169**	Pg	Pb	01 24 06.1	+0.5		
LANF			Sg	Sg	01 24 24.8	+0.1		
LANF	**Langenberg**	**1.37 169**	Pn	Pn	01 24 04.2	-0.7		
LANF	**Langenberg**	**1.37 169**	Pg	Pb	01 24 06.2	+0.5		
RCHB	**Rochefort**	**1.40 264**	⇑P	Pn	01 24 05.8	+0.5		
RCHB			S	Sn	01 24 24.0	+0.7		
RCHB	**Rochefort**	**1.40 264**	P	Pn	01 24 05.7	+0.5		
RCHB			S	Sn	01 24 23.9	+0.7		
BGES	**Gesves**	**1.48 273**	P	Pn	01 24 06.7	+0.4		
BGES			S	Sn	01 24 25.8	+0.6		
BGES	**Gesves**	**1.48 273**	P	Pn	01 24 06.7	+0.4		
BGES			S	Sn	01 24 25.8	+0.6		
GIVF	**Givet**	**1.67 263**	*e*Pn	Pn	01 24 09.4	+0.5		
GIVF	**Givet**	**1.67 263**	*e*Pg	Pb	01 24 11.6	+0.9		
GIVF			*e*Sg	Sb	01 24 33.2	+1.8		
	comp=N,43nm,0.3s							
GIVF	**Givet**	**1.67 263**	*e*Pn	Pn	01 24 09.4	+0.5		
GIVF	**Givet**	**1.67 263**	*e*Pg	Pb	01 24 11.6	+0.9		
GIVF			*e*Sg	Sb	01 24 33.2	+1.8		
	comp=N,22nm,0.3s							
BMRD	**Maredsous**	**1.69 270**	P	Pb	01 24 11.2	+0.2		
BMRD			S	Sn	01 24 31.7	+1.4		
	comp=N,7.2nm,0.2s							
BMRD	**Maredsous**	**1.69 270**	P	Pb	01 24 11.2	+0.2		
BMRD			S	Sn	01 24 31.7	+1.4		
	comp=N,7.2nm,0.2s							
SIND	**Sindeldorf**	**1.73 124**	Pg	Pg	01 24 13.4	-0.4		
DOU	**Dourbes**	**1.81 264**	P	Pn	01 24 11.8	+0.9		
DOU			S	Sn	01 24 35.5	+2.1		
	comp=E,14nm,0.2s							
DOU	**Dourbes**	**1.81 264**	P	Pn	01 24 11.8	+0.9		
DOU			S	Sn	01 24 35.5	+2.1		
	comp=E,14nm,0.2s							
OPP	**Oppenau**	**1.90 164**	Sg	Sg	01 24 41.6	0.0		
CDF	**Champ du Feu**	**1.92 182**	*e*Pn	Pn	01 24 12.5	+0.1		
CDF	**Champ du Feu**	**1.92 182**	*e*Pg	Pb	01 24 15.8	+0.8		
CDF			*e*Sg	Sb	01 24 39.5	+0.9		
	comp=E,10nm,0.3s							
CDF	**Champ du Feu**	**1.92 182**	*e*Pn	Pn	01 24 12.5	+0.1		
CDF	**Champ du Feu**	**1.92 182**	*e*Pg	Pb	01 24 15.8	+0.8		
CDF			*e*Sg	Sb	01 24 39.5	+0.9		
	comp=E,5.2nm,0.3s							
BRQR	**Ronqui˜xre**	**2.05 279**	⇑P	Pb	01 24 16.7	-0.5		
BRQR	**Ronqui˜xre**	**2.05 279**	P	Pb	01 24 16.6	-0.5		
BAIF	**Baives**	**2.07 264**	*e*Pn	Pn	01 24 14.8	+0.5		
BAIF	**Baives**	**2.07 264**	*e*Pg	Pb	01 24 19.2	+1.7		
BAIF			*e*Sg	Sb	01 24 43.9	+1.1		
	comp=E,23nm,0.3s							
BAIF	**Baives**	**2.07 264**	*e*Pn	Pn	01 24 14.8	+0.5		
BAIF	**Baives**	**2.07 264**	*e*Pg	Pb	01 24 19.2	+1.7		
BAIF			*e*Sg	Sb	01 24 43.9	+1.1		
	comp=E,11nm,0.3s							
PAGF	**Fort de Pagny**	**2.08 212**	*e*Pg	Pb	01 24 19.4	+1.7		
	comp=28							
PAGF			*e*Sg	Sg	01 24 47.3	-0.1		
	comp=E,1.3nm,0.2s							
PAGF	**Fort de Pagny**	**2.08 212**	*e*Pg	Pb	01 24 19.4	+1.7		
PAGF			*e*Sg	Sg	01 24 47.3	-0.1		
	comp=E,0.6nm,0.2s							
BFO	**Black Forest**	**2.09 163**	*e*Pg	Pg	01 24 19.7	-0.8		
BFO			*e*Sg	Sb	01 24 45.2	+1.7		
THEF	**They Montfort**	**2.29 204**	Pg	Pb	01 24 22.1	+0.7		
THEF	**They Montfort**	**2.29 204**	Pn	Pn	01 24 15.1	-2.4		
THEF	**They Montfort**	**2.29 204**	Pg	Pb	01 24 21.9	+0.5		
THEF			Sg	Sb	01 24 52.3	+2.9		
THEF	**They Montfort**	**2.29 204**	Pn	Pn	01 24 15.1	-2.4		
THEF	**They Montfort**	**2.29 204**	Pg	Pb	01 24 21.9	+0.5		
MEZF	**Maizieres J'vi**	**2.38 221**	*e*Pn	Pn	01 24 19.7	+1.0		
MEZF	**Maizieres J'vi**	**2.38 221**	*e*Pg	Pg	01 24 25.9	-0.2		
	baz=33							
MEZF			*e*Sg	Sg	01 24 57.1	+0.1		
	comp=E,5.4nm,0.3s							
MEZF	**Maizieres J'vi**	**2.38 221**	*e*Pn	Pn	01 24 19.7	+1.0		
MEZF	**Maizieres J'vi**	**2.38 221**	*e*Pg	Pg	01 24 25.9	-0.2		
MEZF			*e*Sg	Sg	01 24 57.1	+0.1		
	comp=E,2.7nm,0.3s							
KIZ	**Kirchzarten**	**2.40 172**	Pg	Pg	01 24 25.4	-1.0		
CLZ	**Clausthal**	**2.41 50**	*e*Pg	Pb	01 24 24.9	+1.5		
CLZ			*e*Sg	Sg	01 24 56.6	-1.4		
HAU	**Haudompre**	**2.42 197**	*e*Pn	Pn	01 24 19.5	+0.2		
HAU			*e*Sg	Sg	01 24 57.0	-1.3		
	comp=E,6.1nm,0.2s							
HAU	**Haudompre**	**2.42 197**	*e*Pn	Pn	01 24 19.5	+0.2		
HAU			*e*Sg	Sg	01 24 57.0	-1.3		
	comp=E,3.0nm,0.2s							
MOF	**Molkenrain**	**2.48 184**	Pn	Pn	01 24 18.2	-1.9		
MOF	**Molkenrain**	**2.48 184**	Pg	Pb	01 24 25.6	+1.0		
MOF			Sg	Sg	01 24 59.4	-0.8		
MOF	**Molkenrain**	**2.48 184**	Pn	Pn	01 24 18.3	-1.9		
MOF	**Molkenrain**	**2.48 184**	Pg	Pb	01 24 25.7	+1.0		
FELD	**Feldberg im Sc**	**2.48 171**	Pg	Pg	01 24 27.3	-0.7		
FELD	**Feldberg im Sc**	**2.48 171**	Pn	Pn	01 24 19.8	-0.4		
FELD	**Feldberg im Sc**	**2.48 171**	Pg	Pg	01 24 27.0	-1.0		
FELD			Sg	Sg	01 25 01.0	+0.7		
FELD	**Feldberg im Sc**	**2.48 171**	Pn	Pn	01 24 19.8	-0.4		
FELD	**Feldberg im Sc**	**2.48 171**	Pg	Pg	01 24 27.1	-1.0		
GUT	**Gutenstein**	**2.52 153**	Pn	Pn	01 24 21.6	+1.0		
HINF	**Hinteralfeld**	**2.54 188**	*e*Pn	Pn	01 24 21.8	+1.0		
HINF	**Hinteralfeld**	**2.54 188**	*e*Pg	Pb	01 24 27.2	+1.7		
HINF			*e*Sg	Sb	01 24 59.2	+2.8		
	comp=E,6.1nm,0.2s							
HINF	**Hinteralfeld**	**2.54 188**	*e*Pn	Pn	01 24 21.8	+1.0		
HINF	**Hinteralfeld**	**2.54 188**	*e*Pg	Pb	01 24 27.2	+1.7		
HINF			*e*Sg	Sb	01 24 59.2	+2.8		
	comp=E,3.0nm,0.2s							
ENDD	**Endenburg**	**2.62 175**	Sg	Sg	01 25 03.3	-1.4		
SFTF	**Sexfontaines**	**2.62 217**	*e*Pn	Pn	01 24 22.7	+0.7		
SFTF	**Sexfontaines**	**2.62 217**	*e*Pg	Pg	01 24 30.0	-0.7		
	baz=31							
SFTF			*e*Sg	Sg	01 25 04.2	-0.6		
	comp=E,3.9nm,0.2s							
SFTF	**Sexfontaines**	**2.62 217**	*e*Pn	Pn	01 24 22.7	+0.7		
SFTF	**Sexfontaines**	**2.62 217**	*e*Pg	Pg	01 24 30.0	-0.7		
SFTF			*e*Sg	Sg	01 25 04.2	-0.6		
	comp=E,2.0nm,0.2s							
CABF	**La Chapelle**	**3.82 194**	*e*Pn	Pn	01 24 38.3	-0.2		
CABF	**La Chapelle**	**3.82 194**	*e*Pn	Pn	01 24 38.3	-0.2		
LOR	**Lormes**	**3.85 219**	*e*Pn	Pn	01 24 38.9	0.0		
	baz=31							
LOR	**Lormes**	**3.85 219**	*e*Pg	Pg	01 24 52.1	-2.1		
LOR			*e*Sn	Sn	01 25 21.5	-2.2		
	comp=E,2.7nm,0.2s							
LOR			*e*Sg	Sg	01 25 41.9	-2.1		
	comp=E,2.6nm,0.3s							
LOR	**Lormes**	**3.85 219**	*e*Pn	Pn	01 24 38.9	0.0		
LOR	**Lormes**	**3.85 219**	*e*Pg	Pg	01 24 52.1	-2.1		
LOR			*e*Sn	Sn	01 25 21.5	-2.2		
	comp=E,1.4nm,0.2s							
LOR			*e*Sg	Sg	01 25 41.9	-2.1		
	comp=E,1.3nm,0.3s							
SSF	**Saint Saulge**	**4.16 220**	*e*Pg	Pg	01 24 59.3	-0.8		
SSF			*e*Sg	Sg	01 25 52.1	-1.8		
	comp=E,2.1nm,0.3s							
SSF	**Saint Saulge**	**4.16 220**	*e*Pg	Pg	01 24 59.3	-0.8		
SSF			*e*Sg	Sg	01 25 52.1	-1.8		
	comp=E,1.0nm,0.3s							
SMF	**Signal de Mont**	**4.38 214**	*e*Pn	Pn	01 24 46.1	0.0		
SMF			*e*Sn	Sn	01 25 33.4	-3.3		
SMF			*e*Sg	Sg	01 25 59.3	-1.6		
	comp=E,1.1nm,0.2s							
SMF	**Signal de Mont**	**4.38 214**	*e*Pn	Pn	01 24 46.1	0.0		
SMF			*e*Sn	Sn	01 25 33.4	-3.3		
SMF			*e*Sg	Sg	01 25 59.3	-1.6		
	comp=E,0.6nm,0.2s							
HYF	**Humbligny**	**4.39 228**	*e*Sg	Sg	01 25 58.7	-2.5		
HYF	**Humbligny**	**4.39 228**	*e*Sg	Sg	01 25 58.7	-2.5		
AVF	**Avril sur Loir**	**4.44 219**	*e*Pn	Pn	01 24 46.7	-0.3		
AVF	**Avril sur Loir**	**4.44 219**	*e*Pn	Pn	01 24 46.7	-0.3		
BGF	**Bois d'Agland**	**4.83 221**	*e*Sg	Sg	01 26 13.4	-2.2		
	comp=E,4.5nm,0.4s							
BGF	**Bois d'Agland**	**4.83 221**	*e*Sg	Sg	01 26 13.4	-2.2		
	comp=E,2.2nm,0.4s							

IDC ***29*** *01:30:00.7±1.2,3°.35S×123°.97E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.4/54,mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=218.6km s-min=22.8km az=62.0*
DJA ***29*** *01:30:01.9±0.4,4°.S±3°×12°.3E±°,h10km,M4.0/11,mb4.4/1, MLv3.8/11*
ISCJB ***29*** *01:30:03.0±0.7,3°.60S±0°.06×123°.25E±0°.06,h33km, mb3.5/4, Error ellipse: s-maj=9.4km s-min=7.1km az=136.4*

ISC 29 01:30:05.5±1.0,3°.63S±0°.06×123°.24E±0°.06,h35km,n14,
σ2s19/16,mb3.5/4,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**0.70**	**243**	P	P	**Pn**	**01 30 15.7**	**-3.2**
KDI				S	S	**Sn**	**01 30 25.8**	**-2.7**
BBSI	**Bau Bau**	**1.96**	**200**	P	P	**Pn**	**01 30 36.1**	**-0.1**
LUWI	**Luwuk**	**2.62**	**350**	P	P	**Pn**	**01 30 42.7**	**-2.6**
APSI	**Ampana**	**3.14**	**329**	P	P	**Pn**	**01 30 50.9**	**-1.5**
SANI	**Sanana**	**3.16**	**60**	P	P	**Pn**	**01 30 51.0**	**-1.8**
BNSI	**Bone**	**3.22**	**256**	P	P	**Pn**	**01 30 51.6**	**-2.0**
TTSI	**Tana Toraja**	**3.47**	**280**	P	P	**Pn**	**01 30 56.4**	**-0.6**
TTSI				S	S	**Sn**	**01 31 38.1**	**+1.3**
BSSI	**Bau Bau, Buton**	**3.71**	**228**	P	P	**Pn**	**01 30 59.7**	**-0.6**
MRSI	**Marisa**	**4.29**	**342**	P	P	**Pn**	**01 31 06.0**	**-2.2**
WRA	**Warramunga Arr**	**19.49**	**147**	P	**P**		**01 34 26.9**	**-2.8**
	0.0nm,0.3s,baz=324,slow=12,SNR=2.1							
ASAR	**Alice Springs**	**22.42**	**154**	P	**P**		**01 35 01.4**	**+0.1**
	1.2nm,0.6s,baz=338,slow=13,SNR=5.3							
MKAR	**Makanchi Array**	**61.83**	**329**	P	**P**		**01 40 23.1**	**+2.1**
	0.3nm,0.7s,baz=143,slow=6.2,SNR=3.9							
KURBB	**Kurchatov Arra**	**66.22**	**331**	P	**P**		**01 40 49.3**	**-0.5**
	0.3nm,0.8s,baz=148,slow=5.5,SNR=3.1							
BVAR	**Borovoye Array**	**71.71**	**330**	P	**P**		**01 41 26.9**	**+3.0**
	0.9nm,0.8s,baz=121,slow=7.6,SNR=5.7							

IDC ***29*** *01:35:07.5±0.7,18°.19S×172°.44W,h0km,mb4.2/10, mb1 4.5/11,mb1mx4.2/44,mbtmp4.2/11,ML3.8/1,MS3.5/9, Ms1 3.5/9,ms1mx3.1/47, Error ellipse: s-maj=31.3km s-min=17.0km az=146.0*
ISCJB ***29*** *01:35:09.6±0.4,18°.10S±0°.09×172°.63W±0°.09,h21km, mb4.6/25,MS3.5/9, Error ellipse: s-maj=16.3km s-min=7.5km az=135.6*
NEIC ***29*** *01:35:11.2±3.9,18°.14S×172°.54W,h22km±26km,mb4.9/17, Error ellipse: s-maj=16.5km s-min=7.5km az=133.0*

ISC 29 01:35:10.4±0.5,18°.04S±0°.08×172°.5W±0°.1,h21km,n72,
σ1s92/54,mb4.7/26,MS3.5/9,1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.17**	**10**	Pn	P	**Pn**	**01 36 12.4**	**-0.5**
	4.9nm,0.3s,baz=289,slow=4.5,SNR=4.5							
AFI				Sn	S	**Sn**	**01 36 57.9**	**-3.1**
	7.5nm,0.3s,baz=308,slow=19,SNR=2.8							
AFI	**Afiamalu**	**4.17**	**10**	*e*Pn	P	**Pn**	**01 36 14.0**	**+1.1**
AFI				*e*Sn	S	**Sn**	**01 36 57.9**	**-3.1**
RAR	**Rarotonga**	**12.43**	**107**	Pn	Pn		01 37 56.1	-10
	5.0nm,0.3s,baz=256,slow=8.8,SNR=7.5							
RAR	**Rarotonga**	**12.43**	**107**	*e*Pn	Pn		01 37 56.5	-10
DZM	**Mont Dzumac**	**20.15**	**255**	P	**P**		**01 39 45.4**	**+1.8**
	11nm,0.9s,baz=79,slow=20,SNR=7.1							
DZM				LR	LR		01 46 23.3	
	comp=Z,207nm,19.1s,baz=138,slow=34							
DZM	**Mont Dzumac**	**20.15**	**255**	*e*LR	LR		01 44 38.9	
	265nm,24.4s							
DZM	**Mont Dzumac**	**20.15**	**255**	*e*P	**P**		**01 39 45.4**	**+1.8**
	99nm,1.9s							
OUZ	**Omahuta**	**21.09**	**213**	*e*P	**P**		**01 39 52.5**	**-1.1**
	81nm,1.5s							
PAE	**Paea**	**21.85**	**93**	*e*T	T		02 02 00.3	
	8.1nm,0.3s							
PPT2	**Papeete2**	**21.86**	**92**	*e*LR	LR		01 44 58.4	
	283nm,24.8s							
PPT2	**Papeete2**	**21.86**	**92**	*e*T	T		02 02 02.2	
	8.3nm,0.3s							
PPT	**Papeete**	**21.86**	**92**	LR	LR		01 45 39.0	
	comp=Z,161nm,21.2s,baz=212,slow=29							
TVO	**Taravao**	**22.15**	**93**	*e*T	T		02 02 12.5	
	2.3nm,0.3s							
BKZ	**Black Stump Fm**	**23.12**	**202**	*e*P	**P**		**01 40 16.2**	**+1.1**
	56nm,1.7s							
BFZ	**Birch Farm**	**24.55**	**201**	*e*P	**P**		**01 40 29.2**	**+0.5**
	171nm,1.8s							
THZ	**Tophouse**	**26.73**	**205**	*e*P	**P**		**01 40 55.6**	**+7.1**
	71nm,1.9s							
HNR	**Honiara**	**28.04**	**284**	LR	LR		01 50 42.8	
	comp=Z,130nm,18.8s,baz=68,slow=33							
RPZ	**Rata Peaks**	**29.11**	**205**	P	P		01 41 17.3	+7.6
	11nm,0.6s,baz=357,slow=1.7,SNR=14							
FOZ	**Fox Glacier**	**29.47**	**207**	*e*P	**P**		**01 41 09.8**	**-3.1**
	25nm,0.7s							
CTA	**Charters Tower**	**38.94**	**260**	P	**P**		**01 42 35.3**	**+0.1**
	6.2nm,0.7s,baz=91,slow=13,SNR=6.6							
CTAO	**Charters Tower**	**38.94**	**260**	*e*P	**P**		**01 42 34.3**	**-0.9**
	62nm,1.8s							
POHA	**Pohakuloa**	**41.10**	**25**	*e*P	**P**		**01 42 53.7**	**+0.5**
	195nm,1.4s							
H11S2	**WAKE ISLAND Hy**	**41.65**	**330**	T	T		02 28 43.0	
	baz=147,slow=76,SNR=8.7							
H11S3	**WAKE ISLAND Hy**	**41.66**	**330**	T	T		02 28 37.6	
	baz=147,slow=76,SNR=8.5							
H11S1	**WAKE ISLAND Hy**	**41.66**	**330**	T	T		02 28 41.5	
	baz=147,slow=76,SNR=4.7							
H11N3	**WAKE ISLAND Hy**	**42.60**	**331**	T	T		02 29 28.9	
	baz=151							
H11N1	**WAKE ISLAND Hy**	**42.61**	**331**	T	T		02 29 24.4	
	baz=151							
H11N2	**WAKE ISLAND Hy**	**42.62**	**331**	T	T		02 29 20.7	
	baz=151							
STKA	**Stephens Creek**	**43.51**	**243**	P	**P**		**01 43 09.3**	**-3.3**
	2.3nm,0.8s,baz=113,slow=13,SNR=4.9							
STKA				LR	LR		01 59 21.9	
	comp=Z,50nm,18.3s,baz=205,slow=33							
WB2	**Warramunga Arr**	**50.09**	**259**	*e*P	**P**		**01 44 04.7**	**+0.3**
AS01	**Alice Springs**	**50.10**	**254**	*e*P	**P**		**01 44 04.4**	**0.0**
WRAB	**Tennant Creek**	**50.10**	**259**	*e*P	**P**		**01 44 04.5**	**+0.2**
	6.8nm,0.8s							
WR1	**Warramunga Arr**	**50.10**	**259**	*e*P	**P**		**01 44 04.6**	**+0.2**
	12nm,1.0s							
WRA	**Warramunga Arr**	**50.10**	**259**	P	**P**		**01 44 04.6**	**+0.2**
	5.9nm,0.8s,baz=94,slow=6.9,SNR=41							
AS31	**Alice Springs**	**50.14**	**254**	*e*P	**P**		**01 44 05.3**	**+0.6**
	1.6nm,0.8s							
ASAR	**Alice Springs**	**50.14**	**254**	P	**P**		**01 44 05.2**	**+0.6**
	4.0nm,0.7s,baz=87,slow=8.6,SNR=38							
RPN	**Rapa Nui**	**58.53**	**111**	LR	LR		02 03 59.2	
	comp=Z,39nm,19.7s,baz=235,slow=30							
BATI	**Baumata**	**62.12**	**268**	LR	LR		02 14 24.9	
	comp=Z,39nm,18.0s,baz=158,slow=38							
DAV	**Davao City (W)**	**65.97**	**287**	LR	LR		02 11 28.4	
	comp=Z,14nm,21.9s,baz=341,slow=33							
H06E1	**SOCORRO T-PHAS**	**70.72**	**62**	T	T		03 03 33.7	
	SNR=11							
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**		**01 46 31.7**	**-0.9**
	3.4nm,1.0s,baz=40,slow=2.4,SNR=5.7							
WBSM	**Bird Springs**	**74.11**	**44**	*e*P	**P**		**01 46 45.5**	**-0.1**
GSC	**Goldstone, Bar**	**74.86**	**44**	*e*P	**P**		**01 46 47.3**	**-2.5**
NV01	**Mina Array Sit**	**75.74**	**41**	*e*P	**P**		**01 46 56.2**	**+1.3**
NVAR	**Mina Array Bea**	**75.74**	**41**	P	**P**		**01 46 56.2**	**+1.3**
	1.2nm,0.9s,baz=231,slow=9.5,SNR=4.5							
LEM	**Lembang**	**78.30**	**267**	LR	LR		02 23 10.2	
	comp=Z,18nm,18.1s,baz=228,slow=37							
LTX	**Lajitas**	**81.40**	**55**	*e*P	**P**		**01 47 28.2**	**+2.0**
TX31	**Lajitas Ar. Si**	**81.40**	**55**	*e*P	**P**		**01 47 28.1**	**+2.0**
TXAR	**Lajitas Array**	**81.40**	**55**	P	**P**		**01 47 28.2**	**+2.0**
	2.7nm,1.1s,baz=219,slow=7.7,SNR=9.9							
R19A	**Curley Farm, L**	**81.56**	**45**	*e*P	**P**		**01 47 27.3**	**+0.3**
LNIG	**Linares**	**82.94**	**61**	*e*P	**P**		**01 47 34.5**	**+0.2**
	4.7nm,0.9s							
PD31	**Pinedale Array**	**83.67**	**41**	*e*P	**P**		**01 47 37.2**	**-0.7**
PDAR	**Pinedale Array**	**83.67**	**41**	P	**P**		**01 47 37.2**	**-0.7**
	1.7nm,0.8s,baz=205,slow=6.6,SNR=7.6							
PDAR	**Pinedale Array**	**83.67**	**41**	*e*P	**P**		**01 47 38.7**	**+0.8**
BOZ	**Bozeman (W)**	**83.93**	**38**	*e*P	**P**		**01 47 41.6**	**+2.5**
	1.2nm,1.3s							
WRH	**Wood River Hil**	**84.38**	**10**	*e*P	**P**		**01 47 43.5**	**+2.9**
	7.6nm,1.0s							
IL1	**Eielson Array**	**84.86**	**11**	*e*P	**P**		**01 47 44.8**	**+1.7**
ILAR	**Eielson Array**	**84.86**	**11**	P	**P**		**01 47 44.5**	**+1.4**
	0.8nm,0.7s,baz=222,slow=5.8,SNR=9.7							
ILB	**Eielson Array**	**84.86**	**11**	*e*P	**P**		**01 47 44.5**	**+1.4**
DAWY	**Dawson**	**85.76**	**14**	*e*P	**P**		**01 47 50.6**	**+3.0**
	5.8nm,0.9s							
ABTX	**Abilene, Hawle**	**85.92**	**54**	*e*P	**P**		**01 47 51.5**	**+2.3**
	13nm,1.4s							
SYO	**Syowa Base**	**90.19**	**191**	⇓*e*P	**P**		**01 48 08.2**	**-0.7**
YKA	**Yellowknife Ar**	**92.18**	**23**	P	**P**		**01 48 19.1**	**+1.1**
	0.4nm,0.9s,baz=240,slow=4.2,SNR=7.1							
YKB5	**Yellowknife Ar**	**92.18**	**23**	*e*P	**P**		**01 48 19.1**	**+1.1**
LPAZ	**La Paz**	**98.13**	**110**	LR	LR		02 25 32.4	
	comp=Z,36nm,18.6s,baz=322,slow=31							
PRAC	**Prado**	**98.40**	**89**	*e*P	**P**		**01 48 44.9**	**-2.8**
	14nm,0.8s							
KMBO	**Kilima Mbogo**	**145.05**	**240**	PKPbc	**PKPdf**		**01 54 48.5**	**+0.9**
	1.3nm,0.8s,baz=124,slow=3.9,SNR=5.5							
BR101	**Keskin Array S**	**148.70**	**319**	*e*PKPbc	**PKPbc**		**01 54 57.9**	**+1.3**
BRTR	**Keskin Array B**	**148.70**	**319**	PKPbc	**PKPbc**		**01 54 57.9**	**+1.3**
	1.2nm,0.7s,baz=101,slow=2.6,SNR=7.6							
GERES	**GERESS Array B**	**148.86**	**352**	PKPbc	**PKPbc**		**01 54 57.3**	**+0.7**
	0.4nm,0.6s,baz=36,slow=2.5,SNR=4.8							
TORD	**Torodi Ar. Bea**	**172.61**	**130**	PKP	**PKPdf**		**01 55 16.8**	**-2.1**
	0.3nm,0.9s,baz=333,slow=1.7,SNR=3.9							
TORD				PKPab	**PKPab**		**01 56 43.2**	**-0.8**
	0.8nm,0.8s,baz=257,slow=3.8,SNR=4.7							
TOA1	**Torodi Ar. Sit**	**172.61**	**130**	*e*PKPdf	**PKPdf**		**01 55 16.8**	**-2.1**
TOA1				*e*PKPab	**PKPab**		**01 56 43.2**	**-0.9**

IDC ***29*** *01:45:29.0±1.5,18°.11S×172°.59W,h0km,mb3.8/6, mb1 4.1/7,mb1mx3.9/45,mbtmp3.8/7,ML3.3/1,MS3.2/3, Ms1 3.2/3,ms1mx2.8/44, Error ellipse: s-maj=71.1km s-min=23.0km az=145.0*
ISCJB ***29*** *01:45:31.2±1.0,17°.9S±0°.1×172°.8W±0°.2,h21km,mb3.8/6, MS3.1/2, Error ellipse: s-maj=31.9km s-min=11.0km az=25.9*

ISC 29 01:45:32.4±1.1,18°.0S±0°.2×172°.7W±0°.2,h21km,n17,
σ0s90/9,mb3.8/6,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.13**	**13**	Pn	P	**Pn**	**01 46 34.4**	**+0.1**
	1.5nm,0.3s,baz=29,slow=19,SNR=2.3							
AFI				Sn	S	**Sn**	**01 47 22.0**	**-0.1**
	4.6nm,0.3s,baz=49,slow=19,SNR=3.6							
RAR	**Rarotonga**	**12.62**	**107**	LR	LR		01 51 36.0	
	comp=Z,111nm,19.9s,baz=310,slow=30							
DZM	**Mont Dzumac**	**20.00**	**255**	*e*LR	L

PLOR	Plostina	0.38	38	*i* S	Sn	02 02 50.3	-1.5
VRI	Vrincioaia	0.42	43	⇑*i* P	Pn	02 02 35.3	-0.2
VRI	Vrincioaia	0.42	43	⇑*i* P	Pn	02 02 35.3	-0.2
VRI				*i* S	Sn	02 02 50.7	-1.4
VRI	Vrincioaia	0.42	43	⇑*i* P	Pn	02 02 35.3	-0.2
VRI				*i* S	Sn	02 02 50.7	-1.4
ISR	Istrita	0.47	160	⇑*i* P	Pn	02 02 35.9	+0.1
ISR	Istrita	0.47	160	⇑*i* P	Pn	02 02 35.9	+0.1
ISR				*i* S	Sn	02 02 51.3	-1.2
ISR	Istrita	0.47	160	⇑*i* P	Pn	02 02 35.9	+0.1
ISR				*i* S	Sn	02 02 51.3	-1.2
GRER		0.49	111	S	Sn	02 02 51.8	-0.7
GRER		0.49	111	*i* S	Sn	02 02 51.8	-0.7
GRER		0.49	111	*i* S	Sn	02 02 51.8	-0.7
SECR		0.55	199	⇑*i* P	Pn	02 02 36.3	+0.2
SECR		0.55	199	⇑*i* P	Pn	02 02 36.3	+0.2
SECR				*i* S	Sn	02 02 52.4	-0.7
SECR		0.55	199	⇑*i* P	Pn	02 02 36.3	+0.2
SECR				*i* S	Sn	02 02 52.4	-0.7
ODBI	Odobesti	0.56	68	⇑*i* P	Pn	02 02 36.7	+0.6
ODBI	Odobesti	0.56	68	⇑*i* P	Pn	02 02 36.7	+0.6
ODBI	Odobesti	0.56	68	⇑*i* P	Pn	02 02 36.7	+0.6
PETR	Petresti	0.66	75	⇑*i* P	Pn	02 02 37.1	+0.5
PETR	Petresti	0.66	75	⇑*i* P	Pn	02 02 37.1	+0.5
PETR				*i* S	Sn	02 02 53.5	-0.6
PETR	Petresti	0.66	75	⇑*i* P	Pn	02 02 37.1	+0.5
PETR				*i* S	Sn	02 02 53.5	-0.6
PGOR	Pogoanele	0.80	144	S	Sn	02 02 55.6	-0.1
PGOR	Pogoanele	0.80	144	*i* S	Sn	02 02 55.6	-0.1
PGOR	Pogoanele	0.80	144	*i* S	Sn	02 02 55.6	-0.1
SULR		0.88	183	⇓*i* P	Pn	02 02 38.5	+0.3
SULR		0.88	183	⇓*i* P	Pn	02 02 38.5	+0.3
SULR				*i* S	Sn	02 02 56.3	-0.5
SULR		0.88	183	⇓*i* P	Pn	02 02 38.5	+0.3
SULR				*i* S	Sn	02 02 56.3	-0.5
VOIR		0.90	263	⇑*i* P	Pn	02 02 38.1	-0.3
VOIR		0.90	263	⇑*i* P	Pn	02 02 38.1	-0.3
VOIR				*i* S	Sn	02 02 55.0	-2.2
VOIR		0.90	263	⇑*i* P	Pn	02 02 38.1	-0.3
VOIR				*i* S	Sn	02 02 55.0	-2.2
MTUR	Matau	0.94	250	⇓*i* P	Pn	02 02 38.8	0.0
MTUR	Matau	0.94	250	⇓*i* P	Pn	02 02 38.8	0.0
MTUR	Matau	0.94	250	⇓*i* P	Pn	02 02 38.8	0.0
TESR	Tescani	0.98	13	S	Sn	02 02 55.6	-2.7
TESR	Tescani	0.98	13	*i* S	Sn	02 02 55.6	-2.7
AMRR	Amara	1.19	142	⇑*i* P	Pn	02 02 41.0	+0.2
AMRR	Amara	1.19	142	⇑*i* P	Pn	02 02 41.0	+0.2
AMRR				*i* S	Sn	02 03 00.3	-1.1
AMRR	Amara	1.19	142	⇑*i* P	Pn	02 02 41.0	+0.2
AMRR				*i* S	Sn	02 03 00.3	-1.1
GOLR		1.20	234	S	Sn	02 03 01.0	-0.5
GOLR		1.20	234	*i* S	Sn	02 03 01.0	-0.5
GOLR		1.20	234	*i* S	Sn	02 03 01.0	-0.5
ARR	Arges	1.20	262	⇑*i* P	Pn	02 02 41.3	+0.4
ARR	Arges	1.20	262	⇑*i* P	Pn	02 02 41.3	+0.4
ARR	Arges	1.20	262	⇑*i* P	Pn	02 02 41.3	+0.4
BUC1	Bucharest	1.23	190	S	Sn	02 03 00.6	-1.4
BUC1	Bucharest	1.23	190	*i* S	Sn	02 03 00.6	-1.4
BUC1	Bucharest	1.23	190	*i* S	Sn	02 03 00.6	-1.4
GIUM	Giurgiulesti	1.33	92	⇓*i* P	Pn	02 02 42.8	+0.7
GIUM	Giurgiulesti	1.33	92	⇓*i* P	Pn	02 02 42.8	+0.7
GIUM				*i* S	Sn	02 03 02.7	-1.0
GIUM	Giurgiulesti	1.33	92	⇓*i* P	Pn	02 02 42.8	+0.7
GIUM				*i* S	Sn	02 03 02.7	-1.0
CFR	Carcaliu	1.34	106	⇑*i* P	Pn	02 02 41.7	-0.4
CFR	Carcaliu	1.34	106	⇑*i* P	Pn	02 02 41.7	-0.4
CFR				*i* S	Sn	02 03 01.7	-2.1
CFR	Carcaliu	1.34	106	⇑*i* P	Pn	02 02 41.7	-0.4
CFR				*i* S	Sn	02 03 01.7	-2.1
SGRR	Singureni	1.36	190	⇑*i* P	Pn	02 02 42.4	0.0
SGRR	Singureni	1.36	190	⇑*i* P	Pn	02 02 42.4	0.0
SGRR				*i* S	Sn	02 03 02.4	-1.8
SGRR	Singureni	1.36	190	⇑*i* P	Pn	02 02 42.4	0.0
SGRR				*i* S	Sn	02 03 02.4	-1.8
HUMR	Humele	1.40	223	S	Sn	02 03 03.5	-1.5
HUMR	Humele	1.40	223	*i* S	Sn	02 03 03.5	-1.5
HUMR	Humele	1.40	223	*i* S	Sn	02 03 03.5	-1.5
HARR	Harsova	1.43	127	⇑*i* P	Pn	02 02 43.1	0.0
HARR	Harsova	1.43	127	⇑*i* P	Pn	02 02 43.1	0.0
HARR	Harsova	1.43	127	⇑*i* P	Pn	02 02 43.1	0.0
LEOM	Leova	1.63	55	⇑*i* P	Pn	02 02 45.3	+0.2
LEOM	Leova	1.63	55	⇑*i* P	Pn	02 02 45.3	+0.2
LEOM				*i* S	Sn	02 03 07.7	-1.4
LEOM	Leova	1.63	55	⇑*i* P	Pn	02 02 45.3	+0.2
LEOM				*i* S	Sn	02 03 07.7	-1.4
CVDA	Cernavoda	1.73	134	⇓*i* P	Pn	02 02 45.6	-0.6
CVDA	Cernavoda	1.73	134	⇓*i* P	Pn	02 02 45.6	-0.6
CVDA				*i* S	Sn	02 03 08.8	-2.3
CVDA	Cernavoda	1.73	134	⇓*i* P	Pn	02 02 45.6	-0.6
CVDA				*i* S	Sn	02 03 08.8	-2.3
LOT	Lotru	1.79	267	⇓*i* P	Pn	02 02 47.8	+0.7
LOT	Lotru	1.79	267	⇓*i* P	Pn	02 02 47.8	+0.7
LOT				*i* S	Sn	02 03 11.7	-0.9
LOT	Lotru	1.79	267	⇓*i* P	Pn	02 02 47.8	+0.7
LOT				*i* S	Sn	02 03 11.7	-0.9
TLCR		1.80	101	⇓*i* P	Pn	02 02 47.0	0.0
TLCR		1.80	101	⇓*i* P	Pn	02 02 47.0	0.0
TLCR				*i* S	Sn	02 03 11.3	-1.1
TLCR		1.80	101	⇓*i* P	Pn	02 02 47.0	0.0
TLCR				*i* S	Sn	02 03 11.3	-1.1
MILM	Milestii Mici	2.20	51	⇑*i* P	Pn	02 02 51.7	+0.1
MILM	Milestii Mici	2.20	51	⇑*i* P	Pn	02 02 51.7	+0.1
MILM				*i* S	Sn	02 03 18.4	-2.4
MILM	Milestii Mici	2.20	51	⇑*i* P	Pn	02 02 51.7	+0.1
SORM	Soroca	2.93	28	S	Sn	02 03 33.8	-2.9
SORM	Soroca	2.93	28	*i* S	Sn	02 03 33.8	-2.9
ZAGS	Zajecar	3.40	241	*e*Pn	Pn	02 03 05.2	-1.2
KUBS	Kucevo	3.49	252	*i* Pn	Pn	02 03 05.6	-2.0
BOVS	Bovan	3.81	241	⇓*i* Pn	Pn	02 03 11.9	+0.2
GRUS	Gruza	4.33	249	*i* Pn	Pn	02 03 17.3	-1.1

IDC ***29*** *02:48:15.6±6.8, 33.6°60S×176.5°4E, h78km±74km, mb3.4/2, mb1 3.8/4, mb1mx3.4/40, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=49.3km s-min=43.9km az=15.0*

WEL ***29*** *02:48:16.1±1.2, 34.7°S±14.7°×17.9°E±1.5, h248km±26km*

ISC 29 02:48:11.1±2.4, 34.1°S±0.1°×179.7°E±0.2, h250km, n79, σ1$61/78, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.64	197	P	Pn	02 49 13.0	+2.3
MXZ	Matakaoa Point	3.64	197	S	S	02 49 58.0	0.0
WMGZ	Waiomatatini S	3.86	195	P	Pn	02 49 15.8	+2.6
HAZ	Te Kaha	3.97	202	P	Pn	02 49 16.2	+1.7
HAZ	Te Kaha	3.97	202	S	S	02 50 04.2	-0.6
PKGZ	Pakihiroa	4.01	198	P	Pn	02 49 17.6	+2.6
PUZ	Puketiti	4.14	196	P	Pn	02 49 18.2	+1.6
PUZ	Puketiti	4.14	196	S	S	02 50 08.6	0.0
KUZ	Kuaotunu	4.17	229	P	Pn	02 49 18.5	+1.6
RUGZ	Raukumara Rang	4.19	202	P	Pn	02 49 18.6	+1.3
TWGZ	Tauwhareparae	4.30	198	P	Pn	02 49 21.1	+2.6
OPRZ	Ohinepanea	4.52	213	P	Pn	02 49 23.2	+2.1
CNGZ	Carnagh Statio	4.54	195	P	Pn	02 49 23.5	+2.2
MWZ	Matawai	4.58	201	P	Pn	02 49 23.1	+1.3
MWZ	Matawai	4.58	201	S	S	02 50 17.2	-0.9
MARZ	Manawahe	4.58	211	P	Pn	02 49 25.1	+3.3
TKGZ	Te Karaka	4.59	198	S	S	02 50 18.7	+0.5
TKGZ	Te Karaka	4.59	198	P	Pn	02 49 23.1	+1.3
URZ	Urewera	4.65	206	P	Pn	02 49 23.7	+1.2
	7.3nm,0.3s,baz=266,slow=4.4,SNR=91						
URZ				S	S	02 50 17.7	-1.8
	17nm,0.3s,baz=100,slow=22,SNR=18						
URZ	Urewera	4.65	206	P	Pn	02 49 23.7	+1.2
URZ	Urewera	4.65	206	S	S	02 50 18.0	-1.5
EDRZ	Edgecumbe	4.66	210	P	Pn	02 49 25.7	+2.9
MKAZ	Moumakai	4.75	229	P	Pn	02 49 25.6	+1.9
RAGZ	Rawiri	4.76	202	P	Pn	02 49 25.7	+1.7
RIGZ	Rimuhau	4.86	198	P	Pn	02 49 26.0	+0.9
RIGZ	Rimuhau	4.86	198	S	S	02 50 23.5	-0.7
TARZ	Mount Tarawera	4.87	211	P	Pn	02 49 28.7	+3.3
MUGZ	Murupara	4.97	207	P	Pn	02 49 27.4	+0.9
RTZ	Ruatahuna	5.01	205	P	Pn	02 49 28.2	+1.2
PRGZ	Paritu Road	5.04	196	P	Pn	02 49 28.5	+1.2
SNGZ	Shannon Statio	5.05	201	P	Pn	02 49 28.9	+1.5
OUZ	Omahuta	5.12	256	P	Pn	02 49 27.7	-0.7
PRRZ	Plateau Road	5.13	210	P	Pn	02 49 30.9	+2.4
KNZ	Kokohu	5.18	197	P	Pn	02 49 29.9	+0.9
ALRZ	Allen Road	5.21	210	P	Pn	02 49 31.2	+1.8
RAHZ	Arahi	5.25	203	P	Pn	02 49 31.0	+1.1
MHGZ	Mahia Peninsul	5.25	195	P	Pn	02 49 31.1	+1.2
MTHZ	Maungataniwha	5.27	205	P	Pn	02 49 31.2	+1.0
WHHZ	Waihua	5.35	201	P	Pn	02 49 32.5	+1.4
TLZ	Tolley Road	5.39	217	P	Pn	02 49 35.4	+3.7
MRHZ	Matea Rd	5.41	208	P	Pn	02 49 33.2	+1.3
NMHZ	Naumai	5.50	204	P	Pn	02 49 33.8	+0.6
ARHZ	Aropaoanui	5.59	202	P	Pn	02 49 35.0	+0.8
WATZ	Wairara	5.60	213	P	Pn	02 49 36.8	+2.6
BKZ	Black Stump Fm	5.67	206	P	Pn	02 49 35.6	+0.4
KATZ	Kakaramea	5.83	212	P	Pn	02 49 39.1	+1.9
MCHZ	McNeill Hill	5.86	203	P	Pn	02 49 38.3	+0.9
HIZ	Hauiti	5.88	220	P	Pn	02 49 41.4	+3.7
KWHZ	Kaweka Forest	5.93	205	P	Pn	02 49 38.2	-0.2
CKHZ	Cape Kidnapper	5.94	200	P	Pn	02 49 38.7	+0.4
KRVZ	Karewarewa	5.95	212	P	Pn	02 49 40.1	+1.3
WTVZ	West Tongariro	5.99	212	P	Pn	02 49 40.7	+1.5
TWVZ	Taurewa	6.03	213	P	Pn	02 49 41.1	+1.5
NGZ	Ngauruhoe	6.04	212	P	Pn	02 49 41.5	+1.7
TUVZ	Tukino	6.09	211	P	Pn	02 49 41.2	+0.7
BHHZ	Black Hill Sta	6.12	207	P	Pn	02 49 40.9	+0.2
KAHZ	Kahuranaki	6.12	201	P	Pn	02 49 40.8	+0.1
FWVZ	Far West T-bar	6.12	211	P	Pn	02 49 41.4	+0.5
WHVZ	Whangaehu Hut	6.13	211	P	Pn	02 49 41.9	+0.8
KRHZ	Kereru	6.14	204	P	Pn	02 49 40.2	-0.8
TRVZ	Turoa	6.16	211	P	Pn	02 49 42.3	+0.8
PXZ	Pawanui	6.34	200	P	Pn	02 49 43.5	0.0
VRZ	Vera Road	6.39	217	P	Pn	02 49 46.4	+2.3
PNHZ	Pukenui	6.44	204	P	Pn	02 49 43.5	-1.2
WPHZ	Waipukurau	6.50	202	P	Pn	02 49 46.2	+0.7
PRHZ	Porangahau	6.63	200	P	Pn	02 49 46.4	-0.6
TSZ	Takapari Road	6.66	205	P	Pn	02 49 46.8	-0.6
DVHZ	Dannevirke	6.80	203	P	Pn	02 49 49.0	-0.3
PKE	Pukeiti	6.84	220	P	Pn	02 49 52.8	+3.1
ANWZ	Angora Road	6.85	201	P	Pn	02 49 49.4	-0.4
POWZ	Post Office Ro	7.02	205	P	Pn	02 49 51.9	0.0
PRWZ	Pori Road	7.10	203	P	Pn	02 49 52.9	0.0
TIWZ	Tintock	7.32	203	P	Pn	02 49 55.8	0.0
CPWZ	Castlepoint	7.35	201	P	Pn	02 49 56.7	+0.6
CTZ	Chatham Island	10.06	164	P	P	02 50 47.8	+12
RPZ	Rata Peaks	11.71	212	P	Pn	02 50 48.6	-2.4
	0.5nm,0.3s,baz=27,slow=18,SNR=3.4						
RPZ				S	S	02 52 47.6	-14
	0.7nm,0.3s,baz=125,slow=23,SNR=7.8						
ASAR	Alice Springs	41.09	272	P	P	02 55 30.6	-0.4
	0.4nm,0.4s,baz=110,slow=7.2,SNR=4.7						
WRA	Warramunga Arr	42.43	277	P	P	02 55 41.1	-0.6
	0.6nm,0.4s,baz=117,slow=7.5,SNR=27						
ILAR	Eielson Array	101.96	14	P	Pdif	03 01 59.7	+24
	0.4nm,0.7s,baz=216,slow=5.8,SNR=6.3						

ISCJB ***29*** *02:52:32.8±1.0, 5.91S±0.03°×130.10E±0.02°, h17km±8km, mb4.6/45, MS3.7/27, Error ellipse: s-maj=4.4km s-min=4.1km az=11.1*

IDC ***29*** *02:52:36.6±0.6, 5.97S×130.00E, h28km±3km, mb4.1/18, mb1 4.2/18, mb1mx4.0/48, mbtmp4.3/18, MS3.7/29, Ms1 3.7/29, ms1mx3.6/45, Error ellipse: s-maj=20.0km s-min=12.8km az=61.0*

GCMT ***29*** *02:52:37.0±0.3, 5.92S×129.91E, h26km±1km, MW4.9/71, Moment Tensor Solution. s19,c21; s71,c93; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.19±.16; Mθθ=2.27±.11; Mϕϕ=2.46±.14; Mrθ=0.22±.21; Mϕθ=1.33±.11; Mϕr=1.20±.28; Best double couple: Mw=2.93100×10¹⁶ NP1:ϕs328.00000°, δ78.00000°, λ164.00000°. NP2: ϕs61.00000°, δ75.00000°, λ12.00000°. Principal axes: T 3.2400, Plg20.0000°, Azm284.0000°; N -0.6180, Plg70.0000°, Azm112.0000°; P -2.6220, Plg2.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *02:52:37.0±0.3, 6.03S×130.09E, h35km, mb4.8/28 Error ellipse: s-maj=8.3km s-min=6.1km az=63.0*

BJI ***29*** *02:52:37.6, 5.70S×130.20E, h20km, mb4.7/29, mB4.9/22, Ms4.6/7, Ms7 4.3/7*

DJA ***29*** *02:52:38.8±0.2, 6°S±2°×13°0E±°, h53km±12km, M4.8/24, mb5.1/24, mB5.3/15, MLv5.0/12, Mw(mB)4.7/15*

ISC 29 02:52:36.5±0.5, 5.92S±0.04°×130.19E±0.04, h27km±3km, h27km:pP-P, n166, σ1$85/173, mb4.8/45, MS3.8/28, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.33	152	P	Pb	02 53 16.5	-1.3
SAUI				S	Sb	02 53 47.5	+1.3
SAUI	Saumlaki	2.33	152	*e*Pn	Pb	02 53 16.6	-1.3
MSAI	Masohi	2.85	334	P	Pn	02 53 18.5	-1.7
MSAI				S	Sn	02 53 50.9	-2.8
FAKI	Fak Fak	3.62	35	P	Pn	02 53 30.1	-0.8
FAKI				S	Sn	02 54 09.7	-3.0
FAKI	Fak Fak	3.62	35	*e*Pn	Pn	02 53 30.8	-0.1
NLAI	Namlea	4.07	311	P	Pn	02 53 36.6	-0.5
NLAI				S	Sn	02 54 22.8	-1.1
KMPI	Kaimana, Papua	4.16	58	P	Pn	02 53 38.3	0.0
KMPI				S	Sn	02 54 24.5	-1.5
SWI	Sorong	5.13	12	P	Pn	02 53 49.9	-1.8
SWI				S	Sn	02 54 46.1	-4.0
SANI	Sanana	5.69	312	P	Pn	02 53 58.7	-0.6
	180nm,0.9s,2µm0.7nm						
SANI				S	Sn	02 55 02.5	-1.2
	180nm,0.9s,2µm0.7nm						
LBMI	Labuha	5.89	333	P	Pn	02 54 01.7	-0.4
	240nm,1.1s,1.3nm						
LBMI				S	Sn	02 55 05.5	-3.3
	240nm,1.1s,1.3nm						
RKPI	Ransiki, Papua	5.92	42	P	Pn	02 54 02.1	-0.4
	327nm,1.5s,10µm6.1nm						
RKPI				S	Sn	02 55 07.1	-2.3
	327nm,1.5s,10µm6.1nm						
MTN	Manton Dam	6.94	172	*e*Pn	Pn	02 54 16.9	+0.4
SOEI	Soe	7.00	237	P	Pn	02 54 20.6	+3.2
SOEI				S	Sn	02 55 41.5	+5.3
SOEI	Soe	7.00	237	*e*Pn	Pn	02 54 14.3	-3.1
BBSI	Bau Bau	7.59	273	P	Pn	02 54 26.6	+1.1
	32nm,0.8s,669nm0.1nm						
BATI	Baumata	7.74	236	Pn	Pn	02 54 28.1	+0.6
	24nm,0.3s,baz=100,slow=5.6,SNR=9.0						
BATI				Sn	Sn	02 55 51.4	-2.9
	3.8nm,0.3s,baz=288,slow=20,SNR=2.0						
BATI				LR	LR	02 57 03.9	
	comp=Z,793nm,18.8s,baz=65,slow=35						
BATI	Baumata	7.74	236	P	Pn	02 54 28.9	+1.4
BATI				S	Sn	02 55 55.3	+0.9
KDI	Kendari	7.79	284	P	Pn	02 54 27.9	-0.3
	148nm,1.3s,1µm						
LUWI	Luwuk	8.85	303	P	Pn	02 54 42.4	-0.3
LUWI	Luwuk	8.85	303	*e*Pn	Pn	02 54 40.9	-1.8
EDFI	Ende, Flores	8.89	251	P	Pn	02 54 45.0	+1.7
BSSI	Bau Bau, Buton	9.65	268	P	Pn	02 54 54.8	+1.1
	188nm,0.6s,2µm						
APSI	Ampana	9.87	300	P	Pn	02 54 56.7	0.0
BNSI	Bone	10.15	278	P	Pn	02 55 01.3	+0.7
	93nm,0.8s,1µm						
MRSI	Marisa	10.40	307	P	Pn	02 55 03.9	-0.1
MMPI	Merauke	10.43	105	P	Pn	02 55 06.6	+2.3
BASI	Baing, Sumba	10.43	245	P	Pn	02 55 06.4	+2.0
KAPI	Kappang	10.43	274	*e*Pn	Pn	02 55 03.6	-0.8
	82nm,0.8s						
GENI	Genyem	10.48	72	P	Pn	02 55 05.2	0.0
TTSI	Tana Toraja	10.72	285	P	Pn	02 55 09.3	+0.8
JAY	Jayapura	11.02	73	P	Pn	02 55 12.1	-0.4
WBSI	Waikabubak, Su	11.32	250	P	Pn	02 55 18.2	+1.6
PCI	Palu	11.47	295	P	Pn	02 55 19.2	+0.5
	237nm,0.9s,2µm						
MPSI	Mapaga	12.01	301	P	Pn	02 55 25.6	-0.4
PLAI	Plampang	12.64	256	P	Pn	02 55 36.4	+1.7
DAV	Davao City (W)	13.70	340	LR	LR	03 01 42.6	
	comp=Z,419nm,21.7s,baz=145,slow=40						
WRAB	Tennant Creek	14.51	164	*e*Pn	Pn	02 55 56.2	-3.9
WR1	Warramunga Arr	14.51	164	*e*Pn	Pn	02 55 55.6	-4.6
WR1				*e*Sn	Sn	02 58 29.9	-10
WRA	Warramunga Arr	14.51	164	Pn	Pn	02 55 55.6	-4.6
	2.2nm,0.3s,baz=337,slow=13,SNR=80						
WRA				Sn	Sn	02 58 29.9	-10
	1.2nm,0.3s,baz=344,slow=17,SNR=10						
WRA				LR	LR	03 02 14.3	
	comp=Z,454nm,18.7s,baz=350,slow=40						
WB2	Warramunga Arr	14.52	164	*e*Pn	Pn	02 55 56.1	-4.2
COEN	Coen	15.07	123	*e*Pn	Pn	02 56 08.0	+0.2
	34nm,0.8s						
MYLDM	Lahad Datu	16.06	313	*e*Pn	P	02 56 27.8	+4.0
	118nm,1.4s						
PMG	Port Moresby	17.17	103	Pn	Pn	02 56 32.9	-1.7
	0.8nm,0.3s,baz=309,slow=6.0,SNR=11						
PMG	Port Moresby	17.17	103	*e*Pn	P	02 56 36.3	+0.2
	85nm,1.0s						
AS31	Alice Springs	18.00	169	*e*Pn	Pn	02 56 42.2	-2.8
	11nm,0.7s						
AS31				*e*Sn	Sn	03 00 00.4	-4.8
ASAR	Alice Springs	18.00	169	P	Pn	02 56 42.2	-2.8
	1.6nm,0.3s,baz=14,slow=12,SNR=75						
ASAR				S	Sn	02 59 49.0	-16
	0.2nm,0.3s,baz=336,slow=18,SNR=4.4						
ASAR				LR	LR	03 03 16.1	
	comp=Z,404nm,19.7s,baz=349,slow=36						
AS01	Alice Springs	18.01	169	*e*Pn	Pn	02 56 41.7	-3.4
MBWA	Marble Bar	18.23	213	*e*Pn	Pn	02 56 46.6	-1.2
	32nm,0.8s						
SMRI	Semarang	19.66	266	*e*P	P	02 57 02.8	-0.8
	112nm,1.3s						
SBUM	Sibu	19.78	294	*e*P	P	02 57 02.7	-2.2
	60nm,1.3s						
CTA	Charters Tower	21.02	134	P	P	02 57 19.3	+1.0
	26nm,1.2s,baz=327,slow=16,SNR=3.6						
CTAO	Charters Tower	21.02	134	*e*P	P	02 57 22.2	+3.9
	30nm,1.0s						
KSM	Kuching	21.17	290	*e*P	P	02 57 14.4	-5.5
	29nm,1.0s						
CISI	Cisompet, Garu	22.28	265	*e*P	P	02 57 28.5	-3.5
	136nm,1.3s						
LEM	Lembang	22.45	266	P	P	02 57 31.6	-2.3
	21nm,0.4s,baz=336,slow=20,SNR=3.4						
LEM				LR	LR	03 07 40.1	
	comp=Z,354nm,19.9s,baz=54,slow=41						
FORT	Forrest	24.81	184	*e*P	P	02 57 59.5	+3.0
	1µm,1.0s						
MNAI	Manna	27.17	272	*e*P	P	02 58 14.9	-3.2
	137nm,1.1s						
BBOO	Buckleboo	27.31	169	*e*P	P	02 58 17.6	-1.5
	20nm,0.9s						
STKA	Stephens Creek	27.94	159	P	P	02 58 24.8	0.0
	3.4nm,0.7s,baz=323,slow=9.6,SNR=8.7						
STKA				LR	LR	03 09 35.3	
	comp=Z,297nm,19.6s,baz=342,slow=36						
STKA	Stephens Creek	27.94	159	*e*P	P	02 58 25.1	+0.3
	4.1nm,1.0s						
NWAO	Narrogin (SRO)	29.46	203	LR	LR	03 12 56.4	
	comp=Z,210nm,18.6s,baz=245,slow=42						
HNR	Honiara	29.69	99	LR	LR	03 11 48.0	
	comp=Z,97nm,19.5s,baz=271,slow=38						
PSI	Prapat	32.40	285	P	P	02 59 03.2	-1.4
	1.9nm,0.4s,baz=76,slow=20,SNR=4.2						
PSI				LR	LR	03 14 00.8	
	comp=Z,316nm,18.4s,baz=128,slow=40						
PSI	Prapat	32.40	285	*e*P	P	02 59 03.2	-1.4
	16nm,1.2s						
JOW	Kunigami	32.61	357	LR	LR	03 10 44.5	
	comp=Z,231nm,20.7s,baz=146,slow=33						
PHIT	Phitsanulok	37.32	308	P	P	02 59 57.6	+11
DZM	Mont Dzumac	38.52	118	LR	LR	03 16 39.1	
	comp=Z,138nm,18.8s,baz=224,slow=37						
JNU	Nakatsue	38.83	1	LR	LR	03 14 47.0	
	comp=Z,145nm,21.5s,baz=116,slow=34						
JNU	Nakatsue	38.83	1	*e*P	P	02 59 59.5	+0.1
	11nm,1.5s						
CM01	Chiang Mai Arr	39.16	309	*e*P	P	03 00 07.4	+5.1
CM31	Chiang Mai Arr	39.20	309	*e*P	P	03 00 01.7	-0.9
CMAR	Chiang Mai Arr	39.20	309	P	P	03 00 01.7	-0.9
	1.1nm,0.3s,baz=143,slow=8.0,SNR=8.8						
CMAR				LR	LR	03 17 22.2	
	comp=Z,35nm,19.3s,baz=130,slow=38						
NJ2	Nanjing	39.27	345	*e*P	P	03 00 03.0	0.0
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s

SONA0	**Songino Array**	**57.48**	**341**	*e*P		**P**	**03 02 23.5**	**+0.1**
SONM	**Songino Array**	**57.48**	**341**	P		**P**	**03 02 23.5**	**+0.1**
	2.8nm,1.1s,baz=168,slow=7.6,SNR=8.6							
SONM				pP		**pP**	**03 02 31.4**	**-0.4**
	3.0nm,0.8s,baz=166,slow=6.9,SNR=7.4							
SONA1	**Songino Array**	**57.49**	**341**	*e*P		**P**	**03 02 23.2**	**-0.2**
AFI	**Afiamalu**	**57.60**	**103**	LR		LR	03 26 38.7	
	comp=Z,55nm,20.7s,baz=344,slow=35							
WMQ	**Urumqi**	**62.60**	**327**	P		P	03 03 04.0	+5.5
WMQ				pP		pP	03 03 07.0	0.0
WMQ				sP		sP	03 03 11.5	+1.3
WMQ				pmax		pmax		
	comp=Z,19nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,81nm,3.6s							
WMQ				LR		LR		
	comp=N,280nm,24.1s							
WMQ				LR		LR		
	comp=E,190nm,18.5s							
WMQ				LR		LR		
	comp=Z,86nm,29.9s							
PETK	**Petropavlovsk-**	**63.25**	**18**	P		**P**	**03 03 03.1**	**+0.6**
	5.0nm,0.9s,baz=193,slow=5.9,SNR=4.5							
PETK				pP		**pP**	**03 03 11.9**	**+0.9**
	16nm,0.8s,baz=225,slow=10,SNR=14							
PETK				LR		LR	03 31 54.5	
	comp=Z,11nm,19.1s,baz=189,slow=37							
PEA1	**Petropavlovsk-**	**63.25**	**18**	*e*P		**P**	**03 03 03.1**	**+0.6**
KSH	**Kashi**	**67.36**	**317**	P		**P**	**03 03 31.8**	**+2.2**
KSH				pP		pP	03 03 38.5	+0.3
KSH				PcP		**PcP**	**03 04 00.0**	**+2.9**
KSH				S		**S**	**03 12 22.5**	**-1.2**
KSH				sS		pS	03 12 35.8	+1.6
KSH				ScS		**SKSac**	**03 13 22.8**	**-2.9**
KSH				pmax		pmax		
	comp=Z,11nm,0.8s							
KSH				pmax		pmax		
	comp=Z,91nm,4.9s							
KSH				LR		LR		
	comp=N,76nm,7.2s							
KSH				LR		LR		
	comp=E,78nm,7.6s							
KSH				LR		LR		
	comp=Z,89nm,6.2s							
MK01	**Makanchi Array**	**67.41**	**326**	*e*P		**P**	**03 03 28.9**	**-0.7**
MK31	**Makanchi Array**	**67.43**	**326**	*e*P		**P**	**03 03 29.5**	**-0.3**
MK32	**Makanchi Array**	**67.43**	**326**	*e*P		**P**	**03 03 29.5**	**-0.3**
MKAR	**Makanchi Array**	**67.43**	**326**	P		**P**	**03 03 29.5**	**-0.3**
	1.4nm,0.6s,baz=123,slow=8.3,SNR=16							
MKAR				pP		**pP**	**03 03 37.8**	**-0.6**
	8.4nm,0.7s,baz=117,slow=7.5,SNR=38							
MKAR				LR		LR	03 34 55.6	
	comp=Z,29nm,19.7s,baz=137,slow=38							
MKAR	**Makanchi Array**	**67.43**	**326**	*e*P		**P**	**03 03 29.5**	**-0.3**
	51nm,0.7s							
MKAR				pP		**pP**	**03 03 37.8**	**-0.6**
AAK	**Ala-Archa**	**69.85**	**320**	*e*P		**P**	**03 03 42.9**	**-2.2**
	11nm,1.1s							
ZAA0	**Zalesovo Array**	**70.70**	**334**	*e*P		**P**	**03 03 49.1**	**-0.7**
	15nm,1.1s							
ZALV	**Zalesovo Beam**	**70.70**	**334**	P		**P**	**03 03 48.6**	**-1.3**
	0.6nm,0.3s,baz=108,slow=4.8,SNR=6.4							
ZALV				pP		**pP**	**03 03 58.5**	**0.0**
	7.6nm,0.8s,baz=119,slow=5.0,SNR=10							
ZALV	**Zalesovo Beam**	**70.70**	**334**	*e*P		**P**	**03 03 49.0**	**-0.9**
ZALV				pP		**pP**	**03 03 58.5**	**0.0**
ZAA1	**Zalesovo Array**	**70.71**	**334**	*e*P		**P**	**03 03 48.6**	**-1.3**
KURBB	**Kurchatov Arra**	**71.69**	**328**	P		**P**	**03 03 55.5**	**-0.4**
	2.1nm,0.7s,baz=128,slow=4.9,SNR=24							
KURBB				pP		**pP**	**03 04 04.3**	**-0.2**
	15nm,0.8s,baz=129,slow=5.1,SNR=33							
KURK	**Kurchatov**	**71.70**	**328**	*e*P		**P**	**03 03 55.5**	**-0.5**
KURK				pP		**pP**	**03 04 04.3**	**-0.3**
KK06	**Karatay Array**	**72.65**	**319**	*e*P		**P**	**03 04 03.4**	**+1.5**
KK05	**Karatay Array**	**72.66**	**319**	*e*P		**P**	**03 04 03.4**	**+1.4**
KK02	**Karatay Array**	**72.66**	**319**	*e*P		**P**	**03 04 03.4**	**+1.4**
KKAR	**Karatay Array**	**72.66**	**319**	*e*P		**P**	**03 04 05.8**	**+3.9**
KK07	**Karatay Array**	**72.66**	**319**	*e*P		**P**	**03 04 03.4**	**+1.4**
KK01	**Karatay Array**	**72.66**	**319**	*e*P		**P**	**03 04 03.4**	**+1.4**
KK03	**Karatay Array**	**72.67**	**319**	*e*P		**P**	**03 04 03.4**	**+1.4**
KK04	**Karatay Array**	**72.67**	**319**	*e*P		**P**	**03 04 03.4**	**+1.4**
KK08	**Karatay Array**	**72.68**	**319**	*e*P		**P**	**03 04 02.9**	**+0.9**
VNDA	**Vanda**	**73.49**	**173**	LR		LR	03 34 08.9	
	comp=Z,68nm,21.3s,baz=334,slow=34							
VNDA	**Vanda**	**73.49**	**173**	*e*P		**P**	**03 04 10.2**	**+4.0**
	4.7nm,1.1s							
MAW	**Mawson**	**76.02**	**201**	LR		LR	03 34 14.4	
	comp=Z,83nm,21.8s,baz=318,slow=33							
BVAR	**Borovoye Array**	**77.26**	**328**	P		**P**	**03 04 27.4**	**-0.9**
	0.6nm,0.7s,baz=130,slow=6.5,SNR=4.8							
BVAR				pP		**pP**	**03 04 36.4**	**-0.6**
	4.8nm,0.8s,baz=123,slow=5.5,SNR=19							
BRVK	**Borovoye**	**77.33**	**328**	*e*P		P	03 04 33.4	+4.8
	9.8nm,1.1s							
TIXI	**Tiksi**	**77.42**	**360**	*e*P		**P**	**03 04 28.5**	**-0.3**
	11nm,0.8s							
PPT	**Papeete**	**78.95**	**107**	LR		LR	03 36 59.8	
	comp=Z,39nm,19.6s,baz=3.0,slow=34							
GEYT	**Alibeck**	**79.66**	**310**	P		**P**	**03 04 41.8**	**-0.1**
	0.8nm,0.4s,baz=126,slow=2.5,SNR=3.1							
GEYT				LR		LR	03 44 56.4	
	comp=Z,36nm,21.1s,baz=60,slow=40							
ABKAR	**Akbulak array**	**81.79**	**321**	*e*P		**P**	**03 04 51.9**	**-1.1**
	4.4nm,0.9s							
AKTO	**Aktyubinsk**	**83.34**	**322**	P		**P**	**03 05 01.7**	**+0.6**
	0.9nm,0.7s,baz=125,slow=10,SNR=2.8							
AKTO				LR		LR	03 45 16.0	
	comp=Z,29nm,20.4s,baz=112,slow=38							
QSPA	**South Pole Qui**	**84.05**	**180**	P		**P**	**03 05 03.1**	**-1.5**
	0.5nm,0.4s,baz=342,slow=6.4,SNR=8.5							
SYO	**Syowa Base**	**84.73**	**201**⇑	*e*P		**P**	**03 05 07.2**	**-0.6**
SYO	**Syowa Base**	**84.73**	**201**⇑	*e*PcP		**PcP**	**03 05 10.6**	**-0.6**
RAYN	**Ar Rayn**	**87.48**	**294**	*e*P		**P**	**03 05 23.1**	**+0.6**
	7.3nm,1.1s							
ATD	**Arta Tunnel**	**88.58**	**282**	LR		LR	03 42 01.8	
	comp=Z,32nm,21.2s,baz=68,slow=34							
TRF	**Thorofare Moun**	**90.59**	**26**	*e*P		**P**	**03 05 40.8**	**+4.5**
KMBO	**Kilima Mbogo**	**92.81**	**269**	LR		LR	03 42 45.3	
	comp=Z,28nm,21.7s,baz=92,slow=32							
DAWY	**Dawson**	**95.46**	**26**	*e*P		**P**	**03 06 00.8**	**+2.1**
	7.1nm,0.8s							
SNAA	**Sanae**	**96.75**	**193**	LR		LR	03 49 37.8	
	comp=Z,99nm,18.3s,baz=329,slow=35							
MMAI	**Mount Meron Ar**	**97.20**	**302**	LR		LR	03 56 39.9	
	comp=Z,8.1nm,19.3s,baz=155,slow=40							
BOSA	**Boshof**	**100.17**	**240**	LR		LR	03 46 53.8	
	comp=Z,28nm,18.6s,baz=194,slow=33							
YKA	**Yellowknife Ar**	**106.70**	**26**	PKiKP		**PKiKP**	**03 10 59.2**	**+0.2**
	0.1nm,0.7s,baz=294,slow=4.6,SNR=3.0							
YKB5	**Yellowknife Ar**	**106.70**	**26**	*e*PKiKP		**PKiKP**	**03 10 59.2**	**+0.2**
BCE	**Book Cliffs Ea**	**116.25**	**49**	*e*PKPdf		**PKPdf**	**03 11 18.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**128.78**	**282**	PKP		**PKPdf**	**03 11 39.8**	**-2.8**
	0.3nm,0.9s,baz=60,slow=4.0,SNR=2.6							
TORD				pPKP		**pPKPdf**	**03 11 51.2**	**-0.4**
	0.9nm,0.9s,baz=72,slow=1.4,SNR=4.9							
TOA1	**Torodi Ar. Sit**	**128.78**	**282**	*e*PKPdf		**PKPdf**	**03 11 39.8**	**-2.8**
TOA1				*ep*PKPdf		**pPKPdf**	**03 11 51.2**	**-0.4**
JTS	**JuntasAbangare**	**144.95**	**81**	PKPbc		**PKPdf**	**03 12 12.3**	**-0.1**
	4.5nm,0.6s,baz=15,slow=20,SNR=3.9							
BBTS	**Babate**	**146.17**	**287**	PKPbc		**PKPdf**	**03 12 14.2**	**-0.2**
	8.4nm,0.8s,baz=150,slow=4.7,SNR=2.3							
CPUP	**Villa Florida**	**147.12**	**168**	PKPbc		**PKPbc**	**03 12 18.2**	**+0.4**
	2.5nm,0.9s,baz=241,slow=7.7,SNR=3.5							
MNMC	**Minye Minye**	**148.38**	**142**	*e*PKPbc		**PKPbc**	**03 12 22.4**	**+0.6**
LPAZ	**La Paz**	**151.44**	**141**	PKPbc		**PKPbc**	**03 12 30.0**	**+0.2**
	0.6nm,0.5s,baz=153,slow=4.5,SNR=3.9							
LPAZ	**La Paz**	**151.44**	**141**	*e*PKPbc		**PKPbc**	**03 12 30.0**	**+0.2**
LPAZ				*e*PKPab		**PKPab**	**03 12 37.5**	**-0.5**
LGNH	**LØogne**	**154.49**	**59**	*e*PKPbc		**PKPbc**	**03 12 36.9**	**+1.2**

MEX 29 04:04:45.8±0.5, 16.78N×98.25W, h10km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**162**	*e*P	Pg	04 04 53.3	-0.4
PNIG				*e*S	Sg	04 04 58.9	-0.2
TLIG	**Tlapa**	**0.83**	**339**	*e*P	Pg	04 05 00.7	-1.2
TLIG				*e*S	Sg	04 05 10.1	-2.7
VHO	**Vista Hermosa**	**1.48**	**78**	*e*P	Pn	04 05 09.1	-3.7
VHO				*e*S	Sn	04 05 27.8	-4.6
CAIG	**El Cayaco**	**1.95**	**278**	*e*P	Pn	04 05 15.2	-3.7
CAIG				*e*S	Sn	04 05 38.9	-4.6
HUIG	**Huatulco**	**2.29**	**116**	*e*P	Pn	04 05 20.9	-2.8
HUIG				*i* S	Sn	04 05 47.8	-4.3

*CSEM **29** 04:22:20.1±0.3, 71.71N×33.15W, h10km, ML4.2, Error ellipse: s-maj=8.6km s-min=6.3km az=176.0*
*IDC **29** 04:22:21.5±0.6, 71.42N×33.15W, h0km, mb3.5/16, mb1 3.8/20, mb1mx3.6/62, mbtmp3.6/20, ML3.7/4, MS3.1/2, Ms1 3.1/2, ms1mx2.5/52, Error ellipse: s-maj=20.1km s-min=12.2km az=176.0*
*NEIC **29** 04:22:22.1±0.0, 71.58N×32.97W, h10km, mb4.0/2, ML4.2(DNK), After DNK.*
*OTT **29** 04:22:24.5±1.0, 71.65N×33.57W, h18km, MN4.6/5, Eastern Greenland. 1256km northeast from Qikiqtarjuaq, Nu*

ISC 29 04:22:21.0±0.4, 71.62N±0.05×33.47W±0.03, h10km, n75, σ3.3 37/98, mb3.6/17, 2D, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUMG	**Summit**	**1.82**	**304**	*i* P	**Pg**	**04 22 57.1**	**+1.2**
SUMG				*i* S	**Sg**	**04 23 21.1**	**+1.7**
SUMG	**Summit**	**1.82**	**304**	*e*Pn	**Pg**	**04 22 56.5**	**+0.7**
SUMG				*e*Sn	**Sg**	**04 23 20.3**	**+0.8**
SUMG	**Summit**	**1.82**	**304**	*e*Pn	**Pg**	**04 22 56.5**	**+0.7**
SUMG	**Summit**	**1.82**	**304**	*i* P	**Pg**	**04 22 57.1**	**+1.2**
SCO	**Scoresbysund**	**3.92**	**101**	*i* P	**Pn**	**04 23 19.9**	**-1.3**
SCO				*i* S	**Sn**	**04 24 03.3**	**-3.9**
SCO	**Scoresbysund**	**3.92**	**101**	*e*Pn	**Pn**	**04 23 19.5**	**-1.7**
SCO				*e*Sn	**Sn**	**04 24 00.5**	**-6.7**
SCO	**Scoresbysund**	**3.92**	**101**	*e*Pn	**Pn**	**04 23 19.5**	**-1.7**
SCO	**Scoresbysund**	**3.92**	**101**	*i* P	**Pn**	**04 23 19.9**	**-1.3**
	SNR=49						
SCO				*e*Sn	**Sn**	**04 24 00.5**	**-6.7**
SCO				*i* S	**Sn**	**04 24 03.3**	**-3.9**
	SNR=49						
ANGG	**Ammassalik, Gr**	**6.22**	**196**	*e*Pn	Pn	04 23 45.6	-7.0
ANGG				*e*Sn	**Sn**	**04 24 59.4**	**-4.2**
ANGG	**Ammassalik, Gr**	**6.22**	**196**	*i* P	**Pn**	**04 23 53.5**	**+0.9**
ILULI	**Ilulissat**	**6.39**	**256**	*i* P	**Pn**	**04 23 57.4**	**+2.4**
ILULI	**Ilulissat**	**6.39**	**256**	PN	**Pn**	**04 23 56.1**	**+1.1**
ILULI				LG	Lg	04 25 38.0	
ILULI				Trac		04 25 48.9	
	comp=Z,531nm,0.4s						
ILULI	**Ilulissat**	**6.39**	**256**	*e*Pn	**Pn**	**04 23 56.4**	**+1.4**
ILULI				*e*Sn	**Sn**	**04 25 03.9**	**-4.0**
DAG	**Danmarks Havn**	**6.55**	**31**	*i* P	**Pn**	**04 23 58.0**	**+0.9**
DAG				*i* S	**Sn**	**04 25 05.8**	**-5.9**
KULLO	**Kullorsuaq**	**7.50**	**304**	*i* P	**Pn**	**04 24 11.0**	**+0.9**
KULLO	**Kullorsuaq**	**7.50**	**304**	PN	**Pn**	**04 24 10.6**	**+0.5**
KULLO				SN	**Sn**	**04 25 29.3**	**-5.8**
KULLO				LG	Lg	04 26 13.1	
KULLO				Trac		04 26 24.7	
	comp=Z,1μm,1.1s						
KULLO	**Kullorsuaq**	**7.50**	**304**	*e*Pn	**Pn**	**04 24 10.6**	**+0.5**
KULLO				*e*Sn	**Sn**	**04 25 29.3**	**-5.8**
KULLO				*e*Lg	Lg	04 26 13.1	
SFJD	**Kangerlussuaq**	**7.62**	**241**	Pn	**Pn**	**04 24 13.0**	**+1.1**
	4.6nm,0.3s,baz=32,slow=15,SNR=34						
SFJD				Sn	**Sn**	**04 25 32.8**	**-5.2**
	28nm,0.3s,baz=295,slow=16,SNR=6.7						
SFJD				Lg	Lg	04 26 12.9	
	40nm,0.3s,baz=297,slow=24,SNR=15						
SFJD	**Kangerlussuaq**	**7.62**	**241**	*i* P	**Pn**	**04 24 13.8**	**+1.9**
SFJD				*i* S	**Sn**	**04 25 35.5**	**-2.6**
SFJD	**Kangerlussuaq**	**7.62**	**241**	PN	**Pn**	**04 24 12.9**	**+1.1**
SFJD				SN	**Sn**	**04 25 34.8**	**-3.3**
SFJD				LG	Lg	04 26 11.4	
SFJD				Trac		04 26 30.4	
	comp=Z,292nm,0.5s						
SFJD	**Kangerlussuaq**	**7.62**	**241**	*e*Pn	**Pn**	**04 24 12.7**	**+0.8**
SFJD				*e*Sn	**Sn**	**04 25 32.9**	**-5.2**
BORG	**Borgarnes**	**8.23**	**141**	Pn	**Pn**	**04 24 22.3**	**+2.2**
	0.9nm,0.3s,baz=34,slow=7.3,SNR=1.9						
BORG				Sn	**Sn**	**04 25 50.2**	**-2.8**
	3.0nm,0.3s,baz=339,slow=9.9,SNR=2.3						
TULEG	**Thule**	**10.72**	**313**	PN	**Pn**	**04 24 54.1**	**-0.1**
TULEG				SN	**Sn**	**04 26 46.6**	**-7.4**
TULEG				LG	Lg	04 27 48.6	
TULEG				Trac		04 27 55.1	
	comp=Z,425nm,1.2s						
TULEG	**Thule**	**10.72**	**313**	*e*Pn	**Pn**	**04 24 53.6**	**-0.6**
TULEG				*e*Sn	Sn	04 26 45.4	-8.6
CLRN	**Clyde River**	**11.37**	**281**	PN	**Pn**	**04 25 07.0**	**+3.9**
CLRN				SN	**Sn**	**04 27 03.6**	**-6.4**
CLRN	**Clyde River**	**11.37**	**281**	Pn	**Pn**	**04 25 07.0**	**+3.9**
NRS	**Narsarsuaq**	**11.51**	**210**	*i* P	**Pn**	**04 25 01.8**	**-3.2**
NRS	**Narsarsuaq**	**11.51**	**210**	*e*Pn	Pn	04 24 57.9	-7.2
NRS				*e*Sn	Sn	04 27 04.0	-9.3
IVI	**Ivigtut**	**11.94**	**216**	*e*Pn	**Pn**	**04 25 09.2**	**-1.8**
IVI				*e*Sn	**Sn**	**04 27 16.2**	**-7.8**
CMBN	**Cumberland Cam**	**12.62**	**257**	PN	**Pn**	**04 25 19.6**	**-0.6**
CMBN				SN	**Sn**	**04 27 35.5**	**-5.0**
CMBN				Trac		04 28 13.3	
	comp=Z,19nm,0.7s						
CMBN	**Cumberland Cam**	**12.62**	**257**	Pn	**Pn**	**04 25 19.6**	**-0.6**
KBS	**Kingsbay**	**13.22**	**37**	*e*Pn	**Pn**	**04 25 25.9**	**-2.5**
KBS				*e*Sn	Sn	04 27 44.5	-11
SPITS	**Spitsbergen Ar**	**14.04**	**41**	Pn	**Pn**	**04 25 40.8**	**+1.3**
	baz=260,slow=8.6,SNR=2.0						
SPITS				Sn	**Sn**	**04 28 07.6**	**-7.4**
CDKN	**Chidliak Camp**	**14.21**	**255**	PN	**Pn**	**04 25 41.0**	**-0.9**
CDKN				SN	Sn	04 28 06.7	-13
CDKN				Trac		04 28 17.7	
	comp=Z,31nm,1.0s						
CDKN	**Chidliak Camp**	**14.21**	**255**	Pn	**Pn**	**04 25 41.0**	**-0.9**
MRYN	**Mary River**	**14.33**	**291**	PN	**Pn**	**04 25 44.5**	**+1.0**
MRYN				SN	**Sn**	**04 28 15.1**	**-7.0**
MRYN				Trac		04 28 35.4	
	comp=Z,32nm,0.8s						
MRYN	**Mary River**	**14.33**	**291**	Pn	**Pn**	**04 25 44.5**	**+1.0**
EUNU	**Eureka**	**14.73**	**327**	PN	**Pn**	**04 25 46.2**	**-2.9**
EUNU				SN	Sn	04 28 19.4	-13
EUNU				LG	Lg	04 29 53.8	
EUNU				Trac		04 30 19.6	
	comp=Z,259nm,1.2s						
EUNU	**Eureka**	**14.73**	**327**	*e*Pn	**Pn**	**04 25 46.2**	**-2.9**
EUNU				*e*Sn	Sn	04 28 19.4	-13
FRB	**Frobisher Bay**	**15.23**	**257**	Pn	**Pn**	**04 25 55.1**	**-0.7**
	0.4nm,0.3s,baz=33,slow=9.5,SNR=13						
FRB				Sn	Sn	04 28 32.4	-12
	0.4nm,0.3s,baz=24,slow=12,SNR=2.2						
FRB	**Frobisher Bay**	**15.23**	**257**	PN	**Pn**	**04 25 57.0**	**+1.2**
FRB				SN	Sn	04 28 30.4	-14
FRB				Trac		04 29 24.3	
	comp=Z,8.8nm,0.8s						
FRB	**Frobisher Bay**	**15.23**	**257**	*e*Pn	**Pn**	**04 25 57.0**	**+1.2**
FRB				*e*Sn	Sn	04 28 30.4	-14
ILON	**Igloolik, Nuna**	**15.95**	**285**	PN	**Pn**	**04 26 05.0**	**+0.8**
ILON				SN	**Sn**	**04 28 55.0**	**-6.6**
ILON				Trac		04 29 43.6	
	comp=Z,16nm,0.8s						
ILON	**Igloolik, Nuna**	**15.95**	**285**	Pn	**Pn**	**04 26 05.9**	**+0.8**
RES	**Resolute Bay**	**17.34**	**308**	P	**P**	**04 26 24.1**	**+0.1**
	0.5nm,0.3s,baz=58,slow=11,SNR=17						
RES				S	Sn	04 29 23.0	-12
	0.4nm,0.3s,baz=165,slow=18,SNR=4.4						
RES				LR	LR	04 33 27.4	
	comp=Z,61nm,19.8s,baz=290,slow=38						
RES	**Resolute Bay**	**17.34**	**308**	PN	**Pn**	**04 26 23.8**	**+1.2**
RES				SN	Sn	04 29 22.8	-12
RES				Trac		04 30 11.0	
	comp=Z,14nm,0.8s						
RES	**Resolute Bay**	**17.34**	**308**	*e*Pn	**Pn**	**04 26 22.2**	**-0.4**
	8.1nm,1.4s						
RES				*e*Sn	Sn	04 29 23.0	-12
KNGQ	**Kangiqsujuaq**	**17.90**	**256**	PN	**P**	**04 26 32.3**	**+2.1**
KNGQ				SN	Sn	04 29 38.8	-10
KNGQ	**Kangiqsujuaq**	**17.90**	**256**	Pn	**P**	**04 26 32.3**	**+2.1**
ARCES	**ARCESS Array B**	**19.05**	**67**	P	**Pn**	**04 26 44.7**	**+1.1**
	0.1nm,0.3s,baz=316,slow=13,SNR=2.3						
KUGN	**Kugaaruk Camp,**	**19.17**	**287**	PN	**Pn**	**04 26 46.2**	**+1.2**
KUGN				SN	**Sn**	**04 30 10.8**	**-8.6**
KUGN	**Kugaaruk Camp,**	**19.17**	**287**	Pn	**Pn**	**04 26 46.2**	**+1.2**
KUGN				Sn	**Sn**	**04 30 10.8**	**-8.6**
NAO01	**NORSAR Array S**	**20.29**	**99**	*e*P	**P**	**04 26 51.2**	**-5.2**
EKA	**Eskdalemuir Ar**	**20.80**	**126**	P	**P**	**04 27 02.9**	**+0.8**
	0.4nm,0.5s,baz=343,slow=11,SNR=3.1						
HFS	**Hagfors**	**21.72**	**97**	P	**P**	**04 27 12.8**	**+0.9**
	2.7nm,0.9s,baz=345,slow=16,SNR=2.1						
SCHQ	**Schefferville**	**22.06**	**238**	P	**P**	**04 27 15.9**	**+0.4**
	2.5nm,0.7s,baz=33,slow=7.4,SNR=5.8						
SCHQ	**Schefferville**	**22.06**	**238**	*e*P	**P**	**04 27 15.6**	**+0.1**
FIA1	**FINESS Array S**	**24.64**	**83**	*e*P	**P**	**04 27 40.3**	**-0.8**
FINES	**FINESS Array B**	**24.64**	**83**	P	**P**	**04 27 40.5**	**-0.6**
	3.5nm,1.0s,baz=338,slow=10,SNR=3.9						
YKA	**Yellowknife Ar**	**30.39**	**295**	P	**P**	**04 28 35.8**	**+3.2**
	0.2nm,0.8s,baz=44,slow=8.2,SNR=4.0						
GERES	**GERESS Array B**	**31.30**	**111**	P	**P**	**04 28 42.2**	**+1.3**
	0.3nm,0.5s,baz=355,slow=11,SNR=2.8						
FFC	**Flin Flon**	**32.87**	**276**	*e*P	**P**	**04 28 56.6**	**+2.0**
	2.6nm,0.6s						
NRIK	**Noril'sk**	**34.05**	**33**	P	**P**	**04 29 07.9**	**+3.2**
	5.8nm,0.4s,baz=331,slow=19						
ULM	**Lac du Bonnet**	**34.77**	**266**	P	**P**	**04 29 12.9**	**+1.9**
	0.7nm,0.5s,baz=45,slow=4.3,SNR=2.0						
ESDC	**Sonseca Array**	**35.30**	**139**	P	**P**	**04 29 16.4**	**+0.6**
	0.4nm,0.7s,baz=336,slow=9.0,SNR=3.7						
ESDC				LR	LR	04 42 39.6	
	comp=Z,28nm,19.6s,baz=230,slow=35						
ILAR	**Eielson Array**	**36.61**	**319**	P	**P**	**04 29 30.6**	**+4.0**
	0.3nm,0.8s,baz=33,slow=5.4,SNR=3.7						
PDAR	**Pinedale Array**	**45.75**	**274**	P	**P**	**04 30 44.9**	**+2.6**
	0.9nm,0.6s,baz=43,slow=5.3,SNR=6.3						
PDAR	**Pinedale Array**	**45.75**	**274**	*e*P	**P**	**04 30 41.5**	**-0.9**
ZALV	**Zalesovo Beam**	**47.47**	**45**	P	**P**	**04 30 59.4**	**+4.2**
	0.5nm,0.3s,baz=308,slow=5.3,SNR=3.4						
KURBB	**Kurchatov Arra**	**49.05**	**51**	P	**P**	**04 31 10.0**	**+2.5**
	0.3nm,0.7s,baz=336,slow=7.0,SNR=2.4						
NV01	**Mina Array Sit**	**52.45**	**279**	*e*P	**P**	**04 31 33.0**	**-0.6**
NVAR	**Mina Array Bea**	**52.45**	**279**	P	**P**	**04 31 36.4**	**+2.8**
	0.4nm,0.5s,baz=16,slow=4.6,SNR=4.4						
MKAR	**Makanchi Array**	**53.54**	**50**	P	**P**	**04 31 42.6**	**+1.3**
	0.1nm,0.4s,baz=347,slow=5.9,SNR=2.8						
TXAR	**Lajitas Array**	**56.22**	**261**	P	**P**	**04 32 05.3**	**+4.3**
	0.1nm,0.4s,baz=30,slow=7.3,SNR=1.9						
TORD	**Torodi Ar. Bea**	**62.16**	**141**	P	**P**	**04 32 42.2**	**+0.1**
	0.8nm,0.7s,baz=337,slow=8.0,SNR=6.4						

*IDC **29** 04:50:22.9±0.6, 18.26S×172.51W, h0km, mb4.1/12, mb1 4.4/13, mb1mx4.1/50, mbtmp4.2/13, ML4.0/1, MS3.6/25, Ms1 3.6/25, ms1mx3.5/47, Error ellipse: s-maj=27.4km s-min=15.4km az=139.0*
*ISCJB **29** 04:50:26.6±0.4, 18.4S±0.1×172.59W±0.09, h35km, mb4.5/23, MS3.7/23, Error ellipse: s-maj=17.8km s-min=7.6km az=140.3*
*NEIC **29** 04:50:28.3±0.6, 18.42S×172.53W, h35km, mb4.7/15, Error ellipse: s-maj=11.1km s-min=5.4km az=141.0*

ISC 29 04:50:28.2±0.6, 18.2S±0.1×172.6W±0.1, h35km, n85, σ1.8 15/56, mb4.6/23, MS3.7/23, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.36**	**11**	Pn	**Pn**	**04 51 28.6**	**-3.4**
	8.3nm,0.3s,baz=182,slow=3.4,SNR=11						
AFI				Sn	Sn	04 52 13.8	-7.9
	25nm,0.3s,baz=46,slow=22,SNR=6.9						
AFI				LR	LR	04 52 38.6	
	comp=Z,164nm,21.7s,baz=198,slow=31						
AFI	**Afiamalu**	**4.36**	**11**	*e*Pn	**Pn**	**04 51 30.0**	**-2.1**
AFI				*e*Sn	Sn	04 52 13.8	-7.9
RAR	**Rarotonga**	**12.45**	**106**	Pn	Pn	04 53 12.4	-11
	3.0nm,0.3s,baz=279,slow=7.5,SNR=6.0						
RAR				LR	LR	04 57 03.3	
	comp=Z,116nm,21.1s,baz=282,slow=32						
DZM	**Mont Dzumac**	**20.03**	**255**	P	**P**	**04 54 58.1**	**-0.3**
	7.5nm,0.8s,baz=73,slow=4.9,SNR=2.6						
DZM				LR	LR	05 01 39.7	
	comp=Z,159nm,20.4s,baz=147,slow=34						
DZM	**Mont Dzum

TXAR				LR	LR	05 33 29.8	
	comp=Z,15nm,18.1s,baz=0.0,slow=32						
R19A	**Curley Farm, L**	**81.73**	**45**	*eP*	**P**	**05 02 45.7**	**+2.0**
S22A	**4UR Ranch, Cre**	**83.12**	**47**	*eP*	**P**	**05 02 52.1**	**+1.1**
	5.8nm,1.6s						
PD31	**Pinedale Array**	**83.86**	**41**	*eP*	**P**	**05 02 54.7**	**+0.1**
PDAR	**Pinedale Array**	**83.86**	**41**	P	**P**	**05 02 54.7**	**+0.1**
	1.4nm,0.8s,baz=200,slow=7.5,SNR=5.6						
WRH	**Wood River Hil**	**84.57**	**10**	*eP*	**P**	**05 02 58.1**	**+0.8**
	10nm,1.0s						
CCB	**Clear Creek Bu**	**84.78**	**10**	*eP*	**P**	**05 02 59.5**	**+1.1**
	12nm,1.2s						
MDM	**Murphy Dome**	**84.99**	**10**	*eP*	**P**	**05 03 00.1**	**+0.5**
	6.1nm,1.1s						
ILAR	**Eielson Array**	**85.05**	**11**	P	**P**	**05 03 00.2**	**+0.4**
	1.7nm,1.0s,baz=222,slow=4.6,SNR=9.6						
ILB	**Eielson Array**	**85.05**	**11**	*eP*	**P**	**05 03 00.2**	**+0.4**
IL1	**Eielson Array**	**85.05**	**11**	*eP*	**P**	**05 02 59.9**	**+0.1**
DAWY	**Dawson**	**85.95**	**14**	*eP*	**P**	**05 03 05.2**	**+0.8**
	4.4nm,0.9s						
EGAK	**Eagle**	**86.18**	**13**	*eP*	**P**	**05 03 07.2**	**+1.8**
	9.2nm,1.1s						
PLCA	**Paso Flores**	**87.07**	**132**	LR	LR	05 33 27.2	
	comp=Z,48nm,18.5s,baz=234,slow=30						
JTS	**JuntasAbangare**	**90.97**	**80**	LR	LR	05 36 32.7	
	comp=Z,57nm,18.1s,baz=278,slow=30						
YKA	**Yellowknife Ar**	**92.37**	**23**	P	**P**	**05 03 35.3**	**+0.6**
	0.3nm,0.9s,baz=249,slow=4.8,SNR=3.8						
YKB5	**Yellowknife Ar**	**92.37**	**23**	*eP*	**P**	**05 03 35.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**94.21**	**288**	LR	LR	05 41 05.8	
	comp=Z,24nm,19.8s,baz=178,slow=32						
LPAZ	**La Paz**	**98.14**	**110**	LR	LR	05 37 48.1	
	comp=Z,63nm,21.1s,baz=274,slow=29						
TKL	**Tuckaleechee C**	**99.47**	**56**	LR	LR	05 45 33.9	
	comp=Z,34nm,18.8s,baz=309,slow=33						
MK32	**Makanchi Array**	**113.32**	**314**	*e*PKiKP	**PKiKP**	**05 09 02.8**	**+0.5**
MKAR	**Makanchi Array**	**113.32**	**314**	PKiKP	**PKiKP**	**05 09 02.8**	**+0.5**
	0.2nm,0.4s,baz=180,slow=0.9,SNR=2.7						
KURK	**Kurchatov**	**115.74**	**318**	*e*PKPdf	**PKPdf**	**05 09 08.0**	**+1.2**
KURBB	**Kurchatov Arra**	**115.80**	**318**	PKP	**PKPdf**	**05 09 08.0**	**+1.1**
	0.2nm,0.6s,baz=108,slow=2.4,SNR=3.4						
KMBO	**Kilima Mbogo**	**144.89**	**240**	PKP	**PKPdf**	**05 10 03.8**	**+0.8**
	3.6nm,0.9s,baz=55,slow=5.4,SNR=8.1						
CLL	**Collm**	**146.68**	**354**	*i* PKPbc	**PKPab**	**05 10 07.8**	**+0.5**
BR101	**Keskin Array S**	**148.79**	**319**	*e*PKPbc	**PKPbc**	**05 10 14.2**	**+1.7**
BRTR	**Keskin Array B**	**148.79**	**319**	PKPbc	**PKPbc**	**05 10 14.2**	**+1.7**
	1.9nm,0.8s,baz=126,slow=0.5,SNR=8.7						
GERES	**GERESS Array B**	**149.02**	**352**	PKPbc	**PKPbc**	**05 10 13.5**	**+0.8**
	0.3nm,0.4s,baz=55,slow=3.9,SNR=4.3						
BR231	**Keskin MP Arra**	**149.25**	**320**	*e*PKPbc	**PKPbc**	**05 10 14.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**172.55**	**132**	PKPab	**PKPab**	**05 11 59.1**	**-0.4**
	0.5nm,0.8s,baz=250,slow=3.2,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**172.55**	**132**	*e*PKPab	**PKPab**	**05 11 59.1**	**-0.4**

IDC ***29*** *05:09:18.1±1.6, 1.°28N×127.°11E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.6/63, mbtmp4.0/5, Error ellipse: s-maj=167.4km s-min=19.2km az=66.0*

ISCJB ***29*** *05:09:35.9±1.1, 0.°91N±0.°09×127.°15E±0.°08, h150km, mb3.9/5, Error ellipse: s-maj=15.4km s-min=8.0km az=36.9*

DJA ***29*** *05:09:37.9±0.3, 1.°N±2.°×12.°7E±.°, h10km, M4.1/10, mB5.7/1, mb4.2/1, MLv4.1/10, Mw(mB)5.2/1*

ISC 29 05:09:35.9±1.0, 0.°97N±0.°08×127.°11E±0.°08, h150km, n14, σ1s95/16, mb3.9/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.64**	**166**	P	**Pn**	**05 10 07.2**	**+0.2**
LBMI				S	**Sn**	**05 10 28.9**	**-2.0**
SGSI	**Sangihe**	**3.13**	**330**	P	**Pn**	**05 10 26.8**	**+1.9**
KMSI	**Cibinong**	**3.15**	**263**	P	**Pn**	**05 10 26.1**	**+0.9**
KMSI				S	**Sn**	**05 11 03.6**	**+0.2**
SANI	**Sanana**	**3.20**	**201**	P	**Pn**	**05 10 26.2**	**+0.4**
NLAI	**Namlea**	**4.18**	**180**	P	**Pn**	**05 10 40.3**	**+1.8**
MSAI	**Masohi**	**4.66**	**157**	P	**Pn**	**05 10 48.8**	**+4.0**
LUWI	**Luwuk**	**4.78**	**245**	P	**Pn**	**05 10 48.3**	**+1.9**
LUWI				S	Sn	05 11 17.4	-24
MRSI	**Marisa**	**5.19**	**265**	P	**Pn**	**05 10 54.0**	**+2.1**
APSI	**Ampana**	**5.77**	**251**	P	**Pn**	**05 11 00.9**	**+1.3**
WRA	**Warramunga Arr**	**21.96**	**162**	P	**P**	**05 14 16.6**	**-1.2**
	4.5nm,0.4s,baz=340,slow=11,SNR=32						
ASAR	**Alice Springs**	**25.36**	**165**	P	**P**	**05 14 51.1**	**+1.9**
	0.9nm,0.5s,baz=344,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**35.43**	**158**	P	**P**	**05 16 17.4**	**-0.4**
	1.7nm,0.5s,baz=341,slow=9.7,SNR=5.5						
MKAR	**Makanchi Array**	**60.03**	**326**	P	**P**	**05 19 25.5**	**-1.4**
	0.5nm,0.3s,baz=118,slow=7.7,SNR=14						
KURBB	**Kurchatov Arra**	**64.26**	**328**	P	**P**	**05 19 52.9**	**-2.1**
	0.6nm,0.6s,baz=123,slow=6.8,SNR=4.6						

ISCJB ***29*** *05:35:30.7±0.7, 39.°19N±0.°03×42.°20E±0.°05, h26km±8km, Error ellipse: s-maj=6.3km s-min=5.2km az=162.8*

CSEM ***29*** *05:35:30.9, 39.°20N×42.°22E, h7km, ML2.5, After DDA*

DDA ***29*** *05:35:30.9, 39.°20N×42.°22E, h7km, Ml2.5*

ISC 29 05:35:29.6±1.0, 39.°19N±0.°03×42.°28E±0.°04, h24km±8km, n13, σ0s44/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.18**	**291**	*i* P	**Pb**	**05 35 34.9**	**-0.3**
EKAR				*i* S	**Sb**	**05 35 39.3**	**+0.4**
EKAR	**Karacoban**	**0.18**	**291**	P	**Pb**	**05 35 34.9**	**-0.3**
EKAR				S	**Sb**	**05 35 39.3**	**+0.4**
TUTA	**Tutak**	**0.46**	**63**	*i* P	**Pn**	**05 35 41.1**	**+0.1**
TUTA				*i* S	**Sn**	**05 35 48.2**	**-0.5**
TUTA	**Tutak**	**0.46**	**63**	P	**Pn**	**05 35 41.1**	**+0.1**
TUTA				S	**Sn**	**05 35 48.2**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.52**	**138**	*i* P	**Pn**	**05 35 41.8**	**+0.1**
ADCV				*i* S	**Sn**	**05 35 50.2**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.52**	**138**	P	**Pn**	**05 35 41.8**	**+0.1**
ADCV				S	**Sn**	**05 35 50.2**	**+0.3**
GURO	**Guroymak-BITLI**	**0.67**	**197**	*e*PG	**Pb**	**05 35 42.8**	**+0.1**
GURO				*e*SG	**Sn**	**05 35 52.9**	**-0.7**
AGRB	**Hanur-Agry**	**0.67**	**55**	*e*PG	**Pn**	**05 35 43.7**	**-0.2**
AGRB				*e*SG	**Sn**	**05 35 54.7**	**+1.0**
EATA	**Eleskirt**	**0.69**	**14**	*i* P	**Pn**	**05 35 44.0**	**-0.2**
EATA				*i* S	**Sn**	**05 35 55.0**	**+0.7**
EATA	**Eleskirt**	**0.69**	**14**	P	**Pn**	**05 35 44.0**	**-0.2**
EATA				S	**Sn**	**05 35 55.0**	**+0.7**
HOMI	**Horasan**	**0.90**	**341**	*i* P	**Pn**	**05 35 47.4**	**+0.4**
HOMI				*i* S	**Sb**	**05 35 57.7**	**-0.8**
ERZM	**Erzurum**	**1.00**	**315**	*i* P	**Pn**	**05 35 48.6**	**+0.2**
ERZM				*i* S	**Sn**	**05 36 02.1**	**0.0**
ERZM	**Erzurum**	**1.00**	**315**	P	**Pn**	**05 35 48.7**	**+0.2**
ERZM				S	**Sn**	**05 36 02.1**	**0.0**

IDC ***29*** *05:40:40.3±1.7, 18.°08S×172.°00W, h0km, mb4.3/4, mb1 4.3/6, mb1mx3.8/56, mbtmp4.3/6, ML3.3/2, MS3.5/3, Ms1 3.5/3, ms1mx2.8/45, Error ellipse: s-maj=38.3km s-min=27.8km az=130.0*

ISCJB ***29*** *05:40:42.5±0.8, 18.°15S±0.°07×171.°9W±0.°1, h33km, mb4.2/4, MS3.4/3, Error ellipse: s-maj=15.6km s-min=10.1km az=12.1*

ISC 29 05:40:44.9±1.0, 18.°12S±0.°10×171.°9W±0.°1, h35km, n12, σ0s93/7, mb4.3/4, MS3.5/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.19**	**2**	P	**Pn**	**05 41 45.2**	**-1.2**
	2.1nm,0.3s,baz=209,slow=19,SNR=2.0						
AFI				S	**Sn**	**05 42 35.5**	**+1.4**
	7.6nm,0.3s,baz=165,slow=20,SNR=4.4						
RAR	**Rarotonga**	**11.86**	**107**	P	**Pn**	**05 43 31.6**	**+0.1**
	1.3nm,0.3s,baz=246,slow=11,SNR=4.7						
DZM	**Mont Dzumac**	**20.68**	**255**	LR	LR	05 52 01.4	
	comp=Z,67nm,19.6s,baz=221,slow=33						
PAE	**Paea**	**21.27**	**92**	*e*T	T	06 07 41.5	
	4.2nm,0.3s						
PPT2	**Papeete2**	**21.28**	**92**	*e*LR	LR	05 50 35.4	
	122nm,24.5s						
PPT2	**Papeete2**	**21.28**	**92**	*e*T	T	06 07 43.6	
	3.5nm,0.3s						
TAOE	**Nuku Hiva Isla**	**32.20**	**78**	*e*LR	LR	05 55 48.8	
	70nm,24.1s						
CTA	**Charters Tower**	**39.49**	**260**	P	**P**	**05 48 12.4**	**0.0**
	3.8nm,0.6s,baz=98,slow=13,SNR=2.6						
STKA	**Stephens Creek**	**43.98**	**243**	P	**P**	**05 48 49.1**	**+0.2**
	1.4nm,0.6s,baz=30,slow=6.6,SNR=4.5						
WRA	**Warramunga Arr**	**50.65**	**259**	P	**P**	**05 49 40.9**	**-0.2**
	3.6nm,0.9s,baz=96,slow=8.0,SNR=6.0						
WRA				LR	LR	06 09 38.7	
	comp=Z,44nm,18.8s,baz=190,slow=34						
ASAR	**Alice Springs**	**50.66**	**254**	P	**P**	**05 49 41.5**	**+0.4**
	5.3nm,1.0s,baz=82,slow=8.3,SNR=16						
RPN	**Rapa Nui**	**57.97**	**111**	LR	LR	06 08 25.8	
	comp=Z,72nm,21.7s,baz=196,slow=29						

IDC ***29*** *05:41:41.2±1.1, 5.°75S×131.°12E, h0km, mb4.2/7, mb1 4.3/10, mb1mx3.9/57, mbtmp4.2/10, ML4.0/3, Error ellipse: s-maj=38.3km s-min=22.6km az=72.0*

NEIC ***29*** *05:41:54.8±0.9, 6.°35S×130.°87E, h128km±11km, mb4.0/2, Error ellipse: s-maj=15.1km s-min=8.8km az=96.0*

DJA ***29*** *05:41:59.6±0.6, 6.°S±3.°×13.°2E±.°, h111km±9km, M4.7/7, mb4.6/5, mB5.1/3, MLv4.7/7, Mw(mB)4.5/3*

ISC 29 05:41:43.1±0.7, 5.°84S±0.°05×130.°93E±0.°06, h10km, n22, σ2s07/21, mb4.2/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.16**	**170**	P	**Pg**	05 42 30.7	+6.2
SAUI				S	**Sg**	**05 42 53.4**	**+0.9**
FAKI	**Fak Fak**	**3.19**	**24**	P	Pg	05 42 51.2	+7.0
FAKI				S	Sg	05 43 31.9	+6.4
FAKI	**Fak Fak**	**3.19**	**24**	*e*Pn	Pg	05 42 50.5	+6.4
FAKI				*e*Sn	Sg	05 43 28.0	+2.5
KMPI	**Kaimana, Papua**	**3.51**	**52**	P	**Pg**	**05 42 48.2**	**-2.2**
NLAI	**Namlea**	**4.61**	**304**	P	**Pg**	**05 43 09.8**	**-1.6**
SWI	**Sorong**	**4.96**	**4**	P	Pg	05 43 19.8	+1.7
SWI				S	**Sb**	**05 44 10.5**	**+0.8**
LBMI	**Labuha**	**6.20**	**326**	P	Pg	05 43 45.9	+4.0
	38nm,0.6s						
SOEI	**Soe**	**7.66**	**239**	P	**Pb**	**05 43 55.8**	**-0.4**
BATI	**Baumata**	**8.40**	**238**	Pn	**Pn**	**05 43 49.2**	**+4.2**
	7.3nm,0.3s,baz=76,slow=4.2,SNR=3.5						
BATI				S	**Sn**	**05 45 15.2**	**-4.7**
	14nm,0.3s,baz=86,slow=15,SNR=5.7						
WRAB	**Tennant Creek**	**14.40**	**167**	*e*Pn	**Pn**	**05 45 06.3**	**-0.8**
	3.6nm,0.8s						
WRAB				*e*ScP	**ScP**	**05 54 01.6**	**+4.1**
WRA	**Warramunga Arr**	**14.40**	**167**	Pn	**Pn**	**05 45 06.5**	**-0.7**
	0.4nm,0.3s,baz=351,slow=9.8,SNR=19						
WRA				Sn	Sn	05 47 34.6	-13
	1.9nm,0.3s,baz=347,slow=21,SNR=5.6						
ASAR	**Alice Springs**	**17.95**	**171**	P	**P**	**05 45 54.2**	**+0.7**
	0.5nm,0.3s,baz=356,slow=11,SNR=41						
ASAR				S	Sn	05 49 01.8	-12
	0.5nm,0.3s,baz=350,slow=27,SNR=6.8						
MBWA	**Marble Bar**	**18.70**	**214**	*e*P	**P**	**05 45 59.7**	**-2.0**
	5.0nm,0.4s						
PSI	**Prapat**	**33.10**	**284**	P	**P**	**05 48 19.9**	**+0.2**
	4.5nm,1.0s,baz=120,slow=4.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**39.72**	**308**	P	**P**	**05 49 15.8**	**-0.3**
	1.3nm,0.6s,baz=136,slow=8.7,SNR=9.2						
SONM	**Songino Array**	**57.65**	**341**	P	**P**	**05 51 35.2**	**+1.5**
	0.7nm,0.4s,baz=167,slow=7.8,SNR=3.5						
MKAR	**Makanchi Array**	**67.78**	**326**	P	**P**	**05 52 41.6**	**+0.5**
	4.3nm,0.4s,baz=114,slow=7.9,SNR=79						
ZALV	**Zalesovo Beam**	**70.97**	**333**	P	**P**	**05 53 00.4**	**-0.2**
	0.6nm,0.3s,baz=135,slow=6.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**72.02**	**328**	P	**P**	**05 53 07.3**	**+0.2**
	1.2nm,0.4s,baz=120,slow=4.8,SNR=9.8						
KURK	**Kurchatov**	**72.02**	**328**	P	**P**	**05 53 07.3**	**+0.2**
BVAR	**Borovoye Array**	**77.58**	**327**	P	**P**	**05 53 38.3**	**-1.1**
	0.6nm,0.4s,baz=137,slow=9.8,SNR=3.7						
LPAZ	**La Paz**	**151.03**	**140**	PKPbc	**PKPbc**	**06 01 37.2**	**-0.9**
	0.6nm,0.4s,baz=217,slow=1.2,SNR=7.8						

IDC ***29*** *05:45:05.7±1.2, 18.°34S×172.°57W, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.8/53, mbtmp4.1/7, ML3.6/1, Error ellipse: s-maj=38.4km s-min=24.2km az=128.0*

ISCJB ***29*** *05:45:08.3±1.1, 18.°09S±0.°09×172.°5W±0.°2, h35km, mb4.1/7, Error ellipse: s-maj=28.5km s-min=10.4km az=19.3*

ISC 29 05:45:10.3±1.0, 18.°1S±0.°1×172.°6W±0.°2, h35km, n12, σ2s88/12, mb4.2/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.28**	**11**	Pn	**Pn**	**05 46 13.0**	**-0.2**
	2.7nm,0.3s,baz=200,slow=12,SNR=2.5						
AFI				Sn	**Sn**	**05 46 57.8**	**-4.2**
	12nm,0.3s,baz=168,slow=18,SNR=3.1						
RAR	**Rarotonga**	**12.46**	**106**	Pn	Pn	05 47 53.6	-12
	2.3nm,0.3s,baz=250,slow=9.8,SNR=5.1						
DZM	**Mont Dzumac**	**20.06**	**255**	P	Pn	05 49 43.3	+0.5
	6.6nm,0.8s,baz=77,slow=19,SNR=3.1						
URZ	**Urewera**	**21.97**	**202**	P	**P**	**05 50 02.7**	**+1.7**
	4.7nm,0.4s,baz=63,slow=1.2,SNR=8.6						
URZ				S	**S**	**05 53 54.9**	**-6.7**
	4.5nm,0.7s,baz=190,slow=18,SNR=2.4						
CTA	**Charters Tower**	**38.86**	**260**	P	**P**	**05 52 33.0**	**+0.4**
	4.2nm,0.5s,baz=89,slow=7.7,SNR=5.3						
STKA	**Stephens Creek**	**43.40**	**243**	P	**P**	**05 53 09.8**	**0.0**
	2.2nm,0.8s,baz=116,slow=5.7,SNR=5.6						
WRA	**Warramunga Arr**	**50.02**	**259**	P	**P**	**05 54 01.7**	**0.0**
	3.7nm,0.8s,baz=93,slow=6.9,SNR=20						
ASAR	**Alice Springs**	**50.05**	**254**	P	**P**	**05 54 02.3**	**+0.4**
	4.1nm,0.8s,baz=88,slow=8.3,SNR=23						
QSPA	**South Pole Qui**	**71.92**	**180**	P	**P**	**05 56 29.3**	**-0.6**
	0.9nm,0.9s,baz=37,slow=14,SNR=5.0						
ILAR	**Eielson Array**	**84.98**	**11**	P	**P**	**05 57 44.1**	**+2.6**
	0.3nm,0.7s,baz=219,slow=5.9,SNR=4.1						
MKAR	**Makanchi Array**	**113.28**	**314**	PKiKP	**PKiKP**	**06 03 45.0**	**+0.7**
	0.3nm,0.7s,baz=81,slow=4.5,SNR=2.3						
BRTR	**Keskin Array B**	**148.74**	**319**	PKPbc	**PKPbc**	**06 04 55.7**	**+1.2**
	0.5nm,0.6s,baz=54,slow=2.5,SNR=3.3						

NNC 29 05:45:30.5±6.5, 37.°04N×71.°27E, h0km, mb3.5, mpv3.2, 6C-2D, Error ellipse: s-maj=54.2km s-min=21.8km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.61**	**313**	⇑Pn	Pn	05 46 11.3	-2.8
	9.5nm,0.4s						
DZET				⇑Sn	Sn	05 46 48.7	+2.1
	313nm,0.5s						
SFK	**Sufi-Kurgan**	**3.44**	**30**	⇑Pn	Pn	05 46 28.7	+3.0
	6.8nm,0.6s						
SFK				⇑Sn	Sn	05 47 07.8	+0.5
	13nm,0.5s						
MNAS	**Manas**	**5.52**	**10**	⇑Pn	Pn	05 46 56.6	+2.5
	1.1nm,0.8s						
MNAS				⇓Sn	Sn	05 47 57.2	-1.1
	2.1nm,0.4s						
KK31	**Karatay Array**	**6.08**	**355**	⇓Pn	Pn	05 47 00.6	-1.1
	0.3nm,0.2s,baz=176,slow=13,SNR=35						
KK31				⇑Sn	Sn	05 48 13.7	+1.7
	0.5nm,0.3s,baz=186,slow=24,SNR=3.6						

MOS ***29*** *05:52:44.2±0.9, 53.°14N×154.°18E, h490km, mb4.1/1, Error ellipse: s-maj=19.4km s-min=10.9km az=58.3*

KRSC ***29*** *05:52:45.4±1.5, 52.°85N×155.°30E, h504km±20km, ML4.2*

IDC ***29*** *05:52:46.6±0.9, 53.°34N×153.°92E, h470km±9km, mb2.7/8, mb1 3.0/11, mb1mx2.8/70, mbtmp3.5/11, Error ellipse: s-maj=24.9km s-min=14.1km az=132.0*

ISC 29 05:52:49.8±1.5, 53.°0N±0.°1×155.°3E±0.°2, h476km±8km, n58, σ0s99/70, mb3.0/7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**1.13**	**94**	PN	**P**	**05 53 47.8**	**-1.2**
APC	**Apacha**	**1.13**	**94**	*e*P	**P**	**05 53 47.8**	**-1.2**
MIPR	**Malaya Ipel'ka**	**1.16**	**129**	PN	**P**	**05 53 48.0**	**-1.2**
MIPR	**Malaya Ipel'ka**	**1.16**	**129**	*e*P	**P**	**05 53 48.0**	**-1.2**
PETK	**Petropavlovsk-**	**1.45**	**86**	P	**P**	**05 53 49.4**	**-0.7**
	1.2nm,0.3s,baz=85,slow=21,SNR=34						
PETK				S	**S**	**05 54 43.2**	**+3.9**
	0.0nm,0.3s,baz=260,slow=28,SNR=4.0						
GNL	**Ganaly**	**1.73**	**66**	PN	**P**	**05 53 50.7**	**-0.7**
GNL	**Ganaly**	**1.73**	**66**	*e*P	**P**	**05 53 50.7**	**-0.7**
PAU	**Pauzhetka**	**1.81**	**148**	PN	**P**	**05 53 51.2**	**-0.6**
PAU	**Pauzhetka**	**1.81**	**148**	*e*P	**P**	**05 53 51.2**	**-0.6**
PET	**Petropavlovsk**	**2.03**	**89**	*e*PN	**P**	**05 53 52.9**	**+0.1**
PET				*e*S	**S**	**05 54 46.0**	**+1.9**
PET				pmax	pmax		
	comp=Z,21nm,0.4s						
PET				smax	smax		
	comp=N,33nm,0.6s						
PET				smax	smax		
	comp=E,33nm,0.5s						
RUS	**Russkaya**	**2.04**	**105**	PN	**P**	**05 53 52.5**	**-0.4**
RUS				S	**S**	**05 54 43.7**	**-0.5**
RUS	**Russkaya**	**2.04**	**105**	*e*P	**P**	**05 53 52.5**	**-0.4**
RUS				*e*S	**S**	**05 54 43.7**	**-0.5**
KRX	**Arik**	**2.05**	**79**	PN	**P**	**05 53 53.5**	**+0.4**
KRX	**Arik**	**2.05**	**79**	*e*P	**P**	**05 53 53.5**	**+0.4**
AVH	**Avacha**	**2.09**	**82**	PN	**P**	**05 53 53.5**	**+0.3**
AVH	**Avacha**	**2.09**	**82**	*e*P	**P**	**05 53 53.5**	**+0.3**
DALK	**Dalny**	**2.09**	**88**	PN	**P**	**05 53 53.2**	**+0.1**
DALK				S	**S**	**05 54 44.9**	**+0.2**
DALK	**Dalny**	**2.09**	**88**	*e*P	**P**	**05 53 53.2**	**+0.1**
DALK				*e*S	**S**	**05 54 44.9**	**+0.2**
KDTR	**Khodutka, Kamc**	**2.09**	**124**	*e*P	**P**	**05 53 51.6**	**-1.6**
KDTR				*e*S	**S**	**05 54 42.2**	**-2.5**
SMAR	**Somma**	**2.13**	**82**	PN	**P**	**05 53 54.1**	**+0.5**
SMAR	**Somma**	**2.13**	**82**	*e*P	**P**	**05 53 54.1**	**+0.5**
UGLR	**Uglovaya**	**2.14**	**84**	PN	**P**	**05 53 53.7**	**+0.2**
UGLR				S	**S**	**05 54 45.8**	**+0.4**
UGLR	**Uglovaya**	**2.14**	**84**	*e*P	**P**	**05 53 53.7**	**+0.2**
UGLR				*e*S	**S**	**05 54 45.8**	**+0.4**
SDLR	**Sedlovina**	**2.18**	**82**	PN	**P**	**05 53 53.9**	**+0.1**
SDLR				S	**S**	**05 54 46.2**	**+0.3**
SDLR	**Sedlovina**	**2.18**	**82**	*e*P	**P**	**05 53 53.9**	**+0.1**
SDLR				*e*S	**S**	**05 54 46.2**	**+0.3**
NLC	**Nalytchevo**	**2.45**	**85**	PN	**P**	**05 53 55.3**	**+0.2**
NLC				S	**S**	**05 54 48.4**	**0.0**
NLC	**Nalytchevo**	**2.45**	**85**	*e*P	**P**	**05 53 55.3**	**+0.2**
NLC				*e*S	**S**	**05 54 48.4**	**0.0**
SPN	**Mys Shipunski**	**2.85**	**87**	PN	**P**	**05 53 57.6**	**-0.2**
SPN				S	**S**	**05 54 52.6**	**-0.6**
SPN	**Mys Shipunski**	**2.85**	**87**	*e*P	**P**	**05 53 57.6**	**-0.2**
SPN				*e*S	**S**	**05 54 52.6**	**-0.6**
KZV	**Kizimen**	**3.62**	**53**	PN	**P**	**05 54 04.1**	**+0.6**
KZV	**Kizimen**	**3.62**	**53**	*e*P	**P**	**05 54 04.1**	**+0.6**
TUMR	**Tumrok**	**3.64**	**50**	PN	**P**	**05 54 04.1**	**+0.4**
TUMR	**Tumrok**	**3.64**	**50**	*e*P	**P**	**05 54 04.1**	**+0.4**
TUMD	**Tumrok D**	**3.72**	**52**	*e*P	**P**	**05 54 04.2**	**0.0**
KMNR	**Kamenistaya**	**3.98**	**45**	PN	**P**	**05 54 06.5**	**+0.1**
KMNR	**Kamenistaya**	**3.98**	**45**	*e*P	**P**	**05 54 06.5**	**+0.1**
BDR	**Baidarnaya**	**4.93**	**42**	PN	**P**	**05 54 14.0**	**-0.8**
BDR	**Baidarnaya**	**4.93**	**42**	*e*P	**P**	**05 54 14.0**	**-0.8**
SRKR	**Sorokina**	**4.98**	**41**	PN	**P**	**05 54 15.3**	**+0.1**
SRKR	**Sorokina**	**4.98**	**41**	*e*P	**P**	**05 54 15.3**	**+0.1**
SMKR	**Semkarok**	**5.05**	**43**	PN	**P**	**05 54 16.0**	**+0.2**
SMKR				S	**S**	**05 55 24.7**	**-1.5**
SMKR	**Semkarok**	**5.05**	**43**	*e*P	**P**	**05 54 16.0**	**+0.2**
SMKR				*e*S	**S**	**05 55 24.7**	**-1.5**
KBTR	**Krutoberegovo**	**5.41**	**51**	PN	**P**	**05 54 16.7**	**-2.5**
KBTR	**Krutoberegovo**	**5.41**	**51**	*e*P	**P**	**05 54 16.7**	**-2.5**
MA2	**Magadan**	**7.04**	**341**	P	P	05 54 26.1	-9.2
	comp=E,0.6nm,0.3s,baz=160,slow=17,SNR=4.2						
OSSR	**Ossora**	**7.60**	**32**	PN	**P**	**05 54 40.4**	**-0.7**
OSSR	**Ossora**	**7.60**	**32**	*e*P	**P**	**05 54 40.4**	**-0.7**
SEY	**Seymchan**	**10.06**	**352**	P	P	05 55 00.3	-6.9
	comp=E,0.3nm,0.3s,baz=162,slow=9.3,SNR=10						
KLR	**Kul'dur**	**15.24**	**265**	P	P	05 55 51.4	-11
	comp=E,0.0nm,0.3s,baz=82,slow=18,SNR=2.1						
MJAR	**Matsushiro Arr**	**20.37**	**223**	P	P	05 56 47.6	-5.5
	comp=E,3.4nm,0.5s,baz=16,slow=9.9,SNR=7.5						
ILAR	**Eielson Array**	**30.92**	**45**	P	**P**	**05 58 26.0**	**0.0**
	comp=E,0.5nm,0.8s,baz=268,slow=9.3,SNR=5.0						
ILAR	**Eielson Array**	**30.92**	**45**	P	**P**	**05 58 26.0**	**0.0**
INK	**Inuvik**	**35.69**	**37**	P	**

MKAR	**Makanchi Array**	**75.97**	**321**	P		**P**	06 06 17.5	**-0.3**
	0.1nm,0.5s,baz=110,slow=8.4,SNR=3.0							
ZALV	**Zalesovo Beam**	**77.60**	**328**	P		**P**	06 06 25.7	**-1.0**
	0.6nm,0.3s,baz=100,slow=6.4,SNR=3.2							
ZALV				LR		LR	06 39 36.1	
	comp=Z,9.4nm,21.6s,baz=251,slow=35							
QSPA	**South Pole Qui**	**84.67**	**180**	P		**P**	06 07 04.6	**+0.5**
	2.1nm,0.8s,baz=348,slow=0.5,SNR=5.3							
BVAR	**Borovoye Array**	**85.29**	**324**	P		**P**	06 07 06.7	**-0.7**
	0.3nm,0.5s,baz=72,slow=4.7,SNR=2.6							
IL1	**Eielson Array**	**85.44**	**23**	*e*P		**P**	06 07 05.6	**-2.2**
ILAR	**Eielson Array**	**85.44**	**23**	P		**P**	06 07 06.5	**-1.3**
	1.6nm,0.9s,baz=252,slow=5.1,SNR=11							
TORD	**Torodi Ar. Bea**	**143.42**	**285**	PKP		PKPbc	06 14 02.6	-0.4
	0.5nm,0.9s,baz=77,slow=3.8,SNR=3.2							

CSEM ***29*** *06:05:03.2±0.5, 67.75N×20.25E, h2km, ML1.9, Error ellipse: s-maj=12.3km s-min=7.4km az=22.0, Mining explosion.*
ISCJB ***29*** *06:05:04.1±0.6, 67.83N±0.03×20.20E±0.10, h0km, Error ellipse: s-maj=5.4km s-min=4.4km az=169.6*
UPP ***29*** *06:05:04.3, 67.88N×20.17E, h0km, ML1.9, Suspected Mining explosion.*
HEL ***29*** *06:05:04.8±0.1, 67.89N×20.16E, h0km, ML1.7, ML1.9(UPP), Explosion*

ISC 29 06:05:05.0±0.9, 67.87N±0.03×20.19E±0.03, h0km, n34, σ0§94/48, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUA	**Kurravaara**	**0.10**	**34**	P		**Pg**	**06 05 06.3**	**-0.6**
KUA	**Kurravaara**	**0.10**	**34**	P		**Pg**	**06 05 06.3**	**-0.6**
KUA				S		**Sg**	**06 05 08.0**	**-0.2**
KUA	**Kurravaara**	**0.10**	**34**	*i* P		**Pg**	**06 05 06.3**	**-0.6**
KUA				*i* S		**Sg**	**06 05 08.0**	**-0.2**
RATU	**Laukkuluspa**	**0.23**	**259**	P		**Pg**	**06 05 08.6**	**-0.8**
RATU	**Laukkuluspa**	**0.23**	**259**	P		**Pg**	**06 05 08.6**	**-0.8**
RATU	**Laukkuluspa**	**0.23**	**259**	*i* P		**Pg**	**06 05 08.6**	**-0.8**
NIKU	**Nikkaluokta**	**0.44**	**270**	P		**Pg**	**06 05 12.8**	**-0.5**
NIKU	**Nikkaluokta**	**0.44**	**270**	P		**Pg**	**06 05 12.8**	**-0.5**
NIKU	**Nikkaluokta**	**0.44**	**270**	*i* P		**Pg**	**06 05 12.8**	**-0.5**
LANU	**Lannavaara**	**0.70**	**74**	P		**Pg**	**06 05 17.7**	**-0.7**
LANU				S		**Sb**	**06 05 28.8**	**-1.5**
LANU	**Lannavaara**	**0.70**	**74**	P		**Pg**	**06 05 17.7**	**-0.7**
LANU	**Lannavaara**	**0.70**	**74**	*e*P		**Pg**	**06 05 17.7**	**-0.7**
LANU				*e*S		**Sb**	**06 05 28.8**	**-1.5**
DUNU	**Dundret**	**0.77**	**169**	P		**Pg**	**06 05 18.9**	**-0.7**
DUNU	**Dundret**	**0.77**	**169**	P		**Pg**	**06 05 19.0**	**-0.6**
DUNU	**Dundret**	**0.77**	**169**	*i* P		**Pg**	**06 05 19.0**	**-0.6**
KIF	**Kilpisjarvi**	**1.16**	**11**	*e*P		**Pn**	**06 05 28.0**	**-0.4**
KIF				Sn		**Sn**	**06 05 47.1**	**+2.2**
KIF	**Kilpisjarvi**	**1.16**	**11**	*e*P		**Pn**	**06 05 28.0**	**-0.4**
KIF	**Kilpisjarvi**	**1.16**	**11**	*e*PN		**Pn**	**06 05 27.8**	**-0.6**
KIF				MSG			06 05 41.9	
	comp=Z,7.4nm,0.2s							
KIF				*e*SN		**Sn**	**06 05 47.1**	**+2.2**
HEF	**Hetta**	**1.41**	**66**	Pn		**Pn**	**06 05 31.1**	**-0.8**
HEF	**Hetta**	**1.41**	**66**	*e*PN		**Pn**	**06 05 31.1**	**-0.8**
	baz=248							
HEF				MSG			06 05 48.9	
	comp=Z,6.6nm,0.2s							
KTK1	**Kautokeino**	**1.61**	**43**	*e*P		**Pg**	**06 05 35.0**	**-0.7**
KTK1	**Kautokeino**	**1.61**	**43**	*e*P		**Pg**	**06 05 35.0**	**-0.7**
KALU	**Kalix**	**2.38**	**147**	P		**Pn**	**06 05 45.0**	**-0.1**
KALU	**Kalix**	**2.38**	**147**	*e*P		**Pn**	**06 05 45.0**	**-0.1**
KALU				*e*SB		**Sb**	**06 06 16.8**	**-1.5**
TOF	**Tornio**	**2.42**	**136**	P		**Pn**	**06 05 46.0**	**+0.2**
TOF				Sg		**Sb**	**06 06 19.6**	**-0.1**
TOF	**Tornio**	**2.42**	**136**	*e*P		**Pn**	**06 05 46.0**	**+0.2**
TOF				MSG			06 06 16.1	
	comp=Z,3.7nm,0.2s							
TOF				*e*SG		**Sb**	**06 06 19.6**	**-0.1**
SGF	**Sodankyl**	**2.46**	**97**	Pg		**Pb**	**06 05 49.0**	**-1.0**
SGF				Sg		**Sb**	**06 06 20.6**	**-0.2**
SGF	**Sodankyl**	**2.46**	**97**	*e*PG		**Pb**	**06 05 49.1**	**-0.9**
SGF				*e*SG		**Sb**	**06 06 20.6**	**-0.1**
ARE0	**ARCESS Array S**	**2.56**	**47**	Pb		**Pn**	**06 05 48.8**	**+1.1**
ARE0	**ARCESS Array S**	**2.56**	**47**	*e*PB		**Pn**	**06 05 48.8**	**+1.1**
ARE0				*e*SG		**Sb**	**06 06 23.6**	**-0.2**
RNF	**Rovaniemi**	**2.59**	**117**	Pb		**Pn**	**06 05 49.4**	**+1.3**
RNF				Sb		**Sb**	**06 06 23.6**	**-1.1**
RNF	**Rovaniemi**	**2.59**	**117**	*e*PB		**Pn**	**06 05 49.5**	**+1.4**
RNF				*e*SB		**Sb**	**06 06 23.6**	**-1.1**
KU6	**Riekki**	**4.24**	**111**	Pg		**Pb**	**06 06 21.7**	**+1.4**
KU6	**Riekki**	**4.24**	**111**	*e*PG		**Pb**	**06 06 21.8**	**+1.4**
	baz=296							

NEIC ***29*** *06:05:47.3±0.0, 15.98N×98.45W, h16km, MD4.0(MEX), After MEX.*

MEX 29 06:05:46.1±0.6, 16.02N×98.36W, h6km±4km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.44**	**31**	*e*P		Pg	06 05 54.5	0.0
PNIG				*e*S		Sg	06 06 00.0	-0.3
PNIG	**Pinotepa**	**0.44**	**31**	*e*P		Pg	06 05 54.5	-0.1
PNIG				*e*S		Sg	06 06 00.2	-0.1
TLIG	**Tlapa**	**1.55**	**353**	*e*P		Pn	06 06 10.9	-3.4
TLIG				*e*S		Sn	06 06 30.0	-4.8
TLIG	**Tlapa**	**1.55**	**353**	*e*P		Pn	06 06 10.9	-3.4
TLIG				*e*S		Sn	06 06 30.0	-4.8
VHO	**Vista Hermosa**	**1.88**	**56**	*i* P		Pn	06 06 15.8	-3.1
VHO				*i* S		Sn	06 06 38.1	-5.0
VHO	**Vista Hermosa**	**1.88**	**56**	*e*P		Pn	06 06 17.7	-1.3
VHO				*e*S		Sg	06 06 45.8	-0.8
CAIG	**El Cayaco**	**2.10**	**300**	*e*P		Pn	06 06 17.8	-3.9
CAIG				*i* S		Sn	06 06 43.7	-4.4
CAIG	**El Cayaco**	**2.10**	**300**	*e*P		Pn	06 06 17.8	-3.9
CAIG				*e*S		Sn	06 06 38.8	-9.3
HUIG	**Huatulco**	**2.18**	**96**	*i* P		Pn	06 06 19.9	-3.0
HUIG				*i* S		Sn	06 06 44.9	-5.3
HUIG	**Huatulco**	**2.18**	**96**	*e*P		Pg	06 06 27.4	-0.5
HUIG				*e*S		Sn	06 06 46.2	-4.0
ARIG	**Puente Sto Nin**	**2.94**	**320**	*e*P		Pn	06 06 31.3	-2.2
ARIG				*i* S		Sn	06 07 05.2	-3.9

BJI ***29*** *06:05:41.0, 4.70N×127.70E, h240km, mb4.4/25, mB4.6/14*
NEIC ***29*** *06:05:45.0±0.9, 4.67N×127.72E, h264km±11km, mb4.6/20, Error ellipse: s-maj=10.4km s-min=8.0km az=88.0*
ISCJB ***29*** *06:06:39.0±0.3, 6.60N±0.06×123.90E±0.07, h600km, mb4.1/49, Error ellipse: s-maj=9.9km s-min=6.5km az=141.9*
IDC ***29*** *06:06:41.1±1.1, 6.55N×123.83E, h609km±14km, mb3.3/27, mb1 3.4/27, mb1mx3.2/68, mbtmp4.3/27, Error ellipse: s-maj=13.1km s-min=6.3km az=67.0*

ISC 29 06:06:40.3±0.4, 6.57N±0.07×123.86E±0.10, h600km, n71, σ1§02/75, mb4.2/49, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHAI	**Chaiyaphum**	**23.35**	**295**	P		**P**	**06 11 04.6**	**+0.5**
	5.3nm,0.6s							
NAYO	**Nakonayok**	**23.45**	**291**	P		**P**	**06 11 06.3**	**+1.3**
	9.6nm,1.0s							
FITZ	**Fitzroy Crossi**	**24.57**	**176**	P		**P**	**06 11 15.2**	**+0.3**
	1.8nm,1.0s,baz=97,slow=8.2							
PHET	**Kaeng Krachan**	**24.68**	**287**	P		**P**	**06 11 17.4**	**+1.5**
	7.8nm,0.7s							
PSI	**Prapat**	**25.13**	**263**	P		**P**	**06 11 20.5**	**+0.5**
	4.0nm,0.6s,baz=113,slow=3.2,SNR=7.4							
PSI	**Prapat**	**25.13**	**263**	*e*P		**P**	**06 11 18.9**	**-1.1**
	5.2nm,0.8s							
SRDT	**SRDT**	**25.51**	**290**	P		**P**	**06 11 23.6**	**+0.4**
	15nm,0.8s							
NANT	**Nan**	**25.61**	**300**	P		**P**	**06 11 25.0**	**+0.9**
	4.4nm,0.6s							
NJ2	**Nanjing**	**25.78**	**350**	*e*P		P	06 11 16.0	-9.3
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
GSI	**Gunungsitoli**	**26.73**	**260**	*e*P		**P**	**06 11 32.8**	**-1.2**
	25nm,0.6s							
CM01	**Chiang Mai Arr**	**26.97**	**298**	*e*P		**P**	**06 11 37.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**27.00**	**298**	P		**P**	**06 11 37.3**	**+1.1**
	5.4nm,0.6s,baz=111,slow=7.1,SNR=20							
CMMT	**Chiang Mai**	**27.13**	**299**	P		**P**	**06 11 37.0**	**-0.4**
	20nm,0.6s							
CHTO	**Chiang Mai**	**27.14**	**299**	*e*P		**P**	**06 11 38.4**	**+1.0**
	11nm,0.6s							
KMI	**Kunming**	**27.36**	**315**	P		**P**	**06 11 44.0**	**+4.4**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.5s							
KMI				pmax		pmax		
	comp=Z,140nm,4.3s							
CMAI	**Chiengmai2**	**27.51**	**301**	P		**P**	**06 11 41.8**	**+0.9**
	60nm,1.2s							
WRA	**Warramunga Arr**	**28.29**	**159**	P		**P**	**06 11 47.2**	**-0.2**
	1.6nm,0.3s,baz=342,slow=9.1,SNR=42							
WRA				PcP		**PcP**	**06 14 40.8**	**+0.2**
	0.8nm,0.5s,baz=329,slow=2.8,SNR=9.4							
WRA				S		**S**	**06 15 50.1**	**-3.0**
	0.8nm,0.5s,baz=332,slow=14,SNR=7.0							
WRA				ScP		**ScP**	**06 17 26.1**	**+0.5**
	2.1nm,0.6s,baz=342,slow=3.2,SNR=20							
CD2	**Chengdu**	**30.68**	**325**	*e*P		**P**	**06 12 08.0**	**0.0**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
ASAR	**Alice Springs**	**31.61**	**162**	P		**P**	**06 12 16.8**	**+0.9**
	2.9nm,0.3s,baz=339,slow=7.4,SNR=49							
ASAR				PcP		**PcP**	**06 14 49.5**	**+0.2**
	0.9nm,0.4s,baz=341,slow=2.9,SNR=9.8							
ASAR				S		**S**	**06 16 42.9**	**-1.2**
	2.0nm,0.8s,baz=340,slow=13,SNR=21							
ASAR				ScP		**ScP**	**06 17 36.9**	**+0.3**
	1.0nm,0.5s,baz=343,slow=3.5,SNR=8.5							
CTA	**Charters Tower**	**34.45**	**141**	P		**P**	**06 12 40.8**	**+0.9**
	1.6nm,0.3s,baz=281,slow=5.2,SNR=3.8							
HHC	**Hu-ho-hao-te**	**35.86**	**344**	*e*P		P	06 12 45.8	-5.5
HHC				pmax		pmax		
	comp=Z,19nm,0.7s							
HHC				pmax		pmax		
	comp=Z,69nm,4.8s							
USRK	**Ussuriysk Ar.**	**38.15**	**9**	P		**P**	**06 13 09.2**	**-0.5**
	1.6nm,0.7s,baz=198,slow=8.9,SNR=3.3							
GTA	**Gaotai**	**39.22**	**330**	*e*P		**P**	**06 13 19.5**	**+0.9**
GTA				pP		pP	06 14 05.5	-55
GTA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
TAPN	**Taplejung**	**40.05**	**305**	*e*P		**P**	**06 13 26.3**	**+0.7**
ODAN	**Odare**	**40.11**	**304**	*e*P		**P**	**06 13 26.6**	**+0.5**
	21nm,0.5s							
RAMN	**Ramite**	**40.79**	**304**	*e*P		**P**	**06 13 32.0**	**+0.5**
	13nm,0.5s							
ASAJ	**Asahikawa**	**40.84**	**21**	P		**P**	**06 13 31.7**	**+0.4**
	3.7nm,0.4s,baz=266,slow=16,SNR=3.8							
JIRN	**Jiri**	**41.41**	**305**	*e*P		**P**	**06 13 36.7**	**+0.2**
	16nm,0.3s							
GUN	**Gumba**	**41.76**	**305**	*e*P		**P**	**06 13 39.4**	**+0.2**
	19nm,0.4s							
STKA	**Stephens Creek**	**41.81**	**157**	P		**P**	**06 13 40.0**	**+1.0**
	1.2nm,0.4s,baz=349,slow=9.7,SNR=6.7							
PKI	**Pulchoki**	**42.01**	**304**	*e*P		**P**	**06 13 41.0**	**-0.2**
	3.1nm,0.3s							
PKIN	**Phulchoki**	**42.02**	**304**	*e*P		**P**	**06 13 41.1**	**-0.1**
	3.3nm,0.2s							
KKN	**Kakani**	**42.20**	**305**	*e*P		**P**	**06 13 42.7**	**+0.2**
DMN	**Daman**	**42.27**	**304**	*e*P		**P**	**06 13 43.7**	**+0.6**
	5.3nm,0.4s							
GKN	**Gorkha**	**42.81**	**305**	*e*P		**P**	**06 13 47.2**	**0.0**
	9.4nm,0.4s							
KLR	**Kul'dur**	**43.03**	**8**	P		**P**	**06 13 47.7**	**-0.7**
	0.1nm,0.4s,baz=195,slow=6.3,SNR=4.2							
KOLN	**Koldanda**	**43.57**	**304**	*e*P		**P**	**06 13 53.8**	**+0.6**
	20nm,0.3s							
ULN	**Ulaanbaatar**	**43.58**	**344**	*e*P		**P**	**06 13 50.0**	**-2.8**
	22nm,1.1s							
SONM	**Songino Array**	**43.74**	**343**	P		**P**	**06 13 54.3**	**+0.3**
	1.1nm,0.8s,baz=155,slow=6.9,SNR=4.7							
PYUN	**Piuthan**	**44.20**	**304**	*e*P		**P**	**06 13 58.7**	**+0.7**
HYB	**Hyderabad**	**45.50**	**288**	*i* P		**P**	**06 14 09.0**	**+1.1**
WMQ	**Urumqi**	**48.78**	**325**	P		**P**	**06 14 33.0**	**+1.0**
WMQ				pP		PcP	06 15 23.0	-22
WMQ				PcP		pP	06 15 41.0	-40
WMQ				sP		PP	06 15 53.0	-41
WMQ				pmax		pmax		
	comp=Z,25nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,170nm,5.1s							
DZM	**Mont Dzumac**	**50.50**	**126**	P		**P**	**06 14 45.7**	**+0.8**
	11nm,1.0s,baz=300,slow=18,SNR=4.4							
MK01	**Makanchi Array**	**53.59**	**325**	*e*P		**P**	**06 15 06.8**	**+0.2**
MK31	**Makanchi Array**	**53.61**	**326**	*e*P		**P**	**06 15 06.6**	**-0.1**
MKAR	**Makanchi Array**	**53.61**	**326**	P		**P**	**06 15 07.2**	**+0.4**
	6.9nm,0.4s,baz=120,slow=7.9,SNR=126							
MKAR				PcP		**PcP**	**06 16 03.1**	**-0.3**
	1.6nm,0.6s,baz=108,slow=4.3,SNR=6.2							
MKAR				ScP		**ScP**	**06 19 04.2**	**-0.3**
	0.4nm,0.6s,baz=125,slow=4.2,SNR=3.1							
MKAR	**Makanchi Array**	**53.61**	**326**	*e*P		**P**	**06 15 06.6**	**-0.1**
	58nm,0.5s							
PETK	**Petropavlovsk-**	**53.97**	**25**	P		**P**	**06 15 09.5**	**+0.4**
	3.7nm,0.7s,baz=225,slow=0.6,SNR=4.0							
KSH	**Kashi**	**54.03**	**315**	P		**P**	**06 15 11.3**	**+1.4**
KSH				pP		PcP	06 16 03.5	-1.8
KSH				sP		pP	06 16 29.5	-33
KSH				S		S	06 22 48.3	+46
KSH				pmax		pmax		
	comp=Z,12nm,1.3s							
KSH				pmax		pmax		
	comp=Z,85nm,6.0s							
KSH				LR		LR		
	comp=N,95nm,6.0s							
KSH				LR		LR		
	comp=E,85nm,7.9s							
KSH				LR		LR		
	comp=Z,130nm,6.5s							
AAK	**Ala-Archa**	**56.35**	**318**	P		**P**	**06 15 26.5**	**+0.6**
	0.9nm,0.4s,baz=88,slow=5.2,SNR=3.6							
MA2	**Magadan**	**56.72**	**16**	P		**P**	**06 15 28.5**	**+0.5**
	4.2nm,0.6s,baz=189,slow=7.2,SNR=6.2							
KURBB	**Kurchatov Arra**	**57.82**	**328**	P		**P**	**06 15 35.7**	**+0.1**
	7.3nm,0.6s,baz=127,slow=6.3,SNR=30							
KURK	**Kurchatov**	**57.83**	**328**	*e*P		**P**	**06 15 35.4**	**-0.2**
	12nm,0.6s							
KKAR	**Karatay Array**	**59.22**	**317**	*e*P		**P**	**06 15 45.5**	**+0.3**
BVAR	**Borovoye Array**	**63.40**	**327**	P		**P**	**06 16 11.3**	**-0.8**
	2.4nm,0.6s,baz=126,slow=7.3,SNR=11							
BRVK	**Borovoye**	**63.47**	**327**	*e*P		**P**	**06 16 10.6**	**-2.1**
	5.6nm,0.9s							
WSAR	**Wadi Sarin**	**64.69**	**293**	P		**P**	**06 16 19.7**	**-1.2**
	2.0nm,0.6s,baz=130,slow=9.2,SNR=4.2							
ABKAR	**Akbulak array**	**68.16**	**321**	*e*P		**P**	**06 16 41.5**	**-0.2**
	36nm,0.8s							
AKTO	**Aktyubinsk**	**69.67**	**322**	P		**P**	**06 16 51.0**	**+0.2**
	3.7nm,0.5s,baz=105,slow=7.4,SNR=15							
RAYN	**Ar Rayn**	**76.75**	**293**	*e*P		**P**	**06 17 31.1**	**-0.7**
	7.7nm,0.7s							
OPO	**Ambohidratompo**	**79.56**	**250**	P		**P**	**06 17 46.9**	**0.0**
	1.8nm,0.5s,baz=132,slow=8.7,SNR=3.6							
ILAR	**Eielson Array**	**83.79**	**26**	P		**P**	**06 18 06.9**	**-0.4**
	0.3nm,0.6s,baz=235,slow=4.9,SNR=4.4							
BRTR	**Keskin Array B**	**86.02**	**309**	P		**P**	**06 18 17.7**	**-1.1**
	1.6nm,0.8s,baz=109,slow=4.5,SNR=7.7							
VNDA	**Vanda**	**86.59**	**172**	P		**P**	**06 18 21.2**	**+0.7**
	0.7nm,0.5s,baz=319,slow=7.1,SNR=8.6							
BR231	**Keskin MP Arra**	**86.67**	**310**	*e*P		P	06 18 16.9	-5.0
ARCES	**ARCESS Array B**	**86.81**	**340**	P		**P**	**06 18 21.2**	**-0.5**
	1.6nm,0.8s,baz=74,slow=8.9,SNR=3.6							
SPITS	**Spitsbergen Ar**	**87.15**	**349**	P		**P**	**06 18 23.1**	**-0.1**
	7.4nm,1.1s,baz=65,slow=10,SNR=3.1							
AKASG	**Malin Array Be**	**87.90**	**321**	P		**P**	**06 18 26.2**	**-1.0**
	0.5nm,0.5s,baz=69,slow=5.0,SNR=3.4							
FINES	**FINESS Array B**	**87.99**	**332**	P		**P**	**06 18 26.3**	**-1.0**
	0.8nm,0.5s,baz=66,slow=4.6,SNR=10.0							
TORD	**Torodi Ar. Bea**	**119.31**	**289**	PKP		**PKPdf**	**06 24 22.8**	**-0.6**
	0.5nm,0.4s,baz=58,slow=1.9,SNR=7.5							
PLCA	**Paso Flores**	**143.62**	**161**	PKP		PKPbc	06 25 08.1	+0.8
	2.1nm,0.8s,baz=245,slow=3.7,SNR=5.8							

ISCJB ***29*** *06:16:44.3±0.7, 28.25N±0.07×52.13E±0.07, h15km, mb3.6/11, Error ellipse: s-maj=10.6km s-min=7.2km az=32.0*
TEH ***29*** *06:16:45.8, 28.21N×52.17E, h10km, ML3.2*
CSEM ***29*** *06:16:47.2, 28.57N×52.47E, h7km, ML3.1, After THR*
IDC ***29*** *06:16:49.8±3.0, 28.27N×52.18E, h46km±34km, mb3.5/11, mb1 3.6/14, mb1mx3.3/67, mbtmp3.7/14, ML3.3/3, Error ellipse: s-maj=27.9km s-min=21.4km az=156.0*

ISC 29 06:16:45.8±0.9, 28.27N±0.07×52.25E±0.06, h15km, n29, σ1§52/31, mb3.5/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.65**	**88**	*e*Pg		**Pg**	**06 16 57.8**	**-0.8**
AHBU	**AHRAM**	**1.03**	**306**	*e*Pg		**Pn**	**06 17 07.9**	**+2.2**
JHRM	**Jahrom**	**1.19**	**78**	*e*Pn		**Pn**	**06 17 10.0**	**+1.9**
IRAM	**Ramesheh**	**3.53**	**2**	*e*Pn		**Pn**	**06 17 40.7**	**+0.3**
IRAM				*e*Sg		**Sg**	**06 18 37.2**	**-2.2**
IRAM				*e*AMB		AMB	06 18 43.1	
	comp=Z,322nm,0.4s							
BNDS	**Bandar-Abbas**	**3.58**	**103**	*e*Pn		**Pn**	**06 17 43.9**	**+2.9**
IMEH	**Mehriz**	**3.73**	**33**	*e*Pn		**Pn**	**06 17 45.1**	**+2.0**
IMEH				*e*AMB		AMB	06 17 46.1	
	comp=Z,2μm,0.1s							
NIAN	**Nian**	**4.12**	**99**	*e*Pn		**Pn**	**06 17 48.5**	**+0.3**
NIAN				*e*AMB		AMB	06 19 07.3	
	comp=N,499nm,0.2s							
KHGB	**Koh Gabri**	**4.25**	**59**	*e*Pn		**Pn**	**06 17 51.1**	**+0.9**
KHGB				*e*AMB		AMB	06 17 52.2	
	comp=Z,99nm,0.1s							
ICHK	**Chekchek**	**4.38**	**25**	*e*Pn		**Pn**	**06 17 53.1**	**+1.0**
ICHK				*e*AMB		AMB	06 17 57.6	
	comp=Z,555nm,0.1s							
IBAF	**Bafgh**	**4.39**	**40**	*e*Pn		**Pn**	**06 17 53.3**	**+1.2**
IBAF				*e*AMB		AMB	06 17 53.6	
	comp=Z,714nm,0.2s							
NASN	**Na'in**	**4.54**	**6**	*e*Pn		**Pn**	**06 17 54.1**	**-0.3**
IZEF	**Zefreh**	**4.62**	**1**	*e*Pn		**Pn**	**06 17 56.0**	**+0.7**
IZEF				*e*AMB		AMB	06 18 17.1	
	comp=Z,115nm,0.2s							
ANAR	**Anarak**	**5.07**	**14**	*e*Pn		**Pn**	**06 18 03.0**	**+1.6**
ANAR				*e*AMB		AMB	06 19 58.4	
	comp=Z,99nm,0.4s							
IKLH	**Kolahrood**	**5.07**	**354**	*e*Pn		**Pn**	**06 18 00.0**	**-1.6**
IKLH				*e*AMB		AMB	06 18 25.0	
	comp=Z,97nm,0.1s							
TABS	**Tabas**	**6.80**	**37**	*e*Pn		**Pn**	**06 18 25.4**	**+0.2**
WSAR	**Wadi Sarin**	**7.62**	**130**	P		**Pn**	**06 18 38.5**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=317,slow=14,SNR=4.2							
WSAR				S		**Sn**	**06 19 59.6**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=326,slow=18,SNR=3.6							
GEYT	**Alibeck**	**10.82**	**26**	P		**Pn**	**06 19 22.0**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=187,slow=10,SNR=3.6							
BRTR	**Keskin Array B**	**19.16**	**311**	P		**P**	**06 21 09.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=110,slow=9.6,SNR=4.3							
AKTO	**Aktyubinsk**	**22.57**	**10**	P		**P**	**06 21 47.2**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=197,slow=12,SNR=2.6							
AAK	**Ala-Archa**	**23.02**	**46**	P		**P**	**06 21 52.8**	**+2.4**
	comp=Z,1.2nm,0.7s,baz=217,slow=21,SNR=4.0							
BVAR	**Borovoye Array**	**28.14**	**23**	P		**P**	**06 22 37.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=221,slow=7.9,SNR=3.7							
MKAR	**Makanchi Array**	**29.89**	**44**	P		**P**	**06 22 53.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=229,slow=8.2,SNR=3.4							
ZALV	**Zalesovo Beam**	**34.98**	**34**	P		**P**	**06 23 37.4**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=220,slow=8.7,SNR=3.1							
FINES	**FINESS Array B**	**37.48**	**340**	P		**P**	**06 23 58.5**	**0.0**
	comp=Z,1.4nm,0.5s,baz=154,slow=11,SNR=9.2							
HFS	**Hagfors**	**41.14**	**332**	P		**P**	**06 24 28.8**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=128,slow=9.3,SNR=3.3							
NOA	**NORSAR Array B**	**42.66**	**332**	P		**P**	**06 24 39.7**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=128,slow=9.1,SNR=2.4							
ARCES	**ARCESS Array B**	**44.11**	**347**	P		**P**	**06 24 53.1**	**0.0**
	comp=Z,3.1nm,0.9s,baz=134,slow=6.9,SNR=6.4							
TORD	**Torodi Ar. Bea**	**49.28**	**263**	P		**P**	**06 25 34.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=65,slow=8.4,SNR=3.1							
YKA	**Yellowknife Ar**	**88.94**	**354**	P		**P**	**06 29 38.9**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=10,slow=4.8,SNR=6.2							

CSEM ***29*** *06:20:01.9±0.2, 41.92N×15.47E, h5km, ML3.9/11, Error ellipse: s-maj=3.8km s-min=3.1km az=34.0*
ISCJB ***29*** *06:20:02.9±0.4, 41.96N±0.02×15.50E±0.02, h18km±5km, Error ellipse: s-maj=3.8km s-min=2.6km az=22.2*
ROM ***29*** *06:20:02.0±0.2, 41.93N×15.51E, h7km±1km, Md3.1/40, Ml3.1/48, Error ellipse: s-maj=2.2km s-min=1.4km az=10.0*
TIR ***29*** *06:20:02.4, 41.99N×15.89E, h9km, ML3.5*

ISC 29 06:20:02.7±0.9, 41.92N±0.02×15.50E±0.02, h16km±7km, n131, σ0§94/176, Southern Italy

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

MRVN	**Minervino Murg**	**1.00 148**	*i* PG	**Pg**	**06 20 21.4**	**-0.8**
MRVN			*i* SG	**Sn**	**06 20 36.4**	**+0.4**
MRVN	**Minervino Murg**	**1.00 148**	Pg	**Pg**	**06 20 21.2**	**-0.9**
MRVN	576nm,0.3s		Sg	**Sn**	**06 20 35.9**	**-0.1**
MRVN	**Minervino Murg**	**1.00 148**	Pg	**Pg**	**06 20 21.2**	**-0.9**
MRVN	576nm,0.3s		Sg	**Sn**	**06 20 35.9**	**-0.1**
SNAL	**S. Angelo Dei**	**1.02 193**	Pg	**Pg**	**06 20 21.4**	**-1.0**
	433nm,0.4s					
SNAL	**S. Angelo Dei**	**1.02 193**	Pg	**Pg**	**06 20 21.4**	**-1.0**
	433nm,0.4s					
RNI2	**Rionero Sannit**	**1.03 258**	Pg	**Pg**	**06 20 21.8**	**-0.9**
	378nm,0.4s					
RNI2	**Rionero Sannit**	**1.03 258**	Pg	**Pg**	**06 20 21.8**	**-0.9**
	378nm,0.4s					
PALZ	**Palazzo San Ge**	**1.03 160**	Pg	**Pg**	**06 20 21.9**	**-0.8**
	1µm,0.6s					
PALZ	**Palazzo San Ge**	**1.03 160**	Pg	**Pg**	**06 20 21.9**	**-0.8**
	1µm,0.6s					
VAGA	**Valle Agricola**	**1.07 243**	Pg	**Pb**	**06 20 22.9**	**0.0**
	492nm,0.6s					
VAGA	**Valle Agricola**	**1.07 243**	Pg	**Pb**	**06 20 22.9**	**0.0**
	492nm,0.6s					
PAOL	**Paolisi**	**1.13 219**	Pg	**Pb**	**06 20 23.2**	**-0.7**
	355nm,0.5s					
PAOL	**Paolisi**	**1.13 219**	Pg	**Pb**	**06 20 23.2**	**-0.7**
	355nm,0.5s					
CERA	**Filignano**	**1.16 254**	Pg	**Pb**	**06 20 23.9**	**-0.4**
	260nm,0.4s					
CERA	**Filignano**	**1.16 254**	Pg	**Pb**	**06 20 23.9**	**-0.4**
	260nm,0.4s					
MRLC	**Muro Lucano**	**1.16 180**	Pg	**Pb**	**06 20 23.9**	**-0.5**
	426nm,0.4s					
MRLC	**Muro Lucano**	**1.16 180**	Pg	**Pb**	**06 20 23.9**	**-0.5**
	426nm,0.4s					
MCRV	**Calabrutti - M**	**1.16 193**	Pg	**Pb**	**06 20 23.5**	**-1.0**
	557nm,0.3s					
MCRV	**Calabrutti - M**	**1.16 193**	Pg	**Pb**	**06 20 23.5**	**-1.0**
	557nm,0.3s					
ACER	**Acerenza**	**1.18 163**	Pg	**Pg**	**06 20 25.2**	**-0.2**
	1µm,0.5s					
ACER	**Acerenza**	**1.18 163**	Pg	**Pg**	**06 20 25.2**	**-0.2**
	1µm,0.5s					
INTR	**Introdacqua**	**1.20 275**	Pg	**Pb**	**06 20 24.1**	**-0.9**
	611nm,0.5s					
INTR	**Introdacqua**	**1.20 275**	Pg	**Pb**	**06 20 24.1**	**-0.9**
	611nm,0.5s					
AMUR	**Altamura**	**1.31 140**	Pg	**Pn**	**06 20 25.9**	**-0.4**
	517nm,0.3s					
AMUR	**Altamura**	**1.31 140**	Pg	**Pn**	**06 20 25.9**	**-0.4**
	517nm,0.3s					
BAI	**Bari**	**1.31 128**	*e*Pg	**Pg**	**06 20 27.9**	**-0.1**
BAI			Sg	**Sg**	**06 20 46.1**	**+1.0**
VCEL	**Villa Celiera**	**1.32 292**	Pg	**Pb**	**06 20 27.5**	**+0.3**
	477nm,0.3s					
VCEL	**Villa Celiera**	**1.32 292**	Pg	**Pb**	**06 20 27.5**	**+0.3**
	477nm,0.3s					
POFI	**Posta Fibreno**	**1.35 262**	Pg	**Pn**	**06 20 27.0**	**0.0**
	161nm,0.6s					
POFI	**Posta Fibreno**	**1.35 262**	Pg	**Pn**	**06 20 27.0**	**0.0**
	161nm,0.6s					
SG1	**Sgolgore (BA)**	**1.40 140**	*e*Pg	**Pn**	**06 20 28.1**	**+0.6**
SG1			Sg	**Sg**	**06 20 48.4**	**+0.7**
VVLD	**Villa Vallelon**	**1.40 269**	Pg	**Pn**	**06 20 27.6**	**-0.1**
	212nm,0.4s					
VVLD	**Villa Vallelon**	**1.40 269**	Pg	**Pn**	**06 20 27.6**	**-0.1**
	212nm,0.4s					
CDRU	**Civita di Ruta**	**1.44 186**	Pg	**Pn**	**06 20 27.3**	**-0.8**
	177nm,0.3s					
CDRU	**Civita di Ruta**	**1.44 186**	Pg	**Pn**	**06 20 27.3**	**-0.8**
	177nm,0.3s					
MODR	**Mondragone**	**1.44 238**	Pg	**Pn**	**06 20 28.0**	**-0.2**
	221nm,0.9s					
MODR	**Mondragone**	**1.44 238**	Pg	**Pn**	**06 20 28.0**	**-0.2**
	221nm,0.9s					
SLCN	**Sala Consilina**	**1.53 176**	Pg	**Pn**	**06 20 29.0**	**-0.4**
	304nm,0.5s					
SLCN	**Sala Consilina**	**1.53 176**	Pg	**Pn**	**06 20 29.0**	**-0.4**
	304nm,0.5s					
TERO	**Teramo**	**1.57 297**	Pg	**Pn**	**06 20 30.8**	**+0.8**
	170nm,0.4s					
TERO	**Teramo**	**1.57 297**	Pg	**Pn**	**06 20 30.8**	**+0.8**
	170nm,0.4s					
CMPR	**Campora**	**1.60 185**	Pg	**Pn**	**06 20 30.2**	**-0.3**
	129nm,0.5s					
CMPR	**Campora**	**1.60 185**	Pg	**Pn**	**06 20 30.2**	**-0.3**
	129nm,0.5s					
MCEL	**Monticello**	**1.61 172**	Pg	**Pn**	**06 20 29.7**	**-0.8**
	162nm,0.3s					
MCEL	**Monticello**	**1.61 172**	Pg	**Pn**	**06 20 29.7**	**-0.8**
	162nm,0.3s					
NOCI	**Noci**	**1.63 133**	*i* PG	**Pb**	**06 20 32.3**	**-0.1**
NOCI			*i* SG	**Sg**	**06 20 54.5**	**-0.7**
NOCI	**Noci**	**1.63 133**	*i* Pg	**Pb**	**06 20 32.3**	**-0.1**
NOCI			*i* Sg	**Sg**	**06 20 54.5**	**-0.7**
MTSN	**Montesano sull**	**1.66 173**	Pg	**Pn**	**06 20 30.8**	**-0.5**
	118nm,0.4s					
MTSN	**Montesano sull**	**1.66 173**	Pg	**Pn**	**06 20 30.8**	**-0.5**
	118nm,0.4s					
CAMP	**Campotosto**	**1.67 292**	Pg	**Pn**	**06 20 32.5**	**+1.1**
	107nm,0.6s					
CAMP	**Campotosto**	**1.67 292**	Pg	**Pn**	**06 20 32.5**	**+1.1**
	107nm,0.6s					
CRAC	**Craco**	**1.70 155**	Pg	**Pb**	**06 20 33.8**	**+0.2**
	624nm,0.3s					
CRAC	**Craco**	**1.70 155**	Pg	**Pb**	**06 20 33.8**	**+0.2**
	624nm,0.3s					
GIUL	**Giuliano Di Ro**	**1.72 259**	Pg	**Pn**	**06 20 32.2**	**+0.2**
	74nm,1.0s					
GIUL	**Giuliano Di Ro**	**1.72 259**	Pg	**Pn**	**06 20 32.2**	**+0.2**
	74nm,1.0s					
SMA1	**SAN MARTINO**	**1.76 295**	Pg	**Pn**	**06 20 33.6**	**+1.0**
	170nm,0.3s					
SMA1	**SAN MARTINO**	**1.76 295**	Pg	**Pn**	**06 20 33.6**	**+1.0**
	170nm,0.3s					
SCHR	**S. Chirico Rap**	**1.77 166**	Pg	**Pn**	**06 20 32.5**	**-0.3**
	82nm,0.3s					
FASA	**Fasano**	**1.78 128**	*e*Pg	**Pn**	**06 20 32.8**	**+0.1**
MGR	**Morigerati**	**1.78 179**	Pg	**Pn**	**06 20 32.7**	**-0.1**
	98nm,0.4s					
MGR	**Morigerati**	**1.78 179**	Pg	**Pn**	**06 20 32.7**	**-0.1**
	98nm,0.4s					
MASS	**Massafra**	**1.78 135**	*e*Pn	**Pn**	**06 20 33.9**	**+1.1**
STON	**Ston**	**1.89 59**	*e*Pn	**Pn**	**06 20 34.2**	**0.0**
STON			Sn	**Sn**	**06 20 57.6**	**-0.1**
STON	**Ston**	**1.89 59**	*e*Pn	**Pn**	**06 20 34.2**	**0.0**
STON			Sn	**Sn**	**06 20 57.6**	**-0.1**
CUC	**Castrocucco**	**1.94 173**	Pg	**Pn**	**06 20 35.6**	**+0.6**
	57nm,0.4s					
CUC	**Castrocucco**	**1.94 173**	Pg	**Pn**	**06 20 35.6**	**+0.6**
	57nm,0.4s					
CGL1	**Ceglie Messapi**	**1.95 130**	*e*Pg	**Pg**	**06 20 39.6**	**-0.5**
LNSS	**Leonessa**	**1.95 291**	Pg	**Pb**	**06 20 36.8**	**-1.1**
LNSS	**Leonessa**	**1.95 291**	Pg	**Pb**	**06 20 36.8**	**-1.1**
NRCA	**Norcia**	**1.99 298**	Pg	**Pn**	**06 20 37.0**	**+1.2**
	138nm,0.4s					
NRCA	**Norcia**	**1.99 298**	Pg	**Pn**	**06 20 37.0**	**+1.2**
	138nm,0.4s					
FDMO	**Fiordimonte**	**2.11 303**	Pg	**Pn**	**06 20 37.8**	**+0.5**
	176nm,0.8s					
FDMO	**Fiordimonte**	**2.11 303**	Pg	**Pn**	**06 20 37.8**	**+0.5**
	176nm,0.8s					
CESI	**CESI - Serrava**	**2.21 300**	Pg	**Pn**	**06 20 40.5**	**+1.8**
	37nm,0.4s					
CESI	**CESI - Serrava**	**2.21 300**	Pg	**Pn**	**06 20 40.5**	**+1.8**
	37nm,0.4s					
UDBI	**Udbina**	**2.62 4**	*e*Pn	**Pn**	**06 20 45.8**	**+1.5**
UDBI			Sn	**Sn**	**06 21 17.1**	**+1.2**
UDBI	**Udbina**	**2.62 4**	*e*Pn	**Pn**	**06 20 45.8**	**+1.5**
UDBI			Sn	**Sn**	**06 21 17.0**	**+1.2**
NVLJ	**Novalja**	**2.68 350**	*e*Pn	**Pn**	**06 20 45.1**	**-0.1**
NVLJ			Sn	**Sn**	**06 21 18.0**	**+0.7**
NVLJ	**Novalja**	**2.68 350**	*e*Pn	**Pn**	**06 20 45.1**	**-0.1**
NVLJ			Sn	**Sn**	**06 21 18.0**	**+0.7**
PUK	**Puka**	**3.28 86**	*i* PG	**Pn**	**06 20 55.9**	**+2.5**
PUK	**Puka**	**3.28 86**	*i* Pg	**Pn**	**06 20 55.9**	**+2.5**
OZLJ	**Ozalj**	**3.70 360**	*e*Pn	**Pn**	**06 20 59.6**	**+0.5**
OZLJ			Sn	**Sn**	**06 21 41.2**	**-1.1**
OZLJ	**Ozalj**	**3.70 360**	*e*Pn	**Pn**	**06 20 59.6**	**+0.5**
OZLJ			Sn	**Sn**	**06 21 41.2**	**-1.1**
IVAS	**Ivanjica**	**3.81 63**	*e*Pn	**Pb**	**06 21 05.3**	**-4.2**
DIVS	**Divibare**	**3.95 55**	*e*Pn	**Pn**	**06 21 05.2**	**+2.5**
GRUS	**Gruza**	**4.31 61**	*e*Pn	**Pn**	**06 21 10.8**	**+3.3**
SELS	**Selova**	**4.35 71**	*e*Pn	**Pn**	**06 21 09.4**	**+1.3**
OBKA	**Obir**	**4.64 352**	Pn	**Pn**	**06 21 13.0**	**+0.8**
	2.4nm,0.2s					
OBKA			Sn	**Sn**	**06 22 04.8**	**-1.0**
	7.0nm,0.4s					
OBKA	**Obir**	**4.64 352**	*i* Pn	**Pn**	**06 21 13.0**	**+0.8**
	2.4nm,0.2s					
OBKA			*i* Sn	**Sn**	**06 22 04.8**	**-1.0**
	7.0nm,0.4s					
MYKA	**Terra Mystica**	**4.90 345**	Pn	**Pn**	**06 21 16.8**	**+1.1**
	1.8nm,0.3s					
MYKA	**Terra Mystica**	**4.90 345**	*e*Pn	**Pn**	**06 21 16.8**	**+1.1**
	1.8nm,0.3s					
MOA	**Molln**	**6.00 352**	Pn	**Pn**	**06 21 31.3**	**+0.5**
	1.4nm,0.2s					
MOA			Sn	**Sn**	**06 22 37.4**	**-1.7**
	3.6nm,0.3s					
MOA	**Molln**	**6.00 352**	*e*Pn	**Pn**	**06 21 31.3**	**+0.5**
	1.4nm,0.2s					
MOA			*i* Sn	**Sn**	**06 22 37.4**	**-1.7**
	3.6nm,0.3s					
FETA	**Feichten**	**6.14 328**	Pn	**Pn**	**06 21 34.7**	**+1.8**
	0.4nm,0.1s					
FETA	**Feichten**	**6.14 328**	*e*Pn	**Pn**	**06 21 34.7**	**+1.8**
	0.4nm,0.1s					
FETA			*e*Sn	**Sn**	**06 22 40.0**	**-2.8**
	2.2nm,0.4s					
DAVA	**Damuels**	**6.70 325**	Pn	**Pn**	**06 21 42.3**	**+1.8**
	1.5nm,0.2s					
DAVA	**Damuels**	**6.70 325**	*e*Pn	**Pn**	**06 21 42.3**	**+1.8**
	1.5nm,0.2s					

BJI ***29*** *06:51:25.0, 16°.26S× 168°.46E, h204km, mb4.7/9, mB4.8/6*
ISCJB ***29*** *06:51:29.9±0.3, 15°.79S±0°.04× 167°.89E±0°.05, h217km, mb4.6/32, Error ellipse: s-maj=7.8km s-min=5.1km az=141.8*
WEL ***29*** *06:51:30.0, 15°.77S× 167°.97E, h219km*
NEIC ***29*** *06:51:30.9±0.3, 15°.77S× 167°.97E, mb4.7/11, Error ellipse: s-maj=6.6km s-min=5.8km az=210.0*
IDC ***29*** *06:51:31.3±0.7, 15°.83S× 167°.88E, h217km±6km, mb4.0/14, mb1 4.1/16, mb1mx3.7/52, mbtmp4.5/16, Error ellipse: s-maj=11.5km s-min=10.0km az=175.0*

ISC 29 06:51:31.0±0.4, **15°.81S**±0°.06× **167°.97E**±0°.07, **h217**km, **n75**, σ1°**08**/90, **mb4.7**/32, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.39**	**193**	P		P	**Pn**	**06 53 03.0**	**-0.6**
	3.0nm,0.3s,baz=52,slow=15,SNR=19								
DZM				S			**S**	**06 54 15.8**	**-1.5**
	2.9nm,0.3s,baz=304,slow=22,SNR=8.1								
DZM	**Mont Dzumac**	**6.39**	**193**	*e*Pn			**Pn**	**06 53 02.6**	**-1.1**
	33nm,0.6s								
DZM				*e*Sn			**S**	**06 54 17.1**	**-0.2**
HNR	**Honiara**	**10.07**	**308**	*e*Pn			**Pn**	**06 53 49.6**	**-1.4**
FUNA	**Funafuti**	**13.15**	**58**	*e*Pn			**Pn**	**06 54 26.5**	**-3.3**
EIDS	**Eidsvold**	**18.43**	**236**	*e*P			**P**	**06 55 30.9**	**+0.5**
	110nm,0.8s								
AFI	**Afiamalu**	**19.67**	**87**	P			**P**	**06 55 45.2**	**+1.3**
	4.0nm,0.3s,baz=88,slow=2.4,SNR=5.5								
OUZ	**Omahuta**	**19.98**	**166**	*e*P			**P**	**06 55 47.4**	**+0.5**
	108nm,1.0s								
OUZ	**Omahuta**	**19.98**	**166**	P			**P**	**06 55 48.6**	**+1.6**
WCZ	**Waipu Caves**	**20.84**	**165**	P			**P**	**06 55 57.7**	**+1.6**
ARMA	**Armidale**	**20.87**	**223**	*e*P			**P**	**06 55 56.4**	**-0.2**
	50nm,0.9s								
CTA	**Charters Tower**	**21.08**	**255**	P			**P**	**06 55 58.2**	**-0.6**
	20nm,0.8s,baz=86,slow=11,SNR=16								
CTAO	**Charters Tower**	**21.08**	**255**	*e*P			**P**	**06 55 59.2**	**+0.4**
	21nm,0.8s								
PMG	**Port Moresby**	**21.27**	**285**	*e*P			**P**	**06 56 01.4**	**+0.6**
KUZ	**Kuaotunu**	**21.96**	**163**	P			**P**	**06 56 08.1**	**+0.7**
MKAZ	**Moumakai**	**22.15**	**165**	P			**P**	**06 56 10.3**	**+1.2**
HIZ	**Hauiti**	**23.42**	**166**	*e*P			**P**	**06 56 20.8**	**+0.2**
	124nm,1.2s								
HAZ	**Te Kaha**	**23.52**	**160**	P			**P**	**06 56 22.6**	**+1.1**
MXZ	**Matakaoa Point**	**23.52**	**159**	P			**P**	**06 56 22.5**	**+0.9**
RUGZ	**Raukumara Rang**	**23.68**	**161**	P			**P**	**06 56 23.2**	**+0.1**
PKGZ	**Pakihiroa**	**23.74**	**160**	P			**P**	**06 56 24.0**	**+0.4**
URZ	**Urewera**	**23.77**	**162**	P			**P**	**06 56 24.2**	**+0.3**
	18nm,0.3s,baz=281,slow=1.7,SNR=31								
URZ	**Urewera**	**23.77**	**162**	*e*P			**P**	**06 56 23.6**	**-0.2**
	43nm,0.8s								
URZ	**Urewera**	**23.77**	**162**	P			**P**	**06 56 24.3**	**+0.5**
WMGZ	**Waiomatatini S**	**23.79**	**159**	P			**P**	**06 56 24.0**	**0.0**
MUGZ	**Murupara**	**23.88**	**163**	P			**P**	**06 56 26.2**	**+1.4**
PUZ	**Puketiti**	**23.96**	**160**	P			**P**	**06 56 26.0**	**+0.4**
MWZ	**Matawai**	**23.97**	**161**	P			**P**	**06 56 26.0**	**+0.3**
TWGZ	**Tauwhareparae**	**23.97**	**160**	P			**P**	**06 56 26.1**	**+0.4**
COEN	**Coen**	**24.03**	**271**	*e*P			**P**	**06 56 26.1**	**-0.3**
	24nm,0.9s								
RTZ	**Ruatahuna**	**24.07**	**162**	P			**P**	**06 56 27.2**	**+0.7**
MRHZ	**Matea Rd**	**24.11**	**164**	P			**P**	**06 56 28.9**	**+2.0**
WTVZ	**West Tongariro**	**24.16**	**165**	P			**P**	**06 56 29.7**	**+2.2**
SNGZ	**Shannon Statio**	**24.32**	**162**	P			**P**	**06 56 29.2**	**+0.3**
RIGZ	**Rimuhau**	**24.38**	**161**	P			**P**	**06 56 30.1**	**+0.6**
BKZ	**Black Stump Fm**	**24.44**	**164**	*e*P			**P**	**06 56 29.4**	**-0.6**
	20nm,0.7s								
PATS	**Pohnpei**	**24.45**	**336**	*e*P			**P**	**06 56 30.2**	**0.0**
	111nm,1.2s								
KNZ	**Kokohu**	**24.64**	**162**	P			**P**	**06 56 31.4**	**-0.3**
KWHZ	**Kaweka Forest**	**24.66**	**164**	P			**P**	**06 56 32.7**	**+0.7**
BFZ	**Birch Farm**	**25.81**	**165**	*e*P			**P**	**06 56 42.2**	**0.0**
	39nm,1.0s								
LTZ	**Lake Taylor**	**27.13**	**173**	*e*P			**P**	**06 56 54.0**	**-0.1**
	14nm,0.8s								
FOZ	**Fox Glacier**	**27.68**	**177**	*e*P			**P**	**06 56 59.0**	**+0.2**
	162nm,1.9s								
RPZ	**Rata Peaks**	**27.94**	**175**	P			**P**	**06 57 01.4**	**+0.2**
	7.0nm,0.7s,baz=221,slow=2.2,SNR=4.7								
RPZ				S			**S**	**07 01 29.5**	**+0.8**
	1.6nm,0.3s,baz=247,slow=9.8,SNR=2.4								
MQZ	**McQueen's Vall**	**28.09**	**173**	*e*P			**P**	**06 57 03.4**	**+1.0**
	64nm,1.5s								
STKA	**Stephens Creek**	**28.83**	**232**	P			**P**	**06 57 09.9**	**+0.7**
	20nm,0.8s,baz=50,slow=7.4,SNR=50								
STKA				PcP			**PcP**	**07 00 13.5**	**+0.2**
	1.0nm,0.4s,baz=104,slow=9.6,SNR=3.2								
STKA	**Stephens Creek**	**28.83**	**232**	*e*P			**P**	**06 57 09.8**	**+0.6**
	4.7nm,0.9s								
STKA				PcP			**PcP**	**07 00 13.5**	**+0.2**
DCZ	**Deep Cove**	**29.57**	**181**	*e*P			**P**	**06 57 16.3**	**+0.7**
	52nm,1.6s								
RAR	**Rarotonga**	**31.03**	**105**	P			**P**	**06 57 29.1**	**+0.5**
	6.1nm,0.5s,baz=121,slow=6.8,SNR=2.8								
WB2	**Warrumunga Arr**	**32.22**	**258**	*e*P			**P**	**06 57 38.0**	**-1.2**
WRA	**Warramunga Arr**	**32.23**	**258**	P			**P**	**06 57 38.3**	**-1.0**
	3.9nm,0.8s,baz=81,slow=6.1,SNR=39								
WRA				PcP			**PcP**	**07 00 22.8**	**+0.3**
	0.4nm,0.6s,baz=94,slow=6.8,SNR=4.4								
WRA				S			**S**	**07 02 35.2**	**-1.2**
	1.6nm,1.2s,baz=86,slow=14,SNR=3.6								
WRA				ScP			**ScP**	**07 03 46.9**	**+1.4**
	0.9nm,0.9s,baz=86,slow=3.5,SNR=4.6								
AS01	**Alice Springs**	**32.89**	**251**	*e*P			**P**	**06 57 44.7**	**-0.3**
AS31	**Alice Springs**	**32.93**	**251**	*e*P			**P**	**06 57 44.8**	**-0.5**
	5.7nm,0.8s								
ASAR	**Alice Springs**	**32.94**	**251**	P			**P**	**06 57 44.9**	**-0.5**
	14nm,0.7s,baz=78,slow=9.1,SNR=128								
ASAR				pP			**pP**	**06 58 29.3**	**-0.3**
	4.6nm,0.7s,baz=81,slow=9.5,SNR=2.6								
ASAR				PcP			**PcP**	**07 00 24.4**	**0.0**
	0.4nm,0.5s,baz=93,slow=2.8,SNR=4.1								
ASAR				S			**S**	**07 02 45.4**	**-1.9**
	0.8nm,0.9s,baz=75,slow=16,SNR=4.1								
ASAR				ScP			**ScP**	**07 03 49.7**	**+1.8**
	1.0nm,0.9s,baz=92,slow=3.4,SNR=5.1								
BBOO	**Buckleboo**	**33.47**	**234**	*e*P			**P**	**06 57 49.7**	**-0.2**
	16nm,0.8s								
FORT	**Forrest**	**39.34**	**241**	*e*P			**P**	**06 58 38.9**	**-0.6**
	422nm,0.8s								
LUWI	**Luwuk**	**46.91**	**284**	*e*P			**P**	**06 59 39.8**	**-0.4**
	28nm,0.6s								
NWAO	**Narrogin (SRO)**	**48.78**	**240**	*e*P			**P**	**06 59 53.7**	**-0.7**
	32nm,0.9s								
VNDA	**Vanda**	**61.80**	**182**	P			**P**	**07 01 27.1**	**+0.7**
	2.3nm,0.7s,baz=355,slow=6.2,SNR=8.7								
VNDA	**Vanda**	**61.80**	**182**	*e*P			**P**	**07 01 26.5**	**+0.1**
	3.4nm,0.8s								
NJ2	**Nanjing**	**66.91**	**316**	*e*P			**P**	**07 02 01.0**	**+0.8**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
QSPA	**South Pole Qui**	**74.22**	**180**	P			**P**	**07 02 44.3**	**+0.3**
	9.2nm,0.9s,baz=353,slow=1.1,SNR=34								
QSPA	**South Pole Qui**	**74.22**	**180**	*e*P			**P**	**07 02 43.9**	**0.0**
	83nm,1.3s								
KMI	**Kunming**	**75.44**	**302**	P			**P**	**07 02 53.5**	**+1.7**
KMI				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KMI				pmax		pmax			
	comp=Z,110nm,4.6s								
CMAR	**Chiang Mai Arr**	**76.00**	**294**	P			**P**	**07 02 55.8**	**+1.0**
	0.9nm,0.4s,baz=116,slow=6.1,SNR=3.3								
CMAR				pP			**pP**	**07 03 47.8**	**+1.4**
	0.8nm,0.4s,baz=119,slow=3.5,SNR=1.5								
HHC	**Hu-ho-hao-te**	**76.84**	**320**	*e*P			**P**	**07 03 02.8**	**+3.7**
HHC				pmax		pmax			
	comp=Z,24nm,0.8s								
HHC				pmax		pmax			
	comp=Z,80nm,8.9s								
LZH	**Lanzhou**	**79.54**	**312**	*e*P			**P**	**07 03 14.0**	**-0.1**
LZH				pP			pP	07 04 05.3	-0.9
LZH				sP			sP	07 04 27.0	-2.2
LZH				PP			**PP**	**07 06 19.3**	**+1.2**
LZH				pmax		pmax			
	comp=Z,19nm,1.4s								
LZH				pmax		pmax			
	comp=Z,76nm,9.2s								
GTA	**Gaotai**	**83.89**	**314**	*e*P			**P**	**07 03 33.5**	**-3.3**
GTA				pP			pP	07 04 23.0	-6.4
ILAR	**Eielson Array**	**87.34**	**18**	P			**P**	**07 03 51.6**	**-1.3**
	0.3nm,0.6s,baz=243,slow=5.3,SNR=8.9								
ILAR				pP			**pP**	**07 04 46.6**	**+0.6**
	0.8nm,0.7s,baz=218,slow=4.7,SNR=4.9								
SNAA	**Sanae**	**92.51**	**183**	P			**P**	**07 04 16.5**	**-0.7**
	1.5nm,0.6s,baz=192,slow=9.3,SNR=5.0								
VNA2	**Neumayer--Watz**	**93.43**	**182**	P			**P**	**07 04 20.9**	**-0.5**
	baz=178,slow=4.9								
WMQ	**Urumqi**	**93.96**	**314**	P			**P**	**07 04 25.5**	**+1.2**
YKA	**Yellowknife Ar**	**98.19**	**27**	P			**P**	**07 04 42.9**	**0.0**
	0.2nm,0.8s,baz=271,slow=7.9,SNR=3.3								
YKA				pP			**pP**	**07 05 36.4**	**0.0**
	0.2nm,0.8s,baz=266,slow=4.8,SNR=2.1								
MKAR	**Makanchi Array**	**98.44**	**316**	P			Pdif	07 04 46.0	+1.5
	0.4nm,0.9s,baz=105,slow=4.9,SNR=2.2								
MKAR				pP			pP	07 05 37.1	-0.9
	0.3nm,0.7s,baz=107,slow=5.0,SNR=2.9								
KSH	**Kashi**	**101.39**	**308**	*e*P			**Pdif**	**07 05 00.0**	**+2.1**
KSH				pmax		pmax			
	comp=Z,62nm,6.3s								
ARCES	**ARCESS Array B**	**121.46**	**345**	PKP			**PKPdf**	**07 09 57.7**	**-0.2**
	5.1nm,0.9s,baz=64,slow=2.1,SNR=18								
FINES	**FINESS Array B**	**126.97**	**338**	PKP			**PKPdf**	**07 10 08.3**	**-0.3**
	2.3nm,1.1s,baz=64,slow=3.2,SNR=4.4								

JMA ***29*** *06:52:34.3±0.1, 23°.69N× 122°.90E, h54km, M2.9*
TAP ***29*** *06:52:34.7, 23°.70N× 123°.00E, h56km±1km, ML3.4, D*

ISC 29 06:52:31.8±1.1, **23°.65N**±0°.03× **122°.94E**±0°.02, **h15**km±9km, **n64**, σ0°**75**/126, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.80**	**1**	P			**Pn**	**06 52 48.9**	**+0.4**
JYNG				*e*S			**Sn**	**06 53 00.2**	**+0.1**
YOJ	**Yonaguni jima**	**0.81**	**5**	P			**Pn**	**06 52 49.2**	**+0.6**
YOJ				S			**Sn**	**06 53 01.2**	**+0.7**
YOJ	**Yonaguni jima**	**0.81**	**5**	P			**Pn**	**06 52 49.3**	**+0.6**
YOJ				*e*S			**Sn**	**06 53 00.5**	**0.0**
HATJ	**Hateruma jima**	**0.89**	**63**	P			**Pn**	**06 52 51.0**	**+1.2**
HATJ				S			**Sn**	**06 53 02.6**	**+0.1**
IRIF	**Iriomote-Funau**	**0.99**	**47**	P			**Pg**	**06 52 52.5**	**+1.4**
IRIF				*e*S			**Sn**	**06 53 05.4**	**+0.4**
JKRS	**Kuro-shima**	**1.14**	**59**	P			**Pg**	**06 52 54.9**	**+1.0**
JKRS				*e*S			**Sg**	**06 53 09.2**	**+0.4**
EOS1	**EOS1**	**1.16**	**321**	*e*P			**Pg**	**06 52 54.9**	**+0.7**
	baz=325								
EOS1				S			**Sg**	**06 53 10.5**	**+1.1**
	baz=325								
ENLB	**Shoufeng**	**1.25**	**282**	P			**Pg**	**06 52 56.0**	**

OWD				*e*S		**Sb**	**06 53 21.9**	**-0.6**
	baz=270							
TIPB	**Shuangxi**	**1.66 323**		P		**Pb**	**06 53 02.1**	**0.0**
	baz=320							
TIPB				*e*S		**Sb**	**06 53 22.9**	**0.0**
	baz=320							
CHGB	**Renai**	**1.67 285**		P		**Pb**	**06 53 02.1**	**-0.2**
	baz=276							
CHGB				*e*S		**Sb**	**06 53 22.9**	**-0.3**
	baz=276							
TWT	**Tachien**	**1.72 291**		*e*P		**Pb**	**06 53 03.3**	**+0.1**
	baz=288							
TWT				*e*S		**Sb**	**06 53 24.2**	**-0.5**
	baz=288							
NWLT	**Wulai**	**1.72 311**		*e*P		**Pb**	**06 53 03.4**	**+0.2**
	baz=309							
NWLT				*e*S		**Sb**	**06 53 24.4**	**-0.3**
	baz=309							
TDCB	**Techi**	**1.73 291**		P		**Pb**	**06 53 03.4**	**-0.1**
	baz=288							
TDCB				S		**Sb**	**06 53 24.5**	**-0.6**
	baz=288							
YHNB	**Yeheng**	**1.75 306**		P		**Pb**	**06 53 03.6**	**0.0**
	baz=293							
YHNB				S		**Sb**	**06 53 25.1**	**-0.5**
	baz=293							
WFSB	**Wu-fen Shan**	**1.76 324**		*e*P		**Pg**	**06 53 04.6**	**-1.1**
	baz=321							
WFSB				*e*S		**Sb**	**06 53 25.1**	**-0.7**
	baz=321							
SSLB	**Suanglung**	**1.82 275**		*e*P		**Pb**	**06 53 04.5**	**-0.4**
	baz=272							
SSLB				*e*S		**Sn**	**06 53 26.3**	**+0.7**
	baz=272							
ELDTW	**Lidau**	**1.82 256**		P		**Pb**	**06 53 04.2**	**-0.8**
	baz=253							
ELDTW				S		**Sn**	**06 53 25.8**	**+0.1**
	baz=253							
YUS	**Yu-Shan**	**1.83 265**		P		**Pb**	**06 53 05.0**	**-0.2**
	baz=263							
YUS				S		**Sn**	**06 53 26.4**	**+0.1**
	baz=263							
TTN	**Taitung**	**1.87 242**		*e*P		**Pb**	**06 53 05.6**	**-0.1**
	baz=240							
TTN				S		**Sn**	**06 53 27.9**	**+1.2**
	baz=240							
SMLT	**Sun Moon Lake**	**1.88 277**		*e*P		**Pb**	**06 53 05.6**	**-0.3**
	baz=275							
SMLT				*e*S		**Sn**	**06 53 27.4**	**+0.4**
	baz=275							
JTJ	**Tarama**	**1.89 58**		P		**Pb**	**06 53 05.2**	**-0.8**
JTJ				*e*S		**Sb**	**06 53 27.1**	**-2.3**
TWGBT	**Beinan**	**1.90 244**		P		**Pb**	**06 53 05.7**	**-0.5**
	baz=243							
TWGBT				S		**Sn**	**06 53 27.6**	**+0.3**
	baz=243							
TWG	**Pinlang**	**1.90 245**		P		**Pb**	**06 53 05.5**	**-0.7**
	baz=243							
TWG				S		**Sn**	**06 53 27.3**	**-0.1**
	baz=243							
TYC	**Yuchr**	**1.92 278**		*e*P		**Pb**	**06 53 05.8**	**-0.7**
	baz=276							
TYC				*e*S		**Sn**	**06 53 28.7**	**+0.8**
	baz=276							
SANB	**Taian**	**1.93 293**		*e*P		**Pb**	**06 53 07.7**	**+0.8**
	baz=291							
SANB				*e*S		**Sb**	**06 53 31.2**	**+0.3**
	baz=291							
YM07	**YM07**	**1.94 322**		*e*S		**Sb**	**06 53 30.1**	**-0.7**
	baz=320							
ALS	**Alishan**	**1.96 266**		*e*P		**Pb**	**06 53 07.6**	**+0.2**
	baz=264							
ALS				*e*S		**Sn**	**06 53 30.4**	**+1.1**
	baz=264							
YM03	**YM03**	**1.98 320**		*e*P		**Pb**	**06 53 07.2**	**-0.4**
	baz=319							
YM03				*e*S		**Sb**	**06 53 31.0**	**-1.3**
	baz=319							
TWS1	**Kuangyinshan**	**2.00 316**		*e*S		**Sb**	**06 53 31.8**	**-0.9**
	baz=325							
LIOB	**Emei**	**2.02 300**		*e*P		**Pb**	**06 53 08.6**	**+0.5**
	baz=289							
LIOB				*e*S		**Sb**	**06 53 32.0**	**-1.1**
	baz=289							
NSTT	**Nanjuang**	**2.02 299**		*e*P		**Pb**	**06 53 08.6**	**+0.3**
	baz=289							
NSTT				*e*S		**Sb**	**06 53 31.8**	**-1.4**
	baz=289							
STYT	**Tauyuan**	**2.06 257**		*e*P		**Pb**	**06 53 08.4**	**-0.6**
	baz=249							
STYT				*e*S		**Sn**	**06 53 33.1**	**+1.7**
	baz=249							
CHN5	**Tsauling**	**2.07 269**		*e*P		**Pb**	**06 53 09.6**	**+0.4**
	baz=261							
CHN5				*e*S		**Sn**	**06 53 33.2**	**+1.4**
	baz=261							
TWQ1	**Liyutan**	**2.10 290**		*e*P		**Pb**	**06 53 08.9**	**-0.7**
	baz=287							
TWQ1				*e*S		**Sb**	**06 53 33.8**	**-1.6**
	baz=287							
WTP	**Ta-pu**	**2.17 260**		*e*P		**Pb**	**06 53 11.1**	**+0.3**
	baz=257							
WTP				*e*S		**Sb**	**06 53 36.1**	**-1.5**
	baz=257							
CHN4	**Tsaushan**	**2.17 263**		*e*P		**Pb**	**06 53 11.2**	**+0.3**
	baz=256							
CHN4				*e*S		**Sn**	**06 53 35.3**	**+1.2**
	baz=256							
SLGT	**Liugui**	**2.21 253**		*e*P		**Pb**	**06 53 11.6**	**+0.2**
	baz=248							
SLGT				*e*S		**Sn**	**06 53 36.7**	**+1.8**
	baz=248							
TWK	**Hsinying**	**2.28 261**		*e*P		**Pb**	**06 53 12.3**	**-0.4**
	baz=258							
TWK				*e*S		**Sn**	**06 53 38.2**	**+1.3**
	baz=258							
MASBT	**Mashibuluo**	**2.36 244**		*e*P		**Pb**	**06 53 12.4**	**-1.6**
	baz=245							
MASBT				*e*S		**Sn**	**06 53 39.9**	**+1.2**
	baz=245							
SCZT	**Fangliau**	**2.48 240**		*e*P		**Pb**	**06 53 15.4**	**-0.8**
	baz=241							
SCZT				*e*S		**Sn**	**06 53 43.0**	**+1.2**
	baz=241							

NIED ***29*** *06:57:00.31˙20N×142˙40E, h5km, Mw3.8 Best double couple: M0 4.78000×10^14 NP1:ϕs 220.00000°, δ38.00000°, λ132.00000°. NP2:ϕs 351.00000°, δ63.00000°, λ62.00000°.*
ISCJB ***29*** *06:57:02.6± 1.2, 30.8N±0.1×142.4E±0.3, h35km, mb3.7/8, MS3.5/2, Error ellipse: s-maj=43.7km s-min=8.2km az=162.2*
IDC ***29*** *06:57:05.8± 0.9, 30˙22N× 140˙48E, h0km, mb3.5/9, mb1 3.7/9, mb1mx3.5/70, mbtmp3.5/9, MS3.1/4, Ms1 3.1/4, ms1mx2.6/52, Error ellipse: s-maj=29.1km s-min=19.5km az=92.0*
JMA ***29*** *06:57:07.3± 0.7, 31˚.17N× 142˚.44E, h86km, M3.6*

ISC 29 06:57:05.3±1.7, 30.8N±0.1×142.3E±0.3, h35km, n23, σ1s62/19, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.15 317**		LR		LR		06 59 05.8	
	comp=Z,148nm,18.8s,baz=200,slow=41								
BSO1	**Boso 1**	**3.99 344**		P			**Pn**	**06 58 03.0**	**-0.4**
BSO3	**Boso 3**	**4.25 339**		P			**Pn**	**06 58 07.6**	**+0.3**
BSO4	**Boso 4**	**4.48 338**		P			**Pn**	**06 58 10.4**	**-0.2**
JOD2	**Odawara 2**	**5.20 329**		P			**Pn**	**06 58 21.4**	**+0.8**
JHU	**Hanno**	**5.63 334**		P			**Pn**	**06 58 25.9**	**-0.6**
JHU				S			**Sn**	**06 59 27.5**	**-2.4**
JRY	**Ryogami san**	**5.92 332**		P			**Pn**	**06 58 30.6**	**+0.1**
JRY				*e*S			**Sn**	**06 59 34.0**	**-3.2**
JAG	**Ashikaga**	**6.08 337**		P			**Pn**	**06 58 31.9**	**-0.8**
JNG	**Nsakai**	**6.59 329**		P			**Pn**	**06 58 40.5**	**+0.7**
MJAR	**Matsushiro Arr**	**6.66 330**		Pn			**Pn**	**06 58 40.9**	**+0.3**
	1.4nm,0.3s,baz=156,slow=11,SNR=26								
MJAR				Sn			**Sn**	**06 59 57.0**	**+1.7**
	0.4nm,0.3s,baz=115,slow=42,SNR=3.7								
MAT	**Matsushiro**	**6.66 330**		P			**Pn**	**06 58 41.0**	**+0.3**
MAT				*e*S			**Sn**	**06 59 56.8**	**+1.4**
KSRS	**Korea Array**	**13.64 303**		LR			LR	07 05 09.4	
	comp=Z,31nm,18.3s,baz=110,slow=38								
KLR	**Kul'dur**	**20.05 339**		P			**Pn**	**07 01 40.9**	**+3.6**
	0.2nm,0.6s,baz=142,slow=4.9,SNR=8.1								
SONM	**Songino Array**	**32.22 312**		P			**P**	**07 03 30.2**	**0.0**
	1.0nm,0.8s,baz=109,slow=7.8,SNR=3.7								
ZALV	**Zalesovo Beam**	**46.82 317**		LR			LR	07 25 53.4	
	comp=Z,36nm,18.2s,baz=248,slow=37								
MKAR	**Makanchi Array**	**48.27 307**		P			**P**	**07 05 40.5**	**-2.5**
	1.3nm,0.8s,baz=97,slow=8.8,SNR=9.5								
KURBB	**Kurchatov Arra**	**50.59 312**		P			**P**	**07 06 00.4**	**0.0**
	1.4nm,0.8s,baz=90,slow=7.0,SNR=10								
WRA	**Warramunga Arr**	**51.06 190**		P			P	07 06 03.4	-0.9
	0.7nm,0.4s,baz=5.6,slow=7.5,SNR=19								
ILAR	**Eielson Array**	**54.40 30**		P			P	07 06 42.6	+14
	0.4nm,0.8s,baz=280,slow=5.4,SNR=3.7								
ASAR	**Alice Springs**	**54.78 189**		P			**P**	**07 06 31.6**	**-0.1**
	0.2nm,0.4s,baz=350,slow=4.5,SNR=4.6								
INK	**Inuvik**	**59.60 25**		P			P	07 07 19.8	+15
	0.6nm,0.7s,baz=274,slow=4.0,SNR=3.0								
YKA	**Yellowknife Ar**	**68.81 29**		P			P	07 08 20.4	+15
	0.2nm,0.8s,baz=292,slow=6.6,SNR=3.7								
KBZ	**Khabaz**	**75.59 312**		LR			LR	07 44 06.4	
	comp=Z,25nm,19.0s,baz=230,slow=38								

IDC ***29*** *07:01:05.9± 1.5, 18˚.16S× 172˚.59W, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.9/52, mbtmp4.0/7, ML3.7/1, MS3.4/9, Ms1 3.4/9, ms1mx3.0/46, Error ellipse: s-maj=69.9km s-min=21.7km az=147.0*
NEIC ***29*** *07:01:08.8± 0.6, 17˚.40S× 173˚.04W, h10km, mb4.4/4, Error ellipse: s-maj=27.8km s-min=12.3km az=143.0*

ISC 29 07:01:10.8±0.7, 17.3S±0.1×173.1W±0.2, h21km, n34, σ1s57/22, mb4.3/12, MS3.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.62**	**21**	Pn			**Pb**	**07 02 10.9**	**-3.2**
	4.4nm,0.3s,baz=181,slow=2.8,SNR=4.5								
AFI				Sn			**Sb**	**07 02 58.7**	**+1.2**
	11nm,0.3s,baz=217,slow=21,SNR=4.3								
AFI	**Afiamalu**	**3.62**	**21**	*e*Pn			**Pn**	**07 02 06.8**	**+1.1**
AFI				*e*Sn			**Sb**	**07 02 58.8**	**+1.2**
RAR	**Rarotonga**	**13.18**	**109**	LR			LR	07 08 17.0	
	comp=Z,67nm,18.8s,baz=275,slow=35								
DZM	**Mont Dzumac**	**19.82**	**253**	LR			LR	07 11 43.0	
	comp=Z,95nm,19.8s,baz=53,slow=32								
DZM	**Mont Dzumac**	**19.82**	**253**	*e*LR			LR	07 10 38.0	
	119nm,25.1s								
PAE	**Paea**	**22.44**	**94**	*e*T			T	07 27 57.8	
	6.3nm,0.3s								
PPT2	**Papeete2**	**22.45**	**94**	*e*LR			LR	07 10 41.6	
	181nm,26.5s								
PPT2	**Papeete2**	**22.45**	**94**	*e*T			T	07 28 04.2	
	6.6nm,0.4s								
PPT	**Papeete**	**22.45**	**94**	LR			LR	07 13 25.5	
	comp=Z,82nm,18.5s,baz=272,slow=34								
TVO	**Taravao**	**22.75**	**95**	*e*T			T	07 28 12.8	
	1.6nm,0.3s								
HNR	**Honiara**	**27.33**	**283**	LR			LR	07 17 16.6	
	comp=Z,54nm,18.8s,baz=144,slow=35								
RPZ	**Rata Peaks**	**29.54**	**204**	P			**P**	**07 07 13.8**	**0.0**
	2.9nm,0.4s,baz=59,slow=5.9,SNR=2.6								
CTA	**Charters Tower**	**38.53**	**259**	P			**P**	**07 08 33.0**	**+1.0**
	1.3nm,0.3s,baz=82,slow=7.1,SNR=2.8								
STKA	**Stephens Creek**	**43.35**	**242**	LR			LR	07 26 51.3	
	comp=Z,39nm,18.4s,baz=206,slow=36								
BBOO	**Buckleboo**	**48.12**	**241**	*e*P			**P**	**07 09 47.4**	**-2.0**
	1.5nm,0.5s								
WB2	**Warramunga Arr**	**49.70**	**258**	*e*P			**P**	**07 10 00.7**	**-0.9**
	3.7nm,0.8s								
WRAB	**Tennant Creek**	**49.70**	**258**	*e*P			**P**	**07 10 02.0**	**+0.3**
	2.6nm,0.7s								
WR1	**Warramunga Arr**	**49.71**	**258**	*e*P			**P**	**07 10 01.8**	**+0.1**
	4.8nm,0.9s								
WRA	**Warramunga Arr**	**49.71**	**258**	P			**P**	**07 10 01.8**	**+0.1**
	2.4nm,0.8s,baz=96,slow=7.3,SNR=23								
AS01	**Alice Springs**	**49.77**	**253**	*e*P			**P**	**07 10 01.8**	**-0.4**
ASAR	**Alice Springs**	**49.81**	**253**	P			**P**	**07 10 02.5**	**0.0**
	4.1nm,0.8s,baz=87,slow=8.2,SNR=24								
RPN	**Rapa Nui**	**59.31**	**112**	LR			LR	07 30 11.6	
	comp=Z,36nm,21.9s,baz=256,slow=30								
MJAR	**Matsushiro Arr**	**70.57**	**320**	LR			LR	07 38 11.5	
	comp=Z,11nm,22.0s,baz=110,slow=31								
LPIG	**La Paz**	**73.80**	**58**	LR			LR	07 37 43.8	
	comp=Z,49nm,19.4s,baz=322,slow=30								
DBD	**Des Bee Dove**	**80.73**	**44**	*e*P			**P**	**07 13 21.9**	**-1.0**
LTX	**Lajitas**	**81.44**	**56**	*e*P			**P**	**07 13 25.3**	**-1.4**
TXAR	**Lajitas Array**	**81.44**	**56**	P			**P**	**07 13 25.3**	**-1.4**
	0.6nm,0.9s,baz=205,slow=5.5,SNR=4.9								
PV09	**Paradox Valley**	**81.63**	**45**	*e*P			**P**	**07 13 26.3**	**-1.5**
PDAR	**Pinedale Array**	**83.50**	**42**	P			**P**	**07 13 36.5**	**-0.9**
	0.7nm,0.7s,baz=194,slow=5.5,SNR=5.0								
ILAR	**Eielson Array**	**84.25**	**11**	P			**P**	**07 13 44.3**	**+3.9**
	1.2nm,1.2s,baz=214,slow=7.7,SNR=4.2								
PSI	**Prapat**	**88.88**	**273**	LR			LR	07 53 57.5	
	comp=Z,47nm,18.5s,baz=36,slow=36								
ROC1	**El Roble**	**90.46**	**125**	*e*P			**P**	**07 14 13.4**	**+1.8**
	13nm,0.6s								
BR101	**Keskin Array S**	**147.79**	**319**	*e*PKPbc			**PKPab**	**07 20 57.1**	**+0.1**
BRTR	**Keskin Array B**	**147.79**	**319**	PKPbc			**PKPab**	**07 20 57.1**	**+0.1**
	0.5nm,0.6s,baz=60,slow=3.5,SNR=2.9								

NEIC ***29*** *07:12:12.7± 0.0, 16˚.60N× 98˚.36W, h29km, MD4.0(MEX), After MEX.*

MEX 29 07:12:11.8±0.7, 16.55N×98.43W, h30km±7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**118**	*e*P			Pb	07 12 18.0	-1.6
PNIG				*e*S			Sb	07 12 23.5	-1.5
PNIG	**Pinotepa**	**0.33**	**118**	*e*P			Pb	07 12 18.1	-1.6
PNIG				*e*S			Sb	07 12 23.5	-1.5
TLIG	**Tlapa**	**1.02**	**353**	*e*P			Pn	07 12 27.5	-2.7
TLIG				*i* S			Sn	07 12 40.1	-3.6
TLIG	**Tlapa**	**1.02**	**353**	*e*P			Pn	07 12 27.7	-2.5
TLIG				*e*S			Sn	07 12 34.4	-9.3
HMTT	**Tlapaneco**	**1.25**	**354**	*e*P			Pn	07 12 31.8	-1.6
HMTT				*e*S			Sn	07 12 45.9	-3.5
VHO	**Vista Hermosa**	**1.71**	**72**	*e*P			Pn	07 12 37.5	-2.3
VHO				*e*S			Sn	07 12 58.3	-2.4
VHO	**Vista Hermosa**	**1.71**	**72**	*e*P			Pn	07 12 38.8	-0.9
VHO				*e*S			Sn	07 12 47.6	-13
CAIG	**El Cayaco**	**1.83**	**286**	*e*P			Pn	07 12 39.4	-1.8
CAIG				*i* S			Sn	07 13 01.1	-2.3
CAIG	**El Cayaco**	**1.83**	**286**	*e*P			Pn	07 12 41.3	+0.1
CAIG				*e*S			Sn	07 12 58.8	-4.6
HUIG	**Huatulco**	**2.36**	**109**	*i* P			Pn	07 12 47.5	-1.0
HUIG				*i* S			Sn	07 13 13.4	-3.1
HUIG	**Huatulco**	**2.36**	**109**	*e*P			Pb	07 12 51.6	-2.1
HUIG				*e*S			Sn	07 13 13.4	-3.2

IDC 29 07:12:32.4±1.2, 51.28N×82.00E, h0km, mb1 2.2/3, mb1mx2.1/77, mbtmp2.2/3, ML1.5/3, 4C, Error ellipse: s-maj=12.9km s-min=11.1km az=131.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.21**	**256**	⇑Pg			Pn	07 13 11.5	+1.2
	2.0nm,0.5s								
KURK				⇑Lg		Lg		07 13 41.6	
	4.4nm,0.4s								
KURBB	**Kurchatov Arra**	**2.29**	**255**	Pn			Pn	07 13 11.6	+0.2
	0.2nm,0.3s,baz=72,slow=18,SNR=16								
KURBB				Sn			Sn	07 13 40.5	+0.2
	0.5nm,0.3s,baz=72,slow=32,SNR=6.4								
KURBB				Lg		Lg		07 13 44.7	
	0.6nm,0.3s,baz=72,slow=33,SNR=11								
I46RU	**ZALESOVO INFRA**	**3.18**	**32**	*i*				07 29 11.7	
	baz=217,slow=330,SNR=6.6								
ZALV	**Zalesovo Beam**	**3.18**	**32**	Pn			Pn	07 13 23.4	-0.2
	0.2nm,0.3s,baz=216,slow=14,SNR=2.3								
ZALV				Pg			Pb	07 13 30.9	+1.2
	0.9nm,0.3s,baz=209,slow=15,SNR=6.6								
ZALV				Lg		Lg		07 14 13.6	
	0.9nm,0.3s,baz=215,slow=25,SNR=4.0								
MK31	**Makanchi Array**	**4.49**	**177**	⇑Pn			Pn	07 13 45.8	+4.1
	0.5nm,0.6s,baz=358,slow=13,SNR=6.1								
MK31				⇑Lg		Lg		07 14 57.8	
	2.3nm,0.6s,baz=354,slow=29,SNR=8.2								
MKAR	**Makanchi Array**	**4.49**	**177**	Pn			Pn	07 13 41.2	-0.5
	0.0nm,0.3s,baz=50,slow=29,SNR=2.3								
MKAR				Pg			Pb	07 13 51.3	-0.9
	0.1nm,0.3s,baz=357,slow=12,SNR=4.1								
MKAR				Lg		Lg		07 14 55.7	
	0.4nm,0.3s,baz=360,slow=24,SNR=8.3								

MAN 29 07:31:59, 16˙31N×120˙56E, h6km, mb4.6, ML3.5, MS3.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.63**	**277**	*e*P			Pg	07 32 11.2	+0.1
SCZP	**Santa Cruz**	**0.82**	**230**	*e*P			Pg	07 32 15.0	+0.2
SCZP				*e*S			Sn	07 32 31.4	+1.8
PCPH	**Palayan**	**0.90**	**145**	⇓*i*P			Pg	07 32 16.3	0.0
PCPH				*i* S			Sb	07 32 29.6	+0.2
BALP	**Baler**	**1.13**	**120**	*e*P			Pg	07 32 20.2	-0.4
BALP				*e*S			Sn	07 32 36.5	-0.6
ABRA	**Dolores**	**1.34**	**6**	*e*P			Pn	07 32 21.6	-2.6
CAUP	**Cauayan**	**1.36**	**62**	*e*P			Pn	07 32 24.7	+0.1
CAUP				*e*S			Sn	07 32 46.2	+3.3
APYP	**Conner**	**1.67**	**23**	*e*P			Pn	07 32 27.8	-1.1
APYP				*e*S			Sb	07 32 51.3	-0.3
LQP	**Lukban**	**2.38**	**157**	⇑*e*P			Pb	07 32 42.6	+0.2
LUBP	**Lubang**	**2.58**	**187**	*e*P			Pn	07 32 42.4	+1.0

IDC 29 07:55:18.0±2.8, 53.37N×87.28E, h0km, mb1 2.7/2, mb1mx2.6/76, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=24.7km s-min=16.2km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**293**	*i*				08 05 33.4	
	baz=109,slow=327,SNR=4.5								
ZALV	**Zalesovo Beam**	**1.57**	**293**	Pg			Pn	07 55 46.2	-0.9
	0.4nm,0.3s,baz=107,slow=14,SNR=8.0								
ZALV				Lg			Lg	07 56 08.4	
	0.6nm,0.3s,baz=109,slow=25,SNR=3.6								
KURBB	**Kurchatov Arra**	**6.06**	**247**	Pn			Pn	07 56 49.9	+1.1
	0.0nm,0.3s,baz=63,slow=14,SNR=2.9								
KURBB				Sn			Sn	07 57 57.0	-1.8
	0.1nm,0.3s,baz=213,slow=4.5,SNR=4.6								
KURBB				Lg			Lg	07 58 31.4	
	0.0nm,0.3s,baz=62,slow=34,SNR=2.5								
MKAR	**Makanchi Array**	**7.32**	**208**	Pn			Pn	07 57 07.4	+1.3
	0.1nm,0.3s,baz=23,slow=13,SNR=5.9								

JMA 29 08:08:14.4±0.2, 40.90N×145.23E, h64km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.92**	**306**	P			Pn	08 08 45.7	+1.0
JEM				*e*S			Sn	08 09 06.9	-0.9
JAK	**Akkeshi**	**2.13**	**349**	P			Pn	08 08 48.6	+0.9
JAK				S			Sn	08 09 13.0	-0.1
JCH	**Churui**	**2.21**	**321**	P			Pn	08 08 49.7	+1.0
JCH				S			Sn	08 09 14.8	-0.2
JOB	**Onbets**	**2.26**	**333**	P			Pn	08 08 51.0	+1.6
JOB				S			Sn	08 09 16.6	+0.5
JNBK	**Urakawa-nobuka**	**2.31**	**307**	P			Pn	08 08 51.7	+1.6
JNBK				*e*S			Sn	08 09 17.8	+0.3
NEM2	**Nemuro 2**	**2.49**	**9**	P			Pn	08 08 53.9	+1.3
NEM2				S			Sn	08 09 22.5	+0.7
JAR	**Ashorobuto**	**2.63**	**336**	P			Pn	08 08 55.0	+0.5
JAR				*e*S			Sn	08 09 25.7	+0.5
JNK	**Nakash**	**2.71**	**352**	P			Pn	08 08 56.1	+0.5
JNK				S			Sn	08 09 25.8	-1.4
JBT2	**Biratori 2**	**2.85**	**312**	P			Pn	08 08 58.9	+1.5
JBT2				*e*S			Sn	08 09 32.8	+2.3
JANG	**Nango**	**2.88**	**261**	P			Pn	08 08 57.5	-0.3
JANG				S			Sn	08 09 28.3	-2.9
JFR	**Furan**	**3.00**	**320**	P			Pn	08 09 00.4	+0.9
JFR				*e*S			Sn	08 09 33.3	-0.9
JRA	**Rausu**	**3.04**	**359**	P			Pn	08 09 01.5	+1.5
JRA				*e*S			Sn	08 09 35.0	-0.1
JOT	**Ohata**	**3.19**	**280**	P			Pn	08 09 02.7	+0.6
JOT				S			Sn	08 09 36.8	-2.2
JTKR	**Abashiri--Toko**	**3.22**	**343**	P			Pn	08 09 04.3	+1.8
JTKR				S			Sn	08 09 40.5	+0.9
JKB	**Kayabe**	**3.31**	**289**	P			Pn	08 09 05.1	+1.4
JKB				S			Sn	08 09 41.0	-0.8
JOM	**Ohasama**	**3.34**	**246**	P			Pn	08 09 04.5	+0.4
JOM				S			Sn	08 09 40.0	-2.5
JEW	**Eniwo**	**3.42**	**306**	P			Pn	08 09 07.3	+2.0
JEW				*e*S			Sn	08 09 46.2	+1.6
JKK2	**Kamakawa 2**	**3.49**	**329**	P			Pn	08 09 08.8	+2.5

IDC ***29*** *08:08:45.0± 1.2, 0˚.44N× 122˚.38E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/60, mbtmp3.5/4, Error ellipse: s-maj=154.0km s-min=20.8km az=65.0*
ISCJB ***29*** *08:08:56.6± 0.9, 0.5N±0.1×122.52E±0.08, h114km, mb3.3/4, Error ellipse: s-maj=15.2km s-min=11.5km az=16.6*
DJA ***29*** *08:09:04.2± 0.7, 0˚N± 6˚×12˚2E± ˚, h47km±8km, M3.3/6, MLv3.3/6*

ISC 29 08:08:58.1±1.1, 0.5N±0.1×122.4E±0.1, h114km, n9, σ2s42/11, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.46**	**268**	P			**Pn**	**08 09 15.1**	**0.0**
MRSI				S			**Sn**	**08 09 22.7**	**-5.2**
LUWI	**Luwuk**	**1.57**	**166**	P			**Pn**	**08 09 28.9**	**+2.9**
APSI	**Ampana**	**1.58**	**208**	P			**Pn**	**08

1.7nm,0.6s,baz=91,slow=7.9,SNR=8.1
TXAR Lajitas Array 81.52 55 P P 08 36 12.7 -0.5
0.6nm,0.9s,baz=224,slow=8.8,SNR=5.0
PDAR Pinedale Array 83.84 41 P P 08 36 25.5 +0.4
0.8nm,0.9s,baz=205,slow=4.0,SNR=3.1
ILAR Eielson Array 85.08 11 P P 08 36 30.7 +0.1
1.1nm,1.1s,baz=213,slow=6.5,SNR=4.5

PDG ***29*** *08:24:46.4±0.1, 41°.13N×20°.27E, h2km, ML2.8/9, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
BEO ***29*** *08:24:46.9±1.0, 41°.03N×20°.20E, h4km±3km, M2.6/9*
ATH ***29*** *08:24:47.6, 41°.29N×20°.31E, h12km±2km, ML2.6/1, Error ellipse: s-maj=2.7km s-min=1.1km az=235.0*
SKO ***29*** *08:24:47.8, 41°.23N×20°.28E, h11km, M2.1, ML2.5*
TIR ***29*** *08:24:47.6, 41°.20N×20°.26E, h7km, ML2.9*
CSEM ***29*** *08:24:48.5±0.2, 41°.23N×20°.22E, h2km, ML2.0, Error ellipse: s-maj=5.4km s-min=3.1km az=60.0*

ISC 29 08:24:48.3±1.1, 41°.21N±0°.02×20°.25E±0°.02, h1km±10km, n92, σ1$16/139, 12C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.32**	**296**	*i* Pg	**Pg**	**08 24 54.4**	**-0.1**
TIR				*i* Sg	**Sg**	**08 25 00.4**	**+1.8**
TIR	**Tirane**	**0.32**	**296**	*e*Pg	**Pg**	**08 24 54.6**	**+0.2**
TIR				*e*Sg	**Sb**	**08 25 01.9**	**-0.7**
TIR	**Tirane**	**0.32**	**296**	P	**Pg**	**08 24 54.1**	**-0.4**
TIR				S	**Sb**	**08 25 00.9**	**-1.6**
TIR				AML	AML	08 25 02.8	
	comp=N,2973μm,0.2s						
TIR				AML	AML	08 25 03.0	
	comp=E,2398μm,0.2s						
TIR	**Tirane**	**0.32**	**296**	*i* Pg	**Pg**	**08 24 54.3**	**-0.1**
TIR	**Tirane**	**0.32**	**296**	P	**Pg**	**08 24 54.6**	**+0.2**
TIR				S	**Sg**	**08 25 00.2**	**+1.6**
OHR	**Ohrid**	**0.43**	**103**	*i* Pg	**Pg**	**08 24 56.3**	**-0.1**
OHR				*i* Sg	**Sb**	**08 25 03.6**	**-2.0**
OHR				*e*Lg	Lg	08 25 04.0	
	comp=N,359nm,0.5s						
OHR				*e*Lg	Lg	08 25 05.8	
	comp=E,347nm,0.5s						
PHP	**Peshkopia**	**0.50**	**17**	*i* PG	**Pg**	**08 24 57.3**	**-0.6**
PHP				*i* SG	**Sg**	**08 25 05.5**	**+1.1**
PHP	**Peshkopia**	**0.50**	**17**	*i* Pg	**Pg**	**08 24 57.3**	**-0.6**
PHP				*i* Sg	**Sg**	**08 25 05.5**	**+1.1**
KBN	**Korca**	**0.71**	**145**	*i* PG	**Pg**	**08 25 01.9**	**0.0**
KBN	**Korca**	**0.71**	**145**	*i* Pg	**Pg**	**08 25 01.9**	**0.0**
KRUS	**Krusevo**	**0.77**	**77**	*i* Pg	**Pg**	**08 25 02.1**	**-0.9**
KRUS				*i* Sg	**Sg**	**08 25 13.9**	**+0.8**
BIA	**Bitola**	**0.83**	**103**	*i* Pg	**Pg**	**08 25 04.2**	**-0.1**
BIA				*i* Sg	**Sb**	**08 25 16.5**	**-0.8**
PUK	**Puka**	**0.88**	**342**	*i* PG	**Pg**	**08 25 04.1**	**-1.0**
PUK				*i* SG	**Sg**	**08 25 15.5**	**-1.0**
PUK	**Puka**	**0.88**	**342**	*i* Pg	**Pg**	**08 25 04.1**	**-1.0**
PUK				*i* Sg	**Sg**	**08 25 15.5**	**-1.0**
FNA	**Florina**	**0.95**	**116**	*i* PG	**Pg**	**08 25 05.6**	**-0.9**
FNA				*i* SG	**Sb**	**08 25 20.6**	**-0.1**
FNA	**Florina**	**0.95**	**116**	P	**Pg**	**08 25 05.5**	**-0.9**
FNA	**Florina**	**0.95**	**116**	P	**Pg**	**08 25 05.7**	**-0.8**
FNA				*i* Sg	**Sb**	**08 25 20.6**	**-0.1**
NEST	**Nestorio**	**1.00**	**142**	P	**Pb**	**08 25 07.7**	**-0.7**
NEST	**Nestorio**	**1.00**	**142**	P	**Pb**	**08 25 07.5**	**-0.9**
ULC	**Ulcinj**	**1.07**	**316**	*e*Pg	**Pg**	**08 25 07.2**	**-1.5**
ULC				*e*Sg	**Sn**	**08 25 25.3**	**-0.6**
ULC	**Ulcinj**	**1.07**	**316**	P	**Pg**	**08 25 07.4**	**-1.3**
ULC				*e*Sg	**Sn**	**08 25 25.3**	**-0.6**
PRZK	**Prizren**	**1.07**	**21**	P	**Pg**	**08 25 07.7**	**-1.2**
SKO	**Skopje**	**1.18**	**49**	*i* Pg	**Pg**	**08 25 10.1**	**-0.7**
SKO				*i* Sg	**Sg**	**08 25 26.3**	**+0.2**
PENT	**Pentalofos**	**1.22**	**146**	P	**Pn**	**08 25 11.9**	**-0.6**
PENT	**Pentalofos**	**1.22**	**146**	P	**Pn**	**08 25 11.7**	**-0.8**
DRME	**Dracevica, Mon**	**1.26**	**321**	⇑*i* Pg	**Pg**	**08 25 10.8**	**-1.7**
DRME				*e*Sg	**Sn**	**08 25 31.8**	**+1.1**
DRME	**Dracevica, Mon**	**1.26**	**321**	⇑*i* Pg	**Pg**	**08 25 10.8**	**-1.7**
DRME				*e*Sg	**Sn**	**08 25 31.8**	**+1.1**
ZATK	**Zatriq**	**1.27**	**13**	P	**Pn**	**08 25 13.3**	**0.0**
PVY	**Plav**	**1.41**	**351**	⇑*i* Pg	**Pn**	**08 25 13.8**	**-1.4**
PVY				*e*Sg	**Sn**	**08 25 36.8**	**+2.4**
PVY	**Plav**	**1.41**	**351**	⇑*i* Pg	**Pn**	**08 25 13.8**	**-1.4**
PVY				*e*Sg	**Sn**	**08 25 36.8**	**+2.4**
PDG	**Podgorica**	**1.43**	**329**	*e*Pn	**Pn**	**08 25 14.1**	**-1.3**
PDG				*e*Sn	**Sn**	**08 25 37.4**	**+2.6**
PDG	**Podgorica**	**1.43**	**329**	*e*Pn	**Pn**	**08 25 14.1**	**-1.3**
PDG				*e*Sn	**Sn**	**08 25 37.4**	**+2.6**
TTG	**Podgorica**	**1.43**	**329**	⇓*i* Pg	**Pn**	**08 25 14.2**	**-1.2**
TTG				*e*Sg	**Sn**	**08 25 37.7**	**+2.9**
PEJK	**Peje**	**1.44**	**1**	P	**Pg**	**08 25 16.2**	**+0.4**
KZN	**Kozani**	**1.46**	**127**	P	**Pg**	**08 25 17.1**	**+0.8**
KZN	**Kozani**	**1.46**	**127**	P	**Pg**	**08 25 16.4**	**+0.1**
BUM	**Brajici-Budva**	**1.49**	**318**	⇓*i* Pg	**Pn**	**08 25 15.1**	**-1.2**
BUM				*e*Sg	**Sg**	**08 25 39.7**	**+3.5**
BUM	**Brajici-Budva**	**1.49**	**318**	⇓*i* Pg	**Pn**	**08 25 15.1**	**-1.2**
BUM				*e*Sg	**Sg**	**08 25 39.7**	**+3.5**
KPRO	**Kipourio**	**1.51**	**145**	P	**Pg**	**08 25 17.9**	**+0.7**
KPRO	**Kipourio**	**1.51**	**145**	P	**Pg**	**08 25 17.4**	**+0.2**
KEK	**Kerkira**	**1.53**	**193**	P	**Pg**	**08 25 17.5**	**-0.1**
KEK	**Kerkira**	**1.53**	**193**	P	**Pg**	**08 25 17.8**	**+0.2**
SGD	**Sagiada**	**1.59**	**180**	P	**Pg**	**08 25 19.2**	**+0.5**
SGD	**Sagiada**	**1.59**	**180**	P	**Pg**	**08 25 19.1**	**+0.4**
GRG	**Griva**	**1.65**	**98**	P	**Pn**	**08 25 17.8**	**-0.6**
GRG	**Griva**	**1.65**	**98**	P	**Pn**	**08 25 17.9**	**-0.5**
CEME	**Cevo**	**1.67**	**324**	⇑*i* Pn	**Pn**	**08 25 18.3**	**-0.4**
CEME				*e*Sn	**Sg**	**08 25 44.2**	**+2.3**
CEME	**Cevo**	**1.67**	**324**	⇑*i* Pn	**Pn**	**08 25 18.3**	**-0.4**
CEME				*e*Sn	**Sg**	**08 25 44.2**	**+2.3**
BEY	**Berane**	**1.69**	**351**	*e*Pn	**Pn**	**08 25 19.0**	**0.0**
BEY	**Berane**	**1.69**	**351**	P	**Pg**	**08 25 20.6**	**0.0**
BEY				*e*Sn	**Sg**	**08 25 44.5**	**+2.1**
IVA	**Berane**	**1.69**	**351**	*e*Pn	**Pn**	**08 25 19.0**	**0.0**
IVA				*e*Sn	**Sg**	**08 25 44.5**	**+2.1**
KOME	**Kolasin**	**1.73**	**342**	⇑*i* Pn	**Pn**	**08 25 19.7**	**+0.1**
KOME				*e*Sn	**Sg**	**08 25 46.1**	**+2.2**
KOME	**Kolasin**	**1.73**	**342**	⇑*i* Pn	**Pn**	**08 25 19.7**	**+0.1**
KOME				*e*Sn	**Sg**	**08 25 46.1**	**+2.2**
SMRK	**Smrekonice**	**1.74**	**17**	P	**Pb**	**08 25 21.2**	**+0.1**
VAY	**Valandovo**	**1.75**	**85**	*i* Pn	**Pb**	**08 25 20.1**	**-1.1**
VAY				*e*Sg	**Sg**	**08 25 45.1**	**+0.5**
VAY				*e*Lg	Lg	08 25 46.3	
	comp=N,30nm,0.5s						
VAY				*e*Lg	Lg	08 25 46.7	
	comp=E,36nm,0.7s						
SCTE	**Santa Cesarea**	**1.77**	**231**	P	**Pg**	**08 25 21.4**	**-0.7**
SCTE	**Santa Cesarea**	**1.77**	**231**	P	**Pg**	**08 25 21.4**	**-0.7**
HCY	**Herceg Novi**	**1.81**	**314**	*e*Pn	**Pn**	**08 25 20.2**	**-0.3**
HCY				*e*Sn	**Sg**	**08 25 47.2**	**+0.9**
HCY	**Herceg Novi**	**1.81**	**314**	*e*Pn	**Pn**	**08 25 20.2**	**-0.3**
HCY				*e*Sn	**Sg**	**08 25 47.2**	**+0.9**
NKME	**Niksic**	**1.83**	**329**	⇑*i* Pn	**Pn**	**08 25 20.9**	**-0.1**
NKME				*e*Sn	**Sg**	**08 25 48.1**	**+0.9**
NKME	**Niksic**	**1.83**	**329**	⇑*i* Pn	**Pn**	**08 25 20.9**	**-0.1**
NKME				*e*Sn	**Sg**	**08 25 48.1**	**+0.9**
NKY	**Niksic**	**1.86**	**330**	⇓*i* Pn	**Pn**	**08 25 21.6**	**+0.2**
NKY				*e*Sn	**Sg**	**08 25 48.8**	**+0.8**
NKY	**Niksic**	**1.86**	**330**	⇓*i* Pn	**Pn**	**08 25 21.6**	**+0.2**
NKY				*e*Sn	**Sg**	**08 25 48.8**	**+0.8**
BARS	**Barje**	**1.99**	**35**	*e*Pn	**Pb**	**08 25 24.4**	**-0.9**
BARS				*e*Sn	**Sg**	**08 25 51.9**	**-0.3**
BARS	**Barje**	**1.99**	**35**	*e*Pn	**Pb**	**08 25 24.4**	**-0.9**
BARS				*e*Sn	**Sg**	**08 25 51.9**	**-0.3**
KNT	**Kendrikon**	**2.00**	**90**	P	**Pn**	**08 25 22.9**	**-0.3**
KNT	**Kendrikon**	**2.00**	**90**	P	**Pn**	**08 25 22.9**	**-0.3**
SJES	**Sjenica**	**2.06**	**354**	*e*Pg	**Pb**	**08 25 26.6**	**0.0**
SJES				*e*Sg	**Sg**	**08 25 56.4**	**+1.8**
SELS	**Selova**	**2.11**	**18**	*e*Pn	**Pb**	**08 25 24.9**	**+0.1**
THL	**Klokotos Trika**	**2.12**	**140**	P	**Pn**	**08 25 24.2**	**-0.7**
THL	**Klokotos Trika**	**2.12**	**140**	P	**Pn**	**08 25 25.0**	**+0.1**
DSL	**Palaion Diasel**	**2.17**	**162**	P	**Pb**	**08 25 27.6**	**-0.8**
DSL	**Palaion Diasel**	**2.17**	**162**	P	**Pb**	**08 25 27.2**	**-1.1**
PLE	**Pljevlja**	**2.22**	**344**	⇑*i* Pn	**Pn**	**08 25 26.2**	**-0.1**
PLE				*e*Sn	**Sb**	**08 25 57.3**	**+0.1**
PLE	**Pljevlja**	**2.22**	**344**	⇑*i* Pn	**Pn**	**08 25 26.2**	**-0.1**
PLE				*e*Sn	**Sb**	**08 25 57.3**	**+0.1**
IVAS	**Ivanjica**	**2.37**	**358**	*e*Pn	**Pn**	**08 25 29.4**	**+1.0**
IVAS	**Ivanjica**	**2.37**	**358**	*e*Pn	**Pn**	**08 25 29.4**	**+1.0**
STON	**Ston**	**2.52**	**312**	*e*Pn	**Pn**	**08 25 27.8**	**-2.6**
STON				Sn	**Sn**	**08 26 01.8**	**0.0**
STON	**Ston**	**2.52**	**312**	*e*Sn	**Sn**	**08 26 02.6**	**+0.8**
STON	**Ston**	**2.52**	**312**	*e*Pn	**Pn**	**08 25 27.8**	**-2.6**
STON				Sn	**Sn**	**08 26 01.8**	**0.0**
AGG	**Agios Georgios**	**2.70**	**143**	P	**Pn**	**08 25 33.9**	**+1.0**
AGG	**Agios Georgios**	**2.70**	**143**	P	**Pn**	**08 25 34.0**	**+1.1**
GRUS	**Gruza**	**2.70**	**7**	*e*Pn	**Pn**	**08 25 33.0**	**+0.1**
GRUS	**Gruza**	**2.70**	**7**	*e*Pn	**Pn**	**08 25 33.0**	**+0.1**
ZAPS	**Zavoj**	**2.72**	**40**	*e*Pn	**Pn**	**08 25 34.1**	**+0.9**
ZAPS	**Zavoj**	**2.72**	**40**	*e*Pn	**Pn**	**08 25 34.1**	**+0.9**
BBLS	**Lazići**	**2.73**	**347**	*e*Pn	**Pn**	**08 25 34.1**	**+0.8**
BBLS	**Lazići**	**2.73**	**347**	*e*Pn	**Pn**	**08 25 34.1**	**+0.8**
DIVS	**Divibare**	**2.90**	**356**	*e*Pn	**Pn**	**08 25 36.0**	**+0.4**
DIVS	**Divibare**	**2.90**	**356**	*e*Pn	**Pn**	**08 25 36.0**	**+0.4**
NVLJ	**Novalja**	**5.18**	**312**	*e*Pn	**Pn**	**08 26 06.4**	**-0.5**
NVLJ				Sn	**Sn**	**08 27 06.0**	**-1.3**
NVLJ	**Novalja**	**5.18**	**312**	*e*Pn	**Pn**	**08 26 06.4**	**-0.5**
NVLJ				Sn	**Sn**	**08 27 06.0**	**-1.3**

IDC 29 08:36:27.0±1.4, 18°.20S×172°.50W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/45, mbtmp3.7/5, ML3.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/47, Error ellipse: s-maj=67.9km s-min=23.9km az=148.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.33**	**9**	Pn	Pn	08 37 34.8	+0.6
	1.4nm,0.3s,baz=135,slow=20,SNR=2.9						
AFI				Sn	Sn	08 38 20.1	-5.3
	2.7nm,0.3s,baz=59,slow=19,SNR=4.1						
RAR	**Rarotonga**	**12.36**	**106**	LR	LR	08 42 48.1	
	comp=Z,47nm,19.9s,baz=276,slow=31						
HNR	**Honiara**	**28.11**	**284**	LR	LR	08 52 53.5	
	comp=Z,49nm,18.2s,baz=214,slow=35						
WRA	**Warramunga Arr**	**50.10**	**259**	P	P	08 45 24.0	-0.2
	0.8nm,0.6s,baz=95,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**50.12**	**254**	P	P	08 45 24.5	+0.1
	0.5nm,0.7s,baz=95,slow=7.3,SNR=8.9						
TXAR	**Lajitas Array**	**81.47**	**55**	P	P	08 48 47.5	+1.0
	0.6nm,1.1s,baz=219,slow=8.1,SNR=3.1						
PDAR	**Pinedale Array**	**83.78**	**41**	P	P	08 48 57.2	-1.3
	0.6nm,0.8s,baz=207,slow=5.8,SNR=3.4						

IDC 29 08:44:39.2±6.8, 13°.18N×142°.94E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/56, mbtmp3.3/3, Error ellipse: s-maj=264.3km s-min=28.6km az=79.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.99**	**195**	P	P	08 51 24.9	0.0
	0.5nm,0.6s,baz=17,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**37.67**	**194**	P	P	08 51 56.2	-0.2
	0.2nm,0.6s,baz=21,slow=12,SNR=7.2						
MKAR	**Makanchi Array**	**60.48**	**317**	P	P	08 54 51.0	-0.1
	0.2nm,0.7s,baz=116,slow=6.6,SNR=3.1						

MEX 29 08:46:17.9±0.4, 16°.67N×99°.58W, h21km±26km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.33**	**307**	*e*P	Pn	08 46 27.0	-0.5
ACX				*e*S	Sb	08 46 31.5	+1.5
CAIG	**El Cayaco**	**0.76**	**300**	*e*P	Pb	08 46 30.0	-2.3
CAIG				*e*S	Sb	08 46 39.6	-2.6
TLIG	**Tlapa**	**1.32**	**47**	*e*P	Pn	08 46 38.2	-3.0
TLIG				*e*S	Sn	08 46 54.1	-4.0
PNIG	**Pinotepa**	**1.42**	**101**	*e*P	Pn	08 46 39.8	-2.8
PNIG				*i* S	Sn	08 46 56.2	-4.4

MEX 29 08:54:32.3±0.7, 16°.29N×98°.53W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.40**	**75**	*e*P	Pg	08 54 39.0	-1.0
PNIG				*e*S	Sg	08 54 45.3	+0.1
TLIG	**Tlapa**	**1.27**	**358**	*e*P	Pg	08 54 53.1	-3.5
TLIG				*e*S	Sg	08 55 09.2	-3.8
CAIG	**El Cayaco**	**1.83**	**295**	*e*P	Pn	08 55 01.6	-2.8
CAIG				*e*S	Sn	08 55 23.1	-5.0
VHO	**Vista Hermosa**	**1.89**	**65**	*e*P	Pn	08 55 01.9	-3.5
VHO				*i* S	Sn	08 55 25.9	-3.8
HUIG	**Huatulco**	**2.38**	**102**	*e*P	Pn	08 55 09.8	-2.2
HUIG				*i* S	Sn	08 55 38.0	-3.6

DDA ***29*** *08:56:13.8, 37°.35N×42°.32E, h7km, Ml2.3*
CSEM ***29*** *08:56:14.4±0.6, 37°.41N×42°.36E, h5km, ML2.5, Error ellipse: s-maj=11.7km s-min=6.2km az=166.0*
ISK ***29*** *08:56:14.2, 37°.41N×42°.35E, h4km, ML2.5/3*

ISC 29 08:56:13.8±1.8, 37°.37N±0°.09×42°.38E±0°.06, h9km±8km, n15, σ0$57/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.14**	**20**	PG	**Pg**	**08 56 16.6**	**-0.3**
SIRT				SG	**Sg**	**08 56 19.5**	**+0.4**
SIRT	**Sirnak**	**0.14**	**20**	*e*Pg	**Pg**	**08 56 16.6**	**-0.3**
SIRT				*e*Sg	**Sg**	**08 56 19.5**	**+0.4**
SRTM	**Siirt_Merkez**	**0.72**	**330**	*i* P	**Pg**	**08 56 26.5**	**-1.1**
SRTM				*i* S	**Sb**	**08 56 37.8**	**-0.7**
SRTM	**Siirt_Merkez**	**0.72**	**330**	P	**Pg**	**08 56 26.5**	**-1.1**
SRTM				S	**Sb**	**08 56 37.8**	**-0.7**
BTMN	**Batman**	**1.02**	**301**	*i* P	**Pg**	**08 56 33.4**	**0.0**
BTMN				*i* S	**Sb**	**08 56 47.6**	**+0.4**
BTMN	**Batman**	**1.02**	**301**	P	**Pg**	**08 56 33.4**	**0.0**
BTMN				S	**Sb**	**08 56 47.7**	**+0.4**
GURO	**Guroymak-BITLI**	**1.21**	**347**	PN	**Pn**	**08 56 37.4**	**+0.5**
GURO				SN	**Sn**	**08 56 53.5**	**0.0**
GURO	**Guroymak-BITLI**	**1.21**	**347**	*e*Pn	**Pn**	**08 56 37.4**	**+0.5**
GURO				*e*Sn	**Sn**	**08 56 53.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.22**	**310**	PN	**Pb**	**08 56 37.2**	**+0.2**
SVAN				SN	**Sn**	**08 56 54.2**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.22**	**310**	*e*Pn	**Pb**	**08 56 37.2**	**+0.2**
SVAN				*e*Sn	**Sn**	**08 56 54.2**	**+0.6**
MARD	**Mardin**	**1.28**	**268**	*i* P	**Pg**	**08 56 37.1**	**-1.2**
MARD				*i* S	**Sg**	**08 56 54.6**	**-0.3**
MAZI	**Mazidag**	**1.54**	**274**	PN	**Pb**	**08 56 42.8**	**+0.2**
MAZI	**Mazidag**	**1.54**	**274**	*e*Pn	**Pb**	**08 56 42.8**	**+0.2**
ERCV	**ERCIS-VAN**	**1.81**	**24**	PN	**Pb**	**08 56 46.9**	**-0.2**
ERCV	**ERCIS-VAN**	**1.81**	**24**	*e*Pn	**Pb**	**08 56 46.9**	**-0.2**

IDC 29 09:02:10.8±45.0, 16°.69S×177°.16W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/48, mbtmp3.9/3, Error ellipse: s-maj=840.8km s-min=168.1km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.26**	**240**	P	P	09 09 50.4	+0.7
	1.1nm,0.5s,baz=83,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**46.03**	**258**	P	P	09 10 36.2	-0.4
	0.1nm,0.3s,baz=95,slow=7.7,SNR=9.7						
ASAR	**Alice Springs**	**46.27**	**253**	P	P	09 10 38.1	-0.4
	3.4nm,0.5s,baz=88,slow=8.1,SNR=62						

CSEM ***29*** *09:08:51.8±0.2, 39°.24N×42°.29E, h2km, ML2.6, Error ellipse: s-maj=4.2km s-min=3.7km az=149.0*
DDA ***29*** *09:08:51.9, 39°.22N×42°.29E, h7km, Ml2.6*
ATA ***29*** *09:08:51.3±1.3, 39°.24N×42°.29E, h17km±10km, ML3.2, MW2.9*
ISK ***29*** *09:08:51.9, 39°.17N×42°.30E, h11km, ML2.3/6*
ISCJB ***29*** *09:08:52.1±0.5, 39°.22N±0°.03×42°.30E±0°.03, h10km±4km, Error ellipse: s-maj=4.6km s-min=4.2km az=142.6*

ISC 29 09:08:52.1±0.9, 39°.23N±0°.02×42°.28E±0°.02, h15km±7km, n34, σ0$85/54, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.17**	**278**	*e*P	**Pg**	**09 08 56.1**	**-0.5**
EKAR				*e*S	**Sg**	**09 09 00.6**	**+1.1**
EKAR	**Karacoban**	**0.17**	**278**	*i* P	**Pg**	**09 08 56.1**	**-0.5**
EKAR	**Karacoban**	**0.17**	**278**	P	**Pg**	**09 08 56.1**	**-0.5**
TUTA	**Tutak**	**0.45**	**68**	*e*P	**Pg**	**09 09 01.0**	**-0.2**
TUTA				*e*S	**Sb**	**09 09 07.5**	**-0.9**
TUTA				IAML		09 09 10.5	
	comp=Z,135nm,0.2s						
TUTA	**Tutak**	**0.45**	**68**	*i* P	**Pg**	**09 09 00.9**	**-0.2**
TUTA				*i* S	**Sg**	**09 09 07.2**	**-0.1**
TUTA	**Tutak**	**0.45**	**68**	P	**Pg**	**09 09 00.9**	**-0.2**
TUTA				S	**Sg**	**09 09 07.2**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.55**	**141**	*i* P	**Pg**	**09 09 02.6**	**-0.4**
ADCV				*i* S	**Sb**	**09 09 10.8**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.55**	**141**	P	**Pg**	**09 09 02.6**	**-0.4**
ADCV				S	**Sb**	**09 09 10.8**	**-0.5**
VRTB	**Varto-Mus**	**0.65**	**264**	PG	**Pg**	**09 09 04.9**	**0.0**
VRTB				SG	**Sb**	**09 09 14.7**	**+0.6**
VRTB	**Varto-Mus**	**0.65**	**264**	*i* P	**Pg**	**09 09 04.5**	**-0.4**
VRTB				*i* S	**Sb**	**09 09 14.3**	**+0.1**
VRTB	**Varto-Mus**	**0.65**	**264**	P	**Pg**	**09 09 04.5**	**-0.4**
VRTB	**Varto-Mus**	**0.65**	**264**	*e*Pg	**Pg**	**09 09 04.9**	**0.0**
VRTB				S	**Sb**	**09 09 14.3**	**+0.1**
EATA	**Eleskirt**	**0.65**	**14**	*e*P	**Pb**	**09 09 05.1**	**-0.3**
EATA				*e*S	**Sb**	**09 09 15.1**	**+0.7**
EATA	**Eleskirt**	**0.65**	**14**	*i* P	**Pg**	**09 09 04.4**	**-0.6**
EATA				*i* S	**Sb**	**09 09 14.8**	**+0.5**
EATA	**Eleskirt**	**0.65**	**14**	P	**Pg**	**09 09 04.4**	**-0.6**
EATA				S	**Sb**	**09 09 14.9**	**+0.5**
GURO	**Guroymak-BITLI**	**0.71**	**196**	PG	**Pg**	**09 09 05.0**	**-1.0**
GURO				SG	**Sg**	**09 09 14.7**	**-0.7**
GURO	**Guroymak-BITLI**	**0.71**	**196**	*e*Pg	**Pg**	**09 09 05.0**	**-1.0**
GURO				*e*Sg	**Sg**	**09 09 14.7**	**-0.7**
HOMI	**Horasan**	**0.86**	**340**	*e*P	**Pg**	**09 09 08.0**	**-0.9**
HOMI	**Horasan**	**0.86**	**340**	*i* P	**Pg**	**09 09 07.7**	**-1.2**
ERZM	**Erzurum**	**0.98**	**314**	*e*P	**Pb**	**09 09 10.9**	**0.0**
ERZM				*e*S	**Sb**	**09 09 24.5**	**+0.7**
ERZM	**Erzurum**	**0.98**	**314**	*i* P	**Pg**	**09 09 09.2**	**-1.9**
ERZM				*i* S	**Sg**	**09 09 23.1**	**-0.8**
ERZM	**Erzurum**	**0.98**	**314**	P	**Pg**	**09 09 09.2**	**-1.9**
ERZM				S	**Sg**	**09 09 23.1**	**-0.8**
BNGB	**Bing^¶l**	**1.27**	**260**	PN	**Pn**	**09 09 15.5**	**0.0**
BNGB				SN	**Sg**	**09 09 33.4**	**+0.2**
CLDR	**Caldiran**	**1.27**	**94**	PN	**Pb**	**09 09 15.9**	**-0.1**
CLDR	**Caldiran**	**1.27**	**94**	*e*Pn	**Pb**	**09 09 15.9**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.33**	**2**	PN	**Pg**	**09 09 18.2**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.33**	**2**	*e*Pn	**Pg**	**09 09 18.2**	**+0.4**
BINT	**Bingol**	**1.44**	**256**	*e*Pn	**Pn**	**09 09 15.5**	**-2.4**
BTMN	**Batman**	**1.56**	**211**	*i* P	**Pb**	**09 09 20.9**	**+0.2**
BTMN				*i* S	**Sg**	**09 09 42.6**	**+0.2**
BTMN	**Batman**	**1.56**	**211**	P	**Pb**	**09 09 21.0**	**+0.2**
BTMN				S	**Sg**	**09 09 42.6**	**+0.2**
PTK	**Pertek**	**2.28**	**262**	PN	**Pn**	**09 09 31.2**	**+1.8**
PTK	**Pertek**	**2.28**	**262**	*e*Pn	**Pn**	**09 09 31.2**	**+1.8**
MAZI	**Mazidag**	**2.29**	**220**	PN	**Pn**	**09 09 30.7**	**+1.3**
MAZI	**Mazidag**	**2.29**	**220**	*e*Pn	**Pn**	**09 09 30.7**	**+1.3**

IDC ***29*** *09:14:02.9±4.2, 4°.83S×101°.97E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/65, mbtmp3.5/5, Error ellipse: s-maj=178.2km s-min=21.9km az=54.0*
ISCJB ***29*** *09:14:10.3±1.0, 4°.62S±0°.08×102°.44E±0°.08, h56km, mb3.6/5, Error ellipse: s-maj=13.9km s-min=7.6km az=42.2*
DJA ***29*** *09:14:12.1±0.9, 5°.5S×10°.3E±°, h35km±6km, M3.7/7, MLv3.7/7*

ISC 29 09:14:12.1±1.3, 4°.6S±0°.1×102°.5E±0°.1, h56km, n12, σ0$68/15, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.49**	**64**	P	**Pn**	**09 14 24.0**	**+0.4**
MNAI				S	**Sn**	**09 14 30.6**	**-1.4**
**

PSI Sn **Sb** **09 28 20.1 +1.0**
19nm,0.3s,baz=215,slow=15,SNR=5.5
PSI LR LR 09 28 55.0
comp=Z,210nm,18.8s,baz=199,slow=43
BSI Banda Aceh 2.59 328 P **Pn** **09 27 51.4 +1.7**
MNSI Mandailing Nat 3.82 130 P **Pn** **09 28 09.4 +2.9**
LEM Lembang 14.84 133 LR LR 09 36 15.9
comp=Z,34nm,18.9s,baz=228,slow=37
CMAR Chiang Mai Arr 15.25 8 Pn **Pn** **09 30 44.4 +1.2**
0.9nm,0.3s,baz=198,slow=11,SNR=3.1
CMAR LR LR 09 36 53.3
comp=Z,40nm,18.3s,baz=186,slow=38
DAV Davao City (W) 29.04 81 LR LR 09 45 51.2
comp=Z,12nm,20.9s,baz=150,slow=38
FITZ Fitzroy Crossi 35.59 128 P **P** **09 34 06.0 +1.2**
0.7nm,0.6s,baz=297,slow=2.3,SNR=2.5
WRA Warramunga Arr 43.60 124 P **P** **09 35 11.7 0.0**
1.2nm,0.6s,baz=302,slow=9.2,SNR=24
KSRS Korea Array 44.48 36 LR LR 09 55 05.8
comp=Z,14nm,19.3s,baz=194,slow=38
ASAR Alice Springs 45.08 128 P **P** **09 35 23.8 +0.3**
0.5nm,0.5s,baz=300,slow=7.8,SNR=14
MKAR Makanchi Array 45.11 346 P **P** **09 35 21.6 -1.8**
0.3nm,0.3s,baz=163,slow=8.9,SNR=11
SONM Songino Array 45.18 9 P **P** **09 35 22.8 -1.1**
0.4nm,0.5s,baz=193,slow=10,SNR=4.1
ZALV Zalesovo Beam 51.44 351 P **P** **09 36 11.4 -0.5**
0.8nm,0.4s,baz=179,slow=5.5,SNR=3.5
OPO Ambohidratompo 53.31 244 LR LR 09 53 38.1
comp=Z,52nm,21.4s,baz=42,slow=30
BVAR Borovoye Array 54.13 341 P **P** **09 36 30.9 -1.0**
0.6nm,0.5s,baz=141,slow=9.3,SNR=2.6

DDA ***29*** *09:29:17.4,37.˝63N×41.˝69E,h7km,Ml2.3*
ISCJB ***29*** *09:29:19.0±1.1,37.˝71N±0.˝09×41.˝59E±0.˝08,h1km±8km, Error ellipse: s-maj=17.9km s-min=5.0km az=145.9*
ISK ***29*** *09:29:20.9,37.˝86N×41.˝45E,h6km,ML2.8/2*
CSEM ***29*** *09:29:21.5±0.2,37.˝86N×41.˝49E,h5km,MD2.6, Error ellipse: s-maj=8.9km s-min=4.7km az=168.0*
ISC 29 09:29:20.1±1.2, 37.˝80N±0.˝04×41.˝56E±0.˝03, h4km±15km, n21, σ1§07/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BTMN	**Batman**	**0.25**	**291**	*i* P		**Pg**	**09 29 25.8**	**+0.9**
BTMN	**Batman**	**0.25**	**291**	P		**Pg**	**09 29 25.8**	**+0.9**
SRTM	**Siirt_Merkez**	**0.34**	**57**	*i* P		**Pg**	**09 29 25.2**	**-1.6**
SRTM				*i* S		**Sg**	**09 29 31.9**	**+0.7**
SRTM	**Siirt_Merkez**	**0.34**	**57**	P		**Pg**	**09 29 25.2**	**-1.6**
SRTM				S		**Sg**	**09 29 31.9**	**+0.7**
SIRT	**Sirnak**	**0.76**	**113**	PG		**Pb**	**09 29 37.9**	**+1.9**
SIRT	**Sirnak**	**0.76**	**113**	*e*Pg		**Pb**	**09 29 37.9**	**+1.9**
MARD	**Mardin**	**0.79**	**232**	*i* P		**Pg**	**09 29 33.2**	**-2.1**
MARD				*i* S		**Sg**	**09 29 43.9**	**-1.7**
GURO	**Guroymak-BITLI**	**0.83**	**26**	PG		**Pb**	**09 29 37.1**	**-0.2**
GURO	**Guroymak-BITLI**	**0.83**	**26**	*e*Pg		**Pb**	**09 29 37.1**	**-0.2**
MAZI	**Mazidag**	**0.95**	**249**	PG		**Pg**	**09 29 38.7**	**+0.4**
MAZI				SG		**Sg**	**09 29 50.9**	**+0.3**
MAZI	**Mazidag**	**0.95**	**249**	*e*Pg		**Pg**	**09 29 38.7**	**+0.4**
MAZI				*e*Sg		**Sg**	**09 29 50.9**	**+0.3**
DIY	**Diyarbakir**	**1.06**	**275**	*e*Pg		**Pn**	**09 29 41.8**	**-0.1**
DYBB	**Diyarbakir**	**1.14**	**278**	PG		**Pb**	**09 29 41.8**	**-0.6**
BINT	**Bingol**	**1.36**	**322**	*e*Pn		**Pg**	**09 29 46.6**	**+0.3**
BNGB	**Bingˆ¶l**	**1.37**	**330**	PN		**Pg**	**09 29 46.6**	**+0.1**
VANB	**Van**	**1.64**	**61**	PN		**Pb**	**09 29 52.0**	**+0.9**
VANB	**Van**	**1.64**	**61**	*e*Pn		**Pb**	**09 29 52.0**	**+0.9**
PTK	**Pertek**	**2.02**	**303**	PN		**Pn**	**09 29 54.7**	**-0.6**
PTK	**Pertek**	**2.02**	**303**	*e*Pn		**Pn**	**09 29 54.7**	**-0.6**
MALT	**Malatya**	**2.52**	**283**	PN		**Pn**	**09 30 01.8**	**-0.3**
MALT	**Malatya**	**2.52**	**283**	*e*Pn		**Pn**	**09 30 01.8**	**-0.3**

SJA 29 09:32:28.6±0.6, 32.˝05S×69.˝41W, h111km±6km, ML2.5, MW3.8, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.17**	**175**	*i* P		Pn	09 32 45.4	+0.9
RTLS	**Leoncito**	**0.27**	**20**	*i* P		Pn	09 32 45.9	+1.1
RTLS				IAML			09 32 46.2	
	comp=Z,120nm,0.4s							
ASAL	**Salagasta**	**0.72**	**138**	*i* P		Pn	09 32 48.1	+0.7
ASAL				*i* S		Sn	09 33 02.9	+1.3
RTCV	**Cerro Valdivia**	**0.76**	**76**	*i* P		Pn	09 32 48.6	+0.9
RTCV				*i* S		Sn	09 33 03.0	+1.0
AAGR	**Agrelo**	**1.14**	**155**	*i* P		Pn	09 32 52.2	+0.7
AAGR				*i* S		Sn	09 33 10.1	+1.3
AMOG	**MOGNA**	**1.36**	**35**	*i* P		Pn	09 32 55.2	+1.3
AMOG				*i* S		Sn	09 33 14.0	+0.9

IDC 29 09:37:41.5±2.8, 53.˝56N×87.˝79E, h0km, mb1 2.8/2, mb1mx2.7/75, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.0km s-min=15.3km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**284**	*i*			09 49 26.8	
	baz=100,slow=325,SNR=2.8							
ZALV	**Zalesovo Beam**	**1.80**	**284**	Pn		Pn	09 38 13.7	-0.1
	2.9nm,0.3s,baz=97,slow=16,SNR=23							
ZALV				Lg		Lg	09 38 38.8	
	3.0nm,0.3s,baz=102,slow=26,SNR=13							
KURBB	**Kurchatov Arra**	**6.42**	**246**	Pn		Pn	09 39 18.1	+0.9
	0.1nm,0.3s,baz=62,slow=14,SNR=6.6							
KURBB				Sn		Sn	09 40 29.9	-1.2
	0.1nm,0.3s,baz=46,slow=22,SNR=4.6							
KURBB				Lg		Lg	09 41 04.1	
	0.1nm,0.3s,baz=2.9,slow=17,SNR=4.5							
MKAR	**Makanchi Array**	**7.64**	**210**	Pn		Pn	09 39 35.0	+1.0
	0.1nm,0.3s,baz=25,slow=13,SNR=4.1							
MKAR				Sn		Sn	09 41 00.9	-0.3
	0.1nm,0.3s,baz=29,slow=27,SNR=3.2							
MKAR				Lg		Lg	09 41 44.2	
	0.1nm,0.3s,baz=26,slow=31,SNR=4.2							

IDC 29 09:49:31.9±3.4, 54.˝19N×87.˝62E, h0km, mb1 2.6/2, mb1mx2.5/66, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=31.7km s-min=19.1km az=33.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**263**	*i*			09 58 30.0	
	baz=80,slow=324,SNR=6.5							
ZALV	**Zalesovo Beam**	**1.67**	**263**	Pg		Pn	09 50 00.6	-1.6
	0.6nm,0.3s,baz=82,slow=14,SNR=6.6							
ZALV				Lg		Lg	09 50 25.0	
	0.8nm,0.3s,baz=82,slow=22,SNR=6.1							
KURBB	**Kurchatov Arra**	**6.60**	**241**	Pn		Pn	09 51 11.5	+1.4
	0.0nm,0.3s,baz=55,slow=14,SNR=4.3							
KURBB				Lg		Lg	09 53 01.4	
	0.0nm,0.3s,baz=52,slow=31,SNR=3.2							
MKAR	**Makanchi Array**	**8.14**	**207**	Pn		Pn	09 51 31.8	+0.6
	0.1nm,0.3s,baz=25,slow=11,SNR=3.3							

DDA ***29*** *10:03:11.8,37.˝42N×38.˝57E,h7km,Ml2.9*
ISK ***29*** *10:03:11.9,37.˝37N×38.˝57E,h5km,ML2.6/8*
CSEM ***29*** *10:03:12.7±0.2,37.˝35N×38.˝59E,h2km,ML2.6, Error ellipse: s-maj=6.1km s-min=4.2km az=171.0*
ISCJB ***29*** *10:03:13.3±0.4,37.˝35N±0.˝04×38.˝60E±0.˝03,h9km, Error ellipse: s-maj=5.7km s-min=3.8km az=177.7*
ISC 29 10:03:12.6±0.8, 37.˝35N±0.˝03×38.˝56E±0.˝02, h9km, n42, σ1§00/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.23**	**67**	PG		**Pg**	**10 03 16.1**	**-1.2**
URFA	**Urfa**	**0.23**	**67**	*e*Pg		**Pg**	**10 03 16.1**	**-1.2**
ATAB	**Bozova**	**0.24**	**299**	*i* P		**Pg**	**10 03 16.2**	**-1.4**
ATAB	**Bozova**	**0.24**	**299**	P		**Pg**	**10 03 16.2**	**-1.4**
SANL	**SANLIURFA_Merk**	**0.39**	**118**	*i* P		**Pg**	**10 03 20.0**	**-0.2**
SANL				*i* S		**Sb**	**10 03 26.4**	**-1.4**
SANL	**SANLIURFA_Merk**	**0.39**	**118**	P		**Pg**	**10 03 20.0**	**-0.2**
SANL				S		**Sb**	**10 03 26.4**	**-1.4**
MALT	**Malatya**	**0.97**	**354**	PG		**Pb**	**10 03 31.1**	**-0.5**
MALT	**Malatya**	**0.97**	**354**	*e*Pg		**Pb**	**10 03 31.1**	**-0.5**
AKCD	**Akcadag**	**1.07**	**332**	*i* P		**Pn**	**10 03 34.0**	**+0.1**
AKCD				*i* S		**Sn**	**10 03 50.4**	**+1.4**
AKCD	**Akcadag**	**1.07**	**332**	P		**Pn**	**10 03 34.0**	**+0.1**
AKCD				S		**Sn**	**10 03 50.4**	**+1.4**
GAZ	**Gaziantep**	**1.09**	**261**	PN		**Pn**	**10 03 33.9**	**-0.3**
GAZ				SN		**Sn**	**10 03 50.2**	**+0.8**
GAZ	**Gaziantep**	**1.09**	**261**	*e*Pn		**Pn**	**10 03 33.9**	**-0.3**
GAZ				*e*Sn		**Sn**	**10 03 50.2**	**+0.8**
KUZU	**Kuzuini**	**1.32**	**245**	*i* P		**Pb**	**10 03 37.4**	**-0.2**
KUZU				*i* S		**Sg**	**10 03 57.1**	**+2.1**
KUZU	**Kuzuini**	**1.32**	**245**	P		**Pb**	**10 03 37.4**	**-0.2**
KUZU				S		**Sg**	**10 03 57.2**	**+2.1**
KMRS	**Kahramanmaras**	**1.33**	**277**	PN		**Pg**	**10 03 37.8**	**-0.4**
KMRS	**Kahramanmaras**	**1.33**	**277**	*e*Pn		**Pg**	**10 03 37.8**	**-0.4**
DIYA	**Diyarbakir**	**1.36**	**65**	*i* P		**Pb**	**10 03 37.9**	**-0.6**
DIYA	**Diyarbakir**	**1.36**	**65**	P		**Pb**	**10 03 37.8**	**-0.6**
DYBB	**Diyarbakir**	**1.39**	**64**	PN		**Pg**	**10 03 39.7**	**+0.4**
DIY	**Diyarbakir**	**1.43**	**67**	*e*Pn		**Pg**	**10 03 39.7**	**-0.4**
DARE	**Darende-Malaty**	**1.49**	**325**	PN		**Pg**	**10 03 40.5**	**-0.7**
DARE	**Darende-Malaty**	**1.49**	**325**	*e*Pn		**Pg**	**10 03 40.5**	**-0.7**
MAZI	**Mazidag**	**1.51**	**85**	PN		**Pb**	**10 03 40.5**	**-0.3**
MAZI	**Mazidag**	**1.51**	**85**	*e*Pn		**Pb**	**10 03 40.5**	**-0.3**
HEKM	**Malatya_Hekimh**	**1.60**	**343**	*i* P		**Pg**	**10 03 42.6**	**-0.7**
HEKM	**Malatya_Hekimh**	**1.60**	**343**	P		**Pg**	**10 03 42.6**	**-0.7**
PTK	**Pertek**	**1.67**	**23**	PN		**Pg**	**10 03 43.7**	**-1.0**
PTK	**Pertek**	**1.67**	**23**	*e*Pn		**Pg**	**10 03 43.7**	**-1.0**
ANDN	**Andirin**	**1.78**	**278**	*i* P		**Pb**	**10 03 45.2**	**-0.2**
ANDN	**Andirin**	**1.78**	**278**	P		**Pb**	**10 03 45.2**	**-0.2**
HANI	**Diyarbakir_Han**	**1.80**	**53**	*i* P		**Pn**	**10 03 44.2**	**+0.2**
HANI	**Diyarbakir_Han**	**1.80**	**53**	P		**Pn**	**10 03 44.2**	**+0.2**
KEMA	**Kemaliye**	**1.92**	**358**	*i* P		**Pb**	**10 03 46.8**	**-1.0**
KEMA	**Kemaliye**	**1.92**	**358**	P		**Pb**	**10 03 46.8**	**-1.0**
KOZT	**Kozan**	**2.18**	**274**	PN		**Pb**	**10 03 51.2**	**-1.1**
KOZT	**Kozan**	**2.18**	**274**	*e*Pn		**Pb**	**10 03 51.2**	**-1.1**
CEYT	**Ceyhan**	**2.27**	**262**	PN		**Pb**	**10 03 52.8**	**-1.0**
CEYT	**Ceyhan**	**2.27**	**262**	*e*Pn		**Pb**	**10 03 52.8**	**-1.0**
YAYL	**Yayladag**	**2.37**	**237**	PN		**Pb**	**10 03 53.9**	**-1.6**
YAYL	**Yayladag**	**2.37**	**237**	*e*Pn		**Pb**	**10 03 53.9**	**-1.6**
SVSK	**Karacayir**	**2.84**	**335**	PN		**Pn**	**10 03 59.7**	**+1.6**
SVSK	**Karacayir**	**2.84**	**335**	*e*Pn		**Pn**	**10 03 59.7**	**+1.6**

IDC ***29*** *10:03:28.6±1.1,47.˝67N×154.˝36E,h0km,mb3.7/12, mb1 3.8/14,mb1mx3.6/73,mbtmp3.7/14,ML2.8/2, Error ellipse: s-maj=25.1km s-min=19.7km az=133.0*
ISCJB ***29*** *10:03:31.1±1.0,47.˝7N±0.˝1×154.˝4E±0.˝2,h31km,mb3.7/12, Error ellipse: s-maj=22.6km s-min=12.6km az=135.5*
ISC 29 10:03:33.5±1.1, 47.˝7N±0.˝1×154.˝2E±0.˝1, h31km, n15, σ1§07/15, mb3.8/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.83**	**21**	Pn		**Pn**	**10 04 57.3**	**-0.5**
	0.3nm,0.3s,baz=193,slow=11,SNR=8.9							
ASAJ	**Asahikawa**	**8.87**	**250**	Pn		**Pn**	**10 05 38.9**	**-0.5**
	0.2nm,0.3s,baz=338,slow=5.4,SNR=3.2							
KLR	**Kul'dur**	**14.97**	**284**	Pn		**P**	**10 07 06.7**	**-1.2**
	0.0nm,0.3s,baz=81,slow=12,SNR=2.0							
KSRS	**Korea Array**	**21.82**	**252**	P		**P**	**10 08 23.4**	**+0.5**
	0.4nm,0.5s,baz=60,slow=10,SNR=5.1							
TIXI	**Tiksi**	**26.76**	**342**	P		**P**	**10 09 11.0**	**+1.1**
	1.3nm,0.5s,baz=148,slow=5.6,SNR=3.7							
SONM	**Songino Array**	**31.73**	**288**	P		**P**	**10 09 54.4**	**-0.1**
	0.4nm,0.6s,baz=108,slow=4.7,SNR=2.8							
ZALV	**Zalesovo Beam**	**42.66**	**305**	P		**P**	**10 11 26.9**	**+0.1**
	0.5nm,0.3s,baz=67,slow=4.8,SNR=3.3							
MKAR	**Makanchi Array**	**47.17**	**297**	P		**P**	**10 12 03.2**	**+0.4**
	0.5nm,0.6s,baz=65,slow=7.3,SNR=6.2							
KURBB	**Kurchatov Arra**	**47.55**	**303**	P		**P**	**10 12 06.2**	**+0.6**
	1.1nm,0.6s,baz=67,slow=8.3,SNR=9.0							
BVAR	**Borovoye Array**	**50.83**	**309**	P		**P**	**10 12 31.6**	**+0.9**
	1.2nm,0.3s,baz=60,slow=8.5,SNR=7.5							
CMAR	**Chiang Mai Arr**	**53.33**	**257**	P		**P**	**10 12 48.9**	**-0.9**
	0.7nm,0.4s,baz=35,slow=8.0,SNR=5.0							
FINES	**FINESS Array B**	**63.48**	**335**	P		**P**	**10 14 00.3**	**+0.4**
	0.9nm,0.6s,baz=43,slow=8.6,SNR=4.1							
HFS	**Hagfors**	**67.81**	**340**	P		**P**	**10 14 29.8**	**+1.9**
	1.1nm,0.4s,baz=29,slow=3.3,SNR=5.2							
WRA	**Warramunga Arr**	**69.68**	**200**	P		**P**	**10 14 41.4**	**+1.4**
	0.2nm,0.8s,baz=21,slow=6.8,SNR=3.1							
TXAR	**Lajitas Array**	**75.36**	**61**	P		**P**	**10 15 18.1**	**-1.7**
	0.1nm,0.5s,baz=317,slow=5.2,SNR=2.7							

IDC ***29*** *10:09:13.6±0.9,31.˝42N×97.˝79E,h0km,mb3.7/10, mb1 3.8/13,mb1mx3.6/73,mbtmp3.7/13,ML3.9/3,MS3.1/1, Ms1 3.1/1,ms1mx2.2/69,Error ellipse: s-maj=29.0km s-min=15.6km az=56.0*
ISCJB ***29*** *10:09:16.6±0.5,31.˝37N±0.˝07×97.˝81E±0.˝08,h33km, mb3.6/10,MS2.9/1, Error ellipse: s-maj=10.8km s-min=8.0km az=135.9*
ISC 29 10:09:18.6±0.7, 31.˝40N±0.˝09×97.˝9E±0.˝1, h35km, n21, σ1§36/20, mb3.8/10, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**	**7.84**	**224**	*e*P		**Pn**	**10 11 08.0**	**-2.4**
TAPN	**Taplejung**	**9.74**	**248**	*e*P		**Pn**	**10 11 39.6**	**+3.1**
	7.4nm,0.4s							
ODAN	**Odare**	**10.22**	**246**	*e*P		**Pn**	**10 11 43.6**	**+0.5**
	13nm,0.4s							
JIRN	**Jiri**	**10.84**	**253**	*e*P		**Pn**	**10 11 52.7**	**+1.1**
	7.9nm,0.3s							
GUN	**Gumba**	**11.00**	**255**	*e*P		**Pn**	**10 11 55.5**	**+1.7**
	8.2nm,0.4s							
PKI	**Pulchoki**	**11.51**	**254**	*e*P		**Pn**	**10 12 00.2**	**-0.6**
	6.3nm,0.4s							
PKIN	**Phulchoki**	**11.52**	**254**	*e*P		**Pn**	**10 11 59.6**	**-1.3**
	4.8nm,0.3s							
CMAR	**Chiang Mai Arr**	**12.92**	**175**	Pn		**Pn**	**10 12 20.5**	**+0.6**
	0.4nm,0.3s,baz=352,slow=12,SNR=4.2							
KOLN	**Koldanda**	**12.94**	**257**	*e*P		Pn	10 12 15.0	-5.2
	4.0nm,0.3s							
SONM	**Songino Array**	**17.66**	**19**	P		**P**	**10 13 22.9**	**+0.4**
	0.4nm,0.3s,baz=199,slow=13,SNR=6.3							
MKAR	**Makanchi Array**	**19.50**	**326**	P		**P**	**10 13 42.5**	**-0.2**
	0.1nm,0.3s,baz=138,slow=13,SNR=7.8							
AAK	**Ala-Archa**	**21.71**	**308**	P		**P**	**10 14 06.6**	**-0.1**
	2.7nm,0.6s,baz=70,slow=8.2,SNR=10.0							
AAK				LR		LR	10 23 42.1	
	comp=Z,50nm,19.5s,baz=174,slow=40							
KURBB	**Kurchatov Arra**	**23.99**	**329**	P		**P**	**10 14 29.0**	**-0.8**
	0.5nm,0.8s,baz=141,slow=10.0,SNR=4.8							
ZALV	**Zalesovo Beam**	**24.41**	**341**	P		**P**	**10 14 33.0**	**-0.6**
	2.0nm,0.6s,baz=150,slow=8.8,SNR=5.9							
KSRS	**Korea Array**	**25.45**	**68**	P		**P**	**10 14 42.4**	**-0.7**
	2.2nm,0.8s,baz=252,slow=10,SNR=6.2							
AKTO	**Aktyubinsk**	**35.08**	**315**	P		**P**	**10 16 06.1**	**-2.1**
	0.9nm,0.6s,baz=158,slow=11,SNR=3.2							
WRA	**Warramunga Arr**	**61.89**	**141**	P		**P**	**10 19 36.0**	**+1.3**
	1.2nm,0.7s,baz=332,slow=7.1,SNR=19							
ASAR	**Alice Springs**	**64.72**	**143**	P		**P**	**10 19 53.4**	**0.0**
	0.4nm,0.3s,baz=325,slow=6.7,SNR=8.8							
ILAR	**Eielson Array**	**71.81**	**24**	P		**P**	**10 20 38.1**	**+0.8**
	0.4nm,0.9s,baz=339,slow=7.2,SNR=3.1							
INK	**Inuvik**	**75.36**	**18**	P		**P**	**10 20 48.4**	**+0.8**
	1.0nm,1.0s,baz=0.0,slow=3.0,SNR=3.2							
YKA	**Yellowknife Ar**	**82.86**	**15**	P		**P**	**10 21 39.3**	**+0.1**
	0.1nm,0.5s,baz=312,slow=7.4,SNR=3.1							

HLW ***29*** *10:13:25.2,39.˝09N×29.˝81E,h22km±19km,Md4.7*
IDC ***29*** *10:13:32.0±0.6,38.˝57N×29.˝96E,h0km,mb4.1/20, mb1 4.1/29,mb1mx4.0/71,mbtmp4.0/29,ML3.8/9,MS3.2/11, Ms1 3.2/11,ms1mx2.9/58,Error ellipse: s-maj=12.3km s-min=9.7km az=157.0*
ISCJB ***29*** *10:13:32.9±0.4,38.˝58N±0.˝01×29.˝99E±0.˝01,h10km±3km, mb4.2/46,MS3.2/8,Error ellipse: s-maj=2.1km s-min=1.7km az=28.1*
DDA ***29*** *10:13:32.0,38.˝60N×30.˝00E,h13km,Ml4.2*
ISK ***29*** *10:13:32.4,38.˝58N×30.˝00E,h6km,ML4.2/52*
NEIC ***29*** *10:13:32.1±0.0,38.˝58N×29.˝98E,h5km,mb4.2/23, ML4.2(ISK),After ISK.*
NEIC Felt at Usak.
MOS ***29*** *10:13:33.2±1.3,38.˝56N×30.˝01E,h14km,mb4.3/25,Error ellipse: s-maj=4.7km s-min=3.5km az=112.1*
CSEM ***29*** *10:13:34.0±0.1,38.˝57N×30.˝02E,h10km,mb4.3/36,Error ellipse: s-maj=2.1km s-min=1.8km az=22.0*
ISC 29 10:13:33.4±1.0, 38.˝59N±0.˝01×30.˝00E±0.˝01, h5km±6km, n596, σ1§29/652, mb4.3/46, MS3.3/8, 54C-21D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KZIL	**AFYON_Kizioren**	**0.35**	**162**	*i* P		**Pg**	**10 13 40.0**	**-0.2**
KZIL				*i* S		**Sg**	**10 13 44.8**	**+0.1**
KZIL	**AFYON_Kizioren**	**0.35**	**162**	P		**Pg**	**10 13 40.0**	**-0.2**
KZIL				S		**Sg**	**10 13 44.8**	**+0.1**
SHUT	**Suhut-Afyon**	**0.43**	**94**	PG		**Pg**	**10 13 41.6**	**-0.1**
SHUT				SG		**Sg**	**10 13 47.8**	**+0.4**
SHUT	**Suhut-Afyon**	**0.43**	**94**	*e*Pg		**Pg**	**10 13 41.6**	**-0.1**
SHUT				*e*Sg		**Sg**	**10 13 47.8**	**+0.4**
KHL	**Karahalli**	**0.46**	**235**	PG		**Pg**	**10 13 41.9**	**-0.4**
KHL				SG		**Sg**	**10 13 48.4**	**+0.1**
KHL	**Karahalli**	**0.46**	**235**	*e*Pg		**Pg**	**10 13 41.9**	**-0.4**
KHL				*e*Sg		**Sg**	**10 13 48.4**	**+0.1**
GDZ	**Gediz**	**0.65**	**321**	⇑*i* P		**Pg**	**10 13 44.5**	**-1.3**
GDZ				*i* S		**Sg**	**10 13 53.2**	**-1.0**
GDZ	**Gediz**	**0.65**	**321**	P		**Pg**	**10 13 44.5**	**-1.3**
GDZ				S		**Sg**	**10 13 53.2**	**-1.0**
BOLV	**Bolvadin**	**0.75**	**80**	⇑*i* P		**Pg**	**10 13 47.1**	**-0.7**
BOLV				*i* S		**Sg**	**10 13 57.9**	**+0.2**
BOLV	**Bolvadin**	**0.75**	**80**	P		**Pg**	**10 13 47.1**	**-0.7**
BOLV				S		**Sg**	**10 13 57.9**	**+0.2**
BAGO	**Egridir - ISPA**	**0.86**	**134**	*i* P		**Pg**	**10 13 48.5**	**-1.3**
BAGO				*i* S		**Sb**	**10 14 02.8**	**+0.1**
ISP	**Isparta**	**0.87**	**152**	PG		**Pg**	**10 13 48.9**	**-1.1**
ISP	**Isparta**	**0.87**	**152**	*c* *i*P		**Pg**	**10 13 48.6**	**-1.4**
ISP	**Isparta**	**0.87**	**152**	⇑*i* P		**Pg**	**10 13 49.2**	**-0.8**
ISP				S		**Sg**	**10 14 02.0**	**+0.7**
ISP	**Isparta**	**0.87**	**152**	*e*Pg		**Pg**	**10 13 48.8**	**-1.3**
ISP	**Isparta**	**0.87**	**152**	*i* P		**Pg**	**10 13 48.6**	**-1.4**
ISP	**Isparta**	**0.87**	**152**	*e*Pg		**Pg**	**10 13 48.9**	**-1.1**
ISP	**Isparta**	**0.87**	**152**	P		**Pg**	**10 13 48.7**	**-1.3**
BRDR	**BURDUR-Merkez**	**0.89**	**177**	⇑*i* P		**Pg**	**10 13 49.4**	**-1.1**
BRDR				*i* S		**Sn**	**10 14 04.8**	**-1.2**
BRDR	**BURDUR-Merkez**	**0.89**	**177**	P		**Pg**	**10 13 49.4**	**-1.1**
SIMA	**Simav-Kutahya**	**0.94**	**302**	PG		**Pg**	**10 13 51.1**	**-0.3**
SIMA	**Simav-Kutahya**	**0.94**	**302**	*e*Pg		**Pg**	**10 13 51.1**	**-0.3**
TVSB	**Tavsanli**	**0.96**	**334**	PG		**Pg**	**10 13 50.7**	**-1.1**
TVSB	**Tavsanli**	**0.96**	**334**	*e*Pg		**Pg**	**10 13 50.7**	**-1.1**
KULA	**Kula-Manisa**	**1.05**	**266**	PG		**Pg**	**10 13 53.1**	**-0.5**
KULA	**Kula-Manisa**	**1.05**	**266**	*e*Pg		**Pg**	**10 13 53.1**	**-0.5**
DEMI	**Demirci**	**1.10**	**295**	⇑*i* P		**Pg**	**10 13 54.0**	**-0.6**
DEMI				*i* S		**Sg**	**10 14 07.8**	**-1.0**
DEMI	**Demirci**	**1.10**	**295**	P		**Pg**	**10 13 54.0**	**-0.6**
DEMI				S		**Sg**	**10 14 07.8**	**-1.0**
DENT	**Denizli**	**1.13**	**223**	PN		**Pg**	**10 13 54.3**	**-0.8**
DENT	**Denizli**	**1.13**	**223**	*e*Pn		**Pg**	**10 13 54.3**	**-0.8**
ESKT	**Eskisehir**	**1.14**	**35**	PN		**Pg**	**10 13 53.6**	**-1.7**
ESKT	**Eskisehir**	**1.14**	**35**	⇑*i* P		**Pg**	**10 13 52.5**	**-2.8**
ESKT				*i* S		**Sb**	**10 14 10.9**	**0.0**
ESKT	**Eskisehir**	**1.14**	**35**	*e*Pn		**Pg**	**10 13 53.6**	**-1.7**
SEYT	**Eskypehyr**	**1.14**	**35**	P		**Pg**	**10 13 52.5**	**-2.8**
SEYT				S		**Sb**	**10 14 10.9**	**0.0**
BCK	**Bucak**	**1.22**	**157**	PN		**Pg**	**10 13 56.2**	**-1.5**
BCK	**Bucak**	**1.22**	**157**	P		**Pb**	**10 13 56.9**	**-0.1**
BCK	**Bucak**	**1.22**	**157**	*e*Pn		**Pg**	**10 13 56.2**	**-0.5**
BCK	**Bucak**	**1.22**	**157**	P		**Pb**	**10 13 56.9**	**-0.1**
AUBOZ	**BOZOYUK**	**1.32**	**1**	⇑*i* P		**Pn**	**10 13 57.5**	**-1.1**
AUBOZ				*i* S		**Sg**	**10 14 15.2**	**-0.7**
AUBOZ	**BOZOYUK**	**1.32**	**1**	P		**Pn**	**10 13 57.5**	**-1.1**
AUBOZ				S		**Sg**	**10 14 15.2**	**-0.7**
BORA	**Eskisehir**	**1.34**	**15**	⇑*i* P		**Pn**

MDUB	Mudurnu	2.10	26	*e*Pn	Pn	10 14 09.1	-0.2
KCTX	Karacabey (Bur	2.10	323	PN	Pn	10 14 09.4	+0.1
KCTX	Karacabey (Bur	2.10	323	*e*Pn	Pn	10 14 09.4	+0.1
SPNC	Sapanca-Adapaz	2.11	6	PN	Pn	10 14 09.3	-0.1
SPNC	Sapanca-Adapaz	2.11	6	*e*Pn	Pn	10 14 09.3	-0.1
KEPZ	Antalya-Kepez	2.11	142	‖*i*P	Pn	10 14 09.7	+0.3
KEPZ				*i*S	Sb	10 14 37.9	-0.7
KEPZ	Antalya-Kepez	2.11	142	P	Pn	10 14 09.7	+0.3
KEPZ				S	Sb	10 14 37.9	-0.7
BTAS	Taskesti	2.12	21	*i*P	Pn	10 14 09.3	-0.3
BTAS				*i*S	Sb	10 14 40.2	+1.1
BTAS	Taskesti	2.12	21	P	Pn	10 14 09.3	-0.3
ARMT	Armutlu	2.16	336	PN	Pn	10 14 10.0	-0.1
ARMT	Armutlu	2.16	336	*e*Pn	Pn	10 14 10.0	-0.1
SAUV	Serdivan-Sakar	2.16	7	PN	Pn	10 14 10.2	+0.1
SAUV	Serdivan-Sakar	2.16	7	*e*Pn	Pn	10 14 10.2	+0.1
MLSB	Milas	2.18	234	PN	Pn	10 14 10.4	0.0
MLSB	Milas	2.18	234	*e*Pn	Pn	10 14 10.4	0.0
HRT	Hereke	2.25	354	PN	Pn	10 14 10.9	-0.4
HRT	Hereke	2.25	354	P	Pn	10 14 11.5	+0.2
HRT	Hereke	2.25	354	*e*Pn	Pn	10 14 10.9	-0.4
HRT	Hereke	2.25	354	P	Pn	10 14 11.5	+0.2
CHBY	Cihanbeyli	2.26	89	PN	Pn	10 14 11.3	-0.3
CHBY	Cihanbeyli	2.26	89	*e*Pn	Pn	10 14 11.3	-0.3
KKUL	Konya-Kulu	2.35	75	⇑*i*P	Pn	10 14 13.1	+0.4
KKUL				*i*S	Sg	10 14 49.6	+0.8
KKUL	Konya-Kulu	2.35	75	P	Pn	10 14 13.1	+0.4
GCAM	G?zelcaml?	2.36	249	PN	Pn	10 14 12.9	+0.2
GCAM	G?zelcaml?	2.36	249	*e*Pn	Pn	10 14 12.9	+0.2
BUY	Buyukada	2.36	343	PN	Pn	10 14 13.1	+0.3
BUY	Buyukada	2.36	343	*e*Pn	Pn	10 14 13.1	+0.3
AKAS	Kas	2.37	188	PN	Pn	10 14 12.7	-0.1
AKAS	Kas	2.37	188	*i*P	Pn	10 14 12.7	-0.4
AKAS				*i*S	Sg	10 14 49.4	-0.2
AKAS	Kas	2.37	188	P	Pn	10 14 12.7	-0.4
AKAS	Kas	2.37	188	*e*Pn	Pn	10 14 13.0	-0.1
EDC	Edincik	2.41	317	PN	Pn	10 14 13.9	+0.3
EDC	Edincik	2.41	317	P	Pn	10 14 13.3	-0.3
EDC	Edincik	2.41	317	P	Pn	10 14 13.3	-0.3
EDC	Edincik	2.41	317	*e*Pn	Pn	10 14 13.9	+0.3
KSL	Kastellorizon	2.46	188	P	Pn	10 14 14.9	+0.8
DKL	Dikili	2.47	282	PN	Pn	10 14 14.7	+0.5
DKL	Dikili	2.47	282	*e*Pn	Pn	10 14 14.7	+0.5
BR231	Keskin MP Arra	2.49	59	*e*Pn	Pn	10 14 15.6	+0.9
BR231	Keskin MP Arra	2.49	59	*e*Pn	Pn	10 14 15.6	+0.9
ANTO	Ankara	2.52	59	PN	Pn	10 14 15.0	0.0
ANTO	Ankara	2.52	59	*e*P	Pn	10 14 15.5	+0.5
ANTO	Ankara	2.52	59	*e*Pn	Pn	10 14 15.5	+0.5
ANTO	Ankara	2.52	59	*e*Pn	Pn	10 14 15.0	0.0
ANTO	Ankara	2.52	59	*e*P	Pn	10 14 15.5	+0.5
AFSR	Af˘ar-Bala (A	2.54	69	PN	Pn	10 14 15.3	-0.1
AFSR	Af˘ar-Bala (A	2.54	69	*e*Pn	Pn	10 14 15.3	-0.1
KAVV	Kandilli-Istan	2.58	344	PN	Pn	10 14 15.8	0.0
KAVV	Kandilli-Istan	2.58	344	*e*Pn	Pn	10 14 15.8	0.0
SILT	Sile	2.58	354	PN	Pn	10 14 16.0	+0.2
SILT	Sile	2.58	354	*e*Pn	Pn	10 14 16.0	+0.2
ISK	Istanbul-Kandi	2.58	344	PN	Pn	10 14 16.0	+0.2
ISK	Istanbul-Kandi	2.58	344	*e*Pn	Pn	10 14 16.0	+0.2
BODT	Bodrum	2.62	235	PN	Pn	10 14 16.4	0.0
BODT	Bodrum	2.62	235	P	Pn	10 14 14.4	-2.0
BODT	Bodrum	2.62	235	*e*Pn	Pn	10 14 16.4	0.0
BODT	Bodrum	2.62	235	P	Pn	10 14 14.4	-2.0
SMG	Samos	2.65	252	P	Pn	10 14 15.7	-1.0
SMG	Samos	2.65	252	P	Pn	10 14 15.7	-1.0
URLA	Izmir	2.68	266	PN	Pn	10 14 17.5	+0.2
URLA	Izmir	2.68	266	*e*Pn	Pn	10 14 17.5	+0.2
BGKT	Bogazkoy	2.76	340	PN	Pn	10 14 18.4	+0.1
BGKT	Bogazkoy	2.76	340	*e*Pn	Pn	10 14 18.4	+0.1
KLYT	Kilyos	2.76	345	PN	Pn	10 14 18.9	+0.6
KLYT	Kilyos	2.76	345	*e*Pn	Pn	10 14 18.9	+0.6
KRBG	Karabiga-Canak	2.76	312	PN	Pn	10 14 18.7	+0.4
KRBG	Karabiga-Canak	2.76	312	*e*Pn	Pn	10 14 18.7	+0.4
SBT3	Marmara-Eregli	2.77	326	PN	Pn	10 14 18.9	+0.6
SBT3	Marmara-Eregli	2.77	326	*e*Pn	Pn	10 14 18.9	+0.6
SULT	Sultanhani-AKS	2.79	97	PN	Pn	10 14 18.9	+0.1
SULT	Sultanhani-AKS	2.79	97	*e*Pn	Pn	10 14 18.9	+0.1
ARG	Arkhangelos	2.80	213	P	Pn	10 14 19.0	+0.2
ARG	Arkhangelos	2.80	213	P	Pn	10 14 19.6	+0.8
ARG	Arkhangelos	2.80	213	P	Pn	10 14 19.6	+0.8
SERE	Sereflikochisa	2.81	82	PN	Pn	10 14 18.9	-0.2
SERE	Sereflikochisa	2.81	82	*e*Pn	Pn	10 14 18.9	-0.2
CTKS	Kestanelik-??a	2.88	337	PN	Pn	10 14 20.4	+0.4
CTKS	Kestanelik-??a	2.88	337	*e*Pn	Pn	10 14 20.4	+0.4
SLVT	Silivri	2.98	333	PN	Pn	10 14 21.8	+0.5
SLVT	Silivri	2.98	333	*e*Pn	Pn	10 14 21.8	+0.5
PRK	Paraskevi	2.98	284	P	Pn	10 14 21.3	-0.1
PRK	Paraskevi	2.98	284	P	Pn	10 14 21.3	-0.1
PRK	Paraskevi	2.98	284	P	Pn	10 14 20.9	-0.5
RKY	Sarkoy-Tekirda	3.02	315	PN	Pn	10 14 22.2	+0.2
RKY	Sarkoy-Tekirda	3.02	315	*e*Pn	Pn	10 14 22.2	+0.2
BR101	Keskin Array S	3.05	67	*e*Pn	Pn	10 14 22.4	0.0
BR101				*e*Pg	Pb	10 14 29.8	+1.5
BR101				*e*Sn	Sn	10 14 58.6	-0.7
BR101	Keskin Array S	3.05	67	*e*Pn	Pn	10 14 22.4	0.0
BR131	Keskin Array S	3.05	67	*e*Pn	Pn	10 14 22.5	+0.1
BR131	Keskin Array S	3.05	67	*e*Pn	Pn	10 14 22.5	+0.1
BRTR	Keskin Array B	3.05	67	Pn	Pn	10 14 22.4	0.0
	11nm,0.3s,baz=244,slow=15,SNR=156						
BRTR				Pg	Pb	10 14 29.8	+1.6
	15nm,0.3s,baz=241,slow=16,SNR=49						
BRTR				Sn	Sn	10 14 58.6	-0.7
	6.4nm,0.3s,baz=234,slow=27,SNR=7.6						
BRTR	Keskin Array B	3.05	67	*i*P	Pn	10 14 22.3	-0.1
BRTR				pmax	pmax		
	comp=Z,33nm,0.5s						
LPK	Lapseki	3.08	306	PN	Pn	10 14 22.4	-0.3
LPK	Lapseki	3.08	306	*e*Pn	Pn	10 14 22.4	-0.3
CHOS	Chios island	3.10	268	P	Pn	10 14 22.7	-0.4
CHOS	Chios island	3.10	268	P	Pn	10 14 22.7	-0.4
EZN	Ezine	3.11	295	PN	Pn	10 14 23.4	+0.3
EZN	Ezine	3.11	295	P	Pn	10 14 23.4	+0.3
EZN	Ezine	3.11	295	P	Pn	10 14 23.1	0.0
EZN	Ezine	3.11	295	*e*Pn	Pn	10 14 23.4	+0.3
EZN	Ezine	3.11	295	P	Pn	10 14 23.1	0.0
CTYL	Yalikoy Yolu	3.17	336	PN	Pn	10 14 24.4	+0.5
CTYL	Yalikoy Yolu	3.17	336	*e*Pn	Pn	10 14 24.4	+0.5
GELI	Tayfur-Gelibol	3.27	305	PN	Pn	10 14 25.7	+0.3
GELI	Tayfur-Gelibol	3.27	305	*e*Pn	Pn	10 14 25.7	+0.3
SIGR	SIGRI	3.29	282	P	Pn	10 14 25.3	-0.3
SIGR	SIGRI	3.29	282	P	Pn	10 14 25.3	-0.3
BOZC	Bozcaada	3.31	293	PN	Pn	10 14 26.0	+0.1
BOZC	Bozcaada	3.31	293	*e*Pn	Pn	10 14 26.0	+0.1
ERIK	Erikli-Kesan	3.40	309	PN	Pn	10 14 27.6	+0.5
ERIK	Erikli-Kesan	3.40	309	*e*Pn	Pn	10 14 27.6	+0.5
TEKE	Tekeli-Mersin	3.48	134	PN	Pn	10 14 28.6	+0.4
TEKE	Tekeli-Mersin	3.48	134	*e*Pn	Pn	10 14 28.6	+0.4
GADA	Gvkgeada	3.56	298	PN	Pn	10 14 29.5	+0.2
GADA	Gvkgeada	3.56	298	P	Pn	10 14 28.7	-0.6
GADA	Gvkgeada	3.56	298	*e*Pn	Pn	10 14 29.5	+0.2
GADA	Gvkgeada	3.56	298	P	Pn	10 14 28.7	-0.6
ENEZ	Enez	3.66	307	PN	Pn	10 14 31.3	+0.6
ENEZ	Enez	3.66	307	P	Pn	10 14 30.7	0.0
ENEZ	Enez	3.66	307	*e*Pn	Pn	10 14 31.3	+0.6
ENEZ	Enez	3.66	307	P	Pn	10 14 30.7	0.0
ILGA	Ilgaz	3.77	48	*e*Pn	Pn	10 14 32.3	-0.2
ILGA	Ilgaz	3.77	48	*e*Pn	Pn	10 14 32.3	-0.2
KARP	Karpathos	3.79	218	PN	Pn	10 14 33.6	+1.1
KARP	Karpathos	3.79	218	*e*Pn	Pn	10 14 32.8	+0.3
KARP	Karpathos	3.79	218	P	Pn	10 14 31.7	-0.8
KARP	Karpathos	3.79	218	*e*Pn	Pn	10 14 32.8	+0.3
KARP	Karpathos	3.79	218	P	Pn	10 14 31.7	-0.8
ALN	Alexandroupoli	3.82	308	P	Pn	10 14 32.6	-0.3
ALN	Alexandroupoli	3.82	308	P	Pn	10 14 32.6	-0.3
APE	Apeiranthos	3.85	248	PN	Pn	10 14 34.3	+0.9
APE	Apeiranthos	3.85	248	*c*P	Pn	10 14 33.0	-0.4
APE	Apeiranthos	3.85	248	⇑*i*P	Pn	10 14 33.3	-0.1
APE	Apeiranthos	3.85	248	*i*P	Pn	10 14 33.0	-0.4
APE	Apeiranthos	3.85	248	*e*Pn	Pn	10 14 34.3	+0.9
APE	Apeiranthos	3.85	248	P	Pn	10 14 32.7	-0.7
KURC	Kurucasile-Bar	3.87	32	PN	Pn	10 14 34.4	+0.8
KURC	Kurucasile-Bar	3.87	32	*e*Pn	Pn	10 14 34.4	+0.8
KIZK	Mersin	3.91	121	PN	Pn	10 14 34.6	+0.5
CORM	Corum	3.92	65	PN	Pn	10 14 35.1	+0.7
CORM	Corum	3.92	65	*e*Pn	Pn	10 14 35.1	+0.7
SMTH	Samothraki Isl	3.94	300	P	Pn	10 14 33.7	-0.8
SMTH	Samothraki Isl	3.94	300	P	Pn	10 14 33.7	-0.8
LIA	Limnos Island	3.96	291	P	Pn	10 14 34.6	-0.2
LIA	Limnos Island	3.96	291	P	Pn	10 14 34.6	-0.2
ALFC	Alefka	4.01	148	P	Pn	10 14 34.5	-1.0
AKDN	Akdeniz- K˘–br	4.05	143	PN	Pn	10 14 36.8	+0.7
AKDN	Akdeniz- K˘–br	4.05	143	*e*Pn	Pn	10 14 36.8	+0.7
EDRB	Edirne	4.10	324	PN	Pn	10 14 37.5	+0.8
EDRB	Edirne	4.10	324	*e*Pn	Pn	10 14 37.5	+0.8
PPCY	Paphos	4.15	152	P	Pn	10 14 37.7	+0.3
LEF	Lefka	4.17	145	PN	Pn	10 14 38.2	+0.6
LEF	Lefka	4.17	145	*e*Pn	Pn	10 14 38.2	+0.6
KARA	Karaisali	4.21	107	PN	Pn	10 14 39.1	+0.9
KARA	Karaisali	4.21	107	*e*Pn	Pn	10 14 39.1	+0.9
SANT	Santorini	4.24	240	*e*Pn	Pn	10 14 39.2	+0.5
SANT	Santorini	4.24	240	*e*Pn	Pn	10 14 39.2	+0.5
YOZ	Yozgat	4.27	74	PN	Pn	10 14 39.7	+0.5
YOZ	Yozgat	4.27	74	*e*Pn	Pn	10 14 39.7	+0.5
LFK	Lefkose	4.35	138	PN	Pn	10 14 40.8	+0.6
LFK	Lefkose	4.35	138	*e*Pn	Pn	10 14 40.8	+0.6
SZAC	Souni	4.47	148	P	Pn	10 14 41.6	-0.3
CSS	Mathiatis	4.50	143	PN	Pn	10 14 42.9	+0.7
CSS	Mathiatis	4.50	143	*e*Pn	Pn	10 14 40.3	-1.9
CSS	Mathiatis	4.50	143	P	Pn	10 14 41.8	-0.4
CSS	Mathiatis	4.50	143	*e*Pn	Pn	10 14 42.9	+0.7
BZK	Bozkurt	4.55	41	PN	Pn	10 14 44.2	+1.3
BZK	Bozkurt	4.55	41	*e*Pn	Pn	10 14 44.2	+1.3
BNN	Bunyan	4.58	85	PN	Pn	10 14 44.6	+1.2
BNN	Bunyan	4.58	85	*e*Pn	Pn	10 14 44.6	+1.2
ZKR	Zakros	4.61	222	P	Pn	10 14 44.1	+0.4
ZKR	Zakros	4.61	222	P	Pn	10 14 44.1	+0.4
KRTS	Karatas	4.72	114	PN	Pn	10 14 46.4	+1.2
KRTS	Karatas	4.72	114	*e*Pn	Pn	10 14 46.4	+1.2
KOZT	Kozan	4.73	102	PN	Pn	10 14 46.4	+1.0
KOZT	Kozan	4.73	102	*e*Pn	Pn	10 14 46.4	+1.0
YURE	YUREGIR	4.80	110	PN	Pn	10 14 47.7	+1.3
YURE	YUREGIR	4.80	110	*e*Pn	Pn	10 14 47.7	+1.3
NPS	Neapolis	4.83	228	P	Pn	10 14 47.8	+0.9
NPS	Neapolis	4.83	228	P	Pn	10 14 47.8	+0.9
OUR	Ouranopolis	4.97	292	P	Pn	10 14 49.0	+0.3
OUR	Ouranopolis	4.97	292	P	Pn	10 14 49.0	+0.3
LAST	Lasithi	4.99	228	P	Pn	10 14 49.4	+0.4
LAST	Lasithi	4.99	228	P	Pn	10 14 49.4	+0.4
DIKM	Dikmen	5.06	51	PN	Pn	10 14 51.5	+1.6
DIKM	Dikmen	5.06	51	*e*Pn	Pn	10 14 51.5	+1.6
PAIG	Paliouri	5.09	287	P	Pn	10 14 50.7	+0.4
PAIG				pmax	pmax		
	comp=Z,63nm,0.7s						
PAIG	Paliouri	5.09	287	P	Pn	10 14 50.7	+0.4
	comp=Z,63nm,0.7s						
IDI	Anoyia	5.25	233	Pn	Pn	10 14 52.9	+0.3
	comp=Z,8.4nm,0.3s,baz=60,slow=16,SNR=20						
IDI	Anoyia	5.25	233	⇑*i*P	Pn	10 14 53.8	+1.1
IDI	Anoyia	5.25	233	*e*Pn	Pn	10 14 52.8	+0.1
IDI	Anoyia	5.25	233	⇑*i*P	Pn	10 14 53.8	+1.1
PLD	Plovdiv	5.36	313	P	Pn	10 14 54.0	0.0
PLD	Plovdiv	5.36	313	P	Pn	10 14 54.0	0.0
PLG	Polygyros	5.38	291	P	Pn	10 14 58.5	+4.2
PLG	Polygyros	5.38	291	P	Pn	10 14 58.5	+4.2
YAYL	Yayladag	5.49	116	PN	Pn	10 14 57.3	+1.3
YAYL	Yayladag	5.49	116	*e*Pn	Pn	10 14 57.3	+1.3
SRS	Serrai	5.54	299	P	Pn	10 14 58.7	+2.1
SRS	Serrai	5.54	299	P	Pn	10 14 58.7	+2.1
SVSK	Karacayir	5.59	74	PN	Pn	10 14 58.6	+1.4
SVSK	Karacayir	5.59	74	*e*Pn	Pn	10 14 58.6	+1.4
SOH	Sokhos	5.59	296	P	Pn	10 14 59.5	+2.2
SOH	Sokhos	5.59	296	P	Pn	10 14 59.5	+2.2
TIRR	Tirgusor	5.99	349	P	Pn	10 15 02.9	+0.3
TIRR	Tirgusor	5.99	349	*e*Pn	Pn	10 15 02.9	+0.3
TIRR	Tirgusor	5.99	349	*e*P	Pn	10 15 02.9	+0.3
AGG	Agios Georgios	6.01	277	*e*P	Pn	10 15 03.4	+0.4
AGG	Agios Georgios	6.01	277	*e*Pn	Pn	10 15 03.4	+0.4
AGG	Agios Georgios	6.01	277	*e*P	Pn	10 15 03.4	+0.4
LIT	Litokhoron	6.02	287	P	Pn	10 15 05.5	+2.4
LIT	Litokhoron	6.02	287	P	Pn	10 15 05.5	+2.4
TLB	Topalu	6.17	347	⇑*i*P	Pn	10 15 05.1	0.0
TLB	Topalu	6.17	347	⇑*i*P	Pn	10 15 05.1	0.0
VTS	Vitosha	6.54	310	*e*P	Pn	10 15 11.0	+0.7
VTS	Vitosha	6.54	310	⇑*i*P	Pn	10 15 11.0	+0.7
VTS	Vitosha	6.54	310	*e*Pn	Pn	10 15 11.0	+0.7
VTS	Vitosha	6.54	310	*e*P	Pn	10 15 11.0	+0.7
ITM	Ithomi	6.54	260	*e*Pn	Pn	10 15 10.9	+0.6
ITM	Ithomi	6.54	260	*e*Pn	Pn	10 15 10.9	+0.6
SEV	Sevastopol'	6.55	24	*e*P	Pn	10 15 08.6	-1.8
SEV				*e*S	Sn	10 16 19.8	-5.7
SEV	Sevastopol'	6.55	24	*e*P	Pn	10 15 08.6	-1.8
TLCR		6.65	353	‖*i*P	Pn	10 15 12.9	+1.2
TLCR		6.65	353	‖*i*P	Pn	10 15 12.9	+1.2
YAL	Yalta	6.67	27	*e*P	Pn	10 15 12.4	+0.5
YAL				*e*S	Sn	10 16 26.6	-1.6
YAL	Yalta	6.67	27	*e*P	Pn	10 15 12.4	+0.5
YAL				*e*S	Sn	10 16 26.6	-1.6
CFR	Carcaliu	6.73	349	P	Pn	10 15 14.6	+1.8
CFR				pmax	pmax		
	comp=Z,22nm,0.5s						
CFR	Carcaliu	6.73	349	‖*i*P	Pn	10 15 12.7	-0.1
CFR	Carcaliu	6.73	349	P	Pn	10 15 14.6	+1.8
	comp=Z,22nm,0.5s						
FNA	Florina	7.00	291	*e*P	Pn	10 15 18.0	+1.3
FNA	Florina	7.00	291	*e*Pn	Pn	10 15 18.0	+1.3
FNA	Florina	7.00	291	*e*P	Pn	10 15 18.0	+1.3
ISR	Istrita	7.02	340	‖*i*P	Pn	10 15 18.9	+2.1
ISR	Istrita	7.02	340	‖*i*P	Pn	10 15 18.9	+2.1
SIM	Simferopol'	7.06	24	*e*P	Pn	10 15 17.8	+0.4
SIM				*e*S	Sn	10 16 37.0	-1.0
SIM				pmax	pmax		
	comp=Z,32nm,0.8s						
SIM				smax	smax		
	comp=E,47nm,0.9s						
SIM				smax	smax		
	comp=N,36nm,1.0s						
SIM	Simferopol'	7.06	24	*e*P	Pn	10 15 17.8	+0.4
	comp=N,32nm,0.8s						
SIM				*e*S	Sn	10 16 37.0	-1.0
	comp=N,36nm,1.0s						
MMAI	Mount Meron Ar	7.08	140	Pn	Pn	10 15 17.9	+0.1
	comp=N,6.7nm,0.3s,baz=324,slow=14,SNR=6.6						
MMAI				Sn	Sn	10 16 35.5	-3.2
	baz=302,slow=14,SNR=2.0						
SUDU	Sudak	7.32	29	*e*P	Pn	10 15 24.1	+3.2
SUDU				*e*S	Sn	10 16 46.3	+1.9
PTK	Pertek	7.35	85	PN	Pn	10 15 23.2	+1.7
PTK	Pertek	7.35	85	*e*Pn	Pn	10 15 23.2	+1.7
MLR	Muntele Rosu	7.53	338	Pn	Pn	10 15 24.8	+0.8
	comp=N,0.5nm,0.3s,baz=185,slow=3.6,SNR=21						
MLR				LR	LR	10 18 16.9	
	comp=N,10nm,18.8s,baz=209,slow=38						
MLR	Muntele Rosu	7.53	338	⇑*i*P	Pn	10 15 25.1	+1.2
VRI	Vrincioaia	7.67	343	P	Pn	10 15 26.7	+1.0
VRI	Vrincioaia	7.67	343	⇑*i*P	Pn	10 15 26.5	+0.8
VRI	Vrincioaia	7.67	343	P	Pn	10 15 26.7	+1.0
PLOR	Plostina	7.67	342	‖*i*P	Pn	10 15 27.3	+1.5
PLOR	Plostina	7.67	342	‖*i*P	Pn	10 15 27.3	+1.5
VOIR		7.77	333	P	Pn	10 15 28.4	+1.2
VOIR				pmax	pmax		
	comp=Z,19nm,0.5s						
VOIR		7.77	333	⇑*i*P	Pn	10 15 28.0	+0.8
VOIR		7.77	333	P	Pn	10 15 28.4	+1.2
	comp=Z,19nm,0.5s						
ZAGS	Zajecar	7.84	314	*e*Pn	Pn	10 15 27.3	-0.8
ARR	Arges	7.86	331	⇑*i*P	Pn	10 15 30.8	+2.3
ARR	Arges	7.86	331	⇑*i*P	Pn	10 15 30.8	+2.3
BOVS	Bovan	8.04	311	*i* Pn	Pn	10 15 31.9	+1.1
DOPR	Dopca	8.13	337	⇑*i*P	Pn	10 15 34.6	+2.6
DOPR	Dopca	8.13	337	⇑*i*P	Pn	10 15 34.6	+2.6
RSH		8.20	157	P	Pn	10 15 30.8	-2.3
	baz=157						
RSH		8.20	157	P	Pn	10 15 30.8	-2.3
TIR	Tirane	8.26	293	*e*P	Pn	10 15 35.9	+2.1
TIR	Tirane	8.26	293	*e*Pn	Pn	10 15 35.9	+2.1
TIR	Tirane	8.26	293	*e*P	Pn	10 15 35.9	+2.1
TESR	Tescani	8.29	344	⇑*i*P	Pn	10 15 34.7	+0.4
TESR	Tescani	8.29	344	⇑*i*P	Pn	10 15 34.7	+0.4
GRUS	Gruza	8.77	310	*e*Pn	Pn	10 15 41.0	+0.1
IVAS	Ivanjica	8.95	307	*e*Pn	Pn	10 15 44.1	+0.7
PDG	Podgorica	9.04	299	⇑*i*P	Pn	10 15 45.3	+0.8
PDG	Podgorica	9.04	299	⇑*i*P	Pn	10 15 45.3	+0.8
TTG	Podgorica	9.04	299	*e*P	Pn	10 15 46.2	+1.7
TTG	Podgorica	9.04	299	*e*Pn	Pn	10 15 46.2	+1.7
TTG	Podgorica	9.04	299	*e*P	Pn	10 15 46.2	+1.7
HNKL	Nakhl	9.24	158	P	Pn	10 15 45.4	-2.0
	baz=158						
HNKL	Nakhl	9.24	158	P	Pn	10 15 45.4	-2.0
DIVS	Divibare	9.32	309	*e*Pn	Pn	10 15 48.5	0.0
DIVS	Divibare	9.32	309	*e*Pn	Pn	10 15 48.5	0.0
BZS	Buzias	9.38	321	⇑*i*P	Pn	10 15 49.0	-0.2
BZS	Buzias	9.38	321	⇑*i*P	Pn	10 15 49.0	-0.2
BBLS	Lazići	9.56	307	*e*Pn	Pn	10 15 52.3	+0.5
SORM	Soroca	9.62	353	⇑*i*P	Pn	10 15 52.2	-0.2
SORM	Soroca	9.62	353	⇑*i*P	Pn	10 15 52.2	-0.2
BURAR	Bucovina Array	9.67	340	⇑*i*P	Pn	10 15 54.7	+1.4
BURAR	Bucovina Array	9.67	340	⇑*i*P	Pn	10 15 54.7	+1.4
BUR04	Bucovina Ar. S	9.68	340	*e*Pn	Pn	10 15 54.4	+1.0
BUR04	Bucovina Ar. S	9.68	340	*e*Pn	Pn	10 15 54.4	+1.0
BUR08	Bucovina Ar. S	9.71	340	*e*Pn	Pn	10 15 55.0	+1.3
BUR08	Bucovina Ar. S	9.71	340	*e*Pn	Pn	10 15 55.0	+1.3
EIL	Elat	9.79	154	Pn	Pn	10 15 55.6	+0.7
	comp=Z,1.0nm,0.3s,baz=341,slow=11,SNR=14						
EIL				Sn	Sn	10 17 45.1	-0.1
	comp=Z,0.4nm,0.3s,baz=233,slow=20,SNR=2.7						
DRGR		9.79	329	P	Pn	10 15 57.2	+2.3
DRGR				pmax	pmax		
	comp=Z,40nm,0.7s						
DRGR		9.79	329	⇑*i*P	Pn	10 15 57.0	+2.1
DRGR		9.79	329	P	Pn	10 15 57.2	+2.3
	comp=Z,40nm,0.7s						
SWA2		10.05	203	P	Pn	10 15 55.1	-3.3
	baz=202						
SWA2				S	Sn	10 17 44.4	-7.3
	baz=202						
TIP	Timpagrande	10.34	277	‖*i*P	Pn	10 16 03.2	+0.7
TIP	Timpagrande	10.34	277	*e*Pn	Pn	10 16 03.1	+0.7
TIP	Timpagrande	10.34	277	*e*Pn	Pn	10 16 03.1	+0.6
MATE	Matera	10.46	286	‖*i*P	Pn	10 16 05.8	+1.8
MATE	Matera	10.46	286	‖*i*P	Pn	10 16 05.8	+1.8
NEY	Neytrino	10.69	60	⇑*e*P	Pn	10 16 11.8	+4.5
AKH	Akhalkalaki	10.73	71	*e*P	Pn	10 16 07.9	0.0
AKH	Akhalkalaki	10.73	71	*e*Pn	Pn	10 16 07.8	0.0
AKH	Akhalkalaki	10.73	71	*e*Pn	Pn	10 16 07.8	0.0
KIV	Kisl

CABF	**La Chapelle**	**19.29**	**302**	*e*P		**Pn**	**10 18 00.3**	**+0.2**
	comp=Z,11nm,0.9s							
HAU	**Haudompre**	**19.55**	**306**	*e*P		**P**	**10 18 02.3**	**+0.4**
HAU				pmax	pmax			
	comp=Z,11nm,0.9s							
HAU	**Haudompre**	**19.55**	**306**	*e*P		**P**	**10 18 02.3**	**+0.4**
	comp=Z,11nm,0.9s							
VIVF	**Saint-Julien-l**	**19.87**	**296**	*e*P		**Pn**	**10 18 09.4**	**+2.4**
VIVF				pmax	pmax			
	comp=Z,9.0nm,1.1s							
VSU	**Vasula**	**20.00**	**355**⇑	*e*P		Pn	10 18 11.0	+2.7
VSU				pmax	pmax			
	comp=Z,49nm,1.1s							
RAYN	**Ar Rayn**	**20.00**	**134**	P		**P**	**10 18 06.7**	**-0.3**
RAYN				pmax	pmax			
	comp=Z,4.0nm,1.1s							
RAYN	**Ar Rayn**	**20.00**	**134**	*e*P		**P**	**10 18 06.2**	**-0.8**
	comp=Z,3.9nm,1.0s							
RAYN	**Ar Rayn**	**20.00**	**134**	P		**P**	**10 18 06.7**	**-0.3**
	comp=Z,4.0nm,1.1s							
SSF	**Saint Saulge**	**21.12**	**302**	*e*P		**P**	**10 18 18.5**	**-0.4**
SSF				pmax	pmax			
	comp=Z,17nm,0.9s							
SSF	**Saint Saulge**	**21.12**	**302**	*e*P		**P**	**10 18 18.5**	**-0.4**
	comp=Z,17nm,0.9s							
AVF	**Avril sur Loir**	**21.16**	**301**	*e*P		**P**	**10 18 19.1**	**-0.2**
AVF				pmax	pmax			
	comp=Z,13nm,0.8s							
GYB4	**ALIBECK ARRAY**	**22.04**	**83**	*e*P		**P**	**10 18 29.0**	**+0.1**
	comp=Z,14nm,0.8s							
GYB4	**ALIBECK ARRAY**	**22.04**	**83**	*e*P		**P**	**10 18 29.0**	**+0.1**
	comp=Z,14nm,0.8s							
GYB5	**ALIBECK ARRAY**	**22.05**	**83**	*e*P		**P**	**10 18 28.1**	**-0.9**
	comp=Z,13nm,1.0s							
GYB5	**ALIBECK ARRAY**	**22.05**	**83**	*e*P		**P**	**10 18 28.1**	**-0.9**
	comp=Z,13nm,1.0s							
GYB3	**ALIBECK ARRAY**	**22.05**	**83**	*e*P		**P**	**10 18 28.1**	**-0.9**
	comp=Z,9.0nm,0.6s							
GYB3	**ALIBECK ARRAY**	**22.05**	**83**	*e*P		**P**	**10 18 28.1**	**-0.9**
	comp=Z,9.0nm,0.6s							
GEYT	**Alibeck**	**22.06**	**83**	P		**P**	**10 18 30.4**	**+1.4**
	comp=Z,6.2nm,0.7s,baz=292,slow=7.8,SNR=6.5							
GYA0	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 29.1**	**0.0**
	comp=Z,8.5nm,0.8s							
GYA0	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 29.1**	**0.0**
	comp=Z,8.5nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 29.1**	**0.0**
	comp=Z,8.8nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 29.1**	**0.0**
	comp=Z,8.8nm,0.8s							
GYA1	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 28.5**	**-0.6**
	comp=Z,7.4nm,0.8s							
GYA1	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 28.5**	**-0.6**
	comp=Z,7.4nm,0.8s							
GYA2	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 28.6**	**-0.5**
	comp=Z,8.9nm,0.9s							
GYA2	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 28.6**	**-0.5**
	comp=Z,8.9nm,0.9s							
GYB2	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 28.8**	**-0.3**
	comp=Z,10nm,0.8s							
GYB2	**ALIBECK ARRAY**	**22.06**	**83**	*e*P		**P**	**10 18 28.8**	**-0.3**
	comp=Z,10nm,0.8s							
RJF	**Les Rejaudoux**	**22.15**	**297**	*e*P		**P**	**10 18 31.6**	**+1.6**
RJF				pmax	pmax			
	comp=Z,11nm,1.0s							
RJF	**Les Rejaudoux**	**22.15**	**297**	*e*P		**P**	**10 18 31.6**	**+1.6**
	comp=Z,11nm,1.0s							
FIA0	**FINESS Array S**	**23.01**	**355**	*e*P		**P**	**10 18 39.6**	**+0.7**
FIA0	**FINESS Array S**	**23.01**	**355**	*e*P		**P**	**10 18 39.6**	**+0.7**
FINES	**FINESS Array B**	**23.01**	**355**	P		**P**	**10 18 39.6**	**+0.7**
	comp=Z,6.1nm,0.9s,baz=150,slow=13,SNR=9.5							
FIA1	**FINESS Array S**	**23.01**	**355**	*e*P		**P**	**10 18 39.3**	**+0.4**
KLMR	**Klimovskoe**	**23.07**	**12**	*e*P		**P**	**10 18 36.9**	**-2.7**
KLMR				pmax	pmax			
	comp=Z,19nm,1.2s							
KLMR	**Klimovskoe**	**23.07**	**12**	*e*P		**P**	**10 18 36.9**	**-2.7**
KLMR				AMP			10 18 42.3	
	comp=Z,19nm,1.2s							
KLMR				*e*PP		**PnPn**	**10 19 02.3**	**-2.1**
AKTK	**Aktyubinsk**	**23.08**	**50**	P		**P**	**10 18 40.7**	**+1.0**
	comp=Z,47nm,18.7s							
AKTO	**Aktyubinsk**	**23.08**	**50**	P		**P**	**10 18 40.7**	**+1.0**
AKTO				LR		LR	10 30 53.0	
	comp=Z,47nm,18.7s,baz=259,slow=45							
MFF	**Saint Martin d**	**23.49**	**300**	*e*P		**P**	**10 18 42.8**	**-1.1**
MFF				pmax	pmax			
	comp=Z,11nm,1.0s							
MFF	**Saint Martin d**	**23.49**	**300**	*e*P		**P**	**10 18 42.8**	**-1.1**
	comp=Z,11nm,1.0s							
LDF	**La Druitiere**	**23.86**	**305**	*e*P		**P**	**10 18 46.0**	**-1.6**
LDF				pmax	pmax			
	comp=Z,12nm,1.3s							
AB09	**Akbulak array**	**23.89**	**54**	*e*P		**P**	**10 18 47.9**	**0.0**
AB08	**Akbulak array**	**23.89**	**54**	*e*P		**P**	**10 18 48.1**	**+0.2**
AB08	**Akbulak array**	**23.89**	**54**	*e*P		**P**	**10 18 48.1**	**+0.2**
AB03	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 48.6**	**+0.6**
AB03	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 48.6**	**+0.6**
HFS	**Hagfors**	**23.91**	**340**	P		**P**	**10 18 48.1**	**+0.3**
	comp=Z,7.8nm,0.9s,baz=172,slow=4.2,SNR=6.5							
AB01	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 49.1**	**+1.1**
AB01	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 49.1**	**+1.1**
AB31	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 49.0**	**+1.0**
AB31	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 49.0**	**+1.0**
AB31	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 49.0**	**+1.0**
ABKAR	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 49.1**	**+1.1**
	comp=Z,17nm,0.6s							
ABKAR	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 49.1**	**+1.1**
	comp=Z,17nm,0.6s							
AB02	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 49.2**	**+1.2**
AB05	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 49.0**	**+1.0**
AB07	**Akbulak array**	**23.91**	**54**	*e*P		**P**	**10 18 48.8**	**+0.8**
SJPF	**Ste Jean**	**23.97**	**291**	*e*P		**P**	**10 18 48.4**	**-0.3**
SJPF	**Ste Jean**	**23.97**	**291**	*e*P		**P**	**10 18 48.4**	**-0.3**
GRR	**Gorron**	**24.29**	**304**	*e*P		**P**	**10 18 49.6**	**-2.0**
GRR				pmax	pmax			
	comp=Z,12nm,0.7s							
NB200	**NORSAR Array S**	**25.35**	**339**	*e*P		**P**	**10 19 00.7**	**-0.4**
NOA	**NORSAR Array B**	**25.35**	**339**	P		**P**	**10 19 00.7**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=144,slow=9.4,SNR=4.1							
NOA				LR		LR	10 29 31.9	
	comp=Z,31nm,18.4s,baz=140,slow=38							
ARU	**Arti**	**25.99**	**37**	P		**P**	**10 19 08.5**	**+1.6**
	comp=Z,16nm,0.6s,baz=239,slow=6.6,SNR=20							
ARU	**Arti**	**25.99**	**37***c*	*i*P		**P**	**10 19 09.5**	**+2.6**
ARU							10 19 47.0	
ARU				S		**S**	**10 23 43.7**	**+5.9**
ARU				SS		**SnSn**	**10 24 38.8**	**+4.5**
ARU				pmax	pmax			
	comp=Z,23nm,1.0s							
ARU	**Arti**	**25.99**	**37**	*e*P		**P**	**10 19 06.1**	**-0.8**
	comp=Z,18nm,0.7s							
TMCR	**Tamitsa**	**26.05**	**8**	*e*P		**P**	**10 19 10.0**	**+2.6**
TMCR				pmax	pmax			
	comp=Z,25nm,0.9s							
ESDC	**Sonseca Array**	**26.28**	**283**	P		**P**	**10 19 07.0**	**-2.8**
	comp=Z,0.3nm,0.4s,baz=56,slow=7.9,SNR=6.3							
ARA0	**ARCESS Array S**	**31.10**	**357**	*e*P		**P**	**10 19 51.4**	**-1.0**
ARCES	**ARCESS Array B**	**31.10**	**357**	P		**P**	**10 19 51.4**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=163,slow=8.9,SNR=4.8							
BVAR	**Borovoye Array**	**31.17**	**49**	LR		LR	10 35 55.5	
	comp=Z,50nm,18.3s,baz=225,slow=43							
AAK	**Ala-Archa**	**33.72**	**69**	P		**P**	**10 20 15.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=274,slow=6.6,SNR=2.7							
TOA1	**Torodi Ar. Sit**	**35.66**	**232**	*e*P		**P**	**10 20 31.8**	**-0.8**
TOA0	**Torodi Ar. Sit**	**35.66**	**232**	*e*P		**P**	**10 20 31.9**	**-0.7**
	comp=Z,7.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**35.66**	**232**	P		**P**	**10 20 31.8**	**-0.8**
	comp=Z,7.1nm,0.8s,baz=33,slow=9.7,SNR=48							
KDJ	**Kajisay**	**35.77**	**69**	P		**P**	**10 20 33.9**	**+0.4**
KDJ	**Kajisay**	**35.77**	**69**	*e*P		**P**	**10 20 33.9**	**+0.4**
	comp=Z,2.1nm,0.8s							
KURBB	**Kurchatov Arra**	**35.96**	**54**	P		**P**	**10 20 35.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=277,slow=8.8,SNR=12							
KURK	**Kurchatov**	**36.02**	**54**⇓	*e*P		**P**	**10 20 36.9**	**+1.6**
KURK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
KURK	**Kurchatov**	**36.02**	**54**	*e*P		**P**	**10 20 35.0**	**-0.3**
KOWA	**Kowa**	**38.40**	**241**	P		**P**	**10 20 54.8**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=60,slow=8.1,SNR=3.3							
MK31	**Makanchi Array**	**38.68**	**60**	*e*P		**P**	**10 20 57.7**	**-0.3**
MK31	**Makanchi Array**	**38.68**	**60**	*e*P		**P**	**10 20 57.7**	**-0.3**
MK32	**Makanchi Array**	**38.68**	**60**	*e*P		**P**	**10 20 57.7**	**-0.2**
MKAR	**Makanchi Array**	**38.68**	**60**	P		**P**	**10 20 57.7**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=278,slow=7.6,SNR=19							
MKAR				LR		LR	10 38 12.2	
	comp=Z,27nm,20.9s,baz=208,slow=38							
MKAR	**Makanchi Array**	**38.68**	**60**	*i*P		**P**	**10 21 00.4**	**+2.4**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**38.68**	**60**	*e*P		**P**	**10 20 57.5**	**-0.5**
	comp=Z,17nm,0.6s							
MK01	**Makanchi Array**	**38.69**	**60**	*e*P		**P**	**10 20 57.1**	**-0.9**
ZAA1	**Zalesovo Array**	**39.83**	**49**	*e*P		**P**	**10 21 06.7**	**-0.8**
ZALV	**Zalesovo Beam**	**39.83**	**49**	P		**P**	**10 21 06.7**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=262,slow=10.0,SNR=6.4							
ZALV				LR		LR	10 41 11.1	
	comp=Z,46nm,18.6s,baz=248,slow=42							
DGZ	**Jazzator, Alta**	**41.73**	**55***c*	*i*P		**P**	**10 21 23.2**	**-0.2**
DGZ				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WMQ	**Urumqi**	**42.97**	**64**	*e*P		**P**	**10 21 36.0**	**+2.6**
DBIC	**Dimbokro**	**44.73**	**234**	P		**P**	**10 21 46.4**	**-1.4**
	comp=Z,4.2nm,0.6s,baz=40,slow=12,SNR=6.3							
TIC	**Toumodi**	**44.85**	**234**	*e*P		**P**	**10 21 47.6**	**-1.2**
KIC	**Kosan Boka**	**44.89**	**233**	*e*P		**P**	**10 21 48.0**	**-1.1**
	comp=Z,121nm,2.0s							
PYUN	**Piuthan**	**44.94**	**87**	*e*P		**P**	**10 21 49.2**	**-0.5**
	comp=Z,30nm,1.0s							
LIC	**Lamto**	**45.18**	**234**	*e*P		**P**	**10 21 50.4**	**-1.0**
	comp=Z,24nm,0.6s							
DANN	**Dangsing**	**45.43**	**86**	*e*P		**P**	**10 21 53.9**	**+0.3**
	comp=Z,7.3nm,1.0s							
KOLN	**Koldanda**	**45.57**	**87**	*e*P		**P**	**10 21 53.9**	**-0.8**
	comp=Z,16nm,0.9s							
GKN	**Gorkha**	**46.27**	**86**	*e*P		**P**	**10 21 59.2**	**-1.0**
	comp=Z,17nm,0.6s							
DMN	**Daman**	**46.83**	**86**	*e*P		**P**	**10 22 04.0**	**-0.6**
	comp=Z,26nm,0.9s							
PKIN	**Phulchoki**	**47.07**	**86**	*e*P		**P**	**10 22 05.5**	**-1.0**
	comp=Z,5.2nm,0.5s							
PKI	**Pulchoki**	**47.08**	**86**	*e*P		**P**	**10 22 05.6**	**-1.1**
	comp=Z,16nm,0.9s							
RAMN	**Ramite**	**48.31**	**86**	*e*P		**P**	**10 22 14.8**	**-1.3**
	comp=Z,31nm,0.8s							
TLY	**Talaya**	**51.43**	**50**⇑	*e*P		**P**	**10 22 41.8**	**+2.5**
TLY				pmax	pmax			
	comp=Z,8.0nm,2.5s							
SFJD	**Kangerlussuaq**	**51.59**	**330**	LR		LR	10 44 47.4	
	comp=Z,28nm,18.7s,baz=113,slow=36							
SONA0	**Songino Array**	**54.32**	**54**	*e*P		**P**	**10 23 00.1**	**-0.7**
SONM	**Songino Array**	**54.32**	**54**	P		**P**	**10 23 00.1**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=274,slow=8.0,SNR=6.8							
SONM				LR		LR	10 49 17.0	
	comp=Z,44nm,18.7s,baz=56,slow=40							
ULN	**Ulaanbaatar**	**54.73**	**53**⇑	*e*P		**P**	**10 23 02.9**	**-0.9**
ULN				pmax	pmax			
	comp=Z,6.0nm,1.7s							
LZH	**Lanzhou**	**57.25**	**68**	*e*P		**P**	**10 23 21.5**	**-0.6**
LZH				pP		sP	10 23 26.3	+2.1
LZH				sP		pP	10 23 28.8	+5.2
LZH				*e*PP		**PP**	**10 25 29.8**	**+0.9**
HHC	**Hu-ho-hao-te**	**60.53**	**60**	*e*P		**P**	**10 23 43.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**62.43**	**88**	P		**P**	**10 23 55.8**	**-2.0**
	comp=Z,1.1nm,0.4s,baz=300,slow=8.0,SNR=12							
BOSA	**Boshof**	**67.00**	**185**	P		**P**	**10 24 26.7**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=5.6,slow=7.5,SNR=5.4							
SEY	**Seymchan**	**68.88**	**24**⇑	*e*P		**P**	**10 24 39.6**	**+0.9**
MA2	**Magadan**	**70.69**	**28**⇑	*i*P		**P**	**10 24 52.7**	**+2.8**
KSRS	**Korea Array**	**73.13**	**55**	LR		LR	11 01 18.7	
	comp=Z,34nm,19.5s,baz=307,slow=39							
TJN	**Taejon**	**73.39**	**57***c*	*e*P		**P**	**10 25 05.3**	**-1.2**
YKA	**Yellowknife Ar**	**75.31**	**344**	P		**P**	**10 25 15.9**	**-1.3**
	comp=Z,0.9nm,1.0s,baz=25,slow=5.8,SNR=12							
COLA	**College**	**76.86**	**359**⇑	*e*P		**P**	**10 25 29.0**	**+3.1**
COLA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
ILAR	**Eielson Array**	**76.95**	**359**	P		**P**	**10 25 25.4**	**-1.1**
	comp=Z,0.9nm,1.2s,baz=45,slow=4.0,SNR=3.3							

*ISK **29** 10:28:54.9, 38˚.56N×30˚.03E, h5km, ML3.4/34*
*ISCJB **29** 10:28:55.8±0.5, 38˚.58N±0˚.02×30˚.02E±0˚.03, h1km±4km, mb3.1/2, Error ellipse: s-maj=3.7km s-min=3.2km az=152.8*
*IDC **29** 10:28:55.1±1.2, 38˚.46N×30˚.14E, h0km, mb3.4/2, mb1 3.6/7, mb1mx3.3/63, mbtmp3.5/7, ML3.4/5, Error ellipse: s-maj=21.2km s-min=14.6km az=151.0*
*DDA **29** 10:28:55.5, 38˚.62N×30˚.00E, h7km, Ml3.6*
*CSEM **29** 10:28:56.3±0.1, 38˚.55N×30˚.04E, h2km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.2km az=76.0*

ISC 29 10:28:55.6±1.1, 38˚.61N±0˚.02×30˚.06E±0˚.02, h8km±9km, n118, σ1§29/127, 11C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
KZIL	**AFYON_Kizioren**	**0.36**	**169**	*i* P		**Pg**	**10 29 02.9**	**+0.2**
KZIL				*i* S		**Sg**	**10 29 08.0**	**+0.6**
KZIL	**AFYON_Kizioren**	**0.36**	**169**	P		**Pg**	**10 29 02.9**	**+0.2**
KZIL				S		**Sg**	**10 29 08.0**	**+0.6**
SHUT	**Suhut-Afyon**	**0.39**	**98**	PG		**Pb**	**10 29 04.1**	**-0.8**
SHUT				SG		**Sb**	**10 29 10.8**	**-0.3**
SHUT	**Suhut-Afyon**	**0.39**	**98**	*e*Pg		**Pb**	**10 29 04.1**	**-0.8**
SHUT				*e*Sg		**Sb**	**10 29 10.8**	**-0.3**
KHL	**Karahalli**	**0.51**	**236**	PG		**Pg**	**10 29 04.8**	**-0.7**
KHL	**Karahalli**	**0.51**	**236**	*e*Pg		**Pg**	**10 29 04.8**	**-0.7**
GDZ	**Gediz**	**0.66**	**317**	*i* P		**Pg**	**10 29 07.4**	**-1.0**
GDZ				*i* S		**Sg**	**10 29 15.6**	**-1.4**
BOLV	**Bolvadin**	**0.71**	**81**	*i* P		**Pb**	**10 29 09.9**	**-0.4**
BOLV				*i* S		**Sn**	**10 29 21.2**	**-2.0**
BOLV	**Bolvadin**	**0.71**	**81**	P		**Pb**	**10 29 09.9**	**-0.4**
BOLV				S		**Sn**	**10 29 21.2**	**-2.0**
BAGO	**Egridir - ISPA**	**0.84**	**137**	*i* P		**Pb**	**10 29 11.8**	**-0.8**
BAGO				*i* S		**Sn**	**10 29 24.8**	**-1.7**
ISP	**Isparta**	**0.87**	**155**	PG		**Pg**	**10 29 12.2**	**-0.1**
ISP	**Isparta**	**0.87**	**155**⇑	*i*P		**Pg**	**10 29 11.8**	**-0.5**
ISP	**Isparta**	**0.87**	**155**⇑	*i*P		**Pg**	**10 29 11.8**	**-0.5**
ISP	**Isparta**	**0.87**	**155**	*e*Pg		**Pg**	**10 29 12.2**	**-0.1**
BRDR	**BURDUR-Merkez**	**0.91**	**180**	*i* P		**Pb**	**10 29 13.3**	**-0.5**
BRDR				*i* S		**Sn**	**10 29 27.4**	**-0.7**
BRDR	**BURDUR-Merkez**	**0.91**	**180**	P		**Pb**	**10 29 13.3**	**-0.5**
TVSB	**Tavsanli**	**0.96**	**331**	PG		**Pn**	**10 29 14.9**	**-0.6**
TVSB	**Tavsanli**	**0.96**	**331**	*e*Pg		**Pn**	**10 29 14.9**	**-0.6**
SIMA	**Simav-Kutahya**	**0.96**	**300**	PG		**Pg**	**10 29 14.1**	**-0.1**
SIMA	**Simav-Kutahya**	**0.96**	**300**	*e*Pg		**Pg**	**10 29 14.1**	**-0.1**
ESKT	**Eskisehir**	**1.10**	**34**	PN		**Pn**	**10 29 17.9**	**+0.5**
ESKT	**Eskisehir**	**1.10**	**34**	*e*Pn		**Pn**	**10 29 17.9**	**+0.5**
KULA	**Kula-Manisa**	**1.10**	**265**	PG		**Pb**	**10 29 16.7**	**-0.2**
KULA	**Kula-Manisa**	**1.10**	**265**	*e*Pg		**Pb**	**10 29 16.7**	**-0.2**
DENT	**Denizli**	**1.18**	**224**	PN		**Pb**	**10 29 17.9**	**-0.3**
DENT	**Denizli**	**1.18**	**224**	*e*Pn		**Pb**	**10 29 17.9**	**-0.3**
BCK	**Bucak**	**1.22**	**160**	PN		**Pg**	**10 29 18.8**	**-0.3**
BCK	**Bucak**	**1.22**	**160**	*e*Pn		**Pg**	**10 29 18.8**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.35**	**146**	PN		**Pg**	**10 29 21.4**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.35**	**146**	*e*Pn		**Pg**	**10 29 21.4**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.41**	**53**	PN		**Pg**	**10 29 23.5**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.41**	**53**	*e*Pn		**Pg**	**10 29 23.5**	**+0.7**
GOLH	**Golhisar**	**1.43**	**196**	*i* P		**Pn**	**10 29 20.9**	**-1.0**
GOLH				*i* S		**Sg**	**10 29 44.4**	**+2.9**
GOLH	**Golhisar**	**1.43**	**196**	P		**Pn**	**10 29 20.9**	**-1.0**
DST	**Dursunbey**	**1.50**	**312**	PN		**Pg**	**10 29 24.3**	**0.0**
DST	**Dursunbey**	**1.50**	**312**	*e*Pn		**Pg**	**10 29 24.3**	**0.0**
CAVI	**Cavuskoy**	**1.60**	**354**	PN		**Pg**	**10 29 26.1**	**-0.2**
CAVI	**Cavuskoy**	**1.60**	**354**	*e*Pn		**Pg**	**10 29 26.1**	**-0.2**
KORT	**Korkueli**	**1.62**	**172**	PN		**Pb**	**10 29 25.2**	**-0.7**
KORT	**Korkueli**	**1.62**	**172**	*e*Pn		**Pb**	**10 29 25.2**	**-0.7**
GPA	**Golpazari**	**1.69**	**7**	PN		**Pg**	**10 29 27.4**	**-0.6**
GPA	**Golpazari**	**1.69**	**7**	*e*Pn		**Pg**	**10 29 27.4**	**-0.6**
ORLT	**Orhaneli**	**1.69**	**328**	PN		**Pb**	**10 29 27.1**	**0.0**
ORLT	**Orhaneli**	**1.69**	**328**	*e*Pn		**Pb**	**10 29 27.1**	**0.0**
ANTB	**Antalya**	**1.77**	**164**	PN		**Pb**	**10 29 27.4**	**-0.9**
ANTB	**Antalya**	**1.77**	**164**	*e*Pn		**Pb**	**10 29 27.4**	**-0.9**
AKS	**Akhisar**	**1.78**	**279**	PN		**Pb**	**10 29 27.9**	**-0.5**
AKS	**Akhisar**	**1.78**	**279**	*e*Pn		**Pb**	**10 29 27.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.83**	**249**	PN		**Pb**	**10 29 28.4**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**1.83**	**249**	*e*Pn		**Pb**	**10 29 28.4**	**-1.0**
ADVT	**Abdulvahap**	**1.84**	**352**	PN		**Pb**	**10 29 29.8**	**+0.3**
ADVT	**Abdulvahap**	**1.84**	**352**	*e*Pn		**Pb**	**10 29 29.8**	**+0.3**
GULT	**Gulveren**	**1.85**	**11**	PN		**Pg**	**10 29 30.3**	**-0.9**
GULT	**Gulveren**	**1.85**	**11**	*e*Pn		**Pg**	**10 29 30.3**	**-0.9**
ELL	**Elmali**	**1.86**	**184**	PN		**Pb**	**10 29 28.6**	**-1.4**
ELL	**Elmali**	**1.86**	**184**	*e*Pn		**Pb**	**10 29 28.6**	**-1.4**
GEMT	**Gemlik**	**1.94**	**340**	PN		**Pb**	**10 29 31.3**	**0.0**
GEMT	**Gemlik**	**1.94**	**340**	*e*Pn		**Pb**	**10 29 31.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.98**	**333**	PN		**Pb**	**10 29 31.3**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.98**	**333**	*e*Pn		**Pb**	**10 29 31.3**	**-0.6**
BALB	**Balikesir**	**1.98**	**302**	PN		**Pb**	**10 29 31.2**	**-0.7**
BALB	**Balikesir**	**1.98**	**302**	*e*Pn		**Pb**	**10 29 31.2**	**-0.7**
YER	**Yerkesik**	**2.04**	**224**	PN		**Pn**	**10 29 31.1**	**+0.9**
YER	**Yerkesik**	**2.04**	**224**	*e*Pn		**Pn**	**10 29 31.1**	**+0.9**
MDUB	**Mudurnu**	**2.06**	**25**	PN		**Pb**	**10 29 32.9**	**-0.4**
MDUB	**Mudurnu**	**2.06**	**25**	*e*Pn		**Pb**	**10 29 32.9**	**-0.4**
TURN	**Turunc**	**2.08**	**214**	PN		**Pg**	**10 29 35.6**	**0.0**
TURN	**Turunc**	**2.08**	**214**	*e*Pn		**Pg**	**10 29 35.6**	**0.0**
DALY	**Dalyan (Mu˘la**	**2.11**	**212**	PN		**Pn**	**10 29 31.6**	**+0.4**
DALY	**Dalyan (Mu˘la**	**2.11**	**212**	*e*Pn		**Pn**	**10 29 31.6**	**+0.4**
KCTX	**Karacabey (Bur**	**2.11**	**322**	PN		**Pb**	**10 29 33.6**	**-0.6**
KCTX	**Karacabey (Bur**	**2.11**	**322**	*e*Pn		**Pb**	**10 29 33.6**	**-0.6**
FETY	**Fethiye**	**2.12**	**202**	PN		**Pn**	**10 29 31.8**	**+0.5**
FETY	**Fethiye**	**2.12**	**202**	*e*Pn		**Pn**	**10 29 31.8**	**+0.5**
SAUV	**Serdivan-Sakar**	**2.14**	**5**	PN		**Pb**	**10 29 33.9**	**-0.7**
SAUV	**Serdivan-Sakar**	**2.14**	**5**	*e*Pn		**Pb**	**10 29 33.9**	**-0.7**
ARMT	**Armutlu**	**2.16**	**335**	PN		**Pb**	**10 29 34.3**	**-0.7**
ARMT	**Armutlu**	**2.16**	**335**	*e*Pn		**Pb**	**10 29 34.3**	**-0.7**
CHBY	**Cihanbeyli**	**2.22**	**90**	PN		**Pb**	**10 29 34.6**	**-1.4**
CHBY	**Cihanbeyli**	**2.22**	**90**	*e*Pn		**Pb**	**10 29 34.6**	**-1.4**
HRT	**Hereke**	**2.23**	**352**	PN		**Pb**	**10 29 35.2**	**-1.0**
HRT	**Hereke**	**2.23**	**352**	*e*Pn		**Pb**	**10 29 35.2**	**-1.0**
MLSB	**Milas**	**2.23**	**235**	PN		**Pb**	**10 29 34.3**	**-1.9**
MLSB	**Milas**	**2.23**	**235**	*e*Pn		**Pb**	**10 29 34.3**	**-1.9**
GONE	**Gonen-Balikesi**	**2.33**	**309**	PN		**Pb**	**10 29 36.2**	**-1.7**
GONE	**Gonen-Balikesi**	**2.33**	**309**	*e*Pn		**Pb**	**10 29 36.2**	**-1.7**
BUY	**Buyukada**	**2.35**	**342**	PN		**Pb

ZAA1	Zalesovo Array	54.53	348	*eP*	P	10 39 59.8	+1.2
BVAR	Borovoye Array	57.93	338	P	P	10 40 23.1	+0.2
	0.9nm,0.5s,baz=137,slow=7.4,SNR=6.0						
AB31	Akbulak array	59.78	330	*eP*	P	10 40 35.5	-0.2
ABKAR	Akbulak array	59.78	330	*eP*	P	10 40 35.5	-0.2
	2.0nm,0.6s						
AKTO	Aktyubinsk	61.49	330	P	P	10 40 47.0	-0.4
	0.5nm,0.4s,baz=97,slow=8.1,SNR=3.7						
BR101	Keskin Array S	72.44	311	*eP*	P	10 41 56.5	-1.1
BRTR	Keskin Array B	72.44	311	P	P	10 41 56.5	-1.1
	1.3nm,0.8s,baz=130,slow=5.0,SNR=6.0						
FIA0	FINESS Array S	82.17	332	*eP*	P	10 42 50.2	-1.2
FINES	FINESS Array B	82.17	332	P	P	10 42 50.2	-1.2
	1.7nm,0.8s,baz=56,slow=2.5,SNR=3.8						
ARA0	ARCESS Array S	84.18	340	*eP*	P	10 43 01.7	+0.1
ARCES	ARCESS Array B	84.18	340	P	P	10 43 01.7	+0.1
	1.8nm,0.8s,baz=83,slow=9.9,SNR=4.3						
NOA	NORSAR Array B	89.27	331	LR	LR	11 27 39.9	
	comp=Z,4.4nm,18.7s,baz=10.0,slow=38						
LTX	Lajitas	141.40	37	*e*PKPpre	PKPpre	10 49 58.0	
TXAR	Lajitas Array	141.40	37	PKhKP	PKPpre	10 49 58.0	
	0.2nm,0.6s,baz=325,slow=1.5,SNR=3.5						

NIED ***29*** *10:32:00.42˚50N×146˚10E,h23km,Mw3.5 Best double couple: M₀2.33000×10¹⁴ NP1:φ=234.00000°,δ36.00000°, λ119.00000°. NP2:φ=20.00000°,δ59.00000°,λ71.00000°.*
IDC ***29*** *10:32:43.8±5.3,42.06N×146˚23E,h0km,mb3.8/6, mb1 3.8/7,mb1mx3.4/63,mbtmp3.8/7,ML3.2/1,Error ellipse: s-maj=124.1km s-min=71.8km az=0.0*
JMA ***29*** *10:32:49.7±0.2,42˚46N×146˚11E,h55km±4km,M3.5*
SKHL ***29*** *10:32:49.4±0.1,42˚30N×145˚80E,h57km±2km,mb3.8/3*

ISC 29 10:32:47.4±2.1,42˚46N±0˚08×146˚24E±0˚07,h15km±12km, n21,σ1°00/31,mb3.9/6,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NEM2	Nemuro 2	0.97	338	P		Pn	10 33 07.2	+0.7
NEM2				*e*S		Sn	10 33 20.0	0.0
JAK	Akkeshi	1.25	296	P		Pn	10 33 10.2	-0.1
JAK				*e*S		Sb	10 33 25.2	-1.5
GLVR	Golovnino	1.38	338	*e*P		Pb	10 33 12.7	-0.2
GLVR				*e*S		Sb	10 33 30.3	0.0
SHO	Shikotan	1.47	17	*e*P		Pg	10 33 15.9	+0.1
SHO				AMB		AMB	10 33 17.1	
	28nm,0.3s							
SHO				*e*S		Sg	10 33 35.9	+1.0
SHO				A		A	10 33 38.8	
	380nm,0.4s							
SHO				A		A	10 33 38.8	
	480nm,0.4s							
GRPR	Tuman	1.57	348	*e*P		Pb	10 33 15.2	-0.9
GRPR				*e*S		Sn	10 33 34.5	-0.2
JNK	Nakash	1.58	316	P		Pn	10 33 14.7	-0.2
JNK				*e*S		Sn	10 33 32.8	-2.2
YUK	Yuzh-Kuril'sk	1.60	350	*e*P		Pb	10 33 15.8	-0.8
YUK				AMB		AMB	10 33 18.5	
	13nm,0.3s							
YUK				AMB		AMB	10 33 18.5	
	47nm,0.3s							
YUK				AMB		AMB	10 33 18.5	
	20nm,0.3s							
YUK				*e*S		Sn	10 33 35.6	+0.2
YUK				A		A	10 33 37.7	
	210nm,0.4s							
YUK				A		A	10 33 37.7	
	410nm,0.4s							
LAGR	Lagunnoye	1.63	348	*e*P		Pb	10 33 17.1	0.0
LAGR				*e*S		Sb	10 33 37.8	+0.4
JRA	Rausu	1.69	331	P		Pb	10 33 16.8	-1.3
JOB	Onbets	1.82	285	P		Pn	10 33 17.9	-0.3
JAR	Ashorobuto	2.00	296	P		Pn	10 33 20.4	-0.2
JCH	Churui	2.13	275	P		Pn	10 33 22.8	+0.4
JCH				*e*S		Sn	10 33 48.1	-0.4
JTKR	Abashiri--Toko	2.27	312	P		Pn	10 33 25.0	+0.6
KUR	Kuril'sk	3.01	23	*e*P		Pb	10 33 38.7	-2.0
KUR				AMB		AMB	10 33 41.1	
	17nm,0.3s							
KUR				*e*S		Sb	10 34 15.0	-2.2
KUR				A		A	10 34 18.2	
	53nm,0.3s							
KUR				A		A	10 34 18.2	
	59nm,0.3s							
ASAJ	Asahikawa	3.13	303	Pn		Pn	10 33 37.4	+1.3
	1.6nm,0.3s,baz=145,slow=17,SNR=15							
SONM	Songino Array	28.38	295	P		P	10 38 40.8	-0.2
	0.6nm,0.6s,baz=86,slow=8.3,SNR=4.4							
ZALV	Zalesovo Beam	41.25	305	P		P	10 40 32.6	+1.1
	1.0nm,0.4s,baz=70,slow=8.1,SNR=2.3							
MKAR	Makanchi Array	44.60	298	P		P	10 40 58.8	-0.1
	0.6nm,0.7s,baz=72,slow=7.8,SNR=5.2							
KURBB	Kurchatov Arra	45.79	305	P		P	10 41 08.7	+0.5
	0.9nm,0.6s,baz=70,slow=8.6,SNR=6.8							
BVAR	Borovoye Array	49.81	310	P		P	10 41 40.6	+1.3
	0.5nm,0.4s,baz=81,slow=9.3,SNR=4.2							
FINES	FINESS Array B	65.72	333	P		P	10 43 31.8	+0.9
	1.8nm,0.9s,baz=54,slow=4.9,SNR=5.6							

IDC 29 10:51:23.1±2.1,15˚10S×174˚47W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.6/51,mbtmp3.8/4,ML3.9/1,Error ellipse: s-maj=113.9km s-min=24.8km az=152.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	Afiamalu	2.87	66	Pn		Pn	10 52 10.1	-0.1
	16nm,0.3s,baz=199,slow=2.8,SNR=20							
AFI						Sn	10 52 37.8	-7.7
	50nm,0.3s,baz=193,slow=5.0,SNR=14							
WRA	Warramunga Arr	48.91	257	P		P	11 00 11.6	+0.3
	0.6nm,0.6s,baz=92,slow=7.3,SNR=13							
ASAR	Alice Springs	49.22	252	P		P	11 00 13.4	-0.3
	2.8nm,0.8s,baz=84,slow=8.7,SNR=20							
ILAR	Eielson Array	82.35	12	P		P	11 03 47.1	+0.6
	0.2nm,0.5s,baz=226,slow=6.4,SNR=4.1							
BRTR	Keskin Array B	145.27	320	PKPbc		PKPbc	11 11 01.1	-1.9
	1.1nm,0.8s,baz=67,slow=3.2,SNR=4.1							

ISCJB ***29*** *10:53:45.7±0.8,36˚79S×0˚05×179˚67E±0˚09,h10km, mb4.3/4,Error ellipse: s-maj=10.6km s-min=6.4km az=19.5*
IDC ***29*** *10:53:47.1±1.5,36˚57S×179˚30E,h0km,mb4.4/4, mb1 4.6/5,mb1mx4.0/41,mbtmp4.3/5,ML3.5/1,MS3.3/2, Ms1 3.3/2,ms1mx2.7/40,Error ellipse: s-maj=42.5km s-min=35.9km az=162.0*
WEL ***29*** *10:53:49.6,37˚S±7˚×17˚9E±˚,h105km±12km*
NEIC ***29*** *10:53:52.9±0.0,36˚63S×179˚02E,h31km,ML4.2(WEL), After WEL.*

ISC 29 10:53:47.6±1.0,36˚71S±0˚05×179˚42E±0˚07,h10km,n161, σ1°47/163,mb4.2/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	Matakaoa Point	1.23	226	P		Pn	10 54 08.9	-2.0
WMGZ	Waiomatatini S	1.36	216	Pn		Pg	10 54 14.4	+0.6
WMGZ	Waiomatatini S	1.36	216	P		Pb	10 54 13.8	+0.5
WMGZ	Waiomatatini S	1.36	216	S		Sg	10 54 33.4	+1.8
PKGZ	Pakihiroa	1.59	222	P		Pn	10 54 15.1	-0.8
PKGZ	Pakihiroa	1.59	222	S		Sn	10 54 37.2	+0.7
PUZ	Puketiti	1.64	214	Pn		Pn	10 54 17.9	+1.3
PUZ						Sn	10 54 37.0	-0.8
PUZ	Puketiti	1.64	214	P		Pb	10 54 18.0	0.0
PUZ	Puketiti	1.64	214	S		Sn	10 54 38.2	+0.4
HAZ	Te Kaha	1.67	231	P		Pb	10 54 18.8	+0.3
HAZ	Te Kaha	1.67	231	S		Sb	10 54 40.1	+0.5
TWGZ	Tauwhareparae	1.86	218	Pn		Pn	10 54 20.9	+1.4
TWGZ	Tauwhareparae	1.86	218	P		Pb	10 54 21.2	-0.5
TWGZ	Tauwhareparae	1.86	218	S		Sn	10 54 43.9	+0.8
RUGZ	Raukumara Rang	1.87	227	P		Pn	10 54 19.2	-0.6
WIZ	White Island	1.96	245	P		Pb	10 54 22.0	-1.4
CNGZ	Carnagh Statio	2.01	208	Pn		Pn	10 54 23.7	+2.0
CNGZ	Carnagh Statio	2.01	208	P		Pb	10 54 23.9	-0.5
TKGZ	Te Karaka	2.13	215	Pn		Pn	10 54 24.3	+1.1
TKGZ	Te Karaka	2.13	215	P		Pn	10 54 24.4	+1.1
TKGZ	Te Karaka	2.13	215	S		Sn	10 54 49.8	+0.1
MWZ	Matawai	2.21	222	Pn		Pn	10 54 25.6	+1.2
MWZ	Matawai	2.21	222	P		Pn	10 54 25.5	+1.2
WHRZ	Whale Island	2.26	239	P		Pn	10 54 25.3	+0.3
RIGZ	Rimuhau	2.38	213	P		Pn	10 54 27.8	+1.0
RAGZ	Rawiri	2.39	221	Pn		Pn	10 54 28.0	+1.1
RAGZ	Rawiri	2.39	221	P		Pn	10 54 28.2	+1.3
URZ	Urewera	2.40	229	Pn		Pn	10 54 28.0	+1.1
	12nm,0.3s,baz=278,slow=2.9,SNR=176							
URZ						Sn	10 54 55.2	-1.2
	22nm,0.3s,baz=260,slow=22,SNR=10							
URZ				LR		LR	10 55 38.4	
	comp=Z,327nm,19.4s,baz=22,slow=46							
URZ	Urewera	2.40	229	Pn		Pn	10 54 26.7	-0.3
URZ						Sn	10 54 55.2	-1.2
URZ	Urewera	2.40	229	P		Pn	10 54 26.6	-0.3
URZ	Urewera	2.40	229	S		Sn	10 54 55.7	-0.7
PRGZ	Paritu Road	2.52	208	Pn		Pn	10 54 29.4	+0.8
PRGZ	Paritu Road	2.52	208	P		Pn	10 54 29.6	+1.0
MARZ	Manawahe	2.53	239	P		Pn	10 54 30.0	+1.2
EDRZ	Edgecumbe	2.55	236	Pn		Pn	10 54 30.2	+1.2
EDRZ	Edgecumbe	2.55	236	P		Pn	10 54 30.8	+1.7
OPRZ	Ohinepanea	2.55	243	Pn		Pn	10 54 28.9	-0.1
OPRZ	Ohinepanea	2.55	243	P		Pn	10 54 29.7	+0.7
SNGZ	Shannon Statio	2.64	218	Pn		Pn	10 54 31.2	+0.9
SNGZ	Shannon Statio	2.64	218	P		Pn	10 54 31.3	+1.0
KNZ	Kokohu	2.69	210	P		Pn	10 54 31.3	+0.4
KNZ	Kokohu	2.69	210	S		Sn	10 55 02.1	-1.5
RTZ	Ruatahuna	2.71	225	P		Pn	10 54 31.7	+0.4
MHGZ	Mahia Peninsul	2.71	206	Pn		Pn	10 54 31.9	+0.7
MHGZ	Mahia Peninsul	2.71	206	P		Pn	10 54 32.0	+0.7
TGRZ	Tauranga	2.72	247	P		Pn	10 54 33.3	+1.0
LIRZ	Lichensteins R	2.74	247	P		Pb	10 54 33.6	-3.1
MUGZ	Murupara	2.74	229	P		Pn	10 54 32.0	+0.2
TARZ	Mount Tarawera	2.77	236	P		Pb	10 54 34.6	-2.7
OMRZ	Omania	2.80	239	P		Pn	10 54 34.5	+2.1
RRRZ	Republican Roa	2.82	234	Pn		Pn	10 54 34.4	+1.6
RRRZ	Republican Roa	2.82	234	P		Pn	10 54 34.9	+2.1
KARZ	Kaharoa	2.85	242	P		Pn	10 54 34.5	+1.4
RAHZ	Arahi	2.87	219	P		Pn	10 54 35.0	+1.5
HLRZ	Highlands Stat	2.88	237	P		Pn	10 54 35.3	+1.7
WHHZ	Waihua	2.93	216	P		Pn	10 54 35.7	+1.5
WHHZ	Waihua	2.93	216	S		Sn	10 55 09.1	-0.3
UTU	Utuhina	2.95	239	P		Pb	10 54 38.5	-1.9
MTHZ	Maungataniwha	2.96	223	P		Pn	10 54 35.7	+1.1
MTHZ	Maungataniwha	2.96	223	S		Sn	10 55 10.0	-0.2
KUZ	Kuaotunu	2.97	268	Pn		Pn	10 54 33.0	-1.8
PRRZ	Plateau Road	2.99	232	Pn		Pn	10 54 35.2	+0.1
PRRZ	Plateau Road	2.99	232	P		Pn	10 54 36.1	+1.0
KMNZ	Kaimai	3.00	247	P		Pn	10 54 36.2	+1.0
HRRZ	Handcock Road	3.00	235	P		Pn	10 54 37.3	+2.0
ALRZ	Allen Road	3.06	232	Pn		Pn	10 54 36.9	+0.8
ALRZ	Allen Road	3.06	232	P		Pn	10 54 37.0	+0.8
NMHZ	Naumai	3.15	220	Pn		Pn	10 54 38.4	+1.0
NMHZ	Naumai	3.15	220	P		Pn	10 54 38.4	+1.0
MRHZ	Matea Rd	3.19	227	P		Pn	10 54 38.8	+1.0
ARHZ	Aropaoanui	3.19	216	Pn		Pn	10 54 38.4	+0.6
ARHZ	Aropaoanui	3.19	216	P		Pn	10 54 38.4	+0.6
TOZ	Tahuroa Road	3.29	251	Pn		Pn	10 54 37.4	-1.8
KUTZ	Kaahu Road	3.36	237	P		Pn	10 54 42.1	+1.9
BKZ	Black Stump Fm	3.37	222	Pn		Pn	10 54 41.0	+0.7
BKZ	Black Stump Fm	3.37	222	P		Pn	10 54 41.1	+0.7
MKAZ	Moumakai	3.44	262	Pn		Pn	10 54 39.9	-1.3
CKHZ	Cape Kidnapper	3.47	211	Pn		Pn	10 54 41.4	-0.2
CKHZ	Cape Kidnapper	3.47	211	P		Pn	10 54 41.5	-0.2
CKHZ	Cape Kidnapper	3.47	211	S		Sn	10 55 20.1	-2.8
MCHZ	McNeill Hill	3.47	217	Pn		Pn	10 54 42.2	+0.5
MCHZ	McNeill Hill	3.47	217	P		Pn	10 54 42.3	+0.5
TLZ	Tolley Road	3.48	241	P		Pn	10 54 44.1	+2.2
KWHZ	Kaweka Forest	3.59	220	P		Pn	10 54 44.1	+0.6
RATZ	Rangitukua	3.60	232	P		Pn	10 54 45.1	+1.5
ETAZ	East Tamaki Re	3.61	265	Pn		Pn	10 54 42.8	-0.8
RITZ	Rihia Road	3.61	230	P		Pn	10 54 45.4	+1.7
KAHZ	Kahuranaki	3.67	212	Pn		Pn	10 54 44.0	-0.4
KAHZ	Kahuranaki	3.67	212	P		Pn	10 54 43.9	-0.6
KATZ	Kakaramea	3.71	231	P		Pn	10 54 48.8	+3.6
KRHZ	Kereru	3.79	218	P		Pn	10 54 46.1	+0.1
KRVZ	Karewarewa	3.82	230	Pn		Pn	10 54 47.0	+0.4
KRVZ	Karewarewa	3.82	230	P		Pn	10 54 47.6	+1.0
BHHZ	Black Hill Sta	3.83	223	Pn		Pn	10 54 47.3	+0.5
BHHZ	Black Hill Sta	3.83	223	P		Pn	10 54 47.3	+0.5
OTVZ	Oturere	3.85	229	Pn		Pn	10 54 47.6	+0.6
WTVZ	West Tongariro	3.86	230	P		Pn	10 54 48.9	+1.7
PXZ	Pawanui	3.88	210	Pn		Pn	10 54 45.6	-1.6
PXZ	Pawanui	3.88	210	P		Pn	10 54 46.3	-0.6
RVAZ	Riverhead Bore	3.89	268	Pn		Pn	10 54 47.2	-0.2
NGZ	Ngauruhoe	3.89	230	Pn		Pn	10 54 48.3	+0.7
NGZ	Ngauruhoe	3.89	230	P		Pn	10 54 48.3	+0.7
TUVZ	Tukino	3.92	228	Pn		Pn	10 54 48.4	+0.5
TUVZ	Tukino	3.92	228	P		Pn	10 54 48.5	+0.5
TWVZ	Taurewa	3.93	232	P		Pn	10 54 49.7	+1.5
COVZ	Chateau Observ	3.94	230	P		Pn	10 54 49.4	+1.1
WHVZ	Whangaehu Hut	3.97	229	P		Pn	10 54 49.5	+0.8
FWVZ	Far West T-bar	3.97	229	Pn		Pn	10 54 48.9	+0.1
FWVZ	Far West T-bar	3.97	229	P		Pn	10 54 49.3	+0.5
WNVZ	Wahianoa	3.99	228	Pn		Pn	10 54 49.0	+0.1
TRVZ	Turoa	4.00	229	Pn		Pn	10 54 49.7	+0.5
TRVZ	Turoa	4.00	229	P		Pn	10 54 49.7	+0.5
HIZ	Hauiti	4.04	242	P		Pn	10 54 51.7	+2.2
HIZ	Hauiti	4.04	242	P		Pn	10 54 51.7	+2.2
PNHZ	Pukenui	4.08	217	Pn		Pn	10 54 49.6	-0.5
PNHZ	Pukenui	4.08	217	P		Pn	10 54 49.5	-0.5
WPUZ	Waipukurau	4.08	214	P		Pn	10 54 49.5	-0.7
MTVZ	Mangateitei	4.10	228	Pn		Pn	10 54 50.9	+0.4
MTVZ	Mangateitei	4.10	228	P		Pn	10 54 50.7	+0.3
PKVZ	Pokaka	4.12	230	Pn		Pn	10 54 51.9	+1.2
PKVZ	Pokaka	4.12	230	P		Pn	10 54 51.9	+1.2
PRHZ	Porangahau	4.17	211	Pn		Pn	10 54 49.8	-1.5
WCZ	Waipu Caves	4.17	279	Pn		Pn	10 54 51.1	-0.1
TSZ	Takapari Road	4.31	218	P		Pn	10 54 52.3	-0.9
ANWZ	Angora Road	4.40	211	P		Pn	10 54 54.0	-0.4
DVHZ	Dannevirke	4.40	214	Pn		Pn	10 54 53.4	-1.1
VRZ	Vera Road	4.40	235	Pn		Pn	10 54 56.2	+1.8
VRZ	Vera Road	4.40	235	P		Pn	10 54 56.3	+1.8
PRWZ	Pori Road	4.69	214	Pn		Pn	10 54 57.7	-0.7
PRWZ	Pori Road	4.69	214	P		Pn	10 54 57.8	-0.7
DREZ	Durham Road	4.81	237	P		Pn	10 55 03.8	+3.7
TIWZ	Tintock	4.91	213	Pn		Pn	10 54 59.8	-1.7
TIWZ	Tintock	4.91	213	P		Pn	10 55 00.5	-1.0
NEZ	North Egmont	4.92	237	Pn		Pn	10 55 04.3	+2.7
MRZ	Mangatainoka R	4.96	216	Pn		Pn	10 54 59.9	-2.2
PKE	Pukeiti	4.96	238	P		Pn	10 55 05.8	+3.7
HOWZ	Holdsworth Sta	5.17	215	Pn		Pn	10 55 03.6	-1.5
TMWZ	Te Maipa	5.18	211	Pn		Pn	10 55 02.7	-2.5
OGWZ	Otaki Gorge	5.28	218	Pn		Pn	10 55 04.6	-1.9
MTW	Mount Morrison	5.39	213	Pn		Pn	10 55 05.5	-2.5
KIW	Kapiti Island	5.44	219	Pn		Pn	10 55 07.0	-1.7
CAW	Cannon Point	5.55	216	Pn		Pn	10 55 07.9	-2.3
TUWZ	Tuamarina	6.35	220	Pn		Pn	10 55 18.3	-2.9
NNZ	Nelson	6.51	224	Pn		Pn	10 55 22.1	-1.3
QRZ	Quartz Range	6.77	231	Pn		Pn	10 55 24.5	-2.5
THZ	Tophouse	7.14	223	Pn		Pn	10 55 28.8	-3.3
KHZ	Kahutara	7.28	217	P		Pn	10 55 32.7	-1.4
DSZ	Denniston Nort	7.76	227	Pn		Pn	10 55 36.5	-4.1
INZ	Inchbonnie	8.59	223	P		Pn	10 55 50.4	-1.5
MQZ	McQueen's Vall	8.69	214	Pn		Pn	10 55 49.1	-4.2
ODZ	Otahua Downs	10.64	216	Pn		Pn	10 56 16.1	-4.0
DZM	Mont Dzumac	18.43	319	LR		LR	11 04 08.2	
	comp=Z,144nm,18.9s,baz=246,slow=34							
ASAR	Alice Springs	41.07	275	P		P	11 01 31.7	+0.1
	10nm,0.6s,baz=120,slow=8.0,SNR=138							
WRA	Warramunga Arr	42.64	280	P		P	11 01 44.5	0.0
	2.2nm,0.6s,baz=120,slow=7.9,SNR=45							
FITZ	Fitzroy Crossi	50.55	276	P		P	11 02 46.2	-0.2
	2.2nm,0.8s,baz=154,slow=9.9,SNR=4.9							
CMAR	Chiang Mai Arr	93.50	290	P		P	11 07 05.2	+1.3
	0.5nm,0.4s,baz=101,slow=3.2,SNR=4.2							
KURK	Kurchatov	123.72	311	PKP		PKPdf	11 12 45.0	0.0
KURBB	Kurchatov Arra	123.75	311	PKP		PKPdf	11 12 45.0	-0.1
	0.4nm,0.6s,baz=137,slow=1.3,SNR=4.6							
ARCES	ARCESS Array B	144.19	345	PKP		PKPdf	11 13 22.5	-0.2
	3.4nm,0.9s,baz=87,slow=1.9,SNR=4.4							
FINES	FINESS Array B	150.12	334	PKPbc		PKPbc	11 13 38.5	+0.8
	1.2nm,0.7s,baz=40,slow=6.2,SNR=5.4							
TORD	Torodi Ar. Bea	156.45	186	PKPab		PKPab	11 14 13.0	+1.5
	1.2nm,0.8s,baz=191,slow=3.3,SNR=6.3							

WEL 29 10:55:39.9,37˚S±22˚×17˚9E±1˚5,h33km,ML3.9/13,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HAZ	Te Kaha	1.74	225	P		Pb	10 56 09.6	-1.6
HAZ	Te Kaha	1.74	225	S		Sb	10 56 31.7	-0.9
MWZ	Matawai	2.30	218	P		Pn	10 56 17.0	+1.5
MWZ	Matawai	2.30	218	S		Sn	10 56 45.6	+2.8
RAGZ	Rawiri	2.48	217	P		Pn	10 56 19.7	+1.6
TGRZ	Tauranga	2.73	243	P		Pn	10 56 23.5	+2.2
SNGZ	Shannon Statio	2.75	215	P		Pn	10 56 22.5	+0.9
SNGZ	Shannon Statio	2.75	215	S		Sn	10 56 53.3	-0.4
MUGZ	Murupara	2.81	226	P		Pn	10 56 24.1	+1.6
KARZ	Kaharoa	2.88	238	P		Pn	10 56 21.7	-1.7
KUZ	Kuaotunu	2.91	265	P		Pn	10 56 24.2	+0.4
KMRZ	Kaimai	3.01	243	P		Pn	10 56 27.4	+2.2
MTHZ	Maungataniwha	3.04	220	P		Pn	10 56 27.2	+1.4
TOZ	Tahuroa Road	3.29	247	P		Pn	10 56 30.4	+1.4
WIAZ	Waiheke Island	3.38	264	P		Pn	10 56 31.5	+1.1
MKAZ	Moumakai	3.39	259	P		Pn	10 56 31.0	+0.5
ETAZ	East Tamaki Re	3.56	262	P		Pn	10 56 33.9	+1.1
RVAZ	Riverhead Bore	3.83	265	P		Pn	10 56 38.3	+1.8
TWVZ	Taurewa	3.99	229	P		Pn	10 56 41.0	+2.2
COVZ	Chateau Observ	4.01	227	P		Pn	10 56 43.4	+4.3
FWVZ	Far West T-bar	4.04	227	P		Pn	10 56 42.9	+3.3
TRVZ	Turoa	4.07	226	P		Pb	10 56 50.3	-0.7
PREZ	Palmer Road	4.96	234	P		Pn	10 56 51.9	-0.2

WEL 29 10:56:30.5,38˚S±12˚×18˚0E±˚,h33km,ML4.2/15,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WMGZ	Waiomatatini S	1.24	268	P		Pn	10 56 51.7	+0.1
WMGZ	Waiomatatini S	1.24	268	S		Sb	10 57 08.4	-0.8
PUZ	Puketiti	1.40	257	P		Pn	10 56 54.4	+0.7
PUZ	Puketiti	1.40	257	S		Sn	10 57 11.8	+0.7
PKGZ	Pakihiroa	1.52	265	P		Pn	10 56 55.9	+0.5
PKGZ	Pakihiroa	1.52	265	S		Sn	10 57 14.4	+0.4
HAZ	Te Kaha	1.75	270	P		Pn	10 56 59.3	+0.8
HAZ	Te Kaha	1.75	270	S		Sn	10 57 19.3	-0.3
TKGZ	Te Karaka	1.81	248	P		Pn	10 57 01.0	+1.6
TKGZ	Te Karaka	1.81	248	S		Sb	10 57 23.7	-1.6
PRGZ	Paritu Road	2.01	235	P		Pn	10 57 04.1	+1.9
MHGZ	Mahia Peninsul	2.13	229	P		Pn	10 57 06.4	-2.1
KNZ	Kokohu	2.20	235	P		Pn	10 57 06.0	+1.3
URZ	Urewera	2.32	257	P		Pn	10 57 08.1	+1.7
URZ	Urewera	2.32	257	S		Sn	10 57 35.4	+1.6
WHRZ	Whale Island	2.38	267	P		Pn	10 57 07.9	+0.6
RTZ	Ruatahuna	2.51	250	P		Pn	10 57 10.7	+1.6
RTZ	Ruatahuna	2.51	250	S		Sn	10 57 40.0	+1.4
MUGZ	Murupara	2.63	254	P		Pn	10 57 11.7	+1.0
MTHZ	Maungataniwha	2.70	246	P		Pn	10 57 12.9	+1.3
MTHZ	Maungataniwha	2.70	246	S		Sn	10 57 44.9	+1.8
OPRZ	Ohinepanea	2.72	268	P		Pn	10 57 11.4	-0.4
ARHZ	Aropaoanui	2.77	237	P		Pn	10 57 14.5	+1.8
NMHZ	Naumai	2.82	241	P		Pn	10 57 15.0	+1.6
CKHZ	Cape Kidnapper	2.95	230	P		Pn	10 57 16.6	+1.5
MRHZ	Matea Rd	3.00	248	P		Pn	10 57 16.7	+0.9
BKZ	Black Stump Fm	3.07	242	P		Pn	10 57 18.0	+1.2
BKZ	Black

PTK	**Pertek**	**2.04**	**18**	*e*Pn		**Pn**	**11 24 15.6**	**-0.1**

*ISCJB **29** 11:25:33.7±2.0,5.9N±0.7×12.3E±, h600km,mb3.6/6, Error ellipse: s-maj=207.4km s-min=11.9km az=153.9*
*IDC **29** 11:25:36.0±2.5,6.13N×123.95E,h616km±31km,mb3.1/6, mb1 3.2/6,mb1mx2.6/58,mbtmp4.1/6,Error ellipse: s-maj=111.6km s-min=9.2km az=65.0*
ISC 29 11:25:35.3±1.7,5.9N±0.6×12.3E±,h600km,n7,σ0#82/12, mb3.5/6,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.84**	**158**	P	**P**	**11 30 38.4**	**-0.2**
	2.2nm,0.3s,baz=342,slow=9.1,SNR=118						
WRA				PcP	**PcP**	**11 33 34.9**	**+0.6**
	0.1nm,0.4s,baz=302,slow=5.6,SNR=3.0						
WRA				S	**S**	**11 34 39.3**	**-1.8**
	0.8nm,0.9s,baz=334,slow=16,SNR=4.4						
ASAR	**Alice Springs**	**31.12**	**161**	P	**P**	**11 31 07.7**	**+0.9**
	1.3nm,0.3s,baz=339,slow=7.4,SNR=98						
ASAR				PcP	**PcP**	**11 33 42.6**	**-0.4**
	0.5nm,1.1s,baz=336,slow=2.5,SNR=3.9						
ASAR				S	**S**	**11 35 32.1**	**+0.6**
	0.7nm,0.8s,baz=336,slow=12,SNR=9.5						
MKAR	**Makanchi Array**	**53.90**	**326**	P	**P**	**11 34 04.2**	**+0.4**
	0.8nm,0.4s,baz=121,slow=7.9,SNR=18						
MKAR				PcP	**PcP**	**11 34 59.5**	**0.0**
	0.3nm,0.4s,baz=118,slow=3.7,SNR=4.6						
KURBB	**Kurchatov Arra**	**58.14**	**328**	P	**P**	**11 34 32.7**	**0.0**
	0.6nm,0.5s,baz=137,slow=7.1,SNR=10.0						
AKTO	**Aktyubinsk**	**69.91**	**322**	P	**P**	**11 35 47.5**	**+0.3**
	0.8nm,0.5s,baz=90,slow=9.1,SNR=2.7						
BRTR	**Keskin Array B**	**86.09**	**309**	P	**P**	**11 37 13.3**	**-0.8**
	0.4nm,0.5s,baz=67,slow=4.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**119.08**	**288**	PKP	**PKPdf**	**11 43 17.9**	**-0.1**
	0.1nm,0.3s,baz=75,slow=1.4,SNR=4.1						

*NEIC **29** 11:35:26.8±0.0,16.06N×98.68W,h10km,MD4.2(MEX), After MEX.*
MEX 29 11:35:25.2±0.5,15.99N×98.60W,h11km±10km,MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.60**	**48**	*e*P	Pg	11 35 35.6	-1.4
PNIG				*e*S	Sg	11 35 43.6	-1.3
PNIG	**Pinotepa**	**0.60**	**48**	*e*P	Pg	11 35 35.6	-1.4
PNIG				*e*S	Sg	11 35 43.6	-1.3
TLIG	**Tlapa**	**1.57**	**1**	*e*P	Pn	11 35 49.4	-3.7
TLIG				*e*S	Sn	11 36 08.8	-4.6
TLIG	**Tlapa**	**1.57**	**1**	*e*P	Pn	11 35 49.6	-3.5
TLIG				*e*S	Sn	11 36 08.8	-4.6
CAIG	**El Cayaco**	**1.92**	**304**	*e*P	Pn	11 35 54.5	-3.3
CAIG				*i* S	Sn	11 36 16.5	-5.4
CAIG	**El Cayaco**	**1.92**	**304**	*e*P	Pn	11 35 54.8	-3.0
CAIG				*e*S	Sn	11 36 14.6	-7.4
VHO	**Vista Hermosa**	**2.09**	**59**	*e*P	Pn	11 35 57.4	-2.9
VHO				*i* S	Sn	11 36 22.0	-4.4
VHO	**Vista Hermosa**	**2.09**	**59**	*e*P	Pn	11 35 59.1	-1.2
VHO				*e*S	Sn	11 36 26.1	-0.3
HUIG	**Huatulco**	**2.41**	**95**	*i* P	Pn	11 36 02.4	-2.1
HUIG				*i* S	Sn	11 36 30.5	-3.5
HUIG	**Huatulco**	**2.41**	**95**	*e*P	Pn	11 36 04.9	+0.4
HUIG				*e*S	Sg	11 36 44.0	+1.4

*ISCJB **29** 11:38:59.3±0.2,62.09N±0.02×150.65W±0.04,h78km±2km, mb4.0/27,Error ellipse: s-maj=3.2km s-min=2.7km az=13.5*
*IDC **29** 11:39:00.1±1.9,62.22N×150.83W,h62km±16km,mb3.7/25, mb1 3.8/28,mb1mx3.7/76,mbtmp4.0/28,MS3.1/5, Ms1 3.1/5,ms1mx2.6/72,Error ellipse: s-maj=13.0km s-min=11.7km az=56.0*
*NEIC **29** 11:39:01.0±0.0,62.07N×150.66W,h60km,mb3.8/1, MW4.0,ML3.9(AEIC),Moment Tensor Solution. s30 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.23; $M_{\theta\theta}$0.11; $M_{\phi\phi}$1.12; $M_{r\theta}$-0.51; $M_{\theta\phi}$0.20; $M_{\phi r}$-0.34; Best double couple: $M_0$1.30000×10^{15} NP1:ϕ_s177.00000°,δ37.00000°, λ-115.00000°. NP2:ϕ_s27.00000°,δ57.00000°, λ-72.00000°. Principal axes: T 1.2400, Plg11.0000°, Azm105.0000°; N 0.1900, Plg15.0000°, Azm198.0000°; P -1.4300, Plg72.0000°, Azm341.0000°; After AEIC.*
NEIC Felt at Palmer, Talkeetna and Wasilla.
ISC 29 11:39:00.2±0.7,62.08N±0.03×150.69W±0.03,h70km±6km, n134,σ1$14/168,mb4.2/27,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.41**	**256**	*e*Pn	**Pn**	**11 39 11.7**	**-0.5**
SKT				*e*Sn	**Sn**	**11 39 20.0**	**-1.1**
SKT				*e*Sn	Sn	11 39 20.4	-0.7
SUA	**Susitna One**	**0.62**	**182**	*e*Pn	**Pn**	**11 39 14.0**	**-0.5**
SUA				*e*Sn	**Sn**	**11 39 23.8**	**-1.0**
STLK	**Strandline Lak**	**0.80**	**223**	P	**Pn**	**11 39 16.1**	**-0.2**
PMR	**Palmer**	**0.89**	**123**	*e*Pn	**Pn**	**11 39 16.8**	**-0.5**
PMR				*e*Sn	**Sn**	**11 39 28.6**	**-1.3**
GHO	**Glory Hole Cre**	**0.89**	**110**	*e*Pn	**Pn**	**11 39 17.0**	**-0.4**
GHO				*e*Pn	Pn	11 39 17.3	-0.2
GHO				*e*Sn	**Sn**	**11 39 28.5**	**-1.8**
GHO				*e*Sn	Sn	11 39 30.0	-0.2
FIB	**Fire Island**	**0.95**	**165**	*e*Pn	**Pn**	**11 39 18.8**	**+0.7**
FIB				*e*Sn	**Sn**	**11 39 34.1**	**+2.7**
HUR	**Hurricane**	**1.02**	**28**	*e*Pn	**Pn**	**11 39 19.1**	**+0.1**
PPLA	**Purkeypile**	**1.07**	**320**	*e*Pn	**Pn**	**11 39 19.8**	**0.0**
PPLA				*e*Sn	**Sn**	**11 39 34.0**	**-0.3**
SPCP	**Crater Peak Br**	**1.08**	**221**	P	**Pn**	**11 39 20.0**	**+0.1**
SPCP				S	**Sn**	**11 39 34.3**	**-0.1**
RC01	**Rabbit Creek A**	**1.10**	**155**	*e*Pn	**Pn**	**11 39 19.5**	**-0.5**
RC01				*e*Sn	**Sn**	**11 39 35.0**	**+0.4**
CP2	**Crater Peak Tw**	**1.11**	**223**	P	**Pn**	**11 39 20.5**	**+0.2**
SPU	**Mount Spurr**	**1.11**	**216**	*e*Pn	**Pn**	**11 39 20.2**	**0.0**
SPU				*e*Sn	**Sn**	**11 39 33.9**	**-1.2**
CKN	**Chakachatna No**	**1.12**	**220**	P	**Pn**	**11 39 20.8**	**+0.5**
CKT	**Bend**	**1.14**	**220**	*e*Pn	**Pn**	**11 39 20.8**	**+0.2**
SML	**Sawmill**	**1.15**	**103**	*e*Pn	**Pn**	**11 39 20.3**	**-0.4**
SML				*e*Pn	Pn	11 39 20.4	-0.2
SML				*e*Sn	**Sn**	**11 39 37.1**	**+1.3**
BGL	**Barrier Glacie**	**1.16**	**225**	*e*Pn	**Pn**	**11 39 21.1**	**+0.3**
SPWE	**Spurr West**	**1.21**	**228**	P	**Pn**	**11 39 22.1**	**+0.7**
KNK	**Knik Glacier**	**1.26**	**121**	*e*Pn	**Pn**	**11 39 21.9**	**-0.1**
TRF	**Thorofare Moun**	**1.39**	**8**	*e*Pn	**Pn**	**11 39 24.1**	**+0.3**
TRF				*e*Sn	**Sn**	**11 39 42.4**	**+0.9**
KTH	**Kantishna Hill**	**1.48**	**356**	*e*Pn	**Pn**	**11 39 25.6**	**+0.6**
KTH				*e*Sn	**Sn**	**11 39 44.2**	**+0.6**
CAST	**Castle Rocks**	**1.49**	**335**	*e*Pn	**Pn**	**11 39 25.2**	**+0.2**
CAST				*e*Sn	**Sn**	**11 39 43.4**	**-0.3**
RND	**Reindeer**	**1.57**	**32**	*e*Pn	**Pn**	**11 39 26.5**	**+0.2**
SLKM	**Skilak Lake**	**1.60**	**172**	*e*Pn	**Pn**	**11 39 26.1**	**-0.4**
SCM	**Sheep Creek Mo**	**1.61**	**97**	*e*Pn	**Pn**	**11 39 26.6**	**-0.1**
SCM				*e*Pn	Pn	11 39 26.7	0.0
RDJH	**Redoubt Jeurge**	**1.81**	**215**	P	**Pn**	**11 39 30.2**	**+0.8**
DHY	**Denali Highway**	**1.83**	**56**	*e*Pn	**Pn**	**11 39 29.9**	**+0.2**
MCK	**McKinley**	**1.84**	**25**	*e*Pn	**Pn**	**11 39 30.4**	**+0.6**
MCK				*e*Sn	**Sn**	**11 39 52.7**	**+0.6**
RDWB	**Redoubt West**	**1.91**	**214**	*e*Pn	**Pn**	**11 39 31.5**	**+0.8**
RSO	**Redoubt South**	**1.91**	**212**	*e*Pn	**Pn**	**11 39 31.6**	**+0.8**
BPAW	**Bear Paw Mtn.**	**2.03**	**356**	*e*Pn	**Pn**	**11 39 32.3**	**+0.1**
GLI	**Glacier Island**	**2.11**	**123**	*e*Pn	**Pn**	**11 39 32.4**	**-0.9**
GLI				*e*Sn	**Sn**	**11 39 58.0**	**-0.5**
JPK	**Jack Peak**	**2.21**	**116**	*e*Pn	**Pn**	**11 39 34.2**	**-0.5**
VLZ	**Valdez**	**2.29**	**113**	*e*Pn	**Pn**	**11 39 35.0**	**-0.7**
BRLK	**Bradley Lake**	**2.33**	**182**	*e*Pn	**Pn**	**11 39 38.0**	**+1.7**
BRLK				*e*Sn	**Sn**	**11 40 05.6**	**+1.7**
KLU	**Klutina**	**2.34**	**103**	*e*Pn	**Pn**	**11 39 36.1**	**-0.4**
KLU				*e*Sn	**Sn**	**11 40 04.5**	**+0.2**
PS11	**TAPS Pump St11**	**2.46**	**88**	*e*Pn	**Pn**	**11 39 38.6**	**+0.6**
HOM	**Homer**	**2.48**	**191**	*e*Pn	**Pn**	**11 39 40.7**	**+2.4**
DIV	**Divide**	**2.54**	**110**	*e*Pn	**Pn**	**11 39 38.4**	**-0.8**
SVW2	**Sparrevohn**	**2.54**	**249**	*e*Pn	**Pn**	**11 39 39.2**	**+0.1**
PAX	**Paxson**	**2.58**	**67**	*e*Pn	**Pn**	**11 39 40.2**	**+0.5**
TT01	**Tatalina**	**2.61**	**291**	*e*Pn	**Pn**	**11 39 40.1**	**+0.1**
HARP	**HAARP**	**2.61**	**80**	*e*Pn	**Pn**	**11 39 40.8**	**+0.7**
PS10	**TAPS Pump St10**	**2.63**	**57**	*e*Pn	**Pn**	**11 39 42.2**	**+1.7**
WRH	**Wood River Hil**	**2.67**	**25**	*e*Pn	**Pn**	**11 39 41.1**	**+0.3**
WRH				*e*Sn	**Sn**	**11 40 11.2**	**-0.9**
EYAK	**Cordova Ski Ar**	**2.84**	**121**	*e*Pn	**Pn**	**11 39 42.0**	**-1.1**
CCB	**Clear Creek Bu**	**2.88**	**26**	*e*Pn	**Pn**	**11 39 43.9**	**+0.2**
HDA	**Harding Lake**	**2.88**	**34**	*e*Pn	**Pn**	**11 39 44.2**	**+0.5**
MLY	**Manley**	**2.96**	**360**	*e*Pn	**Pn**	**11 39 45.2**	**+0.3**
MLY				*e*Sn	**Sn**	**11 40 18.1**	**-1.2**
PS08	**TAPS Pump Stn8**	**3.02**	**34**	*e*Pn	**Pn**	**11 39 46.2**	**+0.5**
COLA	**College**	**3.08**	**23**	*e*Pn	**Pn**	**11 39 46.8**	**+0.4**
COLA				*e*Pn	Pn	11 39 46.9	+0.5
COLA				*e*Sn	**Sn**	**11 40 21.7**	**-0.2**
MDM	**Murphy Dome**	**3.09**	**20**	*e*Pn	**Pn**	**11 39 47.0**	**+0.4**
BMRM	**Bremner River**	**3.12**	**108**	*e*Pn	**Pn**	**11 39 46.1**	**-0.9**
RIDG	**Independ'e Rid**	**3.15**	**56**	*e*Pn	**Pn**	**11 39 48.7**	**+1.2**
IL1	**Eielson Array**	**3.19**	**31**	*e*Pn	**Pn**	**11 39 47.8**	**-0.2**
ILAR	**Eielson Array**	**3.19**	**31**	P	**Pn**	**11 39 48.3**	**+0.3**
	26nm,0.3s,baz=216,slow=14,SNR=876						
ILAR				S	**Sn**	**11 40 23.6**	**-1.3**
	60nm,0.3s,baz=218,slow=23,SNR=35						
ILB	**Eielson Array**	**3.19**	**31**	*e*Pn	**Pn**	**11 39 48.4**	**+0.4**
ILB				*e*Sn	**Sn**	**11 40 23.6**	**-1.3**
GLM	**Gilmore Dome**	**3.27**	**25**	*e*Pn	**Pn**	**11 39 49.6**	**+0.6**
MENT	**Mentasta**	**3.34**	**72**	*e*Pn	**Pn**	**11 39 50.1**	**+0.1**
RAGM	**Ragged Mountai**	**3.37**	**118**	*e*Pn	**Pn**	**11 39 49.8**	**-0.6**
MID	**Middleton Isla**	**3.41**	**139**	*e*Pn	**Pn**	**11 39 51.4**	**+0.4**
DOT	**Dot Lake**	**3.42**	**60**	*e*Pn	**Pn**	**11 39 51.5**	**+0.4**
SCRK	**Sand Creek**	**3.60**	**55**	*e*Pn	**Pn**	**11 39 53.8**	**+0.2**
PS06	**TAPS Pump Stn6**	**3.81**	**6**	*e*Pn	**Pn**	**11 39 57.1**	**+0.7**
PRP	**Porcupine Dome**	**4.14**	**31**	*e*Pn	**Pn**	**11 40 01.7**	**+0.7**
IM3	**Indian Mountai**	**4.14**	**342**	*e*Pn	**Pn**	**11 40 01.4**	**+0.5**
BCA3	**Beaver Creek A**	**4.24**	**73**	*e*Pn	**Pn**	**11 40 01.9**	**-0.3**
KDAK	**Kodiak Island**	**4.42**	**193**	P	**Pn**	**11 40 04.1**	**-0.5**
	1.2nm,0.3s,baz=56,slow=9.7,SNR=32						
KDAK				S	**Sn**	**11 40 49.9**	**-4.9**
	6.0nm,0.3s,baz=347,slow=3.4,SNR=4.8						
KDAK	**Kodiak Island**	**4.42**	**193**	*e*Pn	**Pn**	**11 40 04.2**	**-0.5**
KDAK				*e*		11 40 05.3	
KDAK				*e*Sn	**Sn**	**11 40 49.9**	**-4.9**
PS05	**TAPS Pump Stn5**	**4.75**	**0**	*e*Pn	**Pn**	**11 40 10.7**	**+1.6**
OHAK	**Old Harbor**	**5.05**	**196**	*e*Pn	**Pn**	**11 40 13.6**	**+0.2**
EGAK	**Eagle**	**5.06**	**54**	*e*Pn	**Pn**	**11 40 13.6**	**+0.2**
FYU	**Fort Yukon**	**5.09**	**25**	*e*Pn	**Pn**	**11 40 14.7**	**+0.9**
COLD	**Coldfoot**	**5.17**	**2**	*e*Pn	**Pn**	**11 40 15.8**	**+0.9**
DAWY	**Dawson**	**5.51**	**64**	*e*Pn	**Pn**	**11 40 19.8**	**+0.2**
BM3	**Burnt Mountain**	**5.95**	**23**	*e*Pn	**Pn**	**11 40 26.7**	**+1.0**
YUK7	**Dusty Glacier**	**6.24**	**99**	P	**Pn**	**11 40 28.7**	**-1.1**
HYT	**Haines Junctio**	**6.45**	**95**	*e*Pn	**Pn**	**11 40 30.9**	**-1.6**
TOLK	**Toolik Lake Re**	**6.60**	**4**	*e*Pn	**Pn**	**11 40 35.5**	**+1.0**
PLBC	**Pleasant Camp**	**7.49**	**104**	*e*Pn	**Pn**	**11 40 46.1**	**-0.5**
WHY	**Whitehorse**	**7.73**	**94**	*e*Pn	**Pn**	**11 40 49.1**	**-0.9**
SKAG	**Skagway**	**7.96**	**102**	*e*Pn	**Pn**	**11 40 52.6**	**-0.4**
BESE	**Bessie Mountai**	**8.60**	**107**	*e*Pn	**Pn**	**11 41 01.1**	**-0.7**
INK	**Inuvik**	**9.51**	**42**	P	**Pn**	**11 41 14.0**	**-0.1**
	0.5nm,0.3s,baz=246,slow=15,SNR=25						
INK				S	**Sn**	**11 42 55.3**	**-3.9**
	0.3nm,0.3s,baz=233,slow=20,SNR=2.4						
INK	**Inuvik**	**9.51**	**42**	*e*Pn	**Pn**	**11 41 14.7**	**+0.6**
INK				S	**Sn**	**11 42 55.3**	**-3.9**
GAMB	**Gambell**	**9.72**	**289**	*e*Pn	**Pn**	**11 41 18.2**	**+1.2**
FALS	**False Pass**	**9.89**	**228**	*e*Pn	**Pn**	**11 41 19.5**	**+1.0**
YKA	**Yellowknife Ar**	**16.65**	**73**	P	**Pn**	**11 42 47.8**	**-0.9**
	0.1nm,0.3s,baz=282,slow=11,SNR=16						
WTV	**Waterville**	**22.50**	**116**	*e*pP	pP	11 44 03.5	-5.0
STD	**Studebaker Rid**	**22.73**	**121**	*e*Sn	Sn	11 48 16.9	-2.0
RES	**Resolute Bay**	**22.94**	**34**	P	**P**	**11 43 57.0**	**-0.9**
	1.9nm,0.5s,baz=256,slow=12,SNR=24						
RES				S	**S**	**11 48 01.1**	**-1.0**
	0.2nm,0.5s,baz=166,slow=10,SNR=3.1						
RES	**Resolute Bay**	**22.94**	**34**	*e*P	**P**	**11 43 57.8**	**-0.2**
	3.0nm,0.8s						
RES				S	**S**	**11 48 01.1**	**-1.0**
NEW	**Newport**	**23.30**	**111**	LR	LR	11 54 29.7	
	comp=Z,83nm,18.3s,baz=276,slow=40						
SEY	**Seymchan**	**25.57**	**297**	P	**P**	**11 44 21.6**	**-0.5**
	1.8nm,0.7s,baz=102,slow=6.5,SNR=8.4						
PEA1	**Petropavlovsk-**	**28.34**	**275**	*e*P	**P**	**11 44 44.1**	**-2.9**
PETK	**Petropavlovsk-**	**28.34**	**275**	P	**P**	**11 44 44.2**	**-2.9**
	1.4nm,0.8s,baz=50,slow=7.7,SNR=3.2						
TIXI	**Tiksi**	**30.50**	**322**	P	**P**	**11 45 04.0**	**-2.0**
	1.4nm,0.4s,baz=59,slow=7.8,SNR=3.6						
TIXI				LR	LR	11 59 56.9	
	comp=Z,22nm,19.3s,baz=358,slow=41						
NVAR	**Mina Array Bea**	**30.87**	**125**	P	**P**	**11 45 12.3**	**+2.4**
	0.3nm,0.6s,baz=323,slow=10,SNR=3.1						
NVAR				PcP	**PcP**	**11 48 06.2**	**+1.3**
	0.3nm,0.5s,baz=304,slow=2.1,SNR=3.8						
PDAR	**Pinedale Array**	**30.91**	**109**	P	**P**	**11 45 11.7**	**+1.6**
	9.3nm,0.4s,baz=322,slow=2.8,SNR=3.0						
PDAR				LR	LR	11 58 23.4	
	comp=Z,39nm,18.6s,baz=298,slow=38						
FRB	**Frobisher Bay**	**35.03**	**50**	P	**P**	**11 45 45.6**	**+0.1**
	1.6nm,0.4s,baz=301,slow=7.5,SNR=7.4						
SPITS	**Spitsbergen Ar**	**39.76**	**4**	P	**P**	**11 46 23.6**	**-1.7**
	1.7nm,0.3s,baz=0.9,slow=9.1,SNR=19						
SPITS				PcP	**PcP**	**11 48 30.4**	**+0.3**
	2.5nm,0.6s,baz=58,slow=3.8,SNR=3.0						
LTX	**Lajitas**	**44.75**	**115**	*e*P	**P**	**11 47 08.2**	**+1.6**
LTX				*e*PcP	**PcP**	**11 48 43.0**	**+0.7**
TXAR	**Lajitas Array**	**44.75**	**115**	P	**P**	**11 47 08.2**	**+1.6**
	0.3nm,0.9s,baz=325,slow=4.6,SNR=3.0						
TXAR				PcP	**PcP**	**11 48 48.3**	**+0.7**
	0.2nm,0.4s,baz=93,slow=1.8,SNR=7.6						
ARA0	**ARCESS Array S**	**48.64**	**2**	*e*P	**P**	**11 47 35.1**	**-1.2**
ARCES	**ARCESS Array B**	**48.64**	**2**	P	**P**	**11 47 35.1**	**-1.2**
	2.5nm,0.9s,baz=359,slow=9.0,SNR=6.4						
KSRS	**Korea Array**	**53.82**	**283**	P	**P**	**11 48 16.4**	**+1.0**
	1.6nm,0.8s,baz=20,slow=6.8,SNR=4.2						
KSAR	**Wonju Array Be**	**53.84**	**283**	P	**P**	**11 48 16.4**	**+0.8**
SONA0	**Songino Array**	**54.47**	**306**	*e*P	**P**	**11 48 21.6**	**+1.4**
SONM	**Songino Array**	**54.47**	**306**	P	**P**	**11 48 21.6**	**+1.4**
	1.6nm,0.7s,baz=36,slow=7.2,SNR=13						
JNU	**Nakatsue**	**56.01**	**277**	LR	LR	12 13 28.2	
	comp=Z,6.3nm,18.1s,baz=114,slow=37						
ZAA1	**Zalesovo Array**	**56.34**	**324**	*e*P	**P**	**11 48 33.1**	**-0.3**
ZALV	**Zalesovo Beam**	**56.35**	**324**	P	**P**	**11 48 33.1**	**-0.3**
	1.1nm,0.3s,baz=20,slow=6.6,SNR=6.6						
NB2	**NORSAR Subarra**	**56.42**	**10**	P	**P**	**11 48 32.9**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=349,slow=7.4						
NB200	**NORSAR Array S**	**56.42**	**10**	*e*P	**P**	**11 48 33.3**	**-0.6**
NB200				*e*PcP	**PcP**	**11 49 30.4**	**+0.4**
NOA	**NORSAR Array B**	**56.42**	**10**	P	**P**	**11 48 33.3**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=348,slow=7.2,SNR=3.9						
NOA				PcP	**PcP**	**11 49 30.4**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=342,slow=3.2,SNR=3.2						
FIA0	**FINESS Array S**	**56.77**	**2**	*e*P	**P**	**11 48 35.5**	**-0.8**
FINES	**FINESS Array B**	**56.77**	**2**	P	**P**	**11 48 35.5**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=4.9,slow=6.7,SNR=6.6						
HFS	**Hagfors**	**57.52**	**9**	P	**P**	**11 48 40.7**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=316,slow=6.0,SNR=5.4						
EKA	**Eskdalemuir Ar**	**60.18**	**21**	P	**P**	**11 49 00.2**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=330,slow=5.5,SNR=15						
BVAR	**Borovoye Array**	**60.73**	**333**	P	**P**	**11 49 03.6**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=37,slow=6.0,SNR=6.0						
BVAR				PcP	**PcP**	**11 49 47.7**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=22,slow=4.7,SNR=3.9						
KURK	**Kurchatov**	**60.92**	**327**	*e*P	**P**	**11 49 05.5**	**+0.3**
KURK				*e*PcP	**PcP**	**11 49 48.5**	**+0.5**
KURBB	**Kurchatov Arra**	**61.03**	**327**	P	**P**	**11 49 05.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=27,slow=6.9,SNR=7.3						
KURBB				PcP	**PcP**	**11 49 48.5**	**0.0**
	comp=Z,0.7nm,0.5s,baz=35,slow=2.3,SNR=8.0						
MK32	**Makanchi Array**	**63.49**	**322**	*e*P	**P**	**11 49 21.8**	**-0.6**
MK32				*e*PcP	**PcP**	**11 49 58.9**	**+0.3**
MKAR	**Makanchi Array**	**63.49**	**322**	P	**P**	**11 49 21.8**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=44,slow=6.7,SNR=11						
MKAR				PcP	**PcP**	**11 49 58.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=44,slow=6.4,SNR=1.9						
AKTO	**Aktyubinsk**	**65.52**	**340**	P	**P**	**11 49 35.1**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=23,slow=8.5,SNR=8.2						
AKASG	**Malin Array Be**	**67.56**	**0**	P	**P**	**11 49 48.2**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=2.7,slow=6.2,SNR=6.4						
GERES	**GERESS Array B**	**68.72**	**11**	P	**P**	**11 49 56.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=18,slow=6.5,SNR=3.0						
ESDC	**Sonseca Array**	**75.09**	**26**	P	**P**	**11 50 34.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=348,slow=6.5,SNR=6.0						
BR101	**Keskin Array S**	**78.48**	**357**	*e*P	**P**	**11 50 53.8**	**+0.4**
BRTR	**Keskin Array B**	**78.48**	**357**	P	**P**	**11 50 53.8**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=143,slow=35,SNR=2.9						
KEST	**Kesra**	**81.19**	**16**	P	**P**	**11 51 08.6**	**+0.6**
	comp=Z,3.3nm,0.6s,baz=18,slow=3.2,SNR=5.1						
CMAR	**Chiang Mai Arr**	**82.98**	**296**	P	**P**	**11 51 17.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=20,slow=5.1,SNR=4.6						
BATI	**Baumata**	**96.90**	**261**	LR	LR	12 34 34.9	
	comp=Z,19nm,20.4s,baz=82,slow=34						
BOSA	**Boshof**	**146.42**	**6**	PKPbc	**PKPdf**	**11 58 33.1**	**+1.8**
	comp=Z,2.4nm,0.7s,baz=357,slow=5.3,SNR=5.3						
QSPA	**South Pole Qui**	**151.89**	**180**	PKPbc	**PKPbc**	**11 58 45.6**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=124,slow=0.3,SNR=11						

IDC 29 11:48:52.3±3.9,5.51S×150.85E,h0km,mb3.0/2, mb1 3.3/2,mb1mx3.0/49,mbtmp3.0/2,Error ellipse: s-maj=150.1km s-min=52.4km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.54**	**227**	P	P	11 53 43.1	-0.2
	0.3nm,0.6s,baz=52,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**24.34**	**220**	P	P	11 54 12.2	+0.1
	0.3nm,0.6s,baz=62,slow=9.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.66**	**286**	PKPbc	PKPbc	12 08 41.9	-0.6
	0.5nm,0.6s,baz=91,slow=2.5,SNR=4.4						

*ISK **29** 11:49:39.5,38.82N×43.35E,h5km,ML2.0/1*
*ISCJB **29** 11:49:40.7±1.1,38.72N±0.05×43.51E±0.08,h33km±11km, Error ellipse: s-maj=12.0km s-min=6.3km az=35.1*
*ATA **29** 11:49:40.6±1.2,38.76N×43.25E,h27km±7km,ML2.8, MW2.9*
*CSEM **29** 11:49:41.7±0.3,38.83N×43.35E,h5km,ML2.0,Error ellipse: s-maj=7.0km s-min=5.6km az=142.0*
*DDA **29** 11:49:42.1,38.79N×43.33E,h7km,Ml2.5*
ISC 29 11:49:40.4±1.0,38.76N±0.04×43.44E±0.03,h33km±3km, n20,σ0#51/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**193**	PG	**Pb**	**11 49 46.9**	**+0.1**
VANB				SG	**Sb**	**11 49 51.8**	**+0.6**
VANB	**Van**	**0.16**	**193**	*e*Pg	**Pb**	**11 49 46.9**	**+0.1**
VANB				*e*Sg	**Sb**	**11 49 51.8**	**+0.6**
TVAN	**Van**	**0.23**	**186**	*i* P	**Pb**	**11 49 47.7**	**+0.1**
TVAN				*i* S	**Sb**	**11 49 52.4**	**0.0**
TVAN	**Van**	**0.23**	**186**	P	**Pb**	**11 49 47.7**	**+0.1**
TVAN				S	**Sb**	**11 49 52.4**	**0.0**
VMUR	**Van-Muradiye**	**0.26**	**24**	*i* P	**Pn**	**11 49 47.8**	**+0.1**
VMUR				*i* S	**Sb**	**11 49 52.4**	**-0.5**
VMUR	**Van-Muradiye**	**0.26**	**24**	P	**Pn**	**11 49 47.8**	**+0.1**
VM

BODT				*e*Sg		**Sb**	**11 52 26.3**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**0.77**	**344**	PG		**Pg**	**11 52 16.8**	**-0.1**
AYDB				SG		**Sg**	**11 52 27.8**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**0.77**	**344**	*e*Pg		**Pg**	**11 52 16.8**	**-0.1**
AYDB				*e*Sg		**Sg**	**11 52 27.8**	**+0.9**
GCAM	**G?zelcaml?**	**0.88**	**304**	PG		**Pg**	**11 52 19.1**	**-0.1**
GCAM	**G?zelcaml?**	**0.88**	**304**	*e*Pg		**Pg**	**11 52 19.1**	**-0.1**
FETY	**Fethiye**	**0.94**	**127**	PG		**Pg**	**11 52 20.6**	**+0.4**
FETY	**Fethiye**	**0.94**	**127**	*e*Pg		**Pg**	**11 52 20.6**	**+0.4**

CSEM ***29*** *11:52:45.7±0.2, 36°52N×3°16W, h2km, ML3.7/13, Error ellipse: s-maj=5.0km s-min=2.7km az=159.0*
ISCJB ***29*** *11:52:45.3±0.4, 36°56N±0°03×3°19W±0°02, h7km±3km, Error ellipse: s-maj=4.6km s-min=2.9km az=155.4*
IGIL ***29*** *11:52:46.9, 36°58N×3°06W, h2km*
SFS ***29*** *11:52:47.0, 36°58N×3°06W, h0km, ML3.5*
MDD ***29*** *11:52:47.4±0.3, 36°57N×3°07W, h11km, mbLg3.4/33, Error ellipse: s-maj=2.9km s-min=2.4km az=141.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
INMG ***29*** *11:52:47.6±1.2, 36°59N×3°04W, h18km±3km, ML3.1, Error ellipse: s-maj=2.1km s-min=2.1km az=114.0*
LDG ***29*** *11:52:47.4±0.2, 36°54N×3°04W, h2km, Ml3.4/2, Error ellipse: s-maj=4.6km s-min=3.6km az=131.0*

ISC 29 11:52:45.2±1.1, 36°55N±0°02×3°14W±0°02, h8km±9km, n171, σ2♀03/233, 5C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.40**	**30**	⇓Pg			**Pg**	**11 52 53.5**	**+0.5**
	216nm,0.3s,SNR=18								
EBER					Lg		Lg	11 52 58.0	
	2μm,0.3s,SNR=7.9								
EBER	**Berja**	**0.40**	**30**		Pg		**Pg**	**11 52 53.5**	**+0.5**
	216nm,0.3s,SNR=18								
EBER					Lg		Lg	11 52 58.0	
	2μm,0.3s,SNR=7.9								
ELGU	**Los Guajares,**	**0.50**	**309**	⇑Pg			**Pb**	**11 52 57.4**	**+1.1**
	343nm,0.1s,SNR=18								
ELGU					Lg		Lg	11 53 04.1	
	11μm,0.2s,SNR=7.9								
ELGU	**Los Guajares,**	**0.50**	**309**		Pg		**Pb**	**11 52 57.4**	**+1.1**
	343nm,0.1s,SNR=18								
ELGU					Lg		Lg	11 53 04.1	
	11μm,0.2s,SNR=7.9								
EALB	**Alboran**	**0.62**	**172**		Pg		**Pb**	**11 52 59.3**	**+1.1**
	848nm,0.3s,SNR=88								
EALB					Lg		Lg	11 53 08.4	
	3μm,0.2s,SNR=15								
EQUE	**Quentar**	**0.69**	**340**	⇓Pg			**Pb**	**11 53 00.2**	**+0.6**
	325nm,0.3s,SNR=18								
EQUE					Lg		Lg	11 53 08.5	
	2μm,0.3s,SNR=57								
EQUE	**Quentar**	**0.69**	**340**		Pg		**Pb**	**11 53 00.2**	**+0.6**
	325nm,0.3s,SNR=18								
EQUE					Lg		Lg	11 53 08.5	
	2μm,0.3s,SNR=57								
ENIJ	**Nijar**	**0.86**	**61**	⇑Pg			**Pg**	**11 53 01.2**	**-0.5**
	30nm,0.1s,SNR=18								
ENIJ					Lg		Lg	11 53 11.6	
	849nm,0.2s,SNR=7.9								
ENIJ	**Nijar**	**0.86**	**61**		Pg		**Pg**	**11 53 01.2**	**-0.5**
	30nm,0.1s,SNR=18								
ENIJ					Lg		Lg	11 53 11.6	
	849nm,0.2s,SNR=7.9								
GORA	**Gorafe**	**0.93**	**5**	⇓Pg			**Pb**	**11 53 03.7**	**+0.1**
	70nm,0.1s,SNR=18								
GORA					Lg		Lg	11 53 15.8	
	546nm,0.2s,SNR=7.9								
GORA	**Gorafe**	**0.93**	**5**		Pg		**Pb**	**11 53 03.7**	**+0.1**
	70nm,0.1s,SNR=18								
GORA					Lg		Lg	11 53 15.8	
	546nm,0.2s,SNR=7.9								
EGOR	**Sierra Gorda,**	**0.96**	**306**		Pg		**Pb**	**11 53 04.4**	**+0.3**
	29nm,0.2s,SNR=7.9								
EGOR					Lg		Lg	11 53 18.3	
	295nm,0.2s,SNR=7.9								
EGOR	**Sierra Gorda,**	**0.96**	**306**		Pg		**Pb**	**11 53 04.4**	**+0.3**
	29nm,0.2s,SNR=7.9								
EGOR					Lg		Lg	11 53 18.3	
	295nm,0.2s,SNR=7.9								
EMAL	**Malaga-Limoner**	**1.06**	**282**	*e*P			**Pg**	**11 53 04.7**	**-0.8**
EMAL				*e*S			**Sg**	**11 53 17.1**	**-2.1**
EQES	**Quesada**	**1.25**	**3**	⇓Pg			**Pn**	**11 53 10.2**	**+1.1**
	102nm,0.4s,SNR=18								
EQES					Lg		Lg	11 53 28.2	
	123nm,0.2s,SNR=10								
EQES	**Quesada**	**1.25**	**3**		Pg		**Pn**	**11 53 10.2**	**+1.1**
	102nm,0.4s,SNR=18								
EQES					Lg		Lg	11 53 28.2	
	123nm,0.2s,SNR=10								
EMEL	**Melilla**	**1.26**	**173**		Pg		**Pg**	**11 53 09.1**	**-0.3**
	85nm,0.1s,SNR=7.9								
EMEL					Lg		Lg	11 53 27.3	
	354nm,0.1s,SNR=4.0								
EMLI	**Melilla**	**1.26**	**173**		Pg		**Pg**	**11 53 09.1**	**-0.2**
	85nm,0.1s,SNR=7.9								
EMLI					Lg		Lg	11 53 27.3	
	354nm,0.1s,SNR=4.0								
EMIJ	**Mijas**	**1.31**	**271**	⇑Pn			**Pn**	**11 53 08.5**	**-1.4**
	25nm,0.3s,SNR=18								
EMIJ					Sn		**Sg**	**11 53 27.0**	**-0.4**
	92nm,0.1s,SNR=7.9								
EMIJ	**Mijas**	**1.31**	**271**		Pn		**Pn**	**11 53 08.5**	**-1.4**
	25nm,0.3s,SNR=18								
EMIJ					Sn		**Sg**	**11 53 27.0**	**-0.4**
	92nm,0.1s,SNR=7.9								
SESP	**Santiago Espad**	**1.64**	**17**	⇑Pn			**Pb**	**11 53 15.9**	**+0.2**
	2.0nm,0.2s,SNR=18								
SESP				⇑Pg			**Pg**	**11 53 16.8**	**+0.3**
	38nm,0.4s,SNR=18								
SESP					Sn		**Sg**	**11 53 37.6**	**-0.2**
	161nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**1.64**	**17**	Pn			**Pb**	**11 53 15.9**	**+0.2**
	2.0nm,0.2s,SNR=18								
PVLZ	**Peæn de**	**1.67**	**215**	*e*S			**Sg**	**11 53 38.9**	**+0.1**
EJIF	**Jimena Fronter**	**1.88**	**268**	Pn			**Pn**	**11 53 17.6**	**0.0**
	3.5nm,0.1s,SNR=7.9								
EJIF					Pg		**Pg**	**11 53 22.2**	**+1.0**
	9.7nm,0.2s,SNR=7.9								
EJIF					Sn		**Sn**	**11 53 42.3**	**+0.8**
	39nm,0.4s,SNR=7.9								
EJIF	**Jimena Fronter**	**1.88**	**268**	Pn			**Pn**	**11 53 17.6**	**0.0**
	3.5nm,0.1s,SNR=7.9								
ECEU	**Ceuta**	**1.92**	**251**	Pn			**Pn**	**11 53 18.5**	**+0.2**
	16nm,0.3s,SNR=9.4								
ECEU					Pg		**Pg**	**11 53 23.1**	**+1.0**
	10nm,0.1s,SNR=7.9								
ECEU					Sn		**Sn**	**11 53 42.2**	**-0.5**
	16nm,0.1s,SNR=7.9								
ECEU	**Ceuta**	**1.92**	**251**	Pn			**Pn**	**11 53 18.5**	**+0.2**
	16nm,0.3s,SNR=9.4								
EADA	**Adamuz**	**1.98**	**325**	Pn			**Pn**	**11 53 20.0**	**+1.0**
	0.9nm,0.2s,SNR=112								
EADA					Pg		**Pg**	**11 53 24.2**	**+1.1**
	34nm,0.2s,SNR=7.9								
EADA					Sn		**Sn**	**11 53 44.3**	**+0.3**
	24nm,0.2s,SNR=7.9								
EADA					Lg		Lg	11 53 50.5	
	374nm,0.4s,SNR=7.9								
EADA	**Adamuz**	**1.98**	**325**	Pn			**Pn**	**11 53 20.0**	**+1.0**
	0.9nm,0.2s,SNR=112								
EMUR	**La Murta**	**1.99**	**49**	Pn			**Pn**	**11 53 19.8**	**+0.6**
	16nm,0.4s,SNR=12								
EMUR					Pg		**Pg**	**11 53 22.6**	**-0.7**
	16nm,0.3s,SNR=7.9								
EMUR					Sn		**Sn**	**11 53 42.8**	**-1.6**
	106nm,0.5s,SNR=7.9								
EMUR					Lg		Lg	11 53 48.2	
	84nm,0.8s,SNR=7.9								
EMUR	**La Murta**	**1.99**	**49**	Pn			**Pn**	**11 53 19.8**	**+0.6**
	16nm,0.4s,SNR=12								
CART	**Cartagena**	**2.00**	**58**	Pn			**Pn**	**11 53 19.1**	**-0.2**
CART				Sn			**Sn**	**11 53 44.5**	**0.0**
CART	**Cartagena**	**2.00**	**58**	*e*P			**Pn**	**11 53 19.0**	**-0.2**
CART				*e*S			**Sn**	**11 53 44.5**	**0.0**
ESPR	**Espera**	**2.21**	**279**	Pn			**Pb**	**11 53 24.3**	**-1.0**
	8.5nm,0.3s,SNR=7.3								
ESPR					Lg		Lg	11 53 59.2	
	43nm,0.3s,SNR=7.9								
ESPR	**Espera**	**2.21**	**279**	Pn			**Pb**	**11 53 24.3**	**-1.0**
	8.5nm,0.3s,SNR=7.3								
ESPR					Lg		Lg	11 53 59.2	
	43nm,0.3s,SNR=7.9								
ECAB	**El Cabril**	**2.37**	**311**	Pn			**Pn**	**11 53 26.0**	**+1.6**
	0.3nm,0.1s,SNR=18								
ECAB				Pg			**Pg**	**11 53 30.5**	**0.0**
	15nm,0.3s,SNR=7.9								
ECAB				Sn			**Sn**	**11 53 55.5**	**+1.9**
	9.4nm,0.2s,SNR=7.9								
ECAB				Lg			Lg	11 54 03.3	
	164nm,0.6s,SNR=13								
ECAB	**El Cabril**	**2.37**	**311**	Pn			**Pn**	**11 53 26.0**	**+1.6**
	0.3nm,0.1s,SNR=18								
ETOB	**Tobarra**	**2.44**	**31**	Pn			**Pn**	**11 53 27.5**	**+2.1**
	12nm,0.3s,SNR=41								
ETOB				Lg			Lg	11 54 02.0	
	110nm,0.6s,SNR=7.9								
ETOB	**Tobarra**	**2.44**	**31**	Pn			**Pn**	**11 53 27.5**	**+2.1**
	12nm,0.3s,SNR=41								
ETOB				Lg			Lg	11 54 02.0	
	110nm,0.6s,SNR=7.9								
AFON	**Font Roja**	**2.95**	**44**	Pn			**Pn**	**11 53 34.2**	**+1.7**
	2.3nm,0.2s,SNR=7.9								
AFON	**Font Roja**	**2.95**	**44**	Pn			**Pn**	**11 53 34.2**	**+1.7**
	2.3nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.07**	**294**	Pn			**Pn**	**11 53 34.8**	**+0.8**
	2.8nm,0.4s,SNR=43								
EMIN					Sn		**Sn**	**11 54 11.9**	**+0.9**
	4.6nm,0.1s,SNR=7.9								
EMIN					Lg		Lg	11 54 25.3	
	45nm,0.4s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.07**	**294**	Pn			**Pn**	**11 53 34.8**	**+0.8**
	2.8nm,0.4s,SNR=43								
EMIN					Sn		**Sn**	**11 54 11.9**	**+0.9**
	4.6nm,0.1s,SNR=7.9								
EMIN					Lg		Lg	11 54 25.3	
	45nm,0.4s,SNR=7.9								
PAB	**San Pablo**	**3.14**	**343**	Pn			**Pn**	**11 53 37.2**	**+2.2**
	1.5nm,0.1s,SNR=7.9								
PAB				Pg			**Pg**	**11 53 44.1**	**-1.2**
	28nm,0.4s,SNR=7.9								
PAB				Sn			**Sn**	**11 54 13.0**	**+0.3**
	7.9nm,0.3s,SNR=7.9								
PAB				Lg			Lg	11 54 26.3	
	52nm,0.5s,SNR=7.9								
PAB	**San Pablo**	**3.14**	**343**	Pn			**Pn**	**11 53 37.2**	**+2.2**
	1.5nm,0.1s,SNR=7.9								
PAB				Sn			**Sn**	**11 54 13.0**	**+0.3**
	7.9nm,0.3s,SNR=7.9								
PAB				Lg			Lg	11 54 26.3	
	52nm,0.5s,SNR=7.9								
ESDC	**Sonseca Array**	**3.18**	**348**	Pn			**Pn**	**11 53 38.0**	**+2.4**
	1.0nm,0.2s,baz=167,slow=12,SNR=13								
ESDC				Pg			**Pg**	**11 53 45.7**	**-0.4**
	8.4nm,0.4s,baz=165,slow=17,SNR=38								
ESDC				Lg			Lg	11 54 26.5	
	62nm,0.5s,baz=164,slow=28,SNR=7.9								
ESDC	**Sonseca Array**	**3.18**	**348**	Pn			**Pn**	**11 53 38.0**	**+2.4**
	1.0nm,0.2s,SNR=13								
ESDC	**Sonseca Array**	**3.18**	**348**	Pg			**Pg**	**11 53 45.7**	**-0.4**
	8.4nm,0.4s,SNR=38								
ESDC				Lg			Lg	11 54 26.5	
	62nm,0.5s,SNR=7.9								
PBAR	**Barrancos**	**3.50**	**299**	*e*Pn			**Pn**	**11 53 41.6**	**+1.6**
PBAR				*e*Sn			**Sn**	**11 54 20.8**	**-0.8**
PBAR				*e*Sg			**Sg**	**11 54 36.3**	**-1.4**
PBAR				A			A	11 54 44.4	
	81nm,0.5s								
PBAR	**Barrancos**	**3.50**	**299**	Pn			**Pn**	**11 53 41.6**	**+1.6**
PBAR				Sn			**Sn**	**11 54 20.8**	**-0.8**
PBAR				Lg			Lg	11 54 36.3	
	81nm,0.5s								
PBAR	**Barrancos**	**3.50**	**299**	Pn			**Pn**	**11 53 41.6**	**+1.6**
PBAR				*e*Sn			**Sn**	**11 54 20.8**	**-0.8**
PBAR				*e*Sg			**Sg**	**11 54 36.3**	**-1.4**
	81nm,0.5s								
EGRO	**El Granado**	**3.61**	**287**	Pn			**Pn**	**11 53 42.4**	**+1.0**
	5.6nm,0.4s,SNR=18								
EGRO				Sn			**Sn**	**11 54 23.9**	**-0.4**
	5.0nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**3.61**	**287**	Pn			**Pn**	**11 53 42.4**	**+1.0**
	5.6nm,0.4s,SNR=18								
EGRO				Sn			**Sn**	**11 54 23.9**	**-0.4**
	5.0nm,0.1s,SNR=7.9								
UCM	**Universidad Co**	**3.75**	**359**	*e*P			**Pn**	**11 53 40.7**	**-2.7**
PVAQ	**Vaqueiros**	**3.76**	**284**	*e*Pn			**Pn**	**11 53 44.2**	**+0.7**
PVAQ				*e*Sn			**Sn**	**11 54 27.5**	**-0.5**
PVAQ				A			A	11 54 29.3	
	12nm,0.2s								
PVAQ	**Vaqueiros**	**3.76**	**284**	Pn			**Pn**	**11 53 44.2**	**+0.7**
PVAQ				Sn			**Sn**	**11 54 27.5**	**-0.5**
	12nm,0.2s								
PVAQ	**Vaqueiros**	**3.76**	**284**	Pn			**Pn**	**11 53 44.2**	**+0.7**
PVAQ				*e*Sn			**Sn**	**11 54 27.5**	**-0.5**
	12nm,0.2s								
EBAD	**Badajoz**	**3.78**	**307**	Pn			**Pn**	**11 53 44.9**	**+1.1**
	2.8nm,0.4s,SNR=15								
EBAD				Lg			Lg	11 54 47.9	
	60nm,0.5s,SNR=7.9								
EBAD	**Badajoz**	**3.78**	**307**	Pn			**Pn**	**11 53 44.9**	**+1.1**
	2.8nm,0.4s,SNR=15								
EBAD				Lg			Lg	11 54 47.9	
	60nm,0.5s,SNR=7.9								
PBDV	**Barranco-do-Ve**	**3.90**	**282**	*e*Pn			**Pn**	**11 53 46.5**	**+1.0**
PBDV				A			A	11 54 40.2	
	11nm,0.6s								
PBDV	**Barranco-do-Ve**	**3.90**	**282**	Pn			**Pn**	**11 53 46.5**	**+1.0**
PBDV	**Barranco-do-Ve**	**3.90**	**282**	*e*Pn			**Pn**	**11 53 46.5**	**+1.0**
	11nm,0.6s								
PBEJ	**Beja**	**4.04**	**293**	*e*Pn			**Pn**	**11 53 49.0**	**+1.6**
PBEJ				*e*Sn			**Sn**	**11 54 34.3**	**-0.7**
PBEJ	**Beja**	**4.04**	**293**	Pn			**Pn**	**11 53 49.0**	**+1.6**
PBEJ				Sn			**Sn**	**11 54 34.3**	**-0.7**
PBEJ	**Beja**	**4.04**	**293**	Pn			**Pn**	**11 53 49.0**	**+1.6**
PBEJ				Sn			**Sn**	**11 54 34.3**	**-0.7**
PCVE	**Castro Verde**	**4.06**	**287**	*e*Pn			**Pn**	**11 53 48.9**	**+1.2**
PCVE				*e*Sn			**Sn**	**11 54 34.8**	**-0.6**
PCVE	**Castro Verde**	**4.06**	**287**	Pn			**Pn**	**11 53 48.9**	**+1.2**
PCVE				Sn			**Sn**	**11 54 34.8**	**-0.6**
PCVE	**Castro Verde**	**4.06**	**287**	Pn			**Pn**	**11 53 48.9**	**+1.2**
PCVE				Sn			**Sn**	**11 54 34.8**	**-0.6**
GUD	**Guadarrama**	**4.16**	**349**	Pn			**Pn**	**11 53 51.3**	**+2.1**
	1.4nm,0.3s,SNR=7.0								
GUD				Pg			**Pg**	**11 54 04.1**	**-0.7**
	15nm,0.4s,SNR=7.9								
GUD				Lg			Lg	11 54 58.4	
	29nm,0.4s,SNR=7.9								
GUD	**Guadarrama**	**4.16**	**349**	Pn			**Pn**	**11 53 51.3**	**+2.1**
	1.4nm,0.3s,SNR=7.0								
GUD				Lg			Lg	11 54 58.4	
	29nm,0.4s,SNR=7.9								
PESTR	**Estremoz**	**4.22**	**305**	*e*Pn			**Pn**	**11 53 50.9**	**+1.1**
PESTR				A			A	11 55 06.6	
	43nm,0.4s								
PESTR	**Estremoz**	**4.22**	**305**	*e*Pn			**Pn**	**11 53 50.9**	**+1.1**
	43nm,0.4s								
MESJ	**Messejana**	**4.25**	**289**	*e*P			**Pn**	**11 53 51.5**	**+1.2**
MESJ	**Messejana**	**4.25**	**289**	*e*P			**Pn**	**11 53 51.5**	**+1.2**
MESJ	**Messejana**	**4.25**	**289**	Pn			**Pn**	**11 53 51.5**	**+1.2**
MESJ	**Messejana**	**4.25**	**289**	*e*P			**Pn**	**11 53 51.5**	**+1.2**
EIBI	**Ibiza**	**4.33**	**54**	Pn			**Pn**	**11 53 51.6**	**+0.3**
	0.7nm,0.2s,SNR=7.9								
EIBI					Sn		**Sn**	**11 54 39.3**	**-2.7**
	4.0nm,0.3s,SNR=7.9								
EIBI	**Ibiza**	**4.33**	**54**	Pn			**Pn**	**11 53 51.6**	**+0.3**
	0.7nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**4.34**	**28**	Pn			**Pn**	**11 53 54.4**	**+2.7**
	0.4nm,0.2s,SNR=7.9								
EMOS					Pg		**Pg**	**11 54 08.0**	**-0.4**
	17nm,0.7s,SNR=7.9								
EMOS					Lg		Lg	11 55 03.8	
	11nm,0.5s,SNR=7.9								
EMOS	**Mosqueruela**	**4.34**	**28**	Pn			**Pn**	**11 53 54.4**	**+2.7**
	0.4nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**4.34**	**28**	Pg			**Pg**	**11 54 08.0**	**-0.4**
	17nm,0.7s,SNR=7.9								
EMOS					Lg		Lg	11 55 03.8	
	11nm,0.5s,SNR=7.9								
ETOR	**Torete**	**4.34**	**11**	Pn			**Pn**	**11 53 54.9**	**+3.3**
	3.7nm,0.4s,SNR=12								
ETOR					Pg		**Pg**	**11 54 08.2**	**-0.2**
	22nm,0.5s,SNR=7.9								
ETOR					Sn		**Sn**	**11 54 40.9**	**-1.6**
	4.4nm,0.3s,SNR=7.9								
ETOR					Lg		Lg	11 55 03.2	
	49nm,0.7s,SNR=6.1								
ETOR	**Torete**	**4.34**	**11**	Pn			**Pn**	**11 53 54.9**	**+3.3**
	3.7nm,0.4s,SNR=12								
EVO	**Evora**	**4.35**	**298**	*e*Pn			**Pn**	**11 53 53.4**	**+1.8**
EVO				A			A	11 55 14.6	
	26nm,0.4s								
EVO	**Evora**	**4.35**	**298**	Pn			**Pn**	**11 53 53.4**	**+1.8**
EVO	**Evora**	**4.35**	**298**	*e*Pn			**Pn**	**11 53 53.4**	**+1.8**
	26nm,0.4s								
PMRV	**Marv??o**	**4.42**	**312**	*e*Pn			**Pn**	**11 53 54.2**	**+1.6**
PMRV				*e*Sn			**Sn**	**11 54 43.2**	**-1.0**
PMRV				A			A	11 55 14.5	
	41nm,0.6s								
PMRV	**Marv??o**	**4.42**	**312**	Pn			**Pn**	**11 53 54.2**	**+1.6**
PMRV				Sn			**Sn**	**11 54 43.2**	**-1.0**
	41nm,0.6s								
PMRV	**Marv??o**	**4.42**	**312**	Pn			**Pn**	**11 53 54.2**	**+1.6**
PMRV				*e*Sn			**Sn**	**11 54 43.2**	**-1.0**
	41nm,0.6s								
PNCL	**Nicolau / Gran**	**4.57**	**292**	*e*Pn			**Pn**	**11 53 55.6**	**+1.0**
PNCL				A			A	11 54 50.1	
	5.3nm,0.6s								
PNCL	**Nicolau / Gran**	**4.57**	**292**	*e*Pn			**Pn**	**11 53 55.6**	**+1.0**
	5.3nm,0.6s								
PTEO	**Sao Teotonio**	**4.58**	**284**	*e*Pn			**Pn**	**11 53 56.0**	**+1.3**
PTEO				A			A	11 54 59.3	
	10nm,0.4s								
PTEO	**Sao Teotonio**	**4.58**	**284**	Pn			**Pn**	**11 53 56.0**	**+1.3**
PTEO	**Sao Teotonio**	**4.58**	**284**	*e*Pn			**Pn**	**11 53 56.0**	**+1.3**
	10nm,0.4s								
PFVI	**Vila Bisbo**	**4.60**	**279**	*e*Pn			**Pn**	**11 53 57.1**	**+2.1**
PFVI	**Vila Bisbo**	**4.60**	**279**	Pn			**Pn**	**11 53 57.1**	**+2.1**
	10.0nm,0.3s,SNR=7.9								
PFVI					Sn		**Sn**	**11 54 48.5**	**-0.1**
	21nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**4.60**	**279**	Pn			**Pn**	**11 53 57.1**	**+2.1**
	10.0nm,0.3s,SNR=7.9								
PFVI					Sn		**Sn**	**11 54 48.5**	**-0.1**
	21nm,0.2s,SNR=7.9								
PCBR	**Castelo Branco**	**4.74**	**315**	*e*Pn			**Pn**	**11 53 58.7**	**+1.8**
PCBR				*e*Sn			**Sn**	**11 54 48.6**	**-3.5**
PCBR				A			A	11 55 25.3	
	30nm,0.6s								
PCBR	**Castelo Branco**	**4.74**	**315**	Pn			**Pn**	**11 53 58.7**	**+1.8**
PCBR				Sn			**Sn**	**11 54 48.6**	**-3.5**
	15nm,0.6s								
PCBR	**Castelo Branco**	**4.74**	**315**	Pn			**Pn**	**11 53 58.7**	**+1.8**
PMTG	**Montargil**	**4.75**	**303**	*e*Pn			**Pn**	**11 53 58.2**	**+1.2**
PMTG				A			A	11 55 30.5	
	34nm,0.5s								
PMTG	**Montargil**	**4.75**	**303**	*e*Pn			**Pn**	**11 53 58.2**	**+1.2**
	34nm,0.5s								
PTOM	**Tomar**	**5.16**	**308**	*e*Pn			**Pn**	**11 54 04.2**	**+1.4**
PTOM				A			A	11 55 41.0	
	32nm,0.6s								
PTOM	**Tomar**	**5.16**	**308**	Pn			**Pn**	**11 54 04.2**	**+1.4**
PTOM	**Tomar**	**5.16**	**308**	*e*Pn			**Pn**	**11 54 04.2**	**+1.4**
	32nm,0.6s								
MTE	**Manteigas**	**5.17**	**319**	*e*Pn			**Pn**	**11 54 04.5**	**+1.6**
MTE				*e*Sn			**Sn**	**11 55 04.9**	**+2.2**
MTE				A			A	11 55 38.8	
	60nm,0.6s								
MTE	**Manteigas**	**5.17**	**319**	Pn			**Pn**	**11 54 04.5**	**+1.6**
MTE				Sn			**Sn**	**11 55 04.9**	**+2.2**
	30nm,0.6s								
MTE	**Manteigas**	**5.17**	**319**	Pn			**Pn**	**11 54 04.5**	**+1.6**
MTE				*e*Sn			**Sn**	**11 55 04.9**	**+2.2**
	60nm,0.6s								
ERTA	**Horta de San J**	**5.17**	**31**	Pn			**Pn**	**11 54 05.4**	**+2.5**
	3.2nm,0.4s,SNR=5.6								
ERTA	**Horta de San J**	**5.17**	**31**	Pn			**Pn**	**11 54 05.4**	**+2.5**
	3.2nm,0.4s,SNR=5.6								
PMAFR	**Mafra**	**5.43**	**298**	*e*Pn			**Pn**	**11 54 07.7**	**+1.3**
PMAFR	**Mafra**	**5.43**	**298**	Pn			**Pn**	**11 54 07.8**	**+1.3**
	6.9nm,0.3s,SNR=7.9								
PMAFR					Lg		Lg	11 55 42.9	
	77nm,0.6s,SNR=7.9								
PMAFR	**Mafra**	**5.43**	**298**	Pn			**Pn**	**11 54 07.8**	**+1.3**
	6.9nm,0.3s,SNR=7.9								
PMAFR					Lg		Lg	11 55 42.9	
	77nm,0.6s,SNR=7.9								
PCAS	**Casmilo, Conde**	**5.47**	**311**	*e*Pn			**Pn**	**11 54 08.6**	**+1.5**
P

	0.2nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**6.64**	**17**	*e*P	**Pn**	**11 54 27.9**	**+4.7**	
ETSF	**Etsaut**	**6.64**	**17**	Pn	**Pn**	**11 54 27.9**	**+4.7**	
ELAN	**Lanestosa**	**6.67**	**358**	Pn	**Pn**	**11 54 27.0**	**+3.4**	
	0.7nm,0.2s,SNR=7.9							
ELAN				Lg	Lg	11 56 20.7		
	24nm,0.9s,SNR=7.9							
ELAN	**Lanestosa**	**6.67**	**358**	Pn	**Pn**	**11 54 27.0**	**+3.4**	
	0.7nm,0.2s,SNR=7.9							
ELAN				Lg	Lg	11 56 20.7		
	24nm,0.9s,SNR=7.9							
CSOR	**Sort**	**6.69**	**28**	Pn	**Pn**	**11 54 26.1**	**+2.2**	
	2.8nm,0.4s,SNR=7.9							
CSOR	**Sort**	**6.69**	**28**	Pn	**Pn**	**11 54 26.1**	**+2.2**	
	2.8nm,0.4s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.71**	**325**	*e*Pn	**Pn**	**11 54 26.1**	**+2.0**	
PGAV	**Gavieira, Arco**	**6.71**	**325**	*e*Pn	**Pn**	**11 54 26.1**	**+2.0**	
SJPF	**Ste Jean**	**6.72**	**12**	*e*P	**Pn**	**11 54 27.8**	**+3.7**	
SJPF				*e*Sg	**Sg**	**11 56 18.7**	**-2.0**	
	8.2nm,0.6s							
SJPF	**Ste Jean**	**6.72**	**12**	Pn	**Pn**	**11 54 27.8**	**+3.7**	
SJPF				Lg	Lg	11 56 18.7		
	4.1nm,0.6s							
SJPF	**Ste Jean**	**6.72**	**12**	*e*P	**Pn**	**11 54 27.8**	**+3.7**	
SJPF				Lg	Lg	11 56 18.7		
	4.1nm,0.6s							
EALK	**Alkurruntz**	**6.78**	**10**	Pn	**Pn**	**11 54 27.7**	**+2.7**	
	6.4nm,0.4s,SNR=4.9							
EALK				Lg	Lg	11 56 22.2		
	17nm,0.7s,SNR=7.9							
EALK	**Alkurruntz**	**6.78**	**10**	Pn	**Pn**	**11 54 27.7**	**+2.7**	
	6.4nm,0.4s,SNR=4.9							
EALK				Lg	Lg	11 56 22.2		
	17nm,0.7s,SNR=7.9							
ATE	**Arette**	**6.79**	**15**	Pn	**Pn**	**11 54 28.1**	**+3.0**	
	1.3nm,0.3s,SNR=7.9							
ATE	**Arette**	**6.79**	**15**	Pn	**Pn**	**11 54 28.1**	**+3.0**	
	1.3nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**6.92**	**347**	Pn	**Pn**	**11 54 31.8**	**+4.7**	
	39nm,1.5s,SNR=7.0							
EARI				Lg	Lg	11 56 26.6		
	59nm,1.3s,SNR=7.9							
EPF	**Esparros**	**7.00**	**21**	*e*P	**Pn**	**11 54 32.6**	**+4.5**	
EPF				*e*Sg	**Sg**	**11 56 25.7**	**-4.2**	
	4.0nm,0.3s							
EPF	**Esparros**	**7.00**	**21**	Pn	**Pn**	**11 54 32.6**	**+4.5**	
EPF				Lg	Lg	11 56 25.7		
	2.0nm,0.3s							
EPF	**Esparros**	**7.00**	**21**	Pn	**Pn**	**11 54 32.6**	**+4.5**	
EPF				Lg	Lg	11 56 25.7		
	2.0nm,0.3s							
CLLI	**Llivia**	**7.12**	**32**	Pn	**Pn**	**11 54 32.2**	**+2.4**	
	0.6nm,0.3s,SNR=7.9							
CLLI	**Llivia**	**7.12**	**32**	Pn	**Pn**	**11 54 32.2**	**+2.4**	
	0.6nm,0.3s,SNR=7.9							
EAGO	**Agolada(Pontev**	**7.31**	**330**	Pn	**Pn**	**11 54 36.2**	**+3.8**	
	1.1nm,0.4s,SNR=7.9							
EAGO				Sn	**Sn**	**11 55 50.6**	**-5.0**	
	1.9nm,0.3s,SNR=7.9							
EAGO				Lg	Lg	11 56 38.2		
	17nm,0.7s,SNR=7.9							
EAGO	**Agolada(Pontev**	**7.31**	**330**	Pn	**Pn**	**11 54 36.2**	**+3.8**	
	1.1nm,0.4s,SNR=7.9							
EAGO				Lg	Lg	11 56 38.2		
	17nm,0.7s,SNR=7.9							
EPON	**Pontenova**	**7.43**	**337**	Lg	Lg	11 56 42.6		
	28nm,1.3s,SNR=7.9							
EPON	**Pontenova**	**7.43**	**337**	Lg	Lg	11 56 42.6		
	28nm,1.3s,SNR=7.9							
EMAZ	**Mazaricos**	**7.81**	**327**	Pn	**Pn**	**11 54 41.3**	**+2.2**	
	1.7nm,0.3s,SNR=7.9							
EMAZ	**Mazaricos**	**7.81**	**327**	Pn	**Pn**	**11 54 41.3**	**+2.2**	
	1.7nm,0.3s,SNR=7.9							

*THE **29** 11:52:47.7, 38°.84N×24°.27E, h20km±3km, ML2.1/5, Error ellipse: s-maj=4.5km s-min=0.4km az=81.0*
*CSEM **29** 11:52:47.5±0.1, 38°.85N×24°.26E, h20km, ML2.1, Error ellipse: s-maj=3.7km s-min=2.9km az=86.0*
ATH 29 11:52:47.0, 38°.84N×24°.23E, h23km±5km, ML2.1/4, Error ellipse: s-maj=5.7km s-min=1.1km az=72.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKY	**Skiros Island**	**0.25**	**80**	P	Pb	11 52 53.4	+0.2
SKY				S	Sb	11 52 57.2	-0.3
SKY				AML	AML	11 52 57.9	
	comp=E,2302μm,0.2s						
SKY				AML	AML	11 52 58.1	
	comp=N,2372μm,0.2s						
SKY	**Skiros Island**	**0.25**	**80**	P	Pb	11 52 53.2	0.0
SKY				S	Sb	11 52 57.3	-0.1
SKY	**Skiros Island**	**0.25**	**80**	P	Pb	11 52 53.2	0.0
SKY				S	Sb	11 52 57.3	-0.1
ALNA	**Alonissos**	**0.42**	**318**	P	Pb	11 52 56.3	+0.5
ALNA				S	Sb	11 53 02.3	+0.4
ALNA	**Alonissos**	**0.42**	**318**	P	Pb	11 52 56.1	+0.2
ALNA				S	Sb	11 53 02.3	+0.4
KARY	**Karystos**	**0.82**	**169**	P	Pn	11 53 02.9	-0.2
KARY	**Karystos**	**0.82**	**169**	P	Pn	11 53 02.9	-0.2
KARY				S	Sn	11 53 14.6	+0.1
KARY	**Karystos**	**0.82**	**169**	P	Pn	11 53 02.9	-0.2
KARY				S	Sn	11 53 14.6	+0.1
PTL	**Penteli**	**0.84**	**200**	P	Pn	11 53 03.7	+0.3
PTL				S	Sn	11 53 15.5	+0.6
PTL				AML	AML	11 53 16.9	
	comp=N,155μm,0.3s						
PTL				AML	AML	11 53 17.3	
	comp=E,116μm,0.4s						
EFSA	**Agios Efstrati**	**0.92**	**40**	P	Pn	11 53 05.3	+0.9
EFSA	**Agios Efstrati**	**0.92**	**40**	P	Pn	11 53 05.0	+0.6
XOR	**Xorichti**	**0.97**	**303**	P	Pn	11 53 06.9	+1.8
XOR				S	Sn	11 53 18.9	+0.6
XOR				AML	AML	11 53 20.3	
	comp=N,127μm,0.3s						
XOR				AML	AML	11 53 20.6	
	comp=E,86μm,0.3s						
XOR	**Xorichti**	**0.97**	**303**	P	Pn	11 53 05.4	+0.2
XOR				S	Sn	11 53 19.0	+0.8
XOR	**Xorichti**	**0.97**	**303**	P	Pn	11 53 05.4	+0.2
XOR				S	Sn	11 53 19.5	+1.3
VIL2	**Platees**	**0.98**	**231**	P	Pn	11 53 06.0	+0.6
VIL2				S	Sn	11 53 19.1	+0.6
LKR	**Lokris**	**0.98**	**260**	P	Pn	11 53 06.0	+0.7
VILL	**Villia**	**0.99**	**227**	P	Pn	11 53 06.0	+0.6
VILL				S	Sn	11 53 19.4	+0.7
VILL	**Villia**	**0.99**	**227**	P	Pn	11 53 06.0	+0.6
VILL				S	Sn	11 53 20.1	+1.4
VLY	**Voula,Athens**	**1.04**	**199**	P	Pb	11 53 07.1	+0.7
VLY				S	Sn	11 53 20.0	+0.1
VLY				AML	AML	11 53 23.1	
	comp=N,276μm,0.6s						
VLY				AML	AML	11 53 24.7	
	comp=E,190μm,0.3s						
VLY	**Voula,Athens**	**1.04**	**199**	P	Pb	11 53 07.0	+0.7
VLY				S	Sn	11 53 20.7	+0.7
VLY	**Voula,Athens**	**1.04**	**199**	P	Pn	11 53 06.2	0.0
VLY				S	Sn	11 53 21.4	+1.4
PAIG	**Paliouri**	**1.17**	**339**	P	Pn	11 53 07.5	-0.4
PAIG	**Paliouri**	**1.17**	**339**	P	Pb	11 53 08.5	-0.1

*NNC **29** 11:55:08.8±3.0, 44°.74N×81°.89E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=52.4km s-min=10.0km az=117.0*
*SOME **29** 11:55:10.8, 44°.58N×81°.92E, h10km*
*ISCJB **29** 11:55:11.2±1.7, 45°.14N±0°.10×82°.3E±0°.2, h10km, Error ellipse: s-maj=18.8km s-min=9.1km az=40.2*
ISC 29 11:55:15.6±2.7, 45°.1N±0°.1×82°.1E±0°.2, h10km, n9, σ2s19/12, 3C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.72**	**5**	⇑Pn	**Pn**	**11 55 46.0**	**+0.4**
	4.4nm,0.3s,baz=180,slow=13,SNR=149						
MK31				⇓Lg	Lg	11 56 14.1	
	2.3nm,0.2s,baz=181,slow=27,SNR=27						
MAKZ	**Makanchi**	**1.73**	**358**	⇑Pg	**Pn**	**11 55 45.0**	**-0.8**
	3.4nm,0.5s						
MAKZ				⇓Lg	Lg	11 56 14.3	
	11nm,0.4s						
KAPS	**Kapalarasan**	**1.94**	**277**	*e*P	Pn	11 55 45.8	-2.9
	2.2nm,0.1s						
KAPS				*e*S	**Sn**	**11 56 11.4**	**-1.6**
	6.4nm,0.3s						
PDGK	**Podgornoye**	**2.56**	**228**	⇑Pg	Pn	11 55 48.7	-8.5
	1.0nm,0.3s						
PDGK				⇓Lg	Lg	11 56 21.3	
	5.7nm,0.5s						
MNBS	**Baschi**	**2.81**	**250**	*e*P	**Pn**	**11 55 58.7**	**-2.0**
	3.4nm,0.2s						
MNBS				*e*S	**Sn**	**11 56 34.0**	**-0.7**
	14nm,0.4s						
KPKS	**Kokpek**	**2.92**	**238**	*e*P	Pn	11 55 58.6	-3.6
	1.5nm,0.0s						
KPKS				*e*S	**Sn**	**11 56 34.3**	**-3.1**
	17nm,0.3s						
ARXS	**Arharly**	**3.16**	**256**	*e*P	**Pn**	**11 56 04.5**	**-0.9**
	2.2nm,0.2s						
ARXS				*e*S	**Sn**	**11 56 45.0**	**+1.8**
	6.0nm,0.3s						
CHKK	**Chushkaly**	**3.85**	**253**	*e*P	**Pn**	**11 56 15.3**	**+0.5**
	2.2nm,0.3s						
CHKK				*e*S	**Sn**	**11 57 03.5**	**+3.4**
	5.6nm,0.3s						
TNSS	**Tian-Shan**	**4.22**	**243**	*e*P	**Pn**	**11 56 20.7**	**+0.4**
	1.0nm,0.4s						
TNSS				*e*S	**Sn**	**11 57 13.1**	**+3.1**
	1.5nm,0.4s						

*JMA **29** 12:01:44.2±0.3, 43°.54N×147°.33E, h27km±5km, M3.3*
*IDC **29** 12:01:51.4±3.8, 43°.19N×147°.17E, h132km±34km, mb3.0/5, mb1 3.4/5, mb1mx2.9/65, mbtmp3.4/5, MS3.1/1, Ms1 3.1/1, ms1mx2.2/14, Error ellipse: s-maj=52.1km s-min=31.7km az=1.0*
ISC 29 12:01:41.4±3.5, 43°.7N±0°.1×147°.46E±0°.07, h15km±22km, n22, σ1s37/23, mb3.3/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.28**	**257**	P	**Pb**	**12 02 05.0**	**-0.2**
NEM2				*e*S	**Sb**	**12 02 20.3**	**-1.2**
JRA	**Rausu**	**1.71**	**280**	P	**Pb**	**12 02 12.1**	**-0.4**
JRA				*e*S	**Sn**	**12 02 32.3**	**+0.1**
JNK	**Nakash**	**1.99**	**269**	P	**Pn**	**12 02 15.4**	**+0.9**
JNK				*e*S	**Sn**	**12 02 38.7**	**-0.4**
JAK	**Akkeshi**	**2.12**	**252**	P	**Pn**	**12 02 17.3**	**+1.0**
JAK				*e*S	**Sn**	**12 02 41.0**	**-1.4**
JTKR	**Abashiri--Toko**	**2.59**	**278**	P	**Pn**	**12 02 25.0**	**+2.3**
JTKR				*e*S	**Sn**	**12 02 55.9**	**+2.1**
JAR	**Ashorobuto**	**2.71**	**263**	P	**Pn**	**12 02 26.4**	**+2.0**
JAR				*e*S	**Sn**	**12 02 58.3**	**+1.4**
JOB	**Onbets**	**2.75**	**255**	P	**Pn**	**12 02 26.6**	**+1.6**
JCH	**Churui**	**3.18**	**252**	P	**Pn**	**12 02 33.0**	**+2.2**
JCH				*e*S	**Sn**	**12 03 08.7**	**+0.3**
ASAJ	**Asahikawa**	**3.54**	**279**	P	**Pb**	**12 02 42.5**	**-1.2**
	0.6nm,0.3s,baz=90,slow=18,SNR=5.9						
ASAJ				S	**Sb**	**12 03 25.5**	**-1.0**
	0.7nm,0.3s,baz=178,slow=19,SNR=4.8						
JCJ	**Chichijima**	**17.08**	**196**	LR	LR	12 11 00.7	
	comp=Z,73nm,20.4s,baz=104,slow=33						
H11N2	**WAKE ISLAND Hy**	**28.89**	**140**	T	T	12 38 22.8	
	baz=330,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hy**	**28.91**	**140**	T	T	12 38 19.1	
	baz=330,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**28.91**	**140**	T	T	12 38 23.4	
	baz=330,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**29.86**	**141**	T	T	12 39 32.1	
	baz=332,slow=76,SNR=82						
H11S3	**WAKE ISLAND Hy**	**29.87**	**141**	T	T	12 39 31.1	
	baz=332,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**29.88**	**141**	T	T	12 39 29.3	
	baz=332,slow=76,SNR=35						
ILAR	**Eielson Array**	**41.42**	**36**	P	**P**	**12 09 26.9**	**0.0**
	0.4nm,0.6s,baz=270,slow=6.9,SNR=8.5						
YKA	**Yellowknife Ar**	**55.74**	**34**	P	**P**	**12 11 17.4**	**+0.5**
	0.1nm,0.5s,baz=280,slow=6.8,SNR=3.7						
FINES	**FINESS Array B**	**65.05**	**333**	P	**P**	**12 12 19.1**	**-1.5**
	3.6nm,1.1s,baz=354,slow=13,SNR=3.0						
NVAR	**Mina Array Bea**	**67.43**	**58**	P	**P**	**12 12 37.4**	**+0.8**
	0.1nm,0.5s,baz=294,slow=7.5,SNR=2.5						
TXAR	**Lajitas Array**	**82.51**	**56**	P	**P**	**12 14 02.6**	**-1.1**
	0.3nm,1.0s,baz=265,slow=5.4,SNR=2.5						
PLCA	**Paso Flores**	**151.85**	**97**	PKPbc	**PKPdf**	**12 21 28.7**	**-0.1**
	1.0nm,0.8s,baz=294,slow=18,SNR=2.9						

IDC 29 12:11:08.7±3.0, 54°.18N×87°.22E, h0km, mb1 2.7/2, mb1mx2.6/69, mbtmp2.7/2, ML2.0/2, Error ellipse: s-maj=24.2km s-min=18.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**262**	*i*		12 20 35.0	
	baz=80,slow=326,SNR=41						
ZALV	**Zalesovo Beam**	**1.43**	**262**	Pg	Pn	12 11 35.0	-1.0
	2.1nm,0.3s,baz=78,slow=16,SNR=22						
ZALV				Lg	Lg	12 11 55.1	
	2.2nm,0.3s,baz=75,slow=28,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.40**	**240**	Pn	Pn	12 12 44.4	+0.2
	0.0nm,0.3s,baz=56,slow=14,SNR=2.6						
KURBB				Sn	Sn	12 13 57.0	-0.8
	baz=57,slow=42,SNR=2.7						
KURBB				Lg	Lg	12 14 29.8	
	0.0nm,0.3s,baz=54,slow=27,SNR=2.8						
MKAR	**Makanchi Array**	**8.03**	**205**	Pn	Pn	12 13 08.3	+1.7
	0.1nm,0.3s,baz=15,slow=14,SNR=2.8						
MKAR				Lg	Lg	12 15 22.5	
	0.0nm,0.3s,baz=26,slow=24,SNR=2.8						

*IDC **29** 12:14:40.9±1.6, 3°.44S×140°.30E, h0km, mb3.8/4, mb1 4.3/6, mb1mx3.7/50, mbtmp4.1/6, ML4.2/2, MS3.1/8, Ms1 3.1/8, ms1mx2.8/42, Error ellipse: s-maj=54.8km s-min=25.3km az=111.0*
*ISCJB **29** 12:14:44.6±0.8, 3°.60S±0°.05×140°.4E±0°.1, h39km, mb3.5/2, MS3.1/7, Error ellipse: s-maj=16.4km s-min=6.0km az=15.6*
*DJA **29** 12:14:46.0±0.9, 4°.S±5°.×14°.0E±°, h23km±11km, M4.5/7, mb4.5/7, MLv4.5/2*
ISC 29 12:14:44.4±1.1, 3°.72S±0°.07×140°.5E±0°.1, h39km, n21, σ2s75/16, MS3.1/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.16**	**346**	P	**Pn**	**12 15 03.1**	**-1.0**
GENI				S	**Sn**	**12 15 16.0**	**-2.7**
JAY	**Jayapura**	**1.22**	**12**	P	**Pn**	**12 15 04.3**	**-0.8**
JAY				S	**Sn**	**12 15 18.0**	**-2.4**
SOEI	**Soe**	**17.15**	**249**	P	**P**	**12 18 44.4**	**+1.7**
	47nm,1.1s						
WRA	**Warramunga Arr**	**17.19**	**200**	Pn	**P**	**12 18 44.3**	**+1.3**
	0.5nm,0.3s,baz=16,slow=13,SNR=29						
WRA				Sn	**Sn**	**12 21 48.0**	**-4.2**
	0.2nm,0.3s,baz=17,slow=22,SNR=5.8						
GUMO	**Guam**	**17.75**	**14**	LR	LR	12 24 58.9	
	comp=Z,44nm,19.8s,baz=110,slow=35						
BATI	**Baumata**	**17.86**	**248**	P	**Pn**	**12 18 51.9**	**+1.8**
	2.9nm,0.3s,baz=78,slow=4.3,SNR=7.7						
BATI	**Baumata**	**17.86**	**248**	P	**Pn**	**12 18 51.8**	**+1.7**
	16nm,0.7s						
BNSI	**Bone**	**20.31**	**267**	P	**P**	**12 19 19.1**	**+1.8**
	24nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.37**	**224**	P	**P**	**12 19 19.5**	**+1.6**
	4.4nm,0.5s,baz=39,slow=11,SNR=13						
FITZ				S	**S**	**12 22 57.7**	**-6.4**
	2.9nm,0.6s,baz=66,slow=19,SNR=4.2						
FITZ				LR	LR	12 28 10.6	
	comp=Z,64nm,19.0s,baz=36,slow=40						
TTSI	**Tana Toraja**	**20.61**	**271**	P	**P**	**12 19 23.2**	**+2.7**
ASAR	**Alice Springs**	**20.82**	**197**	P	Pn	12 19 26.9	+1.6
	6.0nm,0.5s,baz=25,slow=10,SNR=128						
ASAR				S	**S**	**12 23 13.0**	**0.0**
	0.3nm,0.6s,baz=17,slow=26,SNR=2.4						
ASAR				LR	LR	12 26 57.3	
	comp=Z,93nm,20.4s,baz=52,slow=35						
STKA	**Stephens Creek**	**28.03**	**178**	LR	LR	12 31 34.3	
	comp=Z,93nm,20.8s,baz=24,slow=36						
H11S3	**WAKE ISLAND Hy**	**33.99**	**49**	T	T	12 56 25.4	
	baz=232,slow=75,SNR=8.8						
H11S2	**WAKE ISLAND Hy**	**34.00**	**49**	T	T	12 56 24.0	
	baz=232,slow=75,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**34.01**	**49**	T	T	12 56 24.1	
	baz=232,slow=75,SNR=2.9						
JHJ	**Hachijo jima 2**	**36.64**	**359**	LR	LR	12 33 49.3	
	comp=Z,31nm,19.9s,baz=74,slow=32						
JNU	**Nakatsue**	**37.75**	**347**	LR	LR	12 34 53.4	
	comp=Z,16nm,20.9s,baz=124,slow=32						
KSRS	**Korea Array**	**42.59**	**345**	LR	LR	12 38 36.8	
	comp=Z,11nm,21.8s,baz=110,slow=34						
MKAR	**Makanchi Array**	**71.65**	**322**	P	**P**	**12 26 03.1**	**+1.0**
	0.1nm,0.4s,baz=114,slow=5.4,SNR=3.0						
ILAR	**Eielson Array**	**86.03**	**24**	P	**P**	**12 27 21.7**	**+1.1**
	0.8nm,1.0s,baz=252,slow=3.7,SNR=4.5						
ARU	**Arti**	**88.59**	**327**	LR	LR	13 06 14.0	
	comp=Z,10nm,18.4s,baz=176,slow=35						

*ISK **29** 12:28:46.4, 38°.64N×43°.15E, h3km, MD2.2/1*
*ISCJB **29** 12:28:47.9±0.9, 38°.60N±0°.05×43°.20E±0°.05, h21km±10km, Error ellipse: s-maj=9.8km s-min=5.8km az=155.4*
*CSEM **29** 12:28:47.8±0.2, 38°.64N×43°.16E, h5km, MD2.2, Error ellipse: s-maj=6.2km s-min=4.8km az=11.0*
*DDA **29** 12:28:47.6, 38°.64N×43°.16E, h7km, Ml2.6*
ISC 29 12:28:47.7±1.0, 38°.63N±0°.03×43°.17E±0°.03, h17km±9km, n16, σ0s64/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.18**	**100**	PG	**Pg**	**12 28 51.9**	**-0.4**
VANB				SG	**Sg**	**12 28 56.1**	**+0.7**
VANB	**Van**	**0.18**	**100**	*e*Pg	**Pg**	**12 28 51.9**	**-0.4**
VANB				*e*Sg	**Sg**	**12 28 56.1**	**+0.7**
TVAN	**Van**	**0.21**	**117**	*i* P	**Pg**	**12 28 52.1**	**-0.7**
TVAN				*i* S	**Sg**	**12 28 56.1**	**-0.2**
TVAN	**Van**	**0.21**	**117**	P	**Pg**	**12 28 52.1**	**-0.7**
TVAN				S	**Sg**	**12 28 56.1**	**-0.2**
GEVA	**Gevas**	**0.33**	**195**	*i* P	**Pg**	**12 28 54.5**	**-0.1**
GEVA				*i* S	**Sb**	**12 29 00.4**	**+0.3**
GEVA	**Gevas**	**0.33**	**195**	P	**Pg**	**12 28 54.5**	**-0.1**
GEVA				S	**Sb**	**12 29 00.4**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.39**	**298**	*i* P	**Pb**	**12 28 56.2**	**-0.1**
ADCV				*i* S	**Sb**	**12 29 03.2**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.39**	**298**	P	**Pb**	**12 28 56.2**	**-0.1**
ADCV				S	**Sb**	**12 29 03.2**	**+1.1**
CLDR	**Caldiran**	**0.78**	**48**	PG	**Pg**	**12 29 02.3**	**-0.7**
CLDR				SG	**Sg**	**12 29 13.9**	**+0.6**
CLDR	**Caldiran**	**0.78**	**48**	*e*Pg	**Pg**	**12 29 02.3**	**-0.7**
CLDR				*e*Sg	**Sg**	**12 29 13.9**	**+0.6**
TUTA	**Tutak**	**0.82**	**341**	*i* P	**Pg**	**12 29 03.4**	**-0.3**
TUTA	**Tutak**	**0.82**	**341**	P	**Pg**	**12 29 03.4**	**-0.3**
GURO	**Guroymak-BITLI**	**0.89**	**266**	PG	**Pg**	**12 29 04.1**	**-0.9**
GURO				SG	**Sg**	**12 29 17.0**	**+0.2**
GURO	**Guroymak-BITLI**	**0.89**	**266**	*e*Pg	**Pg**	**12 29 04.1**	**-0.9**
GURO				*e*Sg	**Sg**	**12 29 17.0**	**+0.2**
EATA	**Eleskirt**	**1.34**	**337**	*i* P	**Pg**	**12 29 12.8**	**-0.8**
EATA	**Eleskirt**	**1.34**	**337**	P	**Pg**	**12 29 12.8**	**-0.8**

*IDC **29** 12:37:02.8±2.2, 20°.44S×177°.68W, h332km±21km, mb3.8/15, mb1 4.0/17, mb1mx3.8/38, mbtmp4.6/17, Error ellipse: s-maj=14.3km s-min=11.1km az=122.0*
*ISCJB **29** 12:37:03.3±0.3, 20°.40S±0°.03×177°.74W±0°.06, h350km, mb4.4/37, Error ellipse: s-maj=7.8km s-min=4.5km az=5.6*
*WEL **29** 12:37:03.0, 20°.46S×177°.63W, h348km*
*NEIC **29** 12:37:03.9±1.1, 20°.46S×177°.63W, h348km±10km, mb4.5/22, Error ellipse: s-maj=9.5km s-min=6.4km az=136.0*
ISC 29 12:37:03.8±0.4, 20°.47S±0°.06×177°.52W±0°.08, h350km, n102, σ1s76/112, mb4.5/37, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.53**	**41**	P	**Pn**	**12 39 03.7**	**-0.7**
	20nm,0.3s,baz=166,slow=1.7,SNR=25						
AFI				S	**S**	**12 40 36.0**	**-6.7**
	9.9nm,0.3s,baz=30,slow=20,SNR=5.4						
AFI	**Afiamalu**	**8.53**	**41**	*e*Pn	**Pn**	**12 39 04.0**	**-0.3**
AFI				*e*S	**S**	**12 40 39.4**	**-3.3**
GLKZ	**Green Lake**	**8.76**	**182**	P	**Pn**	**12 39 07.6**	**+0.7**
GLKZ	**Green Lake**	**8.76**	**182**	S	**S**	**12 40 47.0**	**-0.4**
DZM	**Mont Dzumac**	**15.03**	**261**	P	**Pn**	**12 40 21.0**	**-0.2**
	4.4nm,0.3s,baz=73,slow=19,SNR=23						
DZM	**Mont Dzumac**	**15.03**	**261**	*e*P	**Pn**	**12 40 20.6**	**-0.6**
MXZ	**Matakaoa Point**	**17.41**	**191**	P	**P**	**12 40 47.0**	**+2.6**
WMGZ	**Waiomatatini S**	**17.64**	**191**	P	**P**	**12 40 49.5**	**+2.7**
HAZ	**Te Kaha**	**17.70**	**192**	P	**P**	**12 40 48.4**	**+1.0**
HAZ	**Te Kaha**	**17.70**	**192**	S	**S**	**12 43 49.0**	**-3.8**
PKGZ	**Pakihiroa**	**17.77**	**191**	P	**P**	**12 40 49.5**	**+1.3**
PKGZ	**Pakihiroa**	**17.77**	**191**	S	**S**	**12 43 50.6**	**-3.7**
PUZ	**Puketiti**	**17.92**	**191**	P	**P**	**12 40 50.9**	**+1.2**
PUZ	**Puketiti**	**17.92**	**191**	S	**S**	**12 43 52.6**	**-4.5**
RUGZ	**Raukumara Rang**	**17.92**	**192**	P	**P**	**12 40 51.2**	**+1.2**
TWGZ	**Tauwhareparae**	**18.07**	**191**	P	**P**	**12 40 53.5**	**+2.1**
TOZ	**Tahuroa Road**	**18.23**	**198**	P	**P**	**12 40 57.3**	**+4.2**
MWZ	**Matawai**	**18.31**	**192**	P	**P**	**12 40 54.1**	**+0.1**
URZ	**Urewera**	**18.32**	**194**	P	**P**	**12 40 53.3**	**-0.7**
	6.0nm,0.3s,baz=311,slow=1.5,SNR=33						
URZ				S	**S**	**12 43 58.7**	**-6.4**
	2.4nm,0.3s,baz=19,slow=14,SNR=11						
URZ	**Urewera**	**18.32**	**194**	*e*P	**P**	**12 40 53.3**	**-0.7**
URZ				*e*P	**P**	**12 40 53.5**	**-0.5**
URZ				*e*S	**S**	**12 43 58.7**	**-6.4**
URZ				*

	1.2nm,0.6s,baz=97,slow=2.9,SNR=3.9							
MTN	**Manton Dam**	**49.61**	**270**	*e*P	**P**	**12 45 19.8**	**-1.4**
	20nm,0.6s							
FORT	**Forrest**	**49.72**	**247**	*e*P	**P**	**12 45 20.8**	**-1.0**
	704nm,0.7s							
FITZ	**Fitzroy Crossi**	**53.48**	**262**	P	**P**	**12 45 49.0**	**-0.5**
	12nm,0.6s,baz=116,slow=4.4,SNR=75							
FITZ	**Fitzroy Crossi**	**53.48**	**262**	*e*P	**P**	**12 45 49.0**	**-0.5**
	16nm,0.7s							
SOEI	**Soe**	**56.95**	**272**	*e*P	**P**	**12 46 14.8**	**+0.5**
	92nm,0.7s							
BATI	**Baumata**	**57.38**	**271**	P	**P**	**12 46 18.0**	**+0.9**
	45nm,0.6s,baz=201,slow=1.9,SNR=14							
VNDA	**Vanda**	**57.98**	**185**	P	**P**	**12 46 22.2**	**+2.0**
	1.1nm,0.8s,baz=355,slow=9.9,SNR=5.0							
MBWA	**Marble Bar**	**58.30**	**257**	*e*P	**P**	**12 46 22.3**	**-1.1**
	47nm,0.8s							
NWAO	**Narrogin (SRO)**	**58.78**	**243**	P	**P**	**12 46 25.4**	**-1.1**
	17nm,1.0s,baz=76,slow=0.5,SNR=4.8							
QSPA	**South Pole Qui**	**69.60**	**180**	P	**P**	**12 47 37.2**	**+1.5**
	3.1nm,0.7s,baz=324,slow=0.9,SNR=11							
MJAR	**Matsushiro Arr**	**70.45**	**323**	P	**P**	**12 47 40.8**	**-0.3**
	1.5nm,0.6s,baz=164,slow=6.1,SNR=7.8							
MAJO	**Matsushiro**	**70.45**	**323**	*e*P	**P**	**12 47 40.8**	**-0.3**
LEM	**Lembang**	**73.49**	**269**	P	**P**	**12 48 00.5**	**+0.8**
	26nm,0.3s,baz=119,slow=11,SNR=4.8							
ASAJ	**Asahikawa**	**73.92**	**331**	P	**P**	**12 48 02.5**	**+1.2**
	7.0nm,0.9s,baz=115,slow=13,SNR=2.5							
PETK	**Petropavlovsk-**	**76.36**	**345**	P	**P**	**12 48 15.3**	**+0.5**
	6.1nm,0.9s,baz=130,slow=7.8,SNR=6.5							
PEA1	**Petropavlovsk-**	**76.36**	**345**	*e*P	**P**	**12 48 15.3**	**+0.5**
MDPB	**Devils Postpil**	**79.74**	**43**	*e*P	**P**	**12 48 35.5**	**+1.5**
DSCC	**Desert Studies**	**80.31**	**47**	*e*P	**P**	**12 48 35.5**	**-1.2**
NVAR	**Mina Array Bea**	**80.70**	**43**	P	**P**	**12 48 40.8**	**+1.8**
	0.4nm,0.5s,baz=242,slow=6.4,SNR=4.1							
LTX	**Lajitas**	**86.66**	**57**	*e*P	**P**	**12 49 11.6**	**+2.6**
TXAR	**Lajitas Array**	**86.66**	**57**	P	**P**	**12 49 11.6**	**+2.6**
	0.2nm,0.7s,baz=230,slow=6.7,SNR=2.7							
CCB	**Clear Creek Bu**	**87.89**	**12**	*e*P	**P**	**12 49 13.9**	**+0.1**
	0.3nm,0.3s							
SNAA	**Sanae**	**88.03**	**178**	P	**P**	**12 49 14.9**	**+0.2**
	1.9nm,0.9s,baz=194,slow=12,SNR=3.4							
SNAA	**Sanae**	**88.03**	**178**	*e*P	**P**	**12 49 14.9**	**+0.2**
	4.1nm,1.1s							
VNA3	**Neumayer Olymp**	**88.14**	**176**	P	**P**	**12 49 15.6**	**+0.4**
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**12 49 14.9**	**-0.3**
	0.6nm,0.8s,baz=225,slow=5.1,SNR=7.2							
VNA2	**Neumayer--Watz**	**88.59**	**177**	P	**P**	**12 49 18.2**	**+0.9**
	baz=183,slow=4.0							
PD31	**Pinedale Array**	**88.64**	**43**	*e*P	**P**	**12 49 18.7**	**+0.5**
PDAR	**Pinedale Array**	**88.64**	**43**	P	**P**	**12 49 19.4**	**+1.3**
	0.4nm,0.6s,baz=225,slow=4.0,SNR=4.5							
CMAR	**Chiang Mai Arr**	**90.53**	**289**	P	**P**	**12 49 28.3**	**+1.1**
	3.0nm,0.9s,baz=121,slow=3.2,SNR=16							
MK32	**Makanchi Array**	**111.50**	**313**	*e*PKiKP	**PKiKP**	**12 54 56.5**	**-0.3**
MKAR	**Makanchi Array**	**111.50**	**313**	PKiKP	**PKiKP**	**12 54 56.5**	**-0.3**
	0.4nm,0.7s,baz=60,slow=1.7,SNR=5.4							
KURK	**Kurchatov**	**114.28**	**317**	*e*PKiKP	PKPdf	12 55 01.1	-0.8
KURBB	**Kurchatov Array**	**114.33**	**317**	PKiKP	PKPdf	12 55 01.1	-0.9
	0.6nm,0.7s,baz=94,slow=1.7,SNR=6.7							
BVAR	**Borovoye Array**	**119.35**	**320**	PKP	**PKPdf**	**12 55 11.1**	**-0.5**
	1.1nm,0.7s,baz=119,slow=1.8,SNR=6.4							
AKASG	**Malin Array Be**	**143.21**	**331**	PKhKP	PKPpre	12 55 54.1		
	3.0nm,0.9s,baz=45,slow=5.0,SNR=6.9							
MBAR	**Mbarara**	**145.30**	**236**	*e*PKPdf	**PKPdf**	**12 56 01.1**	**-0.3**
BR101	**Keskin Array S**	**147.15**	**313**	*e*PKPbc	**PKPbc**	**12 56 06.3**	**-0.1**
BRTR	**Keskin Array B**	**147.15**	**313**	PKPbc	**PKPbc**	**12 56 06.3**	**-0.1**
	1.2nm,0.6s,baz=128,slow=5.3,SNR=6.3							
BR231	**Keskin MP Arra**	**147.69**	**313**	*e*PKPdf	**PKPdf**	**12 56 05.2**	**+0.6**
MMAI	**Mount Meron Ar**	**148.19**	**300**	PKPbc	**PKPbc**	**12 56 09.7**	**+0.4**
	2.1nm,0.4s,baz=90,slow=4.8,SNR=3.6							
GEC2	**GERESS Array S**	**150.29**	**345**	*e*PKPbc	**PKPbc**	**12 56 14.3**	**+0.3**
GERES	**GERESS Array B**	**150.29**	**345**	PKPbc	**PKPbc**	**12 56 14.3**	**+0.3**
	0.9nm,0.7s,baz=3.5,slow=3.2,SNR=5.5							
TORD	**Torodi Ar. Bea**	**172.68**	**174**	PKP	**PKPdf**	**12 56 31.9**	**-0.2**
	1.1nm,0.8s,baz=204,slow=1.2,SNR=5.5							
TORD				PKPab	**PKPab**	**12 58 00.5**	**+0.8**
	0.9nm,0.9s,baz=173,slow=3.7,SNR=3.5							
TOA1	**Torodi Ar. Sit**	**172.68**	**174**	*e*PKPdf	**PKPdf**	**12 56 31.9**	**-0.2**
TOA1				*e*PKPab	**PKPab**	**12 58 00.5**	**+0.8**

IDC 29 12:42:39.2±4.0, 16°.76S×178°.28W, h95km±40km, mb3.5/6, mb1 3.9/7, mb1mx3.6/45, mbtmp3.9/7, Error ellipse: s-maj=116.0km s-min=18.6km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.89**	**67**	P	Pn	12 44 17.5	-0.1
	1.3nm,0.3s,baz=255,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**44.97**	**258**	P	P	12 50 45.4	+0.1
	0.7nm,0.5s,baz=96,slow=7.1,SNR=7.6						
ASAR	**Alice Springs**	**45.23**	**253**	P	P	12 50 47.1	-0.2
	4.3nm,0.7s,baz=87,slow=8.8,SNR=26						
NVAR	**Mina Array Bea**	**78.52**	**44**	P	P	12 54 32.3	+1.8
	0.1nm,0.3s,baz=232,slow=8.8,SNR=3.8						
ILAR	**Eielson Array**	**84.75**	**13**	P	P	12 55 01.9	-0.5
	0.2nm,0.5s,baz=223,slow=5.2,SNR=7.2						
TXAR	**Lajitas Array**	**85.28**	**58**	P	P	12 55 05.5	-0.6
	0.7nm,0.7s,baz=224,slow=6.4,SNR=11						
PDAR	**Pinedale Array**	**86.44**	**43**	P	P	12 55 11.0	-0.6
	0.4nm,0.6s,baz=212,slow=5.0,SNR=2.7						

*ISCJB **29** 12:43:34.9±0.8, 4°.65N±0°.04×126°.1E±0°.1, h150km, Error ellipse: s-maj=17.0km s-min=4.7km az=168.2*
*MAN **29** 12:43:34, 4°.70N×126°.04E, h168km, mb5.2, ML4.1, MS4.3*
*DJA **29** 12:43:39.5±1.3, 4°.1N±10°.×12°.6E±°, h144km±6km, M4.4/7, mb4.2/7, mB5.1/4, MLv4.5/7, Mw(mB)4.4/4*

ISC 29 12:43:34.0±1.2, 4°.71N±0°.06×126°.2E±0°.1, h150km, n13, σ1§62/18, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.23**	**214**	P	**Pn**	**12 44 02.8**	**+1.9**
SGSI				S	**Sn**	**12 44 21.6**	**+0.2**
GSPH	**General Santos**	**1.86**	**317**	*e*P	**Pn**	**12 44 08.1**	**+0.5**
GSPH				*i* S	**Sn**	**12 44 33.0**	**-0.5**
KCP	**Kidapawan**	**2.54**	**334**	⇑*i*P	**Pn**	**12 44 18.1**	**+2.3**
KCP				*i* S	**Sn**	**12 44 50.0**	**+2.0**
CTBH	**Cotabato--PC H**	**3.17**	**322**	⇑*i*P	**Pn**	**12 44 24.7**	**+1.1**
BUKP	**Musuan**	**3.35**	**340**	*e*P	**Pn**	**12 44 28.2**	**+2.3**
BUKP				*e*S	**Sn**	**12 45 08.3**	**+2.2**
PAGZ	**Pagadian**	**4.20**	**318**	*e*P	**Pn**	**12 44 37.1**	**+0.2**
BUTP	**Butuan**	**4.27**	**352**	*e*P	**Pn**	**12 44 36.1**	**-1.7**
LBMI	**Labuha**	**5.47**	**166**	P	**Pn**	**12 44 56.4**	**+2.7**
	23nm,0.6s,1μm0.4nm						
LBMI				S	**Sn**	**12 45 56.3**	**+0.4**
	23nm,0.6s,1μm0.4nm						
MRSI	**Marisa**	**5.99**	**226**	P	**Pn**	**12 45 00.0**	**-0.7**
	7.5nm,0.6s,0.0nm						
LUWI	**Luwuk**	**6.67**	**211**	P	**Pn**	**12 45 09.5**	**-0.2**
	44nm,1.1s,0.3nm						
SANI	**Sanana**	**6.72**	**182**	P	**Pn**	**12 45 09.0**	**-1.4**
	95nm,0.6s,9μm1.0nm						
APSI	**Ampana**	**7.21**	**219**	P	**Pn**	**12 45 17.9**	**+1.0**
	19nm,0.7s,795nm						
NLAI	**Namlea**	**7.95**	**174**	P	**Pn**	**12 45 27.4**	**+0.6**

MEX 29 12:50:01.9±0.4, 16°.49N×98°.49W, h9km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**105**	*e*P	Pg	12 50 08.6	-0.5
PNIG				*e*S	Sg	12 50 14.0	+0.1
TLIG	**Tlapa**	**1.07**	**356**	*e*P	Pg	12 50 19.2	-3.4
TLIG				*i* S	Sg	12 50 33.0	-3.6
VHO	**Vista Hermosa**	**1.79**	**71**	*e*P	Pn	12 50 29.5	-3.6
VHO				*i* S	Sn	12 50 51.6	-4.4
HUIG	**Huatulco**	**2.40**	**107**	*e*P	Pn	12 50 38.7	-2.6
HUIG				*i* S	Sn	12 51 06.3	-4.6

*SOME **29** 12:54:25.3, 44°.53N×82°.08E, h5km*
*NNC **29** 12:54:26.6±2.5, 44°.68N×81°.67E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=53.3km s-min=10.6km az=118.0*
*ISCJB **29** 12:54:28.5±1.8, 44°.7N±0°.1×82°.2E±0°.2, h10km, Error ellipse: s-maj=20.6km s-min=8.7km az=136.1*

ISC 29 12:54:23.7±1.9, 44°.53N±0°.09×82°.1E±0°.1, h10km, n7, σ1§27/11, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**2.06**	**293**	*e*P	**Pg**	**12 55 03.1**	**-0.1**
	1.7nm,0.1s						
KAPS				*e*S	**Sg**	**12 55 30.6**	**+0.8**
	5.5nm,0.3s						
PDGK	**Podgornoye**	**2.20**	**238**	⇑Pn	**Pn**	**12 55 01.9**	**+1.4**
	0.8nm,0.2s						
PDGK				⇓Lg	Lg	12 55 33.6	
	2.4nm,0.4s						
MK31	**Makanchi Array**	**2.27**	**4**	⇑Pn	**Pb**	**12 55 04.9**	**0.0**
	2.1nm,0.3s,baz=185,slow=16,SNR=94						
MK31				⇑Lg	Lg	12 55 33.6	
	2.4nm,0.3s,baz=188,slow=28,SNR=19						
MAKZ	**Makanchi**	**2.28**	**359**	⇓Pn	**Pb**	**12 55 04.0**	**-1.0**
	2.1nm,0.5s						
MAKZ				⇑Lg	Lg	12 55 33.3	
	3.0nm,0.5s						
KPKS	**Kokpek**	**2.65**	**248**	*e*P	**Pg**	**12 55 14.0**	**-0.6**
KPKS				*e*S	**Sg**	**12 55 48.8**	**-0.1**
MNBS	**Baschi**	**2.66**	**262**	*e*P	**Pg**	**12 55 14.9**	**+0.3**
	4.0nm,0.2s						
MNBS				*e*S	**Sg**	**12 55 50.6**	**+1.5**
	9.1nm,0.3s						
CHKK	**Chushkaly**	**3.70**	**261**	*e*P	**Pg**	**12 55 32.7**	**-2.0**
	0.7nm,0.2s						
CHKK				*e*S	**Sg**	**12 56 20.9**	**-1.7**
	2.9nm,0.4s						

*DDA **29** 13:08:20.9, 39°.46N×26°.12E, h7km, Ml2.7*
*ATH **29** 13:08:21.7, 39°.51N×26°.05E, h10km±2km, ML2.0/7, Error ellipse: s-maj=2.8km s-min=0.7km az=255.0*
*CSEM **29** 13:08:21.6±0.2, 39°.50N×26°.06E, h2km, ML2.0, Error ellipse: s-maj=3.5km s-min=3.2km az=85.0*

ISC 29 13:08:21.3±0.9, 39°.50N±0°.02×26°.06E±0°.02, h17km±7km, n36, σ0§42/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.30**	**146**	P	**Pb**	**13 08 28.2**	**0.0**
PRK				S	**Sb**	**13 08 32.8**	**-0.1**
PRK				AML	AML	13 08 32.9	
	comp=N,858μm,0.4s						
PRK				AML	AML	13 08 33.2	
	comp=E,634μm,0.3s						
PRK	**Paraskevi**	**0.30**	**146**	P	**Pg**	**13 08 28.0**	**+0.2**
PRK				S	**Sb**	**13 08 32.6**	**-0.2**
SIGR	**SIGRI**	**0.32**	**209**	P	**Pg**	**13 08 27.8**	**-0.5**
SIGR				S	**Sg**	**13 08 33.3**	**+0.4**
SIGR				AML	AML	13 08 35.2	
	comp=N,770μm,0.4s						
SIGR				AML	AML	13 08 35.3	
	comp=E,489μm,0.2s						
SIGR	**SIGRI**	**0.32**	**209**	S	**Pg**	**13 08 28.0**	**-0.2**
SIGR				S	**Sg**	**13 08 33.1**	**+0.2**
BOZC	**Bozcaada**	**0.35**	**359**	*i* P	**Pg**	**13 08 28.3**	**-0.4**
BOZC				*i* S	**Sg**	**13 08 33.5**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.45**	**57**	*i* P	**Pg**	**13 08 30.3**	**-0.2**
BAYC				*i* S	**Sg**	**13 08 36.6**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.45**	**57**	P	**Pg**	**13 08 30.3**	**-0.2**
BAYC				S	**Sg**	**13 08 36.6**	**-0.1**
AYVA	**Ayvalik**	**0.53**	**111**	*i* P	**Pb**	**13 08 32.3**	**+0.2**
AYVA	**Ayvalik**	**0.53**	**111**	P	**Pb**	**13 08 32.3**	**+0.2**
LIA	**Limnos Island**	**0.79**	**301**	P	**Pb**	**13 08 36.4**	**-0.1**
LIA				S	**Sb**	**13 08 47.1**	**+0.3**
LIA				AML	AML	13 08 50.5	
	comp=E,117μm,0.4s						
LIA				AML	AML	13 08 51.8	
	comp=N,119μm,0.5s						
LIA	**Limnos Island**	**0.79**	**301**	P	**Pb**	**13 08 36.4**	**-0.1**
LIA				S	**Sb**	**13 08 47.1**	**+0.3**
EFSA	**Agios Efstrati**	**0.83**	**273**	P	**Pg**	**13 08 37.7**	**+0.2**
EFSA				S	**Sg**	**13 08 48.7**	**+0.2**
EFSA	**Agios Efstrati**	**0.83**	**273**	P	**Pb**	**13 08 37.4**	**+0.2**
EFSA				S	**Sg**	**13 08 48.6**	**+0.2**
PSRA	**Psara**	**1.03**	**202**	P	**Pb**	**13 08 40.4**	**-0.2**
PSRA				S	**Sn**	**13 08 55.5**	**+0.7**
PSRA	**Psara**	**1.03**	**202**	P	**Pb**	**13 08 40.8**	**+0.2**
PSRA				S	**Sn**	**13 08 55.5**	**+0.7**
SMTH	**Samothraki Isl**	**1.06**	**338**	P	**Pn**	**13 08 41.4**	**+0.1**
SMTH				S	**Sn**	**13 08 55.8**	**+0.2**
SMTH				AML	AML	13 08 57.0	
	comp=E,95μm,0.1s						
SMTH				AML	AML	13 08 58.2	
	comp=N,115μm,0.1s						
SMTH	**Samothraki Isl**	**1.06**	**338**	P	**Pn**	**13 08 41.4**	**+0.1**
SMTH				S	**Sn**	**13 08 55.8**	**+0.2**
CHOS	**Chios island**	**1.11**	**180**	P	**Pn**	**13 08 42.2**	**+0.1**
CHOS				S	**Sg**	**13 08 58.3**	**+1.0**
CHOS				AML	AML	13 09 02.2	
	comp=E,249μm,0.2s						
CHOS				AML	AML	13 09 03.9	
	comp=N,143μm,0.3s						
CHOS	**Chios island**	**1.11**	**180**	P	**Pg**	**13 08 42.5**	**-0.3**
CHOS				S	**Sg**	**13 08 58.2**	**+0.9**
URLA	**Izmir**	**1.21**	**159**	*i* P	**Pn**	**13 08 42.6**	**-0.9**
URLA				*i* S	**Sn**	**13 08 59.3**	**-0.1**
URLA	**Izmir**	**1.21**	**159**	P	**Pn**	**13 08 42.6**	**-0.9**
URLA				S	**Sn**	**13 08 59.3**	**-0.1**
BALY	**Balya**	**1.23**	**78**	*i* P	**Pn**	**13 08 43.8**	**0.0**
BALY				*i* S	**Sb**	**13 08 59.8**	**0.0**
BALY	**Balya**	**1.23**	**78**	P	**Pn**	**13 08 43.8**	**0.0**
BALY				S	**Sb**	**13 08 59.8**	**0.0**
STEP	**BALIKESIR_Sava**	**1.29**	**95**	*i* P	**Pg**	**13 08 46.5**	**+0.2**
STEP				*i* S	**Sg**	**13 09 03.8**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.29**	**95**	P	**Pg**	**13 08 46.5**	**+0.2**
STEP				S	**Sg**	**13 09 03.8**	**+0.6**
ZEY	**˜zmir**	**1.30**	**164**	*i* P	**Pb**	**13 08 45.2**	**-0.1**
ZEY				*i* S	**Sg**	**13 09 03.6**	**+0.1**
SKY	**Skiros Island**	**1.32**	**243**	P	**Pg**	**13 08 46.8**	**-0.1**
SKY	**Skiros Island**	**1.32**	**243**	P	**Pg**	**13 08 46.6**	**-0.3**
ALN	**Alexandroupoli**	**1.40**	**360**	P	**Pb**	**13 08 47.3**	**+0.3**
ALN				S	**Sg**	**13 09 06.4**	**-0.2**
ALN				AML	AML	13 09 07.3	
	comp=E,125μm,0.5s						
ALN				AML	AML	13 09 07.4	
	comp=N,141μm,0.4s						
ALN	**Alexandroupoli**	**1.40**	**360**	P	**Pb**	**13 08 47.5**	**+0.5**
ALN				S	**Sg**	**13 09 06.6**	**0.0**
KESN	**Edirne-Kesan**	**1.41**	**20**	*i* P	**Pb**	**13 08 47.9**	**+0.4**
KESN				*i* S	**Sg**	**13 09 06.7**	**-0.4**
KESN	**Edirne-Kesan**	**1.41**	**20**	P	**Pb**	**13 08 47.9**	**+0.4**
KESN				S	**Sg**	**13 09 06.7**	**-0.4**
RDO	**Rodhopi**	**1.70**	**347**	P	**Pg**	**13 08 53.4**	**-0.6**
RDO	**Rodhopi**	**1.70**	**347**	P	**Pg**	**13 08 53.3**	**-0.6**
SMG	**Samos**	**1.89**	**161**	P	**Pg**	**13 08 56.9**	**-0.7**
SMG				S	**Sg**	**13 09 21.5**	**-0.6**
SMG				AML	AML	13 09 24.8	
	comp=E,74μm,0.7s						
SMG				AML	AML	13 09 25.1	
	comp=N,83μm,0.6s						
SMG	**Samos**	**1.89**	**161**	P	**Pg**	**13 08 56.6**	**-1.0**

*ATH **29** 13:14:01.3, 39°.98N×19°.61E, h13km±1km, ML2.9/7, Error ellipse: s-maj=3.0km s-min=1.2km az=108.0*
*TIR **29** 13:14:01.6, 40°.00N×19°.77E, h1km, ML2.9*
*CSEM **29** 13:14:02.7±0.1, 39°.95N×19°.67E, h2km, ML2.8, Error ellipse: s-maj=3.9km s-min=2.7km az=30.0*
*THE **29** 13:14:02.8, 39°.95N×19°.65E, h0km±2km, ML3.1/8, Error ellipse: s-maj=3.0km s-min=1.4km az=263.0*
*ROM **29** 13:14:02.4±0.1, 39°.91N×19°.77E, h11km, Ml2.8/9, Error ellipse: s-maj=3.3km s-min=1.9km az=13.0*

ISC 29 13:14:02.3±1.1, 39°.97N±0°.02×19°.66E±0°.02, h3km±9km, n138, σ1§14/181, 4C-5D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.27**	**157**	P	**Pg**	**13 14 07.8**	**+0.3**
KEK				S	**Sb**	**13 14 13.0**	**-1.9**
KEK				AML	AML	13 14 15.4	
	comp=E,4381μm,0.2s						
KEK				AML	AML	13 14 15.8	
	comp=N,4140μm,0.6s						
KEK	**Kerkira**	**0.27**	**157**	Pg	**Pg**	**13 14 07.6**	**0.0**
	comp=N,215nm,0.4s						
KEK	**Kerkira**	**0.27**	**157**	P	**Pg**	**13 14 08.1**	**+0.5**
KEK				S	**Sg**	**13 14 12.4**	**+1.3**
KEK	**Kerkira**	**0.27**	**157**	P	**Pg**	**13 14 08.1**	**+0.5**
KEK	**Kerkira**	**0.27**	**157**	Pg	**Pg**	**13 14 07.6**	**0.0**
	comp=N,215nm,0.4s						

SRN	**Sarande**	**0.27**	**108**	*i* PG	**Pg**	**13 14 06.5**	**-1.1**
SRN				*i* SG	**Sg**	**13 14 10.2**	**-0.9**
SRN	**Sarande**	**0.27**	**108**	Pg	**Pg**	**13 14 06.7**	**-0.9**
SRN				Sg	**Sg**	**13 14 10.3**	**-0.9**
	comp=N,2μm,0.3s						
SRN	**Sarande**	**0.27**	**108**	Pg	**Pg**	**13 14 06.7**	**-0.9**
SRN				Sg	**Sg**	**13 14 10.3**	**-0.9**
	comp=N,2μm,0.3s						
KASA	**Kassiopi**	**0.30**	**136**	P	**Pg**	**13 14 07.2**	**-1.0**
KASA				S	**Sg**	**13 14 11.7**	**-0.4**
KASA				AML	AML	13 14 16.6	
	comp=E,5330μm,0.4s						
KASA				AML	AML	13 14 16.7	
	comp=N,3977μm,0.6s						
KASA	**Kassiopi**	**0.30**	**136**	P	**Pg**	**13 14 07.6**	**-0.6**
KASA				S	**Sg**	**13 14 12.4**	**+0.3**
SGD	**Sagiada**	**0.56**	**128**	P	**Pg**	**13 14 12.5**	**-0.6**
SGD	**Sagiada**	**0.56**	**128**	P	**Pg**	**13 14 12.7**	**-0.4**
IGT	**Igoumenitsa**	**0.67**	**130**	*i* PG	**Pg**	**13 14 14.9**	**-0.3**
IGT				*i* SG	**Sg**	**13 14 24.9**	**+0.9**
IGT	**Igoumenitsa**	**0.67**	**130**	P	**Pg**	**13 14 14.5**	**-0.7**
IGT				S	**Sb**	**13 14 25.6**	**-0.9**
IGT				AML	AML	13 14 33.8	
	comp=N,1961μm,0.5s						
IGT				AML	AML	13 14 35.2	
	comp=E,1405μm,0.5s						
IGT	**Igoumenitsa**	**0.67**	**130**	P	**Pg**	**13 14 14.9**	**-0.3**
IGT				*i* Sg	**Sg**	**13 14 24.9**	**+0.9**
IGT				S	**Sb**	**13 14 25.2**	**-1.2**
IGT	**Igoumenitsa**	**0.67**	**130**	P	**Pg**	**13 14 14.9**	**-0.3**
SCTE	**Santa Cesarea**	**0.92**	**277**	Pn	**Pb**	**13 14 21.4**	**+0.4**
	comp=E,205nm,0.3s						
SCTE	**Santa Cesarea**	**0.92**	**277**	Pn	**Pb**	**13 14 21.4**	**+0.4**
	comp=E,205nm,0.3s						
JAN	**Janina**	**0.96**	**108**	P	**Pg**	**13 14 20.1**	**-0.8**
JAN				S	**Sb**	**13 14 34.8**	**-0.1**
JAN				AML	AML	13 14 38.8	
	comp=E,2934μm,0.3s						
JAN				AML	AML	13 14 40.2	
	comp=N,2453μm,0.3s						
JAN	**Janina**	**0.96**	**108**	P	**Pg**	**13 14 20.2**	**-0.6**
JAN				S	**Sb**	**13 14 34.3**	**-0.6**
JAN	**Janina**	**0.96**	**108**	P	**Pg**	**13 14 20.2**	**-0.6**
JAN				S	**Sb**	**13 14 34.3**	**-0.6**
KBN	**Korca**	**1.08**	**52**	*i* PN	**Pg**	**13 14 21.9**	**-1.2**
KBN				*i* SN	**Sn**	**13 14 41.2**	**+1.2**
KBN	**Korca**	**1.08**	**52**	*i* Pn	**Pg**	**13 14 21.9**	**-1.2**
	baz=50						
KBN				*i* Sn	**Sn**	**13 14 41.2**	**+1.2**
NEST	**Nestorio**	**1.15**	**67**	P	**Pg**	**13 14 24.7**	**+0.2**
NEST	**Nestorio**	**1.15**	**67**	P	**Pg**	**13 14 24.1**	**-0.4**
PENT	**Pentalofos**	**1.16**	**78**	P	**Pg**	**13 14 23.2**	**-1.2**
PENT	**Pentalofos**	**1.16**	**78**	P	**Pg**	**13 14 23.5**	**-1.0**
KPRO	**Kipourio**	**1.31**	**90**	P	**Pg**	**13 14 26.1**	**-1.3**
KPRO				AML	AML	13 14 49.6	
	comp=E,3280μm,0.4s						
KPRO				AML	AML	13 14 50.1	
	comp=N,1564μm,0.5s						
KPRO	**Kipourio**	**1.31**	**90**	P	**Pg**	**13 14 26.7**	**-0.7**
KPRO				S	**Sn**	**13 14 47.6**	**+2.1**
KPRO	**Kipourio**	**1.31**	**90**	P	**Pg**	**13 14 26.7**	**-0.7**
KPRO				S	**Sn**	**13 14 47.6**	**+2.1**
DSL	**Palaion Diasel**	**1.38**	**126**	P	**Pn**	**13 14 28.6**	**0.0**
DSL	**Palaion Diasel**	**1.38**	**126**	P	**Pn**	**13 14 28.3**	**-0.3**
DSL				S	**Sn**	**13 14 49.5**	**+2.1**
DSL	**Palaion Diasel**	**1.38**	**126**	P	**Pn**	**13 14 28.3**	**-0.3**
DSL				S	**Sn**	**13 14 49.5**	**+2.1**
TIR	**Tirane**	**1.39**	**6**	*i* PN	**Pb**	**13 14 29.1**	**+0.1**
TIR				*i* SN	**Sn**	**13 14 49.2**	**+1.7**
TIR	**Tirane**	**1.39**	**6**	⇑*i*P	**Pg**	**13 14 29.7**	**+0.7**
TIR	**Tirane**	**1.39**	**6**	Pn	**Pg**	**13 14 29.3**	**+0.3**
	comp=N,326nm,0.8s						
TIR	**Tirane**	**1.39**	**6**	⇑*i*P	**Pg**	**13 14 29.7**	**+0.7**
TIR				*i* Sn	**Sn**	**13 14 49.2**	**+1.7**
TIR	**Tirane**	**1.39**	**6**	Pn	**Pg**	**13 14 29.3**	**+0.3**
	comp=N,326nm,0.8s						
LKD2	**Lefkada island**	**1.41**	**146**	*i* PN	**Pg**	**13 14 29.5**	**+0.2**
LKD2	**Lefkada island**	**1.41**	**146**	P	**Pg**	**13 14 29.3**	**0.0**
LKD2				AML	AML	13 14 55.5	
	comp=E,600μm,0.3s						
LKD2	

TIP	Timpagrande	2.38	252	⇓	*i*	P	Pn	13 14 42.7 +0.4
TIP	Timpagrande	2.38	252			Pn	Pn	13 14 42.4 +0.1
	comp=N,23nm,0.6s							
TIP	Timpagrande	2.38	252	⇓	*i*	P	Pn	13 14 42.7 +0.4
TIP	Timpagrande	2.38	252			Pn	Pn	13 14 42.4 +0.1
	comp=N,23nm,0.6s							
BAI	Bari	2.41	299		*e*	Pn	Pg	13 14 47.6 -0.9
SKO	Skopje	2.42	33		*i*	Pn	Pn	13 14 43.4 +0.7
SG1	Sgolgore (BA)	2.44	292		*e*	Pn	Pb	13 14 47.2 +0.3
SG1						Sn	Sb	13 15 17.1 -0.2
SERS	Sersale	2.48	249			Pn	Pn	13 14 43.4 -0.3
	comp=N,36nm,0.8s							
SERS	Sersale	2.48	249			Pn	Pn	13 14 43.4 -0.3
	comp=N,36nm,0.8s							
PDG	Podgorica	2.48	353	⇑	*i*	P	Pb	13 14 47.9 +0.4
PDG	Podgorica	2.48	353	⇑	*i*	P	Pb	13 14 47.9 +0.4
AMUR	Altamura	2.52	293			Pn	Pn	13 14 44.6 +0.5
AMUR	Altamura	2.52	293			Pn	Pn	13 14 44.6 +0.5
MIGL	Miglionico	2.55	286			Pn	Pn	13 14 44.7 +0.2
MIGL	Miglionico	2.55	286			Pn	Pn	13 14 44.7 +0.2
SALB	San Lorenzo Be	2.55	269			Pn	Pn	13 14 45.3 +0.6
	comp=N,62nm,0.7s							
SALB	San Lorenzo Be	2.55	269			Pn	Pn	13 14 45.3 +0.6
	comp=N,62nm,0.7s							
DRO	Drossia	2.57	141			P	Pn	13 14 46.0 +1.2
DRO	Drossia	2.57	141			P	Pn	13 14 45.7 +0.9
VAY	Valandovo	2.59	58		*i*	Pn	Pn	13 14 46.2 +1.0
HORT	Hortiatis	2.70	75			P	Pn	13 14 46.2 -0.5
HORT	Hortiatis	2.70	75			P	Pn	13 14 46.8 0.0
KLV	Kalavryta, Ach	2.73	134			P	Pn	13 14 48.5 +1.5
KLV	Kalavryta, Ach	2.73	134			P	Pn	13 14 48.1 +1.1
XOR	Xorichti	2.79	101			P	Pn	13 14 48.5 +0.7
XOR	Xorichti	2.79	101			P	Pn	13 14 48.6 +0.7
XOR	Xorichti	2.79	101			P	Pn	13 14 48.7 +0.8
MRVN	Minervino Murg	2.86	294			Pn	Pn	13 14 49.7 +0.8
MRVN	Minervino Murg	2.86	294			Pn	Pn	13 14 49.7 +0.8
GUR	Goura	2.91	133			P	Pn	13 14 51.0 +1.4
GUR	Goura	2.91	133			P	Pn	13 14 50.7 +1.1
PLG	Polygyros	2.93	81			P	Pn	13 14 50.1 +0.3
PLG	Polygyros	2.93	81			P	Pn	13 14 50.3 +0.5
STON	Ston	3.26	334		*e*	Pn	Pn	13 14 47.7 -6.5
STON						Sn	Sn	13 15 30.2 -3.3
SJES	Sjenica	3.30	4		*e*	Pn	Pn	13 14 55.9 +0.9
MS1	Monte Sant'Ang	3.31	303		*e*	Pn	Pn	13 14 55.9 +0.8
IVAS	Ivanjica	3.63	6		*e*	Pn	Pb	13 15 03.5 -3.6
VTS	Vitosha	3.75	44	⇓	*i*	P	Pn	13 15 02.3 +1.2
VTS	Vitosha	3.75	44	⇓	*i*	P	Pn	13 15 02.3 +1.2
BOVS	Bovan	3.97	22		*e*	Pn	Pn	13 15 06.7 +2.6
ZAPS	Zavoj	3.99	33		*e*	Pn	Pn	13 15 04.9 +0.6
DIVS	Divibare	4.14	3		*e*	Pn	Pn	13 15 05.5 -1.0
UDBI	Udbina	5.40	329		*e*	Pn	Pn	13 15 23.8 0.0
UDBI						Sn	Sn	13 16 22.8 -3.7
UDBI	Udbina	5.40	329		*e*	Pn	Pn	13 15 23.7 0.0
NVLJ	Novalja	5.81	324		*i*	Pn	Pn	13 15 28.6 -0.7
NVLJ						Sn	Sn	13 16 32.9 -3.5
NVLJ	Novalja	5.81	324		*i*	Pn	Pn	13 15 28.6 -0.7

WEL ***29*** *13:16:21.8, 37°S±10°×18°0E±1°0, h33km, ML4.8/1, ML4.7/48*
IDC ***29*** *13:16:22.4±1.6, 36°51S×179°09E, h0km, mb4.5/3, mb1 4.7/4, mb1mx4.0/37, mbtmp4.5/4, ML4.0/1, MS3.6/12, Ms1 3.6/12, ms1mx3.2/42, Error ellipse: s-maj=39.7km s-min=29.7km az=56.0*
NEIC ***29*** *13:16:25.8±0.0, 36°70S×178°82E, h5km, mb4.2/2, ML4.4(WEL), After WEL.*

ISC 29 13:16:24.3±1.0, 36°74S±0°04×179°03E±0°06, h10km, n212, σ1°90/201, mb4.3/5, MS3.5/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.01	215	P*	Pg	13 16 43.0	-0.7
MXZ				S*	Sg	13 16 56.5	-0.3
MXZ	Matakaoa Point	1.01	215	P	Pg	13 16 43.0	-0.7
WMGZ	Waiomatatini S	1.19	204	P*	Pb	13 16 47.9	+1.0
WMGZ				S*	Sn	13 17 03.7	+0.5
WMGZ				S*	Sg	13 17 07.2	+4.6
WMGZ	Waiomatatini S	1.19	204	P	Pb	13 16 47.9	+1.0
PKGZ	Pakihiroa	1.38	213	P	Pn	13 16 49.3	-0.4
PKGZ	Pakihiroa	1.38	213	S	Sg	13 17 10.7	+2.0
HAZ	Te Kaha	1.42	224	P	Pn	13 16 49.1	-1.3
HAZ	Te Kaha	1.42	224	S	Sg	13 17 15.1	+5.0
PUZ	Puketiti	1.47	205	Pn	Pn	13 16 51.9	+1.0
PUZ	Puketiti	1.47	205	P	Pn	13 16 52.1	+1.2
PUZ	Puketiti	1.47	205	S	Sg	13 17 12.6	+1.0
RUGZ	Raukumara Rang	1.63	221	P	Pn	13 16 53.6	+0.4
TWGZ	Tauwhareparae	1.66	210	Pn	Pb	13 16 55.2	+0.1
TWGZ	Tauwhareparae	1.66	210	P	Pb	13 16 55.2	+0.1
TWGZ	Tauwhareparae	1.66	210	S	Sg	13 17 17.9	+0.1
WIZ	White Island	1.67	241	P	Pg	13 16 55.5	-0.8
CNGZ	Carnagh Statio	1.86	200	Pn	Pn	13 16 58.0	+1.7
CNGZ	Carnagh Statio	1.86	200	P	Pn	13 16 58.0	+1.7
CNGZ	Carnagh Statio	1.86	200	S	Sb	13 17 23.0	+1.2
TKGZ	Te Karaka	1.94	209	Pn	Pn	13 16 58.3	+0.9
TKGZ	Te Karaka	1.94	209	P	Pn	13 16 58.4	+1.0
WHRZ	Whale Island	1.98	235	P	Pg	13 17 01.1	-1.3
MWZ	Matawai	1.99	216	P*	Pn	13 16 59.5	+1.4
MWZ	Matawai	1.99	216	P	Pn	13 16 59.8	+1.7
MWZ	Matawai	1.99	216	S	Sb	13 17 26.3	+0.8
URZ	Urewera	2.15	225	Pn	Pn	13 17 00.9	+0.6
	41nm,0.3s,baz=56,slow=1.0,SNR=220						
URZ				Sn	Sb	13 17 28.9	-1.2
	130nm,0.3s,baz=151,slow=21,SNR=11						
URZ				LR	LR	13 18 11.9	
	comp=Z,978nm,19.2s,baz=31,slow=47						
URZ	Urewera	2.15	225	P	Pn	13 17 00.9	+0.6
URZ	Urewera	2.15	225	S	Sb	13 17 30.0	-0.2
RAGZ	Rawiri	2.17	216	P*	Pn	13 17 02.2	+1.6
RAGZ	Rawiri	2.17	216	P	Pn	13 17 02.3	+1.6
RIGZ	Rimuhau	2.21	207	P	Pn	13 17 01.8	+0.8
RIGZ	Rimuhau	2.21	207	S	Sn	13 17 30.6	+2.1
OPRZ	Ohinepanea	2.26	240	P*	Pb	13 17 03.7	-1.6
OPRZ	Ohinepanea	2.26	240	P	Pb	13 17 03.6	-1.6
EDRZ	Edgecumbe	2.28	232	P*	Pb	13 17 04.2	-1.4
EDRZ	Edgecumbe	2.28	232	P	Pb	13 17 04.3	-1.3
PRGZ	Paritu Road	2.36	202	Pn	Pn	13 17 03.5	+0.2
PRGZ	Paritu Road	2.36	202	P	Pn	13 17 03.4	+0.2
TGRZ	Tauranga	2.42	245	P*	Pn	13 17 03.9	0.0
TGRZ	Tauranga	2.42	245	P	Pb	13 17 06.7	-1.3
SNGZ	Shannon Statio	2.44	213	Pn	Pn	13 17 05.3	+1.1
SNGZ	Shannon Statio	2.44	213	P	Pn	13 17 05.4	+1.1
SNGZ	Shannon Statio	2.44	213	S	Sb	13 17 37.9	-0.6
MKRZ	Makatiti	2.47	235	P	Pb	13 17 08.5	-0.4
RTZ	Ruatahuna	2.48	220	P	Pn	13 17 06.0	+1.1
MUGZ	Murupara	2.50	225	P	Pn	13 17 06.7	+1.7
TARZ	Mount Tarawera	2.50	233	P*	Pb	13 17 08.2	-1.2
TARZ	Mount Tarawera	2.50	233	P	Pb	13 17 08.2	-1.2
OMRZ	Omania	2.52	236	P	Pb	13 17 08.3	-1.3
KNZ	Kokohu	2.52	205	Pn	Pn	13 17 05.1	-0.2
KNZ	Kokohu	2.52	205	P	Pn	13 17 05.2	-0.1
KNZ	Kokohu	2.52	205	S	Sn	13 17 35.7	-0.4
RRRZ	Republican Roa	2.56	231	P*	Pb	13 17 08.2	-2.2
RRRZ	Republican Roa	2.56	231	P	Pb	13 17 08.3	-2.0
KARZ	Kaharoa	2.56	239	P*	Pb	13 17 08.6	-1.8
KARZ	Kaharoa	2.56	239	P	Pb	13 17 08.7	-1.7
MHGZ	Mahia Peninsul	2.57	200	Pn	Pn	13 17 06.1	+0.1
MHGZ	Mahia Peninsul	2.57	200	P	Pn	13 17 06.1	+0.1
HLRZ	Highlands Stat	2.61	234	P	Pb	13 17 09.6	-1.6
KUZ	Kuaotunu	2.66	269	Pn	Pn	13 17 07.2	0.0
KUZ	Kuaotunu	2.66	269	P	Pn	13 17 07.4	+0.2
RAHZ	Arahi	2.67	215	P	Pn	13 17 08.7	+1.4
UTU	Utuhina	2.67	237	P	Pb	13 17 12.0	-0.3
KMRZ	Kaimai	2.70	245	P	Pb	13 17 10.5	-2.3
HSRZ	Hossack Road	2.71	234	P	Pb	13 17 11.6	-1.4
MTHZ	Maungataniwha	2.73	219	P	Pn	13 17 10.0	+1.7
MTHZ	Maungataniwha	2.73	219	S	Sn	13 17 43.6	+2.2
PRRZ	Plateau Road	2.73	229	P*	Pn	13 17 09.0	+0.7
PRRZ	Plateau Road	2.73	229	P	Pn	13 17 10.1	+1.9
WHHZ	Waihua	2.73	211	P	Pn	13 17 09.0	+0.7
HRRZ	Handcock Road	2.74	232	P	Pb	13 17 11.2	-2.2
ALRZ	Allen Road	2.81	229	P*	Pn	13 17 11.1	+1.8
ALRZ	Allen Road	2.81	229	P	Pn	13 17 11.1	+1.8
GRRZ	Galatos Road	2.82	234	P	Pb	13 17 12.6	-2.3
WPRZ	Whakapapatarin	2.89	231	P	Pb	13 17 13.2	-2.8
GRZ	Great Barrier	2.92	279	P	Pn	13 17 11.7	+0.9
NMHZ	Naumai	2.94	216	Pn	Pn	13 17 12.3	+1.1
NMHZ	Naumai	2.94	216	P	Pn	13 17 12.4	+1.1
MRHZ	Matea Rd	2.94	224	P	Pn	13 17 12.9	+1.7
TOZ	Tahuroa Road	2.98	250	P*	Pn	13 17 11.5	-0.2
ARHZ	Aropaoanui	2.99	212	Pn	Pn	13 17 12.5	+0.7
ARHZ	Aropaoanui	2.99	212	P	Pn	13 17 12.5	+0.7
KUTZ	Kaahu Road	3.09	235	P	Pn	13 17 15.8	+2.6
WHTZ	Whakaora	3.11	231	P	Pb	13 17 16.5	-3.2
MKAZ	Moumakai	3.12	262	Pn	Pn	13 17 13.9	+0.3
MKAZ	Moumakai	3.12	262	P	Pn	13 17 14.2	+0.6
BKZ	Black Stump Fm	3.15	219	P*	Pn	13 17 14.6	+0.6
BKZ	Black Stump Fm	3.15	219	P	Pn	13 17 14.8	+0.8
HATZ	Hinemaiaia	3.17	226	P	Pb	13 17 17.9	-2.8
TLZ	Tolley Road	3.20	239	P	Pn	13 17 17.4	+2.7
MCHZ	McNeill Hill	3.27	214	Pn	Pn	13 17 16.2	+0.5
MCHZ	McNeill Hill	3.27	214	P	Pn	13 17 16.3	+0.6
WATZ	Wairara	3.27	232	P	Pn	13 17 18.3	+2.6
CKHZ	Cape Kidnapper	3.30	207	Pn	Pn	13 17 15.3	-0.6
CKHZ	Cape Kidnapper	3.30	207	P	Pn	13 17 15.4	-0.6
ETAZ	East Tamaki Re	3.30	265	Pn	Pn	13 17 17.0	+1.0
KBAZ	Karaka Road Bo	3.34	263	Pn	Pn	13 17 18.0	+1.5
RATZ	Rangitukua	3.34	230	P*	Pn	13 17 17.2	+0.5
RATZ	Rangitukua	3.34	230	P	Pn	13 17 19.3	+2.6
RITZ	Rihia Road	3.36	227	P	Pn	13 17 20.3	+3.4
KWHZ	Kaweka Forest	3.38	217	P	Pn	13 17 17.9	+0.7
EPAZ	Eden Park BICE	3.44	266	P	Pb	13 17 22.2	-3.2
HBAZ	Herne Bay Bore	3.45	267	P	Pb	13 17 21.1	-4.4
KATZ	Kakaramea	3.46	229	P	Pb	13 17 22.0	-3.7
KAHZ	Kahuranaki	3.49	208	Pn	Pn	13 17 18.0	-0.7
KAHZ	Kahuranaki	3.49	208	P	Pn	13 17 18.0	-0.7
KRVZ	Karewarewa	3.57	228	P	Pn	13 17 22.1	+2.2
RVAZ	Riverhead Bore	3.57	268	Pn	Pn	13 17 21.3	+1.5
KRHZ	Kereru	3.58	215	P	Pn	13 17 19.5	-0.4
WTAZ	Waiatarua	3.58	266	Pn	Pn	13 17 21.3	+1.4
OTVZ	Oturere	3.60	227	P*	Pn	13 17 21.7	+1.4
BHHZ	Black Hill Sta	3.61	220	P*	Pn	13 17 20.9	+0.5
BHHZ	Black Hill Sta	3.61	220	P	Pn	13 17 21.0	+0.7
WTVZ	West Tongariro	3.61	228	P	Pn	13 17 22.9	+2.5
NGZ	Ngauruhoe	3.64	227	P*	Pn	13 17 22.5	+1.7
NGZ	Ngauruhoe	3.64	227	P	Pn	13 17 22.6	+1.7
TUVZ	Tukino	3.67	226	P*	Pn	13 17 22.2	+0.9
TUVZ	Tukino	3.67	226	P	Pn	13 17 22.9	+1.6
TWVZ	Taurewa	3.67	230	P	Pn	13 17 23.5	+2.3
COVZ	Chateau Observ	3.69	227	P	Pn	13 17 23.9	+2.3
PXZ	Pawanui	3.70	207	P	Pn	13 17 19.8	-1.7
MOVZ	Moawhango	3.71	223	P	Pn	13 17 24.9	+3.1
WHVZ	Whangaehu Hut	3.72	226	P*	Pn	13 17 22.9	+0.9
WHVZ	Whangaehu Hut	3.72	226	P	Pn	13 17 23.8	+1.8
FWVZ	Far West T-bar	3.72	226	P*	Pn	13 17 18.1	-4.0
FWVZ	Far West T-bar	3.72	226	P	Pn	13 17 23.7	+1.6
WNVZ	Wahianoa	3.75	225	P*	Pn	13 17 23.0	+0.7
TRVZ	Turoa	3.75	226	P*	Pn	13 17 23.3	+0.8
TRVZ	Turoa	3.75	226	P	Pn	13 17 23.8	+1.3
HIZ	Hauiti	3.76	241	Pn	Pn	13 17 25.0	+2.7
HIZ	Hauiti	3.76	241	P	Pn	13 17 24.4	+2.1
MTVZ	Mangateitei	3.86	226	P*	Pn	13 17 25.4	+1.6
MTVZ	Mangateitei	3.86	226	P	Pn	13 17 25.4	+1.6
WCZ	Waipu Caves	3.87	281	Pn	Pn	13 17 25.4	+1.6
PKVZ	Pokaka	3.87	228	P*	Pn	13 17 26.0	+2.1
PKVZ	Pokaka	3.87	228	P	Pn	13 17 26.1	+2.2
PNHZ	Pukenui	3.87	214	Pn	Pn	13 17 23.7	-0.3
PNHZ	Pukenui	3.87	214	P	Pn	13 17 22.8	-1.2
WPHZ	Waipukurau	3.90	211	P	Pn	13 17 23.8	-0.4
PRHZ	Porangahau	3.99	207	Pn	Pn	13 17 23.5	-2.0
PRHZ	Porangahau	3.99	207	P	Pn	13 17 23.7	-1.9
TSZ	Takapari Road	4.10	215	P	Pn	13 17 26.7	-0.4
VRZ	Vera Road	4.13	233	P	Pn	13 17 30.3	+2.9
DVHZ	Dannevirke	4.21	211	Pn	Pn	13 17 27.4	-1.1
DVHZ	Dannevirke	4.21	211	P	Pn	13 17 27.4	-1.1
ANWZ	Angora Road	4.22	208	P	Pn	13 17 27.4	-1.3
WAZ	Wanganui	4.32	225	Pn	Pn	13 17 32.2	+1.3
WAZ	Wanganui	4.38	225	P	Pn	13 17 31.9	+1.0
POWZ	Post Office Ro	4.46	214	P	Pn	13 17 31.1	-0.8
BFZ	Birch Farm	4.50	208	Pn	Pn	13 17 29.8	-2.7
BFZ	Birch Farm	4.50	208	P	Pn	13 17 29.9	-2.6
PRWZ	Pori Road	4.50	211	P	Pn	13 17 31.9	-0.7
OHWZ	Ohakea	4.53	219	P	Pn	13 17 33.3	+0.5
DREZ	Durham Road	4.53	236	P	Pn	13 17 37.5	+4.5
LREZ	Lake Rotokare	4.55	232	P	Pn	13 17 36.0	+2.8
PREZ	Palmer Road	4.64	234	P	Pn	13 17 39.2	+4.7
NEZ	North Egmont	4.64	236	Pn	Pn	13 17 38.5	+3.9
OUZ	Omahuta	4.66	287	Pn	Pn	13 17 36.8	+2.0
PKE	Pukeiti	4.68	237	P	Pn	13 17 39.9	+4.9
KHEZ	Kahui Hut	4.71	236	Pn	Pn	13 17 39.3	+3.8
CPWZ	Castlepoint	4.71	207	P	Pn	13 17 33.5	-1.9
TIWZ	Tintock	4.72	210	Pn	Pn	13 17 33.3	-2.3
TIWZ	Tintock	4.72	210	P	Pn	13 17 33.8	-1.9
MRZ	Mangatainoka R	4.76	214	Pn	Pn	13 17 34.3	-1.8
MRZ	Mangatainoka R	4.76	214	P	Pn	13 17 34.0	-2.1
NMEZ	Nanu Road	4.86	235	P	Pn	13 17 45.1	+5.5
HOWZ	Holdsworth Sta	4.98	212	Pn	Pn	13 17 36.9	-2.3
HOWZ	Holdsworth Sta	4.98	212	P	Pn	13 17 37.0	-2.1
TMWZ	Te Maipa	5.00	208	Pn	Pn	13 17 36.4	-3.1
OGWZ	Otaki Gorge	5.07	215	Pn	Pn	13 17 38.7	-1.7
OGWZ	Otaki Gorge	5.07	215	P	Pn	13 17 38.7	-1.7
MTW	Mount Morrison	5.20	211	Pn	Pn	13 17 39.4	-2.8
MTW	Mount Morrison	5.20	211	P	Pn	13 17 40.1	-2.1
KIW	Kapiti Island	5.23	217	Pn	Pn	13 17 41.0	-1.5
KIW	Kapiti Island	5.23	217	P	Pn	13 17 41.0	-1.5
CAW	Cannon Point	5.35	214	Pn	Pn	13 17 41.7	-2.5
PLWZ	Palliser	5.65	210	Pn	Pn	13 17 45.1	-3.2
SNZO	South Karori	5.67	215	*e*	Pn	Pn	Pn	13 17 47.4 -1.2
SNZO				*e*	Sn	Sn	Sn	13 18 48.5 -5.3
DUWZ	D'Urville Isla	5.69	223	*e*	Pn	Pn	Pn	13 17 47.8 -1.1
TCW	Tory Channel	5.80	218		Pn	Pn	Pn	13 17 47.7 -2.7
TUWZ	Tuamarina	6.13	219		Pn	Pn	Pn	13 17 52.6 -2.4
NNZ	Nelson	6.28	223		Pn	Pn	Pn	13 17 55.1 -1.8
BSWZ	Blackbirch Sta	6.38	217		Pn	Pn	Pn	13 17 56.2 -2.2
QRZ	Quartz Range	6.51	229		Pn	Pn	Pn	13 17 58.6 -1.6
THZ	Tophouse	6.91	222		Pn	Pn	Pn	13 18 02.9 -2.8
KHZ	Kahutara	7.08	215		Pn	Pn	Pn	13 18 05.2 -2.8
DSZ	Denniston Nort	7.51	226		Pn	Pn	Pn	13 18 11.7 -2.2
CTZ	Chatham Island	7.74	156		Pn	Pn	Pn	13 18 15.7 -1.3
RPZ	Rata Peaks	9.26	219		Pn	Pn	Pn	13 18 35.2 -2.7
	1.6nm,0.3s,baz=79,slow=0.8,SNR=11							
RPZ					Sn	Sn	13 20 09.9	-12
	2.2nm,0.3s,baz=312,slow=23,SNR=11							
RPZ					LR	LR	13 22 54.6	
	comp=Z,576nm,21.4s,baz=44,slow=42							
ODZ	Otahua Downs	10.44	215		Pn	Pn	13 18 49.7	-4.3
DZM	Mont Dzumac	18.24	320		LR	LR	13 26 10.0	
	comp=Z,263nm,18.4s,baz=198,slow=32							
DZM	Mont Dzumac	18.24	320	*e*	LR	LR	13 24 40.4	
	266nm,23.1s							
RAR	Rarotonga	24.07	56		LR	LR	13 29 05.2	
	comp=Z,67nm,20.1s,baz=255,slow=32							
STKA	Stephens Creek	31.17	268		LR	LR	13 34 16.8	
	comp=Z,97nm,18.6s,baz=31,slow=34							
PPT2	Papeete2	33.60	64	*e*	LR	LR	13 31 52.0	
	129nm,24.2s							
COEN	Coen	39.21	296	*e*	P	P	13 23 53.0	+0.1
	5.5nm,0.8s							
ASAR	Alice Springs	40.77	276		P	P	13 24 05.8	+0.1
	9.0nm,0.5s,baz=120,slow=7.9,SNR=281							
ASAR					LR	LR	13 40 39.6	
	comp=Z,68nm,20.8s,baz=138,slow=36							
WRAB	Tennant Creek	42.33	281	*e*	P	P	13 24 15.0	-3.6
	2.1nm,0.4s							
WRA	Warranunga Arr	42.34	281		P	P	13 24 18.6	-0.1
	2.9nm,0.5s,baz=121,slow=7.9,SNR=90							
TAOE	Nuku Hiva Isla	46.23	63	*e*	LR	LR	13 37 41.4	
	79nm,27.5s							
FITZ	Fitzroy Crossi	50.24	277	*e*	P	P	13 25 19.5	-1.3
QSPA	South Pole Qui	53.39	180		P	P	13 25 45.8	+1.9
	2.3nm,0.7s,baz=125,slow=0.5,SNR=8.7							
QSPA					LR	LR	13 45 22.9	
	comp=Z,75nm,18.2s,baz=259,slow=32							
BATI	Baumata	56.34	283		LR	LR	13 51 00.9	
	comp=Z,117nm,19.1s,baz=177,slow=37							
RPN	Rapa Nui	60.29	103		LR	LR	13 47 09.0	
	comp=Z,28nm,19.3s,baz=226,slow=31							
MAW	Mawson	65.52	202		LR	LR	13 53 18.8	
	comp=Z,71nm,19.6s,baz=228,slow=34							
LEM	Lembang	71.06	276		LR	LR	13 58 19.9	
	comp=Z,27nm,21.4s,baz=127,slow=35							
YBH	Yreka Blue Hor	94.51	40		LR	LR	14 02 47.0	
	comp=Z,23nm,20.1s,baz=292,slow=30							
KURK	Kurchatov	123.50	311		PKPpre	PKPpre	13 35 15.8	
KURBB	Kurchatov Arra	123.53	311		PKhKP	PKPpre	13 35 15.8	
	0.6nm,0.8s,baz=125,slow=1.9,SNR=2.7							
ARCES	ARCESS Array B	144.14	344		PKP	PKPab	13 35 57.3	+0.4
	3.1nm,0.9s,baz=25,slow=3.2,SNR=3.9							
FINES	FINESS Array B	150.01	334		PKPbc	PKPdf	13 36 12.9	+3.7
	1.6nm,0.8s,baz=60,slow=3.4,SNR=6.3							
TORD	Torodi Ar. Bea	156.39	186		PKPab	PKPab	13 36 47.5	-0.5
	1.4nm,0.8s,baz=161,slow=3.2,SNR=5.2							

NEIC 29 13:16:55.3±0.0, 56°71N×169°62W, h26km, ML3.5 (AEIC), After AEIC., Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTBL	Makushin Table	3.22	147	P	Pn	13 17 45.9	+1.7
MTBL				S	Sn	13 18 24.9	+3.3
MSW	Makushin Switc	3.23	149	P	Pn	13 17 45.3	+1.0
MSW				S	Sn	13 18 23.2	+1.2
UNV	Unalaska Valle	3.38	147	P	Pn	13 17 46.7	+0.5
UNV				S	Sn	13 18 24.6	-0.8
AKUT	Akutan	3.38	138	*e*Pn	Pn	13 17 41.8	-4.5
WESE	West Dahl East	3.63	126	P	Pn	13 17 50.4	+0.6
ISLZ	Isanotski Laza	3.89	118	P	Pn	13 17 51.8	-1.5
FALS	False Pass	3.96	115	P	Pn	13 17 52.8	-1.5
GAMB	Gambell	7.17	353	Pn	Pn	13 18 36.6	-1.6

GUC 29 13:23:38.0±0.4, 21°87S×68°79W, h110km±2km, ML3.5, 4C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.43	279	⇑ *e*P	Pn	13 23 55.0	+0.4
PB09				*e*S	Sn	13 24 07.8	+0.6
PB09				IAML		13 24 11.4	
	comp=N,3μm,0.1s						
PB07	IPOC Station P	1.03	277	*e*P	Pn	13 24 00.3	+0.6
PB07				*e*S	Sn	13 24 17.3	+1.2
PB07				IAML		13 24 19.0	
	comp=E,2μm,0.4s						
PB01	IPOC Station P	1.04	321	⇑ *e*P	Pn	13 24 00.1	+0.3
PB01				*e*S	Sn	13 24 17.1	+0.8
PB06	IPOC Station P	1.11	221	⇑ *e*P	Pn	13 24 01.0	+0.5
PB06				*e*S	Sn	13 24 18.6	+1.0
PB06				IAML		13 24 19.6	
	comp=E,1μm,0.3s						
PB04	IPOC Station P	1.34	249	⇑ *e*P	Pn	13 24 03.8	+0.6
PB04				*e*S	Sn	13 24 23.4	+1.1
PB04				IAML		13 24 25.6	
	comp=N,1μm,0.1s						
PB08	IPOC Station P	1.75	349	⇓ *e*P	Pn	13 24 09.3	+1.0
PB08				*e*S	Sn	13 24 33.2	+2.0
PB08				IAML		13 24 34.1	
	comp=E,294nm,1.0s						
PB11	IPOC Station P	2.25	339	⇓ *e*P	Pn	13 24 14.6	+0.2
PB11				*e*S	Sn	13 24 42.7	+0.6
PSGC

CNCH				*e*P	Pn	13 40 44.3	-0.5
CNCH				*e*S	Sn	13 40 55.8	-0.1
CNCH				*e*S	Sn	13 40 55.9	+0.1
LCND	**La Ca˜–ada**	**0.84**	**352**	*e*P	Pn	13 40 44.5	-0.7
LCND			IAML			13 40 57.3	
	comp=Z,2µm,0.4s						
TELN	**Telica**	**0.92**	**82**	*e*P	Pn	13 40 46.1	-0.2
CNGN	**Cerro Negro**	**1.04**	**88**	*e*P	Pn	13 40 47.7	-0.3
CNGN				*e*S	Sn	13 41 02.2	+0.7
VSM	**San Miguel**	**1.07**	**333**	*e*P	Pn	13 40 48.4	-0.2
LCY	**Lacayo**	**1.08**	**331**	*e*P	Pn	13 40 48.1	-0.4
PACA	**Pacayal**	**1.13**	**331**	*e*P	Pn	13 40 49.0	-0.2
COPN	**Copaltepe**	**1.18**	**104**	*e*P	Pn	13 40 49.8	-0.3
MOMN	**Momotombo**	**1.20**	**93**	*e*P	Pn	13 40 49.8	-0.2
MOMN				*e*P	Pn	13 40 50.2	+0.2
TECA	**Tecapa**	**1.24**	**325**	*e*P	Pn	13 40 50.4	-0.4
CAHU	**Cacacuatique**	**1.36**	**341**	*e*P	Pn	13 40 58.0	+5.6
ESTN	**Estel**	**1.50**	**65**	*e*P	Pn	13 40 53.8	-0.4
ESTN				*e*S	Sn	13 41 12.8	+0.1
TGUH	**Tegucigalpa,Un**	**1.65**	**17**	‖ *i*P	Pn	13 40 56.0	-0.1
LFRS	**El Faro**	**1.70**	**312**	*e*P	Pn	13 40 56.1	-0.9

*ISCJB **29** 13:40:50.6±0.4, 62˚.47N±0˚.03×22˚.88E±0˚.06, h0km, Error ellipse: s-maj=4.7km s-min=3.2km az=137.6*

*CSEM **29** 13:40:51.3±0.2, 62˚.43N×22˚.88E, h2km, ML1.8, Error ellipse: s-maj=5.6km s-min=3.5km az=45.0, Mining explosion.*

*HEL **29** 13:40:52.2±0.1, 62˚.47N×22˚.79E, h0km, ML1.8, ML1.6(UPP), Explosion*

*UPP **29** 13:40:54.7, 62˚.60N×22˚.48E, h1km, ML1.6, Suspected Mining explosion.*

ISC 29 13:40:51.2±0.8, 62°.45N±0˚.03×22°.72E±0˚.03, h0km, n39, σ1§34/58, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.60**	**358**	P	**Pg**	**13 41 01.9**	**-0.7**
VAF	**Ylistaro**	**0.60**	**358**	*e*P	**Pg**	**13 41 02.0**	**-0.7**
VAF				*e*S	**Sg**	**13 41 09.4**	**-1.0**
KEF	**Keuruu**	**1.04**	**105**	P	**Pg**	**13 41 10.5**	**-0.6**
KEF	**Keuruu**	**1.04**	**105**	*e*P	**Pg**	**13 41 10.6**	**-0.6**
KEF				MSG		13 41 23.4	
	comp=Z,5.6nm,0.2s						
KEF				*e*SB	**Sg**	**13 41 24.7**	**+0.1**
RAF	**Rauma**	**1.50**	**198**	P	**Pn**	**13 41 19.0**	**-0.3**
RAF				S	**Sb**	**13 41 39.0**	**-0.3**
RAF	**Rauma**	**1.50**	**198**	*e*P	**Pn**	**13 41 19.0**	**-0.3**
RAF				MSG		13 41 37.4	
	comp=Z,3.1nm,0.2s						
RAF				*e*S	**Sb**	**13 41 39.0**	**-0.3**
SUF	**Sumiainen**	**1.61**	**79**	Pg	**Pn**	**13 41 20.4**	**-0.4**
SUF				Sg	**Sn**	**13 41 41.1**	**-1.2**
SUF	**Sumiainen**	**1.61**	**79**	*e*PG	**Pn**	**13 41 20.4**	**-0.4**
SUF				MSG		13 41 39.5	
	comp=Z,11nm,0.2s						
SUF				*e*SG	**Sn**	**13 41 41.1**	**-1.2**
KAF	**Kangasniemi**	**1.71**	**100**	P	**Pn**	**13 41 22.0**	**-0.2**
KAF				Sn	**Sn**	**13 41 44.9**	**+0.2**
KAF	**Kangasniemi**	**1.71**	**100**	*e*P	**Pn**	**13 41 22.0**	**-0.2**
KAF				MSG		13 41 42.6	
	comp=Z,8.6nm,0.2s						
KAF				*e*SN	**Sn**	**13 41 44.9**	**+0.2**
UMAU	**Umeaa**	**1.71**	**328**	P	**Pn**	**13 41 22.1**	**-0.1**
UMAU				S	**Sn**	**13 41 43.8**	**-1.0**
UMAU	**Umeaa**	**1.71**	**328**	P	**Pn**	**13 41 22.1**	**-0.1**
UMAU				S	**Sn**	**13 41 43.8**	**-1.0**
UMAU	**Umeaa**	**1.71**	**328**	*e*P	**Pn**	**13 41 22.1**	**-0.1**
UMAU				*e*S	**Sn**	**13 41 43.8**	**-1.0**
HUSU	**Husum**	**1.84**	**301**	P	**Pn**	**13 41 25.5**	**+1.6**
HUSU	**Husum**	**1.84**	**301**	P	**Pn**	**13 41 25.5**	**+1.5**
HUSU	**Husum**	**1.84**	**301**	*e*P	**Pn**	**13 41 25.5**	**+1.5**
FIA0	**FINESS Array S**	**1.88**	**121**	Pg	**Pn**	**13 41 25.4**	**+0.9**
FIA0				Sg	**Sn**	**13 41 49.5**	**+0.6**
FIA0	**FINESS Array S**	**1.88**	**121**	*e*PG	**Pn**	**13 41 25.4**	**+0.9**
FIA0				*e*SG	**Sn**	**13 41 49.5**	**+0.6**
OUF	**Merijarvi**	**2.13**	**24**	*e*PB	**Pn**	**13 41 29.1**	**+1.1**
OUF				MSG		13 41 54.0	
	comp=Z,2.7nm,0.2s						
OUF				*e*SG	**Sb**	**13 41 56.7**	**-0.8**
HEMU	**Hemsoen**	**2.18**	**278**	P	**Pn**	**13 41 29.9**	**+1.3**
HEMU	**Hemsoen**	**2.18**	**278**	P	**Pn**	**13 41 29.9**	**+1.2**
HEMU	**Hemsoen**	**2.18**	**278**	*e*P	**Pn**	**13 41 29.9**	**+1.2**
BURU	**Burvik**	**2.23**	**345**	P	**Pn**	**13 41 30.5**	**+1.2**
BURU	**Burvik**	**2.23**	**345**	P	**Pn**	**13 41 30.4**	**+1.1**
BURU	**Burvik**	**2.23**	**345**	*e*P	**Pn**	**13 41 30.4**	**+1.1**
BREU	**Bredtraesk**	**2.37**	**310**	P	**Pn**	**13 41 33.1**	**+1.8**
BREU	**Bredtraesk**	**2.37**	**310**	P	**Pn**	**13 41 33.2**	**+1.9**
BREU	**Bredtraesk**	**2.37**	**310**	*e*P	**Pn**	**13 41 33.2**	**+1.9**
MEF	**Metsahovi**	**2.38**	**159**	Pb	**Pn**	**13 41 33.9**	**+2.6**
MEF				Sg	**Sb**	**13 42 05.3**	**+0.7**
MEF	**Metsahovi**	**2.38**	**159**	*e*PB	**Pn**	**13 41 33.9**	**+2.6**
MEF				*e*SG	**Sb**	**13 42 05.3**	**+0.7**
PVF	**Pernaja**	**2.43**	**140**	Pb	**Pn**	**13 41 34.7**	**+2.6**
PVF				Sg	**Sb**	**13 42 06.2**	**0.0**
PVF	**Pernaja**	**2.43**	**140**	*e*PB	**Pn**	**13 41 34.7**	**+2.6**
PVF				MSG		13 42 03.8	
	comp=Z,8.3nm,0.2s						
PVF				*e*SG	**Sb**	**13 42 06.2**	**+0.1**
SVAU	**Svanoeiden**	**2.49**	**327**	P	**Pn**	**13 41 34.6**	**+1.7**
SVAU	**Svanoeiden**	**2.49**	**327**	P	**Pn**	**13 41 34.7**	**+1.7**
SVAU	**Svanoeiden**	**2.49**	**327**	*e*P	**Pn**	**13 41 34.7**	**+1.7**
VJF	**Virojoki**	**3.01**	**127**	MSG		13 42 20.1	
	comp=Z,1.9nm,0.2s						
VJF				*e*SB	**Sb**	**13 42 22.5**	**-0.2**
MTSE	**Matsula**	**3.78**	**171**	P	**Pn**	**13 41 49.9**	**-0.7**
MTSE	**Matsula**	**3.78**	**171**	*e*P	**Pn**	**13 41 49.9**	**-0.7**
KU6	**Riekki**	**4.76**	**38**	*e*PG	**Pb**	**13 42 14.8**	**-0.6**
KU6				*e*SG	**Sb**	**13 43 17.8**	**+4.6**

*IDC **29** 13:43:28.5±1.0, 0˚.77N×101˚.21E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.7/66, mbtmp3.9/12, ML3.9/1, MS2.9/2, Ms1 3.0/2, ms1mx2.4/55, Error ellipse: s-maj=45.3km s-min=16.0km az=55.0*

*ISCJB **29** 13:43:30.9±0.5, 1˚.20N±0˚.04×101˚.63E±0˚.05, h10km, mb3.9/11, MS2.9/1, Error ellipse: s-maj=7.0km s-min=5.9km az=19.3*

*DJA **29** 13:43:33.9±0.3, 1˚.1˚N×10˚.2E±˚, h10km, M4.5/12, MLv4.5/12*

ISC 29 13:43:31.9±0.6, 1˚.12N±0˚.04×101˚.57E±0˚.04, h10km, n24, σ1§86/29, mb3.9/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**0.95**	**214**	P	**Pg**	**13 43 48.5**	**-1.7**
BKNI				S	**Sg**	**13 44 01.9**	**-0.7**
RGRI	**Rengat**	**1.65**	**152**	P	**Pb**	**13 44 04.7**	**+2.3**
RGRI				S	**Sn**	**13 44 23.1**	**+0.8**
MNSI	**Mandailing Nat**	**2.01**	**261**	P	**Pn**	**13 44 08.5**	**+2.6**
MNSI				S	**Sb**	**13 44 34.2**	**+0.5**
PDSI	**Padang**	**2.30**	**209**	P	**Pn**	**13 44 11.9**	**+2.0**
TPRI	**Tanjung Pinang**	**2.97**	**94**	P	**Pn**	**13 44 20.0**	**+0.9**
DSRI	**Dabo**	**3.41**	**118**	P	**Pn**	**13 44 29.1**	**+4.0**
JMBI	**JAMBI**	**3.44**	**143**	P	**Sb**	**13 45 13.8**	**-1.0**
SISI	**Saibi**	**3.47**	**225**	P	**Pn**	**13 44 28.7**	**+2.7**
TSI	**Tuntungan**	**3.82**	**308**	P	**Pb**	**13 44 41.7**	**+2.4**
GSI	**Gunungsitoli**	**3.99**	**273**	P	**Pn**	**13 44 34.9**	**+1.7**
PPSI	**Pulau Pagai**	**4.16**	**202**	P	**Pn**	**13 44 37.9**	**+2.4**
MASI	**Maura Aman, Be**	**4.29**	**171**	P	**Pn**	**13 44 39.8**	**+2.5**
CMAR	**Chiang Mai Arr**	**17.42**	**352**	P	**P**	**13 47 37.9**	**+1.4**
	0.2nm,0.3s,baz=175,slow=11,SNR=3.8						
CMAR				LR	LR	13 53 52.9	
	comp=Z,36nm,18.9s,baz=194,slow=35						
WRA	**Warramunga Arr**	**38.35**	**125**	P	**P**	**13 50 51.9**	**-1.5**
	1.9nm,0.8s,baz=302,slow=9.0,SNR=12						
WRA				PcP	**PcP**	**13 53 05.6**	**-1.7**
	0.4nm,1.0s,baz=313,slow=2.5,SNR=4.8						
ASAR	**Alice Springs**	**39.94**	**130**	P	**P**	**13 51 05.2**	**-1.4**
	1.5nm,0.7s,baz=303,slow=8.0,SNR=37						
ASAR				PcP	**PcP**	**13 53 11.4**	**-0.8**
	0.9nm,0.8s,baz=304,slow=2.6,SNR=12						
KSRS	**Korea Array**	**43.55**	**31**	P	**P**	**13 51 36.8**	**+0.8**
	1.2nm,0.8s,baz=220,slow=9.7,SNR=3.6						
KSRS				LR	LR	14 13 17.6	
	comp=Z,14nm,19.7s,baz=178,slow=41						
SONM	**Songino Array**	**46.72**	**4**	P	**P**	**13 52 02.7**	**+1.5**
	1.0nm,0.9s,baz=189,slow=8.6,SNR=5.1						
MKAR	**Makanchi Array**	**48.50**	**342**	P	**P**	**13 52 15.6**	**+0.6**
	0.8nm,0.7s,baz=152,slow=7.4,SNR=9.0						
KURBB	**Kurchatov Arra**	**53.05**	**342**	P	**P**	**13 52 48.4**	**-0.7**
	0.8nm,0.7s,baz=151,slow=6.3,SNR=6.8						
ZALV	**Zalesovo Beam**	**54.43**	**348**	P	**P**	**13 52 59.8**	**+0.6**
	4.0nm,0.8s,baz=162,slow=6.2,SNR=15						
BVAR	**Borovoye Array**	**57.84**	**338**	P	**P**	**13 53 22.8**	**-0.9**
	0.7nm,0.6s,baz=139,slow=7.9,SNR=4.7						
BRTR	**Keskin Array B**	**72.41**	**311**	P	**P**	**13 54 56.8**	**-2.0**
	0.8nm,0.7s,baz=123,slow=7.9,SNR=4.7						
AKASG	**Malin Array Be**	**78.00**	**322**	P	**P**	**13 55 28.4**	**-2.2**
	0.3nm,0.4s,baz=92,slow=5.5,SNR=3.1						
FINES	**FINESS Array B**	**82.10**	**332**	P	**P**	**13 55 51.1**	**-1.3**
	3.4nm,1.1s,baz=97,slow=7.1,SNR=3.4						

DJA 29 13:59:55.4±0.6, 0˚S±5˚×12˚4E±˚, h27km±8km, M3.5/7, MLv3.5/7, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.72**	**325**	P	Pn	14 00 09.6	-0.2
KMSI				S	Sb	14 00 19.3	+0.4
LUWI	**Luwuk**	**1.91**	**238**	P	Pn	14 00 25.9	-0.3
LUWI				S	Sn	14 00 50.2	+0.8
MRSI	**Marisa**	**2.50**	**281**	P	Pn	14 00 34.4	+0.1
MRSI				S	Sn	14 01 03.7	-0.2
SANI	**Sanana**	**2.57**	**142**	P	Pn	14 00 32.3	-3.0
APSI	**Ampana**	**2.88**	**252**	P	Pn	14 00 41.2	+1.6
APSI				S	Sn	14 01 14.9	+1.5
LBMI	**Labuha**	**3.17**	**101**	P	Pn	14 00 42.9	-0.7
MPSI	**Mapaga**	**4.51**	**275**	P	Pn	14 01 02.0	+0.1
MPSI				S	Sn	14 01 51.4	-2.1

*ISCJB **29** 14:01:22.0±0.5, 43˚.02N±0˚.06×139˚.63E±0˚.08, h222km±4km, mb3.2/8, Error ellipse: s-maj=11.2km s-min=7.1km az=42.5*

*IDC **29** 14:01:22.1±1.3, 43˚.11N×139˚.31E, h208km±13km, mb3.0/8, mb1 3.2/13, mb1mx2.9/77, mbtmp3.5/13, Error ellipse: s-maj=22.5km s-min=11.4km az=113.0*

*JMA **29** 14:01:23.0±0.2, 43˚.08N×139˚.54E, h212km±2km, M3.3*

ISC 29 14:01:22.6±0.7, 43˚.04N±0˚.07×139˚.53E±0˚.07, h215km±6km, n30, σ1§08/40, mb3.2/8, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**0.55**	**136**	P	**Pn**	**14 01 51.7**	**+0.1**
JSH				*e*S	**S**	**14 02 13.7**	**-0.5**
JSK	**Shakotan**	**0.76**	**65**	P	**Pn**	**14 01 52.6**	**+0.2**
JOSM	**Okushiri--Mats**	**0.96**	**183**	P	**Pn**	**14 01 54.2**	**+0.5**
JOSM				*e*S	**S**	**14 02 18.1**	**+0.4**
JYM2	**Yakumo 2**	**1.11**	**146**	P	**Pn**	**14 01 55.1**	**+0.5**
JYM2				*e*S	**S**	**14 02 19.8**	**+0.4**
JNB	**Noboribetsu**	**1.25**	**117**	P	**Pn**	**14 01 55.9**	**+0.3**
JNB				*e*S	**S**	**14 02 21.3**	**+0.2**
JEW	**Eniwo**	**1.42**	**97**	P	**Pn**	**14 01 57.6**	**+0.7**
JKB	**Kayabe**	**1.60**	**136**	P	**Pn**	**14 01 58.8**	**+0.3**
JOT	**Ohata**	**2.00**	**145**	P	**Pn**	**14 02 02.2**	**-0.1**
JFR	**Furan**	**2.25**	**86**	P	**Pn**	**14 02 04.9**	**+0.2**
JFR				*e*S	**S**	**14 02 37.6**	**+0.3**
ASAJ	**Asahikawa**	**2.47**	**63**	P	**Pn**	**14 02 07.4**	**+0.3**
	14nm,0.3s,baz=252,slow=12,SNR=198						
JKK2	**Kamakawa 2**	**2.49**	**69**	P	**Pn**	**14 02 07.7**	**+0.5**
JKK2				*e*S	**S**	**14 02 42.0**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.49**	**107**	P	**Pn**	**14 02 07.2**	**-0.1**
JNBK				*e*S	**S**	**14 02 41.7**	**-0.2**
JWK2	**Keihoku**	**2.84**	**36**	P	**Pn**	**14 02 12.0**	**+0.9**
JCH	**Churui**	**2.85**	**97**	P	**Pn**	**14 02 10.1**	**-1.1**
JCH				*e*S	**S**	**14 02 46.0**	**-3.0**
JSE	**Soyaes**	**2.92**	**48**	P	**Pn**	**14 02 12.3**	**+0.3**
JANG	**Nango**	**3.05**	**150**	P	**Pn**	**14 02 13.7**	**+0.1**
JANG				*e*S	**S**	**14 02 52.4**	**-0.8**
JAR	**Ashorobuto**	**3.11**	**84**	P	**Pn**	**14 02 14.1**	**-0.1**
JAR				*e*S	**S**	**14 02 52.9**	**-1.5**
JTKR	**Abashiri--Toko**	**3.32**	**72**	P	**Pn**	**14 02 16.8**	**+0.2**
USRK	**Ussuriysk Ar.**	**5.60**	**285**	P	**Pn**	**14 02 40.6**	**-4.3**
	0.3nm,0.3s,baz=95,slow=16,SNR=3.1						
MJAR	**Matsushiro Arr**	**6.57**	**189**	P	**Pn**	**14 02 58.3**	**+0.9**
	0.3nm,0.3s,baz=358,slow=13,SNR=9.4						
KSRS	**Korea Array**	**10.48**	**242**	P	**Pn**	**14 03 48.3**	**+0.7**
	0.1nm,0.3s,baz=58,slow=12,SNR=3.4						
MA2	**Magadan**	**17.94**	**19**	P	**P**	**14 05 15.9**	**-0.6**
	0.2nm,0.3s,baz=206,slow=9.4,SNR=4.2						
SEY	**Seymchan**	**21.30**	**16**	P	**P**	**14 05 50.9**	**-1.3**
	0.4nm,0.4s,baz=212,slow=8.7,SNR=3.7						
ILAR	**Eielson Array**	**45.31**	**35**	P	**P**	**14 09 20.2**	**+1.6**
	0.5nm,0.8s,baz=280,slow=8.2,SNR=6.8						
INK	**Inuvik**	**49.77**	**29**	P	**P**	**14 09 53.3**	**+0.5**
	1.0nm,0.3s,baz=283,slow=6.9,SNR=14						
YKA	**Yellowknife Ar**	**59.39**	**31**	P	**P**	**14 11 01.7**	**-0.1**
	0.2nm,0.4s,baz=306,slow=6.6,SNR=6.8						
WRA	**Warramunga Arr**	**62.85**	**185**	P	**P**	**14 11 25.5**	**0.0**
	0.2nm,0.4s,baz=2.1,slow=6.9,SNR=11						
FINES	**FINESS Array B**	**62.86**	**330**	P	**P**	**14 11 24.9**	**-0.2**
	0.6nm,0.4s,baz=34,slow=8.5,SNR=4.9						
ASAR	**Alice Springs**	**66.58**	**186**	P	**P**	**14 11 50.5**	**+0.9**
	0.2nm,0.6s,baz=360,slow=4.4,SNR=6.1						
PDAR	**Pinedale Array**	**74.49**	**46**	P	**P**	**14 12 38.1**	**+0.6**
	0.2nm,0.4s,baz=260,slow=5.4,SNR=2.9						

MAN 29 14:03:44, 9˚.15N×125˚.73E, h4km, mb4.2, ML3.0, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.20**	**211**	*e*P	Pg	14 03 48.8	+0.6
BUTP				*e*S	Sg	14 03 53.3	+2.6
SCPH	**Surigao**	**0.68**	**340**	*e*P	Pg	14 03 57.4	+0.4
SCPH				*e*S	Sb	14 04 07.5	-0.5
BUKP	**Musuan**	**1.42**	**208**	*e*P	Pn	14 04 09.8	-0.8
BUKP				*e*S	Sn	14 04 30.1	+0.3

*BJI **29** 14:16:00.5, 4˚.39S×133˚.92E, h10km, mb4.7/28, mB4.9/19, Ms4.6/9, Ms7 4.5/7*

*ISCJB **29** 14:16:01.8±0.3, 4˚.28S±0˚.02×133˚.77E±0˚.02, h10km, mb4.4/31, MS3.8/13, Error ellipse: s-maj=3.6km s-min=3.5km az=149.6*

*IDC **29** 14:16:02.9±0.6, 4˚.16S×133˚.70E, h0km, mb4.2/15, mb1 4.4/18, mb1mx4.2/49, mbtmp4.3/18, ML2.5/1, MS3.7/15, Ms1 3.7/15, ms1mx3.4/43, Error ellipse: s-maj=25.3km s-min=13.6km az=72.0*

*DJA **29** 14:16:05.9±0.4, 4˚S±2˚×13˚4E±˚, h17km±4km, M4.9/18, mb5.0/18, mB5.3/10, MLv5.1/9, Mw(mB)4.7/10*

*NEIC **29** 14:16:07.7±0.3, 4˚.22S×133˚.69E, h35km, mb4.6/9, Error ellipse: s-maj=7.6km s-min=5.4km az=72.0*

ISC 29 14:16:04.2±0.4, 4°.24S±0˚.04×133°.74E±0˚.04, h10km, n105, σ1§48/106, mb4.5/31, MS3.8/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.58**	**356**	P	**Pg**	**14 16 15.2**	**-0.3**
KMPI				S	**Sg**	**14 16 23.2**	**+0.1**
FAKI	**Fak Fak**	**1.99**	**311**	P	**Pn**	**14 16 37.3**	**-0.6**
FAKI				S	**Sn**	**14 17 03.2**	**+0.3**
FAKI	**Fak Fak**	**1.99**	**311**	*e*Pn	**Pn**	**14 16 37.3**	**-0.6**
RKPI	**Ransiki, Papua**	**2.75**	**9**	P	**Pn**	**14 16 48.7**	**+0.3**
RKPI				S	**Sn**	**14 17 08.8**	**-0.7**
SWI	**Sorong**	**4.17**	**323**	P	**Pn**	**14 17 08.7**	**-0.7**
SAUI	**Saumlaki**	**4.44**	**213**	P	**Pn**	**14 17 12.2**	**+0.5**
SAUI	**Saumlaki**	**4.44**	**213**	*e*Pn	**Pn**	**14 17 13.2**	**+1.5**
MSAI	**Masohi**	**4.89**	**280**	P	**Pn**	**14 17 19.5**	**+1.7**
MSAI				S	**Sn**	**14 18 15.6**	**+1.1**
NLAI	**Namlea**	**6.70**	**278**	P	**Pn**	**14 17 44.5**	**+1.7**
	150nm,0.6s,3µm0.8nm						
NLAI				S	**Sn**	**14 19 00.0**	**+0.7**
	150nm,0.6s,3µm0.8nm						
JAY	**Jayapura**	**7.16**	**76**	P	**Pn**	**14 17 49.2**	**+0.1**
	272nm,1.4s,1.4nm						
JAY				S	**Sn**	**14 19 13.2**	**+2.6**
	272nm,1.4s,1.4nm						
LBMI	**Labuha**	**7.19**	**300**	P	**Pn**	**14 17 49.0**	**-0.5**
	158nm,0.7s,2µm0.5nm						
LBMI				S	**Sn**	**14 19 12.6**	**+1.3**
	158nm,0.7s,2µm0.5nm						
SANI	**Sanana**	**8.04**	**285**	P	**Pn**	**14 17 59.9**	**-1.3**
	105nm,0.5s,2µm						
MTN	**Manton Dam**	**8.93**	**197**	*e*Pn	**Pn**	**14 18 12.9**	**-0.4**
SOEI	**Soe**	**10.88**	**239**	P	**Pn**	**14 18 41.7**	**+1.4**
	98nm,0.7s,877nm						
SOEI				S	**Sn**	**14 20 45.2**	**+2.9**
	98nm,0.7s,877nm						
SOEI	**Soe**	**10.88**	**239**	*e*Pn	**Pn**	**14 18 40.7**	**+0.4**
BBSI	**Bau Bau**	**11.20**	**263**	P	**Pn**	**14 18 45.7**	**+1.1**
	11nm,0.9s						
BBSI				S	**Sn**	**14 20 52.8**	**+2.9**
	11nm,0.9s						
SGSI	**Sangihe**	**11.38**	**314**	P	**Pn**	**14 18 46.3**	**-0.6**
	161nm,0.4s,3µm						
SGSI				S	**Sn**	**14 20 57.5**	**+3.3**
	161nm,0.4s,3µm						
LUWI	**Luwuk**	**11.41**	**286**	P	**Pn**	**14 18 48.5**	**+1.1**
	83nm,0.7s						
LUWI	**Luwuk**	**11.41**	**286**	Pn	**Pn**	**14 18 46.5**	**-0.9**
BATI	**Baumata**	**11.62**	**239**	Pn	**Pn**	**14 18 51.4**	**+1.1**
	9.2nm,0.3s,baz=150,slow=2.4,SNR=11						
BATI				Sn	**Sn**	**14 20 55.1**	**-5.2**
	3.1nm,0.3s,baz=30,slow=20,SNR=3.1						
BATI	**Baumata**	**11.62**	**239**	P	**Pn**	**14 18 51.6**	**+1.3**
	40nm,0.7s						
BATI				S	**Sn**	**14 21 03.5**	**+3.2**
	40nm,0.7s						
APSI	**Ampana**	**12.53**	**285**	P	**Pn**	**14 19 03.0**	**+0.3**
	76nm,0.5s,919nm						
MRSI	**Marisa**	**12.69**	**291**	P	**Pn**	**14 19 05.0**	**+0.1**
	32nm,1.0s,390nm						
EDFI	**Ende, Flores**	**12.78**	**249**	S	**Sn**	**14 21 30.8**	**+1.9**
BSSI	**Bau Bau, Buton**	**13.33**	**261**	P	**Pn**	**14 19 14.6**	**+0.9**
	23nm,0.8s						
COEN	**Coen**	**13.41**	**137**	*e*Pn	Pn	14 19 12.2	-2.6
BNSI	**Bone**	**13.60**	**269**	P	**Pn**	**14 19 18.3**	**+1.0**
	19nm,0.7s						
BKSI	**Bulukumba**	**13.62**	**265**	P	**Pn**	**14 19 18.0**	**+0.4**
	1.2nm,0.6s						
TTSI	**Tana Toraja**	**13.95**	**274**	P	**Pn**	**14 19 23.2**	**+1.1**
	30nm,1.0s						
PMG	**Port Moresby**	**14.27**	**112**	Pn	**Pn**	**14 19 26.0**	**-0.6**
	0.8nm,0.3s,baz=304,slow=13,SNR=3.5						
PMG				LR	LR	14 25 36.4	
	comp=Z,452nm,19.8s,baz=344,slow=40						
PMG	**Port Moresby**	**14.27**	**112**	*e*Pn	**Pn**	**14 19 25.5**	**-1.1**
PCI	**Palu**	**14.28**	**283**	P	**Pn**	**14 19 26.4**	**-0.3**
	103nm,1.1s,855nm						
MPSI	**Mapaga**	**14.56**	**288**	P	**Pn**	**14 19 30.7**	**+0.2**
WRAB	**Tennant Creek**	**15.61**	**178**	*e*Pn	**Pn**	**14 19 40.4**	**-4.1**
	40nm,0.8s						
WB2	**Warramunga Arr**	**15.62**	**178**	*e*Pn	**Pn**	**14 19 41.3**	**-3.3**
WRA	**Warramunga Arr**	**15.62**	**178**	Pn	**Pn**	**14 19 40.6**	**-4.0**
	1.6nm,0.3s,baz=353,slow=13,SNR=56						
WRA				Sn	Sn	14 22 26.4	-11
	0.6nm,0.3s,baz=352,slow=25,SNR=5.3						
FITZ	**Fitzroy Crossi**	**15.89**	**209**	Pn	**Pn**	**14 19 43.9**	**-4.3**
	3.2nm,0.3s,baz=38,slow=11,SNR=83						
FITZ				Sn	Sn	14 22 31.9	-13
	3.7nm,0.3s,baz=206,slow=17,SNR=7.3						
FITZ				LR	LR	14 27 25.4	
	comp=Z,174nm,18.7s,baz=32,slow=43						
FITZ	**Fitzroy Crossi**	**15.89**	**209**	*e*Pn	**Pn**	**14 19 44.0**	**-4.1**
	26nm,0.6s						
AS01	**Alice Springs**	**19.31**	**179**	*e*P	**P**	**14 20 30.0**	**+0.4**
AS31	**Alice Springs**	**19.31**	**180**	*e*P	**P**	**14 20 30.3**	**+0.6**
	19nm,0.8s						
ASAR	**Alice Springs**	**19.31**	**180**	P	**P**	**14 20 29.8**	**+0.1**
	1.9nm,0.3s,baz=6.1,slow=10.0,SNR=84						
ASAR				S	Sn	14 23 55.2	-12
	0.1nm,0.3s,baz=1.0,slow=21,SNR=3.4						
ASAR				LR	LR	14 29 13.3	
	comp=Z,188nm,19.1s,baz=1.5,slow=41						
CTA	**Charters Tower**	**19.92**	**143**	P	**P**	**14 20 37.8**	**+1.5**
	35nm,0.9s,baz=325,slow=13,SNR=35						
CTAO	**Charters Tower**	**19.92**	**143**	*e*P	**P**	**14 20 36.7**	**+0.4**
	31nm,0.8s						
GUMO	**Guam**	**20.88**	**32**	LR	LR	14 28 41.4	
	comp=Z,64nm,19.4s,baz=86,slow=36						
MBWA	**Marble Bar**	**21.64**	**218**	*e*P	**P**	**14 20 54.9**	**0.0**
	35nm,1.0s						
KSM	**Kuching**	**24.10**	**283**	*e*P	**P**	**14 21 19.1**	**-1.2**
	24nm,0.9s						
HNR	**Honiara**	**26.51**	**103**	LR	LR	14 32 54.3	
	comp=Z,141nm,20.1s,baz=282,slow=38						
STKA	**Stephens Creek**	**28.46**	**166**	P	**P**	**14 21 59.6**	**+0.

KOLN	Koldanda	57.84	307	*e*P		P	14 25 56.4	-0.3
	13nm,0.6s							
PYUN	Piuthan	58.47	307	*e*P		P	14 26 01.0	-0.1
	41nm,0.8s							
PETK	Petropavlovsk-	60.60	16	P		P	14 26 15.9	+0.8
	2.0nm,0.9s,baz=233,slow=8.9,SNR=3.8							
WMQ	Urumqi	63.24	324	P		P	14 26 33.8	+0.7
WMQ				pP		sP	14 26 39.0	+1.5
WMQ				pmax	pmax			
	comp=Z,24nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,240nm,7.5s							
WMQ				LR	LR			
	comp=N,99nm,16.9s							
MA2	Magadan	65.03	9	LR	LR		14 52 55.9	
	comp=Z,34nm,20.3s,baz=124,slow=34							
YAK	Yakutsk	66.16	358	P		P	14 26 51.2	-0.4
	6.3nm,0.4s,baz=186,slow=1.0							
YAK	Yakutsk	66.16	358	*e*P		P	14 26 51.5	-0.2
MKAR	Makanchi Array	68.06	325	P		P	14 27 03.9	-0.2
	1.6nm,0.5s,baz=114,slow=8.1,SNR=33							
MAKZ	Makanchi	68.25	324	*e*P		P	14 27 04.8	-0.5
SEY	Seymchan	68.47	9	P		P	14 27 06.7	+0.4
	3.2nm,0.9s,baz=150,slow=6.5,SNR=2.1							
KSH	Kashi	68.60	315	*e*P		P	14 27 10.0	+2.2
KSH				S		S	14 36 11.0	+0.3
KSH				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KSH				pmax	pmax			
	comp=Z,95nm,7.2s							
KSH				LR	LR			
	comp=N,85nm,6.6s							
KSH				LR	LR			
	comp=E,96nm,6.0s							
KSH				LR	LR			
	comp=Z,74nm,6.0s							
ZALV	Zalesovo Beam	70.85	332	P		P	14 27 20.1	-1.0
	0.3nm,0.3s,baz=124,slow=7.7,SNR=3.4							
KURK	Kurchatov	72.19	327	P		P	14 27 28.6	-0.7
KURBB	Kurchatov Arra	72.19	327	P		P	14 27 28.6	-0.7
	0.7nm,0.5s,baz=123,slow=4.7,SNR=7.8							
VNDA	Vanda	74.75	174	P		P	14 27 44.7	+0.7
	1.5nm,0.9s,baz=326,slow=7.3,SNR=3.7							
VNDA				LR	LR		14 58 45.1	
	comp=Z,71nm,21.5s,baz=326,slow=34							
PPT	Papeete	76.04	107	LR	LR		15 00 10.9	
	comp=Z,48nm,18.0s,baz=309,slow=35							
BVAR	Borovoye Array	77.78	326	P		P	14 28 01.0	-0.6
	1.2nm,0.7s,baz=120,slow=8.5,SNR=8.6							
GEYT	Alibeck	81.33	309	P		P	14 28 21.8	+0.4
	2.6nm,0.6s,baz=158,slow=4.3,SNR=9.2							
ILAR	Eielson Array	89.29	25	P		P	14 28 59.0	-1.4
	0.5nm,0.7s,baz=264,slow=4.2,SNR=7.6							
ILAR				LR	LR		15 04 25.7	
	comp=Z,46nm,20.9s,baz=281,slow=32							
ILAR	Eielson Array	89.29	25	P		P	14 28 59.0	-1.4
CPUP	Villa Florida	147.77	161	PKPbc		PKPbc	14 35 50.9	+0.7
	1.2nm,0.6s,baz=195,slow=2.3,SNR=2.5							
LPAZ	La Paz	150.27	134	PKPbc		PKPbc	14 35 59.5	+1.9
	3.2nm,0.8s,baz=193,slow=4.8,SNR=4.6							

*SJA **29** 14:23:48.3±0.7, 25°.63S×69°.16W, h142km±10km, ML3.8, MW3.7*
*ISCJB **29** 14:23:49.6±0.3, 25°.71S±0°.02×69°.04W±0°.04, h107km±3km, mb4.3/19, Error ellipse: s-maj=6.5km s-min=3.8km az=173.5*
*GUC **29** 14:23:50.7±0.5, 25°.76S×69°.21W, h103km±5km, ML4.5*
*NEIC **29** 14:23:50.0±0.0, 25°.76S×69°.21W, h103km, mb4.3/8, ML4.5(GUC), After GUC.*
*IDC **29** 14:23:51.9±0.5, 25°.68S×68°.95W, h111km±3km, mb3.9/9, mb1 4.0/11, mb1mx3.8/42, mbtmp4.2/11, MS2.7/2, Ms1 2.7/2, ms1mx2.5/33, Error ellipse: s-maj=22.3km s-min=16.6km az=65.0*

ISC 29 14:23:50.7±0.5, **25.73S**±0°.03×**69°.07W**±0°.06, **h107**km±4km, **h107km:pP-P,n74,**σ1**$**30/96, **mb4.3**/19, **4C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GO02	Mina Guanaco	0.74	320	*e*P		Pn	14 24 09.2	-0.3
GO02				*e*S		Sn	14 24 23.3	-0.3
GO02				IAML			14 24 24.1	
	comp=E,34μm,0.4s							
PB14	IPOC Station P	1.64	312	*e*P		Pn	14 24 19.2	-0.2
PB14				*e*S		Sn	14 24 40.6	-0.5
PB14	IPOC Station P	1.64	312⇑	*e*P		Pn	14 24 19.2	-0.2
PB14				*e*S		Sn	14 24 40.6	-0.5
PB14				IAML			14 24 41.9	
	comp=N,6μm,0.7s							
CPCH	Copiapo	1.99	215	*e*P		Pn	14 24 22.6	-0.9
CPCH				*e*S		Sn	14 24 47.1	-1.5
CDCH	Caldera	2.06	229	*e*P		Pn	14 24 24.8	+0.4
CDCH				*e*S		Sn	14 24 50.1	-0.1
GO03	Copiap	2.13	209	*e*P		Pn	14 24 25.2	-0.2
GO03				*e*S		Sn	14 24 50.5	-1.3
GO03				IAML			14 24 55.3	
	comp=N,2μm,0.3s							
ANCH	Antofagasta	2.38	329⇑	*e*P		Pn	14 24 33.6	+5.2
ANCH				*e*S		Sn	14 25 00.5	+3.1
PB10	IPOC Station P	2.59	328	*e*Pn		Pn	14 24 30.4	-0.9
PB10	IPOC Station P	2.59	328	*e*P		Pn	14 24 29.5	-1.8
PB10				*e*S		Sn	14 24 59.5	-2.8
PB10	IPOC Station P	2.59	328⇑	*e*P		Pn	14 24 30.4	-0.9
PB10				*e*S		Sn	14 25 01.3	-1.1
PB10				IAML			14 25 13.1	
	comp=E,5μm,0.2s							
FSA	Cafayete	2.81	98	*e*P		Pn	14 24 34.2	-0.1
PB06	IPOC Station P	3.04	351	*e*P		Pn	14 24 36.4	-1.1
PB06				*e*S		Sn	14 25 11.7	-1.7
PB06				IAML			14 25 41.1	
	comp=E,898nm,1.0s							
VCA	Vinchina	3.09	166	*e*P		Pn	14 24 40.5	+2.4
VCA				IAML			14 24 42.4	
	comp=Z,182nm,0.4s							
VCA				*e*S		Sn	14 25 17.0	+2.5
AHML	Horco Molle	3.51	108	*e*P		Pn	14 24 44.3	+0.8
PB04	IPOC Station P	3.52	343	*e*Pn		Pn	14 24 42.1	-1.8
LCO	Las Campanas	3.58	204	*e*Pn		Pn	14 24 44.5	-0.2
LCO				*e*Sn		Sn	14 25 14.9	-11
LCO	Las Campanas	3.58	204	*e*P		Pn	14 24 44.8	+0.1
LCO	Las Campanas	3.58	204⇑	*e*P		Pn	14 24 44.5	-0.2
LCO				*e*S		Sn	14 25 26.0	-0.3
LCO				IAML			14 25 56.1	
	comp=N,530nm,0.4s							
CYA	Choya	3.97	134	*e*P		Pn	14 24 50.5	+0.8
HJA	Humahuaca	4.17	54	*e*P		Pn	14 24 53.4	+0.7
ASTB	Santa Barbara	4.55	68	*e*P		Pn	14 24 57.3	-0.3
PB01	IPOC Station P	4.68	355	*e*Pn		Pn	14 24 57.2	-2.1
RTLL	Cerro Villicun	5.61	175	*e*P		Pn	14 25 12.1	+0.3
PB11	IPOC Station P	5.96	355	*e*Pn		Pn	14 25 14.0	-2.8
RTLS	Leoncito	6.05	182	*e*P		Pn	14 25 18.4	+0.4
RTLS				IAML			14 26 16.1	
	comp=Z,35nm,0.4s							
RTCV	Cerro Valdivia	6.13	176	*e*P		Pn	14 25 18.9	+0.1
MNMC	Minye Minye	6.58	356	*e*Pn		Pn	14 25 26.2	+0.9
ACAN	Cantantal	6.73	166	*e*P		Pn	14 25 26.9	0.0
ROC1	El Roble	7.42	193	*e*Pn		Pn	14 25 35.0	-1.6
ROC1	El Roble	7.42	193	*e*P		Pn	14 25 36.0	-0.5
LPAZ	La Paz	9.43	5	P		Pn	14 26 03.8	-0.6
	comp=Z,0.6nm,0.3s,baz=113,slow=3.3,SNR=9.6							
LPAZ	La Paz	9.43	5	*e*Pn		Pn	14 26 03.6	-0.7
CPUP	Villa Florida	10.57	96	P		Pn	14 26 16.1	-3.1
	comp=Z,0.2nm,0.3s,baz=283,slow=11,SNR=7.4							
CPUP				LR		LR	14 30 40.7	
	comp=Z,17nm,20.9s,baz=264,slow=39							
CPUP	Villa Florida	10.57	96	*e*Pn		Pn	14 26 15.9	-3.2
SIV	San Ignacio	12.23	39	P		Pn	14 26 35.8	-5.6
	comp=Z,4.0nm,0.3s,baz=229,slow=9.1,SNR=33							
SIV				S		Sn	14 28 43.8	-12
	comp=Z,0.1nm,0.3s,baz=156,slow=20,SNR=2.1							
TRQA	Tornquist	13.68	156	Pn		Pn	14 26 59.1	-1.1
TRQA				*e*Sn		Sn	14 29 26.8	-4.0
PLCA	Paso Flores	15.02	184	P		P	14 27 19.0	-1.1
	comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=6.0							
PLCA				LR		LR	14 33 59.3	
	comp=Z,86nm,21.5s,baz=258,slow=40							
VNA3	Neumayer Olymp	56.15	160	P		P	14 33 19.7	+0.9
VNA2	Neumayer--Watz	56.74	160	P		P	14 33 23.7	+0.8
	baz=293,slow=8.0							
SNAA	Sanae	58.36	160	P		P	14 33 35.1	+0.7
SNAA	Sanae	58.36	160	P		P	14 33 35.0	+0.7
	comp=Z,3.0nm,0.5s,baz=286,slow=8.4,SNR=27							
TXAR	Lajitas Array	64.03	327	P		P	14 34 14.3	+1.1
	comp=Z,1.0nm,0.7s,baz=147,slow=8.4,SNR=7.5							
MNTX	Cornudas Mount	66.81	327	*e*P		P	14 34 31.0	0.0
	comp=Z,2.5nm,0.8s							
LIC	Lamto	69.75	72	*e*P		P	14 34 49.7	0.0
	comp=Z,48nm,1.5s							
ANMO	Albuquerque	69.97	328	*e*P		P	14 34 50.2	-0.6
	comp=Z,2.7nm,0.7s							
TIC	Toumodi	69.97	72	*e*P		P	14 34 51.3	+0.2
KIC	Kosan Boka	70.07	72	*e*P		P	14 34 51.8	+0.1
	comp=Z,93nm,1.9s							
DBIC	Dimbokro	70.12	72	P		P	14 34 51.8	-0.2
	comp=Z,4.9nm,0.8s,baz=224,slow=5.2,SNR=5.3							
SDCO	Great Sand Dun	71.81	330	*e*P		P	14 35 02.0	-0.1
	comp=Z,1.5nm,0.6s							
X16A	Lo Mia Camp, P	72.06	324	*e*P		P	14 35 06.1	+2.6
KOWA	Kowa	74.86	65	P		P	14 35 20.1	0.0
	comp=Z,2.9nm,0.5s,baz=254,slow=7.0,SNR=9.9							
O20A	White River Ci	75.00	330	*e*P		P	14 35 20.4	-0.2
	comp=Z,10nm,0.9s							
CCUT	Cedar City	75.46	325	*e*P		P	14 35 26.4	+3.1
	comp=Z,4.9nm,0.8s							
MSU	Marysvale	75.59	326	*e*P		P	14 35 25.2	+1.1
HWUT	Hardware Ranch	77.69	329	*e*P		P	14 35 36.9	+1.1
	comp=Z,3.8nm,0.6s							
PDAR	Pinedale Array	77.70	331	P		P	14 35 36.5	+0.6
	comp=Z,0.5nm,0.6s,baz=123,slow=7.3,SNR=3.9							
NVAR	Mina Array Bea	78.74	323	P		P	14 35 43.2	+1.6
	comp=Z,7nm,0.6s,baz=151,slow=6.4,SNR=6.4							
TOA0	Torodi Ar. Sit	78.93	70	*e*P		P	14 35 42.9	-0.1
TORD	Torodi Ar. Bea	78.93	70	P		P	14 35 42.9	0.0
	comp=Z,3.4nm,0.4s,baz=271,slow=5.9,SNR=45							
TORD				pP		pP	14 36 11.0	+0.6
	comp=Z,1.7nm,0.6s,baz=246,slow=4.7,SNR=3.4							
ULM	Lac du Bonnet	79.29	343	P		P	14 35 43.8	-0.3
	comp=Z,2.3nm,0.6s,baz=114,slow=4.1,SNR=5.1							
JSTM	Santa Teresa H	79.86	320	*e*P		P	14 35 48.2	+0.8
HLID	Hailey	80.54	328	*e*P		P	14 35 52.9	+1.7
	comp=Z,8.1nm,1.3s							
ORV	Oroville	81.30	322	*e*P		P	14 35 57.4	+2.3
	comp=Z,2.5nm,0.8s							
YKA	Yellowknife Ar	95.11	341	P		P	14 37 01.4	+0.2
	comp=Z,0.7nm,0.6s,baz=138,slow=4.3,SNR=22							
YKA				pP		pP	14 37 30.3	+1.1
	comp=Z,0.4nm,0.7s,baz=137,slow=4.1,SNR=5.2							
ASAR	Alice Springs	126.09	206	PKP		PKPdf	14 42 41.1	-0.1
	comp=Z,1.0nm,0.7s,baz=132,slow=1.6,SNR=31							
ASAR				pPKP		pPKPdf	14 43 11.7	+1.3
	comp=Z,0.7nm,0.8s,baz=138,slow=1.9,SNR=5.2							
WRA	Warramunga Arr	129.22	209	PKP		PKPdf	14 42 47.6	+0.4
	comp=Z,0.4nm,0.3s,baz=153,slow=1.9,SNR=26							
WRA				pPKP		pPKPdf	14 43 17.6	+1.2
	comp=Z,1.4nm,0.9s,baz=150,slow=1.6,SNR=5.9							
KURK	Kurchatov	144.87	36	PKP		PKPdf	14 43 15.2	+0.4
KURK				pPKP		pPKPdf	14 43 44.7	+0.5
KURBB	Kurchatov Arra	144.88	36	PKP		PKPdf	14 43 15.2	+0.4
	comp=Z,6.0nm,0.7s,baz=300,slow=3.6,SNR=52							
KURBB				pPKP		pPKPdf	14 43 44.7	+0.5
	comp=Z,2.7nm,0.8s,baz=300,slow=3.5,SNR=5.8							
ZALV	Zalesovo Beam	145.79	28	PKPbc		PKPab	14 43 17.5	-0.1
	comp=Z,9.0nm,0.5s,baz=302,slow=3.9,SNR=54							
ZALV				pPKPbc	pPKPab		14 43 47.1	+1.0
	comp=Z,8.4nm,0.8s,baz=306,slow=4.2,SNR=9.4							
KSH	Kashi	147.72	56	*e*PKPbc		PKPdf	14 43 19.5	-0.7
KSH				sPKP			14 43 56.5	
KSH				PP		PP	14 46 52.0	+0.9
MKAR	Makanchi Array	149.05	40	PKPbc		PKPbc	14 43 26.8	+0.5
	comp=Z,3.1nm,0.5s,baz=331,slow=2.4,SNR=37							
MKAR				pPKPbc		pPKPbc	14 43 56.6	+1.2
	comp=Z,5.0nm,0.8s,baz=317,slow=2.7,SNR=16							
KLR	Kul'dur	151.49	331	PKPbc		PKPbc	14 43 32.3	+0.4
	comp=Z,0.1nm,0.5s,baz=53,slow=4.2,SNR=7.9							
KLR				pPKPbc		pPKPbc	14 44 02.1	+1.0
	comp=Z,0.2nm,0.7s,baz=80,slow=6.1,SNR=4.3							
SONM	Songino Array	157.65	8	PKP		PKPdf	14 43 35.3	+0.8
	comp=Z,0.3nm,0.6s,baz=214,slow=0.5,SNR=3.8							
SONM				PKPab		PKPab	14 44 06.7	-0.4
	comp=Z,1.0nm,0.7s,baz=357,slow=4.8,SNR=6.3							
LZH	Lanzhou	168.02	29	*e*PKP		PKPdf	14 43 43.0	-2.0
LZH				pPKP		pPKPdf	14 44 09.0	-5.4
LZH				sPKP			14 44 19.0	
LZH				PKP		PKPab	14 44 53.3	+0.3

*NIED **29** 14:27:00, 40°.70N×145°.00E, h5km, Mw3.8 Best double couple: M0 5.50000×10^14 NP1:φ=81.00000°, δ=42.00000°, λ=-86.00000°. NP2:φ=175.00000°, δ=48.00000°, λ=-93.00000°.*
*ISCJB **29** 14:27:27.9±1.4, 40°.71N±0°.03×144°.68E±0°.04, h18km±10km, mb3.9/17, MS3.2/1, Error ellipse: s-maj=6.0km s-min=4.3km az=25.6*
*IDC **29** 14:27:27.2±0.8, 40°.70N×144°.76E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.8/69, mbtmp3.9/18, ML3.1/3, MS2.9/2, Ms1 2.9/2, ms1mx2.3/55, Error ellipse: s-maj=20.6km s-min=16.1km az=102.0*
*JMA **29** 14:27:27.9±0.2, 40°.68N×144°.96E, h69km±4km, M3.8*
*NEIC **29** 14:27:31.5±0.5, 40°.64N×144°.78E, h35km, mb4.5/2, Error ellipse: s-maj=13.0km s-min=8.7km az=117.0*

ISC 29 14:27:28.0±3.3, **40°.68N**±0°.04×**144°.75E**±0°.06, **h11**km±21km, **n54,**σ1**$**81/65, **mb4.0**/17, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ERM	Erimo	1.79	318	*e*Pn		Pb	14 28 00.3	-0.5
ERM				*e*Sn		Sn	14 28 18.8	-2.9
JEM	Erimo	1.79	318	P		Pn	14 27 58.8	-0.1
JEM				*e*S		Sn	14 28 18.8	-2.9
JNBK	Urakawa-nobuka	2.19	317	P		Pn	14 28 04.8	+0.4
JNBK				*e*S		Sn	14 28 31.4	-0.1
JCH	Churui	2.19	332	P		Pn	14 28 04.0	-0.4
JCH				*e*S		Sn	14 28 28.5	-3.0
JAK	Akkeshi	2.31	359	*e*S		Sn	14 28 31.5	-3.0
JOB	Onbets	2.32	343	P		Pn	14 28 06.1	-0.1
JANG	Nango	2.49	264	P		Pn	14 28 08.2	-0.3
JANG				*e*S		Sn	14 28 36.0	-2.8
JAR	Ashorobuto	2.71	345	P		Pn	14 28 10.6	-1.0
JAR				*e*S		Sn	14 28 40.9	-3.5
NEM2	Nemuro 2	2.78	15	P		Pn	14 28 10.5	-2.0
JOT	Ohata	2.89	285	P		Pn	14 28 14.4	+0.4
JOT				*e*S		Sn	14 28 46.3	-2.4
JOM	Ohasama	2.92	247	P		Pn	14 28 14.9	+0.5
JOM				*e*S		Sn	14 28 47.6	-1.8
JFR	Furan	2.96	328	P		Pn	14 28 14.8	-0.1
JKB	Kayabe	3.05	294	P		Pn	14 28 16.5	+0.3
JKB				*e*S		Sn	14 28 50.0	-2.7
JMK	Ichinoseki	3.22	239	P		Pn	14 28 19.0	+0.4
JMK				*e*S		Sn	14 28 54.8	-2.2
JRA	Rausu	3.26	5	P		Pn	14 28 18.0	-1.1
JTKR	Abashiri--Toko	3.34	349	P		Pn	14 28 19.9	-0.3
JTKR				*e*S		Sn	14 28 57.0	-2.9
JKK2	Kamakawa 2	3.52	336	P		Pn	14 28 22.8	+0.2
ASAJ	Asahikawa	3.78	336	Pn		Pn	14 28 26.6	+0.3
	1.6nm,0.3s,baz=220,slow=11,SNR=19							
ASAJ				Sn		Sn	14 29 12.2	+1.5
	2.0nm,0.3s,baz=255,slow=20,SNR=6.5							
JYK	Kaneyama	3.82	244	P		Pn	14 28 27.2	+0.5
JYK				*e*S		Sn	14 29 10.4	-1.2
MJAR	Matsushiro Arr	6.58	233	Pn		Pn	14 29 06.2	+1.4
	0.5nm,0.3s,baz=42,slow=12,SNR=5.8							
MJAR				LR		LR	14 31 50.7	
	comp=Z,58nm,20.4s,baz=40,slow=40							
MJB9	Matsu-Tunnel	6.58	233	*e*Pn		Pn	14 29 03.4	-1.4
MAJO	Matsushiro	6.58	233	*e*Pn		Pn	14 29 03.4	-1.4
MAJO				*e*Sn		Sn	14 30 12.5	-7.4
PETK	Petropavlovsk-	15.22	31	Pn		Pn	14 31 01.6	-1.3
	0.1nm,0.3s,baz=187,slow=12,SNR=5.1							
PEA1	Petropavlovsk-	15.23	31	*e*Pn		Pn	14 31 01.6	-1.3
SEY	Seymchan	22.74	9	P		P	14 32 29.6	-0.3
	1.6nm,0.7s,baz=206,slow=11,SNR=12							
SONA0	Songino Array	28.16	298	*e*P		P	14 33 22.0	+1.6
SONM	Songino Array	28.16	298	P		P	14 33 22.0	+1.6
	1.0nm,1.1s,baz=101,slow=7.8,SNR=4.3							
H11S1	WAKE ISLAND Hy	29.05	133	T		T	15 04 04.3	
	baz=325,slow=74							
H11S3	WAKE ISLAND Hy	29.05	133	T		T	15 03 59.6	
	baz=325							
H11S2	WAKE ISLAND Hy	29.06	133	T		T	15 03 57.7	
	baz=325,slow=74							
ZAA1	Zalesovo Array	41.50	309	*e*P		P	14 35 16.0	+1.1
ZALV	Zalesovo Beam	41.50	309	P		P	14 35 16.0	+1.1
	0.6nm,0.5s,baz=88,slow=7.9,SNR=3.6							
MK32	Makanchi Array	44.49	300	*e*P		P	14 35 39.9	+0.6
MKAR	Makanchi Array	44.49	300	P		P	14 35 39.9	+0.6
	0.4nm,0.6s,baz=86,slow=9.2,SNR=6.1							
MKAR				LR		LR	14 55 31.8	
	comp=Z,29nm,19.8s,baz=110,slow=38							
ILAR	Eielson Array	45.02	34	P		P	14 35 43.8	+0.6
	0.6nm,0.7s,baz=256,slow=6.4,SNR=8.4							
KURK	Kurchatov	45.82	306	*e*P		P	14 35 51.5	+1.7
KURBB	Kurchatov Arra	45.90	306	P		P	14 35 51.5	+1.1
	1.2nm,0.4s,baz=80,slow=8.6,SNR=4.6							
INK	Inuvik	49.95	29	P		P	14 36 23.3	+1.9
	1.9nm,0.6s,baz=294,slow=6.5,SNR=13							
BVAR	Borovoye Array	50.11	311	P		P	14 36 23.9	+1.0
	0.7nm,0.4s,baz=69,slow=8.0,SNR=6.8							
ABKAR	Akbulak array	57.61	309	*e*P		P	14 37 15.7	-2.2
WRAB	Tennant Creek	61.08	191	*e*P		P	14 37 38.9	-3.2
	1.6nm,0.6s							
WB2	Warramunga Arr	61.09	191	*e*P		P	14 37 41.4	-0.7
WR1	Warramunga Arr	61.09	191	*e*P		P	14 37 42.4	+0.3
	4.4nm,0.8s							
WRA	Warramunga Arr	61.09	191	P		P	14 37 42.4	+0.3
	4.0nm,0.7s,baz=9.2,slow=6.8,SNR=28							
ASAR	Alice Springs	64.81	191	P		P	14 38 08.1	+1.3
	0.7nm,0.6s,baz=3.2,slow=5.3,SNR=8.9							
FIA0	FINESS Array S	66.79	333	*e*P		P	14 38 19.5	+0.4
FINES	FINESS Array B	66.79	333	P		P	14 38 19.5	+0.4
	1.5nm,0.7s,baz=42,slow=6.6,SNR=5.1							
NB200	NORSAR Array S	71.80	338	*e*P		P	14 38 50.4	+0.1
NOA	NORSAR Array B	71.80	338	P		P	14 38 50.4	+0.1
	0.9nm,0.6s,baz=38,slow=6.2,SNR=3.0							
AKASG	Malin Array Be	72.98	323	P		P	14 38 58.3	+0.9
	1.0nm,0.6s,baz=43,slow=5.9,SNR=6.3							
BR101	Keskin Array S	78.34	313	*e*P		P	14 39 29.1	+0.6
BRTR	Keskin Array B	78.34	313	P		P	14 39 29.1	+0.6
	0.6nm,0.8s,baz=22,slow=3.1,SNR=2.4							
LTX	Lajitas	85.86	54	*e*P		P	14 40 09.4	+1.3
TXAR	Lajitas Array	85.86	54	P		P	14 40 09.4	+1.3
	0.7nm,0.6s,baz=289,slow=3.3,SNR=10.0							

*CSEM **29** 14:27:47.9±0.2, 42°.54N×43°.33E, h2km, ML3.3, Error ellipse: s-maj=3.4km s-min=2.3km az=66.0*
*TIF **29** 14:27:47.2, 42°.56N×43°.38E, h11km*
*ATA **29** 14:27:48.6±0.8, 42°.43N×43°.40E, h11km±11km, ML3.1, MW3.2*
*MOS **29** 14:27:48.6±0.6, 42°.59N×43°.45E, h6km, mb3.9/1, Error ellipse: s-maj=0.1km s-min=0.1km az=103.4*

ISC 29 14:27:48.3±0.8, **42°.56N**±0°.02×**43°.39E**±0°.02, **h7**km±5km, **n61,**σ1**$**09/114, **7C-11D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ONI	Oni	0.06	56	P		Pg	14 27 49.9	-0.1
ONI				S		Sg	14 27 51.3	+0.1
ONI	Oni	0.06	56⇑	*i*Pg		Pg	14 27 49.9	-0.1
ONI	Oni	0.06	56	P		Pg	14 27 49.9	-0.1
ONI				S		Sg	14 27 51.3	+0.1
DIGR	Digorskoe uzhe	0.37	23⇓	*i*Pg		Pg	14 27 55.1	-0.5
DIGR				*i*S		Sg	14 28 00.6	+0.1
DIGR	Digorskoe uzhe	0.37	23	*i*Pg		Pg	14 27 55.1	-0.5
DIGR				*i*Sg		Sg	14 28 00.6	+0.1
ZEI	Tsey	0.44	59⇑	*i*PG		Pg	14 27 56.3	-0.6
ZEI				*e*S		Sg	14 28 02.3	-0.5
ZEI	Tsey	0.44	59	*i*Pg		Pg	14 27 56.3	-0.6
ZEI				*e*Sg		Sg	14 28 02.3	-0.5
KORR	Kora	0.73	43⇓	*i*PG		Pg	14 28 02.1	-0.2
KORR				*e*S		Sb	14 28 13.0	-0.5
KORR	Kora	0.73	43	*i*Pg		Pg	14 28 02.1	-0.2
KORR				*e*Sg		Sb	14 28 13.0	-0.5
LSNR	Lesken	0.79	24⇓	*i*PG		Pg	14 28 03.4	0.0
LSNR				*e*S		Sb	14 28 15.2	-0.1
GUDG	Gudauri	0.81	96	P		Pg	14 28 03.8	-0.1
GUDG				S		Sb	14 28 15.6	-0.5
GUDG	Gudauri	0.81	96	P		Pg	14 28 03.8	-0.1
GUDG				S		Sb	14 28 15.6	-0.5
NEY	Neytrino	0.85	325	*e*PG		Pg	14 28 04.2	-0.3
NEY				*e*S		Sg	14 28 15.2

BTLR	**Botlikh**	**2.10**	**86**	*e*PN	**Pb**	**14 28 25.4**	**-1.2**
BTLR				*e*S	**Sg**	**14 28 54.4**	**-1.2**
BTLR	**Botlikh**	**2.10**	**86**	*e*Pn	**Pb**	**14 28 25.4**	**-1.2**
BTLR				*e*Sg	**Sg**	**14 28 54.4**	**-1.2**
QZX	**Qazax, Azerbai**	**2.11**	**135**	⇑P	**Pn**	**14 28 24.9**	**+0.9**
QZX				⇓S	**Sb**	**14 28 52.9**	**-0.3**
DDFL	**Dedoflistskaro**	**2.32**	**118**	P	**Pg**	**14 28 31.6**	**-1.1**
DDFL				S	**Sg**	**14 29 09.9**	**+7.2**
GDB	**GEDABAY**	**2.55**	**135**	⇓P	**Pn**	**14 28 31.6**	**+1.4**
GDB				⇓S	**Sb**	**14 29 04.2**	**-1.9**
EATA	**Eleskirt**	**2.78**	**194**	*e*P	**Pb**	**14 28 39.5**	**+1.1**
GANJ	**Ganja**	**2.91**	**130**	⇓P	**Pn**	**14 28 37.4**	**+2.3**
GANJ				⇓S	**Sb**	**14 29 15.1**	**-1.3**
BAYB	**BAYBURT**	**3.29**	**227**	*e*P	**Pn**	**14 28 43.7**	**+3.3**
KOPT	**Kop Dagi**	**3.34**	**222**	*e*P	**Pb**	**14 28 48.2**	**+0.1**
BRVK	**Borovoye**	**20.77**	**50**	⇑*e*P	**P**	**14 32 28.0**	**-1.6**
BRVK				pmax	pmax		

comp=Z,1.0nm,0.9s

IDC 29 14:28:50.5±2.1, 16°64'S×178°43'W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.7/52, mbtmp3.8/6, Error ellipse: s-maj=148.2km s-min=23.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.86**	**258**	P	P	14 37 06.9	-0.1
	0.6nm,0.5s,baz=97,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**45.13**	**253**	P	P	14 37 08.9	-0.1
	7.6nm,0.6s,baz=89,slow=7.8,SNR=219						
NVAR	**Mina Array Bea**	**78.53**	**44**	P	P	14 40 55.5	+1.4
	0.2nm,0.5s,baz=228,slow=8.0,SNR=3.8						
ILAR	**Eielson Array**	**84.66**	**13**	P	P	14 41 25.2	-0.4
	0.2nm,0.4s,baz=221,slow=4.8,SNR=3.4						
TXAR	**Lajitas Array**	**85.34**	**58**	P	P	14 41 29.4	-0.6
	0.2nm,0.6s,baz=222,slow=4.9,SNR=3.6						
PDAR	**Pinedale Array**	**86.45**	**43**	P	P	14 41 34.6	-0.8
	0.2nm,0.5s,baz=243,slow=4.0,SNR=2.5						

MEX 29 14:30:58.4±0.4, 16°08N×98°38W, h6km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**39**	*e*P	Pg	14 31 05.8	-0.3
PNIG				*i* S	Sg	14 31 11.3	+0.1
TLIG	**Tlapa**	**1.48**	**353**	*e*P	Pn	14 31 21.7	-4.1
TLIG				*e*S	Sn	14 31 40.6	-5.0
ACX	**Acapulco**	**1.62**	**299**	*e*P	Pn	14 31 26.2	-1.3
ACX				*i* S	Sn	14 31 46.7	-2.0
VHO	**Vista Hermosa**	**1.86**	**58**	*i* P	Pn	14 31 27.1	-4.0
VHO				*i* S	Sn	14 31 50.4	-4.7
HUIG	**Huatulco**	**2.21**	**98**	*e*P	Pn	14 31 32.5	-3.3
HUIG				*i* S	Sn	14 31 59.0	-4.5

*ISCJB **29** 14:53:10.9±0.4, 15°9N±0°1×46°63W±0°07, h10km, mb4.0/10, MS3.3/12, Error ellipse: s-maj=14.8km s-min=9.2km az=170.9*

*IDC **29** 14:53:11.1±0.7, 15°99N×46°60W, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.8/55, mbtmp4.0/10, MS3.4/13, Ms1 3.4/13, ms1mx3.0/51, Error ellipse: s-maj=21.9km s-min=18.8km az=151.0*

*NEIC **29** 14:53:12.4±0.3, 15°87N×46°61W, h10km, mb4.2/2, Error ellipse: s-maj=11.2km s-min=7.1km az=172.0*

ISC 29 14:53:12.5±0.6, 15°9N±0°1×46°62W±0°10, h10km, n43, σ0s84/28, mb4.0/10, MS3.4/12, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVB	**Belmont**	**14.40**	**262**	*e*Pn	**Pn**	**14 56 35.5**	**-1.1**
ANWB	**Willy Bob**	**14.63**	**279**	*e*Pn	**Pn**	**14 56 40.4**	**+0.7**
SJG	**San Juan**	**18.81**	**280**	LR	LR	15 03 22.7	
	comp=Z,156nm,21.9s,baz=88,slow=32						
SDV	**Santo Domingo**	**24.45**	**256**	LR	LR	15 09 20.4	
	comp=Z,20nm,18.9s,baz=52,slow=40						
BBTS	**Babate**	**29.04**	**88**	LR	LR	15 07 23.9	
	comp=Z,83nm,21.9s,baz=338,slow=29						
ROSC	**El Rosal**	**29.33**	**251**	LR	LR	15 11 17.8	
	comp=Z,45nm,19.5s,baz=110,slow=37						
SIV	**San Ignacio**	**34.74**	**205**	P	**P**	**15 00 04.4**	**+1.3**
	0.4nm,0.4s,baz=30,slow=8.1,SNR=3.3						
LPAZ	**La Paz**	**38.38**	**215**	P	**P**	**15 00 36.2**	**+1.4**
	1.7nm,0.8s,baz=44,slow=7.4,SNR=7.2						
LPAZ	**La Paz**	**38.38**	**215**	*e*P	**P**	**15 00 33.5**	**-1.3**
	3.9nm,0.9s						
H10N3	**ASCENSION HYDR**	**39.59**	**124**	T	T	15 42 55.1	
	baz=306,slow=75,SNR=25						
H10N2	**ASCENSION HYDR**	**39.59**	**124**	T	T	15 42 55.4	
	baz=306,slow=75,SNR=18						
H10N1	**ASCENSION HYDR**	**39.61**	**124**	T	T	15 42 56.7	
	baz=306,slow=75,SNR=21						
H10S3	**ASCENSION HYDR**	**40.13**	**126**	T	T	15 43 34.1	
	baz=308,slow=75,SNR=18						
H10S1	**ASCENSION HYDR**	**40.14**	**126**	T	T	15 43 28.9	
	baz=308,slow=75,SNR=18						
H10S2	**ASCENSION HYDR**	**40.15**	**126**	T	T	15 43 29.4	
	baz=308,slow=75,SNR=18						
KOWA	**Kowa**	**41.09**	**86**	P	**P**	**15 00 57.6**	**+0.7**
	1.9nm,0.7s,baz=298,slow=7.5,SNR=4.8						
KOWA				LR	LR	15 15 19.0	
	comp=Z,80nm,19.8s,baz=214,slow=32						
DBIC	**Dimbokro**	**41.90**	**98**	P	**P**	**15 01 03.0**	**-0.5**
	8.0nm,1.1s,baz=274,slow=4.8,SNR=4.1						
DBIC				LR	LR	15 14 48.6	
	comp=Z,56nm,21.0s,baz=224,slow=31						
CPUP	**Villa Florida**	**43.24**	**194**	P	**P**	**15 01 14.0**	**-0.1**
	1.7nm,0.7s,baz=11,slow=9.4,SNR=4.3						
CPUP	**Villa Florida**	**43.24**	**194**	*e*P	**P**	**15 01 14.0**	**-0.1**
	6.5nm,1.3s						
ESDC	**Sonseca Array**	**44.02**	**49**	LR	LR	15 16 31.5	
	comp=Z,24nm,21.1s,baz=185,slow=32						
TOA1	**Torodi Ar. Sit**	**46.77**	**87**	*e*P	**P**	**15 01 41.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**46.77**	**87**	P	**P**	**15 01 41.6**	**-0.9**
	4.6nm,1.0s,baz=285,slow=7.7,SNR=17						
TORD				LR	LR	15 19 49.0	
	comp=Z,48nm,18.6s,baz=260,slow=34						
ULM	**Lac du Bonnet**	**52.28**	**322**	LR	LR	15 22 03.5	
	comp=Z,40nm,20.5s,baz=11,slow=33						
KEST	**Kesra**	**53.39**	**57**	LR	LR	15 22 50.9	
	comp=Z,37nm,22.0s,baz=264,slow=33						
LTX	**Lajitas**	**53.87**	**295**	*e*P	**P**	**15 02 36.1**	**-0.2**
TXAR	**Lajitas Array**	**53.87**	**295**	P	**P**	**15 02 36.1**	**-0.2**
	0.3nm,0.7s,baz=108,slow=9.2,SNR=4.4						
TXAR				LR	LR	15 27 29.9	
	comp=Z,28nm,18.1s,baz=0.0,slow=38						
PDAR	**Pinedale Array**	**59.57**	**310**	LR	LR	15 27 01.4	
	comp=Z,36nm,19.9s,baz=52,slow=34						
CHNC	**Chino**	**65.74**	**300**	*e*P	**P**	**15 03 58.4**	**+0.6**
YKA	**Yellowknife Ar**	**65.89**	**332**	P	**P**	**15 03 57.1**	**-1.1**
	0.5nm,0.9s,baz=100,slow=7.9,SNR=6.8						
YBH	**Yreka Blue Hor**	**69.30**	**309**	LR	LR	15 35 02.5	
	comp=Z,34nm,18.0s,baz=69,slow=36						
BR101	**Keskin Array S**	**72.62**	**53**	*e*P	**P**	**15 04 40.9**	**+0.2**
BRTR	**Keskin Array B**	**72.62**	**53**	P	**P**	**15 04 40.9**	**+0.2**
	2.4nm,1.0s,baz=265,slow=6.1,SNR=7.2						
IL1	**Eielson Array**	**80.08**	**335**	*e*P	**P**	**15 05 23.1**	**+0.8**
ILAR	**Eielson Array**	**80.08**	**335**	P	**P**	**15 05 22.6**	**+0.3**
	3.4nm,0.9s,baz=79,slow=4.3,SNR=25						
ILB	**Eielson Array**	**80.08**	**335**	*e*P	**P**	**15 05 21.1**	**-1.2**
IM3	**Indian Mountai**	**82.40**	**337**	*e*P	**P**	**15 05 36.4**	**+1.8**
AB05	**Akbulak array**	**88.52**	**39**	*e*P	**P**	**15 06 05.5**	**+0.1**
AB04	**Akbulak array**	**88.52**	**39**	*e*P	**P**	**15 06 04.6**	**-0.9**
AB08	**Akbulak array**	**88.52**	**39**	*e*P	**P**	**15 06 05.7**	**+0.2**
AB01	**Akbulak array**	**88.52**	**39**	*e*P	**P**	**15 06 05.0**	**-0.5**
AB02	**Akbulak array**	**88.52**	**39**	*e*P	**P**	**15 06 05.5**	**0.0**
AB06	**Akbulak array**	**88.54**	**39**	*e*P	**P**	**15 06 05.3**	**-0.2**
AB07	**Akbulak array**	**88.54**	**39**	*e*P	**P**	**15 06 05.7**	**+0.2**

MEX 29 15:05:12.7±0.5, 16°23N×98°30W, h5km±9km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**45**	*e*P	Pg	15 05 17.2	0.0
PNIG				*e*S	Sg	15 05 20.1	-0.2
TLIG	**Tlapa**	**1.35**	**349**	*i* P	Pn	15 05 34.5	-3.8
TLIG				*i* S	Sg	15 05 52.0	-4.2
CAIG	**El Cayaco**	**2.06**	**294**	*i* P	Pn	15 05 44.6	-3.4
CAIG				*i* S	Sn	15 06 09.0	-5.0

*IDC **29** 15:14:03.8±1.5, 23°70S×177°51W, h233km±12km, mb3.9/16, mb1 4.1/18, mb1mx3.8/46, mbtmp4.6/18, Error ellipse: s-maj=14.5km s-min=11.7km az=113.0*

*ISCJB **29** 15:14:04.3±0.3, 23°74S±0°03×177°55W±0°07, h250km, mb4.5/38, Error ellipse: s-maj=8.8km s-min=4.0km az=6.9*

*WEL **29** 15:14:05.0, 23°77S×177°43W, h249km*

*NEIC **29** 15:14:05.0±1.2, 23°77S×177°43W, h249km±11km, mb4.9/30, Error ellipse: s-maj=11.2km s-min=7.3km az=107.0*

ISC 29 15:14:05.7±0.4, 23°69S±0°05×177°59W±0°08, h250km, n143, σ2s48/162, mb4.7/38, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.54**	**183**	S	**S**	**15 16 40.5**	**+6.6**
RAO	**Raoul Island**	**5.54**	**183**	S	**S**	**15 16 37.3**	**+3.2**
	101nm,0.3s,baz=90,slow=20,SNR=2.8						
GLKZ	**Green Lake**	**5.55**	**183**	S	**S**	**15 16 40.5**	**+6.3**
MSVF	**Nonsavu**	**7.20**	**325**	*e*Pn	**Pn**	**15 15 51.2**	**+2.1**
AFI	**Afiamalu**	**11.18**	**30**	P	**Pn**	**15 16 36.2**	**-3.0**
	23nm,0.3s,baz=224,slow=1.0,SNR=42						
AFI				S	S	15 18 27.7	-17
	7.2nm,0.3s,baz=240,slow=20,SNR=3.6						
AFI	**Afiamalu**	**11.18**	**30**	*e*Pn	**Pn**	**15 16 36.3**	**-3.0**
AFI				*e*S	S	15 18 28.8	-16
OUZ	**Omahuta**	**13.81**	**212**	*e*Pn	**P**	**15 17 13.7**	**+1.4**
MXZ	**Matakaoa Point**	**14.27**	**193**	*e*Pn	**P**	**15 17 16.4**	**-1.0**
DZM	**Mont Dzumac**	**14.81**	**273**	P	**Pn**	**15 17 27.8**	**+4.0**
	1.3nm,0.3s,baz=205,slow=22,SNR=11						
DZM	**Mont Dzumac**	**14.81**	**273**	*e*Pn	**Pn**	**15 17 26.7**	**+2.9**
OPRZ	**Ohinepanea**	**14.97**	**198**	P	**Pn**	**15 17 28.9**	**+3.4**
KMRZ	**Kaimai**	**15.16**	**200**	P	**Pn**	**15 17 31.4**	**+3.6**
MWZ	**Matawai**	**15.18**	**195**	P	**Pn**	**15 17 29.0**	**+1.0**
TOZ	**Tahuroa Road**	**15.19**	**201**	P	**Pn**	**15 17 31.5**	**+3.3**
URZ	**Urewera**	**15.21**	**196**	P	**Pn**	**15 17 27.7**	**-0.6**
	12nm,0.3s,baz=310,slow=1.7,SNR=75						
URZ				S	**S**	**15 20 05.8**	**-10**
	3.2nm,0.3s,baz=57,slow=19,SNR=13						
URZ	**Urewera**	**15.21**	**196**	*e*P	**P**	**15 17 25.9**	**-1.8**
	59nm,0.7s						
URZ				*e*S	**S**	**15 20 05.8**	**-10**
OMRZ	**Omania**	**15.27**	**198**	P	**Pn**	**15 17 32.4**	**+3.3**
TARZ	**Mount Tarawera**	**15.35**	**198**	P	**Pn**	**15 17 32.9**	**+2.8**
RAGZ	**Rawiri**	**15.36**	**195**	P	**Pn**	**15 17 30.7**	**+0.5**
RAGZ	**Rawiri**	**15.36**	**195**	S	**S**	**15 20 11.3**	**-7.6**
RRRZ	**Republican Roa**	**15.44**	**198**	P	**Pn**	**15 17 33.2**	**+2.0**
HSRZ	**Hossack Road**	**15.49**	**198**	P	**Pn**	**15 17 33.8**	**+2.0**
MUGZ	**Murupara**	**15.50**	**197**	P	**Pn**	**15 17 31.6**	**-0.3**
MUGZ	**Murupara**	**15.50**	**197**	S	**S**	**15 20 17.0**	**-4.7**
HRRZ	**Handcock Road**	**15.56**	**198**	P	**Pn**	**15 17 34.4**	**+1.9**
RTZ	**Ruatahuna**	**15.58**	**196**	P	**Pn**	**15 17 32.6**	**-0.3**
RTZ	**Ruatahuna**	**15.58**	**196**	S	**S**	**15 20 16.3**	**-7.0**
PRRZ	**Plateau Road**	**15.63**	**198**	P	**Pn**	**15 17 34.3**	**+0.9**
TLZ	**Tolley Road**	**15.73**	**200**	P	**Pn**	**15 17 36.1**	**+1.5**
RAHZ	**Arahi**	**15.84**	**195**	P	**Pn**	**15 17 36.2**	**+0.3**
RAHZ	**Arahi**	**15.84**	**195**	S	**S**	**15 20 22.6**	**-5.7**
MHGZ	**Mahia Peninsul**	**15.88**	**193**	P	**Pn**	**15 17 36.2**	**-0.2**
WHHZ	**Waihua**	**15.96**	**195**	P	**Pn**	**15 17 36.7**	**-0.5**
NMHZ	**Naumai**	**16.08**	**196**	P	**Pn**	**15 17 37.6**	**-1.1**
HIZ	**Hauiti**	**16.12**	**202**	*e*P	**Pn**	**15 17 41.3**	**+2.1**
	57nm,0.9s						
HIZ	**Hauiti**	**16.12**	**202**	P	**Pn**	**15 17 40.8**	**+1.7**
RATZ	**Rangitukua**	**16.15**	**199**	P	**Pn**	**15 17 39.3**	**-0.2**
BKZ	**Black Stump Fm**	**16.22**	**197**	*e*P	**P**	**15 17 36.4**	**-2.6**
	73nm,1.3s						
BKZ	**Black Stump Fm**	**16.22**	**197**	P	**P**	**15 17 37.7**	**-1.3**
KATZ	**Kakaramea**	**16.27**	**199**	P	**Pn**	**15 17 41.2**	**+0.2**
WTVZ	**West Tongariro**	**16.43**	**199**	P	**Pn**	**15 17 41.9**	**-1.1**
MCHZ	**McNeill Hill**	**16.43**	**196**	P	**Pn**	**15 17 41.0**	**-1.8**
TWVZ	**Taurewa**	**16.44**	**200**	P	**Pn**	**15 17 42.0**	**-1.0**
NGZ	**Ngauruhoe**	**16.48**	**199**	P	**Pn**	**15 17 42.9**	**-0.7**
KWHZ	**Kaweka Forest**	**16.48**	**197**	P	**Pn**	**15 17 42.1**	**-1.4**
COVZ	**Chateau Observ**	**16.52**	**199**	P	**Pn**	**15 17 42.9**	**-1.1**
TUVZ	**Tukino**	**16.55**	**199**	P	**Pn**	**15 17 43.6**	**-0.8**
FWVZ	**Far West T-bar**	**16.57**	**199**	P	**P**	**15 17 40.2**	**-2.7**
WHVZ	**Whangaehu Hut**	**16.59**	**199**	P	**Pn**	**15 17 43.4**	**-1.5**
TRVZ	**Turoa**	**16.61**	**199**	P	**P**	**15 17 42.8**	**-0.7**
BHHZ	**Black Hill Sta**	**16.64**	**197**	P	**P**	**15 17 41.7**	**-1.9**
RAR	**Rarotonga**	**16.65**	**85**	S	S	15 20 20.4	-25
	2.0nm,0.3s,baz=261,slow=9.8,SNR=9.7						
PKVZ	**Pokaka**	**16.66**	**199**	P	**Pn**	**15 17 44.9**	**-0.7**
VRZ	**Vera Road**	**16.70**	**201**	P	**Pn**	**15 17 45.9**	**-0.1**
KRHZ	**Kereru**	**16.70**	**196**	P	**P**	**15 17 42.3**	**-1.9**
PXZ	**Pawanui**	**16.95**	**195**	P	**Pn**	**15 17 47.1**	**-1.8**
PNHZ	**Pukenui**	**17.00**	**197**	P	**P**	**15 17 46.8**	**-0.7**
LREZ	**Lake Rotokare**	**17.12**	**201**	P	**Pn**	**15 17 53.2**	**+2.2**
TSZ	**Takapari Road**	**17.20**	**197**	P	**Pn**	**15 17 50.0**	**-1.9**
PRHZ	**Porangahau**	**17.23**	**195**	P	**Pn**	**15 17 50.7**	**-1.5**
DVHZ	**Dannevirke**	**17.38**	**196**	P	**P**	**15 17 51.5**	**0.0**
BFZ	**Binn Farm**	**17.72**	**196**	*e*P	**P**	**15 17 53.7**	**-1.4**
	86nm,1.4s						
MRZ	**Mangatainoka R**	**17.87**	**197**	P	**P**	**15 17 55.2**	**-1.6**
SNZO	**South Karori**	**18.72**	**198**	*e*P	**P**	**15 18 03.7**	**-2.2**
	102nm,1.4s						
THZ	**Tophouse**	**19.69**	**202**	*e*P	**P**	**15 18 14.3**	**-2.1**
	169nm,2.0s						
THZ				*e*S	**S**	**15 21 38.9**	**-5.8**
KHZ	**Kahutara**	**20.08**	**199**	*e*P	**P**	**15 18 19.3**	**-1.1**
	18nm,0.7s						
LTZ	**Lake Taylor**	**20.81**	**201**	*e*P	**P**	**15 18 25.0**	**-3.3**
	23nm,0.8s						
OXZ	**Oxford**	**21.37**	**201**	*e*P	**P**	**15 18 31.4**	**-2.5**
	25nm,0.6s						
OXZ				*e*S	**S**	**15 22 14.9**	**+1.1**
CRLZ	**Canterbury Las**	**21.41**	**200**	*e*P	**P**	**15 18 33.2**	**-0.9**
	83nm,1.5s						
MQZ	**McQueen's Vall**	**21.52**	**200**	*e*P	**P**	**15 18 32.1**	**-3.1**
	28nm,1.2s						
MQZ				*e*S	**S**	**15 22 16.7**	**+0.6**
RPZ	**Rata Peaks**	**22.05**	**202**	P	**P**	**15 18 39.2**	**-0.9**
	15nm,0.5s,baz=26,slow=2.2,SNR=24						
FOZ	**Fox Glacier**	**22.35**	**205**	*e*P	**P**	**15 18 42.2**	**-0.5**
	46nm,0.6s						
LBZ	**Lake Benmore**	**22.94**	**203**	*e*P	**P**	**15 18 48.1**	**-0.1**
	91nm,2.0s						
ODZ	**Otahua Downs**	**23.36**	**201**	*e*P	**P**	**15 18 51.7**	**-0.2**
	76nm,1.9s						
WKZ	**Wanaka**	**23.75**	**204**	*e*P	**P**	**15 18 54.8**	**-0.8**
	25nm,0.7s						
MLZ	**Mavora Lakes**	**24.55**	**205**	*e*P	**P**	**15 19 03.6**	**+0.8**
	21nm,0.8s						
DCZ	**Deep Cove**	**25.01**	**206**	*e*P	**P**	**15 19 07.9**	**+1.1**
	56nm,1.6s						
WHZ	**Wether Hill Ro**	**25.05**	**204**	*e*P	**P**	**15 19 07.6**	**+0.3**
	28nm,1.1s						
HNR	**Honiara**	**25.73**	**300**	P	**P**	**15 19 14.0**	**+0.3**
	301nm,0.8s,baz=55,slow=12,SNR=5.9						
EIDS	**Eidsvold**	**28.52**	**260**	*e*P	**P**	**15 19 38.7**	**+0.2**
	63nm,1.9s						
CAN	**Canberra**	**31.16**	**240**	*e*P	**P**	**15 20 02.8**	**+1.2**
	49nm,2.0s						
CTA	**Charters Tower**	**33.69**	**269**	P	**P**	**15 20 24.6**	**+1.0**
	5.9nm,0.3s,baz=96,slow=11,SNR=24						
CTAO	**Charters Tower**	**33.69**	**269**	*e*P	**P**	**15 20 24.8**	**+1.0**
	27nm,1.3s						
TAU	**Tasmania Unive**	**34.70**	**228**	*e*P	**P**	**15 20 33.6**	**+1.6**
	122nm,1.9s						
PMG	**Port Moresby**	**36.53**	**287**	P	**P**	**15 20 47.2**	**-0.7**
	21nm,1.0s,baz=60,slow=5.0,SNR=6.1						
STKA	**Stephens Creek**	**36.85**	**248**	P	**P**	**15 20 51.1**	**+0.7**
	6.4nm,0.4s,baz=95,slow=10,SNR=49						
STKA				PcP	**PcP**	**15 23 06.8**	**+0.3**
	2.0nm,0.6s,baz=27,slow=4.5,SNR=3.8						
STKA	**Stephens Creek**	**36.85**	**248**	*e*P	**P**	**15 20 51.2**	**+0.7**
	1.4nm,0.5s						
STKA				*e*PcP	**PcP**	**15 23 06.8**	**+0.3**
BBOO	**Buckleboo**	**41.56**	**247**	*e*P	**P**	**15 21 28.5**	**-0.8**
	60nm,1.9s						
AS01	**Alice Springs**	**44.21**	**260**	*e*P	**P**	**15 21 50.8**	**+0.2**
AS31	**Alice Springs**	**44.25**	**260**	*e*P	**P**	**15 21 51.0**	**+0.1**
	1.9nm,0.8s						
ASAR	**Alice Springs**	**44.25**	**260**	P	**P**	**15 21 50.8**	**-0.2**
	1.9nm,0.3s,baz=94,slow=7.3,SNR=101						
ASAR				PcP	**PcP**	**15 23 31.8**	**+1.0**
	0.7nm,0.6s,baz=98,slow=5.5,SNR=3.5						
ASAR				ScP	**ScP**	**15 27 00.6**	**+1.9**
	1.3nm,0.8s,baz=104,slow=4.5,SNR=6.4						
ASAR				S	**S**	**15 28 00.2**	**-5.3**
	0.7nm,0.7s,baz=97,slow=15,SNR=6.3						
WB2	**Warramunga Arr**	**44.62**	**265**	*e*P	**P**	**15 21 53.2**	**-0.6**
WR1	**Warramunga Arr**	**44.62**	**265**	*e*P	**P**	**15 21 53.4**	**-0.5**
	4.7nm,0.7s						
WR1				*e*PcP	**PcP**	**15 23 32.8**	**+0.7**
WR1				*e*ScP	**ScP**	**15 27 02.2**	**+2.0**
WR1				*e*S	**S**	**15 28 03.6**	**-7.3**
WRA	**Warramunga Arr**	**44.63**	**265**	P	**P**	**15 21 53.4**	**-0.6**
	1.9nm,0.3s,baz=96,slow=8.5,SNR=49						
WRA				PcP	**PcP**	**15 23 32.8**	**+0.7**
	0.5nm,0.5s,baz=101,slow=7.8,SNR=3.2						
WRA				ScP	**ScP**	**15 27 02.2**	**+2.0**
	0.6nm,0.5s,baz=100,slow=4.0,SNR=7.7						
WRA				S	**S**	**15 28 03.6**	**-7.4**
	0.9nm,1.0s,baz=99,slow=14,SNR=3.5						
FORT	**Forrest**	**48.45**	**249**	*e*P	**P**	**15 22 22.7**	**-0.7**
	314nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.05**	**265**	*e*P	**P**	**15 22 58.1**	**+0.4**
	19nm,1.9s						
VNDA	**Vanda**	**54.78**	**185**	P	**P**	**15 23 08.2**	**-1.2**
	0.5nm,0.4s,baz=83,slow=20,SNR=8.7						
VNDA	**Vanda**	**54.78**	**185**	*e*P	**P**	**15 23 09.2**	**-0.2**
SOEI	**Soe**	**57.03**	**274**	*e*P	**P**	**15 23 27.7**	**+1.3**
	44nm,0.7s						
NWAO	**Narrogin (SRO)**	**57.33**	**245**	P	**P**	**15 23 28.1**	**+0.1**
	15nm,1.2s,baz=135,slow=10.0,SNR=2.5						
BATI	**Baumata**	**57.42**	**273**	P	**P**	**15 23 29.5**	**+0.5**
	5.2nm,0.4s,baz=146,slow=6.5,SNR=4.5						
MBWA	**Marble Bar**	**57.58**	**259**	*e*P	**P**	**15 23 29.9**	**-0.1**
	34nm,1.6s						
CASY	**Casey**	**61.26**	**206**	*e*P	**P**	**15 23 56.2**	**+1.9**
	17nm,1.0s						
QSPA	**South Pole Qui**	**66.39**	**180**	*e*P	**P**	**15 24 31.2**	**+3.4**
QSPA				*e*		15 24 31.5	
MAW	**Mawson**	**78.70**	**200**	P	**P**	**15 25 40.4**	**+0.5**
	7.3nm,0.6s,baz=73,slow=19,SNR=3.5						
MAW	**Mawson**	**78.70**	**200**	*e*P	**P**	**15 25 42.8**	**+2.8**
	22nm,1.6s						
GATR	**Gnd/Air Tx Cnt**	**79.31**	**45**	*e*P	**P**	**15 25 41.5**	**-2.3**
PETK	**Petropavlovsk-**	**79.44**	**345**	P	**P**	**15 25 44.1**	**+0.1**
	1.2nm,0.5s,baz=137,slow=3.6,SNR=15						
PEA1	**Petropavlovsk-**	**79.45**	**345**	*e*P	**P**	**15 25 44.1**	**+0.1**
PCBM	**Cambria**	**79.55**	**44**	*e*P	**P**	**15 25 43.2**	**-1.8**
SSTC	**Santa Clara**	**80.01**	**46**	*e*P	**P**	**15 25 48.2**	**+0.7**
BFSC	**Mount Baldy Ra**	**80.98**	**47**	*e*P	**P**	**15 25 52.6**	**-0.3**
EDW2	**Edwards Air Fo**	**81.14**	**46**	*e*P	**P**	**15 25 53.8**	**+0.2**
CCCA	**Chr Cany lake**	**81.94**	**46**	*e*P	**P**	**15 25 59.6**	**+1.9**
SYO	**Syowa Base**	**83.71**	**193**	⇓*i*P	**P**	**15 26 05.4**	**-0.8**
SYO	**Syowa Base**	**83.71**	**193**	⇓*e*PcP	**PcP**	**15 26 10.2**	**+0.4**
SNAA	**Sanae**	**84.82**	**178**	P	**P**	**15 26 12.1**	**+0.2**
SNAA	**Sanae**	**84.82**	**178**	P	**P**	**15 26 12.3**	**+0.4**
	1.7nm,0.6s,baz=204,slow=12,SNR=8.3						
SNAA	**Sanae**	**84.82**	**178**	*e*P	**P**	**15 26 13.8**	**+2.0**
	31nm,1.9s						
VNA3	**Neumayer Olymp**	**84.94**	**176**	P	**P**	**15 26 13.4**	**+1.0**
VNA2	**Neumayer--Watz**	**85.39**	**177**	P	**P**	**15 26 17.3**	**+2.7**
	baz=184,slow=3.8						
SEY	**Seymchan**	**89.56**	**347**	P	**P**	**15 26 34.5**	**+0.2**
	1.8nm,0.8s,baz=167,slow=5.4,SNR=11						
PDAR	**Pinedale Array**	**91.02**	**43**	P	**P**	**15 26 42.2**	**+0.3**
	0.2nm,0.5s,baz=240,slow=7.2,SNR=2.2						
ILAR	**Eielson Array**	**91.33**	**13**	P	**P**	**15 26 43.5**	**+1.0**
	0.4nm,0.6s,baz=221,slow=5.9,SNR=8.5						
CMAR	**Chiang Mai Arr**	**91.53**	**289**	P	**P**	**15 26 43.1**	**-1.5**
	0.3nm,0.5s,baz=116,slow=4.1,SNR=2.3	

NVAR	**Mina Array Bea**	**79.77**	**42**	P	P	15 29 26.5	-0.1
	0.2nm,0.5s,baz=228,slow=9.5,SNR=2.6						
TXAR	**Lajitas Array**	**85.03**	**56**	P	P	15 29 54.0	-0.2
	0.1nm,0.4s,baz=227,slow=4.8,SNR=2.7						
SEY	**Seymchan**	**88.42**	**346**	P	P	15 30 09.9	+0.1
	1.1nm,0.7s,baz=190,slow=18,SNR=5.1						
CMAR	**Chiang Mai Arr**	**93.64**	**288**	P	P	15 30 36.1	+1.0
	0.4nm,0.4s,baz=106,slow=3.3,SNR=4.3						

ISCJB ***29*** *15:23:58.8±0.9,36˚.25N±0˚.07×142˚.46E±0˚.09,h19km, mb3.3/4,Error ellipse: s-maj=11.1km s-min=10.2km az=160.7*

IDC ***29*** *15:23:58.1±1.5,36˚.32N×142˚.42E,h0km,mb3.3/4, mb1 3.4/7,mb1mx3.2/62,mbtmp3.4/7,ML3.1/3,Error ellipse: s-maj=36.4km s-min=21.2km az=71.0*

JMA ***29*** *15:24:05.0±0.3,36˚.28N×141˚.99E,h60km,M2.8*

ISC 29 15:24:00.7±1.4,36˚23N±0˚.07×142˚.4E±0˚.1,h19km,n14, σ1§21/17,mb3.4/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
JHO	**Hitachi**	**1.50**	**285**	P	**Pn**		**15 24 25.8**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.53**	**305**	P	**Pn**		**15 24 26.6**	**-0.6**
JMM	**Marumori**	**2.06**	**323**	P	**Pn**		**15 24 34.0**	**-0.4**
JFT	**Otama**	**2.08**	**309**	P	**Pn**		**15 24 35.2**	**+0.6**
JAG	**Ashikaga**	**2.36**	**276**	P	**Pn**		**15 24 38.0**	**-0.5**
JRY	**Ryogami san**	**2.82**	**267**	P	**Pn**		**15 24 44.4**	**-0.4**
MJAR	**Matsushiro Arr**	**3.37**	**277**	P	**Pn**		**15 24 52.8**	**+0.4**
	1.5nm,0.3s,baz=112,slow=7.6,SNR=22							
MJAR				Sn	**Sn**		**15 25 33.9**	**+2.0**
	0.7nm,0.3s,baz=105,slow=14,SNR=4.0							
MAT	**Matsushiro**	**3.37**	**277**	P	**Pn**		**15 24 53.3**	**+0.9**
MAT				*e*S	**Sn**		**15 25 30.0**	**-1.9**
JHJ	**Hachijo jima 2**	**3.76**	**215**	P	**Pn**		**15 24 58.9**	**+1.2**
	19nm,0.3s,baz=87,slow=19,SNR=6.6							
JHJ				Sn	**Sn**		**15 25 39.1**	**-2.4**
	6.8nm,0.3s,baz=347,slow=19,SNR=3.1							
ASAJ	**Asahikawa**	**7.88**	**1**	Pn	**Pn**		**15 25 53.8**	**-0.5**
	0.2nm,0.3s,baz=217,slow=20,SNR=2.4							
MKAR	**Makanchi Array**	**45.20**	**303**	P	**P**		**15 32 15.9**	**-0.5**
	0.3nm,0.6s,baz=81,slow=6.3,SNR=2.7							
KURBB	**Kurchatov Arra**	**47.10**	**309**	P	**P**		**15 32 31.3**	**0.0**
	0.2nm,0.5s,baz=80,slow=7.8,SNR=3.1							
WRA	**Warramunga Arr**	**56.38**	**189**	P	**P**		**15 33 41.8**	**+1.0**
	0.3nm,0.9s,baz=5.9,slow=7.0,SNR=3.2							
ASAR	**Alice Springs**	**60.11**	**189**	P	**P**		**15 34 07.8**	**+1.0**
	0.4nm,1.0s,baz=17,slow=10.0,SNR=3.0							

IDC ***29*** *15:24:16.0±2.1,10˚.48S×122˚.01E,h0km,mb3.1/1, mb1 3.2/3,mb1mx2.9/51,mbtmp3.0/3,ML2.9/2,Error ellipse: s-maj=56.8km s-min=27.3km az=32.0*

ISCJB ***29*** *15:24:19.1±1.0,10˚.48S±0˚.07×122˚.09E±0˚.09,h35km, mb3.1/1,Error ellipse: s-maj=14.3km s-min=7.2km az=146.6*

DJA ***29*** *15:24:24.5±1.0,9˚S±5˚×12˚3E±˚,h20km±19km,M2.7/4, MLv2.7/4*

ISC 29 15:24:20.5±1.3,10˚5S±0˚.1×122˚11E±0˚.10,h35km,n7, σ1§50/10,Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
BATI	**Baumata**	**1.55**	**80**	Pn	**Pn**		**15 24 46.2**	**+0.7**
	5.7nm,0.3s,baz=243,slow=2.6,SNR=12							
BATI				Sn	**Sn**		**15 25 04.0**	**-0.5**
	17nm,0.3s,baz=323,slow=20,SNR=20							
BATI	**Baumata**	**1.55**	**80**	P	**Pn**		**15 24 46.3**	**+0.7**
BATI				S	**Sn**		**15 25 04.7**	**+0.2**
EDFI	**Ende, Flores**	**1.76**	**346**	P	**Pn**		**15 24 49.4**	**+0.8**
EDFI				S	**Sn**		**15 25 07.8**	**-2.0**
SOEI	**Soe**	**2.24**	**72**	P	Pn		15 24 48.0	-7.2
WRA	**Warramunga Arr**	**15.09**	**130**	Pn	**Pn**		**15 27 49.7**	**-1.5**
	0.1nm,0.3s,baz=302,slow=11,SNR=7.4							
WRA				Sn	Sn		15 30 26.9	-10
	0.1nm,0.3s,baz=312,slow=25,SNR=3.7							
ASAR	**Alice Springs**	**17.28**	**141**	P	**Pn**		**15 28 20.8**	**+1.6**
	0.0nm,0.3s,baz=316,slow=11,SNR=2.6							
ASAR				S	**Sn**		**15 31 28.5**	**-2.1**
	0.0nm,0.3s,baz=314,slow=22,SNR=3.2							
MKAR	**Makanchi Array**	**67.18**	**331**	P	**P**		**15 35 11.7**	**+0.7**
	0.1nm,0.5s,baz=137,slow=7.2,SNR=2.3							

IDC 29 15:40:20.3±1.9,3˚57N×123˚75E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.1/61,mbtmp3.3/3,Error ellipse: s-maj=195.2km s-min=26.7km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**25.58**	**156**	P	P		15 45 50.9	-0.4
	0.3nm,0.4s,baz=334,slow=10,SNR=12							
ASAR	**Alice Springs**	**28.83**	**160**	P	P		15 46 20.9	+0.4
	0.2nm,0.5s,baz=343,slow=8.0,SNR=12							
MKAR	**Makanchi Array**	**56.02**	**327**	P	P		15 50 00.8	-0.1
	0.2nm,0.4s,baz=122,slow=6.9,SNR=4.5							

MEX 29 15:43:31.2±0.6,16˚17N×98˚62W,h15km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
PNIG	**Pinotepa**	**0.52**	**65**	*e*P	Pg		15 43 40.0	-1.6
PNIG				*e*S	Sg		15 43 47.2	-1.3
TLIG	**Tlapa**	**1.38**	**2**	*e*P	Pn		15 43 52.3	-3.8
TLIG				*i* S	Sn		15 44 08.6	-5.6
CAIG	**El Cayaco**	**1.80**	**299**	*i* P	Pn		15 43 59.4	-2.4
CAIG				*i* S	Sn		15 44 20.4	-4.1
VHO	**Vista Hermosa**	**2.02**	**63**	*i* P	Pn		15 44 01.3	-3.6
VHO				*i* S	Sn		15 44 26.0	-4.0
HUIG	**Huatulco**	**2.45**	**99**	*i* P	Pn		15 44 08.4	-2.3
HUIG				*i* S	Sn		15 44 35.4	-5.0

ISCJB ***29*** *15:45:48.3±0.4,35˚.05N±0˚.07×136˚.09E±0˚.07, h351km±3km,mb3.2/7,Error ellipse: s-maj=10.8km s-min=8.2km az=160.1*

IDC ***29*** *15:45:49.1±0.6,35˚.04N×136˚.18E,h346km±10km,mb3.1/7, mb1 3.2/13,mb1mx3.0/71,mbtmp3.9/13,Error ellipse: s-maj=20.3km s-min=11.2km az=61.0*

JMA ***29*** *15:45:49.4±0.1,35˚.13N×136˚.04E,h346km±1km,M3.2*

ISC 29 15:45:49.1±0.8,35˚07N±0˚.09×136˚08E±0˚.06,h344km±6km, n32,σ0§66/40,mb3.2/7,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
JWT	**Wachi**	**0.59**	**292**	P	**Pn**		**15 46 33.5**	**+0.6**
JWT				*e*S	**S**		**15 47 07.2**	**-0.8**
JIE	**Ise**	**0.85**	**142**	P	**Pn**		**15 46 34.3**	**+0.5**
JIE				S	**S**		**15 47 09.2**	**-0.3**
JWY	**Kouya**	**0.94**	**205**	P	**Pn**		**15 46 35.0**	**+0.8**
JKY	**Yasaka**	**0.97**	**306**	P	**Pn**		**15 46 34.7**	**+0.6**
JKY				*e*S	**S**		**15 47 09.8**	**-0.4**
JKG	**Kaga**	**1.23**	**10**	P	**Pn**		**15 46 35.5**	**+0.3**
JKG				*e*S	**S**		**15 47 11.7**	**-0.4**
JKSM	**Kasumi**	**1.27**	**295**	P	**Pn**		**15 46 35.8**	**+0.4**
JKSM				*e*S	**S**		**15 47 11.9**	**-0.6**
JYN	**Shimob**	**2.06**	**77**	P	**Pn**		**15 46 41.0**	**+0.6**
JNG	**Nsakai**	**2.12**	**50**	P	**Pn**		**15 46 41.5**	**+0.7**
MAT	**Matsushiro**	**2.27**	**49**	P	**Pn**		**15 46 42.4**	**+0.5**
MAT				S	**S**		**15 47 24.4**	**+0.1**
MAT	**Matsushiro**	**2.27**	**49**	P	**Pn**		**15 46 42.4**	**+0.5**
MJAR	**Matsushiro Arr**	**2.27**	**49**	P	**Pn**		**15 46 42.6**	**+0.7**
	9.0nm,0.3s,baz=227,slow=8.0,SNR=115							
MJAR				S	**S**		**15 47 24.1**	**-0.2**
	baz=242,slow=18,SNR=6.3							
JHS	**Saijyo**	**2.43**	**269**	P	**Pn**		**15 46 43.6**	**+0.4**
JRY	**Ryogami san**	**2.49**	**67**	P	**Pn**		**15 46 44.4**	**+0.8**
JSZ	**Suzu**	**2.59**	**23**	P	**Pn**		**15 46 45.0**	**+0.6**
JOI	**OKI**	**2.61**	**299**	P	**Pn**		**15 46 45.2**	**+0.7**
JGT2	**ShimaneMisato**	**2.93**	**271**	P	**Pn**		**15 46 47.3**	**-0.1**
JAG	**Ashikaga**	**3.06**	**63**	P	**Pn**		**15 46 47.9**	**-0.7**
JHK	**Hiroka**	**3.23**	**47**	P	**Pn**		**15 46 49.9**	**-0.2**
JSD	**Sado**	**3.45**	**30**	P	**Pn**		**15 46 52.6**	**+0.5**
JHJ	**Hachijo jima 2**	**3.64**	**121**	P	**Pn**		**15 46 55.2**	**+1.0**
	4.0nm,0.3s,baz=234,slow=19,SNR=2.3							
JAW	**Awa shima**	**4.24**	**36**	P	**Pn**		**15 47 00.3**	**+0.2**
JNU	**Nakatsue**	**4.73**	**247**	P	**Pn**		**15 47 06.3**	**+0.7**
	2.0nm,0.3s,baz=100,slow=1.2,SNR=22							
KSRS	**Korea Array**	**7.00**	**292**	P	**Pn**		**15 47 32.2**	**+0.9**
	1.7nm,0.3s,baz=107,slow=13,SNR=55							
USRK	**Ussuriysk Ar.**	**9.65**	**342**	P	**Pn**		**15 48 03.3**	**+0.6**
	0.2nm,0.3s,baz=167,slow=11,SNR=3.9							
ASAJ	**Asahikawa**	**10.34**	**27**	P	**Pn**		**15 48 09.2**	**-1.8**
	5.4nm,0.3s,baz=208,slow=6.7,SNR=48							
SONM	**Songino Array**	**25.47**	**309**	P	**P**		**15 50 47.5**	**+0.5**
	0.5nm,0.4s,baz=127,slow=10,SNR=4.2							
ZALV	**Zalesovo Beam**	**40.12**	**314**	P	**P**		**15 52 52.9**	**+0.6**
	0.6nm,0.6s,baz=111,slow=8.2,SNR=3.2							
MKAR	**Makanchi Array**	**41.54**	**303**	P	**P**		**15 53 04.3**	**+0.4**
	0.5nm,0.6s,baz=84,slow=12,SNR=8.0							
KURBB	**Kurchatov Arra**	**43.84**	**309**	P	**P**		**15 53 22.6**	**+0.5**
	1.4nm,0.2s,baz=76,slow=3.9,SNR=4.4							
FITZ	**Fitzroy Crossi**	**53.80**	**192**	P	**P**		**15 54 36.5**	**-0.9**
	0.5nm,0.4s,baz=357,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**54.73**	**182**	P	**P**		**15 54 43.3**	**-0.7**
	1.5nm,0.4s,baz=359,slow=7.7,SNR=40							
WRA				PcP	**PcP**		**15 55 41.9**	**+0.1**
	0.6nm,0.9s,baz=358,slow=4.3,SNR=3.7							
ASAR	**Alice Springs**	**58.45**	**182**	P	**P**		**15 55 09.5**	**-0.4**
	0.4nm,0.3s,baz=360,slow=6.0,SNR=28							

DDA ***29*** *15:49:17.9,39˚.96N×29˚.72E,h7km,Ml2.8*

ISCJB ***29*** *15:49:24.5±0.5,39˚.64N±0˚.02×29˚.44E±0˚.04,h0km,Error ellipse: s-maj=4.8km s-min=3.2km az=1.8*

CSEM ***29*** *15:49:24.6±0.2,39˚.63N×29˚.46E,h1km,ML2.3,Error ellipse: s-maj=5.9km s-min=3.8km az=94.0,Suspected Mining explosion.*

ISK ***29*** *15:49:24.3,39˚.62N×29˚.46E,h4km,ML2.3/7,Suspected Mining explosion.*

ISC 29 15:49:24.6±0.8,39˚63N±0˚.02×29˚36E±0˚.03,h0km,n24, σ0§76/43,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
TVSB	**Tavsanli**	**0.19**	**157**	PG	**Pg**		**15 49 28.2**	**-0.1**
TVSB				SG	**Sg**		**15 49 31.7**	**+0.9**
TVSB	**Tavsanli**	**0.19**	**157**	*i* Pg	**Pg**		**15 49 28.2**	**-0.1**
TVSB				*i* Sg	**Sg**		**15 49 31.7**	**+0.9**
GDZ	**Gediz**	**0.55**	**170**	*i* P	**Pg**		**15 49 35.0**	**-0.1**
GDZ				*i* S	**Sb**		**15 49 44.0**	**-1.6**
GDZ	**Gediz**	**0.55**	**170**	P	**Pg**		**15 49 35.0**	**-0.1**
GDZ				S	**Sb**		**15 49 44.0**	**-1.6**
CAVI	**Cavuskoy**	**0.68**	**33**	PG	**Pg**		**15 49 37.1**	**-0.6**
CAVI				SG	**Sg**		**15 49 47.1**	**+0.6**
CAVI	**Cavuskoy**	**0.68**	**33**	*e*Pg	**Pg**		**15 49 37.1**	**-0.6**
CAVI				*e*Sg	**Sg**		**15 49 47.1**	**+0.6**
DURS	**Dursunbey**	**0.69**	**268**	*i* P	**Pg**		**15 49 37.6**	**-0.2**
DURS				*i* S	**Sb**		**15 49 48.6**	**-1.0**
DURS	**Dursunbey**	**0.69**	**268**	P	**Pg**		**15 49 37.6**	**-0.2**
DURS				S	**Sb**		**15 49 48.6**	**-1.0**
DEMI	**Demirci**	**0.77**	**221**	*i* P	**Pb**		**15 49 40.8**	**-0.2**
DEMI				*i* S	**Sn**		**15 49 58.2**	**+3.0**
DEMI	**Demirci**	**0.77**	**221**	P	**Pb**		**15 49 40.8**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.83**	**334**	PG	**Pb**		**15 49 42.6**	**+0.7**
MDNY	**Mudanya-Bursa**	**0.83**	**334**	*i* Pg	**Pb**		**15 49 42.6**	**+0.7**
KCTX	**Karacabey (Bur**	**1.00**	**310**	PG	**Pb**		**15 49 44.9**	**0.0**
KCTX				SG	**Sn**		**15 50 00.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.00**	**310**	*e*Pg	**Pb**		**15 49 44.9**	**0.0**
KCTX				*e*Sg	**Sn**		**15 50 00.6**	**-0.2**
ARMT	**Armutlu**	**1.01**	**338**	PG	**Pg**		**15 49 44.1**	**+0.1**
ARMT				SG	**Sn**		**15 50 00.3**	**-0.8**
ARMT	**Armutlu**	**1.01**	**338**	*i* Pg	**Pg**		**15 49 44.1**	**+0.1**
ARMT				*i* Sg	**Sn**		**15 50 00.3**	**-0.8**
GULT	**Gulveren**	**1.19**	**47**	PN	**Pg**		**15 49 47.4**	**-0.1**
GULT				SN	**Sg**		**15 50 03.4**	**+0.4**
GULT	**Gulveren**	**1.19**	**47**	*e*Pn	**Pg**		**15 49 47.4**	**-0.1**
GULT				*e*Sn	**Sg**		**15 50 03.4**	**+0.4**
HRT	**Hereke**	**1.21**	**11**	PN	**Pg**		**15 49 48.0**	**+0.1**
HRT				SN	**Sb**		**15 50 04.6**	**-0.2**
HRT	**Hereke**	**1.21**	**11**	*e*Pn	**Pg**		**15 49 48.0**	**+0.1**
HRT				*e*Sn	**Sb**		**15 50 04.6**	**-0.2**
BUY	**Buyukada**	**1.24**	**351**	PN	**Pb**		**15 49 48.9**	**0.0**
BUY				SN	**Sn**		**15 50 06.9**	**+0.3**
BUY	**Buyukada**	**1.24**	**351**	*i* Pn	**Pb**		**15 49 48.9**	**0.0**
BUY				*i* Sn	**Sn**		**15 50 06.9**	**+0.3**
ISK	**Istanbul-Kandi**	**1.45**	**351**	PN	**Pg**		**15 49 52.5**	**0.0**
ISK	**Istanbul-Kandi**	**1.45**	**351**	*e*Pn	**Pg**		**15 49 52.5**	**0.0**

IDC ***29*** *15:54:38.5±1.7,25˚.63S×177˚.37W,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.8/39,mbtmp4.1/5,ML4.8/1,Error ellipse: s-maj=43.0km s-min=40.8km az=130.0*

ISCJB ***29*** *15:54:52.7±3.4,26˚.6S±0˚.1×177˚.2W±0˚.5,h150km,mb3.8/4, Error ellipse: s-maj=67.1km s-min=13.7km az=171.8*

ISC 29 15:54:55.3±1.8,26˚7S±0˚.1×177˚3W±0˚.3,h150km,n8, σ1§85/9,mb3.6/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**2.63**	**191**	Pn	**Pn**		**15 55 36.2**	**-1.8**
	73nm,0.3s,baz=15,slow=19,SNR=3.2							
RAO				Sn	**Sn**		**15 56 12.9**	**+1.9**
	81nm,0.3s,baz=41,slow=20,SNR=3.2							
CTA	**Charters Tower**	**33.98**	**273**	P	**P**		**16 01 24.7**	**-0.1**
	3.8nm,0.7s,baz=117,slow=6.8,SNR=3.8							
ASAR	**Alice Springs**	**44.03**	**263**	P	**P**		**16 02 48.1**	**-0.2**
	0.7nm,0.4s,baz=93,slow=7.7,SNR=28							
WRA	**Warramunga Arr**	**44.68**	**268**	P	**P**		**16 02 52.9**	**-0.6**
	0.4nm,0.3s,baz=106,slow=7.8,SNR=25							
CMAR	**Chiang Mai Arr**	**92.73**	**289**	P	**P**		**16 07 51.0**	**+0.2**
	0.3nm,0.7s,baz=108,slow=2.9,SNR=3.7							
HFS	**Hagfors**	**145.70**	**350**	PKP	**PKPdf**		**16 14 13.6**	**-1.6**
	1.3nm,0.7s,baz=35,slow=5.3,SNR=5.0							
MMAI	**Mount Meron Ar**	**150.99**	**290**	PKPbc	**PKPbc**		**16 14 32.8**	**+2.0**
	1.0nm,0.5s,baz=83,slow=5.3,SNR=2.5							
BRTR	**Keskin Array B**	**151.15**	**305**	PKPbc	**PKPbc**		**16 14 33.5**	**+2.5**
	0.4nm,0.8s,baz=97,slow=1.6,SNR=2.7							

DJA 29 16:19:53.4±1.8,3˚S±9˚×14˚0E±1˚.1,h10km,M3.5/2, MLv3.5/2,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
GENI	**Genyem**	**0.84**	**12**	P	Pg		16 20 08.6	-1.0
GENI				S	Sg		16 20 20.9	+0.3
JAY	**Jayapura**	**1.14**	**38**	P	Pb		16 20 13.6	-1.7
JAY				S	Sb		16 20 29.5	-0.7

IDC 29 16:29:08.1±2.5,2˚58S×134˚14E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.3/48,mbtmp3.5/4,ML3.0/1,Error ellipse: s-maj=135.1km s-min=25.8km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**17.25**	**179**	P	Pn		16 33 11.1	+0.5
	0.1nm,0.3s,baz=359,slow=12,SNR=7.9							
ASAR	**Alice Springs**	**20.96**	**181**	P	P		16 33 52.7	-0.2
	1.8nm,0.8s,baz=4.4,slow=11,SNR=26							
MKAR	**Makanchi Array**	**66.96**	**324**	P	P		16 40 01.8	-0.8
	0.3nm,0.6s,baz=125,slow=7.7,SNR=3.8							
ZALV	**Zalesovo Beam**	**69.59**	**331**	P	P		16 40 19.6	+0.7
	0.3nm,0.4s,baz=146,slow=8.0,SNR=2.6							

IDC ***29*** *16:40:04.2±0.7,18˚.11S×172˚.50W,h0km,mb4.1/13, mb1 4.4/14,mb1mx4.1/46,mbtmp4.1/14,ML3.5/1,MS3.3/9, Ms1 3.3/9,ms1mx2.9/52,Error ellipse: s-maj=30.0km s-min=15.8km az=136.0*

ISCJB ***29*** *16:40:07.3±0.4,17˚.73S±0˚.07×172˚.80W±0˚.09,h21km, mb4.6/30,MS3.4/7,Error ellipse: s-maj=14.9km s-min=6.2km az=33.8*

NEIC ***29*** *16:40:12.0±0.9,17˚.55S×172˚.83W,h41km±7km,mb4.9/21, Error ellipse: s-maj=17.2km s-min=7.4km az=133.0*

ISC 29 16:40:08.4±0.6,17˚87S±0˚.09×172˚6W±0˚.1,h21km,n66, σ1§80/55,mb4.7/30,MS3.4/8,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**4.01**	**11**	Pn	**Pn**		**16 41 09.7**	**+1.0**
	2.6nm,0.3s,baz=180,slow=6.1,SNR=3.5							
AFI				Sn	**Sn**		**16 41 53.7**	**-1.4**
	11nm,0.3s,baz=125,slow=19,SNR=6.4							
AFI	**Afiamalu**	**4.01**	**11**	*e*Pn	**Pn**		**16 41 09.7**	**+1.0**
AFI				*e*Sn	**Sn**		**16 41 54.1**	**-1.1**
RAR	**Rarotonga**	**12.54**	**107**	Pn	Pn		16 42 52.8	-13
	2.4nm,0.3s,baz=255,slow=7.2,SNR=11							
RAR				LR	LR		16 46 42.3	
	comp=Z,69nm,18.1s,baz=278,slow=32							

DZM	**Mont Dzumac**	**20.13**	**255**	P	**P**		**16 44 39.9**	**-1.4**
	7.3nm,0.7s,baz=76,slow=19,SNR=3.5							
DZM				LR	LR		16 51 43.0	
	comp=Z,26nm,19.4s,baz=204,slow=35							
DZM	**Mont Dzumac**	**20.13**	**255**	*e*LR	LR		16 49 33.6	
	116nm,25.9s							
DZM	**Mont Dzumac**	**20.13**	**255**	*e*P	Pn		16 44 42.2	-1.0
	80nm,1.8s							
PAE	**Paea**	**21.92**	**93**	*e*T	T		17 06 57.6	
	3.6nm,0.3s							
PPT2	**Papeete2**	**21.93**	**93**	*e*LR	LR		16 49 53.8	
	156nm,25.5s							
PPT2	**Papeete2**	**21.93**	**93**	*e*T	T		17 06 59.2	
	4.5nm,0.3s							
PPT	**Papeete**	**21.93**	**93**	LR	LR		16 50 36.1	
	comp=Z,80nm,22.0s,baz=226,slow=29							
URZ	**Urewera**	**22.22**	**202**	P	**P**		**16 45 01.6**	**-1.9**
	3.4nm,0.5s,baz=350,slow=2.7,SNR=5.2							
URZ				LR	LR		16 54 16.0	
	comp=Z,41nm,19.2s,baz=318,slow=39							
URZ	**Urewera**	**22.22**	**202**	*e*P	**P**		**16 45 03.1**	**-0.4**
	127nm,1.9s							
BKZ	**Black Stump Fm**	**23.25**	**202**	*e*P	**P**		**16 45 13.2**	**-1.2**
	76nm,1.6s							
HIZ	**Hauiti**	**23.31**	**206**	*e*P	**P**		**16 45 16.4**	**+1.5**
	177nm,1.6s							
KHZ	**Kahutara**	**27.17**	**203**	*e*P	**P**		**16 45 54.7**	**+4.4**
	20nm,1.2s							
LTZ	**Lake Taylor**	**27.97**	**204**	*e*P	**P**		**16 46 03.9**	**+6.4**
	78nm,2.0s							
OXZ	**Oxford**	**28.52**	**204**	*e*P	**P**		**16 46 06.9**	**+4.5**
	48nm,1.6s							
RPZ	**Rata Peaks**	**29.23**	**205**	P	**P**		**16 46 12.3**	**+3.6**
	6.9nm,0.5s,baz=323,slow=1.4,SNR=12							
FOZ	**Fox Glacier**	**29.59**	**206**	*e*P	P		16 46 17.8	+5.9
	42nm,1.4s							
LBZ	**Lake Benmore**	**30.14**	**205**	*e*P	**P**		**16 46 21.0**	**+4.2**
	68nm,1.9s							
WHZ	**Wether Hill Ro**	**32.28**	**206**	*e*P	P		16 46 41.5	+5.9
	105nm,2.0s							
ARMA	**Armidale**	**34.80**	**242**	*e*P	**P**		**16 46 57.5**	**-0.4**
	21nm,1.4s							
CTA	**Charters Tower**	**38.91**	**260**	P	**P**		**16 47 31.8**	**-1.1**
	5.6nm,0.7s,baz=86,slow=13,SNR=5.3							
CTAO	**Charters Tower**	**38.91**	**260**	*e*P	**P**		**16 47 33.3**	**+0.4**
	85nm,1.9s							
PMG	**Port Moresby**	**39.93**	**277**	LR	LR		17 01 37.3	
	comp=Z,79nm,18.1s,baz=115,slow=32							
BBOO	**Buckleboo**	**48.28**	**242**	*e*P	**P**		**16 48 47.9**	**-0.4**
	51nm,1.8s							
WB2	**Warramunga Arr**	**50.06**	**259**	*e*P	**P**		**16 49 00.9**	**-1.2**
WR1	**Warramunga Arr**	**50.07**	**259**	*e*P	**P**		**16 49 01.1**	**-1.1**
	13nm,1.1s							
WRA	**Warramunga Arr**	**50.07**	**259**	P	**P**		**16 49 01.1**	**-1.1**
	4.8nm,0.8s,baz=98,slow=6.0,SNR=48							
AS01	**Alice Springs**	**50.08**	**254**	*e*P	**P**		**16 49 01.4**	**-0.8**
AS31	**Alice Springs**	**50.12**	**254**	*e*P	**P**		**16 49 02.4**	**-0.1**
	2.1nm,0.9s							
ASAR	**Alice Springs**	**50.12**	**254**	P	**P**		**16 49 02.2**	**-0.3**
	6.8nm,0.9s,baz=89,slow=7.4,SNR=45							
RPN	**Rapa Nui**	**58.66**	**111**	LR	LR		17 10 06.6	
	comp=Z,26nm,18.9s,baz=234,slow=31							
SOEI	**Soe**	**61.60**	**268**	*e*P	**P**		**16 50 25.0**	**-0.1**
	14nm,1.1s							
QSPA	**South Pole Qui**	**72.19**	**180**	P	**P**		**16 51 28.5**	**-3.1**
	4.1nm,1.0s,baz=123,slow=2.6,SNR=5.8							
JOW	**Kunigami**	**72.56**	**306**	LR	LR		17 18 40.2	
	comp=Z,33nm,21.5s,baz=162,slow=32							
PFO	**Pinyon Flats O**	**74.05**	**46**	LR	LR		17 18 05.8	
	comp=Z,108nm,20.9s,baz=12,slow=31							
GSC	**Goldstone, Bar**	**74.78**	**45**	*e*P	**P**		**16 51 49.4**	**+2.2**
NVAR	**Mina Array Bea**	**75.65**	**41**	P	**P**		**16 51 52.0**	**-0.4**
	0.9nm,0.9s,baz=222,slow=10.0,SNR=4.6							
NV01	**Mina Array Sit**	**75.65**	**41**	*e*P	**P**		**16 51 51.2**	**-1.2**
KSM	**Kuching**	**78.18**	**275**	*e*P	**P**		**16 52 10.2**	**+3.3**

DYDN	**Diyadin**	**0.53**	**356**	*i* P		**Pg**	**17 05 43.4**	**+0.4**
DYDN				*i* S		**Sb**	**17 05 53.1**	**+0.6**
DYDN	**Diyadin**	**0.53**	**356**	P		**Pg**	**17 05 43.4**	**+0.4**
DYDN				S		**Sb**	**17 05 53.1**	**+0.6**
AGRB	**Hanur-Agry**	**0.81**	**314**	PG		**Pg**	**17 05 48.3**	**+0.1**
AGRB				SG		**Sg**	**17 06 00.6**	**+1.8**
AGRB	**Hanur-Agry**	**0.81**	**314**	*e*Pg		**Pg**	**17 05 48.3**	**+0.1**
AGRB				*e*Sg		**Sg**	**17 06 00.6**	**+1.8**
ADCV	**BITLIS_Adilcev**	**0.82**	**256**	*i* P		**Pg**	**17 05 47.5**	**-0.9**
ADCV				*i* S		**Sb**	**17 06 00.5**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.82**	**256**	P		**Pg**	**17 05 47.5**	**-0.9**
ADCV				S		**Sb**	**17 06 00.5**	**-0.2**
TUTA	**Tutak**	**0.82**	**299**	*e*P		**Pg**	**17 05 48.0**	**-0.4**
TUTA				*e*S		**Sg**	**17 06 10.3**	**+1.2**
TUTA	**Tutak**	**0.82**	**299**	*i* P		**Pg**	**17 05 46.2**	**-2.2**
TUTA	**Tutak**	**0.82**	**299**	P		**Pg**	**17 05 46.2**	**-2.2**
IGDI	**IGDIR**	**0.89**	**17**	*e*P		**Pn**	**17 05 51.4**	**-0.4**
IGDI				*e*S		**Sn**	**17 06 04.5**	**-0.6**
IGDI				IAML			17 06 11.2	
	comp=Z,4.8nm,0.7s							
EATA	**Eleskirt**	**1.29**	**312**	*e*P		**Pn**	**17 05 56.6**	**-0.8**
EATA				*e*S		**Sn**	**17 06 16.1**	**+1.0**
GURO	**Guroymak-BITLI**	**1.41**	**252**	PN		**Pg**	**17 05 58.4**	**-1.4**
GURO	**Guroymak-BITLI**	**1.41**	**252**	*e*Pn		**Pg**	**17 05 58.4**	**-1.4**

NEIC ***29*** *17:06:02.8±0.0,38°.99N×111°.39W,h6km,ML2.7(SLC), After SLC.*
ISCJB ***29*** *17:06:03.7±0.2,39°.06N±0°.02×111°.37W±0°.03,h7km, mb2.9/1, Error ellipse: s-maj=3.5km s-min=3.3km az=167.5*
IDC ***29*** *17:06:03.1±1.0,39°.07N×111°.23W,h0km,mb2.9/1, mb1 3.1/6,mb1mx3.0/64,mbtmp2.7/6,ML3.3/3, Error ellipse: s-maj=12.6km s-min=10.8km az=38.0*

ISC 29 17:06:03.9±0.9,39°.03N±0°.04×111°.40W±0°.03,h7km,n71, σ1§40/72,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMUT	**Trail Mountain**	**0.31**	**29**	*e*Pg	**Pg**	**17 06 09.6**	**-0.4**
P17A	**Butcher Ranch,**	**0.68**	**49**	*e*Pg	**Pg**	**17 06 15.7**	**-1.2**
SRU	**San Rafael Swe**	**0.69**	**83**	*e*Pg	**Pg**	**17 06 15.4**	**-1.7**
NLU	**North Lily Min**	**1.06**	**331**	*e*Pg	**Pg**	**17 06 24.1**	**-0.2**
P18A	**Preston Nutter**	**1.08**	**56**	*e*Pg	**Pg**	**17 06 23.2**	**-1.3**
JLU	**Jordanelle**	**1.57**	**359**	*e*Pn	**Pn**	**17 06 33.1**	**+0.7**
DUG	**Dugway, Tooele** baz=137	**1.60**	**317**	P	**Pn**	**17 06 31.9**	**-0.8**
DUG	**Dugway, Tooele**	**1.60**	**317**	*e*Pn	**Pn**	**17 06 32.2**	**-0.5**
CTU	**Camp Tracy**	**1.69**	**351**	*e*Pn	**Pn**	**17 06 34.4**	**+0.5**
PKCU	**Pink Cliffs**	**1.74**	**205**	*e*Pn	**Pn**	**17 06 34.8**	**+0.1**
PV09	**Paradox Valley**	**1.85**	**106**	*e*Pn	**Pn**	**17 06 36.5**	**+0.2**
SZCU	**Shurtz Canyon**	**1.95**	**223**	*e*Pn	**Pn**	**17 06 37.7**	**+0.1**
PV10	**Paradox Valley**	**1.96**	**109**	*e*Pn	**Pn**	**17 06 38.5**	**+0.7**
PV05	**Paradox Valley**	**2.04**	**117**	*e*Pn	**Pb**	**17 06 40.2**	**-1.1**
TCUT	**Toone Canyon**	**2.09**	**360**	*e*Pn	**Pn**	**17 06 40.4**	**+0.9**
CCUT	**Cedar City**	**2.13**	**227**	*e*Pn	**Pn**	**17 06 40.7**	**+0.5**
BGU	**Big Grassy Mou**	**2.27**	**327**	*e*Pn	**Pn**	**17 06 41.6**	**-0.4**
KNB	**Kanab**	**2.30**	**210**	*e*Pn	**Pn**	**17 06 43.6**	**+1.2**
PV01	**Paradox Valley**	**2.39**	**111**	*e*Pn	**Pn**	**17 06 44.1**	**+0.5**
SPUT	**South Promonto**	**2.42**	**341**	*e*Pn	**Pn**	**17 06 43.7**	**-0.3**
LCMT	**Little Creek M**	**2.48**	**216**	*e*Pn	**Pn**	**17 06 45.7**	**+0.8**
HWUT	**Hardware Ranch**	**2.58**	**357**	*e*Pn	**Pn**	**17 06 47.4**	**+1.2**
O20A	**White River Ci** baz=245	**2.68**	**65**	Pb	**Pn**	**17 06 49.9**	**+2.2**
O20A	**White River Ci**	**2.68**	**65**	*e*Pn	**Pn**	**17 06 49.8**	**+2.2**
U15A	**North Rim**	**2.69**	**195**	*e*Pn	**Pn**	**17 06 48.7**	**+0.9**
MVCO	**Mesa Verde** baz=309	**2.92**	**127**	Pb	**Pn**	**17 06 51.8**	**+0.9**
MVCO	baz=309			Sb	**Sb**	**17 07 32.5**	**+0.1**
MVCO	**Mesa Verde**	**2.92**	**127**	*e*Pn	**Pn**	**17 06 52.0**	**+1.0**
HVU	**Hansel Valley**	**2.94**	**340**	*e*Pn	**Pn**	**17 06 51.1**	**-0.1**
R11A	**Troy Canyon, C** baz=78	**3.34**	**260**	Pb	**Pb**	**17 07 02.1**	**-1.5**
R11A	**Troy Canyon, C**	**3.34**	**260**	*e*Pn	**Pn**	**17 06 58.2**	**+1.5**
ELK	**Elko** 0.1nm,0.3s,baz=127,slow=10,SNR=3.3	**3.42**	**301**	Pn	**Pn**	**17 06 59.4**	**+1.6**
ELK	0.2nm,0.3s,baz=240,slow=20,SNR=3.8			Lg	Lg	17 07 53.0	
SMCO	**Snowmass**	**3.45**	**86**	*e*Pn	**Pn**	**17 07 00.2**	**+1.8**
WUAZ	**Wupatki**	**3.50**	**180**	*e*Pn	**Pn**	**17 07 00.6**	**+1.7**
AHID	**Auburn Hatcher**	**3.74**	**3**	*e*Pn	**Pn**	**17 07 01.6**	**-0.6**
S22A	**4UR Ranch, Cre** baz=291	**3.81**	**108**	P	**Pn**	**17 07 03.9**	**+0.6**
S22A	**4UR Ranch, Cre**	**3.81**	**108**	*e*Pn	**Pn**	**17 07 04.0**	**+0.7**
SHPR	**Sheep Range**	**3.90**	**231**	*e*Pn	**Pn**	**17 07 06.2**	**+1.8**
BW06	**Boulder Array** baz=200	**3.99**	**20**	P	**Pn**	**17 07 07.5**	**+1.8**
BW06	**Boulder Array**	**3.99**	**20**	*e*Pn	**Pn**	**17 07 07.7**	**+2.1**
PD31	**Pinedale Array**	**3.99**	**20**	*e*Pn	**Pn**	**17 07 07.7**	**+2.0**
PD31				eLg	Lg	17 08 05.9	
PDAR	**Pinedale Array** 0.3nm,0.3s,baz=192,slow=13,SNR=11	**3.99**	**20**	Pn	**Pn**	**17 07 06.7**	**+1.1**
PDAR	0.2nm,0.3s,baz=193,slow=28,SNR=2.7			Lg	Lg	17 08 05.9	
PDAR	**Pinedale Array**	**3.99**	**20**	*e*Pn	**Pn**	**17 07 07.1**	**+1.5**
PDAR				Lg	Lg	17 08 05.9	
W18A	**Petrified Fore** baz=342	**4.12**	**161**	P	**Pn**	**17 07 08.3**	**+0.8**
W18A	**Petrified Fore**	**4.12**	**161**	*e*Pn	**Pn**	**17 07 08.2**	**+0.8**
RWWY	**Rawlins**	**4.16**	**49**	*e*Pn	**Pn**	**17 07 08.8**	**+0.8**
REDW	**Red Top Meadow**	**4.35**	**5**	*e*Pn	**Pn**	**17 07 08.8**	**+0.2**
W13A	**Hualapai Mount**	**4.39**	**208**	*e*Pn	**Pn**	**17 07 11.8**	**+0.6**
TPAW	**Teton Pass**	**4.47**	**4**	*e*Pn	**Pn**	**17 07 12.9**	**+0.6**
ISCO	**Idaho Springs**	**4.55**	**78**	*e*Pn	**Pn**	**17 07 13.7**	**+0.3**
X16A	**Lo Mia Camp, P**	**4.60**	**180**	*e*Pn	**Pn**	**17 07 15.9**	**+1.9**
FXWY	**Fox Creek**	**4.62**	**3**	*e*Pn	**Pn**	**17 07 14.3**	**+0.1**
LOHW	**Long Hollow**	**4.62**	**7**	*e*Pn	**Pn**	**17 07 13.8**	**-0.5**
MOOW	**Moose Ponds**	**4.74**	**6**	*e*Pn	**Pn**	**17 07 15.8**	**-0.2**
SDCO	**Great Sand Dun** baz=287	**4.81**	**104**	P	**Pn**	**17 07 17.6**	**+0.7**
SDCO	**Great Sand Dun**	**4.81**	**104**	*e*Pn	**Pn**	**17 07 18.0**	**+1.0**
IMW	**Indian Meadow**	**4.88**	**4**	*e*Pn	**Pn**	**17 07 21.6**	**+3.7**
HLID	**Hailey**	**5.07**	**334**	*e*Pn	**Pn**	**17 07 21.1**	**+0.7**
KVN	**Kaiserville**	**5.22**	**272**	*e*Pn	**Pn**	**17 07 24.1**	**+1.6**
NV01	**Mina Array Sit**	**5.43**	**266**	*e*Pn	**Pn**	**17 07 28.2**	**+2.8**
NVAR	**Mina Array Bea** baz=78,slow=13,SNR=4.2	**5.43**	**266**	Pn	**Pn**	**17 07 28.2**	**+2.8**
RYN	**Ryan**	**5.58**	**268**	*e*Pn	**Pn**	**17 07 28.4**	**+1.0**
ANMO	**Albuquerque** 0.8nm,0.3s,baz=139,slow=12,SNR=14	**5.68**	**134**	Pn	**Pn**	**17 07 28.3**	**-0.6**
ANMO	0.5nm,0.3s,baz=77,slow=17,SNR=6.2			Lg	Lg	17 08 58.2	
ANMO	**Albuquerque** baz=317	**5.68**	**134**	P	**Pn**	**17 07 28.0**	**-0.8**
ANMO	**Albuquerque**	**5.68**	**134**	*e*Pn	**Pn**	**17 07 28.5**	**-0.4**
ANMO				eLg	Lg	17 09 00.7	
PAHR	**Pah Rah Range**	**6.22**	**279**	*e*Pn	**Pn**	**17 07 39.9**	**+3.6**
RLMT	**Red Lodge**	**6.29**	**14**	*e*Pn	**Pn**	**17 07 35.5**	**-1.8**
BOZ	**Bozeman (W)**	**6.57**	**359**	*e*Pn	**Pn**	**17 07 39.3**	**-1.7**
RSSD	**Black Hills**	**7.51**	**45**	*e*Pn	**Pn**	**17 07 53.8**	**-0.1**
LTX	**Lajitas**	**11.59**	**144**	*e*Pn	**Pn**	**17 08 52.4**	**+2.6**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=324,slow=12,SNR=2.9	**11.59**	**144**	Pn	**Pn**	**17 08 52.4**	**+2.6**
YKA	**Yellowknife Ar** 0.4nm,0.8s,baz=174,slow=9.9,SNR=8.2	**23.58**	**356**	P	**P**	**17 11 15.4**	**+0.6**

NEIC ***29*** *17:22:06.3±0.0,38°.98N×111°.39W,h6km,ML3.4(SLC), After SLC.*
NEIC Felt at Monroe.
ISCJB ***29*** *17:22:07.7±0.2,39°.06N±0°.02×111°.38W±0°.03,h7km, mb3.5/2,Error ellipse: s-maj=3.2km s-min=2.8km az=167.0*
IDC ***29*** *17:22:07.5±0.8,39°.06N×111°.25W,h0km,mb3.5/2, mb1 3.7/7,mb1mx3.5/70,mbtmp3.4/7,ML3.0/5, Error ellipse: s-maj=11.0km s-min=8.5km az=92.0*

ISC 29 17:22:07.9±0.7,39°.03N±0°.04×111°.38W±0°.04,h7km,n91, σ1§56/97,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMUT	**Trail Mountain**	**0.30**	**27**	*e*Pg	**Pg**	**17 22 13.1**	**-0.9**
MSU	**Marysvale**	**0.81**	**230**	*e*Pg	Pg	17 22 20.7	-2.7
P18A	**Preston Nutter**	**1.07**	**56**	*e*Pg	**Pg**	**17 22 27.1**	**-1.3**
NLU	**North Lily Min**	**1.07**	**330**	*e*Pg	**Pg**	**17 22 27.8**	**-0.6**
JLU	**Jordanelle**	**1.57**	**358**	*e*Pn	**Pn**	**17 22 36.8**	**+0.3**
DUG	**Dugway, Tooele** baz=136	**1.60**	**317**	P	**Pn**	**17 22 35.7**	**-1.1**
DUG	**Dugway, Tooele**	**1.60**	**317**	*e*Pn	**Pn**	**17 22 36.1**	**-0.7**
CTU	**Camp Tracy**	**1.68**	**350**	*e*Pn	**Pn**	**17 22 38.2**	**+0.3**
PKCU	**Pink Cliffs**	**1.74**	**205**	*e*Pn	**Pn**	**17 22 38.9**	**0.0**
PV09	**Paradox Valley**	**1.84**	**106**	*e*Pn	**Pn**	**17 22 40.4**	**+0.2**
PV10	**Paradox Valley**	**1.95**	**109**	*e*Pn	**Pn**	**17 22 42.6**	**+1.0**
SZCU	**Shurtz Canyon**	**1.96**	**224**	*e*Pn	**Pn**	**17 22 41.7**	**-0.1**
PV05	**Paradox Valley**	**2.03**	**117**	*e*Pn	**Pn**	**17 22 43.8**	**+1.1**
PV04	**Paradox Valley**	**2.04**	**107**	*e*Pn	**Pn**	**17 22 43.2**	**+0.4**
TCUT	**Toone Canyon**	**2.08**	**360**	*e*Pn	**Pn**	**17 22 44.2**	**+0.7**
CCUT	**Cedar City**	**2.15**	**227**	*e*Pn	**Pn**	**17 22 44.5**	**+0.1**
BGU	**Big Grassy Mou**	**2.28**	**327**	*e*Pn	**Pn**	**17 22 45.5**	**-0.6**
KNB	**Kanab**	**2.31**	**210**	*e*Pn	**Pn**	**17 22 47.1**	**+0.5**
PV01	**Paradox Valley**	**2.38**	**111**	*e*Pn	**Pn**	**17 22 48.2**	**+0.7**
SPUT	**South Promonto**	**2.42**	**341**	*e*Pn	**Pn**	**17 22 48.0**	**-0.1**
LCMT	**Little Creek M**	**2.49**	**217**	*e*Pn	**Pn**	**17 22 49.2**	**+0.2**
HWUT	**Hardware Ranch**	**2.58**	**357**	*e*Pn	**Pn**	**17 22 51.1**	**+0.8**
O20A	**White River Ci** baz=245	**2.67**	**65**	Pb	**Pb**	**17 22 53.8**	**-2.3**
O20A	baz=245			Sb	**Sg**	**17 23 31.6**	**-2.0**
O20A	**White River Ci**	**2.67**	**65**	*e*Pn	**Pb**	**17 22 53.6**	**-2.5**
U15A	**North Rim**	**2.70**	**196**	*e*Pn	**Pn**	**17 22 53.9**	**+2.0**
MVCO	**Mesa Verde** baz=309	**2.91**	**128**	Pb	**Pn**	**17 22 55.9**	**+1.0**
MVCO	baz=309			Sb	**Sb**	**17 23 37.0**	**+0.7**
MVCO	**Mesa Verde**	**2.91**	**128**	*e*Pn	**Pn**	**17 22 56.0**	**+1.0**
HVU	**Hansel Valley**	**2.94**	**339**	*e*Pn	**Pn**	**17 22 55.2**	**-0.1**
R11A	**Troy Canyon, C** baz=78	**3.36**	**260**	P	**Pn**	**17 23 02.9**	**+1.9**
R11A	**Troy Canyon, C**	**3.36**	**260**	*e*Pn	**Pn**	**17 23 02.8**	**+1.9**
SMCO	**Snowmass**	**3.44**	**86**	*e*Pn	**Pn**	**17 23 03.7**	**+1.5**
WUAZ	**Wupatki** baz=0.7	**3.51**	**180**	P	**Pn**	**17 23 04.0**	**+1.0**
WUAZ	baz=0.7			Sb	**Sb**	**17 23 52.5**	**-0.7**
WUAZ	**Wupatki**	**3.51**	**180**	*e*Pn	**Pn**	**17 23 04.1**	**+1.0**
AHID	**Auburn Hatcher**	**3.74**	**3**	*e*Pn	**Pn**	**17 23 08.9**	**+2.7**
S22A	**4UR Ranch, Cre** baz=291	**3.80**	**108**	P	**Pn**	**17 23 07.7**	**+0.6**
S22A	**4UR Ranch, Cre**	**3.80**	**108**	*e*Pn	**Pn**	**17 23 07.8**	**+0.7**
SHPR	**Sheep Range**	**3.91**	**231**	*e*Pn	**Pn**	**17 23 10.0**	**+1.5**
BW06	**Boulder Array**	**3.98**	**20**	*e*Pn	**Pn**	**17 23 10.7**	**+1.1**
PD31	**Pinedale Array**	**3.98**	**20**	*e*Pn	**Pn**	**17 23 10.2**	**+0.7**
PD31				eLg	Lg	17 24 11.9	
PDAR	**Pinedale Array** 0.6nm,0.3s,baz=193,slow=12,SNR=23	**3.98**	**20**	Pn	**Pn**	**17 23 10.6**	**+1.0**
PDAR	1.2nm,0.3s,baz=200,slow=14,SNR=32			Pg	**Pb**	**17 23 18.0**	**-0.5**
PDAR	1.6nm,0.3s,baz=198,slow=25,SNR=5.8			Lg	Lg	17 24 11.9	
PDAR	**Pinedale Array**	**3.98**	**20**	*e*Pn	**Pn**	**17 23 10.1**	**+0.5**
PDAR				Pg	**Pb**	**17 23 18.0**	**-0.5**
PDAR				Lg	Lg	17 24 11.9	
W18A	**Petrified Fore** baz=342	**4.12**	**161**	P	**Pn**	**17 23 12.5**	**+1.1**
W18A	**Petrified Fore**	**4.12**	**161**	*e*Pn	**Pn**	**17 23 12.6**	**+1.1**
RWWY	**Rawlins**	**4.15**	**49**	*e*Pn	**Pn**	**17 23 12.1**	**+0.2**
REDW	**Red Top Meadow**	**4.35**	**5**	*e*Pn	**Pn**	**17 23 15.9**	**+1.3**
W13A	**Hualapai Mount**	**4.40**	**208**	*e*Pn	**Pn**	**17 23 18.7**	**+3.3**
SNOW	**Snow King Moun**	**4.45**	**6**	*e*Pn	**Pn**	**17 23 16.6**	**+0.5**
TPAW	**Teton Pass**	**4.47**	**4**	*e*Pn	**Pn**	**17 23 17.2**	**+0.9**
ISCO	**Idaho Springs** baz=261	**4.54**	**78**	P	**Pn**	**17 23 19.7**	**+2.5**
ISCO	**Idaho Springs**	**4.54**	**78**	*e*Pn	**Pn**	**17 23 20.2**	**+3.0**
N23A	**Red Feather La** baz=247	**4.58**	**64**	P	**Pn**	**17 23 20.2**	**+2.4**
N23A	**Red Feather La**	**4.58**	**64**	*e*Pn	**Pn**	**17 23 20.5**	**+2.7**
X16A	**Lo Mia Camp, P**	**4.60**	**181**	*e*Pn	**Pn**	**17 23 20.6**	**+2.4**
FXWY	**Fox Creek**	**4.61**	**3**	*e*Pn	**Pn**	**17 23 18.9**	**+0.6**
LOHW	**Long Hollow**	**4.62**	**7**	*e*Pn	**Pn**	**17 23 18.6**	**+0.3**
X18A	**Snowflake**	**4.64**	**165**	*e*Pn	**Pn**	**17 23 19.2**	**+0.7**
BMN	**Battle Mountai**	**4.71**	**289**	*e*Pn	**Pn**	**17 23 20.9**	**+1.3**
MOOW	**Moose Ponds**	**4.74**	**6**	*e*Pn	**Pn**	**17 23 20.7**	**+0.7**
SDCO	**Great Sand Dun** baz=287	**4.80**	**104**	P	**Pn**	**17 23 21.1**	**+0.2**
SDCO	**Great Sand Dun**	**4.80**	**104**	*e*Pn	**Pn**	**17 23 21.5**	**+0.6**
Q24A	**Divide**	**4.86**	**89**	*e*Pn	**Pn**	**17 23 22.7**	**+0.9**
IMW	**Indian Meadow**	**4.87**	**4**	*e*Pn	**Pn**	**17 23 21.9**	**0.0**
HLID	**Hailey**	**5.07**	**334**	*e*Pn	**Pn**	**17 23 26.3**	**+1.8**
K22A	**Casper**	**5.16**	**44**	*e*Pn	**Pn**	**17 23 26.0**	**+0.2**
KVN	**Kaiserville**	**5.23**	**272**	*e*Pn	**Pn**	**17 23 28.2**	**+1.5**
YPP	**Pitchstone Pla**	**5.25**	**5**	*e*Pn	**Pn**	**17 23 30.2**	**+3.1**
NV11	**Mina Array Sit**	**5.33**	**266**	*e*Pn	**Pn**	**17 23 30.8**	**+2.8**
NV01	**Mina Array Sit**	**5.44**	**266**	*e*Pn	**Pn**	**17 23 31.1**	**+1.4**
NVAR	**Mina Array Bea** baz=73,slow=13,SNR=6.3	**5.44**	**266**	Pn	**Pn**	**17 23 32.3**	**+2.6**
NVAR	baz=85,slow=14,SNR=9.5			Pg	**Pb**	**17 23 44.3**	**+0.8**
MFID	**Camas Ranch**	**5.51**	**324**	*e*Pn	**Pn**	**17 23 30.8**	**+0.2**
RYN	**Ryan**	**5.59**	**268**	*e*Pn	**Pn**	**17 23 32.5**	**+0.9**
MHTCO	**Stone Highway**	**5.61**	**108**	*e*Pn	**Pn**	**17 23 36.8**	**+0.8**
ANMO	**Albuquerque** 1.4nm,0.3s,baz=145,slow=12,SNR=18	**5.67**	**134**	Pn	**Pn**	**17 23 32.5**	**-0.3**
ANMO	0.4nm,0.3s,baz=152,slow=13,SNR=8.5			Pg	**Pb**	**17 23 50.3**	**+3.0**
ANMO	0.5nm,0.3s,baz=65,slow=11,SNR=3.6			Lg	Lg	17 25 02.7	
ANMO	**Albuquerque** baz=318	**5.67**	**134**	P	**Pn**	**17 23 32.2**	**-0.6**
LAZ	**Ladron**	**5.74**	**142**	*e*Pn	**Pn**	**17 23 36.9**	**+3.2**
YHH	**Holmes Hill**	**5.77**	**4**	*e*Pn	**Pn**	**17 23 35.4**	**+1.2**
T25A	**Trinidad**	**5.82**	**107**	*e*Pn	**Pn**	**17 23 36.5**	**+1.7**
MCMT	**McKenzie Canyo** 7.4nm,0.9s	**5.89**	**350**	*e*Pn	**Pn**	**17 23 35.1**	**-0.8**
LPM	**Los Pinos Moun**	**6.06**	**140**	*e*Pn	**Pn**	**17 23 38.1**	**0.0**
PAHR	**Pah Rah Range** 40nm,1.0s	**6.24**	**279**	*e*Pn	**Pn**	**17 23 42.7**	**+2.3**
VCNR	**Virginia City**	**6.43**	**275**	*e*Pn	**Pn**	**17 23 44.6**	**+1.4**
RSSD	**Black Hills**	**7.50**	**45**	*e*Pn	**Pn**	**17 23 57.8**	**0.0**
319A	**Douglas** 319A	**7.83**	**167**	*e*Pn	**Pn**	**17 24 03.5**	**+1.2**
				*e*Sg	**Sg**	**17 26 18.0**	**-1.2**
LAO	**LASA Array**	**8.54**	**25**	*e*Pn	**Pn**	**17 24 12.5**	**+0.5**
LTX	**Lajitas**	**11.59**	**144**	*e*Pn	**Pn**	**17 24 56.8**	**+3.0**
LTX				eLg	Lg	17 28 11.3	
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=329,slow=8.7,SNR=5.7	**11.59**	**144**	Pn	**Pn**	**17 24 56.8**	**+3.0**
TXAR	0.1nm,0.3s,baz=331,slow=29,SNR=4.0			Lg	Lg	17 28 11.3	
ULM	**Lac du Bonnet** 0.1nm,0.3s,baz=228,slow=15,SNR=2.4	**15.70**	**39**	Pn	**Pn**	**17 25 47.5**	**-1.9**
ULM	0.2nm,0.3s,baz=319,slow=18,SNR=2.6			Lg	Lg	17 30 11.3	
COWI	**Conover** 19nm,1.1s	**17.81**	**59**	*e*Pn	**Pn**	**17 26 14.7**	**-1.5**
TKL	**Tuckaleechee C** 1.5nm,0.4s,baz=272,slow=8.5,SNR=2.5	**22.17**	**90**	S	Sn	17 31 20.1	0.0
TKL	6.1nm,1.2s,baz=11,slow=21,SNR=2.7			Lg	Lg	17 33 52.3	
YKA	**Yellowknife Ar** 2.0nm,1.0s,baz=172,slow=9.7,SNR=21	**23.57**	**356**	P	**P**	**17 27 19.0**	**+0.2**
ILAR	**Eielson Array** 0.8nm,1.0s,baz=127,slow=5.8,SNR=5.6	**33.03**	**333**	P	**P**	**17 28 44.9**	**+1.4**

NIED ***29*** *17:24:00,39°.10N×142°.40E,h44km,Mw4.1 Best double couple: Mo1.71000×10¹⁵ NP1:φ₀153.00000°,δ20.00000°, λ64.00000°. NP2:φ₀0.00000°,δ73.00000°,λ99.00000°.*
JMA ***29*** *17:24:04.9±0.1,39°.12N×142°.36E,h37km±1km,M4.0*
JMA Felt II J1.
ISCJB ***29*** *17:24:04.2±0.6,39°.12N±0°.03×142°.41E±0°.05,h45km±4km, mb4.2/47,MS3.1/8,Error ellipse: s-maj=7.1km s-min=4.3km az=21.7*
MOS ***29*** *17:24:04.3±1.0,39°.17N×142°.47E,h46km,mb4.4/21,Error ellipse: s-maj=8.7km s-min=5.9km az=98.4*
NEIC ***29*** *17:24:07.7±0.4,39°.12N×142°.36E,h60km±3km,mb4.5/12, Error ellipse: s-maj=5.0km s-min=3.4km az=123.0*
NEIC Recorded [2 JMA] in Iwate.
IDC ***29*** *17:24:07.7±1.8,39°.08N×142°.31E,h60km±16km,mb3.8/27, mb1 4.0/33,mb1mx3.9/69,mbtmp4.1/33,MS3.0/13, Ms1 3.0/13,ms1mx2.8/61,Error ellipse: s-maj=15.0km s-min=11.4km az=109.0*

ISC 29 17:24:04.8±0.6,39°.08N±0°.04×142°.53E±0°.06,h36km±2km, n154,σ1§53/167,mb4.2/47,MS3.2/8,10C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.67**	**271**	P	**Pn**	**17 24 15.9**	**-1.9**
OFUJ				S	**Sn**	**17 24 23.6**	**-3.4**
MIYJ	**Miyakonagasawa**	**0.74**	**313**	P	**Pn**	**17 24 16.9**	**-1.9**
MIYJ				S	**Sn**	**17 24 25.5**	**-3.3**
JTH	**Tanohata**	**1.00**	**329**	P	**Pn**	**17 24 21.0**	**-1.3**
JTH				*e*S	**Sn**	**17 24 33.1**	**-2.1**
JMK	**Ichinoseki**	**1.03**	**263**	P	**Pn**	**17 24 21.3**	**-1.3**
JMK				S	**Sn**	**17 24 33.0**	**-2.8**
JOM	**Ohasama**	**1.04**	**293**	P	**Pn**	**17 24 21.3**	**-1.5**
JOM				S	**Sn**	**17 24 33.3**	**-2.8**
JIO	**Ouri**	**1.11**	**236**	P	**Pn**	**17 24 22.6**	**-1.2**
JIO				S	**Sn**	**17 24 35.0**	**-2.9**
JKZ	**Kuzumaki**	**1.30**	**315**	P	**Pn**	**17 24 25.5**	**-0.9**
JKZ				*e*S	**Sn**	**17 24 40.3**	**-2.3**
JRG	**Rokugo**	**1.51**	**283**	P	**Pn**	**17 24 28.3**	**-0.9**
JANG	**Nango**	**1.51**	**329**	P	**Pn**	**17 24 28.4**	**-1.0**
JANG				*e*S	**Sn**	**17 24 46.3**	**-1.5**
JOU	**Okura**	**1.62**	**245**	P	**Pn**	**17 24 30.5**	**-0.4**
ERM	**Erimo**	**2.98**	**9**	*e*P	**Pn**	**17 24 50.4**	**+1.0**
ERM	**Erimo**	**2.98**	**9**	*e*Pn	**Pn**	**17 24 50.5**	**+1.1**
MJAR	**Matsushiro Arr** 7.9nm,0.3s,baz=41,slow=11,SNR=90	**4.25**	**235**	P	**Pn**	**17 25 08.9**	**+1.8**
MJAR	0.7nm,0.3s,baz=28,slow=14,SNR=3.4			S	**Sn**	**17 26 02.1**	**+6.6**
MJAR	comp=Z,281nm,19.8s,baz=60,slow=41			LR	LR	17 26 54.4	
MAJO	**Matsushiro**	**4.25**	**235**	*c* *i*P	**Pn**	**17 25 09.6**	**+2.5**
MAJO	**Matsushiro**	**4.25**	**235**	*e*Pn	**Pn**	**17 25 08.8**	**+1.8**
MAT	**Matsushiro**	**4.25**	**235**	P	**Pn**	**17 25 08.5**	**+1.4**
MAT				*e*S	**Sn**	**17 26 00.5**	**+5.0**
MJB9	**Matsu-Tunnel**	**4.25**	**235**	*e*Pn	**Pn**	**17 25 09.3**	**+2.2**
ASAJ	**Asahikawa** 1.0nm,0.3s,baz=197,slow=16,SNR=24	**5.04**	**1**	P	**Pn**	**17 25 19.1**	**+1.3**
ASAJ	2.8nm,0.3s,baz=222,slow=29,SNR=5.0			S	**Sn**	**17 26 15.5**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**5.55**	**26**	*e*P	**Pn**	**17 25 24.4**	**-0.4**
YUK				*e*S	**Sn**	**17 26 24.0**	**-3.3**
YUK	comp=Z,121nm,0.3s			pmax	pmax		
YUK	comp=N,57nm,0.2s			pmax	pmax		
YUK	comp=E,128nm,0.3s			pmax	pmax		
YUK	comp=N,133nm,0.2s			smax	smax		
YUK	comp=E,292nm,0.5s			smax	smax		
INU	**Inuyama**	**5.76**	**231**	*e*Pn	**Pn**	**17 25 29.8**	**+2.1**
SHO	**Shikotan**	**5.78**	**33**	*e*P	Pn	17 25 25.8	-2.1
SHO				*e*S	Sn	17 26 26.7	-6.2
SHO	comp=Z,19nm,0.3s			pmax	pmax		
SHO	comp=N,8.0nm,0.2s			pmax	pmax		
SHO	comp=E,15nm,0.3s			pmax	pmax		
SHO	comp=N,120nm,0.2s			smax	smax		
SHO	comp=E,107nm,0.4s			smax	smax		
JHJ	**Hachijo jima 2** comp=E,24nm,0.3s,baz=323,slow=22,SNR=12	**6.35**	**201**	P	**Pn**	**17 25 36.4**	**+0.6**
JHJ	comp=E,14nm,0.3s,baz=72,slow=19,SNR=3.8			S	**Sn**	**17 26 44.2**	**-2.7**
JHJ	comp=E,108nm,20.8s,baz=62,slow=40			LR	LR	17 28 18.8	
KUR	**Kuril'sk**	**7.32**	**31**	*e*P	**Pn**	**17 25 49

	comp=Z,4.3nm,0.8s							
ZALV	**Zalesovo Beam**	**41.22**	**311**	P		**P**	**17 31 45.4**	**-0.5**
	comp=Z,4.9nm,0.5s,baz=95,slow=8.3,SNR=24							
ZALV				PcP		**PcP**	**17 33 43.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=98,slow=2.9,SNR=3.5							
CHTO	**Chiang Mai**	**42.67**	**254**	*eP*		**P**	**17 31 57.9**	**-0.2**
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.8s							
CHTO	**Chiang Mai**	**42.67**	**254**	*eP*		**P**	**17 31 57.9**	**-0.2**
	comp=Z,2.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**42.88**	**254**	P		**P**	**17 31 59.2**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=45,slow=7.6,SNR=10							
CMAR				LR		LR	17 51 28.9	
	comp=Z,11nm,18.6s,baz=230,slow=38							
MK01	**Makanchi Array**	**43.81**	**300**	*eP*		**P**	**17 32 06.2**	**-0.8**
MK31	**Makanchi Array**	**43.81**	**301**	*eP*		**P**	**17 32 06.6**	**-0.5**
MK31	**Makanchi Array**	**43.81**	**301**	*eP*		**P**	**17 32 06.5**	**-0.5**
MK32	**Makanchi Array**	**43.81**	**301**	*eP*		**P**	**17 32 06.5**	**-0.6**
MKAR	**Makanchi Array**	**43.81**	**301**	P		**P**	**17 32 06.5**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=84,slow=9.8,SNR=49							
MKAR	**Makanchi Array**	**43.81**	**301**	*eP*		**P**	**17 32 06.6**	**-0.5**
MKAR				pmax		pmax		
	comp=Z,38nm,0.6s							
MKAR	**Makanchi Array**	**43.81**	**301**	*eP*		**P**	**17 32 06.5**	**-0.5**
	comp=Z,38nm,0.6s							
MAKZ	**Makanchi**	**44.02**	**301**	*eP*		**P**	**17 32 08.5**	**-0.2**
MAKZ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MAKZ	**Makanchi**	**44.02**	**301**	*eP*		**P**	**17 32 08.5**	**-0.2**
	comp=Z,5.0nm,0.9s							
KURK	**Kurchatov**	**45.39**	**307**	*c iP*		**P**	**17 32 18.6**	**-1.0**
KURK				pmax		pmax		
	comp=Z,60nm,1.0s							
KURK	**Kurchatov**	**45.39**	**307**	*eP*		**P**	**17 32 18.9**	**-0.7**
	comp=Z,13nm,0.8s							
KURBB	**Kurchatov Arra**	**45.47**	**307**	P		**P**	**17 32 19.6**	**-0.6**
	comp=Z,15nm,0.6s,baz=80,slow=8.4,SNR=77							
ILAR	**Eielson Array**	**47.30**	**33**	P		**P**	**17 32 36.2**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=254,slow=6.1,SNR=18							
ILB	**Eielson Array**	**47.30**	**33**	*eP*		**P**	**17 32 36.2**	**+1.8**
JIRN	**Jiri**	**47.73**	**274**	*eP*		**P**	**17 32 38.5**	**-0.2**
	comp=Z,6.4nm,0.3s							
GUN	**Gumba**	**47.85**	**274**	*eP*		**P**	**17 32 39.4**	**-0.2**
	comp=Z,14nm,0.4s							
KKN	**Kakani**	**48.38**	**275**	*eP*		**P**	**17 32 43.3**	**-0.2**
	comp=Z,13nm,0.5s							
PKI	**Pulchoki**	**48.38**	**274**	*eP*		**P**	**17 32 43.0**	**-0.6**
	comp=Z,4.5nm,0.4s							
PKIN	**Phulchoki**	**48.39**	**274**	*eP*		**P**	**17 32 43.3**	**-0.3**
	comp=Z,4.4nm,0.5s							
DMN	**Daman**	**48.60**	**275**	*eP*		**P**	**17 32 45.1**	**-0.1**
	comp=Z,3.0nm,0.4s							
KDJ	**Kajisay**	**48.62**	**296**	*eP*		**P**	**17 32 44.1**	**-1.0**
	comp=Z,2.5nm,0.6s							
GKN	**Gorkha**	**48.77**	**275**	*eP*		**P**	**17 32 46.0**	**-0.4**
	comp=Z,13nm,0.6s							
DANN	**Dangsing**	**49.29**	**276**	*eP*		**P**	**17 32 50.4**	**-0.1**
	comp=Z,3.6nm,0.7s							
KOLN	**Koldanda**	**49.69**	**276**	*eP*		**P**	**17 32 53.3**	**-0.2**
	comp=Z,10nm,0.7s							
BVAR	**Borovoye Array**	**49.87**	**311**	P		**P**	**17 32 53.9**	**-0.3**
	comp=Z,4.5nm,0.5s,baz=66,slow=7.6,SNR=34							
BVAR	**Borovoye Array**	**49.87**	**311**	P		**P**	**17 32 54.0**	**-0.3**
BRVK	**Borovoye**	**49.92**	**311**	*ceP*		**P**	**17 32 54.2**	**-0.5**
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.6s							
BRVK	**Borovoye**	**49.92**	**311**	*eP*		**P**	**17 32 54.3**	**-0.4**
	comp=Z,5.5nm,1.0s							
PYUN	**Piuthan**	**50.00**	**276**	*eP*		**P**	**17 32 55.7**	**-0.2**
	comp=Z,43nm,0.9s							
AAK	**Ala-Archa**	**50.32**	**297**	*eP*		**P**	**17 32 57.6**	**-0.4**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
AAK	**Ala-Archa**	**50.32**	**297**	*eP*		**P**	**17 32 57.6**	**-0.4**
	comp=Z,2.3nm,0.6s							
INK	**Inuvik**	**52.17**	**28**	P		**P**	**17 33 13.2**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=313,slow=4.6,SNR=6.4							
KK05	**Karatay Array**	**52.87**	**299**	*eP*		**P**	**17 33 16.2**	**-0.8**
KK06	**Karatay Array**	**52.88**	**299**	*eP*		**P**	**17 33 16.2**	**-0.8**
KK02	**Karatay Array**	**52.88**	**299**	*eP*		**P**	**17 33 16.3**	**-0.8**
KK31	**Karatay Array**	**52.88**	**299**	*eP*		**P**	**17 33 16.4**	**-0.6**
KK31	**Karatay Array**	**52.88**	**299**	*eP*		**P**	**17 33 16.4**	**-0.6**
KKAR	**Karatay Array**	**52.88**	**299**	*eP*		**P**	**17 33 16.4**	**-0.6**
KKAR	**Karatay Array**	**52.88**	**299**	*eP*		**P**	**17 33 16.4**	**-0.6**
KK04	**Karatay Array**	**52.88**	**299**	*eP*		**P**	**17 33 16.3**	**-0.8**
KK09	**Karatay Array**	**52.88**	**299**	*eP*		**P**	**17 33 16.2**	**-0.8**
KK01	**Karatay Array**	**52.89**	**299**	*eP*		**P**	**17 33 16.3**	**-0.7**
KK03	**Karatay Array**	**52.89**	**299**	*eP*		**P**	**17 33 16.3**	**-0.8**
KK07	**Karatay Array**	**52.90**	**299**	*eP*		**P**	**17 33 16.1**	**-1.0**
KK08	**Karatay Array**	**52.90**	**299**	*eP*		**P**	**17 33 16.3**	**-0.8**
SVE	**Sverdlovsk**	**54.21**	**318**	*⇑iP*		**P**	**17 33 27.0**	**+0.5**
SVE				pmax		pmax		
	comp=Z,16nm,0.6s							
ARU	**Arti**	**55.43**	**318**	*c iP*		**P**	**17 33 34.9**	**-0.4**
ARU				*PP		**pP**	**17 33 49.5**	**+3.4**
ARU							17 35 37.5	
ARU				S		**S**	**17 41 17.7**	**+0.4**
ARU				SS		**SS**	**17 45 02.9**	**+1.3**
ARU				pmax		pmax		
	comp=Z,18nm,1.2s							
ARU	**Arti**	**55.43**	**318**	*eP*		**P**	**17 33 35.0**	**-0.3**
	comp=Z,11nm,0.7s							
AB06	**Akbulak array**	**57.29**	**309**	*eP*		**P**	**17 33 47.9**	**-0.8**
AB05	**Akbulak array**	**57.30**	**309**	*eP*		**P**	**17 33 48.1**	**-0.7**
AB02	**Akbulak array**	**57.31**	**309**	*eP*		**P**	**17 33 48.0**	**-0.8**
AB07	**Akbulak array**	**57.31**	**309**	*eP*		**P**	**17 33 48.0**	**-0.8**
AB01	**Akbulak array**	**57.31**	**309**	*eP*		**P**	**17 33 48.1**	**-0.8**
AB31	**Akbulak array**	**57.31**	**309**	*eP*		**P**	**17 33 48.2**	**-0.6**
AB31	**Akbulak array**	**57.31**	**309**	*eP*		**P**	**17 33 48.2**	**-0.6**
ABKAR	**Akbulak array**	**57.31**	**309**	*eP*		**P**	**17 33 48.2**	**-0.6**
	comp=Z,52nm,0.7s							
AB03	**Akbulak array**	**57.31**	**309**	*eP*		**P**	**17 33 48.1**	**-0.7**
AB04	**Akbulak array**	**57.31**	**309**	*eP*		**P**	**17 33 48.1**	**-0.7**
AB09	**Akbulak array**	**57.32**	**309**	*eP*		**P**	**17 33 48.2**	**-0.8**
AB08	**Akbulak array**	**57.33**	**309**	*eP*		**P**	**17 33 48.2**	**-0.7**
AKTO	**Aktyubinsk**	**57.98**	**311**	P		**P**	**17 33 53.2**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=68,slow=11,SNR=8.7							
WR1	**Warramunga Arr**	**59.21**	**189**	*eP*		**P**	**17 34 01.8**	**-0.5**
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**59.21**	**189**	P		**P**	**17 34 01.8**	**-0.5**
	comp=Z,2.9nm,0.4s,baz=6.6,slow=7.1,SNR=85							
YKA	**Yellowknife Ar**	**61.60**	**31**	P		**P**	**17 34 19.0**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=300,slow=6.4,SNR=3.5							
ARA0	**ARCESS Array S**	**62.40**	**339**	*eP*		**P**	**17 34 22.2**	**-1.3**
ARCES	**ARCESS Array B**	**62.40**	**339**	P		**P**	**17 34 22.2**	**-1.3**
	comp=Z,4.3nm,1.0s,baz=52,slow=7.2,SNR=4.1							
AS31	**Alice Springs**	**62.93**	**189**	*eP*		**P**	**17 34 27.6**	**0.0**
	comp=Z,1.8nm,1.4s							
ASAR	**Alice Springs**	**62.93**	**189**	P		**P**	**17 34 27.6**	**0.0**
	comp=Z,1.0nm,0.7s,baz=9.2,slow=5.7,SNR=21							
GEYT	**Alibeck**	**63.63**	**299**	P		**P**	**17 34 31.1**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=49,slow=4.5,SNR=5.2							
FIA0	**FINESS Array S**	**67.42**	**332**	*eP*		**P**	**17 34 55.7**	**-0.5**
FIA0	**FINESS Array S**	**67.42**	**332**	*eP*		**P**	**17 34 55.7**	**-0.5**
FINES	**FINESS Array B**	**67.42**	**332**	P		**P**	**17 34 55.7**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=39,slow=9.0,SNR=11							
KIV	**Kislovodsk**	**70.24**	**311**	*eP*		**P**	**17 35 15.7**	**+1.5**
KIV				pmax		pmax		
	comp=Z,7.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,18nm,18.0s							
KBZ	**Khabaz**	**70.24**	**311**	P		**P**	**17 35 14.1**	**0.0**
	comp=Z,1.6nm,0.9s,baz=194,slow=23,SNR=4.1							
HFS	**Hagfors**	**72.59**	**336**	P		**P**	**17 35 27.9**	**0.0**
	comp=Z,1.9nm,0.8s,baz=34,slow=5.4,SNR=6.2							
NB2	**NORSAR Subarra**	**72.64**	**337**	P		**P**	**17 35 27.5**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=38,slow=5.9							
NB200	**NORSAR Array S**	**72.64**	**337**	*eP*		**P**	**17 35 28.2**	**-0.1**
NOA	**NORSAR Array B**	**72.64**	**337**	P		**P**	**17 35 28.2**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=38,slow=6.0,SNR=4.5							
NVAR	**Mina Array Bea**	**73.07**	**54**	P		**P**	**17 35 32.7**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=283,slow=4.5,SNR=2.1							
AKASG	**Malin Array Be**	**73.22**	**322**	P		**P**	**17 35 31.3**	**-0.6**
	comp=Z,3.5nm,0.4s,baz=44,slow=6.5,SNR=38							
AKASG				LR		LR	18 10 44.6	
	comp=Z,14nm,19.0s,baz=235,slow=38							
AKBB	**Malin Array Si**	**73.22**	**322**	*eP*		**P**	**17 35 31.3**	**-0.6**
AKBB	**Malin Array Si**	**73.22**	**322**	*eP*		**P**	**17 35 31.3**	**-0.6**
KIEV	**Kiev**	**73.23**	**322**	*⇓iP*		**P**	**17 35 31.4**	**-0.5**
KIEV				pmax		pmax		
	comp=Z,2.0nm,0.8s							
AK11	**Malin Array Si**	**73.26**	**322**	*eP*		**P**	**17 35 31.2**	**-0.9**
PDAR	**Pinedale Array**	**75.61**	**46**	P		**P**	**17 35 47.9**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=17,slow=0.9,SNR=2.6							
BUR08	**Bucovina Ar. S**	**77.24**	**322**	*eP*		**P**	**17 35 55.4**	**+0.2**
BUR04	**Bucovina Ar. S**	**77.25**	**322**	*eP*		**P**	**17 35 55.4**	**+0.1**
BR101	**Keskin Array S**	**78.15**	**312**	*eP*		**P**	**17 35 59.9**	**-0.6**
BRTR	**Keskin Array B**	**78.15**	**312**	P		**P**	**17 35 59.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=57,slow=3.1,SNR=3.5							
MLR	**Muntele Rosu**	**78.39**	**320**	LR		LR	18 11 20.8	
	comp=Z,7.9nm,20.4s,baz=28,slow=36							
GERES	**GERESS Array B**	**81.44**	**329**	P		**P**	**17 36 17.9**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=37,slow=9.0,SNR=4.0							
GERES				LR		LR	18 16 18.5	
	comp=Z,12nm,20.1s,baz=284,slow=38							
LTX	**Lajitas**	**88.19**	**53**	*eP*		**P**	**17 36 53.0**	**+0.6**
LTX	**Lajitas**	**88.19**	**53**	*eP*		**P**	**17 36 53.0**	**+0.6**
TXAR	**Lajitas Array**	**88.19**	**53**	P		**P**	**17 36 53.0**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=256,slow=2.6,SNR=2.4							
TXAR	**Lajitas Array**	**88.19**	**53**	P		**P**	**17 36 53.0**	**+0.6**

JMA ***29*** *17:27:48.1±0.1, 39.13N×142.35E, h36km±1km, M3.4*
IDC ***29*** *17:27:50.6±3.0, 39.10N×142.48E, h65km±25km, mb3.4/5, mb1 3.5/7, mb1mx3.1/63, mbtmp3.6/7, Error ellipse: s-maj=44.9km s-min=18.1km az=97.0*

ISC 29 17:27:44.6±1.9, 39.00N±0.04×142.36E±0.08, h14km±10km, n24, σ1.958/27, mb3.8/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.54**	**279**	P			**Pn**	**17 27 59.1**	**+1.2**
OFUJ				*eS*			**Sn**	**17 28 06.8**	**0.0**
MIYJ	**Miyakonagasawa**	**0.71**	**325**	P			**Pn**	**17 28 00.1**	**-0.2**
MIYJ				*eS*			**Sg**	**17 28 08.4**	**+0.5**
JMK	**Ichinoseki**	**0.89**	**268**	P			**Pn**	**17 28 04.5**	**+1.9**
JOM	**Ohasama**	**0.95**	**300**	P			**Pn**	**17 28 04.5**	**+0.9**
JOM				*eS*			**Sb**	**17 28 16.1**	**+0.7**
JIO	**Ouri**	**0.95**	**236**	P			**Pn**	**17 28 05.8**	**+2.2**
JIO				*eS*			**Sn**	**17 28 18.3**	**+1.4**
JTH	**Tanohata**	**1.01**	**338**	P			**Pn**	**17 28 04.3**	**-0.1**
JKZ	**Kuzumaki**	**1.27**	**322**	P			**Pg**	**17 28 08.7**	**-0.3**
JRG	**Rokugo**	**1.40**	**287**	P			**Pg**	**17 28 11.8**	**+0.4**
JOU	**Okura**	**1.47**	**245**	P			**Pg**	**17 28 14.0**	**+1.2**
JOU				*eS*			**Sg**	**17 28 32.7**	**+0.9**
JANG	**Nango**	**1.52**	**335**	P			**Pb**	**17 28 11.9**	**-0.7**
JANG				*eS*			**Sn**	**17 28 30.2**	**-0.8**
MJAR	**Matsushiro Arr**	**4.10**	**235**	P			**Pb**	**17 28 52.4**	**-4.1**
	1.4nm,0.3s,baz=38,slow=11,SNR=8.9								
MJAR				S			**Sb**	**17 29 47.0**	**+1.1**
	baz=63,slow=36,SNR=3.2								
MAT	**Matsushiro**	**4.10**	**235**	P			**Pb**	**17 28 53.0**	**-3.5**
MAT				*eS*			**Sb**	**17 29 44.4**	**-1.5**
ASAJ	**Asahikawa**	**5.12**	**2**	P			**Pn**	**17 29 03.0**	**+2.2**
	0.4nm,0.3s,baz=184,slow=14,SNR=4.2								
ASAJ				S			**Sn**	**17 30 00.6**	**+0.9**
	0.3nm,0.3s,baz=58,slow=19,SNR=2.2								
H11N2	**WAKE ISLAND Hy**	**28.59**	**125**	T		T		18 04 05.0	
	baz=317								
H11N1	**WAKE ISLAND Hy**	**28.60**	**125**	T		T		18 04 10.0	
	baz=317								
H11N3	**WAKE ISLAND Hy**	**28.61**	**125**	T		T		18 04 09.4	
	baz=317								
H11S1	**WAKE ISLAND Hy**	**29.37**	**127**	T		T		18 05 09.0	
	baz=319								
H11S3	**WAKE ISLAND Hy**	**29.38**	**127**	T		T		18 05 16.6	
	baz=318								
H11S2	**WAKE ISLAND Hy**	**29.39**	**127**	T		T		18 05 20.2	
	baz=318								
MKAR	**Makanchi Array**	**43.74**	**301**	P			**P**	**17 35 49.7**	**+0.4**
	0.4nm,0.6s,baz=78,slow=8.6,SNR=4.1								
KURBB	**Kurchatov Arra**	**45.41**	**307**	P			**P**	**17 36 02.7**	**+0.1**
	1.2nm,0.4s,baz=80,slow=8.3,SNR=8.1								
BVAR	**Borovoye Array**	**49.82**	**311**	P			**P**	**17 36 36.6**	**-0.2**
	0.5nm,0.5s,baz=64,slow=9.8,SNR=3.6								
WRA	**Warramunga Arr**	**59.11**	**189**	P			**P**	**17 37 45.0**	**+0.4**
	0.3nm,0.4s,baz=6.3,slow=7.1,SNR=5.3								
AKASG	**Malin Array Be**	**73.20**	**322**	P			**P**	**17 39 13.8**	**-0.9**
	0.1nm,0.2s,baz=44,slow=6.3,SNR=4.6								

ISCJP ***29*** *17:31:09.3±0.5, 16.56N±0.05×145.91E±0.09, h150km, mb3.9/23, Error ellipse: s-maj=12.7km s-min=6.8km az=6.5*
IDC ***29*** *17:31:10.9±1.4, 16.52N×145.87E, h152km±14km, mb3.7/23, mb1 3.8/25, mb1mx3.7/57, mbtmp4.1/25, Error ellipse: s-maj=16.5km s-min=10.1km az=88.0*

ISC 29 17:31:10.8±0.6, 16.55N±0.07×145.9E±0.1, h150km, n43, σ0.673/38, mb4.0/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.10**	**198**	P			**Pn**	**17 32 00.3**	**+0.8**
	21nm,0.3s,baz=16,slow=16,SNR=16								
GUMO				S			**Sn**	**17 32 36.6**	**-0.5**
	91nm,0.3s,baz=175,slow=21,SNR=13								
JOW	**Kunigami**	**19.27**	**305**	P			**Pn**	**17 35 25.7**	**-0.8**
	4.5nm,0.3s,baz=128,slow=12,SNR=8.9								
H11S3	**WAKE ISLAND Hy**	**19.94**	**81**	T		T		17 56 23.7	
	baz=266,slow=75,SNR=8.0								
H11S1	**WAKE ISLAND Hy**	**19.95**	**81**	T		T		17 56 21.8	
	baz=266,slow=75,SNR=7.5								
H11S2	**WAKE ISLAND Hy**	**19.96**	**81**	T		T		17 56 22.0	
	baz=266,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hy**	**20.22**	**78**	T		T		17 56 44.7	
	baz=264,slow=74,SNR=48								
H11N2	**WAKE ISLAND Hy**	**20.23**	**78**	T		T		17 56 46.7	
	baz=264,slow=74,SNR=48								
H11N3	**WAKE ISLAND Hy**	**20.24**	**78**	T		T		17 56 52.9	
	baz=264,slow=74,SNR=60								
MJAR	**Matsushiro Arr**	**21.04**	**343**	P			**P**	**17 35 42.3**	**-0.6**
	0.8nm,0.6s,baz=167,slow=9.1,SNR=4.0								
PMG	**Port Moresby**	**25.82**	**177**	P			**P**	**17 36 29.3**	**+1.0**
	5.6nm,0.5s,baz=346,slow=8.3,SNR=3.5								
KSRS	**Korea Array**	**26.16**	**326**	P			**P**	**17 36 31.8**	**+0.6**
	2.0nm,0.8s,baz=146,slow=10,SNR=6.5								
ASAJ	**Asahikawa**	**27.62**	**355**	P			**P**	**17 36 44.5**	**+0.4**
	4.8nm,0.8s,baz=90,slow=6.1,SNR=3.5								
PETK	**Petropavlovsk-**	**37.64**	**12**	P			**P**	**17 38 11.7**	**+0.7**
	0.8nm,0.6s,baz=142,slow=7.7,SNR=9.8								
WRA	**Warramunga Arr**	**38.00**	**198**	P			**P**	**17 38 13.8**	**-0.7**
	2.5nm,0.6s,baz=20,slow=9.5,SNR=24								
ASAR	**Alice Springs**	**41.65**	**197**	P			**P**	**17 38 43.9**	**-0.6**
	0.6nm,0.5s,baz=16,slow=8.7,SNR=12								
MA2	**Magadan**	**43.11**	**4**	P			**P**	**17 38 55.5**	**-0.4**
	2.1nm,0.7s,baz=186,slow=10,SNR=5.5								
CMAR	**Chiang Mai Arr**	**44.70**	**280**	P			**P**	**17 39 09.7**	**+0.4**
	3.4nm,0.8s,baz=73,slow=6.5,SNR=26								
SONM	**Songino Array**	**44.93**	**323**	P			**P**	**17 39 10.7**	**-0.1**
	0.5nm,0.4s,baz=141,slow=7.2,SNR=6.1								
SEY	**Seymchan**	**46.55**	**4**	P			**P**	**17 39 23.2**	**+0.2**
	0.7nm,0.6s,baz=122,slow=13,SNR=7.2								
STKA	**Stephens Creek**	**48.33**	**185**	P			**P**	**17 39 36.3**	**-0.8**
	3.1nm,1.1s,baz=18,slow=9.6,SNR=3.2								
TAPN	**Taplejung**	**54.59**	**292**	*eP*			**P**	**17 40 25.4**	**+1.0**
	5.6nm,0.4s								
ODAN	**Odare**	**54.89**	**291**	*eP*			**P**	**17 40 27.3**	**+0.9**
	9.5nm,0.5s								
RAMN	**Ramite**	**55.59**	**292**	*eP*			**P**	**17 40 32.2**	**+0.7**
	5.7nm,0.4s								
JIRN	**Jiri**	**55.93**	**292**	*eP*			**P**	**17 40 35.1**	**+1.1**
	33nm,0.7s								
GUN	**Gumba**	**56.20**	**293**	*eP*			**P**	**17 40 37.0**	**+1.1**
	18nm,0.7s								
PKI	**Pulchoki**	**56.63**	**292**	*eP*			**P**	**17 40 39.4**	**+0.5**
	11nm,0.7s								
PKIN	**Phulchoki**	**56.64**	**292**	*eP*			**P**	**17 40 39.4**	**+0.5**
	6.5nm,0.5s								
DMN	**Daman**	**56.90**	**292**	*eP*			**P**	**17 40 41.5**	**+0.8**
	11nm,0.5s								
GKN	**Gorkha**	**57.30**	**293**	*eP*			**P**	**17 40 44.2**	**+0.8**
	17nm,0.5s								
DANN	**Dangsing**	**58.05**	**293**	*eP*			**P**	**17 40 50.1**	**+1.2**
	2.5nm,0.7s								
KOLN	**Koldanda**	**58.22**	**293**	*eP*			**P**	**17 40 50.6**	**+0.7**
	15nm,0.7s								
PYUN	**Piuthan**	**58.74**	**293**	*eP*			**P**	**17 40 54.1**	**+0.5**
	23nm,0.9s								
ZALV	**Zalesovo Beam**	**59.82**	**323**	P			**P**	**17 41 00.0**	**-0.1**
	0.7nm,0.6s,baz=118,slow=6.5,SNR=3.5								
MKAR	**Makanchi Array**	**60.07**	**315**	P			**P**	**17 41 02.2**	**+0.1**
	0.7nm,0.4s,baz=89,slow=8.4,SNR=21								
KURBB	**Kurchatov Arra**	**63.03**	**319**	P			**P**	**17 41 21.7**	**0.0**
	1.6nm,0.5s,baz=97,slow=7.3,SNR=14								
ILAR	**Eielson Array**	**65.49**	**26**	P			**P**	**17 41 37.3**	**-0.3**
	1.7nm,0.3s,baz=249,slow=5.9,SNR=33								
BVAR	**Borovoye Array**	**68.23**	**321**	P			**P**	**17 41 55.0**	**-0.1**
	1.2nm,0.4s,baz=90,slow=7.7,SNR=14								
YKA	**Yellowknife Ar**	**79.80**	**28**	P			**P**	**17 43 02.4**	**+0.3**
	1.8nm,0.7s,baz=287,slow=5.3,SNR=25								
SPITS	**Spitsbergen Ar**	**81.30**	**351**	P			**P**	**17 43 09.6**	**-0.3**
	4.4nm,0.8s,baz=72,slow=9.3,SNR=2.5								
NVAR	**Mina Array Bea**	**84.33**	**52**	P			**P**	**17 43 27.2**	**+0.6**
	1.5nm,0.5s,baz=268,slow=5.5,SNR=11								
ARCES	**ARCESS Array B**	**84.58**	**342**	P			**P**	**17 43 26.5**	**-0.4**
	2.5nm,0.9s,baz=72,slow=6.0,SNR=3.5								
FINES	**FINESS Array B**	**88.89**	**335**	P			**P**	**17 43 46.1**	**-1.8**
	1.3nm,0.8s,baz=57,slow=5.1,SNR=3.4								
PDAR	**Pinedale Array**	**89.20**	**45**	P			**P**	**17 43 50.4**	**+0.3**
	0.5nm,0.6s,baz=254,slow=1.4,SNR=5.5								

SJA ***29*** *17:39:47.6±1.1, 28.21S×71.89W, h10km, ML3.9, MW3.5*
GUC ***29*** *17:39:54.0±0.6, 28.64S×71.50W, h50km±7km, ML3.4*

ISC 29 17:39:51.5±3.2, 28.61S±0.05×71.7W±0.1, h12km±17km, n15, σ2.832/25, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.81**	**88**	*⇓iP*			**Pn**	**17 40 20.2**	**+11**
VACH				*i*	S		Sn	17 40 30.6	+10
LCO	**Las Campanas**	**0.95**	**115**	*eP*			**Pn**	**17 40 10.9**	**0.0**
LCO	**Las Campanas**	**0.95**	**115**	*⇑iP*			**Pb**	**17 40 10.4**	**+0.4**
LCO				*i*	S		**Sn**	**17 40 23.3**	**-1.2**
LCO				IAML				17 40 28.2	
	comp=N,2μm,0.5s								
GO03	**Copiap**	**1.63**	**52**	*⇑iP*			**Pn**	**17 40 20.5**	**+0.3**
GO03				*i*	S		**Sn**	**17 40 41.1**	**-0.1**
GO03				IAML				17 40 46.4	
	comp=N,1μm,0.4s								
CPCH	**Copiapo**	**1.72**	**44**	*eP*			**Pn**	**17 40 22.4**	**+1.1**
CPCH				*i*	S		**Sn**	**17 40 43.0**	**-0.1**
GO04	**Tololo Observa**	**1.73**	**154**	*⇑iP*			**Pn**	**17 40 23.1**	**+1.3**
GO04				*i*	S		**Sn**	**17 40 45.0**	**+1.1**
AROD	**Rodeo**	**2.47**	**129**	*eP*			**Pb**	**17 40 36.4**	**+0.3**
AROD				*eS*			**Sg**	**17 41 13.2**	**+2.1**
ACDV	**Cuesta del Vie**	**2.72**	**125**	*eP*			**Pb**	**17 40 40.0**	**-0.3**
ACDV				*eS*			**Sg**	**17 41 18.5**	**-0.5**
VCA	**Vinchina**	**3.06**	**93**	*eP*			**Pb**	**17 40 45.0**	**-0.9**
VCA				*eS*			**Sb**	**17 41 22.8**	**-0.6**
VCA				IAML				17 41 41.4	
	comp=Z,244nm,0.5s								
AMOG	**MOGNA**	**3.61**	**131**	*eP*			**Pb**	**17 40 52.5**	**-2.

*HEL **29** 18:10:49.1±0.0,67.82N×20.21E±0.03, h0km, ML1.5, ML2.0(UPP), Explosion*

ISC 29 18:10:48.5±0.9, 67.81N±0.03×20.24E±0.03, h0km, n36, σ0s85/51, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**14**	P	**Pg**	**18 10 51.5**	**+0.2**
KUA				S	**Sg**	**18 10 53.5**	**+0.3**
KUA	**Kurravaara**	**0.15**	**14**	P	**Pg**	**18 10 51.5**	**+0.2**
KUA				S	**Sg**	**18 10 53.5**	**+0.3**
KUA	**Kurravaara**	**0.15**	**14**	*i* P	**Pg**	**18 10 51.5**	**+0.2**
KUA				*i* S	**Sg**	**18 10 53.5**	**+0.3**
RATU	**Laukkuluspa**	**0.25**	**273**	P	**Pg**	**18 10 53.2**	**0.0**
RATU	**Laukkuluspa**	**0.25**	**273**	P	**Pg**	**18 10 53.2**	**0.0**
RATU	**Laukkuluspa**	**0.25**	**273**	*i* P	**Pg**	**18 10 53.2**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**278**	P	**Pg**	**18 10 57.1**	**-0.1**
NIKU	**Nikkaluokta**	**0.46**	**278**	P	**Pg**	**18 10 57.1**	**-0.1**
NIKU	**Nikkaluokta**	**0.46**	**278**	*i* P	**Pg**	**18 10 57.1**	**-0.1**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**18 11 01.9**	**0.0**
LANU				S	**Sg**	**18 11 11.8**	**+0.9**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**18 11 02.0**	**0.0**
LANU	**Lannavaara**	**0.70**	**69**	*e*P	**Pg**	**18 11 01.9**	**0.0**
LANU				*e*S	**Sg**	**18 11 11.8**	**+0.9**
DUNU	**Dundret**	**0.70**	**170**	P	**Pg**	**18 11 02.0**	**+0.1**
DUNU	**Dundret**	**0.70**	**170**	P	**Pg**	**18 11 02.0**	**+0.1**
DUNU	**Dundret**	**0.70**	**170**	*i* P	**Pg**	**18 11 02.0**	**+0.1**
SALU	**Saltoluokta**	**0.79**	**238**	P	**Pg**	**18 11 03.4**	**-0.2**
SALU	**Saltoluokta**	**0.79**	**238**	P	**Pg**	**18 11 03.4**	**-0.2**
SALU	**Saltoluokta**	**0.79**	**238**	*i* P	**Pg**	**18 11 03.4**	**-0.2**
KIF	**Kilpisjarvi**	**1.22**	**10**	Pb	**Pg**	**18 11 11.7**	**0.0**
KIF				S	**Sg**	**18 11 27.5**	**0.0**
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*PB	**Pg**	**18 11 11.8**	**0.0**
KIF				MSG		18 11 26.6	
	comp=Z,6.2nm,0.2s						
KIF				*e*S	**Sg**	**18 11 27.5**	**0.0**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**18 11 13.7**	**-0.8**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**18 11 13.7**	**-0.8**
PAJU	**Pajala**	**1.36**	**124**	*e*P	**Pg**	**18 11 13.7**	**-0.8**
HEF	**Hetta**	**1.42**	**63**	Pg	**Pn**	**18 11 14.7**	**-0.7**
HEF				Sb	**Sg**	**18 11 33.2**	**-0.6**
HEF	**Hetta**	**1.42**	**63**	*e*PG	**Pn**	**18 11 14.7**	**-0.7**
HEF				MSG		18 11 32.1	
	comp=Z,1.6nm,0.2s						
HEF				*e*SB	**Sg**	**18 11 33.2**	**-0.6**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**18 11 15.6**	**-0.6**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**18 11 15.7**	**-0.6**
ERTU	**Ertsjaerv**	**1.47**	**148**	*e*P	**Pn**	**18 11 15.7**	**-0.6**
KALU	**Kalix**	**2.31**	**146**	Pb	**Pn**	**18 11 29.2**	**+1.5**
KALU	**Kalix**	**2.31**	**146**	*e*PB	**Pn**	**18 11 29.2**	**+1.5**
TOF	**Tornio**	**2.37**	**135**	Pb	**Pn**	**18 11 30.2**	**+1.8**
TOF				Sg	**Sb**	**18 12 02.5**	**+0.9**
TOF	**Tornio**	**2.37**	**135**	*e*PB	**Pn**	**18 11 30.2**	**+1.8**
TOF				MSG		18 11 59.5	
	comp=Z,2.6nm,0.2s						
TOF				*e*SG	**Sb**	**18 12 02.5**	**+0.9**
SGF	**Sodankyl**	**2.43**	**96**	Pb	**Pb**	**18 11 31.5**	**-1.5**
SGF				Sg	**Sb**	**18 12 04.5**	**+1.0**
SGF	**Sodankyl**	**2.43**	**96**	*e*PB	**Pb**	**18 11 31.5**	**-1.5**
SGF				*e*SG	**Sb**	**18 12 04.5**	**+1.0**
RNF	**Rovaniemi**	**2.55**	**116**	Pb	**Pn**	**18 11 33.1**	**+2.1**
RNF				Sb	**Sb**	**18 12 06.8**	**-0.1**
RNF	**Rovaniemi**	**2.55**	**116**	*e*PB	**Pn**	**18 11 33.1**	**+2.1**
RNF				*e*SB	**Sb**	**18 12 06.8**	**-0.1**

*ISCJB **29** 18:10:48.0±0.7,38.43N×0.03×141.87E±0.08, h60km±6km, mb3.6/8, Error ellipse: s-maj=11.0km s-min=4.6km az=17.6*
*JMA **29** 18:10:49.2,38.45N×141.82E, h54km±1km, M3.7*
JMA Felt I J1.
*IDC **29** 18:10:49.7±1.9,38.44N×141.83E, h59km±18km, mb3.3/8, mb1 3.6/12, mb1mx3.3/75, mbtmp3.6/12, MS2.2/1, Ms1 2.2/1, ms1mx1.9/34, Error ellipse: s-maj=25.4km s-min=10.4km az=103.0*

ISC 29 18:10:49.0±1.2, 38.44N±0.04×141.89E±0.09, h49km±11km, n30, σ1s13/37, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.43**	**272**	P	**Pn**	**18 10 59.4**	**+0.1**
JIO				S	**Sn**	**18 11 06.4**	**-0.3**
OFUJ	**Ofunato**	**0.66**	**345**	P	**Pn**	**18 11 02.4**	**+0.2**
OFUJ				S	**Sn**	**18 11 11.8**	**0.0**
JMK	**Ichinoseki**	**0.73**	**314**	P	**Pn**	**18 11 03.3**	**+0.2**
JMK				S	**Sn**	**18 11 13.2**	**-0.2**
JOU	**Okura**	**0.97**	**266**	P	**Pn**	**18 11 05.9**	**-0.4**
JOU				S	**Sn**	**18 11 18.2**	**-0.8**
JMM	**Marumori**	**1.04**	**237**	P	**Pn**	**18 11 06.7**	**-0.5**
JMM				S	**Sn**	**18 11 19.4**	**-1.3**
JOM	**Ohasama**	**1.13**	**336**	P	**Pn**	**18 11 08.7**	**+0.2**
JOM				*e*S	**Sn**	**18 11 23.4**	**+0.5**
JYK	**Kaneyama**	**1.29**	**292**	P	**Pn**	**18 11 10.5**	**-0.1**
JYK				S	**Sn**	**18 11 26.4**	**-0.4**
JFK	**Kawauchi**	**1.34**	**217**	P	**Pn**	**18 11 11.1**	**-0.3**
JFK				S	**Sn**	**18 11 27.3**	**-0.8**
JRG	**Rokugo**	**1.37**	**315**	P	**Pn**	**18 11 11.6**	**-0.1**
JYS	**Shirataka**	**1.45**	**262**	P	**Pn**	**18 11 12.7**	**-0.2**
JYS				S	**Sn**	**18 11 30.5**	**-0.3**
JFT	**Otama**	**1.54**	**234**	P	**Pn**	**18 11 14.3**	**+0.3**
JFT				S	**Sn**	**18 11 32.2**	**-0.6**
MJAR	**Matsushiro Arr**	**3.49**	**238**	P	**Pn**	**18 11 41.4**	**+0.7**
	1.8nm,0.3s,baz=35,slow=13,SNR=32						
MJAR				S	Sn	18 12 30.0	+9.1
	1.4nm,0.3s,baz=50,slow=13,SNR=5.4						
MJAR				LR	LR	18 13 20.8	
	comp=Z,35nm,18.2s,baz=355,slow=44						
MAT	**Matsushiro**	**3.49**	**238**	P	**Pn**	**18 11 42.4**	**+1.6**
MAT				*e*S	**Sn**	**18 12 26.1**	**+5.2**
JHJ	**Hachijo jima 2**	**5.58**	**199**	P	**Pn**	**18 12 10.5**	**+1.1**
	5.5nm,0.3s,baz=65,slow=19,SNR=4.2						
JHJ				S	**Sn**	**18 13 12.6**	**+0.3**
	5.9nm,0.3s,baz=61,slow=19,SNR=4.6						
ASAJ	**Asahikawa**	**5.69**	**5**	P	**Pn**	**18 12 10.8**	**-0.2**
	2.5nm,0.3s,baz=194,slow=19,SNR=42						
ASAJ				S	**Sn**	**18 13 16.0**	**+1.1**
	0.4nm,0.3s,baz=278,slow=19,SNR=1.8						
KSRS	**Korea Array**	**11.08**	**269**	P	**Pn**	**18 13 25.8**	**+1.2**
	0.2nm,0.3s,baz=81,slow=14,SNR=3.6						
SEY	**Seymchan**	**25.34**	**11**	P	**P**	**18 16 11.5**	**+0.6**
	0.7nm,0.7s,baz=278,slow=3.5,SNR=5.3						
H11N2	**WAKE ISLAND Hy 28.58**	**124**		T	T	18 47 02.1	
	baz=316,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy 28.59**	**124**		T	T	18 46 56.4	
	baz=316,slow=75,SNR=77						
H11N3	**WAKE ISLAND Hy 28.59**	**124**		T	T	18 47 02.4	
	baz=316,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy 29.34**	**126**		T	T	18 47 53.0	
	baz=318,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy 29.34**	**126**		T	T	18 47 55.2	
	baz=318,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy 29.36**	**126**		T	T	18 47 53.6	
	baz=318,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**41.26**	**311**	P	**P**	**18 18 28.2**	**-0.9**
	0.6nm,0.4s,baz=100,slow=7.2,SNR=2.8						
KURBB	**Kurchatov Arra**	**45.45**	**307**	P	**P**	**18 19 02.0**	**-0.8**
	1.6nm,0.6s,baz=80,slow=7.9,SNR=5.8						
ILAR	**Eielson Array**	**48.10**	**33**	P	**P**	**18 19 23.6**	**+0.1**
	0.3nm,0.7s,baz=262,slow=6.3,SNR=3.6						
WRA	**Warramunga Arr**	**58.51**	**188**	P	**P**	**18 20 39.3**	**-0.9**
	0.3nm,0.6s,baz=6.3,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**62.23**	**188**	P	**P**	**18 21 05.1**	**-0.6**
	0.9nm,1.1s,baz=11,slow=5.7,SNR=4.5						
YKA	**Yellowknife Ar**	**62.40**	**31**	P	**P**	**18 21 06.1**	**-0.2**
	0.1nm,0.5s,baz=298,slow=6.4,SNR=3.9						
TXAR	**Lajitas Array**	**88.96**	**53**	P	**P**	**18 23 38.6**	**0.0**
	0.3nm,0.9s,baz=324,slow=3.9,SNR=3.6						

MAN 29 18:29:47,12.57N×121.58E, h23km, mb3.9, ML2.7, MS2.2, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.46**	**257**	*e*P	Pn	18 29 57.9	-0.3
SJMP				*e*S	Sn	18 30 06.4	+0.6
OTRP	**Odiongan**	**0.47**	**115**	*e*P	Pb	18 29 57.0	+0.3
OTRP				*e*S	Sb	18 30 03.7	+0.3
BOAC	**Boac**	**0.93**	**16**	*e*P	Pb	18 30 01.3	-3.1
BOAC				*e*S	Sb	18 30 11.6	-4.7
AUQP	**San Andres**	**1.30**	**55**	*e*P	Pn	18 30 09.4	-0.4
AUQP				*e*S	Sb	18 30 27.4	+0.2
BUSP	**Coron**	**1.46**	**248**	*e*P	Pn	18 30 12.4	+0.4
BUSP				*e*S	Sb	18 30 31.4	-0.3
RCP	**Roxas**	**1.51**	**131**	*e*P	Pn	18 30 12.8	+0.1
RCP				*e*S	Sn	18 30 32.3	+0.6
LUBP	**Lubang**	**1.75**	**312**	*e*P	Pn	18 30 16.6	+0.7
LUBP				*e*S	Sn	18 30 37.8	+0.3
GUIM	**Jordan**	**2.17**	**153**	*e*P	Pn	18 30 22.6	+0.9

MAN 29 18:32:29,12.74N×123.42E, h15km, mb4.2, ML3.1, MS2.8, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.43**	**152**	*i* P	Pg	18 32 37.7	+0.1
MMPH				*i* S	Sb	18 32 44.9	+0.3
AUQP	**San Andres**	**0.93**	**309**	*e*P	Pg	18 32 47.0	0.0
AUQP				*e*S	Sn	18 33 02.7	+2.1
PVCP	**Virac**	**1.11**	**40**	*e*P	Pb	18 32 49.7	-0.2
PVCP				*e*S	Sn	18 33 05.5	+0.4
RCP	**Roxas**	**1.35**	**209**	*e*P	Pn	18 32 52.9	-0.4
RCP				*e*S	Sb	18 33 11.7	+0.7
OTRP	**Odiongan**	**1.42**	**255**	*e*P	Pb	18 32 55.6	+0.4
OTRP				*e*S	Sn	18 33 11.6	-1.1
GQP	**Guinayangan**	**1.50**	**321**	*e*P	Pn	18 32 55.1	-0.3
GQP				*e*S	Sb	18 33 16.1	+0.7
BOAC	**Boac**	**1.69**	**295**	*e*P	Pn	18 32 57.5	-0.6
BOAC				*e*S	Sb	18 33 20.4	-0.7
OCLP	**Ormoc**	**2.04**	**145**	*e*P	Pg	18 33 07.0	-1.2
GUIM	**Jordan**	**2.25**	**201**	*e*P	Pb	18 33 09.0	-0.4
SJMP	**San Jose**	**2.26**	**263**	*e*P	Pn	18 33 06.5	+0.6
SJMP				*e*S	Sn	18 33 34.6	+1.0
LLP	**Lapu-Lapu**	**2.47**	**167**	*i* P	Pn	18 33 09.9	+1.2
LLP				*i* S	Sb	18 33 41.2	-2.1
BUSP	**Coron**	**3.23**	**257**	*e*P	Pn	18 33 19.6	+0.4

*ISCJB **29** 18:36:15.5±0.9,37.21N±0.04×41.76E±0.03, h2km±5km, Error ellipse: s-maj=7.2km s-min=3.9km az=176.4*
*CSEM **29** 18:36:15.4±0.3,37.20N×41.77E, h2km, ML3.0, Error ellipse: s-maj=6.3km s-min=3.7km az=3.0*
*DDA **29** 18:36:15.5,37.21N×41.80E, h7km, Ml3.4*
*ISK **29** 18:36:15.3,37.24N×41.79E, h8km, ML3.0/5*

ISC 29 18:36:16.1±1.3, 37.24N±0.04×41.78E±0.02, h7km±12km, n33, σ0s47/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.58**	**63**	PG	**Pg**	**18 36 26.9**	**-0.4**
SIRT				SG	**Sg**	**18 36 35.3**	**+0.3**
SIRT	**Sirnak**	**0.58**	**63**	*e*Pg	**Pg**	**18 36 26.9**	**-0.4**
SIRT				*e*Sg	**Sg**	**18 36 35.3**	**+0.3**
SRTM	**Siirt_Merkez**	**0.76**	**8**	*i* P	**Pg**	**18 36 30.3**	**-0.3**
SRTM				*i* S	**Sb**	**18 36 42.1**	**-0.2**
SRTM	**Siirt_Merkez**	**0.76**	**8**	P	**Pg**	**18 36 30.3**	**-0.3**
SRTM				S	**Sb**	**18 36 42.1**	**-0.2**
BTMN	**Batman**	**0.77**	**328**	*i* P	**Pb**	**18 36 31.3**	**-0.6**
BTMN				*i* S	**Sb**	**18 36 42.4**	**-0.2**
BTMN	**Batman**	**0.77**	**328**	P	**Pb**	**18 36 31.3**	**-0.6**
BTMN				S	**Sb**	**18 36 42.4**	**-0.2**
MARD	**Mardin**	**0.80**	**276**	*i* P	**Pg**	**18 36 31.2**	**-0.3**
MARD				*i* S	**Sb**	**18 36 43.3**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.02**	**333**	PG	**Pg**	**18 36 35.4**	**-0.3**
SVAN				SG	**Sb**	**18 36 50.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.02**	**333**	*i* P	**Pb**	**18 36 36.2**	**+0.1**
SVAN				*i* S	**Sb**	**18 36 50.5**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.02**	**333**	*e*Pg	**Pg**	**18 36 35.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.02**	**333**	P	**Pb**	**18 36 36.2**	**+0.1**
SVAN				*e*Sg	**Sb**	**18 36 50.2**	**+0.4**
MAZI	**Mazidag**	**1.09**	**282**	PN	**Pb**	**18 36 36.6**	**-0.7**
MAZI				SN	**Sb**	**18 36 51.6**	**-0.2**
MAZI	**Mazidag**	**1.09**	**282**	*e*Pn	**Pb**	**18 36 36.6**	**-0.7**
MAZI				*e*Sn	**Sb**	**18 36 51.6**	**-0.2**
GURO	**Guroymak-BITLI**	**1.32**	**8**	PN	**Pn**	**18 36 40.9**	**-0.3**
GURO				SN	**Sg**	**18 36 58.8**	**+0.2**
GURO	**Guroymak-BITLI**	**1.32**	**8**	*e*Pn	**Pn**	**18 36 40.9**	**-0.3**
GURO				*e*Sn	**Sg**	**18 36 58.8**	**+0.2**
DIY	**Diyarbakir**	**1.40**	**298**	*e*Pn	**Pg**	**18 36 43.6**	**+0.7**
GEVA	**Gevas**	**1.47**	**43**	*i* P	**Pb**	**18 36 43.5**	**-0.4**
GEVA				*i* S	**Sg**	**18 37 04.3**	**+0.9**
GEVA	**Gevas**	**1.47**	**43**	P	**Pb**	**18 36 43.5**	**-0.4**
GEVA				S	**Sg**	**18 37 04.3**	**+0.9**
DYBB	**Diyarbakir**	**1.49**	**299**	PN	**Pb**	**18 36 43.6**	**-0.5**
HAKT	**HAKKARI**	**1.56**	**78**	*i* P	**Pb**	**18 36 44.9**	**-0.6**
HAKT				*i* S	**Sg**	**18 37 07.2**	**+0.8**
HAKT	**HAKKARI**	**1.56**	**78**	P	**Pb**	**18 36 44.9**	**-0.6**
HAKT				S	**Sg**	**18 37 07.2**	**+0.8**
VANB	**Van**	**1.85**	**43**	PN	**Pn**	**18 36 48.1**	**-0.4**
VANB	**Van**	**1.85**	**43**	*e*Pn	**Pn**	**18 36 48.1**	**-0.4**
YOVA	**Hakkari_Y`...kse**	**2.02**	**79**	*i* P	**Pn**	**18 36 51.5**	**+0.6**
YOVA				*i* S	**Sb**	**18 37 19.1**	**+0.2**
YOVA	**Hakkari_Y`...kse**	**2.02**	**79**	P	**Pn**	**18 36 51.5**	**+0.6**
YOVA				S	**Sb**	**18 37 19.1**	**+0.2**
URFA	**Urfa**	**2.37**	**276**	PN	**Pn**	**18 36 55.8**	**+0.3**
URFA	**Urfa**	**2.37**	**276**	*e*Pn	**Pn**	**18 36 55.8**	**+0.3**
PTK	**Pertek**	**2.51**	**312**	PN	**Pn**	**18 36 57.9**	**+0.4**
PTK	**Pertek**	**2.51**	**312**	*e*Pn	**Pn**	**18 36 57.9**	**+0.4**
AGRB	**Hanur-Agry**	**2.52**	**22**	PN	**Pn**	**18 36 57.9**	**+0.3**
AGRB	**Hanur-Agry**	**2.52**	**22**	*e*Pn	**Pn**	**18 36 57.9**	**+0.3**
MALT	**Malatya**	**2.87**	**293**	PN	**Pn**	**18 37 02.5**	**+0.1**
MALT	**Malatya**	**2.87**	**293**	*e*Pn	**Pn**	**18 37 02.5**	**+0.1**

*IDC **29** 19:03:43.6±1.1,24.99N×60.78E, h0km, mb3.7/15, mb1 3.9/16, mb1mx3.7/74, mbtmp3.8/16, ML3.8/1, MS2.8/3, Ms1 2.9/3, ms1mx2.4/66, Error ellipse: s-maj=23.4km s-min=17.6km az=156.0*
*NEIC **29** 19:03:45.0±0.5,25.04N×60.73E, h10km, mb4.6/5, Error ellipse: s-maj=10.3km s-min=6.7km az=147.0*
*ISCJB **29** 19:03:46.2±0.4,24.96N±0.03×60.71E±0.03, h33km, mb3.9/16, MS2.7/3, Error ellipse: s-maj=5.7km s-min=3.1km az=136.5*
*CSEM **29** 19:03:47.6±0.8,24.91N×60.72E, h30km, mb4.6, Error ellipse: s-maj=15.4km s-min=9.1km az=73.0*
*OMAN **29** 19:03:49.2±1.7,24.91N×60.62E, h73km±111km, Error ellipse: s-maj=26.7km s-min=9.8km az=28.0*
*DSN **29** 19:03:53.2±1.7,24.86N×60.14E, h15km, ML3.6/7, Error ellipse: s-maj=26.1km s-min=10.2km az=40.0*
*TEH **29** 19:04:03.2,26.25N×59.85E, h10km, ML3.2*

ISC 29 19:03:48.1±0.7, 24.94N±0.05×60.72E±0.07, h35km, n78, σ1s15/92, mb3.9/16, MS2.8/3, Gulf of Oman

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**2.56**	**229**	Pn	**Pn**	**19 04 25.7**	**-1.4**
	19nm,0.3s,baz=91,slow=6.8,SNR=565						
WSAR				Lg	Lg	19 04 53.7	
	32nm,0.3s,baz=219,slow=23,SNR=23						
WSAR	**Wadi Sarin**	**2.56**	**229**	P	**Pn**	**19 04 25.8**	**-1.2**
BIDO	**Bidbid**	**2.76**	**240**	P	**Pn**	**19 04 29.6**	**-0.3**
BIDO				S	**Sn**	**19 05 01.7**	**-0.3**
BIDO	**Bidbid**	**2.76**	**240**	P	**Pn**	**19 04 29.6**	**-0.3**
BIDO				S	**Sn**	**19 05 01.7**	**-0.3**
WBK	**Wadi Bani Khal**	**2.82**	**215**	P	**Pn**	**19 04 29.3**	**-1.5**
	SNR=37						
WBK	**Wadi Bani Khal**	**2.82**	**215**	P	**Pn**	**19 04 29.3**	**-1.5**
	SNR=37						
SMDO	**Samad**	**3.08**	**233**	P	**Pn**	**19 04 33.5**	**-0.9**
	SNR=16						
SMDO				S	**Sn**	**19 05 09.1**	**-1.0**
SMDO	**Samad**	**3.08**	**233**	P	**Pn**	**19 04 33.5**	**-0.9**
	SNR=16						
SMDO				S	**Sn**	**19 05 09.1**	**-1.0**
JMDO	**Jabal Madar**	**3.51**	**224**	P	**Pn**	**19 04 40.2**	**0.0**
	SNR=50						
JMDO				S	**Sn**	**19 05 19.7**	**-0.8**
JMDO	**Jabal Madar**	**3.51**	**224**	P	**Pn**	**19 04 40.2**	**0.0**
	SNR=50						
JMDO				S	**Sn**	**19 05 19.7**	**-0.8**
KHSK	**Kohestak**	**3.77**	**299**	*e*Pn	**Pn**	**19 04 45.7**	**+2.0**
KHSK				*e*AMB	AMB	19 05 30.6	
	comp=Z,2μm,0.1s						
BSYO	**Bisya**	**3.87**	**236**	P	**Pn**	**19 04 46.4**	**+1.2**
	SNR=12						
BSYO				S	**Sn**	**19 05 31.1**	**+1.6**
BSY	**Bisya**	**3.90**	**237**	P	**Pn**	**19 04 46.4**	**+0.9**
	SNR=12						
BSY				S	**Sn**	**19 05 31.1**	**+1.0**
SOHO	**SOHO**	**3.90**	**259**	P	**Pn**	**19 04 44.2**	**-1.3**
	SNR=20						
SOHO				S	**Sn**	**19 05 27.8**	**-2.2**
SOHO	**SOHO**	**3.90**	**259**	*i* P	**Pn**	**19 04 44.0**	**-1.5**
	SNR=20						
MDH	**Madha**	**4.02**	**276**	*i* P	**Pn**	**19 04 47.0**	**-0.3**
	SNR=7.1						
UOSS	**Minazif**	**4.10**	**271**	*e*Pn	**Pn**	**19 04 47.0**	**-1.3**
UOSS	**Minazif**	**4.10**	**271**	*e*Pn	**Pn**	**19 04 47.0**	**-1.3**
UOSS	**Minazif**	**4.10**	**271**	P	**Pn**	**19 04 47.6**	**-0.7**
	SNR=9.5						
UOSS	**Minazif**	**4.10**	**271**	*i* P	**Pn**	**19 04 47.6**	**-0.7**
	SNR=9.5						
BANOM	**Banah**	**4.12**	**285**	P	**Pn**	**19 04 48.1**	**-0.4**
	SNR=59						
BANOM	**Banah**	**4.12**	**285**	P	**Pn**	**19 04 48.7**	**+0.2**
	SNR=59						
BANOM	**Banah**	**4.12**	**285**	*i* P	**Pn**	**19 04 48.7**	**+0.2**
	SNR=59						
BANOM				S	**Sn**	**19 05 32.3**	**-3.1**
MSFE	**Esma-Masafi**	**4.15**	**277**	P	**Pn**	**19 04 48.4**	**-0.6**
HATD	**Hatta, Dubai**	**4.17**	**269**	P	**Pn**	**19 04 49.3**	**+0.1**
	SNR=6.5						
HATD				S	**Sn**	**19 05 35.5**	**-1.3**
HATD	**Hatta, Dubai**	**4.17**	**269**	P	**Pn**	**19 04 49.3**	**+0.1**
	SNR=6.5						
HATD				S	**Sn**	**19 05 35.5**	**-1.3**
HATD	**Hatta, Dubai**	**4.17**	**269**	P	**Pn**	**19 04 49.1**	**-0.2**
ASHO	**Ashiyiah**	**4.24**	**267**	P	**Pn**	**19 04 50.5**	**+0.2**
	SNR=31						
ASHO	**Ashiyiah**	**4.24**	**267**	P	**Pn**	**19 04 50.5**	**+0.2**
	SNR=31						
ASHO	**Ashiyiah**	**4.24**	**267**	*i* P	**Pn**	**19 04 50.7**	**+0.4**
	SNR=35						
SHME	**Shamm**	**4.28**	**286**	P	**Pn**	**19 04 51.2**	**+0.4**
	SNR=32						
SHME				S	**Sn**	**19 05 40.4**	**+0.8**
SHME	**Shamm**	**4.28**	**286**	*i* P	**Pn**	**19 04 52.1**	**+1.3**
	SNR=32						
NIAN	**Nian**	**4.35**	**308**	*e*Pn	**Pn**	**19 04 53.3**	**+1.5**
NIAN				*e*AMB	AMB	19 04 54.7	
	comp=Z,2μm,0.1s						
ALNE	**Al Ain**	**4.61**	**260**	P	**Pn**	**19 04 56.8**	**+1.4**
	SNR=11						
ALNE				S	**Sn**	**19 05 48.1**	**+0.4**
	SNR=6.0						
ALNE	**Al Ain**	**4.61**	**260**	*i* P	**Pn**	**19 04 56.3**	**+0.9**
	SNR=11						
MHTO	**MHTO**	**4.68**	**213**	P	**Pn**	**19 04 55.8**	**-0.5**
	SNR=11						
MHTO				S	**Sn**	**19 05 48.7**	**-0.8**
GENO	**Geno**	**4.76**	**302**	*e*Pn	**Pn**	**19 04 56.9**	**-0.7**
GENO				*e*AMB	AMB	19 05 05.2	
	comp=Z,273nm,0.1s						
GENO				*e*Sg	**Sn**	**19 05 51.5**	**-0.2**
KHGB	**Koh Gabri**	**6.59**	**326**	*e*Pn	**Pn**	**19 05 20.6**	**-2.1**
KHGB				*e*AMB	AMB	19 05 23.2	
	comp=Z,99nm,0.1s						
IKOO	**Kooshah**	**7.60**	**349**	*e*Pn	**Pn**	**19 05 33.9**	**-2.8**
IKOO				*e*AMB	AMB	19 05 52.1	
	comp=Z,68nm,0.1s						
ITEG	**Tejag**	**8.11**	**348**	*e*Pn	**Pn**	**19 05 40.5**	**-3.0**
ITEG				*e*AMB	AMB	19 05 53.4	
	comp=Z,78nm,0.2s						
ICHK	**Chekchek**	**9.15**	**324**	*e*Pn	Pn	19 05 54.0	-3.8
ICHK				*e*AMB	AMB	19 06 23.7	
	comp=Z,68nm,0.1s						
GNI	**Garni**	**20.23**	**322**	P	**P**	**19 08 21.5**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=180,slow=18,SNR=2.1						
AAK	**Ala-Archa**	**20.99**	**29**	P	**P**	**19 08 26.1**	**-2.4**
	comp=Z,1.5nm,0.8s,baz=99,slow=6.5,SNR=5.5						
AAK				LR	LR	19 17 45.5	
	comp=Z,19nm,20.0s,baz=172,slow=40						
KBZ	**Khabaz**	**23.74**	**327**	P	**P**	**19 08 58.2**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=122,slow=6.0,SNR=4.3						
KVAR	**Kislovodsk Arr**	**24.00**	**327**	P	**P**	**19 09 00.2**	**+0.6**
	comp=Z,5.6nm,0.8s,baz=45,slow=1.4,SNR=6.0						
KIV	**Kislovodsk**	**24.01**	**327**	*e*P	**P**	**19 08 59.0**	**-0.6**
	comp=Z,40nm,1.9s						
AB08	**Akbulak array**	**24.26**	**359**	*e*P	**P**	**19 09 00.7**	**-1.1**
AB07	**Akbulak array**	**24.26**	**359**	*e*P	**P**	**19 09 00.9**	**-0.9**
AB01	**Akbulak array**	**24.28**	**359**	*e*P	**P**	**19 09 00.8**	**-1.2**
AB31	**Akbulak array**	**24.28**	**359**	*e*P	**P**	**19 09 01.1**

NNC 29 19:34:43.7±7.4, 36.86N×70.54E, h0km, mb3.6, mpv3.2, 3C-5D, Error ellipse: s-maj=58.4km s-min=50.1km az=150.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.91**	**36**	⇓Pn	Pn	19 35 45.6	+0.3
	4.1nm,0.3s						
SFK				⇓Sn	Sn	19 36 35.5	+3.4
	26nm,0.5s						
MNAS	**Manas**	**5.82**	**14**	⇑Pn	Pn	19 36 11.1	-0.3
	1.8nm,0.6s						
MNAS				⇑Sn	Sn	19 37 18.7	-0.3
	5.4nm,0.7s						
KK31	**Karatay Array**	**6.24**	**360**	⇓Pn	Pn	19 36 17.4	+0.4
	0.2nm,0.3s,baz=169,slow=11,SNR=7.0						
KK31				⇓Sn	Sn	19 37 30.0	+1.1
	0.9nm,0.4s,baz=173,slow=26,SNR=7.4						
AAK	**Ala-Archa**	**6.52**	**27**	⇑Pn	Pn	19 36 18.9	-2.2
	1.3nm,0.4s						
AAK				⇓Sn	Sn	19 37 35.5	-0.8
	2.4nm,0.8s						

*MOS **29** 19:39:20.8±1.6, 54.49N×110.14E, h10km, mb4.2/1, Error ellipse: s-maj=26.0km s-min=12.7km az=79.4*
*BYKL **29** 19:39:20.5±0.2, 54.50N×110.10E*
ISC 29 19:39:20.5±1.1, 54.47N±0.02×110.16E±0.02, h1km±9km, n56, σ2.9s60/121, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.71**	**55**	*e*Pg	**Pg**	**19 39 32.9**	**-1.3**
YLYR				*e*Sg	**Sg**	**19 39 43.1**	**-0.3**
YLYR				Pmax			
	11nm,0.1s						
YLYR				Smax			
	160nm,0.2s						
YLYR	**Ulyunkhan**	**0.71**	**55**	*e*Pg	**Pn**	**19 39 38.5**	**+0.8**
YLYR				*e*Sg	**Sn**	**19 39 48.1**	**-1.2**
YLYR				Pmax			
	21nm,0.2s						
YLYR				Smax			
	284nm,0.2s						
SYVR	**Suvo**	**0.82**	**187**	*e*Pg	**Pg**	**19 39 35.4**	**-0.8**
SYVR				*e*Pb	**Pb**	**19 39 36.2**	**-1.4**
SYVR				*e*Sg	**Sg**	**19 39 47.8**	**+1.0**
SYVR				*e*Sb	**Sb**	**19 39 49.1**	**0.0**
SYVR				max			
	60nm,0.3s						
SYVR				max			
	392nm,0.4s						
SYVR	**Suvo**	**0.82**	**187**	*e*Pg	**Pn**	**19 39 40.9**	**+1.7**
SYVR				*e*Sg	**Sn**	**19 39 51.7**	**-0.2**
SYVR				*e*Sb	**Sb**	**19 39 56.0**	**+6.9**
SYVR				Pmax			
	94nm,0.3s						
SYVR				max			
	1μm,0.5s						
SYVR	**Suvo**	**0.82**	**187**	*e*PG	**Pg**	**19 39 35.6**	**-0.6**
SYVR				*e*		19 39 49.0	
SYVR				pmax	pmax		
	comp=Z,93nm,0.4s						
SYVR				smax	smax		
	comp=E,1μm,0.5s						
NIZ	**Nizh Angarsk**	**1.35**	**345**	*e*Pg	**Pn**	**19 39 44.4**	**-2.2**
NIZ				*e*Sg	**Sb**	**19 40 02.9**	**-1.6**
NIZ				Pmax			
	comp=E,36nm,0.3s						
NIZ				Smax			
	comp=E,98nm,0.2s						
NIZ	**Nizh Angarsk**	**1.35**	**345**	*e*Pg	**Pg**	**19 39 49.6**	**+3.1**
NIZ				*e*Sg	**Sg**	**19 40 06.1**	**+2.1**
NIZ				Pmax			
	comp=E,41nm,0.3s						
NIZ				Smax			
	comp=E,152nm,0.4s						
NIZ	**Nizh Angarsk**	**1.35**	**345**	*e*PG	**Pn**	**19 39 44.4**	**-2.2**
NIZ				*e*		19 40 03.4	
NIZ				pmax	pmax		
	comp=Z,51nm,0.5s						
NIZ				smax	smax		
	comp=E,211nm,1.0s						
KMO	**Kumora**	**1.54**	**22**	*e*Pg	**Pn**	**19 39 48.1**	**-1.0**
KMO				*e*Sg	**Sb**	**19 40 09.1**	**-0.7**
KMO				Pmax			
	comp=E,35nm,0.5s						
KMO				Smax			
	comp=E,462nm,1.4s						
KMO	**Kumora**	**1.54**	**22**	*e*Pg	**Pg**	**19 39 53.3**	**+3.3**
KMO				*e*Sg	**Sg**	**19 40 12.5**	**+2.5**
KMO				Pmax			
	comp=E,36nm,0.3s						
KMO				Smax			
	comp=E,462nm,1.5s						
KMO	**Kumora**	**1.54**	**22**	*e*PG	**Pn**	**19 39 48.4**	**-0.7**
KMO				*e*		19 40 08.5	
KMO				pmax	pmax		
	comp=Z,17nm,0.4s						
KMO				smax	smax		
	comp=E,463nm,1.2s						
OGRR	**Ongureny**	**1.72**	**242**	*e*Pg	**Pn**	**19 39 50.5**	**-1.1**
OGRR				*e*Sg	**Sb**	**19 40 14.2**	**-0.9**
OGRR				Pmax			
	comp=E,33nm,0.3s						
OGRR				Smax			
	comp=E,245nm,0.5s						
OGRR	**Ongureny**	**1.72**	**242**	*e*Pg	**Pg**	**19 39 55.6**	**+2.1**
OGRR				*e*Sg	**Sg**	**19 40 17.6**	**+1.8**
OGRR				Pmax			
	comp=E,36nm,0.3s						
OGRR				Smax			
	comp=E,275nm,0.6s						
OGRR	**Ongureny**	**1.72**	**242**	*e*PN	**Pn**	**19 39 49.2**	**-2.4**
OGRR				*e*		19 40 15.4	
OGRR				pmax	pmax		
	comp=Z,36nm,0.6s						
OGRR				smax	smax		
	comp=N,309nm,1.0s						
UKT	**Uakit**	**2.25**	**62**	*e*Pn	**Pn**	**19 39 58.8**	**-0.1**
UKT				*e*Pg	**Pb**	**19 40 00.7**	**-1.2**
UKT				*e*Sg	**Sb**	**19 40 29.4**	**-0.8**
UKT				Pmax			
	comp=N,2.0nm,0.1s						
UKT				Smax			
	comp=N,38nm,0.4s						
UKT	**Uakit**	**2.25**	**62**	*e*Pg	**Pg**	**19 40 04.9**	**+1.4**
UKT				*e*Sg	**Sg**	**19 40 34.9**	**+2.3**
UKT				Pmax			
	comp=N,22nm,0.3s						
UKT				Smax			
	comp=N,140nm,1.4s						
UKT	**Uakit**	**2.25**	**62**	*e*PN	**Pn**	**19 39 58.9**	**0.0**
UKT				*e*		19 40 29.7	
UKT				pmax	pmax		
	comp=Z,26nm,1.6s						
UKT				smax	smax		
	comp=N,140nm,1.0s						
TRG	**Tyrgan**	**2.84**	**234**	*e*Pn	**Pn**	**19 40 05.6**	**-1.4**
TRG				*e*		19 40 07.5	
TRG				*e*Pg	**Pb**	**19 40 11.1**	**-1.0**
TRG				*e*Sn	**Sn**	**19 40 40.9**	**-1.0**
TRG				*e*Sg	**Sb**	**19 40 49.4**	**+2.1**
TRG				Pmax			
	comp=N,7.0nm,0.2s						
TRG				Smax			
	comp=N,75nm,0.5s						
TRG	**Tyrgan**	**2.84**	**234**	*e*Pg	**Pg**	**19 40 15.5**	**+0.5**
TRG				*e*Sg	**Sg**	**19 40 53.5**	**+1.7**
TRG				Pmax			
	comp=N,5.0nm,0.2s						
TRG				Smax			
	comp=N,74nm,0.5s						
UUDB	**Ulan-Yde**	**3.01**	**211**	*e*Pg	**Pb**	**19 40 15.8**	**+0.9**
UUDB				*e*Sg	**Sb**	**19 40 54.3**	**+2.2**
UUDB				Pmax			
	comp=N,15nm,0.5s						
UUDB				Smax			
	comp=N,74nm,0.7s						
UUDB	**Ulan-Yde**	**3.01**	**211**	*e*Pg	**Pg**	**19 40 20.0**	**+1.8**
UUDB				*e*Sg	**Sg**	**19 40 59.2**	**+2.1**
UUDB				Pmax			
	comp=N,38nm,0.9s						
UUDB				Smax			
	comp=N,150nm,0.7s						
CIT	**Chita**	**3.19**	**139**	*e*Pg	**Pb**	**19 40 18.9**	**+0.9**
CIT				*e*Sg	**Sg**	**19 41 01.7**	**-1.3**
CIT				Pmax			
	comp=N,34nm,0.1s						
CIT				Smax			
	comp=N,84nm,0.2s						
CIT	**Chita**	**3.19**	**139**	*e*Pg	**Pg**	**19 40 23.2**	**+1.6**
CIT				*e*Sg	**Sg**	**19 41 06.4**	**+3.4**
CIT				Pmax			
	comp=N,38nm,0.4s						
CIT				Smax			
	comp=N,150nm,0.3s						
KAB	**Kabansk**	**3.21**	**222**	*e*Pn	**Pn**	**19 40 11.9**	**-0.2**
KAB				*e*Sg	**Sg**	**19 41 00.9**	**-2.7**
KAB				Smax			
	comp=N,261nm,0.8s						
KAB	**Kabansk**	**3.21**	**222**	*e*Pn	**Pb**	**19 40 16.5**	**-1.8**
KAB				*e*Sg	**Sg**	**19 41 05.2**	**+1.6**
KAB				Smax			
	comp=N,393nm,1.0s						
HRMR	**Khuramsha**	**3.44**	**215**	*e*Pn	**Pn**	**19 40 14.4**	**-0.9**
HRMR				*e*Pg	**Pb**	**19 40 23.1**	**+0.9**
HRMR				*e*Sg	**Sg**	**19 41 08.2**	**-2.8**
HRMR				Pmax			
	comp=N,34nm,0.6s						
HRMR				Smax			
	comp=N,305nm,0.5s						
HRMR	**Khuramsha**	**3.44**	**215**	*e*Pg	**Pg**	**19 40 27.4**	**+1.0**
HRMR				*e*Sg	**Sg**	**19 41 12.7**	**+1.7**
HRMR				Pmax			
	comp=N,52nm,0.7s						
HRMR				Smax			
	comp=N,521nm,0.6s						
BGT	**Bolshoye Golou**	**3.75**	**232**	*e*Pn	**Pn**	**19 40 18.8**	**-0.6**
BGT				*e*Pg	**Pb**	**19 40 26.7**	**-0.7**
BGT				*e*Sg	**Sb**	**19 41 16.3**	**+3.0**
BGT				Pmax			
	comp=N,7.0nm,0.5s						
BGT				Smax			
	comp=N,43nm,0.7s						
BGT	**Bolshoye Golou**	**3.75**	**232**	*e*Pn	**Pn**	**19 40 22.6**	**+3.2**
BGT				*e*Pg	**Pg**	**19 40 32.2**	**-0.1**
BGT				*e*Sg	**Sg**	**19 41 21.4**	**+0.6**
BGT				Pmax			
	comp=N,7.0nm,0.5s						
BGT				Smax			
	comp=N,74nm,0.7s						
NLYR	**Nelyaty**	**3.75**	**55**	*e*Pg	**Pb**	**19 40 28.2**	**+0.7**
NLYR				*e*Sg	**Sg**	**19 41 17.7**	**-3.2**
NLYR				Pmax			
	comp=N,4.0nm,0.4s						
NLYR				Smax			
	comp=N,61nm,0.9s						
NLYR	**Nelyaty**	**3.75**	**55**	*e*Pg	**Pg**	**19 40 33.4**	**+1.1**
NLYR				*e*Sg	**Sg**	**19 41 22.8**	**+1.9**
NLYR				Pmax			
	comp=N,13nm,1.0s						
NLYR				Smax			
	comp=N,90nm,1.4s						
BOD	**Bodaibo**	**3.99**	**31**	*e*Sg	**Sb**	**19 41 21.9**	**+1.8**
BOD				Smax			
	comp=N,20nm,0.7s						
BOD	**Bodaibo**	**3.99**	**31**	*e*Sg	**Sg**	**19 41 28.4**	**-0.1**
BOD				Smax			
	comp=N,34nm,1.2s						
LSTR	**Listvyanka**	**4.13**	**233**	*e*Pn	**Pn**	**19 40 24.1**	**-0.6**
LSTR				*e*Sg	**Sb**	**19 41 26.9**	**+2.6**
LSTR				Smax			
	comp=N,9.0nm,0.5s						
LSTR	**Listvyanka**	**4.13**	**233**	*e*Pn	**Pn**	**19 40 28.0**	**+3.3**
LSTR				*e*Sg	**Sg**	**19 41 31.7**	**-1.4**
LSTR				Smax			
	comp=N,29nm,0.7s						
IVK	**Ivanovka**	**4.37**	**235**	*e*Pg	**Pb**	**19 40 39.7**	**+1.6**
IVK				*e*Sg	**Sb**	**19 41 35.3**	**+4.0**
IVK				Pmax			
	comp=N,2.0nm,0.2s						
IVK				Smax			
	comp=N,35nm,0.8s						
IVK	**Ivanovka**	**4.37**	**235**	*e*Pg	**Pg**	**19 40 43.5**	**-0.8**
IVK				*e*Sg	**Sg**	**19 41 40.0**	**-0.9**
IVK				Pmax			
	comp=N,3.0nm,0.2s						
IVK				Smax			
	comp=N,43nm,1.0s						
TLY	**Talaya**	**4.82**	**237**	*e*Pn	**Pn**	**19 40 31.9**	**-2.3**
TLY				*e*Sg	**Sb**	**19 41 48.3**	**+4.1**
TLY				Smax			
	comp=N,22nm,0.5s						
TLY	**Talaya**	**4.82**	**237**	*e*Sg	**Sg**	**19 41 54.2**	**-1.0**
TLY				Smax			
	comp=N,26nm,0.6s						
KPC	**Khapcheranga**	**4.97**	**163**	*e*Pn	**Pn**	**19 40 36.3**	**+0.1**
KPC				*e*Pg	**Pb**	**19 40 50.6**	**+2.3**
KPC				*e*Sn	**Sn**	**19 41 31.9**	**-2.4**
KPC				*e*Sg	**Sg**	**19 41 56.2**	**-3.8**
KPC				Pmax			
	comp=N,7.0nm,0.5s						
KPC				Smax			
	comp=N,65nm,1.0s						
KPC	**Khapcheranga**	**4.97**	**163**	*e*Pg	**Pg**	**19 40 53.8**	**-1.9**
KPC				*e*Sn	**Sn**	**19 41 37.6**	**+3.3**
KPC				*e*Sg	**Sg**	**19 41 59.5**	**-0.5**
KPC				Pmax			
	comp=N,11nm,0.7s						
KPC				Smax			
	comp=N,77nm,0.8s						
KPC	**Khapcheranga**	**4.97**	**163**	*e*PN	**Pn**	**19 40 34.4**	**-1.8**
KPC				*e*		19 40 49.4	
KPC				*e*S	**Sn**	**19 41 28.8**	**-5.5**
KPC				*e*		19 41 56.2	
KPC				pmax	pmax		
	comp=Z,11nm,0.5s						
KPC				smax	smax		
	comp=E,77nm,0.8s						
CRS	**Chara**	**5.20**	**59**	*e*Pg	**Pb**	**19 40 55.0**	**+2.9**
CRS				*e*Sg	**Sg**	**19 42 01.8**	**-5.5**
CRS				Pmax			
	comp=E,3.0nm,0.1s						
CRS				Smax			
	comp=E,28nm,0.5s						
CRS	**Chara**	**5.20**	**59**	*e*Pg	**Pg**	**19 40 58.6**	**-1.4**
CRS				*e*Sg	**Sg**	**19 42 07.4**	**+0.1**
CRS				Pmax			
	comp=E,14nm,0.9s						
CRS				Smax			
	comp=E,57nm,1.1s						
ARS	**Arshan**	**5.30**	**244**	*e*Pg	**Pb**	**19 40 54.2**	**+0.2**
ARS				*e*Sg	**Sb**	**19 42 03.2**	**+5.0**
ARS				Pmax			
	comp=E,3.0nm,0.2s						
ARS				Smax			
	comp=E,61nm,0.6s						
ARS	**Arshan**	**5.30**	**244**	*e*Pn	Pn	19 40 45.5	+4.6
ARS				*e*Pg	**Pg**	**19 40 59.6**	**-2.5**
ARS				*e*Sg	**Sg**	**19 42 08.3**	**-2.5**
ARS				Pmax			
	comp=E,11nm,0.8s						
ARS				Smax			
	comp=E,140nm,0.8s						
TUP	**Tupik**	**5.72**	**86**	*e*Pn	**Pn**	**19 40 45.4**	**-1.1**
TUP				*e*Pg	**Pb**	**19 41 03.5**	**+2.5**
TUP				*e*Sn	**Sn**	**19 41 49.9**	**-2.8**
TUP				*e*Sg	**Sg**	**19 42 18.3**	**-5.7**
TUP				Pmax			
	comp=E,4.0nm,0.7s						
TUP				Smax			
	comp=E,57nm,0.8s						
TUP	**Tupik**	**5.72**	**86**	*e*Pn	Pn	19 40 51.2	+4.7
TUP				*e*Pg	**Pg**	**19 41 08.6**	**-1.4**
TUP				*e*Sn	**Sn**	**19 41 55.4**	**+2.7**
TUP				*e*Sg	**Sg**	**19 42 23.4**	**-0.6**
TUP				Pmax			
	comp=E,9.0nm,0.7s						
TUP				Smax			
	comp=E,115nm,1.0s						
TUP	**Tupik**	**5.72**	**86**	*e*PN	**Pn**	**19 40 48.2**	**+1.7**
TUP				*e*		19 41 04.6	
TUP				*e*S	**Sn**	**19 41 51.3**	**-1.4**
TUP				*e*		19 42 18.0	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TUP				smax	smax		
	comp=N,116nm,1.1s						
ZAK	**Zakamensk**	**5.87**	**229**	*e*Pg	**Pb**	**19 41 04.6**	**+1.0**
ZAK				*e*Sg	**Sg**	**19 42 22.3**	**-6.6**
ZAK				Pmax			
	comp=N,1.0nm,0.2s						
ZAK				Smax			
	comp=N,16nm,1.0s						
ZAK	**Zakamensk**	**5.87**	**229**	*e*Pn	**Pn**	**19 40 52.4**	**+3.7**
ZAK				*e*Pg	**Pg**	**19 41 10.6**	**-2.3**
ZAK				*e*Sg	**Sg**	**19 42 26.9**	**-2.0**
ZAK				Pmax			
	comp=N,2.0nm,0.5s						
ZAK				Smax			
	comp=N,25nm,1.1s						
MOY	**Mondy**	**6.20**	**247**	*e*	Pn	19 40 46.3	-6.9
MOY				*e*Sn	**Sn**	**19 41 58.9**	**-5.7**
MOY				*e*Sg	**Sb**	**19 42 31.1**	**+7.3**
MOY				Smax			
	comp=N,26nm,1.2s						
MOY	**Mondy**	**6.20**	**247**	*e*Pn	Pn	19 40 57.6	+4.4
MOY				*e*Pg	**Pg**	**19 41 15.4**	**-3.8**
MOY				*e*Sn	**Sn**	**19 42 03.4**	**-1.2**
MOY				*e*Sg	**Sg**	**19 42 35.3**	**-4.1**
MOY				Pmax			
	comp=N,11nm,0.8s						
MOY				Smax			
	comp=N,52nm,1.4s						
ORL	**Orlik**	**6.47**	**257**	*e*Pn	**Pn**	**19 40 56.3**	**-0.6**
ORL				*e*Sg	**Sg**	**19 42 40.0**	**-8.2**
ORL				Smax			
	comp=N,13nm,1.0s						
ORL	**Orlik**	**6.47**	**257**	*e*Pn	Pn	19 41 01.5	+4.6
ORL				*e*Sn	**Sn**	**19 42 09.7**	**-1.7**
ORL				*e*Sg	**Sg**	**19 42 43.6**	**-4.6**
ORL				Smax			
	comp=N,34nm,1.0s						
ORL	**Orlik**	**6.47**	**257**	*e*PN	**Pn**	**19 40 57.4**	**+0.5**
ORL				*e*		19 41 18.5	
ORL				*e*S	**Sn**	**19 42 10.1**	**-1.3**
ORL				*e*		19 42 41.8	
ORL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ORL				smax	smax		
	comp=N,34nm,1.0s						

*IDC **29** 19:54:10.4±4.1, 6.16S×129.53E, h206km±40km, mb3.0/3, mb1 2.9/6, mb1mx2.8/48, mbtmp3.4/6, Error ellipse: s-maj=68.8km s-min=13.0km az=73.0*
ISC 29 19:54:09.5±1.1, 6.26S±0.08×129.7E±0.1, h200km, n7, σ2.9s63/10, mb3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.15**	**236**	S	**Sn**	**19 57 13.8**	**+0.9**
	0.9nm,0.3s,baz=65,slow=19,SNR=6.1						
FITZ	**Fitzroy Crossi**	**12.41**	**198**	P	**Pn**	**19 57 01.4**	**+1.8**
	0.3nm,0.3s,baz=36,slow=12,SNR=12						
FITZ				S	**Sn**	**19 59 13.0**	**-5.2**
	0.3nm,0.3s,baz=90,slow=20,SNR=5.1						
WRA	**Warramunga Arr**	**14.32**	**162**	P	**P**	**19 57 26.2**	**+1.3**
	0.2nm,0.3s,baz=339,slow=13,SNR=13						
WRA				S	**S**	**20 00 00.8**	**-2.2**
	0.5nm,0.3s,baz=336,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.77**	**167**	P	**Pn**	**19 58 06.5**	**+1.6**
	0.2nm,0.3s,baz=350,slow=11,SNR=9.2						
ASAR				S	**S**	**20 01 19.4**	**+2.5**
	0.1nm,0.3s,baz=355,slow=30,SNR=3.4						
SONM	**Songino Array**	**57.65**	**342**	P	**P**	**20 03 37.8**	**-1.1**
	0.2nm,0.5s,baz=154,slow=8.0,SNR=2.7						
MKAR	**Makanchi Array**	**67.45**	**327**	P	**P**	**20 04 43.0**	**-0.7**
	0.4nm,0.5s,baz=122,slow=8.1,SNR=5.8						
KURBB	**Kurchatov Arra**	**71.73**	**328**	P	**P**	**20 05 08.8**	**-0.9**
	0.2nm,0.4s,baz=122,slow=5.4,SNR=3.6						

*ISCJB **29** 19:56:10.9±0.6, 20.04S±0.03×69.19W±0.08, h108km±5km, mb3.7/2, Error ellipse: s-maj=12.0km s-min=4.9km az=177.5*
*GUC **29** 19:56:11.9±0.4, 20.05S×69.26W, h99km±2km, ML3.9*
*IDC **29** 19:56:16.8±2.3, 20.00S×68.65W, h142km±19km, mb3.4/3, mb1 3.6/6, mb1mx3.3/47, mbtmp3.9/6, MS2.3/1, Ms1 2.5/1, ms1mx2.3/17, Error ellipse: s-maj=35.1km s-min=18.0km az=80.0*
ISC 29 19:56:11.1±0.8, 20.02S±0.04×69.14W±0.08, h102km±6km, n21, σ0.8s78/31, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.12**	**186**	⇓*e*P	**Pn**	**19 56 26.2**	**+0.3**
PB08				*e*S	**Sn**	**19 56 37.3**	**+0.4**
PB08				IAML		19 56 39.3	
	comp=N,8μm,0.3s						
GO01	**Chusmiza**	**0.35**	**352**	⇓*e*P	**Pn**	**19 56 27.2**	**+0.3**
GO01				*e*S	**Sn**	**19 56 38.9**	**+0.3**
GO01				IAML		19 56 39.7	
	comp=N,10μm,0.7s						
PB11	**IPOC Station P**	**0.55**	**298**	⇑*e*P	**Pn**	**19 56 27.6**	**-0.1**
PB11				*e*S	**Sn**	**19 56 39.8**	**-0.3**
MNMC	**Minye Minye**	**0.98**	**334**	*e*P	**Pn**	**19 56 32.5**	**+0.6**
MNMC				*e*S	**Sn**	**19 56 48.2**	**+0.8**
MNMC				IAML		19 56 49.6	
	comp=N,11μm,0.2s						
PSGC	**Pisagua**	**1.02**	**294**	⇑*e*P	**Pn**	**19 56 31.8**	**-0.3**
PSGC				*e*S	**Sn**	**19 56 47.2**	**-0.5**
PSGC				IAML		19 56 49.0	
	comp=E,3μm,0.3s						
PB01	**IPOC Station P**	**1.07**	**198**	*e*P	**Pn**	**19 56 33.0**	**+0.4**
PB01				*e*S	**Sn**	**19 56 48.9**	**+0.1**
PB01				IAML		19 56 50.3	
	comp=E,5μm,0.2s						
PB02	**IPOC Station P**	**1.48**	**209**	⇑*e*P	**Pn**	**19 56 37.6**	**+0.2**
PB02				*e*S	**Sn**	**19 56 57.2**	**0.0**
PB02				IAML		19 57 04.4	
	comp=E,3μm,0.2s						
PB09	**IPOC Station P**	**1.77**	**183**	*e*P	**Pn**	**19 56 42.2**	**+1.1**
PB09				*e*S	**Sn**	**19 57 05.1**	**+1.3**
PB12	**IPOC Station P**	**1.79**	**321**	⇑*e*P	**Pn**	**19 56 41.1**	**-0.2**
PB12				*e*S	**Sn**	**19 57 04.2**	**0.0**
PB07	**IPOC Station P**	**1.84**	**202**	*e*P	**Pn**	**19 56 42.5**	**+0.6**
PB07				*e*S	**Sn**	**19 57 05.7**	**+0.3**
PB07				IAML		19 57 11.7	
	comp=E,1μm,0.6s						
PB04	**IPOC Station P**	**2.49**	**202**	⇑*e*P	**Pn**	**19 56 51.0**	**+0.6**
PB04				*e*S	**Sn**	**19 57 18.4**	**-2.0**
PB04				IAML		19 57 43.8	
	comp=N,454nm,0.5s						
PB06	**IPOC Station P**	**2.71**	**188**	*e*P	**Pn**	**19 56 53.3**	**+0.1**
PB06				*e*S	**Sn**	**19 57 24.2**	**-1.3**
PB06				IAML		19 57 34.4	
	comp=E,314nm,0.5s						
LPAZ	**La Paz**	**3.83**	**15**	P	Pn	19 57 12.4	+3.7
	comp=E,1.2nm,0.3s,baz=183,slow=7.6,SNR=54						
LPAZ				S	Sn	19 57 59.8	+6.6
	comp=E,0.6nm,0.3s,baz=288,slow=14,SNR=4.1						
LPAZ				LR	LR	19 58 56.6	
	comp=E,47nm,21.4s,baz=235,slow=43						
SIV	**San Ignacio**	**8.66**	**64**	P	**Pn**	**19 58 12.4**	**-1.3**
	comp=E,1.9nm,0.3s,baz=264,slow=10,SNR=74						
CPUP	**Villa Florida**	**12.54**	**122**	P	**Pn**	**19 59 05.0**	**-1.0**
	comp=E,0.2nm,0.3s,baz=331,slow=13,SNR=4.5						
PLCA	**Paso Flores**	**20.68**	**183**	P	Pn	20 00 47.0	+0.7
	comp=E,1.5nm,0.8s,baz=35,slow=11,SNR=6.1						
TORD	**Torodi Ar. Bea**	**77.07**	**71**	P	**P**	**20 07 53.0**	**-0.7**
	comp=E,0.6nm,0.7s,baz=234,slow=4.9,SNR=4.3						
YKA	**Yellowknife Ar**	**89.72**	**341**	P	**P**	**20 08 58.2**	**+0.9**
	comp=E,0.8nm,0.7s,baz=133,slow=4.7,SNR=19						
WRA	**Warramunga Arr**	**134.11**	**211**	PKP	**PKPdf**	**20 15 17.6**	**+0.1**
	comp=E,0.3nm,0.6s,baz=167,slow=1.5,SNR=4.6						
MKAR	**Makanchi Array**	**144.55**	**35**	PKP	**PKPdf**	**20 15 35.8**	**+0.1**
	comp=E,0.2nm,0.7s,baz=305,slow=5.1,SNR=2.9						
SONM	**Songino Array**	**152.01**	**6**	PKPbc	**PKPbc**	**20 15 55.6**	**+1.1**
	comp=E,0.2nm,0.5s,baz=334,slow=3.0,SNR=4.1						

*ISCJB **29** 19:58:22.5±0.9, 18.9S±0.1×67.1W±0.1, h246km, mb3.2/5, Error ellipse: s-maj=20.2km s-min=13.4km az=155.3*
*IDC **29** 19:58:22.4±1.6, 18.93S×67.16W, h232km±12km, mb3.0/5, mb1 3.3/7, mb1mx3.1/46, mbtmp3.6/7, Error ellipse: s-maj=27.3km s-min=19.0km az=49.0*
ISC 29 19:58:23.8±1.0, 18.8S±0.1×67.1W±0.1, h246km, n8, σ1.9s13/9, mb3.4/5, Central Bolivia

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

LPAZ	**La Paz**	**2.71**	**339**	P		**Pn**	**19 59 13.5**	**-0.1**
	7.9nm,0.3s,baz=115,slow=3.4,SNR=59							
LPAZ				S		**S**	**19 59 51.2**	**-1.7**
	2.1nm,0.3s,baz=350,slow=17,SNR=7.1							
SIV	**San Ignacio**	**6.43**	**65**	P		**Pn**	**19 59 57.2**	**-0.2**
	3.7nm,0.3s,baz=266,slow=10,SNR=28							
PLCA	**Paso Flores**	**22.02**	**187**	P		**P**	**20 02 57.0**	**-1.4**
	1.4nm,1.0s,baz=350,slow=5.1,SNR=3.4							
TXAR	**Lajitas Array**	**59.47**	**323**	P		**P**	**20 08 01.6**	**+0.3**
	0.1nm,0.5s,baz=141,slow=12,SNR=2.1							
PDAR	**Pinedale Array**	**72.68**	**329**	P		**P**	**20 09 25.3**	**+0.2**
	0.2nm,0.4s,baz=116,slow=10,SNR=4.1							
TORD	**Torodi Ar. Bea**	**74.88**	**70**	P		**P**	**20 09 37.9**	**-0.3**
	0.6nm,0.5s,baz=269,slow=5.4,SNR=4.7							
YKA	**Yellowknife Ar**	**89.25**	**340**	P		**P**	**20 10 52.7**	**+1.2**
	0.2nm,0.5s,baz=134,slow=4.8,SNR=5.5							
SONM	**Songino Array**	**150.59**	**9**	PKPbc		**PKPbc**	**20 17 47.7**	**+1.0**
	0.5nm,0.6s,baz=108,slow=0.9,SNR=3.7							

DJA 29 20:07:17.9±0.6, 7.7°S±4.1°×110.5°E±1.1°, h10km, M3.7/9, MLv3.7/9, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.79**	**63**	P	Pg	20 07 31.8	-1.4
CGJI				S	Sg	20 07 42.4	-1.1
SBJI	**Serang**	**1.42**	**54**	P	Pn	20 07 43.2	-0.6
SBJI				S	Sg	20 08 03.3	-0.4
KASI	**Kota Agung**	**1.52**	**341**	P	Pn	20 07 42.9	-2.2
KASI				S	Sn	20 08 04.2	-0.7
BLSI	**Bandar Lampung**	**1.61**	**9**	P	Pn	20 07 44.9	-1.6
TNG	**Tangerang**	**1.84**	**64**	P	Pn	20 07 49.4	-0.1
TNG				P	Pb	20 07 49.7	-1.9
TNG				S	Sn	20 08 12.5	-0.3
TNG				S	Sb	20 08 12.9	-1.7
LWLI	**Liwa**	**2.15**	**335**	P	Pn	20 07 54.3	+0.4
CNJI	**Cibinong**	**2.16**	**99**	P	Pn	20 07 53.4	-0.6
CNJI				S	Sn	20 08 21.2	+0.4
MDSI	**Maura Dua**	**2.59**	**342**	P	Pn	20 07 59.7	-0.2
LEM	**Lembang**	**2.62**	**87**	P	Pn	20 08 00.4	-0.1
CISI	**Cisompet, Garu**	**2.87**	**102**	P	Pn	20 08 03.8	0.0

MEX 29 20:08:35.2±0.3, 18.38N×102.74W, h15km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.58**	**261**	*e*P	Pg	20 08 44.8	-1.8
MMIG				*e*S	Sg	20 08 52.5	-1.9
EZ5V		**1.36**	**323**	*e*P	Pn	20 08 57.2	-2.8
EZ5V				*e*S	Sn	20 09 12.7	-5.2
CJM	**Chamela**	**2.45**	**297**	*i* P	Pn	20 09 11.3	-3.3
CJM				*i* S	Sn	20 09 40.4	-3.9

*NNC **29** 20:16:37.1±5.6, 44.6°N×75.9°E, h0km, mb2.5, mpv2.3, Error ellipse: s-maj=37.4km s-min=24.0km az=167.0*
*KRNET **29** 20:16:37.0±0.1, 41.5°N×76.8°E, h13km, mb2.2*
*SOME **29** 20:16:38.1, 41.52°N×76.93°E, h15km*

ISC 29 20:16:36.5±1.2, 41.51N±0.04×76.86E±0.02, h13km±13km, n37, σ1°22/72, 31C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**0.65**	**263**	⇓*i*P	**Pg**	**20 16 49.9**	**+0.7**
	baz=60						
NRN				⇓*i*S	**Sg**	**20 16 58.9**	**+1.0**
	baz=60						
KDJ	**Kajisay**	**0.66**	**21**	⇑*i*P	**Pg**	**20 16 49.4**	**-0.1**
	baz=23						
KDJ				⇑*i*S	**Sg**	**20 16 58.0**	**-0.2**
	baz=23						
TARG	**Taragay, Kyrgy**	**0.74**	**73**	⇑*i*P	**Pg**	**20 16 50.8**	**-0.2**
	baz=75						
TARG				⇑*i*S	**Sg**	**20 17 00.6**	**-0.2**
	baz=75						
ULHL	**Ulahol**	**0.86**	**328**	⇑*i*P	**Pg**	**20 16 53.5**	**+0.2**
	baz=27						
ULHL				⇑*i*S	**Sg**	**20 17 04.6**	**-0.1**
	baz=27						
BOOM	**Boomskoye usch**	**1.19**	**325**	⇓*i*P	**Pb**	**20 16 59.2**	**+0.1**
	baz=25						
BOOM				⇓*i*S	**Sg**	**20 17 15.1**	**+0.1**
	baz=25						
KZA	**Kyzart**	**1.33**	**296**	⇑*i*P	**Pb**	**20 17 01.8**	**+0.3**
	baz=95						
KZA				⇑*i*S	**Sg**	**20 17 19.6**	**+0.2**
	baz=95						
TNSS	**Tian-Shan**	**1.52**	**2**	*e*P	**Pg**	**20 17 06.3**	**+0.4**
	4.9nm,0.2s						
TNSS				*e*S	**Sg**	**20 17 26.5**	**+0.8**
	5.0nm,0.4s						
IZV	**Izvestkoviy**	**1.53**	**353**	*e*P	**Pg**	**20 17 05.8**	**-0.2**
	6.9nm,0.1s						
IZV				*e*S	**Sg**	**20 17 26.1**	**+0.2**
	6.4nm,0.2s						
MTBS	**Maitube**	**1.65**	**349**	*e*P	**Pg**	**20 17 07.6**	**-0.6**
	6.6nm,0.2s						
MTBS				*e*S	**Sg**	**20 17 29.1**	**-0.4**
	10nm,0.2s						
MDOK	**Medeo**	**1.66**	**5**	P	**Pb**	**20 17 07.2**	**+0.2**
	2.0nm,0.4s						
MDOK				⇑S	**Sg**	**20 17 29.5**	**-0.3**
	1.8nm,0.4s						
MDOK	**Medeo**	**1.66**	**5**	*e*P	**Pb**	**20 17 07.7**	**+0.7**
	3.3nm,0.2s						
MDOK				*e*S	**Sg**	**20 17 28.9**	**-0.9**
	3.6nm,0.4s						
KST	**Kastek**	**1.67**	**337**	*e*P	**Pg**	**20 17 08.1**	**-0.4**
	0.4nm,0.1s						
KST				⇓*i*S	**Sg**	**20 17 29.8**	**-0.4**
	3.7nm,0.3s						
TKM2	**Tokmak 2**	**1.69**	**327**	⇓P	**Pg**	**20 17 10.1**	**+1.1**
	0.6nm,0.5s						
TKM2				⇑S	**Sg**	**20 17 30.7**	**-0.2**
	2.7nm,0.5s						
TKM2	**Tokmak 2**	**1.69**	**327**	⇑*i*P	**Pb**	**20 17 08.4**	**+0.8**
	baz=26						
TKM2				⇑*i*S	**Sg**	**20 17 30.3**	**-0.6**
	baz=26						
KOTS	**Kotyrbulak**	**1.73**	**6**	*e*P	**Pg**	**20 17 09.2**	**-0.6**
	4.6nm,0.2s						
KOTS				*e*S	**Sg**	**20 17 31.7**	**-0.6**
	4.5nm,0.2s						
KBK	**Karagaybulak**	**1.82**	**309**	⇑*i*P	**Pb**	**20 17 10.9**	**+1.1**
	baz=9.0						
KBK				⇑*i*S	**Sg**	**20 17 34.5**	**-0.7**
	baz=9.0						
UCH	**Uchtor**	**1.89**	**293**	⇑*i*P	**Pb**	**20 17 12.1**	**+1.0**
	baz=92						
UCH				⇑*i*S	**Sg**	**20 17 37.4**	**0.0**
	baz=92						
DGS	**Degeres**	**1.91**	**335**	*e*P	**Pg**	**20 17 12.5**	**-0.6**
	2.5nm,0.6s						
DGS				*e*S	**Sg**	**20 17 37.1**	**-0.7**
	5.7nm,0.2s						
SATY	**Saty**	**1.93**	**36**	*e*P	**Pg**	**20 17 12.7**	**-0.7**
	2.1nm,0.1s						
SATY				*e*S	**Sg**	**20 17 37.8**	**-0.6**
	22nm,0.1s						
AAK	**Ala-Archa**	**2.09**	**303**	⇑Pg	**Pg**	**20 17 16.0**	**-0.5**
	0.8nm,0.4s						
AAK				⇓Lg	Lg	20 17 45.4	
	1.8nm,0.5s						
AAK	**Ala-Archa**	**2.09**	**303**	⇑*i*P	**Pb**	**20 17 14.6**	**+0.3**
	baz=3.0						
AAK				⇑*i*S	**Sb**	**20 17 41.9**	**+1.7**
	baz=3.0						
CHMS	**Chumysh**	**2.16**	**314**	⇑*i*P	**Pb**	**20 17 15.3**	**-0.1**
	baz=14						
CHMS				⇑*i*S	**Sb**	**20 17 42.8**	**+0.7**
	baz=14						
KURS	**Kuram**	**2.20**	**26**	*e*P	**Pg**	**20 17 17.6**	**-1.1**
	0.3nm,0.1s						
KURS				*e*S	**Sg**	**20 17 46.0**	**-1.2**
	4.1nm,0.6s						
KTBS	**Karatobe**	**2.20**	**357**	*e*P	**Pg**	**20 17 17.6**	**-1.1**
	2.4nm,0.4s						
KTBS				*e*S	**Sg**	**20 17 46.2**	**-1.0**
	10nm,0.5s						
UZB	**Uzynbulak**	**2.29**	**44**	*e*P	**Pb**	**20 17 19.1**	**+1.3**
	1.6nm,0.3s						
UZB				*e*S	**Sg**	**20 17 48.5**	**-1.7**
	8.7nm,0.4s						
CHKK	**Chushkaly**	**2.34**	**2**	*e*P	**Pb**	**20 17 19.9**	**+1.4**
	4.0nm,0.4s						
CHKK				*e*S	**Sg**	**20 17 50.5**	**-1.3**
	8.7nm,0.3s						
KPKS	**Kokpek**	**2.37**	**34**	*e*P	**Pb**	**20 17 20.5**	**+1.3**
	3.5nm,0.4s						
KPKS				*e*S	**Sg**	**20 17 50.8**	**-2.0**
	22nm,0.2s						
KUU	**Kurty**	**2.41**	**351**	*e*P	**Pb**	**20 17 21.2**	**+1.4**
	0.9nm,0.3s						
KUU				*e*S	**Sg**	**20 17 52.0**	**-2.0**
	11nm,0.3s						
AML	**Almayashu**	**2.44**	**286**	⇑*i*P	**Pb**	**20 17 19.5**	**-1.0**
	baz=85						
AML				⇑*i*S	**Sb**	**20 17 50.6**	**-0.1**
	baz=85						
USP	**Ospenovka**	**2.48**	**316**	⇑*i*P	**Pb**	**20 17 19.6**	**-1.3**
	baz=15						
USP				⇑*i*S	**Sb**	**20 17 50.6**	**-0.7**
	baz=15						
EKS2	**Erkin-Say**	**2.56**	**298**	⇑*i*P	**Pb**	**20 17 21.0**	**-1.4**
	baz=97						
EKS2				⇑*i*S	**Sb**	**20 17 53.3**	**-0.6**
	baz=97						
PDGK	**Podgornoye**	**2.66**	**46**	⇑Pg	**Pb**	**20 17 25.7**	**+1.6**
	0.9nm,0.6s						
PDGK				⇑Lg	Lg	20 18 04.8	
	4.8nm,0.6s						
PDGK	**Podgornoye**	**2.66**	**46**	⇑*i*P	**Pb**	**20 17 22.6**	**-1.5**
	baz=47						
PDGK				⇑*i*S	**Sb**	**20 17 55.4**	**-1.4**
	baz=47						
ARXS	**Arharly**	**2.79**	**14**	*e*P	**Pb**	**20 17 27.9**	**+1.7**
	1.4nm,0.5s						
ARXS				*e*S	**Sg**	**20 18 03.6**	**-2.6**
	3.4nm,0.3s						
MNBS	**Baschi**	**2.81**	**23**	*e*P	**Pb**	**20 17 27.7**	**+1.2**
	1.5nm,0.2s						
MNBS				*e*S	**Sg**	**20 18 04.1**	**-2.5**
	12nm,0.3s						
MRKS	**Merke**	**2.97**	**296**	*e*P	**Pg**	**20 17 31.8**	**-1.6**
	3.1nm,0.4s						
MRKS				*e*S	**Sg**	**20 18 10.7**	**-1.1**
	3.0nm,0.6s						
KAPS	**Kapalarasan**	**4.19**	**25**	*e*P	**Pb**	**20 17 52.2**	**+2.1**
	0.3nm,0.3s						
KAPS				*e*S	**Sb**	**20 18 45.4**	**+4.9**
	1.1nm,0.6s						

*BEO **29** 20:17:02.8±1.0, 40.05°N×23.94E, h1km±8km, M2.7/4*
*THE **29** 20:17:03.6, 40.15°N×24.02E, h3km±1km, ML3.0/21, Error ellipse: s-maj=1.0km s-min=0.4km az=299.0*
*CSEM **29** 20:17:03.6±0.1, 40.14°N×24.02E, h5km, ML3.1, Error ellipse: s-maj=1.9km s-min=1.5km az=105.0*
*ISCJB **29** 20:17:03.2±0.5, 40.16°N±0.01×24.03°E±0.02, h7km±3km, mb3.2/2, Error ellipse: s-maj=2.6km s-min=2.1km az=20.6*
*IDC **29** 20:17:03.2±1.7, 40.12°N×24.02°E, h0km, mb3.3/2, mb1 3.2/4, mb1mx3.0/62, mbtmp3.1/4, ML2.4/2, Error ellipse: s-maj=31.0km s-min=20.7km az=108.0*
*ATH **29** 20:17:03.2, 40.17°N×24.02E, h24km±1km, ML3.1/15, Error ellipse: s-maj=1.3km s-min=0.8km az=359.0*
*SOF **29** 20:17:07.2, 40.38°N×23.57E, h2km, MD2.8*

ISC 29 20:17:03.8±1.0, 40.15N±0.01×24.03E±0.01, h6km±7km, n185, σ0°90/263, 10C-23D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.19**	**349**	P	**Pg**	**20 17 07.8**	**+0.2**
OUR				S	**Sg**	**20 17 10.5**	**+0.2**
OUR				AML	AML	20 17 11.5	
	comp=E,60752μm,0.3s						
OUR				AML	AML	20 17 11.5	
	comp=N,74276μm,0.4s						
OUR	**Ouranopolis**	**0.19**	**349**	P	**Pg**	**20 17 08.1**	**+0.5**
OUR				S	**Sg**	**20 17 10.4**	**+0.2**
OUR	**Ouranopolis**	**0.19**	**349**	P	**Pg**	**20 17 08.1**	**+0.5**
OUR				S	**Sg**	**20 17 10.4**	**+0.2**
PAIG	**Paliouri**	**0.35**	**231**	P	**Pg**	**20 17 10.3**	**-0.2**
PAIG				S	**Sg**	**20 17 15.0**	**-0.1**
PAIG				AML	AML	20 17 15.7	
	comp=E,13191μm,0.2s						
PAIG				AML	AML	20 17 16.1	
	comp=N,11962μm,0.2s						
PAIG	**Paliouri**	**0.35**	**231**	P	**Pg**	**20 17 10.6**	**+0.1**
PAIG				S	**Sg**	**20 17 15.1**	**0.0**
PAIG	**Paliouri**	**0.35**	**231**	P	**Pg**	**20 17 10.6**	**+0.1**
PAIG				S	**Sg**	**20 17 15.1**	**0.0**
PLG	**Polygyros**	**0.50**	**297**	P	**Pg**	**20 17 13.6**	**+0.1**
PLG				S	**Sg**	**20 17 19.4**	**-0.6**
PLG				AML	AML	20 17 20.8	
	comp=N,5015μm,0.2s						
PLG				AML	AML	20 17 21.2	
	comp=E,4673μm,0.2s						
PLG	**Polygyros**	**0.50**	**297**	P	**Pg**	**20 17 13.3**	**-0.2**
PLG				S	**Sg**	**20 17 19.7**	**-0.3**
PLG	**Polygyros**	**0.50**	**297**	P	**Pg**	**20 17 13.3**	**-0.2**
PLG				S	**Sg**	**20 17 19.7**	**-0.3**
KVLA	**Kavala**	**0.83**	**19**	P	**Pg**	**20 17 20.2**	**+0.4**
KVLA				S	**Sg**	**20 17 30.6**	**0.0**
KVLA				AML	AML	20 17 33.1	
	comp=E,4614μm,0.2s						
KVLA				AML	AML	20 17 33.2	
	comp=N,3874μm,0.4s						
KVLA	**Kavala**	**0.83**	**19**	P	**Pg**	**20 17 19.7**	**-0.1**
KVLA				S	**Sg**	**20 17 30.7**	**0.0**
HORT	**Hortiatis**	**0.84**	**303**	P	**Pg**	**20 17 19.3**	**-0.7**
HORT				S	**Sg**	**20 17 30.6**	**-0.2**
HORT				AML	AML	20 17 31.7	
	comp=E,1471μm,0.1s						
HORT				AML	AML	20 17 35.0	
	comp=N,2035μm,0.2s						
HORT	**Hortiatis**	**0.84**	**303**	P	**Pg**	**20 17 19.2**	**-0.7**
HORT				S	**Sg**	**20 17 30.7**	**-0.2**
HORT	**Hortiatis**	**0.84**	**303**	P	**Pg**	**20 17 19.1**	**-0.9**
HORT				S	**Sg**	**20 17 30.9**	**0.0**
SOH	**Sokhos**	**0.85**	**323**	P	**Pg**	**20 17 20.2**	**+0.1**
SOH				S	**Sg**	**20 17 29.0**	**-2.1**
SOH				AML	AML	20 17 35.3	
	comp=E,5781μm,0.8s						
SOH				AML	AML	20 17 37.5	
	comp=N,3321μm,0.6s						
SOH	**Sokhos**	**0.85**	**323**	P	**Pg**	**20 17 19.7**	**-0.4**
SOH				S	**Sg**	**20 17 30.0**	**-1.1**
SOH	**Sokhos**	**0.85**	**323**	P	**Pg**	**20 17 19.6**	**-0.5**
SOH				S	**Sg**	**20 17 31.1**	**0.0**
LIA	**Limnos Island**	**0.92**	**105**	P	**Pn**	**20 17 22.7**	**-0.5**
LIA				S	**Sb**	**20 17 35.0**	**+0.5**
LIA				AML	AML	20 17 35.6	
	comp=E,1578μm,0.5s						
LIA				AML	AML	20 17 35.8	
	comp=N,1393μm,0.5s						
LIA	**Limnos Island**	**0.92**	**105**	P	**Pg**	**20 17 21.8**	**+0.4**
LIA				S	**Sg**	**20 17 34.0**	**+0.6**
LIA	**Limnos Island**	**0.92**	**105**	P	**Pg**	**20 17 21.8**	**+0.4**
LIA				S	**Sg**	**20 17 34.0**	**+0.6**
KAVA	**Kavala**	**0.93**	**23**	P	**Pb**	**20 17 22.1**	**-0.2**
KAVA				S	**Sg**	**20 17 32.0**	**-1.6**
KAVA				AML	AML	20 17 35.3	
	comp=N,3404μm,0.4s						
KAVA				AML	AML	20 17 35.3	
	comp=E,4856μm,0.5s						
KAVA	**Kavala**	**0.93**	**23**	P	**Pg**	**20 17 21.4**	**-0.2**
KAVA				S	**Sb**	**20 17 34.1**	**-0.7**
KAVA	**Kavala**	**0.93**	**23**	P	**Pg**	**20 17 21.4**	**-0.2**
KAVA				S	**Sb**	**20 17 34.1**	**-0.7**
THE	**Thessaloniki**	**0.95**	**301**	P	**Pg**	**20 17 21.0**	**-0.9**
THE				S	**Sg**	**20 17 32.9**	**-1.4**
THE	**Thessaloniki**	**0.95**	**301**	P	**Pg**	**20 17 21.1**	**-0.9**
THE				S	**Sg**	**20 17 33.5**	**-0.7**
THE	**Thessaloniki**	**0.95**	**301**	P	**Pg**	**20 17 20.9**	**-1.1**
THE				S	**Sg**	**20 17 34.0**	**-0.2**
EFSA	**Agios Efstrati**	**0.95**	**129**	P	**Pn**	**20 17 23.3**	**-0.4**
EFSA				S	**Sb**	**20 17 35.2**	**-0.4**
EFSA	**Agios Efstrati**	**0.95**	**129**	P	**Pb**	**20 17 22.6**	**-0.1**
EFSA				S	**Sb**	**20 17 35.5**	**-0.1**
ALNA	**Alonissos**	**1.01**	**187**	P	**Pg**	**20 17 22.6**	**-0.5**
ALNA	**Alonissos**	**1.01**	**187**	P	**Pg**	**20 17 22.7**	**-0.4**
XOR	**Xorichti**	**1.01**	**220**	P	**Pg**	**20 17 23.2**	**0.0**
XOR				S	**Sb**	**20 17 37.4**	**+0.2**
XOR				AML	AML	20 17 39.0	
	comp=N,4079μm,0.3s						
XOR				AML	AML	20 17 40.6	
	comp=E,2058μm,0.5s						
XOR	**Xorichti**	**1.01**	**220**	P	**Pg**	**20 17 23.0**	**-0.3**
XOR				S	**Sb**	**20 17 37.2**	**-0.1**
XOR	**Xorichti**	**1.01**	**220**	P	**Pg**	**20 17 22.9**	**-0.3**
XOR				S	**Sb**	**20 17 37.2**	**-0.1**
SRS	**Serrai**	**1.02**	**341**	*e*Pg	**Pg**	**20 17 23.2**	**-0.3**
SRS				*e*Sg	**Sg**	**20 17 37.1**	**+0.3**
SRS	**Serrai**	**1.02**	**341**	P	**Pg**	**20 17 23.5**	**0.0**
SRS				S	**Sb**	**20 17 37.2**	**-0.4**
SRS	**Serrai**	**1.02**	**341**	P	**Pg**	**20 17 22.9**	**-0.6**
SRS	**Serrai**	**1.02**	**341**	*e*Pg	**Pg**	**20 17 23.2**	**-0.3**
SRS				S	**Sg**	**20 17 36.8**	**0.0**
SRS				*e*Sg	**Sg**	**20 17 37.1**	**+0.3**
SRS	**Serrai**	**1.02**	**341**	P	**Pg**	**20 17 22.9**	**-0.6**
SRS				S	**Pg**	**20 17 37.1**	**+0.3**
NEO	**Neokhori**	**1.04**	**217**	P	**Pb**	**20 17 24.4**	**+0.2**
NEO				S	**Sb**	**20 17 38.1**	**-0.2**
NEO				AML	AML	20 17 38.5	
	comp=N,3124μm,0.5s						
NEO				AML	AML	20 17 39.0	
	comp=E,2618μm,0.3s						
NEO	**Neokhori**	**1.04**	**217**	P	**Pg**	**20 17 23.6**	**-0.2**
NEO				S	**Sb**	**20 17 38.0**	**-0.2**
NEO	**Neokhori**	**1.04**	**217**	P	**Pg**	**20 17 23.6**	**-0.2**
NEO				S	**Sb**	**20 17 38.0**	**-0.2**
SKIA	**Skiathos**	**1.07**	**204**	P	**Pg**	**20 17 24.0**	**-0.3**
SKIA				S	**Sb**	**20 17 38.8**	**-0.2**
SKIA	**Skiathos**	**1.07**	**204**	P	**Pg**	**20 17 24.0**	**-0.3**
SKIA				S	**Sb**	**20 17 38.8**	**-0.2**
FYTO	**Fytoko, Volos**	**1.12**	**229**	P	**Pg**	**20 17 24.7**	**-0.5**
FYTO	**Fytoko, Volos**	**1.12**	**229**	P	**Pg**	**20 17 24.7**	**-0.5**
LIT	**Litokhoron**	**1.18**	**268**	P	**Pg**	**20 17 25.6**	**-0.8**
LIT				S	**Sg**	**20 17 40.3**	**-1.4**
LIT				AML	AML	20 17 43.5	
	comp=N,1568μm,0.4s						
LIT				AML	AML	20 17 45.0	
	comp=E,1041μm,0.3s						
LIT	**Litokhoron**	**1.18**	**268**	P	**Pg**	**20 17 25.6**	**-0.8**
LIT				S	**Sg**	**20 17 41.1**	**-0.7**
LIT	**Litokhoron**	**1.18**	**268**	P	**Pg**	**20 17 25.6**	**-0.8**
LIT				S	**Sb**	**20 17 42.4**	**+0.3**
SMTH	**Samothraki Isl**	**1.19**	**74**	P	**Pg**	**20 17 24.6**	**-2.0**
SMTH				S	**Sg**	**20 17 40.9**	**-1.2**
SMTH				AML	AML	20 17 45.1	
	comp=E,837μm,0.5s						
SMTH				AML	AML	20 17 45.5	
	comp=N,779μm,0.3s						
SMTH	**Samothraki Isl**	**1.19**	**74**	P	**Pg**	**20 17 25.3**	**-1.4**
SMTH				S	**Sg**	**20 17 41.8**	**-0.3**
SMTH	**Samothraki Isl**	**1.19**	**74**	P	**Pg**	**20 17 25.0**	**-1.7**
NVR	**Nevrokopi**	**1.21**	**354**	P	**Pg**	**20 17 27.0**	**0.0**
NVR				S	**Sg**	**20 17 41.5**	**-1.2**
NVR				AML	AML	20 17 44.7	
	comp=N,1024μm,0.3s						
NVR				AML	AML	20 17 47.4	
	comp=E,872μm,0.2s						
NVR	**Nevrokopi**	**1.21**	**354**	P	**Pg**	**20 17 26.4**	**-0.6**
NVR				S	**Sg**	**20 17 42.4**	**-0.3**
NVR	**Nevrokopi**	**1.21**	**354**	P	**Pg**	**20 17 26.3**	**-0.7**
NVR				S	**Sg**	**20 17 42.4**	**-0.3**
KNT	**Kendrikon**	**1.33**	**320**	P	**Pn**	**20 17 28.4**	**-0.5**
KNT				S	**Sb**	**20 17 44.8**	**-1.6**
KNT				AML	AML	20 17 51.2	
	comp=E,1171μm,0.2s						
KNT				AML	AML	20 17 51.3	
	comp=N,1159μm,0.5s						
KNT	**Kendrikon**	**1.33**	**320**	P	**Pn**	**20 17 28.2**	**-0.7**
KNT				S	**Sb**	**20 17 45.4**	**-1.0**
KNT	**Kendrikon**	**1.33**	**320**	P	**Pn**	**20 17 28.2**	**-0.7**
KNT				S	**Sn**	**20 17 47.2**	**+0.3**
MMB	**Musomiste**	**1.46**	**351**	*i* P	**Pn**	**20 17 29.5**	**-1.2**
GRG	**Griva**	**1.48**	**304**	P	**Pb**	**20 17 31.4**	**-0.3**
GRG	**Griva**	**1.48**	**304**	P	**Pn**	**20 17 30.7**	**-0.3**
GRG	**Griva**	**1.48**	**304**	P	**Pn**	**20 17 30.7**	**-0.3**
KTI	**Kastanea**	**1.48**	**280**	P	**Pn**	**20 17 30.4**	**-0.7**
KTI	**Kastanea**	**1.48**	**280**	P	**Pn**	**20 17 30.4**	**-0.7**
RDO	**Rodhopi**	**1.52**	**48**	P	**Pn**	**20 17 29.5**	**-1.9**
RDO	**Rodhopi**	**1.52**	**48**	P	**Pn**	**20 17 30.3**	**-1.2**
RDO				S	**Sb**	**20 17 51.9**	**0.0**
RDO	**Rodhopi**	**1.52**	**48**	P	**Pn**	**20 17 30.1**	**-1.4**
RDO				S	**Sb**	**20 17 51.9**	**0.0**
VAY	**Valandovo**	**1.61**	**317**	*e*Pn	**Pn**	**20 17 31.5**	**-1.3**
VAY				*e*Sn	**Sn**	**20 17 53.6**	**-0.3**
VAY	**Valandovo**	**1.61**	**317**	*e*Pn	**Pn**	**20 17 31.5**	**-1.3**
VAY	**Valandovo**	**1.61**	**317**	P	**Pn**	**20 17 32.5**	**-0.3**
VAY				*e*Sn	**Sn**	**20 17 53.6**	**-0.3**
VAY	**Valandovo**	**1.61**	**317**	P	**Pn**	**20 17 32.5**	**-0.3**
VAY	**Valandovo**	**1.61**	**317**	*i* Pn	**Pn**	**20 17 32.5**	**-0.3**
VAY				*e*Sn	**Sg**	**20 17 56.5**	**+0.8**
THL	**Klokotos Trika**	**1.66**	**250**	P	**Pn**	**20 17 32.7**	**-0.7**
THL	**Klokotos Trika**	**1.66**	**250**	P	**Pn**	**20 17 32.8**	**-0.5**
THL				S	**Sn**	**20 17 54.5**	**-0.4**
THL	**Klokotos Trika**	**1.66**	**250**	P	**Pn**	**20 17 32.8**	**-0.5**
THL				S	**Sn**	**20 17 54.5**	**-0.4**
SIGR	**SIGRI**	**1.69**	**123**	P	**Pn**	**20 17 33.3**	**-0.5**
SIGR	**SIGRI**	**1.69**	**123**	P	**Pn**	**20 17 33.3**	**-0.5**
LKR	**Lokris**	**1.69**	**208**	P	**Pn**	**20 17 32.5**	**-1.4**
LKR	**Lokris**	**1.69**	**208**	P	**Pn**	**20 17 33.1**	**-0.8**
LKR	**Lokris**	**1.69**	**208**	P	**Pn**	**20 17 32.9**	**-1.0**
ALN	**Alexandroupoli**	**1.71**	**63**	P	**Pn**	**20 17 32.0**	**-2.0**
ALN	**Alexandroupoli**	**1.71**	**63**	P	**Pn**	**20 17 33.0**	**-1.1**
ALN				S	**Sn**	**20 17 56.1**	**-0.1**
ALN	**Alexandroupoli**	**1.71**	**63**	P	**Pn**	**20 17 33.0**	**-1.1**
ALN				S	**Sn**	**20 17 56.1**	**-0.1**
AGG	**Agios Georgios**	**1.73**	**230**	P	**Pn**	**20 17 33.6**	**-0.8**
AGG	**Agios Georgios**	**1.73**	**230**	P	**Pn**	**20 17 33.6**	**-0.8**
KZN	**Kozani**	**1.74**	**276**	P	**Pb**	**20 17 35.4**	**-0.7**
KZN	**Kozani**	**1.74**	**276

DRO	**Drossia**	**2.84**	**220**	P	**Pn**	**20 17 50.1**	**+0.5**
DRO				S	**Sn**	**20 18 24.7**	**+0.5**
DRO	**Drossia**	**2.84**	**220**	P	**Pn**	**20 17 50.1**	**+0.5**
DRO				S	**Sn**	**20 18 24.7**	**+0.5**
BARS	**Barje**	**3.14**	**329**	*e*Pn	**Pn**	**20 17 53.8**	**0.0**
BARS				*e*Sn	**Sn**	**20 18 33.7**	**+2.1**
BARS	**Barje**	**3.14**	**329**	*e*Pn	**Pn**	**20 17 53.8**	**0.0**
BARS				*e*Sn	**Sn**	**20 18 33.7**	**+2.1**
AMT	**Artemida-Makis**	**3.18**	**215**	P	**Pn**	**20 17 55.6**	**+1.3**
AMT	**Artemida-Makis**	**3.18**	**215**	P	**Pn**	**20 17 55.6**	**+1.3**
APE	**Apeiranthos**	**3.29**	**159**	⇑*i*P	**Pn**	**20 17 55.2**	**-0.7**
APE	**Apeiranthos**	**3.29**	**159**	S	**Sn**	**20 18 32.1**	**-3.2**
APE	**Apeiranthos**	**3.29**	**159**	⇑*i*P	**Pn**	**20 17 55.2**	**-0.7**
ZAPS	**Zavoj**	**3.29**	**342**	*e*Pn	**Pn**	**20 17 57.0**	**+1.1**
SELS	**Selova**	**3.77**	**326**	*e*Pn	**Pn**	**20 18 01.8**	**-0.6**
ZAGS	**Zajecar**	**3.90**	**341**	*e*Pn	**Pn**	**20 18 03.4**	**-0.8**
ZAGS	**Zajecar**	**3.90**	**341**	*e*Pn	**Pn**	**20 18 03.4**	**-0.8**
SGRR	**Singureni**	**4.32**	**19**	⇓*i*P	**Sb**	**20 19 11.9**	**-0.5**
SJES	**Sjenica**	**4.35**	**317**	*i* Pn	**Pn**	**20 18 11.1**	**+0.7**
HUMR	**Humele**	**4.43**	**9**	⇓*i*P	**Pn**	**20 18 11.6**	**+0.1**
HUMR	**Humele**	**4.43**	**9**	⇓*i*P	**Pn**	**20 18 11.6**	**+0.1**
GRUS	**Gruza**	**4.48**	**328**	*i* Pn	**Pn**	**20 18 11.9**	**-0.3**
GRUS	**Gruza**	**4.48**	**328**	*i* Pn	**Pn**	**20 18 11.9**	**-0.3**
IVAS	**Ivanjica**	**4.49**	**321**	*e*Pn	**Pn**	**20 18 12.4**	**+0.1**
IVAS	**Ivanjica**	**4.49**	**321**	*e*Pn	**Pn**	**20 18 12.4**	**+0.1**
IDI	**Anoyia**	**4.90**	**172**	⇑*i*P	**Pn**	**20 18 17.6**	**-0.4**
IDI	**Anoyia**	**4.90**	**172**	S	**Pg**	**20 18 38.3**	**+0.7**
IDI	**Anoyia**	**4.90**	**172**	⇑*i*P	**Pn**	**20 18 17.6**	**-0.4**
DIVS	**Divibare**	**4.96**	**324**	*i* Pn	**Pn**	**20 18 18.6**	**-0.2**
DIVS	**Divibare**	**4.96**	**324**	*i* Pn	**Pn**	**20 18 18.6**	**-0.2**
BBLS	**Lazići**	**5.07**	**319**	*e*Pn	**Pn**	**20 18 20.8**	**+0.5**
BBLS	**Lazići**	**5.07**	**319**	*e*Pn	**Pn**	**20 18 20.8**	**+0.5**
ARR	**Arges**	**5.24**	**5**	⇓*i*P	**Pn**	**20 18 22.9**	**+0.3**
ARR	**Arges**	**5.24**	**5**	⇓*i*P	**Pn**	**20 18 22.9**	**+0.3**
LOT	**Lotru**	**5.30**	**358**	⇓*i*P	**Pn**	**20 18 23.8**	**+0.2**
LOT	**Lotru**	**5.30**	**358**	⇓*i*P	**Pn**	**20 18 23.8**	**+0.2**
TLB	**Topalu**	**5.34**	**33**	⇑*i*P	**Pg**	**20 18 42.7**	**-3.3**
VOIR		**5.34**	**8**	⇓*i*P	**Pn**	**20 18 24.6**	**+0.5**
VOIR		**5.34**	**8**	⇓*i*P	**Pn**	**20 18 24.6**	**+0.5**
VOIR				S	**Sn**	**20 19 22.4**	**-3.5**
TEKS	**Tekeris**	**5.52**	**324**	*e*Pn	**Pn**	**20 18 26.6**	**+0.1**
TEKS	**Tekeris**	**5.52**	**324**	*e*Pn	**Pn**	**20 18 26.6**	**+0.1**
MLR	**Muntele Rosu**	**5.52**	**14**	Pn	**Pn**	**20 18 27.8**	**+1.2**
	comp=E,0.1nm,0.3s,baz=221,slow=9.3,SNR=4.1						
MLR				Lg	Lg	20 20 00.2	
	comp=E,0.0nm,0.3s,baz=338,slow=19,SNR=2.6						
MLR	**Muntele Rosu**	**5.52**	**14**	⇓*i*P	**Pn**	**20 18 27.3**	**+0.7**
MLR	**Muntele Rosu**	**5.52**	**14**	⇓*i*P	**Pn**	**20 18 27.3**	**+0.7**
MLR				S	**Sn**	**20 19 32.0**	**+1.5**
BZS	**Buzias**	**5.75**	**343**	⇓*i*P	**Pn**	**20 18 29.0**	**-0.6**
BZS	**Buzias**	**5.75**	**343**	S	**Sg**	**20 20 07.4**	**-0.8**
BZS	**Buzias**	**5.75**	**343**	⇓*i*P	**Pn**	**20 18 29.0**	**-0.6**
CFR	**Carcaliu**	**5.87**	**30**	⇑*i*P	**Pn**	**20 18 31.8**	**+0.6**
CFR	**Carcaliu**	**5.87**	**30**	S	**Sg**	**20 20 17.5**	**+5.4**
CFR	**Carcaliu**	**5.87**	**30**	⇑*i*P	**Pn**	**20 18 31.8**	**+0.6**
DOPR	**Dopca**	**5.90**	**9**	⇓*i*P	**Pn**	**20 18 32.9**	**+1.2**
DOPR	**Dopca**	**5.90**	**9**	⇓*i*P	**Pn**	**20 18 32.9**	**+1.2**
PLOR	**Plostina**	**6.02**	**18**	⇓*i*P	**Pn**	**20 18 35.0**	**+1.7**
PLOR	**Plostina**	**6.02**	**18**	⇓*i*P	**Pn**	**20 18 35.0**	**+1.7**
VRI	**Vrincioaia**	**6.05**	**18**	⇓*i*P	**Pn**	**20 18 35.2**	**+1.5**
VRI	**Vrincioaia**	**6.05**	**18**	⇓*i*P	**Pn**	**20 18 35.2**	**+1.5**
TESR	**Tescani**	**6.64**	**16**	⇓*i*P	**Pn**	**20 18 42.7**	**+0.8**
TESR	**Tescani**	**6.64**	**16**	⇓*i*P	**Pn**	**20 18 42.7**	**+0.8**
DRGR		**6.71**	**352**	⇑*i*P	**Pn**	**20 18 43.0**	**+0.1**
DRGR		**6.71**	**352**	⇑*i*P	**Pn**	**20 18 43.0**	**+0.1**
BRTR	**Keskin Array B**	**7.40**	**90**	Pn	**Pn**	**20 18 53.1**	**+0.7**
	comp=E,0.1nm,0.3s,baz=278,slow=14,SNR=3.7						
BURAR	**Bucovina Array**	**7.51**	**6**	⇓*i*P	**Pn**	**20 18 55.0**	**+1.1**
BURAR	**Bucovina Array**	**7.51**	**6**	⇓*i*P	**Pn**	**20 18 55.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**33.30**	**222**	P	**P**	**20 23 42.3**	**0.0**
	comp=E,0.3nm,0.7s,baz=19,slow=9.2,SNR=2.3						
MKAR	**Makanchi Array**	**41.95**	**61**	P	**P**	**20 24 56.6**	**+1.3**
	comp=E,0.4nm,0.7s,baz=280,slow=6.5,SNR=5.3						

*MEX **29** 20:25:14.7±0.4, 26.58N×111.25W, h17km±27km, MD4.1*
*IDC **29** 20:25:19.4±1.3, 26.69N×110.67W, h0km, mb3.4/2, mb1 3.8/6, mb1mx3.5/61, mbtmp3.4/6, ML4.0/3, MS3.5/18, Ms1 3.5/18, ms1mx3.4/32, Error ellipse: s-maj=34.4km s-min=12.5km az=89.0*
*NEIC **29** 20:25:22.2±1.1, 26.98N×110.82W, h10km, mb4.0/6, MD4.1(MEX), Error ellipse: s-maj=17.2km s-min=8.0km az=194.0*

ISC 29 20:25:16.0±0.9, 26.75N±0.06×111.35W±0.07, h10km, n47, σ2§41/26, mb3.5/3, MS3.4/12, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.97**	**306**	*e*P	**Pg**	**20 25 32.9**	**-1.8**
SRIG				*e*S	**Sb**	**20 25 46.1**	**-1.7**
SRIG	**Santa Rosalia**	**0.97**	**306**	*e*Pn	**Sb**	**20 25 46.1**	**-1.7**
HSIG		**2.29**	**9**	*e*P	**Pn**	**20 25 50.6**	**-3.2**
HSIG				*e*S	**Sn**	**20 26 19.5**	**-2.5**
LPIG	**La Paz**	**2.81**	**160**	Pn	**Pn**	**20 26 00.6**	**-0.4**
	20nm,0.3s,baz=174,slow=9.6,SNR=6.6						
LPIG				Pg	**Pg**	**20 26 07.8**	**-2.0**
	37nm,0.3s,baz=193,slow=3.0,SNR=14						
LPIG				Lg	Lg	20 26 42.2	
	15nm,0.3s,baz=220,slow=18,SNR=3.5						
319A	**Douglas**	**4.95**	**21**	*e*Pn	**Pn**	**20 26 28.3**	**-2.2**
HPIG		**5.08**	**87**	*e*Pn	Pn	20 26 27.3	-5.2
SPIG	**San Pedro Mart**	**5.59**	**321**	*i* P	**Pn**	**20 26 38.8**	**-0.7**
SPIG				*e*S	**Sn**	**20 27 43.5**	**-0.6**
MNTX	**Cornudas Mount**	**7.18**	**45**	*e*Pn	**Pn**	**20 27 00.9**	**-0.1**
LTX	**Lajitas**	**7.26**	**68**	*e*Pn	**Pn**	**20 27 00.4**	**-1.9**
TX31	**Lajitas Ar. Si**	**7.26**	**68**	*e*Pn	**Pn**	**20 26 60.0**	**-2.3**
TXAR	**Lajitas Array**	**7.26**	**68**	Pn	**Pn**	**20 27 00.4**	**-1.9**
	0.7nm,0.3s,baz=242,slow=13,SNR=22						
TXAR				Lg	Lg	20 29 05.1	
	0.7nm,0.3s,baz=252,slow=29,SNR=3.5						
TXAR				LR	LR	20 29 58.3	
	comp=Z,614nm,18.2s,baz=0.0,slow=41						
Y14A	**Wickenburg**	**7.30**	**349**	*e*Pn	**Pn**	**20 27 02.6**	**-0.2**
DPP	**Dos Picos Cty**	**7.89**	**323**	*e*Pn	Pn	20 27 17.5	+6.7
BBSC	**Beaumont Base**	**8.64**	**327**	*e*Pn	Pn	20 27 29.0	+7.9
ANMO	**Albuquerque**	**9.19**	**26**	Pn	**Pn**	**20 27 31.0**	**+2.3**
	0.1nm,0.3s,baz=326,slow=11,SNR=3.4						
ANMO				Lg	Lg	20 30 03.4	
	0.2nm,0.3s,baz=155,slow=19,SNR=3.5						
ANMO				LR	LR	20 31 13.3	
	comp=Z,109nm,21.4s,baz=16,slow=39						
STCC	**Santa Clara**	**10.11**	**320**	*e*Pn	Pn	20 27 54.2	+13
LCMT	**Little Creek M**	**10.35**	**352**	*e*Pn	**Pn**	**20 27 46.4**	**+1.7**
SBC	**Santa Barbara**	**10.51**	**319**	*e*Pn	Pn	20 27 54.8	+8.1
R11A	**Troy Canyon, C**	**12.10**	**344**	*e*Pn	**Pn**	**20 28 12.8**	**+4.2**
MDPB	**Devils Postpil**	**12.66**	**331**	*e*Pn	Pn	20 28 25.4	+9.0
NVAR	**Mina Array Bea**	**13.03**	**335**	LR	LR	20 34 04.1	
	comp=Z,119nm,18.2s,baz=260,slow=40						
BGU	**Big Grassy Mou**	**14.20**	**355**	*e*Pn	**Pn**	**20 28 40.7**	**+3.3**
HWUT	**Hardware Ranch**	**14.82**	**359**	*e*Pn	**Pn**	**20 28 48.5**	**+2.8**
PDAR	**Pinedale Array**	**16.04**	**5**	Pn	**P**	**20 29 10.0**	**+4.7**
	0.1nm,0.3s,baz=180,slow=8.8,SNR=6.6						
PDAR				LR	LR	20 35 35.4	
	comp=Z,150nm,20.5s,baz=184,slow=38						
MOOW	**Moose Ponds**	**16.96**	**2**	*e*Pn	**P**	**20 29 17.1**	**+1.6**
	5.4nm,1.1s						
IMW	**Indian Meadow**	**17.11**	**1**	*e*Pn	**P**	**20 29 19.2**	**+1.9**
	9.0nm,1.1s						
YBH	**Yreka Blue Hor**	**17.62**	**331**	LR	LR	20 35 13.4	
	comp=Z,202nm,18.4s,baz=251,slow=33						
CMIG	**Matias Romero**	**18.04**	**119**	LR	LR	20 36 57.6	
	comp=Z,75nm,19.2s,baz=225,slow=40						
WHAR	**Wooly Hollow**	**18.40**	**58**	*e*Pn	**Pn**	**20 29 31.1**	**-0.1**
	33nm,1.6s						
LAO	**LASA Array**	**20.31**	**10**	*e*P	Pn	20 29 55.4	+1.3
	24nm,1.0s						
ECSD	**EROS Data Cent**	**20.73**	**31**	*e*P	**P**	**20 29 54.0**	**-2.6**
	6.3nm,1.0s						
NEW	**Newport**	**21.94**	**350**	LR	LR	20 39 40.8	
	comp=Z,124nm,18.4s,baz=194,slow=39						
APG	**El Apazote**	**22.71**	**118**	LR	LR	20 38 15.4	
	comp=Z,173nm,21.9s,baz=302,slow=35						
BEVT	**Boeing Everett**	**22.80**	**341**	*e*P	**P**	**20 30 21.4**	**+2.6**
TKL	**Tuckaleechee C**	**25.14**	**63**	LR	LR	20 41 22.0	
	comp=Z,154nm,18.9s,baz=227,slow=39						
ULM	**Lac du Bonnet**	**26.30**	**23**	LR	LR	20 40 58.5	
	comp=Z,39nm,19.4s,baz=328,slow=36						
BBB	**Bella Bella**	**28.36**	**338**	LR	LR	20 42 05.8	
	comp=Z,245nm,19.2s,baz=294,slow=35						
JTS	**JuntasAbangare**	**29.81**	**118**	LR	LR	20 41 52.3	
	comp=Z,99nm,20.2s,baz=354,slow=34						
SADO	**Sadowa**	**31.45**	**47**	LR	LR	20 44 27.9	
	comp=Z,64nm,19.5s,baz=283,slow=37						
YKA	**Yellowknife Ar**	**35.80**	**357**	P	P	20 32 21.0	+5.8
	0.1nm,0.4s,baz=178,slow=8.2,SNR=6.1						
ROSC	**El Rosal**	**41.51**	**115**	LR	LR	20 50 34.8	
	comp=Z,53nm,19.1s,baz=38,slow=37						
RUSC	**La Rusia**	**41.93**	**113**	*e*P	P	20 33 11.9	+4.2
	8.4nm,1.4s						
SDV	**Santo Domingo**	**42.41**	**107**	LR	LR	20 54 39.0	
	comp=Z,43nm,18.6s,baz=238,slow=42						
ILAR	**Eielson Array**	**44.24**	**339**	P	P	20 33 32.4	+7.2
	0.6nm,0.8s,baz=139,slow=7.2,SNR=4.8						
FRB	**Frobisher Bay**	**46.15**	**25**	LR	LR	20 52 42.0	
	comp=Z,70nm,19.0s,baz=348,slow=36						
RES	**Resolute Bay**	**48.73**	**6**	LR	LR	20 54 55.3	
	comp=Z,77nm,19.0s,baz=321,slow=36						
SFJD	**Kangerlussuaq**	**54.30**	**25**	LR	LR	20 58 25.3	
	comp=Z,39nm,18.2s,baz=254,slow=37						

NNC 29 20:25:34.9±3.8, 37.52N×70.83E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=29.0km s-min=23.2km az=3.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.25**	**39**	⇓Pn	Pn	20 26 26.6	-0.8
	2.0nm,0.3s						
SFK				⇑Sn	Sn	20 27 08.5	+1.7
	7.4nm,0.4s						
MNAS	**Manas**	**5.12**	**14**	⇑Pn	Pn	20 26 52.9	-0.2
	2.8nm,0.5s						
MNAS				⇓Sn	Sn	20 27 54.0	+1.0
	0.9nm,0.6s						
KK31	**Karatay Array**	**5.58**	**358**	⇑Pn	Pn	20 27 01.2	+2.0
	2.0nm,0.8s,baz=176,slow=14,SNR=15						
KK31				⇑Sn	Sn	20 28 04.5	+0.4
	0.2nm,0.3s,baz=180,slow=23,SNR=4.0						

*NIED **29** 20:38:00, 38.30N×142.00E, h53km, Mw4.6 Best double couple: M₀9.01000×10¹⁵ NP1:φ₀19.00000°, δ42.00000°, λ97.00000°. NP2:φ₀190.00000°, δ48.00000°, λ84.00000°.*
*BJI **29** 20:38:04.9, 37.79N×142.54E, h15km, mb4.7/43, mB4.8/27, Ms4.2/15, Ms7 3.9/13*
*MOS **29** 20:38:14.7±0.9, 38.41N×141.94E, h45km, mb4.9/86, Error ellipse: s-maj=6.1km s-min=4.0km az=105.7*
*ISCJB **29** 20:38:15.9±0.4, 38.33N±0.02×141.90E±0.03, h59km±2km, mb4.7/158, MS3.7/34, Error ellipse: s-maj=4.7km s-min=3.2km az=37.3*
*IDC **29** 20:38:16.9±1.6, 38.31N×141.89E, h55km±14km, mb4.2/41, mb1 4.4/47, mb1mx4.2/80, mbtmp4.5/47, MS3.6/32, Ms1 3.6/32, ms1mx3.4/60, Error ellipse: s-maj=11.2km s-min=8.6km az=112.0*
*JMA **29** 20:38:16.4±0.1, 38.31N×141.92E, h50km±1km, M4.6*
JMA Felt III J1.
*NEIC **29** 20:38:18.4±0.4, 38.34N×141.85E, h67km±3km, mb4.7/83, Error ellipse: s-maj=3.4km s-min=2.6km az=145.0*
NEIC Recorded [3 JMA] in Iwate and Miyagi.

ISC 29 20:38:16.1±0.5, 38.32N±0.04×142.05E±0.04, h49km±3km, h49km:pP-P, n424, σ1§23/441, mb4.7/169, MS3.7/34, 26C-26D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.57**	**284**	P	**Pn**	**20 38 27.3**	**-0.8**
JIO				S	**Sn**	**20 38 35.0**	**-1.8**
OFUJ	**Ofunato**	**0.82**	**339**	P	**Pn**	**20 38 31.3**	**-0.1**
OFUJ				S	**Sn**	**20 38 41.9**	**-0.6**
JMK	**Ichinoseki**	**0.91**	**315**	P	**Pn**	**20 38 32.3**	**-0.3**
JMK				S	**Sn**	**20 38 43.7**	**-0.9**
JMM	**Marumori**	**1.09**	**246**	P	**Pn**	**20 38 33.6**	**-1.4**
JMM				S	**Sn**	**20 38 46.4**	**-2.6**
JOU	**Okura**	**1.09**	**273**	P	**Pn**	**20 38 34.2**	**-0.8**
JOU				S	**Sn**	**20 38 47.5**	**-1.6**
JOM	**Ohasama**	**1.29**	**333**	P	**Pn**	**20 38 38.1**	**+0.3**
JOM				S	**Sn**	**20 38 54.3**	**+0.3**
JFK	**Kawauchi**	**1.33**	**225**	P	**Pn**	**20 38 37.2**	**-1.1**
JFK				S	**Sn**	**20 38 53.1**	**-1.8**
JYK	**Kaneyama**	**1.45**	**295**	P	**Pn**	**20 38 39.4**	**-0.6**
JYK				*e*S	**Sn**	**20 38 56.8**	**-1.1**
JRG	**Rokugo**	**1.54**	**315**	P	**Pn**	**20 38 41.1**	**-0.1**
JRG				*e*S	**Sn**	**20 38 59.5**	**-0.6**
JYS	**Shirataka**	**1.56**	**267**	P	**Pn**	**20 38 40.7**	**-0.8**
JYS				*e*S	**Sn**	**20 38 59.4**	**-1.2**
JFT	**Otama**	**1.57**	**240**	P	**Pn**	**20 38 41.0**	**-0.6**
JFT				S	**Sn**	**20 38 59.4**	**-1.4**
JYA	**Atsumi**	**1.85**	**279**	P	**Pn**	**20 38 45.0**	**-0.4**
MJAR	**Matsushiro Arr**	**3.53**	**241**	P	**Pn**	**20 39 08.5**	**0.0**
	7.9nm,0.3s,baz=52,slow=9.5,SNR=70						
MJAR				S	**Sn**	**20 39 54.6**	**+5.6**
	7.3nm,0.3s,baz=16,slow=15,SNR=5.4						
MJAR				LR	LR	20 40 48.6	
	comp=Z,1μm,19.9s,baz=50,slow=45						
MAJO	**Matsushiro**	**3.53**	**241**	*d*iP	**Pn**	**20 39 09.2**	**+0.7**
MAJO	**Matsushiro**	**3.53**	**241**	*e*Pn	**Pn**	**20 39 09.4**	**+0.9**
MAT	**Matsushiro**	**3.53**	**241**	P	**Pn**	**20 39 09.2**	**+0.7**
MAT				*e*S	**Sn**	**20 39 50.6**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.53**	**241**	*e*Pn	**Pn**	**20 39 09.5**	**+0.9**
ERM	**Erimo**	**3.79**	**13**	*cei*P	**Pn**	**20 39 12.6**	**+0.7**
ERM	**Erimo**	**3.79**	**13**	*e*Pn	**Pn**	**20 39 12.2**	**+0.3**
INU	**Inuyama**	**5.01**	**235**	*e*Pn	**Pn**	**20 39 30.3**	**+1.6**
JHJ	**Hachijo jima 2**	**5.50**	**200**	P	**Pn**	**20 39 34.2**	**-1.4**
	17nm,0.3s,baz=149,slow=24,SNR=9.8						
JHJ				S	**Sn**	**20 40 32.8**	**-4.7**
	74nm,0.3s,baz=269,slow=23,SNR=7.7						
ASAJ	**Asahikawa**	**5.81**	**4**	P	**Pn**	**20 39 39.6**	**0.0**
	7.1nm,0.3s,baz=202,slow=10,SNR=43						
ASAJ				S	**Sn**	**20 40 47.0**	**+2.2**
	5.2nm,0.3s,baz=165,slow=20,SNR=3.3						
YUK	**Yuzh-Kuril'sk**	**6.39**	**26**	*e*P	**Pn**	**20 39 47.5**	**-0.2**
YUK				*e*S	**Sn**	**20 40 54.2**	**-5.1**
YUK				pmax	pmax		
	comp=Z,140nm,0.4s						
YUK				pmax	pmax		
	comp=N,84nm,0.3s						
YUK				pmax	pmax		
	comp=E,49nm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,987nm,0.4s						
SHO	**Shikotan**	**6.62**	**32**	*e*P	**Pn**	**20 39 48.6**	**-2.1**
SHO				*e*S	**Sn**	**20 40 57.8**	**-7.0**
SHO				pmax	pmax		
	comp=Z,22nm,0.4s						
SHO				pmax	pmax		
	comp=E,28nm,0.3s						
SHO				pmax	pmax		
	comp=N,20nm,0.2s						
SHO				smax	smax		
	comp=E,185nm,0.2s						
SHO				smax	smax		
	comp=N,488nm,0.5s						
KUR	**Kuril'sk**	**8.16**	**30**	*e*P	**Pn**	**20 40 11.5**	**-0.4**
KUR				*e*S	**Sn**	**20 41 37.4**	**-5.2**
KUR				pmax	pmax		
	comp=Z,59nm,0.6s						
KUR				pmax	pmax		
	comp=E,27nm,0.3s						
KUR				smax	smax		
	comp=E,276nm,0.6s						
KUR				smax	smax		
	comp=N,153nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.65**	**3**	*e*P	**Pn**	**20 40 18.4**	**-0.1**
VLA	**Vladivostok**	**9.08**	**305**	⇓*e*P	**Pn**	**20 40 25.2**	**+0.7**
MSHR	**Mys Shultsa**	**9.33**	**301**	⇑*e*P	**Pn**	**20 40 29.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.58**	**311**	P	**Pn**	**20 40 32.1**	**+0.7**
	comp=N,1.5nm,0.3s,baz=123,slow=15,SNR=21						
USRK				S	**Sn**	**20 42 15.3**	**-2.3**
	comp=N,0.3nm,0.3s,baz=115,slow=27,SNR=2.2						
USRK				LR	LR	20 44 06.3	
	comp=N,364nm,18.9s,baz=118,slow=37						
JNU	**Nakatsue**	**10.45**	**244**	P	**Pn**	**20 40 43.9**	**+0.5**
	comp=N,0.5nm,0.3s,baz=77,slow=3.9,SNR=7.8						
JNU				LR	LR	20 45 10.1	
	comp=N,632nm,19.9s,baz=112,slow=40						
JNU	**Nakatsue**	**10.45**	**244**	*e*Pn	**Pn**	**20 40 45.3**	**+2.0**
KSRS	**Korea Array**	**11.20**	**270**	P	**Pn**	**20 40 55.7**	**+2.3**
	comp=N,0.5nm,0.3s,baz=81,slow=14,SNR=12						
KSRS				LR	LR	20 44 56.6	
	comp=N,281nm,21.1s,baz=80,slow=36						
KS15	**Wonju Array Si**	**11.23**	**270**	*e*Pn	**Pn**	**20 40 56.1**	**+2.2**
KSAR	**Wonju Array Be**	**11.23**	**270**	P	**Pn**	**20 40 55.7**	**+1.8**
KSAR	**Wonju Array Be**	**11.23**	**270**	P	**Pn**	**20 40 55.7**	**+1.8**
MDJ	**Mudanjiang**	**11.26**	**308**	*e*Pn	**Pn**	**20 40 54.9**	**+0.6**
TJN	**Taejon**	**11.85**	**265**	⇓*e*P	**Pn**	**20 41 04.9**	**+2.6**
TYV	**Tymovskoe**	**12.55**	**2**	*e*P	**Pn**	**20 41 08.8**	**-3.0**
TYV				pmax	pmax		
	comp=Z,200nm,4.6s						
TYV				pmax	pmax		
	comp=Z,11nm,1.7s						
KLR	**Kul'dur**	**13.19**	**329**	P	**Pn**	**20 41 20.5**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=147,slow=14,SNR=4.6						
KLR	**Kul'dur**	**13.19**	**329**	⇑*e*P	**Pn**	**20 41 20.8**	**+0.2**
SKR	**Severo-Kuril's**	**15.89**	**34**	⇓*e*P	**Pn**	**20 41 57.0**	**+0.8**
JOW	**Kunigami**	**16.29**	**229**	LR	LR	20 47 58.5	
	comp=Z,90nm,20.9s,baz=120,slow=36						
PETK	**Petropavlovsk-**	**18.33**	**31**	P	**Pn**	**20 42 27.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=205,slow=7.2,SNR=8.9						
PETK				LR	LR	20 50 29.6	
	comp=E,85nm,18.1s,baz=218,slow=40						
PETK	**Petropavlovsk-**	**18.33**	**31**	*e*P	**Pn**	**20 42 27.9**	**+1.4**
PETK	**Petropavlovsk-**	**18.33**	**31**	*e*P	**Pn**	**20 42 27.9**	**+1.4**
PEA1	**Petropavlovsk-**	**18.33**	**31**	*e*P	**Pn**	**20 42 27.2**	**+0.7**
ZEA	**Zeya**	**18.47**	**331**	*e*P	**P**	**20 42 26.0**	**-1.7**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
PET	**Petropavlovsk**	**18.66**	**33**	⇑*e*P	**P**	**20 42 29.5**	**-0.2**
HIA	**Hailar**	**19.39**	**312**	⇑*e*P	**P**	**20 42 38.2**	**+0.3**
TIA	**Tai'an**	**19.93**	**272**	P	**P**	**20 42 43.5**	**-0.3**
TIA				pmax	pmax		
	comp=Z,38nm,1.0s						
BJT	**Baijiatuau**	**20.12**	**283**	*e*P	**P**	**20 42 45.4**	**-0.4**
BJT				pmax	pmax		
	comp=Z,34nm,1.2s						
BJT	**Baijiatuau**	**20.12**	**283**	*e*P	**P**	**20 42 45.4**	**-0.4**
	comp=Z,34nm,1.2s						
MA2	**Magadan**	**22.00**	**12**	P	**P**	**20 43 06.4**	**+0.7**
	comp=Z,28nm,0.8s,baz=192,slow=8.8,SNR=32						
MA2	**Magadan**	**22.00**	**12**	⇑*e*P	**P**	**20 43 06.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**23.57**	**286**	*e*P	**P**	**20 43 21.0**	**-1.3**
HHC				S	**S**	**20 47 31.0**	**-2.0**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,4.2s						
HHC				LR	LR		
	comp=Z,170nm,9.3s						
HHC				LR	LR		
	comp=Z,240nm,9.6s						
HHC				LR	LR		
	comp=Z,140nm,10.8s						
YAK	**Yakutsk**	**24.94**	**346**	P	**P**	**20 43 34.5**	**+0.1**
	comp=Z,9.9nm,0.4s,baz=11,slow=1.1,SNR=6.8						
YAK	**Yakutsk**	**24.94**	**346**	*e*P	**P**	**20 43 33.0**	**-1.4**
YAK				*e*PP	**pP**	**20 43 46.3**	**-0.7**
YAK				*e*		20 44 10.7	
YAK				*e*		20 47 05.8	
YAK				*e*S	**S**	**20 47 53.8**	**-0.3**
YAK				*e*SS	**sS**	**20 48 15.8**	**+0.3**
YAK				*e*SS	**SnSn**	**20 48 44.9**	**-1.0**
YAK				*e*		20 54 34.6	
YAK				pmax	pmax		
	comp=Z,17nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,213nm,3.4s						
YAK				pmax	pmax		
	comp=N,145nm,3.1s				

KNGR Kungurtug, Tuv 33.57 306⇑ *eP* **P 20 44 51.5 +0.1**
TIXI Tiksi 34.08 353 P **P 20 44 54.7 -0.7**
comp=Z,2.2nm,0.7s,baz=139,slow=6.1,SNR=8.8
TIXI Tiksi 34.08 353⇓ *eP* **P 20 44 54.5 -0.8**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 34.08 353 *eP* **P 20 44 54.6 -0.7**
comp=Z,3.0nm,0.8s
DAV Davao City (W) 34.50 210 LR LR 20 59 10.7
comp=Z,32nm,20.6s,baz=6.5,slow=36
HVS Khovu-Aksy 36.01 307⇓ *eP* **P 20 45 12.8 +0.4**
HVS pmax pmax
comp=Z,4.0nm,0.9s
KRAR Krasnoyarsk 36.90 315⇓ *eP* **P 20 45 19.3 -0.4**
DGZ Jazzator, Alta 40.06 305 *c i* P **P 20 45 46.8 +0.2**
DGZ pmax pmax
comp=Z,10.0nm,0.9s
ZAA0 Zalesovo Array 41.43 311 *eP* **P 20 45 57.0 -0.6**
comp=Z,8.2nm,0.6s
ZAA1 Zalesovo Array 41.43 311 *eP* **P 20 45 57.2 -0.4**
ZAA1 *ePcP* **PcP 20 47 54.3 -0.4**
ZALV Zalesovo Beam 41.43 311 P **P 20 45 57.2 -0.4**
comp=Z,7.3nm,0.6s,baz=81,slow=7.1,SNR=24
ZALV PcP **PcP 20 47 54.3 -0.4**
comp=Z,5.9nm,0.9s,baz=90,slow=4.4,SNR=5.3
ZALV LR LR 21 03 56.1
comp=Z,96nm,18.2s,baz=70,slow=37
ZALV Zalesovo Beam 41.43 311 *eP* **P 20 45 56.0 -1.6**
ZALV PcP **PcP 20 47 54.3 -0.4**
CHTO Chiang Mai 42.10 255 *eP* **P 20 46 02.2 -1.3**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 42.10 255 *eP* **P 20 46 02.2 -1.3**
comp=Z,6.0nm,0.8s
CM31 Chiang Mai Arr 42.32 254 *eP* **P 20 46 04.8 -0.5**
CMAR Chiang Mai Arr 42.32 254 P **P 20 46 04.8 -0.5**
comp=Z,1.0nm,0.8s,baz=48,slow=6.3,SNR=8.4
CMAR PcP **PcP 20 47 58.4 +0.2**
comp=Z,1.4nm,0.9s,baz=0.0,slow=1.6,SNR=5.0
CMAR LR LR 21 06 36.6
comp=Z,22nm,18.5s,baz=75,slow=40
CM01 Chiang Mai Arr 42.33 254 *eP* **P 20 46 04.8 -0.5**
NVS Novosibirsk 42.33 313⇓ *iP* **P 20 46 04.7 -0.2**
NVS pmax pmax
comp=Z,4.0nm,0.4s
NVS pmax pmax
comp=E,3.0nm,0.5s
LSA Lhasa 42.61 274 *eP* **P 20 46 07.5 -0.5**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 42.61 274 *eP* **P 20 46 07.5 -0.5**
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 43.88 301 *eP* **P 20 46 17.1 -0.5**
MK31 Makanchi Array 43.88 301 *eP* **P 20 46 17.1 -0.5**
MK32 Makanchi Array 43.88 301 *eP* **P 20 46 17.1 -0.4**
MKAR Makanchi Array 43.88 301 P **P 20 46 17.1 -0.4**
comp=Z,6.1nm,0.7s,baz=81,slow=11,SNR=50
MKAR LR LR 21 04 25.2
comp=Z,60nm,21.4s,baz=60,slow=36
MKAR Makanchi Array 43.88 301 *eP* **P 20 46 17.1 -0.4**
comp=Z,50nm,0.8s
SHL Shillong 43.94 268 *eP* **P 20 46 20.0 +1.5**
MAKZ Makanchi 44.08 301 *eP* **P 20 46 18.8 -0.4**
MAKZ pmax pmax
comp=Z,21nm,1.5s
MAKZ Makanchi 44.08 301 *eP* **P 20 46 18.8 -0.4**
comp=Z,21nm,1.5s
IM3 Indian Mountai 45.29 31 *eP* **P 20 46 30.4 +1.9**
KURK Kurchatov 45.55 307 *c i* P **P 20 46 29.6 -1.1**
KURK pmax pmax
comp=Z,66nm,0.7s
KURK Kurchatov 45.55 307 *eP* **P 20 46 30.0 -0.8**
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 45.62 307 P **P 20 46 30.5 -0.8**
comp=Z,17nm,0.7s,baz=83,slow=8.2,SNR=108
KDAK Kodiak Island 45.81 43 P **P 20 46 33.4 +0.7**
comp=Z,15nm,0.8s,baz=285,slow=3.5,SNR=7.3
KDAK LR LR 21 03 58.9
comp=Z,131nm,21.1s,baz=239,slow=34
KDAK Kodiak Island 45.81 43 *i* P **P 20 46 33.6 +0.9**
SPU Mount Spurr 45.91 38 *eP* **P 20 46 33.9 +0.3**
TAPN Taplejung 46.36 273 *eP* **P 20 46 37.3 -0.6**
comp=Z,8.4nm,0.4s
MLY Manley 46.50 33 *eP* **P 20 46 37.5 -0.7**
comp=Z,5.0nm,1.0s
PDGK Podgornoye 46.63 297 P **P 20 46 40.7 +1.1**
PDGK pmax pmax
comp=Z,8.0nm,1.2s
ODAN Odare 46.85 273 *eP* **P 20 46 40.8 -0.8**
comp=Z,23nm,0.7s
RND Reindeer 47.34 35 *eP* **P 20 46 45.1 +0.4**
RND pmax pmax
comp=Z,7.0nm,1.0s
RND Reindeer 47.34 35 *eP* **P 20 46 45.1 +0.4**
comp=Z,7.2nm,1.0s
GHO Glory Hole Cre 47.38 37 *eP* **P 20 46 45.9 +0.8**
comp=Z,79nm,2.0s
JIRN Jiri 47.41 274 *eP* **P 20 46 45.7 -0.4**
comp=Z,19nm,0.5s
RAMN Ramite 47.42 273 *eP* **P 20 46 45.4 -0.7**
comp=Z,36nm,0.9s
GUN Gumba 47.54 275 *eP* **P 20 46 46.7 -0.4**
comp=Z,32nm,0.5s
MDM Murphy Dome 47.56 33 *eP* **P 20 46 47.8 +1.4**
comp=Z,13nm,1.1s
PMG Port Moresby 47.72 173 P **P 20 46 48.6 +0.6**
comp=Z,11nm,0.8s,baz=244,slow=18,SNR=2.9
COLA College 47.73 33⇑ *eP* **P 20 46 49.4 +1.8**
COLA pmax pmax
comp=Z,4.0nm,0.9s
KKN Kakani 48.06 275 *eP* **P 20 46 50.3 -0.7**
comp=Z,31nm,0.6s
PKI Pulchoki 48.07 275 *eP* **P 20 46 50.1 -1.1**
comp=Z,17nm,0.7s
PKIN Phulchoki 48.07 275 *eP* **P 20 46 50.0 -1.1**
comp=Z,8.6nm,0.4s
HDA Harding Lake 48.13 33 *eP* **P 20 46 51.7 +1.0**
comp=Z,9.1nm,1.0s
IL1 Eielson Array 48.14 33 *eP* **P 20 46 51.1 +0.3**
ILAR Eielson Array 48.14 33 P **P 20 46 51.8 +1.0**
comp=Z,4.2nm,0.8s,baz=270,slow=6.6,SNR=44
ILB Eielson Array 48.14 33 *eP* **P 20 46 51.9 +1.0**
DMN Daman 48.29 275 *eP* **P 20 46 52.1 -0.7**
comp=Z,20nm,0.8s
GKN Gorkha 48.47 276 *eP* **P 20 46 52.9 -1.2**
comp=Z,29nm,0.6s
KDJ Kajisay 48.61 296 *eP* **P 20 46 54.5 -0.5**
comp=Z,3.9nm,0.9s
FYU Fort Yukon 48.75 31 *eP* **P 20 46 57.0 +1.6**
comp=Z,25nm,1.4s
DIV Divide 48.95 38 *eP* **P 20 46 58.7 +1.5**
comp=Z,52nm,1.6s
DANN Dangsing 49.00 277 *eP* **P 20 46 57.8 -0.5**
comp=Z,6.9nm,0.7s
KOLN Koldanda 49.39 276 *eP* **P 20 47 00.5 -0.7**
DOT Dot Lake 49.46 34 *eP* **P 20 47 01.4 +0.4**
comp=Z,11nm,1.0s
PYUN Piuthan 49.71 277 *eP* **P 20 47 02.8 -0.8**
comp=Z,49nm,0.8s
BVAR Borovoye Array 50.09 312 P **P 20 47 05.2 -0.6**
comp=Z,1.2nm,0.6s,baz=77,slow=7.8,SNR=9.7
BVAR PcP **PcP 20 48 25.0 +0.1**
comp=Z,3.6nm,0.8s,baz=70,slow=1.7,SNR=7.3
BVAR LR LR 21 09 06.4
comp=Z,62nm,20.2s,baz=78,slow=37
OTUK Ortayu 50.09 305 P **P 20 47 05.6 -0.4**
OTUK pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 50.14 312 *ceP* **P 20 47 05.6 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 50.14 312 *eP* **P 20 47 05.7 -0.6**
comp=Z,4.1nm,0.8s
AAK Ala-Archa 50.33 298 P **P 20 47 07.4 -0.6**
comp=Z,1.9nm,0.4s,baz=94,slow=3.7,SNR=11
AAK Ala-Archa 50.33 298⇑ *eP* **P 20 47 07.3 -0.8**
AAK pmax pmax
comp=Z,1.0nm,0.2s
AAK Ala-Archa 50.33 298 *eP* **P 20 47 07.2 -0.9**
comp=Z,4.1nm,0.9s
KSH Kashi 50.35 293 *eP* P 20 47 13.8 +5.6
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,96nm,4.4s
KSH LR LR
comp=Z,62nm,6.3s
KSH LR LR
comp=Z,75nm,8.2s
KSH LR LR
comp=Z,92nm,6.4s
HNR Honiara 50.36 157 LR LR 21 05 50.6
comp=Z,61nm,20.8s,baz=44,slow=33
SOEI Soe 50.62 203 *eP* **P 20 47 10.5 +0.1**
comp=Z,28nm,1.2s
BATI Baumata 51.24 203 P **P 20 47 14.0 -0.9**
comp=Z,2.0nm,0.3s,baz=337,slow=5.3,SNR=3.9
MNAS Manas 51.77 298 P **P 20 47 18.9 +0.1**
MNAS pmax pmax
comp=Z,9.0nm,0.9s
MTN Manton Dam 51.91 194 *eP* **P 20 47 19.4 -0.4**
comp=Z,7.8nm,0.8s
SFK Sufi-Kurgan 51.95 295 P **P 20 47 20.8 +0.5**
SFK pmax pmax
comp=Z,8.0nm,0.9s
COEN Coen 52.01 179 *eP* **P 20 47 20.9 +0.3**
comp=Z,9.8nm,0.8s
KK05 Karatay Array 52.91 299 *eP* **P 20 47 25.7 -1.4**
KK06 Karatay Array 52.92 299 *eP* **P 20 47 26.6 -0.6**
KK02 Karatay Array 52.92 299 *eP* **P 20 47 26.3 -0.9**
KK31 Karatay Array 52.92 299 *eP* **P 20 47 26.7 -0.6**
KK31 Karatay Array 52.92 299 *eP* **P 20 47 26.7 -0.6**
KKAR Karatay Array 52.92 299 *eP* **P 20 47 26.7 -0.6**
KKAR Karatay Array 52.92 299 *eP* **P 20 47 26.7 -0.6**
KK04 Karatay Array 52.93 299 *eP* **P 20 47 26.3 -0.9**
KK09 Karatay Array 52.93 299 *eP* **P 20 47 26.3 -0.9**
KK01 Karatay Array 52.93 299 *eP* **P 20 47 26.4 -0.9**
KK03 Karatay Array 52.93 299 *eP* **P 20 47 26.7 -0.6**
KK07 Karatay Array 52.94 299 *eP* **P 20 47 26.5 -0.9**
KK08 Karatay Array 52.94 299 *eP* **P 20 47 26.5 -0.9**
HYT Haines Junctio 52.97 37 *eP* **P 20 47 28.4 +1.0**
comp=Z,12nm,1.0s
INK Inuvik 53.02 28 P **P 20 47 28.7 +1.3**
comp=Z,6.6nm,1.0s,baz=289,slow=6.9,SNR=18
INK Inuvik 53.02 28 *eP* **P 20 47 29.1 +1.6**
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 53.02 28 *eP* **P 20 47 29.1 +1.6**
comp=Z,8.8nm,1.0s
SVE Sverdlovsk 54.52 318⇑ *iP* **P 20 47 39.0 +0.3**
SVE pmax pmax
comp=Z,15nm,1.1s
GSI Gunungsitoli 54.89 239 *eP* **P 20 47 41.2 -0.6**
comp=Z,17nm,0.8s
ARU Arti 55.74 318 *d i* P **P 20 47 47.2 -0.2**
ARU *PP **pP** 20 48 01.2 +0.1
ARU 20 48 42.3
ARU 20 49 51.9
ARU S **S** 20 55 31.2 +1.0
ARU SS **SS** 20 59 18.1 +2.5
ARU pmax pmax
comp=Z,17nm,1.2s
ARU Arti 55.74 318 *eP* **P 20 47 47.0 -0.4**
comp=Z,20nm,1.3s
KBL Kabul 57.43 290 *eP* **P 20 47 58.9 -1.2**
KBL pmax pmax
comp=Z,10.0nm,1.1s
KBL Kabul 57.43 290 *eP* **P 20 47 58.9 -1.2**
comp=Z,10nm,1.1s
AB06 Akbulak array 57.48 310 *eP* **P 20 47 58.9 -1.1**
AB05 Akbulak array 57.50 310 *eP* **P 20 47 58.9 -1.1**
AB02 Akbulak array 57.50 310 *eP* **P 20 47 59.0 -1.0**
AB07 Akbulak array 57.50 310 *eP* **P 20 47 59.1 -1.0**
AB01 Akbulak array 57.50 310 *eP* **P 20 47 59.1 -1.0**
AB31 Akbulak array 57.50 310 *eP* **P 20 47 59.2 -0.9**
AB31 Akbulak array 57.50 310 *eP* **P 20 47 59.2 -0.9**
ABKAR Akbulak array 57.50 310 *eP* **P 20 47 59.2 -0.9**
comp=Z,41nm,0.7s
AB03 Akbulak array 57.51 310 *eP* **P 20 47 59.1 -1.0**
AB04 Akbulak array 57.51 310 *eP* **P 20 47 59.1 -1.0**
AB09 Akbulak array 57.52 310 *eP* **P 20 47 59.1 -1.0**
AB08 Akbulak array 57.52 310 *eP* **P 20 47 59.2 -1.0**
AKTO Aktyubinsk 58.20 312 P **P 20 48 04.4 -0.6**
comp=Z,3.2nm,0.7s,baz=81,slow=14,SNR=8.1
AKTO LR LR 21 14 22.5
comp=Z,51nm,18.3s,baz=33,slow=37
WRAB Tennant Creek 58.39 189⇑ *eP* **P 20 48 05.3 -1.2**
WRAB pmax pmax
comp=Z,72nm,2.5s
WB2 Warramunga Arr 58.40 189 *eP* **P 20 48 06.0 -0.6**
comp=Z,12nm,0.8s
WR1 Warramunga Arr 58.40 189 *eP* **P 20 48 05.9 -0.7**
comp=Z,11nm,0.8s
WRA Warramunga Arr 58.40 189 P **P 20 48 05.9 -0.7**
comp=Z,5.8nm,0.4s,baz=6.3,slow=7.1,SNR=163
SPITS Spitsbergen Ar 59.36 349 LR LR 21 15 50.1
comp=Z,56nm,18.1s,baz=310,slow=38
RES Resolute Bay 61.23 15 P **P 20 48 25.6 +0.2**
comp=Z,5.4nm,0.7s,baz=302,slow=7.2,SNR=28
RES Resolute Bay 61.23 15 *eP* **P 20 48 25.4 0.0**
comp=Z,6.0nm,0.8s
TMCR Tamitsa 61.86 331 *eP* **P 20 48 29.2 -0.6**
TMCR pmax pmax
comp=Z,20nm,1.0s
AS01 Alice Springs 62.12 188 *eP* **P 20 48 31.5 -0.5**
AS31 Alice Springs 62.13 188 *eP* **P 20 48 31.1 -1.0**
comp=Z,1.8nm,0.9s
ASAR Alice Springs 62.13 188 P **P 20 48 31.9 -0.1**
comp=Z,5.7nm,0.8s,baz=9.7,slow=6.0,SNR=46
YKA Yellowknife Ar 62.45 31 P **P 20 48 34.3 +0.6**
comp=Z,2.5nm,0.8s,baz=300,slow=6.8,SNR=15
YKA Yellowknife Ar 62.45 31 *ceP* **P 20 48 34.2 +0.5**
YKA pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 62.94 328 *eP* **P 20 48 34.8 -2.3**
KLMR pmax pmax
comp=Z,12nm,1.3s
KLMR Klimovskoe 62.94 328 *eP* **P 20 48 34.9 -2.2**
KLMR AMP 20 48 40.2
comp=Z,12nm,1.3s
ARA0 ARCESS Array S 62.97 339 *eP* **P 20 48 36.9 -0.3**
ARCES ARCESS Array B 62.97 339 P **P 20 48 36.9 -0.3**
comp=Z,4.7nm,0.8s,baz=53,slow=7.3,SNR=9.3
GEYT Alibeck 63.66 299 P **P 20 48 42.0 -0.2**
comp=Z,2.6nm,0.9s,baz=29,slow=3.4,SNR=7.9
TULEG Thule 63.76 8 *eP* **P 20 48 41.9 -0.4**
comp=Z,11nm,0.9s
SGF Sodankyl 63.97 337 *eP* **P 20 48 44.2 +0.5**
SGF pmax pmax
comp=Z,26nm,1.3s
DZM Mont Dzumac 64.29 155 LR LR 21 13 43.9
comp=Z,70nm,21.3s,baz=297,slow=33
DZM Mont Dzumac 64.29 155 *eLR* LR 21 08 09.2
comp=Z,107nm,21.6s
OUL Oulu 65.64 335 P **P 20 48 54.9 +0.3**
VRH Novokhopyorsk 66.97 318 *eP* **P 20 49 02.3 -1.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 67.37 323 *i* P **P 20 49 03.9 -1.9**
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,34nm,16.0s
LPSR Galich'ya Gora 67.64 320 *eP* **P 20 49 06.9 -0.7**
LPSR pmax pmax
comp=Z,20nm,1.2s
TDH Tom, Dick, Har 67.81 49 *eP* **P 20 49 11.1 +2.1**
FIA1 FINESS Array S 67.91 332 *eP* **P 20 49 08.4 -0.7**
comp=Z,14nm,0.8s
FIA0 FINESS Array S 67.91 332 *eP* **P 20 49 08.9 -0.3**
FIA0 FINESS Array S 67.91 332 *eP* **P 20 49 08.9 -0.3**
FINES FINESS Array B 67.91 332 P **P 20 49 08.9 -0.3**
comp=Z,11nm,0.7s,baz=62,slow=8.9,SNR=31
FINES LR LR 21 21 29.0
comp=Z,62nm,19.0s,baz=22,slow=38
FINES FINESS Array B 67.91 332 *i* P **P 20 49 08.8 -0.4**
FINES pmax pmax
comp=Z,11nm,0.7s
EDM Edmonton 68.03 39 *eP* **P 20 49 11.2 +1.1**
EDM pmax pmax
comp=Z,14nm,1.2s
EDM Edmonton 68.03 39 *eP* **P 20 49 11.2 +1.1**
comp=Z,14nm,1.2s
VSR Storozhevoye 68.30 319 *eP* **P 20 49 10.6 -1.2**
VSR pmax pmax
comp=Z,7.0nm,0.6s
NEW Newport 68.86 45 P **P 20 49 16.3 +0.9**
comp=Z,5.0nm,0.9s,baz=282,slow=3.2,SNR=6.0
NEW Newport 68.86 45 *eP* **P 20 49 17.1 +1.7**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 68.86 45 *eP* **P 20 49 17.1 +1.7**
comp=Z,6.9nm,1.0s
SUMG Summit 69.40 0 *eP* **P 20 49 19.5 +0.7**
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 69.40 0 *eP* **P 20 49 19.5 +0.7**
comp=Z,13nm,0.9s
VSU Vasula 69.60 330 *deP* **P 20 49 19.7 0.0**
VSU pmax pmax
comp=Z,54nm,1.7s
STKA Stephens Creek 69.84 180 P **P 20 49 21.3 0.0**
comp=Z,2.6nm,0.8s,baz=357,slow=8.1,SNR=6.5
NCK Nalchik 70.16 310⇑ *eP* **P 20 49 23.7 +0.2**
NCK pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 70.45 311 *eP* **P 20 49 25.0 -0.3**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,39nm,18.0s
KIV Kislovodsk 70.45 311 *eP* **P 20 49 25.6 +0.3**
comp=Z,28nm,1.0s
KBZ Khabaz 70.45 311 P **P 20 49 25.1 0.0**
comp=Z,7.8nm,0.9s,baz=56,slow=5.0,SNR=17
KBZ LR LR 21 25 35.4
comp=Z,37nm,18.9s,baz=42,slow=40
NEY Neytrino 70.83 310⇑ *eP* **P 20 49 28.1 +0.4**
NEY pmax pmax
comp=Z,1.0nm,0.9s
GNI Garni 71.34 307 LR LR 21 23 06.0
comp=Z,50nm,21.0s,baz=12,slow=38
GNI Garni 71.34 307⇓ *eP* **P 20 49 30.2 -0.7**
GNI pmax pmax
comp=Z,16nm,1.1s
AKH Akhalkalaki 71.41 308⇓ *iP* **P 20 49 32.0 +0.7**
IZAR Zarasai 71.60 328 *eP* **P 20 49 32.1 +0.2**
IZAR IAmb IAmb 20 49 34.6
comp=Z,6.4nm,0.6s
IDID Didziasalis 71.68 327 *eP* **P 20 49 32.5 +0.2**
IDID IAmb IAmb 20 49 33.7
comp=Z,5.0nm,0.9s
IIGN Ignalina 71.87 327 *eP* **P 20 49 33.7 +0.1**
IIGN IAmb IAmb 20 49 35.0
comp=Z,7.6nm,1.1s
FFC Flin Flon 72.36 33 *eP* **P 20 49 37.4 +0.9**
FFC pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 72.36 33 *eP* **P 20 49 37.4 +0.9**
comp=Z,6.6nm,0.8s
FCC Fort Churchill 72.63 27 *eP* **P 20 49 38.4 +0.4**
FCC pmax pmax
comp=Z,9.0nm,1.0s
FCC Fort Churchill 72.63 27 *eP* **P 20 49 38.4 +0.4**
comp=Z,8.9nm,1.0s
LRM Limekiln Ridge 72.88 45 *eP* **P 20 49 41.4 +1.3**
HFS Hagfors 73.13 336 P **P 20 49 41.1 +0.1**
comp=Z,11nm,0.8s,baz=46,slow=6.4,SNR=21
HFS LR LR 21 24 39.8
comp=Z,108nm,18.8s,baz=38,slow=38
HLID Hailey 73.13 48 *eP* **P 20 49 42.9 +1.3**
comp=Z,3.4nm,1.0s
NC204 NORSAR Array S 73.15 338 *eP* **P 20 49 41.2 0.0**
NB2 NORSAR Subarra 73.20 337 P **P 20 49 40.9 -0.5**
comp=Z,16nm,0.8s,baz=37,slow=6.2
NB2 NORSAR Subarra 73.20 337 P **P 20 49 40.9 -0.5**
baz=37,slow=6.2
NB200 NORSAR Array S 73.20 337 *eP* **P 20 49 41.2 -0.2**
NOA NORSAR Array B 73.20 337 P **P 20 49 41.2 -0.2**
comp=Z,12nm,0.8s,baz=39,slow=5.9,SNR=26
NOA LR LR 21 24 31.8
comp=Z,64nm,21.4s,baz=50,slow=38
NBO02 NORSAR Array S 73.30 338 *eP* **P 20 49 42.2 +0.3**
NBO00 NORSAR Array S 73.34 338 *eP* **P 20 49 42.8 +0.5**
KVN Kaiserville 73.58 53 *eP* **P 20 49 46.3 +2.0**
KVN pmax pmax
comp=Z,9.0nm,1.1s
KVN Kaiserville 73.58 53 *eP* **P 20 49 46.3 +2.0**
comp=Z,8.8nm,1.1s
AKASG Malin Array Be 73.59 322 P **P 20 49 43.1 -0.7**
comp=Z,5.8nm,0.7s,baz=46,slow=6.1,SNR=36
AKASG LR LR 21 26 00.5
comp=Z,33nm,18.3s,baz=70,slow=39
AKASG Malin Array Be 73.59 322 *ceP* **P 20 49 43.0 -0.8**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 73.59 322 *eP* **P 20 49 43.5 -0.3**
AKBB pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 73.59 322 *eP* **P 20 49 43.5 -0.3**
comp=Z,12nm,0.8s
KIEV Kiev 73.60 322 *deP* **P 20 49 43.4 -0.5**
KIEV pmax pmax
comp=Z,11nm,0.9s
KIEV Kiev 73.60 322 *eP* **P 20 49 43.3 -0.6**
comp=Z,12nm,0.8s
AK11 Malin Array Si 73.63 322 *eP* **P 20 49 43.5 -0.5**
NV01 Mina Array Sit 73.82 54 *eP* **P 20 49 47.2 +1.4**
NVAR Mina Array Bea 73.82 54 P **P 20 49 47.5 +1.8**
comp=Z,2.3nm,0.8s,baz=287,slow=6.1,SNR=10
SFJD Kangerlussuaq 74.56 5 LR LR 21 25 06.1
comp=Z,26nm,18.2s,baz=311,slow=38
H17A Grant Village 74.81 45 *eP* **P 20 49 52.2 +0.8**
comp=Z,9.4nm,0.9s
HVU Hansel Valley 75.18 48 *eP* **P 20 49 55.3 +1.8**
HVU pmax pmax
comp=Z,8.0nm,0.9s
HVU Hansel Valley 75.18 48 *eP* **P 20 49 55.3 +1.8**
comp=Z,7.6nm,0.9s
FRB Frobisher Bay 75.41 14 P **P 20 49 54.2 +0.1**
comp=Z,7.4nm,0.8s,baz=345,slow=6.6,SNR=22
R11A Troy Canyon, C 75.58 52 *eP* **P 20 49 57.4 +1.5**
comp=Z,12nm,1.4s
SPUT South Promonto 75.66 49 *eP* **P 20 49 57.9 +1.6**
comp=Z,6.6nm,0.7s
LAO LASA Array 75.68 41 *eP* **P 20 49 57.5 +1.3**
comp=Z,12nm,0.9s
SORM Soroca 75.72 321⇓ *iP* **P 20 49 55.6 -0.6**
PDAR Pinedale Array 76.41 46 P **P 20 50 01.7 +1.1**
comp=Z,1.7nm,0.5s,baz=286,slow=3.4,SNR=1.9
BEL Belsk 76.65 327 *eP* **P 20 50 02.2 +0.8**
BEL Belsk 76.65 327 *eP* **P 20 50 02.2 +0.8**
SHPR Sheep Range 76.97 54 *eP* **P 20 50 05.4 +1.6**
comp=Z,9.1nm,1.3s
GKP Gorka Klasztor 77.06 330 *eP* **P 20 50 05.2 +1.5**
GKP Gorka Klasztor 77.06 330 *eP* **P 20 50 05.2 +1.5**
KWP Kalwaria Pacla 77.38 324 *eP* **P 20 50 06.5 +0.8**
KWP Kalwaria Pacla 77.38 324 *eP* **P 20 50 06.5 +0.8**
KWP Kalwaria Pacla 77.38 324 *eP* **P 20 50 06.4 +0.8**
comp=Z,168nm,1.1s
CCUT Cedar City 77.45 52 *eP* **P 20 50 08.0 +1.5**
comp=Z,18nm,1.8s
BUR08 Bucovina Ar. S 77.60 322 *eP* **P 20 50 07.3 +0.3**
BUR04 Bucovina Ar. S 77.62 322 *eP* **P 20 50 07.0 -0.1**
BURAR Bucovina Array 77.62 322⇓ *iP* **P 20 50 07.3 +0.2**
TESR Tescani 77.67 320⇓ *iP* **P 20 50 06.8 -0.5**
CFR Carcaliu 77.82 319 P **P 20 50 08.7 +0.6**
CFR Carcaliu 77.82 319⇑ *iP* **P 20 50 08.7 +0.6**
LCMT Little Creek M 77.86 52 *eP* **P 20 50 10.4 +1.6**
comp=Z,10nm,1.4s
VRI Vrincioaia 78.07 320 P **P 20 50 09.8 +0.2**
VRI Vrincioaia 78.07 320⇑ *iP* **P 20 50 09.9 +0.3**
KNB Kanab 78.12 52 *eP* **P 20 50 12.8 +2.6**
KNB pmax pmax
comp=Z,13nm,1.2s
KNB Kanab 78.12 52 *eP* **P 20 50 12.8 +2.6**
comp=Z,13nm,1.2s
ULM Lac du Bonnet 78.16 34 P **P 20 50 09.8 -0.1**
comp=Z,3.5nm,0.9s,baz=308,slow=9.1,SNR=5.6
OJC Ojcow 78.25 326 *eP* **P 20 50 10.6 +0.1**
OJC Ojcow 78.25 326 *eP* **P 20 50 10.6 +0.1**
OJC Ojcow 78.25 326 *eP* **P 20 50 10.2 -0.3**
comp=Z,15nm,1.0s
TLB Topalu 78.27 318 P **P 20 50 10.9 +0.3**
TLB Topalu 78.27 318⇓ *iP* **P 20 50 10.9 +0.3**
BR101 Keskin Array S 78.38 312 *eP* **P 20 50 10.4 -1.1**
BRTR Keskin Array B 78.38 312 P **P 20 50 10.4 -1.1**
comp=Z,4.0nm,1.1s,baz=58,slow=4.7,SNR=8.9
BRTR LR LR 21 30 23.6
comp=Z,17nm,18.1s,baz=338,slow=40
BRTR Keskin Array B 78.38 312 *ceP* **P 20 50 11.0 -0.5**
BRTR pmax pmax
comp=Z,4.0nm,1.1s
NIE Niedzica 78.62 325 *eP* **P 20 50 13.4 +0.9**
NIE Niedzica 78.62 325 *eP* **P 20 50 13.5 +0.9**
DOPR Dopca 78.68 321⇓ *iP* **P 20 50 13.3 +0.4**
ISR Istrita 78.68 319 P **P 20 50 13.9 +1.0**
ISR Istrita 78.68 319⇓ *iP* **P 20 50 14.0 +1.0**

MLR	**Muntele Rosu**	**78.73 320**	LR	LR	21 29 08.4		
	comp=Z,20nm,18.9s,baz=53,slow=39						
BR231	**Keskin MP Arra**	**78.81 312**	*e*P	**P**	**20 50 11.6**	**-2.3**
U15A	**North Rim**	**78.83 52**	*e*P	**P**	**20 50 15.5**	**+1.3**
	comp=Z,14nm,1.4s						
LANS	**Liptovska Anna**	**79.19 326**	*e*P	**P**	**20 50 16.9**	**+1.2**
LANS	**Liptovska Anna**	**79.19 326**	*e*P	**P**	**20 50 16.9**	**+1.2**
KSP	**Ksiaz**	**79.28 328**	*e*P	**P**	**20 50 16.4**	**+0.4**
KSP	**Ksiaz**	**79.28 328**	*e*P	**P**	**20 50 16.5**	**+0.4**
DRGR		**79.41 322**	P	**P**	**20 50 17.3**	**+0.4**
DRGR		**79.41 322** ⇑	*i*P	**P**	**20 50 17.4**	**+0.5**
ARR	**Arges**	**79.48 320** ⇓	*i*P	**P**	**20 50 17.8**	**+0.5**
MORC	**Moravsky Berou**	**79.56 327**	*e*P	**P**	**20 50 17.5**	**-0.1**
MORC			pmax	pmax			
	comp=Z,28nm,0.9s						
MORC	**Moravsky Berou**	**79.56 327** ⇓	*i*P	**P**	**20 50 18.6**	**+0.9**
MORC	**Moravsky Berou**	**79.56 327**	*e*P	**P**	**20 50 17.5**	**-0.1**
	comp=Z,28nm,0.9s						
DPC	**Dobruska-Polom**	**79.64 328**	*e*P	**P**	**20 50 18.7**	**+0.6**
DPC	**Dobruska-Polom**	**79.64 328**	*e*P	**P**	**20 50 18.7**	**+0.6**
PSZ	**Piszkesteto**	**79.90 325**	*e*P	**P**	**20 50 20.4**	**+0.8**
PSZ			pmax	pmax			
	comp=Z,12nm,1.0s						
PSZ	**Piszkesteto**	**79.90 325** ⇓	*i*P	**P**	**20 50 20.5**	**+0.8**
PSZ	**Piszkesteto**	**79.90 325**	*e*P	**P**	**20 50 20.4**	**+0.8**
	comp=Z,12nm,1.0s						
Y14A	**Wickenburg**	**79.95 55**	*e*P	**P**	**20 50 21.5**	**+1.4**
	comp=Z,5.2nm,0.8s						
VYHS	**Vyhne**	**79.95 326**	*e*P	**P**	**20 50 20.2**	**+0.4**
VYHS			pmax	pmax			
	comp=Z,3.0nm,1.1s						
VYHS	**Vyhne**	**79.95 326**	*e*P	**P**	**20 50 20.2**	**+0.4**
WUAZ	**Wupatki**	**79.98 53**	*e*P	**P**	**20 50 22.2**	**+1.8**
	comp=Z,6.5nm,0.9s						
BRG	**Berggiesshubel**	**80.20 330**	*e*P	**P**	**20 50 20.9**	**-0.2**
	comp=Z,6.7nm,1.0s						
BRG	**Berggiesshubel**	**80.20 330**	*e*P	**P**	**20 50 20.9**	**-0.2**
BRG			pmax	pmax			
	comp=Z,7.0nm,1.0s						
PVCC	**Panska Ves**	**80.22 329**	*e*P	**P**	**20 50 21.8**	**+0.6**
PVCC	**Panska Ves**	**80.22 329**	*e*P	**P**	**20 50 21.8**	**+0.6**
CLL	**Collm**	**80.23 330**	*e*P	**P**	**20 50 21.2**	**0.0**
CLL			pmax	pmax			
	comp=Z,11nm,0.9s						
CLL	**Collm**	**80.23 330**	*i*P	**P**	**20 50 21.0**	**-0.2**
	comp=Z,14nm,1.0s						
CLL	**Collm**	**80.23 330**	*e*P	**P**	**20 50 21.2**	**0.0**
	comp=Z,11nm,0.9s						
VRAC	**Vranov**	**80.32 327**	P	**P**	**20 50 21.6**	**-0.2**
	comp=Z,7.5nm,0.9s,baz=58,slow=6.3,SNR=8.5						
VRAC	**Vranov**	**80.32 327** ⇓	*i*P	**P**	**20 50 22.8**	**+1.1**
RAYN	**Ar Rayn**	**80.63 292**	*e*P	**P**	**20 50 23.3**	**-0.6**
	comp=Z,6.0nm,0.9s						
X16A	**Lo Mia Camp, P**	**80.64 53**	*e*P	**P**	**20 50 25.0**	**+1.0**
	comp=Z,4.4nm,0.8s						
PRU	**Pruhonice**	**80.65 329**	*e*P	**P**	**20 50 23.9**	**+0.4**
PRU			*e*		20 50 41.2		
PRU	**Pruhonice**	**80.65 329**	*e*P	**P**	**20 50 23.9**	**+0.4**
PRU			*e*pP	**sP**	**20 50 41.2**	**-2.1**
BZS	**Buzias**	**80.78 322** ⇑	*i*P	**P**	**20 50 24.3**	**0.0**
S22A	**4UR Ranch, Cre**	**81.28 48**	*e*P	**P**	**20 50 28.4**	**+1.0**
	comp=Z,4.2nm,0.9s						
MMAI	**Mount Meron Ar**	**81.63 306**	P	**P**	**20 50 29.1**	**0.0**
	comp=Z,6.4nm,0.8s,baz=59,slow=6.9,SNR=5.5						
MMAI			LR	LR	21 29 46.9		
	comp=Z,41nm,19.5s,baz=65,slow=38						
CONA	**Conrad Observa**	**81.69 327**	*i* pP	**P**	**20 50 29.7**	**+0.6**
	comp=Z,6.6nm,1.0s						
KHC	**Kasperske Hory**	**81.71 329**	*e*P	**P**	**20 50 29.4**	**+0.2**
KHC			pmax	pmax			
	comp=Z,4.0nm,1.0s						
KHC	**Kasperske Hory**	**81.71 329**	*e*P	**P**	**20 50 29.3**	**+0.1**
KHC			*e*pP	**pP**	**20 50 45.4**	**+1.9**
KHC			*e*sP	**sP**	**20 50 52.4**	**+3.3**
KHC	**Kasperske Hory**	**81.71 329**	*e*P	**P**	**20 50 29.4**	**+0.2**
	comp=Z,3.7nm,1.0s						
GEC2	**GERESS Array S**	**81.89 328**	*e*P	**P**	**20 50 29.7**	**-0.5**
GEC2			pmax	pmax			
	comp=Z,4.0nm,1.0s						
GEC2	**GERESS Array S**	**81.89 328**	*e*P	**P**	**20 50 29.7**	**-0.5**
	comp=Z,4.4nm,1.0s						
GERES	**GERESS Array B**	**81.89 328**	P	**P**	**20 50 29.8**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=46,slow=7.6,SNR=10						
GERES			LR	LR	21 29 28.1		
	comp=Z,61nm,21.0s,baz=283,slow=38						
GEA0	**GERESS Array S**	**81.89 328**	*e*P	**P**	**20 50 29.7**	**-0.5**
WET	**Wettzell**	**81.99 329**	P	**P**	**20 50 31.7**	**+1.1**
EKA	**Eskdalemuir Ar**	**82.09 341**	P	**P**	**20 50 31.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=31,slow=3.3,SNR=3.4						
VTS	**Vitosha**	**82.17 319**	*e*P	**P**	**20 50 31.8**	**-0.1**
VTS			pmax	pmax			
	comp=Z,7.0nm,0.9s						
VTS	**Vitosha**	**82.17 319** ⇓	*i*P	**P**	**20 50 32.7**	**+0.8**
VTS	**Vitosha**	**82.17 319**	*e*P	**P**	**20 50 31.8**	**-0.1**
	comp=Z,7.4nm,0.9s						
MOA	**Molln**	**82.43 328**	P	**P**	**20 50 32.9**	**-0.1**
	comp=Z,3.8nm,0.9s						
ECSD	**EROS Data Cent**	**82.60 39**	*e*P	**P**	**20 50 34.6**	**+0.7**
	comp=Z,4.1nm,0.9s						
DIVS	**Divibare**	**82.68 322**	*e*P	**P**	**20 50 33.6**	**-0.8**
	comp=Z,6.3nm,1.1s						
MHTCO	**State Highway**	**82.94 48**	*e*P	**P**	**20 50 36.7**	**+0.6**
	comp=Z,25nm,1.6s						
GROS	**Grobnik**	**82.97 326**	*i*P	**P**	**20 50 35.3**	**-0.5**
SOKA	**Soboth**	**83.01 326**	*i* pP	**P**	**20 50 36.0**	**-0.1**
	comp=Z,12nm,1.1s,SNR=8.4						
T25A	**Trinidad**	**83.10 48**	*e*P	**P**	**20 50 37.8**	**+0.9**
	comp=Z,7.2nm,1.1s						
OBKA	**Obir**	**83.35 327**	*i* pP	**P**	**20 50 38.1**	**+0.3**
	comp=Z,3.5nm,0.8s						
ANMO	**Albuquerque**	**83.38 50**	P	**P**	**20 50 39.4**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=152,slow=8.2,SNR=5.8						
ANMO	**Albuquerque**	**83.38 50** ⇑	*e*P	**P**	**20 50 40.1**	**+1.8**
ANMO			pmax	pmax			
	comp=Z,4.0nm,1.1s						
ANMO	**Albuquerque**	**83.38 50**	*e*P	**P**	**20 50 40.4**	**+2.0**
	comp=Z,6.4nm,1.2s						
KBA	**Koelnbreinsper**	**83.42 328**	*i* pP	**P**	**20 50 39.3**	**+1.0**
	comp=Z,6.4nm,0.8s						
PDKS	**Podkum**	**83.50 326**	*i* P	**P**	**20 50 37.9**	**-0.7**
MYKA	**Terra Mystica**	**83.65 327**	*i* P	**P**	**20 50 38.6**	**-0.7**
	comp=Z,4.1nm,0.9s						
WATA	**Walderalm**	**83.95 329**	*i* pP	**P**	**20 50 42.3**	**+1.3**
	comp=Z,1.6nm,0.6s						
SCHQ	**Schefferville**	**83.97 16**	LR	LR	21 29 47.3		
	comp=Z,40nm,19.9s,baz=24,slow=37						
ABTA	**Abfaltersbach**	**84.03 328**	*i* P	**P**	**20 50 40.3**	**-1.1**
	comp=Z,5.3nm,0.8s						
JAVS	**Javornik**	**84.04 326**	*i* P	**P**	**20 50 40.1**	**-1.3**
EIL	**Elat**	**84.10 303**	P	**P**	**20 50 46.0**	**+4.1**
	comp=Z,5.6nm,0.8s,baz=29,slow=3.4,SNR=5.2						
MOTA	**Moosalm**	**84.14 329**	*i* P	**P**	**20 50 41.6**	**-0.3**
	comp=Z,5.6nm,0.9s,SNR=5.2						
RETA	**Reutte**	**84.16 329**	*i* pP	**P**	**20 50 42.0**	**+0.1**
	comp=Z,9.1nm,0.8s						
PMOR	**Pomariorio Ree**	**84.24 114**	*e*T	T	22 23 57.7		
	comp=Z,6nm,0.2s						
PDG	**Podgorica**	**84.28 321** ⇓	*i*P	**P**	**20 50 42.5**	**0.0**
TTG	**Podgorica**	**84.28 321**	*e*P	**P**	**20 50 42.2**	**-0.3**
TTG			pmax	pmax			
	comp=Z,13nm,0.9s						
TTG	**Podgorica**	**84.28 321**	*e*P	**P**	**20 50 42.2**	**-0.3**
	comp=Z,13nm,0.9s						
BFO	**Black Forest**	**84.43 331**	*i* P	**P**	**20 50 43.3**	**+0.1**
BFO	**Black Forest**	**84.43 331**	*e*P	**P**	**20 50 42.8**	**-0.4**
	comp=Z,8.3nm,0.9s						
FETA	**Feichten**	**84.55 329**	*i* pP	**P**	**20 50 43.9**	**-0.2**
	comp=Z,6.0nm,0.9s						
DAVA	**Damuels**	**84.68 330**	*i* pP	**P**	**20 50 44.6**	**0.0**
	comp=Z,12nm,0.9s,SNR=5.4						
CDF	**Champ du Feu**	**84.76 332**	*e*P	**P**	**20 50 44.3**	**-0.7**
CDF			pmax	pmax			
	comp=Z,12nm,1.1s						
PPT	**Papeete**	**84.76 117**	LR	LR	21 22 54.3		
	comp=Z,57nm,19.4s,baz=360,slow=32						
PPT2	**Papeete2**	**84.78 117**	*e*LR	LR	21 17 41.3		
	comp=Z,93nm,24.0s						
PPT2	**Papeete2**	**84.78 117**	*e*T	T	22 24 35.5		
	comp=Z,6.1nm,0.3s						
ECH	**Echery**	**84.97 332**	*e*P	**P**	**20 50 45.8**	**-0.1**
ECH			pmax	pmax			
	comp=Z,7.0nm,0.9s						
ECH	**Echery**	**84.97 332**	*e*P	**P**	**20 50 45.8**	**-0.1**
	comp=Z,7.1nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**85.06 329**	*e*P	**P**	**20 50 46.7**	**0.0**
	comp=Z,15nm,0.9s						
HAU	**Haudompre**	**85.44 332**	*e*P	**P**	**20 50 47.3**	**-1.0**
HAU			pmax	pmax			
	comp=Z,5.0nm,0.9s						
SENIN	**Lac Senin/Sane**	**86.45 330**	*e*P	**P**	**20 50 53.7**	**+0.1**
	comp=Z,5.2nm,0.9s						
FLN	**La Foliniere**	**87.14 336**	*e*P	**P**	**20 50 57.0**	**+0.4**
FLN			pmax	pmax			
	comp=Z,14nm,1.3s						
LPL	**La Plagne**	**87.37 330**	*e*P	**P**	**20 50 58.3**	**+0.2**
LPL			pmax	pmax			
	comp=Z,5.0nm,0.9s						
LPG	**La Plagne**	**87.38 330**	*e*P	**P**	**20 50 58.4**	**+0.2**
LPG			pmax	pmax			
	comp=Z,3.0nm,0.8s						
AVF	**Avril sur Loir**	**87.56 333**	*e*P	**P**	**20 50 58.0**	**-0.7**
AVF			pmax	pmax			
	comp=Z,12nm,1.2s						
GRR	**Gorron**	**87.59 336**	*e*P	**P**	**20 50 58.3**	**-0.5**
ORIF	**Oris-en-Rattie**	**88.20 331**	*e*P	**P**	**20 51 03.0**	**+1.1**
ORIF			pmax	pmax			
	comp=Z,3.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**88.94 53**	*e*P	**P**	**20 51 06.5**	**+0.8**
LTX	**Lajitas**	**88.94 53**	*e*P	**P**	**20 51 06.5**	**+0.8**
LTX	**Lajitas**	**88.94 53**	*e*P	**P**	**20 51 06.5**	**+0.8**
TXAR	**Lajitas Array**	**88.94 53**	P	**P**	**20 51 06.5**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=293,slow=3.5,SNR=16						
RJF	**Les Rejaudoux**	**89.49 333**	*e*P	**P**	**20 51 09.0**	**+1.2**
RJF			pmax	pmax			
	comp=Z,1.0nm,0.4s						
CCM	**Cathedral Cave**	**89.55 39**	*e*P	**P**	**20 51 09.1**	**+0.9**
CCM			pmax	pmax			
	comp=Z,12nm,1.0s						
CCM	**Cathedral Cave**	**89.55 39**	*e*P	**P**	**20 51 09.1**	**+0.9**
	comp=Z,12nm,1.0s						
CAF	**Calviac**	**89.62 333**	*e*P	**P**	**20 51 08.3**	**-0.2**
CAF			pmax	pmax			
	comp=Z,3.0nm,0.9s						
MTLF	**Montolieu**	**90.93 332**	*e*P	**P**	**20 51 12.1**	**-2.5**
MTLF			pmax	pmax			
	comp=Z,14nm,1.7s						
TKL	**Tuckaleechee C**	**95.05 36**	LR	LR	21 39 28.6		
	comp=Z,16nm,18.1s,baz=350,slow=39						
ESDC	**Sonseca Array**	**96.36 334**	LR	LR	21 39 39.5		
	comp=Z,50nm,18.4s,baz=80,slow=38						
LPAZ	**La Paz**	**145.60 59**	PKPbc	**PKPdf**	**20 57 50.2**	**+0.1**	
	comp=Z,8.5nm,0.9s,baz=330,slow=3.9,SNR=24						

MEX 29 20:59:55.4±0.6, 16°.39N×98°.39W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.25**	**89**	*i* P		Pg	21 00 00.3	0.0
PNIG				*i* S		Sg	21 00 03.2	-0.4
TLIG	**Tlapa**	**1.18**	**352**	*e*P		Pg	21 00 14.0	-4.1
TLIG				*i* S		Sg	21 00 29.6	-3.9
VHO	**Vista Hermosa**	**1.73**	**67**	*i* P		Pn	21 00 23.4	-2.9
VHO				*i* S		Sn	21 00 44.7	-4.2
HUIG	**Huatulco**	**2.28**	**105**	*i* P		Pn	21 00 31.2	-2.5
HUIG				*i* S		Sn	21 00 58.0	-4.2

JMA 29 21:06:30.0, 37°.81N×140°.00E, h9km±1km, M2.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFT	**Otama**	**0.40**	**137**	P		Pg	21 06 37.7	-0.1
JFT				S		Sg	21 06 43.0	0.0
JYS	**Shirataka**	**0.41**	**7**	P		Pg	21 06 38.3	+0.2
JYS				S		Sg	21 06 44.4	+0.8
JFY	**Yanaizu**	**0.47**	**210**	P		Pg	21 06 39.1	0.0
JFY				S		Sg	21 06 45.1	-0.1
JNS	**Sasagawa**	**0.54**	**271**	P		Pg	21 06 40.4	-0.1
JNS				S		Sg	21 06 47.6	0.0
JMM	**Marumori**	**0.63**	**85**	P		Pg	21 06 41.9	-0.3
JMM				S		Sg	21 06 50.1	-0.3
JOU	**Okura**	**0.76**	**43**	P		Pg	21 06 44.8	+0.1
JOU				S		Sg	21 06 54.6	-0.1
JYA	**Atsumi**	**0.81**	**344**	P		Pg	21 06 45.7	0.0
JFK	**Kawauchi**	**0.82**	**122**	P		Pg	21 06 45.6	-0.3
JFK				S		Sg	21 06 56.5	-0.1
JAW	**Awa shima**	**0.88**	**318**	P		Pg	21 06 47.0	+0.1
MAT	**Matsushiro**	**1.91**	**229**	P		Pb	21 07 04.2	-0.8
MAT				S		Sb	21 07 29.3	+0.3

*JMA **29** 21:20:20.7±0.1, 40°.22N×142°.52E, h26km±1km, M3.5*
*ISCJB **29** 21:20:21.0±1.3, 40°.23N±0°.04×142°.49E±0°.09, h24km±8km, mb3.4/4, Error ellipse: s-maj=11.1km s-min=7.2km az=179.2*
*IDC **29** 21:20:24.4±1.8, 40°.58N×141°.74E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.3/69, mbtmp3.4/6, ML3.2/2, Error ellipse: s-maj=45.9km s-min=21.7km az=89.0*

ISC 29 21:20:22.0±1.3, 40°.19N±0°.04×142°.35E±0°.09, h22km±7km, n22, σ0°89/22, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.45**	**237**	P		**Pn**	**21 20 32.3**	**-0.8**
JTH				*e*S		**Sn**	**21 20 40.3**	**-0.2**
JANG	**Nango**	**0.67**	**287**	P		**Pn**	**21 20 35.2**	**-1.0**
JANG				*e*S		**Sn**	**21 20 45.5**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.73**	**214**	P		**Pn**	**21 20 36.2**	**-0.8**
MIYJ				*e*S		**Sn**	**21 20 47.8**	**+0.3**
JKZ	**Kuzumaki**	**0.81**	**256**	P		**Pn**	**21 20 38.1**	**-0.1**
JKZ				*e*S		**Sn**	**21 20 49.8**	**+0.3**
JOM	**Ohasama**	**1.08**	**229**	P		**Pb**	**21 20 42.2**	**+0.2**
JTM	**Tenmabayashi**	**1.15**	**302**	P		**Pb**	**21 20 42.5**	**-0.7**
JTM				*e*S		**Sb**	**21 20 58.2**	**+0.6**
JAH	**Hinai**	**1.31**	**271**	P		**Pb**	**21 20 46.1**	**+0.1**
JAH				*e*S		**Sb**	**21 21 04.5**	**+2.1**
JMK	**Ichinoseki**	**1.51**	**216**	P		**Pb**	**21 20 48.7**	**-0.6**
JOT	**Ohata**	**1.55**	**321**	P		**Pn**	**21 20 47.9**	**-0.4**
JOT				*e*S		**Sb**	**21 21 07.8**	**-1.4**
ASAJ	**Asahikawa**	**3.93**	**3**	Pn		**Pn**	**21 21 21.6**	**+0.6**
	2.7nm,0.3s,baz=192,slow=9.8,SNR=12							
ASAJ				Sn		**Sn**	**21 22 06.6**	**+0.1**
	0.5nm,0.3s,baz=351,slow=19,SNR=2.0							
MJAR	**Matsushiro Arr**	**4.88**	**223**	Pn		Pb	21 21 40.2	-6.7
	0.4nm,0.3s,baz=31,slow=14,SNR=6.9							
H11N2	**WAKE ISLAND Hy**	**29.29**	**127**	T		T	21 57 14.2	
	baz=320,slow=75							
H11N1	**WAKE ISLAND Hy**	**29.30**	**127**	T		T	21 57 14.5	
	baz=320,slow=75							
H11N3	**WAKE ISLAND Hy**	**29.31**	**127**	T		T	21 57 14.0	
	baz=320,slow=75							
H11S1	**WAKE ISLAND Hy**	**30.11**	**129**	T		T	21 58 13.5	
	baz=326,slow=74							
H11S3	**WAKE ISLAND Hy**	**30.11**	**129**	T		T	21 58 08.3	
	baz=326							
H11S2	**WAKE ISLAND Hy**	**30.12**	**129**	T		T	21 58 15.7	
	baz=326,slow=74							
GTA	**Gaotai**	**32.47**	**283**	*e*P		**P**	**21 26 50.3**	**-0.5**
GTA				pP		pP	21 26 56.3	-1.2
GTA				sP		sP	21 26 59.3	-0.9
ZALV	**Zalesovo Beam**	**40.40**	**310**	P		**P**	**21 27 58.4**	**+0.2**
	0.3nm,0.4s,baz=91,slow=9.8,SNR=2.3							
MKAR	**Makanchi Array**	**43.14**	**299**	P		**P**	**21 28 22.4**	**+1.7**
	0.2nm,0.6s,baz=81,slow=7.6,SNR=3.7							
KURBB	**Kurchatov Arra**	**44.70**	**306**	P		**P**	**21 28 33.5**	**+0.3**
	0.3nm,0.3s,baz=84,slow=8.5,SNR=4.2							
WRA	**Warramunga Arr**	**60.28**	**189**	P		P	21 30 36.7	+7.9
	0.4nm,0.7s,baz=6.9,slow=7.5,SNR=4.0							

NNC 29 21:22:03.9±3.6, 36°.77N×72°.07E, h0km, mb3.7, mpv3.3, 2C-4D, Error ellipse: s-maj=31.7km s-min=25.3km az=123.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.42**	**19**	⇓	Pn	Pn	21 22 58.5	-0.3
	17nm,0.7s							
SFK				⇓	Sn	Sn	21 23 41.9	+1.8
	46nm,1.1s							
MNAS	**Manas**	**5.72**	**3**	⇓	Pn	Pn	21 23 30.3	+0.2
	1.9nm,0.5s							
MNAS				⇑	Sn	Sn	21 24 37.5	+0.9
	2.8nm,0.7s							
KK31	**Karatay Array**	**6.44**	**350**	⇓	Pn	Pn	21 23 40.2	+0.3
	0.3nm,0.3s,baz=168,slow=12							
KK31				⇑	Sn	Sn	21 24 54.3	+0.3
	1.5nm,0.5s,baz=166,slow=23							

DJA 29 21:38:15.0±0.6, 7°.5S±4°×107°.5E±°, h10km, M3.5/6, MLv3.5/6, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.77**	**67**	P		Pg	21 38 28.4	-1.5
CGJI				S		Sg	21 38 39.8	-0.2
KASI	**Kota Agung**	**1.47**	**341**	P		Pn	21 38 40.0	-1.5
KASI				S		Sn	21 38 59.5	-1.3
BLSI	**Bandar Lampung**	**1.56**	**10**	P		Pn	21 38 41.8	-1.1
BLSI				S		Sb	21 39 03.6	-0.4
SKJI	**Sukabumi**	**1.57**	**93**	P		Pn	21 38 42.3	-0.6
SKJI				S		Sb	21 39 03.7	-0.3
TNG	**Tangerang**	**1.81**	**66**	S		Sn	21 39 09.3	-0.1
KLI	**Kotabumi**	**2.05**	**357**	S		Sn	21 39 16.3	+1.2
LWLI	**Liwa**	**2.10**	**334**	P		Pn	21 38 50.5	+0.1
LWLI				S		Sn	21 39 17.4	+0.8
MDSI	**Maura Dua**	**2.55**	**342**	P		Pn	21 38 55.8	-0.6
LEM	**Lembang**	**2.62**	**88**	P		Pn	21 38 57.6	0.0
CISI	**Cisompet, Garu**	**2.88**	**103**	P		Pn	21 39 00.3	-0.8

*IDC **29** 21:50:28.1±1.8, 37°.81N×142°.46E, h0km, mb3.4/3, mb1 3.5/7, mb1mx3.3/65, mbtmp3.5/7, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.0/42, Error ellipse: s-maj=37.6km s-min=22.6km az=86.0*
*ISCJB **29** 21:50:33.9±1.0, 37°.85N±0°.04×141°.95E±0°.08, h43km±11km, mb3.3/3, Error ellipse: s-maj=10.3km s-min=5.9km az=15.9*
*JMA **29** 21:50:34.7±0.1, 37°.87N×141°.87E, h49km±1km, M3.7*

ISC 29 21:50:33.6±2.2, 37°.88N±0°.05×141°.93E±0°.10, h25km±14km, n26, σ1°69/35, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.74**	**322**	P		**Pn**	**21 50 48.7**	**+0.3**
JIO				S		**Sn**	**21 50 58.6**	**-0.2**
JMM	**Marumori**	**0.90**	**270**	P		**Pn**	**21 50 50.4**	**-0.2**
JMM				S		**Sb**	**21 51 01.8**	**-0.3**
JFK	**Kawauchi**	**0.98**	**239**	P		**Pn**	**21 50 51.6**	**-0.1**
JFK				S		**Sb**	**21 51 03.6**	**-0.8**
JOU	**Okura**	**1.11**	**297**	P		**Pn**	**21 50 53.7**	**+0.1**
JOU				S		**Sn**	**21 51 07.7**	**-0.4**
JMK	**Ichinoseki**	**1.21**	**333**	P		**Pb**	**21 50 55.4**	**-0.4**
JMK				S		**Sn**	**21 51 10.5**	**0.0**
JFT	**Otama**	**1.31**	**255**	P		**Pn**	**21 50 57.2**	**+0.9**
JFT				S		**Sn**	**21 51 13.3**	**+0.3**
JYS	**Shirataka**	**1.51**	**284**	P		**Pn**	**21 50 59.6**	**+0.6**
JYS				*e*S		**Sn**	**21 51 18.4**	**+0.5**
JYK	**Kaneyama**	**1.61**	**311**	P		**Pn**	**21 51 01.0**	**+0.5**
JYK				*e*S		**Sn**	**21 51 20.5**	**0.0**
JOM	**Ohasama**	**1.67**	**343**	P		**Pn**	**21 51 02.1**	**+0.8**
JFY	**Yanaizu**	**1.83**	**256**	P		**Pn**	**21 51 03.9**	**+0.5**
JFY				*e*S		**Sn**	**21 51 25.7**	**0.0**
JRG	**Rokugo**	**1.83**	**327**	P		**Pn**	**21 51 04.5**	**+1.1**
JRG				*e*S		**Sn**	**21 51 27.1**	**+1.4**
JYA	**Atsumi**	**1.89**	**293**	P		**Pn**	**21 51 04.7**	**+0.5**
JYA				*e*S		**Sn**	**21 51 26.9**	**-0.3**
MJAR	**Matsushiro Arr**	**3.25**	**247**	Pn		**Pn**	**21 51 25.1**	**+2.1**
	1.3nm,0.3s,baz=50,slow=10,SNR=9.2							
MJAR				Sn		**Sb**	**21 52 11.1**	**+1.3**
	0.8nm,0.3s,baz=174,slow=28,SNR=3.2							
MAT	**Matsushiro**	**3.25**	**247**	P		**Pn**	**21 51 25.1**	**+2.1**
MAT				*e*S		**Sn**	**21 52 01.9**	**+0.9**
JHJ	**Hachijo jima 2**	**5.06**	**201**	Pn		**Pn**	**21 51 48.1**	**+0.3**
	4.9nm,0.3s,baz=96,slow=19,SNR=5.5							
JHJ				Sn		**Sn**	**21 52 39.9**	**-5.5**
	3.9nm,0.3s,baz=253,slow=19,SNR=4.0							
ASAJ	**Asahikawa**	**6.26**	**4**	Pn		**Pn**	**21 52 03.7**	**-0.5**
	0.9nm,0.3s,baz=243,slow=7.8,SNR=7.7							
ASAJ				Sn		**Sn**	**21 53 09.3**	**-5.6**
	0.4nm,0.3s,baz=252,slow=20,SNR=1.8							
USRK	**Ussuriysk Ar.**	**9.81**	**313**	Pn		**Pn**	**21 52 54.0**	**+1.1**
	0.1nm,0.3s,baz=124,slow=14,SNR=2.8							
USRK				LR		LR	21 56 39.9	
	comp=Z,43nm,19.4s,baz=316,slow=37							
H11N2	**WAKE ISLAND Hy**	**28.24**	**123**	T		T	22 26 45.7	
	baz=316,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hy**	**28.25**	**123**	T		T	22 26 55.1	
	baz=316,slow=75,SNR=25							
H11N3	**WAKE ISLAND Hy**	**28.26**	**123**	T		T	22 26 55.8	
	baz=316,slow=75,SNR=22							
H11S1	**WAKE ISLAND H

GURO					*e*SG		**Sb**	**22 02 34.2**	**+0.2**
GURO	**Guroymak-BITLI**	**0.66**	**194**		PG		**Pb**	**22 02 24.2**	**-0.9**
GURO					SG		**Sb**	**22 02 35.2**	**+1.2**
GURO	**Guroymak-BITLI**	**0.66**	**194**		*e*Pg		**Pb**	**22 02 24.2**	**-0.9**
GURO					*e*Sg		**Sb**	**22 02 35.2**	**+1.2**
EATA	**Eleskirt**	**0.69**	**16**	*i*	S		**Sb**	**22 02 36.5**	**+1.3**
EATA	**Eleskirt**	**0.69**	**16**		S		**Sb**	**22 02 36.5**	**+1.3**
AGRB	**Hanur-Agry**	**0.70**	**57**	*e*	PG		**Pb**	**22 02 23.8**	**-1.9**
AGRB					*e*SG		**Sb**	**22 02 34.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.70**	**57**		PG		**Pb**	**22 02 25.6**	**-0.1**
AGRB					SG		**Sb**	**22 02 35.4**	**+0.3**
AGRB	**Hanur-Agry**	**0.70**	**57**	*e*	Pg		**Pb**	**22 02 25.6**	**-0.1**
AGRB					*e*Sg		**Sb**	**22 02 35.4**	**+0.3**
HOMI	**Horasan**	**0.89**	**343**	*i*	P		**Pn**	**22 02 28.9**	**+0.1**
HOMI					*i* S		**Sb**	**22 02 42.1**	**+1.5**

MEX 29 22:09:03.0±0.6, 15°.91N×98°.17W, h5km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**5**	*i* P	Pg	22 09 11.4	-1.0
PNIG				*e*S	Sg	22 09 18.9	+0.2
TLIG	**Tlapa**	**1.69**	**347**	*e*P	Pn	22 09 29.6	-3.7
TLIG				*i* S	Sn	22 09 51.3	-4.2
VHO	**Vista Hermosa**	**1.80**	**50**	*i* P	Pn	22 09 31.3	-3.6
VHO				*i* S	Sn	22 09 53.2	-5.1
HUIG	**Huatulco**	**1.99**	**94**	*i* P	Pn	22 09 34.6	-2.7
HUIG				*i* S	Sn	22 09 58.4	-4.2
CAIG	**El Cayaco**	**2.31**	**300**	*i* P	Pn	22 09 37.9	-3.8
CAIG				*e*S	Sn	22 10 06.8	-3.8

*IDC **29** 22:22:48.8±8.9, 6°.99S×129°.47E, h75km±85km, mb3.4/2, mb1 3.6/4, mb1mx3.1/53, mbtmp3.7/4, ML4.3/3, Error ellipse: s-maj=96.9km s-min=26.5km az=48.0*

*ISCJB **29** 22:22:54.8±0.8, 7°.44S±0°.08×129°.09E±0°.05, h150km, mb3.4/2, Error ellipse: s-maj=10.9km s-min=7.3km az=169.3*

*DJA **29** 22:22:55.9±3.2, 7°.5S×12°.9E±°, h27km±37km, M4.6/6, mb4.9/4, mB5.0/4, MLv4.5/6, Mw(mB)4.4/4*

ISC 29 22:22:56.2±1.0, 7°.3S±0°.1×128°.99E±0°.06, h150km, n10, σ1s10/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.39**	**107**	P	**Pn**	**22 23 35.1**	**-0.8**
SAUI				S	**Sn**	**22 24 07.6**	**+1.0**
SOEI	**Soe**	**5.27**	**242**	P	**Pn**	**22 24 13.8**	**+0.5**
	148nm,0.8s,2µm0.5nm						
SOEI				S	**Sn**	**22 25 14.2**	**+0.6**
	148nm,0.8s,2µm0.5nm						
FAKI	**Fak Fak**	**5.42**	**37**	P	**Pn**	**22 24 13.8**	**-1.5**
	38nm,1.2s,1µm0.2nm						
BATI	**Baumata**	**6.01**	**241**	P	**Pn**	**22 24 22.9**	**-0.1**
	49nm,0.3s,baz=80,slow=4.9,SNR=47						
BATI				S	**Sn**	**22 25 29.1**	**-1.9**
	11nm,0.3s,baz=142,slow=19,SNR=6.8						
BATI	**Baumata**	**6.01**	**241**	P	**Pn**	**22 24 22.9**	**-0.1**
	96nm,0.5s,1µm0.4nm						
WBSI	**Waikabubak, Su**	**9.78**	**256**	P	**Pn**	**22 25 14.3**	**+1.0**
WRA	**Warramunga Arr**	**13.60**	**158**	P	Pn	22 25 59.1	-4.1
	0.7nm,0.3s,baz=339,slow=13,SNR=22						
WRA				S	Sn	22 28 21.4	-12
	1.4nm,0.3s,baz=332,slow=25,SNR=6.3						
ASAR	**Alice Springs**	**16.95**	**164**	P	**P**	**22 26 43.3**	**-0.7**
	0.5nm,0.3s,baz=336,slow=10,SNR=30						
ASAR				S	S	22 29 40.5	-13
	0.2nm,0.3s,baz=344,slow=14,SNR=4.2						
STKA	**Stephens Creek**	**27.14**	**156**	P	**P**	**22 28 26.0**	**+0.6**
	0.7nm,0.4s,baz=341,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**67.93**	**327**	P	**P**	**22 33 39.6**	**+0.9**
	0.3nm,0.6s,baz=125,slow=8.0,SNR=5.4						

BJI 29 22:27:18.0, 43°.38N×125°.28E, h6km, ML3.5/8, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**0.44**	**16**	*e*Pg	Pg	22 27 24.8	-1.7
CN2				*e*Sg	Sg	22 27 31.0	-1.2
MDJ	**Mudanjiang**	**3.35**	**67**	Pg	Pb	22 28 15.0	-2.7
MDJ				Sg	Sb	22 28 59.0	+0.3
MDJ				smax	smax		
	comp=N,130nm,0.5s						
MDJ				smax	smax		
	comp=E,96nm,0.4s						
WMQ	**Urumqi**	**27.07**	**284**	*e*P	P	22 33 00.3	-1.0

*IGQ **29** 22:27:23.9±0.8, 6°.5±15°×8°.2W±1°.8, h12km, mB5.4/1, mb5.4/2, MLv5.1/5, Mw(mB)4.8/1*

*IDC **29** 22:27:31.3±2.4, 4°.99S×80°.80W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.7/45, mbtmp3.8/8, ML4.1/2, MS3.5/9, Ms1 3.5/9, ms1mx3.1/45, Error ellipse: s-maj=95.9km s-min=21.2km az=48.0*

*NEIC **29** 22:27:38.6±2.0, 5°.19S×80°.79W, h57km±15km, mb4.2/3, ML4.2(ARE), Error ellipse: s-maj=27.5km s-min=10.3km az=69.0*

NEIC Felt [II] at Sechura.

ISC 29 22:27:31.9±0.8, 5°.15S±0°.05×80°.67W±0°.10, h10km, n35, σ2s88/29, mb3.9/8, MS3.6/5, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.00**	**131**	Pn	**Pb**	**22 28 25.4**	**-0.4**
	31nm,0.3s,baz=334,slow=5.3,SNR=105						
ATAH				Lg	Lg	22 29 06.5	
	26nm,0.3s,baz=115,slow=22,SNR=4.7						
RIOE1	**Riobamba**	**3.94**	**31**	P	**Pb**	**22 28 41.6**	**-0.2**
BMAS	**Trigal station**	**4.23**	**31**	P	**Pb**	**22 28 43.1**	**-3.6**
BMAS				S	**Sg**	**22 29 50.4**	**+2.5**
BPAT	**Tungurahua Vol**	**4.25**	**32**	P	**Pb**	**22 28 43.6**	**-3.6**
BPAT				S	**Sg**	**22 29 49.5**	**+0.8**
RETU	**Refugio**	**4.29**	**31**	P	**Pb**	**22 28 47.3**	**-0.5**
POND	**Pondoa**	**4.31**	**31**	P	**Pb**	**22 28 47.4**	**-0.8**
POND				S	**Sg**	**22 29 54.1**	**+3.5**
ILLI	**Illinizas Sur**	**4.81**	**24**	P	Pb	22 28 51.9	-4.9
ILLI				S	**Sg**	**22 29 59.1**	**-7.6**
CAMI	**Rancho Maria**	**4.94**	**26**	P	**Pb**	**22 28 54.6**	**-4.3**
BNAS	**Cotopaxi Volca**	**4.96**	**26**	P	Pb	22 28 54.3	-4.9
BNAS				S	**Sg**	**22 30 15.4**	**+4.1**
NAS2	**Nasa**	**4.99**	**26**	P	**Pb**	**22 28 56.9**	**-2.8**
BVC2	**Cotopaxi Volca**	**5.00**	**27**	P	**Pb**	**22 28 55.9**	**-4.1**
VC1	**Cotopaxi 1**	**5.02**	**27**	P	**Pb**	**22 28 57.6**	**-2.6**
ANTS	**Antisana-Sarah**	**5.25**	**28**	P	**Pb**	**22 29 01.2**	**-3.0**
TERV	**Terraza Guagua**	**5.36**	**23**	P	Pb	22 28 59.4	-6.6
OTAV	**Otavalo**	**5.79**	**23**	*e*Pn	Pn	22 29 03.7	+5.3
	30nm,0.9s						
OTAV	**Otavalo**	**5.79**	**23**	P	Pn	22 29 03.1	+4.7
OTAV				S	**Sb**	**22 30 26.4**	**+3.3**
URCU	**Urcuqui**	**6.05**	**24**	P	Pb	22 29 09.9	-7.9
LITE1	**Lita**	**6.34**	**21**	P	**Pn**	**22 29 06.8**	**+1.1**
ROSC	**El Rosal**	**11.78**	**33**	LR	LR	22 35 28.6	
	comp=Z,270nm,19.9s,baz=230,slow=41						
JTS	**JuntasAbangare**	**15.92**	**344**	LR	LR	22 36 07.9	
	comp=Z,89nm,20.9s,baz=174,slow=33						
LPAZ	**La Paz**	**16.55**	**133**	Pn	**P**	**22 31 28.2**	**+0.7**
	0.2nm,0.3s,baz=334,slow=13,SNR=5.3						
LPAZ				LR	LR	22 38 05.1	
	comp=Z,100nm,20.4s,baz=30,slow=38						
SDV	**Santo Domingo**	**17.16**	**36**	LR	LR	22 39 05.1	
	comp=Z,130nm,18.1s,baz=222,slow=41						
SAML	**Samuel**	**17.75**	**103**	*e*Pn	**P**	**22 31 42.5**	**+2.3**
	10nm,1.5s						
SIV	**San Ignacio**	**22.04**	**121**	P	**P**	**22 32 29.1**	**+2.1**
	2.8nm,0.8s,baz=310,slow=13,SNR=9.5						
SIV				LR	LR	22 41 38.7	
	comp=Z,236nm,19.4s,baz=4.0,slow=38						
LCO	**Las Campanas**	**25.54**	**159**	*e*P	**P**	**22 33 03.3**	**+2.0**
	5.5nm,0.3s						
SJG	**San Juan**	**27.19**	**31**	LR	LR	22 45 58.2	
	comp=Z,64nm,19.1s,baz=240,slow=41						
CPUP	**Villa Florida**	**30.68**	**136**	LR	LR	22 48 25.3	
	comp=Z,81nm,21.6s,baz=312,slow=41						
PDAR	**Pinedale Array**	**54.42**	**334**	P	**P**	**22 37 00.0**	**+0.4**
	0.5nm,0.7s,baz=123,slow=11,SNR=5.0						
YKA	**Yellowknife Ar**	**72.26**	**344**	P	**P**	**22 38 56.5**	**-0.7**
	0.4nm,0.8s,baz=140,slow=6.1,SNR=3.8						
DBIC	**Dimbokro**	**76.57**	**82**	LR	LR	23 12 21.0	
	comp=Z,44nm,18.7s,baz=228,slow=35						

ESDC	**Sonseca Array**	**83.10**	**49**	P		**P**		**22 40 00.5**	**+2.2**
	0.5nm,0.6s,baz=271,slow=4.6,SNR=5.8								
TORD	**Torodi Ar. Bea**	**83.75**	**76**	P		**P**		**22 40 02.6**	**+0.5**
	0.7nm,0.9s,baz=283,slow=5.6,SNR=3.0								
TORD				LR		LR		23 16 43.4	
	comp=Z,58nm,19.4s,baz=250,slow=35								
EKA	**Eskdalemuir Ar**	**87.14**	**34**	P		**P**		**22 40 18.9**	**+0.8**
	0.7nm,0.6s,baz=258,slow=3.3,SNR=4.3								
KHC	**Kasperske Hory**	**96.64**	**41**	P		**P**		**22 41 04.4**	**+1.9**
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**135.98**	**17**	PKP		**PKPdf**		**22 46 52.5**	**-1.0**
	0.4nm,0.8s,baz=318,slow=1.9,SNR=3.9								

*IDC **29** 22:31:24.1±0.6, 57°.46N×154°.59W, h0km, mb4.4/33, mb1 4.5/34, mb1mx4.3/78, mbtmp4.4/34, ML3.7/1, MS3.3/19, Ms1 3.3/19, ms1mx3.0/63, Error ellipse: s-maj=16.9km s-min=8.3km az=5.0*

*MOS **29** 22:31:27.6±0.9, 57°.44N×154°.61W, h35km, mb4.7/34, Error ellipse: s-maj=10.4km s-min=5.2km az=85.8*

*ISCJB **29** 22:31:30.5±0.3, 57°.50N±0°.02×154°.28W±0°.03, h60km±2km, mb4.5/94, Error ellipse: s-maj=3.8km s-min=2.6km az=18.1*

*NEIC **29** 22:31:31.4±0.0, 57°.33N×154°.29W, h40km, mb4.5/38, ML4.1(AEIC), After AEIC.*

NEIC Felt at Kodiak and in the Larsen Bay area.

ISC 29 22:31:31.1±0.6, 57°.38N±0°.05×154°.27W±0°.04, h53km±5km, h53km:pP-P,n583, σ1s24/603, mb4.4/94, MS3.4/18, 16C-3D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.56**	**106**	*e*Pn	Pn	22 31 41.9	-1.3
OHAK				*e*Sn	**Sn**	**22 31 50.7**	**-1.3**
CAHL	**Cahill**	**0.87**	**321**	P	**Pn**	**22 31 46.5**	**-0.7**
KJL	**Kejulik**	**0.97**	**315**	P	**Pn**	**22 31 48.1**	**-0.5**
KDAK	**Kodiak Island**	**0.99**	**65**	Pg	**Pn**	**22 31 48.0**	**-0.8**
	599nm,0.3s,baz=206,slow=3.5						
KDAK				Lg	Lg	22 32 01.2	
	706nm,0.3s,baz=127,slow=20,SNR=49						
KDAK				LR	LR	22 32 20.0	
	comp=Z,747nm,20.1s,baz=244,slow=50						
KDAK	**Kodiak Island**	**0.99**	**65**	*i* P	**Pn**	**22 31 47.6**	**-1.2**
KDAK	**Kodiak Island**	**0.99**	**65**	*e*Pn	**Pn**	**22 31 48.2**	**-0.6**
KABU	**Katmai Buttres**	**1.04**	**329**	P	**Pn**	**22 31 49.1**	**-0.4**
KABU				S	**Sn**	**22 32 03.0**	**-0.2**
ANCK	**Angle Creek**	**1.05**	**322**	P	**Pn**	**22 31 49.0**	**-0.6**
KAHG	**Katmai Hook Gl**	**1.12**	**353**	P	**Pn**	**22 31 50.6**	**0.0**
KAHG				S	**Sn**	**22 32 05.2**	**+0.1**
KARR	**Katmai Rainbow**	**1.14**	**349**	P	**Pn**	**22 31 51.0**	**+0.2**
CNTC	**Contact Creek**	**1.23**	**316**	P	**Pn**	**22 31 51.8**	**-0.4**
CNTC				S	**Sn**	**22 32 08.1**	**+0.3**
KELA	**Mount Kelaz**	**1.32**	**324**	P	**Pn**	**22 31 53.0**	**-0.2**
FOSS	**Fourpeaked Sta**	**1.45**	**12**	P	**Pn**	**22 31 55.2**	**+0.1**
FOSS				S	**Sn**	**22 32 15.3**	**+2.3**
FONW	**Fourpeaked Sta**	**1.47**	**7**	P	**Pn**	**22 31 55.7**	**+0.4**
CDD	**Cape Douglas**	**1.59**	**12**	P	**Pn**	**22 31 57.2**	**+0.4**
AUI	**Augustine Isla**	**2.01**	**12**	P	**Pn**	**22 32 03.5**	**+0.9**
AUW	**Augustine West**	**2.04**	**12**	P	**Pn**	**22 32 03.9**	**+1.0**
AUNW	**Augustine NWes**	**2.04**	**12**	P	**Pn**	**22 32 04.2**	**+1.2**
ANPK	**Aniakchak Peak**	**2.17**	**257**	P	**Pn**	**22 32 04.7**	**-0.2**
ANNW	**Aniakchak Nort**	**2.19**	**261**	P	**Pn**	**22 32 05.0**	**0.0**
CHGN	**Chignik**	**2.52**	**246**	*e*Pn	**Pn**	**22 32 08.3**	**-1.2**
CHGN				*e*Sn	**Sn**	**22 32 39.8**	**+0.8**
HOM	**Homer**	**2.67**	**30**	*e*Pn	**Pn**	**22 32 12.1**	**+0.5**
ILW	**Iliamna West**	**2.75**	**12**	P	**Pn**	**22 32 13.4**	**+0.5**
VNHG	**Veniaminof 1**	**2.93**	**249**	P	**Pn**	**22 32 14.9**	**-0.3**
VNSG	**Veniaminof 6**	**2.93**	**247**	P	**Pn**	**22 32 14.3**	**-0.9**
BRLK	**Bradley Lake**	**2.98**	**35**	*e*Pn	**Pn**	**22 32 15.4**	**-0.5**
RSO	**Redoubt South**	**3.19**	**14**	*e*Pn	**Pn**	**22 32 20.0**	**+1.1**
RDWB	**Redoubt West**	**3.20**	**13**	P	**Pn**	**22 32 19.6**	**+0.5**
SLKM	**Skilak Lake**	**3.77**	**32**	P	**Pn**	**22 32 26.0**	**-0.7**
SLKM	**Skilak Lake**	**3.77**	**32**	P	**Pn**	**22 32 26.0**	**-0.7**
SVW2	**Sparrevohn**	**3.79**	**350**	*e*Pn	**Pn**	**22 32 27.0**	**+0.1**
CKL	**Chakachamna La**	**3.95**	**14**	P	**Pn**	**22 32 29.7**	**+0.4**
SPU	**Mount Spurr**	**3.98**	**16**	*e*Pn	**Pn**	**22 32 29.9**	**+0.3**
SPWE	**Spurr West**	**4.00**	**12**	P	**Pn**	**22 32 30.9**	**+1.0**
SDPT	**Sand Point**	**4.01**	**242**	*e*Pn	**Pn**	**22 32 29.3**	**-0.6**
SPCP	**Crater Peak Br**	**4.04**	**15**	P	**Pn**	**22 32 31.0**	**+0.5**
STLK	**Strandline Lak**	**4.31**	**16**	P	**Pn**	**22 32 34.6**	**+0.5**
FIB	**Fire Island**	**4.34**	**27**	P	**Pn**	**22 32 34.8**	**+0.4**
FIB	**Fire Island**	**4.34**	**27**	P	**Pn**	**22 32 34.8**	**+0.4**
RC01	**Rabbit Creek A**	**4.39**	**30**	*e*Pn	**Pn**	**22 32 34.7**	**-0.4**
SUA	**Susitna One**	**4.47**	**22**	*e*Pn	**Pn**	**22 32 36.5**	**+0.1**
PS4A	**Pavlof South-4**	**4.68**	**247**	P	**Pn**	**22 32 38.3**	**-0.9**
SKT	**Skwentna**	**4.82**	**16**	P	**Pn**	**22 32 40.7**	**-0.3**
PMR	**Palmer**	**4.97**	**30**	*e*P	**Pn**	**22 32 41.6**	**-1.4**
PMR	**Palmer**	**4.97**	**30**	*e*Pn	**Pn**	**22 32 41.6**	**-1.4**
DT1	**Dutton Round H**	**5.01**	**246**	P	Pn	22 32 42.2	-1.5
KNK	**Knik Glacier**	**5.02**	**34**	P	**Pn**	**22 32 42.4**	**-1.3**
GLI	**Glacier Island**	**5.09**	**44**	*e*Pn	**Pn**	**22 32 42.7**	**-2.1**
GHO	**Glory Hole Cre**	**5.17**	**29**	P	**Pn**	**22 32 45.0**	**-1.0**
SML	**Sawmill**	**5.37**	**32**	*e*P	**Pn**	**22 32 48.0**	**-0.6**
SML	**Sawmill**	**5.37**	**32**	*e*Pn	**Pn**	**22 32 48.0**	**-0.6**
JPK	**Jack Peak**	**5.39**	**44**	P	**Pn**	**22 32 47.4**	**-1.5**
EYAK	**Cordova Ski Ar**	**5.43**	**51**	*e*Pn	**Pn**	**22 32 48.1**	**-1.3**
TT01	**Tatalina**	**5.61**	**352**	P	**Pn**	**22 32 52.5**	**+0.6**
PPLA	**Purkeypile**	**5.63**	**10**	*e*Pn	**Pn**	**22 32 53.6**	**+1.4**
SCM	**Sheep Creek Mo**	**5.69**	**35**	*e*P	**Pn**	**22 32 52.4**	**-0.6**
SCM	**Sheep Creek Mo**	**5.69**	**35**	*e*Pn	**Pn**	**22 32 52.4**	**-0.6**
DIV	**Divide**	**5.75**	**46**	*e*Pn	**Pn**	**22 32 52.6**	**-1.3**
RAGM	**Ragged Mountai**	**5.82**	**55**	*e*Pn	**Pn**	**22 32 53.5**	**-1.2**
KLU	**Klutina**	**5.93**	**42**	*e*Pn	**Pn**	**22 32 55.2**	**-1.0**
BMRM	**Bremner River**	**6.13**	**50**	*e*Pn	**Pn**	**22 32 57.5**	**-1.6**
CAST	**Castle Rocks**	**6.15**	**9**	*e*Pn	**Pn**	**22 33 00.0**	**+0.7**
TRF	**Thorofare Moun**	**6.40**	**16**	P	**Pn**	**22 33 02.4**	**-0.4**
KTH	**Kantishna Hill**	**6.41**	**14**	*e*Pn	**Pn**	**22 33 04.1**	**+1.3**
RND	**Reindeer**	**6.61**	**22**	*e*P	**Pn**	**22 33 05.5**	**-0.1**
RND	**Reindeer**	**6.61**	**22**	*e*Pn	**Pn**	**22 33 05.5**	**-0.1**
DHY	**Denali Highway**	**6.66**	**28**	*e*Pn	**Pn**	**22 33 05.8**	**-0.6**
HARP	**HAARP**	**6.81**	**38**	*e*Pn	**Pn**	**22 33 08.4**	**+0.1**
MCK	**McKinley**	**6.89**	**20**	*e*P	**Pn**	**22 33 09.7**	**+0.3**
MCK	**McKinley**	**6.89**	**20**	*e*Pn	**Pn**	**22 33 09.7**	**+0.3**
BPAW	**Bear Paw Mtn.**	**6.93**	**12**	*e*Pn	**Pn**	**22 33 10.2**	**+0.3**
BAGL	**Bagley Icefiel**	**7.03**	**59**	P	**Pn**	**22 33 10.4**	**-0.8**
PAX	**Paxson**	**7.12**	**34**	*e*P	**Pn**	**22 33 11.8**	**-0.7**
PAX	**Paxson**	**7.12**	**34**	*e*Pn	**Pn**	**22 33 11.8**	**-0.7**
SAMH	**Samovar Hills**	**7.54**	**63**	P	**Pn**	**22 33 17.3**	**-1.0**
MENT	**Mentasta**	**7.66**	**39**	*e*Pn	**Pn**	**22 33 20.2**	**+0.3**
WRH	**Wood River Hil**	**7.72**	**20**	*e*Pn	**Pn**	**22 33 19.4**	**-1.3**
MLY	**Manley**	**7.86**	**11**	*e*Pn	**Pn**	**22 33 22.6**	**-0.1**
RIDG	**Independ'e Rid**	**7.88**	**32**	*e*Pn	**Pn**	**22 33 23.3**	**+0.3**
CCB	**Clear Creek Bu**	**7.93**	**21**	*e*Pn	**Pn**	**22 33 22.1**	**-1.5**
DOT	**Dot Lake**	**8.05**	**34**	*e*Pn	**Pn**	**22 33 24.9**	**-0.3**
PNL	**Peninsula**	**8.12**	**67**	P	**Pn**	**22 33 24.3**	**-1.8**
COLA	**College**	**8.13**	**20**	*e*P	**Pn**	**22 33 24.9**	**-1.4**
COLA	**College**	**8.13**	**20**	*e*Pn	**Pn**	**22 33 24.9**	**-1.4**
MDM	**Murphy Dome**	**8.14**	**18**	*e*Pn	**Pn**	**22 33 25.1**	**-1.4**
IL1	**Eielson Array**	**8.23**	**23**	*e*Pn	**Pn**	**22 33 26.4**	**-1.3**
ILAR	**Eielson Array**	**8.23**	**23**	Pn	**Pn**	**22 33 26.0**	**-1.6**
	1.2nm,0.3s,baz=217,slow=14,SNR=52						
ILAR				Sn	**Sn**	**22 34 52.9**	**-6.2**
	2.2nm,0.3s,baz=216,slow=21,SNR=5.3						
ILAR				LR	LR	22 37 07.5	
	comp=Z,76nm,19.6s,baz=223,slow=42						
ILB	**Eielson Array**	**8.23**	**23**	*e*Pn	**Pn**	**22 33 26.3**	**-1.3**
SCRK	**Sand Creek**	**8.31**	**33**	*e*Pn	**Pn**	**22 33 28.1**	**-0.8**
BCA3	**Beaver Creek A**	**8.42**	**42**	P	**Pn**	**22 33 30.1**	**-0.2**
IM3	**Indian Mountai**	**8.64**	**1**	*e*Pn	**Pn**	**22 33 33.6**	**+0.4**
YUK7	**Dusty Glacier**	**8.91**	**63**	P	**Pn**	**22 33 35.2**	**-2.0**
HYT	**Haines Junctio**	**9.29**	**61**	*e*Pn	**Pn**	**22 33 40.9**	**-1.3**
EGAK	**Eagle**	**9.75**	**35**	*e*Pn	**Pn**	**22 33 48.4**	**0.0**
DAWY	**Dawson**	**9.88**	**41**	*e*Pn	**Pn**	**22 33 50.5**	**+0.2**
COLD	**Coldfoot**	**10.06**	**9**	*e*Pn	**Pn**	**22 33 52.9**	**+0.3**
FYU	**Fort Yukon**	**10.13**	**21**	*e*Pn	**Pn**	**22 33 54.4**	**+0.7**
SKAG	**Skagway**	**10.15**	**70**	*e*Pn	**Pn**	**22 33 53.5**	**-0.4**
WHY	**Whitehorse**	**10.51**	**64**	*e*Pn	**Pn**	**22 33 57.9**	**-1.1**
GAMB	**Gambell**	**10.68**	**314**	*e*Pn	**Pn**	**22 34 02.2**	**+1.2**
TOLK	**Toolik Lake Re**	**11.50**	**9**	P	**Pn**	**22 34 12.5**	**+0.2**
	baz=193						
TOLK	**Toolik Lake Re**	**11.50**	**9**	*e*Pn	**Pn**	**22 34 13.8**	**+1.5**
DLBC	**Dease Lake**	**12.92**	**75**	*e*Pn	**Pn**	**22 34 31.8**	**0.0**
INK	**Inuvik**	**14.38**	**32**	Pn	**Pn**	**22 34 50.1**	**-1.2**
	0.2nm,0.3s,baz=235,slow=14,SNR=7.7						
INK				LR	LR	22 40 56.6	
	comp=Z,56nm,21.8s,baz=179,slow=40						
INK	**Inuvik**	**14.38**	**32**	*e*P	**Pn**	**22 34 52.7**	**+1.4**
INK	**Inuvik**	**14.38**	**32**	*e*Pn	**Pn**	**22 34 52.7**	**+1.4**
BBB	**Bella Bella**	**15.91**	**98**	LR	LR	22 40 14.2	
	comp=Z,107nm,20.8s,baz=81,slow=33						

YKA	**Yellowknife Ar**	**20.27**	**59**	P		**P**		**22 36 01.6**	**-0.2**
	8.6nm,0.7s,baz=269,slow=11,SNR=56								
YKA				PcP		**PcP**		**22 40 13.0**	**-0.2**
	0.2nm,0.4s,baz=273,slow=1.7,SNR=4.3								
BILL	**Bilibino**	**20.58**	**317**	*c i* P		**P**		**22 36 03.9**	**-1.2**
BILL				*e*				22 36 16.0	
BILL				*e*SS		Sn		22 40 10.1	+11
BILL								22 40 14.4	
BILL				pmax		pmax			
	comp=Z,19nm,1.3s								
BILL				MLR		MLR			
	comp=Z,89nm,17.0s								
B05A	**Bryant**	**21.29**	**102**	P		**P**		**22 36 15.5**	**+2.5**
	baz=307								
C06D	**Leavenworth**	**22.14**	**101**	P		**P**		**22 36 23.3**	**+1.2**
	baz=308								
B08A	**Colville Reser**	**22.71**	**98**	*e*P		**P**		**22 36 29.9**	**+1.7**
	comp=Z,13nm,1.0s								
G05D	**Wamic, OR**	**23.65**	**107**	P		**P**		**22 36 39.5**	**+2.0**
	baz=313								
I03D	**Drain, OR**	**23.70**	**112**	P		**P**		**22 36 40.3**	**+2.5**
	baz=316								
D08A	**Wollman Farm,**	**23.73**	**101**	*e*P		**P**		**22 36 39.9**	**+1.9**
	comp=Z,10nm,0.8s								
NEW	**Newport**	**23.95**	**96**	P		**P**		**22 36 41.2**	**+1.1**
	comp=Z,7.9nm,0.7s,baz=310,slow=8.6,SNR=14								
NEW	**Newport**	**23.95**	**96**	P		**P**		**22 36 42.0**	**+1.8**
	baz=306								
NEW	**Newport**	**23.95**	**96**	*e*P		**P**		**22 36 41.7**	**+1.5**
NEW				pmax		pmax			
	comp=Z,9.0nm,0.8s								
NEW	**Newport**	**23.95**	**96**	*e*P		**P**		**22 36 41.7**	**+1.5**
	comp=Z,9.4nm,0.8s								
I04A	**Tendick Farm,**	**24.10**	**111**	P		**P**		**22 36 43.8**	**+2.3**
	baz=316								
I05D	**Terrebonne, OR**	**24.26**	**108**	P		**P**		**22 36 45.2**	**+2.2**
	baz=314								
J04D	**Umpqua Nationa**	**24.65**	**111**	P		**P**		**22 36 49.4**	**+2.6**
	baz=316								
L02D	**Cave Junction,**	**24.70**	**115**	P		**P**		**22 36 50.0**	**+3.0**
	baz=319								
J05D	**Fort Rock, OR**	**25.06**	**110**	P		**P**		**22 36 54.0**	**+3.6**
	baz=316								
K04D	**Chiloquin, OR**	**25.28**	**112**	P		**P**		**22 36 55.2**	**+2.8**
	baz=317								
YBH	**Yreka Blue Hor**	**25.46**	**114**	P		**P**		**22 36 56.2**	**+2.2**
	comp=Z,7.1nm,0.8s,baz=344,slow=5.0,SNR=8.1								
YBH				LR		LR		22 44 48.2	
	comp=Z,72nm,18.1s,baz=333,slow=31								
M02C	**Callahan**	**25.65**	**115**	P		**P**		**22 36 58.1**	**+2.4**
	baz=319								
JTMT	**Jette**	**25.79**	**95**	*e*P		**P**		**22 36 58.7**	**+1.7**
	comp=Z,13nm,1.1s								
M04C	**Macdoel**	**25.86**	**113**

MSU epP pP 22 38 18.1 +1.5
TIXI Tiksi 33.24 326⇓ eP P 22 38 00.6 -1.9
TIXI pmax pmax
comp=Z,1.0nm,1.0s
CCUT Cedar City 33.33 109 eP P 22 38 06.3 +2.3
comp=Z,2.5nm,0.7s
GSC Goldstone, Bar 33.36 115 P P 22 38 07.5 +3.5
baz=323,SNR=22
GSC Goldstone, Bar 33.36 115 eP P 22 38 06.2 +2.1
GSC e*PP pP 22 38 17.9 +0.3
GSC pmax pmax
comp=Z,32nm,0.4s
GSC Goldstone, Bar 33.36 115 eP P 22 38 06.2 +2.1
comp=Z,32nm,0.4s
GSC epP pP 22 38 17.9 +0.3
RSSD Black Hills 33.62 91 P P 22 38 07.9 +1.4
baz=311
RSSD Black Hills 33.62 91 eP P 22 38 07.9 +1.4
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 33.62 91 eP P 22 38 07.9 +1.4
comp=Z,11nm,0.9s
SRU San Rafael Swe 33.64 104 eP P 22 38 09.3 +2.7
SRU pmax pmax
comp=Z,26nm,1.1s
SRU San Rafael Swe 33.64 104 eP P 22 38 09.3 +2.7
comp=Z,26nm,1.1s
MDND Maddock 33.67 82 P P 22 38 07.8 +1.3
baz=307
MDND Maddock 33.67 82 eP P 22 38 08.1 +1.6
comp=Z,24nm,0.9s
TUQ Turquoise Moun 33.69 114 P P 22 38 09.0 +2.0
baz=323
BFSC Mount Baldy Ra 33.80 117 P P 22 38 10.0 +2.0
baz=324
LCMT Little Creek M 33.81 109 eP P 22 38 10.5 +2.4
comp=Z,4.2nm,1.0s
HEC Hector,Ludlow 33.97 115 P P 22 38 11.4 +2.0
baz=324
O20A White River Ci 34.11 100 P P 22 38 12.1 +1.5
baz=316
O20A White River Ci 34.11 100 eP P 22 38 12.6 +1.9
comp=Z,12nm,0.9s
O20A epP pP 22 38 25.1 +0.8
ULM Lac du Bonnet 34.24 76 P P 22 38 11.8 +0.4
comp=Z,9.2nm,0.6s,baz=310,slow=8.4,SNR=20
ULM LR LR 22 51 57.4
comp=Z,68nm,19.5s,baz=345,slow=36
ULM Lac du Bonnet 34.24 76 eP P 22 38 11.9 +0.5
ULM pmax pmax
comp=Z,9.0nm,0.8s
ULM Lac du Bonnet 34.24 76 eP P 22 38 11.9 +0.5
comp=Z,8.8nm,0.8s
GMRC Granite Mounta 34.34 114 P P 22 38 14.6 +2.0
baz=323
B31A Greenbush Farm 34.37 80 P P 22 38 13.2 +0.7
baz=307,SNR=5.0
SCI2 San Clemente I 34.41 120 P P 22 38 15.2 +2.1
baz=326
A32A Rocking H Ranc 34.69 79 P P 22 38 15.9 +0.5
baz=306,SNR=7.4
C31A Landman Farms, 34.70 81 P P 22 38 16.0 +0.5
baz=308
U15A North Rim 34.74 109 eP P 22 38 18.8 +2.5
comp=Z,16nm,1.8s
BELC Belle Mtn. Jos 34.80 116 P P 22 38 18.4 +1.8
baz=324,SNR=6.6
PV09 Paradox Valley 34.83 103 eP P 22 38 18.9 +1.8
PV09 epP pP 22 38 31.2 +0.6
NEE2 Needles Airpor 34.87 113 P P 22 38 19.1 +2.0
baz=323
PFO Pinyon Flats O 34.89 117 P P 22 38 18.3 +0.9
baz=325
PFO Pinyon Flats O 34.89 117 *i* P P 22 38 20.4 +3.0
TPFO Pinon Flats 34.90 117 P P 22 38 19.1 +1.6
baz=325
W13A Hualapai Mount 34.97 112 eP P 22 38 20.6 +2.4
comp=Z,4.3nm,0.8s
B32A Ashes, Strandq 34.98 79 P P 22 38 18.2 +0.4
baz=307
IRM Iron Mountain 35.09 114 P P 22 38 21.3 +2.3
baz=324,SNR=8.6
D31A Mcclaflin, Tow 35.16 82 P P 22 38 20.0 +0.5
baz=308
A33A Warroad 35.26 78 P P 22 38 20.8 +0.5
baz=307,SNR=7.9
BC3 Big Chuckawall 35.35 115 P P 22 38 22.6 +1.3
baz=324
PV01 Paradox Valley 35.39 103 eP P 22 38 23.7 +1.9
PV01 epP pP 22 38 36.1 +0.7
AGMN Agassiz Nation 35.39 79 P P 22 38 21.8 +0.4
baz=307,SNR=9.0
AGMN Agassiz Nation 35.39 79 eP P 22 38 21.9 +0.5
comp=Z,14nm,0.7s
PDMCI Parker Dam,Lak 35.47 113 P P 22 38 23.9 +1.7
baz=323
D32A Dogwood Acres, 35.49 82 P P 22 38 22.6 +0.3
baz=308
MONP2 Monument Peak 35.50 117 P P 22 38 24.6 +1.9
baz=325
B33A Robert and Kas 35.55 79 P P 22 38 23.4 +0.6
baz=307
Y12C Blythe 35.73 114 P P 22 38 26.6 +2.1
baz=324
ISCO Idaho Springs 35.75 98 P P 22 38 26.4 +1.4
baz=316
SWSC Sam W. Stewart 35.75 116 P P 22 38 26.3 +1.7
baz=325
E32A Braaten, Kindr 35.80 82 P P 22 38 25.9 +1.0
baz=309
IKP In-Ko-Pah, Jac 35.84 117 P P 22 38 27.3 +1.7
baz=325
WUAZ Wupatki 35.92 109 P P 22 38 28.0 +1.7
baz=321
B34A Aery, Baudette 35.92 78 P P 22 38 26.4 +0.4
baz=307,SNR=11
MVCO Mesa Verde 36.12 104 P P 22 38 29.4 +1.4
baz=319
GLA Glamis 36.14 115 P P 22 38 29.9 +1.9
baz=324
GLA Glamis 36.14 115 eP P 22 38 29.9 +1.9
GLA pmax pmax
comp=Z,18nm,1.4s
GLA Glamis 36.14 115 eP P 22 38 29.9 +1.9
comp=Z,18nm,1.4s
B35A Bob, Littlefor 36.49 78 P P 22 38 31.1 +0.3
baz=308
D34A Park Rapids 36.49 80 P P 22 38 30.9 +0.1
baz=309
I31A Royce, Wessing 36.66 87 P P 22 38 32.8 +0.5
baz=311
F33A 5 Mile Ranch, 36.69 83 P P 22 38 32.6 0.0
baz=310
C35A Jirik Farms, M 36.76 79 P P 22 38 33.3 +0.2
baz=308
E34A Wadena 36.87 81 P P 22 38 34.4 +0.4
baz=309
OGNE Ogallala 36.87 93 P P 22 38 34.7 +0.5
baz=314
H32A Carlson Farm, 36.94 85 P P 22 38 34.9 +0.2
baz=311
G33A Ortonville 37.03 84 P P 22 38 35.7 +0.2
baz=310
D35A Remer 37.11 79 P P 22 38 36.4 +0.3
baz=309
H33A Prehn Over Nor 37.20 85 P P 22 38 37.1 +0.2
baz=311
E35A Pequot Lakes 37.25 80 P P 22 38 37.7 +0.4
baz=309,SNR=5.2
C36A Pine Crest Far 37.33 78 P P 22 38 38.1 +0.2
baz=308
X18A Snowflake 37.42 108 eP P 22 38 41.5 +2.5
comp=Z,5.8nm,0.8s
G34A Benson 37.43 83 P P 22 38 39.0 +0.2
baz=310
J32A Parkston 37.47 87 P P 22 38 39.1 -0.1
baz=312
D36A Goodland 37.52 79 P P 22 38 40.0 +0.5
baz=309
F35A Swanville 37.60 81 P P 22 38 40.6 +0.3
baz=310
C37A Embarrass 37.69 77 P P 22 38 41.4 +0.4
baz=308
H34A Spellman Lake, 37.73 84 P P 22 38 41.8 +0.5
baz=311
E36A McGregor 37.89 80 P P 22 38 43.0 +0.3
baz=310
ECSD EROS Data Cent 37.90 86 P P 22 38 42.5 -0.3
baz=312
EYMN Ely 37.92 77 P P 22 38 43.4 +0.5
baz=308
EYMN Ely 37.92 77 eP P 22 38 43.8 +0.8
comp=Z,20nm,0.6s
D37A Cotton 37.92 78 P P 22 38 43.3 +0.4
baz=309
J33A Davis 37.98 86 P P 22 38 44.0 +0.5
baz=312
214A Organ Pipe Nat 38.02 114 P P 22 38 45.5 +1.6
baz=324
F36A Milaca 38.16 81 P P 22 38 45.2 +0.2
baz=310
C38A Sawbill Land. 38.18 77 P P 22 38 45.3 +0.2
baz=309
C39A Grand Marais 38.72 76 P P 22 38 49.3 -0.4
baz=309
E38A The Farm, Brul 38.73 78 P P 22 38 49.6 -0.1
baz=310
TUC Tucson 38.75 111 P P 22 38 52.1 +1.9
baz=324
J35A Milford 38.90 85 P P 22 38 51.6 +0.4
baz=312
ANMO Albuquerque 38.91 104 P P 22 38 52.9 +1.4
baz=320
ANMO Albuquerque 38.91 104⇑ eP P 22 38 53.0 +1.4
ANMO pmax pmax
comp=Z,2.0nm,1.1s
SPMN Marine on St. 38.96 81 P P 22 38 52.4 +0.7
baz=311
SPMN Marine on St. 38.96 81 eP P 22 38 52.4 +0.7
comp=Z,6.6nm,0.4s
F38A Pierce - Schro 38.98 79 P P 22 38 52.6 +0.8
baz=310,SNR=11
I36A Fitzsimmons Fa 39.11 83 P P 22 38 53.5 +0.6
baz=312
H37A Dierke Farm, C 39.32 82 P P 22 38 55.6 +0.9
baz=311
I37A Lemond, Waseca 39.44 83 P P 22 38 56.0 +0.3
baz=312
G38A Ridgeland 39.51 80 P P 22 38 56.3 +0.1
baz=311,SNR=6.5
F39A Loretta 39.52 79 P P 22 38 56.4 +0.1
baz=310
G39A Holcombe 39.79 80 P P 22 38 58.7 0.0
baz=311,SNR=5.3
K36A Gilmore City 39.80 85 P P 22 38 58.4 -0.3
baz=313
J37A Redenius Farm, 39.83 84 P P 22 38 58.9 -0.1
baz=312
O33A Hebron 39.89 91 P P 22 38 59.7 +0.2
baz=315
F40A Park Falls 39.94 78 P P 22 39 00.2 +0.4
baz=311,SNR=8.2
M35A Neola 39.94 88 P P 22 39 00.7 +0.8
baz=314
I38A Scanlan Farm, 40.00 82 P P 22 39 00.8 +0.5
baz=312
121A Cookes Peak, D 40.10 108 P P 22 39 03.2 +1.7
baz=322
H39A Augusta 40.13 80 P P 22 39 01.9 +0.5
baz=312
K37A Belmond 40.15 84 P P 22 39 01.6 0.0
baz=313
E41A Kenton 40.20 77 P P 22 39 02.3 +0.3
baz=310
O34A Beatrice 40.30 90 P P 22 39 03.0 +0.2
baz=315
G40A Rib Lake 40.32 79 P P 22 39 03.3 +0.3
baz=311
N35A Tabor 40.39 88 P P 22 39 04.3 +0.7
baz=314
J38A Wedel Dairy, R 40.41 83 P P 22 39 03.8 +0.1
baz=313
L37A Phoenix Point, 40.53 85 P P 22 39 04.8 0.0
baz=314
I39A Houston 40.56 82 P P 22 39 05.0 +0.1
baz=312,SNR=5.4
ASAJ Asahikawa 40.58 279 P P 22 39 04.1 -1.0
comp=Z,6.8nm,0.6s,baz=86,slow=1.0,SNR=8.0
F41A Three Lakes 40.59 78 P P 22 39 05.4 +0.1
baz=311
H40A Chili 40.65 80 P P 22 39 05.9 +0.2
baz=312
J39A Decorah 40.81 82 P P 22 39 06.9 -0.1
baz=313
M37A Trindle Farm, 40.87 86 P P 22 39 08.0 +0.5
baz=314
L38A Oak Wood Farm, 40.95 85 P P 22 39 08.3 +0.1
baz=314
I40A Nowalk 41.02 81 P P 22 39 09.0 +0.2
baz=312
K39A Oelwein 41.14 83 P P 22 39 09.2 -0.5
baz=313
N37A Lee Faris, Mou 41.23 87 P P 22 39 10.9 +0.4
baz=315
G42A Mountain 41.28 78 P P 22 39 11.3 +0.5
baz=312
J40A Soldiers Grove 41.28 81 P P 22 39 11.0 0.0
baz=313
E43A Lone Tree Farm 41.29 75 P P 22 39 11.4 +0.5
baz=311
I41A Arkdale 41.30 80 P P 22 39 11.2 +0.1
baz=312
M38A Pleasantville 41.32 86 P P 22 39 11.4 +0.2
baz=314
AMTX Amarillo 41.49 100 P P 22 39 13.9 +1.1
baz=320
K40A Colesburg 41.55 83 P P 22 39 12.7 -0.4
baz=313
O37A Wolven Farm, M 41.69 88 P P 22 39 14.7 +0.5
baz=315
J41A Loganville 41.69 81 P P 22 39 14.3 0.0
baz=313
N38A Joes South For 41.74 86 P P 22 39 14.9 +0.3
baz=315
M39A Webster 41.83 85 P P 22 39 15.5 +0.1
baz=314
F44A Big Bay de Noc 41.85 75 P P 22 39 15.4 -0.1
baz=311
JFWS Jewell Farm 41.88 82 P P 22 39 15.3 -0.5
baz=313
I42A Draeger Farm, 41.93 80 P P 22 39 16.5 +0.4
baz=313
L40A Anamosa 41.94 83 P P 22 39 15.9 -0.4
baz=314
P37A Lathrop 41.99 88 P P 22 39 16.9 +0.2
baz=316
MNTX Cornudas Mount 42.00 106 P P 22 39 18.6 +1.7
baz=322,SNR=5.4
MNTX Cornudas Mount 42.00 106 eP P 22 39 18.7 +1.8
MNTX epP pP 22 39 31.8 +1.0
K41A Shullsburg 42.06 82 P P 22 39 17.0 -0.3
baz=313
N39A Derby Farms, D 42.07 86 P P 22 39 17.2 -0.2
baz=315
O38A Galt 42.08 87 P P 22 39 17.5 0.0
baz=315
H43A Windswept, Lux 42.14 78 P P 22 39 18.0 +0.1
baz=312
J42A Columbus 42.20 80 P P 22 39 18.3 -0.1
baz=313
L41A Preston 42.32 83 P P 22 39 18.9 -0.5
baz=314
I43A Langenfeld Bro 42.34 79 P P 22 39 19.7 +0.2
baz=313
P38A Dawn 42.40 88 P P 22 39 20.0 -0.1
baz=316,SNR=6.1
Q37A Longview Farm, 42.44 89 P P 22 39 20.2 -0.2
baz=316
K42A Prairie Point, 42.45 81 P P 22 39 20.1 -0.4
baz=313
O39A Kirksville 42.49 86 P P 22 39 21.0 +0.2
baz=315
F45A CMU Biological 42.52 75 P P 22 39 20.6 -0.3
baz=312
J43A Natural Harves 42.54 80 P P 22 39 20.7 -0.4
baz=313
N40A Mertquake, Sal 42.56 85 P P 22 39 21.0 -0.4
baz=315
Q38A Cooks Store, C 42.83 88 P P 22 39 23.3 -0.3
baz=316,SNR=5.6
KLR Kul'dur 42.88 292⇑ eP P 22 39 21.2 -2.6
P39B Salisbury 42.92 87 P P 22 39 23.9 -0.4
baz=316
O40A La Belle 42.95 86 P P 22 39 24.1 -0.4
baz=315
K43A Burlington 43.05 80 P P 22 39 24.5 -0.8
baz=314
N41A Harden Midland 43.08 84 P P 22 39 25.0 -0.6
baz=315
DAG Danmarks Havn 43.21 14 *i* P P 22 39 25.6 -0.5
DAG pmax pmax
comp=Z,4.0nm,0.6s
DAG Danmarks Havn 43.21 14 *i* P P 22 39 25.6 -0.5
comp=Z,3.7nm,0.6s
R38A Fenwick Farm, 43.23 90 P P 22 39 25.9 -0.9
baz=317
P40A Paris 43.27 87 P P 22 39 26.7 -0.5
baz=316
N42A Yates City 43.44 84 P P 22 39 27.8 -0.6
baz=315
O41A Passleys Farm, 43.49 85 P P 22 39 28.0 -0.8
baz=315
M43A Waltham Townsh 43.59 82 P P 22 39 28.7 -0.9
baz=314
R39A Chumby, Stover 43.61 89 P P 22 39 29.5 -0.4
baz=317
S38A Stockton 43.64 90 P P 22 39 29.0 -1.1
baz=317
Q40A Laux Farm, Aux 43.64 87 P P 22 39 29.5 -0.7
baz=316
P41A Barry, Barry 43.70 86 P P 22 39 30.1 -0.5
baz=316
T38A Diamond 43.87 91 P P 22 39 31.4 -0.6
baz=318,SNR=5.3
S39A Bolivar 43.91 90 P P 22 39 31.1 -1.2
baz=317
HDIL Hopedale 44.03 83 P P 22 39 32.9 -0.3
baz=315
R40A Maddies Statio 44.05 88 P P 22 39 32.5 -0.8
baz=317,SNR=7.2
Q41A Truxton 44.13 87 P P 22 39 33.4 -0.6
baz=316
O43A Sugar Creek Fa 44.21 84 P P 22 39 34.2 -0.4
baz=315
ABTX Abilene, Hawle 44.31 100 P P 22 39 35.8 +0.2
baz=321
T39A Clever 44.37 90 P P 22 39 35.1 -0.9
baz=318,SNR=5.5
S40A Lebanon 44.42 89 P P 22 39 35.9 -0.5
baz=317
N44A Piper City 44.48 82 P P 22 39 36.3 -0.5
baz=315
R41A Rosebud 44.52 87 P P 22 39 36.4 -0.7
baz=317
P43A Skaggs, Pawnee 44.56 84 P P 22 39 36.9 -0.5
baz=316
SPITS Spitsbergen Ar 44.57 3 P P 22 39 36.6 -0.5
comp=Z,1.3nm,0.3s,baz=296,slow=7.9,SNR=37
T40A Mansfield 44.74 89 P P 22 39 38.1 -0.8
baz=317
O44A Mansfield 44.76 83 P P 22 39 38.3 -0.8
baz=316
CCM Cathedral Cave 44.77 87 P P 22 39 38.0 -1.2
baz=317
CCM Cathedral Cave 44.77 87 eP P 22 39 38.7 -0.4
CCM pmax pmax
comp=Z,15nm,1.5s
CCM Cathedral Cave 44.77 87 eP P 22 39 38.7 -0.4
comp=Z,15nm,1.5s
TX31 Lajitas Ar. Si 44.78 107 eP P 22 39 40.5 +1.1
TX31 epP pP 22 39 53.8 +0.4
TXAR Lajitas Array 44.78 107 P P 22 39 40.6 +1.2
comp=Z,1.3nm,0.8s,baz=324,slow=6.2,SNR=8.6
TXAR LR LR 22 57 35.9
comp=Z,52nm,18.2s,baz=0.0,slow=35
U39A Green Forest 44.79 91 P P 22 39 38.2 -1.1
baz=318
S41A Jillco Farms, 44.84 88 P P 22 39 38.7 -1.0
baz=317,SNR=12
R42A Luebbering 44.85 87 P P 22 39 39.4 -0.4
baz=317
Q43A New Douglas 44.97 85 P P 22 39 40.5 -0.1
baz=316,SNR=6.5
M46A Old House Fiel 45.01 80 P P 22 39 40.6 -0.4
baz=315
O45A Potomac 45.09 82 P P 22 39 41.6 0.0
baz=316
V39A Pettigrew 45.10 92 P P 22 39 41.7 -0.2
baz=318
U40A Yellville 45.15 90 P P 22 39 41.5 -0.7
baz=318
P44A Sand Creek, Wi 45.17 84 P P 22 39 42.2 -0.1
baz=316,SNR=5.4
S42A Caledonia 45.22 87 P P 22 39 42.4 -0.3
baz=317
T41A Mountain View 45.23 89 P P 22 39 41.9 -0.9
baz=318
R43A Red Bud 45.32 86 P P 22 39 42.9 -0.6
baz=317
SFIN Lafayette 45.34 82 P P 22 39 43.6 0.0
baz=316
W39A Magazine 45.51 92 P P 22 39 44.5 -0.5
baz=319
V40A Witts Springs 45.57 91 P P 22 39 44.6 -1.0
baz=318
P45A Graceland, Par 45.60 83 P P 22 39 45.3 -0.3
baz=316
SCHQ Schefferville 45.60 54 P P 22 39 45.5 -0.1
comp=Z,3.8nm,0.6s,baz=320,slow=7.2,SNR=14
SCHQ LR LR 22 59 41.6
comp=Z,61nm,20.4s,baz=9.0,slow=37
T42A Van Buren 45.60 88 P P 22 39 44.4 -1.3
baz=318
S43A Fulton Ridge, 45.76 87 P P 22 39 46.5 -0.5
baz=317,SNR=6.8
LPIG La Paz 45.77 118 LR LR 22 55 04.9
comp=Z,61nm,21.5s,baz=9.0,slow=31
R44A Waltonville 45.80 86 P P 22 39 48.2 +0.9
baz=317
P46A Rosedale 45.82 83 P P 22 39 47.3 -0.1
baz=316
Q45A Warren Harvey, 45.83 84 P P 22 39 47.3 -0.2
baz=316
X39A Fountain Ranch 45.84 93 P P 22 39 47.8 +0.1
baz=319
JCT Junction City 45.90 102 P P 22 39 48.8 +0.6
baz=322
JCT Junction City 45.90 102 eP P 22 39 49.3 +1.1
JCT pmax pmax
comp=Z,12nm,1.0s
JCT Junction City 45.90 102 eP P 22 39 49.3 +1.1
comp=Z,12nm,1.0s
O47A Sheridan 45.93 81 P P 22 39 47.7 -0.6
baz=316
V41A Mountainview 45.95 90 P P 22 39 47.2 -1.3
baz=318
T43A Greenville 46.00 88 P P 22 39 48.3 -0.5
baz=318
MIAR Mount Ida 46.11 93 eP P 22 39 50.1 +0.4
MIAR pmax pmax
comp=Z,4.0nm,0.8s
MIAR Mount Ida 46.11 93 eP P 22 39 50.1 +0.4
comp=Z,4.1nm,0.8s
S44A Carbondale 46.11 86 P P 22 39 49.1 -0.6
baz=317
Q46A CEJHS Indians, 46.17 83 P P 22 39 49.8 -0.3
baz=316
R45A Skylar, Fairfi 46.20 85 P P 22 39 50.1 -0.3
baz=317
P47A Martinsville 46.42 82 P P 22 39 51.8 -0.3
baz=316,SNR=5.1
S45A Carrier Mills 46.49 86 P P 22 39 52.4 -0.3
baz=317
X40A Basin Creek Fa 46.55 92 P P 22 39 52.7 -0.5
baz=319
R46A Gibon Southern 46.67 84 P P 22 39 53.8 -0.3
baz=317
Q47A Bedord North L 46.73 83 P P 22 39 54.4 -0.1
baz=316,SNR=8.0
S46A Don Dixon Farm 46.95 85 P P 22 39 56.1 -0.1
baz=317
U44B Burton Farm, H 47.05 88 P P 22 39 57.0 -0.1
baz=318
R47A Wooly Knot Far 47.14 83 P P 22 39 57.3 -0.5
baz=317
WCI Wyandotte Cave 47.32 83 P P 22 39 58.4 -0.7
baz=317
T46A Princeton 47.32 86 P P 22 39 59.1 -0.1
baz=318,SNR=5.6
140A Cam and Jess, 47.55 94 P P 22 39 59.7 -1.4
baz=320
ACSO Alum Creek Sta 47.64 79 P P 22 40 00.7 -0.9
baz=316
U46A Springville 47.67 87 P P 22 40 01.9 0.0

	baz=318								
T47A	**Sharon Grove**	47.79	85	P		P	22 40 02.8	0.0	
	baz=318								
S48A	**Wiedeman Farm,**	47.86	84	P		P	22 40 03.2	-0.2	
	baz=317								
WVT	**Waverly**	48.03	86	P		P	22 40 04.9	+0.2	
	baz=318								
WVT	**Waverly**	48.03	86	*e*P		P	22 40 04.9	+0.2	
WVT				pmax		pmax			
	comp=Z,8.0nm,0.6s								
WVT	**Waverly**	48.03	86	*e*P		P	22 40 04.9	+0.2	
	comp=Z,7.5nm,0.6s								
T48A	**Bowling Green**	48.08	84	P		P	22 40 04.9	-0.1	
	baz=318								
U47A	**Clarksville**	48.09	86	P		P	22 40 05.3	+0.2	
	baz=318								
V46A	**Holladay**	48.12	87	P		P	22 40 05.5	+0.1	
	baz=318,SNR=16								
MJAR	**Matsushiro Arr**	48.31	275	P		P	22 40 05.2	-1.6	
	comp=Z,0.7nm,0.4s,baz=26,slow=5.6,SNR=4.7								
OXF	**Oxford**	48.39	89	P		P	22 40 07.6	+0.1	
	baz=319								
V47A	**Nunnelly**	48.42	86	P		P	22 40 07.8	+0.1	
	baz=318,SNR=8.5								
U48A	**Cassie Pea, Po**	48.45	85	P		P	22 40 07.8	-0.1	
	baz=318								
M54A	**Oil Creek Stat**	48.47	75	P		P	22 40 08.0	-0.1	
	baz=316								
W46A	**Michie**	48.48	88	P		P	22 40 08.5	+0.3	
	baz=319								
PLAL	**Pickwick Lake**	48.76	88	*e*P		P	22 40 10.6	+0.3	
	comp=Z,31nm,0.9s								
X46A	**Booneville**	48.80	88	P		P	22 40 10.6	0.0	
	baz=319,SNR=5.9								
W47A	**Westpoint**	48.81	87	P		P	22 40 10.9	+0.2	
	baz=319								
V48A	**Smith Brothers**	48.87	86	P		P	22 40 11.3	+0.2	
	baz=318								
Y46A	**Houston**	49.16	89	P		P	22 40 14.0	+0.6	
	baz=319								
342A	**Flagon Creek P**	49.20	94	P		P	22 40 14.7	+1.0	
	baz=321								
X47A	**Russelville**	49.22	88	P		P	22 40 14.0	+0.1	
	baz=319								
W48A	**Pulaski**	49.26	87	P		P	22 40 14.1	0.0	
	baz=319								
244A	**Avery, Jackson**	49.58	92	P		P	22 40 17.3	+0.7	
	baz=320								
Y47A	**UCPARC, Winfie**	49.69	88	P		P	22 40 17.6	+0.1	
	baz=319								
X48A	**Hartselle**	49.71	87	P		P	22 40 17.2	-0.4	
	baz=319								
MCWV	**Mont Chateau**	49.72	77	P		P	22 40 17.2	-0.4	
	baz=317								
O56A	**Blue Knob Stat**	49.94	76	P		P	22 40 18.4	-0.9	
	baz=317								
146A	**Union**	50.00	90	P		P	22 40 20.1	+0.3	
	baz=320								
SSPA	**Standing Stone**	50.03	75	P		P	22 40 19.5	-0.5	
	baz=317								
TZTN	**Tazewell**	50.03	83	P		P	22 40 19.8	-0.2	
	baz=318								
Y48A	**Jasper**	50.05	88	P		P	22 40 19.8	-0.4	
	baz=320								
X49A	**Woodville**	50.06	87	P		P	22 40 19.9	-0.3	
	baz=319								
Z48A	**Northport**	50.25	89	P		P	22 40 21.3	-0.4	
	baz=320								
147A	**Livingston**	50.40	90	P		P	22 40 22.6	-0.2	
	baz=320								
X50A	**Fort Payne**	50.46	86	P		P	22 40 22.9	-0.4	
	baz=319								
Y49A	**Blount Mountai**	50.51	87	P		P	22 40 23.2	-0.5	
	baz=320								
TKL	**Tuckaleechee C**	50.57	84	P		P	22 40 23.7	-0.4	
	comp=Z,2.6nm,0.6s,baz=160,slow=3.6,SNR=6.0								
TKL				LR		LR	23 01 42.6		
	comp=Z,81nm,20.4s,baz=337,slow=36								
247A	**Quitman**	50.69	91	P		P	22 40 25.6	+0.6	
	baz=320								
445A	**Amite**	50.78	93	P		P	22 40 26.2	+0.5	
	baz=321								
148A	**Greensboro**	50.80	89	P		P	22 40 25.1	-0.7	
	baz=320								
LRAL	**Lakeview Retre**	50.81	88	P		P	22 40 25.5	-0.4	
	baz=320								
Y50A	**Piedmont**	50.85	87	P		P	22 40 25.8	-0.4	
	baz=320								
Z49A	**Columbiana**	50.94	88	P		P	22 40 26.3	-0.6	
	baz=320								
BLA	**Blacksburg**	51.21	80	P		P	22 40 28.4	-0.5	
	baz=318								
Z50A	**Ashland**	51.23	87	P		P	22 40 28.3	-0.8	
	baz=320								
149A	**Jones**	51.26	89	P		P	22 40 28.8	-0.5	
	baz=320								
249A	**Camden**	51.56	89	P		P	22 40 31.2	-0.3	
	baz=320								
150A	**Eclectic**	51.67	88	P		P	22 40 31.3	-1.0	
	baz=320								
KMSC	**Kings Mountain**	52.27	82	P		P	22 40 36.2	-0.6	
	baz=319								
251A	**Midway**	52.39	88	P		P	22 40 35.9	-1.9	
	baz=320								
GOGA	**Godfrey**	52.44	85	P		P	22 40 37.1	-1.0	
	baz=320								
KSRS	**Korea Array**	53.12	283	P		P	22 40 42.5	-0.6	
	comp=Z,1.7nm,0.6s,baz=39,slow=7.2,SNR=4.8								
KSRS				LR		LR	23 01 01.9		
	comp=Z,11nm,21.2s,baz=46,slow=34								
KSAR	**Wonju Array Be**	53.15	284	P		P	22 40 42.5	-0.8	
KSAR	**Wonju Array Be**	53.15	284	P		P	22 40 42.5	-0.8	
ARCES	**ARCESS Array B**	53.38	0	P		P	22 40 43.2	-1.3	
	comp=Z,1.3nm,0.6s,baz=12,slow=6.6,SNR=9.1								
ARCES				PcP		PcP	22 41 53.2	+2.0	
	comp=Z,3.4nm,0.8s,baz=0.0,slow=4.9,SNR=5.7								
TLY	**Talaya**	54.04	311	*e*P		P	22 40 49.1	-0.5	
TLY				pmax		pmax			
	comp=Z,8.0nm,3.7s								
TLY				MLR		MLR			
	comp=Z,41nm,16.0s								
JNU	**Nakatsue**	54.83	278	LR		LR	23 05 40.8		
	comp=Z,12nm,20.9s,baz=117,slow=38								
ULN	**Ulaanbaatar**	55.49	306	*de*P		P	22 40 59.4	-0.9	
ULN				pmax		pmax			
	comp=Z,2.0nm,1.7s								
SONA1	**Songino Array**	55.79	307	*e*P		P	22 41 01.9	-0.6	
SONM	**Songino Array**	55.80	307	P		P	22 41 02.0	-0.5	
	comp=Z,5.3nm,0.6s,baz=40,slow=5.6,SNR=46								
HHC	**Hu-ho-te**	58.81	298	*e*P		P	22 41 29.0	+5.2	
ZAA0	**Zalesovo Array**	59.09	324	*e*P		P	22 41 24.9	-0.6	
	comp=Z,3.5nm,0.9s								
ZALV	**Zalesovo Beam**	59.09	324	P		P	22 41 24.5	-0.9	
	comp=Z,1.7nm,0.5s,baz=36,slow=6.5,SNR=11								
ZALV				LR		LR	23 07 18.5		
	comp=Z,30nm,18.4s,baz=68,slow=37								
ZALV	**Zalesovo Beam**	59.09	324	*e*P		P	22 41 24.4	-1.0	
ZALV	**Zalesovo Beam**	59.09	324	*e*P		P	22 41 24.4	-1.0	
NB2	**NORSAR Subarra**	61.37	8	P		P	22 41 40.8	-0.2	
	comp=Z,1.6nm,0.5s,baz=351,slow=6.9								
NB2	**NORSAR Subarra**	61.37	8	P		P	22 41 40.7	-0.2	
NB2				pmax		pmax			
	comp=Z,1.0nm,0.5s								
NOA	**NORSAR Array B**	61.37	8	P		P	22 41 41.4	+0.5	
	comp=Z,1.9nm,0.5s,baz=7.6,slow=6.7,SNR=11								
FINES	**FINESS Array B**	61.51	360	P		P	22 41 41.3	-0.5	
	comp=Z,1.9nm,0.5s,baz=11,slow=8.3,SNR=32								
FINES	**FINESS Array B**	61.51	360	*i* P		P	22 41 41.5	-0.3	
FINES				pmax		pmax			
	comp=Z,2.0nm,0.5s								
KLMR	**Klimovskoe**	61.61	352	*e*P		P	22 41 39.5	-2.9	
KLMR				pmax		pmax			
	comp=Z,11nm,1.2s								
KLMR	**Klimovskoe**	61.61	352	*e*P		P	22 41 39.6	-2.9	
KLMR				AMP			22 41 43.8		
	comp=Z,11nm,1.2s								
DGZ	**Jazzator, Alta**	61.79	320	*ce*P		P	22 41 43.7	-0.4	
DGZ				pmax		pmax			
	comp=Z,1.0nm,1.7s								
HFS	**Hagfors**	62.44	7	P		P	22 41 48.0	-0.1	
	comp=Z,5.4nm,0.4s,baz=4.3,slow=5.8,SNR=74								
ARU	**Arti**	63.50	340	*c i*P		P	22 41 53.7	-1.4	
ARU				S		S	22 50 27.8	+3.9	
ARU				SS		SS	22 54 28.9	-1.7	
ARU				pmax		pmax			
	comp=Z,14nm,1.7s								
ARU	**Arti**	63.50	340	*e*P		P	22 41 53.9	-1.2	
	comp=Z,7.4nm,0.5s								
KURK	**Kurchatov**	63.82	326	*ce*P		P	22 41 56.1	-1.2	
KURK				pmax		pmax			
	comp=Z,21nm,1.2s								
KURK	**Kurchatov**	63.82	326	*e*P		P	22 41 56.7	-0.6	
	comp=Z,3.0nm,0.6s								
KURBB	**Kurchatov Arra**	63.93	326	P		P	22 41 57.0	-1.0	
	comp=Z,2.5nm,0.5s,baz=28,slow=6.6,SNR=12								
BRVK	**Borovoye**	64.07	332	*ce*P		P	22 41 57.9	-1.0	
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BVAR	**Borovoye Array**	64.07	332	P		P	22 41 58.0	-1.0	
	comp=Z,6.2nm,0.5s,baz=32,slow=7.0,SNR=45								
BVAR	**Borovoye Array**	64.07	332	P		P	22 41 58.0	-1.0	
EKA	**Eskdalemuir Ar**	65.23	18	P		P	22 42 06.5	0.0	
	comp=Z,0.8nm,0.4s,baz=332,slow=5.5,SNR=11								
GTA	**Gaotai**	65.38	305	*e*P		P	22 42 07.0	-0.9	
GTA				pP		pP	22 42 15.0	-7.6	
GTA				sP		sP	22 42 18.0	-11	
GTA				S		S	22 50 52.0	+4.0	
MK31	**Makanchi Array**	66.06	321	*e*P		P	22 42 10.9	-1.1	
MK31	**Makanchi Array**	66.06	321	*e*P		P	22 42 10.9	-1.1	
MKAR	**Makanchi Array**	66.06	321	P		P	22 42 10.7	-1.3	
	comp=Z,3.9nm,0.4s,baz=28,slow=6.1,SNR=128								
MKAR				LR		LR	23 14 36.7		
	comp=Z,31nm,20.3s,baz=2.5,slow=39								
MKAR	**Makanchi Array**	66.06	321	*ce*P		P	22 42 10.8	-1.2	
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.4s								
MKAR	**Makanchi Array**	66.06	321	*e*P		P	22 42 10.9	-1.2	
	comp=Z,38nm,0.4s								
MK01	**Makanchi Array**	66.08	321	*e*P		P	22 42 10.7	-1.5	
MAKZ	**Makanchi**	66.16	321	*e*P		P	22 42 11.5	-1.1	
MAKZ				pmax		pmax			
	comp=Z,6.0nm,0.4s								
MAKZ	**Makanchi**	66.16	321	*e*P		P	22 42 11.5	-1.1	
	comp=Z,5.7nm,0.4s								
LZH	**Lanzhou**	66.26	300	*e*P		P	22 42 18.5	+4.9	
LZH				pP		pP	22 42 25.5	-2.8	
LZH				sP		sP	22 42 28.8	-5.5	
LZH				*e*PP		PP	22 44 46.3	+6.9	
WMQ	**Urumqi**	66.68	316	*e*P		P	22 42 22.5	+6.4	
OBN	**Obninsk**	67.52	353	*i* P		P	22 42 20.4	-0.6	
OBN				*i*			22 42 42.7		
OBN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KLNR	**Kaliningrad**	68.28	3	*e*P		P	22 42 25.6	-0.2	
ABKAR	**Akbulak array**	70.02	337	*e*P		P	22 42 36.0	-0.7	
	comp=Z,48nm,0.6s								
TKM2	**Tokmak 2**	71.70	324	P		P	22 42 47.2	-0.1	
	SNR=11								
KDJ	**Kajisay**	71.89	322	P		P	22 42 48.5	0.0	
KDJ				pmax		pmax			
	comp=Z,4.0nm,0.8s								
PVCC	**Panska Ves**	72.06	7	*e*P		P	22 42 51.0	+1.9	
PVCC	**Panska Ves**	72.06	7	*e*P		P	22 42 51.0	+1.9	
KBK	**Karagaybulak**	72.15	324	P		P	22 42 50.2	+0.3	
	SNR=9.0								
NKC	**Novy Kostel**	72.19	9	*e*P		P	22 42 51.9	+2.0	
NKC	**Novy Kostel**	72.19	9	*e*P		P	22 42 51.9	+2.0	
AKASG	**Malin Array Be**	72.24	358	P		P	22 42 49.5	-0.6	
	comp=Z,4.3nm,0.4s,baz=5.9,slow=6.0,SNR=29								
AKASG	**Malin Array Be**	72.24	358	*ce*P		P	22 42 49.5	-0.6	
AKASG				pmax		pmax			
	comp=Z,5.0nm,0.4s								
AKBB	**Malin Array Si**	72.24	358	*e*P		P	22 42 49.6	-0.5	
	comp=Z,11nm,0.4s								
KIEV	**Kiev**	72.25	358	*c i*P		P	22 42 49.5	-0.6	
KIEV				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KIEV	**Kiev**	72.25	358	*e*P		P	22 42 49.0	-1.1	
	comp=Z,9.5nm,0.5s								
AK11	**Malin Array Si**	72.27	358	*e*P		P	22 42 49.8	-0.5	
AAK	**Ala-Archa**	72.31	324	*c i*P		P	22 42 50.5	-0.4	
AAK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
AAK	**Ala-Archa**	72.31	324	P		P	22 42 51.1	+0.2	
	SNR=8.5								
AAK	**Ala-Archa**	72.31	324	*e*P		P	22 42 51.0	+0.2	
	comp=Z,4.6nm,0.8s								
DPC	**Dobruska-Polom**	72.35	6	*e*P		P	22 42 52.4	+1.5	
DPC				*e*			22 43 04.6		
DPC				*e*			22 43 13.0		
DPC	**Dobruska-Polom**	72.35	6	*e*P		P	22 42 52.4	+1.5	
DPC				*ep*P		PcP	22 43 04.6	-4.0	
DPC				*ex*		x	22 43 13.0		
EKS2	**Erkin-Say**	72.51	325	P		P	22 42 52.4	+0.3	
	SNR=12								
KZA	**Kyzart**	72.57	324	P		P	22 42 53.0	+0.2	
	SNR=5.5								
NRN	**Naryn**	72.91	323	P		P	22 42 55.2	+0.5	
NRN				pmax		pmax			
	comp=Z,4.0nm,0.7s								
AML	**Almayashu**	73.02	325	P		P	22 42 55.9	+0.5	
	SNR=9.5								
KKAR	**Karatay Array**	73.09	327	*e*P		P	22 42 55.1	-0.3	
KKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KKAR	**Karatay Array**	73.09	327	*e*P		P	22 42 55.1	-0.3	
	comp=Z,1.1nm,0.5s								
KHC	**Kasperske Hory**	73.38	8	*e*P		P	22 42 58.7	+1.8	
KHC				*e*			22 43 05.5		
KHC				*e*			22 43 10.7		
KHC	**Kasperske Hory**	73.38	8	*e*P		P	22 42 58.7	+1.8	
KHC				*ex*		x	22 43 05.5		
KHC				*ep*P		PcP	22 43 10.7	-2.3	
GEC2	**GERESS Array S**	73.67	8	*e*P		P	22 42 59.3	+0.6	
GEC2				*e**PP		PcP	22 43 12.5	-1.8	
GEC2	**GERESS Array S**	73.67	8	*e*P		P	22 42 59.3	+0.6	
GEC2				*ep*P		PcP	22 43 12.5	-1.8	
GERES	**GERESS Array B**	73.67	8	P		P	22 42 59.6	+0.8	
	comp=Z,1.9nm,0.6s,baz=354,slow=4.9,SNR=11								
GEA0	**GERESS Array S**	73.68	8	*e*P		P	22 42 59.5	+0.7	
VYHS	**Vyhne**	74.33	5	*e*P		P	22 43 02.9	+0.4	
VYHS	**Vyhne**	74.33	5	*e*P		P	22 43 02.9	+0.4	
KSH	**Kashi**	74.64	322	P		P	22 43 07.3	+2.7	
KSH				pP		PcP	22 43 13.5	-5.2	
KSH				PcP		pP	22 43 20.5	+0.9	
KSH				S		S	22 52 37.5	+1.3	
KSH				sS		pS	22 52 47.8	-6.8	
CONA	**Conrad Observa**	74.74	7	P		P	22 43 06.4	+1.4	
	comp=Z,0.9nm,0.4s								
MOTA	**Moosalm**	74.93	10	*i* P		P	22 43 08.0	+1.8	
	comp=Z,0.7nm,0.3s								
WATA	**Walderalm**	74.99	10	*i* P		P	22 43 08.4	+2.0	
	comp=Z,1.8nm,0.4s								
KBA	**Koelnbreinsper**	75.40	9	*i* P		P	22 43 09.9	+1.1	
	comp=Z,5.4nm,0.4s								
OBKA	**Obir**	76.06	8	*i* P		P	22 43 13.6	+1.1	
	comp=Z,5.5nm,0.4s								
KIV	**Kislovodsk**	78.03	348	*e*P		P	22 43 23.5	-0.2	
KIV				pmax		pmax			
	comp=Z,8.0nm,1.1s								
KIV	**Kislovodsk**	78.03	348	*e*P		P	22 43 24.0	+0.3	
	comp=Z,6.7nm,0.5s								
KBZ	**Khabaz**	78.23	347	P		P	22 43 25.2	+0.6	
	comp=Z,2.1nm,0.5s,baz=289,slow=2.6,SNR=15								
KBZ				LR		LR	23 21 55.2		
	comp=Z,15nm,19.0s,baz=54,slow=39								
NCK	**Nalchik**	78.38	347	*e*P		P	22 43 25.7	+0.2	
NCK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
DAV	**Davao City (W)**	78.77	266	LR		LR	23 12 22.3		
	comp=Z,17nm,21.7s,baz=222,slow=31								
ES19	**SONSECA Array**	80.12	23	*e*P		P	22 43 36.1	+1.0	
ESDC	**Sonseca Array**	80.13	23	P		P	22 43 36.1	+0.9	
	comp=Z,0.8nm,0.5s,baz=343,slow=5.3,SNR=9.2								
RUSC	**La Rusia**	80.31	94	*e*P		P	22 43 35.9	-1.1	
	comp=Z,3.8nm,1.0s								
TAPN	**Taplejung**	80.92	307	*e*P		P	22 43 39.6	-0.3	
	comp=Z,6.0nm,0.5s								
GEYT	**Alibeck**	81.20	335	P		P	22 43 40.9	0.0	
	comp=Z,1.5nm,0.4s,baz=328,slow=5.3,SNR=5.3								
GEYT				LR		LR	23 26 55.3		
	comp=Z,21nm,19.2s,baz=0.0,slow=41								
GUN	**Gumba**	81.20	309	*e*P		P	22 43 41.0	-0.5	
JIRN	**Jiri**	81.29	309	*e*P		P	22 43 41.8	-0.2	
	comp=Z,20nm,0.5s								
GKN	**Gorkha**	81.64	310	*e*P		P	22 43 43.0	-0.6	
PKI	**Pulchoki**	81.70	309	*e*P		P	22 43 43.4	-0.7	
	comp=Z,4.3nm,0.5s								
RAMN	**Ramite**	81.74	308	*e*P		P	22 43 43.5	-0.7	
	comp=Z,6.4nm,0.4s								
DMN	**Daman**	81.79	310	*e*P		P	22 43 44.3	-0.2	
	comp=Z,6.6nm,0.5s								
PYUN	**Piuthan**	82.23	311	*e*P		P	22 43 46.3	-0.4	
KOLN	**Koldanda**	82.28	311	*e*P		P	22 43 46.6	-0.3	
BRTR	**Keskin Array B**	83.03	354	P		P	22 43 51.2	+0.6	
	comp=Z,0.9nm,0.7s,baz=12,slow=3.6,SNR=4.3								
CMAR	**Chiang Mai Arr**	83.33	294	P		P	22 43 51.0	-1.3	
	comp=Z,1.6nm,0.7s,baz=13,slow=5.6,SNR=14								
CMAR				LR		LR	23 24 24.9		
	comp=Z,9.1nm,18.9s,baz=125,slow=38								
CMAR	**Chiang Mai Arr**	83.33	294	*ce*P		P	22 43 51.5	-0.8	
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
QSPA	**South Pole Qui**	147.17	180	*e*PKPdf		PKPdf	22 51 06.3	+1.9	

IDC 29 22:42:11.5±2.7, 2°50S×136°53E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/42, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=125.4km s-min=27.2km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	17.47	187	P	Pn	22 46 16.4	-0.4
	0.1nm,0.3s,baz=8.1,slow=13,SNR=6.5						
ASAR	**Alice Springs**	21.20	187	P	P	22 46 59.1	+0.2
	1.1nm,0.6s,baz=22,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	68.30	323	P	P	22 53 15.2	+0.7
	0.4nm,0.7s,baz=121,slow=7.4,SNR=4.8						
BVAR	**Borovoye Array**	77.90	326	P	P	22 54 10.8	-0.5
	0.5nm,0.7s,baz=88,slow=7.8,SNR=3.7						

*ISK **29** 23:02:30.8, 39°21N×29°36E, h4km, ML2.2/12*
*CSEM **29** 23:02:31.0±0.2, 39°17N×29°41E, h0km±1km, ML2.7, Error ellipse: s-maj=3.9km s-min=3.2km az=157.0*
*DDA **29** 23:02:31.1, 39°11N×29°38E, h6km, Ml2.7*

ISC 29 23:02:30.8±0.9, 39°17N±0°03×29°42E±0°02, h5km±9km, n33, σ0°36/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	0.10	148	*i* P	Pg	23 02 32.8	-0.2
GDZ				*i* S	Sg	23 02 35.1	+0.7
GDZ	**Gediz**	0.10	148	P	Pg	23 02 32.8	-0.2
GDZ				S	Sg	23 02 35.1	+0.7
TVSB	**Tavsanli**	0.28	7	PG	Pg	23 02 35.7	-0.7
TVSB				SG	Sg	23 02 39.8	-0.3
TVSB	**Tavsanli**	0.28	7	*i* Pg	Pg	23 02 35.7	-0.7
TVSB				*e*Sg	Sg	23 02 39.8	-0.3
SIMA	**Simav-Kutahya**	0.35	256	PG	Pg	23 02 37.6	0.0
SIMA				SG	Sg	23 02 42.4	+0.2
SIMA	**Simav-Kutahya**	0.35	256	*e*Pg	Pg	23 02 37.6	0.0
SIMA				*e*Sg	Sg	23 02 42.4	+0.2
DEMI	**Demirci**	0.56	257	*i* P	Pg	23 02 41.8	+0.2
DEMI				*i* S	Sg	23 02 48.5	-0.4
DEMI	**Demirci**	0.56	257	P	Pg	23 02 41.8	+0.2
DEMI				S	Sg	23 02 48.5	-0.4
DURS	**Dursunbey**	0.85	301	*i* P	Pb	23 02 48.2	+0.1
DURS				*i* S	Sn	23 03 02.9	+0.5
DURS	**Dursunbey**	0.85	301	P	Pb	23 02 48.2	+0.1
KULA	**Kula-Manisa**	0.88	222	PG	Pb	23 02 48.0	-0.6
KULA	**Kula-Manisa**	0.88	222	*e*Pg	Pb	23 02 48.0	-0.6
AUKUT	**KUTAHYA**	0.91	31	*i* P	Pg	23 02 42.6	-5.8
AUKUT				*i* S	Sg	23 02 50.6	-10
SHUT	**Suhut-Afyon**	1.08	124	PN	Pn	23 02 52.7	0.0
SHUT	**Suhut-Afyon**	1.08	124	*e*Pn	Pn	23 02 52.7	0.0
CAVI	**Cavuskoy**	1.08	18	PG	Pb	23 02 51.9	-0.1
CAVI	**Cavuskoy**	1.08	18	*e*Pg	Pb	23 02 51.9	-0.1
BALB	**Balikesir**	1.28	292	PN	Pb	23 02 55.1	-0.2
BALB	**Balikesir**	1.28	292	*e*Pn	Pb	23 02 55.1	-0.2
STEP	**BALIKESIR_Sava**	1.33	279	*i* P	Pg	23 02 56.6	+0.2
STEP				*i* S	Sg	23 03 13.6	-0.1
STEP	**BALIKESIR_Sava**	1.33	279	P	Pg	23 02 56.6	+0.2
STEP				S	Sg	23 03 13.6	-0.1
KCTX	**Karacabey (Bur**	1.37	324	PN	Pb	23 02 56.9	0.0
KCTX	**Karacabey (Bur**	1.37	324	*e*Pn	Pb	23 02 56.9	0.0
ARMT	**Armutlu**	1.46	343	PN	Pb	23 02 58.6	+0.2
ARMT	**Armutlu**	1.46	343	*e*Pn	Pb	23 02 58.6	+0.2
GULT	**Gulveren**	1.52	34	PN	Pg	23 03 00.2	+0.3
GULT	**Gulveren**	1.52	34	*e*Pn	Pg	23 03 00.2	+0.3
SVRH	**Sivrihisar-ESK**	1.66	80	PN	Pg	23 03 02.7	+0.1
SVRH	**Sivrihisar-ESK**	1.66	80	*e*Pn	Pg	23 03 02.7	+0.1
HRT	**Hereke**	1.66	7	PN	Pb	23 03 01.7	-0.2
HRT	**Hereke**	1.66	7	*e*Pn	Pb	23 03 01.7	-0.2
AYDB	**Zeytinkoy-Aydi**	1.71	225	PN	Pb	23 03 02.1	-0.7
AYDB	**Zeytinkoy-Aydi**	1.71	225	*e*Pn	Pb	23 03 02.1	-0.7

**IDC 29 23:08:15.7±8.6, 19°17S×168°57E, h99km±65km, mb3.6/3, mb1 3.8/4, mb1mx3.4/41, mbtmp4.0/4, ML4.3/1, MS3.5/2,

explosion.
*HEL **29** 23:23:04.0±0.0, 67°.83N×20°.22E, h0km, ML1.8, ML2.1(UPP), Explosion*
*BER **29** 23:23:05.0±4.0, 67°.85N×20°.23E, h0km, ML1.5, Suspected explosion*

ISC 29 23:23:04.1±0.8, **67°.83N**±0°.02×**20°.22E**±0°.02, **h0**km, **n49**, σ1§**02**/73, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**19**	P			**Pg**	**23 23 06.3**	**-0.4**
KUA				S			**Sg**	**23 23 08.1**	**-0.3**
KUA	**Kurravaara**	**0.13**	**19**	P			**Pg**	**23 23 06.3**	**-0.4**
KUA				S			**Sg**	**23 23 08.1**	**-0.3**
KUA	**Kurravaara**	**0.13**	**19**	*i* P			**Pg**	**23 23 06.3**	**-0.4**
KUA				*i* S			**Sg**	**23 23 08.1**	**-0.3**
RATU	**Laukkuluspa**	**0.24**	**269**	P			**Pg**	**23 23 08.1**	**-0.5**
RATU	**Laukkuluspa**	**0.24**	**269**	P			**Pg**	**23 23 08.2**	**-0.5**
RATU	**Laukkuluspa**	**0.24**	**269**	*i* P			**Pg**	**23 23 08.2**	**-0.5**
NIKU	**Nikkaluokta**	**0.45**	**275**	P			**Pg**	**23 23 12.1**	**-0.7**
NIKU	**Nikkaluokta**	**0.45**	**275**	P			**Pg**	**23 23 12.1**	**-0.7**
NIKU	**Nikkaluokta**	**0.45**	**275**	*i* P			**Pg**	**23 23 12.1**	**-0.7**
LANU	**Lannavaara**	**0.70**	**71**	P			**Pg**	**23 23 16.9**	**-0.7**
LANU	**Lannavaara**	**0.70**	**71**	P			**Pg**	**23 23 16.9**	**-0.7**
LANU	**Lannavaara**	**0.70**	**71**	*e*P			**Pg**	**23 23 16.9**	**-0.7**
DUNU	**Dundret**	**0.72**	**169**	P			**Pg**	**23 23 17.2**	**-0.8**
DUNU	**Dundret**	**0.72**	**169**	P			**Pg**	**23 23 17.2**	**-0.7**
DUNU	**Dundret**	**0.72**	**169**	*i* P			**Pg**	**23 23 17.2**	**-0.7**
SALU	**Saltoluokta**	**0.80**	**236**	P			**Pg**	**23 23 18.5**	**-0.8**
SALU	**Saltoluokta**	**0.80**	**236**	P			**Pg**	**23 23 18.5**	**-0.8**
SALU	**Saltoluokta**	**0.80**	**236**	*i* P			**Pg**	**23 23 18.5**	**-0.8**
KIF	**Kilpisjarvi**	**1.20**	**10**	Pb			**Pg**	**23 23 26.3**	**-0.8**
KIF	**Kilpisjarvi** SNR=90	**1.20**	**10**	*e*P			**Pn**	**23 23 28.0**	**-0.1**
KIF				Sb			**Sg**	**23 23 42.5**	**-0.1**
KIF	SNR=90			*e*S			**Sg**	**23 23 42.8**	**+0.2**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P			**Pn**	**23 23 28.0**	**-0.1**
KIF				*e*S			**Sg**	**23 23 42.8**	**+0.2**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PB			**Pg**	**23 23 26.4**	**-0.8**
KIF	comp=Z,14nm,0.2s			MSG				23 23 41.9	
KIF				*e*SB			**Sg**	**23 23 42.5**	**-0.1**
PAJU	**Pajala**	**1.38**	**125**	P			**Pg**	**23 23 29.0**	**-1.5**
PAJU	**Pajala**	**1.38**	**125**	P			**Pg**	**23 23 29.0**	**-1.5**
PAJU	**Pajala**	**1.38**	**125**	*e*P			**Pg**	**23 23 29.0**	**-1.5**
HEF	**Hetta** SNR=50	**1.41**	**64**	*e*P			**Pn**	**23 23 29.7**	**-1.4**
HEF				*e*S			**Sg**	**23 23 48.9**	**-0.6**
HEF	SNR=50			Sn			**Sn**	**23 23 53.2**	**+2.8**
HEF	**Hetta**	**1.41**	**64**	*e*P			**Pn**	**23 23 29.7**	**-1.4**
HEF				*e*S			**Sg**	**23 23 48.9**	**-0.6**
HEF	**Hetta**	**1.41**	**64**	*e*PG			**Pn**	**23 23 29.6**	**-1.5**
HEF	comp=Z,8.4nm,0.2s			MSG				23 23 46.9	
HEF				*e*SN			**Sn**	**23 23 53.2**	**+2.8**
KTK1	**Kautokeino** SNR=50	**1.63**	**42**	*e*P			**Pn**	**23 23 33.4**	**-0.6**
KTK1				*e*Sg			**Sn**	**23 23 55.1**	**-0.6**
KTK1	**Kautokeino**	**1.63**	**42**	*e*P			**Pn**	**23 23 33.4**	**-0.6**
KTK1				*e*Sg			**Sn**	**23 23 55.1**	**-0.6**
KTK1	comp=Z,7.1nm,0.3s			IAML				23 23 59.2	
TRO	**Tromso** SNR=50	**1.87**	**346**	*e*P			**Pn**	**23 23 37.6**	**+0.2**
TRO				*e*Sg			**Sb**	**23 24 02.1**	**-0.9**
TRO	**Tromso**	**1.87**	**346**	*e*P			**Pn**	**23 23 37.6**	**+0.2**
TRO				*e*Sg			**Sb**	**23 24 02.1**	**-0.9**
TRO	comp=Z,7.0nm,0.3s			IAML				23 24 04.8	
KALU	**Kalix**	**2.33**	**146**	Pb			**Pn**	**23 23 44.4**	**+0.7**
KALU				Sg			**Sb**	**23 24 15.2**	**-1.1**
KALU	**Kalix** baz=325	**2.33**	**146**	*e*PB			**Pn**	**23 23 44.4**	**+0.7**
KALU				*e*SG			**Sb**	**23 24 15.2**	**-1.1**
TOF	**Tornio**	**2.39**	**136**	Pb			**Pn**	**23 23 45.5**	**+1.1**
TOF				Sg			**Sb**	**23 24 17.1**	**-0.7**
TOF	**Tornio**	**2.39**	**136**	*e*PB			**Pn**	**23 23 45.5**	**+1.1**
TOF	comp=Z,3.2nm,0.2s			MSG				23 24 13.5	
TOF				*e*SG			**Sb**	**23 24 17.1**	**-0.7**
SGF	**Sodankyl**	**2.44**	**96**	Pb			**Pn**	**23 23 46.4**	**+1.2**
SGF				Sb			**Sn**	**23 24 16.8**	**+1.1**
SGF	**Sodankyl** baz=283	**2.44**	**96**	*e*PB			**Pn**	**23 23 46.4**	**+1.2**
SGF				*e*SB			**Sn**	**23 24 16.8**	**+1.1**
LOF	**Lofoten** SNR=90	**2.54**	**280**	*e*Sg			**Sb**	**23 24 23.1**	**+1.0**
LOF	**Lofoten**	**2.54**	**280**	*e*Sg			**Sb**	**23 24 23.1**	**+1.0**
LOF	comp=Z,4.7nm,0.7s			IAML				23 24 28.8	
RNF	**Rovaniemi**	**2.57**	**116**	Pb			**Pn**	**23 23 48.6**	**+1.7**
RNF				Sg			**Sb**	**23 24 22.7**	**-0.3**
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB			**Pn**	**23 23 48.6**	**+1.7**
RNF				*e*SG			**Sb**	**23 24 22.7**	**-0.3**
ARE0	**ARCESS Array S** SNR=50	**2.58**	**46**	*e*P			**Pn**	**23 23 48.2**	**+1.1**
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P			**Pn**	**23 23 48.2**	**+1.1**
ARE0				*e*Sg			**Sn**	**23 24 20.1**	**+0.9**
MOR8	**Moi Rana**	**2.81**	**236**	*e*Sg			**Sb**	**23 24 27.6**	**-2.5**
MOR8	comp=Z,4.6nm,0.3s			IAML				23 24 28.1	
STOK	**Stokkvaagen** SNR=90	**3.19**	**245**	*e*Pg			**Pb**	**23 24 01.6**	**0.0**
STOK	**Stokkvaagen**	**3.19**	**245**	*e*Pg			**Pb**	**23 24 01.6**	**0.0**
KU6	**Riekki**	**4.21**	**111**	Pg			**Pb**	**23 24 19.6**	**+0.6**
KU6	**Riekki** baz=297	**4.21**	**111**	*e*PG			**Pb**	**23 24 19.6**	**+0.6**

IDC 29 23:40:21.1±50.0, **16°.51S**×**176°.50W**, **h0**km, **mb4.2**/3, **mb1 4.3**/3, **mb1mx3.7**/46, **mbtmp4.2**/3, **Error ellipse: s-maj=936.2km s-min=164.4km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.7nm,0.6s,baz=73,slow=11,SNR=4.8	**40.90**	**240**	P			P	23 48 05.8	+0.5
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=96,slow=7.4,SNR=22	**46.69**	**258**	P			P	23 48 51.5	-0.6
ASAR	**Alice Springs** 5.2nm,0.6s,baz=88,slow=8.3,SNR=50	**46.93**	**253**	P			P	23 48 53.9	-0.1

*IGIL **29** 23:44:27.6, 36°.26N×1°.56E, h25km*
*ISCJB **29** 23:44:27.1±0.4, 36°.51N±0°.02×1°.35E±0°.03, h14km, Error ellipse: s-maj=3.5km s-min=2.8km az=152.9*
*CRAAG **29** 23:44:27.4, 36°.39N×1°.54E, Ml3.9*
*INMG **29** 23:44:28.7±0.8, 36°.24N×1°.44E, h31km, ML2.5, Error ellipse: s-maj=5.1km s-min=4.0km az=122.0*
*CSEM **29** 23:44:28.2±0.2, 36°.31N×1°.42E, h20km, ML3.9, Error ellipse: s-maj=6.1km s-min=3.6km az=154.0*
*SFS **29** 23:44:28.0, 36°.25N×1°.56E, h0km, ML4.2*
*MDD **29** 23:44:29.0±0.5, 36°.33N×1°.45E, h18km±9km, mb4.1/34, Error ellipse: s-maj=10.6km s-min=4.8km az=156.0, PRXIMO*
*LDG **29** 23:44:30.6±0.3, 36°.29N×1°.50E, h25km, Ml3.1/6, Error ellipse: s-maj=6.8km s-min=3.0km az=156.0*

ISC 29 23:44:25.9±0.6, **36°.43N**±0°.02×**1°.42E**±0°.03, **h14**km, **n205**, σ2§**69**/283, **5C-3D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.17**	**149**	P			**Pg**	**23 44 31.1**	**+1.2**
EBNR	**Beni Rached**	**0.17**	**149**	P			**Pg**	**23 44 31.1**	**+1.2**
ECHF	**Ech Chlef**	**0.28**	**194**	P			**Pb**	**23 44 33.5**	**+0.8**
ECHF	**Ech Chlef**	**0.28**	**194**	P			**Pb**	**23 44 33.5**	**+0.8**
ECHA	**Ech Chlef**	**0.28**	**189**	P			**Pb**	**23 44 33.5**	**+0.7**
ECHA	**Ech Chlef**	**0.28**	**189**	P			**Pb**	**23 44 33.5**	**+0.7**
EANR	**'Ain N'Sour**	**0.55**	**209**	P			**Pn**	**23 44 38.5**	**-0.8**
EANR	**'Ain N'Sour**	**0.55**	**209**	P			**Pn**	**23 44 38.5**	**-0.8**
EANR	**'Ain N'Sour**	**0.55**	**209**	P			**Pn**	**23 44 38.5**	**-0.8**
OKGL	**Djebel Kef Gue**	**0.74**	**238**	P			**Pn**	**23 44 46.0**	**+4.0**
OKGL	**Djebel Kef Gue**	**0.74**	**238**	P			**Pn**	**23 44 46.0**	**+4.0**
OKGL	**Djebel Kef Gue**	**0.74**	**238**	P			**Pn**	**23 44 46.0**	**+4.0**
OJGS	**Djebel Guires**	**1.07**	**211**	P			**Pb**	**23 44 43.0**	**-3.3**
OJGS	**Djebel Guires**	**1.07**	**211**	P			**Pb**	**23 44 43.0**	**-3.3**
OJGS	**Djebel Guires**	**1.07**	**211**	P			**Pb**	**23 44 43.0**	**-3.3**
OJBR	**Djebel Berber**	**1.22**	**226**	P			**Pn**	23 44 44.0	-4.5
OJBR	**Djebel Berber**	**1.22**	**226**	P			**Pn**	23 44 44.0	-4.5
OJBR	**Djebel Berber**	**1.22**	**226**	P			**Pn**	23 44 44.0	-4.5
EMHD	**Djebel Mahouad**	**1.26**	**100**	P			**Pg**	**23 44 50.4**	**+0.3**
EMHD	**Djebel Mahouad**	**1.26**	**100**	P			**Pg**	**23 44 50.4**	**+0.3**
EMHD	**Djebel Mahouad**	**1.26**	**100**	P			**Pg**	**23 44 50.4**	**+0.3**
ODJA	**Bouhanifia**	**1.69**	**230**	P			**Pn**	23 44 48.0	-7.0
ODJA	**Bouhanifia**	**1.69**	**230**	P			**Pn**	23 44 48.0	-7.0
USTO	**Oran**	**1.74**	**247**	P			**Pg**	**23 45 02.0**	**+2.6**
USTO	**Oran**	**1.74**	**247**	P			**Pg**	**23 45 02.0**	**+2.6**
OTSS	**Djebel Tessala**	**2.14**	**238**	P			**Pn**	23 44 49.0	-12
OTSS	**Djebel Tessala**	**2.14**	**238**	P			**Pn**	23 44 49.0	-12
CART	**Cartagena**	**2.26**	**301**	⇑P			**Pn**	**23 45 03.8**	**+1.0**
CART				S			**Sn**	**23 45 29.4**	**-1.0**
CART	**Cartagena**	**2.26**	**301**	P			**Pn**	**23 45 03.8**	**+1.0**
CART				S			**Sn**	**23 45 29.4**	**-1.0**
EMUR	**La Murta** 7.1nm,0.4s,SNR=18	**2.55**	**304**	⇑P			**Pn**	**23 45 08.5**	**+1.6**
EMUR				S			**Sn**	**23 45 38.5**	**+0.7**
EMUR	**La Murta** 7.1nm,0.4s,SNR=18	**2.55**	**304**	P			**Pn**	**23 45 08.5**	**+1.6**
EMUR				S			**Sn**	**23 45 38.5**	**+0.7**
EIBI	**Ibiza** 13nm,0.1s,SNR=18	**2.59**	**359**	⇓P			**Pn**	**23 45 09.8**	**+2.4**
EIBI				S			**Sn**	**23 45 38.0**	**-0.7**
EIBI	**Ibiza** 13nm,0.1s,SNR=18	**2.59**	**359**	P			**Pn**	**23 45 09.8**	**+2.4**
EIBI				S			**Sn**	**23 45 38.0**	**-0.7**
OLHC	**Oulhaca**	**2.59**	**244**	P			Pn	23 44 49.0	-18
OLHC	**Oulhaca**	**2.59**	**244**	P			Pn	23 44 49.0	-18
AFON	**Font Roja** 1.2nm,0.1s,SNR=9.2	**2.72**	**326**	P			**Pn**	**23 45 12.1**	**+2.8**
AFON				S			**Sn**	**23 45 43.8**	**+1.8**
AFON	**Font Roja** 1.2nm,0.1s,SNR=9.2	**2.72**	**326**	P			**Pn**	**23 45 12.1**	**+2.8**
AFON				S			**Sn**	**23 45 43.8**	**+1.8**
ENIJ	**Nijar** 2.0nm,0.2s,SNR=7.9	**2.97**	**282**	P			**Pn**	**23 45 13.5**	**+0.9**
ENIJ				S			**Sn**	**23 45 47.3**	**-0.7**
ENIJ	**Nijar** 2.0nm,0.2s,SNR=7.9	**2.97**	**282**	P			**Pn**	**23 45 13.5**	**+0.9**
ENIJ				S			**Sn**	**23 45 47.3**	**-0.7**
SET	**Setif**	**3.22**	**93**	P			Pg	23 45 32.0	+4.4
SET	**Setif**	**3.22**	**93**	P			Pg	23 45 32.0	+4.4
ETOB	**Tobarra** 5.5nm,0.3s,SNR=42	**3.23**	**314**	P			**Pn**	**23 45 19.1**	**+2.8**
ETOB				S			**Sn**	**23 45 56.2**	**+1.6**
ETOB	**Tobarra** 5.5nm,0.3s,SNR=42	**3.23**	**314**	P			**Pn**	**23 45 19.1**	**+2.8**
ETOB				S			**Sn**	**23 45 56.2**	**+1.6**
EBER	**Berja** 3.9nm,0.1s,SNR=61	**3.50**	**279**	P			**Pn**	**23 45 22.2**	**+2.2**
EBER				S			**Sn**	**23 46 02.2**	**+0.9**
EBER	**Berja** 3.9nm,0.1s,SNR=61	**3.50**	**279**	P			**Pn**	**23 45 22.2**	**+2.2**
EBER				S			**Sn**	**23 46 02.2**	**+0.9**
ETOS	**Mallorca** 5.8nm,0.2s,SNR=18	**3.51**	**18**	⇓P			**Pn**	**23 45 21.1**	**+1.1**
ETOS				S			**Sn**	**23 46 01.2**	**-0.1**
ETOS	**Mallorca** 5.8nm,0.2s,SNR=18	**3.51**	**18**	P			**Pn**	**23 45 21.1**	**+1.1**
ETOS				S			**Sn**	**23 46 01.2**	**-0.1**
SESP	**Santiago Espad** 9.7nm,0.2s,SNR=18	**3.59**	**299**	⇓P			**Pn**	**23 45 24.7**	**+3.5**
SESP				S			**Sn**	**23 46 06.2**	**+2.7**
SESP	**Santiago Espad** 9.7nm,0.2s,SNR=18	**3.59**	**299**	P			**Pn**	**23 45 24.7**	**+3.5**
SESP				S			**Sn**	**23 46 06.2**	**+2.7**
GORA	**Gorafe** 8.2nm,0.3s,SNR=7.9	**3.73**	**288**	P			**Pn**	**23 45 25.8**	**+2.7**
GORA				S			**Sn**	**23 46 07.5**	**+0.7**
GORA	**Gorafe** 8.2nm,0.3s,SNR=7.9	**3.73**	**288**	P			**Pn**	**23 45 25.8**	**+2.7**
GORA				S			**Sn**	**23 46 07.5**	**+0.7**
EQES	**Quesada** 3.6nm,0.2s,SNR=49	**3.84**	**292**	P			**Pn**	**23 45 28.0**	**+3.3**
EQES				S			**Sn**	**23 46 12.4**	**+2.7**
EQES	**Quesada** 3.6nm,0.2s,SNR=49	**3.84**	**292**	P			**Pn**	**23 45 28.0**	**+3.3**
EQES				S			**Sn**	**23 46 12.4**	**+2.7**
EQUE	**Quentar** 4.2nm,0.3s,SNR=18	**3.98**	**283**	⇑P			**Pn**	**23 45 29.4**	**+2.9**
EQUE				S			**Sn**	**23 46 12.6**	**-0.4**
EQUE	**Quentar** 4.2nm,0.3s,SNR=18	**3.98**	**283**	P			**Pn**	**23 45 29.4**	**+2.9**
EQUE				S			**Sn**	**23 46 12.6**	**-0.4**
ELGU	**Los Guajares,** 2.4nm,0.1s,SNR=7.9	**4.08**	**278**	P			**Pn**	**23 45 30.0**	**+2.0**
ELGU				S			**Sn**	**23 46 16.7**	**+1.1**
ELGU	**Los Guajares,** 2.4nm,0.1s,SNR=7.9	**4.08**	**278**	P			**Pn**	**23 45 30.0**	**+2.0**
ELGU				S			**Sn**	**23 46 16.7**	**+1.1**
EMOS	**Mosqueruela** 1.2nm,0.1s,SNR=73	**4.20**	**340**	P			**Pn**	**23 45 32.7**	**+3.1**
EMOS				S			**Sn**	**23 46 18.5**	**-0.1**
EMOS	**Mosqueruela** 1.2nm,0.1s,SNR=73	**4.20**	**340**	P			**Pn**	**23 45 32.7**	**+3.1**
EMOS				S			**Sn**	**23 46 18.5**	**-0.1**
EGOR	**Sierra Gorda,** 3.5nm,0.3s,SNR=4.0	**4.49**	**280**	P			**Pn**	**23 45 38.2**	**+4.5**
EGOR				S			**Sn**	**23 46 31.4**	**+5.6**
EGOR	**Sierra Gorda,** 3.5nm,0.3s,SNR=4.0	**4.49**	**280**	P			**Pn**	**23 45 38.2**	**+4.5**
EGOR				S			**Sn**	**23 46 31.4**	**+5.6**
ERTA	**Horta de San J** 2.9nm,0.1s,SNR=33	**4.60**	**350**	P			**Pn**	**23 45 38.2**	**+3.2**
ERTA				S			**Sn**	**23 46 27.9**	**-0.3**
ERTA	**Horta de San J** 2.9nm,0.1s,SNR=33	**4.60**	**350**	P			**Pn**	**23 45 38.2**	**+3.2**
ERTA				S			**Sn**	**23 46 27.9**	**-0.3**
EPOB	**Poblet** 3.5nm,0.1s,SNR=18	**4.92**	**357**	⇑P			**Pn**	**23 45 42.1**	**+2.6**
EPOB				S			**Sn**	**23 46 34.0**	**-2.2**
EPOB	**Poblet** 3.5nm,0.1s,SNR=18	**4.92**	**357**	P			**Pn**	**23 45 42.1**	**+2.6**
EPOB				S			**Sn**	**23 46 34.0**	**-2.2**
EMIJ	**Mijas** 1.0nm,0.2s,SNR=9.3	**4.99**	**273**	P			**Pn**	**23 45 41.6**	**+1.2**
EMIJ				S			**Sn**	**23 46 36.1**	**-1.8**
EMIJ	**Mijas** 1.0nm,0.2s,SNR=9.3	**4.99**	**273**	P			**Pn**	**23 45 41.6**	**+1.2**
EMIJ				S			**Sn**	**23 46 36.2**	**-1.8**
EADA	**Adamuz** 0.8nm,0.1s,SNR=7.9	**5.09**	**292**	P			**Pn**	**23 45 44.1**	**+2.3**
EADA				S			**Sn**	**23 46 39.4**	**-0.9**
EADA	**Adamuz** 0.8nm,0.1s,SNR=7.9	**5.09**	**292**	P			**Pn**	**23 45 44.1**	**+2.3**
EADA				S			**Sn**	**23 46 39.4**	**-0.9**
ETOR	**Torete** 0.1nm,0.1s,SNR=4.0	**5.16**	**329**	P			**Pn**	**23 45 47.5**	**+4.8**
ETOR				S			**Sn**	**23 46 43.7**	**+1.6**
ETOR	**Torete** 0.1nm,0.1s,SNR=4.0	**5.16**	**329**	P			**Pn**	**23 45 47.5**	**+4.8**
ETOR				S			**Sn**	**23 46 43.7**	**+1.6**
UCM	**Universidad Co** 1.0nm,0.2s,SNR=7.2	**5.33**	**318**	*e*P			**Pn**	**23 45 49.2**	**+4.1**
ESDC	**Sonseca Array** 0.5nm,0.1s,baz=123,slow=13,SNR=18	**5.34**	**309**	⇑P			**Pn**	**23 45 47.4**	**+2.1**
ESDC				S			**Sn**	**23 46 46.0**	**-0.6**
ESDC	**Sonseca Array** 0.5nm,0.1s,SNR=18	**5.34**	**309**	P			**Pn**	**23 45 47.4**	**+2.1**
ESDC				S			**Sn**	**23 46 46.0**	**-0.6**
CFON	**Fontmartina** 5.5nm,0.2s,SNR=31	**5.38**	**8**	P			**Pn**	**23 45 47.7**	**+1.9**
CFON				S			**Sn**	**23 46 46.0**	**-1.6**
CFON	**Fontmartina** 5.5nm,0.2s,SNR=31	**5.38**	**8**	P			**Pn**	**23 45 47.7**	**+1.9**
CFON				S			**Sn**	**23 46 46.0**	**-1.6**
EMIR	**Miracle** 4.8nm,0.1s,SNR=21	**5.48**	**1**	P			**Pn**	**23 45 50.5**	**+3.4**
EMIR				S			**Sn**	**23 46 49.6**	**-0.3**
EMIR	**Miracle** 4.8nm,0.1s,SNR=21	**5.48**	**1**	P			**Pn**	**23 45 50.5**	**+3.4**
EMIR				S			**Sn**	**23 46 49.6**	**-0.3**
ESAC	**San Caprasio** 3.4nm,0.2s,SNR=4.0	**5.48**	**345**	P			**Pn**	**23 45 51.5**	**+4.3**
ESAC				S			**Sn**	**23 46 50.6**	**+0.5**
ESAC	**San Caprasio** 3.4nm,0.2s,SNR=4.0	**5.48**	**345**	P			**Pn**	**23 45 51.5**	**+4.3**
ESAC				S			**Sn**	**23 46 50.6**	**+0.5**
PAB	**San Pablo** 1.0nm,0.2s,SNR=7.9	**5.52**	**306**	P			**Pn**	**23 45 49.9**	**+2.2**
PAB				S			**Sn**	**23 46 51.5**	**+0.6**
PAB	**San Pablo** 1.0nm,0.2s,SNR=7.9	**5.52**	**306**	P			**Pn**	**23 45 49.9**	**+2.2**
PAB				S			**Sn**	**23 46 51.5**	**+0.6**
ECAB	**El Cabril** 1.2nm,0.2s,SNR=25	**5.70**	**289**	P			**Pn**	**23 45 51.6**	**+1.5**
ECAB				S			**Sn**	**23 46 54.6**	**-0.8**
ECAB	**El Cabril** 1.2nm,0.2s,SNR=25	**5.70**	**289**	P			**Pn**	**23 45 51.6**	**+1.5**
ECAB				S			**Sn**	**23 46 54.6**	**-0.8**
CSOR	**Sort** 3.4nm,0.2s,SNR=21	**5.94**	**358**	P			**Pn**	**23 45 56.7**	**+3.2**
CSOR				S			**Sn**	**23 47 01.5**	**+0.1**
CSOR	**Sort** 3.4nm,0.2s,SNR=21	**5.94**	**358**	P			**Pn**	**23 45 56.7**	**+3.2**
CSOR				S			**Sn**	**23 47 01.5**	**+0.1**
CLLI	**Llivia** 1.9nm,0.2s,SNR=21	**6.05**	**4**	P			**Pn**	**23 45 58.2**	**+3.1**
CLLI				S			**Sn**	**23 47 03.1**	**-1.2**
CLLI	**Llivia** 1.9nm,0.2s,SNR=21	**6.05**	**4**	P			**Pn**	**23 45 58.2**	**+3.1**
CLLI				S			**Sn**	**23 47 03.1**	**-1.2**
GUD	**Guadarrama** 1.8nm,0.4s,SNR=5.8	**6.07**	**316**	P			**Pn**	**23 45 59.0**	**+3.7**
GUD	**Guadarrama** 1.8nm,0.4s,SNR=5.8	**6.07**	**316**	P			**Pn**	**23 45 59.0**	**+3.7**
EJON	**La Jonquera** 1.7nm,0.2s,SNR=7.9	**6.12**	**10**	P			**Pn**	**23 45 59.3**	**+3.5**
EJON				S			**Sn**	**23 47 03.4**	**-2.2**
EJON	**La Jonquera** 1.7nm,0.2s,SNR=7.9	**6.12**	**10**	P			**Pn**	**23 45 59.3**	**+3.5**
EJON				S			**Sn**	**23 47 03.4**	**-2.2**
SJAF	**Saint Jean de** 0.6nm,0.1s,SNR=7.9	**6.15**	**10**	P			**Pn**	**23 45 59.0**	**+2.7**
SJAF				S			**Sn**	**23 47 04.3**	**-2.1**
SJAF	**Saint Jean de** 0.6nm,0.1s,SNR=7.9	**6.15**	**10**	P			**Pn**	**23 45 59.0**	**+2.7**
SJAF				S			**Sn**	**23 47 04.3**	**-2.1**
EMIN	**Mina Concepcio** 1.8nm,0.3s,SNR=10	**6.61**	**284**	P			**Pn**	**23 46 04.4**	**+1.9**
EMIN				S			**Sn**	**23 47 15.3**	**-2.4**
EMIN	**Mina Concepcio** 1.8nm,0.3s,SNR=10	**6.61**	**284**	P			**Pn**	**23 46 04.4**	**+1.9**
EMIN				S			**Sn**	**23 47 15.3**	**-2.4**
ETSF	**Etsaut** 1.4nm,0.3s	**6.64**	**347**	*e*Pn			**Pn**	**23 46 07.7**	**+4.7**
ETSF				*e*Sn			**Sn**	**23 47 19.3**	**+0.8**
ETSF	**Etsaut** 0.7nm,0.3s	**6.64**	**347**	P			**Pn**	**23 46 07.7**	**+4.7**
ETSF				S			**Sn**	**23 47 19.3**	**+0.8**
ETSF	**Etsaut** 0.7nm,0.3s	**6.64**	**347**	P			**Pn**	**23 46 07.7**	**+4.7**
ETSF				S			**Sn**	**23 47 19.3**	**+0.8**
EPF	**Esparros** 4.3nm,0.4s	**6.64**	**353**	*e*Pn			**Pn**	**23 46 07.5**	**+4.4**
EPF				*e*Sn			**Sn**	**23 47 17.2**	**-1.4**
EPF	**Esparros** 2.2nm,0.4s	**6.64**	**353**	P			**Pn**	**23 46 07.5**	**+4.4**
EPF				S			**Sn**	**23 47 17.2**	**-1.4**
EPF	**Esparros** 2.2nm,0.4s	**6.64**	**353**	P			**Pn**	**23 46 07.5**	**+4.4**
EPF				S			**Sn**	**23 47 17.2**	**-1.4**
IELO	**Elcoad** 1.1nm,0.4s,SNR=7.9	**6.72**	**343**	P			**Pn**	**23 46 08.5**	**+4.3**
IELO	**Elcoad** 1.1nm,0.4s,SNR=7.9	**6.72**	**343**	P			**Pn**	**23 46 08.5**	**+4.3**
EORO	**Oroz-Betelu** 0.3nm,0.2s,SNR=7.9	**6.79**	**343**	P			**Pn**	**23 46 08.8**	**+3.7**
EORO	**Oroz-Betelu** 0.3nm,0.2s,SNR=7.9	**6.79**	**343**	P			**Pn**	**23 46 08.8**	**+3.7**
ATE	**Arette** 1.0nm,0.3s,SNR=7.9	**6.84**	**347**	P			**Pn**	**23 46 09.4**	**+3.6**
ATE				S			**Sn**	**23 47 23.0**	**-0.5**
ATE	**Arette** 1.0nm,0.3s,SNR=7.9	**6.84**	**347**	P			**Pn**	**23 46 09.4**	**+3.6**
ATE				S			**Sn**	**23 47 23.0**	**-0.5**
MTLF	**Montolieu** 1.6nm,0.2s,SNR=7.9	**6.93**	**5**	*e*Pn			**Pn**	**23 46 11.0**	**+4.0**
MTLF	**Montolieu**	**6.93**	**5**	P			**Pn**	**23 46 11.0**	**+4.0**
MTLF	**Montolieu**	**6.93**	**5**	P			**Pn**	**23 46 11.0**	**+4.0**
PBAR	**Barrancos** 3.2nm,0.9s	**6.97**	**287**	*e*Pn			**Pn**	**23 46 09.8**	**+2.3**
PBAR				*e*Sn			**Sn**	**23 47 23.9**	**-2.6**
PBAR				A			A	23 47 36.9	
PBAR	**Barrancos** 3.2nm,0.9s	**6.97**	**287**	P			**Pn**	**23 46 09.8**	**+2.3**
PBAR				S			**Sn**	**23 47 23.9**	**-2.6**
PBAR	**Barrancos** 3.2nm,0.9s	**6.97**	**287**	P			**Pn**	**23 46 09.8**	**+2.3**
PBAR				S			**Sn**	**23 47 23.9**	**-2.6**
SJPF	**Ste Jean** 0.9nm,0.2s,SNR=7.9	**6.98**	**344**	*e*Pn			**Pn**	**23 46 12.1**	**+4.5**
SJPF	**Ste Jean**	**6.98**	**344**	P			**Pn**	**23

PVAQ					A	A	23 47 43.9		
	2.8nm,0.8s								
PVAQ	**Vaqueiros**	**7.39**	**280**		P	**Pn**	**23 46 15.3**	**+2.0**	
PVAQ					S	**Sn**	**23 47 34.5**	**-2.4**	
	2.8nm,0.8s								
PVAQ	**Vaqueiros**	**7.39**	**280**		P	**Pn**	**23 46 15.3**	**+2.0**	
PVAQ					S	**Sn**	**23 47 34.5**	**-2.4**	
	2.8nm,0.8s								
PESTR	**Estremoz**	**7.55**	**291**	*e*Pn		**Pn**	**23 46 17.7**	**+2.1**	
PESTR				*e*Sn		**Sn**	**23 47 39.2**	**-1.8**	
PESTR					A	A	23 47 43.9		
	1.3nm,0.6s								
PESTR	**Estremoz**	**7.55**	**291**	*e*Pn		**Pn**	**23 46 17.7**	**+2.1**	
PESTR				*e*Sn		**Sn**	**23 47 39.2**	**-1.8**	
	1.3nm,0.6s								
PBEJ	**Beja**	**7.58**	**285**	*e*Pn		**Pn**	**23 46 17.6**	**+1.7**	
PBEJ	**Beja**	**7.58**	**285**	P		**Pn**	**23 46 17.6**	**+1.7**	
PBEJ	**Beja**	**7.58**	**285**	P		**Pn**	**23 46 17.6**	**+1.7**	
PMRV	**Marv??o**	**7.58**	**296**	*e*Sn		**Sn**	**23 47 41.6**	**-0.1**	
PMRV					A	A	23 47 42.5		
	1.8nm,0.6s								
PMRV	**Marv??o**	**7.58**	**296**	S		**Sn**	**23 47 41.6**	**-0.1**	
	1.8nm,0.6s								
PMRV	**Marv??o**	**7.58**	**296**	S		**Sn**	**23 47 41.6**	**-0.1**	
	1.8nm,0.6s								
ELAN	**Lanestosa**	**7.75**	**333**	P		**Pn**	**23 46 22.9**	**+4.6**	
	1.1nm,0.1s,SNR=30								
ELAN					S	**Sn**	**23 47 45.9**	**0.0**	
	2.6nm,0.5s,SNR=11								
ELAN	**Lanestosa**	**7.75**	**333**	P		**Pn**	**23 46 22.9**	**+4.6**	
	1.1nm,0.1s,SNR=30								
ELAN					S	**Sn**	**23 47 45.9**	**0.0**	
	2.6nm,0.5s,SNR=11								
MESJ	**Messejana**	**7.83**	**283**	*e*P		**Pn**	**23 46 18.7**	**-0.6**	
MESJ	**Messejana**	**7.83**	**283**	*e*P		**Pn**	**23 46 18.7**	**-0.6**	
MESJ	**Messejana**	**7.83**	**283**	P		**Pn**	**23 46 18.7**	**-0.6**	
MESJ	**Messejana**	**7.83**	**283**	P		**Pn**	**23 46 18.7**	**-0.6**	
LASF	**Ste Croix**	**7.86**	**13**	*e*Pn		**Pn**	**23 46 22.7**	**+3.0**	
LASF	**Ste Croix**	**7.86**	**13**	P		**Pn**	**23 46 22.7**	**+3.0**	
LASF	**Ste Croix**	**7.86**	**13**	P		**Pn**	**23 46 22.7**	**+3.0**	
LMR	**La Mourre**	**7.92**	**28**	*e*Pn		**Pn**	**23 46 22.5**	**+1.9**	
LMR				*e*Sn		**Sn**	**23 47 45.2**	**-4.8**	
	1.8nm,0.3s								
LMR	**La Mourre**	**7.92**	**28**	P		**Pn**	**23 46 22.5**	**+1.9**	
LMR				S		**Sn**	**23 47 45.2**	**-4.8**	
	0.9nm,0.3s								
LMR	**La Mourre**	**7.92**	**28**	P		**Pn**	**23 46 22.5**	**+1.9**	
LMR				S		**Sn**	**23 47 45.2**	**-4.8**	
	0.9nm,0.3s								
PMTG	**Montargil**	**8.08**	**292**	*e*Pn		**Pn**	**23 46 25.1**	**+2.3**	
PMTG				*e*Sn		**Sn**	**23 47 51.3**	**-2.7**	
PMTG	**Montargil**	**8.08**	**292**	*e*Pn		**Pn**	**23 46 25.1**	**+2.3**	
PNCL	**Nicolau / Gran**	**8.11**	**285**	*e*Pn		**Pn**	**23 46 25.4**	**+2.2**	
PNCL	**Nicolau / Gran**	**8.11**	**285**	*e*Pn		**Pn**	**23 46 25.4**	**+2.2**	
MVO	**Moncorvo**	**8.12**	**308**	*e*Pn		**Pn**	**23 46 26.2**	**+2.8**	
MVO				*e*Sn		**Sn**	**23 47 54.3**	**-0.6**	
MVO					A	A	23 47 58.6		
	1.8nm,0.8s								
MVO	**Moncorvo**	**8.12**	**308**	P		**Pn**	**23 46 26.1**	**+2.8**	
	1.4nm,0.2s,SNR=7.9								
MVO					S	**Sn**	**23 47 52.2**	**-2.7**	
	0.9nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**8.12**	**308**	P		**Pn**	**23 46 26.1**	**+2.8**	
	1.4nm,0.2s,SNR=7.9								
MVO					S	**Sn**	**23 47 52.2**	**-2.7**	
	0.9nm,0.2s,SNR=7.9								
MVO				*e*Sn		**Sn**	**23 47 54.3**	**-0.6**	
	1.8nm,0.8s								
FRF	**La Foret Royal**	**8.17**	**28**	*e*Pn		**Pn**	**23 46 26.4**	**+2.4**	
FRF				*e*Sn		**Sn**	**23 47 52.0**	**-4.1**	
	1.7nm,0.3s								
FRF	**La Foret Royal**	**8.17**	**28**	P		**Pn**	**23 46 26.4**	**+2.4**	
FRF				S		**Sn**	**23 47 52.0**	**-4.1**	
	0.9nm,0.3s								
FRF	**La Foret Royal**	**8.17**	**28**	P		**Pn**	**23 46 26.4**	**+2.4**	
FRF				S		**Sn**	**23 47 52.0**	**-4.1**	
	0.9nm,0.3s								
SMRF	**Simiane la Rot**	**8.18**	**22**	*e*Pn		**Pn**	**23 46 27.7**	**+3.6**	
SMRF	**Simiane la Rot**	**8.18**	**22**	P		**Pn**	**23 46 27.7**	**+3.6**	
SMRF	**Simiane la Rot**	**8.18**	**22**	P		**Pn**	**23 46 27.7**	**+3.6**	
ECAL	**Calabor**	**8.39**	**313**	P		**Pn**	**23 46 29.9**	**+2.8**	
	1.1nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**8.39**	**313**	P		**Pn**	**23 46 29.9**	**+2.8**	
	1.1nm,0.2s,SNR=7.9								
PGF	**Pioggiola**	**8.46**	**41**	*e*Pn		**Pn**	**23 46 29.6**	**+1.5**	
PGF				*e*Sn		**Sn**	**23 47 58.2**	**-5.2**	
PGF	**Pioggiola**	**8.46**	**41**	P		**Pn**	**23 46 29.6**	**+1.5**	
PGF				S		**Sn**	**23 47 58.2**	**-5.2**	
PGF	**Pioggiola**	**8.46**	**41**	P		**Pn**	**23 46 29.6**	**+1.5**	
PGF				S		**Sn**	**23 47 58.2**	**-5.2**	
CAF	**Calviac**	**8.50**	**3**	*e*Pn		**Pn**	**23 46 31.8**	**+3.3**	
CAF	**Calviac**	**8.50**	**3**	P		**Pn**	**23 46 31.8**	**+3.3**	
CAF	**Calviac**	**8.50**	**3**	P		**Pn**	**23 46 31.8**	**+3.3**	
LFF	**La Frestale**	**8.52**	**357**	*e*Pn		**Pn**	**23 46 31.4**	**+2.7**	
LFF	**La Frestale**	**8.52**	**357**	P		**Pn**	**23 46 31.4**	**+2.7**	
LFF	**La Frestale**	**8.52**	**357**	P		**Pn**	**23 46 31.4**	**+2.7**	
EARI	**Arriondas**	**8.55**	**325**	P		**Pn**	**23 46 33.8**	**+4.6**	
	1.7nm,0.4s,SNR=7.9								
EARI	**Arriondas**	**8.55**	**325**	P		**Pn**	**23 46 33.8**	**+4.6**	
	1.7nm,0.4s,SNR=7.9								
SBF	**Sospel**	**8.73**	**30**	*e*Pn		**Pn**	**23 46 34.1**	**+2.4**	
SBF	**Sospel**	**8.73**	**30**	P		**Pn**	**23 46 34.1**	**+2.4**	
SBF	**Sospel**	**8.73**	**30**	P		**Pn**	**23 46 34.1**	**+2.4**	
VIVF	**Saint-Julien-l**	**8.77**	**15**	*e*Pn		**Pn**	**23 46 35.2**	**+3.0**	
VIVF	**Saint-Julien-l**	**8.77**	**15**	P		**Pn**	**23 46 35.2**	**+3.0**	
VIVF	**Saint-Julien-l**	**8.77**	**15**	P		**Pn**	**23 46 35.2**	**+3.0**	
RJF	**Les Rejaudoux**	**8.86**	**0**	*e*Pn		**Pn**	**23 46 36.2**	**+2.7**	
RJF	**Les Rejaudoux**	**8.86**	**0**	P		**Pn**	**23 46 36.2**	**+2.7**	
RJF	**Les Rejaudoux**	**8.86**	**0**	P		**Pn**	**23 46 36.2**	**+2.7**	
ORIF	**Oris-en-Rattie**	**9.13**	**20**	*e*Pn		**Pn**	**23 46 41.1**	**+3.9**	
ORIF	**Oris-en-Rattie**	**9.13**	**20**	P		**Pn**	**23 46 41.1**	**+3.9**	
ORIF	**Oris-en-Rattie**	**9.13**	**20**	P		**Pn**	**23 46 41.1**	**+3.9**	
MBDF	**Montbardon**	**9.23**	**24**	*e*Pn		Pn	23 46 43.1	+4.5	
MBDF	**Montbardon**	**9.23**	**24**	P		Pn	23 46 43.1	+4.5	
MBDF	**Montbardon**	**9.23**	**24**	P		Pn	23 46 43.1	+4.5	
LPG	**La Plagne**	**9.91**	**22**	*e*Pn		Pn	23 46 52.6	+4.5	
LPG	**La Plagne**	**9.91**	**22**	P		Pn	23 46 52.6	+4.5	
LPG	**La Plagne**	**9.91**	**22**	P		Pn	23 46 52.6	+4.5	
LPL	**La Plagne**	**9.92**	**22**	*e*Pn		Pn	23 46 52.8	+4.6	
LPL	**La Plagne**	**9.92**	**22**	P		Pn	23 46 52.8	+4.6	
LPL	**La Plagne**	**9.92**	**22**	P		Pn	23 46 52.8	+4.6	
MFF	**Saint Martin d**	**10.23**	**354**	*e*Pn		**Pn**	**23 46 54.8**	**+2.6**	
MFF	**Saint Martin d**	**10.23**	**354**	P		**Pn**	**23 46 54.8**	**+2.6**	
MFF	**Saint Martin d**	**10.23**	**354**	P		**Pn**	**23 46 54.8**	**+2.6**	
SGMF	**Saint Gilles**	**12.17**	**347**	*e*Pn		**Pn**	**23 47 21.2**	**+2.4**	
SGMF	**Saint Gilles**	**12.17**	**347**	P		**Pn**	**23 47 21.2**	**+2.4**	
SGMF	**Saint Gilles**	**12.17**	**347**	P		**Pn**	**23 47 21.2**	**+2.4**	
LDF	**La Druitiere**	**12.21**	**355**	*e*Pn		**Pn**	**23 47 23.0**	**+3.8**	
LDF	**La Druitiere**	**12.21**	**355**	*e*Pn		**Pn**	**23 47 23.0**	**+3.8**	
ROSF	**Rostrenen**	**12.39**	**345**	*e*Pn		**Pn**	**23 47 25.0**	**+3.3**	
ROSF	**Rostrenen**	**12.39**	**345**	P		**Pn**	**23 47 25.0**	**+3.3**	
ROSF	**Rostrenen**	**12.39**	**345**	P		**Pn**	**23 47 25.0**	**+3.3**	
FLN	**La Foliniere**	**12.40**	**354**	*e*Pn		**Pn**	**23 47 25.1**	**+3.2**	
FLN	**La Foliniere**	**12.40**	**354**	P		**Pn**	**23 47 25.1**	**+3.2**	
FLN	**La Foliniere**	**12.40**	**354**	P		**Pn**	**23 47 25.1**	**+3.2**	

*ISCJB **29** 23:45:25.9±0.5, 38°50N±0.02×30°75E±0.03, h8km±4km, Error ellipse: s-maj=4.4km s-min=3.9km az=16.6*
*CSEM **29** 23:45:25.6±0.1, 38°50N×30°77E, h8km, ML2.5, Error ellipse: s-maj=3.2km s-min=2.9km az=128.0*
*DDA **29** 23:45:25.7, 38°52N×30°74E, h7km, Ml2.7*
*ISK **29** 23:45:25.3, 38°49N×30°75E, h8km, ML2.5/4*

ISC 29 23:45:25.8±0.9, 38°51N±0.02×30°75E±0.03, h12km±7km, n29, σ0°54/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.16**	**286**	PG	**Pg**	**23 45 29.4**	**-0.3**
SHUT				SG	**Sg**	**23 45 32.1**	**-0.3**
SHUT	**Suhut-Afyon**	**0.16**	**286**	*e*Pg	**Pg**	**23 45 29.4**	**-0.3**
SHUT				*e*Sg	**Sg**	**23 45 32.1**	**-0.3**
BOLV	**Bolvadin**	**0.26**	**36**	*i* P	**Pg**	**23 45 31.6**	**+0.2**
BOLV				*i* S	**Sb**	**23 45 36.5**	**-0.7**
BOLV	**Bolvadin**	**0.26**	**36**	P	**Pg**	**23 45 31.6**	**+0.2**
BOLV				S	**Sb**	**23 45 36.5**	**-0.7**
BAGO	**Egridir - ISPA**	**0.52**	**177**	*i* P	**Pg**	**23 45 35.7**	**-0.3**
BAGO				*i* S	**Sb**	**23 45 44.5**	**0.0**
KZIL	**AFYON_Kizioren**	**0.54**	**243**	*i* P	**Pg**	**23 45 36.5**	**+0.1**
KZIL				*i* S	**Sg**	**23 45 44.0**	**+0.4**
KZIL	**AFYON_Kizioren**	**0.54**	**243**	P	**Pg**	**23 45 36.5**	**+0.1**
KZIL				S	**Sg**	**23 45 44.0**	**+0.4**
ISP	**Isparta**	**0.71**	**195**	PG	**Pg**	**23 45 38.9**	**-0.7**
ISP				SG	**Sg**	**23 45 48.9**	**0.0**
ISP	**Isparta**	**0.71**	**195**	*e*Pg	**Pg**	**23 45 38.9**	**-0.7**
ISP				*e*Sg	**Sg**	**23 45 48.9**	**0.0**
DOGA	**KONYA_Doganhis**	**0.82**	**119**	*i* P	**Pg**	**23 45 41.2**	**-0.6**
DOGA				*i* S	**Sb**	**23 45 53.3**	**-0.1**
DOGA	**KONYA_Doganhis**	**0.82**	**119**	P	**Pg**	**23 45 41.2**	**-0.6**
DOGA				S	**Sb**	**23 45 53.3**	**-0.1**
BRDR	**BURDUR-Merkez**	**0.98**	**214**	*i* P	**Pg**	**23 45 43.8**	**-0.9**
BRDR				*i* S	**Sn**	**23 45 58.8**	**-0.5**
BRDR	**BURDUR-Merkez**	**0.98**	**214**	P	**Pg**	**23 45 43.8**	**-0.9**
BRDR				S	**Sn**	**23 45 58.8**	**-0.5**
ESKT	**Eskisehir**	**1.01**	**4**	*i* P	**Pg**	**23 45 44.1**	**-1.3**
ESKT				*i* S	**Sg**	**23 45 58.4**	**-0.3**
SEYT	**Eskypehyr**	**1.01**	**4**	P	**Pg**	**23 45 44.1**	**-1.3**
SEYT				S	**Sg**	**23 45 58.4**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.05**	**169**	PG	**Pg**	**23 45 45.8**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.05**	**169**	*e*Pg	**Pg**	**23 45 45.8**	**-0.2**
KDHN	**Kadinhani**	**1.07**	**89**	*i* P	**Pg**	**23 45 45.8**	**-0.7**
KDHN				*i* S	**Sn**	**23 46 02.2**	**+0.5**
KDHN	**Kadinhani**	**1.07**	**89**	P	**Pg**	**23 45 45.8**	**-0.7**
KDHN				S	**Sn**	**23 46 02.2**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.11**	**32**	PN	**Pb**	**23 45 47.3**	**+0.1**
SVRH				SN	**Sn**	**23 46 02.8**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.11**	**32**	*e*Pn	**Pb**	**23 45 47.3**	**+0.1**
SVRH				*e*Sn	**Sn**	**23 46 02.8**	**0.0**
TVSB	**Tavsanli**	**1.38**	**313**	PN	**Pb**	**23 45 51.9**	**+0.3**
TVSB				SN	**Sg**	**23 46 10.6**	**+0.4**
TVSB	**Tavsanli**	**1.38**	**313**	*e*Pn	**Pb**	**23 45 51.9**	**+0.3**
TVSB				*e*Sn	**Sg**	**23 46 10.6**	**+0.4**
SIMA	**Simav-Kutahya**	**1.50**	**293**	PN	**Pb**	**23 45 53.7**	**0.0**
SIMA	**Simav-Kutahya**	**1.50**	**293**	*e*Pn	**Pb**	**23 45 53.7**	**0.0**
KULA	**Kula-Manisa**	**1.64**	**271**	PN	**Pn**	**23 45 54.9**	**+0.3**
KULA	**Kula-Manisa**	**1.64**	**271**	*e*Pn	**Pn**	**23 45 54.9**	**+0.3**
GULT	**Gulveren**	**1.93**	**355**	PN	**Pn**	**23 45 59.7**	**+1.1**
GULT	**Gulveren**	**1.93**	**355**	*e*Pn	**Pn**	**23 45 59.7**	**+1.1**

*ISCJB **29** 23:50:52.0±0.5, 39°18N±0°03×29°39E±0°03, h3km±4km, Error ellipse: s-maj=4.8km s-min=4.4km az=1.4*
*CSEM **29** 23:50:51.9±0.1, 39°18N×29°40E, h2km, ML2.6, Error ellipse: s-maj=3.1km s-min=2.5km az=135.0*
*DDA **29** 23:50:51.4, 39°19N×29°40E, h7km, Ml2.6*
*ISK **29** 23:50:51.8, 39°19N×29°36E, h5km, ML2.3/8*

ISC 29 23:50:51.9±1.0, 39°19N±0°02×29°40E±0°02, h4km±9km, n28, σ0°48/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.12**	**148**	*i* P	**Pg**	**23 50 54.0**	**-0.3**
GDZ				*i* S	**Sg**	**23 50 56.6**	**+0.6**
GDZ	**Gediz**	**0.12**	**148**	P	**Pg**	**23 50 54.0**	**-0.3**
GDZ				S	**Sg**	**23 50 56.6**	**+0.6**
TVSB	**Tavsanli**	**0.27**	**10**	PG	**Pg**	**23 50 57.1**	**0.0**
TVSB				SG	**Sg**	**23 51 00.9**	**+0.2**
TVSB	**Tavsanli**	**0.27**	**10**	*e*Pg	**Pg**	**23 50 57.1**	**0.0**
TVSB				*e*Sg	**Sg**	**23 51 00.9**	**+0.2**
SIMA	**Simav-Kutahya**	**0.34**	**252**	PG	**Pg**	**23 50 58.9**	**+0.3**
SIMA				SG	**Sg**	**23 51 03.1**	**0.0**
SIMA	**Simav-Kutahya**	**0.34**	**252**	*e*Pg	**Pg**	**23 50 58.9**	**+0.3**
SIMA				*e*Sg	**Sg**	**23 51 03.1**	**0.0**
DEMI	**Demirci**	**0.55**	**255**	*i* P	**Pg**	**23 51 02.4**	**-0.2**
DEMI				*i* S	**Sg**	**23 51 10.2**	**+0.4**
DEMI	**Demirci**	**0.55**	**255**	P	**Pg**	**23 51 02.4**	**-0.2**
DEMI				S	**Sg**	**23 51 10.2**	**+0.4**
DURS	**Dursunbey**	**0.83**	**300**	*i* P	**Pb**	**23 51 09.1**	**+0.1**
DURS				*i* S	**Sn**	**23 51 24.7**	**+1.5**
DURS	**Dursunbey**	**0.83**	**300**	P	**Pb**	**23 51 09.1**	**+0.1**
KULA	**Kula-Manisa**	**0.89**	**221**	PG	**Pg**	**23 51 09.1**	**+0.1**
KULA				SG	**Sg**	**23 51 20.9**	**+0.4**
KULA	**Kula-Manisa**	**0.89**	**221**	*e*Pg	**Pg**	**23 51 09.1**	**+0.1**
KULA				*e*Sg	**Sg**	**23 51 20.9**	**+0.4**
SHUT	**Suhut-Afyon**	**1.10**	**125**	PN	**Pn**	**23 51 14.3**	**+0.1**
SHUT				SN	**Sn**	**23 51 29.9**	**0.0**
SHUT	**Suhut-Afyon**	**1.10**	**125**	*e*Pn	**Pn**	**23 51 14.3**	**+0.1**
SHUT				*e*Sn	**Sn**	**23 51 29.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**341**	PN	**Pn**	**23 51 16.4**	**+0.3**
MDNY				SN	**Sn**	**23 51 33.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**341**	*e*Pn	**Pn**	**23 51 16.4**	**+0.3**
MDNY				*e*Sn	**Sn**	**23 51 33.6**	**+0.3**
BALB	**Balikesir**	**1.26**	**291**	PN	**Pn**	**23 51 16.1**	**-0.2**
BALB				SN	**Sn**	**23 51 33.6**	**-0.1**
BALB	**Balikesir**	**1.26**	**291**	*e*Pn	**Pn**	**23 51 16.1**	**-0.2**
BALB				*e*Sn	**Sn**	**23 51 33.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.32**	**279**	*i* P	**Pn**	**23 51 16.1**	**-1.1**
STEP				*i* S	**Sb**	**23 51 34.2**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.32**	**279**	P	**Pn**	**23 51 16.1**	**-1.1**
STEP				S	**Sb**	**23 51 34.2**	**-0.4**
KCTX	**Karacabey (Bur**	**1.34**	**323**	PN	**Pg**	**23 51 17.6**	**-0.1**
KCTX				SN	**Sn**	**23 51 36.6**	**+0.8**
KCTX	**Karacabey (Bur**	**1.34**	**323**	*e*Pn	**Pg**	**23 51 17.6**	**-0.1**
KCTX				*e*Sn	**Sn**	**23 51 36.6**	**+0.8**
GULT	**Gulveren**	**1.51**	**34**	PN	**Pg**	**23 51 21.2**	**+0.3**
GULT	**Gulveren**	**1.51**	**34**	*e*Pn	**Pg**	**23 51 21.2**	**+0.3**
HRT	**Hereke**	**1.65**	**7**	PN	**Pb**	**23 51 22.0**	**-0.8**
HRT	**Hereke**	**1.65**	**7**	*e*Pn	**Pb**	**23 51 22.0**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**224**	PN	**Pn**	**23 51 22.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**224**	*e*Pn	**Pn**	**23 51 22.6**	**-0.1**

*IGQ **29** 23:57:13.0±0.6, 2°S±4'×7°9W±', h12km, MLv4.4/3*
*ISCJB **29** 23:57:15.2±0.6, 2°07S±0°03×78°67W±0°05, h36km±5km, mb4.6/70, MS3.5/8, Error ellipse: s-maj=9.4km s-min=5.1km az=161.3*
*IDC **29** 23:57:18.9±2.3, 2°06S×78°66W, h57km±20km, mb4.0/15, mb1 4.1/19, mb1mx4.0/43, mbtmp4.2/19, ML3.4/3, MS3.4/13, Ms1 3.4/13, ms1mx3.2/42, Error ellipse: s-maj=20.9km s-min=12.8km az=60.0*
*NEIC **29** 23:57:19.2±0.5, 2°07S×78°58W, h60km±5km, mb4.7/63, Error ellipse: s-maj=7.0km s-min=3.6km az=67.0*
NEIC Felt at Cusua and Riobamba.

ISC 29 23:57:11.9±1.5, 2°09S±0°04×78°72W±0°07, h6km±9km, n183, σ1°52/188, mb4.7/70, MS3.5/8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOE1	**Riobamba**	**0.36**	**15**	P	**Pg**	**23 57 18.3**	**-0.6**
RIOE1				S	**Sg**	**23 57 23.5**	**-0.3**
ARIO	**Riobamba**	**0.44**	**3**	P	**Pg**	**23 57 19.6**	**-0.9**
IGUA	**Igualata**	**0.60**	**8**	P	**Pg**	**23 57 22.7**	**-1.0**
BMAS	**Trigal station**	**0.64**	**22**	P	**Pg**	**23 57 23.5**	**-0.7**
BMAS				S	**Sg**	**23 57 32.1**	**-0.4**
ARRY	**Arrayan**	**0.64**	**25**	P	**Pg**	**23 57 23.4**	**-0.9**
BPAT	**Tungurahua Vol**	**0.65**	**26**	P	**Pg**	**23 57 23.9**	**-0.6**
BIL2	**Estacion Bilba**	**0.67**	**19**	P	**Pg**	**23 57 24.4**	**-0.5**
BBIL	**Ulba Tungurahu**	**0.68**	**20**	P	**Pg**	**23 57 24.3**	**-0.8**
RETU	**Refugio**	**0.69**	**23**	P	**Pg**	**23 57 24.9**	**-0.5**
JUI6	**Juive**	**0.71**	**21**	P	**Pg**	**23 57 25.0**	**-0.7**
POND	**Pondoa**	**0.72**	**22**	P	**Pg**	**23 57 24.9**	**-0.9**
POND				S	**Sg**	**23 57 34.8**	**-0.4**
BRUN	**Tungurahua Vol**	**0.74**	**25**	P	**Pg**	**23 57 25.3**	**-0.9**
ILLI	**Illinizas Sur**	**1.37**	**360**	P	**Pn**	**23 57 36.3**	**-1.7**
BMOR	**Cotopaxi Volca**	**1.38**	**11**	P	**Pn**	**23 57 36.6**	**-1.7**
BMOR				S	**Sg**	**23 57 54.7**	**-1.7**
CAMI	**Rancho Maria**	**1.42**	**9**	P	**Pn**	**23 57 37.5**	**-1.3**
BNAS	**Cotopaxi Volca**	**1.43**	**10**	P	**Pn**	**23 57 37.6**	**-1.4**
BNAS				S	**Sb**	**23 57 57.4**	**-0.7**
BREF	**Cotopaxi Volca**	**1.44**	**11**	P	**Pn**	**23 57 37.7**	**-1.5**
BTAM	**Cotopaxi Volca**	**1.45**	**13**	P	**Pn**	**23 57 37.8**	**-1.4**
BTAM				S	**Sb**	**23 57 57.4**	**-1.1**
BVC2	**Cotopaxi Volca**	**1.46**	**12**	P	**Pn**	**23 57 38.0**	**-1.4**
BVC2				S	**Sb**	**23 57 58.1**	**-0.8**
NAS2	**Nasa**	**1.46**	**10**	P	**Pn**	**23 57 38.8**	**-0.5**
COV1	**Cotopaxi Volc**	**1.47**	**15**	P	**Pn**	**23 57 38.2**	**-1.5**
VC1	**Cotopaxi 1**	**1.48**	**12**	P	**Pn**	**23 57 38.6**	**-1.0**
ANTM	**Antisana-La Mi**	**1.63**	**18**	P	**Pn**	**23 57 41.5**	**-0.2**
ANTG	**Antisana-Guama**	**1.65**	**16**	P	**Pn**	**23 57 41.6**	**-0.4**
ANTS	**Antisana-Sarah**	**1.68**	**19**	P	**Pn**	**23 57 41.8**	**-0.7**
TERV	**Terraza Guagua**	**1.91**	**4**	P	**Pn**	**23 57 46.0**	**+0.5**
PINO	**Pino**	**1.93**	**3**	P	**Pn**	**23 57 46.2**	**+0.3**
YANA	**Yana**	**1.97**	**4**	P	**Pn**	**23 57 46.3**	**0.0**
MAG1	**Magdalena**	**2.27**	**332**	P	**Pn**	**23 57 49.4**	**-0.6**
OTAV	**Otavalo**	**2.33**	**7**	*e*Pn	**Pb**	**23 57 53.6**	**-1.1**
CUIC	**Cuicocha-Domo**	**2.41**	**9**	P	**Pn**	**23 57 53.8**	**+1.5**
IMBA	**Imbabura, San**	**2.41**	**13**	P	**Pb**	**23 57 55.0**	**-1.0**
COTA	**Cotacachi**	**2.44**	**9**	P	**Pb**	**23 57 55.0**	**-1.6**
YAHU	**Yahuarcocha**	**2.53**	**15**	P	**Pb**	**23 57 57.9**	**-0.1**
URCU	**Urcuqui**	**2.56**	**11**	P	**Pb**	**23 57 57.4**	**-1.2**

LITE1	**Lita**	**2.89**	**7**	P		**Pb**	**23 58 04.1**	**0.0**	
CMBC	**Cumbal**	**3.15**	**17**	*e*P		**Pg**	**23 58 10.5**	**-1.8**	
GCUF	**Volcan Galeras**	**3.57**	**23**	*e*P		**Pb**	**23 58 16.4**	**+0.5**	
GCUF				*e*P		**Pb**	**23 58 17.4**	**+1.5**	
GCUF				*e*P		**Pb**	**23 58 18.0**	**+2.1**	
TUMC	**Tumaco**	**3.89**	**360**	*e*Pn		**Pn**	**23 58 16.1**	**+3.8**	
TUMC	**Tumaco**	**3.89**	**360**	*e*P		Pn	23 58 01.4	-11	
SOTA	**Rioblanco**	**4.70**	**27**	*e*P		Pb	23 58 30.2	-4.9	
CFLOR	**Florencia**	**4.77**	**40**	*e*P		**Pb**	**23 58 34.1**	**-1.9**	
FLOC	**Florencia**	**4.77**	**40**	*e*P		**Pn**	**23 58 25.3**	**+0.8**	
FLOC				*e*P		**Pn**	**23 58 25.9**	**+1.4**	
FLOC				*e*P		**Pn**	**23 58 27.3**	**+2.8**	
PCON	**Cinco Dias**	**4.97**	**28**	*e*P		**Pb**	**23 58 34.5**	**-5.3**	
ATAH	**Atahualpa**	**5.02**	**176**	P		**Pn**	**23 58 31.8**	**+3.6**	
	6.5nm,0.3s,baz=12,slow=11,SNR=22								
ATAH					S	**Sb**	**23 59 36.1**	**-5.2**	
	4.1nm,0.3s,baz=92,slow=20,SNR=4.4								
ATAH					LR	LR	00 00 47.4		
	comp=Z,345nm,20.3s,baz=359,slow=41								
POPC	**Popayan, Colom**	**5.04**	**24**	*e*P		Pb	23 58 34.5	-6.2	
GRGC	**Isla de Gorgon**	**5.09**	**6**	*e*P		**Pn**	**23 58 28.4**	**-0.5**	
GRGC				*e*P		**Pn**	**23 58 33.5**	**+4.6**	
MARP	**Paez Belalcaza**	**5.63**	**29**	*e*P		Pn	23 58 42.6	+6.1	
HORQ	**Saladito**	**5.92**	**21**	*e*P		**Pn**	**23 58 43.1**	**+2.5**	
HORQ				*e*P		**Pn**	**23 58 43.3**	**+2.7**	
HORQ				*e*P		Pn	23 58 46.2	+5.6	
YOTC	**Yotoco, Valle**	**6.49**	**21**	*e*P		Pn	23 58 53.0	+4.8	
PRAC	**Prado**	**6.93**	**34**	*e*Pn		**Pn**	**23 58 57.6**	**+3.4**	
RREF	**El Recreo**	**7.72**	**26**	*e*P		**Pn**	**23 59 09.8**	**+4.2**	
ROSC	**El Rosal**	**8.17**	**33**	P		**Pn**

	2.5nm,0.8s,baz=145,slow=7.1,SNR=11								
NVAR					PcP	PcP	00 07 43.9	-0.1	
	0.4nm,0.3s,baz=116,slow=4.1,SNR=4.1								
NVAR					LR	LR	00 28 40.5		
	comp=Z,54nm,18.4s,baz=324,slow=35								
YHH	**Holmes Hill**	**54.75**	**332**	*eP*		**P**	**00 06 44.3**	**+1.5**	
	18nm,1.7s								
MFID	**Camas Ranch**	**56.23**	**328**	*eP*		**P**	**00 06 54.2**	**+0.9**	
	7.4nm,0.9s								
ORV	**Oroville**	**57.04**	**321**	*eP*		**P**	**00 07 00.1**	**+1.1**	
	18nm,1.5s								
MSO	**Missoula**	**57.71**	**332**	*eP*		**P**	**00 07 04.4**	**+0.7**	
	31nm,1.8s								
YBH	**Yreka Blue Hor**	**59.06**	**323**		LR	LR	00 34 45.3		
	comp=Z,38nm,20.8s,baz=340,slow=38								
NEW	**Newport**	**60.24**	**331**	*eP*		**P**	**00 07 21.2**	**+0.1**	
	9.3nm,1.3s								
EDM	**Edmonton**	**62.26**	**337**	*eP*		**P**	**00 07 34.3**	**-0.4**	
	14nm,0.9s								
YKA	**Yellowknife Ar**	**69.89**	**343**	P		**P**	**00 08 22.4**	**-1.1**	
	1.8nm,0.7s,baz=139,slow=5.9,SNR=54								
DBIC	**Dimbokro**	**74.24**	**83**	P		**P**	**00 08 49.5**	**-1.1**	
	3.0nm,0.8s,baz=135,slow=1.4,SNR=3.8								
DBIC					LR	LR	00 39 26.4		
	comp=Z,23nm,18.6s,baz=181,slow=34								
KOWA	**Kowa**	**75.74**	**75**	P		**P**	**00 08 58.8**	**-0.4**	
	4.6nm,0.7s,baz=264,slow=7.9,SNR=15								
KOWA					LR	LR	00 41 02.0		
	comp=Z,36nm,20.0s,baz=211,slow=35								
DAWY	**Dawson**	**79.47**	**337**	*eP*		**P**	**00 09 19.4**	**+0.2**	
	23nm,2.0s								
INK	**Inuvik**	**79.60**	**342**	*eP*		**P**	**00 09 19.8**	**+0.1**	
	11nm,0.9s								
ESDC	**Sonseca Array**	**79.65**	**49**	P		**P**	**00 09 22.2**	**+1.5**	
	0.6nm,0.7s,baz=276,slow=4.8,SNR=4.4								
ES19	**SONSECA Array**	**79.70**	**49**	*eP*		**P**	**00 09 20.0**	**-0.9**	
EGAK	**Eagle**	**80.48**	**337**	*eP*		**P**	**00 09 24.8**	**+0.2**	
	11nm,0.8s								
TORD	**Torodi Ar. Bea**	**81.15**	**76**	P		**P**	**00 09 27.7**	**-1.5**	
	1.5nm,1.0s,baz=293,slow=5.6,SNR=5.2								
SCRK	**Sand Creek**	**81.26**	**336**	*eP*		**P**	**00 09 29.0**	**+0.1**	
	24nm,2.0s								
PAX	**Paxson**	**81.49**	**335**	*eP*		**P**	**00 09 30.1**	**0.0**	
	6.3nm,1.0s								
RIDG	**Independ'e Rid**	**81.52**	**336**	*eP*		**P**	**00 09 28.8**	**-1.4**	
	12nm,1.0s								
SML	**Sawmill**	**82.33**	**333**	*eP*		**P**	**00 09 34.2**	**-0.3**	
	1.5nm,0.7s								
IL1	**Eielson Array**	**82.73**	**336**	*eP*		**P**	**00 09 35.4**	**-1.0**	
ILAR	**Eielson Array**	**82.73**	**336**	P		**P**	**00 09 35.5**	**-0.9**	
	3.1nm,0.8s,baz=128,slow=4.2,SNR=33								
ILB	**Eielson Array**	**82.73**	**336**	*eP*		**P**	**00 09 35.9**	**-0.6**	
RND	**Reindeer**	**83.08**	**335**	*eP*		**P**	**00 09 38.6**	**+0.2**	
	46nm,1.9s								
MCK	**McKinley**	**83.22**	**335**	*eP*		**P**	**00 09 38.9**	**-0.2**	
	10.0nm,1.1s								
SUA	**Susitna One**	**83.32**	**333**	*eP*		**P**	**00 09 39.8**	**0.0**	
	29nm,1.6s								
MDM	**Murphy Dome**	**83.33**	**336**	*eP*		**P**	**00 09 39.4**	**-0.2**	
	10.0nm,1.0s								
KTH	**Kantishna Hill**	**84.01**	**335**	*eP*		**P**	**00 09 42.8**	**-0.4**	
	11nm,1.0s								
BPAW	**Bear Paw Mtn.**	**84.20**	**335**	*eP*		**P**	**00 09 43.4**	**-0.6**	
	2.7nm,0.8s								
MLY	**Manley**	**84.37**	**336**	*eP*		**P**	**00 09 44.5**	**-0.5**	
	6.6nm,0.8s								
PPLA	**Purkeypile**	**84.38**	**334**	*eP*		**P**	**00 09 44.8**	**-0.3**	
	10nm,0.7s								
CAST	**Castle Rocks**	**84.47**	**334**	*eP*		**P**	**00 09 43.2**	**-2.2**	
	11nm,0.8s								
TAM	**Tamanrasset**	**85.50**	**67**	*eP*		**P**	**00 09 51.9**	**+0.2**	
	3.3nm,0.9s								
IM3	**Indian Mountai**	**85.84**	**337**	*eP*		**P**	**00 09 51.1**	**-1.1**	
QSPA	**South Pole Qui**	**87.97**	**180**	P		**P**	**00 10 02.9**	**+0.1**	
	3.0nm,0.9s,baz=130,slow=2.5,SNR=4.5								
NOA	**NORSAR Array B**	**91.79**	**29**	LR		LR	00 48 05.8		
	comp=Z,4.7nm,21.4s,baz=330,slow=33								
BVAR	**Borovoye Array**	**123.16**	**22**	PKP		**PKPdf**	**00 16 09.2**	**-0.5**	
	0.5nm,0.6s,baz=329,slow=2.5,SNR=5.0								
ZALV	**Zalesovo Beam**	**126.57**	**12**	PKP		**PKPdf**	**00 16 15.6**	**-0.6**	
	2.3nm,0.6s,baz=282,slow=2.7,SNR=14								
GEYT	**Alibeck**	**126.77**	**42**	PKP		**PKPdf**	**00 16 17.0**	**-0.1**	
	0.8nm,0.5s,baz=318,slow=2.0,SNR=3.6								
KURK	**Kurchatov**	**127.90**	**18**	PKP		**PKPdf**	**00 16 19.1**	**+0.2**	
KURBB	**Kurchatov Arra**	**127.95**	**18**	PKP		**PKPdf**	**00 16 19.1**	**+0.1**	
	1.9nm,0.6s,baz=325,slow=2.3,SNR=26								
MAKZ	**Makanchi**	**132.39**	**18**	*e*PKPdf		**PKPdf**	**00 16 27.1**	**-0.5**	
MK31	**Makanchi Array**	**132.50**	**18**	*e*PKPdf		**PKPdf**	**00 16 27.2**	**-0.5**	
MKAR	**Makanchi Array**	**132.50**	**18**	PKP		**PKPdf**	**00 16 27.2**	**-0.5**	
	0.5nm,0.5s,baz=312,slow=2.3,SNR=9.3								
SONM	**Songino Array**	**134.22**	**355**	PKP		**PKPdf**	**00 16 31.0**	**-0.1**	
	0.8nm,1.0s,baz=66,slow=1.7,SNR=5.2								
KSH	**Kashi**	**136.21**	**29**	*e*PKP		**PKPdf**	**00 16 30.5**	**-4.6**	
WMQ	**Urumqi**	**136.73**	**14**	*e*P		**PKPdf**	**00 16 31.3**	**-4.5**	
KSRS	**Korea Array**	**137.12**	**328**	PKP		**PKPdf**	**00 16 36.2**	**-0.3**	
	2.0nm,0.8s,baz=9.7,slow=0.9,SNR=5.9								
KSAR	**Wonju Array Be**	**137.15**	**328**	PKP		**PKPdf**	**00 16 36.2**	**-0.4**	
ASAR	**Alice Springs**	**139.22**	**229**	PKhKP		PKPpre	00 16 31.9		
	0.4nm,0.7s,baz=114,slow=2.2,SNR=2.7								
ASAR				PKP		**PKPdf**	**00 16 40.0**	**-0.9**	
	0.6nm,0.4s,baz=123,slow=2.2,SNR=8.6								
WRA	**Warramunga Arr**	**140.86**	**234**	PKhKP		PKPpre	00 16 35.9		
	0.8nm,0.8s,baz=129,slow=2.6,SNR=8.4								
WRA				PKP		**PKPdf**	**00 16 43.0**	**-1.0**	
	1.3nm,0.8s,baz=110,slow=2.4,SNR=8.1								
LZH	**Lanzhou**	**146.09**	**356**	*e*PKPbc		**PKPbc**	**00 16 53.3**	**-0.4**	
LZH				PKPbc		pPKPab	00 16 56.5	+0.3	
LZH				pPKP		sPKPab	00 17 14.3	+17	
LZH				sPKP			00 17 22.5		
PYUN	**Piuthan**	**148.79**	**32**	*e*P		**PKPbc**	**00 17 00.6**	**-0.9**	
DANN	**Dangsing**	**148.99**	**31**	*e*P		**PKPbc**	**00 17 02.2**	**+0.1**	
	3.3nm,0.9s								
KOLN	**Koldanda**	**149.38**	**32**	*e*P		**PKPbc**	**00 17 03.5**	**+0.5**	
GKN	**Gorkha**	**149.72**	**30**	*e*P		**PKPbc**	**00 17 03.4**	**-0.4**	
	37nm,1.1s								
DMN	**Daman**	**150.28**	**30**	*e*P		**PKPbc**	**00 17 04.9**	**-0.4**	
GUN	**Gumba**	**150.41**	**28**	*e*P		**PKPbc**	**00 17 05.6**	**-0.1**	
	36nm,1.2s								
PKI	**Pulchoki**	**150.46**	**29**	*e*P		**PKPbc**	**00 17 05.2**	**-0.6**	
	14nm,0.8s								
JIRN	**Jiri**	**150.76**	**28**	*e*P		**PKPbc**	**00 17 05.9**	**-0.7**	
	14nm,0.7s								
ENH	**Enshi**	**150.91**	**345**	*e*PKPbc		**PKPbc**	**00 17 06.1**	**-0.3**	
RAMN	**Ramite**	**151.56**	**28**	*e*P		**PKPbc**	**00 17 07.8**	**-0.5**	
	30nm,0.9s								
TAPN	**Taplejung**	**151.72**	**26**	*e*P		**PKPbc**	**00 17 08.3**	**-0.4**	
ODAN	**Odare**	**152.00**	**27**	*e*P		**PKPbc**	**00 17 08.8**	**-0.5**	

MEX 30 00:01:14.3±0.6, 14.79N×93.29W, h28km±11km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.91**	**4**	*e*P	Pn	00 01 28.4	-2.8
PCIG				*e*S	Sb	00 01 40.2	-3.1
THIG		**1.00**	**83**	*e*P	Pn	00 01 29.9	-2.5
THIG				*e*S	Sn	00 01 42.0	-3.6
CCIG	**Comitan**	**1.85**	**37**	*e*P	Pn	00 01 43.0	-1.4
CCIG				*e*S	Sn	00 02 03.7	-3.3
TGIG		**1.98**	**5**	*e*P	Pn	00 01 43.9	-2.2
TGIG				*e*S	Sn	00 02 07.2	-2.9

CSEM ***30*** *00:07:06.9±0.2, 41.98N×15.06E, h26km±3km, ML2.5/5, Error ellipse: s-maj=6.7km s-min=3.1km az=2.0*

ROM 30 00:07:06.8±0.2, 42.01N×15.06E, h22km±3km, Md2.1/10, Ml1.8/7, Error ellipse: s-maj=4.1km s-min=1.8km az=8.0, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRES	**Fresagrandinar**	**0.29**	**263**	Pg	Pb	00 07 14.0	+0.5
FRES				Sg	Sb	00 07 18.7	+0.7
FRES	**Fresagrandinar**	**0.29**	**263**	Pg	Pb	00 07 14.0	+0.5
FRES				Sg	Sb	00 07 18.7	+0.7
MELA	**Melanico ??? S**	**0.31**	**170**	Pg	Pb	00 07 13.2	-0.5
MELA				Sg	Sb	00 07 19.0	+0.6
MELA	**Melanico ??? S**	**0.31**	**170**	Pg	Pb	00 07 13.2	-0.5
MELA				Sg	Sb	00 07 19.0	+0.6
CIGN	**Sant'Elia a Pi**	**0.37**	**198**	Pg	Pb	00 07 14.8	+0.1
CIGN	**Sant'Elia a Pi**	**0.37**	**198**	Pg	Pb	00 07 14.8	+0.1
TRIV	**Trivento**	**0.45**	**238**	Pg	Pb	00 07 16.5	+0.4
TRIV				Sg	Sb	00 07 22.3	0.0
TRIV	**Trivento**	**0.45**	**238**	Pg	Pb	00 07 16.5	+0.4
TRIV				Sg	Sb	00 07 22.3	0.0
SGRT	**San Giovanni R**	**0.57**	**116**	Pg	Pb	00 07 18.1	-0.1
SGRT				Sg	Sn	00 07 27.6	-0.9
	81nm,0.2s						
SGRT	**San Giovanni R**	**0.57**	**116**	Pg	Pb	00 07 18.1	-0.1
SGRT				Sg	Sn	00 07 27.6	-0.9
	81nm,0.2s						
BSSO	**Busso**	**0.58**	**217**	Pg	Pb	00 07 18.4	+0.1
BSSO				Sg	Sb	00 07 27.3	+1.2
	26nm,0.7s						
BSSO	**Busso**	**0.58**	**217**	Pg	Pb	00 07 18.4	+0.1
BSSO				Sg	Sb	00 07 27.3	+1.2
	26nm,0.7s						
MIDA	**Miranda**	**0.70**	**239**	Pg	Pb	00 07 19.8	-0.6
MIDA				Sg	Sb	00 07 30.1	+0.4
	22nm,0.3s						
MIDA	**Miranda**	**0.70**	**239**	Pg	Pb	00 07 19.8	-0.6
MIDA				Sg	Sb	00 07 30.1	+0.4
	22nm,0.3s						
MSAG	**Monte S. Angel**	**0.70**	**115**	Pg	Pb	00 07 20.8	+0.4
	96nm,0.2s						
MSAG	**Monte S. Angel**	**0.70**	**115**	Pg	Pb	00 07 20.8	+0.4
	96nm,0.2s						
RNI2	**Rionero Sannit**	**0.74**	**246**	Pg	Pb	00 07 20.9	-0.2
RNI2				Sg	Sn	00 07 32.2	-0.4
	31nm,0.2s						
RNI2	**Rionero Sannit**	**0.74**	**246**	Pg	Pb	00 07 20.9	-0.2
RNI2				Sg	Sn	00 07 32.2	-0.4
	31nm,0.2s						
PTRJ	**Pietraroja**	**0.76**	**212**	Pg	Pb	00 07 20.9	-0.4
	32nm,0.5s						
PTRJ	**Pietraroja**	**0.76**	**212**	Pg	Pb	00 07 20.9	-0.4
	32nm,0.5s						
INTR	**Introdacqua**	**0.86**	**271**	Pg	Pb	00 07 22.7	-0.4
INTR				Sg	Sn	00 07 35.5	0.0
	31nm,0.5s						
INTR	**Introdacqua**	**0.86**	**271**	Pg	Pb	00 07 22.7	-0.4
INTR				Sg	Sn	00 07 35.5	0.0
	31nm,0.5s						
VVLD	**Villa Vallelon**	**1.08**	**263**	Pg	Pn	00 07 26.1	-0.6
VVLD				Sg	Sn	00 07 41.6	+0.6
VVLD	**Villa Vallelon**	**1.08**	**263**	Pg	Pn	00 07 26.1	-0.6
VVLD				Sg	Sn	00 07 41.6	+0.6
STON	**Ston**	**2.14**	**65**	Sn	Sn	00 08 08.6	+1.6
NVLJ	**Novalja**	**2.56**	**357**	Sn	Sn	00 08 19.0	+1.7
NVLJ	**Novalja**	**2.56**	**357**	Sn	Sn	00 08 18.9	+1.6

IDC 30 00:29:42.6±2.4, 30.03S×138.75E, h0km, mb1 3.5/3, mb1mx3.3/41, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=84.4km s-min=14.0km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.06**	**128**	Pn	Pn	00 30 32.2	-0.1
	0.2nm,0.3s,baz=312,slow=12,SNR=3.2						
STKA				Pg	Pb	00 30 39.0	+1.1
	0.7nm,0.3s,baz=300,slow=15,SNR=4.7						
STKA				Sn	Sn	00 31 09.7	0.0
	3.1nm,0.3s,baz=278,slow=6.7,SNR=8.9						
STKA				Lg	Lg	00 31 19.5	
	3.7nm,0.3s,baz=6.9,slow=21,SNR=7.8						
ASAR	**Alice Springs**	**7.67**	**325**	Pn	Pn	00 31 35.6	-0.1
	0.2nm,0.3s,baz=148,slow=12,SNR=7.5						
ASAR				Sn	Sn	00 33 03.4	0.0
	0.2nm,0.3s,baz=157,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**10.81**	**337**	Pn	Pn	00 32 19.9	+1.2
	0.1nm,0.3s,baz=153,slow=12,SNR=5.1						
WRA				Sn	Sn	00 34 19.6	-0.8
	0.1nm,0.3s,baz=160,slow=24,SNR=3.4						
FITZ	**Fitzroy Crossi**	**16.84**	**312**	Pn	Pn	00 33 39.8	-0.1
	baz=151,slow=10						

NIED ***30*** *00:52:00, 42.80N×141.90E, h125km, Mw4.1 Best double couple: M0 1.53000×10^15 NP1:φs99.00000°, δ33.00000°, λ-72.00000°. NP2:φs258.00000°, δ59.00000°, λ-101.00000°.*

NEIC ***30*** *00:52:09.8±0.5, 42.70N×141.96E, h135km±4km, mb4.3/18, Error ellipse: s-maj=7.1km s-min=4.7km az=118.0*

MOS ***30*** *00:52:09.5±1.2, 42.76N×142.03E, h145km, mb4.0/30, Error ellipse: s-maj=8.7km s-min=5.7km az=92.7*

ISCJB ***30*** *00:52:09.2±0.2, 42.73N±0.03×141.93E±0.03, h141km±1km, mb4.0/57, Error ellipse: s-maj=5.1km s-min=3.3km az=139.7*

JMA ***30*** *00:52:10.1±0.2, 42.80N×141.86E, h141km±2km, M3.9 Broadband fault plane solution: P waves. NP1: φs262.00000°, δ61.00000°, λ-105.00000°. NP2: φs111.00000°, δ32.00000°, λ-65.00000°. Principal axes: T Plg15.0000°, Azm3.0000°; N Plg13.0000°, Azm269.0000°; P Plg70.0000°, Azm140.0000°;*

JMA Felt I J1.

IDC ***30*** *00:52:10.1±0.6, 42.79N×141.95E, h137km±4km, mb3.8/26, mb1 3.9/31, mb1mx3.7/66, mbtmp4.2/31 Error ellipse: s-maj=11.2km s-min=8.4km az=129.0*

ISC 30 00:52:09.9±0.4, 42.74N±0.04×141.95E±0.04, h137km±3km, h137km:pP-P, n146, σ1958/185, mb4.0/57, 10C-17D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.31**	**83**	⇓P	**Pn**	**00 52 30.0**	**+1.1**
JBT2				S	**Sn**	**00 52 45.1**	**+1.8**
JEW	**Eniwo**	**0.38**	**285**	⇓P	**Pn**	**00 52 29.5**	**+0.3**
JEW				S	**Sn**	**00 52 44.2**	**+0.4**
JFR	**Furan**	**0.63**	**48**	⇓P	**Pn**	**00 52 31.1**	**+0.5**
JFR				*e*S	**Sn**	**00 52 47.0**	**+0.7**
JNB	**Noboribetsu**	**0.73**	**248**	⇓P	**Pn**	**00 52 31.4**	**+0.2**
JNB				*e*S	**Sn**	**00 52 47.6**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.75**	**128**	P	**Pn**	**00 52 33.0**	**+1.6**
JNBK				*e*S	**Sn**	**00 52 51.0**	**+3.4**
JAB	**Ashibetsu**	**0.79**	**15**	⇓P	**Pn**	**00 52 32.4**	**+0.8**
JAB				*e*S	**Sn**	**00 52 49.0**	**+0.7**
JCH	**Churui**	**1.05**	**96**	⇓P	**Pn**	**00 52 34.3**	**+0.5**
JCH				*e*S	**Sn**	**00 52 52.3**	**+0.2**
JKB	**Kayabe**	**1.09**	**219**	⇑P	**Pn**	**00 52 34.6**	**+0.4**
JKB				S	**Sn**	**00 52 52.5**	**-0.2**
ERM	**Erimo**	**1.15**	**129**	*d*iPN	**Pn**	**00 52 36.6**	**+1.8**
ERM	**Erimo**	**1.15**	**129**	*e*Pn	**Pn**	**00 52 36.2**	**+1.4**
JSK	**Shakotan**	**1.24**	**300**	⇓P	**Pn**	**00 52 35.9**	**+0.2**
JKK2	**Kamakawa 2**	**1.27**	**27**	⇓P	**Pn**	**00 52 36.5**	**+0.4**
JKK2				*e*S	**Sn**	**00 52 56.2**	**+0.1**
JAR	**Ashorobuto**	**1.45**	**67**	⇓P	**Pn**	**00 52 38.6**	**+0.8**
JAR				*e*S	**Sn**	**00 52 59.9**	**+0.7**
ASAJ	**Asahikawa**	**1.45**	**19**	P	**Pn**	**00 52 38.3**	**+0.4**
	15nm,0.3s,baz=235,slow=9.9,SNR=36						
ASAJ				S	**Sn**	**00 52 58.5**	**-1.0**
	31nm,0.3s,baz=295,slow=31,SNR=12						
JOT	**Ohata**	**1.51**	**207**	⇑P	**Pn**	**00 52 39.1**	**+0.5**
JOT				*e*S	**Sn**	**00 53 00.8**	**+0.3**
JTKR	**Abashiri--Toko**	**1.89**	**49**	⇑P	**Pn**	**00 52 44.1**	**+1.3**
JTKR				*e*S	**Sn**	**00 53 09.2**	**+1.1**
JOSM	**Okushiri--Mats**	**1.95**	**251**	P	**Pn**	**00 52 43.8**	**+0.2**
JOSM				*e*S	**Sn**	**00 53 08.6**	**-0.8**
JAK	**Akkeshi**	**2.03**	**82**	P	**Pn**	**00 52 45.1**	**+0.5**
JAK				*e*S	**Sn**	**00 53 10.9**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**3.13**	**64**	*e*PN	**Pn**	**00 52 59.8**	**+1.5**
YUK				*e*S	**Sn**	**00 53 38.0**	**+2.2**
YUK				pmax	pmax		
	comp=Z,159nm,0.4s						
YUK				pmax	pmax		
	comp=N,76nm,0.5s						
YUK				smax	smax		
	comp=E,269nm,0.6s						
YUK				smax	smax		
	comp=N,227nm,0.5s						
SHO	**Shikotan**	**3.74**	**71**	*e*PN	**Pn**	**00 53 05.2**	**-1.0**
SHO				*e*S	**Sn**	**00 53 46.1**	**-3.8**
SHO				pmax	pmax		
	comp=Z,29nm,0.3s						
SHO				pmax	pmax		
	comp=N,7.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,15nm,0.3s						
SHO				smax	smax		
	comp=N,239nm,0.2s						
SHO				smax	smax		
	comp=E,227nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.25**	**7**	⇑iPN	**Pn**	**00 53 13.6**	**+0.5**
YSS				*e*S	**Sn**	**00 54 02.6**	**+0.5**
YSS				pmax	pmax		
	comp=N,260nm,0.7s						
YSS				pmax	pmax		
	comp=Z,350nm,0.7s						
YSS				smax	smax		
	comp=N,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.25**	**7**	*e*Pn	**Pn**	**00 53 13.5**	**+0.5**
TEY	**Ternei**	**4.50**	**303**	*e*PN	**Pn**	**00 53 18.3**	**+2.0**
TEY				pmax	pmax		
	comp=E,25nm,0.7s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.5s						
TEY				pmax	pmax		
	comp=Z,22nm,0.5s						
KUR	**Kuril'sk**	**4.94**	**58**	*e*PN	**Pn**	**00 53 24.1**	**+1.9**
KUR				*e*S	**Sn**	**00 54 21.0**	**+2.5**
KUR				pmax	pmax		
	comp=Z,63nm,0.5s						
KUR				smax	smax		
	comp=N,50nm,0.2s						
KUR				smax	smax		
	comp=E,65nm,0.3s						
MJB9	**Matsu-Tunnel**	**6.83**	**206**	*e*Pn	**Pn**	**00 53 47.1**	**-0.5**
MAJO	**Matsushiro**	**6.83**	**206**	*d*iPN	**Pn**	**00 53 47.8**	**+0.2**
MAJO	**Matsushiro**	**6.83**	**206**	*e*Pn	**Pn**	**00 53 46.2**	**-1.4**
MAT	**Matsushiro**	**6.83**	**206**	P	**Pn**	**00 53 47.7**	**+0.1**
MJAR	**Matsushiro Arr**	**6.83**	**206**	P	**Pn**	**00 53 48.2**	**+0.6**
	comp=E,5.0nm,0.3s,baz=23,slow=15,SNR=26						
USRK	**Ussuriysk Ar.**	**7.39**	**285**	P	**Pn**	**00 53 54.9**	**-0.2**
	comp=E,0.3nm,0.3s,baz=105,slow=11,SNR=3.3						
MSHR	**Mys Shultsa**	**7.96**	**273**	⇑iPN	**Pn**	**00 54 03.2**	**+0.6**
TYV	**Tymovskoe**	**8.14**	**3**	*e*PN	**Pn**	**00 54 06.0**	**+1.0**
TYV				*e*S	**Sn**	**00 55 32.6**	**-2.8**
TYV				pmax	pmax		
	comp=Z,28nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,4.8s						
TYV				smax	smax		
	comp=E,12nm,1.0s						
INU	**Inuyama**	**8.32**	**209**	*e*Pn	**Pn**	**00 54 07.3**	**-0.2**
KLR	**Kul'dur**	**9.62**	**316**	P	**Pn**	**00 54 24.2**	**-0.6**
	comp=E,0.0nm,0.3s,baz=122,slow=14,SNR=14						
KLR	**Kul'dur**	**9.62**	**316**	⇓*i*PN	**Pn**	**00 54 24.4**	**-0.4**
JHJ	**Hachijo jima 2**	**9.76**	**191**	P	**Pn**	**00 54 22.9**	**-3.9**
	comp=E,29nm,0.3s,baz=328,slow=20,SNR=17						
JHJ				S	**Sn**	**00 56 07.1**	**-7.6**
	comp=E,18nm,0.3s,baz=108,slow=20,SNR=4.4						
JHJ2	**Mitsune**	**9.76**	**191**	*e*PN	**Pn**	**00 54 23.4**	**-3.4**
NKL	**Nikolayevsk**	**10.45**	**356**	*e*PN	**Pn**	**00 54 36.8**	**+0.9**
NKL				pmax	pmax		
	comp=N,13nm,1.0s						
NKL				pmax	pmax		
	comp=Z,43nm,1.0s						
SKR	**Severo-Kuril's**	**12.54**	**46**	*e*PN	**Pn**	**00 55 00.3**	**-3.0**
SKR				*e*S	**Sn**	**00 57 16.8**	**-4.7**
SKR				MLR	MLR		
	comp=Z,100nm,11.0s						
SKR				MLR	MLR		
	comp=Z,200nm,11.0s						
ZEA	**Zeya**	**14.70**	**324**	*e*P	**Pn**	**00 55 28.6**	**-2.3**
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
PETK	**Petropavlovsk-**	**14.77**	**40**	P	**Pn**	**00 55 31.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=232,slow=7.1,SNR=3.1						
CBIJ	**Chichi jima**	**15.61**	**179**	Pn	**Pn**	**00 55 42.0**	**-0.4**
	comp=Z,19nm,0.4s						
JCJ	**Chichijima**	**15.61**	**179**	P	**Pn**	**00 55 41.2**	**-1.2**
	comp=Z,15nm,0.3s,baz=215,slow=17,SNR=6.3						
MA2	**Magadan**	**17.71**	**15**	P	**P**	**00 56 05.3**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=197,slow=8.9,SNR=19						
MA2	**Magadan**	**17.71**	**15**	⇑*e*P	**P**	**00 56 05.8**	**-0.8**
YAK	**Yakutsk**	**20.65**	**343**	*e*P	**P**	**00 56 33.8**	**-4.6**
YAK				*e*S	**S**	**01 00 17.7**	**-3.6**
YAK				*e**SS	**sS**	**01 01 01.8**	**-0.6**
YAK				*e*		01 07 47.0	
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				smax	smax		
	comp=N,76nm,2.3s						
YAK				smax	smax		
	comp=E,74nm,3.0s						
SEY	**Seymchan**	**21.13**	**13**	P	**P**	**00 56 41.3**	**-2.2**
	comp=E,7.1nm,0.6s,baz=205,slow=8.5,SNR=31						
SEY	**Seymchan**	**21.13**	**13**	⇓*e*P	**P**	**00 56 42.3**	**-1.2**
HHC	**Hu-ho-hao-te**	**22.68**	**276**	*e*P	**P**	**00 56 59.3**	**-0.4**
BOD	**Bodaibo**	**23.15**	**320**	*e*P	**P**	**00 56 59.9**	**-3.9**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.2s						
YHNB	**Yeheng**	**24.75**	**230**	P	**P**	**00 57 18.9**	**+0.2**
	comp=Z,17nm,0.3s						
ULN	**Ulaanbaatar**	**24.93**	**294**	⇑*e*P	**P**	**00 57 20.8**	**+0.5**
ULN

comp=Z,3.0nm,1.0s
MAKZ Makanchi 41.87 297 *e*P **P 00 59 48.5 +2.2**
comp=Z,3.1nm,1.0s
KDAK Kodiak Island 42.70 46 P **P 00 59 52.6 -0.2**
KDAK PcP **PcP 01 01 42.2 +0.3**
comp=Z,8.0nm,1.0s,baz=21,slow=8.6,SNR=4.5
KDAK Kodiak Island 42.70 46 P **P 00 59 52.6 -0.2**
KDAK 01 01 42.2
KDAK pmax pmax
comp=Z,8.0nm,1.0s
KDAK pmax pmax
comp=Z,8.0nm,1.0s
BPAW Bear Paw Mtn. 42.81 37 P **P 00 59 54.9 +1.2**
comp=Z,0.2nm,0.7s
KURK Kurchatov 42.93 303 *de*P **P 00 59 57.1 +2.4**
KURK *i* *PP **pP 01 00 25.5 +0.1**
KURK pmax pmax
comp=Z,14nm,0.8s
KURK Kurchatov 42.93 303 *e*P **P 00 59 56.4 +1.7**
comp=Z,30nm,0.4s
KURK pP **pP 01 00 26.1 +0.7**
KURBB Kurchatov Arra 43.01 303 P **P 00 59 55.2 -0.2**
comp=Z,13nm,0.6s,baz=72,slow=8.8,SNR=66
KURBB pP **pP 01 00 26.1 0.0**
comp=Z,5.7nm,0.9s,baz=76,slow=8.9,SNR=4.5
COLD Coldfoot 43.03 32 *e*P **P 00 59 56.9 +1.6**
comp=Z,0.9nm,0.5s
TRF Thorofare Moun 43.17 37 P **P 00 59 58.2 +1.5**
comp=Z,1.8nm,0.4s
CHTO Chiang Mai 43.36 250 P **P 00 59 59.0 +0.4**
CHTO pmax pmax
comp=Z,2.0nm,0.5s
CHTO Chiang Mai 43.36 250 P **P 00 59 59.0 +0.4**
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 43.60 250 P **P 01 00 01.1 +0.5**
comp=Z,0.8nm,0.4s,baz=49,slow=6.1,SNR=3.3
ILAR Eielson Array 44.53 35 P **P 01 00 07.8 +0.4**
comp=Z,0.8nm,0.6s,baz=257,slow=5.6,SNR=14
DIV Divide 45.57 40 P **P 01 00 17.3 +1.6**
comp=Z,3.1nm,0.5s
DOT Dot Lake 45.91 37 P **P 01 00 18.9 +0.6**
comp=Z,40nm,1.8s
EGAK Eagle 46.95 35 P **P 01 00 27.6 +1.2**
comp=Z,1.8nm,0.6s
BVAR Borovoye Array 47.18 309 P **P 01 00 28.9 +0.5**
comp=Z,8.0nm,0.4s,baz=74,slow=7.1,SNR=77
BVAR PcP **PcP 01 01 57.7 +0.2**
comp=Z,0.9nm,0.5s,baz=60,slow=3.5,SNR=4.0
BRVK Borovoye 47.23 309 *de*P **P 01 00 31.1 +2.4**
BRVK pmax pmax
comp=Z,10.0nm,1.1s
BRVK Borovoye 47.23 309 *e*P **P 01 00 31.0 +2.4**
comp=Z,6.0nm,0.5s
GUN Gumba 47.25 271 *e*P **P 01 00 29.7 +0.1**
RAMN Ramite 47.26 269 *e*P **P 01 00 29.4 -0.1**
GKN Gorkha 48.12 272 *e*P **P 01 00 36.1 +0.1**
DANN Dangsing 48.57 273 *e*P **P 01 00 40.1 +0.4**
KSH Kashi 48.66 290 *e*P **P 01 00 42.5 +2.5**
KOLN Koldanda 49.01 272 *e*P **P 01 00 42.8 -0.1**
INK Inuvik 49.17 29 P **P 01 00 43.4 +0.1**
comp=Z,1.1nm,0.3s,baz=296,slow=7.2,SNR=19
INK Inuvik 49.17 29 *e*P **P 01 00 43.6 +0.3**
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 49.17 29 *e*P **P 01 00 43.6 +0.3**
comp=Z,1.2nm,0.4s
PYUN Piuthan 49.28 273 *e*P **P 01 00 45.2 +0.2**
comp=Z,4.8nm,0.3s
SVE Sverdlovsk 51.24 316 *e*P **P 01 01 01.4 +2.3**
SVE pmax pmax
comp=Z,15nm,0.9s
ARU Arti 52.46 316 *d* *i*P **P 01 01 09.6 +1.5**
ARU 01 02 16.0
ARU 01 03 09.6
ARU S **S 01 08 28.0 +4.6**
ARU SS **SS 01 12 06.7 +4.1**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 52.46 316 *e*P **P 01 01 09.5 +1.5**
comp=Z,5.7nm,1.0s
ABKAR Akbulak array 54.69 307 *e*P **P 01 01 24.5 0.0**
comp=Z,110nm,0.4s
SPITS Spitsbergen Ar 55.02 348 P **P 01 01 26.0 -0.5**
comp=Z,5.7nm,1.0s,baz=56,slow=8.9,SNR=4.9
AKTO Aktyubinsk 55.27 309 P **P 01 01 32.2 +3.5**
comp=Z,3.0nm,0.6s,baz=61,slow=10,SNR=6.5
JAGI Jajag, Banyuwa 56.93 213 P **P 01 01 41.0 +0.3**
comp=Z,2.0nm,0.3s
RES Resolute Bay 56.99 15 *e*P **P 01 01 40.1 -0.3**
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 56.99 15 *e*P **P 01 01 40.1 -0.3**
comp=Z,7.0nm,0.8s
YKA Yellowknife Ar 58.71 32 P **P 01 01 52.6 0.0**
comp=Z,0.3nm,0.6s,baz=307,slow=6.2,SNR=10.0
YKA pP **pP 01 02 25.5 +0.5**
comp=Z,0.4nm,0.6s,baz=306,slow=6.9,SNR=3.2
ARCES ARCESS Array B 58.83 338 P **P 01 01 53.0 -0.3**
comp=Z,1.5nm,0.8s,baz=49,slow=7.3,SNR=4.9
WRA Warramunga Arr 62.76 188 P **P 01 02 19.9 -0.6**
comp=Z,0.5nm,0.4s,baz=6.9,slow=6.8,SNR=26
FINES FINESS Array B 63.99 331 P **P 01 02 27.5 -0.6**
comp=Z,3.2nm,0.4s,baz=50,slow=8.4,SNR=30
SUMG Summit 64.99 0 P **P 01 02 36.1 +1.2**
SUMG pmax pmax
comp=Z,2.0nm,0.8s
SUMG Summit 64.99 0 P **P 01 02 36.1 +1.2**
comp=Z,2.3nm,0.8s
ASAR Alice Springs 66.49 188 P **P 01 02 45.0 +0.3**
comp=Z,1.3nm,0.7s,baz=360,slow=4.7,SNR=9.8
ASAR Alice Springs 66.49 188 P **P 01 02 45.0 +0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
KIV Kislovodsk 67.54 310 *e*P **P 01 02 52.4 +1.1**
KIV pmax pmax
comp=Z,2.0nm,0.6s
KIV Kislovodsk 67.54 310 *e*P **P 01 02 52.4 +1.1**
comp=Z,2.1nm,0.6s
KBZ Khabaz 67.56 309 P **P 01 02 51.2 0.0**
comp=Z,0.8nm,0.7s,baz=72,slow=16,SNR=2.5
HFS Hagfors 69.08 335 P **P 01 03 00.2 -0.3**
comp=Z,2.9nm,0.5s,baz=50,slow=7.7,SNR=21
NB2 NORSAR Subarra 69.10 337 P **P 01 02 59.5 -1.1**
comp=Z,1.0nm,0.6s,baz=35,slow=6.2
NOA NORSAR Array B 69.10 337 P **P 01 03 00.1 -0.6**
comp=Z,1.1nm,0.6s,baz=32,slow=6.7,SNR=6.0
NOA pP **pP 01 03 34.2 +0.2**
comp=Z,1.3nm,0.7s,baz=31,slow=6.1,SNR=2.7
AKASG Malin Array Be 70.07 321 P **P 01 03 05.9 -0.8**
comp=Z,0.9nm,0.4s,baz=44,slow=6.6,SNR=8.0
AKASG pP **pP 01 03 40.8 +0.7**
comp=Z,0.5nm,0.4s,baz=52,slow=8.1,SNR=2.0
NVAR Mina Array Bea 71.30 55 P **P 01 03 15.7 +1.0**
comp=Z,0.8nm,0.6s,baz=298,slow=6.2,SNR=7.3
R11A Troy Canyon, C 72.97 53 *e*P **P 01 03 25.2 +0.6**
comp=Z,0.8nm,0.3s
ARMA Armidale 73.34 171 *e*P **P 01 03 25.6 -0.8**
comp=Z,7.6nm,1.1s
PDAR Pinedale Array 73.42 47 P **P 01 03 27.4 +0.2**
comp=Z,0.5nm,0.5s,baz=234,slow=0.7,SNR=5.5
EKA Eskdalemuir Ar 77.90 340 P **P 01 03 51.6 -0.5**
comp=Z,0.3nm,0.4s,baz=49,slow=7.6,SNR=3.3
KHC Kasperske Hory 77.91 328 P **P 01 03 53.7 +1.4**
KHC pmax pmax
comp=Z,1.0nm,0.5s
KHC Kasperske Hory 77.91 328 P **P 01 03 53.7 +1.4**
comp=Z,0.7nm,0.5s
GERES GERESS Array B 78.09 328 P **P 01 03 55.2 +1.7**
comp=Z,0.4nm,0.4s,baz=40,slow=7.7,SNR=3.1
RAYN Ar Rayn 78.91 292 *e*P **P 01 03 57.6 -0.7**
comp=Z,1.3nm,0.6s
SDCO Great Sand Dun 79.15 48 P **P 01 04 00.4 +0.7**
comp=Z,1.8nm,1.0s
TXAR Lajitas Array 86.33 53 P **P 01 04 37.1 +0.5**
comp=Z,0.8nm,0.8s,baz=294,slow=3.6,SNR=9.4
TXAR pP **pP 01 05 13.1 +1.7**
comp=Z,0.3nm,0.6s,baz=299,slow=4.8,SNR=2.7
VAE Valguarnera 86.98 321 P **P 01 04 41.1 +1.5**
comp=Z,2.6nm,0.4s,baz=37,slow=10,SNR=3.9
TORD Torodi Ar. Bea 113.51 317 PKiKP **PKiKP 01 10 30.8 -1.3**
comp=Z,0.2nm,0.5s,baz=10,slow=2.1,SNR=7.4
SNAA Sanae 146.29 199 PKPbc **PKPbc 01 11 32.6 -0.5**
comp=Z,1.9nm,0.5s,baz=167,slow=6.7,SNR=16

*DDA **30** 00:55:56.4, 38.62N×29.95E, h7km, Ml2.5*

*ISCJB **30** 00:55:57.3±0.5, 38.64N±0.03×29.99E±0.03, h4km±5km, Error ellipse: s-maj=4.9km s-min=3.5km az=42.6*
*CSEM **30** 00:55:57.5±0.2, 38.59N×29.96E, h10km, ML2.5, Error ellipse: s-maj=4.9km s-min=3.5km az=34.0*
*ISK **30** 00:55:57.3, 38.62N×30.01E, h5km, MD2.6/2*
ISC 30 00:55:57.1±1.1, 38.62N±0.02×29.97E±0.02, h7km±10km, n27, σ0.85/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZIL	**AFYON_Kizioren**	**0.39**	**159**	*i* P	**Pg**	**00 56 04.5**	**-0.2**
KZIL				*i* S	**Sg**	**00 56 10.1**	**+0.3**
KZIL	**AFYON_Kizioren**	**0.39**	**159**	P	**Pg**	**00 56 04.5**	**-0.2**
KZIL				S	**Sg**	**00 56 10.1**	**+0.3**
SHUT	**Suhut-Afyon**	**0.46**	**98**	PG	**Pg**	**00 56 06.3**	**+0.2**
SHUT				SG	**Sg**	**00 56 12.4**	**+0.2**
SHUT	**Suhut-Afyon**	**0.46**	**98**	*e*Pg	**Pg**	**00 56 06.3**	**+0.2**
SHUT				*e*Sg	**Sg**	**00 56 12.4**	**+0.2**
BOLV	**Bolvadin**	**0.78**	**83**	*i* P	**Pg**	**00 56 11.9**	**-0.2**
BOLV				*i* S	**Sg**	**00 56 22.8**	**+0.6**
BOLV	**Bolvadin**	**0.78**	**83**	P	**Pg**	**00 56 11.9**	**-0.2**
BOLV				S	**Sg**	**00 56 22.8**	**+0.6**
SIMA	**Simav-Kutahya**	**0.90**	**301**	PG	**Pn**	**00 56 15.9**	**-0.3**
SIMA				SG	**Sb**	**00 56 28.4**	**+1.2**
SIMA	**Simav-Kutahya**	**0.90**	**301**	*e*Pg	**Pn**	**00 56 15.9**	**-0.3**
SIMA				*e*Sg	**Sb**	**00 56 28.4**	**+1.2**
BAGO	**Egridir - ISPA**	**0.90**	**134**	*i* P	**Pn**	**00 56 16.9**	**+0.7**
BAGO				*i* S	**Sb**	**00 56 28.2**	**+0.8**
ISP	**Isparta**	**0.91**	**151**	PG	**Pb**	**00 56 15.3**	**0.0**
ISP				SG	**Sb**	**00 56 27.7**	**+0.1**
ISP	**Isparta**	**0.91**	**151**	*e*Pg	**Pb**	**00 56 15.3**	**0.0**
ISP				*e*Sg	**Sb**	**00 56 27.7**	**+0.1**
TVSB	**Tavsanli**	**0.92**	**335**	PG	**Pb**	**00 56 15.4**	**0.0**
TVSB	**Tavsanli**	**0.92**	**335**	*e*Pg	**Pb**	**00 56 15.4**	**0.0**
BRDR	**BURDUR-Merkez**	**0.93**	**175**	*i* P	**Pg**	**00 56 14.3**	**-0.5**
BRDR				*i* S	**Sn**	**00 56 29.9**	**-0.3**
BRDR	**BURDUR-Merkez**	**0.93**	**175**	P	**Pg**	**00 56 14.4**	**-0.5**
KULA	**Kula-Manisa**	**1.03**	**264**	PG	**Pb**	**00 56 17.6**	**+0.3**
KULA	**Kula-Manisa**	**1.03**	**264**	*e*Pg	**Pb**	**00 56 17.6**	**+0.3**
DEMI	**Demirci**	**1.06**	**294**	*i* P	**Pg**	**00 56 16.9**	**-0.5**
DEMI				*i* S	**Sg**	**00 56 31.2**	**-0.1**
DEMI	**Demirci**	**1.06**	**294**	P	**Pg**	**00 56 17.0**	**-0.5**
DEMI				S	**Sg**	**00 56 31.2**	**-0.1**
ESKT	**Eskisehir**	**1.13**	**37**	*i* P	**Pn**	**00 56 20.8**	**+1.4**
ESKT				*i* S	**Sg**	**00 56 31.2**	**-2.3**
SEYT	**Eskypehyr**	**1.13**	**37**	P	**Pn**	**00 56 20.8**	**+1.4**
SEYT				S	**Sg**	**00 56 31.2**	**-2.3**
BORA	**Eskisehir**	**1.31**	**17**	*i* P	**Pg**	**00 56 23.4**	**+1.1**
BORA				*i* S	**Sb**	**00 56 37.7**	**-1.5**
BORA	**Eskisehir**	**1.31**	**17**	P	**Pg**	**00 56 23.4**	**+1.1**
BORA				S	**Sb**	**00 56 37.7**	**-1.5**
DOGA	**KONYA_Doganhis**	**1.43**	**110**	*i* P	**Pn**	**00 56 23.4**	**-0.2**
DOGA				*i* S	**Sb**	**00 56 41.6**	**-1.1**
DOGA	**KONYA_Doganhis**	**1.43**	**110**	P	**Pn**	**00 56 23.4**	**-0.2**
DOGA				S	**Sb**	**00 56 41.6**	**-1.1**
SVRH	**Sivrihisar-ESK**	**1.47**	**55**	PN	**Pg**	**00 56 25.6**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.47**	**55**	*e*Pn	**Pg**	**00 56 25.6**	**+0.4**

*CSEM **30** 01:11:46.9±0.3, 38.81N×43.50E, h10km, ML2.5, Error ellipse: s-maj=7.6km s-min=5.3km az=125.0*
*DDA **30** 01:11:46.7, 38.84N×43.45E, h7km, Ml2.5*
*ATA **30** 01:11:46.1±0.9, 38.77N×43.48E, h30km±5km, ML2.6, MW2.9*
*ISK **30** 01:11:46.1, 38.75N×43.50E, h9km, ML2.4/5*
*ISCJB **30** 01:11:47.4±0.5, 38.80N±0.03×43.52E±0.04, h13km±3km, Error ellipse: s-maj=6.1km s-min=3.7km az=30.3*
ISC 30 01:11:47.2±1.0, 38.81N±0.02×43.47E±0.03, h18km±4km, n32, σ0.95/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.19**	**23**	*i* P	**Pg**	**01 11 51.4**	**-0.9**
VMUR				*i* S	**Sg**	**01 11 57.8**	**+2.2**
VMUR	**Van-Muradiye**	**0.19**	**23**	P	**Pg**	**01 11 51.4**	**-0.9**
VANB	**Van**	**0.23**	**197**	PG	**Pg**	**01 11 52.3**	**-0.4**
VANB	**Van**	**0.23**	**197**	*e*Pg	**Pg**	**01 11 52.3**	**-0.4**
ERCV	**ERCIS-VAN**	**0.23**	**333**	PG	**Pg**	**01 11 52.3**	**-0.5**
ERCV				SG	**Sg**	**01 11 57.9**	**+1.3**
ERCV	**ERCIS-VAN**	**0.23**	**333**	*e*Pg	**Pg**	**01 11 52.3**	**-0.5**
ERCV				*e*Sg	**Sg**	**01 11 57.9**	**+1.3**
TVAN	**Van**	**0.29**	**191**	*i* P	**Pg**	**01 11 52.1**	**-1.6**
TVAN				*i* S	**Sb**	**01 11 58.9**	**+0.4**
TVAN	**Van**	**0.29**	**191**	P	**Pg**	**01 11 52.1**	**-1.6**
TVAN				S	**Sb**	**01 11 58.8**	**+0.4**
CLDR	**Caldiran**	**0.48**	**46**	PG	**Pg**	**01 11 55.8**	**-1.2**
CLDR				SG	**Sb**	**01 12 04.2**	**+0.1**
CLDR	**Caldiran**	**0.48**	**46**	*i* P	**Pg**	**01 11 55.6**	**-1.4**
CLDR				*i* S	**Sb**	**01 12 04.7**	**+0.6**
CLDR	**Caldiran**	**0.48**	**46**	P	**Pg**	**01 11 55.6**	**-1.4**
CLDR	**Caldiran**	**0.48**	**46**	*e*Pg	**Pg**	**01 11 55.8**	**-1.2**
CLDR				*e*Sg	**Sb**	**01 12 04.2**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.59**	**270**	*i* P	**Pb**	**01 11 59.3**	**+0.3**
ADCV				*i* S	**Sn**	**01 12 10.2**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.59**	**270**	P	**Pb**	**01 11 59.3**	**+0.3**
GEVA	**Gevas**	**0.60**	**213**	*e*P	**Pg**	**01 11 57.8**	**-1.4**
GEVA				*e*S	**Sb**	**01 12 08.1**	**+0.7**
GEVA				IAML		01 12 16.1	
	comp=Z,14nm,0.4s						
DYDN	**Diyadin**	**0.75**	**13**	*e*P	**Pb**	**01 12 02.2**	**+0.3**
TUTA	**Tutak**	**0.78**	**319**	*e*P	**Pb**	**01 12 02.6**	**+0.2**
TUTA				*e*S	**Sn**	**01 12 15.4**	**+0.4**
TUTA				IAML		01 12 18.9	
	comp=Z,20nm,0.2s						
TUTA	**Tutak**	**0.78**	**319**	*i* P	**Pg**	**01 12 01.0**	**-1.6**
TUTA				*i* S	**Sg**	**01 12 11.4**	**-1.6**
TUTA	**Tutak**	**0.78**	**319**	P	**Pg**	**01 12 01.0**	**-1.6**
TUTA				S	**Sg**	**01 12 11.4**	**-1.6**
AGRB	**Hanur-Agry**	**0.85**	**334**	PG	**Pg**	**01 12 03.3**	**-0.6**
AGRB				SG	**Sn**	**01 12 17.3**	**+0.7**
AGRB	**Hanur-Agry**	**0.85**	**334**	*e*Pg	**Pg**	**01 12 03.3**	**-0.6**
AGRB				*e*Sg	**Sn**	**01 12 17.3**	**+0.7**
IGDI	**IGDIR**	**1.15**	**24**	*e*P	**Pb**	**01 12 08.5**	**-0.2**
GURO	**Guroymak-BITLI**	**1.16**	**257**	PN	**Pb**	**01 12 08.5**	**-0.3**
GURO				SN	**Sn**	**01 12 25.1**	**+0.9**
GURO	**Guroymak-BITLI**	**1.16**	**257**	*e*Pn	**Pb**	**01 12 08.5**	**-0.3**
GURO				*e*Sn	**Sn**	**01 12 25.1**	**+0.9**
EKAR	**Karacoban**	**1.18**	**292**	*e*P	**Pb**	**01 12 09.4**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.31**	**27**	PN	**Pg**	**01 12 11.8**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.31**	**27**	*e*Pn	**Pg**	**01 12 11.8**	**-0.8**
SRTM	**Siirt_Merkez**	**1.47**	**237**	*i* P	**Pg**	**01 12 15.3**	**-0.3**
SRTM				*i* S	**Sg**	**01 12 34.8**	**0.0**
SRTM	**Siirt_Merkez**	**1.47**	**237**	P	**Pg**	**01 12 15.3**	**-0.3**
SRTM				S	**Sg**	**01 12 34.8**	**0.0**
DIGO	**Kars**	**1.60**	**357**	*e*P	**Pg**	**01 12 17.1**	**-1.1**
HOMI	**Horasan**	**1.73**	**316**	*e*P	**Pn**	**01 12 16.8**	**+0.2**
ERZM	**Erzurum**	**1.96**	**304**	*e*P	**Pb**	**01 12 22.1**	**-0.6**

*ISCJB **30** 01:33:59.8±1.1, 39.50N±0.05×16.9E±0.1, h44km±10km, Error ellipse: s-maj=16.8km s-min=8.4km az=7.5*
*ROM **30** 01:34:01.5±0.3, 39.45N×16.75E, h30km±4km, Md2.5/5, Ml2.0/7, Error ellipse: s-maj=5.6km s-min=2.8km az=92.0*
*CSEM **30** 01:34:01.5, 39.45N×16.75E, h30km, MD2.5/5, After ROM*
ISC 30 01:34:01.1±1.0, 39.48N±0.03×16.80E±0.07, h33km±3km, n17, σ0.74/27, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIPA	**Pietrapaola**	**0.01**	**50**	Pg	**Pb**	**01 34 06.5**	**-0.1**
PIPA				Sg	**Sb**	**01 34 10.6**	**+0.2**
	1μm,0.2s						
PIPA	**Pietrapaola**	**0.01**	**50**	Pg	**Pb**	**01 34 06.5**	**-0.1**
PIPA				Sg	**Sb**	**01 34 10.6**	**+0.2**
	1μm,0.2s						
LADO	**San Nicola del**	**0.24**	**145**	Pg	**Pb**	**01 34 08.3**	**+0.2**
LADO				Sg	**Sb**	**01 34 14.2**	**+1.3**
	38nm,0.2s						
LADO	**San Nicola del**	**0.24**	**145**	Pg	**Pb**	**01 34 08.3**	**+0.2**
LADO				Sg	**Sb**	**01 34 14.2**	**+1.3**
	38nm,0.2s						
TIP	**Timpagrande**	**0.30**	**187**	Pg	**Pb**	**01 34 08.6**	**-0.3**
TIP				Sg	**Sn**	**01 34 14.8**	**+0.6**
	87nm,0.7s						
TIP	**Timpagrande**	**0.30**	**187**	Pg	**Pb**	**01 34 08.6**	**-0.3**
TIP				Sg	**Sn**	**01 34 14.8**	**+0.6**
	87nm,0.7s						
SERS	**Sersale**	**0.45**	**191**	Pg	**Pb**	**01 34 10.2**	**-0.8**
SERS				Sg	**Sb**	**01 34 17.4**	**-0.4**
	92nm,0.5s						
SERS	**Sersale**	**0.45**	**191**	Pg	**Pb**	**01 34 10.2**	**-0.8**
SERS				Sg	**Sb**	**01 34 17.4**	**-0.4**
	92nm,0.5s						
SALB	**San Lorenzo Be**	**0.53**	**319**	Pg	**Pb**	**01 34 12.1**	**-0.2**
	61nm,0.4s						
SALB	**San Lorenzo Be**	**0.53**	**319**	Pg	**Pb**	**01 34 12.1**	**-0.2**
	61nm,0.4s						
ORI	**Oriolo Calabro**	**0.65**	**335**	Pg	**Pn**	**01 34 14.8**	**+0.8**
	225nm,0.3s						
ORI	**Oriolo Calabro**	**0.65**	**335**	Pg	**Pn**	**01 34 14.8**	**+0.8**
	225nm,0.3s						
T0712	**Santa Domenica**	**0.81**	**295**	Pg	**Pb**	**01 34 16.9**	**+0.1**
	58nm,0.5s						
CUC	**Castrocucco**	**0.92**	**304**	Pg	**Pb**	**01 34 19.4**	**+0.8**
	45nm,0.5s						
CUC	**Castrocucco**	**0.92**	**304**	Pg	**Pb**	**01 34 19.4**	**+0.8**
	45nm,0.5s						
STON	**Ston**	**3.46**	**11**	*e*Pn	**Pn**	**01 34 52.2**	**-0.3**
STON				Sn	**Sn**	**01 35 31.8**	**-0.6**
NVLJ	**Novalja**	**5.28**	**345**	*i* Pn	**Pn**	**01 35 16.0**	**-1.6**
NVLJ				Sn	**Sn**	**01 36 16.6**	**-0.7**

IDC 30 01:36:18.5±2.3, 4.55N×72.59W, h0km, mb3.1/1, mb1 3.5/2, mb1mx3.2/41, mbtmp3.4/2, ML2.7/1, MS3.2/1, Ms1 3.3/1, ms1mx2.6/6, Error ellipse: s-maj=55.5km s-min=34.1km az=147.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**1.75**	**279**	Pn	Pn	01 36 50.6	+0.1
	77nm,0.3s,baz=114,slow=20,SNR=154						
ROSC				Sn	Sn	01 37 10.4	-3.4
	26nm,0.3s,baz=31,slow=22,SNR=8.6						
SDV	**Santo Domingo**	**4.72**	**24**	Pn	Pn	01 37 31.1	-0.1
	3.4nm,0.3s,baz=186,slow=9.2,SNR=13						
SDV				Sn	Sn	01 38 21.0	-5.9
	2.5nm,0.3s,baz=342,slow=16,SNR=3.7						
CPUP	**Villa Florida**	**34.07**	**155**	LR	LR	01 58 44.5	
	comp=Z,46nm,21.3s,baz=164,slow=40						
YKA	**Yellowknife Ar**	**65.56**	**340**	P	P	01 47 03.8	0.0
	0.1nm,0.5s,baz=136,slow=6.4,SNR=4.2						
WRA	**Warramunga Arr**	**149.65**	**237**	PKPbc	PKPbc	01 56 10.7	-0.5
	0.2nm,0.6s,baz=109,slow=2.8,SNR=5.6						

*DDA **30** 01:50:46.9, 38.74N×43.12E, h7km, Ml2.9*
*CSEM **30** 01:50:46.7±0.2, 38.74N×43.10E, h10km, MD2.8, Error ellipse: s-maj=4.5km s-min=3.9km az=135.0*
*ATA **30** 01:50:46.4±1.7, 38.73N×43.02E, h18km±19km, ML2.9, MW2.9*
*ISK **30** 01:50:46.0, 38.75N×43.08E, h5km, MD2.8/1*
*ISCJB **30** 01:50:47.2±0.4, 38.75N±0.02×43.09E±0.03, h3km±5km, Error ellipse: s-maj=3.7km s-min=3.4km az=23.6*
ISC 30 01:50:46.7±1.0, 38.73N±0.02×43.10E±0.02, h9km±9km, n42, σ0.64/67, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.26**	**122**	PG	**Pb**	**01 50 53.3**	**-0.4**
VANB				SG	**Sb**	**01 50 59.1**	**+0.8**
VANB	**Van**	**0.26**	**122**	*e*Pg	**Pb**	**01 50 53.3**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.31**	**284**	*i* P	**Pg**	**01 50 53.4**	**+0.5**
ADCV				*i* S	**Sb**	**01 50 59.2**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.31**	**284**	P	**Pg**	**01 50 53.4**	**+0.5**
ADCV				S	**Sb**	**01 50 59.2**	**-0.5**
TVAN	**Van**	**0.31**	**131**	*i* P	**Pg**	**01 50 53.2**	**+0.2**
TVAN				*i* S	**Sb**	**01 50 59.0**	**-0.8**
TVAN	**Van**	**0.31**	**131**	P	**Pg**	**01 50 53.2**	**+0.2**
TVAN				S	**Sb**	**01 50 59.0**	**-0.8**
ERCV	**ERCIS-VAN**	**0.34**	**32**	PG	**Pg**	**01 50 53.4**	**-0.1**
ERCV	**ERCIS-VAN**	**0.34**	**32**	*e*Pg	**Pg**	**01 50 53.4**	**-0.1**
GEVA	**Gevas**	**0.42**	**185**	*i* P	**Pg**	**01 50 54.4**	**-0.6**
GEVA				*e*S	**Sb**	**01 51 02.2**	**-0.8**
GEVA				IAML		01 51 06.8	
	comp=Z,75nm,0.4s						
GEVA	**Gevas**	**0.42**	**185**	*i* P	**Pg**	**01 50 54.2**	**-0.8**
GEVA				*i* S	**Sb**	**01 51 02.7**	**-0.3**
GEVA	**Gevas**	**0.42**	**185**	P	**Pg**	**01 50 54.2**	**-0.8**
GEVA				S	**Sb**	**01 51 02.7**	**-0.3**
VMUR	**Van-Muradiye**	**0.45**	**55**	*i* P	**Pg**	**01 50 55.9**	**+0.4**
VMUR				*i* S	**Sb**	**01 51 03.1**	**-0.6**
VMUR	**Van-Muradiye**	**0.45**	**55**	P	**Pg**	**01 50 55.9**	**+0.4**
VMUR				S	**Sb**	**01 51 03.1**	**-0.6**
TUTA	**Tutak**	**0.70**	**341**	*e*P	**Pg**	**01 51 00.2**	**-0.1**
TUTA				*e*S	**Sg**	**01 51 10.2**	**+0.6**
TUTA	**Tutak**	**0.70**	**341**	*i* P	**Pg**	**01 51 00.4**	**0.0**
TUTA				*i* S	**Sb**	**01 51 10.6**	**-0.6**
TUTA	**Tutak**	**0.70**	**341**	P	**Pg**	**01 51 00.4**	**0.0**
TUTA				S	**Sb**	**01 51 10.6**	**-0.6**
CLDR	**Caldiran**	**0.76**	**57**	PG	**Pg**	**01 51 00.3**	**-1.0**
CLDR				SG	**Sb**	**01 51 12.0**	**-0.6**
CLDR	**Caldiran**	**0.76**	**57**	*i* P	**Pg**	**01 51 00.2**	**-1.0**
CLDR				*i* S	**Sb**	**01 51 13.0**	**+0.4**
CLDR	**Caldiran**	**0.76**	**57**	*e*Pg	**Pg**	**01 51 00.3**	**-1.0**
CLDR				*e*Sg	**Sb**	**01 51 12.0**	**-0.6**
CLDR				S	**Sb**	**01 51 13.0**	**+0.4**
AGRB	**Hanur-Agry**	**0.85**	**354**	PG	**Pg**	**01 51 02.7**	**-0.3**
AGRB				SG	**Sb**	**01 51 14.7**	**-0.5**
AGRB	**Hanur-Agry**	**0.85**	**354**	*e*Pg	**Pg**	**01 51 02.7**	**-0.3**
AGRB				*e*Sg	**Sb**	**01 51 14.7**	**-0.5**
GURO	**Guroymak-BITLI**	**0.86**	**258**	PG	**Pg**	**01 51 02.5**	**-0.8**
GURO				SG	**Sg**	**01 51 14.4**	**-0.1**
GURO	**Guroymak-BITLI**	**0.86**	**258**	*e*Pg	**Pg**	**01 51 02.5**	**-0.8**
GURO				*e*Sg	**Sg**	**01 51 14.4**	**-0.1**
DYDN	**Diyadin**	**0.93**	**29**	*e*P	**Pg**	**01 51 04.8**	**+0.2**
DYDN				*i* Pg	**Pn**	**01 51 07.0**	**+0.9**
EKAR	**Karacoban**	**0.96**	**303**	*e*P	**Pg**	**01 51 05.1**	**-0.1**
EKAR	**Karacoban**	**0.96**	**303**	*i* S	**Sn**	**01 51 20.5**	**-0.1**
EKAR	**Karacoban**	**0.96**	**303**	S	**Sn**	**01 51 20.5**	**-0.1**
SRTM	**Siirt_Merkez**	**1.19**	**232**	*i* P	**Pg**	**01 51 09.5**	**0.0**
SRTM				*i* S	**Sn**	**01 51 27.8**	**+

ellipse: s-maj=45.0km s-min=29.4km az=54.0
*ISCJB **30** 02:03:13.0±1.5, 36°.85N±0°.04×141°.51E±0°.09, h15km±9km, mb3.3/3, Error ellipse: s-maj=12.2km s-min=7.2km az=12.6*

*JMA **30** 02:03:15.0±0.1, 36°.87N×141°.39E, h31km±1km, M3.2*

ISC 30 02:03:14.4±2.1, 36°.87N±0°.05×141°.40E±0°.09, h13km±10km, n19, σ0s84/22, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.54**	**296**	P	**Pb**	**02 03 25.5**	**-0.3**
ONAJ				S	**Sg**	**02 03 32.9**	**+0.8**
JFK	**Kawauchi**	**0.66**	**320**	P	**Pg**	**02 03 27.2**	**+0.1**
JFK				S	**Sg**	**02 03 35.9**	**+0.1**
JHO	**Hitachi**	**0.72**	**250**	P	**Pg**	**02 03 28.2**	**-0.1**
JHO				S	**Sg**	**02 03 38.1**	**+0.4**
JFT	**Otama**	**1.07**	**308**	P	**Pn**	**02 03 34.7**	**-0.5**
JFT				S	**Sb**	**02 03 48.3**	**-0.5**
JMM	**Marumori**	**1.11**	**334**	P	**Pb**	**02 03 34.7**	**-0.8**
JMM				S	**Sb**	**02 03 49.0**	**-0.9**
JYT	**Yasato**	**1.16**	**237**	P	**Pn**	**02 03 35.1**	**-1.3**
JYT				*e*S	**Sb**	**02 03 50.4**	**-0.9**
JSB	**Shiboa**	**1.19**	**275**	P	**Pb**	**02 03 36.7**	**-0.2**
JFY	**Yanaizu**	**1.46**	**292**	P	**Pn**	**02 03 40.6**	**+0.1**
JFY				S	**Sn**	**02 03 59.4**	**-0.2**
MJAR	**Matsushiro Arr**	**2.59**	**264**	Pn	**Pn**	**02 03 56.4**	**+0.4**
	0.7nm,0.3s,baz=88,slow=14,SNR=5.2						
MJAR				Sn	**Sb**	**02 04 30.3**	**-2.1**
	2.2nm,0.3s,baz=84,slow=12,SNR=4.7						
MAT	**Matsushiro**	**2.59**	**264**	P	**Pn**	**02 03 56.4**	**+0.4**
MAT				S	**Sb**	**02 04 33.5**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**28.07**	**120**	T	T	02 38 30.2	
	baz=313,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	02 38 28.8	
	baz=313,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	02 38 30.2	
	baz=313,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.77**	**123**	T	T	02 39 22.7	
	baz=315,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.77**	**123**	T	T	02 39 26.3	
	baz=315,slow=75,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**28.79**	**123**	T	T	02 39 24.9	
	baz=315,slow=75,SNR=8.4						
MKAR	**Makanchi Array**	**44.20**	**302**	P	**P**	**02 11 24.0**	**+0.9**
	0.3nm,0.7s,baz=90,slow=9.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**46.10**	**308**	P	**P**	**02 11 38.6**	**+0.5**
	0.1nm,0.2s,baz=85,slow=8.3,SNR=2.8						
WRA	**Warramunga Arr**	**56.89**	**188**	P	**P**	**02 12 59.6**	**+0.5**
	0.4nm,1.0s,baz=5.8,slow=7.2,SNR=3.0						

*IDC **30** 02:11:49.5±0.9, 29°.34S×176°.20W, h0km, mb4.0/5, mb1 4.3/7, mb1mx4.0/39, mbtmp4.0/7, ML3.8/2, MS3.4/4, Ms1 3.4/4, ms1mx2.8/41, Error ellipse: s-maj=39.1km s-min=21.5km az=137.0*

*NEIC **30** 02:11:56.0±1.7, 29°.64S×176°.14W, h51km±14km, mb4.2/3, Error ellipse: s-maj=17.4km s-min=15.0km az=125.0*

ISC 30 02:11:53.5±0.7, 29°.4S±0°.1×176°.11W±0°.08, h28km, n26, σ1s10/22, mb4.1/8, MS3.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.59**	**276**	Pn	**Pb**	**02 12 22.1**	**-0.1**
	408nm,0.3s,baz=147,slow=3.5,SNR=16						
RAO				Sn	**Sb**	**02 12 42.9**	**+1.0**
	362nm,0.3s,baz=101,slow=23,SNR=7.6						
URZ	**Urewera**	**10.45**	**211**	Pn	**Pn**	**02 14 19.9**	**-1.5**
	0.5nm,0.3s,baz=319,slow=20,SNR=5.8						
URZ				Sn	**Sn**	**02 16 18.7**	**+1.2**
	2.5nm,0.3s,baz=126,slow=18,SNR=10						
DZM	**Mont Dzumac**	**17.33**	**291**	LR	LR	02 21 05.7	
	comp=Z,87nm,21.6s,baz=46,slow=32						
DZM	**Mont Dzumac**	**17.33**	**291**	*e*LR	LR	02 20 07.7	
	150nm,29.4s						
RPZ	**Rata Peaks**	**17.56**	**212**	P	**Pn**	**02 15 55.0**	**-1.1**
	0.4nm,0.3s,baz=214,slow=3.6,SNR=2.2						
PPT2	**Papeete2**	**26.97**	**70**	*e*LR	LR	02 23 57.3	
	149nm,27.0s						
PPT	**Papeete**	**26.98**	**70**	LR	LR	02 26 53.6	
	comp=Z,36nm,19.4s,baz=186,slow=34						
CAN	**Canberra**	**29.94**	**250**	*e*P	**P**	**02 17 59.2**	**-0.1**
	4.2nm,0.8s						
STKA	**Stephens Creek**	**36.30**	**255**	LR	LR	02 33 12.0	
	comp=Z,56nm,18.8s,baz=44,slow=35						
ASAR	**Alice Springs**	**44.81**	**265**	P	**P**	**02 20 05.7**	**+0.4**
	0.6nm,0.4s,baz=105,slow=7.4,SNR=9.8						
WRAB	**Tennant Creek**	**45.71**	**270**	*e*P	**P**	**02 20 12.6**	**+0.2**
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**45.72**	**270**	P	**P**	**02 20 12.5**	**+0.1**
	0.8nm,0.3s,baz=109,slow=6.2,SNR=33						
BATI	**Baumata**	**59.17**	**276**	LR	LR	02 49 03.7	
	comp=Z,74nm,18.2s,baz=166,slow=38						
NVAR	**Mina Array Bea**	**86.42**	**42**	P	**P**	**02 24 34.8**	**+1.3**
	0.6nm,0.8s,baz=234,slow=8.6,SNR=5.4						
KULM	**Kulim**	**86.71**	**278**	*e*P	**P**	**02 24 34.7**	**-0.6**
TUC	**Tucson**	**87.23**	**50**	*e*P	**P**	**02 24 39.5**	**+2.0**
	1.0nm,0.4s						
TXAR	**Lajitas Array**	**90.49**	**56**	P	**P**	**02 24 53.9**	**+1.0**
	0.9nm,1.1s,baz=193,slow=5.1,SNR=3.9						
ILAR	**Eielson Array**	**96.63**	**12**	P	**P**	**02 25 18.9**	**-1.3**
	0.7nm,1.0s,baz=209,slow=7.5,SNR=4.1						
KURK	**Kurchatov**	**121.56**	**314**	PKP	**PKPdf**	**02 30 43.7**	**-0.3**
KURBB	**Kurchatov Arra**	**121.61**	**314**	PKP	**PKPdf**	**02 30 43.7**	**-0.4**
	0.3nm,0.7s,baz=75,slow=2.0,SNR=3.3						
FINES	**FINESS Array B**	**144.78**	**342**	PKP	**PKPdf**	**02 31 26.2**	**-0.7**
	1.2nm,0.6s,baz=27,slow=2.1,SNR=6.9						
NB2	**NORSAR Subarra**	**148.02**	**353**	PKP	**PKPbc**	**02 31 36.2**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=8.3,slow=2.9						
NOA	**NORSAR Array B**	**148.02**	**353**	PKPbc	**PKPbc**	**02 31 35.8**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=348,slow=3.7,SNR=5.2						
HFS	**Hagfors**	**148.59**	**351**	PKPbc	**PKPbc**	**02 31 36.7**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=90,slow=3.0,SNR=5.1						
AKASG	**Malin Array Be**	**151.49**	**325**	PKPbc	**PKPbc**	**02 31 43.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=63,slow=1.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**163.67**	**172**	PKPab	**PKPab**	**02 32 48.3**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=209,slow=4.3,SNR=4.2						

*IDC **30** 02:50:50.8±0.8, 55°.62S×26°.85W, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/27, mbtmp3.8/6, ML3.4/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/26, Error ellipse: s-maj=39.6km s-min=20.6km az=71.0*

*ISCJB **30** 02:50:52.2±0.8, 55°.6S±0°.1×26°.8W±0°.3, h25km, mb4.0/8, MS3.1/3, Error ellipse: s-maj=24.3km s-min=12.2km az=141.0*

*NEIC **30** 02:50:52.5±8.7, 55°.60S×26°.73W, h14km±53km, mb4.2/3, Error ellipse: s-maj=28.9km s-min=10.6km az=52.0*

ISC 30 02:50:54.6±0.8, 55°.6S±0°.1×27°.0W±0°.1, h25km, n20, σ1s25/14, mb4.0/8, MS3.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.65**	**280**	*e*Pn	**Pn**	**02 52 18.5**	**+1.6**
HOPE				*e*Sn	**Sn**	**02 53 18.3**	**-2.5**
SNAA	**Sanae**	**19.07**	**157**	P	**P**	**02 55 13.2**	**-1.5**
	0.1nm,0.3s,baz=260,slow=11,SNR=5.4						
TRQA	**Tornquist**	**29.28**	**292**	*e*P	**P**	**02 56 54.4**	**-0.2**
	1.5nm,0.6s						
QSPA	**South Pole Qui**	**34.61**	**180**	P	**P**	**02 57 41.1**	**-0.1**
	1.8nm,0.9s,baz=184,slow=1.9,SNR=4.9						
CPUP	**Villa Florida**	**36.64**	**311**	P	**P**	**02 57 58.6**	**-0.2**
	1.2nm,0.6s,baz=164,slow=9.0,SNR=4.4						
CPUP				LR	LR	03 13 42.2	
	comp=Z,25nm,18.2s,baz=156,slow=37						
LCO	**Las Campanas**	**40.86**	**292**	*e*P	**P**	**02 58 36.1**	**+1.6**
	5.1nm,0.9s						
BOSA	**Boshof**	**45.75**	**76**	LR	LR	03 15 50.0	
	comp=Z,53nm,18.6s,baz=204,slow=33						
VNDA	**Vanda**	**46.98**	**183**	P	**P**	**02 59 23.7**	**+0.9**
	1.2nm,0.7s,baz=156,slow=5.4,SNR=5.5						
H10S2	**ASCENSION HYDR**	**47.58**	**17**	T	T	03 51 49.2	
	baz=189,slow=74,SNR=20						
H10S3	**ASCENSION HYDR**	**47.58**	**17**	T	T	03 51 47.5	
	baz=189,slow=74,SNR=14						
H10S1	**ASCENSION HYDR**	**47.59**	**17**	T	T	03 51 53.8	
	baz=189,slow=74,SNR=13						
H10N1	**ASCENSION HYDR**	**48.69**	**17**	T	T	03 53 17.2	
	baz=189,SNR=4.1						
H10N3	**ASCENSION HYDR**	**48.70**	**17**	T	T	03 53 19.1	
	baz=189,SNR=17						
H10N2	**ASCENSION HYDR**	**48.71**	**17**	T	T	03 53 13.9	
	baz=189,SNR=5.9						
LPAZ	**La Paz**	**50.24**	**305**	P	**P**	**02 59 49.6**	**+0.4**
	1.4nm,0.8s,baz=195,slow=7.9,SNR=4.4						
LPAZ				LR	LR	03 20 39.1	
	comp=Z,12nm,21.5s,baz=173,slow=36						
SAML	**Samuel**	**54.60**	**314**	*e*P	**P**	**03 00 19.5**	**-1.4**
	1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.64**	**29**	P	**P**	**03 02 19.7**	**-0.1**
	0.3nm,0.6s,baz=202,slow=6.0,SNR=5.3						
INK	**Inuvik**	**145.56**	**321**	PKPbc	**PKPab**	**03 10 28.9**	**-0.4**
	0.8nm,0.5s,baz=51,slow=2.0,SNR=9.4						
ILAR	**Eielson Array**	**149.94**	**312**	PKPbc	**PKPbc**	**03 10 40.9**	**-0.2**
	1.4nm,1.0s,baz=133,slow=4.7,SNR=13						
SONM	**Songino Array**	**150.58**	**86**	PKPbc	**PKPbc**	**03 10 43.5**	**+0.2**
	0.5nm,0.7s,baz=225,slow=3.9,SNR=2.2						

MEX 30 03:10:00.4±0.6, 16°.49N×98°.60W, h4km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**102**	*e*P	Pg	03 10 09.1	-0.2
PNIG				*i* S	Sg	03 10 15.3	0.0
TLIG	**Tlapa**	**1.07**	**2**	*e*P	Pg	03 10 18.5	-2.4
TLIG				*i* S	Sg	03 10 31.9	-2.9
VHO	**Vista Hermosa**	**1.88**	**72**	*e*P	Pn	03 10 29.4	-4.1
VHO				*i* S	Sn	03 10 53.7	-4.1
HUIG	**Huatulco**	**2.50**	**106**	*e*P	Pn	03 10 39.0	-2.8
HUIG				*i* S	Sn	03 11 08.1	-4.8

*ISCJB **30** 03:19:33.6±0.6, 35°.15S±0°.04×72°.08W±0°.08, h48km±6km, mb3.6/3, Error ellipse: s-maj=12.0km s-min=4.6km az=23.2*

*GUC **30** 03:19:33.9±0.6, 35°.15S×72°.05W, h43km±1km, ML3.6*

*IDC **30** 03:19:34.6±1.3, 35°.28S×70°.06W, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.6/28, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=44.4km s-min=23.2km az=93.0*

*SJA **30** 03:20:11.9±0.7, 32°.35S×69°.20W, h136km, MD3.7*

ISC 30 03:19:33.5±1.5, 35°.14S±0°.04×72°.13W±0°.07, h33km±3km, n17, σ1s30/26, mb3.9/3, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.21**	**52**	⇓*i*P	**Pn**	**03 19 40.9**	**+0.8**
GO05				*i* S	**Sb**	**03 19 46.6**	**+1.8**
NICH	**Los Niches**	**0.75**	**80**	⇓*i*P	**Pn**	**03 19 47.0**	**-0.8**
NICH				*i* S	**Sn**	**03 19 56.7**	**-1.4**
CHPI	**Pichilemu**	**0.76**	**8**	*e*P	**Pn**	**03 19 47.6**	**-0.3**
CHPI				*i* S	**Sn**	**03 19 58.7**	**+0.6**
COCH	**Cobquecura**	**1.12**	**208**	⇓*i*P	**Pn**	**03 19 53.4**	**+0.5**
COCH				*i* S	**Sn**	**03 20 08.3**	**+1.1**
CCHI	**Chillan**	**1.46**	**178**	*e*P	**Pn**	**03 19 58.0**	**+0.4**
CCHI				*e*S	**Sn**	**03 20 16.2**	**+0.7**
CCHI				IAML		03 20 22.1	
	comp=N,1μm,0.7s						
RCDM	**Rinconada Maip**	**1.98**	**34**	*e*P	**Pn**	**03 20 04.8**	**0.0**
RCDM				*e*S	**Sn**	**03 20 28.1**	**-0.3**
RCDM				IAML		03 20 35.2	
	comp=N,448nm,0.5s						
LMEL	**Las Melosas**	**2.05**	**52**	⇑*i*P	**Pn**	**03 20 06.2**	**+0.4**
LMEL				*i* S	**Sn**	**03 20 30.3**	**-0.1**
LMEL				IAML		03 20 36.3	
	comp=N,659nm,0.2s						
PEL	**Peldehue**	**2.33**	**31**	⇑*i*P	**Pn**	**03 20 10.0**	**+0.5**
PEL				*i* S	**Sn**	**03 20 36.5**	**-0.5**
ROCH	**El Roble**	**2.35**	**24**	⇓*i*P	**Pn**	**03 20 10.4**	**+0.3**
ROCH				*i* S	**Sn**	**03 20 38.5**	**+0.6**
ROCH				IAML		03 20 49.3	
	comp=N,592nm,0.7s						
FCH	**Farellones**	**2.37**	**41**	*e*P	**Pn**	**03 20 10.8**	**+0.5**
FCH				*i* S	**Sn**	**03 20 38.7**	**+0.4**
FCH				IAML		03 20 46.6	
	comp=E,508nm,0.2s						
AAGR	**Agrelo**	**3.42**	**54**	*i* P	**Pn**	**03 20 26.4**	**+1.8**
AAGR				*i* S	Sn	03 20 44.6	-20
AUSP	**Uspallata**	**3.70**	**39**	*i* P	**Pn**	**03 20 31.3**	**+2.6**
AUSP				*i* S	Sn	03 20 46.5	-25
ASAL	**Salagasta**	**3.74**	**48**	*i* P	**Pn**	**03 20 32.1**	**+3.2**
ASAL				*i* S	Sn	03 20 46.2	-26
PLCA	**Paso Flores**	**5.72**	**168**	Pn	**Pn**	**03 20 57.4**	**+1.2**
	comp=E,0.4nm,0.3s,baz=7.4,slow=12,SNR=15						
PLCA				Lg	Lg	03 22 27.8	
	comp=E,0.2nm,0.3s,baz=135,slow=22,SNR=3.1						
TXAR	**Lajitas Array**	**70.69**	**331**	P	P	03 30 58.2	+12
	comp=E,0.2nm,0.8s,baz=146,slow=5.0,SNR=2.6						
KOWA	**Kowa**	**81.18**	**65**	P	**P**	**03 31 44.9**	**-1.3**
	comp=E,1.0nm,0.7s,baz=239,slow=12,SNR=4.3						
TORD	**Torodi Ar. Bea**	**84.67**	**70**	P	**P**	**03 32 02.5**	**-1.8**
	comp=E,0.5nm,0.6s,baz=229,slow=4.2,SNR=6.0						

*NIED **30** 03:37:00, 38°.90N×142°.10E, h44km, Mw3.8 Best double couple: M0 5.57000×10^14 NP1:ϕ=204.00000°, δ=22.00000°, λ=90.00000°. NP2:ϕ=23.00000°, δ=68.00000°, λ=90.00000°.*

*ISCJB **30** 03:37:06.2±0.9, 38°.84N±0°.05×142°.1E±0°.1, h54km±6km, mb3.9/14, Error ellipse: s-maj=14.1km s-min=7.3km az=19.4*

*JMA **30** 03:37:07.2±0.1, 38°.86N×142°.04E, h46km±1km, M3.7*

JMA Felt II J1.

*IDC **30** 03:37:09.2±2.4, 38°.80N×142°.08E, h68km±20km, mb3.7/14, mb1 3.7/18, mb1mx3.5/66, mbtmp3.9/18, MS2.5/3, Ms1 2.5/3, ms1mx2.3/58, Error ellipse: s-maj=21.3km s-min=14.9km az=92.0*

ISC 30 03:37:07.2±1.5, 38°.83N±0°.06×142°.1E±0°.1, h47km±11km, n35, σ1s91/36, mb4.0/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.41**	**308**	P	**Pn**	**03 37 16.8**	**-0.4**
OFUJ				S	**Sn**	**03 37 23.4**	**-0.9**
JMK	**Ichinoseki**	**0.69**	**280**	P	**Pn**	**03 37 20.2**	**-0.4**
JMK				S	**Sn**	**03 37 29.3**	**-1.0**
JIO	**Ouri**	**0.69**	**237**	P	**Pn**	**03 37 20.3**	**-0.4**
JIO				S	**Sn**	**03 37 29.2**	**-1.2**
JOM	**Ohasama**	**0.89**	**316**	P	**Pn**	**03 37 23.0**	**-0.4**
JOM				S	**Sn**	**03 37 34.2**	**-1.0**
JOU	**Okura**	**1.21**	**248**	P	**Pn**	**03 37 27.4**	**-0.3**
JOU				*e*S	**Sn**	**03 37 42.4**	**-0.5**
JRG	**Rokugo**	**1.26**	**297**	P	**Pn**	**03 37 28.1**	**-0.3**
JYK	**Kaneyama**	**1.35**	**274**	P	**Pn**	**03 37 29.4**	**-0.2**
JMM	**Marumori**	**1.40**	**227**	P	**Pn**	**03 37 29.8**	**-0.5**
JANG	**Nango**	**1.60**	**344**	P	**Pn**	**03 37 32.5**	**-0.6**
MAT	**Matsushiro**	**3.83**	**235**	P	**Pn**	**03 38 06.2**	**+2.5**
MAT				S	**Sn**	**03 38 53.6**	**+6.1**
MJAR	**Matsushiro Arr**	**3.83**	**235**	P	**Pn**	**03 38 05.6**	**+1.9**
	3.2nm,0.3s,baz=33,slow=12,SNR=41						
MJAR				S	**Sn**	**03 38 41.2**	**-6.2**
	2.5nm,0.3s,baz=42,slow=13,SNR=5.7						
MJAR				LR	LR	03 39 53.7	
	comp=Z,53nm,18.8s,baz=65,slow=43						
ASAJ	**Asahikawa**	**5.29**	**4**	P	**Pn**	**03 38 24.7**	**+1.0**
	1.6nm,0.3s,baz=193,slow=19,SNR=18						
USRK	**Ussuriysk Ar.**	**9.28**	**309**	P	**Pn**	**03 39 21.2**	**+3.0**
	0.4nm,0.3s,baz=120,slow=14,SNR=6.5						
JNU	**Nakatsue**	**10.71**	**241**	LR	LR	03 43 38.3	
	comp=Z,22nm,19.1s,baz=117,slow=36						
KSRS	**Korea Array**	**11.24**	**267**	P	**Pn**	**03 39 48.1**	**+3.0**
	0.3nm,0.3s,baz=83,slow=13,SNR=3.9						
KSRS				LR	LR	03 43 42.0	
	comp=Z,26nm,19.0s,baz=65,slow=35						
SEY	**Seymchan**	**24.93**	**11**	P	**P**	**03 42 25.4**	**-0.2**
	2.4nm,0.8s,baz=202,slow=5.9,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	04 13 24.5	
	baz=317,slow=75,SNR=892						
H11N1	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	04 13 25.2	
	baz=317,slow=75,SNR=1262						
H11N3	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	04 13 25.9	
	baz=317,slow=75,SNR=1126						
H11S1	**WAKE ISLAND Hy**	**29.45**	**126**	T	T	04 14 22.7	
	baz=318,slow=76,SNR=211						
H11S3	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	04 14 21.4	
	baz=318,slow=76,SNR=218						
H11S2	**WAKE ISLAND Hy**	**29.46**	**126**	T	T	04 14 24.9	
	baz=318,slow=76,SNR=161						
ZALV	**Zalesovo Beam**	**41.12**	**311**	P	**P**	**03 44 45.9**	**-0.4**
	1.2nm,0.4s,baz=81,slow=9.2,SNR=6.7						
MKAR	**Makanchi Array**	**43.64**	**301**	P	**P**	**03 45 06.8**	**-0.2**
	1.9nm,0.6s,baz=86,slow=9.9,SNR=22						
KURBB	**Kurchatov Arra**	**45.33**	**307**	P	**P**	**03 45 19.9**	**-0.4**
	6.2nm,0.5s,baz=81,slow=8.2,SNR=33						
ILAR	**Eielson Array**	**47.70**	**33**	P	**P**	**03 45 39.8**	**+1.1**
	0.5nm,0.6s,baz=264,slow=6.4,SNR=5.1						
BVAR	**Borovoye Array**	**49.77**	**311**	P	**P**	**03 45 54.5**	**-0.3**
	1.6nm,0.4s,baz=68,slow=7.6,SNR=11						
BVAR				PcP	**PcP**	**03 47 15.2**	**+0.1**
	0.6nm,0.5s,baz=108,slow=3.2,SNR=3.8						
AKTO	**Aktyubinsk**	**57.88**	**311**	P	**P**	**03 46 53.8**	**-0.2**
	0.7nm,0.4s,baz=70,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**58.91**	**189**	P	**P**	**03 47 01.1**	**-0.3**
	0.6nm,0.5s,baz=6.7,slow=7.0,SNR=20						
ASAR	**Alice Springs**	**62.64**	**188**	P	**P**	**03 47 25.5**	**-1.3**
	0.2nm,0.4s,baz=357,slow=4.6,SNR=3.3						
FINES	**FINESS Array B**	**67.47**	**332**	P	**P**	**03 47 57.1**	**-0.6**
	1.7nm,0.9s,baz=32,slow=11,SNR=5.1						
HFS	**Hagfors**	**72.67**	**336**	P	**P**	**03 48 29.7**	**+0.1**
	1.5nm,0.8s,baz=54,slow=7.3,SNR=3.7						
AKASG	**Malin Array Be**	**73.20**	**322**	P	**P**	**03 48 32.5**	**-0.4**
	0.5nm,0.4s,baz=46,slow=5.8,SNR=5.2						
BRTR	**Keskin Array B**	**78.06**	**312**	P	**P**	**03 49 00.7**	**-0.4**
	1.6nm,1.2s,baz=98,slow=3.6,SNR=4.9						
TXAR	**Lajitas Array**	**88.61**	**53**	P	**P**	**03 49 54.8**	**-0.6**
	0.1nm,0.7s,baz=330,slow=5.2,SNR=2.6						

*SOME **30** 03:54:18.8, 44°.63N×82°.13E, h15km*

*NNC **30** 03:54:20.1±0.7, 44°.60N×82°.06E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=9.9km s-min=1.8km az=117.0*

*ISCJB **30** 03:54:23.7±1.7, 44°.59N±0°.08×82°.3E±0°.2, h33km, Error ellipse: s-maj=18.1km s-min=6.9km az=30.3*

ISC 30 03:54:26.6±2.2, 44°.69N±0°.1×82°.1E±0°.1, h35km, n6, σ2s17/9, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**2.06**	**288**	*e*S	**Sn**	**03 55 24.2**	**+0.8**
	20nm,0.5s						
KAPS	**Kapalarasan**	**2.06**	**288**	*e*P	**Pn**	**03 54 56.9**	**-2.0**
	0.9nm,0.2s						
MK31	**Makanchi Array**	**2.11**	**3**	Pn	**Pn**	**03 54 58.1**	**-1.3**
	3.9nm,0.3s,baz=186,slow=15,SNR=158						
MK31				⇑Sn	**Sn**	**03 55 26.6**	**+2.2**
	5.3nm,0.3s,baz=182,slow=27,SNR=23						
MAKZ	**Makanchi**	**2.12**	**357**	⇑Pn	**Pn**	**03 54 57.9**	**-1.7**
	3.4nm,0.4s						
MAKZ				⇑Sn	**Sn**	**03 55 27.0**	**+2.2**
	9.0nm,0.5s						
PDGK	**Podgornoye**	**2.35**	**235**	⇓Pg	**Pn**	**03 55 01.1**	**-1.7**
	1.4nm,0.3s						
PDGK				⇑Lg	Lg	03 55 32.0	
	11nm,0.6s						
SATY	**Saty**	**3.15**	**240**	*e*P	**Pn**	**03 55 13.6**	**-0.3**
	6.0nm,0.3s						
SATY				*e*S	**Sn**	**03 55 52.9**	**+2.5**
	6.5nm,0.4s						

IDC 30 04:23:48.0±2.7, 5°.60S×127°.87E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.2/57, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=311.8km s-min=32.8km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.58**	**157**	Pn	Pn	04 27 28.9	-0.3
	0.1nm,0.3s,baz=335,slow=15,SNR=4.7						
WRA				Sn	Sn	04 30 10.7	-12
	0.3nm,0.3s,baz=336,slow=24,SNR=6.8						
ASAR	**Alice Springs**	**18.88**	**163**	Pn	Pn	04 28 10.8	+0.3
	0.1nm,0.3s,baz=340,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**65.91**	**327**	P	P	04 34 35.8	0.0
	0.2nm,0.6s,baz=120,slow=5.2,SNR=2.9						

*MDD **30** 04:32:25.2±2.0, 40°.46N×15°.19W, h0km, mb4.2/7, Error ellipse: s-maj=18.1km s-min=14.9km az=71.0, PRXIMO*

*INMG **30** 04:32:27.4±0.8, 40°.52N×15°.56W, h5km, ML2.5, Error ellipse: s-maj=5.2km s-min=3.6km az=79.0*

*CSEM **30** 04:32:29.6±0.3, 40°.45N×14°.69W, h5km, ML3.2/8, Error ellipse: s-maj=6.5km s-min=5.3km az=70.0*

ISC 30 04:32:26.7±3.3, 40°.47N±0°.05×14°.9W±0°.2, h10km, n84, σ1s23/154, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**4.62**	**107**	*e*Pn	**Pn**	**04 33 38.0**	**+1.4**
PMAFR				*e*Sn	**Sn**	**04 34 31.0**	**+0.7**
PMAFR				A	A	04 34 35.0	
	18nm,0.2s						
PMAFR	**Mafra**	**4.62**	**107**	P	**Pn**	**04 33 38.0**	**+1.4**
	1.3nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**04 34 31.9**	**+1.6**
	16nm,0.4s,SNR=8.3						
PMAFR	**Mafra**	**4.62**	**107**	P	**Pn**	**04 33 38.0**	**+1.4**
	1.3nm,0.1s,SNR=7.9						
PMAFR				*e*Sn

ELOB	**Lobios**	**5.38**	**73**	P		**Pn**	**04 33 47.7**	**+0.6**
	1.1nm,0.1s,SNR=14							
ELOB				S		**Sn**	**04 34 48.8**	**-0.3**
	1.9nm,0.1s,SNR=4.8							
ELOB	**Lobios**	**5.38**	**73**	P		**Pn**	**04 33 47.7**	**+0.6**
	1.1nm,0.1s,SNR=14							
ELOB				S		**Sn**	**04 34 48.8**	**-0.3**
	1.9nm,0.1s,SNR=4.8							
POLO	**Lamas de Olo**	**5.49**	**78**	*e*Pn		**Pn**	**04 33 49.8**	**+1.1**
POLO				*e*Sn		**Sn**	**04 34 50.7**	**-1.2**
POLO				A		A	04 34 59.6	
	0.9nm,0.4s							
POLO	**Lamas de Olo**	**5.49**	**78**	*e*Pn		**Pn**	**04 33 49.8**	**+1.1**
POLO				*e*Sn		**Sn**	**04 34 50.7**	**-1.2**
	0.9nm,0.4s							
PNCL	**Nicolau / Gran**	**5.50**	**113**	*e*Pn		**Pn**	**04 33 49.7**	**+1.0**
PNCL				*e*Sn		**Sn**	**04 34 51.7**	**-0.4**
PNCL				A		A	04 34 56.5	
	2.7nm,0.3s							
PNCL	**Nicolau / Gran**	**5.50**	**113**	*e*Pn		**Pn**	**04 33 49.7**	**+1.0**
PNCL				*e*Sn		**Sn**	**04 34 51.7**	**-0.4**
	2.7nm,0.3s							
EAGO	**Agolada(Pontev**	**5.64**	**63**	P		**Pn**	**04 33 51.2**	**+0.6**
	1.2nm,0.1s,SNR=7.9							
EAGO				S		**Sn**	**04 34 54.2**	**-1.3**
	2.0nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**5.64**	**63**	P		**Pn**	**04 33 51.2**	**+0.6**
	1.2nm,0.1s,SNR=7.9							
EAGO				S		**Sn**	**04 34 54.2**	**-1.3**
	2.0nm,0.1s,SNR=7.9							
MTE	**Manteigas**	**5.65**	**88**	*e*Pn		**Pn**	**04 33 51.8**	**+1.0**
MTE				*e*Sn		**Sn**	**04 34 54.9**	**-0.8**
MTE				A		A	04 34 57.5	
	3.0nm,0.5s							
MTE	**Manteigas**	**5.65**	**88**	P		**Pn**	**04 33 51.8**	**+1.0**
MTE				S		**Sn**	**04 34 54.9**	**-0.8**
	1.5nm,0.5s							
MTE	**Manteigas**	**5.65**	**88**	P		**Pn**	**04 33 51.8**	**+1.0**
MTE				S		**Sn**	**04 34 54.9**	**-0.8**
	1.5nm,0.5s							
PTEO	**Sao Teotonio**	**5.66**	**119**	*e*Pn		**Pn**	**04 33 50.7**	**-0.1**
PTEO				*e*Sn		**Sn**	**04 34 54.3**	**-1.5**
PTEO				A		A	04 35 06.9	
	6.0nm,0.9s							
PTEO	**Sao Teotonio**	**5.66**	**119**	P		**Pn**	**04 33 50.7**	**-0.1**
PTEO				S		**Sn**	**04 34 54.3**	**-1.5**
	3.0nm,0.9s							
PTEO	**Sao Teotonio**	**5.66**	**119**	P		**Pn**	**04 33 50.7**	**-0.1**
PTEO				S		**Sn**	**04 34 54.3**	**-1.5**
	3.0nm,0.9s							
EVO	**Evora**	**5.70**	**108**	*e*Pn		**Pn**	**04 33 52.7**	**+1.3**
EVO				*e*Sn		**Sn**	**04 34 56.7**	**-0.2**
EVO				A		A	04 35 01.7	
	2.3nm,0.2s							
EVO	**Evora**	**5.70**	**108**	P		**Pn**	**04 33 52.7**	**+1.3**
EVO				S		**Sn**	**04 34 56.7**	**-0.2**
	2.3nm,0.2s							
EVO	**Evora**	**5.70**	**108**	P		**Pn**	**04 33 52.7**	**+1.3**
EVO				S		**Sn**	**04 34 56.7**	**-0.2**
	2.3nm,0.2s							
PCBR	**Castelo Branco**	**5.76**	**94**	*e*Sn		**Sn**	**04 34 57.5**	**-0.8**
PCBR				A		A	04 35 01.1	
	3.9nm,0.3s							
PCBR	**Castelo Branco**	**5.76**	**94**	S		**Sn**	**04 34 57.5**	**-0.8**
	1.9nm,0.3s							
PCBR	**Castelo Branco**	**5.76**	**94**	S		**Sn**	**04 34 57.5**	**-0.8**
	1.9nm,0.3s							
PESTR	**Estremoz**	**5.89**	**103**	*e*Pn		**Pn**	**04 33 54.8**	**+0.7**
PESTR				*e*Sn		**Sn**	**04 35 00.7**	**-1.0**
PESTR				A		A	04 35 05.0	
	1.7nm,0.3s							
PESTR	**Estremoz**	**5.89**	**103**	*e*Pn		**Pn**	**04 33 54.8**	**+0.7**
PESTR				*e*Sn		**Sn**	**04 35 00.7**	**-1.0**
	1.7nm,0.3s							
PMRV	**Marv??o**	**5.90**	**98**	*e*Pn		**Pn**	**04 33 55.2**	**+1.1**
PMRV				*e*Sn		**Sn**	**04 35 00.5**	**-1.3**
PMRV				A		A	04 35 02.5	
	1.4nm,0.3s							
PMRV	**Marv??o**	**5.90**	**98**	P		**Pn**	**04 33 55.2**	**+1.1**
PMRV				S		**Sn**	**04 35 00.5**	**-1.3**
	1.4nm,0.3s							
PMRV	**Marv??o**	**5.90**	**98**	P		**Pn**	**04 33 55.2**	**+1.1**
PMRV				S		**Sn**	**04 35 00.5**	**-1.3**
	1.4nm,0.3s							
MVO	**Moncorvo**	**6.05**	**81**	*e*Pn		**Pn**	**04 33 57.9**	**+1.7**
MVO				*e*Sn		**Sn**	**04 35 03.8**	**-1.7**
MVO				A		A	04 35 09.5	
	3.5nm,0.3s							
MVO	**Moncorvo**	**6.05**	**81**	P		**Pn**	**04 33 57.6**	**+1.4**
	0.5nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**04 35 04.1**	**-1.4**
	1.3nm,0.1s,SNR=6.4							
MVO	**Moncorvo**	**6.05**	**81**	P		**Pn**	**04 33 57.6**	**+1.4**
	0.5nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**6.05**	**81**	*e*Pn		**Pn**	**04 33 57.9**	**+1.7**
MVO				*e*Sn		**Sn**	**04 35 03.8**	**-1.7**
	3.5nm,0.3s							
MVO				S		**Sn**	**04 35 04.1**	**-1.4**
	1.3nm,0.1s,SNR=6.4							
PBRG	**Braganca**	**6.34**	**75**	*e*Pn		**Pn**	**04 34 02.3**	**+2.1**
PBRG				A		A	04 35 17.2	
	1.7nm,0.4s							
PBRG	**Braganca**	**6.34**	**75**	P		**Pn**	**04 34 02.3**	**+2.1**
PBRG	**Braganca**	**6.34**	**75**	P		**Pn**	**04 34 02.3**	**+2.1**
EBAD	**Badajoz**	**6.36**	**103**	P		**Pn**	**04 34 01.2**	**+0.8**
	0.4nm,0.1s,SNR=6.4							
EBAD				S		**Sn**	**04 35 11.3**	**-1.8**
	4.5nm,0.2s,SNR=7.7							
EBAD	**Badajoz**	**6.36**	**103**	P		**Pn**	**04 34 01.2**	**+0.8**
	0.4nm,0.1s,SNR=6.4							
EBAD				S		**Sn**	**04 35 11.3**	**-1.8**
	4.5nm,0.2s,SNR=7.7							
ECAL	**Calabor**	**6.36**	**74**	P		**Pn**	**04 34 02.0**	**+1.4**
	1.4nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**04 35 13.3**	**0.0**
	2.2nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.36**	**74**	P		**Pn**	**04 34 02.0**	**+1.4**
	1.4nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**04 35 13.3**	**0.0**
	2.2nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**6.41**	**116**	*e*Pn		**Pn**	**04 34 02.6**	**+1.4**
PVAQ				*e*Sn		**Sn**	**04 35 13.2**	**-1.2**
PVAQ	**Vaqueiros**	**6.41**	**116**	P		**Pn**	**04 34 02.6**	**+1.4**
PVAQ				Sn		**Sn**	**04 35 13.2**	**-1.2**
PVAQ	**Vaqueiros**	**6.41**	**116**	P		**Pn**	**04 34 02.6**	**+1.4**
PVAQ				Sn		**Sn**	**04 35 13.2**	**-1.2**
EPON	**Pontenova**	**6.48**	**61**	P		**Pn**	**04 34 02.8**	**+0.7**
	1.2nm,0.1s,SNR=7.5							
EPON				S		**Sn**	**04 35 13.7**	**-2.4**
	0.5nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**6.48**	**61**	P		**Pn**	**04 34 02.8**	**+0.7**
	1.2nm,0.1s,SNR=7.5							
EPON				S		**Sn**	**04 35 13.7**	**-2.4**
	0.5nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**6.51**	**114**	P		**Pn**	**04 34 01.3**	**-1.2**
	1.4nm,0.3s,SNR=7.9							
EGRO				S		**Sn**	**04 35 15.2**	**-1.6**
	0.5nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**6.51**	**114**	P		**Pn**	**04 34 01.3**	**-1.2**
	1.4nm,0.3s,SNR=7.9							
EGRO				S		**Sn**	**04 35 15.2**	**-1.6**
	0.5nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**6.79**	**91**	P		**Pn**	**04 34 07.4**	**+0.9**
	0.6nm,0.2s,SNR=7.9							
EPLA				S		**Sn**	**04 35 22.9**	**-0.9**
	0.5nm,0.3s,SNR=7.9							
EPLA	**Plasencia**	**6.79**	**91**	P		**Pn**	**04 34 07.4**	**+0.9**
	0.6nm,0.2s,SNR=7.9							
EPLA				S		**Sn**	**04 35 22.9**	**-0.9**
	0.5nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.97**	**110**	P		**Pn**	**04 34 09.0**	**+0.1**
	0.2nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**04 35 27.1**	**-1.2**
	0.4nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.97**	**110**	P		**Pn**	**04 34 09.0**	**+0.1**
	0.2nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**04 35 27.1**	**-1.2**
	0.4nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**7.77**	**105**	P		**Pn**	**04 34 20.6**	**+0.8**
	0.2nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**04 35 45.1**	**-2.7**
	1.3nm,0.4s,SNR=7.9							
ECAB	**El Cabril**	**7.77**	**105**	P		**Pn**	**04 34 20.6**	**+0.8**
	0.2nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**04 35 45.1**	**-2.7**
	1.3nm,0.4s,SNR=7.9							

EARI	**Arriondas**	**7.79**	**66**	P		**Pn**	**04 34 21.6**	**+1.4**
	0.9nm,0.3s,SNR=6.2							
EARI	**Arriondas**	**7.79**	**66**	P		**Pn**	**04 34 21.6**	**+1.4**
	0.9nm,0.3s,SNR=6.2							
PAB	**San Pablo**	**8.19**	**93**	P		**Pn**	**04 34 26.6**	**+1.0**
	0.2nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**04 35 56.1**	**-2.1**
	0.9nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**8.19**	**93**	P		**Pn**	**04 34 26.6**	**+1.0**
	0.2nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**04 35 56.1**	**-2.1**
	0.9nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**8.36**	**103**	P		**Pn**	**04 34 28.6**	**+0.6**
	0.6nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**04 35 60.0**	**-2.4**
	0.6nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**8.36**	**103**	P		**Pn**	**04 34 28.6**	**+0.6**
	0.6nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**04 36 00.0**	**-2.4**
	0.6nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**8.46**	**92**	P		**Pn**	**04 34 30.4**	**+1.0**
	0.3nm,0.1s,baz=278,slow=13,SNR=9.3							
ESDC				S		**Sn**	**04 36 04.2**	**-0.7**
	0.3nm,0.3s,baz=272,slow=23,SNR=5.7							
ESDC	**Sonseca Array**	**8.46**	**92**	P		**Pn**	**04 34 30.4**	**+1.0**
	0.3nm,0.1s,baz=278,slow=13,SNR=9.3							
ESDC				S		**Sn**	**04 36 04.2**	**-0.7**
	0.3nm,0.3s,slow=23,SNR=5.7							
ELAN	**Lanestosa**	**9.02**	**68**	P		**Pn**	**04 34 39.3**	**+2.2**
	0.4nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**9.02**	**68**	P		**Pn**	**04 34 39.3**	**+2.2**
	0.4nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**10.53**	**72**	P		**Pn**	**04 35 00.0**	**+2.3**
	0.2nm,0.1s,SNR=4.0							
IELO	**Elcoad**	**10.53**	**72**	P		**Pn**	**04 35 00.0**	**+2.3**
	0.2nm,0.1s,SNR=4.0							

*IDC **30** 04:37:44.1±1.0,30°.12S×71°.54W,h0km,mb3.9/5, mb1 3.9/8,mb1mx3.8/33,mbtmp3.8/8,ML3.8/3,MS3.2/2, Ms1 3.2/2,ms1mx2.8/28,Error ellipse: s-maj=35.1km s-min=22.8km az=99.0*

*ISCJB **30** 04:37:46.7±1.5,30°.05S±0°.03×71°.67W±0°.08,h20km±10km, mb4.0/5,MS3.1/1,Error ellipse: s-maj=11.6km s-min=4.7km az=0.9*

*SJA **30** 04:37:46.5±0.7,29°.96S×71°.77W,h69km±9km,ML4.0, MW4.2*

*GUC **30** 04:37:47.8±0.6,30°.09S×71°.54W,h16km±8km,ML4.0*

*NEIC **30** 04:37:47.0±0.0,30°.09S×71°.54W,h16km,ML4.0(GUC), After GUC.*

NEIC Felt [III] at Ovalle and [II] at Andacollo, Coquimbo, La Higuera and La Serena.

ISC 30 04:37:45.0±2.3,30°.10S±0°.04×71°.69W±0°.08,h4km±13km, n49,σ1§58/52,mb4.2/5,5C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.77**	**95**	*i*P		**Pg**	**04 38 00.5**	**+0.8**
TLL				*i* S		**Sg**	**04 38 09.6**	**-0.1**
TLL				IAML			04 38 10.5	
	comp=E,10μm,0.5s							
GO04	**Tololo Observa**	**0.77**	**95**	*i*P		**Pg**	**04 38 00.5**	**+0.7**
GO04				*i* S		**Sg**	**04 38 09.8**	**0.0**
GO04				IAML			04 38 14.6	
	comp=N,22μm,0.5s							
LCO	**Las Campanas**	**1.39**	**38**	*e*Pn		**Pb**	**04 38 10.9**	**-0.8**
LCO				*e*Sn		**Sb**	**04 38 27.5**	**-2.4**
LCO	**Las Campanas**	**1.39**	**38**	*i* P		**Pb**	**04 38 10.8**	**-0.8**
LCO				*i* S		**Sb**	**04 38 28.6**	**-1.3**
LCO	**Las Campanas**	**1.39**	**38**	*i*P		**Pb**	**04 38 10.9**	**-0.8**
LCO				*i* S		**Sb**	**04 38 28.2**	**-1.7**
LCO				IAML			04 38 29.2	
	comp=N,3μm,0.4s							
AROD	**Rodeo**	**1.92**	**92**	*i* P		**Pb**	**04 38 20.4**	**-0.4**
ACDV	**Cuesta del Vie**	**2.22**	**92**	*i* P		**Pb**	**04 38 24.9**	**-1.1**
RTLS	**Leoncito**	**2.66**	**130**	*i* P		**Pb**	**04 38 31.8**	**-1.6**
RTLS				IAML			04 39 11.6	
	comp=Z,774nm,0.6s							
AMOG	**MOGNA**	**2.88**	**108**	*i* P		**Pb**	**04 38 34.3**	**-2.7**
AUSP	**Uspallata**	**2.89**	**138**	*i* P		**Pb**	**04 38 34.7**	**-2.6**
ROC1	**El Roble**	**2.92**	**169**	*e*Pn		**Pn**	**04 38 33.3**	**+0.7**
ROC1				*e*Sn		**Sn**	**04 39 09.6**	**+1.4**
RTLL	**Cerro Villicun**	**3.02**	**115**	*i* P		**Pn**	**04 38 35.8**	**+2.0**
SJA	**San Juan**	**3.04**	**119**	*i* P		**Pn**	**04 38 36.1**	**+2.1**
PEL	**Peldehue**	**3.15**	**165**	*e*Pn		**Pn**	**04 38 36.5**	**+1.0**
PEL				*e*Sn		**Sn**	**04 39 12.5**	**-1.1**
PEL	**Peldehue**	**3.15**	**165**	*i*P		**Pn**	**04 38 36.9**	**+1.4**
PEL				*i* S		**Sn**	**04 39 15.2**	**+1.6**
RTCV	**Cerro Valdivia**	**3.22**	**124**	*i* P		**Pn**	**04 38 38.8**	**+2.3**
FCH	**Farellones**	**3.43**	**160**	*e*P		**Pn**	**04 38 41.9**	**+2.3**
FCH				*i* S		**Sn**	**04 39 23.0**	**+2.1**
FCH				IAML			04 39 31.2	
	comp=E,338nm,0.7s							
ARCO	**CERRO ARCO**	**3.60**	**140**	*i* P		**Pn**	**04 38 44.6**	**+2.8**
ARCO				IAML			04 38 52.9	
	comp=Z,253nm,0.3s							
AAGR	**Agrelo**	**3.84**	**141**	*i* P		**Pn**	**04 38 48.0**	**+2.9**
LMEL	**Las Melosas**	**3.94**	**162**	*i*P		**Pn**	**04 38 48.7**	**+2.2**
LMEL				*i* S		**Sn**	**04 39 34.8**	**+1.5**
LMEL				IAML			04 39 52.0	
	comp=N,256nm,0.8s							
APLL	**PUNTA DE LOS L**	**4.47**	**95**	*i* P		**Pn**	**04 38 54.9**	**+1.2**
GO05	**HualaæØ**	**4.90**	**182**	*e*Pn		**Pn**	**04 38 58.9**	**-0.6**
CYA	**Choya**	**5.40**	**74**	*i* P		**Pn**	**04 39 06.8**	**+0.3**
CYA				IAML			04 39 13.6	
	comp=Z,46nm,0.8s							
PB01	**IPOC Station P**	**9.24**	**13**	*e*Pn		**Pn**	**04 39 58.2**	**-1.0**
PLCA	**Paso Flores**	**10.64**	**175**	Pn		**Pn**	**04 40 18.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=357,slow=10,SNR=10.0							
TRQA	**Tornquist**	**11.29**	**137**	*e*Pn		**Pn**	**04 40 28.5**	**+1.3**
CPUP	**Villa Florida**	**13.20**	**77**	Pn		**Pn**	**04 40 53.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=250,slow=14,SNR=2.8							
CPUP				LR		LR	04 46 18.4	
	comp=Z,77nm,20.6s,baz=242,slow=39							
LPAZ	**La Paz**	**14.13**	**14**	Pn		**Pn**	**04 41 09.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=150,slow=3.8,SNR=4.9							
SIV	**San Ignacio**	**17.09**	**37**	P		**P**	**04 41 45.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=209,slow=12,SNR=14							
ATAH	**Atahualpa**	**23.70**	**343**	LR		LR	04 51 05.1	
	comp=Z,67nm,18.3s,baz=283,slow=34							
SNAA	**Sanae**	**55.09**	**159**	P		**P**	**04 47 17.3**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=284,slow=8.0,SNR=11							
QSPA	**South Pole Qui**	**60.12**	**180**	P		**P**	**04 47 53.6**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=144,slow=4.8,SNR=3.8							
LTX	**Lajitas**	**66.51**	**330**	*e*P		**P**	**04 48 37.3**	**+1.1**
TXAR	**Lajitas Array**	**66.51**	**330**	P		**P**	**04 48 37.3**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=154,slow=8.7,SNR=4.2							
BORC	**Borrego Spring**	**75.92**	**323**	*e*P		**P**	**04 49 34.2**	**+1.2**
KOWA	**Kowa**	**78.77**	**66**	P		**P**	**04 49 47.4**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=224,slow=7.5,SNR=8.2							
TOA1	**Torodi Ar. Sit**	**82.61**	**70**	*e*P		**P**	**04 50 09.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P		**P**	**04 50 09.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=278,slow=6.2,SNR=25							
VALT	**Mount Saint He**	**88.65**	**328**	*e*P		**P**	**04 50 41.0**	**+1.5**
WR1	**Warramunga Arr**	**124.29**	**210**	*e*PKPdf		**PKPdf**	**04 56 44.1**	**-1.8**
WRA	**Warramunga Arr**	**124.29**	**210**	PKP		**PKPdf**	**04 56 44.1**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=157,slow=1.8,SNR=5.8							
H11S2	**WAKE ISLAND Hyl**	**26.04**	**272**	T		T	07 15 37.3	
	baz=115,slow=74,SNR=133							
H11S1	**WAKE ISLAND Hyl**	**26.05**	**272**	T		T	07 15 35.4	
	baz=115,slow=74,SNR=92							
H11S3	**WAKE ISLAND Hyl**	**26.06**	**272**	T		T	07 15 38.6	
	baz=115,slow=74,SNR=93							
H11N3	**WAKE ISLAND Hyl**	**26.35**	**273**	T		T	07 16 03.7	
	baz=116,slow=74,SNR=5.3							
H11N1	**WAKE ISLAND Hyl**	**26.37**	**273**	T		T	07 16 04.8	
	baz=116							
H11N2	**WAKE ISLAND Hyl**	**26.37**	**273**	T		T	07 16 04.4	
	baz=116,slow=74,SNR=7.4							
ZAA1	**Zalesovo Array**	**150.72**	**29**	*e*PKPbc		**PKPbc**	**04 57 37.0**	**-1.1**
ZALV	**Zalesovo Beam**	**150.73**	**29**	PKPbc		**PKPbc**	**04 57 37.0**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=262,slow=4.4,SNR=2.1							

*NIED **30** 04:38:00,37°.50N×141°.50E,h50km,Mw5.2 Best double couple: M0 6.29000×10^16 NP1:φs203.00000°,δ20.00000°, λ91.00000°. NP2:φs22.00000°,δ70.00000°,λ90.00000°.*

*BJI **30** 04:38:27.1,37°.47N×141°.64E,h40km,mb5.2/81,mB5.1/57, Ms4.7/79,Ms7 4.6/71*

*MOS **30** 04:38:30.7±0.8,37°.59N×141°.32E,h44km,mb5.4/131, MS4.6/35,Error ellipse: s-maj=5.9km s-min=3.6km az=102.6*

*IDC **30** 04:38:32.9±0.4,37°.50N×141°.35E,h53km±3km,mb4.8/48, mb1 4.9/54,mb1mx4.8/68,mbtmp5.0/54,MS4.3/57, Ms1 4.3/57,ms1mx4.3/63,Error ellipse: s-maj=9.5km s-min=6.8km az=111.0*

*JMA **30** 04:38:32.1,37°.52N×141°.47E,h46km±1km,M5.1 Broadband fault plane solution: P waves. NP1: φs200.00000°,δ54.00000°,λ94.00000°. NP2:φs14.00000°, δ36.00000°,λ85.00000°. Principal axes: T Plg81.0000°, Azm126.0000°; N Plg3.0000°, Azm17.0000°; P Plg9.0000°, Azm287.0000°;*

JMA Felt III J1.

*ISCJB **30** 04:38:32.6±0.2,37°.56N±0°.02×141°.33E±0°.02,h60km±1km, mb5.1/340 Error ellipse: s-maj=3.2km s-min=2.1km az=145.2*

*GCMT **30** 04:38:33.7±0.2,37°.58N×141°.52E,h52km,MW5.2/112, Moment Tensor Solution. s82,c130; s112,c199; Duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr6.52±.18; Mθθ-1.39±.13; Mφφ-5.14±.14; Mrθ 1.83±.11; Mθφ-2.03±.11; Mφr4.16±.11; Best double couple: M0 7.74700×10^16 NP1:φs24.00000°,δ63.00000°, λ90.00000°. NP2:φs204.00000°,δ27.00000°,λ90.00000°. Principal axes: T 7.9930, Plg72.0000°, Azm294.0000°; N -0.5020, Plg0.0000°, Azm204.0000°; P -7.5010, Plg18.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 04:38:33.7±0.4,37°.54N×141°.24E,h57km±3km,mb5.1/196 Error ellipse: s-maj=3.2km s-min=2.1km az=140.0*

NEIC Felt at Chofu, Kamogawa, Kokubunji, Koriyama, Sendai, Tokyo and Yamoto. Recorded [3 JMA] in Fukushima and Miyagi.

ISC 30 04:38:32.2±0.3,37°.54N±0°.03×141°.41E±0°.03,h50km±2km, h50km:pP-P,n1051,σ1§37/1121,mb5.1/355,MS4.5/86, 80C-45D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.46**	**248**	⇓P		**Pn**	**04 38 43.1**	**0.0**
JFK				S		**Sn**	**04 38 50.6**	**-0.3**
JMM	**Marumori**	**0.59**	**303**	⇓P		**Pn**	**04 38 45.1**	**+0.6**
JMM				S		**Sn**	**04 38 54.2**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.66**	**228**	⇓P		**Pn**	**04 38 45.3**	**-0.2**
ONAJ				S		**Sn**	**04 38 54.5**	**-0.6**
JFT	**Otama**	**0.86**	**269**	⇓P		**Pn**	**04 38 49.0**	**+1.0**
JFT				S		**Sn**	**04 39 01.1**	**+1.5**
JIO	**Ouri**	**0.91**	**357**	⇓P		**Pn**	**04 38 49.1**	**+0.4**
JIO				S		**Sn**	**04 39 00.9**	**0.0**
JOU	**Okura**	**1.01**	**324**	⇓P		**Pn**	**04 38 50.6**	**+0.5**
JOU				*e*S		**Sn**	**04 39 04.3**	**+1.0**
JHO	**Hitachi**	**1.15**	**216**	⇓P		**Pn**	**04 38 51.4**	**-0.5**
JYS	**Shirataka**	**1.26**	**303**	⇓P		**Pn**	**04 38 54.4**	**+0.9**
JYS				S		**Sn**	**04 39 10.5**	**+1.1**
JSB	**Shiboa**	**1.32**	**245**	⇓P		**Pn**	**04 38 55.2**	**+0.9**
JFY	**Yanaizu**	**1.37**	**265**	⇓P		**Pn**	**04 38 55.7**	**+0.8**
JFY				*e*S		**Sn**	**04 39 13.7**	**+1.8**
JMK	**Ichinoseki**	**1.42**	**354**	⇓P		**Pn**	**04 38 56.0**	**+0.5**
JMK				S		**Sn**	**04 39 14.0**	**+1.0**
OFUJ	**Ofunato**	**1.55**	**7**	⇓P		**Pn**	**04 38 57.6**	**+0.2**
JYK	**Kaneyama**	**1.60**	**329**	⇓P		**Pn**	**04 38 59.1**	**+1.0**
JNS	**Sasagawa**	**1.60**	**280**	⇓P		**Pn**	**04 39 00.3**	**+1.1**
JYA	**Atsumi**	**1.70**	**309**	⇓P		**Pn**	**04 39 00.6**	**+1.1**
JKT	**Katashina**	**1.90**	**247**	⇓P		**Pn**	**04 39 03.6**	**+1.4**
JAG	**Ashikaga**	**1.93**	**235**	⇓P		**Pn**	**04 39 02.9**	**+0.4**
JOM	**Ohasama**	**1.93**	**357**	⇓P		**Pn**	**04 39 03.4**	**+0.8**
JHK	**Hiroka**	**1.93**	**262**	⇓P		**Pn**	**04 39 03.6**	**+1.0**
JRG	**Rokugo**	**1.95**	**342**	⇓P		**Pn**	**04 39 04.3**	**+1.5**
MIYJ	**Miyakonagasawa**	**2.06**	**9**	P		**Pn**	**04 39 04.5**	**+0.2**
JTB	**Tobi-shima**	**2.20**	**319**	⇓P		**Pn**	**04 39 07.2**	**+0.9**
JYW	**Yuwa**	**2.21**	**335**	⇓P		**Pn**	**04 39 08.2**	**+1.9**
JGK	**Kuni**	**2.43**	**247**	⇓P		**Pn**	**04 39 11.0**	**+1.6**
JRY	**Ryogami san**	**2.53**	**234**	⇓P		**Pn**	**04 39 11.2**	**+0.4**
JSD	**Sado**	**2.55**	**282**	⇓P		**Pn**	**04 39 11.5**	**+0.5**
JJN	**Nakama**	**2.63**	**261**	⇓P		**Pn**	**04 39 13.7**

MDJ S **Sn** **04 43 16.5 -0.9**
MDJ pmax pmax
comp=Z,96nm,0.7s
MDJ LR LR
comp=Z,2µm,15.7s
MDJ LR LR
comp=Z,2µm,18.5s
MDJ LR LR
comp=Z,4µm,19.1s
MDJ **Mudanjiang** **11.37 312** *e*Pn Pn 04 41 17.1 +5.3
comp=Z,48nm,0.6s
INCN **Inchon** **11.74 274** *e*Pn **Pn** **04 41 14.1 -2.9**
comp=Z,136nm,1.2s
TYV **Tymovskoe** **13.35 3** *e*P **Pn** **04 41 37.2 -1.6**
TYV *e*S **Sn** **04 43 59.7 -5.8**
TYV pmax pmax
comp=Z,400nm,5.5s
TYV pmax pmax
comp=Z,51nm,1.1s
TYV smax smax
comp=E,11nm,1.7s
KLR **Kul'dur** **13.62 332** P **Pn** **04 41 42.3 -0.2**
comp=E,0.1nm,0.3s,baz=147,slow=8.4,SNR=11
KLR LR LR 04 46 59.0
comp=E,202nm,18.3s,baz=145,slow=37
KLR **Kul'dur** **13.62 332**⇓ *e*P **Pn** **04 41 41.4 -1.1**
CN2 **Changchun** **13.63 302** *e*P **Pn** **04 41 44.5 +1.8**
CN2 *e*SP P 04 41 58.0 +7.9
CN2 *e*S **Sn** **04 44 14.5 +2.1**
CN2 pmax pmax
comp=E,30nm,1.1s
CN2 pmax pmax
comp=E,200nm,4.0s
CN2 LR LR
comp=E,900nm,15.0s
CN2 LR LR
comp=E,2µm,15.0s
CN2 LR LR
comp=E,2µm,16.0s
GRNR **Gornyy** **13.70 347** *e*P **Pn** **04 41 44.1 +0.6**
GRNR pmax pmax
comp=Z,34nm,0.9s
SNY **Shenyang** **14.38 293** ⇑P **Pn** **04 41 54.3 +1.5**
SNY pmax pmax
comp=Z,26nm,1.1s
SNY pmax pmax
comp=Z,250nm,3.8s
SNY LR LR
comp=Z,2µm,14.1s
SNY LR LR
comp=Z,3µm,19.9s
SNY LR LR
comp=Z,4µm,16.3s
JOW **Kunigami** **15.40 230** P **Pn** **04 42 06.5 +0.3**
comp=Z,6.4nm,0.3s,baz=73,slow=8.2,SNR=12
JOW LR LR 04 48 14.9
comp=Z,466nm,21.6s,baz=94,slow=38
JOW **Kunigami** **15.40 230** *e*Pn **Pn** **04 42 05.6 -0.6**
comp=Z,86nm,0.8s
DL2 **Dalian** **15.61 281** P **Pn** **04 42 09.5 +0.7**
DL2 S **Sn** **04 45 04.5 +3.8**
DL2 pmax pmax
comp=Z,100nm,0.6s
DL2 pmax pmax
comp=Z,630nm,7.4s
DL2 LR LR
comp=Z,2µm,17.1s
DL2 LR LR
comp=Z,2µm,19.7s
NKL **Nikolayevsk** **15.62 358** *e*P **Pn** **04 42 05.8 -2.9**
NKL pmax pmax
comp=N,21nm,1.0s
NKL pmax pmax
comp=Z,27nm,1.0s
NKL MLR MLR
comp=N,800nm,15.0s
NKL MLR MLR
comp=E,900nm,15.0s
NKL MLR MLR
comp=Z,1µm,15.0s
SKR **Severo-Kuril's** **16.81 34** *e*P **Pn** **04 42 18.6 -5.2**
SKR pmax pmax
comp=Z,100nm,3.6s
SKR pmax pmax
comp=Z,300nm,2.5s
SKR MLR MLR
comp=Z,900nm,20.0s
SSE **Sheshan** **17.89 255** P **Pn** **04 42 33.5 -3.8**
SSE S **Sn** **04 45 54.5 -1.4**
SSE pmax pmax
comp=Z,13nm,0.6s
SSE pmax pmax
comp=Z,100nm,3.6s
SSE LR LR
comp=Z,630nm,20.8s
SSE LR LR
comp=Z,570nm,19.0s
ZEA **Zeya** **18.92 333** *e*P **P** **04 42 47.4 -1.2**
ZEA pmax pmax
comp=Z,87nm,0.8s
ZEA MLR MLR
comp=Z,2µm,14.0s
ZEA MLR MLR
comp=N,1µm,16.0s
ZEA MLR MLR
comp=E,1µm,16.0s
PETK **Petropavlovsk-** **19.25 31** P **Pn** **04 42 53.7 +0.2**
comp=E,0.4nm,0.3s,baz=201,slow=7.6,SNR=9.8
PETK LR LR 04 50 01.6
comp=E,390nm,21.9s,baz=219,slow=36
NJ2 **Nanjing** **19.30 260** *e*P **P** **04 42 52.3 -0.6**
NJ2 pmax pmax
comp=E,21nm,0.9s
NJ2 pmax pmax
comp=E,390nm,9.2s
NJ2 LR LR
comp=E,1µm,21.7s
NJ2 LR LR
comp=E,980nm,15.7s
NJ2 LR LR
comp=E,1µm,16.8s
TIA **Tai'an** **19.47 273** P **P** **04 42 54.3 -0.5**
TIA S **S** **04 46 25.0 -7.1**
TIA LR LR
comp=E,710nm,18.1s
TIA LR LR
comp=E,920nm,17.2s
TIA LR LR
comp=E,1µm,16.7s
PET **Petropavlovsk** **19.59 32** *e*P **Pn** **04 42 58.8 +1.3**
PET *e*S **S** **04 46 29.7 -4.3**
PET pmax pmax
comp=Z,200nm,10.8s
PET pmax pmax
comp=Z,44nm,1.1s
PET MLR MLR
comp=Z,900nm,20.0s
PET **Petropavlovsk** **19.59 32** *e*P **Pn** **04 42 57.5 0.0**
comp=Z,38nm,0.9s
BJT **Baijiatuan** **19.82 285** *e*P **P** **04 42 57.1 -1.4**
BJT pmax pmax
comp=Z,61nm,0.8s
BJT **Baijiatuan** **19.82 285** *e*P **P** **04 42 57.1 -1.4**
comp=Z,61nm,0.8s
YHNB **Yeheng** **21.37 239** *e*P **P** **04 43 13.8 -1.7**
comp=Z,47nm,0.6s
NACB **Ninganchiao** **21.55 237** *e*P **P** **04 43 12.4 -4.9**
comp=Z,30nm,0.8s
CLNS **Chul'man** **22.22 336** *e*P **P** **04 43 23.3 -1.0**
CLNS *e**PP **pP** **04 43 31.2 -4.8**
CLNS *e* 04 43 45.9
CLNS *e* 04 47 19.8
CLNS *e*S **S** **04 47 24.6 -1.1**
CLNS *e*SS SnSn 04 48 14.7 +19
CLNS pmax pmax
comp=N,27nm,0.9s
CLNS pmax pmax
comp=Z,47nm,0.7s
CLNS pmax pmax
comp=E,26nm,0.9s
CLNS pmax pmax
comp=Z,23nm,0.9s
CLNS pmax pmax
comp=N,19nm,0.8s
CLNS pmax pmax
comp=E,27nm,0.9s
CLNS smax smax
comp=N,310nm,10.4s
CLNS smax smax
comp=E,328nm,11.3s
CLNS MLR MLR
comp=Z,986nm,17.0s
CLNS MLR MLR
comp=N,783nm,17.0s
CLNS MLR MLR
comp=E,415nm,12.0s
SSLB **Suanglung** **22.25 238** *e*P **P** **04 43 20.6 -4.2**
comp=E,53nm,1.0s
YULB **Yu-li** **22.29 236** *e*P **P** **04 43 21.4 -3.8**
comp=E,37nm,0.7s
TPUB **Ta-pu** **22.79 237** *e*P **P** **04 43 27.0 -3.7**
comp=E,94nm,0.8s
TWG **Pinlang** **22.83 236** *e*P **P** **04 43 28.8 -2.2**
comp=E,778nm,1.3s
MA2 **Magadan** **22.86 12** P **P** **04 43 30.5 -0.5**
comp=E,36nm,0.8s,baz=195,slow=9.3,SNR=24
MA2 LR LR 04 52 09.6
comp=E,377nm,21.6s,baz=196,slow=36
MA2 **Magadan** **22.86 12***c e*P **P** **04 43 30.8 -0.2**
TIY **Taiyuan** **22.92 279** *e*P **P** **04 43 30.3 -1.6**
TIY S **S** **04 47 32.5 -5.6**
TIY pmax pmax
comp=E,79nm,1.0s
TIY pmax pmax
comp=E,220nm,4.0s
TIY LR LR
comp=E,450nm,11.1s
TIY LR LR
comp=E,1µm,14.1s
TIY LR LR
comp=E,1µm,15.5s
QZH **Quanzhou** **23.14 244**⇑ *i*P **P** **04 43 35.8 +1.8**
QZH S **S** **04 47 39.8 -1.9**
QZH LR LR
comp=E,650nm,15.2s
QZH LR LR
comp=E,920nm,16.1s
QZH LR LR
comp=E,1µm,24.2s
HHC **Hu-ho-hao-te** **23.32 287** *e*P **P** **04 43 34.0 -1.8**
HHC S **S** **04 47 35.8 -8.9**
HHC pmax pmax
comp=E,27nm,0.8s
HHC pmax pmax
comp=E,95nm,6.2s
HHC LR LR
comp=E,770nm,13.8s
HHC LR LR
comp=E,610nm,18.2s
HHC LR LR
comp=E,690nm,18.0s
WHN **Wuhan** **23.44 261** ⇑P **P** **04 43 36.3 -0.6**
WHN pP **pP** **04 43 45.0 -4.2**
WHN S **S** **04 47 44.5 -2.1**
WHN pmax pmax
comp=E,100nm,0.7s
WHN LR LR
comp=E,1µm,11.9s
WHN LR LR
comp=E,2µm,12.3s
WHN LR LR
comp=E,3µm,21.4s
GUMO **Guam** **24.05 172** LR LR 04 53 43.0
comp=E,250nm,20.6s,baz=341,slow=38
YAK **Yakutsk** **25.57 347** P **P** **04 43 55.9 -0.2**
comp=E,266nm,0.6s,baz=182,slow=2.4,SNR=48
YAK LR LR 04 54 27.2
comp=E,1µm,18.5s,baz=152,slow=37
YAK **Yakutsk** **25.57 347***c i*P **P** **04 43 55.8 -0.3**
YAK *e**PP **pP** **04 44 09.2 +0.2**
YAK *e* 04 44 32.7
YAK *e* 04 47 21.2
YAK *e*S **S** **04 48 20.2 0.0**
YAK *e**SS **sS** **04 48 40.5 -1.5**
YAK *e*SS **SnSn** **04 49 20.1 +2.5**
YAK *e* 04 54 46.3
YAK pmax pmax
comp=Z,319nm,0.9s
YAK pmax pmax
comp=N,56nm,1.0s
YAK pmax pmax
comp=E,29nm,0.9s
YAK pmax pmax
comp=Z,184nm,2.8s
YAK pmax pmax
comp=N,177nm,3.3s
YAK pmax pmax
comp=E,226nm,4.2s
YAK smax smax
comp=N,61nm,1.5s
YAK smax smax
comp=E,45nm,1.2s
YAK **Yakutsk** **25.57 347** *e*P **P** **04 43 55.9 -0.2**
comp=E,379nm,0.8s
SEY **Seymchan** **26.29 11** P **P** **04 44 03.6 +1.0**
comp=E,32nm,1.0s,baz=204,slow=9.7,SNR=36
SEY **Seymchan** **26.29 11**⇑ *e*P **P** **04 44 03.0 +0.4**
XAN **Xi'an** **26.52 272** P **P** **04 44 04.5 -0.5**
XAN pP pP 04 44 13.8 -4.1
XAN PP **PnPn** **04 44 47.8 +0.7**
XAN S **S** **04 48 31.5 -4.3**
XAN pmax pmax
comp=E,34nm,0.6s
XAN pmax pmax
comp=E,270nm,5.7s
XAN LR LR
comp=E,370nm,13.6s
XAN LR LR
comp=E,490nm,15.2s
XAN LR LR
comp=E,610nm,19.5s
ULN **Ulaanbaatar** **27.07 303***c i*P **P** **04 44 10.0 0.0**
ULN pmax pmax
comp=Z,19nm,1.0s
ULN **Ulaanbaatar** **27.07 303** *e*P **P** **04 44 09.7 -0.3**
comp=Z,24nm,0.8s
ULN **Ulaanbaatar** **27.07 303** P **P** **04 44 10.4 +0.4**
SNR=7.4
BOD **Bodaibo** **27.10 327**⇓ *i*P **P** **04 44 09.5 -0.5**
BOD *e* 04 44 25.0
BOD pmax pmax
comp=Z,44nm,0.9s
ENH **Enshi** **27.38 264** *e*P **P** **04 44 11.8 -1.0**
comp=Z,204nm,0.9s
SONA1 **Songino Array** **27.50 303** *e*P **P** **04 44 13.2 -0.7**
SONM **Songino Array** **27.50 303** P **P** **04 44 14.0 +0.2**
comp=Z,30nm,0.6s,baz=103,slow=8.7,SNR=112
SONM PcP **PcP** **04 47 31.4 +0.4**
comp=Z,2.8nm,0.5s,baz=121,slow=1.9,SNR=7.2
SONM LR LR 04 55 27.3
comp=Z,492nm,20.1s,baz=92,slow=37
H11N2 **WAKE ISLAND Hy** **28.41 122** T T 05 14 35.5
baz=314,slow=75,SNR=680
H11N1 **WAKE ISLAND Hy** **28.42 122** T T 05 14 37.0
baz=314,slow=75,SNR=810
H11N3 **WAKE ISLAND Hy** **28.43 122** T T 05 14 37.6
baz=314,slow=75,SNR=776
H11S1 **WAKE ISLAND Hy** **29.14 124** T T 05 15 02.9
baz=314,slow=74,SNR=545
H11S3 **WAKE ISLAND Hy** **29.14 124** T T 05 15 42.2
baz=314,SNR=588
H11S2 **WAKE ISLAND Hy** **29.15 124** T T 05 15 32.4
baz=314,slow=74,SNR=465
TGY **Tagaytay City** **29.61 223** P **P** **04 44 31.9 -0.8**
comp=Z,135nm,0.3s,baz=128,slow=2.0,SNR=5.1
ZAK **Zakamensk** **29.96 308** *e*P **P** **04 44 34.8 -0.8**
ZAK pmax pmax
comp=Z,12nm,1.1s
LZH **Lanzhou** **29.99 279** ⇑P **P** **04 44 36.0 -0.1**
LZH pP pP 04 44 46.5 -2.6
LZH sP sP 04 44 51.0 -4.0
LZH PP **PnPn** **04 45 34.5 +0.3**
LZH S **S** **04 49 29.0 -1.6**
LZH SS **SnSn** **04 51 06.5 +0.7**
LZH pmax pmax
comp=Z,140nm,1.0s
LZH pmax pmax
comp=Z,500nm,5.7s
LZH LR LR
comp=Z,980nm,12.8s
LZH LR LR
comp=Z,2µm,13.2s
LZH LR LR
comp=Z,3µm,17.1s
TLY **Talaya** **30.00 310** P **P** **04 44 36.8 +0.9**
comp=Z,10nm,0.7s,baz=116,slow=5.4,SNR=19
TLY PcP **PcP** **04 47 37.4 +0.5**
comp=Z,2.1nm,0.6s,baz=117,slow=4.5,SNR=3.2
TLY LR LR 04 57 08.9
comp=Z,1µm,19.6s,baz=110,slow=37
TLY **Talaya** **30.00 310** *e*P **P** **04 44 36.4 +0.5**
TLY pmax pmax
comp=Z,29nm,1.5s
TLY MLR MLR
comp=Z,1µm,18.0s
GYA **Guiyang** **31.31 260**⇑ *i*P **P** **04 44 47.0 -0.8**
GYA pP pP 04 44 59.5 -1.3
GYA PP **PnPn** **04 45 52.5 +1.0**
GYA PcP **PcP** **04 47 44.0 +3.0**
GYA S **S** **04 49 51.5 +0.1**
GYA sS sS 04 50 09.8 -3.5
GYA ScP **ScP** **04 51 22.0 +2.3**
GYA SS **SnSn** **04 51 37.5 -0.7**
GYA ScS **ScS** **04 55 18.0 +0.5**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,560nm,17.2s
GYA LR LR
comp=Z,540nm,17.6s
GYA LR LR
comp=Z,580nm,17.4s
MOY **Mondy** **31.61 310** *e*P **P** **04 44 50.5 +0.3**
MOY pmax pmax
comp=Z,22nm,1.2s
CD2 **Chengdu** **31.68 269** P **P** **04 44 50.5 -0.4**
CD2 pP pP 04 45 04.0 +0.1
CD2 sP sP 04 45 10.8 +0.9
CD2 S **S** **04 49 55.3 -1.6**
CD2 sS sS 04 50 19.0 +0.2
CD2 pmax pmax
comp=Z,100nm,0.5s
CD2 pmax pmax
comp=Z,160nm,4.2s
CD2 LR LR
comp=Z,950nm,17.9s
CD2 LR LR
comp=Z,1µm,17.5s
CD2 LR LR
comp=Z,1µm,17.3s
GTA **Gaotai** **32.42 286** P **P** **04 44 56.5 -0.9**
GTA pP pP 04 45 08.5 -1.9
GTA sP sP 04 45 13.8 -2.6
GTA PcP **PcP** **04 47 45.0 +1.2**
GTA S **S** **04 50 06.5 -1.9**
GTA sS sS 04 50 26.5 -3.9
GTA PcS **PcS** **04 51 29.0 +0.1**
GTA SS **SnSn** **04 52 04.5 -0.2**
GTA pmax pmax
comp=Z,17nm,0.7s
GTA pmax pmax
comp=Z,220nm,5.6s
GTA LR LR
comp=Z,640nm,20.3s
GTA LR LR
comp=Z,810nm,22.8s
GTA LR LR
comp=Z,1µm,23.3s
QIZ **Qiongzhong** **33.14 245** P **P** **04 45 05.3 +1.5**
QIZ S **S** **04 50 21.0 +1.3**
QIZ pmax pmax
comp=Z,30nm,1.1s
QIZ LR LR
comp=Z,480nm,20.1s
QIZ LR LR
comp=Z,570nm,24.0s
QIZ LR LR
comp=Z,560nm,16.2s
BILL **Bilibino** **33.54 17** *e*P **P** **04 45 05.2 -1.5**
BILL *e**PP **pP** **04 45 20.2 +0.4**
BILL *e* 04 46 16.9
BILL *e* 04 47 45.5
BILL *e*S **S** **04 50 24.1 -0.9**
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL MLR MLR
comp=Z,397nm,23.0s
DAV **Davao City (W)** **33.58 209** LR LR 04 56 44.7
comp=Z,426nm,20.6s,baz=360,slow=33
KNGR **Kungurtug, Tuv** **33.63 307**⇑ *e*P **P** **04 45 08.4 +0.5**
TIXI **Tiksi** **34.79 353** P **P** **04 45 17.2 -0.2**
comp=Z,14nm,0.5s,baz=141,slow=6.3,SNR=38
TIXI **Tiksi** **34.79 353***c i*P **P** **04 45 17.0 -0.4**
TIXI pmax pmax
comp=Z,20nm,0.7s
TIXI **Tiksi** **34.79 353** *e*P **P** **04 45 17.2 -0.2**
comp=Z,21nm,0.8s
KMI **Kunming** **35.04 261** P **P** **04 45 20.3 -0.2**
KMI pmax pmax
comp=Z,130nm,0.9s
KMI pmax pmax
comp=Z,200nm,4.6s
KMI LR LR
comp=Z,630nm,20.4s
KMI LR LR
comp=Z,650nm,21.1s
KMI LR LR
comp=Z,1µm,26.7s
HVS **Khovu-Aksy** **36.08 308**⇑ *e*P **P** **04 45 29.4 +0.4**
HVS pmax pmax
comp=Z,20nm,0.6s
KRAR **Krasnoyarsk** **37.10 316**⇑ *e*P **P** **04 45 37.8 +0.4**
MYLDM **Lahad Datu** **38.41 219** *e*P **P** **04 45 52.1 +3.3**
comp=Z,87nm,1.2s
SKNT **Sakolnakorn** **38.73 248** P **P** **04 45 51.1 -0.5**
comp=Z,24nm,0.9s
DGZ **Jazzator, Alta** **40.10 305***c e*P **P** **04 46 03.7 +0.9**
DGZ pmax pmax
comp=Z,100nm,1.0s
WMQ **Urumqi** **40.61 296** P **P** **04 46 08.5 +1.4**
WMQ sP sP 04 46 25.8 -0.5
WMQ PP **PP** **04 47 42.8 +1.6**
WMQ pmax pmax
comp=Z,250nm,0.9s
WMQ pmax pmax
comp=Z,770nm,3.6s
WMQ LR LR
comp=Z,600nm,18.7s
WMQ LR LR
comp=Z,4µm,35.1s
WMQ LR LR
comp=Z,2µm,29.3s
CHAI **Chaiyaphum** **40.89 249** P **P** **04 46 09.5 0.0**
comp=Z,15nm,1.0s,comp=Z,446nm
MRSI **Marisa** **41.03 211** P **P** **04 46 13.2 +2.6**
LAMP **Lampang** **41.06 254** P **P** **04 46 12.4 +1.5**
comp=Z,9.6nm,0.8s
PHIT **Phitsanulok** **41.26 252** P **P** **04 46 13.7 +1.1**
comp=Z,16nm,1.0s,comp=Z,444nm
CMMT **Chiang Mai** **41.42 255** P **P** **04 46 13.0 -0.9**
comp=Z,18nm,0.6s
CHTO **Chiang Mai** **41.42 255** P **P** **04 46 14.1 +0.2**
comp=Z,76nm,0.8s
CHTO **Chiang Mai** **41.42 255** *e*P **P** **04 46 14.0 +0.2**
CHTO pmax pmax
comp=Z,11nm,0.8s
CHTO **Chiang Mai** **41.42 255** *e*P **P** **04 46 14.0 +0.2**
comp=Z,11nm,0.8s
CHTO **Chiang Mai** **41.42 255** P **P** **04 46 11.6 -2.3**
SNR=5.7
ZAA0 **Zalesovo Array** **41.57 312** *e*P **P** **04 46 14.8 +0.1**
comp=Z,59nm,1.0s
ZALV **Zalesovo Beam** **41.57 312** P **P** **04 46 15.1 +0.3**
comp=Z,15nm,0.3s,baz=92,slow=7.4,SNR=123
ZALV PcP **PcP** **04 48 11.2 +0.2**
comp=Z,11nm,0.6s,baz=109,slow=2.4,SNR=6.4
ZALV LR LR 05 04 15.2
comp=Z,998nm,18.1s,baz=72,slow=37
ZALV **Zalesovo Beam** **41.57 312** *e*P **P** **04 46 14.2 -0.5**
ZALV 04 48 11.3
ZALV **Zalesovo Beam** **41.57 312** *e*P **P** **04 46 14.2 -0.5**
ZALV PcP **PcP** **04 48 11.2 +0.2**
CMAR **Chiang Mai Arr** **41.63 255** P **P** **04 46 15.7 +0.1**
comp=Z,4.9nm,0.6s,baz=45,slow=8.7,SNR=12
CMAR PcP **PcP** **04 48 12.7 +0.8**
comp=Z,2.5nm,0.7s,baz=2.2,slow=2.2,SNR=4.9
CMAR ScP **ScP** **04 51 58.5 +0.8**
comp=Z,0.7nm,0.3s,baz=153,slow=1.6,SNR=4.4

CMAR LR LR 05 04 36.4
comp=Z,356nm,19.9s,baz=58,slow=38
CM01 Chiang Mai Arr 41.64 255 *e*P **P 04 46 15.9 +0.2**
SANI Sanana 41.91 203 P **P 04 46 17.3 -0.5**
SRAK Srakaew 42.06 247 P **P 04 46 16.1 -3.0**
comp=Z,147nm,0.9s,comp=Z,1µm
LSA Lhasa 42.17 275 P **P 04 46 21.5 +1.1**
LSA pmax pmax
comp=Z,16nm,0.9s
LSA Lhasa 42.17 275 *e*P **P 04 46 21.1 +0.7**
LSA pmax pmax
comp=Z,29nm,0.9s
LSA Lhasa 42.17 275 *e*P **P 04 46 21.1 +0.7**
comp=Z,28nm,0.9s
NAYO Nakonayok 42.40 248 P **P 04 46 22.8 +1.0**
comp=Z,14nm,1.0s,comp=Z,656nm
APSI Ampana 42.41 210 P **P 04 46 23.4 +1.5**
NVS Novosibirsk 42.49 313 ⇓ *i*P **P 04 46 23.0 +0.8**
NVS *i* 04 46 41.7
NVS pmax pmax
comp=Z,53nm,1.1s
NVS pmax pmax
comp=N,11nm,1.2s
NVS pmax pmax
comp=E,40nm,1.2s
SHL Shillong 43.41 269 *e*P **P 04 46 30.0 -0.3**
MK01 Makanchi Array 43.85 302 *e*P **P 04 46 31.9 -1.5**
MK31 Makanchi Array 43.85 302 *i* P **P 04 46 33.6 +0.3**
MK31 pmax pmax
comp=Z,87nm,1.0s
MK31 Makanchi Array 43.85 302 *e*P **P 04 46 33.7 +0.3**
MKAR Makanchi Array 43.85 302 P **P 04 46 33.7 +0.3**
comp=Z,44nm,0.7s,baz=87,slow=9.2,SNR=229
MKAR LR LR 05 06 08.2
comp=Z,382nm,18.8s,baz=81,slow=38
MKAR Makanchi Array 43.85 302 *e*P **P 04 46 33.7 +0.3**
comp=Z,293nm,0.7s
SRDT SRDT 44.00 250 P **P 04 46 34.5 -0.3**
comp=Z,30nm,1.1s
SBUM Sibu 44.02 225 *e*P **P 04 46 35.5 +0.5**
comp=Z,12nm,0.9s
MAKZ Makanchi 44.06 302 *e*P **P 04 46 35.6 +0.6**
MAKZ pmax pmax
comp=Z,65nm,1.0s
MAKZ Makanchi 44.06 302 *e*P **P 04 46 35.6 +0.6**
comp=Z,65nm,1.0s
PHET Kaeng Krachan 44.55 248 P **P 04 46 40.1 +0.9**
comp=Z,30nm,0.7s,comp=Z,246nm
MTKI Muara Teweh, K 45.47 219 P **P 04 46 48.4 +1.9**
KURK Kurchatov 45.62 308 *c* *i*P **P 04 46 47.3 0.0**
KURK pmax pmax
comp=Z,72nm,0.9s
KURK Kurchatov 45.62 308 *e*P **P 04 46 47.6 +0.3**
comp=Z,122nm,0.8s
KURK Kurchatov 45.62 308 P **P 04 46 47.6 +0.3**
SNR=34
KURBB Kurchatov Arra 45.69 308 P **P 04 46 48.0 +0.2**
comp=Z,67nm,0.6s,baz=83,slow=8.2,SNR=288
KSM Kuching 45.91 226 *e*P **P 04 46 50.8 +0.8**
comp=Z,26nm,0.8s
TAPN Taplejung 45.91 273 *e*P **P 04 46 50.9 +0.6**
comp=Z,18nm,0.3s
BNSI Bone 46.20 210 P **P 04 46 53.6 +1.4**
IM3 Indian Mountai 46.22 31 *e*P **P 04 46 53.1 +1.4**
ODAN Odare 46.38 273 *e*P **P 04 46 54.5 +0.6**
comp=Z,39nm,0.5s
STKI Sintang 46.41 224 P **P 04 46 56.4 +2.5**
PDGK Podgornoye 46.54 297 P **P 04 46 54.5 -0.3**
PDGK pmax pmax
comp=Z,48nm,1.2s
KDAK Kodiak Island 46.72 42 P **P 04 46 56.5 +0.7**
comp=Z,7.2nm,0.5s,baz=316,slow=3.7,SNR=16
KDAK Kodiak Island 46.72 42 *e*P **P 04 46 56.5 +0.7**
comp=Z,89nm,1.0s
PPLA Purkeypile 46.75 35 *e*P **P 04 46 58.2 +2.0**
comp=Z,25nm,1.1s
CAST Castle Rocks 46.81 34 *e*P **P 04 46 58.6 +2.2**
comp=Z,6.9nm,0.8s
SPU Mount Spurr 46.83 38 *e*P **P 04 46 58.8 +2.1**
SPU *e*pP **pP 04 47 12.5 +2.2**
KAPI Kappang 46.90 210 *e*P **P 04 46 57.8 +0.1**
comp=Z,67nm,1.2s
KAPI Kappang 46.90 210 P **P 04 46 58.6 +1.0**
SNR=10
KBKI Kotabaru 46.92 216 P **P 04 47 01.3 +3.5**
RAMN Ramite 46.97 274 *e*P **P 04 46 59.0 +0.5**
comp=Z,186nm,0.9s
JIRN Jiri 46.97 275 *e*P **P 04 46 59.4 +0.7**
PMG Port Moresby 47.01 172 LR LR 05 05 53.8
comp=Z,134nm,21.9s,baz=335,slow=35
PMG Port Moresby 47.01 172 *e*P **P 04 46 59.9 +1.4**
PMG pmax pmax
comp=Z,38nm,1.1s
PMG Port Moresby 47.01 172 *e*P **P 04 46 59.9 +1.4**
comp=Z,38nm,1.1s
GUN Gumba 47.11 275 *e*P **P 04 47 00.3 +0.6**
comp=Z,95nm,0.3s
BPAW Bear Paw Mtn. 47.30 34 *e*P **P 04 47 01.6 +1.3**
comp=Z,1.5nm,0.8s
KTH Kantishna Hill 47.33 34 *e*P **P 04 47 01.8 +1.2**
comp=Z,32nm,1.1s
MLY Manley 47.42 32 *e*P **P 04 47 03.3 +2.1**
comp=Z,14nm,0.8s
SUA Susitna One 47.45 37 *e*P **P 04 47 03.6 +1.9**
comp=Z,22nm,0.9s
TRF Thorofare Moun 47.61 34 *e*P **P 04 47 03.6 +0.6**
comp=Z,21nm,1.3s
PKI Pulchoki 47.63 275 *e*P **P 04 47 03.9 +0.1**
comp=Z,58nm,0.7s
KKN Kakani 47.64 275 *e*P **P 04 47 04.2 +0.5**
comp=Z,150nm,0.7s
PKIN Phulchoki 47.64 275 *e*P **P 04 47 04.1 +0.3**
COLD Coldfoot 47.71 29 *e*P **P 04 47 04.7 +1.3**
comp=Z,6.6nm,0.8s
SKLT Songkhla 47.75 241 P **P 04 47 04.8 +0.4**
comp=Z,41nm,1.1s,comp=Z,662nm
SURT Suratani 47.80 245 P **P 04 47 05.2 +0.5**
comp=Z,17nm,1.0s,comp=Z,233nm
DMN Daman 47.85 275 *e*P **P 04 47 05.7 +0.3**
RC01 Rabbit Creek A 47.96 38 *e*P **P 04 47 05.7 +0.3**
comp=Z,62nm,1.6s
TOLK Toolik Lake Re 48.02 27 P **P 04 47 07.7 +1.8**
baz=267
TOLK Toolik Lake Re 48.02 27 *e*P **P 04 47 07.6 +1.8**
comp=Z,19nm,0.8s
GKN Gorkha 48.05 276 *e*P **P 04 47 07.3 +0.5**
MCK McKinley 48.21 34 *e*P **P 04 47 08.3 +0.9**
MCK pmax pmax
comp=Z,16nm,1.0s
MCK McKinley 48.21 34 *e*P **P 04 47 08.3 +0.9**
comp=Z,16nm,1.0s
RND Reindeer 48.26 34 *e*P **P 04 47 09.0 +1.2**
RND pmax pmax
comp=Z,17nm,0.9s
RND Reindeer 48.26 34 *e*P **P 04 47 09.0 +1.2**
comp=Z,17nm,0.9s
MDM Murphy Dome 48.49 32 *e*P **P 04 47 11.3 +1.8**
comp=Z,33nm,1.0s
KDJ Kajisay 48.51 297 P **P 04 47 11.0 +0.8**
KDJ pmax pmax
comp=Z,295nm,2.7s
WRH Wood River Hil 48.56 33 *e*P **P 04 47 11.6 +1.6**
comp=Z,13nm,0.9s
SML Sawmill 48.58 37 *e*P **P 04 47 11.0 +0.7**
SML pmax pmax
comp=Z,21nm,0.8s
SML Sawmill 48.58 37 *e*P **P 04 47 10.9 +0.7**
comp=Z,21nm,0.8s
DANN Dangsing 48.59 277 *e*P **P 04 47 12.3 +1.2**
COLA College 48.65 32 *e*P **P 04 47 10.9 +0.2**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA College 48.65 32 *e*P **P 04 47 10.9 +0.2**
comp=Z,14nm,0.8s
CCB Clear Creek Bu 48.68 33 *e*P **P 04 47 12.3 +1.4**
comp=Z,31nm,1.8s
PKDT Phuket 48.86 244 P **P 04 47 13.4 +0.5**
comp=Z,33nm,1.0s
DHY Denali Highway 48.94 35 *e*P **P 04 47 14.4 +1.3**
comp=Z,10nm,0.9s
KOLN Koldanda 48.97 276 *e*P **P 04 47 14.5 +0.5**
HDA Harding Lake 49.06 33 *e*P **P 04 47 15.0 +1.1**
comp=Z,21nm,1.0s
SCM Sheep Creek Mo 49.06 37 *e*P **P 04 47 15.7 +1.7**
SCM pmax pmax
comp=Z,23nm,0.9s
SCM Sheep Creek Mo 49.06 37 *e*P **P 04 47 15.7 +1.7**
comp=Z,23nm,0.9s
ILAR Eielson Array 49.06 33 P **P 04 47 14.7 +0.8**
comp=Z,12nm,0.8s,baz=269,slow=6.2,SNR=124
ILB Eielson Array 49.06 33 *e*P **P 04 47 14.9 +1.1**
IL1 Eielson Array 49.07 33 *e*P **P 04 47 13.8 -0.1**
KULM Kulim 49.07 239 *e*P **P 04 47 14.6 +0.1**
comp=Z,27nm,1.0s
ULHL Ulahol 49.14 297 P **P 04 47 15.7 +0.7**
SNR=20
PYUN Piuthan 49.31 277 *e*P **P 04 47 17.2 +0.7**
comp=Z,468nm,0.9s
TKM2 Tokmak 2 49.39 298 P **P 04 47 17.8 +0.8**
TKM2 pmax pmax
comp=Z,57nm,0.7s
TKM2 Tokmak 2 49.39 298 P **P 04 47 18.1 +1.1**
SNR=127
IPM Ipoh 49.41 238 *e*P **P 04 47 16.4 -0.7**
comp=Z,31nm,0.8s
NRN Naryn 49.56 296 P **P 04 47 19.2 +0.8**
NRN pmax pmax
comp=Z,24nm,1.1s
FYU Fort Yukon 49.67 30 *e*P **P 04 47 15.4 -3.0**
comp=Z,30nm,1.0s
KLU Klutina 49.76 37 *e*P **P 04 47 20.6 +1.3**
comp=Z,16nm,1.0s
PAX Paxson 49.82 35 *e*P **P 04 47 20.3 +0.6**
PAX *e* 04 48 40.6
PAX pmax pmax
comp=Z,10.0nm,0.8s
PAX Paxson 49.82 35 *e*P **P 04 47 20.3 +0.6**
comp=Z,9.7nm,0.8s
PAX *e*PcP **PcP 04 48 40.6 +0.8**
HNR Honiara 49.85 156 LR LR 05 07 31.7
comp=Z,339nm,20.2s,baz=327,slow=35
DIV Divide 49.87 37 *e*P **P 04 47 21.7 +1.5**
comp=Z,42nm,1.1s
KZA Kyzart 49.89 297 P **P 04 47 22.6 +1.5**
SNR=46
KBK Karagaybulak 49.92 298 P **P 04 47 21.9 +0.9**
SNR=88
CHMS Chumysh 49.96 298 P **P 04 47 21.7 +0.6**
SNR=7.3
HARP HAARP 50.02 36 *e*P **P 04 47 23.5 +2.3**
comp=Z,118nm,1.8s
RIDG Independ'e Rid 50.03 34 *e*P **P 04 47 22.3 +1.0**
comp=Z,26nm,1.3s
USP Ospenovka 50.05 299 P **P 04 47 22.5 +0.7**
SNR=24
FRU Bishkek 50.10 298 *e*P **P 04 47 22.0 -0.2**
FRU *e* 04 47 34.0
FRU pmax pmax
comp=Z,60nm,1.4s
FRU MLR MLR
comp=E,1µm,16.0s
OTUK Ortayu 50.13 306 P P 04 47 32.4 +10
OTUK pmax pmax
comp=Z,55nm,0.8s
KSH Kashi 50.20 294 P **P 04 47 27.0 +3.9**
KSH pP pP 04 47 36.5 -0.2
KSH sP sP 04 47 41.5 -1.0
KSH S **S 04 54 34.5 +2.9**
KSH sS sS 04 55 01.8 +7.3
KSH pmax pmax
comp=Z,22nm,0.7s
KSH pmax pmax
comp=Z,220nm,5.7s
KSH LR LR
comp=Z,1µm,19.1s
KSH LR LR
comp=Z,440nm,13.4s
KSH LR LR
comp=Z,840nm,16.2s
BVA0 Borovoye Array 50.23 312 P **P 04 47 22.9 0.0**
BVA0 pmax pmax
comp=Z,19nm,0.9s
BVAR Borovoye Array 50.23 312 P **P 04 47 23.3 +0.4**
comp=Z,12nm,0.5s,baz=75,slow=7.7,SNR=67
BVAR PcP **PcP 04 48 41.8 +0.4**
comp=Z,17nm,0.8s,baz=78,slow=3.0,SNR=6.6
BVAR LR LR 05 09 44.3
comp=Z,780nm,19.0s,baz=80,slow=37
AAK Ala-Archa 50.25 298 P **P 04 47 24.0 +0.5**
comp=Z,37nm,0.8s,baz=103,slow=5.2,SNR=50
AAK Ala-Archa 50.25 298 P **P 04 47 24.0 +0.5**
AAK pmax pmax
comp=Z,37nm,0.8s
AAK Ala-Archa 50.25 298 P **P 04 47 24.2 +0.7**
SNR=7.4
AAK Ala-Archa 50.25 298 P **P 04 47 23.9 +0.5**
BRVK Borovoye 50.29 312 *c* *i*P **P 04 47 23.7 +0.4**
BRVK pmax pmax
comp=Z,30nm,0.9s
BRVK Borovoye 50.29 312 *e*P **P 04 47 23.8 +0.5**
comp=Z,25nm,0.8s
BRVK *e*PcP **PcP 04 48 41.4 -0.2**
BRVK Borovoye 50.29 312 P **P 04 47 23.8 +0.5**
SNR=12
BATI Baumata 50.33 203 LR LR 05 07 15.0
comp=Z,98nm,21.9s,baz=58,slow=34
UCH Uclur 50.36 297 P **P 04 47 25.7 +1.0**
SNR=24
SCRK Sand Creek 50.38 34 *e*P **P 04 47 25.0 +1.0**
comp=Z,35nm,1.2s
DOT Dot Lake 50.38 34 *e*P **P 04 47 24.8 +0.8**
comp=Z,28nm,1.0s
BMRM Bremner River 50.45 37 *e*P **P 04 47 26.3 +1.7**
comp=Z,38nm,1.2s
MENT Mentasta 50.62 35 *e*P **P 04 47 27.7 +2.0**
comp=Z,26nm,1.0s
EKS2 Erkin-Say 50.74 298 P **P 04 47 27.7 +0.6**
SNR=45
AML Almayashu 50.97 298 P **P 04 47 30.4 +1.2**
SNR=84
PLAI Plampang 51.16 211 P P 04 47 36.3 +6.0
COEN Coen 51.25 178 *e*P **P 04 47 31.4 +0.5**
comp=Z,35nm,1.0s
EGAK Eagle 51.51 32 *e*P **P 04 47 32.7 +0.4**
comp=Z,12nm,1.1s
BALM Baldy 51.53 37 *e*P **P 04 47 31.7 -1.1**
BALM pmax pmax
comp=Z,15nm,1.0s
BALM Baldy 51.53 37 *e*P **P 04 47 31.7 -1.1**
comp=Z,15nm,1.0s
MNAS Manas 51.69 298 P **P 04 47 34.7 +0.4**
MNAS pmax pmax
comp=Z,56nm,0.8s
SFK Sufi-Kurgan 51.82 295 P **P 04 47 35.3 0.0**
SFK pmax pmax
comp=Z,60nm,1.1s
PSI Prapat 52.06 239 P **P 04 47 37.2 0.0**
comp=Z,24nm,0.8s,baz=47,slow=3.4,SNR=17
DAWY Dawson 52.38 33 *e*P **P 04 47 40.3 +1.4**
comp=Z,4.9nm,0.9s
JAGI Jajag, Banyuwa 52.40 215 *e*P **P 04 47 38.1 -1.4**
comp=Z,31nm,1.0s
BKNI Bangkinang 52.48 235 *e*P **P 04 47 40.2 0.0**
comp=Z,52nm,0.6s
KK31 Karatay Array 52.87 300 *i* P **P 04 47 42.6 -0.2**
KK31 pmax pmax
comp=Z,22nm,0.8s
KKAR Karatay Array 52.87 300 *e*P **P 04 47 42.8 0.0**
KKAR Karatay Array 52.87 300 *e*P **P 04 47 42.8 0.0**
HYT Haines Junctio 53.89 37 *e*P **P 04 47 52.1 +2.0**
comp=Z,47nm,1.2s
INK Inuvik 53.94 27 P **P 04 47 51.5 +1.3**
comp=Z,20nm,0.8s,baz=281,slow=6.0,SNR=96
INK Inuvik 53.94 27 *e*P **P 04 47 51.7 +1.5**
INK pmax pmax
comp=Z,25nm,0.9s
INK Inuvik 53.94 27 *e*P **P 04 47 51.7 +1.5**
comp=Z,25nm,0.9s
GSI Gunungsitoli 54.06 239 *e*P **P 04 47 52.4 +0.5**
comp=Z,107nm,0.7s
LEM Lembang 54.25 223 P **P 04 47 52.9 -0.4**
comp=Z,53nm,0.8s,baz=162,slow=20,SNR=6.0
LEM LR LR 05 11 48.1
comp=Z,126nm,19.6s,baz=74,slow=37
SVE Sverdlovsk 54.77 318 *d* *i*P **P 04 47 57.4 +1.0**
SVE pmax pmax
comp=Z,90nm,1.0s
SVE MLR MLR
comp=Z,1µm,18.0s
SKAG Skagway 55.30 38 *e*P **P 04 48 02.2 +2.0**
comp=Z,15nm,1.2s
SOKR Solikamsk 55.92 322 *d* *i*P **P 04 48 02.3 -2.3**
SOKR pmax pmax
comp=Z,74nm,1.6s
SOKR MLR MLR
comp=Z,424nm,20.0s
ARU Arti 55.98 318 *c* *i*P **P 04 48 05.6 +0.5**
ARU 04 49 02.0
ARU S **S 04 55 52.0 +2.6**
ARU SS **SS 04 59 30.0 -5.3**
ARU pmax pmax
comp=Z,95nm,1.0s
ARU MLR MLR
comp=Z,837nm,19.0s
ARU Arti 55.98 318 *e*P **P 04 48 05.2 +0.1**
comp=Z,98nm,0.9s
KBL Kabul 57.23 291 *e*P **P 04 48 14.5 -0.2**
KBL pmax pmax
comp=Z,59nm,0.9s
KBL Kabul 57.23 291 *e*P **P 04 48 14.5 -0.2**
comp=Z,59nm,0.9s
CTAO Charters Tower 57.50 175 *e*P **P 04 48 16.8 +0.5**
CTAO pmax pmax
comp=Z,49nm,0.7s
CTAO Charters Tower 57.50 175 *e*P **P 04 48 16.8 +0.5**
comp=Z,49nm,0.7s
WRAB Tennant Creek 57.55 188 *e*P **P 04 48 15.8 -0.8**
WRAB pmax pmax
comp=Z,38nm,1.1s
WRAB Tennant Creek 57.55 188 *e*P **P 04 48 15.8 -0.8**
comp=Z,38nm,1.1s
WB2 Warramunga Arr 57.56 188 *e*P **P 04 48 16.5 -0.2**
comp=Z,34nm,1.0s
WRA Warramunga Arr 57.56 188 P **P 04 48 16.4 -0.3**
comp=Z,18nm,0.7s,baz=5.8,slow=7.3,SNR=141
WRA LR LR 05 12 30.0
comp=Z,142nm,20.3s,baz=35,slow=35
ABKAR Akbulak array 57.61 310 *e*P **P 04 48 16.9 0.0**
comp=Z,26nm,0.4s
HYB Hyderabad 58.22 268 *i* P **P 04 48 20.0 -1.6**
DLBC Dease Lake 58.23 38 *e*P **P 04 48 23.4 +2.4**
comp=Z,10nm,1.0s
AKTO Aktyubinsk 58.34 312 P **P 04 48 21.9 0.0**
comp=Z,32nm,0.7s,baz=75,slow=12,SNR=65
AKTO LR LR 05 14 42.4
comp=Z,523nm,19.2s,baz=70,slow=37
SPITS Spitsbergen Ar 60.02 349 P **P 04 48 33.9 +0.8**
comp=Z,7.6nm,0.7s,baz=32,slow=7.9,SNR=12
SPITS LR LR 05 15 45.8
comp=Z,353nm,21.4s,baz=25,slow=37
AS01 Alice Springs 61.28 188 *e*P **P 04 48 41.7 -0.7**
ASAR Alice Springs 61.29 188 P **P 04 48 42.5 +0.1**
comp=Z,10nm,0.7s,baz=11,slow=6.6,SNR=100
ASAR LR LR 05 14 46.0
comp=Z,112nm,21.5s,baz=354,slow=36
ASAR PKP2bc 05 18 04.8
comp=Z,1.1nm,0.8s,baz=173,slow=2.2,SNR=9.9
MBWA Marble Bar 61.86 203 *e*P **P 04 48 46.0 -0.2**
comp=Z,68nm,0.6s
RES Resolute Bay 62.11 14 *e*P **P 04 48 47.8 +0.5**
RES pmax pmax
comp=Z,23nm,0.9s
RES Resolute Bay 62.11 14 *e*P **P 04 48 47.8 +0.5**
comp=Z,23nm,0.9s
APA Apatity 62.23 336 ⇓ *i*P **P 04 48 47.7 -0.4**
APA pmax pmax
comp=Z,27nm,0.7s
APA MLR MLR
comp=Z,1µm,13.0s
TMCR Tamitsa 62.30 331 *e*P **P 04 48 48.9 +0.2**
TMCR pmax pmax
comp=Z,74nm,1.3s
EIDS Eidsvold 63.23 170 *e*P **P 04 48 55.7 +0.4**
comp=Z,20nm,0.8s
KLMR Klimovskoe 63.33 328 *e*P **P 04 48 53.3 -2.3**
KLMR *e* 04 51 12.5
KLMR pmax pmax
comp=Z,52nm,1.1s
KLMR Klimovskoe 63.33 328 *e*P **P 04 48 53.3 -2.3**
KLMR AMP 04 48 56.8
comp=Z,52nm,1.1s
KLMR *e*PP **PP 04 51 12.5 -2.3**
KLMR LQ LQ 05 11 35.0
KLMR LQ LQ 05 11 35.0
KLMR LR LR 05 14 32.9
YKA Yellowknife Ar 63.37 30 P **P 04 48 56.4 +0.6**
comp=Z,7.0nm,0.7s,baz=303,slow=6.8,SNR=149
YKA PKPPKP **P'P'df 05 17 54.1 -3.8**
comp=Z,0.4nm,0.8s,baz=122,slow=1.9,SNR=6.2
ARCES ARCESS Array B 63.52 339 P **P 04 48 57.3 +0.5**
comp=Z,25nm,0.8s,baz=51,slow=8.2,SNR=27
ARCES LR LR 05 20 33.3
comp=Z,261nm,18.5s,baz=53,slow=40
ARE0 ARCESS Array S 63.52 339 *e*P **P 04 48 57.8 +1.0**
comp=Z,33nm,0.9s
GEYT Alibeck 63.59 299 P **P 04 48 58.4 +0.6**
comp=Z,34nm,0.9s,baz=33,slow=3.5,SNR=49
GEYT LR LR 05 19 13.7
comp=Z,238nm,18.2s,baz=85,slow=38
DZM Mont Dzumac 63.81 154 LR LR 05 14 24.7
comp=Z,416nm,20.7s,baz=11,slow=34
DZM Mont Dzumac 63.81 154 *e*S S 04 57 42.8 +12
comp=Z,178nm,27.6s
DZM Mont Dzumac 63.81 154 *e*LR LR 05 08 25.2
comp=Z,636nm,21.3s
DZM Mont Dzumac 63.81 154 *e*P **P 04 48 59.8 +0.5**
comp=Z,125nm,1.2s
TULEG Thule 64.60 8 *e*P **P 04 49 03.7 0.0**
comp=Z,19nm,0.7s
DAG Danmarks Havn 65.27 355 ⇑ *i*P **P 04 49 08.3 +0.3**
DAG pmax pmax
comp=Z,35nm,1.0s
DAG Danmarks Havn 65.27 355 ⇑ *i*P **P 04 49 08.3 +0.3**
comp=Z,35nm,1.0s
LLLB Lillooet 65.89 44 *e*P **P 04 49 13.9 +1.4**
comp=Z,44nm,1.5s
MOS Moscow 66.84 323 *e*P **P 04 49 17.0 -1.5**
MOS *e* 04 49 29.6
MOS *e* 04 49 45.6
MOS pmax pmax
comp=Z,102nm,1.3s
VRH Novokhopyorsk 67.20 318 *e*P **P 04 49 20.6 -0.2**
VRH pmax pmax
comp=Z,40nm,0.5s
AFI Afiamalu 67.46 130 LR LR 05 13 53.6
comp=Z,184nm,21.9s,baz=319,slow=31
KULLO Kullorsuaq 67.47 5 ⇑ *i*P **P 04 49 22.2 +0.1**
KULLO pmax pmax
comp=Z,10.0nm,0.7s
KULLO Kullorsuaq 67.47 5 ⇑ *i*P **P 04 49 22.2 +0.1**
comp=Z,10nm,0.7s
OBN Obninsk 67.69 323 *c* *i*P **P 04 49 24.1 +0.3**
OBN *i* *PP **sP 04 49 41.6 -2.1**
OBN 04 49 50.0
OBN 04 51 58.0
OBN PPP PPP 04 53 29.0
OBN *i* S **S 04 58 16.0 -1.2**
OBN *e*SS **SS 05 02 40.4 +2.3**
OBN pmax pmax
comp=Z,51nm,1.1s
OBN MLR MLR
comp=Z,258nm,17.0s
LPSR Galich'ya Gora 67.91 320 *e*P **P 04 49 25.2 -0.1**
LPSR pmax pmax
comp=Z,60nm,0.8s
MAK Makhachkala 68.15 308 *e*P **P 04 49 26.1 -0.8**
MAK *e* 04 51 57.8
MAK *e*S **S 04 58 21.4 -1.7**
MAK pmax pmax
comp=Z,116nm,1.1s
MAK MLR MLR
comp=Z,261nm,15.0s
ARMA Armidale 68.28 171 *e*P **P 04 49 28.5 +0.7**
comp=Z,49nm,1.3s
FIA1 FINESS Array S 68.36 332 *e*P **P 04 49 28.4 +0.4**
comp=Z,55nm,0.8s
FINES FINESS Array B 68.36 332 P **P 04 49 28.2 +0.3**
comp=Z,32nm,0.6s,baz=30,slow=10,SNR=100
FINES LR LR 05 21 44.0
comp=Z,523nm,18.3s,baz=52,slow=38
VSR Storozhevoye 68.55 319 *e*P **P 04 49 28.8 -0.5**
VSR pmax pmax
comp=Z,90nm,1.1s
I03D Drain, OR 68.59 51 P **P 04 49 31.1 +1.5**
baz=302
EDM Edmonton 68.95 38 *e*P **P 04 49 32.8 +1.0**
EDM pmax pmax
comp=Z,55nm,1.4s
EDM Edmonton 68.95 38 *e*P **P 04 49 32.8 +1.0**

comp=Z,55nm,1.4s
STKA **Stephens Creek** 69.06 180 P P 04 49 33.1 +0.6
comp=Z,9.1nm,0.7s,baz=336,slow=7.1,SNR=16
STKA pP pP 04 49 47.4 +0.6
comp=Z,15nm,0.7s,baz=337,slow=8.5,SNR=13
STKA LR LR 05 18 47.4
comp=Z,153nm,21.5s,baz=20,slow=35
STKA Stephens Creek 69.06 180 *eP* **P 04 49 33.5 +0.9**
STKA **PP* **pP 04 49 47.4 +0.6**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 69.06 180 *eP* **P 04 49 33.5 +0.9**
comp=Z,4.4nm,0.8s
STKA pP **pP 04 49 47.4 +0.6**
GROC Groznyy 69.08 309 *eP* **P 04 49 32.7 -0.1**
GROC *e* 04 49 57.8
GROC pmax pmax
comp=Z,20nm,0.5s
FORT Forrest 69.11 192 *eP* **P 04 49 32.7 -0.1**
I04A Tendick Farm, 69.11 50 P **P 04 49 34.0 +1.0**
baz=302
GOF Gofitskoye 69.76 312⇑ *eP* **P 04 49 37.3 +0.4**
GOF pmax pmax
comp=Z,102nm,1.3s
NEW Newport 69.76 44 P **P 04 49 37.9 +0.9**
baz=304
NEW Newport 69.76 44 *eP* **P 04 49 38.6 +1.6**
NEW pmax pmax
comp=Z,20nm,1.2s
NEW Newport 69.76 44 *eP* **P 04 49 38.6 +1.6**
comp=Z,20nm,1.2s
PINE Pine Mountain 70.01 50 *eP* **P 04 49 41.4 +2.7**
comp=Z,51nm,0.9s
VSU Vasula 70.02 329 *ce* **P 04 49 38.5 +0.3**
VSU pmax pmax
comp=Z,99nm,0.9s
YBH Yreka Blue Hor 70.03 52 P **P 04 49 40.9 +2.1**
comp=Z,5.8nm,0.9s,baz=327,slow=3.6,SNR=6.3
YBH pP **pP 04 49 55.0 +1.9**
comp=Z,7.8nm,0.8s,baz=110,slow=8.3,SNR=6.8
YBH LR LR 05 12 36.6
comp=Z,91nm,21.4s,baz=322,slow=29
J05D Fort Rock, OR 70.11 50 P **P 04 49 40.1 +0.8**
baz=303
M02C Callahan 70.13 53 P **P 04 49 40.4 +1.0**
baz=303
BBOO Buckleboo 70.17 185 *eP* **P 04 49 39.6 +0.2**
comp=Z,38nm,1.2s
SUMG Summit 70.18 360⇑ *iP* **P 04 49 40.5 +1.0**
SUMG pmax pmax
comp=Z,29nm,1.0s
SUMG Summit 70.18 360⇑ *iP* **P 04 49 40.5 +1.0**
comp=Z,29nm,1.0s
SUMG Summit 70.18 360 *eP* **P 04 49 40.5 +1.0**
comp=Z,27nm,0.9s
N02D Trinity Center 70.45 53 P **P 04 49 42.5 +1.2**
baz=303
ZEI Tsey 70.48 309 *eP* **P 04 49 38.6 -3.0**
ZEI pmax pmax
comp=Z,17nm,0.8s
TBLG Delisi 70.54 308 *eP* **P 04 49 41.6 -0.2**
TBLG pmax pmax
comp=Z,21nm,0.8s
TBLG Delisi 70.54 308 *eP* **P 04 49 41.6 -0.2**
comp=Z,21nm,0.8s
M04C Macdoel 70.55 52 P **P 04 49 43.1 +1.1**
baz=303
KBZ Khabaz 70.57 311 P **P 04 49 42.5 +0.6**
comp=Z,30nm,0.9s,baz=48,slow=2.9,SNR=55
KBZ LR LR 05 25 32.2
comp=Z,360nm,18.2s,baz=52,slow=40
KIV Kislovodsk 70.57 311 *eP* **P 04 49 42.4 +0.3**
KIV *e* 04 50 02.4
KIV *eS* **S 04 58 53.0 +1.1**
KIV pmax pmax
comp=Z,99nm,1.0s
KIV pmax pmax
comp=Z,45nm,3.1s
KIV MLR MLR
comp=Z,217nm,18.0s
KIV Kislovodsk 70.57 311 *eP* **P 04 49 42.9 +0.8**
comp=Z,97nm,1.0s
KIV Kislovodsk 70.57 311 P **P 04 49 43.0 +0.9**
SNR=19
KIV Kislovodsk 70.57 311 *iP* **P 04 49 42.9 +0.9**
SNR=7.9
WSAR Wadi Sarin 70.74 285 P **P 04 49 43.7 +0.4**
comp=Z,24nm,0.9s,baz=89,slow=8.8,SNR=16
WSAR LR LR 05 26 20.9
comp=Z,183nm,18.0s,baz=90,slow=41
NEY Neytrino 70.94 310⇑ *eP* **P 04 49 45.0 +0.6**
NEY pmax pmax
comp=Z,3.0nm,0.8s
BIDO Bidbid 70.97 285 P **P 04 49 45.9 +1.3**
SNR=8.9
BANOM Banah 71.05 288 P **P 04 49 46.1 +1.0**
SNR=11
BANOM Banah 71.05 288 *iP* **P 04 49 45.8 +0.6**
SNR=33
WALA Waterton Lakes 71.06 42 *eP* **P 04 49 46.7 +1.7**
comp=Z,39nm,1.4s
SHME Shamm 71.10 289 *iP* **P 04 49 45.9 +0.5**
SNR=50
MDH Madha 71.39 288 *iP* **P 04 49 46.8 -0.3**
SNR=7.3
O03D Paynes Creek 71.39 53 P **P 04 49 48.0 +0.9**
baz=304
GNI Garni 71.40 307 P **P 04 49 47.2 0.0**
comp=Z,13nm,0.9s,baz=141,slow=3.1,SNR=12
GNI LR LR 05 23 59.9
comp=Z,311nm,18.3s,baz=54,slow=38
GNI Garni 71.40 307 *c iP* **P 04 49 48.2 +1.0**
GNI pmax pmax
comp=Z,70nm,1.0s
GNI Garni 71.40 307 *eP* **P 04 49 47.4 +0.1**
comp=Z,25nm,0.8s
GNI Garni 71.40 307 P **P 04 49 48.7 +1.5**
SNR=8.3
MOD Modoc Plateau 71.44 51 *eP* **P 04 49 49.0 +1.6**
comp=Z,6.6nm,0.8s
MSFE Esma-Masafi 71.46 288 *iP* **P 04 49 48.1 +0.5**
SNR=29
AKH Akhalkalaki 71.49 308⇓ *iP* **P 04 49 48.9 +1.1**
BMO Blue Mountains 71.58 47 *eP* **P 04 49 49.7 +1.5**
BMO pmax pmax
comp=Z,11nm,0.9s
BMO Blue Mountains 71.58 47 *eP* **P 04 49 49.7 +1.5**
comp=Z,12nm,0.9s
SCO Scoresbysund 71.61 354 *iP* **P 04 49 48.8 +1.1**
SCO pmax pmax
comp=Z,15nm,0.9s
SCO Scoresbysund 71.61 354 *iP* **P 04 49 48.8 +1.1**
comp=Z,15nm,0.9s
SCO Scoresbysund 71.61 354 *eP* **P 04 49 48.8 +1.1**
comp=Z,15nm,0.9s
JTMT Jette 71.62 44 *eP* **P 04 49 50.3 +1.9**
comp=Z,11nm,0.8s
UOSS Minazif 71.65 288 *eP* **P 04 49 49.0 +0.2**
comp=Z,52nm,0.8s
UOSS Minazif 71.65 288 *iP* **P 04 49 48.9 +0.2**
SNR=27
J08A Circle Bar Ran 71.74 49 *eP* **P 04 49 51.1 +2.0**
comp=Z,23nm,1.0s
HATD Hatta, Dubai 71.78 288 P **P 04 49 50.4 +0.9**
SNR=14
HATD Hatta, Dubai 71.78 288 *iP* **P 04 49 49.9 +0.4**
SNR=47
SOHO SOHO 71.85 287 *iP* **P 04 49 50.0 +0.1**
SNR=25
ASHO Ashiyiah 71.91 287 P **P 04 49 50.8 +0.4**
SNR=10
ASHO Ashiyiah 71.91 287 *iP* **P 04 49 50.7 +0.4**
SNR=22
IZAR Zarasai 71.98 327 *eP* **P 04 49 50.8 +0.6**
IZAR IAmb IAmb 04 49 51.4
comp=Z,11nm,0.6s
ORV Oroville 72.00 54 *eP* **P 04 49 51.9 +1.3**
ORV pmax pmax
comp=Z,12nm,0.9s
ORV Oroville 72.00 54 *eP* **P 04 49 51.9 +1.3**
comp=Z,12nm,0.9s
IDID Didziasalis 72.05 327 *eP* **P 04 49 51.2 +0.6**
IDID IAmb IAmb 04 49 52.8
comp=Z,18nm,0.9s
ISAL Salakas 72.15 327 *eP* **P 04 49 51.8 +0.6**
ISAL IAmb IAmb 04 49 53.5
comp=Z,37nm,1.1s

WVOR Wild Horse Val 72.17 50 *eP* **P 04 49 53.7 +1.9**
WVOR pmax pmax
comp=Z,14nm,0.9s
WVOR Wild Horse Val 72.17 50 *eP* **P 04 49 53.6 +1.9**
comp=Z,14nm,0.9s
IIGN Ignalina 72.25 327 *eP* **P 04 49 52.3 +0.5**
IIGN IAmb IAmb 04 49 54.0
comp=Z,28nm,1.0s
NACGM Naroch 72.30 327 *e* **P 04 49 51.0 -1.1**
NACGM eLR LR 05 23 28.0
MSO Missoula 72.35 44 P **P 04 49 53.6 +0.8**
baz=306
MSO Missoula 72.35 44 *eP* **P 04 49 54.1 +1.3**
comp=Z,23nm,1.4s
ALNE Al Ain 72.49 287 *i P* **P 04 49 54.0 +0.2**
SNR=27
BEKR Beckworth 72.55 53 *eP* **P 04 49 55.7 +1.6**
comp=Z,22nm,0.9s
SOC Sochi 72.56 312 *eP* **P 04 49 52.1 -1.8**
SOC *e* 04 52 33.8
SOC *ePPP* PPP 04 54 18.9
SOC *eSS* SS 05 03 59.8 +6.3
SOC *eSSS* SSS 05 07 10.3
SOC MLR MLR
comp=Z,559nm,22.0s
ANN Anapa 73.18 314 *eP* **P 04 50 00.9 +3.4**
ANN *eS* **SKiKP 04 59 25.0 +0.2**
ANN pmax pmax
comp=Z,212nm,1.4s
PAHR Pah Rah Range 73.26 53 *eP* **P 04 50 00.1 +1.8**
comp=Z,46nm,1.1s
FFC Flin Flon 73.28 33 *eP* **P 04 49 58.7 +0.8**
FFC pmax pmax
comp=Z,19nm,0.8s
FFC Flin Flon 73.28 33 *eP* **P 04 49 58.7 +0.8**
comp=Z,19nm,0.8s
MFID Camas Ranch 73.28 48 *eP* **P 04 49 59.9 +1.6**
comp=Z,14nm,0.8s
VCNR Virginia City 73.33 53 *eP* **P 04 49 59.4 +0.6**
comp=Z,11nm,0.9s
NC405 NORSAR Array S 73.51 337 *eP* **P 04 49 58.8 -0.4**
NC303 NORSAR Array S 73.53 337 *eP* **P 04 49 59.9 +0.6**
FCC Fort Churchill 73.55 27 *eP* **P 04 50 00.0 +0.6**
FCC pmax pmax
comp=Z,24nm,1.0s
FCC Fort Churchill 73.55 27 *eP* **P 04 49 60.0 +0.6**
comp=Z,24nm,1.0s
DOMB Dombas 73.57 339 *eP* **P 04 50 00.3 +0.7**
CMB Columbia Colle 73.57 55 *eP* **P 04 50 01.6 +1.5**
CMB pmax pmax
comp=Z,20nm,1.0s
CMB Columbia Colle 73.57 55 *eP* **P 04 50 01.6 +1.5**
comp=Z,20nm,1.0s
MOL Molde 73.58 340 *eP* **P 04 49 59.8 +0.3**
HRY Holter Researc 73.58 43 *eP* **P 04 50 01.0 +0.9**
HFS Hagfors 73.63 336 P **P 04 50 00.1 +0.2**
comp=Z,10.0nm,0.4s,baz=55,slow=5.6,SNR=80
HFS LR LR 05 25 05.2
comp=Z,666nm,19.6s,baz=44,slow=38
NC204 NORSAR Array S 73.67 338 *eP* **P 04 50 01.0 +0.8**
NB201 NORSAR Array S 73.69 337 *eP* **P 04 49 59.9 -0.4**
NB2 NORSAR Subarra 73.72 337 P **P 04 50 00.8 +0.4**
comp=Z,26nm,0.7s,baz=39,slow=6.5
NB2 NORSAR Subarra 73.72 337 P **P 04 50 00.8 +0.4**
baz=39,slow=6.5
NOA NORSAR Array B 73.72 337 P **P 04 50 00.9 +0.4**
comp=Z,26nm,0.8s,baz=38,slow=5.8,SNR=53
NOA LR LR 05 25 58.5
comp=Z,470nm,19.4s,baz=40,slow=39
NOA NORSAR Array B 73.72 337 P **P 04 50 00.9 +0.4**
NOA pmax pmax
comp=Z,27nm,0.8s
NOA MLR MLR
comp=Z,470nm,19.5s
YERR Yerington 73.76 53 *eP* **P 04 50 03.8 +2.4**
comp=Z,26nm,1.0s
LRM Limekiln Ridge 73.78 44 *eP* **P 04 50 02.7 +1.3**
NBO02 NORSAR Array S 73.82 337 *eP* **P 04 50 01.4 +0.3**
NC602 NORSAR Array S 73.85 337 *eP* **P 04 50 01.4 +0.1**
NC602 NORSAR Array S 73.85 337 *eP* **P 04 50 01.2 +0.1**
NBO00 NORSAR Array S 73.86 337 *eP* **P 04 50 00.7 -0.6**
EGMT Eagleton 73.89 41 P **P 04 50 02.7 +1.0**
baz=309
EGMT Eagleton 73.89 41 *eP* **P 04 50 03.0 +1.2**
comp=Z,25nm,0.9s
AKASG Malin Array Be 73.90 322 P **P 04 50 01.7 +0.1**
comp=Z,28nm,0.5s,baz=46,slow=6.0,SNR=160
AKASG LR LR 05 25 36.3
comp=Z,442nm,18.2s,baz=55,slow=38
AKBB Malin Array Si 73.90 322 *eP* **P 04 50 01.8 +0.2**
AKBB pmax pmax
comp=Z,34nm,0.6s
AKBB Malin Array Si 73.90 322 *eP* **P 04 50 01.8 +0.2**
comp=Z,34nm,0.6s
KIEV Kiev 73.91 322 *c iP* **P 04 50 01.5 -0.2**
KIEV pmax pmax
comp=Z,38nm,1.0s
KIEV Kiev 73.91 322 *eP* **P 04 50 01.0 -0.7**
comp=Z,33nm,0.6s
KIEV Kiev 73.91 322 *i P* **P 04 50 01.8 +0.1**
SNR=14
WAKR Walker 73.92 54 *eP* **P 04 50 04.3 +2.1**
comp=Z,13nm,1.0s
AK11 Malin Array Si 73.94 322 *eP* **P 04 50 02.1 +0.2**
NAO01 NORSAR Array S 73.97 337 *eP* **P 04 50 02.5 +0.6**
DLMT Dillon 73.98 45 *eP* **P 04 50 04.3 +1.9**
comp=Z,34nm,1.3s
HLID Hailey 74.03 47 P **P 04 50 03.8 +1.1**
baz=307
HLID Hailey 74.03 47 *eP* **P 04 50 04.4 +1.6**
comp=Z,15nm,1.1s
MCMT McKenzie Canyo 74.16 45 *eP* **P 04 50 04.0 +0.3**
comp=Z,4.4nm,1.5s
BMN Battle Mountai 74.19 51 *eP* **P 04 50 05.6 +1.9**
BMN pmax pmax
comp=Z,16nm,1.0s
BMN Battle Mountai 74.19 51 *eP* **P 04 50 05.6 +1.9**
comp=Z,16nm,1.0s
RYN Ryan 74.43 53 *eP* **P 04 50 07.1 +2.0**
comp=Z,15nm,1.0s
SUW Suwalki 74.46 327 *eP* **P 04 50 05.3 +0.5**
SUW Suwalki 74.46 327 *eP* **P 04 50 05.4 +0.5**
SUW pmax pmax
comp=Z,44nm,0.9s
SUW Suwalki 74.46 327 *eP* **P 04 50 05.4 +0.5**
comp=Z,44nm,0.9s
MDPB Devils Postpil 74.65 54 *eP* **P 04 50 08.9 +2.3**
comp=Z,8.7nm,0.9s
NV01 Mina Array Sit 74.68 53 *eP* **P 04 50 08.2 +1.5**
NVAR Mina Array Bea 74.68 53 P **P 04 50 08.6 +1.9**
comp=Z,6.4nm,0.8s,baz=283,slow=5.7,SNR=40
NVAR pP **pP 04 50 22.6 +1.5**
comp=Z,10nm,0.8s,baz=285,slow=6.1,SNR=16
NVAR LR LR 05 17 06.9
comp=Z,128nm,21.8s,baz=92,slow=31
OSL Oslo 74.73 337 *eP* **P 04 50 07.3 +1.0**
OSL *e* 04 50 35.4
NV11 Mina Array St 74.78 53 *eP* **P 04 50 09.1 +1.9**
NV11 *ePP* **PcP 04 50 17.1 -4.0**
SIM Simferopol' 74.97 315 *eP* **P 04 50 08.8 +0.8**
SIM pmax pmax
comp=Z,27nm,0.9s
HYA Hoyanger 75.10 339 *eP* **P 04 50 09.7 +1.3**
YHB Horse Butte 75.14 45 *eP* **P 04 50 11.4 +2.2**
comp=Z,20nm,0.9s
YHH Holmes Hill 75.31 45 *eP* **P 04 50 12.4 +2.1**
comp=Z,8.8nm,1.0s
KONO Kongsberg 75.31 337 *eP* **P 04 50 10.6 +1.0**
YMR Madison River 75.32 45 *eP* **P 04 50 11.6 +1.3**
comp=Z,16nm,1.1s
GCMT Greycliff 75.33 43 *eP* **P 04 50 11.2 +1.0**
SFJD Kangerlussuaq 75.38 5 P **P 04 50 09.7 -0.2**
comp=Z,7.0nm,0.7s,baz=342,slow=2.3,SNR=4.5
SFJD LR LR 05 24 01.4
comp=Z,109nm,21.3s,baz=348,slow=36
SFJD Kangerlussuaq 75.38 5 *iP* **P 04 50 09.2 -0.7**
SUE Sulen 75.58 340 *eP* **P 04 50 12.7 +1.6**
VES Vestal, Richgr 75.69 56 P **P 04 50 13.5 +1.2**
baz=306
H17A Grant Village 75.71 45 P **P 04 50 15.5 +3.0**
baz=309
H17A Grant Village 75.71 45 *eP* **P 04 50 15.8 +3.2**
comp=Z,44nm,1.2s
IMW Indian Meadow 75.81 45 *eP* **P 04 50 15.4 +2.2**
comp=Z,30nm,1.2s
FXWY Fox Creek 75.93 46 *eP* **P 04 50 16.2 +2.4**
comp=Z,14nm,1.0s
ASK Askoy 75.94 339 *eP* **P 04 50 14.3 +1.1**
RLMT Red Lodge 75.97 44 P **P 04 50 14.7 +0.7**
baz=310
RLMT Red Lodge 75.97 44 *eP* **P 04 50 16.0 +2.0**
comp=Z,12nm,1.0s
SHAO Shalim 75.99 282 P **P 04 50 14.3 +0.1**
ODD1 Odda 76.00 338 *eP* **P 04 50 15.0 +1.4**
CWC Cottonwood Cre 76.00 55 P **P 04 50 15.0 +0.7**
baz=306
SORM Soroca 76.00 321⇑ *iP* **P 04 50 13.9 +0.1**
MOOW Moose Ponds 76.02 45 *eP* **P 04 50 15.8 +1.5**
comp=Z,16nm,1.1s
TPAW Teton Pass 76.06 46 *eP* **P 04 50 17.0 +2.4**
comp=Z,23nm,1.3s
HVU Hansel Valley 76.07 48 *eP* **P 04 50 16.7 +2.2**
HVU pmax pmax
comp=Z,10.0nm,0.9s
HVU Hansel Valley 76.07 48 *eP* **P 04 50 16.7 +2.2**
comp=Z,9.9nm,0.9s
GRAC Grapevine Rang 76.13 54 P **P 04 50 16.1 +1.3**
baz=307,SNR=6.5
LOHW Long Hollow 76.18 45 *eP* **P 04 50 17.4 +2.2**
LOHW *epP* **pP 04 50 32.0 +2.3**
SNOW Snow King Moun 76.19 46 *eP* **P 04 50 17.8 +2.4**
comp=Z,15nm,0.9s
REDW Red Top Meadow 76.20 46 *eP* **P 04 50 17.4 +2.1**
comp=Z,20nm,1.1s
DAC Darwin (Calif) 76.41 55 *eP* **P 04 50 18.0 +1.4**
DAC pmax pmax
comp=Z,13nm,1.0s
DAC Darwin (Calif) 76.41 55 *eP* **P 04 50 18.0 +1.4**
comp=Z,13nm,1.0s
AHID Auburn Hatcher 76.43 46 *eP* **P 04 50 18.4 +1.8**
comp=Z,9.7nm,0.8s
BGU Big Grassy Mou 76.44 49 *eP* **P 04 50 18.7 +2.0**
comp=Z,44nm,2.0s
BLS5 Blasjo 76.45 338 *eP* **P 04 50 17.4 +1.3**
R11A Troy Canyon, C 76.45 52 P **P 04 50 18.1 +1.3**
baz=307
R11A Troy Canyon, C 76.45 52 *eP* **P 04 50 18.2 +1.4**
comp=Z,17nm,1.0s
KIS Kishinev 76.51 319 *eP* **P 04 50 15.0 -1.7**
KIS LRM MLR 05 26 40.0
comp=Z,800nm,16.0s
KIS Kishinev 76.51 319 *eP* **P 04 50 15.0 -1.7**
KIS *e* 05 00 20.0
KIS MLR MLR
comp=Z,900nm,16.0s
KIS MLR MLR
comp=E,500nm,16.0s
KIS MLR MLR
comp=Z,800nm,16.0s
SPUT Sputnik Promonto 76.55 48 *eP* **P 04 50 19.5 +2.2**
comp=Z,21nm,1.4s
LAO LASA Array 76.59 41 P **P 04 50 18.4 +1.0**
baz=311
LAO LASA Array 76.59 41 *eP* **P 04 50 18.3 +1.0**
MPMC Manual Prospec 76.61 55 P **P 04 50 18.9 +1.2**
baz=307,SNR=6.3
HOMB Homborsund 76.75 337 *eP* **P 04 50 18.5 +0.6**
FURC Furnace Creek, 76.77 54 P **P 04 50 19.0 +0.7**
baz=307,SNR=7.3
LRMC Laurel Mtn Rad 76.83 55 P **P 04 50 20.5 +1.6**
baz=307
HWUT Hardware Ranch 76.89 47 *eP* **P 04 50 20.9 +1.7**
comp=Z,31nm,1.2s
LVV L'vov 76.97 324 *eP* **P 04 50 20.5 +1.2**
EDW2 Edwards Air Fo 76.98 56 P **P 04 50 20.7 +1.0**
baz=307
BSD Bornholm Skovb 77.00 332 *i P* **P 04 50 17.5 -1.8**
comp=Z,34nm,0.9s
BEL Belsk 77.02 327 *eP* **P 04 50 21.0 +1.5**
DUG Dugway, Tooele 77.02 49 P **P 04 50 20.9 +1.0**
baz=308
DUG Dugway, Tooele 77.02 49 *eP* **P 04 50 21.7 +1.8**
DUG pmax pmax
comp=Z,14nm,0.9s
DUG Dugway, Tooele 77.02 49 *eP* **P 04 50 21.7 +1.8**
comp=Z,14nm,0.9s
SNART Snartemo 77.10 337 *eP* **P 04 50 21.0 +1.1**
BORG Borgarnes 77.14 352 P **P 04 50 21.9 +2.0**
comp=Z,26nm,0.8s,baz=30,slow=7.4,SNR=4.4
BORG LR LR 05 25 25.1
comp=Z,113nm,20.7s,baz=50,slow=36
TCUT Toone Canyon 77.28 48 *eP* **P 04 50 23.6 +2.0**
comp=Z,18nm,0.8s
BW06 Boulder Array 77.31 46 P **P 04 50 22.4 +0.8**
baz=310
BW06 Boulder Array 77.31 46 *eP* **P 04 50 22.9 +1.3**
comp=Z,15nm,1.1s
PD31 Pinedale Array 77.31 46 *eP* **P 04 50 22.6 +1.0**
PDAR Pinedale Array 77.31 46 P **P 04 50 22.6 +0.9**
comp=Z,5.7nm,0.8s,baz=267,slow=2.5,SNR=55
PDAR pP **pP 04 50 38.2 +2.1**
comp=Z,5.2nm,0.6s,baz=271,slow=1.6,SNR=13
PDAR LR LR 05 20 58.6
comp=Z,84nm,21.3s,baz=317,slow=33
PDAR Pinedale Array 77.31 46 *eP* **P 04 50 21.2 -0.4**
PDAR pP **pP 04 50 38.2 +2.1**
CTU Camp Tracy 77.35 48 *eP* **P 04 50 23.4 +1.6**
CTU *ePcP* **pP 04 50 38.3 +2.0**
SHOC Shoshone, Teco 77.49 54 P **P 04 50 23.6 +1.2**
baz=308
GSC Goldstone, Bar 77.51 55 P **P 04 50 23.9 +1.2**
baz=307
BFSC Mount Baldy Ra 77.58 56 P **P 04 50 24.3 +1.1**
baz=307
NLU North Lily Min 77.61 49 *eP* **P 04 50 24.9 +1.6**
comp=Z,9.6nm,0.9s
TLCR 77.70 318⇑ *iP* **P 04 50 23.4 0.0**
KWP Kalwaria Pacla 77.72 324 *eP* **P 04 50 24.7 +1.2**
KWP Kalwaria Pacla 77.72 324 *eP* **P 04 50 24.6 +1.2**
KWP pmax pmax
comp=Z,806nm,1.2s
KWP Kalwaria Pacla 77.72 324 *eP* **P 04 50 24.6 +1.2**
comp=Z,806nm,1.2s
SHPR Sheep Range 77.84 53 *eP* **P 04 50 26.7 +2.1**
comp=Z,17nm,1.0s
MPU Maple Canyon 77.84 49 *eP* **P 04 50 26.3 +1.7**
comp=Z,14nm,0.9s
BUR08 Bucovina Ar. S 77.90 322 *eP* **P 04 50 25.4 +0.7**
BUR04 Bucovina Ar. S 77.91 322 *eP* **P 04 50 25.4 +0.6**
BURAR Bucovina Array 77.91 322 P **P 04 50 25.4 +0.7**
BURAR Bucovina Array 77.91 322⇑ *iP* **P 04 50 25.4 +0.7**
TUQ Turquoise Moun 78.00 55 P **P 04 50 26.9 +1.5**
baz=308
CFR Carcaliu 78.07 318⇑ *iP* **P 04 50 26.0 +0.6**
HEC Hector,Ludlow 78.10 55 P **P 04 50 27.0 +1.1**
baz=308
ODBI Odobesti 78.24 319⇓ *iP* **P 04 50 28.7 +2.3**
CCUT Cedar City 78.33 52 *eP* **P 04 50 29.1 +1.8**
comp=Z,53nm,2.0s
VRI Vrincioaia 78.34 320⇓ *iP* **P 04 50 28.1 +1.1**
PLOR Plostina 78.39 320⇑ *iP* **P 04 50 28.3 +1.0**
MSU Marysvale 78.46 50 *eP* **P 04 50 30.1 +2.0**
MSU Marysvale 78.46 50 *eP* **P 04 50 30.1 +2.0**
SZCU Shurtz Canyon 78.47 51 *eP* **P 04 50 30.0 +1.9**
comp=Z,7.6nm,1.1s
BR131 Keskin Array S 78.52 311 *eP* **P 04 50 29.1 +0.8**
BRTR Keskin Array B 78.52 311 P **P 04 50 28.6 +0.4**
comp=Z,7.5nm,0.8s,baz=92,slow=4.2,SNR=8.3
BRTR LR LR 05 29 52.8
comp=Z,120nm,18.8s,baz=48,slow=39
STHS Stebnicka Huta 78.54 325 *eP* **P 04 50 29.6 +1.5**
STHS *e* 04 50 32.7
STHS pmax pmax
comp=Z,13nm,1.0s
STHS Stebnicka Huta 78.54 325 *eP* **P 04 50 29.6 +1.5**
STHS *e* 04 50 32.7
TMUT Trail Mountain 78.55 49 *eP* **P 04 50 30.5 +1.9**
comp=Z,37nm,1.7s
GMRC Granite Mounta 78.57 55 P **P 04 50 29.8 +1.2**
baz=308
UZH Uzhgorod 78.61 324 *eP* **P 04 50 29.2 +0.8**
UZH *e* 04 50 41.0
OJC Ojcow 78.62 326 *eP* **P 04 50 29.3 +0.8**
OJC Ojcow 78.62 326 *eP* **P 04 50 29.2 +0.8**
OJC pmax pmax
comp=Z,43nm,1.1s
OJC Ojcow 78.62 326 *eP* **P 04 50 29.2 +0.8**
comp=Z,43nm,1.1s
ARCR ARCALIA 78.70 322⇑ *iP* **P 04 50 30.8 +1.8**
P17A Butcher Ranch, 78.72 49 *eP* **P 04 50 31.3 +1.8**
comp=Z,24nm,1.1s
LCMT Little Creek M 78.73 52 *eP* **P 04 50 31.4 +1.9**

	comp=Z,17nm,1.0s						
LDFC	Landfair	78.74	54	eP	P	04 50 31.1	+1.5
	comp=Z,33nm,1.1s						
MTPU	Mount Pierson	78.75	51	eP	P	04 50 32.0	+2.2
	comp=Z,12nm,1.0s						
CRVS	Cervenica-Dubn	78.81	324	eP	P	04 50 30.5	+1.0
CRVS	Cervenica-Dubn	78.81	324	eP	P	04 50 30.5	+1.0
BELC	Belle Mtn. Jos	78.82	56	P	P	04 50 31.1	+1.0
	baz=308						
TRPA	Tarpa	78.85	323⇑	eP	P	04 50 30.9	+1.2
P18A	Preston Nutter	78.91	48	eP	P	04 50 32.6	+2.0
	comp=Z,16nm,1.1s						
ISR	Istrita	78.94	319⇑	iP	P	04 50 30.4	0.0
BR231	Keskin MP Arra	78.95	312	eP	P	04 50 29.3	-1.3
DOPR	Dopca	78.96	320⇑	iP	P	04 50 32.0	+1.6
NIE	Niedzica	78.97	325	eP	P	04 50 31.7	+1.3
KNB	Kanab	79.00	52	eP	P	04 50 33.3	+2.3
KNB				pmax	pmax		
	comp=Z,41nm,1.3s						
KNB	Kanab	79.00	52	eP	P	04 50 33.3	+2.3
	comp=Z,41nm,1.3s						
MLR	Muntele Rosu	79.00	320	P	P	04 50 31.2	+0.4
	comp=Z,1.0nm,0.5s,baz=87,slow=6.6,SNR=5.5						
MLR				LR	LR	05 28 53.0	
	comp=Z,181nm,18.0s,baz=54,slow=38						
MLR	Muntele Rosu	79.00	320⇑	iP	P	04 50 31.4	+0.6
MLR	Muntele Rosu	79.00	320	eP	P	04 50 31.2	+0.4
	comp=Z,74nm,1.9s						
SRU	San Rafael Swe	79.08	49	eP	P	04 50 32.9	+1.5
SRU				pmax	pmax		
	comp=Z,21nm,1.0s						
SRU	San Rafael Swe	79.08	49	eP	P	04 50 32.9	+1.5
	comp=Z,21nm,1.0s						
ULM	Lac du Bonnet	79.08	33	P	P	04 50 30.9	0.0
	comp=Z,7.6nm,0.8s,baz=315,slow=5.7,SNR=15						
ULM				pP	pP	04 50 46.2	+0.8
	comp=Z,6.1nm,0.7s,baz=312,slow=5.6,SNR=6.1						
ULM	Lac du Bonnet	79.08	33	P	P	04 50 30.9	0.0
ULM				*PP	pP	04 50 46.2	+0.8
ULM				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ULM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ULM	Lac du Bonnet	79.08	33	eP	P	04 50 30.7	-0.3
	comp=Z,14nm,1.0s						
ULM				pP	pP	04 50 46.2	+0.8
K22A	Casper	79.08	44	P	P	04 50 32.0	+0.7
	baz=312						
K22A	Casper	79.08	44	eP	P	04 50 32.6	+1.2
	comp=Z,78nm,1.8s						
MDND	Maddock	79.10	37	P	P	04 50 32.1	+1.0
	baz=315						
MDND	Maddock	79.10	37	eP	P	04 50 31.8	+0.7
	comp=Z,54nm,1.1s						
MONP2	Monument Peak	79.22	57	P	P	04 50 33.4	+1.1
	baz=308						
IRM	Iron Mountain	79.29	55	P	P	04 50 33.7	+1.3
	baz=308						
CJR	Cluj-Napoca	79.33	322⇓	iP	P	04 50 33.5	+1.0
RWWY	Rawlins	79.34	45	eP	P	04 50 33.2	+0.3
	comp=Z,16nm,0.7s						
BC3	Big Chuckawall	79.39	56	P	P	04 50 34.2	+1.0
	baz=308						
RSSD	Black Hills	79.45	42	P	P	04 50 34.1	+0.7
	baz=313						
RSSD	Black Hills	79.45	42	eP	P	04 50 33.5	+0.1
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RSSD	Black Hills	79.45	42	eP	P	04 50 33.5	+0.1
	comp=Z,7.8nm,0.9s						
VOIR		79.49	320	P	P	04 50 35.1	+1.7
VOIR		79.49	320⇑	iP	P	04 50 35.2	+1.8
W13A	Hualapai Mount	79.52	54	eP	P	04 50 35.5	+1.6
LANS	Liptovska Anna	79.54	325	eP	P	04 50 35.1	+1.5
LANS	Liptovska Anna	79.54	325	eP	P	04 50 35.1	+1.5
KECS	Kecovo	79.56	325	eP	P	04 50 35.1	+1.5
KECS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KECS	Kecovo	79.56	325	eP	P	04 50 35.1	+1.5
B31A	Greenbush Farm	79.61	36	P	P	04 50 34.7	+0.8
	baz=316,SNR=10						
OKC	Ostrava-Krasne	79.62	327	eP	P	04 50 34.8	+0.9
OKC				MLR	MLR		
	comp=Z,600nm,14.9s						
OKC	Ostrava-Krasne	79.62	327⇑	eP	P	04 50 34.8	+0.9
OKC				AMS	AMS	05 28 40.0	
	comp=Z,600nm,14.9s						
KSP	Ksiaz	79.67	328	eP	P	04 50 35.1	+0.9
U15A	North Rim	79.69	52	eP	P	04 50 36.9	+2.0
DRGR		79.71	322⇑	iP	P	04 50 35.4	+0.8
ARR	Arges	79.75	320⇓	iP	P	04 50 36.4	+1.6
O20A	White River Ci	79.76	47	P	P	04 50 35.9	+0.8
	baz=311						
O20A	White River Ci	79.76	47	eP	P	04 50 36.1	+1.0
O20A				epP	pP	04 50 51.8	+2.1
A32A	Rocking H Ranc	79.78	35	P	P	04 50 35.0	+0.2
	baz=317,SNR=10.0						
PDMCI	Parker Dam,Lak	79.85	55	P	P	04 50 36.5	+1.1
	baz=309,SNR=8.6						
MORC	Moravsky Berou	79.93	327	eP	P	04 50 36.6	+0.9
MORC				pmax	pmax		
	comp=Z,85nm,1.0s						
MORC	Moravsky Berou	79.93	327⇑	iP	P	04 50 36.8	+1.1
MORC	Moravsky Berou	79.93	327	eP	P	04 50 36.6	+0.9
	comp=Z,85nm,1.0s						
Y12C	Blythe	79.94	55	P	P	04 50 36.9	+1.0
	baz=309						
Y12C	Blythe	79.94	55	eP	P	04 50 37.5	+1.6
Y12C				epP	pP	04 50 52.4	+2.0
C31A	Landman Farms,	80.03	36	P	P	04 50 36.9	+0.7
	baz=316,SNR=11						
DPC	Dobruska-Polom	80.03	328⇑	iP	P	04 50 37.3	+1.1
DPC				MLR	MLR		
	comp=Z,400nm,14.8s						
DPC	Dobruska-Polom	80.03	328⇑	iP	P	04 50 37.3	+1.1
DPC				AMS	AMS	05 29 10.0	
	comp=Z,400nm,14.8s						
UPC	Upice	80.04	328	eP	P	04 50 37.3	+1.1
UPC				MLR	MLR		
	comp=Z,500nm,15.4s						
UPC	Upice	80.04	328⇑	eP	P	04 50 37.3	+1.1
UPC				AMS	AMS	05 28 30.0	
	comp=Z,500nm,15.4s						
B32A	Ashes, Strandq	80.14	35	P	P	04 50 36.9	+0.1
	baz=317,SNR=16						
GLA	Glamis	80.18	56	P	P	04 50 38.1	+0.8
	baz=309						
PSZ	Piszkesteto	80.24	324	eP	P	04 50 38.1	+0.7
PSZ				pmax	pmax		
	comp=Z,29nm,1.0s						
PSZ	Piszkesteto	80.24	324⇑	iP	P	04 50 38.5	+1.1
PSZ	Piszkesteto	80.24	324⇑	eP	P	04 50 38.5	+1.1
PSZ	Piszkesteto	80.24	324	eP	P	04 50 38.1	+0.7
	comp=Z,29nm,1.0s						
A33A	Warroad	80.26	34	P	P	04 50 37.5	+0.1
	baz=318,SNR=10						
PV09	Paradox Valley	80.30	49	eP	P	04 50 40.1	+1.9
VYHS	Vyhne	80.31	325	eP	P	04 50 38.6	+0.9
VYHS				pmax	pmax		
	comp=Z,11nm,1.1s						
VYHS	Vyhne	80.31	325	eP	P	04 50 38.6	+0.9
PV10	Paradox Valley	80.44	49	eP	P	04 50 39.8	+0.9
RAR	Rarotonga	80.46	126	LR	LR	05 22 09.6	
	comp=Z,377nm,19.9s,baz=286,slow=32						
RAYN	Ar Rayn	80.46	292	eP	P	04 50 39.1	+0.1
	comp=Z,20nm,1.0s						
PV04	Paradox Valley	80.51	49	eP	P	04 50 40.4	+1.2
AGMN	Agassiz Nation	80.52	35	P	P	04 50 38.8	+0.1
	baz=318,SNR=5.1						
AGMN	Agassiz Nation	80.52	35	eP	P	04 50 38.3	-0.5
	comp=Z,11nm,0.8s						
SZH	Strazhica	80.53	318	eP	P	04 50 39.3	+0.4
C32A	Crookston	80.56	35	P	P	04 50 39.6	+0.6
	baz=317						
D31A	Mcclaflin, Tow	80.57	37	P	P	04 50 39.2	+0.1
	baz=316						
N23A	Red Feather La	80.58	45	P	P	04 50 41.0	+1.4
	baz=312,SNR=7.2						
N23A	Red Feather La	80.58	45	eP	P	04 50 41.2	+1.6
	comp=Z,14nm,0.9s						
PV05	Paradox Valley	80.59	49	eP	P	04 50 38.1	-1.6
BRG	Berggiesshubel	80.62	329	eP	P	04 50 39.7	+0.4
	comp=Z,16nm,0.9s						
BRG				i		04 50 54.8	
	comp=Z,9.0nm,1.0s						
BRG	Berggiesshubel	80.62	329	eP	P	04 50 39.7	+0.4
BRG				i		04 50 54.8	
BRG				pmax	pmax		
	comp=Z,16nm,1.0s						
BRG				MLR	MLR		
	comp=N,419nm,15.8s						
BRG				MLR	MLR		
	comp=E,207nm,14.5s						
BRG				MLR	MLR		
	comp=Z,443nm,16.6s						
PVCC	Panska Ves	80.62	329	eP	P	04 50 40.3	+1.0
PVCC				MLR	MLR		
	comp=Z,400nm,16.8s						
PVCC	Panska Ves	80.62	329⇑	eP	P	04 50 40.3	+1.0
PVCC				AMS	AMS	05 29 20.0	
	comp=Z,400nm,16.8s						
CLL	Collm	80.66	330	eP	P	04 50 39.9	+0.4
CLL				pmax	pmax		
	comp=Z,29nm,1.0s						
CLL	Collm	80.66	330⇑	iP	P	04 50 39.8	+0.4
	comp=Z,26nm,0.9s						
CLL				e		04 50 53.0	
CLL				e		04 50 59.0	
CLL				Lm	MLR	05 29 00.0	
	comp=N,300nm,18.9s						
CLL				Lm	MLR	05 29 00.0	
	comp=E,100nm,18.7s						
CLL				Lm	MLR	05 29 00.0	
	comp=Z,400nm,18.4s						
CLL	Collm	80.66	330	eP	P	04 50 39.9	+0.4
	comp=Z,29nm,1.0s						
VRAC	Vranov	80.69	327⇑	iP	P	04 50 40.6	+0.9
Y14A	Wickenburg	80.81	54	eP	P	04 50 42.1	+1.4
D32A	Dogwood Acres,	80.84	36	P	P	04 50 40.6	+0.1
	baz=317						
E31A	Nome	80.84	37	P	P	04 50 41.2	+0.6
	baz=316,SNR=6.2						
WUAZ	Wupatki	80.85	52	P	P	04 50 42.5	+1.5
	baz=310,SNR=9.4						
WUAZ	Wupatki	80.85	52	eP	P	04 50 43.0	+2.0
	comp=Z,26nm,1.0s						
PV01	Paradox Valley	80.88	49	eP	P	04 50 42.6	+1.4
B34A	Aery, Baudette	80.92	34	P	P	04 50 41.1	+0.2
	baz=318,SNR=5.5						
C33A	Trail	80.95	35	P	P	04 50 41.2	0.0
	baz=318,SNR=6.7						
GOPC	GO Pecny, Ondr	81.00	328	eP	P	04 50 42.2	+0.8
GOPC				MLR	MLR		
	comp=Z,500nm,16.7s						
GOPC	GO Pecny, Ondr	81.00	328⇑	eP	P	04 50 42.2	+0.8
GOPC				epP	PcP	04 50 49.1	+1.4
GOPC				AMS	AMS	05 29 20.0	
	comp=Z,500nm,16.7s						
PRU	Pruhonice	81.05	328	eP	P	04 50 42.3	+0.7
PRU				MLR	MLR		
	comp=Z,500nm,15.8s						
PRU	Pruhonice	81.05	328⇑	eP	P	04 50 42.3	+0.7
PRU				AMS	AMS	05 29 30.0	
	comp=Z,500nm,15.8s						
BZS	Buzias	81.08	322	P	P	04 50 41.6	-0.3
BZS	Buzias	81.08	322⇑	iP	P	04 50 41.7	-0.2
MODS	Modra-Piesok	81.09	326	eP	P	04 50 43.3	+1.4
MODS	Modra-Piesok	81.09	326	eP	P	04 50 43.3	+1.4
SMCO	Snowmass	81.13	47	eP	P	04 50 44.1	+1.3
	comp=Z,18nm,1.4s						
F31A	Hecla	81.17	38	P	P	04 50 42.4	+0.1
	baz=316,SNR=7.0						
TREC	Trest	81.18	328	eP	P	04 50 43.4	+1.1
TREC				MLR	MLR		
	comp=Z,500nm,15.5s						
TREC	Trest	81.18	328⇑	eP	P	04 50 43.4	+1.1
TREC				AMS	AMS	05 29 50.0	
	comp=Z,500nm,15.5s						
D33A	AnnSam, Waubun	81.38	36	P	P	04 50 43.4	0.0
	baz=318						
B35A	Bob, Littlefor	81.42	34	P	P	04 50 43.8	+0.2
	baz=319						
C34A	RKJ Ranch, Bem	81.43	35	P	P	04 50 43.7	0.0
	baz=318						
ISCO	Idaho Springs	81.50	46	P	P	04 50 46.0	+1.4
	baz=312,SNR=9.9						
ISCO	Idaho Springs	81.50	46	eP	P	04 50 46.0	+1.4
ISCO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ISCO	Idaho Springs	81.50	46	eP	P	04 50 46.0	+1.4
	comp=Z,7.7nm,0.9s						
X16A	Lo Mia Camp, P	81.51	53	eP	P	04 50 46.3	+1.8
MVCO	Mesa Verde	81.52	49	P	P	04 50 46.0	+1.3
	baz=311,SNR=6.6						
MVCO	Mesa Verde	81.52	49	eP	P	04 50 46.1	+1.5
	comp=Z,19nm,1.3s						
G31A	Conde	81.65	38	P	P	04 50 45.6	+0.8
	baz=316						
MMAI	Mount Meron Ar	81.67	305	P	P	04 50 46.3	+1.0
	comp=Z,24nm,0.8s,baz=3.5,slow=4.8,SNR=16						
MMAI				LR	LR	05 31 01.7	
	comp=Z,189nm,18.7s,baz=30,slow=39						
F32A	Veblen	81.70	37	P	P	04 50 45.4	+0.2
	baz=317,SNR=5.0						
NKC	Novy Kostel	81.72	330	eP	P	04 50 45.7	+0.6
NKC				MLR	MLR		
	comp=Z,400nm,17.4s						
NKC	Novy Kostel	81.72	330⇑	eP	P	04 50 45.7	+0.6
NKC				AMS	AMS	05 29 20.0	
	comp=Z,400nm,17.4s						
D34A	Park Rapids	81.72	35	P	P	04 50 45.2	0.0
	baz=318,SNR=12						
CSS	Mathiatis	81.75	308	eP	P	04 50 45.6	0.0
	comp=Z,4.4nm,0.7s						
E33A	Westby DABS, E	81.77	36	P	P	04 50 46.2	+0.7
	baz=318,SNR=15						
C35A	Jirik Farms, M	81.81	34	P	P	04 50 45.5	-0.2
	baz=319						
SUSD	Miller	81.84	39	P	P	04 50 46.7	+0.8
	baz=316						
SOP	Sopron	81.93	326	P	P	04 50 47.9	+1.6
SOP	Sopron	81.93	326⇑	eP	P	04 50 47.3	+1.0
G32A	Webster	81.97	38	P	P	04 50 47.3	+0.6
	baz=317,SNR=6.4						
H31A	Wolsey	82.05	39	P	P	04 50 47.2	+0.1
	baz=316						
CONA	Conrad Observa	82.06	326	iP	P	04 50 48.3	+1.3
	comp=Z,19nm,1.2s,SNR=8.6						
MORH	Mˆ‡rˆ¡gy, Hung	82.07	324⇑	eP	P	04 50 47.1	+0.1
KHC	Kasperske Hory	82.11	328⇑	iP	P	04 50 47.9	+0.7
KHC				e		04 50 56.4	
KHC				MLR	MLR		
	comp=Z,400nm,15.1s						
KHC	Kasperske Hory	82.11	328⇑	iP	P	04 50 47.9	+0.7
KHC				epP	PcP	04 50 56.4	+3.8
KHC				ex	x	04 54 14.0	
KHC				AMS	AMS	05 30 20.0	
	comp=Z,400nm,15.1s						
KHC	Kasperske Hory	82.11	328	eP	P	04 50 48.0	+0.7
	comp=Z,6.7nm,0.7s						
F33A	5 Mile Ranch,	82.12	37	P	P	04 50 48.0	+0.6
	baz=318,SNR=13						
S22A	4UR Ranch, Cre	82.16	48	P	P	04 50 49.7	+1.6
	baz=312,SNR=14						
S22A	4UR Ranch, Cre	82.16	48	eP	P	04 50 50.0	+1.9
	comp=Z,12nm,1.1s						
214A	Organ Pipe Nat	82.19	56	P	P	04 50 49.2	+1.2
	baz=310						
D35A	Remer	82.24	35	P	P	04 50 48.0	+0.1
	baz=319						
C36A	Pine Crest Far	82.27	34	P	P	04 50 48.0	-0.1
	baz=320						
GEC2	GERESS Array S	82.28	328	eP	P	04 50 48.6	+0.3
GEC2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GEC2	GERESS Array S	82.28	328	eP	P	04 50 48.6	+0.3
	comp=Z,9.9nm,0.8s						
GERES	GERESS Array B	82.28	328	P	P	04 50 48.5	+0.3
	comp=Z,6.2nm,0.6s,baz=35,slow=4.9,SNR=40						
GERES				LR	LR	05 30 53.6	
	comp=Z,419nm,18.0s,baz=42,slow=38						
GEA0	GERESS Array S	82.29	328	eP	P	04 50 48.5	+0.2
Q24A	Divide	82.33	46	P	P	04 50 48.6	-0.3
	baz=313						
Q24A	Divide	82.33	46	eP	P	04 50 50.5	+1.6
	comp=Z,6.3nm,0.8s						
X18A	Snowflake	82.38	52	eP	P	04 50 50.6	+1.5
VTS	Vitosha	82.43	319	eP	P	04 50 49.9	+0.7
VTS				pmax	pmax		
	comp=Z,21nm,0.9s						
VTS	Vitosha	82.43	319⇑	iP	P	04 50 50.0	+0.7
VTS	Vitosha	82.43	319	eP	P	04 50 49.9	+0.7
	comp=Z,21nm,0.9s						
VTS	Vitosha	82.43	319	eP	P	04 50 49.6	+0.4
E35A	Pequot Lakes	82.47	35	P	P	04 50 49.1	-0.1
	baz=319,SNR=5.6						
G33A	Ortonville	82.53	37	P	P	04 50 50.0	+0.6
	baz=318,SNR=14						
C37A	Embarrass	82.58	33	P	P	04 50 49.8	+0.1
	baz=320						
GRF	Grafenberg Arr	82.63	330	P	P	04 50 51.1	+1.2
GRF				pmax	pmax		
	comp=Z,27nm,0.9s						
GRFO	Grafenberg	82.63	330	eP	P	04 50 51.1	+1.2
GRFO				pmax	pmax		
	comp=Z,24nm,0.9s						
GRFO	Grafenberg	82.63	330	eP	P	04 50 51.1	+1.2
	comp=Z,24nm,0.9s						
F34A	Alexandria	82.65	36	P	P	04 50 50.6	+0.5
	baz=318						
EKA	Eskdalemuir Ar	82.65	340	P	P	04 50 50.7	+0.8
	comp=Z,3.2nm,0.6s,baz=36,slow=4.7,SNR=13						
EKA				LR	LR	05 31 14.0	
	comp=Z,229nm,19.8s,baz=20,slow=38						
ARSA	Arzberg	82.72	326	iP	P	04 50 51.3	+0.8
	comp=Z,16nm,1.2s						
H33A	Prehn Over Nor	82.76	38	P	P	04 50 51.3	+0.6
	baz=317,SNR=14						
J31A	Geddes	82.78	40	P	P	04 50 50.7	-0.1
	baz=316						
MOA	Molln	82.81	327	iP	P	04 50 51.7	+0.8
	SNR=6.8						
MMB	Musomiste	82.86	318	eP	P	04 50 52.5	+1.2
G34A	Benson	82.88	37	P	P	04 50 51.9	+0.7
	baz=318,SNR=7.9						
F35A	Swanville	82.92	36	P	P	04 50 51.6	+0.1
	baz=319						
SDCO	Great Sand Dun	82.94	47	P	P	04 50 52.9	+0.7
	baz=313,SNR=9.9						
SDCO	Great Sand Dun	82.94	47	eP	P	04 50 53.6	+1.5
	comp=Z,5.1nm,0.8s						
DIVS	Divibare	82.98	322	eP	P	04 50 52.3	+0.4
	comp=Z,15nm,1.1s						
KKB	Krupnik	83.01	319	eP	P	04 50 51.7	-0.4
E36A	McGregor	83.03	35	P	P	04 50 52.1	+0.1
	baz=319						
J32A	Parkston	83.17	39	P	P	04 50 53.1	+0.2
	baz=317						
I33A	Coleman	83.20	38	P	P	04 50 53.6	+0.7
	baz=317						
H34A	Spellman Lake,	83.24	37	P	P	04 50 53.8	+0.7
	baz=318						
K31A	O'Neill	83.25	40	P	P	04 50 53.9	+0.6
	baz=316,SNR=5.2						
TUC	Tucson	83.28	54	P	P	04 50 54.7	+1.0
	baz=311						
TUC	Tucson	83.28	54	eP	P	04 50 54.6	+0.9
TUC	Tucson	83.28	54	eP	P	04 50 54.6	+0.9
PERS	Pernice	83.37	326	iP	P	04 50 54.3	+0.4
SOKA	Soboth	83.37	326	iP	P	04 50 54.5	+0.6
	comp=Z,26nm,0.9s,SNR=11						
G35A	Watkins	83.44	36	P	P	04 50 54.7	+0.5
	baz=319						
GAL1	Galloway	83.48	341	eP	P	04 50 54.5	+0.3
GAL1				IAmb	IAmb	04 50 55.1	
	comp=Z,11nm,0.8s						
ECSD	EROS Data Cent	83.52	38	P	P	04 50 54.7	+0.1
	baz=318,SNR=10.0						
ECSD	EROS Data Cent	83.52	38	eP	P	04 50 55.1	+0.4
	comp=Z,24nm,1.3s						
CLGH	Cloghs, Cushen	83.63	342	eP	P	04 50 56.4	+1.4
J33A	Davis	83.65	39	P	P	04 50 55.8	+0.5
	baz=317						
I34A	Hadley	83.66	38	P	P	04 50 55.9	+0.5
	baz=318						
H35A	Sunnyside Ranc	83.66	37	P	P	04 50 56.2	+0.9
	baz=318,SNR=20						
VAY	Valandovo	83.67	318⇑	iP	P	04 50 56.1	+0.7
E38A	The Farm, Brul	83.72	34	P	P	04 50 55.5	-0.1
	baz=320						
SKO	Skopje	83.79	319	iP	P	04 50 57.4	+1.4
KBA	Koelnbreinsper	83.80	327	P	P	04 50 57.5	+1.3
KBA	Koelnbreinsper	83.80	327	iPcP	P	04 50 57.1	+0.9
	comp=Z,16nm,0.8s,SNR=5.4						
MHTCO	State Highway	83.84	47	eP	P	04 50 58.8	+2.2
	comp=Z,92nm,1.9s						
PLE	Pljevlja	83.84	322⇑	iP	P	04 50 56.9	+0.5
MEM	Membach	83.86	333	⇑P	P	04 50 56.0	-0.2
IVA	Berane	83.92	321⇑	iP	P	04 50 57.2	+0.4
LBWR	Ladybower, Pea	83.96	339	eP	P	04 50 57.6	+0.9
LBWR				IAmb	IAmb	04 50 58.3	
	comp=Z,41nm,0.8s						
T25A	Trinidad	83.99	47	P	P	04 50 58.6	+1.1
	baz=313,SNR=14						
T25A	Trinidad	83.99	47	eP	P	04 50 58.8	+1.3
	comp=Z,16nm,0.8s						
MYKA	Terra Mystica	84.02	327	iP	P	04 50 56.9	-0.3
	comp=Z,8.0nm,0.7s						
F38A	Pierce - Schro	84.07	34	P	P	04 50 57.9	+0.5
	baz=320						
L32A	Elgin	84.08	40	P	P	04 50 58.0	+0.4
	baz=317						
PVY	Plav	84.09	321⇑	iP	P	04 50 58.3	+0.5
KOME	Kolasin	84.13	321⇑	iP	P	04 50 58.4	+0.5
VISS	Visnje	84.13	326	eP	P	04 50 57.7	0.0
J34A	George	84.17	38	P	P	04 50 58.1	+0.1
	baz=318						
H36A	Jessenland, He	84.18	36	P	P	04 50 58.9	+0.9
	baz=319,SNR=9.1						
LAZ	Ladron	84.21	51	eP	P	04 50 59.9	+1.3
ANMO	Albuquerque	84.26	50	P	P	04 51 00.3	+1.5
	baz=312						
ANMO	Albuquerque	84.26	50	iP	P	04 50 59.8	+1.0
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ANMO	Albuquerque	84.26	50	eP	P	04 51 00.4	+1.6
	comp=Z,18nm,1.1s						
BCLA	Clavier	84.27	334	⇑P	P	04 50 58.3	0.0
KRUS	Krusevo	84.33	319	iP	P	04 50 59.2	+0.3
E39A	Mellen	84.33	33	P	P	04 50 59.1	+0.3
	baz=321						
GMM	Mts of Mourne	84.36	341	eP	P	04 50 59.2	+0.6
PMOR	Pomariorio Ree	84.38	114	eT	T	06 23 51.7	
	comp=Z,30nm,0.2s						
JAVS	Javornik	84.41	326	iP	P	04 50 58.4	-0.9
ABTA	Abfaltersbach	84.42	327	iP	P	04 50 58.6	-0.6
	comp=Z,6.4nm,0.8s						
CWF	Charnwood Fore	84.42	338	eP	P	04 50 58.5	-0.5
CWF				IAmb	IAmb	04 50 58.7	
	comp=Z,24nm,0.9s						
BGNE	Belgrade	84.44	41	P	P	04 50 59.7	+0.3
	baz=317						
BGNE	Belgrade	84.44	41	eP	P	04 51 00.1	+0.7
NKME	Niksic	84.47	321⇑	iP	P	04 50 59.6	0.0
F39A	Loretta	84.53	34	P	P	04 51 00.1	+0.3
	baz=321						
MOTA	Moosalm	84.54	329	iP	P	04 51 00.3	+0.4
	comp=Z,8.8nm,0.7s,SNR=5.5						
K34A	Le Mars	84.55	39	P	P	04 51 00.5	+0.6
	baz=318						
I36A	Fitzsimmons Fa	84.56	37	P	P	04 51 00.5	+0.6
	baz=319						
E40A	Wakefield	84.56	33	P	P	04 51 00.4	+0.5
	baz=322						
RETA	Reutte	84.57	329	iP	P	04 51 00.4	+0.5
	comp=Z,24nm,0.8s,SNR=14						
PDG	Podgorica	84.57	321⇑	iP	P	04 51 00.5	+0.5
TTG	Podgorica	84.57	321⇑	iP	P	04 51 00.4	+0.5
TTG	Podgorica	84.57	321	eP	P	04 50 59.8	-0.2
TTG				pmax	pmax		
	comp=Z,34nm,0.8s						
TTG	Podgorica	84.57	321	eP	P	04 50 59.8	-0.2
	comp=Z,34nm,0.8s						
LPM	Los Pinos Moun	84.58	50	eP	P	04 51 02.1	+1.7
H37A	Dierke Farm, C	84.65	36	P	P	04 51 00.9	+0.6
	baz=320						
CEME	Cevo	84.65	321	eP	P	04 51 00.4	-0.1
G38A	Ridgeland	84.69	35	P	P	04 51 00.8	+0.2
	baz=320						
BNM	Barren Site	84.69	51	eP	P	04 51 02.5	+1.4
BNM				epP	pP	04 51 17.5	+1.9
OHR	Ohrid	84.75	319	iP	P	04 51 00.9	0.0
DRME	Dracevica, Mon	84.78	321⇑	iP	P	04 51 01.4	+0.3
DOU	Dourbes	84.79	334	⇑P	P	04 51 00.7	-0.3
DOU				⇑XP	sP	04 51 20.8	-0.3
M33A	Taylor Creek F	84.81	40	P	P	04 51 01.6	+0.3
	baz=317						
BUM	Brajici-Budva	84.84	321⇑	iP	P	04 51 01.5	0.0

SCHQ **Schefferville** 84.85 16 P P 04 51 01.7 +0.6
comp=Z,6.1nm,0.7s,baz=355,slow=6.4,SNR=8.4
I37A **Lemond, Waseca** 84.85 36 P P 04 51 01.9 +0.5
baz=320
319A **Douglas** 84.86 54 *e*P P 04 51 02.7 +0.9
comp=Z,27nm,1.1s
PPT **Papeete** 84.86 117 LR LR 05 24 58.6
comp=Z,292nm,20.8s,baz=296,slow=33
BFO **Black Forest** 84.86 331 *i* P P 04 51 01.8 +0.4
BFO **Black Forest** 84.86 331 *e*P P 04 51 01.7 +0.3
comp=Z,32nm,1.0s
H38A **Maiden Rock** 84.87 35 P P 04 51 01.9 +0.5
baz=320
PPT2 **Papeete2** 84.87 117 *e*S S 05 01 38.4 +12
comp=Z,80nm,23.8s
PPT2 **Papeete2** 84.87 117 *e*LR LR 05 17 15.0
comp=Z,867nm,29.8s,baz=320
PPT2 **Papeete2** 84.87 117 *e*T T 06 24 29.0
comp=Z,5.8nm,0.3s
F40A **Park Falls** 84.88 33 P P 04 51 01.8 +0.3
baz=322
G39A **Holcombe** 84.90 34 P P 04 51 01.8 +0.2
baz=321
PAE **Paea** 84.92 117 *e*T T 06 24 32.0
comp=Z,2.2nm,0.4s
J36A **Seneca 1, Swea** 84.92 37 P P 04 51 02.3 +0.6
baz=319
HCY **Herceg Novi** 84.94 321 *i*P P 04 51 02.1 +0.3
L34A **Svendsen Farm,** 84.94 39 P P 04 51 02.1 +0.3
baz=318
K35A **Storm Lake** 84.94 38 P P 04 51 01.9 0.0
baz=318
E41A **Kenton** 84.95 32 P P 04 51 02.3 +0.5
baz=322
FETA **Feichten** 84.95 329 *i* PcP P 04 51 02.4 +0.3
comp=Z,11nm,0.8s,SNR=6.4
BAIF **Baives** 84.95 334 *e*P P 04 51 01.4 -0.3
BAIF pmax pmax
comp=Z,16nm,0.9s
LLW **Llanuwychllyn** 85.00 340 *e*P P 04 51 02.1 +0.2
TIAR **Tiarei** 85.02 116 *e*T T 06 24 39.4
comp=Z,5.0nm,0.3s
121A **Cookes Peak, D** 85.05 52 P P 04 51 04.0 +1.2
baz=312
121A **Cookes Peak, D** 85.05 52 *e*P P 04 51 04.2 +1.4
comp=Z,12nm,0.8s
DAVA **Damuels** 85.09 329 *i* PcP P 04 51 03.0 +0.3
comp=Z,24nm,0.8s,SNR=11
KARP **Karpathos** 85.13 312 *e*P P 04 51 03.1 +0.2
comp=Z,20nm,0.8s
CDF **Champ du Feu** 85.20 331 *e*P P 04 51 02.9 -0.3
CDF pmax pmax
comp=Z,24nm,1.0s
J37A **Redenius Farm,** 85.32 37 P P 04 51 04.0 +0.3
baz=319
H39A **Augusta** 85.32 35 P P 04 51 04.2 +0.5
baz=321
I38A **Scanlan Farm,** 85.33 36 P P 04 51 04.4 +0.6
baz=320
G40A **Rib Lake** 85.35 34 P P 04 51 04.5 +0.6
baz=322
K36A **Gilmore City** 85.39 38 P P 04 51 04.7 +0.6
baz=319
ECH **Echery** 85.41 331 *e*P P 04 51 04.1 0.0
ECH pmax pmax
comp=Z,18nm,0.9s
ECH **Echery** 85.41 331 *e*P P 04 51 04.1 0.0
comp=Z,18nm,0.9s
E42A **Champion** 85.42 32 P P 04 51 04.7 +0.5
baz=323
F41A **Three Lakes** 85.46 33 P P 04 51 04.9 +0.5
baz=322
CBKS **Cedar Bluff** 85.46 43 P P 04 51 04.8 +0.2
baz=316
FUORN **Ofenpass-Fuorn** 85.46 329 *e*P P 04 51 05.2 +0.5
comp=Z,31nm,1.0s
STRD **Stroud** 85.52 338 *e*P P 04 51 04.8 +0.3
STRD IAmb IAmb 04 51 06.1
comp=Z,56nm,0.8s
MCH1 **Michaelchurch** 85.57 339 *e*P P 04 51 05.2 +0.4
MCH1 IAmb IAmb 04 51 07.4
comp=Z,25nm,0.9s
M35A **Neola** 85.65 39 P P 04 51 05.9 +0.5
baz=318
MONM **Monmouth** 85.65 339 *e*P P 04 51 05.6 +0.4
MONM IAmb IAmb 04 51 06.7
comp=Z,33nm,0.8s
K37A **Belmond** 85.69 37 P P 04 51 06.2 +0.6
baz=319
L36A **Harm Buss Farm** 85.69 38 P P 04 51 06.2 +0.6
baz=319
N34A **Lincoln** 85.70 40 P P 04 51 06.2 +0.5
baz=318
LPW **Lampeter** 85.77 339 *e*P P 04 51 06.1 +0.3
LPW IAmb IAmb 04 51 07.2
comp=Z,24nm,0.8s
H40A **Chili** 85.77 34 P P 04 51 06.4 +0.5
baz=321
J38A **Wedel Dairy, R** 85.82 36 P P 04 51 06.7 +0.5
baz=320
HGH **Gray Hill** 85.83 339 *e*P P 04 51 05.7 -0.4
E43A **Lone Tree Farm** 85.84 31 P P 04 51 06.5 +0.2
baz=324
HINF **Hinteralfeld** 85.85 331 *e*P P 04 51 05.7 -0.7
HINF pmax pmax
comp=Z,13nm,1.1s
I39A **Houston** 85.85 35 P P 04 51 06.5 +0.2
baz=321
HAU **Haudompre** 85.89 332 *e*P P 04 51 05.9 -0.6
HAU pmax pmax
comp=Z,10.0nm,0.7s
TUE **Stuetta** 85.96 329 *e*P P 04 51 07.8 +0.6
comp=Z,9.2nm,0.8s
E44A **Grand Marais A** 86.08 31 P P 04 51 08.0 +0.5
baz=324
O34A **Beatrice** 86.09 41 P P 04 51 07.9 +0.2
baz=318
H41A **Junction City** 86.10 34 P P 04 51 08.1 +0.5
baz=322
H41A **Junction City** 86.10 34 *e*P P 04 51 08.4 +0.8
comp=Z,18nm,1.0s
M36A **Felix, Anita** 86.11 39 P P 04 51 08.4 +0.7
baz=319
L37A **Phoenix Point,** 86.11 38 P P 04 51 08.3 +0.6
baz=319
N35A **Tabor** 86.12 40 P P 04 51 08.5 +0.7
baz=318
G42A **Mountain** 86.14 33 P P 04 51 08.0 +0.2
baz=323
J39A **Decorah** 86.17 36 P P 04 51 08.0 +0.1
baz=321
F43A **Flat Rock, Esc** 86.21 32 P P 04 51 08.3 +0.2
baz=324
TAOE **Nuku Hiva Isla** 86.29 104 *e*LR LR 05 18 15.5
comp=Z,762nm,25.3s
F44A **Big Bay de Noc** 86.40 31 P P 04 51 09.6 +0.6
baz=324
I41A **Arkdale** 86.44 34 P P 04 51 09.9 +0.6
baz=322
G43A **Wallace** 86.45 32 P P 04 51 09.7 +0.4
baz=323
N36A **Muff Farm, Cla** 86.50 39 P P 04 51 09.9 +0.2
baz=319
J40A **Soldiers Grove** 86.56 35 P P 04 51 10.0 +0.1
baz=321
K39A **Oelwein** 86.57 36 P P 04 51 10.1 +0.2
baz=320
IDI **Anoyia** 86.64 313 P P 04 51 10.4 -0.1
comp=Z,18nm,0.6s,baz=49,slow=9.8,SNR=8.9
IDI pP **pP** 04 51 25.8 +0.6
comp=Z,20nm,0.7s,baz=354,slow=9.2,SNR=3.6
IDI LR LR 05 34 56.8
comp=Z,105nm,18.8s,baz=32,slow=39
IDI **Anoyia** 86.64 313 *i*P P 04 51 10.7 +0.2
H42A **Shiocton** 86.68 33 P P 04 51 10.8 +0.4
baz=323
H42A **Shiocton** 86.68 33 *e*P P 04 51 11.4 +1.0
comp=Z,19nm,0.9s
J41A **Loganville** 86.92 35 P P 04 51 11.8 +0.2
baz=322
K40A **Colesburg** 86.92 36 P P 04 51 11.9 +0.3
baz=321
M38A **Pleasantville** 86.92 38 P P 04 51 11.8 +0.1
baz=320
KSU1 **Kansas State U** 86.93 41 P P 04 51 11.9 +0.2
baz=318
KSU1 **Kansas State U** 86.93 41 *e*P P 04 51 12.0 +0.2
comp=Z,18nm,0.8s

MNTX **Cornudas Mount** 87.11 52 P P 04 51 13.7 +0.9
baz=313
MSTX **Muleshoe** 87.14 49 *e*P P 04 51 13.9 +0.8
comp=Z,25nm,1.5s
AMTX **Amarillo** 87.15 47 P P 04 51 13.8 +0.8
baz=315
AMTX **Amarillo** 87.15 47 *e*P P 04 51 14.6 +1.6
comp=Z,17nm,0.8s
JFWS **Jewell Farm** 87.17 35 P P 04 51 13.1 +0.2
baz=322
DYA **Yadsworthy** 87.23 339 *e*P P 04 51 11.9 -1.0
DYA IAmb IAmb 04 51 12.6
comp=Z,11nm,0.7s
F46A **Macinaw City C** 87.24 30 P P 04 51 13.7 +0.6
baz=325
J42A **Columbus** 87.36 34 P P 04 51 14.0 +0.3
baz=322
M39A **Webster** 87.37 37 P P 04 51 14.2 +0.4
baz=320
L40A **Anamosa** 87.38 36 P P 04 51 13.9 +0.1
baz=321
K41A **Shullsburg** 87.38 35 P P 04 51 13.9 0.0
baz=322
J43A **Natural Harves** 87.62 34 P P 04 51 15.1 +0.1
baz=323
FLN **La Foliniere** 87.65 336 *e*P P 04 51 14.6 -0.4
FLN pmax pmax
comp=Z,18nm,1.0s
N39A **Derby Farms, D** 87.67 38 P P 04 51 15.4 +0.1
baz=320
LDF **La Druitiere** 87.67 336 *e*P P 04 51 14.7 -0.5
LDF pmax pmax
comp=Z,9.0nm,0.7s
K42A **Prairie Point,** 87.68 35 P P 04 51 15.5 +0.2
baz=322
L41A **Preston** 87.70 36 P P 04 51 15.6 +0.2
baz=321
P37A **Lathrop** 87.73 40 P P 04 51 15.8 +0.2
baz=319
M40A **Post Highland** 87.75 37 P P 04 51 16.1 +0.5
baz=321
O38A **Galt** 87.77 39 P P 04 51 16.5 +0.7
baz=320
LPL **La Plagne** 87.79 330 *e*P P 04 51 16.2 +0.1
LPL pmax pmax
comp=Z,6.0nm,0.8s
LPG **La Plagne** 87.80 330 *e*P P 04 51 16.4 +0.2
LPG pmax pmax
comp=Z,10.0nm,0.8s
SMF **Signal de Mont** 87.96 332 *e*P P 04 51 17.4 +0.8
SMF pmax pmax
comp=Z,26nm,1.3s
AVF **Avril sur Loir** 88.02 333 *e*P P 04 51 16.6 -0.2
AVF pmax pmax
comp=Z,21nm,1.0s
GLMI **Grayling** 88.08 31 P P 04 51 17.7 +0.5
baz=325
GLMI **Grayling** 88.08 31 *e*P P 04 51 18.7 +1.6
comp=Z,49nm,0.9s
GRR **Gorron** 88.09 336 *e*P P 04 51 17.1 0.0
GRR pmax pmax
comp=Z,22nm,0.8s
N40A **Mertquake, Sal** 88.11 37 P P 04 51 18.2 +0.8
baz=321
P38A **Dawn** 88.12 39 P P 04 51 18.0 +0.6
baz=320
O39A **Kirksville** 88.13 38 P P 04 51 18.1 +0.6
baz=320
L42A **Oliver, Polo** 88.15 35 P P 04 51 17.7 +0.2
baz=322
M41A **Milan** 88.23 36 P P 04 51 18.4 +0.4
baz=321
TIP **Timpagrande** 88.25 320 *e*P P 04 51 18.7 +0.5
comp=Z,9.5nm,0.8s
O40A **La Belle** 88.56 38 P P 04 51 20.1 +0.6
baz=321
Q38A **Cooks Store, C** 88.58 40 P P 04 51 19.9 +0.3
baz=320
P39B **Salisbury** 88.61 39 P P 04 51 20.3 +0.5
baz=320
ORIF **Oris-en-Rattie** 88.63 330 *e*P P 04 51 20.1 +0.2
ORIF pmax pmax
comp=Z,6.0nm,0.9s
Q39A **Willow Grove F** 88.84 39 P P 04 51 21.7 +0.9
baz=320
TCF **Touly Ste Croi** 88.86 333 *e*P P 04 51 20.9 0.0
N42A **Yates City** 88.89 36 P P 04 51 21.9 +0.8
baz=322
M43A **Waltham Townsh** 88.92 35 P P 04 51 22.0 +0.8
baz=322
P40A **Paris** 88.93 38 P P 04 51 22.0 +0.7
baz=320
LPIG **La Paz** 88.94 60 LR LR 05 22 17.8
comp=Z,60nm,21.8s,baz=232,slow=30
R38A **Fenwick Farm,** 89.02 40 P P 04 51 21.6 -0.1
baz=319
O41A **Passleys Farm,** 89.05 37 P P 04 51 22.2 +0.4
baz=321
QUIF **Quistinic** 89.24 337 *e*P P 04 51 22.2 -0.3
QUIF pmax pmax
comp=Z,8.0nm,0.6s
P41A **Barry, Barry** 89.30 38 P P 04 51 23.8 +0.7
baz=321
Q40A **Laux Farm, Aux** 89.33 39 P P 04 51 23.6 +0.4
baz=320
KLBO **Killbear Provi** 89.35 28 P P 04 51 23.1 0.0
baz=328
R39A **Chumby, Stover** 89.36 40 P P 04 51 23.5 +0.1
baz=320
S38A **Stockton** 89.44 41 P P 04 51 23.7 0.0
baz=319
BMRO **Meriville Lake** 89.61 29 P P 04 51 24.2 -0.1
baz=328
T38A **Diamond** 89.68 41 P P 04 51 25.3 +0.4
baz=319
S39A **Bolivar** 89.69 40 P P 04 51 24.9 0.0
baz=320
P42A **Winchester** 89.72 37 P P 04 51 25.5 +0.5
baz=322
TUL1 **Leonard** 89.72 43 P P 04 51 25.6 +0.6
baz=318
TUL1 **Leonard** 89.72 43 *e*P P 04 51 26.2 +1.1
comp=Z,11nm,0.6s
ATD **Arta Tunnel** 89.75 284 LR LR 05 36 45.8
comp=Z,87nm,19.2s,baz=26,slow=39
R40A **Maddies Statio** 89.77 39 P P 04 51 25.5 +0.3
baz=320
Q41A **Truxton** 89.78 38 P P 04 51 25.4 +0.2
baz=321
TX31 **Lajitas Ar. Si** 89.81 52 *e*P P 04 51 26.8 +1.1
TXAR **Lajitas Array** 89.81 52 P P 04 51 26.6 +0.9
comp=Z,7.7nm,0.7s,baz=299,slow=3.3,SNR=113
TXAR pP **pP** 04 51 41.7 +1.3
comp=Z,5.9nm,0.7s,baz=305,slow=3.2,SNR=12
TXAR LR LR 05 25 50.6
comp=Z,84nm,21.9s,baz=0.0,slow=32
ABTX **Abilene, Hawle** 89.94 48 P P 04 51 26.4 +0.2
baz=316
ABTX **Abilene, Hawle** 89.94 48 *e*P P 04 51 27.5 +1.3
comp=Z,19nm,1.1s
RJF **Les Rejaudoux** 89.95 333 *e*P P 04 51 26.0 0.0
RJF pmax pmax
comp=Z,12nm,1.0s
P43A **Skaggs, Pawnee** 90.07 37 P P 04 51 26.8 +0.2
baz=322
CAF **Calviac** 90.08 332 *e*P P 04 51 26.9 +0.3
CAF pmax pmax
comp=Z,7.0nm,0.8s
O44A **Mansfield** 90.16 36 P P 04 51 27.2 +0.2
baz=323
HPIG 90.17 55 *e*P P 04 51 28.8 +1.3
comp=Z,4.6nm,0.7s
T39A **Clever** 90.17 41 P P 04 51 27.1 0.0
baz=320
S40A **Lebanon** 90.18 40 P P 04 51 27.1 -0.1
baz=320
R41A **Rosebud** 90.21 39 P P 04 51 27.9 +0.6
baz=321
O45A **Potomac** 90.43 35 P P 04 51 28.9 +0.7
baz=323
CCM **Cathedral Cave** 90.47 39 P P 04 51 28.4 -0.1
baz=321
CCM **Cathedral Cave** 90.47 39 *e*P P 04 51 29.3 +0.8
CCM pmax pmax
comp=Z,18nm,1.0s
CCM **Cathedral Cave** 90.47 39 *e*P P 04 51 29.3 +0.8
comp=Z,18nm,1.0s
BANO **Bancroft** 90.47 27 P P 04 51 28.7 +0.3
baz=330
T40A **Mansfield** 90.52 40 P P 04 51 28.6 -0.1
baz=320
U39A **Green Forest** 90.60 41 P P 04 51 29.2 0.0
baz=320
SFIN **Lafayette** 90.61 35 P P 04 51 29.7 +0.6
baz=324
VAE **Valguarnera** 90.74 321 LR LR 05 36 36.5
comp=Z,243nm,18.9s,baz=62,slow=38
ELFO **Elginfield** 90.75 30 P P 04 51 29.6 -0.1
baz=328
PLVO **Plevna** 90.76 26 P P 04 51 29.4 -0.3
baz=331
S42A **Caledonia** 90.91 39 P P 04 51 31.1 +0.5
baz=321
V39A **Pettigrew** 90.93 42 P P 04 51 30.8 0.0
baz=320
R43A **Red Bud** 90.94 38 P P 04 51 31.0 +0.3
baz=322
U40A **Yellville** 90.95 41 P P 04 51 30.9 +0.1
baz=320
PKRO **Pickering** 90.96 28 P P 04 51 30.5 -0.1
baz=329
T41A **Mountain View** 90.98 40 P P 04 51 30.9 0.0
baz=321
ALFO **Alfred** 90.99 25 P P 04 51 30.5 -0.2
baz=332
P46A **Rosedale** 91.17 35 P P 04 51 32.5 +0.8
baz=324
WLVO **Wesleyville** 91.25 28 P P 04 51 32.3 +0.4
baz=330
T42A **Van Buren** 91.34 39 P P 04 51 32.7 +0.2
baz=321
W39A **Magazine** 91.34 42 P P 04 51 32.8 +0.2
baz=320
MTLF **Montolieu** 91.38 332 *e*P P 04 51 32.8 +0.2
MTLF pmax pmax
comp=Z,9.0nm,1.4s
JCT **Junction City** 91.39 49 P P 04 51 33.0 +0.1
baz=316
JCT **Junction City** 91.39 49 *e*P P 04 51 33.5 +0.6
JCT pmax pmax
comp=Z,10.0nm,0.8s
JCT **Junction City** 91.39 49 *e*P P 04 51 33.5 +0.6
comp=Z,9.9nm,0.8s
V40A **Witts Springs** 91.39 41 P P 04 51 32.8 0.0
baz=320
U41A **Viola** 91.44 40 P P 04 51 33.1 0.0
baz=321
WHTX **Lake Whitney,** 91.68 47 P P 04 51 35.2 +1.0
baz=317
WHTX **Lake Whitney,** 91.68 47 *e*P P 04 51 35.7 +1.5
comp=Z,21nm,0.8s
X39A **Fountain Ranch** 91.68 43 P P 04 51 35.0 +0.8
baz=319
T43A **Greenville** 91.70 39 P P 04 51 34.3 +0.1
baz=322
W40A **Ferguson Farm,** 91.72 42 P P 04 51 34.9 +0.6
baz=320
W40A **Ferguson Farm,** 91.72 42 *e*P P 04 51 35.2 +0.9
comp=Z,16nm,0.8s
S44A **Carbondale** 91.73 38 P P 04 51 35.2 +0.9
baz=322
V41A **Mountainview** 91.75 41 P P 04 51 34.7 +0.1
baz=320
PBMO **Poplar Bluff** 91.86 39 *e*P P 04 51 35.8 +0.8
comp=Z,16nm,1.2s
V42A **Cord** 92.13 40 P P 04 51 36.4 +0.2
baz=321
W41B **Gary Mavity, V** 92.17 41 P P 04 51 36.8 +0.4
baz=320
ACSO **Alum Creek Sta** 92.55 32 P P 04 51 38.5 +0.5
baz=326
ETSF **Etsaut** 92.78 333 *e*P P 04 51 39.5 +0.3
ETSF pmax pmax
comp=Z,3.0nm,0.8s
T46A **Princeton** 92.91 37 P P 04 51 40.3 +0.5
baz=323
N54A **Moraine State** 93.17 30 P P 04 51 41.3 +0.4
baz=328
T47A **Sharon Grove** 93.33 37 P P 04 51 42.3 +0.6
baz=324
V47A **Nunnelly** 94.06 38 P P 04 51 45.1 0.0
baz=323
KEST **Kesra** 94.62 323 P P 04 51 47.8 -0.1
comp=Z,4.4nm,0.9s,baz=334,slow=1.3,SNR=5.6
KEST LR LR 05 39 28.9
comp=Z,222nm,19.3s,baz=338,slow=39
TKL **Tuckaleechee C** 95.97 36 P P 04 51 54.2 +0.3
comp=Z,4.5nm,0.8s,baz=150,slow=2.9,SNR=5.5
TKL LR LR 05 39 15.8
comp=Z,83nm,19.2s,baz=336,slow=38
ES19 **SONSECA Array** 96.79 334 *e*P P 04 51 57.3 -0.3
ESDC **Sonseca Array** 96.83 334 P P 04 51 57.2 -0.6
comp=Z,0.9nm,0.6s,baz=12,slow=3.8,SNR=6.0
ESDC LR LR 05 40 05.6
comp=Z,336nm,20.8s,baz=5.0,slow=38
RKT **Rikitea** 98.94 112 *e*LR LR 05 24 04.8
comp=Z,591nm,28.0s
VNDA **Vanda** 115.48 175 PKP **PKPdf** 04 57 06.6 -0.5
comp=Z,1.1nm,0.8s,baz=45,slow=4.3,SNR=3.1
TORD **Torodi Ar. Bea** 116.97 315 PKP **PKPdf** 04 57 11.3 -0.6
comp=Z,1.2nm,0.5s,baz=32,slow=1.9,SNR=46
TORD PP PP 04 58 11.4 -9.3
comp=Z,2.2nm,0.9s,baz=26,slow=5.8,SNR=7.4
TORD PKKP **PKKPdf** 05 07 56.5 -5.5
comp=Z,0.8nm,0.8s,baz=224,slow=3.0,SNR=4.4
LSZ **Lusaka** 117.48 271 *e*PKIKP **PKPdf** 04 57 12.8 -0.1
LSZ **Lusaka** 117.48 271 *e*PKPdf **PKPdf** 04 57 12.8 -0.1
KOWA **Kowa** 118.88 321 PKP **PKPdf** 04 57 15.4 -0.2
comp=Z,3.6nm,0.7s,baz=346,slow=4.2,SNR=14
KOWA PP **PP** 04 58 31.2 -2.6
comp=Z,1.5nm,0.6s,baz=72,slow=9.6,SNR=3.3
SDV **Santo Domingo** 124.94 40 PKP **PKPdf** 04 57 27.6 +0.2
comp=Z,8.1nm,0.7s,baz=22,slow=4.3,SNR=13
SDV **Santo Domingo** 124.94 40 *e*PKPdf **PKPdf** 04 57 27.5 0.0
DBIC **Dimbokro** 125.92 317 PKP **PKPdf** 04 57 28.4 -0.6
comp=Z,6.0nm,0.7s,baz=47,slow=2.8,SNR=11
DBIC PP **PP** 04 59 17.4 -4.2
comp=Z,5.1nm,0.9s,baz=28,slow=11,SNR=3.8
BOSA **Boshof** 126.67 260 PKP **PKPdf** 04 57 30.7 +0.5
comp=Z,3.8nm,0.8s,baz=92,slow=5.9,SNR=4.5
QSPA **South Pole Qui** 127.28 180 PKP **PKPdf** 04 57 30.0 -0.1
comp=Z,12nm,1.1s,baz=234,slow=0.4,SNR=15
SNAA **Sanae** 141.23 197 PKhKP PKPpre 04 57 49.1
comp=Z,3.6nm,0.8s,baz=232,slow=3.3,SNR=10
SAML **Samuel** 143.88 44 *e*PKPdf PKPab 04 57 59.5 0.0
LPAZ **La Paz** 146.43 59 PKPbc **PKPbc** 04 58 09.3 +0.4
comp=Z,9.0nm,0.7s,baz=12,slow=5.6,SNR=49
LPAZ pPKPbc pPKPab 04 58 24.7 0.0
comp=Z,23nm,0.6s,baz=6.1,slow=3.2,SNR=12
LCO **Las Campanas** 151.94 82 *e*PKPbc **PKPbc** 04 58 22.5 +0.5
PLCA **Paso Flores** 155.07 107 PKPbc PKPdf 04 58 29.2 +10
comp=Z,1.3nm,0.9s,baz=317,slow=5.5,SNR=4.0
PLCA PKPab pPKPbc 04 58 42.8 -0.7
comp=Z,4.4nm,1.0s,baz=213,slow=4.5,SNR=5.5
PLCA pPKPab pPKPab 04 58 59.5 +0.5
comp=Z,15nm,1.1s,baz=265,slow=5.4,SNR=11
CPUP **Villa Florida** 160.59 60 PKP **PKPdf** 04 58 25.4 -1.1
comp=Z,0.6nm,0.4s,baz=90,slow=5.1,SNR=3.3
CPUP PKPab **PKPab** 04 59 08.2 0.0
comp=Z,1.1nm,0.8s,baz=295,slow=1.4,SNR=3.9
CPUP pPKPab **pPKPab** 04 59 23.1 0.0
comp=Z,1.6nm,0.7s,baz=359,slow=3.7,SNR=3.7

TRN 30 04:43:50.8, 11.92N×60.02W, h25km, MD3.6, 1D,
Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	**Speyside**	**0.79**	**219**	*e*P	Pn	04 44 07.1	+0.7
TOSP	**Speyside**	**0.79**	**219**	*e*	Pn	04 44 12.4	+6.1
TOSP				*e*S	Sn	04 44 19.4	+2.0
BBGH	**Gun Hill**	**1.30**	**20**	*e*P	Pb	04 44 14.9	+0.3
BBGH				*e*S	Sb	04 44 31.6	+0.7
BBSP	**Saint Philip**	**1.30**	**25**	*e*P	Pb	04 44 15.4	+0.8
BBSP				*e*S	Sb	04 44 31.7	+0.7
GRSS	**Sisters**	**1.60**	**284**	*e*P	Pb	04 44 19.2	-0.5
GRSS				*e*S	Sb	04 44 39.6	+0.1
GRGR	**Grenville**	**1.61**	**278**	*e*P	Pn	04 44 18.3	+0.7
GRGR				*e*S	Sb	04 44 40.1	+0.4
GRHS	**Sauteurs**	**1.61**	**281**	*e*P	Pb	04 44 18.9	-1.0
GRHS				*e*S	Sb	04 44 39.0	-0.8
SVCV	**St. Vincent, C**	**1.74**	**321**	*e*P	Pn	04 44 20.0	+0.7
SVCV				*e*S	Sn	04 44 41.6	+0.8
TBH	**Brigand Hill**	**1.75**	**216**	*e*P	Pn	04 44 20.1	+0.5

TBH				eS	Sb	04 44 42.9	-1.0
SVB	**Belmont**	**1.81**	**318**	eP	Pn	04 44 21.2	+0.9
SVB				eS	Sb	04 44 44.6	-0.8
SSV	**Crater Summit**	**1.81**	**321**	eP	Pb	04 44 22.1	-1.2
SSV				eS	Sb	04 44 44.4	-1.2
SVV	**Soufriere Volc**	**1.82**	**320**	eP	Pn	04 44 21.6	+1.2
SVV				eS	Sn	04 44 44.2	+1.5
TRN	**Trinidad (W)**	**1.85**	**227**	eP	Pb	04 44 23.2	-0.7
TRN				eS	Sn	04 44 44.4	+1.0
MCLT	**Moule a Chique**	**2.00**	**333**	eP	Pb	04 44 26.3	-0.1
MCLT				eS	Sn	04 44 48.9	+1.8
TPP	**Pointe-a-Pierr**	**2.12**	**222**	eP	Pn	04 44 26.4	+1.8
TPP				eS	Sn	04 44 51.9	+1.8
SLB	**Belfond**	**2.15**	**333**	eP	Pb	04 44 27.4	-1.6
SLB				eS	Sn	04 44 52.7	+1.8
TRMF	**Trois Ilets**	**2.79**	**339**	eP	Pn	04 44 34.7	+0.8
LPMF	**Morne Lapointe**	**2.80**	**341**	⇓eP	Pn	04 44 34.6	+0.7
ZAM	**Aeronautique**	**2.82**	**340**	eP	Pn	04 44 35.1	+0.9
FDF	**Fort de France**	**3.01**	**339**	eP	Pn	04 44 38.3	+1.4
FDF				eS	Sn	04 45 12.8	+0.6
PML	**Morne Lenard**	**3.06**	**338**	eP	Pn	04 44 39.5	+1.9
BAMF	**Morne Balai**	**3.08**	**339**	eP	Pn	04 44 39.7	+1.8
CXM	**Morne La Croix**	**3.09**	**339**	eP	Pn	04 44 40.2	+2.1
PCM	**Pelee Case Pet**	**3.11**	**338**	eP	Pn	04 44 39.5	+1.3
PCM	**Pelee Case Pet**	**3.11**	**338**	eP	Pn	04 44 39.5	+1.3

*ISK **30** 04:48:26.4, 40˚.54N×33˚.97E, h5km, ML2.9/7*
*DDA **30** 04:48:27.1, 40˚.59N×33˚.95E, h20km, Ml3.2*
CSEM 30 04:48:27.9±0.2, 40˚.58N×33˚.96E, h10km, ML2.9, Error ellipse: s-maj=5.2km s-min=3.8km az=175.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	**Cankiri**	**0.26**	**277**	PG	Pg	04 48 32.4	-0.8
ELDT	**Eldivan**	**0.41**	**258**	*i* P	Pg	04 48 35.7	-0.4
ELDT				*i* S	Sg	04 48 42.2	+0.6
ELDT	**Eldivan**	**0.41**	**258**	P	Pg	04 48 35.7	-0.4
ELDT				S	Sg	04 48 42.2	+0.6
ILGA	**Ilgaz**	**0.51**	**339**	*i* P	Pg	04 48 36.8	-1.1
ILGA	**Ilgaz**	**0.51**	**339**	P	Pg	04 48 36.8	-1.1
CTAK	**Corum_Osmancik**	**0.64**	**83**	*i* P	Pg	04 48 40.4	+0.1
CTAK				*i* S	Sb	04 48 49.5	-0.8
CTAK	**Corum_Osmancik**	**0.64**	**83**	P	Pg	04 48 40.3	0.0
CTAK				S	Sb	04 48 49.5	-0.8
CORM	**Corum**	**0.65**	**127**	PG	Pg	04 48 39.3	-1.2
CORM	**Corum**	**0.65**	**127**	ePg	Pg	04 48 39.3	-1.2
COAL	**Corum-Alaca**	**0.85**	**112**	*i* P	Pg	04 48 43.8	-0.4
COAL				*i* S	Sb	04 48 56.0	-0.2
COAL	**Corum-Alaca**	**0.85**	**112**	P	Pg	04 48 43.8	-0.4
COAL				S	Sb	04 48 56.0	-0.2
CDAG	**Cicekdag**	**1.00**	**161**	*i* P	Pg	04 48 46.4	-0.8
CDAG				*i* S	Sn	04 49 02.2	-0.1
CDAG	**Cicekdag**	**1.00**	**161**	P	Pg	04 48 46.4	-0.8
CDAG				S	Sn	04 49 02.2	-0.1
BOYT	**Boyabat**	**1.11**	**40**	*i* P	Pb	04 48 46.8	-2.4
BOYT				*i* S	Sg	04 49 02.5	-1.1
BOYT	**Boyabat**	**1.11**	**40**	P	Pb	04 48 46.8	-2.4
BOYT				S	Sg	04 49 02.5	-1.1
CMDR	**Camlidere-ANKA**	**1.13**	**266**	*i* P	Pb	04 48 48.9	-0.8
CMDR				*i* S	Sg	04 49 04.3	-0.2
CMDR	**Camlidere-ANKA**	**1.13**	**266**	P	Pb	04 48 48.9	-0.8
CMDR				S	Sg	04 49 04.3	-0.2
ANTO	**Ankara**	**1.14**	**232**	PN	Pn	04 48 49.9	-0.1
ANTO				SN	Sn	04 49 05.7	0.0
ANTO	**Ankara**	**1.14**	**232**	ePn	Pn	04 48 49.9	-0.1
ANTO				eSn	Sn	04 49 05.7	0.0
AFSR	**Af˙ar-Bala (A**	**1.32**	**212**	PN	Pn	04 48 51.4	-1.0
AFSR				SN	Sg	04 49 11.1	+0.8
AFSR	**Af˙ar-Bala (A**	**1.32**	**212**	ePn	Pn	04 48 51.4	-1.0
AFSR				eSn	Sg	04 49 11.1	+0.8
BZK	**Bozkurt**	**1.38**	**1**	PN	Pg	04 48 54.5	0.0
BZK	**Bozkurt**	**1.38**	**1**	ePn	Pg	04 48 54.5	0.0
YOZ	**Yozgat**	**1.40**	**131**	PN	Pn	04 48 53.6	0.0
YOZ	**Yozgat**	**1.40**	**131**	ePn	Pn	04 48 53.6	0.0
HAVZ	**Havza**	**1.43**	**69**	*i* P	Pb	04 48 54.7	+0.2
HAVZ				*i* S	Sg	04 49 13.8	0.0
HAVZ	**Havza**	**1.43**	**69**	P	Pb	04 48 54.7	+0.1
HAVZ				S	Sg	04 49 13.8	+0.1
BCAM	**Yenicaga**	**1.46**	**280**	*i* P	Pn	04 48 54.7	+0.3
BCAM				*i* S	Sb	04 49 14.2	+0.3
BCAM	**Yenicaga**	**1.46**	**280**	P	Pn	04 48 54.7	+0.3
BCAM				S	Sb	04 49 14.2	+0.3
KURC	**Kurucasile-Bar**	**1.57**	**325**	PN	Pg	04 48 57.6	-0.4
KURC	**Kurucasile-Bar**	**1.57**	**325**	ePn	Pg	04 48 57.6	-0.4
KKUL	**Konya-Kulu**	**1.61**	**210**	*i* P	Pn	04 48 56.0	-0.5
KKUL				*i* S	Sb	04 49 18.1	-0.3
KKUL	**Konya-Kulu**	**1.61**	**210**	P	Pn	04 48 56.0	-0.6
KKUL				S	Sb	04 49 18.1	-0.2
SERE	**Sereflikochisa**	**1.66**	**191**	PN	Pn	04 48 57.3	+0.2
SERE	**Sereflikochisa**	**1.66**	**191**	ePn	Pn	04 48 57.3	+0.2
KVT	**Kavak**	**1.66**	**72**	PN	Pn	04 48 57.8	+0.7
KVT	**Kavak**	**1.66**	**72**	ePn	Pn	04 48 57.8	+0.7
MDUB	**Mudurnu**	**2.11**	**268**	PN	Pb	04 49 04.9	-1.4
MDUB	**Mudurnu**	**2.11**	**268**	ePn	Pb	04 49 04.9	-1.4
SULT	**Sultanhani-AKS**	**2.40**	**188**	PN	Pn	04 49 08.2	+0.9
SULT	**Sultanhani-AKS**	**2.40**	**188**	ePn	Pn	04 49 08.2	+0.9
SVSK	**Karacayir**	**2.42**	**105**	PN	Pn	04 49 08.7	+1.3
SVSK	**Karacayir**	**2.42**	**105**	ePn	Pn	04 49 08.7	+1.3

IDC 30 05:06:42.6±23.0, 18˚.64N×145˚.33E, h352km±245km, mb3.1/8, mb1 3.3/8, mb1mx2.9/60, mbtmp3.8/8, Error ellipse: s-maj=56.9km s-min=25.4km az=48.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.83**	**196**	P	P	05 13 43.1	-0.2
	7.4nm,0.7s,baz=18,slow=9.1,SNR=86						
ASAR	**Alice Springs**	**43.51**	**195**	P	P	05 14 12.4	-0.3
	0.6nm,0.5s,baz=16,slow=7.5,SNR=8.6						
MKAR	**Makanchi Array**	**58.25**	**314**	P	P	05 16 00.9	-0.3
	0.3nm,0.6s,baz=86,slow=7.5,SNR=3.1						
BVAR	**Borovoye Array**	**66.30**	**320**	P	P	05 16 53.6	-0.4
	0.7nm,0.4s,baz=100,slow=6.6,SNR=6.6						
AKTO	**Aktyubinsk**	**74.18**	**318**	P	P	05 17 43.0	+1.6
	0.6nm,0.5s,baz=90,slow=8.1,SNR=2.9						
YKA	**Yellowknife Ar**	**78.20**	**28**	P	P	05 18 03.3	-0.3
	0.2nm,0.6s,baz=290,slow=5.2,SNR=4.3						
NVAR	**Mina Array Bea**	**83.45**	**52**	P	P	05 18 32.7	+0.8
	0.4nm,0.6s,baz=265,slow=6.1,SNR=3.9						
FINES	**FINESS Array B**	**86.79**	**335**	P	P	05 18 45.4	-2.1
	0.4nm,0.4s,baz=46,slow=5.5,SNR=5.8						

MEX 30 05:09:24.4±0.8, 16˚.54N×98˚.54W, h12km±14km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**110**	eP	Pg	05 09 31.7	-1.0
PNIG				*i* S	Sg	05 09 38.5	+0.1
TLIG	**Tlapa**	**1.02**	**359**	eP	Pb	05 09 40.7	-3.4
TLIG				eS	Sg	05 09 53.8	-3.7
VHO	**Vista Hermosa**	**1.81**	**73**	eP	Pn	05 09 52.3	-3.2
VHO				*i* S	Sn	05 10 13.9	-4.6
HUIG	**Huatulco**	**2.46**	**108**	eP	Pn	05 10 01.4	-2.9
HUIG				eS	Sn	05 10 30.4	-3.9

*SOME **30** 05:09:35.1, 44˚.27N×77˚.62E, h0km*
*NNC **30** 05:09:35.5±0.8, 44˚.32N×77˚.59E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=7.6km s-min=4.2km az=163.0*
ISC 30 05:09:34.5±1.2, 44˚.29N±0˚.04×77˚.59E±0˚.03, h5km±10km, n19, σ0˚.95/35, 4C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**0.19**	**114**	eP	**Pg**	**05 09 38.3**	**+0.1**
	53nm,0.4s						
ARXS				eS	**Sg**	**05 09 40.6**	**-0.1**
	383nm,0.7s						
CHKK	**Chushkaly**	**0.61**	**225**	eP	**Pb**	**05 09 47.0**	**-0.7**
	2.8nm,0.2s						
CHKK				eS	**Sb**	**05 09 55.8**	**-0.9**
	16nm,0.3s						
MNBS	**Baschi**	**0.62**	**110**	eP	**Pg**	**05 09 46.4**	**-0.1**
	15nm,0.7s						
MNBS				eS	**Sg**	**05 09 54.7**	**+0.1**
	20nm,0.4s						
KTBS	**Karatobe**	**0.87**	**229**	eP	**Pb**	**05 09 52.3**	**+0.1**
KTBS				eS	**Sb**	**05 10 04.7**	**+0.5**
KURS	**Kuram**	**0.91**	**152**	eP	**Pg**	**05 09 52.1**	**+0.2**
	3.8nm,0.2s						
KURS				eS	**Sg**	**05 10 04.3**	**+0.7**
	14nm,0.4s						
KUU	**Kurty**	**0.98**	**247**	eP	**Pb**	**05 09 53.9**	**-0.1**
	8.7nm,0.3s						
KUU				eS	**Sn**	**05 10 07.7**	**-1.7**
	8.9nm,0.3s						
KOTS	**Kotyrbulak**	**1.11**	**198**	eP	**Pn**	**05 09 56.3**	**-0.6**
	1.4nm,0.2s						
KOTS				eS	**Sb**	**05 10 11.4**	**+0.2**
	6.1nm,0.5s						
TNSS	**Tian-Shan**	**1.34**	**201**	eP	**Pb**	**05 10 00.1**	**-0.2**
	3.3nm,0.2s						
TNSS				eS	**Sn**	**05 10 18.1**	**-0.5**
	17nm,0.4s						
SATY	**Saty**	**1.37**	**154**	eP	**Pn**	**05 09 60.0**	**-0.4**
	6.3nm,0.3s						
SATY				eS	**Sb**	**05 10 18.0**	**-0.5**
	28nm,0.3s						
MTBS	**Maitube**	**1.43**	**216**	eP	**Pg**	**05 10 02.5**	**+0.6**
	13nm,0.3s						
MTBS				eS	**Sg**	**05 10 21.9**	**+1.5**
	79nm,0.3s						
IZV	**Izvestkoviy**	**1.44**	**210**	eP	**Pg**	**05 10 02.2**	**+0.1**
	15nm,0.4s						
IZV				eS	**Sg**	**05 10 21.6**	**+0.9**
	42nm,0.7s						
KAPS	**Kapalarasan**	**1.61**	**51**	eP	**Pb**	**05 10 04.8**	**+0.1**
	9.7nm,0.4s						
KAPS				eS	**Sg**	**05 10 26.0**	**-0.1**
	10nm,0.3s						
DGS	**Degeres**	**1.68**	**232**	eP	**Pg**	**05 10 06.3**	**-0.4**
	10nm,0.4s						
DGS				eS	**Sg**	**05 10 28.6**	**+0.2**
	42nm,0.5s						
PDGK	**Podgornoye**	**1.68**	**124**	⇑P	**Pb**	**05 10 05.2**	**-0.8**
	5.3nm,0.7s						
PDGK				⇓S	**Sg**	**05 10 29.5**	**+1.0**
	10nm,0.5s						
TKM2	**Tokmak 2**	**1.99**	**227**	⇑Pn	**Pb**	**05 10 11.4**	**+0.1**
	2.3nm,0.5s						
TKM2				⇓Sn	**Sg**	**05 10 38.1**	**-0.3**
	6.4nm,0.5s						
KTMS	**Ketmen**	**2.17**	**112**	eP	**Pb**	**05 10 13.7**	**-0.7**
	6.9nm,0.2s						
KTMS				eS	**Sb**	**05 10 41.5**	**-0.2**
	12nm,0.7s						
AAK	**Ala-Archa**	**2.79**	**235**	⇓Lg	Lg	05 11 03.1	
	3.1nm,0.5s						
MK31	**Makanchi Array**	**4.15**	**51**	Pn	**Pn**	**05 10 40.9**	**+2.4**
	0.1nm,0.3s,baz=230,slow=15,SNR=4.6						
MK31				Pg	**Pg**	**05 10 51.4**	**-2.5**
	0.1nm,0.2s,baz=233,slow=15,SNR=4.8						
MK31				⇓Sn	**Sn**	**05 11 29.4**	**+2.0**
	0.6nm,0.6s						
MK31				⇑Lg	Lg	05 11 45.1	
	1.1nm,0.6s,baz=224,slow=30,SNR=4.0						
KK31	**Karatay Array**	**5.26**	**259**	⇑Lg	Lg	05 12 20.1	
	1.0nm,0.7s,baz=74,slow=30,SNR=5.3						

*IDC **30** 05:15:49.7±2.4, 4˚.86S×102˚.12E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/58, mbtmp3.9/8, Error ellipse: s-maj=108.0km s-min=16.6km az=55.0*
*NEIC **30** 05:15:56.5±0.7, 4˚.71S×102˚.38E, h41km±6km, mb4.6/10, Error ellipse: s-maj=7.4km s-min=4.6km az=52.0*
*ISCJB **30** 05:15:57.9±0.7, 4˚.63S±0˚.07×102˚.59E±0˚.07, h71km±5km, mb4.3/17, Error ellipse: s-maj=15.3km s-min=5.1km az=42.4*
*DJA **30** 05:15:59.5±0.7, 5˚.5S±5˚×10˚.3E±˚, h35km±5km, M4.2/9, mb4.2/1, MLv4.2/9*
ISC 30 05:15:57.5±0.9, 4˚.72S±0˚.06×102˚.51E±0˚.06, h48km±8km, n55, σ1˚.13/62, mb4.3/17, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.57**	**51**	P	**Pn**	**05 16 09.5**	**0.0**
MNAI				S	**Sn**	**05 16 17.7**	**-0.4**
MNAI	**Manna**	**0.57**	**51**	ePn	**Pn**	**05 16 09.5**	**0.0**
MNAI				eSn	**Sn**	**05 16 20.2**	**+2.1**
LWLI	**Liwa**	**1.57**	**101**	P	**Pn**	**05 16 23.4**	**+0.4**
LWLI				S	**Sn**	**05 16 41.9**	**-0.3**
MASI	**Maura Aman, Be**	**1.59**	**350**	P	**Pn**	**05 16 24.6**	**+1.3**
MASI				S	**Sn**	**05 16 44.0**	**+1.3**
MDSI	**Maura Dua**	**1.68**	**82**	P	**Pn**	**05 16 25.0**	**+0.6**
MDSI				S	**Sn**	**05 16 43.9**	**-0.8**
KASI	**Kota Agung**	**2.13**	**112**	P	**Pn**	**05 16 31.3**	**+0.7**
KASI				S	**Sn**	**05 16 55.0**	**-0.9**
PPSI	**Pulau Pagai**	**3.17**	**308**	P	**Pn**	**05 16 47.5**	**+2.7**
CGJI	**Cibinong**	**3.68**	**121**	P	**Pn**	**05 16 54.4**	**+2.5**
PDSI	**Padang**	**4.30**	**331**	P	**Pn**	**05 17 01.9**	**+1.4**
SISI	**Saibi**	**4.80**	**314**	P	**Pn**	**05 17 09.7**	**+2.4**
CISI	**Cisompet, Garu**	**5.98**	**118**	P	**Pn**	**05 17 24.8**	**+1.3**
CISI	**Cisompet, Garu**	**5.98**	**118**	ePn	**Pn**	**05 17 24.1**	**+0.6**
COCO	**West Island**	**9.31**	**217**	ePn	**Pn**	**05 18 07.2**	**-2.0**
CM31	**Chiang Mai Arr**	**23.30**	**351**	eP	**P**	**05 20 59.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**23.30**	**351**	P	**P**	**05 21 01.2**	**-0.1**
	1.6nm,0.4s,baz=184,slow=9.0,SNR=8.4						
WRA	**Warramunga Arr**	**34.48**	**119**	P	**P**	**05 22 41.4**	**+0.3**
	0.6nm,0.5s,baz=299,slow=8.8,SNR=12						
WR1	**Warramunga Arr**	**34.48**	**119**	eP	**P**	**05 22 41.4**	**+0.3**
	10nm,1.4s						
WB2	**Warramunga Arr**	**34.49**	**119**	eP	**P**	**05 22 42.2**	**+1.0**
	4.9nm,1.3s						
ASAR	**Alice Springs**	**35.64**	**125**	P	**P**	**05 22 51.5**	**+0.3**
	0.2nm,0.4s,baz=300,slow=7.4,SNR=4.1						
AS31	**Alice Springs**	**35.64**	**125**	eP	**P**	**05 22 51.5**	**+0.3**
	1.2nm,1.0s						
PMG	**Port Moresby**	**44.52**	**99**	eP	**P**	**05 24 05.8**	**+0.9**
	50nm,1.4s						
CTAO	**Charters Tower**	**45.20**	**114**	eP	**P**	**05 24 11.4**	**+1.3**
	22nm,1.5s						
STKA	**Stephens Creek**	**45.48**	**131**	P	**P**	**05 24 13.6**	**+1.4**
	1.1nm,0.7s,baz=335,slow=14,SNR=2.6						
STKA	**Stephens Creek**	**45.48**	**131**	eP	**P**	**05 24 13.6**	**+1.4**
	3.0nm,1.5s						
SONA0	**Songino Array**	**52.44**	**3**	eP	**P**	**05 25 05.3**	**0.0**
SONM	**Songino Array**	**52.44**	**3**	P	**P**	**05 25 05.3**	**0.0**
	1.3nm,0.6s,baz=185,slow=8.9,SNR=6.0						
MK01	**Makanchi Array**	**54.30**	**343**	eP	**P**	**05 25 18.2**	**-0.7**
MK31	**Makanchi Array**	**54.33**	**343**	eP	**P**	**05 25 18.8**	**-0.3**
MK32	**Makanchi Array**	**54.33**	**343**	eP	**P**	**05 25 18.2**	**-0.9**
MKAR	**Makanchi Array**	**54.33**	**343**	P	**P**	**05 25 18.2**	**-0.9**
	0.5nm,0.5s,baz=155,slow=7.8,SNR=8.2						
MKAR	**Makanchi Array**	**54.33**	**343**	eP	**P**	**05 25 19.0**	**-0.1**
	5.5nm,0.5s						
GYB4	**ALIBECK ARRAY**	**59.14**	**320**	eP	**P**	**05 25 52.2**	**-1.2**
	3.0nm,0.7s						
CRZF	**Crozet Islands**	**60.26**	**218**	eP	**P**	**05 25 59.8**	**-1.2**
	59nm,0.9s						
ZAA0	**Zalesovo Array**	**60.31**	**348**	eP	**P**	**05 26 00.5**	**-0.6**
	2.1nm,0.4s,baz=170,slow=5.3,SNR=10						
ZALV	**Zalesovo Beam**	**60.31**	**348**	P	**P**	**05 25 60.0**	**-1.1**
	2.1nm,0.4s,baz=170,slow=5.3,SNR=10						
ZALV	**Zalesovo Beam**	**60.31**	**348**	eP	**P**	**05 25 59.9**	**-1.1**
ZALV				epP	**pP**	**05 26 14.0**	**-0.6**
ZAA1	**Zalesovo Array**	**60.31**	**348**	eP	**P**	**05 25 60.0**	**-1.2**
BVAR	**Borovoye Array**	**63.59**	**339**	P	**P**	**05 26 21.8**	**-1.4**
	0.8nm,0.6s,baz=138,slow=11,SNR=3.8						
AB07	**Akbulak array**	**65.20**	**331**	eP	**P**	**05 26 32.4**	**-1.4**
AB06	**Akbulak array**	**65.21**	**331**	eP	**P**	**05 26 33.2**	**-0.6**
AB08	**Akbulak array**	**65.21**	**331**	eP	**P**	**05 26 33.6**	**-0.2**
AB03	**Akbulak array**	**65.22**	**331**	eP	**P**	**05 26 33.8**	**0.0**
AB01	**Akbulak array**	**65.22**	**331**	eP	**P**	**05 26 33.0**	**-0.9**
AB31	**Akbulak array**	**65.22**	**331**	eP	**P**	**05 26 33.5**	**-0.3**
ABKAR	**Akbulak array**	**65.22**	**331**	eP	**P**	**05 26 33.5**	**-0.4**
	11nm,0.6s						
AB02	**Akbulak array**	**65.22**	**331**	eP	**P**	**05 26 33.7**	**-0.2**
AB04	**Akbulak array**	**65.22**	**331**	eP	**P**	**05 26 33.1**	**-0.8**
AB05	**Akbulak array**	**65.23**	**331**	eP	**P**	**05 26 33.2**	**-0.8**
AB09	**Akbulak array**	**65.23**	**331**	eP	**P**	**05 26 34.5**	**+0.5**
SYO	**Syowa Base**	**76.13**	**199**	⇓eP	**P**	**05 27 41.8**	**+1.9**
NRS	**Narsarsuaq**	**118.75**	**343**	ePKPdf	**PKPdf**	**05 34 40.8**	**+0.7**
BINY	**Binghamton**	**142.66**	**358**	ePKPdf	**PKPdf**	**05 35 23.5**	**-2.3**
TX31	**Lajitas Ar. Si**	**145.16**	**42**	ePKPbc	**PKPdf**	**05 35 30.1**	**-0.5**
LTX	**Lajitas**	**145.16**	**42**	ePKPbc	**PKPdf**	**05 35 30.1**	**-0.5**
TXAR	**Lajitas Array**	**145.16**	**42**	PKPbc	**PKPdf**	**05 35 30.1**	**-0.5**
	0.4nm,0.5s,baz=250,slow=1.3,SNR=12						

IDC 30 05:38:22.0±1.7, 54˚.01S×135˚.77W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/34, mbtmp4.2/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/29, Error ellipse: s-maj=55.1km s-min=45.2km az=171.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**32.06**	**201**	P	P	05 44 49.9	0.0
	1.1nm,0.7s,baz=74,slow=15,SNR=8.6						
VNDA				LR	LR	05 55 07.6	
	comp=Z,58nm,20.7s,baz=230,slow=31						
RAO	**Raoul Island**	**39.21**	**292**	LR	LR	05 59 57.0	
	comp=Z,214nm,18.7s,baz=90,slow=33						
ASAR	**Alice Springs**	**71.39**	**255**	P	P	05 49 43.8	-0.1
	2.6nm,0.8s,baz=141,slow=6.0,SNR=19						
WRA	**Warramunga Arr**	**74.05**	**258**	P	P	05 49 59.9	+0.2
	2.4nm,0.9s,baz=145,slow=5.3,SNR=20						
TORD	**Torodi Ar. Bea**	**127.31**	**124**	PKP	PKPdf	05 57 28.4	-0.2
	0.5nm,0.7s,baz=199,slow=1.9,SNR=3.2						
ESDC	**Sonseca Array**	**144.78**	**94**	PKP	PKPbc	05 57 59.3	+0.1
	0.1nm,0.3s,baz=222,slow=1.7,SNR=4.5						

*NEIC **30** 05:51:17.1±0.0, 15˚.91N×98˚.88W, h18km, MD4.0(MEX), After MEX.*
MEX 30 05:51:16.5±0.6, 15˚.87N×98˚.87W, h16km±30km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.88**	**54**	eP	Pb	05 51 30.0	-3.4
PNIG				eS	Sb	05 51 41.2	-3.8
PNIG	**Pinotepa**	**0.88**	**54**	eP	Pb	05 51 30.0	-3.5
PNIG				eS	Sb	05 51 40.7	-4.3
TLIG	**Tlapa**	**1.70**	**10**	eP	Pn	05 51 42.8	-2.9
TLIG				eS	Sn	05 52 01.8	-5.4
TLIG	**Tlapa**	**1.70**	**10**	eP	Pn	05 51 42.8	-2.9
TLIG				eS	Sn	05 52 01.8	-5.4
VHO	**Vista Hermosa**	**2.37**	**60**	eP	Pn	05 51 52.6	-2.4
VHO				*i* S	Sn	05 52 19.5	-4.3
VHO	**Vista Hermosa**	**2.37**	**60**	eP	Pn	05 51 52.6	-2.4
VHO				eS	Sb	05 52 28.2	+0.2
HUIG	**Huatulco**	**2.66**	**92**	eP	Pn	05 51 56.3	-2.4
HUIG				eS	Sn	05 52 26.1	-4.5
HUIG	**Huatulco**	**2.66**	**92**	eP	Pn	05 51 56.3	-2.4
HUIG				eS	Sn	05 52 26.4	-4.2

PGC 30 05:51:40.5±5.0, 50˚.76N×130˚.49W, h10km, MLSn3.0/8, Mw3.6/8, 216km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.50**	**94**	Pn	Pn	05 52 06.0	-1.6
HOLB				Sn	Sn	05 52 24.4	-2.9
BPBC	**Brooks Peninsu**	**1.84**	**108**	Pn	Pn	05 52 10.2	-2.0
BPBC				Sn	Sn	05 52 31.2	-4.3
PHC	**Port Hardy**	**1.94**	**90**	Pn	Pn	05 52 11.6	-1.9
PHC				Sn	Sn	05 52 34.6	-3.4
BNB	**Barry Inlet**	**1.98**	**337**	Sn	Sn	05 52 34.6	-4.6
BBB	**Bella Bella**	**2.06**	**45**	Pn	Pn	05 52 13.9	-1.3
BBB				Sn	Sn	05 52 37.1	-3.8
MAYB	**Maynard**	**2.14**	**98**	Pn	Pn	05 52 14.9	-1.6
TLCB	**Telegraph Cove**	**2.33**	**94**	Pn	Pn	05 52 17.1	-1.9
TLCB				Sn	Sn	05 52 44.4	-3.2
WOSB	**Woss**	**2.57**	**102**	Pn	Pn	05 52 21.2	-1.1
NCRB	**Newcastle Ridg**	**2.85**	**95**	Pn	Pn	05 52 24.7	-1.4

IDC 30 05:56:34.8±8.0, 17˚.04S×175˚.71W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/46, mbtmp3.6/3, Error ellipse: s-maj=351.6km s-min=35.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.33**	**258**	P	P	06 05 09.5	-1.2
	0.1nm,0.4s,baz=96,slow=8.5,SNR=9.2						
ASAR	**Alice Springs**	**47.51**	**253**	P	P	06 05 12.9	+0.8
	1.4nm,0.5s,baz=86,slow=8.3,SNR=18						
ILAR	**Eielson Array**	**84.48**	**12**	P	P	06 09 09.0	0.0
	0.2nm,0.6s,baz=225,slow=6.1,SNR=3.1						

IDC 30 06:02:27.9±2.6, 53˚.93N×86˚.62E, h0km, mb1 2.8/2, mb1mx2.7/72, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=22.5km s-min=13.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.06**	**272**	*i*		06 10 00.0	
	baz=90,slow=334,SNR=14						
ZALV	**Zalesovo Beam**	**1.06**	**272**	Pg

TUTA	**Tutak**	**0.44**	**67**	P		**Pg**	**06 07 36.9**	**-0.2**
TUTA				S		**Sg**	**06 07 43.3**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.54**	**141**	*i* P		**Pg**	**06 07 38.8**	**0.0**
ADCV				*i* S		**Sb**	**06 07 47.7**	**+1.4**
ADCV	**BITLIS_Adilcev**	**0.54**	**141**	P		**Pg**	**06 07 38.8**	**0.0**
ADCV				S		**Sb**	**06 07 47.7**	**+1.4**
AGRB	**Hanur-Agry**	**0.65**	**57**	PG		**Pg**	**06 07 41.3**	**+0.5**
AGRB				SG		**Sn**	**06 07 51.3**	**-0.9**
AGRB	**Hanur-Agry**	**0.65**	**57**	*e*Pg		**Pg**	**06 07 41.3**	**+0.5**
AGRB				*e*Sg		**Sn**	**06 07 51.3**	**-0.9**
EATA	**Eleskirt**	**0.65**	**14**	*e*P		**Pb**	**06 07 41.0**	**+0.1**
EATA				⇓*e*S		**Sb**	**06 07 51.2**	**+1.5**
EATA	**Eleskirt**	**0.65**	**14**	*i* P		**Pb**	**06 07 41.0**	**+0.1**
EATA				*i* S		**Sb**	**06 07 50.5**	**+0.7**
EATA	**Eleskirt**	**0.65**	**14**	P		**Pb**	**06 07 41.0**	**+0.1**
EATA				S		**Sb**	**06 07 50.5**	**+0.7**
GURO	**Guroymak-BITLI**	**0.70**	**197**	PG		**Pb**	**06 07 41.4**	**-0.3**
GURO				SG		**Sg**	**06 07 51.6**	**+0.3**
GURO	**Guroymak-BITLI**	**0.70**	**197**	*e*Pg		**Pb**	**06 07 41.4**	**-0.3**
GURO				*e*Sg		**Sg**	**06 07 51.6**	**+0.3**
HOMI	**Horasan**	**0.87**	**340**	*e*P		**Pb**	**06 07 44.2**	**-0.4**
HOMI	**Horasan**	**0.87**	**340**	*i* P		**Pb**	**06 07 44.1**	**-0.4**
ERZM	**Erzurum**	**0.98**	**314**	⇓*e*P		**Pb**	**06 07 45.9**	**-0.7**
ERZM	**Erzurum**	**0.98**	**314**	*i* P		**Pb**	**06 07 45.4**	**-1.2**
ERZM				*i* S		**Sb**	**06 07 59.8**	**+0.5**
ERZM	**Erzurum**	**0.98**	**314**	P		**Pb**	**06 07 45.4**	**-1.2**
ERZM				S		**Sb**	**06 07 59.8**	**+0.5**
ECAT	**Cat-ERZURUM**	**1.09**	**291**	*e*P		**Pn**	**06 07 48.6**	**+0.2**
GEVA	**Gevas**	**1.09**	**146**	⇑*e*S		**Sb**	**06 08 00.5**	**-1.9**
GEVA	**Gevas**	**1.09**	**146**	*i* P		**Pb**	**06 07 48.3**	**-0.1**
GEVA				*i* S		**Sg**	**06 08 04.9**	**+1.4**
GEVA	**Gevas**	**1.09**	**146**	P		**Pb**	**06 07 48.3**	**-0.1**
GEVA				S		**Sg**	**06 08 04.9**	**+1.4**
DYDN	**Diyadin**	**1.13**	**73**	*e*P		**Pn**	**06 07 48.6**	**-0.4**
DYDN				*e*S		**Sn**	**06 08 04.6**	**+0.4**
DYDN	**Diyadin**	**1.13**	**73**	*i* P		**Pn**	**06 07 48.5**	**-0.5**
DYDN				*i* S		**Sb**	**06 08 03.4**	**-0.1**
DYDN	**Diyadin**	**1.13**	**73**	P		**Pn**	**06 07 48.5**	**-0.5**
DYDN				S		**Sb**	**06 08 03.4**	**-0.1**
BNGB	**Bing˜¶ı**	**1.27**	**260**	PN		**Pb**	**06 07 51.4**	**0.0**
SENK	**Senkaya-Erzuru**	**1.33**	**2**	PN		**Pb**	**06 07 52.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.33**	**2**	*e*Pn		**Pb**	**06 07 52.9**	**+0.4**
BINT	**Bingol**	**1.45**	**257**	*e*Pn		**Pn**	**06 07 51.4**	**-1.9**
DIGO	**Kars**	**1.45**	**35**	*e*P		**Pg**	**06 07 55.9**	**-0.1**
BTMN	**Batman**	**1.56**	**211**	*i* P		**Pb**	**06 07 57.0**	**+0.8**
BTMN				*i* S		**Sg**	**06 08 18.3**	**+0.1**
BTMN	**Batman**	**1.56**	**211**	P		**Pb**	**06 07 57.0**	**+0.8**

*IDC **30** 06:18:25.4±1.8, 15°.43S×179°.87E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/45, mbtmp4.0/6, MS3.9/23, Ms1 3.9/23, ms1mx3.8/41, Error ellipse: s-maj=100.5km s-min=22.5km az=145.0*

*ISCJB **30** 06:18:28.8±0.4, 15°.51S±0°.08×179°.9E±0°.1, h33km, mb4.5/22, MS3.9/22, Error ellipse: s-maj=16.1km s-min=8.6km az=31.5*

*GCMT **30** 06:18:30.6±0.2, 15°.40S×179°.99W, h24km±1km, MW5.0/92, Moment Tensor Solution. s28,c32; s92,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.83±.19; $M_{\theta\theta}$-3.83±.16; $M_{\phi\phi}$3.00±.12; $M_{r\theta}$0.10±.20; $M_{r\phi}$2.49±.13; $M_{\theta\phi}$0.31±.19; Best double couple: M_o4.24400×10^{16} NP1:ϕs333.00000°, δ86.00000°, λ.176.00000°. NP2: ϕs63.00000°, δ86.00000°, λ4.00000°. Principal axes: T 3.8460, Plg6.0000°, Azm288.0000°; N 0.7970, Plg84.0000°, Azm108.0000°; P -4.6410, Plg0.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 06:18:30.6±2.5, 15°.47S×179°.92E, h35km±23km, mb4.7/13 Error ellipse: s-maj=15.8km s-min=11.4km az=130.0*

ISC 30 06:18:29.5±0.7, 15°.6S±0°.1×179°.79W±0°.10, h35km, n53, σ1ş73/33, mb4.7/22, MS4.0/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.97**	**224**	*e*Pn		**Pn**	**06 19 14.2**	**0.0**
DZM	**Mont Dzumac**	**14.54**	**242**	LR	LR	LR	06 25 56.7	
	comp=Z,250nm,20.0s,baz=50,slow=32							
DZM	**Mont Dzumac**	**14.54**	**242**	*e*LR		LR	06 25 16.3	
	594nm,25.9s							
RAR	**Rarotonga**	**19.79**	**109**	LR	LR	LR	06 28 55.6	
	comp=Z,168nm,19.4s,baz=278,slow=31							
HNR	**Honiara**	**20.70**	**285**	LR	LR	LR	06 29 50.7	
	comp=Z,2μm,19.7s,baz=130,slow=34							
URZ	**Urewera**	**22.75**	**186**	LR	LR	LR	06 30 19.7	
	comp=Z,646nm,21.9s,baz=32,slow=31							
BKZ	**Black Stump Fm**	**23.71**	**187**	*e*P		**P**	**06 23 38.6**	**+0.3**
	40nm,1.4s							
THZ	**Tophouse**	**26.83**	**192**	*e*P		**P**	**06 24 10.6**	**+3.9**
	18nm,1.1s							
OXZ	**Oxford**	**28.51**	**193**	*e*P		**P**	**06 24 24.1**	**+2.5**
	26nm,0.5s							
PPT	**Papeete**	**29.01**	**98**	LR	LR	LR	06 33 07.8	
	comp=Z,210nm,19.5s,baz=200,slow=30							
PPT2	**Papeete2**	**29.01**	**98**	*e*S		**S**	**06 29 12.6**	**-2.9**
	161nm,25.0s							
PPT2				*e*LQ		LQ	06 30 33.6	
	9μm,34.2s							
PPT2				*e*LR		LR	06 31 46.2	
	1μm,27.8s							
FOZ	**Fox Glacier**	**29.23**	**196**	*e*P		**P**	**06 24 28.8**	**+0.9**
	12nm,1.1s							
MLZ	**Mavora Lakes**	**31.38**	**196**	*e*P		**P**	**06 24 48.7**	**+1.7**
	20nm,1.0s							
WHZ	**Wether Hill Ro**	**31.91**	**196**	*e*P		**P**	**06 24 52.8**	**+1.2**
	22nm,1.0s							
PMG	**Port Moresby**	**32.82**	**277**	LR	LR	LR	06 36 15.9	
	comp=Z,181nm,21.1s,baz=104,slow=33							
STKA	**Stephens Creek**	**38.65**	**238**	P		**P**	**06 25 48.5**	**-1.4**
	1.7nm,0.9s,baz=100,slow=7.1,SNR=2.5							
STKA				LR		LR	06 39 49.4	
	comp=Z,182nm,20.2s,baz=65,slow=33							
STKA	**Stephens Creek**	**38.65**	**238**	*e*P		**P**	**06 25 47.9**	**-1.9**
	1.5nm,1.2s							
TAOE	**Nuku Hiva Isla**	**39.27**	**85**	*e*LR		LR	06 36 28.6	
	799nm,28.2s							
RKT	**Rikitea**	**42.81**	**107**	*e*S		**S**	**06 32 46.0**	**-0.3**
	2μm,29.8s							
RKT				*e*LR		LR	06 38 10.3	
	522nm,29.5s							
WR1	**Warramunga Arr**	**43.80**	**257**	*e*P		**P**	**06 26 29.6**	**-2.7**
	14nm,1.5s							
WRA	**Warramunga Arr**	**43.80**	**257**	P		**P**	**06 26 29.6**	**-2.7**
	0.6nm,0.8s,baz=92,slow=8.3,SNR=5.3							
WRA				LR		LR	06 42 56.7	
	comp=Z,222nm,21.1s,baz=100,slow=34							
AS01	**Alice Springs**	**44.15**	**252**	*e*P		**P**	**06 26 34.6**	**-0.5**
AS31	**Alice Springs**	**44.19**	**252**	*e*P		**P**	**06 26 36.4**	**+0.9**
	2.9nm,0.7s							
ASAR	**Alice Springs**	**44.20**	**252**	P		**P**	**06 26 35.5**	**+0.1**
	11nm,0.9s,baz=81,slow=8.6,SNR=34							
ASAR				LR		LR	06 43 09.7	
	comp=Z,209nm,21.5s,baz=92,slow=34							
GUMO	**Guam**	**45.41**	**308**	LR		LR	06 44 42.0	
	comp=Z,80nm,19.5s,baz=110,slow=35							
MTN	**Manton Dam**	**47.58**	**267**	*e*P		**P**	**06 27 02.1**	**0.0**
	23nm,1.5s							
SOEI	**Soe**	**54.77**	**269**	*e*P		**P**	**06 27 54.8**	**-1.6**
	30nm,0.9s							
BATI	**Baumata**	**55.26**	**268**	LR		LR	06 49 29.4	
	comp=Z,163nm,20.3s,baz=124,slow=34							
DAV	**Davao City (W)**	**58.60**	**289**	LR		LR	06 49 46.6	
	comp=Z,43nm,20.4s,baz=163,slow=32							
MJAR	**Matsushiro Arr**	**65.27**	**324**	LR		LR	06 52 14.8	
	comp=Z,48nm,21.4s,baz=190,slow=31							
TGY	**Tagaytay City**	**65.61**	**294**	LR		LR	06 53 11.0	
	comp=Z,187nm,22.0s,baz=190,slow=32							
RPN	**Rapa Nui**	**65.89**	**113**	LR		LR	06 50 17.8	
	comp=Z,179nm,21.2s,baz=280,slow=29							
JNU	**Nakatsue**	**67.56**	**316**	LR		LR	06 52 13.3	
	comp=Z,36nm,21.1s,baz=117,slow=30							
KSRS	**Korea Array**	**72.10**	**319**	LR		LR	06 55 23.6	
	comp=Z,48nm,21.7s,baz=124,slow=31							
YBH	**Yreka Blue Hor**	**77.59**	**40**	LR		LR	06 56 43.0	
	comp=Z,196nm,19.7s,baz=216,slow=30							
LPIG	**La Paz**	**78.45**	**61**	LR		LR	06 56 18.7	
	comp=Z,106nm,19.0s,baz=218,slow=29							
NV01	**Mina Array Sit**	**78.70**	**45**	*e*P		**P**	**06 30 31.0**	**+2.4**
NVAR	**Mina Array Bea**	**78.70**	**45**	P		**P**	**06 30 31.0**	**+2.4**
	0.3nm,0.5s,baz=229,slow=8.2,SNR=3.6							
X16A	**Lo Mia Camp, P**	**81.74**	**51**	*e*P		**P**	**06 30 46.8**	**+1.8**
	10nm,1.1s							
G08A	**Pilot Rock**	**81.81**	**39**	*e*P		**P**	**06 30 42.6**	**-2.4**
	8.8nm,1.0s							
RND	**Reindeer**	**82.33**	**14**	*e*P		**P**	**06 30 48.9**	**+1.6**
	8.3nm,1.0s							
WRH	**Wood River Hil**	**83.42**	**13**	*e*P		**P**	**06 30 53.0**	**+0.2**
	11nm,1.2s							
CCB	**Clear Creek Bu**	**83.64**	**13**	*e*P		**P**	**06 30 55.1**	**+1.2**
	8.8nm,1.2s							
IM3	**Indian Mountai**	**83.65**	**10**	*e*P		**P**	**06 30 55.1**	**+1.2**
MDM	**Murphy Dome**	**83.81**	**13**	*e*P		**P**	**06 30 55.6**	**+0.8**
	11nm,1.2s							
IL1	**Eielson Array**	**83.95**	**14**	*e*P		**P**	**06 30 55.8**	**+0.2**
ILAR	**Eielson Array**	**83.95**	**14**	P		**P**	**06 30 55.8**	**+0.3**
	2.0nm,0.9s,baz=233,slow=6.1,SNR=12							
ILAR				LR		LR	07 00 13.8	
	comp=Z,84nm,20.6s,baz=186,slow=30							
ILB	**Eielson Array**	**83.95**	**14**	*e*P		**P**	**06 30 55.8**	**+0.3**
MAW	**Mawson**	**85.58**	**200**	LR		LR	07 03 45.2	
	comp=Z,181nm,21.3s,baz=214,slow=32							
CM31	**Chiang Mai Arr**	**86.86**	**290**	*e*P		**P**	**06 31 11.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**86.86**	**290**	P		**P**	**06 31 11.7**	**+0.6**
	1.0nm,0.3s,baz=28,slow=4.1,SNR=2.6							
CMAR				LR		LR	07 05 50.8	
	comp=Z,30nm,21.7s,baz=125,slow=33							
PLCA	**Paso Flores**	**93.88**	**134**	LR		LR	07 08 43.3	
	comp=Z,33nm,18.8s,baz=255,slow=32							
GERES	**GERESS Array B**	**145.04**	**344**	PKP		**PKPdf**	**06 38 05.0**	**+1.7**
	0.3nm,0.3s,baz=38,slow=5.0,SNR=2.6							

*ISCJB **30** 06:19:30.9±0.4, 35°.93S±0°.07×101°.48W±0°.08, h10km, mb4.8/111, MS4.3/20, Error ellipse: s-maj=11.9km s-min=8.2km az=37.8*

*IDC **30** 06:19:31.8±0.9, 35°.78S×101°.56W, h0km, mb4.4/11, mb1 4.6/11, mb1mx4.4/34, mbtmp4.4/11, MS4.3/20, Ms1 4.3/20, ms1mx4.2/26, Error ellipse: s-maj=25.3km s-min=22.0km az=35.0*

*GCMT **30** 06:19:33.2±0.2, 36°.23S×101°.44W, h15km, MW5.1/108, Moment Tensor Solution. s63,c90; s108,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.76±.16; $M_{\theta\theta}$-0.47±.14; $M_{\phi\phi}$2.23±.14; $M_{r\theta}$1.01±.40; $M_{r\phi}$-5.65±.12; $M_{\theta\phi}$-1.98±.43; Best double couple: M_o6.10700×10^{16} NP1:ϕs187.00000°, δ87.00000°, λ.16.00000°. NP2: ϕs96.00000°, δ74.00000°, λ176.00000°. Principal axes: T 7.2200, Plg14.0000°, Azm52.0000°; N -2.2240, Plg74.0000°, Azm198.0000°; P -4.9940, Plg9.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 06:19:33.2±0.3, 35°.84S×101°.46W, h10km, mb5.0/100 Error ellipse: s-maj=8.1km s-min=5.4km az=203.0*

ISC 30 06:19:33.0±0.4, 35°.95S±0°.10×101°.4W±0°.1, h10km, n248, σ0ş96/231, mb5.0/111, MS4.3/20, 2C, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.07**	**320**	LR	LR	LR	06 25 17.4	
	comp=Z,9μm,19.8s,baz=111,slow=32							
PLCA	**Paso Flores**	**24.63**	**111**	P		**P**	**06 24 55.4**	**+1.8**
	4.4nm,0.8s,baz=284,slow=9.7,SNR=12							
PLCA				LR		LR	06 32 08.7	
	comp=Z,576nm,18.1s,baz=296,slow=31							
PLCA	**Paso Flores**	**24.63**	**111**	*e*P		**P**	**06 24 54.9**	**+1.2**
	21nm,1.4s							
LCO	**Las Campanas**	**26.77**	**84**	*e*P		**P**	**06 25 11.8**	**-1.5**
	13nm,1.0s							
PB01	**IPOC Station P**	**31.60**	**71**	*e*P		**P**	**06 25 55.6**	**-0.5**
	36nm,1.4s							
RKT	**Rikitea**	**31.69**	**285**	*e*LQ		LQ	06 32 50.6	
	2μm,29.8s							
RKT				*e*LR		LR	06 34 10.9	
	367nm,25.5s							
RKT	**Rikitea**	**31.69**	**285**	*e*T		T	06 58 52.8	
	1.5nm,0.3s							
PB11	**IPOC Station P**	**32.22**	**69**	*e*P		**P**	**06 26 01.4**	**-0.2**
	38nm,1.3s							
MNMC	**Minya Minye**	**32.64**	**68**	*e*P		**P**	**06 26 05.3**	**-0.2**
	60nm,1.3s							
LPAZ	**La Paz**	**35.50**	**65**	P		**P**	**06 26 31.2**	**+0.5**
	23nm,1.2s,baz=252,slow=6.8,SNR=14							
LPAZ				LR		LR	06 38 16.3	
	comp=Z,101nm,19.0s,baz=202,slow=32							
LPAZ	**La Paz**	**35.50**	**65**	*e*P		**P**	**06 26 30.3**	**-0.4**
	40nm,1.3s							
ATAH	**Atahualpa**	**35.60**	**42**	P		**P**	**06 26 33.0**	**+1.6**
	2.5nm,0.5s,baz=252,slow=8.3,SNR=4.0							
CPUP	**Villa Florida**	**38.68**	**88**	LR		LR	06 40 38.5	
	comp=Z,252nm,18.5s,baz=250,slow=33							
SIV	**San Ignacio**	**41.01**	**72**	P		**P**	**06 27 15.5**	**-1.0**
	4.8nm,1.0s,baz=253,slow=10,SNR=13							
SIV				PcP		**PcP**	**06 29 17.3**	**+0.8**
	2.0nm,0.8s,baz=229,slow=4.7,SNR=5.1							
OTAV	**Otavalo**	**41.88**	**36**	*e*P		**P**	**06 27 24.7**	**+0.7**
	18nm,1.5s							
SAML	**Samuel**	**43.96**	**62**	*e*P		**P**	**06 27 39.6**	**-0.8**
	26nm,1.4s							
PPT2	**Papeete2**	**46.20**	**280**	*e*LR		LR	06 40 48.3	
	503nm,25.2s							
PPT	**Papeete**	**46.22**	**280**	*e*LR		LR	06 41 52.8	
	comp=Z,229nm,18.4s,baz=196,slow=29							
ROSC	**El Rosal**	**47.88**	**38**	P		**P**	**06 28 14.8**	**+3.0**
	5.8nm,0.7s,baz=220,slow=4.1,SNR=7.8							
ROSC				LR		LR	06 44 50.9	
	comp=Z,424nm,21.1s,baz=207,slow=32							
ROSC	**El Rosal**	**47.88**	**38**	*e*P		**P**	**06 28 14.2**	**+2.4**
	12nm,1.0s							
HELC	**Santa Helena**	**48.47**	**35**	*e*P		**P**	**06 28 17.7**	**+1.4**
	12nm,0.9s							
JTS	**JuntasAbangare**	**48.55**	**22**	LR		LR	06 43 36.5	
	comp=Z,571nm,19.7s,baz=207,slow=30							
RUSC	**La Rusia**	**49.41**	**38**	*e*P		**P**	**06 28 24.0**	**+0.3**
	15nm,1.7s							
SDV	**San Domingo**	**53.20**	**39**	P		**P**	**06 28 52.3**	**+0.6**
	2.5nm,0.6s,baz=256,slow=17,SNR=4.0							
SDV				LR		LR	06 47 10.2	
	comp=Z,153nm,21.8s,baz=235,slow=31							
VNDA	**Vanda**	**56.64**	**195**	P		**P**	**06 29 17.4**	**+1.7**
	3.1nm,0.9s,baz=17,slow=3.1,SNR=3.9							
VNDA				LR		LR	06 48 20.1	
	comp=Z,345nm,19.3s,baz=101,slow=30							
VNA3	**Neumayer Olymp**	**56.98**	**157**	P		**P**	**06 29 17.4**	**-0.8**
PCRV	**Puerto La Cruz**	**57.52**	**44**	LR		LR	06 52 31.3	
	comp=Z,969nm,18.3s,baz=196,slow=34							
VNA2	**Neumayer--Watz**	**57.78**	**157**	P		**P**	**06 29 24.2**	**+0.3**
	baz=249,slow=4.7							
ZAIG	**Zacatecas**	**58.41**	**359**	*e*P		**P**	**06 29 28.7**	**-0.3**
SNAA	**Sanae**	**58.94**	**159**	P		**P**	**06 29 31.3**	**-0.6**
SNAA	**Sanae**	**58.94**	**159**	LR		LR	06 50 43.1	
	comp=Z,310nm,19.6s,baz=259,slow=32							
HPIG		**62.67**	**356**	*e*P		**P**	**06 29 57.4**	**-0.6**
	9.1nm,1.1s							
AGP	**Aguadilla**	**63.06**	**37**	*e*P		**P**	**06 30 01.0**	**+0.4**
	234nm,1.3s							
SJG	**San Juan**	**63.30**	**38**	*e*P		**P**	**06 30 02.2**	**+0.1**
	23nm,1.0s							
CBYP	**Canovanas**	**63.58**	**38**	*e*P		**P**	**06 30 03.5**	**-0.6**
	80nm,1.3s							
833A	**Chaparral WMA,**	**63.96**	**2**	P		**P**	**06 30 06.1**	**-0.1**
	baz=182							
TX31	**Lajitas Ar. Si**	**64.97**	**358**	*e*P		**P**	**06 30 12.3**	**-0.6**
TXAR	**Lajitas Array**	**64.97**	**358**	P		**P**	**06 30 12.6**	**-0.4**
	2.9nm,0.9s,baz=181,slow=9.9,SNR=23							
TXAR				LR		LR	06 53 39.4	
	comp=Z,232nm,19.9s,baz=0.0,slow=32							
HSIG		**65.24**	**351**	*e*P		**P**	**06 30 15.0**	**+0.4**
HKT	**Hockley**	**65.76**	**5**	*e*P		**P**	**06 30 17.2**	**-0.6**
	28nm,1.6s							
646A	**Port Sulphur**	**66.09**	**11**	P		**P**	**06 30 17.4**	**-2.7**
	baz=190							
JCT	**Junction City**	**66.09**	**2**	P		**P**	**06 30 19.7**	**-0.5**
	baz=182							
JCT	**Junction City**	**66.09**	**2**	*e*P		**P**	**06 30 19.0**	**-1.2**
	12nm,1.0s							
AFI	**Afiamalu**	**66.12**	**270**	LR		LR	06 51 12.5	
	comp=Z,154nm,20.4s,baz=140,slow=29							
319A	**Douglas**	**67.37**	**353**	*e*P		**P**	**06 30 28.4**	**0.0**
	16nm,1.1s							
MNTX	**Cornudas Mount**	**67.39**	**356**	P		**P**	**06 30 26.6**	**-1.8**
	baz=177							
MNTX	**Cornudas Mount**	**67.39**	**356**	*e*P		**P**	**06 30 26.7**	**-1.7**
	4.4nm,1.0s							
NATX	**Nacogdoches**	**67.65**	**6**	*e*P		**P**	**06 30 29.2**	**-0.8**
	60nm,1.6s							
WHTX	**Lake Whitney,**	**67.69**	**4**	*e*P		**P**	**06 30 29.4**	**-0.8**
	34nm,1.4s							
241A	**Mo Tay, Goldon**	**68.08**	**8**	P		**P**	**06 30 32.1**	**-0.6**
	baz=187							
214A	**Organ Pipe Nat**	**68.38**	**350**	P		**P**	**06 30 34.3**	**-0.3**
	baz=170							
TUC	**Tucson**	**68.46**	**352**	P		**P**	**06 30 34.9**	**-0.3**
	baz=172							
TUC	**Tucson**	**68.46**	**352**	*e*P		**P**	**06 30 35.0**	**-0.2**
	16nm,1.3s							
MSTX	**Muleshoe**	**69.57**	**359**	P		**P**	**06 30 40.8**	**-1.3**
	baz=179							
MSTX	**Muleshoe**	**69.57**	**359**	*e*P		**P**	**06 30 40.8**	**-1.3**
	20nm,1.3s							
LAZ	**Ladron**	**70.19**	**355**	*e*P		**P**	**06 30 44.8**	**-1.1**
Y14A	**Wickenburg**	**70.36**	**350**	*e*P		**P**	**06 30 46.6**	**-0.3**
	11nm,1.2s							
Y12C	**Blythe**	**70.41**	**348**	P		**P**	**06 30 46.9**	**-0.2**
	baz=169							
Y12C	**Blythe**	**70.41**	**348**	*e*P		**P**	**06 30 46.6**	**-0.5**
	25nm,1.4s							
AMTX	**Amarillo**	**70.47**	**360**	P		**P**	**06 30 46.9**	**-0.6**
	baz=180							
AMTX	**Amarillo**	**70.47**	**360**	*e*P		**P**	**06 30 46.4**	**-1.1**
	20nm,1.0s							
BC3	**Big Chuckawall**	**70.47**	**348**	P		**P**	**06 30 46.8**	**-0.8**
	baz=168							
X18A	**Snowflake**	**70.56**	**353**	*e*P		**P**	**06 30 47.9**	**-0.4**
	30nm,1.3s							
X16A	**Lo Mia Camp, P**	**70.62**	**351**	*e*P		**P**	**06 30 48.1**	**-0.5**
	10nm,1.1s							
ANMO	**Albuquerque**	**70.69**	**356**	P		**P**	**06 30 48.5**	**-0.5**
	baz=176							
ANMO	**Albuquerque**	**70.69**	**356**	*e*P		**P**	**06 30 48.3**	**-0.7**
	8.4nm,1.3s							
MURC	**Murrieta**	**70.74**	**346**	P		**P**	**06 30 49.5**	**+0.3**
	baz=167							
PDMC	**Parker Dam,Lak**	**70.89**	**349**	P		**P**	**06 30 49.9**	**-0.1**
	baz=169							
BELC	**Belle Mtn. Jos**	**70.90**	**347**	P		**P**	**06 30 50.0**	**-0.3**
	baz=168							
IRM	**Iron Mountain**	**70.91**	**348**	P		**P**	**06 30 49.9**	**-0.3**
	baz=168							
X46A	**Booneville**	**71.16**	**11**	P		**P**	**06 30 53.0**	**+1.4**
	baz=191							
W40A	**Ferguson Farm,**	**71.20**	**7**	P		**P**	**06 30 52.7**	**+0.8**
	baz=187							
BBRC	**Big Bear Solar**	**71.33**	**347**	P		**P**	**06 30 53.5**	**+0.5**
	baz=167							
SYO	**Syowa Base**	**71.47**	**166**	⇑*i*X		**P**	**06 30 48.6**	**-4.6**
SYO	**Syowa Base**	**71.47**	**166**	⇑*i*pP		**P**	**06 30 53.4**	**+0.2**
GMRC	**Granite Mounta**	**71.61**	**348**	P		**P**	**06 30 54.1**	**-0.4**
	baz=168							
W13A	**Hualapai Mount**	**71.63**	**349**	*e*P		**P**	**06 30 54.5**	**-0.2**
	6.0nm,1.3s							
WUAZ	**Wupatki**	**71.70**	**351**	P		**P**	**06 30 55.1**	**0.0**
	baz=172							
WUAZ	**Wupatki**	**71.70**	**351**	*e*P		**P**	**06 30 54.8**	**-0.3**
	30nm,1.7s							
HEC	**Hector,Ludlow**	**71.77**	**347**	P		**P**	**06 30 55.3**	**-0.1**
	baz=167							
LDFC	**Landfair**	**71.80**	**348**	*e*P		**P**	**06 30 55.4**	**-0.3**
	32nm,1.1s							
V40A	**Witts Springs**	**71.84**	**7**	P		**P**	**06 30 54.8**	**-1.0**
	baz=187							
W47A	**Westpoint**	**72.00**	**12**	P		**P**	**06 30 57.2**	**+0.5**
	baz=192							
W48A	**Pulaski**	**72.00**	**12**	P		**P**	**06 30 56.7**	**-0.1**
	baz=192							
EDW2	**Edwards Air Fo**	**72.14**	**346**	P		**P**	**06 30 57.1**	**-0.5**
	baz=166							
TUQ	**Turquoise Moun**	**72.29**	**348**	P		**P**	**06 30 58.0**	**-0.6**
	baz=168							
GSC	**Goldstone, Bar**	**72.32**	**347**	P		**P**	**06 30 58.2**	**-0.5**
	baz=167							
GSC	**Goldstone, Bar**	**72.32**	**347**	*e*P		**P**	**06 30 58.6**	**-0.1**
	24nm,1.5s							
V47A	**Nunnelly**	**72.58**	**12**	P		**P**	**06 30 58.0**	**-2.1**
	baz=192							
V48A	**Smith Brothers**	**72.61**	**12**	P		**P**	**06 30 58.8**	**-1.6**
	baz=192							
LRMC	**Laurel Mtn Rad**	**72.66**	**346**	P		**P**	**06 31 00.6**	**-0.2**
	baz=166							
U15A	**North Rim**	**72.71**	**351**	*e*P		**P**	**06 31 01.2**	**-0.1**
	15nm,1.3s							
MHTCO	**State Highway**	**72.77**	**357**	*e*P		**P**	**06 31 01.4**	**-0.1**

33nm,1.4s
R11A **Troy Canyon, C** 75.08 349 P P 06 31 14.4 -0.6
baz=168
R11A **Troy Canyon, C** 75.08 349 *e*P P 06 31 15.0 0.0
6.9nm,1.0s
SRU **San Rafael Swe** 75.16 353 *e*P P 06 31 14.4 -1.0
20nm,1.2s
TMUT **Trail Mountain** 75.41 352 *e*P P 06 31 16.0 -1.0
16nm,1.1s
ISCO **Idaho Springs** 75.47 357 P P 06 31 17.0 -0.3
baz=176
ISCO **Idaho Springs** 75.47 357 *e*P P 06 31 16.5 -0.8
17nm,1.8s
P17A **Butcher Ranch,** 75.54 353 *e*P P 06 31 17.2 -0.4
7.3nm,0.9s
NV11 **Mina Array Sit** 75.61 347 *e*P P 06 31 17.9 -0.1
1.1nm,1.1s
NV01 **Mina Array Sit** 75.63 346 *e*P P 06 31 17.6 -0.6
NVAR **Mina Array Bea** 75.63 346 P P 06 31 18.2 0.0
4.1nm,0.7s,baz=174,slow=7.9,SNR=22
CMB **Columbia Colle** 75.67 345 *e*P P 06 31 18.1 -0.2
48nm,2.0s
RYN **Ryan** 75.87 346 *e*P P 06 31 19.7 +0.3
38nm,1.8s
O34A **Beatrice** 75.88 4 P P 06 31 19.0 -0.4
baz=184
O20A **White River Ci** 75.97 355 P P 06 31 19.8 -0.3
baz=174
O20A **White River Ci** 75.97 355 *e*P P 06 31 19.8 -0.3
12nm,1.1s
NLU **North Lily Min** 76.16 352 *e*P P 06 31 20.5 -0.7
16nm,1.3s
MPU **Maple Canyon** 76.17 352 *e*P P 06 31 20.6 -0.6
5.5nm,1.0s
KVN **Kaiserville** 76.20 347 *e*P P 06 31 20.7 -0.7
18nm,1.3s
O41A **Passleys Farm,** 76.31 8 P P 06 31 21.0 -0.8
baz=189
YERR **Yerington** 76.35 346 *e*P P 06 31 21.4 -0.8
12nm,1.2s
DUG **Dugway, Tooele** 76.49 351 P P 06 31 22.1 -0.9
baz=171
DUG **Dugway, Tooele** 76.49 351 *e*P P 06 31 22.7 -0.2
20nm,1.5s
N35A **Tabor** 76.62 5 P P 06 31 23.6 +0.1
baz=185
AFDM **Forest Hills D** 76.68 344 *e*P P 06 31 23.6 -0.3
32nm,1.8s
JLU **Jordanelle** 76.73 352 *e*P P 06 31 24.1 -0.3
17nm,1.3s
SPRD **Spring Road, M** 76.77 19 *e*P P 06 31 24.8 +0.5
27nm,1.5s
CVRD **Centerville Ro** 76.83 19 *e*P P 06 31 25.2 +0.5
8.8nm,0.8s
PAHR **Pah Rah Range** 77.08 346 *e*P P 06 31 26.5 +0.2
16nm,1.5s
BGU **Big Grassy Mou** 77.24 351 *e*P P 06 31 26.4 -0.7
19nm,1.6s
ORV **Oroville** 77.37 344 *e*P P 06 31 27.3 -0.4
20nm,1.6s
BMN **Battle Mountai** 77.38 348 *e*P P 06 31 27.6 -0.4
12nm,1.1s
BEKR **Beckworth** 77.43 345 *e*P P 06 31 27.8 -0.5
16nm,1.2s
SPUT **South Promonto** 77.54 352 *e*P P 06 31 28.8 0.0
9.5nm,1.2s
HWUT **Hardware Ranch** 77.74 352 *e*P P 06 31 29.8 -0.2
21nm,1.9s
K22A **Casper** 78.36 356 *e*P P 06 31 33.0 -0.4
50nm,1.8s
BW06 **Boulder Array** 78.69 354 P P 06 31 34.0 -1.3
baz=173
BW06 **Boulder Array** 78.69 354 *e*P P 06 31 34.3 -1.0
9.4nm,0.9s
PD31 **Pinedale Array** 78.69 354 *e*P P 06 31 34.2 -1.1
PDAR **Pinedale Array** 78.69 354 P P 06 31 34.2 -1.1
7.5nm,0.9s,baz=163,slow=5.4,SNR=23
PDAR **Pinedale Array** 78.69 354 *e*P P 06 31 33.8 -1.5
O56A **Blue Knob Stat** 78.71 18 *e*P P 06 31 36.2 +0.9
19nm,1.3s
J31A **Geddes** 78.90 2 P P 06 31 36.5 +0.4
baz=182
N02D **Trinity Center** 79.00 344 P P 06 31 37.6 +0.7
baz=163
DZM **Mont Dzumac** 79.01 251 LR LR 06 58 27.8
comp=Z,327nm,19.7s,baz=196,slow=30
DZM **Mont Dzumac** 79.01 251 *e*LR LR 06 56 11.0
788nm,27.2s
J36A **Seneca 1, Swea** 79.17 5 P P 06 31 37.3 -0.3
baz=186
MOD **Modoc Plateau** 79.38 346 *e*P P 06 31 38.5 -0.5
29nm,1.5s
REDW **Red Top Meadow** 79.40 353 *e*P P 06 31 37.4 -1.8
25nm,1.4s
ECSD **EROS Data Cent** 79.43 4 P P 06 31 37.7 -1.4
baz=184
ECSD **EROS Data Cent** 79.43 4 *e*P P 06 31 37.7 -1.4
24nm,1.4s
SNOW **Snow King Moun** 79.49 353 *e*P P 06 31 38.5 -1.2
11nm,1.2s
TPAW **Teton Pass** 79.53 353 *e*P P 06 31 39.0 -0.9
14nm,1.2s
LOHW **Long Hollow** 79.62 353 *e*P P 06 31 39.5 -0.8
8.5nm,1.2s
FXWY **Fox Creek** 79.69 353 *e*P P 06 31 40.0 -0.7
10nm,1.4s
RSSD **Black Hills** 79.73 358 P P 06 31 40.2 -0.7
baz=178
RSSD **Black Hills** 79.73 358 *e*P P 06 31 40.3 -0.7
8.6nm,0.9s
MOOW **Moose Ponds** 79.77 353 *e*P P 06 31 40.3 -0.9
5.8nm,1.1s
IMW **Indian Meadow** 79.94 353 *e*P P 06 31 41.2 -0.9
11nm,1.3s
HLID **Hailey** 80.01 350 P P 06 31 42.1 -0.3
baz=169
HLID **Hailey** 80.01 350 *e*P P 06 31 42.3 -0.1
62nm,1.9s
J08A **Circle Bar Ran** 80.44 347 *e*P P 06 31 44.6 -0.1
14nm,1.2s
YMR **Madison River** 80.70 353 *e*P P 06 31 46.4 +0.3
8.3nm,0.5s
G33A **Ortonville** 80.89 4 P P 06 31 46.0 -0.8
baz=184
MCMT **McKenzie Canyo** 81.06 352 *e*P P 06 31 48.1 -0.1
SPMN **Marine on St.** 81.17 6 *e*P P 06 31 48.2 -0.2
14nm,1.0s
F31A **Hecla** 81.48 2 P P 06 31 49.2 -0.9
baz=183
BOZ **Bozeman (W)** 81.69 353 P P 06 31 50.8 -0.5
baz=172
F36A **Milaca** 81.75 6 P P 06 31 51.4 0.0
baz=186
LAO **LASA Array** 82.37 357 P P 06 31 54.5 -0.2
baz=176
LAO **LASA Array** 82.37 357 *e*P P 06 31 54.7 -0.1
18nm,1.0s
SADO **Sadowa** 82.85 16 *e*P P 06 31 57.2 +0.1
49nm,1.7s
HAWA **Hanford** 83.57 348 *e*P P 06 32 00.7 -0.2
41nm,1.8s
E08A **Dider Farm, El** 83.58 348 *e*P P 06 32 00.9 0.0
41nm,1.6s
AGMN **Agassiz Nation** 84.02 4 *e*P P 06 32 02.0 -1.1
40nm,1.6s
B31A **Greenbush Farm** 84.06 3 P P 06 32 02.6 -0.8
baz=183
B32A **Ashes, Strandq** 84.08 3 P P 06 32 01.9 -1.6
baz=184
NEW **Newport** 85.00 350 *e*P P 06 32 07.5 -0.6
34nm,1.5s
TRQ **Mont Tremblant** 85.31 18 *e*P P 06 32 09.5 -0.3
ULM **Lac du Bonnet** 85.97 4 P P 06 32 11.1 -1.8
3.2nm,0.8s,baz=190,slow=5.2,SNR=4.9
STKA **Stephens Creek** 90.33 229 LR LR 07 05 13.1
comp=Z,297nm,20.6s,baz=184,slow=30
HNR **Honiara** 91.41 257 LR LR 07 05 22.3
comp=Z,106nm,21.9s,baz=192,slow=30
BBTS **Babate** 94.44 75 LR LR 07 13 35.8
comp=Z,90nm,19.2s,baz=235,slow=34
SCHQ **Schefferville** 95.18 19 LR LR 07 11 47.5
comp=Z,185nm,20.2s,baz=217,slow=33
BOSA **Boshof** 98.51 135 LR LR 07 11 06.4
comp=Z,80nm,19.2s,baz=204,slow=31
YKA **Yellowknife Ar** 98.67 354 P P 06 33 09.8 -1.7
0.2nm,0.7s,baz=156,slow=4.0,SNR=4.8
H01W1 **Cape Leeuwin H** 102.09 209 T T 08 27 44.3
baz=150,slow=76,SNR=64
H01W2 **Cape Leeuwin H** 102.10 209 T T 08 27 44.6
baz=150,slow=76,SNR=73
H01W3 **Cape Leeuwin H** 102.11 209 T T 08 27 45.6
baz=150,slow=76,SNR=61
ERM **Erimo** 130.47 298 *e*PKPdf PKPdf 06 38 45.3 +1.8
KLR **Kul'dur** 139.47 306 PKP PKPdf 06 39 00.9 +0.8
0.2nm,0.9s,baz=90,slow=7.1,SNR=3.3
KSRS **Korea Array** 140.75 287 PKP PKPdf 06 39 03.8 +0.9
1.4nm,0.7s,baz=96,slow=3.8,SNR=4.5
KSAR **Wonju Array Be** 140.78 287 PKP PKPdf 06 39 03.8 +0.9
CN2 **Changchun** 143.57 297 *e*PKP PKPab 06 39 04.0 -0.1
BR231 **Keskin MP Arra** 143.97 70 *e*PKPdf PKPdf 06 39 09.0 +0.4
BR131 **Keskin Array S** 144.61 70 *e*PKPdf PKPdf 06 39 09.5 -0.3
BRTR **Keskin Array B** 144.61 70 PKP PKPdf 06 39 09.5 -0.3
8.8nm,0.9s,baz=194,slow=4.5,SNR=33
ILGA **Ilgaz** 144.84 68 *e*PKPdf PKPbc 06 39 09.8 +0.4
KLMR **Klimovskoe** 144.90 32 *e*PKPdf PKPab 06 39 06.0 -2.6
KLMR AMP 06 39 11.0
comp=Z,62nm,1.3s
OBN **Obninsk** 145.58 43 PKPbc PKPab 06 39 11.8 +0.6
comp=Z,23nm,0.4s,baz=255,slow=1.4,SNR=12
OBN **Obninsk** 145.58 43 *e*PKPdf PKPdf 06 39 10.7 0.0
NJ2 **Nanjing** 146.53 275 *e*PKPbc PKPbc 06 39 14.8 +0.2
KBZ **Khabaz** 151.71 63 PKPbc PKPbc 06 39 27.7 +0.4
comp=Z,7.4nm,0.8s,baz=251,slow=2.7,SNR=16
HHC **Hu-ho-hao-te** 153.77 291 *e*PKPbc PKPdf 06 39 26.0 +1.6
GYA **Guiyang** 154.24 256 *e*PKPbc PKPdf 06 39 24.0 -1.5
GYA PKPab pPKPab 06 39 49.3 -1.7
GYA PKS PKSdf 06 42 57.8 -2.1
GYA PP PP 06 43 25.5 +2.7
GYA AMB AMB
comp=Z,120nm,8.2s
SONA1 **Songino Array** 156.24 309 *e*PKPab PKPab 06 39 56.1 +0.5
SONM **Songino Array** 156.25 309 PKPab PKPab 06 39 55.1 -0.5
comp=Z,1.0nm,0.6s,baz=72,slow=4.7,SNR=5.5
KMI **Kunming** 156.60 249 PKP PKPdf 06 39 28.0 -0.8
CD2 **Chengdu** 158.40 264 PKP PKPdf 06 39 30.0 -0.7
LZH **Lanzhou** 159.56 278 *e*PKP PKPdf 06 39 31.8 -0.3
LZH pPKP pPKPdf 06 39 35.0 -0.5
LZH sPKP 06 39 36.3
LZH LR LR
comp=Z,170nm,18.2s
LZH LR LR
comp=Z,180nm,18.0s
LZH LR LR
comp=Z,240nm,20.1s
WMQ **Urumqi** 169.46 321 *e*PKP PKPdf 06 39 40.3 -0.1
KSH **Kashi** 175.89 29 PKP PKPdf 06 39 45.0 +1.7
KSH PKS PKSdf 06 43 15.0 -0.5
KSH PP PP 06 45 17.0 +2.5
KSH AMB AMB
comp=Z,85nm,6.4s
KSH LR LR
comp=Z,150nm,8.6s
KSH LR LR
comp=Z,87nm,7.8s
KSH LR LR
comp=Z,150nm,6.6s

*ISCJB **30** 06:27:06.9±0.7,26°.16S±0°.06×131°.97E±0°.08,h10km, Error ellipse: s-maj=11.0km s-min=7.1km az=30.1*
*IDC **30** 06:27:07.5±3.7,26°.25S×131°.88E,h0km,mb1 3.8/3, mb1mx3.4/45,mbtmp3.6/3,ML3.6/3,Error ellipse: s-maj=45.3km s-min=31.9km az=54.0*
*AUST **30** 06:27:09.4±0.0,26°.21S×132°.19E,h10km,Error ellipse: s-maj=0.3km s-min=0.1km az=310.0*

ISC 30 06:27:08.5±0.9,**26°.14S**±0°.06×**132°.01E**±0°.07,**h10**km,**n11,** σ2s**46**/16,**South Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASPA	**Alice Springs**	**3.00**	**35**	P		P	**Pn**	**06 27 57.7**	**+1.5**
baz=3.0									
ASAR	**Alice Springs**	**3.00**	**35**	Pn		P	**Pn**	**06 27 57.6**	**+1.4**
1.5nm,0.3s,baz=215,slow=12,SNR=101									
ASAR				Pg		P	**Pg**	**06 28 07.0**	**+0.9**
4.6nm,0.3s,baz=209,slow=14,SNR=71									
ASAR				Sn		P	**Sn**	**06 28 33.4**	**+1.1**
2.6nm,0.3s,baz=213,slow=22,SNR=5.7									
WRKA	**Warakurna**	**3.53**	**287**	P		P	**Pn**	**06 28 07.3**	**+3.8**
baz=3.7									
FORT	**Forrest**	**5.79**	**216**	P		P	**Pn**	**06 28 35.9**	**+1.4**
baz=5.8									
WRA	**Warramunga Arr**	**6.53**	**20**	Pn		P	**Pn**	**06 28 45.3**	**+0.6**
0.9nm,0.3s,baz=199,slow=14,SNR=42									
WRA				Sn		P	**Sn**	**06 29 57.4**	**-1.9**
1.5nm,0.3s,baz=200,slow=24,SNR=9.1									
WRA				Lg		Lg		06 30 27.1	
1.0nm,0.3s,baz=200,slow=30,SNR=7.0									
WB2	**Warramunga Arr**	**6.53**	**20**	P		P	**Pn**	**06 28 45.5**	**+0.7**
baz=6.6									
BBOO	**Buckleboo**	**7.52**	**153**	P		P	**Pn**	**06 28 59.2**	**+0.9**
baz=7.4,SNR=13									
QIS	**Mount Isa**	**8.92**	**53**	P		P	**Pn**	**06 29 18.4**	**+0.9**
baz=8.8,SNR=5.7									
FITZ	**Fitzroy Crossi**	**9.94**	**322**	Pn		P	**Pn**	**06 29 32.6**	**+1.1**
baz=145,slow=13									
FITZ				Sn		P	**Sn**	**06 31 17.8**	**-5.4**
baz=25,slow=14									
STKA	**Stephens Creek**	**10.15**	**127**	Pn		P	**Pn**	**06 29 35.2**	**+0.9**
0.8nm,0.3s,baz=299,slow=10,SNR=15									
STKA				Sn		P	**Sn**	**06 31 24.0**	**-4.3**
1.3nm,0.3s,baz=158,slow=15,SNR=10									
MEEK	**Meekatharra**	**12.02**	**265**	P		P	**Pn**	**06 29 59.9**	**-0.2**
baz=12									

*NNC **30** 06:36:41.9±2.5,53°.48N×87°.73E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=22.4km s-min=9.0km az=60.0*

IDC 30 06:36:40.5±2.8,**53°.55N**×**87°.93E**,**h0**km,**mb1 3.4**/2, **mb1mx3.0**/65,**mbtmp3.4**/2,**ML3.1**/2,**4C-3D,Error ellipse: s-maj=25.9km s-min=18.4km az=80.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**283**	*i*				06 48 30.0	
baz=98,slow=321,SNR=14									
ZAA0	**Zalesovo Array**	**1.89**	**283**	⇓P	n	Pn		06 37 13.6	-0.4
2.8nm,0.3s									
ZAA0				⇓S	n	Sn		06 37 38.6	+0.2
14nm,0.3s									
ZALV	**Zalesovo Beam**	**1.89**	**283**	Pn		Pn		06 37 13.7	-0.2
4.2nm,0.3s,baz=99,slow=15,SNR=31									
ZALV				Sn		Sn		06 37 38.2	-0.2
7.4nm,0.3s,baz=121,slow=27,SNR=20									
KURBB	**Kurchatov Arra**	**6.49**	**247**	Pn		Pn		06 38 17.8	+0.7
0.3nm,0.3s,baz=62,slow=14,SNR=24									
KURBB				Sn		Sn		06 39 31.3	-0.5
0.1nm,0.3s,baz=38,slow=47,SNR=5.9									
KURBB				Lg		Lg		06 40 06.3	
0.1nm,0.3s,baz=62,slow=32,SNR=6.6									
MK31	**Makanchi Array**	**7.67**	**210**	Pn		Pn		06 38 34.9	+1.5
0.5nm,0.7s,baz=27,slow=12,SNR=23									
MK31				⇑Sn		Sn		06 39 58.7	-2.2
1.6nm,0.7s									
MK31				⇑Lg		Lg		06 40 44.1	
5.7nm,1.1s,baz=31,slow=30,SNR=4.5									
MKAR	**Makanchi Array**	**7.67**	**210**	Pn		Pn		06 38 34.7	+1.3
0.3nm,0.3s,baz=26,slow=12,SNR=17									
MKAR				Sn		Sn		06 39 60.0	-1.0
0.2nm,0.3s,baz=30,slow=27,SNR=6.3									
MKAR				Lg		Lg		06 40 43.3	
0.2nm,0.3s,baz=48,slow=33,SNR=3.7									
MAKZ	**Makanchi**	**7.75**	**212**	⇑Pn		Pn		06 38 35.6	+1.1
1.9nm,0.9s									
MAKZ				⇓Sn		Sn		06 40 02.4	-0.6
2.9nm,0.8s									
MAKZ				⇑Lg		Lg		06 40 43.6	
3.3nm,0.8s									

IDC 30 06:48:17.4±1.9,**7°.63S**×**127°.79E**,**h0**km,**mb3.9**/2, **mb1 3.7**/4,**mb1mx3.5**/48,**mbtmp3.6**/4,**ML3.4**/2,**Error ellipse: s-maj=257.4km s-min=28.3km az=63.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.79**	**153**	Pn		Pn		06 51 34.4	+0.1
0.3nm,0.3s,baz=329,slow=14,SNR=24									
WRA				Sn		Sn		06 53 55.4	-13
0.3nm,0.3s,baz=330,slow=23,SNR=7.6									
ASAR	**Alice Springs**	**16.99**	**160**	Pn		P		06 52 18.4	-0.3
0.1nm,0.3s,baz=339,slow=9.9,SNR=6.3									
STKA	**Stephens Creek**	**27.34**	**154**	P		P		06 54 03.5	-0.7
3.7nm,1.0s,baz=326,slow=7.3,SNR=2.8									
MKAR	**Makanchi Array**	**67.57**	**328**	P		P		06 59 15.9	+0.1
0.2nm,0.5s,baz=110,slow=8.2,SNR=3.6									

*ISCJB **30** 06:49:02.6±1.5,35°.08S±0°.04×72°.94W±0°.08,h2km±8km, Error ellipse: s-maj=11.0km s-min=5.3km az=17.5*
*SJA **30** 06:49:03.4±0.6,35°.05S×72°.91W,h24km±4km,ML3.4, MW3.9*
*GUC **30** 06:49:04.2±0.5,35°.10S×72°.83W,h19km±5km,ML3.9*

ISC 30 06:49:03.9±1.8,**35°.11S**±0°.05×**72°.84W**±0°.09,**h6**km±13km, **n16,**σ1s**07**/25,**2C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.75**	**83**	*i* P			**Pb**	**06 49 19.3**	**-0.1**
GO05				*i* S			**Sn**	**06 49 30.9**	**-1.9**
GO05	**HualaæØ**	**0.75**	**83**	⇓*i* P			**Pb**	**06 49 19.0**	**-0.4**
GO05				*e*S			**Sb**	**06 49 29.9**	**0.0**
GO05				IAML				06 49 31.4	
comp=E,7μm,0.3s									
CHPI	**Pichilemu**	**0.99**	**44**	*e*P			**Pg**	**06 49 22.5**	**-0.4**
CHPI				*e*S			**Sb**	**06 49 37.0**	**+0.2**
COCH	**Cobquecura**	**1.02**	**178**	⇓*i*P			**Pg**	**06 49 23.7**	**+0.2**
COCH				*e*S			**Sg**	**06 49 36.5**	**-0.2**
NICH	**Los Niches**	**1.32**	**86**	⇑*i*P			**Pb**	**06 49 28.8**	**-0.4**
NICH				*i* S			**Sg**	**06 49 47.0**	**+0.5**
CCHI	**Chillan**	**1.61**	**158**	*i* P			**Pb**	**06 49 33.4**	**-0.7**
CCHI				*i* S			**Sg**	**06 49 56.1**	**+0.4**
CCHI	**Chillan**	**1.61**	**158**	*e*P			**Pb**	**06 49 33.3**	**-0.7**
RCDM	**Rinconada Maip**	**2.33**	**47**	*e*P			**Pn**	**06 49 42.0**	**-0.8**
LMEL	**Las Melosas**	**2.52**	**61**	*e*P			**Pn**	**06 49 45.7**	**+0.2**
LMEL				*e*S			**Sn**	**06 50 18.1**	**+1.7**
LMEL				IAML				06 50 27.2	
comp=N,559nm,0.4s									
CLCH	**Cerro Calan**	**2.56**	**49**	*e*P			**Pn**	**06 49 46.5**	**+0.6**
CLCH				*e*S			**Sb**	**06 50 20.1**	**-1.9**
CLCH				IAML				06 50 33.5	
comp=N,996nm,0.8s									
ROC1	**El Roble**	**2.61**	**36**	*i* P			**Pn**	**06 49 46.5**	**-0.3**
ROC1				*i* S			**Sn**	**06 50 18.8**	**-0.2**
ARCO	**CERRO ARCO**	**3.96**	**56**	*i* P			**Pn**	**06 50 06.8**	**+1.6**
ARCO				IAML				06 50 19.2	
comp=Z,47nm,0.5s									
AUSP	**Uspallata**	**4.07**	**46**	*i* P			**Pn**	**06 50 08.4**	**+1.5**
ASAL	**Salagasta**	**4.17**	**54**	*i* P			**Pn**	**06 50 09.4**	**+1.3**
RTLS	**Leoncito**	**4.44**	**43**	*i* P			**Pn**	**06 50 13.6**	**+1.6**
RTLS				IAML				06 51 30.6	
comp=Z,34nm,0.5s									
RTCV	**Cerro Valdivia**	**4.84**	**49**	*i* P			**Pn**	**06 50 18.7**	**+1.4**

*IDC **30** 06:50:02.4±0.8,55°.66S×26°.79W,h0km,mb4.1/7, mb1 4.2/8,mb1mx3.9/31,mbtmp4.1/8,ML3.8/1,Error ellipse: s-maj=35.8km s-min=17.7km az=64.0*
*ISCJB **30** 06:50:04.7±0.5,55°.66S±0°.08×27°.0W±0°.1,h25km, mb4.3/11,Error ellipse: s-maj=12.9km s-min=7.8km az=30.4*
*NEIC **30** 06:50:05.2±4.7,55°.67S×26°.83W,h16km±28km,mb4.3/8, Error ellipse: s-maj=15.1km s-min=8.7km az=224.0*

ISC 30 06:50:06.6±0.5,**55°.7S**±0°.1×**26°.91W**±0°.09,**h25**km,**n56,** σ0s**97**/52,**mb4.2**/11,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.69**	**280**	*e*Pn			**Pn**	**06 51 29.4**	**+0.1**
HOPE				*e*Sn			**Sn**	**06 52 33.0**	**-0.7**
VNA1	**Neumayer--Stat**	**17.09**	**159**	P		P		**06 54 07.3**	**+2.4**
VNA3	**Neumayer Olymp**	**17.30**	**161**	P		P		**06 54 07.9**	**+0.6**
SNAA	**Sanae**	**19.03**	**157**	P		P		**06 54 24.9**	**-1.5**
SNAA	**Sanae**	**19.03**	**157**	Pn		P		**06 54 25.5**	**-0.9**
0.3nm,0.3s,baz=323,slow=11,SNR=9.1									
SNAA	**Sanae**	**19.03**	**157**	*e*P		P		**06 54 25.6**	**-0.7**
5.2nm,1.3s									
TRQA	**Tornquist**	**29.32**	**292**	*e*P		P		**06 56 06.8**	**-0.2**
6.0nm,1.4s									
QSPA	**South Pole Qui**	**34.58**	**180**	P		P		**06 56 52.6**	**-0.4**
1.3nm,0.5s,baz=0.0,slow=14,SNR=7.1									
QSPA	**South Pole Qui**	**34.58**	**180**	*e*P		P		**06 56 53.0**	**-0.1**
3.1nm,0.9s									
CPUP	**Villa Florida**	**36.68**	**310**	P		P		**06 57 10.8**	**-0.3**
0.8nm,0.7s,baz=168,slow=8.1,SNR=4.6									
CPUP	**Villa Florida**	**36.68**	**310**	*e*P		P		**06 57 10.8**	**-0.3**
5.8nm,1.4s									
MAW	**Mawson**	**40.36**	**144**	P		P		**06 57 41.5**	**-0.1**
4.2nm,0.7s,baz=221,slow=9.3,SNR=2.4									
MAW	**Mawson**	**40.36**	**144**	*e*P		P		**06 57 41.5**	**-0.1**
2.9nm,1.1s									
PB01	**IPOC Station P**	**46.85**	**300**	*e*P		P		**06 58 34.9**	**+0.5**
10nm,1.3s									
VNDA	**Vanda**	**46.96**	**183**	P		P		**06 58 34.4**	**-0.2**
2.2nm,0.7s,baz=196,slow=8.5,SNR=8.5									
VNDA	**Vanda**	**46.96**	**183**	*e*P		P		**06 58 35.0**	**+0.5**
H10S2	**ASCENSION HYDR**	**47.59**	**17**	T		T		07 50 04.4	
baz=189,slow=75,SNR=14									
H10S3	**ASCENSION HYDR**	**47.59**	**16**	T		T		07 50 05.2	
baz=189,slow=75,SNR=12									
H10S1	**ASCENSION HYDR**	**47.61**	**17**	T		T		07 50 06.8	
baz=189,slow=75,SNR=15									
MNMC	**Minye Minye**	**48.53**	**301**	*e*P		P		**06 58 48.8**	**+1.1**
11nm,1.0s									
H10N1	**ASCENSION HYDR**	**48.71**	**16**	T		T		07 51 28.7	
baz=189,slow=76,SNR=5.3									
H10N3	**ASCENSION HYDR**	**48.71**	**16**	T		T		07 51 29.4	
baz=189,slow=76,SNR=13									
H10N2	**ASCENSION HYDR**	**48.72**	**16**	T		T		07 51 30.2	
baz=189,slow=76,SNR=11									
LPAZ	**La Paz**	**50.29**	**305**	P		P		**06 59 01.5**	**0.0**
0.7nm,0.4s,baz=132,slow=4.7,SNR=8.6									
LSZ	**Lusaka**	**58.09**	**69**	*e*P		P		**06 59 57.6**	**-0.3**
3.8nm,0.6s									
TOA0	**Torodi Ar. Sit**	**72.65**	**29**	*e*P		P		**07 01 31.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**72.65**	**29**	P		P		**07 01 31.8**	**0.0**
0.4nm,0.5s,baz=196,slow=6.2,SNR=7.0									
TOA1	**Torodi Ar. Sit**	**72.65**	**29**	*e*P		P		**07 01 31.8**	**0.0**
PCRV	**Puerto La Cruz**	**72.75**	**321**	P		P		**07 01 33.0**	**+0.6**
4.2nm,0.6s,baz=164,slow=9.9,SNR=3.6									
KIV	**Kislovodsk**	**115.30**	**48**	*e*PKiKP		PKiKP		**07 08 47.1**	**+2.1**
KK04	**Karatay Array**	**127.93**	**67**	*e*PKPdf		PKPdf		**07 09 09.0**	**-0.2**
YKA	**Yellowknife Ar**	**135.99**	**318**	PKP		PKPdf		**07 09 22.0**	**-1.7**
0.2nm,0.7s,baz=127,slow=2.2,SNR=6.9									
HYT	**Haines Junctio**	**144.68**	**307**	*e*PKPdf		PKPdf		**07 09 40.0**	**+0.3**
DAWY	**Dawson**	**146.65**	**312**	*e*PKPdf		PKPbc		**07 09 43.7**	**-0.8**
EGAK	**Eagle**	**147.59**	**313**	*e*PKPdf		PKPbc		**07 09 46.1**	**-1.0**
DOT	**Dot Lake**	**148.52**	**311**	*e*PKPbc		PKPbc		**07 09 49.5**	**-0.1**
SCRK	**Sand Creek**	**148.57**	**311**	*e*PKPbc		PKPbc		**07 09 49.5**	**-0.4**
KLU	**Klutina**	**148.74**	**306**	*e*PKPbc		PKPbc		**07 09 51.0**	**+0.7**
RIDG	**Independ'e Rid**	**148.88**	**311**	*e*PKPbc		PKPbc		**07 09 50.6**	**+0.1**
GLI	**Glacier Island**	**149.10**	**305**	*e*PKPdf		PKPdf		**07 09 48.9**	**+2.0**
GLI				*e*PKPbc		PKPbc		**07 09 52.9**	**+1.8**
DHY	**Denali Highway**	**149.82**	**309**	*e*PKPbc		PKPbc		**07 09 53.0**	**-0.1**
SML	**Sawmill**	**149.93**	**306**	*e*PKPdf		PKPbc		**07 09 51.5**	**-1.7**
IL1	**Eielson Array**	**149.98**	**312**	*e*PKPbc		PKPbc		**07 09 52.5**	**-0.7**
ILAR	**Eielson Array**	**149.98**	**312**	PKPbc		PKPbc		**07 09 52.5**	**-0.6**
2.0nm,0.8s,baz=134,slow=1.5,SNR=20									
ILB	**Eielson Array**	**149.98**	**312**	*e*PKPbc		PKPbc		**07 09 53.3**	**+0.2**
CCB	**Clear Creek Bu**	**150.34**	**312**	*e*PKPbc		PKPbc		**07 09 53.0**	**-0.9**
SONA0	**Songino Array**	**150.54**	**86**	*e*PKPbc		PKPbc		**07 09 53.6**	**-1.6**
SONM	**Songino Array**	**150.54**	**86**	PKPbc		PKPbc		**07 09 53.6**	**-1.6**
0.7nm,0.7s,baz=204,slow=3.2,SNR=3.1									
RND	**Reindeer**	**150.55**	**309**	*e*PKPbc		PKPbc		**07 09 54.0**	**-0.7**
MCK	**McKinley**	**150.65**	**310**	*e*PKPbc		PKPbc		**07 09 53.7**	**-1.1**
TRF	**Thorofare Moun**	**151.19**	**309**	*e*PKPbc		PKPbc		**07 09 55.7**	**-0.6**
KTH	**Kantishna Hill**	**151.49**	**309**	*e*PKPbc		PKPbc		**07 09 56.6**	**-0.3**
TOLK	**Toolik Lake Re**	**151.49**	**320**	*e*PKPbc		PKPbc		**07 09 56.5**	**-0.2**
BPAW	**Bear

HUIG	**Huatulco**	**2.36**	**89**	*i* P	Pn	06 59 05.0	-3.4
HUIG				*i* S	Sn	06 59 33.3	-4.0

*ISCJB **30** 07:10:31.2±0.7, 33.24N±0.06×140.27E±0.10, h100km, mb3.5/5, Error ellipse: s-maj=11.7km s-min=8.2km az=179.5*
*IDC **30** 07:10:32.6±1.0, 33.21N×140.00E, h100km±6km, mb3.1/5, mb1 3.3/6, mb1mx3.0/69, mbtmp3.4/6, Error ellipse: s-maj=32.1km s-min=17.6km az=84.0*
*JMA **30** 07:10:33.3±0.1, 33.32N×140.22E, h92km±1km, M3.1*
ISC 30 07:10:32.4±1.0, 33.26N±0.07×140.20E±0.09, h100km, n22, σ 0§71/19, mb3.4/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.35**	**245**	P	**Pn**	**07 10 47.5**	**+0.2**
JHJ2				*e*S	**Sn**	**07 10 58.4**	**+0.1**
JHJ	**Hachijo jima 2**	**0.37**	**248**	P	**Pn**	**07 10 47.5**	**+0.1**
	210nm,0.3s,baz=125,slow=23,SNR=183						
JHJ				S	**Sn**	**07 10 58.6**	**0.0**
	374nm,0.3s,baz=72,slow=19,SNR=37						
JHCJ	**Hachijojimakas**	**0.38**	**241**	*e*S	**Sn**	**07 10 58.5**	**-0.2**
JKO	**Kozu shima**	**1.28**	**317**	P	**Pn**	**07 10 56.2**	**+0.2**
JKO				*e*S	**Sn**	**07 11 13.7**	**-0.1**
BSO1	**Boso 1**	**1.53**	**25**	P	**Pn**	**07 10 59.2**	**+0.6**
BSO3	**Boso 3**	**1.56**	**10**	P	**Pn**	**07 10 59.8**	**+0.6**
JIM2	**Oshima 3**	**1.59**	**337**	*e*S	**Sn**	**07 11 19.3**	**-1.3**
TK02	**Tokai 2**	**2.15**	**289**	P	**Pn**	**07 11 07.8**	**+1.1**
JOD2	**Odawara 2**	**2.20**	**336**	P	**Pn**	**07 11 08.3**	**+0.7**
TK04	**Tokai 4**	**2.24**	**301**	P	**Pn**	**07 11 09.1**	**+1.2**
MJAR	**Matsushiro Arr**	**3.66**	**334**	P	**Pn**	**07 11 27.3**	**+0.3**
	0.3nm,0.3s,baz=154,slow=12,SNR=3.1						
H11N2	**WAKE ISLAND Hy 27.34**	**113**		T	T	07 45 03.5	
	baz=306,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy 27.34**	**113**		T	T	07 45 04.8	
	baz=306,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy 27.36**	**113**		T	T	07 45 04.0	
	baz=306,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy 27.90**	**115**		T	T	07 45 53.2	
	baz=307,slow=75,SNR=4.2						
H11S1	**WAKE ISLAND Hy 27.90**	**115**		T	T	07 45 55.5	
	baz=307,slow=75,SNR=3.8						
H11S2	**WAKE ISLAND Hy 27.92**	**115**		T	T	07 45 53.7	
	baz=307,slow=75,SNR=3.6						
MKAR	**Makanchi Array**	**45.37**	**305**	P	**P**	**07 18 39.5**	**-1.3**
	0.2nm,0.6s,baz=94,slow=7.4,SNR=2.6						
KURBB	**Kurchatov Arra**	**47.62**	**311**	P	**P**	**07 18 57.9**	**-0.2**
	0.2nm,0.3s,baz=91,slow=7.4,SNR=7.5						
WRA	**Warramunga Arr**	**59.20**	**187**	P	**P**	**07 19 40.0**	**-0.4**
	0.7nm,0.4s,baz=5.8,slow=7.7,SNR=20						
ILAR	**Eielson Array**	**53.23**	**31**	P	**P**	**07 19 40.9**	**+0.7**
	0.3nm,0.7s,baz=286,slow=6.6,SNR=4.1						
ASAR	**Alice Springs**	**56.93**	**187**	P	**P**	**07 20 07.2**	**0.0**
	0.2nm,0.5s,baz=6.3,slow=8.0,SNR=4.7						

IDC 30 07:11:38.2±4.4, 55.71N×86.35E, h0km, mb1 2.8/2, mb1mx2.7/72, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=41.3km s-min=27.2km az=26.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**207**	*i*		07 23 40.0	
	baz=23,slow=330,SNR=27						
ZALV	**Zalesovo Beam**	**1.98**	**207**	Pn	Pn	07 12 12.4	-0.4
	3.6nm,0.3s,baz=28,slow=18,SNR=24						
ZALV				Sn	Sb	07 12 40.2	+0.1
	3.5nm,0.3s,baz=24,slow=27,SNR=9.4						
KURBB	**Kurchatov Arra**	**6.93**	**226**	Pn	Pn	07 13 21.3	+0.4
	0.1nm,0.3s,baz=45,slow=14,SNR=7.0						
KURBB				Lg	Lg	07 15 19.4	
	0.0nm,0.3s,baz=49,slow=28,SNR=8.4						
MKAR	**Makanchi Array**	**9.28**	**198**	Pn	Pn	07 13 52.6	-0.6
	0.1nm,0.3s,baz=21,slow=14,SNR=4.3						
MKAR				Lg	Lg	07 16 31.6	
	0.1nm,0.3s,baz=27,slow=29,SNR=5.8						

*SJA **30** 07:12:49.7±0.5, 35.17S×72.20W, h21km±11km, ML3.7, MW4.5*
*ISCJB **30** 07:12:51.8±0.5, 35.20S±0.04×72.23W±0.07, h48km±4km, mb4.2/11, Error ellipse: s-maj=10.8km s-min=4.7km az=21.5*
*NEIC **30** 07:12:52.0±0.0, 35.20S×72.19W, h38km, mb4.5/8, ML4.3(GUC), After GUC.*
NEIC Felt [III] at Cauquenes, Duao, Iloca, Linares, Longavi, Pencahue and Talca; [II] at Constitucion and Curico.
*IDC **30** 07:12:52.7±4.4, 35.14S×71.90W, h38km±38km, mb3.8/8, mb1 3.9/10, mb1mx3.7/32, mbtmp4.0/10, ML3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/29, Error ellipse: s-maj=36.1km s-min=20.4km az=79.0*
*GUC **30** 07:12:52.3±0.6, 35.20S×72.19W, h38km±1km, ML4.3*
ISC 30 07:12:51.8±1.0, 35.19S±0.03×72.29W±0.06, h33km±4km, n52, σ 1§31/65, mb4.2/11, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.35**	**59**	*e*Pn	**Pb**	**07 12 60.0**	**-0.3**
GO05				*e*Sn	**Sb**	**07 13 05.9**	**-0.1**
GO05	**HualaæØ**	**0.35**	**59**	⇓*i*P	**Pb**	**07 12 59.7**	**-0.6**
GO05				*i* S	**Sn**	**07 13 05.5**	**-0.8**
GO05				IAML		07 13 06.2	
	comp=E,59μm,0.2s						
CHPI	**Pichilemu**	**0.83**	**17**	⇓*i*P	**Pn**	**07 13 07.0**	**-0.3**
CHPI				*i* S	**Sb**	**07 13 18.4**	**-0.4**
COCH	**Cobquecura**	**1.02**	**203**	⇑*i*P	**Pn**	**07 13 10.5**	**+0.7**
COCH				*i* S	**Sb**	**07 13 24.4**	**+0.2**
CCHI	**Chillan**	**1.42**	**173**	*i* P	**Pn**	**07 13 16.5**	**+1.1**
CCHI				*i* S	**Sb**	**07 13 36.2**	**+0.7**
CCHI	**Chillan**	**1.42**	**173**	*e*P	**Pn**	**07 13 16.1**	**+0.7**
CCHI				*e*S	**Sn**	**07 13 34.0**	**+1.1**
CCHI				IAML		07 13 40.9	
	comp=E,5μm,0.4s						
RCDM	**Rinconada Maip**	**2.10**	**36**	*e*P	**Pn**	**07 13 24.4**	**-0.2**
LMEL	**Las Melosas**	**2.19**	**53**	⇑*i*P	**Pn**	**07 13 26.2**	**+0.1**
LMEL				*i* S	**Sn**	**07 13 52.5**	**+0.5**
LMEL				IAML		07 13 57.2	
	comp=N,2μm,0.2s						
CLCH	**Cerro Calan**	**2.31**	**40**	⇑*i*P	**Pn**	**07 13 27.7**	**+0.1**
CLCH				*i* S	**Sn**	**07 13 55.3**	**+0.4**
CLCH				IAML		07 14 11.2	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**2.44**	**34**	*e*Pn	**Pn**	**07 13 29.3**	**-0.1**
PEL	**Peldehue**	**2.44**	**34**	⇓*i*P	**Pn**	**07 13 30.0**	**+0.6**
ROC1	**El Roble**	**2.45**	**26**	*e*Pn	**Pn**	**07 13 30.3**	**+0.5**
ROC1				*e*Sn	**Sb**	**07 14 08.5**	**+3.3**
ROC1	**El Roble**	**2.45**	**26**	*i* P	**Pn**	**07 13 30.4**	**+0.6**
ROCH	**El Roble**	**2.46**	**26**	*e*P	**Pn**	**07 13 30.1**	**+0.3**
ROCH				IAML		07 14 09.3	
	comp=N,2μm,0.4s						
FCH	**Farellones**	**2.49**	**42**	⇑*i*P	**Pn**	**07 13 30.9**	**+0.6**
FCH				*i* S	**Sn**	**07 14 00.3**	**+0.5**
FCH				IAML		07 14 07.3	
	comp=N,2μm,0.2s						
RFA	**San Rafael**	**3.17**	**84**	*i* P	**Pn**	**07 13 40.0**	**+0.5**
AAGR	**Agrelo**	**3.56**	**55**	*i* P	**Pn**	**07 13 46.2**	**+1.3**
ARCO	**CERRO ARCO**	**3.64**	**51**	*i* P	**Pn**	**07 13 47.3**	**+1.2**
ARCO				IAML		07 14 10.9	
	comp=Z,146nm,0.3s						
AUSP	**Uspallata**	**3.82**	**40**	*i* P	**Pn**	**07 13 50.5**	**+1.9**
ASAL	**Salagasta**	**3.87**	**49**	*i* P	**Pn**	**07 13 50.5**	**+1.4**
RTLS	**Leoncito**	**4.21**	**37**	*i* P	**Pn**	**07 13 55.8**	**+1.8**
RTLS				IAML		07 15 01.1	
	comp=Z,78nm,0.4s						
PLCA	**Paso Flores**	**5.70**	**167**	Pn	**Pn**	**07 14 15.3**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=4.6,slow=13,SNR=52						
PLCA				Lg	Lg	07 15 46.8	
	comp=Z,1.1nm,0.3s,baz=277,slow=21,SNR=4.5						
PLCA	**Paso Flores**	**5.70**	**167**	*e*Pn	**Pn**	**07 14 15.6**	**+1.3**
PLCA				Lg	Lg	07 15 46.8	
LCO	**Las Campanas**	**6.31**	**13**	*e*Pn	**Pn**	**07 14 22.6**	**-0.2**
TRQA	**Tornquist**	**8.77**	**112**	*e*Pn	**Pn**	**07 14 57.4**	**+1.0**
PB01	**IPOC Station P**	**14.31**	**11**	*e*P	**P**	**07 16 20.1**	**+1.2**
PB11	**IPOC Station P**	**15.55**	**9**	*e*Pn	**P**	**07 16 33.7**	**+0.9**
	comp=Z,9.9nm,0.8s						
CPUP	**Villa Florida**	**15.59**	**60**	LR	LR	07 22 25.0	
	comp=Z,64nm,18.6s,baz=248,slow=37						
MNMC	**Minye Minye**	**16.17**	**9**	*e*Pn	**P**	**07 16 41.7**	**+1.8**
	comp=Z,49nm,1.8s						

LPAZ	**La Paz**	**19.19**	**12**	P	**P**	**07 17 12.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=180,slow=5.3,SNR=6.4						
LPAZ	**La Paz**	**19.19**	**12**	*e*P	**Pn**	**07 17 15.2**	**+0.6**
	comp=Z,3.0nm,0.9s						
SIV	**San Ignacio**	**21.60**	**31**	P	**P**	**07 17 36.9**	**-2.1**
	comp=Z,3.7nm,0.6s,baz=222,slow=9.2,SNR=28						
RUSC	**La Rusia**	**40.87**	**359**	*e*P	**P**	**07 20 33.0**	**+1.7**
	comp=Z,8.2nm,1.7s						
SNAA	**Sanae**	**50.57**	**157**	P	**P**	**07 21 45.9**	**-1.0**
	comp=Z,2.4nm,1.1s,baz=289,slow=12,SNR=2.9						
TXAR	**Lajitas Array**	**70.67**	**331**	P	**P**	**07 24 05.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=153,slow=6.6,SNR=4.4						
TX31	**Lajitas Ar. Si**	**70.67**	**331**	*e*P	**P**	**07 24 05.0**	**+0.7**
WVT	**Waverly**	**72.42**	**347**	*e*P	**P**	**07 24 14.3**	**-0.2**
	comp=Z,27nm,1.8s						
DBIC	**Dimbokro**	**75.76**	**71**	P	**P**	**07 24 33.2**	**-1.4**
	comp=Z,2.9nm,0.7s,baz=187,slow=6.9,SNR=5.0						
DBIC	**Dimbokro**	**75.76**	**71**	*e*P	**P**	**07 24 33.3**	**-1.4**
	comp=Z,27nm,1.5s						
BOSA	**Boshof**	**79.70**	**118**	P	**P**	**07 24 55.5**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=245,slow=4.6,SNR=4.7						
KOWA	**Kowa**	**81.32**	**66**	P	**P**	**07 25 04.0**	**-1.2**
	comp=Z,2.3nm,0.5s,baz=234,slow=6.2,SNR=7.5						
KOWA	**Kowa**	**81.32**	**66**	*e*P	**P**	**07 25 04.3**	**-0.9**
	comp=Z,40nm,1.9s						
ECSD	**EROS Data Cent**	**81.61**	**342**	*e*P	**P**	**07 25 06.0**	**-0.2**
	comp=Z,11nm,1.7s						
LBTB	**Lobatse**	**82.00**	**115**	*e*P	**P**	**07 25 07.8**	**-1.1**
PDAR	**Pinedale Array**	**84.73**	**333**	P	**P**	**07 25 23.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=108,slow=2.9,SNR=2.1						
TOA0	**Torodi Ar. Sit**	**84.81**	**70**	*e*P	**P**	**07 25 22.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**84.81**	**70**	P	**P**	**07 25 21.8**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=277,slow=6.2,SNR=6.8						
TRF	**Thorofare Moun**	**115.85**	**331**	*e*PKPdf	**PKPdf**	**07 31 30.3**	**0.0**
MYLDM	**Lahad Datu**	**148.51**	**201**	*e*PKPdf	**PKPdf**	**07 32 27.8**	**-4.4**
MYLDM				*e*PKPbc	**PKPbc**	**07 32 36.4**	**+0.6**
ASAJ	**Asahikawa**	**151.87**	**299**	*e*PKPdf	**PKPdf**	**07 32 34.8**	**-1.7**
ASAJ				*e*PKPbc	**PKPbc**	**07 32 41.7**	**-1.3**
KSH	**Kashi**	**154.48**	**71**	*e*PKPbc	**PKPdf**	**07 32 40.0**	**-0.6**
KSH				PP	**PP**	**07 36 41.0**	**+1.5**
LZH	**Lanzhou**	**176.73**	**73**	*e*PKP	**PKPdf**	**07 33 00.0**	**+1.1**
LZH				pPKP	pPKPdf	07 33 11.5	+1.7
LZH				sPKP		07 33 15.0	
LZH				PKP	**PKPab**	**07 34 45.0**	**+3.5**

*IDC **30** 07:19:22.1±0.9, 50.10N×78.73E, h0km, mb1 3.2/3, mb1mx2.9/69, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=11.2km s-min=6.2km az=59.0*
*NNC **30** 07:19:24.9±4.7, 50.12N×79.34E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=58.1km s-min=15.7km az=29.0, Suspected Mining explosion.*
ISC 30 07:19:20.0±1.0, 50.34N±0.07×79.05E±0.07, h0km, n8, σ 2§25/11, 6C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.44**	**311**	Pg	**Pb**	**07 19 32.0**	**+1.3**
KURBB	5.6nm,0.3s,baz=166,slow=19,SNR=407			Lg	Lg	07 19 40.4	
	7.9nm,0.3s,baz=167,slow=31,SNR=54						
MAKZ	**Makanchi**	**4.03**	**150**	⇓Pg	**Pb**	**07 20 32.1**	**+0.3**
	1.6nm,0.4s						
MAKZ				⇑Lg	Lg	07 21 23.1	
	6.6nm,0.5s						
MK31	**Makanchi Array**	**4.14**	**148**	⇑Pn	**Pn**	**07 20 24.9**	**+0.3**
	0.4nm,0.3s,baz=322,slow=9.9,SNR=109						
MK31				⇑Pg	**Pb**	**07 20 33.5**	**-0.3**
	1.3nm,0.3s,baz=311,slow=11,SNR=7.5						
MK31				⇑Sn	**Sn**	**07 21 14.1**	**+0.3**
	0.8nm,0.3s,baz=348,slow=23,SNR=4.5						
MK31				Lg	Lg	07 21 26.3	
	7.2nm,0.5s,baz=336,slow=24,SNR=16						
MKAR	**Makanchi Array**	**4.14**	**148**	Pn	**Pn**	**07 20 24.9**	**+0.3**
	0.9nm,0.3s,baz=320,slow=11,SNR=72						
MKAR				Pg	**Pb**	**07 20 34.0**	**+0.1**
	1.8nm,0.3s,baz=331,slow=16,SNR=20						
MKAR				Lg	Lg	07 21 25.5	
	3.4nm,0.3s,baz=336,slow=17,SNR=17						
OTUK	**Ortayu**	**4.87**	**247**	⇑Pn	**Pb**	**07 20 41.8**	**-4.3**
	2.4nm,0.3s						
OTUK				⇑Lg	Lg	07 21 59.6	
	13nm,0.7s						
I46RU	**ZALESOVO INFRA**	**5.07**	**42**	*i*		07 49 40.0	
	baz=226,slow=339,SNR=0.9						
ZALV	**Zalesovo Beam**	**5.07**	**42**	Pn	**Pb**	**07 20 45.4**	**-4.1**
	2.3nm,0.3s,baz=232,slow=14,SNR=14						
ZALV				Lg	Lg	07 22 16.6	
	0.8nm,0.3s,baz=229,slow=30,SNR=4.0						
BVAR	**Borovoye Array**	**6.03**	**300**	Pn	**Pn**	**07 20 51.8**	**+1.5**
	0.5nm,0.3s,baz=118,slow=13,SNR=3.1						
BVAR				Sn	**Sn**	**07 21 59.3**	**-0.6**
	1.4nm,0.3s,baz=115,slow=22,SNR=7.2						
BVAR				Lg	Lg	07 22 29.5	
	0.6nm,0.3s,baz=114,slow=28,SNR=3.1						

*ISCJB **30** 07:20:43.0±0.8, 35.91N±0.05×141.21E±0.08, h31km, mb3.6/4, Error ellipse: s-maj=9.2km s-min=6.6km az=178.1*
*IDC **30** 07:20:45.8±3.0, 35.82N×140.95E, h39km±28km, mb3.4/4, mb1 3.6/7, mb1mx3.3/71, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=31.5km s-min=19.0km az=89.0*
*JMA **30** 07:20:46.2±0.1, 35.87N×140.87E, h39km±1km, M3.2*
ISC 30 07:20:44.1±0.9, 35.88N±0.04×141.08E±0.06, h31km, n20, σ 1§41/18, mb3.6/4, 2C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.25**	**226**	⇑P	**Pn**	**07 20 53.0**	**+1.3**
CHOJ				S	**Sn**	**07 20 57.7**	**+1.1**
JYT	**Yasato**	**0.80**	**296**	P	**Pb**	**07 20 58.9**	**-0.7**
JYT				*e*S	**Sb**	**07 21 07.7**	**-2.4**
JHO	**Hitachi**	**0.84**	**330**	⇑P	**Pb**	**07 21 00.8**	**+0.5**
BSO4	**Boso 4**	**1.08**	**215**	P	**Pb**	**07 21 05.0**	**+0.9**
BSO3	**Boso 3**	**1.17**	**204**	P	**Pb**	**07 21 05.5**	**-0.1**
BSO1	**Boso 1**	**1.23**	**184**	P	**Pb**	**07 21 05.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.42**	**287**	Pn	**Pn**	**07 21 22.8**	**+1.3**
	6.1nm,0.3s,baz=109,slow=7.5,SNR=28						
MAT	**Matsushiro**	**2.42**	**287**	P	**Pn**	**07 21 23.0**	**+1.4**
MAT				S	**Sb**	**07 21 53.2**	**-3.2**
JHJ	**Hachijo jima 2**	**2.96**	**202**	Pn	**Pn**	**07 21 28.0**	**-0.9**
	14nm,0.3s,baz=123,slow=22,SNR=6.4						
JHJ				Sn	**Sn**	**07 22 03.1**	**-0.2**
	37nm,0.3s,baz=328,slow=23,SNR=6.9						
ASAJ	**Asahikawa**	**8.31**	**8**	Pn	**Pn**	**07 22 42.7**	**+0.3**
	1.1nm,0.3s,baz=249,slow=5.8,SNR=6.5						
H11N2	**WAKE ISLAND Hy 27.81**	**118**		T	T	07 55 39.4	
	baz=311,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy 27.82**	**118**		T	T	07 55 46.1	
	baz=311,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy 27.83**	**118**		T	T	07 55 36.5	
	baz=311,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy 28.48**	**121**		T	T	07 56 24.5	
	baz=312,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy 28.48**	**121**		T	T	07 56 28.6	
	baz=312,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy 28.49**	**121**		T	T	07 56 29.6	
	baz=312,slow=75,SNR=10						
MKAR	**Makanchi Array**	**44.52**	**303**	P	**P**	**07 28 52.9**	**+0.1**
	0.5nm,0.6s,baz=89,slow=9.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**46.51**	**309**	P	**P**	**07 29 08.2**	**-0.2**
	0.8nm,0.3s,baz=81,slow=7.3,SNR=17						
ILAR	**Eielson Array**	**50.61**	**32**	P	**P**	**07 29 41.9**	**+2.2**
	0.2nm,0.5s,baz=269,slow=6.3,SNR=4.6						
WRA	**Warramunga Arr**	**55.88**	**188**	P	**P**	**07 30 19.0**	**0.0**
	0.2nm,0.3s,baz=1.8,slow=7.5,SNR=11						

*NEIC **30** 07:25:43.0±0.0, 16.44N×98.16W, h14km, MD4.0(MEX), After MEX.*
MEX 30 07:25:40.1±0.5, 16.23N×98.18W, h14km±2km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**16**	*e*P	Pg	07 25 43.5	-0.8
PNIG				*e*S	Sg	07 25 46.7	-0.3
PNIG	**Pinotepa**	**0.17**	**16**	*e*P	Pg	07 25 43.5	-0.8
PNIG				*e*S	Sg	07 25 46.7	-0.3
TLIG	**Tlapa**	**1.38**	**344**	*e*P	Pn	07 26 01.3	-3.8
TLIG				*i* S	Sn	07 26 17.8	-5.5
TLIG	**Tlapa**	**1.38**	**344**	*e*P	Pn	07 26 01.4	-3.7
TLIG				*e*S	Sn	07 26 07.4	-16
VHO	**Vista Hermosa**	**1.62**	**58**	*e*P	Pn	07 26 05.0	-3.4
VHO				*e*S	Sn	07 26 24.1	-5.1
VHO	**Vista Hermosa**	**1.62**	**58**	*e*P	Pn	07 26 07.2	-1.2
VHO				*e*S	Sn	07 26 24.1	-5.1
ACX	**Acapulco**	**1.74**	**292**	*e*P	Pn	07 26 09.2	-0.7
ACX				*e*S	Sn	07 26 30.3	-1.5
ACX	**Acapulco**	**1.74**	**292**	*e*P	Pn	07 26 09.2	-0.7
ACX				*e*S	Sn	07 26 30.3	-1.5
HUIG	**Huatulco**	**2.04**	**103**	*e*P	Pn	07 26 11.0	-3.0
HUIG				*e*S	Sn	07 26 35.1	-4.2
HUIG				*e*S	Sn	07 26 35.1	-4.2
HUIG	**Huatulco**	**2.04**	**103**	*e*P	Pn	07 26 14.8	+0.8
HUIG				*e*S	Sn	07 26 35.1	-4.2
MOIG	**Morelia**	**4.47**	**321**	*e*Pg	Pg	07 27 02.5	-3.3
MOIG				*e*Sg	Sb	07 27 58.1	+5.5

*ISK **30** 07:36:41.1, 37.34N×37.21E, h8km, MD2.7/2*
*ISCJB **30** 07:36:42.5±0.6, 37.27N±0.04×37.15E±0.06, h9km±6km, Error ellipse: s-maj=8.6km s-min=4.9km az=145.3*
*DDA **30** 07:36:42.7, 37.30N×37.27E, h7km, Ml2.5*
*CSEM **30** 07:36:42.3±0.3, 37.28N×37.19E, h10km, MD2.7, Error ellipse: s-maj=7.0km s-min=5.9km az=80.0*
ISC 30 07:36:42.2±0.9, 37.31N±0.03×37.20E±0.03, h9km±8km, n24, σ 0§57/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.14**	**176**	PG	**Pg**	**07 36 45.0**	**-0.4**
GAZ				SG	**Sg**	**07 36 48.2**	**+0.7**
GAZ	**Gaziantep**	**0.14**	**176**	*e*Pg	**Pg**	**07 36 45.0**	**-0.4**
GAZ				*e*Sg	**Sg**	**07 36 48.2**	**+0.7**
KMRS	**Kahramanmaras**	**0.31**	**309**	PG	**Pg**	**07 36 47.5**	**-0.9**
KMRS				SG	**Sg**	**07 36 52.1**	**-0.4**
KMRS	**Kahramanmaras**	**0.31**	**309**	*e*Pg	**Pg**	**07 36 47.5**	**-0.9**
KMRS				*e*Sg	**Sg**	**07 36 52.1**	**-0.4**
KUZU	**Kuzuini**	**0.55**	**191**	*i* P	**Pg**	**07 36 53.2**	**+0.4**
KUZU	**Kuzuini**	**0.55**	**191**	P	**Pg**	**07 36 53.2**	**+0.4**
ANDN	**Andirin**	**0.73**	**292**	*i* P	**Pb**	**07 36 58.1**	**+0.9**
ANDN	**Andirin**	**0.73**	**292**	P	**Pb**	**07 36 58.2**	**+0.9**
ELBS	**KAHRAMANMARAS**	**1.01**	**357**	*i* P	**Pg**	**07 37 02.2**	**+0.5**
ELBS				*i* S	**Sn**	**07 37 17.3**	**+0.1**
ELBS	**KAHRAMANMARAS**	**1.01**	**357**	P	**Pg**	**07 37 02.2**	**+0.5**
ELBS				S	**Sn**	**07 37 17.3**	**+0.1**
KOZT	**Kozan**	**1.11**	**279**	PN	**Pg**	**07 37 02.8**	**-0.7**
KOZT	**Kozan**	**1.11**	**279**	*e*Pn	**Pg**	**07 37 02.8**	**-0.7**
AKCD	**Akcadag**	**1.14**	**30**	*i* P	**Pn**	**07 37 04.8**	**+0.3**
AKCD				*i* S	**Sn**	**07 37 20.2**	**-0.1**
AKCD	**Akcadag**	**1.14**	**30**	P	**Pn**	**07 37 04.8**	**+0.3**
AKCD				S	**Sn**	**07 37 20.2**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.21**	**111**	*i* P	**Pb**	**07 37 05.1**	**-0.2**
SURC				*i* S	**Sb**	**07 37 21.1**	**0.0**
SURC	**SANLIURFA_SURC**	**1.21**	**111**	P	**Pb**	**07 37 05.1**	**-0.2**
SURC				S	**Sb**	**07 37 21.1**	**0.0**
URFA	**Urfa**	**1.30**	**84**	PN	**Pn**	**07 37 05.8**	**-0.9**
URFA	**Urfa**	**1.30**	**84**	*e*Pn	**Pn**	**07 37 05.8**	**-0.9**
MALT	**Malatya**	**1.39**	**44**	PN	**Pn**	**07 37 07.2**	**-0.8**
MALT	**Malatya**	**1.39**	**44**	*e*Pn	**Pn**	**07 37 07.2**	**-0.8**
YAYL	**Yayladag**	**1.55**	**215**	PN	**Pn**	**07 37 09.9**	**-0.2**
YAYL	**Yayladag**	**1.55**	**215**	*e*Pn	**Pn**	**07 37 09.9**	**-0.2**
HEKM	**Malatya_Hekimh**	**1.68**	**21**	*i* P	**Pg**	**07 37 14.3**	**-0.1**
HEKM				*i* S	**Sg**	**07 37 36.8**	**+0.7**
HEKM	**Malatya_Hekimh**	**1.68**	**21**	P	**Pg**	**07 37 14.3**	**-0.1**
HEKM				S	**Sg**	**07 37 36.8**	**+0.7**

IDC 30 07:41:23.9±9.5, 32.79S×179.83W, h213km±97km, mb2.8/2, mb1 3.1/3, mb1mx3.0/40, mbtmp3.4/3, Error ellipse: s-maj=99.9km s-min=44.5km az=2.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.00**	**204**	P	Pn	07 42 52.8	+1.6
	0.4nm,0.3s,baz=338,slow=5.4,SNR=4.9						
URZ				S	S	07 43 59.4	-1.0
	1.6nm,0.3s,baz=105,slow=23,SNR=10						
ASAR	**Alice Springs**	**41.49**	**270**	P	P	07 48 51.4	+1.0
	0.3nm,0.7s,baz=101,slow=7.8,SNR=3.6						
WRA	**Warramunga Arr**	**42.

ERZM			*i* Pg	**Pg**	**07 49 49.0**	**-0.2**	

*CSEM **30** 08:00:14.1, 65°.85N×28°.30E, h4km, ML1.6, After HEL*
HEL 30 08:00:14.1±0.0, 65°.85N×28°.30E, h4km, ML1.7, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU2	**Taivalkoski**	**0.14**	**191**	P	Pg	08 00 16.7	-0.2
KU2				S	Sg	08 00 18.5	-0.3
	102nm,0.1s						
KU2	**Taivalkoski**	**0.14**	**191**	P	Pg	08 00 18.9	+2.0
KU2				S	Sg	08 00 20.8	+2.0
	92nm,0.1s						
KU2	**Taivalkoski**	**0.14**	**191**	*i* P	Pg	08 00 16.7	-0.2
KU2				*i* S	Sg	08 00 18.6	-0.2
KU2				MSG		08 00 18.7	
	comp=Z,102nm,0.1s						
KU2	**Taivalkoski**	**0.14**	**191**	*e*P	Pg	08 00 18.9	+2.0
KU2				*e*S	Sg	08 00 20.8	+2.0
KU2				MSG		08 00 21.0	
	comp=Z,92nm,0.1s						
KU8	**KU8**	**0.23**	**321**	P	Pg	08 00 18.1	-0.5
KU8	**KU8**	**0.23**	**321**	P	Pg	08 00 20.4	+1.8
KU8				S	Sg	08 00 21.0	-0.6
KU8				S	Sg	08 00 23.4	+1.8
KU8	**KU8**	**0.23**	**321**	*e*P	Pg	08 00 18.2	-0.4
KU8				*e*S	Sg	08 00 21.1	-0.6
KU8	**KU8**	**0.23**	**321**	*e*P	Pg	08 00 20.5	+1.9
KU8				*e*S	Sg	08 00 23.4	+1.8
KU7	**Kasma**	**0.26**	**110**	P	Pg	08 00 18.9	-0.3
KU7	**Kasma**	**0.26**	**110**	P	Pb	08 00 21.2	-0.2
KU7				S	Sg	08 00 22.3	-0.3
	comp=Z,52nm,0.2s						
KU7				S	Sb	08 00 24.5	-1.8
	comp=Z,29nm,0.1s						
KU7	**Kasma**	**0.26**	**110**	*i* P	Pg	08 00 18.9	-0.3
KU7				*i* S	Sg	08 00 22.3	-0.3
KU7				MSG		08 00 22.6	
	comp=Z,52nm,0.2s						
KU7	**Kasma**	**0.26**	**110**	*e*P	Pb	08 00 21.2	-0.2
KU7				*e*S	Sb	08 00 24.5	-1.7
KU7				MSG		08 00 24.8	
	comp=Z,29nm,0.1s						
MSF	**Maaselka**	**0.31**	**78**	P	Pg	08 00 19.6	-0.5
MSF	**Maaselka**	**0.31**	**78**	P	Pb	08 00 22.0	-0.2
MSF				S	Sg	08 00 23.6	-0.6
	comp=Z,24nm,0.2s						
MSF				S	Sb	08 00 25.9	-1.8
	comp=Z,24nm,0.1s						
MSF	**Maaselka**	**0.31**	**78**	*i* P	Pg	08 00 19.7	-0.4
MSF				*i* S	Sg	08 00 23.7	-0.5
MSF				MSG		08 00 23.9	
	comp=Z,24nm,0.2s						
MSF	**Maaselka**	**0.31**	**78**	*e*P	Pb	08 00 22.0	-0.2
MSF				*e*S	Sb	08 00 26.0	-1.7
MSF				MSG		08 00 26.1	
	comp=Z,24nm,0.1s						
KU1	**Kurvinen**	**0.59**	**118**	P	Pg	08 00 24.7	-0.8
KU1	**Kurvinen**	**0.59**	**118**	P	Pb	08 00 26.8	-0.2
KU1				S	Sg	08 00 32.2	-1.0
KU1				S	Sb	08 00 34.7	-1.1
KU1	**Kurvinen**	**0.59**	**118**	*i* P	Pg	08 00 24.7	-0.8
KU1				*i* S	Sg	08 00 32.3	-0.9
KU1	**Kurvinen**	**0.59**	**118**	*e*P	Pb	08 00 26.9	-0.2
KU1				*e*S	Sb	08 00 34.8	-1.0
KU6	**Riekki**	**0.68**	**74**	P	Pg	08 00 26.1	-1.0
KU6	**Riekki**	**0.68**	**74**	P	Pb	08 00 28.5	+0.1
KU6				S	Sg	08 00 34.7	-1.1
	comp=Z,10nm,0.2s						
KU6				S	Sb	08 00 36.9	-1.2
	comp=Z,6.7nm,0.1s						
KU6	**Riekki**	**0.68**	**74**	*i* P	Pg	08 00 26.2	-0.9
KU6				*i* S	Sg	08 00 34.7	-1.1
KU6				MSG		08 00 35.5	
	comp=Z,10nm,0.2s						
KU6	**Riekki**	**0.68**	**74**	*e*P	Pb	08 00 28.6	+0.1
KU6				*e*S	Sg	08 00 36.9	+1.1
KU6				MSG		08 00 37.3	
	comp=Z,6.7nm,0.1s						
KU4	**Liikasenvaara**	**0.73**	**45**	P	Pg	08 00 27.3	-0.9
KU4				S	Sg	08 00 36.7	-1.0
KU4				S	Sb	08 00 38.8	-1.0
KU4	**Liikasenvaara**	**0.73**	**45**	*i* P	Pg	08 00 27.4	-0.8
KU4				*i* S	Sg	08 00 36.7	-1.0
KU4	**Liikasenvaara**	**0.73**	**45**	*e*S	Sb	08 00 38.9	-1.0
RNF	**Rovaniemi**	**1.20**	**311**	P	Pg	08 00 35.6	-1.5
RNF	**Rovaniemi**	**1.20**	**311**	P	Pn	08 00 37.8	+0.2
RNF				S	Sg	08 00 51.1	-1.5
RNF				S	Sb	08 00 53.4	+0.2
RNF	**Rovaniemi**	**1.20**	**311**	*e*P	Pg	08 00 35.6	-1.4
RNF				*e*S	Sg	08 00 51.1	-1.5
RNF	**Rovaniemi**	**1.20**	**311**	*e*P	Pn	08 00 37.8	+0.2
RNF				*e*S	Sb	08 00 53.5	+0.3
OUL	**Oulu**	**1.26**	**234**	P	Pg	08 00 36.6	-1.6
OUL				S	Sg	08 00 52.6	-2.0
OUL				S	Sb	08 00 55.2	+0.3
OUL	**Oulu**	**1.26**	**234**	*e*P	Pg	08 00 36.6	-1.6
OUL				*e*S	Sg	08 00 52.7	-1.9
OUL	**Oulu**	**1.26**	**234**	*e*S	Sb	08 00 55.2	+0.3
TOF	**Tornio**	**1.64**	**280**	P	Pn	08 00 43.1	-0.6
TOF				S	Sn	08 01 03.9	-1.3
	comp=Z,4.4nm,0.1s						
TOF	**Tornio**	**1.64**	**280**	*e*P	Pn	08 00 43.2	-0.5
TOF				*e*S	Sn	08 01 03.9	-1.3
TOF				MSG		08 01 08.9	
	comp=Z,4.4nm,0.1s						
SGF	**Sodankyl**	**1.75**	**337**	Pg	Pn	08 00 45.7	+0.5
SGF				S	Sn	08 01 07.0	-0.9
SGF				S	Sn	08 01 09.7	-0.5
SGF	**Sodankyl**	**1.75**	**337**	*e*PG	Pn	08 00 45.8	+0.6
SGF				*e*S	Sn	08 01 07.1	-0.8
SGF				*e*SN	Sb	08 01 07.7	-1.3
SGF	**Sodankyl**	**1.75**	**337**	*e*SN	Sg	08 01 09.8	-0.5
VRF	**Varrio**	**1.98**	**15**	Pg	Pn	08 00 49.4	+1.1
VRF				S	Sn	08 01 13.4	-0.1
VRF				Sb	Sb	08 01 14.0	-1.6
	comp=Z,3.0nm,0.1s						
VRF	**Varrio**	**1.98**	**15**	*e*PG	Pb	08 00 49.5	-1.1
VRF				*e*S	Sn	08 01 13.4	-0.1
VRF				*e*SB	Sb	08 01 14.1	-1.5
VRF				MSG		08 01 17.7	
	comp=Z,3.0nm,0.1s						
KALU	**Kalix**	**2.03**	**273**	P	Pn	08 00 49.3	+0.3
KALU				S	Sn	08 01 14.4	-0.4
KALU	**Kalix**	**2.03**	**273**	*e*P	Pn	08 00 49.3	+0.3
KALU				*e*S	Sn	08 01 14.5	-0.3
OUF	**Merijarvi**	**2.12**	**227**	Sb	Sn	08 01 17.9	+1.0
	comp=Z,2.3nm,0.1s						
OUF	**Merijarvi**	**2.12**	**227**	*e*SB	Sn	08 01 17.9	+1.0
OUF				MSG		08 01 19.4	
	comp=Z,2.3nm,0.1s						
ERTU	**Ertsjaerv**	**2.58**	**289**	P	Pn	08 00 56.7	+0.2
ERTU				S	Sn	08 01 27.5	-0.8
ERTU	**Ertsjaerv**	**2.58**	**289**	*e*P	Pn	08 00 56.8	+0.2
ERTU				*e*S	Sn	08 01 27.5	-0.7
HEF	**Hetta**	**3.14**	**327**	S	Sn	08 01 41.0	-1.3
	comp=Z,1.4nm,0.1s						
HEF	**Hetta**	**3.14**	**327**	*e*S	Sn	08 01 41.0	-1.2
HEF				MSG		08 01 51.0	
	comp=Z,1.4nm,0.1s						
JOF	**Joensuu**	**3.22**	**155**	S	Sn	08 01 42.9	-1.2
JOF	**Joensuu**	**3.22**	**155**	*e*S	Sn	08 01 43.0	-1.1
LANU	**Lannavaara**	**3.32**	**315**	Sb	Sb	08 01 53.0	-1.2
LANU	**Lannavaara**	**3.32**	**315**	*e*SB	Sb	08 01 53.1	-1.2
VAF	**Ylistaro**	**3.73**	**223**	S	Sn	08 01 55.1	-1.4
VAF	**Ylistaro**	**3.73**	**223**	*e*S	Sn	08 01 55.2	-1.3
ARE0	**ARCESS Array S**	**3.85**	**345**	S	Sn	08 01 58.4	-1.3
ARE0	**ARCESS Array S**	**3.85**	**345**	*e*S	Sn	08 01 58.4	-1.3
KEF	**Keuruu**	**3.99**	**204**	S	Sn	08 02 02.8	-0.3
KEF	**Keuruu**	**3.99**	**204**	*e*S	Sn	08 02 02.8	-0.3
KIF	**Kilpisjarvi**	**4.29**	**321**	S	Sn	08 02 09.1	-1.2
KIF	**Kilpisjarvi**	**4.29**	**321**	*e*S	Sn	08 02 09.2	-1.2

KRSC 30 08:07:42.6±1.8, 48°.62N×156°.29E, h32km±27km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.07**	**357**	*e*P	Pn	08 08 16.1	+0.9
SKR				*e*S	Sn	08 08 41.2	+1.3
PAU	**Pauzhetka**	**2.87**	**6**	*e*P	Pb	08 08 29.8	-3.4
PAU				*e*S	Sn	08 09 03.7	+4.0
KDTR	**Khodutka, Kamc**	**3.40**	**19**	*e*P	Pn	08 08 37.7	+4.3
KDTR				*e*S	Sb	08 09 17.8	-5.1
MIPR	**Malaya Ipel'ka**	**3.68**	**4**	*e*P	Pn	08 08 40.3	+3.0
ASAK	**Asacha**	**3.91**	**15**	*e*P	Pn	08 08 45.3	+4.8
MTVR	**Mutnovka**	**4.05**	**17**	*e*P	Pn	08 08 47.3	+4.7
MTVR				*e*S	Sn	08 09 34.7	+5.7
RUS	**Russkaya**	**4.08**	**19**	*e*P	Pn	08 08 46.7	+4.0
RUS				*e*S	Sn	08 09 33.3	+4.0
KRMR	**Karymshinskiy**	**4.38**	**15**	*e*P	Pn	08 08 51.9	+5.0
KRMR				*e*S	Sn	08 09 42.6	+5.9
DALK	**Dalny**	**4.69**	**19**	*e*P	Pn	08 08 55.8	+4.7
DALK				*e*S	Sn	08 09 49.4	+5.1
UGLR	**Uglovaya**	**4.87**	**18**	*e*P	Pn	08 08 58.5	+4.8
AVH	**Avacha**	**4.91**	**17**	*e*P	Pn	08 09 00.0	+5.8
SMAR	**Somma**	**4.92**	**18**	*e*P	Pn	08 08 59.4	+4.9
SDLR	**Sedlovina**	**4.95**	**18**	*e*P	Pn	08 08 59.3	+4.5
KRX	**Arik**	**4.98**	**17**	*e*P	Pn	08 09 01.5	+6.3
SPN	**Mys Shipunski**	**5.07**	**26**	*e*P	Pn	08 09 01.6	+5.2
SPN				*e*S	Sn	08 09 59.0	+5.2
GNL	**Ganaly**	**5.19**	**11**	*e*P	Pn	08 09 02.8	+4.7
KBTR	**Krutoberegovo**	**8.58**	**25**	*e*P	Pn	08 09 48.0	+3.5

*IDC **30** 08:12:04.0±1.3, 34°.68N×24°.93E, h0km, mb3.4/3, mb1 3.6/7, mb1mx3.3/64, mbtmp3.4/7, ML3.6/4, Error ellipse: s-maj=24.5km s-min=11.2km az=86.0*
*ISCJB **30** 08:12:05.7±0.8, 34°.72N±0°.04×24°.88E±0°.03, h4km±4km, mb3.2/3, Error ellipse: s-maj=6.7km s-min=4.0km az=179.2*
*THE **30** 08:12:06.0, 34°.78N×24°.85E, h0km±1km, ML3.6/6, Error ellipse: s-maj=2.2km s-min=0.8km az=176.0*
*ATH **30** 08:12:06.7, 34°.79N×24°.87E, h18km±1km, ML3.4/12, Error ellipse: s-maj=2.0km s-min=0.9km az=358.0*
*CSEM **30** 08:12:07.9±0.5, 34°.79N×24°.88E, h10km, ML3.4, Error ellipse: s-maj=11.7km s-min=4.6km az=177.0*
ISC 30 08:12:05.7±1.2, 34°.72N±0°.04×24°.86E±0°.02, h9km±8km, n88, σ1s24/118, mb3.2/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.30**	**352**	P	**Pg**	**08 12 11.9**	**+0.2**
SIVA				S	**Sg**	**08 12 15.9**	**+0.2**
SIVA				AML	AML	08 12 18.4	
SIVA				AML	AML	08 12 18.5	
SIVA	**Sivas**	**0.30**	**352**	P	**Pg**	**08 12 12.0**	**+0.2**
SIVA				S	**Sg**	**08 12 15.8**	**0.0**
SIVA	**Sivas**	**0.30**	**352**	P	**Pg**	**08 12 11.9**	**+0.2**
SIVA				S	**Sg**	**08 12 15.8**	**0.0**
IDI	**Anoyia**	**0.57**	**2**	Pg	**Pg**	**08 12 16.0**	**-0.8**
	98nm,0.3s,baz=193,slow=13,SNR=219						
IDI				Lg	Lg	08 12 23.5	
	1µm,0.3s,baz=286,slow=20,SNR=196						
IACM	**Heraklion**	**0.61**	**16**	P	**Pg**	**08 12 17.0**	**-0.5**
IACM				S	**Sb**	**08 12 26.3**	**-0.9**
IACM	**Heraklion**	**0.61**	**16**	P	**Pg**	**08 12 17.4**	**-0.1**
IACM				S	**Sg**	**08 12 25.7**	**+0.2**
IACM	**Heraklion**	**0.61**	**16**	P	**Pg**	**08 12 17.4**	**-0.1**
IACM				S	**Sg**	**08 12 25.7**	**+0.2**
GVD	**Gavdhos**	**0.65**	**281**	P	**Pg**	**08 12 17.9**	**-0.4**
GVD				S	**Sn**	**08 12 30.3**	**-1.1**
GVD				AML	AML	08 12 31.6	
	comp=E,17154µm,0.6s						
GVD				AML	AML	08 12 33.8	
	comp=N,14505µm,0.5s						
GVD	**Gavdhos**	**0.65**	**281**	P	**Pg**	**08 12 18.8**	**+0.6**
GVD				S	**Sb**	**08 12 28.6**	**+0.3**
GVD	**Gavdhos**	**0.65**	**281**	P	**Pg**	**08 12 18.8**	**+0.6**
GVD				S	**Sb**	**08 12 28.6**	**+0.3**
LAST	**Lasithi**	**0.67**	**49**	P	**Pg**	**08 12 18.2**	**-0.5**
LAST				S	**Sb**	**08 12 29.4**	**+0.4**
LAST				AML	AML	08 12 29.4	
	comp=E,4097µm,0.4s						
LAST				AML	AML	08 12 30.9	
	comp=N,5592µm,0.4s						
LAST	**Lasithi**	**0.67**	**49**	P	**Pg**	**08 12 18.5**	**-0.2**
LAST				S	**Sb**	**08 12 28.3**	**-0.7**
LAST	**Lasithi**	**0.67**	**49**	P	**Pg**	**08 12 18.3**	**-0.4**
LAST				S	**Sb**	**08 12 28.3**	**-0.7**
NPS	**Neapolis**	**0.82**	**48**	P	**Pg**	**08 12 20.8**	**-0.7**
NPS				S	**Sg**	**08 12 30.3**	**-1.9**
NPS				AML	AML	08 12 35.6	
	comp=E,4890µm,0.6s						
NPS				AML	AML	08 12 40.5	
	comp=N,3699µm,0.4s						
NPS	**Neapolis**	**0.82**	**48**	P	**Pg**	**08 12 21.1**	**-0.4**
NPS				S	**Sg**	**08 12 31.3**	**-0.9**
NPS	**Neapolis**	**0.82**	**48**	P	**Pg**	**08 12 21.0**	**-0.4**
VAM	**Vamos**	**0.88**	**322**	P	**Pg**	**08 12 20.7**	**-1.9**
VAM				S	**Sb**	**08 12 35.2**	**+0.4**
VAM				AML	AML	08 12 37.8	
	comp=N,4622µm,0.3s						
VAM				AML	AML	08 12 40.5	
	comp=E,4284µm,0.5s						
VAM	**Vamos**	**0.88**	**322**	P	**Pg**	**08 12 21.6**	**-1.0**
VAM				S	**Sb**	**08 12 34.6**	**-0.2**
VAM	**Vamos**	**0.88**	**322**	P	**Pg**	**08 12 21.5**	**-1.0**
VAM				S	**Sb**	**08 12 34.6**	**-0.2**
IMMV	**Iera Moni Meta**	**1.04**	**316**	P	**Pb**	**08 12 23.3**	**-2.5**
IMMV				S	**Sn**	**08 12 41.5**	**+0.5**
IMMV				AML	AML	08 12 45.1	
	comp=E,4296µm,0.4s						
IMMV				AML	AML	08 12 49.5	
	comp=N,3267µm,0.5s						
IMMV	**Iera Moni Meta**	**1.04**	**316**	P	**Pb**	**08 12 24.4**	**-1.3**
IMMV				S	**Sn**	**08 12 40.3**	**-0.6**
IMMV	**Iera Moni Meta**	**1.04**	**316**	P	**Pb**	**08 12 24.2**	**-1.5**
ZKR	**Zakros**	**1.18**	**70**	P	**Pb**	**08 12 27.4**	**-0.8**
ZKR				S	**Sn**	**08 12 46.7**	**+2.2**
ZKR				AML	AML	08 12 48.5	
	comp=N,1670µm,0.6s						
ZKR				AML	AML	08 12 52.0	
	comp=E,4304µm,0.4s						
ZKR	**Zakros**	**1.18**	**70**	P	**Pb**	**08 12 28.0**	**-0.2**
ZKR				S	**Sn**	**08 12 45.6**	**+1.1**
ZKR	**Zakros**	**1.18**	**70**	P	**Pn**	**08 12 28.5**	**+0.2**
ZKR				S	**Sn**	**08 12 45.6**	**+1.1**
THR6	**Thira Island,**	**1.69**	**15**	P	**Pg**	**08 12 38.1**	**0.0**
THR6	**Thira Island,**	**1.69**	**15**	P	**Pb**	**08 12 37.4**	**+0.5**
ANKY	**Antikythira Is**	**1.72**	**312**	P	**Pb**	**08 12 37.7**	**+0.3**
ANKY	**Antikythira Is**	**1.72**	**312**	P	**Pb**	**08 12 37.5**	**+0.2**
ANKY	**Antikythira Is**	**1.72**	**312**	P	**Pn**	**08 12 36.0**	**+0.3**
SANT	**Santorini**	**1.72**	**16**	P	**Pg**	**08 12 38.0**	**-0.6**
SANT				S	**Sb**	**08 12 58.4**	**-0.7**
SANT				AML	AML	08 13 03.1	
	comp=E,2260µm,0.3s						
SANT				AML	AML	08 13 04.1	
	comp=N,1015µm,0.3s						
SANT	**Santorini**	**1.72**	**16**	P	**Pb**	**08 12 37.5**	**+0.1**
SANT				S	**Sb**	**08 12 58.8**	**-0.3**
THT1	**Athinios (Pele**	**1.73**	**15**	P	**Pg**	**08 12 38.9**	**+0.1**
THT1	**Athinios (Pele**	**1.73**	**15**	P	**Pb**	**08 12 38.0**	**+0.5**
THR5	**Thira Island,**	**1.74**	**13**	P	**Pb**	**08 12 38.3**	**+0.5**
THR5	**Thira Island,**	**1.74**	**13**	P	**Pb**	**08 12 37.8**	**0.0**
THR3	**Thira Island,**	**1.74**	**14**	P	**Pb**	**08 12 37.5**	**-0.4**
THR3	**Thira Island,**	**1.74**	**14**	P	**Pb**	**08 12 37.4**	**-0.4**
SAP3	**Santorini-Thir**	**1.76**	**13**	P	**Pb**	**08 12 38.6**	**+0.5**
SAP3				S	**Sb**	**08 13 00.6**	**+0.4**
THT2	**Imerovigli**	**1.77**	**15**	P	**Pg**	**08 12 39.9**	**+0.2**
THT2	**Imerovigli**	**1.77**	**15**	P	**Pb**	**08 12 38.8**	**+0.5**
THR2	**Thira island,**	**1.79**	**15**	P	**Pn**	**08 12 37.2**	**+0.5**
THR2	**Thira island,**	**1.79**	**15**	P	**Pb**	**08 12 37.6**	**-0.9**
MHLO	**Agia Marina, M**	**2.00**	**349**	P	**Pb**	**08 12 41.7**	**-0.6**
MHLO				S	**Sn**	**08 13 04.0**	**-0.8**
MHLO				AML	AML	08 13 12.6	
	comp=N,4923µm,0.5s						
MHLO				AML	AML	08 13 13.7	
	comp=E,3816µm,0.4s						
MHLO	**Agia Marina, M**	**2.00**	**349**	P	**Pb**	**08 12 41.3**	**-0.9**
MHLO				S	**Sn**	**08 13 05.0**	**+0.2**
IOSP	**Ios island**	**2.03**	**10**	P	**Pn**	**08 12 40.3**	**+0.3**
IOSP				AML	AML	08 13 11.6	
	comp=E,1350µm,0.6s						
IOSP				AML	AML	08 13 11.9	
	comp=N,1035µm,0.5s						
IOSP	**Ios island**	**2.03**	**10**	P	**Pn**	**08 12 40.9**	**+0.9**
MHLA	**Plaka, Milos I**	**2.05**	**350**	P	**Pn**	**08 12 40.6**	**+0.3**
MHLA	**Plaka, Milos I**	**2.05**	**350**	P	**Pn**	**08 12 41.2**	**+0.9**
KARP	**Karpathos**	**2.06**	**66**	P	**Pb**	**08 12 43.9**	**+0.7**
KARP	**Karpathos**	**2.06**	**66**	P	**Pb**	**08 12 43.1**	**-0.1**
KYTH	**Kithira**	**2.14**	**317**	P	**Pb**	**08 12 45.1**	**+0.5**
APE	**Apeiranthos**	**2.41**	**13**	P	**Pn**	**08 12 45.2**	**0.0**
APE				AML	AML	08 13 23.0	
	comp=E,384µm,0.4s						
APE				AML	AML	08 13 29.9	
	comp=N,369µm,0.5s						
APE	**Apeiranthos**	**2.41**	**13**	P	**Pn**	**08 12 46.0**	**+0.8**
SERI	**Serifos**	**2.46**	**353**	P	**Pn**	**08 12 44.8**	**-1.1**
SERI	**Serifos**	**2.46**	**353**	P	**Pn**	**08 12 46.1**	**+0.2**
VLI	**Veliai**	**2.54**	**322**	P	**Pb**	**08 12 49.5**	**-1.9**
VLI				S	**Sn**	**08 13 18.6**	**+0.6**
VLI				AML	AML	08 13 29.5	
	comp=N,313µm,0.6s						
VLI				AML	AML	08 13 38.6	
	comp=E,326µm,0.8s						
VLI	**Veliai**	**2.54**	**322**	P	**Pn**	**08 12 49.1**	**+2.1**
VLI				S	**Sn**	**08 13 18.9**	**+0.9**
DYR	**Agios Nikonas**	**2.90**	**315**	P	**Pn**	**08 12 53.6**	**+1.6**
DYR	**Agios Nikonas**	**2.90**	**315**	P	**Pn**	**08 12 53.7**	**+1.8**
ARG	**Arkhangelos**	**3.05**	**60**	P	**Pb**	**08 12 58.1**	**-2.0**
ARG	**Arkhangelos**	**3.05**	**60**	P	**Pb**	**08 12 57.2**	**-2.9**
DID	**Didima**	**3.08**	**335**	P	**Pn**	**08 12 55.0**	**+0.6**
DID	**Didima**	**3.08**	**335**	P	**Pn**	**08 12 55.6**	**+1.2**
PYL	**PYLOS**	**3.34**	**311**	P	**Pb**	**08 13 02.2**	**-2.9**
PYL	**PYLOS**	**3.34**	**311**	P	**Pn**	**08 13 01.2**	**+3.2**
SMG	**Samos**	**3.38**	**28**	P	**Pn**	**08 12 59.0**	**+0.4**
SMG	**Samos**	**3.38**	**28**	P	**Pn**	**08 12 59.7**	**+1.1**
ITM	**Ithomi**	**3.42**	**317**	P	**Pn**	**08 13 00.9**	**+1.8**
ITM	**Ithomi**	**3.42**	**317**	P	**Pn**	**08 13 01.1**	**+1.9**
LTK	**Loutraki**	**3.64**	**336**	P	**Pn**	**08 13 01.7**	**-0.4**
LTK	**Loutraki**	**3.64**	**336**	P	**Pn**	**08 13 02.9**	**+0.8**
GUR	**Goura**	**3.80**	**328**	P	**Pn**	**08 13 07.4**	**+2.9**
GUR	**Goura**	**3.80**	**328**	P	**Pn**	**08 13 06.9**	**+2.4**
KLV	**Kalavryta, Ach**	**3.98**	**327**	P	**Pn**	**08 13 08.5**	**+1.7**
KLV	**Kalavryta, Ach**	**3.98**	**327**	P	**Pn**	**08 13 08.7**	**+1.9**
LAKA	**Lakka**	**4.21**	**327**	P	**Pn**	**08 13 13.5**	**+3.5**
LAKA	**Lakka**	**4.21**	**327**	P	**Pn**	**08 13 12.9**	**+2.8**
AGG	**Agios Georgios**	**4.75**	**335**	P	**Pn**	**08 13 19.4**	**+2.0**
AGG	**Agios Georgios**	**4.75**	**335**	P	**Pn**	**08 13 19.6**	**+2.2**
BRTR	**Keskin Array B**	**8.60**	**52**	Pn	**Pn**	**08 14 12.9**	**+2.6**
	comp=E,0.1nm,0.3s,baz=242,slow=12,SNR=3.7						
EIL	**Elat**	**9.92**	**118**	Pn	**Pn**	**08 14 30.0**	**+1.6**
	comp=E,0.2nm,0.3s,baz=31,slow=18,SNR=3.4						
EIL				Sn	**Sn**	**08 16 17.2**	**-2.5**
	comp=E,0.4nm,0.3s,baz=319,slow=20,SNR=2.8						
AKASG	**Malin Array Be**	**16.29**	**10**	Pn	**Pn**	**08 15 55.6**	**+1.2**
	comp=E,0.6nm,0.3s,baz=201,slow=11,SNR=3.6						
GERES	**GERESS Array B**	**16.36**	**333**	Pn	**P**	**08 15 58.1**	**-0.3**
	comp=E,0.3nm,0.3s,baz=145,slow=11,SNR=3.4						
KBZ	**Khabaz**	**16.59**	**52**	Pn	**P**	**08 16 02.0**	**+1.2**
	comp=E,0.1nm,0.3s,baz=243,slow=9.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**30.02**	**230**	P	**P**	**08 18 14.6**	**-0.3**
	comp=E,0.2nm,0.5s,baz=39,slow=9.0,SNR=3.3						
KURBB	**Kurchatov Arra**	**41.59**	**51**	P	**P**	**08 19 52.9**	**-0.7**
	comp=E,0.2nm,0.5s,baz=275,slow=8.5,SNR=3.2						
MKAR	**Makanchi Array**	**44.22**	**56**	P	**P**	**08 20 13.3**	**-1.8**
	comp=E,0.3nm,0.4s,baz=270,slow=7.9,SNR=6.9						

*NNC **30** 08:24:33.3±2.7, 38°.12N×72°.45E, h152km±34km, mb2.5, mpv3.5, Error ellipse: s-maj=34.6km s-min=21.6km az=69.0*
*IDC **30** 08:24:46.7±33.0, 38°.69N×72°.51E, h278km±207km, mb3.0/2, mb1 3.0/5, mb1mx2.7/69, mbtmp3.5/5, Error ellipse: s-maj=350.5km s-min=68.9km az=20.0*
ISC 30 08:24:29.0±1.9, 37°.9N±0°.1×72°.4E±0°.1, h150km, n10, σ1s16/15, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.30**	**21**	⇓P	**Pn**	**08 25 09.1**	**+1.3**
	11nm,0.3s						
SFK				⇑S	**Sn**	**08 25 38.2**	**+0.4**
	39nm,0.3s						
MNAS	**Manas**	**4.61**	**1**	⇓P	**Pn**	**08 25 38.8**	**+1.4**
	5.8nm,0.3s						
MNAS				⇑S	**Sn**	**08 26 29.7**	**-1.0**
	12nm,0.4s						
AAK	**Ala-Archa**	**5.02**	**18**	⇑P	**Pn**	**08 25 43.9**	**+1.2**
	1.1nm,0.3s						
AAK				⇓S	**Sn**	**08 26 39.7**	**-0.5**
	8.9nm,0.6s						
KK31	**Karatay Array**	**5.43**	**345**	P	**Pn**	**08 25 50.0**	**+1.9**
	1.8nm,0.2s,baz=147,slow=8.6,SNR=81						
KK31				S	**Sn**	**08 26 48.6**	**-1.2**
	22nm,0.6s,baz=142,slow=29,SNR=32						
MKAR	**Makanchi Array**	**11.51**	**36**	P	**P**	**08 27 15.1**	**-1.2**
	0.1nm,0.3s,baz=217,slow=11,SNR=6.1						
KURBB	**Kurchatov Arra**	**13.47**	**17**	P	**P**	**08 27 37.6**	**-0.4**
	0.1nm

KSRS	**Korea Array**	**11.41**	**263**	P	Pn	08 27 15.2	+5.4
	0.2nm,0.3s,baz=72,slow=13,SNR=4.2						
CN2	**Changchun**	**13.10**	**293**	*e*P	**P**	**08 27 46.3**	**+4.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2	**Nanjing**	**20.39**	**255**	*e*P	Pn	08 29 04.8	-0.1
NJ2				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC	**Hu-ho-hao-te**	**23.31**	**282**	*e*P	**P**	**08 29 36.0**	**+2.4**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,83nm,6.2s						
SONA1	**Songino Array**	**26.84**	**299**	*e*P	**P**	**08 30 06.4**	**+0.6**
SONM	**Songino Array**	**26.84**	**299**	P	**P**	**08 30 06.2**	**+0.5**
	0.6nm,0.5s,baz=84,slow=8.2,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	09 01 10.0	
	baz=319,slow=75,SNR=422						
H11N1	**WAKE ISLAND Hy**	**29.19**	**126**	T	T	09 01 10.8	
	baz=319,slow=75,SNR=390						
H11N3	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	09 01 11.3	
	baz=319,slow=75,SNR=322						
H11S1	**WAKE ISLAND Hy**	**29.98**	**128**	T	T	09 02 16.7	
	baz=320,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**29.98**	**128**	T	T	09 02 20.3	
	baz=320,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**30.00**	**128**	T	T	09 02 18.8	
	baz=320,slow=76,SNR=28						
LZH	**Lanzhou**	**30.31**	**275**	*e*P	**P**	**08 30 40.0**	**+3.3**
LZH				pP	sP	08 30 50.5	-4.1
LZH				sP	pP	08 30 55.0	+5.9
LZH				PP	**PP**	**08 31 48.3**	**+2.7**
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,86nm,4.9s						
LZH				LR	LR		
	comp=N,380nm,13.0s						
LZH				LR	LR		
	comp=E,400nm,13.2s						
LZH				LR	LR		
	comp=Z,470nm,16.8s						
CD2	**Chengdu**	**32.37**	**266**	*e*P	**P**	**08 30 54.8**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
GTA	**Gaotai**	**32.42**	**283**	*e*P	P	08 30 49.5	-5.8
GTA				pP	pP	08 30 58.5	-9.1
GTA				sP	sP	08 31 03.0	-10
KMI	**Kunming**	**36.06**	**258**	P	**P**	**08 31 27.8**	**+0.8**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,150nm,4.5s						
WMQ	**Urumqi**	**40.19**	**294**	P	P	08 32 07.0	+5.6
WMQ				pP	pP	08 32 09.8	-4.2
ZALV	**Zalesovo Beam**	**40.53**	**310**	P	**P**	**08 32 01.8**	**-2.2**
	0.6nm,0.3s,baz=78,slow=9.0,SNR=3.7						
MK01	**Makanchi Array**	**43.21**	**300**	*e*P	**P**	**08 32 25.2**	**-0.8**
MK31	**Makanchi Array**	**43.21**	**300**	*e*P	**P**	**08 32 25.1**	**-0.8**
MKAR	**Makanchi Array**	**43.21**	**300**	P	**P**	**08 32 25.2**	**-0.8**
	0.9nm,0.7s,baz=86,slow=9.9,SNR=12						
MKAR	**Makanchi Array**	**43.21**	**300**	*e*P	**P**	**08 32 25.1**	**-0.8**
	7.7nm,0.6s						
KURK	**Kurchatov**	**44.74**	**306**	*e*P	**P**	**08 32 37.0**	**-1.1**
	2.9nm,0.8s						
KURBB	**Kurchatov Arra**	**44.81**	**306**	P	**P**	**08 32 37.5**	**-1.3**
	2.1nm,0.5s,baz=81,slow=8.7,SNR=11						
ILAR	**Eielson Array**	**46.82**	**34**	P	**P**	**08 32 52.1**	**-2.3**
	0.2nm,0.8s,baz=257,slow=8.0,SNR=3.4						
KSH	**Kashi**	**49.87**	**292**	*e*P	**P**	**08 33 21.8**	**+3.4**
KSH				S	S	08 40 40.3	+15
KSH				pmax	pmax		
	comp=Z,86nm,6.0s						
KSH				LR	LR		
	comp=E,250nm,13.0s						
ARU	**Arti**	**54.70**	**317**	P	**P**	**08 33 52.9**	**-0.8**
	1.9nm,0.3s,baz=44,slow=7.4,SNR=3.7						
ABKAR	**Akbulak array**	**56.63**	**309**	*e*P	**P**	**08 34 06.6**	**-1.1**
	16nm,0.6s						
AKTO	**Aktyubinsk**	**57.29**	**311**	P	**P**	**08 34 11.8**	**-0.6**
	0.7nm,0.5s,baz=62,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**59.91**	**189**	P	**P**	**08 34 29.8**	**-1.0**
	0.6nm,0.6s,baz=7.1,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**63.64**	**188**	P	**P**	**08 34 55.4**	**-0.5**
	0.5nm,0.7s,baz=1.4,slow=7.3,SNR=6.6						
FINES	**FINESS Array B**	**66.63**	**332**	P	**P**	**08 35 13.9**	**-1.0**
	1.5nm,0.7s,baz=60,slow=11,SNR=4.4						
KBZ	**Khabaz**	**69.56**	**310**	P	**P**	**08 35 33.0**	**-0.5**
	1.7nm,0.8s,baz=216,slow=8.7,SNR=3.3						
HFS	**Hagfors**	**71.80**	**336**	P	**P**	**08 35 46.2**	**-0.6**
	0.8nm,0.3s,baz=27,slow=3.5,SNR=6.6						
NOA	**NORSAR Array B**	**71.85**	**337**	P	**P**	**08 35 46.0**	**-1.2**
	1.2nm,0.9s,baz=51,slow=5.4,SNR=2.4						
AKASG	**Malin Array Be**	**72.47**	**322**	P	**P**	**08 35 50.2**	**-0.8**
	0.4nm,0.3s,baz=45,slow=6.5,SNR=4.7						

*ATA **30** 08:28:25.7±0.7,38.˚51N×44.˚05E,h0km±5km,ML3.6, MW3.4*
*NSSP **30** 08:28:26.8,38.˚50N×44.˚25E,h6km,Ms3.1*
*ISK **30** 08:28:27.6,38.˚65N×43.˚93E,h5km,ML3.0/5*
*DDA **30** 08:28:27.3,38.˚57N×44.˚06E,h7km,Ml3.1*
*CSEM **30** 08:28:28.3±0.5,38.˚58N×44.˚00E,h2km,ML3.0, Error ellipse: s-maj=11.2km s-min=6.5km az=112.0*

ISC 30 08:28:27.5±1.2,38.˚58N±0.˚02×44.˚01E±0.˚03,h8km±10km, n59,σ1§40/75,3C-1D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.49**	**272**	PG	**Pb**	**08 28 37.1**	**-1.3**
VANB	**Van**	**0.49**	**272**	*e*Pg	**Pb**	**08 28 37.1**	**-1.3**
VMUR	**Van-Muradiye**	**0.53**	**320**	*i* P	**Pb**	**08 28 38.8**	**-0.4**
VMUR				*i* S	**Sb**	**08 28 49.1**	**+2.0**
VMUR	**Van-Muradiye**	**0.53**	**320**	P	**Pb**	**08 28 38.8**	**-0.4**
VMUR				S	**Sb**	**08 28 49.1**	**+2.0**
CLDR	**Caldiran**	**0.57**	**353**	PG	**Pg**	**08 28 37.7**	**-0.8**
CLDR				SG	**Sb**	**08 28 46.8**	**-1.4**
CLDR	**Caldiran**	**0.57**	**353**	*i* P	**Pg**	**08 28 37.5**	**-1.0**
CLDR				*i* S	**Sb**	**08 28 47.3**	**-0.9**
CLDR	**Caldiran**	**0.57**	**353**	P	**Pg**	**08 28 37.5**	**-1.0**
CLDR	**Caldiran**	**0.57**	**353**	*e*Pg	**Pg**	**08 28 37.7**	**-0.8**
CLDR				*e*Sg	**Sb**	**08 28 46.8**	**-1.4**
CLDR				S	**Sb**	**08 28 47.3**	**-0.9**
GEVA	**Gevas**	**0.79**	**251**	*e*P	**Pg**	**08 28 42.2**	**-0.5**
GEVA				*e*S	**Sn**	**08 28 55.2**	**-1.9**
GEVA				IAML		08 29 07.7	
	comp=Z,166nm,0.5s						
GEVA	**Gevas**	**0.79**	**251**	*i* P	**Pg**	**08 28 42.2**	**-0.5**
GEVA				*i* S	**Sn**	**08 28 55.3**	**-1.9**
GEVA	**Gevas**	**0.79**	**251**	P	**Pg**	**08 28 42.2**	**-0.5**
GEVA				S	**Sn**	**08 28 55.3**	**-1.9**
DYDN	**Diyadin**	**0.99**	**346**	*e*P	**Pn**	**08 28 46.9**	**-1.1**
DYDN				IAML		08 29 21.1	
	comp=Z,63nm,0.7s						
DYDN	**Diyadin**	**0.99**	**346**	*i* P	**Pn**	**08 28 46.3**	**-1.6**
DYDN	**Diyadin**	**0.99**	**346**	P	**Pn**	**08 28 46.3**	**-1.6**
YOVA	**Hakkari_Y˜…kse**	**1.01**	**167**	*i* P	**Pg**	**08 28 46.7**	**-0.3**
YOVA				*i* S	**Sn**	**08 29 05.1**	**+2.4**
YOVA	**Hakkari_Y˜…kse**	**1.01**	**167**	P	**Pg**	**08 28 46.7**	**-0.3**
ADCV	**BITLIS_Adilcev**	**1.03**	**283**	*i* P	**Pn**	**08 28 47.7**	**-0.7**
ADCV				*i* S	**Sn**	**08 29 06.0**	**+2.9**
ADCV	**BITLIS_Adilcev**	**1.03**	**283**	P	**Pn**	**08 28 47.7**	**-0.7**
TUTA	**Tutak**	**1.24**	**312**	*e*P	**Pn**	**08 28 51.4**	**+0.1**
TUTA	**Tutak**	**1.24**	**312**	*i* P	**Pn**	**08 28 51.7**	**+0.3**
TUTA	**Tutak**	**1.24**	**312**	P	**Pn**	**08 28 51.7**	**+0.3**
IGDI	**IGDIR**	**1.29**	**2**	*e*P	**Pg**	**08 28 52.7**	**+0.5**
IGDI				⇓*e*S	**Sn**	**08 29 13.3**	**+3.9**
IGDI	**IGDIR**	**1.29**	**2**	*i* P	**Pg**	**08 28 52.0**	**-0.2**
IGDI				*i* S	**Sn**	**08 29 12.0**	**+2.7**
TASB	**TASBURUN-IGDIR**	**1.41**	**7**	PN	**Pg**	**08 28 55.0**	**+0.4**
TASB	**TASBURUN-IGDIR**	**1.41**	**7**	*e*Pn	**Pg**	**08 28 55.0**	**+0.4**
GURO	**Guroymak-BITLI**	**1.55**	**270**	PN	**Pg**	**08 28 56.3**	**-0.9**
GURO	**Guroymak-BITLI**	**1.55**	**270**	*e*Pn	**Pg**	**08 28 56.3**	**-0.9**
SIRT	**Sirnak**	**1.64**	**230**	PN	**Pg**	**08 28 58.9**	**-0.1**
SIRT	**Sirnak**	**1.64**	**230**	*e*Pn	**Pg**	**08 28 58.9**	**-0.1**
EKAR	**Karacoban**	**1.66**	**295**	*e*P	**Pg**	**08 28 59.9**	**+0.6**
EKAR	**Karacoban**	**1.66**	**295**	*i* P	**Pg**	**08 28 60.0**	**+0.6**
EKAR	**Karacoban**	**1.66**	**295**	P	**Pg**	**08 29 00.0**	**+0.6**
GNI	**Garni**	**1.67**	**20**	⇑*i*P	**Pg**	**08 28 59.6**	**+0.1**
GNI				⇑*i*S	**Sg**	**08 29 22.2**	**+1.1**
GNI	**Garni**	**1.67**	**20**	⇑P	**Pg**	**08 28 59.6**	**+0.1**
GNI				S	**Sg**	**08 29 22.2**	**+1.1**
EATA	**Eleskirt**	**1.74**	**318**	*e*P	**Pg**	**08 29 01.5**	**+0.6**
EATA	**Eleskirt**	**1.74**	**318**	*i* P	**Pg**	**08 29 01.4**	**+0.5**
EATA	**Eleskirt**	**1.74**	**318**	P	**Pg**	**08 29 01.4**	**+0.5**
SRTM	**Siirt_Merkez**	**1.75**	**251**	*i* P	**Pg**	**08 29 01.1**	**+0.2**
SRTM				*i* S	**Sg**	**08 29 28.4**	**+4.8**
SRTM	**Siirt_Merkez**	**1.75**	**251**	P	**Pg**	**08 29 01.1**	**+0.2**
DIGO	**Kars**	**1.90**	**345**	*e*P	**Pg**	**08 29 03.4**	**-0.4**
DIGO	**Kars**	**1.90**	**345**	*i* P	**Pg**	**08 29 03.5**	**-0.4**
DIGO	**Kars**	**1.90**	**345**	P	**Pg**	**08 29 03.5**	**-0.4**
EAK	**Akyaka**	**2.13**	**352**	*e*P	**Pg**	**08 29 07.2**	**-1.1**
EAK	**Akyaka**	**2.13**	**352**	*i* P	**Pg**	**08 29 07.6**	**-0.7**
EAK	**Akyaka**	**2.13**	**352**	P	**Pg**	**08 29 07.6**	**-0.7**
HOMI	**Horasan**	**2.19**	**313**	*e*P	**Pg**	**08 29 08.9**	**-0.6**
HOMI	**Horasan**	**2.19**	**313**	*i* P	**Pg**	**08 29 09.9**	**+0.4**
BTMN	**Batman**	**2.26**	**253**	*i* P	**Pb**	**08 29 07.2**	**-1.4**
BTMN	**Batman**	**2.26**	**253**	P	**Pb**	**08 29 07.2**	**-1.4**
SENK	**Senkaya-Erzuru**	**2.36**	**328**	PN	**Pb**	**08 29 07.9**	**-2.4**
SENK	**Senkaya-Erzuru**	**2.36**	**328**	*e*Pn	**Pb**	**08 29 07.9**	**-2.4**
ERZM	**Erzurum**	**2.44**	**304**	*e*P	**Pg**	**08 29 12.4**	**-1.9**
ERZM	**Erzurum**	**2.44**	**304**	*i* P	**Pg**	**08 29 13.3**	**-1.0**
ERZM	**Erzurum**	**2.44**	**304**	P	**Pg**	**08 29 13.3**	**-1.0**
BNGB	**Bing˜¶l**	**2.63**	**280**	PN	**Pb**	**08 29 12.7**	**-2.3**
BINT	**Bingol**	**2.77**	**277**	*e*Pn	**Pn**	**08 29 12.7**	**+0.4**
KOPT	**Kop Dagi**	**3.08**	**299**	*e*P	**Pb**	**08 29 22.7**	**0.0**
KOPT	**Kop Dagi**	**3.08**	**299**	*i* P	**Pg**	**08 29 26.3**	**-0.2**
KELT	**Kelkit**	**4.00**	**295**	*e*P	**Pg**	**08 29 42.4**	**-1.8**

*NIED **30** 08:36:00,40.˚80N×145.˚40E,h5km,Mw3.9 Best double couple: M0 7.12000×10^14 NP1:φ=73.00000°,δ=36.00000°, λ=79.00000°. NP2:φ=239.00000°,δ=55.00000°, λ=98.00000°.*
*IDC **30** 08:36:34.5±0.6,40.˚80N×145.˚17E,h0km,mb3.9/18, mb1 4.0/21,mb1mx3.9/68,mbtmp3.9/21,ML3.7/3,MS2.7/6, Ms1 2.7/6,ms1mx2.5/63,Error ellipse: s-maj=17.0km s-min=13.5km az=108.0*
*JMA **30** 08:36:35.5±0.2,40.˚84N×145.˚37E,h67km±3km,M4.1*
*NEIC **30** 08:36:36.4±2.2,40.˚79N×145.˚13E,h10km±14km,mb4.6/27, Error ellipse: s-maj=4.9km s-min=3.7km az=128.0*
*MOS **30** 08:36:36.7±1.1,40.˚84N×145.˚11E,h27km,mb4.4/16,Error ellipse: s-maj=12.9km s-min=7.4km az=82.9*

ISC 30 08:36:38.8±2.0,40.˚92N±0.˚02×145.˚09E±0.˚02,h25km±14km, n135,σ1§46/124,mb4.3/44,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.82**	**308**	*e*P	Pn	08 37 08.6	+0.1
ERM				*e*		08 37 31.6	
ERM	**Erimo**	**1.82**	**308**	*e*Pn	Pn	08 37 08.6	+0.1
ERM				*e*Sn	**Sn**	**08 37 31.6**	**+0.8**
JEM	**Erimo**	**1.82**	**308**	P	Pn	08 37 08.3	-0.2
JEM				*e*S	**Sn**	**08 37 31.3**	**+0.5**
JAK	**Akkeshi**	**2.10**	**352**	P	Pn	08 37 10.6	-1.7
JAK				*e*S	**Sn**	**08 37 36.2**	**-1.3**
JCH	**Churui**	**2.13**	**323**	P	Pn	08 37 12.3	-0.5
JCH				*e*S	**Sn**	**08 37 38.1**	**-0.3**
JOB	**Onbets**	**2.19**	**335**	P	Pn	08 37 13.1	-0.5
JOB				*e*S	**Sn**	**08 37 40.1**	**+0.1**
JNBK	**Urakawa-nobuka**	**2.22**	**309**	P	**Pn**	**08 37 14.5**	**+0.5**
JNBK				*e*S	**Sn**	**08 37 42.4**	**+1.8**
NEM2	**Nemuro 2**	**2.49**	**11**	P	Pn	08 37 15.6	-2.1
NEM2				*e*S	**Sn**	**08 37 43.7**	**-3.6**
JAR	**Ashorobuto**	**2.57**	**338**	P	Pn	08 37 17.5	-1.4
JAR				*e*S	**Sn**	**08 37 47.7**	**-1.6**
JNK	**Nakash**	**2.68**	**354**	P	Pn	08 37 18.0	-2.3
JNK				*e*S	**Sn**	**08 37 48.5**	**-3.4**
JBT2	**Biratori 2**	**2.76**	**313**	P	Pn	08 37 21.2	-0.2
JBT2				*e*S	**Sn**	**08 37 54.5**	**+0.6**
JANG	**Nango**	**2.78**	**260**	P	Pn	08 37 19.9	-1.8
JFR	**Furan**	**2.92**	**321**	P	Pn	08 37 23.1	-0.5
JFR				*e*S	**Sn**	**08 37 56.2**	**-1.6**
JRA	**Rausu**	**3.02**	**0**	P	Pn	08 37 23.1	-1.8
JRA				*e*S	**Sn**	**08 37 58.0**	**-2.2**
JOT	**Ohata**	**3.09**	**280**	P	Pn	08 37 25.9	0.0
JOT				*e*S	**Sn**	**08 38 00.6**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**3.17**	**10**	*e*P	Pn	08 37 25.5	-1.5
YUK				*e*S	**Sn**	**08 38 00.1**	**-3.8**
YUK				pmax	pmax		
	comp=Z,148nm,0.2s						
JTKR	**Abashiri--Toko**	**3.17**	**344**	P	Pn	08 37 26.6	-0.5
JTKR				*e*S	**Sn**	**08 38 03.5**	**-0.6**
JKB	**Kayabe**	**3.21**	**289**	P	**Pn**	**08 37 27.9**	**+0.4**
JKB				*e*S	**Sn**	**08 38 04.0**	**-0.9**
SHO	**Shikotan**	**3.22**	**23**	*e*P	Pn	08 37 24.9	-2.8
SHO				*e*S	**Sn**	**08 38 00.0**	**-5.2**
SHO				pmax	pmax		
	comp=Z,28nm,0.3s						
JOM	**Ohasama**	**3.25**	**245**	P	Pn	08 37 26.6	-1.6
JOM				*e*S	**Sn**	**08 38 02.9**	**-3.1**
JEW	**Eniwo**	**3.33**	**306**	P	**Pn**	**08 37 30.2**	**+0.9**
JEW				*e*S	**Sn**	**08 38 09.5**	**+1.5**
JKK2	**Kamakawa 2**	**3.42**	**330**	P	Pn	08 37 30.7	+0.1
JKK2				*e*S	**Sn**	**08 38 11.3**	**+0.9**
JMK	**Ichinoseki**	**3.57**	**238**	P	Pn	08 37 30.5	-2.0
JMK				*e*S	**Sn**	**08 38 09.8**	**-4.0**
ASAJ	**Asahikawa**	**3.69**	**331**	Pn	**Pn**	**08 37 34.7**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=329,slow=32,SNR=14						
ASAJ				Sn	**Sn**	**08 38 18.7**	**+1.8**
	comp=Z,3.7nm,0.3s,baz=287,slow=28,SNR=6.7						
ASAJ	**Asahikawa**	**3.69**	**331**	P	**Pn**	**08 37 34.7**	**+0.5**
ASAJ						08 38 18.7	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,4.0nm,0.3s						
ASAJ	**Asahikawa**	**3.69**	**331**	*e*Pn	**Pn**	**08 37 35.2**	**+1.0**
ASAJ				*e*Sn	**Sn**	**08 38 21.0**	**+4.1**
KUR	**Kuril'sk**	**4.77**	**24**	*e*P	**Pn**	**08 37 48.2**	**-0.8**
KUR				*e*S	**Sn**	**08 38 38.8**	**-4.5**
KUR				pmax	pmax		
	comp=Z,64nm,0.3s						
KUR				smax	smax		
	comp=E,103nm,0.4s						
KUR				smax	smax		
	comp=N,82nm,0.2s						
MAJO	**Matsushiro**	**6.93**	**233**	*e*P	Pn	08 38 16.9	-1.9
MAJO				*e*		08 39 34.3	
MAJO	**Matsushiro**	**6.93**	**233**	*e*Pn	Pn	08 38 16.9	-1.9
MAJO				*e*Sn	**Sn**	**08 39 34.3**	**-2.5**
MJAR	**Matsushiro Arr**	**6.93**	**233**	Pn	Pn	08 38 16.9	-1.9
	comp=N,0.7nm,0.3s,baz=37,slow=13,SNR=6.7						
MJAR				Sn	**Sn**	**08 39 34.3**	**-2.5**
	baz=263,slow=18,SNR=2.1						
MJB9	**Matsu-Tunnel**	**6.93**	**233**	*e*Pn	**Pn**	**08 38 17.5**	**-1.3**
JHJ	**Hachijo jima 2**	**8.87**	**210**	Pn	Pn	08 38 41.0	-4.3
	comp=N,9.3nm,0.3s,baz=72,slow=20,SNR=3.9						
JHJ				Sn	Sn	08 40 12.9	-11
	comp=N,9.7nm,0.3s,baz=31,slow=16,SNR=5.0						
USRK	**Ussuriysk Ar.**	**10.21**	**293**	Pn	**Pn**	**08 39 06.8**	**+3.2**
	comp=N,0.1nm,0.3s,baz=130,slow=16,SNR=4.1						
KLR	**Kul'dur**	**12.56**	**316**	LR	LR	08 44 52.4	
	comp=N,4.6nm,20.0s,baz=144,slow=39						
PETK	**Petropavlovsk-**	**14.89**	**31**	LR	LR	08 46 18.0	
	comp=N,16nm,18.5s,baz=198,slow=39						
MA2	**Magadan**	**19.01**	**9**	LR	LR	08 48 29.1	
	comp=N,30nm,18.4s,baz=272,slow=37						
SEY	**Seymchan**	**22.47**	**9**	P	**P**	**08 41 35.4**	**-0.5**
	comp=N,1.3nm,0.7s,baz=168,slow=1.1,SNR=7.2						
SARN	**Sarigan**	**24.14**	**178**	*e*P	**P**	**08 41 51.6**	**-1.2**
ANA2	**Anatahan**	**24.50**	**179**	*e*P	**P**	**08 41 54.5**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**28.14**	**132**	T	T	09 12 06.4	
	baz=323,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.15**	**132**	T	T	09 12 06.5	
	baz=323,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.16**	**132**	T	T	09 12 08.1	
	baz=323						
SONA0	**Songino Array**	**28.28**	**297**	*e*P	**P**	**08 42 31.3**	**+1.2**
SONM	**Songino Array**	**28.28**	**297**	P	**P**	**08 42 31.3**	**+1.2**
	comp=N,2.5nm,1.1s,baz=64,slow=9.8,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**29.02**	**134**	T	T	09 13 05.5	
	baz=333						
H11S3	**WAKE ISLAND Hy**	**29.02**	**134**	T	T	09 13 09.6	
	baz=333						
H11S2	**WAKE ISLAND Hy**	**29.04**	**134**	T	T	09 13 09.4	
	baz=333						
TIXI	**Tiksi**	**31.86**	**350**	LR	LR	08 55 11.2	
	comp=N,22nm,21.3s,baz=122,slow=35						
DAV	**Davao City (W)**	**37.94**	**213**	LR	LR	09 01 02.6	
	comp=N,12nm,19.0s,baz=165,slow=39						
SVW2	**Sparrevohn**	**40.70**	**40**	*e*P	**P**	**08 44 18.5**	**+1.6**
	comp=N,28nm,1.9s						
ZAA1	**Zalesovo Array**	**41.55**	**309**	*e*P	**P**	**08 44 24.8**	**+0.8**
ZALV	**Zalesovo Beam**	**41.55**	**309**	P	**P**	**08 44 24.8**	**+0.8**
	comp=N,0.9nm,0.4s,baz=62,slow=7.6,SNR=3.0						
IM3	**Indian Mountai**	**41.84**	**33**	*e*P	**P**	**08 44 27.2**	**+1.0**
KDAK	**Kodiak Island**	**42.31**	**45**	P	**P**	**08 44 30.0**	**-0.1**
	comp=N,2.9nm,0.5s,baz=239,slow=5.9,SNR=4.1						
PPLA	**Purkeypile**	**42.34**	**37**	*e*P	**P**	**08 44 32.4**	**+1.8**
	comp=N,8.8nm,1.4s						
CAST	**Castle Rocks**	**42.40**	**36**	*e*P	**P**	**08 44 32.7**	**+1.9**
	comp=N,18nm,1.8s						
MLY	**Manley**	**43.03**	**34**	*e*P	**P**	**08 44 37.7**	**+1.7**
	comp=N,8.9nm,1.7s						
SUA	**Susitna One**	**43.04**	**39**	*e*P	**P**	**08 44 35.2**	**-1.0**
	comp=N,17nm,1.8s						
BRLK	**Bradley Lake**	**43.05**	**42**	*e*P	**P**	**08 44 36.4**	**+0.3**
	comp=N,59nm,1.6s						
PMR	**Palmer**	**43.80**	**39**	*e*P	**P**	**08 44 41.9**	**-0.2**
PMR				pmax	pmax		
	comp=Z,21nm,1.8s						
PMR	**Palmer**	**43.80**	**39**	*e*P	**P**	**08 44 41.9**	**-0.2**
	comp=Z,21nm,1.8s						
MDM	**Murphy Dome**	**44.10**	**34**	*e*P	**P**	**08 44 46.1**	**+1.5**
	comp=Z,4.7nm,1.2s						
WRH	**Wood River Hil**	**44.17**	**35**	*e*P	**P**	**08 44 46.1**	**+1.1**
	comp=Z,4.4nm,1.2s						
SML	**Sawmill**	**44.17**	**39**	*e*P	**P**	**08 44 45.7**	**+0.5**
SML				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SML	**Sawmill**	**44.17**	**39**	*e*P	**P**	**08 44 45.7**	**+0.5**
	comp=Z,7.9nm,1.1s						
DHY	**Denali Highway**	**44.54**	**37**	*e*P	**P**	**08 44 49.1**	**+0.9**
	comp=Z,12nm,1.7s						
MK01	**Makanchi Array**	**44.60**	**299**	*e*P	**P**	**08 44 49.4**	**+0.6**
MK31	**Makanchi Array**	**44.60**	**299**	*e*P	**P**	**08 44 48.5**	**-0.3**
MK31	**Makanchi Array**	**44.60**	**299**	*e*P	**P**	**08 44 48.5**	**-0.3**
MK32	**Makanchi Array**	**44.60**	**299**	*e*P	**P**	**08 44 49.2**	**+0.4**
MKAR	**Makanchi Array**	**44.60**	**299**	P	**P**	**08 44 49.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=86,slow=7.3,SNR=2.9						
MKAR				LR	LR	09 03 10.1	
	comp=Z,33nm,19.4s,baz=56,slow=36						
MKAR	**Makanchi Array**	**44.60**	**299**	*e*P	**P**	**08 44 48.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**44.60**	**299**	*e*P	**P**	**08 44 48.7**	**-0.1**
	comp=Z,6.1nm,0.7s						
SCM	**Sheep Creek Mo**	**44.64**	**39**	*e*P	**P**	**08 44 49.0**	**0.0**
SCM				pmax	pmax		
	comp=Z,13nm,1.3s						
SCM	**Sheep Creek Mo**	**44.64**	**39**	*e*P	**P**	**08 44 49.0**	**0.0**
	comp=Z,13nm,1.3s						
HDA	**Harding Lake**	**44.66**	**35**	*e*P	**P**	**08 44 49.3**	**+0.3**
	comp=Z,4.4nm,1.1s						
ILAR	**Eielson Array**	**44.68**	**34**	P	**P**	**08 44 48.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=264,slow=6.0,SNR=9.0						
ILB	**Eielson Array**	**44.68**	**34**	*e*P	**P**	**08 44 48.8**	**-0.4**
IL1	**Eielson Array**	**44.68**	**34**	*e*P	**P**	**08 44 49.7**	**+0.6**
KLU	**Klutina**	**45.34**	**39**	*e*P	**P**	**08 44 55.7**	**+1.1**
	comp=Z,24nm,2.0s						
KURK	**Kurchatov**	**45.90**	**306**	*e*P	**P**	**08 44 59.8**	**+0.8**
KURK				pmax	pmax		
	comp=Z,18nm,1.9s						
KURK	**Kurchatov**	**45.90**	**306**	*e*P	**P**	**08 44 59.8**	**+0.8**
	comp=Z,18nm,1.9s						
KURBB	**Kurchatov Arra**	**45.98**	**306**	P	**P**	**08 45 00.0**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=77,slow=8.6,SNR=7.8						
DOT	**Dot Lake**	**45.98**	**36**	*e*P	**P**	**08 44 59.4**	**-0.1**
	comp=Z,24nm,1.8s						
SCRK	**Sand Creek**	**45.99**	**35**	*e*P	**P**	**08 45 00.2**	**+0.6**
	comp=Z,10nm,1.9s						
MENT

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.90**	**316**	P	**Pn**	**08 41 45.3**	**-0.8**
JIO				S	**Sb**	**08 41 56.6**	**-0.9**
JMM	**Marumori**	**1.07**	**273**	P	**Pn**	**08 41 47.6**	**-0.9**
JMM				S	**Sn**	**08 42 01.0**	**-1.6**
JFK	**Kawauchi**	**1.10**	**247**	P	**Pn**	**08 41 47.8**	**-1.2**
JFK				S	**Sn**	**08 42 01.3**	**-2.2**
JOU	**Okura**	**1.29**	**296**	P	**Pb**	**08 41 51.5**	**-1.2**
JMK	**Ichinoseki**	**1.35**	**328**	P	**Pn**	**08 41 51.8**	**-0.6**
JMK				S	**Sn**	**08 42 08.7**	**-0.8**
JFT	**Otama**	**1.46**	**259**	P	**Pb**	**08 41 53.9**	**-1.7**
JFT				S	**Sb**	**08 42 12.7**	**-1.1**
JYS	**Shirataka**	**1.69**	**285**	P	**Pb**	**08 41 58.1**	**-1.4**
JYS				eS	**Sb**	**08 42 19.7**	**-0.6**
JYK	**Kaneyama**	**1.79**	**309**	P	**Pn**	**08 41 58.4**	**0.0**
JYK				eS	**Sn**	**08 42 20.7**	**+0.4**
JOM	**Ohasama**	**1.79**	**338**	P	**Pn**	**08 41 58.3**	**-0.1**
JOM				eS	**Sn**	**08 42 19.8**	**-0.6**
JRG	**Rokugo**	**1.98**	**324**	P	**Pn**	**08 42 01.5**	**+0.5**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=80,slow=14,SNR=6.3	**3.39**	**249**	Pn	**Pn**	**08 42 22.5**	**+2.1**
MJAR	0.9nm,0.3s,baz=64,slow=13,SNR=4.2			Sn	**Sb**	**08 43 13.6**	**+4.4**
MAT	**Matsushiro**	**3.39**	**249**	P	**Pn**	**08 42 20.4**	**-0.1**
MAT				eS	**Sn**	**08 43 02.4**	**+2.5**
JHJ	**Hachijo jima 2** 7.4nm,0.3s,baz=72,slow=20,SNR=3.8	**5.06**	**203**	Pn	**Pn**	**08 42 43.5**	**+0.1**
JHJ	7.8nm,0.3s,baz=252,slow=20,SNR=2.5			Sn	**Sn**	**08 43 38.2**	**-2.9**
JNU	**Nakatsue** comp=Z,36nm,19.6s,baz=107,slow=40	**10.31**	**246**	LR	LR	08 48 28.7	
H11N2	**WAKE ISLAND Hy** baz=316,slow=75,SNR=11	**28.06**	**123**	T	T	09 17 02.6	
H11N1	**WAKE ISLAND Hy** baz=316,slow=75,SNR=4.1	**28.07**	**123**	T	T	09 17 13.2	
H11N3	**WAKE ISLAND Hy** baz=316,slow=75,SNR=4.1	**28.08**	**123**	T	T	09 17 10.4	
H11S1	**WAKE ISLAND Hy** baz=322	**28.81**	**125**	T	T	09 18 06.1	
H11S3	**WAKE ISLAND Hy** baz=322	**28.81**	**125**	T	T	09 18 00.9	
H11S2	**WAKE ISLAND Hy** baz=322	**28.83**	**125**	T	T	09 17 51.9	
MKAR	**Makanchi Array** 0.7nm,1.0s,baz=54,slow=6.2,SNR=2.6	**44.20**	**302**	P	**P**	**08 49 38.6**	**+2.5**
MKAR	0.8nm,0.7s,baz=90,slow=9.9,SNR=6.7			pP	**sP**	**08 49 46.2**	**-0.2**
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=81,slow=8.1,SNR=4.1	**45.99**	**307**	P	**P**	**08 49 52.3**	**+2.2**
KURBB	0.8nm,0.5s,baz=82,slow=8.4,SNR=4.7			pP	**sP**	**08 50 00.7**	**+0.3**
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=6.0,slow=7.3,SNR=5.4	**57.91**	**189**	P	**P**	**08 51 18.0**	**-1.2**
WRA	0.2nm,0.6s,baz=5.6,slow=7.4,SNR=1.8			pP	**sP**	**08 51 30.5**	**+0.9**

*NEIC **30** 08:51:34.1±0.0,55.˚14N×134.˚00W,h20km,ML3.1(OTT), After OTT.*

PGC 30 08:51:34.1±0.5**,55.˚14N×134.˚00W,h20**km**,ML3.1**/3**, 172km Wnw of Masset, Bc Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**0.60**	**56**	*e*Pg	Pn	08 51 48.1	+0.7
CRAG				eSn	Sn	08 51 60.0	+3.4
SIT	**Sitka**	**2.06**	**339**	*e*Pn	Pb	08 52 10.0	-0.7
SIT				eSn	Sn	08 52 31.9	-0.7
DIB	**Dawson Inlet,**	**2.14**	**155**	Pn	Pn	08 52 07.9	-0.7
DIB				Sn	Sn	08 52 33.6	-0.9
DIB				Sg	Sb	08 52 40.9	+2.7
DIB	**Dawson Inlet,**	**2.14**	**155**	Pn	Pn	08 52 07.9	-0.7
DIB				eSn	Sn	08 52 33.6	-0.9
DIB				Sg	Sb	08 52 40.9	+2.7
BNB	**Barry Inlet**	**2.89**	**152**	Pn	Pn	08 52 18.8	-0.3
BNB				Sg	Sb	08 53 04.6	+4.7
BNB	**Barry Inlet**	**2.89**	**152**	*e*Pn	Pn	08 52 18.8	-0.3
BNB				Sg	Sb	08 53 04.6	+4.7
BESE	**Bessie Mountai**	**3.48**	**353**	Pn	Pn	08 52 23.4	-3.7
BESE	**Bessie Mountai**	**3.48**	**353**	Pn	Pn	08 52 23.4	-3.7
DLBC	**Dease Lake**	**3.96**	**32**	Pn	Pn	08 52 34.1	+0.3
DLBC				Sg	Sb	08 53 39.9	+9.2
DLBC	**Dease Lake**	**3.96**	**32**	*e*Pn	Pn	08 52 34.0	+0.2
DLBC				eSg	Sb	08 53 43.3	+13
HYT	**Haines Junctio**	**6.00**	**343**	*e*Pn	Pn	08 52 58.8	-3.0
PMR	**Palmer**	**10.23**	**315**	*e*Pn	Pn	08 53 54.4	-5.1
TRF	**Thorofare Moun**	**11.74**	**322**	*e*Pn	Pn	08 54 18.1	-2.3
G08A	**Pilot Rock**	**13.75**	**130**	*e*Pn	Pn	08 54 45.6	-2.2

*ISCJB **30** 08:55:51.8±1.3,14.˚86S±0.˚04×167.˚41E±0.˚05, h150km,11km,mb4.7/58, Error ellipse: s-maj=8.6km s-min=5.0km az=144.0*
*BJI **30** 08:55:51.0,14.˚59S×167.˚22E,h126km,mb4.7/26, mB4.9/13*
*IDC **30** 08:55:51.6±1.6,14.˚85S×167.˚43E,h135km±14km, mb4.1/22,mb1 4.2/24,mb1mx4.1/45,mbtmp4.5/24,Error ellipse: s-maj=12.3km s-min=10.2km az=65.0*
*NEIC **30** 08:55:52.0±1.1,14.˚80S×167.˚43E,h140km±9km,mb4.9/36, Error ellipse: s-maj=6.7km s-min=5.0km az=61.0*
*WEL **30** 08:55:52.0,14.˚80S×167.˚43E,h140km*
ISC 30 08:55:53.0±1.1**,14.˚87S**±0.˚05**×167.˚43E**±0.˚07**,h149**km±9km**, n145,**σ1**$**28**/159**,mb4.8**/57**,1D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 5.6nm,0.3s,baz=30,slow=4.4,SNR=64	**7.22**	**187**	P	**Pn**	**08 57 36.6**	**+0.6**
DZM	3.1nm,0.3s,baz=316,slow=21,SNR=3.1			S	**Sn**	**08 58 54.8**	**-2.1**
DZM	**Mont Dzumac**	**7.22**	**187**	*e*Pn	**Pn**	**08 57 36.2**	**+0.2**
DZM				S	**Sn**	**08 58 54.8**	**-2.1**
DZM				eSn	Sn	08 58 59.9	+2.9
HNR	**Honiara** 10nm,0.3s,baz=219,slow=14,SNR=2.6	**9.09**	**306**	P	**Pn**	**08 57 58.8**	**-2.2**
HNR	40nm,0.3s,baz=22,slow=18,SNR=7.7			S	**Sn**	**08 59 41.5**	**-0.5**
HNR	**Honiara**	**9.09**	**306**	*e*P	**Sn**	**08 59 44.0**	**+2.0**
HNR	**Honiara**	**9.09**	**306**	*e*Pn	**Pn**	**08 57 58.2**	**-2.8**
HNR				S	**Sn**	**08 59 41.5**	**-0.5**
EIDS	**Eidsvold** baz=19,SNR=13	**18.54**	**233**	P	**Pn**	**09 00 00.4**	**+0.1**
EIDS	**Eidsvold** 28nm,0.7s	**18.54**	**233**	*e*P	**Pn**	**09 00 00.5**	**+0.1**
AFI	**Afiamalu** 14nm,0.8s,baz=78,slow=19,SNR=2.4	**20.17**	**90**	P	**P**	**09 00 16.3**	**+0.3**
CTA	**Charters Tower** 6.6nm,0.8s,baz=85,slow=13,SNR=5.5	**20.84**	**253**	P	**P**	**09 00 23.5**	**+0.3**
CTAO	**Charters Tower** 16nm,1.1s	**20.84**	**253**	*e*P	**P**	**09 00 23.7**	**+0.5**
RMQ	**Roma** baz=21,SNR=17	**20.91**	**233**	P	**P**	**09 00 25.4**	**+1.6**
OUZ	**Omahuta** 62nm,0.9s	**21.01**	**166**	*e*P	**P**	**09 00 26.8**	**+2.0**
OUZ	**Omahuta**	**21.01**	**166**	P	**P**	**09 00 26.6**	**+1.8**
ARMA	**Armidale** baz=21,SNR=14	**21.22**	**221**	P	**P**	**09 00 29.0**	**+1.7**
ARMA	**Armidale** 51nm,1.0s	**21.22**	**221**	*e*P	**P**	**09 00 28.8**	**+1.6**
MTSU	**Mount Surprise** baz=22,SNR=4.6	**22.39**	**258**	P	**P**	**09 00 40.3**	**+1.0**
MGCD	**Mangrove Creek** baz=24,SNR=19	**23.51**	**216**	P	**P**	**09 00 50.9**	**+1.4**
RIV	**Riverview** baz=24,SNR=8.0	**23.93**	**215**	P	**P**	**09 00 55.0**	**+1.7**
HIZ	**Hauiti** 19nm,0.7s	**24.45**	**166**	*e*P	**P**	**09 01 01.9**	**+4.0**
HAZ	**Te Kaha**	**24.57**	**160**	P	**P**	**09 01 00.6**	**+1.5**
QLP	**Quilpie** baz=25,SNR=26	**24.57**	**238**	P	**P**	**09 01 00.0**	**+0.8**
PKGZ	**Pakihiroa**	**24.79**	**160**	P	**P**	**09 01 01.4**	**+0.2**
URZ	**Urewera** 5.4nm,0.5s,baz=298,slow=1.9,SNR=8.7	**24.82**	**162**	P	**P**	**09 01 01.7**	**+0.4**
URZ	**Urewera** 65nm,1.6s	**24.82**	**162**	*e*P	**P**	**09 01 01.5**	**+0.1**
URZ	**Urewera**	**24.82**	**162**	P	**P**	**09 01 01.8**	**+0.4**
MWZ	**Matawai**	**25.02**	**161**	P	**P**	**09 01 03.6**	**+0.4**
TWGZ	**Tauwhareparae**	**25.02**	**160**	P	**P**	**09 01 04.2**	**+1.0**
RTZ	**Ruatahuna**	**25.11**	**162**	P	**P**	**09 01 04.3**	**+0.3**
RAGZ	**Rawiri**	**25.13**	**161**	P	**P**	**09 01 04.9**	**+0.6**
MRHZ	**Matea Rd**	**25.15**	**163**	P	**P**	**09 01 06.1**	**+1.7**
MTHZ	**Maungataniwha**	**25.29**	**163**	P	**P**	**09 01 06.7**	**+1.1**
TRVZ	**Turoa**	**25.36**	**165**	P	**P**	**09 01 08.2**	**+1.7**
SNGZ	**Shannon Statio**	**25.37**	**162**	P	**P**	**09 01 06.3**	**0.0**
BKZ	**Black Stump Fm** 17nm,0.5s	**25.48**	**163**	*e*P	**P**	**09 01 07.9**	**+0.4**
BKZ	**Black Stump Fm**	**25.48**	**163**	P	**P**	**09 01 07.8**	**+0.4**
NMHZ	**Naumai**	**25.50**	**163**	P	**P**	**09 01 08.6**	**+0.9**
BHHZ	**Black Hill Sta**	**25.67**	**164**	P	**P**	**09 01 10.1**	**+1.0**
KWHZ	**Kaweka Forest**	**25.70**	**164**	P	**P**	**09 01 10.1**	**+0.7**
MCHZ	**McNeill Hill**	**25.80**	**163**	P	**P**	**09 01 10.9**	**+0.8**
YNG	**Young** baz=26,SNR=6.1	**25.87**	**218**	P	**P**	**09 01 12.1**	**+1.1**
CMSA	**Cobar Meteorol** baz=26,SNR=28	**25.88**	**226**	P	**P**	**09 01 11.8**	**+0.7**
KRHZ	**Kereru**	**25.89**	**164**	P	**P**	**09 01 11.3**	**+0.2**
CNB	**Canberra Magne** baz=26,SNR=23	**26.03**	**215**	P	**P**	**09 01 13.4**	**+1.0**
PNHZ	**Pukenui**	**26.10**	**165**	P	**P**	**09 01 14.1**	**+1.1**
KAHZ	**Kahuranaki**	**26.17**	**163**	P	**P**	**09 01 13.8**	**+0.2**
CAN	**Canberra** 9.3nm,1.0s	**26.24**	**216**	*e*P	**P**	**09 01 15.2**	**+1.0**
BFZ	**Birch Farm** 100nm,1.6s	**26.84**	**165**	*e*P	**P**	**09 01 19.0**	**-0.5**
THZ	**Tophouse** 54nm,1.5s	**27.21**	**171**	*e*P	**P**	**09 01 23.8**	**+0.9**
KHZ	**Kahutara** 54nm,1.7s	**27.95**	**170**	*e*P	**P**	**09 01 29.4**	**0.0**
LTZ	**Lake Taylor** 22nm,0.7s	**28.12**	**172**	*e*P	**P**	**09 01 31.7**	**+0.7**
OXZ	**Oxford** 18nm,0.7s	**28.63**	**173**	*e*P	**P**	**09 01 35.6**	**+0.2**
FOZ	**Fox Glacier** 39nm,0.8s	**28.64**	**176**	*e*P	**P**	**09 01 36.6**	**+1.2**
RPZ	**Rata Peaks** 21nm,0.6s,baz=251,slow=1.9,SNR=20	**28.91**	**175**	P	**P**	**09 01 38.6**	**+0.7**
RPZ	**Rata Peaks** 23nm,0.7s	**28.91**	**175**	*e*P	**P**	**09 01 38.8**	**+0.8**
STKA	**Stephens Creek** 26nm,0.5s,baz=53,slow=9.2,SNR=107	**29.02**	**230**	P	**P**	**09 01 40.2**	**+1.2**
STKA	7.8nm,1.0s,baz=34,slow=5.4,SNR=5.2			PcP	**PcP**	**09 04 44.2**	**+0.4**
STKA	**Stephens Creek** baz=29,SNR=52	**29.02**	**230**	P	**P**	**09 01 40.2**	**+1.2**
STKA	**Stephens Creek** 11nm,1.0s	**29.02**	**230**	*e*P	**P**	**09 01 40.2**	**+1.2**
STKA				PcP	**PcP**	**09 04 44.2**	**+0.4**
MQZ	**McQueen's Vall** 47nm,1.7s	**29.08**	**172**	*e*P	**P**	**09 01 39.8**	**+0.4**
LBZ	**Lake Benmore** 19nm,0.6s	**29.51**	**176**	*e*P	**P**	**09 01 43.3**	**+0.1**
TOO	**Toolangi** baz=30,SNR=7.3	**29.83**	**217**	P	**P**	**09 01 47.0**	**+0.9**
WKZ	**Wanaka** 21nm,0.8s	**29.89**	**178**	*e*P	**P**	**09 01 47.3**	**+0.8**
ODZ	**Otahua Downs** 85nm,1.9s	**30.20**	**175**	*e*P	**P**	**09 01 49.2**	**0.0**
MLZ	**Mavora Lakes** 26nm,1.0s	**30.40**	**179**	*e*P	**P**	**09 01 51.8**	**+0.7**
DCZ	**Deep Cove** 55nm,1.0s	**30.50**	**180**	*e*P	**P**	**09 01 52.5**	**+0.6**
WHZ	**Wether Hill Ro** 19nm,0.9s	**30.93**	**179**	*e*P	**P**	**09 01 55.9**	**+0.3**
ARPS	**Mount Arapiles** baz=32,SNR=7.7	**31.54**	**222**	P	**P**	**09 02 02.1**	**+0.9**
HTT	**Hallett** baz=32,SNR=13	**31.74**	**229**	P	**P**	**09 02 04.0**	**+1.0**
WB2	**Warramunga Arr** 6.7nm,0.8s	**31.93**	**256**	*e*P	**P**	**09 02 03.6**	**-1.2**
WB2				ePcP	**PcP**	**09 04 51.9**	**+0.1**
WRA	**Warramunga Arr** 6.4nm,0.8s,baz=83,slow=8.3,SNR=36	**31.94**	**256**	P	**P**	**09 02 03.3**	**-1.6**
WRA	2.6nm,0.9s,baz=84,slow=2.7,SNR=8.2			PcP	**PcP**	**09 04 51.3**	**-0.5**
WRA	1.0nm,1.1s,baz=90,slow=5.7,SNR=4.4			ScP	**ScP**	**09 08 22.5**	**+1.0**
MOO	**Moorlands** baz=33	**32.54**	**208**	P	**P**	**09 02 11.0**	**+1.1**
AS01	**Alice Springs** 7.6nm,1.0s	**32.72**	**249**	*e*P	**P**	**09 02 10.8**	**-0.9**
AS01				ePcP	**PcP**	**09 04 53.4**	**-0.5**
AS31	**Alice Springs** 19nm,0.8s,baz=77,slow=8.8,SNR=137	**32.76**	**249**	*e*P	**P**	**09 02 11.2**	**-0.9**
ASAR	2.6nm,0.8s,baz=87,slow=2.4,SNR=8.8			PcP	**PcP**	**09 04 53.8**	**-0.3**
ASAR	1.3nm,1.0s,baz=81,slow=4.4,SNR=4.8			ScP	**ScP**	**09 08 26.5**	**+2.2**
ASAR	**Alice Springs** baz=34,SNR=50	**32.77**	**249**	P	**P**	**09 02 11.1**	**-1.1**
BBOO	**Buckleboo**	**33.61**	**232**	P	**P**	**09 02 19.8**	**+0.5**
BBOO	**Buckleboo** 39nm,0.6s	**33.61**	**232**	*e*P	**P**	**09 02 20.1**	**+0.8**
KNRA	**Kununurra** baz=37,SNR=15	**37.27**	**264**	P	**P**	**09 02 50.1**	**-0.7**
WRKA	**Warakurna** baz=38,SNR=56	**38.03**	**248**	P	**P**	**09 02 56.6**	**-0.5**
FORT	**Forrest** 914nm,0.8s	**39.35**	**239**	*e*P	**P**	**09 03 08.1**	**0.0**
FITZ	**Fitzroy Crossi** baz=40	**40.14**	**259**	P	**P**	**09 03 14.3**	**-0.3**
PPT	**Papeete** 10nm,0.6s,baz=221,slow=18,SNR=3.0	**41.31**	**100**	P	**P**	**09 03 23.9**	**-0.3**
KMBL	**Kambalda** baz=45,SNR=4.9	**44.65**	**240**	P	**P**	**09 03 50.5**	**-0.5**
MBWA	**Marble Bar** 19nm,0.7s	**45.65**	**255**	*e*P	**P**	**09 03 59.3**	**+0.2**
MEEK	**Meekatharra** baz=47,SNR=21	**46.87**	**247**	P	**P**	**09 04 08.3**	**-0.2**
KLBR	**Kellerberrin** baz=48,SNR=8.6	**48.17**	**241**	P	**P**	**09 04 17.6**	**-0.9**
MORW	**Morawa** baz=49,SNR=7.8	**49.34**	**244**	P	**P**	**09 04 27.2**	**-0.3**
MJAR	**Matsushiro Arr** 0.6nm,0.5s,baz=162,slow=7.5,SNR=4.5	**58.10**	**332**	P	**P**	**09 05 30.4**	**-0.5**
VNDA	**Vanda** 5.1nm,0.7s,baz=356,slow=7.9,SNR=21	**62.72**	**181**	P	**P**	**09 06 02.3**	**+0.6**
VNDA	**Vanda** 93nm,2.0s	**62.72**	**181**	*e*P	**P**	**09 06 02.2**	**+0.6**
SBA	**Scott Base** 86nm,1.3s	**62.99**	**180**	*e*P	**P**	**09 06 04.6**	**+1.2**
CASY	**Casey** 16nm,0.7s	**63.45**	**202**	*e*P	**P**	**09 06 07.1**	**+0.5**
KSRS	**Korea Array** 1.0nm,0.6s,baz=140,slow=7.3,SNR=4.7	**63.94**	**326**	P	**P**	**09 06 10.7**	**+0.4**
KSAR	**Wonju Array Be**	**63.96**	**326**	P	**P**	**09 06 10.7**	**+0.3**
NJ2	**Nanjing**	**65.89**	**316**	*e*P	**P**	**09 06 22.0**	**-0.9**
NJ2	comp=Z,13nm,0.5s			pmax	pmax		
PETK	**Petropavlovsk-** 4.4nm,0.9s,baz=145,slow=8.1,SNR=3.9	**68.22**	**354**	P	**P**	**09 06 37.7**	**+0.4**
CN2	**Changchun**	**69.85**	**329**	*e*P	**P**	**09 06 50.0**	**+2.5**
CN2	comp=Z,10.0nm,0.7s			pmax	pmax		
PSI	**Prapat** 12nm,0.8s	**70.03**	**279**	*e*P	**P**	**09 06 48.8**	**-0.6**
GSI	**Gunungsitoli** 24nm,0.8s	**70.90**	**277**	*e*P	**P**	**09 06 55.0**	**+0.5**
GYA	**Guiyang**	**71.92**	**305**	*e*P	**P**	**09 07 02.0**	**+1.5**
GYA				pP	pP	09 07 33.3	-3.5
GYA				sP	sP	09 07 47.8	-5.0
GYA				PP	**PP**	**09 09 45.5**	**+3.0**
GYA				S	**S**	**09 16 11.0**	**+1.1**
GYA				SKS	**SKSac**	**09 16 42.5**	**-8.4**
GYA	comp=Z,10.0nm,1.0s			pmax	pmax		
XAN	**Xi'an**	**73.90**	**313**	P	**P**	**09 07 12.3**	**+0.3**
XAN	comp=Z,7.0nm,0.8s			pmax	pmax		
XAN	comp=Z,110nm,4.6s			pmax	pmax		
KMI	**Kunming**	**74.51**	**302**	P	**P**	**09 07 16.8**	**+0.9**
KMI	comp=Z,11nm,0.8s			pmax	pmax		
KMI	comp=Z,130nm,6.7s			pmax	pmax		
CM01	**Chiang Mai Arr**	**75.12**	**294**	*e*P	**P**	**09 07 20.1**	**+0.9**
CMAR	**Chiang Mai Arr** 2.5nm,0.7s,baz=136,slow=4.2,SNR=13	**75.15**	**294**	P	**P**	**09 07 20.9**	**+1.5**
QSPA	**South Pole Qui** 12nm,0.9s,baz=25,slow=3.0,SNR=21	**75.16**	**180**	P	**P**	**09 07 18.9**	**+0.1**
HHC	**Hu-ho-hao-te**	**75.79**	**320**	*e*P	**P**	**09 07 23.5**	**+0.7**
HHC	comp=Z,13nm,0.7s			pmax	pmax		
HHC	comp=Z,120nm,7.4s			pmax	pmax		
CD2	**Chengdu**	**76.22**	**308**	*e*P	**P**	**09 07 25.5**	**+0.2**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
CD2	comp=Z,120nm,5.0s			pmax	pmax		
LZH	**Lanzhou**	**78.53**	**312**	*e*P	**P**	**09 07 38.0**	**-0.2**
LZH				pP	pP	09 08 10.0	-5.1
LZH				sP	sP	09 08 23.5	-7.4
LZH				PP	**PP**	**09 10 39.5**	**+1.4**
LZH	comp=Z,23nm,1.3s			pmax	pmax		
LZH	comp=Z,95nm,7.8s			pmax	pmax		
LZH	comp=N,290nm,14.9s			LR	LR		
LZH	comp=E,300nm,15.2s			LR	LR		
LZH	comp=Z,370nm,18.5s			LR	LR		
ULN	**Ulaanbaatar** 4.6nm,0.8s	**82.34**	**324**	*e*P	**P**	**09 07 59.3**	**+1.0**
SONM	**Songino Array** 1.7nm,0.7s,baz=146,slow=6.5,SNR=10	**82.70**	**324**	P	**P**	**09 08 00.6**	**+0.4**
SONA1	**Songino Array**	**82.70**	**324**	*e*P	**P**	**09 08 00.5**	**+0.3**
GTA	**Gaotai**	**82.88**	**314**	*e*P	**P**	**09 08 02.5**	**+1.3**
GTA				pP	pP	09 08 35.0	-3.4
GTA				sP	sP	09 08 48.3	-5.9
GTA	comp=Z,5.0nm,1.3s			pmax	pmax		
CAST	**Castle Rocks** 6.0nm,0.9s	**84.09**	**17**	*e*P	**P**	**09 08 05.8**	**-0.9**
IM3	**Indian Mountai**	**85.67**	**15**	*e*P	**P**	**09 08 14.9**	**+0.4**
ILAR	**Eielson Array** 1.3nm,0.8s,baz=242,slow=4.7,SNR=16	**86.62**	**18**	P	**P**	**09 08 17.8**	**-1.4**
ILB	**Eielson Array**	**86.62**	**18**	*e*P	**P**	**09 08 18.0**	**-1.2**
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=232,slow=6.8,SNR=3.2	**87.25**	**49**	P	**P**	**09 08 23.7**	**+0.5**
SYO	**Syowa Base**	**88.61**	**197**	*e*P	**P**	**09 08 27.0**	**-1.8**
WMQ	**Urumqi**	**92.94**	**315**	P	**P**	**09 08 49.8**	**+0.4**
SNAA	**Sanae**	**93.41**	**183**	P	**P**	**09 08 49.8**	**-1.3**
SNAA	**Sanae** 2.0nm,0.6s,baz=194,slow=12,SNR=9.6	**93.41**	**183**	P	**P**	**09 08 50.2**	**-1.0**
SNAA	**Sanae** 19nm,1.8s	**93.41**	**183**	*e*P	**P**	**09 08 50.1**	**-1.0**
VNA3	**Neumayer Olymp**	**94.07**	**181**	P	**P**	**09 08 51.2**	**-2.9**
TXAR	**Lajitas Array** 0.1nm,0.6s,baz=228,slow=3.5,SNR=2.5	**96.21**	**61**	P	**P**	**09 09 04.3**	**-0.4**
TXAR	0.2nm,0.8s,baz=242,slow=5.7,SNR=2.8			PP	**PP**	**09 13 00.1**	**-0.1**
MK01	**Makanchi Array**	**97.40**	**316**	*e*P	Pdif	09 09 10.2	+0.5
MK31	**Makanchi Array**	**97.41**	**316**	*e*P	Pdif	09 09 10.5	+0.8
MKAR	**Makanchi Array** 2.1nm,0.7s,baz=95,slow=6.2,SNR=21	**97.41**	**316**	P	Pdif	09 09 10.2	+0.5
MKAR	**Makanchi Array** 13nm,0.6s	**97.41**	**316**	*e*P	Pdif	09 09 10.5	+0.8
ZALV	**Zalesovo Beam** 1.5nm,0.6s,baz=111,slow=4.2,SNR=3.9	**97.60**	**324**	P	**P**	**09 09 09.4**	**-0.9**
ZALV	**Zalesovo Beam**	**97.60**	**324**	*e*P	**P**	**09 09 09.6**	**-0.7**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=255,slow=4.7,SNR=3.5	**97.60**	**27**	P	**P**	**09 09 09.5**	**-0.6**
KSH	**Kashi**	**100.41**	**308**	*e*P	**Pdif**	**09 09 25.3**	**+1.9**
KSH				S	**Sdif**	**09 20 44.5**	**-2.4**
KSH	comp=Z,140nm,4.6s			pmax	pmax		
KSH	comp=N,130nm,9.9s			LR	LR		
KSH	comp=E,100nm,9.5s			LR	LR		
KSH	comp=Z,68nm,8.1s			LR	LR		
PLCA	**Paso Flores** 0.7nm,0.7s,baz=275,slow=7.8,SNR=3.1	**102.93**	**139**	P	**Pdif**	**09 09 34.5**	**-0.1**
ARCES	**ARCESS Array B** 1.7nm,0.5s,baz=54,slow=1.3,SNR=9.1	**120.43**	**345**	PKP	**PKPdf**	**09 14 25.9**	**-0.3**
FINES	**FINESS Array B** 2.7nm,0.9s,baz=29,slow=3.2,SNR=3.9	**125.91**	**338**	PKP	**PKPdf**	**09 14 36.9**	**0.0**
BRTR	**Keskin Array B** 0.7nm,0.8s,baz=65,slow=5.8,SNR=3.3	**132.72**	**311**	PKP	**PKPdf**	**09 14 50.4**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**143.04**	**334**	*e*PKPdf	PKPbc	09 15 07.7	+0.9
TUE	**Stuetta**	**143.54**	**334**	*e*PKPdf	**PKPdf**	**09 15 09.4**	**-1.0**
SENIN	**Lac Senin/Sane**	**144.46**	**336**	*e*PKPdf	**PKPdf**	**09 15 11.9**	**-0.1**
TIP	**Timpagrande**	**144.66**	**319**	*e*PKPdf	**PKPdf**	**09 15 12.6**	**+0.2**
BNI	**Bardonecchia**	**145.79**	**335**	*e*PKPdf	**PKPab**	**09 15 16.2**	**+0.6**
VSL	**Villasalto**	**148.82**	**326**	*e*PKPbc	**PKPbc**	**09 15 23.8**	**+0.5**
KEST	**Kesra** 4.9nm,0.6s,baz=133,slow=3.5,SNR=7.6	**151.42**	**321**	PKPbc	**PKPbc**	**09 15 30.3**	**+0.5**
KEST	**Kesra**	**151.42**	**321**	*e*PKPbc	**PKPbc**	**09 15 29.7**	**-0.1**
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=5.8,slow=3.8,SNR=5.9	**154.16**	**345**	PKPab	**PKPab**	**09 15 51.1**	**+1.3**
TORD	**Torodi Ar. Bea** 1.4nm,0.9s,baz=201,slow=2.1,SNR=5.7	**156.05**	**265**	PKP	**PKPdf**	**09 15 40.8**	**-0.4**
TORD	2.3nm,0.8s,baz=94,slow=4.0,SNR=10.0			PKPab	**PKPab**	**09 16 42.3**	**-0.1**
DBIC	**Dimbokro** 1.5nm,0.6s,baz=266,slow=4.1,SNR=2.2	**168.87**	**224**	PKP	**PKPdf**	**09 15 42.1**	**-1.1**

*IDC **30** 09:01:49.3±4.1,64.˚61N×32.˚48E,h0km,mb1 3.4/4, mb1mx3.0/66,mbtmp3.3/4,ML2.8/4,Error ellipse: s-maj=59.3km s-min=13.1km az=105.0*
*HEL **30** 09:01:52.8±0.1,64.˚86N×30.˚76E,h0km,ML2.1,Explosion*
*CSEM **30** 09:01:52.8,64.˚86N×30.˚76E,h0km,ML2.1,Mining explosion. After HEL*
*KOLA **30** 09:01:54.1,64.˚71N×30.˚97E,h0km*
ISC 30 09:01:52.5±1.0**,64.˚94N**±0.˚03×**31.˚06E**±0.˚04**,h0**km**,n37,** **σ1$60/58,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.29**	**320**	Pn	**Pn**	**09 02 17.6**	**-0.2**
MSF				Sn	**Sn**	**09 02 36.3**	**+0.6**
MSF	**Maaselka**	**1.29**	**320**	PN	**Pn**	**09 02 17.6**	**-0.2**
MSF				SN	**Sn**	**09 02 36.4**	**+0.6**
JOF	**Joensuu**	**2.03**	**177**	Pg	**Pn**	**09 02 28.2**	**+0.2**
JOF				Sg	**Sn**	**09 02 53.0**	**-1.1**
JOF	**Joensuu**	**2.03**	**177**	PG	**Pn**	**09 02 28.3**	**+0.2**
JOF				SG	**Sn**	**09 02 53.0**	**-1.1**
OUL	**Oulu**	**2.20**	**276**	Pg	**Pn**	**09 02 30.2**	**0.0**
OUL				Sg	**Sn**	**09 02 56.7**	**-1.4**
OUL	**Oulu** baz=90	**2.20**	**276**

FINES	**FINESS Array B**	**4.17**	**215**	Pn	**Pn**	**09 02 54.7**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=7.7						
FINES				Pg	**Pb**	**09 03 05.3**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=33,slow=16,SNR=8.3						
FINES				Lg	Lg	09 03 56.1	
	comp=Z,1.9nm,0.3s,baz=40,slow=26,SNR=8.3						
UMAU	**Umeaa**	**4.63**	**261**	Sg	**Sb**	**09 04 12.7**	**+2.1**
UMAU	**Umeaa**	**4.63**	**261**	SG	**Sb**	**09 04 12.8**	**+2.1**
VJF	**Virojoki**	**4.70**	**202**	Sg	**Sb**	**09 04 12.0**	**-0.8**
VJF	**Virojoki**	**4.70**	**202**	SG	**Sb**	**09 04 12.0**	**-0.8**
ARCES	**ARCESS Array B**	**5.09**	**337**	Pn	**Pn**	**09 03 11.9**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=157,slow=15,SNR=53						
ARCES				Sn	**Sn**	**09 04 08.2**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=155,slow=24,SNR=4.0						
ARCES				Lg	Lg	09 04 33.4	
	comp=Z,1.2nm,0.3s,baz=152,slow=33,SNR=10						
HFS	**Hagfors**	**9.34**	**247**	Pn	**Pn**	**09 04 05.7**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=57,slow=16,SNR=2.8						
HFS				Lg	Lg	09 06 36.7	
	comp=Z,0.3nm,0.3s,baz=60,slow=29,SNR=4.4						
NOA	**NORSAR Array B**	**9.82**	**256**	Pn	**Pn**	**09 04 14.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=58,slow=12,SNR=2.8						

BER 30 09:02:14.6±0.3, 66.36N×14.11E, h0km, ML0.7, Suspected explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MOR8	**Moi Rana**	**0.23**	**145**	*e*P		Pg	09 02 19.3	+0.3
MOR8				*e*S		Sg	09 02 22.7	+0.7
MOR8				IAML			09 02 23.8	
	comp=Z,9.6nm,0.2s							
KONS	**Konsvik**	**0.42**	**290**	*e*P		Pg	09 02 22.0	-0.7
KONS				*e*S		Sg	09 02 27.9	-0.2
KONS				IAML			09 02 29.8	
	comp=Z,7.2nm,0.3s							
STOK	**Stokkvaagen**	**0.44**	**267**	*e*S		Sg	09 02 28.4	-0.4
STOK				IAML			09 02 29.5	
	comp=Z,6.4nm,0.5s							

GUC 30 09:13:02.4±0.4, 32.40S×67.35W, h200km, ML3.7, 2C, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LMEL	**Las Melosas**	**2.80**	**238**	*i*P		Pn	09 13 50.2	+0.4
LMEL				*i*S		Sn	09 14 26.6	-0.3
LMEL				IAML			09 14 31.3	
	comp=N,156nm,0.6s							
CLCH	**Cerro Calan**	**2.86**	**249**	*e*P		Pn	09 13 50.9	+0.4
CLCH				*i*S		Sn	09 14 27.4	-0.7
PEL	**Peldehue**	**2.91**	**254**	*e*P		Pn	09 13 51.4	+0.4
PEL				*i*S		Sn	09 14 28.3	-0.7
ROCH	**El Roble**	**3.14**	**258**	*i*P		Pn	09 13 50.7	-3.2
ROCH				*i*S		Sn	09 14 30.7	-3.5
ROCH				IAML			09 14 38.6	
	comp=N,82nm,0.4s							

ISK 30 09:24:58.4, 37.79N×38.19E, h5km, MD2.5/2
ISCJB 30 09:24:59.5±0.7, 37.79N±0.04×38.22E±0.05, h10km, Error ellipse: s-maj=7.3km s-min=4.2km az=139.6
CSEM 30 09:24:59.2±0.3, 37.78N×38.19E, h5km, ML2.2, Error ellipse: s-maj=9.4km s-min=4.8km az=53.0
DDA 30 09:25:00.7, 37.77N×38.09E, h7km, Ml2.2
ATA 30 09:25:28.7±1.8, 39.26N×40.45E, h0km±15km, ML2.6

ISC 30 09:24:59.5±1.0, 37.78N±0.03×38.12E±0.04, h10km, n26, σ1§47/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKCD	**Akcadag**	**0.54**	**343**	*i*P		**Pg**	**09 25 09.7**	**-0.4**
AKCD				*i*S		**Sb**	**09 25 18.8**	**-0.3**
AKCD	**Akcadag**	**0.54**	**343**	P		**Pg**	**09 25 09.7**	**-0.4**
AKCD				S		**Sb**	**09 25 18.8**	**-0.3**
MALT	**Malatya**	**0.59**	**24**	PG		**Pg**	**09 25 09.7**	**-1.3**
MALT				SG		**Sg**	**09 25 17.8**	**-1.0**
MALT	**Malatya**	**0.59**	**24**	*e*Pg		**Pg**	**09 25 09.7**	**-1.3**
MALT				*e*Sg		**Sg**	**09 25 17.8**	**-1.0**
URFA	**Urfa**	**0.65**	**121**	PG		**Pg**	**09 25 10.7**	**-1.4**
URFA				SG		**Sg**	**09 25 19.5**	**-1.1**
URFA	**Urfa**	**0.65**	**121**	*e*Pg		**Pg**	**09 25 10.7**	**-1.4**
URFA				*e*Sg		**Sg**	**09 25 19.5**	**-1.1**
DARE	**Darende-Malaty**	**0.94**	**328**	PG		**Pg**	**09 25 17.0**	**-0.7**
DARE	**Darende-Malaty**	**0.94**	**328**	*e*Pg		**Pg**	**09 25 17.0**	**-0.7**
ELBS	**KAHRAMANMARAS**	**0.95**	**305**	*i*P		**Pg**	**09 25 18.1**	**+0.2**
ELBS				*i*S		**Sn**	**09 25 32.6**	**-0.2**
ELBS	**KAHRAMANMARAS**	**0.95**	**305**	P		**Pg**	**09 25 18.1**	**+0.2**
ELBS				S		**Sn**	**09 25 32.7**	**-0.2**
SURC	**SANLIURFA_SURC**	**0.98**	**156**	*i*P		**Pg**	**09 25 18.3**	**0.0**
SURC				*i*S		**Sn**	**09 25 35.8**	**+2.5**
SURC	**SANLIURFA_SURC**	**0.98**	**156**	P		**Pg**	**09 25 18.3**	**0.0**
HEKM	**Malatya_Hekimh**	**1.11**	**353**	*i*P		**Pn**	**09 25 22.4**	**+1.1**
HEKM				*i*S		**Sn**	**09 25 38.1**	**+1.3**
HEKM	**Malatya_Hekimh**	**1.11**	**353**	P		**Pn**	**09 25 22.4**	**+1.1**
PTK	**Pertek**	**1.50**	**41**	*e*PG		**Sn**	**09 25 49.1**	**+2.8**
PTK	**Pertek**	**1.50**	**41**	PN		**Pn**	**09 25 26.3**	**-0.3**
PTK	**Pertek**	**1.50**	**41**	*e*Pn		**Pn**	**09 25 26.3**	**-0.3**
TNCL	**Tunceli-Merkez**	**1.74**	**39**	*e*P		Pg	09 25 43.8	+11
TNCL	**Tunceli-Merkez**	**1.74**	**39**	*i*P		Pg	09 25 43.5	+11
TNCL				*i*S		**Sg**	**09 25 54.5**	**-1.0**
ERZN	**Erzincan**	**2.20**	**34**	*e*PG		**Pg**	**09 25 40.6**	**-1.1**
ERZN				*e*SG		Sn	09 25 50.8	-13
BNGB	**Bing¨¶l**	**2.35**	**58**	*e*PG		**Pn**	**09 25 38.8**	**+0.5**
BNGB				*e*SG		**Pg**	**09 25 46.4**	**+1.9**
KELT	**Kelkit**	**2.53**	**20**	*e*P		Pg	09 25 54.0	+6.0
KELT				IAML			09 25 55.1	
	comp=Z,5.9nm,0.3s							
KOPT	**Kop Dagi**	**2.91**	**39**	*e*P		**Pn**	**09 25 44.6**	**-1.5**
KOPT				*e*S		**Pg**	**09 25 58.0**	**+2.8**
BAYB	**BAYBURT**	**2.99**	**33**	*e*P		**Pn**	**09 25 48.5**	**+1.4**
ERZM	**Erzurum**	**3.31**	**49**	*e*P		**Pn**	**09 25 47.1**	**-4.5**
EKAR	**Karacoban**	**3.43**	**63**	*e*P		**Pn**	**09 25 54.7**	**+1.5**

NIED 30 09:36:00, 37.50N×141.50E, h59km, Mw3.5 Best double couple: M0 2.37000×10^14 NP1:φ=240.00000°, δ=17.00000°, λ=111.00000°. NP2:φ=39.00000°, δ=74.00000°, λ=84.00000°.

JMA 30 09:36:56.6±0.1, 37.51N×141.51E, h44km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.53**	**254**	P		Pn	09 37 07.9	0.0
JFK				S		Sn	09 37 15.5	-0.4
JMM	**Marumori**	**0.67**	**302**	P		Pn	09 37 09.9	+0.2
JMM				S		Sn	09 37 19.2	0.0
ONAJ	**Iwakimizuishiy**	**0.70**	**235**	P		Pn	09 37 10.0	-0.2
ONAJ				S		Sn	09 37 19.2	-0.7
JFT	**Otama**	**0.93**	**271**	P		Pn	09 37 14.0	+0.7
JFT				S		Sn	09 37 26.1	+0.6
JIO	**Ouri**	**0.95**	**352**	P		Pn	09 37 13.7	+0.2
JIO				S		Sn	09 37 25.3	-0.6
JOU	**Okura**	**1.08**	**322**	P		Pn	09 37 15.5	+0.1
JOU				*e*S		Sn	09 37 30.0	+0.7
JYS	**Shirataka**	**1.35**	**302**	P		Pn	09 37 19.5	+0.6
JFY	**Yanaizu**	**1.44**	**266**	P		Pn	09 37 21.0	+0.8
JMK	**Ichinoseki**	**1.46**	**351**	P		Pn	09 37 21.1	+0.7
JMK				*e*S		Sn	09 37 39.4	+1.1
JYK	**Kaneyama**	**1.67**	**328**	P		Pn	09 37 24.1	+0.7
MAT	**Matsushiro**	**2.81**	**251**	P		Pn	09 37 40.8	+1.7
MAT				S		Sn	09 38 14.8	+3.0

NEIC 30 09:38:02.3±0.0, 15.56N×93.78W, h48km, mb3.9/1, MD4.0(MEX), After MEX.

MEX 30 09:37:59.9±1.1, 15.56N×93.88W, h77km±18km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.66**	**77**	*e*P		Pn	09 38 12.7	-2.1
PCIG				*i*S		Sn	09 38 24.7	-1.2
PCIG		**0.66**	**77**	*e*P		Pn	09 38 12.7	-2.1
PCIG				*e*S		Sn	09 38 20.9	-5.0
TGIG		**1.42**	**31**	*e*P		Sn	09 38 23.1	-1.0
TGIG				*e*S		Sn	09 38 40.5	-1.9
TGIG		**1.42**	**31**	*e*P		Pn	09 38 23.1	-1.0
TGIG				*e*S		Sn	09 38 40.5	-1.9
CCIG	**Comitan**	**1.83**	**67**	*e*P		Pn	09 38 29.2	-0.4
CCIG				*e*S		Sn	09 38 50.0	-2.1
CCIG	**Comitan**	**1.83**	**67**	*e*P		Pn	09 38 30.2	+0.7
CCIG				*e*S		Sn	09 38 48.9	-3.2
JCT	**Junction City**	**15.81**	**341**	*e*Pn		P	09 41 40.7	+0.3
BAR	**Barrett**	**26.80**	**314**	*e*P		P	09 43 36.7	+3.8
	0.8nm,0.3s							

BJI 30 09:38:56.8, 20.85S×178.29W, h598km, mb5.2/49, mB5.2/30
IDC 30 09:38:59.0±0.7, 21.12S×178.85W, h597km±7km, mb4.4/41, mb1 4.4/43, mb1mx4.3/53, mbtmp5.3/43, Error ellipse: s-maj=9.0km s-min=8.0km az=98.0
NEIC 30 09:38:59.8±0.4, 21.18S×178.97W, h610km±5km, mb5.0/228, Error ellipse: s-maj=4.6km s-min=3.3km az=137.0
ISCJB 30 09:38:59.6±0.1, 21.24S±0.02×178.98W±0.02, h619km, mb4.9/304, Error ellipse: s-maj=3.2km s-min=2.1km az=37.8
MOS 30 09:38:59.3±0.9, 21.06S×178.97W, h608km, mb5.0/46, Error ellipse: s-maj=9.9km s-min=7.7km az=63.8
GCMT 30 09:38:59.8±0.4, 20.92S×179.07W, h612km±3km, MW5.2/50, Moment Tensor Solution. s50,c65; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr=4.50±.27; Mθθ=4.74±.46; Mφφ=0.24±.49; Mrθ=6.12±.46; Mrφ=3.53±.43; Mθφ=2.43±.55; Best double couple: M0 8.75800×10^16 NP1:φ=84.00000°, δ=73.00000°, λ=-120.00000°. NP2: φ=326.00000°, δ=34.00000°, λ=-33.00000°. Principal axes: T 8.3470, Plg22.0000°, Azm196.0000°; N 0.8140, Plg28.0000°, Azm94.0000°; P -9.1700, Plg53.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s.
WEL 30 09:38:59.0, 21.18S×178.97W, h610km

ISC 30 09:39:00.3±0.2, 21.13S±0.04×178.83W±0.04, h619km, n927, σ1§34/1052, mb5.0/303, 53C-44D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.48**	**318**	*c*P		**P**	**09 40 29.2**	**-1.5**
MSVF	**Nonsavu**	**4.48**	**318**	*e*P		**P**	**09 40 29.3**	**-1.4**
MSVF				*e*S		**S**	**09 41 43.0**	**-1.3**
RAO	**Raoul Island**	**8.13**	**174**	P		**P**	**09 40 59.0**	**-2.3**
	40nm,0.3s,baz=90,slow=20,SNR=2.2							
RAO				S		**S**	**09 42 34.9**	**-5.7**
	69nm,0.3s,baz=107,slow=19,SNR=3.0							
AFI	**Afiamalu**	**9.84**	**44**	P		**P**	**09 41 13.8**	**-4.3**
	40nm,0.3s,baz=46,slow=0.7,SNR=92							
AFI				S		S	09 43 01.0	-10
	7.0nm,0.3s,baz=274,slow=22,SNR=3.8							
AFI	**Afiamalu**	**9.84**	**44**	*e*P		**P**	**09 41 13.5**	**-4.6**
AFI				*e*S		**S**	**09 43 10.7**	**-0.3**
AFI	**Afiamalu**	**9.84**	**44**	*e*P		**P**	**09 41 13.5**	**-4.6**
AFI				*e*S		**S**	**09 43 10.7**	**-0.3**
FUNA	**Funafuti**	**12.68**	**351**	*e*P		**P**	**09 41 43.2**	**-2.6**
DZM	**Mont Dzumac**	**13.73**	**263**	P		**P**	**09 41 55.1**	**-1.0**
	2.4nm,0.3s,baz=92,slow=19,SNR=17							
DZM				S		**S**	**09 44 19.9**	**+0.1**
	0.2nm,0.3s,baz=119,slow=13,SNR=2.8							
DZM	**Mont Dzumac**	**13.73**	**263**	*e*P		**P**	**09 41 55.2**	**-0.9**
DZM				*e*S		**S**	**09 44 20.1**	**+0.3**
NFK	**Norfolk Island**	**14.34**	**234**	P		**P**	**09 42 02.5**	**+0.9**
	baz=14,SNR=6.0							
OUZ	**Omahuta**	**15.53**	**204**	*e*P		**P**	**09 42 14.1**	**+1.8**
	554nm,0.9s							
OUZ				*e*S		**S**	**09 44 50.1**	**+1.2**
OUZ	**Omahuta**	**15.53**	**204**	P		**S**	**09 42 14.1**	**+1.8**
MXZ	**Matakaoa Point**	**16.56**	**188**	*e*P		**P**	**09 42 20.4**	**-1.3**
	258nm,1.5s							
MXZ	**Matakaoa Point**	**16.56**	**188**	P		**P**	**09 42 20.7**	**-1.0**
WMGZ	**Waiomatatini S**	**16.80**	**188**	P		**P**	**09 42 22.5**	**-1.4**
HAZ	**Te Kaha**	**16.82**	**189**	P		**P**	**09 42 22.4**	**-1.7**
PKGZ	**Pakihiroa**	**16.91**	**188**	P		**P**	**09 42 23.0**	**-2.0**
RUGZ	**Raukumara Rang**	**17.05**	**189**	P		**P**	**09 42 24.5**	**-1.8**
PUZ	**Puketiti**	**17.07**	**188**	P		**P**	**09 42 25.0**	**-1.4**
TGRZ	**Tauranga**	**17.08**	**193**	P		**P**	**09 42 27.4**	**+1.0**
OPRZ	**Ohinepanea**	**17.13**	**192**	P		**P**	**09 42 26.6**	**-0.3**
TWGZ	**Tauwhareparae**	**17.21**	**189**	P		**P**	**09 42 26.6**	**-1.2**
TOZ	**Tahuroa Road**	**17.26**	**195**	P		**P**	**09 42 29.1**	**+1.1**
KMRZ	**Kaimai**	**17.26**	**194**	P		**P**	**09 42 29.5**	**+1.3**
EDRZ	**Edgecumbe**	**17.34**	**192**	P		**P**	**09 42 28.1**	**-0.8**
KARZ	**Kaharoa**	**17.36**	**193**	P		**P**	**09 42 28.6**	**-0.5**
OMRZ	**Omania**	**17.42**	**193**	P		**P**	**09 42 29.6**	**0.0**
URZ	**Urewera**	**17.43**	**191**	P		**P**	**09 42 26.1**	**-3.5**
	15nm,0.3s,baz=287,slow=3.0,SNR=68							
URZ				S		**S**	**09 45 12.9**	**-6.7**
	2.6nm,0.3s,baz=98,slow=18,SNR=6.8							
URZ				ScP		**ScP**	**09 49 13.9**	**+1.3**
	0.7nm,0.3s,baz=301,slow=3.0,SNR=4.3							
URZ	**Urewera**	**17.43**	**191**	*e*P		**P**	**09 42 26.4**	**-3.2**
URZ				*e*S		**S**	**09 45 12.9**	**-6.7**
URZ	**Urewera**	**17.43**	**191**	P		**P**	**09 42 26.2**	**-3.4**
MKRZ	**Makatiti**	**17.43**	**192**	P		**P**	**09 42 31.9**	**+2.1**
MWZ	**Matawai**	**17.43**	**190**	P		**P**	**09 42 27.1**	**-2.6**
CNGZ	**Carnagh Statio**	**17.48**	**188**	P		**P**	**09 42 29.3**	**-0.9**
TKGZ	**Te Karaka**	**17.48**	**189**	P		**P**	**09 42 29.0**	**-1.1**
TARZ	**Mount Tarawera**	**17.52**	**192**	P		**P**	**09 42 29.9**	**-0.7**
HLRZ	**Highlands Stat**	**17.56**	**193**	P		**P**	**09 42 30.9**	**0.0**
RAGZ	**Rawiri**	**17.61**	**190**	P		**P**	**09 42 29.9**	**-1.5**
RRRZ	**Republican Roa**	**17.61**	**192**	P		**P**	**09 42 30.7**	**-0.7**
HSRZ	**Hossack Road**	**17.64**	**193**	P		**P**	**09 42 32.5**	**+0.9**
MUGZ	**Murupara**	**17.70**	**191**	P		**P**	**09 42 30.3**	**-1.8**
HRRZ	**Handcock Road**	**17.71**	**193**	P		**P**	**09 42 31.6**	**-0.7**
RIGZ	**Rimuhau**	**17.76**	**189**	P		**P**	**09 42 31.8**	**-0.9**
PRRZ	**Plateau Road**	**17.79**	**192**	P		**P**	**09 42 32.1**	**-0.9**
TLZ	**Tolley Road**	**17.82**	**195**	P		**P**	**09 42 34.9**	**+1.6**
WPRZ	**Whakapapatarin**	**17.86**	**193**	P		**P**	**09 42 32.7**	**-0.9**
ALRZ	**Allen Road**	**17.86**	**192**	P		**P**	**09 42 32.3**	**-1.3**
SNGZ	**Shannon Statio**	**17.90**	**190**	P		**P**	**09 42 32.1**	**-1.9**
KUTZ	**Kaahu Road**	**17.90**	**194**	P		**P**	**09 42 34.0**	**0.0**
PRGZ	**Paritu Road**	**17.96**	**188**	P		**P**	**09 42 34.8**	**+0.3**
MTHZ	**Maungataniwha**	**18.05**	**191**	P		**P**	**09 42 33.7**	**-1.7**
RAHZ	**Arahi**	**18.07**	**190**	P		**P**	**09 42 32.3**	**-3.2**
KNZ	**Kokohu**	**18.08**	**189**	P		**P**	**09 42 34.3**	**-1.2**
MRHZ	**Matea Rd**	**18.11**	**192**	P		**P**	**09 42 33.7**	**-2.3**
HIZ	**Hauiti**	**18.16**	**196**	*e*P		**P**	**09 42 37.2**	**+0.9**
	305nm,1.2s							
BKZ	**Black Stump Fm**	**18.42**	**192**	*e*P		**P**	**09 42 35.6**	**-3.1**
	38nm,0.6s							
ARHZ	**Aropaoanui**	**18.42**	**190**	P		**P**	**09 42 37.6**	**-1.1**
NGZ	**Ngauruhoe**	**18.61**	**194**	P		**P**	**09 42 39.3**	**-1.3**
KNTN	**Kanton**	**19.52**	**22**	*e*P		**P**	**09 42 47.4**	**-1.5**
	198nm,0.9s							
BFZ	**Birch Farm**	**19.93**	**191**	*e*P		**P**	**09 42 50.6**	**-1.7**
	59nm,0.6s							
SNZO	**South Karori**	**20.85**	**194**	*e*P		**P**	**09 42 58.5**	**-2.0**
	156nm,0.8s							
SNZO				*e*S		**S**	**09 46 13.1**	**-0.9**
THZ	**Tophouse**	**21.72**	**197**	*e*P		**P**	**09 43 06.8**	**-1.6**
	81nm,0.9s							
KHZ	**Kahutara**	**22.17**	**195**	*e*P		**P**	**09 43 10.0**	**-2.3**
	150nm,1.1s							
KHZ				*e*S		**S**	**09 46 34.6**	**-0.2**
LHI	**Lord Howe Isla**	**22.31**	**238**	*e*P		**P**	**09 43 14.7**	**+1.0**
	114nm,0.8s							
LHI				*e*S		**S**	**09 46 38.6**	**+1.1**
LTZ	**Lake Taylor**	**22.84**	**197**	*e*P		**P**	**09 43 16.0**	**-2.3**
	93nm,0.6s							
OXZ	**Oxford**	**23.41**	**197**	*e*P		**P**	**09 43 20.9**	**-2.4**
	96nm,0.8s							
CRLZ	**Canterbury Las**	**23.49**	**196**	*e*P		**P**	**09 43 22.3**	**-1.7**
	109nm,1.4s							
MQZ	**McQueen's Vall**	**23.60**	**196**	*e*P		**P**	**09 43 22.9**	**-2.0**
	116nm,1.4s							
TARA	**Tarawa**	**23.76**	**339**	*e*P		**P**	**09 43 26.4**	**-0.3**
	292nm,1.0s							
RPZ	**Rata Peaks**	**24.05**	**198**	P		**P**	**09 43 27.3**	**-1.6**
	44nm,0.5s,baz=41,slow=3.9,SNR=31							
RPZ				ScP		**ScP**	**09 49 30.3**	**+1.4**
	11nm,0.8s,baz=42,slow=5.3,SNR=3.0							
RPZ	**Rata Peaks**	**24.05**	**198**	*e*P		**P**	**09 43 27.3**	**-1.6**
	46nm,0.6s							
FOZ	**Fox Glacier**	**24.26**	**200**	*e*P		**P**	**09 43 29.3**	**-1.5**
	121nm,0.9s							
LBZ	**Lake Benmore**	**24.91**	**199**	*e*P		**P**	**09 43 34.5**	**-2.0**
	34nm,0.8s							
ODZ	**Otahua Downs**	**25.38**	**198**	*e*P		**P**	**09 43 39.2**	**-1.5**
	13nm,0.7s							
WKZ	**Wanaka**	**25.68**	**200**	*e*P		**P**	**09 43 41.9**	**-1.4**
	35nm,0.6s							
MLZ	**Mavora Lakes**	**26.45**	**201**	*e*P		**P**	**09 43 49.5**	**-0.6**
	103nm,0.7s							
DCZ	**Deep Cove**	**26.87**	**202**	*e*P		**P**	**09 43 53.0**	**-0.7**
	142nm,0.8s							
WHZ	**Wether Hill Ro**	**26.97**	**201**	*e*P		**P**	**09 43 54.3**	**-0.3**
	344nm,0.7s							
EIDS	**Eidsvold**	**27.93**	**256**	P		**P**	**09 44 03.3**	**0.0**
	baz=28,SNR=6.9							
EIDS	**Eidsvold**	**27.93**	**256**	*e*P		**P**	**09 44 02.9**	**-0.4**
	15nm,0.6s							
ARMA	**Armidale**	**28.10**	**245**	P		**P**	**09 44 05.5**	**+0.7**
	baz=28,SNR=20							
ARMA	**Armidale**	**28.10**	**245**	*e*P		**P**	**09 44 05.3**	**+0.6**
	16nm,0.6s							
MGCD	**Mangrove Creek**	**29.22**	**239**	P		**P**	**09 44 15.3**	**+1.0**
	baz=29,SNR=8.6							
RMQ	**Roma**	**30.08**	**253**	P		**P**	**09 44 23.0**	**+1.2**
	baz=30,SNR=6.4							
XMAS	**Kiritimati**	**31.12**	**45**	*e*P		**P**	**09 44 27.3**	**-3.5**
	146nm,1.4s							
CAN	**Canberra**	**31.52**	**236**	P		**P**	**09 44 34.4**	**+0.5**
	baz=32							
CAN	**Canberra**	**31.52**	**236**	*e*P		**P**	**09 44 34.4**	**+0.5**
CAN					pmax	pmax		
	comp=Z,45nm,1.0s							
CAN	**Canberra**	**31.52**	**236**	*e*P		**P**	**09 44 34.4**	**+0.5**
	comp=Z,45nm,1.0s							
YNG	**Young**	**31.69**	**239**	P		**P**	**09 44 36.0**	**+0.6**
	baz=32,SNR=4.9							
MILA	**Mila**	**31.97**	**233**	P		**P**	**09 44 38.4**	**+0.6**
	baz=32,SNR=5.7							
CTA	**Charters Tower**	**32.66**	**265**	P		**P**	**09 44 43.9**	**+0.1**
	comp=Z,58nm,0.6s,baz=94,slow=11,SNR=82							
CTA				S		**S**	**09 49 16.4**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=240,slow=20,SNR=2.6							
CTAO	**Charters Tower**	**32.66**	**265**	*e*P		**P**	**09 44 43.8**	**+0.1**
CTAO					pmax	pmax		
	comp=Z,57nm,0.8s							
CTAO	**Charters Tower**	**32.66**	**265**	*e*P		**P**	**09 44 43.8**	**+0.1**
	comp=Z,57nm,0.8s							
CMSA	**Cobar Meteorol**	**33.31**	**244**	P		**P**	**09 44 49.3**	**+0.3**
	baz=33,SNR=47							
QLP	**Quilpie**	**34.13**	**254**	P		**P**	**09 44 56.0**	**+0.1**
	baz=34,SNR=17							
PMG	**Port Moresby**	**34.74**	**284**	P		**P**	**09 45 01.1**	**-0.1**
	comp=Z,166nm,0.7s,baz=86,slow=5.6,SNR=59							
PMG	**Port Moresby**	**34.74**	**284**	*ce*P		**P**	**09 45 00.9**	**-0.2**
PMG					pmax	pmax		
	comp=Z,649nm,0.9s							
PMG	**Port Moresby**	**34.74**	**284**	*e*P		**P**	**09 45 01.0**	**-0.1**
	comp=Z,177nm,0.8s							
MTSU	**Mount Surprise**	**34.79**	**268**	P		**P**	**09 45 01.6**	**+0.1**
	baz=35,SNR=64							
TOO	**Toolangi**	**34.90**	**234**	P		**P**	**09 45 02.6**	**+0.3**
	baz=35,SNR=28							
TOO	**Toolangi**	**34.90**	**234**	P		**P**	**09 45 02.5**	**+0.3**
TOO					pmax	pmax		
	comp=Z,69nm,0.8s							
MOO	**Moorlands**	**35.51**	**225**	P		**P**	**09 45 07.7**	**+0.6**
	baz=36,SNR=5.4							
TAU	**Tasmania Unive**	**35.63**	**225**	*e*P		**P**	**09 45 08.4**	**+0.3**
TAU					pmax	pmax		
	comp=Z,28nm,0.8s							
TAU	**Tasmania Unive**	**35.63**	**225**	*e*P		**P**	**09 45 08.4**	**+0.3**
	comp=Z,28nm,0.8s							
PATS	**Pohnpei**	**35.73**	**319**	P		**P**	**09 45 09.8**	**+0.6**
	baz=36							
STKA	**Stephens Creek**	**36.82**	**245**	P		**P**	**09 45 18.2**	**+0.3**
	comp=Z,16nm,0.8s,baz=91,slow=9.7,SNR=34							
STKA				S		**S**	**09 50 16.2**	**-3.6**
	comp=Z,4.2nm,0.8s,baz=3.2,slow=18,SNR=4.5							
STKA	**Stephens Creek**	**36.82**	**245**	P		**P**	**09 45 18.6**	**+0.6**
	baz=37,SNR=7.5							
STKA	**Stephens Creek**	**36.82**	**245**	*e*P		**P**	**09 45 18.1**	**+0.1**
STKA				*e*S		**S**	**09 50 19.5**	**-0.4**
STKA					pmax	pmax		
	comp=Z,4.0nm,0.9s							
STKA	**Stephens Creek**	**36.82**	**245**	*e*P		**P**	**09 45 18.1**	**+0.1**
	comp=Z,4.3nm,0.9s							
STKA				*e*S		**S**	**09 50 19.5**	**-0.4**
COEN	**Coen**	**36.86**	**275**	P		**P**	**09 45 18.9**	**+0.4**
	baz=37,SNR=43							
COEN	**Coen**	**36.86**	**275**	*e*P		**P**	**09 45 18.9**	**+0.4**
	comp=Z,76nm,0.8s							
MCQ	**Macquarie Isla**	**37.32**	**201**	P		**P**	**09 45 23.3**	**+1.7**
	baz=38,SNR=5.9			

LBMI **Labuha** 56.15 284 P P 09 47 41.7 -1.7
comp=Z,199nm,0.9s,comp=Z,2µm
BATI **Baumata** 56.17 272 P P 09 47 45.1 +1.6
comp=Z,93nm,0.7s,baz=207,slow=3.3,SNR=12
BATI **Baumata** 56.17 272 P P 09 47 44.7 +1.2
SANI **Sanana** 56.95 282 P P 09 47 48.5 -0.3
MBWA **Marble Bar** 56.96 258 eP P 09 47 48.5 -0.4
comp=Z,76nm,0.8s
MEEK **Meekatharra** 56.98 251 P P 09 47 48.5 -0.5
baz=57,SNR=9.0
KLBR **Kellerberrin** 57.09 245 P P 09 47 49.8 +0.3
baz=57,SNR=4.3
VNDA **Vanda** 57.22 185 P P 09 47 51.5 +2.0
comp=Z,9.1nm,0.6s,baz=20,slow=7.0,SNR=42
VNDA ScP ScP 09 51 39.0 +2.8
comp=Z,4.6nm,0.8s,baz=18,slow=6.4,SNR=4.7
VNDA **Vanda** 57.22 185 eP P 09 47 51.4 +1.8
VNDA **Vanda** 57.22 185 eP P 09 47 51.4 +1.8
NWAO **Narrogin (SRO)** 57.39 244 P P 09 47 51.0 -0.6
comp=Z,42nm,1.2s,baz=284,slow=21,SNR=3.0
BLDU **Ballidu** 58.09 246 P P 09 47 56.3 -0.1
baz=58,SNR=13
MUN **Mundaring** 58.35 245 P P 09 47 58.6 +0.5
baz=58
BBSI **Bau Bau** 58.79 277 P P 09 48 10.0 +8.8
MORW **Morawa** 58.87 248 P P 09 48 01.5 -0.1
baz=59,SNR=12
LUWI **Luwuk** 60.29 281 P P 09 48 12.1 +0.9
comp=Z,191nm,1.0s,comp=Z,4µm
LUWI **Luwuk** 60.29 281 eP P 09 48 10.5 -0.7
comp=Z,242nm,1.2s
WBSI **Waikabubak, Su** 60.34 271 P P 09 48 12.1 +0.6
comp=Z,71nm,0.8s
CBIJ **Chichi jima** 61.02 320 eP P 09 48 15.6 -0.1
comp=Z,263nm,1.2s
JCJ **Chichijima** 61.02 320 P P 09 48 15.4 -0.2
comp=Z,149nm,0.8s,baz=289,slow=18,SNR=6.6
DAV **Davao City (W)** 61.33 291 P P 09 48 18.6 +0.6
comp=Z,260nm,0.4s,baz=144,slow=3.9,SNR=4.0
APSI **Ampana** 61.37 281 P P 09 48 18.8 +0.5
comp=Z,161nm,0.9s,comp=Z,1µm
BNSI **Bone** 61.47 277 P P 09 48 19.1 +0.2
comp=Z,98nm,1.2s,comp=Z,1µm
GIRL **Giralia** 61.64 255 P P 09 48 21.1 +1.3
baz=62,SNR=8.7
MRSI **Marisa** 61.67 283 P P 09 48 18.7 -1.5
comp=Z,39nm,1.0s
PLAI **Plampang** 62.11 271 P P 09 48 22.4 -0.6
TTSI **Tana Toraja** 62.23 278 P P 09 48 34.9 +11
PCI **Palu** 63.04 280 P P 09 48 27.5 -1.5
comp=Z,239nm,1.0s,comp=Z,2µm
CASY **Casey** 63.06 205 eP P 09 48 28.8 +0.6
comp=Z,51nm,1.1s
MPSI **Mapaga** 63.48 281 P P 09 48 31.8 0.0
comp=Z,77nm,0.8s,comp=Z,776nm
IGBI **Denpasar** 64.56 270 P P 09 48 38.2 -0.4
SRBI **Singaraja** 64.74 271 P P 09 48 39.7 -0.1
comp=Z,54nm,1.0s
JAGI **Jajag, Banyuwa** 65.61 270 P P 09 48 44.2 -1.0
JAGI **Jajag, Banyuwa** 65.61 270 eP P 09 48 43.9 -1.3
comp=Z,88nm,1.0s
KMMI **Kalianget** 66.25 272 P P 09 48 50.2 +1.0
GMJI **Gumukmas** 66.33 270 P P 09 48 46.7 -2.9
comp=Z,60nm,1.0s
JHJ **Hachijo jima 2** 66.87 323 P P 09 48 51.9 -0.6
comp=Z,130nm,0.6s,baz=244,slow=23,SNR=6.7
PWJI **Pagerwojo** 67.95 270 P P 09 48 59.4 -0.1
PCJI **Pacitan** 68.47 269 P P 09 49 03.1 +0.4
comp=Z,298nm,0.7s,comp=Z,3µm
TGY **Tagaytay City** 68.72 295 P P 09 49 04.0 -0.1
comp=Z,190nm,0.4s,baz=104,slow=8.3,SNR=4.7
QSPA **South Pole Qui** 68.94 180 P P 09 49 05.6 +0.9
comp=Z,39nm,0.8s,baz=44,slow=3.0,SNR=64
QSPA **South Pole Qui** 68.94 180 eP P 09 49 06.0 +1.3
KKM **Kota Kinabalu** 69.17 285 eP P 09 49 07.4 +0.4
comp=Z,46nm,0.6s
UGM **Wanagama** 69.18 269 eP P 09 49 06.9 -0.1
comp=Z,78nm,0.7s
JOW **Kunigami** 69.98 311 P P 09 49 12.1 +0.7
comp=Z,65nm,0.8s,baz=140,slow=4.3,SNR=10
JOW **Kunigami** 69.98 311 eP P 09 49 12.3 +0.9
comp=Z,76nm,0.8s
INU **Inuyama** 70.06 323 eP P 09 49 11.6 0.0
comp=Z,30nm,0.9s
MJAR **Matsushiro Arr** 70.26 324 P P 09 49 12.7 -0.1
comp=Z,29nm,0.7s,baz=163,slow=5.9,SNR=59
MAJO **Matsushiro** 70.27 324 *d iP* P 09 49 12.8 0.0
MAJO pmax pmax
comp=Z,40nm,0.9s
MAJO **Matsushiro** 70.27 324 eP P 09 49 12.8 0.0
comp=Z,43nm,0.8s
MAT **Matsushiro** 70.27 324 P P 09 49 12.8 -0.1
KPJI **Karang Pucung** 70.86 269 P P 09 49 16.6 -0.2
comp=Z,72nm,0.8s
STKI **Sintang** 71.12 278 P P 09 49 19.6 +1.2
CISI **Cisompet, Garu** 71.83 269 P P 09 49 23.8 +1.3
CISI **Cisompet, Garu** 71.83 269 eP P 09 49 21.9 -0.7
comp=Z,216nm,1.7s
JNU **Nakatsue** 72.21 317 P P 09 49 24.4 +0.1
comp=Z,46nm,0.9s,baz=69,slow=3.6,SNR=12
JNU **Nakatsue** 72.21 317 eP P 09 49 24.3 +0.1
comp=Z,93nm,1.1s
LEM **Lembang** 72.26 269 P P 09 49 25.7 +0.6
comp=Z,102nm,0.8s,baz=158,slow=18,SNR=9.1
KSM **Kuching** 72.73 279 eP P 09 49 28.1 +0.4
comp=Z,75nm,0.8s
TWG **Pinlang** 73.07 303 eP P 09 49 28.0 -1.4
comp=Z,246nm,0.6s
YULB **Yu-li** 73.20 304 eP P 09 49 29.5 -0.7
comp=Z,31nm,0.8s
NACB **Ninganchiao** 73.39 305 eP P 09 49 30.7 -0.5
comp=Z,102nm,0.9s
TPUB **Ta-pu** 73.67 303 eP P 09 49 32.1 -0.7
comp=Z,205nm,0.8s
SSLB **Suanglung** 73.68 304 eP P 09 49 31.9 -0.9
comp=Z,70nm,0.8s
YHNB **Yeheng** 73.83 305 eP P 09 49 33.5 -0.2
comp=Z,66nm,0.8s
TATO **Taipei** 73.91 305 eP P 09 49 33.3 -0.8
comp=Z,135nm,0.8s
ASAJ **Asahikawa** 73.92 332 P P 09 49 35.7 +2.1
comp=Z,32nm,0.8s,baz=187,slow=8.0,SNR=17
ASAJ **Asahikawa** 73.92 332 eP P 09 49 31.7 -2.0
comp=Z,39nm,0.9s
QZH **Quanzhou** 76.12 304 ⇑ *iP* P 09 49 47.5 +1.2
QZH pmax pmax
comp=Z,46nm,1.0s
YSS **Yuzh-Sakhalins** 76.12 334 ⇓ *iP* P 09 49 47.0 +1.2
YSS *e* 09 49 56.2
YSS pmax pmax
comp=Z,30nm,0.8s
PET **Petropavlovsk** 76.39 346 eP P 09 49 44.8 -2.3
PET pmax pmax
comp=Z,49nm,0.8s
PET **Petropavlovsk** 76.39 346 eP P 09 49 46.7 -0.4
comp=Z,31nm,0.7s
TJN **Taejon** 76.51 318 eP P 09 49 49.0 +0.8
PEA0B **Petropavlovsk-** 76.69 346 eP P 09 49 47.7 -1.1
comp=Z,218nm,1.5s
PETK **Petropavlovsk-** 76.69 346 P P 09 49 49.0 +0.2
comp=Z,48nm,0.8s,baz=129,slow=7.0,SNR=45
PETK **Petropavlovsk-** 76.69 346 eP P 09 49 47.5 -1.3
PETK **Petropavlovsk-** 76.69 346 eP P 09 49 47.5 -1.3
PEA1 **Petropavlovsk-** 76.69 346 eP P 09 49 49.0 +0.1
KSRS **Korea Array** 76.85 319 P P 09 49 51.5 +1.4
comp=Z,8.3nm,0.7s,baz=137,slow=6.5,SNR=24
KS15 **Wonju Array Si** 76.87 319 eP P 09 49 50.8 +0.7
KS01 **Wonju Array Si** 76.88 319 eP P 09 49 51.0 +0.7
VLA **Vladivostok** 78.36 325 eP P 09 49 57.9 -0.1
VLA pmax pmax
comp=Z,53nm,0.9s
MSHR **Mys Shultsa** 78.38 325 *ceP* P 09 49 59.8 +1.7
SAO **San Andreas Ge** 79.02 44 eP P 09 50 02.7 +1.0
SAO pmax pmax
comp=Z,20nm,1.0s
SAO **San Andreas Ge** 79.02 44 eP P 09 50 02.7 +1.0
comp=Z,20nm,1.0s
CHGN **Chignik** 79.04 11 eP P 09 50 01.5 +0.3
comp=Z,39nm,0.8s
USRK **Ussuriysk Ar.** 79.05 326 P P 09 50 03.2 +1.6
comp=Z,57nm,0.8s,baz=135,slow=2.9,SNR=49
RDG13 **Poverty Ridge** 79.23 43 eP P 09 50 04.4 +1.5
comp=Z,17nm,0.8s
TYV **Tymovskoe** 79.30 336 eP P 09 50 03.7 +0.9
TYV pmax pmax
comp=Z,200nm,1.8s
TYV pmax pmax
comp=Z,65nm,1.1s
NJ2 **Nanjing** 79.69 310 eP P 09 50 06.5 +1.2
NJ2 S S 09 59 30.0 +12
NJ2 pmax pmax
comp=Z,60nm,1.0s
KMRM **Mail Ridge** 79.73 40 eP P 09 50 07.9 +2.5
comp=Z,99nm,0.9s
VES **Vestal, Richgr** 80.02 45 P P 09 50 08.2 +1.2
baz=235,SNR=7.0
MURC **Murrieta** 80.05 48 P P 09 50 08.4 +1.2
baz=236,SNR=6.0
BFSC **Mount Baldy Ra** 80.08 47 P P 09 50 08.7 +1.2
baz=236
MONP2 **Monument Peak** 80.21 49 P P 09 50 09.4 +1.2
baz=237,SNR=7.2
EDW2 **Edwards Air Fo** 80.21 47 P P 09 50 09.4 +1.3
baz=236,SNR=8.8
IKP **In-Ko-Pah, Jac** 80.30 50 P P 09 50 09.9 +1.4
baz=237,SNR=5.0
ISA **Isabella, Lake** 80.33 46 P P 09 50 10.1 +1.4
baz=235,SNR=13
ISA **Isabella, Lake** 80.33 46 eP P 09 50 10.1 +1.4
ISA pmax pmax
comp=Z,19nm,1.0s
ISA **Isabella, Lake** 80.33 46 eP P 09 50 10.1 +1.4
comp=Z,19nm,1.0s
YUH **Yuha Desert** 80.43 50 eP P 09 50 13.4 +4.3
CMB **Columbia Colle** 80.45 43 eP P 09 50 10.5 +1.3
CMB pmax pmax
comp=Z,38nm,1.4s
CMB **Columbia Colle** 80.45 43 eP P 09 50 10.5 +1.3
comp=Z,38nm,1.4s
PFO **Pinyon Flats O** 80.57 49 P P 09 50 11.3 +1.3
baz=237
PFO **Pinyon Flats O** 80.57 49 eP P 09 50 11.6 +1.6
PFO pmax pmax
comp=Z,34nm,1.8s
PFO **Pinyon Flats O** 80.57 49 eP P 09 50 11.6 +1.6
comp=Z,34nm,1.8s
XPFO **Piæon Flat** 80.57 49 eP P 09 50 11.6 +1.6
comp=Z,34nm,1.8s
MDJ **Mudanjiang** 80.59 325 P P 09 50 09.0 -0.7
MDJ pmax pmax
comp=Z,73nm,1.0s
MDJ pmax pmax
comp=Z,1µm,4.1s
MDJ **Mudanjiang** 80.59 325 eP P 09 50 11.2 +1.5
comp=Z,61nm,0.9s
BBRC **Big Bear Solar** 80.61 48 P P 09 50 11.5 +1.2
baz=236
AFDM **Forest Hills D** 80.62 42 eP P 09 50 11.5 +1.4
comp=Z,19nm,1.1s
WDC **Whiskeytown Da** 80.65 40 eP P 09 50 12.2 +2.1
WDC pmax pmax
comp=Z,37nm,1.1s
WDC **Whiskeytown Da** 80.65 40 eP P 09 50 12.2 +2.1
comp=Z,37nm,1.1s
ORV **Oroville** 80.66 41 eP P 09 50 11.8 +1.6
ORV pmax pmax
comp=Z,22nm,1.0s
ORV **Oroville** 80.66 41 eP P 09 50 11.8 +1.6
comp=Z,22nm,1.0s
SWSC **Sam W. Stewart** 80.67 49 P P 09 50 12.3 +1.9
baz=237
MAW **Mawson** 80.71 200 P P 09 50 12.0 +2.1
comp=Z,7.1nm,0.9s,baz=139,slow=11,SNR=3.9
LRMC **Laurel Mtn Rad** 80.76 46 P P 09 50 12.5 +1.6
baz=236
N02D **Trinity Center** 80.80 40 P P 09 50 12.6 +1.7
baz=232,SNR=7.0
O03D **Paynes Creek** 80.92 41 P P 09 50 13.3 +1.7
baz=232,SNR=12
M02C **Callahan** 80.97 39 P P 09 50 14.0 +2.1
baz=232,SNR=8.5
CWC **Cottonwood Cre** 81.03 45 P P 09 50 13.9 +1.5
baz=236
MDPB **Devils Postpil** 81.06 44 eP P 09 50 14.3 +1.7
comp=Z,22nm,1.0s
BELC **Belle Mtn. Jos** 81.10 48 P P 09 50 14.0 +1.2
baz=237,SNR=8.7
MPMC **Manual Prospec** 81.21 46 P P 09 50 14.6 +1.2
baz=236,SNR=16
GSC **Goldstone, Bar** 81.26 47 P P 09 50 14.9 +1.5
baz=236,SNR=7.7
GSC **Goldstone, Bar** 81.26 47 eP P 09 50 15.0 +1.5
GSC pmax pmax
comp=Z,17nm,1.1s
GSC **Goldstone, Bar** 81.26 47 eP P 09 50 15.0 +1.5
comp=Z,17nm,1.1s
DAC **Darwin (Calif)** 81.26 46 eP P 09 50 14.8 +1.2
DAC pmax pmax
comp=Z,8.0nm,0.8s
DAC **Darwin (Calif)** 81.26 46 eP P 09 50 14.8 +1.2
comp=Z,8.1nm,0.8s
YBH **Yreka Blue Hor** 81.27 39 P P 09 50 15.2 +1.9
comp=Z,23nm,0.8s,baz=214,slow=3.6,SNR=39
YBH **Yreka Blue Hor** 81.27 39 eP P 09 50 15.3 +1.9
YBH pmax pmax
comp=Z,35nm,0.9s
YBH **Yreka Blue Hor** 81.27 39 eP P 09 50 15.3 +1.9
comp=Z,35nm,0.9s
TIN **Tinemaha, Big** 81.28 45 P P 09 50 15.2 +1.6
baz=235,SNR=6.3
BC3 **Big Chuckawall** 81.30 49 P P 09 50 15.2 +1.5
baz=238,SNR=7.0
HEC **Hector,Ludlow** 81.32 48 P P 09 50 15.3 +1.5
baz=237,SNR=5.2
WAKR **Walker** 81.33 43 eP P 09 50 15.6 +1.7
comp=Z,35nm,1.1s
GLA **Glamis** 81.42 50 P P 09 50 16.4 +2.1
baz=238,SNR=8.0
GLA **Glamis** 81.42 50 eP P 09 50 16.2 +1.9
GLA pmax pmax
comp=Z,28nm,0.9s
GLA **Glamis** 81.42 50 eP P 09 50 16.2 +1.9
comp=Z,28nm,0.9s
KDAK **Kodiak Island** 81.61 14 P P 09 50 16.5 +1.9
comp=Z,16nm,0.8s,baz=230,slow=4.5,SNR=6.9
KDAK **Kodiak Island** 81.61 14 eP P 09 50 15.8 +1.3
KDAK pmax pmax
comp=Z,88nm,1.6s
KDAK **Kodiak Island** 81.61 14 eP P 09 50 15.8 +1.3
comp=Z,88nm,1.6s
VCNR **Virginia City** 81.66 42 eP P 09 50 17.0 +1.4
comp=Z,20nm,1.0s
HUMO **Hull Mountain** 81.67 38 eP P 09 50 17.6 +2.3
comp=Z,30nm,0.9s
GRNR **Gornyy** 81.71 333 eP P 09 50 18.5 +3.2
GRNR pmax pmax
comp=Z,84nm,1.0s
YERR **Yerington** 81.73 43 eP P 09 50 17.2 +1.3
comp=Z,40nm,1.1s
GMRC **Granite Mounta** 81.76 48 P P 09 50 17.8 +1.7
baz=237,SNR=10.0
IRM **Iron Mountain** 81.78 49 P P 09 50 18.1 +2.0
baz=238,SNR=14
M04C **Macdoel** 81.81 39 P P 09 50 18.4 +2.3
baz=232
GRAC **Grapevine Rang** 81.82 45 P P 09 50 18.0 +1.8
baz=236,SNR=16
FURC **Furnace Creek,** 81.86 46 P P 09 50 17.9 +1.6
baz=236,SNR=7.6
NKL **Nikolayevsk** 81.86 337 *i* P P 09 50 16.3 +0.4
NKL pmax pmax
comp=N,16nm,0.9s
NKL pmax pmax
comp=Z,99nm,0.9s
TUQ **Turquoise Moun** 81.93 47 P P 09 50 18.4 +1.5
baz=237,SNR=10
SHOC **Shoshone, Teco** 81.94 47 P P 09 50 18.3 +1.4
baz=237,SNR=6.9
RYN **Ryan** 81.99 43 eP P 09 50 18.3 +1.1
comp=Z,27nm,1.5s
Y12C **Blythe** 82.01 49 P P 09 50 19.0 +1.8
baz=238,SNR=7.2
Y12C **Blythe** 82.01 49 eP P 09 50 19.1 +1.9
comp=Z,15nm,0.8s
NV01 **Mina Array Sit** 82.02 44 eP P 09 50 18.3 +0.9
NVAR **Mina Array Bea** 82.02 44 P P 09 50 18.7 +1.3
comp=Z,15nm,0.7s,baz=224,slow=8.3,SNR=118
NVAR PKKPbc PKKPbc 10 08 43.6 +0.8
comp=Z,0.5nm,0.7s,baz=85,slow=3.8,SNR=5.2
113A **Mohawk Valley,** 82.03 50 eP P 09 50 18.9 +1.6
comp=Z,16nm,0.9s
PAHR **Pah Rah Range** 82.06 42 eP P 09 50 18.8 +1.3
comp=Z,26nm,1.0s
NV11 **Mina Array Sit** 82.11 44 eP P 09 50 19.1 +1.3
comp=Z,2.3nm,1.1s
SNY **Shenyang** 82.20 320 ⇑ P P 09 50 18.8 +0.9
SNY pmax pmax
comp=Z,26nm,0.7s
WHN **Wuhan** 82.20 307 ⇓ P P 09 50 19.0 +0.8
HSIG 82.25 55 eP P 09 50 20.2 +1.7
comp=Z,16nm,0.9s
LDFC **Landfair** 82.30 48 eP P 09 50 20.6 +1.8
comp=Z,40nm,0.8s
214A **Organ Pipe Nat** 82.31 52 P P 09 50 20.8 +2.0
baz=239,SNR=9.1
CN2 **Changchun** 82.33 323 ⇓ *iP* P 09 50 19.0 +0.5
CN2 *ep*P pP 09 52 25.0 -3.6
CN2 *eS* S 09 59 46.5 +2.1
CN2 pmax pmax
comp=Z,50nm,1.2s
CN2 pmax pmax
comp=Z,1µm,5.0s
IPM **Ipoh** 82.44 278 eP P 09 50 20.7 +0.8
comp=Z,78nm,0.7s
KVN **Kaiserville** 82.50 43 eP P 09 50 20.9 +1.1
KVN pmax pmax
comp=Z,29nm,1.1s
KVN **Kaiserville** 82.50 43 eP P 09 50 20.9 +1.1
comp=Z,29nm,1.1s
PDMCI **Parker Dam,Lak** 82.57 49 P P 09 50 21.9 +2.0
baz=238,SNR=17
KLR **Kul'dur** 82.68 330 P P 09 50 21.3 +1.1
comp=Z,2.0nm,0.8s,baz=100,slow=4.2,SNR=47
I04A **Tendick Farm,** 82.72 37 P P 09 50 22.2 +1.7
baz=232
MOD **Modoc Plateau** 82.80 40 eP P 09 50 22.6 +1.4
comp=Z,21nm,0.8s
SHPR **Sheep Range** 83.03 47 eP P 09 50 24.3 +1.8
comp=Z,13nm,1.1s
J05D **Fort Rock, OR** 83.08 38 P P 09 50 24.9 +2.3
baz=232,SNR=15
KULM **Kulim** 83.09 278 eP P 09 50 24.1 +1.0
comp=Z,42nm,0.9s
W13A **Hualapai Mount** 83.16 48 eP P 09 50 24.8 +1.5
comp=Z,11nm,0.9s
Y14A **Wickenburg** 83.18 50 eP P 09 50 24.8 +1.6
comp=Z,15nm,1.0s
H04A **Detroit Lake** 83.40 37 eP P 09 50 25.2 +1.3
comp=Z,34nm,1.0s
HOM **Homer** 83.52 13 eP P 09 50 24.8 +0.8
comp=Z,119nm,0.8s
I05D **Terrebonne, OR** 83.66 38 P P 09 50 27.1 +1.9
baz=232
R11A **Troy Canyon, C** 83.74 45 P P 09 50 26.8 +0.9
baz=237
PSI **Prapat** 83.78 275 eP P 09 50 26.1 -0.5
PSI pmax pmax
comp=Z,50nm,0.9s
PSI **Prapat** 83.78 275 eP P 09 50 26.1 -0.5
comp=Z,50nm,0.9s
BRLK **Bradley Lake** 83.78 14 eP P 09 50 25.6 +0.1
comp=Z,53nm,0.9s
SKLT **Songkhla** 83.82 280 P P 09 50 27.3 +0.7
comp=Z,100nm,0.9s,comp=Z,1µm
BMN **Battle Mountai** 83.84 42 eP P 09 50 27.7 +1.3
BMN pmax pmax
comp=Z,21nm,1.2s
BMN **Battle Mountai** 83.84 42 eP P 09 50 27.7 +1.3
comp=Z,21nm,1.2s
TUC **Tucson** 83.98 52 P P 09 50 29.1 +2.0
baz=240
TUC **Tucson** 83.98 52 eP P 09 50 29.2 +2.0
TUC pmax pmax
comp=Z,14nm,0.8s
TUC **Tucson** 83.98 52 eP P 09 50 29.2 +2.0
comp=Z,14nm,0.8s
SVW2 **Sparrevohn** 84.06 11 eP P 09 50 26.4 -0.3
comp=Z,7.4nm,0.7s
WVOR **Wild Horse Val** 84.11 40 eP P 09 50 29.0 +1.4
WVOR pmax pmax
comp=Z,18nm,0.9s
WVOR **Wild Horse Val** 84.11 40 eP P 09 50 29.0 +1.4
comp=Z,18nm,0.9s
MA2 **Magadan** 84.19 345 P P 09 50 27.2 -0.1
comp=Z,19nm,0.7s,baz=147,slow=4.1,SNR=22
NLWA **Neilton Lookou** 84.19 34 eP P 09 50 29.2 +1.5
comp=Z,45nm,1.1s
ESD **East Dome** 84.36 36 eP P 09 50 26.9 -1.8
GSI **Gunungsitoli** 84.49 274 eP P 09 50 31.3 +1.3
comp=Z,124nm,0.7s
X16A **Lo Mia Camp, P** 84.54 50 eP P 09 50 31.8 +1.8
comp=Z,14nm,1.1s
I07A **Izee** 84.56 39 eP P 09 50 31.7 +1.9
comp=Z,32nm,1.3s
SKNT **Sakolnakorn** 84.60 290 P P 09 50 30.4 0.0
comp=Z,54nm,1.0s
LCMT **Little Creek M** 84.60 47 eP P 09 50 31.7 +1.5
comp=Z,8.3nm,0.9s
319A **Douglas** 84.64 54 eP P 09 50 32.8 +2.3
comp=Z,37nm,1.0s
J08A **Circle Bar Ran** 84.74 40 eP P 09 50 32.0 +1.4
comp=Z,34nm,1.3s
CCUT **Cedar City** 84.80 47 eP P 09 50 32.8 +1.6
comp=Z,9.2nm,0.9s
GAMB **Gambell** 84.81 3 eP P 09 50 31.1 +0.8
comp=Z,36nm,1.2s
SPU **Mount Spurr** 84.82 13 eP P 09 50 29.7 -0.8
KNB **Kanab** 84.89 47 eP P 09 50 33.5 +1.9
KNB pmax pmax
comp=Z,13nm,1.0s
KNB **Kanab** 84.89 47 eP P 09 50 33.5 +1.9
comp=Z,13nm,1.0s
TRTT **Trang** 84.92 280 P P 09 50 32.8 +0.8
comp=Z,36nm,1.1s,comp=Z,638nm
U15A **North Rim** 84.96 48 eP P 09 50 33.9 +1.8
comp=Z,23nm,0.8s
SZCU **Shurtz Canyon** 85.01 47 eP P 09 50 34.1 +1.9
comp=Z,12nm,1.1s
WUAZ **Wupatki** 85.14 49 P P 09 50 34.4 +1.6
baz=240
WUAZ **Wupatki** 85.14 49 eP P 09 50 34.2 +1.4
comp=Z,12nm,1.0s
SRAK **Srakaew** 85.14 287 P P 09 50 32.7 -0.3
comp=Z,42nm,1.3s
PGC **Sidney** 85.21 33 eP P 09 50 34.2 +1.7
comp=Z,45nm,1.0s
RC01 **Rabbit Creek A** 85.23 14 eP P 09 50 32.6 +0.3
comp=Z,77nm,1.3s
SUA **Susitna One** 85.35 13 eP P 09 50 32.9 -0.2
comp=Z,36nm,0.7s
F07A **Phinny Hill Vi** 85.40 37 eP P 09 50 35.3 +1.8
comp=Z,22nm,1.0s
HPIG 85.42 59 eP P 09 50 35.7 +1.3
comp=Z,12nm,1.1s
PKCU **Pink Cliffs** 85.46 47 eP P 09 50 37.3 +2.8
comp=Z,10.0nm,0.8s
G08A **Pilot Rock** 85.59 38 eP P 09 50 36.0 +1.4
comp=Z,22nm,0.9s
A04D **Lummi Island** 85.64 33 P P 09 50 37.0 +2.4
baz=231
SKT **Skwentna** 85.65 13 eP P 09 50 33.7 -0.7
comp=Z,20nm,1.1s
GLI **Glacier Island** 85.66 15 eP P 09 50 34.7 +0.3
comp=Z,68nm,0.8s
B05A **Bryant** 85.67 34 P P 09 50 36.4 +1.6
baz=232
X18A **Snowflake** 85.67 51 eP P 09 50 37.2 +1.8
comp=Z,7.2nm,0.8s
EYAK **Cordova Ski Ar** 85.70 16 eP P 09 50 35.1 +0.5
comp=Z,44nm,1.1s
ENH **Enshi** 85.75 305 eP P 09 50 37.0 +1.3
comp=Z,87nm,0.9s
LTY **Liberty** 85.81 35 eP P 09 50 36.6 +1.0
comp=Z,33nm,1.1s
PMR **Palmer** 85.81 14 eP P 09 50 35.0 -0.1
PMR pmax pmax
comp=Z,72nm,1.4s
PMR **Palmer** 85.81 14 eP P 09 50 35.0 -0.1
comp=Z,72nm,1.4s
E07A **Sunnyside** 85.83 36 eP P 09 50 37.5 +1.9
comp=Z,39nm,0.9s
MTPU **Mount Pierson** 85.86 47 eP P 09 50 38.5 +2.1
comp=Z,11nm,1.0s
NAYO **Nakonayok** 85.91 287 P P 09 50 38.5 +1.9
comp=Z,22nm,1.1s
HAWA **Hanford** 85.92 37 eP P 09 50 37.7 +1.6
comp=Z,36nm,1.0s
CHAI **Chaiyaphum** 85.93 289 P P 09 50 37.9 +1.1
comp=Z,9.4nm,0.8s
SYO **Syowa Base** 85.94 193 ⇓ *eP* P 09 50 34.2 -1.6
SYO **Syowa Base** 85.94 193 ⇓ *ePcP* P 09 50 36.8 +1.0
GHO **Glory Hole Cre** 86.02 14 eP P 09 50 36.6 +0.4
comp=Z,83nm,0.8s

C06D	Leavenworth	86.09	35	P		P	09 50 38.5	+1.6	
	baz=232								
MSU	Marysvale	86.10	46	*eP*		P	09 50 39.1	+1.7	
MSU	Marysvale	86.10	46	*eP*		P	09 50 39.1	+1.7	
SURT	Suratani	86.16	281	P		P	09 50 38.8	+0.9	
	comp=Z,23nm,0.9s								
ZAIG	Zacatecas	86.17	64	*eP*		P	09 50 39.9	+1.7	
	comp=Z,7.6nm,1.0s								
SML	Sawmill	86.18	14	*eP*		P	09 50 37.2	+0.2	
SML				pmax		pmax			
	comp=Z,16nm,1.0s								
SML	Sawmill	86.18	14	*eP*		P	09 50 37.2	+0.2	
	comp=Z,16nm,1.0s								
DIV	Divide	86.19	15	*eP*		P	09 50 37.3	+0.2	
	comp=Z,42nm,1.0s								
E08A	Dider Farm, El	86.24	37	*eP*		P	09 50 39.2	+1.7	
	comp=Z,22nm,0.8s								
GYA	Guiyang	86.29	300	P		P	09 50 39.8	+1.4	
GYA				pP		pP	09 52 48.0	-2.2	
GYA				sP		sP	09 53 46.3	-5.7	
GYA				PP		PP	09 54 14.5	+2.8	
GYA				SKS		SKSac	10 00 09.0	+2.1	
GYA				S		S	10 00 25.5	+1.9	
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,130nm,6.4s								
BMO	Blue Mountains	86.29	39	*eP*		P	09 50 39.1	+1.1	
BMO				pmax		pmax			
	comp=Z,12nm,0.9s								
BMO	Blue Mountains	86.29	39	*eP*		P	09 50 39.1	+1.1	
	comp=Z,12nm,0.9s								
121A	Cookes Peak, D	86.31	53	P		P	09 50 40.1	+1.7	
	baz=242								
BMRM	Bremner River	86.35	16	*eP*		P	09 50 38.4	+0.6	
	comp=Z,31nm,0.7s								
MFID	Camas Ranch	86.37	41	*eP*		P	09 50 39.9	+1.5	
	comp=Z,20nm,1.0s								
SCM	Sheep Creek Mo	86.43	14	*eP*		P	09 50 38.5	+0.3	
SCM				pmax		pmax			
	comp=Z,74nm,0.7s								
SCM	Sheep Creek Mo	86.43	14	*eP*		P	09 50 38.5	+0.3	
	comp=Z,74nm,0.7s								
KLU	Klutina	86.47	15	*eP*		P	09 50 38.6	+0.2	
	comp=Z,19nm,0.8s								
DUG	Dugway, Tooele	86.55	45	P		P	09 50 40.5	+1.1	
	baz=239								
DUG	Dugway, Tooele	86.55	45	*eP*		P	09 50 39.7	+0.4	
DUG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
DUG	Dugway, Tooele	86.55	45	*eP*		P	09 50 39.7	+0.4	
	comp=Z,2.6nm,0.8s								
D08A	Wollman Farm,	86.65	36	*eP*		P	09 50 40.9	+1.4	
	comp=Z,33nm,0.9s								
E09A	Wood Farm, Sta	86.76	37	*eP*		P	09 50 41.0	+1.0	
	comp=Z,37nm,1.1s								
SEY	Seymchan	86.81	347	P		P	09 50 40.2	+0.4	
	comp=Z,38nm,0.9s,baz=148,slow=5.2,SNR=90								
CAST	Castle Rocks	86.85	12	*eP*		P	09 50 38.8	-1.2	
	comp=Z,42nm,0.8s								
PHET	Kaeng Krachan	86.89	285	P		P	09 50 43.7	+2.4	
	comp=Z,27nm,0.9s,comp=Z,230nm								
NLU	North Lily Min	86.91	45	*eP*		P	09 50 41.6	+0.5	
	comp=Z,6.1nm,1.2s								
EPT	El Paso	86.92	54	*eP*		P	09 50 43.4	+2.1	
	comp=Z,24nm,1.1s								
TMUT	Trail Mountain	87.15	46	*eP*		P	09 50 43.9	+1.5	
	comp=Z,18nm,1.0s								
B08A	Colville Reser	87.19	35	*eP*		P	09 50 42.8	+0.8	
	comp=Z,29nm,0.8s								
KTH	Kantishna Hill	87.19	12	*eP*		P	09 50 40.8	-1.0	
	comp=Z,35nm,0.9s								
MPU	Maple Canyon	87.23	45	*eP*		P	09 50 44.0	+1.4	
	comp=Z,8.3nm,1.2s								
TRF	Thorofare Moun	87.23	12	*eP*		P	09 50 41.4	-0.6	
	comp=Z,65nm,0.7s								
LLLB	Lillooet	87.24	32	*eP*		P	09 50 43.2	+1.0	
	comp=Z,28nm,1.2s								
HLID	Hailey	87.31	41	P		P	09 50 44.6	+1.8	
	baz=237								
HLID	Hailey	87.31	41	*eP*		P	09 50 44.4	+1.5	
	comp=Z,18nm,0.9s								
BESE	Bessie Mountai	87.33	21	*eP*		P	09 50 43.5	+1.1	
	comp=Z,29nm,1.0s								
SPUT	South Promonto	87.36	44	*eP*		P	09 50 44.5	+1.4	
	comp=Z,21nm,1.3s								
HVU	Hansel Valley	87.39	43	*eP*		P	09 50 44.4	+1.1	
HVU				pmax		pmax			
	comp=Z,15nm,1.1s								
HVU	Hansel Valley	87.39	43	*eP*		P	09 50 44.4	+1.1	
	comp=Z,15nm,1.1s								
SNAA	Sanae	87.40	179	P		P	09 50 42.4	-0.3	
SNAA	Sanae	87.40	179	P		P	09 50 42.8	+0.1	
	comp=Z,1.9nm,0.6s,baz=180,slow=10,SNR=16								
SNAA				S		SKSac	10 00 12.4	+0.4	
	comp=Z,1.5nm,0.8s,baz=163,slow=19,SNR=4.4								
SNAA	Sanae	87.40	179	*eP*		P	09 50 43.7	+1.0	
SNAA	Sanae	87.40	179	*eP*		P	09 50 42.3	-0.4	
	comp=Z,13nm,1.4s								
C09A	Chrisman Ranch	87.44	36	*eP*		P	09 50 44.3	+1.2	
	comp=Z,24nm,0.8s								
HARP	HAARP	87.45	15	*eP*		P	09 50 43.3	+0.4	
	comp=Z,29nm,0.8s								
RND	Reindeer	87.48	13	*eP*		P	09 50 43.0	-0.1	
RND				pmax		pmax			
	comp=Z,85nm,0.8s								
RND	Reindeer	87.48	13	*eP*		P	09 50 43.0	-0.1	
	comp=Z,85nm,0.8s								
CTU	Camp Tracy	87.50	45	*eP*		P	09 50 44.6	+0.8	
	comp=Z,12nm,1.2s								
DHY	Denali Highway	87.51	14	*eP*		P	09 50 43.4	+0.1	
	comp=Z,58nm,1.7s								
SRU	San Rafael Swe	87.52	46	*eP*		P	09 50 45.0	+1.0	
SRU				pmax		pmax			
	comp=Z,15nm,0.9s								
SRU	San Rafael Swe	87.52	46	*eP*		P	09 50 45.0	+1.0	
	comp=Z,15nm,0.9s								
P17A	Butcher Ranch,	87.55	46	*eP*		P	09 50 45.8	+1.7	
	comp=Z,14nm,1.1s								
VNA3	Neumayer Olymp	87.56	177	P		P	09 50 43.5	0.0	
JLU	Jordanelle	87.65	45	*eP*		P	09 50 45.7	+1.1	
	comp=Z,17nm,1.5s								
LAZ	Ladron	87.65	52	*eP*		P	09 50 46.1	+1.3	
MNTX	Cornudas Mount	87.75	55	P		P	09 50 46.9	+1.9	
	baz=244								
MNTX	Cornudas Mount	87.75	55	*eP*		P	09 50 46.5	+1.6	
	comp=Z,15nm,0.9s								
MCK	McKinley	87.76	13	*eP*		P	09 50 44.0	-0.3	
MCK				pmax		pmax			
	comp=Z,36nm,0.8s								
MCK	McKinley	87.76	13	*eP*		P	09 50 44.0	-0.3	
	comp=Z,36nm,0.8s								
ZEA	Zeya	87.81	331	*eP*		P	09 50 46.6	+1.9	
ZEA				pmax		pmax			
	comp=Z,35nm,1.0s								
PHIT	Phitsanulok	87.82	289	P		P	09 50 47.3	+1.7	
	comp=Z,32nm,1.0s,comp=Z,378nm								
SKAG	Skagway	87.84	21	*eP*		P	09 50 46.1	+1.5	
	comp=Z,51nm,1.4s								
PAX	Paxson	87.86	15	*eP*		P	09 50 44.6	-0.3	
PAX				pmax		pmax			
	comp=Z,13nm,1.0s								
PAX	Paxson	87.86	15	*eP*		P	09 50 44.6	-0.3	
	comp=Z,13nm,1.0s								
SRDT	SRDT	87.89	286	P		P	09 50 47.5	+1.6	
	comp=Z,34nm,1.2s,comp=Z,2μm								
XAN	Xi'an	87.90	308	P		P	09 50 47.0	+1.3	
XAN				pmax		pmax			
	comp=Z,60nm,1.0s								
XAN				pmax		pmax			
	comp=Z,78nm,4.2s								
TCUT	Toone Canyon	87.94	44	*eP*		P	09 50 47.5	+1.5	
	comp=Z,38nm,1.0s								
P18A	Preston Nutter	87.96	46	*eP*		P	09 50 47.6	+1.4	
	comp=Z,15nm,1.2s								
LPM	Los Pinos Moun	87.98	52	*eP*		P	09 50 47.9	+1.6	
PV05	Paradox Valley	87.99	48	*eP*		P	09 50 47.9	+1.7	
VNA2	Neumayer--Watz	88.00	177	P		P	09 50 45.2	-0.2	
	baz=196,slow=3.3								
NVL	N'lazarevskaya	88.04	184	*eP*		P	09 50 45.2	-0.4	
NVL				pmax		pmax			
	comp=Z,15nm,0.7s								
LTX	Lajitas	88.05	58	*eP*		P	09 50 48.4	+1.8	
LTX	Lajitas	88.05	58	*eP*		P	09 50 48.4	+1.8	
TX31	Lajitas Ar. Si	88.05	58	*eP*		P	09 50 48.2	+1.6	
TXAR	Lajitas Array	88.05	58	P		P	09 50 48.4	+1.8	
	comp=Z,10nm,0.8s,baz=219,slow=5.8,SNR=109								
TXAR				PKiKP		PKiKP	09 55 43.7	-0.2	
	comp=Z,0.3nm,0.9s,baz=282,slow=4.2,SNR=2.2								
TXAR				PKKPbc		PKKPbc	10 08 29.1	+1.1	
	comp=Z,0.6nm,0.6s,baz=158,slow=3.5,SNR=12								
HWUT	Hardware Ranch	88.08	44	*eP*		P	09 50 47.2	+0.7	
	comp=Z,7.8nm,0.9s								
PV09	Paradox Valley	88.17	47	*eP*		P	09 50 48.5	+1.3	
PV10	Paradox Valley	88.17	48	*eP*		P	09 50 48.0	+0.8	
NANT	Nan	88.19	291	P		P	09 50 48.9	+1.6	
	comp=Z,10nm,1.0s								
HYT	Haines Junctio	88.22	19	*eP*		P	09 50 46.8	+0.2	
	comp=Z,21nm,0.9s								
VNA1	Neumayer--Stat	88.23	177	P		P	09 50 46.7	+0.2	
MENT	Mentasta	88.25	15	*eP*		P	09 50 46.8	+0.2	
	comp=Z,24nm,1.0s								
NEW	Newport	88.34	36	P		P	09 50 48.0	+0.5	
	comp=Z,5.7nm,0.9s,baz=200,slow=3.6,SNR=10								
NEW	Newport	88.34	36	P		P	09 50 48.3	+0.9	
	baz=235								
NEW	Newport	88.34	36	*eP*		P	09 50 47.9	+0.5	
NEW				pmax		pmax			
	comp=Z,9.0nm,1.0s								
NEW	Newport	88.34	36	*eP*		P	09 50 47.9	+0.5	
	comp=Z,8.6nm,1.0s								
PV01	Paradox Valley	88.38	48	*eP*		P	09 50 48.8	+0.7	
ANMO	Albuquerque	88.40	52	P		P	09 50 49.2	+1.1	
	comp=Z,7.4nm,1.0s,baz=55,slow=3.7,SNR=25								
ANMO	Albuquerque	88.40	52	P		P	09 50 49.8	+1.6	
	baz=243								
ANMO	Albuquerque	88.40	52	*ceP*		P	09 50 49.3	+1.1	
ANMO				pmax		pmax			
	comp=Z,13nm,1.1s								
ANMO	Albuquerque	88.40	52	*eP*		P	09 50 49.3	+1.1	
	comp=Z,13nm,1.1s								
MLY	Manley	88.56	12	*eP*		P	09 50 47.4	-0.6	
	comp=Z,29nm,1.2s								
WRH	Wood River Hil	88.59	13	*eP*		P	09 50 47.8	-0.2	
	comp=Z,49nm,0.9s								
WRH				*eS*		S	10 00 42.6	-0.3	
RIDG	Independ'e Rid	88.66	14	*eP*		P	09 50 48.6	+0.1	
	comp=Z,28nm,1.0s								
HIA	Hailar	88.76	325	*eP*		P	09 50 49.6	+0.3	
HIA				pmax		pmax			
	comp=Z,18nm,0.8s								
HIA	Hailar	88.76	325	*eP*		P	09 50 49.6	+0.3	
	comp=Z,18nm,0.8s								
DOT	Dot Lake	88.77	15	*eP*		P	09 50 49.5	+0.5	
	comp=Z,63nm,0.8s								
HDA	Harding Lake	88.77	13	*eP*		P	09 50 48.7	-0.2	
	comp=Z,28nm,0.7s								
CCB	Clear Creek Bu	88.80	13	*eP*		P	09 50 48.6	-0.5	
	comp=Z,42nm,0.9s								
CCB				*eS*		S	10 00 48.5	+3.7	
WHY	Whitehorse	88.91	20	*eP*		P	09 50 50.4	+0.6	
	comp=Z,13nm,0.8s								
IM3	Indian Mountai	88.91	10	*eP*		P	09 50 49.8	+0.3	
MCMT	McKenzie Canyo	88.93	41	*eP*		P	09 50 51.9	+1.4	
KMI	Kunming	88.95	297	P		P	09 50 52.5	+1.5	
KMI				pmax		pmax			
	comp=Z,43nm,0.9s								
KMI				pmax		pmax			
	comp=Z,170nm,5.1s								
AHID	Auburn Hatcher	88.96	43	*eP*		P	09 50 51.9	+1.2	
	comp=Z,19nm,0.8s								
MDM	Murphy Dome	88.99	13	*eP*		P	09 50 49.3	-0.7	
	comp=Z,41nm,0.9s								
LAMP	Lampang	89.02	290	P		P	09 50 53.0	+1.8	
	comp=Z,23nm,1.0s,comp=Z,173nm								
SCRK	San Creek	89.06	15	*eP*		P	09 50 51.0	+0.5	
	comp=Z,17nm,1.0s								
IL1	Eielson Array	89.10	13	*eP*		P	09 50 49.9	-0.6	
ILAR	Eielson Array	89.10	13	P		P	09 50 50.2	-0.3	
	comp=Z,12nm,0.8s,baz=220,slow=5.1,SNR=46								
ILAR				PKiKP		PKiKP	09 55 44.1	-0.4	
	comp=Z,0.6nm,0.9s,baz=247,slow=3.5,SNR=3.6								
ILB	Eielson Array	89.10	13	*eP*		P	09 50 49.9	-0.5	
HHC	Hu-ho-hao-te	89.24	315	*eP*		P	09 50 52.0	+0.2	
HHC				pmax		pmax			
	comp=Z,28nm,0.8s								
HHC				pmax		pmax			
	comp=Z,110nm,8.6s								
MSO	Missoula	89.34	38	P		P	09 50 53.4	+1.2	
	baz=238								
PLCA	Paso Flores	89.40	134	P		P	09 50 54.4	+1.7	
	comp=Z,1.4nm,0.6s,baz=271,slow=6.2,SNR=12								
S22A	4UR Ranch, Cre	89.42	49	P		P	09 50 54.3	+1.3	
	baz=243								
S22A	4UR Ranch, Cre	89.42	49	*eP*		P	09 50 54.3	+1.3	
	comp=Z,13nm,1.1s								
REDW	Red Top Meadow	89.42	43	*eP*		P	09 50 54.0	+1.2	
	comp=Z,29nm,1.0s								
TPAW	Teton Pass	89.42	42	*eP*		P	09 50 54.3	+1.5	
	comp=Z,9.7nm,0.8s								
FXWY	Fox Creek	89.45	42	*eP*		P	09 50 54.2	+1.3	
	comp=Z,8.9nm,1.0s								
SNOW	Snow King Moun	89.53	42	*eP*		P	09 50 54.8	+1.4	
	comp=Z,25nm,0.9s								
O20A	White River Ci	89.56	46	P		P	09 50 54.6	+1.1	
	baz=242								
O20A	White River Ci	89.56	46	*eP*		P	09 50 54.5	+1.1	
	comp=Z,12nm,0.9s								
CM01	Chiang Mai Arr	89.57	290	*eP*		P	09 50 55.6	+1.9	
BILL	Bilibino	89.58	354	*dP*		P	09 50 52.8	+0.2	
BILL				*e**PP		pP	09 53 02.9	-2.7	
BILL				*e**SP		sP	09 54 02.4	-4.6	
BILL				*e*			09 54 36.3		
BILL				*eS*		SKSac	10 00 25.0	+0.9	
BILL				pmax		pmax			
	comp=Z,25nm,1.0s								
CMAR	Chiang Mai Arr	89.60	290	P		P	09 50 56.0	+2.1	
	comp=Z,29nm,0.9s,baz=127,slow=3.1,SNR=93								
CMAR				PP		PP	09 54 33.1	-4.6	
	comp=Z,1.3nm,0.4s,baz=114,slow=4.0,SNR=3.4								
MCID	Moose Creek	89.63	42	*eP*		P	09 50 54.9	+1.2	
LNIG	Linares	89.63	63	*eP*		P	09 50 54.4	+0.6	
	comp=Z,15nm,0.9s								
IMW	Indian Meadow	89.64	42	*eP*		P	09 50 55.2	+1.3	
	comp=Z,16nm,0.9s								
MOOW	Moose Ponds	89.68	42	*eP*		P	09 50 55.3	+1.4	
	comp=Z,3.9nm,0.8s								
LRM	Limekiln Ridge	89.69	40	*eP*		P	09 50 55.3	+1.3	
LOHW	Long Hollow	89.70	42	*eP*		P	09 50 55.3	+1.2	
	comp=Z,8.4nm,0.8s								
CMMT	Chiang Mai	89.73	290	P		P	09 50 54.9	+0.4	
	comp=Z,49nm,1.0s,comp=Z,445nm								
CHTO	Chiang Mai	89.73	290	P		P	09 50 55.9	+1.4	
	comp=Z,215nm,1.0s,comp=Z,1μm								
CHTO	Chiang Mai	89.73	290	*eP*		P	09 50 56.2	+1.7	
CHTO				pmax		pmax			
	comp=Z,29nm,0.8s								
CHTO	Chiang Mai	89.73	290	*eP*		P	09 50 56.2	+1.7	
	comp=Z,29nm,0.8s								
QLMT	Earthquake Lak	89.80	41	*eP*		P	09 50 56.6	+2.1	
YHB	Horse Butte	89.91	41	*eP*		P	09 50 56.9	+1.9	
	comp=Z,14nm,1.2s								
YPP	Pitchstone Pla	89.91	42	*eP*		P	09 50 54.7	-0.4	
BW06	Boulder Array	89.95	44	P		P	09 50 56.1	+0.8	
	baz=241								
BW06	Boulder Array	89.95	44	*eP*		P	09 50 56.0	+0.7	
	comp=Z,11nm,0.8s								
PD31	Pinedale Array	89.95	44	*eP*		P	09 50 55.8	+0.6	
PDAR	Pinedale Array	89.95	44	P		P	09 50 56.1	+0.8	
	comp=Z,8.7nm,0.7s,baz=208,slow=3.3,SNR=68								
PDAR				PKKPbc		PKKPbc	10 08 23.9	-0.2	
	comp=Z,0.2nm,0.4s,baz=28,slow=2.1,SNR=3.7								
PDAR	Pinedale Array	89.95	44	*eP*		P	09 50 55.7	+0.5	
SMCO	Snowmass	89.97	48	*eP*		P	09 50 56.2	+0.5	
	comp=Z,5.9nm,0.8s								
YMR	Madison River	90.01	41	*eP*		P	09 50 57.7	+2.2	
	comp=Z,19nm,1.3s								
CMAI	Chiengmai2	90.07	291	P		P	09 50 57.6	+1.4	
	comp=Z,299nm,1.0s								
YMS	Mount Sheridan	90.08	42	*eP*		P	09 50 57.2	+1.3	
H17A	Grant Village	90.11	42	P		P	09 50 57.6	+1.6	
	baz=240								
H17A	Grant Village	90.11	42	*eP*		P	09 50 58.6	+2.6	
	comp=Z,12nm,1.1s								
YHH	Holmes Hill	90.14	41	*eP*		P	09 50 57.5	+1.3	
	comp=Z,4.9nm,0.8s								
DAWY	Dawson	90.28	16	*eP*		P	09 50 56.4	+0.4	
	comp=Z,24nm,1.0s								
SDCO	Great Sand Dun	90.35	49	P		P	09 50 58.3	+1.0	
	baz=243								
SDCO	Great Sand Dun	90.35	49	*eP*		P	09 50 58.3	+1.0	
	comp=Z,6.1nm,1.0s								
EGAK	Eagle	90.41	15	*eP*		P	09 50 56.8	+0.3	
	comp=Z,20nm,0.8s								
CD2	Chengdu	90.48	303	P		P	09 50 58.8	+1.1	
CMIG	Matias Romero	90.60	72	P		P	09 50 58.9	+0.4	
	comp=Z,1.3nm,0.7s,baz=280,slow=8.4,SNR=5.1								
COLD	Coldfoot	90.64	11	*eP*		P	09 50 58.5	+0.9	
	comp=Z,16nm,1.0s								
MSTX	Muleshoe	90.71	54	P		P	09 50 59.8	+1.0	
	baz=245								
T25A	Trinidad	90.86	50	P		P	09 51 00.7	+1.1	
	baz=244								
T25A	Trinidad	90.86	50	*eP*		P	09 50 59.6	0.0	
	comp=Z,7.1nm,0.9s								
RWWY	Rawlins	90.97	45	*eP*		P	09 50 59.8	-0.2	
	comp=Z,18nm,1.1s								
833A	Chaparral WMA,	91.05	60	P		P	09 51 01.4	+1.1	
	baz=246								
ISCO	Idaho Springs	91.19	48	P		P	09 51 02.1	+0.9	
	baz=243								
N23A	Red Feather La	91.46	46	P		P	09 51 03.4	+1.1	
	baz=243								
N23A	Red Feather La	91.46	46	*eP*		P	09 51 03.8	+1.5	
	comp=Z,11nm,1.0s								
JCT	Junction City	91.57	58	*eP*		P	09 51 03.5	+0.7	
JCT				pmax		pmax			
	comp=Z,6.0nm,0.6s								
JCT	Junction City	91.57	58	*eP*		P	09 51 03.5	+0.7	
	comp=Z,6.1nm,0.6s								
K22A	Casper	91.87	45	P		P	09 51 05.6	+1.6	
	baz=243								
K22A	Casper	91.87	45	*eP*		P	09 51 05.3	+1.3	
	comp=Z,12nm,1.1s								
PHWY	Pilot Hill	91.97	46	*eP*		P	09 51 04.4	-0.3	
	comp=Z,14nm,0.5s								
TOLK	Toolik Lake Re	92.01	10	P		P	09 51 05.7	+1.8	
	baz=207								
EGMT	Eagleton	92.40	39	P		P	09 51 07.7	+1.5	
	baz=241								
YAK	Yakutsk	92.41	338	P		P	09 51 05.5	-0.2	
	comp=Z,43nm,0.8s,baz=78,slow=0.3,SNR=9.6								
YAK	Yakutsk	92.41	338	*eP*		P	09 51 04.3	-1.4	
YAK				pmax		pmax			
	comp=Z,40nm,0.9s								
YAK				pmax		pmax			
	comp=E,6.0nm,1.0s								
YAK	Yakutsk	92.41	338	*eP*		P	09 51 05.5	-0.2	
	comp=E,50nm,0.8s								
LZH	Lanzhou	92.54	308	⇓P		P	09 51 08.8	+1.6	
LZH				pP		pP	09 53 19.0	-1.6	
LZH				sP		sP	09 54 17.5	-4.3	
LZH				PP		PP	09 55 01.0	+0.7	
LZH				SKS		SKSac	10 00 45.8	+3.4	
LZH				*eS*		ScS	10 01 21.5	+0.9	
LZH				sS		sS	10 05 12.0	-6.9	
LZH				SS		SS	10 07 54.5	+2.6	
LZH				pmax		pmax			
	comp=E,57nm,1.0s								
LZH				pmax		pmax			
	comp=E,260nm,5.3s								
KSCO	Kaye Shedlock'	92.94	49	P		P	09 51 10.4	+1.5	
	baz=245								
KSCO	Kaye Shedlock'	92.94	49	*eP*		P	09 51 10.2	+1.2	
	comp=E,17nm,0.9s								
EDM	Edmonton	93.06	33	*eP*		P	09 51 09.4	+0.4	
EDM				pmax		pmax			
	comp=Z,15nm,1.3s								
EDM	Edmonton	93.06	33	*eP*		P	09 51 09.4	+0.4	
	comp=Z,15nm,1.3s								
LAO	LASA Array	93.89	41	P		P	09 51 14.4	+1.3	
	baz=243								
LAO	LASA Array	93.89	41	*eP*		P	09 51 14.5	+1.4	
	comp=Z,14nm,1.1s								
RSSD	Black Hills	94.14	44	P		P	09 51 15.7	+1.2	
	baz=245								
RSSD	Black Hills	94.14	44	*eP*		P	09 51 15.0	+0.6	
RSSD				pmax		pmax			
	comp=Z,6.0nm,0.9s								
RSSD	Black Hills	94.14	44	*eP*		P	09 51 15.0	+0.6	
	comp=Z,6.0nm,0.9s								
INK	Inuvik	95.08	15	P		P	09 51 17.5	-0.3	
	comp=Z,4.2nm,0.9s,baz=166,slow=9.0,SNR=5.4								
INK	Inuvik	95.08	15	*eP*		P	09 51 17.5	-0.3	
INK				pmax		pmax			
	comp=Z,10.0nm,1.3s								
INK	Inuvik	95.08	15	*eP*		P	09 51 17.5	-0.3	
	comp=Z,10nm,1.3s								
ULN	Ulaanbaatar	95.33	319	*ceP*		P	09 51 19.5	-0.1	
ULN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ULN	Ulaanbaatar	95.33	319	*eP*		P	09 51 19.7	+0.1	
	comp=Z,5.5nm,1.0s								
SONA0	Songino Array	95.72	319	*eP*		P	09 51 21.3	-0.1	
SONA0				*e*PP		PP	09 55 20.0	-4.3	
SONA1	Songino Array	95.72	319	*eP*		P	09 51 21.0	-0.4	
SONM	Songino Array	95.72	319	P		P	09 51 21.3	-0.1	
	comp=Z,1.5nm,0.8s,baz=124,slow=3.9,SNR=7.8								
SONM				PP		PP	09 55 20.0	-4.3	
	comp=Z,0.5nm,0.6s,baz=110,slow=9.4,SNR=4.0								
GTA	Gaotai	96.77	310	P		P	09 51 27.0	+0.7	
GTA				pP		pP	09 53 37.5	-2.5	
GTA				sP		sP	09 54 37.0	-4.2	

KK31 Karatay Array 119.03 308 ePKIKP PKPdf 09 56 39.6 -0.4
KK31 Karatay Array 119.03 308 ePKPdf PKPdf 09 56 39.5 -0.4
KKAR Karatay Array 119.03 308 ePKIKP PKPdf 09 56 39.5 -0.5
KKAR Karatay Array 119.03 308 ePKPdf PKPdf 09 56 39.5 -0.5
KK01 Karatay Array 119.03 308 ePKPdf PKPdf 09 56 39.4 -0.6
KK04 Karatay Array 119.03 308 ePKPdf PKPdf 09 56 39.4 -0.6
KK03 Karatay Array 119.04 308 ePKPdf PKPdf 09 56 39.4 -0.6
KK07 Karatay Array 119.04 308 ePKPdf PKPdf 09 56 39.6 -0.4
KK09 Karatay Array 119.04 308 ePKPdf PKPdf 09 56 39.3 -0.7
KK08 Karatay Array 119.05 308 ePKPdf PKPdf 09 56 39.2 -0.8
BVAR Borovoye Array 119.06 320 PKP PKPdf 09 56 39.2 -0.5
comp=Z,9.3nm,0.4s,baz=123,slow=2.0,SNR=68
BVAR PP PP 09 58 07.4 -3.8
comp=Z,1.1nm,0.7s,baz=93,slow=8.7,SNR=3.2
BVAR SKP 09 59 18.8
comp=Z,1.8nm,0.8s,baz=85,slow=3.3,SNR=3.7
BRVK Borovoye 119.12 320 i PKIKP PKPdf 09 56 39.7 -0.1
BRVK Borovoye 119.12 320 ePKPdf PKPdf 09 56 39.5 -0.3
KBL Kabul 119.51 299 ePKIKP PKPdf 09 56 41.8 +0.4
KBL Kabul 119.51 299 ePKPdf PKPdf 09 56 41.8 +0.4
SCHQ Schefferville 119.64 38 PKP PKPdf 09 56 40.1 -0.7
comp=Z,2.5nm,0.9s,baz=259,slow=5.2,SNR=4.3
SCHQ Schefferville 119.64 38 ePKPdf PKPdf 09 56 40.2 -0.6
OPO Ambohidratompo120.10 232 PKP PKPdf 09 56 43.8 +0.8
comp=Z,3.4nm,0.6s,baz=114,slow=2.1
SPA0 Spitsbergen Ar 122.44 356 ePKPdf PKPdf 09 56 45.6 0.0
SPITS Spitsbergen Ar 122.44 356 PKP PKPdf 09 56 45.6 0.0
comp=Z,27nm,0.7s,baz=14,slow=4.4,SNR=30
DAG Danmarks Havn 123.44 5 ⇓i PKIKP PKPdf 09 56 46.3 -1.2
DAG pmax pmax
comp=Z,7.0nm,0.6s
DAG Danmarks Havn 123.44 5 ⇓i P PKPdf 09 56 46.3 -1.2
comp=Z,6.8nm,0.6s
SFJD Kangerlussuaq 123.81 22 PKP PKPdf 09 56 47.8 -0.6
comp=Z,4.5nm,0.5s,baz=194,slow=4.2,SNR=7.2
SFJD Kangerlussuaq 123.81 22 i PKIKP PKPdf 09 56 48.2 -0.2
SFJD pmax pmax
comp=Z,6.0nm,0.5s
SFJD Kangerlussuaq 123.81 22 i P PKPdf 09 56 48.2 -0.2
comp=Z,5.7nm,0.5s
SUMG Summit 123.94 13 i PKIKP PKPdf 09 56 49.2 +0.1
SUMG pmax pmax
comp=Z,21nm,1.1s
SUMG Summit 123.94 13 i P PKPdf 09 56 49.2 +0.1
comp=Z,21nm,1.1s
SUMG Summit 123.94 13 ePKPdf PKPdf 09 56 48.7 -0.3
SVE Sverdlovsk 124.07 325 ePKIKP PKPdf 09 56 49.1 -0.1
SVE pmax pmax
comp=Z,26nm,0.9s
SOKR Solikamsk 125.22 329 d i PKIKP PKPdf 09 56 49.3 -1.9
SOKR pmax pmax
comp=Z,53nm,1.0s
ARU Arti 125.28 325 i PKIKP PKPdf 09 56 51.8 +0.3
ARU 09 58 50.8
ARU 10 03 06.3
ARU SS SS 10 14 59.3 -4.0
BOSA Boshof 125.35 206 PKP PKPdf 09 56 53.5 +0.7
comp=Z,3.4nm,0.9s,baz=316,slow=7.0,SNR=3.1
AB06 Akbulak array 125.99 316 ePKPdf PKPdf 09 56 53.0 -0.1
AB07 Akbulak array 126.00 316 ePKPdf PKPdf 09 56 52.6 -0.5
AB02 Akbulak array 126.00 316 ePKPdf PKPdf 09 56 52.5 -0.6
AB05 Akbulak array 126.00 316 ePKPdf PKPdf 09 56 53.0 -0.2
AB01 Akbulak array 126.01 316 ePKPdf PKPdf 09 56 52.6 -0.6
AB03 Akbulak array 126.01 316 ePKPdf PKPdf 09 56 52.7 -0.5
AB31 Akbulak array 126.01 316 ePKIKP PKPdf 09 56 53.4 +0.3
AB31 Akbulak array 126.01 316 ePKPdf PKPdf 09 56 53.4 +0.3
ABKAR Akbulak array 126.01 316 ePKPdf PKPdf 09 56 53.0 -0.2
AB04 Akbulak array 126.01 316 ePKPdf PKPdf 09 56 53.1 -0.1
AB08 Akbulak array 126.02 316 ePKPdf PKPdf 09 56 53.1 0.0
AB09 Akbulak array 126.02 316 ePKPdf PKPdf 09 56 52.8 -0.3
AKTO Aktyubinsk 127.02 318 PKP PKPdf 09 56 55.0 0.0
comp=Z,8.8nm,0.7s,baz=87,slow=4.3,SNR=20
GEYT Alibeck 128.47 302 PKP PKPdf 09 56 58.7 +0.4
comp=Z,8.1nm,0.7s,baz=270,slow=0.1,SNR=17
GEYT PP PP 09 59 12.5 -1.3
comp=Z,1.1nm,0.3s,baz=42,slow=4.5,SNR=4.6
SCO Scoresbysund 128.76 10 ePKIKP PKPdf 09 56 58.4 +0.6
SCO Scoresbysund 128.76 10 i P PKPdf 09 56 58.2 +0.4
comp=Z,5.6nm,0.7s
SCO Scoresbysund 128.76 10 ePKPdf PKPdf 09 56 58.4 +0.6
SOHO SOHO 129.09 284 i PKPdf PKPdf 09 56 60.0 +0.2
SNR=19
ARA0 ARCESS Array S 129.40 349 ePKPpre PKPpre 09 56 47.6
ARA0 ePKPdf PKPdf 09 56 59.0 0.0
ARCES ARCESS Array B 129.40 349 PKhKP PKPpre 09 56 47.6
comp=Z,6.2nm,1.0s,baz=58,slow=4.6,SNR=5.4
ARCES PKP PKPdf 09 56 59.0 0.0
comp=Z,18nm,0.7s,baz=10,slow=1.2,SNR=50
ARCES SKPbc SKPbc 09 59 27.7 +3.7
comp=Z,18nm,0.9s,baz=20,slow=3.9,SNR=12
UOSS Minazif 129.50 285 ePKPdf PKPdf 09 57 00.1 -0.5
UOSS Minazif 129.50 285 PKPdf PKPdf 09 57 00.4 -0.2
HATD Hatta, Dubai 129.55 285 i PKPdf PKPdf 09 57 00.9 +0.2
SNR=9.1
MSFE Esma-Masafi 129.59 286 PKPdf PKPdf 09 57 01.1 +0.3
ASHO Ashiyiah 129.59 285 i PKPdf PKPdf 09 57 01.1 +0.3
SNR=7.3
SHME Shamm 129.69 287 PKPdf PKPdf 09 57 01.0 +0.1
ALNE Al Ain 129.78 284 i PKPdf PKPdf 09 57 01.6 +0.5
SNR=8.4
KLMR Klimovskoe 132.14 336 ePKIKP PKPdf 09 57 03.2 -1.2
KLMR pmax pmax
comp=Z,15nm,0.8s
KLMR Klimovskoe 132.14 336 ePKPdf PKPdf 09 57 03.2 -1.2
KLMR AMP 09 57 05.6
comp=Z,15nm,0.8s
KLMR ePP pPKPdf 09 59 30.6 +3.8
LSZ Lusaka 135.14 218 ePKIKP PKPdf 09 57 12.4 +0.8
LSZ Lusaka 135.14 218 ePKPdf PKPdf 09 57 12.4 +0.8
MOS Moscow 136.08 331 ePKIKP PKPdf 09 57 13.6 +1.7
FIA1 FINESS Array S 136.15 343 ePKPdf PKPdf 09 57 12.8 +0.9
FIA0 FINESS Array S 136.15 343 ePKHKP PKPpre 09 56 59.6
FIA0 e 09 57 13.5
FIA0 FINESS Array S 136.15 343 ePKPpre PKPpre 09 56 59.5
FIA0 ePKPdf PKiKP 09 57 13.4 -0.3
FINES FINESS Array B 136.15 343 PKhKP PKPpre 09 56 59.5
comp=Z,1.0nm,0.3s,baz=48,slow=4.3,SNR=7.8
FINES PKP PKiKP 09 57 13.4 -0.3
comp=Z,9.4nm,0.7s,baz=78,slow=2.0,SNR=11
FINES SKPbc SKPbc 09 59 49.3 +2.5
comp=Z,9.3nm,0.7s,baz=64,slow=4.4,SNR=12
OBN Obninsk 136.94 331 ⇑i PKIKP PKPdf 09 57 13.6 +0.1
OBN i 10 12 34.2
OBN eSSS SSS 10 22 45.3
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN pmax pmax
comp=Z,16nm,0.6s
KMBO Kilima Mbogo 138.36 242 PKP PKPdf 09 57 16.9 -0.9
comp=Z,1.8nm,0.5s,baz=202,slow=5.4,SNR=3.1
KMBO SKPbc SKiKP 09 59 58.7 +0.3
comp=Z,4.6nm,0.7s,baz=14,slow=5.0,SNR=9.6
ZEI Tsey 138.37 311 i PKIKP PKPdf 09 57 18.4 +1.5
ZEI pmax pmax
comp=Z,5.0nm,0.9s
GNI Garni 138.47 307 PKhKP PKPpre 09 57 07.1
comp=Z,3.2nm,0.3s,baz=111,slow=18,SNR=2.1
GNI Garni 138.47 307 i PKIKP PKPdf 09 57 16.8 -0.3
DOMB Dombas 138.76 354 eP PKPdf 09 57 09.5 -7.3
KBZ Khabaz 138.76 313 PKhKP PKPpre 09 57 09.1
comp=Z,1.6nm,0.7s,baz=76,slow=8.3,SNR=2.7
KBZ SKP 09 59 58.8
comp=Z,1.7nm,0.6s,baz=135,slow=4.3,SNR=3.2
KBZ PP PP 10 00 18.2 +0.6
comp=Z,3.7nm,0.9s,baz=243,slow=2.3,SNR=3.5
KIV Kislovodsk 138.83 313 ePKIKP PKPdf 09 57 19.3 +1.8
KIV pmax pmax
comp=Z,8.0nm,1.0s
RAYN Ar Rayn 139.04 282 ePKPdf PKPdf 09 57 19.1 +0.6
NC303 NORSAR Array S 139.31 352 ePKPdf PKPdf 09 57 20.0 +2.3
NB2 NORSAR Subarra139.51 352 PKP PKPpre 09 57 10.2
comp=Z,2.4nm,0.6s,baz=16,slow=3.2
NB200 NORSAR Array S 139.51 352 ePKPpre PKPpre 09 57 10.8
NB200 ePKPdf PKPdf 09 57 18.8 +0.7
NOA NORSAR Array B139.51 352 PKhKP PKPpre 09 57 10.8
comp=Z,1.9nm,0.6s,baz=39,slow=1.4,SNR=16
NOA PKP PKPdf 09 57 18.8 +0.7
comp=Z,4.2nm,0.7s,baz=8.9,slow=3.2,SNR=8.1
NOA SKPbc SKiKP 09 59 59.3 +0.3
comp=Z,8.9nm,1.0s,baz=16,slow=4.4,SNR=8.3
NC602 NORSAR Array S 139.76 352 eP PKPdf 09 57 12.5 -6.1
HFS Hagfors 140.03 350 PKhKP PKPpre 09 57 11.9
comp=Z,16nm,0.5s,baz=64,slow=3.4,SNR=74
HFS SKPbc SKiKP 10 00 00.1 +0.1
comp=Z,6.0nm,0.8s,baz=42,slow=2.3,SNR=5.4
HFS PP PP 10 00 24.9 +0.6
comp=Z,4.6nm,1.0s,baz=317,slow=7.9,SNR=2.2
KONO Kongsberg 141.05 353 eP PKPdf 09 57 16.1 -4.7
ODD1 Odda 141.06 356 eP PKPdf 09 57 13.4 -7.6
BLS5 Blasjo 141.56 356 eP PKPdf 09 57 17.7 -4.1
BAYT Ayd¨–ntepe-Bay 141.79 309 eP PKPdf 09 57 20.0 -3.1
MAZI Mazidag 142.39 304 eP PKPdf 09 57 21.4 -2.7
DYBB Diyarbakir 142.50 305 eP PKPdf 09 57 21.9 -2.3
HOMB Homborsund 142.52 354 eP PKPdf 09 57 20.9 -2.6
SNART Snartemo 142.58 355 eP PKPdf 09 57 21.3 -2.3
PTK Petrek 142.80 307 eP PKPdf 09 57 23.9 -1.0
SUW Suwalki 143.15 338 ePKP PKPab 09 57 23.0 +0.1
SUW Suwalki 143.15 338 ePKIKP PKPbc 09 57 23.4 +0.1
SUW Suwalki 143.15 338 ePKPdf PKPab 09 57 23.4 +0.4
AKASG Malin Array Be 143.18 330 PKP PKPab 09 57 22.7 -0.4
comp=Z,109nm,0.6s,baz=43,slow=4.4,SNR=544
AKASG SKP 10 00 04.8
comp=Z,0.2nm,0.3s,baz=41,slow=2.2,SNR=4.5
AKASG SKPbc SKiKP 10 00 08.1 +1.3
comp=Z,8.7nm,1.1s,baz=44,slow=2.7,SNR=12
AKBB Malin Array Si 143.18 330 ePKIKP PKPab 09 57 22.7 -0.5
AKBB Malin Array Si 143.18 330 ePKPpre PKPab 09 57 22.7 -0.5
KIEV Kiev 143.19 330 ePKHKP PKPab 09 57 22.6 -0.6
KIEV Kiev 143.19 330 ePKPpre PKPab 09 57 22.6 -0.6
KIEV Kiev 143.19 330 i PKPbc PKPab 09 57 22.9 -0.3
SNR=87
AK11 Malin Array Si 143.22 330 ePKPdf PKPab 09 57 22.8 -0.5
ILIC ilic-Erzincan 143.23 308 eP PKPbc 09 57 24.8 +0.6
MALT Malatya 143.69 306 eP PKPdf 09 57 26.5 +0.1
RSDY Resadiye-TOKAT 143.81 310 eP PKPbc 09 57 25.2 -0.6
MBAR Mbarara 143.92 237 ePKIKP PKPbc 09 57 26.5 -0.6
MBAR Mbarara 143.92 237 ePKPbc PKPbc 09 57 26.5 -0.6
SIM Simferopol' 143.97 319 i PKIKP PKPdf 09 57 27.2 +0.7
SIM pmax pmax
comp=Z,142nm,0.8s
SVSK Karacayir 144.22 310 eP PKPab 09 57 27.6 +0.1
MUD Monsted U'grnd 144.23 352 ⇓i PKIKP PKPbc 09 57 26.3 -0.2
MUD pmax pmax
comp=Z,100nm,1.0s
MUD Monsted U'grnd 144.23 352 ⇓i P PKPbc 09 57 26.3 -0.2
comp=Z,103nm,1.0s
DARE Darende-Malaty 144.31 307 eP PKPdf 09 57 27.6 +0.2
TOKT Tokat 144.39 311 eP PKPab 09 57 28.7 +0.4
BSD Bornholm Skovb 144.53 346 ⇓i P PKPdf 09 57 27.3 +0.2
comp=Z,46nm,0.7s
GAZ Gaziantep 144.95 305 eP PKPbc 09 57 30.0 +0.6
KMRS Kahramanmaras 145.09 306 eP PKPbc 09 57 30.5 +0.7
SORM Soroca 145.33 327 ⇓PKIKP PKPbc 09 57 30.0 0.0
SORM Soroca 145.33 327 ⇓i P PKPbc 09 57 30.0 0.0
BNN Bunyan 145.43 308 eP PKPdf 09 57 30.3 +0.9
GKP Gorka Klasztor 145.63 343 ePKP PKPbc 09 57 31.1 +0.4
EKA Eskdalemuir Ar 145.69 4 PKPbc PKPbc 09 57 31.2 +0.3
comp=Z,34nm,0.7s,baz=344,slow=2.5,SNR=70
ESK Eskdalemuir 145.71 4 ePKIKP PKPbc 09 57 30.6 -0.3
ESK Eskdalemuir 145.71 4 ePKPdf PKPbc 09 57 30.6 -0.3
BEL Belsk 145.76 338 ePKP PKPbc 09 57 31.9 +0.7
CORM Corum 145.80 311 eP PKPbc 09 57 31.7 -0.2
KIS Kishinev 145.83 326 ⇓i PKP PKPdf 09 57 30.0 +0.4
KIS M M 09 57 30.5
comp=Z,300nm,1.0s
KIS Kishinev 145.83 326 κ i PKIKP PKPdf 09 57 30.0 +0.4
KIS pmax pmax
comp=Z,300nm,1.0s
KIS pmax pmax
comp=Z,200nm,1.0s
KOZT Kozan 145.90 306 eP PKPbc 09 57 32.3 +0.2
ILGA Ilgaz 146.06 313 ePKPbc PKPbc 09 57 33.6 +0.9
CEYT Ceyhan 146.11 305 eP PKPbc 09 57 33.6 +1.0
YAYL Yayladag 146.12 304 eP PKPbc 09 57 32.3 -0.6
LVV L'vov 146.13 333 c i PKP2 PKPbc 09 57 32.8 +0.5
YURE YUREGIR 146.26 305 eP PKPbc 09 57 34.2 +1.1
LEOM Leova 146.46 325 ⇓PKP2 PKPbc 09 57 33.8 +0.5
LEOM Leova 146.46 325 ⇓i P PKPbc 09 57 33.8 +0.5
BR101 Keskin Array S 146.68 311 ePKPdf PKPdf 09 57 31.1 -0.4
BR101 ePKPbc PKPbc 09 57 34.5 +0.1
BR101 ePP PP 10 01 02.4 -2.5
BR131 Keskin Array S 146.68 311 ePKPbc PKPbc 09 57 34.2 0.0
BRTR Keskin Array B 146.68 311 PKP PKPdf 09 57 31.1 -0.4
comp=Z,23nm,0.7s,baz=140,slow=2.4,SNR=96
BRTR PKPbc PKPbc 09 57 34.5 +0.1
comp=Z,24nm,0.7s,baz=139,slow=3.9,SNR=98
BRTR SKPbc SKiKP 10 00 16.7 +2.1
comp=Z,1.6nm,0.8s,baz=145,slow=4.0,SNR=3.2
BRTR PP PP 10 01 02.4 -2.5
comp=Z,2.0nm,1.0s,baz=35,slow=5.3,SNR=3.2
KWP Kalwaria Pacla 146.82 334 ePKP PKPbc 09 57 34.6 +0.4
KWP Kalwaria Pacla 146.82 334 ePKP2 PKPbc 09 57 34.6 +0.4
KWP Kalwaria Pacla 146.82 334 ePKPbc PKPbc 09 57 34.5 +0.4
TLCR 146.96 323 ⇑PKP2 PKPbc 09 57 35.0 +0.4
TLCR 146.96 323 ⇑i P PKPbc 09 57 35.0 +0.4
AFSR Af˙ar-Bala (A 147.19 311 eP PKPbc 09 57 34.7 -0.9
BUR08 Bucovina Ar. S 147.21 329 ePKPbc PKPbc 09 57 36.4 +1.0
ANTO Ankara 147.21 312 ePKP2 PKPbc 09 57 36.1 +0.5
ANTO Ankara 147.21 312 ePKPbc PKPbc 09 57 36.1 +0.5
BUR04 Bucovina Ar. S 147.22 329 ePKPbc PKPbc 09 57 36.1 +0.7
BURAR Bucovina Array 147.22 329 ⇑PKP2 PKPbc 09 57 36.6 +1.2
BURAR Bucovina Array 147.22 329 ⇑i P PKPbc 09 57 36.6 +1.2
BR231 Keskin MP Arra 147.23 312 ePKPbc PKPbc 09 57 34.9 -0.8
CFR Carcaliu 147.34 324 ⇑PKP2 PKPbc 09 57 35.9 +0.3
CFR Carcaliu 147.34 324 ⇑i P PKPbc 09 57 35.9 +0.3
DSB Dublin 147.42 8 ePKPdf PKPdf 09 57 33.6 +1.6
DSB ePKPbc PKPbc 09 57 35.6 0.0
DSB ePKPab PKPab 09 57 39.8 0.0
MMAI Mount Meron Ar 147.44 299 PKPbc PKPbc 09 57 37.4 +0.9
comp=Z,50nm,0.6s,baz=78,slow=5.7,SNR=53
OJC Ojcow 147.46 338 ePKP PKPbc 09 57 36.1 +0.4
OJC Ojcow 147.46 338 ePKP2 PKPbc 09 57 36.2 +0.4
OJC Ojcow 147.46 338 ePKPbc PKPbc 09 57 36.2 +0.4
OJC ePKPab PKPab 09 57 40.6 +0.6
VRI Vrincioaia 147.66 326 ⇑PKP2 PKPbc 09 57 36.9 +0.4
VRI Vrincioaia 147.66 326 ⇑i P PKPbc 09 57 36.9 +0.4
PLOR Plostina 147.71 326 ⇓PKIKP PKPbc 09 57 36.6 0.0
PLOR Plostina 147.71 326 ⇓i P PKPbc 09 57 36.6 0.0
HARR Harsova 147.76 323 ⇑PKP2 PKPbc 09 57 37.7 +1.0
HARR Harsova 147.76 323 ⇑i P PKPbc 09 57 37.7 +1.0
TLB Topalu 147.76 323 ⇑PKP2 PKPbc 09 57 37.3 +0.6
TLB Topalu 147.76 323 ⇑i P PKPbc 09 57 37.3 +0.6
UZH Uzhgorod 147.77 333 ePKIKP PKPbc 09 57 36.4 -0.2
UZH e 09 57 43.0
CRVS Cervenica-Dubn 147.90 334 ePKP2 PKPbc 09 57 37.9 +0.9
CRVS Cervenica-Dubn 147.90 334 ePKP PKPbc 09 57 37.9 +0.9
NIE Niedzica 147.93 336 ePKP PKPbc 09 57 38.0 +0.9
BMR Baia Mare 147.97 331 ⇓PKP2 PKPbc 09 57 37.9 +0.7
BMR Baia Mare 147.97 331 ⇓i P PKPbc 09 57 37.9 +0.7
ARCR ARCALIA 148.01 329 ⇑i P PKPbc 09 57 38.0 +0.7
MDUB Mudurnu 148.03 314 eP PKPbc 09 57 37.1 -0.6
KSP Ksiaz 148.06 342 ePKP PKPbc 09 57 38.1 +0.8
ISR Istrita 148.25 325 ⇑PKP2 PKPbc 09 57 38.9 +0.9
ISR Istrita 148.25 325 ⇑i P PKPbc 09 57 38.9 +0.9
DOPR Dopca 148.29 327 ⇑i P PKPbc 09 57 39.0 +1.0
MLR Muntele Rosu 148.32 326 ⇑i P PKPbc 09 57 38.7 +0.4
MLR Muntele Rosu 148.32 326 ePKPbc PKPbc 09 57 38.4 +0.1
LFK Lefkose 148.35 303 eP PKPdf 09 57 22.7 -12
OKC Ostrava-Krasne 148.35 339 ⇑i ePKP PKPbc 09 57 38.5 +0.5
OKC ePKPAB PKPab 09 57 44.5 +0.8
UPC Upice 148.44 342 ePKP2 PKPbc 09 57 39.1 +0.9
UPC Upice 148.44 342 ⇑ePKP PKPbc 09 57 39.1 +0.9
UPC ePKPAB PKPab 09 57 45.1 +1.0
LANS Liptovska Anna 148.46 337 ePKP2 PKPbc 09 57 39.9 +1.5
LANS Liptovska Anna 148.46 337 ePKP PKPbc 09 57 39.9 +1.5
LANS e 09 57 45.9
DPC Dobruska-Polom 148.48 341 ePKPDF PKPdf 09 57 34.7 +0.8
DPC ⇑ePKP PKPbc 09 57 39.2 +0.8
DPC ePKPAB PKPab 09 57 45.3 +1.0
CLL Collm 148.49 346 ⇓i PKPbc PKPbc 09 57 38.8 +0.5
comp=Z,84nm,1.1s
CLL ⇑i PKPab PKPab 09 57 44.5 +0.3
comp=Z,36nm,0.8s
CLL eSKPbc SKiKP 10 00 20.0 +2.3
CLL Collm 148.49 346 ePKPbc PKPbc 09 57 38.8 +0.5
CLL ePKPab PKPab 09 57 45.3 +0.3
SECR 148.56 325 ⇓i P PKPbc 09 57 39.1 +0.4
KRLC Kraliky 148.59 341 ePKP2 PKPbc 09 57 39.5 +0.8
KRLC Kraliky 148.59 341 ⇑ePKP PKPbc 09 57 39.5 +0.8
KRLC ePKPAB PKPab 09 57 45.5 +0.7
MORC Moravsky Berou 148.60 339 ⇓i P PKPbc 09 57 39.0 +0.3
MORC Moravsky Berou 148.60 339 ePKPbc PKPbc 09 57 39.3 +0.6
MORC ePKPab PKPab 09 57 45.7 +0.9
CSS Mathiatis 148.60 303 ePKPbc PKPbc 09 57 39.3 +0.2
CSS ePKPab PKPab 09 57 46.1 +0.7
CSS Mathiatis 148.60 303 P PKPbc 09 57 39.8 +0.6
KECS Kecovo 148.62 335 ePKP2 PKPbc 09 57 39.7 +0.9
KECS Kecovo 148.62 335 ePKP PKPbc 09 57 39.7 +0.9
KECS e 09 57 46.0
CJR Cluj-Napoca 148.63 330 ⇓PKHKP PKPbc 09 57 39.5 +0.6
CJR Cluj-Napoca 148.63 330 ⇓i P PKPbc 09 57 39.5 +0.6
BRG Berggiesshubel 148.67 344 ePKP PKPdf 09 57 34.8 +0.7
comp=Z,15nm,1.4s
BRG Berggiesshubel 148.67 344 i PKP PKPbc 09 57 39.4 +0.6
comp=Z,107nm,1.5s
BRG Berggiesshubel 148.67 344 i PKP PKPab 09 57 45.4 +0.4
comp=Z,44nm,1.2s
BRG Berggiesshubel 148.67 344 ePKHKP PKPdf 09 57 34.8 +0.7
BRG i 09 57 45.4
BRG pmax pmax
comp=Z,15nm,1.4s
BRG pmax pmax
comp=Z,107nm,1.5s
BRG pmax pmax
comp=Z,44nm,1.2s
PVCC Panska Ves 148.82 343 ⇑ePKP PKPbc 09 57 40.0 +0.8
VOIR 148.82 327 ⇑PKHKP PKPbc 09 57 39.9 +0.4
VOIR 148.82 327 ⇑i P PKPbc 09 57 39.9 +0.4
LEF Lefka 148.90 303 eP PKPbc 09 57 40.1 +0.3
WTSB Winterswijk 148.91 353 ePKPbc PKPbc 09 57 39.3 +0.1
comp=Z,103nm,0.7s
WTSB ePKPab PKPab 09 57 46.0 +0.1
DRGR 148.99 331 ⇓PKHKP PKPbc 09 57 40.1 +0.3
DRGR 148.99 331 ⇓i P PKPbc 09 57 40.1 +0.3
SZAC Souni 149.02 303 P PKPbc 09 57 40.8 +0.6
ARR Arges 149.08 327 ⇓i P PKPbc 09 57 41.1 +1.0
ALFC Alefka 149.12 304 P PKPbc 09 57 40.5 +0.1
VYHS Vyhne 149.24 337 ePKP PKPbc 09 57 41.0 +0.7
VYHS e 09 57 48.6
PSZ Piszkesteto 149.31 335 ⇑i P PKPbc 09 57 41.2 +0.7
PSZ Piszkesteto 149.31 335 ePKPbc PKPbc 09 57 40.8 +0.3
VRAC Vranov 149.32 340 ⇓PKHKP PKPbc 09 57 40.2 -0.2
VRAC Vranov 149.32 340 ⇓i P PKPbc 09 57 40.2 -0.2
GOPC GO Pecny, Ondr 149.32 343 ⇑ePKP PKPbc 09 57 40.9 +0.5
GOPC ePKPAB PKPab 09 57 48.2 +0.4
PRU Pruhonice 149.32 343 ⇑ePKP PKPbc 09 57 40.9 +0.5
PRU ePKPAB PKPab 09 57 47.4 -0.3
PPCY Paphos 149.40 303 P PKPbc 09 57 40.8 -0.2
LOT Lotru 149.46 328 ⇓i P PKPbc 09 57 41.0 0.0
HUMR Humele 149.47 325 ⇑i P PKPbc 09 57 40.8 -0.1
SUTC Sutluce-Ispart 149.48 309 eP PKPbc 09 57 40.5 -0.9
NKC Novy Kostel 149.62 346 ⇑ePKP PKPbc 09 57 41.8 +0.7
TREC Trest 149.67 341 ⇑ePKP PKPbc 09 57 41.9 +0.6
ISP Isparta 149.69 310 ⇓PKHKP PKPbc 09 57 40.9 -0.9
ISP Isparta 149.69 310 ⇓i P PKPbc 09 57 40.9 -0.9
ISP Isparta 149.69 310 ePKPbc PKPbc 09 57 41.2 -0.6
ISP ePKPab PKPab 09 57 50.0 +0.1
SMOL Smolenice 149.73 338 ePKP PKPbc 09 57 42.8 +1.4
SMOL e 09 57 50.0
SIRR Siria 149.86 331 ⇓i P PKPbc 09 57 42.4 +0.6
MODS Modra-Piesok 149.90 338 ePKP PKPbc 09 57 42.9 +1.1
MODS e 09 57 51.4
BEBN Eben Emael 150.18 354 ⇑PKPbc PKPbc 09 57 43.0 +0.7
MEM Membach 150.34 354 ⇓PKPbc PKPbc 09 57 43.0 +0.3
MEM ⇓PKPab PKPab 09 57 52.2 +0.3
KHC Kasperske Hory 150.36 343 ePKIKP PKPdf 09 57 37.2 +0.3
KHC e 09 57 53.0
KHC Kasperske Hory 150.36 343 ePKPDF PKPdf 09 57 37.2 +0.3
KHC ⇑ePKP PKiKP 09 57 43.5 +0.1
KHC ePKPAB PKPab 09 57 53.0 +0.8
KHC Kasperske Hory 150.36 343 ePKPdf PKPdf 09 57 37.3 +0.3
KHC ePKPbc PKPbc 09 57 43.3 +0.4
KHC ePKPab PKPab 09 57 52.9 +0.7
BZS Buzias 150.37 330 ⇑PKIKP PKPbc 09 57 43.3 +0.3
BZS Buzias 150.37 330 ⇑i P PKPbc 09 57 43.3 +0.3
GRFO Grafenberg 150.41 347 ePKIKP PKPbc 09 57 43.5 +0.6
GRFO e 09 57 57.4
GRFO Grafenberg 150.41 347 ePKPbc PKPbc 09 57 43.5 +0.6
GRFO ePKPab PKPab 09 57 53.0 +0.7
SNF Seneffe 150.58 356 ⇑PKPbc PKPbc 09 57 43.3 0.0
SNF ⇑PKPab PKPab 09 57 53.1 +0.2
GEC2 GERESS Array S 150.59 343 ePKIKP PKPdf 09 57 37.5 +0.2
GEC2 e 09 57 53.3
GEC2 GERESS Array S 150.59 343 ePKPdf PKPdf 09 57 37.5 +0.2
GEC2 ePKPbc PKPbc 09 57 43.8 +0.3
GEC2 ePKPab PKPab 09 57 53.3 +0.1
GERES GERESS Array B 150.59 343 PKP PKPdf 09 57 37.6 +0.2
comp=Z,1.3nm,0.7s,baz=52,slow=2.4,SNR=5.6
GERES PKPbc PKPbc 09 57 43.8 +0.3
comp=Z,21nm,0.7s,baz=45,slow=2.1,SNR=71
GERES PKPab PKPab 09 57 53.6 +0.5
comp=Z,4.0nm,0.8s,baz=101,slow=2.0,SNR=4.7
BCLA Clavier 150.59 355 ⇑PKPbc PKPbc 09 57 43.7 +0.4
BCLA ⇑PKPab PKPab 09 57 52.9 -0.1
GEA0 GERESS Array S 150.59 343 ePKPdf PKPdf 09 57 37.3 0.0
GEA0 ePKPbc PKPbc 09 57 43.7 +0.2
GEA0 ePKPab PKPab 09 57 53.6 +0.4
CONA Conrad Observa 150.76 340 i PKiKP PKiKP 09 57 44.6 +0.3
comp=Z,46nm,0.7s,SNR=24
CONA i PKPab PKPab 09 57 55.7 +1.7
comp=Z,34nm,1.1s
DOU Dourbes 150.97 355 ⇓PKPbc PKPbc 09 57 44.7 +0.5
DOU ⇓PKPab PKPab 09 57 54.4 +0.2
WLF Walferdange 151.25 353 ⇑PKPbc PKPbc 09 57 45.7 +0.9
WLF ⇑PKPab PKPab 09 57 56.2 +0.4
WLF Walferdange 151.25 353 ePKIKP PKPbc 09 57 45.8 +0.9
WLF e 09 57 56.4
WLF Walferdange 151.25 353 ePKPbc PKPbc 09 57 45.8 +0.9
WLF ePKPab PKPab 09 57 56.4 +0.6
MOA Molln 151.33 341 i PKPbc PKPbc 09 57 45.2 +0.1
comp=Z,15nm,0.6s,SNR=7.5
ARSA Arzberg 151.47 339 i PKPbc PKPbc 09 57 45.4 0.0
comp=Z,12nm,1.0s
STU Stuttgart 151.68 349 ePKIKP PKPbc 09 57 46.2 +0.3
STU e 09 57 58.2
STU Stuttgart 151.68 349 ePKPbc PKPbc 09 57 46.2 +0.3
STU ePKPab PKPab 09 57 58.2 +0.5
VTS Vitosha 151.73 324 ePKIKP PKPdf 09 57 39.2 -0.2
VTS e 09 57 59.3
VTS Vitosha 151.73 324 ⇓i P PKPbc 09 57 46.3 -0.1
VTS Vitosha 151.73 324 ePKPdf PKPdf 09 57 39.2 -0.2
VTS ePKPbc PKPbc 09 57 46.6 +0.2
VTS ePKPab PKPab 09 57 59.3 +1.0
STR Strasbourg 152.10 351 eP PKPdf 09 57 17.1 -22
SOKA Soboth 152.13 339 i PKPbc PKPbc 09 57 47.0 0.0
comp=Z,20nm,0.9s,SNR=9.3
SOKA i PKPab PKPab 09 58 00.7 +0.9
comp=Z,24nm,1.1s
PERS Pernice 152.14 339 ePKPdf PKPdf 09 57 39.0 -0.7
PERS i PKPbc PKPbc 09 57 46.6 -0.4
PERS i PKPab PKPab 09 57 59.6 -0.2
BFO Black Forest 152.26 350 ePKIKP PKPbc 09 57 47.4 +0.2
BFO e 09 58 00.1
BFO Black Forest 152.26 350 ePKPbc PKPbc 09 57 47.4 +0.2
BFO ePKPab PKPab 09 58 00.1 -0.1
DIVS Divibare 152.28 330 ePKPdf PKPdf 09 57 40.7 +0.6
DIVS ePKPbc PKPbc 09 57 46.7 -0.7
KBA Koelnbreinsper 152.29 342 i PKPbc PKPbc 09 57 47.4 -0.1
comp=Z,18nm,0.8s,SNR=7.9
OBKA Obir 152.44 340 i PKPbc PKPbc 09 57 47.3 -0.4
comp=Z,10nm,0.6s
WATA Walderalm 152.53 345 i PKiKP PKPbc 09 57 48.2 +0.3
comp=Z,10nm,0.5s
WATA i PKPab PKPab 09 58 02.9 +1.3
comp=Z,36nm,1.1s
ECH Echery 152.55 351 ePKIKP PKPdf 09 57 41.5 +1.3
ECH e 09 58 01.4
ECH Echery 152.55 351 ePKPdf PKPdf 09 57 41.5 +1.3
ECH ePKPbc PKPbc 09 57 48.0 +0.2
ECH ePKPab PKPab 09 58 01.4 -0.1
RETA Reutte 152.59 346 i PKiKP PKiKP 09 57 48.3 +0.3
comp=Z,11nm,0.8s,SNR=5.0
RETA i PKPab PKPab 09 58 02.3 +0.6
comp=Z,30nm,1.1s
WTTA Wattenberg 152.59 344 i PKPbc PKPbc 09 57 48.3 +0.1
comp=Z,28nm,0.9s,SNR=5.9
WTTA i PKPab PKPab 09 58 02.7 +0.9
comp=Z,16nm,0.7s
MYKA Terra Mystica 152.61 341 i PKPbc PKPbc 09 57 47.6 -0.5
comp=Z,16nm,0.6s,SNR=7.5
MYKA i PKPab PKPab 09 58 01.7 -0.1
comp=Z,11nm,0.8s
MOTA Moosalm 152.64 345 i PKPdf PKPdf 09 57 40.2 -0.3
comp=Z,3.3nm,0.8s
MOTA i PK

	comp=Z,8.9nm,0.8s									
ABTA					*i* PKPbc	**PKPbc**	**09 57 48.2**	**-0.4**		
	comp=Z,31nm,0.6s,SNR=8.8									
ABTA					*i* PKPab	**PKPab**	**09 58 03.1**	**+0.4**		
	comp=Z,25nm,1.2s									
LJU	**Ljubljana**	**152.85**	**339**		*e*PKPbc	**PKPbc**	**09 57 47.0**	**-1.5**		
DAVA	**Damuels**	**152.97**	**347**		*i* PKPdf	**PKPdf**	**09 57 39.9**	**-1.1**		
	comp=Z,5.2nm,1.1s									
DAVA					*i* PKiKP	**PKiKP**	**09 57 49.4**	**+0.4**		
	comp=Z,21nm,0.9s,SNR=5.2									
DAVA					*i* PKPab	**PKPab**	**09 58 03.8**	**+0.4**		
	comp=Z,19nm,0.7s									
BLY	**Banja Luka**	**152.98**	**334**	‖	*i* P	**PKPbc**	**09 57 49.1**	**+0.3**		
BLY	**Banja Luka**	**152.98**	**334**		*e*PKPbc	**PKPbc**	**09 57 48.0**	**-0.8**		
BLY					*e*PKPab	**PKPab**	**09 58 02.2**	**-1.2**		
FETA	**Feichten**	**153.03**	**345**		*i* PKPdf	**PKPdf**	**09 57 41.5**	**+0.4**		
	comp=Z,9.0nm,0.8s									
FETA					*i* PKiKP	**PKiKP**	**09 57 49.6**	**+0.5**		
	comp=Z,18nm,0.9s									
FETA					*i* PKPab	**PKPab**	**09 58 04.2**	**+0.6**		
	comp=Z,25nm,1.1s									
BOJS	**Bojanci**	**153.08**	**338**		*i* PKPdf	**PKPdf**	**09 57 41.6**	**+0.6**		
BOJS					*e*PKPbc	**PKiKP**	**09 57 49.5**	**+0.5**		
BOJS					*e*PKPab	**PKPab**	**09 58 03.9**	**+0.1**		
KARP	**Karpathos**	**153.09**	**308**		*e*PKPdf	**PKPdf**	**09 57 41.6**	**+0.2**		
KARP					*e*PKPbc	**PKPbc**	**09 57 49.1**	**-0.3**		
KARP					*e*PKPab	**PKPab**	**09 58 04.6**	**+0.3**		
JAVS	**Javornik**	**153.14**	**340**		*i* PKPbc	**PKPbc**	**09 57 49.0**	**-0.2**		
JAVS					*e*PKPab	**PKPab**	**09 58 03.8**	**-0.3**		
TRI	**Trieste**	**153.40**	**340**		*e*PKIKP	**PKPbc**	**09 57 49.4**	**-0.2**		
TRI					*e*		09 58 05.0			
TRI	**Trieste**	**153.40**	**340**		*e*PKPbc	**PKPbc**	**09 57 49.4**	**-0.2**		
TRI					*e*PKPab	**PKPab**	**09 58 05.0**	**-0.1**		
FUORN	**Ofenpass-Fuorn**	**153.52**	**346**		*e*PKPdf	**PKPdf**	**09 57 41.9**	**0.0**		
FUORN					*e*PKPbc	**PKiKP**	**09 57 50.6**	**+0.4**		
FUORN					*e*PKPab	**PKPab**	**09 58 06.8**	**+0.9**		
TUE	**Stuetta**	**153.86**	**347**		*e*PKPdf	**PKPdf**	**09 57 42.4**	**+0.1**		
TUE					*e*PKPbc	**PKiKP**	**09 57 51.5**	**+0.6**		
TUE					*e*PKPab	**PKPab**	**09 58 07.8**	**+0.5**		
SENIN	**Lac Senin/Sane**	**154.34**	**350**		*e*PKPdf	**PKPdf**	**09 57 43.0**	**0.0**		
SENIN					*e*PKPbc	**PKiKP**	**09 57 51.9**	**0.0**		
SENIN					*e*PKPab	**PKPab**	**09 58 09.6**	**+0.2**		
IDI	**Anoyia**	**154.87**	**309**		PKPbc	**PKPbc**	**09 57 54.0**	**+0.8**		
	comp=Z,5.7nm,0.7s,baz=22,slow=11,SNR=3.8									
BNI	**Bardonecchia**	**155.71**	**350**		*e*PKIKP	**PKPdf**	**09 57 46.3**	**+1.5**		
BNI					*e*		09 58 16.0			
BNI	**Bardonecchia**	**155.71**	**350**		*e*PKPdf	**PKPdf**	**09 57 46.3**	**+1.5**		
BNI					*e*PKPab	**PKPab**	**09 58 16.0**	**+0.8**		
AQU	**L'Aquila**	**156.47**	**337**		*e*PKP2	**PKPab**	**09 58 19.1**	**+0.6**		
AQU	**L'Aquila**	**156.47**	**337**		*e*PKPab	**PKPab**	**09 58 19.1**	**+0.6**		
TIP	**Timpagrande**	**157.58**	**327**		*e*PKPab	**PKPab**	**09 58 24.1**	**+0.6**		
PBRG	**Braganca**	**158.33**	**16**		*e*PKPdf	**PKPdf**	**09 57 46.6**	**-1.5**		
PBRG	**Braganca**	**158.33**	**16**		*e*PKPab	**PKPab**	**09 58 27.2**	**+0.6**		
POLO	**Lamas de Olo**	**158.44**	**19**		*e*PKPab	**PKPab**	**09 58 28.1**	**+1.0**		
MVO	**Moncorvo**	**158.85**	**17**		*e*PKPdf	**PKPdf**	**09 57 50.2**	**+1.5**		
MVO	**Moncorvo**	**158.85**	**17**		*e*PKPab	**PKPab**	**09 58 29.7**	**+0.8**		
PCAS	**Casmilo, Conde**	**159.41**	**22**		*e*PKPab	**PKPab**	**09 58 31.6**	**+0.3**		
PMAFR	**Mafra**	**160.09**	**25**		*e*PKPab	**PKPab**	**09 58 35.0**	**+0.7**		
PMRV	**Marv??o**	**160.34**	**20**		*e*PKPab	**PKPab**	**09 58 35.8**	**+0.4**		
PMTG	**Montargil**	**160.38**	**22**		*e*PKPab	**PKPab**	**09 58 35.3**	**-0.3**		
PESTR	**Estremoz**	**160.78**	**21**		*e*PKPab	**PKPab**	**09 58 37.2**	**-0.1**		
ES19	**SONSECA Array**	**160.99**	**12**		*e*PKPdf	**PKPdf**	**09 57 51.6**	**+0.5**		
ES19					*e*PKPab	**PKPab**	**09 58 38.5**	**+0.3**		
ESDC	**Sonseca Array**	**161.00**	**12**		PKP	**PKPdf**	**09 57 51.9**	**+0.7**		
	comp=Z,0.3nm,0.4s,baz=351,slow=5.1,SNR=5.2									
ESDC					PKPab	**PKPab**	**09 58 38.4**	**+0.1**		
	comp=Z,5.2nm,0.9s,baz=346,slow=6.4,SNR=19									
ESLA	**Sonseca Array**	**161.00**	**12**		*e*PKPab	**PKPab**	**09 58 38.6**	**+0.3**		
PNCL	**Nicolau / Gran**	**161.12**	**24**		*e*PKPab	**PKPab**	**09 58 39.2**	**+0.4**		
PVAQ	**Vaqueiros**	**162.04**	**24**		*e*PKPab	**PKPab**	**09 58 43.6**	**+0.7**		
KEST	**Kesra**	**163.79**	**336**		PKPab	**PKPab**	**09 58 51.4**	**+0.7**		
	comp=Z,19nm,0.8s,baz=292,slow=1.9,SNR=19									
LIC	**Lamto**	**164.01**	**157**		*e*PKIKP	**PKPdf**	**09 57 54.3**	**-0.4**		
	comp=Z,130nm,2.1s									
KIC	**Kosan Boka**	**164.24**	**158**		*e*PKIKP	**PKPdf**	**09 57 54.4**	**-0.5**		
	comp=Z,24nm,0.8s									
TIC	**Toumodi**	**164.40**	**157**		*e*PKIKP	**PKPdf**	**09 57 54.6**	**-0.5**		
DBIC	**Dimbokro**	**164.48**	**157**		PKP	**PKPdf**	**09 57 54.8**	**-0.3**		
	comp=Z,6.4nm,0.8s,baz=216,slow=4.3,SNR=7.2									
KOWA	**Kowa**	**171.76**	**142**		PKP	**PKPdf**	**09 57 59.4**	**-0.5**		
	comp=Z,5.2nm,0.8s,baz=303,slow=2.6,SNR=11									
KOWA					PKPab	**PKPab**	**09 59 26.8**	**+0.4**		
	comp=Z,0.9nm,0.4s,baz=220,slow=7.9,SNR=3.4									
TOA0	**Torodi Ar. Sit**	**172.04**	**184**		*e*PKPdf	**PKPdf**	**09 57 59.7**	**-0.3**		
TOA0					*e*PKPab	**PKPab**	**09 59 27.5**	**0.0**		
TORD	**Torodi Ar. Bea**	**172.04**	**184**		PKP	**PKPdf**	**09 57 59.7**	**-0.3**		
	comp=Z,5.0nm,0.8s,baz=334,slow=0.9,SNR=26									
TORD					PKPab	**PKPab**	**09 59 27.6**	**+0.1**		
	comp=Z,1.7nm,0.9s,baz=162,slow=4.4,SNR=9.4									
TORD					PP	**PP**	**10 03 20.3**	**+2.1**		
	comp=Z,1.1nm,1.1s,baz=196,slow=2.3,SNR=4.3									
TOA1	**Torodi Ar. Sit**	**172.05**	**184**		*e*PKPdf	**PKPdf**	**09 57 59.7**	**-0.3**		
TOA1					*e*PKPab	**PKPab**	**09 59 27.6**	**+0.1**		
TOA1					*e*PP	**PP**	**10 03 20.3**	**+2.1**		
TAM	**Tamanrasset**	**175.64**	**293**		*e*PKIKP	**PKPdf**	**09 58 02.0**	**+0.7**		
TAM	**Tamanrasset**	**175.64**	**293**		*e*PKPdf	**PKPdf**	**09 58 02.0**	**+0.7**		

NIED ***30*** *09:40:00, 39.80N×142.30E, h11km, Mw4.2 Best double couple: M₀2.36000×10¹⁵ NP1:φ303.00000°, δ82.00000°, λ4.00000°. NP2:φ213.00000°, δ86.00000°, λ172.00000°.*

IDC ***30*** *09:40:51.7±0.5, 39.71N×142.26E, h0km, mb4.2/32, mb1 4.4/36, mb1mx4.2/78, mbtmp4.3/36, ML3.7/2, MS3.3/15, Ms1 3.3/15, ms1mx3.0/65, Error ellipse: s-maj=13.0km s-min=12.5km az=90.0*

ISCJB ***30*** *09:40:52.6±0.7, 39.78N±0.02×142.38E±0.04, h17km±4km, mb4.4/63, MS3.5/8, Error ellipse: s-maj=5.3km s-min=3.4km az=31.9*

JMA ***30*** *09:40:53.9, 39.78N×142.29E, h21km±1km, M4.5*

JMA Felt III J1.

MOS ***30*** *09:40:54.8±1.0, 39.74N×142.28E, h33km, mb4.5/36, Error ellipse: s-maj=9.5km s-min=5.7km az=98.3*

BJI ***30*** *09:40:56.4, 39.80N×142.40E, h35km, mb4.6/17, mB4.9/10, Ms4.4/4, Ms7 4.1/2*

NEIC ***30*** *09:40:57.5±0.6, 39.79N×142.34E, h40km±5km, mb4.5/19, Error ellipse: s-maj=7.0km s-min=4.6km az=134.0*

NEIC Felt at Misawa. Recorded [3 JMA] in Iwate.

ISC 30 09:40:51.7±1.5, 39.74N±0.03×142.44E±0.05, h1km±9km, n173, σ1§48/181, mb4.5/64, MS3.4/8, 2C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JTH	**Tanohata**	**0.48**	**295**	P		**Pg**	**09 41 01.6**	**+0.6**
JTH				S		**Sg**	**09 41 07.0**	**-0.3**
MIYJ	**Miyakonagasawa**	**0.50**	**251**	P		**Pg**	**09 41 02.4**	**+1.1**
MIYJ				S		**Sg**	**09 41 08.2**	**+0.3**
JKZ	**Kuzumaki**	**0.89**	**286**	P		**Pg**	**09 41 08.3**	**-0.4**
JKZ				S		**Sg**	**09 41 18.2**	**-2.0**
OFUJ	**Ofunato**	**0.89**	**222**	P		**Pg**	**09 41 09.3**	**+0.6**
OFUJ				S		**Sg**	**09 41 20.3**	**+0.1**
JOM	**Ohasama**	**0.92**	**254**	P		**Pb**	**09 41 09.3**	**-1.2**
JOM				S		**Sb**	**09 41 20.1**	**-3.2**
JANG	**Nango**	**0.95**	**312**	P		**Pb**	**09 41 08.9**	**-2.1**
JANG				S		**Sb**	**09 41 19.7**	**-4.4**
JMK	**Ichinoseki**	**1.23**	**231**	P		**Pn**	**09 41 14.8**	**-1.2**
JMK				S		**Sb**	**09 41 29.8**	**-2.3**
ERM	**Erimo**	**2.34**	**13**	*e*P		**Pn**	**09 41 32.2**	**+0.9**
ERM	**Erimo**	**2.34**	**13**	*e*Pn		**Pn**	**09 41 32.0**	**+0.7**
ERM				*e*Sn		**Sn**	**09 42 00.1**	**-0.6**
ASAJ	**Asahikawa**	**4.38**	**2**	Pn		**Pn**	**09 42 00.2**	**+0.9**
	8.4nm,0.3s,baz=213,slow=12,SNR=26							
ASAJ				Sn		**Sn**	**09 42 50.5**	**-0.4**
	4.4nm,0.3s,baz=0.0,slow=20,SNR=4.0							
MJAR	**Matsushiro Arr**	**4.61**	**228**	Pn		**Pn**	**09 42 04.9**	**+2.2**
	6.7nm,0.3s,baz=33,slow=12,SNR=59							
MJAR				Sn		**Sb**	**09 43 06.8**	**-2.7**
	2.3nm,0.3s,baz=5.3,slow=16,SNR=5.5							
MJAR				LR		LR	09 43 55.7	
	comp=Z,144nm,19.9s,baz=80,slow=41							
MJB9	**Matsu-Tunnel**	**4.61**	**228**	*e*Pn		**Pn**	**09 42 04.6**	**+1.9**
MAJO	**Matsushiro**	**4.62**	**228**	*i* P		**Pn**	**09 42 03.3**	**+0.6**
MAJO	**Matsushiro**	**4.62**	**228**	*e*Pn		**Pn**	**09 42 03.8**	**+1.2**
MAJO				*e*Sn		**Sb**	**09 43 06.8**	**-2.8**
MAT	**Matsushiro**	**4.62**	**228**	P		**Pn**	**09 42 04.7**	**+2.0**
MAT				S		**Sn**	**09 42 54.8**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**5.00**	**30**	*e*P		**Pn**	**09 42 07.7**	**-0.1**
YUK				*e*S		**Sn**	**09 43 03.4**	**-2.8**
YUK				pmax		pmax		
	comp=N,142nm,0.2s							
YUK				pmax		pmax		
	comp=Z,282nm,0.2s							
SHO	**Shikotan**	**5.27**	**37**	*e*P		**Pn**	**09 42 11.4**	**-0.2**
SHO				*e*S		**Sn**	**09 43 08.2**	**-4.9**
SHO				pmax		pmax		
	comp=Z,66nm,0.4s							
INU	**Inuyama**	**6.14**	**226**	*e*Pn		**Pn**	**09 42 25.0**	**+1.4**
KUR	**Kuril'sk**	**6.80**	**34**	*e*P		**Pn**	**09 42 33.0**	**+0.4**
KUR				*e*S		**Sn**	**09 43 48.5**	**-2.1**
KUR				pmax		pmax		
	comp=N,48nm,0.4s							
KUR				pmax		pmax		
	comp=Z,77nm,0.4s							
KUR				pmax		pmax		
	comp=E,31nm,0.3s							
KUR				smax		smax		
	comp=N,109nm,0.6s							
KUR				smax		smax		
	comp=E,73nm,0.4s							
TEY	**Ternei**	**6.83**	**323**	*e*P		**Pn**	**09 42 33.6**	**+0.6**
JHJ2	**Mitsune**	**6.94**	**199**	*e*Pn		**Pn**	**09 42 36.4**	**+1.8**
JHJ	**Hachijo jima 2**	**6.94**	**199**	Pn		**Pn**	**09 42 34.4**	**-0.2**
	comp=E,42nm,0.3s,baz=166,slow=1.7,SNR=17							
JHJ				Sn		**Sn**	**09 43 52.0**	**-2.3**
	comp=E,12nm,0.3s,baz=240,slow=20,SNR=4.2							
JHJ				LR		LR	09 45 28.6	
	comp=E,262nm,18.1s,baz=51,slow=40							
YSS	**Yuzh-Sakhalins**	**7.22**	**2**	‖ *e*P		Pn	09 42 43.8	+5.5
YSS				pmax		pmax		
	comp=Z,10.0nm,0.9s							
YSS				MLR		MLR		
	comp=Z,260nm,13.0s							
VLA	**Vladivostok**	**8.62**	**296**	*e*P		**Pn**	**09 42 58.1**	**+0.6**
VLA				pmax		pmax		
	comp=Z,44nm,1.0s							
USRK	**Ussuriysk Ar.**	**8.97**	**303**	Pn		**Pn**	**09 43 05.1**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=106,slow=16,SNR=13							
USRK				LR		LR	09 46 12.9	
	comp=Z,138nm,20.2s,baz=118,slow=36							
TYV	**Tymovskoe**	**11.13**	**1**	*e*P		**Pn**	**09 43 32.3**	**+0.4**
TYV				pmax		pmax		
	comp=Z,6.0nm,1.0s							
TYV				pmax		pmax		
	comp=Z,300nm,5.3s							
JNU	**Nakatsue**	**11.41**	**238**	Pn		**Pn**	**09 43 39.4**	**+3.5**
	comp=Z,0.8nm,0.3s,baz=140,slow=4.0,SNR=4.9							
JNU				LR		LR	09 48 00.7	
	comp=Z,222nm,20.3s,baz=71,slow=38							
KSRS	**Korea Array**	**11.59**	**263**	Pn		**Pn**	**09 43 42.0**	**+3.7**
	comp=Z,1.2nm,0.3s,baz=72,slow=14,SNR=14							
KSRS				Sn		**Sn**	**09 45 52.1**	**+3.9**
	comp=Z,0.4nm,0.3s,baz=70,slow=23,SNR=5.4							
KSRS				LR		LR	09 47 33.4	
	comp=Z,125nm,20.6s,baz=80,slow=35							
KS01	**Wonju Array Si**	**11.60**	**263**	*e*Pn		**Pn**	**09 43 41.9**	**+3.4**
KS15	**Wonju Array Si**	**11.62**	**263**	*e*Pn		**Pn**	**09 43 41.9**	**+3.2**
KS15				*e*Sn		**Sn**	**09 45 52.1**	**+3.0**
KLR	**Kul'dur**	**12.16**	**325**	Pn		**Pn**	**09 43 47.7**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=134,slow=16,SNR=3.8							
KLR				LR		LR	09 48 19.7	
	comp=Z,14nm,18.6s,baz=140,slow=37							
KLR	**Kul'dur**	**12.16**	**325**	*e*P		**Pn**	**09 43 46.7**	**+0.6**
CBIJ	**Chichi jima**	**12.61**	**181**	*e*Pn		**Pn**	**09 43 50.4**	**-1.9**
CBIJ				*e*Sn		Sn	09 46 03.3	-10
JCJ	**Chichijima**	**12.61**	**181**	Pn		**Pn**	**09 43 50.4**	**-1.9**
	baz=4.3,slow=16							
JCJ				Sn		Sn	09 46 03.3	-10
	comp=Z,1.7nm,0.3s,baz=180,slow=20,SNR=2.0							
PETK	**Petropavlovsk-**	**16.96**	**33**	P		**Pn**	**09 44 50.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=276,slow=7.1,SNR=3.2							
PETK				LR		LR	09 51 57.0	
	comp=Z,101nm,18.6s,baz=206,slow=39							
PETK	**Petropavlovsk-**	**16.96**	**33**	P		**Pn**	**09 44 50.0**	**-0.2**
PETK				MLR		MLR		
	comp=Z,101nm,18.6s							
PEA1	**Petropavlovsk-**	**16.97**	**33**	*e*Pn		**Pn**	**09 44 50.0**	**-0.3**
PET	**Petropavlovsk**	**17.31**	**35**	*e*P		**P**	**09 44 56.6**	**+0.6**
PET				pmax		pmax		
	comp=Z,15nm,1.2s							
JOW	**Kunigami**	**17.46**	**227**	LR		LR	09 51 42.4	
	comp=Z,148nm,19.5s,baz=117,slow=38							
BJT	**Baijiatuao**	**20.14**	**279**	*e*P		**P**	**09 45 27.3**	**0.0**
BJT				pmax		pmax		
	comp=Z,12nm,1.2s							
BJT	**Baijiatuao**	**20.14**	**279**	*e*P		**P**	**09 45 27.3**	**0.0**
	comp=Z,12nm,1.2s							
MA2	**Magadan**	**20.54**	**12**	P		**P**	**09 45 31.9**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=180,slow=20,SNR=2.4							
MA2				LR		LR	09 55 08.3	
	comp=Z,76nm,18.5s,baz=136,slow=42							
NJ2	**Nanjing**	**20.55**	**255**	*e*P		**P**	**09 45 32.8**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,18nm,0.5s							
NACB	**Ninganchiao**	**23.44**	**235**	*e*P		**P**	**09 46 01.6**	**-1.0**
	comp=Z,16nm,0.8s							
HHC	**Hu-ho-hao-te**	**23.52**	**283**	*e*P		**P**	**09 46 02.8**	**-0.6**
HHC				pmax		pmax		
	comp=Z,16nm,1.0s							
HHC				pmax		pmax		
	comp=Z,100nm,6.2s							
YAK	**Yakutsk**	**23.64**	**345**	LR		LR	09 56 05.4	
	comp=Z,77nm,18.8s,baz=264,slow=39							
YAK	**Yakutsk**	**23.64**	**345**	*e*P		**P**	**09 46 05.2**	**+1.0**
YAK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
SEY	**Seymchan**	**23.98**	**11**	P		**P**	**09 46 07.3**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=196,slow=8.2,SNR=8.1							
SEY	**Seymchan**	**23.98**	**11**	*e*P		**P**	**09 46 07.6**	**+0.1**
ULN	**Ulaanbaatar**	**26.61**	**299**	*e*P		**P**	**09 46 31.2**	**-0.6**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ULN	**Ulaanbaatar**	**26.61**	**299**	*e*P		**P**	**09 46 31.1**	**-0.6**
	comp=Z,3.9nm,1.3s							
SONA1	**Songino Array**	**27.05**	**299**	*e*P		**P**	**09 46 35.1**	**-0.6**
SONA0	**Songino Array**	**27.05**	**299**	*e*P		**P**	**09 46 34.4**	**-1.3**
SONM	**Songino Array**	**27.05**	**299**	P		**P**	**09 46 34.4**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=93,slow=9.4,SNR=4.8							
H11N2	**WAKE ISLAND Hy**	**28.97**	**126**	T		T	10 17 29.3	
	baz=319,slow=75,SNR=6691							
H11N1	**WAKE ISLAND Hy**	**28.98**	**126**	T		T	10 17 27.5	
	baz=319,slow=75,SNR=5573							
H11N3	**WAKE ISLAND Hy**	**28.99**	**126**	T		T	10 17 28.6	
	baz=319,slow=75,SNR=2844							
H11S1	**WAKE ISLAND Hy**	**29.78**	**128**	T		T	10 18 28.1	
	baz=314,slow=74							
H11S3	**WAKE ISLAND Hy**	**29.78**	**128**	T		T	10 18 28.1	
	baz=314							
H11S2	**WAKE ISLAND Hy**	**29.79**	**128**	T		T	10 18 30.4	
	baz=314,slow=74							
LZH	**Lanzhou**	**30.51**	**276**	*e*P		**P**	**09 47 09.3**	**+2.7**
LZH				pP			09 47 19.8	
LZH				sP			09 47 24.3	
LZH				*e*PP		**PnPn**	**09 48 09.5**	**+4.5**
LZH				pmax		pmax		
	comp=Z,23nm,1.2s							
LZH				pmax		pmax		
	comp=Z,75nm,4.8s							
LZH				LR		LR		
	comp=Z,350nm,12.8s							
LZH				LR		LR		
	comp=Z,360nm,13.2s							
LZH				LR		LR		
	comp=Z,420nm,16.7s							
CD2	**Chengdu**	**32.56**	**266**	*e*P		**P**	**09 47 23.0**	**-1.6**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
GTA	**Gaotai**	**32.63**	**283**	*e*P		**P**	**09 47 26.5**	**+1.3**
GTA				pP			09 47 35.5	
GTA				sP			09 47 39.8	
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
TIXI	**Tiksi**	**32.71**	**352**	P		**P**	**09 47 23.2**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=0.0,slow=0.0,SNR=2.0							
TIXI	**Tiksi**	**32.71**	**352**	*e*P		**P**	**09 47 26.5**	**+1.1**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.9s							
PALU	**Palau**	**33.04**	**195**	P		**P**	**09 47 28.2**	**-0.6**
	baz=54,SNR=6.2							
DGZ	**Jazzator, Alta**	**39.52**	**303**	*e*P		**P**	**09 48 24.3**	**+0.2**
DGZ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
WMQ	**Urumqi**	**40.40**	**294**	P		**P**	**09 48 32.5**	**+1.1**
ZAA1	**Zalesovo Array**	**40.74**	**310**	*e*P		**P**	**09 48 33.4**	**-0.6**
ZAA0	**Zalesovo Array**	**40.74**	**310**	*e*P		**P**	**09 48 33.3**	**-0.7**
	comp=Z,8.9nm,0.6s							
ZALV	**Zalesovo Beam**	**40.74**	**310**	P		**P**	**09 48 33.4**	**-0.6**
	comp=Z,9.3nm,0.5s,baz=90,slow=8.3,SNR=15							
ZALV				LR		LR	10 05 52.9	
	comp=Z,36nm,18.6s,baz=68,slow=37							
ZALV	**Zalesovo Beam**	**40.74**	**310**	*e*P		**P**	**09 48 33.1**	**-0.8**
ZALV	**Zalesovo Beam**	**40.74**	**310**	*e*P		**P**	**09 48 33.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**43.00**	**253**	LR		LR	10 06 04.3	
	comp=Z,31nm,20.4s,baz=128,slow=35							
MK01	**Makanchi Array**	**43.42**	**300**	*e*P		**P**	**09 48 55.0**	**-1.0**
MK31	**Makanchi Array**	**43.42**	**300**	*i* P		**P**	**09 48 54.9**	**-1.0**
MK31				pmax		pmax		
	comp=Z,5.0nm,0.6s							
MK31	**Makanchi Array**	**43.42**	**300**	*e*P		**P**	**09 48 55.0**	**-1.0**
MK32	**Makanchi Array**	**43.42**	**300**	*e*P		**P**	**09 48 55.1**	**-0.9**
MKAR	**Makanchi Array**	**43.42**	**300**	P		**P**	**09 48 55.1**	**-0.9**
	comp=Z,4.8nm,0.6s,baz=85,slow=9.9,SNR=54							
MKAR	**Makanchi Array**	**43.42**	**300**	*e*P		**P**	**09 48 55.1**	**-0.9**
	comp=Z,47nm,0.6s							
MAKZ	**Makanchi**	**43.62**	**300**	*i* P		**P**	**09 48 56.4**	**-1.2**
MAKZ				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MAKZ	**Makanchi**	**43.62**	**300**	*e*P		**P**	**09 48 56.8**	**-0.8**
	comp=Z,4.4nm,0.6s							
IM3	**Indian Mountai**	**43.93**	**32**	*e*P		**P**	**09 49 00.7**	**+0.9**
CAST	**Castle Rocks**	**44.55**	**36**	*e*P		**P**	**09 49 07.0**	**+2.2**
	comp=Z,5.3nm,1.1s							
KDAK	**Kodiak Island**	**44.57**	**44**	P		**P**	**09 49 06.1**	**+1.1**
	comp=Z,9.1nm,1.0s,baz=343,slow=17,SNR=3.1							
KDAK	**Kodiak Island**	**44.57**	**44**	*e*P		**P**	**09 49 05.9**	**+0.9**
KDAK				pmax		pmax		
	comp=Z,41nm,1.3s							
KDAK	**Kodiak Island**	**44.57**	**44**	*e*P		**P**	**09 49 05.9**	**+0.9**
	comp=Z,41nm,1.3s							
KURK	**Kurchatov**	**44.94**	**306**	*e*P		**P**	**09 49 06.9**	**-1.2**
KURK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KURK	**Kurchatov**	**44.94**	**306**	*e*P		**P**	**09 49 06.5**	**-1.6**
	comp=Z,15nm,0.6s							
KURBB	**Kurchatov Arra**	**45.02**	**306**	P		**P**	**09 49 07.7**	**-1.0**
	comp=Z,12nm,0.6s,baz=80,slow=8.6,SNR=31							
MLY	**Manley**	**45.14**	**33**	*e*P		**P**	**09 49 11.4**	**+1.9**
	comp=Z,3.8nm,1.2s							
PDGK	**Podgornoye**	**46.27**	**296**	*i* P		**P**	**09 49 17.2**	**-1.7**
PDGK				pmax		pmax		
	comp=Z,3.0nm,0.6s							
COLA	**College**	**46.37**	**34**	*e*P		**P**	**09 49 19.9**	**+0.7**
COLA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
ILAR	**Eielson Array**	**46.79**	**34**	P		**P**	**09 49 23.5**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=261,slow=6.1,SNR=18							
ILB	**Eielson Array**	**46.79**	**34**	*e*P		**P**	**09 49 22.6**	**+0.1**
IL1	**Eielson Array**	**46.79**	**34**	*e*P		**P**	**09 49 22.8**	**+0.3**
SCRK	**Sand Creek**	**48.12**	**35**	*e*P		**P**	**09 49 33.8**	**+0.8**
	comp=Z,3.1nm,0.6s							
BVA0	**Borovoye Array**	**49.38**	**311**	P		**P**	**09 49 45.2**	**+2.5**
BVA0				pmax		pmax		

NOA					LR	LR	10 28 58.5		
	comp=Z,30nm,18.7s,baz=35,slow=40								
NOA	**NORSAR Array B**	**72.00**	**337**		P	**P**	**09 52 17.0**	**+0.1**	
NOA					pmax	pmax			
	comp=Z,1.0nm,0.5s								
NOA					MLR	MLR			
	comp=Z,30nm,18.7s								
BOZ	**Bozeman (W)**	**72.25**	**45**	*eP*		**P**	**09 52 17.2**	**-1.6**	
BOZ					pmax	pmax			
	comp=Z,8.0nm,0.8s								
BOZ	**Bozeman (W)**	**72.25**	**45**	*eP*		**P**	**09 52 17.2**	**-1.6**	
	comp=Z,8.4nm,0.8s								
AKASG	**Malin Array Be**	**72.65**	**322**		P	**P**	**09 52 20.6**	**-0.3**	
	comp=Z,3.3nm,0.5s,baz=45,slow=6.6,SNR=6.9								
NVAR	**Mina Array Bea**	**72.74**	**54**		P	**P**	**09 52 21.7**	**-0.2**	
	comp=Z,0.7nm,0.8s,baz=261,slow=3.6,SNR=4.3								
DUG	**Dugway, Tooele**	**74.99**	**50**		P	**P**	**09 52 36.6**	**+1.6**	
DUG					pmax	pmax			
	comp=Z,3.0nm,3.0s								
PDAR	**Pinedale Array**	**75.21**	**46**		P	**P**	**09 52 36.8**	**+0.5**	
	comp=Z,0.5nm,0.7s,baz=274,slow=4.4,SNR=3.8								
BUR08	**Bucovina Ar. S**	**76.67**	**322**	*eP*		**P**	**09 52 43.1**	**-1.3**	
BUR04	**Bucovina Ar. S**	**76.69**	**322**	*eP*		**P**	**09 52 44.8**	**+0.3**	
ULM	**Lac du Bonnet**	**76.81**	**34**		P	**P**	**09 52 46.8**	**+1.8**	
	comp=Z,1.0nm,0.6s,baz=45,slow=13,SNR=2.3								
BR101	**Keskin Array S**	**77.66**	**312**	*eP*		**P**	**09 52 50.6**	**+0.5**	
BRTR	**Keskin Array B**	**77.66**	**312**		P	**P**	**09 52 50.6**	**+0.5**	
	comp=Z,1.1nm,0.8s,baz=79,slow=3.1,SNR=4.4								
CLL	**Collm**	**79.15**	**330**	*eP*(2)		**P**	**09 53 02.0**	**+4.1**	
GEC2	**GERESS Array S**	**80.83**	**329**	*eP*		**P**	**09 53 06.5**	**-0.7**	
GEC2					pmax	pmax			
	comp=Z,2.0nm,0.8s								
GEC2	**GERESS Array S**	**80.83**	**329**	*eP*		**P**	**09 53 06.5**	**-0.7**	
	comp=Z,1.6nm,0.8s								
GERES	**GERESS Array B**	**80.83**	**329**		P	**P**	**09 53 06.5**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=51,slow=6.7,SNR=2.3								
LTX	**Lajitas**	**87.84**	**53**	*eP*		**P**	**09 53 44.7**	**+1.5**	
LTX	**Lajitas**	**87.84**	**53**	*eP*		**P**	**09 53 44.7**	**+1.5**	
TXAR	**Lajitas Array**	**87.84**	**53**		P	**P**	**09 53 44.7**	**+1.5**	
	comp=Z,0.5nm,0.7s,baz=291,slow=3.2,SNR=6.8								
VAE	**Valguarnera**	**89.55**	**321**		P	**P**	**09 53 50.2**	**-0.8**	
	comp=Z,16nm,0.4s,baz=9.4,slow=11,SNR=4.7								
SNAA	**Sanae**	**143.57**	**198**	PKhKP		PKPpre	10 00 23.8		
	comp=Z,1.8nm,0.7s,baz=194,slow=7.9,SNR=7.0								
SIV	**San Ignacio**	**148.69**	**48**	PKPbc		**PKPbc**	**10 00 40.7**	**-0.5**	
	comp=Z,1.2nm,0.5s,baz=8.9,slow=3.6,SNR=6.6								

IDC 30 10:28:24.7±1.0, 3.38N×126.75E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/64, mbtmp3.9/6, Error ellipse: s-maj=68.4km s-min=18.1km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.34**	**162**	P	P	10 33 44.2	-0.3
	2.2nm,0.4s,baz=336,slow=11,SNR=22						
ASAR	**Alice Springs**	**27.77**	**166**	P	P	10 34 15.3	-0.2
	0.6nm,0.6s,baz=346,slow=7.1,SNR=11						
STKA	**Stephens Creek**	**37.80**	**159**	P	P	10 35 43.2	+0.4
	4.0nm,1.0s,baz=331,slow=11,SNR=6.7						
SONM	**Songino Array**	**47.64**	**342**	P	P	10 37 03.5	+0.7
	0.4nm,0.6s,baz=164,slow=9.1,SNR=3.9						
PETK	**Petropavlovsk-**	**55.75**	**22**	P	P	10 38 02.8	-0.4
	3.0nm,0.9s,baz=189,slow=5.8,SNR=4.4						
MKAR	**Makanchi Array**	**57.85**	**325**	P	P	10 38 17.9	-0.4
	0.5nm,0.4s,baz=126,slow=7.6,SNR=10.0						

IDC 30 10:31:04.8±2.8, 53.74N×86.92E, h0km, mb1 3.0/2, mb1mx2.8/73, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=27.3km s-min=15.5km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**281**	*i*		10 39 27.2	
	baz=100,slow=341,SNR=10						
ZALV	**Zalesovo Beam**	**1.27**	**281**	Pg	Pg	10 31 28.4	-0.7
	1.1nm,0.3s,baz=102,slow=18,SNR=8.2						
ZALV				Lg	Lg	10 31 46.3	
	0.9nm,0.3s,baz=98,slow=25,SNR=6.5						
KURBB	**Kurchatov Arra**	**6.03**	**242**	Pn	Pn	10 32 35.1	-0.1
	0.1nm,0.3s,baz=59,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**7.56**	**205**	Pn	Pn	10 32 58.0	+1.8
	0.1nm,0.3s,baz=26,slow=14,SNR=7.3						

IDC 30 10:32:02.4±2.5, 53.73N×86.95E, h0km, mb1 3.3/2, mb1mx2.9/73, mbtmp3.3/2, ML2.8/2, Error ellipse: s-maj=23.1km s-min=13.2km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**281**	*i*		10 40 20.0	
	baz=100,slow=340,SNR=13						
ZALV	**Zalesovo Beam**	**1.28**	**281**	Pg	Pg	10 32 25.6	-1.2
	3.3nm,0.3s,baz=104,slow=16,SNR=14						
ZALV				Lg	Lg	10 32 43.3	
	3.8nm,0.3s,baz=98,slow=27,SNR=14						
ZALV				Rg	Rg	10 32 50.8	
	3.2nm,0.3s,baz=89,slow=6.0,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.04**	**242**	Pn	Pn	10 33 34.0	+1.1
	0.1nm,0.3s,baz=60,slow=14,SNR=3.8						
KURBB				Lg	Lg	10 35 17.2	
	0.1nm,0.3s,baz=61,slow=36,SNR=1.6						
MKAR	**Makanchi Array**	**7.56**	**205**	Pn	Pn	10 33 55.3	+1.5
	0.3nm,0.3s,baz=27,slow=14,SNR=12						
MKAR				Sn	Sn	10 35 18.2	-1.9
	0.1nm,0.3s,baz=19,slow=23,SNR=2.3						
MKAR				Lg	Lg	10 36 06.2	
	0.1nm,0.3s,baz=34,slow=32,SNR=3.9						

*NEIC **30** 10:34:39.8±0.0, 16.80N×98.60W, h8km, MD4.0(MEX), After MEX.*

MEX 30 10:34:37.2±0.8, 16.41N×98.65W, h16km±10km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.50**	**92**	*eP*	Pg	10 34 46.0	-1.3
PNIG				*eS*	Sg	10 34 51.8	-2.3
PNIG	**Pinotepa**	**0.50**	**92**	*eP*	Pg	10 34 46.0	-1.3
PNIG				*eS*	Sg	10 34 51.3	-2.7
TLIG	**Tlapa**	**1.15**	**4**	*eP*	Pn	10 34 55.0	-3.8
TLIG				*eS*	Sb	10 35 08.5	-5.0
TLIG	**Tlapa**	**1.15**	**4**	*eP*	Pn	10 34 55.2	-3.6
TLIG				*eS*	Sb	10 35 02.9	-11
ACX	**Acapulco**	**1.24**	**292**	*eP*	Pn	10 34 56.0	-3.9
ACX				*eS*	Sb	10 35 12.5	-3.7
ACX	**Acapulco**	**1.24**	**292**	*eP*	Pn	10 34 56.0	-4.0
ACX				*eS*	Sn	10 35 16.6	+0.1
VHO	**Vista Hermosa**	**1.95**	**70**	*eP*	Pn	10 35 07.3	-2.6
VHO				*i* S	Sn	10 35 30.0	-4.1
VHO	**Vista Hermosa**	**1.95**	**70**	*eP*	Pn	10 35 07.3	-2.6
VHO				*eS*	Sn	10 35 30.8	-3.3
HUIG	**Huatulco**	**2.53**	**104**	*i* P	Pn	10 35 14.4	-3.2
HUIG				*i* S	Sn	10 35 43.0	-5.1
HUIG	**Huatulco**	**2.53**	**104**	*eP*	Pn	10 35 18.2	+0.6
HUIG				*eS*	Sb	10 35 55.1	+2.0

*CRAAG **30** 10:42:58.4, 36.49N×7.07E, Ml4.0*
*LDG **30** 10:42:59.3±0.2, 36.64N×7.13E, h10km, Ml3.5/8, Error ellipse: s-maj=4.8km s-min=4.1km az=143.0*
*ISCJB **30** 10:42:59.3±0.3, 36.62N±0.03×7.07E±0.04, h12km, mb3.6/5, MS2.4/1, Error ellipse: s-maj=5.2km s-min=3.9km az=36.7*
*CSEM **30** 10:42:59.9±0.2, 36.53N×7.10E, h8km, ML4.0, Error ellipse: s-maj=5.8km s-min=4.8km az=32.0*
*IDC **30** 10:42:59.1±1.3, 36.38N×7.15E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/68, mbtmp3.7/6, ML4.7/1, MS2.6/1, Ms1 2.7/1, ms1mx2.1/68, Error ellipse: s-maj=26.9km s-min=22.6km az=89.0*
*TUN **30** 10:43:04.5, 35.97N×7.93E, h6km, MD3.5*

ISC 30 10:42:59.7±0.7, 36.55N±0.04×7.13E±0.04, h12km, n58, α29 93/61, mb3.6/5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAH	**Djebel Manchou**	**0.24**	**71**	P	**Pb**	**10 43 06.5**	**+0.4**
CMAH	**Djebel Manchou**	**0.24**	**71**	P	**Pb**	**10 43 06.5**	**+0.4**
CAEH	**'Ain El Ouahch**	**0.33**	**316**	P	**Pg**	**10 43 06.7**	**+0.4**
CKFL	**Kef-Lekhel**	**0.36**	**247**	P	**Pg**	**10 43 05.8**	**-1.2**
CKFL	**Kef-Lekhel**	**0.36**	**247**	P	**Pg**	**10 43 05.8**	**-1.2**
ABSA	**Djebel Ababsia**	**0.39**	**134**	P	**Pb**	**10 43 07.8**	**-0.8**
ABSA	**Djebel Ababsia**	**0.39**	**134**	P	**Pb**	**10 43 07.8**	**-0.8**
CASM	**Ain Smara**	**0.59**	**241**	P	**Pg**	**10 43 10.4**	**-0.8**
CASM	**Ain Smara**	**0.59**	**241**	P	**Pg**	**10 43 10.4**	**-0.8**
CTEI	**Djebel Teioual**	**0.76**	**231**	P	**Pg**	**10 43 14.2**	**-0.2**
CTEI	**Djebel Teioual**	**0.76**	**231**	P	**Pg**	**10 43 14.2**	**-0.2**
GHAT	**Ghardimaou**	**0.95**	**93**	*i* P	**Pn**	**10 43 18.7**	**-0.1**
DFRA	**Djebel Bou Aff**	**1.01**	**270**	P	**Pg**	**10 43 18.6**	**-0.6**
DFRA	**Djebel Bou Aff**	**1.01**	**270**	P	**Pg**	**10 43 18.6**	**-0.6**
CKHR	**Kef el Ahmar**	**1.41**	**249**	P	**Pn**	**10 43 25.3**	**0.0**
CKHR	**Kef el Ahmar**	**1.41**	**249**	P	**Pn**	**10 43 25.3**	**0.0**
SET	**Setif**	**1.44**	**257**	P	**Pb**	**10 43 26.0**	**-0.5**
SET	**Setif**	**1.44**	**257**	P	**Pb**	**10 43 26.0**	**-0.5**
KRIT	**Krib**	**1.58**	**97**	*i* P	**Pn**	**10 43 26.7**	**-0.8**
THTN	**Thala**	**1.60**	**127**	*i* P	**Pb**	**10 43 29.2**	**0.0**
TAMR	**Tamra**	**1.66**	**72**	*i* P	**Pb**	**10 43 30.1**	**-0.1**
KEST	**Kesra**	**1.97**	**114**	Pn	**Pb**	**10 43 34.6**	**-0.9**
	31nm,0.3s,baz=165,slow=1.3,SNR=93						
KEST				Sn	**Sg**	**10 44 01.6**	**-1.4**
	6.9nm,0.3s,baz=308,slow=6.2,SNR=7.1						
TROT	**Trozza**	**2.23**	**115**	*i* P	**Pn**	**10 43 37.9**	**+1.4**
OAR	**Oum El Arais**	**2.26**	**152**	*i* P	**Pn**	**10 43 38.2**	**+1.3**
SYA	**Sidi Yaiche**	**2.26**	**142**	*i* P	**Pn**	**10 43 38.2**	**+1.3**
BERT	**Berda**	**2.77**	**146**	*i* P	**Pn**	**10 43 45.0**	**+1.2**
PGF	**Pioggiola**	**6.17**	**13**	*eP*	**Pn**	**10 44 32.2**	**+1.6**
PGF				*eSn*	**Sn**	**10 45 33.6**	**-7.5**
	5.7nm,0.4s						
PGF	**Pioggiola**	**6.17**	**13**	*eP*	**Pn**	**10 44 32.2**	**+1.6**
LMR	**La Mourre**	**6.80**	**356**	*eP*	**Pn**	**10 44 39.5**	**+0.3**
LMR				*eSn*	**Sn**	**10 45 48.8**	**-7.7**
	12nm,0.3s						
LMR	**La Mourre**	**6.80**	**356**	*eP*	**Pn**	**10 44 39.5**	**+0.3**
FRF	**La Foret Royal**	**7.02**	**357**	*eP*	**Pn**	**10 44 41.2**	**-1.0**
FRF				*eSn*	Sn	10 45 53.2	-8.7
	9.6nm,0.5s						
FRF	**La Foret Royal**	**7.02**	**357**	*eP*	**Pn**	**10 44 41.2**	**-1.0**
SBF	**Sospel**	**7.31**	**2**	*ePn*	**Pn**	**10 44 42.4**	**+3.9**
SMRF	**Simiane la Rot**	**7.52**	**351**	*eP*	**Pn**	**10 44 49.6**	**+0.5**
SMRF				*eSn*	Sn	10 46 05.4	-8.9
	13nm,0.7s						
SMRF	**Simiane la Rot**	**7.52**	**351**	*eP*	**Pn**	**10 44 49.6**	**+0.5**
MTLF	**Montolieu**	**7.76**	**332**	*eP*	**Pn**	**10 44 51.5**	**-1.0**
MTLF				*eSn*	Sn	10 46 10.3	-10
	4.8nm,0.5s						
MTLF	**Montolieu**	**7.76**	**332**	*eP*	**Pn**	**10 44 51.5**	**-1.0**
LASF	**Ste Croix**	**7.93**	**343**	*eP*	**Pn**	**10 44 55.2**	**+0.5**
LASF	**Ste Croix**	**7.93**	**343**	*eP*	**Pn**	**10 44 55.2**	**+0.5**
MBDF	**Montbardon**	**8.18**	**358**	*eP*	**Pn**	**10 44 59.3**	**+1.0**
MBDF				*eSn*	Sn	10 46 20.4	-10
	9.8nm,0.7s						
MBDF	**Montbardon**	**8.18**	**358**	*eP*	**Pn**	**10 44 59.3**	**+1.0**
EPF	**Esparros**	**8.32**	**323**	*eP*	**Pn**	**10 45 02.2**	**+2.0**
EPF				*eSn*	Sn	10 46 24.9	-9.2
	2.8nm,0.4s						
EPF	**Esparros**	**8.32**	**323**	*eP*	**Pn**	**10 45 02.2**	**+2.0**
VIVF	**Saint-Julien-l**	**8.51**	**348**	*eP*	**Pn**	**10 45 02.5**	**-0.2**
VIVF				*eSn*	Sn	10 46 28.2	-10
	6.5nm,0.6s						
VIVF	**Saint-Julien-l**	**8.51**	**348**	*eP*	**Pn**	**10 45 02.5**	**-0.2**
ETSF	**Etsaut**	**8.68**	**319**	*eP*	**Pn**	**10 45 06.8**	**+1.7**
ETSF	**Etsaut**	**8.68**	**319**	*eP*	**Pn**	**10 45 06.8**	**+1.7**
SJPF	**Ste Jean**	**9.18**	**318**	*eP*	**Pn**	**10 45 14.7**	**+2.8**
SJPF	**Ste Jean**	**9.18**	**318**	*eP*	**Pn**	**10 45 14.7**	**+2.8**
ESDC	**Sonseca Array**	**9.29**	**293**	Pn	**Pn**	**10 45 15.7**	**+2.3**
	2.1nm,0.3s,baz=97,slow=14,SNR=12						
RJF	**Les Rejaudoux**	**9.72**	**336**	*eP*	**Pn**	**10 45 22.1**	**+2.8**
RJF	**Les Rejaudoux**	**9.72**	**336**	*eP*	**Pn**	**10 45 22.1**	**+2.8**
AKASG	**Malin Array Be**	**21.24**	**41**	P	**P**	**10 47 45.8**	**+0.4**
	0.3nm,0.3s,baz=243,slow=9.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**23.80**	**193**	P	**P**	**10 48 11.6**	**-0.8**
	1.2nm,0.6s,baz=7.9,slow=9.8,SNR=8.6						
HFS	**Hagfors**	**23.98**	**8**	P	**P**	**10 48 16.9**	**+3.2**
	4.8nm,0.9s,baz=195,slow=16,SNR=4.0						
NOA	**NORSAR Array B**	**24.65**	**5**	P	**P**	**10 48 23.7**	**+3.8**
	1.4nm,0.9s,baz=186,slow=9.4,SNR=2.7						
NOA				LR	LR	10 58 07.9	
	comp=Z,13nm,20.3s,baz=35,slow=37						
MKAR	**Makanchi Array**	**55.08**	**54**	P	**P**	**10 52 32.6**	**+1.3**
	1.2nm,0.6s,baz=288,slow=6.1,SNR=15						

*ISCJB **30** 10:51:24.7±1.0, 37.99N±0.07×72.37E±0.07, h119km, mb3.2/2, Error ellipse: s-maj=11.0km s-min=7.4km az=152.7*
*IDC **30** 10:51:27.9±7.1, 38.21N×72.57E, h140km±60km, mb3.0/2, mb1 3.1/6, mb1mx2.9/72, mbtmp3.6/6, Error ellipse: s-maj=68.5km s-min=27.9km az=166.0*
*NNC **30** 10:51:29.7±1.7, 38.25N×72.53E, h137km±19km, mb3.0, mpv3.7, Error ellipse: s-maj=21.0km s-min=13.8km az=60.0*

ISC 30 10:51:23.4±1.3, 37.87N±0.10×72.60E±0.06, h119km, n24, α3 14/31, 9C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.26**	**18**	⇑P	**Pn**	**10 52 03.1**	**+2.9**
	22nm,0.2s						
SFK				⇑S	**Sn**	**10 52 29.5**	**+1.1**
	72nm,0.2s						
KSH	**Kashi**	**3.11**	**57**	Pn	**Pn**	**10 52 09.8**	**-1.4**
KSH				pP		10 52 14.0	
KSH				Sn	**Sn**	**10 52 40.5**	**-7.6**
AML	**Almayashu**	**4.34**	**11**	P	**Pn**	**10 52 29.4**	**+1.6**
	SNR=11						
UCH	**Uchtor**	**4.60**	**18**	P	**Pn**	**10 52 33.4**	**+2.2**
	SNR=37						
MNAS	**Manas**	**4.62**	**359**	⇑P	**Pn**	**10 52 33.4**	**+2.2**
	2.9nm,0.3s						
MNAS				⇓S	**Sn**	**10 53 22.0**	**-1.9**
	20nm,0.4s						
KZA	**Kyzart**	**4.67**	**25**	P	**Pn**	**10 52 33.8**	**+1.6**
	SNR=7.3						
EKS2	**Erkin-Say**	**4.87**	**10**	P	**Pn**	**10 52 37.1**	**+2.5**
	SNR=6.6						
AAK	**Ala-Archa**	**4.98**	**16**	P	**Pn**	**10 52 38.6**	**+2.5**
	4.0nm,0.3s,baz=179,slow=6.9,SNR=40						
AAK				S	**Sn**	**10 53 32.7**	**0.0**
	2.1nm,0.3s,baz=325,slow=22,SNR=21						
AAK	**Ala-Archa**	**4.98**	**16**	⇑P	**Pn**	**10 52 38.6**	**+2.5**
	6.9nm,0.4s						
AAK				⇑S	**Sn**	**10 53 32.5**	**-0.3**
	20nm,0.6s						
AAK	**Ala-Archa**	**4.98**	**16**	P	**Pn**	**10 52 38.8**	**+2.6**
	SNR=13						
KBK	**Karagaybulak**	**5.11**	**20**	P	**Pn**	**10 52 41.2**	**+3.3**
	SNR=7.3						
ULHL	**Ulahol**	**5.19**	**31**	P	**Pn**	**10 52 40.6**	**+1.6**
	SNR=17						
KK31	**Karatay Array**	**5.47**	**344**	⇑P	**Pn**	**10 52 44.4**	**+1.9**
	3.1nm,0.3s						
KK31				⇑S	**Sn**	**10 53 41.7**	**-2.5**
	23nm,0.4s						
TKM2	**Tokmak 2**	**5.54**	**23**	P	**Pn**	**10 52 47.2**	**+3.5**
	SNR=5.5						
USP	**Ospenovka**	**5.59**	**14**	P	**Pn**	**10 52 45.9**	**+1.8**
	SNR=5.1						
PDGK	**Podgornoye**	**7.57**	**42**	⇑P	**Pn**	**10 53 12.0**	**+1.1**
	5.1nm,0.7s						
MKAR	**Makanchi Array**	**11.44**	**36**	P	**Pn**	**10 54 03.8**	**+0.8**
	0.1nm,0.3s,baz=213,slow=12,SNR=4.2						
GEYT	**Alibeck**	**11.45**	**275**	S	**Sn**	**10 56 05.4**	**-3.7**
	0.9nm,0.3s,baz=96,slow=15,SNR=2.4						
AB31	**Akbulak array**	**14.60**	**325**	P	**Pn**	**10 54 44.3**	**+0.3**
	1.2nm,0.5s,baz=134,slow=12,SNR=28						
AB31				⇓S	Sn	10 57 13.0	-12
	1.1nm,0.6s,baz=139,slow=23,SNR=5.2						
AKTO	**Aktyubinsk**	**16.31**	**325**	P	**P**	**10 55 07.2**	**+1.1**
	0.7nm,0.3s,baz=108,slow=8.4,SNR=8.2						
AKTO				S	**Sn**	**10 57 56.7**	**-10**
	0.1nm,0.3s,baz=162,slow=20,SNR=2.0						
AKTO	**Aktyubinsk**	**16.31**	**325**	⇑P	**P**	**10 55 08.6**	**+2.5**
	5.2nm,1.0s						
ZALV	**Zalesovo Beam**	**18.15**	**24**	P	**P**	**10 55 26.9**	**+0.7**
	0.3nm,0.3s,baz=206,slow=10,SNR=7.3						
SONM	**Songino Array**	**26.52**	**57**	P	**P**	**10 56 51.8**	**+2.0**
	0.3nm,0.7s,baz=251,slow=12,SNR=2.4						
TORD	**Torodi Ar. Bea**	**67.02**	**269**	P	**P**	**11 02 05.7**	**+1.9**
	0.3nm,0.4s,baz=44,slow=5.6,SNR=9.1						

*NEIC **30** 10:51:44.2±0.0, 57.98N×136.65W, h5km, ML2.3(AEIC), ML2.7(OTT), After OTT.*

PGC 30 10:51:44.2±1.1, 57.98N×136.65W, h5km, ML2.7/4, 130km northwest of Sitka, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESE	**Bessie Mountai**	**1.13**	**57**	P	Pg	10 52 04.2	-1.5
BESE				S	Sg	10 52 19.4	-0.9
BESE	**Bessie Mountai**	**1.13**	**57**	*e*Pg	Pg	10 52 04.5	-1.3
BESE				*e*Sg	Sg	10 52 19.9	-0.4
SIT	**Sitka**	**1.17**	**142**	*e*Pg	Pg	10 52 02.7	-3.8
SIT				*e*Sg	Sg	10 52 17.2	-4.5
PLBC	**Pleasant Camp**	**1.49**	**6**	Pn	Pn	10 52 10.2	-1.4
PLBC				Sg	Sn	10 52 30.8	-0.6
PLBC	**Pleasant Camp**	**1.49**	**6**	*e*Pn	Pn	10 52 10.2	-1.4
PLBC				*e*Sg	Sn	10 52 30.8	-0.6
SKAG	**Skagway**	**1.64**	**24**	*e*Pn	Pn	10 52 12.9	-0.7
SKAG				*e*Sn	Sb	10 52 36.1	+0.3
PNL	**Peninsula**	**2.22**	**321**	Pn	Pn	10 52 21.4	-0.2
PNL				Sn	Sn	10 52 50.0	+0.7
PNL	**Peninsula**	**2.22**	**321**	*e*Pn	Pn	10 52 21.4	-0.2
PNL				*e*Sn	Sn	10 52 50.0	+0.7
YUK7	**Dusty Glacier**	**2.67**	**344**	Pn	Pn	10 52 28.6	+0.6
YUK7				Sg	Sb	10 53 04.9	-0.8
YUK7	**Dusty Glacier**	**2.67**	**344**	*e*Pn	Pn	10 52 28.6	+0.6
YUK7				*e*Sg	Sb	10 53 04.9	-0.8
WRAK	**Wrangell Islan**	**2.82**	**122**	*e*Pn	Pn	10 52 29.4	-0.3
WRAK				*e*Sn	Sn	10 53 04.1	0.0
WHY	**Whitehorse**	**2.84**	**18**	Pn	Pn	10 52 29.7	-0.5
WHY				Sn	Sn	10 53 02.0	-2.8
WHY				Sg	Sb	10 53 12.0	+1.5
WHY	**Whitehorse**	**2.84**	**18**	*e*Pn	Pn	10 52 30.0	-0.2
WHY				*e*Sn	Sn	10 53 05.5	+0.6
HYT	**Haines Junctio**	**2.89**	**352**	Pn	Pn	10 52 28.8	-2.2
HYT				Sg	Sb	10 53 11.6	-0.3
HYT	**Haines Junctio**	**2.89**	**352**	*e*Pn	Pn	10 52 30.7	-0.2
HYT				*e*Sn	Sn	10 53 05.6	-0.5
YUK5	**Granite Creek**	**3.22**	**350**	Pn	Pn	10 52 33.5	-2.1
YUK5	**Granite Creek**	**3.22**	**350**	*e*Pn	Pn	10 52 33.5	-2.1
DLBC	**Dease Lake**	**3.54**	**80**	Pn	Pn	10 52 38.9	-0.9
DLBC				Sn	Sn	10 53 19.5	-2.5
DLBC				Sg	Sb	10 53 32.5	+2.0
DLBC	**Dease Lake**	**3.54**	**80**	*e*Pn	Pn	10 52 38.9	-0.9
DLBC				*e*Sn	Sn	10 53 19.5	-2.5
BALM	**Baldy**	**4.22**	**319**	Pn	Pn	10 52 47.9	-1.3
DAWY	**Dawson**	**6.25**	**349**	Sg	Sg	10 55 02.6	-2.1

*NIED **30** 10:55:00.40.80N×145.00E, h5km, Mw5.1 Best double couple: M0 4.94000×10 16 NP1:φ218.00000°, δ44.00000°, λ-94.00000°. NP2:φ44.00000°, δ46.00000°, λ-86.00000°.*
*IDC **30** 10:55:22.7±0.4, 40.80N×144.92E, h0km, mb4.8/46, mb1 4.9/53, mb1mx4.8/70, mbtmp4.8/53, ML4.0/6, MS4.4/49, Ms1 4.4/49, ms1mx4.2/71, Error ellipse: s-maj=10.1km s-min=9.9km az=123.0*
*ISCJB **30** 10:55:23.4±0.1, 40.84N±0.02×144.82E±0.02, h13km, mb5.0/357, MS4.7/76, Error ellipse: s-maj=2.4km s-min=1.7km az=173.3*
*JMA **30** 10:55:23.3±0.2, 40.80N×145.07E, h67km±2km, M4.9*
JMA Felt I J1.
*BJI **30** 10:55:23.2, 41.01N×144.68E, h6km, mb4.9/70, mB5.2/61, Ms4.9/76, Ms7 4.6/68*
*NEIC **30** 10:55:24.4±0.1, 40.76N×144.81E, h10km, mb5.1/232, Error ellipse: s-maj=2.6km s-min=1.6km az=161.0*
NEIC Recorded [1 JMA] in Aomori.
*GCMT **30** 10:55:24.4±0.2, 40.85N×144.88E, h12km, MW5.1/111, Moment Tensor Solution. s42,c57; s111,c168; Duration: 0 Moment tensor: Scale 10 16Nm; Mrr=-5.69±.11; Mθθ 2.96±.12; Mθφ 2.73±.12; Mrθ -0.74±.35; Mφφ 2.76±.09; Mrφ 0.20±.41; Best double couple: M0 5.70000×10 16 NP1:φ53.00000°, δ47.00000°, λ-81.00000°. NP2: φ220.00000°, δ43.00000°, λ-99.00000°. Principal axes: T 5.6220, Plg2.0000°, Azm136.0000°; N 0.1560, Plg6.0000°, Azm227.0000°; P -5.7770, Plg83.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **30** 10:55:28.1±1.1, 41.15N×144.76E, h33km, mb5.3/118, MS4.9/23 Error ellipse: s-maj=6.1km s-min=3.4km az=106.7*

ISC 30 10:55:23.7±0.6, 40.83N±0.03×144.93E±0.03, h9km±3km, n1077, σ1 41/1156, mb5.1/372, MS4.7/77, 28C-41D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

KUR pmax pmax
comp=Z,528nm,0.4s
KUR pmax pmax
comp=N,124nm,0.3s
KUR pmax pmax
comp=E,192nm,0.3s
KUR pmax pmax
comp=Z,2μm,4.9s
KUR smax smax
comp=N,430nm,0.6s
KUR smax smax
comp=E,785nm,0.6s
KUR smax smax
comp=E,5μm,4.2s
KUR smax smax
comp=E,3μm,3.1s
YSS Yuzh-Sakhalins 6.32 346⇑ *e*P **Pn 10 56 57.7 +0.7**
YSS *e*S **Sn 10 58 07.2 -2.0**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=N,20nm,0.5s
YSS MLR MLR
comp=Z,4μm,13.0s
YSS MLR MLR
comp=N,4μm,12.0s
YSS Yuzh-Sakhalins 6.32 346 *e*Pn **Pn 10 56 57.9 +0.9**
YSS *e*Sn **Sn 10 58 11.3 +2.1**
MJAR Matsushiro Arr 6.78 233 Pn **Pn 10 57 01.6 -1.8**
comp=N,2.3nm,0.3s,baz=40,slow=12,SNR=56
MJAR Sn **Sn 10 58 18.0 -2.8**
baz=44,slow=12,SNR=2.8
MJB9 Matsu-Tunnel 6.78 233 *e*Pn **Pn 10 57 03.2 -0.2**
MJB9 *e*Sn **Sn 10 58 19.8 -0.9**
MAJO Matsushiro 6.78 233 *d i*P **Pn 10 57 03.1 -0.3**
MAJO Matsushiro 6.78 233 *e*Pn **Pn 10 57 03.2 -0.2**
MAJO *e*Sn **Sn 10 58 18.0 -2.8**
MAT Matsushiro 6.78 233 P **Pn 10 57 02.8 -0.6**
MAT S **Sn 10 58 15.2 -5.6**
TEY Ternei 7.41 307 *e*P **Pn 10 57 12.2 +0.2**
TEY pmax pmax
comp=N,31nm,0.8s
TEY pmax pmax
comp=E,66nm,0.8s
TEY pmax pmax
comp=Z,58nm,0.8s
TEY MLR MLR
comp=Z,5μm,12.0s
INU Inuyama 8.30 231 *e*Pn **Pn 10 57 24.2 0.0**
INU *e*Sn **Sn 10 58 53.0 -5.0**
JHJ2 Mitsune 8.72 210 *e*Pn **Pn 10 57 26.8 -3.3**
JHJ2 *e*Sn **Sn 10 59 06.5 -2.0**
JHJ Hachijo jima 2 8.73 210 Pn **Pn 10 57 26.8 -3.4**
comp=Z,36nm,0.3s,baz=71,slow=17,SNR=16
JHJ Sn Sn 10 58 57.9 -11
comp=Z,54nm,0.3s,baz=86,slow=22,SNR=9.4
JHJ LR LR 11 01 03.4
comp=Z,1μm,18.4s,baz=17,slow=39
VLA Vladivostok 9.98 288 *c i*P **Pn 10 57 48.5 +1.3**
USRK Ussuriysk Ar. 10.13 294 Pn **Pn 10 57 50.3 +1.0**
comp=Z,1.4nm,0.3s,baz=113,slow=12,SNR=43
USRK LR LR 11 01 41.7
comp=Z,3μm,21.0s,baz=112,slow=37
TYV Tymovskoe 10.15 352 *e*P **Pn 10 57 47.1 -2.5**
TYV *e*S **Sn 10 59 38.5 -5.0**
TYV pmax pmax
comp=Z,800nm,4.6s
TYV pmax pmax
comp=Z,53nm,1.1s
TYV smax smax
comp=E,14nm,1.3s
MSHR Mys Shultsa 10.45 284⇑ *e*P **Pn 10 57 55.5 +1.9**
MDJ Mudanjiang 11.89 294 P **Pn 10 58 12.0 -1.4**
MDJ pP 10 58 14.5
MDJ sP 10 58 16.0
MDJ PP **PnPn 10 58 19.5 -1.6**
MDJ S **Sn 11 00 26.5 +0.3**
MDJ pmax pmax
comp=E,77nm,1.0s
MDJ pmax pmax
comp=E,720nm,3.3s
MDJ LR LR
comp=E,2μm,11.5s
MDJ LR LR
comp=E,3μm,12.7s
MDJ LR LR
comp=E,4μm,13.3s
MDJ Mudanjiang 11.89 294 *e*Pn **Pn 10 58 13.9 +0.4**
KLR Kul'dur 12.53 316 Pn **Pn 10 58 21.6 -0.5**
comp=E,0.0nm,0.3s,baz=125,slow=13,SNR=28
KLR LR LR 11 03 46.5
comp=E,371nm,18.9s,baz=145,slow=40
KLR Kul'dur 12.53 316⇑ *i*P **Pn 10 58 20.7 -1.4**
NKL Nikolayevsk 12.65 348 *e*P **Pn 10 58 23.0 -0.7**
NKL pmax pmax
comp=N,19nm,0.9s
NKL pmax pmax
comp=Z,36nm,0.9s
NKL pmax pmax
comp=N,900nm,9.0s
NKL pmax pmax
comp=Z,1μm,9.0s
NKL MLR MLR
comp=N,1μm,16.0s
NKL MLR MLR
comp=E,2μm,16.0s
NKL MLR MLR
comp=Z,2μm,16.0s
OKH Okha 12.79 355 *e*P **Pn 10 58 26.9 +1.3**
OKH *e*S **Sn 11 00 48.0 -0.1**
OKH pmax pmax
comp=Z,400nm,10.4s
OKH smax smax
comp=Z,1μm,15.0s
JNU Nakatsue 13.61 240 Pn **Pn 10 58 35.6 -1.3**
comp=Z,0.5nm,0.3s,baz=66,slow=8.5,SNR=7.4
JNU LR LR 11 04 07.9
comp=Z,626nm,20.9s,baz=270,slow=39
JNU Nakatsue 13.61 240 *e*Pn **Pn 10 58 36.3 -0.6**
KSRS Korea Array 13.62 261 Pn **Pn 10 58 36.8 -0.3**
comp=Z,0.1nm,0.3s,baz=69,slow=14,SNR=9.5
KSRS LR LR 11 03 19.6
comp=Z,1μm,21.2s,baz=64,slow=35
KS01 Wonju Array Si 13.64 261 *e*Pn **Pn 10 58 36.8 -0.5**
KS15 Wonju Array Si 13.66 261 *e*Pn **Pn 10 58 36.6 -0.9**
KS15 *e*Sn **Sn 11 01 04.8 -4.5**
KSAR Wonju Array Be 13.66 261 P **Pn 10 58 36.8 -0.7**
KSAR Wonju Array Be 13.66 261 Pn **Pn 10 58 36.8 -0.7**
CBIJ Chichi jima 13.89 190 *e*Pn **Pn 10 58 39.4 -1.3**
CBIJ *e*Sn **Sn 11 01 09.9 -5.2**
JCJ Chichijima 13.89 190 Pn Pn 10 58 33.7 -7.1
comp=Z,4.2nm,0.3s,baz=270,slow=20,SNR=2.7
CN2 Changchun 14.71 288 *e*P **Pn 10 58 54.0 +2.1**
CN2 *es*P P 10 59 01.0 +2.9
CN2 *e*S **Sn 11 01 36.5 +1.5**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,800nm,13.0s
CN2 LR LR
comp=Z,2μm,13.0s
CN2 LR LR
comp=Z,2μm,14.0s
PEA0B Petropavlovsk- 15.03 31 *e*Pn **Pn 10 58 53.8 -2.4**
comp=Z,41nm,0.8s
PETK Petropavlovsk- 15.03 31 Pn **Pn 10 58 51.1 -5.0**
comp=Z,0.8nm,0.3s,baz=178,slow=12,SNR=10.0
PETK LR LR 11 05 51.9
comp=Z,565nm,18.3s,baz=228,slow=42
PETK Petropavlovsk- 15.03 31 *e*P **Pn 10 58 53.1 -3.0**
PETK Petropavlovsk- 15.03 31 *e*Pn **Pn 10 58 53.1 -3.0**
PEA1 Petropavlovsk- 15.03 31 *e*Pn **Pn 10 58 51.1 -5.1**
PET Petropavlovsk 15.35 33 *e*P **P 10 59 06.4 +1.3**
PET pmax pmax
comp=Z,54nm,1.1s
PET MLR MLR
comp=Z,1μm,17.0s
PET Petropavlovsk 15.35 33 *e*Pn **Pn 10 58 58.2 -2.1**
comp=Z,55nm,1.1s
ZEA Zeya 17.55 323 *e*P **Pn 10 59 25.2 -3.3**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=Z,64nm,1.0s
ZEA MLR MLR
comp=E,1μm,14.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
ZEA MLR MLR
comp=N,2μm,15.0s
DL2 Dalian 17.98 271 P **Pn 10 59 31.8 -2.1**
DL2 S **Sn 11 02 53.0 -1.4**
DL2 pmax pmax
comp=N,42nm,0.9s
DL2 pmax pmax
comp=N,600nm,4.1s
DL2 LR LR
comp=N,530nm,10.2s
DL2 LR LR
comp=N,840nm,12.5s
DL2 LR LR
comp=N,740nm,14.2s
MA2 Magadan 19.12 9 P **P 10 59 46.8 +0.1**
comp=N,1.1nm,0.3s,baz=189,slow=9.7,SNR=8.4
MA2 LR LR 11 07 15.1
comp=N,485nm,19.8s,baz=195,slow=37
MA2 Magadan 19.12 9 *ce*P **P 10 59 45.9 -0.8**
JOW Kunigami 19.61 230 P **P 10 59 52.9 +0.5**
comp=N,1.3nm,0.3s,baz=7.9,slow=3.8,SNR=7.9
JOW LR LR 11 07 17.0
comp=N,368nm,21.9s,baz=102,slow=36
JOW Kunigami 19.61 230 *e*P **P 10 59 51.8 -0.6**
comp=N,71nm,1.0s
HIA Hailar 19.62 304 *e*P **P 10 59 51.7 -0.7**
HIA pmax pmax
comp=Z,29nm,0.6s
HIA Hailar 19.62 304 *e*P **P 10 59 51.7 -0.7**
comp=Z,29nm,0.6s
CLNS Chul'man 20.62 328 *e*P **P 11 00 01.2 -2.0**
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS MLR MLR
comp=N,2μm,18.0s
CLNS MLR MLR
comp=E,2μm,17.0s
CLNS MLR MLR
comp=Z,2μm,21.0s
SSE Sheshan 21.48 251 P **P 11 00 10.0 -2.5**
SSE S **S 11 04 08.5 -2.3**
SSE pmax pmax
comp=Z,25nm,0.7s
SSE pmax pmax
comp=Z,140nm,4.7s
SSE LR LR
comp=Z,530nm,15.0s
SSE LR LR
comp=Z,470nm,14.4s
BJT Baijiatuan 21.87 277 *e*P **P 11 00 14.9 -1.9**
BJT Baijiatuan 21.87 277 *e*P **P 11 00 14.9 -1.9**
TIA Tai'an 22.19 267 P **P 11 00 17.8 -2.5**
TIA S **S 11 04 23.0 -1.7**
TIA pmax pmax
comp=Z,40nm,1.0s
TIA pmax pmax
comp=Z,270nm,4.5s
TIA LR LR
comp=Z,620nm,19.6s
TIA LR LR
comp=Z,540nm,16.7s
TIA LR LR
comp=Z,990nm,20.6s
SEY Seymchan 22.57 9 P **P 11 00 23.6 -0.5**
comp=Z,13nm,0.8s,baz=184,slow=7.3,SNR=45
SEY Seymchan 22.57 9⇓ *i*P **P 11 00 23.2 -0.9**
NJ2 Nanjing 22.67 256 *e*P **P 11 00 25.3 0.0**
NJ2 pP **pP 11 00 27.5 -0.4**
NJ2 sP **sP 11 00 29.0 0.0**
NJ2 S **S 11 04 31.8 -1.8**
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 pmax pmax
comp=Z,610nm,4.3s
NJ2 LR LR
comp=Z,1μm,14.1s
NJ2 LR LR
comp=Z,2μm,11.9s
NJ2 LR LR
comp=Z,3μm,14.1s
YAK Yakutsk 23.14 342 P **P 11 00 26.8 -3.1**
comp=Z,43nm,0.6s,baz=164,slow=1.5,SNR=8.7
YAK LR LR 11 09 52.9
comp=Z,772nm,21.8s,baz=109,slow=38
YAK Yakutsk 23.14 342 *e*P **P 11 00 26.5 -3.4**
YAK *e**PP **sP 11 00 35.4 +1.7**
YAK *e*PPP PPP 11 01 00.3
YAK *e* 11 04 17.5
YAK *e*S **S 11 04 35.9 -5.3**
YAK *e*SS **SnSn 11 05 11.8 -2.2**
YAK *e*SSS SSS 11 05 27.9
YAK *e* 11 11 36.8
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=Z,66nm,1.3s
YAK pmax pmax
comp=N,51nm,1.6s
YAK pmax pmax
comp=E,74nm,2.0s
YAK smax smax
comp=N,887nm,2.5s
YAK smax smax
comp=E,331nm,2.3s
YAK MLR MLR
comp=Z,1μm,21.0s
YAK MLR MLR
comp=N,3μm,21.0s
YAK MLR MLR
comp=E,1μm,19.0s
YAK Yakutsk 23.14 342 *e*P **P 11 00 26.8 -3.1**
comp=E,51nm,0.7s
YAK *e*S **S 11 04 36.5 -4.7**
HHC Hu-ho-hao-te 25.16 281 *e*P **P 11 00 50.5 +1.2**
HHC sP sP 11 00 57.5 +4.3
HHC S **S 11 05 08.8 -5.6**
HHC SS **SnSn 11 06 10.0 +6.0**
HHC pmax pmax
comp=E,29nm,0.8s
HHC pmax pmax
comp=E,300nm,6.3s
HHC LR LR
comp=E,800nm,13.9s
HHC LR LR
comp=E,1μm,14.3s
HHC LR LR
comp=E,1μm,13.8s
TIY Taiyuan 25.27 274 *e*P **P 11 00 51.3 +1.0**
TIY S **S 11 05 15.3 -0.9**
TIY pmax pmax
comp=E,35nm,1.0s
TIY pmax pmax
comp=E,380nm,5.6s
TIY LR LR
comp=E,620nm,15.0s
TIY LR LR
comp=E,360nm,11.1s
TIY LR LR
comp=E,700nm,13.2s
BOD Bodaibo 26.03 321 *e*P **P 11 00 55.3 -1.6**
BOD *e* 11 05 15.8
BOD pmax pmax
comp=Z,41nm,1.2s
WHN Wuhan 26.75 257⇑ P **P 11 01 04.5 +0.8**
WHN S **S 11 05 37.0 -2.6**
WHN LR LR
comp=Z,2μm,11.5s
WHN LR LR
comp=Z,4μm,16.5s
WHN LR LR
comp=Z,4μm,14.3s
TWG Pinlang 26.94 235 *e*P **P 11 01 04.5 -0.9**
comp=Z,193nm,0.9s
QZH Quanzhou 27.06 242 *e*P **P 11 01 08.5 +2.0**
QZH S **S 11 05 47.8 +3.3**
QZH LR LR
comp=Z,610nm,10.9s
QZH LR LR
comp=Z,680nm,10.0s
QZH LR LR
comp=Z,840nm,14.2s
GUMO Guam 27.14 180 LR LR 11 10 11.0
comp=Z,467nm,21.6s,baz=20,slow=33
ULN Ulaanbaatar 27.77 297 *ce*P **P 11 01 13.9 +1.0**
ULN pmax pmax
comp=Z,71nm,1.2s
ULN Ulaanbaatar 27.77 297 *e*P **P 11 01 13.5 +0.6**
comp=Z,72nm,1.2s
ULN Ulaanbaatar 27.77 297 P **P 11 01 13.8 +0.9**
SNR=22
H11N2 WAKE ISLAND Hy 28.18 132 T T 11 30 52.8
baz=324,slow=76,SNR=51
H11N1 WAKE ISLAND Hy 28.19 132 T T 11 30 53.3
baz=324,slow=76,SNR=44
H11N3 WAKE ISLAND Hy 28.20 132 T T 11 30 50.9
baz=324,slow=76,SNR=56
SONA1 Songino Array 28.20 297 *e*P **P 11 01 17.2 +0.4**
SONA0 Songino Array 28.21 297 *e*P **P 11 01 17.8 +1.0**
SONM Songino Array 28.21 297 P **P 11 01 17.8 +1.0**
comp=Z,41nm,1.1s,baz=85,slow=7.5,SNR=51
SONM LR LR 11 13 09.0
comp=Z,2μm,21.0s,baz=91,slow=38
H11S1 WAKE ISLAND Hy 29.05 134 T T 11 31 53.1
baz=325,slow=76,SNR=41
H11S3 WAKE ISLAND Hy 29.06 134 T T 11 32 01.5
baz=325,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 29.07 134 T T 11 32 01.2
baz=325,slow=76,SNR=77
XAN Xi'an 29.23 268 P **P 11 01 26.8 +0.8**
XAN pP sP 11 01 30.8 +1.0
XAN sP pP 11 01 33.8 +5.1
XAN pmax pmax
comp=Z,16nm,1.4s
XAN pmax pmax
comp=Z,220nm,6.8s
XAN LR LR
comp=Z,1μm,11.9s
XAN LR LR
comp=Z,780nm,11.9s
XAN LR LR
comp=Z,980nm,13.3s
BILL Bilibino 29.62 16 *c i*P **P 11 01 29.6 +0.7**
BILL *i* 11 02 22.4
BILL *i* 11 04 35.1
BILL *e*S **S 11 06 26.2 +2.2**
BILL *e*SS **SnSn 11 07 51.6 -0.4**
BILL pmax pmax
comp=Z,43nm,1.2s
BILL MLR MLR
comp=Z,487nm,18.0s
IRK Irkutsk 29.82 306 *e*P **P 11 01 29.9 -1.0**
IRK pmax pmax
comp=Z,87nm,2.9s
TLY Talaya 30.15 305 *e*P **P 11 01 34.4 +0.5**
TLY *e* 11 02 39.9
TLY *e*SS SS 11 08 18.4 -22
TLY pmax pmax
comp=Z,37nm,1.4s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY Talaya 30.15 305 *e*P **P 11 01 32.7 -1.1**
comp=Z,22nm,0.9s
TLY Talaya 30.15 305 P **P 11 01 33.2 -0.6**
SNR=15
ZAK Zakamensk 30.30 303 *e*P **P 11 01 35.6 +0.3**
ZAK pmax pmax
comp=Z,24nm,1.3s
ENH Enshi 30.51 261 *e*P **P 11 01 35.5 -1.8**
comp=Z,47nm,1.4s
MOY Mondy 31.80 305 *e*P **P 11 01 49.2 +0.7**
MOY pmax pmax
comp=Z,88nm,2.4s
TIXI Tiksi 31.92 350 P **P 11 01 48.5 -0.7**
comp=Z,3.5nm,0.5s,baz=134,slow=3.2,SNR=11
TIXI PcP **PcP 11 04 39.1 -0.1**
comp=Z,3.7nm,0.9s,baz=133,slow=5.0,SNR=4.8
TIXI LR LR 11 16 04.0
comp=Z,595nm,18.4s,baz=158,slow=39
TIXI Tiksi 31.92 350⇓ *i*P **P 11 01 48.7 -0.5**
TIXI pmax pmax
comp=Z,10.0nm,1.2s
LZH Lanzhou 32.30 275⇑ P **P 11 01 54.5 +1.3**
LZH pP sP 11 01 57.5 +0.5
LZH sP pP 11 01 59.3 +3.4
LZH PP **PnPn 11 03 00.5 +1.1**
LZH S **S 11 07 05.0 -2.0**
LZH sS sS 11 07 12.5 +1.0
LZH SS **SnSn 11 08 55.3 -3.1**
LZH pmax pmax
comp=Z,98nm,1.0s
LZH pmax pmax
comp=Z,520nm,5.3s
LZH LR LR
comp=Z,2μm,13.5s
LZH LR LR
comp=Z,1μm,13.4s
LZH LR LR
comp=Z,2μm,16.4s
KNGR Kungurtug, Tuv 33.98 303⇑ *i*P **P 11 02 08.4 +0.8**
GAMB Gambell 34.05 33 *e*P **P 11 02 09.5 +1.7**
comp=Z,14nm,1.2s
GTA Gaotai 34.24 283⇑ P **P 11 02 11.0 +1.0**
GTA pP sP 11 02 15.3 +1.5
GTA sP pP 11 02 18.3 +5.6
GTA PcP **PcP 11 04 50.3 +3.9**
GTA S **S 11 07 39.8 +2.9**
GTA sS sS 11 07 46.0 +4.5
GTA pmax pmax
comp=Z,29nm,1.3s
GTA pmax pmax
comp=Z,190nm,6.5s
GTA LR LR
comp=Z,800nm,16.6s
GTA LR LR
comp=Z,1μm,14.7s
GTA LR LR
comp=Z,920nm,15.2s
CD2 Chengdu 34.53 267 P **P 11 02 12.0 -0.4**
CD2 pP pP 11 02 15.0 -0.2
CD2 PP **PP 11 03 29.8 -0.8**
CD2 S **S 11 07 40.5 -0.8**
CD2 sS sS 11 07 45.8 -0.1
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,220nm,5.0s
CD2 LR LR
comp=Z,1μm,13.3s
CD2 LR LR
comp=Z,1μm,15.1s
CD2 LR LR
comp=Z,1μm,12.5s
GYA Guiyang 34.64 258⇑ *i*P **P 11 02 13.5 -0.1**
GYA PP **PP 11 03 31.0 -1.0**
GYA PcP **PcP 11 04 50.5 +2.7**
GYA S **S 11 07 42.3 -1.0**
GYA SS **SnSn 11 09 53.5 -1.8**
GYA ScS **ScS 11 12 35.0 -1.4**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=Z,590nm,17.0s
GYA LR LR
comp=Z,560nm,17.2s
GYA LR LR
comp=Z,540nm,17.6s
QIZ Qiongzhong 37.01 245 P **P 11 02 36.0 +2.2**
QIZ S **S 11 08 23.0 +3.5**
QIZ pmax pmax
comp=Z,17nm,2.0s
QIZ LR LR
comp=Z,540nm,14.9s
QIZ LR LR
comp=Z,550nm,16.5s
QIZ LR LR
comp=Z,550nm,13.9s
DAV Davao City (W) 37.80 212 LR LR 11 15 58.0
comp=Z,384nm,19.8s,baz=354,slow=33
KMI Kunming 38.31 259 P **P 11 02 46.0 +1.0**
KMI pmax pmax

	comp=Z,22nm,1.0s								
KMI					pmax	pmax			
	comp=Z,350nm,4.2s								
KMI					LR	LR			
	comp=Z,720nm,15.9s								
KMI					LR	LR			
	comp=Z,700nm,16.1s								
KMI					LR	LR			
	comp=Z,530nm,20.4s								
DGZ	**Jazzator, Alta**	**40.53**	**303**	*c*	*i* P	**P**	**11 03 05.0**	**+1.8**	
DGZ					pmax	pmax			
	comp=Z,26nm,1.3s								
SVW2	**Sparrevohn**	**40.85**	**40**		*e*P	**P**	**11 03 07.6**	**+2.1**	
	comp=Z,71nm,1.2s								
NRIK	**Noril'sk**	**41.05**	**333**		LR	LR	11 21 55.6		
	comp=Z,752nm,18.0s,baz=242,slow=39								
ZAA1	**Zalesovo Array**	**41.51**	**309**		*e*P	**P**	**11 03 11.5**	**+0.6**	
ZAA1					*e*PcP	**PcP**	**11 05 09.0**	**+0.7**	
ZAA0	**Zalesovo Array**	**41.51**	**309**		*e*P	**P**	**11 03 11.6**	**+0.6**	
	comp=Z,26nm,1.0s								
ZAA0					*e*PcP	**PcP**	**11 05 09.0**	**+0.7**	
ZALV	**Zalesovo Beam**	**41.51**	**309**		P	**P**	**11 03 11.5**	**+0.6**	
	comp=Z,21nm,1.1s,baz=82,slow=7.1,SNR=11								
ZALV					PcP	**PcP**	**11 05 09.0**	**+0.7**	
	comp=Z,13nm,0.7s,baz=85,slow=3.4,SNR=6.9								
ZALV					LR	LR	11 21 42.3		
	comp=Z,1μm,19.5s,baz=70,slow=38								
ZALV	**Zalesovo Beam**	**41.51**	**309**		*e*P	**P**	**11 03 10.9**	**-0.1**	
ZALV					*e*		11 05 09.0		
ZALV	**Zalesovo Beam**	**41.51**	**309**		*e*P	**P**	**11 03 10.8**	**-0.1**	
ZALV					*e*PcP	**PcP**	**11 05 09.0**	**+0.7**	
WMQ	**Urumqi**	**41.70**	**294**		P	**P**	**11 03 13.8**	**+1.0**	
WMQ					pP	sP	11 03 19.3	+2.6	
WMQ					sP	pP	11 03 21.8	+6.2	
WMQ					pmax	pmax			
	comp=Z,72nm,1.1s								
WMQ					pmax	pmax			
	comp=Z,300nm,3.8s								
WMQ					LR	LR			
	comp=Z,4μm,17.7s								
WMQ					LR	LR			
	comp=Z,1μm,16.3s								
WMQ					LR	LR			
	comp=Z,1μm,26.5s								
IM3	**Indian Mountai**	**41.98**	**32**		*e*P	**P**	**11 03 16.1**	**+1.4**	
OHAK	**Old Harbor**	**42.12**	**46**		*e*P	**P**	**11 03 16.5**	**+0.6**	
	comp=Z,30nm,1.0s								
NVS	**Novosibirsk**	**42.32**	**311**		*e*P	**P**	**11 03 18.1**	**+0.5**	
NVS					*e*S	**S**	**11 09 38.5**	**+0.2**	
NVS					pmax	pmax			
	comp=Z,53nm,1.9s								
NVS					pmax	pmax			
	comp=Z,20nm,1.4s								
NVS					pmax	pmax			
	comp=E,32nm,2.0s								
NVS					smax	smax			
	comp=E,42nm,2.2s								
KDAK	**Kodiak Island**	**42.46**	**45**		P	**P**	**11 03 18.9**	**+0.3**	
	comp=E,77nm,1.0s,baz=313,slow=3.2,SNR=15								
KDAK	**Kodiak Island**	**42.46**	**45**		*i* P	**P**	**11 03 19.2**	**+0.5**	
KDAK	**Kodiak Island**	**42.46**	**45**		*e*P	**P**	**11 03 19.3**	**+0.7**	
	comp=E,91nm,1.0s								
SKNT	**Sakolnakorn**	**42.48**	**248**		P	**P**	**11 03 20.8**	**+1.4**	
	comp=E,7.0nm,1.2s								
PPLA	**Purkeypile**	**42.49**	**37**		*e*P	**P**	**11 03 21.7**	**+2.6**	
	comp=E,62nm,1.3s								
CAST	**Castle Rocks**	**42.55**	**36**		*e*P	**P**	**11 03 21.5**	**+2.1**	
	comp=E,44nm,1.2s								
SPU	**Mount Spurr**	**42.56**	**40**		*e*P	**P**	**11 03 21.2**	**+1.7**	
ZSN	**Zaisan**	**42.66**	**300**		*i* P	**P**	**11 03 21.9**	**+1.3**	
	comp=E,80nm,1.2s								
ZSN					LR	LR	11 21 09.3		
	comp=E,135nm,13.1s								
SKT	**Skwentna**	**42.79**	**38**		*e*P	**P**	**11 03 22.9**	**+1.5**	
	comp=E,22nm,1.2s								
BPAW	**Bear Paw Mtn.**	**43.05**	**35**		*e*P	**P**	**11 03 25.1**	**+1.6**	
	comp=E,6.0nm,1.3s								
KTH	**Kantishna Hill**	**43.07**	**36**		*e*P	**P**	**11 03 25.9**	**+2.2**	
	comp=E,70nm,1.1s								
MLY	**Manley**	**43.17**	**34**		*e*P	**P**	**11 03 26.4**	**+1.9**	
	comp=E,36nm,1.2s								
SUA	**Susitna One**	**43.18**	**39**		*e*P	**P**	**11 03 25.6**	**+0.9**	
	comp=E,41nm,1.0s								
BRLK	**Bradley Lake**	**43.20**	**42**		*e*P	**P**	**11 03 26.2**	**+1.5**	
	comp=E,41nm,1.2s								
TRF	**Thorofare Moun**	**43.35**	**36**		*e*P	**P**	**11 03 27.6**	**+1.5**	
	comp=E,46nm,1.4s								
COLD	**Coldfoot**	**43.50**	**31**		*e*P	**P**	**11 03 28.7**	**+1.7**	
	comp=E,24nm,1.2s								
RC01	**Rabbit Creek A**	**43.69**	**40**		*e*P	**P**	**11 03 29.4**	**+0.8**	
	comp=E,71nm,1.1s								
TOLK	**Toolik Lake Re**	**43.83**	**29**		P	**P**	**11 03 31.4**	**+1.6**	
	baz=266,SNR=37								
TOLK	**Toolik Lake Re**	**43.83**	**29**		*e*P	**P**	**11 03 31.6**	**+1.9**	
	comp=E,72nm,1.3s								
PMR	**Palmer**	**43.95**	**39**		*e*P	**P**	**11 03 31.6**	**+0.9**	
PMR					pmax	pmax			
	comp=Z,34nm,1.0s								
PMR	**Palmer**	**43.95**	**39**		*e*P	**P**	**11 03 31.6**	**+0.9**	
	comp=Z,34nm,1.0s								
MCK	**McKinley**	**43.95**	**36**		*e*P	**P**	**11 03 32.1**	**+1.3**	
MCK					pmax	pmax			
	comp=Z,37nm,1.0s								
MCK	**McKinley**	**43.95**	**36**		*e*P	**P**	**11 03 32.1**	**+1.3**	
	comp=Z,37nm,1.0s								
RND	**Reindeer**	**44.00**	**36**		*e*P	**P**	**11 03 31.9**	**+0.7**	
RND					pmax	pmax			
	comp=Z,49nm,1.0s								
RND	**Reindeer**	**44.00**	**36**		*e*P	**P**	**11 03 31.9**	**+0.7**	
	comp=Z,48nm,1.0s								
GHO	**Glory Hole Cre**	**44.04**	**39**		*e*P	**P**	**11 03 32.8**	**+1.2**	
	comp=Z,63nm,1.1s								
CMAI	**Chiengmai2**	**44.14**	**256**		P	**P**	**11 03 35.3**	**+2.4**	
	comp=Z,192nm,0.9s,comp=Z,10μm								
LBMI	**Labuha**	**44.22**	**205**		P	**P**	**11 03 33.1**	**-0.2**	
	comp=Z,38nm,1.5s								
MDM	**Murphy Dome**	**44.24**	**34**		*e*P	**P**	**11 03 34.8**	**+1.7**	
	comp=Z,76nm,1.2s								
WRH	**Wood River Hil**	**44.31**	**35**		*e*P	**P**	**11 03 34.8**	**+1.3**	
	comp=Z,21nm,1.0s								
SML	**Sawmill**	**44.31**	**39**		*e*P	**P**	**11 03 34.9**	**+1.2**	
SML					pmax	pmax			
	comp=Z,88nm,1.1s								
SML	**Sawmill**	**44.31**	**39**		*e*P	**P**	**11 03 34.9**	**+1.2**	
	comp=Z,88nm,1.1s								
COLA	**College**	**44.40**	**34**		*e*P	**P**	**11 03 36.1**	**+1.9**	
COLA					pmax	pmax			
	comp=Z,28nm,1.0s								
COLA	**College**	**44.40**	**34**		*e*P	**P**	**11 03 36.1**	**+1.9**	
	comp=Z,28nm,1.0s								
CCB	**Clear Creek Bu**	**44.43**	**35**		*e*P	**P**	**11 03 35.9**	**+1.4**	
	comp=Z,24nm,1.2s								
MK01	**Makanchi Array**	**44.53**	**299**		*e*P	**P**	**11 03 35.8**	**+0.2**	
MK31	**Makanchi Array**	**44.53**	**300**		*i* P	**P**	**11 03 33.5**	**-2.1**	
MK31					pmax	pmax			
	comp=Z,44nm,1.0s								
MK31	**Makanchi Array**	**44.53**	**300**		*e*P	**P**	**11 03 31.4**	**-4.2**	
MK32	**Makanchi Array**	**44.53**	**300**		*e*P	**P**	**11 03 35.9**	**+0.3**	
MKAR	**Makanchi Array**	**44.53**	**300**		P	**P**	**11 03 35.9**	**+0.3**	
	comp=Z,1.8nm,0.6s,baz=86,slow=7.4,SNR=9.8								
MKAR					LR	LR	11 23 44.1		
	comp=Z,1μm,18.1s,baz=76,slow=38								
MKAR	**Makanchi Array**	**44.53**	**300**		*i* P	**P**	**11 03 34.0**	**-1.6**	
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**44.53**	**300**		*e*P	**P**	**11 03 31.4**	**-4.2**	
	comp=Z,152nm,0.9s								
LAMP	**Lampang**	**44.59**	**254**		P	**P**	**11 03 40.3**	**+3.9**	
	comp=Z,7.2nm,1.0s								
CHAI	**Chaiyaphum**	**44.62**	**249**		P	**P**	**11 03 37.5**	**+0.9**	
	comp=Z,5.6nm,1.0s,comp=Z,233nm								
DHY	**Denali Highway**	**44.68**	**37**		*e*P	**P**	**11 03 37.9**	**+1.1**	
	comp=Z,31nm,0.9s								
MAKZ	**Makanchi**	**44.73**	**300**		*i* P	**P**	**11 03 37.0**	**-0.2**	
MAKZ					pmax	pmax			
	comp=Z,45nm,1.3s								
MAKZ	**Makanchi**	**44.73**	**300**		*e*P	**P**	**11 03 38.0**	**+0.7**	
	comp=Z,55nm,1.3s								
SCM	**Sheep Creek Mo**	**44.79**	**39**		*e*P	**P**	**11 03 39.0**	**+1.5**	
SCM					pmax	pmax			
	comp=Z,75nm,1.2s								
SCM	**Sheep Creek Mo**	**44.79**	**39**		*e*P	**P**	**11 03 39.0**	**+1.5**	
	comp=Z,75nm,1.2s								
HDA	**Harding Lake**	**44.81**	**35**		*e*P	**P**	**11 03 38.6**	**+1.1**	
	comp=Z,58nm,1.3s								
ILAR	**Eielson Array**	**44.82**	**34**		P	**P**	**11 03 38.3**	**+0.7**	
	comp=Z,14nm,0.9s,baz=262,slow=6.6,SNR=85								
ILAR	**Eielson Array**	**44.82**	**34**		P	**P**	**11 03 38.3**	**+0.7**	
ILAR					pmax	pmax			
	comp=Z,12nm,0.9s								
ILB	**Eielson Array**	**44.82**	**34**		*e*P	**P**	**11 03 38.7**	**+1.0**	
IL1	**Eielson Array**	**44.82**	**34**		*e*P	**P**	**11 03 36.8**	**-0.8**	
PHIT	**Phitsanulok**	**44.88**	**252**		P	**P**	**11 03 42.5**	**+3.8**	
	comp=Z,7.9nm,1.2s,comp=Z,217nm								
CMMT	**Chiang Mai**	**44.91**	**255**		P	**P**	**11 03 38.7**	**-0.2**	
	comp=Z,16nm,1.1s,comp=Z,759nm								
CHTO	**Chiang Mai**	**44.91**	**255**		P	**P**	**11 03 39.8**	**+0.8**	
	comp=Z,52nm,1.2s								
CHTO	**Chiang Mai**	**44.91**	**255**		*e*P	**P**	**11 03 39.7**	**+0.8**	
CHTO					pmax	pmax			
	comp=Z,11nm,0.8s								
CHTO	**Chiang Mai**	**44.91**	**255**		*e*P	**P**	**11 03 39.7**	**+0.8**	
	comp=Z,11nm,0.8s								
CHTO	**Chiang Mai**	**44.91**	**255**		P	**P**	**11 03 39.4**	**+0.5**	
	SNR=8.0								
SEM	**Semipalatinsk**	**44.91**	**305**		*i* P	**P**	**11 03 38.7**	**-0.1**	
	comp=Z,365nm,1.2s								
SEM					LR	LR	11 22 32.0		
	comp=Z,535nm,17.9s								
GLI	**Glacier Island**	**44.99**	**40**		*e*P	**P**	**11 03 40.0**	**+0.9**	
	comp=Z,46nm,1.4s								
CMAR	**Chiang Mai Arr**	**45.14**	**254**		P	**P**	**11 03 41.0**	**+0.3**	
	comp=Z,2.9nm,0.8s,baz=40,slow=7.4,SNR=12								
CMAR					PcP	**PcP**	**11 05 22.5**	**+1.3**	
	comp=Z,1.8nm,0.9s,baz=26,slow=3.1,SNR=4.2								
CMAR					LR	LR	11 23 51.9		
	comp=Z,148nm,19.1s,baz=52,slow=38								
CM01	**Chiang Mai Arr**	**45.15**	**254**		*e*P	**P**	**11 03 41.4**	**+0.6**	
MRSI	**Marisa**	**45.26**	**213**		P	**P**	**11 03 40.2**	**-1.4**	
FYU	**Fort Yukon**	**45.45**	**32**		*e*P	**P**	**11 03 45.1**	**+2.6**	
	comp=Z,120nm,1.4s								
KLU	**Klutina**	**45.49**	**39**		*e*P	**P**	**11 03 44.6**	**+1.5**	
	comp=Z,57nm,1.0s								
PAX	**Paxson**	**45.55**	**37**		*e*P	**P**	**11 03 45.3**	**+1.7**	
PAX					*e*		11 05 23.4		
PAX					pmax	pmax			
	comp=Z,15nm,1.1s								
PAX	**Paxson**	**45.55**	**37**		*e*P	**P**	**11 03 45.3**	**+1.7**	
	comp=Z,15nm,1.1s								
PAX					*e*PcP	**PcP**	**11 05 23.4**	**+1.4**	
DIV	**Divide**	**45.60**	**39**		*e*P	**P**	**11 03 45.6**	**+1.6**	
	comp=Z,66nm,1.2s								
EYAK	**Cordova Ski Ar**	**45.68**	**40**		*e*P	**P**	**11 03 46.3**	**+1.8**	
	comp=Z,42nm,1.1s								
HARP	**HAARP**	**45.75**	**38**		*e*P	**P**	**11 03 46.8**	**+1.7**	
	comp=Z,66nm,1.2s								
RIDG	**Independ'e Rid**	**45.77**	**36**		*e*P	**P**	**11 03 46.0**	**+0.8**	
	comp=Z,23nm,1.0s								
KURK	**Kurchatov**	**45.84**	**306**	*d*	*i* P	**P**	**11 03 46.0**	**+0.1**	
KURK					pmax	pmax			
	comp=Z,245nm,1.2s								
KURK	**Kurchatov**	**45.84**	**306**		*e*P	**P**	**11 03 46.3**	**+0.3**	
	comp=Z,43nm,0.8s								
KURK	**Kurchatov**	**45.84**	**306**		P	**P**	**11 03 46.2**	**+0.3**	
	SNR=11								
SRAK	**Srakaew**	**45.87**	**247**		P	**P**	**11 03 44.5**	**-2.0**	
	comp=Z,63nm,0.9s								
KURBB	**Kurchatov Arra**	**45.92**	**306**		P	**P**	**11 03 46.9**	**+0.4**	
	comp=Z,36nm,0.9s,baz=80,slow=8.7,SNR=45								
SANI	**Sanana**	**46.04**	**207**		P	**P**	**11 03 47.0**	**-0.8**	
DOT	**Dot Lake**	**46.12**	**36**		*e*P	**P**	**11 03 48.5**	**+0.5**	
	comp=Z,42nm,0.9s								
SCRK	**Sand Creek**	**46.13**	**35**		*e*P	**P**	**11 03 48.8**	**+0.6**	
	comp=Z,38nm,1.0s								
NAYO	**Nakonayok**	**46.16**	**248**		P	**P**	**11 03 52.5**	**+3.7**	
	comp=Z,10nm,1.0s								
BMRM	**Bremner River**	**46.18**	**40**		*e*P	**P**	**11 03 50.4**	**+1.8**	
	comp=Z,45nm,1.0s								
RAGM	**Ragged Mountai**	**46.23**	**40**		*e*P	**P**	**11 03 51.0**	**+2.1**	
	comp=Z,93nm,1.3s								
MSAI	**Masohi**	**46.34**	**202**		P	**P**	**11 03 53.1**	**+3.0**	
MENT	**Mentasta**	**46.35**	**37**		*e*P	**P**	**11 03 51.8**	**+1.9**	
	comp=Z,61nm,1.1s								
AAI	**Ambon**	**46.88**	**203**		P	**P**	**11 03 52.7**	**-1.7**	
BNDI	**Bandanaira**	**47.19**	**201**		P	**P**	**11 03 57.2**	**+0.4**	
EGAK	**Eagle**	**47.27**	**34**		*e*P	**P**	**11 03 57.6**	**+0.7**	
	comp=Z,37nm,1.1s								
PDGK	**Podgornoye**	**47.51**	**296**		*i* P	**P**	**11 03 58.4**	**-0.8**	
PDGK					pmax	pmax			
	comp=Z,10.0nm,0.9s								
UZB	**Uzynbulak**	**47.89**	**296**		*i* P	**P**	**11 04 02.0**	**-0.3**	
	comp=Z,100nm,1.2s								
UZB					LR	LR	11 24 14.1		
	comp=Z,297nm,17.2s								
KPKS	**Kokpek**	**48.01**	**296**		*i* P	**P**	**11 04 02.8**	**-0.3**	
	comp=Z,56nm,1.4s								
DAWY	**Dawson**	**48.12**	**35**		*e*P	**P**	**11 04 05.2**	**+1.5**	
	comp=Z,13nm,1.2s								
PHET	**Kaeng Krachan**	**48.32**	**248**		P	**P**	**11 04 07.7**	**+2.1**	
	comp=Z,7.5nm,0.7s,comp=Z,246nm								
SATY	**Saty**	**48.34**	**296**		*e*P	**P**	**11 04 05.0**	**-0.8**	
	comp=Z,172nm,1.1s								
TAPN	**Taplejung**	**48.46**	**273**		*e*P	**P**	**11 04 07.8**	**+0.7**	
	comp=Z,104nm,1.4s								
ODAN	**Odare**	**48.96**	**272**		*e*P	**P**	**11 04 11.3**	**+0.5**	
MDOK	**Medeo**	**49.23**	**296**		*i* P	**P**	**11 04 12.1**	**-0.5**	
	comp=Z,77nm,1.3s								
MDOK					LR	LR	11 24 50.0		
	comp=Z,411nm,20.7s								
TARG	**Taragay, Kyrgy**	**49.25**	**294**		*e*P	**P**	**11 04 14.0**	**+0.9**	
	comp=Z,12nm,0.9s								
KUU	**Kurty**	**49.44**	**298**		*i* P	**P**	**11 04 13.8**	**-0.2**	
KUU					LR	LR	11 25 43.1		
	comp=Z,241nm,15.2s								
JIRN	**Jiri**	**49.45**	**274**		*e*P	**P**	**11 04 15.2**	**+0.5**	
RAMN	**Ramite**	**49.52**	**273**		*e*P	**P**	**11 04 15.4**	**+0.3**	
	comp=Z,80nm,0.9s								
KDJ	**Kajisay**	**49.53**	**295**		P	**P**	**11 04 15.7**	**+0.8**	
KDJ					pmax	pmax			
	comp=Z,19nm,1.2s								
KDJ	**Kajisay**	**49.53**	**295**		*e*P	**P**	**11 04 15.7**	**+0.8**	
	comp=Z,19nm,1.2s								
GUN	**Gumba**	**49.56**	**274**		*e*P	**P**	**11 04 15.7**	**+0.2**	
HYT	**Haines Junctio**	**49.62**	**39**		*e*P	**P**	**11 04 16.7**	**+1.5**	
	comp=Z,91nm,1.0s								
BRZS	**Berezniki**	**49.70**	**306**		*i* P	**P**	**11 04 16.1**	**+0.2**	
	comp=Z,58nm,1.2s								
BRZS					*e*S	**S**	**11 11 25.5**	**+0.8**	
MTKI	**Muara Teweh, K**	**49.74**	**221**		P	**P**	**11 04 12.4**	**-4.1**	
INK	**Inuvik**	**49.75**	**29**		P	**P**	**11 04 17.8**	**+1.8**	
	comp=Z,17nm,0.6s,baz=280,slow=6.3,SNR=26								
INK					LR	LR	11 26 42.6		
	comp=Z,200nm,20.7s,baz=318,slow=38								
INK	**Inuvik**	**49.75**	**29**		*e*P	**P**	**11 04 17.4**	**+1.5**	
INK					pmax	pmax			
	comp=Z,30nm,0.9s								
INK	**Inuvik**	**49.75**	**29**		*e*P	**P**	**11 04 17.4**	**+1.5**	
	comp=Z,30nm,0.9s								
PMG	**Port Moresby**	**50.03**	**177**		LR	LR	11 22 37.6		
	comp=Z,130nm,21.6s,baz=15,slow=33								
KKN	**Kakani**	**50.08**	**275**		*e*P	**P**	**11 04 19.4**	**+0.1**	
	comp=Z,78nm,1.0s								
PKI	**Pulchoki**	**50.09**	**274**		*e*P	**P**	**11 04 19.5**	**0.0**	
	comp=Z,56nm,1.3s								
BVAO	**Borovoye Array**	**50.11**	**311**		*i* P	**P**	**11 04 18.1**	**-0.9**	
BVA0					pmax	pmax			
	comp=Z,22nm,0.9s								
BVAR	**Borovoye Array**	**50.11**	**311**		P	**P**	**11 04 19.7**	**+0.8**	
	comp=Z,9.9nm,0.6s,baz=71,slow=8.3,SNR=45								
BVAR					PcP	**PcP**	**11 05 38.8**	**+0.4**	
	comp=Z,4.9nm,0.7s,baz=97,slow=3.6,SNR=3.8								
ULHL	**Ulahol**	**50.13**	**296**		P	**P**	**11 04 20.4**	**+0.9**	
	SNR=9.8								
BRVK	**Borovoye**	**50.16**	**311**	*d*	*i* P	**P**	**11 04 20.0**	**+0.7**	
BRVK					pmax	pmax			
	comp=Z,60nm,1.0s								
BRVK	**Borovoye**	**50.16**	**311**		*e*P	**P**	**11 04 20.0**	**+0.7**	
	comp=Z,23nm,1.0s								
BMNS	**Besmoynak**	**50.19**	**297**		*i* P	**P**	**11 04 19.5**	**-0.4**	
	comp=Z,239nm,1.2s								
BMNS					LR	LR	11 25 45.8		
	comp=Z,345nm,17.2s								
DMN	**Daman**	**50.30**	**274**		*e*P	**P**	**11 04 21.3**	**+0.3**	
TKM2	**Tokmak 2**	**50.31**	**297**		*i* P	**P**	**11 04 20.6**	**-0.2**	
TKM2					pmax	pmax			
	comp=Z,26nm,0.7s								
TKM2	**Tokmak 2**	**50.31**	**297**		P	**P**	**11 04 21.5**	**+0.7**	
	SNR=42								
BNSI	**Bone**	**50.43**	**213**		P	**P**	**11 04 19.0**	**-2.7**	
GKN	**Gorkha**	**50.45**	**275**		*e*P	**P**	**11 04 22.2**	**+0.1**	
BBSI	**Bau Bau**	**50.45**	**209**		P	P	11 04 15.3	-6.6	
OTUK	**Ortayu**	**50.49**	**304**		P	**P**	**11 04 21.4**	**-0.5**	
OTUK					pmax	pmax			
	comp=Z,40nm,1.3s								
BTLS	**Baital**	**50.54**	**300**		*i* P	**P**	**11 04 21.9**	**-0.4**	
	comp=Z,70nm,1.2s								
BTLS					LR	LR	11 26 12.0		
	comp=Z,297nm,13.8s								
KBK	**Karagaybulak**	**50.85**	**297**		P	**P**	**11 04 25.9**	**+0.9**	
	SNR=15								
KZA	**Kyzart**	**50.87**	**296**		P	**P**	**11 04 27.9**	**+2.5**	
	SNR=13								
WHY	**Whitehorse**	**50.91**	**39**		*e*P	**P**	**11 04 27.1**	**+2.1**	
	comp=Z,11nm,0.9s								
DANN	**Dangsing**	**50.94**	**276**		*e*P	**P**	**11 04 26.7**	**+0.8**	
	comp=Z,8.5nm,0.9s								
FRU	**Bishkek**	**51.00**	**297**		*e*P	**P**	**11 04 26.0**	**+0.1**	
FRU					*e*		11 04 36.0		
SKAG	**Skagway**	**51.02**	**40**		*e*P	**P**	**11 04 28.1**	**+2.4**	
	comp=Z,17nm,1.1s								
AAK	**Ala-Archa**	**51.16**	**297**		P	**P**	**11 04 27.5**	**+0.3**	
	comp=Z,6.8nm,1.1s,baz=89,slow=7.4,SNR=11								
AAK					LR	LR	11 28 15.9		
	comp=Z,744nm,19.3s,baz=56,slow=39								
AAK	**Ala-Archa**	**51.16**	**297**		*i* P	**P**	**11 04 27.3**	**+0.1**	
AAK					pmax	pmax			
	comp=Z,13nm,1.0s								
AAK	**Ala-Archa**	**51.16**	**297**		P	**P**	**11 04 27.7**	**+0.5**	
	SNR=7.5								
AAK	**Ala-Archa**	**51.16**	**297**		*e*P	**P**	**11 04 27.8**	**+0.5**	
AAK	**Ala-Archa**	**51.16**	**297**		P	**P**	**11 04 28.1**	**+0.9**	
KOLN	**Koldanda**	**51.36**	**275**		*e*P	**P**	**11 04 29.2**	**+0.3**	
	comp=Z,44nm,1.1s								
KSH	**Kashi**	**51.42**	**293**		P	**P**	**11 04 33.0**	**+3.8**	
KSH					pP	sP	11 04 37.5	+4.4	
KSH					S	**S**	**11 11 52.0**	**+2.9**	
KSH					sS	sS	11 12 00.0	+6.2	
KSH					SS	**SS**	**11 15 26.0**	**+1.5**	
KSH					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KSH					pmax	pmax			
	comp=Z,110nm,4.3s								
KSH					LR	LR			
	comp=Z,600nm,14.1s								
KSH					LR	LR			
	comp=Z,760nm,17.2s								
KSH					LR	LR			
	comp=Z,760nm,14.1s								
BESE	**Bessie Mountai**	**51.51**	**41**		*e*P	**P**	**11 04 31.6**	**+2.1**	
	comp=Z,29nm,1.1s								
EKS2	**Erkin-Say**	**51.64**	**297**		P	**P**	**11 04 32.4**	**+1.7**	
	SNR=7.0								
PYUN	**Piuthan**	**51.65**	**276**		*e*P	**P**	**11 04 31.3**	**+0.2**	
	comp=Z,78nm,1.1s								
HNR	**Honiara**	**51.90**	**161**		LR	LR	11 23 40.8		
	comp=Z,401nm,21.9s,baz=337,slow=33								
AML	**Almayashu**	**51.91**	**297**		P	**P**	**11 04 33.9**	**+0.7**	
	SNR=24								
MNAS	**Manas**	**52.57**	**297**		*i* P	**P**	**11 04 36.9**	**-0.8**	
MNAS					pmax	pmax			
	comp=Z,24nm,0.9s								
SFK	**Sufi-Kurgan**	**52.93**	**294**		*i* P	**P**	**11 04 39.6**	**-0.9**	
SFK					pmax	pmax			
	comp=Z,19nm,1.3s								
DZA	**Taraz**	**53.19**	**298**		*e*P	**P**	**11 04 42.0**	**-0.2**	
	comp=Z,569nm,1.3s								
KK05	**Karatay Array**	**53.63**	**299**		*e*P	**P**	**11 04 45.2**	**-0.2**	
KK06	**Karatay Array**	**53.64**	**299**		*e*P	**P**	**11 04 45.4**	**-0.1**	
KK02	**Karatay Array**	**53.65**	**299**		*e*P	**P**	**11 04 45.4**	**-0.1**	
KK09	**Karatay Array**	**53.65**	**299**		*e*P	**P**	**11 04 45.4**	**-0.1**	
KK31	**Karatay Array**	**53.65**	**299**		*i* P	**P**	**11 04 45.4**	**-0.1**	
KK31	**Karatay Array**	**53.65**	**299**		*e*P	**P**	**11 04 45.6**	**+0.1**	
KKAR	**Karatay Array**	**53.65**	**299**		*e*P	**P**	**11 04 45.8**	**+0.3**	
KKAR	**Karatay Array**	**53.65**	**299**		*e*P	**P**	**11 04 45.8**	**+0.3**	
KK04	**Karatay Array**	**53.65**	**299**		*e*P	**P**	**11 04 45.4**	**-0.1**	
KK01	**Karatay Array**	**53.65**	**299**		*e*P	**P**	**11 04 45.5**	**0.0**	
KK03	**Karatay Array**	**53.65**	**299**		*e*P	**P**	**11 04 45.4**	**-0.1**	
KK07	**Karatay Array**	**53.66**	**299**		*e*P	**P**	**11 04 45.2**	**-0.3**	
KK08	**Karatay Array**	**53.66**	**299**		*e*P	**P**	**

YKA Yellowknife Ar 59.14 32 P **P 11 05 24.9 +0.6**
comp=Z,4.4nm,0.7s,baz=298,slow=6.7,SNR=95
YKA PcP **PcP 11 06 13.5 +0.7**
comp=Z,2.1nm,0.9s,baz=299,slow=4.9,SNR=3.9
APA Apatity 60.35 336 ||*i* P **P 11 05 32.9 +0.3**
APA pmax pmax
comp=Z,7.0nm,0.7s
APA MLR MLR
comp=Z,1µm,12.0s
CTA Charters Tower 60.62 179 P **P 11 05 35.0 +0.1**
comp=Z,4.5nm,0.7s,baz=344,slow=11,SNR=5.9
CTA LR LR 11 29 49.9
comp=Z,157nm,20.7s,slow=34
CTA Charters Tower 60.62 179 P **P 11 05 35.0 +0.1**
CTA pmax pmax
comp=Z,5.0nm,0.7s
TMCR Tamitsa 60.73 331 *e*P **P 11 05 35.1 -0.1**
TULEG Thule 60.96 9 *e*P **P 11 05 36.5 0.0**
comp=Z,36nm,1.1s
WRAB Tennant Creek 61.25 191 ||*i* P **P 11 05 38.5 -0.7**
WRAB pmax pmax
comp=Z,36nm,0.9s
WRAB Tennant Creek 61.25 191 *e*P **P 11 05 34.8 -4.4**
comp=Z,46nm,0.9s
WB2 Warramunga Arr 61.26 191 *e*P **P 11 05 38.8 -0.5**
comp=Z,48nm,0.9s
WR1 Warramunga Arr 61.26 191 *e*P **P 11 05 38.6 -0.6**
comp=Z,43nm,0.9s
WRA Warramunga Arr 61.26 191 P **P 11 05 38.6 -0.7**
comp=Z,43nm,0.9s,baz=9.4,slow=6.9,SNR=150
WRA LR LR 11 31 05.0
comp=Z,128nm,21.6s,baz=0.0,slow=35
ARA0 ARCESS Array S 61.40 340 *e*P **P 11 05 40.2 +0.5**
ARCES ARCESS Array B 61.40 340 P **P 11 05 40.2 +0.5**
comp=Z,23nm,1.2s,baz=42,slow=11,SNR=7.3
ARCES ARCESS Array B 61.40 340 *e*P **P 11 05 40.0 +0.3**
ARCES ARCESS Array B 61.40 340 *e*P **P 11 05 40.0 +0.3**
KLMR Klimovskoe 62.01 328 *e*P **P 11 05 43.1 -0.8**
KLMR *e*S **S 11 14 11.3 +3.1**
KLMR pmax pmax
comp=Z,52nm,1.5s
KLMR Klimovskoe 62.01 328 *e*P **P 11 05 43.1 -0.8**
KLMR AMP 11 05 46.3
comp=Z,52nm,1.5s
KLMR *e*PP **PP 11 07 55.2 -4.7**
KLMR *e*S **S 11 14 11.3 +3.1**
KLMR *e*S **S 11 14 11.3 +3.1**
KLMR LQ LQ 11 29 22.7
KLMR LQ LQ 11 29 22.7
KLMR LR LR 11 31 06.1
DAG Danmarks Havn 62.21 356 *i* P **P 11 05 45.4 +0.4**
DAG pmax pmax
comp=Z,40nm,1.2s
DAG Danmarks Havn 62.21 356 *i* P **P 11 05 45.4 +0.4**
comp=Z,40nm,1.2s
B05A Bryant 62.72 49 P **P 11 05 49.8 +0.9**
baz=302
LTY Liberty 64.07 49 *e*P **P 11 05 58.9 +1.0**
comp=Z,56nm,2.0s
B08A Colville Reser 64.23 47 *e*P **P 11 05 59.9 +1.0**
comp=Z,17nm,1.3s
GEYT Alibeck 64.40 299 P **P 11 06 00.6 +0.4**
comp=Z,16nm,1.1s,baz=29,slow=3.4,SNR=16
GEYT LR LR 11 36 29.8
comp=Z,1µm,18.9s,baz=30,slow=38
EDM Edmonton 64.67 41 *e*P **P 11 06 02.6 +0.8**
EDM pmax pmax
comp=Z,26nm,0.9s
EDM Edmonton 64.67 41 *e*P **P 11 06 02.6 +0.8**
comp=Z,26nm,0.9s
E07A Sunnyside 64.92 49 *e*P **P 11 06 04.7 +1.2**
comp=Z,29nm,1.1s
I04A Tendick Farm, 64.93 53 P **P 11 06 04.2 +0.6**
baz=303
AS01 Alice Springs 64.97 191 *e*P **P 11 06 03.7 -0.2**
ASAR Alice Springs 64.98 191 P **P 11 06 04.2 +0.3**
comp=Z,5.9nm,0.8s,baz=11,slow=5.8,SNR=44
ASAR LR LR 11 31 46.5
comp=Z,104nm,21.9s,baz=14,slow=34
C09A Chrisman Ranch 65.13 48 *e*P **P 11 06 06.0 +1.2**
comp=Z,21nm,1.0s
D08A Wollman Farm, 65.18 48 *e*P **P 11 06 06.2 +1.1**
comp=Z,12nm,0.9s
I05D Terrebonne, OR 65.28 52 P **P 11 06 06.8 +1.0**
baz=304
NEW Newport 65.51 47 P **P 11 06 07.9 +0.6**
baz=304,SNR=12
NEW Newport 65.51 47 *e*P **P 11 06 08.3 +1.0**
NEW pmax pmax
comp=Z,19nm,1.1s
NEW Newport 65.51 47 *e*P **P 11 06 08.3 +1.0**
comp=Z,20nm,1.1s
DZM Mont Dzumac 65.70 158 P **P 11 06 08.6 -0.1**
comp=Z,4.9nm,0.7s,baz=295,slow=14,SNR=3.1
DZM LR LR 11 30 42.0
comp=Z,327nm,21.4s,baz=24,slow=32
DZM Mont Dzumac 65.70 158 *e*S **S 11 14 54.6 -0.3**
comp=Z,177nm,25.2s
DZM Mont Dzumac 65.70 158 *e*LR LR 11 25 34.0
comp=Z,594nm,22.8s
DZM Mont Dzumac 65.70 158 *e*P **P 11 06 07.8 -0.9**
comp=Z,39nm,1.3s
MOS Moscow 65.82 324 *e*P **P 11 06 07.5 -1.6**
MOS *e* 11 08 33.5
MOS pmax pmax
comp=Z,62nm,0.9s
MOS MLR MLR
comp=Z,700nm,16.0s
YBH Yreka Blue Hor 65.89 55 P **P 11 06 11.9 +2.0**
comp=Z,4.8nm,0.8s,baz=347,slow=6.8,SNR=7.6
J05D Fort Rock, OR 65.93 53 P **P 11 06 10.8 +0.7**
baz=304
E09A Wood Farm, Sta 65.93 49 *e*P **P 11 06 11.4 +1.5**
comp=Z,17nm,0.8s
M02C Callahan 65.99 55 P **P 11 06 11.5 +1.0**
baz=304
N02D Trinity Center 66.31 56 P **P 11 06 13.6 +1.0**
baz=304
M04C Macdoel 66.40 55 P **P 11 06 14.0 +0.8**
baz=304
VRH Novokhopyorsk 66.59 318 *e*P **P 11 06 13.9 -0.2**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 66.68 324 P **P 11 06 15.1 +0.5**
comp=Z,16nm,0.4s,baz=102,slow=6.3,SNR=7.0
OBN Obninsk 66.68 324 ||*e*P **P 11 06 14.9 +0.3**
OBN *e* 11 06 26.9
OBN 11 08 38.0
OBN *e*S **S 11 15 02.2 -3.9**
OBN *e*SS **SS 11 19 20.1 -2.6**
OBN pmax pmax
comp=Z,47nm,1.2s
OBN MLR MLR
comp=Z,932nm,18.0s
FIA1 FINESS Array S 66.71 333 *e*P **P 11 06 14.8 +0.1**
FIA0 FINESS Array S 66.72 333 *e*P **P 11 06 15.0 +0.3**
FIA0 FINESS Array S 66.72 333 *e*P **P 11 06 14.9 +0.3**
FINES FINESS Array B 66.72 333 P **P 11 06 14.9 +0.3**
comp=Z,20nm,0.7s,baz=48,slow=7.4,SNR=67
FINES LR LR 11 38 19.7
comp=Z,1µm,18.9s,baz=34,slow=39
FINES FINESS Array B 66.72 333 *i* P **P 11 06 15.1 +0.4**
FINES pmax pmax
comp=Z,20nm,0.7s
F10A Beach Ranch, E 66.76 49 *e*P **P 11 06 17.5 +2.1**
comp=Z,22nm,1.4s
WALA Waterton Lakes 66.80 45 *e*P **P 11 06 16.7 +1.0**
comp=Z,13nm,0.9s
SUMG Summit 66.87 1 *i* P **P 11 06 17.4 +1.4**
SUMG pmax pmax
comp=Z,80nm,1.4s
SUMG Summit 66.87 1 *i* P **P 11 06 17.4 +1.4**
comp=Z,80nm,1.4s
SUMG Summit 66.87 1 *e*P **P 11 06 17.2 +1.2**
comp=Z,78nm,1.4s
LPSR Galich'ya Gora 67.13 320 *e*P **P 11 06 18.0 +0.5**
LPSR pmax pmax
comp=Z,100nm,2.0s
O03D Paynes Creek 67.26 56 P **P 11 06 19.5 +0.8**
baz=305
MOD Modoc Plateau 67.28 54 *e*P **P 11 06 20.0 +1.2**
comp=Z,11nm,1.0s
BMO Blue Mountains 67.36 50 *e*P **P 11 06 20.4 +1.1**
BMO pmax pmax
comp=Z,5.0nm,1.0s
BMO Blue Mountains 67.36 50 *e*P **P 11 06 20.4 +1.1**
comp=Z,5.3nm,1.0s
JTMT Jette 67.37 46 *e*P **P 11 06 20.6 +1.3**
comp=Z,10.0nm,0.8s
J08A Circle Bar Ran 67.54 52 *e*P **P 11 06 22.2 +1.8**
comp=Z,8.8nm,1.0s
AFI Afiamalu 67.62 134 LR LR 11 29 20.6
comp=Z,156nm,21.1s,baz=318,slow=30
VSR Storozhevoye 67.87 319 *e*P **P 11 06 21.9 -0.3**
VSR pmax pmax
comp=Z,20nm,0.6s
ORV Oroville 67.88 56 *e*P **P 11 06 23.4 +0.9**
ORV pmax pmax
comp=Z,5.0nm,0.8s
ORV Oroville 67.88 56 *e*P **P 11 06 23.4 +0.9**
comp=Z,4.6nm,0.8s
WVOR Wild Horse Val 67.98 53 *e*P **P 11 06 24.8 +1.6**
WVOR pmax pmax
comp=Z,15nm,1.2s
WVOR Wild Horse Val 67.98 53 *e*P **P 11 06 24.8 +1.6**
comp=Z,15nm,1.2s
MSO Missoula 68.10 47 P **P 11 06 24.4 +0.5**
baz=307,SNR=10
MSO Missoula 68.10 47 *e*P **P 11 06 24.9 +1.0**
comp=Z,14nm,1.1s
MAK Makhachkala 68.26 308 *e*P **P 11 06 22.2 -2.6**
MAK *e*S **S 11 15 20.6 -4.9**
MAK *e*SS **SS 11 19 48.8 +1.1**
MAK pmax pmax
comp=Z,105nm,0.7s
BEKR Beckworth 68.41 56 *e*P **P 11 06 27.2 +1.2**
comp=Z,11nm,1.0s
VSU Vasula 68.55 330 ||*e*P **P 11 06 26.4 +0.1**
VSU pmax pmax
comp=Z,183nm,2.5s
SCO Scoresbysund 68.59 355 *i* P **P 11 06 28.7 +2.4**
SCO pmax pmax
comp=Z,21nm,1.2s
SCO Scoresbysund 68.59 355 *i* P **P 11 06 28.7 +2.4**
comp=Z,21nm,1.2s
SCO Scoresbysund 68.59 355 *e*P **P 11 06 28.4 +2.0**
comp=Z,24nm,1.2s
FFC Flin Flon 69.03 35 *e*P **P 11 06 29.9 +0.5**
FFC pmax pmax
comp=Z,14nm,0.9s
FFC Flin Flon 69.03 35 *e*P **P 11 06 29.9 +0.5**
comp=Z,14nm,0.9s
MFID Camas Ranch 69.07 50 *e*P **P 11 06 31.2 +1.2**
comp=Z,11nm,1.2s
PAHR Pah Rah Range 69.12 55 *e*P **P 11 06 31.7 +1.3**
comp=Z,8.0nm,1.0s
GROC Groznyy 69.13 309 *e*P **P 11 06 28.9 -1.3**
GROC *e* 11 06 52.3
GROC pmax pmax
comp=Z,21nm,0.5s
VCNR Virginia City 69.19 56 *e*P **P 11 06 32.2 +1.3**
comp=Z,8.4nm,1.0s
HRY Holter Researc 69.33 46 *e*P **P 11 06 32.6 +1.1**
FCC Fort Churchill 69.37 29 *e*P **P 11 06 31.6 +0.2**
FCC pmax pmax
comp=Z,23nm,1.0s
FCC Fort Churchill 69.37 29 *e*P **P 11 06 31.6 +0.2**
comp=Z,23nm,1.0s
LRM Limekiln Ridge 69.53 47 *e*P **P 11 06 34.1 +1.1**
GOF Gofitskoye 69.59 312 ||*e*P **P 11 06 34.1 +1.1**
GOF pmax pmax
comp=Z,146nm,1.3s
EGMT Eagleton 69.62 44 P **P 11 06 33.8 +0.5**
baz=309
EGMT Eagleton 69.62 44 *e*P **P 11 06 34.0 +0.7**
comp=Z,14nm,0.8s
YERR Yerington 69.63 56 *e*P **P 11 06 35.0 +1.4**
comp=Z,15nm,1.0s
DLMT Dillon 69.73 47 *e*P **P 11 06 35.6 +1.5**
comp=Z,37nm,1.5s
WAKR Walker 69.79 56 *e*P **P 11 06 36.4 +1.7**
comp=Z,35nm,1.9s
HLID Hailey 69.80 50 P **P 11 06 35.0 +0.3**
baz=308
HLID Hailey 69.80 50 *e*P **P 11 06 36.0 +1.4**
comp=Z,5.0nm,1.0s
LKRN Lenkeran, Azer 70.00 304 P **P 11 06 33.8 -1.8**
BMN Battle Mountai 70.02 54 *e*P **P 11 06 37.7 +1.7**
BMN pmax pmax
comp=Z,21nm,1.4s
BMN Battle Mountai 70.02 54 *e*P **P 11 06 37.7 +1.7**
comp=Z,20nm,1.4s
BOZ Bozeman (W) 70.12 47 P **P 11 06 37.1 +0.6**
baz=308,SNR=11
BOZ Bozeman (W) 70.12 47 *e*P **P 11 06 37.5 +1.0**
BOZ pmax pmax
comp=Z,12nm,0.6s
BOZ Bozeman (W) 70.12 47 *e*P **P 11 06 37.5 +1.0**
comp=Z,12nm,0.6s
NCK Nalchik 70.23 311 ||*e*P **P 11 06 38.0 +1.0**
NCK pmax pmax
comp=Z,50nm,1.2s
RYN Ryan 70.30 56 *e*P **P 11 06 39.3 +1.6**
comp=Z,6.8nm,0.9s
KVN Kaiserville 70.31 55 *e*P **P 11 06 39.0 +1.2**
KVN pmax pmax
comp=Z,13nm,1.1s
KVN Kaiserville 70.31 55 *e*P **P 11 06 39.0 +1.2**
comp=Z,13nm,1.1s
GANJ Ganja 70.35 307 P **P 11 06 35.9 -1.9**
KVAR Kislovodsk Arr 70.46 312 P **P 11 06 40.0 +1.4**
comp=Z,116nm,1.2s,baz=15,slow=2.3,SNR=29
KIV Kislovodsk 70.47 312 *e*P **P 11 06 40.0 +1.4**
KIV *e*S **S 11 15 53.9 +2.2**
KIV pmax pmax
comp=Z,122nm,1.0s
KIV pmax pmax
comp=Z,43nm,3.0s
KIV MLR MLR
comp=Z,606nm,18.0s
KIV Kislovodsk 70.47 312 *e*P **P 11 06 39.6 +1.0**
comp=Z,112nm,1.0s
KIV Kislovodsk 70.47 312 P **P 11 06 40.7 +2.1**
SNR=24
KIV Kislovodsk 70.47 312 *i* P **P 11 06 39.9 +1.3**
SNR=12
ZEI Tsey 70.49 310 *e*P **P 11 06 38.2 -0.7**
ZEI pmax pmax
comp=Z,22nm,0.8s
KBZ Khabaz 70.49 311 P **P 11 06 40.1 +1.6**
comp=Z,36nm,1.0s,baz=44,slow=4.5,SNR=43
KBZ LR LR 11 39 23.8
comp=Z,450nm,21.7s,baz=2.0,slow=38
MDPB Devils Postpil 70.54 57 *e*P **P 11 06 40.9 +1.5**
comp=Z,5.4nm,0.9s
NV01 Mina Array Sit 70.55 56 *e*P **P 11 06 40.1 +0.8**
NVAR Mina Array Bea 70.55 56 P **P 11 06 40.1 +0.8**
comp=Z,3.9nm,0.8s,baz=289,slow=6.3,SNR=34
TBLG Delisi 70.64 309 *e*P **P 11 06 40.8 +1.2**
TBLG pmax pmax
comp=Z,36nm,1.0s
TBLG Delisi 70.64 309 *e*P **P 11 06 40.8 +1.2**
comp=Z,36nm,1.0s
NV11 Mina Array Sit 70.64 56 *e*P **P 11 06 41.2 +1.3**
comp=Z,0.5nm,1.0s
IZAR Zarasai 70.65 328 *e*P **P 11 06 39.7 +0.4**
IZAR IAmb IAmb 11 06 45.3
comp=Z,7.3nm,0.8s
QLMT Earthquake Lak 70.71 47 *e*P **P 11 06 41.5 +1.3**
comp=Z,1.9nm,1.1s
IDID Didziasalis 70.76 328 *e*P **P 11 06 40.4 +0.4**
IDID IAmb IAmb 11 06 43.2
comp=Z,6.5nm,0.9s
ISAL Salakas 70.83 328 *e*P **P 11 06 40.8 +0.4**
ISAL IAmb IAmb 11 06 44.9
comp=Z,21nm,1.2s
MICGM Minsk 70.86 327 *e* **P 11 06 40.0 -0.6**
MNK Minsk 70.86 327 *e*P **P 11 06 40.0 -0.6**
NEY Neytrino 70.89 311 ||*i*P **P 11 06 42.8 +1.6**
NEY pmax pmax
comp=Z,3.0nm,0.7s
YHB Horse Butte 70.89 47 *e*P **P 11 06 42.5 +1.2**
comp=Z,13nm,1.1s
PAGB Antelope Grade 70.93 59 *e*P **P 11 06 44.2 +2.8**
comp=Z,23nm,1.2s
IIGN Ignalina 70.94 328 *e*P **P 11 06 41.5 +0.4**
IIGN IAmb IAmb 11 06 44.6
comp=Z,12nm,0.8s
YHH Holmes Hill 71.06 47 *e*P **P 11 06 43.6 +1.2**
comp=Z,11nm,1.2s
GCMT Greycliff 71.08 45 *e*P **P 11 06 43.6 +1.3**
H17A Grant Village 71.46 47 *e*P **P 11 06 47.8 +2.9**
comp=Z,24nm,1.1s
NC405 NORSAR Array S 71.51 338 *e*P **P 11 06 44.1 -0.4**
NC303 NORSAR Array S 71.52 338 *e*P **P 11 06 45.4 +0.9**
IMW Indian Meadow 71.57 48 *e*P **P 11 06 47.6 +2.1**
comp=Z,9.9nm,0.9s
GNI Garni 71.61 307 P **P 11 06 46.9 +1.3**
comp=Z,8.3nm,0.7s,baz=133,slow=8.9,SNR=6.6
GNI LR LR 11 42 02.4
comp=Z,254nm,18.5s,baz=6.5,slow=39
GNI Garni 71.61 307 ||*i* P **P 11 06 46.8 +1.1**
GNI pmax pmax
comp=Z,108nm,1.5s
GNI Garni 71.61 307 *e*P **P 11 06 46.5 +0.8**
comp=Z,35nm,1.1s
GNI Garni 71.61 307 P **P 11 06 48.0 +2.3**
SNR=6.2
VES Vestal, Richgr 71.61 58 P **P 11 06 46.1 +0.5**
baz=307
NC204 NORSAR Array S 71.64 339 *e*P **P 11 06 45.7 +0.4**
NB201 NORSAR Array S 71.68 338 *e*P **P 11 06 45.2 -0.4**
FXWY Fox Creek 71.69 48 *e*P **P 11 06 48.0 +1.9**
comp=Z,9.9nm,0.9s
NB2 NORSAR Subarra 71.71 338 P **P 11 06 46.0 +0.3**
comp=Z,27nm,1.0s,baz=36,slow=6.2
NB2 NORSAR Subarra 71.71 338 P **P 11 06 46.5 +0.8**
NB2 pmax pmax
comp=Z,25nm,1.1s
NB2 NORSAR Subarra 71.71 338 P **P 11 06 46.0 +0.3**
baz=36,slow=6.2
NB200 NORSAR Array S 71.71 338 *e*P **P 11 06 46.3 +0.5**
NOA NORSAR Array B 71.71 338 P **P 11 06 46.3 +0.5**
comp=Z,9.5nm,0.6s,baz=36,slow=6.0,SNR=39
NOA LR LR 11 42 43.9
comp=Z,538nm,18.6s,baz=15,slow=40
RLMT Red Lodge 71.72 46 P **P 11 06 46.9 +0.6**
baz=310
RLMT Red Lodge 71.72 46 *e*P **P 11 06 47.6 +1.3**
comp=Z,6.6nm,0.9s
HFS Hagfors 71.72 337 P **P 11 06 46.1 +0.3**
comp=Z,12nm,0.6s,baz=64,slow=6.6,SNR=20
HFS LR LR 11 41 54.9
comp=Z,439nm,19.2s,baz=35,slow=39
MOOW Moose Ponds 71.78 48 *e*P **P 11 06 48.2 +1.5**
comp=Z,16nm,1.3s
NBO02 NORSAR Array S 71.80 338 *e*P **P 11 06 46.9 +0.7**
TPAW Teton Pass 71.82 48 *e*P **P 11 06 48.7 +1.6**
comp=Z,11nm,1.0s
NBO00 NORSAR Array S 71.84 338 *e*P **P 11 06 47.0 +0.5**
SFJD Kangerlussuaq 71.84 6 P **P 11 06 45.9 -0.5**
comp=Z,11nm,0.9s,baz=319,slow=5.8,SNR=2.7
HVU Hansel Valley 71.85 50 *e*P **P 11 06 48.2 +1.1**
HVU pmax pmax
comp=Z,11nm,1.0s
HVU Hansel Valley 71.85 50 *e*P **P 11 06 48.1 +1.1**
comp=Z,11nm,1.0s
CWC Cottonwood Cre 71.90 57 P **P 11 06 48.4 +1.0**
baz=308
LOHW Long Hollow 71.94 48 *e*P **P 11 06 48.8 +1.1**
comp=Z,7.1nm,1.2s
SNOW Snow King Moun 71.95 48 *e*P **P 11 06 49.6 +1.8**
comp=Z,6.5nm,0.8s
REDW Red Top Meadow 71.96 48 *e*P **P 11 06 49.1 +1.3**
comp=Z,7.8nm,1.0s
GRAC Grapevine Rang 72.01 57 P **P 11 06 49.1 +1.1**
baz=308,SNR=11
ISA Isabella, Lake 72.12 58 P **P 11 06 49.0 +0.3**
baz=308
ISA Isabella, Lake 72.12 58 *e*P **P 11 06 49.7 +1.0**
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA Isabella, Lake 72.12 58 *e*P **P 11 06 49.7 +1.0**
comp=Z,8.8nm,1.1s
AHID Auburn Hatcher 72.20 49 *e*P **P 11 06 50.3 +1.1**
comp=Z,9.2nm,1.0s
ARVC Arvin 72.21 59 P **P 11 06 49.8 +0.7**
baz=308
BGU Big Grassy Mou 72.24 51 *e*P **P 11 06 50.2 +0.8**
comp=Z,6.9nm,1.1s
R11A Troy Canyon, C 72.29 54 P **P 11 06 50.7 +0.9**
baz=308,SNR=11
R11A Troy Canyon, C 72.29 54 *e*P **P 11 06 51.1 +1.3**
comp=Z,8.0nm,1.1s
DAC Darwin (Calif) 72.31 57 *e*P **P 11 06 50.8 +0.9**
DAC pmax pmax
comp=Z,8.0nm,0.9s
DAC Darwin (Calif) 72.31 57 *e*P **P 11 06 50.8 +0.9**
comp=Z,8.4nm,0.9s
LAO LASA Array 72.32 43 P **P 11 06 50.5 +0.8**
baz=311
LAO LASA Array 72.32 43 *e*P **P 11 06 51.1 +1.4**
comp=Z,19nm,1.1s
SPUT South Promonto 72.34 50 *e*P **P 11 06 51.3 +1.3**
comp=Z,6.6nm,1.0s
STKA Stephens Creek 72.41 183 P **P 11 06 49.5 -0.6**
comp=Z,1.5nm,0.3s,baz=314,slow=7.1,SNR=4.7
STKA LR LR 11 38 58.8
comp=Z,86nm,20.7s,baz=20,slow=36
STKA Stephens Creek 72.41 183 *e*P **P 11 06 50.3 +0.2**
STKA pmax pmax
comp=Z,7.0nm,1.7s
STKA Stephens Creek 72.41 183 *e*P **P 11 06 50.3 +0.2**
comp=Z,7.1nm,1.7s
WSAR Wadi Sarin 72.51 286 P **P 11 06 49.8 -1.3**
comp=Z,3.1nm,0.8s,baz=86,slow=4.6,SNR=2.9
MPMC Manual Prospec 72.51 57 P **P 11 06 51.9 +0.8**
baz=308,SNR=11
SHME Shamm 72.61 290 *i* P **P 11 06 52.1 +0.4**
SNR=6.5
FURC Furnace Creek, 72.66 57 P **P 11 06 52.4 +0.7**
baz=308,SNR=8.2
HWUT Hardware Ranch 72.66 50 *e*P **P 11 06 53.2 +1.3**
comp=Z,14nm,1.0s
LRMC Laurel Mtn Rad 72.74 58 P **P 11 06 53.4 +1.0**
baz=308
DUG Dugway, Tooele 72.82 52 P **P 11 06 53.1 +0.2**
baz=309,SNR=15
DUG Dugway, Tooele 72.82 52 *e*P **P 11 06 54.3 +1.4**
DUG pmax pmax
comp=Z,14nm,0.9s
DUG Dugway, Tooele 72.82 52 *e*P **P 11 06 54.3 +1.4**
comp=Z,14nm,0.9s
EDW2 Edwards Air Fo 72.91 59 P **P 11 06 54.4 +1.1**
baz=308
AKASG Malin Array Be 72.94 323 P **P 11 06 53.4 +0.3**
comp=Z,13nm,0.6s,baz=42,slow=6.1,SNR=70
AKASG PP **PP 11 09 36.3 +1.4**
comp=Z,0.2nm,0.3s,baz=44,slow=9.4,SNR=4.6
AKBB Malin Array Si 72.94 323 *e*P **P 11 06 53.2 0.0**
AKBB pmax pmax
comp=Z,88nm,1.4s
AKBB Malin Array Si 72.94 323 *e*P **P 11 06 53.2 0.0**
comp=Z,88nm,1.4s
KIEV Kiev 72.95 323 *d* ||*i*P **P 11 06 53.3 +0.1**
KIEV pmax pmax
comp=Z,61nm,1.4s
KIEV Kiev 72.95 323 *e*P **P 11 06 53.5 +0.2**
comp=Z,78nm,1.4s
KIEV Kiev 72.95 323 *i* P **P 11 06 53.4 +0.1**
SNR=18
AK11 Malin Array Si 72.98 323 *e*P **P 11 06 53.5 +0.1**
TCUT Toone Canyon 73.06 50 *e*P **P 11 06 56.0 +1.5**
comp=Z,19nm,0.9s
BW06 Boulder Array 73.07 48 P **P 11 06 54.8 +0.3**
baz=310,SNR=5.6
PD31 Pinedale Array 73.07 48 *e*P **P 11 06 54.9 +0.4**
PDAR Pinedale Array 73.07 48 P **P 11 06 54.6 +0.2**
comp=Z,3.1nm,0.6s,baz=257,slow=1.9,SNR=48
SUW Suwalki 73.13 328 *e*P **P 11 06 54.6 +0.3**
CTU Camp Tracy 73.14 51 *e*P **P 11 06 56.2 +1.5**
comp=Z,10nm,1.1s
UOSS Minazif 73.23 289 *e*P **P 11 06 55.3 -0.1**
comp=Z,29nm,1.1s
UOSS Minazif 73.23 289 P **P 11 06 55.3 -0.1**
HATD Hatta, Dubai 73.36 289 P **P 11 06 57.1 +1.0**
SNR=9.2
HATD Hatta, Dubai 73.36 289 *i* P **P 11 06 56.9 +0.8**
SNR=13
JLU Jordanelle 73.37 51 *e*P **P 11 06 57.7 +1.4**
comp=Z,12nm,1.4s
SHOC Shoshone, Teco 73.38 57 P **P 11 06 56.6 +0.5**
baz=309
GSC Goldstone, Bar 73.41 58 P **P 11 06 56.6 +0.2**
baz=308
GSC Goldstone, Bar 73.41 58 *e*P **P 11 06 57.6 +1.2**
GSC pmax pmax
comp=Z,5.0nm,0.9s
GSC Goldstone, Bar 73.41 58 *e*P **P 11 06 57.5 +1.2**
comp=Z,5.3nm,0.9s

NLU	North Lily Min	73.41	51	eP		P	11 06 57.9	+1.4
	comp=Z,12nm,1.0s							
SOHO	SOHO	73.49	288	i P		P	11 06 57.4	+0.5
	SNR=6.4							
ASHO	Ashiyiah	73.49	288	P		P	11 06 59.7	+2.7
	SNR=7.9							
ASHO	Ashiyiah	73.49	288	i P		P	11 06 59.7	+2.7
	SNR=13							
BFSC	Mount Baldy Ra	73.52	59	P		P	11 06 57.8	+0.7
	baz=308							
MPU	Maple Canyon	73.64	51	eP		P	11 06 59.0	+1.2
	comp=Z,13nm,0.9s							
SHPR	Sheep Range	73.70	56	eP		P	11 06 59.5	+1.3
	comp=Z,4.6nm,0.9s							
TUQ	Turquoise Moun	73.89	57	P		P	11 07 00.0	+0.8
	baz=309							
BBRC	Big Bear Solar	73.98	59	P		P	11 07 00.0	+0.1
	baz=309							
HEC	Hector,Ludlow	74.01	58	P		P	11 07 00.7	+0.9
	baz=309							
CCUT	Cedar City	74.16	54	eP		P	11 07 01.7	+0.8
	comp=Z,5.0nm,0.9s							
MURC	Murrieta	74.22	59	P		P	11 07 01.5	+0.4
	baz=309							
MSU	Marysvale	74.27	53	eP		P	11 07 02.9	+1.3
MSU	Marysvale	74.27	53	eP		P	11 07 02.9	+1.3
SZCU	Shurtz Canyon	74.30	54	eP		P	11 07 02.8	+1.1
	comp=Z,3.7nm,0.9s							
TMUT	Trail Mountain	74.35	51	eP		P	11 07 02.7	+0.6
	comp=Z,7.8nm,0.8s							
GMRC	Granite Mounta	74.47	57	P		P	11 07 03.4	+0.7
	baz=309							
SIM	Simferopol'	74.50	316	ceP		P	11 07 04.4	+1.9
SIM				e			11 07 13.0	
SIM					pmax	pmax		
	comp=Z,25nm,1.0s							
MTPU	Mount Pierson	74.57	53	eP		P	11 07 05.1	+1.6
	comp=Z,6.7nm,1.0s							
LCMT	Little Creek M	74.58	54	eP		P	11 07 05.0	+1.8
Q16A	Castle Valley	74.61	52	eP		P	11 07 05.2	+1.7
	comp=Z,8.3nm,1.0s							
PFO	Pinyon Flats O	74.69	59	P		P	11 07 04.8	+0.8
	baz=309							
PFO	Pinyon Flats O	74.69	59	eP		P	11 07 04.7	+0.8
PFO					pmax	pmax		
	comp=Z,10.0nm,1.2s							
PFO	Pinyon Flats O	74.69	59	eP		P	11 07 04.7	+0.8
	comp=Z,9.6nm,1.2s							
P18A	Preston Nutter	74.70	51	eP		P	11 07 05.5	+1.4
	comp=Z,12nm,1.0s							
109C	Camp Elliot, M	74.72	60	P		P	11 07 05.0	+1.1
	baz=309							
BELC	Belle Mtn. Jos	74.74	58	P		P	11 07 05.1	+0.8
	baz=309							
ULM	Lac du Bonnet	74.82	35	P		P	11 07 03.8	-0.4
	comp=Z,3.0nm,0.8s,baz=295,slow=8.5,SNR=4.0							
MDND	Maddock	74.83	39	P		P	11 07 04.9	+0.6
	baz=315							
MDND	Maddock	74.83	39	eP		P	11 07 05.3	+1.0
	comp=Z,25nm,0.9s							
K22A	Casper	74.83	46	P		P	11 07 04.9	+0.2
	baz=312							
K22A	Casper	74.83	46	eP		P	11 07 05.9	+1.2
	comp=Z,20nm,1.3s							
KNB	Kanab	74.83	54	eP		P	11 07 06.7	+1.9
KNB					pmax	pmax		
	comp=Z,21nm,1.5s							
KNB	Kanab	74.83	54	eP		P	11 07 06.7	+1.9
	comp=Z,21nm,1.5s							
SRU	San Rafael Swe	74.87	51	eP		P	11 07 05.5	+0.5
SRU					pmax	pmax		
	comp=Z,19nm,0.9s							
SRU	San Rafael Swe	74.87	51	eP		P	11 07 05.5	+0.5
	comp=Z,19nm,0.9s							
RWWY	Rawlins	75.09	48	eP		P	11 07 06.3	0.0
	comp=Z,17nm,1.1s							
SORM	Soroca	75.16	322	⇓P		P	11 07 06.7	+0.5
SORM	Soroca	75.16	322	⇓i P		P	11 07 06.7	+0.5
MONP2	Monument Peak	75.17	59	P		P	11 07 07.3	+0.5
	baz=309							
RSSD	Black Hills	75.18	44	P		P	11 07 07.1	+0.4
	baz=313							
RSSD	Black Hills	75.18	44	eP		P	11 07 07.2	+0.5
RSSD					pmax	pmax		
	comp=Z,8.0nm,0.8s							
RSSD	Black Hills	75.18	44	eP		P	11 07 07.2	+0.5
	comp=Z,8.4nm,0.8s							
A31A	Linda, St. Vin	75.19	37	P		P	11 07 06.5	+0.1
	baz=316							
IRM	Iron Mountain	75.19	58	P		P	11 07 07.4	+0.7
	baz=310							
BC3	Big Chuckawall	75.31	58	P		P	11 07 08.1	+0.6
	baz=310							
B31A	Greenbush Farm	75.34	38	P		P	11 07 07.1	-0.2
	baz=316							
W13A	Hualapai Mount	75.40	56	eP		P	11 07 09.1	+1.0
	comp=Z,4.2nm,1.1s							
A32A	Rocking H Ranc	75.52	37	P		P	11 07 08.5	+0.2
	baz=317							
IKP	In-Ko-Pah, Jac	75.52	59	P		P	11 07 09.4	+0.7
	baz=309							
O20A	White River Ci	75.54	49	P		P	11 07 09.1	+0.3
	baz=312,SNR=9.0							
O20A	White River Ci	75.54	49	eP		P	11 07 09.8	+1.0
	comp=Z,12nm,0.9s							
U15A	North Rim	75.54	54	eP		P	11 07 10.6	+1.6
	comp=Z,11nm,1.0s							
PDMCI	Parker Dam,Lak	75.74	57	P		P	11 07 10.4	+0.6
	baz=310							
KIS	Kishinev	75.74	321	eP		P	11 07 08.0	-1.6
KIS					LRM	MLR	11 39 46.0	
	comp=Z,700nm,20.0s							
KIS	Kishinev	75.74	321	eP		P	11 07 08.0	-1.6
KIS					MLR	MLR		
	comp=Z,700nm,20.0s							
C31A	Landman Farms,	75.76	38	P		P	11 07 09.4	-0.3
	baz=316							
Y12C	Blythe	75.85	58	P		P	11 07 11.2	+0.7
	baz=310							
Y12C	Blythe	75.85	58	eP		P	11 07 12.0	+1.6
	comp=Z,7.2nm,0.7s							
B32A	Ashes, Strandq	75.88	37	P		P	11 07 10.2	-0.2
	baz=317,SNR=6.5							
LVV	L'vov	75.89	325	eP		P	11 07 12.1	+1.7
GKP	Gorka Klasztor	75.99	331	eP		P	11 07 12.9	+2.1
A33A	Warroad	76.00	36	P		P	11 07 10.7	-0.3
	baz=317,SNR=7.2							
PV09	Paradox Valley	76.10	51	eP		P	11 07 13.5	+1.3
PV10	Paradox Valley	76.23	51	eP		P	11 07 14.5	+1.6
AGMN	Agassiz Nation	76.25	37	P		P	11 07 12.2	-0.3
	baz=317							
AGMN	Agassiz Nation	76.25	37	eP		P	11 07 12.6	+0.1
	comp=Z,17nm,1.4s							
D31A	Mcclaflin, Tow	76.30	39	P		P	11 07 13.0	+0.3
	baz=316							
PV04	Paradox Valley	76.30	51	eP		P	11 07 14.1	+0.9
N23A	Red Feather La	76.33	47	P		P	11 07 13.6	+0.2
	baz=313,SNR=8.1							
N23A	Red Feather La	76.33	47	eP		P	11 07 14.4	+1.0
	comp=Z,13nm,1.0s							
PV05	Paradox Valley	76.39	51	eP		P	11 07 15.4	+1.6
E31A	Nome	76.57	39	P		P	11 07 14.5	+0.2
	baz=316,SNR=8.9							
KWP	Kalwaria Pacla	76.60	326	eP		P	11 07 15.8	+1.3
KWP	Kalwaria Pacla	76.60	326	eP		P	11 07 15.2	+0.8
KWP					pmax	pmax		
	comp=Z,785nm,1.3s							
KWP	Kalwaria Pacla	76.60	326	eP		P	11 07 15.2	+0.8
	comp=Z,785nm,1.3s							
B34A	Aery, Baudette	76.66	36	P		P	11 07 14.5	-0.3
	baz=318							
PV01	Paradox Valley	76.67	51	eP		P	11 07 16.6	+1.2
C33A	Trail	76.69	37	P		P	11 07 14.6	-0.3
	baz=317							
WUAZ	Wupatki	76.69	55	P		P	11 07 15.7	+0.3
	baz=311							
WUAZ	Wupatki	76.69	55	eP		P	11 07 17.2	+1.8
	comp=Z,11nm,1.0s							
Y14A	Wickenburg	76.70	57	eP		P	11 07 16.6	+1.3
	comp=Z,6.0nm,1.0s							
F31A	Hecla	76.90	40	P		P	11 07 16.5	+0.3
	baz=316							
SMCO	Snowmass	76.90	49	eP		P	11 07 18.1	+1.2
	comp=Z,7.7nm,1.0s							
E32A	Braaten, Kindr	76.94	39	P		P	11 07 16.2	-0.2
	baz=317							
113A	Mohawk Valley,	76.97	58	eP		P	11 07 18.2	+1.4
	comp=Z,21nm,1.8s							
BUR08	Bucovina Ar. S	76.97	323	eP		P	11 07 17.9	+1.2
BUR04	Bucovina Ar. S	76.99	323	eP		P	11 07 17.4	+0.6
BURAR	Bucovina Array	76.99	323	⇓P		P	11 07 17.6	+0.8
BURAR	Bucovina Array	76.99	323	⇓i P		P	11 07 17.6	+0.8
D33A	AnnSam, Waubun	77.11	38	P		P	11 07 16.9	-0.4
	baz=317							
C34A	RKJ Ranch, Bem	77.17	37	P		P	11 07 17.3	-0.4
	baz=318							
B35A	Bob, Littlefor	77.17	36	P		P	11 07 17.4	-0.3
	baz=318							
ISCO	Idaho Springs	77.26	48	P		P	11 07 18.8	0.0
	baz=313							
ISCO	Idaho Springs	77.26	48	eP		P	11 07 19.8	+1.1
ISCO					pmax	pmax		
	comp=Z,8.0nm,1.1s							
ISCO	Idaho Springs	77.26	48	eP		P	11 07 19.8	+1.1
	comp=Z,7.5nm,1.1s							
MVCO	Mesa Verde	77.33	52	P		P	11 07 19.5	+0.4
	baz=312							
MVCO	Mesa Verde	77.33	52	eP		P	11 07 20.3	+1.3
	comp=Z,7.0nm,0.9s							
OJC	Ojcow	77.37	327	eP		P	11 07 19.8	+1.1
OJC	Ojcow	77.37	327	eP		P	11 07 19.8	+1.1
OJC					pmax	pmax		
	comp=Z,55nm,1.1s							
OJC	Ojcow	77.37	327	eP		P	11 07 19.8	+1.1
	comp=Z,55nm,1.1s							
X16A	Lo Mia Camp, P	77.37	55	eP		P	11 07 20.9	+1.7
	comp=Z,6.0nm,1.0s							
CFR	Carcaliu	77.38	320	⇓P		P	11 07 19.8	+1.0
CFR	Carcaliu	77.38	320	⇓i P		P	11 07 19.8	+1.0
STHS	Stebnicka Huta	77.38	326	eP		P	11 07 20.6	+1.7
STHS					pmax	pmax		
	comp=Z,23nm,1.4s							
STHS	Stebnicka Huta	77.38	326	eP		P	11 07 20.6	+1.7
F32A	Veblen	77.44	39	P		P	11 07 19.3	+0.1
	baz=317							
D34A	Park Rapids	77.45	37	P		P	11 07 19.4	+0.1
	baz=318,SNR=5.1							
E33A	Westby DABS, E	77.50	38	P		P	11 07 19.7	+0.1
	baz=317,SNR=7.0							
UZH	Uzhgorod	77.53	325	eP		P	11 07 20.2	+0.5
UZH				e			11 07 29.6	
C35A	Jirik Farms, M	77.55	36	P		P	11 07 20.1	+0.2
	baz=318							
VRI	Vrincioaia	77.56	321	⇑P		P	11 07 22.0	+2.1
VRI	Vrincioaia	77.56	321	⇑i P		P	11 07 22.0	+2.1
SUSD	Miller	77.57	41	P		P	11 07 20.3	+0.2
	baz=316							
PLOR	Plostina	77.61	321	⇑P		P	11 07 22.3	+2.1
PLOR	Plostina	77.61	321	⇑i P		P	11 07 22.3	+2.1
CRVS	Cervenica-Dubn	77.68	326	eP		P	11 07 22.1	+1.6
CRVS	Cervenica-Dubn	77.68	326	eP		P	11 07 22.1	+1.6
G32A	Webster	77.70	40	P		P	11 07 21.0	+0.3
	baz=317							
ARCR	ARCALIA	77.77	323	i P		P	11 07 23.3	+2.2
NIE	Niedzica	77.78	327	eP		P	11 07 23.1	+2.0
H31A	Wolsey	77.78	41	P		P	11 07 21.5	+0.3
	baz=316							
TLB	Topalu	77.85	319	⇓P		P	11 07 23.3	+1.8
TLB	Topalu	77.85	319	⇓i P		P	11 07 23.3	+1.8
F33A	5 Mile Ranch,	77.86	39	P		P	11 07 21.9	+0.4
	baz=317,SNR=6.2							
E34A	Wadena	77.89	38	P		P	11 07 21.5	-0.2
	baz=318							
S22A	4UR Ranch, Cre	77.95	50	P		P	11 07 22.7	+0.1
	baz=313,SNR=6.0							
S22A	4UR Ranch, Cre	77.95	50	eP		P	11 07 24.3	+1.7
	comp=Z,7.1nm,0.9s							
Q24A	Divide	78.09	49	P		P	11 07 22.8	-0.5
	baz=313							
214A	Organ Pipe Nat	78.11	58	P		P	11 07 23.8	+0.6
	baz=311							
DOPR	Dopca	78.12	322	⇓i P		P	11 07 25.9	+2.8
ISR	Istrita	78.19	320	⇑P		P	11 07 25.3	+1.8
ISR	Istrita	78.19	320	⇑i P		P	11 07 25.3	+1.8
E35A	Pequot Lakes	78.21	37	P		P	11 07 23.7	+0.1
	baz=318							
MLR	Muntele Rosu	78.21	321	P		P	11 07 24.8	+1.1
	comp=Z,3.5nm,1.1s,baz=6.8,slow=7.6,SNR=6.9							
MLR	Muntele Rosu	78.21	321	eP		P	11 07 25.6	+1.9
MLR	Muntele Rosu	78.21	321	⇓i P		P	11 07 25.0	+1.3
MLR	Muntele Rosu	78.21	321	eP		P	11 07 25.6	+1.9
G33A	Ortonville	78.26	39	P		P	11 07 24.0	+0.2
	baz=317,SNR=10.0							
KSP	Ksiaz	78.27	330	eP		P	11 07 24.9	+1.2
H32A	Carlson Farm,	78.28	40	P		P	11 07 24.3	+0.4
	baz=317							
C37A	Embarrass	78.33	35	P		P	11 07 23.9	-0.3
	baz=320							
LANS	Liptovska Anna	78.33	327	eP		P	11 07 26.2	+2.0
LANS	Liptovska Anna	78.33	327	eP		P	11 07 26.1	+1.9
OKC	Ostrava-Krasne	78.33	328	AMS		AMS	11 44 30.0	
	comp=Z,600nm,16.2s							
BR101	Keskin Array S	78.34	313	eP		P	11 07 25.2	+0.7
BR101				ePP		PP	11 10 24.0	+3.0
BR131	Keskin Array S	78.34	313	eP		P	11 07 25.2	+0.7
BRTR	Keskin Array B	78.34	313	P		P	11 07 25.2	+0.7
	comp=Z,8.5nm,0.8s,baz=78,slow=3.2,SNR=19							
BRTR					PP	PP	11 10 24.0	+3.0
	comp=Z,2.1nm,1.0s,baz=76,slow=6.1,SNR=4.5							
BRTR					LR	LR	11 48 07.3	
	comp=Z,431nm,18.1s,baz=16,slow=40							
F34A	Alexandria	78.38	38	P		P	11 07 24.5	0.0
	baz=318							
KECS	Kecovo	78.42	326	eP		P	11 07 25.5	+0.9
KECS					pmax	pmax		
	comp=Z,5.0nm,1.1s							
KECS	Kecovo	78.42	326	eP		P	11 07 25.5	+0.9
PSN	Preselentsi	78.43	319	i P		P	11 07 36.7	+12
OGNE	Ogallala	78.45	45	P		P	11 07 25.4	+0.3
	baz=315,SNR=6.4							
OGNE	Ogallala	78.45	45	eP		P	11 07 26.2	+1.1
	comp=Z,23nm,0.9s							
EYMN	Ely	78.46	35	P		P	11 07 24.5	-0.4
	baz=320							
H33A	Prehn Over Nor	78.49	40	P		P	11 07 25.4	+0.3
	baz=317,SNR=7.8							
J31A	Geddes	78.50	42	P		P	11 07 25.5	+0.3
	baz=316							
G34A	Benson	78.61	39	P		P	11 07 26.0	+0.2
	baz=318							
MORC	Moravsky Berou	78.62	328	eP		P	11 07 26.6	+0.8
MORC					pmax	pmax		
	comp=Z,147nm,1.1s							
MORC	Moravsky Berou	78.62	328	⇓i P		P	11 07 26.9	+1.1
MORC	Moravsky Berou	78.62	328	eP		P	11 07 26.6	+0.8
	comp=Z,147nm,1.1s							
UPC	Upice	78.64	330	eP		P	11 07 27.2	+1.4
UPC					MLR	MLR		
	comp=Z,900nm,15.6s							
UPC	Upice	78.64	330	eP		P	11 07 27.2	+1.4
UPC					AMS	AMS	11 44 40.0	
	comp=Z,900nm,15.6s							
DPC	Dobruska-Polom	78.65	329	eP		P	11 07 27.6	+1.7
DPC				e			11 07 35.8	
DPC	Dobruska-Polom	78.65	329	eP		P	11 07 27.6	+1.7
DPC				ePCP		PcP	11 07 35.8	+0.9
F35A	Swanville	78.65	38	P		P	11 07 26.2	+0.3
	baz=318							
VOIR		78.67	321	⇓P		P	11 07 28.0	+1.8
VOIR		78.67	321	⇓i P		P	11 07 28.0	+1.8
ANTO	Ankara	78.71	313	eP		P	11 07 28.0	+1.6
ANTO					pmax	pmax		
	comp=Z,24nm,0.8s							
ANTO	Ankara	78.71	313	eP		P	11 07 28.0	+1.6
	comp=Z,24nm,0.8s							
SDCO	Great Sand Dun	78.72	50	P		P	11 07 27.1	+0.2
	baz=318							
SDCO	Great Sand Dun	78.72	50	eP		P	11 07 27.8	+0.9
	comp=Z,4.6nm,1.1s							
BR231	Keskin MP Arra	78.73	313	eP		P	11 07 25.7	-1.0
DRGR		78.74	324	⇓P		P	11 07 27.7	+1.2
DRGR		78.74	324	⇓i P		P	11 07 27.7	+1.2
E36A	McGregor	78.76	37	P		P	11 07 26.8	+0.2
	baz=319							
ARR	Arges	78.92	322	⇑i P		P	11 07 30.2	+2.7
I33A	Coleman	78.92	40	P		P	11 07 27.5	0.0
	baz=317							
H34A	Spellman Lake,	78.97	39	P		P	11 07 27.9	+0.2
	baz=318							
K31A	O'Neill	78.98	42	P		P	11 07 28.2	+0.3
	baz=316							
VYHS	Vyhne	79.11	327	eP		P	11 07 29.8	+1.4
VYHS					pmax	pmax		
	comp=Z,19nm,1.5s							
VYHS	Vyhne	79.11	327	eP		P	11 07 29.8	+1.4
PSZ	Piszkesteto	79.11	326	⇓P		P	11 07 29.9	+1.4
PSZ	Piszkesteto	79.11	326	⇓i P		P	11 07 29.9	+1.4
PSZ	Piszkesteto	79.11	326	eP		P	11 07 29.9	+1.4
PSZ	Piszkesteto	79.11	326	eP		P	11 07 29.9	+1.4
	comp=Z,53nm,1.3s							
CLL	Collm	79.12	332	eP		P	11 07 28.8	+0.4
CLL					pmax	pmax		
	comp=Z,40nm,1.2s							
CLL	Collm	79.12	332	⇓i P		P	11 07 28.7	+0.4
	comp=Z,33nm,1.1s							
CLL				ePcP		PcP	11 07 37.0	+0.2
CLL				e(PP)			11 10 23.0	
CLL				Lm		MLR	11 45 00.0	
	comp=Z,1μm,19.0s							
CLL	Collm	79.12	332	eP		P	11 07 28.8	+0.4
	comp=Z,40nm,1.2s							
BRG	Berggiesshubel	79.13	331	eP		P	11 07 28.9	+0.4
	comp=Z,11nm,0.9s							
BRG	Berggiesshubel	79.13	331	eP		P	11 07 28.9	+0.4
BRG					pmax	pmax		
	comp=Z,11nm,0.9s							
BRG					MLR	MLR		
	comp=N,1μm,24.0s							
BRG					MLR	MLR		
	comp=E,415nm,21.0s							
BRG					MLR	MLR		
	comp=Z,1μm,23.7s							
G35A	Watkins	79.17	38	P		P	11 07 29.1	+0.3
	baz=318							
TUC	Tucson	79.17	57	P		P	11 07 29.7	+0.5
	baz=312							
TUC	Tucson	79.17	57	eP		P	11 07 30.5	+1.3
TUC					pmax	pmax		
	comp=Z,6.0nm,1.1s							
TUC	Tucson	79.17	57	eP		P	11 07 30.4	+1.3
	comp=Z,6.0nm,1.1s							
PVCC	Panska Ves	79.17	330	eP		P	11 07 29.8	+1.1
PVCC					MLR	MLR		
	comp=Z,1μm,18.1s							
PVCC	Panska Ves	79.17	330	eP		P	11 07 29.8	+1.1
PVCC					AMS	AMS	11 45 20.0	
	comp=Z,1μm,18.1s							
ECSD	EROS Data Cent	79.25	40	P		P	11 07 29.6	+0.3
	baz=317,SNR=10.0							
ECSD	EROS Data Cent	79.25	40	eP		P	11 07 29.6	+0.3
	comp=Z,14nm,1.2s							
VRAC	Vranov	79.37	329	⇓P		P	11 07 31.5	+1.6
VRAC	Vranov	79.37	329	⇓i P		P	11 07 31.5	+1.6
J33A	Davis	79.38	41	P		P	11 07 30.2	+0.2
	baz=317							
I34A	Hadley	79.39	40	P		P	11 07 30.3	+0.2
	baz=318							
H35A	Sunnyside Ranc	79.39	39	P		P	11 07 30.4	+0.4
	baz=318,SNR=8.8							
E38A	The Farm, Brul	79.46	36	P		P	11 07 30.3	0.0
	baz=320							
KSCO	Kaye Shedlock'	79.48	47	P		P	11 07 30.9	+0.1
	baz=315							
KSCO	Kaye Shedlock'	79.48	47	eP		P	11 07 31.8	+1.0
	comp=Z,26nm,1.4s							
GOPC	GO Pecny, Ondr	79.59	330	eP		P	11 07 32.2	+1.2
GOPC				e			11 07 40.5	
GOPC					MLR	MLR		
	comp=Z,1μm,19.5s							
GOPC	GO Pecny, Ondr	79.59	330	eP		P	11 07 32.2	+1.2
GOPC				ePCP		PcP	11 07 40.5	+1.6
GOPC				AMS		AMS	11 45 20.0	
	comp=Z,1μm,19.5s							
PRU	Pruhonice	79.62	330	eP		P	11 07 32.1	+0.9
PRU				e			11 07 41.0	
PRU					MLR	MLR		
	comp=Z,1μm,14.8s							
PRU	Pruhonice	79.62	330	eP		P	11 07 32.1	+0.9
PRU				ePCP		PcP	11 07 41.0	+2.0
PRU				AMS		AMS	11 47 00.0	
	comp=Z,1μm,14.8s							
F37A	Hinrichs Farm,	79.65	37	P		P	11 07 31.6	+0.2
	baz=320							
T25A	Trinidad	79.77	49	P		P	11 07 32.8	+0.3
	baz=314,SNR=7.4							
T25A	Trinidad	79.77	49	eP		P	11 07 33.6	+1.1
	comp=Z,9.9nm,1.0s							
L32A	Elgin	79.81	42	P		P	11 07 32.6	+0.2
	baz=317							
F38A	Pierce - Schro	79.81	36	P		P	11 07 32.6	+0.3
	baz=320,SNR=7.7							
TREC	Trest	79.82	329	AMS		AMS	11 44 40.0	
	comp=Z,1μm,22.5s							
MODS	Modra-Piesok	79.84	328	eP		P	11 07 34.4	+2.0
MODS	Modra-Piesok	79.84	328	eP		P	11 07 34.4	+2.0
H36A	Jessenland, He	79.91	38	P		P	11 07 33.0	+0.1
	baz=319							
I35A	Creekview Farm	79.95	39	P		P	11 07 33.3	+0.2
	baz=318							
LAZ	Ladron	80.03	53	eP		P	11 07 35.5	+1.6
ANMO	Albuquerque	80.07	52	P		P	11 07 34.5	+0.3
	baz=313							
ANMO	Albuquerque	80.07	52	eP		P	11 07 35.9	+1.7
ANMO					pmax	pmax		
	comp=Z,9.0nm,1.1s							
ANMO	Albuquerque	80.07	52	eP		P	11 07 35.9	+1.7
	comp=Z,8.6nm,1.1s							
E39A	Mellen	80.08	35	P		P	11 07 33.8	0.0
	baz=321							
BZS	Buzias	80.12	323	⇓P		P	11 07 35.0	+1.0
BZS	Buzias	80.12	323	⇓i P		P	11 07 35.0	+1.0
BGNE	Belgrade	80.17	43	P		P	11 07 34.5	+0.1
	baz=317							
BGNE	Belgrade	80.17	43	eP		P	11 07 34.8	+0.4
	comp=Z,22nm,0.9s							
NKC	Novy Kostel	80.20	331	AMS		AMS	11 46 50.0	
	comp=Z,1μm,19.2s							
J35A	Milford	80.20	40	P		P	11 07 34.8	+0.3
	baz=318							
F39A	Loretta	80.27	36	P		P	11 07 35.1	+0.3
	baz=321							
RAR	Rarotonga	80.28	129	LR		LR	11 36 04.1	
	comp=Z,208nm,20.4s,baz=300,slow=30							
I36A	Fitzsimmons Fa	80.29	39	P		P	11 07 35.0	+0.1
	baz=319							
E40A	Wakefield	80.31	35	P		P	11 07 35.2	+0.2
	baz=321							
H37A	Dierke Farm, C	80.38	38	P		P	11 07 35.5	+0.1
	baz=320							
EKA	Eskdalemuir Ar	80.41	342	P		P	11 07 36.2	+0.9
	comp=Z,4.1nm,0.6s,baz=26,slow

121A Cookes Peak, D 80.90 55 P P 11 07 39.1 +0.5
baz=313
121A Cookes Peak, D 80.90 55 eP P 11 07 40.5 +1.9
comp=Z,7.5nm,0.8s
SCHQ Schefferville 80.91 18 P P 11 07 38.8 +0.7
comp=Z,9.8nm,1.1s,baz=294,slow=3.0,SNR=3.6
MORH M‡r¡gy, Hung 80.97 325 eP P 11 07 38.5 0.0
J37A Redenius Farm, 81.05 39 P P 11 07 39.3 +0.4
baz=319
I38A Scanlan Farm, 81.07 38 P P 11 07 39.3 +0.2
baz=320
G40A Rib Lake 81.09 36 P P 11 07 39.4 +0.1
baz=321
GRFO Grafenberg 81.09 332 eP P 11 07 41.3 +2.2
GRFO pmax pmax
comp=Z,84nm,1.5s
GRFO Grafenberg 81.09 332 eP P 11 07 41.3 +2.2
comp=Z,84nm,1.5s
K36A Gilmore City 81.12 40 P P 11 07 39.6 +0.2
baz=319
E42A Champion 81.17 34 P P 11 07 39.7 +0.1
baz=322
KDZ Kurdzhali 81.31 319 i P P 11 07 41.4 +1.0
PLD Plovdiv 81.32 319 P P 11 07 37.8 -2.7
M35A Neola 81.38 41 P P 11 07 41.0 +0.2
baz=318
K37A Belmond 81.42 39 P P 11 07 41.1 +0.2
baz=319
N34A Lincoln 81.43 42 P P 11 07 40.9 -0.2
baz=318
ARSA Arzberg 81.45 328 i pP P 11 07 42.2 +1.1
comp=Z,14nm,0.9s
MOA Molln 81.47 329 i pP P 11 07 42.5 +1.3
comp=Z,24nm,1.6s
J38A Wedel Dairy, R 81.55 38 P P 11 07 41.3 -0.3
baz=320
I39A Houston 81.58 38 P P 11 07 41.6 -0.2
baz=320
VTS Vitosha 81.69 321 ⇓P P 11 07 43.7 +1.1
VTS Vitosha 81.69 321 ⇓/P P 11 07 43.7 +1.1
VTS Vitosha 81.69 321 eP P 11 07 43.3 +0.7
comp=Z,31nm,1.0s
VTS Vitosha 81.69 321 i P P 11 07 43.6 +1.0
RAYN Ar Rayn 81.69 294 eP P 11 07 43.0 +0.2
comp=Z,24nm,1.4s
O34A Beatrice 81.82 43 P P 11 07 42.8 -0.3
baz=318
M36A Felix, Anita 81.83 41 P P 11 07 43.6 +0.4
baz=319
H41A Junction City 81.84 36 P P 11 07 42.9 -0.3
baz=322
N35A Tabor 81.85 42 P P 11 07 43.6 +0.3
baz=318
J39A Decorah 81.90 38 P P 11 07 43.2 -0.3
baz=320
K38A Parkersburg 81.92 39 P P 11 07 44.0 +0.3
baz=320
MMAI Mount Meron Ar 81.94 307 P P 11 07 45.8 +1.8
comp=Z,15nm,0.8s,baz=39,slow=5.5,SNR=10
MMAI LR LR 11 47 27.4
comp=Z,359nm,21.6s,baz=25,slow=38
DIVS Divibare 82.03 323 eP P 11 07 44.8 +0.5
comp=Z,30nm,1.3s
MEM Membach 82.09 335 ⇓P P 11 07 44.6 +0.3
comp=Z,12nm,1.1s
MEM Membach 82.09 335 P P 11 07 46.3 +1.9
PERS Pernice 82.11 328 i P P 11 07 45.2 +0.6
SOKA Soboth 82.11 328 i pP P 11 07 45.5 +0.9
comp=Z,49nm,1.1s,SNR=18
I41A Arkdale 82.18 36 P P 11 07 45.2 +0.2
baz=321
MMB Musomiste 82.19 320 i P P 11 07 46.6 +1.5
G43A Wallace 82.20 35 P P 11 07 45.3 +0.3
baz=323
L38A Oak Wood Farm, 82.22 39 P P 11 07 45.0 -0.2
baz=320
N36A Muff Farm, Cla 82.23 42 P P 11 07 45.6 +0.3
baz=319
M37A Trindle Farm, 82.24 41 P P 11 07 45.7 +0.4
baz=319
SCIA State Center 82.27 40 P P 11 07 45.7 +0.2
baz=320
KKB Krupnik 82.30 320 i P P 11 07 46.6 +1.0
K39A Oelwein 82.30 39 P P 11 07 45.7 +0.1
baz=320
J40A Soldiers Grove 82.30 37 P P 11 07 45.7 +0.1
baz=321
E45A Wooded Hills, 82.37 32 P P 11 07 45.9 0.0
baz=324
H42A Shiocton 82.43 35 P P 11 07 46.3 +0.1
baz=322
OBKA Obir 82.44 328 i pP P 11 07 47.2 +0.8
comp=Z,12nm,0.7s
KBA Koelnbreinsper 82.46 329 P P 11 07 48.0 +1.4
KBA Koelnbreinsper 82.46 329 i pP P 11 07 48.0 +1.4
comp=Z,29nm,0.8s,SNR=19
BCLA Clavier 82.48 335 ⇑P P 11 07 46.8 +0.4
N37A Lee Faris, Mou 82.65 41 P P 11 07 47.7 +0.3
baz=319
M38A Pleasantville 82.65 40 P P 11 07 47.6 +0.1
baz=320
K40A Colesburg 82.65 38 P P 11 07 47.6 +0.1
baz=321
J41A Loganville 82.66 37 P P 11 07 47.5 0.0
baz=321
KSU1 Kansas State U 82.66 44 P P 11 07 47.8 +0.2
baz=318
L39A Vinton 82.69 39 P P 11 07 47.8 +0.1
baz=320
MYKA Terra Mystica 82.71 329 i P P 11 07 48.3 +0.5
comp=Z,30nm,1.4s,SNR=6.7
I42A Draeger Farm, 82.74 36 P P 11 07 48.2 +0.3
baz=322
VISS Visnje 82.90 327 eP P 11 07 49.1 +0.4
PLE Pljevlja 82.90 323 P P 11 07 50.7 +1.8
AMTX Amarillo 82.92 49 P P 11 07 49.2 +0.1
baz=316
AMTX Amarillo 82.92 49 eP P 11 07 50.5 +1.4
comp=Z,11nm,0.9s
MSTX Muleshoe 82.94 51 P P 11 07 49.7 +0.4
baz=315
MSTX Muleshoe 82.94 51 eP P 11 07 51.4 +2.2
comp=Z,7.8nm,1.0s
MNTX Cornudas Mount 82.95 54 P P 11 07 49.8 +0.6
baz=314
MNTX Cornudas Mount 82.95 54 eP P 11 07 50.3 +1.1
comp=Z,8.1nm,1.1s
VAY Valandovo 82.96 320 i P P 11 07 49.8 +0.8
WTTA Wattenberg 82.96 330 i pP P 11 07 50.5 +1.3
comp=Z,22nm,1.1s,SNR=6.1
DOU Dourbes 82.99 336 ⇑P P 11 07 49.5 +0.5
SKO Skopje 83.00 321 i P P 11 07 51.1 +1.8
ABTA Abfaltersbach 83.05 329 i P P 11 07 48.7 -0.9
comp=Z,13nm,1.0s
DSB Dublin 83.07 343 eP P 11 07 50.9 +1.5
comp=Z,61nm,1.6s
MOTA Moosalm 83.09 330 i pP P 11 07 51.0 +1.1
comp=Z,33nm,0.9s,SNR=12
M39A Webster 83.10 39 P P 11 07 49.9 +0.1
baz=320
RETA Reutte 83.10 331 i pP P 11 07 50.6 +0.8
comp=Z,20nm,0.9s,SNR=14
L40A Anamosa 83.11 39 P P 11 07 50.0 +0.2
baz=321
N38A Joes South For 83.11 41 P P 11 07 50.0 +0.2
baz=320
K41A Shullsburg 83.11 38 P P 11 07 49.9 0.0
baz=321
O37A Wolven Farm, M 83.13 41 P P 11 07 50.3 +0.3
baz=319
JAVS Javornik 83.14 328 eP P 11 07 49.5 -0.6
BAIF Baives 83.14 336 eP P 11 07 49.7 -0.1
BFO Black Forest 83.27 333 i P P 11 07 51.5 +0.9
BFO Black Forest 83.27 333 eP P 11 07 51.3 +0.7
comp=Z,37nm,1.4s
N39A Derby Farms, D 83.40 40 P P 11 07 51.7 +0.3
baz=320
TRI Trieste 83.41 328 P P 11 07 53.4 +2.1
K42A Prairie Point, 83.42 37 P P 11 07 51.5 +0.1
baz=322
L41A Preston 83.44 38 P P 11 07 51.7 +0.2
baz=321
P37A Lathrop 83.46 42 P P 11 07 51.9 +0.2
baz=319
M40A Post Highland 83.47 39 P P 11 07 52.0 +0.3
baz=321
O38A Galt 83.50 41 P P 11 07 52.1 +0.2
baz=320
FETA Feichten 83.50 330 i pP P 11 07 53.0 +1.0
comp=Z,33nm,1.2s,SNR=11
KRUS Krusevo 83.56 321 i P P 11 07 53.1 +0.8
CDF Champ du Feu 83.56 333 eP P 11 07 51.5 -0.7
CDF pmax pmax
comp=Z,19nm,1.1s
DAVA Damuels 83.60 331 i pP P 11 07 53.2 +0.7
comp=Z,21nm,0.9s,SNR=6.9
PDG Podgorica 83.67 323 ⇓/P P 11 07 53.6 +0.9
TTG Podgorica 83.67 323 eP P 11 07 53.6 +0.9
TTG pmax pmax
comp=Z,84nm,1.1s
TTG Podgorica 83.67 323 eP P 11 07 53.6 +0.9
comp=Z,84nm,1.1s
SLE Schleitheim 83.69 332 P P 11 07 54.1 +1.3
ECH Echery 83.77 333 eP P 11 07 53.7 +0.5
ECH pmax pmax
comp=Z,21nm,1.1s
ECH Echery 83.77 333 eP P 11 07 53.7 +0.5
comp=Z,21nm,1.1s
N40A Mertquake, Sal 83.84 39 P P 11 07 53.9 +0.3
baz=321
P38A Dawn 83.85 41 P P 11 07 53.9 +0.3
baz=320
O39A Kirksville 83.86 40 P P 11 07 53.9 +0.2
baz=320
M41A Milan 83.96 39 P P 11 07 54.3 +0.1
baz=321
PPT Papeete 83.98 119 LR LR 11 42 57.4
comp=Z,424nm,18.3s,baz=313,slow=34
PPT2 Papeete2 84.00 119 eLR LR 11 33 54.0
comp=Z,919nm,24.0s,baz=310
FUORN Ofenpass-Fuorn 84.02 330 eP P 11 07 56.0 +1.2
comp=Z,68nm,1.1s
HINF Hinteralfeld 84.22 333 eP P 11 07 56.5 +1.0
HINF pmax pmax
comp=Z,5.0nm,0.6s
O40A La Belle 84.29 40 P P 11 07 56.2 +0.3
baz=320
Q38A Cooks Store, C 84.31 42 P P 11 07 56.2 +0.2
baz=320
P39B Salisbury 84.34 41 P P 11 07 56.4 +0.2
baz=320
TUE Stuetta 84.48 331 eP P 11 07 58.0 +1.0
comp=Z,47nm,1.3s
TAOE Nuku Hiva Isla 84.52 107 eLR LR 11 34 17.6
comp=Z,624nm,22.4s
Q39A Willow Grove F 84.57 42 P P 11 07 57.5 +0.1
baz=320
R38A Fenwick Farm, 84.75 43 P P 11 07 58.1 -0.1
baz=319
O41A Passleys Farm, 84.78 40 P P 11 07 58.8 +0.4
baz=321
P41A Barry, Barry 85.03 40 P P 11 07 59.9 +0.3
baz=321
Q40A Laux Farm, Aux 85.06 41 P P 11 08 00.2 +0.4
baz=320
R39A Chumby, Stover 85.09 42 P P 11 07 59.9 -0.1
baz=320
KLBO Killbear Provi 85.15 30 P P 11 08 00.1 0.0
baz=328
S38A Stockton 85.17 43 P P 11 08 00.8 +0.4
baz=320
HDIL Hopedale 85.19 38 P P 11 08 00.9 +0.4
baz=322
SENIN Lac Senin/Sane 85.31 332 eP P 11 08 01.8 +0.5
comp=Z,34nm,1.3s
BMRO Meriville Lake 85.40 31 P P 11 08 01.7 +0.3
baz=327
T38A Diamond 85.42 44 P P 11 08 01.9 +0.3
baz=319,SNR=9.4
S39A Bolivar 85.42 43 P P 11 08 01.5 -0.2
baz=320
P42A Winchester 85.45 40 P P 11 08 01.4 -0.3
baz=321
TUL1 Leonard 85.46 45 P P 11 08 02.2 +0.3
baz=318
R40A Maddies Statio 85.50 42 P P 11 08 02.5 +0.4
baz=320
Q41A Truxton 85.50 41 P P 11 08 02.3 +0.3
baz=321
CABF La Chapelle 85.53 333 eP P 11 08 02.3 +0.2
CABF pmax pmax
comp=Z,39nm,1.5s
LTX Lajitas 85.66 55 eP P 11 08 03.7 +0.6
LTX e 11 11 21.1
LTX Lajitas 85.66 55 eP P 11 08 03.7 +0.6
LTX ePP PP 11 11 21.1 -0.4
TX31 Lajitas Ar. Si 85.66 55 eP P 11 08 04.3 +1.2
TXAR Lajitas Array 85.66 55 P P 11 08 03.7 +0.6
comp=Z,12nm,1.0s,baz=297,slow=3.8,SNR=59
TXAR PP PP 11 11 21.1 -0.4
comp=Z,0.8nm,1.0s,baz=316,slow=5.0,SNR=2.7
FLN La Foliniere 85.70 338 eP P 11 08 02.7 -0.1
FLN pmax pmax
comp=Z,33nm,1.1s
ABTX Abilene, Hawle 85.72 50 P P 11 08 03.4 +0.1
baz=317
ABTX Abilene, Hawle 85.72 50 eP P 11 08 05.0 +1.7
comp=Z,13nm,1.0s
S40A Lebanon 85.91 42 P P 11 08 04.1 0.0
baz=320
R41A Rosebud 85.94 41 P P 11 08 04.6 +0.3
baz=321
VLC Villacollemand 86.04 329 eP P 11 08 05.7 +1.1
comp=Z,34nm,1.2s
HPIG 86.08 58 eP P 11 08 06.4 +1.1
comp=Z,24nm,1.2s
O45A Potomac 86.17 38 P P 11 08 05.5 +0.2
baz=323
CCM Cathedral Cave 86.19 41 P P 11 08 05.5 0.0
baz=321
CCM Cathedral Cave 86.19 41 eP P 11 08 06.1 +0.6
CCM pmax pmax
comp=Z,16nm,1.2s
CCM Cathedral Cave 86.19 41 eP P 11 08 06.1 +0.6
comp=Z,16nm,1.2s
R42A Luebbering 86.24 41 P P 11 08 05.9 +0.2
baz=321
LPL La Plagne 86.25 332 eP P 11 08 06.4 +0.5
LPL pmax pmax
comp=Z,49nm,1.0s
T40A Mansfield 86.25 42 P P 11 08 05.8 0.0
baz=320
LPG La Plagne 86.25 332 eP P 11 08 06.5 +0.5
LPG pmax pmax
comp=Z,50nm,1.0s
AVF Avril sur Loir 86.28 335 eP P 11 08 06.1 +0.3
AVF pmax pmax
comp=Z,56nm,1.0s
BANO Bancroft 86.29 29 P P 11 08 06.1 +0.2
baz=329
S41A Jillco Farms, 86.30 42 P P 11 08 05.8 -0.3
baz=321
U39A Green Forest 86.33 44 P P 11 08 06.2 0.0
baz=320,SNR=9.4
IDI Anoyia 86.34 315 P P 11 08 06.6 +0.2
comp=Z,6.2nm,0.7s,baz=342,slow=9.6,SNR=2.5
IDI LR LR 11 52 33.8
comp=Z,246nm,18.2s,baz=0.0,slow=40
IDI Anoyia 86.34 315 eP P 11 08 06.4 +0.1
comp=Z,54nm,1.4s
P44A Sand Creek, Wi 86.36 39 P P 11 08 06.0 -0.3
baz=322
TRQ Mont Tremblant 86.44 26 eP P 11 08 06.9 +0.3
PLVO Plevna 86.58 28 P P 11 08 07.1 -0.1
baz=330
Q44A Meyer Farm, Va 86.62 39 P P 11 08 07.6 0.0
baz=322
S42A Caledonia 86.64 41 P P 11 08 08.0 +0.3
baz=321
BGF Bois d'Agland 86.65 335 eP P 11 08 10.6 +3.0
V39A Pettigrew 86.66 44 P P 11 08 07.7 -0.2
baz=320
BNI Bardonecchia 86.67 332 eP P 11 08 08.6 +0.7
BNI pmax pmax
comp=Z,25nm,0.9s
BNI Bardonecchia 86.67 332 eP P 11 08 08.6 +0.7
comp=Z,25nm,0.9s
U40A Yellville 86.68 43 P P 11 08 07.9 0.0
baz=320,SNR=12
T41A Mountain View 86.71 42 P P 11 08 07.9 -0.2
baz=321
P45A Graceland, Par 86.73 38 P P 11 08 08.4 +0.4
baz=323
P46A Rosedale 86.91 38 P P 11 08 09.2 +0.2
baz=323
Q45A Warren Harvey, 87.04 39 P P 11 08 09.8 +0.2
baz=323
WLVO Wesleyville 87.05 30 P P 11 08 09.5 0.0
baz=329
T42A Van Buren 87.06 42 P P 11 08 09.6 -0.2
baz=321
ORIF Oris-en-Rattie 87.06 332 eP P 11 08 10.8 +1.0
ORIF pmax pmax
comp=Z,14nm,0.9s
W39A Magazine 87.08 44 P P 11 08 10.2 +0.4
baz=320
R44A Waltonville 87.11 40 P P 11 08 10.4 +0.4
baz=322
V40A Witts Springs 87.12 44 P P 11 08 10.2 0.0
baz=320
S43A Fulton Ridge, 87.15 41 P P 11 08 10.3 +0.2
baz=322
U41A Viola 87.17 43 P P 11 08 10.5 +0.2
baz=321
JCT Junction City 87.19 51 eP P 11 08 11.2 +0.7
JCT pmax pmax
comp=Z,11nm,1.2s
JCT Junction City 87.19 51 eP P 11 08 11.2 +0.7
comp=Z,11nm,1.2s
TYNO Tyneside 87.19 31 P P 11 08 10.4 +0.1
baz=328
SSB Saint Sauveur 87.22 333 eP P 11 08 10.6 +0.2
SSB pmax pmax
comp=Z,12nm,0.8s
SSB Saint Sauveur 87.22 333 eP P 11 08 10.6 +0.2
comp=Z,12nm,0.8s
OXZ Oxford 87.27 161 eP P 11 08 11.4 +1.1
comp=Z,17nm,0.9s
RPZ Rata Peaks 87.40 161 LR LR 11 43 06.6
comp=Z,267nm,21.8s,baz=24,slow=33
TIP Timpagrande 87.40 322 ⇑/P P 11 08 14.0 +2.5
TIP Timpagrande 87.40 322 eP P 11 08 12.4 +0.9
comp=Z,17nm,1.1s
X39A Fountain Ranch 87.42 45 P P 11 08 12.0 +0.5
baz=320
T43A Greenville 87.43 41 P P 11 08 11.9 +0.4
baz=322
P47A Martinsville 87.44 37 P P 11 08 11.5 -0.1
baz=324
WHTX Lake Whitney, 87.45 49 P P 11 08 12.0 +0.3
baz=318
WHTX Lake Whitney, 87.45 49 eP P 11 08 16.4 +4.6
comp=Z,11nm,1.0s
S44A Carbondale 87.46 40 P P 11 08 11.8 +0.2
baz=322
W40A Ferguson Farm, 87.46 44 P P 11 08 11.9 +0.2
baz=320
W40A Ferguson Farm, 87.46 44 eP P 11 08 12.4 +0.7
comp=Z,19nm,1.1s
SIUC Southern Illin 87.46 40 eP P 11 08 12.5 +0.9
comp=Z,16nm,0.8s
V41A Mountainview 87.48 43 P P 11 08 11.8 -0.1
baz=320
U42A Revenden 87.52 42 P P 11 08 12.1 +0.1
baz=321
VIVF Saint-Julien-l 87.54 333 eP P 11 08 12.5 +0.5
VIVF pmax pmax
comp=Z,32nm,1.2s
PBMO Poplar Bluff 87.59 41 eP P 11 08 13.2 +0.9
comp=Z,24nm,1.1s
MIAR Mount Ida 87.68 45 eP P 11 08 13.4 +0.6
MIAR pmax pmax
comp=Z,11nm,0.9s
MIAR Mount Ida 87.68 45 eP P 11 08 13.4 +0.6
comp=Z,11nm,0.9s
Q47A Bedord North L 87.82 38 P P 11 08 13.4 +0.1
baz=324
V42A Cord 87.86 43 P P 11 08 13.4 -0.2
baz=321
W41B Gary Mavity, V 87.90 44 P P 11 08 14.1 +0.2
baz=320
RJF Les Rejaudoux 88.19 335 eP P 11 08 15.5 +0.4
RJF pmax pmax
comp=Z,23nm,1.3s
R47A Wooly Knot Far 88.28 38 P P 11 08 15.8 +0.2
baz=324
ACSO Alum Creek Sta 88.30 35 P P 11 08 15.6 0.0
baz=326
ACSO Alum Creek Sta 88.30 35 eP P 11 08 16.7 +1.0
comp=Z,20nm,1.0s
ALLY Alegheny Colle 88.30 32 eP P 11 08 18.3 +2.7
comp=Z,32nm,0.8s
CAF Calviac 88.36 335 eP P 11 08 16.8 +0.9
CAF pmax pmax
comp=Z,38nm,1.2s
WCI Wyandotte Cave 88.45 38 P P 11 08 16.3 -0.1
baz=324
M54A Oil Creek Stat 88.61 32 P P 11 08 17.3 +0.1
baz=328
M54A Oil Creek Stat 88.61 32 eP P 11 08 17.9 +0.7
comp=Z,23nm,0.9s
T46A Princeton 88.64 40 P P 11 08 17.5 +0.2
baz=323
Z40A Long Farm, Mag 88.76 46 P P 11 08 17.9 0.0
baz=320
LFF La Frestale 88.77 335 eP P 11 08 18.4 +0.7
LFF pmax pmax
comp=Z,24nm,1.2s
N54A Moraine State 88.94 32 P P 11 08 18.9 +0.2
baz=328
N54A Moraine State 88.94 32 eP P 11 08 19.7 +1.0
comp=Z,34nm,1.2s
S48A Wiedeman Farm, 89.02 38 P P 11 08 19.4 +0.3
baz=324
T47A Sharon Grove 89.06 39 P P 11 08 19.5 +0.2
baz=323
WVT Waverly 89.39 40 P P 11 08 21.1 +0.3
baz=323
U47A Clarksville 89.41 40 P P 11 08 21.1 +0.2
baz=323
BINY Binghamton 89.44 29 P P 11 08 20.8 -0.2
baz=330
W45A Hickory Valley 89.49 42 P P 11 08 21.6 +0.2
baz=322
V46A Holladay 89.51 41 P P 11 08 21.5 +0.1
baz=323
U48A Cassie Pea, Po 89.71 39 P P 11 08 22.4 0.0
baz=324
MTLF Montolieu 89.71 334 eP P 11 08 22.8 +0.6
MTLF pmax pmax
comp=Z,33nm,1.6s
V47A Nunnelly 89.78 40 P P 11 08 22.9 +0.2
baz=323
VAE Valguarnera 89.86 323 LR LR 11 53 35.4
comp=Z,321nm,20.3s,baz=18,slow=39
OXF Oxford 89.88 42 P P 11 08 23.6 +0.4
baz=322,SNR=5.8
OXF Oxford 89.88 42 eP P 11 08 23.5 +0.4
OXF pmax pmax
comp=Z,33nm,1.1s
OXF Oxford 89.88 42 eP P 11 08 23.5 +0.4
comp=Z,33nm,1.1s
SSPA Standing Stone 90.06 31 P P 11 08 24.0 +0.1
baz=329
SSPA Standing Stone 90.06 31 eP P 11 08 24.4 +0.5
comp=Z,18nm,1.0s
O56A Blue Knob Stat 90.10 32 P P 11 08 24.0 -0.1
baz=329
V48A Smith Brothers 90.19 40 P P 11 08 24.8 +0.2
baz=324
W47A Westpoint 90.21 41 P P 11 08 24.9 +0.2
baz=323
Z44A Pea Ridge, Bel 90.32 44 P P 11 08 25.4 +0.2
baz=322
Y45A Yeager Farm, C 90.32 43 P P 11 08 25.3 +0.1
baz=322
W48A Pulaski 90.62 40 P P 11 08 26.7 0.0
baz=324
N59A State Game Lan 90.63 30 P P 11 08 26.4 -0.1
baz=330
N59A State Game Lan 90.63 30 eP P 11 08 28.2 +1.6
comp=Z,32nm,1.1s
Y46A Houston 90.66 42 P P 11 08 26.9 +0.1
baz=322
X47A Russelville 90.66 41 P P 11 08 27.0 +0.2
baz=323
ETSF Etsaut 91.01 335 eP P 11 08 30.8 +2.4
ETSF pmax pmax
comp=Z,6.0nm,0.7s
X49A Woodville 91.42 40 P P 11 08 30.1 -0.2
baz=324
ATD Arta Tunnel 91.51 287 LR LR 11 55 58.9

comp=Z,168nm,18.1s,baz=16,slow=40
TKL Tuckaleechee C 91.71 38 P **P 11 08 31.8 +0.1**
comp=Z,8.5nm,1.0s,baz=62,slow=3.3,SNR=5.0
Z50A Ashland 92.63 41 P **P 11 08 36.0 0.0**
baz=324
149A Jones 92.72 42 P **P 11 08 36.2 -0.2**
baz=324
KEST Kesra 93.57 325 LR LR 11 56 05.3
comp=Z,714nm,18.7s,baz=343,slow=39
ES19 SONSECA Array 94.96 336 *eP* **P 11 08 46.9 +0.2**
ESDC Sonseca Array 95.00 336 P **P 11 08 46.8 0.0**
comp=Z,0.5nm,0.5s,baz=13,slow=4.5,SNR=5.7
ESDC PP **PP 11 12 35.8 +0.8**
comp=Z,0.1nm,0.3s,baz=36,slow=9.0,SNR=3.3
ESDC LR LR 11 57 32.5
comp=Z,426nm,18.6s,baz=10.0,slow=39
RKT Rikitea 97.71 114 *eLR* LR 11 40 36.5
comp=Z,498nm,32.0s,baz=304
TOA1 Torodi Ar. Sit 116.41 319 *ePKPdf* **PKPdf 11 14 07.8 -0.5**
TOA1 *ePP* **PP 11 15 12.4 -1.3**
TORD Torodi Ar. Bea 116.42 319 PKP **PKPdf 11 14 07.8 -0.5**
comp=Z,0.6nm,0.5s,baz=15,slow=1.6,SNR=9.9
TORD PP **PP 11 15 12.4 -1.3**
comp=Z,5.9nm,1.1s,baz=23,slow=7.3,SNR=9.9
SDV Santo Domingo 120.66 42 PKP **PKPdf 11 14 16.8 0.0**
comp=Z,4.7nm,0.9s,baz=8.4,slow=8.0,SNR=3.6
DBIC Dimbokro 125.18 322 PKP **PKPdf 11 14 25.4 +0.3**
comp=Z,4.5nm,0.9s,baz=348,slow=7.6,SNR=3.5
QSPA South Pole Qui 130.57 180 PKP **PKPdf 11 14 33.4 -0.5**
comp=Z,0.7nm,0.3s,baz=320,slow=4.5,SNR=12
LPAZ La Paz 142.40 59 PKP **PKPdf 11 14 55.5 -2.5**
comp=Z,1.5nm,0.6s,baz=351,slow=6.0,SNR=4.0
LPAZ La Paz 142.40 59 *ePKIKP* **PKPdf 11 14 57.1 -0.9**
LPAZ La Paz 142.40 59 *ePKPdf* **PKPdf 11 14 57.1 -0.9**
PB01 IPOC Station P 144.81 66 *ePKPdf* **PKPdf 11 15 01.2 -0.2**
SNAA Sanae 145.18 197 PKPbc **PKPbc 11 15 00.1 0.0**
comp=Z,25nm,0.9s,baz=134,slow=3.6,SNR=34
SNAA Sanae 145.18 197 *ePKPbc* **PKPbc 11 14 59.5 -0.7**
PB04 IPOC Station P 145.19 69 *ePKPbc* **PKPdf 11 15 02.7 +0.5**
PLCA Paso Flores 153.25 102 PKP **PKPdf 11 15 15.0 +0.6**
comp=Z,2.6nm,1.1s,baz=50,slow=4.0,SNR=2.9
PLCA PKPbc **PKiKP 11 15 22.5 +0.5**
comp=Z,1.3nm,0.8s,baz=320,slow=1.0,SNR=3.9
PLCA PKPab **PKPab 11 15 35.0 +1.2**
comp=Z,1.8nm,0.8s,baz=310,slow=6.9,SNR=3.8
PLCA Paso Flores 153.25 102 PKIKP **PKPdf 11 15 15.0 +0.6**
PLCA 11 15 22.5
PLCA 11 15 35.0
PLCA pmax pmax
comp=Z,2.0nm,1.1s
PLCA pmax pmax
comp=Z,1.0nm,0.9s
PLCA pmax pmax
comp=Z,2.0nm,0.8s
CPUP Villa Florida 156.57 59 PKP **PKPdf 11 15 20.6 +1.4**
comp=Z,1.7nm,0.7s,baz=312,slow=6.8,SNR=3.7
CPUP PKPab **PKPab 11 15 47.8 -0.4**
comp=Z,1.4nm,0.7s,baz=315,slow=1.4,SNR=3.8

IDC 30 10:59:29.4±2.6, 53°58.N×87°82.E, h0km, mb1 3.3/2, mb1mx3.0/72, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=22.7km s-min=15.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**283**	*i*		11 11 09.7	
	baz=97,slow=324,SNR=23						
ZALV	**Zalesovo Beam**	**1.82**	**283**	Pn	Pn	11 00 01.6	-0.4
	4.0nm,0.3s,baz=100,slow=14,SNR=56						
ZALV				Lg	Lg	11 00 27.7	
	8.8nm,0.3s,baz=103,slow=25,SNR=29						
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn	Pn	11 01 06.2	+0.8
	0.2nm,0.3s,baz=62,slow=14,SNR=11						
KURBB				Sn	Sn	11 02 17.5	-2.2
	0.1nm,0.3s,baz=55,slow=14,SNR=4.6						
KURBB				Lg	Lg	11 02 54.9	
	0.2nm,0.3s,baz=66,slow=32,SNR=3.3						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	11 01 23.4	+1.1
	0.3nm,0.3s,baz=25,slow=13,SNR=16						
MKAR				Sn	Sn	11 02 50.3	+0.5
	0.2nm,0.3s,baz=37,slow=22,SNR=3.4						

IDC 30 11:15:57.5±2.2, 3°36N×127°88E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/62, mbtmp3.3/3, Error ellipse: s-maj=165.6km s-min=22.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.01**	**165**	P	P	11 21 14.0	-0.2
	0.3nm,0.3s,baz=344,slow=9.9,SNR=13						
ASAR	**Alice Springs**	**27.49**	**168**	P	P	11 21 45.4	-0.4
	0.4nm,0.6s,baz=349,slow=7.4,SNR=8.2						
MKAR	**Makanchi Array**	**58.52**	**325**	P	P	11 25 56.2	+0.4
	0.1nm,0.4s,baz=140,slow=7.6,SNR=2.8						

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*ISCJB **30** 11:19:17.9±0.1, 79°.89N±0°.02×0°.77E±0°.09, h12km, mb4.8/192, MS4.5/44, Error ellipse: s-maj=3.3km s-min=1.9km az=25.5*

*CSEM **30** 11:19:17.8±0.1, 79°.95N×1°.12E, h2km, mb4.9/99, Error ellipse: s-maj=3.5km s-min=2.0km az=39.0*

*IDC **30** 11:19:17.7±0.3, 79°.97N×0°.75E, h0km, mb4.3/41, mb1 4.4/44, mb1mx4.3/74, mbtmp4.3/44, ML4.3/2, MS4.4/38, Ms1 4.4/38, ms1mx4.2/65, Error ellipse: s-maj=10.6km s-min=7.7km az=32.0*

*MOS **30** 11:19:17.4±1.1, 79°.82N×0°.92E, h10km, mb5.0/66, MS4.2/15, Error ellipse: s-maj=24.0km s-min=5.0km az=94.8*

*BJI **30** 11:19:17.0, 79°.90N×1°.00E, h10km, mb4.8/48, mB5.2/32, Ms5.1/29, Ms7 4.8/29*

*GCMT **30** 11:19:19.7±0.2, 80°.04N×0°.54E, h15km±1km, MW5.1/108, Moment Tensor Solution. s52,c73; s108,c169; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.38±.11; Mθθ-4.12±.12; Mϕϕ4.50±.10; Mrθ-0.17±.36; Mrϕ-1.60±.09; Mθϕ-3.09±.40; Best double couple: M±5.37400×10^16 NP1:ϕ1216.00000°, δ82.00000°, λ27.00000°. NP2: ϕ2121.00000°, δ63.00000°, λ171.00000°. Principal axes: T 6.1800, Plg25.0000°, Azm82.0000°; N -1.6100, Plg62.0000°, Azm231.0000°; P -4.5670, Plg13.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 11:19:19.7±0.1, 79°.94N×1°.03E, h10km, mb4.9/129 Error ellipse: s-maj=3.4km s-min=2.0km az=216.0*

*NAO **30** 11:19:22.8±3.3, 79°.82N×3°.90E, ML4.8*

*BER **30** 11:19:23.7±3.8, 80°.34N×4°.83E, h10km, ML4.0, mb4.9(NEIC)*

ISC 30 11:19:19.1±0.8, 79°.90N±0°.04×0°.91E±0°.03, h10km±4km, n574, σ1§86/590, mb4.8/193, MS4.5/44, 13C-1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.26**	**110**	Pg	**Pn**	**11 19 53.3**	**-3.2**
KBS				Lg	Lg	11 20 18.0	
KBS	**Kingsbay**	**2.26**	**110**	*eP*	**Pn**	**11 19 53.2**	**-3.2**
KBS				*e*		11 20 18.2	
KBS	**Kingsbay**	**2.26**	**110**	*ePn*	**Pn**	**11 19 53.2**	**-3.2**
KBS				*eSn*	**Sn**	**11 20 18.2**	**-6.1**
KBS	**Kingsbay**	**2.26**	**110**	*eP*	**Pn**	**11 19 53.2**	**-3.2**
KBS				Lg	Lg	11 20 18.0	
KBS	**Kingsbay**	**2.26**	**110**	⇑ *iP*	**Pn**	**11 19 53.3**	**-3.2**
KBS				*eS*	**Sn**	**11 20 17.6**	**-6.8**
KBS				IAML		11 20 25.5	
	comp=Z,2μm,0.3s						
BRBA	**Barentsburg A**	**3.15**	**119**	Pn	**Pn**	**11 20 06.8**	**-1.9**
SPA0	**Spitsbergen Ar**	**3.41**	**113**	Pn	**Pn**	**11 20 10.0**	**-2.4**
	baz=322,slow=14						
SPA0	**Spitsbergen Ar**	**3.41**	**113**	*ePn*	**Pn**	**11 20 10.0**	**-2.4**
SPA0	**Spitsbergen Ar**	**3.41**	**113**	Pn	**Pn**	**11 20 10.0**	**-2.4**
	SNR=999						
SPA0	**Spitsbergen Ar**	**3.41**	**113**	Pn	**Pn**	**11 20 10.0**	**-2.4**
	baz=322,slow=14						
SPA0				*eS*	**Sn**	**11 20 46.4**	**-6.4**
SPA0				IAML		11 20 58.5	
	comp=Z,2μm,0.8s						
SPITS	**Spitsbergen Ar**	**3.41**	**113**	Pn	**Pn**	**11 20 10.4**	**-2.0**
	baz=318,slow=12,SNR=8075						
SPITS				Sn	**Sn**	**11 20 46.4**	**-6.4**
	baz=317,slow=16,SNR=7.3						
SPITS				LR	LR	11 21 34.8	
	comp=Z,6μm,19.1s,baz=320,slow=40						
HSP	**Hornsund**	**4.12**	**127**	Pn	**Pn**	**11 20 19.9**	**-2.1**
HSP				Sn	**Sn**	**11 21 04.2**	**-6.0**
HSPB	**Hornsund (broa**	**4.12**	**127**	*eP*	**Pn**	**11 20 20.8**	**-1.2**
HSPB				*e*		11 21 05.0	
HSPB				smax	smax		
	comp=N,4μm,1.0s						
HSPB	**Hornsund (broa**	**4.12**	**127**	Pn	**Pn**	**11 20 19.9**	**-2.2**
HSPB	**Hornsund (broa**	**4.12**	**127**	*eP*	**Pn**	**11 20 20.8**	**-1.2**
	comp=N,4μm,1.0s						
HSPB	**Hornsund (broa**	**4.12**	**127**	Pn	**Pn**	**11 20 19.9**	**-2.2**
HSPB				*eS*	**Sn**	**11 21 04.1**	**-6.1**
HSPB				IAML		11 21 11.6	
	comp=Z,696nm,0.6s						
DAG	**Danmarks Havn**	**5.03**	**242**	⇑ *iP*	**Pn**	**11 20 32.3**	**-2.2**
DAG				*i* S	**Sn**	**11 21 25.6**	**-7.0**
DAG	**Danmarks Havn**	**5.03**	**242**	⇑ *iP*	**Pn**	**11 20 32.3**	**-2.2**
DAG				*i* S	**Sn**	**11 21 25.6**	**-7.0**
HOPEN	**Hopen**	**5.95**	**112**	Pn	**Pn**	**11 20 44.0**	**-3.1**
HOPEN				Sn	**Sn**	**11 21 47.0**	**-8.1**
HOPEN	**Hopen**	**5.95**	**112**	*eP*	**Pn**	**11 20 43.9**	**-3.2**
HOPEN				*eS*	**Sn**	**11 21 46.8**	**-8.3**
HOPEN				IAML		11 21 50.8	
	comp=Z,476nm,0.5s						
BJO1	**Bjornoya**	**6.70**	**134**	Pn	**Pn**	**11 20 56.4**	**-1.0**
BJO1				Sn	**Sn**	**11 22 07.1**	**-6.6**
BJO	**Bjornoya**	**6.72**	**134**	*eP*	**Pn**	**11 20 56.2**	**-1.5**
BJO				Sn	**Sn**	**11 22 07.1**	**-7.1**
JMIC	**Jan Mayen**	**9.24**	**199**	Pn	**Pn**	**11 21 30.8**	**-1.5**
	comp=Z,106nm,0.3s,baz=323,slow=3.1,SNR=9.2						
JMIC				Sn	**Sn**	**11 23 08.6**	**-7.6**
	comp=Z,116nm,0.3s,baz=97,slow=12,SNR=13						
JMIC				LR	LR	11 23 47.5	
	comp=Z,642nm,18.4s,baz=72,slow=29						
HAMF	**Hammerfest**	**10.81**	**137**	*eP*	**Pn**	**11 21 52.2**	**-1.5**
HAMF				*eS*	**Sn**	**11 23 46.8**	**-7.7**
SCO	**Scoresbysund**	**10.97**	**223**	*i* P	**Pn**	**11 21 54.9**	**-1.0**
SCO	**Scoresbysund**	**10.97**	**223**	*i* P	**Pn**	**11 21 54.9**	**-1.0**
SCO	**Scoresbysund**	**10.97**	**223**	*ePn*	**Pn**	**11 21 54.8**	**-1.0**
SUMG	**Summit**	**11.57**	**252**	*i* P	**Pn**	**11 22 01.2**	**-3.2**
SUMG	**Summit**	**11.57**	**252**	*i* P	**Pn**	**11 22 01.2**	**-3.2**
SUMG				*eS*	Sn	11 24 04.0	-10
SUMG	**Summit**	**11.57**	**252**	*ePn*	**Pn**	**11 22 00.5**	**-3.9**
KIF	**Kilpisjarvi**	**12.05**	**144**	*eP*	**Pn**	**11 22 09.6**	**-1.0**
KEV	**Kevo**	**12.06**	**133**	*eP*	**Pn**	**11 22 10.0**	**-0.7**
KEV	**Kevo**	**12.06**	**133**	*ePn*	**Pn**	**11 22 10.0**	**-0.7**
ARA0	**ARCESS Array S**	**12.08**	**136**	Pn	**Pn**	**11 22 09.2**	**-1.9**
	baz=352,slow=12						
ARA0				Sn	Sn	11 24 14.4	-11
	baz=339,slow=22						
ARA0	**ARCESS Array S**	**12.08**	**136**	*ePn*	**Pn**	**11 22 09.3**	**-1.7**
ARA0				*eSn*	Sn	11 24 15.4	-10
ARA0	**ARCESS Array S**	**12.08**	**136**	Pn	**Pn**	**11 22 09.2**	**-1.9**
	baz=352,slow=12						
ARA0				Sn	Sn	11 24 14.4	-11
	baz=339,slow=22						
ARCES	**ARCESS Array B**	**12.08**	**136**	Pn	**Pn**	**11 22 09.3**	**-1.7**
	comp=Z,3.7nm,0.3s,baz=346,slow=11,SNR=49						
ARCES				Sn	Sn	11 24 15.4	-10
	comp=Z,2.6nm,0.3s,baz=337,slow=21,SNR=6.2						
ARCES				LR	LR	11 26 33.8	
	comp=Z,928nm,19.5s,baz=348,slow=36						
ARCES	**ARCESS Array B**	**12.08**	**136**	*eP*	**Pn**	**11 22 10.1**	**-0.9**
ARCES	**ARCESS Array B**	**12.08**	**136**	*ePn*	**Pn**	**11 22 10.1**	**-0.9**
ARE0	**ARCESS Array S**	**12.08**	**136**	*ePn*	**Pn**	**11 22 11.1**	**+0.1**
ARE0	**ARCESS Array S**	**12.08**	**136**	*eP*	**Pn**	**11 22 09.5**	**-1.5**
LOF	**Lofoten**	**12.27**	**157**	*eP*	**Pn**	**11 22 14.9**	**+1.3**
KTK1	**Kautokeino**	**12.30**	**140**	*eP*	**Pn**	**11 22 14.3**	**+0.2**
HEF	**Hetta**	**12.93**	**140**	*eP*	**Pn**	**11 22 22.7**	**+0.1**
KULLO	**Kullorsuaq**	**13.26**	**278**	*i* P	Pn	11 22 19.8	-7.2
KULLO	**Kullorsuaq**	**13.26**	**278**	*i* P	Pn	11 22 19.8	-7.2
TULEG	**Thule**	**13.78**	**293**	*ePn*	Pn	11 22 26.9	-7.3
KONS	**Konsvik**	**13.86**	**159**	*eP*	**Pn**	**11 22 37.9**	**+2.6**
STOK	**Stokkvaagen**	**14.02**	**160**	*eP*	**Pn**	**11 22 39.8**	**+2.4**
SGF	**Sodankyl**	**14.19**	**137**	P	**Pn**	**11 22 41.2**	**+1.5**
SGF				pmax	pmax		
	comp=Z,44nm,1.5s						
MOR8	**Moi Rana**	**14.27**	**157**	*eP*	**Pn**	**11 22 42.8**	**+1.8**
APA	**Apatity**	**14.97**	**127**	⇑ *iP*	**Pn**	**11 22 46.2**	**-4.2**
APA				*i*		11 25 27.1	
APA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
APA				MLR	MLR		
	comp=Z,2μm,15.0s						
NSS	**Namsos**	**15.75**	**162**	*eP*	**P**	**11 23 05.2**	**+0.6**
BORG	**Borgarnes**	**16.41**	**215**	Sn	**Sn**	**11 26 11.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=0.0,slow=6.1,SNR=2.1						
ILULI	**Ilulissat**	**16.62**	**260**	*eP*	**P**	**11 23 14.9**	**+0.7**
ILULI				pmax	pmax		
	comp=Z,78nm,0.8s						
ILULI	**Ilulissat**	**16.62**	**260**	*ePn*	**P**	**11 23 14.9**	**+0.7**
	comp=Z,78nm,0.8s						
MOL	**Molde**	**17.52**	**170**	*eP*	**P**	**11 23 26.3**	**+2.1**
ANGG	**Ammassalik, Gr**	**17.68**	**238**	*ePn*	**Pn**	**11 23 23.6**	**-1.4**
	comp=Z,37nm,0.6s						
AKN	**Aaknes**	**17.90**	**171**	*eP*	**P**	**11 23 32.4**	**+4.0**
DOMB	**Dombas**	**18.10**	**168**	*eP*	**P**	**11 23 35.4**	**+4.7**
FOO	**Floro**	**18.43**	**174**	*eP*	**Pn**	**11 23 40.3**	**+6.0**
SFJD	**Kangerlussuaq**	**18.51**	**256**	P	**P**	**11 23 29.4**	**-5.7**
	comp=Z,8.2nm,0.3s,baz=23,slow=12,SNR=36						
SFJD				S	Sn	11 26 42.8	-19
	comp=Z,3.1nm,0.3s,baz=324,slow=19,SNR=3.4						
SFJD				LR	LR	11 31 17.2	
	comp=Z,1μm,20.4s,baz=26,slow=39						
SFJD	**Kangerlussuaq**	**18.51**	**256**	*eP*	**P**	**11 23 29.4**	**-5.7**
	comp=Z,82nm,0.8s						
SFJD				*eSn*	Sn	11 26 42.8	-19
TMCR	**Tamitsa**	**18.83**	**125**	*eP*	**Pn**	**11 23 38.8**	**-0.4**
TMCR				*e*		11 27 09.3	
TMCR				pmax	pmax		
	comp=Z,70nm,1.0s						
HYA	**Hoyanger**	**18.89**	**172**	*eP*	**Pn**	**11 23 45.9**	**+6.1**
NC204	**NORSAR Array S**	**18.94**	**165**	*eP*	**Pn**	**11 23 42.7**	**+2.1**
NC204	**NORSAR Array S**	**18.94**	**165**	*eP*	**Pn**	**11 23 45.9**	**+5.3**
NC303	**NORSAR Array S**	**19.02**	**164**	*eP*	**Pn**	**11 23 44.9**	**+3.4**
NC303	**NORSAR Array S**	**19.02**	**164**	*eP*	**Pn**	**11 23 47.9**	**+6.5**
NC405	**NORSAR Array S**	**19.15**	**164**	*eP*	**Pn**	**11 23 45.1**	**+2.1**
NBO02	**NORSAR Array S**	**19.17**	**165**	*eP*	Pn	11 23 50.9	+7.6
NBO00	**NORSAR Array S**	**19.18**	**165**	*eP*	**Pn**	**11 23 47.0**	**+3.5**
NB201	**NORSAR Array S**	**19.19**	**165**	*eP*	**Pn**	**11 23 46.9**	**+3.3**
NB2	**NORSAR Subarra**	**19.20**	**165**	P	**Pn**	**11 23 46.2**	**+2.6**
NB2	**NORSAR Subarra**	**19.20**	**165**	P	**Pn**	**11 23 46.2**	**+2.6**
NB200	**NORSAR Array S**	**19.20**	**165**	*eP*	**Pn**	**11 23 44.1**	**+0.5**
NOA	**NORSAR Array B**	**19.20**	**165**	P	**Pn**	**11 23 44.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=352,slow=12,SNR=6.6						
NOA				LR	LR	11 30 04.0	
	comp=Z,398nm,18.6s,baz=20,slow=34						
RES	**Resolute Bay**	**19.24**	**307**	P	**P**	**11 23 39.2**	**-3.8**
	comp=Z,1.8nm,0.3s,baz=35,slow=12,SNR=51						
RES				S	Sn	11 26 58.4	-21
	comp=Z,0.7nm,0.3s,baz=111,slow=6.7,SNR=9.9						
RES				LR	LR	11 31 14.7	
	comp=Z,1μm,19.8s,baz=28,slow=37						
RES	**Resolute Bay**	**19.24**	**307**	*eP*	**P**	**11 23 38.9**	**-4.1**
	comp=Z,20nm,1.0s						
NAO01	**NORSAR Array S**	**19.38**	**165**	*eP*	**Pn**	**11 23 51.1**	**+5.4**
NC602	**NORSAR Array S**	**19.52**	**164**	*eP*	**Pn**	**11 23 49.0**	**+1.6**
NC602	**NORSAR Array S**	**19.52**	**164**	*eP*	Pn	11 23 55.2	+7.8
NRA0	**NORESS Array S**	**19.52**	**164**	P	**Pn**	**11 23 47.0**	**-0.4**
	slow=9.3						
NRA0	**NORESS Array S**	**19.52**	**164**	P	**Pn**	**11 23 47.0**	**-0.4**
	slow=9.3						
ASK	**Askoy**	**19.55**	**174**	*eP*	Pn	11 23 55.7	+7.9
FIA1	**FINESS Array S**	**19.95**	**143**	*eP*	**Pn**	**11 23 51.7**	**-0.8**
FIA0	**FINESS Array S**	**19.95**	**143**	P	**Pn**	**11 23 51.7**	**-0.8**
	baz=352,slow=12						
FIA0	**FINESS Array S**	**19.95**	**143**	*eP*	**Pn**	**11 23 51.7**	**-0.8**
FIA0	**FINESS Array S**	**19.95**	**143**	*eP*	**Pn**	**11 23 51.7**	**-0.8**
FIA0	**FINESS Array S**	**19.95**	**143**	P	**Pn**	**11 23 51.7**	**-0.8**
	baz=352,slow=12						
FINES	**FINESS Array B**	**19.95**	**143**	P	**Pn**	**11 23 51.7**	**-0.8**
	comp=Z,12nm,0.6s,baz=344,slow=11,SNR=39						
HFS	**Hagfors**	**20.23**	**161**	P	Pn	11 23 55.6	-0.3
	slow=10						
HFS	**Hagfors**	**20.23**	**161**	P	Pn	11 23 55.4	-0.5
	comp=Z,9.0nm,0.7s,baz=4.3,slow=5.9,SNR=14						
HFS				LR	LR	11 30 54.4	
	comp=Z,744nm,18.4s,baz=38,slow=34						
HFS	**Hagfors**	**20.23**	**161**	P	Pn	11 23 55.6	-0.3
	slow=10						
BLS5	**Blasjo**	**20.64**	**172**	*eP*	Pn	11 24 10.3	+10
SNART	**Snartemo**	**21.75**	**171**	*eP*	P	11 24 25.5	+15
KLMR	**Klimovskoe**	**22.21**	**126**	*eP*	**P**	**11 24 12.5**	**-2.6**
KLMR				*eS*	**S**	**11 28 17.7**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,55nm,1.3s						
KLMR	**Klimovskoe**	**22.21**	**126**	*eP*	**P**	**11 24 12.6**	**-2.6**
KLMR				AMP		11 24 25.7	
	comp=Z,55nm,1.3s						
KLMR				*eS*	**S**	**11 28 17.8**	**-1.5**
KLMR				*eS*	**S**	**11 28 17.8**	**-1.5**
VSU	**Vasula**	**22.94**	**144**	*ceP*	**P**	**11 24 23.1**	**+0.1**
VSU				pmax	pmax		
	comp=Z,155nm,1.2s						
NRS	**Narsarsuaq**	**23.08**	**243**	*eP*	**P**	**11 24 25.1**	**+0.7**
NRS				pmax	pmax		
	comp=Z,57nm,0.8s						
NRS	**Narsarsuaq**	**23.08**	**243**	*eP*	**P**	**11 24 25.1**	**+0.7**
	comp=Z,57nm,0.8s						
IVI	**Ivigtut**	**23.48**	**247**	*eP*	**P**	**11 24 28.9**	**+0.5**
	comp=Z,62nm,0.8s						
FRB	**Frobisher Bay**	**24.61**	**271**	P	**P**	**11 24 37.4**	**-1.6**
	comp=Z,9.2nm,0.6s,baz=23,slow=8.3,SNR=25						
FRB				S	**S**	**11 29 07.5**	**+7.8**
	comp=Z,4.8nm,0.8s,baz=306,slow=19,SNR=2.1						
FRB				LR	LR	11 34 14.4	
	comp=Z,613nm,21.9s,baz=24,slow=36						
EKA	**Eskdalemuir Ar**	**24.71**	**186**	P	**P**	**11 24 41.3**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=9.2,slow=9.3,SNR=3.9						
ESK	**Eskdalemuir**	**24.73**	**186**	*eP*	**P**	**11 24 41.7**	**+1.5**
ESK				pmax	pmax		
	comp=Z,81nm,1.9s						
ESK	**Eskdalemuir**	**24.73**	**186**	*eP*	**P**	**11 24 41.6**	**+1.5**
	comp=Z,81nm,1.9s						
IZAR	**Zarasai**	**25.57**	**146**	*eP*	**P**	**11 24 47.4**	**-0.3**
ISAL	**Salakas**	**25.73**	**146**	*eP*	**P**	**11 24 48.9**	**-0.3**
TIXI	**Tiksi**	**25.95**	**35**	P	**P**	**11 24 50.8**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=2.6,slow=2.2,SNR=4.4						
TIXI	**Tiksi**	**25.95**	**35**	*ceP*	**P**	**11 24 51.7**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,27nm,1.7s						
IIGN	**Ignalina**	**25.96**	**146**	*eP*	**P**	**11 24 51.0**	**-0.3**
IDID	**Didziasalis**	**26.04**	**145**	*eP*	**P**	**11 24 51.7**	**-0.3**
SOKR	**Solikamsk**	**26.12**	**107**	*c iP*	**P**	**11 24 50.4**	**-2.3**
SOKR				pmax	pmax		
	comp=Z,53nm,2.1s						
SOKR				MLR	MLR		
	comp=Z,779nm,15.0s						
NACGM	**Naroch**	**26.45**	**146**	*e*	**P**	**11 24 55.0**	**-0.8**
NACGM				*e*LR	LR	11 33 17.0	
DSB	**Dublin**	**26.88**	**190**	*eP*	**P**	**11 25 00.2**	**+0.6**
	comp=Z,46nm,1.7s						
SUW	**Suwalki**	**27.00**	**150**	P	**P**	**11 25 01.1**	**+0.4**
OBN	**Obninsk**	**27.37**	**133**	P	**P**	**11 25 04.8**	**+0.8**
	comp=Z,46nm,0.3s,baz=21,slow=9.7,SNR=4.5						
OBN				LR	LR	11 36 05.3	
	comp=Z,868nm,18.9s,baz=24,slow=37						
OBN	**Obninsk**	**27.37**	**133**	‖ *eP*	**P**	**11 25 04.2**	**+0.2**
OBN				*e**PP	**pP**	**11 25 06.9**	**0.0**
OBN				*e**SP	**sP**	**11 25 08.2**	**+0.1**
OBN				PPP	PPP	11 25 55.0	
OBN				*i* S	**S**	**11 29 49.2**	**+5.7**
OBN				*e*SS	**SnSn**	**11 30 55.0**	**+3.0**
OBN				pmax	pmax		
	comp=Z,20nm,0.5s						
OBN				MLR	MLR		
	comp=Z,665nm,16.0s						
CLL	**Collm**	**29.00**	**164**	*eP*	P	11 25 24.0	+5.4
CLL	**Collm**	**29.00**	**164**	*e*(sP)	sP	11 25 24.0	+1.3
	comp=Z,14nm,1.5s						
ARU	**Arti**	**29.44**	**107**	P	**P**	**11 25 21.4**	**-1.0**
	comp=Z,2.5nm,0.4s,baz=337,slow=5.3,SNR=9.8						
ARU	**Arti**	**29.44**	**107**	⇑ *eP*	**P**	**11 25 23.1**	**+0.7**
ARU				pmax	pmax		
	comp=Z,30nm,1.7s						
ARU	**Arti**	**29.44**	**107**	*eP*	**P**	**11 25 22.9**	**+0.5**
	comp=Z,40nm,1.4s						
INK	**Inuvik**	**29.80**	**328**	P	**P**	**11 25 23.8**	**-1.6**
	comp=Z,4.4nm,0.8s,baz=13,slow=13,SNR=22						
INK				LR	LR	11 39 56.9	
	comp=Z,222nm,18.1s,baz=4.5,slow=42						
INK	**Inuvik**	**29.80**	**328**	*eP*	**P**	**11 25 25.1**	**-0.4**
INK				pmax	pmax		
	comp=Z,17nm,1.3s						
INK	**Inuvik**	**29.80**	**328**	*eP*	**P**	**11 25 25.1**	**-0.4**
	comp=Z,17nm,1.3s						
GRF	**Grafenberg Arr**	**30.54**	**167**	P	**P**	**11 25 30.1**	**-2.1**
GRF				pmax	pmax		
	comp=Z,11nm,0.7s						
TOLK	**Toolik Lake Re**	**30.73**	**339**	P	**P**	**11 25 34.2**	**+0.4**
	baz=9.7,SNR=8.4						
TOLK	**Toolik Lake Re**	**30.73**	**339**	*eP*	**P**	**11 25 34.1**	**+0.3**
	comp=Z,44nm,1.8s						
AKASG	**Malin Array Be**	**30.85**	**144**	P	**P**	**11 25 34.6**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=347,slow=9.1,SNR=11						
AKBB	**Malin Array Si**	**30.85**	**144**	*eP*	**P**	**11 25 34.8**	**-0.1**
AKBB	

ILAR PcP **PcP** **11 28 40.4 -0.6**
comp=Z,0.7nm,0.7s,baz=328,slow=4.1,SNR=4.7
ILAR LR LR 11 39 22.2
comp=Z,189nm,21.6s,baz=358,slow=35
ILB Eielson Array 34.38 336 *eP* **P 11 26 06.3 +0.6**
MLY Manley 34.38 339 *eP* **P 11 26 06.5 +0.7**
comp=Z,13nm,1.3s
KIS Kishinev 34.47 146 *eP* P 11 26 15.0 +8.4
KIS Kishinev 34.47 146 *eP* P 11 26 15.0 +8.4
DAWY Dawson 34.48 330 *eP* **P 11 26 06.8 +0.1**
comp=Z,23nm,1.5s
CCB Clear Creek Bu 34.57 337 *eP* **P 11 26 07.9 +0.6**
comp=Z,27nm,1.5s
BRVK Borovoye 34.68 97*c iP* **P 11 26 09.1 +0.7**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 34.68 97 *eP* **P 11 26 09.0 +0.7**
comp=Z,18nm,1.4s
BVA0 Borovoye Array 34.73 97 *i* P **P 11 26 09.3 +0.4**
BVAR Borovoye Array 34.73 97 P **P 11 26 10.1 +1.2**
comp=Z,2.1nm,0.5s,baz=338,slow=9.8,SNR=8.4
BVAR LR LR 11 43 16.1
comp=Z,768nm,19.0s,baz=332,slow=41
HDA Harding Lake 34.75 336 *eP* **P 11 26 09.2 +0.3**
comp=Z,26nm,1.5s
WRH Wood River Hil 34.77 337 *eP* **P 11 26 09.0 0.0**
comp=Z,14nm,1.1s
SCRK Sand Creek 34.95 334 *eP* **P 11 26 11.6 +0.8**
comp=Z,38nm,2.0s
AKTO Aktyubinsk 35.11 111 P **P 11 26 12.8 +0.7**
comp=Z,4.9nm,0.6s,baz=347,slow=12,SNR=20
RIDG Independ'e Rid 35.25 334 *eP* **P 11 26 13.9 +0.6**
comp=Z,26nm,1.5s
NVS Novosibirsk 35.26 83 *eP* **P 11 26 12.5 -0.8**
NVS *e* 11 27 34.1
NVS pmax pmax
comp=Z,16nm,1.3s
NVS pmax pmax
comp=N,13nm,1.6s
DOT Dot Lake 35.28 334 *eP* **P 11 26 14.5 +1.0**
comp=N,26nm,0.9s
YAK Yakutsk 35.32 39 *eP* P 11 26 20.3 +6.5
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,11nm,1.2s
KTH Kantishna Hill 35.87 339 *eP* P 11 26 27.1 +8.5
comp=N,28nm,1.3s
MENT Mentasta 35.96 333 *eP* **P 11 26 19.7 +0.4**
comp=N,42nm,1.7s
PAX Paxson 36.06 335 *eP* **P 11 26 19.5 -0.8**
PAX Paxson 36.06 335 *eP* **P 11 26 19.5 -0.8**
CAST Castle Rocks 36.07 340 *eP* **P 11 26 20.9 +0.6**
comp=N,38nm,1.4s
DHY Denali Highway 36.10 336 *eP* **P 11 26 21.0 +0.3**
comp=N,72nm,1.8s
ZAA1 Zalesovo Array 36.39 82 *eP* **P 11 26 23.1 +0.1**
ZAA1 *e*PP **PP 11 27 52.9 +7.4**
ZAA0 Zalesovo Array 36.39 82 *eP* **P 11 26 23.3 +0.3**
comp=N,7.6nm,1.0s
ZALV Zalesovo Beam 36.39 82 P **P 11 26 23.1 +0.1**
comp=N,2.3nm,0.4s,baz=346,slow=8.7,SNR=11
ZALV PP **PP 11 27 52.9 +7.4**
comp=N,2.4nm,0.9s,baz=324,slow=9.9,SNR=3.8
ZALV LR LR 11 44 52.0
comp=N,666nm,18.7s,baz=254,slow=42
ZALV Zalesovo Beam 36.39 82 *eP* **P 11 26 22.9 -0.2**
ZALV Zalesovo Beam 36.39 82 *eP* **P 11 26 22.9 -0.2**
SEY Seymchan 36.46 22 *eP* **P 11 26 23.6 +0.1**
GAMB Gambell 36.48 354 *eP* **P 11 26 23.6 -0.1**
comp=N,50nm,1.7s
AB05 Akbulak array 36.55 109 *eP* **P 11 26 24.9 +0.4**
AB09 Akbulak array 36.56 109 *eP* **P 11 26 24.9 +0.3**
AB04 Akbulak array 36.57 109 *eP* **P 11 26 24.9 +0.3**
AB02 Akbulak array 36.57 109 *eP* **P 11 26 25.1 +0.5**
AB06 Akbulak array 36.57 109 *eP* **P 11 26 25.1 +0.5**
AB01 Akbulak array 36.57 109 *eP* **P 11 26 25.0 +0.3**
AB31 Akbulak array 36.57 109 *eP* **P 11 26 25.0 +0.4**
AB31 Akbulak array 36.57 109 *eP* **P 11 26 25.0 +0.4**
ABKAR Akbulak array 36.57 109 *eP* **P 11 26 25.0 +0.4**
comp=N,41nm,0.9s
AB03 Akbulak array 36.58 109 *eP* **P 11 26 24.9 +0.2**
AB08 Akbulak array 36.59 109 *eP* **P 11 26 25.0 +0.3**
AB07 Akbulak array 36.59 109 *eP* **P 11 26 25.1 +0.3**
SCM Sheep Creek Mo 37.33 336 *eP* **P 11 26 31.4 +0.3**
SCM pmax pmax
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 37.33 336 *eP* **P 11 26 31.4 +0.3**
comp=Z,16nm,0.9s
BOD Bodaibo 37.40 54 *eP* **P 11 26 29.3 -2.3**
BOD pmax pmax
comp=Z,20nm,1.4s
WHY Whitehorse 37.41 326 *eP* **P 11 26 32.0 +0.2**
comp=Z,12nm,0.8s
SML Sawmill 37.42 336 *eP* **P 11 26 32.0 +0.2**
SML pmax pmax
comp=Z,37nm,1.4s
SML Sawmill 37.42 336 *eP* **P 11 26 32.0 +0.2**
comp=Z,37nm,1.4s
SKT Skwentna 37.47 339 *eP* **P 11 26 31.7 -0.5**
comp=Z,34nm,1.4s
GHO Glory Hole Cre 37.50 337 *eP* **P 11 26 32.3 -0.2**
comp=Z,16nm,0.9s
HYT Haines Junctio 37.50 328 *eP* **P 11 26 32.7 +0.1**
comp=Z,116nm,2.0s
ANN Anapa 37.60 136 *eP* **P 11 26 32.5 -0.9**
ANN *e*S **S 11 32 26.0 +3.5**
ANN pmax pmax
comp=Z,115nm,1.0s
ANN MLR MLR
comp=Z,1µm,17.0s
SUA Susitna One 37.93 338 *eP* **P 11 26 35.7 -0.5**
comp=Z,19nm,1.0s
KURK Kurchatov 38.40 90*c iP* **P 11 26 40.5 +0.4**
KURK pmax pmax
comp=Z,29nm,1.1s
KURK Kurchatov 38.40 90 *eP* **P 11 26 40.5 +0.4**
comp=Z,76nm,1.5s
KURK *e*PcP **PcP 11 28 52.9 -0.2**
KURBB Kurchatov Arra 38.47 90 P **P 11 26 41.0 +0.3**
comp=Z,8.4nm,0.6s,baz=343,slow=7.5,SNR=93
KURBB PcP **PcP 11 28 52.9 -0.5**
comp=Z,0.5nm,0.5s,baz=343,slow=2.9,SNR=2.8
SVW2 Sparrevohn 38.59 342 *eP* **P 11 26 42.1 +0.5**
comp=Z,16nm,1.2s
FFC Flin Flon 38.84 296 *eP* **P 11 26 44.4 +0.6**
FFC pmax pmax
comp=Z,17nm,1.3s
FFC Flin Flon 38.84 296 *eP* **P 11 26 44.4 +0.6**
comp=Z,17nm,1.3s
KIV Kislovodsk 39.11 130 *eP* **P 11 26 44.7 -1.6**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 39.36 130 P **P 11 26 49.6 +1.4**
comp=Z,5.9nm,1.0s,baz=332,slow=3.5,SNR=9.3
OTUK Ortayu 39.68 97 P **P 11 26 50.4 -0.5**
OTUK pmax pmax
comp=Z,5.0nm,0.5s
NCK Nalchik 39.69 129 *i* P **P 11 26 51.9 +0.9**
NCK pmax pmax
comp=Z,13nm,0.8s
NEY Neytrino 39.81 130 *eP* **P 11 26 52.1 -0.1**
NEY pmax pmax
comp=Z,2.0nm,1.5s
GROC Groznyy 40.28 127 *eP* **P 11 26 55.1 -0.8**
GROC *e* 11 28 27.0
GROC pmax pmax
comp=Z,72nm,1.5s
ESDC Sonseca Array 40.39 186 P **P 11 26 58.2 +1.3**
comp=Z,0.3nm,0.4s,baz=0.0,slow=6.2,SNR=5.3
ZEI Tsey 40.42 129 *eP* **P 11 26 56.5 -0.8**
ZEI pmax pmax
comp=Z,13nm,1.5s
DGZ Jazzator, Alta 40.93 82*c iP* **P 11 27 02.0 +0.6**
DGZ pmax pmax
comp=Z,4.0nm,1.2s
MOY Mondy 41.34 68 *eP* **P 11 27 05.6 +0.9**
MOY pmax pmax
comp=Z,53nm,1.9s
KDAK Kodiak Island 41.71 339 P **P 11 27 07.7 +0.2**
comp=Z,17nm,0.7s,baz=7.4,slow=5.1,SNR=16
KDAK Kodiak Island 41.71 339 *eP* **P 11 27 07.7 +0.2**
comp=Z,83nm,1.5s
TLY Talaya 41.75 66 *eP* **P 11 27 07.4 -0.6**
TLY pmax pmax
comp=Z,11nm,1.4s
TLY MLR MLR
comp=Z,689nm,19.0s
TLY Talaya 41.75 66 *eP* **P 11 27 07.7 -0.3**
comp=Z,29nm,1.8s
KNGR Kungurtug, Tuv 41.79 72 *eP* **P 11 27 08.9 +0.5**
BR231 Keskin MP Arra 41.96 143 *eP* **P 11 27 12.0 +2.1**
EDM Edmonton 42.03 305 *eP* **P 11 27 10.8 +0.6**
EDM pmax pmax
comp=Z,28nm,1.0s
EDM Edmonton 42.03 305 *eP* **P 11 27 10.8 +0.6**
comp=Z,28nm,1.0s
ULM Lac du Bonnet 42.16 288 P **P 11 27 11.1 -0.1**
comp=Z,1.0nm,0.3s,baz=14,slow=6.7,SNR=3.8
ULM LR LR 11 44 28.9
comp=Z,1µm,19.0s,baz=13,slow=36
ULM Lac du Bonnet 42.16 288 *eP* **P 11 27 11.5 +0.3**
ULM pmax pmax
comp=Z,14nm,1.3s
ULM Lac du Bonnet 42.16 288 *eP* **P 11 27 11.5 +0.3**
comp=Z,14nm,1.3s
BR101 Keskin Array S 42.17 142 *eP* **P 11 27 12.9 +1.3**
BR131 Keskin Array S 42.17 142 *eP* **P 11 27 13.3 +1.7**
BRTR Keskin Array B 42.17 142 P **P 11 27 12.9 +1.3**
comp=Z,1.8nm,0.5s,baz=344,slow=6.4,SNR=11
BRTR Keskin Array B 42.17 142 P **P 11 27 13.0 +1.3**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
MAKZ Makanchi 42.76 88 *i* P **P 11 27 16.0 -0.2**
MAKZ pmax pmax
comp=Z,46nm,1.5s
MAKZ Makanchi 42.76 88 *eP* **P 11 27 16.6 +0.4**
comp=Z,52nm,1.4s
MK31 Makanchi Array 42.83 88 *i* P **P 11 27 16.7 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MK31 Makanchi Array 42.83 88 *eP* **P 11 27 16.9 +0.1**
MK32 Makanchi Array 42.83 88 *eP* **P 11 27 17.3 +0.5**
MKAR Makanchi Array 42.83 88 P **P 11 27 17.3 +0.5**
comp=Z,7.1nm,0.6s,baz=340,slow=7.4,SNR=98
MKAR LR LR 11 48 13.2
comp=Z,420nm,18.7s,baz=332,slow=40
MKAR Makanchi Array 42.83 88 *eP* **P 11 27 16.9 +0.1**
MKAR pmax pmax
comp=Z,81nm,0.6s
MKAR Makanchi Array 42.83 88 *eP* **P 11 27 16.9 +0.1**
comp=Z,81nm,0.6s
MK01 Makanchi Array 42.86 88 *eP* **P 11 27 17.1 +0.1**
ZAK Zakamensk 42.95 67 *eP* **P 11 27 16.4 -1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
GNI Garni 43.13 129 P **P 11 27 19.8 +0.4**
comp=Z,5.9nm,0.4s,baz=353,slow=13,SNR=3.2
GNI Garni 43.13 129 *eP* **P 11 27 20.1 +0.7**
GNI pmax pmax
comp=Z,30nm,1.3s
B35A Bob, Littlefor 43.62 286 P **P 11 27 23.2 +0.1**
baz=15
EYMN Ely 43.64 283 P **P 11 27 23.6 +0.3**
baz=15
ISP Isparta 43.73 146 *eP* **P 11 27 24.4 +0.2**
ISP pmax pmax
comp=Z,11nm,0.8s
PLVO Plevna 43.93 268 P **P 11 27 25.6 0.0**
baz=14
AGMN Agassiz Nation 44.05 287 *eP* **P 11 27 27.8 +1.3**
comp=Z,17nm,1.4s
BANO Bancroft 44.10 269 P **P 11 27 26.6 -0.4**
baz=14
C35A Jirik Farms, M 44.30 286 P **P 11 27 28.4 -0.2**
baz=14
KK09 Karatay Array 44.32 101 *eP* **P 11 27 29.8 +1.0**
KK05 Karatay Array 44.33 101 *eP* **P 11 27 30.0 +1.2**
KK04 Karatay Array 44.33 101 *eP* **P 11 27 30.2 +1.3**
KK08 Karatay Array 44.33 101 *eP* **P 11 27 30.2 +1.3**
KK01 Karatay Array 44.33 101 *eP* **P 11 27 30.2 +1.3**
KK03 Karatay Array 44.34 101 *eP* **P 11 27 30.2 +1.2**
KK02 Karatay Array 44.34 101 *eP* **P 11 27 30.2 +1.2**
KK31 Karatay Array 44.34 101 *eP* **P 11 27 30.3 +1.3**
KK31 Karatay Array 44.34 101 *eP* **P 11 27 30.3 +1.3**
KKAR Karatay Array 44.34 101 *eP* **P 11 27 30.3 +1.3**
KKAR Karatay Array 44.34 101 *eP* **P 11 27 30.3 +1.3**
KK06 Karatay Array 44.35 101 *eP* **P 11 27 30.2 +1.2**
KK07 Karatay Array 44.35 101 *eP* **P 11 27 30.2 +1.2**
DELO Deloro Mine 44.53 269 P **P 11 27 30.6 +0.1**
baz=14
D36A Goodland 44.67 285 P **P 11 27 32.1 +0.5**
baz=14
USP Ospenovka 44.87 97 P **P 11 27 34.4 +1.2**
SNR=5.1
E38A The Farm, Brul 44.95 283 P **P 11 27 34.1 +0.3**
baz=14
E39A Mellen 45.00 282 P **P 11 27 34.3 +0.2**
baz=14
D34A Park Rapids 45.11 286 P **P 11 27 35.3 +0.3**
baz=14
CHMS Chumysh 45.18 97 P **P 11 27 37.4 +1.7**
SNR=8.7
MNAS Manas 45.28 99 P **P 11 27 37.6 +1.0**
MNAS pmax pmax
comp=Z,13nm,1.4s
FRU Bishkek 45.31 97 *eP* **P 11 27 37.0 +0.2**
FRU pmax pmax
comp=Z,60nm,1.6s
E36A McGregor 45.33 284 P **P 11 27 37.0 +0.2**
baz=14
EKS2 Erkin-Say 45.34 98 P **P 11 27 38.4 +1.4**
SNR=5.7
TKM2 Tokmak 2 45.40 96 P **P 11 27 39.2 +1.6**
SNR=13
AAK Ala-Archa 45.48 97 P **P 11 27 38.9 +0.7**
comp=Z,4.3nm,0.6s,baz=334,slow=3.0,SNR=18
AAK Ala-Archa 45.48 97 *eP* **P 11 27 39.9 +1.6**
AAK Ala-Archa 45.48 97 P **P 11 27 39.3 +1.0**
SNR=12
AAK Ala-Archa 45.48 97 *eP* **P 11 27 39.9 +1.6**
F39A Loreta 45.51 282 P **P 11 27 38.2 0.0**
baz=14,SNR=5.1
F38A Pierce - Schro 45.63 283 P **P 11 27 39.8 +0.7**
baz=14
PDGK Podgornoye 45.69 92 P **P 11 27 40.6 +0.7**
PDGK pmax pmax
comp=Z,22nm,0.8s
LLLB Lillooet 45.76 312 *eP* **P 11 27 41.2 +1.0**
comp=Z,55nm,1.9s
AML Almayashu 45.84 98 P **P 11 27 43.5 +2.2**
SNR=23
UCH Uchtor 45.88 97 P **P 11 27 44.0 +2.3**
SNR=19
SONA1 Songino Array 45.91 65 *eP* **P 11 27 41.8 +0.2**
SONA0 Songino Array 45.93 65 *eP* **P 11 27 41.9 +0.2**
SONA0 *e*PcP **PcP 11 29 17.4 -1.0**
SONM Songino Array 45.93 65 P **P 11 27 41.9 +0.2**
comp=Z,1.8nm,0.6s,baz=330,slow=8.0,SNR=20
SONM PP **PcP 11 29 17.4 -1.0**
comp=Z,0.4nm,0.6s,baz=350,slow=7.6,SNR=2.2
SONM LR LR 11 48 52.1
comp=Z,2µm,18.4s,baz=350,slow=39
F37A Hinrichs Farm, 45.99 284 P **P 11 27 43.1 +1.1**
baz=14
ULN Ulaanbaatar 46.00 64*c iP* **P 11 27 42.7 +0.4**
ULN pmax pmax
comp=Z,37nm,1.8s
ULN Ulaanbaatar 46.00 64 *eP* **P 11 27 42.9 +0.6**
comp=Z,70nm,1.8s
F36A Milaca 46.01 284 P **P 11 27 42.8 +0.6**
baz=14
KZA Kyzart 46.16 96 P **P 11 27 45.6 +1.7**
SNR=9.1
WALA Waterton Lakes 46.16 304 *eP* **P 11 27 43.1 -0.4**
comp=Z,15nm,1.1s
ULHL Ulahol 46.17 95 P **P 11 27 45.2 +1.5**
SNR=7.9
G38A Ridgeland 46.39 283 P **P 11 27 45.8 +0.6**
baz=14,SNR=5.2
KDJ Kajisay 46.45 94 P **P 11 27 47.1 +1.2**
KDJ pmax pmax
comp=Z,13nm,1.1s
KDJ Kajisay 46.45 94 *eP* **P 11 27 47.0 +1.2**
comp=Z,14nm,1.0s
BINY Binghamton 46.49 266 P **P 11 27 47.1 +1.1**
baz=14
SPMN Marine on St. 46.50 284 P **P 11 27 46.8 +0.7**
baz=14
EGMT Eagleton 46.55 300 *eP* **P 11 27 47.7 +1.2**
comp=Z,15nm,1.3s
PETK Petropavlovsk- 46.57 19 LR LR 11 46 49.1
comp=Z,174nm,18.3s,baz=352,slow=36
WMQ Urumqi 46.66 84 P **P 11 27 50.0 +2.6**
WMQ pP sP 11 27 53.5 +1.9
WMQ sP pP 11 27 58.3 +7.9
WMQ pmax pmax
comp=Z,49nm,1.3s
WMQ pmax pmax
comp=Z,430nm,3.7s
WMQ LR LR
comp=Z,1µm,17.3s
WMQ LR LR
comp=Z,4µm,21.1s
WMQ LR LR
comp=Z,960nm,20.7s
NRN Naryn 46.92 96 *eP* **P 11 27 50.8 +1.1**
NRN pmax pmax
comp=Z,24nm,1.6s
NRN Naryn 46.92 96 *eP* **P 11 27 50.8 +1.1**
comp=Z,24nm,1.6s
TARG Taragay, Kyrgy 46.95 94 *eP* **P 11 27 51.8 +1.7**
comp=Z,80nm,2.0s
GEYT Alibeck 47.30 115 P **P 11 27 53.2 +0.8**
comp=Z,6.5nm,0.6s,baz=325,slow=9.0,SNR=13
LAO LASA Array 47.30 296 P **P 11 27 53.6 +1.2**
baz=13
LAO LASA Array 47.30 296 *eP* **P 11 27 53.7 +1.4**
comp=Z,27nm,1.4s
H36A Jessenland, He 47.33 284 P **P 11 27 53.0 +0.6**
baz=14
H35A Sunnyside Ranc 47.36 285 P **P 11 27 53.2 +0.5**
baz=14
NEW Newport 47.40 307 P **P 11 27 52.5 -0.6**
comp=Z,4.1nm,0.8s,baz=11,slow=7.0,SNR=8.4
NEW Newport 47.40 307 P **P 11 27 53.6 +0.6**
baz=12
NEW Newport 47.40 307 *eP* **P 11 27 53.9 +0.8**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 47.40 307 *eP* **P 11 27 53.9 +0.8**
comp=Z,9.8nm,1.0s
I39A Houston 47.61 282 P **P 11 27 55.3 +0.6**
baz=14
B08A Colville Reser 47.62 309 *eP* **P 11 27 55.0 +0.2**
comp=Z,8.7nm,0.9s
M54A Oil Creek Stat 47.81 270 P **P 11 27 56.9 +0.6**
baz=14
J41A Loganville 47.83 280 P **P 11 27 57.1 +0.8**
baz=14
SFK Sufi-Kurgan 47.86 99 P **P 11 27 58.0 +1.0**
SFK pmax pmax
comp=Z,13nm,1.1s
J40A Soldiers Grove 47.92 281 P **P 11 27 57.9 +0.8**
baz=14,SNR=5.9
KLR Kul'dur 48.12 42 *eP* **P 11 27 58.2 -0.4**
HRY Holter Researc 48.15 302 *eP* **P 11 27 58.8 -0.2**
J39A Decorah 48.15 282 P **P 11 27 59.1 +0.2**
baz=14
MSO Missoula 48.34 304 P **P 11 28 00.7 +0.2**
baz=12,SNR=9.2
MSO Missoula 48.34 304 *eP* **P 11 28 00.7 +0.2**
comp=Z,45nm,1.4s
N54A Moraine State 48.40 270 P **P 11 28 01.5 +0.6**
baz=13
J37A Redenius Farm, 48.49 284 P **P 11 28 01.9 +0.4**
baz=14,SNR=8.7
ECSD EROS Data Cent 48.60 287 P **P 11 28 02.9 +0.5**
baz=13
ECSD EROS Data Cent 48.60 287 *eP* **P 11 28 03.1 +0.7**
comp=Z,20nm,1.1s
K40A Colesburg 48.67 281 P **P 11 28 03.1 +0.2**
baz=14
KSH Kashi 48.78 96 *eP* **P 11 28 07.0 +3.1**
KSH sP sP 11 28 14.0 +5.9
KSH PcP **PcP 11 29 31.3 +2.7**
KSH S **S 11 35 09.0 +2.5**
KSH sS sS 11 35 17.3 +5.8
KSH SS **SS 11 38 35.5 -0.8**
KSH pmax pmax
comp=Z,44nm,1.9s
KSH pmax pmax
comp=Z,240nm,7.2s
KSH LR LR
comp=Z,700nm,15.0s
KSH LR LR
comp=Z,640nm,14.3s
KSH LR LR
comp=Z,670nm,20.2s
K39A Oelwein 48.79 282 P **P 11 28 04.1 +0.2**
baz=13
MMAI Mount Meron Ar 49.00 141 P **P 11 28 06.6 +1.0**
comp=Z,3.2nm,0.5s,baz=355,slow=7.2,SNR=9.0
RLMT Red Lodge 49.31 299 *eP* **P 11 28 09.2 +1.2**
comp=Z,17nm,1.4s
RSSD Black Hills 49.45 294 P **P 11 28 09.5 +0.3**
baz=13
RSSD Black Hills 49.45 294 *eP* **P 11 28 09.8 +0.6**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD Black Hills 49.45 294 *eP* **P 11 28 09.8 +0.6**
comp=Z,7.2nm,0.8s
L38A Oak Wood Farm, 49.52 283 P **P 11 28 09.6 +0.2**
baz=13
L37A Phoenix Point, 49.68 283 P **P 11 28 10.8 +0.2**
baz=13
SCIA State Center 49.80 283 P **P 11 28 11.9 +0.4**
baz=13
SCIA State Center 49.80 283 *eP* **P 11 28 12.2 +0.7**
comp=Z,19nm,0.7s
M39A Webster 50.03 282 P **P 11 28 13.6 +0.3**
baz=13
MCMT McKenzie Canyo 50.14 302 *eP* **P 11 28 15.1 +0.7**
H17A Grant Village 50.22 300 P **P 11 28 16.2 +1.1**
baz=12
H17A Grant Village 50.22 300 *eP* **P 11 28 17.0 +2.0**
comp=Z,13nm,1.2s
M38A Pleasantville 50.27 283 P **P 11 28 15.1 0.0**
baz=13
N40A Mertquake, Sal 50.51 281 P **P 11 28 17.1 +0.2**
baz=13
M35A Neola 50.65 285 P **P 11 28 18.0 0.0**
baz=13
N39A Derby Farms, D 50.67 282 P **P 11 28 18.1 -0.1**
baz=13
IMW Indian Meadow 50.76 300 *eP* **P 11 28 20.5 +1.3**
comp=Z,14nm,1.0s
BMO Blue Mountains 50.77 306 *eP* **P 11 28 19.2 +0.2**
BMO pmax pmax
comp=Z,9.0nm,0.9s
BMO Blue Mountains 50.77 306 *eP* **P 11 28 19.2 +0.2**
comp=Z,9.3nm,0.9s
MOOW Moose Ponds 50.88 300 *eP* **P 11 28 20.8 +0.9**
comp=Z,10nm,1.2s
P46A Rosedale 50.98 276 P **P 11 28 20.2 -0.3**
baz=13
FXWY Fox Creek 51.03 300 *eP* **P 11 28 21.7 +0.6**
comp=Z,17nm,1.4s
N37A Lee Faris, Mou 51.09 283 P **P 11 28 20.5 -0.7**
baz=13
O41A Passleys Farm, 51.14 280 P **P 11 28 21.1 -0.6**
baz=13
SNOW Snow King Moun 51.16 300 *eP* **P 11 28 23.4 +1.3**
comp=Z,7.1nm,0.8s
N36A Muff Farm, Cla 51.16 284 P **P 11 28 22.0 +0.2**
baz=13
TPAW Teton Pass 51.16 300 *eP* **P 11 28 23.7 +1.6**
comp=Z,9.0nm,1.0s
P45A Graceland, Par 51.16 277 P **P 11 28 21.9 +0.1**
baz=13
REDW Red Top Meadow 51.27 300 *eP* **P 11 28 23.7 +0.8**
comp=Z,20nm,1.4s
K22A Casper 51.29 296 P **P 11 28 22.7 -0.2**
baz=12
K22A Casper 51.29 296 *eP* **P 11 28 23.1 +0.1**
comp=Z,10nm,0.7s
O39A Kirksville 51.29 282 P **P 11 28 22.8 0.0**
baz=13
O40A La Belle 51.30 281 P **P 11 28 23.0 +0.1**
baz=13
HLID Hailey 51.61 303 P **P 11 28 25.2 -0.2**
baz=12
HLID Hailey 51.61 303 *eP* **P 11 28 25.2 -0.2**
comp=Z,5.8nm,0.9s
PD31 Pinedale Array 51.65 298 *eP* **P 11 28 25.6 -0.2**
PDAR Pinedale Array 51.65 298 P **P 11 28 25.4 -0.3**
comp=Z,0.3nm,0.6s,baz=38,slow=7.5,SNR=4.3
PDAR LR LR 11 50 26.4
comp=Z,769nm,18.1s,baz=18,slow=36

PDAR **Pinedale Array** 51.65 298 *eP* **P** 11 28 25.8 0.0
MFID **Camas Ranch** 51.96 304 *eP* **P** 11 28 27.4 -0.6
comp=Z,6.9nm,1.2s
O34A **Beatrice** 52.07 286 P **P** 11 28 28.0 -0.7
baz=13
P39B **Salisbury** 52.07 282 P **P** 11 28 27.6 -1.0
baz=13
P38A **Dawn** 52.07 283 P **P** 11 28 27.5 -1.1
baz=13
P37A **Lathrop** 52.25 283 P **P** 11 28 29.3 -0.7
baz=13
Q41A **Truxton** 52.33 280 P **P** 11 28 29.9 -0.6
baz=13
KBL **Kabul** 52.42 105 *eP* **P** 11 28 32.4 +0.8
KBL pmax pmax
comp=Z,22nm,1.3s
KBL **Kabul** 52.42 105 *eP* **P** 11 28 32.4 +0.8
comp=Z,22nm,1.3s
R45A **Skylar, Fairfi** 52.45 277 P **P** 11 28 30.8 -0.7
baz=13
Q39A **Willow Grove F** 52.54 282 P **P** 11 28 31.8 -0.3
baz=13
R44A **Waltonville** 52.64 278 P **P** 11 28 32.6 -0.3
baz=13
CN2 **Changchun** 52.67 49 *eP* **P** 11 28 33.0 0.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
S48A **Wiedeman Farm,** 52.68 275 P **P** 11 28 32.8 -0.4
baz=13
Q38A **Cooks Store, C** 52.73 282 P **P** 11 28 32.8 -0.7
baz=13
R42A **Luebbering** 52.91 280 P **P** 11 28 34.0 -0.9
baz=13
N23A **Red Feather La** 52.91 295 *eP* **P** 11 28 34.9 -0.3
comp=Z,8.8nm,0.9s
S46A **Don Dixon Farm** 52.95 276 P **P** 11 28 34.4 -0.7
baz=13
R41A **Rosebud** 52.99 280 P **P** 11 28 34.8 -0.6
baz=13
GTA **Gaotai** 53.04 73 ⇑P **P** 11 28 36.5 +0.5
GTA pP sP 11 28 41.0 +0.8
GTA sP pP 11 28 43.5 +4.4
GTA S **S** **11 36 06.5 +0.9**
GTA SS **SS** **11 39 45.5 +1.4**
GTA pmax pmax
comp=Z,15nm,1.2s
GTA pmax pmax
comp=Z,220nm,5.8s
GTA LR LR
comp=Z,680nm,16.6s
GTA LR LR
comp=Z,1μm,15.7s
GTA LR LR
comp=Z,1μm,16.2s
HWUT **Hardware Ranch** 53.09 300 *eP* **P** 11 28 37.0 +0.6
comp=Z,7.1nm,0.9s
USRK **Ussuriysk Ar.** 53.10 43 P **P** 11 28 35.7 -0.5
comp=Z,0.9nm,0.6s,baz=19,slow=6.1,SNR=2.4
USRK LR LR 11 50 40.9
comp=Z,153nm,20.2s,baz=333,slow=36
R40A **Maddies Statio** 53.15 281 P **P** 11 28 36.1 -0.6
baz=13,SNR=6.5
CCM **Cathedral Cave** 53.20 280 P **P** 11 28 36.3 -0.8
baz=13
CCM **Cathedral Cave** 53.20 280 *eP* **P** 11 28 36.2 -0.8
CCM pmax pmax
comp=Z,8.0nm,0.9s
CCM **Cathedral Cave** 53.20 280 *eP* **P** 11 28 36.2 -0.8
comp=Z,8.2nm,0.9s
S44A **Carbondale** 53.21 278 P **P** 11 28 36.7 -0.3
baz=13
R39A **Chumby, Stover** 53.26 282 P **P** 11 28 37.3 -0.2
baz=13
T48A **Bowling Green** 53.28 275 P **P** 11 28 37.1 -0.5
baz=13
TZTN **Tazewell** 53.33 272 P **P** 11 28 37.5 -0.5
baz=13
S42A **Caledonia** 53.40 279 P **P** 11 28 37.6 -0.9
baz=13
S43A **Fulton Ridge,** 53.47 279 P **P** 11 28 38.0 -1.0
baz=13
SPUT **South Promonto** 53.52 301 *eP* **P** 11 28 39.6 0.0
comp=Z,12nm,1.1s
R38A **Fenwick Farm,** 53.54 282 P **P** 11 28 39.0 -0.5
baz=12
TCUT **Toone Canyon** 53.55 300 *eP* **P** 11 28 41.5 +1.7
comp=Z,5.9nm,0.7s
HHC **Hu-ho-hao-te** 53.55 62 *eP* **P** 11 28 39.5 -0.2
HHC S **S** **11 36 09.3 -3.2**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,140nm,7.4s
HHC LR LR
comp=Z,890nm,17.6s
HHC LR LR
comp=Z,730nm,13.4s
HHC LR LR
comp=Z,1μm,19.7s
T46A **Princeton** 53.60 276 P **P** 11 28 40.2 +0.2
baz=13
S41A **Jillco Farms,** 53.75 280 P **P** 11 28 40.5 -0.6
baz=12
S40A **Lebanon** 53.87 281 P **P** 11 28 41.5 -0.5
baz=12,SNR=5.4
U48A **Cassie Pea, Po** 53.88 275 P **P** 11 28 41.8 -0.2
baz=12
S39A **Bolivar** 53.92 282 P **P** 11 28 41.7 -0.6
baz=12
ISCO **Idaho Springs** 53.92 294 P **P** 11 28 43.2 +0.5
baz=12
T43A **Greenville** 53.98 279 P **P** 11 28 41.6 -1.2
baz=12
O20A **White River Ci** 54.02 296 P **P** 11 28 43.7 +0.5
baz=12,SNR=12
O20A **White River Ci** 54.02 296 *eP* **P** 11 28 43.9 +0.6
comp=Z,32nm,0.8s
CTU **Camp Tracy** 54.02 300 *eP* **P** 11 28 40.1 -3.1
comp=Z,4.5nm,0.9s
S38A **Stockton** 54.08 282 P **P** 11 28 42.9 -0.6
baz=12,SNR=8.6
U47A **Clarksville** 54.08 276 P **P** 11 28 42.4 -1.1
baz=12
T42A **Van Buren** 54.18 279 P **P** 11 28 43.6 -0.6
baz=12
TKL **Tuckaleechee C** 54.23 272 P **P** 11 28 43.1 -1.5
comp=Z,4.1nm,0.6s,baz=88,slow=4.9,SNR=8.7
TKL LR LR 11 52 53.7
comp=Z,330nm,18.5s,baz=5.5,slow=37
TKL **Tuckaleechee C** 54.23 272 *eP* **P** 11 28 44.7 +0.1
TKL pmax pmax
comp=Z,10.0nm,0.8s
TKL **Tuckaleechee C** 54.23 272 *eP* **P** 11 28 44.7 +0.1
comp=Z,9.5nm,0.8s
T41A **Mountain View** 54.28 280 P **P** 11 28 44.3 -0.7
baz=12,SNR=7.5
T40A **Mansfield** 54.31 281 P **P** 11 28 44.5 -0.6
baz=12
ASAJ **Asahikawa** 54.34 33 P **P** 11 28 44.2 -1.0
comp=Z,7.9nm,1.1s,baz=333,slow=4.5,SNR=2.8
ASAJ **Asahikawa** 54.34 33 *eP* **P** 11 28 44.1 -1.1
comp=Z,16nm,1.2s
YBH **Yreka Blue Hor** 54.58 310 LR LR 11 52 17.2
comp=Z,360nm,18.8s,baz=4.5,slow=36
MSHR **Mys Shultsa** 54.60 44 *eP* **P** 11 28 47.0 -0.2
Q24A **Divide** 54.66 293 P **P** 11 28 48.5 +0.4
baz=12
Q24A **Divide** 54.66 293 *eP* **P** 11 28 48.5 +0.4
comp=Z,16nm,1.0s
DUG **Dugway, Tooele** 54.67 301 P **P** 11 28 44.9 -3.0
baz=11
DUG **Dugway, Tooele** 54.67 301 P **P** 11 28 47.8 -0.1
DUG pmax pmax
comp=Z,6.0nm,0.8s
DUG **Dugway, Tooele** 54.67 301 *eP* **P** 11 28 45.3 -2.6
comp=Z,7.3nm,1.3s
U43A **Rector** 54.70 279 P **P** 11 28 47.7 -0.3
baz=12
T38A **Diamond** 54.73 283 P **P** 11 28 47.2 -1.0
baz=12
SMCO **Snowmass** 54.75 295 *eP* **P** 11 28 49.7 +0.9
comp=Z,21nm,1.3s
P18A **Preston Nutter** 54.83 298 *eP* **P** 11 28 50.1 +0.9
comp=Z,7.4nm,0.9s
U42A **Revenden** 54.86 279 P **P** 11 28 48.8 -0.4
baz=12,SNR=10.0
U41A **Viola** 54.99 280 P **P** 11 28 49.7 -0.4
baz=12

BMN **Battle Mountai** 55.09 305 *eP* **P** 11 28 51.7 +0.7
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN **Battle Mountai** 55.09 305 *eP* **P** 11 28 51.7 +0.7
comp=Z,5.0nm,0.8s
U39A **Green Forest** 55.22 282 P **P** 11 28 50.7 -1.1
baz=12
W47A **Westpoint** 55.30 276 P **P** 11 28 52.1 -0.3
baz=12
V42A **Cord** 55.42 279 P **P** 11 28 52.6 -0.5
baz=12,SNR=6.2
V41A **Mountainview** 55.57 280 P **P** 11 28 53.6 -0.8
baz=12,SNR=5.4
Q16A **Castle Valley** 55.66 299 *eP* **P** 11 28 56.5 +1.3
comp=Z,16nm,0.8s
PV09 **Paradox Valley** 55.76 297 *eP* **P** 11 28 56.5 +0.5
PV10 **Paradox Valley** 55.86 297 *eP* **P** 11 28 57.9 +1.2
SDCO **Great Sand Dun** 55.91 293 P **P** 11 28 57.4 +0.3
baz=12,SNR=7.5
SDCO **Great Sand Dun** 55.91 293 *eP* **P** 11 28 57.4 +0.3
comp=Z,11nm,1.1s
PV01 **Paradox Valley** 56.02 296 *eP* **P** 11 28 58.3 +0.5
S22A **4UR Ranch, Cre** 56.13 295 P **P** 11 28 59.5 +0.8
baz=12
S22A **4UR Ranch, Cre** 56.13 295 *eP* **P** 11 28 59.2 +0.5
comp=Z,7.7nm,0.9s
OXF **Oxford** 56.34 277 P **P** 11 28 59.2 -0.6
baz=12
OXF **Oxford** 56.34 277 *eP* **P** 11 28 59.7 -0.1
OXF pmax pmax
comp=Z,14nm,0.8s
OXF **Oxford** 56.34 277 *eP* **P** 11 28 59.7 -0.1
comp=Z,14nm,0.8s
GOGA **Godfrey** 56.36 271 P **P** 11 28 59.1 -0.9
baz=12
Y49A **Blount Mountai** 56.45 274 P **P** 11 28 59.7 -0.9
baz=12
KVN **Kaiserville** 56.57 305 *eP* **P** 11 29 02.5 +0.8
KVN pmax pmax
comp=Z,10.0nm,0.8s
KVN **Kaiserville** 56.57 305 *eP* **P** 11 29 02.5 +0.8
comp=Z,10.0nm,0.8s
R11A **Troy Canyon, C** 56.89 303 P **P** 11 29 04.1 +0.1
baz=11,SNR=5.6
R11A **Troy Canyon, C** 56.89 303 *eP* **P** 11 29 04.2 +0.3
comp=Z,4.1nm,0.8s
MVCO **Mesa Verde** 56.92 296 *eP* **P** 11 29 05.6 +1.4
comp=Z,11nm,0.9s
X40A **Basin Creek Fa** 56.96 280 P **P** 11 29 03.8 -0.4
baz=12
LZH **Lanzhou** 56.96 70 *eP* **P** 11 29 05.0 +0.6
LZH pP pP 11 29 08.3 +0.8
LZH sP sP 11 29 09.8 +1.2
LZH *e*PP **PP** **11 31 12.3 +1.7**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,92nm,7.6s
LZH LR LR
comp=Z,380nm,15.2s
LZH LR LR
comp=Z,400nm,15.5s
LZH LR LR
comp=Z,510nm,18.7s
RYN **Ryan** 57.05 306 *eP* **P** 11 29 06.2 +1.2
comp=Z,9.0nm,0.9s
AFDM **Forest Hills D** 57.08 308 *eP* **P** 11 29 05.0 0.0
comp=Z,16nm,1.7s
NV11 **Mina Array Sit** 57.19 305 *eP* **P** 11 29 06.0 +0.1
comp=Z,0.6nm,0.9s
NV01 **Mina Array Sit** 57.21 305 *eP* **P** 11 29 06.7 +0.5
NVAR **Mina Array Bea** 57.21 305 P **P** 11 29 06.2 0.0
comp=Z,0.5nm,0.3s,baz=280,slow=1.6,SNR=3.9
NVAR LR LR 11 54 26.7
comp=Z,506nm,20.6s,baz=340,slow=37
SZCU **Shurtz Canyon** 57.25 300 *eP* **P** 11 29 07.9 +1.3
comp=Z,15nm,1.6s
PKCU **Pink Cliffs** 57.28 300 *eP* **P** 11 29 08.3 +1.4
comp=Z,15nm,0.9s
CCUT **Cedar City** 57.34 301 *eP* **P** 11 29 08.0 +0.8
comp=Z,5.7nm,1.1s
Y40A **Okolona** 57.50 281 P **P** 11 29 08.8 +0.8
baz=12
149A **Jones** 57.74 274 P **P** 11 29 08.8 -0.9
baz=12
KNB **Kanab** 57.78 300 *eP* **P** 11 29 11.2 +1.0
KNB pmax pmax
comp=Z,13nm,1.1s
KNB **Kanab** 57.78 300 *eP* **P** 11 29 11.2 +1.0
comp=Z,13nm,1.1s
LCMT **Little Creek M** 57.85 300 *eP* **P** 11 29 11.6 +1.0
comp=Z,30nm,1.7s
252A **Lumpkin** 57.97 272 P **P** 11 29 10.8 -0.5
baz=12
251A **Midway** 57.99 273 P **P** 11 29 11.0 -0.4
baz=12
MDPB **Devils Postpil** 58.10 306 *eP* **P** 11 29 13.8 +1.3
comp=Z,7.2nm,1.0s
U15A **North Rim** 58.27 299 *eP* **P** 11 29 12.7 -1.1
comp=Z,9.2nm,1.1s
ANMO **Albuquerque** 58.80 294 P **P** 11 29 17.5 +0.1
baz=11
ANMO **Albuquerque** 58.80 294 *eP* **P** 11 29 16.7 -0.7
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO **Albuquerque** 58.80 294 *eP* **P** 11 29 16.7 -0.7
comp=Z,5.1nm,0.8s
WUAZ **Wupatki** 59.03 298 P **P** 11 29 19.0 +0.1
baz=11,SNR=5.6
WUAZ **Wupatki** 59.03 298 *eP* **P** 11 29 19.9 +1.0
comp=Z,18nm,1.0s
DAC **Darwin (Calif)** 59.22 304 *eP* **P** 11 29 21.3 +1.0
DAC pmax pmax
comp=Z,11nm,0.9s
DAC **Darwin (Calif)** 59.22 304 *eP* **P** 11 29 21.3 +1.0
comp=Z,11nm,0.9s
KSRS **Korea Array** 59.24 48 P **P** 11 29 20.9 +0.8
comp=Z,0.6nm,0.6s,baz=359,slow=8.5,SNR=2.7
KSRS LR LR 11 56 03.6
comp=Z,271nm,18.7s,baz=352,slow=37
KS15 **Wonju Array Si** 59.25 48 *eP* **P** 11 29 18.9 -1.3
KSAR **Wonju Array Be** 59.25 48 P **P** 11 29 20.9 +0.8
KSAR **Wonju Array Be** 59.25 48 *eP* **P** 11 29 20.9 +0.8
MPMC **Manual Prospec** 59.42 304 P **P** 11 29 22.3 +0.6
baz=10
RAYN **Ar Rayn** 59.60 132 *eP* **P** 11 29 23.6 +0.8
comp=Z,12nm,1.4s
XAN **Xi'an** 59.80 66 P **P** 11 29 24.0 -0.1
XAN pP sP 11 29 28.5 +0.2
XAN sP pP 11 29 31.0 +3.9
XAN PP **PP** **11 31 35.8 +0.2**
XAN S **S** **11 37 30.5 -4.5**
XAN sS sS 11 37 42.5 +2.4
XAN ScS **ScS** **11 39 09.8 -4.3**
XAN SS **SS** **11 41 27.0 -3.3**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN LR LR
comp=Z,1μm,16.5s
XAN LR LR
comp=Z,690nm,13.3s
XAN LR LR
comp=Z,1μm,17.3s
NATX **Nacogdoches** 59.94 282 *eP* **P** 11 29 26.3 +1.3
comp=Z,28nm,0.8s
GSC **Goldstone, Bar** 60.06 303 *eP* **P** 11 29 25.8 -0.1
GSC pmax pmax
comp=Z,10.0nm,1.0s
GSC **Goldstone, Bar** 60.06 303 *eP* **P** 11 29 25.8 -0.1
comp=Z,9.6nm,1.0s
X16A **Lo Mia Camp, P** 60.11 298 *eP* **P** 11 29 27.2 +0.7
comp=Z,6.5nm,1.0s
PYUN **Piuthan** 61.14 92 *eP* **P** 11 29 33.9 +0.4
MAJO **Matsushiro** 61.38 38 *eP* **P** 11 29 34.7 -0.1
MAJO **Matsushiro** 61.38 38 *eP* **P** 11 29 34.7 -0.1
MJAR **Matsushiro Arr** 61.38 38 P **P** 11 29 34.7 -0.1
comp=Z,2.5nm,1.0s,baz=354,slow=7.6,SNR=4.2
MJAR LR LR 11 56 39.2
comp=Z,140nm,19.9s,baz=250,slow=36
GKN **Gorkha** 61.52 91 *eP* **P** 11 29 36.3 +0.2
KOLN **Koldanda** 61.57 92 *eP* **P** 11 29 36.2 -0.2
MNTX **Cornudas Mount** 61.81 292 P **P** 11 29 38.5 +0.7
baz=11
MNTX **Cornudas Mount** 61.81 292 *eP* **P** 11 29 38.5 +0.7
comp=Z,4.0nm,0.8s
GUN **Gumba** 61.83 90 *eP* **P** 11 29 38.8 +0.4
comp=Z,69nm,1.4s

KKN **Kakani** 61.85 90 *eP* **P** 11 29 39.0 +0.7
comp=Z,35nm,0.6s
DMN **Daman** 61.99 90 *eP* **P** 11 29 39.9 +0.6
CD2 **Chengdu** 62.01 72 P **P** 11 29 38.5 -0.6
CD2 pP pP 11 29 41.5 -0.7
CD2 PcS **PcS** **11 34 22.3 -0.5**
CD2 S **S** **11 38 02.5 -0.8**
CD2 SS **SS** **11 42 05.5 +0.5**
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,750nm,13.7s
CD2 LR LR
comp=Z,880nm,14.3s
CD2 LR LR
comp=Z,910nm,15.5s
JCT **Junction City** 62.07 286 *eP* **P** 11 29 40.3 +0.8
JCT pmax pmax
comp=Z,8.0nm,0.7s
JCT **Junction City** 62.07 286 *eP* **P** 11 29 40.3 +0.8
comp=Z,8.4nm,0.7s
TUC **Tucson** 62.08 297 P **P** 11 29 40.5 +0.9
baz=11
TUC **Tucson** 62.08 297 *eP* **P** 11 29 41.7 +2.1
TUC pmax pmax
comp=Z,13nm,1.0s
TUC **Tucson** 62.08 297 *eP* **P** 11 29 41.7 +2.1
comp=Z,13nm,1.0s
PKI **Pulchoki** 62.08 90 *eP* **P** 11 29 40.3 +0.3
JIRN **Jiri** 62.13 89 *eP* **P** 11 29 41.2 +0.8
comp=Z,47nm,0.9s
319A **Douglas** 62.75 295 *eP* **P** 11 29 46.0 +1.8
comp=Z,19nm,0.9s
RAMN **Ramite** 62.90 89 *eP* **P** 11 29 45.3 -0.1
comp=Z,33nm,1.0s
ODAN **Odare** 63.13 88 *eP* **P** 11 29 47.4 +0.5
NJ2 **Nanjing** 63.28 57 *eP* **P** 11 29 51.5 +3.9
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ENH **Enshi** 63.58 66 *eP* **P** 11 29 49.7 +0.1
comp=Z,51nm,1.8s
LTX **Lajitas** 63.84 290 *eP* **P** 11 29 51.5 +0.1
LTX **Lajitas** 63.84 290 *eP* **P** 11 29 51.5 +0.1
TX31 **Lajitas Ar. Si** 63.84 290 *eP* **P** 11 29 51.5 +0.2
TXAR **Lajitas Array** 63.84 290 P **P** 11 29 51.5 +0.1
comp=Z,1.5nm,0.7s,baz=37,slow=4.9,SNR=21
TXAR LR LR 11 56 36.1
comp=Z,504nm,19.2s,baz=0.0,slow=35
TXAR **Lajitas Array** 63.84 290 P **P** 11 29 51.5 +0.1
TXAR pmax pmax
comp=Z,1.0nm,0.7s
JNU **Nakatsue** 63.89 46 LR LR 11 58 40.8
comp=Z,174nm,18.6s,baz=297,slow=37
TOA1 **Torodi Ar. Sit** 66.76 179 *eP* **P** 11 30 10.8 +0.4
TOA0 **Torodi Ar. Sit** 66.77 179 *eP* **P** 11 30 11.3 +0.9
TORD **Torodi Ar. Bea** 66.77 179 P **P** 11 30 10.8 +0.4
comp=Z,1.5nm,0.7s,baz=358,slow=6.3,SNR=15
KMI **Kunming** 67.49 74 P **P** 11 30 17.0 +1.8
KMI pmax pmax
comp=Z,9.0nm,0.6s
KMI pmax pmax
comp=Z,280nm,8.4s
JOW **Kunigami** 69.75 49 LR LR 12 02 13.4
comp=Z,269nm,19.6s,baz=96,slow=37
LPIG **La Paz** 70.04 295 LR LR 12 02 00.8
comp=Z,732nm,18.1s,baz=12,slow=37
HYB **Hyderabad** 70.80 99 *i* P **P** 11 30 35.0 -0.5
CHTO **Chiang Mai** 73.01 79 *eP* **P** 11 30 48.1 -0.7
CHTO pmax pmax
comp=Z,39nm,2.0s
CHTO **Chiang Mai** 73.01 79 *eP* **P** 11 30 48.1 -0.7
comp=Z,39nm,2.0s
CMAR **Chiang Mai Arr** 73.36 79 P **P** 11 30 50.1 -0.7
comp=Z,1.9nm,0.6s,baz=344,slow=6.4,SNR=18
CMAR LR LR 12 06 56.8
comp=Z,141nm,18.0s,baz=353,slow=39
CMAR **Chiang Mai Arr** 73.36 79 P **P** 11 30 50.2 -0.7
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR MLR MLR
comp=Z,141nm,18.0s
CM01 **Chiang Mai Arr** 73.40 79 *eP* **P** 11 30 50.1 -0.9
QIZ **Qiongzhong** 74.64 68 P **P** 11 31 03.8 +5.5
QIZ S **S** **11 40 37.0 +3.1**
QIZ pmax pmax
comp=Z,11nm,1.4s
QIZ LR LR
comp=Z,660nm,15.2s
QIZ LR LR
comp=Z,440nm,13.2s
QIZ LR LR
comp=Z,770nm,16.7s
APG **El Apazote** 75.57 274 LR LR 12 06 46.3
comp=Z,352nm,18.1s,baz=24,slow=38
PCRV **Puerto La Cruz** 75.83 248 P **P** 11 31 06.0 +0.7
comp=Z,5.4nm,0.6s,baz=69,slow=1.9,SNR=3.6
PCRV LR LR 12 02 55.3
comp=Z,170nm,20.8s,baz=349,slow=34
SDV **Santo Domingo** 78.09 253 P **P** 11 31 19.0 +0.8
comp=Z,2.7nm,0.5s,baz=345,slow=12,SNR=3.1
SDV LR LR 12 04 34.3
comp=Z,190nm,21.8s,baz=54,slow=35
JTS **JuntasAbangare** 79.21 268 LR LR 12 05 52.9
comp=Z,231nm,21.9s,baz=56,slow=35
TGY **Tagaytay City** 81.22 58 LR LR 12 11 10.0
comp=Z,296nm,18.4s,baz=346,slow=38
RUSC **La Rusia** 81.44 255 *eP* **P** 11 31 36.5 -0.2
comp=Z,6.7nm,1.2s
ROSC **El Rosal** 82.68 256 LR LR 12 07 33.9
comp=Z,86nm,21.1s,baz=24,slow=35
PSI **Prapat** 88.67 82 P **P** 11 32 11.2 -1.2
comp=Z,6.9nm,0.7s,baz=343,slow=20
PSI **Prapat** 88.67 82 *eP* **P** 11 32 11.2 -1.2
comp=Z,10nm,0.9s
DAV **Davao City (W)** 88.82 55 LR LR 12 16 05.5
comp=Z,105nm,19.1s,baz=339,slow=38
LEM **Lembang** 99.59 75 LR LR 12 24 36.3
comp=Z,184nm,19.0s,baz=330,slow=39
ASAR **Alice Springs** 120.22 51 PKP **PKPdf** **11 38 08.7 -1.0**
comp=Z,0.5nm,0.9s,baz=351,slow=2.0,SNR=5.8
SNAA **Sanae** 151.40 182 PKPbc **PKPbc** **11 39 11.1 +0.2**
comp=Z,2.6nm,1.0s,baz=15,slow=14,SNR=4.3

*JMA **30** 11:23:41.7±0.2, 39.66N×143.73E, h23km, M3.6*
*IDC **30** 11:23:48.8±1.6, 40.00N×142.45E, h0km, mb3.5/6, mb1 3.5/8, mb1mx3.4/66, mbtmp3.4/8, ML2.9/2, Error ellipse: s-maj=44.6km s-min=18.6km az=77.0*
ISC 30 11:23:47.1±1.2, 39.82N±0.06×143.21E±0.08, h12km, n21, σ2s01/24, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	Tanohata	1.05	277	P	**Pb**	11 24 07.0	-0.1
MIYJ	Miyakonagasawa	1.10	258	P	**Pb**	11 24 07.7	-0.4
JANG	Nango	1.42	294	P	**Pn**	11 24 12.5	-0.2
JOM	Ohasama	1.52	258	P	**Pn**	11 24 13.8	-0.3
JOM				*e*S	**Sg**	11 24 38.1	+2.0
JMK	Ichinoseki	1.77	241	P	**Pn**	11 24 15.8	-1.7
JYK	Kaneyama	2.39	249	P	**Pn**	11 24 25.5	-0.5
JYK				*e*S	**Sb**	11 24 58.8	-0.6
JNBK	Urakawa-nobuka	2.49	352	P	**Pn**	11 24 27.5	+0.1
JCH	Churui	2.80	2	P	**Pn**	11 24 30.2	-1.5
JCH				*e*S	**Sn**	11 25 04.2	-1.1
JFT	Otama	3.21	225	P	**Pn**	11 24 34.6	-2.8
JFT				*e*S	**Sn**	11 25 14.1	-1.6
JAR	Ashorobuto	3.50	7	P	**Pn**	11 24 39.1	-2.3
JAR				*e*S	**Sn**	11 25 20.4	-2.3
ASAJ	Asahikawa	4.32	354	Pn	**Pn**	11 24 53.1	+0.5
	0.6nm,0.3s,baz=194,slow=8.3,SNR=7.8						
ASAJ				Sn	**Sn**	11 25 44.9	+2.0
	1.0nm,0.3s,baz=259,slow=16,SNR=2.5						
MJAR	Matsushiro Arr	5.12	232	Pn	**Pn**	11 25 03.2	-0.5
	0.4nm,0.3s,baz=44,slow=11,SNR=6.8						
SONM	Songino Array	27.54	299	P	**P**	11 29 32.7	-1.0
	0.7nm,0.7s,baz=88,slow=9.1,SNR=3.4						
H11N2	WAKE ISLAND Hy	28.54	128	T	T	12 00 37.5	
	baz=318,slow=76,SNR=10						
H11N1	WAKE ISLAND Hy	28.55	128	T	T	12 00 37.4	
	baz=318,slow=76,SNR=9.3						
H11N3	WAKE ISLAND Hy	28.56	128	T	T	12 00 39.1	
	baz=318,slow=76,SNR=8.8						
ZALV	Zalesovo Beam	41.15	310	P	**P**	11 31 30.4	-0.5
	0.5nm,0.4s,baz=104,slow=4.6,SNR=2.5						

MKAR	**Makanchi Array**	**43.90**	**300**	P	**P**	**11 31 51.5**	**-2.0**
	0.2nm,0.5s,baz=57,slow=8.8,SNR=4.9						
KURBB	**Kurchatov Arra**	**45.46**	**306**	P	**P**	**11 32 03.0**	**-2.7**
	0.5nm,0.6s,baz=82,slow=8.6,SNR=3.4						
WRA	**Warramunga Arr**	**60.02**	**190**	P	**P**	**11 33 57.3**	**+3.6**
	0.4nm,0.8s,baz=8.1,slow=7.2,SNR=3.2						
ASAR	**Alice Springs**	**63.75**	**190**	P	**P**	**11 34 23.4**	**+4.7**
	0.2nm,0.7s,baz=9.9,slow=5.9,SNR=2.9						

*SOME **30** 11:29:37.9, 42°.95N × 71°.08E, h5km*
*NNC **30** 11:29:37.9±0.5, 42°.68N × 70°.37E, h0km, mpv1.6, Error ellipse: s-maj=3.8km s-min=2.3km az=104.0, Suspected Mining explosion.*
*ISCJB **30** 11:29:38.8±0.4, 42°.95N±0°.05 × 71°.03E±0°.03, h0km, Error ellipse: s-maj=8.1km s-min=2.1km az=17.4*
*KRNET **30** 11:29:38.0±0.1, 42°.92N × 71°.09E, h3km, mb2.5*

ISC 30 11:29:37.3±0.8, 42°.86N±0°.07 × 71°.06E±0°.03, h0km, n21, σ0§50/42, 21C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK06	**Karatay Array**	**0.46**	**300**	⇓P	**Pg**	**11 29 46.3**	**+0.3**
KK06				⇓S	**Sg**	**11 29 52.3**	**+0.3**
KK02	**Karatay Array**	**0.47**	**301**	⇑P	**Pg**	**11 29 46.5**	**+0.2**
KK02				⇑S	**Sg**	**11 29 52.7**	**+0.3**
KK05	**Karatay Array**	**0.47**	**303**	⇑P	**Pg**	**11 29 46.6**	**+0.3**
KK05				⇑S	**Sg**	**11 29 52.7**	**+0.3**
KK07	**Karatay Array**	**0.47**	**299**	⇑P	**Pg**	**11 29 46.5**	**+0.2**
KK07				⇑S	**Sg**	**11 29 52.7**	**+0.3**
KK31	**Karatay Array**	**0.47**	**301**	⇓P	**Pg**	**11 29 46.4**	**+0.1**
	0.8nm,0.3s,baz=118,slow=15,SNR=83						
KK31				⇑S	**Sg**	**11 29 52.7**	**+0.3**
	3.2nm,0.3s,baz=194,slow=76,SNR=32						
KK01	**Karatay Array**	**0.47**	**301**	⇑P	**Pg**	**11 29 46.5**	**+0.1**
KK01				⇑S	**Sg**	**11 29 52.7**	**+0.2**
KK03	**Karatay Array**	**0.48**	**300**	⇓P	**Pg**	**11 29 46.7**	**+0.2**
KK03				⇓S	**Sg**	**11 29 52.7**	**+0.1**
KK04	**Karatay Array**	**0.48**	**301**	⇑P	**Pg**	**11 29 46.6**	**+0.2**
KK04				⇓S	**Sg**	**11 29 52.3**	**-0.3**
KK08	**Karatay Array**	**0.49**	**300**	⇑P	**Pg**	**11 29 46.8**	**+0.1**
KK08				⇑S	**Sg**	**11 29 53.2**	**+0.3**
KK09	**Karatay Array**	**0.49**	**302**	⇓P	**Pg**	**11 29 46.9**	**+0.3**
KK09				⇑S	**Sg**	**11 29 53.1**	**+0.1**
BRLS	**Borolday**	**0.92**	**281**	*eP*	**Pn**	**11 29 57.8**	**+0.3**
	0.5nm,0.4s						
BRLS				*eS*	**Sn**	**11 30 11.4**	**0.0**
	5.4nm,0.2s						
BRLS	**Borolday**	**0.92**	**281**	*eP*	**Pn**	**11 29 57.8**	**+0.3**
	baz=63						
BRLS				*eS*	**Sn**	**11 30 11.4**	**0.0**
	baz=63						
IUG	**luzhnay**	**1.05**	**227**	*eP*	**Pn**	**11 29 59.7**	**+0.4**
	6.8nm,0.3s						
IUG				*eS*	**Sn**	**11 30 15.0**	**+0.3**
	14nm,0.6s						
IUG	**luzhnay**	**1.05**	**227**	*eP*	**Pn**	**11 29 59.7**	**+0.4**
	baz=26						
IUG				*eS*	**Sn**	**11 30 15.0**	**+0.3**
	baz=26						
MNAS	**Manas**	**1.13**	**109**	⇑*iP*	**Pg**	**11 29 59.0**	**+0.1**
	baz=12						
MNAS				⇑*iS*	**Sb**	**11 30 14.4**	**-0.6**
	baz=12						
MRKS	**Merke**	**1.60**	**94**	*eP*	**Pg**	**11 30 08.4**	**+0.6**
	5.0nm,0.6s						
MRKS				*eS*	**Sg**	**11 30 29.9**	**+1.4**
	7.0nm,0.4s						
MRKS	**Merke**	**1.60**	**94**	*eP*	**Pg**	**11 30 08.5**	**+0.6**
	baz=96						
MRKS				*eS*	**Sg**	**11 30 30.0**	**+1.4**
	baz=96						
EKS2	**Erkin-Say**	**2.01**	**95**	⇓*iP*	**Pg**	**11 30 15.6**	**-0.2**
	baz=96						
EKS2				⇓*iS*	**Sg**	**11 30 41.6**	**-0.2**
	baz=96						
AML	**Almayashu**	**2.08**	**110**	⇑*iP*	**Pg**	**11 30 16.9**	**-0.2**
	baz=11						
AML				⇑*iS*	**Sg**	**11 30 44.4**	**+0.3**
	baz=11						
AAK	**Ala-Archa**	**2.54**	**94**	⇑*iP*	**Pb**	**11 30 23.6**	**-0.2**
	baz=95						
AAK				⇑*iS*	**Sb**	**11 30 55.1**	**-0.5**
	baz=95						
UCH	**Uchtor**	**2.63**	**103**	⇑*eP*	**Pb**	**11 30 24.3**	**-1.2**
	baz=4.0						
UCH				⇑*iS*	**Sb**	**11 30 57.5**	**-1.0**
	baz=4.0						

IDC 30 11:36:29.5±4.9, 6°.22S × 154°.23E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.4/43, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=147.5km s-min=34.5km az=108.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.81**	**209**	Pn	Pn	11 40 15.2	+1.5
	0.1nm,0.3s,baz=37,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**23.66**	**233**	P	P	11 41 43.0	+0.2
	0.5nm,0.7s,baz=57,slow=9.4,SNR=6.6						
ASAR	**Alice Springs**	**26.14**	**226**	P	P	11 42 04.7	-0.9
	0.2nm,0.7s,baz=52,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**82.33**	**319**	P	P	11 48 53.6	+0.4
	0.3nm,0.6s,baz=121,slow=11,SNR=3.3						

*NNC **30** 11:49:45.7±3.2, 53°.93N × 87°.28E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=26.5km s-min=12.0km az=35.0*

IDC 30 11:49:46.8±2.7, 54°.20N × 87°.19E, h0km, mb1 3.3/2, mb1mx2.9/73, mbtmp3.3/2, ML2.9/2, 5C-2D, Error ellipse: s-maj=22.3km s-min=16.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**261**	*i*		11 59 11.4	
	baz=79,slow=322,SNR=5.7						
ZAA0	**Zalesovo Array**	**1.42**	**261**	⇑P	Pn	11 50 12.2	-1.5
	5.4nm,0.3s						
ZAA0				⇑S	Sb	11 50 32.6	-0.1
	6.1nm,0.4s						
ZALV	**Zalesovo Beam**	**1.42**	**261**	Pg	Pn	11 50 12.2	-1.5
	7.1nm,0.3s,baz=82,slow=16,SNR=68						
ZALV				Lg	Lg	11 50 32.1	
	3.8nm,0.3s,baz=78,slow=26,SNR=11						
KURK	**Kurchatov**	**6.29**	**240**	⇑Pn	Pn	11 51 17.7	-2.9
	0.3nm,0.4s						
KURK				⇑Sn	Sn	11 52 30.7	-2.4
	0.9nm,0.5s						
KURK				⇓Lg	Lg	11 53 05.5	
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**6.39**	**239**	Pn	Pn	11 51 23.1	+1.0
	0.2nm,0.3s,baz=54,slow=14,SNR=12						
KURBB				Sn	Sn	11 52 34.6	-1.0
	0.1nm,0.3s,baz=60,slow=20,SNR=4.3						
KURBB				Lg	Lg	11 53 09.3	
	0.1nm,0.3s,baz=45,slow=33,SNR=3.6						
MK31	**Makanchi Array**	**8.04**	**205**	⇑Pn	Pn	11 51 42.8	-2.0
	baz=333,slow=13,SNR=4.6						
MK31				⇓Sn	Sn	11 53 10.5	-5.9
	0.3nm,0.5s,baz=27,slow=14,SNR=10						
MKAR	**Makanchi Array**	**8.04**	**205**	Pn	Pn	11 51 45.7	+1.0
	0.2nm,0.3s,baz=27,slow=14,SNR=9.0						
MKAR				Sn	Sn	11 53 16.0	-0.3
	0.1nm,0.3s,baz=18,slow=24,SNR=3.4						
MKAR				Lg	Lg	11 54 02.2	
	0.0nm,0.3s,baz=29,slow=28,SNR=2.4						

*MOS **30** 11:56:40.8±2.2, 50°.16N × 157°.70E, h47km, mb4.2/1, Error ellipse: s-maj=25.5km s-min=5.1km az=84.7*

KRSC 30 11:56:40.8±2.2, 50°.16N × 157°.70E, h47km±25km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.14**	**298**	PN	Pn	11 57 01.1	+0.8
SKR				S	Sn	11 57 13.6	-1.2
SKR	**Severo-Kuril's**	**1.14**	**298**	*eP*	Pn	11 57 01.1	+0.8
SKR				*eS*	Sn	11 57 13.6	-1.2
PAU	**Pauzhetka**	**1.42**	**337**	PN	Pn	11 57 06.2	+2.0
PAU				S	Sn	11 57 22.1	+0.4
PAU	**Pauzhetka**	**1.42**	**337**	*eP*	Pn	11 57 06.2	+2.0
PAU				*eS*	Sn	11 57 22.1	+0.4
KDTR	**Khodutka, Kamc**	**1.67**	**8**	*eP*	Pn	11 57 09.4	+1.9
KDTR				*eS*	Sn	11 57 29.2	+1.5
MIPR	**Malaya Ipel'ka**	**2.20**	**345**	PN	Pn	11 57 17.7	+2.9
MIPR	**Malaya Ipel'ka**	**2.20**	**345**	*eP*	Pn	11 57 17.7	+2.9
ASAK	**Asacha**	**2.23**	**3**	PN	Pn	11 57 18.0	+2.7
ASAK				S	Sn	11 57 46.5	+4.9
ASAK	**Asacha**	**2.23**	**3**	*eP*	Pn	11 57 18.0	+2.7
ASAK				*eS*	Sn	11 57 46.5	+4.9
RUS	**Russkaya**	**2.33**	**12**	PN	Pn	11 57 19.1	+2.5
RUS				S	Sn	11 57 46.3	+2.3
RUS	**Russkaya**	**2.33**	**12**	*eP*	Pn	11 57 19.1	+2.5
RUS				*eS*	Sn	11 57 46.3	+2.3
MTVR	**Mutnovka**	**2.34**	**7**	PN	Pn	11 57 19.9	+2.9
MTVR				S	Sn	11 57 46.3	+1.7
MTVR	**Mutnovka**	**2.34**	**7**	*eP*	Pn	11 57 19.9	+2.9
MTVR				*eS*	Sn	11 57 46.3	+1.7
KRMR	**Karymshinskiy**	**2.68**	**6**	PN	Pn	11 57 25.2	+3.7
KRMR				S	Sn	11 57 57.8	+5.1
KRMR	**Karymshinskiy**	**2.68**	**6**	*eP*	Pn	11 57 25.2	+3.7
KRMR				*eS*	Sn	11 57 57.8	+5.1
APC	**Apacha**	**2.79**	**353**	PN	Pn	11 57 26.1	+3.2
APC				S	Sn	11 58 01.4	+6.2
APC	**Apacha**	**2.79**	**353**	*eP*	Pn	11 57 26.1	+3.2
APC				*eS*	Sn	11 58 01.4	+6.2
PET	**Petropavlovsk**	**2.93**	**11**	*e*PN	Pn	11 57 27.8	+3.0
PET				*eS*	Sn	11 58 01.3	+2.7
PET				smax	smax		
	comp=E,74nm,0.6s						
PET				smax	smax		
	comp=N,88nm,0.4s						
PET	**Petropavlovsk**	**2.93**	**11**	*eP*	Pn	11 57 27.0	+2.2
PET				*eS*	Sn	11 58 01.5	+2.9
DALK	**Dalny**	**2.95**	**12**	PN	Pn	11 57 27.1	+2.0
DALK				S	Sn	11 58 01.7	+2.6
DALK	**Dalny**	**2.95**	**12**	*eP*	Pn	11 57 27.1	+2.0
DALK				*eS*	Sn	11 58 01.7	+2.6
UGLR	**Uglovaya**	**3.13**	**12**	PN	Pn	11 57 32.5	+4.8
UGLR	**Uglovaya**	**3.13**	**12**	*eP*	Pn	11 57 32.5	+4.8
AVH	**Avacha**	**3.17**	**11**	PN	Pn	11 57 32.5	+4.2
AVH	**Avacha**	**3.17**	**11**	*eP*	Pn	11 57 32.5	+4.2
SMAR	**Somma**	**3.18**	**12**	PN	Pn	11 57 32.3	+3.8
SMAR	**Somma**	**3.18**	**12**	*eP*	Pn	11 57 32.3	+3.8
KOK	**Koryaka**	**3.19**	**10**	PN	Pn	11 57 33.2	+4.7
KOK	**Koryaka**	**3.19**	**10**	*eP*	Pn	11 57 33.2	+4.7
SDLR	**Sedlovina**	**3.21**	**13**	PN	Pn	11 57 31.9	+3.1
SDLR	**Sedlovina**	**3.21**	**13**	*eP*	Pn	11 57 31.9	+3.1
KRX	**Arik**	**3.25**	**10**	PN	Pn	11 57 33.3	+3.8
KRX	**Arik**	**3.25**	**10**	*eP*	Pn	11 57 33.3	+3.8
SPN	**Mys Shipunski**	**3.28**	**25**	PN	Pn	11 57 33.4	+3.8
SPN				S	Sn	11 58 13.3	+6.0
SPN	**Mys Shipunski**	**3.28**	**25**	*eP*	Pn	11 57 33.4	+3.8
SPN				*eS*	Sn	11 58 13.3	+6.0
GNL	**Ganaly**	**3.54**	**2**	PN	Pn	11 57 37.3	+3.9
GNL	**Ganaly**	**3.54**	**2**	*eP*	Pn	11 57 37.3	+3.9
KII	**Karymskiy**	**4.03**	**15**	PN	Pn	11 57 44.9	+4.9
KII	**Karymskiy**	**4.03**	**15**	*eP*	Pn	11 57 44.9	+4.9
TUMR	**Tumrok**	**5.34**	**15**	PN	Pn	11 58 03.5	+5.5
TUMR	**Tumrok**	**5.34**	**15**	*eP*	Pn	11 58 03.5	+5.5
KBTR	**Krutoberegovo**	**6.79**	**25**	PN	Pn	11 58 20.9	+3.1
KBTR	**Krutoberegovo**	**6.79**	**25**	*eP*	Pn	11 58 20.9	+3.1
BKI	**Bering**	**7.12**	**42**	PN	Pn	11 58 25.9	+3.6
BKI	**Bering**	**7.12**	**42**	*eP*	Pn	11 58 25.9	+3.6

IDC 30 12:02:31.8±570.0, 47°.73N × 48°.16E, h0km, Error ellipse: s-maj=209.2km s-min=151.2km az=44.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.02**	**64**	*i*		12 42 30.0	
	baz=252,slow=325,SNR=3.7						
I43RU	**DUBNA INFRASONI**	**1.22**	**327**	*i*		13 11 00.0	
	baz=138,slow=332,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**23.77**	**61**	*i*		14 30 40.0	
	baz=267,slow=335,SNR=1.2						

*NIED **30** 12:14:00, 40°.80N × 145°.00E, h5km, Mw3.6 Best double couple: M0 2.82000×10^14 NP1:φs35.00000°, δ41.00000°, λ-106.00000°. NP2:φs235.00000°, δ51.00000°, λ-77.00000°.*
*IDC **30** 12:14:40.3±1.1, 40°.75N × 144°.83E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/62, mbtmp3.5/9, ML2.8/2, Error ellipse: s-maj=26.7km s-min=24.4km az=99.0*
*JMA **30** 12:14:41.3±0.2, 40°.78N × 145°.02E, h64km±5km, M3.5*
*ISCJB **30** 12:14:42.9±0.6, 40°.82N±0°.03 × 144°.81E±0°.06, h33km, mb3.5/7, Error ellipse: s-maj=6.3km s-min=4.2km az=22.0*

ISC 30 12:14:44.5±1.0, 40°.81N±0°.05 × 144°.90E±0°.07, h35km, n30, σ1§61/35, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.78**	**313**	P	**Pn**	**12 15 11.9**	**-0.8**
JEM				*eS*	**Sn**	**12 15 32.7**	**-1.3**
JCH	**Churui**	**2.14**	**328**	P	**Pn**	**12 15 16.4**	**-1.2**
JCH				S	**Sn**	**12 15 41.0**	**-1.9**
JNBK	**Urakawa-nobuka**	**2.18**	**313**	P	**Pn**	**12 15 18.2**	**0.0**
JNBK				*eS*	**Sn**	**12 15 43.1**	**-0.8**
JAK	**Akkeshi**	**2.19**	**356**	*eS*	**Sn**	**12 15 42.5**	**-1.6**
JOB	**Onbets**	**2.23**	**339**	*eS*	**Sn**	**12 15 44.9**	**-0.4**
JANG	**Nango**	**2.61**	**261**	P	**Pn**	**12 15 22.7**	**-1.5**
JANG				*eS*	**Sn**	**12 15 52.7**	**-2.0**
JAR	**Ashorobuto**	**2.62**	**342**	P	**Pn**	**12 15 22.8**	**-1.5**
JAR				*eS*	**Sn**	**12 15 53.0**	**-1.8**
NEM2	**Nemuro 2**	**2.63**	**14**	P	**Pn**	**12 15 22.6**	**-1.7**
JNK	**Nakash**	**2.77**	**357**	P	**Pn**	**12 15 24.2**	**-2.2**
JNK				*eS*	**Sn**	**12 15 55.3**	**-3.3**
JOT	**Ohata**	**2.97**	**282**	S	**Sn**	**12 16 01.4**	**-1.9**
JOM	**Ohasama**	**3.07**	**245**	P	**Pn**	**12 15 29.6**	**-0.9**
JOM				*eS*	**Sn**	**12 16 03.5**	**-2.5**
JKB	**Kayabe**	**3.10**	**292**	P	**Pn**	**12 15 30.7**	**-0.2**
JKB				*eS*	**Sn**	**12 15 55.0**	**-1.7**
JTKR	**Abashiri--Toko**	**3.24**	**347**	P	**Pn**	**12 15 32.2**	**-0.6**
JTKR				*eS*	**Sn**	**12 16 09.0**	**-1.1**
JEW	**Eniwo**	**3.28**	**309**	P	**Pn**	**12 15 34.1**	**+0.8**
JEW				S	**Sn**	**12 16 10.9**	**-0.2**
JMK	**Ichinoseki**	**3.39**	**238**	P	**Pn**	**12 15 33.8**	**-1.0**
JMK				S	**Sn**	**12 16 10.8**	**-2.9**
ASAJ	**Asahikawa**	**3.71**	**333**	P	**Pn**	**12 15 39.3**	**0.0**
	0.5nm,0.3s,baz=162,slow=20,SNR=7.8						
ASAJ				Sn	**Sn**	**12 16 18.7**	**-3.1**
	1.1nm,0.3s,baz=156,slow=20,SNR=2.8						
MJAR	**Matsushiro Arr**	**6.75**	**233**	Pn	**Pn**	**12 16 20.4**	**-0.6**
	0.2nm,0.3s,baz=42,slow=12,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**28.18**	**132**	T	T	12 50 06.4	
	baz=330,slow=74,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**28.19**	**132**	T	T	12 50 11.7	
	baz=330,slow=74,SNR=5.8						
SONM	**Songino Array**	**28.20**	**297**	P	**P**	**12 20 33.9**	**+0.1**
	0.3nm,0.5s,baz=86,slow=7.9,SNR=2.5						
H11N3	**WAKE ISLAND Hy**	**28.20**	**132**	T	T	12 50 10.2	
	baz=330						
H11S1	**WAKE ISLAND Hy**	**29.05**	**133**	T	T	12 51 19.0	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.06**	**134**	T	T	12 51 18.4	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**29.07**	**133**	T	T	12 51 18.1	
	baz=318						
MKAR	**Makanchi Array**	**44.52**	**300**	P	**P**	**12 22 53.5**	**+1.0**
	0.2nm,0.4s,baz=89,slow=10,SNR=4.7						
KURBB	**Kurchatov Arra**	**45.92**	**306**	P	**P**	**12 23 04.6**	**+1.2**
	0.6nm,0.5s,baz=76,slow=8.7,SNR=4.6						
YKA	**Yellowknife Ar**	**59.17**	**32**	P	P	12 24 43.5	+2.1
	0.1nm,0.6s,baz=299,slow=6.2,SNR=2.9						
WRA	**Warramunga Arr**	**61.24**	**191**	P	**P**	**12 24 56.3**	**+0.4**
	1.8nm,1.1s,baz=7.7,slow=6.8,SNR=7.4						
FINES	**FINESS Array B**	**66.72**	**333**	P	**P**	**12 25 32.6**	**+1.1**
	1.1nm,0.8s,baz=77,slow=8.4,SNR=3.6						
TXAR	**Lajitas Array**	**85.69**	**55**	P	**P**	**12 27 21.4**	**+1.5**
	0.2nm,0.5s,baz=291,slow=3.9,SNR=3.5						

IDC 30 12:24:02.5±7.6, 5°.02S × 150°.90E, h123km±51km, mb3.2/3, mb1 3.3/4, mb1mx3.0/45, mbtmp3.6/4, Error ellipse: s-maj=102.0km s-min=31.0km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.72**	**220**	P	Pn	12 25 26.6	+1.4
	1.1nm,0.3s,baz=45,slow=13,SNR=3.9						
PMG				S	Sn	12 26 29.1	-0.7
	6.9nm,0.3s,baz=335,slow=19,SNR=9.3						
WRA	**Warramunga Arr**	**21.91**	**226**	P	P	12 28 46.2	+0.2
	0.7nm,0.5s,baz=52,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**24.74**	**220**	P	P	12 29 13.2	+0.5
	0.8nm,0.6s,baz=55,slow=9.3,SNR=23						
SONM	**Songino Array**	**65.51**	**329**	P	P	12 34 32.5	-0.2
	0.3nm,0.5s,baz=114,slow=7.0,SNR=10						
TORD	**Torodi Ar. Bea**	**148.57**	**287**	PKPbc	PKPbc	12 43 35.0	-1.1
	0.3nm,0.6s,baz=72,slow=2.6,SNR=2.3						

IDC 30 12:31:25.1±3.1, 54°.50N × 86°.24E, h0km, mb1 3.0/2, mb1mx2.9/67, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=23.3km s-min=14.9km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**237**	*i*		12 39 10.0	
	baz=55,slow=329,SNR=17						
ZALV	**Zalesovo Beam**	**1.00**	**237**	Pg	Pg	12 31 43.7	-0.5
	0.9nm,0.3s,baz=54,slow=16,SNR=10.0						
ZALV				Lg	Lg	12 31 57.5	
	2.4nm,0.3s,baz=54,slow=22,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.10**	**234**	Pn	Pn	12 32 57.4	+1.1
	0.1nm,0.3s,baz=49,slow=13,SNR=4.5						
KURBB				Lg	Lg	12 34 41.1	
	0.0nm,0.3s,baz=51,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**8.11**	**200**	Pn	Pn	12 33 24.6	+0.6
	0.1nm,0.3s,baz=24,slow=13,SNR=7.2						
MKAR				Sn	Sn	12 34 56.1	-0.4
	0.0nm,0.3s,baz=79,slow=6.3,SNR=2.5						
MKAR				Lg	Lg	12 35 41.6	
	0.1nm,0.3s,baz=19,slow=32,SNR=3.8						

*IDC **30** 12:41:40.2±0.9, 15°.47N × 145°.79E, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.4/68, mbtmp3.4/7, ML3.4/1, Error ellipse: s-maj=37.4km s-min=18.6km az=111.0*
*ISCJB **30** 12:41:43.6±0.8, 15°.5N±0°.1 × 145°.8E±0°.2, h33km, mb3.5/6, Error ellipse: s-maj=35.3km s-min=9.4km az=20.5*

ISC 30 12:41:45.4±0.9, 15°.4N±0°.1 × 145°.8E±0°.3, h35km, n13, σ1§01/8, mb3.5/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.04**	**207**	Pn	**Pn**	**12 42 16.4**	**-0.8**
	12nm,0.3s,baz=18,slow=20,SNR=6.6						
GUMO				Sn	**Sn**	**12 42 42.1**	**+0.7**
	29nm,0.3s,baz=304,slow=20,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**20.20**	**78**	T	T	13 06 57.6	
	baz=264,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**20.21**	**78**	T	T	13 06 58.4	
	baz=264,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**20.21**	**78**	T	T	13 06 58.8	
	baz=264,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**20.54**	**75**	T	T	13 07 22.2	
	baz=261,slow=75,SNR=54						
H11N2	**WAKE ISLAND Hy**	**20.55**	**75**	T	T	13 07 25.6	
	baz=261,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**20.56**	**75**	T	T	13 07 23.6	
	baz=261,slow=75,SNR=16						
WRA	**Warramunga Arr**	**36.91**	**198**	P	**P**	**12 48 51.0**	**0.0**
	0.1nm,0.4s,baz=11,slow=8.6,SNR=4.8						
MKAR	**Makanchi Array**	**60.83**	**315**	P	**P**	**12 51 54.8**	**+0.6**
	0.3nm,0.6s,baz=95,slow=8.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**63.84**	**319**	P	**P**	**12 52 14.3**	**+0.1**
	0.4nm,0.2s,baz=100,slow=6.6,SNR=5.8						
ILAR	**Eielson Array**	**66.53**	**26**	P	**P**	**12 52 30.1**	**-1.3**
	0.2nm,0.5s,baz=254,slow=5.8,SNR=7.9						
YKA	**Yellowknife Ar**	**80.82**	**28**	P	**P**	**12 53 55.1**	**-0.2**
	0.3nm,0.8s,baz=292,slow=4.9,SNR=5.1						
NVAR	**Mina Array Bea**	**85.07**	**52**	P	**P**	**12 54 19.6**	**+1.4**
	0.1nm,0.3s,baz=280,slow=7.9,SNR=2.1						

SJA 30 12:48:45.6±0.5, 31°.27S × 68°.59W, h108km±1km, ML3.5, MW3.4, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.12**	**123**	*eP*	Pn	12 49 01.5	+0.9
RTLL				*eS*	Sn	12 49 12.8	+0.8
ZON	**Zonda**	**0.29**	**195**	*eP*	Pn	12 49 01.8	+0.6
ZON				*eS*	Sn	12 49 13.8	+0.9
AMOG	**MOGNA**	**0.34**	**14**	*eP*	Pn	12 49 02.4	+1.0
AMOG				*eS*	Sn	12 49 14.0	+0.7
RTCV	**Cerro Valdivia**	**0.60**	**176**	*eP*	Pn	12 49 03.8	+0.8
RTCV				*eS*	Sn	12 49 17.1	+1.0
RTLS	**Leoncito**	**0.81**	**228**	*eP*	Pn	12 49 06.3	+1.2
RTLS				*eS*	Sn	12 49 21.6	+1.9
RTLS				IAML		12 49 23.4	
	comp=Z,616nm,0.4s						
AUSP	**Uspallata**	**1.17**	**215**	*eP*	Pn	12 49 10.1	+1.3
AUSP				*eS*	Sn	12 49 28.1	+1.8
AROD	**Rodeo**	**1.33**	**325**	*eP*	Pn	12 49 12.1	+1.4
AROD				*eS*	Sn	12 49 31.7	+2.1
ASAL	**Salagasta**	**1.34**	**189**	*eP*	Pn	12 49 11.7	+1.2
ASAL				*eS*	Sn	12 49 30.6	+1.3
**

JOT	**Ohata**	**3.03**	**282**	P	**Pn**	**12 55 39.5**	**-0.9**
JOT				S	**Sn**	**12 56 12.7**	**-4.7**
JOM	**Ohasama**	**3.15**	**246**	P	**Pn**	**12 55 41.0**	**-1.0**
JOM				S	**Sn**	**12 56 15.3**	**-4.9**
JKB	**Kayabe**	**3.16**	**291**	P	**Pn**	**12 55 41.9**	**-0.3**
JKB				S	**Sn**	**12 56 16.8**	**-3.8**
JTKR	**Abashiri--Toko**	**3.24**	**346**	P	**Pn**	**12 55 42.6**	**-0.6**
JTKR				S	**Sn**	**12 56 19.4**	**-3.0**
YUK	**Yuzh-Kuril'sk**	**3.26**	**11** *c* *i*	P	**Pn**	**12 55 43.0**	**-0.6**
YUK				*i* S	**Sn**	**12 56 18.3**	**-4.8**
YUK				pmax	pmax		
	comp=Z,151nm,0.5s						
YUK				pmax	pmax		
	comp=E,44nm,0.4s						
YUK				pmax	pmax		
	comp=N,76nm,0.5s						
YUK				smax	smax		
	comp=N,474nm,0.5s						
YUK				smax	smax		
	comp=E,454nm,0.5s						
JEW	**Eniwo**	**3.32**	**308**	P	**Pn**	**12 55 44.3**	**-0.1**
JEW				S	**Sn**	**12 56 22.3**	**-2.3**
SHO	**Shikotan**	**3.33**	**24** *d* *i*	P	**Pn**	**12 55 42.5**	**-1.9**
SHO				*i* S	**Sn**	**12 56 18.2**	**-6.4**
SHO				pmax	pmax		
	comp=Z,34nm,0.5s						
SHO				pmax	pmax		
	comp=E,8.0nm,0.4s						
SHO				pmax	pmax		
	comp=N,11nm,0.3s						
SHO				smax	smax		
	comp=N,213nm,0.4s						
SHO				smax	smax		
	comp=E,144nm,0.4s						
JAH	**Hinai**	**3.39**	**260**	P	**Pn**	**12 55 44.7**	**-0.5**
JAH				S	**Sn**	**12 56 21.7**	**-4.4**
JMK	**Ichinoseki**	**3.46**	**238**	P	**Pn**	**12 55 45.2**	**-1.0**
JMK				S	**Sn**	**12 56 22.7**	**-5.2**
JKK2	**Kamakawa 2**	**3.46**	**332**	P	**Pn**	**12 55 46.1**	**-0.3**
JKK2				*e*S	**Sn**	**12 56 27.0**	**-1.1**
JRG	**Rokugo**	**3.64**	**248**	P	**Pn**	**12 55 47.8**	**-0.9**
JRG				S	**Sn**	**12 56 29.5**	**-2.9**
ASAJ	**Asahikawa**	**3.73**	**332**	Pn	**Pn**	**12 55 48.4**	**-1.6**
	comp=E,0.9nm,0.3s,baz=174,slow=19,SNR=7.0						
ASAJ				Sn	**Sn**	**12 56 31.6**	**-3.1**
	comp=E,2.0nm,0.3s,baz=132,slow=17,SNR=3.5						
ASAJ	**Asahikawa**	**3.73**	**332**	*e*Pn	**Pn**	**12 55 48.1**	**-1.9**
ASAJ				*e*Sn	**Sn**	**12 56 31.8**	**-2.8**
JYK	**Kaneyama**	**4.05**	**243**	P	**Pn**	**12 55 53.6**	**-0.8**
JOU	**Okura**	**4.16**	**235**	P	**Pn**	**12 55 53.8**	**-2.1**
JOU				*e*S	**Sn**	**12 56 40.5**	**-4.6**
KUR	**Kuril'sk**	**4.88**	**25** *c* *i*	P	**Pn**	**12 56 05.6**	**-0.1**
KUR				*i* S	**Sn**	**12 56 59.5**	**-3.3**
KUR				pmax	pmax		
	comp=Z,41nm,0.6s						
KUR				smax	smax		
	comp=E,131nm,0.5s						
KUR				smax	smax		
	comp=N,71nm,0.4s						
JFT	**Otama**	**4.91**	**229**	P	**Pn**	**12 56 05.2**	**-1.0**
JFT				S	**Sn**	**12 56 58.5**	**-5.1**
MAJO	**Matsushiro**	**6.82**	**233**	*e*P	**Pn**	**12 56 32.2**	**-0.3**
MAJO	**Matsushiro**	**6.82**	**233**	*e*Pn	**Pn**	**12 56 31.9**	**-0.6**
MAJO				*e*Sn	**Sn**	**12 57 52.5**	**+1.7**
MJAR	**Matsushiro Arr**	**6.82**	**233**	Pn	**Pn**	**12 56 32.2**	**-0.2**
	comp=N,0.5nm,0.3s,baz=36,slow=12,SNR=8.3						
MJAR				Sn	**Sn**	**12 57 52.5**	**+1.7**
	comp=N,0.2nm,0.3s,baz=32,slow=12,SNR=2.4						
MJB9	**Matsu-Tunnel**	**6.82**	**233**	*e*Pn	**Pn**	**12 56 31.9**	**-0.6**
JHJ2	**Mitsune**	**8.75**	**210**	*e*Pn	**Pn**	**12 57 00.2**	**+1.4**
JHJ	**Hachijo jima 2**	**8.75**	**210**	Sn	Sn	12 58 24.2	-14
	comp=N,6.1nm,0.3s,baz=49,slow=20,SNR=2.2						
KLR	**Kul'dur**	**12.57**	**316**	Pn	**Pn**	**12 57 51.2**	**+0.1**
	comp=N,0.0nm,0.3s,baz=59,slow=19,SNR=3.7						
JNU	**Nakatsue**	**13.65**	**240**	LR	LR	13 02 59.6	
	comp=N,35nm,20.7s,baz=120,slow=36						
KSRS	**Korea Array**	**13.67**	**261**	LR	LR	13 02 58.6	
	comp=N,49nm,19.2s,baz=68,slow=36						
SEY	**Seymchan**	**22.57**	**9**	P	**P**	**12 59 52.4**	**-0.3**
	comp=N,1.6nm,0.4s,baz=198,slow=7.6,SNR=9.3						
SEY	**Seymchan**	**22.57**	**9**	*e*P	**P**	**12 59 51.3**	**-1.4**
NJ2	**Nanjing**	**22.72**	**256**	*e*P	**P**	**12 59 54.0**	**-0.6**
HHC	**Hu-ho-hao-te**	**25.21**	**281**	*e*P	**P**	**13 00 17.8**	**-0.8**
TPUB	**Ta-pu**	**26.92**	**237**	*e*P	**P**	**13 00 33.3**	**-0.7**
	comp=N,54nm,1.5s						
ULN	**Ulaanbaatar**	**27.81**	**297**	*e*P	**P**	**13 00 41.7**	**-0.4**
ULN				pmax	pmax		
	comp=Z,12nm,2.5s						
H11N2	**WAKE ISLAND Hy**	**28.14**	**132**	T	T	13 30 17.1	
	baz=324,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.15**	**132**	T	T	13 30 17.1	
	baz=324,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**28.16**	**132**	T	T	13 30 18.2	
	baz=324,slow=75,SNR=8.6						
SONA1	**Songino Array**	**28.25**	**297**	*e*P	**P**	**13 00 46.1**	**+0.2**
SONA0	**Songino Array**	**28.26**	**297**	*e*P	**P**	**13 00 46.3**	**+0.3**
SONM	**Songino Array**	**28.26**	**297**	P	**P**	**13 00 46.3**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=80,slow=8.3,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**29.01**	**134**	T	T	13 31 20.9	
	baz=325,slow=76,SNR=8.5						
H11S3	**WAKE ISLAND Hy**	**29.02**	**134**	T	T	13 31 22.0	
	baz=325,slow=76,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**29.03**	**134**	T	T	13 31 21.5	
	baz=325,slow=76,SNR=6.6						
BILL	**Bilibino**	**29.60**	**16**	*e*P	**P**	**13 00 56.6**	**-1.0**
BILL				*e*		13 01 50.9	
BILL				*e*PPP	PPP	13 02 02.7	
BILL				*e*		13 04 02.9	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MIDW	**Midway**	**33.21**	**100**	*e*P	**P**	**13 01 30.4**	**+0.7**
	comp=Z,321nm,1.5s						
GTA	**Gaotai**	**34.29**	**283**	*e*P	**P**	**13 01 40.0**	**+0.8**
GTA				pP		13 01 45.0	
GTA				sP		13 01 48.0	
CD2	**Chengdu**	**34.58**	**267**	*e*P	**P**	**13 01 40.5**	**-1.2**
DGZ	**Jazzator, Alta**	**40.57**	**303**	*e*P	**P**	**13 02 32.9**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAA1	**Zalesovo Array**	**41.55**	**309**	*e*P	**P**	**13 02 40.2**	**+0.1**
ZAA1				*e*PcP	**PcP**	**13 04 37.8**	**+0.3**
ZALV	**Zalesovo Beam**	**41.55**	**309**	P	**P**	**13 02 40.2**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=89,slow=8.2,SNR=6.5						
ZALV				PcP	**PcP**	**13 04 37.8**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=99,slow=5.0,SNR=6.1						
ZALV				LR	LR	13 21 10.9	
	comp=Z,33nm,18.1s,baz=70,slow=38						
ZALV	**Zalesovo Beam**	**41.55**	**309**	*e*P	**P**	**13 02 39.4**	**-0.7**
ZALV	**Zalesovo Beam**	**41.55**	**309**	*e*P	**P**	**13 02 39.4**	**-0.7**
WMQ	**Urumqi**	**41.74**	**294**	P	**P**	**13 02 43.8**	**+1.8**
CAST	**Castle Rocks**	**42.52**	**36**	*e*P	**P**	**13 02 50.2**	**+2.2**
	comp=Z,1.4nm,0.7s						
MK01	**Makanchi Array**	**44.58**	**300**	*e*P	**P**	**13 03 04.7**	**-0.1**
MK31	**Makanchi Array**	**44.58**	**300**	*e*P	**P**	**13 03 04.6**	**-0.2**
MK31	**Makanchi Array**	**44.58**	**300**	*e*P	**P**	**13 03 04.6**	**-0.2**
MK32	**Makanchi Array**	**44.58**	**300**	*e*P	**P**	**13 03 04.8**	**0.0**
MKAR	**Makanchi Array**	**44.58**	**300**	P	**P**	**13 03 04.8**	**0.0**
	comp=Z,1.2nm,0.6s,baz=84,slow=10,SNR=14						
MKAR	**Makanchi Array**	**44.58**	**300**	*e*P	**P**	**13 03 04.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,11nm,0.6s						
MKAR	**Makanchi Array**	**44.58**	**300**	*e*P	**P**	**13 03 04.6**	**-0.2**
	comp=Z,11nm,0.6s						
IL1	**Eielson Array**	**44.79**	**34**	*e*P	**P**	**13 03 07.2**	**+0.9**
ILAR	**Eielson Array**	**44.79**	**34**	P	**P**	**13 03 07.0**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=265,slow=6.5,SNR=10						
ILB	**Eielson Array**	**44.79**	**34**	*e*P	**P**	**13 03 06.8**	**+0.6**
KURK	**Kurchatov**	**45.89**	**306**	*ce*P	**P**	**13 03 15.0**	**0.0**
KURK				pmax	pmax		
	comp=Z,16nm,1.2s						
KURK	**Kurchatov**	**45.89**	**306**	*e*P	**P**	**13 03 15.1**	**0.0**
	comp=Z,5.3nm,0.8s						
KURBB	**Kurchatov Arra**	**45.97**	**306**	P	**P**	**13 03 16.1**	**+0.3**
	comp=Z,6.7nm,0.9s,baz=78,slow=8.8,SNR=18						
INK	**Inuvik**	**49.73**	**29**	P	**P**	**13 03 46.1**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=300,slow=6.3,SNR=12						
INK	**Inuvik**	**49.73**	**29**	*e*P	**P**	**13 03 46.1**	**+1.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**49.73**	**29**	*e*P	**P**	**13 03 46.0**	**+1.5**
	comp=Z,2.9nm,0.8s						
BVAR	**Borovoye Array**	**50.15**	**311**	P	**P**	**13 03 48.9**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=75,slow=7.3,SNR=11						
BVAR				PcP	**PcP**	**13 05 07.3**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=74,slow=5.1,SNR=2.4						
BRVK	**Borovoye**	**50.20**	**311**	*ce*P	**P**	**13 03 48.9**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,16nm,1.7s						
KSH	**Kashi**	**51.47**	**293**	*e*P	**P**	**13 04 01.5**	**+3.1**
KSH				S	**S**	**13 11 20.0**	**+0.5**
ARU	**Arti**	**55.40**	**318**	*c* *i*P	**P**	**13 04 26.4**	**-0.4**
ARU						13 06 27.5	
ARU				S	**S**	**13 12 11.8**	**-0.3**
ARU				SS	**SS**	**13 15 57.4**	**+1.4**
ARU				pmax	pmax		
	comp=Z,13nm,2.5s						
AB07	**Akbulak array**	**57.66**	**309**	*e*P	**P**	**13 04 43.3**	**+0.3**
AB01	**Akbulak array**	**57.66**	**309**	*e*P	**P**	**13 04 43.2**	**+0.2**
AB31	**Akbulak array**	**57.66**	**309**	*e*P	**P**	**13 04 43.3**	**+0.3**
AB31	**Akbulak array**	**57.66**	**309**	*e*P	**P**	**13 04 43.3**	**+0.3**
ABKAR	**Akbulak array**	**57.66**	**309**	*e*P	**P**	**13 04 43.3**	**+0.3**
	comp=Z,1.6nm,0.5s						
AB03	**Akbulak array**	**57.66**	**309**	*e*P	**P**	**13 04 43.3**	**+0.2**
AB04	**Akbulak array**	**57.66**	**309**	*e*P	**P**	**13 04 43.3**	**+0.2**
AB08	**Akbulak array**	**57.68**	**309**	*e*P	**P**	**13 04 43.2**	**0.0**
RES	**Resolute Bay**	**58.21**	**16**	*e*P	**P**	**13 04 47.2**	**+0.7**
RES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
RES	**Resolute Bay**	**58.21**	**16**	*e*P	**P**	**13 04 47.2**	**+0.7**
	comp=Z,7.2nm,1.1s						
YKA	**Yellowknife Ar**	**59.12**	**32**	P	**P**	**13 04 53.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=299,slow=6.6,SNR=12						
WRAB	**Tennant Creek**	**61.26**	**191**	*e*P	**P**	**13 05 08.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WR1	**Warramunga Arr**	**61.27**	**191**	*e*P	**P**	**13 05 07.5**	**-0.6**
	comp=Z,7.9nm,1.2s						
WRA	**Warramunga Arr**	**61.27**	**191**	P	**P**	**13 05 07.5**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=10,slow=7.3,SNR=15						
AS31	**Alice Springs**	**64.99**	**191**	*e*P	**P**	**13 05 33.2**	**+0.3**
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**64.99**	**191**	P	**P**	**13 05 33.2**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=11,slow=6.6,SNR=6.3						
OBN	**Obninsk**	**66.72**	**324**	*i* P	**P**	**13 05 44.5**	**+0.9**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FIA0	**FINESS Array S**	**66.74**	**333**	*e*P	**P**	**13 05 43.9**	**+0.2**
FIA0	**FINESS Array S**	**66.74**	**333**	*e*P	**P**	**13 05 43.9**	**+0.2**
FINES	**FINESS Array B**	**66.74**	**333**	P	**P**	**13 05 43.9**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=55,slow=5.5,SNR=12						
NCK	**Nalchik**	**70.27**	**311**	*e*P	**P**	**13 06 07.1**	**+0.9**
NCK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV	**Kislovodsk**	**70.51**	**312**	*e*P	**P**	**13 06 08.3**	**+0.6**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
NVAR	**Mina Array Bea**	**70.51**	**56**	P	**P**	**13 06 09.5**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=302,slow=5.2,SNR=3.4						
KBZ	**Khabaz**	**70.53**	**311**	P	**P**	**13 06 08.1**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=42,slow=4.5,SNR=9.6						
NEY	**Neytrino**	**70.92**	**311**	*e*P	**P**	**13 06 10.3**	**-0.1**
NEY				pmax	pmax		
	comp=Z,1.0nm,1.5s						
NB200	**NORSAR Array S**	**71.73**	**338**	*e*P	**P**	**13 06 14.8**	**0.0**
NOA	**NORSAR Array B**	**71.73**	**338**	P	**P**	**13 06 14.8**	**0.0**
	comp=Z,0.8nm,0.7s,baz=10,slow=8.1,SNR=3.9						
HFS	**Hagfors**	**71.75**	**337**	P	**P**	**13 06 14.3**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=32,slow=9.2,SNR=5.9						
AKASG	**Malin Array Be**	**72.97**	**323**	P	**P**	**13 06 22.2**	**0.0**
	comp=Z,1.4nm,0.4s,baz=40,slow=6.2,SNR=6.7						
KIEV	**Kiev**	**72.98**	**323**	*e*P	**P**	**13 06 21.5**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**73.03**	**48**	P	**P**	**13 06 23.6**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=168,slow=0.7,SNR=4.5						
BR101	**Keskin Array S**	**78.38**	**313**	*e*P	**P**	**13 06 54.4**	**+0.8**
BRTR	**Keskin Array B**	**78.38**	**313**	P	**P**	**13 06 54.4**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=88,slow=4.1,SNR=3.1						
EKA	**Eskdalemuir Ar**	**80.43**	**342**	P	**P**	**13 07 04.8**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=30,slow=5.8,SNR=2.9						
GERES	**GERESS Array B**	**80.90**	**330**	P	**P**	**13 07 07.6**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=30,slow=4.5,SNR=2.6						
MMAI	**Mount Meron Ar**	**81.99**	**307**	P	**P**	**13 07 13.7**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=328,slow=5.1,SNR=3.2						
LTX	**Lajitas**	**85.62**	**55**	*e*P	**P**	**13 07 32.5**	**+0.6**
LTX	**Lajitas**	**85.62**	**55**	*e*P	**P**	**13 07 32.5**	**+0.6**
TXAR	**Lajitas Array**	**85.62**	**55**	P	**P**	**13 07 32.5**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=306,slow=3.0,SNR=4.7						
SNAA	**Sanae**	**145.19**	**197**	PKPbc	**PKPbc**	**13 14 28.2**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=46,slow=18,SNR=3.8						

MAN 30 13:03:55, 17°.52N×120°.22E, h33km, mb4.1, ML2.8, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.48**	**75**	*e*P	Pn	13 04 06.2	+0.6
ABRA				*e*S	Sn	13 04 14.4	+1.5
APYP	**Conner**	**1.03**	**71**	*e*P	Pb	13 04 14.0	-0.4
APYP				*e*S	Sn	13 04 26.7	+0.3
BOLP	**Bolinao**	**1.17**	**195**	*e*P	Pn	13 04 15.7	+0.6
BOLP				*e*S	Sn	13 04 29.9	0.0
CAUP	**Cauayan**	**1.63**	**110**	*e*P	Pb	13 04 23.3	-1.2

*JMA **30** 13:03:59.0, 39°.80N×142°.30E, h20km±1km, M3.2*
*IDC **30** 13:04:00.4±2.1, 40°.01N×141°.92E, h0km, mb3.5/4, mb1 3.4/6, mb1mx3.2/63, mbtmp3.3/6, ML2.5/2, Error ellipse: s-maj=54.8km s-min=25.8km az=84.0*
ISC 30 13:03:58.3±2.3, 39°.83N±0°.04×142°.3E±0°.1, h15km±12km, n19, σ1§60/19, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.37**	**287**	P	**Pb**	**13 04 06.7**	**+0.1**
JTH				S	**Sg**	**13 04 12.0**	**+0.9**
MIYJ	**Miyakonagasawa**	**0.47**	**237**	P	**Pg**	**13 04 07.8**	**+0.2**
MIYJ				S	**Sg**	**13 04 13.8**	**-0.1**
JKZ	**Kuzumaki**	**0.78**	**282**	P	**Pg**	**13 04 13.5**	**-0.1**
JKZ				S	**Sg**	**13 04 23.7**	**-0.2**
JANG	**Nango**	**0.83**	**311**	P	**Pg**	**13 04 13.9**	**-0.5**
JANG				S	**Sg**	**13 04 24.5**	**-0.8**
JOM	**Ohasama**	**0.88**	**246**	P	**Pg**	**13 04 14.7**	**-0.6**
JOM				S	**Sg**	**13 04 25.7**	**-1.1**
OFUJ	**Ofunato**	**0.91**	**214**	P	**Pg**	**13 04 14.9**	**-1.0**
JMK	**Ichinoseki**	**1.23**	**225**	P	**Pn**	**13 04 20.3**	**-0.6**
JMK				S	**Sb**	**13 04 35.5**	**-1.3**
ASAJ	**Asahikawa**	**4.29**	**3**	Pn	**Pn**	**13 05 04.2**	**+1.2**
	0.3nm,0.3s,baz=243,slow=11,SNR=3.6						
ASAJ				Sn	**Sn**	**13 05 48.4**	**-4.3**
	0.2nm,0.3s,baz=56,slow=33,SNR=2.1						
MJAR	**Matsushiro Arr**	**4.62**	**226**	Pn	**Pn**	**13 05 09.8**	**+2.3**
	0.1nm,0.3s,baz=41,slow=10,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**29.09**	**126**	T	T	13 40 27.6	
	baz=319,slow=75,SNR=364						
H11N1	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	13 40 28.1	
	baz=319,slow=75,SNR=261						
H11N3	**WAKE ISLAND Hy**	**29.11**	**126**	T	T	13 40 29.1	
	baz=319,slow=75,SNR=281						
H11S1	**WAKE ISLAND Hy**	**29.90**	**128**	T	T	13 41 29.4	
	baz=321,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.90**	**128**	T	T	13 41 29.4	
	baz=321,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**29.92**	**128**	T	T	13 41 29.4	
	baz=321,slow=76,SNR=23						
ZALV	**Zalesovo Beam**	**40.61**	**310**	P	P	**13 11 39.2**	**+2.0**
	0.4nm,0.4s,baz=78,slow=9.4,SNR=2.3						
MKAR	**Makanchi Array**	**43.30**	**300**	P	**P**	**13 12 00.4**	**+1.1**
	0.3nm,0.8s,baz=85,slow=9.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**44.90**	**306**	P	**P**	**13 12 13.3**	**+1.3**
	0.5nm,0.5s,baz=82,slow=8.6,SNR=3.4						
WRA	**Warramunga Arr**	**59.93**	**189**	P	P	13 14 09.2	+5.5
	0.4nm,0.6s,baz=5.2,slow=7.1,SNR=5.8						

*NIED **30** 13:07:00, 38°.90N×142°.60E, h29km, Mw3.8 Best double couple: M0≤4.96000×10^14 NP1:φs287.00000°, δ38.00000°, λ-139.00000°. NP2:φs163.00000°, δ66.00000°, λ-59.00000°.*
*ISCJB **30** 13:07:30.6±1.1, 38°.92N±0°.04×142°.56E±0°.06, h20km±7km, mb3.7/15, Error ellipse: s-maj=8.6km s-min=6.0km az=20.9*
*JMA **30** 13:07:32.2±0.1, 38°.97N×142°.48E, h28km±2km, M3.7*
JMA Felt I J1.
*IDC **30** 13:07:34.7±3.1, 38°.85N×142°.56E, h39km±28km, mb3.5/15, mb1 3.7/18, mb1mx3.5/64, mbtmp3.7/18, ML3.6/3, MS2.8/3, Ms1 2.8/3, ms1mx2.4/48, Error ellipse: s-maj=20.3km s-min=14.7km az=106.0*
ISC 30 13:07:29.8±2.0, 38°.92N±0°.04×142°.55E±0°.06, h4km±11km, n36, σ1§68/39, mb3.7/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.70**	**283**	P	**Pb**	**13 07 44.9**	**+0.3**
OFUJ				S	**Sb**	**13 07 53.6**	**-1.1**
MIYJ	**Miyakonagasawa**	**0.86**	**319**	P	**Pb**	**13 07 46.8**	**-0.6**
MIYJ				S	**Sb**	**13 07 57.3**	**-2.0**
JMK	**Ichinoseki**	**1.04**	**272**	P	**Pb**	**13 07 50.2**	**-0.1**
JMK				S	**Sg**	**13 08 02.9**	**-0.3**
JIO	**Ouri**	**1.05**	**244**	P	**Pg**	**13 07 50.0**	**+0.1**
JIO				*e*S	**Sg**	**13 08 02.5**	**-1.1**
JOM	**Ohasama**	**1.12**	**300**	P	**Pb**	**13 07 51.4**	**-0.3**
JOM				S	**Sg**	**13 08 04.9**	**-0.9**
JKZ	**Kuzumaki**	**1.42**	**319**	P	**Pb**	**13 07 56.0**	**-0.8**
JRG	**Rokugo**	**1.56**	**288**	P	**Pb**	**13 07 58.6**	**-0.7**
JRG				*e*S	**Sn**	**13 08 17.1**	**-1.9**
JOU	**Okura**	**1.58**	**250**	P	**Pn**	**13 07 58.6**	**+0.1**
JOU				*e*S	**Sn**	**13 08 18.1**	**-1.3**
JANG	**Nango**	**1.66**	**331**	P	**Pn**	**13 07 59.2**	**-0.4**
JANG				*e*S	**Sn**	**13 08 18.6**	**-2.7**
MJAR	**Matsushiro Arr**	**4.18**	**237**	Pn	**Pn**	**13 08 35.4**	**+1.0**
	5.2nm,0.3s,baz=41,slow=10,SNR=37						
MJAR				LR	LR	13 10 33.5	
	comp=Z,168nm,18.4s,baz=40,slow=43						
MAT	**Matsushiro**	**4.18**	**237**	P	**Pn**	**13 08 36.1**	**+1.7**
MAT				*e*S	**Sn**	**13 09 26.5**	**+2.8**
ASAJ	**Asahikawa**	**5.19**	**0**	Pn	**Pn**	**13 08 50.9**	**+2.7**
	0.9nm,0.3s,baz=292,slow=14,SNR=6.4						
JHJ	**Hachijo jima 2**	**6.21**	**202**	Pn	**Pn**	**13 09 01.6**	**-0.6**
	21nm,0.3s,baz=236,slow=22,SNR=7.3						
JHJ				Sn	**Sn**	**13 10 08.3**	**-5.3**
	3.8nm,0.3s,baz=90,slow=20,SNR=3.1						
JNU	**Nakatsue**	**11.08**	**242**	LR	LR	13 14 33.0	
	comp=Z,64nm,19.6s,baz=119,slow=38						
KSRS	**Korea Array**	**11.61**	**267**	Pn	**Pn**	**13 10 20.6**	**+4.4**
	0.2nm,0.3s,baz=85,slow=13,SNR=5.2						
KSRS				LR	LR	13 14 31.8	
	comp=Z,30nm,21.9s,baz=275,slow=36						
SEY	**Seymchan**	**24.77**	**11**	P	**P**	**13 12 53.5**	**+1.2**
	0.4nm,0.4s,baz=120,slow=16,SNR=3.4						
SONM	**Songino Array**	**27.54**	**301**	P	**P**	**13 13 19.4**	**+1.8**
	0.3nm,0.5s,baz=110,slow=6.9,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**28.42**	**125**	T	T	13 43 49.9	
	baz=317,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**28.43**	**125**	T	T	13 43 50.6	
	baz=317,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**28.44**	**125**	T	T	13 43 51.3	
	baz=317,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**29.21**	**127**	T	T	13 44 48.1	
	baz=319,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.21**	**127**	T	T	13 44 49.3	
	baz=319,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**29.23**	**127**	T	T	13 44 48.7	
	baz=319,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**41.33**	**311**	P	**P**	**13 15 16.7**	**+0.3**
	0.4nm,0.3s,baz=108,slow=7.8,SNR=3.4						
CMAR	**Chiang Mai Arr**	**42.86**	**254**	P	**P**	**13 15 30.1**	**+0.8**
	0.7nm,0.3s,baz=49,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**43.90**	**301**	P	**P**	**13 15 36.5**	**-0.9**
	0.6nm,0.6s,baz=86,slow=11,SNR=6.9						
KURBB	**Kurchatov Arra**	**45.57**	**307**	P	**P**	**13 15 50.2**	**-0.4**
	1.4nm,0.5s,baz=81,slow=8.3,SNR=18						
ILAR	**Eielson Array**	**47.42**	**33**	P	**P**	**13 16 05.5**	**+0.6**
	0.9nm,0.7s,baz=265,slow=6.1,SNR=12						
BVAR	**Borovoye Array**	**49.98**	**311**	P	**P**	**13 16 25.1**	**+0.3**
	0.5nm,0.5s,baz=3.1,slow=7.9,SNR=3.7						
INK	**Inuvik**	**52.30**	**28**	P	**P**	**13 16 42.2**	**+0.3**
	0.5nm,0.5s,baz=318,slow=5.3,SNR=5.5						

STKA	**Stephens Creek**	**41.65**	**242**	P	**P**	**13 32 54.4**	**-1.3**	
	3.8nm,1.0s,baz=86,slow=14,SNR=3.4							
WB2	**Warramunga Arr**	**48.08**	**259**	*e*P	**P**	**13 33 45.6**	**-1.3**	
WRAB	**Tennant Creek**	**48.08**	**259**	*e*P	**P**	**13 33 46.0**	**-0.9**	
	2.6nm,0.5s							
WRA	**Warramunga Arr**	**48.09**	**259**	P	**P**	**13 33 46.1**	**-0.9**	
	7.4nm,0.6s,baz=98,slow=7.0,SNR=203							
WRA				PcP	**PcP**	**13 35 13.0**	**-0.4**	
	0.4nm,0.6s,baz=91,slow=4.0,SNR=2.4							
AS01	**Alice Springs**	**48.11**	**254**	*e*P	**P**	**13 33 46.2**	**-1.0**	
AS31	**Alice Springs**	**48.15**	**254**	*e*P	**P**	**13 33 47.0**	**-0.4**	
	8.2nm,0.9s							
ASAR	**Alice Springs**	**48.15**	**254**	P	**P**	**13 33 47.0**	**-0.5**	
	27nm,0.7s,baz=86,slow=8.7,SNR=274							
ASAR				PcP	**PcP**	**13 35 12.9**	**-0.7**	
	0.5nm,0.5s,baz=93,slow=5.7,SNR=3.0							
SOEI	**Soe**	**59.63**	**269**	*e*P	**P**	**13 35 12.8**	**+1.5**	
QSPA	**South Pole Qui**	**71.90**	**180**	P	**P**	**13 36 29.1**	**-0.1**	
	2.1nm,0.8s,baz=36,slow=2.6,SNR=5.5							
PMCM	**McMillan Canyo**	**74.25**	**43**	*e*P	**P**	**13 36 47.6**	**+4.2**	
PETK	**Petropavlovsk-**	**74.89**	**343**	P	**P**	**13 36 48.3**	**+1.7**	
	2.2nm,0.8s,baz=106,slow=8.8,SNR=6.5							
PEA1	**Petropavlovsk-**	**74.89**	**343**	*e*P	**P**	**13 36 48.3**	**+1.6**	
HWB	**Hans Werner Br**	**75.01**	**47**	*e*P	**P**	**13 36 50.9**	**+3.1**	
CHNC	**Chino**	**75.05**	**46**	*e*P	**P**	**13 36 51.0**	**+3.0**	
NVAR	**Mina Array Bea**	**77.18**	**42**	P	**P**	**13 37 01.5**	**+1.2**	
	0.3nm,0.7s,baz=226,slow=7.5,SNR=2.0							
TXAR	**Lajitas Array**	**83.15**	**56**	P	**P**	**13 37 35.4**	**+3.0**	
	0.2nm,0.8s,baz=200,slow=7.7,SNR=2.6							
ILAR	**Eielson Array**	**85.38**	**12**	P	**P**	**13 37 41.9**	**-0.8**	
	0.4nm,0.6s,baz=226,slow=5.7,SNR=8.6							
SYO	**Syowa Base**	**89.67**	**192**	⇓*i*pP	pP	13 38 21.0	-8.8	
SNAA	**Sanae**	**90.22**	**177**	P	**P**	**13 38 05.3**	**-0.8**	
	1.8nm,0.9s,baz=182,slow=18,SNR=3.0							
BR101	**Keskin Array S**	**147.44**	**317**	*e*PKPdf	**PKPab**	**13 44 50.3**	**-1.7**	
BRTR	**Keskin Array B**	**147.44**	**317**	PKPbc	**PKPab**	**13 44 50.3**	**-1.7**	
	0.6nm,0.8s,baz=344,slow=4.8,SNR=3.3							
GERES	**GERESS Array B**	**148.65**	**349**	PKPbc	**PKPbc**	**13 44 50.9**	**-1.8**	
	0.6nm,0.5s,baz=48,slow=1.5,SNR=2.3							

NIED ***30*** *13:29:00,37˚.80N×142˚.10E,h68km,Mw3.7 Best double couple: M₀3.74000×10¹⁴ NP1:φs333.00000°,δ83.00000°, λ-178.00000°. NP2:φs243.00000°,δ88.00000°, λ-7.00000°.*

IDC ***30*** *13:29:04.8±2.0,37˚.62N×142˚.69E,h0km,mb3.4/3, mb1 3.4/6,mb1mx3.3/65,mbtmp3.4/6,ML3.1/3,MS2.6/3, Ms1 2.6/3,ms1mx2.3/33,Error ellipse: s-maj=40.0km s-min=25.7km az=93.0*

ISCJB ***30*** *13:29:07.4±1.4,37˚.81N±0˚.04×142˚.21E±0˚.07,h15km±8km, mb3.4/3,MS3.2/1,Error ellipse: s-maj=10.6km s-min=5.8km az=24.9*

JMA ***30*** *13:29:09.4±0.2,37˚.81N×142˚.13E,h37km±2km,M3.5*

ISC 30 13:29:06.4±2.9,37˚.77N±0˚.05×142˚.24E±0˚.07,h8km±17km, n27,σ1ˢ62/30,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.98**	**315**	P	**Pb**	**13 29 25.8**	**+0.2**
JIO				S	**Sg**	**13 29 37.1**	**-0.8**
JMM	**Marumori**	**1.15**	**275**	P	**Pn**	**13 29 28.2**	**-0.6**
JMM				S	**Sb**	**13 29 41.5**	**-2.0**
JFK	**Kawauchi**	**1.16**	**250**	P	**Pn**	**13 29 28.3**	**-0.6**
JFK				S	**Sb**	**13 29 41.9**	**-1.9**
JOU	**Okura**	**1.38**	**296**	P	**Pn**	**13 29 32.0**	**+0.1**
JMK	**Ichinoseki**	**1.43**	**326**	P	**Pn**	**13 29 32.4**	**-0.2**
JMK				S	**Sn**	**13 29 49.2**	**-2.3**
JFT	**Otama**	**1.53**	**261**	P	**Pn**	**13 29 34.5**	**+0.5**
JFT				S	**Sn**	**13 29 52.9**	**-1.2**
JYS	**Shirataka**	**1.77**	**285**	P	**Pn**	**13 29 38.2**	**+0.8**
JYS				S	**Sn**	**13 30 00.5**	**+0.3**
JOM	**Ohasama**	**1.86**	**337**	P	**Pn**	**13 29 38.7**	**+0.2**
JOM				S	**Sn**	**13 30 00.2**	**-1.9**
JYK	**Kaneyama**	**1.87**	**308**	P	**Pn**	**13 29 38.9**	**+0.2**
JFY	**Yanaizu**	**2.04**	**261**	S	**Sn**	**13 30 07.0**	**+0.2**
JRG	**Rokugo**	**2.06**	**323**	P	**Pn**	**13 29 42.0**	**+0.8**
JYA	**Atsumi**	**2.15**	**293**	P	**Pn**	**13 29 42.2**	**-0.4**
MJAR	**Matsushiro Arr**	**3.44**	**250**	Pn	**Pn**	**13 30 03.6**	**+3.2**
	0.9nm,0.3s,baz=80,slow=16,SNR=8.9						
MJAR				Sn	**Sb**	**13 30 50.8**	**+1.2**
	0.8nm,0.3s,baz=101,slow=25,SNR=5.2						
MJAR				LR	LR	13 31 46.5	
	comp=Z,31nm,19.4s,baz=105,slow=44						
MAT	**Matsushiro**	**3.45**	**250**	P	**Pn**	**13 29 59.7**	**-0.7**
MAT				*e*S	**Sn**	**13 30 42.5**	**+1.1**
JHJ	**Hachijo jima 2**	**5.05**	**204**	Pn	**Pn**	**13 30 23.9**	**+1.5**
	6.2nm,0.3s,baz=53,slow=20,SNR=2.4						
JHJ				Sn	**Sn**	**13 31 18.4**	**-2.6**
	2.1nm,0.3s,baz=105,slow=20,SNR=1.8						
ASAJ	**Asahikawa**	**6.35**	**2**	Pn	**Pn**	**13 30 43.7**	**+3.5**
	0.3nm,0.3s,baz=151,slow=33,SNR=4.5						
ASAJ				Sn	**Sn**	**13 31 52.5**	**-0.4**
	0.2nm,0.3s,baz=318,slow=32,SNR=2.3						
KLR	**Kul'dur**	**13.74**	**330**	LR	LR	13 37 37.1	
	comp=Z,16nm,18.6s,baz=185,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.98**	**123**	T	T	14 04 33.0	
	baz=316,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.99**	**123**	T	T	14 04 33.5	
	baz=316,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.00**	**123**	T	T	14 04 33.5	
	baz=316,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**28.73**	**125**	T	T	14 05 30.5	
	baz=317,slow=76,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**28.73**	**125**	T	T	14 05 28.8	
	baz=317,slow=76,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**28.74**	**125**	T	T	14 05 30.5	
	baz=317,slow=76,SNR=3.2						
MKAR	**Makanchi Array**	**44.29**	**302**	P	**P**	**13 37 19.5**	**+3.0**
	0.4nm,0.9s,baz=80,slow=9.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**46.07**	**308**	P	**P**	**13 37 31.8**	**+1.2**
	0.3nm,0.4s,baz=80,slow=8.2,SNR=3.9						
AAK	**Ala-Archa**	**50.72**	**298**	LR	LR	14 01 22.2	
	comp=Z,21nm,18.4s,baz=186,slow=38						
WRA	**Warramunga Arr**	**57.88**	**189**	P	**P**	**13 38 57.5**	**-1.3**
	0.3nm,0.7s,baz=3.7,slow=7.0,SNR=4.9						

MEX 30 13:36:57.6±0.5,16˚.46N×98˚.34W,h14km±5km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**110**	*e*P	Pg	13 37 01.7	-0.7
PNIG				*e*S	Sg	13 37 05.5	-0.1
TLIG	**Tlapa**	**1.11**	**349**	*e*P	Pb	13 37 15.1	-3.7
TLIG				*i*S	Sb	13 37 29.4	-3.9
ACX	**Acapulco**	**1.52**	**286**	*i*P	Pn	13 37 19.4	-5.0
ACX				*i*S	Sn	13 37 38.1	-5.9
VHO	**Vista Hermosa**	**1.65**	**68**	*e*P	Pn	13 37 22.4	-4.0
VHO				*e*S	Sn	13 37 42.4	-5.2
HUIG	**Huatulco**	**2.25**	**108**	*i*P	Pn	13 37 31.9	-2.5
HUIG				*i*S	Sn	13 37 58.1	-4.0

IDC ***30*** *13:38:05.0±1.1,51˚.62N×96˚.33E,h0km,mb4.1/1, mb1 3.4/5,mb1mx3.1/69,mbtmp3.4/5,ML2.8/4,MS2.8/2, Ms1 2.9/2,ms1mx2.3/64,Error ellipse: s-maj=28.0km s-min=11.0km az=177.0*

MOS ***30*** *13:38:05.5±2.0,51˚.58N×96˚.17E,h10km,mb4.2/1,Error ellipse: s-maj=15.4km s-min=9.8km az=2.6*

ISC 30 13:38:06.6±0.9,51˚.7N±0˚.1×96˚.16E±0˚.06,h10km,n23, σ1ˢ59/20,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNGR	**Kungurtug, Tuv**	**1.41**	**142**	*i*PG	**Pb**	**13 38 30.0**	**-3.0**
ORL	**Orlik**	**2.39**	**69**	*e*PN	**Pb**	**13 38 47.8**	**-2.0**
ORL				*e*		13 39 20.4	
ORL				pmax	pmax		
	comp=Z,69nm,0.5s						
ORL				smax	smax		
	comp=N,455nm,0.4s						
MOY	**Mondy**	**3.01**	**89**	*e*PN	**Pb**	**13 38 59.0**	**-1.3**
MOY				*e*		13 39 40.2	
MOY				pmax	pmax		
	comp=Z,102nm,0.7s						
MOY				smax	smax		
	comp=E,487nm,0.9s						
ARS	**Arshan**	**3.89**	**85**	*e*PN	**Pn**	**13 39 08.0**	**+1.5**
ARS				*e*		13 39 15.6	
ARS				*e*		13 40 07.2	
ARS				pmax	pmax		
	comp=Z,55nm,0.5s						
ARS				smax	smax		
	comp=E,776nm,0.6s						
TLY	**Talaya**	**4.65**	**88**	Pg	**Pb**	**13 39 25.2**	**-3.1**
	comp=E,0.0nm,0.3s,baz=230,slow=8.5,SNR=3.0						
TLY				Lg	Lg	13 40 29.7	
	comp=E,0.1nm,0.3s,baz=207,slow=2.7,SNR=18						
TLY	**Talaya**	**4.65**	**88**	*e*PN	**Pb**	**13 39 28.8**	**+0.5**
TLY				*e*		13 40 29.5	
TLY				pmax	pmax		
	comp=Z,15nm,0.5s						
TLY				smax	smax		
	comp=N,80nm,0.6s						
ZAK	**Zakamensk**	**4.69**	**104**	*e*PN	**Pb**	**13 39 27.6**	**-1.3**
ZAK				*e*		13 40 31.1	
ZAK				pmax	pmax		
	comp=Z,23nm,0.9s						
ZAK				smax	smax		
	comp=N,172nm,1.0s						
IRK	**Irkutsk**	**5.04**	**81**	*e*PN	**Pb**	**13 39 36.7**	**+1.9**
IRK				*e*		13 40 40.6	
IRK				pmax	pmax		
	comp=Z,72nm,0.1s						
IRK				smax	smax		
	comp=E,340nm,0.8s						
DGZ	**Jazzator, Alta**	**5.91**	**253**	*e*PN	**Pn**	**13 39 34.4**	**+0.2**
ELT	**Eltsovka**	**6.25**	**288**	*e*PN	**Pb**	**13 39 56.2**	**+0.7**
TRG	**Tyrgan**	**6.34**	**77**	*e*PN	**Pn**	**13 39 41.6**	**+1.5**
TRG				*e*		13 40 00.5	
TRG				*e*		13 41 21.4	
TRG				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TRG				smax	smax		
	comp=N,128nm,0.7s						
OGRR	**Ongureny**	**7.21**	**70**	*e*P	**Pn**	**13 39 51.8**	**-0.2**
OGRR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ZALV	**Zalesovo Beam**	**7.22**	**292**	Pn	**Pn**	**13 39 52.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=102,slow=10,SNR=4.4						
ZALV				Pg	**Pb**	**13 40 11.9**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=103,slow=14,SNR=8.4						
ZALV				Lg	Lg	13 41 44.8	
	comp=Z,1.5nm,0.3s,baz=107,slow=25,SNR=6.2						
SONM	**Songino Array**	**7.68**	**116**	Pg	**Pb**	**13 40 22.2**	**+2.4**
	comp=Z,0.6nm,0.3s,baz=303,slow=19,SNR=19						
SONM				Lg	Lg	13 42 04.4	
	comp=Z,1.8nm,0.3s,baz=297,slow=30,SNR=13						
SONM				LR	LR	13 43 00.8	
	comp=Z,49nm,21.1s,baz=206,slow=39						
ULN	**Ulaanbaatar**	**8.03**	**114**	*i*P	**Pn**	**13 40 02.7**	**-0.7**
NVS	**Novosibirsk**	**8.35**	**297**	*e*P	Pn	13 40 18.5	+11
NVS				*e*		13 41 42.1	
SYVR	**Suvo**	**8.63**	**72**	*e*P	Pn	13 40 24.2	+13
SYVR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MKAR	**Makanchi Array**	**10.32**	**247**	Pn	**Pn**	**13 40 35.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=52,slow=13,SNR=4.1						
MKAR				Pg		13 41 15.6	
	comp=Z,0.2nm,0.3s,baz=60,slow=14,SNR=6.1						
MKAR				Lg	Lg	13 43 26.5	
	comp=Z,0.2nm,0.3s,baz=56,slow=31,SNR=4.0						
KURK	**Kurchatov**	**11.05**	**272**	*i*P	Pn	13 40 49.3	+4.7
KURK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KURBB	**Kurchatov Arra**	**11.13**	**271**	Pn	**Pn**	**13 40 45.4**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=76,slow=15,SNR=4.0						
KURBB				Lg	Lg	13 43 48.2	
	comp=Z,0.0nm,0.3s,baz=80,slow=30,SNR=5.6						
BVAR	**Borovoye Array**	**15.77**	**285**	Pn	**Pn**	**13 41 47.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=78,slow=14,SNR=3.2						
TIXI	**Tiksi**	**24.70**	**24**	P	**P**	**13 43 27.6**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=257,slow=6.6,SNR=6.1						
CMAR	**Chiang Mai Arr**	**33.27**	**175**	LR	LR	14 00 34.6	
	comp=Z,23nm,19.9s,baz=159,slow=41						

SKO ***30*** *13:45:36.6,41˚.20N×20˚.23E,h15km,M1.7,ML2.0 TIR* ***30*** *13:45:36.8,41˚.19N×20˚.25E,h7km,ML2.7 CSEM* ***30*** *13:45:37.1±0.6,41˚.17N×20˚.27E,h2km,ML2.7,Error ellipse: s-maj=13.9km s-min=8.5km az=35.0 PDG* ***30*** *13:45:37.3±0.2,41˚.23N×20˚.24E,h4km,ML2.3/11,Error ellipse: s-maj=0.7km s-min=0.6km az=90.0 BEO* ***30*** *13:45:39.1±1.1,41˚.07N×20˚.11E,h0km,M2.4/5*

ISC 30 13:45:37.2±1.2,41˚.18N±0˚.04×20˚.26E±0˚.02,h6km±9km, n44,σ1ˢ01/85,8C-8D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.34**	**299**	*i*PG	**Pg**	**13 45 43.7**	**-0.2**
TIR				*i*SG	**Sg**	**13 45 49.1**	**+0.7**
TIR	**Tirane**	**0.34**	**299**	*e*Pg	**Pg**	**13 45 43.7**	**-0.2**
TIR	**Tirane**	**0.34**	**299**	*i*Pg	**Pg**	**13 45 43.7**	**-0.2**
TIR				*i*Sg	**Sg**	**13 45 49.1**	**+0.7**
OHR	**Ohrid**	**0.41**	**100**	*i*Pg	**Pg**	**13 45 45.7**	**+0.5**
OHR				*i*Sg	**Sb**	**13 45 52.7**	**-0.8**
OHR				*e*Lg	Lg	13 45 53.4	
	comp=N,97nm,0.2s						
OHR				*e*Lg	Lg	13 45 53.9	
	comp=E,90nm,0.5s						
PHP	**Peshkopia**	**0.52**	**15**	*i*PG	**Pg**	**13 45 46.5**	**-0.8**
PHP				*i*SG	**Sg**	**13 45 55.0**	**+0.9**
PHP	**Peshkopia**	**0.52**	**15**	*i*Pg	**Pg**	**13 45 46.5**	**-0.8**
PHP				*i*Sg	**Sg**	**13 45 55.0**	**+0.9**
KRUS	**Krusevo**	**0.77**	**76**	*i*Pg	**Pg**	**13 45 51.0**	**-0.6**
KRUS				*i*Sg	**Sg**	**13 46 02.5**	**+0.4**
BIA	**Bitola**	**0.82**	**101**	*i*Pg	**Pg**	**13 45 53.5**	**+0.1**
BIA				*i*Sg	**Sb**	**13 46 05.6**	**+0.4**
PUK	**Puka**	**0.90**	**342**	*i*PG	**Pg**	**13 45 54.0**	**-0.6**
PUK				*i*SG	**Sb**	**13 46 08.6**	**+0.9**
PUK	**Puka**	**0.90**	**342**	*i*Pg	**Pg**	**13 45 54.0**	**-0.6**
PUK				*i*Sg	**Sb**	**13 46 08.6**	**+0.9**
FNA	**Florina**	**0.93**	**115**	*i*PG	**Pg**	**13 45 55.0**	**-0.2**
FNA				*i*SG	**Sn**	**13 46 10.6**	**-0.1**
FNA	**Florina**	**0.93**	**115**	*i*Pg	**Pg**	**13 45 55.0**	**-0.2**
ULC	**Ulcinj**	**1.09**	**316**	*e*Pg	**Pg**	**13 45 56.1**	**-2.1**
ULC				*e*Sg	**Sb**	**13 46 12.8**	**-0.2**
ULC	**Ulcinj**	**1.09**	**316**	*e*Pg	**Pg**	**13 45 56.1**	**-2.1**
ULC				*e*Sg	**Sb**	**13 46 12.8**	**-0.2**
SKO	**Skopje**	**1.19**	**48**	*i*Pg	**Pg**	**13 45 58.8**	**-1.2**
SKO				*i*Sg	**Sn**	**13 46 16.6**	**-0.2**
DRME	**Dracevica, Mon**	**1.29**	**322**	*e*Pg	**Pg**	**13 45 59.9**	**-2.0**
DRME				*e*Sg	**Sn**	**13 46 17.8**	**+0.5**
DRME	**Dracevica, Mon**	**1.29**	**322**	*e*Pg	**Pg**	**13 45 59.9**	**-2.0**
DRME				*e*Sg	**Sn**	**13 46 19.8**	**+0.5**
PVY	**Plav**	**1.43**	**351**	⇓*i*Pg	**Pn**	**13 46 02.9**	**-0.9**
PVY				*e*Sg	**Sn**	**13 46 24.2**	**+1.2**
PVY	**Plav**	**1.43**	**351**	⇓*i*Pg	**Pn**	**13 46 02.9**	**-0.9**
PVY				*e*Sg	**Sn**	**13 46 24.2**	**+1.2**
PDG	**Podgorica**	**1.46**	**329**	*e*Pn	**Pg**	**13 46 06.5**	**+1.4**
PDG				*e*Sn	**Sg**	**13 46 26.4**	**+2.4**
PDG	**Podgorica**	**1.46**	**329**	⇓*i*Pg	**Pn**	**13 46 03.3**	**-0.7**
PDG	**Podgorica**	**1.46**	**329**	*e*Pn	**Pg**	**13 46 06.5**	**+1.4**
PDG				*e*Sg	**Sg**	**13 46 25.2**	**+1.2**
PDG				*e*Sn	**Sg**	**13 46 26.4**	**+2.4**
TTG	**Podgorica**	**1.46**	**329**	⇓*i*Pg	**Pn**	**13 46 03.3**	**-0.7**
TTG				*e*Sg	**Sg**	**13 46 25.2**	**+1.2**
BUM	**Brajici-Budva**	**1.52**	**318**	⇑*i*Pg	**Pn**	**13 46 04.1**	**-0.8**
BUM				*e*Sg	**Sg**	**13 46 27.2**	**+1.3**
BUM	**Brajici-Budva**	**1.52**	**318**	⇑*i*Pg	**Pn**	**13 46 04.1**	**-0.8**
BUM				*e*Sg	**Sg**	**13 46 27.2**	**+1.3**
CEME	**Cevo**	**1.69**	**324**	*e*Pn	**Pn**	**13 46 07.5**	**+0.1**
CEME				*e*Sn	**Sg**	**13 46 32.5**	**+0.9**
CEME	**Cevo**	**1.69**	**324**	*e*Pn	**Pn**	**13 46 07.5**	**+0.1**
CEME				*e*Sn	**Sg**	**13 46 32.5**	**+0.9**
BEY	**Berane**	**1.71**	**351**	⇑*i*Pn	**Pn**	**13 46 08.1**	**+0.4**
BEY				*e*Sn	**Sg**	**13 46 32.6**	**+0.4**
IVA	**Berane**	**1.71**	**351**	⇑*i*Pn	**Pn**	**13 46 08.1**	**+0.4**
IVA				*e*Sn	**Sg**	**13 46 32.6**	**+0.4**
KOME	**Kolasin**	**1.76**	**342**	⇑*i*Pn	**Pb**	**13 46 09.4**	**-0.5**
KOME				*e*Sn	**Sg**	**13 46 33.9**	**+0.2**
KOME	**Kolasin**	**1.76**	**342**	⇑*i*Pn	**Pb**	**13 46 09.4**	**-0.5**
KOME				*e*Sn	**Sg**	**13 46 33.9**	**+0.2**
HCY	**Herceg Novi**	**1.83**	**314**	⇑*i*Pn	**Pn**	**13 46 09.9**	**+0.7**
HCY				*e*Sn	**Sg**	**13 46 35.8**	**-0.2**
HCY	**Herceg Novi**	**1.83**	**314**	⇑*i*Pn	**Pn**	**13 46 09.9**	**+0.7**
HCY				*e*Sn	**Sg**	**13 46 35.8**	**-0.2**
NKME	**Niksic**	**1.86**	**329**	⇓*i*Pn	**Pb**	**13 46 10.7**	**-0.9**
NKME				*e*Sn	**Sg**	**13 46 36.3**	**-0.7**
NKME	**Niksic**	**1.86**	**329**	⇓*i*Pn	**Pb**	**13 46 10.7**	**-0.9**
NKME				*e*Sn	**Sg**	**13 46 36.3**	**-0.7**
NKY	**Niksic**	**1.88**	**330**	⇓*i*Pn	**Pn**	**13 46 10.8**	**+0.8**
NKY				*e*Sn	**Sg**	**13 46 36.6**	**-1.2**
NKY	**Niksic**	**1.88**	**330**	⇓*i*Pn	**Pn**	**13 46 10.8**	**+0.8**
NKY				*e*Sn	**Sg**	**13 46 36.6**	**-1.2**
SJES	**Sjenica**	**2.09**	**354**	*e*Pn	**Pb**	**13 46 15.3**	**-0.3**
SJES				*e*Sn	**Sg**	**13 46 44.4**	**0.0**
SJES	**Sjenica**	**2.09**	**354**	*e*Pn	**Pb**	**13 46 15.3**	**-0.3**
SJES				*e*Sn	**Sg**	**13 46 44.4**	**0.0**
IVAS	**Ivanjica**	**2.40**	**358**	*e*Pn	**Pg**	**13 46 22.5**	**-0.6**
IVAS				*e*Sn	**Sg**	**13 46 53.3**	**-0.9**
IVAS	**Ivanjica**	**2.40**	**358**	*e*Pn	**Pg**	**13 46 22.5**	**-0.6**
IVAS				*e*Sn	**Sg**	**13 46 53.3**	**-0.9**
STON	**Ston**	**2.55**	**312**	*e*Pn	**Pb**	**13 46 22.4**	**-0.9**
STON				*e*Sn	**Sb**	**13 46 54.7**	**-0.2**
STON	**Ston**	**2.55**	**312**	*e*Pn	**Pb**	**13 46 22.4**	**-0.9**
STON				*e*Sn	**Sb**	**13 46 54.7**	**-0.2**
HAPS	**Han Pijesak,Bl**	**3.06**	**342**	*e*Pg	**Pg**	**13 46 39.4**	**+3.6**

MAN ***30*** *14:12:01,7˚.83N×126˚.79E,h1km,mb4.7,ML3.5,MS3.4 IDC* ***30*** *14:12:08.9±2.0,7˚.88N×126˚.55E,h94km±20km,mb3.5/14, mb1 3.6/14,mb1mx3.4/60,mbtmp3.8/14,Error ellipse: s-maj=30.2km s-min=12.9km az=79.0*

ISC 30 14:11:57.7±2.2,8˚.01N±0˚.04×127˚.02E±0˚.08,h0km±14km, n25,σ1ˢ78/34,mb3.8/15,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.67**	**285**	⇓*i*P	**Pn**	**14 12 13.9**	**-0.6**
BIPH				*i*S	**Sb**	**14 12 21.9**	**-0.3**
MATI	**Mati**	**1.30**	**215**	*e*P	**Pn**	**14 12 22.6**	**-0.6**
MATI				*e*S	**Sg**	**14 12 37.4**	**-2.2**
BUTP	**Butuan**	**1.68**	**305**	*e*P	**Pg**	**14 12 31.3**	**+1.5**
BUTP				*e*S	**Sg**	**14 12 53.4**	**+1.7**
DAV	**Davao City (W)**	**1.71**	**237**	P	**Pg**	**14 12 31.8**	**+1.3**
	66nm,0.3s,baz=49,slow=7.8,SNR=5.1						
DAV				S	**Sg**	**14 12 55.6**	**+3.0**
	60nm,0.3s,baz=98,slow=23,SNR=13						
DAV				LR	LR	14 13 18.0	
	comp=Z,257nm,20.3s,baz=10.0,slow=55						
BUKP	**Musuan**	**1.94**	**266**	*e*P	**Pg**	**14 12 34.8**	**-0.2**
BUKP				*e*S	**Sg**	**14 13 00.2**	**0.0**
SCPH	**Surigao**	**2.32**	**319**	*e*P	**Pg**	**14 12 41.3**	**-0.9**
SCPH				*e*S	**Sg**	**14 13 12.6**	**+0.3**
CTBH	**Cotabato--PC H**	**2.86**	**254**	⇑*i*P	**Pn**	**14 12 46.6**	**+2.0**
MSLP	**Maasin**	**3.00**	**315**	*e*P	**Pb**	**14 12 49.5**	**-2.5**
MSLP				*e*S	**Sb**	**14 13 29.9**	**+0.7**
TBP	**Tagbilaran**	**3.54**	**298**	*e*P	**Pb**	**14 12 57.6**	**-3.6**
PAGZ	**Pagadian**	**3.60**	**268**	*e*P	**Pn**	**14 12 58.1**	**+3.3**
WRA	**Warramunga Arr**	**28.70**	**166**	P	**P**	**14 17 55.5**	**-1.2**
	0.2nm,0.6s,baz=346,slow=9.5,SNR=5.7						
KSRS	**Korea Array**	**29.32**	**1**	P	**P**	**14 18 03.9**	**+1.8**
	0.6nm,0.6s,baz=165,slow=15,SNR=3.9						
ASAR	**Alice Springs**	**32.20**	**168**	P	**P**	**14 18 28.2**	**+0.5**
	0.3nm,0.3s,baz=342,slow=7.1,SNR=8.2						
USRK	**Ussuriysk Ar.**	**36.31**	**6**	P	**P**	**14 19 04.4**	**+1.4**
	3.7nm,1.0s,baz=192,slow=8.8,SNR=5.6						
KLR	**Kul'dur**	**41.27**	**5**	P	**P**	**14 19 45.9**	**+1.2**
	0.1nm,0.4s,baz=246,slow=7.4,SNR=4.7						
STKA	**Stephens Creek**	**42.04**	**161**	P	**P**	**14 19 52.4**	**+1.2**
	1.5nm,0.8s,baz=333,slow=16,SNR=3.6						
SONM	**Songino Array**	**43.38**	**340**	P	**P**	**14 20 01.7**	**-0.3**
	0.2nm,0.3s,baz=126,slow=4.1,SNR=2.9						
SONM				PcP	**PcP**	**14 21 48.9**	**-1.8**
	0.3nm,0.7s,baz=101,slow=1.5,SNR=2.4						
PETK	**Petropavlovsk-**	**51.39**	**23**	P	**P**	**14 21 06.2**	**+1.9**
	2.0nm,0.8s,baz=280,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**54.26**	**323**	P	**P**	**14 21 24.1**	**-1.5**
	0.8nm,0.7s,baz=126,slow=8.0,SNR=11						
MKAR				PcP	**PcP**	**14 22 28.1**	**-1.8**
	0.4nm,0.7s,baz=104,slow=5.1,S

3.8nm,0.6s
KHC Kasperske Hory 3.59 253 *e*SG **Sg** 14 18 13.3 +1.0
comp=Z,6.5nm,0.6s

IDC 30 14:20:14.9±1.2, 16°48S×178°53W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/46, mbtmp3.7/6, MS4.5/2, Ms1 4.5/2, ms1mx2.9/44, Error ellipse: s-maj=43.6km s-min=24.2km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.72**	**178**	LR	LR	14 27 19.8	
	comp=Z,2μm,20.8s,baz=140,slow=33						
URZ	**Urewera**	**22.03**	**189**	P	P	14 25 11.5	+0.5
	6.7nm,0.8s,baz=41,slow=20,SNR=5.2						
STKA	**Stephens Creek**	**39.23**	**240**	P	P	14 27 45.3	+0.1
	0.9nm,0.4s,baz=80,slow=8.3,SNR=7.1						
WRA	**Warramunga Arr**	**44.79**	**258**	P	P	14 28 30.5	-0.4
	0.1nm,0.3s,baz=95,slow=7.8,SNR=13						
ASAR	**Alice Springs**	**45.08**	**253**	P	P	14 28 32.9	-0.3
	1.9nm,0.6s,baz=88,slow=8.1,SNR=26						
SEY	**Seymchan**	**82.37**	**347**	LR	LR	15 08 17.5	
	comp=Z,223nm,18.2s,baz=150,slow=35						
ILAR	**Eielson Array**	**84.53**	**13**	P	P	14 32 49.9	+0.5
	0.2nm,0.4s,baz=224,slow=5.2,SNR=4.2						
TXAR	**Lajitas Array**	**85.33**	**58**	P	P	14 32 54.1	-0.4
	0.2nm,0.7s,baz=228,slow=7.4,SNR=2.7						

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*KRNET **30** 14:34:21.5±0.1, 40°.76N×70°.36E, mb2.7*
*SOME **30** 14:34:26.0, 40°.82N×70°.70E, h10km*
*NNC **30** 14:34:28.5±1.6, 40°.87N×70°.85E, h12km±8km, mb3.2, mpv2.8, Error ellipse: s-maj=12.2km s-min=5.8km az=57.0*
ISC 30 14:34:21.2±1.8, 40°.56N±0°.05×70°.33E±0°.06, h7km±13km, n16, σ1§48/30, 23C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.63**	**143**	⇑*i*P	**Pn**	**14 34 36.2**	**-0.4**
	baz=53						
BTK				⇑*i*S	**Sn**	**14 34 47.0**	**+0.1**
	baz=53						
IUG	**Iuzhnay**	**1.60**	**352**	*e*P	**Pn**	**14 34 51.0**	**+1.0**
	49nm,0.2s						
IUG				*e*S	**Sn**	**14 35 09.9**	**-1.1**
	66nm,0.3s						
ARK	**Arkit**	**1.74**	**44**	⇑*e*P	**Pn**	**14 34 50.7**	**-1.3**
	baz=49						
ARK				⇑*i*S	**Sn**	**14 35 11.9**	**-2.6**
	baz=49						
SFK	**Sufi-Kurgan**	**2.49**	**102**	⇑Pn	**Pb**	**14 35 04.8**	**-1.5**
	0.3nm,0.3s						
SFK				⇑Pg	**Pg**	**14 35 08.5**	**-0.4**
	3.7nm,0.5s						
SFK				⇑Lg	Lg	14 35 38.2	
	17nm,0.4s						
SFK	**Sufi-Kurgan**	**2.49**	**102**	⇑*i*P	**Pb**	**14 35 05.0**	**-1.3**
	baz=6.0						
SFK				⇑*i*S	**Sn**	**14 35 34.9**	**+1.9**
	baz=6.0						
BRLS	**Borolday**	**2.49**	**352**	*e*P	**Pn**	**14 35 03.9**	**+1.7**
	0.7nm,0.3s						
BRLS				*e*S	**Sn**	**14 35 31.7**	**-1.2**
	47nm,0.2s						
MNAS	**Manas**	**2.52**	**40**	⇓Pn	**Pn**	**14 35 01.9**	**-0.8**
	1.1nm,0.3s						
MNAS				⇑Pg	**Pb**	**14 35 06.0**	**-0.8**
	6.1nm,0.4s						
MNAS				⇓Lg	Lg	14 35 33.1	
	12nm,0.3s						
MNAS	**Manas**	**2.52**	**40**	⇑*i*P	**Pn**	**14 35 02.0**	**-0.7**
	baz=42						
MNAS				⇑*i*S	**Sn**	**14 35 31.3**	**-2.5**
	baz=42						
KK31	**Karatay Array**	**2.54**	**3**	⇑Pn	**Pb**	**14 35 05.8**	**-1.4**
	1.1nm,0.2s,baz=173,slow=12,SNR=93						
KK31				⇑Pg	**Pg**	**14 35 10.1**	**+0.2**
	6.4nm,0.4s,baz=180,slow=17,SNR=17						
KK31				Lg	Lg	14 35 37.7	
	39nm,0.8s,baz=168,slow=24,SNR=38						
AML	**Almayashu**	**2.98**	**57**	⇑*i*P	**Pn**	**14 35 09.0**	**-0.2**
	baz=60						
AML				⇑*i*S	**Sn**	**14 35 44.1**	**-1.2**
	baz=60						
MRKS	**Merke**	**3.08**	**44**	*e*P	**Pb**	**14 35 14.1**	**-2.1**
	12nm,0.6s						
MRKS				*e*S	**Sn**	**14 35 49.5**	**+2.2**
	41nm,0.6s						
UCH	**Uchtor**	**3.56**	**61**	⇑*e*P	**Pn**	**14 35 18.1**	**+0.9**
	baz=63						
UCH				⇑*i*S	**Sn**	**14 35 58.3**	**-1.5**
	baz=63						
AAK	**Ala-Archa**	**3.75**	**55**	⇑Pn	**Pn**	**14 35 20.4**	**+0.8**
	1.0nm,0.5s						
AAK				⇑Pg	**Pb**	**14 35 28.6**	**+0.8**
	2.6nm,0.5s						
AAK				⇑Lg	Lg	14 36 11.4	
	4.9nm,0.6s						
TKM2	**Tokmak 2**	**4.59**	**57**	⇓Pg	**Pb**	**14 35 43.2**	**+1.1**
	1.6nm,0.5s						
TKM2				⇑Lg	Lg	14 36 40.3	
	6.1nm,0.7s						
KST	**Kastek**	**4.88**	**58**	*e*P	**Pb**	**14 35 48.5**	**+1.3**
KST				*e*S	**Sb**	**14 36 48.6**	**+2.5**
AB31	**Akbulak array**	**11.38**	**323**	⇑Pn	**Pn**	**14 37 04.3**	**+0.2**
	1.0nm,0.6s,baz=131,slow=14,SNR=16						

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*IDC **30** 14:36:15.4±1.5, 0°.27N×97°.13E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.4/70, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=42.5km s-min=18.0km az=67.0*
*ISCJB **30** 14:36:16.1±0.7, 0°.19N±0°.04×97°.06E±0°.05, h23km, mb3.9/6, Error ellipse: s-maj=8.2km s-min=5.3km az=159.7*
*DJA **30** 14:36:18.2±0.6, 0°N±3°×9°7E±°, h27km, M4.3/8, mb4.7/2, MLv4.1/8*
*NEIC **30** 14:36:20.5±1.0, 0°.33N×97°.22E, h35km, mb4.0/1, Error ellipse: s-maj=25.9km s-min=10.3km az=75.0*
ISC 30 14:36:17.8±1.0, 0°.21N±0°.05×97°.09E±0°.09, h23km, n26, σ1§26/27, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.20**	**24**	P	**Pb**	**14 36 39.4**	**-0.4**
GSI				S	**Sn**	**14 36 54.6**	**-0.1**
GSI	**Gunungsitoli**	**1.20**	**24**	*e*Pn	**Pb**	**14 36 38.8**	**-1.0**
PBSI	**Pulau Batu**	**1.22**	**102**	P	**Pn**	**14 36 39.3**	**-0.1**
PBSI				S	**Sb**	**14 36 55.9**	**+0.4**
SISI	**Saibi**	**2.51**	**127**	P	**Pn**	**14 36 57.4**	**+0.1**
SISI				S	**Sn**	**14 37 25.9**	**-1.3**
MNSI	**Mandailing Nat**	**2.56**	**77**	P	**Pn**	**14 36 58.9**	**+1.0**
MNSI				S	**Sn**	**14 37 29.1**	**+0.8**
TPTI		**3.04**	**2**	P	**Pn**	**14 37 03.5**	**-1.0**
PSI	**Prapat**	**3.16**	**35**	Pn	**Pn**	**14 37 05.0**	**-1.4**
	0.4nm,0.3s,baz=277,slow=8.1,SNR=3.9						
PSI				Sn	**Sn**	**14 37 43.0**	**-0.5**
	1.4nm,0.3s,baz=198,slow=20,SNR=2.9						
PDSI	**Padang**	**3.55**	**108**	P	**Pn**	**14 37 12.3**	**+0.7**
PDSI				S	**Sn**	**14 37 51.1**	**-1.8**
PPSI	**Pulau Pagai**	**4.15**	**135**	P	**Pn**	**14 37 19.6**	**-0.2**
PPSI				S	**Sn**	**14 38 03.9**	**-3.7**
MASI	**Maura Aman, Be**	**6.13**	**123**	P	**Pn**	**14 37 47.6**	**+0.6**
MNAI	**Manna**	**7.41**	**128**	P	**Pn**	**14 38 04.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**18.23**	**6**	P	**Pn**	**14 40 27.4**	**-2.1**
	0.3nm,0.3s,baz=197,slow=11,SNR=3.1						
H08S2	**Diego Garcia H**	**25.73**	**252**	T	T	15 09 00.6	
	baz=72,slow=75,SNR=19						
H08S3	**Diego Garcia H**	**25.74**	**252**	T	T	15 09 00.6	
	baz=72,slow=75,SNR=23						
H08S1	**Diego Carcia H**	**25.75**	**252**	T	T	15 09 00.6	
	baz=72,slow=75,SNR=20						
FITZ	**Fitzroy Crossi**	**33.45**	**124**	P	**P**	**14 42 56.1**	**+0.8**
	baz=270,slow=20						
H01W3	**Cape Leeuwin H**	**38.37**	**157**	T	T	15 24 18.8	
	baz=334						
H01W2	**Cape Leeuwin H**	**38.39**	**157**	T	T	15 24 17.1	
	baz=334						
H01W1	**Cape Leeuwin H**	**38.39**	**157**	T	T	15 24 15.4	
	baz=334						
WRA	**Warramunga Arr**	**41.61**	**121**	P	**P**	**14 44 05.3**	**+0.8**
	2.4nm,0.5s,baz=302,slow=9.0,SNR=40						
WRAB	**Tennant Creek**	**41.62**	**121**	*e*P	**P**	**14 44 04.0**	**-0.6**
	1.3nm,0.4s						
ASAR	**Alice Springs**	**42.89**	**126**	P	**P**	**14 44 15.9**	**+1.0**
	0.5nm,0.7s,baz=298,slow=8.2,SNR=7.1						
MKAR	**Makanchi Array**	**48.18**	**346**	P	**P**	**14 44 57.7**	**+1.3**
	0.3nm,0.5s,baz=160,slow=7.6,SNR=3.9						
STKA	**Stephens Creek**	**52.78**	**132**	P	**P**	**14 45 33.1**	**+1.7**
	1.4nm,0.7s,baz=276,slow=19,SNR=2.2						
ZALV	**Zalesovo Beam**	**54.52**	**351**	P	**P**	**14 45 44.6**	**+0.9**
	0.8nm,0.3s,baz=153,slow=7.5,SNR=3.3						
TXAR	**Lajitas Array**	**144.56**	**32**	PKP	**PKPdf**	**14 55 53.3**	**-0.1**
	0.1nm,0.5s,baz=237,slow=0.4,SNR=3.3						

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*ISCJB **30** 14:37:01.3±1.4, 40°.26N±0°.04×142°.54E±0°.09, h23km±8km, mb3.2/3, Error ellipse: s-maj=11.6km s-min=6.3km az=5.1*
*JMA **30** 14:37:02.1±0.1, 40°.23N×142°.51E, h26km±1km, M2.9*
*IDC **30** 14:37:08.6±2.5, 40°.46N×142°.95E, h98km±24km, mb3.0/3, mb1 3.0/5, mb1mx2.9/70, mbtmp3.2/5, MS1.9/1, Ms1 1.9/1, ms1mx1.8/15, Error ellipse: s-maj=44.3km s-min=18.0km az=90.0*
ISC 30 14:37:01.8±1.8, 40°.18N±0°.04×142°.42E±0°.07, h17km±10km, n20, σ0§69/21, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.49**	**241**	P	**Pn**	**14 37 13.6**	**-0.4**
JTH				*e*S	**Sn**	**14 37 21.7**	**-0.4**
JANG	**Nango**	**0.72**	**286**	P	**Pb**	**14 37 16.5**	**+0.7**
JANG				*e*S	**Sb**	**14 37 26.4**	**+1.0**
MIYJ	**Miyakonagasawa**	**0.76**	**218**	*e*S	**Sn**	**14 37 28.5**	**-0.2**
JKZ	**Kuzumaki**	**0.86**	**257**	P	**Pn**	**14 37 19.2**	**+0.1**
JOM	**Ohasama**	**1.12**	**231**	P	**Pg**	**14 37 23.5**	**+0.1**
JOM				*e*S	**Sn**	**14 37 39.1**	**+1.5**
JTM	**Tenmabayashi**	**1.20**	**301**	P	**Pn**	**14 37 23.6**	**-0.1**
JTM				*e*S	**Sb**	**14 37 38.7**	**-0.4**
JAH	**Hinai**	**1.37**	**271**	P	**Pg**	**14 37 27.7**	**-0.4**
JAH				*e*S	**Sg**	**14 37 46.0**	**0.0**
JMK	**Ichinoseki**	**1.54**	**217**	P	**Pb**	**14 37 30.2**	**+0.4**
JMK				*e*S	**Sg**	**14 37 51.0**	**-0.4**
JOT	**Ohata**	**1.59**	**320**	*e*S	**Sn**	**14 37 48.5**	**-0.7**
ASAJ	**Asahikawa**	**3.94**	**2**	P	**Pn**	**14 38 02.4**	**+1.0**
	1.0nm,0.3s,baz=200,slow=12,SNR=10						
ASAJ				S	**Sn**	**14 38 46.1**	**-0.9**
	0.2nm,0.3s,baz=240,slow=20,SNR=2.7						
MJAR	**Matsushiro Arr**	**4.91**	**224**	P	**Pb**	**14 38 27.3**	**0.0**
	0.2nm,0.3s,baz=36,slow=12,SNR=4.7						
MJAR				LR	LR	14 40 40.5	
	comp=Z,14nm,21.5s,baz=90,slow=39						
SONM	**Songino Array**	**26.83**	**299**	P	**P**	**14 42 40.4**	**-0.8**
	0.1nm,0.3s,baz=102,slow=11,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**29.25**	**127**	T	T	15 13 53.8	
	baz=319,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**29.26**	**127**	T	T	15 13 54.5	
	baz=319,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**29.26**	**127**	T	T	15 13 53.7	
	baz=319,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**30.06**	**129**	T	T	15 14 54.5	
	baz=324						
H11S3	**WAKE ISLAND Hy**	**30.07**	**129**	T	T	15 14 54.5	
	baz=324						
H11S2	**WAKE ISLAND Hy**	**30.08**	**129**	T	T	15 14 55.6	
	baz=324						
KURBB	**Kurchatov Arra**	**44.75**	**306**	P	**P**	**14 45 14.4**	**+0.4**
	0.2nm,0.5s,baz=79,slow=8.5,SNR=2.9						
WRA	**Warramunga Arr**	**60.28**	**189**	P	**P**	**14 47 08.9**	**-0.4**
	0.7nm,1.1s,baz=5.6,slow=7.1,SNR=3.2						

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*IDC **30** 14:38:54.7±0.5, 17°.72N×94°.24W, h142km±7km, mb4.0/25, mb1 4.1/27, mb1mx4.0/53, mbtmp4.4/27, Error ellipse: s-maj=18.0km s-min=10.0km az=63.0*
*ISCJB **30** 14:38:55.2±0.3, 17°.64N±0°.03×94°.40W±0°.03, h169km±3km, mb4.4/46, Error ellipse: s-maj=5.9km s-min=4.7km az=141.6*
*NEIC **30** 14:38:58.0±0.0, 17°.50N×94°.65W, h156km, mb4.8/42, MD4.5(MEX), After MEX.*
NEIC Felt at Las Choapas.
*MEX **30** 14:38:58.1±0.9, 17°.50N×94°.63W, h155km±10km, MD4.3*
ISC 30 14:38:55.5±0.6, 17°.55N±0°.04×94°.58W±0°.04, h161km±5km, n361, σ1§14/377, mb4.4/47, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.51**	**17**	*i* P	**Pn**	**14 39 18.7**	**+0.6**
TUIG				*i* S	**Sn**	**14 39 35.7**	**+0.1**
TUIG	**Tuzandepetl**	**0.51**	**17**	*i* P	**Pn**	**14 39 18.7**	**+0.6**
TUIG				*i* S	**Sn**	**14 39 35.7**	**+0.1**
CMIG	**Matias Romero**	**0.54**	**213**	P	**Pn**	**14 39 18.9**	**+0.6**
	508nm,0.3s,baz=71,slow=1.0,SNR=5662						
CMIG				S	**Sn**	**14 39 35.3**	**-0.4**
	546nm,0.3s,baz=131,slow=19,SNR=101						
CMIG				LR	LR	14 39 52.3	
	comp=Z,543nm,20.8s,baz=322,slow=66						
TGIG		**1.59**	**118**	*i* P	**Pn**	**14 39 28.1**	**+1.2**
TGIG				*e*S	**Sn**	**14 39 50.9**	**-0.2**
TGIG		**1.59**	**118**	*i* P	**Pn**	**14 39 28.1**	**+1.2**
TGIG				*e*S	**Sn**	**14 39 50.9**	**-0.2**
VHO	**Vista Hermosa**	**2.11**	**257**	*e*P	**Pn**	**14 39 32.8**	**+0.1**
VHO				*e*S	**Sn**	**14 40 00.1**	**-1.3**
VHO	**Vista Hermosa**	**2.11**	**257**	*e*P	**Pn**	**14 39 32.8**	**+0.1**
VHO				*e*S	**Sn**	**14 40 00.1**	**-1.3**
PCIG		**2.25**	**144**	*e*P	**Pn**	**14 39 35.5**	**+1.2**
PCIG				*e*S	**Sn**	**14 40 04.1**	**0.0**
PCIG		**2.25**	**144**	*e*P	**Pn**	**14 39 35.5**	**+1.2**
PCIG				*e*S	**Sn**	**14 40 04.1**	**0.0**
HUIG	**Huatulco**	**2.29**	**220**	*e*P	**Pn**	**14 39 33.2**	**-1.5**
HUIG				*e*S	**Sn**	**14 40 01.3**	**-3.7**
HUIG	**Huatulco**	**2.29**	**220**	*e*P	**Pn**	**14 39 33.3**	**-1.5**
HUIG				*e*S	**Sn**	**14 40 03.6**	**-1.4**
CCIG	**Comitan**	**2.66**	**118**	*e*P	**Pn**	**14 39 40.8**	**+1.6**
CCIG				*i* S	**Sn**	**14 40 12.8**	**-0.3**
CCIG	**Comitan**	**2.66**	**118**	*e*P	**Pn**	**14 39 40.8**	**+1.6**
CCIG				*e*S	**Sn**	**14 40 08.2**	**-4.9**
LVIG	**Laguna Verde**	**2.78**	**322**	*e*Pn	**Pn**	**14 39 39.4**	**-1.2**
APG	**El Apazote**	**4.69**	**122**	P	**Pn**	**14 40 05.9**	**+0.5**
	2.7nm,0.3s,baz=346,slow=14,SNR=15						
APG				S	Sn	14 40 48.0	-12
	10nm,0.3s,baz=323,slow=16,SNR=7.0						
UNM	**Universidad Na**	**4.71**	**293**	*e*Pn	**Pn**	**14 40 07.0**	**+1.4**
MOIG	**Morelia**	**6.61**	**290**	*e*Pn	**Pn**	**14 40 32.8**	**+2.0**
JTS	**JuntasAbangare**	**11.80**	**126**	P	**Pn**	**14 41 37.5**	**-1.5**
	1.1nm,0.3s,baz=344,slow=20,SNR=2.7						
HKT	**Hockley**	**12.40**	**355**	*e*Pn	**Pn**	**14 41 46.4**	**-0.2**
435B	**Jarrell**	**13.46**	**349**	P	**Pn**	**14 42 01.3**	**+1.1**
	baz=168						
JCT	**Junction City**	**13.73**	**341**	P	**Pn**	**14 42 04.9**	**+1.3**
	baz=159,SNR=8.0						
JCT	**Junction City**	**13.73**	**341**	*e*Pn	**Pn**	**14 42 03.8**	**+0.2**
	28nm,0.8s						
342A	**Flagon Creek P**	**13.92**	**8**	P	**Pn**	**14 42 05.4**	**-0.6**
	baz=189						
NATX	**Nacogdoches**	**14.15**	**360**	P	**Pn**	**14 42 09.1**	**+0.2**
	baz=180						
TXAR	**Lajitas Array**	**14.38**	**326**	P	**Pn**	**14 42 12.9**	**+1.0**
	0.2nm,0.3s,baz=151,slow=13,SNR=13						
TX31	**Lajitas Ar. Si**	**14.38**	**326**	*e*Pn	**Pn**	**14 42 12.5**	**+0.6**
WHTX	**Lake Whitney,**	**14.62**	**350**	P	**Pn**	**14 42 15.2**	**+0.6**
	baz=169						
WHTX	**Lake Whitney,**	**14.62**	**350**	*e*Pn	**Pn**	**14 42 15.2**	**+0.6**
242A	**Grayson**	**14.62**	**8**	P	**Pn**	**14 42 14.4**	**-0.3**
	baz=189						
244A	**Avery, Jackson**	**14.86**	**13**	P	**Pn**	**14 42 16.9**	**-0.8**
	baz=195						
245A	**Little AP, Sta**	**15.04**	**16**	P	**Pn**	**14 42 19.1**	**-0.8**
	baz=198						
140A	**Cam and Jess,**	**15.06**	**3**	P	**P**	**14 42 21.0**	**-0.6**
	baz=184						
142A	**Monroe**	**15.13**	**9**	P	**Pn**	**14 42 20.0**	**-1.0**
	baz=190						
058A	**Arcadia**	**15.14**	**49**	P	**Pn**	**14 42 17.7**	**-3.5**
	baz=234						
553A	**Crawfordville**	**15.63**	**35**	P	**Pn**	**14 42 25.7**	**-1.5**
	baz=219						
Z40A	**Long Farm, Mag**	**15.68**	**4**	P	**P**	**14 42 28.3**	**-0.2**
	baz=184,SNR=6.6						
ABTX	**Abilene, Hawle**	**15.69**	**344**	P	**P**	**14 42 29.1**	**+0.4**
	baz=162,SNR=14						
ABTX	**Abilene, Hawle**	**15.69**	**344**	*e*P	**Pn**	**14 42 28.4**	**+0.4**
	28nm,0.7s						
Z41A	**Richland Creek**	**15.73**	**6**	P	**P**	**14 42 29.3**	**+0.3**
	baz=186,SNR=5.9						
452A	**Marianna**	**15.77**	**31**	P	**P**	**14 42 29.9**	**+0.5**
	baz=215						
351A	**Pinckard**	**15.92**	**29**	P	**P**	**14 42 31.0**	**-0.1**
	baz=213						
554A	**Perry**	**15.96**	**37**	P	**P**	**14 42 32.0**	**+0.4**
	baz=221						
147A	**Livingston**	**16.11**	**20**	P	**P**	**14 42 32.5**	**-0.7**
	baz=202						
148A	**Greensboro**	**16.31**	**22**	P	**P**	**14 42 34.4**	**-1.1**
	baz=204						
Y40A	**Okolona**	**16.44**	**4**	P	**Pn**	**14 42 37.2**	**+0.2**
	baz=185,SNR=8.0						
Z47A	**Carrollton**	**16.65**	**19**	P	**Pn**	**14 42 39.2**	**-0.4**
	baz=202,SNR=7.1						
556A	**Lake Butler**	**16.66**	**40**	P	**P**	**14 42 38.5**	**-0.8**
	baz=224						
251A	**Midway**	**16.69**	**28**	P	**Pn**	**14 42 39.6**	**-0.5**
	baz=212,SNR=11						
Y44A	**Strider, Charl**	**16.81**	**13**	P	**Pn**	**14 42 42.0**	**+0.5**
	baz=195						
LRAL	**Lakeview Retre**	**16.87**	**22**	P	**Pn**	**14 42 41.6**	**-0.6**
	baz=206						
LRAL	**Lakeview Retre**	**16.87**	**22**	*e*P	**P**	**14 42 38.8**	**-2.8**
	13nm,0.8s						
150A	**Eclectic**	**16.87**	**26**	P	**Pn**	**14 42 41.9**	**-0.4**
	baz=209,SNR=23						
X39A	**Fountain Ranch**	**16.90**	**1**	P	**Pn**	**14 42 42.4**	**-0.2**
	baz=182,SNR=18						
252A	**Lumpkin**	**16.93**	**30**	P	**Pn**	**14 42 41.9**	**-1.0**
	baz=214,SNR=8.7						
X40A	**Basin Creek Fa**	**16.95**	**5**	P	**P**	**14 42 42.4**	**0.0**
	baz=186,SNR=6.5						
MIAR	**Mount Ida**	**16.95**	**3**	P	**Pn**	**14 42 42.8**	**-0.5**
	baz=184						
MIAR	**Mount Ida**	**16.95**	**3**	*e*P	**P**	**14 42 41.6**	**-0.9**
	41nm,0.8s						
X41A	**Kaden, Bauxite**	**16.98**	**6**	P	**Pn**	**14 42 43.6**	**0.0**
	baz=187,SNR=5.7						
Z48A	**Northport**	**16.98**	**21**	P	**P**	**14 42 42.4**	**-0.5**
	baz=204,SNR=6.2						
Y46A	**Houston**	**17.06**	**16**	P	**P**	**14 42 43.3**	**-0.4**
	baz=199,SNR=8.9						
151A	**Opelika**	**17.10**	**28**	P	**Pn**	**14 42 44.1**	**-0.8**
	baz=211,SNR=18						
MNTX	**Cornudas Mount**	**17.16**	**327**	P	**Pn**	**14 42 48.2**	**+2.5**
	baz=143						
MNTX	**Cornudas Mount**	**17.16**	**327**	*e*P	**Pn**	**14 42 48.0**	**+2.3**
	6.0nm,1.4s						
Z49A	**Columbiana**	**17.19**	**23**	P	**Pn**	**14 42 45.4**	**-0.6**
	baz=207,SNR=7.4						
UALR	**University of**	**17.28**	**6**	*e*P	**Pn**	**14 42 46.4**	**-0.7**
	97nm,0.6s						
Y47A	**UCPARC, Winfie**	**17.37**	**19**	P	**P**	**14 42 46.6**	**-0.5**
	baz=202						
X45A	**UM Field Stati**	**17.44**	**14**	P	**P**	**14 42 47.6**	**-0.3**
	baz=197						
Z50A	**Ashland**	**17.48**	**25**	P	**Pn**	**14 42 48.3**	**-1.2**
	baz=209,SNR=10						
OXF	**Oxford**	**17.52**	**14**	P	**P**	**14 42 47.9**	**-0.8**
	baz=197,SNR=6.9						
OXF	**Oxford**	**17.52**	**14**	*e*P	**P**	**14 42 47.5**	**-1.3**
	48nm,0.7s						
WMOK	**Wichita Mounta**	**17.53**	**348**	P	**P**	**14 42 49.3**	**+0.4**
	baz=167						
WMOK	**Wichita Mounta**	**17.53**	**348**	*e*P	**P**	**14 42 48.6**	**-0.3**
	12nm,0.9s						
W39A	**Magazine**	**17.59**	**2**	P	**Pn**	**14 42 50.2**	**-0.6**
	baz=183,SNR=17						
Y48A	**Jasper**	**17.60**	**21**	P	**P**	**14 42 49.3**	**-0.4**
	baz=204,SNR=6.2						
254A	**Abbeville**	**17.61**	**33**	P	**P**	**14 42 48.6**	**-1.2**
	baz=218						
W40A	**Ferguson Farm,**	**17.63**	**4**	P	**Pn**	**14 42 50.9**	**-0.3**
	baz=185,SNR=11						
W40A	**Ferguson Farm,**	**17.63**	**4**	*e*P	**Pn**	**14 42 50.3**	**-1.0**
	42nm,0.6s						
W41B	**Gary Mavity, V**	**17.68**	**6**	P	**P**	**14 42 50.4**	**0.0**
	baz=188,SNR=22						
Y49A	**Blount Mountai**	**17.82**	**23**	P	**P**	**14 42 51.6**	**-0.4**
	baz=206						
MSTX	**Muleshoe**	**17.93**	**337**	P	**Pn**	**14 42 55.6**	**+0.7**
	baz=154,SNR=12						
MSTX	**Muleshoe**	**17.93**	**337**	*e*P	**Pn**	**14 42 55.1**	**+0.1**
	31nm,0.9s						
X47A	**Russelville**	**17.94**	**18**	P	**P**	**14 42 52.5**	**-0.8**
	baz=201						
Y50A	**Piedmont**	**18.11**	**24**	P	**P**	**14 42 55.1**	**-0.1**
	baz=208,SNR=15						
X48A	**Hartselle**	**18.14**	**20**	P	**P**	**14 42 54.9**	**-0.5**
	baz=204,SNR=8.2						
V39A	**Pettigrew**	**18.24**	**2**	P	**P**	**14 42 57.1**	**+0.4**
	baz=183,SNR=43						
V40A	**Witts Springs**	**18.25**	**5**	P	**P**	**14 42 57.1**	**+0.3**
	baz=186,SNR=26						
V41A	**Mountainview**	**18.30**	**6**	P	**P**	**14 42 56.9**	**-0.3**
	baz=188,SNR=31						
PLAL	**Pickwick Lake**	**18.31**	**17**	*e*P	**P**	**14 42 56.1**	**-1.3**
	13nm,0.8s						
TUL1	**Leonard**	**18.32**	**357**	P	**P**	**14 42 57.4**	**-0.1**
	baz=176,SNR=7.3						
TUL1	**Leonard**	**18.32**	**357**	*e*P	**P**	**14 42 57.1**	**-0.4**
	87nm,0.9s						
AMTX	**Amarillo**	**18.39**	**341**	P	**P**	**14 42 59.2**	**+0.8**
	baz=158						
AMTX	**Amarillo**	**18.39**	**341**	*e*P	**P**	**14 42 58.2**	**-0.1**
	43nm,0.6s						
V42A	**Cord**	**18.41**	**8**	P	**P**	**14 42 58.5**	**+0.1**
	baz=190,SNR=30						
X49A	**Woodville**	**18.44**	**22**	P	**P**	**14 42 58.2**	**-0.6**
	baz=206,SNR=7.3						
155A	**Kite**	**18.57**	**34**	P	**P**	**14 42 59.0**	**-1.2**
	baz=219						
X50A	**Fort Payne**	**18.64**	**24**

	baz=203,SNR=8.7								
T46A	**Princeton** baz=199	20.30	16	P	P	14 43 17.5	-1.3		
ANMO	**Albuquerque** 4.1nm,0.7s,baz=323,slow=13,SNR=12	20.31	331	P	P	14 43 21.4	+2.2		
ANMO	**Albuquerque** baz=146	20.31	331	P	P	14 43 21.4	+2.2		
ANMO	**Albuquerque** 4.7nm,0.8s	20.31	331	eP	P	14 43 20.5	+1.3		
S43A	**Fulton Ridge,** baz=193,SNR=9.9	20.34	10	P	P	14 43 18.3	-0.9		
S42A	**Caledonia** baz=190,SNR=12	20.42	9	P	P	14 43 19.1	-1.1		
TKL	**Tuckaleechee C** 22nm,0.5s,baz=195,slow=14,SNR=17	20.44	26	P	P	14 43 19.2	-1.2		
T47A	**Sharon Grove** baz=201,SNR=24	20.46	17	P	P	14 43 19.0	-1.6		
R38A	**Fenwick Farm,** baz=182,SNR=20	20.57	2	P	P	14 43 21.2	-0.6		
S44A	**Carbondale** baz=195,SNR=7.5	20.61	12	P	P	14 43 21.5	-0.6		
SIUC	**Southern Illin** 31nm,0.8s	20.64	12	eP	P	14 43 21.2	-1.3		
CCM	**Cathedral Cave** baz=189	20.64	7	P	P	14 43 21.4	-1.1		
CCM	**Cathedral Cave** 31nm,0.8s	20.64	7	eP	P	14 43 21.4	-1.1		
R39A	**Chumby, Stover** baz=184,SNR=29	20.74	3	P	P	14 43 22.6	-0.9		
TUC	**Tucson** 3.3nm,0.8s	20.74	318	eP	P	14 43 25.9	+2.2		
R40A	**Maddies Statio** baz=186,SNR=14	20.77	5	P	P	14 43 22.8	-1.0		
T48A	**Bowling Green** baz=203,SNR=5.4	20.78	19	P	P	14 43 22.3	-1.7		
R41A	**Rosebud** baz=189,SNR=13	20.86	7	P	P	14 43 23.7	-1.1		
R42A	**Luebbering** baz=190,SNR=12	20.92	8	P	P	14 43 24.4	-1.1		
R43A	**Red Bud** baz=192,SNR=9.9	21.05	10	P	P	14 43 26.1	-0.7		
KMSC	**Kings Mountain** baz=217,SNR=15	21.13	31	P	P	14 43 26.9	-0.8		
KMSC	**Kings Mountain** 47nm,0.9s	21.13	31	eP	P	14 43 26.4	-1.3		
R44A	**Waltonville** baz=195,SNR=7.4	21.18	12	P	P	14 43 27.5	-0.7		
Q37A	**Longview Farm,** baz=180	21.25	0	P	P	14 43 27.5	-1.5		
TZTN	**Tazewell** baz=210,SNR=5.8	21.29	25	P	P	14 43 28.0	-1.4		
TZTN	**Tazewell** 17nm,0.8s	21.29	25	eP	P	14 43 26.8	-2.7		
Q38A	**Cooks Store, C** baz=183,SNR=13	21.36	2	P	P	14 43 29.2	-0.9		
T25A	**Trinidad** baz=154,SNR=8.4	21.36	338	P	P	14 43 32.0	+1.6		
T25A	**Trinidad** 9.4nm,0.8s	21.36	338	eP	P	14 43 31.4	+1.0		
S48A	**Wiedeman Farm,** baz=203,SNR=12	21.39	19	P	P	14 43 28.8	-1.7		
R45A	**Skylar, Fairfi** baz=197,SNR=7.0	21.39	14	P	P	14 43 30.4	-0.1		
Q39A	**Willow Grove F** baz=184,SNR=12	21.47	3	P	P	14 43 29.9	-1.4		
Q40A	**Laux Farm, Aux** baz=187,SNR=12	21.48	5	P	P	14 43 30.0	-1.5		
Q41A	**Truxton** baz=189,SNR=12	21.53	7	P	P	14 43 30.7	-1.2		
Q42A	**Golden Eagle** baz=191	21.58	9	P	P	14 43 31.5	-0.9		
CBKS	**Cedar Bluff** baz=167,SNR=9.6	21.66	349	P	P	14 43 34.1	+0.6		
CBKS	**Cedar Bluff** 38nm,0.8s	21.66	349	eP	P	14 43 33.4	-0.1		
Q43A	**New Douglas** baz=193,SNR=9.5	21.74	10	P	P	14 43 33.1	-1.1		
Q44A	**Meyer Farm, Va** baz=194,SNR=9.1	21.83	12	P	P	14 43 33.8	-1.2		
R47A	**Wooly Knot Far** baz=201,SNR=16	21.84	17	P	P	14 43 33.7	-1.5		
WCI	**Wyandotte Cave** baz=202	21.85	18	P	P	14 43 33.9	-1.4		
WCI	**Wyandotte Cave** 52nm,0.8s	21.85	18	eP	P	14 43 33.3	-2.0		
214A	**Organ Pipe Nat** baz=127	21.86	314	P	P	14 43 37.3	+1.8		
OLIL	**Olney** 36nm,0.8s	21.86	14	eP	P	14 43 33.9	-1.4		
P39B	**Salisbury** baz=185,SNR=13	21.92	4	P	P	14 43 34.6	-1.4		
P37A	**Lathrop** baz=181,SNR=8.0	21.97	0	P	P	14 43 34.8	-1.7		
Q45A	**Warren Harvey,** baz=197	22.00	13	P	P	14 43 35.0	-1.8		
P40A	**Paris** baz=187,SNR=23	22.02	5	P	P	14 43 35.5	-1.4		
P38A	**Dawn** baz=183,SNR=11	22.02	2	P	P	14 43 35.6	-1.4		
R48A	**Northridge Ran** baz=203,SNR=9.5	22.13	18	P	P	14 43 36.9	-1.2		
P41A	**Barry, Barry** baz=189,SNR=23	22.26	7	P	P	14 43 38.2	-1.2		
P42A	**Winchester** baz=191,SNR=9.2	22.27	9	P	P	14 43 38.3	-1.1		
SDCO	**Great Sand Dun** baz=152,SNR=9.1	22.29	337	P	P	14 43 41.1	+1.1		
SDCO	**Great Sand Dun** 5.4nm,0.9s	22.29	337	eP	P	14 43 40.7	+0.7		
P44A	**Sand Creek, Wi** baz=195	22.45	12	P	P	14 43 40.1	-1.0		
P43A	**Skaggs, Pawnee** baz=193,SNR=9.0	22.45	10	P	P	14 43 40.1	-1.1		
Q47A	**Bedord North L** baz=201,SNR=7.4	22.47	17	P	P	14 43 40.1	-1.2		
O38A	**Galt** baz=183,SNR=12	22.52	2	P	P	14 43 40.8	-1.0		
O37A	**Wolven Farm, M** baz=181,SNR=6.2	22.55	1	P	P	14 43 41.0	-1.0		
O33A	**Hebron** baz=173,SNR=5.7	22.60	354	P	P	14 43 42.3	-0.3		
O40A	**La Belle** baz=187,SNR=25	22.62	5	P	P	14 43 41.5	-1.3		
O34A	**Beatrice** baz=175	22.63	356	P	P	14 43 42.4	-0.5		
NCAT	**North Carolina** 40nm,0.8s	22.65	33	eP	P	14 43 42.0	-1.1		
BLO	**Bloomington** 108nm,1.3s	22.66	16	eP	P	14 43 40.4	-2.8		
O35A	**Humboldt** baz=177	22.67	357	P	P	14 43 42.3	-1.0		
P45A	**Graceland, Par** baz=197,SNR=9.4	22.70	14	P	P	14 43 42.6	-0.8		
O39A	**Kirksville** baz=185,SNR=14	22.70	4	P	P	14 43 42.4	-1.1		
O41A	**Passleys Farm,** baz=189,SNR=12	22.72	7	P	P	14 43 42.7	-1.0		
O42A	**Bath** baz=191	22.91	9	P	P	14 43 44.2	-1.1		
P46A	**Rosedale** baz=198,SNR=6.8	22.91	15	P	P	14 43 44.6	-0.8		
P47A	**Martinsville** baz=201,SNR=11	23.03	17	P	P	14 43 45.9	-0.6		
O43A	**Sugar Creek Fa** baz=193	23.12	10	P	P	14 43 46.4	-0.9		
N37A	**Lee Faris, Mou** baz=181,SNR=12	23.14	1	P	P	14 43 46.5	-0.9		
O44A	**Mansfield** baz=195	23.14	12	P	P	14 43 46.4	-1.1		
N38A	**Joes South For** baz=183,SNR=20	23.20	3	P	P	14 43 47.4	-0.7		
BLA	**Blacksburg** baz=216,SNR=6.9	23.23	30	P	P	14 43 46.8	-1.6		
N33A	**J Bar K, Exete** baz=173	23.25	354	P	P	14 43 48.7	+0.2		
Q24A	**Divide** baz=154,SNR=5.2	23.25	339	P	P	14 43 50.8	+1.9		
Q24A	**Divide** 12nm,1.0s	23.25	339	eP	P	14 43 48.2	-0.7		
N35A	**Tabor** baz=178,SNR=7.7	23.25	358	P	P	14 43 48.0	-0.5		
N34A	**Lincoln** baz=176	23.27	356	P	P	14 43 48.8	+0.1		
WUAZ	**Wupatki** 5.5nm,1.0s	23.30	323	eP	P	14 43 53.2	+3.9		
N41A	**Harden Midland** baz=189,SNR=6.5	23.31	7	P	P	14 43 48.2	-0.8		
N39A	**Derby Farms, D** baz=185,SNR=12	23.32	4	P	P	14 43 48.7	-0.4		
O45A	**Potomac** baz=197,SNR=15	23.39	13	P	P	14 43 48.7	-1.1		
N40A	**Mertquake, Sal** baz=187,SNR=8.8	23.40	6	P	P	14 43 48.9	-0.9		
N42A	**Yates City** baz=191	23.53	9	P	P	14 43 50.0	-1.0		
SFIN	**Lafayette** baz=198	23.66	14	P	P	14 43 50.9	-1.3		
SFIN	**Lafayette** 32nm,0.8s	23.66	14	eP	P	14 43 50.7	-1.5		
O47A	**Sheridan** baz=200,SNR=9.0	23.75	16	P	P	14 43 52.2	-0.9		
N43A	**Stutzman Famil** baz=193,SNR=6.1	23.78	10	P	P	14 43 53.1	-0.2		
M37A	**Trindle Farm,** baz=181	23.78	1	P	P	14 43 53.5	+0.2		
M38A	**Pleasantville** baz=183,SNR=35	23.82	3	P	P	14 43 53.4	-0.3		
M36A	**Felix, Anita** baz=180	23.83	360	P	P	14 43 54.0	+0.2		
N44A	**Piper City** baz=195,SNR=8.5	23.83	12	P	P	14 43 52.9	-0.9		
M35A	**Neola** baz=178	23.86	358	P	P	14 43 54.3	+0.2		
M40A	**Post Highland** baz=187,SNR=12	23.93	6	P	P	14 43 54.2	-0.4		
M34A	**Aspy Farms, Fr** baz=176	23.94	356	P	P	14 43 54.8	0.0		
M39A	**Webster** baz=186,SNR=16	23.94	4	P	P	14 43 54.5	-0.3		
N45A	**Kentland** baz=197	24.01	13	P	P	14 43 54.6	-0.8		
BLYC	**Blythe**	24.09	316	eP	P	14 43 59.0	+2.8		
PV05	**Paradox Valley**	24.09	331	eP	P	14 43 60.0	+3.5		
SMCO	**Snowmass** 6.2nm,1.1s	24.11	336	eP	P	14 44 00.1	+3.3		
ISCO	**Idaho Springs** baz=154	24.15	339	P	P	14 43 57.6	+0.5		
ISCO	**Idaho Springs** 6.8nm,1.3s	24.15	339	eP	P	14 43 57.9	+0.8		
OGNE	**Ogallala** baz=163	24.19	346	P	P	14 43 57.5	+0.3		
OGNE	**Ogallala** 32nm,1.0s	24.19	346	eP	P	14 43 58.4	+1.3		
PV04	**Paradox Valley**	24.26	332	eP	P	14 43 56.3	-1.6		
M43A	**Waltham Townsh** baz=193,SNR=8.0	24.30	10	P	P	14 43 57.8	-0.2		
PV10	**Paradox Valley**	24.30	332	eP	P	14 44 00.3	+1.8		
SCIA	**State Center** baz=183,SNR=18	24.31	2	P	P	14 43 57.8	-0.3		
SCIA	**State Center** 67nm,0.5s	24.31	2	eP	P	14 43 57.8	-0.3		
L34A	**Svendsen Farm,** baz=176,SNR=5.9	24.39	357	P	P	14 43 58.7	-0.1		
M44A	**Midewin, Midew** baz=195	24.42	12	P	P	14 43 58.8	-0.3		
L36A	**Harm Buss Farm** baz=180,SNR=6.3	24.48	360	P	P	14 43 59.6	0.0		
L37A	**Phoenix Point,** baz=182,SNR=7.6	24.51	1	P	P	14 43 59.3	-0.6		
L38A	**Oak Wood Farm,** baz=184,SNR=26	24.55	3	P	P	14 44 00.0	-0.3		
L39A	**Vinton** baz=186	24.60	5	P	P	14 44 00.6	-0.2		
L40A	**Anamosa** baz=188,SNR=7.1	24.61	6	P	P	14 44 00.4	-0.4		
L41A	**Preston** baz=190,SNR=11	24.70	7	P	P	14 44 01.6	-0.1		
ACSO	**Alum Creek Sta** baz=207	24.74	22	P	P	14 44 00.6	-1.4		
L42A	**Oliver, Polo** baz=191,SNR=6.2	24.74	9	P	P	14 44 01.3	-0.7		
SDV	**Santo Domingo** 2.8nm,0.baz=244,slow=7.4,SNR=3.5	24.83	107	P	P	14 44 02.9	-0.4		
K36A	**Gilmore City** baz=180,SNR=7.7	25.01	0	P	P	14 44 04.0	-0.5		
K33A	**Hardington** baz=175	25.06	356	P	P	14 44 05.5	+0.5		
K38A	**Parkersburg** baz=184,SNR=13	25.07	3	P	P	14 44 04.3	-0.7		
K34A	**Le Mars** baz=177,SNR=6.4	25.09	357	P	P	14 44 05.0	-0.3		
K37A	**Belmond** baz=182,SNR=22	25.15	2	P	P	14 44 05.3	-0.5		
K39A	**Oelwein** baz=186,SNR=5.4	25.18	5	P	P	14 44 05.2	-0.9		
K40A	**Colesburg** baz=188	25.25	6	P	P	14 44 05.7	-0.9		
K41A	**Shullsburg** baz=190	25.25	7	P	P	14 44 05.6	-1.1		
K42A	**Prairie Point,** baz=192,SNR=12	25.55	9	P	P	14 44 09.0	-0.3		
JFWS	**Jewell Farm** baz=190,SNR=9.7	25.55	7	P	P	14 44 08.8	-0.6		
JFWS	**Jewell Farm** 65nm,0.7s	25.55	7	eP	P	14 44 08.5	-0.9		
J34A	**George** baz=177	25.68	358	P	P	14 44 10.3	-0.3		
J37A	**Redenius Farm,** baz=182,SNR=7.9	25.70	2	P	P	14 44 09.6	-1.1		
J36A	**Seneca 1, Swea** baz=181,SNR=9.6	25.70	0	P	P	14 44 09.9	-0.8		
J35A	**Milford** baz=179,SNR=5.2	25.74	359	P	P	14 44 10.3	-0.8		
J38A	**Wedel Dairy, R** baz=185	25.75	4	P	P	14 44 10.3	-0.9		
J32A	**Parkston** baz=173	25.89	355	P	P	14 44 12.5	0.0		
J40A	**Soldiers Grove** baz=188	25.98	6	P	P	14 44 12.8	-0.4		
J41A	**Logansville** baz=190,SNR=5.0	26.03	8	P	P	14 44 13.1	-0.6		
J42A	**Columbus** baz=192	26.11	9	P	P	14 44 13.4	-1.0		
HLNC	**Highland**	26.13	314	eP	P	14 44 16.4	+1.7		
ECSD	**EROS Data Cent** baz=176,SNR=15	26.16	357	P	P	14 44 14.7	-0.2		
ECSD	**EROS Data Cent** 16nm,0.8s	26.16	357	eP	P	14 44 14.4	-0.5		
I35A	**Creekview Farm** baz=179,SNR=16	26.23	359	P	P	14 44 15.1	-0.3		
I37A	**Lemond, Waseca** baz=183	26.41	2	P	P	14 44 16.6	-0.5		
I34A	**Hadley** baz=177,SNR=9.2	26.43	358	P	P	14 44 17.2	-0.2		
I38A	**Scanlan Farm,** baz=185	26.48	4	P	P	14 44 17.6	-0.1		
I33A	**Coleman** baz=175	26.49	356	P	P	14 44 17.7	-0.1		
GSC	**Goldstone, Bar**	26.52	316	eP	P	14 44 18.6	+0.2		
H32A	**Carlson Farm,** baz=174,SNR=9.9	26.98	355	P	P	14 44 22.1	-0.1		
H34A	**Spellman Lake,** baz=178,SNR=9.1	27.06	358	P	P	14 44 22.5	-0.3		
H35A	**Sunnyside Ranc** baz=180,SNR=6.3	27.07	360	P	P	14 44 22.3	-0.7		
H33A	**Prehn Over Nor** baz=176,SNR=8.7	27.11	357	P	P	14 44 23.2	-0.2		
H39A	**Augusta** baz=187,SNR=13	27.19	5	P	P	14 44 23.6	-0.5		
G33A	**Ortonville** baz=176,SNR=10	27.61	357	P	P	14 44 27.3	-0.5		
G38A	**Ridgeland** baz=186	27.64	4	P	P	14 44 27.7	-0.4		
SPMN	**Marine on St.** baz=184,SNR=8.6	27.64	3	P	P	14 44 27.6	-0.4		
SPMN	**Marine on St.** 37nm,0.4s	27.64	3	eP	P	14 44 27.3	-0.7		
G32A	**Webster** baz=174	27.74	356	P	P	14 44 28.7	-0.2		
G39A	**Holcombe** baz=187,SNR=9.4	27.81	5	P	P	14 44 29.0	-0.5		
F34A	**Alexandria** baz=179	28.17	359	P	P	14 44 32.1	-0.7		
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=158,slow=7.4,SNR=2.4	28.19	336	P	P	14 44 34.2	+1.0		
G43A	**Wallace** baz=194	28.23	10	P	P	14 44 32.1	-1.1		
F33A	**5 Mile Ranch,** baz=177,SNR=5.8	28.25	357	P	P	14 44 32.6	-0.9		
F36A	**Milaca** baz=182,SNR=6.9	28.25	2	P	P	14 44 32.7	-0.8		
F38A	**Pierce - Schro** baz=186	28.42	4	P	P	14 44 34.1	-0.8		
F39A	**Loretta** baz=187,SNR=5.0	28.45	5	P	P	14 44 34.3	-0.9		
F43A	**Flat Rock, Esc** baz=195,SNR=6.1	28.87	11	P	P	14 44 37.6	-1.3		
E34A	**Wadena** baz=179	28.89	359	P	P	14 44 38.8	-0.3		
E33A	**Westby DABS, E** baz=177	28.90	358	P	P	14 44 38.5	-0.8		
E36A	**McGregor** baz=183,SNR=5.2	28.91	2	P	P	14 44 38.6	-0.7		
E35A	**Pequot Lakes** baz=180,SNR=6.2	28.93	0	P	P	14 44 39.5	+0.1		
E40A	**Wakefield** baz=189	29.08	7	P	P	14 44 40.1	-0.7		
E38A	**The Farm, Brul** baz=186,SNR=6.5	29.09	4	P	P	14 44 40.3	-0.5		
NVAR	**Mina Array Bea** 2.8nm,0.8s,baz=134,slow=9.2,SNR=20	29.37	320	P	P	14 44 46.9	+3.1		
NVAR	0.3nm,0.6s,baz=119,slow=3.4,SNR=3.4			PcP	PcP	14 47 47.9	+1.9		
NVAR	0.2nm,0.5s,baz=149,slow=1.9,SNR=2.5			ScP	ScP	14 51 13.9	+1.1		
D35A	**Remer** baz=181,SNR=12	29.46	1	P	P	14 44 43.3	-0.9		
D34A	**Park Rapids** baz=179,SNR=7.4	29.46	359	P	P	14 44 43.7	-0.5		
D33A	**AnnSam, Waubun** baz=178	29.53	358	P	P	14 44 44.2	-0.6		
D31A	**Mcclaflin, Tow** baz=174,SNR=6.9	29.54	356	P	P	14 44 44.6	-0.2		
D36A	**Goodland** baz=183	29.57	2	P	P	14 44 44.6	-0.6		
PANM	**San Antonio Re**	29.57	313	eP	P	14 44 43.4	-1.9		
D37A	**Cotton** baz=184,SNR=6.9	29.59	3	P	P	14 44 44.5	-0.7		
C34A	**RKJ Ranch, Bem** baz=180	30.02	360	P	P	14 44 48.3	-0.8		
SADO	**Sadowa** 5.6nm,0.4s,baz=266,slow=8.6,SNR=7.3	30.08	22	P	P	14 44 47.2	-2.4		
C35A	**Jirik Farms, M** baz=181,SNR=13	30.08	1	P	P	14 44 48.9	-0.7		
C36A	**Pine Crest Far** baz=183	30.17	2	P	P	14 44 50.2	-0.1		
KLBO	**Killbear Provi** baz=208	30.22	20	P	P	14 44 48.9	-1.9		
C31A	**Landman Farms,** baz=174,SNR=33	30.28	356	P	P	14 44 51.1	-0.2		
DELO	**Deloro Mine** baz=213	30.44	24	P	P	14 44 51.3	-1.5		
AGMN	**Agassiz Nation** baz=178,SNR=49	30.69	358	P	P	14 44 54.7	-0.3		
AGMN	**Agassiz Nation** 65nm,0.6s	30.69	358	eP	P	14 44 54.2	-0.7		
BANO	**Bancroft** baz=212	30.74	23	P	P	14 44 53.7	-1.8		
B35A	**Bob, Littlefor** baz=182,SNR=5.9	30.74	1	P	P	14 44 54.4	-1.1		
B32A	**Ashes, Strandq** baz=176,SNR=39	30.81	357	P	P	14 44 55.8	-0.2		
B34A	**Aery, Baudette** baz=180,SNR=5.9	30.86	360	P	P	14 44 55.5	-1.0		
B31A	**Greenbush Farm** baz=174,SNR=8.1	30.90	356	P	P	14 44 56.5	-0.3		
A33A	**Warroad** baz=179,SNR=12	31.32	359	P	P	14 44 59.8	-0.7		
A32A	**Rocking H Ranc** baz=177,SNR=6.8	31.33	358	P	P	14 44 59.9	-0.7		
A31A	**Linda, St. Vin** baz=175	31.38	357	P	P	14 45 00.9	-0.1		
LONY	**Lake Ozonia** baz=218	31.79	28	P	P	14 45 03.3	-1.4		
ULM	**Lac du Bonnet** 18nm,0.9s,baz=174,slow=8.8,SNR=26	32.64	358	P	P	14 45 10.8	-1.3		
GPW	**Glacier Peak**	37.41	330	eP	P	14 45 55.9	+2.7		
FFC	**Flin Flon** 11nm,0.6s	37.54	353	eP	P	14 45 53.9	0.0		
LPAZ	**La Paz** 1.6nm,0.5s,baz=308,slow=4.1,SNR=5.9	42.54	141	P	P	14 46 37.3	+1.1		
SCHQ	**Schefferville** 2.2nm,0.5s,baz=239,slow=8.4,SNR=4.1	42.87	23	P	P	14 46 36.1	-1.7		
YKA	**Yellowknife Ar** 2.2nm,0.8s,baz=150,slow=7.5,SNR=44	47.03	347	P	P	14 47 10.3	-0.2		
INK	**Inuvik** 4.7nm,0.7s,baz=124,slow=5.7,SNR=14	56.35	344	P	P	14 48 20.1	+0.7		
CPUP	**Villa Florida** 1.1nm,0.6s,baz=337,slow=8.0,SNR=4.4	56.68	139	P	P	14 48 21.9	-0.4		
SFJD	**Kangerlussuaq** 5.4nm,0.5s,baz=166,slow=6.0,SNR=4.2	56.95	19	P	P	14 48 21.1	-2.6		
DOT	**Dot Lake** 13nm,1.1s	56.99	336	eP	P	14 48 26.4	+2.3		
RES	**Resolute Bay** 2.6nm,0.8s	57.15	360	eP	P	14 48 24.7	-0.3		
ILAR	**Eielson Array** 0.8nm,0.9s,baz=156,slow=4.8,SNR=14	58.62	337	P	P	14 48 36.1	+0.7		
RND	**Reindeer**	58.78	335	eP	P	14 48 39.0	+2.4		
TRF	**Thorofare Moun**	59.39	334	eP	P	14 48 42.9	+2.0		
MLY	**Manley**	60.21	336	eP	P	14 48 47.7	+1.4		
PLCA	**Paso Flores** 2.5nm,0.9s,baz=3.4,slow=8.2,SNR=6.5	62.13	160	P	P	14 49 01.7	+2.1		
PLCA	2.7nm,1.1s,baz=7.1,slow=8.4,SNR=5.7			PcP	PcP	14 49 39.3	+1.1		
EKA	**Eskdalemuir Ar** 7.8nm,0.6s,baz=291,slow=5.9,SNR=21	76.56	36	P	P	14 50 27.1	-0.8		
SPITS	**Spitsbergen Ar** 12nm,1.0s,baz=320,slow=3.7,SNR=7.6	77.12	11	P	P	14 50 31.3	+0.5		
ESDC	**Sonseca Array** 0.4nm,0.3s,baz=68,slow=13,SNR=6.4	79.48	52	P	P	14 50 43.5	-1.0		
NB2	**NORSAR Subarra** comp=Z,3.5nm,0.8s,baz=292,slow=5.3	82.22	28	P	P	14 50 59.1	+0.6		
NOA	**NORSAR Array B** comp=Z,5.5nm,0.8s,baz=292,slow=5.2,SNR=13	82.22	28	P	P	14 50 59.1	+0.6		
ARCES	**ARCESS Array B** comp=Z,5.5nm,0.8s,baz=308,slow=6.0,SNR=12	83.56	18	P	P	14 51 05.0	-0.2		
HFS	**Hagfors** comp=Z,2.4nm,0.9s,baz=254,slow=5.2,SNR=2.7	83.71	29	P	P	14 51 05.8	-0.4		
KOWA	**Kowa** comp=Z,14nm,0.7s,baz=289,slow=7.1,SNR=32	86.25	76	P	P	14 51 20.7	+1.0		
TIXI	**Tiksi** comp=Z,0.6nm,0.3s,baz=26,slow=2.6,SNR=5.6	86.28	347	P	P	14 51 19.2	+0.5		
DBIC	**Dimbokro** comp=Z,3.4nm,0.8s,baz=289,slow=7.5,SNR=3.8	87.76	84	P	P	14 51 26.5	-0.5		
FINES	**FINESS Array B** comp=Z,1.2nm,0.8s,baz=306,slow=19,SNR=3.8	88.34	24	P	P	14 51 27.8	-1.0		
GERES	**GERESS Array B** comp=Z,1.2nm,0.9s,baz=240,slow=4.5,SNR=3.5	88.44	39	P	P	14 51 27.9	-1.8		
KSH	**Kashi**	122.56	9	ePKP	PKPdf	14 57 30.3	-2.1		
LZH	**Lanzhou**	123.88	342	ePKP	PKPdf	14 57 36.5	+1.4		
LZH				pPKP	pPKPdf	14 58 12.3	-5.2		
LZH				sPKP		14 58 28.0			
WRA	**Warramunga Arr** comp=Z,1.0nm,0.7s,baz=70,slow=1.8,SNR=17	133.74	259	PKP	PKPdf	14 57 55.1	+1.1		
ASAR	**Alice Springs** comp=Z,0.7nm,0.7s,baz=88,slow=1.7,SNR=10	134.38	254	PKP	PKPdf	14 57 56.0	+0.9		

*IDC **30** 14:39:20.5±0.7,56°.36S×26°.09W,h0km,mb4.5/5, mb1 4.5/6,mb1mx4.0/31,mbtmp4.4/6,ML3.3/1,Error ellipse: s-maj=46.3km s-min=19.3km az=67.0*
*ISCJB **30** 14:39:23.7±1.3,56°.4S±0°.2×25°.8W±0°.4,h33km,mb4.5/5, Error ellipse: s-maj=40.8km s-min=13.0km az=138.0*
*NEIC **30** 14:39:29.7±2.4,56°.68S×26°.36W,h70km±19km,mb4.6/1, Error ellipse: s-maj=30.5km s-min=10.5km az=57.0*

ISC 30 14:39:25.2±0.7,56°.4S±0°.2×25°.8W±0°.2,h33km,n39, σ1§06/34,mb4.7/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	6.46	285	eP	n	Pn	14 40 59.3	+1.4
SNAA	**Sanae** 0.1nm,0.3s,baz=331,slow=19,SNR=4.6	18.08	157	P		P	14 43 34.5	+0.8
SNAA	**Sanae**	18.08	157	eP		P	14 43 34.2	+0.5
QSPA	**South Pole Qui** 3.3nm,0.5s,baz=240,slow=2.4,SNR=18	33.82	180	P		P	14 46 04.8	+0.7
QSPA	**South Pole Qui** 3.9nm,0.5s	33.82	180	eP		P	14 46 00.1	-3.9
VNDA	**Vanda** 1.4nm,0.7s,baz=180,slow=7.1,SNR=7.6	46.23	182	P		P	14 47 47.4	+1.0
H10S2	**ASCENSION HYDR** baz=189,slow=74,SNR=4.4	48.15	15	T		T	15 40 50.6	
H10S3	**ASCENSION HYDR** baz=189,slow=74,SNR=4.3	48.16	15	T		T	15 40 51.2	
H10S1	**ASCENSION HYDR** baz=189,slow=74,SNR=5.2	48.17	15	T		T	15 40 52.3	
H10N1	**ASCENSION HYDR** baz=188	49.27	15	T		T	15 42 17.3	
H10N3	**ASCENSION HYDR** baz=188,slow=74,SNR=7.5	49.27	15	T		T	15 42 16.1	
H10N2	**ASCENSION HYDR** baz=188,slow=74,SNR=3.2	49.29	15	T		T	15 42 18.4	
LPAZ	**La Paz** 5.2nm,0.4s,baz=99,slow=5.1,SNR=22	51.23	304	P		P	14 48 25.6	-0.7

LPAZ					PcP	**PcP**	14 49 39.9	-1.3	
	1.1nm,0.5s,baz=90,slow=5.1,SNR=2.7								
LPAZ	**La Paz**	**51.23**	**304**	*e*P	**P**		14 48 25.2	-1.0	
LPAZ					PcP	**PcP**	14 49 39.9	-1.3	
PCRV	**Puerto La Cruz**	**73.73**	**320**	P	**P**		14 50 56.1	+0.3	
	7.9nm,0.4s,baz=185,slow=2.4,SNR=4.9								
ASAR	**Alice Springs**	**98.39**	**161**	P	Pdif		14 52 59.8	-0.1	
	0.3nm,0.8s,baz=181,slow=3.9,SNR=5.2								
WRA	**Warramunga Arr**	**102.10**	**161**	P	**Pdif**		14 53 17.8	+1.5	
	0.4nm,0.9s,baz=189,slow=4.3,SNR=2.5								
NVAR	**Mina Array Bea**	**122.26**	**292**	PKP	**PKPdf**		14 58 15.1	-1.1	
	0.2nm,0.5s,baz=98,slow=3.1,SNR=2.7								
FIA0	**FINESS Array S**	**124.36**	**27**	*e*PKPdf	**PKPdf**		14 58 19.5	+0.4	
FINES	**FINESS Array B**	**124.36**	**27**	PKP	**PKPdf**		14 58 19.5	+0.4	
	0.9nm,0.5s,baz=149,slow=4.0,SNR=8.5								
ARA0	**ARCESS Array S**	**131.01**	**21**	*e*PKPdf	**PKPdf**		14 58 31.4	-0.2	
ARCES	**ARCESS Array B**	**131.01**	**21**	PKP	**PKPdf**		14 58 31.4	-0.2	
	1.8nm,0.9s,baz=249,slow=1.0,SNR=7.0								
MK32	**Makanchi Array**	**136.28**	**71**	*e*PKPdf	**PKPdf**		14 58 42.9	+0.6	
MKAR	**Makanchi Array**	**136.28**	**71**	PKP	**PKPdf**		14 58 42.9	+0.6	
	0.1nm,0.4s,baz=219,slow=6.7,SNR=3.1								
YKA	**Yellowknife Ar**	**136.97**	**317**	PKP	**PKPdf**		14 58 42.4	-0.6	
	0.2nm,0.3s,baz=125,slow=2.2,SNR=7.0								
YKB5	**Yellowknife Ar**	**136.97**	**317**	*e*PKPdf	**PKPdf**		14 58 42.4	-0.6	
INK	**Inuvik**	**146.59**	**320**	PKPbc	**PKPbc**		14 59 01.2	-0.4	
	1.3nm,0.4s,baz=86,slow=2.2,SNR=12								
DOT	**Dot Lake**	**149.48**	**309**	*e*PKPbc	**PKPbc**		14 59 09.6	+0.1	
SCRK	**Sand Creek**	**149.54**	**310**	*e*PKPbc	**PKPbc**		14 59 10.1	+0.4	
RIDG	**Independ'e Rid**	**149.84**	**309**	*e*PKPbc	**PKPbc**		14 59 10.7	+0.3	
SONA0	**Songino Array**	**149.98**	**86**	*e*PKPbc	**PKPbc**		14 59 12.7	+1.4	
SONM	**Songino Array**	**149.98**	**86**	PKPbc	**PKPbc**		14 59 12.7	+1.4	
	1.8nm,0.5s,baz=220,slow=3.6,SNR=12								
IL1	**Eielson Array**	**150.95**	**311**	*e*PKPbc	**PKPbc**		14 59 12.2	-0.7	
ILAR	**Eielson Array**	**150.95**	**311**	PKPbc	**PKPbc**		14 59 12.4	-0.5	
	2.3nm,0.8s,baz=132,slow=2.4,SNR=25								
ILB	**Eielson Array**	**150.95**	**311**	*e*PKPbc	**PKPbc**		14 59 12.9	0.0	
RND	**Reindeer**	**151.51**	**308**	*e*PKPbc	**PKPbc**		14 59 14.4	+0.1	
MCK	**McKinley**	**151.61**	**308**	*e*PKPbc	**PKPbc**		14 59 14.5	0.0	
KDAK	**Kodiak Island**	**151.68**	**295**	PKPbc	**PKPbc**		14 59 14.3	-0.4	
	4.4nm,0.4s,baz=198,slow=0.6,SNR=13								
TOLK	**Toolik Lake Re**	**152.47**	**319**	*e*PKPbc	**PKPbc**		14 59 16.2	-0.1	

IDC 30 14:44:38.9±2.2,**0°.69N**×**127°.31E**,**h0**km,**mb3.0**/3,
mb1 3.3/3,**mb1mx3.0**/57,**mbtmp3.1**/3,**Error ellipse:**
s-maj=184.1km s-min=25.5km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**21.63**	**162**	P		P		14 49 29.6	-1.3
	0.5nm,1.0s,baz=340,slow=12,SNR=5.9								
ASAR	**Alice Springs**	**25.04**	**166**	P		P		14 50 05.8	+0.9
	0.1nm,0.3s,baz=345,slow=10,SNR=3.7								
MKAR	**Makanchi Array**	**60.38**	**326**	P		P		14 54 49.9	-0.1
	0.1nm,0.4s,baz=138,slow=5.0,SNR=2.8								

*JMA **30** 14:45:10.4±0.1,40°.23N×142°.56E,h26km±1km,M3.6*
*IDC **30** 14:45:15.8±2.6,40°.28N×142°.36E,h51km±22km,mb3.3/12,*
mb1 3.5/14,mb1mx3.3/67,mbtmp3.5/14,ML3.3/2,Error
ellipse: s-maj=27.8km s-min=14.5km az=103.0
ISC 30 14:45:10.3±2.0,**40°.25N**×**0°.04**×**142°.44E**±**0°.06**,**h9**km±13km,
n29,**σ1§09**/30,**mb3.5**/12,**Near east coast of eastern**
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JTH	**Tanohata**	**0.54**	**236**	P		P	**Pb**	**14 45 22.6**	**+0.7**
JTH				S			**Sb**	**14 45 30.9**	**+1.1**
JANG	**Nango**	**0.72**	**280**	P		P	**Pb**	**14 45 25.4**	**+0.4**
JANG				S			**Sb**	**14 45 36.0**	**+1.0**
MIYJ	**Miyakonagasawa**	**0.82**	**216**	P		P	**Pb**	**14 45 26.2**	**-0.5**
MIYJ				*e*S			**Sb**	**14 45 38.2**	**+0.3**
JKZ	**Kuzumaki**	**0.89**	**253**	P		P	**Pb**	**14 45 28.0**	**0.0**
JKZ				S			**Sn**	**14 45 41.8**	**-0.3**
JOM	**Ohasama**	**1.18**	**229**	P		P	**Pg**	**14 45 32.3**	**-0.6**
JTM	**Tenmabayashi**	**1.18**	**298**	P		P	**Pn**	**14 45 32.9**	**-0.1**
JAH	**Hinai**	**1.38**	**268**	P		P	**Pb**	**14 45 36.4**	**+0.1**
JAH				S			**Sn**	**14 45 54.9**	**+0.7**
JOT	**Ohata**	**1.55**	**317**	P		P	**Pn**	**14 45 38.1**	**0.0**
JMK	**Ichinoseki**	**1.60**	**217**	P		P	**Pn**	**14 45 38.9**	**+0.2**
JMK				S			**Sn**	**14 45 59.7**	**+0.2**
ASAJ	**Asahikawa**	**3.87**	**2**	P		P	**Pn**	**14 46 11.9**	**+2.0**
	2.1nm,0.3s,baz=217,slow=11,SNR=18								
ASAJ				S			**Sn**	**14 46 57.0**	**+1.5**
	0.5nm,0.3s,baz=217,slow=20,SNR=2.8								
MJAR	**Matsushiro Arr**	**4.97**	**223**	P		P	**Pn**	**14 46 28.4**	**+3.3**
	0.5nm,0.3s,baz=30,slow=12,SNR=10.0								
SEY	**Seymchan**	**23.49**	**11**	P		P	**P**	**14 50 19.3**	**-0.7**
	0.7nm,0.7s,baz=166,slow=12,SNR=3.9								
H11N2	**WAKE ISLAND Hy**	**29.27**	**127**	T		T	T	15 22 01.2	
	baz=319,slow=75,SNR=76								
H11N1	**WAKE ISLAND Hy**	**29.28**	**127**	T		T	T	15 21 59.8	
	baz=319,slow=75,SNR=80								
H11N3	**WAKE ISLAND Hy**	**29.29**	**127**	T		T	T	15 22 00.9	
	baz=319,slow=75,SNR=59								
H11S1	**WAKE ISLAND Hy**	**30.09**	**129**	T		T	T	15 23 03.5	
	baz=321,slow=76,SNR=15								
H11S3	**WAKE ISLAND Hy**	**30.09**	**129**	T		T	T	15 23 04.0	
	baz=321,slow=76,SNR=13								
H11S2	**WAKE ISLAND Hy**	**30.11**	**129**	T		T	T	15 23 04.0	
	baz=321,slow=76,SNR=10.0								
MKAR	**Makanchi Array**	**43.17**	**299**	P		P	**P**	**14 53 08.8**	**-2.4**
	0.1nm,0.5s,baz=85,slow=6.7,SNR=2.4								
KURBB	**Kurchatov Arra**	**44.73**	**306**	P		P	**P**	**14 53 23.7**	**+0.1**
	0.3nm,0.6s,baz=80,slow=8.5,SNR=2.9								
ILAR	**Eielson Array**	**46.37**	**34**	P		P	**P**	**14 53 36.6**	**+0.2**
	0.3nm,0.6s,baz=271,slow=5.6,SNR=6.5								
BVAR	**Borovoye Array**	**49.05**	**310**	P		P	**P**	**14 53 56.6**	**-0.9**
	0.2nm,0.3s,baz=74,slow=8.0,SNR=3.4								
WRA	**Warramunga Arr**	**60.35**	**189**	P		P	**P**	**14 55 19.2**	**-0.4**
	0.3nm,0.7s,baz=3.5,slow=6.8,SNR=4.8								
YKA	**Yellowknife Ar**	**60.64**	**31**	P		P	**P**	**14 55 20.6**	**-0.5**
	0.1nm,0.3s,baz=302,slow=6.7,SNR=3.5								
ASAR	**Alice Springs**	**64.08**	**189**	P		P	**P**	**14 55 44.9**	**+0.4**
	0.2nm,0.8s,baz=0.6,slow=5.3,SNR=2.6								
FINES	**FINESS Array B**	**66.36**	**332**	P		P	**P**	**14 55 59.1**	**+0.2**
	1.9nm,0.9s,baz=43,slow=10,SNR=3.0								
KBZ	**Khabaz**	**69.44**	**310**	P		P	**P**	**14 56 17.5**	**-1.1**
	0.4nm,0.4s,baz=41,slow=15,SNR=3.7								
HFS	**Hagfors**	**71.50**	**336**	P		P	**P**	**14 56 30.9**	**0.0**
	2.7nm,0.9s,baz=64,slow=6.6,SNR=5.1								
NOA	**NORSAR Array B**	**71.54**	**337**	P		P	**P**	**14 56 32.1**	**+0.9**
	0.8nm,0.8s,baz=31,slow=6.1,SNR=2.9								

*ATA **30** 14:49:49.2±1.7,39°.22N×42°.27E,h19km±8km,ML3.5,*
MW3.3
*ISK **30** 14:49:49.1,39°.17N×42°.29E,h5km,ML2.8/5*
*ISCJB **30** 14:49:50.7±0.4,39°.21N±0°.02×42°.27E±0°.02,h6km±4km,*
Error ellipse: s-maj=3.7km s-min=3.2km az=15.0
*DDA **30** 14:49:50.5,39°.22N×42°.25E,h7km,Ml3.0*
*CSEM **30** 14:49:50.5±0.2,39°.21N×42°.27E,h2km,ML3.0,Error*
ellipse: s-maj=3.8km s-min=3.1km az=23.0
ISC 30 14:49:50.9±0.8,**39°.21N**±0°.02×**42°.27E**±0°.02,**h12**km±6km,
n57,**σ1§09**/83,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
EKAR	**Karacoban**	**0.17**	**288**	*i* P		**Pg**		**14 49 54.1**	**-0.7**
EKAR				*e*S		**Sg**		**14 49 58.5**	**+0.9**
EKAR	**Karacoban**	**0.17**	**288**	*i* P		**Pg**		**14 49 54.1**	**-0.7**
EKAR				*i* S		**Sg**		**14 49 58.9**	**+1.2**
EKAR	**Karacoban**	**0.17**	**288**	P		**Pg**		**14 49 54.1**	**-0.7**
EKAR				S		**Sg**		**14 49 58.9**	**+1.2**
TUTA	**Tutak**	**0.47**	**65**	*e*P		**Pg**		**14 49 59.6**	**-0.5**
TUTA				*e*S		**Sb**		**14 50 07.0**	**-1.2**
TUTA				IAML				14 50 08.8	
	comp=Z,393nm,0.2s								
TUTA	**Tutak**	**0.47**	**65**	*i* P		**Pg**		**14 49 59.8**	**-0.3**
TUTA				*i* S		**Sg**		**14 50 06.8**	**+0.4**
TUTA	**Tutak**	**0.47**	**65**	P		**Pg**		**14 49 59.8**	**-0.3**
TUTA				S		**Sg**		**14 50 06.8**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.53**	**138**	*i* P		**Pg**		**14 50 00.9**	**-0.5**
ADCV				*i* S		**Sb**		**14 50 09.9**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.53**	**138**	P		**Pg**		**14 50 00.9**	**-0.5**
ADCV				S		**Sb**		**14 50 09.9**	**-0.1**
VRTB	**Varto-Mus**	**0.63**	**266**	PG		**Pg**		**14 50 02.8**	**-0.4**
VRTB				SG		**Sb**		**14 50 13.1**	**+0.3**
VRTB	**Varto-Mus**	**0.63**	**266**	*i* P		**Pg**		**14 50 03.3**	**+0.1**
VRTB	**Varto-Mus**	**0.63**	**266**	*e*Pg		**Pg**		**14 50 02.8**	**-0.4**
VRTB	**Varto-Mus**	**0.63**	**266**	P		**Pg**		**14 50 03.3**	**+0.1**
VRTB				*e*Sg		**Sb**		**14 50 13.1**	**+0.3**
EATA	**Eleskirt**	**0.68**	**15**	*i* P		**Pg**		**14 50 03.4**	**-0.8**
EATA				*e*S		**Sb**		**14 50 13.6**	**-0.7**
EATA	**Eleskirt**	**0.68**	**15**	*i* P		**Pg**		**14 50 03.4**	**-0.8**
EATA				*i* S		**Sb**		**14 50 13.9**	**-0.5**
EATA	**Eleskirt**	**0.68**	**15**	P		**Pg**		**14 50 03.4**	**-0.8**
EATA				S		**Sb**		**14 50 13.9**	**-0.5**
GURO	**Guroymak-BITLI**	**0.68**	**196**	PG		**Pg**		**14 50 03.3**	**-0.8**
GURO				SG		**Sg**		**14 50 12.7**	**-0.3**
GURO	**Guroymak-BITLI**	**0.68**	**196**	*e*Pg		**Pg**		**14 50 03.3**	**-0.8**
GURO				*e*Sg		**Sg**		**14 50 12.7**	**-0.3**
HOMI	**Horasan**	**0.88**	**342**	*i* P		**Pg**		**14 50 06.4**	**-1.6**
HOMI				*e*S		**Sb**		**14 50 20.2**	**0.0**
HOMI				IAML				14 50 23.9	
	comp=Z,80nm,0.8s								
HOMI	**Horasan**	**0.88**	**342**	*i* P		**Pg**		**14 50 06.5**	**-1.5**
ERZM	**Erzurum**	**0.99**	**315**	*i* P		**Pg**		**14 50 08.2**	**-1.7**
ERZM				*e*S		**Sb**		**14 50 22.9**	**-0.3**
ERZM	**Erzurum**	**0.99**	**315**	*i* P		**Pg**		**14 50 08.2**	**-1.7**
ERZM	**Erzurum**	**0.99**	**315**	P		**Pg**		**14 50 08.2**	**-1.7**
VMUR	**Van-Muradiye**	**1.04**	**102**	*i* P		**Pb**		**14 50 11.0**	**+0.1**
VMUR	**Van-Muradiye**	**1.04**	**102**	P		**Pb**		**14 50 11.0**	**+0.1**
ECAT	**Cat-ERZURUM**	**1.08**	**292**	*e*P		**Pg**		**14 50 10.4**	**-1.3**
ECAT				*e*S		**Sb**		**14 50 26.1**	**+0.3**
ECAT				IAML				14 50 30.1	
	comp=Z,41nm,0.3s								
ECAT	**Cat-ERZURUM**	**1.08**	**292**	*i* P		**Pg**		**14 50 10.4**	**-1.3**
ECAT				*i* S		**Sb**		**14 50 26.4**	**+0.6**
ECAT	**Cat-ERZURUM**	**1.08**	**292**	P		**Pg**		**14 50 10.4**	**-1.3**
ECAT				S		**Sb**		**14 50 26.4**	**+0.6**
GEVA	**Gevas**	**1.09**	**145**	*e*P		**Pg**		**14 50 09.2**	**-2.6**
GEVA				*e*S		**Sn**		**14 50 28.1**	**+0.9**
GEVA				IAML				14 50 32.8	
	comp=Z,61nm,0.4s								
GEVA	**Gevas**	**1.09**	**145**	*i* P		**Pg**		**14 50 10.5**	**-1.3**
GEVA	**Gevas**	**1.09**	**145**	P		**Pg**		**14 50 10.5**	**-1.3**
TVAN	**Van**	**1.12**	**127**	*i* P		**Pn**		**14 50 12.9**	**+0.3**
TVAN	**Van**	**1.12**	**127**	P		**Pn**		**14 50 12.9**	**+0.3**
DYDN	**Diyadin**	**1.15**	**73**	*e*P		**Pg**		**14 50 12.6**	**-0.4**
DYDN				*e*S		**Sg**		**14 50 27.3**	**-0.8**
SRTM	**Siirt_Merkez**	**1.24**	**193**	*i* P		**Pn**		**14 50 14.5**	**+0.3**
SRTM	**Siirt_Merkez**	**1.24**	**193**	P		**Pn**		**14 50 14.5**	**+0.3**
BNGB	**Bing¶ll**	**1.25**	**261**	PN		**Pn**		**14 50 13.7**	**-0.6**
BNGB				SN		**Sn**		**14 50 32.4**	**+1.2**
BGOL	**Bingol**	**1.26**	**261**	*i* P		**Pn**		**14 50 13.9**	**-0.5**
BGOL	**Bingol**	**1.26**	**261**	P		**Pn**		**14 50 13.9**	**-0.5**
CLDR	**Caldiran**	**1.28**	**92**	PN		**Pn**		**14 50 14.3**	**-0.6**
CLDR	**Caldiran**	**1.28**	**92**	*i* P		**Pn**		**14 50 14.5**	**-0.4**
CLDR	**Caldiran**	**1.28**	**92**	P		**Pn**		**14 50 14.5**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.36**	**3**	PN		**Pg**		**14 50 16.6**	**-0.4**
SENK				SN		**Sn**		**14 50 37.0**	**+3.1**
SENK	**Senkaya-Erzuru**	**1.36**	**3**	*e*Pn		**Pg**		**14 50 16.6**	**-0.4**
SENK				*e*Sn		**Sn**		**14 50 37.0**	**+3.1**
BINT	**Bingol**	**1.42**	**257**	*e*Pn		**Pn**		**14 50 13.7**	**-3.0**
BINT				*e*Sn		**Sb**		**14 50 32.4**	**-3.2**
DIGO	**Kars**	**1.48**	**35**	*e*P		**Pn**		**14 50 17.4**	**-0.1**
BTMN	**Batman**	**1.53**	**211**	*i* P		**Pb**		**14 50 19.3**	**+0.1**
BTMN	**Batman**	**1.53**	**211**	P		**Pb**		**14 50 19.3**	**+0.1**
KOPT	**Kop Dagi**	**1.59**	**301**	*i* P		**Pg**		**14 50 20.7**	**-0.7**
KOPT	**Kop Dagi**	**1.59**	**301**	P		**Pg**		**14 50 20.7**	**-0.7**
SIRT	**Sirnak**	**1.71**	**175**	PN		**Pn**		**14 50 21.0**	**+0.4**
SIRT	**Sirnak**	**1.71**	**175**	*e*Pn		**Pn**		**14 50 21.0**	**+0.4**
EAK	**Akyaka**	**1.80**	**34**	*e*P		**Pb**		**14 50 23.5**	**-0.4**
BAYT	**Ayd¯-ntepe-Bay**	**2.02**	**307**	PN		**Pb**		**14 50 26.9**	**-0.8**
BAYT	**Ayd¯-ntepe-Bay**	**2.02**	**307**	*e*Pn		**Pb**		**14 50 26.9**	**-0.8**
PTK	**Pertek**	**2.26**	**263**	PN		**Pn**		**14 50 29.5**	**+1.2**
PTK	**Pertek**	**2.26**	**263**	*e*Pn		**Pn**		**14 50 29.5**	**+1.2**
EPOS	**Posof**	**2.32**	**9**	*e*P		**Pn**		**14 50 28.0**	**-1.1**

*SOME **30** 14:59:33.9,42°.20N×80°.73E,h20km*
*KRNET **30** 14:59:35.0±0.1,42°.30N×80°.67E,mb3.0*
*NNC **30** 14:59:38.5±1.8,42°.31N×80°.43E,h0km,mb3.1,mpv2.9,*
Error ellipse: s-maj=11.8km s-min=10.7km az=72.0
ISC 30 14:59:39.5±1.7,**42°.29N**±0°.06×**80°.33E**±0°.07,**h10**km,**n27**,
σ1§77/49,**14C-8D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PDGK	**Podgornoye**	**1.21**	**329**	⇑P		**Pb**		**15 00 00.8**	**-1.7**
	4.2nm,0.5s								
PDGK				⇑S		**Sn**		**15 00 19.0**	**0.0**
	21nm,0.4s								
PDGK	**Podgornoye**	**1.21**	**329**	⇑*i*P		**Pb**		**15 00 00.8**	**-1.7**
	baz=20								
PDGK				⇑*i*S		**Sn**		**15 00 19.0**	**0.0**
	baz=20								
PRZ	**Przheval'sk**	**1.44**	**278**	⇓*i*P		**Pb**		**15 00 06.2**	**-0.4**
	baz=77								
PRZ				⇓*i*S		**Sg**		**15 00 30.0**	**+4.0**
	baz=77								
SATY	**Saty**	**1.61**	**299**	*e*P		**Pg**		**15 00 09.8**	**-0.6**
	34nm,0.4s								
SATY				*e*S		**Sg**		**15 00 35.6**	**+4.2**
	40nm,0.1s								
TARG	**Taragay, Kyrgy**	**1.97**	**254**	⇑*i*P		**Pb**		**15 00 14.9**	**-0.7**
	baz=56								
TARG				⇑*i*S		**Sg**		**15 00 43.9**	**+1.2**
	baz=56								
KURS	**Kuram**	**1.99**	**308**	*e*P		**Pb**		**15 00 15.7**	**-0.1**
	8.4nm,0.5s								
KURS				*e*S		**Sg**		**15 00 45.5**	**+2.1**
	16nm,0.4s								
KURS	**Kuram**	**1.99**	**308**	*e*P		**Pb**		**15 00 15.7**	**-0.1**
	baz=4.0								
KURS				*e*S		**Sg**		**15 00 45.4**	**+2.1**
	baz=4.0								
MNBS	**Baschi**	**2.28**	**322**	*e*P		**Pb**		**15 00 19.4**	**-1.3**
	9.4nm,0.2s								
MNBS				*e*S		**Sg**		**15 00 52.2**	**-0.5**
	91nm,0.3s								
KOTS	**Kotyrbulak**	**2.55**	**293**	*e*P		**Pb**		**15 00 25.1**	**-0.4**
KOTS				*e*S		**Sg**		**15 01 01.9**	**+0.4**
MDOK	**Medeo**	**2.57**	**291**	⇑Pg		**Pb**		**15 00 25.3**	**-0.5**
	6.0nm,0.4s								
MDOK				⇓Lg		Lg		15 01 02.8	
	17nm,0.6s								
MDOK	**Medeo**	**2.57**	**291**	*e*P		**Pb**		**15 00 25.3**	**-0.5**
	10nm,0.4s								
MDOK				*e*S		**Sg**		**15 01 02.1**	**+0.1**
	18nm,0.7s								
MDOK	**Medeo**	**2.57**	**291**	*e*P		**Pb**		**15 00 25.3**	**-0.5**
	baz=89								
MDOK				*e*S		**Sg**		**15 01 02.2**	**+0.1**
	baz=89								
TNSS	**Tian-Shan**	**2.60**	**288**	*e*P		**Pb**		**15 00 26.1**	**-0.4**
	13nm,0.3s								
TNSS				*e*S		**Sg**		**15 01 03.6**	**+0.4**
	15nm,0.4s								
ARXS	**Arharly**	**2.65**	**317**	*e*P		**Pb**		**15 00 25.6**	**-1.5**
	3.1nm,0.3s								
ARXS				*e*S		**Sg**		**15 01 03.0**	**-1.6**
	31nm,0.6s								
IZV	**Izvestkoviy**	**2.84**	**286**	*e*P		**Pb**		**15 00 29.2**	**-1.2**
	7.8nm,0.2s								
IZV				*e*S		**Sg**		**15 01 09.0**	**-1.7**
	18nm,0.5s								
CHKK	**Chushkaly**	**2.91**	**304**	*e*P		**Pb**		**15 00 30.4**	**-1.0**
	1.6nm,0.3s								
CHKK				*e*S		**Sg**		**15 01 10.7**	**-2.0**
	20nm,0.3s								
KTBS	**Karatobe**	**3.03**	**299**	*e*P		**Pb**		**15 00 33.0**	**-0.5**
	1.6nm,0.3s								
KTBS				*e*S		**Sg**		**15 01 15.9**	**-0.9**
	25nm,0.6s								
ULHL	**Ulahol**	**3.04**	**270**	⇑*i*P		**Pb**		**15 00 30.8**	**-2.9**
	baz=71								
ULHL				⇑*i*S		**Sb**		**15 01 11.0**	**+0.1**
	baz=71								
KAPS	**Kapalarasan**	**3.07**	**347**	*e*P		**Pb**		**15 00 31.9**	**-2.3**
	1.2nm,0.4s								
KAPS				*e*S		**Sb**		**15 01 13.7**	**+1.8**
	13nm,0.3s								
KST	**Kastek**	**3.31**	**285**	*e*P		**Pb**		**15 00 37.9**	**-0.4**
KST				*e*S		**Sg**		**15 01 24.2**	**-1.5**
KUU	**Kurty**	**3.33**	**300**	*e*P		**Pb**		**15 00 38.2**	**-0.4**
	1.2nm,0.1s								
KUU				*e*S		**Sg**		**15 01 24.7**	**-1.8**
	11nm,0.5s								
DGS	**Degeres**	**3.49**	**287**	*e*P		**Pb**		**15 00 38.7**	**-2.6**
	0.9nm,0.4s								
DGS				*e*S		**Sb**		**15 01 25.7**	**+1.8**
	13nm,0.5s								
TKM2	**Tokmak 2**	**3.55**	**282**	⇑Pn		**Pb**		**15 00 38.2**	**-4.3**
	1.9nm,0.6s								
TKM2				⇓Lg		Lg		15 01 33.1	
	3.5nm,0.3s								
KZA	**Kyzart**	**3.78**	**268**	⇓*e*P		**Pn**		**15 00 41.1**	**+2.9**
	baz=69								
KZA				⇓*i*S		**Sb**		**15 01 30.3**	**-2.3**
	baz=69								
AAK	**Ala-Archa**	**4.33**	**277**	⇓Pg		**Pg**		**15 01 00.4**	**-2.0**
	3.1nm,0.9s								
AAK				⇑Lg		Lg		15 01 57.3	
	6.9nm,1.0s								
MK31	**Makanchi Array**	**4.71**	**17**	⇑Pn		**Pn**		**15 00 52.0**	**+1.4**
	0.3nm,0.3s,baz=198,slow=13,SNR=35								
MK31				⇑Sn		**Sn**		**15 01 46.6**	**+1.3**
	0.3nm,0.3s,baz=185,slow=22,SNR=4.9								
MK31				⇓Lg		Lg		15 02 06.3	
	1.3nm,0.6s,baz=161,slow=36,SNR=4.0								
KK31	**Karatay Array**	**7.28**	**280**	⇑Lg		Lg		15 03 32.7	
	0.4nm,0.4s,baz=91,slow=28,SNR=3.7								

*IDC **30** 15:10:33.5±2.6,20°.93S×178°.27W,h556km±23km,mb3.2/7,*
mb1 3.5/9,mb1mx3.2/41,mbtmp4.1/9,Error ellipse:
s-maj=88.4km s-min=15.5km az=152.0
ISC 30 15:10:37.9±1.4,**19°.9S**±0°.5×**178°.6W**±0°.3,**h600**km,**n10**,
σ2§45/14,**mb3.9**/7,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**8.87**	**49**	P		**P**		**15 12 43.9**	**-1.8**
	1.0nm,0.3s,baz=235,slow=16,SNR=1.9								
AFI				S		**S**		**15 14 27.0**	**-3.5**
	4.0nm,0.3s,baz=196,slow=20,SNR=5.7								
DZM	**Mont Dzumac**	**14.12**	**259**	P		**P**		**15 13 36.6**	**-1.5**
	0.7nm,0.3s,baz=85,slow=18,SNR=7.5								
STKA	**Stephens Creek**	**37.52**	**243**	P		**P**		**15 16 59.8**	**-2.6**
	1.7nm,0.5s,baz=87,slow=12,SNR=8.9								
ASAR	**Alice Springs**	**44.09**	**256**	P		**P**		**15 17 54.0**	**-0.6**
	4.9nm,0.5s,baz=93,slow=7.7,SNR=140								
ASAR				PcP		**PcP**		**15 19 25.3**	**-1.0**
	0.3nm,0.6s,baz=107,slow=4.9,SNR=2.4								
ASAR				ScP		**ScP**		**15 22 25.3**	**+3.5**
	0.3nm,0.6s,baz=95,slow=4.2,SNR=4.4								
WRA	**Warramunga Arr**	**44.11**	**262**	P		**P**		**15 17 54.0**	**-0.7**
	2.2nm,0.3s,baz=97,slow=7.6,SNR=232								
WRA				PcP		**PcP**		**15 19 25.2**	**-1.2**
	0.5nm,0.9s,baz=108,slow=4.0,SNR=2.4								
NVAR	**Mina Array Bea**	**81.01**	**44**	P		**P**		**15 21 54.0**	**+2.4**
	0.3nm,0.5s,baz=224,slow=8.6,SNR

SECR		1.42	268	⇑	*i* P	**Pb**	**15 26 18.1**	**+0.2**
SECR					*i* S	**Sg**	**15 26 37.6**	**-0.4**
SECR		1.42	268	⇑	*i* P	**Pb**	**15 26 18.1**	**+0.2**
SECR					*i* S	**Sg**	**15 26 37.6**	**-0.4**
PLAR	**PLOIESTI**	1.46	263	⇑	*i* P	**Pb**	**15 26 18.8**	**+0.2**
PLAR	**PLOIESTI**	1.46	263	⇑	*i* P	**Pb**	**15 26 18.8**	**+0.2**
PLAR					*i* S	**Sg**	**15 26 38.9**	**-0.4**
PLAR	**PLOIESTI**	1.46	263	⇑	*i* P	**Pb**	**15 26 18.8**	**+0.2**
PLAR					*i* S	**Sg**	**15 26 38.9**	**-0.4**
INCR	**INCERC-Sediu C**	1.51	245		S	**Sg**	**15 26 40.2**	**-0.7**
INCR	**INCERC-Sediu C**	1.51	245		*i* S	**Sg**	**15 26 40.2**	**-0.7**
INCR	**INCERC-Sediu C**	1.51	245		*i* S	**Sg**	**15 26 40.2**	**-0.7**
MLR	**Muntele Rosu**	1.55	285		Pn	**Pb**	**15 26 20.1**	**-0.1**
	1.0nm,0.3s,baz=169,slow=16,SNR=15							
MLR					Pg	**Pg**	**15 26 21.7**	**-0.2**
	1.0nm,0.3s,baz=165,slow=16,SNR=15							
MLR					Lg	Lg	15 26 37.4	
	1.3nm,0.3s,baz=191,slow=19,SNR=4.7							
MLR	**Muntele Rosu**	1.55	285	⇓	*i* P	**Pb**	**15 26 20.9**	**+0.7**
MLR	**Muntele Rosu**	1.55	285	⇓	*i* P	**Pb**	**15 26 20.9**	**+0.7**
MLR					*i* S	**Sg**	**15 26 41.3**	**-0.8**
MLR	**Muntele Rosu**	1.55	285	⇓	*i* P	**Pb**	**15 26 20.9**	**+0.7**
MLR					*i* S	**Sg**	**15 26 41.3**	**-0.8**
BUC1	**Bucharest**	1.64	243		S	**Sb**	**15 26 43.1**	**+1.1**
BUC1	**Bucharest**	1.64	243		*i* S	**Sb**	**15 26 43.1**	**+1.1**
BUC1	**Bucharest**	1.64	243		*i* S	**Sb**	**15 26 43.1**	**+1.1**
CIOR	**Ciorogarla**	1.69	248		*i* S	**Sb**	**15 26 44.8**	**+1.4**
CIOR	**Ciorogarla**	1.69	248		*i* S	**Sb**	**15 26 44.8**	**+1.4**
CIOR	**Ciorogarla**	1.69	248		*i* S	**Sb**	**15 26 44.8**	**+1.4**
SGRR	**Singureni**	1.74	240	⇑	*i* P	**Pb**	**15 26 22.9**	**-0.4**
SGRR	**Singureni**	1.74	240	⇑	*i* P	**Pb**	**15 26 22.9**	**-0.4**
SGRR					*i* S	**Sb**	**15 26 45.7**	**+1.0**
SGRR	**Singureni**	1.74	240	⇑	*i* P	**Pb**	**15 26 22.9**	**-0.4**
SGRR					*i* S	**Sb**	**15 26 45.7**	**+1.0**
MILM	**Milestii Mici**	1.89	16	⇑	*i* P	**Pb**	**15 26 25.7**	**-0.2**
MILM	**Milestii Mici**	1.89	16	⇑	*i* P	**Pb**	**15 26 25.7**	**-0.2**
MILM					*i* S	**Sb**	**15 26 49.5**	**+0.5**
MILM	**Milestii Mici**	1.89	16		P	**Pb**	**15 26 25.5**	**-0.4**
MILM					*i* S	**Sb**	**15 26 49.5**	**+0.5**
KIS	**Kishinev**	1.96	15		*e*P	**Pn**	**15 26 26.0**	**+1.7**
KIS					*i* S	**Sb**	**15 26 52.0**	**+0.7**
	900nm,1.0s							
KIS	**Kishinev**	1.96	15	⇑	*i* P	**Pb**	**15 26 26.4**	**-0.8**
KIS	**Kishinev**	1.96	15	⇑	*i* P	**Pb**	**15 26 26.4**	**-0.8**
KIS					*i* S	**Sb**	**15 26 51.2**	**-0.1**
KIS	**Kishinev**	1.96	15	⇑	*i* P	**Pb**	**15 26 26.4**	**-0.8**
KIS					*i* S	**Sb**	**15 26 51.2**	**-0.1**
DOPR	**Dopca**	2.07	296	⇑	*i* P	**Pn**	**15 26 27.1**	**+1.3**
DOPR	**Dopca**	2.07	296	⇑	*i* P	**Pn**	**15 26 27.1**	**+1.3**
DOPR					*i* S	**Sb**	**15 26 53.5**	**-0.9**
DOPR	**Dopca**	2.07	296	⇑	*i* P	**Pn**	**15 26 27.1**	**+1.3**
DOPR					*i* S	**Sb**	**15 26 53.5**	**-0.9**
VOIR		2.16	280	⇓	*i* P	**Pn**	**15 26 28.6**	**+1.5**
VOIR		2.16	280	⇓	*i* P	**Pn**	**15 26 28.6**	**+1.5**
VOIR					*i* S	**Sb**	**15 26 55.9**	**-1.1**
VOIR		2.16	280	⇓	*i* P	**Pn**	**15 26 28.6**	**+1.5**
VOIR					*i* S	**Sb**	**15 26 55.9**	**-1.1**
HUMR	**Humele**	2.27	256	⇑	*i* P	**Pn**	**15 26 30.3**	**+1.7**
HUMR	**Humele**	2.27	256	⇑	*i* P	**Pn**	**15 26 30.3**	**+1.7**
HUMR					*i* S	**Sb**	**15 26 58.4**	**-1.8**
HUMR	**Humele**	2.27	256	⇑	*i* P	**Pn**	**15 26 30.3**	**+1.7**
HUMR					*i* S	**Sb**	**15 26 58.4**	**-1.8**
ARR	**Arges**	2.44	277	⇑	*i* P	**Pn**	**15 26 32.9**	**+1.9**
ARR	**Arges**	2.44	277	⇑	*i* P	**Pn**	**15 26 32.9**	**+1.9**
ARR					*i* S	**Sn**	**15 27 02.1**	**+1.8**
ARR	**Arges**	2.44	277	⇑	*i* P	**Pn**	**15 26 32.9**	**+1.9**
ARR					*i* S	**Sn**	**15 27 02.1**	**+1.8**
SORM	**Soroca**	3.04	4	⇑	*i* P	**Pn**	**15 26 40.4**	**+1.4**
SORM	**Soroca**	3.04	4	⇑	*i* P	**Pn**	**15 26 40.4**	**+1.4**
SORM					*i* S	**Sn**	**15 27 15.2**	**+0.3**
SORM	**Soroca**	3.04	4		P	**Pn**	**15 26 40.5**	**+1.4**
SORM					*i* S	**Sn**	**15 27 15.2**	**+0.3**
LOT	**Lotru**	3.05	278		S	**Sn**	**15 27 17.1**	**+1.6**
LOT	**Lotru**	3.05	278		*i* S	**Sn**	**15 27 17.1**	**+1.6**
LOT	**Lotru**	3.05	278		*i* S	**Sn**	**15 27 17.1**	**+1.6**
BURAR	**Bucovina Array**	3.19	323	⇓	*i* P	**Pn**	**15 26 44.3**	**+3.0**
BURAR	**Bucovina Array**	3.19	323	⇓	*i* P	**Pn**	**15 26 44.3**	**+3.0**
BURAR					*i* S	**Sn**	**15 27 22.2**	**+3.3**
BURAR	**Bucovina Array**	3.19	323	⇓	*i* P	**Pn**	**15 26 44.3**	**+3.0**
BURAR					*i* S	**Sn**	**15 27 22.2**	**+3.3**
DEV	**Deva**	3.71	284		S	**Sn**	**15 27 32.1**	**+0.5**
DEV	**Deva**	3.71	284		*i* S	**Sn**	**15 27 32.1**	**+0.5**
DEV	**Deva**	3.71	284		*i* S	**Sn**	**15 27 32.1**	**+0.5**
BMR	**Baia Mare**	4.08	311	⇓	*i* P	**Pn**	**15 26 54.2**	**+0.9**
BMR	**Baia Mare**	4.08	311	⇓	*i* P	**Pn**	**15 26 54.2**	**+0.9**
BMR	**Baia Mare**	4.08	311	⇓	*i* P	**Pn**	**15 26 54.2**	**+0.9**
DRGR		4.10	296	⇑	*i* P	**Pn**	**15 26 55.1**	**+1.3**
DRGR		4.10	296	⇑	*i* P	**Pn**	**15 26 55.1**	**+1.3**
DRGR					*i* S	**Sn**	**15 27 40.6**	**-0.6**
DRGR		4.10	296	⇑	*i* P	**Pn**	**15 26 55.1**	**+1.3**
VTS	**Vitosha**	4.32	236	⇑	*i* P	**Pn**	**15 26 57.6**	**+0.7**
VTS	**Vitosha**	4.32	236	⇑	*i* P	**Pn**	**15 26 57.6**	**+0.7**
VTS					*i* S	**Sn**	**15 27 45.1**	**-1.7**
VTS	**Vitosha**	4.32	236	⇑	*i* P	**Pn**	**15 26 57.6**	**+0.7**
BZS	**Buzias**	4.58	279	⇑	*i* P	**Pn**	**15 27 02.3**	**+2.1**
BZS	**Buzias**	4.58	279	⇑	*i* P	**Pn**	**15 27 02.3**	**+2.1**
BZS					*i* S	**Sn**	**15 27 51.8**	**-1.1**
BZS	**Buzias**	4.58	279	⇑	*i* P	**Pn**	**15 27 02.3**	**+2.1**
SIRR	**Siria**	4.64	287		S	**Sn**	**15 27 51.7**	**-2.7**
SIRR	**Siria**	4.64	287		*i* S	**Sn**	**15 27 51.7**	**-2.7**
AKASG	**Malin Array Be**	5.65	7		Pn	**Pn**	**15 27 16.2**	**+1.2**
	0.7nm,0.3s,baz=190,slow=16,SNR=3.8							
AKASG					Pg	**Pb**	**15 27 33.1**	**+3.1**
	1.7nm,0.3s,baz=189,slow=16,SNR=6.5							
AKASG					Sn	**Sn**	**15 28 17.7**	**-1.6**
	3.7nm,0.3s,baz=197,slow=21,SNR=6.4							
AKASG					Lg	Lg	15 28 43.1	
	12nm,0.3s,baz=182,slow=28,SNR=11							
BRTR	**Keskin Array B**	6.77	141		Pn	Pb	15 27 42.4	-6.9
	0.1nm,0.3s,baz=327,slow=16,SNR=2.7							
FINES	**FINESS Array B**	16.41	357		Pn	**Pn**	**15 29 36.1**	**-4.9**
	0.1nm,0.3s,baz=182,slow=12,SNR=4.6							
FINES					Sn	Sn	15 32 28.6	-14
	0.1nm,0.3s,baz=176,slow=22,SNR=2.2							
HFS	**Hagfors**	17.33	335		Pn	**Pn**	**15 29 47.7**	**-5.0**
	0.1nm,0.3s,baz=150,slow=15,SNR=2.6							

*NIED **30** 15:42:00,40.80N×145.10E,h5km,Mw3.8 Best double couple: M₀5.02000×10¹⁴ NP1:φ₁215.00000°,δ37.00000°, λ-92.00000°. NP2:φ₂39.00000°,δ53.00000°,λ-88.00000°.*
*IDC **30** 15:42:21.7±0.7,40.80N×144.95E,h0km,mb3.9/19, mb1 4.0/24,mb1mx3.9/67,mbtmp3.8/24,ML3.1/3,MS3.0/7, Ms1 3.0/7,ms1mx2.6/56,Error ellipse: s-maj=16.3km s-min=15.2km az=138.0*
*JMA **30** 15:42:22.6±0.2,40.80N×145.08E,h66km±3km,M3.6*
*NEIC **30** 15:42:27.0±0.3,40.80N×144.89E,h35km,mb4.6/4,Error ellipse: s-maj=7.8km s-min=5.4km az=134.0*

IDC 30 15:42:22.7±4.5,40.83N±0.04×144.95E±0.06,h7km±28km, n64,σ1♀60/74,mb4.2/22,MS3.1/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	1.80	312	P	**Pn**	**15 42 53.5**	**-0.5**
JEM				*e*S	**Sn**	**15 43 14.4**	**-2.7**
JCH	**Churui**	2.15	327	P	**Pn**	**15 42 58.0**	**-0.8**
JCH				*e*S	**Sn**	**15 43 22.9**	**-2.8**
JAK	**Akkeshi**	2.18	355	P	**Pn**	**15 42 58.1**	**-1.2**
JAK				*e*S	**Sn**	**15 43 23.1**	**-3.4**
JNBK	**Urakawa-nobuka**	2.20	312	P	**Pn**	**15 42 59.7**	**+0.2**
JNBK				*e*S	**Sn**	**15 43 25.8**	**-1.2**
JOB	**Onbets**	2.24	339	P	**Pn**	**15 42 59.7**	**-0.4**
JOB				*e*S	**Sn**	**15 43 26.6**	**-1.3**
NEM2	**Nemuro 2**	2.61	13	P	**Pn**	**15 43 03.3**	**-1.9**
NEM2				*e*S	**Sn**	**15 43 33.1**	**-3.9**
JAR	**Ashorobuto**	2.62	341	P	**Pn**	**15 43 04.0**	**-1.4**
JAR				*e*S	**Sn**	**15 43 34.0**	**-3.4**
JANG	**Nango**	2.65	261	P	**Pn**	**15 43 04.4**	**-1.4**
JANG				*e*S	**Sn**	**15 43 34.2**	**-4.0**
JBT2	**Biratori 2**	2.75	316	P	**Pn**	**15 43 06.9**	**-0.2**
JNK	**Nakash**	2.76	357	P	**Pn**	**15 43 05.3**	**-2.0**
JNK				*e*S	**Sn**	**15 43 35.5**	**-5.4**
JFR	**Furan**	2.92	324	P	**Pn**	**15 43 08.8**	**-0.7**
JOT	**Ohata**	3.00	282	P	**Pn**	**15 43 10.1**	**-0.5**
JOT				*e*S	**Sn**	**15 43 43.7**	**-3.0**
JOM	**Ohasama**	3.11	245	P	**Pn**	**15 43 11.4**	**-0.7**
JOM				*e*S	**Sn**	**15 43 45.9**	**-3.6**
JKB	**Kayabe**	3.13	291	P	**Pn**	**15 43 12.1**	**-0.3**
JTKR	**Abashiri--Toko**	3.24	347	P	**Pn**	**15 43 13.2**	**-0.6**
JTKR				*e*S	**Sn**	**15 43 50.5**	**-2.1**
JEW	**Eniwo**	3.30	309	P	**Pn**	**15 43 15.6**	**+0.9**
JEW				*e*S	**Sn**	**15 43 53.4**	**-0.8**
JMK	**Ichinoseki**	3.42	238	P	**Pn**	**15 43 15.5**	**-0.9**
JMK				*e*S	**Sn**	**15 43 53.2**	**-4.0**
JKK2	**Kamakawa 2**	3.45	333	P	**Pn**	**15 43 16.6**	**-0.3**
ASAJ	**Asahikawa**	3.72	333	Pn	**Pn**	**15 43 20.5**	**0.0**
	2.0nm,0.3s,baz=139,slow=9.3,SNR=21						
ASAJ				Sn	**Sn**	**15 44 06.5**	**+1.9**
	1.6nm,0.3s,baz=155,slow=33,SNR=5.6						
ASAJ	**Asahikawa**	3.72	333	*e*Pn	**Pn**	**15 43 20.5**	**0.0**
ASAJ				*e*Sn	**Sn**	**15 44 04.4**	**-0.1**
MAJO	**Matsushiro**	6.79	233	*e*Pn	**Pn**	**15 44 02.7**	**+0.1**
MJAR	**Matsushiro Arr**	6.79	233	Pn	**Pn**	**15 44 02.7**	**+0.1**
	0.6nm,0.3s,baz=43,slow=11,SNR=10						
MJAR				LR	LR	15 47 14.1	
	comp=Z,28nm,18.6s,baz=255,slow=43						
USRK	**Ussuriysk Ar.**	10.14	294	Pn	**Pn**	**15 44 47.9**	**-0.8**
	0.2nm,0.3s,baz=100,slow=14,SNR=4.0						
KSRS	**Korea Array**	13.64	261	Pn	**Pn**	**15 45 37.0**	**+0.7**
	baz=68,slow=15,SNR=3.4						
KSRS				LR	LR	15 50 39.6	
	comp=Z,14nm,18.6s,baz=290,slow=36						
KSAR	**Wonju Array Be**	13.67	261	Pn	**Pn**	**15 45 37.0**	**+0.2**
MA2	**Magadan**	19.12	9	P	**P**	**15 46 45.9**	**-0.1**
	0.2nm,0.3s,baz=184,slow=19,SNR=3.0						
SEY	**Seymchan**	22.58	9	P	**P**	**15 47 22.6**	**-0.7**
	1.4nm,0.7s,baz=189,slow=6.8,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	28.16	132	T	T	16 17 48.7	
	baz=324,slow=76						
H11N1	**WAKE ISLAND Hy**	28.17	132	T	T	16 17 48.2	
	baz=324,slow=76						
H11N3	**WAKE ISLAND Hy**	28.18	132	T	T	16 17 52.2	
	baz=324,slow=76						
SONA0	**Songino Array**	28.23	297	*e*P	**P**	**15 48 16.9**	**+0.7**
SONM	**Songino Array**	28.23	297	P	**P**	**15 48 16.8**	**+0.7**
	0.9nm,0.6s,baz=87,slow=8.2,SNR=4.8						
SONM				LR	LR	15 59 18.6	
	comp=Z,32nm,20.4s,baz=131,slow=36						
H11S1	**WAKE ISLAND Hy**	29.04	134	T	T	16 18 51.2	
	baz=325,slow=76						
H11S3	**WAKE ISLAND Hy**	29.04	134	T	T	16 18 53.1	
	baz=325,slow=76						
H11S2	**WAKE ISLAND Hy**	29.05	134	T	T	16 18 55.9	
	baz=325,slow=76						
ZAA1	**Zalesovo Array**	41.52	309	*e*P	**P**	**15 50 10.3**	**0.0**
ZALV	**Zalesovo Beam**	41.52	309	P	**P**	**15 50 10.3**	**0.0**
	0.7nm,0.6s,baz=79,slow=7.7,SNR=4.6						
ZALV				PcP	**PcP**	**15 52 08.1**	**+0.4**
	0.7nm,0.4s,baz=70,slow=4.7,SNR=3.5						
ZALV				LR	LR	16 09 08.7	
	comp=Z,22nm,20.3s,baz=70,slow=39						
MK31	**Makanchi Array**	44.55	300	*e*P	**P**	**15 50 35.4**	**+0.4**
MK32	**Makanchi Array**	44.55	300	*e*P	**P**	**15 50 35.2**	**+0.3**
MKAR	**Makanchi Array**	44.55	300	P	**P**	**15 50 35.2**	**+0.3**
	0.5nm,0.5s,baz=91,slow=9.5,SNR=8.3						
MKAR	**Makanchi Array**	44.55	300	*e*P	**P**	**15 50 35.4**	**+0.4**
	7.1nm,0.6s						
ILAR	**Eielson Array**	44.82	34	P	**P**	**15 50 37.3**	**+0.5**
	1.4nm,1.0s,baz=248,slow=5.4,SNR=6.9						
KURK	**Kurchatov**	45.86	306	*e*P	**P**	**15 50 45.9**	**+0.6**
	3.3nm,0.8s						
KURBB	**Kurchatov Arra**	45.94	306	P	**P**	**15 50 46.1**	**+0.2**
	3.5nm,0.7s,baz=76,slow=8.7,SNR=16						
INK	**Inuvik**	49.75	29	P	**P**	**15 51 16.6**	**+1.5**
	1.1nm,0.5s,baz=318,slow=2.2,SNR=3.9						
BVAR	**Borovoye Array**	50.13	311	P	**P**	**15 51 19.0**	**+0.7**
	1.6nm,0.6s,baz=80,slow=7.7,SNR=10.0						
AB31	**Akbulak array**	57.64	309	*e*P	**P**	**15 52 13.5**	**+0.3**
AKTO	**Aktyubinsk**	58.22	311	P	**P**	**15 52 17.4**	**+0.1**
	1.0nm,0.4s,baz=69,slow=14,SNR=5.0						
AKTO				LR	LR	16 18 31.4	
	comp=Z,18nm,21.5s,baz=358,slow=37						
RES	**Resolute Bay**	58.23	16	*e*P	**P**	**15 52 18.2**	**+1.2**
	2.5nm,0.6s						
YKA	**Yellowknife Ar**	59.14	32	P	**P**	**15 52 24.2**	**+0.7**
	0.3nm,0.6s,baz=300,slow=7.4,SNR=5.2						
YKB5	**Yellowknife Ar**	59.14	32	*e*P	**P**	**15 52 24.2**	**+0.7**
WR1	**Warramunga Arr**	61.26	191	*e*P	**P**	**15 52 37.6**	**-0.9**
	12nm,1.5s						
WRA	**Warramunga Arr**	61.26	191	P	**P**	**15 52 37.6**	**-0.9**
	1.7nm,0.7s,baz=9.5,slow=7.0,SNR=14						
GEYT	**Alibeck**	64.42	299	LR	LR	16 23 17.1	
	comp=Z,27nm,18.4s,baz=210,slow=38						
ASAR	**Alice Springs**	64.98	191	P	**P**	**15 53 03.7**	**+0.6**
	0.4nm,0.7s,baz=17,slow=6.3,SNR=5.6						
FIA0	**FINESS Array S**	66.73	333	*e*P	**P**	**15 53 14.1**	**+0.1**
FINES	**FINESS Array B**	66.73	333	P	**P**	**15 53 14.1**	**+0.1**
	1.6nm,0.6s,baz=56,slow=7.5,SNR=12						
KBZ	**Khabaz**	70.50	311	P	**P**	**15 53 39.0**	**+1.2**
	1.5nm,0.5s,baz=93,slow=3.3,SNR=5.3						
NVAR	**Mina Array Bea**	70.55	56	P	**P**	**15 53 38.8**	**+0.3**
	0.3nm,0.7s,baz=297,slow=4.0,SNR=2.6						
HFS	**Hagfors**	71.74	337	P	**P**	**15 53 45.3**	**+0.2**
	2.3nm,0.8s,baz=38,slow=7.3,SNR=6.1						
AKASG	**Malin Array Be**	72.95	323	P	**P**	**15 53 52.6**	**+0.1**
	1.0nm,0.5s,baz=44,slow=5.9,SNR=8.5						
AKASG				LR	LR	16 27 31.5	
	comp=Z,21nm,18.1s,baz=290,slow=37						
AKBB	**Malin Array Si**	72.95	323	*e*P	**P**	**15 53 52.6**	**+0.1**
PDAR	**Pinedale Array**	73.06	48	P	**P**	**15 53 53.9**	**+0.2**
	0.3nm,0.5s,baz=281,slow=2.4,SNR=4.0						
TXAR	**Lajitas Array**	85.65	55	P	**P**	**15 55 02.5**	**+0.1**
	0.4nm,0.8s,baz=305,slow=3.2,SNR=4.2						

*ISCJB **30** 15:51:35.0±0.5,40.32N±0.03×37.40E±0.05,h0km,Error ellipse: s-maj=5.2km s-min=4.2km az=151.6*
*CSEM **30** 15:51:35.2,40.29N×37.37E,h7km,ML2.5,Suspected Mining explosion. After DDA*
*DDA **30** 15:51:35.2,40.29N×37.37E,h7km,Ml2.5,Suspected Mining explosion.*

ISC 30 15:51:34.4±0.9,40.29N±0.03×37.35E±0.03,h0km,n23, σ0♀78/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	0.11	351	PG	**Pg**	**15 51 36.3**	**-0.3**
RSDY				SG	**Sg**	**15 51 38.6**	**+0.6**
SVSK	**Karacayir**	0.46	216	*e*PG	**Pb**	**15 51 44.3**	**-1.1**
SVSK				*e*SG	**Sb**	**15 51 52.8**	**+0.1**
SCER	**sogukcermik**	0.46	202	*i* P	**Pb**	**15 51 44.3**	**-1.2**
SCER	**sogukcermik**	0.46	202	P	**Pb**	**15 51 44.3**	**-1.2**
CUZAR	**Zara_SIVAS**	0.51	141	*i* P	**Pb**	**15 51 45.8**	**-0.6**
CUZAR				*i* S	**Sb**	**15 51 53.6**	**-0.9**
CUZAR	**Zara_SIVAS**	0.51	141	P	**Pb**	**15 51 45.8**	**-0.6**
CUZAR				S	**Sb**	**15 51 53.6**	**-0.9**
ERBA	**Erbaa**	0.60	311	*i* P	**Pb**	**15 51 47.8**	**-0.1**
ERBA	**Erbaa**	0.60	311	P	**Pb**	**15 51 47.8**	**-0.1**
TOKT	**Tokat**	0.62	273	*e*PG	**Pb**	**15 51 47.2**	**-0.9**
SUSE	**Susehri**	0.66	97	*i* P	**Pg**	**15 51 47.1**	**+0.1**
SUSE	**Susehri**	0.66	97	P	**Pg**	**15 51 47.1**	**+0.1**
ORDU	**Ordu-Boztepe**	0.80	29	*i* P	**Pb**	**15 51 51.0**	**-0.3**
ORDU	**Ordu-Boztepe**	0.80	29	P	**Pb**	**15 51 51.0**	**-0.3**
CUKAN	**kangal_SIVAS**	0.97	175	*i* P	**Pb**	**15 51 54.0**	**-0.3**
CUKAN	**kangal_SIVAS**	0.97	175	P	**Pb**	**15 51 54.0**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	1.22	225	*i* P	**Pg**	**15 51 57.8**	**+0.1**
CUSAR				*i* S	**Sn**	**15 52 17.7**	**+1.6**
CUSAR	**Sarkisla-SIVAS**	1.22	225	P	**Pg**	**15 51 57.8**	**+0.1**
CUSAR				S	**Sn**	**15 52 17.7**	**+1.6**
KEMA	**Kemaliye**	1.35	139	*i* P	**Pg**	**15 52 00.3**	**+0.1**
KEMA	**Kemaliye**	1.35	139	P	**Pg**	**15 52 00.3**	**+0.1**
KELT	**Kelkit**	1.47	95	*i* P	**Pn**	**15 52 01.8**	**-0.5**
KELT	**Kelkit**	1.47	95	P	**Pn**	**15 52 01.8**	**-0.5**
HEKM	**Malatya_Hekimh**	1.48	161	*i* P	**Pb**	**15 52 04.0**	**+1.0**
HEKM	**Malatya_Hekimh**	1.48	161	P	**Pb**	**15 52 04.0**	**+1.0**

Mining explosion.
ISC 30 15:51:34.4±0.9,40.29N±0.03×37.35E±0.03,h0km,n23, σ0♀78/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	0.11	351	PG	**Pg**	**15 51 36.3**	**-0.3**
RSDY				SG	**Sg**	**15 51 38.6**	**+0.6**
SVSK	**Karacayir**	0.46	216	*e*PG	**Pb**	**15 51 44.3**	**-1.1**
SVSK				*e*SG	**Sb**	**15 51 52.8**	**+0.1**
SCER	**sogukcermik**	0.46	202	*i* P	**Pb**	**15 51 44.3**	**-1.2**
SCER	**sogukcermik**	0.46	202	P	**Pb**	**15 51 44.3**	**-1.2**
CUZAR	**Zara_SIVAS**	0.51	141	*i* P	**Pb**	**15 51 45.8**	**-0.6**
CUZAR				*i* S	**Sb**	**15 51 53.6**	**-0.9**
CUZAR	**Zara_SIVAS**	0.51	141	P	**Pb**	**15 51 45.8**	**-0.6**
CUZAR				S	**Sb**	**15 51 53.6**	**-0.9**
ERBA	**Erbaa**	0.60	311	*i* P	**Pb**	**15 51 47.8**	**-0.1**
ERBA	**Erbaa**	0.60	311	P	**Pb**	**15 51 47.8**	**-0.1**
TOKT	**Tokat**	0.62	273	*e*PG	**Pb**	**15 51 47.2**	**-0.9**
SUSE	**Susehri**	0.66	97	*i* P	**Pg**	**15 51 47.1**	**+0.1**
SUSE	**Susehri**	0.66	97	P	**Pg**	**15 51 47.1**	**+0.1**
ORDU	**Ordu-Boztepe**	0.80	29	*i* P	**Pb**	**15 51 51.0**	**-0.3**
ORDU	**Ordu-Boztepe**	0.80	29	P	**Pb**	**15 51 51.0**	**-0.3**
CUKAN	**kangal_SIVAS**	0.97	175	*i* P	**Pb**	**15 51 54.0**	**-0.3**
CUKAN	**kangal_SIVAS**	0.97	175	P	**Pb**	**15 51 54.0**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	1.22	225	*i* P	**Pg**	**15 51 57.8**	**+0.1**
CUSAR				*i* S	**Sn**	**15 52 17.7**	**+1.6**
CUSAR	**Sarkisla-SIVAS**	1.22	225	P	**Pg**	**15 51 57.8**	**+0.1**
CUSAR				S	**Sn**	**15 52 17.7**	**+1.6**
KEMA	**Kemaliye**	1.35	139	*i* P	**Pg**	**15 52 00.3**	**+0.1**
KEMA	**Kemaliye**	1.35	139	P	**Pg**	**15 52 00.3**	**+0.1**
KELT	**Kelkit**	1.47	95	*i* P	**Pn**	**15 52 01.8**	**-0.5**
KELT	**Kelkit**	1.47	95	P	**Pn**	**15 52 01.8**	**-0.5**
HEKM	**Malatya_Hekimh**	1.48	161	*i* P	**Pb**	**15 52 04.0**	**+1.0**
HEKM	**Malatya_Hekimh**	1.48	161	P	**Pb**	**15 52 04.0**	**+1.0**

*CSEM **30** 15:53:38.8,38.83N×21.28E,h29km,ML1.9/2,After THE*
THE 30 15:53:38.8,38.83N×21.28E,h29km±1km,ML1.9/2,Error ellipse: s-maj=1.1km s-min=0.6km az=72.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDO	**Prodromos**	0.24	199	P	Pb	15 53 45.4	0.0
PDO				S	Sb	15 53 50.3	+0.4
PDO	**Prodromos**	0.24	199	P	Pb	15 53 45.4	0.0
PDO				S	Sb	15 53 50.3	+0.4
PVO	**Paravola**	0.28	138	P	Pb	15 53 45.4	-0.6
PVO				S	Sb	15 53 51.3	+0.5
PVO	**Paravola**	0.28	138	P	Pb	15 53 45.4	-0.6
PVO				S	Sb	15

LPK	**Lapseki**	**1.11**	**39**	PG	**Pg**	**15 55 23.1**	**-1.6**
LPK	**Lapseki**	**1.11**	**39**	*e*Pg	**Pg**	**15 55 23.1**	**-1.6**
CHOS	**Chios island**	**1.14**	**172**	P	**Pg**	**15 55 24.4**	**-0.9**
CHOS				S	**Sg**	**15 55 39.1**	**-1.1**
CHOS				AML	AML	15 55 42.9	
	comp=N,702μm,0.4s						
CHOS				AML	AML	15 55 44.5	
	comp=E,835μm,0.3s						
CHOS	**Chios island**	**1.14**	**172**	P	**Pg**	**15 55 24.1**	**-1.2**
CHOS				S	**Sb**	**15 55 40.2**	**+0.6**
CHOS	**Chios island**	**1.14**	**172**	P	**Pg**	**15 55 23.9**	**-1.4**
CHOS				S	**Sb**	**15 55 40.2**	**+0.6**
ENEZ	**Enez**	**1.24**	**11**	PN	**Pb**	**15 55 26.2**	**-0.5**
ENEZ	**Enez**	**1.24**	**11**	*e*Pn	**Pb**	**15 55 26.2**	**-0.5**
ENEZ				S	**Sn**	**15 55 43.7**	**+0.8**
ENEZ	**Enez**	**1.24**	**11**	P	**Pb**	**15 55 26.1**	**-0.6**
ENEZ				S	**Sn**	**15 55 43.7**	**+0.8**
ERIK	**Erikli-Kesan**	**1.26**	**24**	PN	**Pn**	**15 55 26.3**	**-0.3**
ERIK	**Erikli-Kesan**	**1.26**	**24**	*e*Pn	**Pn**	**15 55 26.3**	**-0.3**
URLA	**Izmir**	**1.29**	**153**	PN	**Pg**	**15 55 28.6**	**+0.3**
URLA	**Izmir**	**1.29**	**153**	*i* P	**Pn**	**15 55 25.6**	**-1.5**
URLA				*i* S	**Sb**	**15 55 43.1**	**-0.9**
URLA	**Izmir**	**1.29**	**153**	P	**Pn**	**15 55 25.6**	**-1.5**
URLA	**Izmir**	**1.29**	**153**	*e*Pn	**Pg**	**15 55 28.6**	**+0.3**
URLA				S	**Sb**	**15 55 43.1**	**-0.9**
ZEY	**˜zmir**	**1.37**	**158**	*i* P	**Pn**	**15 55 28.9**	**+0.7**
BALY	**Balya**	**1.39**	**80**	*i* P	**Pn**	**15 55 28.4**	**0.0**
BALY	**Balya**	**1.39**	**80**	P	**Pn**	**15 55 28.4**	**0.0**
ALN	**Alexandroupoli**	**1.39**	**6**	P	**Pn**	**15 55 27.6**	**-0.8**
ALN				S	**Sg**	**15 55 48.0**	**-0.2**
ALN				AML	AML	15 55 49.2	
	comp=N,103μm,0.4s						
ALN				AML	AML	15 55 52.0	
	comp=E,46μm,0.4s						
ALN	**Alexandroupoli**	**1.39**	**6**	P	**Pn**	**15 55 27.9**	**-0.5**
ALN				S	**Sb**	**15 55 46.7**	**-0.1**
ALN	**Alexandroupoli**	**1.39**	**6**	P	**Pn**	**15 55 27.7**	**-0.7**
ALN				S	**Sb**	**15 55 46.7**	**-0.1**
KRBG	**Karabiga-Canak**	**1.42**	**51**	PN	**Pb**	**15 55 29.9**	**+0.3**
KRBG	**Karabiga-Canak**	**1.42**	**51**	*e*Pn	**Pb**	**15 55 29.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.45**	**95**	*i* P	**Pn**	**15 55 29.9**	**+0.7**
STEP				*i* S	**Sn**	**15 55 49.0**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.45**	**95**	P	**Pn**	**15 55 30.0**	**+0.7**
KESN	**Edirne-Kesan**	**1.46**	**26**	*i* P	**Pn**	**15 55 29.6**	**-0.1**
KESN	**Edirne-Kesan**	**1.46**	**26**	P	**Pn**	**15 55 29.5**	**-0.1**
GONE	**Gonen-Balikesi**	**1.51**	**69**	PN	**Pn**	**15 55 30.9**	**+0.8**
GONE	**Gonen-Balikesi**	**1.51**	**69**	*e*Pn	**Pn**	**15 55 30.9**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.55**	**41**	PN	**Pn**	**15 55 31.4**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.55**	**41**	*e*Pn	**Pn**	**15 55 31.4**	**+0.7**
BALB	**Balikesir**	**1.57**	**85**	PN	**Pb**	**15 55 32.5**	**+0.2**
BALB	**Balikesir**	**1.57**	**85**	*e*Pn	**Pb**	**15 55 32.5**	**+0.2**
RDO	**Rodhopi**	**1.65**	**352**	P	**Pn**	**15 55 31.9**	**0.0**
RDO	**Rodhopi**	**1.65**	**352**	P	**Pn**	**15 55 31.9**	**0.0**
AKHS	**Akhisar**	**1.65**	**112**	*i* P	**Pg**	**15 55 34.4**	**-0.8**
AKHS	**Akhisar**	**1.65**	**112**	P	**Pg**	**15 55 34.4**	**-0.8**
OUR	**Ouranopolis**	**1.65**	**300**	P	**Pn**	**15 55 32.7**	**+0.7**
OUR				S	**Sn**	**15 55 54.5**	**+1.4**
OUR	**Ouranopolis**	**1.65**	**300**	P	**Pn**	**15 55 32.4**	**+0.4**
OUR				S	**Sn**	**15 55 54.0**	**+0.9**
PAIG	**Paliouri**	**1.72**	**285**	P	**Pn**	**15 55 32.8**	**-0.1**
PAIG				S	**Sn**	**15 55 54.4**	**-0.4**
PAIG	**Paliouri**	**1.72**	**285**	P	**Pn**	**15 55 32.9**	**-0.1**
PAIG				S	**Sn**	**15 55 54.8**	**0.0**
EDC	**Edincik**	**1.76**	**61**	PN	**Pn**	**15 55 34.7**	**+1.2**
EDC	**Edincik**	**1.76**	**61**	*e*Pn	**Pn**	**15 55 34.7**	**+1.2**
KAVA	**Kavala**	**1.80**	**326**	P	**Pn**	**15 55 33.1**	**-1.0**
KAVA				S	**Sn**	**15 55 56.4**	**-0.3**
KAVA	**Kavala**	**1.80**	**326**	P	**Pn**	**15 55 33.6**	**-0.4**
KAVA				S	**Sn**	**15 55 56.7**	**0.0**
SBT3	**Marmara-Eregli**	**2.13**	**49**	PN	**Pb**	**15 55 40.6**	**-1.0**
SBT3	**Marmara-Eregli**	**2.13**	**49**	*e*Pn	**Pb**	**15 55 40.6**	**-1.0**
EDRB	**Edirne**	**2.43**	**16**	PN	**Pn**	**15 55 43.8**	**+1.1**
EDRB	**Edirne**	**2.43**	**16**	*e*Pn	**Pn**	**15 55 43.8**	**+1.1**
ARMT	**Armutlu**	**2.54**	**65**	PN	**Pn**	**15 55 46.1**	**+1.9**
ARMT	**Armutlu**	**2.54**	**65**	*e*Pn	**Pn**	**15 55 46.1**	**+1.9**
CTKS	**Kestanelik-??a**	**2.66**	**49**	PN	**Pn**	**15 55 47.5**	**+1.6**
CTKS	**Kestanelik-??a**	**2.66**	**49**	*e*Pn	**Pn**	**15 55 47.5**	**+1.6**

MAN 30 15:56:09,9.90N×122.98E,h1km,mb4.2,ML3.0,MS2.6, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.60**	**155**	*e*P	Pg	15 56 20.9	+0.3
SNPH				*i* S	Sg	15 56 28.7	+0.3
GUIM	**Jordan**	**0.82**	**332**	*e*P	Pg	15 56 25.2	+0.4
GUIM				*e*S	Sb	15 56 37.1	-0.6
MSLP	**Maasin**	**1.86**	**83**	*e*P	Pn	15 56 42.4	+0.3
MSLP				*e*S	Sb	15 57 07.2	-0.5
IPIL	**Ipil**	**2.13**	**191**	*e*P	Pn	15 56 46.6	+0.8

IDC 30 15:59:08.6±0.8,13°.67N×93°.81E,h0km,mb3.7/11, mb1 3.9/12,mb1mx3.6/64,mbtmp3.7/12,ML3.8/1, MS2.9/2,Ms1 3.0/2,ms1mx2.5/57,Error ellipse: s-maj=36.6km s-min=16.1km az=59.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.85**	**45**	Pn	Pn	16 00 48.7	-1.8
	0.5nm,0.3s,baz=242,slow=15,SNR=3.7						
CMAR				LR	LR	16 04 13.3	
	comp=Z,59nm,18.5s,baz=273,slow=44						
H08S3	**Diego Garcia H**	**29.94**	**226**	T	T	16 36 15.8	
	baz=42						
H08S2	**Diego Garcia H**	**29.94**	**226**	T	T	16 36 30.6	
	baz=42						
H08S1	**Diego Garcia H**	**29.96**	**226**	T	T	16 36 30.9	
	baz=42						
MKAR	**Makanchi Array**	**34.41**	**346**	P	P	16 05 57.4	-0.3
	0.5nm,0.5s,baz=169,slow=8.6,SNR=10						
SONM	**Songino Array**	**35.64**	**15**	P	P	16 06 09.6	+1.2
	0.3nm,0.6s,baz=202,slow=7.3,SNR=2.5						
KSRS	**Korea Array**	**38.49**	**46**	LR	LR	16 25 02.2	
	comp=Z,20nm,18.3s,baz=70,slow=40						
KURBB	**Kurchatov Arra**	**38.89**	**344**	P	P	16 06 35.0	-0.8
	0.8nm,0.6s,baz=165,slow=7.6,SNR=6.8						
ZALV	**Zalesovo Beam**	**40.80**	**352**	P	P	16 06 50.2	-1.5
	0.3nm,0.3s,baz=178,slow=6.7,SNR=3.0						
WRA	**Warramunga Arr**	**52.02**	**129**	P	P	16 08 20.9	+0.6
	0.6nm,0.8s,baz=319,slow=8.8,SNR=8.5						
WRA				PcP	PcP	16 09 30.4	-2.4
	0.3nm,0.9s,baz=318,slow=3.1,SNR=11						
ASAR	**Alice Springs**	**53.98**	**133**	P	P	16 08 35.7	+0.9
	0.4nm,0.4s,baz=309,slow=7.0,SNR=23						
ASAR				PcP	PcP	16 09 37.9	-2.2
	0.4nm,0.7s,baz=306,slow=3.9,SNR=3.7						
FINES	**FINESS Array B**	**67.48**	**331**	P	P	16 10 06.3	+0.1
	1.0nm,0.5s,baz=101,slow=7.4,SNR=6.8						
HFS	**Hagfors**	**73.33**	**329**	P	P	16 10 42.5	+0.5
	3.3nm,0.8s,baz=77,slow=6.2,SNR=4.4						
NOA	**NORSAR Array B**	**74.57**	**330**	P	P	16 10 49.3	0.0
	1.4nm,0.9s,baz=91,slow=5.6,SNR=2.5						
ESDC	**Sonseca Array**	**87.26**	**310**	P	P	16 11 58.3	+0.8
	0.1nm,0.3s,baz=68,slow=4.9,SNR=2.9						
ILAR	**Eielson Array**	**89.52**	**22**	P	P	16 12 09.3	+1.6
	0.2nm,0.6s,baz=303,slow=5.0,SNR=3.1						

IDC 30 16:13:18.4±2.6,17°.02N×95°.24E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.1/63,mbtmp3.1/3,ML3.2/1,Error ellipse: s-maj=33.5km s-min=22.7km az=122.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.81**	**67**	Pn	Pn	16 14 19.6	+1.1
	0.4nm,0.3s,baz=252,slow=15,SNR=9.7						
CMAR				Pg	Pb	16 14 28.7	+2.1
	0.3nm,0.3s,baz=248,slow=17,SNR=4.7						
CMAR				Sn	Sn	16 15 04.1	+0.1
	0.4nm,0.3s,baz=252,slow=19,SNR=4.2						
CMAR				Lg	Lg	16 15 18.3	
	0.3nm,0.3s,baz=251,slow=32,SNR=5.4						
WRA	**Warramunga Arr**	**53.14**	**132**	P	P	16 22 38.5	+0.1
	0.3nm,0.9s,baz=316,slow=7.1,SNR=2.9						
ASAR	**Alice Springs**	**55.33**	**136**	P	P	16 22 53.7	-0.7
	0.3nm,0.9s,baz=309,slow=6.6,SNR=2.8						

*ISCJB **30** 16:21:59.5±0.8,38°.14N±0°.05×73°.8E±0°.1,h150km,Error ellipse: s-maj=17.1km s-min=4.8km az=160.2*

*NNC **30** 16:22:04.3±1.9,38°.47N×73°.45E,h165km±10km,mb2.5, mpv3.6,Error ellipse: s-maj=19.6km s-min=15.9km az=88.0*

*KRNET **30** 16:22:35.7±0.1,41°.93N×71°.91E,h15km,mb2.2*

ISC 30 16:21:58.7±1.1,38°.09N±0°.08×73°.6E±0°.1,h150km,n21, σ1§67/24,7C-5D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.92**	**359**	⇓P	**Pn**	**16 22 35.0**	**+1.9**
	20nm,0.3s						
SFK				⇑S	**Sn**	**16 23 00.2**	**+0.6**
	61nm,0.2s						
AML	**Almayashu**	**4.04**	**2**	P	**Pn**	**16 23 00.8**	**+1.1**
	SNR=26						
AML	**Almayashu**	**4.04**	**2**	⇑*i*P	**Pn**	**16 23 01.9**	**+2.2**
	baz=81						
KZA	**Kyzart**	**4.19**	**18**	P	**Pn**	**16 23 02.7**	**+1.0**
	SNR=8.8						
UCH	**Uchtor**	**4.20**	**10**	P	**Pn**	**16 23 03.2**	**+1.4**
	SNR=29						
UCH	**Uchtor**	**4.20**	**10**	⇑*i*P	Pn	16 23 12.2	+10
	baz=80						
UCH				⇑*i*S	Sn	16 23 38.9	-12
	baz=80						
MNAS	**Manas**	**4.46**	**350**	⇑P	**Pn**	**16 23 06.4**	**+1.3**
	9.5nm,0.4s						
MNAS				⇓S	**Sn**	**16 23 55.7**	**-1.1**
	3.9nm,0.4s						
MNAS	**Manas**	**4.46**	**350**	⇓*i*S	Pn	16 23 00.0	-5.1
	baz=38						
EKS2	**Erkin-Say**	**4.57**	**2**	P	**Pn**	**16 23 08.2**	**+1.8**
	SNR=10						
AAK	**Ala-Archa**	**4.60**	**9**	⇓P	**Pn**	**16 23 09.6**	**+2.7**
	1.6nm,0.4s						
AAK				⇑S	**Sn**	**16 23 57.6**	**-2.5**
	3.4nm,0.7s						
TKM2	**Tokmak 2**	**5.07**	**17**	⇓P	**Pn**	**16 23 14.6**	**+1.5**
	4.5nm,0.5s						
TKM2				⇑S	**Sn**	**16 24 09.7**	**-1.6**
	2.3nm,0.5s						
TKM2	**Tokmak 2**	**5.07**	**17**	P	**Pn**	**16 23 14.7**	**+1.5**
	SNR=14						
KK31	**Karatay Array**	**5.51**	**336**	P	**Pn**	**16 23 20.1**	**+1.3**
	5.3nm,0.3s,baz=130,slow=12,SNR=45						
KK31				S	**Sn**	**16 24 17.8**	**-3.8**
	8.9nm,0.5s,baz=155,slow=24,SNR=17						
PYUN	**Piuthan**	**12.71**	**139**	*e*P	**Pn**	**16 24 54.0**	**-0.4**
	10.0nm,0.4s						
DANN	**Dangsing**	**12.93**	**136**	*e*P	**Pn**	**16 24 55.9**	**-1.3**
KOLN	**Koldanda**	**13.30**	**138**	*e*P	**Pn**	**16 25 02.3**	**+0.4**
	5.0nm,0.4s						
GKN	**Gorkha**	**13.69**	**134**	*e*P	**Pn**	**16 25 06.5**	**-0.3**
KKN	**Kakani**	**14.22**	**133**	*e*P	**Pn**	**16 25 13.6**	**+0.1**
	2.9nm,0.4s						
DMN	**Daman**	**14.26**	**134**	*e*P	**Pn**	**16 25 13.6**	**-0.4**
	2.2nm,0.3s						
JIRN	**Jiri**	**14.85**	**131**	*e*P	**P**	**16 25 22.9**	**-0.7**
	7.9nm,0.3s						
AB31	**Akbulak array**	**14.86**	**323**	P	**P**	**16 25 23.6**	**+0.6**
	0.2nm,0.3s,baz=129,slow=13,SNR=6.6						

*IDC **30** 16:30:40.3±2.4,11°.06S×123°.98E,h0km,mb3.5/1, mb1 3.4/3,mb1mx3.2/44,mbtmp3.2/3,ML2.7/2,MS2.7/1, Ms1 2.7/1,ms1mx2.2/34,Error ellipse: s-maj=126.8km s-min=21.8km az=62.0*

*ISCJB **30** 16:30:43.3±0.9,10°.76S±0°.09×124°.52E±0°.09,h33km, mb3.3/1,MS2.7/1,Error ellipse: s-maj=17.1km s-min=7.3km az=136.4*

*DJA **30** 16:30:43.7±1.4,11°.S±7°×12°.4E±°,h10km,M2.5/3, MLv2.5/3*

ISC 30 16:30:44.9±1.2,10°.7S±0°.1×124°.5E±0°.1,h35km,n7, σ1§24/9,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.95**	**302**	Pn	**Pn**	**16 31 00.4**	**-1.3**
	9.8nm,0.3s,baz=157,slow=4.4,SNR=9.1						
BATI				Sn	**Sn**	**16 31 14.7**	**+0.6**
	8.1nm,0.3s,baz=197,slow=19,SNR=4.0						
BATI	**Baumata**	**0.95**	**302**	P	**Pn**	**16 31 00.2**	**-1.5**
BATI				S	**Sn**	**16 31 15.2**	**+1.1**
SOEI	**Soe**	**0.97**	**348**	P	**Pn**	**16 31 01.2**	**-1.0**
SOEI				S	**Sn**	**16 31 15.3**	**+0.4**
WRA	**Warramunga Arr**	**13.21**	**135**	Pn	**Pn**	**16 33 49.6**	**-0.5**
	0.1nm,0.3s,baz=307,slow=13,SNR=2.6						
ASAR	**Alice Springs**	**15.71**	**146**	Pn	**Pn**	**16 34 24.6**	**+1.0**
	0.0nm,0.3s,baz=318,slow=11,SNR=2.9						
JNU	**Nakatsue**	**44.02**	**8**	LR	LR	16 57 12.4	
	comp=Z,9.9nm,21.5s,baz=118,slow=36						
MKAR	**Makanchi Array**	**68.52**	**330**	P	**P**	**16 41 44.8**	**+1.0**
	0.4nm,1.0s,baz=124,slow=7.7,SNR=2.7						

*IDC **30** 17:06:35.1±2.3,38°.72N×145°.04E,h0km,mb3.5/2, mb1 3.6/4,mb1mx3.2/63,mbtmp3.4/4,ML3.1/2,MS2.9/1, Ms1 2.9/1,ms1mx2.2/44,Error ellipse: s-maj=59.7km s-min=34.3km az=78.0*

*ISCJB **30** 17:06:37.5±0.9,38°.87N±0°.05×144°.82E±0°.08,h33km, mb3.6/2,MS2.8/1,Error ellipse: s-maj=9.4km s-min=5.5km az=27.5*

*JMA **30** 17:06:40.4±0.2,38°.76N×144°.57E,h43km,M3.1*

ISC 30 17:06:39.7±1.4,38°.85N±0°.07×144°.76E±0°.09,h35km,n19, σ1§00/21,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.40**	**289**	P	**Pn**	**17 07 16.9**	**+0.4**
OFUJ	**Ofunato**	**2.42**	**276**	P	**Pn**	**17 07 17.0**	**+0.2**
JTH	**Tanohata**	**2.50**	**297**	*e*S	**Sn**	**17 07 46.8**	**-0.3**
JMK	**Ichinoseki**	**2.77**	**273**	P	**Pn**	**17 07 22.0**	**+0.5**
JOM	**Ohasama**	**2.77**	**284**	P	**Pn**	**17 07 22.3**	**+0.7**
JANG	**Nango**	**2.93**	**302**	P	**Pn**	**17 07 24.4**	**+0.5**
JYK	**Kaneyama**	**3.44**	**273**	P	**Pn**	**17 07 31.7**	**+0.9**
JYK				*e*S	**Sn**	**17 08 10.0**	**-0.3**
JFT	**Otama**	**3.73**	**251**	P	**Pn**	**17 07 35.2**	**+0.3**
JFT				*e*S	**Sn**	**17 08 16.4**	**-1.2**
JCH	**Churui**	**3.91**	**345**	*e*S	**Sn**	**17 08 21.5**	**-0.4**
NEM2	**Nemuro 2**	**4.57**	**9**	P	**Pn**	**17 07 45.6**	**-0.7**
NEM2				*e*S	**Sn**	**17 08 35.8**	**-2.4**
JTKR	**Abashiri--Toko**	**5.16**	**353**	P	**Pn**	**17 07 55.6**	**+1.2**
JTKR				*e*S	**Sn**	**17 08 51.8**	**-0.8**
JRY	**Ryogami san**	**5.45**	**241**	P	**Pn**	**17 07 57.7**	**-0.8**
ASAJ	**Asahikawa**	**5.51**	**344**	Pn	**Pn**	**17 08 01.0**	**+1.7**
	0.3nm,0.3s,baz=166,slow=18,SNR=6.0						
ASAJ				Sn	Sn	17 08 49.3	-12
	0.4nm,0.3s,baz=17,slow=19,SNR=4.1						
MJAR	**Matsushiro Arr**	**5.68**	**248**	Pn	**Pn**	**17 08 02.7**	**+1.0**
	1.3nm,0.3s,baz=60,slow=13,SNR=14						
MAT	**Matsushiro**	**5.69**	**248**	P	**Pn**	**17 08 02.6**	**+0.9**
SONM	**Songino Array**	**29.06**	**301**	LR	LR	17 25 03.8	
	comp=Z,20nm,19.4s,baz=13,slow=38						
WRA	**Warramunga Arr**	**59.29**	**191**	P	**P**	**17 16 37.9**	**0.0**
	0.4nm,0.6s,baz=9.9,slow=7.3,SNR=6.4						
ASAR	**Alice Springs**	**63.01**	**191**	P	**P**	**17 17 03.3**	**+0.2**
	0.4nm,0.8s,baz=8.5,slow=7.4,SNR=4.3						
SFJD	**Kangerlussuaq**	**73.83**	**6**	*i* P	P	17 18 19.1	+8.9

*IDC **30** 17:21:04.2±0.6,21°.31S×174°.58W,h0km,mb4.3/14, mb1 4.5/15,mb1mx4.3/48,mbtmp4.3/15,ML4.3/1,MS4.1/16, Ms1 4.1/16,ms1mx3.9/44,Error ellipse: s-maj=26.4km s-min=16.5km az=128.0*

*BJI **30** 17:21:04.6,21°.19S×174°.65W,h10km,mb5.2/16, mB5.6/14,Ms5.2/6,Ms7 4.9/4*

*ISCJB **30** 17:21:06.7±0.2,21°.30S±0°.03×174°.61W±0°.06,h30km, mb4.9/72,MS4.3/15,Error ellipse: s-maj=9.0km s-min=4.4km az=17.4*

*NEIC **30** 17:21:08.5±4.0,21°.28S×174°.57W,h31km±27km,mb4.9/53, Error ellipse: s-maj=11.5km s-min=7.5km az=100.0*

*MOS **30** 17:21:09.8±2.3,20°.85S×174°.77W,h33km,mb5.3/10, Error ellipse: s-maj=12.4km s-min=11.1km az=146.3*

*WEL **30** 17:21:27.3±1.1,22°.S±8°×17°.8W±2°.6,h33km,ML5.9/1*

ISC 30 17:21:08.2±0.4,21°.28S±0°.06×174°.54W±0°.08,h30km, n218,σ1§55/203,mb5.0/72,MS4.2/15,15C-10D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.79**	**20**	Pn	**Pn**	**17 22 55.1**	**-4.6**
	10nm,0.3s,baz=86,slow=4.9,SNR=14						
AFI				Sn	Sn	17 24 15.3	-12
	5.0nm,0.3s,baz=153,slow=18,SNR=2.8						
AFI				LR	LR	17 26 00.6	
	comp=Z,1μm,19.3s,baz=195,slow=38						
AFI	**Afiamalu**	**7.79**	**20**	*e*P	Pn	17 22 53.9	-5.8
AFI				*e*		17 24 14.1	
AFI	**Afiamalu**	**7.79**	**20**	*e*Pn	Pn	17 22 53.9	-5.7
AFI				*e*Sn	Sn	17 24 14.1	-13
MSVF	**Nonsavu**	**7.83**	**296**	*e*P	**Pn**	**17 23 00.6**	**+0.3**
MSVF	**Nonsavu**	**7.83**	**296**	*e*Pn	**Pn**	**17 23 00.6**	**+0.3**
GLKZ	**Green Lake**	**8.52**	**200**	P	**Pn**	**17 23 07.7**	**-1.8**
GLKZ	**Green Lake**	**8.52**	**200**	S	**Sn**	**17 24 39.4**	**-5.3**
RAR	**Rarotonga**	**13.77**	**92**	Pn	Pn	17 24 09.1	-12
	12nm,0.3s,baz=239,slow=9.5,SNR=21						
RAR				Sn	Sn	17 26 25.4	-28
	1.8nm,0.3s,baz=87,slow=17,SNR=3.2						
RAR				LR	LR	17 30 01.4	
	comp=Z,644nm,18.4s,baz=271,slow=39						
DZM	**Mont Dzumac**	**17.70**	**264**	Pn	**P**	**17 25 16.3**	**+2.9**
	0.3nm,0.3s,baz=76,slow=19,SNR=5.4						
DZM				LR	LR	17 31 03.7	
	comp=Z,951nm,18.8s,baz=105,slow=34						
DZM	**Mont Dzumac**	**17.70**	**264**	*e*P	**P**	**17 25 16.5**	**+3.1**
	74nm,1.2s						
DZM				*e*LR	LR	17 29 05.6	
	764nm,21.4s						
DZM	**Mont Dzumac**	**17.70**	**264**	*e*Pn	**P**	**17 25 15.8**	**+2.4**
	24nm,0.9s						
PUZ	**Puketiti**	**17.86**	**199**	P	**P**	**17 25 18.0**	**+3.1**
PUZ	**Puketiti**	**17.86**	**199**	S	Sn	17 28 14.7	-18
TWGZ	**Tauwhareparae**	**18.04**	**199**	P	**P**	**17 25 18.5**	**+1.6**
TWGZ	**Tauwhareparae**	**18.04**	**199**	S	Sn	17 28 21.6	-15
MWZ	**Matawai**	**18.32**	**200**	P	**Pn**	**17 25 20.8**	**+0.6**
MWZ	**Matawai**	**18.32**	**200**	S	Sn	17 28 26.5	-17
URZ	**Urewera**	**18.39**	**201**	P	**P**	**17 25 20.8**	**0.0**
	0.9nm,0.3s,baz=33,slow=3.7,SNR=8.2						
URZ				S	Sn	17 28 25.5	-20
	0.2nm,0.3s,baz=162,slow=19,SNR=2.5						
URZ	**Urewera**	**18.39**	**201**	*e*P	**P**	**17 25 19.5**	**-1.3**
	20nm,1.0s						
URZ	**Urewera**	**18.39**	**201**	P	**P**	**17 25 20.5**	**-0.3**
URZ	**Urewera**	**18.39**	**201**	S	Sn	17 28 24.9	-21
RAGZ	**Rawiri**	**18.51**	**200**	P	**Pn**	**17 25 23.6**	**+1.2**
RAGZ	**Rawiri**	**18.51**	**200**	S	Sn	17 28 34.2	-14
BKZ	**Black Stump Fm**	**19.42**	**201**	*e*P	**P**	**17 25 31.4**	**-0.7**
	17nm,1.1s						
BKZ	**Black Stump Fm**	**19.42**	**201**	P	**P**	**17 25 31.5**	**-0.7**
BKZ	**Black Stump Fm**	**19.42**	**201**	S	S	17 28 58.6	-11
HIZ	**Hauiti**	**19.45**	**206**	*e*P	**P**	**17 25 33.1**	**+0.7**
	37nm,1.2s						
HIZ	**Hauiti**	**19.45**	**206**	P	**Pn**	**17 25 35.0**	**+1.2**
KWHZ	**Kaweka Forest**	**19.67**	**201**	P	**Pn**	**17 25 35.8**	**-0.7**
BHHZ	**Black Hill Sta**	**19.86**	**202**	P	**P**	**17 25 35.5**	**-1.4**
KAHZ	**Kahuranaki**	**19.86**	**200**	P	**Pn**	**17 25 38.0**	**-0.7**
BFZ	**Birch Farm**	**20.87**	**200**	*e*P	**P**	**17 25 48.1**	**+0.3**
	45nm,1.0s						
BFZ	**Birch Farm**	**20.87**	**200**	P	**P**	**17 25 48.0**	**+0.3**
BFZ	**Birch Farm**	**20.87**	**200**	S	S	17 29 24.9	-14
MRZ	**Mangatainoka R**	**21.07**	**201**	P	**P**	**17 25 50.0**	**0.0**
MRZ	**Mangatainoka R**	**21.07**	**201**	S	S	17 29 25.9	-17
SNZO	**South Karori**	**21.95**	**202**	*e*P	**P**	**17 25 57.9**	**-1.4**
	53nm,1.0s						
THZ	**Tophouse**	**23.01**	**205**	*e*P	**P**	**17 26 08.6**	**-2.1**
	14nm,0.9s						
KHZ	**Kahutara**	**23.33**	**203**	*e*P	**P**	**17 26 11.9**	**-2.0**
	17nm,1.0s						
PPT2	**Papeete2**	**23.82**	**85**	*e*S	S	17 30 19.6	-13
	599nm,25.8s						
PPT2				*e*LR	LR	17 31 54.7	
	522nm,23.2s,baz=258						
LTZ	**Lake Taylor**	**24.12**	**204**	*e*P	**P**	**17 26 20.1**	**-1.4**
	17nm,0.7s						
OXZ	**Oxford**	**24.68**	**204**	*e*P	**P**	**17 26 25.0**	**-1.5**
	18nm,0.8s						
MQZ	**McQueen's Vall**	**24.78**	**203**	*e*P	**P**	**17 26 30.1**	**+2.8**
	31nm,1.4s						
RPZ	**Rata Peaks**	**25.38**	**205**	P	**P**	**17 26 32.3**	**-0.6**
	8.6nm,0.7s,baz=30,slow=11,SNR=4.6						
RPZ	**Rata Peaks**	**25.38**	**205**	*e*P	**P**	**17 26 32.1**	**-0.8**
	14nm,0.8s						
TARA	**Tarawa**	**25.62**	**330**	*e*P	**P**	**17 26 34.5**	**-0.8**
	231nm,1.5s						
LHI	**Lord Howe Isla**	**25.69**	**241**	*e*P	**P**	**17 26 35.0**	**-0.8**
	84nm,1.0s						
FOZ	**Fox Glacier**	**25.74**	**207**	*e*P	**P**	**17 26 37.6**	**+1.5**

comp=Z,189nm,18.0s,baz=128,slow=37
MBWA Marble Bar 60.84 257 *e*P **P 17 31 17.0 -1.2**
comp=Z,16nm,1.3s
NWAO Narrogin (SRO) 60.91 243 LR LR 17 56 41.8
comp=Z,112nm,19.2s,baz=354,slow=35
CASY Casey 64.65 206 *e*P **P 17 31 43.5 +0.7**
comp=Z,17nm,1.2s
DAV Davao City (W) 65.14 289 LR LR 17 59 09.4
comp=Z,93nm,18.0s,baz=119,slow=35
QSPA South Pole Qui 68.80 180 LR LR 18 00 23.8
comp=Z,127nm,18.6s,baz=241,slow=34
QSPA South Pole Qui 68.80 180 *e*P **P 17 32 10.9 +1.5**
comp=Z,8.8nm,1.1s
JHJ2 Mitsune 69.45 320 *e*P **P 17 32 12.6 -1.2**
comp=Z,453nm,1.1s
MJAR Matsushiro Arr 72.79 322 P **P 17 32 35.0 +1.0**
comp=Z,3.1nm,1.0s,baz=140,slow=8.3,SNR=4.8
MJAR LR LR 18 04 55.5
comp=Z,64nm,18.1s,baz=170,slow=36
MJAR Matsushiro Arr 72.79 322 P **P 17 32 35.0 +1.0**
MAJO Matsushiro 72.79 322 *e*P **P 17 32 35.0 +1.0**
MAJO Matsushiro 72.79 322 *e*P **P 17 32 35.0 +1.0**
LEM Lembang 76.25 268 P **P 17 32 56.0 +1.2**
LEM pmax pmax
comp=Z,145nm,0.8s
TPUB Ta-pu 77.13 301 *e*P **P 17 32 57.7 -1.6**
comp=Z,14nm,1.0s
ISA Isabella, Lake 77.61 44 *e*P **P 17 33 01.0 -0.8**
ISA pmax pmax
comp=Z,10.0nm,1.3s
ISA Isabella, Lake 77.61 44 *e*P **P 17 33 01.0 -0.8**
comp=Z,10nm,1.3s
PETK Petropavlovsk- 77.90 343 P **P 17 33 05.1 +2.2**
comp=Z,2.6nm,0.7s,baz=100,slow=8.6,SNR=4.2
PEA1 Petropavlovsk- 77.90 343 *e*P **P 17 33 05.1 +2.2**
YSS Yuzh-Sakhalins 78.08 332 *e*P P 17 33 19.7 +16
NV01 Mina Array Sit 79.41 42 *e*P **P 17 33 12.1 +0.3**
NVAR Mina Array Bea 79.41 42 P **P 17 33 12.2 +0.3**
comp=Z,3.2nm,0.9s,baz=224,slow=8.8,SNR=8.7
KSRS Korea Array 79.64 317 P **P 17 33 13.7 +0.9**
comp=Z,2.4nm,0.9s,baz=127,slow=3.6,SNR=8.0
KSRS LR LR 18 03 03.2
comp=Z,35nm,20.8s,baz=160,slow=32
KS15 Wonju Array Si 79.66 317 *e*P **P 17 33 12.7 -0.2**
KSAR Wonju Array Be 79.66 317 P **P 17 33 13.7 +0.8**
KSAR Wonju Array Be 79.66 317 P **P 17 33 13.7 +0.8**
KVN Kaiserville 79.92 41 *e*P **P 17 33 17.9 +3.3**
KVN pmax pmax
comp=Z,6.0nm,1.3s
KVN Kaiserville 79.92 41 *e*P **P 17 33 17.9 +3.3**
comp=Z,5.8nm,1.3s
NJ2 Nanjing 82.88 308 *e*P **P 17 33 29.0 -1.2**
NJ2 pmax pmax
comp=Z,13nm,0.5s
MTPU Mount Pierson 83.09 45 *e*P **P 17 33 29.5 -2.1**
comp=Z,8.8nm,1.4s
SUA Susitna One 84.65 11 *e*P **P 17 33 39.0 +0.3**
comp=Z,14nm,1.2s
F10A Beach Ranch, E 84.68 36 *e*P **P 17 33 39.3 +0.1**
comp=Z,39nm,1.1s
LTX Lajitas 84.78 56 *e*P **P 17 33 40.4 +0.3**
LTX Lajitas 84.78 56 *e*P **P 17 33 40.4 +0.3**
TXAR Lajitas Array 84.78 56 P **P 17 33 40.4 +0.3**
comp=Z,0.6nm,0.9s,baz=205,slow=5.5,SNR=4.7
GAMB Gambell 84.80 1 *e*P **P 17 33 39.6 +0.4**
comp=Z,10nm,1.0s
KLR Kul'dur 84.87 328 *i*P **P 17 33 40.3 +0.4**
CN2 Changchun 84.91 321 *e*P **P 17 33 41.3 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
GHO Glory Hole Cre 85.27 12 *e*P **P 17 33 42.5 +0.7**
comp=Z,26nm,1.2s
ANMO Albuquerque 85.40 50 P **P 17 33 43.1 -0.1**
comp=Z,2.4nm,0.9s,baz=31,slow=5.2,SNR=4.2
ANMO Albuquerque 85.40 50‖ *e*P **P 17 33 43.2 0.0**
ANMO Albuquerque 85.40 50 *e*P **P 17 33 44.0 +0.8**
comp=Z,5.5nm,1.1s
SCM Sheep Creek Mo 85.64 13 *e*P **P 17 33 42.3 -1.3**
SCM pmax pmax
comp=Z,41nm,1.3s
SCM Sheep Creek Mo 85.64 13 *e*P **P 17 33 42.3 -1.3**
comp=Z,41nm,1.3s
CAST Castle Rocks 86.24 10 *e*P **P 17 33 46.0 -0.5**
comp=Z,7.5nm,1.0s
TRF Thorofare Moun 86.57 11 *e*P **P 17 33 48.4 +0.1**
comp=Z,15nm,0.8s
DHY Denali Highway 86.76 12 *e*P **P 17 33 50.1 +0.9**
comp=Z,12nm,1.3s
RND Reindeer 86.78 11 *e*P **P 17 33 49.4 +0.2**
RND pmax pmax
comp=Z,31nm,1.2s
RND Reindeer 86.78 11 *e*P **P 17 33 49.4 +0.2**
comp=Z,31nm,1.2s
MCK McKinley 87.07 11 *e*P **P 17 33 49.8 -0.8**
MCK pmax pmax
comp=Z,22nm,1.1s
MCK McKinley 87.07 11 *e*P **P 17 33 49.8 -0.8**
comp=Z,22nm,1.1s
SNAA Sanae 87.12 177 LR LR 18 12 12.1
comp=Z,105nm,18.7s,baz=176,slow=35
PD31 Pinedale Array 87.34 42 *e*P **P 17 33 53.5 +0.9**
PDAR Pinedale Array 87.34 42 P **P 17 33 55.0 +2.4**
comp=Z,0.5nm,0.8s,baz=162,slow=1.4,SNR=4.1
RIDG Independ'e Rid 87.87 13 *e*P **P 17 33 53.2 -1.2**
comp=Z,16nm,1.4s
WRH Wood River Hil 87.90 11 *e*P **P 17 33 52.7 -1.7**
comp=Z,19nm,1.2s
SEY Seymchan 87.90 346 P **P 17 33 55.2 +0.7**
baz=127,slow=10
SEY Seymchan 87.90 346 *i*P **P 17 33 55.1 +0.6**
DOT Dot Lake 87.95 13 *e*P **P 17 33 53.2 -1.6**
comp=Z,23nm,1.0s
CCB Clear Creek Bu 88.11 11 *e*P **P 17 33 53.2 -2.2**
comp=Z,24nm,1.5s
ILAR Eielson Array 88.39 11 P **P 17 33 57.3 +0.5**
comp=Z,3.5nm,1.1s,baz=217,slow=5.2,SNR=10
ILB Eielson Array 88.39 11 *e*P **P 17 33 56.8 0.0**
ENH Enshi 89.17 303 *e*P **P 17 34 02.3 +1.0**
comp=Z,31nm,1.5s
GYA Guiyang 89.86 298 *e*P **P 17 34 05.0 +0.3**
GYA PP **PP 17 37 40.3 +2.5**
GYA SKS **SKSac 17 44 33.5 -0.3**
GYA S **S 17 44 55.0 -0.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
XAN Xi'an 91.19 306 P **P 17 34 11.5 +0.8**
XAN pmax pmax
comp=Z,130nm,3.5s
HHC Hu-ho-hao-te 92.23 313 *e*P **P 17 34 16.5 +1.1**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,77nm,8.6s
KMI Kunming 92.59 296 P **P 17 34 17.8 +0.2**
KMI pmax pmax
comp=Z,7.0nm,0.6s
KMI pmax pmax
comp=Z,120nm,4.4s
CM31 Chiang Mai Arr 93.43 288 *e*P **P 17 34 18.1 -3.2**
CMAR Chiang Mai Arr 93.43 288 P **P 17 34 23.6 +2.3**
comp=Z,1.9nm,0.9s,baz=129,slow=2.7,SNR=13
CD2 Chengdu 93.94 302 *e*P **P 17 34 23.3 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YAK Yakutsk 94.07 337 *i*P **P 17 34 27.1 +3.9**
YAK pmax pmax
comp=Z,4.0nm,0.9s
LZH Lanzhou 95.82 306 *e*P **P 17 34 33.5 +1.4**
LZH pP pP 17 34 37.3 -4.5
LZH sP sP 17 34 38.8 -6.5
LZH SKS **SKSac 17 45 05.8 -0.8**
LZH *e*S **S 17 45 42.8 -5.5**
LZH sS ScS 17 45 54.5 +5.5
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,230nm,9.6s
LZH LR LR
comp=Z,310nm,17.0s
LZH LR LR
comp=Z,210nm,17.1s
LZH LR LR
comp=Z,510nm,18.2s
MK32 Makanchi Array 114.09 313 *e*PKiKP PKPdf 17 39 44.2 -0.3
MKAR Makanchi Array 114.09 313 PKP PKPdf 17 39 44.2 -0.3
comp=Z,0.2nm,0.8s,baz=77,slow=3.3,SNR=2.5
KURK Kurchatov 116.76 317 *e*PKIKP **PKPdf 17 39 48.4 -1.1**
KURK Kurchatov 116.76 317 *e*PKPdf **PKPdf 17 39 48.4 -1.1**
KURBB Kurchatov Arra 116.82 317 PKP **PKPdf 17 39 48.4 -1.2**
comp=Z,0.5nm,0.9s,baz=84,slow=1.9,SNR=2.8
KSH Kashi 117.99 304 *e*PKP **PKPdf 17 39 55.0 +2.6**
BVAR Borovoye Array 121.75 320 PKP **PKPdf 17 39 58.1 -1.0**
comp=Z,0.4nm,0.4s,baz=261,slow=36,SNR=3.1
ARU Arti 127.67 326 *i*PKIKP **PKPdf 17 40 10.6 +0.4**
ARU 17 47 19.0
ARA0 ARCESS Array S 130.23 351 *e*PKPdf **PKPdf 17 40 17.1 +2.3**
ARCES ARCESS Array B 130.23 351 PKP **PKPdf 17 40 17.1 +2.3**
comp=Z,4.6nm,1.0s,baz=20,slow=3.9,SNR=4.9
MAK Makhachkala 138.89 312 *e*P **Pdif 17 37 41.0 -2.4**
MAK *i* 17 40 32.1
MAK *e* 17 43 22.2
MAK pmax pmax
comp=Z,75nm,1.2s
AKASG Malin Array Be 145.21 333 PKPbc **PKPab 17 40 42.4 -0.1**
comp=Z,1.7nm,0.6s,baz=35,slow=4.1,SNR=20
AKBB Malin Array Si 145.21 333 *e*PKIKP **PKPab 17 40 42.4 -0.1**
AKBB Malin Array Si 145.21 333 *e*PKPbc **PKPab 17 40 42.4 -0.1**
EKA Eskdalemuir Ar 145.38 9 PKPbc **PKPab 17 40 44.0 +1.0**
comp=Z,1.2nm,0.7s,baz=347,slow=2.9,SNR=3.0
EKA Eskdalemuir Ar 145.38 9 *e*PKIKP **PKPab 17 40 44.0 +1.0**
SORM Soroca 147.50 331⇑ PKP2 **PKPbc 17 40 49.9 +0.6**
SORM Soroca 147.50 331⇑ *i*P **PKPbc 17 40 49.8 +0.5**
LVV L'vov 147.94 337 *e*PKP2 **PKPab 17 40 51.7 -1.4**
STHS Stebnicka Huta 149.24 340 *e*PKP2 **PKPab 17 40 59.4 +1.0**
STHS Stebnicka Huta 149.24 340 *e*PKP **PKPab 17 40 59.4 +1.0**
BURAR Bucovina Array 149.27 333‖ PKP2 **PKPab 17 41 01.5 +2.9**
BURAR Bucovina Array 149.27 333‖ *i*P **PKPab 17 41 01.5 +2.9**
KSP Ksiaz 149.29 347 *e*PKP **PKPbc 17 40 55.4 +1.5**
CLL Collm 149.45 351 *i*PKP2 **PKPbc 17 40 55.2 +0.9**
CLL pmax pmax
comp=Z,28nm,1.7s
CLL Collm 149.45 351 *i*PKPbc **PKPbc 17 40 55.2 +0.9**
comp=Z,28nm,1.7s
CLL *e*PKPab **PKPab 17 41 00.0 +0.9**
CLL *i* 17 41 01.4
NIE Niedzica 149.54 341 *e*PKP **PKPbc 17 40 57.0 +2.4**
UZH Uzhgorod 149.56 338 *e*PKIKP **PKPbc 17 40 53.4 -1.2**
UZH *e* 17 40 55.7
UZH *e* 17 41 04.6
CRVS Cervenica-Dubn 149.62 339 *e*PKP2 **PKPab 17 41 00.8 +0.9**
CRVS Cervenica-Dubn 149.62 339 *e*PKP **PKPab 17 41 00.8 +0.9**
BRG Berggiesshubel 149.72 349 *e*PKP **PKPbc 17 40 56.3 +1.3**
comp=Z,7.5nm,1.1s
BRG Berggiesshubel 149.72 349 *e*PKP2 **PKPbc 17 40 56.3 +1.3**
BRG pmax pmax
comp=Z,8.0nm,1.1s
BR101 Keskin Array S 149.74 314 *e*PKPbc **PKPbc 17 40 55.3 -0.3**
BRTR Keskin Array B 149.74 314 PKPbc **PKPbc 17 40 55.3 -0.3**
comp=Z,0.9nm,0.7s,baz=132,slow=2.1,SNR=5.4
CFR Carcaliu 149.74 327⇑ PKP2 **PKPab 17 41 00.1 -0.3**
CFR Carcaliu 149.74 327⇑ *i*P **PKPab 17 41 00.1 -0.3**
DPC Dobruska-Polom 149.75 346 *e*PKP2 **PKPbc 17 40 57.0 +1.9**
DPC Dobruska-Polom 149.75 346⇑ *e*PKP **PKPbc 17 40 57.0 +1.9**
DPC *e*pPKP **sPKPdf 17 41 03.0 -0.7**
DPC *e*sPKP 17 41 10.8
VRI Vrincioaia 149.93 330‖ PKP2 **PKPab 17 41 01.9 +0.6**
VRI Vrincioaia 149.93 330‖ *i*P **PKPab 17 41 01.9 +0.6**
PLOR Plostina 149.98 330‖ PKP2 **PKPab 17 41 02.7 +1.2**
PLOR Plostina 149.98 330‖ *i*P **PKPab 17 41 02.7 +1.2**
MORC Moravsky Berou 149.99 344‖ PKP2 **PKPbc 17 40 57.3 +1.6**
MORC Moravsky Berou 149.99 344‖ *i*P **PKPbc 17 40 57.3 +1.6**
LANS Liptovska Anna 150.03 341 *e*PKP2 **PKPab 17 41 00.2 -1.4**
LANS Liptovska Anna 150.03 341 *e*PKP **PKPab 17 41 00.2 -1.4**
BR231 Keskin MP Arra 150.26 315 *e*PKPbc **PKPbc 17 40 55.6 -1.2**
BR231 *e*PKPab **PKPab 17 41 03.5 +0.5**
PRU Pruhonice 150.46 348 *e*PKIKP **PKPab 17 41 00.1 -3.2**
PRU Pruhonice 150.46 348⇑ *e*PKP **PKPab 17 41 00.1 -3.2**
GOPC GO Pecny, Ondr 150.49 348 *e*PKIKP **PKPbc 17 40 58.1 +1.2**
GOPC MLR MLR
comp=Z,2μm,17.8s
GOPC GO Pecny, Ondr 150.49 348⇑ *e*PKP **PKPbc 17 40 58.1 +1.2**
MLR Muntele Rosu 150.58 330⇑ PKIKP **PKPab 17 41 02.3 -1.8**
MLR Muntele Rosu 150.58 330⇑ *i*P **PKPab 17 41 02.3 -1.8**
VRAC Vranov 150.66 345⇑ PKIKP **PKPab 17 41 03.2 -0.9**
VRAC Vranov 150.66 345⇑ *i*P **PKPab 17 41 03.2 -0.9**
PSZ Piszkesteto 150.99 340⇑ PKIKP **PKPab 17 41 08.4 +2.8**
PSZ Piszkesteto 150.99 340⇑ *i*P **PKPab 17 41 08.4 +2.8**
MMAI Mount Meron Ar 151.01 300 PKPbc **PKPbc 17 40 59.7 +1.0**
comp=Z,3.2nm,0.8s,baz=99,slow=4.8,SNR=3.2
ARR Arges 151.27 331‖ *i*P **PKPbc 17 41 00.9 +2.0**
MODS Modra-Piesok 151.35 343 *e*PKIKP **PKPbc 17 41 00.5 +1.6**
MODS Modra-Piesok 151.35 343 *e*PKP **PKPbc 17 41 00.5 +1.6**
KHC Kasperske Hory 151.46 349 *e*PKIKP **PKPbc 17 40 58.0 -1.2**
KHC *e* 17 41 05.1
KHC Kasperske Hory 151.46 349⇑ *e*PKP **PKPbc 17 40 58.0 -1.2**
KHC *e*PKPAB **PKPab 17 41 05.1 -2.4**
GEC2 GERESS Array S 151.72 348 *e*PKIKP **PKPbc 17 41 00.6 +0.7**
GEC2 GERESS Array S 151.72 348 *e*PKPbc **PKPbc 17 41 00.6 +0.7**
GERES GERESS Array B 151.72 348 PKPbc **PKPbc 17 41 00.6 +0.7**
comp=Z,1.2nm,0.7s,baz=353,slow=3.3,SNR=4.6

NIED ***30*** *17:25:00, 47.20N×153.10E, h50km, Mw4.1 Best double couple: M*$_0$*1.64000×10*^{15} *NP1:*ϕ_s*133.00000°,* δ*60.00000°,* λ*-29.00000°. NP2:*ϕ_s*238.00000°,* δ*65.00000°,* λ*-146.00000°.*
ISCJB ***30*** *17:25:09.8*$\pm$*0.4, 47.08N*$\pm$*0.04×153.05E*$\pm$*0.06, h56km, mb4.0/19, MS3.3/7, Error ellipse: s-maj=8.1km s-min=3.1km az=137.1*
SKHL ***30*** *17:25:11.6*$\pm$*0.5, 47.09N×153.20E, h80km*$\pm$*2km, mb4.9/11, mbv5.2/3, msha5.6/9*
MOS ***30*** *17:25:12.4*$\pm$*1.0, 47.09N×152.89E, h82km, mb4.0/15, Error ellipse: s-maj=12.6km s-min=7.8km az=61.2*
IDC ***30*** *17:25:15.1*$\pm$*2.2, 47.20N×152.77E, h86km*$\pm$*19km, mb3.7/20, mb1 3.9/24, mb1mx3.7/77, mbtmp4.0/24, MS3.2/10, Ms1 3.2/10, ms1mx2.9/71, Error ellipse: s-maj=17.7km s-min=11.2km az=138.0*

ISC 30 17:25:11.6$\pm$0.6, **47.07N**$\pm$0.07×**153.02E**$\pm$0.07, **h56**km, **n85,** σ**1**$\S$**69/94, mb4.0/19, MS3.3/7, 2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.02**	**245**	*e*PN		**Pn**	**17 26 12.5**	**+1.9**
KUR				*e*S		**Sn**	**17 26 59.3**	**+2.9**
KUR				pmax	pmax			
	comp=E,15nm,0.2s							
KUR				pmax	pmax			
	comp=E,85nm,0.2s							
KUR				pmax	pmax			
	comp=N,21nm,0.3s							
KUR				smax	smax			
	comp=E,71nm,0.3s							
KUR				smax	smax			
	comp=N,220nm,0.5s							
KUR	**Kuril'sk**	**4.02**	**245**	*e*P		**Pn**	**17 26 11.8**	**+1.2**
KUR				AMB	AMB	17 26 13.9		
	comp=N,21nm,0.3s							
KUR				AMB	AMB	17 26 13.9		
	comp=N,15nm,0.3s							
KUR				AMB	AMB	17 26 13.9		
	comp=N,85nm,0.3s							
KUR				AMB	AMB	17 26 14.8		
	comp=N,600nm,2.0s							
KUR				*i*S		**Sn**	**17 26 57.3**	**+0.9**
KUR				A	A	17 26 59.2		
	comp=N,750nm,2.0s							
KUR				A	A	17 26 59.2		
	comp=N,640nm,2.0s							
KUR				A	A	17 27 10.4		
	comp=N,350nm,0.5s							
KUR				A	A	17 27 10.4		
	comp=N,320nm,0.5s							
SKR	**Severo-Kuril's**	**4.16**	**28**	*e*PN		**Pn**	**17 26 16.0**	**+3.6**
SKR				*e*S		**Sn**	**17 26 58.7**	**-0.9**
SKR				pmax	pmax			
	comp=Z,64nm,0.5s							
SKR				smax	smax			
	comp=E,258nm,0.5s							
SKR				smax	smax			
	comp=N,299nm,0.6s							
SKR	**Severo-Kuril's**	**4.16**	**28**	*e*P		**Pn**	**17 26 12.6**	**+0.2**
SKR				AMB	AMB	17 26 15.0		
	comp=N,190nm,3.0s							
SKR				AMB	AMB	17 26 18.6		
	comp=N,64nm,0.5s							
SKR				*e*S		**Sn**	**17 26 58.0**	**-1.6**
	comp=N,720nm,4.0s							
SKR				A	A	17 27 05.0		
	comp=N,470nm,4.0s							
SKR				A	A	17 27 10.5		
	comp=N,290nm,0.5s							
SKR				A	A	17 27 10.5		
	comp=N,260nm,0.5s							
PAU	**Pauzhetka**	**5.05**	**28**	*e*P		**Pn**	**17 26 25.8**	**+1.1**
PAU				*e*S		**Sn**	**17 27 21.7**	**0.0**
PAU				A	A	17 27 26.6		
	comp=N,210nm,0.3s							
PAU				A	A	17 27 26.6		
	comp=N,160nm,0.3s							
SHO	**Shikotan**	**5.40**	**236**⇑	*i*PN		**Pn**	**17 26 28.3**	**-1.2**
SHO				*e*S		**Sn**	**17 27 27.0**	**-3.3**
SHO				pmax	pmax			
	comp=Z,29nm,0.4s							
SHO				pmax	pmax			
	comp=N,20nm,0.2s							
SHO				pmax	pmax			
	comp=E,23nm,0.2s							
SHO				smax	smax			
	comp=E,58nm,0.2s							
SHO				smax	smax			
	comp=N,151nm,0.4s							
SHO	**Shikotan**	**5.40**	**236**	*e*P		**Pn**	**17 26 28.3**	**-1.2**
SHO				AMB	AMB	17 26 40.0		
	comp=N,29nm,0.4s							
SHO				*e*S		**Sn**	**17 27 27.7**	**-2.6**
SHO				A	A	17 27 48.8		
	comp=N,58nm,0.2s							
SHO				A	A	17 27 48.8		
	comp=N,151nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**5.87**	**241**⇑	*i*PN		**Pn**	**17 26 37.3**	**+1.4**
YUK				*e*S		**Sn**	**17 27 43.3**	**+1.5**
YUK				pmax	pmax			
	comp=Z,92nm,0.6s							
YUK				pmax	pmax			
	comp=E,34nm,0.3s							
YUK				pmax	pmax			
	comp=N,61nm,0.6s							
YUK				smax	smax			
	comp=E,97nm,0.5s							
YUK				smax	smax			
	comp=N,140nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.87**	**241**	*e*P		**Pn**	**17 26 37.0**	**+1.1**
YUK				AMB	AMB	17 26 41.3		
	comp=N,340nm,2.0s							
YUK				AMB	AMB	17 26 44.4		
	comp=N,61nm,0.4s							
YUK				AMB	AMB	17 26 44.4		
	comp=N,34nm,0.4s							
YUK				AMB	AMB	17 26 44.4		
	comp=N,92nm,0.4s							
YUK				*e*S		**Sn**	**17 27 41.6**	**-0.2**
YUK				A	A	17 27 47.3		
	comp=N,1μm,3.0s							
YUK				A	A	17 27 47.3		
	comp=N,990nm,3.0s							
YUK				A	A	17 28 00.0		
	comp=N,140nm,0.5s							
YUK				A	A	17 28 00.0		
	comp=N,97nm,0.5s							
LAGR	**Lagunnoye**	**5.90**	**242**	*e*PN		**Pn**	**17 26 39.3**	**+2.9**
LAGR				*e*S		**Sn**	**17 27 47.0**	**+4.4**
LAGR				pmax	pmax			
	comp=Z,132nm,0.6s							
LAGR				smax	smax			
	comp=E,93nm,0.3s							
LAGR				smax	smax			
	comp=N,298nm,0.4s							
LAGR	**Lagunnoye**	**5.90**	**242**	*e*P		**Pn**	**17 26 39.0**	**+2.6**
LAGR				AMB	AMB	17 26 49.9		
	comp=N,132nm,0.6s							
LAGR				*e*S		**Sn**	**17 27 43.0**	**+0.4**
LAGR				A	A	17 28 07.4		
	comp=N,93nm,0.3s							
LAGR				A	A	17 28 07.4		
	comp=N,30nm,0.3s							
GRPR	**Tuman**	**5.95**	**241**	*e*PN		**Pn**	**17 26 38.5**	**+1.5**
GRPR				*e*S		**Sn**	**17 27 45.7**	**+2.0**
GRPR				pmax	pmax			
	comp=Z,68nm,0.3s							
GRPR				smax	smax			
	comp=N,158nm,0.4s							
GRPR				smax	smax			
	comp=E,62nm,0.3s							
GRPR	**Tuman**	**5.95**	**241**	*e*P		**Pn**	**17 26 38.5**	**+1.5**
GRPR				AMB	AMB	17 26 41.4		
	comp=E,68nm,0.3s							
GRPR				*e*S		**Sn**	**17 27 45.7**	**+2.0**
GRPR				A	A	17 28 04.9		
	comp=E,160nm,0.4s							
GRPR				A	A	17 28 04.9		
	comp=E,62nm,0.4s							
GLVR	**Golovnino**	**6.24**	**240**	*e*PN		**Pn**	**17 26 41.5**	**+0.5**
GLVR				*e*S		**Sn**	**17 27 50.9**	**0.0**
GLVR				pmax	pmax			
	comp=Z,144nm,0.4s							
GLVR	**Golovnino**	**6.24**	**240**	*e*P		**Pn**	**17 26 41.5**	**+0.5**
GLVR				AMB	AMB	17 26 46.0		
	comp=Z,140nm,0.4s							
GLVR				*e*S		**Sn**	**17 27 50.9**	**0.0**
PETK	**Petropavlovsk-**	**6.75**	**25**	P		**Pn**	**17 26 49.3**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=184,slow=11,SNR=29							
PETK				S		**Sn**	**17 28 06.5**	**+3.1**
	baz=122,slow=18,SNR=2.4							
PETK				LR	LR	17 29 33.6		
	comp=Z,60nm,18.7s,baz=159,slow=39							
PET	**Petropavlovsk**	**6.98**	**29**	*e*P		**Pn**	**17 26 51.8**	**+0.8**
PET				*e*S		**Sn**	**17 28 07.4**	**-1.5**
PET				A	A	17 28 09.5		
	comp=Z,38nm,0.6s							
PET				A	A	17 28 09.5		
	comp=Z,46nm,0.6s							
YSS	**Yuzh-Sakhalins**	**7.02**	**273**‖	*i*PN		**Pn**	**17 26 55.2**	**+3.6**
YSS				pmax	pmax			
	comp=Z,30nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.02**	**273**	*e*P		**Pn**	**17 26 55.0**	**+3.4**
YSS				AMB	AMB	17 26 55.5		
	comp=Z,26nm,0.7s							
UGL	**Uglegorsk**	**7.61**	**289**	*e*P		**Pn**	**17 27 02.6**	**+2.9**
UGL				AMB	AMB	17 27 04.0		
	comp=Z,10.0nm,0.9s							
TYV	**Tymovskoe**	**7.80**	**303**	*e*P		**Pn**	**17 27 05.1**	**+2.7**
TYV				AMB	AMB	17 27 05.7		
	comp=Z,13nm,0.8s							
TYV				*e*S		**Sn**	**17 28 30.9**	**+1.7**
TYV				A	A	17 28 31.9		
	comp=Z,10.0nm,0.8s							
JKA	**Kanikawa-asahi**	**7.88**	**252**	*e*P		**Pn**	**17 27 06.6**	**+3.1**
ASAJ	**Asahikawa**	**7.88**	**252**	P		**Pn**	**17 27 06.6**	**+3.1**
	comp=Z,1.1nm,0.3s,baz=68,slow=6.0,SNR=13							
NKL	**Nikolayevsk**	**9.99**	**312**	*e*PN		**Pn**	**17 27 34.2**	**+2.0**
NKL				pmax	pmax			
	comp=N,19nm,1.2s							
NKL				pmax	pmax			
	comp=E,31nm,1.2s							
NKL				pmax	pmax			
	comp=Z,48nm,1.2s							
NKL	**Nikolayevsk**	**9.99**	**312**	*e*P		**Pn**	**17 27 34.2**	**+2.0**
NKL				AMB	AMB	17 27 36.8		
	comp=Z,19nm,1.0s							
NKL				AMB	AMB	17 27 36.8		
	comp=Z,31nm,1.0s							
NKL				AMB	AMB	17 27 36.8		
	comp=Z,48nm,1.0s							
GRNR	**Gornyy**	**11.53**	**295**	*e*P		**Pn**	**17 27 55.0**	**+1.7**
MA2	**Magadan**	**12.60**	**355**	P		**Pn**	**17 28 09.0**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=166,slow=11,SNR=31							
MA2				S		**Sn**	**17 30 22.0**	**-4.4**
	comp=Z,0.5nm,0.3s,baz=131,slow=20,SNR=4.9							
MA2				LR	LR	17 32 29.1		
	comp=Z,34nm,21.3s,baz=122,slow=35							
EKMR	**Ekimchan**	**14.20**	**302**	*e*P		**Pn**	**17 28 28.0**	**-1.5**
EKMR				AMB	AMB	17 28 35.1		
	comp=Z,5.0nm,0.7s							
KLR	**Kul'dur**	**14.36**	**286**	P		**P**	**17 28 36.4**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=90,slow=8.8,SNR=5.8							
USRK	**Ussuriysk Ar.**	**14.98**	**267**	P		**Pn**	**17 28 41.5**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=76,slow=13,SNR=6.4							
USRK				LR	LR	17 33 56.7		
	comp=Z,88nm,21.8s,baz=91,slow=35							
MJAR	**Matsushiro Arr**	**15.22**	**232**	P		**P**	**17 28 48.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=46,slow=9.1,SNR=6.4							

MJAR	**Matsushiro Arr**	**15.22**	**232**	P	**P**	**17 28 48.0**	**+1.1**
SEY	**Seymchan**	**15.90**	**359**	P	**P**	**17 28 56.0**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=170,slow=6.8,SNR=12						
SEY	**Seymchan**	**15.90**	**359**	P	**P**	**17 28 56.0**	**+1.8**
BMKR	**Bomnak**	**17.00**	**306**	*e*P	**Pn**	**17 29 04.0**	**-1.3**
BMKR				AMB	AMB	17 29 10.5	
	comp=Z,8.0nm,1.0s						
KROS	**Kirovskiy**	**17.98**	**304**	*e*P	**P**	**17 29 17.5**	**+0.3**
KROS				AMB	AMB	17 29 19.6	
	comp=Z,3.0nm,0.4s						
KSRS	**Korea Array**	**20.83**	**252**	P	**P**	**17 29 48.1**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=52,slow=10,SNR=6.1						
KSRS				LR	LR	17 36 42.4	
	comp=Z,29nm,20.9s,baz=65,slow=33						
H11N2	**WAKE ISLAND Hy**	**29.53**	**153**	T	T	18 02 50.1	
	baz=340,slow=76,SNR=953						
H11N1	**WAKE ISLAND Hy**	**29.55**	**153**	T	T	18 02 52.5	
	baz=340,slow=76,SNR=884						
H11N3	**WAKE ISLAND Hy**	**29.55**	**153**	T	T	18 02 52.0	
	baz=340,slow=76,SNR=611						
H11S1	**WAKE ISLAND Hy**	**30.62**	**154**	T	T	18 04 13.4	
	SNR=571						
H11S3	**WAKE ISLAND Hy**	**30.63**	**154**	T	T	18 04 12.8	
	SNR=393						
H11S2	**WAKE ISLAND Hy**	**30.64**	**154**	T	T	18 04 22.4	
	SNR=352						
SONM	**Songino Array**	**31.17**	**289**	LR	LR	17 44 58.5	
	comp=Z,45nm,18.8s,baz=53,slow=38						
ILAR	**Eielson Array**	**36.34**	**39**	P	**P**	**17 32 10.2**	**+0.6**
	comp=Z,2.5nm,1.1s,baz=260,slow=8.1,SNR=15						
INK	**Inuvik**	**41.42**	**33**	P	**P**	**17 32 53.1**	**+1.1**
	comp=Z,3.1nm,0.8s,baz=286,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	**42.37**	**305**	PcP	**PcP**	**17 34 51.7**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=52,slow=5.7,SNR=9.5						
ZALV				LR	LR	17 50 57.1	
	comp=Z,40nm,20.0s,baz=70,slow=37						
MKAR	**Makanchi Array**	**46.74**	**297**	PcP	**PcP**	**17 35 06.7**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=63,slow=2.1,SNR=2.9						
MKAR				LR	LR	17 54 11.6	
	comp=Z,52nm,19.3s,baz=22,slow=37						
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**17 33 36.3**	**-1.6**
KURK	**Kurchatov**	**47.13**	**303**	*e*P	**P**	**17 33 36.3**	**-1.6**
KURBB	**Kurchatov Arra**	**47.23**	**303**	P	**P**	**17 33 36.3**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=71,slow=9.2,SNR=5.5						
BVAR	**Borovoye Array**	**50.61**	**309**	LR	LR	17 55 24.7	
	comp=Z,29nm,18.3s,baz=72,slow=36						
YKA	**Yellowknife Ar**	**50.71**	**37**	P	**P**	**17 34 05.7**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=300,slow=7.2,SNR=11						
CMAR	**Chiang Mai Arr**	**52.38**	**256**	P	**P**	**17 34 18.4**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=33,slow=7.6,SNR=9.0						
TAPN	**Taplejung**	**54.02**	**273**	*e*P	**P**	**17 34 30.2**	**-0.2**
	comp=Z,3.0nm,0.3s						
JIRN	**Jiri**	**54.86**	**274**	*e*P	**P**	**17 34 36.4**	**-0.2**
	comp=Z,7.3nm,0.4s						
GUN	**Gumba**	**54.91**	**275**	*e*P	**P**	**17 34 36.6**	**-0.4**
RAMN	**Ramite**	**55.03**	**273**	*e*P	**P**	**17 34 37.0**	**-0.7**
KKN	**Kakani**	**55.39**	**275**	*e*P	**P**	**17 34 40.2**	**-0.1**
	comp=Z,4.4nm,0.5s						
PKI	**Pulchoki**	**55.45**	**275**	*e*P	**P**	**17 34 40.2**	**-0.6**
	comp=Z,3.2nm,0.5s						
DMN	**Daman**	**55.63**	**275**	*e*P	**P**	**17 34 42.0**	**0.0**
GKN	**Gorkha**	**55.70**	**276**	*e*P	**P**	**17 34 42.2**	**-0.2**
	comp=Z,3.9nm,0.4s						
KOLN	**Koldanda**	**56.55**	**276**	*e*P	**P**	**17 34 48.3**	**-0.2**
PYUN	**Piuthan**	**56.75**	**277**	*e*P	**P**	**17 34 49.8**	**-0.2**
ARCES	**ARCESS Array B**	**57.53**	**341**	P	**P**	**17 34 53.7**	**-1.0**
	comp=Z,3.9nm,1.0s,baz=26,slow=7.0,SNR=2.9						
AKTO	**Aktyubinsk**	**58.47**	**312**	LR	LR	18 02 36.5	
	comp=Z,46nm,18.3s,baz=19,slow=38						
FINES	**FINESS Array B**	**63.72**	**335**	P	**P**	**17 35 35.1**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=38,slow=6.7,SNR=18						
PDAR	**Pinedale Array**	**64.61**	**54**	P	**P**	**17 35 44.0**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=257,slow=1.3,SNR=7.3						
NOA	**NORSAR Array B**	**67.91**	**341**	P	**P**	**17 36 02.9**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=31,slow=6.8,SNR=4.4						
NOA	**NORSAR Array B**	**67.91**	**341**	P	**P**	**17 36 02.9**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**68.14**	**339**	P	**P**	**17 36 04.1**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=48,slow=4.6,SNR=13						
WRA	**Warramunga Arr**	**68.79**	**199**	P	**P**	**17 36 09.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=18,slow=6.9,SNR=5.2						
KBZ	**Khabaz**	**70.59**	**314**	P	**P**	**17 36 20.0**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=25,slow=2.9,SNR=4.0						
KBZ	**Khabaz**	**70.59**	**314**	P	**P**	**17 36 20.0**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**70.59**	**314**	*e*P	**P**	**17 36 20.0**	**-0.6**
AKASG	**Malin Array Be**	**71.25**	**326**	P	**P**	**17 36 22.5**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=34,slow=5.9,SNR=6.6						
GNI	**Garni**	**72.28**	**310**	LR	LR	18 10 59.3	
	comp=Z,31nm,18.5s,baz=7.0,slow=38						
ASAR	**Alice Springs**	**72.49**	**198**	P	**P**	**17 36 33.0**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=15,slow=5.5,SNR=11						
MLR	**Muntele Rosu**	**76.77**	**325**	P	**P**	**17 36 56.9**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=346,slow=22,SNR=4.1						
TXAR	**Lajitas Array**	**77.39**	**61**	P	**P**	**17 37 01.2**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=298,slow=4.7,SNR=46						
BRTR	**Keskin Array B**	**78.11**	**317**	P	**P**	**17 37 04.4**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=68,slow=5.0,SNR=3.7						
GERES	**GERESS Array B**	**78.14**	**334**	P	**P**	**17 37 03.4**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=46,slow=5.6,SNR=2.5						
MMAI	**Mount Meron Ar**	**82.55**	**311**	P	**P**	**17 37 28.4**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=23,slow=7.8,SNR=2.8						
PLCA	**Paso Flores**	**148.30**	**95**	PKPbc	**PKPbc**	**17 44 51.0**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=245,slow=4.3,SNR=4.7						
PLCA	**Paso Flores**	**148.30**	**95**	PKP2	**PKPbc**	**17 44 51.0**	**-0.1**
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

MEX 30 17:28:05.5±0.4,16°26N×98°33W,h2km±5km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**56**	*e*P	Pg	17 28 09.8	-0.3
PNIG				*i* S	Sg	17 28 13.5	+0.2
TLIG	**Tlapa**	**1.32**	**350**	*e*P	Pg	17 28 27.2	-3.5
TLIG				*i* S	Sg	17 28 43.7	-4.2
VHO	**Vista Hermosa**	**1.73**	**62**	*i* P	Pn	17 28 33.9	-3.0
VHO				*i* S	Sn	17 28 54.3	-5.5
HUIG	**Huatulco**	**2.19**	**103**	*e*P	Pn	17 28 39.1	-3.9
HUIG				*i* S	Sn	17 29 06.4	-4.4

*CSEM **30** 17:37:06.5±0.2,38°70N×43°43E,h12km,ML2.4,Error ellipse: s-maj=6.5km s-min=4.6km az=120.0*
*DDA **30** 17:37:06.7,38°71N×43°45E,h7km,Ml2.6*
*ATA **30** 17:37:06.1±1.3,38°69N×43°40E,h7km±3km,ML2.8, MW2.9*
*ISK **30** 17:37:06.5,38°69N×43°38E,h6km,ML2.4/4*
*ISCJB **30** 17:37:07.0±0.5,38°69N±0°02×43°41E±0°04,h9km±5km, Error ellipse: s-maj=5.6km s-min=3.7km az=25.3*

ISC 30 17:37:07.0±0.9,38°69N±0°02×43°45E±0°03,h17km±6km, n37,σ0²92/54,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**208**	PG	**Pg**	**17 37 10.9**	**+0.2**
VANB	**Van**	**0.10**	**208**	*e*Pg	**Pg**	**17 37 10.9**	**+0.2**
TVAN	**Van**	**0.16**	**192**	*i* P	**Pg**	**17 37 10.6**	**-0.9**
TVAN				*i* S	**Sg**	**17 37 14.6**	**+0.1**
TVAN	**Van**	**0.16**	**192**	P	**Pg**	**17 37 10.6**	**-0.9**
TVAN				S	**Sg**	**17 37 14.6**	**+0.1**
VMUR	**Van-Muradiye**	**0.32**	**17**	*i* P	**Pg**	**17 37 13.0**	**-0.9**
VMUR				*i* S	**Sb**	**17 37 19.3**	**0.0**
VMUR	**Van-Muradiye**	**0.32**	**17**	P	**Pg**	**17 37 13.0**	**-0.9**
VMUR				S	**Sb**	**17 37 19.3**	**0.0**
GEVA	**Gevas**	**0.48**	**220**	*i* P	**Pg**	**17 37 16.0**	**-0.7**
GEVA				*e*S	**Sg**	**17 37 22.6**	**-0.8**
GEVA				IAML		17 37 28.8	
	comp=Z,54nm,0.5s						
GEVA	**Gevas**	**0.48**	**220**	*i* P	**Pg**	**17 37 16.1**	**-0.7**
GEVA	**Gevas**	**0.48**	**220**	P	**Pg**	**17 37 16.1**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.58**	**282**	*i* P	**Pg**	**17 37 17.3**	**-1.3**
ADCV				*i* S	**Sg**	**17 37 26.4**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.58**	**282**	P	**Pg**	**17 37 17.3**	**-1.3**
ADCV				S	**Sg**	**17 37 26.4**	**0.0**
CLDR	**Caldiran**	**0.58**	**38**	PG	**Pg**	**17 37 19.1**	**+0.4**
CLDR				SG	**Sg**	**17 37 27.1**	**+0.5**
CLDR	**Caldiran**	**0.58**	**38**	*i* P	**Pg**	**17 37 17.3**	**-1.4**
CLDR				*i* S	**Sg**	**17 37 27.1**	**+0.5**
CLDR	**Caldiran**	**0.58**	**38**	P	**Pg**	**17 37 17.3**	**-1.4**
CLDR	**Caldiran**	**0.58**	**38**	*e*Pg	**Pg**	**17 37 19.1**	**+0.4**
CLDR				*e*Sg	**Sg**	**17 37 27.1**	**+0.5**
TUTA	**Tutak**	**0.87**	**325**	*e*P	**Pg**	**17 37 22.6**	**-1.4**
TUTA				*e*S	**Sg**	**17 37 35.3**	**-0.3**
TUTA	**Tutak**	**0.87**	**325**	*i* P	**Pg**	**17 37 22.9**	**-1.1**
TUTA	**Tutak**	**0.87**	**325**	P	**Pg**	**17 37 22.9**	**-1.1**
DYDN	**Diyadin**	**0.88**	**12**	*e*P	**Pg**	**17 37 23.9**	**-0.3**
AGRB	**Hanur-Agry**	**0.96**	**338**	PG	**Pg**	**17 37 25.1**	**-0.5**
AGRB				SG	**Sg**	**17 37 38.4**	**+0.1**
AGRB	**Hanur-Agry**	**0.96**	**338**	*e*Pg	**Pg**	**17 37 25.1**	**-0.5**
AGRB				*e*Sg	**Sg**	**17 37 38.4**	**+0.1**
GURO	**Guroymak-BITLI**	**1.12**	**264**	PG	**Pb**	**17 37 27.0**	**-1.0**
GURO				SG	**Sb**	**17 37 42.2**	**-0.1**
GURO	**Guroymak-BITLI**	**1.12**	**264**	*e*Pg	**Pb**	**17 37 27.0**	**-1.0**
GURO				*e*Sg	**Sb**	**17 37 42.2**	**-0.1**
HAKT	**HAKKARI**	**1.14**	**170**	*i* P	**Pb**	**17 37 27.2**	**-1.3**
HAKT	**HAKKARI**	**1.14**	**170**	P	**Pb**	**17 37 27.2**	**-1.3**
EKAR	**Karacoban**	**1.22**	**298**	*e*P	**Pb**	**17 37 30.1**	**+0.3**
EKAR	**Karacoban**	**1.22**	**298**	*i* P	**Pb**	**17 37 29.1**	**-0.7**
EKAR	**Karacoban**	**1.22**	**298**	P	**Pb**	**17 37 29.1**	**-0.7**
IGDI	**IGDIR**	**1.28**	**22**	*e*P	**Pn**	**17 37 30.3**	**+0.2**
SRTM	**Siirt_Merkez**	**1.39**	**240**	*i* P	**Pn**	**17 37 33.3**	**+1.6**
SRTM				*i* S	**Sg**	**17 37 54.1**	**+2.3**
SRTM	**Siirt_Merkez**	**1.39**	**240**	P	**Pn**	**17 37 33.3**	**+1.6**
EATA	**Eleskirt**	**1.39**	**328**	*e*P	**Pn**	**17 37 32.3**	**+0.4**
EATA				*e*S	**Sg**	**17 37 53.4**	**+1.4**
EATA	**Eleskirt**	**1.39**	**328**	*i* P	**Pn**	**17 37 32.3**	**+0.4**
EATA	**Eleskirt**	**1.39**	**328**	P	**Pn**	**17 37 32.3**	**+0.4**
SIRT	**Sirnak**	**1.43**	**214**	PN	**Pn**	**17 37 33.6**	**+1.4**
SIRT	**Sirnak**	**1.43**	**214**	*e*Pn	**Pn**	**17 37 33.6**	**+1.4**
HOMI	**Horasan**	**1.81**	**319**	*e*P	**Pb**	**17 37 40.7**	**+0.9**

*ISCJB **30** 17:39:55.9±0.2,7°14S±0°03×125°09E±0°03,h543km, mb4.3/52,Error ellipse: s-maj=4.2km s-min=3.0km az=145.8*
*DJA **30** 17:39:55.5±0.2,7°S±2°×12°5E±°,h517km±3km,M4.4/31, mb4.6/31,mB4.9/19,MLv5.0/21,Mw(mB)4.2/19*
*NEIC **30** 17:39:55.5±0.3,7°08S×125°09E,h519km±4km,mb4.6/50, Error ellipse: s-maj=6.9km s-min=3.7km az=54.0*
*IDC **30** 17:39:56.5±1.2,7°17S×125°09E,h528km±13km,mb3.4/13, mb1 3.6/15,mb1mx3.3/47,mbtmp4.4/15,Error ellipse: s-maj=22.1km s-min=7.6km az=67.0*

ISC 30 17:39:57.0±0.3,7°18S±0°04×125°11E±0°05,h543km,n154, σ2²21/185,mb4.5/52,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.69**	**198**	P	**P**	**17 41 07.4**	**-2.3**
SOEI				*S*	**S**	**17 42 03.9**	**-5.0**
SOEI	**Soe**	**2.69**	**198**	*e*P	**P**	**17 41 07.4**	**-2.3**
SOEI				*e*S	**S**	**17 42 02.0**	**-6.9**
BBSI	**Bau Bau**	**3.03**	**304**	P	**P**	**17 41 10.7**	**-1.0**
BBSI				S	**S**	**17 42 09.4**	**-3.0**
BATI	**Baumata**	**3.33**	**205**	P	**P**	**17 41 11.8**	**-1.8**
	206nm,0.3s,baz=104,slow=9.1,SNR=354						
BATI				S	S	17 42 02.6	-13
	104nm,0.3s,baz=90,slow=3.7,SNR=3.2						
BATI	**Baumata**	**3.33**	**205**	P	**P**	**17 41 11.6**	**-2.0**
BATI				S	**S**	**17 42 12.1**	**-3.9**
EDFI	**Ende, Flores**	**3.73**	**245**	P	**P**	**17 41 13.3**	**-3.2**
EDFI				S	**S**	**17 42 15.0**	**-6.2**
NLAI	**Namlea**	**4.39**	**27**	P	**P**	**17 41 19.4**	**-2.0**
NLAI				S	**S**	**17 42 25.4**	**-4.8**
AAI	**Ambon**	**4.63**	**42**	P	**P**	**17 41 21.4**	**-2.0**
AAI				S	**S**	**17 42 27.8**	**-6.0**
BSSI	**Bau Bau, Buton**	**4.70**	**282**	P	**P**	**17 41 22.8**	**-1.1**
SANI	**Sanana**	**5.17**	**10**	P	**P**	**17 41 26.1**	**-1.8**
SANI				S	**S**	**17 42 37.1**	**-5.0**
MSAI	**Masohi**	**5.38**	**45**	P	**P**	**17 41 26.2**	**-3.6**
MSAI				S	**S**	**17 42 38.6**	**-6.9**
BASI	**Baing, Sumba**	**5.40**	**236**	P	**P**	**17 41 26.9**	**-3.0**
BASI				S	**S**	**17 42 38.7**	**-7.1**
BNDI	**Bandanaira**	**5.45**	**61**	P	**P**	**17 41 28.9**	**-1.5**
BNDI				S	**S**	**17 42 46.3**	**-0.3**
BNSI	**Bone**	**5.69**	**299**	P	**P**	**17 41 32.4**	**-0.1**
BNSI				S	**S**	**17 42 50.3**	**-0.2**
KAPI	**Kappang**	**5.74**	**292**	*e*P	**P**	**17 41 30.7**	**-2.3**
WBSI	**Waikabubak, Su**	**6.16**	**246**	P	**P**	**17 41 33.0**	**-3.8**
WBSI				S	S	17 42 49.0	-9.5
SAUI	**Saumlaki**	**6.19**	**98**	P	**P**	**17 41 35.3**	**-1.8**
SAUI				S	**S**	**17 42 55.5**	**-3.4**
SAUI	**Saumlaki**	**6.19**	**98**	*e*P	**P**	**17 41 34.2**	**-2.8**
SAUI				*e*S	**S**	**17 42 50.5**	**-8.4**
LUWI	**Luwuk**	**6.53**	**339**	P	**P**	**17 41 39.4**	**-0.8**
LUWI	**Luwuk**	**6.53**	**339**	*e*P	**P**	**17 41 39.1**	**-1.1**
LUWI				*e*S	**S**	**17 43 00.6**	**-4.0**
TTSI	**Tana Toraja**	**6.68**	**308**	P	**P**	**17 41 41.2**	**-0.5**
LBMI	**Labuha**	**6.92**	**20**	P	**P**	**17 41 42.5**	**-1.5**
LBMI				S	**S**	**17 43 08.6**	**-3.0**
APSI	**Ampana**	**7.12**	**331**	P	**P**	**17 41 45.5**	**-0.4**
	433nm,0.9s,4μm						
PLAI	**Plampang**	**7.44**	**257**	P	**P**	**17 41 44.9**	**-4.1**
PLAI				S	S	17 43 11.8	-9.0
KMSI	**Cibinong**	**7.78**	**352**	P	**P**	**17 41 52.0**	**-0.4**
KMSI				S	**S**	**17 43 24.8**	**-2.2**
MTN	**Manton Dam**	**8.18**	**134**	*e*P	**P**	**17 41 55.3**	**-1.0**
MRSI	**Marisa**	**8.23**	**337**	P	**P**	**17 41 55.9**	**-1.0**
FAKI	**Fak Fak**	**8.28**	**60**	P	**P**	**17 41 54.8**	**-2.5**
FAKI				S	**S**	**17 43 29.5**	**-6.5**
FAKI	**Fak Fak**	**8.28**	**60**	*e*P	**P**	**17 41 54.2**	**-3.2**
FAKI				*e*S	S	17 43 26.1	-10
SWI	**Sorong**	**8.77**	**45**	P	**P**	**17 42 01.2**	**-1.2**
	130nm,0.9s,1μm						
SWI				S	**S**	**17 43 43.6**	**-1.6**
	130nm,0.9s,1μm						
MPSI	**Mapaga**	**9.10**	**325**	P	**P**	**17 42 05.2**	**-0.4**
MPSI				S	**S**	**17 43 51.1**	**-0.1**
SRBI	**Singaraja**	**9.85**	**264**	P	**P**	**17 42 12.0**	**-1.3**
IGBI	**Denpasar**	**10.00**	**260**	P	**P**	**17 42 12.7**	**-2.2**
JAGI	**Jajag, Banyuwa**	**10.93**	**263**	P	**P**	**17 42 21.2**	**-3.3**
JAGI	**Jajag, Banyuwa**	**10.93**	**263**	*e*P	**P**	**17 42 20.7**	**-3.8**
JAGI				*e*S	S	17 44 15.4	-10
KMMI	**Kalianget**	**11.06**	**270**	P	**P**	**17 42 25.8**	**0.0**
GMJI	**Gumukmas**	**11.61**	**264**	P	**P**	**17 42 28.5**	**-3.0**
MTKI	**Muara Teweh, K**	**11.92**	**301**	P	**P**	**17 42 33.8**	**-1.0**
TBJI	**Tambak Boyo**	**13.17**	**271**	P	**P**	**17 42 44.4**	**-3.3**
PWJI	**Pagerwojo**	**13.21**	**266**	P	**P**	**17 42 46.7**	**-1.5**
MYLDM	**Lahad Datu**	**13.94**	**332**	*e*P	**P**	**17 42 54.8**	**-0.8**
UGM	**Wanagama**	**14.48**	**266**	*e*P	**P**	**17 42 58.7**	**-2.6**
MBWA	**Marble Bar**	**14.84**	**200**	*e*P	**P**	**17 43 03.7**	**-1.2**
WRAB	**Tennant Creek**	**15.53**	**146**	*e*P	**P**	**17 43 10.7**	**-1.3**
	39nm,0.6s						
WRA	**Warramunga Arr**	**15.53**	**146**	P	**P**	**17 43 10.5**	**-1.6**
	11nm,0.3s,baz=323,slow=11,SNR=579						
WRA				S	**S**	**17 45 50.3**	**-1.9**
	0.9nm,0.3s,baz=328,slow=16,SNR=11						
WB2	**Warramunga Arr**	**15.54**	**146**	*e*P	**P**	**17 43 10.6**	**-1.5**
	91nm,1.2s						
GENI	**Genyem**	**15.68**	**74**	P	**P**	**17 43 12.1**	**-1.6**
KKM	**Kota Kinabalu**	**15.85**	**326**	*e*P	**P**	**17 43 13.8**	**-1.7**
	51nm,1.3s						
SBUM	**Sibu**	**16.03**	**306**	*e*P	**P**	**17 43 15.9**	**-1.2**
	19nm,0.8s						
KSM	**Kuching**	**17.09**	**300**	*e*P	**P**	**17 43 26.0**	**-1.0**
	24nm,0.7s						
CISI	**Cisompet, Garu**	**17.15**	**268**	*e*P	**P**	**17 43 25.8**	**-1.9**
	46nm,0.6s						
AS31	**Alice Springs**	**18.44**	**154**	*e*P	**P**	**17 43 40.1**	**+0.8**
	12nm,0.5s						
ASAR	**Alice Springs**	**18.44**	**154**	P	**P**	**17 43 40.0**	**+0.7**
	6.4nm,0.3s,baz=328,slow=7.9,SNR=779						
ASAR				S	**S**	**17 46 41.0**	**+0.9**
	0.7nm,0.3s,baz=349,slow=23,SNR=8.4						
AS01	**Alice Springs**	**18.46**	**154**	*e*P	**P**	**17 43 40.2**	**+0.8**
COEN	**Coen**	**18.99**	**112**	*e*P	**P**	**17 43 44.7**	**+0.4**
	12nm,0.8s						
XMIS	**Christmas Isla**	**19.50**	**259**	*e*P	**P**	**17 43 49.2**	**+0.2**
	32nm,0.9s						
PMG	**Port Moresby**	**21.93**	**97**	*e*P	**P**	**17 44 11.1**	**+0.1**
	34nm,1.3s						
FORT	**Forrest**	**23.64**	**174**	*e*P	**P**	**17 44 26.5**	**+0.5**
	441nm,0.7s						
NWAO	**Narrogin (SRO)**	**26.64**	**195**	P	**P**	**17 44 52.7**	**+0.2**
	7.9nm,0.4s,baz=251,slow=8.5,SNR=14						
NWAO	**Narrogin (SRO)**	**26.64**	**195**	*e*P	**P**	**17 44 53.0**	**+0.5**
	67nm,1.4s						
BBOO	**Buckleboo**	**27.46**	**160**	*e*P	**P**	**17 45 00.4**	**+0.7**
	25nm,0.8s						
STKA	**Stephens Creek**	**28.99**	**150**	P	**P**	**17 45 14.1**	**+1.0**
	12nm,0.5s,baz=326,slow=9.0,SNR=34						
STKA				S	**S**	**17 49 26.8**	**+0.6**
	12nm,1.1s,baz=169,slow=19,SNR=6.4						
TPUB	**Ta-pu**	**30.61**	**352**	*e*P	**P**	**17 45 26.1**	**-1.0**
	28nm,0.6s						
YULB	**Yu-li**	**30.61**	**353**	*e*P	**P**	**17 45 24.3**	**-2.8**
	24nm,1.4s						
ANA2	**Anatahan**	**31.02**	**41**	*e*P	**P**	**17 45 28.5**	**-2.2**
SSLB	**Suanglung**	**31.04**	**353**	*e*P	**P**	**17 45 28.6**	**-2.3**
	13nm,1.0s						
NACB	**Ninganchiao**	**31.35**	**354**	*e*P	**P**	**17 45 32.7**	**-0.8**
	24nm,0.9s						
YOJ	**Yonaguni jima**	**31.52**	**356**	*e*P	**P**	**17 45 32.2**	**-2.6**
	136nm,1.1s						
YHNB	**Yeheng**	**31.86**	**354**	*e*P	**P**	**17 45 35.3**	**-2.6**
	17nm,0.8s						
ARMA	**Armidale**	**33.95**	**136**	*e*P	**P**	**17 45 58.1**	**+2.5**
	31nm,1.5s						
CAN	**Canberra**	**35.58**	**145**	*e*P	**P**	**17 46 11.3**	**+2.2**
	6.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**36.27**	**315**	P	**P**	**17 46 15.2**	**+0.3**
	0.4nm,0.4s,baz=139,slow=6.9,SNR=5.1						
CMAR				PcP	**PcP**	**17 48 27.2**	**+2.1**
	0.9nm,0.7s,baz=174,slow=2.4,SNR=6.0						
CMAR				ScP	**ScP**	**17 51 23.8**	**+3.5**
	1.1nm,0.8s,baz=170,slow=3.6,SNR=10.0						
CHTO	**Chiang Mai**	**36.51**	**315**	*e*P	**P**	**17 46 17.4**	**+0.6**
	3.0nm,0.8s						
KMI	**Kunming**	**38.80**	**327**	P	**P**	**17 46 37.5**	**+1.8**
NJ2	**Nanjing**	**39.46**	**352**	*e*P	**P**	**17 46 41.3**	**+0.6**
ENH	**Enshi**	**40.14**	**339**	*e*P	**P**	**17 46 45.8**	**-0.4**
XAN	**Xi'an**	**43.77**	**340**	P	**P**	**17 47 14.3**	**-0.4**
KSRS	**Korea Array**	**44.48**	**3**	P	**P**	**17 47 20.9**	**+0.9**
	0.7nm,0.5s,baz=185,slow=9.2,SNR=3.7						
LZH	**Lanzhou**	**47.45**	**336**	⇑P	**P**	**17 47 45.0**	**+2.1**
LZH				pP	pP	17 49 23.0	-0.3
LZH				PP	**PP**	**17 49 44.3**	**+2.8**
LSA	**Lhasa**	**49.09**	**320**	*e*P	**P**	**17 47 56.7**	**+1.1**
	8.7nm,0.6s						
HHC	**Hu-ho-hao-te**	**49.39**	**346**	*e*P	**P**	**17 48 00.0**	**+2.8**
ODAN	**Odare**	**49.80**	**314**	*e*P	**P**	**17 48 01.0**	**+0.3**
	19nm,0.7s						
TAPN	**Taplejung**	**49.88**	**315**	*e*P	**P**	**17 48 01.5**	**+0.2**
	8.9nm,0.4s						
RAMN	**Ramite**	**50.42**	**314**	*e*P	**P**	**17 48 06.1**	**+0.9**
	42nm,0.6s						
JIRN	**Jiri**	**51.14**	**314**	*e*P	**P**	**17 48 10.9**	**+0.4**
	19nm,0.6s						
GUN	**Gumba**	**51.51**	**314**	*e*P	**P**	**17 48 13.5**	**+0.3**
	29nm,0.7s						
PKI	**Pulchoki**	**51.64**	**314**	*e*P	**P**	**17 48 14.1**	**0.0**
	12nm,0.5s						
PKIN	**Phulchoki**	**51.65**	**314**	*e*P	**P**	**17 48 14.2**	**0.0**
	12nm,0.5s						
KKN	**Kakani**	**51.86**	**314**	*e*P	**P**	**17 48 15.9**	**+0.3**
	7.8nm,0.5s						
GTA	**Gaotai**	**51.94**	**335**	*e*P	**P**	**17 48 16.8**	**+1.0**
GTA				pP	pP	17 49 58.3	-0.6
GTA				sP	sP	17 50 55.8	-2.3
OUZ	**Omahuta**	**52.43**	**129**	*e*P	**P**	**17 48 21.7**	**+2.4**
	72nm,1.4s						
GKN	**Gorkha**	**52.45**	**314**	*e*P	**P**	**17 48 20.0**	**+0.3**
	17nm,0.4s						
MSVF	**Nonsavu**	**52.59**	**107

CPUP	**Villa Florida**	**146.61**	**176**	*e*PKPbc	**PKPbc**	**17 58 39.3**	**+0.8**
MNMC	**Minye Minye**	**150.11**	**151**	*e*PKPdf	**PKPdf**	**17 58 43.6**	**+1.4**
MNMC				*e*PKPbc	**PKiKP**	**17 58 49.7**	**+1.2**
MNMC				*e*PKPab	**PKPab**	**17 58 56.1**	**+0.1**
LPAZ	**La Paz**	**153.25**	**151**	PKPab	**PKPab**	**17 59 11.0**	**+1.3**
	2.4nm,0.6s,baz=217,slow=5.6,SNR=6.6						

ISCJB ***30*** *17:55:38.4±0.7,30.98S±0.06×179.9E±0.1,h300km, mb2.8/2,Error ellipse: s-maj=17.3km s-min=6.1km az=18.7*

IDC ***30*** *17:55:39.3±6.6,31.25S×179.75W,h335km±65km,mb2.7/2, mb1 3.1/3,mb1mx2.8/44,mbtmp3.7/3,Error ellipse: s-maj=70.6km s-min=31.5km az=12.0*

WEL ***30*** *17:55:43.1±0.8,31.S±10.×17.9W±2.5,h256km±16km*

ISC 30 17:55:39.0±1.4,**31.01S**±0.09×**179.7E**±0.3,**h300**km,**n36,** σ2§**09**/34,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.71**	**50**	P		Pn	17 56 29.6	-2.4
GLKZ	**Green Lake**	**2.71**	**50**	S		S	17 57 09.3	-4.9
WCZ	**Waipu Caves**	**6.64**	**221**	P		Pn	17 57 23.3	+7.3
WMGZ	**Waiomatatini S**	**6.87**	**188**	P		**Pn**	**17 57 21.7**	**+3.1**
WMGZ	**Waiomatatini S**	**6.87**	**188**	S		**S**	**17 58 37.8**	**-1.4**
HAZ	**Te Kaha**	**6.91**	**193**	P		**Pn**	**17 57 21.9**	**+2.8**
HAZ	**Te Kaha**	**6.91**	**193**	S		**S**	**17 58 40.1**	**0.0**
PKGZ	**Pakihiroa**	**6.99**	**191**	P		**Pn**	**17 57 22.5**	**+2.3**
PKGZ	**Pakihiroa**	**6.99**	**191**	S		**S**	**17 58 39.6**	**-2.3**
RUGZ	**Raukumara Rang**	**7.13**	**193**	P		**Pn**	**17 57 24.6**	**+2.6**
RUGZ	**Raukumara Rang**	**7.13**	**193**	S		**S**	**17 58 43.5**	**-1.8**
PUZ	**Puketiti**	**7.14**	**189**	P		**Pn**	**17 57 23.9**	**+1.9**
PUZ	**Puketiti**	**7.14**	**189**	S		**S**	**17 58 42.4**	**-2.9**
WHRZ	**Whale Island**	**7.18**	**199**	P		**Pn**	**17 57 23.4**	**+0.7**
MWZ	**Matawai**	**7.52**	**193**	P		**Pn**	**17 57 28.4**	**+1.8**
URZ	**Urewera**	**7.54**	**196**	P		**Pn**	**17 57 27.5**	**+0.8**
	4.2nm,0.3s,baz=270,slow=5.3,SNR=25							
URZ				S		**S**	**17 58 52.7**	**-1.3**
	1.7nm,0.3s,baz=168,slow=20,SNR=7.5							
URZ	**Urewera**	**7.54**	**196**	P		**Pn**	**17 57 28.1**	**+1.4**
URZ	**Urewera**	**7.54**	**196**	S		**S**	**17 58 54.6**	**+0.6**
CNGZ	**Carnagh Statio**	**7.55**	**189**	P		**Pn**	**17 57 29.8**	**+2.9**
TKGZ	**Te Karaka**	**7.56**	**191**	P		**Pn**	**17 57 28.5**	**+1.5**
RAGZ	**Rawiri**	**7.70**	**193**	P		**Pn**	**17 57 30.5**	**+1.7**
RIGZ	**Rimuhau**	**7.84**	**191**	P		**Pn**	**17 57 33.0**	**+2.5**
RIGZ	**Rimuhau**	**7.84**	**191**	S		**S**	**17 58 59.5**	**-1.4**
RTZ	**Ruatahuna**	**7.91**	**196**	P		**Pn**	**17 57 32.7**	**+1.3**
RAHZ	**Arahi**	**8.17**	**194**	P		**Pn**	**17 57 35.4**	**+0.8**
MRHZ	**Matea Rd**	**8.25**	**198**	P		**Pn**	**17 57 37.4**	**+1.8**
NMHZ	**Naumai**	**8.40**	**196**	P		**Pn**	**17 57 38.6**	**+1.1**
ARHZ	**Aropaoanui**	**8.52**	**194**	P		**Pn**	**17 57 39.3**	**+0.5**
BKZ	**Black Stump Fm**	**8.54**	**197**	P		**Pn**	**17 57 38.7**	**-0.5**
ASAR	**Alice Springs**	**41.10**	**269**	P		**P**	**18 02 55.5**	**+1.0**
	0.2nm,0.6s,baz=106,slow=7.5,SNR=6.8							
WRA	**Warramunga Arr**	**42.15**	**274**	P		**P**	**18 03 03.9**	**+1.0**
	0.3nm,0.3s,baz=112,slow=8.0,SNR=14							
KURBB	**Kurchatov Arra**	**120.07**	**314**	PKP		**PKPdf**	**18 13 49.7**	**-4.0**
	0.2nm,0.2s,baz=70,slow=1.1,SNR=2.7							
BVAR	**Borovoye Array**	**125.45**	**316**	PKP		**PKPdf**	**18 14 01.0**	**-2.9**
	0.5nm,0.7s,baz=104,slow=3.0,SNR=3.3							
FINES	**FINESS Array B**	**145.01**	**338**	PKPbc		**PKPdf**	**18 14 36.8**	**-3.1**
	1.8nm,0.5s,baz=57,slow=3.8,SNR=21							
HFS	**Hagfors**	**149.41**	**346**	PKPbc		**PKPdf**	**18 14 48.6**	**+1.4**
	2.2nm,0.9s,baz=96,slow=2.9,SNR=4.4							
MMAI	**Mount Meron Ar**	**149.74**	**283**	PKPbc		**PKPdf**	**18 14 51.6**	**+2.9**
	0.8nm,0.5s,baz=86,slow=4.5,SNR=3.0							

IDC ***30*** *18:02:17.1±6.2,36.28N×70.86E,h194km±56km,mb3.4/10, mb1 3.3/14,mb1mx3.0/67,mbtmp3.9/14,Error ellipse: s-maj=33.1km s-min=22.9km az=17.0*

ISCJB ***30*** *18:02:19.1±0.5,36.54N±0.04×70.54E±0.07,h200km, mb3.5/9,Error ellipse: s-maj=7.9km s-min=4.8km az=165.5*

NNC ***30*** *18:02:24.3±1.7,36.82N×70.68E,h208km±26km,mb2.9, mpv3.9,Error ellipse: s-maj=20.1km s-min=14.8km az=69.0*

ISC 30 18:02:19.7±0.8,**36.52N**±0.07×**70.65E**±0.09,**h200**km,**n40,** σ1§**16**/45,**mb3.5**/9,**3C-8D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.14**	**32**	⇓P		**Pn**	**18 03 25.1**	**+1.7**
	21nm,0.5s							
SFK				⇓S		**Sn**	**18 04 13.7**	**+0.1**
	41nm,0.4s							
AML	**Almayashu**	**6.08**	**22**	P		**Pn**	**18 03 49.2**	**+1.0**
	SNR=136							
MNAS	**Manas**	**6.13**	**13**	⇓P		**Pn**	**18 03 49.9**	**+1.2**
	3.0nm,0.3s							
MNAS				⇓S		**Sn**	**18 04 57.4**	**-1.7**
	34nm,0.6s							
UCH	**Uchtor**	**6.43**	**26**	P		**Pn**	**18 03 54.0**	**+1.1**
	SNR=49							
KK31	**Karatay Array**	**6.58**	**359**	P		**Pn**	**18 03 55.2**	**+0.8**
	3.0nm,0.5s,baz=191,slow=16,SNR=57							
KK31				⇓S		**Sn**	**18 05 07.8**	**-1.6**
	9.6nm,0.6s,baz=188,slow=23,SNR=13							
EKS2	**Erkin-Say**	**6.59**	**20**	P		**Pn**	**18 03 55.8**	**+1.2**
	SNR=11							
KZA	**Kyzart**	**6.59**	**31**	P		**Pn**	**18 03 55.5**	**+0.5**
	SNR=9.3							
AAK	**Ala-Archa**	**6.79**	**25**	⇓P		**Pn**	**18 03 58.3**	**+1.1**
	7.7nm,0.6s							
AAK				⇑S		**Sn**	**18 05 14.8**	**+0.1**
	12nm,0.5s							
AAK	**Ala-Archa**	**6.79**	**25**	P		**Pn**	**18 03 58.3**	**+1.1**
	SNR=20							
KBK	**Karagaybulak**	**6.97**	**27**	P		**Pn**	**18 04 00.9**	**+1.4**
	SNR=11							
ULHL	**Ulahol**	**7.17**	**35**	P		**Pn**	**18 04 02.8**	**+0.5**
	SNR=6.4							
CHMS	**Chumysh**	**7.20**	**25**	P		**Pn**	**18 04 03.1**	**+0.6**
	SNR=8.4							
USP	**Ospenovka**	**7.36**	**22**	P		**Pn**	**18 04 05.3**	**+0.8**
	SNR=6.3							
TKM2	**Tokmak 2**	**7.44**	**29**	⇓P		**Pn**	**18 04 06.3**	**+0.6**
	7.6nm,0.6s							
TKM2				⇑S		**Sn**	**18 05 28.1**	**-2.0**
	14nm,1.1s							
TKM2	**Tokmak 2**	**7.44**	**29**	P		**Pn**	**18 04 06.6**	**+0.8**
	SNR=7.8							
PYUN	**Piuthan**	**13.38**	**125**	*e*P		**Pn**	**18 05 22.5**	**+0.3**
MKAR	**Makanchi Array**	**13.44**	**37**	P		**Pn**	**18 05 21.7**	**-0.9**
	0.2nm,0.3s,baz=219,slow=11,SNR=10							
GKN	**Gorkha**	**14.55**	**122**	*e*P		**P**	**18 05 38.7**	**+0.9**
	6.8nm,0.4s							
AB31	**Akbulak array**	**14.93**	**332**	⇑P		**P**	**18 05 43.3**	**+1.6**
	0.5nm,0.3s,baz=193,slow=29,SNR=23							
DMN	**Daman**	**15.12**	**122**	*e*P		**P**	**18 05 45.0**	**+0.8**
KKN	**Kakani**	**15.13**	**121**	*e*P		**P**	**18 05 45.7**	**+1.5**
	12nm,0.5s							
KURBB	**Kurchatov Arra**	**15.19**	**19**	P		**Pn**	**18 05 42.9**	**-1.1**
	0.1nm,0.3s,baz=207,slow=10,SNR=5.4							
PKIN	**Phulchoki**	**15.34**	**121**	*e*P		**P**	**18 05 48.2**	**+1.6**
	7.5nm,0.5s							
PKI	**Pulchoki**	**15.35**	**121**	*e*P		**P**	**18 05 48.3**	**+1.5**
	6.9nm,0.4s							
GUN	**Gumba**	**15.47**	**119**	*e*P		**P**	**18 05 49.7**	**+1.5**
	4.5nm,0.4s							
JIRN	**Jiri**	**15.84**	**119**	*e*P		**Pn**	**18 05 53.7**	**+1.2**
	7.7nm,0.3s							
BVAR	**Borovoye Array**	**16.50**	**359**	P		**Pn**	**18 05 60.0**	**+0.2**
	0.7nm,0.3s,baz=158,slow=11,SNR=21							
AKTO	**Aktyubinsk**	**16.62**	**331**	P		**Pn**	**18 06 01.9**	**+0.6**
	1.3nm,0.3s,baz=142,slow=9.3,SNR=15							
AKTO	**Aktyubinsk**	**16.62**	**331**	⇓P		**Pn**	**18 06 01.6**	**+0.3**
	5.0nm,0.8s							
TAPN	**Taplejung**	**17.10**	**117**	*e*P		**Pn**	**18 06 07.0**	**-0.5**
ZALV	**Zalesovo Beam**	**20.01**	**25**	P		**P**	**18 06 36.3**	**-0.7**
	3.2nm,0.4s,baz=215,slow=11,SNR=15							
ARU	**Arti**	**21.52**	**342**	P		**P**	**18 06 54.0**	**+1.2**
	2.0nm,0.4s,baz=119,slow=13,SNR=4.8							
FINES	**FINESS Array B**	**37.31**	**326**	P		**P**	**18 09 12.7**	**+0.4**
	0.4nm,0.3s,baz=121,slow=11,SNR=7.9							
ARCES	**ARCESS Array B**	**41.02**	**338**	P		**P**	**18 09 42.9**	**0.0**
	2.7nm,0.9s,baz=111,slow=6.8,SNR=5.2							
HFS	**Hagfors**	**42.88**	**322**	P		**P**	**18 09 57.9**	**-0.1**
	3.4nm,1.0s,baz=107,slow=7.8,SNR=4.2							
NOA	**NORSAR Array B**	**44.20**	**323**	P		**P**	**18 10 08.0**	**-0.5**
	0.5nm,0.5s,baz=91,slow=7.7,SNR=2.5							
SPITS	**Spitsbergen Ar**	**47.41**	**347**	P		**P**	**18 10 34.1**	**+0.7**
	5.0nm,0.8s,baz=108,slow=8.0,SNR=6.4							
TORD	**Torodi Ar. Bea**	**65.44**	**268**	P		**P**	**18 12 40.6**	**-0.8**
	0.2nm,0.4s,baz=58,slow=6.4,SNR=3.5							
INK	**Inuvik**	**73.93**	**9**	P		**P**	**18 13 31.6**	**-0.8**
	0.3nm,0.5s,baz=12,slow=2.3,SNR=4.2							
WRA	**Warramunga Arr**	**82.24**	**122**	P		**P**	**18 14 15.6**	**-3.1**
	0.5nm,1.0s,baz=325,slow=4.9,SNR=3.3							

GCMT ***30*** *18:16:08.3±0.1,14.34N×93.51W,h12km,MW5.5/129, Moment Tensor Solution. s111,c194; s129,c234; Duration: 1s3 Moment tensor: Scale 10¹⁷Nm; Mrr1.36±.02; Mθθ-1.11±.02; Mϕϕ-0.25±.02; Mrθ 1.00±.04; Mθϕ0.54±.01; Mϕr-1.03±.05; Best double couple: M₀1.97900×10¹⁷ NP1:ϕs130.00000°,δ69.00000°, λ100.00000°. NP2:ϕs283.00000°,δ24.00000°,λ65.00000°. Principal axes: T 2.0180, Plg65.0000°, Azm57.0000°; N -0.0850, Plg10.0000°, Azm306.0000°; P -1.9400, Plg23.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *18:16:08.3±0.2,14.38N×93.06W,h10km,mb5.0/26, MS5.1/139,MW5.4,MD5.4(MEX) Error ellipse: s-maj=4.5km s-min=2.6km az=209.0,Moment Tensor Solution. s28 Moment tensor: Scale 10¹⁷Nm; Mrr1.27; Mθθ-0.69; Mϕϕ-0.58; Mrθ0.60; Mϕθ 0.60; Mϕr-0.06; Best double couple: M₀1.40000×10¹⁷ NP1:ϕs118.00000°, δ57.00000°,λ75.00000°. NP2:ϕs325.00000°,δ36.00000°, λ112.00000°. Principal axes: T 1.4400, Plg73.0000°, Azm349.0000°; N -0.1100, Plg13.0000°, Azm127.0000°; P -1.3300, Plg11.0000°, Azm219.0000°;*

NEIC Felt at Tapachula and Tuxtla Gutierrez.

MOS ***30*** *18:16:10.0±0.8,14.40N×92.99W,h36km,mb5.2/12, MS5.0/21 Error ellipse: s-maj=9.7km s-min=4.2km az=110.1*

MEX ***30*** *18:16:11.5±0.6,14.28N×93.32W,h18km±43km,MD5.4*

ISCJB ***30*** *18:16:12.1±0.5,14.42N±0.03×93.04W±0.02,h53km±4km, mb4.7/45,MS5.1/185,Error ellipse: s-maj=4.6km s-min=2.9km az=25.8*

IDC ***30*** *18:16:14.5±2.4,14.39N×92.96W,h62km±20km,mb4.2/26, mb1 4.3/30,mb1mx4.2/54,mbtmp4.4/30,MS4.9/37, Ms1 4.9/37,ms1mx4.9/44,Error ellipse: s-maj=23.0km s-min=10.6km az=47.0*

ISC 30 18:16:11.2±1.1,**14.35N**±0.04×**93.20W**±0.04,**h31**km±6km, **n948,**σ1§**40**/847,**mb4.7**/45,**MS5.1**/185,**2C-2D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.06**	**58**	*e*P		**Pn**	**18 16 29.7**	**-0.2**
THIG				*i* S		**Sn**	**18 16 44.1**	**+0.6**
THIG		**1.06**	**58**	*e*Pn		**Pn**	**18 16 29.7**	**-0.2**
THIG				*e*Sn		**Sn**	**18 16 44.1**	**+0.6**
PCIG		**1.35**	**359**	*e*P		**Pn**	**18 16 32.9**	**-1.0**
PCIG				*e*S		**Sn**	**18 16 49.3**	**-1.5**
PCIG		**1.35**	**359**	*e*Pn		**Pn**	**18 16 32.9**	**-1.0**
PCIG				*e*Sn		**Sn**	**18 16 49.3**	**-1.5**
CCIG	**Comitan**	**2.18**	**28**	*e*P		**Pn**	**18 16 46.4**	**+0.9**
CCIG				*e*S		**Sn**	**18 17 13.0**	**+1.5**
CCIG	**Comitan**	**2.18**	**28**	*e*Pn		**Pn**	**18 16 46.4**	**+0.9**
TGBT	**Tuxtla Gutierr**	**2.42**	**2**	*e*P		**Pn**	**18 16 49.0**	**+0.4**
TGBT				*i* S		**Sn**	**18 17 17.5**	**+0.4**
TGIG		**2.42**	**2**	*e*P		**Pn**	**18 16 48.7**	**0.0**
TGIG				*e*S		**Sn**	**18 17 17.6**	**+0.3**
TGIG		**2.42**	**2**	*e*Pn		**Pn**	**18 16 48.7**	**0.0**
APG	**El Apazote**	**2.72**	**76**	P		**Pn**	**18 16 53.7**	**+0.7**
	36nm,0.3s,baz=278,slow=8.9,SNR=173							
APG				LR		LR	18 17 58.9	
	comp=Z,17μm,18.2s,baz=252,slow=42							
HUIG	**Huatulco**	**3.15**	**297**	*e*P		**Pn**	**18 16 56.4**	**-2.3**
HUIG				*e*S		**Sn**	**18 17 32.2**	**-3.0**
HUIG	**Huatulco**	**3.15**	**297**	*e*Pn		**Pn**	**18 16 56.4**	**-2.3**
CMIG	**Matias Romero**	**3.18**	**329**	P		**Pn**	**18 16 58.7**	**-0.3**
	32nm,0.3s,baz=146,slow=10,SNR=136							
CMIG				S		**Sn**	**18 17 30.9**	**-5.0**
	162nm,0.3s,baz=114,slow=19,SNR=7.1							
CMIG				LR		LR	18 17 53.3	
	comp=Z,5μm,21.6s,baz=196,slow=30							
SNET	**Serv Nac Est T**	**3.90**	**99**	*e*Pn		**Pn**	**18 17 09.3**	**+0.2**
VHO	**Vista Hermosa**	**4.35**	**309**	*e*P		**Pn**	**18 17 14.3**	**-1.1**
VHO				*e*S		**Sn**	**18 18 02.5**	**-2.7**
VHO	**Vista Hermosa**	**4.35**	**309**	*e*Pn		**Pn**	**18 17 14.3**	**-1.1**
TGUH	**Tegucigalpa,Un**	**5.75**	**92**	*e*Pn		**Pn**	**18 17 34.3**	**-0.1**
LVIG	**Laguna Verde**	**6.17**	**330**	*e*Pn		**Pn**	**18 17 39.4**	**-0.8**
MYIG	**MÓrida**	**7.35**	**26**	*e*Pn		**Pn**	**18 17 55.0**	**-1.5**
UNM	**Universidad Na**	**7.57**	**312**	*e*P		**Pn**	**18 18 00.6**	**+0.9**
UNM	**Universidad Na**	**7.57**	**312**	*e*Pn		**Pn**	**18 18 00.6**	**+0.9**
JTS	**JuntasAbangare**	**9.01**	**116**	P		**Pn**	**18 18 17.9**	**-1.3**
	0.8nm,0.3s,baz=30,slow=20,SNR=3.0							
MOIG	**Morelia**	**9.30**	**306**	*e*Pn		**Pn**	**18 18 24.7**	**+1.2**
JRQG	**Juriquilla Cam**	**9.37**	**313**	*e*Pn		**Pn**	**18 18 26.7**	**+2.4**
HDC	**Heredia**	**9.87**	**115**	*e*Pn		**Pn**	**18 18 30.0**	**-1.2**
LNIG	**Linares**	**12.04**	**332**	*e*Pn		**Pn**	**18 19 00.9**	**+0.2**
ZAIG	**Zacatecas**	**12.21**	**315**	*e*Pn		**Pn**	**18 19 04.8**	**+1.5**
WBCY	**West Bay, Gran**	**12.35**	**64**	*e*Pn		**Pn**	**18 19 03.9**	**-1.0**
FSCY	**Frank Sound, G**	**12.51**	**65**	*e*Pn		**Pn**	**18 19 04.8**	**-2.3**
LCCY	**Blossom Villag**	**13.61**	**65**	*e*Pn		**Pn**	**18 19 21.0**	**-1.1**
KVTX	**Kingsville**	**13.84**	**342**	*e*Pn		**Pn**	**18 19 23.5**	**-1.8**
CBCY	**The Bluff, Cay**	**13.92**	**65**	*e*Pn		**Pn**	**18 19 24.7**	**-1.7**
BCIP	**Isla Barro Col**	**14.05**	**110**	*e*Pn		**Pn**	**18 19 28.7**	**+0.5**
833A	**Chaparral WMA,**	**15.05**	**338**	P		**Pn**	**18 19 42.9**	**+1.2**
	baz=156							
MTDJ	**Mount Denham**	**15.52**	**74**	*e*Pn		**Pn**	**18 19 49.0**	**+1.0**
	42nm,0.8s							
542A	**Morse**	**15.71**	**2**	P		**Pn**	**18 19 51.3**	**+0.9**
	baz=182							
HKT	**Hockley**	**15.72**	**352**	*e*P		**Pn**	**18 19 49.6**	**-0.7**
HKT				pmax		pmax		
	comp=Z,5μm,2.5s							
HKT	**Hockley**	**15.72**	**352**	*e*Pn		**Pn**	**18 19 49.6**	**-0.7**
	comp=Z,5μm,2.5s							
059Z	**Ave Maria**	**16.23**	**41**	P		**Pn**	**18 19 55.8**	**-1.1**
	baz=224							
442A	**Mamou**	**16.30**	**2**	P		**Pn**	**18 19 58.9**	**+1.1**
	baz=182							
441A	**DeRidder**	**16.33**	**0**	P		**P**	**18 19 59.7**	**-1.1**
	baz=180							
444A	**Pine Grove**	**16.45**	**7**	P		**Pn**	**18 20 00.7**	**+1.0**
	baz=188							
445A	**Amite**	**16.52**	**9**	P		**Pn**	**18 20 01.8**	**+1.2**
	baz=189							
058A	**Arcadia**	**16.52**	**38**	P		**Pn**	**18 20 00.1**	**-0.5**
	baz=222							
957A	**Wimauma**	**16.73**	**36**	P		**Pn**	**18 20 03.5**	**+0.2**
	baz=219							
446A	**Poplarville**	**16.74**	**12**	P		**Pn**	**18 20 04.2**	**+0.8**
	baz=192							
435B	**Jarrell**	**16.85**	**347**	P		**P**	**18 20 06.9**	**+0.2**
	baz=165							
059A	**Moore Haven**	**16.86**	**40**	P		**Pn**	**18 20 04.9**	**-0.1**
	baz=224							
447A	**Lucedale**	**16.89**	**14**	P		**P**	**18 20 06.3**	**-0.8**
	baz=185							
341A	**Kurthwood**	**16.91**	**0**	P		**P**	**18 20 06.7**	**-0.6**
	baz=180							
343A	**Vidalia**	**16.92**	**5**	P		**P**	**18 20 07.2**	**-0.2**
	baz=185							
958A	**Wauchula**	**16.94**	**37**	P		**Pn**	**18 20 05.7**	**-0.2**
	baz=221							
342A	**Flagon Creek P**	**16.97**	**3**	P		**P**	**18 20 08.0**	**+0.1**
	baz=182							
HPIG			**17.10**	**319**	*e*Pn	**P**	**18 20 09.9**	**+0.3**
345A	**Thompson Farm,**	**17.13**	**9**	P		**P**	**18 20 10.1**	**+0.4**
	baz=190							
JCT	**Junction City**	**17.17**	**340**	P		**P**	**18 20 10.3**	**+0.1**
	baz=157							
JCT	**Junction City**	**17.17**	**340**	*e*P		**Pn**	**18 20 08.6**	**-0.3**
JCT	**Junction City**	**17.17**	**340**	*e*Pn		**Pn**	**18 20 08.6**	**-0.3**
344A	**Westbrook Farm**	**17.18**	**7**	P		**P**	**18 20 09.8**	**-0.4**
	baz=188							
857A	**Zephyrhills**	**17.19**	**35**	P		**Pn**	**18 20 09.1**	**0.0**
	baz=218							
448A	**Bay Minette**	**17.22**	**16**	P		**P**	**18 20 10.3**	**-0.4**
	baz=197							
346A	**Big Creek Wild**	**17.30**	**11**	P		**P**	**18 20 12.0**	**+0.4**
	baz=192							
NATX	**Nacogdoches**	**17.38**	**356**	P		**P**	**18 20 12.1**	**-0.5**
	baz=175							
NATX	**Nacogdoches**	**17.38**	**356**	*e*Pn		**Pn**	**18 20 11.1**	**-0.3**
060A	**Indiantown**	**17.40**	**41**	P		**Pn**	**18 20 10.6**	**-1.1**
	baz=226							
243A	**Waterproof**	**17.52**	**5**	P		**P**	**18 20 14.8**	**+0.7**
	baz=185							
DWPF	**Disney Wildern**	**17.52**	**37**	P		**Pn**	**18 20 13.6**	**+0.4**
	baz=221							
DWPF	**Disney Wildern**	**17.52**	**37**	*e*Pn		**Pn**	**18 20 11.8**	**-1.4**
	comp=Z,280nm,1.1s							
451A	**Vernon**	**17.58**	**22**	P		**P**	**18 20 14.5**	**-0.2**
	baz=204							
241A	**Mo Tay, Goldon**	**17.60**	**1**	P		**P**	**18 20 15.4**	**+0.6**
	baz=180							
240A	**Hunter Patters**	**17.62**	**358**	P		**P**	**18 20 15.5**	**+0.4**
	baz=178							
858A	**St. Cloud**	**17.64**	**37**	P		**Pn**	**18 20 14.8**	**+0.1**
	baz=221							
242A	**Grayson**	**17.66**	**3**	P		**P**	**18 20 16.1**	**+0.5**
	baz=183							
348A	**Jackson**	**17.67**	**15**	P		**P**	**18 20 15.5**	**-0.1**
	baz=197							
655A	**Horseshoe Beac**	**17.67**	**30**	P		**Pn**	**18 20 15.3**	**+0.3**
	baz=213							
BRAL	**Brewton**	**17.67**	**18**	P		**P**	**18 20 15.5**	**-0.1**
	baz=200							
BRAL	**Brewton**	**17.67**	**18**	*e*Pn		**Pn**	**18 20 13.5**	**-1.5**
553A	**Crawfordville**	**17.72**	**26**	P		**Pn**	**18 20 15.8**	**+0.3**
	baz=209							
244A	**Avery, Jackson**	**17.76**	**7**	P		**P**	**18 20 17.0**	**+0.3**
	baz=188							
LTX	**Lajitas**	**17.78**	**329**	*e*P		**P**	**18 20 18.8**	**+1.7**
LTX	**Lajitas**	**17.78**	**329**	*e*Pn		**P**	**18 20 18.8**	**+1.7**
TXAR	**Lajitas Array**	**17.78**	**329**	P		**P**	**18 20 18.8**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=149,slow=12,SNR=40							
TXAR				LR		LR	18 27 21.8	
	comp=Z,2μm,18.6s,baz=0.0,slow=37							
TX31	**Lajitas Ar. Si**	**17.79**	**329**	*e*Pn		**P**	**18 20 17.3**	**+0.2**
349A	**Repton**	**17.80**	**17**	P		**P**	**18 20 17.2**	**+0.1**
	baz=199							
859A	**Kempfer Cattle**	**17.80**	**38**	P		**Pn**	**18 20 16.4**	**-0.2**
	baz=222							
757A	**Oxford**	**17.81**	**34**	P		**Pn**	**18 20 16.4**	**-0.3**
	baz=217							
245A	**Little AP, Sta**	**17.86**	**9**	P		**P**	**18 20 17.8**	**0.0**
	baz=190							
656A	**Willston**	**17.91**	**32**	P		**Pn**	**18 20 18.0**	**+0.1**
	baz=215							
554A	**Perry**	**17.95**	**28**	P		**Pn**	**18 20 18.5**	**0.0**
	baz=211							
VBMS	**Vicksburg**	**17.96**	**7**	P		**P**	**18 20 18.8**	**0.0**
	baz=188							
VBMS	**Vicksburg**	**17.96**	**7**	*e*Pn		**Pn**	**18 20 17.9**	**-0.6**
246A	**Jackson Lee, B**	**17.98**	**11**	P		**Pn**	**18 20 18.7**	**-0.1**
	baz=192							
WHTX	**Lake Whitney,**	**17.99**	**348**	P		**P**	**18 20 19.7**	**+0.4**
	baz=166							
WHTX	**Lake Whitney,**	**17.99**	**348**	*e*Pn		**Pn**	**18 20 19.1**	**+0.2**
452A	**Marianna**	**18.00**	**23**	P		**Pn**	**18 20 19.1**	**0.0**
	baz=206							
247A	**Quitman**	**18.12**	**13**	P		**P**	**18 20 21.0**	**+0.4**
	baz=194							
350A	**Dozier**	**18.12**	**19**	P		**P**	**18 20 20.9**	**+0.2**
	baz=201							
GTBY	**Guantanamo Bay**	**18.15**	**70**	*e*P		**Pn**	**18 20 19.2**	**-1.7**
142A	**Monroe**	**18.16**	**3**	P		**P**	**18 20 21.8**	**+0.8**
	baz=184							
141A	**Papa Simpson,**	**18.18**	**1**	P		**P**	**18 20 21.5**	**+0.2**
	baz=180							
140A	**Cam and Jess,**	**18.21**	**359**	P		**Pn**	**18 20 22.0**	**+0.3**
	baz=178							
351A	**Pinckard**	**18.23**	**21**	P		**P**	**18 20 21.5**	**-0.4**
	baz=204							
758A	**Lake Helen**	**18.30**	**35**	P		**P**	**18 20 21.7**	**-0.9**
	baz=220							
555A	**McAlpin**	**18.31**	**29**	P		**P**	**18 20 22.5**	**-0.3**
	baz=213							
453A	**Whigham**	**18.34**	**25**	P		**P**	**18 20 22.7**	**-0.4**
	baz=208							
143A	**Socs Landing,**	**18.35**	**5**	P		**P**	**18 20 23.2**	**+0.1**
	baz=185							
248A	**Dixon Mills**	**18.36**	**15**	P		**Pn**	**18 20 23.6**	**+0.2

Y44A	Strider, Charl	19.71	7	P		P		18 20 38.3	+0.2	
	baz=188									
Z49A	Columbiana	19.72	17	P		P		18 20 37.8	-0.3	
	baz=199,SNR=14									
254A	Abbeville	19.72	26	P		P		18 20 38.4	+0.2	
	baz=209,SNR=5.7									
Y46A	Houston	19.84	11	P		P		18 20 39.1	-0.4	
	baz=192,SNR=42									
Z50A	Ashland	19.95	18	P		P		18 20 40.0	-0.7	
	baz=201,SNR=9.5									
X40A	Basin Creek Fa	20.05	1	P		P		18 20 41.8	-0.1	
	baz=181,SNR=6.1									
Y47A	UCPARC, Winfie	20.06	13	P		P		18 20 41.7	-0.3	
	baz=195									
X41A	Kaden, Bauxite	20.07	2	P		P		18 20 42.3	+0.3	
	baz=182									
X39A	Fountain Ranch	20.09	358	P		P		18 20 42.9	+0.6	
	baz=177,SNR=11									
357A	Townsend	20.10	30	P		P		18 20 41.7	-0.7	
	baz=214									
MIAR	Mount Ida	20.11	359	P		P		18 20 42.8	+0.3	
	baz=179									
MIAR	Mount Ida	20.11	359	eP		P		18 20 41.6	-0.9	
MIAR					pmax	pmax				
	comp=Z,49nm,0.9s									
MIAR					MLR	MLR				
	comp=Z,1µm,20.0s									
MIAR	Mount Ida	20.11	359	eP		P		18 20 41.5	-0.9	
	comp=Z,49nm,0.9s									
MIAR					LR	LR				
	comp=Z,1µm,20.0s									
X42A	Stuttgart	20.17	4	P		P		18 20 43.4	+0.3	
	baz=184									
X43A	Marvell	20.19	6	P		P		18 20 43.3	0.0	
	baz=186									
Y48A	Jasper	20.23	15	P		P		18 20 43.3	-0.5	
	baz=197									
OTAV	Otavalo	20.23	133	P		Pn		18 20 46.6	+0.1	
OTAV	Otavalo	20.23	133	eP		P		18 20 44.4	0.0	
OTAV					LR	LR				
	comp=Z,2µm,20.0s									
X44A	Crenshaw	20.25	7	P		P		18 20 43.8	-0.2	
	baz=188									
X45A	UM Field Stati	20.28	9	P		P		18 20 43.7	-0.6	
	baz=190									
CLNB	Carlsbad	20.33	333	eP		Pn		18 20 46.2	-1.0	
UALR	University of	20.35	2	eP		P		18 20 45.5	+0.4	
OXF	Oxford	20.37	9	P		P		18 20 44.8	-0.4	
	baz=190									
OXF	Oxford	20.37	9	eP		P		18 20 44.5	-0.7	
OXF					pmax	pmax				
	comp=Z,165nm,1.2s									
OXF	Oxford	20.37	9	eP		P		18 20 44.5	-0.7	
	comp=Z,165nm,1.2s									
256A	Glennville	20.37	29	P		P		18 20 44.4	-0.9	
	baz=213									
Y49A	Blount Mountai	20.38	16	P		P		18 20 44.9	-0.5	
	baz=199									
154A	Montrose	20.38	25	P		P		18 20 44.7	-0.7	
	baz=209									
GDL2	Guadalupe Moun	20.49	332	eP		Pn		18 20 48.5	-0.5	
X46A	Booneville	20.55	11	P		P		18 20 47.4	+0.2	
	baz=192									
MNTX	Cornudas Mount	20.56	329	P		Pn		18 20 48.7	-1.1	
	baz=144,SNR=62									
MNTX	Cornudas Mount	20.56	329	eP		Pn		18 20 48.7	-1.1	
	comp=Z,25nm,0.7s									
MNTX					LR	LR				
	comp=Z,3µm,19.0s									
Y50A	Piedmont	20.60	18	P		P		18 20 47.0	-0.8	
	baz=201,SNR=6.5									
X47A	Russelville	20.65	13	P		P		18 20 48.3	0.0	
	baz=194,SNR=8.0									
155A	Kite	20.66	26	P		P		18 20 48.1	-0.2	
	baz=210									
W41B	Gary Mavity, V	20.75	2	P		P		18 20 49.3	-0.1	
	baz=182,SNR=11									
W40A	Ferguson Farm,	20.76	0	P		P		18 20 49.0	-0.4	
	baz=180									
W40A	Ferguson Farm,	20.76	0	eP		P		18 20 49.4	0.0	
W39A	Magazine	20.77	359	P		Pn		18 20 51.9	-0.1	
	baz=178,SNR=11									
X48A	Hartselle	20.77	14	P		P		18 20 49.1	-0.5	
	baz=197									
257A	Skidaway Islan	20.78	30	P		P		18 20 49.3	-0.4	
	baz=215									
ROSC	El Rosal	20.85	115	P		P		18 20 51.6	+0.5	
	comp=Z,5.9nm,0.4s,baz=305,slow=14,SNR=6.0									
ROSC					LR	LR		18 28 59.3		
	comp=Z,761nm,18.4s,baz=323,slow=37									
W42A	Bald Knob	20.89	4	P		Pn		18 20 52.4	-1.1	
	baz=184									
MET	Memphis--Engin	20.89	8	eP		P		18 20 52.1	+1.2	
PRAC	Prado	20.92	119	eP		Pn		18 20 53.9	-0.2	
WMOK	Wichita Mounta	20.92	347	P		P		18 20 52.0	+0.8	
	baz=164,SNR=12									
WMOK	Wichita Mounta	20.92	347	eP		P		18 20 51.2	-0.1	
WMOK					pmax	pmax				
	comp=Z,32nm,1.2s									
WMOK					MLR	MLR				
	comp=Z,2µm,20.0s									
WMOK	Wichita Mounta	20.92	347	eP		P		18 20 51.1	-0.1	
WMOK					LR	LR				
	comp=Z,2µm,20.0s									
GOGA	Godfrey	20.94	23	P		Pn		18 20 53.0	-1.0	
	baz=207,SNR=18									
GOGA	Godfrey	20.94	23	eP		P		18 20 51.0	-0.4	
GOGA					pmax	pmax				
	comp=Z,109nm,1.0s									
GOGA					MLR	MLR				
	comp=Z,7µm,20.0s									
GOGA	Godfrey	20.94	23	eP		P		18 20 51.0	-0.4	
	comp=Z,109nm,1.0s									
GOGA					LR	LR				
	comp=Z,7µm,20.0s									
CPRX	Cap Rock	20.98	334	eP		P		18 20 52.2	+0.1	
X49A	Woodville	21.02	16	P		P		18 20 54.0	+1.8	
	baz=198,SNR=34									
W45A	Hickory Valley	21.03	9	P		P		18 20 55.2	+2.8	
	baz=190									
PLAL	Pickwick Lake	21.06	12	eP		P		18 20 52.5	-0.2	
W46A	Michie	21.15	11	P		P		18 20 52.9	-0.7	
	baz=193,SNR=9.5									
X50A	Fort Payne	21.16	17	P		P		18 20 55.5	+1.7	
	baz=200,SNR=6.8									
EPT	El Paso	21.20	327	eP		P		18 20 54.5	+0.2	
V41A	Mountainview	21.37	2	P		P		18 20 57.2	+1.2	
	baz=182,SNR=24									
V40A	Witts Springs	21.37	1	P		P		18 20 57.4	+1.4	
	baz=181,SNR=12									
MSTX	Muleshoe	21.38	338	P		P		18 20 57.2	+0.9	
	baz=154									
MSTX	Muleshoe	21.38	338	eP		P		18 20 56.1	-0.2	
	comp=Z,93nm,1.1s									
V39A	Pettigrew	21.41	359	P		P		18 20 56.6	+0.1	
	baz=178,SNR=35									
W47A	Westpoint	21.42	13	P		P		18 20 55.2	-1.3	
	baz=195									
V42A	Cord	21.43	4	P		P		18 20 57.1	+0.5	
	baz=184									
W48A	Pulaski	21.46	14	P		P		18 20 56.3	-0.7	
	baz=196									
SDDR	Presa de Saban	21.48	75	eP		P		18 20 56.9	-0.6	
SDDR					LR	LR				
	comp=Z,5µm,21.0s									
RUSC	La Rusia	21.49	111	eP		P		18 20 58.2	+0.2	
TUL1	Leonard	21.60	354	P		P		18 20 59.4	+0.9	
	baz=173									
TUL1	Leonard	21.60	354	eP		P		18 20 57.6	-0.9	
	comp=Z,51nm,0.8s									
AMTX	Amarillo	21.83	341	P		P		18 21 02.1	+0.9	
	baz=157									
AMTX	Amarillo	21.83	341	eP		P		18 21 01.3	+0.1	
	comp=Z,89nm,0.6s									
V46A	Holladay	21.84	11	P		P		18 21 01.1	-0.1	
	baz=193,SNR=9.3									
U40A	Yellville	21.92	1	P		P		18 21 01.8	-0.2	
	baz=180,SNR=22									
U41A	Viola	21.93	3	P		P		18 21 02.0	-0.1	
	baz=183,SNR=6.6									
U39A	Green Forest	21.95	359	P		P		18 21 02.2	0.0	
	baz=179,SNR=15									
SRIG	Santa Rosalia	21.95	309	eP		P		18 21 01.9	-0.4	
U42A	Revenden	21.98	4	P		P		18 21 03.1	+0.5	
	baz=185,SNR=12									
HSIG		21.99	314	eP		P		18 21 03.6	+0.8	
V47A	Nunnelly	21.99	12	P		P		18 21 02.8	+0.2	
	baz=194									
NHSC	New Hope	22.11	30	eP		P		18 21 04.5	+0.5	
NHSC					LR	LR				
	comp=Z,12µm,19.0s									
GRTK	Grand Turk	22.15	68	eP		P		18 21 04.1	-0.5	
GRTK					LR	LR				
	comp=Z,3µm,19.0s									
PVMO	Portageville	22.20	7	eP		P		18 21 03.4	-1.5	
WVT	Waverly	22.22	12	eP		P		18 21 03.7	-1.5	
WVT	Waverly	22.22	12	eP		P		18 21 03.7	-1.5	
UTMT	University of	22.24	9	eP		P		18 21 03.4	-2.0	
319A	Douglas	22.47	322	eP		P		18 21 10.2	+2.2	
121A	Cookes Peak, D	22.47	326	P		P		18 21 10.1	+2.0	
	baz=140,SNR=50									
PBMO	Poplar Bluff	22.48	6	eP		P		18 21 07.3	-0.6	
T39A	Clever	22.59	360	P		P		18 21 09.6	+0.5	
	baz=179,SNR=19									
T38A	Diamond	22.62	358	P		P		18 21 09.4	0.0	
	baz=177,SNR=17									
U47A	Clarksville	22.63	12	P		P		18 21 09.5	0.0	
	baz=195									
T41A	Mountain View	22.64	3	P		P		18 21 09.3	-0.3	
	baz=183,SNR=38									
T42A	Van Buren	22.67	4	P		P		18 21 09.0	-0.9	
	baz=185									
T40A	Mansfield	22.72	1	P		P		18 21 10.2	-0.3	
	baz=181,SNR=21									
SDV	Santo Domingo	22.75	101	P		P		18 21 11.6	+0.4	
	comp=Z,9.1nm,0.3s,baz=299,slow=4.5,SNR=9.1									
SDV	Santo Domingo	22.75	101	eP		P		18 21 09.7	-1.5	
SDV					LR	LR				
	comp=Z,3µm,20.0s									
T43A	Greenville	22.79	6	P		P		18 21 10.7	-0.5	
	baz=187									
TKL	Tuckaleechee C	22.85	20	P		P		18 21 11.0	-0.9	
	comp=Z,13nm,1.2s,baz=201,slow=13,SNR=3.9									
TKL					LR	LR		18 32 00.9		
	comp=Z,5µm,18.5s,baz=202,slow=42									
TKL	Tuckaleechee C	22.85	20	eP		P		18 21 11.3	-0.6	
TKL	Tuckaleechee C	22.85	20	eP		P		18 21 11.3	-0.6	
T46A	Princeton	23.09	11	P		P		18 21 14.7	+0.3	
	baz=193									
BNM	Barren Site	23.16	331	eP		P		18 21 16.4	+1.0	
S40A	Lebanon	23.17	1	P		P		18 21 14.8	-0.2	
	baz=181,SNR=10.0									
S41A	Jillco Farms,	23.18	3	P		P		18 21 14.5	-0.7	
	baz=183,SNR=17									
T47A	Sharon Grove	23.19	12	P		P		18 21 15.3	-0.1	
	baz=195									
S38A	Stockton	23.20	359	P		P		18 21 15.3	-0.1	
	baz=178,SNR=27									
Y22D	IRIS PASSCAL I	23.24	330	eP		P		18 21 18.1	+2.0	
S39A	Bolivar	23.25	360	P		P		18 21 15.3	-0.6	
	baz=179,SNR=17									
S43A	Fulton Ridge,	23.30	6	P		P		18 21 15.9	-0.5	
	baz=187,SNR=7.4									
LPM	Los Pinos Moun	23.30	331	eP		P		18 21 17.9	+1.3	
KMSC	Kings Mountain	23.30	25	P		P		18 21 15.5	-1.0	
	baz=210									
KMSC	Kings Mountain	23.30	25	eP		P		18 21 15.5	-1.0	
S42A	Caledonia	23.43	5	P		P		18 21 17.1	-0.5	
	baz=186									
T48A	Bowling Green	23.47	14	P		P		18 21 17.5	-0.6	
	baz=196									
S44A	Carbondale	23.52	8	P		P		18 21 18.4	-0.1	
	baz=189									
SIUC	Southern Illin	23.54	8	eP		P		18 21 18.4	-0.3	
S45A	Carrier Mills	23.60	9	P		P		18 21 19.5	+0.3	
	baz=191									
LAZ	Ladron	23.61	330	eP		P		18 21 19.7	0.0	
FVM	French Village	23.67	5	eP		P		18 21 18.9	-1.1	
FVM	French Village	23.67	5	eP		P		18 21 18.9	-1.1	
CCM	Cathedral Cave	23.68	4	P		P		18 21 20.2	+0.1	
	baz=184									
CCM	Cathedral Cave	23.68	4	eP		P		18 21 18.6	-1.5	
CCM	Cathedral Cave	23.68	4	eP		P		18 21 18.6	-1.5	
TZTN	Tazewell	23.73	20	eP		P		18 21 18.7	-1.9	
ANMO	Albuquerque	23.74	332	P		P		18 21 22.1	+1.2	
	comp=Z,4.8nm,0.6s,baz=328,slow=11,SNR=17									
ANMO	Albuquerque	23.74	332	P		P		18 21 21.6	+0.6	
	baz=146									
ANMO	Albuquerque	23.74	332	*c iP*		P		18 21 22.3	+1.3	
ANMO					pmax	pmax				
	comp=Z,8.0nm,0.9s									
ANMO	Albuquerque	23.74	332	eP		P		18 21 21.8	+0.8	
ANMO					LR	LR				
	comp=Z,2µm,19.0s									
R38A	Fenwick Farm,	23.75	359	P		P		18 21 20.3	-0.5	
	baz=178,SNR=29									
R40A	Maddies Statio	23.86	2	P		P		18 21 21.2	-0.7	
	baz=182,SNR=13									
R39A	Chumby, Stover	23.87	0	P		P		18 21 21.4	-0.5	
	baz=180,SNR=20									
R41A	Rosebud	23.91	4	P		P		18 21 21.5	-0.8	
	baz=184,SNR=13									
R42A	Luebbering	23.93	5	P		P		18 21 21.5	-1.0	
	baz=185,SNR=9.2									
R43A	Red Bud	24.01	6	P		P		18 21 22.8	-0.3	
	baz=188,SNR=8.7									
USIN	University of	24.03	11	eP		P		18 21 21.9	-1.4	
TUC	Tucson	24.03	321	P		P		18 21 24.6	+1.0	
	baz=134									
TUC	Tucson	24.03	321	eP		P		18 21 23.6	0.0	
TUC					MLR	MLR				
	comp=Z,7µm,19.0s									
TUC	Tucson	24.03	321	eP		P		18 21 23.6	0.0	
TUC					LR	LR				
	comp=Z,7µm,19.0s									
R44A	Waltonville	24.08	8	P		P		18 21 23.2	-0.6	
	baz=190									
R45A	Skylar, Fairfi	24.24	9	P		P		18 21 24.9	-0.4	
	baz=191									
SLM	Saint Louis	24.33	6	eP		P		18 21 25.0	-1.2	
SLM	Saint Louis	24.33	6	eP		P		18 21 25.0	-1.2	
Q37A	Longview Farm,	24.46	358	P		P		18 21 27.0	-0.4	
	baz=177									
Q38A	Cooks Store, C	24.52	359	P		P		18 21 27.5	-0.4	
	baz=179,SNR=24									
WCI	Wyandotte Cave	24.56	13	P		P		18 21 27.7	-0.5	
	baz=196									
WCI	Wyandotte Cave	24.56	13	eP		P		18 21 26.6	-1.7	
WCI	Wyandotte Cave	24.56	13	eP		P		18 21 26.6	-1.7	
Q40A	Lost Farm, Aux	24.57	2	P		P		18 21 28.0	-0.3	
	baz=182									
Q41A	Truxton	24.57	4	P		P		18 21 27.9	-0.4	
	baz=184,SNR=18									
R47A	Wooly Knot Far	24.57	13	P		P		18 21 26.9	-1.4	
	baz=195									
Q42A	Golden Eagle	24.58	5	P		P		18 21 28.1	-0.3	
	baz=186									
Q39A	Willow Grove F	24.60	0	P		P		18 21 27.1	-1.5	
	baz=180,SNR=12									
Q43A	New Douglas	24.69	7	P		P		18 21 28.4	-1.0	
	baz=188									
OLIL	Olney	24.70	10	eP		P		18 21 28.1	-1.4	
	comp=Z,47nm,1.0s									
NCAT	North Carolina	24.76	27	eP		P		18 21 29.0	-1.1	
T25A	Trinidad	24.80	338	P		P		18 21 32.4	+1.7	
	baz=153,SNR=19									
T25A	Trinidad	24.80	338	eP		P		18 21 31.4	+0.7	
KSU1	Kansas State U	24.84	354	P		P		18 21 30.6	-0.2	
	baz=172									
KSU1	Kansas State U	24.84	354	eP		P		18 21 29.8	-1.0	
	comp=Z,39nm,0.7s									
KSU1					LR	LR				
	comp=Z,2µm,20.0s									
MHTCO	State Highway	24.89	338	eP		P		18 21 33.5	+1.9	
CNNC	Cliffs of the	24.95	31	eP		P		18 21 30.5	-1.3	
CNNC					LR	LR				
	comp=Z,11µm,19.0s									
CBKS	Cedar Bluff	25.05	348	P		P		18 21 32.7	0.0	
	baz=165									
CBKS	Cedar Bluff	25.05	348	eP		P		18 21 32.5	-0.2	
CBKS					pmax	pmax				
	comp=Z,48nm,0.9s									
CBKS					MLR	MLR				
	comp=Z,2µm,21.0s									
CBKS	Cedar Bluff	25.05	348	eP		P		18 21 32.5	-0.2	
	comp=Z,48nm,0.9s									
CBKS					LR	LR				
	comp=Z,2µm,21.0s									
P39B	Salisbury	25.05	1	P		P		18 21 31.7	-1.0	
	baz=181,SNR=13									
214A	Organ Pipe Nat	25.07	318	P		P		18 21 36.4	+3.4	
	baz=130									
P40A	Paris	25.11	2	P		P		18 21 31.9	-1.3	
	baz=182,SNR=13									
X18A	Snowflake	25.16	326	eP		P		18 21 35.8	+1.9	
P37A	Lathrop	25.16	358	P		P		18 21 33.3	-0.4	
	baz=177,SNR=6.9									
P38A	Dawn	25.18	359	P		P		18 21 33.4	-0.5	
	baz=179,SNR=10									
P42A	Winchester	25.27	5	P		P		18 21 33.4	-1.2	
	baz=186									
MPR	Mayaguez	25.29	78	eP		P		18 21 34.5	-0.6	
P41A	Barry, Barry	25.30	4	P		P		18 21 33.4	-1.5	
	baz=184,SNR=10									
CRPR	Cabo Rojo, PR	25.31	78	eP		P		18 21 34.4	-0.8	
P43A	Skaggs, Pawnee	25.40	7	P		P		18 21 36.8	+0.9	
	baz=188									
BLO	Bloomington	25.42	12	eP		P		18 21 34.5	-1.5	
BLO	Bloomington	25.42	12	eP		P		18 21 34.5	-1.5	
BLA	Blacksburg	25.46	24	PFAKE				18 21 50.0	+14	
BLA					LR	LR				
	comp=Z,8µm,19.0s									
W18A	Petrified Fore	25.49	327	P		P		18 21 38.4	+1.5	
	baz=140									
W18A	Petrified Fore	25.49	327	eP		P		18 21 38.8	+1.9	
VWCC	Virginia Weste	25.67	25	eP		P		18 21 38.1	-0.1	
O38A	Galt	25.68	360	P		P		18 21 38.9	+0.6	
	baz=179									
O40A	La Belle	25.70	2	P		P		18 21 37.0	-1.6	
	baz=183									
O37A	Wolven Farm, M	25.73	358	P		P		18 21 38.9	0.0	
	baz=178									
SDCO	Great Sand Dun	25.74	337	P		P		18 21 40.4	+1.1	
	baz=151,SNR=20									
SDCO	Great Sand Dun	25.74	337	eP		P		18 21 40.9	+1.6	
	comp=Z,70nm,1.4s									
SDCO					LR	LR				
	comp=Z,2µm,19.0s									
O41A	Passleys Farm,	25.75	4	P		P		18 21 38.7	-0.3	
	baz=185									
O39A	Kirksville	25.82	1	P		P		18 21 39.3	-0.3	
	baz=181									
X16A	Lo Mia Camp, P	25.91	324	eP		P		18 21 41.8	+1.0	
O33A	Hebron	25.92	352	P		P		18 21 40.6	0.0	
	baz=170									
O34A	Beatrice	25.92	354	P		P		18 21 40.4	-0.2	
	baz=172									
O35A	Humboldt	25.93	355	P		P		18 21 41.4	+0.8	
	baz=174									
KSCO	Kaye Shedlock'	25.94	343	eP		P		18 21 42.0	+1.0	
113A	Mohawk Valley,	26.21	318	eP		P		18 21 44.4	+1.0	
SJG	San Juan	26.23	78	eP		P		18 21 41.8	-1.8	
SJG					MLR	MLR				
	comp=Z,2µm,21.0s									
SJG	San Juan	26.23	78	eP		P		18 21 41.8	-1.8	
SJG					LR	LR				
	comp=Z,2µm,21.0s									
S22A	4UR Ranch, Cre	26.26	335	P		P		18 21 45.3	+1.2	
	baz=149									
S22A	4UR Ranch, Cre	26.26	335	eP		P		18 21 44.9	+0.8	
HDIL	Hopedale	26.33	7	eP		P		18 21 44.3	0.0	
HDIL					LR	LR				
	comp=Z,3µm,21.0s									
N38A	Joes South For	26.35	360	P		P		18 21 43.9	-0.5	
	baz=180,SNR=12									
N36A	Muff Farm, Cla	26.41	357	P		P		18 21 44.7	-0.4	
	baz=176									
N40A	Mertquake, Sal	26.48	3	P		P		18 21 45.0	-0.5	
	baz=183									
Y14A	Wickenburg	26.50	321	eP		P		18 21 47.2	+1.3	
N35A	Tabor	26.50	356	P		P		18 21 44.9	-0.9	
	baz=174									
MVCO	Mesa Verde	26.54	332	P		P		18 21 47.8	+1.4	
	baz=145,SNR=11									
MVCO	Mesa Verde	26.54	332	eP		P		18 21 45.9	-0.6	
	comp=Z,48nm,1.3s									
MVCO					LR	LR				
	comp=Z,2µm,21.0s									
N34A	Lincoln	26.55	354	P		P		18 21 46.0	-0.3	
	baz=173									
WUAZ	Wupatki	26.67	325	P		P		18 21 48.7	+1.1	
	baz=138									
WUAZ	Wupatki	26.67	325	eP		P		18 21 49.1	+1.5	
	comp=Z,19nm,0.9s									
WUAZ					LR	LR				
	comp=Z,4µm,20.0s									
Q24A	Divide	26.69	339	eP		P		18 21 48.6	+0.7	
JSRW	J. Sargeant Re	26.94	28	eP		P		18 21 47.0	-2.7	
M37A	Trindle Farm,	26.97	359	P		P		18 21 49.7	-0.3	
	baz=178									
M38A	Pleasantville	26.97	360	P		P		18 21 49.9	-0.2	
	baz=180,SNR=13									
URVA	University of	27.00	28	eP		P		18 21 47.7	-2.6	
M40A	Post Highland	27.00	3	P		P		18 21 49.4	-0.9	
	baz=183,SNR=5.5									
M41A	Milan	27.03	4	P		P		18 21 50.1	-0.4	
	baz=185									
M36A	Felix, Anita	27.04	357	P		P		18 21 50.3	-0.4	
	baz=176									
M39A	Webster	27.05	2	P		P		18 21 50.3	-0.4	
	baz=182									
IP07	Quail	27.06	27	eP		P		18 21 48.8	-2.1	
GLA	Glamis	27.09	317	P		P		18 21 52.3	+1.1	
	baz=128									
GLA	Glamis	27.09	317	eP		P		18 21 52.4	+1.1	
GLA	Glamis	27.09	317	eP		P		18 21 52.4	+1.1	
IP06	Yanceyville	27.09	27	eP		P		18 21 50.0	-1.2	
M35A	Neola	27.11	356	P		P		18 21 51.2	-0.1	
	baz=174									
IP05	Hopewell Churc	27.11	28	eP		P		18 21 50.1	-1.2	
IP01	Cuckoo	27.14	27	eP		P		18 21 50.0	-1.6	
IP03	Louisa	27.15	27	eP		P		18 21 49.9	-1.8	
IP04	Greensprings	27.18	27	eP		P		18 21 50.0	-1.9	
M34A	Aspy Farms, Fr	27.22	354	P		P		18 21 52.2	0.0	
	baz=179									
CVRD	Centerville Ro	27.28	27	eP		P		18 21 51.3	-1.5	
ACSO	Alum Creek Sta	27.30	17	eP		P		18 21 51.2	-1.7	
ACSO					LR	LR				
	comp=Z,4µm,19.0s									
BGNE	Belgrade	27.30	352	eP		P		18 21 52.1	-1.0	
Y12C	Blythe	27.33

baz=186
K39A Oelwein 28.28 2 P P 18 22 01.8 0.0
baz=182
K40A Colesburg 28.31 3 P P 18 22 02.2 +0.2
baz=184
K37A Belmond 28.32 359 P P 18 22 02.8 +0.7
baz=179
K34A Le Mars 28.35 355 P P 18 22 02.9 +0.5
baz=174
BELC Belle Mtn. Jos 28.44 317 P P 18 22 05.1 +1.7
baz=128
DPP Dos Picos Cty 28.48 315 eP P 18 22 04.7 +1.0
XPFO Piæon Flat 28.51 316 eP P 18 22 04.5 +0.5
PFO Pinyon Flats O 28.51 316 eP P 18 22 04.1 0.0
PFO MLR MLR
comp=Z,3µm,19.0s
PFO Pinyon Flats O 28.51 316 eP P 18 22 04.1 0.0
PFO LR LR
comp=Z,3µm,19.0s
CPE Camp Elliot 28.53 314 eP P 18 22 03.9 -0.2
LDFC Landfair 28.55 320 eP P 18 22 07.0 +2.6
KNB Kanab 28.56 326 eP P 18 22 05.4 +0.8
KNB Kanab 28.56 326 eP P 18 22 05.4 +0.8
JFWS Jewell Farm 28.58 5 eP P 18 22 03.8 -0.6
JFWS MLR MLR
comp=Z,2µm,19.0s
JFWS Jewell Farm 28.58 5 eP P 18 22 03.8 -0.6
JFWS LR LR
comp=Z,2µm,19.0s
K31A O'Neill 28.58 351 P P 18 22 05.0 +0.5
baz=168
PKCU Pink Cliffs 28.60 327 eP P 18 22 07.6 +2.5
N23A Red Feather La 28.69 340 P P 18 22 06.6 +0.9
baz=153
N23A Red Feather La 28.69 340 eP P 18 22 06.0 +0.2
LCMT Little Creek M 28.79 325 eP P 18 22 07.8 +1.3
SDMD Soldier's Deli 28.82 27 eP P 18 22 05.2 -1.3
O56A Blue Knob Stat 28.82 24 eP P 18 22 06.1 -0.6
O20A White River Ci 28.88 336 P P 18 22 09.3 +2.0
baz=148
O20A White River Ci 28.88 336 eP P 18 22 08.4 +1.0
PHWY Pilot Hill 28.90 341 eP P 18 22 08.6 +0.9
N54A Moraine State 28.91 21 eP P 18 22 06.2 -1.2
J34A George 28.93 356 P P 18 22 06.6 -1.0
baz=174
MTPU Mount Pierson 28.99 328 eP P 18 22 10.0 +1.5
MURC Murrieta 29.00 316 P P 18 22 09.9 +1.6
baz=126
SRU San Rafael Swe 29.01 331 eP P 18 22 09.5 +1.0
SRU San Rafael Swe 29.01 331 eP P 18 22 09.5 +1.0
J41A Loganville 29.05 5 P P 18 22 08.4 -0.1
baz=186
AAM Ann Arbor 29.05 15 PFAKE 18 22 20.0 +11
AAM LR LR
comp=Z,5µm,19.0s
J33A Davis 29.05 354 P P 18 22 08.7 0.0
baz=172
SZCU Shurtz Canyon 29.13 326 eP P 18 22 11.1 +1.5
Q16A Castle Valley 29.16 330 eP P 18 22 11.2 +1.3
HEC Hector,Ludlow 29.17 318 P P 18 22 11.5 +1.7
baz=128
CCUT Cedar City 29.25 326 eP P 18 22 11.7 +1.0
TUQ Turquoise Moun 29.29 320 P P 18 22 12.4 +1.4
baz=130
P18A Preston Nutter 29.30 332 eP P 18 22 12.1 +0.8
MSU Marysvale 29.34 329 eP P 18 22 11.3 -0.2
MSU Marysvale 29.34 329 eP P 18 22 11.3 -0.2
P17A Butcher Ranch, 29.40 332 eP P 18 22 12.7 +0.7
ECSD EROS Data Cent 29.43 355 P P 18 22 12.0 0.0
baz=173,SNR=7.3
ECSD EROS Data Cent 29.43 355 eP P 18 22 10.3 -1.7
ECSD LR LR
comp=Z,1µm,21.0s
I35A Creekview Farm 29.45 357 P P 18 22 12.0 -0.1
baz=176
ALLY Alegheny Colle 29.47 20 eP P 18 22 11.8 -0.5
TMUT Trail Mountain 29.48 331 eP P 18 22 14.3 +1.5
MVL Millersville 29.52 27 eP P 18 22 11.2 -1.5
SHPR Sheep Range 29.53 322 eP P 18 22 12.5 -0.7
TCRU Three Creeks R 29.55 328 eP P 18 22 14.8 +1.3
I42A Draeger Farm, 29.67 6 eP P 18 22 13.5 -0.6
BFSC Mount Baldy Ra 29.68 316 P P 18 22 15.8 +1.3
baz=126
GSC Goldstone, Bar 29.77 319 eP P 18 22 16.0 +0.9
GSC Goldstone, Bar 29.77 319 eP P 18 22 16.0 +0.9
RWWY Rawlins 29.83 339 eP P 18 22 16.1 +0.2
MWC Mount Wilson 29.95 316 eP P 18 22 18.1 +1.2
MWC Mount Wilson 29.95 316 eP P 18 22 18.1 +1.2
PAS Pasadena 29.98 316 P P 18 22 18.6 +1.7
PASC Pasadena Art C 30.00 316 eP P 18 22 18.6 +1.5
MPU Maple Canyon 30.25 331 eP P 18 22 21.0 +1.5
H32A Carlson Farm, 30.27 354 P P 18 22 20.2 +0.8
baz=172
ANWB Willy Bob 30.35 80 eP P 18 22 20.1 -0.3
ANWB LR LR
comp=Z,2µm,20.0s
H33A Prehn Over Nor 30.38 355 P P 18 22 20.5 +0.1
baz=173
NLU North Lily Min 30.41 331 eP P 18 22 21.6 +0.7
LRMC Laurel Mtn Rad 30.44 318 P P 18 22 22.4 +1.2
baz=127
K22A Casper 30.46 340 eP P 18 22 20.6 -0.6
FURC Furnace Creek, 30.54 320 P P 18 22 23.3 +1.5
baz=130
OSI Osito Audit: C 30.62 316 eP P 18 22 23.2 +0.6
JLU Jordanelle 30.63 332 eP P 18 22 23.3 +0.3
MPMC Manual Prospec 30.67 319 P P 18 22 23.8 +0.5
baz=128
G38A Ridgeland 30.74 2 P P 18 22 23.9 +0.3
baz=182
GRGR Grenville 30.77 90 PFAKE 18 22 40.0 +16
GRGR LR LR
comp=Z,2µm,20.0s
NNA Nana 30.78 147 PFAKE 18 22 40.0 +16
NNA LR LR
comp=Z,1µm,20.0s
SPMN Marine on St. 30.78 1 P P 18 22 23.9 +0.1
baz=180
SPMN Marine on St. 30.78 1 eP P 18 22 22.5 -1.4
CTU Camp Tracy 30.84 332 eP P 18 22 24.1 -0.6
BRNJ Basking Ridge 30.87 28 eP P 18 22 22.3 -2.4
G33A Ortonville 30.87 356 P P 18 22 24.9 +0.3
baz=174
DAC Darwin (Calif) 30.87 319 eP P 18 22 25.9 +0.8
DAC Darwin (Calif) 30.87 319 eP P 18 22 25.9 +0.8
G39A Holcombe 30.89 3 P P 18 22 24.5 -0.3
baz=184,SNR=6.0
DUG Dugway, Tooele 30.95 330 eP P 18 22 26.0 +0.4
DUG MLR MLR
comp=Z,5µm,21.0s
DUG Dugway, Tooele 30.95 330 eP P 18 22 26.0 +0.4
DUG LR LR
comp=Z,5µm,21.0s
ARVC Arvin 30.98 316 P P 18 22 27.2 +1.3
baz=125
FDF Fort de France 31.01 85 PFAKE 18 22 40.0 +14
FDF LR LR
comp=Z,5µm,19.0s
TCUT Toone Canyon 31.03 333 eP P 18 22 27.1 +0.7
R11A Troy Canyon, C 31.05 324 P P 18 22 27.9 +1.3
baz=134,SNR=8.4
R11A Troy Canyon, C 31.05 324 eP P 18 22 28.1 +1.6
ISA Isabella, Lake 31.07 318 eP P 18 22 26.8 +0.2
ISA Isabella, Lake 31.07 318 eP P 18 22 26.8 +0.2
RSSD Black Hills 31.09 345 P P 18 22 27.7 +0.8
baz=159
RSSD Black Hills 31.09 345 eP P 18 22 27.6 +0.8
RSSD Black Hills 31.09 345 eP P 18 22 27.6 +0.8
GLMI Grayling 31.24 12 eP P 18 22 25.8 -2.2
GLMI LR LR
comp=Z,6µm,19.0s
F36A Milaca 31.41 360 P P 18 22 28.6 -0.9
baz=179
BINY Binghamton 31.49 25 P P 18 22 29.2 -1.0
baz=213
BINY Binghamton 31.49 25 eP P 18 22 28.3 -1.9
BINY LR LR
comp=Z,6µm,19.0s
HWUT Hardware Ranch 31.49 333 eP P 18 22 32.0 +1.6
HWUT LR LR
comp=Z,2µm,20.0s
F39A Loretta 31.53 3 P P 18 22 28.1 -2.3
baz=184
F38A Pierce - Schro 31.53 2 P P 18 22 29.4 -1.1
baz=182
BBSR BB Station 31.57 50 PFAKE 18 22 40.0 +9.0
BBSR LR LR
comp=Z,3µm,21.0s
F40A Park Falls 31.58 4 P P 18 22 30.8 -0.1
baz=185
BGU Big Grassy Mou 31.62 331 eP P 18 22 32.7 +1.1
BW06 Boulder Array 31.64 337 eP P 18 22 31.7 0.0
BW06 LR LR
comp=Z,2µm,21.0s
PD31 Pinedale Array 31.64 337 eP P 18 22 32.2 +0.5
PDAR Pinedale Array 31.64 337 P P 18 22 32.2 +0.5
comp=Z,2.1nm,0.8s,baz=120,slow=8.8,SNR=15
PDAR PcP PcP 18 25 23.3 -0.1
comp=Z,0.4nm,0.6s,baz=140,slow=4.7,SNR=2.0
PDAR LR LR 18 38 02.3
comp=Z,1µm,19.5s,baz=151,slow=41
PDAR Pinedale Array 31.64 337 eP P 18 22 30.7 -1.0
PDAR PcP PcP 18 25 23.3 -0.1
SPUT South Promonto 31.65 332 eP P 18 22 32.5 +0.7
COWI Conover 31.84 5 eP P 18 22 30.9 -2.3
COWI LR LR
comp=Z,3µm,21.0s
E39A Mellen 32.01 3 P P 18 22 34.2 -0.4
baz=185
E36A McGregor 32.07 360 P P 18 22 35.0 -0.3
baz=180
E34A Wadena 32.11 357 P P 18 22 35.3 -0.3
baz=176
E35A Pequot Lakes 32.13 358 P P 18 22 35.5 -0.2
baz=178
E33A Westby DABS, E 32.14 356 P P 18 22 35.7 -0.1
baz=175
HVU Hansel Valley 32.17 332 eP P 18 22 37.5 +1.1
HVU Hansel Valley 32.17 332 eP P 18 22 37.5 +1.1
E38A The Farm, Brul 32.19 2 P P 18 22 36.1 -0.2
baz=183
AHID Auburn Hatcher 32.25 335 eP P 18 22 38.1 +1.0
AHID LR LR
comp=Z,3µm,21.0s
PAGB Antelope Grade 32.28 316 eP P 18 22 38.5 +1.3
SADO Sadowa 32.59 19 eP P 18 22 39.1 -0.6
NV11 Mina Array Sit 32.59 322 eP P 18 22 42.1 +2.0
D35A Remer 32.64 359 P P 18 22 39.6 -0.6
baz=178,SNR=7.6
REDW Red Top Meadow 32.64 336 eP P 18 22 41.6 +1.1
MDPB Devils Postpil 32.65 320 eP P 18 22 42.9 +2.2
MDPB eS S 18 27 56.5 +1.5
NV01 Mina Array Sit 32.68 322 eP P 18 22 42.6 +1.7
NVAR Mina Array Bea 32.68 322 P P 18 22 43.2 +2.3
comp=Z,8.6nm,0.8s,baz=138,slow=8.6,SNR=38
NVAR PcP PcP 18 25 27.3 +0.9
comp=Z,1.5nm,0.7s,baz=104,slow=3.8,SNR=4.7
NVAR LR LR 18 37 29.9
comp=Z,4µm,18.0s,baz=228,slow=39
BBGH Gun Hill 32.68 88 PFAKE 18 22 50.0 +9.1
BBGH LR LR
comp=Z,4µm,22.0s
D34A Park Rapids 32.68 357 P P 18 22 40.6 +0.1
baz=176
SNOW Snow King Moun 32.69 336 eP P 18 22 42.5 +1.4
D37A Cotton 32.72 1 P P 18 22 40.1 -0.8
baz=181,SNR=8.5
LOHW Long Hollow 32.76 336 eP P 18 22 42.8 +1.2
D33A JennSam, Waubun 32.77 357 P P 18 22 41.3 -0.1
baz=175,SNR=9.6
TPAW Teton Pass 32.79 336 eP P 18 22 42.8 +0.9
PMPB Monarch Peak 32.92 316 eP P 18 22 46.0 +3.1
MOOW Moose Ponds 32.93 336 eP P 18 22 43.8 +0.8
RYN Ryan 32.94 322 eP P 18 22 44.5 +1.3
FXWY Fox Creek 32.95 336 eP P 18 22 44.0 +0.8
KVN Kaiserville 32.97 323 eP P 18 22 44.7 +1.3
KVN Kaiserville 32.97 323 eP P 18 22 44.6 +1.3
IMW Indian Meadow 33.13 336 eP P 18 22 45.7 +0.9
C35A Jirik Farms, M 33.26 359 P P 18 22 45.4 -0.2
baz=178,SNR=8.0
C36A Pine Crest Far 33.31 0 P P 18 22 45.8 -0.2
baz=180,SNR=5.1
YPP Pitchstone Pla 33.39 337 eP P 18 22 47.9 +0.7
BMN Battle Mountai 33.41 326 eP P 18 22 47.2 0.0
BMN Battle Mountai 33.41 326 eP P 18 22 47.2 0.0
H17A Grant Village 33.41 337 P P 18 22 47.5 +0.3
baz=148
H17A Grant Village 33.41 337 eP P 18 22 49.0 +1.7
WAKR Walker 33.41 321 eP P 18 22 48.0 +0.6
LKWY Lake 33.49 337 PFAKE 18 23 00.0 +12
LKWY LR LR
comp=Z,1µm,20.0s
EYMN Ely 33.53 2 PFAKE 18 23 00.0 +12
EYMN LR LR
comp=Z,2µm,19.0s
YFT Old Faithful 33.55 337 eP P 18 22 49.2 +0.6
C31A Landman Farms, 33.56 354 P P 18 22 47.8 -0.4
baz=172,SNR=11
RLMT Red Lodge 33.56 339 P P 18 22 49.3 +0.8
baz=151
RLMT Red Lodge 33.56 339 eP P 18 22 49.0 +0.5
RLMT LR LR
comp=Z,2µm,19.0s
YERR Yerington 33.60 322 eP P 18 22 49.4 +0.5
SAO San Andreas Ge 33.66 317 eP P 18 22 51.4 +2.1
SAO San Andreas Ge 33.66 317 eP P 18 22 51.4 +2.1
CMB Columbia Colle 33.71 319 eP P 18 22 51.6 +1.8
CMB Columbia Colle 33.71 319 eP P 18 22 51.6 +1.8
YMR Madison River 33.79 337 eP P 18 22 52.3 +1.7
MDND Maddock 33.82 352 P P 18 22 50.3 -0.2
baz=169
MDND Maddock 33.82 352 eP P 18 22 49.3 -1.3
YHH Holmes Hill 33.85 337 eP P 18 22 51.2 +0.1
B35A Bob, Littlefor 33.92 359 P P 18 22 49.6 -1.7
baz=179,SNR=6.3
AGMN Agassiz Nation 33.92 357 P P 18 22 51.0 -0.4
baz=175,SNR=9.1
AGMN Agassiz Nation 33.92 357 eP P 18 22 49.8 -1.6
AGMN LR LR
comp=Z,2µm,19.0s
YHB Horse Butte 33.95 337 eP P 18 22 53.0 +1.1
VCNR Virginia City 34.04 322 eP P 18 22 53.3 +0.5
LAO LASA Array 34.04 344 eP P 18 22 52.8 +0.3
LAO LR LR
comp=Z,1µm,22.0s
B32A Ashes, Strandq 34.06 356 P P 18 22 52.1 -0.5
baz=174,SNR=14
B34A Aery, Baudette 34.06 358 P P 18 22 52.3 -0.3
baz=177,SNR=5.6
LONY Lake Ozonia 34.07 24 eP P 18 22 50.2 -2.6
LONY LR LR
comp=Z,5µm,19.0s
QLMT Earthquake Lak 34.10 337 eP P 18 22 54.0 +0.7
PAHR Pah Rah Range 34.15 323 eP P 18 22 54.8 +1.1
B31A Greenbush Farm 34.18 355 P P 18 22 51.9 -1.6
baz=172
RDG13 Poverty Ridge 34.23 317 eP P 18 22 56.3 +2.0
HNH Hanover 34.30 27 eP P 18 22 54.1 -0.6
HLID Hailey 34.32 332 P P 18 22 56.2 +1.0
baz=141,SNR=11
HLID Hailey 34.32 332 eP P 18 22 56.2 +1.0
HLID LR LR
comp=Z,4µm,19.0s
A32A Rocking H Ranc 34.58 356 P P 18 22 56.1 -0.9
baz=174
AFDM Forest Hills D 34.63 320 eP P 18 22 59.6 +2.0
MCMT McKenzie Canyo 34.66 335 eP P 18 23 00.1 +1.9
BOZ Bozeman (W) 34.83 337 P P 18 23 01.6 +2.2
baz=147,SNR=5.1
BOZ Bozeman (W) 34.83 337 eP P 18 23 00.8 +1.4
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 34.83 337 eP P 18 23 00.8 +1.4
BOZ LR LR
comp=Z,2µm,19.0s
BEKR Beckworth 34.83 322 eP P 18 23 00.5 +1.0
MFID Camas Ranch 34.87 331 eP P 18 23 00.7 +0.9
DLMT Dillon 35.00 336 eP P 18 22 59.6 -1.3
ORV Oroville 35.32 321 eP P 18 23 04.6 +1.0
ORV Oroville 35.32 321 eP P 18 23 04.6 +1.0
LRM Limekiln Ridge 35.33 336 eP P 18 23 04.7 +0.8
WVOR Wild Horse Val 35.56 327 eP P 18 23 06.3 +0.5
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 35.56 327 eP P 18 23 06.3 +0.5
WVOR LR LR
comp=Z,2µm,20.0s
HRY Holter Researc 35.84 338 eP P 18 23 09.2 +1.1
ULM Lac du Bonnet 35.87 357 P P 18 23 06.4 -1.8
comp=Z,18nm,0.9s,baz=175,slow=8.2,SNR=22
ULM LR LR 18 42 00.6
comp=Z,2µm,18.4s,baz=172,slow=43
MOD Modoc Plateau 36.11 325 eP P 18 23 11.7 +1.2
J08A Circle Bar Ran 36.13 328 eP P 18 23 11.8 +1.1
EGMT Eagleton 36.28 341 eP P 18 23 10.1 -1.7
EGMT LR LR
comp=Z,1µm,21.0s
BMO Blue Mountains 36.65 331 eP P 18 23 14.2 -0.8
BMO MLR MLR
comp=Z,3µm,19.0s
BMO Blue Mountains 36.65 331 eP P 18 23 14.2 -0.8
BMO LR LR
comp=Z,3µm,19.0s
MSO Missoula 36.74 336 P P 18 23 16.5 +0.7
baz=145,SNR=9.3
MSO Missoula 36.74 336 eP P 18 23 16.5 +0.7
PKME Peaks-Kenny Pk 36.86 28 PFAKE 18 23 30.0 +13
PKME LR LR
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 37.38 323 P P 18 23 20.6 -0.7
comp=Z,2.8nm,0.6s,baz=115,slow=4.3,SNR=6.9
YBH LR LR 18 40 36.7
comp=Z,3µm,18.1s,baz=150,slow=39
F10A Beach Ranch, E 37.46 332 eP P 18 23 21.4 -0.5
JTMT Jette 37.63 337 eP P 18 23 23.8 +0.4
PINE Pine Mountain 37.72 327 eP P 18 23 23.4 -0.8
BEND Bend 38.11 327 eP P 18 23 29.6 +2.2
WALA Waterton Lakes 38.58 338 eP P 18 23 31.1 -0.2
HAWA Hanford 38.84 331 PFAKE 18 23 50.0 +17
HAWA LR LR
comp=Z,3µm,19.0s
H04A Detroit Lake 38.98 327 eP P 18 23 35.3 +0.6
D08A Wollman Farm, 39.04 332 eP P 18 23 35.3 +0.2
E07A Sunnyside 39.11 331 eP P 18 23 34.5 -1.2
NEW Newport 39.18 335 P P 18 23 37.5 +1.2
comp=Z,2.8nm,0.7s,baz=132,slow=16,SNR=4.9
NEW Newport 39.18 335 eP P 18 23 37.9 +1.6
NEW MLR MLR
comp=Z,3µm,20.0s
NEW Newport 39.18 335 eP P 18 23 37.9 +1.6
NEW LR LR
comp=Z,3µm,20.0s
LPAZ La Paz 39.24 140 P P 18 23 35.4 -2.3
comp=Z,1.3nm,0.7s,baz=323,slow=11,SNR=3.3
LPAZ LR LR 18 38 28.4
comp=Z,1µm,21.9s,baz=328,slow=34
LPAZ La Paz 39.24 140 eP P 18 23 35.9 -1.8
LPAZ La Paz 39.24 140 eP P 18 23 35.9 -1.8
C09A Chrisman Ranch 39.31 333 eP P 18 23 37.3 -0.1
LTY Liberty 40.00 331 eP P 18 23 43.6 +0.4
LON Longmire 40.20 329 eP P 18 23 45.3 +0.5
LON Longmire 40.20 329 eP P 18 23 45.3 +0.5
MNMC Minye Minye 40.58 144 eP P 18 23 48.8 +0.3
D05A Enumclaw 40.59 330 eP P 18 23 48.8 +0.9
FFC Flin Flon 40.87 352 eP P 18 23 49.0 -1.1
FFC MLR MLR
comp=Z,1µm,19.0s
FFC Flin Flon 40.87 352 eP P 18 23 49.0 -1.1
FFC LR LR
comp=Z,1µm,19.0s
PB11 IPOC Station P 41.05 145 eP P 18 23 52.3 +0.1
B06A Marblemount 41.29 331 eP P 18 23 54.1 +0.4
NLWA Neilton Lookou 41.66 329 PFAKE 18 24 10.0 +13
NLWA LR LR
comp=Z,4µm,19.0s
EDM Edmonton 41.94 342 eP P 18 23 58.0 -1.0
EDM Edmonton 41.94 342 eP P 18 23 58.0 -1.0
LLLB Lillooet 42.98 333 eP P 18 24 08.5 +1.0
PB10 IPOC Station P 43.66 149 eP P 18 24 13.6 +0.4
SIV San Ignacio 43.78 132 LR LR 18 42 19.2
comp=Z,2µm,18.7s,baz=336,slow=36
RPN Rapa Nui 44.10 201 LR LR 18 37 47.3
comp=Z,1µm,21.7s,baz=50,slow=29
FCC Fort Churchill 44.34 359 eP P 18 24 17.4 -0.8
FCC Fort Churchill 44.34 359 eP P 18 24 17.4 -0.8
SCHQ Schefferville 45.31 21 LR LR 18 44 38.1
comp=Z,6µm,19.0s,baz=215,slow=38
BBB Bella Bella 46.90 331 LR LR 18 46 55.8
comp=Z,1µm,18.9s,baz=155,slow=39
LCO Las Campanas 48.28 153 PFAKE 18 25 00.0 +10
LCO LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 50.43 347 P P 18 25 05.8 +0.3
comp=Z,22nm,0.7s,baz=152,slow=7.4,SNR=330
YKA PcP PcP 18 26 23.3 -0.2
comp=Z,0.8nm,0.5s,baz=152,slow=3.6,SNR=4.0
YKB5 Yellowknife Ar 50.43 347 eP P 18 25 05.8 +0.3
WRAK Wrangell Islan 51.51 333 PFAKE 18 25 20.0 +6.3
WRAK LR LR
comp=Z,2µm,19.0s
DLBC Dease Lake 51.87 336 eP P 18 25 18.2 +1.7
TAOE Nuku Hiva Isla 51.97 246 eS S 18 32 42.5 +3.0
comp=Z,796nm,24.4s
TAOE eLR LR 18 40 02.8
comp=Z,1µm,25.9s
CPUP Villa Florida 53.40 139 P P 18 25 26.9 -1.2
comp=Z,2.3nm,0.9s,baz=335,slow=6.9,SNR=4.1
CPUP LR LR 18 48 05.3
comp=Z,655nm,19.4s,baz=335,slow=36
CPUP Villa Florida 53.40 139 eP P 18 25 27.1 -1.1
CPUP Villa Florida 53.40 139 eP P 18 25 27.1 -1.1
BESE Bessie Mountai 53.91 334 eP P 18 25 32.4 +0.8
RKT Rikitea 55.30 228 eS S 18 33 26.6 +2.4
comp=Z,581nm,27.8s
RKT eLR LR 18 41 44.9
comp=Z,2µm,26.8s,baz=45
RKT Rikitea 55.30 228 eT T 19 25 04.8
comp=Z,5.6nm,0.3s
SPB Sao Paulo 58.51 130 PFAKE 18 26 20.0 +15
SPB LR LR
comp=Z,1µm,20.0s
PLCA Paso Flores 58.69 160 P P 18 26 04.2 -1.6
comp=Z,4.4nm,1.2s,baz=337,slow=6.3,SNR=5.1
PLCA LR LR 18 47 06.2
comp=Z,712nm,18.1s,baz=24,slow=32
PLCA Paso Flores 58.69 160 eP P 18 26 06.2 +0.3
PLCA Paso Flores 58.69 160 eP P 18 26 06.2 +0.3
DAWY Dawson 58.92 338 eP P 18 26 07.2 0.0
BMRM Bremner River 59.34 334 eP P 18 26 12.1 +1.9
SFJD Kangerlussuaq 59.54 18 PFAKE 18 26 20.0 +8.7
SFJD LR LR
comp=Z,5µm,19.0s
EYAK Cordova Ski Ar 59.65 333 eP P 18 26 13.8 +1.7
INK Inuvik 59.78 344 P P 18 26 13.4 +0.5
comp=Z,8.6nm,0.7s,baz=128,slow=5.7,SNR=54
INK Inuvik 59.78 344 eP P 18 26 12.7 -0.2
INK pmax pmax
comp=Z,19nm,1.0s
INK Inuvik 59.78 344 eP P 18 26 12.7 -0.2
comp=Z,19nm,1.0s
TRQA Tornquist 59.79 152 eP P 18 26 14.9 +1.4
TRQA LR LR
comp=Z,1µm,21.0s
DIV Divide 59.92 334 eP P 18 26 14.9 +0.7
MENT Mentasta 59.95 336 eP P 18 26 14.7 +0.4
EGAK Eagle 59.96 338 eP P 18 26 13.8 -0.5
comp=Z,10nm,1.1s
EGAK LR LR
comp=Z,2µm,20.0s
KLU Klutina 60.15 334 eP P 18 26 16.6 +0.8
HARP HAARP 60.26 335 eP P 18 26 17.9 +1.5
RES Resolute Bay 60.34 359 LR LR 18 55 21.1
comp=Z,2µm,19.1s,baz=176,slow=39
RES Resolute Bay 60.34 359 eP P 18 26 15.8 -0.9
RES pmax pmax
comp=Z,15nm,0.9s
RES Resolute Bay 60.34 359 eP P 18 26 15.8 -0.9
comp=Z,15nm,0.9s
GLI Glacier Island 60.39 333 eP P 18 26 17.5 +0.3
DOT Dot Lake 60.44 337 eP P 18 26 17.9 +0.3
SCRK Sand Creek 60.58 337 eP P 18 26 19.1 +0.5
PAX Paxson 60.66 336 eP P 18 26 19.4 +0.2
PAX pmax pmax
comp=Z,9.0nm,0.8s
PAX Paxson 60.66 336 eP P 18 26 19.4 +0.2
comp=Z,9.2nm,0.8s
RIDG Independ'e Rid 60.79 336 eP P 18 26 20.4 +0.4
ILULI Ilulissat 60.87 16 eP P 18 26 20.0 -0.4
ILULI Ilulissat 60.87 16 eP P 18 26 20.0 -0.4
SCM Sheep Creek Mo 60.91 334 eP P 18 26 21.1 +0.2
SCM Sheep Creek Mo 60.91 334 eP P 18 26 21.1 +0.2
SML Sawmill 61.33 334 eP P 18 26 24.4 +0.7
SML Sawmill 61.33 334 eP P 18 26 24.4 +0.7

DHY **Denali Highway** 61.48 335 *e*P P 18 26 26.1 +1.3
GHO **Glory Hole Cre** 61.57 333 *e*P P 18 26 25.8 +0.4
PMR **Palmer** 61.58 333 *e*P P 18 26 25.5 +0.2
PMR **Palmer** 61.58 333 *e*P P 18 26 25.5 +0.2
RC01 **Rabbit Creek A** 61.65 333 *e*P P 18 26 26.2 +0.4
BRLK **Bradley Lake** 61.67 331 *e*P P 18 26 26.2 +0.2
KDAK **Kodiak Island** 61.81 328 *i* P P 18 26 28.7 +1.8
KDAK **Kodiak Island** 61.81 328 PFAKE 18 26 40.0 +13
KDAK LR LR
comp=Z,305nm,19.0s
HDA **Harding Lake** 61.92 337 *e*P P 18 26 27.5 -0.1
IL1 **Eielson Array** 62.07 337 *e*P P 18 26 27.9 -0.7
ILAR **Eielson Array** 62.07 337 P P 18 26 28.1 -0.4
comp=Z,4.2nm,1.0s,baz=141,slow=4.9,SNR=20
ILAR LR LR 18 55 58.3
comp=Z,1µm,18.6s,baz=142,slow=38
ILB **Eielson Array** 62.07 337 *e*P P 18 26 28.2 -0.4
RND **Reindeer** 62.23 335 *e*P P 18 26 30.2 +0.4
RND **Reindeer** 62.23 335 *e*P P 18 26 30.2 +0.4
SUA **Susitna One** 62.24 333 *e*P P 18 26 30.4 +0.4
CCB **Clear Creek Bu** 62.36 337 *e*P P 18 26 29.9 -0.6
WRH **Wood River Hil** 62.39 336 *e*P P 18 26 30.7 0.0
MCK **McKinley** 62.40 335 *e*P P 18 26 30.7 -0.2
MCK **McKinley** 62.40 335 *e*P P 18 26 30.6 -0.2
COLA **College** 62.48 337 *e*P P 18 26 30.5 -0.8
COLA pmax pmax
comp=Z,15nm,0.9s
COLA MLR MLR
comp=Z,1µm,20.0s
COLA **College** 62.48 337 *e*P P 18 26 30.5 -0.8
comp=Z,15nm,0.9s
COLA LR LR
comp=Z,1µm,20.0s
MDM **Murphy Dome** 62.66 337 *e*P P 18 26 32.1 -0.5
SPU **Mount Spurr** 62.73 332 *e*P P 18 26 33.3 +0.2
SKT **Skwentna** 62.78 333 *e*P P 18 26 34.0 +0.5
TRF **Thorofare Moun** 62.83 335 *e*P P 18 26 33.8 -0.1
KTH **Kantishna Hill** 63.13 335 *e*P P 18 26 35.4 -0.4
comp=Z,16nm,0.8s
BPAW **Bear Paw Mtn.** 63.38 335 *e*P P 18 26 37.0 -0.3
PPLA **Purkeypile** 63.41 334 *e*P P 18 26 37.4 -0.3
TULEG **Thule** 63.50 6 *e*P P 18 26 37.0 -0.9
CAST **Castle Rocks** 63.56 335 *e*P P 18 26 37.5 -1.1
MLY **Manley** 63.66 336 *e*P P 18 26 39.1 -0.1
CMLA **Cha da Macela** 63.77 55 *e*P P 18 26 37.6 -2.8
CMLA MLR MLR
comp=Z,965nm,19.0s
CMLA **Cha da Macela** 63.77 55 *e*P P 18 26 37.6 -2.8
CMLA LR LR
comp=Z,965nm,19.0s
PPT **Papeete** 64.02 242 LR LR 18 46 22.3
comp=Z,664nm,22.0s,baz=34,slow=28
PPT2 **Papeete2** 64.03 242 *e*S S 18 35 21.5 +4.3
comp=Z,594nm,24.8s
PPT2 **Papeete2** 64.03 242 *e*LR LR 18 45 42.0
comp=Z,1µm,25.0s,baz=48
CHRN **Cochrane** 64.04 165 *e*P P 18 26 43.5 +1.8
SVW2 **Sparrevohn** 64.31 331 *e*P P 18 26 42.6 -0.9
COLD **Coldfoot** 64.39 339 *e*P P 18 26 44.4 +0.5
comp=Z,7.6nm,1.0s
TOLK **Toolik Lake Re** 64.80 340 P P 18 26 46.5 -0.2
baz=117,SNR=6.0
TOLK **Toolik Lake Re** 64.80 340 *e*P P 18 26 47.1 +0.4
IM3 **Indian Mountai** 65.19 337 *e*P P 18 26 48.6 -0.6
SDPT **Sand Point** 65.42 325 *e*P P 18 26 52.5 +1.7
SUMG **Summit** 66.21 16 *e*P P 18 26 56.3 +0.2
SUMG **Summit** 66.21 16 *e*P P 18 26 56.3 +0.2
SACV **Santiago Islan** 67.05 80 PFAKE 18 27 10.0 +8.0
SACV LR LR
comp=Z,401nm,19.0s
BORG **Borgarnes** 69.40 26 LR LR 18 57 33.0
comp=Z,1µm,18.2s,baz=261,slow=36
BORG **Borgarnes** 69.40 26 PFAKE 18 27 30.0 +14
BORG LR LR
comp=Z,813nm,20.0s
PMOZ **Porto Moniz, M** 70.71 60 *e*P P 18 27 27.1 +2.5
PMOZ **Porto Moniz, M** 70.71 60 *e*LR LR 18 48 57.2
comp=Z,580nm,22.0s
BBTS **Babate** 73.84 79 LR LR 18 54 42.1
comp=Z,766nm,21.6s,baz=282,slow=31
RAR **Rarotonga** 74.28 243 LR LR 18 55 36.8
comp=Z,456nm,18.1s,baz=58,slow=32
PMAFR **Mafra** 76.45 53 *e*P P 18 27 52.5 -5.6
PMAFR **Mafra** 76.45 53 *e*LR LR 18 51 42.4
comp=Z,884nm,18.0s
LIS **Lisbon** 76.58 53 *e*P P 18 27 58.6 -0.3
LIS AMS AMS 19 02 50.7
comp=Z,886nm,20.4s
PGAV **Gavieira, Arco** 76.82 50 *e*P P 18 28 02.9 +2.6
PGAV **Gavieira, Arco** 76.82 50 *e*LR LR 18 51 44.9
comp=Z,998nm,18.0s
PCAS **Casmilo, Conde** 76.90 52 *e*P P 18 27 59.5 -1.2
PCAS **Casmilo, Conde** 76.90 52 *e*LR LR 18 51 58.3
comp=Z,1µm,20.0s
ALMR **Almeirim** 76.97 53 *e*P P 18 28 00.7 -0.3
ALMR AMS AMS 19 03 37.7
comp=Z,768nm,20.0s
PFVI **Vila Bisbo** 77.06 55 *e*P P 18 28 03.5 +1.9
PFVI **Vila Bisbo** 77.06 55 *e*LR LR 18 51 48.5
comp=Z,855nm,20.0s
PNCL **Nicolau / Gran** 77.15 54 *e*P P 18 28 03.9 +1.8
PNCL **Nicolau / Gran** 77.15 54 *e*LR LR 18 51 40.3
comp=Z,805nm,20.0s
MORF **Marmelete** 77.17 54 *e*P P 18 28 01.8 -0.4
MORF AMS AMS 18 58 03.6
comp=Z,941nm,20.5s
MORF **Marmelete** 77.17 54 *e*P P 18 28 04.4 +2.1
MORF **Marmelete** 77.17 54 *e*LR LR 18 51 53.7
comp=Z,946nm,20.0s
PMTG **Montargil** 77.25 53 *e*P P 18 28 03.0 +0.4
PMTG *e*S S 18 37 55.3 +4.8
POLO **Lamas de Olo** 77.25 50 *e*P P 18 28 01.7 -1.0
POLO **Lamas de Olo** 77.25 50 *e*LR LR 18 51 19.7
comp=Z,627nm,18.0s
PVIS **Viseu** 77.27 51 *e*P P 18 27 59.9 -2.9
MESJ **Messejana** 77.43 54 *e*P P 18 28 03.6 0.0
MESJ AMS AMS 18 56 43.2
comp=Z,626nm,20.4s
MESJ **Messejana** 77.43 54 *e*P P 18 28 03.6 0.0
MESJ A A 18 56 43.2
comp=Z,626nm,20.4s
MTE **Manteigas** 77.58 51 *e*P P 18 28 02.7 -1.8
MTE *e*S S 18 37 51.3 -2.9
MTE **Manteigas** 77.58 51 *e*LR LR 18 52 13.8
comp=Z,1µm,20.0s
MTE **Manteigas** 77.58 51 PFAKE 18 28 20.0 +15
MTE LR LR
comp=Z,1µm,19.0s
PCVE **Castro Verde** 77.60 54 *e*P P 18 28 06.9 +2.3
PCVE **Castro Verde** 77.60 54 *e*LR LR 18 50 20.2
comp=Z,718nm,20.0s
PBDV **Barranco-do-Ve** 77.75 54 *e*P P 18 28 05.7 +0.2
PBDV **Barranco-do-Ve** 77.75 54 *e*LR LR 18 52 07.2
comp=Z,942nm,20.0s
PESTR **Estremoz** 77.77 53 *e*P P 18 28 05.6 0.0
PMRV **Marv??o** 77.84 52 *e*P P 18 28 06.5 +0.6
PMRV **Marv??o** 77.84 52 *e*LR LR 18 52 18.4
comp=Z,761nm,18.0s
MVO **Moncorvo** 77.86 50 *e*P P 18 28 03.9 -2.2
comp=Z,18nm,2.4s
MVO **Moncorvo** 77.86 50 *e*LR LR 18 52 21.0
comp=Z,980nm,20.0s
PVAQ **Vaqueiros** 77.89 54 *e*P P 18 28 06.6 +0.4
PVAQ **Vaqueiros** 77.89 54 *e*LR LR 18 51 01.7
comp=Z,940nm,20.0s
PBRG **Braganca** 77.97 50 *e*P P 18 28 06.4 -0.3
PBRG **Braganca** 77.97 50 *e*LR LR 18 52 21.5
comp=Z,1µm,20.0s
PBAR **Barrancos** 78.30 53 *e*P P 18 28 09.6 +1.1
PBAR **Barrancos** 78.30 53 *e*LR LR 18 52 34.3
comp=Z,2µm,18.0s
ESK **Eskdalemuir** 78.34 36 PFAKE 18 28 20.0 +12
ESK LR LR
comp=Z,2µm,19.0s
EKA **Eskdalemuir Ar** 78.36 36 P P 18 28 05.9 -2.5
comp=Z,1.8nm,0.7s,baz=278,slow=4.9,SNR=7.1
EKA LR LR 19 03 33.6
comp=Z,2µm,18.1s,baz=285,slow=36
KBS **Kingsbay** 78.89 11 PFAKE 18 28 20.0 +9.0
KBS LR LR
comp=Z,2µm,20.0s
RTC **Rabat Centre** 79.14 58 PFAKE 18 28 20.0 +6.8
RTC LR LR
comp=Z,3µm,20.0s

SPITS **Spitsbergen Ar** 79.98 11 LR LR 19 04 59.5
comp=Z,3µm,21.1s,baz=260,slow=37
PAB **San Pablo** 80.14 52 PFAKE 18 28 30.0 +11
PAB LR LR
comp=Z,1µm,20.0s
ESDC **Sonseca Array** 80.41 52 P P 18 28 18.0 -2.1
comp=Z,2.8nm,0.7s,baz=288,slow=5.8,SNR=17
ESDC LR LR 19 00 56.3
comp=Z,731nm,19.1s,baz=270,slow=33
BILL **Bilibino** 80.70 338 *e*P P 18 28 20.1 -0.9
BILL *e* 18 28 38.7
BILL pmax pmax
comp=Z,7.0nm,0.9s
AFI **Afiamalu** 82.67 254 LR LR 18 57 02.8
comp=Z,298nm,18.1s,baz=68,slow=30
DOU **Dourbes** 84.04 40 ⇑P P 18 28 36.9 -1.9
NB2 **NORSAR Subarra** 84.39 28 P P 18 28 39.8 -0.6
comp=Z,1.1nm,0.7s,baz=291,slow=5.3
NB200 **NORSAR Array S** 84.39 28 *e*P P 18 28 39.5 -0.9
NOA **NORSAR Array B** 84.39 28 P P 18 28 39.5 -0.9
comp=Z,1.9nm,0.7s,baz=291,slow=5.1,SNR=6.9
NOA LR LR 19 04 38.7
comp=Z,1µm,21.3s,baz=290,slow=34
BCLA **Clavier** 84.40 39 ⇓P P 18 28 39.1 -1.5
MEM **Membach** 84.78 39 ⇓P P 18 28 42.3 -0.2
WLF **Walferdange** 85.13 40 PFAKE 18 29 00.0 +16
WLF LR LR
comp=Z,2µm,19.0s
SSB **Saint Sauveur** 85.28 45 PFAKE 18 29 00.0 +15
SSB LR LR
comp=Z,805nm,19.0s
KOWA **Kowa** 85.72 76 LR LR 19 05 38.7
comp=Z,685nm,19.3s,baz=290,slow=35
KOWA **Kowa** 85.72 76 *e*P P 18 28 46.8 -1.1
HFS **Hagfors** 85.86 29 P P 18 28 46.1 -1.5
comp=Z,3.0nm,0.7s,baz=253,slow=4.4,SNR=5.3
HFS LR LR 19 05 00.5
comp=Z,1µm,21.9s,baz=285,slow=34
ARA0 **ARCESS Array S** 86.17 18 *e*P P 18 28 48.9 -0.2
ARCES **ARCESS Array B** 86.17 18 P P 18 28 48.9 -0.2
comp=Z,3.2nm,0.7s,baz=291,slow=3.8,SNR=9.5
ARCES LR LR 19 07 48.9
comp=Z,1µm,18.7s,baz=308,slow=36
ECH **Echery** 86.18 41 PFAKE 18 29 00.0 +10
ECH LR LR
comp=Z,1µm,19.0s
KEV **Kevo** 86.50 18 PFAKE 18 29 00.0 +9.4
KEV LR LR
comp=Z,2µm,20.0s
DBIC **Dimbokro** 86.77 84 P P 18 28 52.7 -0.4
comp=Z,2.5nm,0.8s,baz=293,slow=7.7,SNR=2.8
DBIC LR LR 19 05 08.4
comp=Z,389nm,20.4s,baz=270,slow=34
DBIC **Dimbokro** 86.77 84 *e*P P 18 28 52.5 -0.6
DBIC **Dimbokro** 86.77 84 *e*P P 18 28 52.5 -0.6
BNI **Bardonecchia** 86.80 44 PFAKE 18 29 00.0 +7.2
BNI LR LR
comp=Z,1µm,20.0s
COP **Copenhagen** 86.84 33 *e*P P 18 28 58.5 +5.9
COP MLR MLR
comp=Z,1µm,21.0s
COP **Copenhagen** 86.84 33 *i* P P 18 28 58.5 +5.9
BFO **Black Forest** 86.89 41 PFAKE 18 29 00.0 +6.9
BFO LR LR
comp=Z,2µm,19.0s
SEY **Seymchan** 87.96 335 P P 18 28 58.5 +0.7
comp=Z,2.5nm,0.7s,baz=86,slow=6.9,SNR=7.4
SEY **Seymchan** 87.96 335 *e*P P 18 29 01.2 +3.4
TUE **Stuetta** 88.14 42 PFAKE 18 29 10.0 +11
TUE LR LR
comp=Z,900nm,19.0s
CLL **Collm** 88.74 37 *e*P P 18 29 03.0 +1.2
CLL *e* 18 39 38.0
CLL MLR MLR
comp=Z,1µm,21.1s
CLL **Collm** 88.74 37 *e*P P 18 29 03.0 +1.2
CLL *e*PP PP 18 32 34.0 +3.5
CLL *e*SKKSac SKKSac 18 39 38.0 -2.2
CLL *e* 18 40 01.0
CLL *e*PS PS 18 40 54.0 -0.2
CLL Lm MLR 19 09 00.0
comp=Z,1µm,21.1s
NKC **Novy Kostel** 88.80 38 AMS AMS 19 12 50.0
comp=Z,2µm,16.3s
PET **Petropavlovsk** 89.21 325 *e*P P 18 29 04.2 +0.3
PET *e*S S 18 39 44.0 -7.0
PET *e*SS SS 18 45 49.8 +5.2
PET pmax pmax
comp=Z,400nm,16.4s
PET MLR MLR
comp=Z,500nm,20.0s
PET **Petropavlovsk** 89.21 325 PFAKE 18 29 20.0 +16
PET LR LR
comp=Z,395nm,20.0s
VLC **Villacollemand** 89.59 44 PFAKE 18 29 20.0 +14
VLC LR LR
comp=Z,633nm,20.0s
TIXI **Tiksi** 89.68 348 *e*P P 18 29 04.7 -1.0
TIXI pmax pmax
comp=Z,5.0nm,0.6s
TIXI MLR MLR
comp=Z,795nm,20.0s
TIXI **Tiksi** 89.68 348 *e*P P 18 29 04.7 -1.0
comp=Z,4.9nm,0.6s
TIXI LR LR
comp=Z,795nm,20.0s
FUNA **Funafuti** 89.79 261 PFAKE 18 29 20.0 +13
FUNA LR LR
comp=Z,4µm,20.0s
LVZ **Lovozero** 89.83 17 PFAKE 18 29 20.0 +13
LVZ LR LR
comp=Z,2µm,20.0s
KHC **Kasperske Hory** 89.89 39 *e*P P 18 29 07.1 -0.2
KHC *e* 18 39 35.9
KHC MLR MLR
comp=Z,800nm,15.2s
KHC **Kasperske Hory** 89.89 39 *e*P P 18 29 07.1 -0.2
KHC *e*SKS SKSac 18 39 35.9 0.0
KHC AMS AMS 19 12 50.0
comp=Z,800nm,15.2s
PVCC **Panska Ves** 89.95 37 AMS AMS 19 14 10.0
comp=Z,900nm,16.6s
GERES **GERESS Array B** 90.07 39 LR LR 19 10 48.3
comp=Z,680nm,18.5s,baz=287,slow=36
PRU **Pruhonice** 90.14 38 *e*P P 18 29 06.8 -1.6
PRU MLR MLR
comp=Z,1µm,17.7s
PRU **Pruhonice** 90.14 38 *e*P P 18 29 06.8 -1.6
PRU *e*SKS SKSac 18 39 40.6 +3.3
PRU AMS AMS 19 11 00.0
comp=Z,1µm,17.7s
MA2 **Magadan** 90.26 333 P P 18 29 09.1 +0.4
comp=Z,3.4nm,0.7s,baz=74,slow=7.4,SNR=6.0
MA2 **Magadan** 90.26 333 *e*P P 18 29 12.5 +3.8
GOPC **GO Pecny, Ondr** 90.32 38 *e*SKS SKSac 18 39 48.3 +10
GOPC AMS AMS 19 11 10.0
comp=Z,2µm,17.8s
VSL **Villasalto** 90.42 49 PFAKE 18 29 20.0 +10
VSL LR LR
comp=Z,820nm,20.0s
FIA0 **FINESS Array S** 90.67 25 *e*P P 18 29 09.5 -1.1
FIA0 **FINESS Array S** 90.67 25 *e*P P 18 29 09.5 -1.1
FINES **FINESS Array B** 90.67 25 P P 18 29 09.5 -1.1
comp=Z,2.5nm,0.8s,baz=333,slow=6.6,SNR=9.3
FINES LR LR 19 11 35.5
comp=Z,1µm,18.0s,baz=302,slow=37
UPC **Upice** 90.81 37 *e*SKS SKSac 18 39 50.5 +9.4
UPC AMS AMS 19 09 10.0
comp=Z,1µm,22.1s
DPC **Dobruska-Polom** 91.05 37 *e*P P 18 29 12.6 -0.1
DPC MLR MLR
comp=Z,1µm,22.7s
DPC **Dobruska-Polom** 91.05 37 *e*P P 18 29 12.6 -0.1
DPC AMS AMS 19 09 20.0
comp=Z,1µm,22.7s
TOA1 **Torodi Ar. Sit** 91.42 76 *e*P P 18 29 12.9 -2.1
TORD **Torodi Ar. Bea** 91.42 76 P P 18 29 12.9 -2.1
comp=Z,0.4nm,0.6s,baz=284,slow=2.9,SNR=3.6
TORD LR LR 19 09 48.4
comp=Z,547nm,18.7s,baz=270,slow=35
SHEL **Horse Pasture** 91.48 106 PFAKE 18 29 30.0 +15
SHEL LR LR
comp=Z,429nm,20.0s
AQU **L'Aquila** 92.29 45 PFAKE 18 29 30.0 +11
AQU LR LR

comp=Z,1µm,21.0s
TAM **Tamanrasset** 92.33 66 PFAKE 18 29 30.0 +11
TAM LR LR
comp=Z,886nm,21.0s
OKC **Ostrava-Krasne** 92.33 37 AMS AMS 19 13 50.0
comp=Z,1µm,16.0s
CLTB **Caltabellotta** 93.90 50 PFAKE 18 29 40.0 +14
CLTB LR LR
comp=Z,603nm,19.0s
PSZ **Piszkesteto** 94.21 38 PFAKE 18 29 40.0 +13
PSZ LR LR
comp=Z,582nm,20.0s
VAE **Valguarnera** 94.82 50 LR LR 19 09 31.7
comp=Z,1µm,19.5s,baz=337,slow=34
CUC **Castrocucco** 94.87 47 PFAKE 18 29 40.0 +9.5
CUC LR LR
comp=Z,481nm,20.0s
WDD **Wied Dalam** 95.52 51 PFAKE 18 29 40.0 +6.5
WDD LR LR
comp=Z,625nm,20.0s
CEL **Celeste** 95.61 48 PFAKE 18 29 50.0 +16
CEL LR LR
comp=Z,591nm,19.0s
TIP **Timpagrande** 95.86 47 PFAKE 18 29 50.0 +15
TIP LR LR
comp=Z,683nm,20.0s
KLMR **Klimovskoe** 96.15 21 P P 18 29 34.7 -1.0
KLMR *e*S SKSac 18 40 06.0 -3.9
KLMR pmax pmax
comp=Z,11nm,1.4s
KLMR **Klimovskoe** 96.15 21 P P 18 29 34.8 -1.0
KLMR AMP 18 29 41.4
comp=Z,11nm,1.4s
KLMR *e*S SKSac 18 40 06.0 -3.9
KLMR *e*S SKSac 18 40 06.0 -3.9
KLMR LQ LQ 19 04 26.9
KLMR LQ LQ 19 04 26.9
KLMR LR LR 19 07 24.9
YAK **Yakutsk** 96.76 341 *e*P P 18 29 42.4 +3.9
YAK pmax pmax
comp=Z,5.0nm,0.9s
YAK **Yakutsk** 96.76 341 PFAKE 18 29 50.0 +11
YAK LR LR
comp=Z,709nm,19.0s
TIR **Tirane** 97.11 44 PFAKE 18 29 50.0 +9.3
TIR LR LR
comp=Z,771nm,19.0s
KIEV **Kiev** 98.06 33 PFAKE 18 30 00.0 +15
KIEV LR LR
comp=Z,1µm,19.0s
AKASG **Malin Array Be** 98.07 33 P P 18 29 43.9 -0.8
comp=Z,0.2nm,0.3s,baz=287,slow=4.6,SNR=2.9
AKBB **Malin Array Si** 98.07 33 *e*P P 18 29 43.9 -0.8
AKBB **Malin Array Si** 98.07 33 *e*P P 18 29 43.9 -0.8
OBN **Obninsk** 98.89 27 PFAKE 18 30 00.0 +12
OBN LR LR
comp=Z,1µm,20.0s
SNZO **South Karori** 100.88 230 PFAKE 18 30 10.0 +13
SNZO LR LR
comp=Z,680nm,19.0s
SANT **Santorini** 103.28 47 PFAKE 18 30 20.0 +12
SANT LR LR
comp=Z,404nm,22.0s
ERM **Erimo** 103.65 320 PFAKE 18 30 20.0 +10
ERM LR LR
comp=Z,775nm,19.0s
QSPA **South Pole Qui** 104.29 180 PFAKE 18 30 20.0 +7.9
QSPA LR LR
comp=Z,778nm,22.0s
DZM **Mont Dzumac** 104.69 251 *e*PS PS 18 43 47.2 -1.9
comp=Z,162nm,25.9s
DZM **Mont Dzumac** 104.69 251 *e*LR LR 19 04 49.5
comp=Z,647nm,22.7s
ARU **Arti** 105.64 16 PFAKE 18 34 40.0
ARU LR LR
comp=Z,2µm,20.0s
ISP **Isparta** 106.00 43 PFAKE 18 34 40.0
ISP LR LR
comp=Z,603nm,19.0s
ANTO **Ankara** 106.33 40 PFAKE 18 34 40.0
ANTO LR LR
comp=Z,520nm,20.0s
KIV **Kislovodsk** 109.40 32 PFAKE 18 34 50.0
KIV LR LR
comp=Z,475nm,20.0s
CSS **Mathiatis** 109.47 44 PFAKE 18 34 50.0
CSS LR LR
comp=Z,106nm,20.0s
MDJ **Mudanjiang** 109.61 329 PFAKE 18 34 50.0
MDJ LR LR
comp=Z,573nm,21.0s
MAJO **Matsushiro** 109.94 318 PFAKE 18 34 50.0
MAJO LR LR
comp=Z,364nm,20.0s
HIA **Hailar** 110.29 338 PFAKE 18 34 50.0
HIA LR LR
comp=Z,892nm,19.0s
BRVK **Borovoye** 111.38 11 PFAKE 18 34 50.0
BRVK LR LR
comp=Z,765nm,19.0s
MAK **Makhachkala** 112.54 30 *e*P Pdif 18 30 49.3 0.0
MAK *e* 18 35 30.5
MAK *e*PPP PPP 18 37 53.5
MAK *e*SS SS 18 51 07.0 -1.7
MAK pmax pmax
comp=Z,94nm,1.0s
TLY **Talaya** 112.64 349 PFAKE 18 35 00.0
TLY LR LR
comp=Z,1µm,19.0s
GNI **Garni** 113.17 34 PFAKE 18 35 00.0
GNI LR LR
comp=Z,764nm,20.0s
TSUM **Tsumeb** 113.92 105 PFAKE 18 35 00.0
TSUM LR LR
comp=Z,625nm,19.0s
KURK **Kurchatov** 114.82 6 *e*PKIKP PKPdf 18 34 48.4 -0.4
KURK MLR MLR
comp=Z,2µm,19.0s
KURK **Kurchatov** 114.82 6 *e*PKiKP PKiKP 18 34 48.4 -0.3
KURK LR LR
comp=Z,2µm,19.0s
KURBB **Kurchatov Arra** 114.90 6 PKP PKPdf 18 34 48.4 -0.5
comp=Z,0.7nm,0.6s,baz=346,slow=2.1,SNR=7.9
ULN **Ulaanbaatar** 115.48 345 PFAKE 18 35 00.0 +10
ULN LR LR
comp=Z,588nm,19.0s
SONA0 **Songino Array** 115.67 345 *e*PKPdf PKPdf 18 34 50.3 -0.4
SONM **Songino Array** 115.67 345 PKP PKPdf 18 34 50.3 -0.4
comp=Z,0.2nm,0.6s,baz=48,slow=2.1,SNR=3.1
MK32 **Makanchi Array** 119.01 4 *e*PKPdf PKPdf 18 34 55.5 -1.6
MKAR **Makanchi Array** 119.01 4 PKP PKPdf 18 34 55.4 -1.6
comp=Z,0.6nm,0.7s,baz=8.7,slow=1.9,SNR=7.5
MK01 **Makanchi Array** 119.03 4 *e*PKPdf PKPdf 18 34 55.4 -1.7
BJT **Baijiatuau** 119.41 334 PFAKE 18 35 10.0 +12
BJT LR LR
comp=Z,1µm,20.0s
PMG **Port Moresby** 120.87 268 PFAKE 18 35 10.0 +8.7
PMG LR LR
comp=Z,373nm,20.0s
TAU **Tasmania Unive** 121.17 228 PFAKE 18 35 10.0 +8.9
TAU LR LR
comp=Z,625nm,19.0s
GEYT **Alibeck** 121.44 26 PKP PKPdf 18 35 02.7 +0.8
comp=Z,1.2nm,0.8s,baz=282,slow=1.3,SNR=3.0
BOSA **Boshof** 121.55 115 PKP PKPdf 18 35 04.6 +2.2
comp=Z,6.2nm,1.1s,baz=302,slow=0.5,SNR=6.2
WMQ **Urumqi** 122.11 359 PKP PKPdf 18 35 02.3 -0.8
WMQ PP PP 18 36 43.8 +7.2
AAK **Ala-Archa** 122.18 11 PFAKE 18 35 20.0 +17
AAK LR LR
comp=Z,949nm,20.0s
MBAR **Mbarara** 122.93 81 PFAKE 18 35 20.0 +14
MBAR LR LR
comp=Z,629nm,21.0s
KDJ **Kajisay** 123.11 9 PKIKP PKPdf 18 35 07.6 +2.4
KDJ **Kajisay** 123.11 9 *e*PKPdf PKPdf 18 35 04.3 -1.0
CTAO **Charters Tower** 123.17 255 PFAKE 18 35 20.0 +14
CTAO LR LR
comp=Z,718nm,21.0s
LSZ **Lusaka** 123.48 99 PFAKE 18 35 20.0 +14
LSZ LR LR
comp=Z,404nm,20.0s
NRN **Naryn** 123.61 10 PKIKP PKPdf 18 35 09.5 +3.1
RAYN **Ar Rayn** 124.79 48 PFAKE 18 35 20.0 +11
RAYN LR LR

	comp=Z,420nm,19.0s						
GTA	**Gaotai**	**125.16**	**348**	PKP	**PKPdf**	**18 35 16.8**	**+7.6**
GTA				pPKP	sPKPdf	18 35 30.5	+7.4
GTA				sPKP		18 35 34.5	
GTA				PP	PP	18 37 07.8	+11
GTA				SKS	**SKSdf**	**18 42 24.0**	**+4.8**
GTA				SKKS	**SKKSac**	**18 43 53.3**	**-1.7**
GTA	**Gaotai**	**125.16**	**348**	SS	SS	18 53 57.0	+5.7
KSH	**Kashi**	**125.47**	**10**	*e*PKP	**PKPdf**	**18 35 10.5**	**+0.7**
KSH				sPKP		18 35 27.5	
KSH				PP	**PP**	**18 36 57.5**	**-1.8**
LZH	**Lanzhou**	**127.31**	**343**	PKP	**PKPdf**	**18 35 12.8**	**-0.6**
LZH				pPKP	pPKPdf	18 35 25.5	+1.7
LZH				sPKP		18 35 30.3	
LZH				PP	**PP**	**18 37 15.0**	**+3.3**
LZH				PKS	**PKSdf**	**18 38 48.8**	**-1.4**
LZH				SKKS		18 44 00.5	
LZH	**Lanzhou**	**127.31**	**343**	SS	SS	18 54 17.0	-1.5
XAN	**Xi'an**	**127.47**	**337**	PKP	**PKPdf**	**18 35 15.3**	**+1.7**
XAN				sPKP		18 35 29.5	
XAN				PP	**PP**	**18 37 13.5**	**+0.7**
XAN				SKS	**SKSdf**	**18 42 21.8**	**-1.7**
XAN				SKKS	**SKKSac**	**18 43 59.5**	**-10**
XAN	**Xi'an**	**127.47**	**337**	SS	SS	18 54 08.8	-12
KMBO	**Kilima Mbogo**	**129.31**	**80**	PFAKE		18 35 30.0	+12
KMBO				LR	LR		
	comp=Z,500nm,21.0s						
ENH	**Enshi**	**130.55**	**334**	PFAKE		18 35 30.0	+10
ENH				LR	LR		
	comp=Z,824nm,20.0s						
NIL	**Nilore**	**130.55**	**15**	PFAKE		18 35 30.0	+10
NIL				LR	LR		
	comp=Z,452nm,21.0s						
CD2	**Chengdu**	**132.14**	**340**	PKP	**PKPdf**	**18 35 21.5**	**-1.1**
CD2				pPKP	pPKPdf	18 35 34.5	+1.5
CD2				sPKP		18 35 39.0	
CD2				PP	**PP**	**18 37 42.5**	**-0.6**
CD2				SKS	**SKSdf**	**18 42 29.5**	**-2.6**
CD2				SKKS	**SKKSac**	**18 44 34.0**	**-4.7**
CD2	**Chengdu**	**132.14**	**340**	SS	SS	18 55 16.5	-1.3
WRAB	**Tennant Creek**	**134.34**	**256**	PFAKE		18 35 40.0	+13
WRAB				LR	LR		
	comp=Z,517nm,19.0s						
WR1	**Warramunga Arr**	**134.35**	**256**	*e*PKPdf	**PKPdf**	**18 35 25.8**	**-1.2**
WRA	**Warramunga Arr**	**134.35**	**256**	PKP	**PKPdf**	**18 35 25.8**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=84,slow=2.4,SNR=9.8						
ASAR	**Alice Springs**	**134.69**	**251**	PKP	**PKPdf**	**18 35 25.2**	**-2.2**
	comp=Z,0.6nm,0.8s,baz=94,slow=3.0,SNR=4.9						
GYA	**Guiyang**	**135.08**	**334**	*e*Pdif	**Pdif**	**18 32 29.0**	**-1.1**
GYA				PKP	**PKPdf**	**18 35 28.0**	**-0.3**
GYA				PP	**PP**	**18 38 06.5**	**+4.4**
LSA	**Lhasa**	**136.01**	**355**	PFAKE		18 35 40.0	+10
LSA				LR	LR		
	comp=Z,463nm,22.0s						
QIZ	**Qiongzhong**	**139.81**	**325**	PFAKE		18 35 50.0	+13
QIZ				LR	LR		
	comp=Z,567nm,21.0s						
ABPO	**Ambohimpanom**	**141.86**	**103**	PFAKE		18 35 50.0	+9.1
ABPO				LR	LR		
	comp=Z,204nm,22.0s						
KKM	**Kota Kinabalu**	**144.48**	**303**	PFAKE		18 36 00.0	+14
KKM				LR	LR		
	comp=Z,557nm,22.0s						
CHTO	**Chiang Mai**	**144.94**	**340**	*e*PKIKP	**PKPab**	**18 35 44.0**	**-1.4**
CHTO				MLR	MLR		
	comp=Z,465nm,22.0s						
CHTO	**Chiang Mai**	**144.94**	**340**	*e*PKPdf	**PKPab**	**18 35 44.0**	**-1.4**
CHTO				LR	LR		
	comp=Z,465nm,22.0s						
CM31	**Chiang Mai Arr**	**145.28**	**339**	*e*PKPbc	**PKPbc**	**18 35 45.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**145.28**	**339**	PKPbc	**PKPbc**	**18 35 46.1**	**-0.3**
	comp=Z,6.4nm,0.8s,baz=338,slow=3.4,SNR=54						
CM01	**Chiang Mai Arr**	**145.31**	**339**	*e*PKPbc	**PKPbc**	**18 35 45.8**	**-0.7**
KAPI	**Kappang**	**146.27**	**283**	PFAKE		18 36 00.0	+10
KAPI				LR	LR		
	comp=Z,437nm,22.0s						
HYB	**Hyderabad**	**147.40**	**15**	*i* PKP	**PKPbc**	**18 35 53.0**	**+0.2**
HYB				*es*PKP		18 36 04.0	
MBWA	**Marble Bar**	**147.96**	**253**	PFAKE		18 36 00.0	+3.1
MBWA				LR	LR		
	comp=Z,272nm,20.0s						
KSM	**Kuching**	**151.91**	**302**	*e*PKPdf	**PKPdf**	**18 35 57.2**	**-0.4**
KSM				*e*PKPbc	**PKiKP**	**18 36 06.3**	**+1.8**
KSM				LR	LR		
	comp=Z,282nm,21.0s						
PBA	**Port Blair**	**153.50**	**347**	*e*PKPdf	PKPdf	18 35 58.8	-1.1
PBA				*e*PKPbc	PKPbc	18 36 10.6	+3.0
KULM	**Kulim**	**156.14**	**324**	PFAKE		18 36 20.0	-11
KULM				LR	LR		
	comp=Z,494nm,21.0s						
DGAR	**Diego Garcia**	**164.32**	**65**	PFAKE		18 36 20.0	+7.3
DGAR				LR	LR		
	comp=Z,229nm,20.0s						

WEL 30 18:16:31.7, 40.3S±0.8, 176.6E±, h22km±2km, ML3.7/15, ML3.7/15, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.15**	**86**	P	Pb	18 16 36.9	+0.1
PRHZ	**Porangahau**	**0.15**	**86**	S	Sb	18 16 41.8	+1.4
ANWZ	**Angora Road**	**0.18**	**172**	P	Pb	18 16 37.6	+0.5
ANWZ	**Angora Road**	**0.18**	**172**	S	Sb	18 16 42.7	+1.9
DVHZ	**Dannevirke**	**0.21**	**264**	P	Pb	18 16 37.7	+0.3
DVHZ	**Dannevirke**	**0.21**	**264**	S	Sb	18 16 42.6	+1.3
WPHZ	**Waipukurau**	**0.21**	**359**	P	Pb	18 16 37.8	+0.4
WPHZ	**Waipukurau**	**0.21**	**359**	S	Sb	18 16 43.1	+1.9
PXZ	**Pawanui**	**0.41**	**53**	P	Pb	18 16 40.8	+0.7
PXZ	**Pawanui**	**0.41**	**53**	S	Sn	18 16 49.0	-0.1
PNHZ	**Pukenui**	**0.41**	**333**	P	Pb	18 16 40.6	+0.3
PNHZ	**Pukenui**	**0.41**	**333**	S	Sn	18 16 48.1	-1.2
BFZ	**Birch Farm**	**0.43**	**200**	P	Pb	18 16 41.1	+0.5
BFZ	**Birch Farm**	**0.43**	**200**	S	Sn	18 16 49.6	-0.2
TSZ	**Takapari Road**	**0.43**	**301**	P	Pb	18 16 40.9	+0.3
TSZ	**Takapari Road**	**0.43**	**301**	S	Sb	18 16 48.2	+1.5
PRWZ	**Pori Road**	**0.45**	**232**	P	Pb	18 16 42.0	+0.9
PRWZ	**Pori Road**	**0.45**	**232**	S	Sn	18 16 50.6	+0.2
POWZ	**Post Office Ro**	**0.53**	**257**	P	Pb	18 16 43.0	+0.6
KAHZ	**Kahuranaki**	**0.59**	**35**	P	Pb	18 16 43.9	+0.6
KAHZ	**Kahuranaki**	**0.59**	**35**	S	Sn	18 16 54.7	+1.0
KRHZ	**Kereru**	**0.64**	**355**	P	Pb	18 16 44.3	+0.1
TIWZ	**Tintock**	**0.65**	**220**	P	Pb	18 16 44.9	+0.4
TIWZ	**Tintock**	**0.65**	**220**	S	Sn	18 16 55.3	-0.1
CPWZ	**Castlepoint**	**0.66**	**196**	P	Pn	18 16 45.2	-0.5
CPWZ	**Castlepoint**	**0.66**	**196**	S	Sn	18 16 56.8	+1.4
MRZ	**Mangatainoka R**	**0.76**	**240**	P	Pb	18 16 46.2	-0.1
CKHZ	**Cape Kidnapper**	**0.79**	**38**	P	Pb	18 16 46.4	-0.3
BHHZ	**Black Hill Sta**	**0.84**	**339**	P	Pb	18 16 47.7	0.0
KWHZ	**Kaweka Forest**	**0.85**	**359**	P	Pb	18 16 47.8	-0.1
MCHZ	**McNeill Hill**	**0.85**	**13**	P	Pb	18 16 48.0	+0.1
OHWZ	**Ohakea**	**0.87**	**274**	P	Pn	18 16 49.3	+0.8
TMWZ	**Te Maipa**	**0.93**	**207**	P	Pb	18 16 48.1	-1.0
HOWZ	**Holdsworth Sta**	**0.94**	**229**	P	Pb	18 16 48.5	-0.8
MOVZ	**Moawhango**	**1.02**	**328**	P	Pn	18 16 50.8	0.0
ARHZ	**Aropaoanui**	**1.10**	**23**	P	Pn	18 16 51.4	-0.3
OGWZ	**Otaki Gorge**	**1.11**	**241**	P	Pn	18 16 51.1	-0.8
BKZ	**Black Stump Fm**	**1.11**	**2**	P	Pn	18 16 51.4	-0.6
MTW	**Mount Morrison**	**1.13**	**219**	P	Pn	18 16 50.7	-1.5
MTVZ	**Mangateitei**	**1.17**	**320**	P	Pb	18 16 53.6	+0.4
TUVZ	**Tukino**	**1.18**	**329**	P	Pb	18 16 53.8	+0.4
WHVZ	**Whangaehu Hut**	**1.19**	**326**	P	Pb	18 16 54.3	+0.5
TRVZ	**Turoa**	**1.20**	**325**	P	Pb	18 16 54.0	+0.1
DRZ	**Dome Shelter**	**1.21**	**326**	P	Pb	18 16 55.3	+1.2
NMHZ	**Naumai**	**1.21**	**13**	P	Pn	18 16 53.1	-0.3
FWVZ	**Far West T-bar**	**1.23**	**326**	P	Pb	18 16 54.6	+0.2
WAZ	**Wanganui**	**1.24**	**295**	P	Pb	18 16 54.8	+0.4
TRWZ	**Traveller**	**1.26**	**207**	P	Pn	18 16 52.1	-1.9
NGZ	**Ngauruhoe**	**1.28**	**329**	P	Pb	18 16 55.4	+0.2
COVZ	**Chateau Observ**	**1.28**	**327**	P	Pb	18 16 55.4	+0.2
KIW	**Kapiti Island**	**1.30**	**243**	P	Pn	18 16 53.8	-0.8
KRVZ	**Karewarewa**	**1.33**	**332**	P	Pb	18 16 56.3	+0.2
CAW	**Cannon Point**	**1.33**	**231**	P	Pn	18 16 53.6	-1.4
WTVZ	**West Tongariro**	**1.33**	**330**	P	Pb	18 16 56.2	+0.1
PAWZ	**Paruwai Farm**	**1.34**	**215**	P	Pn	18 16 53.9	-1.3
WHHZ	**Waihua**	**1.35**	**27**	P	Pn	18 16 54.5	-0.6
RITZ	**Rihia Road**	**1.38**	**341**	P	Pb	18 16 57.3	+0.6
HATZ	**Hinemaiaia**	**1.41**	**349**	P	Pn	18 16 56.3	+0.2
KATZ	**Kakaramea**	**1.42**	**336**	P	Pb	18 16 58.4	+0.8
TWVZ	**Taurewa**	**1.43**	**327**	P	Pb	18 16 58.6	+0.8
MRHZ	**Matea Rd**	**1.44**	**359**	P	Pn	18 16 56.8	+0.3
RAHZ	**Arahi**	**1.45**	**20**	P	Pn	18 16 56.4	-0.2
MSWZ	**Moikau Station**	**1.45**	**218**	P	Pn	18 16 54.9	-1.8
MTHZ	**Maungataniwha**	**1.46**	**12**	P	Pn	18 16 55.9	-0.8
RATZ	**Rangitukua**	**1.50**	**340**	P	Pb	18 17 00.8	+1.9
PLWZ	**Palliser**	**1.57**	**215**	P	Pn	18 16 56.2	-2.1
BHW	**Baring Head**	**1.64**	**226**	P	Pn	18 16 57.2	-2.0
WATZ	**Wairara**	**1.66**	**340**	P	Pb	18 17 02.9	+1.3
RTZ	**Ruatahuna**	**1.71**	**14**	P	Pn	18 17 01.3	+1.0
VRZ	**Vera Road**	**1.74**	**311**	P	Pb	18 17 02.4	-0.5
LREZ	**Lake Rotokare**	**1.77**	**297**	P	Pb	18 17 03.6	+0.1
TCW	**Tory Channel**	**1.89**	**240**	P	Pn	18 17 01.3	-1.4
RAGZ	**Rawiri**	**1.93**	**23**	P	Pn	18 17 01.9	-1.4
DUWZ	**D'Urville Isla**	**1.99**	**254**	P	Pn	18 17 03.7	-0.4
PREZ	**Palmer Road**	**1.99**	**297**	P	Pb	18 17 06.6	-0.7
TARZ	**Mount Tarawera**	**2.04**	**1**	P	Pn	18 17 04.9	+0.1
URZ	**Urewera**	**2.08**	**15**	P	Pn	18 17 03.7	-1.5
MWZ	**Matawai**	**2.12**	**24**	P	Pn	18 17 04.0	-1.8
HIZ	**Hauiti**	**2.15**	**325**	P	Pb	18 17 12.0	+2.1
PKE	**Pukeiti**	**2.18**	**299**	P	Pb	18 17 12.1	+1.6
TUWZ	**Tuamarina**	**2.22**	**238**	P	Pn	18 17 05.1	-2.0
TWGZ	**Tauwhareparae**	**2.41**	**30**	P	Pn	18 17 08.9	-1.0
BSWZ	**Blackbirch Sta**	**2.42**	**233**	P	Pn	18 17 07.5	-2.3
RUGZ	**Raukumara Rang**	**2.50**	**23**	P	Pn	18 17 09.7	-1.5
NNZ	**Nelson**	**2.51**	**247**	P	Pn	18 17 10.2	-1.0
QRZ	**Quartz Range**	**3.03**	**258**	P	Pn	18 17 17.1	-1.3
KHZ	**Kahutara**	**3.06**	**225**	P	Pn	18 17 15.3	-3.3
THZ	**Tophouse**	**3.06**	**240**	P	Pn	18 17 16.5	-2.3

*ATA **30** 18:29:29.3±0.8, 38.76N×43.16E, h7km±34km, ML2.2, MW3.0*
*CSEM **30** 18:29:30.4, 38.74N×43.19E, h7km, ML2.5, After DDA*
*DDA **30** 18:29:30.4, 38.74N×43.19E, h7km, Ml2.5*
ISC 30 18:29:28.2±1.7, 38.73N±0.04×43.20E±0.04, h0km±16km, n12, σ0.37, 20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.26**	**141**	*i* P	**Pb**	**18 29 35.7**	**-0.2**
TVAN				*i* S	**Sb**	**18 29 40.9**	**-0.1**
TVAN	**Van**	**0.26**	**141**	P	**Pb**	**18 29 35.7**	**-0.2**
TVAN				S	**Sb**	**18 29 40.9**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**282**	*i* P	**Pb**	**18 29 37.5**	**-0.5**
ADCV				*i* S	**Sb**	**18 29 44.3**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**282**	P	**Pb**	**18 29 37.5**	**-0.5**
ADCV				S	**Sb**	**18 29 44.3**	**-0.1**
VMUR	**Van-Muradiye**	**0.39**	**48**	*i* P	**Pg**	**18 29 35.7**	**0.0**
VMUR				*i* S	**Sb**	**18 29 44.6**	**-0.1**
VMUR	**Van-Muradiye**	**0.39**	**48**	P	**Pg**	**18 29 35.7**	**0.0**
VMUR				S	**Sb**	**18 29 44.7**	**-0.1**
GEVA	**Gevas**	**0.43**	**195**	*e*P	**Pb**	**18 29 38.6**	**-0.2**
TUTA	**Tutak**	**0.73**	**336**	*e*P	**Pg**	**18 29 42.9**	**+0.6**
TUTA				*e*S	**Sb**	**18 29 54.0**	**-0.8**
TUTA				IAML		18 30 03.1	
	comp=Z,7.8nm,0.1s						
TUTA	**Tutak**	**0.73**	**336**	*i* P	**Pb**	**18 29 43.9**	**-0.2**
TUTA	**Tutak**	**0.73**	**336**	P	**Pb**	**18 29 43.8**	**-0.2**
EKAR	**Karacoban**	**1.03**	**301**	*e*P	**Pb**	**18 29 48.7**	**-0.4**
EATA	**Eleskirt**	**1.26**	**334**	*e*P	**Pn**	**18 29 53.6**	**+0.3**
EATA				*e*S	**Sn**	**18 30 11.6**	**+0.5**

*NIED **30** 18:32:00, 39.60N×143.80E, h23km, Mw4.0 Best double couple: Mo1.14000×10^15 NP1:ϕs174.00000°, δ36.00000°, λ50.00000°. NP2:ϕs40.00000°, δ63.00000°, λ115.00000°.*
*JMA **30** 18:32:21.9±0.2, 39.62N×143.81E, h17km, M4.3*
*ISCJB **30** 18:32:23.8±1.3, 39.60N±0.03×143.68E±0.05, h21km±9km, mb4.2/39, MS4.5/4, Error ellipse: s-maj=6.6km s-min=4.2km az=31.1*
*IDC **30** 18:32:23.1±0.7, 39.60N×143.64E, h0km, mb4.0/20, mb1 4.1/24, mb1mx3.9/74, mbtmp4.0/24, ML3.6/4, MS3.9/7, Ms1 3.9/7, ms1mx3.2/60, Error ellipse: s-maj=18.6km s-min=13.7km az=115.0*
*MOS **30** 18:32:24.8±0.8, 39.62N×143.58E, h25km, mb4.5/12, Error ellipse: s-maj=9.2km s-min=6.1km az=97.1*
*NEIC **30** 18:32:27.4±1.5, 39.63N×143.57E, h29km±10km, mb4.4/18, Error ellipse: s-maj=6.2km s-min=4.4km az=126.0*
ISC 30 18:32:23.2±2.2, 39.61N±0.04×143.71E±0.05, h8km±13km, n158, σ1$44/156, mb4.2/39, MS4.5/4, 8C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.46**	**284**	P	**Pb**	**18 32 49.2**	**-1.5**
JTH				*e*S	**Sb**	**18 33 09.0**	**-0.4**
MIYJ	**Miyakonagasawa**	**1.46**	**269**	P	**Pn**	**18 32 49.0**	**-0.9**
MIYJ				*e*S	**Sb**	**18 33 08.8**	**-0.6**
OFUJ	**Ofunato**	**1.67**	**252**	P	**Pn**	**18 32 52.0**	**-0.7**
JANG	**Nango**	**1.85**	**295**	P	**Pn**	**18 32 54.0**	**-1.3**
JMK	**Ichinoseki**	**2.04**	**252**	P	**Pn**	**18 32 57.6**	**-0.3**
JIO	**Ouri**	**2.17**	**239**	P	**Pn**	**18 32 59.0**	**-0.6**
ERM	**Erimo**	**2.44**	**350**	*ce*P	**Pb**	**18 33 04.7**	**-2.6**
ERM				pmax	pmax		
	comp=Z,60nm,0.6s						
ERM	**Erimo**	**2.44**	**350**	*e*Pn	**Pb**	**18 33 05.2**	**-2.1**
ERM				*e*Sn	**Sb**	**18 33 35.2**	**-2.3**
JYK	**Kaneyama**	**2.69**	**256**	P	**Pn**	**18 33 07.1**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.77**	**345**	*e*S	**Sn**	**18 33 41.0**	**-0.4**
JCH	**Churui**	**3.02**	**355**	*e*S	**Sn**	**18 33 46.1**	**-1.5**
ASAJ	**Asahikawa**	**4.58**	**350**	Pn	**Pn**	**18 33 34.5**	**+1.8**
	comp=Z,3.4nm,0.3s,baz=195,slow=14,SNR=39						
ASAJ				Sn	**Sn**	**18 34 24.9**	**-1.3**
	comp=Z,3.6nm,0.3s,baz=120,slow=20,SNR=5.6						
ASAJ	**Asahikawa**	**4.58**	**350**	*e*Pn	**Pn**	**18 33 34.8**	**+2.1**
ASAJ				*e*Sn	**Sn**	**18 34 25.4**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**4.71**	**19**	*ci* P	**Pn**	**18 33 35.8**	**+1.4**
YUK				*i* S	**Sn**	**18 34 27.2**	**-2.0**
YUK				pmax	pmax		
	comp=Z,110nm,0.6s						
YUK				pmax	pmax		
	comp=N,21nm,0.2s						
YUK				pmax	pmax		
	comp=E,30nm,0.2s						
YUK				smax	smax		
	comp=N,647nm,0.5s						
YUK				smax	smax		
	comp=E,297nm,0.6s						
SHO	**Shikotan**	**4.86**	**28**	*i* P	**Pn**	**18 33 37.8**	**+1.3**
SHO				*i* S	**Sn**	**18 34 29.1**	**-3.8**
SHO				pmax	pmax		
	comp=Z,32nm,0.6s						
SHO				pmax	pmax		
	comp=N,13nm,0.2s						
SHO				pmax	pmax		
	comp=E,28nm,0.3s						
SHO				smax	smax		
	comp=E,243nm,0.3s						
SHO				smax	smax		
	comp=N,186nm,0.2s						
MJAR	**Matsushiro Arr**	**5.31**	**237**	Pn	**Pn**	**18 33 44.1**	**+1.3**
	comp=N,1.6nm,0.3s,baz=40,slow=11,SNR=44						
MJAR				LR	LR	18 35 45.2	
	comp=N,58nm,21.4s,baz=45,slow=38						
MAJO	**Matsushiro**	**5.31**	**237**	*e*P	**Pn**	**18 33 43.3**	**+0.4**
MAJO	**Matsushiro**	**5.31**	**237**	*e*Pn	**Pn**	**18 33 44.3**	**+1.4**
MAT	**Matsushiro**	**5.31**	**237**	P	**Pn**	**18 33 44.0**	**+1.1**
MAT				*e*S	**Sn**	**18 34 43.8**	**-0.5**
KUR	**Kuril'sk**	**6.41**	**27**	*ci* P	Pn	18 34 02.9	+5.1
KUR				*i* S	**Sn**	**18 35 09.9**	**-1.2**
KUR				pmax	pmax		
	comp=Z,37nm,0.4s						
KUR				pmax	pmax		
	comp=N,8.0nm,0.5s						
KUR				pmax	pmax		
	comp=E,22nm,0.5s						
KUR				smax	smax		
	comp=N,132nm,0.4s						
KUR				smax	smax		
	comp=E,58nm,0.4s						
INU	**Inuyama**	**6.81**	**233**	*e*Pn	**Pn**	**18 34 05.1**	**+1.7**
JHJ2	**Mitsune**	**7.20**	**207**	*e*Pn	**Pn**	**18 34 09.1**	**+0.3**
JHJ2				*e*Sn	**Sn**	**18 35 22.6**	**-8.2**
JHJ	**Hachijo jima 2**	**7.21**	**207**	Pn	**Pn**	**18 34 10.5**	**+1.7**
	comp=E,7.8nm,0.3s,baz=270,slow=20,SNR=5.1						
JHJ				Sn	**Sn**	**18 35 23.6**	**-7.3**
	comp=E,12nm,0.3s,baz=53,slow=20,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**7.38**	**355**	*e*P	**Pn**	**18 34 10.6**	**-0.5**
YSS	**Yuzh-Sakhalins**	**7.38**	**355**	*e*Pn	**Pn**	**18 34 10.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**9.87**	**301**	Pn	Pn	18 34 48.8	+3.5
	comp=E,0.3nm,0.3s,baz=96,slow=13,SNR=7.1						
USRK				LR	LR	18 37 57.8	
	comp=E,103nm,21.6s,baz=101,slow=34						

JNU	**Nakatsue**	**12.20**	**242**	LR	LR	18 40 14.3	
	comp=E,150nm,18.6s,baz=119,slow=39						
KSRS	**Korea Array**	**12.55**	**265**	Pn	**Pn**	**18 35 23.0**	**+0.9**
	comp=E,0.1nm,0.3s,baz=65,slow=15,SNR=2.7						
KSRS	**Korea Array**	**12.55**	**265**	P	**Pn**	**18 35 23.0**	**+0.9**
KS15	**Wonju Array Si**	**12.59**	**265**	*e*Pn	**Pn**	**18 35 24.4**	**+1.9**
KSAR	**Wonju Array Be**	**12.59**	**265**	P	**Pn**	**18 35 23.0**	**+0.5**
KSAR	**Wonju Array Be**	**12.59**	**265**	Pn	**Pn**	**18 35 23.0**	**+0.5**
KLR	**Kul'dur**	**12.86**	**322**	Pn	**Pn**	**18 35 28.3**	**+2.2**
	comp=E,0.0nm,0.3s,baz=140,slow=14,SNR=4.2						
KLR	**Kul'dur**	**12.86**	**322**	*e*P	**Pn**	**18 35 27.8**	**+1.7**
PETK	**Petropavlovsk-**	**16.56**	**31**	LR	LR	18 42 50.5	
	comp=E,56nm,20.4s,baz=60,slow=38						
HIA	**Hailar**	**19.58**	**307**	*e*P	**P**	**18 36 49.7**	**-1.8**
HIA	**Hailar**	**19.58**	**307**	*e*P	**P**	**18 36 49.7**	**-1.8**
MA2	**Magadan**	**20.48**	**10**	P	Pn	18 37 03.6	+0.3
	comp=E,7.2nm,0.7s,baz=190,slow=7.0,SNR=16						
MA2	**Magadan**	**20.48**	**10**	*ce*P	Pn	18 37 02.7	-0.7
SEY	**Seymchan**	**23.93**	**10**	P	**P**	**18 37 39.0**	**+1.5**
	comp=E,5.8nm,0.9s,baz=197,slow=7.1,SNR=18						
YAK	**Yakutsk**	**24.03**	**344**	P	**P**	**18 37 37.6**	**-0.7**
	comp=E,4.3nm,0.3s,baz=348,slow=1.4,SNR=4.5						
YAK	**Yakutsk**	**24.03**	**344**	*e*P	**P**	**18 37 37.7**	**-0.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK	**Yakutsk**	**24.03**	**344**	*e*P	**P**	**18 37 37.1**	**-1.2**
	comp=Z,10nm,0.8s						
SSLB	**Suanglung**	**24.87**	**237**	*e*P	**P**	**18 37 45.6**	**-0.8**
	comp=Z,38nm,1.7s						
ULN	**Ulaanbaatar**	**27.53**	**300**	*ce*P	**P**	**18 38 10.9**	**+0.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.53**	**300**	*e*P	**P**	**18 38 10.7**	**+0.3**
	comp=Z,7.2nm,1.2s						
SONA0	**Songino Array**	**27.97**	**299**	*e*P	**P**	**18 38 14.9**	**+0.6**
SONM	**Songino Array**	**27.97**	**299**	P	**P**	**18 38 14.9**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=93,slow=8.1,SNR=14						
SONM	**Songino Array**	**27.97**	**299**	P	**P**	**18 38 15.0**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**28.11**	**128**	T	T	19 07 60.0	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.12**	**128**	T	T	19 07 58.5	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.13**	**128**	T	T	19 07 52.0	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**28.93**	**130**	T	T	19 08 58.9	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**28.93**	**130**	T	T	19 08 58.5	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**28.95**	**130**	T	T	19 08 58.0	
	baz=322						
ENH	**Enshi**	**29.42**	**262**	*e*P	**P**	**18 38 26.0**	**-1.2**
	comp=Z,6.9nm,0.8s						
TLY	**Talaya**	**30.12**	**307**	*e*P	**P**	**18 38 33.1**	**-0.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	**Talaya**	**30.12**	**307**	*e*P	**P**	**18 38 33.1**	**-0.1**
	comp=Z,3.2nm,1.0s						
BILL	**Bilibino**	**31.05**	**16**	*e*P	**P**	**18 38 39.8**	**-1.4**
BILL				*e*		18 41 37.6	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DGZ	**Jazzator, Alta**	**40.42**	**304**	*e*P	**P**	**18 40 03.2**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAA1	**Zalesovo Array**	**41.58**	**310**	*e*P	**P**	**18 40 11.9**	**+0.8**
ZAA1				*e*PcP	**PcP**	**18 42 09.1**	**+0.8**
ZAA0	**Zalesovo Array**	**41.58**	**310**	*e*P	**P**	**18 40 10.7**	**-0.5**
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**41.58**	**310**	P	**P**	**18 40 11.9**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=84,slow=7.5,SNR=10						
ZALV				PcP	**PcP**	**18 42 09.1**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=91,slow=3.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**41.58**	**310**	*e*P	**P**	**18 40 10.5**	**-0.7**
ZALV

AB01	**Akbulak array**	**57.68**	**310**	*eP*		**P**	**18 42 14.6**	**+0.6**
AB31	**Akbulak array**	**57.68**	**310**	*eP*		**P**	**18 42 14.4**	**+0.4**
AB31	**Akbulak array**	**57.68**	**310**	*eP*		**P**	**18 42 14.4**	**+0.4**
ABKAR	**Akbulak array**	**57.68**	**310**	*eP*		**P**	**18 42 14.3**	**+0.3**
	comp=Z,24nm,0.8s							
AB03	**Akbulak array**	**57.68**	**310**	*eP*		**P**	**18 42 14.3**	**+0.3**
AB04	**Akbulak array**	**57.69**	**310**	*eP*		**P**	**18 42 14.6**	**+0.6**
AB09	**Akbulak array**	**57.69**	**310**	*eP*		**P**	**18 42 14.5**	**+0.5**
AB08	**Akbulak array**	**57.70**	**310**	*eP*		**P**	**18 42 14.4**	**+0.3**
RES	**Resolute Bay**	**59.65**	**15**	P		**P**	**18 42 27.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=324,slow=8.1,SNR=4.0							
WR1	**Warramunga Arr**	**59.88**	**190**	*eP*		**P**	**18 42 29.8**	**+0.3**
	comp=Z,16nm,1.6s							
WRA	**Warramunga Arr**	**59.88**	**190**	P		**P**	**18 42 29.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=6.5,slow=7.0,SNR=8.3							
YKA	**Yellowknife Ar**	**60.67**	**31**	P		**P**	**18 42 36.0**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=296,slow=5.7,SNR=2.9							
YKA	**Yellowknife Ar**	**60.67**	**31**	P		**P**	**18 42 36.0**	**+1.5**
YKB5	**Yellowknife Ar**	**60.67**	**31**	*eP*		**P**	**18 42 36.0**	**+1.5**
ASAR	**Alice Springs**	**63.61**	**190**	P		**P**	**18 42 56.0**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=17,slow=8.5,SNR=6.3							
ASAR	**Alice Springs**	**63.61**	**190**	P		**P**	**18 42 56.0**	**+1.4**
DZM	**Mont Dzumac**	**64.93**	**157**	LR		LR	19 07 31.2	
	comp=Z,363nm,21.2s,baz=78,slow=32							
NEWO	**Newport DOGAMI**	**64.98**	**52**	*eP*		**P**	**18 43 04.3**	**+0.9**
NLW	**Nelson Butte**	**65.33**	**47**	*eP*		**P**	**18 43 04.8**	**-1.1**
FIA0	**FINESS Array S**	**67.38**	**333**	*eP*		**P**	**18 43 19.3**	**+0.7**
FIA0	**FINESS Array S**	**67.38**	**333**	*eP*		**P**	**18 43 19.2**	**+0.7**
FINES	**FINESS Array B**	**67.38**	**333**	P		**P**	**18 43 19.3**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=54,slow=7.1,SNR=7.5							
CPIM	**Pinole Ridge**	**69.77**	**57**	*eP*		**P**	**18 43 31.3**	**-2.6**
KIV	**Kislovodsk**	**70.58**	**311**	*eP*		**P**	**18 43 40.0**	**+1.1**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.1s							
KBZ	**Khabaz**	**70.59**	**311**	P		**P**	**18 43 40.8**	**+2.0**
	comp=Z,2.9nm,0.8s,baz=37,slow=16,SNR=6.6							
KBZ				LR		LR	19 19 27.7	
	comp=Z,186nm,20.4s,baz=310,slow=40							
LRM	**Limekiln Ridge**	**71.05**	**46**	*eP*		**P**	**18 43 42.6**	**+0.6**
GNI	**Garni**	**71.61**	**307**	LR		LR	19 20 30.7	
	comp=Z,205nm,20.3s,baz=322,slow=40							
NV01	**Mina Array Sit**	**72.01**	**55**	*eP*		P	18 43 49.7	+1.9
NVAR	**Mina Array Bea**	**72.01**	**55**	P		P	18 43 52.7	+4.9
	comp=Z,0.3nm,0.6s,baz=303,slow=7.1,SNR=2.9							
HFS	**Hagfors**	**72.48**	**336**	P		**P**	**18 43 51.5**	**+1.5**
	comp=Z,1.5nm,0.4s,baz=46,slow=8.3,SNR=11							
NB2	**NORSAR Subarra**	**72.50**	**338**	P		**P**	**18 43 51.1**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=38,slow=5.9							
NB200	**NORSAR Array S**	**72.50**	**338**	*eP*		**P**	**18 43 51.5**	**+1.4**
NOA	**NORSAR Array B**	**72.50**	**338**	P		**P**	**18 43 51.5**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=39,slow=5.9,SNR=5.4							
ANN	**Anapa**	**73.04**	**314**	*eP*		**P**	**18 43 55.4**	**+1.9**
AKASG	**Malin Array Be**	**73.36**	**323**	P		**P**	**18 43 56.0**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=46,slow=5.9,SNR=9.0							
AKASG	**Malin Array Be**	**73.36**	**323**	P		**P**	**18 43 56.0**	**+0.7**
AKBB	**Malin Array Si**	**73.36**	**323**	*eP*		**P**	**18 43 56.0**	**+0.7**
AKBB	**Malin Array Si**	**73.36**	**323**	*eP*		**P**	**18 43 56.0**	**+0.7**
AGOC	**Agoura**	**74.28**	**59**	*eP*		P	18 44 04.5	+3.4
PDAR	**Pinedale Array**	**74.58**	**47**	P		P	18 44 04.7	+1.8
	comp=Z,0.1nm,0.4s,baz=316,slow=6.2,SNR=2.3							
DANC	**Danby, Needles**	**76.19**	**56**	*eP*		**P**	**18 44 12.1**	**0.0**
CLL	**Collm**	**79.75**	**331**	*eP*		**P**	**18 44 31.0**	**-0.5**
CLL	**Collm**	**79.75**	**331**	*eP*		**P**	**18 44 31.0**	**-0.5**
ATD	**Arta Tunnel**	**90.95**	**286**	LR		LR	19 32 31.9	
	comp=Z,340nm,18.8s,baz=314,slow=40							

*ISCJB **30** 18:33:01.1±1.5,65°.9N±0°.3×174°.5W±0°.2,h10km,mb3.8/10, Error ellipse: s-maj=44.4km s-min=11.9km az=1.0*
*IDC **30** 18:33:01.8±2.2,65°.89N×174°.62W,h0km,mb3.8/10, mb1 4.0/11,mb1mx3.6/80,mbtmp3.8/11,ML3.3/1,Error ellipse: s-maj=62.4km s-min=22.6km az=174.0*

ISC 30 18:33:03.5±1.7,65°.9N±0°.3×174°.5W±0°.1,h10km,n12, σ0.9s97/12,mb3.9/10,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**11.56**	**83**	Pn	**Pn**	**18 35 48.5**	**+0.2**
	0.1nm,0.3s,baz=286,slow=14,SNR=5.0						
INK	**Inuvik**	**15.91**	**63**	Pn	**Pn**	**18 36 46.8**	**-0.3**
	0.1nm,0.3s,baz=294,slow=8.3,SNR=2.9						
YKA	**Yellowknife Ar**	**25.43**	**69**	P	**P**	**18 38 30.7**	**-0.1**
	1.5nm,0.9s,baz=303,slow=9.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**46.31**	**307**	P	**P**	**18 41 27.7**	**-1.0**
	0.7nm,0.5s,baz=52,slow=6.6,SNR=2.9						
SCHQ	**Schefferville**	**47.81**	**48**	P	**P**	**18 41 40.6**	**0.0**
	3.8nm,0.5s,baz=271,slow=16,SNR=3.9						
KURBB	**Kurchatov Arra**	**51.18**	**309**	P	**P**	**18 42 05.8**	**-0.4**
	0.9nm,0.6s,baz=31,slow=7.5,SNR=2.8						
FINES	**FINESS Array B**	**52.03**	**348**	P	**P**	**18 42 14.1**	**+1.6**
	0.9nm,0.8s,baz=18,slow=6.6,SNR=3.3						
MKAR	**Makanchi Array**	**53.24**	**303**	P	**P**	**18 42 20.8**	**-0.9**
	0.2nm,0.6s,baz=38,slow=7.8,SNR=2.4						
EKA	**Eskdalemuir Ar**	**58.89**	**6**	P	**P**	**18 43 00.6**	**-1.3**
	0.7nm,0.6s,baz=8.9,slow=5.0,SNR=3.7						
KBZ	**Khabaz**	**66.92**	**331**	P	**P**	**18 43 55.0**	**-0.4**
	2.8nm,0.9s,baz=143,slow=4.8,SNR=4.3						
GEYT	**Alibeck**	**68.81**	**318**	P	**P**	**18 44 08.8**	**+1.3**
	0.5nm,0.4s,baz=352,slow=7.6,SNR=2.4						
CMAR	**Chiang Mai Arr**	**71.90**	**275**	P	**P**	**18 44 26.6**	**0.0**
	0.5nm,0.8s,baz=10,slow=6.7,SNR=4.6						

*ISCJB **30** 18:36:23.2±0.8,18°.27S±0°.04×71°.46W±0°.06,h56km±8km, mb4.5/9,MS3.8/1,Error ellipse: s-maj=10.0km s-min=7.1km az=166.7*
*GUC **30** 18:36:24.8±0.5,18°.42S×71°.37W,h35km±5km,ML4.7*
*NEIC **30** 18:36:24.0±0.0,18°.41S×71°.37W,h35km,mb4.2/4, ML4.7(GUC),After GUC.*
NEIC Felt [III] at Arica.
*IDC **30** 18:36:28.1±3.6,18°.14S×71°.19W,h75km±29km,mb4.0/6, mb1 4.1/8,mb1mx3.7/47,mbtmp4.3/8,MS3.9/1,Ms1 3.9/1, ms1mx3.3/36,Error ellipse: s-maj=34.6km s-min=26.1km az=101.0*

ISC 30 18:36:24.3±1.2,18°.30S±0°.05×71°.46W±0°.07,h52km±11km, n44,σ1.9s96/54,mb4.4/9,4C-1D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**1.12**	**106**	⇓*eP*	**Pn**	**18 36 42.6**	**-1.2**
PB12				*eS*	**Sn**	**18 36 56.6**	**-1.6**
PB12				IAML		18 36 57.3	
	comp=N,36μm,0.6s						
ARCH	**Arica**	**1.12**	**100**	*eP*	**Pn**	**18 36 42.8**	**-0.8**
ARCH				*eS*	**Sn**	**18 36 56.5**	**-1.5**
MNMC	**Minye Minye**	**1.95**	**115**	*ePn*	**Pn**	**18 36 55.6**	**+0.3**
MNMC				*eSn*	**Sn**	**18 37 20.7**	**+2.0**
PB11	**IPOC Station P**	**2.24**	**131**	*ePn*	**Pn**	**18 36 59.7**	**+0.6**
PB11				*eSn*	**Sn**	**18 37 25.8**	**+0.1**
PB11	**IPOC Station P**	**2.24**	**131**	⇑*eP*	**Pn**	**18 36 59.8**	**+0.6**
PB11				*eS*	**Sn**	**18 37 26.1**	**+0.4**
PB11				IAML		18 37 36.5	
	comp=E,16μm,0.3s						
GO01	**Chusmiza**	**2.54**	**123**	⇑*eP*	**Pn**	**18 37 04.4**	**+0.9**
GO01				*eS*	**Sn**	**18 37 33.9**	**+0.4**
GO01				IAML		18 37 42.6	
	comp=E,7μm,0.9s						
PB08	**IPOC Station P**	**2.85**	**130**	⇑*eP*	**Pn**	**18 37 08.5**	**+0.9**
PB08				*eS*	**Sn**	**18 37 43.1**	**+2.2**
PB08				IAML		18 37 58.5	
	comp=N,2μm,0.8s						
PB01	**IPOC Station P**	**3.30**	**146**	*ePn*	**Pn**	**18 37 14.0**	**+0.4**
PB01				*eSn*	**Sn**	**18 37 50.2**	**-1.4**
PB02	**IPOC Station P**	**3.34**	**154**	⇑*eP*	**Pn**	**18 37 15.4**	**+1.2**
PB02				*eS*	**Sn**	**18 37 53.8**	**+1.0**
PB02				IAML		18 38 19.5	
	comp=E,1μm,0.7s						
PB07	**IPOC Station P**	**3.72**	**157**	*eP*	**Pn**	**18 37 20.4**	**+1.1**
PB07				*eS*	**Sn**	**18 38 01.7**	**-0.3**
LPAZ	**La Paz**	**3.76**	**58**	P	**Pn**	**18 37 21.6**	**+1.3**
	comp=E,3.6nm,0.3s,baz=240,slow=7.7,SNR=40						
LPAZ	**La Paz**	**3.76**	**58**	*ePn*	**Pn**	**18 37 21.0**	**+0.7**
PB04	**IPOC Station P**	**4.20**	**163**	*ePn*	**Pn**	**18 37 26.6**	**+0.7**
PB04				*eSn*	**Sn**	**18 38 08.4**	**-5.4**
PB10	**IPOC Station P**	**5.26**	**171**	*ePn*	**Pn**	**18 37 40.8**	**+0.4**
PB10				*eSn*	**Sn**	**18 38 35.0**	**-4.7**
NNA	**Nana**	**8.15**	**320**	*ePn*	**Pn**	**18 38 20.9**	**+0.8**
SIV	**San Ignacio**	**10.19**	**79**	P	**Pn**	**18 38 46.6**	**-1.4**
	comp=E,3.3nm,0.3s,baz=272,slow=11,SNR=58						
LCO	**Las Campanas**	**10.69**	**176**	*ePn*	**Pn**	**18 38 54.5**	**-0.4**
PEL	**Peldehue**	**14.80**	**177**	*ePn*	**Pn**	**18 39 52.2**	**+1.7**
CPUP	**Villa Florida**	**15.31**	**124**	P	**Pn**	**18 39 54.8**	**-2.3**
	comp=E,0.1nm,0.3s,baz=299,slow=9.6,SNR=3.6						
CPUP	**Villa Florida**	**15.31**	**124**	*ePn*	**P**	**18 39 58.3**	**-2.7**
	comp=E,6.9nm,1.2s						
TRQA	**Tornquist**	**21.36**	**159**	*eP*	**P**	**18 41 10.2**	**+3.0**
	comp=E,13nm,1.0s						
PLCA	**Paso Flores**	**22.37**	**178**	P	**P**	**18 41 21.8**	**+3.7**
	comp=E,2.4nm,0.9s,baz=11,slow=9.4,SNR=6.9						
PLCA	**Paso Flores**	**22.37**	**178**	*eP*	**P**	**18 41 23.1**	**+5.0**
	comp=E,10.0nm,1.0s						
RUSC	**La Rusia**	**24.09**	**356**	*eP*	**P**	**18 41 33.7**	**-1.9**
RPN	**Rapa Nui**	**35.91**	**249**	LR	LR	18 54 29.0	
	comp=E,191nm,21.4s,baz=100,slow=30						
SABA	**Saba**	**36.60**	**13**	*eP*	**P**	**18 43 25.1**	**-0.5**
	comp=E,121nm,0.9s						
EL2	**El Mirage 2**	**68.41**	**320**	*eP*	**P**	**18 47 22.3**	**+1.5**
DBIC	**Dimbokro**	**70.20**	**76**	P	**P**	**18 47 31.4**	**-0.8**
	comp=E,4.8nm,0.7s,baz=206,slow=8.2,SNR=5.8						
ULM	**Lac du Bonnet**	**71.57**	**344**	P	**P**	**18 47 38.8**	**-0.9**
	comp=E,0.9nm,0.5s,baz=104,slow=4.2,SNR=3.6						
PINE	**Pine Mountain**	**76.60**	**326**	*eP*	**P**	**18 48 05.8**	**-3.6**
	comp=E,79nm,1.5s						
TOA1	**Torodi Ar. Sit**	**78.60**	**72**	*eP*	**P**	**18 48 19.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**78.60**	**72**	P	**P**	**18 48 19.9**	**-1.1**
	comp=E,4.3nm,0.8s,baz=256,slow=5.1,SNR=18						
ESDC	**Sonseca Array**	**85.28**	**46**	P	**P**	**18 48 56.8**	**+1.1**
	comp=E,2.3nm,0.8s,baz=256,slow=6.0,SNR=11						
YKA	**Yellowknife Ar**	**87.40**	**341**	P	**P**	**18 49 06.3**	**+0.9**
	comp=E,1.2nm,0.7s,baz=135,slow=4.9,SNR=34						
YKB5	**Yellowknife Ar**	**87.40**	**341**	*eP*	**P**	**18 49 06.3**	**+0.9**
WHY	**Whitehorse**	**93.57**	**334**	*epP*	*pP*	18 49 44.8	-4.9
KURK	**Kurchatov**	**139.85**	**29**	*e*PKPdf	**PKPdf**	**18 55 48.3**	**+1.9**
KURBB	**Kurchatov Arra**	**139.87**	**30**	PKP	**PKPdf**	**18 55 48.3**	**+1.8**
	comp=E,0.4nm,0.8s,baz=307,slow=1.8,SNR=4.7						
ZAA1	**Zalesovo Array**	**139.98**	**22**	*e*PKPdf	**PKPdf**	**18 55 48.4**	**+1.8**
ZALV	**Zalesovo Beam**	**139.98**	**22**	PKP	**PKPdf**	**18 55 48.4**	**+1.8**
	comp=E,0.8nm,0.6s,baz=330,slow=3.0,SNR=5.6						
MK32	**Makanchi Array**	**144.31**	**31**	*e*PKPdf	**PKPdf**	**18 55 53.2**	**-1.4**
MKAR	**Makanchi Array**	**144.31**	**31**	PKP	**PKPdf**	**18 55 53.2**	**-1.4**
	comp=E,0.7nm,0.7s,baz=332,slow=5.5,SNR=8.6						
SONA0	**Songino Array**	**150.49**	**3**	*e*PKPbc	**PKPbc**	**18 56 11.7**	**+1.4**
SONM	**Songino Array**	**150.49**	**3**	PKPbc	**PKPbc**	**18 56 11.7**	**+1.4**
	comp=E,1.7nm,0.7s,baz=338,slow=1.6,SNR=13						

*KRNET **30** 18:45:39.3±0.1,40°.84N×70°.13E,mb2.3*
*SOME **30** 18:45:45.1,40°.85N×70°.83E,h0km*
*NNC **30** 18:45:48.3±1.8,40°.82N×70°.86E,h20km±11km,mb2.8, mpv2.3,Error ellipse: s-maj=17.3km s-min=7.0km az=55.0*

ISC 30 18:45:42.5±1.9,40°.62N±0°.05×70°.50E±0°.06,h5km±14km, n11,σ1.5s54/21,10C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.61**	**156**	⇑*iP*	**Pn**	**18 45 56.8**	**-1.1**
	baz=46						
BTK				⇑*iS*	**Sn**	**18 46 09.9**	**+1.8**
	baz=46						
IUG	**Iuzhnay**	**1.57**	**347**	*eP*	**Pn**	**18 46 11.0**	**-0.1**
	16nm,0.1s						
IUG				*eS*	**Sn**	**18 46 30.3**	**-1.6**
	20nm,0.3s						
ARK	**Arkit**	**1.61**	**43**	⇑*iP*	**Pn**	**18 46 10.3**	**-1.5**
	baz=56						
ARK				⇑*iS*	**Sn**	**18 46 32.1**	**-0.9**
	baz=56						
SFK	**Sufi-Kurgan**	**2.37**	**104**	⇑Pg	**Pg**	**18 46 27.6**	**-0.4**
	0.8nm,0.3s						
SFK				⇓Lg	Lg	18 46 58.2	
	3.8nm,0.4s						
MNAS	**Manas**	**2.40**	**38**	⇓Pn	**Pn**	**18 46 22.5**	**0.0**
	0.7nm,0.4s						
MNAS				⇑Pg	**Pg**	**18 46 26.8**	**+0.5**
	1.1nm,0.3s						
MNAS				⇓Lg	Lg	18 46 53.9	
	2.2nm,0.3s						
MNAS	**Manas**	**2.40**	**38**	⇑*iP*	**Pn**	**18 46 20.6**	**-2.0**
	baz=46						
MNAS				⇑*iS*	**Sn**	**18 46 50.9**	**-1.5**
	baz=46						
BRLS	**Borolday**	**2.46**	**349**	*eP*	**Pn**	**18 46 23.8**	**+0.5**
	0.4nm,0.2s						
BRLS				*eS*	**Sn**	**18 46 52.1**	**-1.7**
	10nm,0.2s						
KK31	**Karatay Array**	**2.48**	**0**	⇓Pn	**Pn**	**18 46 24.6**	**+0.9**
	0.3nm,0.3s,baz=146,slow=14,SNR=51						
KK31				⇓Pg	**Pg**	**18 46 30.9**	**+0.8**
	1.2nm,0.3s,baz=178,slow=16,SNR=15						
KK31				Lg	Lg	18 46 59.9	
	2.2nm,0.3s,baz=167,slow=23,SNR=21						
AML	**Almayashu**	**2.84**	**57**	⇑*iP*	**Pn**	**18 46 28.5**	**-0.4**
	baz=63						
AML				⇑*iS*	**Sn**	**18 47 04.4**	**+0.8**
	baz=63						
MRKS	**Merke**	**2.95**	**43**	*eP*	**Pb**	**18 46 32.8**	**-2.7**
	1.7nm,0.3s						
MRKS				*eS*	**Sn**	**18 47 07.8**	**+2.0**
	7.2nm,0.5s						
DGS	**Degeres**	**4.73**	**55**	*eP*	**Pb**	**18 47 06.5**	**+0.6**
	1.3nm,0.9s						
DGS				*eS*	**Sb**	**18 48 05.8**	**+2.7**
	1.8nm,0.2s						

*IDC **30** 18:47:34.4±1.0,40°.94S×175°.54E,h0km,mb4.1/4, mb1 4.2/6,mb1mx3.9/38,mbtmp4.0/6,ML3.4/2,Error ellipse: s-maj=35.2km s-min=18.5km az=137.0*
*BJI **30** 18:47:37.5,40°.58S×176°.16E,h28km,mb5.2/10,mB5.6/4, Ms5.3/5,Ms7 5.0/3*
*ISCJB **30** 18:47:38.2±0.2,41°.05S±0°.02×175°.49E±0°.03,h29km, mb4.7/19,MS4.9/2,Error ellipse: s-maj=3.6km s-min=1.9km az=43.6*
*WEL **30** 18:47:38.7,40°.9S±0°.6×175°.4E±0°.8,h18km±1km,ML5.0/17, ML4.8/32*
*NEIC **30** 18:47:39.6±0.0,40°.93S×175°.42E,h17km,mb4.9/9, ML4.5(WEL),After WEL.*
NEIC Felt at Levin and Upper Hutt.

ISC 30 18:47:39.2±0.4,41°.00S±0°.02×175°.48E±0°.02,h29km,n246, σ1.9s30/257,mb4.9/19,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOWZ	**Holdsworth Sta**	**0.10**	**17**	P*	**Pb**	**18 47 42.7**	**-1.7**
HOWZ				S*	**Sb**	**18 47 45.2**	**-2.7**
HOWZ	**Holdsworth Sta**	**0.10**	**17**	P	**Pb**	**18 47 42.7**	**-1.7**
HOWZ	**Holdsworth Sta**	**0.10**	**17**	S	**Sb**	**18 47 45.3**	**-2.7**
MTW	**Mount Morrison**	**0.16**	**173**	P*	**Pb**	**18 47 45.0**	**+0.2**
MTW				S*	**Sb**	**18 47 49.2**	**+0.4**
MTW	**Mount Morrison**	**0.16**	**173**	P	**Pb**	**18 47 45.1**	**+0.2**
MTW	**Mount Morrison**	**0.16**	**173**	S	**Sb**	**18 47 49.5**	**+0.7**
OGWZ	**Otaki Gorge**	**0.29**	**308**	P*	**Pb**	**18 47 44.8**	**-1.6**
OGWZ	**Otaki Gorge**	**0.29**	**308**	P	**Pb**	**18 47 44.8**	**-1.6**
OGWZ	**Otaki Gorge**	**0.29**	**308**	S	**Sb**	**18 47 48.9**	**-2.5**
CAW	**Cannon Point**	**0.33**	**250**	P*	**Pb**	**18 47 46.4**	**-0.6**
CAW	**Cannon Point**	**0.33**	**250**	P	**Pb**	**18 47 46.4**	**-0.6**
CAW	**Cannon Point**	**0.33**	**250**	S	**Sb**	**18 47 51.4**	**-0.8**
TMWZ	**Te Maipa**	**0.33**	**109**	P*	**Pn**	**18 47 47.8**	**-0.3**
TMWZ	**Te Maipa**	**0.33**	**109**	P	**Pn**	**18 47 47.8**	**-0.3**
TMWZ	**Te Maipa**	**0.33**	**109**	S	**Sb**	**18 47 54.4**	**+2.0**
MRZ	**Mangatainoka R**	**0.34**	**13**	P*	**Pb**	**18 47 45.6**	**-1.5**
MRZ	**Mangatainoka R**	**0.34**	**13**	P	**Pb**	**18 47 45.6**	**-1.5**
MRZ	**Mangatainoka R**	**0.34**	**13**	S	**Sb**	**18 47 50.3**	**-2.3**
TIWZ	**Tintock**	**0.38**	**55**	P*	**Pn**	**18 47 47.2**	**-1.5**
TIWZ	**Tintock**	**0.38**	**55**	P	**Pn**	**18 47 47.2**	**-1.5**
TIWZ	**Tintock**	**0.38**	**55**	S	**Sb**	**18 47 53.3**	**-0.3**
PAWZ	**Paruwai Farm**	**0.39**	**185**	P*	**Pn**	**18 47 48.7**	**-0.2**
PAWZ	**Paruwai Farm**	**0.39**	**185**	P	**Pn**	**18 47 48.7**	**-0.2**
TRWZ	**Traveller**	**0.43**	**158**	P*	**Pn**	**18 47 49.8**	**+0.4**
TRWZ	**Traveller**	**0.43**	**158**	P	**Pn**	**18 47 49.8**	**+0.4**
TRWZ	**Traveller**	**0.43**	**158**	P	**Pn**	**18 47 50.0**	**+0.6**
KIW	**Kapiti Island**	**0.45**	**287**	P*	**Pb**	**18 47 47.8**	**-1.0**
KIW	**Kapiti Island**	**0.45**	**287**	P	**Pb**	**18 47 47.8**	**-1.0**
KIW	**Kapiti Island**	**0.45**	**287**	S	**Sb**	**18 47 53.9**	**-1.4**
MSWZ	**Moikau Station**	**0.45**	**202**	P*	**Pn**	**18 47 49.7**	**-0.1**
MSWZ	**Moikau Station**	**0.45**	**202**	P	**Pn**	**18 47 49.7**	**-0.1**
CPWZ	**Castlepoint**	**0.56**	**81**	P*	**Pn**	**18 47 52.1**	**+1.0**
CPWZ	**Castlepoint**	**0.56**	**81**	P	**Pn**	**18 47 52.2**	**+1.0**
PRWZ	**Pori Road**	**0.58**	**41**	P	**Pn**	**18 47 50.6**	**-0.9**
PLWZ	**Palliser**	**0.59**	**196**	P	**Pn**	**18 47 52.2**	**+0.4**
WEL	**Wellington**	**0.61**	**242**	P*	**Pn**	**18 47 51.1**	**-0.7**
BHW	**Baring Head**	**0.61**	**228**	P*	**Pn**	**18 47 51.4**	**-0.5**
BHW	**Baring Head**	**0.61**	**228**	P	**Pn**	**18 47 51.4**	**-0.5**
POWZ	**Post Office Ro**	**0.64**	**20**	P	**Pb**	**18 47 50.9**	**-1.0**
SNZO	**South Karori**	**0.66**	**241**	*ePn*	**Pn**	**18 47 51.9**	**-0.6**
SNZO				*eSn*	**Sb**	**18 47 58.2**	**-2.9**
BFZ	**Birch Farm**	**0.66**	**62**	*ePn*	**Pn**	**18 47 52.8**	**+0.2**
BFZ				*eSn*	**Sn**	**18 48 00.5**	**-1.5**
BFZ	**Birch Farm**	**0.66**	**62**	P	**Pn**	**18 47 52.8**	**+0.2**
OHWZ	**Ohakea**	**0.80**	**351**	P	**Pn**	**18 47 53.9**	**-0.6**
DVHZ	**Dannevirke**	**0.87**	**37**	P*	**Pb**	**18 47 55.2**	**-0.6**
DVHZ	**Dannevirke**	**0.87**	**37**	P	**Pb**	**18 47 55.2**	**-0.6**
ANWZ	**Angora Road**	**0.93**	**55**	P	**Pb**	**18 47 56.6**	**-0.1**
TCW	**Tory Channel**	**0.93**	**256**	P	**Pb**	**18 47 56.6**	**-0.2**
TSZ	**Takapari Road**	**1.01**	**22**	P*	**Pn**	**18 47 57.0**	**-0.3**
TSZ	**Takapari Road**	**1.01**	**22**	P	**Pn**	**18 47 57.1**	**-0.3**
PRHZ	**Porangahau**	**1.15**	**51**	P	**Pb**	**18 47 59.4**	**-1.0**
WPHZ	**Waipukurau**	**1.19**	**39**	P	**Pb**	**18 48 00.3**	**-0.7**
DUWZ	**D'Urville Isla**	**1.19**	**279**	P*	**Pb**	**18 48 00.8**	**-0.3**
DUWZ	**D'Urville Isla**	**1.19**	**279**	P	**Pb**	**18 48 00.9**	**-0.3**
CMWZ	**Cape Campbell**	**1.21**	**231**	P*	**Pb**	**18 48 01.5**	**0.0**
CMWZ	**Cape Campbell**	**1.21**	**231**	P	**Pb**	**18 48 01.5**	**0.0**
PNHZ	**Pukenui**	**1.22**	**27**	P	**Pn**	**18 48 00.6**	**+0.3**
TUWZ	**Tuamarina**	**1.23**	**249**	P	**Pb**	**18 48 00.9**	**-0.9**
WAZ	**Wanganui**	**1.30**	**343**	*Pn*	**Pn**	**18 48 02.6**	**+1.3**
WAZ	**Wanganui**	**1.30**	**343**	P	**Pb**	**18 48 03.0**	**0.0**
BSWZ	**Blackbirch Sta**	**1.40**	**239**	P*	**Pb**	**18 48 03.5**	**-1.2**
BSWZ	**Blackbirch Sta**	**1.40**	**239**	P	**Pb**	**18 48 03.5**	**-1.2**
PXZ	**Pawanui**	**1.43**	**48**	P*	**Pn**	**18 48 03.0**	**-0.2**
PXZ	**Pawanui**	**1.43**	**48**	P	**Pn**	**18 48 03.0**	**-0.2**
KRHZ	**Kereru**	**1.52**	**27**	P	**Pn**	**18 48 04.5**	**+0.2**
BHHZ	**Black Hill Sta**	**1.57**	**17**	*Pn*	**Pn**	**18 48 05.7**	**+0.6**
BHHZ	**Black Hill Sta**	**1.57**	**17**	P	**Pn**	**18 48 05.8**	**+0.6**
NNZ	**Nelson**	**1.60**	**261**	*Pn*	**Pb**	**18 48 06.3**	**-1.7**
NNZ	**Nelson**	**1.60**	**261**	P	**Pb**	**18 48 06.4**	**-1.7**
MOVZ	**Moawhango**	**1.60**	**8**	*Pn*	**Pn**	**18 48 06.3**	**+0.7**
MOVZ	**Moawhango**	**1.60**	**8**	P	**Pn**	**18 48 06.4**	**+0.7**
KAHZ	**Kahuranaki**	**1.61**	**42**	*Pn*	**Pn**	**18 48 05.5**	**-0.1**
KAHZ	**Kahuranaki**	**1.61**	**42**	P	**Pn**	**18 48 05.5**	**-0.1**
MTVZ	**Mangateitei**	**1.61**	**360**	P	**Pb**	**18 48 07.7**	**-0.6**
TRVZ	**Turoa**	**1.70**	**2**	P	**Pn**	**18 48 08.4**	**+1.4**
PKVZ	**Pokaka**	**1.71**	**357**	P	**Pn**	**18 48 08.5**	**+1.5**
WHVZ	**Whangaehu Hut**	**1.71**	**3**	P	**Pn**	**18 48 08.6**	**+1.3**
DRZ	**Dome Shelter**	**1.72**	**2**	*Pn*	**Pn**	**18 48 08.9**	**+1.4**
DRZ	**Dome Shelter**	**1.72**	**2**	P	**Pn**	**18 48 09.0**	**+1.5**
KWHZ	**

LBZ	Lake Benmore	5.16 227	ePn	Pn	18 48 54.0	-0.5		
LBZ	Lake Benmore	5.16 227	P	Pn	18 48 54.3	-0.2		
ODZ	Otahua Downs	5.38 220	ePn	Pn	18 48 56.4	-1.0		
JCZ	Jackson Bay	5.82 236	Pn	Pn	18 48 52.9	-11		
OUZ	Omahuta	5.96 345	ePn	Pn	18 49 06.6	+1.3		
WKZ	Wanaka	6.09 229	ePn	Pn	18 49 03.1	-4.1		
CTZ	Chatham Island	6.46 118	Pn	Pn	18 49 12.1	-0.2		
TUZ	Tuapeka	6.53 219	Pn	Pn	18 49 12.9	-0.2		
MLZ	Mavora Lakes	6.93 228	ePn	Pn	18 49 17.4	-1.3		
WHZ	Wether Hill Ro	7.34 226	ePn	Pn	18 49 22.3	-2.1		
DCZ	Deep Cove	7.54 231	ePn	Pn	18 49 25.1	-1.9		
PYZ	Puysegur Point	8.21 228	ePn	Pn	18 49 33.8	-2.5		
STKA	Stephens Creek	28.59 278	P	P	18 53 33.6	+0.9		
	3.0nm,0.8s,baz=103,slow=8.5,SNR=4.0							
BBOO	Buckleboo	32.34 272	eP	P	18 54 06.0	+0.1		
	42nm,1.4s							
CTAO	Charters Tower	32.43 301	eP	P	18 54 06.2	-0.5		
	24nm,1.5s							
PPTF	Pamatai, Papee	38.00 63	eP	P	18 54 54.1	-0.7		
	123nm,1.7s							
AS01	Alice Springs	38.70 284	eP	P	18 54 58.8	-1.8		
AS31	Alice Springs	38.73 284	eP	P	18 55 00.3	-0.6		
	1.6nm,1.0s							
AS31			ePcP	PcP	18 57 10.8	-1.4		
ASAR	Alice Springs	38.73 284	P	P	18 55 00.5	-0.4		
	0.9nm,0.4s,baz=126,slow=7.0,SNR=22							
ASAR			PcP	PcP	18 57 10.8	-1.4		
	0.3nm,0.4s,baz=121,slow=3.7,SNR=3.1							
COEN	Coen	38.94 304	eP	P	18 55 03.0	+0.4		
	8.5nm,0.8s							
WB2	Warramunga Arr	40.71 288	eP	P	18 55 16.5	-0.9		
WRAB	Tennant Creek	40.72 288	eP	P	18 55 16.4	-1.0		
	38nm,1.9s							
WR1	Warramunga Arr	40.72 288	eP	P	18 55 16.6	-0.8		
	30nm,0.8s							
WRA	Warramunga Arr	40.72 288	P	P	18 55 16.6	-0.8		
	2.0nm,0.5s,baz=126,slow=8.0,SNR=50							
RABL	Rabaul	42.21 324	eP	P	18 55 31.3	+1.7		
	88nm,0.6s							
CASY	Casey	43.34 212	eP	P	18 55 37.2	-0.9		
	49nm,1.9s							
MTN	Manton Dam	47.76 293	eP	P	18 56 13.6	-0.1		
	12nm,1.4s							
SOEI	Soe	54.73 290	eP	P	18 57 07.1	+0.9		
	14nm,1.1s							
QIZ	Qiongzhong	85.20 300	P	P	19 00 14.3	+1.4		
QIZ			S	S	19 10 44.5	+3.3		
QIZ			pmax	pmax				
	comp=Z,13nm,1.8s							
QIZ			LR	LR				
	comp=N,360nm,14.9s							
QIZ			LR	LR				
	comp=E,460nm,15.7s							
QIZ			LR	LR				
	comp=Z,480nm,16.7s							
NJ2	Nanjing	89.51 315	eP	P	19 00 35.0	+1.6		
NJ2			pmax	pmax				
	comp=Z,14nm,0.5s							
CMAR	Chiang Mai Arr	92.20 293	P	P	19 00 46.4	+0.2		
	0.5nm,0.8s,baz=156,slow=2.9,SNR=4.4							
GYA	Guiyang	92.54 303	eP	P	19 00 50.3	+2.5		
GYA			pmax	pmax				
	comp=Z,10.0nm,1.0s							
CN2	Changchun	95.66 326	eP	P	19 01 03.5	+2.0		
CN2			pmax	pmax				
	comp=Z,10.0nm,0.8s							
CD2	Chengdu	97.47 305	eP	Pdif	19 01 10.5	+0.3		
HHC	Hu-ho-hao-te	99.98 316	eP	Pdif	19 01 22.5	+1.3		
LZH	Lanzhou	100.95 308	eP	Pdif	19 01 27.5	+1.7		
LZH			pP	sPdif	19 01 37.3	-1.2		
LZH			sP	pP	19 01 41.0	+5.8		
LZH			ePP	PP	19 05 39.8	+5.2		
LZH			pmax	pmax				
	comp=Z,18nm,1.5s							
LZH			pmax	pmax				
	comp=Z,79nm,9.2s							
LZH			LR	LR				
	comp=N,170nm,17.2s							
LZH			LR	LR				
	comp=E,160nm,17.5s							
WMQ	Urumqi	115.45 307	PKP	PKPdf	19 06 18.3	+0.5		
YKA	Yellowknife Ar	117.27 29	PKP	PKPdf	19 06 19.5	-1.1		
	0.2nm,0.6s,baz=248,slow=1.4,SNR=4.7							
YKB5	Yellowknife Ar	117.27 29	ePKPdf	PKPdf	19 06 19.5	-1.1		
MK32	Makanchi Array	120.25 307	ePKPdf	PKPdf	19 06 26.2	-0.7		
MKAR	Makanchi Array	120.25 307	PKP	PKPdf	19 06 26.2	-0.7		
	0.1nm,0.5s,baz=92,slow=3.5,SNR=2.8							
KSH	Kashi	120.72 297	ePKP	PKPdf	19 06 27.3	-0.8		
ZALV	Zalesovo Beam	122.16 316	PKP	PKPdf	19 06 29.5	-0.7		
	0.3nm,0.5s,baz=106,slow=4.7,SNR=2.5							
ZAA1	Zalesovo Array	122.16 316	ePKPdf	PKPdf	19 06 29.5	-0.7		
KURK	Kurchatov	124.19 310	ePKPdf	PKPdf	19 06 33.2	-1.0		
KURBB	Kurchatov Arra	124.20 310	PKP	PKPdf	19 06 33.2	-1.1		
	0.4nm,0.6s,baz=103,slow=1.5,SNR=3.7							
KBZ	Khabaz	145.23 291	PKPbc	PKPab	19 07 13.0	-0.3		
	2.3nm,0.8s,baz=111,slow=3.9,SNR=6.8							
MMAI	Mount Meron Ar	147.36 269	PKPbc	PKPab	19 07 21.3	-0.7		
	1.5nm,0.5s,baz=116,slow=3.4,SNR=5.0							
ARA0	ARCESS Array S	147.38 341	ePKPbc	PKPbc	19 07 18.3	-0.6		
ARCES	ARCESS Array B	147.38 341	PKPbc	PKPbc	19 07 18.3	-0.6		
	3.4nm,0.9s,baz=59,slow=1.1,SNR=14							
BR101	Keskin Array S	151.04 280	ePKPbc	PKPbc	19 07 29.1	-0.1		
BRTR	Keskin Array B	151.04 280	PKPbc	PKPbc	19 07 29.1	-0.1		
	2.0nm,0.7s,baz=140,slow=3.9,SNR=12							
BR231	Keskin MP Arra	151.72 280	ePKPbc	PKPbc	19 07 30.1	-0.6		
TORD	Torodi Ar. Bea	151.73 193	PKPbc	PKPbc	19 07 31.9	+0.7		
	0.4nm,0.5s,baz=142,slow=2.7,SNR=6.3							
TOA1	Torodi Ar. Sit	151.73 193	ePKPbc	PKPbc	19 07 31.9	+0.7		
FIA0	FINESS Array S	152.40 328	ePKPbc	PKPbc	19 07 30.2	-1.1		
FINES	FINESS Array B	152.40 328	PKPbc	PKPbc	19 07 30.2	-1.1		
	2.1nm,0.9s,baz=10,slow=2.1,SNR=5.0							
KWP	Kalwaria Pacla	159.09 304	ePKPdf	PKPdf	19 07 32.9	-0.9		

NEIC ***30*** *18:54:04.0±0.0, 43.°50S×172.°84E, h10km, ML3.8(WEL), After WEL.*
NEIC Felt in the Christchurch area.

WEL 30 18:54:02.6, 44.°3S±1.°×17.°3E±.°, h13km±1km, ML3.9/2, ML3.6/16, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	Canterbury Las	0.17	245	Pg	Pb	18 54 08.4	+0.8
CRLZ	Canterbury Las	0.17	245	P	Pb	18 54 08.5	+0.9
CRLZ	Canterbury Las	0.17	245	S	Sb	18 54 11.4	+0.6
MQZ	McQueen's Vall	0.24	212	Pg	Pb	18 54 09.0	+0.2
MQZ	McQueen's Vall	0.24	212	P	Pb	18 54 09.2	+0.3
MQZ	McQueen's Vall	0.24	212	S	Sb	18 54 13.1	+0.2
EYCZ	Eyrewell	0.35	283	P	Pb	18 54 11.2	+0.4
OXZ	Oxford	0.60	287	P*	Pb	18 54 15.5	+0.5
OXZ				P*	Pb	18 54 15.5	+0.5
OXZ	Oxford	0.60	287	P	Pb	18 54 15.6	+0.5
LTZ	Lake Taylor	0.83	330	P*	Pn	18 54 19.7	-0.4
LTZ	Lake Taylor	0.83	330	P	Pn	18 54 19.7	-0.4
KHZ	Kahutara	1.21	26	P*	Pn	18 54 24.6	-0.6
KHZ	Kahutara	1.21	26	P	Pn	18 54 24.6	-0.6
INZ	Inchbonnie	1.28	307	P	Pn	18 54 26.3	+0.1
RPZ	Rata Peaks	1.31	260	Pn	Pb	18 54 26.8	-0.2
RPZ	Rata Peaks	1.31	260	P	Pb	18 54 26.9	-0.1
WVZ	Waitaha Valley	1.59	285	Pn	Pn	18 54 31.1	+0.6
WVZ	Waitaha Valley	1.59	285	P	Pb	18 54 31.1	-0.7
THZ	Tophouse	1.74	2	Pn	Pn	18 54 32.5	-0.1
THZ	Tophouse	1.74	2	P	Pn	18 54 32.6	0.0
THZ	Tophouse	1.74	2	S	Sn	18 54 54.3	-0.4
DSZ	Denniston Nort	1.91	336	Pn	Pn	18 54 35.5	+0.6
DSZ	Denniston Nort	1.91	336	P	Pn	18 54 35.6	+0.6
BSWZ	Blackbirch Sta	1.95	24	P	Pn	18 54 35.6	+0.2
CMWZ	Cape Campbell	2.03	31	P	Pn	18 54 37.3	+0.8
LBZ	Lake Benmore	2.10	244	Pn	Pn	18 54 38.6	+1.0
LBZ	Lake Benmore	2.10	244	P	Pn	18 54 38.7	+1.1
FOZ	Fox Glacier	2.19	268	Pn	Pb	18 54 40.6	-1.5
FOZ	Fox Glacier	2.19	268	P	Pb	18 54 40.7	-1.4
ODZ	Otahua Downs	2.20	225	Pn	Pn	18 54 39.5	+0.6
ODZ	Otahua Downs	2.20	225	P	Pn	18 54 39.5	+0.6
TUWZ	Tuamarina	2.23	22	P	Pn	18 54 39.0	-0.3
NNZ	Nelson	2.32	10	Pn	Pn	18 54 41.0	+0.4
NNZ	Nelson	2.32	10	P	Pn	18 54 40.9	+0.4
TCW	Tory Channel	2.53	26	P	Pn	18 54 43.0	-0.4
BHW	Baring Head	2.58	37	P	Pn	18 54 43.5	-0.6
PLWZ	Palliser	2.64	44	P	Pn	18 54 44.0	-0.9
WEL	Wellington	2.64	34	Pn	Pn	18 54 44.5	-0.4
QRZ	Quartz Range	2.69	355	Pn	Pn	18 54 46.2	+0.7
QRZ	Quartz Range	2.69	355	P	Pn	18 54 46.3	+0.8
MSWZ	Moikau Station	2.75	41	P	Pn	18 54 45.4	-1.1
DUWZ	D'Urville Isla	2.82	17	P	Pn	18 54 48.0	+0.5
HHSZ	Highcliff Hill	2.86	213	Pn	Pn	18 54 48.7	+0.7
HHSZ	Highcliff Hill	2.86	213	P	Pn	18 54 48.7	+0.7
PAWZ	Paruwai Farm	2.86	43	P	Pn	18 54 46.9	-1.1
CAW	Cannon Point	2.91	35	P	Pn	18 54 47.8	-0.9
JCZ	Jackson Bay	2.98	258	Pn	Pn	18 54 50.5	+0.8
JCZ	Jackson Bay	2.98	258	P	Pn	18 54 50.6	+0.9
TRWZ	Traveller	2.98	46	P	Pn	18 54 48.5	-1.2
WKZ	Wanaka	3.04	243	Pn	Pn	18 54 51.5	+1.0
WKZ	Wanaka	3.04	243	P	Pn	18 54 51.6	+1.1
WKZ	Wanaka	3.04	243	P	Pn	18 54 53.0	+2.4
EAZ	Earnscleugh	3.06	234	Pn	Pn	18 54 51.3	+0.6
EAZ	Earnscleugh	3.06	234	P	Pn	18 54 51.4	+0.7
KIW	Kapiti Island	3.06	31	P	Pn	18 54 50.2	-0.5
MTW	Mount Morrison	3.07	41	P	Pn	18 54 49.5	-1.3
OGWZ	Otaki Gorge	3.20	34	P	Pn	18 54 51.7	-0.9
HOWZ	Holdsworth Sta	3.28	38	P	Pn	18 54 52.6	-1.1
TUZ	Tuapeka	3.34	222	Pn	Pn	18 54 55.2	+0.6
TUZ	Tuapeka	3.34	222	P	Pn	18 54 55.3	+0.7
MRZ	Mangatainoka R	3.50	37	Pn	Pn	18 54 55.3	-1.4
MRZ	Mangatainoka R	3.50	37	P	Pn	18 54 55.5	-1.3
TIWZ	Tintock	3.55	41	P	Pn	18 54 55.9	-1.5
MSZ	Milford Sound	3.72	250	P	Pn	18 55 01.0	+1.3
MSZ	Milford Sound	3.72	250	P	Pn	18 55 02.8	+3.1
PRWZ	Pori Road	3.76	40	P	Pn	18 54 59.0	-1.4
BFZ	Birch Farm	3.80	43	P	Pn	18 54 59.1	-1.8
MLZ	Mavora Lakes	3.85	239	Pn	Pn	18 55 01.9	+0.3
MLZ	Mavora Lakes	3.85	239	P	Pn	18 55 01.9	+0.3
MLZ	Mavora Lakes	3.85	239	P	Pn	18 55 01.9	+0.3
SYZ	Scrubby Hill	4.00	220	Pn	Pn	18 55 04.8	+1.2
SYZ	Scrubby Hill	4.00	220	P	Pn	18 55 04.9	+1.2
DVHZ	Danevirke	4.06	39	P	Pn	18 55 02.6	-1.9
TSZ	Takapari Road	4.16	35	P	Pn	18 55 04.6	-1.3
WHZ	Wether Hill Ro	4.22	234	Pn	Pn	18 55 06.6	-0.1
WHZ	Wether Hill Ro	4.22	234	P	Pn	18 55 06.6	0.0
PREZ	Palmer Road	4.28	14	P	Pn	18 55 09.2	+1.8
PRHZ	Porangahau	4.31	43	P	Pn	18 55 05.3	-2.5
PNHZ	Pukenui	4.39	36	P	Pn	18 55 07.6	-1.4
PKE	Pukeiti	4.39	12	P	Pn	18 55 10.9	+1.9
PKVZ	Pokaka	4.62	25	P	Pn	18 55 13.3	+1.1
MOVZ	Moawhango	4.65	29	P	Pn	18 55 12.9	+0.3
TRVZ	Turoa	4.67	27	P	Pn	18 55 13.9	+0.8
KRHZ	Kereru	4.68	36	P	Pn	18 55 12.2	-0.9
BHHZ	Black Hill Sta	4.69	32	P	Pn	18 55 12.4	-0.7
WHVZ	Whangaehu Hut	4.70	27	P	Pn	18 55 14.4	+0.9
FWVZ	Far West T-bar	4.71	27	P	Pn	18 55 14.0	+0.4
TUVZ	Tukino	4.74	28	P	Pn	18 55 14.0	+0.2
COVZ	Chateau Observ	4.76	26	P	Pn	18 55 15.1	+0.9
APZ	The Paps	4.77	224	Pn	Pn	18 55 15.4	+1.2
APZ	The Paps	4.77	224	P	Pn	18 55 14.9	+0.7
KAHZ	Kahuranaki	4.79	41	P	Pn	18 55 13.1	-1.4
NGZ	Ngauruhoe	4.80	27	P	Pn	18 55 15.2	+0.5
WTVZ	West Tongariro	4.85	26	P	Pn	18 55 15.9	+0.5
BKZ	Black Stump Fm	5.14	34	P	Pn	18 55 17.9	-1.4
HIZ	Hauiti	5.22	18	Pn	Pn	18 55 21.1	+0.7
ARHZ	Aropaoanui	5.27	38	P	Pn	18 55 20.4	-0.7
MRHZ	Matea Rd	5.39	31	P	Pn	18 55 21.9	-0.9

MEX 30 19:14:39.5±0.3, 16.°31N×98.°27W, h7km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.16	58	eP	Pg	19 14 42.5	-0.5
PNIG				*i* S	Sg	19 14 45.2	0.0
TLIG	Tlapa	1.28	347	eP	Pn	19 15 00.2	-3.7
TLIG				*i* S	Sb	19 15 16.1	-4.6
VHO	Vista Hermosa	1.66	62	eP	Pn	19 15 05.6	-3.6
VHO				eS	Sn	19 15 26.0	-4.9
CAIG	El Cayaco	2.05	291	eP	Pn	19 15 11.5	-2.9
CAIG				eS	Sn	19 15 35.9	-4.3
HUIG	Huatulco	2.15	104	eP	Pn	19 15 12.7	-3.1
HUIG				eS	Sn	19 15 38.3	-4.4
PLIG	Platanillo	2.38	331	eP	Pn	19 15 15.8	-3.3
PLIG				*i* S	Sn	19 15 44.4	-4.2

ISCJB ***30*** *19:27:59.8±0.4, 41.°57N±0.°03×142.°07E±0.°05, h68km±3km, mb3.9/17, Error ellipse: s-maj=6.8km s-min=4.6km az=37.6*
JMA ***30*** *19:28:00.2±0.1, 41.°57N×142.°06E, h66km±3km, M3.6 Broadband fault plane solution: P waves. NP1: ϕ±17.00000°, δ82.00000°, λ95.00000°. NP2:ϕ±166.00000°, δ9.00000°, λ59.00000°. Principal axes: T Plg53.0000°, Azm293.0000°; N Plg5.0000°, Azm197.0000°; P Plg37.0000°, Azm103.0000°;*
JMA Felt I J1.
NIED ***30*** *19:28:00, 41.°60N×142.°10E, h38km, Mw4.1 Best double couple: M0 1.72000×10^15 NP1:ϕ±186.00000°, δ24.00000°, λ74.00000°. NP2:ϕ±23.00000°, δ67.00000°, λ97.00000°.*
IDC ***30*** *19:28:01.8±1.8, 41.°56N×142.°07E, h73km±14km, mb3.7/16, mb1 3.8/19, mb1mx3.6/64, mbtmp3.9/19, MS3.4/1, Ms1 3.4/1, ms1mx2.6/80, Error ellipse: s-maj=17.3km s-min=11.9km az=114.0*

ISC 30 19:28:00.6±0.9, 41.°56N±0.°04×142.°06E±0.°04, h60km±8km, n50, σ0.°88/53, mb4.1/17, 3C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.78	257	⇓P	Pn	19 28 15.8	0.0
JKB	Kayabe	0.83	293	⇓P	Pn	19 28 16.1	-0.4
JNBK	Urakawa-nobuka	0.88	36	⇑P	Pn	19 28 16.4	-0.7
JEM	Erimo	0.94	61	⇑P	Pn	19 28 17.6	-0.2
JEM				eS	Sn	19 28 30.5	0.0
JTM	Tenmabayashi	1.08	224	⇓P	Pn	19 28 20.0	+0.4
JTM				eS	Sn	19 28 34.3	+0.5
JNB	Noboribetsu	1.18	320	⇓P	Pn	19 28 20.4	-0.6
JNB				eS	Sn	19 28 35.2	-1.0
JSR	Shiriuchi	1.23	269	⇓P	Pn	19 28 21.8	+0.1
JBT2	Biratori 2	1.23	10	⇓P	Pn	19 28 21.9	+0.2
JANG	Nango	1.26	199	⇑P	Pn	19 28 22.0	0.0
JANG				eS	Sn	19 28 37.7	-0.4
JEW	Eniwo	1.35	341	⇓P	Pn	19 28 23.5	+0.2
JEW				eS	Sn	19 28 39.3	-1.0
JYM2	Yakumo 2	1.38	294	⇓P	Pn	19 28 24.0	+0.4
JYM2				eS	Sn	19 28 41.7	+0.8
JCH	Churui	1.43	42	P	Pn	19 28 24.8	+0.5
JCH				eS	Sn	19 28 43.1	+1.0
JFR	Furan	1.65	14	P	Pn	19 28 27.2	0.0
JOSM	Okushiri--Mats	2.00	286	P	Pn	19 28 31.5	-0.5
ASAJ	Asahikawa	2.58	9	P	Pn	19 28 41.4	+1.4
	7.5nm,0.3s,baz=220,slow=11,SNR=79						
ASAJ				S	Sn	19 29 12.2	+2.0
	6.1nm,0.3s,baz=202,slow=19,SNR=4.8						
MJAR	Matsushiro Arr	5.84	212	P	Pn	19 29 26.2	+1.6
	0.3nm,0.3s,baz=33,slow=13,SNR=3.2						
USRK	Ussurisk Ar.	7.85	293	P	Pn	19 29 53.3	+1.3
	0.3nm,0.3s,baz=96,slow=13,SNR=5.2						
KLR	Kul'dur	10.54	320	P	Pn	19 30 30.8	+2.0
	0.0nm,0.3s,baz=119,slow=13,SNR=6.0						
KSRS	Korea Array	11.66	254	P	Pn	19 30 49.9	+5.7
	0.4nm,0.3s,baz=65,slow=14,SNR=3.7						
KSRS				LR	LR	19 35 04.2	
	comp=Z,185nm,20.4s,baz=20,slow=36						
SEY	Seymchan	22.26	12	P	P	19 32 49.5	-2.6
	1.0nm,0.2s,baz=221,slow=19,SNR=3.5						
SONM	Songino Array	25.95	296	P	P	19 33 27.1	-0.2
	2.0nm,1.0s,baz=101,slow=7.7,SNR=8.4						
H11N2	WAKE ISLAND Hy 30.31	128		T	T	20 06 39.3	
	baz=321,slow=76,SNR=86						
H11N1	WAKE ISLAND Hy 30.32	128		T	T	20 06 15.3	
	baz=321,slow=76,SNR=59						
H11N3	WAKE ISLAND Hy 30.32	128		T	T	20 06 38.3	
	baz=321,slow=76,SNR=62						
H11S1	WAKE ISLAND Hy 31.15	130		T	T	20 07 36.8	
	baz=323,slow=76,SNR=3.8						
H11S3	WAKE ISLAND Hy 31.16	130		T	T	20 07 39.7	
	baz=323,slow=76,SNR=6.8						
H11S2	WAKE ISLAND Hy 31.17	130		T	T	20 07 40.2	
	baz=323,slow=76,SNR=5.8						
ZALV	Zalesovo Beam	39.36	308	P	P	19 35 23.4	-0.4
	1.0nm,0.3s,baz=92,slow=7.7,SNR=10.0						
ZALV				PcP	PcP	19 37 31.0	-0.1
	1.1nm,0.8s,baz=113,slow=3.3,SNR=3.8						
MKAR	Makanchi Array	42.28	298	P	P	19 35 47.8	-0.2
	2.9nm,1.0s,baz=82,slow=8.7,SNR=9.7						
MKAR				PcP	PcP	19 37 40.4	-0.3
	1.1nm,0.9s,baz=83,slow=3.8,SNR=4.0						
CMAR	Chiang Mai Arr	43.29	251	P	P	19 35 56.8	+0.4
	0.3nm,0.3s,baz=36,slow=7.8,SNR=5.0						
KURBB	Kurchatov Arra	43.73	304	P	P	19 35 59.4	-0.3
	2.5nm,0.6s,baz=78,slow=8.6,SNR=13						
ILAR	Eielson Array	45.44	35	P	P	19 36 12.7	-0.4
	2.9nm,1.0s,baz=275,slow=7.0,SNR=23						
TAPN	Taplejung	46.28	270	eP	P	19 36 21.0	+0.5
JIRN	Jiri	47.26	271	eP	P	19 36 28.6	+0.4
	5.2nm,0.4s						
GUN	Gumba	47.36	272	eP	P	19 36 29.8	+0.8
	10.0nm,0.4s						
KKN	Kakani	47.87	272	eP	P	19 36 33.2	+0.4
PKI	Pulchoki	47.89	272	eP	P	19 36 33.7	+0.6
	9.4nm,1.0s						
PKIN	Phulchoki	47.90	272	eP	P	19 36 33.9	+0.8
	4.4nm,0.5s						
BVAR	Borovoye Array	47.99	309	P	P	19 36 33.2	+0.1
	1.1nm,0.3s,baz=74,slow=8.8,SNR=19						
GKN	Gorka	48.24	273	eP	P	19 36 37.1	+1.5
PYUN	Piuthan	49.42	274	eP	P	19 36 46.7	+2.0
INK	Inuvik	50.16	29	P	P	19 36 49.7	+0.3
	2.1nm,0.7s,baz=288,slow=6.4,SNR=9.2						
YKA	Yellowknife Ar	59.67	32	P	P	19 37 58.2	+0.1
	0.4nm,0.9s,baz=304,slow=6.7,SNR=5.1						
WRA	Warramunga Arr	61.61	188	P	P	19 38 11.1	-0.7
	1.3nm,0.8s,baz=6.8,slow=7.0,SNR=17						
GEYT	Alibeck	62.15	297	P	P	19 38 15.2	-0.2
	1.1nm,0.7s,baz=46,slow=6.2,SNR=3.9						
FINES	FINESS Array B	65.06	332	P	P	19 38 33.7	-0.4
	1.1nm,0.5s,baz=41,slow=7.8,SNR=7.5						
ASAR	Alice Springs	65.34	188	P	P	19 38 36.2	-0.2
	1.0nm,0.9s,baz=12,slow=6.4,SNR=6.1						
KBZ	Khabaz	68.37	310	P	P	19 38 55.8	+0.3
	1.3nm,0.7s,baz=30,slow=8.1,SNR=3.8						
HFS	Hagfors	70.18	335	P	P	19 39 06.2	-0.3
	4.3nm,0.9s,baz=33,slow=5.5,SNR=9.2						
AKASG	Malin Array Be	71.04	322	P	P	19 39 11.3	-0.5
	0.2nm,0.4s,baz=44,slow=6.8,SNR=6.3						

IDC ***30*** *19:32:01.9±1.4, 40.°72N×144.°91E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/64, mbtmp3.7/8, ML2.9/2, Error ellipse: s-maj=33.1km s-min=24.9km az=93.0*
JMA ***30*** *19:32:03.0±0.2, 40.°81N×145.°06E, h68km±5km, M3.4*
ISCJB ***30*** *19:32:04.4±0.8, 40.°80N±0.°03×144.°83E±0.°06, h33km, mb3.7/7, Error ellipse: s-maj=6.9km s-min=4.6km az=16.3*

ISC 30 19:32:06.2±1.0, 40.°80N±0.°05×144.°94E±0.°08, h35km, n26, σ2.°2/21/32, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.81	313	P	Pn	19 32 33.7	-1.1
JEM				eS	Sn	19 32 54.2	-2.3
JCH	Churui	2.16	327	P	Pn	19 32 38.3	-1.4
JCH				eS	Sn	19 33 02.9	-2.4
JAK	Akkeshi	2.20	355	eS	Sn	19 33 02.8	-3.4
JNBK	Urakawa-nobuka	2.21	313	eS	Sn	19 33 06.7	+0.3
JOB	Onbets	2.26	339	eS	Sn	19 33 07.0	-0.6
JAR	Ashorobuto	2.64	341	P	Pn	19 32 44.5	-1.8
JAR				eS	Sn	19 33 14.7	-2.4
JANG	Nango	2.64	262	P	Pn	19 32 44.8	-1.5
JANG				eS	Sn	19 33 13.4	-3.7
JBT2	Biratori 2	2.76	317	eS	Sn	19 33 20.2	+0.2
JNK	Nakash	2.79	357	P	Pn	19 32 45.6	-2.7
JNK				eS	Sn	19 33 16.5	-4.2
JFR	Furan	2.94	324	eS	Sn	19 33 22.2	-2.2
JOT	Ohata	3.00	282	eS	Sn	19 33 23.3	-2.5
JOM	Ohasama	3.10	246	eS	Sn	19 33 25.5	-2.8
JKB	Kayabe	3.14	292	eS	Sn	19 33 27.4	-1.8
JRA	Rausu	3.14	2	eS	Sn	19 33 25.0	-4.3
JTKR	Abashiri--Toko	3.26	347	eS	Sn	19 33 30.3	-2.0
JEW	Eniwo	3.31	309	eS	Sn	19 33 33.1	-0.4
JMK	Ichinoseki	3.41	238	eS	Sn	19 33 32.6	-3.3
ASAJ	Asahikawa	3.74	333	Pn	Pn	19 33 01.7	+0.4
	0.7nm,0.3s,baz=188,slow=16,S

NEIC 35 km [22 miles] SW of Kayenta.
*IDC **30** 19:48:20.5±1.2, 37.47N×108.99W, h0km, mb1 3.2/3, mb1mx3.0/77, mbtmp2.8/3, ML3.0/3, Error ellipse: s-maj=23.8km s-min=13.7km az=51.0*
ISC 30 19:48:10.4±1.0, 36°63N±0'03×110°51W±0'04, h0km, n21, σ1§55/23, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WUAZ	**Wupatki**	**1.31**	**213**	*e*Pn		**Pg**	**19 48 35.2**	**-0.5**
W18A	**Petrified Fore**	**1.64**	**157**	*e*Pn		**Pg**	**19 48 41.5**	**-0.2**
MVCO	**Mesa Verde**	**1.71**	**70**	*e*Pn		**Pg**	**19 48 42.2**	**-1.1**
PV01	**Paradox Valley**	**2.15**	**45**	*e*Pn		**Pg**	**19 48 50.6**	**-1.1**
PV04	**Paradox Valley**	**2.17**	**35**	*e*Pn		**Pg**	**19 48 51.5**	**-0.6**
MSU	**Marysvale**	**2.30**	**325**	*e*Pn		**Pg**	**19 48 54.6**	**+0.1**
CCUT	**Cedar City**	**2.46**	**293**	*e*Pn		**Pb**	**19 48 54.3**	**-1.4**
SRU	**San Rafael Swe**	**2.48**	**360**	*e*Pn		**Pg**	**19 48 56.6**	**-1.4**
TMUT	**Trail Mountain**	**2.72**	**348**	*e*Pn		**Pb**	**19 49 00.6**	**+0.5**
MPU	**Maple Canyon**	**3.49**	**346**	*e*Pn		**Pb**	**19 49 11.3**	**-2.0**
NLU	**North Lily Min**	**3.54**	**340**	*e*Pn		**Pn**	**19 49 09.8**	**+2.9**
ANMO	**Albuquerque** 0.3nm,0.3s,baz=269,slow=2.2,SNR=4.3	**3.70**	**116**	Pn		**Pn**	**19 49 11.1**	**+2.1**
ANMO	0.9nm,0.3s,baz=116,slow=10,SNR=12			Pg		**Pg**	**19 49 20.9**	**-0.5**
ANMO	0.5nm,0.3s,baz=30,slow=20,SNR=2.7			Lg		Lg	19 50 04.4	
ANMO	**Albuquerque**	**3.70**	**116**	*e*Pn		**Pn**	**19 49 10.9**	**+1.9**
ANMO				Pn		**Pn**	**19 49 11.1**	**+2.1**
ANMO				Pg		**Pg**	**19 49 20.9**	**-0.5**
ANMO				Lg		Lg	19 50 04.4	
O20A	**White River Ci**	**3.92**	**26**	*e*Pn		**Pg**	**19 49 24.9**	**-0.7**
DUG	**Dugway, Tooele**	**3.99**	**334**	Pn		**Pg**	**19 49 25.9**	**-1.0**
SDCO	**Great Sand Dun**	**4.15**	**73**	*e*Pn		**Pb**	**19 49 23.7**	**-0.9**
TUC	**Tucson**	**4.32**	**183**	Pn		**Pb**	**19 49 26.4**	**-0.9**
121A	**Cookes Peak, D**	**4.67**	**150**	*e*Pg		**Pg**	**19 49 36.7**	**-3.1**
PDAR	**Pinedale Array** 0.2nm,0.3s,baz=172,slow=14,SNR=7.2	**6.17**	**7**	Pn		**Pn**	**19 49 44.2**	**+1.2**
PDAR	0.1nm,0.3s,baz=169,slow=29,SNR=2.5			Lg		Lg	19 51 16.1	
NVAR	**Mina Array Bea** baz=104,slow=18,SNR=6.1	**6.45**	**289**	Pn		**Pg**	**19 50 12.8**	**-1.3**
WRA	**Warramunga Arr** 3.4nm,1.2s,baz=66,slow=3.8,SNR=5.3	**121.54**	**268**	PKP		PKPdf	20 07 18.6	+12

*IDC **30** 19:51:01.4±1.4, 6.52S×154.75E, h22km±8km, mb4.9/34, mb1 4.9/37, mb1mx4.8/51, mbtmp5.0/37, ML3.6/3, MS4.4/34, Ms1 4.5/34, ms1mx4.4/46, Error ellipse: s-maj=9.8km s-min=8.0km az=81.0*
*ISCJB **30** 19:51:01.5±0.8, 6.57S±0.02×154.72E±0.02, h33km±7km, mb5.2/216, MS4.6/46, Error ellipse: s-maj=4.2km s-min=3.8km az=18.2*
*BJI **30** 19:51:03.5, 6.17S×155.07E, h51km, mb5.1/64, mB5.2/51, Ms5.2/49, Ms7 4.9/46*
*MOS **30** 19:51:04.1±1.2, 6.47S×154.63E, h52km, mb5.4/55, Error ellipse: s-maj=7.2km s-min=6.2km az=101.0*
*DJA **30** 19:51:05.3±0.7, 7°S×4°×15°5E°, h51km±7km, M5.1/30, mb5.3/30, mB5.6/18, Mw(mB)5.1/18*
*NEIC **30** 19:51:06.0±0.6, 6.58S×154.66E, h62km±5km, mb5.2/146, Error ellipse: s-maj=3.5km s-min=3.0km az=84.0*
*GCMT **30** 19:51:06.0±0.2, 6.82S×154.60E, h31km, MW5.3/96, Moment Tensor Solution. s96,c136; s95,c139; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.83±.02; Mθθ-0.34±.01; Mφφ-0.48±.02; Mrθ0.49±.03; Mθφ0.55±.01; Mφr-0.39±.02; Best double couple: Mo1.09700×10^17 NP1:φs132.00000°, δ63.00000°, λ83.00000°. NP2:φs327.00000°, δ28.00000°, λ103.00000°. Principal axes: T 1.0350, Plg72.0000°, Azm27.0000°; N 0.1250, Plg6.0000°, Azm135.0000°; P -1.1600, Plg17.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 19:51:05.3±0.6, 6°58S±0'04×154°69E±0'04, h52km±4km, n601, σ1§50/642, mb5.2/212, MS4.6/47, 12C-7D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.46**	**313**	*e*Pn		**Pn**	**19 51 56.7**	**-0.1**
HNR	**Honiara** 36nm,0.3s,baz=238,slow=6.5,SNR=6.9	**5.92**	**119**	Pn		**Pn**	**19 52 35.2**	**+4.6**
HNR	31nm,0.3s,baz=137,slow=18,SNR=3.7			Sn		Sn	19 53 48.3	+11
HNR	comp=Z,12μm,18.4s,baz=274,slow=40			LR		LR	19 54 55.5	
HNR	**Honiara**	**5.92**	**119**	*e*P		Pn	19 52 36.0	+5.5
HNR				*e*S		Sn	19 53 47.0	+10
HNR	**Honiara**	**5.92**	**119**	*e*P		**Pn**	**19 52 35.1**	**+4.6**
HNR				*e*			19 53 45.8	
HNR	**Honiara**	**5.92**	**119**	*e*Pn		**Pn**	**19 52 35.1**	**+4.6**
HNR				*e*Sn		**Sn**	**19 53 45.8**	**+8.7**
HNR				*e*Sn		Sn	19 53 48.3	+11
PMG	**Port Moresby** 12nm,0.3s,baz=82,slow=6.6,SNR=35	**7.97**	**249**	Pn		**Pn**	**19 52 58.4**	**-0.3**
PMG	9.8nm,0.3s,baz=79,slow=21,SNR=8.7			Sn		**Sn**	**19 54 29.3**	**+1.9**
PMG	comp=Z,5μm,19.1s,baz=48,slow=40			LR		LR	19 56 26.0	
PMG	**Port Moresby**	**7.97**	**249**	*d*P		**Pn**	**19 52 58.3**	**-0.3**
PMG	comp=Z,625nm,0.8s			pmax		pmax		
PMG	**Port Moresby**	**7.97**	**249**	*e*P		**Sn**	**19 54 29.3**	**+1.9**
PMG	**Port Moresby**	**7.97**	**249**	*e*Pn		**Pn**	**19 52 60.0**	**+1.3**
PMG				*e*Sn		**Sn**	**19 54 22.4**	**-5.1**
MANU	**Manus Island**	**8.59**	**301**	*e*Pn		**Pn**	**19 53 08.7**	**+1.7**
COEN	**Coen** baz=13,SNR=13	**13.49**	**236**	P		**Pn**	**19 54 14.1**	**0.0**
COEN	**Coen**	**13.49**	**236**	*e*Pn		**Pn**	**19 54 14.0**	**-0.2**
PATS	**Pohnpei**	**13.81**	**15**	*e*Pn		**Pn**	**19 54 18.1**	**-0.4**
JAY	**Jayapura**	**14.52**	**286**	P		**Pn**	**19 54 30.3**	**+2.4**
GENI	**Genyem**	**15.01**	**285**	P		P	19 54 45.4	+6.7
MTSU	**Mount Surprise** baz=15,SNR=11	**15.30**	**220**	P		**Pn**	**19 54 39.5**	**+1.4**
CTA	**Charters Tower** comp=Z,0.2nm,0.3s,baz=36,slow=14,SNR=7.4	**15.73**	**211**	Pn		**Pn**	**19 54 43.3**	**-0.3**
CTAO	**Charters Tower**	**15.73**	**211**	*e*P		**Pn**	**19 54 42.3**	**-1.3**
CTAO	comp=Z,93nm,1.2s			pmax		pmax		
CTAO	**Charters Tower** comp=Z,93nm,1.2s	**15.73**	**211**	*e*Pn		**Pn**	**19 54 42.3**	**-1.3**
EIDS	**Eidsvold** baz=19,SNR=3.1	**19.00**	**190**	P		**P**	**19 55 22.6**	**-0.2**
EIDS	**Eidsvold** comp=Z,83nm,1.4s	**19.00**	**190**	*e*P		**P**	**19 55 21.5**	**-1.2**
DZM	**Mont Dzumac** comp=Z,1.1nm,0.3s,baz=355,slow=7.8,SNR=20	**19.13**	**145**	P		**P**	**19 55 25.1**	**+0.8**
DZM	comp=Z,0.0nm,0.3s,baz=180,slow=20,SNR=2.4			S		**S**	**19 58 58.7**	**0.0**
DZM	comp=Z,2μm,20.0s,baz=318,slow=34			LR		LR	20 02 00.6	
DZM	**Mont Dzumac** comp=Z,95nm,0.9s	**19.13**	**145**	*e*P		**Pn**	**19 55 25.7**	**+0.1**
DZM	comp=Z,3μm,33.8s			*e*LQ		LQ	19 59 09.2	
DZM	comp=Z,3μm,23.8s			*e*LR		LR	19 59 59.7	
DZM	**Mont Dzumac** comp=Z,64nm,0.9s	**19.13**	**145**	*e*P		**P**	**19 55 24.8**	**+0.5**
DZM				S		**S**	**19 58 58.7**	**0.0**
TARA	**Tarawa** comp=Z,191nm,1.0s	**19.83**	**67**	*e*P		**P**	**19 55 32.0**	**0.0**
QIS	**Mount Isa** baz=20,SNR=34	**20.17**	**225**	P		**P**	**19 55 36.0**	**+0.4**
RMQ	**Roma** baz=21,SNR=34	**20.59**	**195**	P		**P**	**19 55 41.2**	**+1.1**
KMPI	**Kaimana, Papua**	**21.10**	**277**	P		P	19 55 54.3	+8.6
QLP	**Quilpie** baz=22,SNR=5.8	**22.25**	**205**	P		**P**	**19 55 58.0**	**+0.1**
GUMO	**Guam** comp=Z,295nm,21.6s,baz=150,slow=34	**22.29**	**334**	LR		LR	20 03 36.0	
FAKI	**Fak Fak**	**22.66**	**278**	P		**P**	**19 56 04.1**	**+1.7**
FAKI	**Fak Fak** comp=Z,52nm,1.0s	**22.66**	**278**	*e*P		**P**	**19 56 03.1**	**+0.7**
SAUI	**Saumlaki** comp=Z,230nm,1.6s,comp=Z,4μm	**23.25**	**265**	P		**P**	**19 56 09.8**	**+1.4**
SAUI	**Saumlaki** comp=Z,254nm,0.9s	**23.25**	**265**	*e*P		**P**	**19 56 08.9**	**+0.6**
WRAB	**Tennant Creek**	**23.80**	**234**	*d*P		**P**	**19 56 13.2**	**-0.3**
WRAB	comp=Z,352nm,1.7s			pmax		pmax		
WRAB	**Tennant Creek** comp=Z,357nm,1.9s	**23.80**	**234**	*e*P		**P**	**19 56 12.3**	**-1.2**
WR1	**Warramunga Arr**	**23.81**	**234**	*e*P		**P**	**19 56 13.2**	**-0.4**
WR1				*e*PcP		**PcP**	**19 59 56.8**	**+0.7**
WR1				*e*S		**S**	**20 00 30.2**	**+4.3**
WR1				*e*ScP		**ScP**	**20 03 33.6**	**+3.3**
WRA	**Warramunga Arr** comp=Z,23nm,0.6s,baz=56,slow=9.7,SNR=94	**23.81**	**234**	P		**P**	**19 56 13.2**	**-0.4**
WRA	comp=Z,16nm,0.8s,baz=58,slow=2.3,SNR=14			PcP		**PcP**	**19 59 56.8**	**+0.7**
WRA	comp=Z,6.3nm,1.1s,baz=59,slow=17,SNR=9.7			S		**S**	**20 00 30.2**	**+4.3**
WRA	comp=Z,1.8nm,0.8s,baz=60,slow=3.3,SNR=6.0			ScP		**ScP**	**20 03 33.6**	**+3.3**
WRA	comp=Z,2μm,18.4s,baz=60,slow=37			LR		LR	20 05 46.5	
ARMA	**Armidale** baz=24,SNR=5.6	**23.89**	**187**	P		**P**	**19 56 15.8**	**+1.5**
ARMA	**Armidale** comp=Z,49nm,1.1s	**23.89**	**187**	*e*P		**P**	**19 56 14.1**	**-0.2**
MTN	**Manton Dam** baz=24,SNR=5.3	**24.03**	**253**	P		**P**	**19 56 15.5**	**-0.2**
MTN	**Manton Dam** comp=Z,41nm,0.9s	**24.03**	**253**	*e*P		**P**	**19 56 15.2**	**-0.4**
SWI	**Sorong**	**24.06**	**283**	P		**P**	**19 56 16.6**	**+0.7**
SWI	**Sorong**	**24.06**	**283**	P		**P**	**19 56 17.0**	**+1.1**
SWI	comp=Z,107nm,1.0s			pmax		pmax		
PALU	**Palau** baz=24,SNR=23	**24.46**	**304**	P		**P**	**19 56 20.9**	**+1.3**
BNDI	**Bandanaira**	**24.76**	**273**	P		P	19 56 29.4	+7.1
LHI	**Lord Howe Isla** comp=Z,244nm,1.5s	**25.14**	**171**	*e*P		**P**	**19 56 25.9**	**+0.3**
MSVF	**Nonsavu**	**25.34**	**118**	*e*P		**P**	**19 56 28.2**	**+0.5**
MSVF	comp=Z,89nm,1.3s			pmax		pmax		
MSVF	**Nonsavu** comp=Z,89nm,1.3s	**25.34**	**118**	*e*P		**P**	**19 56 28.1**	**+0.5**
AS01	**Alice Springs**	**26.19**	**227**	*e*P		**P**	**19 56 33.9**	**-1.4**
AS01				*e*PcP		**PcP**	**20 00 01.4**	**0.0**
CMSA	**Cobar Meteorol** baz=26,SNR=8.9	**26.22**	**198**	P		**P**	**19 56 36.5**	**+1.1**
AS31	**Alice Springs** comp=Z,5.8nm,0.8s	**26.22**	**227**	*e*P		**P**	**19 56 34.5**	**-1.1**
ASAR	**Alice Springs** comp=Z,6.1nm,0.8s,baz=57,slow=9.0,SNR=35	**26.23**	**227**	P		**P**	**19 56 35.3**	**-0.3**
ASAR	comp=Z,8.8nm,0.9s,baz=49,slow=4.0,SNR=11			PcP		**PcP**	**20 00 02.1**	**+0.7**
ASAR	comp=Z,0.8nm,0.7s,baz=51,slow=7.3,SNR=2.5			S		**S**	**20 01 08.7**	**+4.3**
ASAR	comp=Z,3.7nm,0.8s,baz=48,slow=3.2,SNR=13			ScP		**ScP**	**20 03 40.6**	**+3.5**
ASAR	comp=Z,2μm,21.6s,baz=64,slow=35			LR		LR	20 06 18.4	
AAI	**Ambon**	**26.55**	**275**	P		**P**	**19 56 43.0**	**+4.4**
AAI	**Ambon**	**26.55**	**275**	P		**P**	**19 56 39.6**	**+1.0**
AAI	comp=Z,31nm,0.8s			pmax		pmax		
MGCD	**Mangrove Creek** baz=27,SNR=5.0	**26.70**	**187**	P		**P**	**19 56 40.9**	**+1.1**
KNRA	**Kununurra** baz=27,SNR=12	**26.97**	**248**	P		**P**	**19 56 43.1**	**+0.8**
RIV	**Riverview** baz=27,SNR=5.6	**27.31**	**186**	P		**P**	**19 56 47.1**	**+2.0**
H11S3	**WAKE ISLAND Hy** baz=203	**27.59**	**25**	T		T	20 25 14.6	
H11S2	**WAKE ISLAND Hy** baz=203	**27.59**	**25**	T		T	20 25 13.0	
H11S1	**WAKE ISLAND Hy** baz=203	**27.60**	**25**	T		T	20 25 15.9	
LBMI	**Labuha**	**27.76**	**281**	P		**P**	**19 56 51.3**	**+1.8**
STKA	**Stephens Creek** comp=Z,2.5nm,0.4s,baz=23,slow=11,SNR=11	**27.98**	**204**	P		**P**	**19 56 51.5**	**+0.3**
STKA	comp=Z,8.4nm,0.8s,baz=22,slow=3.6,SNR=6.0			PcP		**PcP**	**20 00 05.9**	**+0.5**
STKA	comp=Z,1.1nm,0.7s,baz=264,slow=9.2,SNR=2.0			S		**S**	**20 01 31.9**	**+0.1**
STKA	comp=Z,6.6nm,0.9s,baz=26,slow=4.5,SNR=6.1			ScP		**ScP**	**20 03 45.5**	**+3.4**
STKA	comp=Z,2μm,19.1s,baz=10,slow=37			LR		LR	20 08 07.1	
STKA	**Stephens Creek** baz=28,SNR=5.9	**27.98**	**204**	P		**P**	**19 56 53.6**	**+2.4**
H11N1	**WAKE ISLAND Hy** baz=204,slow=76,SNR=7.0	**28.76**	**24**	T		T	20 26 50.9	
H11N3	**WAKE ISLAND Hy** baz=204,slow=76,SNR=5.2	**28.77**	**24**	T		T	20 27 01.8	
H11N2	**WAKE ISLAND Hy** baz=204,slow=76,SNR=4.2	**28.78**	**24**	T		T	20 26 59.2	
SANI	**Sanana**	**28.97**	**278**	P		**P**	**19 57 01.1**	**+0.9**
CAN	**Canberra**	**29.08**	**190**	*e*P		**P**	**19 56 59.6**	**-1.4**
CAN	comp=Z,26nm,1.3s			pmax		pmax		
CAN	**Canberra** comp=Z,26nm,1.3s	**29.08**	**190**	*e*P		**P**	**19 56 59.6**	**-1.4**
SOEI	**Soe**	**30.27**	**262**	P		**P**	**19 57 10.8**	**-1.1**
SOEI	**Soe** comp=Z,58nm,1.0s	**30.27**	**262**	*e*P		**P**	**19 57 09.7**	**-2.3**
BATI	**Baumata** comp=Z,11nm,0.9s,baz=97,slow=8.1,SNR=5.2	**30.90**	**261**	P		**P**	**19 57 20.0**	**+2.7**
BATI	comp=Z,2.6nm,0.5s,baz=18,slow=6.4,SNR=1.5			S		S	20 02 30.3	+12
BATI	comp=Z,1μm,21.1s,baz=150,slow=39			LR		LR	20 11 18.7	
BATI	**Baumata**	**30.90**	**261**	P		P	19 57 28.7	+11
WRKA	**Warakurna** baz=31,SNR=13	**31.22**	**231**	P		**P**	**19 57 19.4**	**-0.7**
BBOO	**Buckleboo** comp=Z,110nm,1.9s	**31.33**	**211**	*e*P		**P**	**19 57 20.3**	**-0.6**
KMSI	**Cibinong**	**31.46**	**282**	P		**P**	**19 57 23.2**	**+0.9**
BBSI	**Bau Bau**	**31.96**	**270**	P		P	19 57 36.9	+10
DAV	**Davao City (W)** comp=Z,426nm,21.9s,baz=100,slow=33	**32.06**	**295**	LR		LR	20 08 33.4	
LUWI	**Luwuk**	**32.31**	**278**	P		**P**	**19 57 30.3**	**+0.6**
LUWI	**Luwuk** comp=Z,81nm,0.8s	**32.31**	**278**	*e*P		**P**	**19 57 28.9**	**-0.8**
MRSI	**Marisa**	**33.43**	**281**	P		**P**	**19 57 38.9**	**-0.6**
APSI	**Ampana**	**33.44**	**278**	P		**P**	**19 57 41.1**	**+1.5**
AFI	**Afiamalu** comp=Z,723nm,18.2s,baz=294,slow=34	**33.76**	**105**	LR		LR	20 09 49.5	
BSSI	**Bau Bau, Buton**	**33.99**	**269**	P		**P**	**19 57 45.8**	**+1.4**
BNSI	**Bone**	**34.49**	**272**	P		**P**	**19 57 50.1**	**+1.4**
FORT	**Forrest** comp=Z,711nm,0.9s	**34.68**	**223**	*e*P		**P**	**19 57 49.9**	**-0.2**
TTSI	**Tana Toraja**	**34.92**	**274**	P		**P**	**19 57 53.8**	**+1.4**
WBSI	**Waikabubak, Su**	**35.07**	**263**	P		**P**	**19 57 54.8**	**+1.0**
MPSI	**Mapaga**	**35.40**	**280**	P		**P**	**19 57 56.1**	**-0.4**
PLAI	**Plampang**	**36.64**	**264**	P		**P**	**19 58 06.3**	**-0.9**
MBWA	**Marble Bar** comp=Z,18nm,0.9s	**36.79**	**243**	*e*P		**P**	**19 58 06.8**	**-1.6**
URZ	**Urewera** comp=Z,35nm,1.1s,baz=332,slow=19,SNR=5.9	**37.51**	**150**	P		**P**	**19 58 14.1**	**-0.1**
BKZ	**Black Stump Fm** comp=Z,22nm,0.9s	**37.93**	**152**	*e*P		**P**	**19 58 17.7**	**-0.1**
MYLDM	**Lahad Datu** comp=Z,53nm,1.0s	**37.97**	**287**	*e*P		**P**	**19 58 18.0**	**-0.4**
THZ	**Tophouse** comp=Z,45nm,0.8s	**38.59**	**158**	*e*P		**P**	**19 58 23.1**	**-0.2**
SNZO	**South Karori** comp=Z,65nm,1.2s	**38.91**	**156**	*e*P		**P**	**19 58 26.5**	**+0.6**
BFZ	**Birch Farm** comp=Z,107nm,1.5s	**39.04**	**154**	*e*P		**P**	**19 58 26.9**	**-0.1**
FOZ	**Fox Glacier** comp=Z,68nm,1.7s	**39.13**	**163**	*e*P		**P**	**19 58 27.9**	**+0.2**
LTZ	**Lake Taylor** comp=Z,45nm,1.3s	**39.25**	**159**	*e*P		**P**	**19 58 28.9**	**+0.1**
TGY	**Tagaytay City** comp=Z,894nm,21.2s,baz=110,slow=34	**39.30**	**302**	LR		LR	20 13 03.9	
KHZ	**Kahutara** comp=Z,33nm,0.7s	**39.39**	**158**	*e*P		**P**	**19 58 28.7**	**-1.2**
OXZ	**Oxford** comp=Z,42nm,1.0s	**39.65**	**160**	*e*P		**P**	**19 58 30.5**	**-1.7**
RPZ	**Rata Peaks** comp=Z,15nm,0.8s,baz=317,slow=3.3,SNR=8.2	**39.68**	**161**	P		**P**	**19 58 32.2**	**-0.1**
RPZ	**Rata Peaks** comp=Z,30nm,0.8s	**39.68**	**161**	*e*P		**P**	**19 58 31.8**	**-0.6**
MEEK	**Meekatharra** baz=40,SNR=6.1	**39.69**	**236**	P		**P**	**19 58 33.1**	**+0.3**
LBZ	**Lake Benmore** comp=Z,38nm,1.5s	**40.02**	**163**	*e*P		**P**	**19 58 34.6**	**-0.6**
CRLZ	**Canterbury Las** comp=Z,52nm,1.0s	**40.07**	**160**	*e*P		**P**	**19 58 35.1**	**-0.5**
WKZ	**Wanaka** comp=Z,101nm,2.0s	**40.09**	**164**	*e*P		**P**	**19 58 35.4**	**-0.4**
MQZ	**McQueen's Vall** comp=Z,113nm,2.0s	**40.20**	**160**	*e*P		**P**	**19 58 38.0**	**+1.4**
DCZ	**Deep Cove** comp=Z,21nm,1.2s	**40.22**	**166**	*e*P		**P**	**19 58 36.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**40.22**	**265**	P		**P**	**19 58 35.9**	**-1.4**
JAGI	**Jajag, Banyuwa** comp=Z,57nm,0.8s	**40.22**	**265**	*e*P		**P**	**19 58 35.8**	**-1.5**
MLZ	**Mavora Lakes** comp=Z,34nm,1.1s	**40.36**	**165**	*e*P		**P**	**19 58 37.7**	**-0.3**
KKM	**Kota Kinabalu** comp=Z,37nm,1.0s	**40.40**	**287**	*e*P		**P**	**19 58 38.6**	**-0.2**
ODZ	**Otahua Downs** comp=Z,55nm,1.6s	**40.75**	**163**	*e*P		**P**	**19 58 40.6**	**-0.7**
JOW	**Kunigami** comp=Z,34nm,1.0s,baz=52,slow=6.3,SNR=2.6	**41.94**	**323**	P		**P**	**19 58 50.4**	**-0.7**
JOW	**Kunigami** comp=Z,128nm,1.5s	**41.94**	**323**	*e*P		**P**	**19 58 51.0**	**-0.2**
JOHN	**Johnston Islan** comp=Z,285nm,1.0s	**42.29**	**56**	*e*P		**P**	**19 58 54.9**	**+0.8**
KLBR	**Kellerberrin** baz=42,SNR=7.6	**42.52**	**229**	P		**P**	**19 58 56.0**	**+0.1**
SBUM	**Sibu** comp=Z,19nm,1.2s	**43.34**	**281**	*e*P		**P**	**19 59 01.6**	**-1.1**
NWAO	**Narrogin (SRO)**	**43.54**	**228**	*e*P		**P**	**19 59 01.6**	**-2.6**
NWAO	comp=Z,118nm,1.7s			pmax		pmax		
NWAO	**Narrogin (SRO)** comp=Z,118nm,1.7s	**43.54**	**228**	*e*P		**P**	**19 59 01.6**	**-2.6**
UGM	**Wanagama** comp=Z,200nm,1.4s	**43.82**	**265**	*e*P		**P**	**19 59 06.1**	**-0.6**
YULB	**Yu-li** comp=Z,52nm,0.8s	**44.18**	**313**	*e*P		**P**	**19 59 09.2**	**-0.2**
NACB	**Ninganchiao** comp=Z,110nm,1.1s	**44.46**	**315**	*e*P		**P**	**19 59 11.9**	**+0.3**
TPUB	**Ta-pu** comp=Z,49nm,0.8s	**44.61**	**313**	*e*P		**P**	**19 59 12.2**	**-0.7**
SSLB	**Suanglung** comp=Z,36nm,0.8s	**44.67**	**314**	*e*P		**P**	**19 59 13.3**	**0.0**
YHNB	**Yeheng** comp=Z,72nm,1.0s	**44.92**	**315**	*e*P		**P**	**19 59 16.9**	**+1.5**
KSM	**Kuching** comp=Z,47nm,1.5s	**45.02**	**279**	*e*P		**P**	**19 59 16.3**	**+0.1**
KSM				*e*PcP		**PcP**	**20 00 56.7**	**0.0**
JNU	**Nakatsue** comp=Z,31nm,0.8s,baz=114,slow=3.3,SNR=13	**45.51**	**332**	P		**P**	**19 59 19.1**	**-0.8**
JNU	**Nakatsue** comp=Z,161nm,1.6s	**45.51**	**332**	*e*P		**P**	**19 59 18.9**	**-1.0**
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.7s,baz=181,slow=7.6,SNR=3.3	**45.60**	**341**	P		**P**	**19 59 18.7**	**-1.7**
MJAR	comp=Z,97nm,18.6s,baz=170,slow=35			LR		LR	20 17 39.8	
MAJO	**Matsushiro**	**45.60**	**341**	*e*P		**P**	**19 59 18.7**	**-1.7**
MAJO	**Matsushiro**	**45.60**	**341**	*e*P		**P**	**19 59 18.7**	**-1.7**
RAR	**Rarotonga** comp=Z,374nm,21.1s,baz=284,slow=30	**46.34**	**113**	LR		LR	20 14 12.8	
CISI	**Cisompet, Garu** comp=Z,126nm,0.8s	**46.52**	**266**	*e*P		**P**	**19 59 27.2**	**-0.9**
LEM	**Lembang** comp=Z,66nm,0.7s,baz=98,slow=9.5,SNR=31	**46.74**	**267**	P		**P**	**19 59 30.2**	**+0.2**
LEM	comp=Z,5.3nm,0.5s,baz=323,slow=20,SNR=3.7			S		**S**	**20 06 19.5**	**+2.8**
LEM	comp=Z,157nm,18.6s,baz=80,slow=40			LR		LR	20 22 37.7	
QZH	**Quanzhou**	**47.08**	**313**	*i*P		**P**	**19 59 33.5**	**+1.3**
QZH				S		**S**	**20 06 24.0**	**+3.2**
QZH	comp=Z,1μm,12.9s			LR		LR		
QZH	comp=Z,640nm,14.6s			LR		LR		
QZH	comp=Z,910nm,11.7s			LR		LR		
ERM	**Erimo**	**49.50**	**349**	*e*P		**P**	**19 59 53.2**	**+2.6**
ERM	comp=Z,61nm,1.1s			pmax		pmax		
ERM	**Erimo** comp=Z,61nm,1.1s	**49.50**	**349**	*e*P		**P**	**19 59 53.2**	**+2.6**
TJN	**Taejon**	**49.83**	**331**	*c*eP		**P**	**19 59 51.7**	**-1.5**
KSRS	**Korea Array** comp=Z,13nm,0.9s,baz=150,slow=8.5,SNR=27	**50.44**	**332**	P		**P**	**19 59 57.1**	**-0.6**
KSRS	comp=Z,83nm,20.7s,baz=166,slow=34			LR		LR	20 19 34.0	
KS15	**Wonju Array Si**	**50.45**	**332**	*e*P		**P**	**19 59 56.5**	**-1.4**
KSAR	**Wonju Array Be**	**50.45**	**332**	P		**P**	**19 59 57.2**	**-0.7**
KSAR	**Wonju Array Be**	**50.45**	**332**	P		**P**	**19 59 57.1**	**-0.7**
KS01	**Wonju Array Si**	**50.47**	**332**	*e*P		**P**	**19 59 56.6**	**-1.4**
QIZ	**Qiongzhong**	**50.99**	**301**	P		**P**	**20 00 03.8**	**+1.5**
QIZ				S		**S**	**20 07 16.8**	**+0.8**
QIZ	comp=Z,350nm,9.3s			LR		LR		
QIZ	comp=Z,490nm,20.6s			LR		LR		
QIZ	comp=Z,670nm,16.7s			LR		LR		
NJ2	**Nanjing**	**51.41**	**320**	*e*P		**P**	**20 00 06.0**	**+0.8**
NJ2	comp=Z,28nm,0.6s			pmax		pmax		
ASAJ	**Asahikawa** comp=Z,5.7nm,0.8s,baz=180,slow=6.1,SNR=3.0	**51.63**	**349**	P		**P**	**20 00 06.5**	**-0.1**
WHN	**Wuhan**	**53.44**	**316**	P		**P**	**20 00 22.8**	**+2.5**
USRK	**Ussuriysk Ar.** comp=Z,20nm,1.1s,baz=152,slow=8.6,SNR=8.8	**54.54**	**340**	P		**P**	**20 00 27.5**	**-0.6**
USRK	comp=Z,108nm,18.7s,baz=169,slow=36			LR		LR	20 23 25.4	
IPM	**Ipoh**	**54.69**	**280**	*e*P		**P**	**20 00 29.3**	**-0.4**
IPM				*e*PcP		**PcP**	**20 01 31.7**	**-0.4**
KULM	**Kulim** comp=Z,19nm,0.9s	**55.22**	**281**	*e*P		**P**	**20 00 33.2**	**-0.3**
SKNT	**Sakolnakorn** comp=Z,12nm,1.3s	**55.32**	**296**	P		**P**	**20 00 35.3**	**+1.1**
PPT	**Papeete** comp=Z,223nm,19.9s,baz=268,slow=32	**55.40**	**107**	LR		LR	20 20 07.2	
PPT2	**Papeete2** comp=Z,25nm,1.2s	**55.40**	**107**	*e*P		**P**	**20 00 34.3**	**-0.6**
PPT2	comp=Z,201nm,25.2s			*e*S		**S**	**20 08 18.6**	**+2.4**
PPT2	comp=Z,706nm,29.2s			*e*LQ		LQ	20 14 23.4	
PPT2	comp=Z,236nm,20.8s			*e*LR		LR	20 16 49.2	
SKLT	**Songkhla** comp=Z,26nm,0.9s	**55.65**	**283**	P		**P**	**20 00 36.4**	**-0.2**

	comp=Z,40nm,0.8s										
PHET	**Kaeng Krachan**	**58.03**	**290**		P		**P**		**20 00 56.2**	**+2.7**	
	comp=Z,5.1nm,0.8s										
PHIT	**Phitsanulok**	**58.60**	**295**		P		**P**		**20 00 59.8**	**+2.4**	
	comp=Z,21nm,0.8s,comp=Z,172nm										
NANT	**Nan**	**58.88**	**296**		P		**P**		**20 01 00.7**	**+1.3**	
	comp=Z,12nm,0.7s,comp=Z,136nm										
SRDT	**SRDT**	**58.91**	**291**		P		**P**		**20 01 00.8**	**+1.2**	
	comp=Z,27nm,1.2s,comp=Z,2µm										
KLR	**Kul'dur**	**59.09**	**343**	⇓	*i*P		**P**		**20 00 58.0**	**-2.2**	
XAN	**Xi'an**	**59.20**	**316**		P		**P**		**20 01 01.0**	**-0.4**	
XAN					pP		pP		20 01 10.5	-5.2	
XAN					pmax		pmax				
	comp=Z,21nm,1.0s										
XAN					pmax		pmax				
	comp=Z,210nm,4.1s										
GRNR	**Gornyy**	**59.26**	**347**		*e*P		**P**		**20 01 03.5**	**+2.1**	
PET	**Petropavlovsk**	**59.47**	**3**		*e*P		P		20 01 07.4	+4.7	
PET					pmax		pmax				
	comp=Z,60nm,0.8s										
PET	**Petropavlovsk**	**59.47**	**3**		*e*P		**P**		**20 01 02.2**	**-0.5**	
	comp=Z,37nm,0.7s										
PETK	**Petropavlovsk-**	**59.52**	**2**		P		**P**		**20 01 03.0**	**-0.1**	
	comp=Z,40nm,0.7s,baz=154,slow=4.1,SNR=16										
PETK					LR		LR		20 22 55.7		
	comp=Z,388nm,21.9s,baz=184,slow=32										
PETK	**Petropavlovsk-**	**59.52**	**2**		*e*P		**P**		**20 01 02.8**	**-0.3**	
PETK	**Petropavlovsk-**	**59.52**	**2**		*e*P		**P**		**20 01 02.8**	**-0.3**	
PEA1	**Petropavlovsk-**	**59.52**	**2**		*e*P		**P**		**20 01 03.0**	**-0.1**	
KMI	**Kunming**	**59.54**	**304**		P		**P**		**20 01 06.0**	**+1.9**	
KMI					pmax		pmax				
	comp=Z,120nm,1.0s										
KMI					pmax		pmax				
	comp=Z,180nm,5.3s										
KMI					LR		LR				
	comp=Z,600nm,13.1s										
KMI					LR		LR				
	comp=Z,430nm,14.7s										
KMI					LR		LR				
	comp=Z,510nm,24.4s										
LAMP	**Lampang**	**59.74**	**296**		P		**P**		**20 01 07.7**	**+2.4**	
	comp=Z,16nm,0.8s,comp=Z,132nm										
CM01	**Chiang Mai Arr**	**60.31**	**295**		*e*P		**P**		**20 01 11.2**	**+2.0**	
CM01					*e*PcP		**PcP**		**20 01 54.5**	**+0.4**	
CM31	**Chiang Mai Arr**	**60.34**	**295**		*e*P		**P**		**20 01 11.6**	**+2.2**	
CMAR	**Chiang Mai Arr**	**60.34**	**295**		P		**P**		**20 01 11.0**	**+1.6**	
	comp=Z,22nm,0.9s,baz=120,slow=5.0,SNR=109										
CMAR					LR		LR		20 27 44.1		
	comp=Z,193nm,19.2s,baz=87,slow=36										
CMAR					PKPPKP		**P'P'df**		**20 30 27.8**	**-5.1**	
	comp=Z,0.4nm,0.5s,baz=282,slow=4.3,SNR=4.0										
CMMT	**Chiang Mai**	**60.45**	**296**		P		**P**		**20 01 10.4**	**+0.2**	
	comp=Z,25nm,1.6s										
CHTO	**Chiang Mai**	**60.45**	**296**		P		**P**		**20 01 11.4**	**+1.2**	
	comp=Z,112nm,1.5s										
CHTO	**Chiang Mai**	**60.45**	**296**		*e*P		**P**		**20 01 11.0**	**+0.8**	
CHTO					*e*				20 01 55.5		
CHTO	**Chiang Mai**	**60.45**	**296**		*e*P		**P**		**20 01 11.0**	**+0.8**	
CHTO					*e*PcP		**PcP**		**20 01 55.5**	**+0.9**	
NKL	**Nikolayevsk**	**60.68**	**350**		*e*P		**P**		**20 01 10.0**	**-1.0**	
NKL					pmax		pmax				
	comp=N,6.0nm,0.9s										
NKL					pmax		pmax				
	comp=Z,18nm,0.9s										
CMAI	**Chiengmai2**	**60.74**	**297**		P		**P**		**20 01 13.6**	**+1.3**	
	comp=Z,136nm,1.6s										
CD2	**Chengdu**	**61.32**	**310**		P		**P**		**20 01 16.5**	**+0.6**	
CD2					pP		pP		20 01 29.5	-0.8	
CD2					sP		sP		20 01 35.0	-1.2	
CD2					S		**S**		**20 09 34.5**	**+1.7**	
CD2					sS		sS		20 09 56.8	-0.2	
CD2					SS		**SS**		**20 13 37.0**	**+2.7**	
CD2					pmax		pmax				
	comp=Z,400nm,5.6s										
CD2					LR		LR				
	comp=Z,600nm,14.9s										
CD2					LR		LR				
	comp=Z,690nm,17.4s										
CD2					LR		LR				
	comp=Z,710nm,16.4s										
SMY	**Shemya**	**61.35**	**13**		*e*P		**P**		**20 01 16.4**	**+0.9**	
SMY	**Shemya**	**61.35**	**13**		*e*P		**P**		**20 01 16.4**	**+0.9**	
HHC	**Hu-ho-hao-te**	**61.59**	**324**		*e*P		**P**		**20 01 20.0**	**+2.4**	
HHC					S		**S**		**20 09 37.5**	**+1.5**	
HHC					pmax		pmax				
	comp=Z,5.0nm,0.7s										
HHC					pmax		pmax				
	comp=Z,140nm,6.2s										
HHC					LR		LR				
	comp=Z,870nm,10.6s										
HHC					LR		LR				
	comp=Z,460nm,12.7s										
HHC					LR		LR				
	comp=Z,740nm,12.6s										
HIA	**Hailar**	**63.43**	**335**		*e*P		**P**		**20 01 28.6**	**-1.0**	
HIA	**Hailar**	**63.43**	**335**		*e*P		**P**		**20 01 28.6**	**-1.0**	
LZH	**Lanzhou**	**63.81**	**316**	⇑	P		**P**		**20 01 33.8**	**+1.2**	
LZH					pP		pP		20 01 46.5	-0.6	
LZH					sP		sP		20 01 52.5	-0.5	
LZH					PP		**PP**		**20 03 54.3**	**+0.7**	
LZH					*e*S		**S**		**20 10 06.0**	**+1.8**	
LZH					sS		sS		20 10 28.0	-0.5	
LZH					SS		**SS**		**20 14 13.0**	**-0.3**	
LZH					pmax		pmax				
	comp=Z,55nm,1.3s										
LZH					pmax		pmax				
	comp=Z,350nm,7.8s										
LZH					LR		LR				
	comp=Z,1µm,13.7s										
LZH					LR		LR				
	comp=Z,2µm,14.0s										
LZH					LR		LR				
	comp=Z,3µm,18.1s										
ZEA	**Zeya**	**64.39**	**342**		*e*P		**P**		**20 01 35.6**	**-0.2**	
ZEA					pmax		pmax				
	comp=Z,35nm,1.0s										
MA2	**Magadan**	**66.02**	**358**		P		**P**		**20 01 45.6**	**-0.6**	
	comp=Z,14nm,0.8s,baz=160,slow=6.0,SNR=24										
CASY	**Casey**	**66.89**	**198**		*e*P		**P**		**20 01 51.2**	**-0.5**	
	comp=Z,47nm,1.8s										
GTA	**Gaotai**	**68.24**	**317**		P		**P**		**20 02 01.5**	**+0.6**	
GTA					pP		pP		20 02 15.0	-0.5	
GTA					sP		sP		20 02 19.8	-1.6	
GTA					ScP				20 06 28.3		
GTA					S		**S**		**20 10 58.0**	**+0.2**	
GTA					sS		pS		20 11 19.8	+4.3	
GTA					pmax		pmax				
	comp=Z,14nm,1.3s										
GTA					pmax		pmax				
	comp=Z,150nm,5.7s										
GTA					LR		LR				
	comp=Z,290nm,21.4s										
GTA					LR		LR				
	comp=Z,320nm,19.0s										
GTA					LR		LR				
	comp=Z,240nm,16.2s										
ULN	**Ulaanbaatar**	**68.50**	**328**	*c*	*i*P		**P**		**20 02 02.6**	**+0.2**	
ULN					pmax		pmax				
	comp=Z,24nm,1.7s										
ULN	**Ulaanbaatar**	**68.50**	**328**		*e*P		**P**		**20 02 02.1**	**-0.3**	
	comp=Z,25nm,1.4s										
SHL	**Shillong**	**68.83**	**301**		*e*P		**P**		**20 02 06.5**	**+1.6**	
SHL					*e*S		**S**		**20 11 09.5**	**+4.0**	
SONA0	**Songino Array**	**68.83**	**327**		*e*P		**P**		**20 02 04.6**	**+0.1**	
SONA0					*e*P'P'df		**P'P'df**		**20 30 13.3**	**-3.3**	
SONA0					*e*				20 33 45.6		
SONM	**Songino Array**	**68.83**	**327**		P		**P**		**20 02 04.6**	**+0.1**	
	comp=Z,7.1nm,0.9s,baz=141,slow=5.2,SNR=39										
SONM					PKP2bc				20 30 13.3		
	comp=Z,2.3nm,0.9s,baz=264,slow=2.4,SNR=3.8										
SONM					LR		LR		20 33 45.6		
	comp=Z,184nm,18.6s,baz=124,slow=37										
SEY	**Seymchan**	**69.34**	**359**		P		**P**		**20 02 06.6**	**-0.4**	
	comp=Z,5.7nm,0.9s,baz=167,slow=5.8,SNR=19										
SEY	**Seymchan**	**69.34**	**359**	*ce*	P		**P**		**20 02 06.4**	**-0.7**	
RKT	**Rikitea**	**69.37**	**112**	*e*	LR		LR		20 23 13.0		
	comp=Z,687nm,24.8s										
LSA	**Lhasa**	**70.79**	**304**		P		**P**		**20 02 18.3**	**+1.0**	
LSA					pmax		pmax				
	comp=Z,93nm,0.8s										
LSA	**Lhasa**	**70.79**	**304**		*e*P		**P**		**20 02 17.8**	**+0.5**	
LSA					pmax		pmax				
	comp=Z,61nm,0.8s										
LSA	**Lhasa**	**70.79**	**304**		*e*P		**P**		**20 02 17.8**	**+0.5**	
	comp=Z,61nm,0.8s										
VNDA	**Vanda**	**71.00**	**178**		P		**P**		**20 02 17.8**	**+0.7**	
	comp=Z,8.6nm,0.9s,baz=329,slow=7.0,SNR=30										
VNDA	**Vanda**	**71.00**	**178**		*e*P		**P**		**20 02 17.6**	**+0.5**	
VNDA					pmax		pmax				
	comp=Z,9.0nm,0.9s										
VNDA	**Vanda**	**71.00**	**178**		*e*P		**P**		**20 02 17.6**	**+0.5**	
	comp=Z,9.4nm,0.9s										
YAK	**Yakutsk**	**71.09**	**348**		P		**P**		**20 02 17.7**	**-0.1**	
	comp=Z,10nm,0.4s,baz=230,slow=0.2,SNR=13										
YAK	**Yakutsk**	**71.09**	**348**		*e*P		**P**		**20 02 15.5**	**-2.3**	
YAK					*e**PP		pP		20 02 26.8	-5.7	
YAK					*e*				20 02 33.1		
YAK					*e*PPP		PPP		20 06 35.7		
YAK					*e*S		**S**		**20 11 30.0**	**-0.2**	
YAK					*e**SS		**pS**		**20 11 49.3**	**+1.2**	
YAK					*e*				20 12 17.8		
YAK					*e*SSS		SSS		20 19 03.5		
YAK					pmax		pmax				
	comp=Z,34nm,1.0s										
YAK					pmax		pmax				
	comp=Z,61nm,3.1s										
YAK					pmax		pmax				
	comp=N,78nm,3.6s										
YAK					pmax		pmax				
	comp=E,68nm,3.2s										
YAK					smax		smax				
	comp=N,103nm,3.7s										
YAK					smax		smax				
	comp=E,75nm,3.3s										
YAK	**Yakutsk**	**71.09**	**348**		*e*P		**P**		**20 02 17.1**	**-0.7**	
	comp=E,40nm,1.0s										
ZAK	**Zakamensk**	**71.99**	**328**		*e*P		**P**		**20 02 23.0**	**-0.6**	
ZAK					pmax		pmax				
	comp=Z,17nm,1.2s										
BOD	**Bodaibo**	**72.12**	**338**		*e*P		P		20 02 19.3	-4.8	
BOD					pmax		pmax				
	comp=Z,9.0nm,0.9s										
TLY	**Talaya**	**72.56**	**330**		P		**P**		**20 02 27.1**	**+0.2**	
	comp=Z,1.6nm,0.3s,baz=165,slow=6.4,SNR=6.5										
TLY	**Talaya**	**72.56**	**330**		*e*P		**P**		**20 02 26.6**	**-0.3**	
TLY					pmax		pmax				
	comp=Z,8.0nm,1.6s										
TLY					MLR		MLR				
	comp=Z,180nm,16.0s										
TLY	**Talaya**	**72.56**	**330**		*e*P		**P**		**20 02 26.4**	**-0.5**	
	comp=Z,6.1nm,0.8s										
TAPN	**Taplejung**	**72.93**	**301**		*e*P		**P**		**20 02 30.9**	**+0.9**	
	comp=Z,308nm,0.9s										
ODAN	**Odare**	**73.07**	**301**		*e*P		**P**		**20 02 31.7**	**+1.0**	
	comp=Z,484nm,0.7s										
RAMN	**Ramite**	**73.77**	**300**		*e*P		**P**		**20 02 35.6**	**+0.8**	
	comp=Z,104nm,0.7s										
JIRN	**Jiri**	**74.32**	**301**		*e*P		**P**		**20 02 39.0**	**+0.8**	
	comp=Z,260nm,0.8s										
GAMB	**Gambell**	**74.60**	**15**		*e*P		**P**		**20 02 38.6**	**+0.1**	
	comp=Z,23nm,1.0s										
GUN	**Gumba**	**74.65**	**301**		*e*P		**P**		**20 02 40.9**	**+0.8**	
	comp=Z,418nm,0.8s										
BILL	**Bilibino**	**74.90**	**4**		*e*P		**P**		**20 02 39.1**	**-1.1**	
BILL					*e*				20 02 48.0		
BILL					*e*				20 05 35.6		
BILL					*e*PPP		PPP		20 07 10.6		
BILL					pmax		pmax				
	comp=Z,21nm,0.9s										
PKI	**Pulchoki**	**74.96**	**301**		*e*P		**P**		**20 02 42.4**	**+0.5**	
	comp=Z,284nm,1.1s										
PKIN	**Phulchoki**	**74.97**	**301**		*e*P		**P**		**20 02 42.7**	**+0.9**	
	comp=Z,114nm,0.7s										
PALK	**Pallekele**	**75.08**	**279**		*i* P		**P**		**20 02 44.1**	**+1.6**	
PALK	**Pallekele**	**75.08**	**279**		*e*P		**P**		**20 02 41.1**	**-1.3**	
	comp=Z,22nm,0.9s										
KKN	**Kani**	**75.13**	**301**		*e*P		**P**		**20 02 43.4**	**+0.7**	
	comp=Z,208nm,0.8s										
KNGR	**Kungurtug, Tuv**	**75.20**	**326**	⇑	*i*P		**P**		**20 02 42.6**	**+0.1**	
DMN	**Daman**	**75.23**	**301**		*e*P		**P**		**20 02 44.3**	**+1.0**	
	comp=Z,478nm,0.8s										
GKN	**Gorkha**	**75.73**	**301**		*e*P		**P**		**20 02 46.6**	**+0.5**	
	comp=Z,409nm,0.9s										
KOLN	**Koldanda**	**76.56**	**300**		*e*P		**P**		**20 02 51.2**	**+0.4**	
	comp=Z,233nm,0.8s										
DANN	**Dangsing**	**76.57**	**301**		*e*P		**P**		**20 02 51.6**	**+0.6**	
KDAK	**Kodiak Island**	**76.93**	**26**		P		**P**		**20 02 51.7**	**-0.2**	
	comp=Z,22nm,1.0s,baz=157,slow=7.7,SNR=5.0										
KDAK	**Kodiak Island**	**76.93**	**26**		*e*P		**P**		**20 02 51.3**	**-0.7**	
KDAK					pmax		pmax				
	comp=Z,25nm,1.0s										
KDAK	**Kodiak Island**	**76.93**	**26**		*e*P		**P**		**20 02 51.3**	**-0.7**	
	comp=Z,25nm,1.0s										
PYUN	**Piuthan**	**77.16**	**301**		*e*P		**P**		**20 02 54.3**	**+0.1**	
	comp=Z,363nm,0.9s										
HVS	**Khovu-Aksy**	**77.58**	**326**	⇓	*i*P		**P**		**20 02 56.0**	**+0.1**	
HVS					pmax		pmax				
	comp=Z,24nm,1.4s										
SVW2	**Sparrevohn**	**77.73**	**22**		*e*P		**P**		**20 02 56.4**	**0.0**	
	comp=Z,76nm,1.6s										
WMQ	**Urumqi**	**78.32**	**317**		P		**P**		**20 03 00.8**	**+0.6**	
WMQ					PcP		**PcP**		**20 03 07.8**	**-1.6**	
WMQ					pP		pP		20 03 14.8	-0.3	
WMQ					sP		sP		20 03 19.0	-1.9	
WMQ					pmax		pmax				
	comp=Z,23nm,1.3s										
WMQ					pmax		pmax				
	comp=Z,19nm,3.9s										
WMQ					LR		LR				
	comp=Z,540nm,15.3s										
WMQ					LR		LR				
	comp=Z,350nm,16.1s										
WMQ					LR		LR				
	comp=Z,380nm,14.5s										
HOM	**Homer**	**78.42**	**25**		*e*P		**P**		**20 02 59.9**	**-0.3**	
	comp=Z,142nm,1.1s										
BRLK	**Bradley Lake**	**78.80**	**25**		*e*P		**P**		**20 03 02.2**	**-0.2**	
	comp=Z,41nm,1.2s										
HYB	**Hyderabad**	**78.85**	**289**		*i* P		**P**		**20 03 02.5**	**-1.1**	
SPU	**Mount Spurr**	**79.14**	**23**		*e*P		**P**		**20 03 03.0**	**-1.3**	
SKT	**Skwentna**	**79.81**	**23**		*e*P		**P**		**20 03 06.1**	**-1.8**	
SUA	**Susitna One**	**79.82**	**23**		*e*P		**P**		**20 03 06.6**	**-1.4**	
	comp=Z,14nm,0.9s										
TIXI	**Tiksi**	**79.91**	**352**	⇓	*i*P		**P**		**20 03 07.1**	**-1.0**	
TIXI					pmax		pmax				
	comp=Z,15nm,1.7s										
TIXI	**Tiksi**	**79.91**	**352**		*e*P		**P**		**20 03 06.8**	**-1.3**	
	comp=Z,24nm,1.7s										
RC01	**Rabbit Creek A**	**80.01**	**24**		*e*P		**P**		**20 03 07.8**	**-1.1**	
	comp=Z,58nm,1.6s										
PPLA	**Purkeypile**	**80.10**	**22**		*e*P		**P**		**20 03 09.5**	**-0.1**	
	comp=Z,24nm,1.2s										
CAST	**Castle Rocks**	**80.45**	**21**		*e*P		**P**		**20 03 10.5**	**-0.8**	
	comp=Z,38nm,1.4s										
PMR	**Palmer**	**80.53**	**24**		*e*P		**P**		**20 03 10.4**	**-1.3**	
PMR					pmax		pmax				
	comp=Z,42nm,1.4s										
PMR	**Palmer**	**80.53**	**24**		*e*P		**P**		**20 03 10.4**	**-1.3**	
	comp=Z,42nm,1.4s										
DGZ	**Jazzator, Alta**	**80.64**	**323**	*c*	*i*P		**P**		**20 03 12.3**	**-0.4**	
DGZ					pmax		pmax				
	comp=Z,12nm,1.0s										
GHO	**Glory Hole Cre**	**80.72**	**24**		*e*P		**P**		**20 03 11.9**	**-0.9**	
	comp=Z,86nm,1.6s										
SML	**Sawmill**	**80.97**	**24**		*e*P		**P**		**20 03 13.7**	**-0.4**	
SML					pmax		pmax				
	comp=Z,95nm,1.3s										
SML	**Sawmill**	**80.97**	**24**		*e*P		**P**		**20 03 13.7**	**-0.4**	
	comp=Z,95nm,1.3s										
GLI	**Glacier Island**	**80.99**	**25**		*e*P		**P**		**20 03 13.0**	**-1.2**	
	comp=Z,45nm,1.2s										
BPAW	**Bear Paw Mtn.**	**81.25**	**21**		*e*P		**P**		**20 03 14.1**	**-1.4**	
	comp=Z,11nm,1.2s										
SCM	**Sheep Creek Mo**	**81.39**	**24**		*e*P		**P**		**20 03 15.8**	**-0.6**	
SCM					pmax		pmax				
	comp=Z,46nm,1.2s										
SCM	**Sheep Creek Mo**	**81.39**	**24**		*e*P		**P**		**20 03 15.8**	**-0.6**	
	comp=Z,46nm,1.2s										
IM3	**Indian Mountai**	**81.44**	**19**		*e*P		**P**		**20 03 15.7**	**-0.7**	
RND	**Reindeer**	**81.64**	**22**		*e*P		**P**		**20 03 16.2**	**-1.5**	
RND					pmax		pmax				
	comp=Z,29nm,1.3s										
RND	**Reindeer**	**81.64**	**22**		*e*P		**P**		**20 03 16.1**	**-1.5**	
	comp=Z,29nm,1.3s										
MCK	**McKinley**	**81.79**	**22**		*e*P		**P**		**20 03 16.7**	**-1.7**	
MCK					pmax		pmax				
	comp=Z,49nm,1.1s										
MCK	**McKinley**	**81.79**	**22**		*e*P		**P**		**20 03 16.7**	**-1.7**	
	comp=Z,49nm,1.1s										
KLU	**Klutina**	**81.79**	**25**		*e*P		**P**		**20 03 18.3**	**-0.2**	
	comp=Z,53nm,1.2s										
MLY	**Manley**	**81.87**	**20**		*e*P		**P**		**20 03 17.6**	**-1.2**	
	comp=Z,20nm,1.3s										
DHY	**Denali Highway**	**82.03**	**23**		*e*P		**P**		**20 03 19.1**	**-0.7**	
	comp=Z,20nm,1.1s										
BMRM	**Bremner River**	**82.08**	**25**		*e*P		**P**		**20 03 19.9**	**-0.2**	
	comp=Z,37nm,1.2s										
WRH	**Wood River Hil**	**82.50**	**22**		*e*P		**P**		**20 03 20.3**	**-1.8**	
	comp=Z,22nm,1.2s										
HARP	**HAARP**	**82.56**	**24**		*e*P		**P**		**20 03 22.2**	**-0.3**	
	comp=Z,103nm,1.9s										
CCB	**Clear Creek Bu**	**82.70**	**21**		*e*P		**P**		**20 03 21.3**	**-1.8**	
	comp=Z,19nm,1.4s										
MDM	**Murphy Dome**	**82.72**	**21**		*e*P		**P**		**20 03 21.8**	**-1.4**	
	comp=Z,28nm,1.4s										
PAX	**Paxson**	**82.72**	**23**		*e*P		**P**		**20 03 21.7**	**-1.7**	
PAX					pmax		pmax				
	comp=Z,16nm,1.3s										
PAX	**Paxson**	**82.72**	**23**		*e*P		**P**		**20 03 21.7**	**-1.7**	
	comp=Z,16nm,1.3s										
COLA	**College**	**82.81**	**21**	⇑	*i*P		**P**		**20 03 22.3**	**-1.3**	
COLA					pmax		pmax				
	comp=Z,18nm,1.2s										
MK01	**Makanchi Array**	**82.89**	**319**		*e*P		**P**		**20 03 23.5**	**-1.0**	
HDA	**Harding Lake**	**82.89**	**22**		*e*P		**P**		**20 03 23.6**	**-0.5**	
	comp=Z,42nm,1.8s										
MK31	**Makanchi Array**	**82.90**	**319**		*e*P		**P**		**20 03 24.0**	**-0.6**	
MK31	**Makanchi Array**	**82.90**	**319**		*e*P		**P**		**20 03 23.9**	**-0.6**	
MK32	**Makanchi Array**	**82.90**	**319**		*e*P		**P**		**20 03 24.7**	**+0.1**	
MK32					*e*PKKPdf		**PKKPdf**		**20 21 41.1**	**+0.7**	
MKAR	**Makanchi Array**	**82.90**	**319**		P		**P**		**20 03 24.7**	**+0.1**	
	comp=Z,19nm,0.7s,baz=104,slow=5.0,SNR=176										
MKAR					PKKP		**PKKPdf**		**20 21 41.1**	**+0.7**	
	comp=Z,0.1nm,0.4s,baz=304,slow=0.5,SNR=2.1										
MKAR					LR		LR		20 41 59.8		
	comp=Z,218nm,18.8s,baz=100,slow=37										
MKAR	**Makanchi Array**	**82.90**	**319**		*e*P		**P**		**20 03 24.1**	**-0.5**	
MKAR					pmax		pmax				
	comp=Z,116nm,0.8s										
MKAR	**Makanchi Array**	**82.90**	**319**		*e*P		**P**		**20 03 24.1**	**-0.5**	
	comp=Z,116nm,0.8s										
MKAR					PKKP		**PKKPdf**		**20 21 41.1**	**+0.7**	
IL1	**Eielson Array**	**83.10**	**22**		*e*P		**P**		**20 03 23.0**	**-2.2**	
ILAR	**Eielson Array**	**83.10**	**22**		P		**P**		**20 03 23.8**	**-1.4**	
	comp=Z,7.6nm,1.1s,baz=240,slow=5.6,SNR=28										
ILAR					LR		LR		20 37 23.1		
	comp=Z,623nm,20.5s,baz=254,slow=34										
ILB	**Eielson Array**	**83.10**	**22**		*e*P		**P**		**20 03 23.2**	**-1.9**	
MAKZ	**Makanchi**	**83.11**	**319**		*e*P		**P**		**20 03 24.8**	**-0.9**	
MAKZ					pmax		pmax				
	comp=Z,27nm,0.8s										
MAKZ	**Makanchi**	**83.11**	**319**		*e*P		**P**		**20 03 24.8**	**-0.9**	
	comp=Z,27nm,0.8s										
COLD	**Coldfoot**	**83.32**	**19**		*e*P		**P**		**20 03 25.8**	**-0.4**	
	comp=Z,9.2nm,1.2s										
RIDG	**Independ'e Rid**	**83.35**	**23**		*e*P		**P**		**20 03 25.6**	**-1.0**	
	comp=Z,57nm,1.4s										
QSPA	**South Pole Qui**	**83.39**	**180**		P		**P**		**20 03 27.2**	**+0.3**	
	comp=Z,45nm,1.0s,baz=349,slow=3.0,SNR=48										
QSPA	**South Pole Qui**	**83.39**	**180**		*e*P		**P**		**20 03 27.1**	**+0.3**	
	comp=Z,43nm,1.0s										
MENT	**Mentasta**	**83.40**	**24**		*e*P		**P**		**20 03 25.7**	**-1.1**	
	comp=Z,20nm,1.4s										
DOT	**Dot Lake**	**83.61**	**23**		*e*P		**P**		**20 03 27.3**	**-0.5**	
	comp=Z,110nm,1.4s										
ZAA0	**Zalesovo Array**	**83.67**	**326**		*e*P		**P**		**20 03 26.5**	**-1.8**	
	comp=Z,17nm,0.9s										
ZALV	**Zalesovo Beam**	**83.67**	**326**		P		**P**		**20 03 27.2**	**-1.1**	
	comp=Z,24nm,1.0s,baz=112,slow=5.3,SNR=50										
ZALV	**Zalesovo Beam**	**83.67**	**326**		*e*P		**P**		**20 03 26.1**	**-2.2**	
ZALV	**Zalesovo Beam**	**83.67**	**326**		*e*P		**P**		**20 03 26.1**	**-2.2**	
ZAA1	**Zalesovo Array**	**83.67**	**326**		*e*P		**P**		**20 03 27.2**	**-1.1**	
SCRK	**Sand Creek**	**83.79**	**23**		*e*P		**P**		**20 03 28.0**	**-0.

GDXM	Geysers	88.28	51	*e*P		P		20 03 53.7	+2.2
	comp=Z,73nm,1.8s								
MNAS	Manas	88.67	313	P		P		20 03 54.1	+0.7
MNAS				pmax		pmax			
	comp=Z,15nm,0.9s								
YBH	Yreka Blue Hor	88.84	48	P		P		20 03 54.8	+0.7
	comp=Z,3.4nm,0.9s,baz=301,slow=5.9,SNR=4.3								
YBH				LR		LR		20 37 07.0	
	comp=Z,723nm,20.9s,baz=290,slow=31								
F03A	Seaside	88.97	44	*e*P		P		20 03 51.5	-3.0
	comp=Z,172nm,0.8s								
O03D	Paynes Creek	89.28	49	P		P		20 03 56.9	+0.6
	baz=261								
ORV	Oroville	89.39	50	*e*P		P		20 03 55.9	-0.8
ORV				pmax		pmax			
	comp=Z,7.0nm,1.0s								
ORV	Oroville	89.39	50	*e*P		P		20 03 55.9	-0.8
	comp=Z,7.1nm,1.0s								
INK	Inuvik	89.44	21	*e*P		P		20 03 54.9	-1.3
INK				pmax		pmax			
	comp=Z,7.0nm,1.1s								
INK	Inuvik	89.44	21	*e*P		P		20 03 54.9	-1.3
	comp=Z,7.2nm,1.1s								
AFDM	Forest Hills D	89.70	51	*e*P		P		20 03 58.5	+0.3
	comp=Z,11nm,0.9s								
OTUK	Ortayu	89.79	319	P		P		20 03 57.7	-0.7
OTUK				pmax		pmax			
	comp=Z,3.0nm,0.8s								
PAGB	Antelope Grade	89.80	54	*e*P		P		20 03 58.1	-0.6
	comp=Z,49nm,1.6s								
CMB	Columbia Colle	90.02	52	*e*P		P		20 04 00.1	+0.4
CMB				pmax		pmax			
	comp=Z,6.0nm,1.0s								
CMB	Columbia Colle	90.02	52	*e*P		P		20 04 00.1	+0.4
	comp=Z,5.8nm,1.0s								
PKM	Mcpherson Peak	90.04	55	P		P		20 04 00.8	+0.8
	baz=262								
CARC	Carrizo Plain	90.07	55	*e*P		P		20 04 00.7	+0.7
KBL	Kabul	90.12	305	*e*P		P		20 03 59.2	-1.2
KBL				pmax		pmax			
	comp=Z,12nm,0.8s								
KBL	Kabul	90.12	305	*e*P		P		20 03 59.2	-1.2
	comp=Z,12nm,0.8s								
J05D	Fort Rock, OR	90.16	47	P		P		20 04 00.4	+0.1
	baz=261								
KK06	Karatay Array	90.20	313	*e*P		P		20 03 59.8	-0.6
KK05	Karatay Array	90.21	313	*e*P		P		20 03 59.6	-0.8
KK02	Karatay Array	90.22	313	*e*P		P		20 03 59.7	-0.8
KK31	Karatay Array	90.22	313	*e*P		P		20 03 59.3	-1.1
KK31	Karatay Array	90.22	313	*e*P		P		20 03 59.3	-1.1
KKAR	Karatay Array	90.22	313	*e*P		P		20 03 59.5	-1.0
KKAR	Karatay Array	90.22	313	*e*P		P		20 03 59.5	-1.0
KK01	Karatay Array	90.22	313	*e*P		P		20 03 59.6	-0.9
KK04	Karatay Array	90.22	313	*e*P		P		20 04 00.2	-0.2
KK07	Karatay Array	90.22	313	*e*P		P		20 03 59.7	-0.8
KK03	Karatay Array	90.22	313	*e*P		P		20 03 59.2	-1.3
KK09	Karatay Array	90.23	313	*e*P		P		20 03 59.9	-0.6
KK08	Karatay Array	90.23	313	*e*P		P		20 03 59.6	-0.9
VES	Vestal, Richgr	90.76	54	P		P		20 04 03.7	+0.6
	baz=262								
CIS	Catalina Islan	90.99	57	P		P		20 04 05.0	+0.7
	baz=263								
MDPB	Devils Postpil	90.99	52	*e*P		P		20 04 05.1	+0.6
	comp=Z,8.8nm,0.9s								
PAHR	Pah Rah Range	91.03	50	*e*P		P		20 04 04.5	0.0
	comp=Z,16nm,1.0s								
ISA	Isabella, Lake	91.23	54	P		P		20 04 05.8	+0.4
	baz=263,SNR=6.7								
ISA	Isabella, Lake	91.23	54	*e*P		P		20 04 05.8	+0.4
ISA				pmax		pmax			
	comp=Z,10.0nm,1.1s								
ISA	Isabella, Lake	91.23	54	*e*P		P		20 04 05.8	+0.4
	comp=Z,10.0nm,1.1s								
PASC	Pasadena Art C	91.28	56	*e*P		P		20 04 06.2	+0.6
	comp=Z,38nm,1.2s								
PAS	Pasadena	91.29	56	P		P		20 04 06.7	+1.1
PAS				pmax		pmax			
	comp=Z,39nm,1.2s								
MWC	Mount Wilson	91.39	56	*e*P		P		20 04 07.2	+0.9
MWC				pmax		pmax			
	comp=Z,63nm,1.2s								
MWC	Mount Wilson	91.39	56	*e*P		P		20 04 07.2	+0.9
	comp=Z,62nm,1.2s								
EDW2	Edwards Air Fo	91.52	55	P		P		20 04 08.0	+1.3
	baz=263								
RYN	Ryan	91.56	51	*e*P		P		20 04 08.0	+1.0
	comp=Z,22nm,1.0s								
CWC	Cottonwood Cre	91.64	54	P		P		20 04 08.4	+1.0
	baz=263								
NV01	Mina Array Sit	91.70	52	*e*P		P		20 04 08.1	+0.4
NVAR	Mina Array Bea	91.70	52	P		P		20 04 08.2	+0.4
	comp=Z,20nm,0.9s,baz=253,slow=6.5,SNR=79								
NVAR				LR		LR		20 43 21.3	
	comp=Z,194nm,18.0s,baz=90,slow=34								
BFSC	Mount Baldy Ra	91.72	56	P		P		20 04 08.6	+0.8
	baz=263								
BVAR	Borovoye Array	91.79	323	P		P		20 04 06.4	-1.1
	comp=Z,7.8nm,0.8s,baz=106,slow=4.8,SNR=39								
BVAR				LR		LR		20 46 13.0	
	comp=Z,94nm,20.0s,baz=94,slow=36								
NV11	Mina Array Sit	91.82	52	*e*P		P		20 04 08.5	+0.4
	comp=Z,1.9nm,1.0s								
LRMC	Laurel Mtn Rad	91.84	55	P		P		20 04 09.5	+1.2
	baz=263,SNR=16								
BRVK	Borovoye	91.86	323	*d i*P		P		20 04 06.4	-1.4
BRVK				pmax		pmax			
	comp=Z,12nm,1.1s								
BRVK	Borovoye	91.86	323	*e*P		P		20 04 05.7	-2.1
	comp=Z,9.5nm,1.0s								
KVN	Kaiserville	91.93	51	*e*P		P		20 04 09.4	+0.6
KVN				pmax		pmax			
	comp=Z,22nm,1.0s								
KVN	Kaiserville	91.93	51	*e*P		P		20 04 09.4	+0.6
	comp=Z,22nm,1.0s								
G08A	Pilot Rock	92.06	45	*e*P		P		20 04 08.7	-0.4
	comp=Z,15nm,1.3s								
MPMC	Manual Prospec	92.07	54	P		P		20 04 10.4	+1.0
	baz=263,SNR=18								
B08A	Colville Reser	92.20	42	*e*P		P		20 04 08.9	-0.7
	comp=Z,32nm,1.5s								
GRAC	Grapevine Rang	92.27	53	P		P		20 04 10.9	+0.8
	baz=264								
RPN	Rapa Nui	92.32	117	LR		LR		20 37 17.8	
	comp=Z,271nm,21.9s,baz=256,slow=30								
BBRC	Big Bear Solar	92.33	56	*e*P		P		20 04 11.0	+0.2
GSC	Goldstone, Bar	92.54	55	P		P		20 04 12.4	+0.9
	baz=264,SNR=5.8								
GSC	Goldstone, Bar	92.54	55	*e*P		P		20 04 12.1	+0.6
GSC				pmax		pmax			
	comp=Z,10.0nm,0.9s								
GSC	Goldstone, Bar	92.54	55	*e*P		P		20 04 12.1	+0.6
	comp=Z,10nm,0.9s								
MONP2	Monument Peak	92.59	57	P		P		20 04 12.9	+0.9
	baz=264,SNR=5.3								
SYO	Syowa Base	92.61	199	*e*P		P		20 04 09.0	-2.0
FURC	Furnace Creek,	92.62	54	P		P		20 04 13.0	+1.3
	baz=264								
PFO	Pinyon Flats O	92.64	57	P		P		20 04 12.8	+0.8
	baz=264,SNR=6.0								
PFO	Pinyon Flats O	92.64	57	*e*P		P		20 04 12.0	-0.1
PFO				pmax		pmax			
	comp=Z,16nm,1.1s								
PFO	Pinyon Flats O	92.64	57	*e*P		P		20 04 12.0	-0.1
	comp=Z,16nm,1.1s								
XPFO	Piæon Flat	92.64	57	*e*P		P		20 04 12.2	+0.2
	comp=Z,16nm,1.1s								
BMN	Battle Mountai	92.76	50	*e*P		P		20 04 13.0	+0.5
BMN				pmax		pmax			
	comp=Z,17nm,1.1s								
BMN	Battle Mountai	92.76	50	*e*P		P		20 04 13.0	+0.5
	comp=Z,17nm,1.1s								
HEC	Hector Ludlow	92.87	55	P		P		20 04 14.0	+1.0
	baz=264,SNR=15								
SHOC	Shoshone, Teco	93.03	54	P		P		20 04 14.4	+0.8
	baz=264,SNR=6.4								
BELC	Belle Mtn. Jos	93.06	56	P		P		20 04 14.7	+0.7
	baz=264,SNR=19								
BMO	Blue Mountains	93.17	45	*e*P		P		20 04 13.6	-0.6
BMO				pmax		pmax			
	comp=Z,19nm,1.6s								
BMO	Blue Mountains	93.17	45	*e*P		P		20 04 13.6	-0.6
	comp=Z,18nm,1.6s								
TUQ	Turquoise Moun	93.27	55	P		P		20 04 15.7	+0.7
	baz=264,SNR=8.9								
GMRC	Granite Mounta	93.42	56	P		P		20 04 16.4	+0.7
	baz=264,SNR=16								
BC3	Big Chuckawall	93.48	57	P		P		20 04 17.0	+1.1
	baz=264,SNR=7.2								
NEW	Newport	93.65	42	P		P		20 04 15.8	-0.5
	comp=Z,5.1nm,0.8s,baz=268,slow=3.0,SNR=7.1								
NEW				LR		LR		20 39 17.6	
	comp=Z,768nm,21.4s,baz=263,slow=31								
NEW	Newport	93.65	42	P		P		20 04 16.2	-0.1
	baz=264								
NEW	Newport	93.65	42	*e*P		P		20 04 15.1	-1.2
NEW				pmax		pmax			
	comp=Z,13nm,1.3s								
NEW	Newport	93.65	42	*e*P		P		20 04 15.1	-1.2
	comp=Z,13nm,1.3s								
IRM	Iron Mountain	93.78	56	P		P		20 04 17.9	+0.7
	baz=265,SNR=26								
R11A	Troy Canyon, C	93.82	52	P		P		20 04 17.8	+0.4
	baz=265								
R11A	Troy Canyon, C	93.82	52	*e*P		P		20 04 17.5	0.0
	comp=Z,14nm,1.0s								
SHPR	Sheep Range	93.98	54	*e*P		P		20 04 18.9	+0.7
	comp=Z,18nm,1.0s								
PDMCI	Parker Dam,Lak	94.62	56	P		P		20 04 21.9	+1.0
	baz=265								
W13A	Hualapai Mount	94.90	55	*e*P		P		20 04 23.5	+1.0
	comp=Z,12nm,1.0s								
HLID	Hailey	95.13	47	P		P		20 04 23.4	0.0
	baz=266								
CCUT	Cedar City	95.50	53	*e*P		P		20 04 26.3	+1.0
	comp=Z,7.2nm,1.0s								
LCMT	Little Creek M	95.56	53	*e*P		P		20 04 26.4	+1.0
	comp=Z,11nm,1.2s								
WALA	Waterton Lakes	95.84	41	*e*P		P		20 04 26.1	-0.2
	comp=Z,10nm,1.1s								
KNB	Kanab	95.90	54	*e*P		P		20 04 28.0	+1.0
KNB				pmax		pmax			
	comp=Z,16nm,1.2s								
KNB	Kanab	95.90	54	*e*P		P		20 04 27.9	+1.0
	comp=Z,16nm,1.2s								
YKA	Yellowknife Ar	96.11	28	P		P		20 04 26.9	-0.2
	comp=Z,6.6nm,0.9s,baz=266,slow=4.6,SNR=50								
YKA				PKKPbc		PKKPbc		20 21 11.7	-5.2
	comp=Z,0.3nm,0.6s,baz=88,slow=2.7,SNR=6.0								
YKB5	Yellowknife Ar	96.11	28	*e*P		P		20 04 26.9	-0.2
YKB5				*e*PKKPbc		PKKPbc		20 21 11.7	-5.2
HVU	Hansel Valley	96.22	49	*e*P		P		20 04 26.2	-2.2
HVU				pmax		pmax			
	comp=Z,5.0nm,0.9s								
HVU	Hansel Valley	96.22	49	*e*P		P		20 04 26.1	-2.2
	comp=Z,5.4nm,0.9s								
U15A	North Rim	96.28	54	*e*P		P		20 04 29.4	+0.5
	comp=Z,11nm,1.0s								
PKCU	Pink Cliffs	96.33	53	*e*P		P		20 04 29.5	+0.4
	comp=Z,37nm,1.8s								
EDM	Edmonton	96.39	37	*e*P		P		20 04 28.3	-0.4
EDM				pmax		pmax			
	comp=Z,20nm,1.0s								
EDM	Edmonton	96.39	37	*e*P		P		20 04 28.2	-0.4
	comp=Z,20nm,1.0s								
MTPU	Mount Pierson	96.47	53	*e*P		P		20 04 30.1	+0.3
	comp=Z,12nm,1.0s								
NLU	North Lily Min	96.66	51	*e*P		P		20 04 30.4	0.0
	comp=Z,12nm,1.5s								
WUAZ	Wupatki	96.98	55	P		P		20 04 32.9	+1.0
	baz=267								
WUAZ	Wupatki	96.98	55	*e*P		P		20 04 32.3	+0.4
	comp=Z,4.3nm,0.9s								
HWUT	Hardware Ranch	97.12	49	*e*P		Pdif		20 04 32.1	-0.4
LPIG	La Paz	97.20	67	LR		LR		20 42 23.2	
	comp=Z,414nm,19.6s,baz=228,slow=32								
TMUT	Trail Mountain	97.29	51	*e*P		Pdif		20 04 33.4	-0.1
	comp=Z,9.6nm,1.1s								
WSAR	Wadi Sarin	98.12	292	P		Pdif		20 04 36.9	-0.2
	comp=Z,5.4nm,0.9s,baz=94,slow=3.5,SNR=4.9								
W18A	Petrified Fore	98.30	56	*e*P		Pdif		20 04 37.8	-0.1
	comp=Z,5.2nm,0.9s								
PD31	Pinedale Array	98.65	48	*e*P		P		20 04 37.2	-2.1
PDAR	Pinedale Array	98.65	48	P		P		20 04 38.2	-1.1
	comp=Z,2.4nm,0.9s,baz=236,slow=1.6,SNR=13								
PDAR				PKKP		PKKPdf		20 21 12.1	-0.8
	comp=Z,0.2nm,0.6s,baz=64,slow=4.1,SNR=3.6								
PDAR				LR		LR		20 45 33.5	
	comp=Z,251nm,18.9s,baz=296,slow=33								
PDAR	Pinedale Array	98.65	48	*e*P		P		20 04 37.5	-1.9
PDAR				PKKP		PKKPdf		20 21 12.1	-0.8
ARU	Arti	98.84	326	P		P		20 04 37.3	-2.3
	comp=Z,0.8nm,0.3s,baz=40,slow=4.0,SNR=3.6								
ARU				LR		LR		20 48 49.6	
	comp=Z,180nm,21.9s,baz=155,slow=35								
ARU	Arti	98.84	326	*i* P		P		20 04 37.0	-2.5
ARU				pmax		pmax			
	comp=Z,3.0nm,0.9s								
GEYT	Alibeck	99.19	307	P		Pdif		20 04 41.1	-0.6
	comp=Z,2.9nm,1.0s,baz=215,slow=1.8,SNR=7.6								
GEYT				LR		LR		20 50 47.5	
	comp=Z,119nm,21.6s,baz=175,slow=36								
AKTO	Aktyubinsk	99.29	320	LR		LR		20 52 10.2	
	comp=Z,82nm,18.4s,baz=86,slow=37								
O20A	White River Ci	99.60	51	P		Pdif		20 04 43.7	+0.1
	baz=270								
UOSS	Minazif	100.42	294	*e*Pdif		Pdif		20 04 46.0	-1.3
SMCO	Snowmass	100.58	51	*e*Pdif		Pdif		20 04 48.7	+0.4
S22A	4UR Ranch, Cre	100.69	53	P		Pdif		20 04 49.6	+1.0
	baz=270								
N23A	Red Feather La	101.35	50	P		Pdif		20 04 52.3	+0.8
	baz=271								
N23A	Red Feather La	101.35	50	*e*Pdif		Pdif		20 04 52.5	+1.0
LTX	Lajitas	103.33	62	*e*PP		PP		20 09 17.6	+1.2
LTX				*e*PKKPbc		PKKPbc		20 20 56.2	+0.9
TXAR	Lajitas Array	103.33	62	PP		PP		20 09 17.6	+1.2
	comp=Z,0.4nm,0.8s,baz=280,slow=6.3,SNR=3.9								
TXAR				PKKPbc		PKKPbc		20 20 56.2	+0.9
	comp=Z,0.5nm,0.7s,baz=100,slow=5.5,SNR=4.9								
ZAIG	Zacatecas	104.24	68	*e*Pdif		Pdif		20 05 01.9	-2.8
APA	Apatity	107.65	340	*i* P		Pdif		20 05 27.7	+9.2
KLMR	Klimovskoe	107.83	332	*e*P		Pdif		20 05 15.3	-4.1
KLMR				pmax		pmax			
	comp=Z,12nm,1.5s								
KLMR	Klimovskoe	107.83	332	*e*Pdif		Pdif		20 05 15.4	-4.0
KLMR				AMP				20 05 22.7	
	comp=Z,12nm,1.5s								
KLMR				LQ		LQ		20 46 00.7	
KLMR				LQ		LQ		20 46 00.7	
KLMR				LR		LR		20 53 13.6	
KIV	Kislovodsk	110.34	314	*i* PKIKP		PKiKP		20 09 30.7	-1.3
KIV				pmax		pmax			
	comp=Z,5.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,75nm,21.0s								
P38A	Dawn	110.91	50	P		PKiKP		20 09 32.2	-0.9
	baz=279								
S39A	Bolivar	111.37	52	P		PKiKP		20 09 33.0	-1.1
	baz=278								
T39A	Clever	111.42	53	P		PKiKP		20 09 33.1	-1.1
	baz=278								
U39A	Green Forest	111.43	54	P		PKiKP		20 09 33.1	-1.1
	baz=278								
R39A	Chumby, Stover	111.50	51	P		PKiKP		20 09 33.3	-0.9
	baz=279								
U40A	Neville	111.93	54	P		PKiKP		20 09 34.1	-1.0
	baz=278								
V40A	Witts Springs	112.03	54	P		PKiKP		20 09 34.5	-0.9
	baz=278								
P40A	Paris	112.06	50	P		PKiKP		20 09 34.5	-0.8
	baz=280								
T40A	Mansfield	112.08	53	P		PKiKP		20 09 34.5	-0.9
	baz=279								
Q41A	Truxton	112.79	51	P		PKiKP		20 09 35.9	-0.8
	baz=280								
R41A	Rosebud	112.79	51	P		PKiKP		20 09 35.8	-0.9
	baz=280								
V42A	Cord	113.19	54	P		PKiKP		20 09 36.4	-1.2
	baz=279								
P42A	Winchester	113.35	50	P		PKiKP		20 09 37.0	-0.7
	baz=281								
Q45A	Warren Harvey,	115.15	50	P		PKPdf		20 09 40.7	-0.5
	baz=282								
T46A	Princeton	115.74	52	P		PKPdf		20 09 41.6	-0.8
	baz=282								
V47A	Nunnelly	116.28	53	P		PKPdf		20 09 42.3	-1.2
	baz=282								
T47A	Sharon Grove	116.37	52	P		PKPdf		20 09 42.8	-0.8
	baz=282								
R47A	Wooly Knot Far	116.53	50	P		PKPdf		20 09 43.0	-0.9
	baz=283								
V48A	Smith Brothers	116.85	53	P		PKPdf		20 09 43.4	-1.2
	baz=282								
T48A	Bowling Green	116.90	52	P		PKPdf		20 09 43.6	-1.0
	baz=283								
AKASG	Malin Array Be	117.03	324	PKP		PKPdf		20 09 44.4	0.0
	comp=Z,0.6nm,0.6s,baz=64,slow=2.2,SNR=5.4								
AKASG				PKKPbc		PKKPbc		20 20 08.6	-2.8
	comp=Z,0.2nm,0.3s,baz=263,slow=3.6,SNR=7.3								
AKBB	Malin Array Si	117.03	324	*e*PKIKP		PKPdf		20 09 44.4	0.0
AKBB	Malin Array Si	117.03	324	*e*PKPdf		PKPdf		20 09 44.4	0.0
AKBB				*e*PKKPbc		PKKPbc		20 20 08.6	-2.8
S48A	Wiedeman Farm,	117.04	51	P		PKPdf		20 09 44.0	-0.8
	baz=283								
KMBO	Kilima Mbogo	117.10	265	PKP		PKPdf		20 09 46.6	+0.7
	comp=Z,4.2nm,0.9s,baz=43,slow=3.1,SNR=10								
KMBO	Kilima Mbogo	117.10	265	*e*PKIKP		PKPdf		20 09 45.6	-0.4
KMBO	Kilima Mbogo	117.10	265	*e*PKPdf		PKPdf		20 09 45.6	-0.4
LRAL	Lakeview Retre	117.23	56	P		PKPdf		20 09 44.4	-0.9
	baz=280								
X49A	Woodville	117.50	55	P		PKPdf		20 09 44.8	-1.1
	baz=282								
Z49A	Columbiana	117.58	56	P		PKPdf		20 09 44.8	-1.2
	baz=281								
BR101	Keskin Array S	117.89	312	*e*PKPdf		PKPdf		20 09 46.1	-0.5
BR101				*e*PP		PP		20 10 53.6	-7.3
BR101				*e*PKKPbc		PKKPbc		20 20 07.7	-0.6
BRTR	Keskin Array B	117.89	312	PKP		PKPdf		20 09 46.1	-0.5
	comp=Z,1.9nm,1.0s,baz=134,slow=5.3,SNR=6.1								
BRTR				PP		PP		20 10 53.6	-7.3
	comp=Z,1.2nm,1.0s,baz=146,slow=8.2,SNR=2.9								
BRTR				PKKPbc		PKKPbc		20 20 07.7	-0.6
	comp=Z,1.2nm,0.8s,baz=228,slow=3.1,SNR=6.0								
150A	Eclectic	118.11	57	P		PKPdf		20 09 46.2	-0.9
	baz=281								
BR231	Keskin MP Arra	118.50	312	*e*PKPdf		PKPdf		20 09 46.2	-1.6
ACSO	Alum Creek Sta	118.68	48	P		PKPdf		20 09 47.2	-0.7
	baz=287								
151A	Opelika	118.71	57	P		PKPdf		20 09 47.3	-0.9
	baz=281								
251A	Midway	118.72	57	P		PKPdf		20 09 47.2	-1.1
	baz=281								
HFS	Hagfors	119.01	339	PKP		PKPdf		20 09 47.1	-0.9
	comp=Z,2.3nm,0.8s,baz=332,slow=8.2,SNR=3.4								
EIL	Elat	119.02	300	PKP		PKPdf		20 09 49.0	+0.1
	comp=Z,4.7nm,1.0s,baz=81,slow=5.6,SNR=3.6								
NB2	NORSAR Subarra	119.21	341	PKPdf		PKPdf		20 09 47.3	-1.1
	comp=Z,2.4nm,0.8s,baz=42,slow=1.7								
NB200	NORSAR Array S	119.21	341	*e*PKPdf		PKPdf		20 09 47.9	-0.5
NOA	NORSAR Array B	119.21	341	PKP		PKPdf		20 09 47.9	-0.5
	comp=Z,1.5nm,0.7s,baz=43,slow=1.8,SNR=6.4								
TZTN	Tazewell	119.25	52	P		PKPdf		20 09 48.3	-0.9
	baz=285								
TKL	Tuckaleechee C	119.29	53	PKP		PKPdf		20 09 48.6	-0.7
	comp=Z,10nm,0.8s,baz=144,slow=3.4,SNR=8.7								
TKL	Tuckaleechee C	119.29	53	*e*PKIKP		PKPdf		20 09 48.2	-1.1
TKL	Tuckaleechee C	119.29	53	*e*PKPdf		PKPdf		20 09 48.2	-1.1
GOGA	Godfrey	120.05	55	P		PKPdf		20 09 49.8	-0.9
	baz=283								
254A	Abbeville	120.51	57	P		PKPdf		20 09 50.7	-1.0
	baz=282								
155A	Kite	121.05	56	P		PKPdf		20 09 51.8	-0.9
	baz=283								
KMSC	Kings Mountain	121.35	53	P		PKPdf		20 09 52.2	-1.1
	baz=285								
KMSC	Kings Mountain	121.35	53	*e*PKPdf		PKPdf		20 09 51.9	-1.4
BLA	Blacksburg	121.48	50	P		PKPdf		20 09 52.7	-0.7
	baz=287								
BLA	Blacksburg	121.48	50	*e*PKIKP		PKPdf		20 09 52.8	-0.7
BLA	Blacksburg	121.48	50	*e*PKPdf		PKPdf		20 09 52.8	-0.7
O56A	Blue Knob Stat	121.87	46	P		PKPdf		20 09 53.5	-0.7
	baz=290								
O56A	Blue Knob Stat	121.87	46	*e*PKPdf		PKPdf		20 09 53.3	-0.9
ALFO	Alfred	122.22	39	P		PKPdf		20 09 53.6	-0.9
	baz=297								
SSPA	Standing Stone	122.23	46	P		PKPdf		20 09 54.1	-0.7
	baz=291								
SSPA	Standing Stone	122.23	46	*e*PKPdf		PKPdf		20 09 54.1	-0.7
LSZ	Lusaka	122.72	247	*e*PKIKP		PKPdf		20 09 56.9	+0.3
LSZ	Lusaka	122.72	247	*e*PKPdf		PKPdf		20 09 56.9	+0.3
MVL	Millersville	123.56	46	*e*PKPdf		PKPdf		20 09 56.6	-0.7
N59A	State Game Lan	123.61	45	P		PKPdf		20 09 56.6	-0.9
	baz=293								
PSUB	Penn St. - Bra	124.22	46	*e*PKPdf		PKPdf		20 09 56.6	-2.0
DPC	Dobruska-Polom	124.28	329	*e*PKIKP		PKPdf		20 09 58.4	-0.1
DPC	Dobruska-Polom	124.28	329	*e*PKPdf		PKPdf		20 09 58.4	-0.1
BRG	Berggiesshubel	125.14	331	*e*PKIKP		PKPdf		20 09 59.5	-0.5
BRG				pmax		pmax			
	comp=Z,1.0nm,1.2s		

comp=Z,6.3nm,0.9s,baz=41,slow=1.8,SNR=26
TORD PKPbc **PKiKP** **20 10 57.0 -0.4**
comp=Z,34nm,0.8s,baz=64,slow=2.3,SNR=64
TORD PP **PP** **20 14 39.8 -1.1**
comp=Z,1.8nm,0.8s,baz=62,slow=4.6,SNR=3.8
TOA1 Torodi Ar. Sit 152.63 286 *e*PKPdf **PKPdf** **20 10 49.6 -0.5**
TOA1 *e*PKPbc **PKiKP** **20 10 57.0 -0.4**
TOA1 *e*PP **PP** **20 14 39.8 -1.1**
KOWA Kowa 157.66 292 PKPab **PKPab** **20 11 29.7 +0.3**
comp=Z,27nm,0.8s,baz=43,slow=5.6,SNR=30
KOWA Kowa 157.66 292 *e*PKPdf **PKPdf** **20 10 56.0 -1.0**
KOWA *e*PKPab **PKPab** **20 11 29.7 +0.3**
KIC Kosan Boka 159.56 271 *e*P **PKPab** **20 11 37.5 -0.3**
comp=Z,36nm,0.9s
DBIC Dimbokro 159.69 271 PKP **PKPdf** **20 10 59.5 0.0**
comp=Z,11nm,1.1s,baz=0.0,slow=0.0,SNR=3.4
DBIC PKPab **PKPab** **20 11 38.5 +0.3**
comp=Z,9.2nm,0.8s,baz=103,slow=5.7,SNR=6.4
LIC Lamto 159.84 270 *e*P **PKPab** **20 11 39.5 +0.5**
comp=Z,50nm,1.0s
TIC Toumodi 159.85 271 *e*P **PKPab** **20 11 38.5 -0.5**
BBTS Babate 168.22 314 PKP **PKPdf** **20 11 08.2 +1.0**
comp=Z,32nm,0.9s,baz=251,slow=2.1,SNR=4.8

ROM 30 19:54:09.1±0.1, 34°66N×13°63E, h10km, MI3.9/25, Error ellipse: s-maj=7.6km s-min=0.0km az=98.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDC	**Modica**	**2.48**	**22**	Pn	Pn	19 54 49.6	+0.1
	570nm,0.7s						
HAVL	**Avola**	**2.60**	**28**	Pn	Pn	19 54 51.6	+0.4
	368nm,0.4s						
FAVR	**Favara**	**2.60**	**1**	Pn	Pn	19 54 53.4	+2.2
RAFF	**Raffo Rosso**	**2.62**	**13**	Pn	Pn	19 54 51.5	0.0
	791nm,0.8s						
MEU	**Monte Lauro**	**2.65**	**23**	Pn	Pn	19 54 51.8	-0.2
	149nm,0.2s						
HVZN	**Vizzini**	**2.66**	**19**	Pn	Pn	19 54 52.8	+0.7
	703nm,0.6s						
SSY	**Sortino**	**2.75**	**25**	Pn	Pn	19 54 54.3	+1.0
	578nm,0.5s						
HCRL	**Carlentini**	**2.85**	**23**	Pn	Pn	19 54 55.0	+0.3
	783nm,0.6s						
HLNI	**Lentini**	**2.86**	**20**	Pn	Pn	19 54 54.4	-0.4
	349nm,0.6s						
HAGA	**Augusta**	**2.90**	**25**	Pn	Pn	19 54 55.7	+0.4
RESU	**Resuttano**	**3.00**	**7**	Pn	Pn	19 54 59.3	+2.6
CAGR	**Agira**	**3.04**	**13**	Pn	Pn	19 54 59.3	+2.1
MMGO	**Monte Magaggia**	**3.04**	**350**	Pn	Pn	19 54 56.8	-0.5
	34nm,0.4s						
ECNV	**Catenanuova**	**3.06**	**16**	Pn	Pn	19 54 58.4	+0.9
	441nm,0.7s						
ALJA	**Alia**	**3.08**	**2**	Pn	Pn	19 54 59.1	+1.2
	164nm,0.9s						
GALF	**Gagliano Caste**	**3.13**	**14**	Pn	Pn	19 54 59.6	+1.0
	266nm,0.6s						
CRJA	**Costa Raja**	**3.17**	**351**	Pn	Pn	19 54 59.5	+0.4
	174nm,0.5s						
CORL	**Corleone**	**3.23**	**355**	Pn	Pn	19 55 00.5	+0.5
MTGR	**Montagna Grand**	**3.30**	**348**	Pn	Pn	19 55 01.2	+0.3
	14nm,0.4s						
GIB	**Gibilmanna**	**3.33**	**5**	Pn	Pn	19 55 02.5	+1.1
	490nm,0.7s						
PLLN	**Pollina**	**3.35**	**7**	Pn	Pn	19 55 02.4	+0.8
	356nm,0.6s						
SOLUN	**Solunto**	**3.42**	**359**	Pn	Pn	19 55 02.7	+0.2
	88nm,0.7s						
MSFR	**San Fratello**	**3.45**	**13**	Pn	Pn	19 55 03.9	+0.9
	192nm,1.3s						
MPG	**Monte Pellegri**	**3.50**	**357**	Pn	Pn	19 55 04.5	+0.9
	28nm,0.4s						
MMME	**Mongiuffi-Meli**	**3.52**	**21**	Pn	Pn	19 55 04.9	+1.0
	169nm,0.8s						
MUCR	**Ucria**	**3.52**	**16**	Pn	Pn	19 55 05.2	+1.2
	171nm,0.6s						
NOV	**Novara**	**3.57**	**20**	Pn	Pn	19 55 05.4	+0.8
	120nm,0.5s						
MCSR	**Castroreale**	**3.64**	**21**	Pn	Pn	19 55 06.0	+0.4
	176nm,0.4s						
MPNC	**Port Mandanici**	**3.74**	**21**	Pn	Pn	19 55 08.3	+1.4
	254nm,0.7s						
MILZ	**Milazzo**	**3.83**	**19**	Pn	Pn	19 55 08.7	+0.7
	176nm,0.8s						
VPL	**Vulcano Piano**	**3.87**	**16**	Pn	Pn	19 55 09.0	+0.4
	437nm,0.6s						
MSRU	**Castanea**	**3.90**	**22**	Pn	Pn	19 55 09.8	+0.7
	182nm,0.9s						
IACL	**Alicudi**	**3.91**	**8**	Pn	Pn	19 55 09.2	0.0
	193nm,0.7s						
LLI	**Lipari**	**3.92**	**15**	Pn	Pn	19 55 10.2	+0.8
	495nm,0.7s						
SOI	**Samo**	**3.93**	**29**	Pn	Pn	19 55 10.8	+1.4
	204µm,59.0s						
MSCL	**Scilla**	**3.97**	**25**	Pn	Pn	19 55 11.5	+1.4
	140nm,0.6s						
VSL	**Villasalto**	**5.90**	**326**	Pn	Pn	19 55 38.3	+1.7
	17nm,1.1s						

*IDC **30** 20:00:25.5±0.5, 10°72N×84°57W, h112km±6km, mb3.8/16, mb1 4.0/18, mb1mx3.9/44, mbtmp4.2/18, Error ellipse: s-maj=19.2km s-min=12.6km az=71.0*
*ISCJB **30** 20:00:26.0±0.2, 10°46N±0°03×84°79W±0°03, h134km±1km, mb4.6/90, Error ellipse: s-maj=6.6km s-min=2.7km az=35.7*
*CASC **30** 20:00:27.3±1.4, 10°53N×84°77W, h123km±3km, MD3.9, ML3.0, mb4.8(NEIC)*
*NEIC **30** 20:00:27.3±0.4, 10°52N×84°74W, mb4.8/86, Error ellipse: s-maj=7.7km s-min=4.9km az=203.0*
NEIC Felt at Santa Cruz.
ISC 30 20:00:26.9±0.5, 10°53N±0°05×84°75W±0°05, h125km±3km, h125km:pP-P, n331, ↓1↑26/358, mb4.7/90, 19C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACM	**Arenal**	**0.05**	**204**	↓*i*P	**Pn**	**20 00 47.0**	**+3.0**
CEDE	**Laguna Cede˜–o**	**0.06**	**132**	↑*i*P	**Pn**	**20 00 44.4**	**+0.4**
CEDE				*e*S	**Sn**	**20 00 57.5**	**+0.6**
FORC	**Fortuna**	**0.10**	**128**	↑*i*P	**Pn**	**20 00 44.4**	**+0.4**
FORC				*e*S	**Sn**	**20 00 57.5**	**+0.7**
AMAS	**Alto Masis**	**0.26**	**289**	↑*i*P	**Pn**	**20 00 44.6**	**+0.3**
AMAS				*e*S	**Sn**	**20 00 58.6**	**+1.1**
PTEN	**Parque Tenorio**	**0.30**	**309**	↑*i*P	**Pn**	**20 00 45.1**	**+0.6**
JTS	**JuntasAbangare**	**0.31**	**221**	P	**Pn**	**20 00 44.3**	**-0.2**
	3µm,0.3s,baz=143,slow=6.6,SNR=7257						
JTS				S	**Sn**	**20 00 57.2**	**-0.5**
	5µm,0.3s,baz=9.0,slow=19,SNR=37						
JTS	**JuntasAbangare**	**0.31**	**221**	*e*P	**Pn**	**20 00 44.3**	**-0.2**
CUI	**Cuipilapa**	**0.43**	**288**	*e*P	**Pn**	**20 00 45.5**	**+0.5**
CUI				*e*S	**Sn**	**20 00 59.4**	**+0.7**
HORNC	**Hornillas**	**0.46**	**294**	↑*i*P	**Pn**	**20 00 45.7**	**+0.4**
COLC	**Colonia**	**0.47**	**287**	↑*i*P	**Pn**	**20 00 45.7**	**+0.4**
MICM	**Guayabo**	**0.48**	**291**	*i* P	**Pn**	**20 00 45.9**	**+0.6**
MESS	**Mesas**	**0.49**	**296**	↑*i*P	**Pn**	**20 00 46.0**	**+0.6**
GUAB	**Guayabo de Bag**	**0.51**	**291**	↑*i*P	**Pn**	**20 00 45.9**	**+0.5**
SRA1	**San Ram˜‡n**	**0.51**	**149**	↑*e*P	**Pn**	**20 00 45.4**	**-0.2**
SRA1				*e*S	**Sn**	**20 01 00.0**	**+0.3**
LIM1	**Limonal**	**0.52**	**289**	↑*i*P	**Pn**	**20 00 46.0**	**+0.4**
CGA2	**Cerro Gallo 2**	**0.58**	**151**	*e*P	**Pn**	**20 00 46.0**	**-0.1**
PLVR	**Palo Verde**	**0.62**	**253**	*e*P	**Pn**	**20 00 45.5**	**-0.8**
PLVR				*e*S	**Sn**	**20 01 00.3**	**-0.7**
GPS2	**Hotel Rinc˜‡n**	**0.64**	**291**	↑*i*P	**Pn**	**20 00 46.7**	**+0.4**
GPS1	**Guardaparques**	**0.64**	**293**	↑*i*P	**Pn**	**20 00 46.8**	**+0.4**
GPS3	**Bodega del ICE**	**0.65**	**291**	↑*i*P	**Pn**	**20 00 46.8**	**+0.4**
BUAI	**Buenos Aires**	**0.67**	**301**	↑*i*P	**Pn**	**20 00 47.1**	**+0.6**
BUEV	**Buena Vista**	**0.70**	**293**	↑*i*P	**Pn**	**20 00 47.3**	**+0.4**
GB1A	**Borinquen Arri**	**0.70**	**294**	↑*i*P	**Pn**	**20 00 47.4**	**+0.6**
GB1A				*e*P	**Pn**	**20 00 47.5**	**+0.6**
GB1A				*e*S	**Sn**	**20 01 03.3**	**+1.4**
GBS3	**Finca Las Im˜¡**	**0.74**	**290**	↑*i*P	**Pn**	**20 00 47.2**	**+0.2**
NY14	**Universidad de**	**0.78**	**279**	↑*i*P	**Pn**	**20 00 47.9**	**+0.6**
HDC	**Heredia**	**0.81**	**130**	*e*Pn	**Pn**	**20 00 48.1**	**+0.3**
HDC				*e*Sn	**Sn**	**20 01 03.6**	**0.0**
SJS	**Escuela Geolog**	**0.90**	**130**	*e*P	**Pn**	**20 00 49.0**	**+0.5**
SJS				*e*S	**Sn**	**20 01 05.3**	**+0.4**
CRZ1	**La Cruz**	**1.03**	**302**	*e*P	**Pn**	**20 00 50.1**	**+0.5**
LCR2	**La Lucha 2**	**1.07**	**137**	*e*P	**Pn**	**20 00 50.6**	**+0.3**
CVTR	**Volcan Turrial**	**1.10**	**117**	*e*P	**Pn**	**20 00 52.0**	**+1.3**
CVTR				*e*S	**Sn**	**20 01 08.0**	**-0.7**
URSC	**Urasca**	**1.18**	**126**	↑*i*P	**Pn**	**20 00 52.0**	**+0.7**
BUS	**Buena Vista**	**1.37**	**135**	*e*P	**Pn**	**20 00 54.2**	**+0.6**
ACON	**Acoyapa**	**1.49**	**344**	‖*e*P	**Pn**	**20 00 55.2**	**+0.6**
EDDO	**Dominical**	**1.54**	**145**	*e*P	**Pn**	**20 00 56.2**	**+1.1**
EDLM	**Las Mercedes**	**1.69**	**137**	*e*P	**Pn**	**20 00 55.8**	**-1.1**
EDLM				*e*S	**Sn**	**20 01 21.6**	**+1.9**
ESPN	**Las Esperanzas**	**1.71**	**15**	*e*P	**Pn**	**20 00 57.6**	**+0.4**
EDBA	**Buenos Aires**	**1.99**	**133**	*e*P	**Pn**	**20 01 01.7**	**+1.2**
EDBA				*e*S	**Sn**	**20 01 26.8**	**+0.7**
EDPN	**Palmar Norte**	**2.01**	**141**	*e*P	**Pn**	**20 01 02.1**	**+1.4**
EDPN				*e*S	**Sn**	**20 01 27.7**	**+1.1**
MGAN	**Managua**	**2.18**	**318**	*e*P	**Pn**	**20 01 03.3**	**+0.5**
MGAN				*e*S	**Sn**	**20 01 30.8**	**+0.4**
MGAN				AML	AML	20 01 37.2	
	comp=N,114nm,0.2s						
APYN	**Apoyeque**	**2.31**	**317**	*e*P	**Pn**	**20 01 05.0**	**+0.5**
COPN	**Copaltepe**	**2.44**	**312**	*e*P	**Pn**	**20 01 06.7**	**+0.5**
COPN				*e*S	**Sn**	**20 01 36.9**	**+0.5**
MOMN	**Momotombo**	**2.57**	**317**	*e*P	**Pn**	**20 01 08.2**	**+0.5**
MOMN				*e*S	**Sn**	**20 01 40.5**	**+1.3**
MATN	**Matagalpa**	**2.65**	**334**	*e*P	**Pn**	**20 01 09.7**	**+0.8**
BRU2	**Volcan**	**2.66**	**130**	*e*P	**Pn**	**20 01 10.2**	**+1.1**
CNGN	**Cerro Negro**	**2.74**	**316**	*e*P	**Pn**	**20 01 11.0**	**+1.1**
CNGN				*e*P	**Pn**	**20 01 11.1**	**+1.1**
CNGN				*e*S	**Sn**	**20 01 44.6**	**+1.4**
CRIN	**San Cristobal**	**3.12**	**314**	*e*P	**Pn**	**20 01 16.2**	**+1.2**
CRIN				*e*S	**Sn**	**20 01 53.1**	**+0.9**
LCND	**La Ca˜–ada**	**4.13**	**312**	*e*P	**Pn**	**20 01 30.1**	**+1.7**
LCND				*e*S	**Sn**	**20 02 16.8**	**+0.8**
TGUH	**Tegucigalpa,Un**	**4.29**	**325**	*e*Pn	**Pn**	**20 01 32.4**	**+2.1**
TECA	**Tecapa**	**4.71**	**309**	*e*P	**Pn**	**20 01 37.5**	**+1.3**
TECA				*e*S	**Sn**	**20 02 31.0**	**+0.9**
BCIP	**Isla Barro Col**	**5.02**	**105**	*e*Pn	**Pn**	**20 01 41.0**	**+0.8**
LFRS	**El Faro**	**5.22**	**307**	*e*P	**Pn**	**20 01 44.0**	**+1.0**
LFRS				*e*S	**Sn**	**20 02 42.4**	**+0.1**
SNET	**Serv Nac Est T**	**5.39**	**306**	*e*Pn	**Pn**	**20 01 47.8**	**+2.5**
BOQS	**Boqueron**	**5.46**	**306**	*e*P	**Pn**	**20 01 47.9**	**+1.7**
SBLS	**San Blas**	**5.79**	**305**	*e*P	**Pn**	**20 01 52.5**	**+1.7**
IXG	**Ixpaco**	**6.65**	**304**	*e*P	**Pn**	**20 02 03.9**	**+1.6**
APG	**El Apazote**	**7.13**	**309**	P	**Pn**	**20 02 11.5**	**+2.7**
	comp=N,1.6nm,0.3s,baz=129,slow=5.6,SNR=22						
WBCY	**West Bay, Gran**	**9.37**	**20**	*e*Pn	**Pn**	**20 02 40.2**	**+1.3**
FSCY	**Frank Sound, G**	**9.39**	**21**	*e*Pn	**Pn**	**20 02 39.7**	**+0.7**
HELC	**Santa Helena**	**10.09**	**115**	*e*Pn	**Pn**	**20 02 51.1**	**+2.2**
LCCY	**Blossom Villag**	**10.14**	**26**	*e*Pn	**Pn**	**20 02 51.9**	**+2.7**
CBCY	**The Bluff, Cay**	**10.35**	**27**	*e*Pn	**Pn**	**20 02 53.7**	**+1.8**
MTDJ	**Mount Denham**	**10.36**	**42**	*e*Pn	**Pn**	**20 02 55.2**	**+3.0**
CMIG	**Matias Romero**	**11.81**	**305**	P	**Pn**	**20 03 11.9**	**+0.5**
	comp=N,9.6nm,0.3s,baz=137,slow=10,SNR=34						
CMIG				S	**Sn**	**20 05 18.3**	**-3.3**
	comp=N,0.8nm,0.3s,baz=0.0,slow=19,SNR=3.6						
RUSC	**La Rusia**	**12.43**	**111**	*e*Pn	**Pn**	**20 03 22.4**	**+2.3**
GTBY	**Guantanamo Bay**	**13.18**	**44**	*e*P	**P**	**20 03 33.4**	**-1.3**
SDV	**Santo Domingo**	**14.01**	**95**	P	**Pn**	**20 03 40.0**	**-0.3**
	comp=N,1.5nm,0.3s,baz=288,slow=3.1,SNR=4.3						
GRTK	**Grand Turk**	**17.03**	**48**	*e*P	**Pn**	**20 04 20.0**	**+2.5**
	comp=N,78nm,0.9s						
JRQG	**Juquilla Cam**	**18.18**	**306**	*e*P	**Pn**	**20 04 33.0**	**+1.5**
	comp=N,56nm,0.4s						
757A	**Oxford**	**18.49**	**7**	P	**Pn**	**20 04 35.7**	**+0.8**
	baz=188						
AGP	**Aguadilla**	**18.75**	**63**	*e*P	**Pn**	**20 04 38.5**	**+0.3**
	comp=N,288nm,1.4s						
656A	**Willston**	**18.86**	**6**	P	**Pn**	**20 04 39.8**	**+0.5**
	baz=187						
655A	**Horseshoe Beac**	**18.94**	**4**	P	**Pn**	**20 04 40.7**	**+0.5**
	baz=184						
AOPR	**Arecibo Observ**	**19.07**	**64**	*e*P	**P**	**20 04 40.7**	**+1.0**
	comp=N,39nm,1.0s						
658A	**Bunnell**	**19.08**	**9**	P	**Pn**	**20 04 42.4**	**+0.6**
	baz=190						
OBIP	**Obispado Ponce**	**19.09**	**65**	*e*P	**P**	**20 04 40.0**	**+0.1**
	comp=N,43nm,0.9s						
657A	**Interlachen**	**19.15**	**8**	P	**Pn**	**20 04 43.2**	**+0.5**
	baz=189						
556A	**Lake Butler**	**19.50**	**6**	P	**Pn**	**20 04 46.6**	**-0.2**
	baz=187						
SJG	**San Juan**	**19.52**	**65**	P	**P**	**20 04 42.5**	**-2.1**
	comp=N,2.2nm,0.3s,baz=298,slow=9.6,SNR=3.7						
553A	**Crawfordville**	**19.57**	**1**	P	**Pn**	**20 04 48.1**	**+0.5**
	baz=181						
555A	**McAlpin**	**19.57**	**5**	P	**Pn**	**20 04 47.5**	**0.0**
	baz=185						
PCRV	**Puerto La Cruz**	**19.79**	**89**	P	**P**	**20 04 48.0**	**+0.4**
	comp=N,1.7nm,0.3s,baz=228,slow=5.4,SNR=7.1						
CBYP	**Canovanas**	**19.84**	**65**	*e*P	**P**	**20 04 46.4**	**-1.8**
	comp=N,61nm,1.3s						
LNIG	**Linares**	**19.99**	**318**	*e*P	**P**	**20 04 50.1**	**+0.4**
	comp=N,4.9nm,0.8s						
454A	**Quitman**	**20.11**	**3**	P	Pn	20 04 53.4	-0.5
	baz=183						
452A	**Marianna**	**20.23**	**359**	P	Pn	20 04 57.6	+2.4
	baz=179						
BRAL	**Brewton**	**20.65**	**354**	*e*P	**P**	**20 04 58.2**	**+1.6**
	comp=N,96nm,0.8s						
CDVI	**St. Croix**	**20.65**	**67**	*e*P	Pn	20 04 58.9	-1.5
	comp=N,131nm,1.0s						
351A	**Pinckard**	**20.66**	**358**	P	Pn	20 04 59.9	-0.4
	baz=178						
STVI	**Saint Thomas**	**20.67**	**66**	*e*P	**P**	**20 04 57.9**	**+0.8**
	comp=N,92nm,1.2s						
353A	**Camilla**	**20.73**	**1**	P	Pn	20 05 00.2	-0.9
	baz=181						
TIGA	**Tifton**	**20.84**	**3**	*e*P	**P**	**20 04 59.6**	**+1.0**
	comp=N,124nm,1.4s						
349A	**Repton**	**20.84**	**354**	P	Pn	20 05 01.3	-1.2
	baz=173						
254A	**Abbeville**	**21.36**	**3**	P	**P**	**20 05 05.9**	**+1.7**
	baz=184						
252A	**Lumpkin**	**21.37**	**0**	P	**P**	**20 05 07.6**	**+3.3**
	baz=180						
251A	**Midway**	**21.47**	**358**	P	**P**	**20 05 08.9**	**+3.4**
	baz=178						
344A	**Westbrook Farm**	**21.55**	**346**	P	**P**	**20 05 08.7**	**+2.4**
	baz=164						
248A	**Dixon Mills**	**21.64**	**353**	P	**P**	**20 05 09.2**	**+1.9**
	baz=172						
247A	**Quitman**	**21.72**	**351**	P	**P**	**20 05 10.0**	**+1.9**
	baz=170						
245A	**Little AP, Sta**	**21.92**	**348**	P	**P**	**20 05 11.8**	**+1.6**
	baz=166						
150A	**Eclectic**	**22.01**	**357**	P	**P**	**20 05 12.9**	**+1.8**
	baz=177						
153A	**Fort Valley**	**22.03**	**2**	P	**P**	**20 05 14.1**	**+2.7**
	baz=182						
149A	**Jones**	**22.05**	**355**	P	**P**	**20 05 14.4**	**+2.9**
	baz=175						
244A	**Avery, Jackson**	**22.10**	**346**	P	**P**	**20 05 13.8**	**+1.7**
	baz=164						
148A	**Greensboro**	**22.17**	**354**	P	**P**	**20 05 14.7**	**+1.9**
	baz=173						
VBMS	**Vicksburg**	**22.24**	**347**	*e*P	**P**	**20 05 14.6**	**+1.1**
	comp=N,83nm,0.9s						
147A	**Livingston**	**22.28**	**352**	P	**P**	**20 05 15.9**	**+2.0**
	baz=171						
SMRT	**St. Maarten**	**22.28**	**68**	*e*P	**P**	**20 05 13.4**	**-0.7**
	comp=N,36nm,0.8s						
833A	**Chaparral WMA,**	**22.41**	**324**	P	**P**	**20 05 16.7**	**+1.5**
	baz=139						
145A	**Houston Renfro**	**22.48**	**349**	P	**P**	**20 05 17.5**	**+1.6**
	baz=167						
242A	**Grayson**	**22.50**	**343**	P	**P**	**20 05 17.9**	**+1.9**
	baz=161						
LRAL	**Lakeview Retre**	**22.50**	**355**	P	**P**	**20 05 18.0**	**+2.0**
	baz=174						
LRAL	**Lakeview Retre**	**22.50**	**355**	*e*P	**P**	**20 05 18.0**	**+2.0**
	comp=N,71nm,0.7s						
Z49A	**Columbiana**	**22.62**	**356**	P	**P**	**20 05 19.3**	**+2.0**
	baz=175						
Z50A	**Ashland**	**22.65**	**357**	P	**P**	**20 05 19.4**	**+1.8**
	baz=177						
Z47A	**Carrollton**	**22.77**	**353**	P	**P**	**20 05 20.7**	**+2.0**
	baz=172						
GOGA	**Godfrey**	**22.81**	**3**	P	**P**	**20 05 20.7**	**+1.7**
	baz=183						
GOGA	**Godfrey**	**22.81**	**3**	*e*P	**P**	**20 05 20.6**	**+1.5**
	comp=N,66nm,0.7s						
NHSC	**New Hope**	**22.86**	**10**	*e*P	**P**	**20 05 21.0**	**+1.4**
	comp=N,65nm,0.8s						
Z46A	**Louisville**	**22.89**	**351**	P	**P**	**20 05 22.4**	**+2.5**
	baz=169						
Z48A	**Northport**	**22.89**	**354**	P	**P**	**20 05 21.2**	**+1.4**
	baz=173						
Z45A	**Winona**	**23.19**	**349**	P	**P**	**20 05 24.9**	**+2.3**
	baz=168						
Y49A	**Blount Mountai**	**23.27**	**356**	P	**P**	**20 05 24.8**	**+1.3**
	baz=176						
Y50A	**Piedmont**	**23.27**	**358**	P	**P**	**20 05 24.9**	**+1.5**
	baz=178						
Y48A	**Jasper**	**23.38**	**355**	P	**P**	**20 05 25.8**	**+1.4**
	baz=174						
FDF	**Fort de France**	**23.40**	**77**	*e*P	**P**	**20 05 25.7**	**+0.8**
	comp=N,75nm,1.0s						
435B	**Jarrell**	**23.42**	**331**	P	**P**	**20 05 26.7**	**+1.8**
	baz=147						
Y47A	**UCPARC, Winfie**	**23.44**	**354**	P	**P**	**20 05 27.7**	**+2.8**
	baz=172						
Y46A	**Houston**	**23.55**	**351**	P	**P**	**20 05 26.8**	**+0.9**
	baz=170						
Y45A	**Yeager Farm, C**	**23.64**	**350**	P	**P**	**20 05 28.1**	**+1.3**
	baz=168						
X50A	**Fort Payne**	**23.84**	**358**	P	**P**	**20 05 31.0**	**+2.4**
	baz=178						
X48A	**Hartselle**	**23.91**	**355**	P	**P**	**20 05 30.1**	**+1.0**
	baz=174						
X49A	**Woodville**	**23.92**	**357**	P	**P**	**20 05 30.5**	**+1.3**
	baz=176						
X47A	**Russelville**	**24.05**	**354**	P	**P**	**20 05 32.9**	**+2.4**
	baz=172						
X45A	**UM Field Stati**	**24.16**	**351**	P	**P**	**20 05 32.2**	**+0.7**
	baz=169						
X46A	**Booneville**	**24.18**	**352**	P	**P**	**20 05 32.3**	**+0.7**
	baz=171						
OXF	**Oxford**	**24.25**	**351**	P	**P**	**20 05 33.2**	**+0.9**
	baz=169						
OXF	**Oxford**	**24.25**	**351**	*e*P	**P**	**20 05 32.3**	**0.0**
	comp=N,40nm,0.5s						
JCT	**Junction City**	**24.30**	**327**	P	**P**	**20 05 33.8**	**+1.0**
	baz=142						
JCT	**Junction City**	**24.30**	**327**	*e*P	**P**	**20 05 34.1**	**+1.3**
	comp=N,9.0nm,0.7s						
WHTX	**Lake Whitney,**	**24.38**	**333**	*e*P	**P**	**20 05 35.3**	**+1.8**
	comp=N,19nm,0.6s						
PLAL	**Pickwick Lake**	**24.53**	**353**	*e*P	**P**	**20 05 35.4**	**+0.5**
	comp=N,76nm,1.7s						
W48A	**Pulaski**	**24.58**	**356**	P	**P**	**20 05 36.6**	**+1.3**
	baz=175						
KMSC	**Kings Mountain**	**24.70**	**7**	P	**P**	**20 05 38.0**	**+1.6**
	baz=188						
KMSC	**Kings Mountain**	**24.70**	**7**	*e*P	**P**	**20 05 37.8**	**+1.4**
	comp=N,23nm,0.8s						
W47A	**Westpoint**	**24.75**	**354**	P	**P**	**20 05 37.9**	**+1.1**
	baz=173						
TKL	**Tuckaleechee C**	**25.03**	**2**	*e*P	**P**	**20 05 40.8**	**+1.3**
	comp=N,14nm,0.9s						
UALR	**University of**	**25.11**	**345**	*e*P	**P**	**20 05 40.0**	**-0.2**
	comp=N,19nm,0.9s						
V48A	**Smith Brothers**	**25.17**	**356**	P	**P**	**20 05 41.5**	**+0.9**
	baz=175						
MIAR	**Mount Ida**	**25.23**	**343**	P	**P**	**20 05 42.3**	**+1.1**
	baz=159						
MIAR	**Mount Ida**	**25.23**	**343**	*e*P	**P**	**20 05 41.9**	**+0.7**
	comp=N,15nm,0.8s						
V47A	**Nunnelly**	**25.31**	**355**	P	**P**	**20 05 42.4**	**+0.5**
	baz=174						
V46A	**Holladay**	**25.35**	**354**	P	**P**	**20 05 42.6**	**+0.4**
	baz=172						
X39A	**Fountain Ranch**	**25.36**	**342**	P	**P**	**20 05 42.8**	**+0.4**
	baz=158						
W41B	**Gary Mavity, V**	**25.47**	**346**	P	**P**	**20 05 44.2**	**+0.9**
	baz=163						
HPIG		**25.60**	**312**	*e*P	**P**	**20 05 47.0**	**+2.2**
	comp=N,4.1nm,1.0s						
WVT	**Waverly**	**25.64**	**354**	P	**P**	**20 05 45.1**	**+0.2**
	baz=173						
WVT	**Waverly**	**25.64**	**354**	*e*P	**P**	**20 05 44.2**	**-0.7**
W40A	**Ferguson Farm,**	**25.70**	**344**	*e*P	**P**	**20 05 46.4**	**+1.0**
	comp=N,13nm,0.8s						
LTX	**Lajitas**	**25.74**	**319**	*e*P	**P**	**20 05 46.5**	**+0.5**
LTX				*e*pP	**pP**	**20 06 10.0**	**-2.8**
TXAR	**Lajitas Array**	**25.74**	**319**	P	**P**	**20 05 46.5**	**+0.5**
	comp=N,1.1nm,0.5s,baz=146,slow=9.0,SNR=14						
TXAR				pP	**pP**	**20 06 10.0**	**-2.8**
	comp=N,1.7nm,0.7s,baz=141,slow=10.0,SNR=4.3						
TX31	**Lajitas Ar. Si**	**25.74**	**319**	*e*P	**P**	**20 05 46.5**	**+0.5**
TX31				*e*pP	**pP**	**20 06 13.1**	**+0.3**
TX31				*e*pP	**pP**	**20 06 13.5**	**+0.7**
NCAT	**North Carolina**	**25.84**	**9**	*e*P	**P**	**20 05 47.6**	**+1.0**
	comp=N,39nm,1.4s						
TZTN	**Tazewell**	**25.93**	**2**	*e*P	**P**	**20 05 48.1**	**+0.7**
	comp=N,12nm,0.8s						
V41A	**Mountainview**	**26.03**	**346**	P	**P**	**20 05 48.4**	**0.0**
	baz=163						
U42A	**Revenden**	**26.37**	**348**	P	**P**	**20 05 51.3**	**-0.1**
	baz=166				

comp=N,31nm,0.8s
N45A Kentland 30.30 356 P P 20 06 26.1 -0.2
baz=175
KSU1 Kansas State U 30.36 342 eP P 20 06 27.4 +0.5
comp=N,11nm,0.6s
PAGS Pennsylvania G 30.43 12 eP P 20 06 28.5 +1.0
comp=N,14nm,0.6s
N42A Yates City 30.54 352 P P 20 06 28.5 0.0
baz=170
SSPA Standing Stone 30.60 10 eP P 20 06 29.7 +0.8
comp=N,10nm,0.8s
HSIG 30.64 311 eP P 20 06 31.5 +2.0
comp=N,4.7nm,0.6s
319A Douglas 30.77 316 eP P 20 06 32.7 +1.9
comp=N,15nm,1.5s
SRIG Santa Rosalia 30.80 307 eP P 20 06 32.8 +2.0
comp=N,15nm,0.9s
N39A Derby Farms, D 31.00 349 P P 20 06 32.2 -0.3
baz=165
N59A State Game Lan 31.29 13 P P 20 06 36.8 +1.7
baz=197
N59A State Game Lan 31.29 13 eP P 20 06 36.6 +1.5
comp=N,16nm,0.7s
ANMO Albuquerque 31.34 324 eP P 20 06 37.3 +1.5
comp=N,2.4nm,1.1s
O34A Beatrice 31.38 342 P P 20 06 35.6 -0.3
baz=157
M38A Pleasantville 31.66 348 P P 20 06 37.8 -0.4
baz=164
N35A Tabor 31.71 344 P P 20 06 38.5 -0.2
baz=159
L41A Preston 31.83 352 P P 20 06 39.3 -0.5
baz=169
M37A Trindle Farm, 31.83 347 P P 20 06 39.3 -0.5
baz=162
L40A Anamosa 31.92 351 P P 20 06 40.4 -0.1
baz=168
SCIA State Center 32.13 348 eP P 20 06 42.1 -0.3
comp=N,86nm,1.8s
L38A Oak Wood Farm, 32.30 349 P P 20 06 43.5 -0.4
baz=165
TUC Tucson 32.35 316 eP P 20 06 46.2 +1.6
comp=N,5.9nm,1.6s
L37A Phoenix Point, 32.45 347 P P 20 06 44.6 -0.6
baz=163
BINY Binghamton 32.47 12 P P 20 06 46.0 +0.6
baz=196
BINY Binghamton 32.47 12 eP P 20 06 46.2 +0.8
comp=N,11nm,0.8s
K40A Colesburg 32.53 351 P P 20 06 45.5 -0.4
baz=168
JFWS Jewell Farm 32.62 352 eP P 20 06 45.4 -1.3
comp=N,19nm,0.6s
MMNY Mt. Morris Dam 32.63 9 eP P 20 06 46.7 -0.1
comp=N,14nm,0.7s
J41A Loganville 33.03 353 P P 20 06 49.7 -0.5
baz=170
K37A Belmond 33.04 348 P P 20 06 49.6 -0.8
baz=164
K36A Gilmore City 33.09 347 P P 20 06 50.5 -0.3
baz=162
J40A Soldiers Grove 33.16 352 P P 20 06 50.9 -0.4
baz=169
W18A Petrified Fore 33.42 321 eP P 20 06 54.8 +0.8
comp=N,5.7nm,1.1s
I42A Draeger Farm, 33.44 355 P P 20 06 53.5 -0.2
baz=173
I42A Draeger Farm, 33.44 355 eP P 20 06 53.0 -0.7
comp=N,25nm,0.8s
PB11 IPOC Station P 33.57 154 eP P 20 06 56.8 +1.4
comp=N,18nm,1.2s
S22A 4UR Ranch, Cre 33.59 327 eP P 20 06 56.3 +0.8
comp=N,8.2nm,1.8s
I41A Arkdale 33.70 353 P P 20 06 55.3 -0.7
baz=171
I39A Houston 33.72 351 P P 20 06 55.3 -0.9
baz=168
J36A Seneca 1, Swea 33.73 347 P P 20 06 55.6 -0.7
baz=163
H43A Windswept, Lux 33.92 356 eP P 20 06 56.8 -1.1
comp=N,71nm,0.8s
H42A Shiocton 34.02 355 eP P 20 06 57.9 -0.9
comp=N,17nm,0.9s
MVCO Mesa Verde 34.12 325 eP P 20 06 59.8 -0.2
comp=N,20nm,1.8s
H41A Junction City 34.23 354 eP P 20 06 59.1 -1.5
comp=N,28nm,1.3s
H40A Chili 34.32 353 P P 20 07 00.4 -1.0
baz=170
I35A Creekview Farm 34.37 347 P P 20 07 01.3 -0.6
baz=162
SADO Sadowa 34.46 7 eP P 20 07 02.8 +0.2
comp=N,20nm,0.6s
H39A Augusta 34.49 352 P P 20 07 01.5 -1.4
baz=169
NCB Newcomb 34.55 13 eP P 20 07 04.2 +0.8
comp=N,56nm,1.9s
ECSD EROS Data Cent 34.65 345 P P 20 07 03.2 -1.1
baz=159
ECSD EROS Data Cent 34.65 345 eP P 20 07 02.8 -1.5
comp=N,6.8nm,0.6s
113A Mohawk Valley, 34.69 314 eP P 20 07 05.6 +0.9
comp=N,15nm,1.9s
WUAZ Wupatki 34.70 320 eP P 20 07 06.2 +1.2
comp=N,14nm,1.6s
SMCO Snowmass 34.74 329 eP P 20 07 06.6 +1.0
comp=N,7.4nm,1.4s
H36A Jessenland, He 34.84 348 P P 20 07 05.3 -0.5
baz=164
G38A Ridgeland 35.06 351 P P 20 07 06.8 -0.9
baz=168
G39A Holcombe 35.07 352 P P 20 07 07.1 -0.8
baz=169
LONY Lake Ozonia 35.08 13 eP P 20 07 08.0 0.0
comp=N,17nm,1.2s
H35A Sunnyside Ranc 35.14 347 P P 20 07 07.7 -0.8
baz=163
F43A Flat Rock, Esc 35.24 357 P P 20 07 08.4 -0.8
baz=176
SPMN Marine on St. 35.26 350 P P 20 07 08.2 -1.3
baz=166
SPMN Marine on St. 35.26 350 eP P 20 07 08.1 -1.3
comp=N,19nm,0.9s
F41A Three Lakes 35.29 355 P P 20 07 08.6 -1.1
baz=173
F40A Park Falls 35.57 354 P P 20 07 11.3 -0.8
baz=171
H33A Prehn Over Nor 35.57 345 P P 20 07 11.6 -0.5
baz=160
COWI Conover 35.65 355 eP P 20 07 11.7 -1.1
comp=N,12nm,0.9s
F39A Loretta 35.66 353 P P 20 07 11.9 -1.0
baz=170
Y12C Blythe 35.75 315 eP P 20 07 14.7 +0.9
comp=N,25nm,1.8s
E43A Lone Tree Farm 35.78 357 P P 20 07 13.2 -0.6
baz=176
F38A Pierce - Schro 35.83 351 P P 20 07 13.1 -1.2
baz=168
G33A Ortonville 35.98 346 P P 20 07 14.6 -1.0
baz=160
F36A Milaca 36.00 350 P P 20 07 14.5 -1.3
baz=165
E39A Mellen 36.07 353 P P 20 07 15.6 -0.8
baz=170
SWSC Sam W. Stewart 36.23 313 eP P 20 07 19.8 +1.9
SWSC eP cP P 20 09 42.0 +1.4
E38A The Farm, Brul 36.42 352 P P 20 07 18.1 -1.3
baz=169
F33A 5 Mile Ranch, 36.55 346 P P 20 07 19.1 -1.4
baz=161
TRQ Mont Tremblant 36.62 12 eP P 20 07 19.4 -1.8
D37A Cotton 37.08 351 P P 20 07 24.0 -1.0
baz=167
D36A Goodland 37.22 350 P P 20 07 24.5 -1.6
baz=166
D34A Park Rapids 37.50 348 P P 20 07 27.1 -1.4
baz=163
C37A Embarrass 37.61 352 P P 20 07 28.9 -0.4
baz=168
D33A AnnSam, Waubun 37.68 348 P P 20 07 28.7 -1.3
baz=162
C35A Jirik Farms, M 37.86 350 P P 20 07 29.9 -1.6
baz=165
CIAC Catalina I. Ai 38.36 312 epP pP 20 08 05.2 +1.4
CHFC Chilao Flat St 38.53 313 epP pP 20 08 03.6 -1.8
C31A Landman Farms, 38.72 346 P P 20 07 37.4 -1.3
baz=159

PD31 Pinedale Array 38.73 330 eP P 20 07 39.4 +0.3
PD31 epP pP 20 08 06.8 -0.2
PDAR Pinedale Array 38.73 330 P P 20 07 38.2 -0.9
comp=N,0.5nm,0.7s,baz=145,slow=9.5,SNR=3.6
PDAR pP pP 20 08 07.4 +0.4
comp=N,0.7nm,0.9s,baz=129,slow=8.5,SNR=3.4
B34A Aery, Baudette 38.74 349 P P 20 07 37.6 -1.2
baz=164
AGMN Agassiz Nation 38.79 348 P P 20 07 38.2 -1.1
baz=162
AGMN Agassiz Nation 38.79 348 eP P 20 07 37.9 -1.4
comp=N,12nm,0.9s
IR2C Iron Canyon 38.83 313 epP pP 20 08 10.2 +2.5
ALPC Antelope 38.91 314 ePcP PcP 20 09 49.4 +0.5
B32A Ashes, Strandq 39.02 348 P P 20 07 40.3 -0.9
baz=161
MDND Maddock 39.25 344 P P 20 07 43.5 +0.4
baz=157
A33A Warroad 39.31 349 P P 20 07 42.6 -0.9
baz=163
A32A Rocking H Ranc 39.51 348 P P 20 07 43.8 -1.4
baz=162
ULM Lac du Bonnet 40.66 349 P P 20 07 53.0 -1.6
comp=N,7.0nm,0.6s,baz=163,slow=8.1,SNR=16
NV01 Mina Array Sit 40.89 318 eP P 20 07 57.7 +0.6
NV01 ePcP PcP 20 09 56.0 +0.6
NVAR Mina Array Bea 40.89 318 P P 20 07 56.4 -0.7
comp=N,0.9nm,0.6s,baz=131,slow=7.1,SNR=6.4
NVAR pP pP 20 08 25.8 +0.7
comp=N,0.7nm,0.5s,baz=138,slow=7.0,SNR=3.3
NVAR PcP PcP 20 09 55.6 +0.2
comp=N,0.5nm,0.6s,baz=134,slow=5.2,SNR=3.4
CPUP Villa Florida 45.31 144 P P 20 08 33.1 +0.7
comp=N,1.1nm,0.6s,baz=324,slow=8.7,SNR=3.6
FFC Flin Flon 46.16 346 eP P 20 08 38.8 0.0
comp=N,4.5nm,0.9s
SCHQ Schefferville 46.42 14 P P 20 08 38.0 -2.8
comp=N,9.7nm,0.6s,baz=229,slow=11,SNR=5.9
PLCA Paso Flores 52.66 166 P P 20 09 30.1 +1.7
comp=N,1.8nm,0.8s,baz=3.5,slow=8.8,SNR=7.9
PLCA Paso Flores 52.66 166 eP P 20 09 30.4 +2.0
comp=N,17nm,1.9s
YKA Yellowknife Ar 56.17 344 P P 20 09 52.2 -1.1
comp=N,0.8nm,0.4s,baz=138,slow=7.1,SNR=24
YKA pP pP 20 10 20.3 -2.7
comp=N,1.5nm,0.9s,baz=138,slow=7.3,SNR=4.1
YKB5 Yellowknife Ar 56.17 344 eP P 20 09 52.2 -1.1
YKB5 epP pP 20 10 20.3 -2.7
SFJD Kangerlussuaq 60.87 15 P P 20 10 22.7 -3.1
comp=N,7.6nm,0.6s,baz=173,slow=5.8,SNR=5.7
RES Resolute Bay 64.39 357 eP P 20 10 47.4 -1.6
comp=N,7.4nm,1.4s
SUMG Summit 67.80 14 *i* P P 20 11 10.1 -1.3
comp=N,7.2nm,0.7s
SUMG Summit 67.80 14 eP P 20 11 09.3 -2.2
comp=N,8.9nm,0.9s
ILAR Eielson Array 68.84 336 P P 20 11 16.6 -0.9
comp=N,0.6nm,0.7s,baz=139,slow=3.8,SNR=6.8
ILAR pP pP 20 11 46.4 -1.9
comp=N,0.5nm,0.7s,baz=117,slow=4.6,SNR=2.6
ILB Eielson Array 68.84 336 eP P 20 11 16.8 -0.8
ESDC Sonseca Array 76.29 52 P P 20 12 01.2 -1.1
comp=N,1.2nm,0.5s,baz=283,slow=5.6,SNR=14
EKA Eskdalemuir Ar 76.64 36 P P 20 12 02.2 -1.6
comp=N,0.5nm,0.4s,baz=273,slow=5.6,SNR=7.7
NB200 NORSAR Array S 83.75 29 eP P 20 12 40.5 -1.4
NOA NORSAR Array B 83.75 29 P P 20 12 40.5 -1.4
comp=N,2.9nm,1.0s,baz=287,slow=4.8,SNR=3.3
HFS Hagfors 85.13 30 P P 20 12 47.4 -1.4
comp=N,1.8nm,0.6s,baz=226,slow=3.9,SNR=7.8
ARA0 ARCESS Array S 87.12 19 eP P 20 12 57.5 -0.9
ARCES ARCESS Array B 87.12 19 P P 20 12 57.5 -0.9
comp=N,3.0nm,0.9s,baz=264,slow=4.1,SNR=3.7
FIA0 FINESS Array S 90.50 27 eP P 20 13 13.0 -1.4
FINES FINESS Array B 90.50 27 P P 20 13 13.0 -1.4
comp=N,0.9nm,0.7s,baz=336,slow=4.2,SNR=4.4
ASAR Alice Springs 140.95 245 PKhKP PKPpre 20 19 36.8
comp=N,0.9nm,0.7s,baz=116,slow=3.8,SNR=13
WR1 Warramunga Arr 141.23 251 ePKPpre PKPpre 20 19 38.3
WRA Warramunga Arr 141.23 251 PKhKP PKPpre 20 19 38.3
comp=N,0.7nm,0.6s,baz=92,slow=3.0,SNR=14
CMAR Chiang Mai Arr 150.97 353 PKPbc **PKPbc** 20 20 05.7 -0.3
comp=N,0.3nm,0.3s,baz=344,slow=2.5,SNR=5.6

NIED **30** *20:04:00,24.4°40N×126.6°60E,h8km,Mw4.5 Best double couple: M0 6.68000×10^15 NP1:φs 199.00000°,δ26.00000°, λ46.00000°. NP2:φs 66.00000°,δ72.00000°,λ109.00000°.*
IDC **30** *20:04:35.1±0.5,24.4°40N×126.5°57E,h0km,mb4.3/29, mb1 4.3/33,mb1mx4.2/65,mbtmp4.2/33,ML3.8/4, MS3.9/7, Ms1 3.9/7,ms1mx3.3/67,Error ellipse: s-maj=15.0km s-min=12.3km az=93.0*
ISCJB **30** *20:04:36.3±0.8,24.4°40N±0.0°03×126.6°64E±0.0°03,h18km±5km, mb4.6/115,MS4.2/14,Error ellipse: s-maj=5.5km s-min=3.1km az=149.6*
NEIC **30** *20:04:36.2±2.1,24.3°34N×126.5°51E,h7km±13km,mb4.9/67, Error ellipse: s-maj=6.1km s-min=4.2km az=145.0*
BJI **30** *20:04:37.9,24.4°46N×126.5°56E,h28km,mb4.5/44,mB4.7/33, Ms4.6/34,Ms7 4.4/31*
JMA **30** *20:04:37.1±0.2,24.5°35N×126.5°62E,h88km±5km,M4.6*
MOS **30** *20:04:40.9±0.9,24.5°70N×126.5°38E,h35km,mb4.9/33,Error ellipse: s-maj=9.6km s-min=5.7km az=119.3*

ISC 30 20:04:39.7±0.8,24°40N±0°05×126°59E±0°03,h30km±4km, n264,σ1§78/298,mb4.7/115,MS4.2/14,13C-6D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.14**	**289**	P	**Pn**	**20 04 59.0**	**-0.6**
JOGS				S	**Sb**	**20 05 15.8**	**+0.5**
JMJ	**Miyako jima 2**	**1.25**	**290**	P	**Pn**	**20 05 00.5**	**-0.7**
JMJ				S	**Sb**	**20 05 18.8**	**+0.3**
JIKM	**Ikemajima**	**1.33**	**293**	P	**Pn**	**20 05 01.3**	**-1.0**
JIKM				S	**Sb**	**20 05 19.8**	**-0.9**
JIRB	**Irabujima**	**1.36**	**289**	P	**Pn**	**20 05 01.6**	**-1.1**
JIRB				S	**Sn**	**20 05 19.8**	**+0.1**
JTJ	**Tarama**	**1.74**	**278**	P	**Pn**	**20 05 06.7**	**-1.2**
JTJ				S	**Sn**	**20 05 29.0**	**0.0**
JKE	**Kume jima 2**	**1.93**	**5**	P	**Pn**	**20 05 09.5**	**-1.0**
JKE				S	**Sn**	**20 05 33.2**	**-0.6**
JJT3	**Tamagusuku3**	**2.05**	**32**	P	**Pn**	**20 05 10.9**	**-1.2**
JJT3				S	**Sn**	**20 05 34.1**	**-2.6**
JISG	**Ishigakijimahi**	**2.09**	**276**	P	**Pn**	**20 05 11.2**	**-1.5**
JIJ	**Ishigaki jima**	**2.23**	**270**	P	**Pn**	**20 05 13.2**	**-1.5**
JAGN	**Aguni-jima**	**2.26**	**15**	P	**Pn**	**20 05 14.0**	**-1.1**
JKRS	**Kuro-shima**	**2.36**	**267**	P	**Pn**	**20 05 15.3**	**-1.1**
JNTH	**Nagotoyohara**	**2.48**	**31**	P	**Pn**	**20 05 16.3**	**-1.7**
JNTH				S	**Sn**	**20 05 46.2**	**-1.1**
IRIF	**Iriomote-Funau**	**2.61**	**269**	P	**Pn**	**20 05 18.5**	**-1.4**
JOW	**Kunigami**	**2.86**	**32**	Pn	**Pn**	**20 05 22.2**	**-1.1**
JOW	31nm,0.3s,baz=354,slow=7.6,SNR=5			Sn	**Sn**	**20 05 51.8**	**-5.0**
	42nm,0.3s,baz=22,slow=22,SNR=5.4						
JOW	**Kunigami**	**2.86**	**32**	P	**Pn**	**20 05 22.1**	**-1.3**
JOW				S	**Sn**	**20 05 55.6**	**-1.2**
JOW	**Kunigami**	**2.86**	**32**	*e*Pn	**Pn**	**20 05 22.6**	**-0.7**
JOW				Sn	**Sn**	**20 05 51.8**	**-5.0**
JIH	**Iheya**	**2.91**	**25**	P	**Pn**	**20 05 23.2**	**-0.7**
JIH				S	**Sn**	**20 05 55.8**	**-2.0**
YOJ	**Yonaguni jima**	**3.26**	**272**	P	**Pn**	**20 05 27.4**	**-1.5**
YOJ	**Yonaguni jima**	**3.26**	**272**	*e*P	**Pn**	**20 05 28.5**	**-0.4**
YOJ	**Yonaguni jima**	**3.26**	**272**	*e*Pn	**Pn**	**20 05 28.5**	**-0.4**
JYNG	**Yonagunijimaku**	**3.32**	**272**	P	**Pn**	**20 05 28.4**	**-1.3**
JOKE	**Okinoerabujima**	**3.45**	**31**	P	**Pn**	**20 05 30.3**	**-1.1**
JOKE				S	**Sn**	**20 06 08.8**	**-2.5**
JTK	**Tokunoshima**	**3.99**	**32**	P	**Pn**	**20 05 37.3**	**-1.5**
JTK				S	**Sn**	**20 06 20.9**	**-3.6**
JMZ	**Minamidaito 2**	**4.43**	**70**	P	**Pn**	**20 05 41.0**	**-3.9**
JMZ				S	**Sn**	**20 06 27.7**	**-7.8**
JAMN	**Amaminishikomi**	**4.48**	**31**	P	**Pn**	**20 05 44.1**	**-1.4**
JAMN				S	**Sn**	**20 06 34.5**	**-2.1**
NACB	**Ninganchiao**	**4.56**	**268**	*e*Pn	**Pn**	**20 05 43.7**	**-3.1**
TATO	**Taipei**	**4.68**	**278**	*e*Pn	**Pn**	**20 05 48.4**	**0.0**
YHNB	**Yeheng**	**4.76**	**274**	*e*Pn	**Pn**	**20 05 49.0**	**-0.5**
JAM	**Amami Oshima**	**4.83**	**33**	P	**Pn**	**20 05 48.5**	**-1.8**
JAM				S	**Sn**	**20 06 40.1**	**-5.1**
YULB	**Yu-li**	**4.95**	**259**	*e*Pn	**Pn**	**20 05 48.3**	**-3.8**
YULB				*e*Sn	**Sn**	**20 06 41.1**	**-7.2**
SSLB	**Suanglung**	**5.19**	**264**	*e*Pn	**Pn**	**20 05 52.4**	**-2.9**
SSLB				*e*Sn	Sn	20 06 42.5	-12
TWG	**Pinlang**	**5.30**	**254**	*e*Pn	**Pn**	**20 05 53.3**	**-3.6**
TWG				*e*Sn	**Sn**	**20 06 48.7**	**-8.3**

TPUB Ta-pu 5.57 260 ePn Pn 20 05 58.7 -1.9
JNU Nakatsue 9.47 22 Pn Pn 20 06 53.2 -1.0
1.1nm,0.3s,baz=309,slow=3.8,SNR=9.5
JNU Sn Sn 20 08 38.2 -1.4
0.3nm,0.3s,baz=312,slow=14,SNR=1.9
JNU Nakatsue 9.47 22 ePn Pn 20 06 53.7 -0.5
JNU Sn Sn 20 08 38.2 -1.4
NJ2 Nanjing 10.23 320 eP Pn 20 07 04.3 -0.2
NJ2 pmax pmax
comp=Z,26nm,1.0s
NJ2 LR LR
comp=N,2μm,10.8s
NJ2 LR LR
comp=E,1μm,11.9s
NJ2 LR LR
comp=Z,2μm,9.2s
KSAR Wonju Array Be 13.05 5 P Pn 20 07 42.5 -0.6
KSAR Wonju Array Be 13.05 5 Pn Pn 20 07 42.5 -0.6
KSRS Korea Array 13.06 5 Pn Pn 20 07 42.5 -0.8
0.2nm,0.3s,baz=185,slow=12,SNR=5.5
MJAR Matsushiro Arr 15.69 37 Pn Pn 20 08 19.7 +1.0
0.2nm,0.3s,baz=237,slow=11,SNR=2.4
ENH Enshi 16.28 295 ePn Pn 20 08 26.1 -0.2
ENH *es*P P 20 08 29.6 +0.6
BJT Baijiatuau 17.88 333 eP Pn 20 08 43.7 -2.4
BJT Baijiatuau 17.88 333 ePn Pn 20 08 43.7 -2.4
BJI Beijing 17.89 333 P Pn 20 08 43.7 -2.6
XAN Xi'an 18.15 306 P Pn 20 08 49.5 -0.1
XAN pP pP 20 08 56.5 -1.2
XAN sP sP 20 09 01.0 -0.5
XAN PP **PnPn** 20 09 07.8 +6.8
XAN S **Sn** 20 12 13.3 +2.0
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN pmax pmax
comp=Z,160nm,4.1s
XAN LR LR
comp=N,820nm,11.4s
XAN LR LR
comp=E,1μm,10.3s
XAN LR LR
comp=Z,2μm,9.8s
CN2 Changchun 19.38 358 eP Pn 20 09 05.3 +1.0
CN2 pmax pmax
comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar. 20.24 11 P P 20 09 09.5 -2.9
1.6nm,0.5s,baz=197,slow=9.4,SNR=3.3
GUMO Guam 20.33 119 LR LR 20 16 52.2
comp=Z,133nm,19.2s,baz=274,slow=36
MYLDM Lahad Datu 20.63 203 eP Pn 20 09 19.8 +0.5
28nm,0.8s
HHC Hu-ho-hao-te 20.67 326 eP P 20 09 17.8 +0.5
HHC S S 20 13 00.3 -6.4
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,75nm,7.4s
HHC LR LR
comp=N,850nm,10.9s
HHC LR LR
comp=E,560nm,10.6s
HHC LR LR
comp=Z,740nm,12.7s
CD2 Chengdu 21.22 293 P P 20 09 22.0 -1.3
CD2 pP pP 20 09 30.5 -0.8
CD2 S **S** 20 13 15.5 -2.2
CD2 sS sS 20 13 29.5 -1.1
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.0s
CD2 LR LR
comp=N,1μm,10.7s
CD2 LR LR
comp=E,1μm,10.1s
CD2 LR LR
comp=Z,2μm,8.9s
BTO Baotou 21.31 323 eP P 20 09 21.5 -2.6
KMI Kunming 21.67 277 P P 20 09 29.0 +0.7
KMI pmax pmax
comp=Z,24nm,1.2s
KMI pmax pmax
comp=Z,260nm,6.6s
LZH Lanzhou 22.79 306 ⇓P P 20 09 39.3 -0.8
LZH pP pP 20 09 48.5 +0.3
LZH sP sP 20 09 52.3 +0.3
LZH PP **PnPn** 20 10 08.3 +3.6
LZH *e*S **S** 20 13 40.3 -7.1
LZH sS pS 20 13 55.0 -1.6
LZH SS **SnSn** 20 14 23.5 +4.4
LZH pmax pmax
comp=Z,53nm,1.1s
LZH pmax pmax
comp=Z,260nm,4.2s
LZH LR LR
comp=N,1μm,10.7s
LZH LR LR
comp=E,2μm,11.0s
LZH LR LR
comp=Z,3μm,12.1s
ASAJ Asahikawa 23.63 30 P P 20 09 47.9 -0.3
8.7nm,0.8s,baz=338,slow=4.0,SNR=6.8
ASAJ Asahikawa 23.63 30 eP P 20 09 47.8 -0.4
11nm,0.9s
KLR Kul'dur 25.12 8 P P 20 09 59.9 -1.9
0.6nm,0.9s,baz=219,slow=6.5,SNR=15
KLR Kul'dur 25.12 8 *i* P P 20 10 01.2 -0.6
SBUM Sibu 25.86 215 eP P 20 10 08.1 -0.8
13nm,1.1s
YSS Yuzh-Sakhalins 25.96 26 ⇑eP P 20 10 13.1 +3.6
YSS *e* 20 10 17.7
YSS *e*S **S** 20 14 40.3 +2.4
YSS *e* 20 14 56.0
YSS pmax pmax
comp=Z,30nm,1.5s
YSS Yuzh-Sakhalins 25.96 26 eP P 20 10 12.7 +3.2
comp=Z,66nm,1.1s
CHTO Chiang Mai 26.27 263 eP P 20 10 12.8 +0.1
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 26.27 263 eP P 20 10 12.8 +0.1
comp=Z,5.8nm,0.8s
CM01 Chiang Mai Arr 26.38 262 eP P 20 10 12.1 -1.6
CM31 Chiang Mai Arr 26.38 262 eP P 20 10 12.4 -1.3
CMAR Chiang Mai Arr 26.38 262 P P 20 10 13.9 +0.2
comp=Z,2.6nm,0.8s,baz=60,slow=8.2,SNR=20
GTA Gaotai 27.09 310 P P 20 10 19.0 -1.0
GTA pP pP 20 10 28.5 -0.2
GTA sP sP 20 10 32.3 0.0
GTA S **S** 20 14 53.8 -2.5
GTA sS sS 20 15 08.5 -2.2
GTA SS **SnSn** 20 16 09.0 +4.9
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,95nm,5.4s
GTA LR LR
comp=Z,380nm,13.8s
GTA LR LR
comp=Z,810nm,11.9s
GTA LR LR
comp=Z,600nm,12.4s
ULN Ulaanbaatar 28.08 331 *e*eP P 20 10 27.7 -1.2
ULN pmax pmax
comp=Z,18nm,1.0s
ULN Ulaanbaatar 28.08 331 eP P 20 10 27.6 -1.2
comp=Z,18nm,1.1s
SONM Songino Array 28.35 331 P P 20 10 30.4 -0.8
comp=Z,5.4nm,0.6s,baz=153,slow=9.3,SNR=36
TYV Tymovskoe 29.19 21 eP P 20 10 41.0 +2.6
TYV pmax pmax
comp=Z,200nm,4.3s
TYV pmax pmax
comp=Z,19nm,1.0s
NKL Nikolayevsk 30.62 17 eP P 20 10 42.2 -8.8
LSA Lhasa 31.92 287 eP P 20 11 04.3 +0.9
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 31.92 287 eP P 20 11 04.3 +0.9
comp=Z,8.1nm,0.7s
BKNI Bangkinang 34.42 230 eP P 20 11 28.0 +3.2
comp=Z,27nm,0.6s
KNGR Kungurtug, Tuv 34.48 327 *i* P P 20 11 24.8 -0.2
TAPN Taplejung 35.01 283 eP P 20 11 31.1 +1.0
comp=Z,12nm,0.6s

ODAN	**Odare**	35.34	283	*e*P		**P**		20 11 33.6	+0.7
	comp=Z,23nm,0.6s								
JIRN	**Jiri**	36.34	284	*e*P		**P**		20 11 42.3	+0.7
	comp=Z,19nm,0.8s								
GUN	**Gumba**	36.59	284	*e*P		**P**		20 11 44.4	+0.6
PETK	**Petropavlovsk-**	37.03	31	P		**P**		20 11 50.2	+3.5
	comp=Z,2.0nm,0.7s,baz=189,slow=5.4,SNR=3.7								
PKI	**Pulchoki**	37.04	284	*e*P		**P**		20 11 47.7	+0.2
	comp=Z,11nm,0.8s								
PKIN	**Phulchoki**	37.05	284	*e*P		**P**		20 11 48.2	+0.7
	comp=Z,12nm,0.6s								
KKN	**Kakani**	37.13	284	*e*P		**P**		20 11 48.6	+0.4
	comp=Z,17nm,0.8s								
WMQ	**Urumqi**	37.15	311	P		**P**		20 11 49.5	+1.5
WMQ				pP		pP		20 11 57.8	+1.0
WMQ				sP		sP		20 12 04.0	+3.5
WMQ				PP		**PnPn**		**20 13 14.3**	**+0.9**
WMQ				pmax	pmax				
	comp=Z,18nm,0.6s								
WMQ				pmax	pmax				
	comp=Z,160nm,5.1s								
WMQ				LR	LR				
	comp=Z,550nm,16.1s								
WMQ				LR	LR				
	comp=Z,350nm,17.1s								
WMQ				LR	LR				
	comp=Z,380nm,15.3s								
MTN	**Manton Dam**	37.28	173	*e*P		**P**		20 11 47.0	-2.1
	comp=Z,16nm,1.0s								
DMN	**Daman**	37.30	284	*e*P		**P**		20 11 50.1	+0.4
	comp=Z,15nm,0.7s								
PET	**Petropavlovsk**	37.43	32	*e*P		**P**		20 11 53.2	+3.1
	comp=Z,76nm,1.6s								
YAK	**Yakutsk**	37.68	2	P		**P**		20 11 51.7	-0.3
	comp=Z,4.6nm,0.4s,baz=189,slow=7.8,SNR=5.5								
YAK	**Yakutsk**	37.68	2	*i* P		**P**		20 11 51.8	-0.3
YAK				pmax	pmax				
	comp=Z,10.0nm,0.9s								
YAK	**Yakutsk**	37.68	2	*e*P		**P**		20 11 51.6	-0.5
	comp=Z,27nm,1.3s								
GKN	**Gorkha**	37.68	285	*e*P		**P**		20 11 53.0	+0.2
	comp=Z,14nm,0.6s								
MA2	**Magadan**	39.02	19	P		**P**		20 12 03.3	-0.1
	comp=Z,4.6nm,0.8s,baz=231,slow=8.6,SNR=6.7								
PYUN	**Piuthan**	39.13	285	*e*P		**P**		20 12 05.8	+0.8
	comp=Z,32nm,0.8s								
MK01	**Makanchi Array**	41.67	314	*e*P		**P**		20 12 24.7	-0.9
MK31	**Makanchi Array**	41.69	314	*e*P		**P**		20 12 24.7	-1.0
MK31	**Makanchi Array**	41.84	314	*e*P		**P**		20 12 24.7	-1.0
MKAR	**Makanchi Array**	41.69	314	P		**P**		20 12 25.3	-0.4
	comp=Z,1.9nm,0.6s,baz=96,slow=9.1,SNR=26								
MKAR	**Makanchi Array**	41.69	314	*e*P		**P**		20 12 24.8	-0.9
MKAR				pmax	pmax				
	comp=Z,13nm,0.6s								
MKAR	**Makanchi Array**	41.69	314	*e*P		**P**		20 12 24.8	-0.9
	comp=Z,13nm,0.6s								
MAKZ	**Makanchi**	41.90	314	*e*P		**P**		20 12 26.6	-0.8
MAKZ				pmax	pmax				
	comp=Z,5.0nm,1.0s								
MAKZ	**Makanchi**	41.90	314	*e*P		**P**		20 12 26.6	-0.8
	comp=Z,5.2nm,1.0s								
SEY	**Seymchan**	42.20	17	P		**P**		20 12 30.2	+0.7
	comp=Z,3.0nm,0.7s,baz=222,slow=6.9,SNR=18								
ZAA0	**Zalesovo Array**	42.84	325	*e*P		**P**		20 12 33.2	-1.8
	comp=Z,5.8nm,0.8s								
ZALV	**Zalesovo Beam**	42.84	325	P		**P**		20 12 33.8	-1.1
	comp=Z,2.1nm,0.4s,baz=115,slow=7.4,SNR=18								
ZALV	**Zalesovo Beam**	42.84	325	*e*P		**P**		20 12 33.2	-1.7
ZALV	**Zalesovo Beam**	42.84	325	*e*P		**P**		20 12 33.2	-1.7
PRZ	**Przheval'sk**	43.45	307	P		**P**		20 12 40.4	+0.1
PRZ				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KDJ	**Kajisay**	44.29	306	P		**P**		20 12 47.6	+0.5
KDJ				pmax	pmax				
	comp=Z,13nm,1.0s								
WRAB	**Tennant Creek**	44.71	170	*e*P		**P**		20 12 49.4	-0.8
	comp=Z,15nm,1.0s								
WRA	**Warramunga Arr**	44.71	170	P		**P**		20 12 49.2	-1.1
	comp=Z,7.7nm,0.8s,baz=350,slow=8.7,SNR=33								
WRA				PcP		**PP**		20 14 34.0	-1.2
	comp=Z,0.9nm,0.9s,baz=346,slow=3.6,SNR=3.1								
KSH	**Kashi**	44.94	302	P		**P**		20 12 55.5	+3.3
KSH				sP		sP		20 13 09.0	+4.2
KSH				PP		**PP**		**20 14 40.3**	**+2.9**
KSH				S		**S**		**20 19 31.5**	**+2.8**
KSH				pmax	pmax				
	comp=Z,16nm,1.3s								
KSH				pmax	pmax				
	comp=Z,80nm,8.8s								
KSH				LR	LR				
	comp=Z,220nm,13.5s								
KSH				LR	LR				
	comp=Z,180nm,11.8s								
KSH				LR	LR				
	comp=Z,330nm,13.7s								
ULHL	**Ulahol**	45.00	306	P		**P**		20 12 54.0	+1.3
	SNR=16								
NRN	**Naryn**	45.09	305	P		**P**		20 12 53.9	+0.3
NRN				pmax	pmax				
	comp=Z,19nm,1.1s								
KURK	**Kurchatov**	45.16	318	*ce*P		**P**		20 12 53.3	-0.3
KURK				pmax	pmax				
	comp=Z,5.0nm,0.4s								
KURK	**Kurchatov**	45.16	318	*e*P		**P**		20 12 52.5	-1.1
	comp=Z,5.7nm,0.5s								
KURK				PP		**PP**		**20 14 38.1**	**-1.2**
KURBB	**Kurchatov Arra**	45.19	318	P		**P**		20 12 53.0	-0.8
	comp=Z,3.7nm,0.4s,baz=108,slow=9.1,SNR=31								
KURBB				PP		**PP**		**20 14 38.1**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=111,slow=9.2,SNR=4.0								
TKM2	**Tokmak 2**	45.55	307	P		**P**		20 12 58.0	+0.9
	SNR=16								
KZA	**Kyzart**	45.71	306	P		**P**		20 13 00.4	+1.7
	SNR=7.2								
KBK	**Karagaybulak**	46.00	306	P		**P**		20 13 01.9	+1.3
	SNR=6.3								
CHMS	**Chumysh**	46.18	307	P		**P**		20 13 02.9	+1.0
	SNR=7.8								
FRU1	**Bishkek**	46.25	307	P		**P**		20 13 02.1	-0.3
FRU1				pmax	pmax				
	comp=Z,6.0nm,0.6s								
UCH	**Uchtor**	46.27	306	P		**P**		20 13 04.7	+1.6
	SNR=23								
AAK	**Ala-Archa**	46.33	306	*e*P		**P**		20 13 04.4	+1.2
AAK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
AAK	**Ala-Archa**	46.33	306	*e*P		**P**		20 13 04.4	+1.2
	comp=Z,3.8nm,1.0s								
AML	**Almayashu**	46.87	306	P		**P**		20 13 09.2	+1.5
	SNR=8.9								
NIL	**Nilore**	47.11	294	*e*P		**P**		20 13 07.8	-1.5
NIL	**Nilore**	47.11	294	*e*P		**P**		20 13 07.8	-1.5
TIXI	**Tiksi**	47.30	1	*ce*P		**P**		20 13 09.8	-0.3
TIXI				pmax	pmax				
	comp=Z,6.0nm,1.2s								
TIXI	**Tiksi**	47.30	1	*e*P		**P**		20 13 09.8	-0.3
	comp=Z,9.0nm,1.4s								
AS31	**Alice Springs**	48.30	171	*e*P		**P**		20 13 17.9	-0.5
	comp=Z,1.2nm,0.8s								
ASAR	**Alice Springs**	48.30	171	P		**P**		20 13 17.7	-0.8
	comp=Z,1.7nm,0.8s,baz=353,slow=14,SNR=28								
ASAR				PcP		**PcP**		**20 14 46.2**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=350,slow=3.0,SNR=3.4								
AS01	**Alice Springs**	48.31	171	*e*P		**P**		20 13 17.4	-1.1
KKAR	**Karatay Array**	49.28	307	*e*P		**P**		20 13 26.2	+0.3
KKAR				*e*				20 14 47.0	
KKAR	**Karatay Array**	49.28	307	*e*P		**P**		20 13 26.2	+0.3
KKAR				*e*PcP		**PcP**		**20 14 47.0**	**-1.5**
BILL	**Bilibino**	49.87	18	*e*P		**P**		20 13 29.7	-0.2
BILL				*e*				20 13 36.0	
BILL				*e*				20 14 49.6	
BILL				*e*				20 15 24.3	
BILL				*e*PPP		PPP		20 16 16.8	
BILL				pmax	pmax				
	comp=Z,3.0nm,1.1s								
KBL	**Kabul**	50.53	296	*e*P		**P**		20 13 36.2	+0.5
	comp=Z,7.5nm,0.8s								
BVAR	**Borovoye Array**	50.68	320	P		**P**		20 13 36.1	-0.1
	comp=Z,1.2nm,0.5s,baz=111,slow=8.1,SNR=10								
BRVK	**Borovoye**	50.74	320	*ce*P		**P**		20 13 36.7	-0.1
BRVK				pmax	pmax				
	comp=Z,23nm,1.2s								
BRVK	**Borovoye**	50.74	320	*e*P		**P**		20 13 37.1	+0.3
	comp=Z,6.3nm,0.7s								
SVE	**Sverdlovsk**	56.81	323	*e*P		**P**		20 14 21.5	+0.4
SVE				pmax	pmax				
	comp=Z,15nm,1.2s								
ABKAR	**Akbulak array**	56.83	314	*e*P		**P**		20 14 21.1	-0.3
	comp=Z,46nm,0.7s								
ABKAR				*e*PcP		**PcP**		**20 15 18.1**	**+1.3**
STKA	**Stephens Creek**	57.77	165	P		**P**		20 14 27.2	-0.8
	comp=Z,3.0nm,0.9s,baz=343,slow=11,SNR=3.1								
ARU	**Arti**	57.92	323	*c i*P		**P**		20 14 28.7	-0.2
ARU								20 16 33.7	
ARU								20 22 25.9	-1.0
ARU				S		**S**		**20 26 16.2**	**-1.5**
ARU				SS		**SS**			
ARU				pmax	pmax				
	comp=Z,13nm,1.2s								
ARU	**Arti**	57.92	323	*e*P		**P**		20 14 28.2	-0.7
	comp=Z,17nm,1.4s								
AKTO	**Aktyubinsk**	58.08	315	P		**P**		20 14 29.8	-0.3
	comp=Z,2.0nm,0.8s,baz=104,slow=17,SNR=6.0								
GEYT	**Alibeck**	58.94	301	P		**P**		20 14 36.9	+0.5
	comp=Z,3.8nm,0.6s,baz=58,slow=1.4,SNR=14								
WSAR	**Wadi Sarin**	61.59	284	P		**P**		20 14 54.8	+0.1
	comp=Z,1.9nm,0.9s,baz=162,slow=3.2,SNR=2.8								
SVW2	**Sparrevohn**	63.10	32	*e*P		**P**		20 15 05.9	+1.7
	comp=Z,23nm,1.8s								
IM3	**Indian Mountai**	63.78	27	*e*P		**P**		20 15 09.6	+0.9
OHAK	**Old Harbor**	64.55	36	*e*P		**P**		20 15 15.0	+1.2
	comp=Z,107nm,1.8s								
PPLA	**Purkeypile**	64.60	30	*e*P		**P**		20 15 15.0	+0.8
	comp=Z,33nm,1.8s								
CAST	**Castle Rocks**	64.61	29	*e*P		**P**		20 15 15.2	+1.1
	comp=Z,8.2nm,1.2s								
KDAK	**Kodiak Island**	64.87	36	*e*P		**P**		20 15 18.0	+2.2
	comp=Z,95nm,1.7s								
BPAW	**Bear Paw Mtn.**	65.05	29	*e*P		**P**		20 15 17.9	+0.9
	comp=Z,3.7nm,0.8s								
MLY	**Manley**	65.08	28	*e*P		**P**		20 15 17.0	-0.2
	comp=Z,4.2nm,0.8s								
KTH	**Kantishna Hill**	65.12	29	*e*P		**P**		20 15 18.0	+0.5
	comp=Z,19nm,1.7s								
TOLK	**Toolik Lake Re**	65.29	24	*e*P		**P**		20 15 19.3	+0.8
	comp=Z,5.4nm,0.9s								
SUA	**Susitna One**	65.41	32	*e*P		**P**		20 15 20.0	+0.6
	comp=Z,7.6nm,0.7s								
TRF	**Thorofare Moun**	65.42	29	*e*P		**P**		20 15 19.5	-0.1
	comp=Z,26nm,1.7s								
BRLK	**Bradley Lake**	65.52	33	*e*P		**P**		20 15 19.8	-0.4
	comp=Z,59nm,1.7s								
MCK	**McKinley**	65.99	29	*e*P		**P**		20 15 23.0	0.0
	comp=Z,45nm,2.0s								
RND	**Reindeer**	66.06	29	*e*P		**P**		20 15 23.5	-0.1
	comp=Z,9.7nm,0.7s								
MDM	**Murphy Dome**	66.15	28	*e*P		**P**		20 15 25.1	+1.0
	comp=Z,14nm,0.9s								
WRH	**Wood River Hil**	66.27	28	*e*P		**P**		20 15 25.6	+0.8
	comp=Z,10nm,1.4s								
CCB	**Clear Creek Bu**	66.37	28	*e*P		**P**		20 15 26.5	+1.1
	comp=Z,11nm,1.7s								
SML	**Sawmill**	66.51	31	*e*P		**P**		20 15 27.2	+0.8
	comp=Z,34nm,1.8s								
ILAR	**Eielson Array**	66.74	28	P		**P**		20 15 27.3	-0.6
	comp=Z,0.6nm,0.8s,baz=250,slow=6.7,SNR=4.7								
IL1	**Eielson Array**	66.75	28	*e*P		**P**		20 15 26.0	-1.9
HDA	**Harding Lake**	66.77	28	*e*P		**P**		20 15 28.3	+0.3
	comp=Z,9.2nm,1.1s								
DHY	**Denali Highway**	66.77	30	*e*P		**P**		20 15 28.8	+0.6
	comp=Z,16nm,1.7s								
SCM	**Sheep Creek Mo**	66.97	31	*e*P		**P**		20 15 29.4	-0.1
	comp=Z,52nm,1.7s								
FYU	**Fort Yukon**	67.17	26	*e*P		**P**		20 15 31.0	+0.6
	comp=Z,40nm,1.7s								
KLMR	**Klimovskoe**	67.61	328	*e*P		**P**		20 15 31.1	-2.2
KLMR				pmax	pmax				
	comp=Z,15nm,1.4s								
KLMR	**Klimovskoe**	67.61	328	*e*P		**P**		20 15 31.1	-2.2
KLMR				AMP				20 15 48.6	
	comp=Z,15nm,1.4s								
PAX	**Paxson**	67.64	30	*e*P		**P**		20 15 34.7	+1.0
	comp=Z,4.2nm,0.9s								
KLU	**Klutina**	67.69	31	*e*P		**P**		20 15 35.3	+1.2
	comp=Z,16nm,1.6s								
RIDG	**Independ'e Rid**	67.79	29	*e*P		**P**		20 15 36.2	+1.7
	comp=Z,28nm,1.8s								
DIV	**Divide**	67.83	32	*e*P		**P**		20 15 34.9	0.0
	comp=Z,7.7nm,0.9s								
HARP	**HAARP**	67.89	30	*e*P		**P**		20 15 36.5	+1.3
	comp=Z,69nm,1.7s								
SCRK	**Sand Creek**	68.12	28	*e*P		**P**		20 15 37.2	+0.5
	comp=Z,59nm,0.8s								
DOT	**Dot Lake**	68.15	29	*e*P		**P**		20 15 36.7	-0.1
	comp=Z,17nm,0.9s								
VRH	**Novokhopyorsk**	68.25	318	*e*P		**P**		20 15 37.1	-0.5
VRH				pmax	pmax				
	comp=Z,20nm,0.8s								
BMRM	**Bremner River**	68.42	32	*e*P		**P**		20 15 39.4	+0.9
	comp=Z,9.3nm,0.9s								
MENT	**Mentasta**	68.44	29	*e*P		**P**		20 15 38.8	+0.2
	comp=Z,4.1nm,0.7s								
RAGM	**Ragged Mountai**	68.50	32	*e*P		**P**		20 15 38.7	-0.3
	comp=Z,24nm,1.1s								
ZEI	**Tsey**	68.69	308	*e*P		**P**		20 15 40.5	-0.3
ZEI				pmax	pmax				
	comp=Z,5.0nm,0.8s								
GNI	**Garni**	68.72	305	P		**P**		20 15 40.5	-0.5
	comp=Z,2.5nm,0.8s,baz=73,slow=14,SNR=1.9								
HON	**Honolulu**	68.73	76	*e*P		**P**		20 15 43.0	+1.9
HON				pmax	pmax				
	comp=Z,175nm,0.9s								
HON	**Honolulu**	68.73	76	*e*P		**P**		20 15 43.0	+1.9
	comp=Z,175nm,0.9s								
EGAK	**Eagle**	69.16	27	*e*P		P		20 15 47.9	+4.9
	comp=Z,15nm,1.6s								
KBZ	**Khabaz**	69.17	310	P		**P**		20 15 43.5	0.0
	comp=Z,4.8nm,0.9s,baz=155,slow=5.3,SNR=11								
KIV	**Kislovodsk**	69.27	310	*e*P		**P**		20 15 44.7	+0.5
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KIV	**Kislovodsk**	69.27	310	*e*P		**P**		20 15 44.7	+0.5
	comp=Z,7.7nm,0.9s								
AKH	**Akhalkalaki**	69.33	307	*e*P		**P**		20 15 45.3	+0.6
AKH				pmax	pmax				
	comp=Z,9.0nm,1.0s								
AKH	**Akhalkalaki**	69.33	307	*i*P		**P**		20 15 46.7	+2.0
AKH	**Akhalkalaki**	69.33	307	*e*P		**P**		20 15 45.3	+0.6
	comp=Z,8.5nm,1.0s								
LPSR	**Galich'ya Gora**	69.62	319	*e*P		**P**		20 15 46.4	+0.3
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
VSR	**Storozhevoye**	69.81	318	*e*P		**P**		20 15 47.1	-0.2
VSR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
DAWY	**Dawson**	70.07	28	*e*P		**P**		20 15 50.1	+1.4
	comp=Z,4.3nm,1.1s								
SPITS	**Spitsbergen Ar**	70.31	348	LR		LR		20 50 07.4	
	comp=Z,101nm,20.2s,baz=35,slow=39								
OBN	**Obninsk**	70.37	322	*e*P		**P**		20 15 51.2	+0.6
OBN				*e*PP		**pP**		**20 16 00.1**	**+0.1**
OBN				*e*SP		**sP**		**20 16 03.4**	**-0.1**
OBN				*e*				20 16 10.3	
OBN								20 18 26.0	
OBN				pmax	pmax				
	comp=Z,14nm,1.2s								
OBN				MLR	MLR				
	comp=Z,101nm,16.0s								
MHA	**Mahukona**	70.96	76	*e*P		**P**		20 15 55.4	+0.5
INK	**Inuvik**	71.15	23	P		**P**		20 15 55.4	+0.3
	comp=Z,1.0nm,0.9s,baz=295,slow=7.1,SNR=2.5								
INK	**Inuvik**	71.15	23	*e*P		**P**		20 15 56.3	+1.2
INK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
INK	**Inuvik**	71.15	23	*e*P		**P**		20 15 56.3	+1.2
	comp=Z,5.5nm,0.9s								
ARCES	**ARCESS Array B**	71.16	339	P		**P**		20 15 55.1	-0.1
	comp=Z,3.1nm,1.0s,baz=56,slow=4.8,SNR=2.4								
RAYN	**Ar Rayn**	72.98	289	*e*P		**P**		20 16 06.9	-0.1
RAYN				pmax	pmax				
	comp=Z,9.0nm,1.3s								
RAYN	**Ar Rayn**	72.98	289	*e*P		**P**		20 16 06.8	-0.1
	comp=Z,9.2nm,1.3s								
FIA1	**FINESS Array S**	73.72	331	*e*P		**P**		20 16 11.1	+0.5
FINES	**FINESS Array B**	73.72	331	P		**P**		20 16 10.7	+0.1
	comp=Z,3.8nm,0.8s,baz=68,slow=5.5,SNR=14								
AKASG	**Malin Array Be**	75.96	319	P		**P**		20 16 23.8	0.0
	comp=Z,7.0nm,0.7s,baz=57,slow=6.5,SNR=30								
KIEV	**Kiev**	75.97	319	*e*P		**P**		20 16 23.4	-0.4
	comp=Z,7.2nm,0.8s								
BR131	**Keskin Array S**	76.98	308	*e*P		**P**		20 16 30.1	+0.2
BRTR	**Keskin Array B**	76.98	308	P		**P**		20 16 30.3	+0.3
	comp=Z,3.3nm,0.9s,baz=96,slow=5.6,SNR=15								
SORM	**Soroca**	77.44	317	*i*P		**P**		20 16 31.7	-0.4
BR231	**Keskin MP Arra**	77.56	308	*e*P		**P**		20 16 30.6	-2.6
RES	**Resolute Bay**	77.61	10	*e*P		**P**		20 16 31.9	-0.7
RES				pmax	pmax				
	comp=Z,4.0nm,1.0s								
RES	**Resolute Bay**	77.61	10	*e*P		**P**		20 16 31.9	-0.7
	comp=Z,4.0nm,1.0s								
CFR	**Carcaliu**	78.72	314	P		**P**		20 16 39.7	+0.4
CFR	**Carcaliu**	78.72	314	*i*P		**P**		20 16 39.7	+0.4
TLB	**Topalu**	79.02	314	P		**P**		20 16 41.7	+0.8
TLB	**Topalu**	79.02	314	*i*P		**P**		20 16 41.7	+0.8
TESR	**Tescani**	79.14	316	*i*P		**P**		20 16 41.5	-0.1
VRI	**Vrincioaia**	79.36	316	P		**P**		20 16 43.2	+0.4
VRI	**Vrincioaia**	79.36	316	*i*P		**P**		20 16 43.2	+0.4
BUR08	**Bucovina Ar. S**	79.58	318	*e*P		**P**		20 16 44.1	0.0
BURAR	**Bucovina Array**	79.58	318	P		**P**		20 16 44.5	+0.4
BURAR	**Bucovina Array**	79.58	318	*i*P		**P**		20 16 44.6	+0.4
BUR04	**Bucovina Ar. S**	79.58	318	*e*P		**P**		20 16 43.9	-0.3
ATD	**Arta Tunnel**	79.69	278	LR		LR		20 53 29.1	
	comp=Z,78nm,20.7s,baz=104,slow=37								
HFS	**Hagfors**	79.74	332	P		**P**		20 16 44.6	0.0
	comp=Z,5.1nm,0.8s,baz=70,slow=6.3,SNR=6.1								
NC405	**NORSAR Array S**	80.05	333	*e*P		**P**		20 16 45.8	-0.5
PLAR	**PLOIESTI**	80.20	315	*i*P		**P**		20 16 47.2	-0.1
KWP	**Kalwaria Pacla**	80.22	320	*e*P		P		20 16 59.1	+12
NB2	**NORSAR Subarra**	80.29	334	P		**P**		20 16 47.0	-0.6
	comp=Z,21nm,1.4s,baz=59,slow=5.6								
NB2	**NORSAR Subarra**	80.29	334	P		**P**		20 16 47.0	-0.6
	baz=59,slow=5.6								
NOA	**NORSAR Array B**	80.29	334	P		**P**		20 16 47.6	0.0
	comp=Z,4.4nm,0.8s,baz=58,slow=5.3,SNR=7.8								
NC204	**NORSAR Array S**	80.34	334	*e*P		**P**		20 16 48.2	+0.3
YKA	**Yellowknife Ar**	80.80	24	P		**P**		20 16 50.5	+0.2
	comp=Z,0.4nm,0.7s,baz=298,slow=5.4,SNR=7.6								
ARR	**Arges**	80.90	316	*i*P		**P**		20 16 52.1	+0.9
DRGR		81.48	318	P		**P**		20 16 55.1	+0.8
DRGR		81.48	318	*i*P		**P**		20 16 55.2	+0.9
OJC	**Ojcow**	81.63	322	*e*P		**P**		20 16 57.0	+2.1
NIE	**Niedzica**	81.72	321	*e*P		**P**		20 16 56.5	+1.0
SUMG	**Summit**	82.74	356	*i* P		**P**		20 17 01.9	+1.1
SUMG				pmax	pmax				
	comp=Z,7.0nm,1.0s								
SUMG	**Summit**	82.74	356	*i* P		**P**		20 17 01.9	+1.1
	comp=Z,7.2nm,1.0s								
SUMG	**Summit**	82.74	356	*e*P		**P**		20 17 01.6	+0.8
	comp=Z,9.9nm,1.1s								
VYHS	**Vyhne**	83.01	320	*e*P		**P**		20 17 02.8	+0.6
VYHS				pmax	pmax				
	comp=Z,9.0nm,1.8s								
VYHS	**Vyhne**	83.01	320	*e*P		**P**		20 17 02.8	+0.6
VTS	**Vitosha**	83.04	314	*e*P		**P**		20 17 03.0	+0.4
VTS				pmax	pmax				
	comp=Z,4.0nm,0.8s								
VTS	**Vitosha**	83.04	314	*i*P		**P**		20 17 03.5	+0.8
VTS	**Vitosha**	83.04	314	*e*P		**P**		20 17 03.0	+0.4
	comp=Z,3.6nm,0.8s								
BRG	**Berggiesshubel**	84.53	324	*e*P		**P**		20 17 11.5	+1.6
	comp=Z,5.7nm,1.2s								
BRG	**Berggiesshubel**	84.53	324	*e*P		**P**		20 17 11.5	+1.6
BRG				pmax	pmax				
	comp=Z,6.0nm,1.2s								
GERES	**GERESS Array B**	85.75	322	P		**P**		20 17 16.1	-0.1
	comp=Z,1.1nm,0.6s,baz=32,slow=3.9,SNR=3.1								
BORG	**Borgarnes**	87.73	347	LR		LR		21 00 58.4	
	comp=Z,59nm,18.2s,baz=38,slow=39								
SFJD	**Kangerlussuaq**	88.87	359	LR		LR		21 00 22.9	
	comp=Z,78nm,20.1s,baz=344,slow=38								
F10A	**Beach Ranch, E**	89.21	39	*e*P		**P**		20 17 34.9	+2.0
	comp=Z,2.2nm,0.7s								
KMBO	**Kilima Mbogo**	89.86	269	LR		LR		21 02 02.0	
	comp=Z,89nm,18.0s,baz=95,slow=38

ISC 30 20:14:23.7±3.2, 36°72N±0°10×11°7W±0°1, h10km, n72, σ1s59/112, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.37**	**79**	*e*Pn	**Pn**	**20 15 03.7**	**+1.1**
PFVI				*e*Sn	**Sn**	**20 15 32.9**	**+1.1**
PFVI				A	A	20 15 33.6	
	7.6nm,0.8s						
PFVI	**Vila Bisbo**	**2.37**	**79**	P	**Pn**	**20 15 03.5**	**+0.8**
	3.2nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**20 15 32.1**	**+0.4**
	5.8nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.37**	**79**	*e*Pn	**Pn**	**20 15 03.7**	**+1.1**
PFVI				S	**Sn**	**20 15 32.1**	**+0.4**
	5.8nm,0.2s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**20 15 32.9**	**+1.1**
	7.6nm,0.8s						
PTEO	**Sao Teotonio**	**2.54**	**70**	*e*Sn	**Sb**	**20 15 38.2**	**-2.6**
PTEO				A	A	20 15 42.7	
	4.3nm,0.6s						
PTEO	**Sao Teotonio**	**2.54**	**70**	S	**Sb**	**20 15 38.2**	**-2.6**
	2.2nm,0.6s						
PTEO	**Sao Teotonio**	**2.54**	**70**	S	**Sb**	**20 15 38.2**	**-2.6**
	2.2nm,0.6s						
PNCL	**Nicolau / Gran**	**2.91**	**61**	*e*Pn	**Pn**	**20 15 12.2**	**+2.2**
PNCL				*e*Sn	**Sn**	**20 15 46.7**	**+1.7**
PNCL				A	A	20 15 50.1	
	1.8nm,0.2s						
PNCL	**Nicolau / Gran**	**2.91**	**61**	*e*Pn	**Pn**	**20 15 12.2**	**+2.2**
PNCL				*e*Sn	**Sn**	**20 15 46.7**	**+1.7**
	1.8nm,0.2s						
PMAFR	**Mafra**	**2.96**	**40**	*e*Sn	**Sn**	**20 15 48.5**	**+2.2**
PMAFR				A	A	20 15 49.9	
	16nm,0.2s						
PMAFR	**Mafra**	**2.96**	**40**	S	**Sn**	**20 15 45.4**	**-0.9**
	18nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.96**	**40**	S	**Sn**	**20 15 45.4**	**-0.9**
	18nm,0.1s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**20 15 48.5**	**+2.2**
	16nm,0.2s						
PVAQ	**Vaqueiros**	**3.29**	**77**	*e*Pn	**Pn**	**20 15 17.0**	**+1.7**
PVAQ	**Vaqueiros**	**3.29**	**77**	P	**Pn**	**20 15 17.0**	**+1.7**
PVAQ	**Vaqueiros**	**3.29**	**77**	P	**Pn**	**20 15 17.0**	**+1.7**
EVO	**Evora**	**3.46**	**57**	*e*Pn	**Pn**	**20 15 20.1**	**+2.4**
EVO				*e*Sn	**Sn**	**20 15 59.9**	**+1.1**
EVO				A	A	20 16 03.3	
	3.6nm,0.2s						
EVO	**Evora**	**3.46**	**57**	P	**Pn**	**20 15 20.1**	**+2.4**
EVO				S	**Sn**	**20 15 59.9**	**+1.1**
	3.6nm,0.2s						
EVO	**Evora**	**3.46**	**57**	P	**Pn**	**20 15 20.1**	**+2.4**
EVO				S	**Sn**	**20 15 59.9**	**+1.1**
	3.6nm,0.2s						
ALMR	**Almeirim**	**3.48**	**45**	*e*Pn	**Pn**	**20 15 20.1**	**+2.1**
ALMR				*e*Sn	**Sn**	**20 16 01.2**	**+1.9**
ALMR				A	A	20 16 02.5	
	7.6nm,0.3s						
ALMR	**Almeirim**	**3.48**	**45**	P	**Pn**	**20 15 20.1**	**+2.1**
ALMR				S	**Sn**	**20 16 01.2**	**+1.9**
	3.8nm,0.3s						
ALMR	**Almeirim**	**3.48**	**45**	P	**Pn**	**20 15 20.1**	**+2.1**
ALMR				S	**Sn**	**20 16 01.2**	**+1.9**
	3.8nm,0.3s						
EGRO	**El Granado**	**3.50**	**75**	P	**Pn**	**20 15 20.0**	**+1.9**
	1.2nm,0.3s,SNR=4.0						
EGRO				S	**Sn**	**20 15 59.9**	**+0.4**
	1.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.50**	**75**	P	**Pn**	**20 15 20.0**	**+1.9**
	1.2nm,0.3s,SNR=4.0						
EGRO				S	**Sn**	**20 15 59.9**	**+0.4**
	1.5nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**3.63**	**49**	*e*Pn	**Pn**	**20 15 21.9**	**+1.8**
PMTG				*e*Sn	**Sn**	**20 16 04.0**	**+1.0**
PMTG				A	A	20 16 06.2	
	2.0nm,0.2s						
PMTG	**Montargil**	**3.63**	**49**	*e*Pn	**Pn**	**20 15 21.9**	**+1.8**
PMTG				*e*Sn	**Sn**	**20 16 04.0**	**+1.0**
	2.0nm,0.2s						
PTOM	**Tomar**	**3.90**	**41**	*e*Sn	**Sn**	**20 16 11.3**	**+1.7**
PTOM				A	A	20 16 15.3	
	5.3nm,0.8s						
PTOM	**Tomar**	**3.90**	**41**	S	**Sn**	**20 16 11.3**	**+1.7**
	2.7nm,0.8s						
PTOM	**Tomar**	**3.90**	**41**	S	**Sn**	**20 16 11.3**	**+1.7**
	2.7nm,0.8s						
PESTR	**Estremoz**	**3.92**	**56**	*e*Pn	**Pn**	**20 15 26.1**	**+2.1**
PESTR				*e*Sn	**Sn**	**20 16 11.2**	**+1.1**
PESTR				A	A	20 16 16.0	
	1.8nm,0.5s						
PESTR	**Estremoz**	**3.92**	**56**	*e*Pn	**Pn**	**20 15 26.1**	**+2.1**
PESTR				*e*Sn	**Sn**	**20 16 11.2**	**+1.1**
	1.8nm,0.5s						
PBAR	**Barrancos**	**4.01**	**67**	*e*Pn	**Pn**	**20 15 27.4**	**+2.2**
PBAR				*e*Sn	**Sn**	**20 16 13.4**	**+1.1**
PBAR	**Barrancos**	**4.01**	**67**	P	**Pn**	**20 15 27.4**	**+2.2**
PBAR				S	**Sn**	**20 16 13.4**	**+1.1**
PBAR	**Barrancos**	**4.01**	**67**	P	**Pn**	**20 15 27.4**	**+2.2**
PBAR				S	**Sn**	**20 16 13.4**	**+1.1**
EMIN	**Mina Concepcio**	**4.17**	**74**	P	**Pn**	**20 15 29.1**	**+1.6**
	0.5nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**20 16 15.3**	**-1.0**
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.17**	**74**	P	**Pn**	**20 15 29.1**	**+1.6**
	0.5nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**20 16 15.3**	**-1.0**
	0.5nm,0.2s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.19**	**36**	*e*Pn	**Pn**	**20 15 29.6**	**+1.9**
PCAS				*e*Sn	**Sn**	**20 16 17.9**	**+1.2**
PCAS				A	A	20 16 21.4	
	2.9nm,0.4s						
PCAS	**Casmilo, Conde**	**4.19**	**36**	*e*Pn	**Pn**	**20 15 29.6**	**+1.9**
PCAS				*e*Sn	**Sn**	**20 16 17.9**	**+1.2**
	2.9nm,0.4s						
EBAD	**Badajoz**	**4.26**	**60**	P	**Pn**	**20 15 31.2**	**+2.5**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**20 16 18.8**	**+0.4**
	2.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.26**	**60**	P	**Pn**	**20 15 31.2**	**+2.5**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**20 16 18.8**	**+0.4**
	2.0nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**4.37**	**50**	*e*Pn	**Pn**	**20 15 31.6**	**+1.5**
PMRV				*e*Sn	**Sn**	**20 16 21.3**	**+0.2**
PMRV				A	A	20 16 24.3	
	1.8nm,0.2s						
PMRV	**Marv??o**	**4.37**	**50**	P	**Pn**	**20 15 31.6**	**+1.5**
PMRV				S	**Sn**	**20 16 21.3**	**+0.2**
	1.8nm,0.2s						
PMRV	**Marv??o**	**4.37**	**50**	P	**Pn**	**20 15 31.6**	**+1.5**
PMRV				S	**Sn**	**20 16 21.3**	**+0.2**
	1.8nm,0.2s						
ESPR	**Espera**	**4.72**	**86**	P	**Pn**	**20 15 35.7**	**+0.7**
	0.9nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**20 16 28.6**	**-1.2**
	4.5nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.72**	**86**	P	**Pn**	**20 15 35.7**	**+0.7**
	0.9nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**20 16 28.6**	**-1.2**
	4.5nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**4.93**	**41**	*e*Sn	**Sn**	**20 16 36.3**	**+1.3**
MTE	**Manteigas**	**4.93**	**41**	S	**Sn**	**20 16 36.3**	**+1.3**
MTE	**Manteigas**	**4.93**	**41**	S	**Sn**	**20 16 36.3**	**+1.3**
PVIS	**Viseu**	**4.99**	**36**	*e*Sn	**Sn**	**20 16 36.6**	**0.0**
PVIS				A	A	20 16 39.3	
	4.1nm,0.3s						
PVIS	**Viseu**	**4.99**	**36**	S	**Sn**	**20 16 36.6**	**0.0**
	2.0nm,0.3s						
PVIS	**Viseu**	**4.99**	**36**	S	**Sn**	**20 16 36.6**	**0.0**
	2.0nm,0.3s						
ECAB	**El Cabril**	**5.21**	**73**	P	**Pn**	**20 15 43.5**	**+1.7**
	0.5nm,0.2s,SNR=9.0						
ECAB				S	**Sn**	**20 16 41.0**	**-0.9**
	0.9nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**5.21**	**73**	P	**Pn**	**20 15 43.5**	**+1.7**
	0.5nm,0.2s,SNR=9.0						
ECAB				S	**Sn**	**20 16 41.0**	**-0.9**
	0.9nm,0.3s,SNR=7.9						
EPLA	**Plasencia**	**5.56**	**51**	P	**Pn**	**20 15 47.7**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**20 16 49.8**	**-0.7**
	1.4nm,0.2s,SNR=7.3						
EPLA	**Plasencia**	**5.56**	**51**	P	**Pn**	**20 15 47.7**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**20 16 49.8**	**-0.7**
	1.4nm,0.2s,SNR=7.3						
POLO	**Lamas de Olo**	**5.57**	**32**	*e*Sn	**Sn**	**20 16 50.2**	**-0.6**
POLO				A	A	20 16 54.2	
	1.2nm,0.9s						
POLO	**Lamas de Olo**	**5.57**	**32**	*e*Sn	**Sn**	**20 16 50.2**	**-0.6**
	1.2nm,0.9s						
PCAB	**Cabril**	**5.75**	**29**	*e*Sn	**Sn**	**20 16 54.6**	**-0.7**
PCAB	**Cabril**	**5.75**	**29**	Sn	**Sn**	**20 16 54.6**	**-0.7**
PCAB	**Cabril**	**5.75**	**29**	Sn	**Sn**	**20 16 54.6**	**-0.7**
MVO	**Moncorvo**	**5.76**	**38**	*e*Sn	**Sn**	**20 16 55.2**	**-0.2**
MVO				A	A	20 16 57.3	
	3.0nm,0.5s						
MVO	**Moncorvo**	**5.76**	**38**	S	**Sn**	**20 16 54.5**	**-0.9**
	1.5nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.76**	**38**	S	**Sn**	**20 16 54.5**	**-0.9**
	1.5nm,0.1s,SNR=7.9						
MVO				*e*Sn	**Sn**	**20 16 55.2**	**-0.2**
	3.0nm,0.5s						
ELOB	**Lobios**	**5.88**	**28**	S	**Sn**	**20 16 55.9**	**-2.4**
	1.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.88**	**74**	P	**Pn**	**20 15 52.1**	**+1.2**
	0.7nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**20 16 57.6**	**-0.8**
	0.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.88**	**74**	P	**Pn**	**20 15 52.1**	**+1.2**
	0.7nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**20 16 57.6**	**-0.8**
	0.6nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.88**	**26**	*e*Sn	**Sn**	**20 16 57.6**	**-1.0**
PGAV				A	A	20 16 58.9	
	2.7nm,0.7s						
PGAV	**Gavieira, Arco**	**5.88**	**26**	*e*Sn	**Sn**	**20 16 57.6**	**-1.0**
	2.7nm,0.7s						
PBRG	**Braganca**	**6.39**	**36**	*e*Sn	**Sn**	**20 17 09.9**	**-1.0**
PBRG	**Braganca**	**6.39**	**36**	Sn	**Sn**	**20 17 09.9**	**-1.0**
PBRG	**Braganca**	**6.39**	**36**	Sn	**Sn**	**20 17 09.9**	**-1.0**
ECAL	**Calabor**	**6.49**	**35**	S	**Sn**	**20 17 10.2**	**-3.4**
	1.4nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.57**	**18**	S	**Sn**	**20 17 11.2**	**-4.2**
	3.4nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.69**	**24**	S	**Sn**	**20 17 15.2**	**-3.2**
	1.0nm,0.1s,SNR=7.9						

TAP 30 20:16:00.3, 23°16N×120°89E, h6km±1km, ML0.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.12**	**74**	*i* P	Pg	20 16 04.1	+1.2
	baz=75						
ELDTW				*i* S	Sg	20 16 06.1	+1.4
	baz=75						
STYT	**Tauyuan**	**0.12**	**274**	P	Pg	20 16 03.7	+0.7
	baz=272						
STYT				*i* S	Sg	20 16 05.9	+1.0
	baz=272						
FULB	**Fuli**	**0.37**	**83**	*e*P	Pb	20 16 09.4	+0.1
	baz=83						
TWG	**Pinlang**	**0.37**	**153**	*e*P	Pb	20 16 08.7	-0.6
	baz=152						
TWF1	**Yuli**	**0.42**	**62**	*e*P	Pb	20 16 09.8	-0.4
	baz=62						
YULB	**Yu-li**	**0.44**	**58**	*e*P	Pb	20 16 10.0	-0.5
	baz=57						

TAP 30 20:16:01.5, 23°02N×120°65E, h19km, ML1.3, 2C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGT	**Liugui**	**0.03**	**189**	*i* P	Pg	20 16 05.3	+0.4
	baz=189						
SLGT				S	Sg	20 16 08.0	+0.7
	baz=189						
SGST	**Jiashian**	**0.09**	**314**	*i* P	Pg	20 16 05.6	+0.3
	baz=316						
SGST				*e*S	Sg	20 16 08.3	+0.5
	baz=316						
CHN1	**Nanshi**	**0.20**	**325**	*e*P	Pg	20 16 07.1	+0.4
	baz=325						
CHN1				S	Sg	20 16 11.2	+1.1
	baz=325						
WTP	**Ta-pu**	**0.23**	**351**	P	Pg	20 16 07.3	+0.2
	baz=353						
WTP				*e*S	Sg	20 16 12.0	+1.1
	baz=353						
SSD	**Sandimen**	**0.28**	**184**	*e*P	Pg	20 16 08.4	+0.6
	baz=182						
SSD				*e*S	Sg	20 16 13.1	+1.0
	baz=182						
TPUB	**Ta-pu**	**0.28**	**356**	*e*P	Pb	20 16 07.7	-0.2
	baz=355						
TPUB				*e*S	Sg	20 16 13.0	+0.9
	baz=355						
TWK	**Hsinying**	**0.29**	**328**	*e*P	Pb	20 16 09.1	+1.0
	baz=330						
TWK				S	Sg	20 16 13.5	+1.0
	baz=330						
TWM1	**Shoushan**	**0.29**	**227**	*e*P	Pb	20 16 08.9	+0.9
	baz=225						
CHN4	**Tsaushan**	**0.33**	**351**	*e*P	Pg	20 16 08.6	-0.1
	baz=350						
MASBT	**Mashibuluo**	**0.41**	**182**	*e*P	Pb	20 16 10.7	+0.5
	baz=182						
MASBT				*e*S	Sb	20 16 16.7	+0.6
	baz=182						
ECL	**Taimali**	**0.51**	**146**	*e*P	Pn	20 16 12.8	-0.9
	baz=145						
WSSB	**Gushan**	**0.52**	**224**	*e*P	Pn	20 16 13.9	0.0
	baz=223						
CHN5	**Tsauling**	**0.57**	**2**	*e*P	Pb	20 16 12.3	-0.6
	baz=2.0						
CHN5				*e*S	Sg	20 16 22.1	+1.2
	baz=2.0						
FULB	**Fuli**	**0.62**	**73**	*e*P	Pn	20 16 14.9	-0.3
	baz=73						
FULB	**Fuli**	**0.62**	**73**	*e*S	Pn	20 16 14.9	-0.3
	baz=83						
EAST	**Anshuo**	**0.66**	**164**	*e*P	Pn	20 16 15.8	0.0
	baz=163						
TWF1	**Yuli**	**0.68**	**61**	*e*P	Pn	20 16 15.9	-0.2
	baz=61						
YULB	**Yu-li**	**0.70**	**58**	*e*P	Pg	20 16 15.6	+0.2
	baz=58						
YULB				*e*S	Sg	20 16 25.4	+0.7
	baz=58						
YULB	**Yu-li**	**0.70**	**58**	*e*S	Pg	20 16 15.7	+0.3
	baz=57						
HGSD	**Ruisui**	**0.85**	**56**	*e*P	Pb	20 16 16.8	-0.9
	baz=56						

*SJA **30** 20:24:33.5±0.6, 30°.86S×69°.71W, h120km±4km, ML2.5, MW2.8*
*ISCJB **30** 20:24:34.1±0.9, 30°.84S±0°.03×69°.71W±0°.05, h122km±8km, Error ellipse: s-maj=7.9km s-min=5.4km az=18.7*
*GUC **30** 20:24:34.4±0.6, 30°.87S×70°.34W, h145km±8km, ML3.2*
ISC 30 20:24:34.8±1.9, 30°.84S±0°.04×69°.72W±0°.06, h117km±15km, n15, σ0s68/28, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AROD	**Rodeo**	**0.70**	**18**	*e*P	**Pn**	**20 24 54.5**	**+0.2**
AROD				*e*S	**Sn**	**20 25 09.0**	**+0.2**
ACDV	**Cuesta del Vie**	**0.84**	**38**	*e*P	**Pn**	**20 24 55.2**	**0.0**
ACDV				*e*S	**Sn**	**20 25 11.1**	**+0.5**
RTLS	**Leoncito**	**1.02**	**160**	*e*P	**Pn**	**20 24 57.4**	**+0.2**
RTLS				*e*S	**Sn**	**20 25 14.6**	**+0.5**
RTLS				IAML		20 25 15.2	
	comp=Z,61nm,0.2s						
AMOG	**MOGNA**	**1.06**	**96**	*e*P	**Pn**	**20 24 56.9**	**-0.3**
AMOG				*e*S	**Sn**	**20 25 14.1**	**-0.1**
ZON	**Zonda**	**1.14**	**129**	*e*P	**Pn**	**20 24 57.5**	**-0.5**
ZON				*e*S	**Sn**	**20 25 15.3**	**-0.3**
GO04	**Tololo Observa**	**1.15**	**305**	*i* S	**Sn**	**20 25 15.6**	**-0.5**
GO04				IAML		20 25 20.0	
	comp=N,629nm,0.3s						
RTLL	**Cerro Villicun**	**1.17**	**115**	*e*P	**Pn**	**20 24 58.0**	**-0.4**
RTLL				*e*S	**Sn**	**20 25 16.0**	**-0.3**
RTLL				IAML		20 25 16.0	
	comp=Z,125nm,0.3s						
AUSP	**Uspallata**	**1.41**	**169**	*e*P	**Pn**	**20 25 01.6**	**+0.3**
AUSP				*e*S	**Sn**	**20 25 21.8**	**+0.4**
RTCV	**Cerro Valdivia**	**1.44**	**136**	*e*P	**Pn**	**20 25 01.0**	**-0.3**
RTCV				*e*S	**Sn**	**20 25 21.2**	**-0.3**
AGUA	**GUANDACOL**	**1.71**	**39**	*e*P	**Pn**	**20 25 05.2**	**+0.5**
AGUA				*e*S	**Sn**	**20 25 27.6**	**+0.2**
ROCH	**El Roble**	**2.40**	**207**	*e*P	**Pn**	**20 25 12.5**	**-0.8**
ROCH				*i* S	**Sn**	**20 25 41.2**	**-1.7**
ROC1	**El Roble**	**2.40**	**207**	*e*P	**Pn**	**20 25 13.0**	**-0.5**
ROC1				*e*S	**Sn**	**20 25 42.4**	**-0.7**
FCH	**Farellones**	**2.53**	**191**	*e*P	**Pn**	**20 25 15.9**	**+0.7**
FCH				*i* S	**Sn**	**20 25 47.3**	**+1.1**
FCH				IAML		20 25 51.4	
	comp=E,72nm,0.1s						
APLL	**PUNTA DE LOS L**	**2.78**	**82**	*e*P	**Pn**	**20 25 17.6**	**-0.6**
APLL				IAML		20 25 17.8	
	comp=Z,10.0nm,0.2s						
LMEL	**Las Melosas**	**3.03**	**188**	*e*P	**Pn**	**20 25 22.1**	**+0.5**
LMEL				*i* S	**Sn**	**20 25 58.9**	**+1.3**

*ATH **30** 20:31:12.1, 35°.89N×21°.85E, h19km±2km, ML2.9/13, Error ellipse: s-maj=4.4km s-min=1.7km az=51.0*
*CSEM **30** 20:31:13.4±0.5, 35°.97N×21°.91E, h10km, ML2.8, Error ellipse: s-maj=10.4km s-min=5.4km az=38.0*
*IDC **30** 20:31:15.0±4.4, 36°.76N×22°.64E, h0km, mb3.8/4, mb1 3.7/5, mb1mx3.3/68, mbtmp3.7/5, ML1.8/1, MS2.2/1, Ms1 2.2/1, ms1mx2.0/71, Error ellipse: s-maj=97.6km s-min=16.5km az=51.0*
*THE **30** 20:31:15.1, 36°.07N±21°.97E, h11km±1km, ML2.8/7, Error ellipse: s-maj=1.4km s-min=0.6km az=216.0*
ISC 30 20:31:12.8±1.6, 35°.95N±0°.06×21°.88E±0°.05, h17km±9km, n50, σ1s18/66, mb3.8/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.89**	**24**	P	**Pg**	**20 31 28.4**	**-1.7**
DYR				S	**Sn**	**20 31 44.0**	**+0.9**
DYR				AML	AML	20 31 46.8	
	comp=N,680μm,0.2s						
DYR				AML	AML	20 31 48.2	
	comp=E,1280μm,0.4s						
DYR	**Agios Nikonas**	**0.89**	**24**	P	**Pg**	**20 31 29.3**	**-0.8**
DYR				S	**Sn**	**20 31 43.7**	**+0.7**
PYL	**PYLOS**	**0.95**	**353**	P	**Pg**	**20 31 31.3**	**+0.1**
PYL				S	**Sn**	**20 31 45.7**	**+1.2**
PYL				AML	AML	20 31 49.9	
	comp=N,948μm,0.4s						
PYL				AML	AML	20 31 57.2	
	comp=E,1192μm,0.4s						
PYL	**PYLOS**	**0.95**	**353**	P	**Pg**	**20 31 31.1**	**-0.2**
PYL				S	**Sb**	**20 31 43.6**	**+0.5**
PYL	**PYLOS**	**0.95**	**353**	P	**Pg**	**20 31 31.1**	**-0.2**
PYL				S	**Sb**	**20 31 43.6**	**+0.5**
KYTH	**Kithira**	**1.00**	**71**	P	**Pg**	**20 31 31.5**	**-0.6**
KYTH				AML	AML	20 31 49.5	
	comp=E,1250μm,0.4s						
KYTH				AML	AML	20 31 51.9	
	comp=N,1356μm,0.5s						
KYTH	**Kithira**	**1.00**	**71**	P	**Pg**	**20 31 31.8**	**-0.4**
KYTH				S	**Sb**	**20 31 44.7**	**+0.3**
KYTH	**Kithira**	**1.00**	**71**	P	**Pg**	**20 31 31.8**	**-0.4**
KYTH				S	**Sb**	**20 31 44.7**	**+0.3**
VLI	**Veliai**	**1.15**	**48**	P	**Pg**	**20 31 33.7**	**-1.3**
VLI				AML	AML	20 31 56.9	
	comp=E,682μm,0.7s						
VLI				AML	AML	20 32 01.0	
	comp=N,777μm,0.5s						
VLI	**Veliai**	**1.15**	**48**	P	**Pg**	**20 31 34.3**	**-0.7**
VLI				S	**Sn**	**20 31 49.2**	**-0.2**
VLI	**Veliai**	**1.15**	**48**	P	**Pg**	**20 31 34.0**	**-1.0**
VLI				S	**Sn**	**20 31 49.2**	**-0.2**
ANKY	**Antikythira Is**	**1.16**	**94**	P	**Pn**	**20 31 36.5**	**+2.3**
ANKY				S	**Sg**	**20 31 50.3**	**-0.1**
ANKY	**Antikythira Is**	**1.16**	**94**	P	**Pb**	**20 31 35.4**	**+1.1**
ANKY				S	**Sg**	**20 31 50.5**	**+0.1**
ANKY	**Antikythira Is**	**1.16**	**94**	P	**Pb**	**20 31 35.4**	**+1.1**
ANKY				S	**Sn**	**20 31 51.1**	**+1.5**
ITM	**Ithomi**	**1.23**	**2**	P	**Pb**	**20 31 35.5**	**-0.1**
ITM				AML	AML	20 31 58.2	
	comp=N,765μm,0.6s						
ITM				AML	AML	20 32 01.1	
	comp=E,1024μm,0.3s						
ITM	**Ithomi**	**1.23**	**2**	P	**Pb**	**20 31 35.9**	**+0.4**
ITM				S	**Sn**	**20 31 51.6**	**+0.2**
ITM	**Ithomi**	**1.23**	**2**	P	**Pb**	**20 31 35.9**	**+0.4**
ITM				S	**Sn**	**20 31 51.6**	**+0.2**
VLX	**Vlachokerasia**	**1.47**	**16**	P	**Pn**	**20 31 39.2**	**+0.5**
VLX				S	**Sg**	**20 32 01.7**	**+1.3**
VLX				AML	AML	20 32 08.7	
	comp=E,769μm,0.5s						
VLX				AML	AML	20 32 08.8	
	comp=N,1250μm,0.5s						
VLX	**Vlachokerasia**	**1.47**	**16**	P	**Pn**	**20 31 39.9**	**+1.3**
VLX				S	**Sn**	**20 31 57.7**	**+0.2**
VLX	**Vlachokerasia**	**1.47**	**16**	P	**Pn**	**20 31 39.4**	**+0.8**
VLX				S	**Sn**	**20 31 57.7**	**+0.2**
AMT	**Artemida-Makis**	**1.58**	**355**	P	**Pg**	**20 31 43.0**	**-0.4**
AMT				AML	AML	20 32 15.9	
	comp=N,865μm,0.5s						
AMT				AML	AML	20 32 21.8	
	comp=E,920μm,0.5s						
AMT	**Artemida-Makis**	**1.58**	**355**	P	**Pn**	**20 31 40.9**	**+0.8**
AMT				S	**Sn**	**20 32 00.0**	**-0.2**
AMT	**Artemida-Makis**	**1.58**	**355**	P	**Pn**	**20 31 40.9**	**+0.8**
AMT				S	**Sn**	**20 32 00.0**	**-0.2**
IMMV	**Iera Moni Meta**	**1.78**	**105**	P	**Pn**	**20 31 42.3**	**-0.4**
IMMV				AML	AML	20 32 15.6	
	comp=E,471μm,0.5s						
IMMV				AML	AML	20 32 22.5	
	comp=N,502μm,0.6s						
IMMV	**Iera Moni Meta**	**1.78**	**105**	P	**Pn**	**20 31 43.3**	**+0.5**
DID	**Didima**	**1.90**	**35**	P	**Pg**	**20 31 48.8**	**-0.5**
DID				AML	AML	20 32 19.0	
	comp=E,326μm,0.9s						
DID				AML	AML	20 32 21.7	
	comp=N,338μm,0.6s						
DID	**Didima**	**1.90**	**35**	P	**Pn**	**20 31 44.3**	**-0.1**
DID	**Didima**	**1.90**	**35**	P	**Pn**	**20 31 44.3**	**-0.1**
DRO	**Drossia**	**2.00**	**356**	P	**Pn**	**20 31 48.4**	**+2.5**
DRO				AML	AML	20 32 30.2	
	comp=E,620μm,0.6s						
DRO				AML	AML	20 32 32.0	
	comp=N,723μm,0.6s						
DRO	**Drossia**	**2.00**	**356**	P	**Pn**	**20 31 46.6**	**+0.

comp=E,0.3nm,0.4s,baz=279,slow=7.0,SNR=2.4

CSEM ***30*** *20:46:24.0, 43°24'N × 13°08'E, h17km, MD2.0/17, After ROM*

ROM 30 20:46:24.0±0.1, 43°24'N×13°08'E, h17km±2km, Md2.0/17, MI1.4/15, Error ellipse: s-maj=1.8km s-min=1.2km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNTG	**Esanatoglia**	**0.10**	**280**	Pg	Pg	20 46 27.6	0.0
SNTG				Sg	Sb	20 46 30.3	+0.2
	104nm,0.1s						
SNTG	**Esanatoglia**	**0.10**	**280**	Pg	Pg	20 46 27.6	0.0
SNTG				Sg	Sb	20 46 30.3	+0.2
	104nm,0.1s						
CING	**Cingoli**	**0.16**	**31**	Pg	Pg	20 46 28.4	+0.1
CING				Sg	Sb	20 46 31.8	+0.1
	35nm,0.1s						
CING	**Cingoli**	**0.16**	**31**	Pg	Pg	20 46 28.4	+0.1
CING				Sg	Sb	20 46 31.8	+0.1
	35nm,0.1s						
FDMO	**Fiordimonte**	**0.20**	**179**	Pg	Pg	20 46 28.2	-0.6
FDMO				Sg	Sg	20 46 32.3	+0.2
	59nm,0.2s						
FDMO	**Fiordimonte**	**0.20**	**179**	Pg	Pg	20 46 28.2	-0.6
FDMO				Sg	Sg	20 46 32.3	+0.2
	59nm,0.2s						
CESI	**CESI - Serrava**	**0.27**	**209**	Pg	Pb	20 46 30.2	-0.2
CESI				Sg	Sb	20 46 35.3	+0.6
	16nm,0.2s						
CESI	**CESI - Serrava**	**0.27**	**209**	Pg	Pb	20 46 30.2	-0.2
CESI				Sg	Sb	20 46 35.3	+0.6
	16nm,0.2s						
ARVD	**Arcevia**	**0.28**	**339**	Pg	Pg	20 46 29.9	-0.2
ARVD				Sg	Sg	20 46 34.7	+0.4
	21nm,0.1s						
ARVD	**Arcevia**	**0.28**	**339**	Pg	Pg	20 46 29.9	-0.2
ARVD				Sg	Sg	20 46 34.7	+0.4
	21nm,0.1s						
ATCC	**AVT- Casa Cast**	**0.33**	**261**	Pg	Pg	20 46 31.0	+0.1
ATCC				Sg	Sb	20 46 36.6	+0.1
	39nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.33**	**261**	Pg	Pg	20 46 31.0	+0.1
ATCC				Sg	Sb	20 46 36.6	+0.1
	39nm,0.4s						
FRON	**Frontone**	**0.38**	**317**	Pg	Pg	20 46 31.7	-0.2
FRON				Sg	Sb	20 46 38.4	+0.3
	18nm,0.2s						
FRON	**Frontone**	**0.38**	**317**	Pg	Pg	20 46 31.7	-0.2
FRON				Sg	Sb	20 46 38.4	+0.3
	18nm,0.2s						
NRCA	**Norcia**	**0.40**	**177**	Pg	Pg	20 46 32.4	+0.1
	43nm,0.1s						
NRCA	**Norcia**	**0.40**	**177**	Pg	Pg	20 46 32.4	+0.1
	43nm,0.1s						
MURB	**Monte Urbino**	**0.41**	**274**	Pg	Pg	20 46 32.5	+0.1
MURB				Sg	Sb	20 46 39.4	+0.6
	53nm,0.2s						
MURB	**Monte Urbino**	**0.41**	**274**	Pg	Pg	20 46 32.5	+0.1
MURB				Sg	Sb	20 46 39.4	+0.6
	53nm,0.2s						
MPAG	**Monte Paganucc**	**0.46**	**329**	Pg	Pg	20 46 33.1	-0.2
MPAG				Sg	Sb	20 46 40.3	0.0
	12nm,0.2s						
MPAG	**Monte Paganucc**	**0.46**	**329**	Pg	Pg	20 46 33.1	-0.2
MPAG				Sg	Sb	20 46 40.3	0.0
	12nm,0.2s						
AOI	**Ancona**	**0.49**	**50**	Pg	Pb	20 46 34.1	-0.2
AOI				Sg	Sb	20 46 42.1	+0.9
AOI	**Ancona**	**0.49**	**50**	Pg	Pb	20 46 34.1	-0.2
AOI				Sg	Sb	20 46 42.1	+0.9
PIEI	**Pieia**	**0.50**	**307**	Pg	Pg	20 46 33.5	-0.5
PIEI				Sg	Sb	20 46 41.4	0.0
	14nm,0.2s						
PIEI	**Pieia**	**0.50**	**307**	Pg	Pg	20 46 33.5	-0.5
PIEI				Sg	Sb	20 46 41.4	0.0
	14nm,0.2s						
FSSB	**Fossombrone**	**0.51**	**334**	Pg	Pb	20 46 34.5	0.0
FSSB				Sg	Sb	20 46 42.2	+0.5
	33nm,0.3s						
FSSB	**Fossombrone**	**0.51**	**334**	Pg	Pb	20 46 34.5	0.0
FSSB				Sg	Sb	20 46 42.2	+0.5
	33nm,0.3s						
ATVO	**AVT- Monte Val**	**0.51**	**287**	Pg	Pg	20 46 33.9	-0.4
ATVO				Sg	Sb	20 46 41.8	-0.1
ATVO	**AVT- Monte Val**	**0.51**	**287**	Pg	Pg	20 46 33.9	-0.4
ATVO				Sg	Sb	20 46 41.8	-0.1
ATPC	**Poggio Castell**	**0.52**	**298**	Pg	Pg	20 46 33.9	-0.4
	16nm,0.2s						
ATPC	**Poggio Castell**	**0.52**	**298**	Pg	Pg	20 46 33.9	-0.4
	16nm,0.2s						
SMA1	**SAN MARTINO**	**0.63**	**163**	Pg	Pb	20 46 36.7	0.0
	14nm,0.2s						
SMA1	**SAN MARTINO**	**0.63**	**163**	Pg	Pb	20 46 36.7	0.0
	14nm,0.2s						
LNSS	**Leonessa**	**0.63**	**183**	Pg	Pg	20 46 36.4	-0.1
LNSS	**Leonessa**	**0.63**	**183**	Pg	Pg	20 46 36.4	-0.1
GUMA	**Gualdo di Mace**	**0.65**	**105**	Pg	Pg	20 46 30.5	-6.3
	125nm,0.5s						
GUMA	**Gualdo di Mace**	**0.65**	**105**	Pg	Pg	20 46 30.5	-6.3
	125nm,0.5s						

BEO ***30*** *20:48:33.9±0.6, 42°.67N×26°.31E, h0km, M4.2/1*
IDC ***30*** *20:48:33.1±0.7, 42°.69N×26°.52E, h0km, mb3.4/10, mb1 3.6/21, mb1mx3.5/78, mbtmp3.5/21, ML3.2/9, Error ellipse: s-maj=11.5km s-min=9.1km az=50.0*
SOF ***30*** *20:48:33.6, 42°.67N×26°.30E, h4km, MD3.8*
ISCJB ***30*** *20:48:33.4±0.4, 42°.63N±0°.01×26°.26E±0°.02, h6km±3km, mb3.4/9, Error ellipse: s-maj=2.0km s-min=1.7km az=43.7*
PDG ***30*** *20:48:34.4±0.5, 42°.63N×26°.31E, h12km±1km, ML4.0/9, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
DDA ***30*** *20:48:34.4, 42°.69N×26°.42E, h33km, MI3.9*
CSEM ***30*** *20:48:34.4±0.1, 42°.62N×26°.29E, h5km, ML3.7, Error ellipse: s-maj=2.2km s-min=1.8km az=68.0*
THE ***30*** *20:48:34.6, 42°.62N×26°.39E, h8km±3km, ML3.7/4, Error ellipse: s-maj=4.9km s-min=0.5km az=55.0*
ISK ***30*** *20:48:35.1, 42°.55N×26°.31E, h11km, ML3.9/25*

ISC 30 20:48:33.9±1.0, 42°.64N±0°.01×26°.32E±0°.02, h8km±7km, n348, σ1°35/434, mb3.5/9, 84C-42D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.26**	**131**	P	**Pg**	**20 48 38.9**	**-0.2**
JMB				S	**Sg**	**20 48 42.2**	**-0.4**
JMB	**Yambol**	**0.26**	**131**	*i* P	**Pg**	**20 48 38.8**	**-0.3**
JMB	**Yambol**	**0.26**	**131**	P	**Pg**	**20 48 38.9**	**-0.2**
JMB				S	**Sg**	**20 48 42.2**	**-0.4**
SZH	**Strazhica**	**0.69**	**336**	*i* P	**Pg**	**20 48 47.2**	**0.0**
DIM	**Dimitrovgrad**	**0.82**	**225**	*i* P	**Pg**	**20 48 49.8**	**0.0**
EDRB	**Edirne**	**0.85**	**158**	PG	**Pg**	**20 48 50.4**	**+0.1**
EDRB				SG	**Sg**	**20 49 01.6**	**+0.3**
PVL	**Pavlikeni**	**0.93**	**309**	*i* P	**Pb**	**20 48 52.6**	**+0.4**
PRD	**Provadia**	**0.97**	**54**	*i* P	**Pg**	**20 48 51.8**	**-0.8**
KDZ	**Kurdzhali**	**1.19**	**214**	*i* P	**Pb**	**20 48 56.9**	**+0.1**
ZIMR		**1.23**	**326**	⇓*i* P	**Pn**	**20 48 57.6**	**+0.1**
ZIMR		**1.23**	**326**	S	**Sn**	**20 49 14.9**	**+0.5**
PLD	**Plovdiv**	**1.31**	**247**	*e*Pg	**Pn**	**20 48 57.4**	**-1.1**
PLD	**Plovdiv**	**1.31**	**247**	*e*Pg	**Pn**	**20 48 57.4**	**-1.1**
PLD	**Plovdiv**	**1.31**	**247**	*i* P	**Pn**	**20 48 57.8**	**-0.7**
PHSR	**Pinarhisar**	**1.35**	**138**	PN	**Pb**	**20 48 59.6**	**+0.2**
PHSR				SN	**Sn**	**20 49 17.3**	**+0.1**
RZN	**Rozhen**	**1.52**	**232**	*i* P	**Pn**	**20 49 02.0**	**+0.4**
PGB	**Panagyurishte**	**1.59**	**268**	*i* P	**Pn**	**20 49 03.1**	**+0.7**
RDO	**Rodhopi**	**1.60**	**202**	P	**Pn**	**20 49 02.8**	**+0.3**
RDO				S	**Sb**	**20 49 24.1**	**+0.1**
RDO	**Rodhopi**	**1.60**	**202**	P	**Pn**	**20 49 02.8**	**+0.3**
RDO				S	**Sb**	**20 49 24.1**	**+0.1**
SGRR	**Singureni**	**1.60**	**351**	⇑*i* P	**Pb**	**20 49 04.0**	**+0.2**
SGRR	**Singureni**	**1.60**	**351**	⇑*i* P	**Pb**	**20 49 04.0**	**+0.2**
SGRR				S	**Sg**	**20 49 26.2**	**+0.7**
PSN	**Preselentsi**	**1.72**	**52**	*i* P	**Pn**	**20 49 03.0**	**-1.2**
BUC1	**Bucharest**	**1.72**	**353**	⇑*i* P	**Pg**	**20 49 06.8**	**-0.2**
BUC1				S	**Sg**	**20 49 32.0**	**+2.7**
ALN	**Alexandroupoli**	**1.75**	**187**	P	**Pn**	**20 49 04.6**	**0.0**
ALN				S	**Sn**	**20 49 27.7**	**+0.7**
ALN	**Alexandroupoli**	**1.75**	**187**	P	**Pn**	**20 49 04.6**	**0.0**
ALN				S	**Sn**	**20 49 27.7**	**+0.7**
BUC	**Bucharest**	**1.78**	**355**	⇑*i* P	**Pb**	**20 49 06.8**	**-0.1**
BUC	**Bucharest**	**1.78**	**355**	S	**Sg**	**20 49 32.0**	**+0.8**
INCR	**INCERC-Sediu C**	**1.81**	**356**	⇓*i* P	**Pb**	**20 49 07.0**	**-0.3**
INCR	**INCERC-Sediu C**	**1.81**	**356**	⇓*i* P	**Pb**	**20 49 07.0**	**-0.3**
INCR				S	**Sg**	**20 49 32.4**	**+0.4**
KESN	**Edirne-Kesan**	**1.83**	**171**	*i* P	**Pn**	**20 49 06.3**	**+0.3**
KESN				*i* S	**Sg**	**20 49 32.2**	**-0.5**
KESN	**Edirne-Kesan**	**1.83**	**171**	P	**Pn**	**20 49 06.3**	**+0.3**
KESN				S	**Sg**	**20 49 32.2**	**-0.5**
CIOR	**Ciorogarla**	**1.84**	**350**	⇑*i* P	**Pg**	**20 49 10.4**	**+1.2**
CIOR	**Ciorogarla**	**1.84**	**350**	⇑*i* P	**Pg**	**20 49 10.4**	**+1.2**
CIOR				S	**Sg**	**20 49 33.5**	**+0.5**
CRLT	**Corlu**	**1.84**	**144**	PN	**Pn**	**20 49 06.5**	**+0.7**
CRLT	**Corlu**	**1.84**	**144**	*e*Pn	**Pn**	**20 49 06.5**	**+0.7**
CTYL	**Yalikoy Yolu**	**1.87**	**128**	PN	**Pb**	**20 49 07.7**	**-0.7**
KIYI	**Yal¯–koy-Catal**	**1.87**	**127**	PN	**Pn**	**20 49 07.2**	**+1.0**
KIYI				SN	**Sn**	**20 49 30.7**	**+0.6**
TKR	**Tekirdag**	**1.88**	**151**	PN	**Pn**	**20 49 06.7**	**+0.3**
TKR				SN	**Sn**	**20 49 30.3**	**0.0**
TKR	**Tekirdag**	**1.88**	**151**	*e*Pn	**Pn**	**20 49 06.7**	**+0.3**
TKR				*e*Sn	**Sn**	**20 49 30.3**	**0.0**
ENEZ	**Enez**	**1.90**	**184**	PN	**Pn**	**20 49 07.2**	**+0.5**
ENEZ	**Enez**	**1.90**	**184**	P	**Pn**	**20 49 06.7**	**0.0**
ENEZ	**Enez**	**1.90**	**184**	*e*Pn	**Pn**	**20 49 07.2**	**+0.5**
ENEZ	**Enez**	**1.90**	**184**	P	**Pn**	**20 49 06.7**	**0.0**
ERIK	**Erikli-Kesan**	**1.97**	**176**	PN	**Pn**	**20 49 08.2**	**+0.6**
ERIK	**Erikli-Kesan**	**1.97**	**176**	*e*Pn	**Pn**	**20 49 08.2**	**+0.6**
SLVT	**Silivri**	**1.99**	**134**	PN	**Pn**	**20 49 09.0**	**+1.1**
SLVT	**Silivri**	**1.99**	**134**	P	**Pg**	**20 49 13.3**	**+1.2**
MPEP	**Malo Peshtene**	**2.02**	**292**	*i* P	**Pn**	**20 49 09.0**	**+0.7**
MANR	**Mangalia**	**2.04**	**54**	⇑*i* P	**Pn**	**20 49 08.8**	**+0.3**
MANR	**Mangalia**	**2.04**	**54**	⇑*i* P	**Pn**	**20 49 08.8**	**+0.3**
MANR				S	**Sb**	**20 49 37.0**	**+0.4**
SULR		**2.04**	**359**	⇓*i* P	**Pb**	**20 49 11.7**	**+0.5**
SULR		**2.04**	**359**	⇓*i* P	**Pb**	**20 49 11.7**	**+0.5**
SULR				S	**Sg**	**20 49 40.7**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.05**	**161**	PN	**Pn**	**20 49 09.9**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.05**	**161**	*e*Pn	**Pn**	**20 49 09.9**	**+1.1**
AMRR	**Amara**	**2.11**	**20**	⇑*i* P	**Pb**	**20 49 11.4**	**-1.0**
AMRR	**Amara**	**2.11**	**20**	⇑*i* P	**Pb**	**20 49 11.4**	**-1.0**
AMRR				S	**Sb**	**20 49 39.6**	**+0.9**
CVDA	**Cernavoda**	**2.11**	**36**	⇓*i* P	**Pn**	**20 49 10.1**	**+0.6**
CVDA	**Cernavoda**	**2.11**	**36**	⇓*i* P	**Pn**	**20 49 10.1**	**+0.6**
CVDA				S	**Sg**	**20 49 41.0**	**-0.7**
KAVA	**Kavala**	**2.12**	**220**	P	**Pn**	**20 49 10.5**	**+0.8**
KAVA				S	**Sb**	**20 49 38.1**	**-1.0**
KAVA	**Kavala**	**2.12**	**220**	P	**Pn**	**20 49 10.5**	**+0.8**
KAVA				S	**Sb**	**20 49 38.1**	**-1.0**
HUMR	**Humele**	**2.12**	**333**	⇑*i* P	**Pn**	**20 49 10.2**	**+0.4**
HUMR	**Humele**	**2.12**	**333**	⇑*i* P	**Pn**	**20 49 10.2**	**+0.4**
HUMR				S	**Sg**	**20 49 42.8**	**+0.6**
SBT3	**Marmara-Eregli**	**2.15**	**144**	PN	**Pn**	**20 49 11.3**	**+1.4**
SBT3	**Marmara-Eregli**	**2.15**	**144**	*e*Pn	**Pn**	**20 49 11.3**	**+1.4**
CTKS	**Kestenelik-??a**	**2.15**	**130**	PN	**Pn**	**20 49 10.9**	**+0.8**
ELBA	**Catalca**	**2.17**	**133**	*i* P	**Pn**	**20 49 10.2**	**-0.1**
ELBA				*i* S	**Sn**	**20 49 37.6**	**+0.2**
MMB	**Musomiste**	**2.19**	**242**	*i* P	**Pn**	**20 49 11.5**	**+0.8**
EFOR	**EFORIE**	**2.22**	**49**	⇑*i* P	**Pn**	**20 49 11.2**	**+0.2**
EFOR	**EFORIE**	**2.22**	**49**	⇑*i* P	**Pn**	**20 49 11.2**	**+0.2**
EFOR				S	**Sb**	**20 49 42.4**	**+0.5**
NVR	**Nevrokopi**	**2.24**	**236**	P	**Pn**	**20 49 11.8**	**+0.5**
NVR				S	**Sn**	**20 49 40.4**	**+1.3**
NVR	**Nevrokopi**	**2.24**	**236**	P	**Pn**	**20 49 11.8**	**+0.5**
NVR				S	**Sn**	**20 49 40.4**	**+1.3**
GELI	**Tayfur-Gelibol**	**2.24**	**177**	PN	**Pn**	**20 49 11.8**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.24**	**177**	*e*Pn	**Pn**	**20 49 11.8**	**+0.5**
SMTH	**Samothraki Isl**	**2.24**	**196**	P	**Pn**	**20 49 11.3**	**-0.1**
SMTH	**Samothraki Isl**	**2.24**	**196**	P	**Pn**	**20 49 11.3**	**-0.1**
PLAR	**PLOIESTI**	**2.29**	**355**	⇑*i* P	**Pg**	**20 49 17.5**	**-0.2**
PLAR	**PLOIESTI**	**2.29**	**355**	S	**Sg**	**20 49 49.3**	**+1.9**
PLAR	**PLOIESTI**	**2.29**	**355**	⇑*i* P	**Pg**	**20 49 17.5**	**-0.2**
LPK	**Lapseki**	**2.29**	**171**	PN	**Pn**	**20 49 12.1**	**+0.1**
LPK	**Lapseki**	**2.29**	**171**	*e*Pn	**Pn**	**20 49 12.1**	**+0.1**
VTS	**Vitosha**	**2.29**	**270**	*e*Pn	**Pn**	**20 49 13.0**	**+0.7**
VTS				*e*Sn	**Sn**	**20 49 42.4**	**+1.7**
VTS				*e*Sg	**Sg**	**20 49 47.2**	**-0.4**
VTS	**Vitosha**	**2.29**	**270**	⇓*i* P	**Pn**	**20 49 12.9**	**+0.7**
VTS	**Vitosha**	**2.29**	**270**	S	**Sn**	**20 49 42.5**	**+1.7**
VTS	**Vitosha**	**2.29**	**270**	P	**Pn**	**20 49 12.9**	**+0.7**
VTS				S	**Sn**	**20 49 41.9**	**+1.2**
VTS				*e*Sn	**Sn**	**20 49 42.4**	**+1.7**
VTS				*e*Sg	**Sg**	**20 49 47.2**	**-0.4**
VTS	**Vitosha**	**2.29**	**270**	*i* P	**Pn**	**20 49 12.8**	**+0.6**
VTS	**Vitosha**	**2.29**	**270**	P	**Pn**	**20 49 12.9**	**+0.7**
VTS				S	**Sn**	**20 49 41.9**	**+1.2**
TLB	**Topalu**	**2.32**	**32**	⇑*i* P	**Pn**	**20 49 13.1**	**+0.7**
TLB	**Topalu**	**2.32**	**32**	⇑*i* P	**Pn**	**20 49 13.1**	**+0.7**
TLB				S	**Sn**	**20 49 41.9**	**+0.9**
PGOR	**Pogoanele**	**2.32**	**12**	⇓*i* P	**Pb**	**20 49 15.3**	**-0.7**
PGOR	**Pogoanele**	**2.32**	**12**	S	**Sg**	**20 49 48.1**	**-0.4**
PGOR	**Pogoanele**	**2.32**	**12**	⇓*i* P	**Pb**	**20 49 15.3**	**-0.7**
BGKT	**Bogazkoy**	**2.34**	**128**	PN	**Pn**	**20 49 14.3**	**+1.6**
KRBG	**Karabiga-Canak**	**2.36**	**161**	PN	**Pn**	**20 49 13.8**	**+0.9**
KRBG	**Karabiga-Canak**	**2.36**	**161**	*e*Pn	**Pn**	**20 49 13.8**	**+0.9**
HARR	**Harsova**	**2.36**	**29**	⇓*i* P	**Pn**	**20 49 14.6**	**+1.6**
HARR	**Harsova**	**2.36**	**29**	⇓*i* P	**Pn**	**20 49 14.6**	**+1.6**
SECR		**2.41**	**356**	⇑*i* P	**Pn**	**20 49 15.5**	**+1.9**
SECR		**2.41**	**356**	S	**Sg**	**20 49 53.3**	**+2.1**
SECR		**2.41**	**356**	⇑*i* P	**Pn**	**20 49 15.5**	**+1.9**
GOLR		**2.41**	**336**	⇑*i* P	**Pg**	**20 49 20.2**	**+0.1**
GOKC	**Gokceada-Canak**	**2.45**	**187**	PN	**Pn**	**20 49 14.9**	**+0.7**
GOKC	**Gokceada-Canak**	**2.45**	**187**	*e*Pn	**Pn**	**20 49 14.9**	**+0.7**
KLYT	**Kilyos**	**2.46**	**123**	PN	**Pn**	**20 49 15.9**	**+1.6**
GADA	**Gvkgeada**	**2.46**	**187**	PN	**Pn**	**20 49 15.3**	**+0.9**
GADA	**Gvkgeada**	**2.46**	**187**	*e*Pn	**Pn**	**20 49 15.3**	**+0.9**
ISR	**Istrita**	**2.49**	**4**	⇑*i* P	**Pb**	**20 49 18.7**	**-0.2**
ISR	**Istrita**	**2.49**	**4**	S	**Sg**	**20 49 52.8**	**-1.0**
ISR	**Istrita**	**2.49**	**4**	⇑*i* P	**Pb**	**20 49 18.7**	**-0.2**
CRAR	**CRAIOVA**	**2.49**	**314**	⇑*i* P	**Pn**	**20 49 15.5**	**+0.7**
CRAR	**CRAIOVA**	**2.49**	**314**	S	**Sg**	**20 49 54.5**	**+0.6**
CRAR	**CRAIOVA**	**2.49**	**314**	⇑*i* P	**Pn**	**20 49 15.5**	**+0.7**
KKB	**Krupnik**	**2.52**	**253**	*i* P	**Pn**	**20 49 15.9**	**+0.7**
SRS	**Serrai**	**2.54**	**234**	*e*Pn	**Pn**	**20 49 15.9**	**+0.5**
SRS	**Serrai**	**2.54**	**234**	P	**Pn**	**20 49 15.9**	**+0.5**
SRS	**Serrai**	**2.54**	**234**	P	**Pn**	**20 49 15.9**	**+0.5**
EDC	**Edincik**	**2.57**	**153**	PN	**Pn**	**20 49 16.8**	**+1.0**
EDC	**Edincik**	**2.57**	**153**	*e*Pn	**Pn**	**20 49 16.8**	**+1.0**
ISK	**Istanbul-Kandi**	**2.58**	**127**	PN	**Pn**	**20 49 16.8**	**+0.8**
MTUR	**Matau**	**2.74**	**341**	⇑*i* P	**Pn**	**20 49 19.2**	**+0.9**
MTUR	**Matau**	**2.74**	**341**	⇑*i* P	**Pn**	**20 49 19.2**	**+0.9**
ZAPS	**Zavoj**	**2.78**	**284**	⇓*e*Pn	**Pn**	**20 49 20.0**	**+1.2**
ZAPS				*e*Sn	**Sn**	**20 49 57.1**	**+0.6**
GRER		**2.78**	**10**	⇑*i* P	**Pn**	**20 49 20.3**	**+1.5**
GRER		**2.78**	**10**	⇑*i* P	**Pn**	**20 49 20.3**	**+1.5**
GONE	**Gonen-Balikesi**	**2.79**	**158**	PN	**Pn**	**20 49 19.9**	**+1.1**
GONE	**Gonen-Balikesi**	**2.79**	**158**	*e*Pn	**Pn**	**20 49 19.9**	**+1.1**
BOZC	**Bozcaada**	**2.80**	**184**	PN	**Pn**	**20 49 19.8**	**+0.8**
BOZC	**Bozcaada**	**2.80**	**184**	*i* P	**Pn**	**20 49 19.8**	**+0.8**
BOZC				*i* S	**Sn**	**20 49 53.9**	**+0.9**
BOZC	**Bozcaada**	**2.80**	**184**	*e*Pn	**Pn**	**20 49 19.8**	**+0.8**
EZN	**Ezine**	**2.81**	**180**	PN	**Pn**	**20 49 20.2**	**+1.1**
EZN	**Ezine**	**2.81**	**180**	*e*Pn	**Pn**	**20 49 20.2**	**+1.1**
ARMT	**Armutlu**	**2.81**	**136**	PN	**Pn**	**20 49 20.5**	**+1.2**
ARMT	**Armutlu**	**2.81**	**136**	*e*Pn	**Pn**	**20 49 20.5**	**+1.2**
KCTX	**Karacabey (Bur**	**2.82**	**146**	PN	**Pn**	**20 49 20.1**	**+0.7**
KCTX	**Karacabey (Bur**	**2.82**	**146**	*e*Pn	**Pn**	**20 49 20.1**	**+0.7**
CFR	**Carcaliu**	**2.86**	**27**	⇓*i* P	**Pn**	**20 49 20.8**	**+1.0**
CFR	**Carcaliu**	**2.86**	**27**	⇓*i* P	**Pn**	**20 49 20.8**	**+1.0**
CFR				S	**Sn**	**20 49 56.4**	**+2.0**
MLR	**Muntele Rosu**	**2.87**	**355**	Pn	**Pn**	**20 49 21.3**	**+1.2**
	0.6nm,0.3s,baz=111,slow=2.6,SNR=11						
MLR				Lg	Lg	20 50 04.2	
	23nm,0.3s,baz=128,slow=7.5,SNR=8.3						
MLR	**Muntele Rosu**	**2.87**	**355**	⇑*i* P	**Pn**	**20 49 21.8**	**+1.7**
MLR	**Muntele Rosu**	**2.87**	**355**	⇑*i* P	**Pn**	**20 49 21.8**	**+1.7**
MLR				S	**Sn**	**20 49 57.0**	**+2.2**
SILT	**Sile**	**2.89**	**120**	PN	**Pn**	**20 49 22.2**	**+1.9**
BAYC	**CANAKKALE_Bayr**	**2.90**	**176**	*i* P	**Pn**	**20 49 21.3**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**2.90**	**176**	P	**Pn**	**20 49 21.3**	**+0.9**
VOIR		**2.94**	**342**	⇑*i* P	**Pn**	**20 49 22.4**	**+1.3**
VOIR		**2.94**	**342**	⇑*i* P	**Pn**	**20 49 22.4**	**+1.3**
VOIR				S	**Sn**	**20 49 58.5**	**+1.8**
ARR	**Arges**	**2.99**	**337**	⇑*i* P	**Pn**	**20 49 22.5**	**+0.8**
ARR	**Arges**	**2.99**	**337**	S	**Sg**	**20 50 08.5**	**-1.4**
ARR	**Arges**	**2.99**	**337**	⇑*i* P	**Pn**	**20 49 22.5**	**+0.8**
SRE	**Strehaia**	**3.03**	**313**	⇓*i* P	**Pn**	**20 49 21.6**	**-0.6**
SRE	**Strehaia**	**3.03**	**313**	S	**Sg**	**20 50 13.3**	**+2.0**
SRE	**Strehaia**	**3.03**	**313**	⇓*i* P	**Pn**	**20 49 21.6**	**-0.6**
VAY	**Valandovo**	**3.09**	**246**	*e*Pn	**Pn**	**20 49 24.2**	**+1.2**
VAY				*e*Sn	**Sn**	**20 50 01.5**	**+1.5**
VAY	**Valandovo**	**3.09**	**246**	*e*Pn	**Pn**	**20 49 24.2**	**+1.2**
VAY				*e*Sn	**Sn**	**20 50 01.5**	**+1.5**
VAY	**Valandovo**	**3.09**	**246**	*i* Pn	**Pn**	**20 49 24.1**	**+1.2**
HRT	**Hereke**	**3.10**	**125**	PN	**Pn**	**20 49 24.0**	**+0.9**
TLCR		**3.12**	**34**	⇓*i* P	**Pn**	**20 49 24.7**	**+1.3**
TLCR		**3.12**	**34**	S	**Sb**	**20 50 09.6**	**+1.7**
TLCR		**3.12**	**34**	⇓*i* P	**Pn**	**20 49 24.7**	**+1.3**
PETR	**Petresti**	**3.15**	**12**	⇑*i* P	**Pn**	**20 49 26.1**	**+2.2**
PETR	**Petresti**	**3.15**	**12**	S	**Sg**	**20 50 18.1**	**+2.9**
PETR	**Petresti**	**3.15**	**12**	⇑*i* P	**Pn**	**20 49 26.1**	**+2.2**
ODBI	**Odobesti**	**3.17**	**9**	⇑*i* P	**Pn**	**20 49 27.2**	**+3.1**
ODBI	**Odobesti**	**3.17**	**9**	S	**Sg**	**20 50 20.5**	**+4.8**
ODBI	**Odobesti**	**3.17**	**9**	⇑*i* P	**Pn**	**20 49 27.2**	**+3.1**
ZAGS	**Zajecar**	**3.21**	**293**	⇑*e*Pn	**Pn**	**20 49 24.4**	**-0.2**
ZAGS	**Zajecar**	**3.21**	**293**	⇑*e*Pn	**Pn**	**20 49 24.4**	**-0.2**
BALB	**Balikesir**	**3.22**	**158**	PN	**Pn**	**20 49 25.6**	**+0.8**
BALB	**Balikesir**	**3.22**	**158**	*e*Pn	**Pn**	**20 49 25.6**	**+0.8**
PLOR	**Plostina**	**3.22**	**4**	⇑*i* P	**Pn**	**20 49 26.8**	**+1.9**
PLOR	**Plostina**	**3.22**	**4**	⇑*i* P	**Pn**	**20 49 26.8**	**+1.9**
PLOR				S	**Sn**	**20 50 05.7**	**+2.2**
VRI	**Vrincioaia**	**3.24**	**5**	⇓*i* P	**Pn**	**20 49 26.9**	**+1.8**
VRI	**Vrincioaia**	**3.24**	**5**	⇓*i* P	**Pn**	**20 49 26.9**	**+1.8**
VRI				S	**Sn**	**20 50 06.0**	**+2.1**
KAND	**Kocaeli-Kandir**	**3.28**	**117**	*i* P	**Pn**	**20 49 25.6**	**0.0**
KAND				*i* S	**Sn**	**20 50 05.2**	**+0.4**
BARS	**Barje**	**3.32**	**275**	*e*Pn	**Pn**	**20 49 27.6**	**+1.4**
BARS	**Barje**	**3.32**	**275**	*e*Pn	**Pn**	**20 49 27.6**	**+1.4**
LOT	**Lotru**	**3.36**	**328**	⇓*i* P	**Pn**	**20 49 27.3**	**+0.5**
LOT	**Lotru**	**3.36**	**328**	⇓*i* P	**Pn**	**20 49 27.3**	**+0.5**
LOT				S	**Sn**	**20 50 06.0**	**-0.9**
ADVT	**Abdulvahap**	**3.38**	**129**	PN	**Pn**	**20 49 28.4**	**+1.4**
DOPR	**Dopca**	**3.40

NKME				*e*Sn	**Sn**	**20 50 58.6**	**+0.7**
NKME	**Niksic**	**5.43**	**274**	*e*Pn	**Pn**	**20 49 56.9**	**+1.7**
NKME				*e*Sn	**Sn**	**20 50 58.6**	**+0.7**
CEME	**Cevo**	**5.46**	**272**	*e*Pn	**Pn**	**20 49 57.4**	**+1.7**
CEME				*e*Sn	**Sn**	**20 50 59.1**	**+0.4**
CEME	**Cevo**	**5.46**	**272**	*e*Pn	**Pn**	**20 49 57.4**	**+1.7**
CEME				*e*Sn	**Sn**	**20 50 59.1**	**+0.4**
BUM	**Brajici-Budva**	**5.50**	**269**	⇓*i*Pn	**Pn**	**20 49 58.4**	**+2.2**
BUM				*e*Sn	**Sn**	**20 51 00.6**	**+0.9**
BUM	**Brajici-Budva**	**5.50**	**269**	⇓*i*Pn	**Pn**	**20 49 58.4**	**+2.2**
BUM				*e*Sn	**Sn**	**20 51 00.6**	**+0.9**
HAPS	**Han Pijesak,Bl**	**5.56**	**288**	*e*Pn	**Pn**	**20 49 56.3**	**-0.8**
HAPS	**Han Pijesak,Bl**	**5.56**	**288**	*e*Pn	**Pn**	**20 49 56.3**	**-0.8**
SORM	**Soroca**	**5.68**	**14**	⇑*i*P	**Pn**	**20 49 58.0**	**-0.6**
SORM	**Soroca**	**5.68**	**14**	S	**Sn**	**20 50 58.7**	**-5.3**
SORM	**Soroca**	**5.68**	**14**	⇑P	**Pn**	**20 49 58.0**	**-0.6**
HCY	**Herceg Novi**	**5.78**	**271**	*e*Pn	**Pn**	**20 50 01.8**	**+1.8**
HCY				*e*Sn	**Sn**	**20 51 07.4**	**+0.9**
HCY	**Herceg Novi**	**5.78**	**271**	*e*Pn	**Pn**	**20 50 01.8**	**+1.8**
HCY				*e*Sn	**Sn**	**20 51 07.4**	**+0.9**
TREB	**Trebinje**	**5.87**	**273**	*e*Pn	**Pn**	**20 50 04.3**	**+3.0**
TRPA	**Tarpa**	**6.10**	**335**	*e*PKiKP	**Pn**	**20 50 03.5**	**-0.9**
TRPA	**Tarpa**	**6.10**	**335**	*e*Pn	**Pn**	**20 50 03.5**	**-0.9**
BRTR	**Keskin Array B**	**6.24**	**115**	Pn	**Pn**	**20 50 06.8**	**+0.3**
	0.8nm,0.3s,baz=291,slow=14,SNR=18						
STON	**Ston**	**6.35**	**275**	*e*Pn	**Pn**	**20 50 09.1**	**+1.3**
STON				Sn	**Sn**	**20 51 22.3**	**+1.9**
STON	**Ston**	**6.35**	**275**	*e*Pn	**Pn**	**20 50 09.0**	**+1.3**
STON				Sn	**Sn**	**20 51 22.3**	**+1.9**
MORH	**M¯‡r¯igy, Hung**	**6.55**	**306**	⇑*e*Pn	**Pn**	**20 50 09.5**	**-1.1**
MORH				eSn	**Sn**	**20 51 23.3**	**-2.2**
MORH	**M¯‡r¯igy, Hung**	**6.55**	**306**	⇑*e*Pn	**Pn**	**20 50 09.5**	**-1.1**
BLY	**Banja Luka**	**6.95**	**291**	⇑*i*P	**Pn**	**20 50 17.0**	**+0.9**
BLY	**Banja Luka**	**6.95**	**291**	S	**Sn**	**20 51 30.5**	**-4.7**
BLY	**Banja Luka**	**6.95**	**291**	⇑*i*Pn	**Pn**	**20 50 16.9**	**+0.9**
KECS	**Kecovo**	**7.13**	**327**	*e*Pn	**Pn**	**20 50 19.2**	**+0.6**
KECS	**Kecovo**	**7.13**	**327**	*e*PN	**Pn**	**20 50 19.2**	**+0.6**
KECS				*e*SG	**Sg**	**20 52 17.2**	**-5.6**
IDI	**Anoyia**	**7.42**	**189**	Pn	**Pn**	**20 50 23.2**	**+0.6**
	0.2nm,0.3s,baz=30,slow=7.0,SNR=3.0						
VYHS	**Vyhne**	**7.86**	**321**	*e*Pn	**Pn**	**20 50 27.5**	**-1.0**
VYHS	**Vyhne**	**7.86**	**321**	*e*PN	**Pn**	**20 50 27.5**	**-1.0**
UDBI	**Udbina**	**7.89**	**287**	*e*Pn	**Pn**	**20 50 30.7**	**+1.6**
UDBI	**Udbina**	**7.89**	**287**	*e*Pn	**Pn**	**20 50 30.6**	**+1.6**
AKASG	**Malin Array Be**	**8.31**	**13**	Pn	**Pn**	**20 50 32.8**	**-1.8**
	1.0nm,0.3s,baz=194,slow=11,SNR=3.5						
AKASG				Sn	**Sn**	**20 52 03.8**	**-4.8**
	2.4nm,0.3s,baz=202,slow=22,SNR=4.2						
AKASG				Lg	Lg	20 52 54.5	
	2.8nm,0.3s,baz=192,slow=29,SNR=5.2						
OZLJ	**Ozalj**	**8.35**	**295**	*e*Pn	**Pn**	**20 50 35.9**	**+0.7**
OZLJ	**Ozalj**	**8.35**	**295**	*e*Pn	**Pn**	**20 50 35.9**	**+0.7**
CRES	**Cresnjev**	**8.42**	**296**	*e*Pn	**Pn**	**20 50 36.5**	**+0.2**
BOJS	**Bojanci**	**8.47**	**294**	*i* Pn	**Pn**	**20 50 38.6**	**+1.8**
BOJS				*i* Sn	**Sn**	**20 52 10.9**	**-1.6**
BOJS	**Bojanci**	**8.47**	**294**	*i* Pn	**Pn**	**20 50 38.6**	**+1.8**
PERS	**Pernice**	**8.93**	**300**	*i* Pn	**Pn**	**20 50 44.0**	**+0.8**
PERS				*i* Sn	**Sn**	**20 52 18.1**	**-5.9**
PERS	**Pernice**	**8.93**	**300**	*i* Pn	**Pn**	**20 50 44.0**	**+0.8**
ARSA	**Arzberg**	**8.93**	**305**	Pn	**Pn**	**20 50 43.1**	**-0.1**
	0.7nm,0.3s						
ARSA	**Arzberg**	**8.93**	**305**	*e*Pn	**Pn**	**20 50 43.1**	**-0.1**
	0.7nm,0.3s						
SOKA	**Soboth**	**9.00**	**301**	Pn	**Pn**	**20 50 45.1**	**+0.9**
	1.0nm,0.4s						
SOKA	**Soboth**	**9.00**	**301**	*e*Pn	**Pn**	**20 50 45.1**	**+0.9**
	1.0nm,0.4s						
CONA	**Conrad Observa**	**9.07**	**309**	Pn	**Pn**	**20 50 46.1**	**+0.9**
	0.6nm,0.3s						
CONA	**Conrad Observa**	**9.07**	**309**	*e*Pn	**Pn**	**20 50 46.1**	**+0.9**
	0.6nm,0.3s						
CEY	**Cerknica**	**9.09**	**294**	*e*Pn	**Pn**	**20 50 45.9**	**+0.5**
OBKA	**Obir**	**9.25**	**299**	Pn	**Pn**	**20 50 48.1**	**+0.5**
	0.3nm,0.2s						
OBKA	**Obir**	**9.25**	**299**	*i* Pn	**Pn**	**20 50 48.1**	**+0.5**
	0.3nm,0.2s						
AQU	**L'Aquila**	**9.55**	**273**	*e*Pn	**Pn**	**20 50 53.3**	**+1.6**
VAE	**Valguarnera**	**10.47**	**245**	Pn	**Pn**	**20 51 08.2**	**+3.8**
	0.6nm,0.3s,baz=103,slow=14,SNR=2.0						
ABTA	**Abfaltersbach**	**10.65**	**297**	Pn	**Pn**	**20 51 07.1**	**+0.3**
	0.5nm,0.2s						
ABTA	**Abfaltersbach**	**10.65**	**297**	*e*Pn	**Pn**	**20 51 07.1**	**+0.3**
	0.5nm,0.2s						
GERES	**GERESS Array B**	**10.78**	**309**	Pn	**Pn**	**20 51 10.4**	**+1.9**
	0.2nm,0.3s,baz=121,slow=15,SNR=3.4						
FETA	**Feichten**	**11.90**	**297**	Pn	**Pn**	**20 51 23.1**	**-0.9**
	1.5nm,0.5s						
FETA	**Feichten**	**11.90**	**297**	*e*Pn	**Pn**	**20 51 23.1**	**-0.9**
	1.5nm,0.5s						
KVAR	**Kislovodsk Arr**	**12.01**	**78**	Pn	**Pn**	**20 51 23.0**	**-2.4**
	baz=229,slow=7.7,SNR=13						
KBZ	**Khabaz**	**12.16**	**79**	Pn	**Pn**	**20 51 25.4**	**-1.9**
	0.2nm,0.3s,baz=330,slow=4.7,SNR=6.6						
KEST	**Kesra**	**14.85**	**248**	Pn	**Pn**	**20 52 06.2**	**+2.0**
	0.1nm,0.3s,baz=16,slow=10.0,SNR=1.9						
FINES	**FINESS Array B**	**18.84**	**360**	P	**P**	**20 52 51.8**	**-2.1**
	0.1nm,0.3s,baz=182,slow=11,SNR=3.3						
HFS	**Hagfors**	**19.15**	**341**	P	**P**	**20 52 57.5**	**+0.1**
	0.2nm,0.3s,baz=144,slow=12,SNR=5.0						
NOA	**NORSAR Array B**	**20.56**	**339**	P	**P**	**20 53 11.8**	**-1.0**
	1.5nm,0.7s,baz=146,slow=9.7,SNR=4.4						
ESDC	**Sonseca Array**	**22.93**	**273**	P	**P**	**20 53 40.7**	**+2.2**
	0.2nm,0.4s,baz=71,slow=8.6,SNR=4.2						
AKTO	**Aktyubinsk**	**23.02**	**59**	P	**P**	**20 53 38.5**	**-0.7**
	0.9nm,0.6s,baz=250,slow=11,SNR=2.2						
GEYT	**Allbeck**	**24.63**	**90**	P	**P**	**20 53 53.9**	**-0.9**
	0.7nm,0.6s,baz=294,slow=11,SNR=2.4						
ARU	**Arti**	**24.79**	**45**	P	**P**	**20 53 55.7**	**-0.3**
	0.9nm,0.4s,baz=251,slow=15,SNR=2.8						
TORD	**Torodi Ar. Bea**	**36.29**	**223**	P	**P**	**20 55 39.0**	**+1.0**
	0.5nm,0.4s,baz=32,slow=9.0,SNR=6.4						
MKAR	**Makanchi Array**	**39.28**	**64**	P	**P**	**20 56 02.3**	**-0.7**
	0.3nm,0.5s,baz=287,slow=7.4,SNR=7.6						
ZALV	**Zalesovo Beam**	**39.44**	**52**	P	**P**	**20 56 02.9**	**-1.3**
	0.6nm,0.4s,baz=280,slow=8.6,SNR=3.2						
SONM	**Songino Array**	**54.24**	**55**	P	**P**	**20 58 00.2**	**-0.1**
	0.3nm,0.4s,baz=278,slow=8.3,SNR=4.6						
YKA	**Yellowknife Ar**	**70.62**	**342**	P	**P**	**20 59 48.6**	**-0.8**
	0.1nm,0.3s,baz=29,slow=5.6,SNR=3.1						

IDC 30 21:10:36.5±1.2,3°.28N×128°.97E, *h*0km, mb3.8/5, mb1 3.9/5, mb1mx3.4/56, mbtmp3.8/5, Error ellipse: s-maj=93.2km s-min=19.7km az=73.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.67**	**167**	P	P	21 15 50.0	0.0
	3.0nm,0.7s,baz=348,slow=10,SNR=27						
ASAR	**Alice Springs**	**27.21**	**170**	P	P	21 16 22.2	0.0
	0.2nm,0.5s,baz=354,slow=7.5,SNR=3.6						
MKAR	**Makanchi Array**	**59.21**	**324**	P	P	21 20 39.7	0.0
	0.4nm,0.4s,baz=115,slow=7.6,SNR=11						
KURBB	**Kurchatov Arra**	**63.34**	**327**	P	P	21 21 07.3	-0.1
	0.5nm,0.5s,baz=127,slow=6.2,SNR=7.3						
TIXI	**Tiksi**	**68.28**	**360**	P	P	21 21 38.9	-0.1
	1.2nm,0.3s,baz=182,slow=0.1,SNR=6.0						

*IDC **30** 21:29:46.0±1.5, 41°.71N×79°.17E, h0km, mb3.7/4, mb1 3.5/8, mb1mx3.3/73, mbtmp3.5/8, ML2.8/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/48, Error ellipse: s-maj=27.4km s-min=17.6km az=129.0*

*KRNET **30** 21:29:49.0±0.1, 42°.01N×78°.97E, h16km, mb3.8*

*SOME **30** 21:29:48.8, 42°.00N×78°.93E, h15km*

*NNC **30** 21:29:51.3±0.6, 42°.16N×78°.94E, h0km±4km, mb3.8, mpv3.5, Error ellipse: s-maj=4.9km s-min=2.0km az=146.0*

ISC 30 21:29:48.2±1.6, 42°.00N±0°.04×78°.91E±0°.04, h2km±10km, n61, σ1s20/99, mb3.7/4, 30C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.61**	**322**	⇑*i*P	**Pb**	**21 30 01.0**	**-0.7**
	baz=19						
PRZ				⇑*i*S	**Sg**	**21 30 09.5**	**+1.6**
	baz=19						
TARG	**Taragay, Kyrgy**	**0.87**	**252**	⇓*i*P	**Pg**	**21 30 05.5**	**+0.7**
	baz=53						
TARG				⇓*i*S	**Sb**	**21 30 18.1**	**-0.4**
	baz=53						
SATY	**Saty**	**1.12**	**341**	⇑*i*P	**Pb**	**21 30 09.6**	**-0.7**
	150nm,0.3s						
SATY				⇓*i*S	**Sg**	**21 30 24.2**	**+0.1**
	493nm,0.1s						
UZB	**Uzunbulak**	**1.15**	**4**	*e*P	**Pb**	**21 30 09.7**	**-1.1**
	67nm,0.3s						
UZB				*e*S	**Sg**	**21 30 24.5**	**-0.5**
	158nm,0.5s						
UZB	**Uzunbulak**	**1.15**	**4**	*e*P	**Pb**	**21 30 09.7**	**-1.1**
	baz=2.0						
UZB				*e*S	**Sg**	**21 30 24.5**	**-0.5**
	baz=2.0						
KDJ	**Kajisay**	**1.29**	**276**	⇑*i*P	**Pb**	**21 30 13.3**	**-0.1**
	baz=76						
KDJ				⇑*i*S	**Sg**	**21 30 31.1**	**+1.3**
	baz=76						
PDGK	**Podgornoye**	**1.39**	**18**	⇑P	**Pb**	**21 30 14.0**	**-1.0**
	15nm,0.2s						
PDGK				⇓S	**Sn**	**21 30 32.0**	**-1.8**
	136nm,0.4s						
PDGK	**Podgornoye**	**1.39**	**18**	⇑*i*P	**Pb**	**21 30 14.0**	**-1.0**
	baz=16						
PDGK				⇑*i*S	**Sn**	**21 30 32.1**	**-1.8**
	baz=16						
KPKS	**Kokpek**	**1.47**	**354**	*e*P	**Pb**	**21 30 15.9**	**-0.4**
	94nm,0.2s						
KPKS				*e*S	**Sb**	**21 30 34.9**	**-0.8**
	651nm,0.3s						
KPKS	**Kokpek**	**1.47**	**354**	*e*P	**Pb**	**21 30 15.9**	**-0.4**
	baz=51						
KPKS				*e*S	**Sb**	**21 30 34.8**	**-0.8**
	baz=51						
KURS	**Kuram**	**1.58**	**340**	*e*P	**Pb**	**21 30 18.1**	**-0.1**
	9.8nm,0.2s						
KURS				*e*S	**Sg**	**21 30 38.8**	**-0.1**
	79nm,0.3s						
KURS	**Kuram**	**1.58**	**340**	*e*P	**Pb**	**21 30 18.1**	**-0.1**
	baz=38						
KURS				*e*S	**Sg**	**21 30 38.9**	**-0.1**
	baz=38						
TNSS	**Tian-Shan**	**1.78**	**306**	*e*P	**Pb**	**21 30 22.0**	**+0.2**
	64nm,0.2s						
TNSS				*e*S	**Sg**	**21 30 45.8**	**+0.4**
	141nm,0.3s						
TNSS	**Tian-Shan**	**1.78**	**306**	*e*P	**Pb**	**21 30 22.0**	**+0.2**
	baz=5.0						
TNSS				*e*S	**Sg**	**21 30 45.9**	**+0.4**
	baz=5.0						
MDOK	**Medeo**	**1.80**	**311**	⇓P	**Pb**	**21 30 22.0**	**0.0**
	58nm,0.5s						
MDOK				⇓S	**Sb**	**21 30 45.5**	**+0.5**
	178nm,0.5s						
MDOK	**Medeo**	**1.80**	**311**	*e*P	**Pb**	**21 30 22.2**	**+0.2**
	91nm,0.3s						
MDOK				*e*S	**Sb**	**21 30 45.6**	**+0.6**
	241nm,0.6s						
MDOK	**Medeo**	**1.80**	**311**	*e*P	**Pb**	**21 30 22.2**	**+0.2**
	baz=10.0						
MDOK				*e*S	**Sb**	**21 30 45.7**	**+0.6**
	baz=10.0						
KOTS	**Kotyrbulak**	**1.81**	**313**	*e*P	**Pb**	**21 30 22.4**	**+0.2**
	103nm,0.3s						
KOTS				*e*S	**Sg**	**21 30 46.1**	**-0.2**
	139nm,0.4s						
KNDC	**Almaty**	**1.88**	**311**	⇑Pn	**Pb**	**21 30 23.5**	**+0.2**
	42nm,0.6s						
KNDC				⇓Lg	Lg	21 30 49.0	
	178nm,0.8s						
AAA	**Alma-Ata**	**1.90**	**310**	⇓*i*P	**Pg**	**21 30 24.6**	**-0.1**
	100nm,0.3s						
AAA				⇑*i*S	**Sg**	**21 30 49.8**	**+0.5**
	558nm,0.4s						
AAA	**Alma-Ata**	**1.90**	**310**	⇓*i*P	**Pg**	**21 30 24.6**	**-0.1**
	baz=9.0						
AAA				⇑*i*S	**Sg**	**21 30 49.9**	**+0.5**
	baz=9.0						
IZV	**Izvestkoviy**	**1.99**	**302**	*e*P	**Pb**	**21 30 25.7**	**+0.5**
	51nm,0.3s						
IZV				*e*S	**Sg**	**21 30 52.1**	**+0.1**
	413nm,0.5s						
IZV	**Izvestkoviy**	**1.99**	**302**	*e*P	**Pb**	**21 30 25.7**	**+0.5**
	baz=1.0						
IZV				*e*S	**Sg**	**21 30 52.1**	**+0.1**
	baz=1.0						
ULHL	**Ulahol**	**2.00**	**278**	P	**Pb**	**21 30 25.9**	**+0.5**
	SNR=81						
ULHL	**Ulahol**	**2.00**	**278**	⇑*i*P	**Pb**	**21 30 25.0**	**-0.4**
	baz=78						
ULHL				⇑*i*S	**Sb**	**21 30 51.5**	**+0.6**
	baz=78						
MNBS	**Baschi**	**2.11**	**350**	*e*P	**Pb**	**21 30 27.3**	**+0.1**
	287nm,0.3s						
MNBS				*e*S	**Sg**	**21 30 55.1**	**-0.8**
	506nm,0.3s						
BOOM	**Boomskoye usch**	**2.26**	**283**	⇑*e*P	**Pb**	**21 30 28.3**	**-1.5**
	baz=83						
BOOM				⇑*i*S	**Sb**	**21 30 58.1**	**-0.2**
	baz=83						
CHKK	**Chushkaly**	**2.33**	**323**	*e*P	**Pb**	**21 30 31.0**	**+0.1**
	138nm,0.3s						
CHKK				*e*S	**Sb**	**21 31 01.2**	**+1.1**
	1μm,0.5s						
ARXS	**Arharly**	**2.35**	**341**	*e*P	**Pb**	**21 30 30.4**	**-0.9**
	49nm,0.5s						
ARXS				*e*S	**Sb**	**21 31 00.1**	**-0.7**
	521nm,0.4s						
KTBS	**Karatobe**	**2.37**	**317**	*e*P	**Pb**	**21 30 32.1**	**+0.5**
	37nm,0.3s						
KTBS				*e*S	**Sg**	**21 31 02.9**	**-1.3**
	452nm,0.6s						
KTBS	**Karatobe**	**2.37**	**317**	*e*P	**Pb**	**21 30 32.1**	**+0.5**
	baz=14						
KTBS				*e*S	**Sg**	**21 31 02.9**	**-1.3**
	baz=14						
KST	**Kastek**	**2.41**	**297**	*e*P	**Pb**	**21 30 32.7**	**+0.3**
	5.1nm,0.4s						
KST				*e*S	**Sb**	**21 31 04.2**	**+1.4**
	385nm,0.8s						
TKM2	**Tokmak 2**	**2.62**	**292**	⇓Pn	**Pb**	**21 30 35.2**	**-0.7**
	34nm,0.8s						
TKM2				⇑Lg	Lg	21 31 12.2	
	73nm,0.5s						
TKM2	**Tokmak 2**	**2.62**	**292**	P	**Pb**	**21 30 35.4**	**-0.5**
	SNR=37						
TKM2	**Tokmak 2**	**2.62**	**292**	⇓*i*P	**Pb**	**21 30 33.5**	**-2.4**
	baz=91						
TKM2				⇓*i*S	**Sb**	**21 31 06.2**	**-2.4**
	baz=91						
DGS	**Degeres**	**2.63**	**299**	*e*P	**Pb**	**21 30 36.8**	**+0.7**
	14nm,0.4s						
DGS				*e*S	**Sb**	**21 31 10.9**	**+2.2**
	214nm,0.4s						
KUU	**Kurty**	**2.67**	**316**	*e*P	**Pb**	**21 30 36.5**	**-0.3**
	16nm,0.4s						
KUU				*e*S	**Sb**	**21 31 10.2**	**+0.2**
	219nm,0.4s						
KZA	**Kyzart**	**2.73**	**273**	P	**Pb**	**21 30 38.4**	**+0.5**
	SNR=16						
KZA	**Kyzart**	**2.73**	**273**	⇑*i*P	**Pb**	**21 30 35.4**	**-2.5**
	baz=73						
KZA				⇑*i*S	**Sb**	**21 31 09.5**	**-2.5**
	baz=73						
KBK	**Karagaybulak**	**3.01**	**284**	P	**Pb**	**21 30 41.3**	**-1.3**
	SNR=28						
KBK	**Karagaybulak**	**3.01**	**284**	⇑*i*P	**Pb**	**21 30 38.9**	**+1.8**
	baz=84						
KBK				⇑*i*S	**Sn**	**21 31 15.8**	**+2.0**
	baz=84						
KAPS	**Kapalarasan**	**3.30**	**5**	⇓*i*P	**Pb**	**21 30 47.2**	**-0.2**
	35nm,0.4s						
KAPS				*e*S	**Sb**	**21 31 28.9**	**+0.8**
	53nm,0.4s						
AAK	**Ala-Archa**	**3.34**	**282**	⇓Pn	**Pb**	**21 30 45.4**	**-2.8**
	3.4nm,0.4s						
AAK				⇑Pg	**Pg**	**21 30 53.4**	**+1.3**
	4.6nm,0.3s						
AAK				⇓Lg	Lg	21 31 36.3	
	21nm,0.6s						
AAK	**Ala-Archa**	**3.34**	**282**	P	**Pb**	**21 30 45.6**	**-2.5**
	SNR=14						
EKS2	**Erkin-Say**	**3.86**	**282**	P	**Pg**	**21 31 01.4**	**-0.8**
	SNR=18						
AML	**Almayashu**	**3.89**	**274**	P	**Pg**	**21 31 00.6**	**-2.1**
	SNR=13						
SFK	**Sufi-Kurgan**	**4.55**	**246**	⇑Pg	**Pg**	**21 31 16.5**	**+1.2**
	4.6nm,0.7s						
SFK				⇓Lg	Lg	21 32 19.0	
	24nm,0.9s						
MNAS	**Manas**	**4.78**	**278**	⇑Pg	**Pg**	**21 31 18.3**	**-1.5**
	2.4nm,0.5s						
MNAS				⇑Lg	Lg	21 32 23.3	
	7.3nm,0.6s						
MK31	**Makanchi Array**	**5.37**	**26**	Pn	**Pn**	**21 31 11.1**	**+1.8**
	1.4nm,0.3s,baz=208,slow=12,SNR=175						
MK31				⇑Pg	**Pb**	**21 31 25.7**	**+3.0**
	3.5nm,0.5s,baz=203,slow=13,SNR=5.8						
MK31				⇑Sn	**Sn**	**21 32 12.6**	**+0.9**
	2.5nm,0.5s,baz=203,slow=20,SNR=5.1						
MK31				⇑Lg	Lg	21 32 37.3	
	6.4nm,0.5s,baz=206,slow=25,SNR=4.0						
MKAR	**Makanchi Array**	**5.37**	**26**	Pn	**Pn**	**21 31 11.3**	**+2.0**
	1.7nm,0.3s,baz=210,slow=14,SNR=144						
MKAR				Sn	**Sn**	**21 32 12.3**	**+0.6**
	1.6nm,0.3s,baz=204,slow=23,SNR=9.5						
MKAR				Lg	Lg	21 32 34.1	
	1.7nm,0.3s,baz=211,slow=28,SNR=7.2						
KK31	**Karatay Array**	**6.30**	**283**	⇑Pg	**Pg**	**21 31 45.8**	**-3.1**
	4.1nm,0.8s,baz=96,slow=16,SNR=21						
KK31				⇑Lg	Lg	21 33 12.0	
	3.8nm,0.5s,baz=98,slow=28,SNR=5.7						
OTUK	**Ortayu**	**7.78**	**326**	⇓Lg	Lg	21 33 55.0	
	21nm,1.1s						
KURBB	**Kurchatov Arra**	**8.63**	**358**	Pn	**Pn**	**21 31 55.9**	**+1.9**
	0.0nm,0.3s,baz=184,slow=12,SNR=3.0						
KURBB				Lg	Lg	21 34 21.1	
	0.1nm,0.3s,baz=178,slow=26,SNR=7.4						
KURK	**Kurchatov**	**8.72**	**359**	⇑Lg	Lg	21 34 20.7	
	6.8nm,0.8s						
BVAR	**Borovoye Array**	**12.43**	**335**	Pn	**Pn**	**21 32 46.6**	**+0.6**
	0.1nm,0.3s,baz=151,slow=13,SNR=3.0						
BVAR				Lg	Lg	21 36 31.9	
	0.1nm,0.3s,baz=145,slow=26,SNR=4.4						
ZALV	**Zalesovo Beam**	**12.59**	**16**	Pn	**Pn**	**21 32 49.2**	**+1.1**
	baz=200,slow=12,SNR=2.4						
ZALV				LR	LR	21 38 04.1	
	comp=Z,28nm,18.4s,baz=252,slow=39						
SONM	**Songino Array**	**20.26**	**64**	P	**P**	**21 34 23.3**	**-1.6**
	0.2nm,0.7s,baz=260,slow=9.9,SNR=2.8						
BRTR	**Keskin Array B**	**34.01**	**282**	P	**P**	**21 36 34.2**	**+0.7**
	0.5nm,0.6s,baz=80,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**71.86**	**271**	P	**P**	**21 41 11.7**	**-1.2**
	0.3nm,0.4s,baz=42,slow=6.1,SNR=3.7						
KOWA	**Kowa**	**75.24**	**276**	P	**P**	**21 41 32.4**	**-0.4**
	1.1nm,0.3s,baz=20,slow=8.2,SNR=6.1						
YKA	**Yellowknife Ar**	**75.29**	**6**	P	**P**	**21 41 31.9**	**-0.4**
	0.1nm,0.5s,baz=344,slow=5.4,SNR=4.5						

MAN 30 21:30:25, 9°.87N×125°.01E, h29km, mb4.1, ML2.9, MS2.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.30**	**330**	*e*P	Pb	21 30 32.6	+0.2
MSLP				*e*S	Sb	21 30 37.4	0.0
SCPH	**Surigao**	**0.48**	**101**	*e*P	Pn	21 30 36.6	+0.7
SCPH				*i* S	Sn	21 30 44.5	+1.1
OCLP	**Ormoc**	**1.24**	**341**	*e*P	Pn	21 30 46.9	+0.5
OCLP				*e*S	Sn	21 31 02.3	+0.2
PLP	**Palo**	**1.28**	**359**	⇓*e*P	Pn	21 30 44.8	-2.2
PLP				*i* S	Sn	21 31 00.0	-3.3

*IDC **30** 21:49:33.2±8.6, 31°.43S×179°.17W, h126km±75km, mb3.9/2, mb1 4.0/3, mb1mx3.5/38, mbtmp4.2/3, Error ellipse: s-maj=67.0km s-min=44.4km az=14.0*

*ISCJB **30** 21:49:34.1±0.7, 31°.53S±0°.07×179°.2W±0°.2, h145km, mb4.0/2, Error ellipse: s-maj=25.2km s-min=5.9km az=19.2*

*WEL **30** 21:49:36.6±1.1, 32°.5S±25°×17°.9W±6°.0, h112km±49km*

ISC 30 21:49:34.9±1.2, 31°.6S±0°.1×179°.2W±0°.2, h145km, n34, σ2s19/34, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.54**	**25**	S	**Sn**	**21 50 47.3**	**-0.9**
MXZ	**Matakaoa Point**	**6.33**	**199**	P	**Pn**	**21 51 10.0**	**+4.2**
PKGZ	**Pakihiroa**	**6.69**	**199**	P	**Pn**	**21 51 11.7**	**+1.0**
URZ	**Urewera**	**7.33**	**204**	P	**Pn**	**21 51 20.9**	**+1.6**
	1.5nm,0.3s,baz=295,slow=19,SNR=21						
URZ				S	**Sn**	**21 52 40.6**	**-0.6**
	4.1nm,0.3s,baz=65,slow=18,SNR=11						
RIGZ	**Rimuhau**	**7.54**	**199**	P	**Pn**	**21 51 26.5**	**+4.4**
RIGZ	**Rimuhau**	**7.54**	**199**	S	**Sn**	**21 52 47.4**	**+1.1**
MUGZ	**Murupara**	**7.65**	**205**	P	**Pn**	**21 51 25.9**	**+2.4**
MUGZ	**Murupara**	**7.65**	**205**	S	**Sn**	**21 52 50.4**	**+1.6**
NMHZ	**Naumai**	**8.19**	**203**	P	**Pn**	**21 51 32.8**	**+2.0**
NMHZ	**Naumai**	**8.19**	**203**	S	**Sn**	**21 53 03.8**	**+1.8

KURBB	**Kurchatov Arra**	**45.61**	**306**	P		**P**	**22 08 03.0**	**+0.2**
	0.6nm,0.9s,baz=80,slow=8.6,SNR=3.8							
WRA	**Warramunga Arr**	**60.22**	**190**	P		**P**	**22 09 49.6**	**-1.2**
	0.2nm,0.5s,baz=8.2,slow=7.0,SNR=4.5							

BJI ***30*** *22:02:08.2, 4.˚58N×95.˚02E, h53km, mb5.1/67, mB5.1/52, Ms4.6/48, Ms7 4.3/47*

ISCJB ***30*** *22:02:09.4±0.4, 4.˚60N±0.˚02×95.˚12E±0.˚02, h52km±4km, mb5.1/195, MS4.2/60, Error ellipse: s-maj=4.5km s-min=3.1km az=139.0*

MOS ***30*** *22:02:09.4±1.0, 4.˚77N×95.˚21E, h47km, mb5.5/73, MS4.4/6, Error ellipse: s-maj=7.3km s-min=3.6km az=117.8*

NEIC ***30*** *22:02:12.0±0.5, 4.˚62N×95.˚12E, h59km±5km, mb5.2/73, Error ellipse: s-maj=5.0km s-min=3.1km az=46.0*

NEIC Felt [III] at Banda Aceh.

IDC ***30*** *22:02:11.5±0.4, 4.˚76N×95.˚19E, h50km±3km, mb4.6/43, mb1 4.6/46, mb1mx4.5/65, mbtmp4.9/46, MS4.0/45, Ms1 4.0/45, ms1mx3.9/68, Error ellipse: s-maj=12.2km s-min=7.7km az=38.0*

DJA ***30*** *22:02:12.1±0.3, 5.˚1N±2.˚4×9.˚5E±.˚1, h53km±9km, M5.0/20, mb5.2/20, mB5.3/12, MLv5.3/13, Mw(mB)4.7/12*

GCMT ***30*** *22:02:12.0±0.3, 4.˚36N×95.˚08E, h51km±1km, MW5.0/69, Moment Tensor Solution. s53,c68; s69,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.92±.17; $M_{\theta\theta}$-2.36±.14; $M_{\phi\phi}$-0.56±.17; $M_{r\theta}$1.50±.10; $M_{r\phi}$1.95±.10; $M_{\theta\phi}$~1.72±.12; Best double couple: M○3.99700×10^{16} NP1:ϕs133.00000°, δ63.00000°, λ102.00000°. NP2: ϕs289.00000°, δ29.00000°, λ69.00000°. Principal axes: T 3.7110, Plg70.0000°, Azm68.0000°; N 0.5660, Plg10.0000°, Azm308.0000°; P -4.2840, Plg17.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC **30 22:02:10.9**±0.3, **4.˚59N**±0.˚03×**95.˚04E**±0.˚04, **h51**km±2km, **h51**km:**pP-P, n629,** σ1**s33/682, mb5.1**/205, **MS4.2**/61, **39C-36D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**1.40**	**103**	P	**Pn**	**22 02 33.8**	**-0.3**
MLSI				S	**Sn**	**22 02 52.8**	**+1.3**
LHMI	**Lhok Sumawe**	**2.01**	**72**	P	**Pn**	**22 02 43.3**	**+1.0**
LHMI				S	**Sn**	**22 03 07.7**	**+1.4**
LHMI	**Lhok Sumawe**	**2.01**	**72**	*e*Pn	**Pn**	**22 02 43.1**	**+0.8**
TPTI		**2.52**	**122**	P	**Pn**	**22 02 48.5**	**-0.8**
TPTI				S	**Sn**	**22 03 18.4**	**-0.4**
KCSI	**Kotacane, Aceh**	**2.93**	**111**	S	**Sn**	**22 03 29.7**	**+0.7**
TSI	**Tuntungan**	**3.68**	**107**	P	**Pn**	**22 03 04.6**	**-0.7**
GSI	**Gunungsitoli**	**4.14**	**142**	P	**Pn**	**22 03 11.0**	**-0.6**
GSI				S	**Sn**	**22 03 56.0**	**-2.7**
GSI	**Gunungsitoli**	**4.14**	**142**	*e*Pn	**Pn**	**22 03 11.2**	**-0.4**
PKDT	**Phuket**	**4.64**	**45**	P	**Pn**	**22 03 17.7**	**-0.7**
KULM	**Kulim**	**5.64**	**83**	*e*Pn	**Pn**	**22 03 32.3**	**+0.1**
TRTT	**Trang**	**5.64**	**55**	P	**Pn**	**22 03 31.3**	**-0.9**
PBSI	**Pulau Batu**	**5.64**	**145**	P	**Pn**	**22 03 32.0**	**-0.2**
PBSI				S	**Sn**	**22 04 32.5**	**-3.2**
SURT	**Suratani**	**5.72**	**41**	P	Pn	22 03 28.6	-4.7
MNSI	**Mandailing Nat**	**5.90**	**130**	P	**Pn**	**22 03 36.5**	**+0.7**
IPM	**Ipoh**	**5.97**	**91**	*e*Pn	**Pn**	**22 03 36.6**	**-0.1**
SKLT	**Songkhla**	**6.12**	**65**	P	**Pn**	**22 03 38.2**	**-0.5**
	213nm,1.2s,3μm0.9nm						
SISI	**Saibi**	**7.14**	**145**	P	**Pn**	**22 03 52.4**	**-0.4**
	147nm,0.6s,2μm0.8nm						
SISI				S	**Sn**	**22 05 08.0**	**-4.6**
	147nm,0.6s,2μm0.8nm						
BKNI	**Bangkinang**	**7.34**	**125**	P	**Pn**	**22 03 56.3**	**+0.7**
BKNI	**Bangkinang**	**7.34**	**125**	*e*Pn	**Pn**	**22 03 55.9**	**+0.3**
PBA	**Port Blair**	**7.38**	**342**	*e*P	Pn	22 03 55.0	-1.0
PBA				IAmb	IAmb	22 03 57.5	
	comp=Z,11nm,0.9s						
PDSI	**Padang**	**7.70**	**135**	P	**Pn**	**22 04 00.8**	**+0.3**
DGPR	**DIGLIPUR**	**8.78**	**346**	*e*P	**Pn**	**22 04 14.3**	**-0.9**
DGPR				IAmb	IAmb	22 04 24.3	
	comp=Z,81nm,0.2s						
PPSI	**Pulau Pagai**	**8.84**	**146**	P	**Pn**	**22 04 15.9**	**-0.2**
MYKOM	**Kota Tinggi**	**9.23**	**107**	*e*Pn	**Pn**	**22 04 21.4**	**0.0**
PHET	**Kaeng Krachan**	**9.43**	**28**	P	**Pn**	**22 04 26.1**	**+2.0**
	comp=Z,34nm,0.9s,comp=Z,293nmcomp=Z,0.1nm						
SRDT	**SRDT**	**10.50**	**22**	P	**Pn**	**22 04 41.4**	**+2.6**
	comp=Z,82nm,1.5s,comp=Z,3μm						
MASI	**Maura Aman, Be**	**10.53**	**137**	P	**Pn**	**22 04 39.5**	**+0.2**
CHBT	**CHBT**	**10.85**	**41**	P	**Pn**	**22 04 45.8**	**+2.2**
	comp=Z,880nm,0.8s						
NAYO	**Nakonayok**	**11.47**	**32**	P	**Pn**	**22 04 54.6**	**+2.4**
	comp=Z,48nm,1.1s						
SRAK	**Srakaew**	**11.63**	**36**	P	Pn	22 05 01.8	+7.5
MNAI	**Manna**	**11.90**	**138**	P	**Pn**	**22 04 57.3**	**-0.8**
MNAI	**Manna**	**11.90**	**138**	*e*Pn	**Pn**	**22 04 57.1**	**-0.9**
MDSI	**Maura Dua**	**12.84**	**135**	P	**Pn**	**22 05 09.1**	**-1.6**
LWLI	**Liwa**	**13.13**	**137**	P	**Pn**	**22 05 13.7**	**-1.2**
CHAI	**Chaiyaphum**	**13.15**	**31**	P	**Pn**	**22 05 18.0**	**+3.0**
	comp=Z,14nm,0.9s,comp=Z,167nm						
PHIT	**Phitsanulok**	**13.58**	**22**	P	**Pn**	**22 05 24.0**	**+3.0**
	comp=Z,49nm,0.6s,comp=Z,399nm						
KASI	**Kota Agung**	**13.79**	**137**	P	**Pn**	**22 05 21.2**	**-2.6**
KHON	**Khomkaen**	**13.95**	**33**	P	**P**	**22 05 35.8**	**+3.2**
CM01	**Chiang Mai Arr**	**14.27**	**15**	*e*Pn	**Pn**	**22 05 31.9**	**+1.7**
CM31	**Chiang Mai Arr**	**14.30**	**15**	*e*Pn	**Pn**	**22 05 33.4**	**+2.8**
CMAR	**Chiang Mai Arr**	**14.30**	**15**	P	**Pn**	**22 05 30.4**	**-0.2**
	comp=Z,3.5nm,0.3s,baz=208,slow=11,SNR=80						
CMAR				LR	LR	22 10 59.0	
	comp=Z,911nm,20.9s,baz=213,slow=37						
PALK	**Pallekele**	**14.50**	**281**	P	**Pn**	**22 05 34.6**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=116,slow=13,SNR=9.5						
PALK				S	Sn	22 08 00.2	-13
	comp=Z,3.2nm,0.3s,baz=116,slow=9.9,SNR=8.7						
PALK	**Pallekele**	**14.50**	**281**	*i* P	**Pn**	**22 05 36.0**	**+2.6**
PALK	**Pallekele**	**14.50**	**281**	*e*Pn	**Pn**	**22 05 35.6**	**+2.2**
PALK				*e*Sn	Sn	22 08 01.2	-12
PALK	**Pallekele**	**14.50**	**281**	P	**Pn**	**22 05 33.6**	**+0.2**
LAMP	**Lampang**	**14.55**	**18**	P	**P**	**22 05 39.4**	**+0.1**
	comp=Z,33nm,0.8s,comp=Z,254nm						
CHTO	**Chiang Mai**	**14.64**	**15**	P	**Pn**	**22 05 36.8**	**+1.7**
	comp=Z,407nm,0.8s,comp=Z,3μm						
CHTO	**Chiang Mai**	**14.64**	**15**	*e*P	**Pn**	**22 05 36.1**	**+1.0**
CHTO	**Chiang Mai**	**14.64**	**15**	*e*Pn	**Pn**	**22 05 36.1**	**+1.0**
CMMT	**Chiang Mai**	**14.64**	**15**	P	**Pn**	**22 05 35.8**	**+0.7**
	comp=Z,91nm,0.8s,comp=Z,699nm						
SKNT	**Sakolnakorn**	**15.11**	**35**	P	**Pn**	**22 05 43.1**	**+1.9**
	comp=Z,42nm,1.1s						
KSM	**Kuching**	**15.56**	**101**	*e*Pn	**Pn**	**22 05 47.6**	**+0.5**
	comp=Z,65nm,0.8s						
CMAI	**Chiengmai2**	**15.74**	**14**	P	**Pn**	**22 05 49.9**	**+0.4**
	comp=Z,189nm,1.1s						
MDRS	**Chennai**	**16.86**	**301**	*e*P	**Pn**	**22 06 04.0**	**+0.6**
MDRS				IAmb	IAmb	22 09 03.0	
	comp=Z,413nm,0.1s						
LEM	**Lembang**	**16.92**	**132**	P	**Pn**	**22 06 03.6**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=343,slow=19,SNR=3.1						
LEM				LR	LR	22 13 55.7	
	comp=Z,655nm,19.0s,baz=310,slow=42						
SBUM	**Sibu**	**17.28**	**96**	*e*Pn	**Pn**	**22 06 09.1**	**+0.3**
	comp=Z,28nm,1.0s						
VIS	**Vishakhapatnam**	**17.36**	**320**	*i* P	**Pn**	**22 06 09.8**	**0.0**
VIS				IAmb	IAmb	22 06 13.0	
	comp=Z,70nm,0.2s						
VIS				*i* x	x	22 09 10.8	
CISI	**Cisompet, Garu**	**17.56**	**133**	*e*Pn	**Pn**	**22 06 11.8**	**-0.4**
	comp=Z,43nm,0.6s						
XMIS	**Christmas Isla**	**18.33**	**145**	*e*P	**P**	**22 06 20.7**	**-0.5**
	comp=Z,34nm,0.8s						
QIZ	**Qiongzhong**	**20.36**	**44**	P	**P**	**22 06 43.8**	**+0.4**
QIZ				sP	**pP**	**22 06 58.3**	**+3.2**
QIZ				S	**S**	**22 10 29.8**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,13nm,1.2s						
QIZ				LR	LR		
	comp=Z,490nm,23.0s						
QIZ				LR	LR		
	comp=Z,740nm,21.1s						
QIZ				LR	LR		
	comp=Z,630nm,28.4s						
HYB	**Hyderabad**	**20.57**	**310**	*i* P	**P**	**22 06 47.0**	**+1.4**
HYB				*e*S	**S**	**22 10 32.0**	**-1.0**
HYB	**Hyderabad**	**20.57**	**310**	*e*P	**P**	**22 06 46.2**	**+0.5**
HYB				IAmb	IAmb	22 06 51.6	
	comp=Z,38nm,0.2s						
BOK	**Bokaro**	**21.03**	**336**	*e*P	**P**	**22 06 49.6**	**-0.9**
BOK				IAmb	IAmb	22 06 52.7	
	comp=Z,65nm,1.0s						
SHL	**Shillong**	**21.07**	**352**	*e*P	**P**	**22 06 50.9**	**-0.2**
KKM	**Kota Kinabalu**	**21.14**	**85**	*e*P	**P**	**22 06 53.3**	**+1.4**
	comp=Z,36nm,0.8s						
KMI	**Kunming**	**21.71**	**19**	P	**P**	**22 06 58.8**	**+0.7**
KMI				pP	pP	22 07 12.0	+2.1
KMI				sP	sP	22 07 17.0	+0.7
KMI				PP	**PnPn**	**22 07 27.3**	**+6.5**
KMI				S	**S**	**22 10 54.5**	**-1.4**
KMI				sS	Sn	22 11 11.3	+4.1
KMI				SS	**SnSn**	**22 11 33.0**	**+10**
KMI				pmax	pmax		
	comp=Z,54nm,1.0s						
KMI				pmax	pmax		
	comp=Z,300nm,4.7s						
KMI				LR	LR		
	comp=Z,950nm,13.4s						
KMI				LR	LR		
	comp=Z,540nm,12.5s						
KMI				LR	LR		
	comp=Z,1μm,14.6s						
NGP	**Nagpur**	**22.62**	**318**	*e*P	**P**	**22 07 08.3**	**+0.7**
JAGI	**Jajag, Banyuwa**	**23.06**	**124**	*e*P	**P**	**22 07 11.6**	**-0.6**
	comp=Z,34nm,0.9s						
ODAN	**Odare**	**23.32**	**343**	*e*P	**P**	**22 07 13.7**	**-1.1**
	comp=Z,24nm,0.5s						
MYLDM	**Lahad Datu**	**23.39**	**88**	*e*P	**P**	**22 07 15.7**	**+0.3**
	comp=Z,44nm,0.6s						
GOA	**Goa**	**23.50**	**299**	*e*P	**P**	**22 07 16.5**	**+0.1**
GOA				IAmb	IAmb	22 07 36.0	
	comp=Z,17nm,0.5s						
JBP	**Jabalpur**	**23.50**	**323**	*e*P	**P**	**22 07 15.3**	**-1.0**
RAMN	**Ramite**	**23.65**	**341**	*e*P	**P**	**22 07 17.7**	**-0.3**
	comp=Z,78nm,0.6s						
TAPN	**Taplejung**	**23.68**	**344**	*e*P	**P**	**22 07 16.0**	**-2.4**
	comp=Z,27nm,0.4s						
GYA	**Guiyang**	**24.42**	**26**	⇑*i*P	**P**	**22 07 24.3**	**-0.7**
GYA				pP	pP	22 07 37.8	-0.3
GYA				PP	**PnPn**	**22 08 03.3**	**+5.6**
GYA				PcP	**PcP**	**22 11 05.0**	**+1.9**
GYA				S	**S**	**22 11 41.5**	**-0.1**
GYA				sS	sS	22 12 00.8	-2.7
GYA				pmax	pmax		
	comp=Z,40nm,0.9s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,1μm,15.2s						
GYA				LR	LR		
	comp=Z,1μm,15.8s						
GYA				LR	LR		
	comp=Z,1μm,16.6s						
JIRN	**Jiri**	**24.44**	**341**	*e*P	**P**	**22 07 23.1**	**-2.3**
	comp=Z,93nm,0.5s						
PKI	**Pulchoki**	**24.62**	**339**	*e*P	**P**	**22 07 25.2**	**-1.8**
	comp=Z,26nm,0.6s						
PKIN	**Phulchoki**	**24.63**	**339**	*e*P	**P**	**22 07 25.4**	**-1.6**
	comp=Z,30nm,0.5s						
DMN	**Daman**	**24.77**	**339**	*e*P	**P**	**22 07 27.6**	**-0.7**
GUN	**Gumba**	**24.77**	**340**	*e*P	**P**	**22 07 26.5**	**-1.9**
	comp=Z,83nm,0.5s						
KKN	**Kakani**	**24.87**	**339**	*e*P	**P**	**22 07 28.5**	**-0.6**
	comp=Z,74nm,1.1s						
POO	**Poona**	**24.91**	**305**	*e*P	**P**	**22 07 27.6**	**-1.8**
MCO	**Taipa Grande**	**25.01**	**44**	P	**P**	**22 07 31.0**	**+0.8**
BHPL	**Bhopal**	**25.16**	**319**	*e*P	**P**	**22 07 32.2**	**+0.6**
LSA	**Lhasa**	**25.24**	**352**	P	**P**	**22 07 32.5**	**-0.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LSA	**Lhasa**	**25.24**	**352**	*e*P	**P**	**22 07 32.3**	**-0.5**
LSA				pmax	pmax		
	comp=Z,45nm,0.6s						
LSA	**Lhasa**	**25.24**	**352**	*e*P	**P**	**22 07 32.3**	**-0.5**
	comp=Z,45nm,0.6s						
LSA	**Lhasa**	**25.24**	**352**	*i* P	**P**	**22 07 32.2**	**-0.5**
	SNR=35						
GKN	**Gorkha**	**25.30**	**338**	*e*P	**P**	**22 07 32.1**	**-0.8**
	comp=Z,37nm,0.4s						
KOLN	**Koldanda**	**25.49**	**336**	*e*P	**P**	**22 07 34.7**	**-0.1**
	comp=Z,140nm,0.6s						
DGAR	**Diego Garcia**	**25.50**	**242**	*i* P	**P**	**22 07 38.8**	**+4.1**
H08S2	**Diego Garcia H**	**25.57**	**242**	T	T	22 34 40.7	
	baz=61,slow=75,SNR=2505						
H08S3	**Diego Garcia H**	**25.57**	**242**	T	T	22 34 44.2	
	baz=61,slow=75,SNR=2570						
H08S1	**Diego Carcia H**	**25.58**	**242**	T	T	22 34 41.9	
	baz=61,slow=75,SNR=2748						
PYUN	**Piuthan**	**26.04**	**335**	*e*P	**P**	**22 07 39.5**	**-0.2**
	comp=Z,142nm,0.7s						
H08N1	**Diego Carcia H**	**26.33**	**246**	P	P	22 08 06.6	+25
	baz=69,slow=11,SNR=6.4						
H08N1				T	T	22 35 44.9	
	baz=212,slow=74,SNR=3.2						
H08N2	**Diego Garcia H**	**26.33**	**246**	P	P	22 08 13.8	+32
	baz=69,slow=11,SNR=7.6						
H08N2				T	T	22 35 53.2	
	baz=212,slow=74,SNR=16						
H08N3	**Diego Garcia H**	**26.35**	**246**	P	P	22 08 07.2	+25
	baz=69,slow=11,SNR=13						
H08N3				T	T	22 35 52.7	
	baz=212,slow=74,SNR=6.2						
KAPI	**Kappang**	**26.47**	**111**	*e*P	**P**	**22 07 43.3**	**-0.2**
	comp=Z,104nm,1.5s						
KAPI	**Kappang**	**26.47**	**111**	P	**P**	**22 07 43.4**	**-0.1**
	SNR=9.3						
TGY	**Tagaytay City**	**27.22**	**68**	LR	LR	22 18 05.4	
	comp=Z,353nm,21.6s,baz=245,slow=35						
CD2	**Chengdu**	**27.44**	**16**	P	**P**	**22 07 52.3**	**+0.2**
CD2				pP	pP	22 08 07.0	+1.8
CD2				sP	sP	22 08 14.3	+3.1
CD2				S	**S**	**22 12 30.0**	**+0.9**
CD2				pmax	pmax		
	comp=Z,220nm,5.0s						
CD2				LR	LR		
	comp=Z,1μm,18.9s						
CD2				LR	LR		
	comp=Z,1μm,16.9s						
CD2				LR	LR		
	comp=Z,690nm,22.8s						
LUWI	**Luwuk**	**28.27**	**101**	*e*P	**P**	**22 08 00.3**	**+0.6**
	comp=Z,71nm,0.8s						
ENH	**Enshi**	**28.96**	**26**	*e*P	**P**	**22 08 04.2**	**-1.4**
	comp=Z,20nm,0.7s						
DDI	**Dehra Dun**	**30.20**	**330**	*e*P	**P**	**22 08 15.1**	**-1.6**
DDI				IAmb	IAmb	22 08 18.2	
	comp=Z,14nm,0.6s						
DAV	**Davao City (W)**	**30.48**	**84**	LR	LR	22 24 56.7	
	comp=Z,308nm,18.1s,baz=268,slow=45						
TWG	**Pinlang**	**31.01**	**52**	*e*P	**P**	**22 08 24.9**	**+1.1**
	comp=Z,156nm,1.2s						
SMLA	**Simla**	**31.29**	**330**	*e*P	**P**	**22 08 26.2**	**0.0**
SMLA				IAmb	IAmb	22 08 28.7	
	comp=Z,13nm,0.7s						
SSLB	**Suanglung**	**31.44**	**50**	*e*P	**P**	**22 08 28.4**	**+0.7**
	comp=Z,78nm,1.8s						
YULB	**Yu-li**	**31.49**	**51**	*e*P	**P**	**22 08 29.5**	**+1.4**
	comp=Z,18nm,0.8s						
WHN	**Wuhan**	**31.59**	**33**	⇓P	**P**	**22 08 28.8**	**0.0**
WHN				pP	**pP**	**22 08 40.0**	**-2.0**
XAN	**Xi'an**	**32.02**	**22**	P	**P**	**22 08 31.0**	**-1.6**
XAN				pP	pP	22 08 42.8	-3.0
XAN				sP	sP	22 08 48.5	-3.4
XAN				PP	**PnPn**	**22 09 37.3**	**-2.2**
XAN				S	**S**	**22 13 33.0**	**-7.9**
XAN				LR	LR		
	comp=Z,500nm,14.6s						
XAN				LR	LR		
	comp=Z,500nm,16.8s						
XAN				LR	LR		
	comp=Z,840nm,16.0s						
BATI	**Baumata**	**32.08**	**117**	P	**P**	**22 08 31.6**	**-1.8**
	comp=Z,21nm,0.5s,baz=0.0,slow=2.0,SNR=7.8						
BATI				LR	LR	22 24 09.9	
	comp=Z,421nm,18.1s,baz=302,slow=41						
LZH	**Lanzhou**	**32.37**	**13**	*e*P	**P**	**22 08 34.3**	**-1.6**
LZH				pP	pP	22 08 45.8	-3.3
LZH				sP	sP	22 08 50.3	-4.8
LZH				PP	**PnPn**	**22 09 43.5**	**-0.6**
LZH				*e*S	**S**	**22 13 45.5**	**-1.2**
LZH				sS	sS	22 14 04.5	-4.4
LZH				*e*SS	**SnSn**	**22 15 45.0**	**+1.9**
LZH				pmax	pmax		
	comp=Z,61nm,1.1s						
LZH				pmax	pmax		
	comp=Z,140nm,4.6s						
LZH				LR	LR		
	comp=Z,930nm,13.1s						
LZH				LR	LR		
	comp=Z,870nm,13.2s						
LZH				LR	LR		
	comp=Z,1μm,16.3s						
SOEI	**Soe**	**32.43**	**116**	*e*P	**P**	**22 08 33.8**	**-2.8**
	comp=Z,45nm,1.2s						
DHRM	**DHARAMSHALA**	**32.63**	**330**	*e*P	**P**	**22 08 37.4**	**-0.8**
DHRM				IAmb	IAmb	22 08 40.5	
	comp=Z,20nm,0.6s						
GTA	**Gaotai**	**34.93**	**6**	P	**P**	**22 08 56.0**	**-2.0**
GTA				pP	pP	22 09 09.3	-2.0
GTA				sP	sP	22 09 14.0	-3.3
GTA				PcP	**PcP**	**22 11 30.5**	**+0.7**
GTA				S	**S**	**22 14 24.5**	**-1.6**
GTA				sS	sS	22 14 44.0	-4.5
GTA				ScP	**ScP**	**22 15 12.0**	**+0.8**
GTA				ScS	**ScS**	**22 19 12.8**	**-2.1**
GTA				pmax	pmax		
	comp=Z,39nm,0.9s						
GTA				pmax	pmax		
	comp=Z,160nm,5.4s						
GTA				LR	LR		
	comp=Z,270nm,18.5s						
GTA				LR	LR		
	comp=Z,370nm,20.4s						
GTA				LR	LR		
	comp=Z,260nm,20.9s						
MBWA	**Marble Bar**	**35.23**	**137**	*e*P	**P**	**22 08 59.5**	**-1.2**
	comp=Z,24nm,1.3s						
NJ2	**Nanjing**	**35.27**	**36**	*e*P	**P**	**22 09 01.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,35nm,0.9s						
NJ2				LR	LR		
	comp=Z,380nm,9.2s						
NJ2				LR	LR		
	comp=Z,640nm,9.8s						
NJ2				LR	LR		
	comp=Z,840nm,10.3s						
NIL	**Nilore**	**35.31**	**328**	*e*P	**P**	**22 09 00.5**	**-0.8**
NIL	**Nilore**	**35.31**	**328**	*e*P	**P**	**22 09 00.5**	**-0.8**
TIA	**Tai'an**	**37.46**	**30**	P	**P**	**22 09 19.3**	**-0.2**
TIA				pmax	pmax		
	comp=Z,34nm,1.1s						
TIA				LR	LR		
	comp=Z,330nm,10.2s						
TIA				LR	LR		
	comp=Z,280nm,9.2s						
TIA				LR	LR		
	comp=Z,500nm,27.5s						
FAKI	**Fak Fak**	**37.92**	**101**	*e*P	**P**	**22 09 23.0**	**-0.8**
	comp=Z,36nm,0.8s						
KBL	**Kabul**	**38.32**	**324**	*e*P	**P**	**22 09 26.8**	**-0.3**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBL	**Kabul**	**38.32**	**324**	*e*P	**P**	**22 09 26.8**	**-0.3**
	comp=Z,6.1nm,0.7s						
JOW	**Kunigami**	**38.67**	**52**	P	**P**	**22 09 29.4**	**-0.5**
	comp=Z,39nm,0.5s,baz=129,slow=6.5,SNR=9.4						
JOW				LR	LR	22 25 26.9	
	comp=Z,337nm,20.9s,baz=325,slow=36						
JOW	**Kunigami**	**38.67**	**52**	*e*P	**P**	**22 09 30.4**	**+0.5**
	comp=Z,54nm,0.8s						
KSH	**Kashi**	**38.81**	**336**	P	**P**	**22 09 29.8**	**-1.2**
KSH				pP	pP	22 09 41.0	-3.4
KSH				sP	sP	22 09 47.0	-3.4
KSH				S	**S**	**22 15 21.0**	**-4.2**
KSH				pmax	pmax		
	comp=Z,73nm,0.6s						
KSH				pmax	pmax		
	comp=Z,79nm,4.9s						
KSH				LR	LR		
	comp=Z,100nm,6.3s						
KSH				LR	LR		
	comp=Z,91nm,6.7s						
KSH				LR	LR		
	comp=Z,140nm,6.3s						
KNRA	**Kununurra**	**38.99**	**122**	P	**P**	**22 09 31.6**	**-1.0**
	baz=39,SNR=20						
HHC	**Hu-ho-hao-te**	**39.03**	**20**	*e*P	**P**	**22 09 33.3**	**+0.5**
HHC				PP	**PnPn**	**22 11 09.3**	**+3.4**
HHC				S	**S**	**22 15 30.0**	**+1.5**
HHC				pmax	pmax		
	comp=Z,37nm,1.0s						
HHC				pmax	pmax		
	comp=Z,91nm,7.4s						
HHC				LR	LR		
	comp=Z,740nm,16.0s						
HHC				LR	LR		
	comp=Z,300nm,12.8s						
HHC				LR	LR		
	comp=Z,680nm,18.1s						
WMQ	**Urumqi**	**39.60**	**352**	P	**P**	**22 09 37.3**	**-0.2**
WMQ				pP	pP	22 09 49.8	-1.1
WMQ				sP	sP	22 09 58.5	+1.6
WMQ				PcP	**PcP**	**22 11 44.5**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,61nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,290nm,4.5s						
WMQ				LR	LR		
	comp=Z,260nm,27.9s						
WMQ				LR	LR		
	comp=Z,730nm,27.1s						
WMQ				LR	LR		
	comp=Z,320nm,27.9s						
WSAR	**Wadi Sarin**	**39.72**	**301**	P	**P**	**22 09 40.4**	**+1.7**
	comp=Z,4.2nm,0.7s,baz=138,slow=6.1,SNR=8.8						
WSAR				LR	LR	22 25 29.3	
	comp=Z,139nm,19.7s,baz=132,slow=35						
MTN	**Manton Dam**	**39.83**	**116**	P	**P**	**22 09 38.4**	**-1.2**
	baz=40,SNR=25						
MTN	**Manton Dam**	**39.83**	**116**	*e*P	**P**	**22 09 38.5**	**-1.2**
	comp=Z,22nm,0.6s						
BJI	**Beijing**	**40.11**	**25**	P	**P**	**22 09 42.0**	**+0.3**
BJI				pmax	pmax		
	comp=Z,130nm,0.8s						
BIDO	**Bidbid**	**40.26**	**301**	P	**P**	**22 09 46.0**	**+2.9**
	SNR=5.7						
SFK	**Sufi-Kurgan**	**40.26**	**334**	*i* P	**P**	**22 09 43.6**	**+0.4**
SFK				pmax	pmax		
	comp=Z,128nm,0.6s						
NRN	**Naryn**	**40.45**	**338**	P	**P**	**22 09 45.0**	**+0.2**
NRN				pmax	pmax		
	comp=Z,68nm,0.7s						
PRZ	**Przheval'sk**	**40.53**	**341**	P	**P**	**22 09 47.0**	**+1.7**
PRZ				pmax	pmax		
	comp=Z,581nm,1.6s						
KDJ	**Kajisay**	**40.63**	**339**	P	**P**	**22 09 46.8**	**+0.7**
**PDGK

AML **Almayashu** 41.94 336 P **P** **22 09 57.9 +0.7**
SNR=171
AAK **Ala-Archa** 42.05 337 *i* P **P** **22 09 58.3 +0.5**
AAK pmax pmax
comp=Z,104nm,1.3s
AAK **Ala-Archa** 42.05 337 P **P** **22 09 58.8 +0.9**
SNR=70
AAK **Ala-Archa** 42.05 337 *e*P **P** **22 09 58.8 +0.9**
comp=Z,46nm,0.8s
AAK **Ala-Archa** 42.05 337 P **P** **22 09 58.7 +0.9**
FRU1 **Bishkek** 42.15 338 P **P** **22 10 00.0 +1.5**
FRU1 pmax pmax
comp=Z,324nm,2.0s
FRU **Bishkek** 42.18 338 *e*P **P** **22 10 00.0 +1.4**
FRU *e* 22 10 18.0
FRU pmax pmax
comp=Z,160nm,2.0s
CHMS **Chumysh** 42.27 338 P **P** **22 09 59.8 +0.4**
SNR=47
EKS2 **Erkin-Say** 42.36 337 P **P** **22 10 01.2 +1.0**
SNR=86
UOSS **Minazif** 42.41 302 P **P** **22 10 02.6 +1.8**
HATD **Hatta, Dubai** 42.43 302 P **P** **22 10 03.2 +2.2**
ASHO **Ashiyiah** 42.44 302 P **P** **22 10 02.4 +1.3**
ALNE **Al Ain** 42.48 301 P **P** **22 10 03.5 +2.1**
USP **Ospenovka** 42.59 338 P **P** **22 10 02.7 +0.6**
SNR=105
MNAS **Manas** 42.73 335 *i* P **P** **22 10 03.9 +0.6**
MNAS pmax pmax
comp=Z,51nm,0.8s
SHME **Shamn** 42.89 304 P **P** **22 10 06.5 +1.8**
H01W3 **Cape Leeuwin H** 43.19 157 T T 22 56 14.6
baz=332,slow=74
H01W2 **Cape Leeuwin H** 43.20 157 T T 22 54 33.0
baz=332,slow=74
H01W1 **Cape Leeuwin H** 43.20 157 T T 22 54 44.8
baz=332
TJN **Taejon** 43.38 39*d* *i* P **P** **22 10 08.1 -0.4**
MK01 **Makanchi Array** 43.44 347 *e*P **P** **22 10 07.9 -0.9**
MK31 **Makanchi Array** 43.46 347 *i* P **P** **22 10 08.0 -1.0**
MK31 pmax pmax
comp=Z,34nm,0.8s
MK31 **Makanchi Array** 43.46 347 *e*P **P** **22 10 08.1 -1.0**
MKAR **Makanchi Array** 43.46 347 P **P** **22 10 08.4 -0.6**
comp=Z,19nm,0.6s,baz=170,slow=7.2,SNR=243
MKAR PcP **PcP** **22 11 56.8 +0.3**
comp=Z,5.4nm,0.8s,baz=154,slow=4.6,SNR=2.9
MKAR LR LR 22 31 11.3
comp=Z,166nm,21.9s,baz=154,slow=40
MKAR **Makanchi Array** 43.46 347 *e*P **P** **22 10 08.1 -0.9**
MKAR 22 11 56.8
MKAR pmax pmax
comp=Z,187nm,0.9s
MKAR **Makanchi Array** 43.46 347 *e*P **P** **22 10 08.1 -0.9**
comp=Z,187nm,0.9s
MKAR PcP **PcP** **22 11 56.8 +0.3**
MAKZ **Makanchi** 43.55 347 *e*P **P** **22 10 08.6 -1.1**
MAKZ pmax pmax
comp=Z,23nm,0.8s
MAKZ **Makanchi** 43.55 347 *e*P **P** **22 10 08.6 -1.1**
comp=Z,23nm,0.8s
WRKA **Warakurna** 43.73 134 P **P** **22 10 11.8 +0.4**
baz=44,SNR=14
JNU **Nakatsue** 43.83 45 P **P** **22 10 11.5 -0.7**
comp=Z,17nm,0.7s,baz=182,slow=4.6,SNR=9.1
JNU LR LR 22 28 40.5
comp=Z,357nm,21.7s,baz=292,slow=36
KK31 **Karatay Array** 44.08 334 *i* P **P** **22 10 13.8 -0.2**
KK31 pmax pmax
comp=Z,15nm,0.6s
KKAR **Karatay Array** 44.08 334 *e*P **P** **22 10 14.5 +0.5**
KKAR **Karatay Array** 44.08 334 *e*P **P** **22 10 14.5 +0.5**
SONM **Songino Array** 44.17 11 P **P** **22 10 13.7 -1.1**
comp=Z,3.7nm,0.6s,baz=191,slow=9.3,SNR=36
SONM PcP **PcP** **22 11 59.2 +0.2**
comp=Z,7.6nm,0.5s,baz=193,slow=3.9,SNR=18
SONM ScP **ScP** **22 15 45.3 -1.5**
comp=Z,0.7nm,0.8s,baz=229,slow=9.1,SNR=3.6
SONM LR LR 22 30 26.1
comp=Z,330nm,22.0s,baz=188,slow=38
SONA1 **Songino Array** 44.19 11 *e*P **P** **22 10 12.9 -2.0**
ULN **Ulaanbaatar** 44.33 12 *e*P **P** **22 10 14.9 -1.2**
ULN pmax pmax
comp=Z,4.0nm,0.7s
ULN **Ulaanbaatar** 44.33 12 *e*P **P** **22 10 14.9 -1.2**
comp=Z,3.8nm,0.7s
KS15 **Wonju Array Si** 44.38 38 *e*P **P** **22 10 16.9 +0.5**
KSAR **Wonju Array Be** 44.38 38 P **P** **22 10 15.7 -0.8**
KSAR **Wonju Array Be** 44.38 38 P **P** **22 10 15.7 -0.8**
KS01 **Wonju Array Si** 44.41 38 *e*P **P** **22 10 15.1 -1.6**
KSRS **Korea Array** 44.41 38 P **P** **22 10 15.7 -1.0**
comp=Z,11nm,0.8s,baz=221,slow=9.1,SNR=30
KSRS LR LR 22 32 30.1
comp=Z,150nm,18.3s,baz=204,slow=41
SNY **Shenyang** 44.98 30 ⇑*e*P **P** **22 10 20.5 -0.7**
SNY pmax pmax
comp=Z,61nm,0.7s
SNY pmax pmax
comp=Z,410nm,3.7s
SNY LR LR
comp=Z,310nm,16.3s
SNY LR LR
comp=Z,430nm,19.4s
SNY LR LR
comp=Z,610nm,20.1s
DGZ **Jazzator, Alta** 45.41 353*c* *i* P **P** **22 10 24.4 -0.2**
DGZ pmax pmax
comp=Z,11nm,1.7s
WRA **Warramunga Arr** 45.68 124 P **P** **22 10 27.5 +0.4**
comp=Z,80nm,0.9s,baz=302,slow=9.2,SNR=579
WRA pP **pP** **22 10 40.8 +0.1**
comp=Z,36nm,0.6s,baz=301,slow=9.3,SNR=12
WRA PcP **PcP** **22 12 04.4 -0.1**
comp=Z,4.5nm,0.7s,baz=319,slow=2.5,SNR=2.7
WRA LR LR 22 30 14.3
comp=Z,188nm,21.3s,baz=295,slow=37
WRAB **Tennant Creek** 45.68 124*c* *i* P **P** **22 10 27.7 +0.6**
WRAB pmax pmax
comp=Z,361nm,1.2s
WRAB **Tennant Creek** 45.68 124 *e*P **P** **22 10 27.2 +0.1**
comp=Z,86nm,0.8s
KNGR **Kungurtug, Tuv** 45.90 2⇓ *i* P **P** **22 10 28.2 -0.3**
ZAK **Zakamensk** 46.16 7 *e*P **P** **22 10 28.0 -2.5**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
AS31 **Alice Springs** 47.17 128 *e*P **P** **22 10 39.0 +0.3**
comp=Z,7.6nm,0.7s
ASAR **Alice Springs** 47.17 128 P **P** **22 10 39.3 +0.6**
comp=Z,14nm,0.6s,baz=298,slow=7.9,SNR=181
ASAR pP **pP** **22 10 53.0 +0.5**
comp=Z,13nm,0.6s,baz=299,slow=7.9,SNR=8.0
ASAR PcP **PcP** **22 12 10.4 +0.7**
comp=Z,6.0nm,0.7s,baz=303,slow=3.7,SNR=5.3
ASAR ScP **ScP** **22 16 00.1 +0.4**
comp=Z,0.9nm,0.9s,baz=311,slow=6.0,SNR=4.1
ASAR LR LR 22 33 52.4
comp=Z,127nm,18.5s,baz=302,slow=40
MOY **Mondy** 47.18 5 *e*P **P** **22 10 37.7 -0.8**
AS01 **Alice Springs** 47.20 128 *e*P **P** **22 10 38.6 -0.4**
GEYT **Alibeck** 47.24 320 P **P** **22 10 39.9 +0.8**
comp=Z,23nm,0.7s,baz=148,slow=8.7,SNR=76
GEYT LR LR 22 32 50.3
comp=Z,59nm,20.3s,baz=210,slow=39
FORT **Forrest** 47.25 140 P **P** **22 10 40.5 +1.3**
baz=47,SNR=8.6
FORT **Forrest** 47.25 140 *e*P **P** **22 10 39.9 +0.7**
FORT *e*pP **pP** **22 10 54.5 +1.6**
CN2 **Changchun** 47.37 30 ⇓P **P** **22 10 39.3 -0.6**
CN2 *e*pP pP 22 10 51.3 -2.3
CN2 *e*S **S** **22 17 29.8 -0.4**
CN2 pmax pmax
comp=Z,40nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,500nm,15.0s
TLY **Talaya** 47.48 7 LR LR 22 33 19.0
comp=Z,239nm,18.1s,baz=174,slow=40
TLY **Talaya** 47.48 7 *e*P **P** **22 10 39.8 -0.9**
TLY *e*S **S** **22 17 30.6 -1.0**
TLY pmax pmax
comp=Z,5.0nm,0.7s
TLY MLR MLR
comp=Z,197nm,17.0s
TLY **Talaya** 47.48 7 *e*P **P** **22 10 40.4 -0.3**
comp=Z,6.5nm,0.9s
OTUK **Ortayu** 47.63 340 *i* P **P** **22 10 42.2 +0.3**
OTUK pmax pmax
comp=Z,149nm,0.7s
KURBB **Kurchatov Arra** 47.92 346 P **P** **22 10 44.2 +0.1**
comp=Z,20nm,0.6s,baz=161,slow=7.7,SNR=290
KURBB PcP **PcP** **22 12 12.4 +0.6**
comp=Z,9.0nm,0.6s,baz=152,slow=3.0,SNR=7.3
KURBB ScP **ScP** **22 16 02.9 +0.7**
comp=Z,0.7nm,0.9s,baz=160,slow=3.0,SNR=3.5
KURK **Kurchatov** 47.99 346 *e*P **P** **22 10 44.2 -0.4**
KURK 22 12 12.4
KURK pmax pmax
comp=Z,30nm,0.8s
KURK **Kurchatov** 47.99 346 *e*P **P** **22 10 44.2 -0.4**
comp=Z,30nm,0.8s
KURK PcP **PcP** **22 12 12.4 +0.4**
KURK ScP **ScP** **22 16 02.9 +0.5**
KURK **Kurchatov** 47.99 346 P **P** **22 10 44.1 -0.4**
SNR=15
HIA **Hailar** 49.21 21 *e*P **P** **22 10 53.8 -0.3**
HIA pmax pmax
comp=Z,21nm,0.6s
HIA **Hailar** 49.21 21 *e*P **P** **22 10 53.8 -0.3**
comp=Z,21nm,0.6s
INU **Inuyama** 49.34 46 *e*P **P** **22 10 54.8 -0.5**
comp=Z,50nm,1.0s
ZALV **Zalesovo Beam** 49.91 352 P **P** **22 10 58.7 -0.5**
comp=Z,22nm,0.5s,baz=184,slow=7.5,SNR=135
ZALV PcP **PcP** **22 12 18.0 -0.9**
comp=Z,5.2nm,0.5s,baz=167,slow=3.7,SNR=2.6
ZALV ScP **ScP** **22 16 09.5 -1.1**
comp=Z,2.1nm,0.8s,baz=188,slow=1.0,SNR=4.2
ZALV LR LR 22 35 59.3
comp=Z,158nm,21.9s,baz=250,slow=41
GUMO **Guam** 49.92 76 LR LR 22 32 20.0
comp=Z,80nm,21.6s,baz=252,slow=36
MDJ **Mudanjiang** 50.06 32 P **P** **22 10 59.3 -1.3**
MDJ pmax pmax
comp=Z,44nm,0.7s
MDJ pmax pmax
comp=Z,310nm,3.8s
MDJ **Mudanjiang** 50.06 32 *e*P **P** **22 11 00.7 +0.2**
comp=Z,32nm,0.9s
MDJ *ep*P **pP** **22 11 17.3 +2.9**
VLA **Vladivostok** 50.34 35⇓ *e*P **P** **22 11 03.0 +0.3**
VLA pmax pmax
comp=Z,36nm,0.7s
QIS **Mount Isa** 50.38 121 P **P** **22 11 03.7 +0.3**
baz=50,SNR=27
MAT **Matsushiro** 50.76 45 P **P** **22 11 05.6 -0.4**
MJAR **Matsushiro Arr** 50.76 45 P **P** **22 11 05.5 -0.5**
comp=Z,5.9nm,0.8s,baz=243,slow=7.2,SNR=13
MJAR PcP **PcP** **22 12 22.8 +0.2**
comp=Z,5.2nm,0.8s,baz=232,slow=4.6,SNR=6.8
MJAR LR LR 22 33 33.0
comp=Z,210nm,21.0s,baz=230,slow=37
NVS **Novosibirsk** 51.00 351 *e*P **P** **22 11 06.6 -0.8**
NVS *e*S **S** **22 18 17.8 -3.0**
NVS pmax pmax
comp=N,19nm,1.1s
NVS pmax pmax
comp=Z,27nm,1.1s
NVS pmax pmax
comp=E,6.0nm,0.5s
NVS smax smax
comp=N,10.0nm,1.5s
USRK **Ussuriysk Ar.** 51.08 34 P **P** **22 11 07.7 -0.6**
comp=N,15nm,0.6s,baz=246,slow=7.5,SNR=35
USRK LR LR 22 34 40.7
comp=N,278nm,18.9s,baz=206,slow=38
COEN **Coen** 51.19 112 P **P** **22 11 09.0 -0.5**
baz=51,SNR=15
COEN **Coen** 51.19 112 *e*P **P** **22 11 09.1 -0.5**
comp=N,20nm,0.8s
RAYN **Ar Rayn** 51.29 297 P **P** **22 11 10.9 +0.6**
RAYN **Ar Rayn** 51.29 297 *e*P **P** **22 11 10.8 +0.6**
comp=N,55nm,1.8s
KRAR **Krasnoyarsk** 51.30 358⇓ *i* P **P** **22 11 09.4 -0.3**
ATD **Arta Tunnel** 52.07 281 LR LR 22 30 12.3
comp=N,59nm,21.1s,baz=116,slow=32
BVAR **Borovoye Array** 52.36 341 P **P** **22 11 17.8 +0.1**
comp=N,44nm,0.6s,baz=143,slow=8.7,SNR=299
BVAR LR LR 22 36 34.4
comp=N,99nm,19.2s,baz=143,slow=40
BRVK **Borovoye** 52.42 341*c* *i* P **P** **22 11 17.8 -0.3**
BRVK pmax pmax
comp=Z,271nm,1.2s
BRVK **Borovoye** 52.42 341 *e*P **P** **22 11 18.0 -0.1**
comp=Z,62nm,0.7s
BRVK **Borovoye** 52.42 341 P **P** **22 11 17.5 -0.6**
SNR=19
OPO **Ambohidratompo** 52.45 242 LR LR 22 30 37.2
comp=Z,222nm,19.3s,baz=14,slow=32
AB31 **Akbulak array** 53.52 332 *i* P **P** **22 11 26.0 -0.3**
AB31 pmax pmax
comp=Z,26nm,0.8s
ABKAR **Akbulak array** 53.52 332 *e*P **P** **22 11 26.4 +0.1**
comp=Z,161nm,0.8s
MTSU **Mount Surprise** 53.58 116 P **P** **22 11 27.3 +0.1**
baz=54,SNR=4.4
PMG **Port Moresby** 53.77 105 P **P** **22 11 28.4 -0.3**
comp=Z,18nm,0.6s,baz=91,slow=5.0,SNR=3.9
LKRN **Lenkeran, Azer** 53.93 316 P **P** **22 11 29.6 +0.1**
KLR **Kul'dur** 54.27 29 LR LR 22 35 23.3
comp=Z,21nm,21.9s,baz=188,slow=37
KLR **Kul'dur** 54.27 29⇓ *i* P **P** **22 11 31.9 +0.1**
BOD **Bodaibo** 55.13 12 *e*P **P** **22 11 35.3 -2.5**
BOD pmax pmax
comp=Z,15nm,1.1s
AKTO **Aktyubinsk** 55.24 332 P **P** **22 11 39.0 +0.2**
comp=Z,10nm,0.8s,baz=122,slow=8.7,SNR=19
AKTO pP **pP** **22 11 52.4 -0.3**
comp=Z,9.4nm,0.5s,baz=113,slow=7.8,SNR=8.8
ZEA **Zeya** 55.60 23 *e*P **P** **22 11 40.9 -0.3**
ZEA pmax pmax
comp=Z,19nm,0.6s
ZEA MLR MLR
comp=Z,600nm,15.0s
ZEA MLR MLR
comp=N,400nm,16.0s
CTA **Charters Tower** 55.97 118 P **P** **22 11 45.0 +0.4**
comp=N,22nm,1.1s,baz=302,slow=10,SNR=8.6
CTA **Charters Tower** 55.97 118 P **P** **22 11 45.0 +0.4**
CTAO **Charters Tower** 55.97 118 *e*P **P** **22 11 44.9 +0.4**
CTAO pmax pmax
comp=Z,36nm,1.1s
CTAO **Charters Tower** 55.97 118 *e*P **P** **22 11 44.9 +0.4**
comp=Z,36nm,1.1s
HTT **Hallett** 56.14 136 P **P** **22 11 46.3 +0.8**
baz=56,SNR=3.5
SEKA **Sheki** 56.15 318 P **P** **22 11 45.2 -0.3**
NAX **Nakhchivan** 56.44 315 P **P** **22 11 47.7 0.0**
GANJ **Ganja** 56.49 317 P **P** **22 11 48.0 +0.1**
ZKTA **Zakatala** 56.73 318 P **P** **22 11 49.7 +0.1**
QLP **Quilpie** 56.78 126 P **P** **22 11 50.9 +0.8**
baz=57,SNR=6.1
STKA **Stephens Creek** 57.23 133 P **P** **22 11 53.6 +0.4**
comp=Z,3.8nm,0.7s,baz=303,slow=5.3,SNR=5.7
STKA LR LR 22 39 30.7
comp=Z,133nm,20.9s,baz=335,slow=39
STKA **Stephens Creek** 57.23 133 P **P** **22 11 53.9 +0.6**
baz=57,SNR=4.2
ASAJ **Asahikawa** 57.34 39 P **P** **22 11 53.4 -0.4**
comp=Z,9.4nm,0.9s,baz=270,slow=4.0,SNR=8.7
ASAJ **Asahikawa** 57.34 39 *e*P **P** **22 11 54.1 +0.3**
comp=Z,14nm,1.0s
GNI **Garni** 57.37 316 P **P** **22 11 55.0 +0.7**
comp=Z,19nm,0.9s,baz=318,slow=4.1,SNR=10.0
GNI **Garni** 57.37 316*c* *i* P **P** **22 11 54.8 +0.5**
GNI pmax pmax
comp=Z,100nm,1.2s
GNI **Garni** 57.37 316 *e*P **P** **22 11 55.2 +0.9**
comp=Z,22nm,0.9s
GNI **Garni** 57.37 316 P **P** **22 11 55.6 +1.2**
SNR=7.6
GNI **Garni** 57.37 316 *i* P **P** **22 11 54.8 +0.5**
SNR=10
GRNR **Gornyy** 57.56 30 *e*P **P** **22 11 54.9 -0.4**
GRNR pmax pmax
comp=Z,55nm,1.0s
GROC **Groznyy** 57.98 319 *e*P **P** **22 11 58.8 +0.4**
GROC *e* 22 12 49.6
GROC *e* 22 14 08.8
GROC pmax pmax
comp=Z,39nm,0.6s
KMBO **Kilima Mbogo** 58.01 266 P **P** **22 12 01.7 +2.3**
comp=Z,2.2nm,0.8s,baz=66,slow=9.0,SNR=8.8
KMBO LR LR 22 32 41.0
comp=Z,231nm,21.4s,baz=96,slow=31
KMBO **Kilima Mbogo** 58.01 266 *e*P **P** **22 12 00.1 +0.8**
comp=Z,6.6nm,1.0s
TBLG **Delisi** 58.04 317 *e*P **P** **22 11 59.7 +0.8**
TBLG pmax pmax
comp=Z,36nm,0.9s
TBLG **Delisi** 58.04 317 *e*P **P** **22 11 59.6 +0.8**
comp=Z,36nm,0.9s
AKH **Akhalkalaki** 58.75 316 *e*P **P** **22 12 05.5 +1.5**
AKH pmax pmax
comp=Z,11nm,0.9s
AKH **Akhalkalaki** 58.75 316 *e*P **P** **22 12 05.5 +1.5**
comp=Z,11nm,0.9s
SVE **Sverdlovsk** 58.76 339*d* *i* P **P** **22 12 03.8 +0.3**
SVE pmax pmax
comp=Z,82nm,1.2s
YSS **Yuzh-Sakhalins** 58.84 36⇓ *i* P **P** **22 12 04.4 +0.1**
YSS *e* 22 12 21.0
YSS pmax pmax
comp=Z,50nm,0.7s
YSS **Yuzh-Sakhalins** 58.84 36 *e*P **P** **22 12 04.6 +0.3**
comp=Z,92nm,1.2s
ZEI **Tsey** 59.05 318 *e*P **P** **22 12 05.9 -0.2**
ZEI pmax pmax
comp=Z,16nm,0.6s
ARU **Arti** 59.24 337*c* *i* P **P** **22 12 06.4 -0.5**
ARU 22 12 53.8
ARU S **S** **22 20 12.6 +1.6**
ARU SS **SS** **22 24 04.7 -1.5**
ARU pmax pmax
comp=Z,42nm,1.2s
ARU **Arti** 59.24 337 *e*P **P** **22 12 06.6 -0.3**
comp=Z,50nm,1.3s
NCK **Nalchik** 59.55 319⇓ *i* P **P** **22 12 09.5 +0.2**
NCK pmax pmax
comp=Z,14nm,1.0s
NEY **Neytrino** 60.03 318⇑ *e*P **P** **22 12 13.9 +1.1**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KBZ **Khabaz** 60.11 319 P **P** **22 12 13.4 +0.3**
comp=Z,12nm,0.9s,baz=110,slow=5.4,SNR=27
CMSA **Cobar Meteorol** 60.12 130 P **P** **22 12 14.5 +1.1**
baz=60,SNR=5.7
KIV **Kislovodsk** 60.34 319 *e*P **P** **22 12 14.9 0.0**
KIV pmax pmax
comp=Z,36nm,1.1s
KIV **Kislovodsk** 60.34 319 *e*P **P** **22 12 15.2 +0.3**
comp=Z,28nm,0.9s
KIV **Kislovodsk** 60.34 319 *i* P **P** **22 12 14.8 0.0**
SNR=12
RMQ **Roma** 60.44 124 P **P** **22 12 16.1 +0.5**
baz=60,SNR=9.1
GOF **Gofitskoye** 60.58 320⇑ *e*P pP 22 12 31.4 +0.9
TYV **Tymovskoe** 60.83 32 *e*P P 22 12 12.3 -5.6
TYV pmax pmax
comp=Z,11nm,1.1s
NKL **Nikolayevsk** 61.10 29 *e*P **P** **22 12 18.8 -0.8**
NKL pmax pmax
comp=N,28nm,0.9s
NKL pmax pmax
comp=E,11nm,0.9s
NKL pmax pmax
comp=Z,79nm,0.9s
SOKR **Solikamsk** 62.18 339⇓ *i* P **P** **22 12 25.0 -1.7**
SOKR pmax pmax
comp=Z,27nm,0.6s
MMAI **Mount Meron Ar** 62.19 305 P **P** **22 12 29.4 +1.9**
comp=Z,4.9nm,0.8s,baz=106,slow=8.7,SNR=6.2
MMAI LR LR 22 42 22.4
comp=Z,114nm,18.3s,baz=95,slow=39
YAK **Yakutsk** 62.82 18 *e*P **P** **22 12 28.3 -2.7**
YAK *e**PP **pP** **22 12 38.4 -6.8**
YAK *e* 22 13 05.2
YAK *e*S **S** **22 20 55.1 -1.2**
YAK *e**SS **pS** **22 21 12.4 -0.9**
YAK *e* 22 22 17.3
YAK *e*SS **SS** **22 25 02.4 +0.4**
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,114nm,4.0s
YAK pmax pmax
comp=N,187nm,3.8s
YAK pmax pmax
comp=E,34nm,3.4s
YAK smax smax
comp=N,31nm,2.7s
YAK smax smax
comp=E,112nm,3.5s
YAK **Yakutsk** 62.82 18 *e*P **P** **22 12 29.6 -1.4**
comp=E,36nm,0.7s
VRH **Novokhopyorsk** 64.12 326 *e*P **P** **22 12 38.9 -0.9**
VRH pmax pmax
comp=Z,80nm,0.7s
CSS **Mathiatis** 64.31 307 *e*P **P** **22 12 41.9 +0.4**
comp=Z,7.6nm,1.2s
BR131 **Keskin Array S** 65.25 312 *e*P **P** **22 12 47.5 -0.1**
BRTR **Keskin Array B** 65.25 312 P **P** **22 12 47.5 -0.1**
comp=Z,12nm,0.6s,baz=133,slow=7.4,SNR=73
BRTR LR LR 22 42 44.3
comp=Z,42nm,21.7s,baz=104,slow=37
VSR **Storozhevoye** 65.57 325 *e*P **P** **22 12 47.3 -1.9**
VSR pmax pmax
comp=Z,40nm,0.7s
ANTO **Ankara** 65.92 312 *e*P **P** **22 12 52.3 +0.5**
ANTO pmax pmax
comp=Z,21nm,0.8s
ANTO **Ankara** 65.92 312 *e*P **P** **22 12 52.3 +0.5**
comp=Z,21nm,0.8s
BR231 **Keskin MP Arra** 65.92 312 *e*P **P** **22 12 52.4 +0.5**
HNR **Honiara** 66.17 102 LR LR 22 44 04.7
comp=Z,55nm,20.3s,baz=36,slow=38
LPSR **Galich'ya Gora** 66.29 326 *e*P **P** **22 12 52.6 -1.3**
LPSR pmax pmax
comp=Z,30nm,0.8s
MOS **Moscow** 68.33 329 *e*P **P** **22 13 04.3 -2.4**
MOS *e* 22 13 19.6
MOS *e* 22 13 31.0
MOS *e* 22 15 33.6
MOS pmax pmax
comp=Z,55nm,0.7s
OBN **Obninsk** 68.61 328*c* *i* P **P** **22 13 07.9 -0.6**
OBN *PP **pP** **22 13 19.0 -3.9**
OBN *i* *SP **sP** **22 13 24.2 -4.4**
OBN *e* 22 13 34.0
OBN 22 15 41.0
OBN *e*S **S** **22 22 05.8 -1.5**
OBN *e* 22 22 38.2
OBN pmax pmax
comp=Z,26nm,0.9s
OBN MLR MLR
comp=Z,46nm,15.0s
OBN **Obninsk** 68.61 328 *e*P **P** **22 13 08.2 -0.3**
comp=Z,36nm,0.8s
MA2 **Magadan** 69.26 27⇑ *i* P **P** **22 13 11.8 -0.6**
KARP **Karpathos** 69.38 306 *e*P **P** **22 13 14.9 +1.2**
comp=Z,25nm,0.9s
KLMR **Klimovskoe** 69.78 335 *e*P **P** **22 13 12.5 -3.1**
KLMR *e* 22 15 47.4
KLMR pmax pmax
comp=Z,31nm,0.9s
KLMR **Klimovskoe** 69.78 335 *e*P **P** **22 13 12.5 -3.1**
KLMR AMP 22 13 15.9
comp=Z,31nm,0.9s
KLMR *e*PP **PP** **22 15 47.5 -2.9**
TLCR **Tiksi** 70.09 317⇑ *i* P **P** **22 13 18.6 +0.8**
PETK **Petropavlovsk-** 70.16 35 P **P** **22 13 17.2 -0.9**
comp=Z,2.5nm,0.6s,baz=223,slow=1.7,SNR=4.2
PETK LR LR 22 44 11.6
comp=Z,161nm,21.9s,baz=229,slow=36
TIXI **Tiksi** 70.26 11*d* *i* P **P** **22 13 16.8 -1.5**
TIXI pmax pmax
comp=Z,32nm,0.7s
TIXI **Tiksi** 70.26 11 *e*P **P** **22 13 16.0 -2.3**
comp=Z,32nm,0.8s
TLB **Topalu** 70.49 316⇓ *i* P **P** **22 13 20.7 +0.5**
KIS **Kishinev** 70.54 318 *e*P **P** **22 13 19.0 -1.5**

KIS Kishinev 70.54 318 eP P 22 13 19.0 -1.5
CFR Carcaliu 70.56 316 P P 22 13 21.1 +0.4
CFR Carcaliu 70.56 316⇓ iP P 22 13 21.1 +0.4
LEOM Leova 70.79 318⇓ iP P 22 13 22.5 +0.4
SORM Soroca 71.13 319 P P 22 13 23.6 -0.5
SORM Soroca 71.13 319⇑ iP P 22 13 23.6 -0.5
IDI Anoyia 71.17 306 P P 22 13 25.6 +0.9
comp=Z,15nm,0.6s,baz=84,slow=9.6,SNR=14
IDI LR LR 22 51 03.7
comp=Z,39nm,18.3s,baz=90,slow=41
AKASG Malin Array Be 71.27 322 P P 22 13 24.1 -0.8
comp=Z,7.9nm,0.5s,baz=90,slow=5.2,SNR=75
AKASG pP pP 22 13 38.9 -0.5
comp=Z,5.9nm,0.7s,baz=92,slow=4.7,SNR=5.7
KIEV Kiev 71.28 322c iP P 22 13 24.0 -0.9
KIEV pmax pmax
comp=Z,21nm,0.7s
KIEV Kiev 71.28 322 eP P 22 13 23.2 -1.7
comp=Z,21nm,0.7s
PGOR Pogoanele 71.29 316⇑ iP P 22 13 26.6 +1.5
IAS Iasi 71.42 318⇓ iP P 22 13 25.8 -0.1
ODBI Odobesti 71.43 317⇑ iP P 22 13 27.5 +1.5
SEY Seymchan 71.53 24⇓ eP P 22 13 24.7 -1.5
ISR Istrita 71.64 316 P P 22 13 29.1 +1.7
ISR Istrita 71.64 316⇓ iP P 22 13 29.2 +1.8
VRI Vrincioaia 71.68 317 P P 22 13 29.2 +1.7
VRI pmax pmax
comp=Z,635nm,1.3s
VRI Vrincioaia 71.68 317⇓ iP P 22 13 28.8 +1.3
PLOR Plostina 71.73 317 P P 22 13 28.9 +1.1
PLOR Plostina 71.73 317⇓ iP P 22 13 29.0 +1.1
TESR Tescani 71.87 317⇓ iP P 22 13 28.5 -0.1
SECR 71.95 316⇑ iP P 22 13 30.7 +1.5
TMCR Tamitsa 71.98 337 eP P 22 13 28.4 -0.4
TMCR pmax pmax
comp=Z,59nm,0.6s
MLR Muntele Rosu 72.13 316 P P 22 13 31.3 +0.9
comp=Z,6.1nm,0.8s,baz=60,slow=3.8,SNR=29
MLR LR LR 22 52 10.2
comp=Z,6.9nm,18.6s,baz=64,slow=42
MLR Muntele Rosu 72.13 316 eP P 22 13 31.4 +1.0
MLR pmax pmax
comp=Z,35nm,0.9s
MLR Muntele Rosu 72.13 316⇓ iP P 22 13 31.1 +0.7
MLR Muntele Rosu 72.13 316 eP P 22 13 31.4 +1.0
comp=Z,35nm,0.9s
PRAR RASCA 72.34 318⇓ iP P 22 13 31.7 +0.2
DOPR Dopca 72.61 317⇑ iP P 22 13 33.3 +0.2
HUMR Humele 72.61 315⇓ iP P 22 13 33.2 +0.1
HORU Horodok 72.63 320 P P 22 13 31.7 -1.4
VOIR 72.74 316 P P 22 13 33.7 -0.2
VOIR 72.74 316⇓ iP P 22 13 33.8 -0.2
ARR Arges 73.02 316⇓ iP P 22 13 35.7 +0.1
BURAR Bucovina Array 73.07 318 P P 22 13 36.9 +1.1
BURAR Bucovina Array 73.07 318⇑ iP P 22 13 37.0 +1.1
BUR04 Bucovina Ar. S 73.07 318 eP P 22 13 35.7 -0.2
BUR08 Bucovina Ar. S 73.08 318 eP P 22 13 36.8 +0.9
MNK Minsk 73.12 326 eP P 22 13 32.0 -3.9
VTS Vitosha 73.55 313 eP P 22 13 38.8 0.0
VTS pmax pmax
comp=Z,11nm,0.7s
VTS Vitosha 73.55 313⇓ iP P 22 13 39.1 +0.2
VTS Vitosha 73.55 313 eP P 22 13 38.8 0.0
comp=Z,11nm,0.7s
LOT Lotru 73.63 316⇑ iP P 22 13 39.0 -0.2
NACGM Naroch 73.84 326 e P P 22 13 40.0 -0.1
CJR Cluj-Napoca 73.97 317 P P 22 13 42.4 +1.3
CJR Cluj-Napoca 73.97 317⇑ iP P 22 13 42.5 +1.3
IDID Didziasalis 73.98 326 eP P 22 13 41.0 +0.2
IDID IAmb IAmb 22 13 42.4
comp=Z,14nm,0.8s
BMR Baia Mare 74.22 318⇑ iP P 22 13 43.5 +1.0
IIGN Ignalina 74.27 326 eP P 22 13 42.7 +0.1
IIGN IAmb IAmb 22 13 44.0
comp=Z,16nm,0.6s
LVV L'vov 74.29 320c iP P 22 13 43.4 +0.6
IZAR Zarasai 74.36 327 eP P 22 13 43.3 +0.2
IZAR IAmb IAmb 22 13 44.4
comp=Z,12nm,0.6s
ISAL Salakas 74.38 327 eP P 22 13 43.4 +0.1
ISAL IAmb IAmb 22 13 44.6
comp=Z,9.0nm,0.6s
DRGR 74.59 317⇓ iP P 22 13 45.7 +1.0
DZM Mont Dzumac 74.63 114 P P 22 13 46.1 +0.7
comp=Z,3.9nm,0.8s,baz=174,slow=19,SNR=2.3
DZM LR LR 22 46 58.5
comp=Z,100nm,21.5s,baz=225,slow=36
DZM Mont Dzumac 74.63 114 eLR LR 22 36 53.3
comp=Z,273nm,27.9s
BOSA Boshof 74.63 239 P P 22 13 47.7 +2.3
comp=Z,2.5nm,0.6s,baz=62,slow=3.8,SNR=8.9
BOSA pP pP 22 14 03.1 +3.1
comp=Z,6.8nm,0.9s,baz=89,slow=7.0,SNR=3.8
BOSA LR LR 22 40 30.0
comp=Z,204nm,20.8s,baz=76,slow=31
VSU Vasula 74.85 330⇑ iP P 22 13 45.5 -0.3
VSU pmax pmax
comp=Z,63nm,0.8s
LVZ Lovozero 74.93 340⇑ iP P 22 13 45.7 -0.5
LVZ pmax pmax
comp=Z,38nm,1.0s
LVZ Lovozero 74.93 340 eP P 22 13 45.6 -0.6
comp=Z,47nm,0.6s
TRPA Tarpa 74.94 319⇓ eP P 22 13 47.7 +1.1
KWP Kalwaria Pacla 75.10 320 eP P 22 13 48.3 +0.8
KWP Kalwaria Pacla 75.10 320 eP P 22 13 48.5 +0.9
KWP pmax pmax
comp=Z,565nm,1.1s
KWP Kalwaria Pacla 75.10 320 eP P 22 13 48.5 +0.9
comp=Z,565nm,1.1s
BZS Buzias 75.15 316⇓ iP P 22 13 48.3 +0.4
UZH Uzhgorod 75.18 319 eP P 22 13 48.4 +0.4
UZH e 22 14 03.0
APA Apatity 75.21 340⇓ iP P 22 13 47.0 -0.8
APA pmax pmax
comp=Z,27nm,0.5s
SIRR Siria 75.22 317⇓ iP P 22 13 49.1 +0.8
MAW Mawson 75.53 192 LR LR 22 40 31.6
comp=Z,186nm,20.4s,baz=38,slow=30
SUW Suwalki 75.67 325 eP P 22 13 50.6 -0.1
SUW Suwalki 75.67 325 eP P 22 13 50.4 -0.3
SUW pmax pmax
comp=Z,70nm,0.8s
SUW Suwalki 75.67 325 eP P 22 13 50.4 -0.3
comp=Z,70nm,0.8s
CRVS Cervenica-Dubn 75.77 319 eP P 22 13 52.5 +1.1
CRVS Cervenica-Dubn 75.77 319 eP P 22 13 52.5 +1.1
STHS Stebnicka Huta 76.00 320 eP P 22 13 54.2 +1.5
STHS pmax pmax
comp=Z,19nm,0.7s
STHS Stebnicka Huta 76.00 320 eP P 22 13 54.2 +1.5
FIA1 FINESS Array S 76.01 332 eP P 22 13 52.1 -0.4
FINES FINESS Array B 76.01 332 P P 22 13 52.3 -0.2
comp=Z,13nm,0.4s,baz=104,slow=5.5,SNR=174
FINES pP pP 22 14 06.8 -0.3
comp=Z,6.1nm,0.5s,baz=98,slow=5.3,SNR=5.8
FINES LR LR 22 52 19.1
comp=Z,59nm,18.0s,baz=166,slow=40
DIVS Divibare 76.08 314 eP P 22 13 53.6 +0.2
comp=Z,6.2nm,0.9s
MSF Maaselka 76.17 337 eP P 22 13 54.1 +0.8
MSF pmax pmax
comp=Z,76nm,0.6s
KECS Kecovo 76.34 319 eP P 22 13 55.7 +1.0
KECS pmax pmax
comp=Z,11nm,0.7s
KECS Kecovo 76.34 319 eP P 22 13 55.7 +1.0
PDG Podgorica 76.42 312⇑ iP P 22 13 54.8 -0.4
TTG Podgorica 76.42 312 eP P 22 13 54.6 -0.6
TTG pmax pmax
comp=Z,22nm,0.7s
TTG Podgorica 76.42 312 eP P 22 13 54.6 -0.6
comp=Z,22nm,0.7s
NIE Niedzica 76.61 320 eP P 22 13 57.0 +0.8
PSZ Piszkesteto 76.66 318 eP P 22 13 57.4 +0.8
PSZ pmax pmax
comp=Z,20nm,0.8s
PSZ Piszkesteto 76.66 318⇑ iP P 22 13 57.1 +0.6
PSZ Piszkesteto 76.66 318⇓ eP P 22 13 57.4 +0.8
PSZ Piszkesteto 76.66 318 eP P 22 13 57.4 +0.8
comp=Z,20nm,0.8s
NKY Niksic 76.66 313 P P 22 13 57.2 +0.5
BEL Belsk 76.69 322 eP P 22 13 57.5 +1.0
OJC Ojcow 77.05 320 eP P 22 13 59.4 +0.8
OJC Ojcow 77.05 320 eP P 22 13 58.8 +0.2
OJC pmax pmax
comp=Z,34nm,0.7s
OJC Ojcow 77.05 320 eP P 22 13 58.8 +0.2
comp=Z,34nm,0.7s
OUL Oulu 77.15 336 eP P 22 14 00.1 +1.3
BUD Budapest 77.18 318⇓ eP P 22 13 59.9 +0.5
MORH M¯¤r¡gy, Hung 77.28 316⇓ eP P 22 14 00.1 +0.1
VYHS Vyhne 77.43 319 eP P 22 14 01.5 +0.7
VYHS pmax pmax
comp=Z,16nm,1.5s
VYHS Vyhne 77.43 319 eP P 22 14 01.5 +0.7
SGF Sodankyl 77.63 338 eP P 22 14 02.8 +1.3
SGF pmax pmax
comp=Z,117nm,1.0s
VAF Ylistaro 77.97 334 eP P 22 14 04.7 +1.3
OKC Ostrava-Krasne 78.05 320 eP P 22 14 05.2 +1.0
OKC e 22 14 20.2
OKC Ostrava-Krasne 78.05 320 eP P 22 14 05.2 +1.0
OKC epP pP 22 14 20.2 +1.3
BLY Banja Luka 78.15 315⇑ iP P 22 14 04.9 0.0
BLY Banja Luka 78.15 315 eP P 22 14 05.5 +0.6
comp=Z,14nm,0.8s
MORC Moravsky Berou 78.43 320 eP P 22 14 07.5 +1.1
MORC pmax pmax
comp=Z,110nm,1.2s
MORC Moravsky Berou 78.43 320⇑ iP P 22 14 07.1 +0.7
MORC Moravsky Berou 78.43 320 eP P 22 14 07.5 +1.1
comp=Z,110nm,1.2s
MODS Modra-Piesok 78.45 318 eP P 22 14 07.1 +0.6
MODS Modra-Piesok 78.45 318 eP P 22 14 07.1 +0.6
BEHE Becsehely 78.60 316⇓ eP P 22 14 08.2 +0.9
ARCES ARCESS Array B 78.63 340 P P 22 14 07.0 -0.1
comp=Z,12nm,0.5s,baz=92,slow=5.5,SNR=135
ARCES ARCESS Array B 78.63 340 eP P 22 14 07.3 +0.2
ARCES ARCESS Array B 78.63 340 eP P 22 14 07.3 +0.2
ARE0 ARCESS Array S 78.63 340 eP P 22 14 07.3 +0.2
BILL Bilibino 78.79 21 eP P 22 14 06.7 -1.2
BILL e 22 14 19.5
BILL e 22 17 01.8
BILL ePPP PPP 22 18 55.3
BILL eSS SS 22 29 09.5 +2.6
BILL pmax pmax
comp=Z,9.0nm,0.8s
BILL MLR MLR
comp=Z,455nm,17.0s
CUC Castrocucco 78.80 310 eP P 22 14 08.8 +0.2
comp=Z,11nm,0.7s
KRLC Kraliky 78.95 320 eP P 22 14 10.5 +1.2
KRLC Kraliky 78.95 320 eP P 22 14 10.5 +1.2
VRAC Vranov 79.00 319⇑ iP P 22 14 10.3 +0.8
GKP Gorka Klasztor 79.04 323 eP P 22 14 09.5 -0.1
UDBI Udbina 79.14 314 P P 22 14 10.3 -0.1
KTK1 Kautokeino 79.26 340 eP P 22 14 10.3 -0.2
DPC Dobruska-Polom 79.28 320 eP P 22 14 12.2 +1.2
DPC e 22 14 30.9
DPC Dobruska-Polom 79.28 320 eP P 22 14 12.2 +1.2
DPC epP sP 22 14 30.9 -0.5
KSP Ksiaz 79.34 321 eP P 22 14 11.9 +0.6
CONA Conrad Observa 79.35 318 iP P 22 14 12.3 +0.8
comp=Z,5.0nm,0.8s
UPC Upice 79.49 320 eP P 22 14 13.0 +0.9
UPC Upice 79.49 320 eP P 22 14 13.0 +0.9
ARSA Arzberg 79.52 317 iP P 22 14 13.6 +1.2
comp=Z,22nm,1.3s,SNR=9.4
BOJS Bojanci 79.58 315 eP P 22 14 13.4 +0.8
BOJS i pP pP 22 14 28.2 +0.8
BOJS i 22 14 33.0
PERS Pernice 79.75 316 iP P 22 14 14.7 +1.0
PERS i 22 14 34.0
NVLJ Novalja 79.78 314 P P 22 14 13.0 -0.8
SOKA Soboth 79.81 316 iP P 22 14 15.2 +1.2
comp=Z,36nm,1.4s,SNR=12
OBKA Obir 80.14 316 iP P 22 14 16.9 +1.1
comp=Z,10.0nm,0.8s,SNR=6.8
GOPC GO Pecny, Ondr 80.22 320 eP P 22 14 17.0 +0.9
GOPC e 22 14 33.4
GOPC GO Pecny, Ondr 80.22 320 eP P 22 14 17.0 +0.9
GOPC ePCP PcP 22 14 24.6 +1.4
GOPC epP pP 22 14 33.4 +2.6
PRU Pruhonice 80.39 320 eP P 22 14 17.7 +0.7
PRU e 22 14 26.2
PRU e 22 14 36.0
PRU Pruhonice 80.39 320 eP P 22 14 17.7 +0.7
PRU ePCP PcP 22 14 26.2 +2.3
PRU epP sP 22 14 36.0 -1.4
MOA Molln 80.42 318 iP P 22 14 17.9 +0.6
comp=Z,5.7nm,0.8s
JAVS Javornik 80.43 316 eP P 22 14 17.1 -0.3
JAVS i pP pP 22 14 31.8 -0.4
JAVS i 22 14 36.8
TRI Trieste 80.63 315 eP P 22 14 18.3 0.0
TRI e*PP pP 22 14 35.6 +2.6
TRI Trieste 80.63 315 eP P 22 14 18.3 0.0
TRI epP pP 22 14 35.6 +2.6
AQU L'Aquila 80.74 312 eP P 22 14 19.9 +0.8
AQU pmax pmax
comp=Z,21nm,0.7s
AQU L'Aquila 80.74 312 eP P 22 14 19.9 +0.8
comp=Z,21nm,0.7s
MYKA Terra Mystica 80.77 316 iP P 22 14 20.0 +0.9
comp=Z,6.5nm,0.5s,SNR=7.5
BRG Berggiesshubel 80.83 321 iP P 22 14 19.7 +0.4
comp=Z,11nm,0.9s
BRG e 22 14 34.5
comp=Z,16nm,1.3s
BRG e 22 47 00.1
comp=Z,8.2nm,1.3s
BRG Berggiesshubel 80.83 321 iP P 22 14 19.7 +0.4
BRG e 22 14 34.5
BRG pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 80.86 319 P P 22 14 20.5 +0.8
comp=Z,8.0nm,0.6s,baz=95,slow=5.9,SNR=41
GERES pP pP 22 14 35.3 +1.0
comp=Z,12nm,0.7s,baz=80,slow=7.1,SNR=6.1
TRO Tromso 80.89 340 eP P 22 14 18.9 -0.3
KHC Kasperske Hory 80.95 319 eP P 22 14 20.7 +0.6
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 80.95 319 eP P 22 14 20.6 +0.5
KHC epP sP 22 14 38.2 -2.3
KHC Kasperske Hory 80.95 319 eP P 22 14 20.7 +0.6
comp=Z,2.1nm,0.8s
KBA Koelnbreinsper 81.00 317 P P 22 14 21.5 +1.0
KBA pmax pmax
comp=Z,10.0nm,0.6s
KBA Koelnbreinsper 81.00 317 iP P 22 14 20.7 +0.2
comp=Z,6.2nm,0.5s,SNR=7.8
WET Wettzell 81.41 319 P P 22 14 24.1 +1.6
WET pmax pmax
comp=Z,15nm,0.9s
CLL Collm 81.45 321 iP P 22 14 22.7 +0.1
CLL e 22 14 38.0
CLL pmax pmax
comp=Z,15nm,1.3s
CLL Collm 81.45 321 iP P 22 14 22.7 +0.1
comp=Z,15nm,1.3s
CLL epP pP 22 14 38.0 +0.7
ABTA Abfaltersbach 81.55 316 iP P 22 14 23.5 +0.2
comp=Z,5.6nm,0.6s
HFS Hagfors 81.72 330 P P 22 14 24.0 +0.2
comp=Z,8.0nm,0.5s,baz=116,slow=5.3,SNR=58
HFS pP pP 22 14 38.7 +0.1
comp=Z,7.0nm,0.5s,baz=123,slow=5.3,SNR=6.5
HFS LR LR 22 55 07.5
comp=Z,58nm,18.4s,baz=88,slow=39
SFI Santa Sofia 81.93 314 P P 22 14 27.2 +1.9
STEI Steigen 81.93 338 eP P 22 14 24.7 0.0
STEI IAmb IAmb 22 14 26.1
comp=Z,24nm,0.6s
MOR8 Moi Rana 82.02 336 eP P 22 14 24.8 -0.5
CTI Castel Tesino 82.12 316 P P 22 14 27.1 +0.7
CTI pmax pmax
comp=Z,1.0nm,0.6s
WTTA Wattenberg 82.17 317 iP P 22 14 26.7 0.0
comp=Z,10nm,0.5s,SNR=8.0
WATA Walderalm 82.21 317 iP P 22 14 26.7 -0.2
comp=Z,8.4nm,0.5s,SNR=12
MOX Moxa 82.30 320 P P 22 14 29.3 +2.2
MOX pmax pmax
comp=Z,8.0nm,1.4s
GRF Grafenberg Arr 82.52 319 P P 22 14 29.5 +1.2
GRF pmax pmax
comp=Z,13nm,0.9s
GRFO Grafenberg 82.52 319 eP P 22 14 29.5 +1.2
GRFO pmax pmax
comp=Z,12nm,0.9s
GRFO Grafenberg 82.52 319 eP P 22 14 29.5 +1.2
comp=Z,12nm,0.9s
MOTA Moosalm 82.53 317 iP P 22 14 28.6 0.0
comp=Z,8.1nm,0.6s,SNR=13
SYO Syowa Base 82.56 197⇓ iP P 22 14 25.0 -2.9
SYO Syowa Base 82.56 197⇑ ePcP PcP 22 14 32.2 -0.7
LOF Lofoten 82.59 338 eP P 22 14 27.9 -0.3
RETA Reutte 82.77 317 iP P 22 14 29.7 0.0
comp=Z,18nm,0.5s,SNR=12
FETA Feichten 82.78 317 iP P 22 14 30.4 +0.5
comp=Z,7.4nm,0.6s,SNR=6.7
NC602 NORSAR Array S 82.83 331 eP P 22 14 29.5 -0.1
NSS Namsos 82.89 334 eP P 22 14 29.9 +0.1
NC303 NORSAR Array S 82.94 331 eP P 22 14 30.4 +0.1
NB2 NORSAR Subarra 83.01 331 P P 22 14 30.1 -0.5
comp=Z,2.1nm,0.6s,baz=98,slow=5.1
NB2 NORSAR Subarra 83.01 331 P P 22 14 30.0 -0.5
NB2 pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 83.01 331 P P 22 14 30.1 -0.5
comp=Z,2.1nm,0.6s,baz=98,slow=5.1
NOA NORSAR Array B 83.01 331 P P 22 14 30.4 -0.2
comp=Z,10nm,1.0s,baz=94,slow=5.3,SNR=7.2
NOA pP pP 22 14 45.6 +0.2
comp=Z,4.4nm,0.8s,baz=98,slow=5.2,SNR=4.4
NOA LR LR 22 55 47.7
comp=Z,28nm,18.7s,baz=75,slow=39
FUORN Ofenpass-Fuorn 83.09 316 eP P 22 14 32.6 +1.0
comp=Z,12nm,0.6s
RPZ Rata Peaks 83.12 135 P P 22 14 31.8 +0.3
comp=Z,6.7nm,0.5s,baz=66,slow=4.9,SNR=5.6
RPZ LR LR 22 53 18.9
comp=Z,112nm,19.4s,baz=226,slow=37
SPITS Spitsbergen Ar 83.21 348 P P 22 14 30.8 -0.5
comp=Z,11nm,0.5s,baz=69,slow=4.9,SNR=31
SPITS pP pP 22 14 45.0 -1.1
comp=Z,8.6nm,0.6s,baz=60,slow=5.8,SNR=4.0
SPITS LR LR 22 57 38.4
comp=Z,90nm,21.4s,baz=160,slow=40
NC204 NORSAR Array S 83.24 331 eP P 22 14 32.0 +0.1
DAVA Damuels 83.36 317 iP P 22 14 33.4 +0.5
comp=Z,12nm,1.0s,SNR=5.0
TUE Stuetta 83.73 316 eP P 22 14 36.6 +1.7
comp=Z,7.2nm,0.8s
KONO Kongsberg 83.75 329 eP P 22 14 34.5 +0.1
KEST Kesra 83.85 305 P P 22 14 37.0 +1.5
comp=Z,12nm,0.8s,baz=26,slow=1.7,SNR=16
KEST Kesra 83.85 305 eP P 22 14 36.7 +1.2
comp=Z,13nm,0.8s
KEST epP pP 22 14 46.9 -3.4
TNS Taunus Mts 84.31 320 P P 22 14 39.1 +1.6
BFO Black Forest 84.41 318 iP P 22 14 38.4 +0.4
BFO Black Forest 84.41 318 eP P 22 14 38.1 +0.1
comp=Z,24nm,1.4s
SBF Sospel 85.12 314 eP P 22 14 41.2 -0.5
SBF pmax pmax
comp=Z,21nm,0.8s
SENIN Lac Senin/Sane 85.14 316 eP P 22 14 42.7 +0.7
comp=Z,9.8nm,0.8s
ECH Echery 85.19 318 eP P 22 14 42.1 +0.1
ECH pmax pmax
comp=Z,5.0nm,0.8s
ECH Echery 85.19 318 eP P 22 14 42.1 +0.1
comp=Z,4.7nm,0.8s
LPG La Plagne 85.55 315 eP P 22 14 43.7 -0.5
LPG pmax pmax
comp=Z,10.0nm,0.8s
LPL La Plagne 85.57 315 eP P 22 14 44.4 +0.3
LPL pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 85.57 314 eP P 22 14 46.2 +2.1
MBDF pmax pmax
comp=Z,4.0nm,0.7s
BNI Bardonecchia 85.62 315 eP P 22 14 44.8 +0.5
BNI pmax pmax
comp=Z,7.0nm,0.8s
BNI Bardonecchia 85.62 315 eP P 22 14 44.8 +0.5
comp=Z,7.1nm,0.8s
FRF La Foret Royal 85.70 313 eP P 22 14 44.2 -0.4
FRF pmax pmax
comp=Z,26nm,1.2s
HAU Haudompre 85.74 318 eP P 22 14 43.8 -0.9
HAU pmax pmax
comp=Z,9.0nm,0.6s
WLF Walferdange 85.81 319⇑ P P 22 14 42.6 -2.4
WLF Walferdange 85.81 319 eP P 22 14 45.9 +0.9
WLF pmax pmax
comp=Z,20nm,1.2s
WLF Walferdange 85.81 319 eP P 22 14 45.9 +0.9
comp=Z,20nm,1.2s
MEM Membach 85.87 320⇓ P P 22 14 45.6 +0.4
CABF La Chapelle 85.97 316 eP P 22 14 45.5 -0.5
CABF pmax pmax
comp=Z,7.0nm,0.7s
BCLA Clavier 86.32 320 ⇓AP pP 22 15 03.6 +1.3
comp=Z,9.7nm,1.9s
URZ Urewera 86.61 129 P P 22 14 48.7 -0.5
comp=Z,13nm,0.9s,baz=250,slow=1.8,SNR=6.1
DOU Dourbes 86.79 320 ⇑P P 22 14 48.7 -1.1
SNF Seneffe 86.97 320 ⇑P P 22 14 49.9 -0.7
GAMB Gambell 87.36 26 eP P 22 14 51.8 -0.4
comp=Z,21nm,0.8s
AVF Avril sur Loir 87.84 317 eP P 22 14 54.3 -0.6
AVF pmax pmax
comp=Z,5.0nm,0.9s
RJF Les Rejaudoux 89.25 315 eP P 22 15 01.7 +0.1
RJF pmax pmax
comp=Z,41nm,1.6s
VNDA Vanda 89.56 168 LR LR 22 54 10.6
comp=Z,140nm,18.8s,baz=268,slow=35
FLN La Foliniere 90.22 319 eP P 22 15 05.7 -0.3
FLN pmax pmax
comp=Z,10.0nm,0.7s
DAG Danmarks Havn 90.85 348⇑ iP P 22 15 07.4 -1.0
DAG Danmarks Havn 90.85 348⇑ iP P 22 15 07.4 -1.0
EKA Eskdalemuir Ar 90.91 326 P P 22 15 09.5 +0.4
comp=Z,1.3nm,0.4s,baz=102,slow=5.2,SNR=10
EKA pP pP 22 15 25.6 +1.6
comp=Z,5.2nm,0.7s,baz=87,slow=5.6,SNR=8.0
ETSF Etsaut 91.00 313 eP P 22 15 15.0 +5.1
ETSF pmax pmax
comp=Z,17nm,1.6s
QUIF Quistinic 92.11 318 eP P 22 15 15.0 +0.2
QUIF pmax pmax
comp=Z,17nm,1.4s
TORD Torodi Ar. Bea 92.21 283 P P 22 15 17.2 +1.2
comp=Z,1.4nm,0.7s,baz=81,slow=5.3,SNR=7.9
TORD LR LR 22 56 14.9
comp=Z,85nm,18.9s,baz=160,slow=35
ES19 SONSECA Array 93.95 310 eP P 22 15 24.7 +1.1
ESDC Sonseca Array 94.00 310 P P 22 15 24.5 +0.7
comp=Z,0.8nm,0.5s,baz=64,slow=4.0,SNR=11
ESDC sP sP 22 15 43.7 -0.8
comp=Z,1.6nm,0.6s,baz=66,slow=5.0,SNR=7.2
IM3 Indian Mountai 94.30 22 eP P 22 15 24.2 -0.3
SCO Scoresbysund 94.42 343 iP P 22 15 26.3 +1.3
SCO Scoresbysund 94.42 343 iP P 22 15 26.3 +1.3
TOLK Toolik Lake Re 94.74 19 P P 22 15 26.5 -0.1
baz=295
TOLK Toolik Lake Re 94.74 19 eP P 22 15 26.5 -0.1
CAST Castle Rocks 95.93 25 eP P 22 15 32.2 +0.1
BPAW Bear Paw Mtn. 96.11 24 eP P 22 15 32.8 -0.1
BORG Borgarnes 96.78 337 LR LR 23 02 29.1
comp=Z,40nm,20.2s,baz=95,slow=37
SNAA Sanae 96.82 198 LR LR 22 54 10.2
comp=Z,264nm,18.0s,baz=9.5,slow=32
SUA Susitna One 97.27 26 eP P 22 15 38.0 -0.3
ILAR Eielson Array 97.42 22 P P 22 15 36.6 -2.2
comp=Z,0.8nm,0.8s,baz=294,slow=4.4,SNR=7.5
ILAR PP PP 22 19 32.4 -3.4
comp=Z,0.7nm,1.0s,baz=300,slow=6.5,SNR=4.4
ILAR LR LR 23 02 26.3
comp=Z,113nm,18.1s,baz=294,slow=37
SUMG Summit 97.52 347 iP Pdif 22 15 40.3 +0.7
SUMG pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 97.52 347 iP Pdif 22 15 40.3 +0.7
comp=Z,3.5nm,0.7s
KOWA Kowa 97.59 285 LR LR 22 59 27.7
comp=Z,156nm,19.0s,baz=109,slow=35
SCRK Sand Creek 98.91 23 eP P 22 15 45.6 -0.1
DBIC Dimbokro 99.26 277 LR LR 23 00 30.3

comp=Z,86nm,19.2s,baz=78,slow=35
INK Inuvik 99.87 16 eP Pdif Pdif 22 15 49.7 +0.1
INK Inuvik 99.87 16 ePdif Pdif Pdif 22 15 49.7 +0.1
PPT2 Papeete2 115.56 107 eLR LR 22 55 51.7
comp=Z,98nm,23.8s
SCHQ Schefferville 118.89 348 PKP PKPdf 22 20 53.8 +0.1
comp=Z,2.3nm,0.5s,baz=352,slow=0.9,SNR=8.8
MSO Missoula 122.75 23 P PKPdf 22 21 01.2 -0.3
baz=325
ULM Lac du Bonnet 124.57 8 PKP PKPdf 22 21 04.8 0.0
comp=Z,3.7nm,0.6s,baz=1.7,slow=4.9,SNR=9.1
ULM pPKP pPKPdf 22 21 19.7 -0.4
comp=Z,7.0nm,0.7s,baz=356,slow=3.2,SNR=8.2
HLID Hailey 125.19 26 P PKPdf 22 21 07.2 +0.8
baz=323
A33A Warroad 125.92 8 P PKPdf 22 21 06.9 -0.5
baz=347
B32A Ashes, Strandq 126.27 10 P PKPdf 22 21 07.9 -0.1
baz=346
B34A Aery, Baudette 126.47 8 P PKPdf 22 21 08.4 -0.1
baz=348
C31A Landman Farms, 126.64 11 P PKPdf 22 21 09.0 +0.3
baz=344
B35A Bob, Littlefor 126.71 7 P PKPdf 22 21 09.4 +0.5
baz=349
NVAR Mina Array Bea 127.22 33 PKP PKPdf 22 21 11.3 +0.9
comp=Z,2.2nm,0.8s,baz=289,slow=2.4,SNR=14
NVAR pPKP pPKPdf 22 21 27.5 +1.6
comp=Z,2.1nm,0.8s,baz=318,slow=1.2,SNR=6.6
BW06 Boulder Array 127.85 23 P PKPdf 22 21 11.8 +0.2
baz=328
PDAR Pinedale Array 127.85 23 PKP PKPdf 22 21 11.8 +0.2
comp=Z,1.3nm,0.5s,baz=239,slow=0.9,SNR=15
D35A Remer 127.92 8 P PKPdf 22 21 11.1 -0.1
baz=348
E36A McGregor 128.58 7 P PKPdf 22 21 13.0 +0.4
baz=349
DUG Dugway, Tooele 128.61 27 P PKPdf 22 21 14.2 +1.2
baz=323
R11A Troy Canyon, C 128.71 31 P PKPdf 22 21 14.5 +1.2
baz=319
F36A Milaca 129.19 8 P PKPdf 22 21 14.2 +0.5
baz=349
MPMC Manual Prospec 129.38 34 P PKPdf 22 21 15.9 +1.2
baz=316
F39A Loretta 129.44 5 P PKPdf 22 21 14.6 +0.4
baz=352
LONY Lake Ozonia 130.13 350 P PKPdf 22 21 15.9 +0.4
baz=13
O20A White River Ci 130.61 24 P PKPdf 22 21 17.9 +1.1
baz=329
O20A White River Ci 130.61 24 ePKPdf PKPdf 22 21 17.9 +1.1
O20A epPKPdf pPKPdf 22 21 33.1 +0.8
ECSD EROS Data Cent 130.76 11 P PKPdf 22 21 17.3 +0.5
baz=344
T25A Trinidad 134.69 22 P PKPdf 22 21 25.8 +1.1
baz=332
P37A Lathrop 135.19 10 P PKPdf 22 21 25.5 +0.2
baz=347
P38A Dawn 135.30 9 P PKPdf 22 21 26.1 +0.7
baz=348
ANMO Albuquerque 135.77 26 P PKPdf 22 21 27.4 +0.6
baz=328
R40A Maddies Statio 136.80 8 P PKPdf 22 21 28.9 +0.6
baz=349
R43A Red Bud 137.10 6 P PKPdf 22 21 29.9 +1.1
baz=353
S38A Stockton 137.18 10 P PKPdf 22 21 29.1 +0.1
baz=347
R44A Waltonville 137.21 5 P PKPdf 22 21 30.1 +1.1
baz=354
S39A Bolivar 137.22 10 P PKPdf 22 21 29.1 0.0
baz=348
S40A Lebanon 137.44 9 P PKPdf 22 21 29.5 0.0
baz=349
MSTX Muleshoe 138.12 22 P PKPdf 22 21 31.2 +0.2
baz=333
U47A Clarksville 139.12 3 P PKPdf 22 21 33.1 +0.6
baz=356
TKL Tuckaleechee C 139.94 358 PKhKP PKPpre 22 21 27.3
comp=Z,1.2nm,0.5s,baz=18,slow=16,SNR=3.8
MIAR Mount Ida 140.23 11 ePKIKP PKPdf 22 21 35.5 +0.8
MIAR Mount Ida 140.23 11 ePKPdf PKPdf 22 21 35.5 +0.8
ABTX Abilene, Hawle 140.45 20 P PKPpre 22 21 29.2
baz=337
X49A Woodville 141.08 2 P PKPpre 22 21 28.9
baz=358
PLCA Paso Flores 141.76 198 PKhKP PKPpre 22 21 33.8
comp=Z,1.4nm,0.8s,baz=177,slow=2.6,SNR=4.0
TXAR Lajitas Array 141.78 27 PKhKP PKPpre 22 21 32.1
comp=Z,0.8nm,0.5s,baz=199,slow=0.4,SNR=8.1
TXAR SKPbc SKPbc 22 25 11.4 +0.4
comp=Z,0.8nm,0.7s,baz=270,slow=1.0,SNR=4.7
TXAR Lajitas Array 141.78 27 PKHKP PKPpre 22 21 32.1
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR pmax pmax
comp=N,1.0nm,0.7s
JCT Junction City 142.35 21 P PKPdf 22 21 33.3 -5.3
baz=335
555A McAlpin 145.43 357 P PKPab 22 21 44.6 +0.5
baz=3.4
557A Orange Park 145.45 355 P PKPab 22 21 44.4 +0.2
baz=5.5
554A Perry 145.50 358 P PKPab 22 21 44.4 +0.1
baz=2.1
556A Lake Butler 145.51 356 P PKPab 22 21 45.2 +0.8
baz=4.3
CPUP Villa Florida 145.86 228 PKPbc PKPab 22 21 46.5 +0.7
comp=N,9.7nm,1.0s,baz=137,slow=2.7,SNR=17
658A Bunnell 145.99 354 P PKPab 22 21 46.0 -0.2
baz=6.4
656A Williston 146.15 356 P PKPab 22 21 46.9 +0.1
baz=4.2
758A Lake Helen 146.44 354 P PKPab 22 21 47.6 -0.3
baz=6.6
757A Oxford 146.54 355 P PKPbc 22 21 47.8 +0.5
baz=5.1
857A Zephyrhills 147.22 356 P PKPbc 22 21 49.7 +0.5
baz=4.9
859A Kempfer Cattle 147.30 353 P PKPbc 22 21 50.2 +0.7
baz=7.3
DWPF Disney Wildern 147.31 354 P PKPbc 22 21 50.4 +0.8
baz=6.3
957A Wimauma 147.82 355 P PKPbc 22 21 51.5 +0.6
baz=4.9
ZAIG Zacatecas 147.82 32 ePKPbc PKPbc 22 21 52.4 +1.0
959A Okeechobee 147.83 353 P PKPbc 22 21 52.1 +1.1
baz=7.5
LPAZ La Paz 159.80 234 PKP PKPdf 22 22 07.3 +1.3
comp=N,1.7nm,0.8s,baz=45,slow=3.0,SNR=5.9
LPAZ pPKP pPKPdf 22 22 22.3 +0.7
comp=N,4.9nm,1.0s,baz=304,slow=0.8,SNR=5.2
OTAV Otavalo 171.91 306 ePKPdf PKPdf 22 22 16.1 +0.4
OTAV epPKPdf pPKPdf 22 22 33.0 +1.8

IDC 30 22:09:59.9±4.7, 16°03'S×176°00'W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.8/45, mbtmp4.4/3, Error ellipse: s-maj=177.0km s-min=94.4km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	41.55	240	P	P	22 17 49.5	+0.1
	1.1nm,0.3s,baz=107,slow=17,SNR=4.1						
WRA	Warramunga Arr	47.26	258	P	P	22 18 35.1	-0.2
	1.3nm,0.5s,baz=92,slow=6.9,SNR=27						
ASAR	Alice Springs	47.53	252	P	P	22 18 37.0	-0.4
	12nm,0.6s,baz=89,slow=7.7,SNR=135						
ASAR				PcP	PcP	22 20 07.5	-0.1
	0.2nm,0.3s,baz=116,slow=4.2,SNR=2.8						

IDC 30 22:12:14.3±6.2, 4°20'S×151°75'E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/47, mbtmp3.7/3, MS4.3/1, Ms1 4.3/1, ms1mx2.8/46, Error ellipse: s-maj=207.7km s-min=32.5km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.07	226	P	P	22 17 22.0	+0.2
	0.7nm,0.4s,baz=51,slow=9.8,SNR=10						
ASAR	Alice Springs	25.90	220	P	P	22 17 48.2	-0.1
	0.8nm,0.3s,baz=49,slow=7.7,SNR=11						
RAO	Raoul Island	38.04	134	LR	LR	22 33 14.7	
	comp=Z,395nm,19.8s,baz=108,slow=33						
ZALV	Zalesovo Beam	80.08	326	P	P	22 24 25.9	0.0
	0.4nm,0.6s,baz=108,slow=4.7,SNR=3.0						

IDC 30 22:16:22.3±1.4, 0°.83S×23°.80W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/53, mbtmp3.9/4, Error ellipse: s-maj=55.3km s-min=33.7km az=150.0

ISC 30 22:16:23.6±1.6, 1°.10S±0°.4×23°.7W±0°.3, h12km, n12, σ1°31/6, mb3.7/3, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N3	ASCENSION HYDR1	1.42	127	T	T	22 31 11.1	
	baz=305,slow=74,SNR=90						
H10N2	ASCENSION HYDR1	1.43	127	T	T	22 31 03.3	
	baz=305,slow=74,SNR=91						
H10N1	ASCENSION HYDR1	1.44	127	T	T	22 31 06.1	
	baz=305,slow=74,SNR=148						
H10S3	ASCENSION HYDR1	1.99	132	T	T	22 31 45.7	
	baz=310,slow=74,SNR=51						
H10S1	ASCENSION HYDR1	1.99	131	T	T	22 31 48.8	
	baz=310,slow=74,SNR=60						
H10S2	ASCENSION HYDR1	2.00	132	T	T	22 31 55.5	
	baz=310,slow=74,SNR=37						
DBIC	Dimbokro	20.30	68	P	P	22 20 58.6	-0.9
	9.6nm,1.2s,baz=176,slow=13,SNR=2.1						
KOWA	Kowa	24.84	51	P	P	22 21 47.6	+1.5
	6.6nm,0.9s,baz=229,slow=11,SNR=12						
TORD	Torodi Ar. Bea	28.85	60	P	P	22 22 22.7	+0.5
	0.8nm,0.6s,baz=245,slow=11,SNR=3.7						
YKA	Yellowknife Ar	91.29	332	P	P	22 29 28.3	-0.5
	0.1nm,0.6s,baz=77,slow=3.2,SNR=3.1						
ASAR	Alice Springs	147.22	140	PKPbc	PKPab	22 36 10.5	+1.0
	0.5nm,0.5s,baz=209,slow=2.3,SNR=5.0						
WRA	Warramunga Arr	150.07	135	PKPbc	PKPbc	22 36 14.6	-0.6
	0.4nm,0.9s,baz=230,slow=1.3,SNR=3.2						

NIED 30 22:27:00, 40°.90N×145°.10E, h8km, Mw3.7 Best double couple: M0=4.52000×10^14 NP1:φs=114.00000°, δ=42.00000°, λ=-60.00000°. NP2:φs=256.00000°, δ=54.00000°, λ=-115.00000°.

IDC 30 22:27:47.4±0.8, 40°.72N×144°.99E, h0km, mb3.7/13, mb1 3.8/17, mb1mx3.7/68, mbtmp3.7/17, ML3.2/2, Error ellipse: s-maj=20.3km s-min=17.7km az=103.0

ISCJB 30 22:27:48.1±0.6, 40°.91N±0°.03×144°.86E±0°.05, h10km, mb3.7/13, Error ellipse: s-maj=5.8km s-min=4.5km az=23.5

JMA 30 22:27:48.9±0.2, 40°.85N×145°.07E, h65km±3km, M3.7

ISC 30 22:27:49.3±0.7, 40°95N±0°.04×144°85E±0°.05, h10km, n40, σ1°99/52, mb3.7/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	Erimo	1.66	311	P	Pb	22 28 18.9	-1.0
JEM				eS	Sb	22 28 39.9	-0.9
JCH	Churui	2.00	327	P	Pb	22 28 23.6	-2.1
JCH				eS	Sn	22 28 47.7	-0.5
JAK	Akkeshi	2.05	357	P	Pn	22 28 23.3	-0.5
JAK				eS	Sn	22 28 47.4	-2.0
JNBK	Urakawa-nobuka	2.06	311	P	Pb	22 28 25.5	-1.2
JNBK				eS	Sb	22 28 51.0	-1.4
JAR	Ashorobuto	2.48	342	P	Pn	22 28 29.5	-0.2
NEM2	Nemuro 2	2.51	15	P	Pn	22 28 28.7	-1.3
NEM2				eS	Sn	22 28 57.2	-3.5
JANG	Nango	2.60	258	P	Pn	22 28 30.5	-0.8
JANG				eS	Sn	22 28 59.5	-3.4
JBT2	Biratori 2	2.60	315	P	Pb	22 28 33.6	-2.4
JNK	Nakash	2.64	358	P	Pn	22 28 30.9	-1.0
JNK				eS	Sn	22 29 01.0	-2.9
JFR	Furan	2.78	324	P	Pn	22 28 34.5	+0.7
JFR				eS	Sn	22 29 06.9	-0.5
JTM	Tenmabayashi	2.87	268	P	Pn	22 28 35.7	+0.7
JTM				eS	Sn	22 29 08.2	-1.4
JOT	Ohata	2.90	280	P	Pn	22 28 36.0	+0.6
JOT				eS	Sn	22 29 08.9	-1.5
JKB	Kayabe	3.02	289	P	Pn	22 28 38.3	+1.2
JKB				eS	Sn	22 29 12.7	-0.6
JOM	Ohasama	3.09	243	P	Pn	22 28 37.6	-0.5
JOM				eS	Sn	22 29 11.6	-3.6
JTKR	Abashiri--Toko	3.10	347	P	Pn	22 28 38.9	+0.7
JTKR				eS	Sn	22 29 15.3	0.0
JEW	Eniwo	3.16	308	P	Pb	22 28 41.2	-4.3
JEW				eS	Sn	22 29 18.5	+1.6
JMK	Ichinoseki	3.43	236	P	Pn	22 28 41.9	-0.8
JMK				eS	Sn	22 29 19.3	-4.0
ASAJ	Asahikawa	3.58	333	Pn	Pn	22 28 46.2	+1.4
	1.2nm,0.3s,baz=186,slow=17,SNR=11						
ASAJ				Sn	Sb	22 29 30.9	-5.2
	1.5nm,0.3s,baz=288,slow=27,SNR=4.4						
MJAR	Matsushiro Arr	6.80	232	Pn	Pn	22 29 28.9	-0.2
	0.5nm,0.3s,baz=41,slow=11,SNR=6.6						
MJAR				Sn	Sn	22 30 49.4	+2.8
	0.5nm,0.3s,baz=265,slow=39,SNR=2.8						
USRK	Ussuriysk Ar.	10.03	293	Pn	Pn	22 30 16.4	+3.2
	0.1nm,0.3s,baz=109,slow=16,SNR=4.3						
KSRS	Korea Array	13.58	261	Pn	Pn	22 31 03.9	+2.1
	baz=55,slow=14,SNR=2.8						
SONM	Songino Array	28.10	297	P	P	22 33 42.4	+1.2
	0.5nm,0.6s,baz=80,slow=8.8,SNR=4.1						
H11N2	WAKE ISLAND Hy	28.30	132	T	T	23 03 11.4	
	baz=324,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	28.31	132	T	T	23 03 15.1	
	baz=324,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy	28.32	132	T	T	23 03 15.7	
	baz=324,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy	29.18	134	T	T	23 04 20.7	
	baz=325,slow=76,SNR=8.1						
H11S3	WAKE ISLAND Hy	29.18	134	T	T	23 04 17.7	
	baz=325,slow=76,SNR=9.2						
H11S2	WAKE ISLAND Hy	29.19	134	T	T	23 04 21.0	
	baz=325,slow=76,SNR=10						
ZALV	Zalesovo Beam	41.39	309	P	P	22 35 36.7	+1.4
	0.4nm,0.4s,baz=96,slow=9.9,SNR=2.5						
ZALV				PcP	PcP	22 37 32.8	-0.5
	0.8nm,0.6s,baz=81,slow=3.7,SNR=3.6						
MKAR	Makanchi Array	44.42	299	P	P	22 36 01.1	+1.0
	0.6nm,0.5s,baz=87,slow=9.9,SNR=13						
ILAR	Eielson Array	44.76	34	P	P	22 36 03.9	+1.4
	0.7nm,1.0s,baz=265,slow=5.1,SNR=3.3						
KURBB	Kurchatov Arra	45.81	306	P	P	22 36 12.1	+1.1
	2.3nm,0.7s,baz=78,slow=8.8,SNR=15						
INK	Inuvik	49.68	29	P	P	22 36 41.8	+1.1
	0.7nm,0.8s,baz=284,slow=4.2,SNR=3.0						
BVAR	Borovoye Array	49.99	311	P	P	22 36 45.1	+1.7
	1.0nm,0.5s,baz=65,slow=8.4,SNR=9.9						
YKA	Yellowknife Ar	59.08	32	P	P	22 37 49.7	+0.5
	0.2nm,0.6s,baz=301,slow=5.7,SNR=4.6						
WRA	Warramunga Arr	61.36	191	P	P	22 38 03.9	-1.3
	2.2nm,0.8s,baz=12,slow=7.2,SNR=16						
ASAR	Alice Springs	65.08	191	P	P	22 38 27.2	-2.7
	0.5nm,0.6s,baz=11,slow=6.2,SNR=4.9						
FINES	FINESS Array B	66.59	333	P	P	22 38 40.0	+0.8
	1.2nm,0.7s,baz=54,slow=9.7,SNR=4.8						
AKASG	Malin Array Be	72.81	323	P	P	22 39 18.8	+1.1
	0.3nm,0.3s,baz=45,slow=6.1,SNR=2.7						
BRTR	Keskin Array B	78.22	313	P	P	22 39 51.1	+1.9
	0.6nm,0.8s,baz=50,slow=4.5,SNR=3.1						

DDA 30 22:32:42.4, 35°.42N×27°.69E, h10km, Ml3.2

ISCJB 30 22:32:44.9±1.3, 35°.44N±0°.06×27°.88E±0°.06, h2km±7km, Error ellipse: s-maj=11.1km s-min=5.2km az=142.7

ISK 30 22:32:44.9, 35°.51N×27°.90E, h5km, ML2.9/4

CSEM 30 22:32:45.3±0.5, 35°.45N×27°.94E, h5km, ML2.3, Error ellipse: s-maj=12.4km s-min=5.1km az=148.0

ATH 30 22:32:48.6, 35°.92N×27°.41E, h12km±4km, ML2.3/2, Error ellipse: s-maj=6.0km s-min=1.3km az=148.0

ISC 30 22:32:45.7±1.4, 35°.51N±0°.05×27°.88E±0°.04, h15km±10km, n39, σ1°19/60, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.58	274	PG	Pb	22 32 57.4	-0.1
KARP				SG	Sb	22 33 06.9	+1.3
KARP	Karpathos	0.58	274	P	Pb	22 32 57.5	-0.1
KARP				S	Sg	22 33 02.9	-2.0
KARP				AML	AML	22 33 07.4	
	comp=N,1390μm,0.4s						
KARP				AML	AML	22 33 08.5	
	comp=E,860μm,0.3s						
KARP	Karpathos	0.58	274	ePg	Pb	22 32 57.4	-0.1
KARP				eSg	Sb	22 33 06.9	+1.3
ARG	Arkhangelos	0.73	16	P	Pb	22 33 00.5	+0.4
ARG				S	Sb	22 33 10.9	+1.0
ARG				AML	AML	22 33 12.3	
	comp=E,908μm,0.3s						
ARG				AML	AML	22 33 13.7	
	comp=N,640μm,0.6s						
ARG	Arkhangelos	0.73	16	P	Pb	22 33 00.7	+0.6
ARG				S	Sb	22 33 10.5	+0.6
ZKR	Zakros	1.41	254	P	Pn	22 33 11.3	+0.5
ZKR	Zakros	1.41	254	P	Pn	22 33 11.8	+0.1
DALY	Dalyan (Mu¨la	1.45	26	PN	Pg	22 33 13.3	-0.2
DALY	Dalyan (Mu¨la	1.45	26	iP	Pb	22 33 12.5	+0.2
DALY				iS	Sg	22 33 35.1	+2.8
DALY	Dalyan (Mu¨la	1.45	26	P	Pb	22 33 12.5	+0.2
DALY	Dalyan (Mu¨la	1.45	26	ePn	Pg	22 33 13.3	-0.2
DALY				S	Sg	22 33 35.2	+2.8
TURN	Turunc	1.48	23	PN	Pn	22 33 10.6	-1.1
TURN				SN	Sn	22 33 29.1	-1.7
TURN	Turunc	1.48	23	iP	Pn	22 33 10.5	-1.1
TURN				iS	Sn	22 33 29.3	-1.5
TURN	Turunc	1.48	23	ePn	Pn	22 33 10.6	-1.1
TURN				S	Sn	22 33 29.3	-1.5
FETY	Fethiye	1.49	41	PN	Pb	22 33 13.2	+0.2
FETY	Fethiye	1.49	41	P	Pn	22 33 12.0	+0.1
FETY	Fethiye	1.49	41	ePn	Pb	22 33 13.2	+0.2
FETY				S	Sg	22 33 37.2	+3.5
BDRM	Kayabasi	1.59	347	iP	Pn	22 33 13.8	+0.5
BDRM				iS	Sg	22 33 36.0	-0.9
BDRM	Kayabasi	1.59	347	P	Pn	22 33 13.8	+0.5
BDRM				S	Sg	22 33 36.0	-0.9
BODT	Bodrum	1.61	344	PN	Pb	22 33 15.5	+0.4
BODT	Bodrum	1.61	344	ePn	Pb	22 33 15.5	+0.4
YER	Yerkesik	1.65	11	PN	Pb	22 33 16.3	+0.4
YER	Yerkesik	1.65	11	ePn	Pb	22 33 16.3	+0.4
MLSB	Milas	1.78	357	PN	Pb	22 33 18.4	+0.4
MLSB	Milas	1.78	357	ePn	Pb	22 33 18.4	+0.4
NPS	Neapolis	1.86	263	P	Pb	22 33 19.9	+0.5
NPS				S	Sn	22 33 40.4	+0.1
NPS	Neapolis	1.86	263	P	Pb	22 33 19.3	-0.1
NPS				S	Sn	22 33 40.6	+0.3
LAST	Lasithi	1.99	261	P	Pb	22 33 20.9	-0.7
LAST	Lasithi	1.99	261	P	Pb	22 33 20.9	-0.7
ELL	Elmali	2.06	53	PN	Pb	22 33 21.3	-1.5
ELL	Elmali	2.06	53	ePn	Pb	22 33 21.3	-1.5
TAVA	DENIZLI_Tavas	2.12	23	iP	Pb	22 33 22.8	-1.1
TAVA				iS	Sg	22 33 52.9	-1.2
TAVA	DENIZLI_Tavas	2.12	23	P	Pb	22 33 22.8	-1.1
TAVA				S	Sg	22 33 52.8	-1.2
AYDN	Tasoluk	2.15	0	iP	Pb	22 33 23.2	-1.0
AYDN				iS	Sb	22 33 52.4	+1.7
AYDN	Tasoluk	2.15	0	P	Pb	22 33 23.2	-1.0
AYDN				S	Sb	22 33 52.4	+1.7
GOLH	Golhisar	2.20	38	iP	Pn	22 33 22.6	+0.9
GOLH				iS	Sg	22 33 55.6	-0.7
GOLH	Golhisar	2.20	38	P	Pn	22 33 22.6	+0.9
GOLH				S	Sg	22 33 55.6	-0.7
AYDB	Zeytinkoy-Aydi	2.43	0	PN	Pb	22 33 27.4	-1.7
AYDB	Zeytinkoy-Aydi	2.43	0	ePn	Pb	22 33 27.4	-1.7

IDC 30 22:41:31.3±0.5, 54°.73S×28°.98W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.3/28, mbtmp4.5/9, MS3.7/3, Ms1 3.7/3, ms1mx3.2/30, Error ellipse: s-maj=20.9km s-min=16.6km az=43.0

ISCJB 30 22:41:34.2±0.4, 54°.86S±0°.07×29°.0W±0°.1, h35km, mb4.6/14, MS3.7/3, Error ellipse: s-maj=13.1km s-min=7.9km az=138.0

NEIC 30 22:41:36.6±0.2, 54°.82S×29°.06W, h35km, mb4.9/12, Error ellipse: s-maj=11.4km s-min=7.3km az=20.0

ISC 30 22:41:36.2±0.5, 54°.8S±0°.1×29°.27W±0°.08, h35km, n69, σ1°57/70, mb4.8/14, MS3.6/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	4.23	274	ePn	Pn	22 42 37.4	-0.8
HOPE				eSn	Sn	22 43 21.3	-5.0
EFI	East Falkland	17.46	268	ePn	P	22 45 39.3	+1.7
	39nm,1.3s						
VNA1	Neumayer--Stat	18.41	158	P	P	22 45 46.4	-1.5
VNA3	Neumayer Olymp	18.57	160	P	P	22 45 48.9	-0.9
VNA2	Neumayer--Watz	18.80	158	P	P	22 45 50.2	-2.1
	baz=317,slow=12						
SNAA	Sanae	20.37	156	P	P	22 46 08.2	-1.3
SNAA	Sanae	20.37	156	P	P	22 46 07.8	-1.7
	15nm,0.8s,baz=304,slow=12,SNR=38						
SNAA	Sanae	20.37	156	eP	P	22 46 07.3	-2.1
	14nm,0.8s						
PLCA	Paso Flores	30.61	280	P	P	22 47 46.9	+0.1
	1.4nm,1.0s,baz=155,slow=6.7,SNR=4.3						
PLCA	Paso Flores	30.61	280	eP	P	22 47 46.9	+0.1
	3.3nm,1.1s						
CPUP	Villa Florida	35.09	313	P	P	22 48 25.8	-0.1
	4.2nm,0.9s,baz=152,slow=6.9,SNR=8.8						
CPUP	Villa Florida	35.09	313	eP	P	22 48 26.0	+0.2
	10nm,1.3s						
QSPA	South Pole Qui	35.46	180	P	P	22 48 29.9	+1.0
	9.6nm,0.6s,baz=203,slow=1.6,SNR=22						
QSPA	South Pole Qui	35.46	180	eP	P	22 48 29.5	+0.6
	9.2nm,0.7s						
SUR	Sutherland	41.50	78	P	P	22 49 17.1	-2.9
	0.7nm,0.9s,baz=48,slow=16,SNR=1.9						
SUR	Sutherland	41.50	78	eP	P	22 49 17.1	-2.9
	49nm,1.4s						
PB01	IPOC Station P	45.24	302	eP	P	22 49 51.9	+1.8
	14nm,0.7s						
PB11	IPOC Station P	46.41	303	eP	P	22 50 00.9	+1.4
	26nm,1.1s						
BOSA	Boshof	46.85	79	P	P	22 50 01.8	-1.0
	3.7nm,0.6s,baz=224,slow=6.9,SNR=14						
BOSA	Boshof	46.85	79	eP	P	22 50 01.5	-1.3
MNMC	Minye Minye	46.92	303	eP	P	22 50 05.4	+1.8
	20nm,0.7s						
VNDA	Vanda	47.77	183	P	P	22 50 10.4	+1.2
	1.4nm,0.9s,baz=225,slow=2.7,SNR=3.7						
VNDA				LR	LR	23 07 59.5	
	comp=Z,62nm,20.3s,baz=249,slow=33						
LPAZ	La Paz	48.68	307	P	P	22 50 19.4	+1.8
	13nm,0.7s,baz=138,slow=4.6,SNR=49						
LPAZ	La Paz	48.68	307	eP	P	22 50 19.4	+1.8
	15nm,0.7s						
DBIC	Dimbokro	64.55	27	LR	LR	23 14 58.7	
	comp=Z,32nm,19.6s,baz=88,slow=31						
OTAV	Otavalo	67.97	305	eP	P	22 52 34.2	+2.1
	7.4nm,1.2s						
RUSC	La Rusia	70.58	313	eP	P	22 52 47.2	-1.1
RUSC				epP	pP	22 52 59.1	0.0
PCRV	Puerto La Cruz	71.23	323	P	P	22 52 52.2	+0.5
	8.5nm,0.6s,baz=87,slow=13,SNR=3.4						
SDV	Santo Domingo	72.28	317	eP	P	22 52 59.6	+1.4
	18nm,0.9s						
SDV				epP	pP	22 53 11.2	+2.2
TOA0	Torodi Ar. Sit	72.58	32	eP	P	22 52 55.1	-4.5
TORD	Torodi Ar. Bea	72.58	32	P	P	22 52 59.7	0.0
	3.7nm,0.8s,baz=198,slow=6.7,SNR=16						
TORD				LR	LR	23 20 10.2	
	comp=Z,102nm,18.2s,baz=170,slow=32						
TOA1	Torodi Ar. Sit	72.58	32	eP	P	22 52 59.7	0.0
FRB	Frobisher Bay	122.06	341	PKP	PKPdf	23 00 25.8	+0.4
	1.6nm,0.6s,baz=97,slow=3.9,SNR=3.9						
FIA0	FINESS Array S	123.83	28	ePKPdf	PKPdf	23 00 29.2	+0.3
FINES	FINESS Array B	123.83	28	PKP	PKPdf	23 00 29.2	+0.3
	2.1nm,0.8s,baz=46,slow=4.0,SNR=3.6						
CM31	Chiang Mai Arr	126.62	112	ePKPdf	PKPdf	23 00 36.3	+0.7
CMAR	Chiang Mai Arr	126.62	112	PKP	PKPdf	23 00 36.3	+0.7
	1.1nm,0.4s,baz=210,slow=3.7,SNR=6.4						
ARU	Arti	131.74	48	PKP	PKPdf	23 00 44.5	+0.4
	0.8nm,0.4s,baz=102,slow=19,SNR=2.5						
YKA	Yellowknife Ar	134.44	320	PKP	PKP

ZAA1	Zalesovo Array	142.88	63	ePKPpre	PKPpre	23 00 60.0		
INK	Inuvik	144.08	322	PKP	PKPbc	23 01 05.1	+0.6	
	2.9nm,0.9s,baz=114,slow=3.4,SNR=8.1							
INK	Inuvik	144.08	322	ePKPdf	PKPbc	23 01 05.5	+1.0	
PAX	Paxson	147.35	311	ePKPdf	**PKPdf**	**23 01 12.7**	**+0.4**	
PAX				ePKPbc	**PKPbc**	**23 01 15.6**	**+0.8**	
IL1	Eielson Array	148.39	314	ePKPbc	**PKPbc**	**23 01 18.0**	**+0.7**	
ILAR	Eielson Array	148.39	314	PKPbc	**PKPbc**	**23 01 18.1**	**+0.8**	
	6.8nm,0.8s,baz=131,slow=1.8,SNR=62							
ILB	Eielson Array	148.39	314	ePKPbc	**PKPbc**	**23 01 18.4**	**+1.0**	
CCB	Clear Creek Bu	148.75	313	ePKPbc	**PKPbc**	**23 01 18.3**	**0.0**	
WRH	Wood River Hil	148.84	313	ePKPbc	**PKPbc**	**23 01 19.6**	**+1.1**	
RND	Reindeer	148.95	311	ePKPbc	**PKPbc**	**23 01 20.6**	**+1.7**	
MCK	McKinley	149.05	311	ePKPbc	**PKPbc**	**23 01 20.7**	**+1.6**	
KDAK	Kodiak Island	149.18	299	PKPbc	**PKPbc**	**23 01 19.6**	**+0.1**	
	5.3nm,0.7s,baz=347,slow=14,SNR=3.5							
TRF	Thorofare Moun	149.59	310	ePKPbc	**PKPbc**	**23 01 22.0**	**+1.4**	
SKT	Skwentna	149.84	307	ePKPbc	**PKPbc**	**23 01 22.4**	**+1.3**	
KTH	Kantishna Hill	149.89	311	ePKPbc	**PKPbc**	**23 01 22.4**	**+1.2**	
BPAW	Bear Paw Mtn.	150.01	312	ePKPbc	**PKPbc**	**23 01 22.4**	**+0.9**	
MLY	Manley	150.06	314	ePKPbc	**PKPbc**	**23 01 22.2**	**+0.7**	
CAST	Castle Rocks	150.38	310	ePKPbc	**PKPbc**	**23 01 23.2**	**+0.9**	
IM3	Indian Mountai	151.41	315	ePKPbc	**PKPbc**	**23 01 26.0**	**+1.3**	
SONA0	Songino Array	151.83	86	ePKPbc	**PKPbc**	**23 01 26.9**	**+0.5**	
SONM	Songino Array	151.83	86	PKPbc	**PKPbc**	**23 01 26.9**	**+0.5**	
	3.1nm,0.6s,baz=218,slow=3.7,SNR=25							
SONA1	Songino Array	151.84	86	ePKPbc	**PKPbc**	**23 01 26.6**	**+0.2**	

*ISCJB **30** 22:42:12.9±1.1, 39°.18N±0°.04×142°.46E±0°.07, h31km±6km, mb3.4/4, Error ellipse: s-maj=9.4km s-min=6.1km az=20.8*
*JMA **30** 22:42:14.0±0.1, 39°.21N×142°.39E, h34km±1km, M3.3*
*IDC **30** 22:42:15.9±2.6, 39°.17N×142°.43E, h49km±25km, mb3.1/4, mb1 3.3/6, mb1mx3.0/69, mbtmp3.3/6, ML2.7/2, Error ellipse: s-maj=35.1km s-min=17.2km az=105.0*

ISC 30 22:42:14.3±1.8, 39°.20N±0°.05×142°.36E±0°.09, h30km±11km, n21, σ0°.94/25, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.55	258	P			Pb	22 42 25.6	+0.1
OFUJ				eS			Sb	22 42 33.5	+0.3
MIYJ	Miyakonagasawa	0.56	312	P			Pb	22 42 25.4	-0.3
MIYJ				eS			Sb	22 42 33.5	-0.1
JTH	Tanohata	0.83	333	P			Pb	22 42 29.5	-0.6
JTH				eS			Sb	22 42 40.9	-0.2
JOM	Ohasama	0.87	289	P			Pn	22 42 30.4	-0.1
JOM				eS			Sb	22 42 41.9	-0.3
JMK	Ichinoseki	0.92	255	P			Pn	22 42 31.0	-0.2
JMK				eS			Sb	22 42 43.3	-0.3
JIO	Ouri	1.09	227	P			Pn	22 42 33.0	-0.4
JIO				eS			Sn	22 42 46.9	-0.5
JKZ	Kuzumaki	1.12	315	P			Pn	22 42 34.2	+0.2
JKZ				eS			Sn	22 42 48.7	+0.3
JANG	Nango	1.34	331	P			Pn	22 42 37.0	0.0
JANG				eS			Sn	22 42 54.0	+0.1
JRG	Rokugo	1.36	279	P			Pn	22 42 38.0	+0.8
JRG				eS			Sb	22 42 56.6	+0.6
MJAR	Matsushiro Arr	4.22	232	P			Pn	22 43 19.6	+3.0
	0.7nm,0.3s,baz=43,slow=10.0,SNR=8.4								
ASAJ	Asahikawa	4.92	2	P			Pn	22 43 26.8	+0.6
	0.2nm,0.3s,baz=246,slow=11,SNR=3.9								
ASAJ				S			Sn	22 44 23.7	+1.8
	0.3nm,0.3s,baz=114,slow=18,SNR=2.0								
H11N2	WAKE ISLAND Hy	28.70	125	T			T	23 18 41.1	
	baz=318,slow=75,SNR=14								
H11N1	WAKE ISLAND Hy	28.71	125	T			T	23 18 51.7	
	baz=318,slow=75,SNR=14								
H11N3	WAKE ISLAND Hy	28.72	125	T			T	23 18 37.8	
	baz=318,slow=75,SNR=15								
H11S1	WAKE ISLAND Hy	29.49	127	T			T	23 19 41.9	
	baz=330,slow=74								
H11S3	WAKE ISLAND Hy	29.49	127	T			T	23 19 47.0	
	baz=330,slow=74								
H11S2	WAKE ISLAND Hy	29.51	127	T			T	23 19 46.1	
	baz=330								
KURBB	Kurchatov Arra	45.29	306	P			**P**	**22 50 28.4**	**-0.6**
	0.4nm,0.7s,baz=80,slow=8.4,SNR=3.2								
ILAR	Eielson Array	47.27	33	P			**P**	**22 50 45.0**	**+0.5**
	0.3nm,0.7s,baz=258,slow=5.5,SNR=5.2								
BVAR	Borovoye Array	49.69	311	P			**P**	**22 51 03.7**	**+0.4**
	0.2nm,0.6s,baz=57,slow=5.3,SNR=2.4								
WRA	Warramunga Arr	59.31	189	P			**P**	**22 52 11.6**	**-1.7**
	0.5nm,0.7s,baz=6.3,slow=6.9,SNR=7.6								

*ISCJB **30** 22:55:35.7±0.5, 39°.35N±0°.03×37°.94E±0°.03, h9km±5km, Error ellipse: s-maj=4.9km s-min=3.8km az=41.7*
*CSEM **30** 22:55:35.4±0.2, 39°.35N×37°.96E, h12km, MD2.8, Error ellipse: s-maj=3.6km s-min=3.3km az=148.0*
*DDA **30** 22:55:35.4, 39°.37N×37°.98E, h7km, Md2.8*
*ISK **30** 22:55:35.8, 39°.31N×37°.89E, h20km, MD2.6/2*

ISC 30 22:55:35.1±1.0, 39°.36N±0°.02×37°.94E±0°.02, h10km±9km, n27, σ0°.56/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CUKAN	kangal_SIVAS	0.37	264	*i* P			**Pg**	**22 55 42.4**	**0.0**
CUKAN				*i* S			**Sb**	**22 55 49.3**	**-0.5**
CUKAN	kangal_SIVAS	0.37	264	P			**Pg**	**22 55 42.4**	**0.0**
CUKAN				S			**Sb**	**22 55 49.3**	**-0.5**
KEMA	Kemaliye	0.44	101	*i* P			**Pg**	**22 55 43.6**	**-0.2**
KEMA				*i* S			**Sg**	**22 55 50.0**	**+0.4**
KEMA	Kemaliye	0.44	101	P			**Pg**	**22 55 43.6**	**-0.2**
KEMA				S			**Sg**	**22 55 50.0**	**+0.4**
HEKM	Malatya_Hekimh	0.48	178	*i* P			**Pg**	**22 55 45.1**	**+0.6**
HEKM				*i* S			**Sb**	**22 55 53.2**	**+0.2**
HEKM	Malatya_Hekimh	0.48	178	P			**Pg**	**22 55 45.1**	**+0.6**
HEKM				S			**Sb**	**22 55 53.2**	**+0.2**
CUZAR	Zara_SIVAS	0.55	346	*i* P			**Pg**	**22 55 46.0**	**+0.2**
CUZAR				*i* S			**Sb**	**22 55 54.9**	**0.0**
CUZAR	Zara_SIVAS	0.55	346	P			**Pg**	**22 55 46.0**	**+0.2**
CUZAR				S			**Sb**	**22 55 54.9**	**0.0**
REFA	Refahiye_ERZ¯	0.64	86	*i* P			**Pn**	**22 55 51.1**	**+0.6**
REFA				*i* S			**Sn**	**22 56 03.2**	**+2.3**
CUGUR	Gurin_S¯VAS	0.82	220	*i* P			**Pn**	**22 55 52.5**	**-0.4**
CUGUR				*i* S			**Sb**	**22 56 02.6**	**-0.1**
CUGUR	Gurin_S¯VAS	0.82	220	P			**Pn**	**22 55 52.5**	**-0.4**
CUGUR				S			**Sb**	**22 56 02.6**	**-0.1**
DARE	Darende-Malaty	0.86	204	PG			**Pg**	**22 55 51.7**	**0.0**
DARE				SG			**Sb**	**22 56 03.7**	**-0.2**
DARE	Darende-Malaty	0.86	204	*e*Pg			**Pg**	**22 55 51.7**	**0.0**
DARE				*e*Sg			**Sb**	**22 56 03.7**	**-0.2**
SVSK	Karacayir	0.92	308	PG			**Pn**	**22 55 54.1**	**0.0**
SVSK	Karacayir	0.92	308	*e*Pg			**Pn**	**22 55 54.1**	**0.0**
AKCD	Akcadag	1.06	181	*i* P			**Pb**	**22 55 55.1**	**-0.6**
AKCD				*i* S			**Sn**	**22 56 12.0**	**+0.9**
AKCD	Akcadag	1.06	181	P			**Pb**	**22 55 55.1**	**-0.6**
MALT	Malatya	1.11	160	PN			**Pb**	**22 55 56.1**	**-0.4**
MALT				SN			**Sg**	**22 56 11.3**	**+0.4**
MALT	Malatya	1.11	160	*e*Pn			**Pb**	**22 55 56.1**	**-0.4**
MALT				*e*Sn			**Sg**	**22 56 11.3**	**+0.4**
PTK	Pertek	1.22	112	PN			**Pg**	**22 55 58.7**	**+0.1**
PTK				SN			**Sn**	**22 56 15.4**	**+0.1**
PTK	Pertek	1.22	112	*e*Pn			**Pg**	**22 55 58.7**	**+0.1**
PTK				*e*Sn			**Sn**	**22 56 15.4**	**+0.1**
TNCL	Tunceli-Merkez	1.27	100	*i* P			**Pn**	**22 55 58.0**	**-1.1**
TNCL				*i* S			**Sg**	**22 56 16.0**	**0.0**
TNCL	Tunceli-Merkez	1.27	100	P			**Pn**	**22 55 58.0**	**-1.1**
TNCL				S			**Sg**	**22 56 16.0**	**0.0**
KELT	Kelkit	1.29	52	*i* P			**Pn**	**22 55 59.0**	**-0.4**
KELT				*i* S			**Sg**	**22 56 16.8**	**+0.2**
KELT	Kelkit	1.29	52	P			**Pn**	**22 55 59.0**	**-0.4**
KELT				S			**Sg**	**22 56 16.8**	**+0.2**
EUZM	Uzumlu	1.41	75	*i* P			**Pg**	**22 56 01.8**	**-0.3**
EUZM				*i* S			**Sg**	**22 56 21.3**	**+1.0**
EUZM	Uzumlu	1.41	75	P			**Pg**	**22 56 01.8**	**-0.3**

MEX 30 22:56:40.3±0.5, 16°.23N×98°.32W, h2km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.25	49	*e*P			Pg	22 56 44.6	-0.5
PNIG				*i* S			Sg	22 56 48.7	+0.5
TLIG	Tlapa	1.35	350	*e*P			Pg	22 57 02.3	-3.8
TLIG				eS			Sg	22 57 19.8	-3.8
VHO	Vista Hermosa	1.74	61	*e*P			Pn	22 57 08.7	-3.0
VHO				*i* S			Sn	22 57 29.6	-5.1
CAIG	El Cayaco	2.04	294	*i* P			Pn	22 57 12.8	-2.8
CAIG				*i* S			Sn	22 57 37.7	-4.0
HUIG	Huatulco	2.18	102	*e*P			Pn	22 57 14.1	-3.5
HUIG				*i* S			Sn	22 57 40.4	-4.8

*BJI **30** 23:05:10.7, 5°.96S×147°.62E, h7km, mb4.6/22, mB5.0/15, Ms4.7/4, Ms7 4.3/3*
*DJA **30** 23:05:13.5±2.8, 6°.5S±8°.3×14°.8E±°, h25km±18km, M5.2/16, mb4.9/16, mB5.4/3, MLv5.4/1, Mw(mB)4.8/3*
*IDC **30** 23:05:13.7±2.3, 5°.83S×147°.77E, h27km±15km, mb4.3/21, mb1 4.4/24, mb1mx4.2/53, mbtmp4.5/24, ML4.3/2, MS3.9/21, Ms1 3.9/21, ms1mx3.7/36, Error ellipse: s-maj=16.8km s-min=9.2km az=97.0*
*ISCJB **30** 23:05:16.1±0.2, 5°.87S±0°.03×147°.78E±0°.05, h60km, mb4.6/47, MS4.0/20, Error ellipse: s-maj=6.6km s-min=4.1km az=2.2*
*NEIC **30** 23:05:16.7±0.8, 5°.85S×147°.75E, h52km±8km, mb4.8/23, Error ellipse: s-maj=6.1km s-min=5.1km az=87.0*
*GCMT **30** 23:05:16.7±0.3, 5°.86S×147°.92E, h42km±2km, MW5.0/66, Moment Tensor Solution. s31,c37; s66,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.74±.22; Mθθ-1.35±.17; Mφφ0.60±.19; Mrθ-1.26±.18; Mθφ3.78±.11; Mφr0.50±.18; Best double couple: Mo4.09100×10¹⁶ NP1:ϕs83.00000°, δ86.00000°, λ-16.00000°. NP2: ϕs174.00000°, δ74.00000°, λ-176.00000°. Principal axes: T 3.5870, Plg8.0000°, Azm129.0000°; N 1.0110, Plg74.0000°, Azm249.0000°; P -4.5950, Plg14.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 23:05:18.2±0.4, 5°.94S±0°.05×147°.87E±0°.07, h60km, n124, σ1s84/119, mb4.8/47, MS3.9/20, 1C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.52	192	Pn			**Pn**	**23 06 08.6**	**-1.8**
	40nm,0.3s,baz=8.3,slow=6.9,SNR=27								
PMG				Sn			**Sn**	**23 06 52.0**	**+1.2**
	58nm,0.3s,baz=27,slow=9.7,SNR=5.6								
PMG	Port Moresby	3.52	192	*e*Pn			**Pn**	**23 06 09.3**	**-1.1**
PMG				Sn			**Sn**	**23 06 52.0**	**+1.2**
RABL	Rabaul	4.61	68	*e*Pn			**Pn**	**23 06 24.2**	**-1.2**
GENI	Genyem	8.37	293	P			Pn	23 07 22.7	+5.8
COEN	Coen	9.21	210	P			**Pn**	**23 07 28.1**	**-0.4**
	baz=9.3,SNR=36								
COEN	Coen	9.21	210	*e*Pn			**Pn**	**23 07 27.7**	**-0.8**
HNR	Honiara	12.46	107	LR			LR	23 12 37.1	
	comp=Z,188nm,20.9s,baz=296,slow=35								
MTSU	Mount Surprise	12.61	196	P			**Pn**	**23 08 15.5**	**+0.6**
	baz=13,SNR=4.4								
CTA	Charters Tower	14.16	186	Pn			**Pn**	**23 08 34.7**	**-1.1**
	0.2nm,0.3s,baz=68,slow=19,SNR=3.7								
CTA				LR			LR	23 13 47.0	
	comp=Z,106nm,21.0s,baz=31,slow=36								
QIS	Mount Isa	16.60	208	P			**Pn**	**23 09 05.9**	**-1.2**
	baz=17,SNR=10								
SWI	Sorong	17.33	286	P			**P**	**23 09 20.2**	**+3.4**
MTN	Manton Dam	17.88	246	P			**P**	**23 09 20.7**	**-2.1**
	baz=18,SNR=9.6								
MTN	Manton Dam	17.88	246	*e*Pn			**P**	**23 09 20.7**	**-2.1**
	60nm,1.4s								
WRAB	Tennant Creek	19.14	222	*e*P			**P**	**23 09 35.2**	**-1.5**
	37nm,0.6s								
WB2	Warramunga Arr	19.15	222	*e*P			**P**	**23 09 35.0**	**-1.7**
WRA	Warramunga Arr	19.16	222	P			**P**	**23 09 35.0**	**-1.9**
	2.4nm,0.3s,baz=46,slow=11,SNR=56								
WRA				S			**S**	**23 13 07.2**	**-3.8**
	baz=53,slow=22,SNR=4.8								
WRA				LR			LR	23 17 23.5	
	comp=Z,416nm,19.4s,baz=40,slow=38								
WRA				ScP			**ScP**	**23 17 32.5**	**+2.7**
	0.1nm,0.3s,baz=45,slow=2.7,SNR=6.5								
EIDS	Eidsvold	19.57	171	P			**Pn**	**23 09 42.5**	**-0.5**
	baz=20,SNR=6.7								
EIDS	Eidsvold	19.57	171	*e*P			**P**	**23 09 42.0**	**+0.8**
	102nm,1.3s								
GUMO	Guam	19.63	351	LR			LR	23 15 32.5	
	comp=Z,349nm,20.3s,baz=178,slow=32								
AAI	Ambon	19.73	276	P			**Pn**	**23 09 45.1**	**-0.1**
RMQ	Roma	20.45	178	P			Pn	23 09 52.4	-1.1
	baz=21,SNR=26								
QLP	Quilpie	20.82	189	P			**P**	**23 09 55.2**	**+0.4**
	baz=21,SNR=22								
KNRA	Kununurra	21.10	241	P			**P**	**23 09 56.1**	**-1.8**
	baz=21,SNR=8.0								
AS01	Alice Springs	22.14	216	*e*P			**P**	**23 10 07.8**	**-1.3**
SANI	Sanana	22.17	279	P			**P**	**23 10 14.6**	**+5.2**
AS31	Alice Springs	22.17	216	*e*P			**P**	**23 10 08.7**	**-0.7**
	11nm,0.6s								
ASAR	Alice Springs	22.17	216	P			**P**	**23 10 08.3**	**-1.1**
	16nm,0.5s,baz=53,slow=8.8,SNR=114								
ASAR				S			**S**	**23 14 12.2**	**+2.0**
	20nm,0.9s,baz=32,slow=20,SNR=22								
ASAR				ScP			**ScP**	**23 17 40.6**	**+3.6**
	2.6nm,0.8s,baz=44,slow=2.8,SNR=8.9								
ASAR				LR			LR	23 19 27.0	
	comp=Z,458nm,20.6s,baz=44,slow=38								
SOEI	Soe	23.69	259	P			**P**	**23 10 23.4**	**-1.4**
SOEI	Soe	23.69	259	*e*P			**P**	**23 10 23.9**	**-0.9**
	82nm,1.0s								
DZM	Mont Dzumac	24.07	134	P			**P**	**23 10 28.5**	**+0.3**
	52nm,1.0s,baz=276,slow=9.8,SNR=15								
DZM	Mont Dzumac	24.07	134	*e*P			**P**	**23 10 28.8**	**+0.6**
	159nm,1.4s								
BATI	Baumata	24.34	258	P			**P**	**23 10 30.2**	**-0.4**
	27nm,0.7s,baz=54,slow=2.0,SNR=6.8								
BATI				LR			LR	23 23 01.4	
	comp=Z,317nm,18.3s,baz=96,slow=44								
BATI	Baumata	24.34	258	P			**P**	**23 10 30.7**	**0.0**
ARMA	Armidale	24.61	172	P			**P**	**23 10 33.7**	**+0.7**
	baz=25,SNR=21								
ARMA	Armidale	24.61	172	*e*P			**P**	**23 10 33.9**	**+0.8**
	146nm,1.6s								
LUWI	Luwuk	25.52	280	P			**P**	**23 10 47.8**	**+6.5**
LUWI	Luwuk	25.52	280	*e*P			**P**	**23 10 40.0**	**-1.4**
	144nm,1.3s								
CMSA	Cobar Meteorol	25.55	184	P			**P**	**23 10 41.9**	**+0.4**
	baz=26,SNR=12								
STKA	Stephens Creek	26.47	192	P			**P**	**23 10 49.3**	**-0.4**
	10nm,0.6s,baz=19,slow=12,SNR=13								
STKA				ScP			**ScP**	**23 17 53.3**	**+4.7**
	9.0nm,1.0s,baz=350,slow=10.0,SNR=5.6								
STKA				LR			LR	23 22 40.4	
	comp=Z,258nm,18.2s,baz=16,slow=39								
STKA	Stephens Creek	26.47	192	P			**P**	**23 10 50.0**	**+0.2**
	baz=27,SNR=11								
STKA	Stephens Creek	26.47	192	*e*P			**P**	**23 10 49.6**	**-0.2**
	7.4nm,1.3s								
STKA				ScP			**ScP**	**23 17 53.4**	**+4.7**
WRKA	Warakurna	26.70	223	P			**P**	**23 10 51.0**	**-0.9**
	baz=27,SNR=166								
BASI	Baing, Sumba	27.35	259	P			**P**	**23 11 01.3**	**+3.4**
YNG	Young	28.23	179	P			**P**	**23 11 06.3**	**+0.8**
	baz=28,SNR=11								
WBSI	Waikabubak, Su	28.45	261	P			**P**	**23 11 07.4**	**-0.4**
HTT	Hallett	28.59	196	P			**P**	**23 11 11.1**	**+2.3**
	baz=29,SNR=6.0								
CAN	Canberra	29.26	178	*e*P			**P**	**23 11 15.2**	**+0.5**
	9.9nm,0.8s								
CNB	Canberra Magne	29.27	178	P			**P**	**23 11 15.6**	**+0.8**
	baz=30,SNR=6.7								
FORT	Forrest	30.94	215	*e*P			**P**	**23 11 29.2**	**-0.4**
	2um,1.5s								
MBWA	Marble Bar	31.18	238	*e*P			**P**	**23 11 31.3**	**-0.5**
	22nm,0.6s								
TGY	Tagaytay City	33.33	307	LR			LR	23 26 04.7	
	comp=Z,103nm,18.5s,baz=193,slow=38								
MEEK	Meekatharra	34.66	230	P			**P**	**23 12 01.5**	**-0.6**
	baz=35,SNR=18								
KMBL	Kambalda	35.11	221	P			**P**	**23 12 06.6**	**+0.6**
	baz=35,SNR=7.8								
KLBR	Kellerberrin	38.02	224	P			**P**	**23 12 29.8**	**-1.0**
	baz=38,SNR=10								
KPJI	Karang Pucung	38.70	266	P			P	23 12 44.3	+7.6
NWAO	Narrogin (SRO)	39.16	223	P			**P**	**23 12 39.4**	**-0.9**
	8.7nm,0.6s,baz=299,slow=6.9,SNR=6.4								
CISI	Cisompet, Garu	39.80	265	P			**P**	**23 12 42.1**	**-3.9**
CISI	Cisompet, Garu	39.80	265	*e*P			**P**	**23 12 43.4**	**-2.6**
	51nm,0.8s								
LEM	Lembang	40.01	266	LR			LR	23 33 31.9	
	comp=Z,64nm,18.3s,baz=81,slow=42								
URZ	Urewera	41.70	145	P			**P**	**23 13 01.4**	**+0.2**
	5.4nm,0.5s,baz=347,slow=4.4,SNR=5.4								
URZ				LR			LR	23 28 32.9	
	comp=Z,155nm,21.4s,baz=314,slow=33								
URZ	Urewera	41.70	145	*e*P			**P**	**23 13 02.4**	**+1.3**
	14nm,0.8s								
BKZ	Black Stump Fm	41.98	146	*e*P			**P**	**23 13 04.0**	**+0.5**
	37nm,1.5s								
THZ	Tophouse	42.06	152	*e*P			**P**	**23 13 05.3**	**+1.2**
	13nm,0.8s								
JNU	Nakatsue	42.06	339	LR			LR	23 26 50.2	
	comp=Z,170nm,21.9s,baz=118,slow=31								
LTZ	Lake Taylor	42.57	153	*e*P			**P**	**23 13 09.3**	**+1.1**
	26nm,1.2s								
RPZ	Rata Peaks	42.80	155	P			**P**	**23 13 10.8**	**+0.8**
	20nm,0.7s,baz=305,slow=2.0,SNR=14								
RPZ				LR			LR	23 29 05.2	
	comp=Z,457nm,20.3s,baz=17,slow=33								
RPZ	Rata Peaks	42.80	155	*e*P			**P**	**23 13 11.2**	**+1.1**
	18nm,0.7s								
DCZ	Deep Cove	42.80	160	*e*P			**P**	**23 13 10.7**	**+0.7**
	21nm,1.1s								
BFZ	Birch Farm	42.92	148	*e*P			**P**	**23 13 11.2**	**+0.1**
	141nm,1.8s								
LBZ	Lake Benmore	42.99	156	*e*P			**P**	**23 13 12.3**	**+0.7**
	23nm,0.8s								
MLZ	Mavora Lakes	43.05	159	*e*P			**P**	**23 13 13.4**	**+1.3**
	17nm,0.9s								
MJAR	Matsushiro Arr	43.21	349	P			**P**	**23 13 12.0**	**-1.5**
	10.0nm,0.9s,baz=178,slow=8.8,SNR=14								
MAJO	Matsushiro	43.22	349	*e*P			**P**	**23 13 12.6**	**-0.9**
	4.7nm,0.8s								
MAT	Matsushiro	43.22	349	P			**P**	**23 13 11.9**	**-1.6**
MDSI	Maura Dua	43.53	270	P			P	23 13 27.7	+11
NJ2	Nanjing	46.81	326	*e*P			**P**	**23 13 41.5**	**-0.6**
NJ2				pmax			pmax		
	comp=Z,14nm,0.5s								
KSRS	Korea Array	47.01	338	P			**P**	**23 13 42.5**	**-1.0**
	0.8nm,0.6s,baz=154,slow=8.4,SNR=3.2								
KSAR	Wonju Array Be	47.01	338	P			**P**	**23 13 42.5**	**-1.1**
KMI	Kunming	53.65	307	P			**P**	**23 14 35.3**	**+1.1**
KMI				pmax			pmax		
	comp=Z,7.0nm,0.5s								
KMI				pmax			pmax		
	comp=Z,160nm,4.2s								
CMAR	Chiang Mai Arr	53.99	298	P			**P**	**23 14 40.7**	**+4.2**
	0.8nm,0.5s,baz=123,slow=6.2,SNR=6.5								
XAN	Xi'an	54.19	320	P			P	23 14 45.0	+7.2
XAN				pP			pP	23 14 54.5	+0.8
CD2	Chengdu	55.85	314	*e*P			**P**	**23 14 49.5**	**-0.4**
CD2				pmax			pmax		
	comp=Z,10.0nm,0.5s								
CD2				pmax			pmax		
	comp=Z,120nm,5.0s								
KLR	Kul'dur	56.71	347	P			**P**	**23 14 55.5**	**-0.1**
	0.1nm,0.3s,baz=297,slow=4.5								
HHC	Hu-ho-hao-te	57.24	328	*e*P			**P**	**23 15 01.0**	**+1.4**
HHC				S			**S**	**23 22 54.3**	**+3.1**
HHC				pmax			pmax		
	comp=Z,16nm,0.6s								
HHC				pmax			pmax		
	comp=Z,49nm,7.4s								
HHC				LR			LR		
	comp=N,130nm,13.6s								
HHC				LR			LR		
	comp=E,120nm,13.6s								
LZH	Lanzhou	58.73	319	*e*P			**P**	**23 15 11.5**	**+1.3**
LZH				pP			pP	23 15 15.8	-10
LZH				sP			sP	23 15 18.0	-15
LZH				*e*PP			**PP**	**23 17 22.5**	**+1.7**
LZH				pmax			pmax		
	comp=Z,22nm,1.4s								
LZH				pmax			pmax		
	comp=Z,83nm,7.2s								
LZH				LR			LR		
	comp=N,350nm,15.2s								
LZH				LR			LR		
	comp=E,370nm,15.5s								
LZH				LR			LR		
	comp=Z,440nm,18.6s								
PETK	Petropavlovsk-	59.41	7	P			**P**	**23 15 14.8**	**+0.4**
	8.4nm,1.0s,baz=153,slow=4.2,SNR=5.3								
PETK				LR			LR	23 37 13.7	
	comp=Z,93nm,22.0s,baz=207,slow=32								
PPT	Papeete	62.08	107	LR			LR	23 38 32.6	
	comp=Z,44nm,19.4s,baz=220,slow=32								
ULN	Ulaanbaatar	64.47	331

ellipse: s-maj=230.1km s-min=23.3km az=68.0

ISC 30 23:09:55.2±1.1, 33°93'N±0'.09 × 85°.5E±0'.3, h10km, n12, σ1°03/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUN	**Gumba** 18nm,0.4s	**6.01**	**177**	*e*P	**Pn**	**Pn**	**23 11 24.9**	**+0.4**
KKN	**Kakani** 7.7nm,0.5s	**6.13**	**182**	*e*P	**Pn**	**Pn**	**23 11 27.5**	**+1.5**
JIRN	**Jiri** 16nm,0.4s	**6.28**	**175**	*e*P	**Pn**	**Pn**	**23 11 29.2**	**+1.0**
DMN	**Daman** 7.6nm,0.4s	**6.31**	**183**	*e*P	**Pn**	**Pn**	**23 11 29.7**	**+1.1**
PKIN	**Phulchoki** 11nm,0.4s	**6.34**	**181**	*e*P	**Pn**	**Pn**	**23 11 29.7**	**+0.8**
PKI	**Pulchoki** 9.1nm,0.4s	**6.34**	**181**	*e*P	**Pn**	**Pn**	**23 11 29.4**	**+0.3**
KOLN	**Koldanda** 3.4nm,0.3s	**6.37**	**196**	*e*P	**Pn**	**Pn**	**23 11 28.5**	**-0.8**
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=165,slow=6.7,SNR=2.9	**13.08**	**350**	Pn	**Pn**	**Pn**	**23 13 01.5**	**+0.5**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=164,slow=11,SNR=2.8	**17.45**	**345**	P	**Pn**	**Pn**	**23 13 58.6**	**0.0**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=312,slow=12,SNR=3.3	**19.52**	**139**	P	**P**	**P**	**23 14 21.2**	**-1.5**
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=181,slow=9.7,SNR=5.5	**20.02**	**359**	P	**P**	**P**	**23 14 27.7**	**-0.2**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=327,slow=6.2,SNR=6.9	**70.92**	**131**	P	P		23 21 09.9	-3.0

*ISCJB **30** 23:14:05.3±0.4, 30°.07N±0°.06 × 96°.87E±0°.06, h10km, mb4.0/26, MS2.8/1, Error ellipse: s-maj=8.7km s-min=7.0km az=148.2*

*BJI **30** 23:14:06.2, 30°.04N × 96°.88E, h5km, ML3.2/5*

*IDC **30** 23:14:06.0±0.7, 30°.17N × 96°.85E, h0km, mb3.9/19, mb1 4.0/21, mb1mx3.8/71, mbtmp3.9/21, ML3.8/2, MS2.7/2, Ms1 2.8/2, ms1mx2.4/57, Error ellipse: s-maj=21.4km s-min=13.8km az=49.0*

*NEIC **30** 23:14:12.3±1.2, 30°.14N × 96°.89E, h47km±13km, mb4.0/1, Error ellipse: s-maj=12.4km s-min=8.0km az=224.0*

ISC 30 23:14:07.9±0.6, 30°.11N±0°.07 × 96°.89E±0°.07, h10km, n40, σ1°56/39, mb4.0/26, Xizang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.00**	**267**	Pn	**Pn**	**Pn**	**23 15 26.0**	**+2.6**
LSA				Pg	Pb	Pb	23 15 31.0	-4.8
LSA				Sn	**Sn**	**Sn**	**23 16 21.3**	**-0.3**
LSA	comp=N,19nm,0.5s			smax	smax			
LSA	comp=E,60nm,1.0s			smax	smax			
LSA	**Lhasa** 7.1nm,0.5s	**5.00**	**267**	*e*Pn	**Pn**	**Pn**	**23 15 26.1**	**+2.6**
SHL	**Shillong**	**6.33**	**226**	*e*PN	**Pn**	**Pn**	**23 15 45.0**	**+3.4**
SHL				*e*SN	**Sn**	**Sn**	**23 16 52.0**	**-2.1**
GTA	**Gaotai**	**9.58**	**14**	*e*P	Pn	Pn	23 16 16.3	-10
GTA				pP			23 16 19.8	
GTA				sP			23 16 22.5	
GTA	**Gaotai**	**9.58**	**14**	*e*P	**Pn**	**Pn**	**23 16 30.5**	**+4.4**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=342,slow=13,SNR=7.8	**11.75**	**170**	Pn	**Pn**	**Pn**	**23 16 56.8**	**+1.0**
CMAR	baz=350,slow=26,SNR=2.9			Lg	Lg	Lg	23 20 22.2	
CMAR	comp=Z,28nm,21.9s,baz=18,slow=36			LR	LR	LR	23 21 06.2	
WMQ	**Urumqi**	**15.52**	**334**	*e*P	**Pn**	**Pn**	**23 17 49.0**	**+2.1**
SONM	**Songino Array** 0.1nm,0.3s,baz=200,slow=13,SNR=9.8	**19.15**	**20**	P	**P**	**P**	**23 18 32.0**	**+0.5**
MKAR	**Makanchi Array** 1.2nm,0.8s,baz=135,slow=11,SNR=5.9	**20.15**	**330**	P	**P**	**P**	**23 18 41.5**	**-0.8**
AAK	**Ala-Archa** comp=Z,31nm,18.1s,baz=101,slow=41	**21.87**	**311**	LR	LR	LR	23 28 59.9	
AAK	**Ala-Archa** 6.0nm,0.9s	**21.87**	**311**	*e*P	**P**	**P**	**23 19 01.7**	**+0.7**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=139,slow=12,SNR=6.8	**24.68**	**331**	P	**P**	**P**	**23 19 28.5**	**-0.4**
KURK	**Kurchatov**	**24.71**	**332**	P	**P**	**P**	**23 19 28.5**	**-0.7**
ZALV	**Zalesovo Beam** 2.0nm,0.7s,baz=157,slow=11,SNR=6.8	**25.38**	**343**	P	**P**	**P**	**23 19 34.8**	**-0.3**
KSAR	**Wonju Array Be**	**26.70**	**66**	P	**P**	**P**	**23 19 47.0**	**-0.3**
KSRS	**Korea Array** 0.6nm,0.4s,baz=265,slow=10,SNR=2.5	**26.73**	**66**	P	**P**	**P**	**23 19 47.0**	**-0.5**
KLR	**Kul'dur** 0.1nm,0.8s,baz=261,slow=13,SNR=2.7	**32.54**	**44**	P	**P**	**P**	**23 20 38.4**	**-0.6**
GEYT	**Ailbeck** 2.2nm,0.7s,baz=121,slow=7.1,SNR=7.0	**32.89**	**294**	P	**P**	**P**	**23 20 41.4**	**-0.9**
ARU	**Arti** 1.3nm,0.5s,baz=105,slow=5.5,SNR=4.0	**37.56**	**326**	P	**P**	**P**	**23 21 21.9**	**-0.3**
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=75,slow=6.9,SNR=6.4	**53.51**	**313**	P	**P**	**P**	**23 23 26.6**	**-1.9**
FINES	**FINESS Array B** 0.8nm,0.5s,baz=96,slow=9.8,SNR=10.0	**54.93**	**326**	P	**P**	**P**	**23 23 38.1**	**-0.6**
ARCES	**ARCESS Array B** 3.8nm,0.8s,baz=82,slow=8.7,SNR=7.4	**55.63**	**336**	P	**P**	**P**	**23 23 42.7**	**-0.9**
MLR	**Muntele Rosu** 0.7nm,0.7s,baz=188,slow=14,SNR=4.6	**56.37**	**307**	P	**P**	**P**	**23 23 48.9**	**-0.6**
HFS	**Hagfors** 2.3nm,0.7s,baz=138,slow=8.8,SNR=3.6	**61.09**	**325**	P	**P**	**P**	**23 24 21.3**	**-0.6**
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=325,slow=7.7,SNR=8.8	**61.45**	**139**	P	**P**	**P**	**23 24 23.6**	**-1.2**
NB2	**NORSAR Subarra** comp=Z,1.4nm,0.6s,baz=78,slow=6.5	**62.10**	**327**	P	**P**	**P**	**23 24 27.7**	**-1.1**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.6s,baz=76,slow=9.0,SNR=5.8	**62.10**	**327**	P	**P**	**P**	**23 24 27.4**	**-1.4**
CONA	**Conrad Observa** comp=Z,2.1nm,0.7s	**62.59**	**312**	P	**P**	**P**	**23 24 31.8**	**-0.5**
CLL	**Collm**	**63.48**	**316**	*e*P	**P**	**P**	**23 24 37.0**	**-1.0**
GERES	**GERESS Array B** comp=Z,1.0nm,0.7s,baz=109,slow=7.2,SNR=5.1	**63.73**	**313**	P	**P**	**P**	**23 24 39.1**	**-0.8**
ASAR	**Alice Springs** comp=Z,0.5nm,0.6s,baz=325,slow=6.3,SNR=6.1	**64.20**	**142**	P	**P**	**P**	**23 24 44.9**	**+1.8**
WTTA	**Wattenberg** comp=Z,3.4nm,0.5s	**65.52**	**312**	P	**P**	**P**	**23 24 49.7**	**-2.1**
WATA	**Walderalm** comp=Z,1.3nm,0.4s	**65.54**	**312**	*e*P	**P**	P	23 24 46.3	-5.5
MOTA	**Moosalm** comp=Z,1.5nm,0.6s	**65.84**	**312**	*e*P	**P**	**P**	**23 24 53.3**	**-0.5**
FETA	**Feichten** comp=Z,4.5nm,1.0s	**66.19**	**312**	*e*P	**P**	**P**	**23 24 54.8**	**-1.2**
DAVA	**Damuels** comp=Z,3.2nm,1.0s	**66.65**	**312**	P	**P**	**P**	**23 25 00.2**	**+1.2**
EKA	**Eskdalemuir Ar** comp=Z,2.3nm,0.9s,baz=56,slow=6.8,SNR=3.6	**71.14**	**324**	P	**P**	**P**	**23 25 25.6**	**-0.9**
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=299,slow=3.6,SNR=4.6	**73.33**	**24**	P	**P**	**P**	**23 25 38.7**	**-0.8**
INK	**Inuvik** comp=Z,1.0nm,0.9s,baz=180,slow=1.0,SNR=4.2	**75.05**	**17**	P	**P**	**P**	**23 25 49.0**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.7s,baz=324,slow=4.7,SNR=3.6	**84.32**	**14**	P	**P**	**P**	**23 26 37.6**	**-2.2**

IDC 30 23:18:24.7±1.0, 19°.09N × 145°.69E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.4/61, mbtmp3.6/6, Error ellipse: s-maj=59.5km s-min=20.1km az=108.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.3nm,0.6s,baz=14,slow=9.0,SNR=21	**40.36**	**197**	P	P	P	23 26 05.0	+0.6
FITZ	**Fitzroy Crossi** 1.2nm,0.2s,baz=34,slow=8.9	**41.88**	**209**	P	P	P	23 26 17.5	+0.6
ASAR	**Alice Springs** 0.4nm,0.4s,baz=20,slow=8.3,SNR=5.8	**44.03**	**196**	P	P	P	23 26 32.3	-2.0
KURBB	**Kurchatov Arra** 0.2nm,0.7s,baz=93,slow=6.6,SNR=3.1	**61.02**	**318**	P	P	P	23 28 40.1	+0.1
ILAR	**Eielson Array** 0.2nm,0.6s,baz=251,slow=5.4,SNR=2.8	**63.30**	**26**	P	P	P	23 28 55.1	0.0
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=292,slow=6.6,SNR=3.2	**77.65**	**28**	P	P	P	23 30 22.6	-0.1

*ISCJB **30** 23:23:49.0±0.7, 6°.85±0°.1 × 154°.81E±0°.09, h39km, mb3.9/11, MS3.4/3, Error ellipse: s-maj=17.7km s-min=9.6km az=148.1*

*IDC **30** 23:23:55.0±4.7, 6°.93S × 154°.73E, h75km±41km, mb3.6/11, mb1 3.9/12, mb1mx3.7/45, mbtmp4.0/12, ML2.3/1, MS3.4/5, Ms1 3.5/5, ms1mx3.0/30, Error ellipse: s-maj=25.9km s-min=23.4km az=88.0*

ISC 30 23:23:51.0±0.8, 6°.9S±0°.1 × 154°.9E±0°.1, h39km, n28, σ1°47/27, mb4.0/11, MS3.5/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara** comp=Z,534nm,18.6s,baz=220,slow=40	**5.64**	**117**	LR	LR	LR	23 27 43.4	
PMG	**Port Moresby** 2.2nm,0.3s,baz=62,slow=17,SNR=4.3	**8.05**	**251**	P	**Pn**	**Pn**	**23 25 46.6**	**+1.1**
PMG	1.0nm,0.3s,baz=254,slow=23,SNR=2.1			S	**Sn**	**Sn**	**23 27 16.9**	**+1.7**
PMG	comp=Z,322nm,19.0s,baz=22,slow=39			LR	LR		23 29 00.7	
WRA	**Warramunga Arr** 4.5nm,0.9s,baz=57,slow=9.2,SNR=19	**23.80**	**235**	P	**P**	**P**	**23 29 00.5**	**0.0**
WRA	0.9nm,0.9s,baz=64,slow=1.9,SNR=4.8			PcP	**PcP**	**PcP**	**23 32 43.6**	**+0.2**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=61,slow=9.4,SNR=6.4	**26.18**	**228**	P	**P**	**P**	**23 29 21.3**	**-0.8**
DAV	**Davao City (W)** comp=Z,24nm,19.8s,baz=146,slow=36	**32.33**	**295**	LR	LR		23 43 00.5	
AFI	**Afiamalu** comp=Z,76nm,18.0s,baz=33,slow=33	**33.52**	**109**	LR	LR		23 42 37.9	
URZ	**Urewera** 15nm,1.1s,baz=16,slow=13,SNR=3.7	**37.19**	**150**	P	**P**	**P**	**23 30 58.0**	**-0.5**
PETK	**Petropavlovsk-** 4.7nm,0.8s,baz=150,slow=6.2,SNR=4.2	**59.77**	**2**	P	**P**	**P**	**23 33 53.4**	**+1.5**
CMAR	**Chiang Mai Arr** 0.8nm,0.4s,baz=103,slow=3.9,SNR=5.0	**60.61**	**296**	P	**P**	**P**	**23 33 57.4**	**-0.9**
SONM	**Songino Array** 0.3nm,0.7s,baz=164,slow=5.1,SNR=2.8	**69.15**	**327**	P	**P**	**P**	**23 34 51.7**	**-1.8**
TAPN	**Taplejung**	**73.22**	**301**	*e*P	**P**	**P**	**23 35 17.6**	**-1.2**
ODAN	**Odare** 25nm,0.8s	**73.35**	**301**	*e*P	**P**	**P**	**23 35 18.2**	**-1.3**
JIRN	**Jiri**	**74.61**	**301**	*e*P	**P**	**P**	**23 35 25.4**	**-1.6**
GUN	**Gumba** 17nm,0.7s	**74.94**	**301**	*e*P	**P**	**P**	**23 35 27.3**	**-1.6**
PKI	**Pulchoki** 13nm,1.1s	**75.25**	**301**	*e*P	**P**	**P**	**23 35 29.1**	**-1.6**
PKIN	**Phulchoki** 10nm,0.8s	**75.26**	**301**	*e*P	**P**	**P**	**23 35 29.3**	**-1.4**
KKN	**Kakani**	**75.42**	**301**	*e*P	**P**	**P**	**23 35 30.1**	**-1.4**
DMN	**Daman**	**75.52**	**301**	*e*P	**P**	**P**	**23 35 30.8**	**-1.3**
GKN	**Gorkha**	**76.02**	**301**	*e*P	**P**	**P**	**23 35 33.4**	**-1.5**
KOLN	**Koldanda**	**76.84**	**300**	*e*P	**P**	**P**	**23 35 38.1**	**-1.5**
DANN	**Dangsing**	**76.86**	**301**	*e*P	**P**	**P**	**23 35 38.3**	**-1.5**
PYUN	**Piuthan** 30nm,1.0s	**77.45**	**301**	*e*P	**P**	**P**	**23 35 41.1**	**-1.9**
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=112,slow=4.8,SNR=11	**83.22**	**319**	P	**P**	**P**	**23 36 11.8**	**-1.6**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=236,slow=4.1,SNR=3.4	**83.28**	**22**	P	**P**	**P**	**23 36 14.8**	**+1.6**
ILAR	comp=Z,35nm,20.8s,baz=183,slow=34			LR	LR		00 10 39.4	
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=94,slow=4.0,SNR=3.4	**86.67**	**322**	P	**P**	**P**	**23 36 32.2**	**+1.6**
NVAR	**Mina Array Bea** 1.2nm,1.0s,baz=250,slow=7.3,SNR=4.3	**91.72**	**52**	P	**P**	**P**	**23 36 55.0**	**-0.1**
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=273,slow=2.7,SNR=5.0	**96.26**	**28**	P	**P**	**P**	**23 37 17.1**	**+2.1**
TORD	**Torodi Ar. Bea** 2.1nm,0.8s,baz=60,slow=2.4,SNR=10	**152.87**	**285**	PKPbc	**PKPbc**	**PKPbc**	**23 43 43.6**	**-1.4**

MEX 30 23:24:20.2±0.3, 16°.24N × 98°.25W, h3km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**39**	*e*P	Pg	Pg	23 24 23.7	-0.2
PNIG				*i* S	Sg	Sg	23 24 26.5	+0.1
TLIG	**Tlapa**	**1.35**	**347**	*e*P	Pn	Pn	23 24 42.2	-3.8
TLIG				*i* S	Sg	Sg	23 24 59.4	-4.2
VHO	**Vista Hermosa**	**1.67**	**60**	*e*P	Pn	Pn	23 24 47.2	-3.4
VHO				*i* S	Sn	Sn	23 25 07.8	-4.8
CAIG	**El Cayaco**	**2.09**	**293**	*i* P	Pn	Pn	23 24 52.9	-3.3
CAIG				*i* S	Sn	Sn	23 25 18.5	-4.3
HUIG	**Huatulco**	**2.11**	**103**	*e*P	Pn	Pn	23 24 53.8	-2.7
HUIG				*i* S	Sn	Sn	23 25 18.3	-5.0

IDC 30 23:34:11.8±8.4, 15°.56S × 173°.07W, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.5/43, mbtmp3.4/3, ML4.3/1, Error ellipse: s-maj=390.7km s-min=27.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 110nm,0.3s,baz=171,slow=1.7,SNR=64	**2.07**	**38**	Pn	Pn	Pn	23 34 46.6	-1.3
AFI	92nm,0.3s,baz=182,slow=13,SNR=6.6			Sn	Sn	Sn	23 35 05.9	-8.4
WRA	**Warramunga Arr** 0.1nm,0.8s,baz=98,slow=8.4,SNR=3.1	**50.11**	**257**	P	P	P	23 43 07.9	-1.3
ASAR	**Alice Springs** 0.5nm,0.9s,baz=86,slow=8.5,SNR=5.1	**50.36**	**252**	P	P	P	23 43 11.6	+0.6
BRTR	**Keskin Array B** 0.6nm,0.7s,baz=62,slow=2.5,SNR=4.2	**146.48**	**321**	PKPbc	PKPab		23 53 56.1	-0.2

*ISK **30** 23:35:58.5, 38°.64N × 43°.06E, h26km, ML2.4/3*

*CSEM **30** 23:35:59.5±0.1, 38°.66N × 43°.03E, h15km, ML2.4, Error ellipse: s-maj=3.0km s-min=2.7km az=131.0*

*ISCJB **30** 23:36:00.0±0.7, 38°.65N±0°.03 × 43°.05E±0°.04, h22km±10km, Error ellipse: s-maj=5.0km s-min=4.7km az=135.0*

*DDA **30** 23:36:00.2, 38°.65N × 43°.06E, h7km, Ml2.7*

ISC 30 23:35:59.4±1.0, 38°.65N±0°.02 × 43°.04E±0°.02, h15km±11km, n22, σ0°34/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**101**	PG	**Pb**	**Pb**	**23 36 06.2**	**0.0**
VANB				SG	**Sb**	**Sb**	**23 36 11.3**	**+0.5**
VANB	**Van**	**0.28**	**101**	*e*Pg	**Pb**	**Pb**	**23 36 06.2**	**0.0**
VANB				*e*Sg	**Sb**	**Sb**	**23 36 11.3**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.30**	**303**	*i* P	**Pb**	**Pb**	**23 36 06.5**	**-0.1**
ADCV				*i* S	**Sb**	**Sb**	**23 36 12.2**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.30**	**303**	P	**Pb**	**Pb**	**23 36 06.5**	**-0.1**
ADCV				S	**Sb**	**Sb**	**23 36 12.1**	**+0.7**
TVAN	**Van**	**0.31**	**113**	*i* P	**Pg**	**Pg**	**23 36 06.1**	**+0.1**
TVAN				*i* S	**Sb**	**Sb**	**23 36 11.4**	**-0.4**
TVAN	**Van**	**0.31**	**113**	P	**Pg**	**Pg**	**23 36 06.1**	**+0.1**
TVAN				S	**Sb**	**Sb**	**23 36 11.4**	**-0.4**
GEVA	**Gevas**	**0.34**	**178**	*i* P	**Pg**	**Pg**	**23 36 06.5**	**0.0**
GEVA				*i* S	**Sb**	**Sb**	**23 36 12.8**	**+0.2**
GEVA	**Gevas**	**0.34**	**178**	P	**Pg**	**Pg**	**23 36 06.5**	**0.0**
GEVA				S	**Sb**	**Sb**	**23 36 12.8**	**+0.2**
ERCV	**ERCIS-VAN**	**0.44**	**32**	PG	**Pg**	**Pg**	**23 36 08.3**	**+0.1**
ERCV				SG	**Sb**	**Sb**	**23 36 14.9**	**-0.6**
ERCV	**ERCIS-VAN**	**0.44**	**32**	*e*Pg	**Pg**	**Pg**	**23 36 08.3**	**+0.1**
ERCV				*e*Sg	**Sb**	**Sb**	**23 36 14.9**	**-0.6**
VMUR	**Van-Muradiye**	**0.53**	**50**	*i* P	**Pg**	**Pg**	**23 36 09.9**	**-0.1**
VMUR				*i* S	**Sb**	**Sb**	**23 36 19.0**	**+0.7**
VMUR	**Van-Muradiye**	**0.53**	**50**	P	**Pg**	**Pg**	**23 36 09.9**	**-0.1**
VMUR				S	**Sb**	**Sb**	**23 36 19.0**	**+0.7**
TUTA	**Tutak**	**0.77**	**347**	*i* P	**Pg**	**Pg**	**23 36 14.5**	**-0.1**
TUTA				*i* S	**Sg**	**Sg**	**23 36 24.4**	**-0.3**
TUTA	**Tutak**	**0.77**	**347**	P	**Pg**	**Pg**	**23 36 14.5**	**-0.1**
TUTA				S	**Sg**	**Sg**	**23 36 24.4**	**-0.3**
GURO	**Guroymak-BITLI**	**0.80**	**263**	PG	**Pg**	**Pg**	**23 36 14.8**	**-0.2**
GURO				SG	**Sg**	**Sg**	**23 36 25.5**	**0.0**
GURO	**Guroymak-BITLI**	**0.80**	**263**	*e*Pg	**Pg**	**Pg**	**23 36 14.8**	**-0.2**
GURO				*e*Sg	**Sg**	**Sg**	**23 36 25.5**	**0.0**
CLDR	**Caldiran**	**0.84**	**54**	PG	**Pb**	**Pb**	**23 36 15.8**	**-0.1**
CLDR				SG	**Sg**	**Sg**	**23 36 26.8**	**-0.1**
CLDR	**Caldiran**	**0.84**	**54**	*e*Pg	**Pb**	**Pb**	**23 36 15.8**	**-0.1**
CLDR				*e*Sg	**Sg**	**Sg**	**23 36 26.8**	**-0.1**
AGRB	**Hanur-Agry**	**0.93**	**358**	PG	**Pb**	**Pb**	**23 36 17.3**	**-0.1**
AGRB				SG	**Sg**	**Sg**	**23 36 29.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.93**	**358**	*e*Pg	**Pb**	**Pb**	**23 36 17.3**	**-0.1**
AGRB				*e*Sg	**Sg**	**Sg**	**23 36 29.9**	**+0.3**
SIRT	**Sirnak**	**1.24**	**203**	PN	**Pg**	**Pg**	**23 36 23.2**	**-0.2**
SIRT	**Sirnak**	**1.24**	**203**	*e*Pn	**Pg**	**Pg**	**23 36 23.2**	**-0.2**

SJA 30 23:37:51.7±0.6, 32°.21S × 69°.30W, h118km±2km, ML2.8, MW3.9, 1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.07**	**257**	*e*P	Pn	Pn	23 38 09.4	+1.1
AUSP				*e*S	Sn	Sn	23 38 22.1	+1.4
RTLS	**Leoncito**	**0.41**	**0**	*e*P	Pn	Pn	23 38 10.3	+0.9
RTLS	comp=Z,419nm,0.2s			IAML			23 38 23.9	
RTLS				*e*S	Sn	Sn	23 38 24.0	+1.4
RTCV	**Cerro Valdivia**	**0.73**	**62**	*e*P	Pn	Pn	23 38 12.4	+1.2
RTCV				*e*S	Sn	Sn	23 38 26.8	+0.8
SJA	**San Juan**	**0.93**	**43**	*e*P	Pn	Pn	23 38 13.7	+0.8
SJA				*e*S	Sn	Sn	23 38 29.7	+0.7
SJA	comp=Z,96nm,0.2s			IAML			23 38 34.2	
RTLL	**Cerro Villicun**	**1.12**	**39**	*e*P	Pn	Pn	23 38 15.9	+1.0
RTLL				*e*S	Sn	Sn	23 38 33.2	+0.7
RTLL	comp=Z,122nm,0.3s			IAML			23 38 35.3	
AMOG	**MOGNA**	**1.44**	**29**	*e*P	Pn	Pn	23 38 19.3	+0.9
AMOG				*e*S	Sn	Sn	23 38 39.6	+0.8
ROC1	**El Roble**	**1.64**	**242**	*e*P	Pn	Pn	23 38 21.7	+0.8
ROC1				*e*S	Sn	Sn	23 38 43.9	+0.7
AROD	**Rodeo**	**2.04**	**356**	*e*P	Pn	Pn	23 38 27.6	+1.6
AROD				*e*S	Sn	Sn	23 38 53.7	+1.7
AGUA	**GUANDACOL**	**2.80**	**15**	*e*P	Pn	Pn	23 38 36.5	+1.1
AGUA				*e*S	Sn	Sn	23 39 09.6	+0.5
APLL	**PUNTA DE LOS L**	**2.98**	**53**	*e*P	Pn	Pn	23 38 38.6	+0.8
APLL				*e*S	Sn	Sn	23 39 14.0	+0.7
APLL	comp=Z,9.8nm,0.2s			IAML			23 39 16.3	
MRA	**San Martin**	**3.04**	**95**	*e*P	Pn	Pn	23 38 40.1	+1.5
MRA	comp=Z,43nm,0.1s			IAML			23 38 40.5	
MRA				*e*S	Sn	Sn	23 39 15.0	+0.3
TCA	**Tanti**	**4.10**	**79**	*e*P	Pn	Pn	23 38 53.8	+1.2
TCA				*e*S	Sn	Sn	23 39 39.4	-0.5
TCA	comp=E,22nm,0.3s			IAML			23 39 41.9	

*ATA **30** 23:40:19.7±1.5, 41°.27N × 43°.74E, h23km±9km, ML2.6, MW2.5*

*ISCJB **30** 23:40:20.9±0.7, 41°.25N±0°.02 × 43°.75E±0°.04, h8km±6km, Error ellipse: s-maj=5.1km s-min=3.9km az=16.3*

*CSEM **30** 23:40:20.6±0.1, 41°.25N × 43°.76E, h8km, ML2.0, Error ellipse: s-maj=2.5km s-min=1.8km az=133.0*

*DDA **30** 23:40:20.1, 41°.28N × 43°.75E, h7km, Ml2.5*

*TIF **30** 23:40:21.0, 41°.30N × 43°.81E, h10km±2km*

ISC 30 23:40:20.6±1.0, 41°.27N±0°.02 × 43°.75E±0°.03, h12km±8km, n25, σ0°43/47, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.24**	**306**	P	**Pb**	**Pb**	**23 40 26.5**	**-0.6**
AKH				S	**Sg**	**Sg**	**23 40 30.2**	**+0.8**
AKH	**Akhalkalaki**	**0.24**	**306**	P	**Pb**	**Pb**	**23 40 26.5**	**-0.6**
AKH				S	**Sg**	**Sg**	**23 40 30.2**	**+0.8**
EAK	**Akyaka**	**0.59**	**191**	*i* P	**Pg**	**Pg**	**23 40 32.1**	**0.0**
EAK				*e*S	**Sg**	**Sg**	**23 40 39.4**	**-0.6**
EAK	comp=Z,18nm,0.3s			IAML			23 40 47.6	
EAK	**Akyaka**	**0.59**	**191**	*i* P	**Pg**	**Pg**	**23 40 32.1**	**0.0**
EAK				*i* S	**Sg**	**Sg**	**23 40 40.3**	**+0.3**
EAK	**Akyaka**	**0.59**	**191**	P	**Pg**	**Pg**	**23 40 32.2**	**0.0**
EAK				S	**Sg**	**Sg**	**23 40 40.3**	**+0.3**
EPOS	**Posof**	**0.81**	**287**	*i* P	**Pg**	**Pg**	**23 40 35.9**	**-0.4**
EPOS				*e*S	**Sb**	**Sb**	**23 40 47.4**	**-0.2**
EPOS	**Posof**	**0.81**	**287**	*i* P	**Pg**	**Pg**	**23 40 35.9**	**-0.4**
EPOS				*i* S	**Sg**	**Sg**	**23 40 46.9**	**+0.1**
EPOS	**Posof**	**0.81**	**287**	P	**Pg**	**Pg**	**23 40 35.9**	**-0.4**
EPOS				S	**Sg**	**Sg**	**23 40 46.9**	**+0.1**
TBLG	**Delisi**	**0.87**	**58**	*i* P	**Pg**	**Pg**	**23 40 37.4**	**-0.1**
TBLG				*e*S	**Sb**	**Sb**	**23 40 49.5**	**0.0**
TBLG	comp=Z,14nm,0.4s			IAML			23 40 50.0	
TBLG	**Delisi**	**0.87**	**58**	P	**Pg**	**Pg**	**23 40 37.3**	**-0.2**
TBLG				S	**Sb**	**Sb**	**23 40 49.3**	**-0.2**
TBLG	**Delisi**	**0.87**	**58**	P	**Pg**	**Pg**	**23 40 37.3**	**-0.2**
TBLG				S	**Sb**	**Sb**	**23 40 49.3**	**-0.2**
BTNK	**Botanikuri**	**0.89**	**62**	P	**Pg**	**Pg**	**23 40 37.6**	**-0.3**
BTNK	**Botanikuri**	**0.89**	**62**	P	**Pg**	**Pg**	**23 40 37.6**	**-0.3**
BTNK				S	**Sg**	**Sg**	**23 40 49.1**	**-0.4**
DIGO	**Kars**	**0.90**	**199**	*i* P	**Pg**	**Pg**	**23 40 38.2**	**+0.2**
DIGO	**Kars**	**0.90**	**199**	*i* P	**Pg**	**Pg**	**23 40 38.2**	**+0.2**
DIGO				*i* S	**Sg**	**Sg**	**23 40 49.4**	**-0.3**
DIGO	**Kars**	**0.90**	**199**	P	**Pg**	**Pg**	**23 40 38.2**	**+0.2**
DIGO				S	**Sg**	**Sg**	**23 40 49.4**	**-0.3**
DUS	**Dusheti**	**1.09**	**41**	P	**Pn**	**Pn**	**23 40 42.1**	**+0.3**
DUS				S	**Sn**	**Sn**	**23 40 57.3**	**+0.4**
DUS	**Dusheti**	**1.09**	**41**	P	**Pn**	**Pn**	**23 40

SLA				IAML		00 05 50.8	
	comp=Z,614nm,0.6s						
SLA				*eS*	**S**	**00 06 17.3**	**-2.1**
MOCB	**Mochara**	**2.17**	**30**	*e*Pn	**Pn**	**00 05 51.4**	**-0.2**
MOCB				*e*Sn	**S**	**00 06 22.4**	**-1.0**
	comp=Z,452nm,0.7s						
ASTB	**Santa Barbara**	**2.31**	**111**	*eP*	**Pn**	**00 05 52.1**	**-0.6**
PB06	**IPOC Station P**	**2.58**	**279**⇑	*i*P	**Pn**	**00 05 54.9**	**-0.8**
PB06				*i* S	**S**	**00 06 28.9**	**-1.8**
PB06				IAML		00 06 31.1	
	comp=E,2µm,0.1s						
PB09	**IPOC Station P**	**2.62**	**300**⇑	*i*P	**Pn**	**00 05 56.0**	**-0.1**
PB09				*i* S	**S**	**00 06 30.4**	**-1.0**
PB09				IAML		00 06 32.5	
	comp=E,5µm,0.6s						
ALOL	**LOMAS DE OLMED**	**2.68**	**105**	*eP*	**Pn**	**00 05 56.0**	**-0.7**
FSA	**Cafayete**	**3.05**	**166**	*eP*	**Pn**	**00 05 59.9**	**-1.2**
FSA				*eS*	**S**	**00 06 38.5**	**-2.0**
PB07	**IPOC Station P**	**3.17**	**296**⇑	*i*P	**Pn**	**00 06 01.6**	**-1.0**
PB07				*i* S	**S**	**00 06 39.8**	**-3.1**
PB07				IAML		00 06 41.7	
	comp=E,5µm,0.5s						
PB04	**IPOC Station P**	**3.19**	**284**⇑	*i*P	**Pn**	**00 06 01.5**	**-1.2**
PB04				*i* S	**S**	**00 06 40.1**	**-3.0**
PB04				IAML		00 06 42.2	
	comp=N,2µm,0.3s						
PB01	**IPOC Station P**	**3.24**	**310**	*e*Pn	**Pn**	**00 06 02.5**	**-0.8**
PB01				*e*Sn	**S**	**00 06 42.4**	**-1.9**
PB01	**IPOC Station P**	**3.24**	**310**⇑	*i*P	**Pn**	**00 06 02.3**	**-0.9**
PB01				*i* S	**S**	**00 06 42.1**	**-2.2**
PB01				IAML		00 06 44.2	
	comp=E,2µm,0.3s						
PB02	**IPOC Station P**	**3.38**	**302**⇑	*i*P	**Pn**	**00 06 03.7**	**-1.3**
PB02				*i* S	**S**	**00 06 44.5**	**-2.8**
PB02				IAML		00 06 47.8	
	comp=E,2µm,0.4s						
PB10	**IPOC Station P**	**3.46**	**263**	*e*Pn	**Pn**	**00 06 04.8**	**-0.9**
PB10				*e*Sn	**S**	**00 06 45.4**	**-3.4**
PB10	**IPOC Station P**	**3.46**	**263**	*e*P	**Pn**	**00 06 05.0**	**-0.8**
PB10				*e*S	**S**	**00 06 46.1**	**-2.7**
PB10	**IPOC Station P**	**3.46**	**263**⇑	*i*P	**Pn**	**00 06 04.8**	**-0.9**
PB10				*i* S	**S**	**00 06 45.0**	**-3.8**
PB10				IAML		00 06 47.8	
	comp=N,3µm,0.5s						
PB14	**IPOC Station P**	**3.61**	**245**⇑	*i*P	**Pn**	**00 06 06.5**	**-1.3**
PB14				*i* S	**S**	**00 06 49.5**	**-3.0**
PB14				IAML		00 06 51.4	
	comp=E,1µm,0.5s						
PB08	**IPOC Station P**	**3.69**	**323**⇑	*i*P	**Pn**	**00 06 09.0**	**0.0**
PB08				*i* S	**S**	**00 06 53.5**	**-1.1**
PB08				IAML		00 06 56.8	
	comp=N,708nm,0.6s						
AHML	**Horco Molle**	**3.87**	**160**	*e*P	**Pn**	**00 06 10.2**	**-0.5**
AHML				*e*S	**S**	**00 06 55.2**	**-2.7**
PB11	**IPOC Station P**	**4.28**	**321**	*e*Pn	**Pn**	**00 06 14.6**	**-1.3**
PB11				*e*Sn	**S**	**00 07 04.1**	**-3.2**
PB11	**IPOC Station P**	**4.28**	**321**⇑	*i*P	**Pn**	**00 06 14.2**	**-1.7**
PB11				*i* S	**S**	**00 07 03.9**	**-3.4**
PSGC	**Pisagua**	**4.69**	**318**	*e*P	**Pn**	**00 06 18.5**	**-2.5**
PSGC				*i* S	**S**	**00 07 10.7**	**-5.7**
PSGC				IAML		00 07 14.3	
	comp=E,521nm,0.4s						
MNMC	**Minye Minye**	**4.76**	**326**	*e*Pn	**Pn**	**00 06 21.3**	**-0.8**
MNMC				*e*Sn	**S**	**00 07 15.5**	**-2.9**
MNMC	**Minye Minye**	**4.76**	**326**⇑	*i*P	**Pn**	**00 06 20.9**	**-1.2**
MNMC				*i* S	**S**	**00 07 15.4**	**-3.0**
CYA	**Choya**	**5.36**	**170**	*e*P	**Pn**	**00 06 28.7**	**-0.6**
PB12	**IPOC Station P**	**5.58**	**323**	*e*P	**Pn**	**00 06 29.6**	**-2.7**
PB12				*i* S	**S**	**00 07 29.8**	**-7.2**
BBOJ	**La Paz, Jacaqu**	**6.27**	**348**	*e*Pn	**Pn**	**00 06 42.1**	**+0.5**
BBOE	**La Paz, Chanca**	**6.39**	**350**	*e*Pn	**Pn**	**00 06 43.5**	**+0.3**
BBOD	**La Paz, Gloria**	**6.68**	**345**	*e*Pn	**Pn**	**00 06 47.8**	**+0.8**
LCO	**Las Campanas**	**6.81**	**210**	*e*Pn	**Pn**	**00 06 44.8**	**-3.5**
LCO				*e*Sn	**S**	**00 08 00.6**	**-5.5**
LPAZ	**La Paz**	**6.93**	**349**	P	**Pn**	**00 06 50.2**	**-0.1**
	comp=E,4.0nm,0.3s,baz=168,slow=8.4,SNR=66						
LPAZ				S	**S**	**00 08 07.5**	**-1.9**
	comp=E,0.3nm,0.3s,baz=359,slow=16,SNR=5.6						
LPAZ	**La Paz**	**6.93**	**349**	*e*Pn	**Pn**	**00 06 50.0**	**-0.2**
LPAZ				*e*Sn	**S**	**00 08 09.1**	**-0.4**
LPAZ	**La Paz**	**6.93**	**349**	*e*Pn	**Pn**	**00 06 50.0**	**-0.2**
LPAZ				*e*Sn	**S**	**00 08 04.7**	**-4.8**
BBOB	**La Paz, Bander**	**7.07**	**350**	*e*Pn	**Pn**	**00 06 51.9**	**-0.1**
ARE	**Arequipa**	**7.97**	**326**	*e*P	**Pn**	**00 07 07.0**	**+3.6**
ARE				*e*S	**S**	**00 08 26.0**	**-7.7**
SIV	**San Ignacio**	**8.93**	**38**	P	**Pn**	**00 07 12.7**	**-2.9**
	comp=E,6.4nm,0.3s,baz=238,slow=12,SNR=64						
SIV				S	**S**	**00 08 49.9**	**-6.3**
	comp=E,0.5nm,0.3s,baz=271,slow=7.0,SNR=6.2						
SIV	**San Ignacio**	**8.93**	**38**	*e*Pn	**Pn**	**00 07 12.3**	**-3.4**
CPUP	**Villa Florida**	**9.18**	**112**	P	**Pn**	**00 07 16.7**	**-2.1**
	comp=E,0.3nm,0.3s,baz=294,slow=12,SNR=16						
CPUP	**Villa Florida**	**9.18**	**112**	*e*Pn	**Pn**	**00 07 16.6**	**-2.2**
NNA	**Nana**	**14.64**	**318**	*e*Pn	**P**	**00 08 28.9**	**+0.1**
TRQA	**Tornquist**	**15.44**	**166**	*e*Pn	**Pn**	**00 08 35.7**	**-1.6**
SPB	**Sao Paulo**	**17.80**	**95**	*e*P	**Pn**	**00 09 03.1**	**-2.4**
	comp=E,62nm,1.3s						
PLCA	**Paso Flores**	**17.82**	**189**	P	**P**	**00 09 03.7**	**+0.2**
	comp=E,1.3nm,0.3s,baz=30,slow=11,SNR=49						
PLCA	**Paso Flores**	**17.82**	**189**	*e*P	**P**	**00 09 03.6**	**0.0**
	comp=E,11nm,0.6s						
ATAH	**Atahualpa**	**19.43**	**323**	P	**Pn**	**00 09 24.1**	**-1.1**
	comp=E,0.5nm,0.3s,baz=150,slow=15,SNR=2.6						
SDV	**Santo Domingo**	**32.05**	**353**	P	**P**	**00 11 20.3**	**+2.5**
	comp=E,3.8nm,0.4s,baz=70,slow=13,SNR=4.3						
PCRV	**Puerto La Cruz**	**33.18**	**4**	P	**P**	**00 11 29.1**	**+1.7**
	comp=E,9.3nm,0.8s,baz=162,slow=9.6,SNR=3.5						
ANWB	**Willy Bob**	**40.85**	**7**	*e*P	**P**	**00 12 31.3**	**-0.6**
	comp=E,105nm,1.0s						
APG	**El Apazote**	**44.42**	**326**	P	**P**	**00 13 02.7**	**+1.8**
	comp=E,9.7nm,0.7s,baz=156,slow=12,SNR=10						
SNAA	**Sanae**	**60.10**	**161**	P	**P**	**00 14 56.2**	**+1.0**
	comp=E,2.0nm,0.7s,baz=319,slow=16,SNR=4.2						
TXAR	**Lajitas Array**	**63.09**	**324**	P	**P**	**00 15 15.8**	**+0.1**
	comp=E,0.3nm,0.5s,baz=143,slow=7.3,SNR=6.8						
TX31	**Lajitas Ar. Si**	**63.09**	**324**	*e*P	**P**	**00 15 15.8**	**0.0**
LIC	**Lamto**	**67.01**	**72**	*e*PKP1	**P**	**00 15 39.6**	**-1.6**
	comp=E,92nm,1.6s						
QSPA	**South Pole Qui**	**67.06**	**180**	P	**P**	**00 15 42.0**	**+1.1**
	comp=E,4.1nm,0.5s,baz=223,slow=0.4,SNR=19						
TIC	**Toumodi**	**67.21**	**72**	*e*PKP1	**P**	**00 15 39.2**	**-3.3**
KIC	**Kosan Boka**	**67.32**	**72**	*e*PKP1	**P**	**00 15 40.4**	**-2.8**
	comp=E,104nm,1.6s						
DBIC	**Dimbokro**	**67.37**	**72**	P	**P**	**00 15 42.1**	**-1.4**
	comp=E,2.8nm,0.4s,baz=223,slow=9.4,SNR=9.3						
KOWA	**Kowa**	**71.92**	**65**	P	**P**	**00 16 10.1**	**-1.1**
	comp=E,3.9nm,0.6s,baz=149,slow=3.9,SNR=17						
KOWA	**Kowa**	**71.92**	**65**	*e*P	**P**	**00 16 10.3**	**-0.9**
	comp=E,5.4nm,0.7s						
VNDA	**Vanda**	**75.57**	**190**	P	**P**	**00 16 32.0**	**+0.6**
	comp=E,0.9nm,0.9s,baz=120,slow=8.1,SNR=4.4						
NLU	**North Lily Min**	**75.64**	**326**	*e*P	**P**	**00 16 32.5**	**-0.1**
	comp=E,44nm,0.6s						
TOA0	**Torodi Ar. Sit**	**76.10**	**69**	*e*P	**P**	**00 16 34.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**76.10**	**69**	P	**P**	**00 16 34.4**	**-1.1**
	comp=E,3.8nm,0.4s,baz=256,slow=5.6,SNR=74						
PDAR	**Pinedale Array**	**76.50**	**329**	P	**P**	**00 16 38.5**	**+1.1**
	comp=E,0.6nm,0.7s,baz=130,slow=8.0,SNR=5.6						
ULM	**Lac du Bonnet**	**77.47**	**341**	P	**P**	**00 16 42.1**	**-0.2**
	comp=E,0.9nm,0.6s,baz=153,slow=4.5,SNR=2.9						
SCHQ	**Schefferville**	**77.65**	**360**	P	**P**	**00 16 43.9**	**+0.7**
	comp=E,2.4nm,0.8s,baz=184,slow=9.3,SNR=3.5						
NVAR	**Mina Array Bea**	**77.98**	**321**	P	**P**	**00 16 47.5**	**+1.8**
	comp=E,0.5nm,0.6s,baz=151,slow=6.4,SNR=4.3						
BOSA	**Boshof**	**80.97**	**117**	P	**P**	**00 17 01.8**	**-0.3**
	comp=E,3.5nm,0.9s,baz=237,slow=3.5,SNR=8.9						
TAM	**Tamanrasset**	**83.84**	**62**	*e*P	**P**	**00 17 16.7**	**-0.2**
	comp=E,6.4nm,0.9s						
PAB	**San Pablo**	**85.34**	**43**	*e*P	**P**	**00 17 24.9**	**+0.9**
	comp=E,7.4nm,0.9s						
ESDC	**Sonseca Array**	**85.66**	**44**	P	**P**	**00 17 25.6**	**0.0**
	comp=E,2.8nm,0.8s,baz=243,slow=5.1,SNR=16						
ES19	**SONSECA Array**	**85.71**	**44**	*e*P	**P**	**00 17 26.3**	**+0.5**
KEST	**Kesra**	**92.75**	**52**	P	**P**	**00 17 60.0**	**+0.9**
	comp=E,2.8nm,0.8s,baz=152,slow=1.6,SNR=3.6						
YKA	**Yellowknife Ar**	**93.38**	**340**	P	**P**	**00 18 01.9**	**+0.8**
	comp=E,0.3nm,0.5s,baz=134,slow=4.3,SNR=11						
ASAR	**Alice Springs**	**129.31**	**205**	PKP	**PKPdf**	**00 23 55.3**	**+0.7**
	comp=E,0.8nm,1.0s,baz=132,slow=2.6,SNR=4.6						
WRA	**Warramunga Arr**	**132.47**	**207**	PKhKP	PKPpre	00 23 56.1	
	comp=E,0.2nm,0.5s,baz=153,slow=1.6,SNR=3.9						
WRA				PKP	**PKiKP**	**00 24 01.2**	**-0.5**
	comp=E,0.4nm,0.4s,baz=154,slow=1.7,SNR=15						
WRA				SKPbc	**SKPab**	**00 27 09.6**	**+0.3**
	comp=E,0.6nm,0.6s,baz=153,slow=3.1,SNR=9.9						
KURBB	**Kurchatov Arra**	**141.58**	**36**	PKhKP	PKPpre	00 24 11.5	
	comp=E,0.7nm,0.5s,baz=310,slow=3.1,SNR=9.5						
ZALV	**Zalesovo Beam**	**142.55**	**28**	PKhKP	PKPpre	00 24 13.6	
	comp=E,0.9nm,0.4s,baz=323,slow=3.2,SNR=4.2						
KSH	**Kashi**	**144.55**	**54**	*e*PKP	PKPbc	00 24 20.5	-0.9
KSH				pPKP	pPKPdf	00 25 13.0	-3.0
KSH				PP	**PP**	**00 27 39.3**	**-1.5**
KSH				PKS	**PKSdf**	**00 27 56.3**	**-1.5**
MKAR	**Makanchi Array**	**145.75**	**39**	PKPbc	**PKPab**	**00 24 25.5**	**+0.1**
	comp=E,4.6nm,0.5s,baz=315,slow=3.1,SNR=81						
MKAR				SKPbc	**SKiKP**	**00 27 45.0**	**+0.6**
	comp=E,0.7nm,0.8s,baz=303,slow=2.5,SNR=4.9						
SONM	**Songino Array**	**154.77**	**11**	PKPab	**PKPab**	**00 25 02.7**	**+0.2**
	comp=E,0.6nm,0.7s,baz=338,slow=3.6,SNR=4.9						
HHC	**Hu-ho-hao-te**	**162.29**	**4**	*e*PKP	**PKPdf**	**00 24 49.8**	**+2.7**
HHC				PP	**PP**	**00 29 25.5**	**+6.4**
HHC				SKS	**SKSdf**	**00 31 37.0**	**+4.8**
LZH	**Lanzhou**	**164.76**	**30**	*e*PKP	**PKPdf**	**00 24 45.5**	**-4.1**
LZH				pPKP	pPKPdf	00 25 43.0	-0.8
LZH				sPKP		00 26 06.5	
CMAR	**Chiang Mai Arr**	**165.89**	**107**	PKPab	**PKPab**	**00 25 52.7**	**+0.8**
	comp=E,1.9nm,0.4s,baz=254,slow=5.1,SNR=8.7						

*ISK **31** 00:20:31.1,38˚.62N×43˚.14E,h17km,ML2.1/2*
*ISCJB **31** 00:20:32.9±0.8,38˚.60N±0˚.05×43˚.17E±0˚.05,h18km±10km, Error ellipse: s-maj=8.5km s-min=5.2km az=147.1*
*CSEM **31** 00:20:32.4±0.2,38˚.65N×43˚.15E,h2km,ML2.5,Error ellipse: s-maj=6.8km s-min=5.0km az=153.0*
*DDA **31** 00:20:32.9,38˚.63N×43˚.21E,h7km,Ml2.5*

ISC 31 00:20:32.9±1.0, 38˚.63N±0˚.03×43˚.15E±0˚.02, h8km±9km, n18, σ0.98/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**100**			**PG**	**Pg**	**00 20 36.8**	**-0.1**
VANB						SG	**Sg**	**00 20 40.9**	**+1.2**
VANB	**Van**	**0.19**	**100**		*e*P	**g**	**Pg**	**00 20 36.8**	**-0.1**
TVAN	**Van**	**0.23**	**116**		*i* P		**Pg**	**00 20 36.7**	**-0.9**
TVAN					*i* S		**Sg**	**00 20 41.0**	**+0.3**
TVAN	**Van**	**0.23**	**116**		P		**Pg**	**00 20 36.7**	**-0.9**
TVAN					S		**Sg**	**00 20 41.0**	**+0.3**
GEVA	**Gevas**	**0.32**	**192**		*i* P		**Pg**	**00 20 38.6**	**-0.7**
GEVA					*i* S		**Sb**	**00 20 45.4**	**-1.1**
GEVA	**Gevas**	**0.32**	**192**		P		**Pg**	**00 20 38.6**	**-0.7**
GEVA					S		**Sb**	**00 20 45.3**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**299**		*i* P		**Pg**	**00 20 40.5**	**+0.2**
ADCV					*i* S		**Sb**	**00 20 47.9**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**299**		P		**Pg**	**00 20 40.5**	**+0.2**
VMUR	**Van-Muradiye**	**0.49**	**43**		*i* P		**Pg**	**00 20 42.4**	**-0.1**
VMUR					*i* S		**Sb**	**00 20 50.9**	**-0.4**
VMUR	**Van-Muradiye**	**0.49**	**43**		P		**Pg**	**00 20 42.4**	**-0.1**
CLDR	**Caldiran**	**0.79**	**49**	PG			**Pg**	**00 20 47.0**	**-1.2**
CLDR				SG			**Sb**	**00 20 58.7**	**-1.3**
CLDR	**Caldiran**	**0.79**	**49**	*e*Pg			**Pg**	**00 20 47.0**	**-1.2**
CLDR				*e*Sg			**Sb**	**00 20 58.7**	**-1.3**
GURO	**Guroymak-BITLI**	**0.88**	**265**	PG			**Pg**	**00 20 48.4**	**-1.4**
GURO				SG			**Sg**	**00 21 01.0**	**-0.2**
GURO	**Guroymak-BITLI**	**0.88**	**265**	*e*Pg			**Pg**	**00 20 48.4**	**-1.4**
GURO				*e*Sg			**Sg**	**00 21 01.0**	**-0.2**
AGRB	**Hanur-Agry**	**0.95**	**353**	PG			**Pg**	**00 20 50.1**	**-1.2**
AGRB	**Hanur-Agry**	**0.95**	**353**	*e*Pg			**Pg**	**00 20 50.1**	**-1.2**
SRTM	**Siirt_Merkez**	**1.15**	**237**	*i* P			**Pn**	**00 20 56.2**	**+0.8**
SRTM				*i* S			**Sn**	**00 21 13.4**	**+2.0**
SRTM	**Siirt_Merkez**	**1.15**	**237**	P			**Pn**	**00 20 56.2**	**+0.8**

*NEIC **31** 00:32:19.2±0.0,45˚.95S×166˚.51E,h12km,ML4.1(WEL), After WEL.*

WEL 31 00:32:19.2, 46˚.8S±10˚×167˚.7E±˚, h24km±4km, ML4.2/15, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.13**	**61**			P*	Pb	00 32 24.8	+0.7
PYZ						S*	Sb	00 32 28.9	+1.6
PYZ	**Puysegur Point**	**0.13**	**61**			P	Pn	00 32 24.9	-0.8
PYZ	**Puysegur Point**	**0.13**	**61**			S	Sb	00 32 28.9	+1.7
DCZ	**Deep Cove**	**0.89**	**30**			P*	Pb	00 32 31.7	-4.2
DCZ						S*	Sb	00 32 41.2	-6.1
DCZ	**Deep Cove**	**0.89**	**30**			P	Pb	00 32 31.7	-4.1
WHZ	**Wether Hill Ro**	**1.05**	**72**			P*	Pn	00 32 37.5	-0.9
WHZ	**Wether Hill Ro**	**1.05**	**72**			P	Pn	00 32 37.5	-0.8
WHZ	**Wether Hill Ro**	**1.05**	**72**			S	Sb	00 32 51.6	-0.5
APZ	**The Paps**	**1.18**	**121**			Pn	Pb	00 32 40.7	-0.2
APZ	**The Paps**	**1.18**	**121**			P	Pb	00 32 40.7	-0.2
APZ	**The Paps**	**1.18**	**121**			S	Sb	00 32 57.2	+1.4
MLZ	**Mavora Lakes**	**1.42**	**53**			Pn	Pn	00 32 42.5	-0.9
MLZ	**Mavora Lakes**	**1.42**	**53**			P	Pn	00 32 42.7	-0.7
SYZ	**Scrubby Hill**	**1.84**	**101**			Pn	Pn	00 32 50.1	+0.9
SYZ	**Scrubby Hill**	**1.84**	**101**			P	Pn	00 32 50.1	+0.9
SYZ	**Scrubby Hill**	**1.84**	**101**			S	Sb	00 33 15.0	+0.3
MSZ	**Milford Sound**	**1.85**	**33**			Pn	Pn	00 32 45.8	-3.5
MSZ	**Milford Sound**	**1.85**	**33**			P	Pn	00 32 47.0	-2.3
TUZ	**Tuapeka**	**2.18**	**84**			Pn	Pn	00 32 54.4	+0.5
TUZ	**Tuapeka**	**2.18**	**84**			P	Pn	00 32 54.4	+0.5
EAZ	**Earnscleugh**	**2.19**	**64**			Pn	Pn	00 32 54.2	+0.1
EAZ	**Earnscleugh**	**2.19**	**64**			P	Pn	00 32 54.3	+0.2
WKZ	**Wanaka**	**2.25**	**52**			Pn	Pn	00 32 55.2	+0.3
WKZ	**Wanaka**	**2.25**	**52**			P	Pn	00 32 55.3	+0.4
WKZ	**Wanaka**	**2.25**	**52**			S	Sb	00 33 24.8	-1.7
JCZ	**Jackson Bay**	**2.69**	**37**			Pn	Pn	00 33 00.7	-0.3
JCZ	**Jackson Bay**	**2.69**	**37**			P	Pn	00 33 00.7	-0.2
HHSZ	**Highcliff Hill**	**2.86**	**85**			Pn	Pn	00 33 04.1	+0.8
HHSZ	**Highcliff Hill**	**2.86**	**85**			P	Pn	00 33 04.3	+1.0
ODZ	**Otahua Downs**	**3.13**	**69**			Pn	Pn	00 33 05.2	-1.7
ODZ	**Otahua Downs**	**3.13**	**69**			P	Pn	00 33 05.3	-1.6
LBZ	**Lake Benmore**	**3.18**	**56**			Pn	Pn	00 33 06.4	-1.2
LBZ	**Lake Benmore**	**3.18**	**56**			P	Pn	00 33 06.5	-1.1
FOZ	**Fox Glacier**	**3.57**	**42**			Pn	Pn	00 33 12.5	-0.5
FOZ	**Fox Glacier**	**3.57**	**42**			P	Pn	00 33 12.5	-0.5
RPZ	**Rata Peaks**	**4.08**	**54**			Pn	Pn	00 33 18.1	-1.9
RPZ	**Rata Peaks**	**4.08**	**54**			P	Pn	00 33 18.2	-1.8
WVZ	**Waitaha Valley**	**4.36**	**45**			Pn	Pn	00 33 23.6	-0.2
WVZ	**Waitaha Valley**	**4.36**	**45**			P	Pn	00 33 23.8	0.0
OXZ	**Oxford**	**4.89**	**56**			Pn	Pn	00 33 29.4	-1.6
OXZ	**Oxford**	**4.89**	**56**			P	Pn	00 33 29.8	-1.3
INZ	**Inchbonnie**	**4.97**	**47**			P	Pn	00 33 31.2	-1.0
MQZ	**McQueen's Vall**	**5.03**	**62**			P	Pn	00 33 33.2	+0.1
LTZ	**Lake Taylor**	**5.37**	**52**			Pn	Pn	00 33 38.0	+0.2
LTZ	**Lake Taylor**	**5.37**	**52**			P	Pn	00 33 36.6	-1.1
DSZ	**Denniston Nort**	**5.89**	**42**			P	Pn	00 33 43.9	-0.9
KHZ	**Kahutara**	**6.32**	**55**			P	Pn	00 33 49.4	-1.3
THZ	**Tophouse**	**6.42**	**48**			Pn	Pn	00 33 50.0	-2.1
THZ	**Tophouse**	**6.42**	**48**			P	Pn	00 33 50.1	-2.0
QRZ	**Quartz Range**	**6.95**	**41**			Pn	Pn	00 33 58.2	-1.2
QRZ	**Quartz Range**	**6.95**	**41**			P	Pn	00 33 58.2	-1.2
BSWZ	**Blackbirch Sta**	**6.97**	**52**			P	Pn	00 34 01.3	+1.7
DUWZ	**D'Urville Isla**	**7.64**	**47**			P	Pn	00 34 10.5	+1.6

*ISCJB **31** 01:05:38.4±0.8,54˚.9S±0˚.1×28˚.9W±0˚.2,h10km,mb4.2/6, Error ellipse: s-maj=22.0km s-min=17.6km az=42.9*
*IDC **31** 01:05:38.6±0.9,54˚.82S×28˚.90W,h0km,mb4.1/6, mb1 4.2/6,mb1mx3.8/32,mbtmp4.1/6,Error ellipse: s-maj=28.7km s-min=24.3km az=63.0*
*NEIC **31** 01:05:43.6±0.5,54˚.87S×28˚.95W,h35km,mb4.3/1,Error ellipse: s-maj=16.4km s-min=12.7km az=225.0*

ISC 31 01:05:40.0±0.8, 54˚.8S±0˚.2×28˚.9W±0˚.2, h10km, n11, σ0.65/11, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.26**	**156**			P		**01 10 14.5**	**-0.7**
	4.0nm,0.9s,baz=296,slow=12,SNR=11								
SNAA	**Sanae**	**20.26**	**156**			*e*P	**P**	**01 10 14.2**	**-0.9**
QSPA	**South Pole Qui**	**35.42**	**180**			P	**P**	**01 12 36.8**	**+1.0**
	3.0nm,0.8s,baz=194,slow=3.9,SNR=10.0								
LCO	**Las Campanas**	**39.51**	**294**			*e*P	**P**	**01 13 10.7**	**-0.2**
	6.8nm,1.2s								
BOSA	**Boshof**	**46.67**	**79**	P			**P**	**01 14 08.9**	**+0.1**
	3.6nm,1.1s,baz=220,slow=9.4,SNR=3.9								
LPAZ	**La Paz**	**48.86**	**306**	P			**P**	**01 14 26.7**	**+0.3**
	2.3nm,0.6s,baz=164,slow=5.0,SNR=11								
LBTB	**Lobatse**	**49.64**	**76**	P			**P**	**01 14 31.9**	**+0.2**
	2.2nm,0.9s,baz=191,slow=15,SNR=4.2								
TORD	**Torodi Ar. Bea**	**72.51**	**31**	P			**P**	**01 17 07.0**	**+0.3**
	0.8nm,0.8s,baz=195,slow=6.3,SNR=5.9								
YKA	**Yellowknife Ar**	**134.60**	**319**	PKP			**PKPdf**	**01 24 56.3**	**-0.7**
	0.1nm,0.5s,baz=130,slow=2.4,SNR=5.0								
ILAR	**Eielson Array**	**148.56**	**313**	PKPbc			**PKPbc**	**01 25 25.0**	**-0.5**
	1.3nm,0.8s,baz=141,slow=1.7,SNR=12								
SONM	**Songino Array**	**151.64**	**86**	PKPbc			**PKPbc**	**01 25 33.5**	**-0.2**
	0.7nm,0.5s,baz=216,slow=3.6,SNR=5.5								

*IDC **31** 01:10:56.8±0.7,30˚.97S×177˚.59W,h0km,mb4.1/6, mb1 4.3/10,mb1mx4.1/44,mbtmp4.2/10,ML3.9/4,MS3.7/4, Ms1 3.6/4,ms1mx3.0/41,Error ellipse: s-maj=23.1km s-min=17.1km az=96.0*
*ISCJB **31** 01:10:59.9±0.7,30˚.97S±0˚.06×177˚.7W±0˚.1,h27km, mb4.3/9,MS3.6/3,Error ellipse: s-maj=14.8km s-min=8.1km az=10.3*
*NEIC **31** 01:11:02.5±1.1,30˚.90S×177˚.67W,h37km±9km,mb4.5/2, Error ellipse: s-maj=10.8km s-min=7.6km az=122.0*

ISC 31 01:11:01.0±0.6, 30˚.99S±0˚.07×177˚.7W±0˚.1, h27km, n31, σ1.58/34, mb4.3/9, MS3.6/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.74**	**355**			Pn	**Pn**	**01 11 29.3**	**-0.1**
	161nm,0.3s,baz=96,slow=11,SNR=8.7								
RAO						Sn	**Sb**	**01 11 50.6**	**-3.0**
	178nm,0.3s,baz=121,slow=19,SNR=6.8								
URZ	**Urewera**	**8.40**	**209**			Pn	**Pn**	**01 12 58.8**	**-2.1**
	0.7nm,0.3s,baz=281,slow=6.4,SNR=4.4								
URZ						Sn	**Sn**	**01 14 30.1**	**-4.8**
	2.7nm,0.3s,baz=120,slow=20,SNR=8.0								
RPZ	**Rata Peaks**	**15.49**	**212**			Pn	**Pn**	**01 14 39.9**	**+2.3**
	0.7nm,0.3s,baz=45,slow=16,SNR=3.3								
DZM	**Mont Dzumac**	**16.69**	**298**			Pn	**Pn**	**01 14 53.7**	**+0.6**
	0.2nm,0.3s,baz=130,slow=14,SNR=2.2								
DZM						LR	LR	01 20 16.8	
	comp=Z,222nm,18.8s,baz=89,slow=33								
AFI	**Afiamalu**	**17.86**	**19**			P	**P**	**01 15 06.7**	**-1.6**
	2.0nm,0.3s,baz=95,slow=17,SNR=2.3								
CTAO	**Charters Tower**	**34.12**	**280**			*e*P	**

baz=252
KK31 Karatay Array 3.04 342 ⇑Pn **Pg 01 28 26.2 -1.5**
0.8nm,0.2s,baz=163,slow=14,SNR=7.2
KK31 ⇑Sn **Sg 01 29 05.8 -1.4**
2.3nm,0.3s,baz=163,slow=30,SNR=4.2
KK31 ⇓Lg Lg 01 29 15.5
1.9nm,0.3s,baz=158,slow=26,SNR=5.5
AAK Ala-Archa 3.17 39 ⇑Pg **Pg 01 28 33.2 +3.2**
2.5nm,0.5s
AAK ⇑Lg Lg 01 29 12.1
6.4nm,0.6s
BRLS Borolday 3.17 333 *eP* **Pb 01 28 25.6 -0.8**
0.5nm,0.2s
BRLS *eS* **Sb 01 29 06.8 +1.4**
1.9nm,0.2s
TKM2 Tokmak 2 3.94 45 ⇓Pg Pg 01 28 50.6 +5.8
1.1nm,0.6s
TKM2 ⇓Lg Lg 01 29 34.8
3.1nm,0.7s
KST Kastek 4.22 47 *eP* **Pg 01 28 48.4 -1.8**
0.7nm,0.1s
KST *eS* **Sg 01 29 45.3 +0.4**
4.4nm,0.5s
DGS Degeres 4.25 43 *eP* **Pg 01 28 50.1 -0.7**
0.9nm,0.4s
DGS *eS* **Sg 01 29 48.6 +2.7**
4.4nm,0.6s
IZV Izvestkoviy 4.59 50 *eP* **Pg 01 28 55.0 -2.2**
1.4nm,0.2s
IZV *eS* **Sg 01 29 56.9 +0.2**
4.5nm,0.5s
TNSS Tian-Shan 4.79 52 *eP* **Pg 01 28 60.0 -1.1**
0.7nm,0.2s
TNSS *eS* **Sg 01 30 04.3 +1.2**
2.9nm,0.5s

JMA ***31*** *01:28:39.7±0.2,24°.73N×121°.83E,h95km±2km,M3.1*
ISCJB ***31*** *01:28:40.1±0.4,24°.82N±0°.02×121°.88E±0°.02,h93km±2km,*
Error ellipse: s-maj=3.9km s-min=2.4km az=159.4
TAP ***31*** *01:28:40.5,24°.78N×121°.87E,h89km,ML3.9,B*
ISC 31 01:28:40.7±1.3,24°.81N±0°.03×121°.87E±0°.02,h90km±5km,
n99,σ0°68/172,21C-11D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EGS		**0.06**	**57**	*eP*		**Pn**	**01 28 53.3**	**0.0**
	baz=52							
EGS				*eS*		**Sn**	**01 29 02.7**	**0.0**
	baz=52							
ILA	**Ilan**	**0.12**	**249**	*eP*		**Pn**	**01 28 53.9**	**+0.5**
	baz=252							
ILA				*eS*		**Sn**	**01 29 03.5**	**+0.7**
	baz=252							
TIPB	**Shuangxi**	**0.17**	**345**	⇓*iP*		**Pn**	**01 28 52.6**	**-1.0**
	baz=353							
TIPB				*eS*		**Sn**	**01 29 01.8**	**-1.4**
	baz=353							
TWC	**Suao**	**0.20**	**186**	⇓P		**Pn**	**01 28 54.0**	**+0.3**
	baz=178							
TWC				*i* S		**Sn**	**01 29 03.4**	**+0.2**
	baz=178							
TWE	**Neicheng**	**0.21**	**245**	⇑*iP*		**Pn**	**01 28 54.1**	**+0.5**
	baz=247							
TWE				S		**Sn**	**01 29 04.0**	**+0.8**
	baz=247							
TWB1	**Santiao Chiao**	**0.22**	**28**	⇓*iP*		**Pn**	**01 28 53.8**	**0.0**
	baz=34							
TWB1				S		**Sn**	**01 29 03.1**	**-0.3**
	baz=34							
NWF	**Wu-fen Shan**	**0.27**	**342**	*eP*		**Pn**	**01 28 54.0**	**-0.1**
	baz=355							
NWF				*eS*		**Sn**	**01 29 03.5**	**-0.5**
	baz=355							
WFSB	**Wu-fen Shan**	**0.27**	**342**	⇓P		**Pn**	**01 28 54.1**	**+0.2**
	baz=355							
WFSB				*eS*		**Sn**	**01 29 03.6**	**-0.2**
	baz=355							
ENTT	**Nioudou**	**0.33**	**239**	⇑*iP*		**Pn**	**01 28 54.7**	**+0.4**
	baz=252							
ENTT				*eS*		**Sn**	**01 29 04.6**	**+0.3**
	baz=252							
NWLT	**Wulai**	**0.34**	**265**	⇑P		**Pn**	**01 28 54.3**	**0.0**
	baz=268							
NWLT				*eS*		**Sn**	**01 29 04.0**	**-0.5**
	baz=268							
EOS1	**EOS1**	**0.35**	**138**	⇓*eP*		**Pn**	**01 28 54.6**	**+0.3**
	baz=129							
EOS1				*eS*		**Sn**	**01 29 04.7**	**+0.3**
	baz=129							
ENAH	**Nanao**	**0.36**	**189**	*eP*		**Pn**	**01 28 54.7**	**+0.3**
	baz=182							
ENAH				*eS*		**Sn**	**01 29 05.3**	**+0.6**
	baz=182							
TATO	**Taipei**	**0.39**	**295**	⇑P		**Pn**	**01 28 54.6**	**0.0**
	baz=306							
TATO				S		**Sn**	**01 29 04.8**	**-0.1**
	baz=306							
NANB	**Nanao**	**0.40**	**196**	⇑P		**Pn**	**01 28 54.9**	**+0.2**
	baz=189							
NANB				*eS*		**Sn**	**01 29 05.2**	**+0.2**
	baz=189							
ENA	**Nanau**	**0.40**	**198**	*eP*		**Pn**	**01 28 54.9**	**+0.2**
	baz=189							
ENA				*eS*		**Sn**	**01 29 05.7**	**+0.7**
	baz=189							
YM07	**YM07**	**0.43**	**328**	⇓*eP*		**Pn**	**01 28 54.0**	**-0.9**
	baz=336							
YM10	**YM10**	**0.45**	**321**	⇑P		**Pn**	**01 28 55.3**	**+0.2**
	baz=329							
YM10				S		**Sn**	**01 29 05.8**	**0.0**
	baz=329							
YM08	**YM08**	**0.46**	**326**	*eP*		**Pn**	**01 28 55.1**	**0.0**
	baz=333							
YM04	**YM04**	**0.46**	**318**	*eP*		**Pn**	**01 28 55.2**	**+0.1**
	baz=329							
YM04				*eS*		**Sn**	**01 29 05.6**	**-0.3**
	baz=329							
YHNB	**Yeheng**	**0.47**	**253**	⇑P		**Pn**	**01 28 55.1**	**-0.2**
	baz=255							
YHNB				S		**Sn**	**01 29 05.3**	**-0.9**
	baz=255							
YM03	**YM03**	**0.48**	**321**	⇓P		**Pn**	**01 28 55.5**	**+0.1**
	baz=325							
YM03				*eS*		**Sn**	**01 29 06.4**	**+0.2**
	baz=325							
TWS1	**Kuangyinshan**	**0.51**	**305**	⇑*iP*		**Pn**	**01 28 55.8**	**+0.4**
	baz=297							
TWS1				S		**Sn**	**01 29 07.1**	**+0.7**
	baz=297							
NTST	**Danshui**	**0.52**	**313**	*eP*		**Pn**	**01 28 56.1**	**+0.5**
	baz=320							
NTST				*eS*		**Sn**	**01 29 07.8**	**+1.1**
	baz=320							
TWY	**Chenhua**	**0.53**	**332**	*eP*		**Pn**	**01 28 55.8**	**+0.2**
	baz=342							
TWY				*eS*		**Sn**	**01 29 07.2**	**+0.5**
	baz=342							
WLTB	**Daxi**	**0.57**	**274**	⇑*iP*		**Pn**	**01 28 56.3**	**+0.4**
	baz=276							
WLTB				*eS*		**Sn**	**01 29 07.4**	**+0.1**
	baz=276							
NNS	**Nan Shan**	**0.58**	**231**	⇑*iP*		**Pn**	**01 28 56.4**	**+0.1**
	baz=234							
NNS				*eS*		**Sn**	**01 29 07.6**	**-0.3**
	baz=234							
NNSB	**Datong**	**0.59**	**230**	⇑P		**Pn**	**01 28 56.4**	**+0.1**
	baz=233							
NNSB				*eS*		**Sn**	**01 29 07.3**	**-0.6**
	baz=233							
NNSH	**Datong**	**0.59**	**230**	*eP*		**Pn**	**01 28 56.5**	**+0.2**
	baz=232							
NCU	**National Centr**	**0.64**	**285**	P		**Pn**	**01 28 56.9**	**+0.2**
	baz=279							
NCU				S		**Sn**	**01 29 09.0**	**+0.4**
	baz=279							
NCUH	**Zhongli**	**0.65**	**284**	*eP*		**Pn**	**01 28 56.9**	**+0.3**
	baz=278							
NCUH				*eS*		**Sn**	**01 29 08.9**	**+0.4**
	baz=278							
NACB	**Ninganchiao**	**0.68**	**202**	*eP*		**Pn**	**01 28 56.2**	**-0.9**
	baz=208							
NACB				*eS*		**Sn**	**01 29 08.7**	**-0.5**
	baz=208							
TWD	**Chiawan**	**0.77**	**199**	⇓*eP*		**Pn**	**01 28 57.1**	**-0.7**
	baz=204							
TWD				*eS*		**Sn**	**01 29 09.2**	**-1.5**
	baz=204							
LIOB	**Emei**	**0.80**	**258**	⇑P		**Pn**	**01 28 58.3**	**+0.1**
	baz=252							
LIOB				*eS*		**Sn**	**01 29 11.0**	**-0.2**
	baz=252							
SBCB	**Hsinchu**	**0.81**	**269**	P		**Pn**	**01 28 58.4**	**+0.1**
	baz=269							
NSTT	**Nanjuang**	**0.81**	**258**	⇑*iP*		**Pn**	**01 28 58.3**	**0.0**
	baz=257							
NSTT				*eS*		**Sn**	**01 29 10.9**	**-0.6**
	baz=257							
HSN	**Hsinchu**	**0.82**	**270**	P		**Pn**	**01 28 58.3**	**-0.1**
	baz=264							
HSN				*eS*		**Sn**	**01 29 10.9**	**-0.7**
	baz=264							
TWT	**Tachien**	**0.84**	**229**	⇑P		**Pn**	**01 28 59.5**	**+0.7**
	baz=228							
TWT				*eS*		**Sn**	**01 29 13.1**	**+0.7**
	baz=228							
TDCB	**Techi**	**0.85**	**230**	⇑P		**Pn**	**01 28 59.5**	**+0.6**
	baz=228							
TDCB				*eS*		**Sn**	**01 29 12.4**	**-0.1**
	baz=228							
WHF	**Hehuan Shan**	**0.86**	**220**	⇑*iP*		**Pn**	**01 28 59.3**	**0.0**
	baz=211							
WHF				*eS*		**Sn**	**01 29 12.8**	**-0.4**
	baz=211							
ENLB	**Shoufeng**	**0.94**	**195**	*eP*		**Pn**	**01 28 59.6**	**0.0**
	baz=183							
ENLB				*eS*		**Sn**	**01 29 15.3**	**+1.4**
	baz=183							
CHGB	**Renai**	**0.98**	**221**	⇑P		**Pn**	**01 29 00.9**	**+0.5**
	baz=211							
CHGB				*eS*		**Sn**	**01 29 14.7**	**-0.4**
	baz=211							
NMLH	**Miaoli**	**1.02**	**255**	P		**Pn**	**01 29 00.9**	**+0.3**
	baz=254							
NMLH				*eS*		**Sn**	**01 29 15.0**	**-0.6**
	baz=254							
JYNG	**Yonaguni jima**	**1.04**	**110**	P		**Pn**	**01 29 00.7**	**-0.1**
JYNG				*eS*		**Sn**	**01 29 15.8**	**-0.1**
OWD	**Renai**	**1.06**	**217**	*eP*		**Pn**	**01 29 01.7**	**+0.5**
	baz=210							
YOJ	**Yonaguni jima**	**1.09**	**108**	⇓P		**Pn**	**01 29 01.2**	**-0.2**
	baz=107							
YOJ				*eS*		**Sn**	**01 29 16.5**	**-0.4**
	baz=107							
YOJ	**Yonaguni jima**	**1.09**	**108**	P		**Pn**	**01 29 01.2**	**-0.2**
YOJ				S		**Sn**	**01 29 16.6**	**-0.4**
TWQ1	**Liyutan**	**1.10**	**246**	⇑P		**Pn**	**01 29 01.7**	**+0.1**
	baz=244							
TWQ1				S		**Sn**	**01 29 16.7**	**-0.5**
	baz=244							
PTSB	**Yuanli**	**1.12**	**251**	*eP*		**Pn**	**01 29 01.9**	**+0.1**
	baz=258							
PTSB				*eS*		**Sn**	**01 29 17.6**	**-0.1**
	baz=258							
DPDB	**Guoxing**	**1.16**	**228**	*eP*		**Pn**	**01 29 02.7**	**+0.4**
	baz=236							
DPDB				*eS*		**Sn**	**01 29 18.8**	**+0.3**
	baz=236							
TCU	**Taichung**	**1.27**	**239**	*eP*		**Pn**	**01 29 04.0**	**+0.4**
	baz=237							
TCU				*eS*		**Sn**	**01 29 21.4**	**+0.6**
	baz=237							
SMLT	**Sun Moon Lake**	**1.28**	**224**	⇑P		**Pn**	**01 29 04.2**	**+0.4**
	baz=229							
SMLT				*eS*		**Sn**	**01 29 21.7**	**+0.5**
	baz=229							
TYC	**Yuchr**	**1.29**	**226**	⇑P		**Pn**	**01 29 04.2**	**+0.3**
	baz=230							
TYC				*eS*		**Sn**	**01 29 22.0**	**+0.7**
	baz=230							
SSLB	**Suanglung**	**1.32**	**220**	⇑P		**Pn**	**01 29 04.5**	**+0.3**
	baz=227							
SSLB				*eS*		**Sn**	**01 29 22.3**	**+0.4**
	baz=227							
HGSD	**Ruisui**	**1.37**	**197**	*eP*		**Pn**	**01 29 04.4**	**-0.5**
	baz=201							
HGSD				*eS*		**Sn**	**01 29 24.1**	**+1.0**
	baz=201							
EHY	**Hungye**	**1.39**	**201**	*eP*		**Pn**	**01 29 03.8**	**-1.3**
	baz=195							
WCHH	**Zhanghua**	**1.40**	**239**	*eP*		**Pn**	**01 29 05.1**	**0.0**
	baz=236							
WCHH				*eS*		**Sn**	**01 29 24.0**	**+0.4**
	baz=236							
WNT	**Mingjian**	**1.43**	**230**	*eP*		**Pn**	**01 29 05.8**	**+0.3**
	baz=235							
WNT				*eS*		**Sn**	**01 29 24.7**	**+0.5**
	baz=235							
WJS	**Zhushan**	**1.44**	**227**	*eP*		**Pn**	**01 29 06.3**	**+0.6**
	baz=233							
WJS				*eS*		**Sn**	**01 29 24.9**	**+0.4**
	baz=233							
YULB	**Yu-li**	**1.51**	**201**	*eP*		**Pn**	**01 29 04.9**	**-1.6**
	baz=200							
TWF1	**Yuli**	**1.54**	**200**	*eP*		**Pn**	**01 29 05.0**	**-2.0**
	baz=199							
YUS	**Yu-Shan**	**1.56**	**213**	*eP*		**Pn**	**01 29 07.9**	**+0.2**
	baz=203							
YUS				*eS*		**Sn**	**01 29 29.0**	**+1.0**
	baz=203							
CHN5	**Tsauling**	**1.63**	**222**	*eP*		**Pn**	**01 29 08.4**	**+0.2**
	baz=227							
CHN5				*eS*		**Sn**	**01 29 29.7**	**+0.7**
	baz=227							
WGK	**Gukeng**	**1.64**	**227**	*eP*		**Pn**	**01 29 08.3**	**+0.1**
	baz=233							
WGK				*eS*		**Sn**	**01 29 29.8**	**+0.8**
	baz=233							
WDLH	**Douliu**	**1.65**	**228**	*eP*		**Pn**	**01 29 08.5**	**+0.2**
	baz=234							
WDLH				*eS*		**Sn**	**01 29 30.6**	**+1.2**
	baz=234							
RLNB	**Erlin**	**1.66**	**237**	*eP*		**Pn**	**01 29 08.4**	**0.0**
	baz=234							
RLNB				*eS*		**Sn**	**01 29 29.1**	**-0.3**
	baz=234							
FULB	**Fuli**	**1.69**	**198**	*eP*		**Pn**	**01 29 08.9**	**+0.1**
	baz=200							
FULB				*eS*		**Sn**	**01 29 31.2**	**+0.9**
	baz=200							
IRIF	**Iriomote-Funau**	**1.76**	**105**	P		**Pn**	**01 29 09.4**	**-0.3**
IRIF				S		**Sn**	**01 29 31.2**	**-0.5**
ELDTW	**Lidau**	**1.79**	**206**	*eP*		**Pn**	**01 29 09.9**	**-0.4**
	baz=199							
CHY	**Chiayi**	**1.86**	**226**	*eP*		**Pn**	**01 29 10.9**	**-0.1**
	baz=230							
CHY				*eS*		**Sn**	**01 29 35.1**	**+1.0**
	baz=230							
CHN4	**Tsaushan**	**1.86**	**219**	*eP*		**Pn**	**01 29 11.8**	**+0.6**
	baz=217							
TPUB	**Ta-pu**	**1.88**	**217**	*eP*		**Pn**	**01 29 12.5**	**+1.1**
	baz=213							
TPUB				*eS*		**Sn**	**01 29 36.1**	**+1.3**
	baz=213							
WSF	**Szhu**	**1.91**	**233**	*eP*		**Pn**	**01 29 12.0**	**+0.4**
	baz=229							
WSF				*eS*		**Sn**	**01 29 35.3**	**+0.1**
	baz=229							
HATJ	**Hateruma jima**	**1.91**	**113**	P		**Pn**	**01 29 11.0**	**-0.7**
HATJ				*eS*		**Sn**	**01 29 35.5**	**+0.1**
STYT	**Tauyuan**	**1.93**	**212**	*eP*		**Pn**	**01 29 12.4**	**+0.3**
	baz=210							
WTP	**Ta-pu**	**1.94**	**217**	⇓*eP*		**Pn**	**01 29 12.3**	**+0.2**
	baz=212							
WTP				*eS*		**Sn**	**01 29 37.3**	**+1.3**
	baz=212							
TWK	**Hsinying**	**1.99**	**220**	*eP*		**Pn**	**01 29 12.7**	**-0.1**
	baz=215							
TWK				*eS*		**Sn**	**01 29 37.0**	**-0.3**
	baz=215							
JKRS	**Kuro-shima**	**2.03**	**106**	P		**Pn**	**01 29 13.7**	**+0.5**
JKRS				S		**Sn**	**01 29 38.4**	**+0.3**
CHN1	**Nanshi**	**2.03**	**218**	*eP*		**Pn**	**01 29 13.2**	**-0.1**
	baz=213							
CHN1				*eS*		**Sn**	**01 29 38.0**	**-0.2**
	baz=213							
SGST	**Jiashian**	**2.09**	**215**	*eP*		**Pn**	**01 29 14.8**	**+0.7**
	baz=218							
SGST				*eS*		**Sn**	**01 29 39.8**	**+0.3**
	baz=218							
TWG	**Pinlang**	**2.11**	**200**	*eP*		**Pn**	**01 29 12.1**	**-2.3**
	baz=190							
TWGBT	**Beinan**	**2.11**	**200**	*eP*		**Pn**	**01 29 12.0**	**-2.4**
JIJ	**Ishigaki jima**	**2.11**	**102**	P		**Pn**	**01 29 14.4**	**0.0**
JIJ				S		**Sn**	**01 29 39.4**	**-0.7**
TWH	**Lutao**	**2.12**	**190**	*eP*		**Pn**	**01 29 13.7**	**-0.8**
	baz=183							
SLGT	**Liugui**	**2.13**	**212**	*eP*		**Pn**	**01 29 15.1**	**+0.5**
	baz=210							
MATB	**Ma-tsu**	**2.19**	**308**	*eP*		**Pn**	**01 29 14.8**	**-0.7**
	baz=305							
VWUC	**VWUC**	**2.21**	**275**	⇓*eP*		**Pn**	**01 29 15.1**	**-0.5**
	baz=274							
JISG	**Ishigakijimahi**	**2.23**	**95**	P		**Pn**	**01 29 16.4**	**+0.5**
JISG				S		**Sn**	**01 29 42.3**	**-0.5**
SSD	**Sandimen**	**2.35**	**209**	*eP*		**Pn**	**01 29 19.1**	**+1.5**
	baz=207							
ECL	**Taimali**	**2.36**	**201**	*eP*		**Pn**	**01 29 16.7**	**-0.9**
	baz=193							
MASBT	**Mashibuluo**	**2.47**	**208**	*eP*		**Pn**	**01 29 19.7**	**+0.7**
	baz=202							
MASBT				*eS*		**Sn**	**01 29 49.1**	**+0.7**
	baz=202							
PHUB	**P'eng-hu**	**2.47**	**239**	*eP*		**Pn**	**01 29 17.5**	**-1.6**
	baz=237							
JTJ	**Tarama**	**2.58**	**93**	P		**Pn**	**01 29 21.6**	**+1.1**
JTJ				S		**Sn**	**01 29 52.2**	**+1.1**
EAST	**Anshuo**	**2.59**	**201**	*eP*		**Pn**	**01 29 19.9**	**-0.9**
	baz=192							
LAY	**Lan-yu**	**2.77**	**186**	*eP*		**Pn**	**01 29 21.6**	**-1.7**
	baz=180							
JIRB	**Irabujima**	**3.00**	**89**	P		**Pn**	**01 29 26.7**	**+0.5**
JIRB				S		**Sn**	**01 30 01.7**	**+0.5**
TWK1	**Hengchun**	**3.02**	**199**	*eP*		**Pn**	**01 29 26.5**	**+0.1**
	baz=198							
TWKBT	**Hengchun**	**3.02**	**199**	*eP*		**Pn**	**01 29 26.0**	**-0.5**
	baz=198							
JIKM	**Ikemajima**	**3.07**	**87**	S		**Sn**	**01 30 03.8**	**+0.9**
KNMB	**Chin-men Tao**	**3.19**	**265**	*eP*		**Pn**	**01 29 27.6**	**-1.1**
	baz=262							

MEX 31 01:41:42.3±0.8,16°.39N×98°.20W,h11km±3km,MD3.9,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.07**	**91**	*i* P		Pg	01 41 43.4	-1.2
PNIG				*eS*		Sg	01 41 46.1	-0.2
TLIG	**Tlapa**	**1.22**	**343**	*eP*		Pn	01 42 01.4	-4.0
TLIG				*eS*		Sb	01 42 16.6	-4.6
VHO	**Vista Hermosa**	**1.56**	**64**	*eP*		Pn	01 42 06.8	-3.5
VHO				*eS*		Sn	01 42 25.7	-4.9
CAIG	**El Cayaco**	**2.09**	**288**	*eP*		Pn	01 42 14.6	-2.6
CAIG				*eS*		Sn	01 42 38.9	-4.4
HUIG	**Huatulco**	**2.10**	**107**	*eP*		Pn	01 42 13.7	-3.8
HUIG				*eS*		Sn	01 42 39.5	-4.2
PLIG	**Platanillo**	**2.35**	**328**	*eP*		Pn	01 42 18.7	-2.2
PLIG				*i* S		Sn	01 42 45.2	-4.7

IDC ***31*** *01:52:44.7±1.1,40°.64N×144°.75E,h0km,mb3.6/9,*
mb1 3.7/10,mb1mx3.5/63,mbtmp3.5/10,ML3.1/1,Error
ellipse: s-maj=27.3km s-min=24.9km az=138.0
ISCJB ***31*** *01:52:45.8±2.1,40°.82N±0°.03×144°.77E±0°.06,*
h19km±16km,mb3.6/9,Error ellipse: s-maj=7.6km
s-min=5.5km az=21.9
JMA ***31*** *01:52:45.9±0.2,40°.83N×145°.01E,h70km±3km,M3.4*
ISC 31 01:52:44.5±3.7,40°.83N±0°.05×144°.86E±0°.07,h1km±23km,
n26,σ2°38/34,mb3.8/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JEM	**Erimo**	**1.74**	**313**	P		**Pb**	**01 53 16.1**	**-1.2**
JEM				*eS*		**Sn**	**01 53 37.4**	**-1.3**
JCH	**Churui**	**2.10**	**328**	P		**Pn**	**01 53 20.7**	**-0.2**
JCH				*eS*		**Sn**	**01 53 45.5**	**-2.1**
JNBK	**Urakawa-nobuka**	**2.14**	**313**	*eS*		**Sn**	**01 53 47.8**	**-0.8**
JAK	**Akkeshi**	**2.16**	**357**	P		**Pn**	**01 53 20.7**	**-1.0**
JAK				*eS*		**Sn**	**01 53 45.6**	**-3.5**
JOB	**Onbets**	**2.21**	**340**	*eS*		**Sn**	**01 53 49.2**	**-1.0**
JANG	**Nango**	**2.59**	**261**	P		**Pn**	**01 53 27.0**	**-0.6**
JANG				*eS*		**Sn**	**01 53 56.0**	**-3.7**
JAR	**Ashorobuto**	**2.59**	**342**	P		**Pn**	**01 53 26.9**	**-0.7**
JAR				*eS*		**Sn**	**01 53 56.9**	**-2.8**
NEM2	**Nemuro 2**	**2.61**	**14**	*eS*		**Sn**	**01 53 54.8**	**-5.4**
JNK	**Nakash**	**2.75**	**358**	P		**Pn**	**01 53 28.1**	**-1.7**
JNK				*eS*		**Sn**	**01 53 58.3**	**-5.3**
JFR	**Furan**	**2.88**	**325**	*eS*		**Sn**	**01 54 04.4**	**-2.4**
JOT	**Ohata**	**2.93**	**282**	*eS*		**Sn**	**01 54 05.4**	**-2.7**
JOM	**Ohasama**	**3.06**	**245**	P		**Pn**	**01 53 34.0**	**+0.1**
JOM				*eS*		**Sn**	**01 54 08.1**	**-3.0**
JKB	**Kayabe**	**3.07**	**291**	*eS*		**Sn**	**01 54 09.1**	**-2.3**
JTKR	**Abashiri--Toko**	**3.21**	**348**	*eS*		**Sn**	**01 54 13.6**	**-1.4**
JEW	**Eniwo**	**3.24**	**309**	*eS*		**Sn**	**01 54 15.4**	**-0.4**
JMK	**Ichinoseki**	**3.38**	**237**	*eS*		**Sn**	**01 54 15.4**	**-3.6**
ASAJ	**Asahikawa**	**3.68**	**334**	Pn		**Pn**	**01 53 44.3**	**+1.7**
	1.2nm,0.3s,baz=176,slow=14,SNR=3.4							
ASAJ				Sn		**Sn**	**01 54 26.7**	**+0.1**
	1.3nm,0.3s,baz=77,slow=30,SNR=5.1							
MKAR	**Makanchi Array**	**44.49**	**300**	P		**P**	**02 00 57.8**	**+0.5**
	0.1nm,0.4s,baz=82,slow=9.2,SNR=3.7							
ILAR	**Eielson Array**	**44.85**	**34**	P		**P**	**02 01 03.4**	**+3.5**
	0.4nm,0.8s,baz=262,slow=6.3,SNR=3.6							
KURBB	**Kurchatov Arra**	**45.88**	**306**	P		**P**	**02 01 09.2**	**+1.0**
	0.6nm,0.6s,baz=77,slow=8.5,SNR=4.8							
INK	**Inuvik**	**49.77**	**29**	P		**P**	**02 01 39.7**	**+1.5**
	0.5nm,0.4s,baz=310,slow=4.1,SNR=5.3							
BVAR	**Borovoye Array**	**50.08**	**311**	P		**P**	**02 01 41.8**	**+1.1**
	0.4nm,0.4s,baz=60,slow=5.8,SNR=4.0							
YKA	**Yellowknife Ar**	**59.17**	**32**	P		**P**	**02 02 47.3**	**+0.8**
	0.1nm,0.6s,baz=300,slow=6.2,SNR=3.1							
WRA	**Warramunga Arr**	**61.25**	**191**	P		**P**	**02 03 00.1**	**-1.2**
	0.8nm,0.8s,baz=12,slow=6.9,SNR=5.7							
FINES	**FINESS Array B**	**66.69**	**333**	P		**P**	**02 03 37.2**	**+0.6**
	0.7nm,0.5s,baz=56,slow=10,SNR=7.6							
AKASG	**Malin Array Be**	**72.91**	**323**	P		**P**	**02 04 15.8**	**+0.8**
	0.3nm,0.4s,baz=44,slow=5.2,SNR=2.5							

IDC 31 01:54:34.2±4.2,1°.79S×140°.48E,h0km,mb3.1/2,
mb1 3.5/3,mb1mx3.2/47,mbtmp3.3/3,ML3.5/1,Error
ellipse: s-maj=156.9km s-min=28.4km az=87.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.02**	**198**	P		P	01 58 56.7	-1.1
	0.2nm,0.3s,baz=21,slow=12,SNR=15							
ASAR	**Alice Springs**	**22.66**	**196**	P		P	01 59 37.9	+0.5
	0.3nm,0.4s,baz=25,slow=11,SNR=4.0							
MKAR	**Makanchi Array**	**70.15**	**322**	P		P	02 05 48.9	+0.1
	0.1nm,0.5s,baz=106,slow=4.3,SNR=2.5							

SJA ***31*** *01:54:41.2±0.8,33°.39S×71°.42W,h67km±5km,ML3.1,*
MW3.2
GUC ***31*** *01:54:46.7±0.6,33°.05S×71°.11W,h70km±3km,ML3.4*
ISC 31 01:54:45.2±2.4,33°.19S±0°.07×71°.4W±0°.1,h64km±11km,
n15,σ1°09/27,5C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROC1	**El Roble**	**0.39**	**57**	*eP*		**Pn**	**01 54 57.1**	**+0.4

RTLS	**Leoncito**	**2.26**	**53**	*e*P	**Pn**	**01 55 20.9**	**+0.3**
RTLS				*e*S	**Sn**	**01 55 50.0**	**+2.5**
RTLS				IAML		01 55 51.0	
	comp=Z,100nm,0.6s						
RTCV	**Cerro Valdivia**	**2.76**	**62**	*e*P	**Pn**	**01 55 26.6**	**-0.6**
RTCV				*e*S	**Sn**	**01 56 00.8**	**+1.4**
TLL	**Tololo Astrono**	**3.06**	**10**	*e*P	**Pn**	**01 55 31.2**	**-0.1**
TLL				*i* S	**Sn**	**01 56 05.1**	**-1.8**
AMOG	**MOGNA**	**3.34**	**49**	*e*P	**Pn**	**01 55 35.0**	**-0.1**
ACAN	**Cantantal**	**3.67**	**77**	*e*P	**Pn**	**01 55 38.4**	**-1.2**
AGUA	**GUANDACOL**	**4.46**	**35**	*e*P	**Pn**	**01 55 50.7**	**+0.3**

ISCJB ***31*** *02:00:24.6±0.8, 24°.56N±0°.06×122°.83E±0°.03, h78km±10km, Error ellipse: s-maj=9.9km s-min=4.0km az=174.3*
JMA ***31*** *02:00:24.6±0.1, 24°.45N×122°.83E, h83km±1km, M1.8*
TAP ***31*** *02:00:24.4, 24°.64N×122°.80E, h85km, ML2.8, C*

ISC 31 02:00:25.2±1.7, 24°.55N±0°.08×122°.82E±0°.03, h75km±14km, n33, σ0ˢ73/52, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.19**	**117**	P	**Pn**	**02 00 36.7**	**+0.3**
EOS1	**EOS1**	**0.63**	**270**	*e*P	**Pn**	**02 00 40.0**	**+0.2**
	baz=255						
EOS1				*e*S	**Sn**	**02 00 51.3**	**+0.8**
	baz=255						
IRIF	**Iriomote-Funau**	**0.85**	**104**	P	**Pn**	**02 00 42.2**	**0.0**
IRIF				S	**Sn**	**02 00 55.7**	**+0.8**
TWC	**Suao**	**0.89**	**274**	P	**Pn**	**02 00 42.2**	**-0.4**
	baz=273						
NANB	**Nanao**	**0.99**	**263**	*e*P	**Pn**	**02 00 43.2**	**-0.6**
	baz=254						
TIPB	**Shuangxi**	**1.00**	**295**	*e*P	**Pn**	**02 00 42.8**	**-1.2**
	baz=288						
TWE	**Neicheng**	**1.07**	**280**	*e*P	**Pn**	**02 00 44.8**	**0.0**
	baz=274						
SLBB	**Yuanshan**	**1.10**	**281**	*e*P	**Pn**	**02 00 44.9**	**-0.4**
	baz=275						
ENTT	**Nioudou**	**1.15**	**275**	*e*P	**Pn**	**02 00 46.6**	**+0.8**
	baz=265						
NACB	**Ninganchiao**	**1.18**	**252**	*e*P	**Pn**	**02 00 45.4**	**-0.8**
	baz=238						
NACB				*e*S	**Sn**	**02 01 01.4**	**-0.7**
	baz=238						
TWD	**Chiawan**	**1.21**	**248**	*e*S	**Sn**	**02 01 01.9**	**-0.8**
	baz=234						
JIJ	**Ishigaki jima**	**1.22**	**98**	P	**Pn**	**02 00 46.5**	**-0.2**
JIJ				S	**Sn**	**02 01 02.6**	**-0.2**
NWLT	**Wulai**	**1.22**	**281**	*e*P	**Pn**	**02 00 46.9**	**+0.1**
	baz=281						
NWLT				*e*S	**Sn**	**02 01 02.9**	**-0.1**
	baz=281						
NNSB	**Datong**	**1.32**	**265**	*e*P	**Pn**	**02 00 48.1**	**0.0**
	baz=252						
YHNB	**Yeheng**	**1.32**	**276**	*e*P	**Pn**	**02 00 48.3**	**+0.2**
	baz=264						
YHNB				*e*S	**Sn**	**02 01 05.7**	**+0.3**
	baz=264						
NSK	**Sanguang**	**1.34**	**276**	*e*P	**Pn**	**02 00 48.8**	**+0.5**
	baz=264						
NSK				*e*S	**Sn**	**02 01 06.0**	**+0.3**
	baz=264						
JISG	**Ishigakijimahi**	**1.35**	**88**	P	**Pn**	**02 00 48.2**	**-0.2**
JISG				S	**Sn**	**02 01 05.5**	**-0.4**
WHF	**Hehuan Shan**	**1.48**	**255**	*e*P	**Pn**	**02 00 50.3**	**-0.1**
	baz=249						
WHF				*e*S	**Sn**	**02 01 08.6**	**-0.8**
	baz=249						
TDCB	**Techi**	**1.55**	**259**	*e*P	**Pn**	**02 00 50.9**	**-0.2**
	baz=249						
TDCB				*e*S	**Sn**	**02 01 10.3**	**-0.4**
	baz=249						
CHGB	**Renai**	**1.58**	**252**	*e*P	**Pn**	**02 00 51.6**	**0.0**
	baz=241						
CHGB				*e*S	**Sn**	**02 01 11.1**	**-0.5**
	baz=241						
OWD	**Renai**	**1.62**	**249**	*e*P	**Pn**	**02 00 51.8**	**-0.2**
	baz=238						
OWD				*e*S	**Sn**	**02 01 11.5**	**-0.8**
	baz=238						
HGSD	**Ruisui**	**1.66**	**231**	*e*P	**Pn**	**02 00 52.2**	**-0.2**
	baz=223						
HGSD				*e*S	**Sn**	**02 01 12.5**	**-0.5**
	baz=223						
EHY	**Hungye**	**1.72**	**233**	*e*P	**Pn**	**02 00 52.5**	**-0.8**
	baz=239						
YULB	**Yu-li**	**1.81**	**231**	*e*P	**Pn**	**02 00 53.8**	**-0.6**
	baz=236						
TWF1	**Yuli**	**1.83**	**230**	*e*P	**Pn**	**02 00 54.5**	**-0.3**
	baz=236						
TWF1				*e*S	**Sn**	**02 01 17.4**	**+0.1**
	baz=236						
SSLB	**Suanglung**	**1.87**	**246**	*e*P	**Pn**	**02 00 55.1**	**-0.2**
	baz=237						
SSLB				*e*S	**Sn**	**02 01 17.6**	**-0.5**
	baz=237						
SMLT	**Sun Moon Lake**	**1.88**	**250**	*e*P	**Pn**	**02 00 55.6**	**+0.2**
	baz=241						
SMLT				*e*S	**Sn**	**02 01 18.2**	**-0.3**
	baz=241						
TYC	**Yuchr**	**1.91**	**251**	*e*P	**Pn**	**02 00 55.8**	**+0.1**
	baz=241						
TYC				*e*S	**Sn**	**02 01 19.2**	**+0.3**
	baz=241						
FULB	**Fuli**	**1.94**	**226**	*e*P	**Pn**	**02 00 54.8**	**-1.4**
	baz=217						
YUS	**Yu-Shan**	**2.01**	**239**	*e*P	**Pn**	**02 00 58.1**	**+0.6**
	baz=235						
YUS				*e*S	**Sn**	**02 01 21.4**	**-0.7**
	baz=235						
CHN5	**Tsauling**	**2.18**	**245**	*e*S	**Sn**	**02 01 27.5**	**+1.9**
	baz=241						
CHN4	**Tsaushan**	**2.36**	**240**	*e*P	**Pn**	**02 01 03.6**	**+1.8**
	baz=231						
CHN4				*e*S	**Sn**	**02 01 32.2**	**+2.3**
	baz=231						
TWK	**Hsinying**	**2.49**	**240**	*e*S	**Sn**	**02 01 33.8**	**+0.7**
	baz=236						

ISCJB ***31*** *02:06:20.6±0.4, 35°.05N±0°.04×140°.00E±0°.05, h70km±3km, mb3.7/9, Error ellipse: s-maj=7.3km s-min=5.0km az=43.5*
JMA ***31*** *02:06:20.7±0.2, 35°.08N×139°.99E, h70km±2km, M3.2*
Broadband fault plane solution: P waves. NP1: ϕs113.00000°, δ75.00000°, λ-108.00000°. NP2: ϕs346.00000°, δ23.00000°, λ-40.00000°. Principal axes: T Plg28.0000°, Azm218.0000°; N Plg18.0000°, Azm118.0000°; P Plg56.0000°, Azm0.0000°;
IDC ***31*** *02:06:21.8±1.6, 35°.00N×140°.00E, h64km±14km, mb3.4/9, mb1 3.5/10, mb1mx3.3/62, mbtmp3.7/10, MS1.7/1, Ms1 1.7/1, ms1mx1.6/33 Error ellipse: s-maj=27.2km s-min=5.8km az=72.0*

ISC 31 02:06:22.3±0.7, 35°.05N±0°.04×139°.98E±0°.04, h66km±5km, n31, σ1ˢ29/36, mb3.8/9, 2C-6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.08**	**260**	⇓P	**Pn**	**02 06 31.4**	**-0.6**
TATJ				S	**Sn**	**02 06 39.4**	**+0.4**
KTR	**Katsuura**	**0.29**	**69**	S	**Sn**	**02 06 39.4**	**-1.3**
BSO4	**Boso 4**	**0.30**	**101**	⇓P	**Pn**	**02 06 32.4**	**-0.5**
BSO4				X		02 06 41.9	
JYO	**Yokosk**	**0.32**	**304**	⇓P	**Pn**	**02 06 32.4**	**-0.8**
JYO				*e*S	**Sn**	**02 06 41.1**	**0.0**
BSO3	**Boso 3**	**0.50**	**119**	⇓P	**Pn**	**02 06 33.7**	**-0.7**
BSO3				X		02 06 43.9	
JIM2	**Oshima 3**	**0.56**	**234**	P	**Pn**	**02 06 34.3**	**-1.1**
JIM2				S	**Sn**	**02 06 43.6**	**-1.4**
JOD2	**Odawara 2**	**0.77**	**287**	⇓P	**Pn**	**02 06 36.2**	**-1.5**
JOD2				S	**Sn**	**02 06 47.2**	**-1.9**
BSO1	**Boso 1**	**0.91**	**115**	⇓P	**Pn**	**02 06 37.6**	**-1.3**
BSO1				*e*S	**Sn**	**02 06 50.5**	**-0.7**
JIZS	**Izushimoda**	**0.97**	**251**	P	**Pn**	**02 06 39.4**	**-0.7**
JIZS				S	**Sn**	**02 06 52.3**	**-1.1**
JYN	**Shimob**	**1.26**	**291**	P	**Pn**	**02 06 43.1**	**-0.9**
JYN				S	**Sn**	**02 06 59.2**	**-1.1**
JRY	**Ryogami san**	**1.31**	**318**	⇑P	**Pn**	**02 06 43.4**	**-1.3**
JAG	**Ashikaga**	**1.44**	**343**	⇑P	**Pn**	**02 06 44.4**	**-2.0**
JAG				S	**Sn**	**02 07 01.9**	**-2.6**
JHJ	**Hachijo jima 2**	**1.93**	**185**	P	**Pn**	**02 06 53.0**	**+0.1**
	69nm,0.3s,baz=111,slow=22,SNR=10						
JHJ				S	**Sn**	**02 07 14.9**	**-1.2**
	257nm,0.3s,baz=308,slow=22,SNR=26						
MJAR	**Matsushiro Arr**	**2.08**	**317**	P	**Pn**	**02 06 54.4**	**-0.5**
	4.7nm,0.3s,baz=159,slow=12,SNR=20						
MJAR				S	**Sn**	**02 07 20.0**	**+0.2**
	13nm,0.3s,baz=138,slow=9.4,SNR=12						
MJAR				LR	LR	02 07 24.9	
	comp=Z,17nm,19.3s,baz=240,slow=30						
MAT	**Matsushiro**	**2.08**	**316**	P	**Pn**	**02 06 54.7**	**-0.2**
MAT				S	**Sn**	**02 07 19.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**11.02**	**328**	P	**Pn**	**02 09 01.0**	**+4.0**
	0.1nm,0.3s,baz=140,slow=16,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.23**	**116**	T	T	02 41 53.1	
	baz=308,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**28.24**	**116**	T	T	02 41 50.9	
	baz=308,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.25**	**116**	T	T	02 41 47.1	
	baz=308,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**28.86**	**118**	T	T	02 42 23.7	
	baz=311,slow=75,SNR=10.0						
H11S1	**WAKE ISLAND Hy**	**28.86**	**118**	T	T	02 42 16.5	
	baz=311,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.87**	**118**	T	T	02 42 18.3	
	baz=311,slow=75,SNR=9.8						
ZALV	**Zalesovo Beam**	**42.43**	**314**	P	**P**	**02 14 10.1**	**-0.2**
	0.5nm,0.3s,baz=101,slow=8.9,SNR=3.0						
MKAR	**Makanchi Array**	**44.22**	**304**	P	**P**	**02 14 24.4**	**-0.4**
	0.7nm,0.6s,baz=90,slow=10.0,SNR=11						
KURBB	**Kurchatov Arra**	**46.34**	**309**	P	**P**	**02 14 41.2**	**-0.3**
	1.1nm,0.5s,baz=82,slow=7.6,SNR=9.9						
ILAR	**Eielson Array**	**51.79**	**31**	P	**P**	**02 15 23.4**	**+0.4**
	0.2nm,0.6s,baz=285,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**54.95**	**186**	P	**P**	**02 15 45.3**	**-1.3**
	1.1nm,0.5s,baz=2.1,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**58.67**	**187**	P	**P**	**02 16 13.3**	**+0.4**
	0.2nm,0.4s,baz=19,slow=11,SNR=6.6						
AKTO	**Aktyubinsk**	**59.15**	**312**	P	**P**	**02 16 17.2**	**+1.2**
	0.7nm,0.6s,baz=69,slow=14,SNR=3.4						
YKA	**Yellowknife Ar**	**66.11**	**29**	P	**P**	**02 17 01.5**	**-0.6**
	0.3nm,0.7s,baz=300,slow=6.2,SNR=6.0						
FINES	**FINESS Array B**	**70.03**	**332**	P	**P**	**02 17 25.7**	**-1.0**
	1.2nm,0.9s,baz=67,slow=8.2,SNR=6.1						

NEIC 31 02:15:09.4±0.0, 34°.01N×118°.83W, h12km, ML3.0(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGOC	**Agoura**	**0.15**	**21**	*e*Pg	Pg	02 15 12.9	-0.2
AGOC				*e*Sg	Sg	02 15 15.6	0.0
BLG	**Laguna Peak, P**	**0.22**	**298**	P	Pg	02 15 13.8	-0.4
	baz=114,SNR=256						
BLG				S	Sg	02 15 17.1	-0.3
	baz=114						
BLCC	**Black Canyon**	**0.27**	**29**	*e*Pg	Pg	02 15 14.8	-0.4
BALC	**Balcom Canyon**	**0.32**	**339**	*e*Pg	Pg	02 15 16.3	+0.3
DJJ	**Donna J Jenkin**	**0.33**	**72**	*e*Pg	Pg	02 15 15.7	-0.4
STCC	**Santa Clara**	**0.42**	**315**	*e*Pg	Pg	02 15 18.1	+0.3
RPV	**Rancho Palos V**	**0.44**	**126**	*e*Pg	Pg	02 15 17.9	-0.3
DECC	**Green Verdugo**	**0.48**	**59**	P	Pg	02 15 18.3	-0.6
	baz=240,SNR=15						
DECC				S	Sg	02 15 25.3	-0.1
	baz=240						
DECC	**Green Verdugo**	**0.48**	**59**	*e*Pg	Pg	02 15 18.6	-0.3
IR2C	**Iron Canyon**	**0.52**	**43**	*e*Pg	Pg	02 15 18.9	-0.8
FMP	**Fort Macarthur**	**0.53**	**123**	P	Pg	02 15 19.2	-0.8
	baz=305,SNR=16						
FMP	**Fort Macarthur**	**0.53**	**123**	*e*Pg	Pb	02 15 20.5	-0.2
PASC	**Pasadena Art C**	**0.56**	**73**	*e*Pg	Pg	02 15 19.4	-1.0
PASC				*e*Sg	Sg	02 15 26.3	-1.6
OSI	**Osito Audit: C**	**0.61**	**8**	P	Pg	02 15 21.0	-0.5
	baz=188,SNR=14						
OSI	**Osito Audit: C**	**0.61**	**8**	*e*Pg	Pg	02 15 21.1	-0.4
DLAC	**Del Amo**	**0.63**	**104**	*e*Pn	Pn	02 15 23.3	-0.9
SCZ2	**Santa Cruz Isl**	**0.67**	**269**	P	Pg	02 15 21.7	-0.7
	baz=88,SNR=8.9						
MWC	**Mount Wilson**	**0.68**	**71**	*e*Pg	Pg	02 15 21.6	-1.1
CIS	**Catalina Islan**	**0.69**	**150**	P	Pg	02 15 22.2	-0.7
	baz=331,SNR=27						
CIS				S	Sg	02 15 31.8	-0.3
	baz=331						
CIAC	**Catalina I. Ai**	**0.70**	**150**	*e*Pg	Pg	02 15 22.4	-0.6
CIAC				*e*Sg	Sb	02 15 33.4	+0.4
BTPC	**Burnt Peak**	**0.71**	**17**	*e*Pg	Pg	02 15 22.6	-0.7
BREC	**Barre Substati**	**0.73**	**105**	*e*Pn	Pb	02 15 24.1	0.0
CHFC	**Chilao Flat St**	**0.74**	**64**	*e*Pg	Pg	02 15 22.9	-1.0
PSRC	**Puddingstone R**	**0.85**	**84**	*e*Pn	Pb	02 15 26.2	0.0
PSRC				*e*Sn	Sb	02 15 37.5	-0.2
FOXC	**Fox Airport**	**0.89**	**34**	*e*Pg	Pg	02 15 25.7	-1.0
ABL	**Mount Abel**	**0.90**	**339**	*e*Pg	Pg	02 15 25.9	-1.1
HOLC	**Holcomb Ridge**	**0.93**	**61**	*e*Pg	Pg	02 15 25.9	-1.6
SNCC	**San Nicolas Is**	**0.95**	**218**	P	Pg	02 15 26.3	-1.5
	baz=37						
SNCC				S	Sg	02 15 39.4	-0.8
	baz=37						
SNCC	**San Nicolas Is**	**0.95**	**218**	*e*Pg	Pg	02 15 26.5	-1.3
SNCC				*e*Sg	Sg	02 15 40.0	-0.3
CHNC	**Chino**	**0.96**	**90**	*e*Sn	Sb	02 15 40.5	0.0
SSK	**Sunset Peak**	**0.97**	**77**	*e*Pg	Pg	02 15 27.1	-1.0
BFSC	**Mount Baldy Ra**	**1.00**	**76**	P	Pg	02 15 27.0	-1.7
	baz=258,SNR=52						
BFSC				S	Sg	02 15 41.5	-0.3
	baz=258						
SCI2	**San Clemente I**	**1.05**	**167**	P	Pb	02 15 27.6	-1.9
	baz=347,SNR=14						
SYP	**Santa Ynez Pea**	**1.08**	**299**	*e*Pg	Pb	02 15 29.2	-1.0
SYP				*e*Sn	Sb	02 15 44.1	-0.2
EDW2	**Edwards Air Fo**	**1.11**	**38**	P	Pb	02 15 28.9	-1.8
	baz=219,SNR=81						
EDW2				S	Sb	02 15 44.5	-0.7
	baz=219						
EDW2	**Edwards Air Fo**	**1.11**	**38**	*e*Pg	Pb	02 15 29.5	-1.2
ARVC	**Arvin**	**1.12**	**0**	P	Pb	02 15 29.4	-1.4
	baz=180,SNR=35						
ARVC				S	Sb	02 15 44.9	-0.4
	baz=180						
ARVC	**Arvin**	**1.12**	**0**	*e*Pg	Pb	02 15 29.8	-0.9
FIGC	**Figueroa Mtn.**	**1.20**	**307**	*e*Pn	Pn	02 15 31.4	-0.7
FIGC				*e*Sn	Sg	02 15 48.0	-0.2
PKM	**Mcpherson Peak**	**1.20**	**318**	P	Pb	02 15 30.7	-1.5
	baz=137,SNR=12						
RVR	**Riverside**	**1.21**	**90**	*e*Pn	Pn	02 15 31.3	-0.9
RVR				*e*Sn	Sb	02 15 47.3	-0.5
CCAC	**Calif City Air**	**1.33**	**30**	*e*Pn	Pn	02 15 33.0	-0.9
MURC	**Murrieta**	**1.42**	**106**	P	Pn	02 15 33.0	-2.1
	baz=288,SNR=9.6						
HMTC	**Hemet**	**1.55**	**101**	*e*Pn	Pn	02 15 34.9	-2.0
BBRC	**Big Bear Solar**	**1.60**	**80**	S	Sn	02 15 57.1	-1.4
	baz=262						
SMMC	**Simmler**	**1.62**	**324**	Sb	Sn	02 15 58.6	-0.1
	baz=143						
ISA	**Isabella, Lake**	**1.68**	**10**	*e*Pn	Pn	02 15 38.1	-0.6
BLKC	**Black Mountain**	**1.71**	**50**	*e*Pn	Pn	02 15 38.9	-0.3
WASM	**Alta Sierra Ca**	**1.74**	**7**	*e*Pn	Pn	02 15 40.2	+0.5
CPE	**Camp Elliot**	**1.82**	**127**	*e*Pn	Pn	02 15 40.5	-0.1
CPE				*e*Sn	Sn	02 15 59.4	-4.2
VES	**Vestal, Richgr**	**1.84**	**354**	P	Pn	02 15 40.1	-0.7
	baz=173,SNR=17						
VES				S	Sn	02 16 03.4	-0.7
	baz=173						
DNR	**Dunn Ranch,Anz**	**1.88**	**103**	*e*Pn	Pn	02 15 40.5	-1.1
SNDA	**J Saunders Pla**	**1.90**	**103**	*e*Pn	Pn	02 15 40.7	-1.1
FRD	**Ford Ranch, An**	**1.93**	**105**	*e*Pn	Pn	02 15 40.8	-1.3
PFO	**Pinyon Flats O**	**2.01**	**101**	*e*Pn	Pn	02 15 42.0	-1.3
XPFO	**Piæon Flat**	**2.02**	**101**	*e*Pn	Pn	02 15 42.0	-1.4
PAGB	**Antelope Grade**	**2.08**	**326**	*e*Pn	Pn	02 15 42.4	-1.7
GSC	**Goldstone, Bar**	**2.11**	**52**	*e*Pn	Pn	02 15 44.2	-0.4
HEC	**Hector,Ludlow**	**2.22**	**68**	P	Pn	02 15 45.3	-0.9
	baz=249,SNR=15						
BAR	**Barrett**	**2.24**	**126**	*e*Pn	Pn	02 15 43.8	-2.6
MONP2	**Monument Peak**	**2.30**	**118**	P	Pn	02 15 45.3	-2.1
	baz=300						
MONP2				S	Sn	02 16 13.4	-2.3
	baz=300						
PMPB	**Monarch Peak**	**2.73**	**324**	*e*Pn	Pn	02 15 52.9	-0.3
GMRC	**Granite Mounta**	**2.73**	**73**	P	Pn	02 15 52.0	-1.3
	baz=255,SNR=8.2						
SWSC	**Sam W. Stewart**	**2.75**	**112**	*e*Pn	Pn	02 15 51.6	-1.6
LDFC	**Landfair**	**3.25**	**70**	*e*Pn	Pn	02 15 57.3	-3.1
SAO	**San Andreas Ge**	**3.48**	**323**	*e*Pn	Pn	02 16 01.5	-2.0
MDPB	**Devils Postpil**	**3.62**	**357**	*e*Pn	Pn	02 16 05.1	-0.5
SHPR	**Sheep Range**	**3.90**	**49**	*e*Pn	Pn	02 16 09.6	+0.2
SHPR				*e*Lg	Lg	02 17 15.4	

W13A	**Hualapai Mount**	**4.22**	**74**	*e*Pn	Pn	02 16 13.1	-0.8

NIED ***31*** *02:50:00.39°.80N×142°.30E, h65km, Mw3.6 Best double couple: M0 2.90000×10¹⁹ NP1:ϕs6.00000°, δ67.00000°, λ158.00000°. NP2:ϕs105.00000°, δ70.00000°, λ25.00000°.*

JMA 31 02:50:47.0, 39°.79N×142°.32E, h21km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.38**	**293**	P	Pb	02 50 55.1	+0.2
JTH				S	Sb	02 51 00.6	+0.3
MIYJ	**Miyakonagasawa**	**0.44**	**241**	P	Pb	02 50 56.0	0.0
MIYJ				S	Sb	02 51 02.0	-0.1
JKZ	**Kuzumaki**	**0.79**	**285**	P	Pb	02 51 01.8	-0.2
JKZ				S	Sb	02 51 12.1	-0.1
JANG	**Nango**	**0.85**	**314**	P	Pb	02 51 02.3	-0.7
JANG				S	Sb	02 51 13.0	-1.0
JOM	**Ohasama**	**0.85**	**249**	P	Pb	02 51 02.9	-0.2
JOM				S	Sb	02 51 14.0	-0.1
OFUJ	**Ofunato**	**0.87**	**216**	P	Pb	02 51 02.7	-0.7
OFUJ				S	Sb	02 51 14.1	-0.5
JMK	**Ichinoseki**	**1.20**	**226**	P	Pn	02 51 08.4	0.0
JMK				S	Sb	02 51 23.4	-0.5

IDC 31 03:08:37.5±9.4, 23°.91N×146°.18E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/60, mbtmp3.5/3, Error ellipse: s-maj=342.6km s-min=29.3km az=75.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.50**	**317**	P	P	03 16 09.8	-0.1
	0.2nm,0.5s,baz=125,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**45.09**	**196**	P	P	03 16 54.8	-0.7
	0.4nm,0.4s,baz=18,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**48.77**	**195**	P	P	03 17 25.0	+0.7
	0.3nm,0.8s,baz=14,slow=9.5,SNR=4.4						

ISCJB ***31*** *03:13:22.6±0.5, 52°.30N±0°.06×157°.3E±0°.1, h168km±3km, mb3.3/7, Error ellipse: s-maj=13.8km s-min=6.5km az=35.1*
KRSC ***31*** *03:13:22.2±1.4, 52°.26N×157°.43E, h168km±11km, ML3.8*
IDC ***31*** *03:13:23.6±2.0, 52°.41N×156°.96E, h161km±6km, mb3.0/7, mb1 3.2/7, mb1mx2.9/68, mbtmp3.4/7, Error ellipse: s-maj=47.3km s-min=17.3km az=178.0*

ISC 31 03:13:23.4±0.8, 52°.29N±0°.06×157°.42E±0°.07, h166km±5km, n37, σ1ˢ40/55, mb3.1/7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**0.31**	**72**	*e*P	**Pn**	**03 13 45.3**	**-0.6**
MIPR	**Malaya Ipel'ka**	**0.41**	**268**	*e*P	**Pn**	**03 13 46.1**	**-0.1**
MTVR	**Mutnovka**	**0.50**	**67**	*e*P	**Pn**	**03 13 47.3**	**+0.6**
MTVR				*e*S	**Sn**	**03 14 05.2**	**+0.5**
KDTR	**Khodutka, Kamc**	**0.63**	**140**	*e*P	**Pn**	**03 13 47.3**	**+0.1**
KDTR				*e*S	**Sn**	**03 14 05.0**	**-0.3**
APC	**Apacha**	**0.66**	**346**	*e*P	**Pn**	**03 13 46.9**	**-0.4**
APC				*e*S	**Sn**	**03 14 04.0**	**-1.8**
RUS	**Russkaya**	**0.68**	**77**	*e*P	**Pn**	**03 13 47.4**	**0.0**
RUS				*e*S	**Sn**	**03 14 06.1**	**+0.2**
KRMR	**Karymshinskiy**	**0.69**	**38**	*e*P	**Pn**	**03 13 47.7**	**+0.2**
PETK	**Petropavlovsk-**	**0.84**	**11**	P	**Pn**	**03 13 48.2**	**-0.3**
	18nm,0.3s,baz=180,slow=6.9,SNR=404						
PETK				S	**Sn**	**03 14 07.8**	**-0.1**
	3.7nm,0.3s,baz=148,slow=30,SNR=11						
PET	**Petropavlovsk**	**1.05**	**45**	*e*P	**Pn**	**03 13 50.1**	**+0.1**
PET				*e*S	**Sn**	**03 14 11.0**	**+0.4**
DALK	**Dalny**	**1.10**	**47**	*e*P	**Pn**	**03 13 50.6**	**+0.2**
DALK				*e*S	**Sn**	**03 14 11.6**	**+0.3**
KOK	**Koryaka**	**1.25**	**36**	*e*P	**Pn**	**03 13 52.5**	**+0.7**
KOK				*e*S	**Sn**	**03 14 14.9**	**+1.1**
UGLR	**Uglovaya**	**1.25**	**42**	*e*P	**Pn**	**03 13 52.8**	**+0.9**
UGLR				*e*S	**Sn**	**03 14 15.6**	**+1.6**
AVH	**Avacha**	**1.26**	**39**	*e*P	**Pn**	**03 13 52.3**	**+0.3**
AVH				*e*S	**Sn**	**03 14 14.4**	**+0.3**
SMAR	**Somma**	**1.28**	**40**	*e*P	**Pn**	**03 13 53.1**	**+0.8**
SMAR				*e*S	**Sn**	**03 14 16.3**	**+1.6**
KRX	**Arik**	**1.30**	**34**	*e*P	**Pn**	**03 13 52.6**	**+0.2**
KRX				*e*S	**Sn**	**03 14 15.3**	**+0.4**
SDLR	**Sedlovina**	**1.33**	**41**	*e*P	**Pn**	**03 13 53.2**	**+0.6**
SDLR				*e*S	**Sn**	**03 14 15.9**	**+0.7**
GNL	**Ganaly**	**1.44**	**12**	*e*P	**Pn**	**03 13 53.4**	**-0.3**
NLC	**Nalytchevo**	**1.47**	**52**	*e*P	**Pn**	**03 13 53.9**	**+0.2**
NLC				*e*S	**Sn**	**03 14 17.3**	**-0.2**
SPN	**Mys Shipunski**	**1.78**	**62**	*e*P	**Pn**	**03 13 56.6**	**-0.4**
SPN				*e*S	**Sn**	**03 14 21.0**	**-2.0**
SKR	**Severo-Kuril's**	**1.80**	**207**	*e*P	**Pn**	**03 13 58.5**	**+1.2**
SKR				*e*S	**Sn

comp=Z,7.0nm,0.4s

SWZ	**Schweizer**	**6.42**	**65**	*e*P		**Pn**	**03 15 30.0**	**+0.5**
SWZ				*e*S		**Sn**	**03 16 42.8**	**-0.2**
SWZ				AML		AML	03 17 34.6	
	comp=Z,133nm,0.4s							
LBTB	**Lobatse**	**7.86**	**52**	*e*P		**Pn**	**03 15 49.6**	**+0.4**
LBTB				*e*S		**Sn**	**03 17 16.0**	**-2.3**
LBTB				AML		AML	03 18 24.2	
	comp=Z,43nm,0.6s							
CNG	**Changalane**	**12.39**	**76**	*e*P		**Pn**	**03 16 52.7**	**+1.5**
CNG				*e*S		**Sn**	**03 19 04.5**	**-4.9**
CNG				AML		AML	03 19 34.2	
	comp=Z,3.4nm,0.4s							

*IDC **31** 03:30:14.9±1.4, 4.°38S×102.°69E, h0km, mb3.9/10, mb1 3.9/10, mb1mx3.7/65, mbtmp3.9/10, MS3.3/1, Ms1 3.3/1, ms1mx2.4/62, Error ellipse: s-maj=71.7km s-min=19.0km az=49.0*

*ISCJB **31** 03:30:19.8±0.5, 3.°63S±0.°07×103.°60E±0.°08, h33km, mb4.1/13, MS3.2/1, Error ellipse: s-maj=11.5km s-min=9.8km az=26.1*

*NEIC **31** 03:30:25.5±1.5, 3.°90S×103.°49E, h75km±17km, mb4.3/1, Error ellipse: s-maj=30.7km s-min=13.6km az=220.0*

ISC 31 03:30:21.9±0.7, 3.°8S±0.°1×103.°6E±0.°1, h35km, n18, σ1°56/18, mb4.2/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNAI	**Manna**	**0.85**	**226**	*e*Pn		Pn	03 30 41.1	+3.8
MNAI				*e*Sn		**Sn**	**03 30 50.5**	**+1.9**
KAPI	**Kappang**	**16.18**	**95**	*e*Pn		**Pn**	**03 34 07.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**31.70**	**158**	LR		LR	03 49 01.1	
	comp=Z,52nm,19.1s,baz=24,slow=36							
WRA	**Warramunga Arr**	**34.03**	**121**	P		**P**	**03 37 04.8**	**+1.9**
	0.1nm,0.3s,baz=304,slow=8.5,SNR=7.4							
ASAR	**Alice Springs**	**35.34**	**127**	P		**P**	**03 37 15.6**	**+1.4**
	0.4nm,0.4s,baz=296,slow=7.3,SNR=6.6							
FORT	**Forest**	**35.43**	**142**	*e*P		**P**	**03 37 13.7**	**-1.1**
SONM	**Songino Array**	**51.45**	**2**	P		**P**	**03 39 27.0**	**+3.3**
	0.8nm,0.5s,baz=178,slow=11,SNR=6.1							
CAN	**Canberra**	**52.40**	**133**	*e*P		**P**	**03 39 28.9**	**-2.1**
	2.2nm,0.7s							
MKAR	**Makanchi Array**	**53.74**	**342**	P		**P**	**03 39 41.6**	**+1.0**
	1.1nm,0.4s,baz=153,slow=8.7,SNR=26							
KURBB	**Kurchatov Arra**	**58.29**	**342**	P		**P**	**03 40 13.5**	**+0.4**
	0.6nm,0.6s,baz=161,slow=6.6,SNR=5.9							
KURBB				PcP		**PcP**	**03 41 04.0**	**+0.1**
	0.4nm,0.6s,baz=158,slow=3.2,SNR=6.0							
KURK	**Kurchatov**	**58.35**	**342**	*e*P		**P**	**03 40 13.1**	**-0.3**
	6.6nm,0.6s							
KURK				PcP		**PcP**	**03 41 04.0**	**-0.1**
ZALV	**Zalesovo Beam**	**59.61**	**347**	P		**P**	**03 40 22.9**	**+0.8**
	1.8nm,0.4s,baz=157,slow=5.3,SNR=8.1							
BVAR	**Borovoye Array**	**63.10**	**338**	P		**P**	**03 40 45.7**	**-0.1**
	0.4nm,0.3s,baz=160,slow=11,SNR=4.4							
ABKAR	**Akbulak array**	**64.92**	**330**	*e*P		**P**	**03 40 57.0**	**-0.8**
	5.3nm,0.8s							
AKTO	**Aktyubinsk**	**66.63**	**330**	P		**P**	**03 41 06.8**	**-1.9**
	0.8nm,0.4s,baz=108,slow=6.4,SNR=3.6							
BRTR	**Keskin Array B**	**77.14**	**312**	P		**P**	**03 42 10.3**	**-2.0**
	0.5nm,0.6s,baz=142,slow=10,SNR=3.9							
FINES	**FINESS Array B**	**87.33**	**332**	P		**P**	**03 43 03.9**	**-1.0**
	1.6nm,1.0s,baz=132,slow=5.8,SNR=4.8							
TXAR	**Lajitas Array**	**143.76**	**43**	PKP		PKPbc	03 49 52.6	+0.8
	0.2nm,0.5s,baz=279,slow=1.3,SNR=4.2							

*ISCJB **31** 03:36:24.1±0.8, 14.°3N±0.°1×145.°4E±0.°2, h109km, mb3.6/8, Error ellipse: s-maj=31.0km s-min=11.5km az=18.8*

*IDC **31** 03:36:24.8±1.4, 14.°32N×145.°42E, h97km±10km, mb3.4/8, mb1 3.6/8, mb1mx3.3/60, mbtmp3.7/8, MS3.9/1, Ms1 3.9/1, ms1mx2.5/32, Error ellipse: s-maj=36.5km s-min=16.3km az=94.0*

ISC 31 03:36:25.8±0.9, 14.°3N±0.°1×145.°4E±0.°2, h109km, n13, σ0°96/13, mb3.8/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**0.84**	**216**	P		**Pn**	**03 36 45.6**	**+0.3**
	925nm,0.3s,baz=348,slow=2.9,SNR=191							
GUMO				S		**Sn**	**03 36 58.6**	**-1.5**
	2µm,0.3s,baz=210,slow=20,SNR=45							
GUMO				LR		LR	03 37 15.4	
	comp=Z,200nm,20.0s,baz=67,slow=56							
H11S3	**WAKE ISLAND Hy 20.87**	**76**		T		T	04 02 20.2	
	baz=263,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hy 20.88**	**75**		T		T	04 02 21.2	
	baz=263,slow=75,SNR=7.3							
H11S2	**WAKE ISLAND Hy 20.89**	**76**		T		T	04 02 21.8	
	baz=263,slow=75,SNR=4.7							
WRA	**Warramunga Arr**	**35.70**	**198**	P		**P**	**03 43 14.3**	**+0.4**
	3.0nm,0.5s,baz=21,slow=9.6,SNR=58							
WRA				PcP		**PcP**	**03 45 41.4**	**+1.4**
	0.3nm,0.5s,baz=10,slow=3.0,SNR=4.9							
ASAR	**Alice Springs**	**39.34**	**197**	P		**P**	**03 43 45.2**	**+0.6**
	1.1nm,0.6s,baz=21,slow=10,SNR=16							
STKA	**Stephens Creek**	**46.03**	**184**	P		**P**	**03 44 38.1**	**-0.4**
	0.6nm,0.4s,baz=347,slow=12,SNR=3.5							
MKAR	**Makanchi Array**	**61.34**	**316**	P		**P**	**03 46 31.2**	**+1.1**
	0.1nm,0.4s,baz=107,slow=7.8,SNR=3.4							
MKAR				pP		**pP**	**03 46 57.7**	**+0.9**
	0.3nm,0.6s,baz=95,slow=6.9,SNR=3.3							
KURBB	**Kurchatov Arra**	**64.42**	**320**	P		**P**	**03 46 50.2**	**-0.2**
	0.2nm,0.2s,baz=99,slow=7.3,SNR=2.7							
KURBB				pP		**pP**	**03 47 17.2**	**-0.1**
	1.0nm,0.7s,baz=100,slow=7.2,SNR=5.9							
ILAR	**Eielson Array**	**67.74**	**25**	P		**P**	**03 47 11.1**	**-0.3**
	0.2nm,0.4s,baz=249,slow=5.2,SNR=7.3							
GEYT	**Alibeck**	**79.24**	**306**	LR		LR	04 24 52.0	
	comp=Z,79nm,21.9s,baz=80,slow=37							
YKA	**Yellowknife Ar**	**82.03**	**27**	P		**P**	**03 48 33.6**	**0.0**
	0.1nm,0.6s,baz=283,slow=5.0,SNR=2.5							
FINES	**FINESS Array B**	**90.75**	**335**	P		**P**	**03 49 14.8**	**-1.5**
	0.9nm,0.8s,baz=60,slow=8.2,SNR=4.7							

IDC 31 03:38:50.4±7.8, 3.°83S×101.°97W, h0km, mb3.2/4, mb1 3.6/4, mb1mx3.5/43, mbtmp3.2/4, Error ellipse: s-maj=225.4km s-min=163.4km az=84.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NVAR	**Mina Array Bea**	**44.68**	**342**	P		P	03 47 04.8	-0.6
	0.1nm,0.3s,baz=167,slow=4.3,SNR=3.1							
PDAR	**Pinedale Array**	**46.88**	**352**	P		P	03 47 23.2	+0.5
	0.2nm,0.4s,baz=165,slow=7.5,SNR=2.6							
YKA	**Yellowknife Ar**	**66.84**	**354**	P		P	03 49 44.0	+0.2
	0.4nm,0.7s,baz=162,slow=6.4,SNR=4.9							
ILAR	**Eielson Array**	**75.94**	**342**	P		P	03 50 38.6	-0.2
	0.3nm,0.8s,baz=146,slow=5.0,SNR=3.3							
H11S2	**WAKE ISLAND Hy 92.45**	**288**		T		T	05 33 01.5	
	baz=94,slow=74,SNR=7.0							
H11S1	**WAKE ISLAND Hy 92.46**	**288**		T		T	05 33 03.2	
	baz=94,slow=74,SNR=5.5							
H11S3	**WAKE ISLAND Hy 92.47**	**288**		T		T	05 32 58.1	
	baz=94,slow=74,SNR=4.4							

*IDC **31** 03:40:30.3±11.0, 10.°96S×166.°31E, h96km±119km, mb3.5/6, mb1 3.7/7, mb1mx3.4/50, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=109.5km s-min=27.6km az=150.0*

*ISCJB **31** 03:40:33.9±1.0, 11.°2S±0.°1×166.°3E±0.°2, h146km, mb3.5/6, Error ellipse: s-maj=30.2km s-min=17.9km az=18.2*

ISC 31 03:40:35.1±1.1, 11.°2S±0.°1×166.°5E±0.°2, h146km, n7, σ0°84/7, mb3.4/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.80**	**180**	P		**Pn**	**03 43 05.6**	**-0.2**
	0.4nm,0.3s,baz=292,slow=19,SNR=7.2							
STKA	**Stephens Creek**	**30.82**	**224**	P		**P**	**03 46 38.3**	**+1.0**
	3.6nm,1.0s,baz=76,slow=12,SNR=3.2							
WRA	**Warramunga Arr**	**32.10**	**250**	P		**P**	**03 46 47.9**	**-0.8**
	0.3nm,0.4s,baz=83,slow=9.1,SNR=9.1							
ASAR	**Alice Springs**	**33.36**	**244**	P		**P**	**03 46 59.0**	**-0.6**
	0.3nm,0.5s,baz=67,slow=10,SNR=3.7							
ILAR	**Eielson Array**	**83.44**	**18**	P		**P**	**03 52 46.3**	**+0.5**
	0.3nm,0.5s,baz=244,slow=5.3,SNR=6.5							
MKAR	**Makanchi Array**	**94.13**	**317**	P		**P**	**03 53 37.5**	**+0.3**
	0.5nm,0.6s,baz=90,slow=5.9,SNR=5.4							
YKA	**Yellowknife Ar**	**94.79**	**27**	P		**P**	**03 53 39.1**	**-0.6**
	0.1nm,0.5s,baz=261,slow=4.6,SNR=4.1							

IDC 31 03:46:25.0±10.0, 7.°87S×112.°76E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.2/62, mbtmp3.7/3, Error ellipse: s-maj=169.5km s-min=135.6km az=154.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.11**	**122**	P		P	03 51 42.8	+0.2
	0.5nm,0.8s,baz=298,slow=11,SNR=10.0							
ASAR	**Alice Springs**	**25.65**	**130**	P		P	03 51 56.5	-0.2
	1.1nm,0.8s,baz=303,slow=9.5,SNR=11							
STKA	**Stephens Creek**	**35.92**	**136**	P		P	03 53 27.2	-0.1
	2.9nm,0.8s,baz=299,slow=10,SNR=2.7							

*IDC **31** 03:46:30.0±1.1, 51.°37N×174.°05W, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.7/81, mbtmp3.8/14, ML3.3/2, Error ellipse: s-maj=31.9km s-min=18.0km az=169.0*

*ISCJB **31** 03:46:32.5±0.6, 51.°22N±0.°07×173.°78W±0.°07, h35km, mb3.8/13, Error ellipse: s-maj=9.7km s-min=6.1km az=0.3*

*NEIC **31** 03:46:34.1±0.0, 51.°36N×173.°96W, h17km, ML3.2(AEIC), After AEIC.*

ISC 31 03:46:35.0±0.8, 51.°35N±0.°10×173.°88W±0.°07, h35km, n31, σ0°75/32, mb4.0/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.94**	**352**	P		**Pn**	**03 46 51.5**	**-0.1**
KOKL	**Mount Kliuchef**	**0.99**	**348**	P		**Pn**	**03 46 52.4**	**-0.1**
KOKL				S		**Sn**	**03 47 07.5**	**+2.1**
KOWE	**Korovin West**	**1.04**	**347**	P		**Pn**	**03 46 53.2**	**+0.1**
KONW	**Korovin Northw**	**1.07**	**349**	P		**Pn**	**03 46 52.2**	**-1.3**
GSTD	**Great Sitkin T**	**1.58**	**297**	P		**Pn**	**03 47 00.1**	**-0.4**
GSTD				S		**Sn**	**03 47 20.4**	**+0.6**
ETKA	**Kagalaska Isla**	**1.66**	**289**	P		**Pn**	**03 47 00.9**	**-0.6**
ETKA				S		**Sn**	**03 47 21.6**	**0.0**
ADAG	**Mount Adagdak**	**1.81**	**291**	P		**Pn**	**03 47 04.0**	**+0.3**
KIRH	**Kanaga Island**	**2.08**	**287**	P		**Pn**	**03 47 08.0**	**+0.7**
KINC	**Kanaga Island**	**2.11**	**287**	P		**Pn**	**03 47 08.4**	**+0.7**
KIKV	**Kanaga Island**	**2.12**	**286**	P		**Pn**	**03 47 08.3**	**+0.4**
TAPA	**Tanaga Point A**	**2.50**	**282**	P		**Pn**	**03 47 13.7**	**+0.6**
KDAK	**Kodiak Island**	**13.89**	**54**	Pn		**Pn**	**03 49 48.0**	**-1.1**
	0.3nm,0.3s,baz=248,slow=9.3,SNR=6.0							
PETK	**Petropavlovsk-**	**17.46**	**287**	P		**Pn**	**03 50 34.9**	**-0.6**
	0.2nm,0.3s,baz=77,slow=16,SNR=3.8							
ILAR	**Eielson Array**	**19.39**	**36**	P		**Pn**	**03 50 58.5**	**-0.4**
	0.4nm,0.3s,baz=217,slow=9.8,SNR=30							
EGAK	**Eagle**	**21.58**	**39**	*e*P		**P**	**03 51 21.5**	**+0.2**
	6.1nm,0.8s							
INK	**Inuvik**	**25.74**	**34**	P		**P**	**03 52 02.0**	**+0.3**
	0.7nm,0.5s,baz=237,slow=7.9,SNR=8.7							
YKA	**Yellowknife Ar**	**33.00**	**47**	P		**P**	**03 53 06.6**	**+0.5**
	0.1nm,0.3s,baz=272,slow=8.6,SNR=5.0							
H11S1	**WAKE ISLAND Hy 36.20**	**212**		T		T	04 32 43.7	
	baz=21,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy 36.21**	**212**		T		T	04 32 43.2	
	baz=21,slow=76,SNR=7.3							
H11S3	**WAKE ISLAND Hy 36.22**	**212**		T		T	04 32 43.8	
	baz=21,slow=76,SNR=6.4							
USRK	**Ussuriysk Ar.**	**36.35**	**280**	P		**P**	**03 53 34.5**	**-0.9**
	1.9nm,0.5s,baz=63,slow=11,SNR=6.1							
SONM	**Songino Array**	**49.39**	**299**	P		**P**	**03 55 20.5**	**-0.4**
	0.6nm,0.5s,baz=64,slow=8.1,SNR=5.1							
TXAR	**Lajitas Array**	**55.59**	**85**	P		**P**	**03 56 08.6**	**+1.5**
	0.1nm,0.6s,baz=340,slow=7.7,SNR=2.5							
KURK	**Kurchatov**	**61.23**	**316**	P		**P**	**03 56 46.6**	**+0.6**
KURBB	**Kurchatov Arra**	**61.33**	**316**	P		**P**	**03 56 46.6**	**-0.1**
	0.8nm,0.4s,baz=42,slow=7.1,SNR=11							
MKAR	**Makanchi Array**	**62.42**	**311**	P		**P**	**03 56 53.7**	**-0.4**
	0.4nm,0.4s,baz=46,slow=6.1,SNR=12							
BVAR	**Borovoye Array**	**62.85**	**322**	P		**P**	**03 56 56.8**	**0.0**
	0.9nm,0.4s,baz=55,slow=6.1,SNR=7.7							
BVAR				PcP		**PcP**	**03 57 36.1**	**+1.2**
	0.7nm,0.6s,baz=73,slow=4.8,SNR=3.3							
FINES	**FINESS Array B**	**66.43**	**350**	P		**P**	**03 57 19.7**	**-0.3**
	2.0nm,0.9s,baz=27,slow=9.4,SNR=4.1							
AKTO	**Aktyubinsk**	**69.43**	**327**	P		**P**	**03 57 39.2**	**+0.1**
	1.2nm,0.5s,baz=68,slow=9.6,SNR=5.4							
AKASG	**Malin Array Be**	**76.45**	**345**	P		**P**	**03 58 20.0**	**-0.6**
	0.7nm,0.4s,baz=18,slow=6.0,SNR=3.6							
WRA	**Warramunga Arr**	**84.21**	**228**	P		**P**	**03 59 02.3**	**-0.3**
	0.2nm,0.5s,baz=35,slow=6.5,SNR=3.5							

IDC 31 03:54:11.6±5.1, 17.°09S×173.°17W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/51, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=207.7km s-min=27.4km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**3.44**	**23**	Pn		Pn	03 55 07.3	+0.8
	10nm,0.3s,baz=261,slow=17,SNR=4.1							
AFI				Sn		Sn	03 55 32.5	-15
	18nm,0.3s,baz=121,slow=20,SNR=6.5							
WRA	**Warramunga Arr**	**49.69**	**258**	P		P	04 03 05.3	-0.4
	0.1nm,0.5s,baz=96,slow=7.2,SNR=5.7							
ASAR	**Alice Springs**	**49.82**	**253**	P		P	04 03 06.5	-0.3
	1.0nm,0.6s,baz=89,slow=8.3,SNR=16							
ILAR	**Eielson Array**	**84.05**	**11**	P		P	04 06 42.3	-1.3
	0.8nm,1.0s,baz=206,slow=6.0,SNR=3.2							
BRTR	**Keskin Array B**	**147.59**	**320**	PKPbc		PKPbc	04 13 59.4	+1.0
	0.4nm,0.6s,baz=42,slow=4.5,SNR=2.4							

*NIED **31** 03:56:00, 36.°80N×142.°10E, h14km, Mw3.7 Best double couple: M0 3.40000×10^14 NP1:φs304.00000°, δ27.00000°, λ-153.00000°. NP2:φs191.00000°, δ78.00000°, λ-65.00000°.*

*JMA **31** 03:56:21.3±0.5, 36.°81N×142.°07E, h6km±4km, M3.8*

*IDC **31** 03:56:21.5±2.4, 36.°90N×142.°14E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.5/72, mbtmp3.5/9, ML3.6/2, MS3.0/4, Ms1 3.0/4, ms1mx2.6/46, Error ellipse: s-maj=73.0km s-min=19.2km az=174.0*

*ISCJB **31** 03:56:22.5±1.0, 36.°8N±0.°1×142.°12E±0.°07, h19km, mb3.4/7, MS3.8/1, Error ellipse: s-maj=15.8km s-min=6.7km az=159.5*

ISC 31 03:56:24.4±1.1, 36.°9N±0.°1×141.°98E±0.°08, h19km, n24, σ1°45/22, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.97**	**283**	P		**Pb**	**03 56 41.6**	**-1.0**
JFK	**Kawauchi**	**1.00**	**298**	P		**Pb**	**03 56 42.2**	**-1.0**
JHO	**Hitachi**	**1.17**	**256**	P		**Pn**	**03 56 44.0**	**-1.8**
JHO				*e*S		**Sn**	**03 57 01.3**	**+0.1**
JMM	**Marumori**	**1.35**	**316**	P		**Pn**	**03 56 47.1**	**-1.2**
JFT	**Otama**	**1.45**	**296**	P		**Pn**	**03 56 49.7**	**0.0**
JIO	**Ouri**	**1.63**	**342**	P		**Pb**	**03 56 52.9**	**-1.0**
JOU	**Okura**	**1.80**	**325**	P		**Pb**	**03 56 55.5**	**-1.3**
JFY	**Yanaizu**	**1.89**	**286**	P		**Pb**	**03 56 57.1**	**-1.2**
JAG	**Ashikaga**	**2.09**	**258**	P		**Pn**	**03 56 57.5**	**-0.9**
MJAR	**Matsushiro Arr**	**3.05**	**264**	Pn		**Pn**	**03 57 12.3**	**+0.6**
	7.7nm,0.3s,baz=88,slow=14,SNR=68							
MJAR				Sn		**Sb**	**03 57 52.4**	**-2.6**
	3.9nm,0.3s,baz=87,slow=29,SNR=7.0							
MJAR				LR		LR	03 58 41.9	
	comp=Z,126nm,18.4s,baz=70,slow=45							
MAT	**Matsushiro**	**3.05**	**264**	P		**Pn**	**03 57 12.8**	**+1.1**
MAT				S		**Sn**	**03 57 50.3**	**+2.6**
JNU	**Nakatsue**	**9.86**	**251**	LR		LR	04 02 48.7	
	comp=Z,28nm,21.9s,baz=117,slow=39							
KSRS	**Korea Array**	**11.23**	**277**	Pn		**Pn**	**03 59 06.8**	**+2.9**
	0.3nm,0.3s,baz=112,slow=12,SNR=2.8							
KSRS				LR		LR	04 03 12.0	
	comp=Z,46nm,18.7s,baz=102,slow=36							
H11N2	**WAKE ISLAND Hy 27.69**	**121**		T		T	04 31 41.1	
	baz=314,slow=75,SNR=9.4							
H11N1	**WAKE ISLAND Hy 27.69**	**121**		T		T	04 31 21.8	
	baz=314,slow=75,SNR=6.7							
H11N3	**WAKE ISLAND Hy 27.70**	**121**		T		T	04 31 40.9	
	baz=314,slow=75,SNR=8.2							
SONM	**Songino Array**	**28.24**	**304**	P		**P**	**04 02 17.0**	**+0.8**
	1.1nm,0.8s,baz=103,slow=8.5,SNR=6.5							
ZALV	**Zalesovo Beam**	**42.34**	**312**	P		**P**	**04 04 18.5**	**+1.5**
	0.5nm,0.5s,baz=98,slow=11,SNR=3.0							
MKAR	**Makanchi Array**	**44.58**	**302**	P		**P**	**04 04 36.1**	**+1.0**
	0.2nm,0.7s,baz=64,slow=9.8,SNR=1.9							
KURBB	**Kurchatov Arra**	**46.45**	**308**	P		**P**	**04 04 49.0**	**-0.8**
	0.4nm,0.5s,baz=85,slow=7.7,SNR=3.1							
ILAR	**Eielson Array**	**49.37**	**32**	P		**P**	**04 05 11.9**	**-0.3**
	0.4nm,1.1s,baz=259,slow=5.1,SNR=4.6							
FINES	**FINESS Array B**	**69.15**	**332**	LR		LR	04 40 44.2	
	comp=Z,57nm,19.1s,baz=26,slow=38							
PDAR	**Pinedale Array**	**77.44**	**46**	P		**P**	**04 08 18.7**	**0.0**
	0.1nm,0.3s,baz=238,slow=5.1,SNR=2.7							
TXAR	**Lajitas Array**	**89.84**	**53**	P		**P**	**04 09 21.7**	**-0.6**
	0.2nm,0.6s,baz=285,slow=3.5,SNR=3.6							

*IDC **31** 03:58:16.6±0.5, 0.°85N×101.°28E, h0km, mb4.5/24, mb1 4.5/25, mb1mx4.3/68, mbtmp4.4/25, ML4.4/1, MS3.4/9, Ms1 3.5/9, ms1mx3.0/56, Error ellipse: s-maj=21.7km s-min=12.9km az=57.0*

*ISCJB **31** 03:58:17.1±0.2, 1.°01N±0.°03×101.°50E±0.°04, h10km, mb4.5/43, MS3.5/7, Error ellipse: s-maj=6.5km s-min=4.2km az=157.6*

*NEIC **31** 03:58:17.6±2.2, 0.°97N×101.°48E, h5km±13km, mb4.6/19, Error ellipse: s-maj=6.8km s-min=4.5km az=46.0*

NEIC Felt [II] at Padangpajang. Also felt at Duri and Pekanbaru.

ISC 31 03:58:19.3±0.4, 0.°98N±0.°04×101.°55E±0.°05, h10km, n109, σ1°81/104, mb4.5/43, MS3.4/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKNI	**Bangkinang**	**0.83**	**218**	*e*Pn		**Pg**	**03 58 36.3**	**+1.0**
BKNI				*e*Sn		**Sb**	**03 58 49.5**	**+2.5**
MYKOM	**Kota Tinggi**	**2.43**	**71**	*e*Pn		Pn	03 58 57.4	-1.8
PSI	**Prapat**	**3.19**	**305**	*e*Pn		Pn	03 59 06.1	-3.6
IPM	**Ipoh**	**3.52**	**351**	*e*Pn		**Pn**	**03 59 13.4**	**-0.8**
IPM				*e*Pg		**Pb**	**03 59 25.6**	**+3.9**
IPM				*e*Sg		**Sg**	**04 00 11.8**	**-0.6**
GSI	**Gunungsitoli**	**3.99**	**275**	*e*Pn		**Pn**	**03 59 19.4**	**-1.2**
GSI				*e*Pg		**Pb**	**03 59 32.0**	**+2.2**
GSI				*e*Sg		**Sb**	**04 00 23.9**	**+5.7**
KULM	**Kulim**	**4.38**	**348**	*e*Pn		**Pn**	**03 59 24.1**	**-1.8**
KULM				*e*Pb		**Pb**	**03 59 34.7**	**-1.7**
KULM				*e*Pg		Pg	03 59 39.3	-4.0
KULM				*e*Sn		**Sn**	**04 00 13.7**	**-3.4**
KULM				*e*Sg		**Sb**	**04 00 35.8**	**+6.5**
MNAI	**Manna**	**5.49**	**165**	*e*Pn		**Pn**	**03 59 44.5**	**+3.3**
LEM	**Lembang**	**9.84**	**142**	LR		LR	04 04 57.5	
	comp=Z,152nm,18.2s,baz=234,slow=40							
NAYO	**Nakonayok**	**13.25**	**359**	P		**P**	**04 01 36.9**	**-0.8**
	13nm,0.7s							
SKNT	**Sakolnakorn**	**16.07**	**8**	P		**P**	**04 02 11.2**	**+2.2**
	14nm,1.6s,2µm							
PHIT	**Phitsanulok**	**16.15**	**356**	P		P	04 02 22.8	+13
MYLDM	**Lahad Datu**	**17.43**	**76**	*e*Pn		**P**	**04 02 27.8**	**+3.8**
	17nm,1.0s							
CMAR	**Chiang Mai Arr**	**17.56**	**352**	P		**Pn**	**04 02 24.1**	**-0.3**
	0.5nm,0.3s,baz=182,slow=12,SNR=9.4							
CMAR				PcP		**PcP**	**04 07 04.6**	**+0.1**
	0.4nm,0.3s,baz=122,slow=1.9,SNR=5.6							
CMAR				LR		LR	04 08 40.3	
	comp=Z,75nm,20.9s,baz=175,slow=35							
CMAI	**Chiengmai2**	**19.00**	**353**	P		**Pn**	**04 02 46.2**	**+4.0**
	98nm,1.1s,1/µm							
KAPI	**Kappang**	**19.13**	**108**	*e*P		**P**	**04 02 42.5**	**-0.3**
	7.0nm,1.0s							
PALK	**Pallekele**	**21.71**	**287**	*e*P		**P**	**04 03 09.9**	**-1.0**
	4.1nm,0.7s							
KMI	**Kunming**	**24.03**	**3**	P		**P**	**04 03 36.3**	**+1.4**
KMI				pP		sP	04 03 46.5	+7.3
DAV	**Davao City (W)**	**24.71**	**75**	LR		LR	04 14 19.4	
	comp=Z,60nm,19.4s,baz=164,slow=38							
SOEI	**Soe**	**25.00**	**116**	*e*P		**P**	**04 03 42.0**	**-1.8**
	16nm,0.8s							
CD2	**Chengdu**	**29.84**	**4**	*e*P		**P**	**04 04 27.0**	**0.0**
NJ2	**Nanjing**	**34.96**	**26**	*e*P		**P**	**04 05 11.5**	**-0.2**
LZH	**Lanzhou**	**35.00**	**3**	*e*P		**P**	**04 05 15.5**	**+3.3**
LZH				pP		sP	04 05 27.0	+9.4
LZH				sP		pP	04 05 29.3	+14
LZH				ePP		**PP**	**04 06 35.3**	**+3.6**
LZH				S		**S**	**04 10 45.0**	**+0.6**
LZH				sS		sS	04 11 01.5	+12
LZH				SS		**SnSn**	**04 13 03.0**	**+3.2**
WRA	**Warramunga Arr**	**38.28**	**125**	P		**P**	**04 05 39.5**

ZALV	**Zalesovo Beam**	**54.57**	**348**	P	**P**	**04 07 47.5**	**-0.2**
	8.8nm,0.6s,baz=165,slow=5.8,SNR=37						
ZALV	**Zalesovo Beam**	**54.57**	**348**	*e*P	**P**	**04 07 47.4**	**-0.3**
KLR	**Kul'dur**	**54.60**	**24**	P	**P**	**04 07 48.0**	**0.0**
	0.1nm,0.5s,baz=214,slow=9.6,SNR=4.6						
CAN	**Canberra**	**57.10**	**134**	*e*P	**P**	**04 08 06.0**	**-0.3**
	10nm,0.9s						
BVAR	**Borovoye Array**	**57.97**	**338**	P	**P**	**04 08 10.8**	**-1.2**
	2.7nm,0.6s,baz=138,slow=9.1,SNR=16						
BRVK	**Borovoye**	**58.04**	**338**	*e*P	**P**	**04 08 11.4**	**-1.1**
	3.0nm,0.7s						
RAYN	**Ar Rayn**	**58.72**	**297**	*e*P	**P**	**04 08 16.3**	**-1.5**
	2.7nm,0.6s						
ABKAR	**Akbulak array**	**59.83**	**330**	*e*P	**P**	**04 08 23.0**	**-1.9**
	4.4nm,0.6s						
AKTO	**Aktyubinsk**	**61.54**	**330**	P	**P**	**04 08 34.8**	**-1.8**
	1.1nm,0.4s,baz=88,slow=3.3,SNR=5.2						
ARU	**Arti**	**65.14**	**335**	P	P	04 08 58.4	-1.9
	2.4nm,0.2s,baz=98,slow=14,SNR=3.7						
KBZ	**Khabaz**	**67.12**	**318**	P	**P**	**04 09 11.6**	**-1.8**
	2.6nm,0.7s,baz=164,slow=3.7,SNR=5.3						
MA2	**Magadan**	**69.70**	**24**	P	**P**	**04 09 30.0**	**+0.9**
	2.4nm,0.4s,baz=213,slow=4.8,SNR=4.5						
CSS	**Mathiatis**	**71.68**	**307**	*e*P	**P**	**04 09 41.0**	**-0.8**
	1.5nm,0.6s						
SEY	**Seymchan**	**72.30**	**22**	P	**P**	**04 09 44.6**	**-0.2**
	3.4nm,1.0s,baz=247,slow=5.8,SNR=8.4						
BR131	**Keskin Array S**	**72.50**	**311**	*e*P	P	04 09 44.5	-2.3
BRTR	**Keskin Array B**	**72.50**	**311**	P	P	04 09 44.4	-2.4
	3.2nm,0.8s,baz=120,slow=6.6,SNR=20						
TIXI	**Tiksi**	**72.69**	**9**	P	**P**	**04 09 46.4**	**-0.7**
	2.3nm,0.4s,baz=249,slow=2.9,SNR=9.1						
TIXI	**Tiksi**	**72.69**	**9**	*e*P	**P**	**04 09 46.4**	**-0.7**
	11nm,1.4s						
MAW	**Mawson**	**73.53**	**194**	LR	LR	04 35 56.6	
	comp=Z,142nm,21.4s,baz=64,slow=31						
THZ	**Tophouse**	**76.83**	**133**	*e*P	**P**	**04 10 12.1**	**+0.4**
	19nm,0.9s						
AKASG	**Malin Array Be**	**78.11**	**322**	P	P	04 10 15.9	-2.6
	3.1nm,0.7s,baz=85,slow=5.3,SNR=7.4						
KIEV	**Kiev**	**78.11**	**322**	*e*P	P	04 10 15.9	-2.7
	3.2nm,0.8s						
AK11	**Malin Array Si**	**78.14**	**322**	*e*P	P	04 10 16.1	-2.6
BOSA	**Boshof**	**78.45**	**241**	P	P	04 10 18.6	-2.6
	6.5nm,0.9s,baz=70,slow=5.0,SNR=6.5						
BKZ	**Black Stump Fm**	**78.97**	**130**	*e*P	**P**	**04 10 23.5**	**-0.2**
	12nm,0.8s						
MLR	**Muntele Rosu**	**79.23**	**316**	P	**P**	**04 10 23.7**	**-1.4**
	0.8nm,0.8s,baz=154,slow=4.7,SNR=3.5						
BUR04	**Bucovina Ar. S**	**80.08**	**318**	*e*P	**P**	**04 10 28.5**	**-1.2**
BUR08	**Bucovina Ar. S**	**80.09**	**318**	*e*P	**P**	**04 10 29.5**	**-0.3**
FINES	**FINESS Array B**	**82.22**	**332**	P	**P**	**04 10 39.2**	**-1.4**
	2.0nm,0.6s,baz=89,slow=2.9,SNR=14						
STHS	**Stebnicka Huta**	**82.95**	**320**	*e*P	**P**	**04 10 44.3**	**-0.4**
KECS	**Kecovo**	**83.34**	**319**	*e*P	P	04 10 43.8	-2.9
ARCES	**ARCESS Array B**	**84.22**	**340**	P	P	04 10 48.6	-2.2
	6.7nm,1.1s,baz=142,slow=4.1,SNR=7.5						
TSUM	**Tsumeb**	**84.62**	**251**	*e*P	**P**	**04 10 53.9**	**-0.1**
	6.3nm,0.9s						
MORC	**Moravsky Berou**	**85.38**	**320**	*e*P	**P**	**04 10 56.1**	**-1.0**
SPITS	**Spitsbergen Ar**	**88.06**	**348**	P	**P**	**04 11 08.1**	**-1.5**
	9.5nm,0.8s,baz=132,slow=10,SNR=7.2						
NOA	**NORSAR Array B**	**89.32**	**331**	P	**P**	**04 11 14.5**	**-1.4**
	1.4nm,0.8s,baz=104,slow=5.2,SNR=3.2						
IM3	**Indian Mountai**	**95.07**	**23**	*e*P	**P**	**04 11 42.8**	**+0.5**
SCHQ	**Schefferville**	**123.56**	**352**	PKP	**PKPdf**	**04 17 15.6**	**-1.6**
	1.5nm,0.6s,baz=13,slow=5.4,SNR=4.9						
NVAR	**Mina Array Bea**	**126.32**	**39**	PKP	**PKPdf**	**04 17 23.5**	**+0.3**
	0.1nm,0.3s,baz=261,slow=2.9,SNR=4.5						
ULM	**Lac du Bonnet**	**126.83**	**14**	PKP	**PKPdf**	**04 17 22.5**	**-1.0**
	3.9nm,0.8s,baz=318,slow=4.2,SNR=6.7						
PDAR	**Pinedale Array**	**128.24**	**29**	PKP	**PKPdf**	**04 17 26.3**	**-0.5**
	0.2nm,0.6s,baz=180,slow=0.7,SNR=2.9						
TXAR	**Lajitas Array**	**141.41**	**37**	PKhKP	PKPpre	04 17 45.6	
	0.4nm,0.6s,baz=311,slow=0.7,SNR=8.2						
JCT	**Junction City**	**142.69**	**31**	*e*PKPdf	**PKPdf**	**04 17 51.1**	**-2.6**
CPUP	**Villa Florida**	**147.62**	**217**	PKPbc	**PKPdf**	**04 18 02.6**	**+0.4**
	4.6nm,1.0s,baz=113,slow=5.2,SNR=10						
CPUP	**Villa Florida**	**147.62**	**217**	*e*PKPbc	**PKPdf**	**04 18 03.5**	**+1.3**

*ISCJB **31** 04:00:34.6±0.8, 48.89°N±0.05°×33.48°E±0.09, h10km, mb3.1/2,MS3.7/1,Error ellipse: s-maj=9.2km s-min=6.8km az=28.8*

*IDC **31** 04:00:37.6±0.8, 48.71°N×33.33°E, h0km, mb3.3/2, mb1 3.5/7, mb1mx3.2/63, mbtmp3.4/7, ML2.7/6, MS3.0/3, Ms1 3.0/3, ms1mx2.3/38, Error ellipse: s-maj=15.8km s-min=8.9km az=46.0*

ISC 31 04:00:38.1±1.0, 48.82N±0.06°×33.43E±0.07, h10km, n23, σ3.9 09/18, 5C-1D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**3.32**	**306**	Pn	**Pn**	**04 01 30.8**	**+0.8**
	0.9nm,0.3s,baz=120,slow=14,SNR=3.6						
AKASG				Pg	**Pb**	**04 01 37.0**	**-0.1**
	2.9nm,0.3s,baz=127,slow=17,SNR=9.1						
AKASG				Sn	**Sn**	**04 02 12.0**	**+2.5**
	2.1nm,0.3s,baz=127,slow=24,SNR=4.0						
AKASG				Lg	Lg	04 02 27.3	
	9.4nm,0.3s,baz=127,slow=29,SNR=14						
SORM	**Soroca**	**3.45**	**260**	⇑*i*P	**Pn**	**04 01 32.2**	**+0.4**
SORM	**Soroca**	**3.45**	**260**	S	**Sn**	**04 02 17.8**	**+5.1**
KIS	**Kishinev**	**3.60**	**241**	*e*P	**Pb**	**04 01 41.0**	**-0.8**
MILM	**Milestii Mici**	**3.64**	**240**	⇑*i*P	**Pn**	**04 01 32.3**	**-2.2**
MILM	**Milestii Mici**	**3.64**	**240**	S	**Sn**	**04 02 23.3**	**+5.8**
IAS	**Iasi**	**4.26**	**250**	*i*P	Pn	04 01 37.8	-5.2
IAS	**Iasi**	**4.26**	**250**	S	**Sn**	**04 02 35.5**	**+2.7**
VRI	**Vrincioaia**	**5.43**	**240**	⇑*i*P	Pn	04 01 54.3	-4.8
PLOR	**Plostina**	**5.48**	**240**	⇑*i*P	Pn	04 01 55.3	-4.5
PLOR	**Plostina**	**5.48**	**240**	S	**Sn**	**04 03 01.5**	**-1.5**
BURAR	**Bucovina Array**	**5.62**	**261**	⇑*i*P	Pn	04 01 54.9	-6.9
BURAR	**Bucovina Array**	**5.62**	**261**	S	**Sn**	**04 02 59.0**	**-7.5**
MLR	**Muntele Rosu**	**6.09**	**240**	Pn	**Pn**	**04 02 07.3**	**-1.0**
	0.1nm,0.3s,baz=252,slow=18,SNR=4.0						
MLR				Sn	**Sn**	**04 03 19.6**	**+1.5**
	0.2nm,0.3s,baz=169,slow=17,SNR=3.1						
MLR				Lg	Lg	04 03 51.0	
	0.1nm,0.3s,baz=320,slow=12,SNR=4.2						
KBZ	**Khabaz**	**8.30**	**124**	Pn	**Pn**	**04 02 37.9**	**-0.5**
	0.1nm,0.3s,baz=290,slow=15,SNR=2.9						
KBZ				Lg	Lg	04 04 48.9	
	0.1nm,0.3s,baz=122,slow=14,SNR=5.5						
BRTR	**Keskin Array B**	**9.09**	**179**	Pn	**Pn**	**04 02 50.0**	**+0.5**
	0.1nm,0.3s,baz=358,slow=14,SNR=4.1						
VRAC	**Vranov**	**11.06**	**279**	LR	LR	04 07 30.7	
	comp=Z,24nm,18.4s,baz=59,slow=38						
FINES	**FINESS Array B**	**13.32**	**345**	Pn	Pn	04 03 43.6	-3.4
	0.2nm,0.3s,baz=154,slow=17,SNR=4.3						
FINES				Sn	**Sn**	**04 06 13.4**	**-1.7**
	0.1nm,0.3s,baz=164,slow=26,SNR=4.2						
HFS	**Hagfors**	**16.05**	**322**	Pn	Pn	04 04 17.1	-6.5
	0.1nm,0.3s,baz=153,slow=13,SNR=3.2						
NOA	**NORSAR Array B**	**17.57**	**322**	LR	LR	04 11 52.9	
	comp=Z,26nm,18.5s,baz=345,slow=38						
ARCES	**ARCESS Array B**	**21.14**	**352**	P	**P**	**04 05 22.9**	**+0.1**
	1.7nm,0.6s,baz=172,slow=8.0,SNR=8.1						
BVAR	**Borovoye Array**	**23.50**	**66**	P	**P**	**04 05 48.2**	**+0.4**
	0.1nm,0.3s,baz=273,slow=13,SNR=2.9						
SONM	**Songino Array**	**46.76**	**62**	LR	LR	04 29 34.3	
	comp=Z,89nm,20.0s,baz=120,slow=37						

*ISCJB **31** 04:16:53.7±0.2, 36.51°N±0.02°×71.28°E±0.02, h222km±2km, mb4.8/240,Error ellipse: s-maj=2.7km s-min=2.2km az=41.3*

*MOS **31** 04:16:53.9±0.9, 36.50°N×71.32E, h224km, mb4.9/64, Error ellipse: s-maj=4.6km s-min=3.0km az=115.9*

*BJI **31** 04:16:54.0, 36.62°N×71.20E, h221km, mb4.9/56, mB4.8/36*

*NEIC **31** 04:16:55.5±0.1, 36.50°N×71.29E, mb4.9/112, Error ellipse: s-maj=3.2km s-min=2.7km az=189.0*

NEIC Felt [II] at Kabul. Also felt at Dahanah-ye Ghori. Felt at Srinagar, India.

*IDC **31** 04:16:55.6±0.4, 36.48°N×71.28E, h230km±3km, mb4.6/44, mb1 4.6/50, mb1mx4.5/67, mbtmp5.1/50, Error ellipse: s-maj=6.9km s-min=6.0km az=179.0*

*NNC **31** 04:16:60.0±1.3, 36.98°N×71.27E, h226km±12km, mb4.4, mpv5.7, Error ellipse: s-maj=13.0km s-min=8.2km az=14.0*

ISC 31 04:16:55.2±0.2, 36.52N±0.03°×71.29E±0.03, h226km±2km, h226km: pP-P, n752, σ1.942/888, mb4.9/258, 66C-50D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.70**	**224**	*e*PN	**Pn**	**04 17 41.5**	**-1.6**
KBL	**Kabul**	**2.70**	**224**	*e*Pn	**Pn**	**04 17 41.5**	**-1.6**
CEP	**Cherat**	**2.74**	**169**	P	**Pn**	**04 17 43.1**	**-0.4**
CHCP	**Chirah Chowk**	**3.28**	**150**	P	**Pn**	**04 17 49.7**	**+0.2**
NIL	**Nilore**	**3.28**	**150**	*e*PN	**Pn**	**04 17 49.4**	**-0.1**
NIL	**Nilore**	**3.28**	**150**	*e*Pn	**Pn**	**04 17 49.4**	**-0.1**
NIL				*e*Sn	**S**	**04 18 27.1**	**-5.0**
THW	**Thamme Wali**	**3.73**	**174**	P	**Pn**	**04 17 54.2**	**-0.7**
SFK	**Sufi-Kurgan**	**3.90**	**26**	⇑P	**Pn**	**04 17 56.8**	**-0.1**
	762nm,0.3s						
SFK				⇓S	**S**	**04 18 42.4**	**-3.1**
	4μm,0.4s						
SFK	**Sufi-Kurgan**	**3.90**	**26**	*i* PN	**Pn**	**04 17 56.7**	**-0.1**
SFK				pmax	pmax		
	comp=Z,762nm,0.2s						
SARP	**Sargodha**	**4.73**	**166**	P	**Pn**	**04 18 05.8**	**-1.1**
KSH	**Kashi**	**4.75**	**50**	P	Pn	04 18 02.3	-4.9
KSH				S	S	04 18 52.5	-12
KSH				pmax	pmax		
	comp=Z,2μm,0.5s						
KSH				smax	smax		
	comp=Z,6μm,0.7s						
KSH				smax	smax		
	comp=Z,5μm,0.7s						
TAS	**Tashkent**	**5.05**	**343**	⇑P	**Pn**	**04 18 10.1**	**-0.7**
	comp=Z,437nm,0.2s						
TAS				⇓S	**S**	**04 19 05.4**	**-5.4**
	comp=Z,16μm,0.6s						
TAS	**Tashkent**	**5.05**	**343**	PN	**Pn**	**04 18 10.2**	**-0.6**
TAS				pmax	pmax		
	comp=Z,869nm,0.4s						
AML	**Almayashu**	**5.91**	**18**	P	**Pn**	**04 18 21.3**	**-0.7**
	SNR=4709						
DHRM	**DHARAMSHALA**	**5.94**	**134**	*e*P	**Pn**	**04 18 21.7**	**-0.6**
DHRM				*e*S	**S**	**04 19 27.4**	**-4.0**
MNAS	**Manas**	**6.03**	**9**	⇑P	**Pn**	**04 18 23.0**	**-0.3**
MNAS	comp=Z,253nm,0.4s						
MNAS				⇓S	**S**	**04 19 29.6**	**-3.8**
	comp=Z,3μm,0.9s						
MNAS	**Manas**	**6.03**	**9**	*i* PN	**Pn**	**04 18 22.6**	**-0.7**
MNAS				pmax	pmax		
	comp=Z,567nm,0.7s						
NRN	**Naryn**	**6.12**	**35**	PN	**Pn**	**04 18 23.0**	**-1.6**
UCH	**Uchtor**	**6.22**	**23**	P	**Pn**	**04 18 25.5**	**-0.5**
	SNR=1189						
KZA	**Kyzart**	**6.34**	**28**	P	**Pn**	**04 18 26.6**	**-0.9**
	SNR=704						
EKS2	**Erkin-Say**	**6.43**	**17**	P	**Pn**	**04 18 28.0**	**-0.3**
	SNR=513						
AAK	**Ala-Archa**	**6.59**	**21**	⇓P	**Pn**	**04 18 30.4**	**-0.1**
AAK	comp=Z,468nm,0.4s						
	comp=Z,895nm,0.8s			⇑S	**S**	**04 19 42.6**	**-3.8**
AAK	**Ala-Archa**	**6.59**	**21**	*i* PN	**Pn**	**04 18 30.3**	**-0.1**
AAK				pmax	pmax		
	comp=Z,468nm,0.4s						
AAK	**Ala-Archa**	**6.59**	**21**	P	**Pn**	**04 18 30.1**	**-0.3**
	SNR=1295						
AAK	**Ala-Archa**	**6.59**	**21**	*e*Pn	**Pn**	**04 18 30.1**	**-0.3**
AAK	comp=Z,862nm,0.4s						
				*e*S	**S**	**04 19 42.5**	**-3.8**
KK31	**Karatay Array**	**6.60**	**355**	⇑P	**Pn**	**04 18 29.7**	**-0.7**
KK31	comp=Z,61nm,0.3s,baz=171,slow=12,SNR=4186						
				⇑S	**S**	**04 19 40.5**	**-5.9**
	comp=Z,801nm,0.5s,baz=174,slow=13,SNR=6.4						
KK31	**Karatay Array**	**6.60**	**355**	*i* PN	**Pn**	**04 18 29.3**	**-1.1**
KK31				pmax	pmax		
	comp=Z,89nm,0.3s						
KKAR	**Karatay Array**	**6.60**	**355**	*e*PN	**Pn**	**04 18 29.4**	**-1.0**
KKAR	**Karatay Array**	**6.60**	**355**	*e*Pn	**Pn**	**04 18 29.4**	**-1.0**
KKAR				*e*S	**S**	**04 19 40.3**	**-6.1**
KBK	**Karagaybulak**	**6.75**	**24**	P	**Pn**	**04 18 32.5**	**+0.1**
	SNR=865						
FRU1	**Bishkek**	**6.79**	**21**	PN	**Pn**	**04 18 33.3**	**+0.5**
FRU1				pmax	pmax		
	comp=Z,682nm,1.6s						
FRU	**Bishkek**	**6.81**	**21**	⇑*e*PN	**Pn**	**04 18 33.0**	**0.0**
FRU				*i* S	**S**	**04 19 48.0**	**-3.1**
FRU				pmax	pmax		
	comp=Z,450nm,1.6s						
FRU				smax	smax		
	comp=E,4μm,3.2s						
FRU				smax	smax		
	comp=E,2μm,1.8s						
ULHL	**Ulahol**	**6.88**	**32**	P	**Pn**	**04 18 33.5**	**-0.7**
	SNR=387						
CHMS	**Chumysh**	**7.00**	**21**	P	**Pn**	**04 18 35.1**	**-0.4**
	SNR=211						
USP	**Ospenovka**	**7.17**	**19**	P	**Pn**	**04 18 36.8**	**-1.0**
	SNR=138						
TKM2	**Tokmak 2**	**7.20**	**26**	⇓P	**Pn**	**04 18 38.1**	**-0.2**
	comp=E,426nm,0.5s						
TKM2	**Tokmak 2**	**7.20**	**26**	*i* PN	**Pn**	**04 18 38.0**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,426nm,0.4s						
TKM2	**Tokmak 2**	**7.20**	**26**	P	**Pn**	**04 18 38.1**	**-0.2**
	SNR=949						
KDJ	**Kajisay**	**7.22**	**37**	PN	**Pn**	**04 18 37.9**	**-0.6**
KDJ				pmax	pmax		
	comp=Z,132nm,1.0s						
SMLA	**Simla**	**7.26**	**136**	*e*P	**Pn**	**04 18 38.8**	**-0.2**
SMLA				*e*S	**S**	**04 19 58.4**	**-3.5**
AAA	**Alma-Ata**	**7.96**	**31**	*e*PN	**Pn**	**04 18 48.3**	**+0.5**
AAA				pmax	pmax		
	comp=Z,343nm,0.7s						
MDOK	**Medeo**	**7.97**	**32**	⇑P	**Pn**	**04 18 47.9**	**-0.3**
	comp=Z,304nm,0.6s						
KNDC	**Almaty**	**7.98**	**31**	⇑P	**Pn**	**04 18 48.7**	**+0.5**
KNDC	comp=Z,456nm,0.6s						
				⇑S	**S**	**04 20 13.0**	**-5.7**
	comp=Z,192nm,0.7s						
PRZ	**Przheval'sk**	**8.10**	**41**	PN	**Pn**	**04 18 50.2**	**+0.4**
PRZ				pmax	pmax		
	comp=Z,210nm,1.3s						
DDI	**Dehra Dun**	**8.37**	**136**	*e*P	**Pn**	**04 18 52.8**	**-0.4**
DDI				*ex*	**S**	**04 20 24.5**	**-3.6**
DDI				IAML		04 20 27.1	
	comp=N,1μm,0.2s						
DDI				IAML		04 20 28.5	
	comp=E,2μm,0.1s						
PDGK	**Podgornoye**	**9.26**	**40**	⇑P	**Pn**	**04 19 03.4**	**-1.3**
	comp=E,73nm,0.7s						
PDGK	**Podgornoye**	**9.26**	**40**	*i* P	**Pn**	**04 19 03.3**	**-1.3**
PDGK				pmax	pmax		
	comp=Z,73nm,0.6s						
GEYT	**Alibeck**	**10.60**	**282**	P	**Pn**	**04 19 18.5**	**-3.2**
	comp=Z,17nm,0.3s,baz=117,slow=10,SNR=57						
OTUK	**Ortayu**	**11.74**	**3**	⇓P	**Pn**	**04 19 34.7**	**-1.2**
	comp=Z,21nm,0.6s						
OTUK	**Ortayu**	**11.74**	**3**	P	**Pn**	**04 19 34.5**	**-1.5**
OTUK				pmax	pmax		
	comp=Z,34nm,0.7s						
PYUN	**Piuthan**	**12.96**	**127**	*e*P	**Pn**	**04 19 49.8**	**-1.8**
	comp=Z,663nm,0.4s						
MAKZ	**Makanchi**	**13.00**	**34**	*e*P	**Pn**	**04 19 51.0**	**-0.7**
MAKZ	**Makanchi**	**13.00**	**34**	*e*Pn	**Pn**	**04 19 51.0**	**-0.7**
MK01	**Makanchi Array**	**13.12**	**35**	*e*Pn	**Pn**	**04 19 51.7**	**-1.5**
MK31	**Makanchi Array**	**13.14**	**35**	⇓P	**Pn**	**04 19 53.6**	**+0.3**
	comp=Z,15nm,0.3s,baz=211,slow=11,SNR=704						
MK31	**Makanchi Array**	**13.14**	**35**	*e*P	**Pn**	**04 19 52.7**	**-0.7**
MK31	**Makanchi Array**	**13.14**	**35**	*e*Pn	**Pn**	**04 19 52.7**	**-0.7**
MKAR	**Makanchi Array**	**13.14**	**35**	P	**Pn**	**04 19 52.7**	**-0.7**
	comp=Z,3.8nm,0.3s,baz=216,slow=13,SNR=121						
BHJ	**Bhuj**	**13.30**	**187**	*e*P	**Pn**	**04 19 56.3**	**+0.8**
BHJ				*ex*	x	04 22 14.9	
BHJ				IAML		04 22 42.2	
	comp=N,83nm,0.5s						
BHJ				IAML		04 22 42.6	
	comp=E,65nm,0.1s						
DANN	**Dangsing**	**13.30**	**124**	*e*P	**Pn**	**04 19 55.2**	**-0.7**
KOLN	**Koldanda**	**13.58**	**126**	*e*P	**Pn**	**04 19 58.6**	**-0.7**
	comp=E,227nm,0.4s						
GKN	**Gorkha**	**14.12**	**123**	*e*P	**Pn**	**04 20 04.8**	**-0.9**
BHPL	**Bhopal**	**14.26**	**156**	*e*P	**Pn**	**04 20 05.7**	**-1.6**
BHPL				*ex*	x	04 22 37.8	
WMQ	**Urumqi**	**14.49**	**55**	P	**P**	**04 20 10.8**	**+0.1**
WMQ				sP	Pn	04 21 07.3	+57
WMQ				pmax	pmax		
	comp=E,110nm,0.7s						
WMQ				pmax	pmax		
	comp=E,300nm,3.7s						
DMN	**Daman**	**14.69**	**123**	*e*P	**Pn**	**04 20 12.1**	**-0.7**
	comp=E,258nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKN	**Kakani**	**14.69**	**122**	*e*P	**Pn**	**04 20 11.9**	**-0.9**
	comp=E,660nm,0.6s						
PKIN	**Phulchoki**	**14.90**	**123**	*e*P	**Pn**	**04 20 14.6**	**-0.8**
	comp=E,161nm,0.4s						
PKI	**Pulchoki**	**14.91**	**123**	*e*P	**Pn**	**04 20 14.8**	**-0.8**
GUN	**Gumba**	**15.02**	**121**	*e*P	**Pn**	**04 20 16.9**	**-0.1**
KURBB	**Kurchatov Arra**	**15.03**	**18**	P	**Pn**	**04 20 15.5**	**-0.9**
	comp=E,1.9nm,0.3s,baz=208,slow=11,SNR=44						
KURBB				PKiKP	**PKiKP**	**04 33 01.1**	**-1.7**
	comp=E,0.1nm,0.3s,baz=242,slow=0.6,SNR=6.4						
KURK	**Kurchatov**	**15.14**	**18**	*ce*P	**P**	**04 20 16.6**	**-1.1**
KURK				pmax	pmax		
	comp=Z,63nm,0.8s						
KURK	**Kurchatov**	**15.14**	**18**	*e*Pn	**P**	**04 20 17.0**	**-0.7**
	comp=Z,29nm,1.0s						
KURK				PKiKP	**PKiKP**	**04 33 01.1**	**-1.8**
AB31	**Akbulak array**	**15.18**	**331**	⇑P	**P**	**04 20 17.2**	**-1.0**
	comp=Z,42nm,0.4s,baz=142,slow=12,SNR=1185						
AB31	**Akbulak array**	**15.18**	**331**	P	**P**	**04 20 17.2**	**-1.0**
AB31				pmax	pmax		
	comp=Z,42nm,0.4s						
ABKAR	**Akbulak array**	**15.18**	**331**	*e*Pn	**P**	**04 20 16.4**	**-1.8**
	comp=Z,1μm,0.4s						
ABKAR				*e*S	**S**	**04 23 00.8**	**-5.0**
JIRN	**Jiri**	**15.39**	**121**	*e*P	**P**	**04 20 21.2**	**0.0**
RAMN	**Ramite**	**16.12**	**122**	*e*P	**P**	**04 20 29.3**	**+0.2**
BVA0	**Borovoye Array**	**16.52**	**358**	⇑P	**P**	**04 20 33.3**	**+0.4**
	comp=E,7.4nm,0.3s,baz=161,slow=9.5,SNR=154						
BVA0	**Borovoye Array**	**16.52**	**358**	P	**P**	**04 20 33.3**	**+0.4**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BVAR	**Borovoye Array**	**16.52**	**358**	P	**P**	**04 20 33.2**	**+0.4**
	comp=Z,8.1nm,0.3s,baz=159,slow=12,SNR=64						
BRVK	**Borovoye**	**16.55**	**358**	*ce*P	**P**	**04 20 33.8**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,92nm,1.0s						
BRVK	**Borovoye**	**16.55**	**358**	*e*P	**Pn**	**04 20 34.0**	**-0.6**
	comp=Z,33nm,0.7s						
BRVK				*e*S	**S**	**04 23 32.2**	**-2.4**
BANOM	**Banah**	**16.59**	**235**	P	**P**	**04 20 33.8**	**-0.2**
	SNR=16						
BANOM	**Banah**	**16.59**	**235**	*i* P	**P**	**04 20 33.5**	**-0.5**
	SNR=16						
SHME	**Shamm**	**16.61**	**235**	*i* P	**P**	**04 20 34.2**	**-0.1**
	SNR=11						
TAPN	**Taplejung**	**16.65**	**119**	*e*P	**Pn**	**04 20 36.8**	**+0.5**
	comp=Z,726nm,0.6s						
ODAN	**Odare**	**16.73**	**121**	*e*P	**Pn**	**04 20 37.9**	**+0.7**
NGP	**Nagpur**	**16.74**	**154**	*e*P	**P**	**04 20 36.2**	**+0.6**
NGP				*ex*	x	04 20 42.6	
	comp=Z,83nm,0.9s						
NGP				*ex*	x	04 23 37.2	
AKTO	**Aktyubinsk**	**16.88**	**330**	P	**P**	**04 20 37.6**	**+0.7**
	comp=Z,24nm,0.3s,baz=137,slow=10,SNR=296						
AKTO	**Aktyubinsk**	**16.88**	**330**	⇑P	**P**	**04 20 37.6**	**+0.7**
	comp=Z,50nm,0.5s						
MDH	**Madha**	**17.03**	**233**	*i* P	**P**	**04 20 39.2**	**+0.5**
	SNR=8.8						
MSFE	**Esma-Masafi**	**17.07**	**234**	*i* P	**P**	**04 20 40.1**	**+0.9**
	SNR=16						
WSAR	**Wadi Sarin**	**17.17**	**223**	P	**Pn**	**04 20 40.5**	**+0.2**
	comp=Z,11nm,0.3s,baz=66,slow=8.4,SNR=59						
BIDO	**Bidbid**	**17.23**	**225**	P	**Pn**	**04 20 42.5**	**-0.4**
	SNR=5.7						
GTK	**Tadong**	**17.30**	**117**	*e*P	**P**	**04 20 42.5**	**+0.7**
GTK				IAmb	IAmb	04 20 48.4	
	comp=Z,16μm,0.1s						
UOSS	**Minazif**	**17.34**	**232**	*e*P	**P**	**04 20 40.5**	**-1.6**
	comp=Z,98nm,0.8s						
UOSS	**Minazif**	**17.34**	**232**	P	**P**	**04 20 40.8**	**-1.3**
UOSS	**Minazif**	**17.34**	**232**	*i* P	**P**	**04 20 42.0**	**-0.1**
	SNR=21						
HATD	**Hatta, Dubai**	**17.47**	**232**	P	**P**	**04 20 44.0**	**+0.4**
	SNR=6.5						
HATD	**Hatta, Dubai**	**17.47**	**232**	*i* P	**P**	**04 20 43.5**	**0.0**
	SNR=28						
WBK	**Wadi Bani Khal**	**17.50**	**221**	P	**Pn**	**04 20 45.6**	**-0.5**
	SNR=9.1						
BOM	**Bombay**	**17.61**	**175**	*ex*	**Pn**	**04 20 51.1**	**+3.8**
BOM				*ex*	x	04 24 40.6	
ASHO	**Ashiyiah**	**17.61**	**232**	P	**P**	**04 20 45.6**	**+0.5**
	SNR=17						
ASHO	**Ashiyiah**	**17.61**	**232**	*i* P	**P**	**04 20 45.3**	**+0.1**
	SNR=43						
DGZ	**Jazzator, Alta**	**17.62**	**37**	*c i*P	**Pn**	**04 20 46.6**	**-0.8**
DGZ				pmax	pmax		
	comp=Z,61nm,1.1s						
SMDO	**Samad**	**17.64**	**224**	P	**Pn**

GNI Garni 21.11 288 P **P** 04 21 23.9 +1.2
SNR=13
GNI Garni 21.11 288 *i* P **P** 04 21 24.4 +1.8
SNR=23
ITAN ITANAGAR 21.18 110 *e*P **P** 04 21 24.0 +0.7
TBLG Delisi 21.21 292 *e*P **P** 04 21 25.8 +2.4
TBLG pmax pmax
comp=Z,72nm,0.8s
TBLG Delisi 21.21 292 *e*P **P** 04 21 25.8 +2.4
comp=Z,72nm,0.8s
DUS Dusheti 21.27 293 P **P** 04 21 26.9 +2.7
GUDG Gudauri 21.48 294 P **P** 04 21 28.8 +2.4
VIS Vishakhapatnam 21.54 147 *i* P **P** 04 21 27.3 +0.5
VIS IAmb IAmb 04 21 28.7
VIS *i* x x 04 25 10.7
SVE Sverdlovsk 21.54 344 *e*P **P** 04 21 27.3 +0.8
SVE *e*S **S** 04 25 13.4 +3.9
SVE pmax pmax
comp=Z,48nm,0.6s
HVS Khovu-Aksy 21.67 41⇑ *i*P **P** 04 21 29.6 +1.7
HVS pmax pmax
comp=Z,45nm,0.7s
ARU Arti 21.69 341 P **P** 04 21 28.4 +0.4
comp=Z,40nm,0.4s,baz=134,slow=5.3,SNR=71
ARU Arti 21.69 341 *c i*P **P** 04 21 28.3 +0.4
ARU S **S** 04 25 14.3 +2.4
ARU pmax pmax
comp=Z,50nm,0.6s
ARU Arti 21.69 341 *e*P **P** 04 21 28.4 +0.4
comp=Z,56nm,0.7s
JORH JORHAT 21.80 110 *e*P **P** 04 21 30.0 +0.8
MOKO MOKOCHONG 22.22 111 *e*P **P** 04 21 33.7 +0.2
KOHI KOHIMA 22.25 113 *e*P **P** 04 21 36.0 +2.4
ONI Oni 22.25 294 P **P** 04 21 36.0 +2.6
NCK Nalchik 22.27 297⇓ *e*P **P** 04 21 33.8 +0.3
NCK pmax pmax
comp=Z,97nm,0.5s
GTA Gaotai 22.63 74 ⇓P **P** 04 21 39.8 +2.8
GTA pP pP 04 22 20.5 +4.1
GTA sP sP 04 22 48.5 +3.6
GTA S **S** **04 25 32.5 +4.8**
GTA SS SS 04 26 41.3 -30
GTA pmax pmax
comp=Z,120nm,0.7s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=Z,210nm,14.7s
GTA LR LR
comp=Z,250nm,17.1s
GTA LR LR
comp=Z,130nm,11.9s
IMP Imphal 22.64 115 *e*P **P** 04 21 37.6 +0.5
IMP IAmb IAmb 04 21 41.4
comp=Z,3µm,0.1s
LKP Lekhapani 22.71 107 *e*P **P** 04 21 38.2 +0.6
KBZ Khabaz 22.80 297 P **P** 04 21 38.8 +0.4
comp=Z,35nm,0.8s,baz=113,slow=8.8,SNR=70
NEY Neytrino 22.86 296 *d i*P **P** 04 21 41.4 +2.3
NEY pmax pmax
comp=Z,16nm,0.7s
GOF Gofitskoye 22.94 301 ⇓ *i*P **P** 04 21 41.3 +1.8
GOF pmax pmax
comp=Z,323nm,1.0s
KIV Kislovodsk 22.99 298 *e*P **P** 04 21 40.8 +0.7
KIV *e**PP **pP** 04 22 19.6 -0.5
KIV *e**SP **sP** 04 22 48.0 -0.7
KIV *e*S **S** 04 25 35.1 +1.8
KIV pmax pmax
comp=Z,75nm,1.0s
KIV MLR MLR
comp=Z,96nm,15.0s
KIV Kislovodsk 22.99 298 *e*P **P** 04 21 40.7 +0.5
comp=Z,93nm,0.7s
KIV Kislovodsk 22.99 298 P **P** 04 21 40.5 +0.4
SNR=10
KIV Kislovodsk 22.99 298 *i* P **P** 04 21 40.5 +0.4
SNR=15
SHAO Shalim 23.04 221 P **P** 04 21 42.1 +1.5
SHAO Shalim 23.04 221 *i* P **P** 04 21 42.2 +1.5
SNR=11
SAIH SAIHA 23.42 121 *e*P **P** 04 21 44.9 +0.6
SAIH IAmb IAmb 04 21 48.7
comp=Z,104nm,0.8s
WHFO Wadi Hawf 24.14 225 P **P** 04 21 51.3 +0.5
SNR=13
RBK Rabkut 24.23 223 P **P** 04 21 52.0 +0.4
SNR=5.8
BINT Bingol 24.43 285 P **P** 04 21 54.9 +1.5
ABTO Aybut 24.86 225 P **P** 04 21 58.1 +0.8
SNR=6.1
SOKR Solikamsk 24.93 342 *c*P **P** 04 21 56.6 -0.8
SOKR *e* 04 23 07.4
SOKR pmax pmax
comp=Z,64nm,1.1s
VRH Novokhopyorsk 25.66 314 *e*P **P** 04 22 04.5 +0.4
VRH pmax pmax
comp=Z,10.0nm,0.7s
RAYN Ar Rayn 25.72 247 *e*P **P** 04 22 04.6 -0.4
comp=Z,44nm,0.9s
RAYN *e*PcP **PcP** **04 25 28.7 -0.1**
LZH Lanzhou 26.17 81 ⇑P **P** **04 22 10.0 +0.9**
LZH pP pP 04 22 54.3 +0.5
LZH PP **PnPn** **04 23 02.8 +0.1**
LZH sP sP 04 23 19.8 -0.2
LZH *e*S **S** **04 26 22.0 -2.0**
LZH sS sS 04 27 40.3 -4.2
LZH pmax pmax
comp=Z,43nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.4s
ZAK Zakamensk 26.80 49 *e*P **P** 04 22 15.5 +1.1
ZAK pmax pmax
comp=Z,7.0nm,0.8s
ANN Anapa 26.83 299 *e*P **P** 04 22 14.5 -0.1
ANN *e**PP **pP** **04 22 58.4 -1.0**
ANN *e*S **S** **04 26 34.3 +0.5**
ANN *e**SS **sS** **04 27 52.9 -1.7**
ANN pmax pmax
comp=Z,97nm,1.1s
VSR Storozhevoye 27.16 313 *e*P **P** 04 22 17.3 -0.2
VSR pmax pmax
comp=Z,60nm,1.2s
VORR Voronezh 27.30 314 P **P** 04 22 19.0 +0.3
VORR pmax pmax
comp=Z,400nm,2.0s
VORR pmax pmax
comp=Z,300nm,1.4s
TLY Talaya 27.46 46 P **P** 04 22 21.7 +1.5
comp=Z,8.8nm,0.6s,baz=232,slow=9.7,SNR=20
TLY Talaya 27.46 46⇑ *e*P **P** 04 22 22.3 +2.2
TLY pmax pmax
comp=Z,8.0nm,0.7s
TLY Talaya 27.46 46 *e*P **P** 04 22 20.9 +0.8
comp=Z,9.1nm,0.8s
CD2 Chengdu 27.50 92 *e*P **P** 04 22 20.5 -0.3
CD2 pP pP 04 23 06.0 +0.3
CD2 sP sP 04 23 33.3 +1.4
CD2 S **S** **04 26 44.3 -0.4**
CD2 sS sS 04 28 07.5 +1.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,490nm,5.4s
CD2 LR LR
comp=Z,470nm,5.4s
CD2 LR LR
comp=Z,410nm,5.4s
LPSR Galich'ya Gora 27.80 316 *e*P **P** 04 22 22.7 -0.5
LPSR pmax pmax
comp=Z,30nm,0.7s
SONM Songino Array 28.13 55 P **P** 04 22 28.0 +1.7
comp=Z,7.5nm,0.7s,baz=260,slow=9.4,SNR=62
SONM pP **pP** 04 23 12.5 +1.2
comp=Z,11nm,0.8s,baz=255,slow=11,SNR=9.8
SONA1 Songino Array 28.14 55 *e*P **P** 04 22 27.8 +1.5
ULN Ulaanbaatar 28.57 55 *ce*P **P** 04 22 31.2 +1.0
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 28.57 55 *e*P **P** 04 22 31.7 +1.5
comp=Z,12nm,0.9s
KMI Kunming 29.17 104 P **P** 04 22 37.0 +1.1
KMI pmax pmax
comp=Z,17nm,0.8s
CMAI Chiengmai2 29.36 117 P **P** 04 22 38.0 +0.5
comp=Z,166nm,1.0s,comp=Z,37µm
MMAI Mount Meron Ar 29.58 274 P **P** 04 22 39.9 +0.6
comp=Z,6.9nm,0.6s,baz=69,slow=9.1,SNR=9.2
MMAI PcP **PcP** 04 25 37.7 -0.4
comp=Z,2.7nm,0.5s,baz=81,slow=5.2,SNR=4.0
BR131 Keskin Array S 29.65 288 *e*P **P** 04 22 40.4 +0.6
BR131 Keskin Array S 29.65 288 P **P** 04 22 40.5 +0.6
BRTR Keskin Array B 29.65 288 P **P** 04 22 40.3 +0.4
comp=Z,21nm,0.8s,baz=100,slow=8.3,SNR=95
MOS Moscow 29.79 321 *e*P **P** 04 22 40.0 -0.7
MOS *e**PP **pP** 04 23 24.5 -1.5
MOS pmax pmax
comp=Z,89nm,0.9s
CHTO Chiang Mai 30.02 119 P **P** 04 22 45.1 +2.0
comp=Z,81nm,0.7s
CHTO Chiang Mai 30.02 119 *e*P **P** 04 22 44.7 +1.6
CHTO pmax pmax
comp=Z,12nm,0.5s
CHTO Chiang Mai 30.02 119 *e*P **P** 04 22 44.7 +1.6
comp=Z,12nm,0.5s
CMMT Chiang Mai 30.02 119 P **P** 04 22 44.0 +0.8
comp=Z,19nm,0.7s
OBN Obninsk 30.08 319 P **P** 04 22 44.0 +0.9
comp=Z,78nm,0.5s,baz=78,slow=3.3,SNR=14
OBN Obninsk 30.08 319⇑ *i*P **P** 04 22 43.7 +0.5
OBN *e**PP **pP** 04 23 29.3 +0.8
OBN *e* 04 23 50.3
OBN *e*S **S** 04 27 28.9 +4.5
OBN pmax pmax
comp=Z,87nm,0.9s
OBN Obninsk 30.08 319 *e*P **P** 04 22 43.5 +0.3
comp=Z,102nm,1.0s
CMAR Chiang Mai Arr 30.26 119 P **P** 04 22 46.5 +1.2
comp=Z,17nm,0.8s,baz=302,slow=8.3,SNR=55
DGPR DIGLIPUR 30.28 135 *e*P **P** 04 22 45.7 +0.3
DGPR IAmb IAmb 04 22 48.7
comp=Z,37nm,0.6s
ANTO Ankara 30.29 288 *e*P **P** 04 22 46.6 +1.2
ANTO pmax pmax
comp=Z,34nm,1.1s
ANTO Ankara 30.29 288 *e*P **P** 04 22 46.6 +1.2
comp=Z,34nm,1.1s
CM01 Chiang Mai Arr 30.29 119 *e*P **P** 04 22 46.5 +1.0
PALK Pallekele 30.35 161 P **P** 04 22 46.4 +0.3
comp=Z,14nm,0.5s,baz=297,slow=6.8,SNR=13
PALK Pallekele 30.35 161 *e*P **P** 04 22 47.0 +0.9
PALK pmax pmax
comp=Z,14nm,0.6s
PALK Pallekele 30.35 161 *e*P **P** 04 22 47.0 +0.9
comp=Z,14nm,0.6s
PALK Pallekele 30.35 161 P **P** 04 22 47.4 +1.3
XAN Xi'an 30.69 83 P **P** 04 22 50.5 +1.6
XAN pP pP 04 23 35.8 +1.5
XAN sP sP 04 24 01.3 +0.9
XAN S **S** **04 27 34.5 -0.2**
XAN sS sS 04 28 54.0 -1.9
XAN SS **SS** **04 29 36.8 -14**
XAN pmax pmax
comp=Z,56nm,0.8s
XAN pmax pmax
comp=Z,160nm,6.2s
LAMP Lampang 30.70 118 P **P** 04 22 50.4 +1.3
comp=Z,8.9nm,0.9s,comp=Z,102nm
CSS Mathiatis 30.73 279 *e*P **P** 04 22 49.6 +0.4
comp=Z,4.1nm,0.8s
NANT Nan 31.29 116 P **P** 04 22 54.1 -0.1
comp=Z,16nm,0.7s,comp=Z,2µm
HHC Hu-ho-hao-te 31.53 70 *e*P **P** 04 22 57.8 +1.5
HHC pP pP 04 23 43.3 +1.5
HHC sP sP 04 24 08.8 +0.9
HHC PP **PP** **04 24 11.5 -0.8**
HHC S **S** **04 27 48.5 +0.7**
HHC sS sS 04 29 08.8 -0.4
HHC SS **SS** **04 29 56.5 -13**
HHC ScS **ScS** **04 33 02.5 -0.6**
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.6s
KLMR Klimovskoe 31.58 331 *e*P **P** 04 22 54.1 -2.2
KLMR *e**PP **pP** 04 23 41.0 -0.8
KLMR *e**SP **sP** 04 24 02.8 -5.1
KLMR pmax pmax
comp=Z,27nm,0.6s
KLMR Klimovskoe 31.58 331 *e*P **P** 04 22 54.1 -2.2
KLMR AMP 04 22 57.2
comp=Z,27nm,0.6s
KLMR *e*pP **pP** **04 23 41.0 -0.8**
KLMR *e*sP **sP** **04 24 02.8 -5.1**
GYA Guiyang 31.63 98⇓ *i*P **P** 04 22 59.0 +1.7
GYA pP pP 04 23 44.5 +1.6
GYA sP sP 04 24 10.0 +1.1
GYA PP **PP** **04 24 13.5 -0.1**
GYA PcP **PcP** **04 25 45.3 +1.6**
GYA S **S** **04 27 50.5 +0.9**
GYA sS sS 04 29 10.0 -1.0
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
ENH Enshi 32.34 90 *e*P **P** 04 23 04.8 +1.4
comp=Z,69nm,1.0s
KIS Kishinev 33.00 302 *e*P **P** 04 23 09.0 +0.2
KIS Kishinev 33.00 302 *e*P **P** 04 23 09.0 +0.2
KIS *e* 04 24 19.0
AKASG Malin Array Be 33.12 309 P **P** 04 23 09.5 -0.3
comp=Z,12nm,0.3s,baz=84,slow=7.1,SNR=32
AKASG PP **sP** 04 24 22.8 +1.2
comp=Z,7.2nm,0.7s,baz=95,slow=12,SNR=5.0
AKBB Malin Array Si 33.12 309 *e*P **P** 04 23 09.8 0.0
AKBB pmax pmax
comp=Z,55nm,1.1s
AKBB Malin Array Si 33.12 309 *e*P **P** 04 23 09.8 0.0
comp=Z,54nm,1.1s
KIEV Kiev 33.13 309 ⇓ *i*P **P** 04 23 09.5 -0.4
KIEV pmax pmax
comp=Z,53nm,1.1s
KIEV Kiev 33.13 309 *e*P **P** 04 23 09.1 -0.8
comp=Z,44nm,1.0s
KIEV Kiev 33.13 309 *i* P **P** 04 23 09.8 0.0
SNR=29
AK11 Malin Array Si 33.15 309 *e*P **P** 04 23 09.7 -0.4
SRDT SRDT 33.24 124 P **P** 04 23 12.2 +1.0
comp=Z,42nm,0.9s
LEOM Leova 33.38 301 ⇑P **P** 04 23 13.1 +1.1
LEOM Leova 33.38 301 ⇑ *i*P **P** 04 23 13.1 +1.1
SORM Soroca 33.39 304 ⇓P **P** 04 23 12.2 0.0
SORM Soroca 33.39 304 ⇓ *i*P **P** 04 23 12.2 0.0
CFR Carcaliu 33.44 299 ⇓P **P** 04 23 13.3 +0.7
CFR Carcaliu 33.44 299 ⇓ *i*P **P** 04 23 13.3 +0.7
CHAI Chaiyaphum 34.12 119 P **P** 04 23 20.6 +1.8
comp=Z,14nm,0.8s
TMCR Tamitsa 34.13 335 *e*P **P** 04 23 19.2 +0.9
TMCR pmax pmax
comp=Z,37nm,0.5s
VRI Vrincioaia 34.42 300 ⇓P **P** 04 23 22.7 +1.6
VRI Vrincioaia 34.42 300 ⇓ *i*P **P** 04 23 22.7 +1.6
PLOR Plostina 34.48 300 ⇓P **P** 04 23 23.4 +1.8
PLOR Plostina 34.48 300 ⇓ *i*P **P** 04 23 23.4 +1.8
TESR Tescani 34.48 301 ⇓ *i*P **P** 04 23 22.3 +0.7
HORU Horodok 34.74 306 P **P** 04 23 23.8 0.0
NAYO Nakonayok 34.75 122 P **P** 04 23 26.1 +1.9
comp=Z,26nm,0.9s,comp=Z,906nm
PRAR RASCA 34.78 302 ⇓ *i*P **P** 04 23 25.2 +1.0
SKNT Sokolnakorn 34.84 115 P **P** 04 23 25.1 +0.1
comp=Z,31nm,0.8s,comp=Z,2µm
MLR Muntele Rosu 34.98 299 P **P** 04 23 27.4 +1.4
comp=Z,23nm,0.8s,baz=44,slow=0.7,SNR=106
MLR Muntele Rosu 34.98 299 ⇑P **P** 04 23 27.8 +1.8
MLR Muntele Rosu 34.98 299 ⇑ *i*P **P** 04 23 27.8 +1.8
MLR Muntele Rosu 34.98 299 *e*P **P** 04 23 27.3 +1.3
comp=Z,115nm,0.9s
PUL Pulkovo 35.03 325 *ce*P **P** 04 23 27.9 +1.8
PUL pmax pmax
comp=Z,77nm,0.9s
DOPR Dopca 35.36 300 ⇑ *i*P **P** 04 23 30.5 +1.4
NACGM Naroch 35.37 316 *e* **P** 04 23 28.0 -1.0
SRAK Srakaew 35.46 121 P P 04 23 36.0 +5.8
comp=Z,89nm,0.7s,comp=Z,1µm
KARP Karpathos 35.47 282 *e*P **P** 04 23 30.6 +0.4
comp=Z,87nm,0.8s
BURAR Bucovina Array 35.47 303 ⇑P **P** 04 23 31.2 +1.0
BURAR Bucovina Array 35.47 303 ⇑ *i*P **P** 04 23 31.2 +1.0
BUR04 Bucovina Ar. S 35.48 303 *e*P **P** **04 23 30.7 +0.5**
IDID Didziasalis 35.48 316 *e*P **P** **04 23 30.6 +0.6**
IDID IAmb IAmb 04 23 32.1
comp=Z,11nm,0.6s
BUR08 Bucovina Ar. S 35.48 303 *e*P **P** **04 23 30.9 +0.6**
MTUR Matau 35.61 299 ⇓P **P** **04 23 32.5 +1.2**
MTUR Matau 35.61 299 ⇓ *i*P **P** **04 23 32.5 +1.2**
VOIR 35.61 299 ⇓P **P** **04 23 32.1 +0.8**
VOIR 35.61 299 ⇓ *i*P **P** **04 23 32.1 +0.8**
ATD Arta Tunnel 35.72 233 P **P** **04 23 33.9 +1.3**
comp=Z,35nm,0.9s,baz=7.6,slow=7.6,SNR=16
IIGN Ignalina 35.78 316 *e*P **P** **04 23 33.2 +0.7**
IIGN IAmb IAmb 04 23 35.2
comp=Z,33nm,0.5s
IZAR Zarasai 35.85 317 *e*P **P** **04 23 33.8 +0.6**
IZAR IAmb IAmb 04 23 35.4
comp=Z,16nm,0.6s
ISAL Salakas 35.88 317 *e*P **P** **04 23 34.0 +0.7**
ISAL IAmb IAmb 04 23 35.0
comp=Z,9.7nm,0.7s
ARR Arges 35.91 299⇑ *i*P **P** **04 23 34.9 +1.1**
ARCR ARCALIA 36.06 302 ⇓ *i*P **P** **04 23 37.0 +2.0**
WHN Wuhan 36.16 87 ⇓P **P** **04 23 38.3 +2.3**
VSU Vasula 36.32 321 *ce*P **P** **04 23 37.1 +0.1**
VSU pmax pmax
comp=Z,164nm,0.8s
LVV L'vov 36.34 307 *e*P **P** **04 23 38.5 +1.2**
APE Apeiranthos 36.38 285 ⇑P **P** **04 23 38.2 +0.3**
APE Apeiranthos 36.38 285 ⇑ *i*P **P** **04 23 38.2 +0.3**
CJR Cluj-Napoca 36.58 301 ⇑P **P** **04 23 41.3 +1.8**
CJR Cluj-Napoca 36.58 301 ⇑ *i*P **P** **04 23 41.3 +1.8**
BMR Baia Mare 36.64 303 ⇑P **P** **04 23 40.9 +1.0**
BMR Baia Mare 36.64 303 ⇑ *i*P **P** **04 23 40.9 +1.0**
DEV Deva 37.09 300 ⇓P **P** **04 23 45.6 +1.9**
DEV Deva 37.09 300 ⇓ *i*P **P** **04 23 45.6 +1.9**
VTS Vitosha 37.16 295 ⇓P **P** **04 23 44.9 +0.3**
VTS Vitosha 37.16 295 ⇓ *i*P **P** **04 23 44.9 +0.3**
VTS Vitosha 37.16 295 *e*P **P** **04 23 44.8 +0.2**
comp=Z,8.2nm,0.6s
DRGR 37.19 302 ⇑P **P** **04 23 46.1 +1.5**
DRGR 37.19 302 ⇑ *i*P **P** **04 23 46.1 +1.5**
KWP Kalwaria Pacla 37.19 306 *e*P **P** **04 23 46.2 +1.7**
KWP Kalwaria Pacla 37.19 306 *e*P **P** **04 23 46.1 +1.6**
KWP pmax pmax
comp=Z,563nm,0.8s
KWP Kalwaria Pacla 37.19 306 *e*P **P** **04 23 46.1 +1.6**
comp=Z,563nm,0.8s
SUW Suwalki 37.27 313 *e*P **P** **04 23 45.9 +0.8**
SUW Suwalki 37.27 313 *e*P **P** **04 23 45.9 +0.8**
SUW Suwalki 37.27 313 *e*P **P** **04 23 44.4 -0.7**
comp=Z,87nm,1.1s
TRPA Tarpa 37.28 304⇓ *e*P **P** **04 23 46.9 +1.6**
IDI Anoyia 37.33 282 P **P** **04 23 45.6 -0.3**
comp=Z,17nm,0.3s,baz=37,slow=5.9,SNR=46
IDI Anoyia 37.33 282 ⇑ *i*P **P** **04 23 45.0 -0.9**
IDI Anoyia 37.33 282 *e*P **P** **04 23 45.2 -0.7**
comp=Z,28nm,0.6s
UZH Uzhgorod 37.44 305 *e*P **P** **04 23 47.0 +0.4**
UZH *e* 04 24 57.6
LVZ Lovozero 37.53 338 *ce*P **P** **04 23 47.5 +0.4**
LVZ pmax pmax
comp=Z,33nm,0.6s
LVZ Lovozero 37.53 338 *e*P **P** **04 23 47.0 -0.1**
comp=Z,39nm,0.7s
FIA1 FINESS Array S 37.60 326 *e*P **P** **04 23 48.3 +0.6**
comp=Z,60nm,0.8s
FINES FINESS Array B 37.60 326 P **P** **04 23 48.0 +0.3**
comp=Z,34nm,0.5s,baz=122,slow=9.8,SNR=465
FINES pP **pP** **04 24 34.4 +0.1**
comp=Z,7.4nm,0.6s,baz=110,slow=10,SNR=1.6
APA Apatity 37.71 337 ⇓ *i*P **P** **04 23 49.0 +0.4**
APA *i* S **S** **04 29 20.0 -1.3**
APA pmax pmax
comp=Z,8.0nm,0.5s
SIRR Siria 37.94 301 ⇑ *i*P **P** **04 23 52.7 +1.9**
CRVS Cervenica-Dubn 37.99 305 *e*P **P** **04 23 52.1 +0.8**
CRVS Cervenica-Dubn 37.99 305 *e*P **P** **04 23 52.1 +0.8**
BZS Buzias 38.01 300 ⇑P **P** **04 23 52.7 +1.3**
BZS Buzias 38.01 300 ⇑ *i*P **P** **04 23 52.7 +1.3**
STHS Stebnicka Huta 38.14 306 *e*P **P** **04 23 52.9 +0.4**
STHS pmax pmax
comp=Z,18nm,0.7s
STHS Stebnicka Huta 38.14 306 *e*P **P** **04 23 52.9 +0.4**
SLIT Slitere, Latvi 38.39 319 P **P** **04 23 56.6 +2.2**
SLIT pmax pmax
comp=Z,300nm,0.7s
AGG Agios Georgios 38.42 289 *e*P **P** **04 23 55.0 +0.1**
AGG Agios Georgios 38.42 289 *e*P **P** **04 23 55.0 +0.1**
BEL Belsk 38.50 310 *e*P **P** **04 23 56.3 +0.9**
BEL Belsk 38.50 310 *e*P **P** **04 23 56.3 +0.9**
KECS Kecovo 38.65 304 *e*P **P** **04 23 57.9 +1.2**
KECS pmax pmax
comp=Z,9.0nm,0.7s
KECS Kecovo 38.65 304 *e*P **P** **04 23 57.9 +1.2**
NIE Niedzica 38.76 306 *e*P **P** **04 23 59.3 +1.7**
NIE Niedzica 38.76 306 *e*P **P** **04 23 59.3 +1.7**
PSZ Piszkesteto 39.06 303 *e*P **P** **04 24 01.5 +1.3**
PSZ pmax pmax
comp=Z,24nm,0.7s
PSZ Piszkesteto 39.06 303 ⇑ *i*P **P** **04 24 01.5 +1.3**
PSZ Piszkesteto 39.06 303 ⇓ *e*P **P** **04 24 01.8 +1.6**
PSZ Piszkesteto 39.06 303 *e*P **P** **04 24 01.5 +1.3**
comp=Z,24nm,0.7s
KLNR Kaliningrad 39.08 314 *d i*P **P** **04 24 01.1 +1.0**
KLNR pmax pmax
comp=Z,110nm,0.6s
OJC Ojcow 39.08 307 *e*P **P** **04 24 01.0 +0.7**
OJC Ojcow 39.08 307 *e*P **P** **04 24 01.0 +0.7**
OJC pmax pmax
comp=Z,61nm,1.1s
OJC Ojcow 39.08 307 *e*P **P** **04 24 01.0 +0.7**
comp=Z,61nm,1.1s
NJ2 Nanjing 39.24 82 *e*P **P** **04 24 02.5 +0.7**
NJ2 pmax pmax
comp=Z,34nm,0.8s
LANS Liptovska Anna 39.30 305 *e*P **P** **04 24 03.6 +1.4**
LANS Liptovska Anna 39.30 305 *e*P **P** **04 24 03.6 +1.4**
DIVS Divibare 39.31 297 *e*P **P** **04 24 03.0 +0.7**
comp=Z,18nm,0.9s
VAF Ylistaro 39.64 328 *e*P **P** **04 24 06.5 +1.9**
BUD Budapest 39.67 303 P **P** **04 24 08.0 +2.9**
BUD pmax pmax
comp=Z,32nm,1.1s
BUD Budapest 39.67 303⇓ *e*P **P** **04 24 06.8 +1.7**
VYHS Vyhne 39.74 304 *e*P **P** **04 24 06.4 +0.6**
VYHS pmax pmax
comp=Z,11nm,1.3s
VYHS Vyhne 39.74 304 *e*P **P** **04 24 06.4 +0.6**
VYHS *e*PP **PnPn** **04 25 45.1 -2.5**
PLE Pljevlja 39.84 296 P **P** **04 24 09.1 +2.3**
MORH M˝ɪr˙igy, Hung 40.03 301 ⇓ *e*P **P** **04 24 09.2 +1.1**
PDG Podgorica 40.08 295 ⇓ *i*P **P** **04 24 09.0 +0.4**
TTG Podgorica 40.08 295 *e*P **P** **04 24 08.8 +0.3**
TTG pmax pmax
comp=Z,14nm,0.8s
TTG Podgorica 40.08 295 *e*P **P** **04 24 08.8 +0.3**
comp=Z,14nm,0.8s
SRO Srobarova 40.13 303 *e*P **P** **04 24 10.4 +1.5**
OKC Ostrava-Krasne 40.15 307 *e*P **P** **04 24 10.2 +1.2**
OKC Ostrava-Krasne 40.15 307 *e*P **P** **04 24 10.2 +1.2**
CSKK Cs˙ɪkako 40.20 303⇓ *e*P **P** **04 24 10.8 +1.3**
MORC Moravsky Berou 40.54 306 *e*P **P** **04 24 13.2 +0.9**
MORC pmax pmax
comp=Z,145nm,0.7s
MORC Moravsky Berou 40.54 306 ⇑ *i*P **P** **04 24 13.6 +1.3**
MORC Moravsky Berou 40.54 306 *e*P **P** **04 24 13.2 +0.9**
comp=Z,145nm,0.7s
GKP Gorka Klasztor 40.73 312 *e*P **P** **04 24 15.0 +1.2**
GKP Gorka Klasztor 40.73 312 *e*P **P** **04 24 15.0 +1.2**
MODS Modra-Piesok 40.78 304 *e*P **P** **04 24 15.6 +1.3**
MODS Modra-Piesok 40.78 304 *e*P **P** **04 24 15.6 +1.3**
KEV Kevo 40.87 338 *e*P **P** **04 24 14.8 +0.2**
KEV pmax pmax
comp=Z,232nm,2.0s
KEV Kevo 40.87 338 *e*P **P** **04 24 14.8 +0.2**
comp=Z,232nm,2.0s
STON Ston 41.14 296 P **P** **04 24 16.0 -1.2**
VRAC Vranov 41.18 306 P **P** **04 24 18.1 +0.6**
comp=Z,38nm,0.8s,baz=91,slow=8.4,SNR=51
VRAC Vranov 41.18 306 ⇑P **P** **04 24 18.9 +1.4**
VRAC Vranov 41.18 306 ⇑ *i*P **P** **04 24 18.9 +1.4**
ARCES ARCESS Array B 41.22 338 P **P** **04 24 18.1 +0.6**
comp=Z,33nm,0.5s,baz=118,slow=8.9,SNR=317

ARCES pP **pP** 04 25 05.0 +0.1
comp=Z,6.8nm,0.6s,baz=106,slow=6.8,SNR=2.7
ARCES sP **sP** 04 25 31.1 +0.6
comp=Z,16nm,0.9s,baz=113,slow=8.2,SNR=2.9
ARE0 ARCESS Array S 41.22 338 *eP* **P** 04 24 18.5 +1.0
comp=Z,76nm,1.1s
ARE0 ARCESS Array S 41.22 338 *eP* **P** 04 24 18.3 +0.8
BLY Banja Luka 41.22 299 ⇓*iP* **P** 04 24 18.2 +0.4
BLY Banja Luka 41.22 299 *eP* **P** 04 24 18.6 +0.8
comp=Z,27nm,1.3s
BEHE Becsehely 41.29 301⇓*eP* **P** 04 24 19.9 +1.5
DPC Dobruska-Polom 41.31 307 *eP* **P** 04 24 19.4 +0.8
DPC Dobruska-Polom 41.31 307 *eP* **P** 04 24 19.4 +0.8
KSP Ksiaz 41.31 308 *eP* **P** 04 24 19.4 +1.0
KSP Ksiaz 41.31 308 *eP* **P** 04 24 19.5 +1.0
SOP Sopron 41.32 303 P **P** 04 24 19.5 +0.9
SOP Sopron 41.32 303⇓*eP* **P** 04 24 19.8 +1.2
UPC Upice 41.50 308 *eP* **P** 04 24 21.0 +0.9
UPC Upice 41.50 308 *eP* **P** 04 24 21.0 +0.9
KOGS Kog 41.65 301 *iP* **P** 04 24 22.1 +0.8
KTK1 Kautokeino 41.69 336 *eP* **P** 04 24 21.8 +0.4
KTK1 IAmb IAmb 04 24 22.7
comp=Z,38nm,0.5s
CONA Conrad Observa 41.77 304 *iP* **P** 04 24 23.3 +0.9
comp=Z,56nm,0.9s,SNR=29
ZEA Zeya 41.88 48 *eP* **P** 04 24 25.1 +2.0
ZEA *i* 04 25 14.4
ZEA pmax pmax
comp=Z,20nm,0.8s
TREC Trest 41.90 306 *eP* **P** 04 24 25.0 +1.6
TREC Trest 41.90 306 *eP* **P** 04 24 25.0 +1.6
ARSA Arzberg 42.06 303 *iP* **P** 04 24 25.2 +0.5
comp=Z,10nm,0.7s,SNR=7.8
PSI Prapat 42.13 136 *eP* **P** 04 24 25.6 -0.1
PSI pmax pmax
comp=Z,15nm,1.0s
PSI Prapat 42.13 136 *eP* **P** 04 24 25.6 -0.1
comp=Z,15nm,1.0s
BSD Bornholm Skovb 42.16 315⇓*iP* **P** 04 24 25.4 +0.1
comp=Z,49nm,0.8s
UDBI Udbina 42.25 299 P **P** 04 24 26.5 +0.2
HAMF Hammerfest 42.30 339 *eP* **P** 04 24 27.3 +1.2
OZLJ Ozalj 42.30 300 P **P** 04 24 27.4 +0.9
GOPC GO Pecny, Ondr 42.32 307 *eP* **P** 04 24 27.6 +0.9
GOPC GO Pecny, Ondr 42.32 307 *eP* **P** 04 24 27.6 +0.9
PERS Pernice 42.41 302 *iP* **P** 04 24 28.4 +0.9
PVCC Panska Ves 42.42 308 *eP* **P** 04 24 28.9 +1.4
PVCC Panska Ves 42.42 308 *eP* **P** 04 24 28.9 +1.4
SOKA Soboth 42.46 302 *iP* **P** 04 24 28.8 +0.8
comp=Z,44nm,0.5s,SNR=54
PRU Pruhonice 42.47 307 *eP* **P** 04 24 29.0 +1.1
PRU Pruhonice 42.47 307 *eP* **P** 04 24 29.0 +1.1
TIP Timpagrande 42.60 291⇑*iP* **P** 04 24 29.0 -0.2
TIP Timpagrande 42.60 291 *eP* **P** 04 24 28.6 -0.5
comp=Z,24nm,1.0s
GSI Gunungsitoli 42.65 139 *eP* **P** 04 24 31.3 +1.6
comp=Z,37nm,0.6s
BRG Berggiesshubel 42.80 308 *iP* **P** 04 24 31.5 +1.0
comp=Z,54nm,0.9s
BRG *i*pP **pP** 04 25 19.7 +1.6
comp=Z,8.5nm,0.8s
BRG *es*P **sP** 04 25 43.1 -0.6
comp=Z,6.8nm,0.9s
BRG *e* 04 26 16.4
comp=Z,14nm,1.3s
BRG Berggiesshubel 42.80 308 *iP* **P** 04 24 31.5 +1.0
BRG *i**PP **pP** 04 25 19.7 +1.6
BRG *e**SP **sP** 04 25 43.1 -0.6
BRG *e* 04 26 16.4
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,54nm,0.8s
BRG pmax pmax
comp=N,9.0nm,0.9s
OBKA Obir 42.81 302 *iP* **P** 04 24 31.5 +0.7
comp=N,14nm,0.7s,SNR=11
MOA Molln 42.84 304 *iP* **P** 04 24 31.7 +0.8
comp=N,46nm,0.9s,SNR=20
NVLJ Novalja 42.88 299 P **P** 04 24 30.8 -0.4
LJU Ljubljana 42.89 301 *iP* **P** 04 24 32.3 +1.0
LJU *ep*P **pP** 04 25 23.3 +4.3
LJU *es*P **sP** 04 25 45.8 +1.2
LJU *e*PcP **PcP** 04 26 18.7 +1.0
CUC Castrocucco 43.11 292 *eP* **P** 04 24 33.1 -0.2
comp=N,53nm,0.8s
GEA0 GERESS Array S 43.11 305 *eP* **P** 04 24 33.8 +0.6
GEC2 GERESS Array S 43.11 305 *eP* **P** 04 24 33.9 +0.7
GEC2 pmax pmax
comp=Z,11nm,0.9s
GEC2 GERESS Array S 43.11 305 *eP* **P** 04 24 33.9 +0.7
comp=Z,11nm,0.9s
GERES GERESS Array B 43.11 305 P **P** 04 24 33.8 +0.6
comp=Z,5.3nm,0.6s,baz=71,slow=7.3,SNR=15
GERES PcP **PP** 04 26 17.1 -0.9
comp=Z,3.5nm,0.9s,baz=97,slow=4.1,SNR=3.8
KHC Kasperske Hory 43.16 306 *eP* **P** 04 24 34.4 +0.9
KHC pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 43.16 306 *eP* **P** 04 24 34.3 +0.8
KHC *ex* x 04 24 45.0
KHC *ex* x 04 25 10.0
KHC Kasperske Hory 43.16 306 *eP* **P** 04 24 34.4 +0.8
comp=Z,5.8nm,0.8s
HFS Hagfors 43.20 322 P **P** 04 24 33.6 +0.1
comp=Z,76nm,0.6s,baz=100,slow=9.3,SNR=207
HFS pP **pP** 04 25 21.4 +0.1
comp=Z,8.9nm,0.4s,baz=95,slow=11,SNR=2.2
TRO Tromso 43.35 336 *eP* **P** 04 24 35.1 +0.5
CLL Collm 43.36 309 *iP* **P** 04 24 35.4 +0.4
CLL *e**PP **pP** 04 25 24.0 +1.2
CLL pmax pmax
comp=Z,32nm,0.9s
CLL Collm 43.36 309 *iP* **P** 04 24 35.4 +0.4
comp=Z,32nm,0.9s
CLL *ep*P **pP** 04 25 24.0 +1.2
CLL *es*P **sP** 04 25 48.0 -0.3
CLL *e*PP **PP** 04 26 23.0 +2.5
CLL *ep*PP 04 26 57.0
CLL *e*PPP PPP 04 27 06.0
CLL *es*PP 04 27 24.0
CLL *e*(SS) 04 34 18.0
CLL Collm 43.36 309 *eP* **P** 04 24 35.3 +0.3
comp=Z,27nm,0.8s
CADS Cadrg 43.41 302 *iP* **P** 04 24 35.9 +0.4
MYKA Terra Mystica 43.42 302 *iP* **P** 04 24 36.4 +0.8
comp=Z,13nm,0.6s,SNR=9.3
TRI Trieste 43.47 301 *eP* **P** 04 24 36.0 +0.1
TRI pmax pmax
comp=Z,25nm,0.7s
TRI Trieste 43.47 301 *eP* **P** 04 24 36.0 +0.1
comp=Z,25nm,0.7s
CEL Celeste 43.49 290 *eP* **P** 04 24 35.8 -0.5
comp=Z,19nm,0.6s
KBA Koelnbreinsper 43.56 303 P **P** 04 24 38.0 +1.2
KBA pmax pmax
comp=Z,29nm,0.6s
KBA Koelnbreinsper 43.56 303 *iP* **P** 04 24 37.0 +0.1
comp=Z,16nm,0.5s,SNR=14
WET Wettzell 43.62 306 P **P** 04 24 39.5 +2.4
WET pmax pmax
comp=Z,9.0nm,1.3s
NKC Novy Kostel 43.80 307 *eP* **P** 04 24 39.1 +0.6
NKC Novy Kostel 43.80 307 *eP* **P** 04 24 39.1 +0.6
MOR8 Moi Rana 43.92 331 *eP* **P** 04 24 38.8 -0.4
MOR8 IAmb IAmb 04 24 40.7
comp=Z,115nm,0.7s
FVI Forni Avoltri 44.01 302 P **P** 04 24 39.9 -0.4
STEI Steigen 44.06 333 *eP* **P** 04 24 40.9 +0.6
STEI IAmb IAmb 04 24 41.8
comp=Z,30nm,0.8s
ABTA Abfaltersbach 44.17 302 *iP* **P** 04 24 41.2 -0.4
comp=Z,19nm,1.0s,SNR=11
NC405 NORSAR Array S 44.27 323 *eP* **P** 04 24 41.2 -0.9
MOX Moxa 44.29 308 P **P** 04 24 44.2 +1.8
NC602 NORSAR Array S 44.32 323 *eP* **P** 04 24 42.5 0.0
NC602 NORSAR Array S 44.32 323 *eP* **P** 04 24 42.5 0.0
AQU L'Aquila 44.35 296 *eP* **P** 04 24 43.6 +0.5
AQU pmax pmax
comp=Z,13nm,0.8s
AQU L'Aquila 44.35 296 *eP* **P** 04 24 43.6 +0.5
comp=Z,13nm,0.8s
NC303 NORSAR Array S 44.45 323 *eP* **P** 04 24 44.0 +0.5
NC303 NORSAR Array S 44.45 323 *eP* **P** 04 24 44.3 +0.8
NB201 NORSAR Array S 44.47 323 *eP* **P** 04 24 42.5 -1.2
NB201 NORSAR Array S 44.47 323 *eP* **P** 04 24 43.0 -0.7
NB2 NORSAR Subarra 44.51 323 P **P** 04 24 43.7 -0.3
comp=Z,41nm,0.6s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.51 323 P **P** 04 24 43.7 -0.3
NB2 pmax pmax
comp=Z,35nm,0.6s
NB2 NORSAR Subarra 44.51 323 P **P** 04 24 43.7 -0.3
baz=95,slow=7.9
NOA NORSAR Array B 44.51 323 P **P** 04 24 43.7 -0.3
comp=Z,47nm,0.7s,baz=96,slow=7.7,SNR=143
NOA pP **pP** 04 25 32.9 +0.9
comp=Z,6.2nm,0.7s,baz=96,slow=8.1,SNR=2.1
NOA sP **sP** 04 25 57.9 +0.4
comp=Z,6.3nm,0.5s,baz=96,slow=8.1,SNR=2.1
KONS Konsvik 44.51 331 *eP* **P** 04 24 44.4 +0.6
KONS IAmb IAmb 04 24 45.1
comp=Z,34nm,1.0s
STOK Stokkvaagen 44.51 331 *eP* **P** 04 24 44.6 +0.7
GRC1 Grafenberg Arr 44.52 306 P **P** 04 24 45.4 +1.1
NSS Namsos 44.61 328 *eP* **P** 04 24 44.9 +0.2
KS01 Wonju Array Si 44.62 71 *eP* **P** 04 24 46.2 +1.1
KSAR Wonju Array Be 44.62 71 P **P** 04 24 45.3 +0.1
KSAR *PP **pP** 04 25 34.3 +1.1
KSAR 04 26 23.0
KSAR Wonju Array Be 44.62 71 P **P** 04 24 45.2 +0.1
KSAR pP **pP** 04 25 34.3 +1.1
KSAR PcP **PcP** 04 26 22.9 -0.8
GRF Grafenberg Arr 44.64 307 P **P** 04 24 46.9 +1.7
GRF pmax pmax
comp=Z,424nm,1.8s
GRFO Grafenberg 44.64 307 *eP* **P** 04 24 45.4 +0.2
GRFO pmax pmax
comp=Z,96nm,1.6s
GRFO Grafenberg 44.64 307 *eP* **P** 04 24 45.4 +0.2
comp=Z,96nm,1.6s
KSRS Korea Array 44.65 71 P **P** 04 24 45.2 -0.1
comp=Z,4.5nm,0.6s,baz=278,slow=6.8,SNR=9.8
KSRS pP **pP** 04 25 34.3 +0.9
comp=Z,5.7nm,1.0s,baz=274,slow=6.6,SNR=3.6
KSRS PcP **PcP** 04 26 22.9 -0.9
comp=Z,5.5nm,1.0s,baz=291,slow=4.5,SNR=5.1
NAO01 NORSAR Array S 44.65 323 *eP* **P** 04 24 45.3 +0.2
NAO01 NORSAR Array S 44.65 323 *eP* **P** 04 24 44.8 -0.2
OSL Oslo 44.67 321 *eP* **P** 04 24 45.8 +0.6
NBO02 NORSAR Array S 44.68 323 *eP* **P** 04 24 45.6 +0.3
WTTA Wattenberg 44.68 303 *iP* **P** 04 24 45.7 -0.1
comp=Z,13nm,0.4s,SNR=9.3
WATA Walderalm 44.71 303 *iP* **P** 04 24 46.1 +0.1
comp=Z,18nm,0.5s,SNR=9.0
NBO00 NORSAR Array S 44.72 323 *eP* **P** 04 24 45.4 -0.2
NBO00 NORSAR Array S 44.72 323 *eP* **P** 04 24 46.0 +0.3
LOF Lofoten 44.73 333 *eP* **P** 04 24 45.8 +0.2
NC204 NORSAR Array S 44.75 323 *eP* **P** 04 24 45.9 0.0
NC204 NORSAR Array S 44.75 323 *eP* **P** 04 24 46.5 +0.6
VAE Valguarnera 44.84 289 P **P** 04 24 47.9 +0.9
comp=Z,18nm,0.8s,baz=86,slow=4.1,SNR=6.7
CTI Castel Tesino 44.87 302 P **P** 04 24 47.4 +0.2
CTI pmax pmax
comp=Z,2.0nm,0.5s
KLR Kul'dur 44.94 54 P **P** 04 24 48.5 +1.0
comp=Z,0.5nm,0.5s,baz=285,slow=7.4,SNR=16
KLR pP **pP** 04 25 36.7 +1.1
comp=Z,0.6nm,0.6s,baz=274,slow=8.9,SNR=4.2
KLR Kul'dur 44.94 54⇓*iP* **P** 04 24 47.9 +0.4
MOTA Moosalm 45.03 303 *iP* **P** 04 24 48.0 -0.5
comp=Z,33nm,0.7s,SNR=33
SFI Santa Sofia 45.13 299 P **P** 04 24 50.5 +1.3
TBLU Trondheim 45.18 326 *eP* **P** 04 24 48.1 -1.1
KONO Kongsberg 45.22 321*eP* **P** 04 24 49.2 -0.3
KONO pmax pmax
comp=Z,15nm,0.4s
KONO Kongsberg 45.22 321 *eP* **P** 04 24 50.1 +0.6
comp=Z,27nm,0.8s
KONO Kongsberg 45.22 321 *eP* **P** 04 24 49.7 +0.1
RETA Reutte 45.24 304 *iP* **P** 04 24 49.8 -0.2
comp=Z,11nm,0.5s,SNR=9.8
WDD Wied Dalam 45.24 287 *eP* **P** 04 24 48.7 -1.4
FETA Feichten 45.33 303 *iP* **P** 04 24 50.5 -0.4
comp=Z,16nm,0.4s,SNR=18
DOMB Dombas 45.62 324 *eP* **P** 04 24 53.6 +0.9
TIXI Tiksi 45.67 22 P **P** 04 24 53.2 +0.3
comp=Z,10nm,0.3s,baz=274,slow=4.6,SNR=43
TIXI pP **pP** 04 25 42.2 +1.1
comp=Z,13nm,0.7s,baz=268,slow=5.5,SNR=3.0
TIXI Tiksi 45.67 22 *eP* **P** 04 24 53.2 +0.3
TIXI *PP **pP** 04 25 42.2 +1.1
TIXI pmax pmax
comp=Z,19nm,0.9s
TIXI Tiksi 45.67 22 *eP* **P** 04 24 53.1 +0.3
comp=Z,19nm,0.9s
TIXI pP **pP** 04 25 42.2 +1.1
YOJ Yonaguni jima 45.67 90 *eP* **P** 04 24 53.4 -0.2
YOJ pmax pmax
comp=Z,285nm,0.4s
YOJ Yonaguni jima 45.67 90 *eP* **P** 04 24 53.4 -0.2
comp=Z,285nm,0.4s
CLTB Caltabellotta 45.72 290 *eP* **P** 04 24 53.3 -0.6
comp=Z,32nm,0.7s
FUORN Ofpass-Fuorn 45.72 303 *eP* **P** 04 24 54.1 +0.2
comp=Z,19nm,0.8s
HOMB Homborsund 45.76 319 *eP* **P** 04 24 54.0 +0.3
DAVA Damuels 45.86 304 *iP* **P** 04 24 54.8 -0.2
comp=Z,88nm,0.5s,SNR=46
USRK Ussuriysk Ar. 45.95 61 P **P** 04 24 55.8 +0.3
comp=Z,3.3nm,0.7s,baz=258,slow=8.1,SNR=6.0
BDI Bagni Di Lucca 45.98 299 P **P** 04 24 56.0 +0.1
STU Stuttgart 46.08 306 *eP* **P** 04 24 57.0 +0.6
STU pmax pmax
comp=Z,42nm,0.8s
STU Stuttgart 46.08 306 *eP* **P** 04 24 57.0 +0.6
comp=Z,42nm,0.8s
VLC Villacollemand 46.11 299 *eP* **P** 04 24 56.8 0.0
comp=Z,29nm,0.9s
TOD Tromm 46.21 307 P **P** 04 24 58.5 +1.0
TNS Taunus Mts 46.35 308 P **P** 04 25 00.8 +2.2
TNS pmax pmax
comp=Z,27nm,0.8s
MOL Molde 46.36 325 *eP* **P** 04 24 57.7 -0.6
TUE Stuetta 46.37 303 *eP* **P** 04 24 58.6 -0.4
comp=Z,18nm,0.7s
SNART Snartemo 46.44 319 *eP* **P** 04 25 00.1 +1.0
SLE Schleitheim 46.70 304 P **P** 04 25 01.7 +0.3
BFO Black Forest 46.72 305 *iP* **P** 04 25 01.8 +0.4
BFO Black Forest 46.72 305 *eP* **P** 04 25 01.6 +0.1
comp=Z,26nm,1.2s
ODD1 Odda 46.73 321 *eP* **P** 04 25 02.4 +1.0
BLS5 Blasjo 46.82 321 *eP* **P** 04 25 04.2 +2.2
LANF Langenberg 46.95 306 P **P** 04 25 04.4 +1.2
WTSB Winterswijk 47.15 310 *eP* **P** 04 25 05.5 +0.9
comp=Z,134nm,1.3s
HSPB Hornsund (broa 47.18 345 *eP* **P** 04 25 06.2 +1.7
BER Bergen 47.37 322 *eP* **P** 04 25 06.6 +0.4
ASK Askoy 47.44 322 *eP* **P** 04 25 07.4 +0.7
ECH Echery 47.51 305 *eP* **P** 04 25 07.5 0.0
ECH pmax pmax
comp=Z,13nm,0.8s
ECH Echery 47.51 305 *eP* **P** 04 25 07.5 0.0
comp=Z,13nm,0.8s
SPA0 Spitsbergen Ar 47.53 347 *eP* **P** 04 25 08.0 +0.8
SPA0 Spitsbergen Ar 47.53 347 *eP* **P** 04 25 08.6 +1.3
SPITS Spitsbergen Ar 47.53 347 P **P** 04 25 08.4 +1.2
comp=Z,24nm,0.7s,baz=110,slow=7.2,SNR=40
SPITS sP **sP** 04 26 23.1 +1.8
comp=Z,20nm,0.8s,baz=328,slow=7.8,SNR=3.0
GRNR Gornyy 47.71 51 *eP* **P** 04 25 05.7 -3.3
SENIN Lac Senin/Sane 47.77 303 *eP* **P** 04 25 09.6 -0.3
comp=Z,51nm,0.6s
MEM Membach 47.84 309⇓*P* **P** 04 25 10.3 +0.4
comp=Z,33nm,0.9s
MEM Membach 47.84 309 P **P** 04 25 11.2 +1.2
HGN Heimansgroeve 47.86 309 *eP* **P** 04 25 10.2 +0.1
comp=Z,18nm,0.7s
WLF Walferdange 47.90 307⇑*P* **P** 04 25 11.4 +0.9
comp=Z,50nm,0.9s
WLF Walferdange 47.90 307 *eP* **P** 04 25 11.4 +0.9
WLF pmax pmax
comp=Z,53nm,0.8s
WLF Walferdange 47.90 307 *eP* **P** 04 25 11.3 +0.9
comp=Z,53nm,0.8s
VSL Villasalto 48.03 293 *eP* **P** 04 25 10.7 -0.9
comp=Z,20nm,0.8s
SAOF Saorge 48.14 300 P **P** 04 25 13.6 +1.2
BCLA Clavier 48.31 309⇑*P* **P** 04 25 14.3 +0.7
BNI Bardonecchia 48.49 301 *eP* **P** 04 25 14.9 -0.3
BNI pmax pmax
comp=Z,32nm,1.1s
BNI Bardonecchia 48.49 301 *eP* **P** 04 25 14.9 -0.3
comp=Z,32nm,1.1s
KBS Kingsbay 48.65 347 *eP* **P** 04 25 16.9 +1.2
DOU Dourbes 48.81 308⇑*P* **P** 04 25 18.3 +0.9
comp=Z,24nm,1.1s
UCC Uccle 48.84 309⇑*P* **P** 04 25 17.8 +0.2
SNF Seneffe 48.94 309⇓*P* **P** 04 25 18.9 +0.6
comp=Z,45nm,1.1s
KMBO Kilima Mbogo 49.02 228 P **P** 04 25 20.1 +0.5
comp=Z,18nm,0.7s,baz=34,slow=12,SNR=42
KMBO Kilima Mbogo 49.02 228 *eP* **P** 04 25 21.1 +1.4
KMBO pmax pmax
comp=Z,18nm,0.7s
KMBO Kilima Mbogo 49.02 228 *eP* **P** 04 25 21.1 +1.4
comp=Z,18nm,0.7s
KMBO Kilima Mbogo 49.02 228 P **P** 04 25 20.7 +1.0
SNR=8.5
KMBO Kilima Mbogo 49.02 228 *iP* **P** 04 25 20.9 +1.2
SNR=22
KEST Kesra 49.25 289 P **P** 04 25 21.8 +0.7
comp=Z,38nm,0.6s,baz=16,slow=0.8,SNR=63
KEST Kesra 49.25 289 *eP* **P** 04 25 21.9 +0.8
comp=Z,43nm,0.6s
SSB Saint Sauveur 49.90 302 *eP* **P** 04 25 25.8 0.0
SSB pmax pmax
comp=Z,33nm,0.6s
SSB Saint Sauveur 49.90 302 *eP* **P** 04 25 25.8 0.0
comp=Z,33nm,0.6s
NKL Nikolayevsk 49.92 47 *iP* **P** 04 25 26.8 +1.1
NKL *e* 04 26 17.8
NKL pmax pmax
comp=E,9.0nm,0.7s
NKL pmax pmax
comp=Z,40nm,0.7s
CMAH Djebel Manchou 50.41 290 P **P** 04 25 30.1 +0.4
ABSA Djebel Ababsia 50.49 290 P **P** 04 25 30.7 +0.3
WACR West Acre 50.76 312 *eP* **P** 04 25 32.2 +0.2
WACR IAmb IAmb 04 25 33.1
comp=Z,223nm,0.6s
KKM Kota Kinabalu 51.01 115 *eP* **P** 04 25 35.3 +0.8
comp=Z,6.7nm,0.6s
LMK Market Rasen 51.19 313 *eP* **P** 04 25 34.9 -0.3
LMK IAmb IAmb 04 25 35.2
comp=Z,115nm,0.8s
CASM Ain Smara 51.24 290 P **P** 04 25 35.7 -0.2
HMNX Herstmonceux 51.32 310 *eP* **P** 04 25 35.5 -0.7
HMNX IAmb IAmb 04 25 36.4
comp=Z,99nm,0.7s
TYV Tymovskoe 51.58 50 *eP* **P** 04 25 36.4 -1.7
TYV pmax pmax
comp=Z,10.0nm,1.0s
DFRA Djebel Bou Aff 51.60 291 P **P** 04 25 38.1 -0.5
DRUM Mains of Drumt 51.77 318 *eP* **P** 04 25 39.3 -0.1
DRUM IAmb IAmb 04 25 40.3
comp=Z,122nm,1.3s
EDMD Edmundbyers 51.86 315 *eP* **P** 04 25 40.4 +0.3
EDMD IAmb IAmb 04 25 41.2
comp=Z,67nm,0.8s
LBWR Ladybower, Pea 52.02 313 *eP* **P** 04 25 41.3 -0.1
LBWR IAmb IAmb 04 25 42.5
comp=Z,38nm,0.9s
MCD Coleburn Disti 52.06 319 *eP* **P** 04 25 41.5 0.0
MCD *eP* **P** 04 25 41.7 +0.2
SET Setif 52.08 291 P **P** 04 25 41.0 -1.2
EKA Eskdalemuir Ar 52.44 316 P **P** 04 25 44.0 -0.3
comp=Z,21nm,0.8s,baz=77,slow=7.2,SNR=31
ESK Eskdalemuir 52.47 316 *eP* **P** 04 25 44.4 -0.2
ESK pmax pmax
comp=Z,58nm,1.2s
ESK Eskdalemuir 52.47 316 *eP* **P** 04 25 44.4 -0.2
comp=Z,58nm,1.2s
YSS Yuzh-Sakhalins 52.62 55 *eP* **P** 04 25 46.7 +0.9
YSS *e* 04 26 38.9
YSS pmax pmax
comp=Z,20nm,1.3s
YSS Yuzh-Sakhalins 52.62 55 *eP* **P** 04 25 46.5 +0.7
comp=Z,11nm,0.6s
MBAR Mbarara 52.71 235 *eP* **P** 04 25 46.4 -0.7
MBAR pmax pmax
comp=Z,46nm,0.7s
MBAR Mbarara 52.71 235 *eP* **P** 04 25 46.4 -0.7
comp=Z,46nm,0.7s
MJAR Matsushiro Ar 52.73 69 pP pP 04 26 37.9 +1.4
comp=Z,4.7nm,0.7s,baz=287,slow=11,SNR=5.9
JQE Queens East 53.22 308 *eP* **P** 04 25 48.9 -1.2
JRS Jersey 53.25 308 *eP* **P** 04 25 49.5 -0.8
DYA Yadsworthy 54.06 310 *eP* **P** 04 25 54.9 -1.4
MA2 Magadan 54.20 38 P **P** 04 25 57.2 +0.1
comp=Z,2.5nm,0.4s,baz=340,slow=17,SNR=4.2
MA2 Magadan 54.20 38*eP* **P** 04 25 58.4 +1.3
SEY Seymchan 54.27 34*eP* **P** 04 25 58.0 +0.5
DSB Dublin 54.76 314 *eP* **P** 04 25 59.8 -1.5
comp=Z,21nm,0.8s
DAG Danmarks Havn 54.78 344⇑*iP* **P** 04 26 01.4 +0.4
DAG pmax pmax
comp=Z,43nm,0.9s
DAG Danmarks Havn 54.78 344⇑*iP* **P** 04 26 01.4 +0.4
comp=Z,43nm,0.9s
CART Cartagena 56.32 295 *eP* **P** 04 26 12.4 -0.2
comp=Z,50nm,0.7s
SCO Scoresbysund 57.13 336 *iP* **P** 04 26 19.2 +1.5
SCO pmax pmax
comp=Z,7.0nm,0.8s
SCO Scoresbysund 57.13 336 *iP* **P** 04 26 19.2 +1.5
comp=Z,6.9nm,0.8s
SCO Scoresbysund 57.13 336 *eP* **P** 04 26 18.5 +0.9
comp=Z,7.8nm,0.9s
VAL Valentia 57.40 313 P **P** 04 26 21.8 +1.9
ES19 SONSECA Array 57.60 298 *eP* **P** 04 26 21.2 -0.4
ESDC Sonseca Array 57.66 298 P **P** 04 26 21.8 -0.2
comp=Z,17nm,0.6s,baz=58,slow=7.3,SNR=170
ESLA Sonseca Array 57.66 298 *eP* **P** 04 26 21.6 -0.3
comp=Z,23nm,0.8s
TAM Tamanrasset 57.77 276 *eP* **P** 04 26 22.3 -0.8
TAM pmax pmax
comp=Z,8.0nm,0.9s
TAM Tamanrasset 57.77 276 *eP* **P** 04 26 22.3 -0.8
comp=Z,7.7nm,0.9s
PAB San Pablo 57.98 298 *eP* **P** 04 26 24.2 -0.1
PAB pmax pmax
comp=Z,38nm,1.4s
PAB San Pablo 57.98 298 *eP* **P** 04 26 24.2 -0.1
comp=Z,38nm,1.4s
BILL Bilibino 58.49 26 *eP* **P** 04 26 28.5 +1.3
BILL *e**PP **pP** 04 27 18.7 +0.8
BILL *e**SP **sP** 04 27 44.0 +1.3
BILL *e* 04 28 35.4
BILL pmax pmax
comp=Z,7.0nm,1.0s
BORG Borgarnes 58.71 330 P **P** 04 26 29.8 +1.1
comp=Z,17nm,0.6s,baz=75,slow=6.0,SNR=8.4
PBRG Braganca 58.78 301 *eP* **P** 04 26 30.1 +0.4
MVO Moncorvo 59.23 301 *eP* **P** 04 26 33.2 +0.4
comp=Z,43nm,1.0s
OPO Ambohidratompo 59.34 207 P **P** 04 26 34.3 +0.5
comp=Z,10nm,0.9s,baz=26,slow=7.9,SNR=8.0
PVRL Vila Real 59.66 301 *eP* **P** 04 26 35.9 +0.2
comp=Z,29nm,1.7s
POLO Lamas de Olo 59.67 301 *eP* **P** 04 26 36.1 +0.2
PCAB Cabril 59.70 302 *eP* **P** 04 26 36.9 +0.9
comp=Z,57nm,1.1s
ABPO Ambohimpanom 59.74 207 *eP* **P** 04 26 37.2 +0.7
ABPO pmax pmax
comp=Z,24nm,1.0s
ABPO Ambohimpanom 59.74 207 *eP* **P** 04 26 37.2 +0.7
comp=Z,24nm,1.0s
PGAV Gavieira, Arco 59.77 302 *eP* **P** 04 26 37.0 +0.5
comp=Z,49nm,1.3s
MTE Manteigas 59.89 300 *eP* **P** 04 26 38.1 +0.8
comp=Z,65nm,1.0s
MTE Manteigas 59.89 300 *eP* **P** 04 26 37.7 +0.3
comp=Z,40nm,0.8s
PVIS Viseu 60.01 300 *eP* **P** 04 26 38.8 +0.7
comp=Z,53nm,0.9s
PCBR Castelo Branco 60.08 299 *eP* **P** 04 26 39.5 +1.0
comp=Z,22nm,1.7s
PMRV Marv??o 60.19 299 *eP* **P** 04 26 39.6 +0.3
comp=Z,19nm,1.6s
PBAR Barrancos 60.46 297 *eP* **P** 04 26 41.4 +0.3
comp=Z,94nm,1.0s
PESTR Estremoz 60.56 298 *eP* **P** 04 26 42.0 +0.2
comp=Z,28nm,1.0s
PESTR Estremoz 60.56 298 *eP* **P** 04 26 42.1 +0.2
comp=Z,14nm,1.1s

COI	**Coimbra**	60.58	300	*e*P		P	04 26 42.5 +0.6
PCAS	**Casmilo, Conde**	60.70	300	*e*P		P	04 26 43.2 +0.5
	comp=Z,49nm,1.2s						
PTOM	**Tomar**	60.82	299	*e*P		P	04 26 44.2 +0.7
	comp=Z,67nm,1.2s						
PMTG	**Montargil**	60.92	299	*e*P		P	04 26 44.5 +0.3
	comp=Z,19nm,0.8s						
EVO	**Evora**	61.00	298	*e*P		P	04 26 45.2 +0.4
	comp=Z,44nm,1.7s						
PBEJ	**Beja**	61.11	298	*e*P		P	04 26 46.0 +0.5
	comp=Z,31nm,0.9s						
SUMG	**Summit**	61.12	341	*e*P		P	04 26 46.6 +1.1
SUMG				pmax	pmax		
	comp=Z,41nm,0.8s						
SUMG	**Summit**	61.12	341	*i* P		P	04 26 46.3 +0.8
	comp=Z,35nm,0.7s						
SUMG	**Summit**	61.12	341	*e*P		P	04 26 46.6 +1.1
	comp=Z,41nm,0.8s						
ALMR	**Almeirim**	61.13	299	*e*P		P	04 26 46.0 +0.3
ALMR				AMb	AMB		04 26 48.0
	comp=Z,42nm,1.3s						
ALMR	**Almeirim**	61.13	299	*e*P		P	04 26 46.1 +0.5
	comp=Z,48nm,1.1s						
PVAQ	**Vaqueiros**	61.27	297	*e*P		P	04 26 46.9 +0.3
PCVE	**Castro Verde**	61.40	297	*e*P		P	04 26 47.7 +0.2
MESJ	**Messejana**	61.44	298	*e*P		P	04 26 47.9 +0.2
MESJ				AMb	AMB		04 26 49.3
	comp=Z,35nm,0.9s						
MESJ	**Messejana**	61.44	298	*e*P		P	04 26 47.9 +0.2
	comp=Z,35nm,0.9s						
PBDV	**Barranco-do-Ve**	61.49	297	*e*P		P	04 26 48.9 +0.8
	comp=Z,65nm,1.0s						
PNCL	**Nicolau / Gran**	61.55	298	*e*P		P	04 26 49.1 +0.7
	comp=Z,30nm,1.4s						
PMAFR	**Mafra**	61.72	299	*e*P		P	04 26 50.4 +0.8
PMST	**Lisbon--Monsan**	61.74	299	*e*P		P	04 26 50.7 +1.0
	comp=Z,84nm,1.4s						
PTEO	**Sao Teotonio**	61.93	297	*e*P		P	04 26 51.6 +0.6
	comp=Z,60nm,1.4s						
PFVI	**Vila Bisbo**	62.19	297	*e*P		P	04 26 53.5 +0.8
	comp=Z,101nm,1.7s						
KULLO	**Kullorsuaq**	64.11	347⇑	*i*P		P	04 27 05.0 +0.4
KULLO				pmax	pmax		
	comp=Z,25nm,0.6s						
KULLO	**Kullorsuaq**	64.11	347⇑	*i*P		P	04 27 05.0 +0.4
	comp=Z,25nm,0.6s						
TULEG	**Thule**	64.46	350	*e*P		P	04 27 07.2 +0.3
	comp=Z,30nm,1.2s						
ANGG	**Ammassalik, Gr**	64.50	334	*e*P		P	04 27 08.1 +0.8
	comp=Z,27nm,0.6s						
LSZ	**Lusaka**	65.64	226	*e*P		P	04 27 15.4 -0.1
LSZ				pmax	pmax		
	comp=Z,27nm,0.8s						
LSZ	**Lusaka**	65.64	226	*e*P		P	04 27 15.4 -0.1
	comp=Z,27nm,0.8s						
TOA0	**Torodi Ar. Sit**	65.95	269	*e*P		P	04 27 15.2 -2.2
	comp=Z,36nm,0.5s						
TOA0	**Torodi Ar. Sit**	65.95	269	P		P	04 27 15.3 -2.2
TORD	**Torodi Ar. Bea**	65.95	269	P		P	04 27 15.5 -2.0
	comp=Z,23nm,0.4s,baz=50,slow=5.2,SNR=335						
ILULI	**Ilulissat**	66.46	341	*e*P		P	04 27 20.4 +0.6
ILULI				pmax	pmax		
	comp=Z,49nm,0.6s						
ILULI	**Ilulissat**	66.46	341⇑	*i*P		P	04 27 20.2 +0.4
	comp=Z,53nm,0.5s						
ILULI	**Ilulissat**	66.46	341	*e*P		P	04 27 20.4 +0.6
	comp=Z,48nm,0.6s						
SFJD	**Kangerlussuaq**	67.82	339	P		P	04 27 28.3 -0.1
	comp=Z,10.0nm,0.5s,baz=91,slow=7.2,SNR=17						
SFJD	**Kangerlussuaq**	67.82	339⇑	*i*P		P	04 27 28.9 +0.5
SFJD	**Kangerlussuaq**	67.82	339⇑	*i*P		P	04 27 28.9 +0.5
RES	**Resolute Bay**	68.70	356	*e*P		P	04 27 34.1 +0.4
RES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RES	**Resolute Bay**	68.70	356	*e*P		P	04 27 34.1 +0.4
	comp=Z,5.5nm,0.9s						
FAKI	**Fak Fak**	68.86	111	*e*P		P	04 27 35.5 -0.1
	comp=Z,7.2nm,0.7s						
KOWA	**Kowa**	69.80	273	P		P	04 27 39.6 -1.8
	comp=Z,37nm,0.6s,baz=57,slow=7.6,SNR=218						
KOWA	**Kowa**	69.80	273	*e*P		P	04 27 39.9 -1.6
	comp=Z,39nm,0.6s						
PMAR	**Madeira**	70.12	296	*e*P		P	04 27 44.8 +1.4
	comp=Z,114nm,1.7s						
FUL	**Funchal**	70.15	296	*e*P		P	04 27 40.5 -2.8
PMOZ	**Porto Moniz, M**	70.28	297	*e*P		P	04 27 46.0 +1.8
TOLK	**Toolik Lake Re**	70.84	15	*e*P		P	04 27 47.6 +0.6
	comp=Z,23nm,0.8s						
COLD	**Coldfoot**	71.89	16	*e*P		P	04 27 53.8 +0.7
	comp=Z,7.3nm,0.6s						
COLD				*e*pP		pP	04 28 47.8 +1.8
IM3	**Indian Mountai**	72.08	18	*e*P		P	04 27 54.2 -0.1
IM3				*e*pP		pP	04 28 47.8 +0.7
MBWA	**Marble Bar**	73.37	133	*e*P		P	04 28 02.2 -0.2
FYU	**Fort Yukon**	73.49	14	*e*P		P	04 28 04.2 +1.6
FYU				*e*pP		pP	04 28 58.4 +2.8
MLY	**Manley**	73.59	17	*e*P		P	04 28 04.0 +0.8
MLY				*e*pP		pP	04 28 58.4 +2.0
INK	**Inuvik**	73.85	9	*e*P		P	04 28 05.3 +0.7
INK				*e**PP		pP	04 28 59.1 +1.4
INK				pmax	pmax		
	comp=Z,20nm,0.6s						
INK	**Inuvik**	73.85	9	*e*P		P	04 28 05.2 +0.7
	comp=Z,20nm,0.6s						
INK				*e*pP		pP	04 28 59.1 +1.4
MDM	**Murphy Dome**	74.23	16	*e*P		P	04 28 07.7 +0.7
MDM				*e*pP		pP	04 29 02.0 +1.9
BPAW	**Bear Paw Mtn.**	74.30	18	*e*P		P	04 28 06.8 -0.5
	comp=Z,1.1nm,0.5s						
BPAW				*e*pP		pP	04 29 01.6 +1.1
COLA	**College**	74.39	16	*e*P		P	04 28 08.6 +0.8
COLA				*e**PP		pP	04 29 03.0 +2.1
COLA				pmax	pmax		
	comp=Z,18nm,0.7s						
COLA	**College**	74.39	16	*e*P		P	04 28 08.6 +0.8
	comp=Z,18nm,0.7s						
COLA				*e*pP		pP	04 29 03.0 +2.1
CAST	**Castle Rocks**	74.59	19	*e*P		P	04 28 09.4 +0.4
CAST				*e*pP		pP	04 29 04.2 +2.0
CCB	**Clear Creek Bu**	74.60	16	*e*P		P	04 28 08.9 0.0
CCB				*e*pP		pP	04 29 03.8 +1.7
WRH	**Wood River Hil**	74.68	17	*e*P		P	04 28 09.7 +0.3
	comp=Z,6.3nm,0.8s						
WRH				*e*pP		pP	04 29 04.2 +1.5
IL1	**Eielson Array**	74.69	16	*e*P		P	04 28 09.0 -0.5
IL1				*e*pP		pP	04 29 03.1 +0.4
ILAR	**Eielson Array**	74.69	16	P		P	04 28 09.3 -0.2
	comp=Z,3.9nm,0.9s,baz=333,slow=3.6,SNR=44						
ILAR				pP		pP	04 29 03.5 +0.7
	comp=Z,7.8nm,1.0s,baz=317,slow=5.0,SNR=12						
ILB	**Eielson Array**	74.69	16	*e*P		P	04 28 09.4 -0.2
ILB				*e*pP		pP	04 29 04.2 +1.5
MTN	**Manton Dam**	74.70	119	*e*P		P	04 28 09.8 -0.4
	comp=Z,21nm,0.6s						
KTH	**Kantishna Hill**	74.77	18	*e*P		P	04 28 10.4 +0.3
	comp=Z,22nm,1.0s						
KTH				*e*pP		pP	04 29 04.7 +1.4
LBTB	**Lobatse**	74.85	222	*e*P		P	04 28 11.3 +0.2
LBTB				pmax	pmax		
	comp=Z,26nm,0.6s						
LBTB	**Lobatse**	74.85	222	*e*P		P	04 28 11.2 +0.2
	comp=Z,26nm,0.6s						
DBIC	**Dimbokro**	74.94	267	P		P	04 28 10.3 -1.4
	comp=Z,27nm,0.5s,baz=20,slow=6.8,SNR=69						
DBIC	**Dimbokro**	74.94	267	*e*P		P	04 28 10.3 -1.4
DBIC				pmax	pmax		
	comp=Z,28nm,0.6s						
DBIC	**Dimbokro**	74.94	267	*e*P		P	04 28 10.3 -1.4
	comp=Z,28nm,0.6s						
PPLA	**Purkeypile**	74.99	19	*e*P		P	04 28 11.8 +0.4
KIC	**Kosan Boka**	75.02	267	*e*P		P	04 28 10.7 -1.6
	comp=Z,80nm,0.5s						
TIC	**Toumodi**	75.08	267	*e*P		P	04 28 11.1 -1.5
MCK	**McKinley**	75.11	17	*e*P		P	04 28 11.8 -0.2
MCK				*e**PP		pP	04 29 06.8 +1.5
MCK				pmax	pmax		
	comp=Z,12nm,1.1s						
MCK	**McKinley**	75.11	17	*e*P		P	04 28 11.8 -0.2
	comp=Z,12nm,1.1s						
MCK				*e*pP		pP	04 29 06.8 +1.5
TSUM	**Tsumeb**	75.12	232	*e*P		P	04 28 12.8 +0.1
	comp=Z,15nm,0.6s						
LIC	**Lamto**	75.33	267	*e*P		P	04 28 12.4 -1.6
	comp=Z,95nm,0.5s						
RND	**Reindeer**	75.41	17	*e*P		P	04 28 13.5 -0.2
RND				*e**PP		pP	04 29 08.5 +1.4
RND	**Reindeer**	75.41	17	*e*P		P	04 28 13.5 -0.2
RND				*e*pP		pP	04 29 08.5 +1.4
EGAK	**Eagle**	75.87	14	*e*P		P	04 28 17.6 +1.3
	comp=Z,3.7nm,0.6s						
EGAK				*e*pP		pP	04 29 11.8 +2.2
SCRK	**Sand Creek**	76.02	15	*e*P		P	04 28 17.9 +0.7
	comp=Z,17nm,1.1s						
RIDG	**Independ'e Rid**	76.04	16	*e*P		P	04 28 17.2 0.0
RIDG				*e*pP		pP	04 29 12.3 +1.6
DOT	**Dot Lake**	76.29	15	*e*P		P	04 28 18.9 +0.2
	comp=Z,21nm,0.8s						
SUA	**Susitna One**	76.56	19	*e*P		P	04 28 20.6 +0.3
SUA				*e*pP		pP	04 29 15.5 +1.7
PAX	**Paxson**	76.57	16	*e*P		P	04 28 20.3 0.0
PAX				*e**PP		pP	04 29 15.2 +1.4
PAX	**Paxson**	76.57	16	*e*P		P	04 28 20.3 0.0
PAX				*e*pP		pP	04 29 15.2 +1.4
DAWY	**Dawson**	76.85	13	*e*P		P	04 28 22.1 +0.4
	comp=Z,14nm,1.0s						
PMR	**Palmer**	76.87	19	*e*P		P	04 28 21.9 +0.1
PMR				*e**PP		pP	04 29 16.6 +1.2
PMR	**Palmer**	76.87	19	*e*P		P	04 28 21.9 +0.1
PMR				*e*pP		pP	04 29 16.6 +1.2
SML	**Sawmill**	76.89	18	*e*P		P	04 28 21.2 -0.8
SML				*e**PP		pP	04 29 16.7 +1.1
SML				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SML	**Sawmill**	76.89	18	*e*P		P	04 28 21.2 -0.8
	comp=Z,3.0nm,0.5s						
SML				*e*pP		pP	04 29 16.7 +1.1
MENT	**Mentasta**	76.99	16	*e*P		P	04 28 23.6 +1.0
	comp=Z,15nm,1.4s						
SCM	**Sheep Creek Mo**	77.12	18	*e*P		P	04 28 23.8 +0.4
SCM				*e**PP		pP	04 29 19.0 +2.1
SCM	**Sheep Creek Mo**	77.12	18	*e*P		P	04 28 23.8 +0.4
SCM				*e*pP		pP	04 29 19.0 +2.1
HARP	**HAARP**	77.14	16	*e*P		P	04 28 24.9 +1.5
HARP				*e*pP		pP	04 29 20.0 +3.0
RC01	**Rabbit Creek A**	77.14	19	*e*P		P	04 28 23.0 -0.4
RC01				*e*pP		pP	04 29 17.5 +0.5
KLU	**Klutina**	77.75	17	*e*P		P	04 28 27.7 +0.9
KLU				*e*pP		pP	04 29 22.6 +2.1
BOSA	**Boshof**	77.91	220	P		P	04 28 27.9 -0.3
	comp=Z,14nm,0.7s,baz=22,slow=4.2,SNR=20						
BOSA	**Boshof**	77.91	220	P		P	04 28 28.0 -0.3
BOSA				pmax	pmax		
	comp=Z,15nm,0.7s						
BOSA	**Boshof**	77.91	220	*e*P		P	04 28 27.9 -0.3
	comp=Z,12nm,0.8s						
DIV	**Divide**	78.11	17	*e*P		P	04 28 28.4 -0.4
	comp=Z,8.2nm,0.5s						
DIV				*e*pP		pP	04 29 24.3 +1.8
BMRM	**Bremner River**	78.53	17	*e*P		P	04 28 31.4 +0.3
	comp=Z,33nm,1.2s						
BMRM				*e*pP		pP	04 29 26.7 +1.8
KDAK	**Kodiak Island**	79.09	22	*i* P		P	04 28 34.2 +0.1
KDAK	**Kodiak Island**	79.09	22	*e*P		P	04 28 34.7 +0.6
	comp=Z,30nm,1.0s						
HYT	**Haines Junctio**	80.18	14	*e*P		P	04 28 40.4 +0.3
	comp=Z,11nm,0.7s						
HYT				*e*pP		pP	04 29 35.9 +1.9
YKA	**Yellowknife Ar**	81.21	3	P		P	04 28 45.6 +0.2
	comp=Z,13nm,0.4s,baz=352,slow=5.4,SNR=443						
YKA				pP		pP	04 29 40.2 +0.7
	comp=Z,7.8nm,0.8s,baz=349,slow=5.4,SNR=7.2						
YKA				sP		sP	04 30 06.1 +2.7
	comp=Z,8.5nm,0.8s,baz=350,slow=5.5,SNR=4.2						
YKA				PKKPbc	PKKPbc		04 47 16.7 -2.6
	comp=Z,0.5nm,0.6s,baz=167,slow=2.2,SNR=17						
WRA	**Warramunga Arr**	81.80	122	P		P	04 28 48.2 -0.9
	comp=Z,14nm,0.5s,baz=325,slow=5.0,SNR=440						
WRA				pP		pP	04 29 43.9 +0.6
	comp=Z,3.1nm,0.7s,baz=322,slow=4.9,SNR=2.3						
WRA				PKKPbc	PKKPbc		04 47 17.9 -0.3
	comp=Z,0.5nm,0.5s,baz=120,slow=2.5,SNR=9.8						
WRAB	**Tennant Creek**	81.80	122	*e*P		P	04 28 48.3 -0.8
WRAB				pmax	pmax		
	comp=Z,23nm,0.4s						
WRAB	**Tennant Creek**	81.80	122	*e*P		P	04 28 48.3 -0.8
	comp=Z,23nm,0.4s						
WB2	**Warramunga Arr**	81.81	122	*e*P		P	04 28 48.3 -0.8
SCHQ	**Schefferville**	82.17	337	P		P	04 28 50.2 -0.3
	comp=Z,9.4nm,0.6s,baz=16,slow=4.0,SNR=20						
SUR	**Sutherland**	83.23	221	*e*P		P	04 28 56.5 +0.1
	comp=Z,33nm,0.9s						
AS31	**Alice Springs**	84.07	125	*e*P		P	04 29 00.1 -0.6
	comp=Z,10nm,0.6s						
ASAR	**Alice Springs**	84.07	125	P		P	04 28 59.8 -0.9
	comp=Z,26nm,0.6s,baz=310,slow=5.0,SNR=377						
ASAR				pP		pP	04 29 55.8 +0.6
	comp=Z,4.1nm,0.8s,baz=320,slow=5.3,SNR=3.4						
AS01	**Alice Springs**	84.10	125	*e*P		P	04 28 59.8 -1.0
COEN	**Coen**	84.19	112	*e*P		P	04 29 00.1 -1.4
	comp=Z,4.8nm,0.6s						
FCC	**Fort Churchill**	84.29	352	*e*P		P	04 29 01.5 +0.3
FCC				pmax	pmax		
	comp=Z,20nm,1.1s						
FCC	**Fort Churchill**	84.29	352	*e*P		P	04 29 01.5 +0.3
	comp=Z,20nm,1.1s						
FORT	**Forrest**	85.51	134	*e*P		P	04 29 06.9 -0.7
FFC	**Flin Flon**	88.94	356	*e*P		P	04 29 24.3 +0.5
FFC				*e**PP		pP	04 30 20.7 +1.8
FFC				pmax	pmax		
	comp=Z,11nm,0.9s						
FFC	**Flin Flon**	88.94	356	*e*P		P	04 29 24.3 +0.5
	comp=Z,11nm,0.9s						
FFC				*e*pP		pP	04 30 20.7 +1.8
CTAO	**Charters Tower**	90.33	115	*e*P		P	04 29 30.1 -0.7
CTAO				pmax	pmax		
	comp=Z,69nm,0.6s						
CTAO	**Charters Tower**	90.33	115	*e*P		P	04 29 30.1 -0.7
	comp=Z,69nm,0.6s						
EDM	**Edmonton**	90.54	3	*e*P		P	04 29 32.2 +0.9
EDM				*e**PP		pP	04 30 28.5 +2.0
EDM				pmax	pmax		
	comp=Z,11nm,0.5s						
EDM	**Edmonton**	90.54	3	*e*P		P	04 29 32.1 +0.9
	comp=Z,11nm,0.5s						
EDM				*e*pP		pP	04 30 28.4 +2.0
BBOO	**Buckleboo**	91.74	130	*e*P		P	04 29 36.3 -0.7
	comp=Z,8.0nm,0.8s						
ULM	**Lac du Bonnet**	92.86	352	P		P	04 29 41.1 -1.0
	comp=Z,5.9nm,0.8s,baz=25,slow=4.6,SNR=12						
STKA	**Stephens Creek**	94.61	127	P		P	04 29 48.4 -1.9
	comp=Z,2.1nm,0.3s,baz=323,slow=6.6,SNR=3.3						
AGMN	**Agassiz Nation**	94.78	351	*e*P		P	04 29 51.7 +0.8
	comp=Z,8.3nm,1.0s						
NVAR	**Mina Array Bea**	104.90	8	PKiKP	PKiKP		04 34 51.3 +0.9
	comp=Z,0.3nm,0.6s,baz=350,slow=1.1,SNR=5.2						
NVAR				PKKPbc	PKKPbc		04 46 18.0 -0.2
	comp=Z,0.4nm,0.6s,baz=189,slow=4.5,SNR=3.9						
MNTX	**Cornudas Mount**	112.07	357	*e*PKP	PKiKP		04 35 04.1 +0.3
TXAR	**Lajitas Array**	114.32	355	PKP	PKPdf		04 35 08.0 -0.3
	comp=Z,0.3nm,0.6s,baz=90,slow=0.9,SNR=6.5						
TXAR				PKKPbc	PKKPbc		04 45 47.5 -0.5
	comp=Z,0.3nm,0.6s,baz=193,slow=6.5,SNR=5.4						
SNAA	**Sanae**	119.50	200	*e*PKiKP	PKPdf		04 35 16.0 -0.7
SNAA	**Sanae**	119.50	200	*e*PKPdf	PKPdf		04 35 16.0 -0.7
VNDA	**Vanda**	125.45	165	PKP	PKPdf		04 35 26.2 -1.7
	comp=Z,1.6nm,0.8s,baz=330,slow=4.1,SNR=6.7						
QSPA	**South Pole Qui**	126.31	180	PKP	PKPdf		04 35 28.6 -1.3
	comp=Z,6.3nm,0.8s,baz=238,slow=1.3,SNR=18						
SIV	**San Ignacio**	133.18	283	PKP	PKPdf		04 35 43.6 -0.8
	comp=Z,1.2nm,0.6s,baz=96,slow=3.4,SNR=10						
CPUP	**Villa Florida**	135.45	268	PKP	PKPdf		04 35 47.4 -1.0
	comp=Z,5.6nm,0.7s,baz=70,slow=2.1,SNR=23						
CPUP				PP	PP		04 38 26.1 -2.2
	comp=Z,1.5nm,0.9s,baz=79,slow=3.9,SNR=3.1						
LPAZ	**La Paz**	138.83	288	PKP	PKPdf		04 35 55.2 -0.4
	comp=Z,1.2nm,0.4s,baz=60,slow=1.1,SNR=6.7						
NNA	**Nana**	142.35	302	*e*PKiKP	PKPdf		04 36 01.1 -0.2
NNA	**Nana**	142.35	302	*e*PKPdf	PKPdf		04 36 01.1 -0.2
TRQA	**Tornquist**	143.09	253	*e*PKPpre	PKPpre		04 35 58.0
TRQA				*e*PKPdf	PKPdf		04 36 01.8 -0.1
LCO	**Las Campanas**	147.34	272	*e*PKPdf	PKPdf		04 36 09.6 -0.2
LCO				*e*PKPbc	PKPbc		04 36 12.6 +0.1
PLCA	**Paso Flores**	150.06	250	PKPbc	PKPbc		04 36 18.4 -0.5
	comp=Z,13nm,0.6s,baz=111,slow=2.3,SNR=44						

*SJA **31** 04:56:01.1±0.8,30°.85S×71°.48W,h15km±5km, ML2.4, MW2.7*
*ISCJB **31** 04:56:02.8±1.5,30°.83S±0°.03×71°.66W±0°.10,h13km±12km,*
Error ellipse: s-maj=14.2km s-min=5.0km az=12.4
*GUC **31** 04:56:05.8±0.5,30°.87S×71°.25W,h53km±40km,ML2.7*

ISC 31 04:56:01.0±2.6,30°.80S±0°.05×71°.7W±0°.1,h8km±17km,n14,
σ1§02/25,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	1.02	53	*i*P		Pn		04 56 21.8	-0.1
GO04				*i* S		Sb		04 56 33.9	-0.9
GO04				IAML				04 56 35.1	
	comp=N,1μm,0.6s								
TLL	**Tololo Astrono**	1.02	52	*i*P		Pn		04 56 22.1	+0.2
TLL				*i* S		Sg		04 56 34.1	+0.2
TLL				IAML				04 56 35.2	
	comp=N,559nm,0.7s								
LCO	**Las Campanas**	2.00	27⇑	*i*P		Pb		04 56 37.2	-0.4
LCO				*i* S		Sb		04 57 00.9	-1.9
LCO				IAML				04 57 09.4	
	comp=E,60nm,0.2s								
AROD	**Rodeo**	2.05	73	*e*P		Pn		04 56 36.5	+0.4
ROCH	**El Roble**	2.25	164	*e*P		Pn		04 56 39.3	+0.5
ROCH				*i* S		Sn		04 57 05.7	-1.2
ROCH				IAML				04 57 12.3	
	comp=N,50nm,0.3s								
ROC1	**El Roble**	2.26	164	*e*P		Pn		04 56 40.1	+1.2
ROC1				*e*S		Sb		04 57 09.7	-0.6
RTLS	**Leoncito**	2.31	116	*e*P		Pn		04 56 39.6	0.0
RTLS				*e*S		Sn		04 57 08.7	+0.2
RTLS				IAML				04 57 09.0	
	comp=Z,12nm,0.4s								
ACDV	**Cuesta del Vie**	2.34	75	*e*P		Pn		04 56 40.3	+0.3
ACDV				*e*S		Sn		04 57 09.5	+0.5
AUSP	**Uspallata**	2.46	126	*e*P		Pn		04 56 42.3	+0.6
AUSP				*e*S		Sn		04 57 12.7	+0.7
AMOG	**MOGNA**	2.79	94	*e*P		Pn		04 56 45.9	-0.2
AMOG				*e*S		Sn		04 57 19.3	-0.7
ASAL	**Salagasta**	3.05	127	*e*P		Pn		04 56 50.1	+0.5
ASAL				*e*S		Sn		04 57 26.4	0.0
AGUA	**GUANDACOL**	3.10	66	*e*P		Pn		04 56 52.5	+2.1
ARCO	**CERRO ARCO**	3.14	131	*e*P		Pn		04 56 52.0	+1.1
ARCO				IAML				04 57 36.8	
	comp=Z,8.7nm,0.4s								
VCA	**Vinchina**	3.69	57	*e*P		Pn		04 57 00.8	+2.2
VCA				*e*S		Sn		04 57 43.3	+0.9
VCA				IAML				04 57 53.6	
	comp=Z,20nm,0.5s								

IDC 31 05:01:57.7±1.6,15°.57S×168°.23E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.7/43,mbtmp3.6/5,ML3.5/1,Error ellipse: s-maj=51.2km s-min=25.5km az=126.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	6.68	194	P		Pn	Pn	05 03 38.0	+0.6
	0.9nm,0.3s,baz=297,slow=18,SNR=26								
DZM				Sn		Sn		05 04 52.6	-1.7
	0.8nm,0.3s,baz=301,slow=19,SNR=2.6								
WRA	**Warramunga Arr**	32.53	257	P		P		05 08 31.1	+0.3
	0.5nm,1.0s,baz=85,slow=8.7,SNR=3.6								
ASAR	**Alice Springs**	33.25	251	P		P		05 08 36.7	-0.3
	0.3nm,0.7s,baz=76,slow=9.0,SNR=3.2								
ILAR	**Eielson Array**	87.04	18	P		P		05 14 44.0	-0.7
	0.5nm,0.8s,baz=233,slow=6.3,SNR=5.5								
YKA	**Yellowknife Ar**	97.87	27	P		Pdif		05 15 35.5	+0.6
	0.2nm,0.6s,baz=254,slow=4.5,SNR=7.0								

IDC 31 05:04:22.0±1.3,0°.22S×123°.71E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.4/56,mbtmp3.5/4,Error ellipse: s-maj=181.6km s-min=21.7km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	22.19	153	P		P		05 09 19.1	-1.0
	1.0nm,0.3s,baz=330,slow=11,SNR=26								
ASAR	**Alice Springs**	25.32	158	P		P		05 09 51.6	+1.0
	0.3nm,0.5s,baz=340,slow=8.3,SNR=5.2								
MKAR	**Makanchi Array**	59.18	328	P		P		05 14 25.8	+0.9
	0.1nm,0.3s,baz=121,slow=7.4,SNR=4.2								
KURBB	**Kurchatov Arra**	63.51	330	P		P		05 14 53.3	-0.8
	0.3nm,0.5s,baz=132,slow=5.9,SNR=4.0								

*NEIC **31** 05:07:50.2±0.0,36°.89S×177°.11E,h198km,ML4.2(WEL), After WEL.*

WEL 31 05:07:46.8,37°.S±7°.×17°.7E±°,h246km±9km,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	0.90	190	P		P	Pn	05 08 21.9	+1.1
HAZ	**Te Kaha**	0.93	149	P		P	Pn	05 08 19.7	-1.2
OPRZ	**Ohinepanea**	1.00

MHGZ	**Mahia Peninsul**	**2.26**	**165**	P	Pn	05 08 32.1 +0.7
BKZ	**Black Stump Fm**	**2.26**	**194**	Pn	Pn	05 08 31.3 -0.1
BKZ	**Black Stump Fm**	**2.26**	**194**	P	Pn	05 08 31.3 -0.1
ARHZ	**Aropaoanui**	**2.30**	**183**	Pn	Pn	05 08 32.5 +0.8
ARHZ	**Aropaoanui**	**2.30**	**183**	P	Pn	05 08 32.5 +0.8
KATZ	**Kakaramea**	**2.32**	**210**	P	Pn	05 08 32.9 +0.8
HIZ	**Hauiti**	**2.40**	**229**	P	Pn	05 08 34.7 +2.0
KRVZ	**Karewarewa**	**2.44**	**209**	Pn	Pn	05 08 33.9 +0.6
KRVZ	**Karewarewa**	**2.44**	**209**	P	Pn	05 08 34.1 +0.8
WTVZ	**West Tongariro**	**2.48**	**210**	Pn	Pn	05 08 34.4 +0.7
WTVZ	**West Tongariro**	**2.48**	**210**	P	Pn	05 08 34.5 +0.8
OTVZ	**Oturere**	**2.50**	**208**	Pn	Pn	05 08 34.5 +0.7
MCHZ	**McNeill Hill**	**2.50**	**188**	Pn	Pn	05 08 34.6 +0.9
MCHZ	**McNeill Hill**	**2.50**	**188**	P	Pn	05 08 34.6 +0.9
TWVZ	**Taurewa**	**2.51**	**213**	Pn	Pn	05 08 34.9 +1.0
TWVZ	**Taurewa**	**2.51**	**213**	P	Pn	05 08 34.9 +1.0
KWHZ	**Kaweka Forest**	**2.52**	**193**	P	Pn	05 08 34.5 +0.5
NGZ	**Ngauruhoe**	**2.53**	**209**	Pn	Pn	05 08 35.1 +0.9
NGZ	**Ngauruhoe**	**2.53**	**209**	P	Pn	05 08 35.2 +1.0
COVZ	**Chateau Observ**	**2.58**	**209**	P	Pn	05 08 35.5 +0.9
TUVZ	**Tukino**	**2.59**	**207**	Pn	Pn	05 08 35.4 +0.5
TUVZ	**Tukino**	**2.59**	**207**	P	Pn	05 08 35.4 +0.6
FWVZ	**Far West T-bar**	**2.62**	**209**	Pn	Pn	05 08 35.7 +0.5
FWVZ	**Far West T-bar**	**2.62**	**209**	P	Pn	05 08 35.8 +0.6
WHVZ	**Whangaehu Hut**	**2.63**	**208**	Pn	Pn	05 08 35.8 +0.5
WHVZ	**Whangaehu Hut**	**2.63**	**208**	P	Pn	05 08 35.8 +0.6
TRVZ	**Turoa**	**2.66**	**208**	Pn	Pn	05 08 36.1 +0.5
TRVZ	**Turoa**	**2.66**	**208**	P	Pn	05 08 36.1 +0.6
WNVZ	**Wahianoa**	**2.66**	**207**	Pn	Pn	05 08 36.0 +0.4
BHHZ	**Black Hill Sta**	**2.67**	**199**	Pn	Pn	05 08 35.5 0.0
BHHZ	**Black Hill Sta**	**2.67**	**199**	P	Pn	05 08 35.5 0.0
MOVZ	**Moawhango**	**2.68**	**204**	Pn	Pn	05 08 35.6 0.0
MOVZ	**Moawhango**	**2.68**	**204**	P	Pn	05 08 35.7 +0.1
CKHZ	**Cape Kidnapper**	**2.69**	**182**	Pn	Pn	05 08 36.2 +0.6
CKHZ	**Cape Kidnapper**	**2.69**	**182**	P	Pn	05 08 36.3 +0.7
PKVZ	**Pokaka**	**2.73**	**211**	Pn	Pn	05 08 36.9 +0.7
PKVZ	**Pokaka**	**2.73**	**211**	P	Pn	05 08 37.0 +0.8
KRHZ	**Kereru**	**2.75**	**193**	P	Pn	05 08 36.4 +0.2
MTVZ	**Mangateitei**	**2.76**	**209**	Pn	Pn	05 08 37.1 +0.6
MTVZ	**Mangateitei**	**2.76**	**209**	P	Pn	05 08 37.2 +0.7
KAHZ	**Kahuranaki**	**2.83**	**185**	Pn	Pn	05 08 38.0 +0.8
KAHZ	**Kahuranaki**	**2.83**	**185**	P	Pn	05 08 38.0 +0.8
VRZ	**Vera Road**	**2.88**	**221**	P	Pn	05 08 40.6 +3.0
PNHZ	**Pukenui**	**3.04**	**194**	Pn	Pn	05 08 39.5 0.0
PNHZ	**Pukenui**	**3.04**	**194**	P	Pn	05 08 39.5 0.0
WPHZ	**Waipukurau**	**3.15**	**190**	Pn	Pn	05 08 40.5 -0.1
WPHZ	**Waipukurau**	**3.15**	**190**	P	Pn	05 08 40.6 0.0
TSZ	**Takapari Road**	**3.23**	**197**	Pn	Pn	05 08 41.4 -0.2
TSZ	**Takapari Road**	**3.23**	**197**	P	Pn	05 08 41.6 +0.1
WAZ	**Wanganui**	**3.27**	**211**	Pn	Pn	05 08 42.7 +0.7
WAZ	**Wanganui**	**3.27**	**211**	P	Pn	05 08 42.9 +1.0
PRHZ	**Porangahau**	**3.32**	**187**	Pn	Pn	05 08 42.7 +0.2
PRHZ	**Porangahau**	**3.32**	**187**	P	Pn	05 08 42.7 +0.2
NEZ	**North Egmont**	**3.34**	**226**	Pn	Pn	05 08 46.4 +3.5
PKE	**Pukeiti**	**3.36**	**228**	P	Pn	05 08 46.6 +3.7
DVHZ	**Dannevirke**	**3.42**	**193**	Pn	Pn	05 08 43.3 -0.3
DVHZ	**Dannevirke**	**3.42**	**193**	P	Pn	05 08 43.3 -0.3
ANWZ	**Angora Road**	**3.53**	**189**	P	Pn	05 08 45.2 +0.3
POWZ	**Post Office Ro**	**3.59**	**197**	Pn	Pn	05 08 45.6 0.0
POWZ	**Post Office Ro**	**3.59**	**197**	P	Pn	05 08 45.7 +0.1
PRWZ	**Pori Road**	**3.70**	**194**	Pn	Pn	05 08 47.2 +0.4
PRWZ	**Pori Road**	**3.70**	**194**	P	Pn	05 08 47.3 +0.4
BFZ	**Birch Farm**	**3.78**	**191**	Pn	Pn	05 08 47.5 -0.3
BFZ	**Birch Farm**	**3.78**	**191**	P	Pn	05 08 47.5 -0.3
MRZ	**Mangatainoka R**	**3.89**	**198**	Pn	Pn	05 08 48.6 -0.5
MRZ	**Mangatainoka R**	**3.89**	**198**	P	Pn	05 08 48.7 -0.4
TIWZ	**Tintock**	**3.94**	**194**	Pn	Pn	05 08 49.4 -0.2
TIWZ	**Tintock**	**3.94**	**194**	P	Pn	05 08 49.5 -0.1
CPWZ	**Castlepoint**	**4.01**	**191**	Pn	Pn	05 08 50.7 +0.2
CPWZ	**Castlepoint**	**4.01**	**191**	P	Pn	05 08 51.3 +0.9
HOWZ	**Holdsworth Sta**	**4.13**	**198**	Pn	Pn	05 08 51.1 -0.8
HOWZ	**Holdsworth Sta**	**4.13**	**198**	P	Pn	05 08 51.2 -0.8
OGWZ	**Otaki Gorge**	**4.15**	**201**	Pn	Pn	05 08 51.6 -0.5
OGWZ	**Otaki Gorge**	**4.15**	**201**	P	Pn	05 08 51.7 -0.4
TMWZ	**Te Maipa**	**4.25**	**193**	Pn	Pn	05 08 53.0 -0.4
TMWZ	**Te Maipa**	**4.25**	**193**	P	Pn	05 08 53.0 -0.3
KIW	**Kapiti Island**	**4.27**	**204**	Pn	Pn	05 08 52.9 -0.7
KIW	**Kapiti Island**	**4.27**	**204**	P	Pn	05 08 53.0 -0.6
MTW	**Mount Morrison**	**4.38**	**197**	Pn	Pn	05 08 54.0 -0.9
MTW	**Mount Morrison**	**4.38**	**197**	P	Pn	05 08 54.1 -0.8
CAW	**Cannon Point**	**4.45**	**201**	Pn	Pn	05 08 54.9 -0.8
CAW	**Cannon Point**	**4.45**	**201**	P	Pn	05 08 54.9 -0.8
TRWZ	**Traveller**	**4.57**	**194**	Pn	Pn	05 08 56.0 -1.2
TRWZ	**Traveller**	**4.57**	**194**	P	Pn	05 08 57.2 0.0
DUWZ	**D'Urville Isla**	**4.59**	**213**	Pn	Pn	05 08 57.2 +0.2
DUWZ	**D'Urville Isla**	**4.59**	**213**	P	Pn	05 08 57.4 0.0
PAWZ	**Paruwai Farm**	**4.61**	**197**	Pn	Pn	05 08 56.7 -1.0
PAWZ	**Paruwai Farm**	**4.61**	**197**	P	Pn	05 08 56.7 -1.0
MSWZ	**Moikau Station**	**4.69**	**198**	Pn	Pn	05 08 57.8 -0.8
MSWZ	**Moikau Station**	**4.69**	**198**	P	Pn	05 08 57.8 -0.8
WEL	**Wellington**	**4.70**	**203**	Pn	Pn	05 08 57.9 -0.8
BHW	**Baring Head**	**4.78**	**201**	Pn	Pn	05 08 58.8 -0.9
BHW	**Baring Head**	**4.78**	**201**	P	Pn	05 08 58.9 -0.8
TCW	**Tory Channel**	**4.80**	**207**	Pn	Pn	05 08 59.1 -0.8
TCW	**Tory Channel**	**4.80**	**207**	P	Pn	05 08 59.2 -0.7
PLWZ	**Palliser**	**4.83**	**197**	Pn	Pn	05 08 59.2 -1.2
PLWZ	**Palliser**	**4.83**	**197**	P	Pn	05 08 59.2 -1.1
TUWZ	**Tuamarina**	**5.11**	**208**	Pn	Pn	05 09 02.9 -0.9
TUWZ	**Tuamarina**	**5.11**	**208**	P	Pn	05 09 02.9 -0.8
NNZ	**Nelson**	**5.17**	**214**	Pn	Pn	05 09 04.5 +0.1
NNZ	**Nelson**	**5.17**	**214**	P	Pn	05 09 04.1 -0.3
QRZ	**Quartz Range**	**5.29**	**222**	Pn	Pn	05 09 06.0 +0.1
QRZ	**Quartz Range**	**5.29**	**222**	P	Pn	05 09 06.0 +0.1
BSWZ	**Blackbirch Sta**	**5.39**	**207**	Pn	Pn	05 09 07.6 +0.4
BSWZ	**Blackbirch Sta**	**5.39**	**207**	P	Pn	05 09 07.6 +0.5
THZ	**Tophouse**	**5.82**	**213**	Pn	Pn	05 09 12.7 +0.2
THZ	**Tophouse**	**5.82**	**213**	P	Pn	05 09 12.7 +0.1
KHZ	**Kahutara**	**6.12**	**206**	P	Pn	05 09 16.4 +0.2
DSZ	**Denniston Nort**	**6.33**	**219**	P	Pn	05 09 18.8 -0.1
LTZ	**Lake Taylor**	**6.92**	**211**	P	Pn	05 09 26.8 +0.4
INZ	**Inchbonnie**	**7.24**	**216**	P	Pn	05 09 30.4 0.0
OKCZ	**Okains Bay**	**7.44**	**204**	P	Pn	05 09 33.2 +0.3
OXZ	**Oxford**	**7.47**	**210**	Pn	Pn	05 09 32.1 -1.2
OXZ	**Oxford**	**7.47**	**210**	P	Pn	05 09 32.6 -0.7
MQZ	**McQueen's Vall**	**7.56**	**206**	Pn	Pn	05 09 33.3 -1.2
MQZ	**McQueen's Vall**	**7.56**	**206**	P	Pn	05 09 33.2 -1.2
AKCZ	**Akaroa Harbour**	**7.62**	**204**	P	Pn	05 09 35.1 -0.1
WVZ	**Waitaha Valley**	**7.85**	**217**	P	Pn	05 09 38.2 +0.2
FOZ	**Fox Glacier**	**8.64**	**218**	Pn	Pn	05 09 47.4 -0.7
FOZ	**Fox Glacier**	**8.64**	**218**	P	Pn	05 09 47.5 -0.2
ODZ	**Otahua Downs**	**9.46**	**209**	Pn	Pn	05 09 58.2 +0.2
ODZ	**Otahua Downs**	**9.46**	**209**	P	Pn	05 09 58.6 +0.2
JCZ	**Jackson Bay**	**9.54**	**219**	Pn	Pn	05 09 59.4 -0.2
JCZ	**Jackson Bay**	**9.54**	**219**	P	Pn	05 09 59.2 -0.5

KRSC 31 05:35:07.1±1.0, 52.73N×160.71E, h18km±1km, ML3.6,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.56**	**312**	*eP*	Pb	05 35 18.5	+0.2
SPN				*eS*	Sb	05 35 25.9	0.0
NLC	**Nalytchevo**	**0.94**	**299**	*eP*	Pb	05 35 24.4	-0.4
NLC				*eS*	Sb	05 35 36.7	-0.2
DALK	**Dalny**	**1.22**	**285**	*eP*	Pn	05 35 29.2	-0.1
DALK				*eS*	Sn	05 35 45.3	-0.1
SDLR	**Sedlovina**	**1.23**	**297**	*eP*	Pn	05 35 29.5	-0.1
SDLR				*eS*	Sb	05 35 45.1	-0.4
UGLR	**Uglovaya**	**1.24**	**294**	*eP*	Pb	05 35 29.9	-0.1
UGLR				*eS*	Sg	05 35 47.1	-0.1
SMAR	**Somma**	**1.27**	**296**	*eP*	Pb	05 35 31.0	+0.3
SMAR				*eS*	Sg	05 35 48.1	-0.2
PET	**Petropavlovsk**	**1.28**	**284**	*eP*	Pb	05 35 30.4	-0.3
PET				*eS*	Sn	05 35 46.9	+0.1
AVH	**Avacha**	**1.30**	**295**	*eP*	Pn	05 35 30.9	-0.3
RUS	**Russkaya**	**1.37**	**258**	*eP*	Pn	05 35 31.7	+0.3
RUS				*eS*	Sn	05 35 49.0	0.0
KOK	**Koryaka**	**1.37**	**295**	*eP*	Pb	05 35 32.1	-0.2
KOK				*eS*	Sb	05 35 49.8	+0.2
KRX	**Arik**	**1.39**	**298**	*eP*	Pn	05 35 32.1	+0.3
KRX				*eS*	Sn	05 35 49.3	-0.6
KII	**Karymskiy**	**1.51**	**331**	*eP*	Pb	05 35 34.1	-0.6
KII				*eS*	Sb	05 35 53.7	+0.2
MTVR	**Mutnovka**	**1.56**	**262**	*eP*	Pn	05 35 34.8	+0.7
MTVR				*eS*	Sb	05 35 55.0	0.0
KRMR	**Karymshinskiy**	**1.57**	**275**	*eP*	Pn	05 35 34.4	+0.3
KRMR				*eS*	Sn	05 35 53.7	-0.2
ASAK	**Asacha**	**1.75**	**260**	*eP*	Pb	05 35 38.3	-0.4
KDTR	**Khodutka, Kamc**	**1.86**	**241**	*eP*	Pb	05 35 39.6	-1.0
KDTR				*eS*	Sb	05 36 03.0	-0.5
GNL	**Ganaly**	**1.92**	**301**	*eP*	Pb	05 35 40.7	-1.0
GNL				*eS*	Sb	05 36 04.8	-0.6
KZV	**Kizimen**	**2.40**	**354**	*eP*	Pn	05 35 47.4	+1.7
KZV				*eS*	Sn	05 36 16.3	+1.6
TUMD	**Tumrok D**	**2.48**	**356**	*eP*	Pn	05 35 48.5	+1.8
TUMD				*eS*	Sb	05 36 19.5	-2.0
TUMR	**Tumrok**	**2.58**	**353**	*eP*	Pn	05 35 49.8	+1.7
TUMR				*eS*	Sn	05 36 21.4	+2.3
KMNR	**Kamenistaya**	**3.04**	**355**	*eP*	Pb	05 35 58.4	-2.4
KBTR	**Krutoberegovo**	**3.70**	**19**	*eP*	Pn	05 36 06.4	+3.1
SMKR	**Semkarok**	**3.89**	**6**	*eP*	Pb	05 36 10.7	-4.4

*NEIC **31** 05:44:32.1±0.0, 16.17N×98.37W, h3km, MD4.0(MEX), After MEX.*

MEX 31 05:44:32.1±0.5, 16.14N×98.34W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**39**	*i* P	Pg	05 44 37.8	-0.7
PNIG				*eS*	Sg	05 44 42.9	+0.1
PNIG	**Pinotepa**	**0.33**	**39**	*i* P	Pg	05 44 37.8	-0.7
PNIG				*eS*	Sg	05 44 42.9	+0.1
TLIG	**Tlapa**	**1.44**	**351**	*eP*	Pn	05 44 54.8	-4.1
TLIG				*eS*	Sb	05 45 13.5	-4.6
TLIG	**Tlapa**	**1.44**	**351**	*eP*	Pn	05 44 54.8	-4.1
TLIG				*eS*	Sb	05 45 12.9	-5.2
VHO	**Vista Hermosa**	**1.80**	**59**	*eP*	Pn	05 45 01.2	-2.8
VHO				*i* S	Sn	05 45 23.1	-4.2
VHO	**Vista Hermosa**	**1.80**	**59**	*eP*	Pn	05 45 01.2	-2.8
VHO				*eS*	Sn	05 45 24.1	-3.3
CAIG	**El Cayaco**	**2.06**	**296**	*i* P	Pn	05 45 04.2	-3.2
CAIG				*i* S	Sn	05 45 29.3	-4.2
CAIG	**El Cayaco**	**2.06**	**296**	*i* S	Sn	05 45 34.0	+0.5
HUIG	**Huatulco**	**2.18**	**99**	*eP*	Pn	05 45 05.8	-3.2
HUIG				*i* S	Sn	05 45 32.3	-4.1
HUIG	**Huatulco**	**2.18**	**99**	*eP*	Pn	05 45 07.8	-1.2
HUIG				*eS*	Sg	05 45 40.8	-1.3
MOIG	**Morelia**	**4.45**	**323**	*e*Pn	Pn	05 45 42.6	+2.2
MOIG				*e*Sg	Sb	05 46 48.7	+3.8

IDC 31 05:46:37.4±1.5, 1.04N×122.03E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/60, mbtmpb3.4/3, Error ellipse: s-maj=211.1km s-min=24.3km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**151**	P	P	05 51 54.7	-0.2
	2.6nm,0.6s,baz=326,slow=11,SNR=32						
ASAR	**Alice Springs**	**27.14**	**156**	P	P	05 52 22.9	+0.4
	0.4nm,0.5s,baz=343,slow=14,SNR=14						
MKAR	**Makanchi Array**	**57.23**	**329**	P	P	05 56 26.3	-0.3
	0.1nm,0.5s,baz=117,slow=8.3,SNR=2.7						

IDC 31 05:49:37.1±1.7, 52.58N×85.79E, h0km, mb1 2.9/2, mb1mx2.7/69, mbtmpb2.9/2, ML2.6/2, Error ellipse: s-maj=21.2km s-min=11.8km az=91.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.49**	**337**	Pg	Pn	05 50 03.3	-1.9
	0.6nm,0.3s,baz=160,slow=18,SNR=7.4						
ZALV				Lg	Lg	05 50 24.9	
	1.7nm,0.3s,baz=157,slow=29,SNR=16						
I46RU	**ZALESOVO INFRA**	**1.49**	**337**	*i*		05 59 00.0	
	baz=157,slow=339,SNR=12						
KURBB	**Kurchatov Arra**	**4.93**	**249**	Pn	Pn	05 50 53.2	+0.8
	0.1nm,0.3s,baz=63,slow=13,SNR=12						
MKAR	**Makanchi Array**	**6.22**	**203**	Pn	Pn	05 51 11.6	+1.4
	0.2nm,0.3s,baz=24,slow=14,SNR=15						

*IDC **31** 05:56:34.0±0.8, 28.15N×55.96E, h0km, mb3.8/11, mb1 3.8/12, mb1mx3.6/68, mbtmpb3.8/12, ML3.1/1, MS3.1/3, Ms1 3.1/3, ms1mx2.4/60, Error ellipse: s-maj=20.0km s-min=19.3km az=73.0*

*ISCJB **31** 05:56:35.7±0.4, 28.15N±0.04×55.97E±0.06, h16km, mb3.7/11, MS3.0/3, Error ellipse: s-maj=8.0km s-min=5.2km az=167.8*

*TEH **31** 05:56:36.2, 28.34N×55.94E, h10km, ML3.4*

*CSEM **31** 05:56:36.5, 28.23N×56.07E, h30km, ML3.4, After THR*

ISC 31 05:56:37.0±0.7, 28.23N±0.04×56.00E±0.06, h16km, n32, σ1§10/31, mb3.8/11, MS3.1/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.84**	**170**	*e*Pg	**Pb**	**05 56 52.5**	**-0.9**
GENO	**Geno**	**0.84**	**170**	*e*Pg	**Pn**	**05 56 55.5**	**+1.1**
NIAN	**Nian**	**0.99**	**132**	*e*Pg	**Pn**	**05 56 58.2**	**+1.9**
KRBR	**Kerman**	**1.87**	**21**	*e*Pn	**Pn**	**05 57 08.8**	**+0.1**
KRBR				*e*Sg	**Sb**	**05 57 34.1**	**-0.2**
TVBK	**TV Kerman**	**1.87**	**21**	*e*AMB	AMB	05 57 40.2	
	comp=Z,99nm,0.1s						
TVBK				*e*Pn	**Pn**	**05 57 09.7**	**+0.9**
CHMN	**Cheshme madani**	**2.11**	**39**	*e*Pn	**Pb**	**05 57 14.9**	**-0.3**
CHMN				*e*AMB	AMB	05 57 23.6	
	comp=Z,99nm,0.1s						
KHGB	**Koh Gabri**	**2.18**	**11**	*e*Pn	**Pn**	**05 57 12.9**	**0.0**
KHGB				*e*AMB	AMB	05 57 48.3	
	comp=Z,99nm,0.3s						
GHIR	**Ghir-Karzin**	**2.66**	**272**	*e*Pn	**Pn**	**05 57 20.6**	**+1.2**
IBAF	**Bafgh**	**3.37**	**354**	*e*Pn	**Pn**	**05 57 30.4**	**+1.2**
IBAF				*e*AMB	AMB	05 57 45.4	
	comp=Z,1μm,0.3s						
IMEH	**Mehriz**	**3.37**	**339**	*e*Pn	**Pn**	**05 57 30.5**	**+1.2**
IMEH				*e*AMB	AMB	05 57 51.3	
	comp=Z,874nm,0.2s						
IKAZ	**Kazeroun**	**3.96**	**294**	*e*Pn	**Pn**	**05 57 39.2**	**+1.8**
IKAZ				*e*AMB	AMB	05 58 29.6	
	comp=Z,1μm,0.2s						
IRAM	**Ramesheh**	**4.75**	**320**	*e*Pn	**Pn**	**05 57 50.0**	**+1.8**
IRAM				*e*AMB	AMB	05 57 52.5	
	comp=Z,250nm,0.2s						
ITEG	**Tejag**	**5.22**	**26**	*e*Pn	**Pn**	**05 57 57.4**	**+2.7**
NASN	**Na'in**	**5.32**	**330**	*e*Pn	**Pn**	**05 57 56.7**	**+0.5**
TABS	**Tabas**	**5.49**	**10**	*e*Pn	**Pn**	**05 57 58.0**	**-0.2**
WSAR	**Wadi Sarin**	**5.50**	**154**	Pn	**Pn**	**05 57 58.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=359,slow=11,SNR=4.6						
WSAR				Sn	**Sn**	**05 59 01.3**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=328,slow=19,SNR=7.3						
IZEF	**Zefreh**	**5.63**	**327**	*e*Pn	**Pn**	**05 58 00.9**	**+0.6**
IZEF				*e*AMB	AMB	05 58 31.0	
	comp=Z,103nm,0.2s						
IKLH	**Kolahrood**	**6.34**	**324**	*e*Pn	**Pn**	**05 58 11.1**	**+1.0**
IKLH				*e*AMB	AMB	05 58 20.1	
	comp=Z,146nm,0.2s						
ATD	**Arta Tunnel**	**20.68**	**219**	LR	LR	06 09 54.6	
	comp=Z,19nm,18.6s,baz=87,slow=39						
BRTR	**Keskin Array B**	**21.74**	**308**	P	**P**	**06 01 28.2**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=129,slow=14,SNR=12						
AKTO	**Aktyubinsk**	**22.23**	**3**	P	**P**	**06 01 32.6**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=188,slow=11,SNR=9.5						
BVAR	**Borovoye Array**	**26.97**	**19**	P	**P**	**06 02 18.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=181,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**27.70**	**41**	P	**P**	**06 02 25.4**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=237,slow=11,SNR=3.6						
PALK	**Pallekele**	**31.30**	**127**	LR	LR	06 14 50.0	
	comp=Z,42nm,18.6s,baz=117,slow=35						
ZALV	**Zalesovo Beam**	**33.23**	**31**	P	**P**	**06 03 12.2**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=239,slow=9.2,SNR=9.7						
FINES	**FINESS Array B**	**38.73**	**337**	P	**P**	**06 04 00.2**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=144,slow=17,SNR=4.0						
TORD	**Torodi Ar. Bea**	**52.56**	**265**	P	**P**	**06 05 48.8**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=64,slow=6.4,SNR=10						
SPITS	**Spitsbergen Ar**	**53.09**	**351**	LR	LR	06 30 56.1	
	comp=Z,30nm,18.8s,baz=60,slow=39						
KOWA	**Kowa**	**57.03**	**269**	P	**P**	**06 06 21.5**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=71,slow=4.6,SNR=5.1						
YKA	**Yellowknife Ar**	**89.28**	**356**	P	**P**	**06 09 33.1**	**+1.0**
	comp=Z,0.1nm,0.7s,baz=7.2,slow=4.7,SNR=4.3						
WRA	**Warramunga Arr**	**89.53**	**113**	P	**P**	**06 09 33.6**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=317,slow=4.2,SNR=4.1						
ASAR	**Alice Springs**	**91.05**	**116**	P	**P**	**06 09 39.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=308,slow=4.4,SNR=4.0						

*ISCJB **31** 05:59:14.6±1.0, 83.1N±0.2×117.7E±, h10km, mb3.4/7, MS3.1/2, Error ellipse: s-maj=35.3km s-min=16.0km az=158.7*

*IDC **31** 05:59:14.8±1.1, 83.15N×116.70E, h0km, mb3.4/7, mb1 3.6/7, mb1mx3.2/81, mbtmpb3.4/7, MS3.2/2, Ms1 3.2/2, ms1mx2.4/48, Error ellipse: s-maj=42.3km s-min=19.1km az=157.0*

ISC 31 05:59:16.3±1.1, 83.1N±0.3×116.9E±0.2, h10km, n9, σ1§48/7, mb3.6/7, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**21.83**	**289**	P	**P**	**06 04 09.7**	**+1.4**
	2.6nm,0.9s,baz=29,slow=11,SNR=2.9						
ILAR	**Eielson Array**	**26.96**	**70**	P	**P**	**06 04 58.0**	**+0.6**
	0.2nm,0.8s,baz=331,slow=6.6,SNR=3.6						
ARU	**Arti**	**30.61**	**248**	LR	LR	06 19 25.4	
	comp=Z,54nm,18.0s,baz=156,slow=40						
YKA	**Yellowknife Ar**	**32.40**	**43**	P	**P**	**06 05 44.2**	**-1.3**
	0.1nm,0.6s,baz=344,slow=8.3,SNR=2.6						
AKTO	**Aktyubinsk**	**36.58**	**247**	LR	LR	06 21 30.1	
	comp=Z,27nm,18.4s,baz=4.2,slow=36						
MKAR	**Makanchi Array**	**37.86**	**219**	P	**P**	**06 06 32.8**	**+0.1**
	0.8nm,0.9s,baz=4.6,slow=7.2,SNR=6.7						
BRTR	**Keskin Array B**	**49.99**	**269**	P	**P**	**06 08 10.1**	**-0.2**
	0.7nm,0.8s,baz=12,slow=7.4,SNR=2.9						
TXAR	**Lajitas Array**	**66.18**	**38**	P	**P**	**06 10 05.3**	**+1.6**
	0.5nm,1.0s,baz=1.0,slow=5.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**79.96**	**296**	P	**P**	**06 11 23.7**	**-1.5**
	1.3nm,0.8s,baz=356,slow=6.5,SNR=6.6						

*IDC **31** 06:06:20.0±1.1, 30.28N×138.55E, h430km±13km, mb2.9/12, mb1 3.1/16, mb1mx2.9/67, mbtmpb3.8/16, Error ellipse: s-maj=19.7km s-min=10.5km az=88.0*

*JMA **31** 06:06:20.1±0.2, 30.52N×139.50E, h451km, M3.9*

ISC 31 06:06:20.2±0.8, 30.44N±0.08×139.2E±0.2, h451km, n23, σ2§16/23, mb3.3/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.71**	**10**	P	**P**	**06 07 26.8**	**+1.7**
	36nm,0.3s,baz=137,slow=22,SNR=6.4						
TTO4	**TONANKAI O.B.S**	**3.83**	**339**	P	**P**	**06 07 34.5**	**+1.0**
CBIJ	**Chichi jima**	**4.23**	**141**	P	**P**	**06 07 36.9**	**-0.6**
CBIJ				S	**S**	**06 08 38.2**	**-2.2**
JCJ	**Chichijima**	**4.23**	**141**	P	**P**	**06 07 37.1**	**-0.5**
	3.5nm,0.3s,baz=353,slow=22,SNR=9.3						
JCJ				S	**S**	**06 08 38.4**	**-2.0**
	baz=288,slow=20						
BSO4	**Boso 4**	**4.63**	**11**	P	**P**	**06 07 41.9**	**+1.1**
JHU	**Hanno**	**5.39**	**1**	P	**P**	**06 07 48.4**	**+0.1**
JHU				*e*S	**S**	**06 08 56.4**	**-3.9**
JRY	**Ryogami san**	**5.56**	**357**	P	**P**	**06 07 50.7**	**+0.7**
JAG	**Ashikaga**	**5.97**	**2**	P	**P**	**06 07 53.7**	**-0.4

	baz=282						
YHNB				*e*S	**Sn**	**06 08 05.5**	**-0.7**
	baz=282						
NSK	**Sanguang**	**1.32 281**	*e*P		**Pn**	**06 07 49.7**	**+0.8**
	baz=281						
YM04	**YM04**	**1.35 303**	*e*P		**Sn**	**06 07 49.1**	**-0.1**
	baz=295						
YM04				*e*S	**Sn**	**06 08 06.5**	**-0.5**
	baz=295						
ESL	**Shilin**	**1.37 244**	*e*P		**Pn**	**06 07 48.8**	**-0.7**
	baz=243						
JISG	**Ishigakijimahi**	**1.40 83**	P		**Pn**	**06 07 49.5**	**-0.3**
JISG				S	**Sn**	**06 08 07.4**	**-0.8**
WHF	**Hehuan Shan**	**1.41 259**	P		**Pn**	**06 07 50.0**	**-0.4**
	baz=259						
WHF				*e*S	**Sn**	**06 08 08.1**	**-1.0**
	baz=259						
EGFH	**Guangfu**	**1.45 239**	P		**Pn**	**06 07 49.7**	**-0.7**
	baz=235						
EGFH				*e*S	**Sn**	**06 08 08.2**	**-1.1**
	baz=235						
TWT	**Tachien**	**1.48 264**	*e*S		**Sn**	**06 08 10.1**	**-0.1**
	baz=266						
TDCB	**Techi**	**1.49 264**	P		**Pn**	**06 07 51.5**	**+0.4**
	baz=266						
TDCB				*e*S	**Sn**	**06 08 09.8**	**-0.6**
	baz=266						
CHGB	**Renai**	**1.51 257**	P		**Pn**	**06 07 51.6**	**+0.1**
	baz=251						
CHGB				S	**Sn**	**06 08 10.7**	**-0.4**
	baz=251						
OWD	**Renai**	**1.54 253**	*e*P		**Pn**	**06 07 51.2**	**-0.5**
	baz=252						
OWD				*e*S	**Sn**	**06 08 10.4**	**-1.2**
	baz=252						
HGSD	**Ruisui**	**1.55 234**	*e*P		**Pn**	**06 07 50.8**	**-0.9**
	baz=232						
EHY	**Hungye**	**1.62 236**	P		**Pn**	**06 07 51.7**	**-0.9**
	baz=244						
EHY				*e*S	**Sn**	**06 08 12.0**	**-1.2**
	baz=244						
NSTT	**Nanjuang**	**1.64 278**	*e*S		**Sn**	**06 08 13.6**	**0.0**
	baz=286						
YULB	**Yu-li**	**1.70 233**	P		**Pn**	**06 07 53.0**	**-0.7**
	baz=242						
YULB				S	**Sn**	**06 08 14.3**	**-0.9**
	baz=242						
TWF1	**Yuli**	**1.73 232**	P		**Pn**	**06 07 53.4**	**-0.6**
	baz=228						
TWF1				*e*S	**Sn**	**06 08 14.2**	**-1.5**
	baz=228						
JTJ	**Tarama**	**1.76 83**	P		**Pn**	**06 07 54.8**	**+0.4**
JTJ				S	**Sn**	**06 08 16.3**	**-0.1**
SSLB	**Suanglung**	**1.79 250**	*e*P		**Pn**	**06 07 54.9**	**+0.1**
	baz=249						
SMLT	**Sun Moon Lake**	**1.80 253**	*e*P		**Pn**	**06 07 55.4**	**+0.4**
	baz=249						
SMLT				*e*S	**Sn**	**06 08 17.0**	**-0.6**
	baz=249						
TYC	**Yuchr**	**1.83 254**	*e*P		**Pn**	**06 07 55.7**	**+0.4**
	baz=250						
TYC				*e*S	**Sn**	**06 08 17.9**	**-0.2**
	baz=250						
WJS	**Zhushan**	**1.97 253**	*e*S		**Sn**	**06 08 22.8**	**+1.4**
	baz=252						
WNT	**Mingjian**	**1.99 255**	*e*S		**Sn**	**06 08 23.4**	**+1.6**
	baz=266						
ALS	**Alishan**	**2.02 244**	*e*P		**Pn**	**06 07 58.7**	**+0.6**
	baz=237						
ELDTW	**Lidau**	**2.03 233**	*e*P		**Pn**	**06 07 57.4**	**-0.7**
	baz=227						
CHN5	**Tsauling**	**2.09 247**	*e*P		**Pn**	**06 07 59.7**	**+0.8**
	baz=240						
CHN5				*e*S	**Sn**	**06 08 25.5**	**+1.2**
	baz=240						
CHN4	**Tsaushan**	**2.27 242**	*e*P		**Pn**	**06 08 02.9**	**+1.7**
	baz=236						
CHN4				*e*S	**Sn**	**06 08 30.4**	**+1.9**
	baz=236						
TWK	**Hsinying**	**2.40 242**	*e*P		**Pn**	**06 08 04.0**	**+1.1**
	baz=241						
TWK				*e*S	**Sn**	**06 08 32.7**	**+1.2**
	baz=241						
CHN1	**Nanshi**	**2.41 240**	*e*P		**Pn**	**06 08 03.5**	**+0.6**
	baz=239						
CHN1				*e*S	**Sn**	**06 08 32.0**	**+0.3**
	baz=239						
MASBT	**Mashibuluo**	**2.67 228**	*e*P		**Pn**	**06 08 07.5**	**+1.0**
	baz=224						

*IDC **31** 06:09:43.0±3.2, 12°.94N×90°.44W, h66km±26km, mb3.4/7, mb1 3.6/9, mb1mx3.4/46, mbtmp3.7/9, ML3.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/24, Error ellipse: s-maj=49.9km s-min=17.2km az=42.0*

ISC 31 06:09:38.0±1.1, 12°.9N±0°.1×90°.7W±0°.1, h24km, n10, σ1°13/12, mb3.9/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.15**	**6**	P	**Pb**	**06 10 15.3**	**-1.1**
	10nm,0.3s,baz=189,slow=12,SNR=246						
APG				S	**Sb**	**06 10 44.5**	**+1.8**
	13nm,0.3s,baz=324,slow=22,SNR=11						
CMIG	**Matias Romero**	**5.85**	**317**	P	**Pn**	**06 11 03.1**	**-0.2**
	0.5nm,0.3s,baz=137,slow=15,SNR=11						
CMIG				S	**Sn**	**06 12 09.8**	**+0.1**
	0.7nm,0.3s,baz=270,slow=20,SNR=3.3						
JTS	**JuntasAbangare**	**6.16**	**114**	P	**Pn**	**06 11 08.4**	**+0.8**
	0.4nm,0.3s,baz=14,slow=19,SNR=4.2						
JTS				S	**Sn**	**06 12 17.3**	**-0.1**
	0.9nm,0.3s,baz=357,slow=19,SNR=3.0						
TXAR	**Lajitas Array**	**20.36**	**326**	P	Pn	06 14 15.7	+0.6
	1.3nm,0.7s,baz=151,slow=12,SNR=23						
TKL	**Tuckaleechee C**	**23.54**	**14**	P	**P**	**06 14 47.3**	**+0.7**
	4.7nm,0.7s,baz=171,slow=12,SNR=6.9						
TKL				LR	LR	06 23 32.3	
	comp=Z,30nm,20.9s,baz=160,slow=35						
NVAR	**Mina Array Bea**	**35.36**	**321**	P	**P**	**06 16 33.7**	**+1.7**
	0.7nm,0.7s,baz=136,slow=10,SNR=4.3						
ULM	**Lac du Bonnet**	**37.53**	**355**	P	**P**	**06 16 48.9**	**-1.2**
	1.9nm,0.6s,baz=180,slow=8.2,SNR=3.5						
SCHQ	**Schefferville**	**45.86**	**19**	P	**P**	**06 17 57.0**	**-1.3**
	2.1nm,0.5s,baz=207,slow=4.4,SNR=3.7						
YKA	**Yellowknife Ar**	**52.43**	**346**	P	**P**	**06 18 48.3**	**-0.1**
	0.1nm,0.6s,baz=144,slow=7.7,SNR=3.4						
INK	**Inuvik**	**61.89**	**343**	P	**P**	**06 19 55.1**	**0.0**
	0.3nm,0.6s,baz=135,slow=7.1,SNR=2.9						

*ISCJB **31** 06:12:04.9±0.5, 8°.47S±0°.06×30°.3E±0°.1, h10km, mb4.6/9, MS2.9/3, Error ellipse: s-maj=15.1km s-min=7.5km az=19.3*

*IDC **31** 06:12:06.1±1.3, 8°.43S×30°.24E, h0km, mb3.8/3, mb1 4.2/8, mb1mx3.7/55, mbtmp4.2/8, ML2.1/1, MS3.0/5, Ms1 3.0/5, ms1mx2.6/56, Error ellipse: s-maj=34.9km s-min=18.1km az=114.0*

*NEIC **31** 06:12:07.0±0.5, 8°.46S×30°.29E, h10km, mb4.6/5, Error ellipse: s-maj=14.7km s-min=7.8km az=111.0*

ISC 31 06:12:06.5±0.6, 8°.46S±0°.06×30°.3E±0°.1, h10km, n22, σ2°04/24, mb4.7/9, MS3.0/3, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**7.09**	**197**	Pn	**Pn**	**06 13 53.1**	**+2.6**
	1.8nm,0.3s,baz=11,slow=13,SNR=21						
LSZ				Sn	**Sn**	**06 15 06.1**	**-5.3**
	9.6nm,0.3s,baz=311,slow=21,SNR=24						
LSZ				Lg	Lg	06 15 47.0	
	11nm,0.3s,baz=291,slow=22,SNR=8.1						
LSZ				LR	LR	06 16 52.1	
	comp=Z,122nm,19.0s,baz=19,slow=40						
LSZ	**Lusaka**	**7.09**	**197**	*e*Pn	**Pn**	**06 13 53.1**	**+2.6**
LSZ				*e*Sn	**Sn**	**06 15 09.5**	**-1.9**
LSZ				Lg	Lg	06 15 47.0	
MBAR	**Mbarara**	**7.82**	**3**	Pn	**Pn**	**06 14 01.1**	**+0.6**
	14nm,0.3s,baz=23,slow=22,SNR=23						
MBAR				Sn	**Sn**	**06 15 25.7**	**-3.6**
	9.1nm,0.3s,baz=49,slow=19,SNR=2.7						
MBAR				Lg	Lg	06 16 06.7	
	8.9nm,0.3s,baz=139,slow=16,SNR=4.7						
KMBO	**Kilima Mbogo**	**10.02**	**44**	Pn	**Pn**	**06 14 32.0**	**+1.2**
	4.3nm,0.3s,baz=232,slow=20,SNR=31						
KMBO				Sn	**Sn**	**06 16 20.3**	**-3.4**
	0.7nm,0.3s,baz=315,slow=20,SNR=2.5						
KMBO				Lg	Lg	06 17 25.1	
	0.8nm,0.3s,baz=281,slow=13,SNR=4.9						
TSUM	**Tsumeb**	**16.34**	**228**	Pn	**Pn**	**06 15 54.7**	**-1.6**
	0.4nm,0.3s,baz=43,slow=13,SNR=6.3						
TSUM				Sn	Sn	06 18 43.1	-15
	0.2nm,0.3s,baz=236,slow=18,SNR=2.7						
TSUM				LR	LR	06 21 56.0	
	comp=Z,30nm,20.9s,baz=284,slow=36						
TSUM	**Tsumeb**	**16.34**	**228**	*e*Pn	**Pn**	**06 15 54.8**	**-1.5**
	15nm,1.4s						
TSUM				*e*Sn	Sn	06 18 43.1	-15
LBTB	**Lobatse**	**17.07**	**195**	P	**Pn**	**06 16 05.0**	**-0.5**
	0.5nm,0.3s,baz=12,slow=14,SNR=6.2						
LBTB				S	Sn	06 19 02.9	-13
	0.4nm,0.3s,baz=110,slow=20,SNR=4.6						
BOSA	**Boshof**	**20.61**	**193**	P	**P**	**06 16 47.2**	**+1.1**
	6.8nm,1.2s,baz=14,slow=13,SNR=2.8						
BOSA				LR	LR	06 24 40.6	
	comp=Z,67nm,19.4s,baz=180,slow=37						
SUR	**Sutherland**	**25.39**	**199**	LR	LR	06 27 33.9	
	comp=Z,7.5nm,18.4s,baz=70,slow=36						
TOA0	**Torodi Ar. Sit**	**35.64**	**307**	*e*P	**P**	**06 19 05.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**35.64**	**307**	P	**P**	**06 19 05.4**	**+0.5**
	1.6nm,0.8s,baz=118,slow=8.6,SNR=9.1						
TOA1	**Torodi Ar. Sit**	**35.65**	**307**	*e*P	**P**	**06 19 05.4**	**+0.4**
KOWA	**Kowa**	**41.00**	**304**	LR	LR	06 37 19.6	
	comp=Z,60nm,18.9s,baz=193,slow=37						
ASCN	**Ascension**	**44.23**	**267**	*e*P	**P**	**06 20 16.5**	**+0.1**
	62nm,0.8s						
ISP	**Isparta**	**46.04**	**0**	*e*P	**P**	**06 20 32.3**	**+1.8**
	12nm,1.0s						
ILGA	**Ilgaz**	**49.36**	**3**	*e*P	**P**	**06 20 55.3**	**-1.1**
	9.2nm,1.0s						
BFO	**Black Forest**	**59.79**	**343**	*e*P	**P**	**06 22 12.0**	**+0.2**
	2.1nm,0.8s						
MK32	**Makanchi Array**	**71.78**	**35**	*e*P	**P**	**06 23 30.7**	**+1.5**
MKAR	**Makanchi Array**	**71.78**	**35**	P	**P**	**06 23 30.7**	**+1.5**
	0.3nm,0.6s,baz=230,slow=5.7,SNR=3.9						
ARE0	**ARCESS Array S**	**77.89**	**358**	*e*P	**P**	**06 24 03.8**	**-0.3**
	49nm,1.5s						
SMRI	**Semarang**	**79.25**	**96**	*e*P	**P**	**06 24 11.9**	**-0.8**
	32nm,1.0s						
TRQA	**Tornquist**	**86.67**	**232**	*e*P	**P**	**06 24 51.3**	**+0.4**
	4.9nm,1.3s						

KRSC 31 06:12:21.9±1.1, 55°.56N×164°.47E, h7km±27km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.93**	**112**	*e*P	Pb	06 12 40.6	+0.3
BKI				*e*S	Sb	06 12 53.7	+0.8
KBTR	**Krutoberegovo**	**1.13**	**306**	*e*P	Pg	06 12 42.7	-1.0
KBTR				*e*S	Sg	06 12 57.8	-0.6
SMKR	**Semkarok**	**1.97**	**303**	*e*P	Pn	06 12 56.5	+0.7
SMKR				*e*S	Sn	06 13 21.8	+1.1
BDR	**Baidarnaya**	**2.09**	**300**	*e*P	Pn	06 12 58.7	+1.3
BDR				*e*S	Sb	06 13 25.7	-0.6
SRKR	**Sorokina**	**2.15**	**302**	*e*P	Pb	06 13 00.0	-1.2
SRKR				*e*S	Sb	06 13 27.5	-0.6
KLY	**Klyuchi**	**2.27**	**291**	*e*S	Sn	06 13 28.2	+0.1
BZMR	**Bezymyannaya**	**2.28**	**281**	*e*P	Pb	06 13 03.0	-0.4
BZWR	**Bezymyannyi-We**	**2.28**	**282**	*e*P	Pn	06 13 01.3	+1.2
BZWR				*e*S	Sn	06 13 29.9	+1.4
KRSR	**Krestovskiy**	**2.29**	**288**	*e*P	Pn	06 13 01.9	+1.6
KRSR				*e*S	Sb	06 13 30.8	-1.5
TUMD	**Tumrok D**	**2.35**	**263**	*e*P	Pb	06 13 03.8	-0.7
KMNR	**Kamenistaya**	**2.40**	**276**	*e*P	Pb	06 13 04.3	-1.2
TUMR	**Tumrok**	**2.48**	**265**	*e*P	Pb	06 13 05.8	-1.0
SDLR	**Sedlovina**	**3.98**	**237**	*e*P	Pn	06 13 26.4	+3.0
UGLR	**Uglovaya**	**4.05**	**237**	*e*P	Pn	06 13 27.4	+3.0
AVH	**Avacha**	**4.06**	**238**	*e*P	Pn	06 13 28.3	+3.8
GNL	**Ganaly**	**4.22**	**246**	*e*P	Pn	06 13 30.3	+3.5

MEX 31 06:21:08.4±0.4, 16°.19N×98°.40W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**53**	*e*P	Pg	06 21 14.5	-0.3
PNIG				*e*S	Sg	06 21 19.1	0.0
TLIG	**Tlapa**	**1.37**	**353**	*e*P	Pn	06 21 30.4	-4.0
TLIG				*i* S	Sb	06 21 48.0	-4.5
VHO	**Vista Hermosa**	**1.82**	**61**	*e*P	Pn	06 21 37.5	-3.2
VHO				*i* S	Sn	06 21 59.6	-4.6

IDC 31 06:28:52.3±2.0, 3°.92S×129°.08E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/56, mbtmp3.4/3, ML3.3/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/18, Error ellipse: s-maj=113.2km s-min=28.6km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.73**	**163**	Pn	Pn	06 32 46.1	-2.1
	0.1nm,0.3s,baz=342,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**20.17**	**167**	P	Pn	06 33 29.6	-0.8
	0.2nm,0.3s,baz=338,slow=9.4,SNR=6.0						
GUMO	**Guam**	**23.41**	**42**	LR	LR	06 43 28.5	
	comp=Z,12nm,20.4s,baz=106,slow=37						
MKAR	**Makanchi Array**	**65.17**	**327**	P	P	06 39 35.3	0.0
	0.3nm,0.5s,baz=127,slow=7.4,SNR=2.9						

IDC 31 06:29:53.6±1.5, 6°.45S×154°.86E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/52, mbtmp3.6/4, ML2.3/1, Error ellipse: s-maj=99.6km s-min=27.3km az=136.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.17**	**248**	Pn	Pn	06 31 55.5	+1.9
	2.0nm,0.3s,baz=32,slow=13,SNR=4.0						
PMG				Sn	Sn	06 33 24.2	-2.6
	1.5nm,0.3s,baz=281,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**24.02**	**234**	P	P	06 35 10.8	+0.3
	0.5nm,0.8s,baz=59,slow=9.7,SNR=4.4						
WRA				PcP	PcP	06 38 52.4	-0.3
	0.3nm,0.4s,baz=54,slow=2.5,SNR=6.8						
ASAR	**Alice Springs**	**26.43**	**227**	P	P	06 35 31.6	-0.8
	0.2nm,0.4s,baz=56,slow=8.8,SNR=4.5						
ASAR				PcP	PcP	06 38 58.1	0.0
	0.4nm,0.5s,baz=58,slow=2.7,SNR=4.9						
ILAR	**Eielson Array**	**82.92**	**22**	P	P	06 42 20.6	+0.5
	0.3nm,0.6s,baz=233,slow=5.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**152.75**	**286**	PKPbc	PKPbc	06 49 52.7	-1.0
	0.2nm,0.4s,baz=57,slow=3.9,SNR=2.9						

IDC 31 06:32:14.5±2.5, 4°.60S×101°.22E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.5/66, mbtmp3.8/8, Error ellipse: s-maj=107.2km s-min=18.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.02**	**354**	P	P	06 37 22.2	+0.8
	1.1nm,0.5s,baz=207,slow=8.0,SNR=5.6						
H08S2	**Diego Garcia H**	**28.72**	**263**	T	T	07 08 48.1	
	baz=85,slow=75,SNR=145						
H08S3	**Diego Garcia H**	**28.72**	**263**	T	T	07 08 48.7	
	baz=85,slow=75,SNR=143						
H08S1	**Diego Garcia H**	**28.73**	**263**	T	T	07 08 49.7	
	baz=85,slow=75,SNR=111						
WRA	**Warramunga Arr**	**35.66**	**118**	P	P	06 39 14.1	-0.7
	0.5nm,0.8s,baz=300,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**36.77**	**124**	P	P	06 39 24.2	+0.1
	0.6nm,0.8s,baz=304,slow=8.3,SNR=7.4						
SONM	**Songino Array**	**52.41**	**4**	P	P	06 41 28.2	-0.7
	2.2nm,0.8s,baz=184,slow=9.6,SNR=9.8						
MKAR	**Makanchi Array**	**53.85**	**344**	P	P	06 41 39.6	+0.3
	0.7nm,0.5s,baz=154,slow=8.1,SNR=9.5						
KURBB	**Kurchatov Arra**	**58.38**	**343**	P	P	06 42 11.3	-0.3
	0.4nm,0.6s,baz=172,slow=7.5,SNR=5.0						
ZALV	**Zalesovo Beam**	**59.94**	**349**	P	P	06 42 21.5	-0.9
	0.8nm,0.4s,baz=159,slow=5.7,SNR=5.3						
BVAR	**Borovoye Array**	**63.03**	**340**	P	P	06 42 43.1	-0.2
	0.4nm,0.5s,baz=120,slow=8.5,SNR=3.1						
TXAR	**Lajitas Array**	**145.94**	**41**	PKPbc	PKPab	06 51 57.6	+0.2
	0.1nm,0.6s,baz=270,slow=2.7,SNR=2.9						

*ISCJB **31** 06:53:11.5±2.0, 53°.56N±0°.07×162°.76W±0°.06, h17km±15km, mb3.4/3, Error ellipse: s-maj=11.4km s-min=5.7km az=164.3*

*NEIC **31** 06:53:13.5±0.0, 53°.58N×162°.84W, h34km, ML3.0(AEIC), After AEIC.*

*IDC **31** 06:53:14.8±5.0, 53°.59N×162°.13W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.4/78, mbtmp3.4/6, ML3.0/3, Error ellipse: s-maj=89.2km s-min=30.4km az=89.0*

ISC 31 06:53:09.3±2.3, 53°.5N±0°.1×162°.48W±0°.06, h30km±16km, n28, σ1°68/30, mb3.6/3, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISLZ	**Isanotski Laza**	**1.46**	**331**	P	**Pn**	**06 53 34.5**	**+1.0**
FALS	**False Pass**	**1.50**	**339**	P	**Pb**	**06 53 35.6**	**-0.8**
DRIA	**Deer Island**	**1.51**	**5**	P	**Pb**	**06 53 36.8**	**+0.1**
SSLS	**Shishaldin Sou**	**1.54**	**325**	P	**Pn**	**06 53 36.3**	**+1.7**
SSLS				S	**Sn**	**06 53 54.2**	**+0.5**
WESE	**West Dahl East**	**1.60**	**310**	P	**Pn**	**06 53 36.7**	**+1.1**
SSLW	**Shishaldin Wes**	**1.63**	**324**	P	**Pn**	**06 53 37.2**	**+1.3**
DT1	**Dutton Round H**	**1.65**	**4**	P	**Pb**	**06 53 38.8**	**-0.2**
WESN	**West Dahl Nort**	**1.66**	**313**	P	**Pn**	**06 53 37.7**	**+1.4**
WESP	**Westdahl Peak**	**1.68**	**309**	P	**Pn**	**06 53 37.7**	**+1.1**
WESP				S	**Sn**	**06 53 58.2**	**+1.1**
BALA	**Baldy Mountain**	**1.74**	**354**	P	**Pb**	**06 53 41.2**	**+0.7**
WEBT	**Westdahl Beart**	**1.75**	**311**	P	**Pn**	**06 53 39.1**	**+1.5**
PS4A	**Pavlof South-4**	**1.92**	**11**	P	**Pb**	**06 53 44.0**	**+0.4**
AKSA	**Akutan Strait**	**2.02**	**291**	P	**Pn**	**06 53 43.2**	**+1.9**
AKSA				S	**Sn**	**06 54 05.7**	**+0.2**
AKUT	**Akutan**	**2.06**	**290**	P	**Pn**	**06 53 43.4**	**+1.6**
ZRO	**Akutan Zero**	**2.17**	**288**	P	**Pn**	**06 53 44.6**	**+1.3**
SDPT	**Sand Point**	**2.22**	**31**	P	**Pb**	**06 53 48.5**	**-0.2**
SDPT				S	**Sb**	**06 54 15.0**	**-0.8**
UNV	**Unalaska Valle**	**2.42**	**281**	P	**Pn**	**06 53 47.9**	**+1.1**
UNV				S	**Sn**	**06 54 14.5**	**-0.8**
MREP	**Makushin Rep't**	**2.56**	**279**	P	**Pn**	**06 53 50.4**	**+1.7**
MSW	**Makushin Switc**	**2.60**	**282**	P	**Pn**	**06 53 50.5**	**+1.3**
MGOD	**Makushin Gods**	**2.64**	**279**	P	**Pn**	**06 53 51.4**	**+1.6**
MCIR	**Makushin Cirqu**	**2.67**	**282**	P	**Pn**	**06 53 52.0**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**3.33**	**271**	P	**Pn**	**06 54 01.9**	**+2.6**
KDAK	**Kodiak Island**	**7.08**	**48**	Pn	**Pn**	**06 54 54.9**	**+4.3**
	0.3nm,0.3s,baz=219,slow=8.5,SNR=8.8						
KDAK				Sn	**Sn**	**06 56 11.4**	**+1.5**
	0.1nm,0.3s,baz=264,slow=18,SNR=2.9						
ILAR	**Eielson Array**	**13.82**	**29**	Pn	**P**	**06 56 27.6**	**-3.2**
	0.0nm,0.3s,baz=208,slow=13,SNR=2.9						
INK	**Inuvik**	**20.18**	**31**	P	Pn	06 57 46.3	+3.4
	0.1nm,0.3s,baz=253,slow=14,SNR=3.6						
YKA	**Yellowknife Ar**	**26.34**	**51**	P	P	06 58 50.1	+8.0
	0.2nm,0.5s,baz=270,slow=8.8,SNR=8.9						
NVAR	**Mina Array Bea**	**33.60**	**98**	P	P	06 59 56.0	+9.2
	0.5nm,0.6s,baz=306,slow=8.9,SNR=3.8						
TXAR	**Lajitas Array**	**48.62**	**95**	P	P	07 01 58.2	+8.0
	0.6nm,0.6s,baz=301,slow=6.1,SNR=11						

*ATA **31** 06:56:03.2±0.7, 38°.57N×43°.31E, h42km±5km, ML3.0, MW2.8*

*ISK **31** 06:56:05.6, 38°.71N×43°.04E, h5km, ML2.5/4*

*ISCJB **31** 06:56:06.8±0.4, 38°.71N±0°.02×43°.03E±0°.03, h8km±5km, Error ellipse: s-maj=4.1km s-min=3.8km az=170.7*

*CSEM **31** 06:56:06.5±0.2, 38°.69N×43°.03E, h5km, ML2.5, Error ellipse: s-maj=5.2km s-min=4.5km az=150.0*

*DDA **31** 06:56:07.0, 38°.68N×43°.08E, h7km, Ml2.7*

ISC 31 06:56:06.4±1.0, 38°.69N±0°.02×43°.06E±0°.02, h11km±9km, n31, σ0°73/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.28**	**111**	PG	**Pb**	**06 56 13.0**	**-0.5**
VANB				SG	**Sb**	**06 56 18.2**	**0.0**
VANB	**Van**	**0.28**	**111**	*e*Pg	**Pb**	**06 56 13.0**	**-0.5**
VANB				*e*Sg	**Sb**	**06 56 18.2**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.29**	**294**	*i* P	**Pb**	**06 56 13.8**	**+0.1**
ADCV				*i* S	**Sb**	**06 56 19.3**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.29**	**294**	P	**Pb**	**06 56 13.9**	**+0.1**
ADCV				S	**Sb**	**06 56 19.3**	**+0.7**
TVAN	**Van**	**0.32**	**121**	*i* P	**Pg**	**06 56 13.4**	**+0.5**
TVAN				*i* S	**Sb**	**06 56 18.7**	**-0.8**
TVAN	**Van**	**0.32**	**121**	P	**Pg**	**06 56 13.4**	**+0.5**
TVAN				S	**Sb**	**06 56 18.7**	**-0.8**
GEVA	**Gevas**	**0.38**	**180**	*e*P	**Pg**	**06 56 13.1**	**-0.9**
GEVA				*e*S	**Sg**	**06 56 19.9**	**+0.8**
GEVA				IAML		06 56 21.4	
	comp=Z,83nm,0.4s						
GEVA	**Gevas**	**0.38**	**180**	*i* P	**Pg**	**06 56 12.7**	**-1.3**
GEVA				*i* S	**Sg**	**06 56 20.1**	**+1.0**
GEVA	**Gevas**	**0.38**	**180**	P	**Pg**	**06 56 12.7**	**-1.3**
GEVA				S	**Sg**	**06 56 20.1**	**+1.0**
VMUR	**Van-Muradiye**	**0.50**	**53**	*i* P	**Pb**	**06 56 17.4**	**+0.1**
VMUR				*i* S	**Sb**	**06 56 26.2**	**+1.5**
VMUR	**Van-Muradiye**	**0.50**	**53**	P	**Pb**	**06 56 17.4**	**+0.1**
VMUR				S	**Sb**	**06 56 26.2**	**+1.5**
TUTA	**Tutak**	**0.73**	**345**	*e*P	**Pb**	**06 56 21.6**	**+0.2**
TUTA	**Tutak**	**0.73**	**345**	*i* P	**Pb**	**06 56 21.7**	**+0.3**
TUTA				*i* S	**Sb**	**06 56 32.0**	**+0.4**
TUTA	**Tutak**	**0.73**	**345**	P	**Pb**	**06 56 21.7**	**+0.3**
TUTA				S	**Sb**	**06 56 32.0**	**+0.4**
CLDR	**Caldiran**	**0.81**	**56**	PG	**Pg**	**06 56 21.7**	**-0.3**
CLDR				SG	**Sb**	**06 56 33.2**	**-0.4**
CLDR	**Caldiran**	**0.81**	**56**	*i* P	**Pg**	**06 56 21.4**	**-0.6**
CLDR				*i* S	**Sb**	**06 56 33.6**

AKAS	**Kas**	**0.84**	**144**	PG	**Pb**	**06 59 38.1**	**-0.4**
AKAS	**Kas**	**0.84**	**144**	*e*Pg	**Pb**	**06 59 38.1**	**-0.4**
KORT	**Korkueli**	**1.09**	**85**	Pn	**Pn**	**06 59 43.3**	**-0.2**
KORT	**Korkueli**	**1.09**	**85**	*e*Pn	**Pn**	**06 59 43.3**	**-0.2**

MEX 31 07:11:14.1±0.4, 16°24N×98°42W, h8km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**61**	*i* P	Pg	07 11 20.0	-0.4
PNIG				*i* S	Sg	07 11 24.9	+0.1
TLIG	**Tlapa**	**1.33**	**354**	*i* P	Pn	07 11 34.7	-4.3
TLIG				*i* S	Sb	07 11 51.9	-4.6
VHO	**Vista Hermosa**	**1.82**	**62**	*e*P	Pn	07 11 43.1	-2.7
VHO				*i* S	Sn	07 12 04.3	-4.9
CAIG	**El Cayaco**	**1.95**	**295**	*i* P	Pn	07 11 43.6	-3.9
CAIG				*i* S	Sn	07 12 08.2	-3.9
HUIG	**Huatulco**	**2.27**	**101**	*i* P	Pn	07 11 48.4	-3.4
HUIG				*i* S	Sn	07 12 14.9	-5.0

*SJA **31** 07:15:22.1±0.9, 35°41S×74°02W, h14km±6km, ML3.8, MW3.7*

*GUC **31** 07:15:39.9±0.6, 35°78S×71°80W, h59km±6km, ML3.8*

ISC 31 07:15:39.6±1.6, 35°73S±0°06×71°88W±0°08, h21km±6km, n14, σ1§47/25, 5C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.71**	**357**	*i* P	**Pn**	**07 15 54.5**	**0.0**
GO05				*i* S	**Sn**	**07 16 06.4**	**+1.5**
COCH	**Cobquecura**	**0.84**	**241**	*i* P	**Pb**	**07 15 55.8**	**+0.4**
COCH				*i* S	**Sn**	**07 16 08.1**	**+0.2**
CCHI	**Chillan**	**0.89**	**190**	*i* P	**Pb**	**07 15 55.9**	**-0.4**
CCHI				*i* S	**Sb**	**07 16 07.3**	**-0.5**
CCHI				IAML		07 16 11.5	
	comp=E,3µm,0.3s						
LMEL	**Las Melosas**	**2.33**	**37**	*e*P	**Pn**	**07 16 16.4**	**-0.5**
LMEL				*i* S	**Sn**	**07 16 44.0**	**-0.9**
LMEL				IAML		07 16 47.1	
	comp=N,492nm,0.6s						
RCDM	**Rinconada Maip**	**2.40**	**22**	*i* P	**Pn**	**07 16 16.3**	**-1.4**
RCDM				*i* S	**Sn**	**07 16 44.3**	**-2.2**
RCDM				IAML		07 16 52.0	
	comp=E,682nm,0.4s						
CLCH	**Cerro Calan**	**2.58**	**26**	*e*P	**Pn**	**07 16 19.5**	**-0.6**
CLCH				*i* S	**Sn**	**07 16 49.6**	**-1.3**
CLCH				IAML		07 16 57.4	
	comp=E,708nm,0.7s						
FCH	**Farellones**	**2.73**	**29**	*e*P	**Pn**	**07 16 22.2**	**-0.3**
FCH				*i* S	**Sn**	**07 16 54.4**	**-0.7**
FCH				IAML		07 17 00.8	
	comp=E,581nm,0.2s						
PEL	**Peldehue**	**2.76**	**21**	*i* P	**Pn**	**07 16 22.3**	**-0.4**
PEL				*i* S	**Sn**	**07 16 54.7**	**-0.7**
ROC1	**El Roble**	**2.84**	**15**	*i* P	**Pn**	**07 16 22.9**	**-1.0**
ROC1				*i* S	**Sn**	**07 17 00.9**	**+3.4**
ROCH	**El Roble**	**2.84**	**15**	*i* P	**Pn**	**07 16 22.7**	**-1.2**
ROCH				*i* S	**Sn**	**07 16 56.1**	**-1.6**
ARCO	**CERRO ARCO**	**3.77**	**41**	*i* P	**Pn**	**07 16 40.1**	**+3.4**
ASAL	**Salagasta**	**4.02**	**40**	*i* P	**Pn**	**07 16 41.8**	**+1.8**
AUSP	**Uspallata**	**4.06**	**31**	*i* P	**Pn**	**07 16 41.0**	**+0.2**
AUSP				*i* S	**Sb**	**07 17 39.9**	**+0.5**
RTLS	**Leoncito**	**4.47**	**30**	*i* P	**Pn**	**07 16 46.4**	**-0.1**
RTLS				IAML		07 16 52.1	
	comp=Z,49nm,0.5s						

*ISCJB **31** 07:34:35.8±0.8, 15°84N±0°07×94°09W±0°06, h89km±5km, mb4.1/11, Error ellipse: s-maj=14.6km s-min=5.8km az=37.2*

*NEIC **31** 07:34:37.0±0.0, 15°82N×94°17W, h83km, mb4.1/11, MD4.0(MEX), After MEX.*

*MEX **31** 07:34:37.0±0.4, 15°81N×94°16W, h85km±10km, MD4.0*

*IDC **31** 07:34:39.9±0.8, 16°63N×93°54W, h68km±39km, mb3.8/3, mb1 3.8/6, mb1mx3.3/51, mbtmp3.8/6, ML3.4/3, Error ellipse: s-maj=98.6km s-min=7.3km az=58.0*

ISC 31 07:34:37.0±1.0, 15°84N±0°07×94°09W±0°07, h81km±9km, n33, σ1§04/42, mb4.1/11, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.85**	**99**	*e*P	**Pn**	**07 34 53.9**	**-0.5**
PCIG				*e*S	**Sn**	**07 35 07.5**	**+0.2**
PCIG		**0.85**	**99**	*e*P	**Pn**	**07 34 53.9**	**-0.5**
PCIG				*e*S	**Sn**	**07 35 07.5**	**+0.2**
TGIG		**1.31**	**45**	*e*P	**Pn**	**07 34 60.0**	**-0.1**
TGIG				*e*S	**Sn**	**07 35 16.8**	**-0.6**
TGIG		**1.31**	**45**	*e*P	**Pn**	**07 34 60.0**	**-0.1**
TGIG				*e*S	**Sn**	**07 35 16.8**	**-0.6**
CMIG	**Matias Romero**	**1.46**	**328**	P	**Pn**	**07 35 01.7**	**-0.1**
	29nm,0.3s,baz=163,slow=15,SNR=304						
CMIG				S	**Sn**	**07 35 20.5**	**0.0**
	62nm,0.3s,baz=139,slow=14,SNR=42						
CCIG	**Comitan**	**1.93**	**77**	*e*P	**Pn**	**07 35 08.1**	**-0.1**
CCIG				*e*S	**Sn**	**07 35 32.2**	**+0.4**
CCIG	**Comitan**	**1.93**	**77**	*e*P	**Pn**	**07 35 08.1**	**-0.1**
CCIG				*e*S	**Sn**	**07 35 31.9**	**+0.1**
THIG		**1.99**	**118**	*e*P	**Pn**	**07 35 08.5**	**-0.3**
THIG				*i* S	**Sn**	**07 35 32.2**	**-0.8**
THIG		**1.99**	**118**	*e*P	**Pn**	**07 35 08.5**	**-0.3**
APG	**El Apazote**	**3.59**	**103**	P	**Pn**	**07 35 30.2**	**-0.5**
	1.4nm,0.3s,baz=216,slow=16,SNR=48						
APG				S	**Sn**	**07 36 10.5**	**-1.6**
	9.9nm,0.3s,baz=94,slow=16,SNR=7.1						
LVIG	**Laguna Verde**	**4.45**	**330**	*e*Pn	**Pn**	**07 35 40.9**	**-1.3**
JTS	**JuntasAbangare**	**10.47**	**121**	P	**Pn**	**07 37 05.9**	**+1.6**
	0.6nm,0.3s,baz=29,slow=19,SNR=7.2						
WBCY	**West Bay, Gran**	**12.60**	**72**	*e*Pn	**Pn**	**07 37 33.7**	**+0.5**
FSCY	**Frank Sound, G**	**12.78**	**72**	*e*Pn	**Pn**	**07 37 36.1**	**+0.5**
LCCY	**Blossom Villag**	**13.87**	**72**	*e*Pn	**Pn**	**07 37 50.8**	**+0.7**
LTX	**Lajitas**	**16.06**	**328**	*e*Pn	**Pn**	**07 38 17.7**	**-0.5**
TXAR	**Lajitas Array**	**16.06**	**328**	P	**Pn**	**07 38 17.7**	**-0.5**
	0.1nm,0.3s,baz=149,slow=13,SNR=3.8						
TX31	**Lajitas Ar. Si**	**16.07**	**328**	*e*P	**P**	**07 38 21.2**	**+1.1**
MIAR	**Mount Ida**	**18.63**	**1**	*e*P	**P**	**07 38 47.8**	**-0.4**
	19nm,1.9s						
WMOK	**Wichita Mounta**	**19.28**	**348**	*e*P	**P**	**07 38 56.1**	**+0.8**
	11nm,1.9s						
AMTX	**Amarillo**	**20.15**	**342**	*e*P	**P**	**07 39 05.7**	**+0.8**
	14nm,0.6s						
SDCO	**Great Sand Dun**	**24.04**	**337**	*e*P	**P**	**07 39 47.8**	**+2.9**
	3.6nm,1.6s						
ECSD	**EROS Data Cent**	**27.88**	**356**	*e*P	**P**	**07 40 18.6**	**-0.6**
	14nm,1.8s						
SPMN	**Marine on St.**	**29.31**	**2**	*e*P	**P**	**07 40 30.7**	**-1.2**
	9.3nm,1.3s						
R11A	**Troy Canyon, C**	**29.33**	**324**	*e*P	**P**	**07 40 33.6**	**+1.3**
	5.9nm,2.0s						
ULM	**Lac du Bonnet**	**34.35**	**358**	P	**P**	**07 41 13.1**	**-2.9**
	1.0nm,0.4s,baz=198,slow=13,SNR=3.7						
WALA	**Waterton Lakes**	**36.87**	**338**	*e*P	**P**	**07 41 40.3**	**+2.6**
	6.1nm,1.1s						
YKA	**Yellowknife Ar**	**48.79**	**348**	P	**P**	**07 43 13.2**	**-0.4**
	0.4nm,0.5s,baz=153,slow=7.3,SNR=17						
CPUP	**Villa Florida**	**55.09**	**139**	*e*P	**P**	**07 44 00.1**	**-0.8**
	2.6nm,1.3s						
INK	**Inuvik**	**58.11**	**344**	*e*P	**P**	**07 44 21.7**	**0.0**
	8.1nm,1.9s						
RES	**Resolute Bay**	**58.85**	**360**	*e*P	**P**	**07 44 26.1**	**-0.7**
	1.0nm,0.8s						
ARA0	**ARCESS Array S**	**85.02**	**18**	*e*P	**P**	**07 47 03.3**	**0.0**
ARCES	**ARCESS Array B**	**85.02**	**18**	P	**P**	**07 47 03.3**	**0.0**
	8.3nm,1.1s,baz=300,slow=4.9,SNR=5.8						

PGC 31 08:45:41.5±2.3, 48°92N×129°04W, h10km, MLSn3.0/38, Mw3.6/38, Mw3.6/38, 229km Wsw of Gold R., Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.49**	**33**	Pn	Pn	08 46 06.3	-2.1
BPBC				Sn	Sn	08 46 23.9	-4.1
EDB	**Eliza Dome**	**1.58**	**52**	Pn	Pn	08 46 07.3	-2.2
EDB				Sn	Sn	08 46 24.3	-5.7
ETB	**Estevan Point**	**1.70**	**73**	Pn	Pn	08 46 09.4	-1.9
PACB	**Port Alice, BC**	**1.82**	**33**	Pn	Pn	08 46 09.8	-3.1
PACB				Sn	Sn	08 46 30.2	-5.9
HOLB	**Holberg**	**1.82**	**18**	Pn	Pn	08 46 11.1	-1.9
HOLB				Sn	Sn	08 46 32.4	-3.8
MAYB	**Maynard**	**1.92**	**38**	Pn	Pn	08 46 12.3	-2.1
MAYB				Sn	Sn	08 46 34.2	-4.4
WOSB	**Woss**	**2.03**	**51**	Pn	Pn	08 46 14.5	-1.4
TOFB	**Tofino**	**2.07**	**82**	Pn	Pn	08 46 12.8	-3.5
TOFB				Sn	Sn	08 46 36.9	-5.3
PHC	**Port Hardy**	**2.07**	**29**	Pn	Pn	08 46 14.8	-1.6
PHC				Sn	Sn	08 46 38.5	-3.7
GDR	**Gold River**	**2.15**	**65**	Pn	Pn	08 46 15.4	-1.9
TLCB	**Telegraph Cove**	**2.17**	**40**	Pn	Pn	08 46 15.2	-2.4
TLCB				Sn	Sn	08 46 39.5	-5.1
B012	**Ucluelet**	**2.30**	**88**	Pn	Pn	08 46 16.8	-2.7
OZB	**Mount Ozzard**	**2.34**	**88**	Pn	Pn	08 46 17.6	-2.4
OZB				Sn	Sn	08 46 43.9	-4.9
SPLB	**Strathcona Par**	**2.42**	**65**	Pn	Pn	08 46 18.9	-2.2
NCRB	**Newcastle Ridg**	**2.44**	**51**	Pn	Pn	08 46 20.8	-0.8
NCRB				Sn	Sn	08 46 48.7	-2.9
B928	**Bamfield**	**2.58**	**90**	Pn	Pn	08 46 20.9	-2.3
B928				Sn	Sn	08 46 50.0	-4.6
MWAB	**Mount Washingt**	**2.58**	**70**	Pn	Pn	08 46 21.1	-2.3
CBB	**Campbell River**	**2.64**	**64**	Pn	Pn	08 46 23.1	-1.0
CBB				Sn	Sn	08 46 53.6	-2.7
ALB	**Alberni**	**2.79**	**81**	Pn	Pn	08 46 25.0	-1.2
B927	**Port Alberni**	**2.79**	**82**	Pn	Pn	08 46 24.0	-2.2
OCP	**Olym-Cheeka Pk**	**2.99**	**100**	Pn	Pn	08 46 27.2	-1.8
PFB	**Port Renfrew**	**3.06**	**95**	Pn	Pn	08 46 27.8	-2.2
PFB				Sn	Sn	08 47 02.3	-4.3
TXB	**Texada**	**3.11**	**74**	Pn	Pn	08 46 29.5	-1.1
YOUB	**Youbou, Lake C**	**3.15**	**88**	Pn	Pn	08 46 29.3	-1.9
GHNB	**Nanoose**	**3.18**	**81**	Pn	Pn	08 46 30.5	-1.0
B926	**Mesachie Lake**	**3.24**	**90**	Pn	Pn	08 46 30.3	-2.0
B926				Sn	Sn	08 47 07.3	-3.7
OFR	**Olym-F Res Ctr**	**3.24**	**106**	Pn	Pn	08 46 31.2	-1.2
OFR				Sn	Sn	08 47 07.2	-3.8
BBB	**Bella Bella**	**3.33**	**10**	Pn	Pn	08 46 32.7	-0.9
BBB				Sn	Sn	08 47 09.7	-3.4
NLLB	**Nanaimo Lost L**	**3.33**	**83**	Pn	Pn	08 46 32.7	-1.0
SHB	**Sechelt**	**3.45**	**77**	Pn	Pn	08 46 34.3	-1.0
LZB	**Mount Lazard**	**3.46**	**93**	Pn	Pn	08 46 33.2	-2.3
LZB				Sn	Sn	08 47 13.1	-3.5
GOBB	**Galiano Island**	**3.64**	**87**	Pn	Pn	08 46 36.3	-1.7
B009	**North Saanich**	**3.70**	**92**	Pn	Pn	08 46 36.7	-2.0
B010	**North Saanich**	**3.70**	**92**	Pn	Pn	08 46 36.6	-2.2
PGC	**Sidney**	**3.70**	**92**	Pn	Pn	08 46 36.9	-1.9
PA12	**PA12 Sannich**	**3.70**	**92**	Pn	Pn	08 46 35.8	-3.0
B011	**North Saanich**	**3.70**	**92**	Pn	Pn	08 46 37.0	-1.7
PA02	**PA02 Ocean**	**3.70**	**92**	Pn	Pn	08 46 36.0	-2.7
PA01	**PA01 North**	**3.71**	**92**	Pn	Pn	08 46 36.0	-2.8
PA04	**PA04 Cage**	**3.71**	**92**	Pn	Pn	08 46 36.1	-2.6
PA03	**PA03 Flamable**	**3.71**	**92**	Pn	Pn	08 46 36.9	-1.9
PA05	**PA05 Willingdo**	**3.71**	**92**	Pn	Pn	08 46 36.7	-2.1
BIB	**Bowen Island**	**3.79**	**80**	Pn	Pn	08 46 38.7	-1.2
VGZ	**Gonzales**	**3.82**	**95**	Pn	Pn	08 46 38.1	-2.2
VGZ				Sn	Sn	08 47 20.6	-4.6
SNB	**Saturna Island**	**3.88**	**90**	Pn	Pn	08 46 39.5	-1.6
WPB	**Watts Point**	**3.88**	**77**	Pn	Pn	08 46 40.9	-0.3
MCW	**Mount Constitu**	**4.11**	**91**	Pn	Pn	08 46 43.4	-1.0
BLN	**Blyn Mountain**	**4.14**	**100**	Pn	Pn	08 46 43.7	-1.0
WSLR	**Whistler**	**4.16**	**71**	Pn	Pn	08 46 45.0	-0.2
VDB	**Vedder Mountai**	**4.57**	**86**	Pn	Pn	08 46 49.9	-0.8
MBW	**Mount Baker**	**4.71**	**89**	Pn	Pn	08 46 52.3	-0.5
JCW	**Jim Creek**	**4.77**	**96**	Pn	Pn	08 46 53.3	-0.2
LLLB	**Lillooet**	**4.94**	**67**	Pn	Pn	08 46 55.8	0.0
HOPB	**Hope**	**5.02**	**82**	Pn	Pn	08 46 55.5	-1.4
GPW	**Glacier Peak**	**5.31**	**96**	Pn	Pn	08 47 01.0	0.0
LON	**Longmire**	**5.33**	**111**	Pn	Pn	08 47 01.6	+0.5
LON				Sn	Sn	08 47 59.2	-3.4
FMW	**Mount Fremont**	**5.33**	**109**	Pn	Pn	08 47 01.5	+0.2
LTY	**Liberty**	**5.84**	**103**	Pn	Pn	08 47 08.8	+0.5
LTY				Sn	Sn	08 48 12.4	-3.0
PNT	**Penticton**	**6.20**	**83**	Pn	Pn	08 47 12.2	-0.8
BLBC	**Blue River**	**6.99**	**60**	P	Pn	08 47 22.8	-1.3
DOWB	**Downie Slide**	**7.24**	**65**	P	Pn	08 47 25.3	-2.0
MNB	**Mounoet Dainar**	**7.54**	**60**	P	Pn	08 47 32.0	+0.4
FNBB	**Fort Nelson**	**10.60**	**17**	P	Pn	08 48 14.0	+0.7

IDC 31 09:03:06.7±2.5, 53°76N×86°75E, h0km, mb1 2.9/2, mb1mx2.7/74, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=22.0km s-min=12.0km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.16**	**280**	*i*		09 11 00.0	
	baz=99,slow=321,SNR=8.0						
ZALV	**Zalesovo Beam**	**1.16**	**280**	Pg	Pg	09 03 27.7	-1.2
	0.6nm,0.3s,baz=99,slow=16,SNR=8.9						
ZALV				Lg	Lg	09 03 44.1	
	1.4nm,0.3s,baz=104,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**5.95**	**241**	Pn	Pn	09 04 37.1	+1.2
	0.1nm,0.3s,baz=57,slow=14,SNR=14						
KURBB				Lg	Lg	09 06 18.5	
	0.0nm,0.3s,baz=59,slow=35,SNR=3.3						
MKAR	**Makanchi Array**	**7.53**	**204**	Pn	Pn	09 04 58.1	+0.3
	0.1nm,0.3s,baz=25,slow=13,SNR=5.2						
MKAR				Sn	Sn	09 06 25.2	+1.4
	0.0nm,0.3s,baz=25,slow=27,SNR=2.1						
MKAR				Lg	Lg	09 07 03.6	
	0.0nm,0.3s,baz=34,slow=31,SNR=3.8						

*ISCJB **31** 09:04:38.7±0.4, 23°58S±0°03×179°28E±0°03, h532km±5km, mb5.0/126, Error ellipse: s-maj=4.5km s-min=3.4km az=146.0*

*MOS **31** 09:04:38.7±0.9, 23°55S×179°31E, h533km, mb5.2/20, Error ellipse: s-maj=8.5km s-min=7.6km az=83.3*

*WEL **31** 09:04:39.0, 23°63S×179°30E, h535km*

*GCMT **31** 09:04:39.3±0.2, 23°53S×179°32E, h551km±1km, MW5.3/96, Moment Tensor Solution. s96,c130; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr=1.23±.03; Mθθ=0.92±.05; Mφφ=0.31±.05; Mrθ=0.38±.06; Mθφ=0.45±.05; Mφr=0.30±.06; Best double couple: Mo=1.29200×10^17 NP1:φs=302.00000°, δs=56.00000°, λ=-86.00000°. NP2:φs=114.00000°, δs=34.00000°, λ=-96.00000°. Principal axes: T 1.2560, Plg=11.0000°, Azm=29.0000°; N 0.0740, Plg=3.0000°, Azm=120.0000°; P -1.3280, Plg=79.0000°, Azm=227.0000°; nsta=1 refers to body waves, cutoff=40s.*

*BJI **31** 09:04:39.6, 23°18S×179°76E, h550km, mb5.2/52, mB5.2/35*

*NEIC **31** 09:04:39.3±0.1, 23°63S×179°30E, mb5.2/63, Error ellipse: s-maj=4.5km s-min=3.1km az=138.0*

*IDC **31** 09:04:40.0±0.3, 23°57S×179°36E, h540km±3km, mb4.5/35, mb1 4.5/37, mb1mx4.4/50, mbtmp5.3/37, Error ellipse: s-maj=7.8km s-min=7.1km az=167.0*

ISC 31 09:04:39.6±0.3, 23°61S±0°04×179°49E±0°04, h544km±2km, h545km:pP-P,n782,σ1§54/938, mb5.1/126, 67C-36D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.00**	**347**	*ce*P	**P**	**09 06 18.1**	**-0.1**
MSVF	**Nonsavu**	**6.00**	**347**	*e*P	**P**	**09 06 17.1**	**-1.0**
RIZ	**Raoul Island**	**6.07**	**158**	P	**P**	**09 06 20.5**	**+2.0**
RAO	**Raoul Island**	**6.08**	**158**	P	**P**	**09 06 20.4**	**+1.8**
	103nm,0.3s,baz=81,slow=11,SNR=5.8						
RAO				S	**S**	**09 07 37.2**	**-2.5**
	68nm,0.3s,baz=180,slow=20,SNR=2.6						
RAO	**Raoul Island**	**6.08**	**158**	*e*P	**P**	**09 06 18.0**	**-0.6**
RAO				S	**S**	**09 07 37.2**	**-2.5**
RAO	**Raoul Island**	**6.08**	**158**	*e*P	**P**	**09 06 18.0**	**-0.6**
RAO				S	**S**	**09 07 37.2**	**-2.5**
GLKZ	**Green Lake**	**6.09**	**158**	P	**P**	**09 06 20.5**	**+1.8**
GLKZ	**Green Lake**	**6.09**	**158**	S	**S**	**09 07 42.5**	**+2.7**
NIUE	**Niue**	**10.84**	**67**	P	**P**	**09 07 06.4**	**+0.1**
	baz=11						
NFK	**Norfolk Island**	**11.69**	**240**	P	**P**	**09 07 17.1**	**+2.2**
	baz=12						
DZM	**Mont Dzumac**	**12.13**	**275**	P	**P**	**09 07 19.8**	**+0.2**
	3.0nm,0.3s,baz=64,slow=21,SNR=26						
DZM				S	**S**	**09 09 35.7**	**+4.4**
	baz=141,slow=14,SNR=2.0						
DZM	**Mont Dzumac**	**12.13**	**275**	*e*P	**P**	**09 07 20.3**	**+0.7**
	103nm,0.9s						
OUZ	**Omahuta**	**12.66**	**203**	*e*P	**P**	**09 07 27.0**	**+2.2**
AFI	**Afiamalu**	**12.70**	**42**	P	**P**	**09 07 21.9**	**-3.7**
	29nm,0.3s,baz=352,slow=1.3,SNR=75						
AFI				S	**S**	**09 09 34.0**	**-8.3**
	7.2nm,0.3s,baz=108,slow=20,SNR=6.5						
MXZ	**Matakaoa Point**	**13.95**	**184**	*e*P	**P**	**09 07 37.2**	**-0.9**
TGRZ	**Tauranga**	**14.35**	**190**	P	**P**	**09 07 43.3**	**+1.1**
OPRZ	**Ohinepanea**	**14.41**	**189**	P	**P**	**09 07 44.4**	**+1.5**
KMRZ	**Kaimai**	**14.52**	**191**	P	**P**	**09 07 45.4**	**+1.4**
MARZ	**Manawahe**	**14.53**	**189**	P	**P**	**09 07 45.8**	**+1.6**
LIRZ	**Lichensteins R**	**14.59**	**190**	P	**P**	**09 07 46.9**	**+2.1**
KARZ	**Kaharoa**	**14.63**	**190**	P	**P**	**09 07 45.5**	**+0.3**
EDRZ	**Edgecumbe**	**14.64**	**189**	P	**P**	**09 07 45.9**	**+0.5**
OMRZ	**Omania**	**14.70**	**190**	P	**P**	**09 07 46.6**	**+0.7**
URZ	**Urewera**	**14.75**	**187**	P	**P**	**09 07 43.6**	**-2.7**
	34nm,0.3s,baz=270,slow=3.1,SNR=109						
URZ				S	**S**	**09 10 14.4**	**-5.9**
	12nm,0.3s,baz=252,slow=22,SNR=15						
URZ	**Urewera**	**14.75**	**187**	*e*P	**P**	**09 07 44.6**	**-1.8**
URZ				S	**S**	**09 10 14.4**	**-5.9**
MWZ	**Matawai**	**14.78**	**186**	P	**P**	**09 07 44.8**	**-1.9**
MWZ	**Matawai**	**14.78**	**186**	S	**S**	**09 10 18.5**	**-2.5**
UTU	**Utuhina**	**14.79**	**190**	P	**P**	**09 07 48.7**	**+1.8**
TARZ	**Mount Tarawera**	**14.80**	**189**	P	**P**	**09 07 48.7**	**+1.7**
HLRZ	**Highlands Stat**	**14.84**	**190**	P	**P**	**09 07 48.8**	**+1.4**
TKGZ	**Te Karaka**	**14.85**	**185**	P	**P**	**09 07 45.7**	**-1.7**
TKGZ	**Te Karaka**	**14.85**	**185**	S	**S**	**09 10 19.3**	**-2.9**
CNGZ	**Carnagh Statio**	**14.87**	**184**	P	**P**	**09 07 46.7**	**-1.0**
RRRZ	**Republican Roa**	**14.90**	**189**	P	**P**	**09 07 49.1**	**+1.1**
HSRZ	**Hossack Road**	**14.92**	**190**	P	**P**	**09 07 49.9**	**+1.8**
RAGZ	**Rawiri**	**14.95**	**186**	P	**P**	**09 07 45.3**	**-3.2**
RAGZ	**Rawiri**	**14.95**	**186**	S	**S**	**09 10 20.4**	**-3.8**
GRRZ	**Galatos Road**	**14.98**	**190**	P	**P**	**09 07 50.3**	**+1.5**
HRRZ	**Handcock Road**	**14.99**	**190**	P	**P**	**09 07 48.3**	**-0.6**
FUNA	**Funafuti**	**15.00**	**359**	*e*P	**P**	**09 07 46.0**	**-3.3**
MUGZ	**Murupara**	**15.00**	**188**	P	**P**	**09 07 46.9**	**-2.2**
TLZ	**Tolley Road**	**15.06**	**192**	P	**P**	**09 07 49.8**	**+0.2**
PRRZ	**Plateau Road**	**15.08**	**189**	P	**P**	**09 07 49.7**	**-0.1**
RTZ	**Ruatahuna**	**15.11**	**188**	P	**P**	**09 07 48.2**	**-2.1**
RIGZ	**Rimuhau**	**15.12**	**185**	P	**P**	**09 07 48.5**	**-1.8**
WPRZ	**Whakapapatarin**	**15.13**	**190**	P	**P**	**09 07 50.4**	**0.0**
ALRZ	**Allen Road**	**15.15**	**189**	P	**P**	**09 07 50.6**	**0.0**
KUTZ	**Kaahu Road**	**15.16**	**191**	P	**P**	**09 07 51.8**	**+1.1**
SNGZ	**Shannon Statio**	**15.24**	**186**	P	**P**	**09 07 49.4**	**-2.1**
PRGZ	**Paritu Road**	**15.33**	**185**	P	**P**	**09 07 53.0**	**+0.6**
MTHZ	**Maungataniwha**	**15.37**	**188**	P	**P**	**09 07 50.3**	**-2.5**
HIZ	**Hauiti**	**15.38**	**194**	*e*P	**P**	**09 07 53.6**	**+0.8**
	128nm,1.1s						
HIZ	**Hauiti**	**15.38**	**194**	P	**P**	**09 07 54.1**	**+1.2**
WATZ	**Wairara**	**15.39**	**191**	P	**P**	**09 07 54.4**	**+1.3**
RAHZ	**Arahi**	**15.40**	**187**	P	**P**	**09 07 50.1**	**-3.0**
MRHZ	**Matea Rd**	**15.40**	**189**	P	**P**	**09 07 50.4**	**-2.8**
KNZ	**Kokohu**	**15.45**	**185**	P	**P**	**09 07 52.4**	**-1.1**
RATZ	**Rangitukua**	**15.54**	**191**	P	**P**	**09 07 53.8**	**-0.8**
WHHZ	**Waihua**	**15.54**	**187**	P	**P**	**09 07 51.4**	**-3.2**
MHGZ	**Mahia Peninsul**	**15.56**	**185**	P	**P**	**09 07 54.1**	**-0.6**
NMHZ	**Naumai**	**15.61**	**188**	P	**P**	**09 07 52.3**	**-3.0**
RITZ	**Rihia Road**	**15.63**	**191**	P	**P**	**09 07 55.8**	**+0.3**
KATZ	**Kakaramea**	**15.66**	**191**	P	**P**	**09 07 56.3**	**+0.4**
BKZ	**Black Stump Fm**	**15.72**	**189**	*e*P	**P**	**09 07 52.8**	**-3.6**
	50nm,0.6s						
BKZ	**Black Stump Fm**	**15.72**	**189**	P	**P**	**09 07 52.3**	**-4.1**
ARHZ	**Aropaonui**	**15.75**	**187**	P	**P**	**09 07 55.0**	**-1.7**
KRVZ	**Karewarewa**	**15.78**	**191**	P	**P**	**09 07 57.0**	**-0.1**
TWVZ	**Taurewa**	**15.80**	**192**	P	**P**	**09 07 57.2**	**0.0**
WTVZ	**West Tongariro**	**15.81**	**191**	P	**P**	**09 07 56.8**	**-0.6**
NGZ	**Ngauruhoe**	**15.87**	**191**	P	**P**	**09 07 57.7**	**-0.4**
COVZ	**Chateau Observ**	**15.90**	**191**	P	**P**	**09 07 57.6**	**-0.7**
TUVZ	**Tukino**	**15.95**	**191**	P	**P**	**09 07 55.8**	**-3.0**
FWVZ	**Far West T-bar**	**15.95**	**191**	P	**P**	**09 07 57.6**	**-1.3**
MCHZ	**McNeill Hill**	**15.97**	**188**	P	**P**	**09 07 55.5**	**-3.3**
DRZ	**Dome Shelter**	**15.97**	**191**	P	**P**	**09 07 58.3**	**-0.9**
WHVZ	**Whangaehu Hut**

baz=29,SNR=5.3
PAE Paea 29.51 84 eP P 09 10 01.0 +0.7
comp=Z,4.7nm,0.9s
PPT2 Papeete2 29.53 84 eP P 09 10 01.6 +1.0
comp=Z,38nm,1.1s
PPT Papeete 29.54 84 P P 09 10 01.8 +1.2
comp=Z,81nm,1.1s,baz=8.7,slow=3.2,SNR=6.2
PPTF Pamatai, Papee 29.54 84 eP P 09 10 02.3 +1.7
comp=Z,39nm,0.8s
TIAR Tiarei 29.75 84 eP P 09 10 03.4 +1.0
comp=Z,22nm,1.1s
TVO Taravao 29.77 85 eP P 09 10 03.4 +0.8
comp=Z,6.7nm,0.8s
CMSA Cobar Meteorol 30.89 248 P P 09 10 12.0 0.0
baz=31,SNR=115
CTA Charters Tower 31.01 270 P P 09 10 13.4 +0.2
comp=Z,200nm,0.6s,baz=96,slow=11,SNR=319
CTA PcP PcP 09 12 53.4 +1.0
comp=Z,15nm,0.7s,baz=103,slow=1.1,SNR=4.7
CTA S S 09 14 38.9 -1.2
comp=Z,27nm,1.2s,baz=290,slow=17,SNR=11
CTA Charters Tower 31.01 270 P P 09 10 12.9 -0.2
baz=31
CTAO Charters Tower 31.01 270 eP P 09 10 12.7 -0.5
CTAO eS S 09 14 39.6 -0.5
CTAO Charters Tower 31.01 270 eP P 09 10 12.7 -0.5
CTAO eS S 09 14 39.6 -0.5
PMOR Pomariorio Pele 31.89 80 eP P 09 10 21.5 +0.8
comp=Z,88nm,1.1s
PMOR eScP ScP 09 15 45.5 -1.3
comp=Z,59nm,1.0s
QLP Quilpie 32.00 257 P P 09 10 21.2 -0.4
baz=32,SNR=59
VAH Vaihoa 32.05 81 eP P 09 10 22.5 +0.4
comp=Z,42nm,0.9s
VAH eScP ScP 09 15 46.0 -1.4
comp=Z,24nm,1.0s
TOO Toolangi 32.22 236 P P 09 10 23.5 +0.1
baz=32,SNR=13
TOO Toolangi 32.22 236 P P 09 10 24.6 +1.3
TOO pmax pmax
comp=Z,44nm,0.9s
MTSU Mount Surprise 33.26 273 P P 09 10 32.5 +0.2
baz=33,SNR=156
PMG Port Moresby 33.95 289 P P 09 10 37.9 -0.3
comp=Z,367nm,0.7s,baz=86,slow=5.3,SNR=105
PMG Port Moresby 33.95 289 i/P P 09 10 37.1 -1.1
PMG pmax pmax
comp=Z,1µm,0.7s
PMG Port Moresby 33.95 289 eP P 09 10 37.7 -0.5
comp=Z,385nm,0.8s
XMAS Kiritimati 33.97 44 eP P 09 10 39.6 +1.2
comp=Z,290nm,0.8s
STKA Stephens Creek 34.40 248 P P 09 10 42.0 +0.3
comp=Z,38nm,0.8s,baz=90,slow=9.9,SNR=45
STKA PcP PcP 09 13 02.3 +0.5
comp=Z,8.4nm,0.7s,baz=105,slow=5.8,SNR=4.3
STKA Stephens Creek 34.40 248 P P 09 10 41.7 -0.1
baz=34,SNR=30
STKA Stephens Creek 34.40 248 eP P 09 10 42.0 +0.3
STKA 09 13 02.3
STKA pmax pmax
comp=Z,11nm,0.9s
STKA Stephens Creek 34.40 248 eP P 09 10 42.0 +0.3
comp=Z,11nm,0.9s
STKA PcP PcP 09 13 02.3 +0.5
ARPS Mount Arapiles 34.86 239 P P 09 10 45.7 +0.1
baz=35,SNR=5.4
COEN Coen 35.61 279 P P 09 10 52.0 0.0
baz=36,SNR=42
COEN Coen 35.61 279 eP P 09 10 50.5 -1.5
comp=Z,161nm,1.4s
HTT Hallett 36.77 245 P P 09 11 00.9 -0.5
baz=37,SNR=21
QIS Mount Isa 37.00 267 P P 09 11 02.5 -1.0
baz=37,SNR=20
BBOO Buckleboo 39.13 247 P P 09 11 19.4 -1.2
baz=39,SNR=28
AS01 Alice Springs 41.58 260 eP P 09 11 39.9 -0.5
AS31 Alice Springs 41.62 260 eP P 09 11 40.3 -0.3
comp=Z,34nm,1.1s
ASAR Alice Springs 41.62 260 P P 09 11 40.5 -0.2
comp=Z,82nm,0.9s,baz=92,slow=8.1,SNR=435
ASAR pP pP 09 13 17.6 +0.2
comp=Z,3.7nm,0.6s,baz=84,slow=8.1,SNR=2.0
ASAR PcP PcP 09 13 25.2 +0.4
comp=Z,18nm,0.9s,baz=99,slow=4.4,SNR=12
ASAR S S 09 17 15.5 -2.6
comp=Z,2.2nm,0.8s,baz=93,slow=15,SNR=11
WB2 Warramunga Arr 41.95 266 eP P 09 11 42.1 -1.2
WRAB Tennant Creek 41.95 266 d/P P 09 11 41.8 -1.5
WRAB pmax pmax
comp=Z,130nm,0.9s
WRAB Tennant Creek 41.95 266 eP P 09 11 42.0 -1.2
comp=Z,125nm,0.9s
WRA Warramunga Arr 41.96 266 P P 09 11 41.7 -1.7
comp=Z,101nm,0.9s,baz=102,slow=8.2,SNR=459
WRA PcP PcP 09 13 25.8 -0.2
comp=Z,19nm,0.9s,baz=100,slow=3.9,SNR=14
WRA S S 09 17 18.6 -4.4
comp=Z,10nm,1.1s,baz=100,slow=15,SNR=8.7
WRA PKiKP PKiKP 09 20 28.2 -1.9
comp=Z,1.0nm,0.8s,baz=70,slow=0.7,SNR=7.1
FORT Forrest 45.97 249 eP P 09 12 13.3 -0.9
comp=Z,3µm,0.7s
WRKA Warakurna 46.44 257 P P 09 12 16.9 -1.0
baz=46,SNR=198
MTN Manton Dam 46.97 274 P P 09 12 20.6 -1.3
baz=47,SNR=28
MTN Manton Dam 46.97 274 eP P 09 12 20.0 -2.0
comp=Z,36nm,0.7s
KNRA Kununurra 48.22 270 P P 09 12 30.4 -0.9
baz=48,SNR=38
HMH Humu'ula Sheep 49.40 32 eP P 09 12 41.6 +1.3
comp=Z,324nm,1.2s
HPAH Hawaii Prepara 49.66 31 eP P 09 12 43.0 +1.1
comp=Z,186nm,0.7s
MHA Mahukona 49.70 31 eP P 09 12 43.8 +1.7
MHA Mahukona 49.70 31 eP P 09 12 43.8 +1.7
KIP Kipapa 49.83 28 i/P P 09 12 43.0 0.0
KIP pmax pmax
comp=Z,2µm,3.2s
FAKI Fak Fak 50.05 287 eP P 09 12 43.7 -1.2
comp=Z,63nm,1.0s
GUMO Guam 50.13 314 P P 09 12 44.8 -0.5
comp=Z,149nm,0.8s,baz=172,slow=11,SNR=5.9
PALU Palau 53.66 299 P P 09 13 10.3 -0.4
baz=54,SNR=4.4
SOEI Soe 54.35 275 eP P 09 13 16.9 +1.0
comp=Z,287nm,1.0s
VNDA Vanda 54.63 185 P P 09 13 18.1 +1.5
comp=Z,2.5nm,0.5s,baz=14,slow=7.4,SNR=25
VNDA PcP PcP 09 14 12.1 +0.9
comp=Z,3.0nm,0.6s,baz=346,slow=5.1,SNR=8.6
VNDA Vanda 54.63 185 eP P 09 13 18.4 +1.7
VNDA 09 14 12.1
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 54.63 185 eP P 09 13 18.4 +1.7
comp=Z,7.1nm,0.9s
VNDA PcP PcP 09 14 12.1 +0.9
BATI Baumata 54.74 274 P P 09 13 19.1 +0.6
comp=Z,69nm,0.6s,baz=214,slow=1.9,SNR=17
NWAO Narrogin (SRO) 54.93 245 eP P 09 13 18.9 -0.6
NWAO pmax pmax
comp=Z,224nm,1.8s
NWAO Narrogin (SRO) 54.93 245 eP P 09 13 18.9 -0.6
comp=Z,224nm,1.8s
MBWA Marble Bar 54.96 260 eP P 09 13 18.9 -1.0
MBWA Marble Bar 54.96 260 P P 09 13 18.8 -1.1
SNR=6.7
LUWI Luwuk 59.30 284 eP P 09 13 49.0 -0.7
comp=Z,150nm,1.0s
CASY Casey 60.17 206 eP P 09 13 53.5 -1.0
comp=Z,36nm,0.7s
KAPI Kappang 60.32 278 eP P 09 13 55.8 -0.6
comp=Z,72nm,1.4s
KAPI Kappang 60.32 278 P P 09 13 55.6 -0.8
SNR=12
CBIJ Chichi jima 61.96 322 P P 09 14 06.0 -0.9
JCJ Chichijima 61.96 322 P P 09 14 06.0 -0.9
comp=Z,130nm,0.9s,baz=296,slow=24,SNR=4.1
JAGI Jajag, Banyuwa 64.09 272 eP P 09 14 19.1 -1.8
comp=Z,115nm,1.1s
MYLDM Lahad Datu 65.96 287 eP P 09 14 33.9 +1.3
comp=Z,51nm,1.0s
QSPA South Pole Qui 66.47 180 P P 09 14 36.4 +1.4
comp=Z,28nm,0.5s,baz=20,slow=1.6,SNR=90
QSPA South Pole Qui 66.47 180 eP P 09 14 36.1 +1.0
comp=Z,369nm,1.1s
UGM Wanagama 67.63 271 eP P 09 14 42.5 -0.5
comp=Z,100nm,0.8s
KKM Kota Kinabalu 68.37 287 eP P 09 14 47.0 -0.5
comp=Z,173nm,1.5s
CISI Cisompet, Garu 70.25 270 eP P 09 14 55.6 -3.2
SBUM Sibu 70.29 282 eP P 09 14 58.4 -0.6
comp=Z,100nm,1.7s
JOW Kunigami 70.45 312 P P 09 15 00.1 +0.5
comp=Z,93nm,0.8s,baz=235,slow=2.6,SNR=8.7
JOW Kunigami 70.45 312 eP P 09 15 00.0 +0.5
comp=Z,121nm,0.8s
XMIS Christmas Isla 71.15 267 eP P 09 15 03.7 -0.3
comp=Z,54nm,0.8s
MJAR Matsushiro Arr 71.39 326 P P 09 15 04.8 -0.2
comp=Z,24nm,0.8s,baz=166,slow=5.7,SNR=46
MAJO Matsushiro 71.39 326 i/P P 09 15 04.0 -0.9
MAJO pmax pmax
comp=Z,64nm,1.0s
MAJO Matsushiro 71.39 326 eP P 09 15 05.0 +0.1
comp=Z,52nm,0.9s
MJB9 Matsu-Tunnel 71.40 326 eP P 09 15 05.0 +0.1
comp=Z,54nm,0.9s
KSM Kuching 71.59 280 eP P 09 15 06.2 -0.5
JNU Nakatsue 73.00 319 P P 09 15 14.3 0.0
comp=Z,31nm,0.8s,baz=75,slow=3.1,SNR=14
JNU Nakatsue 73.00 319 eP P 09 15 13.9 -0.4
NACB Ninganchiao 73.55 306 eP P 09 15 16.1 -1.5
SSLB Suanglung 73.81 306 eP P 09 15 17.5 -1.6
YHNB Yeheng 74.00 307 eP P 09 15 19.2 -1.0
comp=Z,102nm,1.2s
ASAJ Asahikawa 75.39 333 P P 09 15 29.6 +2.1
comp=Z,33nm,0.8s,baz=237,slow=2.3,SNR=24
TJN Taejon 77.33 319 i/P P 09 15 38.8 +0.5
MYKOM Kota Tinggi 77.58 277 eP P 09 15 40.0 -0.3
YSS Yuzh-Sakhalins 77.67 335 i/P P 09 15 41.4 +1.5
YSS pmax pmax
comp=Z,79nm,0.7s
YSS Yuzh-Sakhalins 77.67 335 eP P 09 15 41.4 +1.5
KSRS Korea Array 77.72 320 P P 09 15 41.1 +0.7
comp=Z,16nm,0.8s,baz=136,slow=5.9,SNR=40
KS15 Wonju Array Si 77.74 320 eP P 09 15 41.5 +0.9
KSAR Wonju Array Be 77.74 320 P P 09 15 41.1 +0.6
KSAR Wonju Array Be 77.74 320 P P 09 15 41.1 +0.6
KS01 Wonju Array Si 77.75 320 eP P 09 15 40.9 +0.3
MAW Mawson 77.86 201 P P 09 15 41.7 +0.9
comp=Z,33nm,1.0s,baz=143,slow=3.8,SNR=22
MAW Mawson 77.86 201 eP P 09 15 41.5 +0.8
MAW Mawson 77.86 201 eP P 09 15 41.5 +0.8
PET Petropavlovsk 78.43 347 eP P 09 15 43.7 -0.1
PET eSP sP 09 18 35.4 +0.1
PET eS S 09 25 05.2 +10
PET pmax pmax
comp=Z,48nm,0.7s
PET pmax pmax
comp=Z,100nm,11.0s
PETK Petropavlovsk- 78.71 347 P P 09 15 45.8 +0.4
comp=Z,56nm,0.8s,baz=122,slow=6.8,SNR=32
PETK Petropavlovsk- 78.71 347 eP P 09 15 45.5 +0.1
PETK Petropavlovsk- 78.71 347 eP P 09 15 45.5 +0.1
MSHR Mys Shultsa 79.52 326 i/P P 09 15 51.3 +1.4
VLA Vladivostok 79.53 327 d/P P 09 15 50.6 +0.7
VLA pmax pmax
comp=Z,35nm,0.8s
NJ2 Nanjing 80.11 311 eP P 09 15 53.8 +0.5
NJ2 pmax pmax
comp=Z,37nm,0.7s
USRK Ussuriysk Ar. 80.27 327 P P 09 15 54.7 +1.0
comp=Z,29nm,0.8s,baz=132,slow=3.6,SNR=95
USRK pP pP 09 17 48.9 -1.2
comp=Z,2.6nm,0.9s,baz=160,slow=6.0,SNR=3.3
TYV Tymovskoe 80.95 337 eP P 09 15 58.4 +1.3
TYV pmax pmax
comp=Z,63nm,0.9s
TYV pmax pmax
comp=Z,200nm,4.9s
IPM Ipoh 81.26 279 eP P 09 15 59.0 -0.6
MDJ Mudanjiang 81.76 326 P P 09 16 00.8 -0.7
MDJ pmax pmax
comp=Z,67nm,0.9s
MDJ pmax pmax
comp=Z,120nm,4.1s
MDJ Mudanjiang 81.76 326 eP P 09 16 02.4 +0.9
comp=Z,58nm,1.0s
KULM Kulim 81.93 279 eP P 09 16 02.5 -0.6
comp=Z,110nm,1.5s
KULM ePP PP 09 19 19.7 -1.0
WHN Wuhan 82.45 308 P P 09 16 06.0 +0.7
PSI Prapat 82.48 276 eP P 09 16 03.5 -2.5
PSI Prapat 82.48 276 eP P 09 16 03.5 -2.5
109C Camp Elliot, M 82.51 49 P P 09 16 07.3 +1.7
baz=236
CPE Camp Elliot 82.51 49 eP P 09 16 07.6 +2.1
ARVC Arvin 82.61 47 P P 09 16 07.9 +1.9
baz=234
SKLT Songkhla 82.74 281 P P 09 16 06.6 -0.5
comp=Z,55nm,1.0s,comp=Z,713nm
MURC Murrieta 82.85 49 P P 09 16 09.0 +1.6
baz=236,SNR=5.0
VES Vestal, Richgr 82.86 46 P P 09 16 09.0 +1.8
baz=234,SNR=5.9
BFSC Mount Baldy Ra 82.89 48 P P 09 16 09.1 +1.5
baz=235
LPIG La Paz 82.98 60 P P 09 16 10.1 +2.0
comp=Z,11nm,0.6s,baz=200,slow=3.4,SNR=2.7
MONP2 Monument Peak 82.99 50 P P 09 16 09.8 +1.6
baz=236,SNR=6.7
EDW2 Edwards Air Fo 83.03 47 P P 09 16 10.0 +1.8
baz=235,SNR=7.0
IKP In-Ko-Pah, Jac 83.08 50 P P 09 16 10.5 +2.0
baz=236,SNR=8.3
SRIG Santa Rosalia 83.09 56 eP P 09 16 10.6 +2.1
GSI Gununguitoli 83.11 274 eP P 09 16 09.2 +0.2
ISA Isabella, Lake 83.16 46 P P 09 16 10.9 +2.1
baz=235,SNR=14
ISA Isabella, Lake 83.16 46 eP P 09 16 10.5 +1.7
ISA Isabella, Lake 83.16 46 eP P 09 16 10.5 +1.7
SYO Syowa Base 83.19 194 eP P 09 16 06.0 -2.3
SYO Syowa Base 83.19 194 ePcP P 09 16 09.2 +0.9
CMB Columbia Colle 83.31 44 eP P 09 16 10.8 +1.3
CMB Columbia Colle 83.31 44 eP P 09 16 10.8 +1.3
PFO Pinyon Flats O 83.36 49 P P 09 16 11.9 +1.9
baz=236
PFO Pinyon Flats O 83.36 49 eP P 09 16 12.0 +2.0
PFO Pinyon Flats O 83.36 49 eP P 09 16 12.0 +2.0
XPFO Piæon Flat 83.37 49 eP P 09 16 12.0 +2.0
CHANG Changchun 83.38 324 i/P P 09 16 10.0 +0.4
CN2 epP pP 09 18 05.0 -2.2
CN2 eS S 09 25 46.5 +0.9
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
SWSC Sam W. Stewart 83.46 50 P P 09 16 12.5 +2.2
baz=237,SNR=9.6
AFDM Forest Hills D 83.49 43 eP P 09 16 12.6 +2.2
NKL Nikolayevsk 83.53 338 eP P 09 16 10.5 +0.4
NKL e 09 18 05.8
NKL pmax pmax
comp=N,29nm,0.9s
NKL pmax pmax
comp=E,6.0nm,0.9s
NKL pmax pmax
comp=Z,99nm,0.9s
ORV Oroville 83.54 42 eP P 09 16 12.5 +1.9
ORV Oroville 83.54 42 eP P 09 16 12.5 +1.9
WDC Whiskeytown Da 83.54 41 eP P 09 16 13.1 +2.6
WDC Whiskeytown Da 83.54 41 eP P 09 16 13.1 +2.6
LRMC Laurel Mtn Rad 83.58 47 P P 09 16 13.1 +2.1
baz=235
N02D Trinity Center 83.69 40 P P 09 16 13.8 +2.4
baz=231
TIA Tai'an 83.69 314 P P 09 16 12.0 +0.6
TIA pmax pmax
comp=Z,100nm,1.0s
O03D Paynes Creek 83.81 41 P P 09 16 13.8 +1.8
baz=232
TRTT Trang 83.86 281 P P 09 16 12.3 -0.4
comp=Z,29nm,1.2s,comp=Z,456nm
M02C Callahan 83.86 40 P P 09 16 14.6 +2.4
baz=231
CWC Cottonwood Cre 83.87 46 P P 09 16 14.0 +1.6
baz=235
BELC Belle Mtn. Jos 83.90 49 P P 09 16 14.3 +1.6
baz=236,SNR=14
SKNT Sakolnakorn 84.02 291 P P 09 16 12.8 -0.6
comp=Z,116nm,0.9s,comp=Z,1µm
MPMC Manual Prospec 84.04 47 P P 09 16 14.8 +1.4
baz=235,SNR=10
KLR Kul'dur 84.05 331 P P 09 16 13.9 +1.1
comp=Z,0.7nm,0.6s,baz=106,slow=4.4,SNR=29
KLR Kul'dur 84.05 331 d/P P 09 16 13.5 +0.7
GSC Goldstone, Bar 84.07 47 P P 09 16 15.3 +2.0
baz=236,SNR=9.7
GSC Goldstone, Bar 84.07 47 eP P 09 16 15.4 +2.0
GSC Goldstone, Bar 84.07 47 eP P 09 16 15.4 +2.0
BC3 Big Chuckawall 84.09 49 P P 09 16 15.4 +1.9
baz=237,SNR=7.1
HEC Hector,Ludlow 84.13 48 P P 09 16 15.3 +1.6
baz=236,SNR=8.4
YBH Yreka Blue Hor 84.16 40 P P 09 16 15.7 +2.0
comp=Z,8.5nm,1.0s,baz=148,slow=7.4,SNR=6.8
YBH pP pP 09 18 13.0 +1.5
comp=Z,1.6nm,0.7s,baz=214,slow=3.6,SNR=2.0
WAKR Walker 84.19 44 eP P 09 16 16.3 +2.2
GLA Glamis 84.20 50 P P 09 16 16.2 +2.1
baz=237,SNR=7.4
KDAK Kodiak Island 84.38 15 P P 09 16 15.2 +1.0
comp=Z,7.7nm,0.8s,baz=330,slow=1.2,SNR=6.1
KDAK Kodiak Island 84.38 15 i P P 09 16 15.0 +0.8
SRAK Srakaew 84.39 288 P P 09 16 14.2 -1.1
comp=Z,52nm,1.1s,comp=Z,698nm
GMRC Granite Mounta 84.56 48 P P 09 16 17.5 +1.6
baz=236,SNR=11
IRM Iron Mountain 84.58 49 P P 09 16 17.8 +1.9
baz=237,SNR=14
GRAC Grapevine Rang 84.66 46 P P 09 16 18.1 +1.9
baz=235,SNR=8.0
FURC Furnace Creek, 84.69 47 P P 09 16 18.0 +1.7
baz=236
M04C Macdoel 84.70 40 P P 09 16 18.3 +1.8
baz=232
TUQ Turquoise Moun 84.74 48 P P 09 16 18.5 +1.7
baz=236,SNR=5.6
SHOC Shoshone, Teco 84.76 47 P P 09 16 18.4 +1.7
baz=236,SNR=6.5
Y12C Blythe 84.79 50 P P 09 16 18.9 +2.0
baz=237,SNR=5.3
Y12C Blythe 84.79 50 eP P 09 16 19.3 +2.4
RYN Ryan 84.84 44 eP P 09 16 19.0 +1.8
NV01 Mina Array Sit 84.87 44 eP P 09 16 18.3 +0.9
NVAR Mina Array Bea 84.87 44 P P 09 16 18.6 +1.2
comp=Z,5.8nm,0.8s,baz=226,slow=8.1,SNR=29
NVAR pP pP 09 18 15.9 +0.4
comp=Z,6.1nm,1.1s,baz=222,slow=7.9,SNR=5.3
NVAR PP PP 09 19 42.2 -2.2
comp=Z,2.9nm,1.1s,baz=225,slow=11,SNR=3.6
HSIG 84.93 55 eP P 09 16 20.0 +2.3
PAHR Pah Rah Range 84.93 43 eP P 09 16 19.4 +1.7
NV11 Mina Array Sit 84.97 44 eP P 09 16 19.5 +1.7
SNAA Sanae 84.97 179 P P 09 16 16.6 -0.6
comp=Z,8.2nm,0.4s,baz=198,slow=12,SNR=98
SNAA Sanae 84.97 179 eP P 09 16 17.7 +0.5
I03D Drain, OR 85.03 38 P P 09 16 19.8 +2.1
baz=231
214A Organ Pipe Nat 85.06 52 P P 09 16 20.3 +2.0
baz=238,SNR=13
214A Organ Pipe Nat 85.06 52 eP P 09 16 19.9 +1.6
comp=Z,265nm,1.8s
214A ePP PP 09 19 45.5 -0.3
LDFC Landfair 85.10 48 eP P 09 16 20.6 +2.1
NAYO Nakonayok 85.15 288 P P 09 16 20.3 +1.3
comp=Z,23nm,0.9s,comp=Z,2µm
CHAI Chaiyaphum 85.26 290 P P 09 16 20.3 +0.8
comp=Z,8.1nm,1.0s
PDMCI Parker Dam,Lak 85.36 50 P P 09 16 21.3 +1.7
baz=237,SNR=12
TPNV Topopah Spring 85.37 46 P P 09 16 21.2 +1.4
baz=236
NVL N'lazarevskaya 85.48 184 eP P 09 16 18.8 -0.8
NVL pmax pmax
comp=Z,46nm,1.0s
MOD Modoc Plateau 85.68 41 eP P 09 16 23.5 +2.3
ENH Enshi 85.89 305 eP P 09 16 22.5 +0.2
comp=Z,138nm,1.5s
ENH epP pP 09 18 17.6 -3.1
J05D Fort Rock, OR 85.98 39 P P 09 16 24.7 +2.1
baz=232
PHET Kaeng Krachan 86.04 286 P P 09 16 24.6 +1.4
comp=Z,29nm,1.0s,comp=Z,278nm
MA2 Magadan 86.18 346 P P 09 16 23.2 +0.3
comp=Z,40nm,0.8s,baz=138,slow=5.0,SNR=45
MA2 Magadan 86.18 346 j eP P 09 16 22.7 -0.2
GYA Guiyang 86.19 301 P P 09 16 25.3 +1.4
GYA pP pP 09 18 25.5 +3.0
GYA sP sP 09 19 18.0 +0.5
GYA PP PP 09 19 58.5 +3.5
GYA SKS SKSac 09 25 58.8 +0.2
GYA S S 09 26 14.3 +0.5
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,6.2s
PINE Pine Mountain 86.45 39 eP P 09 16 26.3 +1.4
BJT Baijiatuao 86.49 317 eP P 09 16 25.7 +0.9
BJT pmax pmax
comp=Z,34nm,1.0s
BJT Baijiatuao 86.49 317 eP P 09 16 25.7 +0.9
comp=Z,34nm,1.0s
BRLK Bradley Lake 86.56 15 eP P 09 16 25.3 +0.6
I05D Terrebonne, OR 86.56 38 P P 09 16 27.1 +2.0
baz=232
R11A Troy Canyon, C 86.58 46 P P 09 16 27.2 +1.6
baz=236
TUC Tucson 86.71 53 P P 09 16 28.2 +1.9
baz=240
TUC Tucson 86.71 53 eP P 09 16 28.1 +1.9
TUC Tucson 86.71 53 eP P 09 16 28.1 +1.9
WVOR Wild Horse Val 87.00 41 eP P 09 16 28.8 +1.5
WVOR Wild Horse Val 87.00 41 eP P 09 16 28.8 +1.5
SRDT SRDT 87.09 287 P P 09 16 28.9 +0.7
comp=Z,74nm,1.1s,comp=Z,4µm
G05D Wamic, OR 87.13 37 P P 09 16 30.1 +2.3
baz=232
PHIT Phitsanulok 87.18 290 P P 09 16 29.7 +1.1
comp=Z,42nm,0.8s,comp=Z,343nm
GAMB Gambell 87.37 4 eP P 09 16 29.6 +1.2
comp=Z,14nm,0.8s
LCMT Little Creek M 87.42 48 eP P 09 16 31.4 +1.9
I07A Izee 87.46 39 eP P 09 16 31.7 +2.3
G06A Carlson Farm, 87.51 38 eP P 09 16 31.4 +1.8
SPU Mount Spurr 87.57 13 eP P 09 16 29.0 -0.5
CCUT Cedar City 87.62 47 eP P 09 16 33.0 +2.4
NANT Nan 87.63 292 P P 09 16 31.9 +1.2
comp=Z,11nm,1.0s
J08A Circle Bar Ran 87.63 40 eP P 09 16 31.8 +1.5
TIY Taiyuan 87.65 313 eP P 09 16 31.8 +1.4
KNB Kanab 87.71 48 eP P 09 16 33.2 +2.3
KNB Kanab 87.71 48 eP P 09 16 33.2 +2.3
LON Longmire 87.79 36 eP P 09 16 32.4 +1.5
LON Longmire 87.79 36 eP P 09 16 32.4 +1.5
SZCU Shurtz Canyon 87.83 47 eP P 09 16 33.8 +2.3
WUAZ Wupatki 87.93 50 P P 09 16 33.8 +1.9
baz=239
WUAZ Wupatki 87.93 50 eP P 09 16 34.1 +2.2
D05A Enumclaw 87.97 36 eP P 09 16 32.4 +0.8
HPIG 88.01 60 eP P 09 16 33.8 +1.2
XAN Xi'an 88.19 308 P P 09 16 33.5 +0.5
XAN pmax pmax
comp=Z,60nm,1.0s
XAN pmax pmax
comp=Z,300nm,5.4s
LAMP Lampang 88.42 291 P P 09 16 35.8 +1.4
comp=Z,15nm,1.1s,comp=Z,142nm
GLI Glacier Island 88.44 16 eP P 09 16 34.0 +0.5
G08A Pilot Rock 88.49 38 eP P 09 16 35.5 +1.3
A04D Lummi Island 88.55 34 P P 09 16 36.4 +2.2
baz=231
PMR Palmer 88.58 14 eP P 09 16 34.3 +0.2
PMR Palmer 88.58 14 eP P 09 16 34.2 +0.2
B05A Bryant 88.58 35 P P 09 16 36.4 +2.0
baz=232
ZAIG Zacatecas 88.65 65 eP P 09 16 38.2 +2.5
MTPU Mount Pierson 88.68 47 eP P 09 16 38.5 +2.9
KMI Kunming 88.71 298 P P 09 16 37.5 +1.6
KMI pmax pmax
comp=Z,28nm,1.5s
LTY Liberty 88.72 36 eP P 09 16 36.1 +0.9

E07A Sunnyside 88.74 37 eP P 09 16 37.7 +2.4
PLCA Paso Flores 88.80 134 P P 09 16 37.8 +1.8
comp=Z,5.7nm,0.9s,baz=267,slow=4.8,SNR=16
PLCA pP pP 09 18 35.8 +0.6
comp=Z,2.2nm,1.0s,baz=230,slow=6.6,SNR=3.8
HAWA Hanford 88.82 37 eP P 09 16 37.1 +1.5
SEY Seymchan 88.89 348 P P 09 16 35.8 +0.3
comp=Z,29nm,0.8s,baz=151,slow=5.2,SNR=119
SEY pP pP 09 18 32.9 -2.0
comp=Z,2.5nm,0.7s,baz=63,slow=2.3,SNR=2.6
SEY PKKP PKKPdf 09 34 08.6 -0.5
comp=Z,1.3nm,0.8s,baz=117,slow=2.3,SNR=3.5
SEY Seymchan 88.89 348↓ eP P 09 16 35.9 +0.4
MSU Marysvale 88.93 47 eP P 09 16 39.1 +2.5
MSU Marysvale 88.93 47 eP P 09 16 39.1 +2.5
CMAR Chiang Mai Arr 88.98 291 P P 09 16 38.5 +1.5
comp=Z,19nm,1.0s,baz=132,slow=3.2,SNR=66
CMAR pP pP 09 18 35.5 -0.9
comp=Z,5.3nm,0.9s,baz=128,slow=3.2,SNR=6.2
CMAR PP PP 09 20 13.0 -4.0
comp=Z,1.8nm,0.6s,baz=130,slow=6.8,SNR=3.9
CMAR PKKPbc PKKPbc 09 34 10.9 -0.8
comp=Z,0.8nm,0.3s,baz=287,slow=4.3,SNR=4.9
C06D Leavenworth 89.00 35 P P 09 16 38.4 +2.0
baz=232
121A Cookes Peak, D 89.03 54 P P 09 16 38.8 +1.7
baz=241
121A Cookes Peak, D 89.03 54 eP P 09 16 38.5 +1.4
comp=Z,14nm,1.1s
CMMT Chiang Mai 89.13 291 P P 09 16 37.6 -0.1
comp=Z,38nm,1.2s
CHTO Chiang Mai 89.14 291 P P 09 16 38.6 +0.9
comp=Z,172nm,1.3s
CHTO Chiang Mai 89.14 291 eP P 09 16 39.0 +1.3
CHTO Chiang Mai 89.14 291 eP P 09 16 39.0 +1.3
BMO Blue Mountains 89.19 39 eP P 09 16 39.0 +1.5
BMO Blue Mountains 89.19 39 eP P 09 16 39.0 +1.5
ZEA Zeya 89.23 332 eP P 09 16 38.1 +0.8
ZEA i 09 26 44.0
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,46nm,1.0s
MFID Camas Ranch 89.25 41 eP P 09 16 39.1 +1.3
KLU Klutina 89.26 16 eP P 09 16 38.0 +0.6
DUG Dugway, Tooele 89.39 45 P P 09 16 40.2 +1.6
baz=238
DUG Dugway, Tooele 89.39 45 eP P 09 16 40.3 +1.7
DUG Dugway, Tooele 89.39 45 eP P 09 16 40.3 +1.7
CMAI Chiengmai2 89.52 292 P P 09 16 40.6 +0.9
comp=Z,355nm,1.0s,comp=Z,4µm
D08A Wollman Farm, 89.55 37 eP P 09 16 40.9 +1.9
CAST Castle Rocks 89.58 12 eP P 09 16 38.0 -0.7
EPT El Paso 89.62 55 eP P 09 16 42.3 +2.5
BGU Big Grassy Mou 89.64 44 eP P 09 16 41.3 +1.6
EFI East Falkland 89.71 148 d iP P 09 16 40.9 +1.2
EFI pmax pmax
comp=Z,56nm,1.1s
NLU North Lily Min 89.75 46 eP P 09 16 42.3 +1.9
F10A Beach Ranch, E 89.87 39 eP P 09 16 40.9 +0.3
HHC Hu-ho-hao-te 89.88 315 eP P 09 16 42.8 +2.0
HHC pP pP 09 18 42.5 +2.1
HHC sP sP 09 19 35.5 +0.4
HHC PP PP 09 20 28.0 +4.2
HHC SKS SKSac 09 26 21.5 +1.9
HHC S S 09 26 48.3 +1.1
HHC sS sS 09 30 20.0 -0.8
HHC SS SS 09 33 07.0 +4.9
HHC pmax pmax
comp=Z,13nm,1.3s
HHC pmax pmax
comp=Z,110nm,5.5s
KTH Kantishna Hill 89.94 13 eP P 09 16 39.7 -0.7
comp=Z,11nm,0.8s
TRF Thorofare Moun 89.97 13 eP P 09 16 40.4 -0.4
comp=Z,18nm,0.9s
TMUT Trail Mountain 89.98 47 eP P 09 16 43.5 +2.0
MPU Maple Canyon 90.07 46 eP P 09 16 43.9 +2.1
B08A Colville Reser 90.10 36 eP P 09 16 42.0 +0.5
HLID Hailey 90.19 42 P P 09 16 43.9 +1.6
baz=237
HLID Hailey 90.19 42 eP P 09 16 44.2 +1.9
SPUT South Promonto 90.21 44 eP P 09 16 44.4 +2.0
HVU Hansel Valley 90.25 44 eP P 09 16 43.9 +1.3
HVU Hansel Valley 90.25 44 eP P 09 16 43.9 +1.3
CTU Camp Tracy 90.34 45 eP P 09 16 44.8 +1.8
SRU San Rafael Swe 90.34 47 eP P 09 16 44.5 +1.4
SRU San Rafael Swe 90.34 47 eP P 09 16 44.5 +1.4
LAZ Ladron 90.40 52 eP P 09 16 42.5 -1.0
MNTX Cornudas Mount 90.43 55 P P 09 16 45.0 +1.6
baz=242
MNTX Cornudas Mount 90.43 55 eP P 09 16 45.1 +1.6
JLU Jordanelle 90.49 45 eP P 09 16 45.4 +1.6
CD2 Chengdu 90.53 304 P P 09 16 45.0 +1.0
CD2 pP pP 09 18 43.3 -0.4
CD2 sP sP 09 19 37.8 -0.5
CD2 SKS SKSac 09 26 24.5 +0.9
CD2 S ScS 09 26 54.5 -0.9
CD2 SS SS 09 33 13.0 +1.4
CD2 pmax pmax
comp=Z,100nm,0.6s
CD2 pmax pmax
comp=Z,170nm,4.2s
BNM Barren Site 90.65 53 eP P 09 16 46.6 +1.9
TX31 Lajitas Ar. Si 90.67 58 eP P 09 16 46.6 +1.8
TXAR Lajitas Array 90.68 58 P P 09 16 46.5 +1.7
comp=Z,7.1nm,0.8s,baz=214,slow=6.2,SNR=81
TXAR pP pP 09 18 45.9 +1.4
comp=Z,1.4nm,0.9s,baz=202,slow=6.3,SNR=3.9
TXAR PKKPbc PKKPbc 09 34 08.9 +0.8
comp=Z,0.6nm,0.7s,baz=90,slow=3.3,SNR=5.6
LPM Los Pinos Moun 90.72 53 eP P 09 16 46.8 +1.8
MVCO Mesa Verde 90.78 49 P P 09 16 46.6 +1.4
baz=241
TCUT Toone Canyon 90.78 45 eP P 09 16 47.2 +2.0
P18A Preston Nutter 90.79 47 eP P 09 16 47.0 +1.7
HWUT Hardware Ranch 90.93 44 eP P 09 16 46.9 +1.1
PV09 Paradox Valley 90.98 48 eP P 09 16 47.9 +1.7
PV10 Paradox Valley 90.98 48 eP P 09 16 47.6 +1.5
MENT Mentasta 91.04 16 eP P 09 16 45.7 +0.2
PV04 Paradox Valley 91.08 48 eP P 09 16 48.1 +1.6
ANMO Albuquerque 91.15 52 P P 09 16 48.5 +1.6
baz=242
ANMO Albuquerque 91.15 52 ceP P 09 16 48.3 +1.4
ANMO pmax pmax
comp=Z,11nm,1.2s
ANMO Albuquerque 91.15 52 eP P 09 16 48.1 +1.2
PV01 Paradox Valley 91.18 49 eP P 09 16 48.1 +1.1
NEW Newport 91.24 37 P P 09 16 46.7 -0.2
comp=Z,1.2nm,0.6s,baz=224,slow=7.6,SNR=2.9
NEW Newport 91.24 37 P P 09 16 48.5 +1.7
baz=235
MLY Manley 91.29 12 eP P 09 16 46.2 -0.5
WRH Wood River Hil 91.34 13 eP P 09 16 46.7 -0.1
HDA Harding Lake 91.53 14 eP P 09 16 47.4 -0.3
MDM Murphy Dome 91.73 13 eP P 09 16 48.6 -0.1
COLA College 91.74 13 eP P 09 16 48.4 -0.2
COLA College 91.74 13 eP P 09 16 48.4 -0.2
MCMT McKenzie Canyo 91.82 41 eP P 09 16 51.5 +1.6
AHID Auburn Hatcher 91.83 44 eP P 09 16 51.8 +1.9
ILAR Eielson Array 91.86 14 P P 09 16 48.8 -0.5
comp=Z,2.0nm,0.8s,baz=224,slow=4.6,SNR=24
ILAR pP pP 09 18 46.9 -2.2
comp=Z,4.4nm,1.0s,baz=228,slow=5.7,SNR=9.3
ILAR PP PP 09 20 33.0 -5.5
comp=Z,3.5nm,1.1s,baz=228,slow=5.6,SNR=4.7
BILL Bilibino 91.89 355 c iP P 09 16 49.9 +0.6
BILL e 09 20 39.5
BILL ePPP PPP 09 22 41.1
BILL eS SKSac 09 26 29.5 +0.1
BILL eSSS SSS 09 37 17.5
BILL pmax pmax
comp=Z,23nm,0.9s
S22A 4UR Ranch, Cre 92.20 50 P P 09 16 53.0 +1.1
baz=242
REDW Red Top Meadow 92.29 43 eP P 09 16 53.6 +1.6
FXWY Fox Creek 92.32 43 eP P 09 16 54.2 +2.0
CLNS Chul'man 92.33 333 eP P 09 16 50.7 -0.9
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,1.3s
CLNS pmax pmax
comp=E,6.0nm,0.8s

O20A White River Ci 92.38 47 P P 09 16 53.9 +1.4
baz=241
SNOW Snow King Moun 92.40 43 eP P 09 16 54.6 +2.1
IMW Indian Meadow 92.50 43 eP P 09 16 54.7 +1.6
LOHW Long Hollow 92.57 43 eP P 09 16 54.7 +1.4
SMCO Snowmass 92.78 48 eP P 09 16 55.8 +1.2
BW06 Boulder Array 92.81 44 P P 09 16 55.7 +1.3
baz=240
BW06 Boulder Array 92.81 44 eP P 09 16 54.0 -0.4
PD31 Pinedale Array 92.81 44 eP P 09 16 55.2 +0.8
PDAR Pinedale Array 92.81 44 P P 09 16 54.9 +0.5
comp=E,1.8nm,0.7s,baz=205,slow=3.3,SNR=20
PDAR pP pP 09 18 55.2 +0.9
comp=E,2.1nm,0.9s,baz=220,slow=3.9,SNR=8.4
PDAR PP PP 09 20 45.5 -1.1
comp=E,1.3nm,1.0s,baz=237,slow=8.1,SNR=4.0
PDAR PKKPbc PKKPdf 09 34 01.2 -0.4
comp=E,0.1nm,0.3s,baz=82,slow=6.5,SNR=3.7
LZH Lanzhou 92.83 308 ⇑P P 09 16 55.5 +0.9
LZH sP sP 09 19 50.0 +0.9
LZH ePP PP 09 20 49.0 +2.2
LZH eS S 09 27 15.0 +1.5
LZH sS sS 09 30 48.0 -0.8
LZH SS SS 09 33 47.5 +3.3
LZH pmax pmax
comp=E,72nm,0.9s
LZH pmax pmax
comp=E,220nm,6.6s
BOZ Bozeman (W) 92.95 41 P P 09 16 56.6 +1.7
baz=239
BOZ Bozeman (W) 92.95 41 eP P 09 16 56.7 +1.8
BOZ Bozeman (W) 92.95 41 eP P 09 16 56.7 +1.8
H17A Grant Village 92.98 42 P P 09 16 56.8 +1.6
baz=240
DAWY Dawson 93.08 17 eP P 09 16 55.4 +0.5
comp=E,8.2nm,0.8s
SDCO Great Sand Dun 93.13 50 P P 09 16 57.3 +1.2
baz=242
SDCO Great Sand Dun 93.13 50 eP P 09 16 56.9 +0.8
EGAK Eagle 93.20 16 eP P 09 16 55.3 0.0
HRY Holter Researc 93.41 40 eP P 09 16 57.6 +0.7
comp=E,2.3nm,0.6s
HRY epP pP 09 18 58.3 +1.4
MSTX Muleshoe 93.42 54 P P 09 16 58.6 +1.3
baz=244
833A Chaparral WMA, 93.62 61 P P 09 16 59.5 +1.4
baz=245
T25A Trinidad 93.63 51 P P 09 16 59.9 +1.6
baz=243
ISCO Idaho Springs 94.00 48 P P 09 17 01.6 +1.5
baz=243
YAK Yakutsk 94.13 339 eP P 09 16 58.2 -1.4
YAK eS S 09 27 23.5 +0.3
YAK e*SS PS 09 29 24.1 -32
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK smax smax
comp=E,101nm,2.3s
YAK smax smax
comp=N,102nm,2.9s
JCT Junction City 94.19 59 P P 09 17 01.9 +1.1
baz=245
JCT Junction City 94.19 59 eP P 09 17 01.9 +1.1
JCT Junction City 94.19 59 eP P 09 17 01.9 +1.1
LCO Las Campanas 94.60 124 eP P 09 17 04.3 +1.3
EGMT Eagleton 95.29 40 P P 09 17 07.0 +1.6
baz=240
ULN Ulaanbaatar 96.20 320 ↓ eP P 09 17 09.3 -0.3
ULN pmax pmax
comp=Z,15nm,1.3s
ULN Ulaanbaatar 96.20 320 eP P 09 17 09.0 -0.6
comp=Z,19nm,1.4s
SONM Songino Array 96.58 320 P P 09 17 11.1 -0.2
comp=Z,8.1nm,1.2s,baz=139,slow=4.8,SNR=23
SONM pP pP 09 19 13.8 +2.4
comp=Z,2.9nm,1.1s,baz=114,slow=2.5,SNR=7.5
SONM PKKP PKKPbc 09 33 53.0 -0.6
comp=Z,0.7nm,0.5s,baz=307,slow=2.4,SNR=5.2
GTA Gaotai 97.15 310 eP P 09 17 13.8 -0.2
GTA pP pP 09 19 17.5 +3.2
GTA sP sP 09 20 07.3 -1.5
GTA pmax pmax
comp=Z,9.0nm,1.8s
INK Inuvik 97.88 16 P P 09 17 16.5 +0.1
comp=Z,2.8nm,0.9s,baz=188,slow=2.1,SNR=12
INK PP PP 09 21 27.1 +2.9
comp=Z,2.0nm,1.0s,baz=225,slow=6.3,SNR=3.7
INK Inuvik 97.88 16 eP Pdif 09 17 15.9 -0.4
INK 09 21 27.2
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 97.88 16 ePdif Pdif 09 17 15.9 -0.4
comp=Z,3.8nm,1.0s
INK PP PP 09 21 27.1 +2.9
ZAK Zakamensk 99.55 321 eP Pdif 09 17 24.1 -0.3
ZAK pmax pmax
comp=Z,2.0nm,1.1s
ZAK Zakamensk 99.55 321 eP SKKSac 09 27 45.1 -0.5
YKA Yellowknife Ar 100.30 26 P Pdif 09 17 27.5 +0.3
comp=Z,0.3nm,0.7s,baz=245,slow=4.6,SNR=8.9
YKA pP pP 09 19 28.2 +0.4
comp=Z,0.6nm,0.9s,baz=244,slow=4.2,SNR=5.1
YKA PP PP 09 21 39.1 -3.4
comp=Z,1.2nm,1.0s,baz=240,slow=6.8,SNR=6.4
YKA PKiKP PKiKP 09 21 50.1 -0.6
comp=Z,0.4nm,0.6s,baz=252,slow=1.0,SNR=12
YKA PKKPbc PKKPbc 09 33 39.7 -3.8
comp=Z,0.3nm,0.5s,baz=39,slow=2.4,SNR=13
ULM Lac du Bonnet 104.49 41 PKiKP PKiKP 09 21 59.6 +0.8
comp=Z,1.3nm,0.6s,baz=338,slow=5.4,SNR=2.5
RES Resolute Bay 111.42 17 PKiKP PKiKP 09 22 10.6 -0.5
comp=Z,3.3nm,0.8s,baz=236,slow=2.3,SNR=15
ZALV Zalesovo Beam 111.43 321 PKiKP PKiKP 09 22 10.6 -1.1
comp=Z,3.1nm,0.8s,baz=187,slow=0.8,SNR=12
MKAR Makanchi Array 111.61 313 Pdiff Pdif 09 18 19.2 +1.2
comp=Z,1.3nm,0.8s,baz=95,slow=6.1,SNR=10
MKAR PKiKP PKiKP 09 22 11.6 -0.8
comp=Z,3.0nm,0.8s,baz=59,slow=2.3,SNR=22
MKAR PP PP 09 23 06.9 +1.9
comp=Z,1.3nm,0.8s,baz=130,slow=1.9,SNR=4.3
MKAR PKKPbc PKKPbc 09 33 08.4 -0.2
comp=Z,1.4nm,0.9s,baz=286,slow=4.5,SNR=7.0
MKAR PKKPab PKKPab 09 33 19.4 +1.4
comp=Z,2.0nm,0.8s,baz=271,slow=3.9,SNR=8.9
NVS Novosibirsk 112.50 322 ePKiKP PKiKP 09 22 12.1 -1.6
KURK Kurchatov 114.67 317 d iPKiKP PKPdf 09 22 16.8 -1.2
KURK Kurchatov 114.67 317 PKP PKPdf 09 22 17.0 -1.0
KURK PP PP 09 23 20.4 -5.8
KURK pPKP 09 24 23.2
KURK PKKPbc PKKPbc 09 32 58.8 +0.2
KURBB Kurchatov Arra 114.71 316 PKP PKPdf 09 22 17.0 -1.1
comp=Z,6.9nm,0.8s,baz=89,slow=1.9,SNR=30
KURBB PP PP 09 23 20.4 -6.1
comp=Z,2.1nm,1.1s,baz=89,slow=5.7,SNR=6.0
KURBB pPKP 09 24 23.2
comp=Z,0.7nm,0.8s,baz=88,slow=1.7,SNR=2.0
KURBB PKKPbc PKKPbc 09 32 58.8 +0.4
comp=Z,2.0nm,1.0s,baz=280,slow=3.9,SNR=8.0
KSH Kashi 114.72 304 ePKP PKPdf 09 22 18.8 +0.2
KSH PP PP 09 23 33.8 +6.7
KSH AMB AMB
comp=Z,54nm,5.4s
TKM2 Tokmak 2 115.59 308 P PKPdf 09 22 19.7 -0.6
SNR=7.5
KZA Kyzart 115.71 307 P PKPdf 09 22 21.2 +0.3
SNR=7.0
UCH Uchtor 116.28 307 P PKPdf 09 22 21.9 -0.1
SNR=12
FRU Bishkek 116.29 308 ePKiKP PKPdf 09 22 21.0 -0.4
AAK Ala-Archa 116.35 307 PKP PKPdf 09 22 21.2 -0.5
comp=Z,3.3nm,0.6s,baz=141,slow=4.9,SNR=11
AAK PKKPbc PKKPbc 09 32 53.0 +0.2
comp=Z,2.0nm,0.5s,baz=213,slow=1.2,SNR=5.1
AML Almayashu 116.86 307 P PKPdf 09 22 22.6 -0.4
SNR=9.8
EKS2 Erkin-Say 116.88 307 P PKPdf 09 22 22.6 -0.1
SNR=5.6
OPO Ambohidratompo 117.36 232 PKPbc PKPdf 09 22 24.3 -0.1
comp=Z,3.7nm,0.7s,baz=33,slow=0.6,SNR=4.8
KKAR Karatay Array 119.31 307 ePKiKP PKPdf 09 22 26.3 -0.9

KKAR Karatay Array 119.31 307 ePKPdf PKPdf 09 22 26.3 -0.9
BVAR Borovoye Array 119.91 319 PKP PKPdf 09 22 27.2 -0.8
comp=Z,4.4nm,0.3s,baz=80,slow=1.7,SNR=37
BVAR PP PP 09 23 58.3 -3.7
comp=Z,1.4nm,0.7s,baz=74,slow=6.6,SNR=3.7
BVAR pPKP pPKPdf 09 24 37.7 +2.2
comp=Z,3.1nm,0.9s,baz=64,slow=3.4,SNR=3.9
BRVK Borovoye 119.97 319 d iPKiKP PKPdf 09 22 27.4 -0.7
BRVK pmax pmax
comp=Z,41nm,1.2s
BRVK Borovoye 119.97 319 ePKPdf PKPdf 09 22 27.6 -0.5
BRVK ePP PP 09 23 59.0 -3.4
SUR Sutherland 120.72 201 PKP PKPdf 09 22 30.9 +0.3
comp=Z,1.3nm,0.7s,baz=199,slow=2.8,SNR=21
KULLO Kullorsuaq 121.22 15 i PKiKP PKPdf 09 22 28.6 -1.3
KULLO pmax pmax
comp=Z,17nm,0.9s
KULLO Kullorsuaq 121.22 15 i P PKPdf 09 22 28.6 -1.3
comp=Z,16nm,0.9s
BOSA Boshof 122.45 207 PKP PKPdf 09 22 33.6 -0.3
comp=Z,6.9nm,0.7s,baz=123,slow=1.6,SNR=9.7
SCHQ Schefferville 122.54 39 PKP PKPdf 09 22 32.0 -1.0
comp=Z,2.6nm,0.5s,baz=7.2,slow=2.0,SNR=5.9
SPITS Spitsbergen Ar 124.80 356 PKP PKPdf 09 22 36.6 -0.1
comp=Z,27nm,0.8s,baz=14,slow=4.3,SNR=13
SVE Sverdlovsk 125.17 324 ePKiKP PKPdf 09 22 38.2 +0.2
SVE pmax pmax
comp=Z,29nm,1.0s
ILULI Ilulissat 125.44 20 i PKiKP PKPdf 09 22 38.0 -0.1
ILULI pmax pmax
comp=Z,22nm,1.0s
ILULI Ilulissat 125.44 20 i P PKPdf 09 22 38.0 -0.1
comp=Z,22nm,1.0s
LBTB Lobatse 125.44 209 PKP PKPdf 09 22 40.3 +0.5
comp=Z,1.1nm,1.0s,baz=162,slow=2.8,SNR=6.6
DAG Danmarks Havn 126.03 5 i PKiKP PKPdf 09 22 38.0 -1.1
DAG pmax pmax
comp=Z,12nm,0.9s
DAG Danmarks Havn 126.03 5 i P PKPdf 09 22 38.0 -1.1
comp=Z,12nm,0.9s
ARU Arti 126.37 324 PKP PKPdf 09 22 40.5 +0.2
comp=Z,18nm,0.6s,baz=76,slow=1.9,SNR=32
ARU Arti 126.37 324 i PKiKP PKPdf 09 22 40.3 0.0
ARU 09 24 41.5
ARU 09 28 59.1
SOKR Solikamsk 126.50 328 c iPKiKP PKPdf 09 22 38.1 -2.3
SOKR pmax pmax
comp=Z,38nm,0.9s
ABKAR Akbulak array 126.67 315 ePKPdf PKPdf 09 22 40.8 -0.2
SFJD Kangerlussuaq 126.68 22 PKP PKPdf 09 22 39.7 -0.8
comp=Z,4.7nm,0.5s,baz=248,slow=8.8,SNR=4.1
SUMG Summit 126.70 13 ePKiKP PKPdf 09 22 41.2 +0.2
SUMG Summit 126.70 13 i P PKPdf 09 22 41.2 +0.2
comp=Z,26nm,1.1s
SUMG Summit 126.70 13 ePKPdf PKPdf 09 22 41.2 +0.2
AKTO Aktyubinsk 127.76 316 PKP PKPdf 09 22 43.0 -0.1
comp=Z,11nm,0.7s,baz=90,slow=3.0,SNR=28
AKTO pPKP pPKPdf 09 24 50.0 -0.7
comp=Z,4.8nm,1.1s,baz=122,slow=4.4,SNR=4.9
GEYT Alibeck 128.42 300 PKP PKPdf 09 22 45.0 +0.2
comp=Z,10nm,0.8s,baz=191,slow=0.8,SNR=18
GEYT pPKP pPKPdf 09 24 54.0 +1.7
comp=Z,5.3nm,0.8s,baz=130,slow=5.8,SNR=5.0
SCO Scoresbysund 131.45 9 i PKiKP PKPdf 09 22 49.9 +0.4
SCO pmax pmax
comp=Z,5.0nm,0.8s
SCO Scoresbysund 131.45 9 i P PKPdf 09 22 49.9 +0.4
comp=Z,4.7nm,0.8s
ARCES ARCESS Array B 131.50 348 PKP PKPdf 09 22 49.2 -0.5
comp=Z,17nm,0.8s,baz=35,slow=1.7,SNR=22
ARCES pPKP pPKPdf 09 24 60.0 +2.7
comp=Z,2.9nm,0.6s,baz=12,slow=8.8,SNR=1.9
ARCES SKPbc SKPbc 09 25 23.2 -1.3
comp=Z,14nm,0.9s,baz=29,slow=5.8,SNR=7.3
KLMR Klimovskoe 133.72 334 ePKiKP PKPdf 09 22 51.9 -2.1
KLMR e 09 25 29.4
KLMR pmax pmax
comp=Z,21nm,1.3s
KLMR Klimovskoe 133.72 334 ePKPdf PKPdf 09 22 51.9 -2.1
KLMR AMP 09 22 59.2
comp=Z,21nm,1.3s
KLMR ePP PP 09 25 29.5 -1.7
TSUM Tsumeb 133.93 204 PKP PKPdf 09 22 57.1 +1.2
comp=Z,9.3nm,1.1s,baz=118,slow=3.6,SNR=7.6
KMBO Kilima Mbogo 135.83 241 PKP PKPdf 09 23 00.8 +1.1
comp=Z,5.4nm,0.9s,baz=11,slow=2.4,SNR=8.7
KMBO Kilima Mbogo 135.83 241 ePKiKP PKPdf 09 23 00.6 +0.8
KMBO Kilima Mbogo 135.83 241 ePKPdf PKPdf 09 23 00.6 +0.8
RAYN Ar Rayn 137.97 279 ePKPdf PKPdf 09 23 03.5 +0.4
FINES FINESS Array B 138.02 341 PKhKP PKPpre 09 22 52.3
comp=Z,4.0nm,0.8s,baz=62,slow=3.6,SNR=11
FINES PKP PKPdf 09 23 02.5 +0.4
comp=Z,9.4nm,0.7s,baz=80,slow=3.1,SNR=13
FINES SKP 09 25 45.3
comp=Z,10nm,0.9s,baz=92,slow=5.7,SNR=11
OBN Obninsk 138.28 329 ↓ ePKiKP PKPdf 09 23 03.0 +0.4
OBN e 09 25 58.6
OBN ePPP PPP 09 29 06.1
OBN eSS SS 09 43 23.5 -5.2
OBN pmax pmax
comp=Z,50nm,1.6s
GNI Garni 138.65 305 ⇑ ePKiKP PKPdf 09 23 04.6 +0.5
ZEI Tsey 138.75 309 i PKiKP PKPdf 09 23 04.2 0.0
ZEI pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 139.23 310 PKhKP PKPpre 09 22 57.6
comp=Z,2.4nm,0.9s,baz=106,slow=5.9,SNR=3.8
KBZ PKP PKPdf 09 23 05.7 +0.9
comp=Z,6.0nm,0.9s,baz=153,slow=2.3,SNR=7.8
KIV Kislovodsk 139.32 311 i PKiKP PKPdf 09 23 03.3 -1.8
KIV pmax pmax
comp=Z,11nm,1.1s
AKH Akhalkalaki 139.35 307 ⇑ iP PKPdf 09 22 58.5 -6.8
NEY Neytrino 139.48 310 ⇑ iPKiKP PKPdf 09 23 06.4 +0.9
VSU Vasula 140.12 338 ⇑ ePKiKP PKPdf 09 23 04.5 -1.4
DOMB Dombas 141.03 353 eP PKPpre 09 23 02.2
NC303 NORSAR Array S 141.52 351 eP PKPpre 09 23 04.0
NC204 NORSAR Array S 141.56 351 eP PKPpre 09 23 04.0
NB201 NORSAR Array S 141.70 351 eP PKPpre 09 23 03.3
NB2 NORSAR Subarra 141.72 351 PKP PKPpre 09 23 03.8
comp=Z,20nm,0.7s,baz=15,slow=3.1
NB2 NORSAR Subarra 141.72 351 PKP PKPpre 09 23 03.8
baz=15,slow=3.1
NOA NORSAR Array B 141.72 351 PKhKP PKPpre 09 23 04.5
comp=Z,17nm,0.7s,baz=16,slow=4.7,SNR=39
NAO01 NORSAR Array S 141.96 351 eP PKPpre 09 23 05.3
NC602 NORSAR Array S 141.96 350 eP PKPpre 09 23 04.7
HFS Hagfors 142.17 348 PKhKP PKPpre 09 23 05.7
comp=Z,40nm,0.5s,baz=64,slow=3.4,SNR=139
IZAR Zarasai 142.33 335 eP PKPdf 09 23 06.7 -3.2
IZAR lAmb lAmb 09 23 08.2
comp=Z,17nm,0.7s
IDID Didziasalis 142.46 335 eP PKPdf 09 23 06.9 -3.3
IDID lAmb lAmb 09 23 08.9
comp=Z,6.7nm,0.7s
ISAL Salakas 142.51 335 eP PKPdf 09 23 07.6 -2.7
ISAL lAmb lAmb 09 23 09.7
comp=Z,13nm,1.1s
ANN Anapa 142.62 314 i PKHKP PKPpre 09 23 05.9
ANN e 09 26 22.8
ANN pmax pmax
comp=Z,108nm,1.1s
IIGN Ignalina 142.63 335 eP PKPdf 09 23 07.9 -2.6
IIGN lAmb lAmb 09 23 09.0
comp=Z,9.6nm,0.6s
NACGM Naroch 142.74 334 e PKPdf 09 23 08.0 -2.7
OSL Oslo 142.85 351 eP PKPdf 09 23 08.4 -2.3
ASK Askoy 142.93 355 eP PKPdf 09 23 08.7 -2.1
ASK lAmb lAmb 09 23 09.6
comp=Z,48nm,0.7s
BER Bergen 143.02 355 eP PKPab 09 23 08.8 +0.3
BER lAmb lAmb 09 23 09.8
comp=Z,95nm,0.7s
KONO Kongsberg 143.29 351 eP PKPab 09 23 09.3 -0.3
ODD1 Odda 143.38 354 eP PKPab 09 23 10.0 0.0
BLS5 Blasjo 143.87 354 eP PKPab 09 23 11.9 0.0
KMY Karmoy 144.19 355 eP PKPab 09 23 13.0 -0.1
KMY lAmb lAmb 09 23 14.1
comp=Z,180nm,0.9s
STAV Stavanger 144.43 354 eP PKPbc 09 23 12.5 -1.0
AKASG Malin Array Be 144.47 327 PKP PKPdf 09 23 13.2 -0.6
comp=Z,30nm,0.6s,baz=45,slow=4.3,SNR=205
AKASG pPKP pPKPdf 09 25 22.0 +0.4
comp=Z,7.6nm,0.9s,baz=42,slow=4.2,SNR=5.7
AKASG SKPbc SKPbc 09 26 02.0 +0.3

comp=Z,3.5nm,0.8s,baz=44,slow=2.6,SNR=4.6
KIEV Kiev 144.48 327 *d* iPKIKP **PKPdf** 09 23 13.2 -0.7
KIEV Kiev 144.48 327 *e*PKPdf **PKPdf** 09 23 12.8 -1.1
SIM Simferopol' 144.72 316 *i* PKIKP **PKPab** 09 23 15.8 +0.2
SIM pmax pmax
comp=Z,73nm,0.8s
HOMB Homborsund 144.77 352 *e*P PKPbc 09 23 14.8 +0.2
HOMB IAmb IAmb 09 23 15.8
comp=Z,81nm,0.8s
SUW Suwalki 144.81 336 *e*PKP PKPbc 09 23 14.7 -0.1
SUW Suwalki 144.81 336 *e*PKIKP PKPbc 09 23 14.7 -0.1
SNART Snartemo 144.86 353 *e*P PKPbc 09 23 15.0 +0.2
SNART IAmb IAmb 09 23 16.0
comp=Z,35nm,0.8s
KLNR Kaliningrad 145.39 339 *de*PKHKP PKPpre 09 23 13.4
SORM Soroca 146.49 324 ⇓PKIKP **PKPdf** 09 23 17.2 -0.1
SORM Soroca 146.49 324 ⇓*i*P **PKPdf** 09 23 17.2 -0.1
BSD Bornholm Skovb 146.51 344 ⇓*i*P **PKPbc** 09 23 19.5 -0.1
comp=Z,130nm,0.9s
COP Copenhagen 146.56 347 *i* PKP2 **PKPbc** 09 23 20.3 +0.6
COP pmax pmax
comp=Z,70nm,0.7s
COP Copenhagen 146.56 347 *i* P **PKPbc** 09 23 20.3 +0.6
comp=Z,70nm,0.7s
KIS Kishinev 146.90 322 ⇓*i*P **PKPdf** 09 23 19.0 +0.9
comp=Z,200nm,1.0s
KIS Kishinev 146.90 322 ⇓*i*PKIKP **PKPdf** 09 23 19.0 +0.9
KIS *i* 09 23 23.0
KIS *e* 09 25 24.0
KIS pmax pmax
comp=Z,200nm,1.0s
LLD Lille Linde 146.94 347 *i* PKP2 **PKPbc** 09 23 21.3 +0.5
LLD pmax pmax
comp=Z,170nm,0.7s
LLD Lille Linde 146.94 347 *i* P **PKPbc** 09 23 21.3 +0.5
comp=Z,167nm,0.7s
BRTR Keskin Array B 147.03 307 PKPbc **PKPbc** 09 23 21.4 -0.3
comp=Z,27nm,0.7s,baz=140,slow=4.4,SNR=65
BRTR pPKPbc **pPKPdf** 09 25 25.3 -1.3
comp=Z,3.7nm,0.8s,baz=125,slow=3.7,SNR=4.9
MMAI Mount Meron Ar 147.15 295 PKPbc **PKPbc** 09 23 22.9 +0.7
comp=Z,54nm,0.6s,baz=69,slow=4.6,SNR=58
MMAI pPKPbc **pPKPdf** 09 25 26.6 -0.3
comp=Z,11nm,0.8s,baz=26,slow=2.1,SNR=6.0
BEL Belsk 147.41 335 *e*PKP **PKPbc** 09 23 22.8 +0.6
BEL Belsk 147.41 335 *e*PKP2 **PKPbc** 09 23 22.8 +0.6
GKP Gorka Klasztor 147.47 340 *e*PKP **PKPbc** 09 23 22.5 +0.3
GKP Gorka Klasztor 147.47 340 *e*PKP2 **PKPbc** 09 23 22.5 +0.3
LEOM Leova 147.52 322 ⇓*i*P **PKPdf** 09 23 18.1 -1.0
LVV L'vov 147.55 330 *e*PKP2 **PKPbc** 09 23 23.2 +0.6
ANTO Ankara 147.59 308 *e*PKIKP **PKPdf** 09 23 19.9 +0.3
ANTO *e* 09 23 28.3
ANTO Ankara 147.59 308 *e*PKPdf **PKPdf** 09 23 19.9 +0.3
ANTO *e*PKPbc **PKPbc** 09 23 23.4 +0.3
ANTO *e*PKPab **PKPab** 09 23 28.3 +1.0
ANTO Ankara 147.59 308 P **PKPdf** 09 23 20.2 +0.6
SNR=19
TLCR 147.90 319 ⇑PKP2 **PKPbc** 09 23 24.0 +0.4
TLCR 147.90 319 ⇑*i*P **PKPbc** 09 23 24.0 +0.4
EKA Eskdalemuir Ar 148.25 3 PKPbc **PKPbc** 09 23 23.7 -0.4
comp=Z,19nm,0.8s,baz=332,slow=2.1,SNR=20
EKA pPKPbc **pPKPdf** 09 25 28.7 +0.7
comp=Z,28nm,1.3s,baz=306,slow=2.5,SNR=3.7
KWP Kalwaria Pacla 148.28 331 *e*PKP **PKPbc** 09 23 24.9 +0.4
KWP Kalwaria Pacla 148.28 331 *e*PKP2 **PKPbc** 09 23 24.9 +0.4
CFR Carcaliu 148.31 320 ⇑*i*P **PKPdf** 09 23 20.4 0.0
TESR Tescani 148.39 323 ⇓*i*P **PKPdf** 09 23 20.2 -0.4
BURAR Bucovina Array 148.47 326 ⇓*i*P **PKPbc** 09 23 23.5 -1.6
TIRR Tirgusor 148.53 318 ⇑*i*P **PKPbc** 09 23 25.2 +0.1
TIRR Tirgusor 148.53 318 *e*PKPdf **PKPdf** 09 23 25.2 +0.4
TIRR *e*PKPbc **PKPbc** 09 23 25.5 +0.3
TIRR *e*PKPab **PKPab** 09 23 31.8 +1.0
CSS Mathiatis 148.53 299 *e*PKPdf **PKPdf** 09 23 19.5 -1.7
CSS *e*PKPbc **PKPbc** 09 23 25.6 +0.1
TLB Topalu 148.68 319 ⇑*i*P **PKPdf** 09 23 21.5 +0.4
HARR Harsova 148.69 319 ⇑*i*P **PKPbc** 09 23 25.9 +0.3
VRI Vrincioaia 148.73 322 ⇑*i*P **PKPbc** 09 23 25.9 +0.2
PLOR Plostina 148.78 322 ⇑*i*P **PKPbc** 09 23 24.8 -1.1
OJC Ojcow 149.07 334 *e*PKP **PKPbc** 09 23 26.1 -0.3
STHS Stebnicka Huta 149.09 332 *e*PKP **PKPbc** 09 23 27.0 +0.5
STHS *e* 09 25 37.3
ARCR ARCALIA 149.26 326 ⇓*i*P **PKPbc** 09 23 27.8 +0.9
ISR Istrita 149.27 321 ⇑PKIKP **PKPdf** 09 23 19.8 -2.3
ISR Istrita 149.27 321 ⇑*i*P **PKPdf** 09 23 19.8 -2.3
BMR Baia Mare 149.29 327 ⇑*i*P **PKPbc** 09 23 26.1 -0.9
CRVS Cervenica-Dubn 149.38 331 *e*PKP **PKPbc** 09 23 27.5 +0.3
CRVS *e* 09 25 38.5
MLR Muntele Rosu 149.40 322 PKP **PKPdf** 09 23 22.0 -0.4
comp=Z,2.5nm,1.2s,baz=308,slow=2.4,SNR=5.4
MLR PKPbc **PKPbc** 09 23 27.6 +0.1
comp=Z,5.7nm,0.8s,baz=7.3,slow=1.0,SNR=29
MLR pPKPbc **pPKPdf** 09 25 31.7 +1.3
comp=Z,2.1nm,1.1s,baz=39,slow=5.9,SNR=2.5
MLR Muntele Rosu 149.40 322 ⇓PKIKP **PKPdf** 09 23 22.2 -0.2
MLR Muntele Rosu 149.40 322 ⇓*i*P **PKPdf** 09 23 22.2 -0.2
DOPR Dopca 149.42 323 ⇓*i*P **PKPdf** 09 23 23.0 +0.7
NIE Niedzica 149.49 333 *e*PKP **PKPbc** 09 23 28.0 +0.6
SECR 149.59 321 ⇑*i*P **PKPdf** 09 23 23.9 +1.4
KSP Ksiaz 149.85 339 *e*PKP **PKPbc** 09 23 29.0 +0.8
CJR Cluj-Napoca 149.89 326 ⇓*i*P **PKPbc** 09 23 28.9 +0.4
VOIR 149.93 323 ⇓*i*P **PKPdf** 09 23 24.2 +1.0
ISP Isparta 149.95 305 *e*PKPbc **PKPbc** 09 23 28.7 -0.3
ISP *e*PKPab **PKPab** 09 23 37.0 -0.1
OKC Ostrava-Krasne 150.02 336 ⇑*e*PKP **PKPbc** 09 23 28.8 +0.2
LANS Liptovska Anna 150.04 333 *e*PKP **PKPbc** 09 23 29.8 +1.0
LANS *e* 09 25 35.6
KECS Kecovo 150.12 331 *e*PKP **PKPbc** 09 23 29.8 +0.9
KECS *e* 09 23 38.3
ARR Arges 150.20 323 ⇑*i*P **PKPdf** 09 23 24.4 +0.8
UPC Upice 150.22 339 *e*PKIKP **PKPbc** 09 23 29.1 0.0
UPC *e* 09 23 38.6
UPC Upice 150.22 339 ⇑*e*PKP **PKPbc** 09 23 29.1 0.0
UPC *e*PKPAB **PKPab** 09 23 38.6 +0.9
DPC Dobruska-Polom 150.25 338 *e*PKIKP **PKPdf** 09 23 23.7 +0.3
DPC *e* 09 23 38.8
DPC Dobruska-Polom 150.25 338 *e*PKPDF **PKPdf** 09 23 23.7 +0.3
DPC ⇑*e*PKP **PKiKP** 09 23 29.8 0.0
DPC *e*PKPAB **PKPab** 09 23 38.8 +0.9
DPC *ep*PKP **pPKPab** 09 25 40.5 +0.8
DRGR 150.29 327 ⇑PKIKP **PKPdf** 09 23 24.2 +0.5
DRGR 150.29 327 ⇑*i*P **PKPdf** 09 23 24.1 +0.4
MORC Moravsky Berou 150.29 336 *e*PKIKP **PKPdf** 09 23 23.6 +0.1
MORC *e* 09 23 38.8
MORC Moravsky Berou 150.29 336 ⇓*i*P **PKPdf** 09 23 24.1 +0.6
MORC Moravsky Berou 150.29 336 *e*PKPdf **PKPdf** 09 23 23.6 +0.1
MORC *e*PKPbc **PKiKP** 09 23 29.9 0.0
MORC *e*PKPab **PKPab** 09 23 38.8 +0.8
KRLC Kraliky 150.32 337 *e*PKIKP **PKPbc** 09 23 30.2 +0.8
KRLC Kraliky 150.32 337 ⇑*e*PKP **PKPbc** 09 23 30.2 +0.8
CLL Collm 150.44 343 ⇑*i*PKIKP **PKPbc** 09 23 29.6 +0.1
CLL *i* 09 23 38.8
CLL pmax pmax
comp=Z,160nm,0.8s
CLL pmax pmax
comp=Z,39nm,0.9s
CLL Collm 150.44 343 *e*PKPdf **PKPdf** 09 23 24.0 +0.4
CLL *i* PKPbc **PKPbc** 09 23 29.6 +0.1
comp=Z,160nm,0.8s
CLL ⇑*i*PKPab **PKPab** 09 23 38.8 +0.3
comp=Z,39nm,0.9s
CLL *ep*PKPab **pPKPab** 09 25 41.0 +0.7
HUMR Humele 150.52 321 ⇓*i*P **PKPdf** 09 23 26.9 +2.9
BRG Berggiesshubel 150.56 341 *e*PKP **PKPdf** 09 23 24.3 +0.5
comp=Z,11nm,1.3s
BRG Berggiesshubel 150.56 341 *i* PKP **PKPbc** 09 23 30.1 +0.3
comp=Z,108nm,0.9s
BRG Berggiesshubel 150.56 341 *i* PKP **PKPab** 09 23 36.5 -2.5
comp=Z,21nm,0.9s
BRG *i* pPKP **pPKPab** 09 25 40.8 0.0
comp=Z,94nm,1.5s
BRG Berggiesshubel 150.56 341 *e*PKIKP **PKPdf** 09 23 24.3 +0.5
BRG *i* 09 23 36.5
BRG pmax pmax
comp=Z,14nm,1.3s
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,108nm,0.9s
BRG pmax pmax
comp=Z,21nm,1.5s
PVCC Panska Ves 150.67 340 *e*PKIKP **PKPbc** 09 23 30.9 +0.8
PVCC Panska Ves 150.67 340 ⇑*e*PKP **PKPbc** 09 23 30.9 +0.8
PVCC *ep*PKP **pPKPab** 09 25 42.4 +1.1

DEV Deva 150.80 325 ⇓PKIKP **PKPbc** 09 23 31.0 +0.4
DEV Deva 150.80 325 ⇓*i*P **PKPbc** 09 23 31.0 +0.4
PSZ Piszkesteto 150.81 331 *e*PKIKP **PKPdf** 09 23 24.6 +0.2
PSZ *e* 09 23 40.7
PSZ Piszkesteto 150.81 331 ⇑*i*P **PKPbc** 09 23 30.4 -0.2
PSZ Piszkesteto 150.81 331 *e*PKPdf **PKPdf** 09 23 24.6 +0.2
PSZ *e*PKPbc **PKiKP** 09 23 30.9 -0.1
PSZ *e*PKPab **PKPab** 09 23 40.7 +0.4
VYHS Vyhne 150.81 333 *e*PKIKP **PKPbc** 09 23 30.7 +0.1
VYHS *e* 09 23 41.0
VYHS *e* 09 25 34.8
VYHS Vyhne 150.81 333 *e*PKP **PKPbc** 09 23 30.7 +0.1
VYHS *e* 09 23 41.0
VYHS *e* 09 25 34.8
VRAC Vranov 151.03 337 PKP **PKPdf** 09 23 25.8 +1.1
comp=Z,1.1nm,0.4s,baz=100,slow=1.6,SNR=4.3
VRAC PKPbc **PKiKP** 09 23 31.6 +0.3
comp=Z,16nm,0.9s,baz=91,slow=1.5,SNR=17
VRAC PKPab **PKPab** 09 23 42.0 +0.9
comp=Z,19nm,0.7s,baz=39,slow=4.7,SNR=13
VRAC pPKPbc **pPKPbc** 09 25 36.1 -1.7
comp=Z,4.8nm,0.9s,baz=63,slow=6.8,SNR=2.1
VRAC Vranov 151.03 337 ⇑*i*P **PKPdf** 09 23 25.9 +1.3
WTSB Winterswijk 151.13 351 *e*PKPbc **PKPdf** 09 23 24.8 +0.2
WTSB *e*PKPab **PKPbc** 09 23 31.2 +0.1
GOPC GO Pecny, Ondr 151.14 339 *e*PKIKP **PKPbc** 09 23 31.7 +0.5
GOPC *e* 09 23 42.3
GOPC *e* 09 25 36.2
GOPC GO Pecny, Ondr 151.14 339 ⇑*e*PKP **PKPbc** 09 23 31.7 +0.5
GOPC *e*PKPAB **PKPab** 09 23 42.3 +0.8
GOPC *ep*PKP **pPKPbc** 09 25 36.2 -1.8
PRU Pruhonice 151.15 340 *e*PKIKP **PKPbc** 09 23 31.0 -0.2
PRU *e* 09 23 42.3
PRU *e* 09 25 36.4
PRU Pruhonice 151.15 340 ⇑*e*PKP **PKPbc** 09 23 31.0 -0.2
PRU *e*PKPAB **PKPab** 09 23 42.3 +0.7
PRU *ep*PKP **pPKPbc** 09 25 36.4 -1.6
SIRR Siria 151.18 327 ⇓*i*P **PKPdf** 09 23 24.6 -0.3
MODS Modra-Piesok 151.54 335 *e*PKIKP **PKPdf** 09 23 26.4 +1.0
MODS *e* 09 23 44.4
MODS Modra-Piesok 151.54 335 *e*PKP **PKPdf** 09 23 26.4 +1.0
MODS *e* 09 23 33.1
MODS *e* 09 23 44.4
MODS *e* 09 25 37.8
NKC Novy Kostel 151.56 342 *e*PKIKP **PKPbc** 09 23 32.4 +0.2
NKC *e* 09 23 43.7
NKC Novy Kostel 151.56 342 ⇑*e*PKP **PKPbc** 09 23 32.4 +0.2
NKC *e*PKPAB **PKPab** 09 23 43.7 +0.4
BZS Buzias 151.65 326 ⇑PKIKP **PKPdf** 09 23 25.8 +0.2
BZS Buzias 151.65 326 ⇑*i*P **PKPdf** 09 23 25.8 +0.2
KHC Kasperske Hory 152.21 340 *e*PKIKP **PKPdf** 09 23 26.4 0.0
KHC *e* 09 23 46.7
KHC Kasperske Hory 152.21 340 *e*PKPDF **PKPdf** 09 23 26.4 0.0
KHC ⇑*e*PKP **PKPbc** 09 23 33.6 -0.1
KHC *e*PKPAB **PKPab** 09 23 46.7 +0.6
KHC *ep*PKP **pPKPbc** 09 25 39.1 -1.5
KHC Kasperske Hory 152.21 340 *e*PKPdf **PKPdf** 09 23 26.6 +0.2
KHC *e*PKPbc **PKPbc** 09 23 33.8 +0.1
KHC *e*PKPab **PKPab** 09 23 46.5 +0.4
GERES GERESS Array B 152.42 339 PKP **PKPdf** 09 23 27.2 +0.4
comp=Z,2.4nm,0.8s,baz=198,slow=3.8,SNR=6.3
GERES PKPbc **PKiKP** 09 23 34.5 +0.1
comp=Z,12nm,0.8s,baz=40,slow=2.3,SNR=29
GERES PKPab **PKPab** 09 23 47.5 +0.4
comp=Z,7.1nm,0.8s,baz=36,slow=5.0,SNR=8.6
GERES pPKPbc **pPKPdf** 09 25 37.6 +2.7
comp=Z,3.9nm,0.9s,baz=27,slow=4.5,SNR=4.9
HGN Heimansgroeve 152.43 351 *e*PKPdf **PKPdf** 09 23 25.7 -0.9
HGN *e*PKPbc **PKiKP** 09 23 34.4 +0.2
HGN *e*PKPab **PKPab** 09 23 46.4 -0.5
BEBN Eben Emael 152.44 351 ⇑PKPab **PKPab** 09 23 46.9 0.0
CONA Conrad Observa 152.45 336 *i* PKPbc **PKPbc** 09 23 34.7 +0.4
comp=Z,32nm,1.1s,SNR=8.8
CONA *i* PKPab **PKPab** 09 23 47.9 +0.7
comp=Z,34nm,0.8s
CONA *i* pPKPbc **pPKPbc** 09 25 39.2 -2.0
comp=Z,18nm,1.5s
MEM Membach 152.57 351 ⇑PKPbc **PKPbc** 09 23 34.6 +0.3
MEM ⇑PKPab **PKPab** 09 23 47.4 -0.1
UCC Uccle 152.59 353 ⇑PKPbc **PKPbc** 09 23 34.9 +0.5
UCC ⇑PKPab **PKPab** 09 23 47.8 +0.2
VTS Vitosha 152.71 320 ⇑PKP2 **PKPab** 09 23 49.3 +0.7
VTS Vitosha 152.71 320 ⇑*i*P **PKPab** 09 23 49.3 +0.7
BCLA Clavier 152.85 352 ⇑PKPbc **PKPbc** 09 23 35.5 +0.5
BCLA ⇑PKPab **PKPab** 09 23 48.5 -0.2
SNF Seneffe 152.89 353 ⇑PKPbc **PKPbc** 09 23 35.5 +0.5
SNF ⇑PKPab **PKPab** 09 23 49.0 +0.2
MOA Molln 153.09 338 *i* PKPbc **PKPbc** 09 23 35.1 -0.5
comp=Z,5.8nm,0.7s
MOA *i* PKPab **PKPab** 09 23 50.5 +0.6
comp=Z,20nm,1.2s
MOA *i* pPKiKP **pPKiKP** 09 25 43.9 +0.9
comp=Z,3.1nm,0.8s
ARSA Arzberg 153.14 335 *i* PKPbc **PKPbc** 09 23 34.8 -0.9
comp=Z,5.5nm,0.9s
ARSA *i* pPKiKP **pPKiKP** 09 25 43.0 -0.1
comp=Z,6.8nm,1.4s
DOU Dourbes 153.26 353 ⇑PKPbc **PKPbc** 09 23 35.9 0.0
DOU ⇑PKPab **PKPab** 09 23 50.4 -0.1
DOU ⇑APKPbc 09 25 40.8
DOU ⇑APKPab 09 25 46.7
WLF Walferdange 153.47 350 ⇓PKPbc **PKPbc** 09 23 37.3 +1.0
WLF ⇓PKPab **PKPab** 09 23 51.8 +0.4
WLF ⇑APKPab 09 25 47.8
WLF Walferdange 153.47 350 *e*PKIKP **PKPdf** 09 23 28.8 +0.7
WLF Walferdange 153.47 350 *e*PKPdf **PKPdf** 09 23 28.8 +0.7
WLF *e*PKPbc **PKPbc** 09 23 37.3 +1.0
SOKA Soboth 153.80 335 *i* PKPdf **PKPdf** 09 23 28.6 -0.3
comp=Z,13nm,1.3s,SNR=6.0
SOKA *i* PKPab **PKPab** 09 23 53.1 0.0
comp=Z,29nm,1.3s
SOKA *i* pPKiKP **pPKiKP** 09 25 46.2 +1.6
comp=Z,15nm,1.3s
PERS Pernice 153.80 335 *e*PKPdf **PKPdf** 09 23 27.9 -0.9
PERS *e*PKPbc **PKPbc** 09 23 36.5 -0.7
PERS *i* PKPab **PKPab** 09 23 53.1 +0.1
VAY Valandovo 153.84 318 *i* P **PKPab** 09 23 53.8 +0.6
KBA Koelnbreinsper 154.07 338 *i* PKPdf **PKPdf** 09 23 28.3 -1.0
comp=Z,6.1nm,0.9s
KBA *i* PKPab **PKPab** 09 23 54.8 +0.5
comp=Z,13nm,0.7s
KBA *i* pPKPbc **pPKPdf** 09 25 40.5 +2.9
comp=Z,5.2nm,1.0s
OBKA Obir 154.13 336 *i* PKPdf **PKPdf** 09 23 28.7 -0.6
comp=Z,3.9nm,0.8s
OBKA *i* PKPab **PKPab** 09 23 54.6 +0.2
comp=Z,13nm,0.8s
OBKA *i* pPKPbc **pPKPbc** 09 25 42.3 -2.8
comp=Z,2.2nm,0.5s
SKO Skopje 154.13 320 *i* P **PKPab** 09 23 55.9 +1.3
BFO Black Forest 154.35 346 *e*PKIKP **PKPdf** 09 23 29.0 -0.5
BFO *e* 09 23 55.2
BFO Black Forest 154.35 346 *e*PKPdf **PKPdf** 09 23 29.0 -0.5
BFO *e*PKPbc **PKiKP** 09 23 38.2 -0.1
BFO *e*PKPab **PKPab** 09 23 55.2 0.0
MYKA Terra Mystica 154.36 337 *i* PKPdf **PKPdf** 09 23 28.9 -0.7
comp=Z,5.6nm,0.9s
MYKA *i* PKPab **PKPab** 09 23 54.5 -0.9
comp=Z,18nm,0.8s
MYKA *i* pPKPbc **pPKPbc** 09 25 42.8 -2.7
comp=Z,4.7nm,0.6s
WATA Walderalm 154.42 341 *i* PKPdf **PKPdf** 09 23 28.9 -0.8
comp=Z,3.2nm,0.4s
WATA *i* PKPab **PKPab** 09 23 55.7 0.0
comp=Z,8.2nm,0.7s
BLY Banja Luka 154.43 330 ⇓*i*P **PKPbc** 09 23 40.5 +2.0
WTTA Wattenberg 154.47 341 *i* PKPdf **PKPdf** 09 23 29.9 0.0
comp=Z,12nm,1.4s
WTTA *i* PKPab **PKPab** 09 23 56.7 +0.7
comp=Z,14nm,0.6s
WTTA *i* pPKPab **pPKPbc** 09 25 51.2 +5.3
RETA Reutte 154.52 342 *i* PKPdf **PKPdf** 09 23 29.5 -0.3
comp=Z,8.0nm,1.3s
RETA *i* PKPab **PKPab** 09 23 56.0 -0.1
comp=Z,27nm,1.0s,SNR=6.6
LJU Ljubljana 154.52 335 *i* PKPdf **PKPdf** 09 23 29.8 +0.1
LJU *i* PKPbc **PKiKP** 09 23 38.6 -0.1
LJU *i* PKPab **PKPab** 09 23 55.9 -0.1
LJU *ep*PKPbc **pPKPbc** 09 25 47.9 +2.0
MOTA Moosalm 154.55 341 *i* PKPdf **PKPdf** 09 23 29.6 -0.3
comp=Z,11nm,1.0s
MOTA *i* PKPab **PKPab** 09 23 56.8 +0.5
comp=Z,39nm,1.3s

MOTA *i* pPKiKP **pPKPbc** 09 25 44.9 -1.1
comp=Z,9.0nm,0.8s
VISS Visnje 154.60 334 *e*PKPdf **PKPdf** 09 23 29.6 -0.3
VISS *e*PKPbc **PKiKP** 09 23 38.7 -0.1
VISS *i* PKPab **PKPab** 09 23 56.1 -0.3
KRUS Krusevo 154.61 319 *i* P **PKPab** 09 23 56.8 +0.1
ABTA Abfaltersbach 154.65 339 *i* PKPdf **PKPdf** 09 23 29.3 -0.7
comp=Z,22nm,1.1s,SNR=7.9
ABTA *i* PKPab **PKPab** 09 23 56.1 -0.5
comp=Z,20nm,0.9s
DAVA Damuels 154.95 343 *i* PKPdf **PKPdf** 09 23 30.6 +0.2
comp=Z,7.8nm,0.8s
DAVA *i* PKPab **PKPab** 09 23 58.4 +0.4
comp=Z,25nm,0.8s
FETA Feichten 154.96 342 *i* PKPdf **PKPdf** 09 23 30.4 -0.1
comp=Z,19nm,1.1s,SNR=11
FETA *i* PKPab **PKPab** 09 23 58.8 +0.7
comp=Z,22nm,1.3s
FETA *i* pPKPbc **pPKPbc** 09 25 45.0 -1.9
comp=Z,8.2nm,1.0s
OHR Ohrid 155.03 319 *i* P **PKPab** 09 23 58.6 +0.1
PDG Podgorica 155.06 324 ⇑*i*P **PKPab** 09 23 54.2 -4.3
IDI Anoyia 155.08 304 PKP **PKPdf** 09 23 31.9 +1.0
comp=Z,6.2nm,1.0s,baz=135,slow=5.7,SNR=2.1
IDI PKPbc PKPbc 09 23 40.6
comp=Z,16nm,0.9s,baz=240,slow=4.2,SNR=5.8
TRI Trieste 155.09 336 *e*PKIKP **PKPdf** 09 23 29.6 -0.9
TRI *e* 09 23 58.1
TRI Trieste 155.09 336 *e*PKPdf **PKPdf** 09 23 29.6 -0.9
TRI *e*PKPab **PKPab** 09 23 58.1 -0.4
TIR Tirane 155.44 321 ⇑PKP2 **PKPab** 09 23 59.8 +0.4
TIR Tirane 155.44 321 ⇑*i*P **PKPab** 09 23 59.8 -0.4
TUE Stuetta 155.84 343 *e*PKPdf **PKPdf** 09 23 32.0 +0.2
TUE *e* 09 23 41.9
BNI Bardonecchia 157.82 346 *e*PKIKP **PKPdf** 09 23 34.4 +0.2
BNI *e* 09 24 10.8
BNI Bardonecchia 157.82 346 *e*PKPdf **PKPdf** 09 23 34.4 +0.2
BNI *e*PKPab **PKPab** 09 24 10.8 +0.3
TIP Timpagrande 158.65 321 ⇑*i*P **PKPab** 09 24 08.4 -5.9
TIP Timpagrande 158.65 321 *e*PKPdf **PKPdf** 09 23 35.2 -0.1
TIP *e*PKPab **PKPab** 09 24 14.8 +0.5
POLO Lamas de Olo 161.26 17 *e*PKPdf **PKPdf** 09 23 39.0 +0.9
POLO Lamas de Olo 161.26 17 *e*PKPab **PKPab** 09 24 26.4 +0.8
MVO Moncorvo 161.66 16 *e*PKPdf **PKPdf** 09 23 39.8 +1.3
MVO Moncorvo 161.66 16 *e*PKPab **PKPab** 09 24 28.2 +0.9
LIC Lamto 162.18 165 *e*PKIKP **PKPdf** 09 23 39.4 -0.4
comp=Z,122nm,1.4s
LIC Lamto 162.18 165 *e*PKP1 **PKPab** 09 24 30.5 +0.5
comp=Z,109nm,1.3s
MTE Manteigas 162.24 18 *e*PKPdf **PKPdf** 09 23 40.1 +1.0
KIC Kosan Boka 162.38 166 *e*PKIKP **PKPdf** 09 23 39.4 -0.6
comp=Z,74nm,1.1s
KIC Kosan Boka 162.38 166 *e*PKP1 **PKPab** 09 24 31.4 +0.5
comp=Z,66nm,1.1s
TIC Toumodi 162.59 165 *e*PKIKP **PKPdf** 09 23 39.8 -0.4
TIC Toumodi 162.59 165 *e*PKP1 **PKPab** 09 24 31.4 -0.5
DBIC Dimbokro 162.65 165 PKP **PKPdf** 09 23 40.1 -0.1
comp=Z,14nm,1.0s,baz=171,slow=0.9,SNR=6.5
DBIC PKPab **PKPab** 09 24 32.7 +0.6
comp=Z,8.6nm,0.9s,baz=189,slow=5.4,SNR=4.5
PTOM Tomar 162.69 21 *e*PKPdf **PKPdf** 09 23 39.9 +0.4
PTOM Tomar 162.69 21 *e*PKPab **PKPab** 09 24 32.3 +0.5
PCBR Castelo Branco 162.78 18 *e*PKPdf **PKPdf** 09 23 39.6 0.0
PCBR Castelo Branco 162.78 18 *e*PKPab **PKPab** 09 24 33.0 +0.9
PMAFR Mafra 162.98 24 *e*PKPdf **PKPdf** 09 23 41.2 +1.4
PMTG Montargil 163.25 21 *e*PKPdf **PKPdf** 09 23 40.5 +0.5
PMTG Montargil 163.25 21 *e*PKPab **PKPab** 09 24 34.5 +0.3
PESTR Estremoz 163.64 20 *e*PKPdf **PKPdf** 09 23 40.7 +0.3
ESDC Sonseca Array 163.72 10 PKP **PKPdf** 09 23 41.5 +1.0
comp=Z,2.0nm,0.7s,baz=351,slow=2.6,SNR=5.4
ESDC PKPab **PKPab** 09 24 36.5 +0.2
comp=Z,4.3nm,0.7s,baz=346,slow=4.2,SNR=21
EVO Evora 163.80 22 *e*PKPdf **PKPdf** 09 23 40.8 +0.2
PNCL Nicolau / Gran 164.00 24 *e*PKPdf **PKPdf** 09 23 40.9 +0.2
PNCL Nicolau / Gran 164.00 24 *e*PKPab **PKPab** 09 24 37.6 0.0
PBEJ Beja 164.31 22 *e*PKPdf **PKPdf** 09 23 42.1 +1.1
MESJ Messejana 164.35 23 *e*P **PKPdf** 09 23 41.6 +0.6
MESJ AMS AMS 10 17 28.5
comp=Z,108nm,17.1s
MESJ Messejana 164.35 23 *e*P **PKPdf** 09 23 41.6 +0.6
MESJ Messejana 164.35 23 A A 10 17 28.5
comp=Z,108nm,17.1s
PTEO Sao Teotonio 164.42 25 *e*PKPdf **PKPdf** 09 23 42.5 +1.4
PTEO Sao Teotonio 164.42 25 *e*PKPab **PKPab** 09 24 39.9 +0.5
PBAR Barrancos 164.44 20 *e*PKPdf **PKPdf** 09 23 42.1 +1.0
PBAR Barrancos 164.44 20 *e*PKPab **PKPab** 09 24 41.4 +1.9
MORF Marmelete 164.66 25 *e*PKPdf **PKPdf** 09 23 41.2 -0.2
KEST Kesra 165.20 327 PKP **PKPdf** 09 23 42.5 +0.5
comp=Z,2.9nm,0.8s,baz=276,slow=4.3,SNR=4.3
KEST PKPab **PKPab** 09 24 43.6 +0.5
comp=Z,11nm,1.0s,baz=38,slow=1.7,SNR=6.1
TORD Torodi Ar. Bea 169.39 192 PKP **PKPdf** 09 23 45.2 -0.2
comp=Z,15nm,1.1s,baz=352,slow=0.7,SNR=39
TORD PKPab **PKPab** 09 25 02.2 +0.4
comp=Z,15nm,0.9s,baz=170,slow=3.3,SNR=30
TORD PP **PP** 09 28 51.6 +0.4
comp=Z,3.9nm,1.0s,baz=158,slow=3.6,SNR=7.4
KOWA Kowa 170.35 159 PKP **PKPdf** 09 23 45.7 -0.3
comp=Z,4.9nm,0.8s,baz=311,slow=0.4,SNR=9.6
KOWA PKPab **PKPab** 09 25 07.3 +1.2
comp=Z,4.8nm,0.8s,baz=202,slow=5.8,SNR=5.4
TAM Tamanrasset 174.39 263 *e*PKIKP **PKPdf** 09 23 48.6 +0.9
TAM Tamanrasset 174.39 263 *e*PKPdf **PKPdf** 09 23 48.6 +0.9

NEIC ***31*** *09:14:38.3±0.0, 10°.43N×62°.94W, h73km, MD4.2(TRN), After TRN.*
TRN ***31*** *09:14:39.0, 10°.45N×62°.95W, h49km, MD4.2*
ISCJB ***31*** *09:14:40.1±0.6, 10°.58N±0°.04×62°.87W±0°.05, h53km±10km, mb3.7/7, Error ellipse: s-maj=7.6km s-min=5.8km az=10.3*
IDC ***31*** *09:14:42.9±1.9, 10°.61N×62°.64W, h66km±16km, mb3.3/6, mb1 3.7/7, mb1mx3.4/58, mbtmp3.7/7, MS2.8/2, Ms1 2.8/2, ms1mx2.5/28, Error ellipse: s-maj=26.8km s-min=13.3km az=123.0*

ISC 31 09:14:42.6±1.0, 10°.59N±0°.04×62°.74W±0°.05, h57km±12km, n48, σ1°.948/68, mb3.8/7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUAY	**Buenos Aires**	**1.14**	**115**	*e*P		**Pn**	**09 15 00.9**	**-1.5**
BUAY	**Buenos Aires**	**1.14**	**115**	*e*P		**Pn**	**09 15 00.9**	**-1.5**
TPP	**Pointe-a-Pierr**	**1.29**	**102**	*e*P		**Pn**	**09 15 02.6**	**-1.8**
TPP				*e*S		**Sn**	**09 15 21.1**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.29**	**102**	*e*P		**Pn**	**09 15 02.6**	**-1.8**
TPP				*e*S		**Sn**	**09 15 21.1**	**+0.4**
TRN	**Trinidad (W)**	**1.31**	**87**	*e*P		**Pn**	**09 15 04.9**	**+0.2**
TRN				*e*S		**Sn**	**09 15 23.4**	**+2.2**
TRN	**Trinidad (W)**	**1.31**	**87**	*e*		**Pn**	**09 15 01.4**	**-3.3**
TRN	**Trinidad (W)**	**1.31**	**87**	*e*P		**Pn**	**09 15 04.8**	**+0.2**
TRN				*e*S		**Sn**	**09 15 23.4**	**+2.2**
TBH	**Brigand Hill**	**1.64**	**94**	*e*P		**Pn**	**09 15 07.9**	**-1.3**
TBH				*e*S		**Sn**	**09 15 30.6**	**+1.3**
TBH	**Brigand Hill**	**1.64**	**94**	*e*P		**Pn**	**09 15 08.8**	**-0.3**
TBH				*e*S		**Sn**	**09 15 30.6**	**+1.3**
GRGR	**Grenville**	**1.86**	**35**	*e*P		**Pn**	**09 15 11.1**	**-1.0**
GRGR				*e*S		**Sn**	**09 15 36.5**	**+2.0**
GRGR	**Grenville**	**1.86**	**35**	*e*P		**Pn**	**09 15 12.2**	**+0.1**
GRGR				*e*S		**Sn**	**09 15 36.5**	**+2.0**
PCRV	**Puerto La Cruz**	**1.92**	**258**	P		**Pn**	**09 15 14.5**	**+1.6**
	255nm,0.3s,baz=89,slow=8.5

LPMF	**Morne Lapointe**	**4.32**	**23**	*e*P	**Pn**	**09 15 46.8**	**+1.0**
FDF	**Fort de France**	**4.40**	**20**	*e*P	**Pn**	**09 15 46.1**	**-0.8**
FDF				*e*S	**Sn**	**09 16 35.5**	**-1.3**
FDF	**Fort de France**	**4.40**	**20**	*e*P	**Pn**	**09 15 46.1**	**-0.8**
FDF	**Fort de France**	**4.40**	**20**	*e*P	**Pn**	**09 15 48.3**	**+1.4**
FDF	**Fort de France**	**4.40**	**20**	*e*S	**Sn**	**09 16 36.7**	**-0.2**
PML	**Morne Lenard**	**4.43**	**20**	*e*P	**Pn**	**09 15 47.6**	**+0.3**
PCM	**Pelee Case Pet**	**4.45**	**19**	*e*P	**Pn**	**09 15 47.9**	**+0.2**
PCM	**Pelee Case Pet**	**4.45**	**19**	*e*P	**Pn**	**09 15 49.1**	**+1.5**
BAMF	**Morne Balai**	**4.47**	**20**	*e*P	**Pn**	**09 15 48.9**	**+0.9**
BBL	**Barber's Block**	**5.06**	**14**	*e*P	**Pn**	**09 15 55.2**	**-0.7**
BBL				*e*S	**Sn**	**09 16 50.5**	**-2.6**
BBL	**Barber's Block**	**5.06**	**14**	*e*P	**Pn**	**09 15 55.2**	**-0.7**
BBL	**Barber's Block**	**5.06**	**14**	*e*S	**Sn**	**09 16 51.9**	**-1.1**
MDPO	**Dominica; Chan**	**5.11**	**14**	*e*P	**Pn**	**09 15 56.2**	**-0.4**
H05N1	**Guadeloupe/Mar**	**5.92**	**16**	P	**Pn**	**09 16 07.6**	**-0.2**
H05N1				S	**Sn**	**09 17 12.7**	**-1.5**
SDV	**Santo Domingo**	**7.97**	**258**	P	**Pn**	**09 16 35.5**	**-0.4**
	2.8nm,0.3s,baz=86,slow=7.5,SNR=9.1						
SDV				S	**Sn**	**09 18 00.7**	**-4.2**
	4.2nm,0.3s,baz=46,slow=22,SNR=6.8						
SJG	**San Juan**	**8.17**	**337**	LR	LR	09 19 07.1	
	comp=Z,31nm,21.5s,baz=214,slow=32						
ROSC	**El Rosal**	**12.82**	**244**	LR	LR	09 24 11.5	
	comp=Z,87nm,19.1s,baz=32,slow=44						
ATAH	**Atahualpa**	**23.52**	**222**	P	**P**	**09 19 53.7**	**+5.4**
	8.1nm,0.8s,baz=30,slow=9.6,SNR=3.3						
SIV	**San Ignacio**	**26.46**	**176**	P	**P**	**09 20 14.1**	**-0.5**
	0.5nm,0.5s,baz=36,slow=18,SNR=3.5						
TXAR	**Lajitas Array**	**42.47**	**302**	P	**P**	**09 22 32.8**	**+0.3**
	0.3nm,0.6s,baz=112,slow=8.6,SNR=5.8						
ULM	**Lac du Bonnet**	**48.05**	**332**	P	**P**	**09 23 15.3**	**-0.9**
	1.4nm,0.6s,baz=124,slow=8.6,SNR=3.6						
PDAR	**Pinedale Array**	**51.76**	**317**	P	**P**	**09 23 45.0**	**+0.2**
	0.3nm,0.6s,baz=103,slow=6.5,SNR=3.7						
YKA	**Yellowknife Ar**	**63.66**	**336**	P	**P**	**09 25 07.0**	**-0.6**
	0.7nm,0.7s,baz=110,slow=7.2,SNR=11						
ILAR	**Eielson Array**	**78.00**	**334**	P	**P**	**09 26 33.7**	**-1.0**
	0.6nm,0.6s,baz=93,slow=4.7,SNR=4.2						

*ISN **31** 09:17:28.1±0.3,38.°34N×43.°07E,h0km,ML3.2*
*ISK **31** 09:17:32.9,38.°69N×43.°09E,h5km,ML3.1/12*
*ATA **31** 09:17:33.3±1.9,38.°65N×42.°95E,h17km±12km,ML3.6, MW3.5*
*DDA **31** 09:17:34.0,38.°66N×43.°07E,h7km,Ml3.2*
*CSEM **31** 09:17:34.1±0.2,38.°67N×43.°10E,h5km,ML3.1,Error ellipse: s-maj=3.5km s-min=3.3km az=123.0*

ISC 31 09:17:33.6±1.1,**38.°66N**±0.°02×**43.°06E**±0.°02,**h4**km±9km, **n68,σ0≦91**/101,**1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**103**	PG	**Pb**	**09 17 40.2**	**-0.9**
VANB				SG	**Sb**	**09 17 45.4**	**-0.6**
VANB	**Van**	**0.27**	**103**	*e*Pg	**Pb**	**09 17 40.2**	**-0.9**
VANB				*e*Sg	**Sb**	**09 17 45.4**	**-0.6**
TVAN	**Van**	**0.30**	**115**	*i* P	**Pb**	**09 17 40.5**	**-1.2**
TVAN				*i* S	**Sb**	**09 17 45.9**	**-1.2**
TVAN	**Van**	**0.30**	**115**	P	**Pb**	**09 17 40.5**	**-1.2**
TVAN				S	**Sb**	**09 17 45.9**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.30**	**300**	*i* P	**Pb**	**09 17 40.9**	**-0.9**
ADCV				*i* S	**Sb**	**09 17 46.3**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.30**	**300**	P	**Pb**	**09 17 40.9**	**-0.9**
ADCV				S	**Sb**	**09 17 46.3**	**-0.9**
GEVA	**Gevas**	**0.34**	**180**	*i* P	**Pg**	**09 17 40.6**	**+0.3**
GEVA				*e*S	**Sb**	**09 17 46.8**	**-1.4**
GEVA				IAML		09 17 48.4	
	comp=Z,839nm,0.4s						
GEVA	**Gevas**	**0.34**	**180**	*i* P	**Pg**	**09 17 40.6**	**+0.3**
GEVA				*i* S	**Sb**	**09 17 47.1**	**-1.2**
GEVA	**Gevas**	**0.34**	**180**	P	**Pg**	**09 17 40.6**	**+0.3**
GEVA				S	**Sb**	**09 17 47.1**	**-1.2**
ERCV	**ERCIS-VAN**	**0.42**	**31**	PG	**Pg**	**09 17 41.7**	**-0.2**
ERCV				SG	**Sg**	**09 17 47.8**	**+0.4**
ERCV	**ERCIS-VAN**	**0.42**	**31**	*e*Pg	**Pg**	**09 17 41.7**	**-0.2**
ERCV				*e*Sg	**Sg**	**09 17 47.8**	**+0.4**
VMUR	**Van-Muradiye**	**0.52**	**50**	*i* P	**Pg**	**09 17 44.4**	**+0.7**
VMUR				*i* S	**Sb**	**09 17 52.8**	**-0.6**
VMUR	**Van-Muradiye**	**0.52**	**50**	P	**Pg**	**09 17 44.3**	**+0.7**
VMUR				S	**Sb**	**09 17 52.8**	**-0.6**
TUTA	**Tutak**	**0.77**	**346**	*e*P	**Pg**	**09 17 48.6**	**+0.1**
TUTA				*e*S	**Sb**	**09 17 59.4**	**-1.3**
TUTA				IAML		09 18 00.7	
	comp=Z,438nm,0.2s						
TUTA	**Tutak**	**0.77**	**346**	*i* P	**Pg**	**09 17 48.5**	**+0.1**
TUTA				*i* S	**Sg**	**09 17 59.2**	**+0.8**
TUTA	**Tutak**	**0.77**	**346**	P	**Pg**	**09 17 48.5**	**+0.1**
TUTA				S	**Sg**	**09 17 59.2**	**+0.8**
GURO	**Guroymak-BITLI**	**0.81**	**263**	PG	**Pg**	**09 17 49.1**	**-0.1**
CLDR	**Caldiran**	**0.83**	**54**	PG	**Pg**	**09 17 49.1**	**-0.4**
CLDR	**Caldiran**	**0.83**	**54**	*i* P	**Pg**	**09 17 48.7**	**-0.8**
CLDR				*i* S	**Sg**	**09 18 00.9**	**+0.6**
CLDR	**Caldiran**	**0.83**	**54**	P	**Pg**	**09 17 48.7**	**-0.8**
CLDR	**Caldiran**	**0.83**	**54**	*e*Pg	**Pg**	**09 17 49.1**	**-0.4**
CLDR				S	**Sg**	**09 18 00.9**	**+0.6**
AGRB	**Hanur-Agry**	**0.92**	**357**	PG	**Pg**	**09 17 50.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.92**	**357**	*e*Pg	**Pg**	**09 17 50.9**	**-0.4**
EKAR	**Karacoban**	**0.98**	**308**	*e*P	**Pg**	**09 17 52.8**	**+0.3**
EKAR				IAML		09 18 15.1	
	comp=Z,101nm,0.6s						
EKAR	**Karacoban**	**0.98**	**308**	*i* P	**Pn**	**09 17 54.1**	**-0.3**
EKAR				*i* S	**Sn**	**09 18 09.2**	**+0.3**
EKAR	**Karacoban**	**0.98**	**308**	P	**Pn**	**09 17 54.1**	**-0.3**
EKAR				S	**Sn**	**09 18 09.2**	**+0.3**
DYDN	**Diyadin**	**1.01**	**29**	*e*P	**Pn**	**09 17 54.8**	**-0.1**
DYDN				⇓*e*S	**Sn**	**09 18 11.6**	**+2.0**
DYDN				IAML		09 18 14.7	
	comp=Z,45nm,0.7s						
SRTM	**Siirt_Merkez**	**1.11**	**234**	*i* P	**Pg**	**09 17 55.2**	**+0.2**
SRTM				*i* S	**Sn**	**09 18 12.4**	**+0.5**
SRTM	**Siirt_Merkez**	**1.11**	**234**	P	**Pg**	**09 17 55.2**	**+0.2**
SRTM				S	**Sn**	**09 18 12.4**	**+0.5**
HAKT	**HAKKARI**	**1.21**	**155**	*i* P	**Pg**	**09 17 55.9**	**-0.9**
HAKT				*i* S	**Sn**	**09 18 16.4**	**+1.9**
HAKT	**HAKKARI**	**1.21**	**155**	P	**Pg**	**09 17 55.9**	**-0.9**
HAKT				S	**Sn**	**09 18 16.4**	**+1.9**
SIRT	**Sirnak**	**1.25**	**203**	PN	**Pn**	**09 17 58.8**	**+0.8**
SIRT	**Sirnak**	**1.25**	**203**	*e*Pn	**Pn**	**09 17 58.8**	**+0.8**
EATA	**Eleskirt**	**1.28**	**340**	*e*P	**Pg**	**09 17 58.0**	**-0.3**
EATA				IAML		09 18 05.1	
	comp=Z,24nm,0.4s						
EATA				*e*S	**Sn**	**09 18 16.4**	**-0.1**
EATA	**Eleskirt**	**1.28**	**340**	*i* P	**Pg**	**09 17 57.6**	**-0.7**
EATA				*i* S	**Sn**	**09 18 16.5**	**0.0**
EATA	**Eleskirt**	**1.28**	**340**	P	**Pg**	**09 17 57.6**	**-0.7**
EATA				S	**Sn**	**09 18 16.5**	**0.0**
VRTB	**Varto-Mus**	**1.35**	**292**	PN	**Pg**	**09 17 59.6**	**+0.1**
VRTB	**Varto-Mus**	**1.35**	**292**	*e*Pn	**Pg**	**09 17 59.6**	**+0.1**
YOVA	**Hakkari_Y˙˙kse**	**1.44**	**137**	*i* P	**Pn**	**09 18 00.3**	**-0.4**
YOVA				*i* S	**Sn**	**09 18 21.9**	**+1.7**
YOVA	**Hakkari_Y˙˙kse**	**1.44**	**137**	P	**Pn**	**09 18 00.3**	**-0.4**
YOVA				S	**Sn**	**09 18 21.9**	**+1.7**
IGDI	**IGDIR**	**1.45**	**33**	*e*P	**Pg**	**09 18 01.5**	**+0.2**
IGDI				*e*S	**Sg**	**09 18 22.5**	**+2.4**
IGDI				IAML		09 18 36.9	
	comp=Z,18nm,0.5s						
SVAN	**Silvan-Diyarba**	**1.55**	**252**	PN	**Pg**	**09 18 03.1**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.55**	**252**	*e*Pn	**Pg**	**09 18 03.1**	**-0.2**
BTMN	**Batman**	**1.60**	**242**	*i* P	**Pg**	**09 18 04.2**	**-0.2**
BTMN				*i* S	**Sg**	**09 18 25.2**	**+0.1**
BTMN	**Batman**	**1.60**	**242**	P	**Pg**	**09 18 04.2**	**-0.2**
BTMN				S	**Sg**	**09 18 25.2**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.61**	**34**	PN	**Pn**	**09 18 02.9**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.61**	**34**	*e*Pn	**Pn**	**09 18 02.9**	**0.0**
HOMI	**Horasan**	**1.65**	**328**	*e*P	**Pb**	**09 18 04.1**	**-0.7**
HOMI				IAML		09 18 11.0	
	comp=Z,40nm,0.6s						
DIGO	**Kars**	**1.77**	**8**	*e*P	**Pb**	**09 18 06.8**	**-0.1**
DIGO				IAML		09 18 39.2	
	comp=Z,18nm,0.7s						
ERZM	**Erzurum**	**1.81**	**314**	*e*P	**Pn**	**09 18 06.4**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.98**	**344**	PN	**Pn**	**09 18 08.6**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.98**	**344**	*e*Pn	**Pn**	**09 18 08.6**	**+0.5**
EAK	**Akyaka**	**2.07**	**12**	*e*P	**Pb**	**09 18 11.3**	**-0.6**
EAK				IAML		09 18 40.1	
	comp=Z,24nm,0.4s						
DIY	**Diyarbakir**	**2.36**	**252**	*e*Pn	**Pb**	**09 18 15.3**	**-1.4**
MAZI	**Mazidag**	**2.38**	**241**	PN	**Pn**	**09 18 15.1**	**+1.5**
MAZI	**Mazidag**	**2.38**	**241**	*e*Pn	**Pn**	**09 18 15.1**	**+1.5**
DYBB	**Diyarbakir**	**2.40**	**254**	PN	**Pn**	**09 18 15.3**	**+1.5**
KOPT	**Kop Dagi**	**2.41**	**305**	*e*P	**Pb**	**09 18 18.0**	**+0.3**
ARTV	**Artvin**	**2.67**	**341**	*e*P	**Pn**	**09 18 19.4**	**+1.8**
BAYB	**BAYBURT**	**2.70**	**307**	*e*P	**Pn**	**09 18 17.2**	**-0.8**
TNCL	**Tunceli-Merkez**	**2.78**	**281**	*e*P	**Pn**	**09 18 17.8**	**-1.3**
BAYT	**Ayd˙–ntepe-Bay**	**2.85**	**308**	PN	**Pn**	**09 18 21.0**	**+1.0**
BAYT	**Ayd˙–ntepe-Bay**	**2.85**	**308**	*e*Pn	**Pn**	**09 18 21.0**	**+1.0**
EPOS	**Posof**	**2.86**	**355**	*e*P	**Pg**	**09 18 27.2**	**-1.2**
PTK	**Pertek**	**2.88**	**276**	PN	**Pn**	**09 18 21.8**	**+1.4**
PTK	**Pertek**	**2.88**	**276**	*e*Pn	**Pn**	**09 18 21.8**	**+1.4**
KELT	**Kelkit**	**3.30**	**298**	*e*P	**Pb**	**09 18 33.3**	**+0.4**
KEMA	**Kemaliye**	**3.61**	**281**	*e*P	**Pn**	**09 18 28.2**	**-2.3**

*MOS **31** 09:19:09.5±1.1,51.°66N×174.°00W,h28km,mb5.1/45, Error ellipse: s-maj=8.3km s-min=5.3km az=84.8*
*IDC **31** 09:19:10.5±2.4,51.°60N×174.°04W,h25km±14km,mb4.1/41, mb1 4.3/43,mb1mx4.2/81,mbtmp4.3/43,ML3.9/2,MS3.9/32, Ms1 3.9/32,ms1mx3.7/73,Error ellipse: s-maj=16.2km s-min=8.9km az=175.0*
*ISCJB **31** 09:19:11.6±0.5,51.°55N±0.°04×173.°97W±0.°03,h51km±3km, mb4.7/134,MS3.9/30,Error ellipse: s-maj=7.2km s-min=2.7km az=175.4*
*NEIC **31** 09:19:11.7±0.0,51.°49N×174.°13W,h28km,mb4.6/66, ML4.2(AEIC),After AEIC.*

ISC 31 09:19:11.6±0.7,**51.°54N**±0.°07×**174.°11W**±0.°03,**h34**km±2km, **n470,σ1≦16**/481,**mb4.7**/134,**MS3.9**/30,**18C-22D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.74**	**1**	P	**Pb**	**09 19 26.6**	**+0.5**
KOKV	**Korovin Volcan**	**0.82**	**358**	P	**Pb**	**09 19 29.1**	**+1.5**
KONW	**Korovin Northw**	**0.86**	**356**	P	**Pb**	**09 19 29.1**	**+0.9**
GSTD	**Great Sitkin T**	**1.37**	**293**	P	**Pn**	**09 19 35.2**	**+0.8**
GSTD				S	**Sn**	**09 19 50.4**	**-0.9**
ETKA	**Kagalaska Isla**	**1.47**	**284**	P	**Pn**	**09 19 36.0**	**+0.3**
ETKA				S	**Sb**	**09 19 56.9**	**+0.3**
ADAG	**Mount Adagdak**	**1.61**	**287**	P	**Pn**	**09 19 38.5**	**+0.8**
KIRH	**Kanaga Island**	**1.89**	**282**	P	**Pn**	**09 19 42.9**	**+1.3**
KINC	**Kanaga Island**	**1.92**	**283**	P	**Pn**	**09 19 43.4**	**+1.5**
KIKV	**Kanaga Island**	**1.94**	**281**	P	**Pn**	**09 19 43.1**	**+1.0**
KICM	**Kanaga Island**	**1.96**	**282**	P	**Pn**	**09 19 43.8**	**+1.4**
TAPA	**Tanaga Point A**	**2.32**	**278**	P	**Pn**	**09 19 48.8**	**+1.3**
GALAA	**Gareloi Lava P**	**2.91**	**276**	P	**Pn**	**09 19 57.4**	**+1.8**
OKSP	**Okmok Steeple**	**3.96**	**62**	P	**Pn**	**09 20 10.8**	**+0.9**
OKWE	**Okmok W˙ng Wal**	**4.07**	**59**	P	**Pn**	**09 20 12.8**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**4.14**	**61**	P	**Pn**	**09 20 13.5**	**+1.0**
MSW	**Makushin Switc**	**5.05**	**59**	P	**Pn**	**09 20 26.0**	**+1.1**
MSW				S	**Sn**	**09 21 24.2**	**+2.2**
MTBL	**Makushin Table**	**5.13**	**59**	P	**Pn**	**09 20 27.5**	**+1.5**
UNV	**Unalaska Valle**	**5.17**	**60**	P	**Pn**	**09 20 27.3**	**+0.8**
AKRB	**Akutan Reef Bi**	**5.52**	**59**	P	**Pn**	**09 20 32.5**	**+1.1**
AKRB				S	**Sn**	**09 21 40.3**	**+6.7**
AKUT	**Akutan**	**5.68**	**60**	*e*Pn	**Pn**	**09 20 34.7**	**+1.1**
WESP	**Westdahl Peak**	**6.39**	**59**	P	**Pn**	**09 20 44.7**	**+1.4**
WESN	**West Dahl Nort**	**6.49**	**58**	P	**Pn**	**09 20 47.2**	**+2.5**
SSLW	**Shishaldin Wes**	**6.82**	**58**	P	**Pn**	**09 20 51.9**	**+2.7**
FALS	**False Pass**	**7.23**	**58**	*e*Pn	**Pn**	**09 20 55.5**	**+0.7**
SDPT	**Sand Point**	**8.98**	**60**	*e*Pn	Pn	09 21 09.9	-8.9
GAMB	**Gambell**	**12.34**	**5**	*e*Pn	**Pn**	**09 22 04.1**	**-0.6**
OHAK	**Old Harbor**	**13.37**	**57**	*e*Pn	**Pn**	**09 22 16.0**	**-2.8**
	24nm,0.9s						
KDAK	**Kodiak Island**	**13.90**	**55**	Pn	**Pn**	**09 22 23.2**	**-2.8**
	0.6nm,0.3s,baz=203,slow=2.4,SNR=14						
KDAK				Sn	**Sn**	**09 24 58.0**	**-0.9**
	0.1nm,0.3s,baz=355,slow=19,SNR=2.5						
KDAK	**Kodiak Island**	**13.90**	**55**	*i* P	**Pn**	**09 22 23.6**	**-2.4**
KDAK	**Kodiak Island**	**13.90**	**55**	*e*Pn	**Pn**	**09 22 27.1**	**+1.1**
	29nm,0.9s						
KDAK				Sn	**Sn**	**09 24 58.0**	**-0.9**
SVW2	**Sparrevohn**	**13.99**	**40**	*e*Pn	**Pn**	**09 22 30.1**	**+2.8**
	18nm,0.7s						
BRLK	**Bradley Lake**	**15.41**	**49**	*e*Pn	**P**	**09 22 48.7**	**-1.8**
	67nm,1.4s						
SPU	**Mount Spurr**	**15.49**	**43**	*e*Pn	**Pn**	**09 22 47.8**	**+0.4**
SUA	**Susitna One**	**16.18**	**43**	*e*P	**P**	**09 22 57.9**	**-1.3**
	19nm,1.0s						
PPLA	**Purkeypile**	**16.34**	**37**	*e*P	**Pn**	**09 22 58.7**	**+0.4**
	60nm,1.4s						
CAST	**Castle Rocks**	**16.67**	**36**	*e*P	**P**	**09 23 03.7**	**-0.8**
	19nm,0.8s						
KTH	**Kantishna Hill**	**17.18**	**37**	*e*P	**P**	**09 23 09.5**	**-0.6**
	23nm,0.8s						
PETK	**Petropavlovsk-**	**17.26**	**286**	P	**Pn**	**09 23 10.4**	**+0.5**
	0.7nm,0.3s,baz=89,slow=15,SNR=13						
PETK				LR	LR	09 29 21.1	
	comp=Z,253nm,21.6s,baz=93,slow=35						
TRF	**Thorofare Moun**	**17.36**	**37**	*e*P	**Pn**	**09 23 11.4**	**+0.3**
	110nm,1.8s						
SML	**Sawmill**	**17.37**	**44**	*e*P	**Pn**	**09 23 11.1**	**-0.1**
SML				pmax	pmax		
	comp=Z,65nm,1.7s						
SML	**Sawmill**	**17.37**	**44**	*e*P	**Pn**	**09 23 11.1**	**-0.1**
	comp=Z,65nm,1.7s						
BPAW	**Bear Paw Mtn.**	**17.47**	**35**	*e*P	**P**	**09 23 12.9**	**-0.4**
	comp=Z,26nm,0.9s						
IM3	**Indian Mountai**	**17.78**	**28**	*e*P	**P**	**09 23 17.3**	**+0.6**
SCM	**Sheep Creek Mo**	**17.82**	**44**	*e*P	**Pn**	**09 23 16.1**	**-0.6**
SCM				pmax	pmax		
	comp=Z,28nm,0.8s						
SCM	**Sheep Creek Mo**	**17.82**	**44**	*e*P	**Pn**	**09 23 16.1**	**-0.6**
	comp=Z,28nm,0.8s						
RND	**Reindeer**	**17.89**	**39**	*e*P	**Pn**	**09 23 15.6**	**-2.0**
RND				pmax	pmax		
	comp=Z,15nm,0.8s						
RND	**Reindeer**	**17.89**	**39**	*e*P	**Pn**	**09 23 15.6**	**-2.0**
	comp=Z,15nm,0.8s						
MCK	**McKinley**	**18.02**	**38**	*e*P	**Pn**	**09 23 17.4**	**-1.8**
MCK				pmax	pmax		
	comp=Z,19nm,0.9s						
MCK	**McKinley**	**18.02**	**38**	*e*P	**Pn**	**09 23 17.4**	**-1.8**
	comp=Z,19nm,0.9s						
MLY	**Manley**	**18.10**	**33**	*e*P	**Pn**	**09 23 19.7**	**-0.5**
	comp=Z,61nm,1.2s						
KLU	**Klutina**	**18.32**	**46**	*e*P	**Pn**	**09 23 22.8**	**0.0**
	comp=Z,36nm,1.5s						
DHY	**Denali Highway**	**18.32**	**41**	*e*P	**P**	**09 23 21.7**	**-1.2**
	comp=Z,14nm,1.0s						
WRH	**Wood River Hil**	**18.73**	**36**	*e*P	**P**	**09 23 25.9**	**-1.1**
	comp=Z,19nm,0.9s						
BMRM	**Bremner River**	**18.75**	**48**	*e*P	**P**	**09 23 26.1**	**-1.4**
	comp=Z,16nm,0.8s						
CCB	**Clear Creek Bu**	**18.92**	**36**	*e*P	**P**	**09 23 27.7**	**-1.5**
	comp=Z,14nm,0.8s						
MDM	**Murphy Dome**	**18.94**	**35**	*e*P	**P**	**09 23 28.0**	**-1.4**
	comp=Z,14nm,0.8s						
HARP	**HAARP**	**18.98**	**44**	*e*P	**Pn**	**09 23 30.7**	**-0.1**
	comp=Z,22nm,0.6s						
COLA	**College**	**19.03**	**35**	*e*P	**P**	**09 23 30.1**	**-0.2**
COLA				pmax	pmax		
	comp=Z,18nm,0.8s						
COLA	**College**	**19.03**	**35**	*e*P	**P**	**09 23 30.1**	**-0.2**
	comp=Z,18nm,0.8s						
PAX	**Paxson**	**19.07**	**42**	*e*P	**P**	**09 23 29.0**	**-1.9**
PAX				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PAX	**Paxson**	**19.07**	**42**	*e*P	**P**	**09 23 29.0**	**-1.9**
	comp=Z,10.0nm,0.8s						
HDA	**Harding Lake**	**19.12**	**37**	*e*P	**P**	**09 23 30.6**	**-0.8**
	comp=Z,39nm,1.1s						
IL1	**Eielson Array**	**19.33**	**36**	*e*P	**P**	**09 23 32.9**	**-0.7**
ILAR	**Eielson Array**	**19.33**	**36**	P	**P**	**09 23 31.0**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=230,slow=7.8,SNR=30						
ILAR				LR	LR	09 31 42.3	
	comp=Z,400nm,18.0s,baz=249,slow=39						
ILB	**Eielson Array**	**19.33**	**36**	*e*P	**P**	**09 23 32.1**	**-1.5**
RIDG	**Independ'e Rid**	**19.64**	**40**	*e*P	**P**	**09 23 36.9**	**-0.3**
	comp=Z,18nm,0.7s						
COLD	**Coldfoot**	**19.67**	**28**	*e*P	**P**	**09 23 37.8**	**+0.5**
	comp=Z,12nm,0.8s						
MENT	**Mentasta**	**19.79**	**43**	*e*P	**Pn**	**09 23 41.1**	**+0.6**
	comp=Z,12nm,0.8s						
DOT	**Dot Lake**	**19.92**	**41**	*e*P	**P**	**09 23 38.8**	**-1.3**
	comp=Z,46nm,0.6s						
SCRK	**Sand Creek**	**20.08**	**40**	*e*P	**P**	**09 23 40.9**	**-1.2**
	comp=Z,46nm,0.8s						
TOLK	**Toolik Lake Re**	**20.80**	**25**	P	**P**	**09 23 50.5**	**+0.8**
	baz=227,SNR=40						
TOLK	**Toolik Lake Re**	**20.80**	**25**	*e*P	**P**	**09 23 50.1**	**+0.4**
	comp=Z,47nm,0.8s						
FYU	**Fort Yukon**	**20.85**	**33**	*e*P	**P**	**09 23 48.5**	**-1.6**
	comp=Z,45nm,1.4s						
SEY	**Seymchan**	**21.14**	**316**	P	**P**	**09 23 53.9**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=81,slow=19,SNR=7.3						
SEY	**Seymchan**	**21.14**	**316**	⇓*e*P	**P**	**09 23 54.0**	**+0.7**
MA2	**Magadan**	**21.21**	**306**	P	**P**	**09 23 55.1**	**+1.0**
	comp=Z,3.5nm,0.5s,baz=61,slow=19,SNR=3.5						
MA2				LR	LR	09 31 43.0	
	comp=Z,404nm,20.1s,baz=115,slow=36						
EGAK	**Eagle**	**21.53**	**39**	*e*P	**P**	**09 23 56.7**	**-0.8**
	comp=Z,71nm,0.8s						
DAWY	**Dawson**	**22.00**	**42**	*e*P	**P**	**09 24 02.9**	**+0.3**
	comp=Z,15nm,0.9s						
INK	**Inuvik**	**25.66**	**34**	P	**P**	**09 24 36.6**	**-1.3**
	comp=Z,8.2nm,1.0s,baz=246,slow=7.6,SNR=31						
INK				PcP	**PcP**	**09 28 06.7**	**-0.6**
	comp=Z,10nm,1.4s,baz=284,slow=0.2,SNR=3.5						
INK				LR	LR	09 35 49.4	
	comp=Z,330nm,18.4s,baz=208,slow=39						
INK	**Inuvik**	**25.66**	**34**	*e*P	**P**	**09 24 37.0**	**-0.8**
INK						09 28 06.7	
INK				pmax	pmax		
	comp=Z,19nm,0.8s						
INK	**Inuvik**	**25.66**	**34**	*e*P	**P**	**09 24 37.0**	**-0.8**
	comp=Z,19nm,0.8s						
INK				PcP	**PcP**	**09 28 06.7**	**-0.6**
DLBC	**Dease Lake**	**25.81**	**57**	*e*P	**P**	**09 24 40.5**	**+1.1**
	comp=Z,19nm,1.1s						
NKL	**Nikolayevsk**	**27.32**	**291**	*e*P	**P**	**09 24 53.0**	**+0.1**
BBB	**Bella Bella**	**28.05**	**70**	LR	LR	09 34 21.6	
	comp=Z,154nm,19.9s,baz=324,slow=33						
YSS	**Yuzh-Sakhalins**	**28.22**	**278**	⇑*e*P	**P**	**09 25 04.0**	**+3.0**
YSS				pmax	pmax		
	comp=Z,11nm,0.8s						
ASAJ	**Asahikawa**	**29.64**	**273**	P	**P**	**09 25 14.5**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=134,slow=33,SNR=5.5						
ASAJ	**Asahikawa**	**29.64**	**273**	P	**P**	**09 25 14.5**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK	**Yakutsk**	**31.52**	**311**	⇓*e*P	**P**	**09 25 30.2**	**+0.2**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TIXI	**Tiksi**	**31.96**	**330**	P	**P**	**09 25 33.4**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=108,slow=10,SNR=4.4						
TIXI				PcP	**PcP**	**09 28 23.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=82,slow=1.7,SNR=3.6						
TIXI				ScP	**ScP**	**09 32 04.4**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=47,slow=2.4,SNR=4.0						
YKA	**Yellowknife Ar**	**32.98**	**47**	P	**P**	**09 25 42.0**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=275,slow=9.4,SNR=16						
YKA				PcP	**PcP**	**09 28 26.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=283,slow=2.7,SNR=6.9						
YKA				ScP	**ScP**	**09 32 07.9**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=289,slow=2.9,SNR=3.7						
KLR	**Kul'dur**	**33.94**	**288**	P	**P**	**09 25 51.0**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=70,slow=7.5,SNR=31						
KLR	**K

PDAR **Pinedale Array** 43.45 75 P P 09 27 10.9 -0.4
comp=Z,1.3nm,0.7s,baz=300,slow=4.8,SNR=14
PDAR LR LR 09 42 24.6
comp=Z,92nm,20.9s,baz=304,slow=32
GSC **Goldstone, Bar** 43.51 89 P P 09 27 12.2 +0.3
baz=310
JNU **Nakatsue** 43.51 267 P P 09 27 12.6 +0.8
comp=Z,5.0nm,0.8s,baz=17,slow=11,SNR=2.9
JNU LR LR 09 44 22.0
comp=Z,126nm,21.6s,baz=117,slow=35
JLU **Jordanelle** 43.55 79 eP P 09 27 11.7 -0.6
comp=Z,7.1nm,0.9s
NLU **North Lily Min** 43.56 80 eP P 09 27 11.7 -0.6
comp=Z,5.1nm,0.8s
BFSC **Mount Baldy Ra** 43.67 91 P P 09 27 13.1 0.0
baz=311
MPU **Maple Canyon** 43.79 80 eP P 09 27 13.2 -1.0
comp=Z,23nm,0.9s
TMUT **Trail Mountain** 44.49 80 eP P 09 27 19.6 -0.3
comp=Z,29nm,0.8s
SRU **San Rafael Swe** 45.02 80 eP P 09 27 23.5 -0.5
SRU pmax pmax
comp=Z,10.0nm,0.7s
SRU **San Rafael Swe** 45.02 80 eP P 09 27 23.4 -0.5
comp=Z,10nm,0.7s
K22A **Casper** 45.34 74 eP P 09 27 27.9 +1.5
comp=Z,16nm,0.9s
O20A **White River Ci** 45.80 77 P P 09 27 30.0 -0.1
baz=307
O20A **White River Ci** 45.80 77 eP P 09 27 29.0 -1.2
comp=Z,18nm,0.8s
PV04 **Paradox Valley** 46.46 80 eP P 09 27 34.0 -1.3
WUAZ **Wupatki** 46.76 85 P P 09 27 37.5 -0.1
baz=310
WUAZ **Wupatki** 46.76 85 eP P 09 27 37.4 -0.3
comp=Z,7.3nm,0.8s
PV01 **Paradox Valley** 46.83 80 eP P 09 27 37.6 -0.7
comp=Z,626nm,0.8s
ULM **Lac du Bonnet** 47.11 59 P P 09 27 39.2 -0.9
comp=Z,2.4nm,0.5s,baz=308,slow=7.9,SNR=6.8
ULM LR LR 09 46 45.0
comp=Z,171nm,20.7s,baz=332,slow=35
MVCO **Mesa Verde** 47.45 81 P P 09 27 43.3 +0.1
baz=310
A32A **Rocking H Ranc** 47.52 61 P P 09 27 42.8 -0.4
baz=304
ISCO **Idaho Springs** 47.60 76 P P 09 27 44.4 0.0
baz=308
B32A **Ashes, Strandq** 47.79 61 P P 09 27 44.4 -1.0
baz=305,SNR=8.4
A33A **Warroad** 48.11 60 P P 09 27 46.7 -1.1
baz=305,SNR=5.1
214A **Organ Pipe Nat** 48.22 89 P P 09 27 48.0 -0.9
baz=313
AGMN **Agassiz Nation** 48.22 61 P P 09 27 47.9 -0.8
baz=305,SNR=5.3
AGMN **Agassiz Nation** 48.22 61 eP P 09 27 46.3 -2.4
comp=Z,6.4nm,0.7s
B33A **Robert and Kas** 48.38 61 P P 09 27 48.9 -1.0
baz=305
TLY **Talaya** 48.42 304 P P 09 27 49.3 -0.9
comp=Z,5.1nm,0.4s,baz=7.3,slow=11,SNR=3.6
TLY **Talaya** 48.42 304 eP P 09 27 51.8 +1.6
TLY pmax pmax
comp=Z,5.0nm,0.6s
B34A **Aery, Baudette** 48.77 60 P P 09 27 51.9 -1.0
baz=305,SNR=7.2
ULN **Ulaanbaatar** 48.79 299|| eP P 09 27 51.6 -1.7
ULN pmax pmax
comp=Z,5.0nm,0.6s
SDCO **Great Sand Dun** 48.95 78 P P 09 27 54.4 -0.4
baz=310
SDCO **Great Sand Dun** 48.95 78 eP P 09 27 55.3 +0.5
comp=Z,1.5nm,0.8s
H31A **Wolsey** 48.98 67 P P 09 27 53.8 -0.8
baz=307
SONM **Songino Array** 49.17 299 PcP PcP 09 29 18.7 -0.3
comp=Z,1.5nm,0.8s,baz=67,slow=3.7,SNR=2.4
SONM ScP ScP 09 33 13.6 +2.2
comp=Z,0.4nm,0.6s,baz=72,slow=4.7,SNR=2.7
SONM LR LR 09 49 53.4
comp=Z,279nm,19.4s,baz=56,slow=38
TUC **Tucson** 49.24 87 P P 09 27 56.4 -0.4
baz=313
D34A **Park Rapids** 49.29 62 P P 09 27 56.2 -0.7
baz=306
B35A **Bob, Littlefor** 49.34 60 P P 09 27 56.3 -1.0
baz=306
H32A **Carlson Farm,** 49.56 66 P P 09 27 58.4 -0.6
baz=307
C35A **Jirik Farms, M** 49.59 61 P P 09 27 58.5 -0.7
baz=306
E34A **Wadena** 49.64 63 P P 09 27 58.7 -0.9
baz=306
G33A **Ortonville** 49.72 65 P P 09 27 58.7 -1.5
baz=307
H33A **Prehn Over Nor** 49.85 66 P P 09 28 00.2 -1.1
baz=307
D35A **Remer** 49.92 62 P P 09 28 00.9 -0.8
baz=306
K31A **O'Neill** 49.95 69 P P 09 28 01.3 -0.7
baz=308
T25A **Trinidad** 50.01 78 P P 09 28 02.8 +0.1
baz=310
J32A **Parkston** 50.02 68 P P 09 28 01.6 -0.9
baz=308
E35A **Pequot Lakes** 50.04 62 P P 09 28 01.6 -1.0
baz=307
LAZ **Ladron** 50.11 83 eP P 09 28 04.5 +1.0
comp=Z,4.2nm,1.1s
ANMO **Albuquerque** 50.18 82 P P 09 28 04.0 -0.1
baz=311
ANMO **Albuquerque** 50.18 82|| eP P 09 28 05.6 +1.6
D36A **Goodland** 50.35 61 P P 09 28 04.0 -0.9
baz=307
F35A **Swanville** 50.36 63 P P 09 28 04.2 -0.9
baz=307
K32A **Verdigre** 50.38 68 P P 09 28 04.4 -0.8
baz=308
SPITS **Spitsbergen Ar** 50.39 357 P P 09 28 03.9 -0.9
comp=Z,10nm,0.9s,baz=8.5,slow=11,SNR=5.1
SPITS LR LR 09 49 22.5
comp=Z,180nm,20.2s,baz=0.0,slow=36
HHC **Hu-ho-hao-te** 50.44 289 eP P 09 28 05.5 -0.4
HHC pP pP 09 28 15.5 -0.5
HHC sP sP 09 28 19.5 -0.5
HHC PP PP 09 30 01.8 +0.4
HHC S S 09 35 14.0 -3.1
HHC sS pS 09 35 30.5 +1.6
HHC ScS ScS 09 37 51.0 -3.1
ECSD **EROS Data Cent** 50.50 67 P P 09 28 05.0 -1.1
baz=308
ECSD **EROS Data Cent** 50.50 67 eP P 09 28 04.8 -1.4
comp=Z,11nm,1.0s
J33A **Davis** 50.55 67 P P 09 28 05.6 -0.9
baz=308
E36A **McGregor** 50.70 62 P P 09 28 06.8 -0.8
baz=307
EYMN **Ely** 50.79 59 P P 09 28 07.4 -0.9
baz=307
H35A **Sunnyside Ranc** 50.92 65 P P 09 28 08.4 -0.9
baz=308
F36A **Milaca** 50.95 63 P P 09 28 08.7 -0.8
baz=308
BGNE **Belgrade** 51.05 70 eP P 09 28 10.0 -0.3
comp=Z,58nm,1.0s
K34A **Le Mars** 51.45 67 P P 09 28 12.9 -0.4
baz=309
H36A **Jessenland, He** 51.51 64 P P 09 28 12.5 -1.2
baz=308
M33A **Taylor Creek F** 51.51 69 P P 09 28 13.1 -0.7
baz=309
F37A **Hinrichs Farm,** 51.53 62 P P 09 28 12.9 -0.9
baz=308
E38A **The Farm, Brul** 51.57 61 P P 09 28 13.0 -1.2
baz=308
NJ2 **Nanjing** 51.73 275 eP P 09 28 15.8 +0.3
F38A **Pierce - Schro** 51.80 62 P P 09 28 15.5 -0.3
baz=308,SNR=6.5
I37A **Lemond, Waseca** 52.15 64 P P 09 28 17.9 -0.6
baz=309
E39A **Mellen** 52.26 60 P P 09 28 18.1 -1.1
baz=308
G38A **Ridgeland** 52.30 62 P P 09 28 18.2 -1.4
baz=309
J37A **Redenius Farm,** 52.51 65 P P 09 28 20.4 -0.8
baz=309
E40A **Wakefield** 52.57 60 P P 09 28 20.6 -1.0
baz=309
G39A **Holcombe** 52.60 62 P P 09 28 20.4 -1.4
baz=309
F40A **Park Falls** 52.78 61 P P 09 28 21.7 -1.4
baz=309
K37A **Belmond** 52.80 66 P P 09 28 21.9 -1.5
baz=309
MNTX **Cornudas Mount** 53.02 84 P P 09 28 24.8 -0.3
baz=313
MNTX **Cornudas Mount** 53.02 84 eP P 09 28 25.0 -0.1
comp=Z,8.2nm,1.1s
MSTX **Muleshoe** 53.10 80 P P 09 28 25.1 -0.6
baz=312
MSTX **Muleshoe** 53.10 80 eP P 09 28 24.5 -1.3
comp=Z,19nm,1.2s
J38A **Wedel Dairy, R** 53.11 65 P P 09 28 25.0 -0.7
baz=310
G40A **Rib Lake** 53.15 61 P P 09 28 24.8 -1.1
baz=309
L37A **Phoenix Point,** 53.15 66 P P 09 28 25.0 -0.9
baz=310
COWI **Conover** 53.20 60 eP P 09 28 24.9 -1.3
I39A **Houston** 53.31 63 P P 09 28 26.0 -1.1
baz=310
K38A **Parkersburg** 53.37 65 P P 09 28 26.6 -1.0
baz=310
KSU1 **Kansas State U** 53.43 71 P P 09 28 27.0 -1.0
baz=311
M37A **Trindle Farm,** 53.44 67 P P 09 28 27.0 -1.0
baz=310
F41A **Three Lakes** 53.45 60 P P 09 28 26.8 -1.3
baz=309
H40A **Chili** 53.45 62 P P 09 28 26.7 -1.4
baz=309
J39A **Decorah** 53.54 64 P P 09 28 27.6 -1.1
baz=310
L38A **Oak Wood Farm,** 53.59 66 P P 09 28 27.9 -1.2
baz=310
K39A **Oelwein** 53.84 65 P P 09 28 29.6 -1.3
baz=310
M38A **Pleasantville** 53.92 67 P P 09 28 30.7 -0.8
baz=310
G42A **Mountain** 54.13 60 P P 09 28 32.3 -0.7
baz=310
L39A **Vinton** 54.15 65 P P 09 28 31.9 -1.3
baz=310
E43A **Lone Tree Farm** 54.17 59 P P 09 28 32.3 -1.0
baz=310
O37A **Wolven Farm, M** 54.18 69 P P 09 28 32.9 -0.6
baz=311
SFJD **Kangerlussuaq** 54.36 24 LR LR 09 55 17.9
comp=Z,92nm,18.9s,baz=312,slow=40
F43A **Flat Rock, Esc** 54.43 59 P P 09 28 34.0 -1.2
baz=310
P37A **Lathrop** 54.44 69 P P 09 28 35.5 +0.1
baz=311
J41A **Loganville** 54.46 63 P P 09 28 33.4 -2.0
baz=310
M39A **Webster** 54.47 66 P P 09 28 34.9 -0.6
baz=311,SNR=6.7
JFWS **Jewell Farm** 54.62 64 P P 09 28 35.4 -1.3
baz=310
JFWS **Jewell Farm** 54.62 64 eP P 09 28 35.2 -1.5
JFWS pmax pmax
comp=Z,10.0nm,0.9s
JFWS **Jewell Farm** 54.62 64 eP P 09 28 35.2 -1.5
comp=Z,9.6nm,0.9s
N39A **Derby Farms, D** 54.67 67 P P 09 28 36.0 -1.0
baz=311
K41A **Shullsburg** 54.79 64 P P 09 28 36.4 -1.5
baz=311
P38A **Dawn** 54.90 69 P P 09 28 37.3 -1.4
baz=311
WMOK **Wichita Mounta** 55.02 76 P P 09 28 38.9 -0.8
baz=313
WMOK **Wichita Mounta** 55.02 76 eP P 09 28 39.0 -0.7
WMOK pmax pmax
comp=Z,3.0nm,0.9s
WMOK **Wichita Mounta** 55.02 76 eP P 09 28 39.0 -0.7
comp=Z,2.5nm,0.9s
K42A **Prairie Point,** 55.22 63 P P 09 28 39.7 -1.3
baz=311
Q38A **Cook Store, C** 55.28 69 P P 09 28 40.2 -1.2
baz=312
J43A **Natural Harves** 55.34 62 P P 09 28 40.5 -1.3
baz=311
P39B **Salisbury** 55.44 68 P P 09 28 41.2 -1.4
baz=312
M41A **Milan** 55.46 65 P P 09 28 41.5 -1.2
baz=311
O40A **La Belle** 55.53 67 P P 09 28 41.8 -1.4
baz=311,SNR=6.0
L42A **Oliver, Polo** 55.54 64 P P 09 28 41.8 -1.5
baz=311
Q39A **Willow Grove F** 55.60 69 P P 09 28 42.4 -1.3
baz=312
R38A **Fenwick Farm,** 55.63 70 P P 09 28 41.7 -2.2
baz=312
TXAR **Lajitas Array** 55.72 85 P P 09 28 43.8 -1.1
comp=Z,0.7nm,0.7s,baz=299,slow=4.8,SNR=9.5
TXAR ScP ScP 09 33 39.9 -0.2
comp=Z,0.3nm,0.9s,baz=22,slow=1.3,SNR=3.4
P40A **Paris** 55.82 68 P P 09 28 43.9 -1.4
baz=312
ABTX **Abilene, Hawle** 55.93 79 P P 09 28 45.2 -1.1
baz=314
S38A **Stockton** 56.00 71 P P 09 28 45.4 -1.2
baz=312
ZALV **Zalesovo Beam** 56.01 316 P P 09 28 45.5 -0.9
comp=Z,0.4nm,0.4s,baz=52,slow=9.3,SNR=2.2
ZALV PcP PcP 09 29 44.6 +0.2
comp=Z,1.8nm,0.7s,baz=48,slow=4.4,SNR=6.9
TUL1 **Leonard** 56.03 73 P P 09 28 45.9 -1.0
baz=313
R39A **Chumby, Stover** 56.05 70 P P 09 28 45.6 -1.4
baz=312
O41A **Passleys Farm,** 56.10 67 P P 09 28 46.1 -1.2
baz=312
P41A **Barry, Barry** 56.29 67 P P 09 28 48.0 -0.7
baz=312
S39A **Bolivar** 56.30 70 P P 09 28 46.7 -2.1
baz=312
R40A **Maddies Statio** 56.52 69 P P 09 28 47.4 -2.9
baz=312
R41A **Rosebud** 57.03 68 P P 09 28 53.3 -0.7
baz=312
Q42A **Golden Eagle** 57.11 67 P P 09 28 53.0 -1.5
baz=312
CCM **Cathedral Cave** 57.27 69 eP P 09 28 55.9 +0.2
CCM pmax pmax
comp=Z,64nm,1.0s
CCM **Cathedral Cave** 57.27 69 eP P 09 28 55.9 +0.2
comp=Z,64nm,1.0s
S41A **Jillco Farms,** 57.30 69 P P 09 28 54.2 -1.6
baz=313
JCT **Junction City** 57.32 81 P P 09 28 54.5 -1.6
baz=314
SFIN **Lafayette** 58.07 64 eP P 09 29 00.3 -0.9
LZH **Lanzhou** 58.13 289 || P P 09 29 02.5 +0.6
LZH pP pP 09 29 12.8 +0.6
LZH sP sP 09 29 16.3 +0.2
LZH ePP PP 09 31 12.0 +1.5
GTA **Gaotai** 58.20 295 eP P 09 29 02.8 +0.5
GTA pP pP 09 29 13.0 +0.4
GTA sP sP 09 29 17.0 +0.5
GTA S S 09 37 03.5 +1.8
GTA sS sS 09 37 18.3 -0.2
GTA **Gaotai** 58.20 295 SS SS 09 40 56.3 +3.3
MIAR **Mount Ida** 58.29 73 eP P 09 29 02.1 -0.8
MIAR pmax pmax
comp=Z,33nm,1.1s
MIAR **Mount Ida** 58.29 73 eP P 09 29 02.1 -0.8
comp=Z,32nm,1.1s
ARCES **ARCESS Array B** 58.39 352 P P 09 29 02.5 -0.6
comp=Z,4.8nm,0.8s,baz=20,slow=6.8,SNR=8.3
ARCES PcP PcP 09 29 53.1 -0.4
comp=Z,4.9nm,0.8s,baz=354,slow=2.4,SNR=4.2
ARCES LR LR 09 56 57.9
comp=Z,102nm,18.7s,baz=357,slow=39
Q45A **Warren Harvey,** 58.48 66 P P 09 29 02.8 -1.3
baz=313
T43A **Greenville** 58.49 69 P P 09 29 02.6 -1.6
baz=313
O47A **Sheridan** 58.69 64 P P 09 29 04.8 -0.7
baz=313
P47A **Martinsville** 59.15 64 P P 09 29 07.9 -0.8
baz=313
BLO **Bloomington** 59.22 65 eP P 09 29 07.6 -1.6
BLO pmax pmax
comp=Z,27nm,1.1s
BLO **Bloomington** 59.22 65 eP P 09 29 07.6 -1.6
comp=Z,27nm,1.1s
USIN **University of** 59.40 66 eP P 09 29 09.9 -0.6
comp=Z,42nm,0.9s
Q47A **Bedord North L** 59.43 65 P P 09 29 09.5 -1.2
baz=314
BANO **Bancroft** 59.81 55 P P 09 29 13.3 +0.1
baz=314,SNR=6.7
T46A **Princeton** 59.90 67 P P 09 29 13.2 -0.8
baz=314
WCI **Wyandotte Cave** 60.00 65 P P 09 29 14.2 -0.4
baz=314
PLVO **Plevna** 60.23 54 P P 09 29 16.2 +0.1
baz=314
DELO **Deloro Mine** 60.32 55 P P 09 29 16.5 -0.2
baz=314
T47A **Sharon Grove** 60.40 67 P P 09 29 17.6 +0.2
baz=314
S48A **Wiedeman Farm,** 60.53 66 P P 09 29 17.7 -0.6
baz=314
WVT **Waverly** 60.58 68 P P 09 29 17.8 -0.8
baz=314
OXF **Oxford** 60.78 70 eP P 09 29 19.9 -0.1
OXF pmax pmax
comp=Z,64nm,1.0s
OXF **Oxford** 60.78 70 eP P 09 29 19.9 -0.1
comp=Z,64nm,1.0s
ALFO **Alfred** 60.91 52 P P 09 29 19.8 -0.9
baz=315,SNR=8.6
KURK **Kurchatov** 60.99 316 eP P 09 29 20.7 -0.5
KURK 09 30 04.2
KURK pmax pmax
comp=Z,28nm,0.3s
KURK **Kurchatov** 60.99 316 eP P 09 29 20.7 -0.5
comp=Z,28nm,0.3s
KURK PcP PcP 09 30 04.2 0.0
U48A **Cassie Pea, Po** 61.05 67 P P 09 29 21.7 -0.2
baz=315
KURBB **Kurchatov Arra** 61.09 316 P P 09 29 21.6 -0.3
comp=Z,4.1nm,0.6s,baz=42,slow=7.0,SNR=45
KURBB PcP PcP 09 30 04.2 -0.5
comp=Z,2.8nm,0.9s,baz=45,slow=5.6,SNR=5.8
Y46A **Houston** 61.55 71 P P 09 29 24.3 -0.9
baz=315
N54A **Moraine State** 61.57 59 P P 09 29 24.4 -0.9
baz=315
WMQ **Urumqi** 61.68 306 P P 09 29 26.8 +0.7
WMQ pP pP 09 29 36.3 -0.1
WMQ sP sP 09 29 42.0 +1.7
244A **Avery, Jackson** 61.76 73 P P 09 29 27.9 +1.3
baz=315
LONY **Lake Ozonia** 61.78 53 P P 09 29 25.9 -0.8
baz=316
W48A **Pulaski** 61.79 68 P P 09 29 24.8 -2.1
baz=315
MKAR **Makanchi Array** 62.19 311 P P 09 29 28.9 -0.5
comp=Z,1.3nm,0.4s,baz=48,slow=5.8,SNR=43
MKAR LR LR 09 57 09.1
comp=Z,152nm,20.2s,baz=49,slow=37
BVAR **Borovoye Array** 62.61 322 P P 09 29 32.1 0.0
comp=Z,2.8nm,0.4s,baz=58,slow=6.4,SNR=21
BVAR PcP PcP 09 30 09.8 -0.9
comp=Z,4.3nm,0.8s,baz=64,slow=3.4,SNR=8.5
TZTN **Tazewell** 62.73 65 eP P 09 29 35.6 +2.5
comp=Z,16nm,1.2s
BINY **Binghamton** 62.80 56 P P 09 29 33.8 +0.2
baz=316,SNR=5.2
BINY **Binghamton** 62.80 56 eP P 09 29 33.2 -0.4
comp=Z,28nm,1.0s
SSPA **Standing Stone** 62.92 58 P P 09 29 33.6 -0.8
baz=316
SSPA **Standing Stone** 62.92 58 eP P 09 29 33.5 -0.8
comp=Z,22nm,0.7s
ACCN **Adirondack Com** 63.12 53 eP P 09 29 35.3 -0.4
comp=Z,25nm,1.0s
TKL **Tuckaleechee C** 63.24 66 P P 09 29 36.2 -0.3
comp=Z,7.9nm,1.2s,baz=63,slow=2.3,SNR=2.4
LBNH **Lisbon** 63.37 52 P P 09 29 37.1 -0.2
baz=317
HNR **Honiara** 64.73 209 LR LR 09 53 05.2
comp=Z,60nm,20.1s,baz=360,slow=31
KLMR **Klimovskoe** 64.76 343 eP P 09 29 44.0 -2.0
KLMR e*PP sP 09 30 00.3 0.0
KLMR pmax pmax
comp=Z,14nm,1.2s
KLMR **Klimovskoe** 64.76 343 eP P 09 29 44.1 -2.0
KLMR AMP 09 29 47.2
comp=Z,14nm,1.2s
KLMR epP sP 09 30 00.3 0.0
KLMR LQ LQ 09 57 23.7
KLMR LQ LQ 09 57 23.7
KMSC **Kings Mountain** 64.99 65 P P 09 29 47.6 -0.4
baz=317
KMSC **Kings Mountain** 64.99 65 eP P 09 29 47.5 -0.4
comp=Z,28nm,0.9s
GOGA **Godfrey** 65.03 67 eP P 09 29 48.0 -0.3
GOGA pmax pmax
comp=Z,17nm,0.9s
GOGA **Godfrey** 65.03 67 eP P 09 29 48.0 -0.3
comp=Z,17nm,0.9s
AFI **Afiamalu** 65.20 178 LR LR 09 57 05.5
comp=Z,57nm,18.8s,baz=356,slow=35
PDGK **Podgornoye** 66.09 310 P P 09 29 56.1 +0.9
PDGK pmax pmax
comp=Z,6.0nm,0.9s
FINES **FINESS Array B** 66.22 350 P P 09 29 54.0 -1.5
comp=Z,5.9nm,0.9s,baz=13,slow=7.7,SNR=10.0
FINES PcP PcP 09 30 25.3 -0.1
comp=Z,1.9nm,0.7s,baz=54,slow=3.3,SNR=5.1
FINES LR LR 10 01 56.6
comp=Z,92nm,20.3s,baz=10,slow=39
DAV **Davao City (W)** 66.27 250 LR LR 09 56 14.5
comp=Z,46nm,20.0s,baz=312,slow=34
NOA **NORSAR Array B** 67.69 357 P P 09 30 04.5 -0.5
comp=Z,1.5nm,0.7s,baz=5.3,slow=6.7,SNR=3.6
NOA LR LR 10 00 50.6
comp=Z,54nm,18.8s,baz=350,slow=37
HFS **Hagfors** 68.50 356 P P 09 30 09.2 -0.8
comp=Z,3.1nm,0.6s,baz=11,slow=3.0,SNR=11
HFS LR LR 10 01 05.3
comp=Z,36nm,19.3s,baz=327,slow=37
AAK **Ala-Archa** 68.96 313 P P 09 30 13.6 +0.3
comp=Z,2.8nm,0.5s,baz=100,slow=5.6,SNR=7.4
AKTO **Aktyubinsk** 69.19 327 P P 09 30 14.4 -0.1
comp=Z,4.3nm,0.6s,baz=60,slow=7.0,SNR=13
PMG **Port Moresby** 69.27 221 LR LR 09 56 58.3
comp=Z,40nm,21.5s,baz=30,slow=33
MNAS **Manas** 69.99 314 P P 09 30 20.5 +0.8
MNAS pmax pmax
comp=Z,8.0nm,0.5s
PMOR **Pomariorio Ree** 70.09 153 eT T 10 47 27.5
comp=Z,4.3nm,0.2s
KKAR **Karatay Array** 70.39 315 eP P 09 30 21.1 -0.9
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR **Karatay Array** 70.39 315 eP P 09 30 21.1 -0.9
comp=Z,2.0nm,0.4s
KSH **Kashi** 70.71 310 P P 09 30 26.3 +2.2
KSH pP pP 09 30 35.8 +1.3
KSH PcP PcP 09 30 47.0 +2.1
KSH PP PP 09 33 05.8 +5.4
KSH S S 09 39 36.5 +0.5
KSH sS sS 09 39 53.5 +0.2
KSH **Kashi** 70.71 310 SKS SKSac 09 40 21.0 -2.6
SFK **Sufi-Kurgan** 71.49 312 P P 09 30 30.4 +1.4
SFK pmax pmax
comp=Z,3.0nm,1.7s
PPT **Papeete** 72.08 155 LR LR 09 58 19.3
comp=Z,103nm,19.9s,baz=336,slow=33
PPT2 **Papeete2** 72.10 155 eLR LR 09 52 34.1
comp=Z,110nm,21.0s
RAR **Rarotonga** 73.52 166 LR LR 09 55 58.1
comp=Z,137nm,19.8s,baz=318,slow=30
CMAR **Chiang Mai Arr** 73.90 279 P P 09 30 44.4 +1.1
comp=Z,6.7nm,0.9s,baz=25,slow=6.1,SNR=16
CMAR LR LR 10 08 25.6
comp=Z,60nm,18.0s,baz=54,slow=40
GUN **Gumba** 74.48 295 eP P 09 30 47.9 +0.9
comp=Z,50nm,0.4s
JIRN **Jiri** 74.50 295 eP P 09 30 48.1 +1.0
DZET **Dzherino** 74.61 314 P P 09 30 47.9 +0.6
DZET pmax pmax
comp=Z,14nm,0.4s
KKN **Kakani** 74.91 296 eP P 09 30 50.1 +0.8
PKI **Pulchoki** 75.01 295 eP P 09 30 50.5 +0.5

	comp=Z,65nm,1.1s						
GKN	**Gorkha**	**75.11 296**	*e*P		**P**	**09 30 51.0**	**+0.6**
DZM	**Mont Dzumac**	**75.26 199**	LR		LR	10 00 20.1	
	comp=Z,133nm,18.3s,baz=34,slow=33						
DZM	**Mont Dzumac**	**75.26 199**	*e*LR		LR	09 54 33.0	
	comp=Z,128nm,26.5s						
DANN	**Dangsing**	**75.33 297**	*e*P		**P**	**09 30 52.9**	**+1.1**
KOLN	**Koldanda**	**75.87 297**	*e*P		**P**	**09 30 55.3**	**+0.5**
PYUN	**Piuthan**	**75.95 297**	*e*P		**P**	**09 30 55.9**	**+0.6**
	comp=Z,97nm,1.0s						
AKASG	**Malin Array Be**	**76.23 345**	P		**P**	**09 30 55.2**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=20,slow=6.3,SNR=9.1						
AKASG			LR		LR	10 08 53.9	
	comp=Z,59nm,19.9s,baz=350,slow=39						
KIEV	**Kiev**	**76.24 345**	*e*P		**P**	**09 30 54.6**	**-1.6**
KIEV			pmax	pmax			
	comp=Z,10.0nm,0.9s						
KIEV	**Kiev**	**76.24 345**	*e*P		**P**	**09 30 54.6**	**-1.6**
	comp=Z,10nm,0.9s						
NIL	**Nilore**	**76.69 308**	*e*P		**P**	**09 31 00.1**	**+0.9**
NIL			pmax	pmax			
	comp=Z,59nm,0.9s						
NIL	**Nilore**	**76.69 308**	*e*P		**P**	**09 31 00.1**	**+0.9**
	comp=Z,59nm,0.9s						
CLL	**Collm**	**77.35 355**	⇑*i*P		**P**	**09 31 02.2**	**-0.3**
CLL			pmax	pmax			
	comp=Z,11nm,1.0s						
CLL	**Collm**	**77.35 355**	⇑*i*P		**P**	**09 31 02.2**	**-0.3**
	comp=Z,11nm,1.0s						
BRG	**Berggiesshubel**	**77.73 355**	*i* P		**P**	**09 31 04.6**	**0.0**
	comp=Z,11nm,1.2s						
BRG			*e*			09 31 18.8	
	comp=Z,12nm,1.2s						
BRG	**Berggiesshubel**	**77.73 355**	*i* P		**P**	**09 31 04.6**	**0.0**
BRG			*e*			09 31 18.8	
BRG			pmax	pmax			
	comp=Z,94nm,1.2s						
UPC	**Upice**	**77.97 353**	*e*P		**P**	**09 31 06.1**	**+0.1**
UPC	**Upice**	**77.97 353**	*e*P		**P**	**09 31 06.1**	**+0.1**
MOX	**Moxa**	**78.08 356**	P		**P**	**09 31 07.6**	**+1.0**
MOX			pmax	pmax			
	comp=Z,12nm,1.3s						
DPC	**Dobruska-Polom**	**78.10 353**	*e*P		**P**	**09 31 07.0**	**+0.2**
DPC			*e*			09 31 21.2	
DPC	**Dobruska-Polom**	**78.10 353**	*e*P		**P**	**09 31 07.0**	**+0.2**
DPC			*e*sP		**sP**	**09 31 21.2**	**0.0**
NKC	**Novy Kostel**	**78.45 356**	*e*P		**P**	**09 31 09.2**	**+0.5**
NKC	**Novy Kostel**	**78.45 356**	*e*P		**P**	**09 31 09.2**	**+0.5**
STHS	**Stebnicka Huta**	**78.57 350**	*e*P		**P**	**09 31 10.1**	**+0.7**
STHS	**Stebnicka Huta**	**78.57 350**	*e*P		**P**	**09 31 10.1**	**+0.7**
MORC	**Moravsky Berou**	**78.57 352**	⇑P		**P**	**09 31 09.4**	**0.0**
MORC	**Moravsky Berou**	**78.57 352**	⇑*i*P		**P**	**09 31 09.4**	**0.0**
PRU	**Pruhonice**	**78.58 354**	*e*P		**P**	**09 31 09.5**	**+0.1**
PRU	**Pruhonice**	**78.58 354**	*e*P		**P**	**09 31 09.5**	**+0.1**
GOPC	**GO Pecny, Ondr**	**78.64 354**	*e*P		**P**	**09 31 09.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**78.64 354**	*e*P		**P**	**09 31 09.9**	**+0.2**
DOU	**Dourbes**	**78.73 1**	⇑P		**P**	**09 31 10.2**	**0.0**
BAIF	**Baives**	**78.77 1**	*e*P		**P**	**09 31 10.3**	**-0.1**
BAIF			pmax	pmax			
	comp=Z,15nm,1.2s						
SORM	**Soroca**	**78.86 345**	⇑P		**P**	**09 31 10.1**	**-0.8**
SORM	**Soroca**	**78.86 345**	⇑*i*P		**P**	**09 31 10.1**	**-0.8**
LANS	**Liptovska Anna**	**79.02 351**	*e*P		**P**	**09 31 12.7**	**+0.8**
LANS	**Liptovska Anna**	**79.02 351**	*e*P		**P**	**09 31 12.7**	**+0.8**
VRAC	**Vranov**	**79.11 353**	P		**P**	**09 31 11.9**	**-0.4**
	comp=Z,7.9nm,0.8s,baz=21,slow=5.8,SNR=7.7						
VRAC	**Vranov**	**79.11 353**	⇓P		**P**	**09 31 12.1**	**-0.2**
VRAC	**Vranov**	**79.11 353**	⇓*i*P		**P**	**09 31 12.1**	**-0.2**
WLF	**Walferdange**	**79.17 360**	⇑P		**P**	**09 31 11.9**	**-0.7**
KHC	**Kasperske Hory**	**79.49 355**	*e*P		**P**	**09 31 15.1**	**+0.6**
KHC			*e*			09 31 29.0	
KHC	**Kasperske Hory**	**79.49 355**	*e*P		**P**	**09 31 15.1**	**+0.6**
KHC			*e*sP		**sP**	**09 31 29.0**	**+0.1**
KHC	**Kasperske Hory**	**79.49 355**	*e*P		**P**	**09 31 15.0**	**+0.6**
	comp=Z,5.5nm,1.1s						
VYHS	**Vyhne**	**79.73 351**	*e*P		**P**	**09 31 15.8**	**+0.1**
VYHS	**Vyhne**	**79.73 351**	*e*P		**P**	**09 31 15.8**	**+0.1**
GERES	**GERESS Array B**	**79.77 355**	P		**P**	**09 31 16.3**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=344,slow=4.4,SNR=9.1						
BURAR	**Bucovina Array**	**79.84 347**	⇑P		**P**	**09 31 14.7**	**-1.7**
BURAR	**Bucovina Array**	**79.84 347**	⇑*i*P		**P**	**09 31 14.7**	**-1.7**
GEYT	**Alibeck**	**79.89 321**	P		**P**	**09 31 17.9**	**+1.1**
	comp=Z,5.8nm,1.0s,baz=307,slow=5.2,SNR=9.1						
GEYT			LR		LR	10 11 15.9	
	comp=Z,143nm,18.2s,baz=5.0,slow=39						
MODS	**Modra-Piesok**	**79.99 352**	*e*P		**P**	**09 31 15.0**	**-2.1**
MODS	**Modra-Piesok**	**79.99 352**	*e*P		**P**	**09 31 15.0**	**-2.1**
CDF	**Champ du Feu**	**80.42 359**	*e*P		**P**	**09 31 19.2**	**-0.3**
CDF			pmax	pmax			
	comp=Z,6.0nm,0.8s						
BFO	**Black Forest**	**80.49 358**	*i* P		**P**	**09 31 20.6**	**+0.8**
BFO	**Black Forest**	**80.49 358**	*e*P		**P**	**09 31 19.7**	**-0.1**
	comp=Z,17nm,1.4s						
CONA	**Conrad Observa**	**80.54 353**	*i* P		**P**	**09 31 20.7**	**+0.5**
	comp=Z,7.5nm,1.2s						
ECH	**Echery**	**80.62 359**	*e*P		**P**	**09 31 20.2**	**-0.3**
ECH			pmax	pmax			
	comp=Z,14nm,1.0s						
ECH	**Echery**	**80.62 359**	*e*P		**P**	**09 31 20.2**	**-0.3**
	comp=Z,14nm,1.0s						
MOA	**Molln**	**80.73 354**	*i* P		**P**	**09 31 19.7**	**-1.4**
	comp=Z,4.6nm,1.1s						
SOC	**Sochi**	**80.82 336**	*e*P		P	09 31 10.3	-11
SOC			*e*			09 34 27.5	
HAU	**Haudompre**	**80.83 360**	*e*P		**P**	**09 31 21.4**	**-0.3**
HAU			pmax	pmax			
	comp=Z,16nm,1.1s						
DRGR		**80.98 348**	⇑P		**P**	**09 31 22.4**	**-0.2**
DRGR		**80.98 348**	⇑*i*P		**P**	**09 31 22.4**	**-0.2**
HINF	**Hinteralfeld**	**81.02 359**	*e*P		**P**	**09 31 22.2**	**-0.5**
HINF			pmax	pmax			
	comp=Z,3.0nm,0.6s						
ARSA	**Arzberg**	**81.24 353**	*i* P		**P**	**09 31 24.5**	**+0.7**
	comp=Z,3.7nm,0.6s						
RETA	**Reutte**	**81.26 357**	*e*P		**P**	**09 31 22.6**	**-1.5**
	comp=Z,3.2nm,0.6s						
WATA	**Walderalm**	**81.38 356**	*e*P		P	09 31 19.4	-5.4
	comp=Z,2.7nm,0.4s						
MOTA	**Moosalm**	**81.39 356**	*i* P		**P**	**09 31 25.2**	**+0.4**
	comp=Z,9.1nm,1.0s						
DAVA	**Damuels**	**81.49 357**	*i* P		**P**	**09 31 25.5**	**+0.1**
	comp=Z,9.5nm,1.3s						
KBA	**Koelnbreinsper**	**81.55 355**	P		**P**	**09 31 26.6**	**+0.9**
KBA			pmax	pmax			
	comp=Z,17nm,1.0s						
KBA	**Koelnbreinsper**	**81.55 355**	*i* P		**P**	**09 31 26.5**	**+0.8**
	comp=Z,22nm,1.2s,SNR=11						
FETA	**Feichten**	**81.73 357**	*i* P		**P**	**09 31 27.1**	**+0.5**
	comp=Z,10nm,0.9s,SNR=6.5						
CFR	**Carcaliu**	**81.76 344**	⇓P		**P**	**09 31 26.2**	**-0.4**
CFR	**Carcaliu**	**81.76 344**	⇓*i*P		**P**	**09 31 26.2**	**-0.4**
MLR	**Muntele Rosu**	**81.81 346**	P		**P**	**09 31 28.6**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=70,slow=13,SNR=8.7						
MLR	**Muntele Rosu**	**81.81 346**	⇓P		**P**	**09 31 28.8**	**+1.8**
MLR	**Muntele Rosu**	**81.81 346**	⇓*i*P		**P**	**09 31 28.8**	**+1.8**
SOKA	**Soboth**	**81.85 354**	*i* P		**P**	**09 31 27.6**	**+0.5**
	comp=Z,15nm,1.2s,SNR=9.3						
ABTA	**Abfaltersbach**	**81.93 355**	*i* P		**P**	**09 31 27.3**	**-0.3**
	comp=Z,8.9nm,1.2s						
VOIR		**82.00 347**	⇓P		**P**	**09 31 28.3**	**+0.4**
VOIR		**82.00 347**	⇓*i*P		**P**	**09 31 28.3**	**+0.4**
AVF	**Avril sur Loir**	**82.03 2**	*e*P		**P**	**09 31 27.6**	**-0.3**
AVF			pmax	pmax			
	comp=Z,17nm,1.3s						
OBKA	**Obir**	**82.05 354**	*i* P		**P**	**09 31 28.8**	**+0.6**
	comp=Z,2.5nm,0.5s						
ARR	**Arges**	**82.12 347**	⇓*i*P		**P**	**09 31 28.9**	**+0.3**
SMF	**Signal de Mont**	**82.18 1**	*e*P		**P**	**09 31 28.5**	**-0.3**
SMF			pmax	pmax			
	comp=Z,17nm,1.0s						
CABF	**La Chapelle**	**82.23 360**	*e*P		**P**	**09 31 29.1**	**0.0**
CABF			pmax	pmax			
	comp=Z,30nm,1.2s						
BZS	**Buzias**	**82.28 349**	⇓P		**P**	**09 31 26.0**	**-3.3**
BZS	**Buzias**	**82.28 349**	⇓*i*P		**P**	**09 31 26.0**	**-3.3**
TLB	**Topalu**	**82.35 344**	⇑P		**P**	**09 31 30.3**	**+0.6**
TLB	**Topalu**	**82.35 344**	⇑*i*P		**P**	**09 31 30.3**	**+0.6**
TIRR	**Tirgusor**	**82.42 344**	⇓P		**P**	**09 31 30.2**	**+0.2**
TIRR	**Tirgusor**	**82.42 344**	⇓*i*P		**P**	**09 31 30.2**	**+0.2**
GNI	**Garni**	**82.60 331**	LR		LR	10 14 54.5	
	comp=Z,81nm,18.6s,baz=10,slow=40						
LPL	**La Plagne**	**83.32 359**	*e*P		**P**	**09 31 38.9**	**+3.9**
LPL			pmax	pmax			
	comp=Z,2.0nm,0.3s						
CAF	**Calviac**	**83.86 3**	*e*P		**P**	**09 31 37.6**	**+0.1**
ORIF	**Oris-en-Rattie**	**83.92 0**	*e*P		**P**	**09 31 39.6**	**+1.7**
ORIF			pmax	pmax			
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**84.23 228**	P		**P**	**09 31 38.1**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=36,slow=6.1,SNR=6.4						
SAOF	**Saorge**	**84.84 359**	*e*P		**P**	**09 31 44.8**	**+2.3**
SAOF			pmax	pmax			
	comp=Z,11nm,1.6s						
SBF	**Sospel**	**84.97 359**	*e*P		**P**	**09 31 42.9**	**-0.3**
SBF			pmax	pmax			
	comp=Z,29nm,1.0s						
VTS	**Vitosha**	**85.05 347**	⇓P		**P**	**09 31 42.0**	**-1.7**
VTS	**Vitosha**	**85.05 347**	⇓*i*P		**P**	**09 31 42.0**	**-1.7**
FRF	**La Foret Royal**	**85.28 359**	*e*P		**P**	**09 31 43.6**	**-1.1**
FRF			pmax	pmax			
	comp=Z,18nm,1.1s						
MTLF	**Montolieu**	**85.44 3**	*e*P		**P**	**09 31 46.7**	**+1.2**
MTLF			pmax	pmax			
	comp=Z,10.0nm,1.1s						
BRTR	**Keskin Array B**	**85.94 339**	P		**P**	**09 31 48.8**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=46,slow=3.6,SNR=8.7						
BRTR			LR		LR	10 16 50.5	
	comp=Z,30nm,18.2s,baz=324,slow=40						
HYB	**Hyderabad**	**86.87 294**	*i* P		**P**	**09 31 51.0**	**-2.0**
ASAR	**Alice Springs**	**87.66 226**	P		**P**	**09 31 56.1**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=35,slow=4.9,SNR=7.0						
ESDC	**Sonseca Array**	**88.75 8**	P		**P**	**09 32 01.1**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=356,slow=4.2,SNR=11						
STKA	**Stephens Creek**	**91.73 216**	LR		LR	10 08 15.7	
	comp=Z,77nm,21.6s,baz=22,slow=32						
WSAR	**Wadi Sarin**	**92.37 313**	P		**P**	**09 32 17.8**	**-1.0**
	comp=Z,16nm,1.1s,baz=127,slow=2.7,SNR=4.1						
RPN	**Rapa Nui**	**96.72 126**	*i* P		**P**	**09 32 39.7**	**+1.4**
MAW	**Mawson**	**148.41 218**	PKPbc		**PKPbc**	**09 38 52.8**	**-0.2**
	comp=Z,6.9nm,1.0s,baz=280,slow=6.5,SNR=4.1						
BOSA	**Boshof**	**152.89 320**	PKPbc		**PKPbc**	**09 39 05.0**	**0.0**
	comp=Z,2.8nm,0.6s,baz=29,slow=2.9,SNR=4.4						

IDC 31 09:23:40.4±3.8, 31°.50N×140°.77E, *h*0km, mb3.6/2, mb1 3.6/3, mb1mx3.2/65, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=151.4km s-min=24.4km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.81**	**333**	Pn	Pn	09 24 12.2	-0.7
	27nm,0.3s,baz=13,slow=20,SNR=17						
JHJ				Sn	Sn	09 24 28.0	-8.6
	19nm,0.3s,baz=75,slow=19,SNR=3.5						
MJAR	**Matsushiro Arr**	**5.46**	**338**	Pn	Pn	09 25 02.8	-0.2
	0.5nm,0.3s,baz=160,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**46.79**	**307**	P	P	09 32 11.9	+0.3
	0.3nm,0.4s,baz=88,slow=9.3,SNR=4.0						
ASAR	**Alice Springs**	**55.25**	**188**	P	P	09 33 15.2	-0.2
	0.3nm,0.4s,baz=12,slow=8.1,SNR=6.8						

*DDA **31** 09:32:38.9, 38°.07N×42°.67E, *h*8km, *Ml*2.9*
*ISK **31** 09:32:38.2, 38°.11N×42°.66E, *h*3km, *ML*2.6/4*
*ATA **31** 09:32:38.5±0.3, 38°.06N×42°.73E, *h*15km, *ML*3.6, *MW*2.9*
*ISCJB **31** 09:32:39.3±0.6, 38°.11N±0°.03×42°.66E±0°.03, *h*5km±5km, Error ellipse: s-maj=5.0km s-min=4.4km az=163.9*
*CSEM **31** 09:32:39.2±0.2, 38°.11N×42°.68E, *h*10km, *ML*2.9, Error ellipse: s-maj=4.0km s-min=3.4km az=160.0*

ISC 31 09:32:38.8±1.2, 38°.11N±0°.03×42°.68E±0°.02, *h*8km±10km, n26, σ0°.51/47, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.36**	**55**	⇓*e*	**Pg**	**09 32 46.4**	**+0.5**
	baz=226,slow=6.5						
GEVA				⇑*i*P	**Pg**	**09 32 46.4**	**+0.5**
GEVA				*e*S	**Sb**	**09 32 52.6**	**-0.9**
GEVA				IAML		09 32 54.1	
	comp=Z,448nm,0.3s						
GEVA	**Gevas**	**0.36**	**55**	*i* P	**Pg**	**09 32 46.5**	**+0.5**
GEVA				*i* S	**Sb**	**09 32 52.6**	**-0.9**
GEVA	**Gevas**	**0.36**	**55**	P	**Pg**	**09 32 46.5**	**+0.5**
GEVA				S	**Sb**	**09 32 52.6**	**-0.9**
SRTM	**Siirt_Merkez**	**0.61**	**259**	*i* P	**Pg**	**09 32 50.4**	**-0.2**
SRTM				*i* S	**Sb**	**09 33 00.3**	**-0.2**
SRTM	**Siirt_Merkez**	**0.61**	**259**	P	**Pg**	**09 32 50.3**	**-0.2**
SRTM				S	**Sb**	**09 33 00.3**	**-0.2**
SIRT	**Sirnak**	**0.63**	**198**	PG	**Pg**	**09 32 51.2**	**+0.2**
SIRT				SG	**Sb**	**09 33 00.6**	**-0.5**
SIRT	**Sirnak**	**0.63**	**198**	*e*Pg	**Pg**	**09 32 51.2**	**+0.2**
SIRT				*e*Sg	**Sb**	**09 33 00.6**	**-0.5**
GURO	**Guroymak-BITLI**	**0.68**	**311**	PG	**Pg**	**09 32 51.8**	**-0.1**
GURO				SG	**Sb**	**09 33 01.9**	**-0.6**
GURO	**Guroymak-BITLI**	**0.68**	**311**	*e*Pg	**Pg**	**09 32 51.8**	**-0.1**
GURO				*e*Sg	**Sb**	**09 33 01.9**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.70**	**3**	*i* P	**Pb**	**09 32 53.1**	**-0.3**
ADCV				*i* S	**Sb**	**09 33 03.1**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.70**	**3**	P	**Pb**	**09 32 53.1**	**-0.3**
ADCV				S	**Sb**	**09 33 03.1**	**-0.2**
HAKT	**HAKKARI**	**0.98**	**124**	*i* P	**Pg**	**09 32 57.9**	**+0.3**
HAKT				*i* S	**Sn**	**09 33 12.8**	**-0.4**
HAKT	**HAKKARI**	**0.98**	**124**	P	**Pg**	**09 32 57.9**	**+0.3**
HAKT				S	**Sn**	**09 33 12.8**	**-0.4**
BTMN	**Batman**	**1.13**	**260**	*i* P	**Pn**	**09 33 01.1**	**+0.1**
BTMN				*i* S	**Sn**	**09 33 18.0**	**+1.2**
BTMN	**Batman**	**1.13**	**260**	P	**Pn**	**09 33 01.1**	**+0.1**
BTMN				S	**Sn**	**09 33 18.0**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.17**	**273**	PN	**Pb**	**09 33 01.1**	**-0.1**
SVAN				SN	**Sn**	**09 33 17.8**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.17**	**273**	*e*Pn	**Pb**	**09 33 01.1**	**-0.1**
SVAN				*e*Sn	**Sn**	**09 33 17.8**	**+0.2**
AGRB	**Hanur-Agry**	**1.49**	**9**	PN	**Pb**	**09 33 06.8**	**0.0**
AGRB	**Hanur-Agry**	**1.49**	**9**	*e*Pn	**Pb**	**09 33 06.8**	**0.0**
MARD	**Mardin**	**1.70**	**243**	*i* P	**Pb**	**09 33 10.0**	**-0.4**
MARD				*i* S	**Sg**	**09 33 33.1**	**-0.4**
BNGB	**Bingˆ¶l**	**1.80**	**300**	PN	**Pn**	**09 33 10.9**	**+0.7**
HANI	**Diyarbakir_Han**	**1.82**	**280**	P	**Pn**	**09 33 10.4**	**0.0**
HANI				*i* S	**Sn**	**09 33 34.1**	**+0.4**
HANI	**Diyarbakir_Han**	**1.82**	**280**	P	**Pn**	**09 33 10.4**	**0.0**
HANI				S	**Sn**	**09 33 34.1**	**+0.4**
MAZI	**Mazidag**	**1.88**	**251**	PN	**Pn**	**09 33 12.2**	**+0.9**
MAZI	**Mazidag**	**1.88**	**251**	*e*Pn	**Pn**	**09 33 12.2**	**+0.9**
BINT	**Bingol**	**1.88**	**295**	*e*Pn	**Pn**	**09 33 10.9**	**-0.4**

*ATA **31** 09:33:06.5±0.3, 38°.04N×42°.75E, *h*15km, *ML*3.5, *MW*3.0*
*CSEM **31** 09:33:07.8, 38°.11N×42°.68E, *h*7km, *ML*2.7, After DDA*
*DDA **31** 09:33:07.8, 38°.11N×42°.68E, *h*7km, *Ml*2.7*

ISC 31 09:33:07.5±1.3, 38°.11N±0°.04×42°.64E±0°.03, *h*7km±15km, n9, σ0°.48/19, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.39**	**58**	⇓*e*	**Pg**	**09 33 14.5**	**-0.5**
	baz=222,slow=6.9						
GEVA				⇑*i*P	**Pg**	**09 33 14.5**	**-0.5**
GEVA				*e*S	**Sg**	**09 33 20.8**	**+0.6**
GEVA				IAML		09 33 22.2	
	comp=Z,342nm,0.3s						
GEVA	**Gevas**	**0.39**	**58**	*i* P	**Pg**	**09 33 14.4**	**-0.6**
GEVA				*i* S	**Sg**	**09 33 20.7**	**+0.6**
GEVA	**Gevas**	**0.39**	**58**	P	**Pg**	**09 33 14.4**	**-0.6**
GEVA				S	**Sg**	**09 33 20.7**	**+0.6**
SRTM	**Siirt_Merkez**	**0.58**	**259**	*i* P	**Pg**	**09 33 18.3**	**-0.3**
SRTM				*i* S	**Sb**	**09 33 28.6**	**0.0**
SRTM	**Siirt_Merkez**	**0.58**	**259**	P	**Pg**	**09 33 18.3**	**-0.3**
SRTM				S	**Sb**	**09 33 28.6**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.70**	**5**	*i* P	**Pg**	**09 33 21.3**	**+0.3**
ADCV				*i* S	**Sb**	**09 33 31.7**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.70**	**5**	P	**Pg**	**09 33 21.3**	**+0.3**
ADCV				S	**Sb**	**09 33 31.7**	**-0.6**
HAKT	**HAKKARI**	**1.00**	**123**	*e*P	**Pg**	**09 33 26.5**	**-0.2**
HAKT				*i* S	**Sb**	**09 33 41.1**	**+0.2**
HAKT	**HAKKARI**	**1.00**	**123**	P	**Pg**	**09 33 26.5**	**-0.2**
HAKT				S	**Sb**	**09 33 41.1**	**+0.2**

*IDC **31** 09:47:23.0±0.4, 10°.54N×63°.17W, *h*0km, *mb*4.4/25, mb1 4.5/27, mb1mx4.4/54, mbtmp4.4/27, ML2.9/2, MS3.9/31, Ms1 3.9/31, ms1mx3.8/51, Error ellipse: s-maj=12.0km s-min=9.3km az=140.0*
*ISCJB **31** 09:47:24.3±1.0, 10°.56N±0°.02×63°.21W±0°.02, *h*12km±6km, mb4.8/168, MS3.9/28, Error ellipse: s-maj=4.3km s-min=2.6km az=164.5*
*TRN **31** 09:47:25.0, 10°.60N×63°.23W, *h*10km, MD5.3*
*NEIC **31** 09:47:25.1±0.0, 10°.54N×63°.20W, *h*3km, *mb*4.9/143, MD5.1(TRN), Mw4.4(CAR), MW4.4(CAR), After CAR.*
*GCMT **31** 09:47:25.1±0.4, 10°.49N×63°.19W, *h*17km±1km, MW4.8/67, Moment Tensor Solution. s16,c16; s67,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.92±.13; $M_{\theta\theta}$1.37±.12; $M_{\phi\phi}$-0.45±.09; $M_{r\theta}$0.39±.27; $M_{r\phi}$-1.62±.08; $M_{\theta\phi}$-0.19±.22; Best double couple: M_o1.88800×10^{16} NP1:ϕ_s75.00000°, δ88.00000°, λ172.00000°. NP2: ϕ_s166.00000°, δ82.00000°, λ3.00000°. Principal axes: T 2.3730, Plg7.0000°, Azm30.0000°; N -0.9720, Plg82.0000°, Azm238.0000°; P -1.4040, Plg4.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 09:47:25.2±1.3, 10°.51N±0°.04×63°.21W±0°.04, *h*12km±8km, n579, σ1°.09/598, mb4.8/169, MS3.9/28, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCRV	**Puerto La Cruz**	**1.44**	**257**	Pg	**Pn**	**09 47 49.1**	**-2.0**
	125nm,0.3s,baz=65,slow=5.5,SNR=292						
PCRV				Lg	Lg	09 48 10.7	
	169nm,0.3s,baz=223,slow=19,SNR=14						
PCRV				LR	LR	09 48 41.0	
	comp=Z,2μm,21.7s,baz=98,slow=54						
ALNG	**Atlantic LNG**	**1.54**	**102**	*e*P	**Pb**	**09 47 53.5**	**-0.1**
ALNG	**Atlantic LNG**	**1.54**	**102**	*e*P	**Pb**	**09 47 53.5**	**-0.1**
TPP	**Pointe-a-Pierr**	**1.74**	**96**	*e*P	**Pn**	**09 47 55.9**	**+0.6**
TPP				*e*S	**Sb**	**09 48 18.2**	**-0.8**
TPP	**Pointe-a-Pierr**	**1.74**	**96**	*e*P	**Pn**	**09 47 55.9**	**+0.6**
TPP				*e*S	**Sb**	**09 48 18.2**	**-0.8**
TRN	**Trinidad (W)**	**1.79**	**85**	*e*P	**Pn**	**09 47 56.5**	**+0.6**
TRN				*e*S	**Sb**	**09 48 20.4**	**+0.2**
TRN	**Trinidad (W)**	**1.79**	**85**	*e*P	**Pn**	**09 47 56.5**	**+0.6**
TRN				*e*S	**Sb**	**09 48 20.4**	**+0.2**
TBH	**Brigand Hill**	**2.11**	**90**	*e*P	**Pn**	**09 48 01.7**	**+1.3**
TBH				*e*S	**Sn**	**09 48 26.9**	**+0.4**
TBH	**Brigand Hill**	**2.11**	**90**	*e*P	**Pn**	**09 48 01.7**	**+1.3**
TBH				*e*S	**Sn**	**09 48 26.9**	**+0.4**
GRGR	**Grenville**	**2.23**	**43**	*e*Pn	**Pn**	**09 48 01.7**	**-0.2**
GRGR				*e*Sn	**Sb**	**09 48 33.0**	**+0.3**
GRGR	**Grenville**	**2.23**	**43**	*e*P	**Pn**	**09 48 01.7**	**-0.2**
GRGR				*e*S	**Sn**	**09 48 28.9**	**-0.5**
GRHS	**Sauteurs**	**2.30**	**42**	*e*P	**Pn**	**09 48 02.6**	**-0.4**
GRHS				*e*S	**Sn**	**09 48 30.0**	**-1.3**
GRHS	**Sauteurs**	**2.30**	**42**	*e*P	**Pn**	**09 48 02.6**	**-0.4**
GRHS				*e*S	**Sn**	**09 48 30.0**	**-1.3**
GRSS	**Sisters**	**2.38**	**41**	*e*P	**Pn**	**09 48 04.2**	**+0.2**
GRSS				*e*S	**Sn**	**09 48 32.5**	**-0.6**
GRSS	**Sisters**	**2.38**	**41**	*e*P	**Pn**	**09 48 04.2**	**+0.2**
GRSS				*e*S	**Sn**	**09 48 32.5**	**-0.6**
BOT	**Bacolet**	**2.54**	**75**	*e*P	**Pn**	**09 48 07.2**	**+1.0**
BOT				*e*S	**Sn**	**09 48 36.7**	**-0.4**
BOT	**Bacolet**	**2.54**	**75**	*e*P	**Pn**	**09 48 07.2**	**+1.0**
BOT				*e*S	**Sn**	**09 48 36.7**	**-0.4**
TOSP	**Speyside**	**2.75**	**73**	*e*P	**Pn**	**09 48 09.7**	**+0.6**
TOSP				*e*S	**Sn**	**09 48 41.9**	**-0.3**
TOSP	**Speyside**	**2.75**	**73**	*e*P	**Pn**	**09 48 09.7**	**+0.6**
TOSP				*e*S	**Sn**	**09 48 41.9**	**-0.3**
SVB	**Belmont**	**3.35**	**35**	*e*Pn	**Pn**	**09 48 17.2**	**-0.3**
SVB				*e*Sn	**Sn**	**09 48 57.5**	**+0.3**
SVB	**Belmont**	**3.35**	**35**	*e*P	**Pn**	**09 48 16.6**	**-0.9**
SVB				*e*S	**Sn**	**09 48 54.9**	**-2.4**

	baz=135					
252A	**Lumpkin** baz=132,SNR=5.1	29.21 320	P	P	09 53 28.2	+1.4
GOGA	**Godfrey** baz=136	29.42 324	P	P	09 53 29.8	+1.1
KMSC	**Kings Mountain** baz=142	29.56 329	P	P	09 53 31.1	+1.1
KMSC	**Kings Mountain** 10nm,0.9s	29.56 329	eP	P	09 53 30.7	+0.7
251A	**Midway** baz=132,SNR=5.4	29.70 320	P	P	09 53 32.6	+1.4
151A	**Opelika** baz=132	29.93 320	P	P	09 53 34.7	+1.4
MNMC	**Minye Minye** 14nm,1.0s	30.11 192	eP	P	09 53 33.6	-1.6
349A	**Repton** baz=128	30.39 317	P	P	09 53 38.7	+1.4
150A	**Eclectic** baz=131	30.42 320	P	P	09 53 39.1	+1.5
249A	**Camden** baz=129	30.73 318	P	P	09 53 41.7	+1.4
PB11	**IPOC Station P** 64nm,1.2s	30.74 192	eP	P	09 53 39.4	-1.2
149A	**Jones** baz=130	30.91 319	P	P	09 53 42.9	+1.0
Y50A	**Piedmont** baz=133	31.11 322	P	P	09 53 44.5	+0.9
Z49A	**Columbiana** baz=131,SNR=10.0	31.13 320	P	P	09 53 45.5	+1.6
248A	**Dixon Mills** baz=128	31.22 317	P	P	09 53 45.5	+0.8
TKL	**Tuckaleechee C** 4.6nm,0.8s,baz=139,slow=5.3,SNR=5.9	31.24 327	P	P	09 53 45.8	+1.0
TKL	**Tuckaleechee C** 18nm,1.4s	31.24 327	eP	P	09 53 45.6	+0.9
LRAL	**Lakeview Retre** baz=130	31.32 319	P	P	09 53 46.4	+0.9
LRAL	**Lakeview Retre** 11nm,0.9s	31.32 319	eP	P	09 53 45.7	+0.2
CMIG	**Matias Romero** comp=Z,216nm,19.4s,baz=106,slow=41	31.41 286	LR	LR	10 08 47.3	
X50A	**Fort Payne** baz=134	31.45 323	P	P	09 53 48.3	+1.6
148A	**Greensboro** baz=129	31.45 318	P	P	09 53 48.1	+1.5
Y49A	**Blount Mountai** baz=132	31.50 321	P	P	09 53 48.0	+0.9
MVL	**Millersville** 33nm,1.3s	31.61 341	eP	P	09 53 51.2	+3.3
TZTN	**Tazewell** baz=140	31.79 328	P	P	09 53 51.1	+1.5
TZTN	**Tazewell** 16nm,0.9s	31.79 328	eP	P	09 53 51.2	+1.6
LUPA	**Lehigh Univers** 4.9nm,1.3s	31.85 342	eP	P	09 53 51.4	+1.4
X49A	**Woodville** baz=133	31.89 322	P	P	09 53 51.8	+1.3
Z48A	**Northport** baz=130	31.90 319	P	P	09 53 51.4	+0.8
147A	**Livingston** baz=128,SNR=5.0	31.93 318	P	P	09 53 52.3	+1.4
PB01	**IPOC Station P** 82nm,1.9s	31.95 191	eP	P	09 53 50.6	-0.7
Y48A	**Jasper** baz=131,SNR=6.5	32.01 320	P	P	09 53 52.6	+1.1
Z47A	**Carrollton** baz=129,SNR=7.3	32.12 318	P	P	09 53 53.9	+1.3
N59A	**State Game Lan** baz=156	32.26 342	P	P	09 53 55.6	+1.9
X48A	**Hartselle** baz=132,SNR=6.9	32.28 321	P	P	09 53 55.2	+1.2
O56A	**Blue Knob Stat** baz=151	32.62 338	P	P	09 53 58.0	+1.1
O56A	**Blue Knob Stat** 38nm,1.4s	32.62 338	eP	P	09 53 57.0	+0.1
245A	**Little AP, Sta** baz=125	32.65 315	P	P	09 53 57.9	+0.7
W48A	**Pulaski** baz=133,SNR=7.5	32.68 322	P	P	09 53 58.4	+0.9
SSPA	**Standing Stone** baz=153	32.70 339	P	P	09 53 59.4	+1.9
SSPA	**Standing Stone** 60nm,1.5s	32.70 339	eP	P	09 53 58.1	+0.6
HRV	**Adam Dziewonsk** 48nm,1.4s	32.70 349	eP	P	09 53 57.8	+0.3
X47A	**Russelville** baz=131,SNR=6.6	32.83 321	P	P	09 53 59.6	+0.8
344A	**Westbrook Farm** baz=123,SNR=5.4	32.92 313	P	P	09 54 00.6	+1.1
Y46A	**Houston** baz=129	33.06 319	P	P	09 54 02.1	+1.3
W47A	**Westpoint** baz=132,SNR=5.5	33.15 322	P	P	09 54 02.7	+1.1
VBMS	**Vicksburg** 45nm,1.3s	33.19 315	eP	P	09 54 02.7	+0.8
244A	**Avery, Jackson** baz=124,SNR=5.4	33.21 314	P	P	09 54 03.8	+1.7
PLAL	**Pickwick Lake** 7.8nm,0.8s	33.27 321	eP	P	09 54 03.3	+0.7
Z45A	**Winona** baz=127	33.30 317	P	P	09 54 04.7	+1.8
X46A	**Booneville** baz=130,SNR=6.0	33.31 320	P	P	09 54 04.0	+1.0
U48A	**Cassie Pea, Po** baz=135	33.40 325	P	P	09 54 05.4	+1.7
V47A	**Nunnelly** baz=133	33.50 323	P	P	09 54 05.6	+1.0
BINY	**Binghamton** baz=157,SNR=9.9	33.50 343	P	P	09 54 06.7	+2.1
BINY	**Binghamton** 68nm,1.1s	33.50 343	eP	P	09 54 07.4	+2.8
Y45A	**Yeager Farm, C** baz=128,SNR=6.1	33.50 318	P	P	09 54 05.9	+1.3
W46A	**Michie** baz=131	33.56 321	P	P	09 54 06.0	+0.9
T48A	**Bowling Green** baz=136,SNR=6.9	33.74 325	P	P	09 54 08.2	+1.5
X45A	**UM Field Stati** baz=129	33.75 319	P	P	09 54 07.6	+0.9
U47A	**Clarksville** baz=134,SNR=5.6	33.78 324	P	P	09 54 08.3	+1.3
OXF	**Oxford** baz=129,SNR=6.3	33.81 319	P	P	09 54 08.1	+0.8
OXF	**Oxford** 49nm,1.1s	33.81 319	eP	P	09 54 08.2	+0.9
V46A	**Holladay** baz=132	33.84 322	P	P	09 54 08.4	+0.8
WVT	**Waverly** baz=133	33.89 323	P	P	09 54 08.7	+0.8
WVT	**Waverly** 6.6nm,0.9s	33.89 323	eP	P	09 54 08.4	+0.5
S48A	**Wiedeman Farm,** baz=137	33.95 327	P	P	09 54 09.5	+1.0
T47A	**Sharon Grove** baz=135,SNR=8.0	34.06 325	P	P	09 54 10.9	+1.4
143A	**Socs Landing,** baz=124	34.08 315	P	P	09 54 11.3	+1.6
U46A	**Springville** baz=133	34.25 323	P	P	09 54 12.0	+0.9
X44A	**Crenshaw** baz=128	34.28 318	P	P	09 54 11.8	+0.4
V45A	**Humboldt** baz=131	34.31 321	P	P	09 54 12.4	+0.8
142A	**Monroe** baz=123,SNR=5.7	34.38 314	P	P	09 54 13.7	+1.4
R48A	**Northridge Ran** baz=138,SNR=5.3	34.40 328	P	P	09 54 14.0	+1.7
LBNH	**Lisbon** baz=165	34.45 349	P	P	09 54 14.0	+1.3
WCI	**Wyandotte Cave** baz=137	34.50 327	P	P	09 54 14.6	+1.4
WCI	**Wyandotte Cave** 22nm,1.0s	34.50 327	eP	P	09 54 14.9	+1.7
T46A	**Princeton** baz=134,SNR=6.3	34.55 324	P	P	09 54 15.2	+1.5
MMNY	**Mt. Morris Dam** 53nm,1.2s	34.58 341	eP	P	09 54 15.4	+1.6
U45A	**Rockin P Farm,** baz=132	34.59 322	P	P	09 54 14.7	+0.7
341A	**Kurthwood** baz=120	34.63 311	P	P	09 54 15.4	+1.0
UTMT	**University of** 92nm,1.1s	34.65 322	eP	P	09 54 15.3	+0.8
R47A	**Wooly Knot Far** baz=137	34.67 327	P	P	09 54 15.7	+1.0
Q47A	**Bedord North L** baz=138	35.09 328	P	P	09 54 19.8	+1.5
MEDO	**Medina** baz=153	35.14 340	P	P	09 54 19.9	+1.2
BLO	**Bloomington** 19nm,0.8s	35.31 328	eP	P	09 54 20.6	+0.4
S45A	**Carrier Mills** baz=133	35.38 324	P	P	09 54 21.0	+0.2
TYNO	**Tyneside** baz=151	35.56 339	P	P	09 54 24.2	+1.9
R45A	**Skylar, Fairfi** baz=134,SNR=7.7	35.63 325	P	P	09 54 24.0	+1.0
SIUC	**Southern Illin** 38nm,1.4s	35.78 324	eP	P	09 54 24.8	+0.6
S44A	**Carbondale** baz=132	35.78 323	P	P	09 54 25.1	+0.8
OLIL	**Olney** 33nm,1.0s	35.84 326	eP	P	09 54 24.9	+0.1
V42A	**Cord** baz=128,SNR=6.2	35.89 319	P	P	09 54 25.8	+0.6
PBMO	**Poplar Bluff** 8.7nm,1.0s	35.89 321	eP	P	09 54 24.3	-0.9
O47A	**Sheridan** baz=139	35.93 329	P	P	09 54 26.4	+0.9
NATX	**Nacogdoches** baz=119	35.95 311	P	P	09 54 26.2	+0.5
NATX	**Nacogdoches** 21nm,0.9s	35.95 311	eP	P	09 54 26.3	+0.5
Q45A	**Warren Harvey,** baz=135,SNR=6.1	35.99 326	P	P	09 54 27.6	+1.5
T43A	**Greenville** baz=130	36.00 322	P	P	09 54 26.8	+0.7
P46A	**Rosedale** baz=137,SNR=8.7	36.00 328	P	P	09 54 27.6	+1.5
HKT	**Hockley** 30nm,1.7s	36.01 307	eP	P	09 54 27.0	+0.7
R44A	**Waltonville** baz=133,SNR=6.0	36.06 324	P	P	09 54 27.7	+1.0
W41B	**Gary Mavity, V** baz=126	36.07 318	P	P	09 54 27.6	+0.9
X40A	**Basin Creek Fa** baz=124	36.07 316	P	P	09 54 28.0	+1.2
ACTO	**Acton** baz=151	36.08 339	P	P	09 54 27.9	+1.1
DELO	**Deloro Mine** baz=156	36.10 342	P	P	09 54 28.0	+1.1
U42A	**Revenden** baz=128	36.12 320	P	P	09 54 27.7	+0.5
S43A	**Fulton Ridge,** baz=131	36.19 323	P	P	09 54 28.4	+0.6
P45A	**Graceland, Par** baz=136,SNR=5.8	36.22 327	P	P	09 54 29.1	+1.1
V41A	**Mountainview** baz=127,SNR=6.9	36.37 318	P	P	09 54 29.8	+0.4
ALFO	**Alfred** baz=160,SNR=5.8	36.40 346	P	P	09 54 31.3	+1.8
PLVO	**Plevna** baz=157	36.42 343	P	P	09 54 30.9	+1.2
T42A	**Van Buren** baz=129	36.46 321	P	P	09 54 30.8	+0.7
Q44A	**Meyer Farm, Va** baz=134	36.47 325	P	P	09 54 31.4	+1.2
U41A	**Viola** baz=128,SNR=5.1	36.55 319	P	P	09 54 31.5	+0.6
R43A	**Red Bud** baz=132	36.57 324	P	P	09 54 32.3	+1.2
MIAR	**Mount Ida** baz=124	36.61 316	P	P	09 54 31.8	+0.3
W40A	**Ferguson Farm,** baz=125	36.63 317	P	P	09 54 32.2	+0.6
W40A	**Ferguson Farm,** 77nm,1.8s	36.63 317	eP	P	09 54 31.7	+0.1
BANO	**Bancroft** baz=155	36.65 342	P	P	09 54 32.6	+1.0
FVM	**French Village** 29nm,1.5s	36.67 323	eP	P	09 54 31.9	0.0
N46A	**Monticello** baz=139	36.70 330	P	P	09 54 33.3	+1.2
S42A	**Caledonia** baz=130	36.75 322	P	P	09 54 33.1	+0.5
V40A	**Witts Springs** baz=126	36.82 318	P	P	09 54 33.8	+0.5
T41A	**Mountain View** baz=128,SNR=8.2	36.88 320	P	P	09 54 34.2	+0.4
TRQ	**Mont Tremblant**	36.89 347	eP	P	09 54 36.2	+2.5
X39A	**Fountain Ranch** baz=123	36.96 315	P	P	09 54 35.1	+0.6
O44A	**Mansfield** baz=136	37.05 327	P	P	09 54 36.0	+0.9
CPUP	**Villa Florida** 5.3nm,1.0s,baz=349,slow=7.1,SNR=6.8	37.06 171	P	P	09 54 34.5	-0.8
CPUP			PcP	PcP	09 56 55.3	-0.7
CPUP	**Villa Florida** 15nm,1.4s	37.06 171	eP	P	09 54 33.9	-1.3
CPUP	1.4nm,0.8s,baz=198,slow=3.2,SNR=3.5		PcP	PcP	09 56 55.3	-0.7
N45A	**Kentland** baz=138	37.06 329	P	P	09 54 36.1	+1.0
R42A	**Luebbering** baz=131	37.08 323	P	P	09 54 36.3	+0.9
W39A	**Magazine** baz=124	37.11 316	P	P	09 54 36.7	+1.0
BRCO	**Bruce Peninsul** baz=149	37.13 338	P	P	09 54 36.9	+1.2
U40A	**Yellville** baz=126	37.16 319	P	P	09 54 36.7	+0.6
CCM	**Cathedral Cave** baz=130	37.20 322	P	P	09 54 37.1	+0.6
CCM	**Cathedral Cave** 45nm,1.8s	37.20 322	eP	P	09 54 37.3	+0.9
S41A	**Jillco Farms,** baz=129,SNR=12	37.21 321	P	P	09 54 36.9	+0.4
P43A	**Skaggs, Pawnee** baz=134,SNR=6.3	37.27 326	P	P	09 54 37.6	+0.7
M45A	**Boilermakers S** baz=139	37.33 330	P	P	09 54 38.8	+1.3
N44A	**Piper City** baz=137,SNR=5.2	37.34 328	P	P	09 54 38.6	+1.0
V39A	**Pettigrew** baz=125,SNR=9.7	37.38 317	P	P	09 54 38.8	+0.7
T40A	**Mansfield** baz=128,SNR=9.5	37.43 320	P	P	09 54 38.8	+0.4
R41A	**Rosebud** baz=130	37.44 322	P	P	09 54 39.0	+0.5
U39A	**Green Forest** baz=126,SNR=7.0	37.59 318	P	P	09 54 40.5	+0.7
KLBO	**Killbear Provi** baz=152	37.67 340	P	P	09 54 42.0	+1.7
S40A	**Lebanon** baz=128	37.69 321	P	P	09 54 41.1	+0.5
P42A	**Winchester** baz=133	37.69 325	P	P	09 54 41.0	+0.5
M44A	**Midewin, Midew** baz=138	37.73 329	P	P	09 54 41.6	+0.8
435B	**Jarrell** baz=115,SNR=5.6	37.74 307	P	P	09 54 41.5	+0.5
Q41A	**Truxton** baz=131	37.78 323	P	P	09 54 41.8	+0.4
HDIL	**Hopedale** baz=135	37.78 327	P	P	09 54 42.2	+0.9
HDIL	**Hopedale** 17nm,0.8s	37.78 327	eP	P	09 54 43.3	+2.0
T39A	**Clever** baz=126,SNR=6.1	37.90 319	P	P	09 54 42.6	+0.3
R40A	**Maddies Statio** baz=129	37.98 322	P	P	09 54 43.8	+0.8
N43A	**Stutzman Famil** baz=136	37.99 327	P	P	09 54 44.0	+0.9
WHTX	**Lake Whitney,** baz=116	38.16 309	P	P	09 54 45.3	+0.8
WHTX	**Lake Whitney,** 20nm,1.0s	38.16 309	eP	P	09 54 45.4	+0.8
M43A	**Waltham Townsh** baz=136	38.23 328	P	P	09 54 45.8	+0.7
833A	**Chaparral WMA,** baz=110,SNR=26	38.25 303	P	P	09 54 45.9	+0.5
S39A	**Bolivar** baz=127,SNR=17	38.26 320	P	P	09 54 45.5	+0.1
Q40A	**Laux Farm, Aux** baz=130	38.31 323	P	P	09 54 46.0	+0.2
O41A	**Passleys Farm,** baz=133	38.35 325	P	P	09 54 47.1	+0.9
N42A	**Yates City** baz=134	38.38 327	P	P	09 54 46.9	+0.6
R39A	**Chumby, Stover** baz=128,SNR=6.4	38.46 321	P	P	09 54 47.4	+0.2
T38A	**Diamond** baz=125	38.50 318	P	P	09 54 47.7	+0.3
S38A	**Stockton** baz=126	38.60 319	P	P	09 54 48.4	+0.1
P40A	**Paris** baz=131,SNR=9.2	38.64 323	P	P	09 54 48.8	+0.2
L43A	**Garden Prairie** baz=137	38.67 329	P	P	09 54 49.4	+0.7
GLMI	**Grayling** baz=145	38.84 336	P	P	09 54 51.5	+1.3
TUL1	**Leonard** baz=122	38.87 316	P	P	09 54 50.6	0.0
TUL1	**Leonard** 13nm,1.0s	38.87 316	eP	P	09 54 50.6	0.0
Q39A	**Willow Grove F** baz=129	38.88 322	P	P	09 54 50.7	+0.1
O40A	**La Belle** baz=131	38.92 324	P	P	09 54 50.4	-0.5
R38A	**Fenwick Farm,** baz=127	38.93 320	P	P	09 54 51.2	+0.2
P39B	**Salisbury** baz=130	39.03 323	P	P	09 54 52.1	+0.3
M41A	**Milan** baz=134	39.03 327	P	P	09 54 51.9	+0.1
Q38A	**Cooks Store, C** baz=128	39.22 321	P	P	09 54 53.8	+0.3
JCT	**Junction City** baz=112,SNR=20	39.37 306	P	P	09 54 55.2	+0.3
JCT	**Junction City** 30nm,0.9s	39.37 306	eP	P	09 54 55.4	+0.5
J43A	**Natural Harves** baz=139	39.40 331	P	P	09 54 55.9	+1.0
K42A	**Prairie Point,** baz=137,SNR=5.4	39.41 329	P	P	09 54 55.5	+0.6
L41A	**Preston** baz=135	39.50 328	P	P	09 54 56.4	+0.7
ZAIG	**Zacatecas** 39nm,2.0s	39.50 293	eP	P	09 54 58.1	+1.7
I43A	**Langenfeld Bro** baz=140	39.65 331	P	P	09 54 58.0	+1.1
N39A	**Derby Farms, D** baz=131	39.78 325	P	P	09 54 58.6	+0.5
H43A	**Windswept, Lux** baz=140	39.92 332	P	P	09 54 59.6	+0.4
LCO	**Las Campanas** 17nm,1.1s	39.94 190	eP	P	09 54 59.3	-0.5
JFWS	**Jewell Farm** baz=136,SNR=6.7	39.97 329	P	P	09 55 00.0	+0.4
JFWS	**Jewell Farm** 18nm,0.9s	39.97 329	eP	P	09 55 00.2	+0.6
M39A	**Webster** baz=132,SNR=5.5	39.99 326	P	P	09 55 00.1	+0.3
P37A	**Lathrop** baz=128	40.05 322	P	P	09 55 00.5	+0.2
ABTX	**Abilene, Hawle** baz=115,SNR=10	40.10 309	P	P	09 55 01.2	+0.3
ABTX	**Abilene, Hawle** 24nm,0.9s	40.10 309	eP	P	09 55 01.4	+0.5
N38A	**Joes South For** baz=130	40.15 324	P	P	09 55 01.9	+0.8
J41A	**Loganville** baz=137	40.17 329	P	P	09 55 01.9	+0.6
H42A	**Shiocton** baz=140	40.30 332	P	P	09 55 03.6	+1.2
L39A	**Vinton** baz=133,SNR=9.0	40.34 326	P	P	09 55 03.0	+0.3
WMOK	**Wichita Mounta** baz=118,SNR=7.4	40.40 312	P	P	09 55 03.1	-0.2
WMOK	**Wichita Mounta** 4.6nm,0.9s	40.40 312	eP	P	09 55 03.2	-0.2
M38A	**Pleasantville** baz=131	40.53 325	P	P	09 55 04.9	+0.6
J40A	**Soldiers Grove** baz=136,SNR=6.2	40.56 329	P	P	09 55 05.0	+0.4
K39A	**Oelwein** baz=134,SNR=8.4	40.67 327	P	P	09 55 05.7	+0.2
G42A	**Mountain** baz=140	40.82 333	P	P	09 55 07.5	+0.9
G42A	**Mountain** 18nm,1.0s	40.82 333	eP	P	09 55 08.1	+1.5
I40A	**Norwalk** baz=136	40.85 329	P	P	09 55 07.7	+0.7
L38A	**Oak Wood Farm,** baz=132	40.88 326	P	P	09 55 07.6	+0.4
M37A	**Trindle Farm,** baz=130	41.02 324	P	P	09 55 08.5	+0.2
J39A	**Decorah** baz=134,SNR=6.3	41.02 328	P	P	09 55 08.7	+0.4
K38A	**Parkersburg** baz=132,SNR=7.7	41.11 326	P	P	09 55 10.0	+0.9
G41A	**Antigo** baz=139	41.14 332	P	P	09 55 10.3	+1.0
KSU1	**Kansas State U** baz=125	41.18 319	P	P	09 55 09.7	+0.1
KSU1	**Kansas State U** 12nm,0.8s	41.18 319	eP	P	09 55 09.5	-0.2
H40A	**Chili** baz=137,SNR=7.2	41.27 330	P	P	09 55 11.1	+0.7
I39A	**Houston** baz=135	41.29 329	P	P	09 55 11.3	+0.8
J38A	**Wedel Dairy, R** baz=133	41.41 327	P	P	09 55 12.2	+0.6
F41A	**Three Lakes** baz=140	41.50 333	P	P	09 55 13.4	+1.1
G40A	**Rib Lake** baz=138	41.66 331	P	P	09 55 14.2	+0.6
K37A	**Belmond** baz=132	41.67 326	P	P	09 55 13.9	+0.3
H39A	**Augusta** baz=136	41.75 330	P	P	09 55 15.2	+0.9
I38A	**Scanlan Farm,** baz=134,SNR=9.4	41.83 328	P	P	09 55 15.5	+0.5
J37A	**Redenius Farm,** baz=132	41.98 327	P	P	09 55 17.2	+1.0
TXAR	**Lajitas Array** 4.7nm,0.8s,baz=124,slow=8.4,SNR=52	42.12 302	P	P	09 55 18.4	+0.7
TXAR	0.8nm,0.7s,baz=148,slow=4.6,SNR=3.9		PcP	PcP	09 57 11.5	-0.8
TX31	**Lajitas Ar. Si**	42.12 302	eP	P	09 55 18.2	+0.5
G39A	**Holcombe** baz=137,SNR=8.2	42.14 330	P	P	09 55 18.1	+0.6
H38A	**Maiden Rock** baz=135	42.25 329	P	P	09 55 19.1	+0.7
I37A	**Lemond, Waseca** baz=133,SNR=9.1	42.38 327	P	P	09 55 20.3	+0.9
G38A	**Ridgeland** baz=136	42.39 330	P	P	09 55 20.0	+0.5
E40A	**Wakefield** baz=139	42.40 333	P	P	09 55 20.5	+0.9
J36A	**Seneca 1, Swea** baz=131,SNR=6.7	42.42 326	P	P	09 55 20.4	+0.6
F39A	**Loretta** baz=137,SNR=10	42.48 331	P	P	09 55 20.9	+0.7
H37A	**Dierker Farm, C** baz=134	42.51 328	P	P	09 55 21.2	+0.7
K35A	**Storm Lake** baz=130	42.53 325	P	P	09 55 21.5	+0.8
AMTX	**Amarillo** baz=115	42.59 311	P	P	09 55 21.5	0.0
AMTX	**Amarillo** 23nm,1.6s	42.59 311	eP	P	09 55 21.9	+0.5
E39A	**Mellen** baz=138,SNR=6.9	42.65 332	P	P	09 55 22.5	+0.9
I36A	**Fitzsimmons Fa** baz=132	42.70 327	P	P	09 55 23.0	+0.9
SPMN	**Marine on St.** baz=134	42.90 329	P	P	09 55 24.9	+1.2
SPMN	**Marine on St.** 8.9nm,0.9s	42.90 329	eP	P	09 55 24.2	+0.6
F38A	**Pierce - Schro** baz=136,SNR=19	42.97 331	P	P	09 55 25.0	+0.8
K34A	**Le Mars** baz=128	43.00 324	P	P	09 55 24.9	+0.3
H36A	**Jessenland, He** baz=133,SNR=6.5	43.03 328	P	P	09 55 25.6	+0.8
MSTX	**Muleshoe** baz=114,SNR=9.4	43.04 309	P	P	09 55 25.2	+0.1
MSTX	**Muleshoe** 23nm,1.0s	43.04 309	eP	P	09 55 25.4	+0.3
HPIG	21nm,1.2s	43.16 298	eP	P	09 55 26.3	0.0
F37A	**Hinrichs Farm,** baz=135	43.16 330	P	P	09 55 26.6	+0.8
E38A	**The Farm, Brul** baz=137	43.28 331	P	P	09 55 27.1	+0.4
L33A	**Hoskins** baz=127	43.38 323	P	P	09 55 27.3	-0.3
BGNE	**Belgrade** 44nm,1.4s	43.46 321	eP	P	09 55 28.1	-0.2
CPRX	**Cap Rock** 4.6nm,0.7s	43.53 307	eP	P	09 55 29.7	+0.6
H35A	**Sunnyside Ranc** baz=132	43.59 327	P	P	09 55 30.0	+0.7
F36A	**Milaca**	43.71 329	P	P	09 55 30.3	+0.2

baz=134,SNR=5.1
L32A Elgin 43.72 322 P P 09 55 30.6 +0.2
baz=126
G35A Watkins 43.76 328 P P 09 55 30.9 +0.3
baz=132,SNR=5.3
J33A Davis 43.90 324 P P 09 55 32.0 +0.2
baz=128
ECSD EROS Data Cent 43.95 325 P P 09 55 32.3 +0.2
baz=129
ECSD EROS Data Cent 43.95 325 eP P 09 55 32.4 +0.2
4.3nm,0.9s
C38A Sawbill Land. 43.98 333 P P 09 55 32.7 +0.3
baz=138
E36A McGregor 44.03 330 P P 09 55 33.3 +0.5
baz=135,SNR=6.7
H34A Spellman Lake, 44.08 326 P P 09 55 33.8 +0.6
baz=130
K32A Verdigre 44.09 323 P P 09 55 32.8 -0.5
baz=126
D37A Cotton 44.09 331 P P 09 55 33.9 +0.6
baz=136,SNR=11
F35A Swanville 44.24 329 P P 09 55 34.6 +0.2
baz=133
EYMN Ely 44.25 333 eP P 09 55 35.0 +0.6
12nm,1.0s
MNTX Cornudas Mount 44.27 305 P P 09 55 35.7 +0.8
baz=109,SNR=20
MNTX Cornudas Mount 44.27 305 eP P 09 55 35.8 +0.8
13nm,1.0s
SCHQ Schefferville 44.31 357 P P 09 55 35.4 +0.6
1.9nm,0.6s,baz=197,slow=7.2,SNR=5.4
SCHQ LR LR 10 12 19.4
comp=Z,180nm,20.7s,baz=258,slow=34
G34A Benson 44.38 327 P P 09 55 36.3 +0.7
baz=131
C37A Embarrass 44.40 332 P P 09 55 36.1 +0.4
baz=137
J32A Parkston 44.44 324 P P 09 55 36.1 0.0
baz=127
D36A Goodland 44.46 331 P P 09 55 36.5 +0.3
baz=136
K31A O'Neill 44.53 322 P P 09 55 36.8 -0.1
baz=126,SNR=12
H33A Prehn Over Nor 44.62 326 P P 09 55 37.6 +0.1
baz=129,SNR=6.4
E35A Pequot Lakes 44.63 329 P P 09 55 37.7 +0.1
baz=134,SNR=5.2
C36A Pine Crest Par 44.72 332 P P 09 55 38.4 +0.1
baz=136,SNR=5.5
G33A Ortonville 44.78 327 P P 09 55 39.0 +0.2
baz=130,SNR=6.4
D35A Remer 44.82 330 P P 09 55 39.3 +0.2
baz=134
H32A Carlson Farm, 44.90 325 P P 09 55 39.9 +0.1
baz=128
C35A Jirik Farms, M 45.22 331 P P 09 55 42.4 +0.2
baz=135,SNR=7.1
T25A Trinidad 45.55 312 P P 09 55 45.9 +0.5
baz=115,SNR=16
T25A Trinidad 45.55 312 eP P 09 55 46.1 +0.8
28nm,1.3s
B35A Bob, Littlefor 45.57 332 P P 09 55 45.1 +0.1
baz=136,SNR=13
SUSD Miller 45.72 324 P P 09 55 46.1 -0.2
baz=127,SNR=5.9
MHTCO State Highway 45.75 312 eP P 09 55 48.4 +1.5
27nm,1.4s
BNM Barren Site 46.08 308 eP P 09 55 51.1 +1.5
B34A Aery, Baudette 46.09 331 P P 09 55 49.2 +0.1
baz=135,SNR=8.5
LPM Los Pinos Moun 46.14 308 eP P 09 55 51.5 +1.5
F31A Hecla 46.19 326 P P 09 55 50.1 +0.2
baz=129
ANMO Albuquerque 46.23 309 P P 09 55 52.1 +1.4
baz=111
ANMO Albuquerque 46.23 309 eP P 09 55 51.9 +1.2
16nm,0.9s
B33A Robert and Kas 46.40 330 P P 09 55 51.4 -0.1
baz=133
121A Cookes Peak, D 46.47 305 P P 09 55 54.3 +1.8
baz=108,SNR=12
AGMN Agassiz Nation 46.55 330 P P 09 55 52.8 +0.1
baz=133,SNR=12
AGMN Agassiz Nation 46.55 330 eP P 09 55 52.8 +0.1
22nm,0.8s
LAZ Ladron 46.56 308 eP P 09 55 54.5 +1.2
SDCO Great Sand Dun 46.59 313 P P 09 55 54.4 +0.7
baz=114,SNR=17
SDCO Great Sand Dun 46.59 313 eP P 09 55 54.4 +0.7
12nm,1.0s
LPIG La Paz 46.73 293 LR LR 10 18 38.3
comp=Z,121nm,18.6s,baz=118,slow=40
C31A Landman Farms, 47.15 329 P P 09 55 57.7 +0.3
baz=131,SNR=7.4
A32A Rocking H Ranc 47.27 330 P P 09 55 57.9 -0.5
baz=133
319A Douglas 47.35 303 eP P 09 56 00.9 +1.5
18nm,1.0s
B31A Greenbush Farm 47.52 329 P P 09 56 00.1 -0.1
baz=131
ISCO Idaho Springs 47.55 315 P P 09 56 01.2 +0.2
baz=116,SNR=15
ISCO Idaho Springs 47.55 315 eP P 09 56 01.6 +0.5
17nm,1.3s
S22A 4UR Ranch, Cre 47.56 312 P P 09 56 02.0 +0.9
baz=113,SNR=11
S22A 4UR Ranch, Cre 47.56 312 eP P 09 56 02.2 +1.1
8.2nm,1.0s
ULM Lac du Bonnet 47.90 332 P P 09 56 02.9 -0.4
26nm,0.9s,baz=136,slow=8.4,SNR=43
SMCO Snowmass 48.24 314 eP P 09 56 07.1 +0.6
8.9nm,1.0s
RSSD Black Hills 48.57 321 P P 09 56 08.1 -0.7
baz=121
RSSD Black Hills 48.57 321 eP P 09 56 08.4 -0.5
9.1nm,1.3s
MVCO Mesa Verde 48.59 311 P P 09 56 09.9 +0.9
baz=111,SNR=5.6
MVCO Mesa Verde 48.59 311 eP P 09 56 10.3 +1.3
21nm,1.4s
X18A Snowflake 48.80 307 eP P 09 56 12.6 +1.9
25nm,1.1s
W18A Petrified Fore 48.82 308 P P 09 56 12.1 +1.3
baz=108,SNR=9.5
W18A Petrified Fore 48.82 308 eP P 09 56 12.2 +1.3
17nm,1.0s
TUC Tucson 48.84 304 P P 09 56 11.7 +0.9
baz=105
TUC Tucson 48.84 304 eP P 09 56 11.2 +0.3
11nm,1.0s
PV01 Paradox Valley 48.98 312 eP P 09 56 13.7 +1.6
PV04 Paradox Valley 49.32 312 eP P 09 56 15.6 +1.0
PV05 Paradox Valley 49.34 312 eP P 09 56 16.3 +1.5
PV10 Paradox Valley 49.41 312 eP P 09 56 16.6 +1.2
K22A Casper 49.44 318 P P 09 56 15.4 0.0
baz=117,SNR=7.0
K22A Casper 49.44 318 eP P 09 56 15.6 +0.2
20nm,1.0s
RWWY Rawlins 49.47 317 eP P 09 56 15.1 -0.6
7.8nm,0.9s
O20A White River Ci 49.52 315 eP P 09 56 18.0 +1.9
10.0nm,1.1s
PV09 Paradox Valley 49.52 312 eP P 09 56 17.5 +1.2
X16A Lo Mia Camp, P 49.94 306 eP P 09 56 21.1 +1.6
7.2nm,1.0s
WUAZ Wupatki 50.21 308 P P 09 56 23.1 +1.7
baz=108,SNR=19
WUAZ Wupatki 50.21 308 eP P 09 56 23.2 +1.7
21nm,0.9s
214A Organ Pipe Nat 50.41 303 P P 09 56 23.6 +0.8
baz=104,SNR=9.0
214A Organ Pipe Nat 50.41 303 eP P 09 56 23.1 +0.3
29nm,1.0s
P18A Preston Nutter 50.75 313 eP P 09 56 26.7 +1.1
35nm,1.0s
SRU San Rafael Swe 50.76 312 eP P 09 56 26.6 +1.1
15nm,0.9s
P17A Butcher Ranch, 51.05 313 eP P 09 56 28.8 +1.1
Y14A Wickenburg 51.06 305 eP P 09 56 29.1 +1.3
12nm,1.0s
Q16A Castle Valley 51.16 312 eP P 09 56 29.6 +1.0
9.9nm,1.1s
U15A North Rim 51.20 309 eP P 09 56 30.2 +1.2
9.6nm,0.9s
LAO LASA Array 51.21 323 P P 09 56 28.8 +0.2
baz=121,SNR=5.6
LAO LASA Array 51.21 323 eP P 09 56 28.9 +0.2
13nm,0.9s
TMUT Trail Mountain 51.32 312 eP P 09 56 30.9 +1.0
12nm,0.9s
PLCA Paso Flores 51.43 187 P P 09 56 30.4 +0.1
11nm,1.0s,baz=33,slow=8.6,SNR=19
PLCA LR LR 10 22 10.0
comp=Z,239nm,19.6s,baz=44,slow=41
PLCA Paso Flores 51.43 187 eP P 09 56 30.4 +0.1
28nm,1.2s
BW06 Boulder Array 51.50 317 P P 09 56 31.1 0.0
baz=115,SNR=21
BW06 Boulder Array 51.50 317 eP P 09 56 30.2 -0.9
22nm,1.0s
PD31 Pinedale Array 51.50 317 eP P 09 56 30.7 -0.4
PDAR Pinedale Array 51.50 317 P P 09 56 30.9 -0.2
15nm,0.9s,baz=109,slow=8.6,SNR=89
PDAR PcP PcP 09 57 42.9 -2.3
0.7nm,0.8s,baz=65,slow=6.4,SNR=1.6
PDAR LR LR 10 20 06.8
comp=Z,135nm,20.0s,baz=118,slow=38
PDAR Pinedale Array 51.50 317 eP P 09 56 29.9 -1.2
PDAR PcP PcP 09 57 43.0 -2.3
MTPU Mount Pierson 51.62 311 eP P 09 56 33.8 +1.6
8.8nm,0.9s
MSU Marysvale 51.77 311 eP P 09 56 34.5 +1.4
KNB Kanab 51.78 309 eP P 09 56 35.5 +2.3
15nm,0.9s
MPU Maple Canyon 51.88 313 eP P 09 56 35.1 +1.2
11nm,1.3s
JLU Jordanelle 51.96 314 eP P 09 56 35.5 +0.9
15nm,1.0s
PDMCI Parker Dam,Lak 52.07 305 P P 09 56 36.1 +1.0
baz=104
W13A Hualapai Mount 52.07 306 eP P 09 56 37.1 +1.7
11nm,1.0s
LCMT Little Creek M 52.10 309 eP P 09 56 37.4 +1.9
5.8nm,1.0s
TCUT Toone Canyon 52.12 314 eP P 09 56 34.3 -1.5
24nm,0.9s
SZCU Shurtz Canyon 52.16 310 eP P 09 56 37.5 +1.4
8.6nm,1.1s
NLU North Lily Min 52.18 313 eP P 09 56 37.1 +0.9
7.1nm,0.9s
CTU Camp Tracy 52.21 314 eP P 09 56 37.0 +0.7
14nm,0.9s
GLA Glamis 52.32 304 P P 09 56 38.3 +1.2
baz=103
RLMT Red Lodge 52.33 320 P P 09 56 37.6 +0.4
baz=117,SNR=13
RLMT Red Lodge 52.33 320 eP P 09 56 37.4 +0.1
27nm,1.0s
CCUT Cedar City 52.35 310 eP P 09 56 37.1 -0.4
3.9nm,1.0s
HWUT Hardware Ranch 52.41 315 eP P 09 56 37.7 -0.1
15nm,0.9s
AHID Auburn Hatcher 52.54 317 eP P 09 56 38.8 0.0
18nm,0.9s
LOHW Long Hollow 52.55 318 eP P 09 56 38.9 0.0
13nm,0.9s
SNOW Snow King Moun 52.59 317 eP P 09 56 39.4 +0.2
22nm,1.0s
REDW Red Top Meadow 52.61 317 eP P 09 56 39.5 +0.1
20nm,1.1s
MOOW Moose Ponds 52.70 318 eP P 09 56 39.8 -0.2
4.7nm,1.1s
TPAW Teton Pass 52.73 317 eP P 09 56 40.1 -0.2
15nm,1.3s
DUG Dugway, Tooele 52.79 313 P P 09 56 41.6 +0.9
baz=110,SNR=16
DUG Dugway, Tooele 52.79 313 eP P 09 56 41.3 +0.6
14nm,0.9s
IRM Iron Mountain 52.84 305 P P 09 56 41.5 +0.6
baz=104
FXWY Fox Creek 52.84 318 eP P 09 56 41.0 0.0
11nm,1.0s
H17A Grant Village 52.85 319 P P 09 56 41.2 0.0
baz=115
H17A Grant Village 52.85 319 eP P 09 56 42.5 +1.3
6.9nm,1.0s
GCMT Greycliff 52.88 321 eP P 09 56 41.4 +0.2
IMW Indian Meadow 52.89 318 eP P 09 56 41.8 +0.4
7.8nm,1.0s
SPUT South Promonto 52.92 314 eP P 09 56 42.2 +0.6
13nm,1.2s
BC3 Big Chuckawall 52.97 304 P P 09 56 42.9 +0.9
baz=103
YHH Holmes Hill 53.20 319 eP P 09 56 44.3 +0.6
9.9nm,0.9s
BGU Big Grassy Mou 53.20 314 eP P 09 56 44.2 +0.5
17nm,0.9s
YMR Madison River 53.22 319 eP P 09 56 45.0 +1.2
10nm,0.9s
HVU Hansel Valley 53.32 315 eP P 09 56 44.5 0.0
11nm,0.9s
GMRC Granite Mounta 53.40 306 P P 09 56 46.3 +1.1
baz=104
YHB Horse Butte 53.41 319 eP P 09 56 46.4 +1.3
40nm,0.9s
FCC Fort Churchill 53.52 341 eP P 09 56 45.5 +0.1
6.0nm,0.8s
QLMT Earthquake Lak 53.59 319 eP P 09 56 48.2 +1.7
FFC Flin Flon 53.67 333 eP P 09 56 46.6 -0.1
10nm,0.9s
TUQ Turquoise Moun 53.77 306 P P 09 56 49.3 +1.5
baz=104
EGMT Eagleton 53.96 323 P P 09 56 49.2 +0.2
baz=118,SNR=14
EGMT Eagleton 53.96 323 eP P 09 56 49.0 0.0
24nm,1.0s
BOZ Bozeman (W) 54.04 320 P P 09 56 49.8 +0.1
baz=115,SNR=23
BOZ Bozeman (W) 54.04 320 eP P 09 56 49.8 +0.1
19nm,1.0s
R11A Troy Canyon, C 54.27 310 P P 09 56 52.1 +0.6
baz=106
R11A Troy Canyon, C 54.27 310 eP P 09 56 52.8 +1.3
5.0nm,1.0s
MURC Murrieta 54.38 304 P P 09 56 53.3 +1.0
baz=102
TPNV Topopah Spring 54.40 308 P P 09 56 53.5 +1.0
baz=105
MCMT McKenzie Canyo 54.51 318 eP P 09 56 53.9 +0.6
DLMT Dillon 54.56 319 eP P 09 56 54.1 +0.6
19nm,1.1s
HRY Holter Researc 54.63 321 eP P 09 56 54.0 +0.1
LRM Limekiln Ridge 54.65 320 eP P 09 56 55.2 +0.9
HLID Hailey 55.09 316 P P 09 56 57.5 +0.1
baz=111,SNR=20
HLID Hailey 55.09 316 eP P 09 56 57.8 +0.4
12nm,0.9s
GRAC Grapevine Rang 55.27 308 P P 09 56 59.9 +1.1
baz=104
EDW2 Edwards Air Fo 55.29 305 P P 09 56 59.7 +0.8
baz=102
MFID Camas Ranch 56.00 316 eP P 09 57 04.2 +0.3
8.1nm,1.1s
ARVC Arvin 56.01 305 P P 09 57 05.9 +1.9
baz=102
NVAR Mina Array Bea 56.35 309 P P 09 57 07.1 +0.5
1.8nm,0.8s,baz=113,slow=7.1,SNR=10
NVAR PcP PcP 09 58 03.2 -0.6
1.8nm,0.8s,baz=131,slow=4.5,SNR=5.4
VES Vestal, Richgr 56.36 306 P P 09 57 08.0 +1.6
baz=102
JTMT Jette 56.58 321 eP P 09 57 08.6 +0.6
5.8nm,1.2s
SFJD Kangerlussuaq 57.06 6 LR LR 10 19 35.9
comp=Z,114nm,21.5s,baz=204,slow=34
BMO Blue Mountains 57.48 317 eP P 09 57 14.4 0.0
15nm,1.3s
KOWA Kowa 57.80 79 P P 09 57 16.8 -0.2
7.2nm,0.8s,baz=277,slow=9.4,SNR=15
KOWA LR LR 10 20 59.6
comp=Z,99nm,19.6s,baz=214,slow=35
KOWA Kowa 57.80 79 eP P 09 57 18.6 +1.6
11nm,1.0s
RPN Rapa Nui 58.31 229 LR LR 10 20 07.4
comp=Z,107nm,19.1s,baz=64,slow=34
EDM Edmonton 58.41 327 eP P 09 57 20.7 0.0
30nm,0.8s
NEW Newport 58.54 321 LR LR 10 22 41.1
comp=Z,51nm,19.1s,baz=109,slow=36
NEW Newport 58.54 321 P P 09 57 21.1 -0.6
baz=111,SNR=7.8
NEW Newport 58.54 321 eP P 09 57 21.1 -0.6
8.0nm,0.9s
ESDC Sonseca Array 59.78 50 P P 09 57 31.3 +0.8
1.3nm,0.7s,baz=254,slow=6.9,SNR=8.8
ESDC LR LR 10 19 07.9
comp=Z,47nm,21.7s,baz=335,slow=32
ES19 SONSECA Array 59.84 50 eP P 09 57 31.7 +0.9
B08A Colville Reser 59.96 320 eP P 09 57 30.9 -0.5
15nm,1.5s
YBH Yreka Blue Hor 60.41 312 LR LR 10 26 15.2
comp=Z,81nm,20.3s,baz=131,slow=39
LTY Liberty 60.46 319 eP P 09 57 35.2 +0.2
41nm,1.9s
BORG Borgarnes 61.47 19 LR LR 10 19 14.6
comp=Z,80nm,19.7s,baz=198,slow=31
TOA0 Torodi Ar. Sit 63.44 81 eP P 09 57 56.2 +0.8
TORD Torodi Ar. Bea 63.44 81 P P 09 57 56.1 +0.7
4.0nm,0.9s,baz=283,slow=5.3,SNR=17
TORD LR LR 10 26 00.4
comp=Z,99nm,18.5s,baz=260,slow=37
YKA Yellowknife Ar 63.55 336 P P 09 57 54.9 -0.4
2.5nm,0.8s,baz=111,slow=7.3,SNR=40
EKA Eskdalemuir Ar 64.59 33 P P 09 58 01.4 -0.9
0.8nm,0.6s,baz=234,slow=5.8,SNR=3.1
BNI Bardonecchia 68.44 46 eP P 09 58 29.0 +1.6
8.9nm,1.3s
ECH Echery 69.17 42 eP P 09 58 31.4 -0.3
15nm,1.5s
KEST Kesra 69.81 56 LR LR 10 26 42.8
comp=Z,51nm,21.2s,baz=236,slow=34
DAVA Damuels 70.89 44 i P P 09 58 42.3 -0.1
12nm,1.1s
FUORN Ofenpass-Fuorn 71.09 44 eP P 09 58 46.1 +2.3
20nm,1.4s
FETA Feichten 71.44 44 i P P 09 58 46.2 +0.3
13nm,1.3s
RETA Reutte 71.50 43 epP P 09 58 47.5 +1.4
8.0nm,1.4s
MOTA Moosalm 71.72 44 eP P 09 58 47.7 +0.2
17nm,1.5s
ABTA Abfaltersbach 72.65 44 i P P 09 58 52.8 -0.1
12nm,1.5s
INK Inuvik 73.06 339 P P 09 58 54.2 -0.6
3.7nm,1.0s,baz=101,slow=7.2,SNR=11
INK Inuvik 73.06 339 eP P 09 58 54.1 -0.6
6.5nm,1.1s
KBA Koelnbreinsper 73.23 44 eP P 09 58 56.4 -0.1
9.2nm,1.1s
NOA NORSAR Array B 73.34 29 LR LR 10 25 02.0
comp=Z,44nm,22.0s,baz=265,slow=31
MYKA Terra Mystica 73.42 44 eP P 09 58 58.4 +0.9
13nm,1.7s
KHC Kasperske Hory 73.49 42 eP P 09 59 02.8 +5.0
GEA0 GERESS Array S 73.56 42 eP P 09 58 58.0 -0.2
GEC2 GERESS Array S 73.56 42 eP P 09 58 58.6 +0.3
14nm,1.6s
GERES GERESS Array B 73.56 42 P P 09 58 58.0 -0.2
1.4nm,0.6s,baz=289,slow=4.1,SNR=5.1
GERES LR LR 10 25 20.9
comp=Z,43nm,21.8s,baz=272,slow=31
MOA Molln 73.89 43 P P 09 59 00.0 -0.2
3.4nm,0.8s
OBKA Obir 74.04 45 eP P 09 59 00.3 -0.9
5.9nm,1.0s
SOKA Soboth 74.38 44 eP P 09 59 02.6 -0.6
2.8nm,0.9s
HFS Hagfors 74.44 30 P P 09 59 02.8 -0.2
3.6nm,1.0s,baz=208,slow=11,SNR=3.3
HFS LR LR 10 29 19.0
comp=Z,57nm,19.3s,baz=322,slow=34
DAWY Dawson 74.57 334 eP P 09 59 04.8 +0.9
34nm,1.9s
CONA Conrad Observa 74.97 43 P P 09 59 05.0 -1.5
0.3nm,0.4s
DPC Dobruska-Polom 75.31 41 eP P 09 59 09.3 +0.9
EGAK Eagle 75.42 334 eP P 09 59 08.9 +0.2
11nm,0.9s
SCRK Sand Creek 76.58 333 eP P 09 59 15.9 +0.4
5.5nm,0.9s
DOT Dot Lake 76.59 333 eP P 09 59 15.9 +0.5
47nm,1.7s
SPITS Spitsbergen Ar 77.65 12 LR LR 10 29 33.7
comp=Z,58nm,22.0s,baz=325,slow=33
IL1 Eielson Array 77.87 334 eP P 09 59 21.5 -1.0
ILAR Eielson Array 77.87 334 P P 09 59 22.2 -0.4
1.6nm,0.8s,baz=93,slow=4.7,SNR=20
ILAR LR LR 10 35 53.6
comp=Z,116nm,18.6s,baz=106,slow=37
ILB Eielson Array 77.87 334 eP P 09 59 22.6 +0.1
MDM Murphy Dome 78.45 334 eP P 09 59 25.6 -0.2
15nm,1.0s
RND Reindeer 78.73 333 eP P 09 59 28.1 +0.6
14nm,1.4s
TRF Thorofare Moun 79.38 333 eP P 09 59 32.0 +1.0
13nm,1.1s
MLY Manley 79.51 334 eP P 09 59 31.7 0.0
5.4nm,1.0s
BPAW Bear Paw Mtn. 79.66 334 eP P 09 59 32.5 +0.1
10nm,1.1s
ARCES ARCESS Array B 79.79 21 P P 09 59 31.5 -1.5
7.6nm,1.1s,baz=289,slow=8.5,SNR=3.8
AGG Agios Georgios 80.03 52 eP P 09 59 37.1 +2.1
CAST Castle Rocks 80.18 333 eP P 09 59 35.6 +0.4
7.2nm,1.2s
SPU Mount Spurr 80.32 331 eP P 09 59 37.6 +1.5
FINES FINESS Array B 80.52 29 P P 09 59 35.2 -1.8
1.0nm,0.5s,baz=255,slow=2.9,SNR=10
FINES LR LR 10 32 31.2
comp=Z,42nm,19.0s,baz=216,slow=34
IM3 Indian Mountai 80.71 335 eP P 09 59 37.2 -0.8
MLR Muntele Rosu 82.02 45 P P 09 59 45.7 +0.1
1.2nm,0.9s,baz=171,slow=13,SNR=5.9
MLR LR LR 10 35 03.7
comp=Z,11nm,18.6s,baz=245,slow=35
MLR Muntele Rosu 82.02 45 eP P 09 59 45.8 +0.3
31nm,1.6s
SVW2 Sparrevohn 82.03 331 eP P 09 59 45.7 +0.5
33nm,1.9s
IDI Anoyia 82.48 56 P P 09 59 49.0 +0.8
4.6nm,0.6s,baz=301,slow=11,SNR=6.8
AKASG Malin Array Be 83.50 40 LR LR 10 34 36.9
comp=Z,54nm,19.7s,baz=310,slow=34
BRTR Keskin Array B 88.58 50 P P 10 00 17.0 -1.5
1.0nm,0.9s,baz=224,slow=5.2,SNR=4.5
PPT Papeete 89.70 252 LR LR 10 34 26.4
comp=Z,84nm,21.9s,baz=82,slow=32
BOSA Boshof 93.62 118 LR LR 10 38 40.6
comp=Z,78nm,20.0s,baz=226,slow=33
KBZ Khabaz 94.19 44 LR LR 10 41 45.4
comp=Z,104nm,21.5s,baz=99,slow=35
KSH Kashi 117.45 35 ePKP PKPdf 10 06 12.5 +1.0
HHC Hu-ho-hao-te 128.68 5 ePKP PKPdf 10 06 33.3 +0.3
HHC PP PP 10 08 42.5 +5.1
HHC SKS SKSdf 10 13 43.5 -1.3
HHC SKKS SKKSac 10 15 34.0 -2.2
HHC Hu-ho-hao-te 128.68 5 SS SS 10 25 56.5 +2.7
LZH Lanzhou 132.08 14 ePKP PKPdf 10 06 35.0 -4.6
LZH pPKP sPKPdf 10 06 45.5 +0.2
LZH sPKP 10 06 50.0
CD2 Chengdu 136.96 16 PKP PKPdf 10 06 46.8 -2.0
GYA Guiyang 141.96 15 ePKP PKPdf 10 06 57.5 -0.6
GYA PP PP 10 10 05.5 +4.1
CMAR Chiang Mai Arr 146.26 32 PKPbc PKPdf 10 07 03.9 -1.7
1.1nm,0.3s,baz=316,slow=4.5,SNR=8.3
STKA Stephens Creek 148.72 223 PKP PKPdf 10 07 07.6 -1.7
1.8nm,0.7s,baz=63,slow=2.3,SNR=4.5
STKA PKPbc pPKPdf 10 07 11.3 -2.3
1.8nm,0.7s,baz=80,slow=6.1,SNR=4.5
ASAR Alice Springs 159.08 229 PKP PKPdf 10 07 21.9 -2.3
0.4nm,0.8s,baz=73,slow=2.2,SNR=4.2
WRA Warramunga Arr 160.66 239 PKP PKPdf 10 07 23.6 -2.4
1.4nm,1.0s,baz=100,slow=0.6,SNR=7.6

IDC 31 09:57:09.1 ±1.7, 52°63N × 85°70E, h0 km, mb1 2.8/2, mb1mx2.7/74, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.6km s-min=12.0km az=93.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.43	339	Pg		Pn		09 57 36.2	0.0
	0.9nm,0.3s,baz=160,slow=14,SNR=12								
ZALV				Lg		Lg		09 57 53.4	
	1.3nm,0.3s,baz=161,slow=29,SNR=9.3								
I46RU	ZALESOVO INFRA	1.43	339	i				10 06 30.0	
	baz=158,slow=338,SNR=7.9								
KURBB	Kurchatov Arra	4.89	249	Pn		Pn		09 58 25.0	+1.1
	0.1nm,0.3s,baz=63,slow=13,SNR=6.1								
MKAR	Makanchi Array	6.24	202	Pn		Pn		09 58 43.5	+1.0
	0.3nm,0.3s,baz=25,slow=14,SNR=12								

*IDC **31** 09:59:49.0±8.0,41˚.22N×146˚.89E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.2/71,mbtmp3.5/5,ML3.1/1,Error ellipse: s-maj=263.3km s-min=27.6km az=63.0*
*JMA **31** 09:59:55.1±0.2,40˚.75N×145˚.41E,h63km±4km,M3.5*
*ISCJB **31** 09:59:56.3±0.8,40˚.78N±0˚.03×145˚.23E±0˚.06,h35km, mb3.4/4,Error ellipse: s-maj=7.3km s-min=4.6km az=20.8*

ISC 31 09:59:57.4±1.3,40˚.75N±0˚.05×145˚.31E±0˚.08,h35km,n23, σ1§80/38,mb3.4/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.05**	**309**	P	**Pn**	**10 00 29.0**	**-0.4**
JEM				S	**Sn**	**10 00 51.9**	**-1.9**
JAK	**Akkeshi**	**2.29**	**349**	P	**Pn**	**10 00 28.6**	**-4.1**
JAK				S	**Sn**	**10 00 58.3**	**-1.3**
JCH	**Churui**	**2.37**	**323**	P	**Pn**	**10 00 33.0**	**-0.7**
JCH				S	**Sn**	**10 00 59.9**	**-1.6**
JOB	**Onbets**	**2.42**	**333**	P	**Pn**	**10 00 34.0**	**-0.4**
JOB				S	**Sn**	**10 01 02.2**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.45**	**309**	P	**Pn**	**10 00 35.1**	**+0.2**
JNBK				S	**Sn**	**10 01 03.8**	**+0.1**
NEM2	**Nemuro 2**	**2.63**	**7**	P	**Pn**	**10 00 37.0**	**-0.4**
NEM2				S	**Sn**	**10 01 06.2**	**-1.9**
JAR	**Ashorobuto**	**2.79**	**336**	P	**Pn**	**10 00 38.3**	**-1.3**
JAR				S	**Sn**	**10 01 11.1**	**-0.9**
JNK	**Nakash**	**2.87**	**351**	P	**Pn**	**10 00 38.9**	**-1.7**
JNK				S	**Sn**	**10 01 11.2**	**-2.7**
JANG	**Nango**	**2.92**	**264**	P	**Pn**	**10 00 39.9**	**-1.4**
JANG				S	**Sn**	**10 01 12.3**	**-2.8**
JBT2	**Biratori 2**	**2.99**	**314**	P	**Pn**	**10 00 42.7**	**+0.3**
JBT2				S	**Sn**	**10 01 17.9**	**+0.9**
JFR	**Furan**	**3.15**	**321**	P	**Pn**	**10 00 40.3**	**-4.2**
JFR				S	**Sn**	**10 01 18.5**	**-2.4**
JOT	**Ohata**	**3.28**	**282**	P	**Pn**	**10 00 45.8**	**-0.5**
JOT				S	**Sn**	**10 01 21.4**	**-2.7**
JOM	**Ohasama**	**3.33**	**249**	P	**Pn**	**10 00 46.7**	**-0.4**
JOM				S	**Sn**	**10 01 23.9**	**-1.5**
JTKR	**Abashiri--Toko**	**3.38**	**343**	P	**Pn**	**10 00 47.4**	**-0.3**
JTKR				S	**Sn**	**10 01 26.1**	**-0.4**
JKB	**Kayabe**	**3.42**	**291**	P	**Pn**	**10 00 48.3**	**+0.1**
JEW	**Eniwo**	**3.56**	**307**	P	**Pn**	**10 00 51.1**	**+0.9**
JEW				S	**Sn**	**10 01 30.8**	**-0.2**
JMK	**Ichinoseki**	**3.62**	**242**	P	**Pn**	**10 00 51.1**	**+0.1**
JMK				S	**Sn**	**10 01 29.0**	**-3.6**
JKK2	**Kamakawa 2**	**3.65**	**330**	P	**Pn**	**10 00 52.1**	**+0.7**
ASAJ	**Asahikawa**	**3.92**	**330**	Pn	**Pn**	**10 00 55.5**	**+0.5**
	0.9nm,0.3s,baz=185,slow=19,SNR=8.1						
ASAJ				Sn	**Sn**	**10 01 42.1**	**+2.4**
	0.9nm,0.3s,baz=0.0,slow=19,SNR=3.1						
SONM	**Songino Array**	**28.50**	**298**	P	P	10 05 53.7	+4.2
	0.6nm,0.6s,baz=88,slow=9.1,SNR=5.3						
MKAR	**Makanchi Array**	**44.82**	**300**	P	P	10 08 11.2	+3.3
	0.2nm,0.7s,baz=74,slow=11,SNR=2.4						
KURBB	**Kurchatov Arra**	**46.21**	**306**	P	**P**	**10 08 20.5**	**+1.8**
	0.2nm,0.4s,baz=73,slow=8.2,SNR=2.7						
WRA	**Warramunga Arr**	**61.24**	**192**	P	**P**	**10 10 10.5**	**+1.6**
	0.7nm,0.8s,baz=8.4,slow=6.6,SNR=7.5						

PGC 31 10:10:12.7±4.7,51˚.31N×131˚.33W,h10km,MLSn3.2/14, Mw3.8/14,Mw3.8/14,218km Sse of Sandspit, Bc Haida Gwaii Region,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.30**	**349**	P	Pn	10 10 35.4	-1.6
BNB				S	Sb	10 10 50.1	-3.8
DIB	**Dawson Inlet,**	**2.03**	**340**	Pn	Pn	10 10 46.4	-0.5
HOLB	**Holberg**	**2.13**	**107**	Pn	Pn	10 10 47.1	-1.2
HOLB				Sn	Sn	10 11 12.1	-2.8
BBB	**Bella Bella**	**2.19**	**65**	Pn	Pn	10 10 47.0	-2.0
BBB				Sn	Sn	10 11 12.2	-3.9
PHC	**Port Hardy**	**2.54**	**102**	Pn	Pn	10 10 51.2	-2.6
PHC				Sn	Sn	10 11 18.5	-6.2
BPBC	**Brooks Peninsu**	**2.54**	**116**	Pn	Pn	10 10 51.2	-2.8
BPBC				Sn	Sn	10 11 19.1	-5.8
BPBC				Sg	Sb	10 11 22.9	-6.7
PACB	**Port Alice, BC**	**2.58**	**108**	Pn	Pn	10 10 51.6	-2.9
PACB				Sn	Sn	10 11 21.1	-4.8
MAYB	**Maynard**	**2.79**	**107**	Pn	Pn	10 10 56.1	-1.4
MAYB				Sn	Sn	10 11 25.6	-5.6
TLCB	**Telegraph Cove**	**2.95**	**103**	Pn	Pn	10 10 56.8	-2.7
TLCB				Sn	Sn	10 11 29.0	-5.9
BCBC	**Bella Coola**	**3.03**	**68**	Pn	Pn	10 10 58.1	-4.6
WOSB	**Woss**	**3.23**	**109**	Pn	Pn	10 11 02.3	-1.3
WOSB				Sn	Sn	10 11 40.1	-2.1
NCRB	**Newcastle Ridg**	**3.46**	**103**	Pn	Pn	10 11 05.7	-1.0
GDR	**Gold River**	**3.71**	**112**	Pn	Pn	10 11 10.2	+0.2
GDR				Sn	Sn	10 11 54.0	+0.3
SPLB	**Strathcona Par**	**3.88**	**109**	Pn	Pn	10 11 11.7	-0.7
SPLB				Sn	Sn	10 11 56.4	-1.7
CBB	**Campbell River**	**4.00**	**106**	Pn	Pn	10 11 14.5	+0.5
CBB				Sn	Sn	10 11 56.7	-4.3
TXB	**Texada**	**4.69**	**107**	Pn	Pn	10 11 23.6	+0.2
UBRB	**Upper Baezaeko**	**4.74**	**68**	Pn	Pn	10 11 24.6	+0.2

PGC 31 10:16:16.5±16.0,51˚.41N×131˚.14W,h10km,MLSn2.9/8, Mw3.6/8,Mw3.5/8,210km Sse of Sandspit, Bc Haida Gwaii Region,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.23**	**342**	P	Pn	10 16 37.6	-2.2
BNB				S	Sb	10 16 52.5	-3.3
DIB	**Dawson Inlet,**	**1.98**	**336**	Pn	Pn	10 16 49.0	-1.0
DIB				Sn	Sn	10 17 09.9	-4.9
BBB	**Bella Bella**	**2.03**	**66**	Pn	Pn	10 16 49.0	-1.8
BBB				Sn	Sn	10 17 12.3	-3.9
HOLB	**Holberg**	**2.05**	**111**	Pn	Pn	10 16 48.5	-2.6
HOLB				Sn	Sn	10 17 12.1	-4.6
PHC	**Port Hardy**	**2.44**	**105**	Pn	Pn	10 16 55.0	-1.4
PHC				Sn	Sn	10 17 19.8	-6.5
BPBC	**Brooks Peninsu**	**2.48**	**119**	Pn	Pn	10 16 51.5	-5.5
BPBC				Sn	Sn	10 17 20.0	-7.3
MAYB	**Maynard**	**2.71**	**110**	Pn	Pn	10 16 58.2	-2.0
MAYB				Sn	Sn	10 17 27.1	-5.9
TLCB	**Telegraph Cove**	**2.85**	**106**	Pn	Pn	10 16 58.9	-3.2
TLCB				Sn	Sn	10 17 32.9	-3.5
BCBC	**Bella Coola**	**2.88**	**69**	Sn	Sn	10 17 30.1	-7.0
WOSB	**Woss**	**3.16**	**112**	Pn	Pn	10 17 06.1	-0.3
WOSB				Sn	Sn	10 17 42.5	-1.5
NCRB	**Newcastle Ridg**	**3.37**	**105**	Pn	Pn	10 17 07.8	-1.5
UBRB	**Upper Baezaeko**	**4.59**	**68**	Pn	Pn	10 17 26.9	+0.8

KRSC 31 10:35:31.8±1.4,48˚.72N×155˚.63E,h51km±23km,ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.99**	**9**	*eP*	Pn	10 36 04.1	+1.2
SKR				*eS*	Sn	10 36 29.5	+3.0
PAU	**Pauzhetka**	**2.85**	**15**	*eP*	Pn	10 36 17.5	+2.8
PAU				*eS*	Sn	10 36 52.5	+4.8
KDTR	**Khodutka, Kamc**	**3.46**	**26**	*eS*	Sn	10 37 06.7	+3.9
MIPR	**Malaya Ipel'ka**	**3.63**	**11**	*eP*	Pn	10 36 28.4	+3.0
MTVR	**Mutnovka**	**4.10**	**22**	*eP*	Pn	10 36 36.0	+4.0
RUS	**Russkaya**	**4.14**	**25**	*eP*	Pn	10 36 35.7	+3.3
DALK	**Dalny**	**4.74**	**23**	*eP*	Pn	10 36 44.8	+4.2
DALK				*eS*	Sn	10 37 38.3	+4.0
UGLR	**Uglovaya**	**4.92**	**23**	*eP*	Pn	10 36 47.9	+4.7
AVH	**Avacha**	**4.95**	**22**	*eP*	Pn	10 36 48.9	+5.3
SDLR	**Sedlovina**	**5.00**	**23**	*eP*	Pn	10 36 48.2	+3.9

*NSSP **31** 10:38:15.3,38˚.90N×43˚.95E,h7km,Ms4.0*
*ISN **31** 10:38:16.0±0.9,39˚.04N×43˚.76E,h0km±41km,ML4.1*
*ATA **31** 10:38:16.8±1.4,38˚.99N×43˚.92E,h13km±16km,ML4.3, MS3.3,MW4.6*
*ISK **31** 10:38:18.1,39˚.06N×43˚.80E,h5km,ML4.1/11*
*DDA **31** 10:38:18.2,39˚.03N×43˚.85E,h4km,Ml3.9*
*NEIC **31** 10:38:18.9±0.0,39˚.08N×43˚.78E,h5km,mb4.2/12, ML4.0(ISK),After ISK.*
NEIC Felt at Ercis.
*CSEM **31** 10:38:18.7±0.1,39˚.05N×43˚.87E,h2km,mb4.0/15,Error ellipse: s-maj=3.1km s-min=2.0km az=159.0*
*IDC **31** 10:38:19.5±1.0,39˚.00N×43˚.96E,h0km,mb3.6/9, mb1 3.7/14,mb1mx3.6/59,mbtmp3.6/14,ML2.8/5,MS3.4/14,*

Ms1 3.4/14,ms1mx3.1/58,Error ellipse: s-maj=17.2km s-min=10.3km az=151.0
*MOS **31** 10:38:20.1±1.1,38˚.83N×43˚.82E,h18km,mb4.3/12,Error ellipse: s-maj=9.9km s-min=6.0km az=96.4*

ISC 31 10:38:19.2±1.0,39˚.04N±0˚.02×43˚.87E±0˚.02,h1km±6km, n235,σ1§43/288,mb4.0/22,MS3.4/10,44C-31D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.11**	**19**	PG	**Pg**	**10 38 20.3**	**-1.2**
CLDR	**Caldiran**	**0.11**	**19**	*i* P	**Pg**	**10 38 20.4**	**-1.2**
CLDR				*i* S	**Sg**	**10 38 23.9**	**+0.9**
CLDR	**Caldiran**	**0.11**	**19**	Pg	**Pg**	**10 38 20.3**	**-1.2**
CLDR	**Caldiran**	**0.11**	**19**	*e*Pg	**Pg**	**10 38 20.3**	**-1.2**
CLDR				S	**Sg**	**10 38 23.9**	**+0.9**
VMUR	**Van-Muradiye**	**0.24**	**259**	*i* P	**Pg**	**10 38 22.5**	**-1.3**
VMUR				*i* S	**Sg**	**10 38 27.0**	**+0.1**
VMUR	**Van-Muradiye**	**0.24**	**259**	P	**Pg**	**10 38 22.5**	**-1.3**
VMUR				S	**Sg**	**10 38 27.0**	**+0.1**
ERCV	**ERCIS-VAN**	**0.41**	**268**	PG	**Pg**	**10 38 25.7**	**-1.5**
ERCV				SG	**Sg**	**10 38 32.4**	**-0.2**
ERCV	**ERCIS-VAN**	**0.41**	**268**	*e*Pg	**Pg**	**10 38 25.7**	**-1.5**
ERCV				*e*Sg	**Sg**	**10 38 32.4**	**-0.2**
DYDN	**Diyadin**	**0.53**	**345**	↑*i* P	**Pg**	**10 38 28.4**	**-0.9**
DYDN				IAML		10 38 44.2	
	comp=Z,2μm,0.6s						
VANB	**Van**	**0.58**	**221**	PG	**Pb**	**10 38 31.3**	**-1.0**
VANB				SG	**Sb**	**10 38 41.6**	**+0.6**
VANB	**Van**	**0.58**	**221**	Pg	**Pb**	**10 38 31.0**	**-1.2**
VANB	**Van**	**0.58**	**221**	Pg	**Pb**	**10 38 31.0**	**-1.2**
TVAN	**Van**	**0.62**	**216**	*i* P	**Pg**	**10 38 30.8**	**-0.4**
TVAN				*i* S	**Sb**	**10 38 42.8**	**+0.4**
TVAN	**Van**	**0.62**	**216**	P	**Pg**	**10 38 30.8**	**-0.4**
TVAN				S	**Sb**	**10 38 42.8**	**+0.4**
IGDI	**IGDIR**	**0.85**	**11**	↑*i* P	**Pg**	**10 38 34.8**	**-0.7**
IGDI				IAML		10 38 58.9	
	comp=Z,335nm,0.6s						
IGDI	**IGDIR**	**0.85**	**11**	*i* P	**Pg**	**10 38 34.9**	**-0.7**
IGDI				*i* S	**Sb**	**10 38 48.9**	**+0.2**
AGRB	**Hanur-Agry**	**0.87**	**309**	PG	**Pg**	**10 38 34.8**	**-1.1**
AGRB	**Hanur-Agry**	**0.87**	**309**	Pg	**Pg**	**10 38 34.8**	**-1.1**
AGRB	**Hanur-Agry**	**0.87**	**309**	*e*Pg	**Pg**	**10 38 34.8**	**-1.1**
TUTA	**Tutak**	**0.90**	**294**	*e*P	**Pg**	**10 38 34.8**	**-1.7**
TUTA				IAML		10 39 00.2	
	comp=Z,1μm,0.5s						
TUTA	**Tutak**	**0.90**	**294**	*i* P	**Pg**	**10 38 35.2**	**-1.3**
TUTA				*i* S	**Sb**	**10 38 49.0**	**-1.4**
TUTA	**Tutak**	**0.90**	**294**	P	**Pg**	**10 38 35.2**	**-1.3**
TUTA				S	**Sb**	**10 38 49.0**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.92**	**256**	*i* P	**Pg**	**10 38 35.5**	**-1.5**
ADCV				*i* S	**Sb**	**10 38 49.4**	**-1.6**
ADCV	**BITLIS_Adilcev**	**0.92**	**256**	P	**Pg**	**10 38 35.5**	**-1.5**
ADCV				S	**Sb**	**10 38 49.4**	**-1.6**
GEVA	**Gevas**	**0.96**	**222**	*i* P	**Pg**	**10 38 35.7**	**-2.0**
GEVA				IAML		10 39 01.5	
	comp=Z,571nm,0.6s						
GEVA	**Gevas**	**0.96**	**222**	*i* P	**Pg**	**10 38 36.4**	**-1.3**
GEVA				*i* S	**Sn**	**10 38 53.7**	**-0.8**
GEVA	**Gevas**	**0.96**	**222**	P	**Pg**	**10 38 36.4**	**-1.3**
GEVA				S	**Sn**	**10 38 53.7**	**-0.8**
TASB	**TASBURUN-IGDIR**	**0.99**	**17**	PG	**Pg**	**10 38 37.7**	**-0.5**
TASB	**TASBURUN-IGDIR**	**0.99**	**17**	*e*Pg	**Pg**	**10 38 37.7**	**-0.5**
HYR	**Heyderabad**	**1.02**	**48**	⇓P	**Pg**	**10 38 38.1**	**-0.7**
	SNR=29						
HYR				⇓S	**Sn**	**10 38 55.2**	**-0.6**
NAX	**Nakhchivan**	**1.27**	**83**	⇓P	**Pg**	**10 38 43.2**	**-0.4**
	SNR=136						
NAX				⇑S	**Sn**	**10 39 02.2**	**+0.2**
GNI	**Garni**	**1.30**	**31**	Pg	**Pg**	**10 38 43.7**	**-0.5**
	comp=Z,116nm,0.3s,baz=266,slow=2.8,SNR=93						
GNI				Lg	Lg	10 39 03.0	
	comp=Z,103nm,0.3s,baz=42,slow=14,SNR=10						
GNI	**Garni**	**1.30**	**31**	↑*i* P	**Pg**	**10 38 43.3**	**-0.9**
GNI				↑*i* S	**Sn**	**10 39 03.0**	**+0.2**
GNI	**Garni**	**1.30**	**31**	*c i* P	**Pg**	**10 38 43.3**	**-0.9**
GNI	**Garni**	**1.30**	**31**	*e*Pn	**Pg**	**10 38 43.5**	**-0.6**
GNI				*e*Sn	**Sn**	**10 39 07.3**	**+4.5**
GNI	**Garni**	**1.30**	**31**	↑P	**Pg**	**10 38 43.3**	**-0.9**
GNI				S	**Sn**	**10 39 03.0**	**+0.2**
EATA	**Eleskirt**	**1.35**	**308**	*e*P	**Pg**	**10 38 43.4**	**-1.6**
EATA				IAML		10 39 12.2	
	comp=Z,81nm,0.5s						
EATA	**Eleskirt**	**1.35**	**308**	*i* P	**Pg**	**10 38 43.5**	**-1.6**
EATA	**Eleskirt**	**1.35**	**308**	P	**Pg**	**10 38 43.5**	**-1.6**
SBZ	**Shahbuz**	**1.36**	**74**	↑P	**Pg**	**10 38 44.3**	**-0.9**
	SNR=106						
SBZ				⇑S	**Sn**	**10 39 04.1**	**0.0**
EKAR	**Karacoban**	**1.42**	**279**	*e*P	**Pn**	**10 38 44.2**	**-2.2**
EKAR				*e*S	**Sn**	**10 39 08.2**	**+2.2**
EKAR				IAML		10 39 26.3	
	comp=Z,324nm,0.6s						
EKAR	**Karacoban**	**1.42**	**279**	*i* P	**Pn**	**10 38 44.9**	**-1.6**
EKAR				*i* S	**Sn**	**10 39 10.7**	**+4.8**
EKAR	**Karacoban**	**1.42**	**279**	P	**Pn**	**10 38 44.9**	**-1.6**
DIGO	**Kars**	**1.43**	**345**	*e*P	**Pn**	**10 38 45.8**	**-0.8**
DIGO				IAML		10 39 15.7	
	comp=Z,130nm,0.6s						
DIGO	**Kars**	**1.43**	**345**	*i* P	**Pn**	**10 38 45.7**	**-0.9**
DIGO	**Kars**	**1.43**	**345**	P	**Pn**	**10 38 45.7**	**-0.9**
HAKT	**HAKKARI**	**1.48**	**185**	*i* P	**Pn**	**10 38 46.4**	**-0.9**
HAKT				*i* S	**Sn**	**10 39 08.9**	**+1.5**
HAKT	**HAKKARI**	**1.48**	**185**	P	**Pn**	**10 38 46.4**	**-0.9**
HAKT				S	**Sn**	**10 39 08.9**	**+1.5**
YOVA	**Hakkari_Y˝...kse**	**1.48**	**167**	*i* P	**Pn**	**10 38 46.9**	**-0.4**
YOVA				*i* S	**Sn**	**10 39 09.0**	**+1.6**
YOVA	**Hakkari_Y˝...kse**	**1.48**	**167**	P	**Pn**	**10 38 46.9**	**-0.4**
YOVA				S	**Sn**	**10 39 09.0**	**+1.6**
GURO	**Guroymak-BITLI**	**1.52**	**252**	PN	**Pn**	**10 38 46.5**	**-1.1**
GURO	**Guroymak-BITLI**	**1.52**	**252**	*e*Pn	**Pn**	**10 38 46.5**	**-1.1**
ORD	**Ordubad**	**1.66**	**93**	⇓P	**Pn**	**10 38 48.7**	**-0.9**
	SNR=64						
ORD				⇑S	**Sb**	**10 39 12.0**	**-0.1**
EAK	**Akyaka**	**1.66**	**353**	*e*P	**Pb**	**10 38 50.1**	**-0.6**
EAK				*e*S	**Sg**	**10 39 15.2**	**+2.6**
EAK				IAML		10 39 22.7	
	comp=Z,215nm,0.5s						
EAK	**Akyaka**	**1.66**	**353**	*i* P	**Pb**	**10 38 50.3**	**-0.4**
EAK				*i* S	**Sg**	**10 39 19.2**	**+6.5**
EAK	**Akyaka**	**1.66**	**353**	P	**Pb**	**10 38 50.3**	**-0.4**
KARS	**Kars**	**1.70**	**339**	PN	**Pn**	**10 38 49.4**	**-0.8**
KARS	**Kars**	**1.70**	**339**	*e*Pn	**Pn**	**10 38 49.4**	**-0.8**
HOMI	**Horasan**	**1.82**	**304**	*e*P	**Pn**	**10 38 51.6**	**-0.4**
HOMI	**Horasan**	**1.82**	**304**	*i* P	**Pb**	**10 38 52.6**	**-0.9**
SRTM	**Siirt_Merkez**	**1.85**	**236**	*i* P	**Pn**	**10 38 52.1**	**-0.1**
SRTM				*i* S	**Sg**	**10 39 22.4**	**+3.7**
SRTM	**Siirt_Merkez**	**1.85**	**236**	P	**Pn**	**10 38 52.1**	**-0.1**
VRTB	**Varto-Mus**	**1.88**	**275**	PN	**Pn**	**10 38 52.0**	**-0.7**
VRTB	**Varto-Mus**	**1.88**	**275**	*i* P	**Pn**	**10 38 53.1**	**+0.4**
VRTB	**Varto-Mus**	**1.88**	**275**	*e*Pn	**Pn**	**10 38 52.0**	**-0.7**
VRTB	**Varto-Mus**	**1.88**	**275**	P	**Pn**	**10 38 53.1**	**+0.4**
SIRT	**Sirnak**	**1.90**	**217**	PN	**Pn**	**10 38 53.0**	**+0.1**
SIRT	**Sirnak**	**1.90**	**217**	*e*Pn	**Pn**	**10 38 53.0**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.92**	**323**	PN	**Pn**	**10 38 52.6**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.92**	**323**	*e*Pn	**Pn**	**10 38 52.6**	**-0.7**
STE	**Stepanavan**	**2.00**	**11**	↑P	**Pn**	**10 38 52.0**	**-2.3**
STE				S	**Sg**	**10 39 23.0**	**-0.5**
STEZ	**Stepenevan**	**2.00**	**12**	↑*e*P	**Pn**	**10 38 52.0**	**-2.4**
STEZ				↑*e*S	**Sg**	**10 39 23.0**	**-0.6**
ERZM	**Erzurum**	**2.12**	**295**	*e*P	**Pn**	**10 38 55.6**	**-0.6**
ERZM	**Erzurum**	**2.12**	**295**	*i* P	**Pn**	**10 38 55.9**	**-0.2**
ERZM	**Erzurum**	**2.12**	**295**	P	**Pn**	**10 38 55.9**	**-0.2**
GDB	**GEDABAY**	**2.22**	**40**	⇓P	**Pn**	**10 38 55.8**	**-1.6**
	SNR=15						
GDB				⇓S	**Sn**	**10 39 24.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.27**	**248**	PN	**Pn**	**10 38 57.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**2.27**	**248**	*e*Pn	**Pn**	**10 38 57.8**	**-0.2**
ECAT	**Cat-ERZURUM**	**2.32**	**285**	*e*P	**Pn**	**10 38 58.0**	**-0.7**
ECAT				IAML		10 39 44.0	
	comp=Z,56nm,0.7s						
QZX	**Qazax, Azerbai**	**2.33**	**29**	⇑P	**Pn**	**10 38 56.8**	**-1.9**
	SNR=23						
QZX				⇓S	**Sn**	**10 39 26.5**	**-1.4**
AKH	**Akhalkalaki**	**2.39**	**353**	PN	**Pn**	**10 38 59.7**	**0.0**
AKH	**Akhalkalaki**	**2.39**	**353**	*e*P	**Pb**	**10 39 03.1**	**-0.1**
AKH	**Akhalkalaki**	**2.39**	**353**	*e*Pn	**Pb**	**10 39 03.1**	**-0.1**
AKH	**Akhalkalaki**	**2.39**	**353**	*e*Pn	**Pn**	**10 38 59.7**	**0.0**
AKH	**Akhalkalaki**	**2.39**	**353**	*e*P	**Pb**	**10 39 03.1**	**-0.1**
GANJ	**Ganja**	**2.48**	**49**	↑P	**Pn**	**10 38 59.4**	**-1.4**
	SNR=18						
GANJ				⇓S	**Sn**	**10 39 31.4**	**-0.3**
BNGB	**Bing˝¶l**	**2.49**	**270**	PN	**Pn**	**10 39 00.8**	**-0.2**
ARTV	**Artvin**	**2.61**	**326**	*e*P	**Pb**	**10 39 05.4**	**-1.6**
ARTV				IAML		10 39 34.9	
	comp=Z,14nm,0.5s						
ARTV				*e*S	**Sg**	**10 39 44.1**	**+0.9**
EPOS	**Posof**	**2.62**	**341**	*e*P	**Pn**	**10 39 03.0**	**+0.3**
EPOS				*e*S	**Sb**	**10 39 37.3**	**-2.4**
BINT	**Bingol**	**2.64**	**268**	P	**Pn**	**10 39 02.2**	**-0.9**
BINT	**Bingol**	**2.64**	**268**	*e*Pn	**Pn**	**10 39 00.8**	**-2.3**
BINT	**Bingol**	**2.64**	**268**	P	**Pn**	**10 39 02.2**	**-0.9**
DGRG	**David-gareji**	**2.67**	**25**	*e*P	**Pn**	**10 39 03.8**	**+0.3**
DGRG				IAML		10 39 51.3	
	comp=Z,37nm,0.5s						
BTNK	**Botanikuri**	**2.74**	**15**	P	**Pg**	**10 39 10.3**	**-1.4**
TBLG	**Delisi**	**2.77**	**14**	PN	**Pn**	**10 39 05.4**	**+0.6**
TBLG	**Delisi**	**2.77**	**14**	*e*P	**Pn**	**10 39 05.3**	**+0.5**
TBLG				*e*S	**Sn**	**10 39 40.0**	**+1.0**
TBLG				IAML		10 39 58.3	
	comp=Z,14nm,0.7s						
TBLG	**Delisi**	**2.77**	**14**	P	**Pb**	**10 39 07.3**	**-2.3**
TBLG	**Delisi**	**2.77**	**14**	*e*P	**Pb**	**10 39 08.3**	**-1.3**
TBLG	**Delisi**	**2.77**	**14**	*e*Pn	**Pb**	**10 39 08.3**	**-1.3**
TBLG	**Delisi**	**2.77**	**14**	*e*Pn	**Pn**	**10 39 05.4**	**+0.6**
TBLG	**Delisi**	**2.77**	**14**	*e*P	**Pb**	**10 39 08.3**	**-1.3**
KOPT	**Kop Dagi**	**2.79**	**292**	*e*P	**Pn**	**10 39 06.5**	**+1.3**
KOPT				IAML		10 40 00.1	
	comp=Z,30nm,0.7s						
BRDA	**Brd**	**2.83**	**63**	⇓P	**Pn**	**10 39 04.4**	**-1.2**
	SNR=18						
BRDA				⇓S	**Sn**	**10 39 40.3**	**-0.1**
MNGR	**Mingechevir, A**	**3.02**	**54**	⇑P	**Pn**	**10 39 06.8**	**-1.4**
	SNR=13						
MNGR				⇑S	**Sn**	**10 39 44.6**	**-0.4**
BAYB	**BAYBURT**	**3.04**	**295**	*e*P	**Pb**	**10 39 12.4**	**-1.9**
BAYB				IAML		10 40 00.1	
	comp=Z,9.8nm,0.7s						
DIY	**Diyarbakir**	**3.08**	**249**	*e*Pn	**Pn**	**10 39 09.6**	**+0.5**
DUS	**Dusheti**	**3.12**	**11**	P	**Pg**	**10 39 18.6**	**-0.3**
DYBB	**Diyarbakir**	**3.12**	**251**	PN	**Pn**	**10 39 09.6**	**0.0**
MAZI	**Mazidag**	**3.12**	**241**	PN	**Pn**	**10 39 09.8**	**+0.1**
MAZI	**Mazidag**	**3.12**	**241**	*e*Pn	**Pn**	**10 39 09.8**	**+0.1**
BAYT	**Ayd˝–ntepe-Bay**	**3.18**	**296**	PN	**Pn**	**10 39 10.4**	**-0.2**
BAYT	**Ayd˝–ntepe-Bay**	**3.18**	**296**	*e*Pn	**Pn**	**10 39 10.4**	**-0.2**
ZRD	**Zardab**	**3.19**	**66**	⇑P	**Pn**	**10 39 09.4**	**-1.2**
	SNR=7.3						
ZRD				⇓S	**Sn**	**10 39 49.3**	**0.0**
ERZN	**Erzincan**	**3.26**	**281**	PN	**Pn**	**10 39 11.6**	**-0.1**
EUZM	**Uzumlu**	**3.30**	**283**	*e*P	**Pn**	**10 39 14.9**	**+2.7**
SEKA	**Sheki**	**3.35**	**49**	⇑P	**Pn**	**10 39 12.1**	**-0.7**
	SNR=23						
SEKA				⇓S	**Sn**	**10 39 54.1**	**+0.9**
TNCL	**Tunceli-Merkez**	**3.37**	**273**	*e*P	**Pn**	**10 39 15.8**	**+2.7**
TNCL				IAML		10 40 12.7	
	comp=Z,19nm,0.6s						
GUDG	**Gudauri**	**3.46**	**7**	P	**Pb**	**10 39 19.6**	**-1.7**
PTK	**Pertek**	**3.49**	**269**	PN	**Pn**	**10 39 15.2**	**+0.3**
PTK	**Pertek**	**3.49**	**269**	*e*Pn	**Pn**	**10 39 15.2**	**+0.3**
LRK	**Lerik**	**3.51**	**95**	⇑P	**Pn**	**10 39 14.1**	**-1.0**
	SNR=5.7						
LRK				⇓S	**Sn**	**10 39 57

NSR	**Nassriya**	**8.22**	**166**	*e*Pn	**Pn**	**10 40 20.0**	**+0.4**
	SNR=3.0						
ANTO	**Ankara**	**8.61**	**279**	*e*P	**Pn**	**10 40 25.4**	**+0.3**
ANTO	**Ankara**	**8.61**	**279**	*e*Pn	**Pn**	**10 40 25.4**	**+0.3**
ANTO	**Ankara**	**8.61**	**279**	*e*P	**Pn**	**10 40 25.4**	**+0.3**
MMAI	**Mount Meron Ar**	**9.11**	**231**	LR	LR	10 44 40.1	
	comp=Z,505nm,18.3s,baz=65,slow=42						
AKTO	**Aktyubinsk**	**15.16**	**37**	Pn	**Pn**	**10 41 52.2**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=223,slow=15,SNR=6.4						
AKTO				LR	LR	10 49 17.5	
	comp=Z,161nm,20.1s,baz=244,slow=43						
ABKAR	**Akbulak array**	**15.38**	**43**	*e*Pn	**Pn**	**10 41 59.3**	**+2.0**
	comp=Z,13nm,0.7s						
RAYN	**Ar Rayn**	**15.53**	**174**	P	**Pn**	**10 41 56.4**	**-3.1**
RAYN				pmax	pmax		
	comp=Z,16nm,1.8s						
RAYN	**Ar Rayn**	**15.53**	**174**	*e*Pn	**Pn**	**10 41 56.4**	**-3.1**
	comp=Z,16nm,1.8s						
AKASG	**Malin Array Be**	**15.58**	**323**	Pn	**Pn**	**10 41 59.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=130,slow=12,SNR=7.7						
AKASG	**Malin Array Be**	**15.58**	**323**	*e*P	**P**	**10 42 02.7**	**-1.7**
KIEV	**Kiev**	**15.58**	**323**	*i*P	**P**	**10 42 03.8**	**-0.6**
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KIEV	**Kiev**	**15.58**	**323**	*e*P	**P**	**10 42 03.8**	**-0.6**
	comp=Z,8.0nm,1.3s						
IDI	**Anoyia**	**15.59**	**262**	LR	LR	10 48 37.3	
	comp=Z,78nm,19.6s,baz=94,slow=40						
OBN	**Obninsk**	**16.82**	**345**	*e*P	**Pn**	**10 42 16.0**	**+0.2**
OBN				*e*S	**Sn**	**10 45 20.2**	**-2.8**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,74nm,16.0s						
MOS	**Moscow**	**17.22**	**348**	*e*P	**P**	**10 42 22.6**	**+0.1**
ARU	**Arti**	**19.94**	**24**	P	**P**	**10 42 52.1**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=84,slow=18,SNR=2.5						
ARU	**Arti**	**19.94**	**24**	*c i*P	**P**	**10 42 51.7**	**-0.6**
ARU				S	**S**	**10 46 35.5**	**-1.7**
ARU				pmax	pmax		
	comp=Z,30nm,2.5s						
ARU	**Arti**	**19.94**	**24**	*e*P	**Pn**	**10 42 54.8**	**+0.8**
	comp=Z,28nm,1.4s						
ARU	**Arti**	**19.94**	**24**	*i*P	**P**	**10 42 51.7**	**-0.6**
	comp=Z,30nm,2.5s						
ARU				S	**S**	**10 46 35.5**	**-1.7**
KKAR	**Karatay Array**	**20.46**	**70**	*e*P	Pn	10 43 00.2	-0.1
KKAR	**Karatay Array**	**20.46**	**70**	*e*P	Pn	10 43 00.2	-0.1
SUW	**Suwalki**	**20.55**	**324**	*e*P	Pn	10 43 00.5	-0.7
SUW				pmax	pmax		
	comp=Z,58nm,1.3s						
SUW	**Suwalki**	**20.55**	**324**	*e*P	Pn	10 43 00.5	-0.7
	comp=Z,58nm,1.3s						
SVE	**Sverdlovsk**	**20.95**	**26**	*e*P	Pn	10 43 06.9	+1.1
SVE				pmax	pmax		
	comp=Z,29nm,1.3s						
TIP	**Timpagrande**	**21.02**	**279**	*e*P	**P**	**10 43 04.2**	**-0.1**
	comp=Z,15nm,1.3s						
TIP	**Timpagrande**	**21.02**	**279**	*e*P	**P**	**10 43 04.2**	**-0.1**
	comp=Z,15nm,1.3s						
CUC	**Castrocucco**	**21.63**	**281**	*e*P	**P**	**10 43 09.6**	**-1.3**
	comp=Z,9.7nm,1.1s						
CUC	**Castrocucco**	**21.63**	**281**	*e*P	**P**	**10 43 09.6**	**-1.3**
	comp=Z,9.7nm,1.1s						
KLMR	**Klimovskoe**	**22.01**	**354**	*e*P	**P**	**10 43 17.5**	**+2.9**
KLMR				pmax	pmax		
	comp=Z,33nm,1.3s						
KLMR	**Klimovskoe**	**22.01**	**354**	*e*P	**P**	**10 43 17.6**	**+2.9**
KLMR				AMP		10 43 21.8	
	comp=Z,33nm,1.3s						
KLMR				LQ	LQ	10 50 15.6	
KLMR				LQ	LQ	10 50 15.6	
BRVK	**Borovoye**	**22.91**	**44**	*e*P	**P**	**10 43 25.6**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BRVK	**Borovoye**	**22.91**	**44**	*e*P	**P**	**10 43 26.5**	**+2.2**
	comp=Z,7.6nm,1.3s						
BRVK				*e*Sn	Sn	10 47 47.7	-2.1
BVAR	**Borovoye Array**	**22.95**	**44**	P	**P**	**10 43 24.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=246,slow=11,SNR=4.3						
BVAR				LR	LR	10 54 01.2	
	comp=Z,96nm,19.2s,baz=290,slow=41						
AQU	**L'Aquila**	**23.28**	**288**	*e*P	**P**	**10 43 28.6**	**+0.3**
AQU				pmax	pmax		
	comp=Z,25nm,1.3s						
AQU	**L'Aquila**	**23.28**	**288**	*e*P	**P**	**10 43 28.6**	**+0.3**
	comp=Z,25nm,1.3s						
AAK	**Ala-Archa**	**23.38**	**71**	*e*P	**P**	**10 43 31.8**	**+2.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
AAK	**Ala-Archa**	**23.38**	**71**	*e*P	**P**	**10 43 31.8**	**+2.3**
	comp=Z,5.2nm,1.2s						
GEA0	**GERESS Array S**	**23.69**	**304**	*e*P	**P**	**10 43 33.7**	**+1.3**
GEC2	**GERESS Array S**	**23.69**	**304**	*e*P	**P**	**10 43 32.3**	**-0.2**
GEC2				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GEC2	**GERESS Array S**	**23.69**	**304**	*e*P	**P**	**10 43 32.3**	**-0.2**
	comp=Z,8.8nm,1.3s						
GEC2	**GERESS Array S**	**23.69**	**304**	*e*P	**P**	**10 43 32.3**	**-0.2**
	comp=Z,8.8nm,1.3s						
KHC	**Kasperske Hory**	**23.84**	**305**	*e*P	**P**	**10 43 33.0**	**-0.8**
KHC	**Kasperske Hory**	**23.84**	**305**	*e*P	**P**	**10 43 33.0**	**-0.8**
KHC	**Kasperske Hory**	**23.84**	**305**	*e*P	**P**	**10 43 34.0**	**+0.2**
	comp=Z,7.6nm,1.8s						
NRN	**Naryn**	**24.57**	**74**	P	**P**	**10 43 41.6**	**+0.6**
NRN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NRN	**Naryn**	**24.57**	**74**	P	**P**	**10 43 41.6**	**+0.6**
	comp=Z,5.0nm,1.2s						
KSH	**Kashi**	**24.79**	**79**	*e*P	**P**	**10 43 40.0**	**-2.8**
FINES	**FINESS Array B**	**24.98**	**340**	P	**P**	**10 43 45.4**	**+1.3**
	comp=Z,5.3nm,1.1s,baz=217,slow=21,SNR=3.4						
FINES				LR	LR	10 53 46.9	
	comp=Z,69nm,19.6s,baz=6.5,slow=37						
TUE	**Stuetta**	**26.26**	**298**	*e*P	**P**	**10 43 54.3**	**-1.8**
	comp=Z,5.5nm,1.2s						
KURBB	**Kurchatov Arra**	**26.93**	**53**	P	**P**	**10 44 03.2**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=261,slow=9.2,SNR=3.6						
KURK	**Kurchatov**	**27.00**	**53**	P	**P**	**10 44 03.2**	**+0.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KEST	**Kesra**	**27.53**	**274**	LR	LR	10 58 18.9	
	comp=Z,75nm,18.0s,baz=326,slow=44						
MKAR	**Makanchi Array**	**28.95**	**62**	P	**P**	**10 44 20.2**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=255,slow=8.8,SNR=2.3						
NOA	**NORSAR Array B**	**29.88**	**328**	LR	LR	10 57 43.6	
	comp=Z,26nm,18.9s,baz=200,slow=39						
ZALV	**Zalesovo Beam**	**31.39**	**48**	LR	LR	10 59 33.6	
	comp=Z,94nm,19.3s,baz=250,slow=41						
WMQ	**Urumqi**	**32.91**	**67**	P	**P**	**10 44 57.0**	**+2.0**
EKA	**Eskdalemuir Ar**	**35.10**	**313**	P	**P**	**10 45 15.6**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=97,slow=8.9,SNR=3.7						
ESDC	**Sonseca Array**	**36.64**	**287**	P	**P**	**10 45 28.2**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=70,slow=8.7,SNR=8.0						
KMBO	**Kilima Mbogo**	**40.43**	**190**	LR	LR	11 01 60.0	
	comp=Z,103nm,19.9s,baz=92,slow=35						
TORD	**Torodi Ar. Bea**	**45.25**	**247**	P	**P**	**10 46 37.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=47,slow=8.9,SNR=4.6						
LZH	**Lanzhou**	**46.88**	**74**	*e*P	**P**	**10 46 50.5**	**-0.8**
LZH				pP	sP	10 46 54.5	+2.7
LZH				sP	pP	10 46 58.0	+6.4
LZH				*e*PP	**PP**	**10 48 41.5**	**+0.3**
CD2	**Chengdu**	**48.97**	**80**	P	**P**	**10 47 05.5**	**-1.9**
HHC	**Hu-ho-hao-te**	**50.73**	**65**	*e*P	**P**	**10 47 20.5**	**-0.3**
HHC				PP	**PP**	**10 49 17.5**	**+0.9**
HHC				S	**S**	**10 54 35.0**	**-2.1**
HHC				ScS	**ScS**	**10 57 10.0**	**-2.9**
CMAR	**Chiang Mai Arr**	**51.64**	**97**	P	**P**	**10 47 28.4**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=303,slow=8.1,SNR=11						
CMAR				LR	LR	11 15 55.3	
	comp=Z,29nm,19.4s,baz=347,slow=44						
CMAR	**Chiang Mai Arr**	**51.64**	**97**	*e*P	**P**	**10 47 28.7**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,14nm,1.4s						
CM01	**Chiang Mai Arr**	**51.67**	**97**	*e*P	**P**	**10 47 28.2**	**+0.3**
TIXI	**Tiksi**	**51.94**	**24**	LR	LR	11 14 01.1	
	comp=Z,45nm,18.2s,baz=318,slow=41						
TIXI	**Tiksi**	**51.94**	**24**	*e*P	**P**	**10 47 30.6**	**+1.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BILL	**Bilibino**	**64.90**	**21**	*e*P	**P**	**10 49 03.2**	**+3.5**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MJAR	**Matsushiro Arr**	**71.07**	**58**	LR	LR	11 23 28.6	
	comp=Z,50nm,18.4s,baz=45,slow=38						
LEM	**Lembang**	**74.45**	**112**	LR	LR	11 26 08.7	
	comp=Z,48nm,18.8s,baz=290,slow=39						
YKA	**Yellowknife Ar**	**77.34**	**350**	P	**P**	**10 50 15.6**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=42,slow=6.6,SNR=3.8						

*ISCJB **31** 11:01:07.2±0.3, 66°.36N±0°.02×14°.78E±0°.05, h0km, Error ellipse: s-maj=3.5km s-min=2.7km az=148.9*
*HEL **31** 11:01:08.8±0.3, 66°.42N×14°.65E, h0km, ML2.5, ML2.7(UPP), Explosion*
*UPP **31** 11:01:08.0, 66°.53N×14°.63E, h0km, ML2.7, Suspected Mining explosion.*
*NAO **31** 11:01:08.8±1.3, 66°.49N×14°.50E, ML2.5*
*CSEM **31** 11:01:08.9±0.2, 66°.45N×14°.71E, h2km, ML2.2, Error ellipse: s-maj=4.3km s-min=3.5km az=141.0, Mining explosion.*
*BER **31** 11:01:10.8±1.3, 66°.45N×14°.66E, h0km, ML2.2, ML2.5(NAO), Suspected explosion*
*IDC **31** 11:01:12.2±1.4, 66°.23N×15°.94E, h0km, mb1 3.1/4, mb1mx2.9/64, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=26.6km s-min=7.2km az=120.0*

ISC 31 11:01:08.4±0.7, 66°.44N±0°.02×14°.68E±0°.02, h0km, n69, σ1s70/120, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MOR8	**Moi Rana**	**0.28**	**200**	*e*P		**Pg**	**11 01 11.9**	**-1.9**
MOR8				*e*S		**Sg**	**11 01 13.7**	**-3.8**
MOR8				IAML			11 01 15.8	
	comp=Z,2μm,0.4s							
KONS	**Konsvik**	**0.63**	**276**	*e*P		**Pg**	**11 01 20.8**	**+0.3**
	SNR=90							
KONS				*e*S		**Sg**	**11 01 29.7**	**+1.1**
	SNR=90							
KONS	**Konsvik**	**0.63**	**276**	*e*P		**Pg**	**11 01 20.8**	**+0.3**
KONS				*e*S		**Sg**	**11 01 29.7**	**+1.1**
KONS				IAML			11 01 31.6	
	comp=Z,80nm,0.4s							
STOK	**Stokkvaagen**	**0.68**	**262**	*e*P		**Pg**	**11 01 21.5**	**+0.1**
	SNR=90							
STOK				*e*S		**Sg**	**11 01 31.7**	**+1.6**
	SNR=90							
STOK	**Stokkvaagen**	**0.68**	**262**	*e*P		**Pg**	**11 01 21.5**	**+0.1**
STOK				*e*S		**Sg**	**11 01 31.7**	**+1.6**
STOK				IAML			11 01 33.3	
	comp=Z,78nm,0.3s							
STEI	**Steigen**	**1.52**	**8**	*e*P		**Pn**	**11 01 36.9**	**+0.1**
	SNR=50							
STEI				*e*S		**Sb**	**11 01 57.3**	**+0.2**
	SNR=50							
STEI	**Steigen**	**1.52**	**8**	*e*P		**Pn**	**11 01 36.9**	**+0.1**
STEI				*e*S		**Sb**	**11 01 57.3**	**+0.2**
STEI				IAML			11 02 02.2	
	comp=Z,27nm,0.3s							
LOF	**Lofoten**	**1.76**	**346**	*e*P		**Pn**	**11 01 39.5**	**-0.6**
	SNR=50							
LOF				*e*Sg		**Sb**	**11 02 04.3**	**+0.2**
	SNR=90							
LOF	**Lofoten**	**1.76**	**346**	*e*P		**Pn**	**11 01 39.5**	**-0.6**
LOF				*e*Sg		**Sb**	**11 02 04.3**	**+0.2**
LOF				IAML			11 02 11.0	
	comp=Z,22nm,0.5s							
NSS	**Namsos**	**2.22**	**212**	*e*P		**Pb**	**11 01 48.4**	**-1.0**
	SNR=50							
NSS				*e*Sg		**Sb**	**11 02 18.9**	**+1.5**
	SNR=90							
NSS	**Namsos**	**2.22**	**212**	*e*P		**Pb**	**11 01 48.4**	**-1.0**
NSS				*e*Sg		**Sb**	**11 02 18.9**	**+1.5**
NSS				IAML			11 02 21.1	
	comp=Z,57nm,0.4s							
LILU	**Lilltraesk**	**2.42**	**116**	P		**Pn**	**11 01 49.8**	**+0.7**
LILU				S		**Sn**	**11 02 19.9**	**+0.5**
LILU	**Lilltraesk**	**2.42**	**116**	P		**Pn**	**11 01 49.8**	**+0.7**
LILU				S		**Sn**	**11 02 19.9**	**+0.5**
LILU	**Lilltraesk**	**2.42**	**116**	*e*P		**Pn**	**11 01 49.8**	**+0.7**
LILU				*e*S		**Sn**	**11 02 19.9**	**+0.5**
HARU	**Harads**	**2.56**	**93**	P		**Pn**	**11 01 50.0**	**-1.1**
HARU	**Harads**	**2.56**	**93**	P		**Pn**	**11 01 50.0**	**-1.1**
HARU	**Harads**	**2.56**	**93**	*e*P		**Pn**	**11 01 50.0**	**-1.1**
SVAU	**Svanoeiden**	**2.83**	**131**	P		**Pn**	**11 01 55.0**	**+0.3**
SVAU	**Svanoeiden**	**2.83**	**131**	P		**Pn**	**11 01 55.0**	**+0.3**
SVAU	**Svanoeiden**	**2.83**	**131**	*e*P		**Pn**	**11 01 55.0**	**+0.3**
SJUU	**Sjulsmark**	**2.98**	**105**	P		**Pn**	**11 01 57.7**	**+0.8**
SJUU				S		**Sn**	**11 02 33.9**	**+0.6**
SJUU	**Sjulsmark**	**2.98**	**105**	P		**Pn**	**11 01 57.7**	**+0.8**
SJUU				S		**Sn**	**11 02 33.9**	**+0.6**
SJUU	**Sjulsmark**	**2.98**	**105**	*e*P		**Pn**	**11 01 57.7**	**+0.8**
SJUU				*e*S		**Sn**	**11 02 33.9**	**+0.6**
ERTU	**Ertsjaerv**	**3.01**	**84**	P		**Pn**	**11 01 57.6**	**+0.3**
ERTU	**Ertsjaerv**	**3.01**	**84**	P		**Pn**	**11 01 57.6**	**+0.3**
ERTU	**Ertsjaerv**	**3.01**	**84**	*e*P		**Pn**	**11 01 57.6**	**+0.3**
BREU	**Bredtraesk**	**3.04**	**145**	P		**Pn**	**11 01 58.2**	**+0.5**
BREU	**Bredtraesk**	**3.04**	**145**	P		**Pn**	**11 01 58.2**	**+0.5**
BREU	**Bredtraesk**	**3.04**	**145**	*e*P		**Pn**	**11 01 58.2**	**+0.5**
BURU	**Burvik**	**3.35**	**121**	P		**Pn**	**11 02 03.2**	**+1.2**
BURU	**Burvik**	**3.35**	**121**	P		**Pn**	**11 02 03.2**	**+1.2**
BURU	**Burvik**	**3.35**	**121**	*e*P		**Pn**	**11 02 03.2**	**+1.2**
KIF	**Kilpisjarvi**	**3.48**	**39**	Pn		**Pn**	**11 02 05.6**	**+1.9**
KIF				Pg		**Pg**	**11 02 13.3**	**-1.6**
KIF				Lg		Lg	11 02 57.9	
KIF	**Kilpisjarvi**	**3.48**	**39**	Pn		**Pn**	**11 02 05.6**	**+1.9**
	SNR=50							
KIF	**Kilpisjarvi**	**3.48**	**39**	Pn		**Pn**	**11 02 05.6**	**+1.9**
KIF				Pg		**Pg**	**11 02 13.3**	**-1.6**
KIF				Lg		Lg	11 02 57.9	
TOF	**Tornio**	**3.92**	**91**	P		**Pn**	**11 02 10.2**	**+0.5**
TOF				S		**Sn**	**11 02 56.4**	**+0.1**
	comp=Z,7.8nm,0.4s							
TOF	**Tornio**	**3.92**	**91**	*e*P		**Pn**	**11 02 10.3**	**+0.5**
TOF				*e*S		**Sn**	**11 02 56.5**	**+0.1**
TOF				MSG			11 03 16.7	
	comp=Z,7.8nm,0.4s							
HEF	**Hetta**	**3.99**	**56**	P		**Pn**	**11 02 12.4**	**+1.7**
HEF				S		**Sn**	**11 02 58.1**	**0.0**
HEF				Sg		**Sg**	**11 03 14.6**	**-1.8**
HEF	**Hetta**	**3.99**	**56**	*e*P		**Pn**	**11 02 12.7**	**+1.9**
HEF				*e*Pg		**Pb**	**11 02 20.9**	**+1.4**
HEF	**Hetta**	**3.99**	**56**	*e*P		**Pn**	**11 02 12.4**	**+1.7**
HEF				*e*S		**Sn**	**11 02 58.1**	**0.0**
HEF				*e*SG		**Sg**	**11 03 14.7**	**-1.8**
KTK1	**Kautokeino**	**4.16**	**48**	*e*P		**Pn**	**11 02 14.7**	**+1.7**
	SNR=49							
KTK1	**Kautokeino**	**4.16**	**48**	*e*P		**Pn**	**11 02 14.7**	**+1.7**
OUF	**Merijarvi**	**4.69**	**112**	P		**Pn**	**11 02 20.5**	**+0.2**
OUF				S		**Sn**	**11 03 12.7**	**-2.5**
OUF	**Merijarvi**	**4.69**	**112**	*e*P		**Pn**	**11 02 20.5**	**+0.2**
OUF				*e*S		**Sn**	**11 03 12.7**	**-2.5**
OUF				*e*SG		**Sb**	**11 03 32.5**	**+4.2**
OUF				MSG			11 03 35.6	
	comp=Z,9.4nm,0.4s							
OUL	**Oulu**	**4.82**	**101**	S		**Sn**	**11 03 15.8**	**-2.7**
OUL	**Oulu**	**4.82**	**101**	*e*S		**Sn**	**11 03 15.8**	**-2.7**
OUL				*e*SG		**Sb**	**11 03 37.7**	**+5.7**
ARA0	**ARCESS Array S**	**5.12**	**48**	Pn		**Pn**	**11 02 26.1**	**-0.2**
	baz=233,slow=14							
ARA0				Sn		**Sn**	**11 03 23.2**	**-2.8**
	baz=234,slow=22							
ARA0				Lg		Lg	11 03 47.4	
	baz=231,slow=28							
ARA0	**ARCESS Array S**	**5.12**	**48**	Pn		**Pn**	**11 02 26.1**	**-0.2**
	SNR=50							
ARA0				Sn		**Sn**	**11 03 23.2**	**-2.8**
	SNR=9.6							
ARA0				Lg		Lg	11 03 47.4	
	SNR=37							
ARA0	**ARCESS Array S**	**5.12**	**48**	Pn		**Pn**	**11 02 26.1**	**-0.2**
	baz=233,slow=14							
ARA0				Sn		**Sn**	**11 03 23.2**	**-2.8**
	baz=234,slow=22							
ARA0				Lg		Lg	11 03 47.4	
	baz=231,slow=28							
ARCES	**ARCESS Array B**	**5.12**	**48**	Pn		**Pn**	**11 02 26.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=234,slow=14,SNR=9.5							
ARCES				Sn		**Sn**	**11 03 22.1**	**-3.9**
	comp=Z,1.1nm,0.3s,baz=236,slow=22,SNR=8.9							
ARCES				Lg		Lg	11 03 45.8	
	comp=Z,1.6nm,0.3s,baz=224,slow=21,SNR=8.8							
ARE0	**ARCESS Array S**	**5.12**	**48**	*e*P		**Pn**	**11 02 26.9**	**+0.6**
	SNR=49							
ARE0				S		**Sn**	**11 03 25.4**	**-0.6**
ARE0	**ARCESS Array S**	**5.12**	**48**	*e*P		**Pn**	**11 02 26.9**	**+0.6**
ARE0	**ARCESS Array S**	**5.12**	**48**	*e*P		**Pn**	**11 02 27.0**	**+0.8**
ARE0				*e*S		**Sn**	**11 03 25.4**	**-0.6**

NB2	**NORSAR Subarra**	**5.63**	**197**	Pn	**Pn**	**11 02 33.8**	**+0.4**
	baz=18,slow=12						
NB2				Sn	**Sn**	**11 03 38.7**	**0.0**
	baz=14,slow=28						
NB2	**NORSAR Subarra**	**5.63**	**197**	Pn	**Pn**	**11 02 33.8**	**+0.4**
	SNR=50						
NB2				Sn	**Sn**	**11 03 38.7**	**0.0**
	SNR=50						
NB2	**NORSAR Subarra**	**5.63**	**197**	Pn	**Pn**	**11 02 33.8**	**+0.4**
	baz=18,slow=12						
NB2				Sn	**Sn**	**11 03 38.7**	**0.0**
	baz=14,slow=28						
NOA	**NORSAR Array B**	**5.63**	**197**	Pn	**Pn**	**11 02 34.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=13,slow=14,SNR=3.7						
NOA				Sn	**Sn**	**11 03 38.4**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=322,slow=24,SNR=3.9						
NOA				Lg	Lg	11 04 00.8	
	comp=Z,1.8nm,0.3s,baz=226,slow=20,SNR=6.0						
KEV	**Kevo**	**5.69**	**49**	*e*P	**Pn**	**11 02 34.3**	**+0.4**
KEV				*e*S	**Sn**	**11 03 37.3**	**-2.5**
NRA0	**NORESS Array S**	**5.89**	**195**	Pn	**Pn**	**11 02 36.9**	**0.0**
	baz=356,slow=14						
NRA0				Sn	**Sn**	**11 03 44.8**	**-0.2**
	baz=19,slow=18						
NRA0				Lg	Lg	11 04 12.1	
	baz=5.2,slow=37						
NRA0	**NORESS Array S**	**5.89**	**195**	Pn	**Pn**	**11 02 36.9**	**0.0**
	baz=356,slow=14						
NRA0				Sn	**Sn**	**11 03 44.8**	**-0.2**
	baz=19,slow=18						
NRA0				Lg	Lg	11 04 12.1	
	baz=5.2,slow=37						
KEF	**Keuruu**	**6.16**	**129**	P	**Pn**	**11 02 40.1**	**-0.4**
KEF	**Keuruu**	**6.16**	**129**	*e*P	**Pn**	**11 02 40.1**	**-0.4**
KEF				*e*S	**Sn**	**11 03 49.2**	**-2.4**
KEF				*e*		11 04 22.2	
KU6	**Riekki**	**6.16**	**87**	*e*P	**Pn**	**11 02 40.1**	**-0.5**
KU6				*e*S	**Sn**	**11 03 47.7**	**-4.0**
KU6				*e*SG	**Sb**	**11 04 18.0**	**+7.3**
HFS	**Hagfors**	**6.34**	**184**	Pn	**Pn**	**11 02 43.9**	**+0.8**
	baz=15,slow=12						
HFS				Sn	**Sn**	**11 03 54.8**	**-1.3**
	baz=17,slow=22						
HFS				Lg	Lg	11 04 27.2	
	baz=2.5,slow=28						
HFS	**Hagfors**	**6.34**	**184**	Pn	**Pn**	**11 02 43.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=35,slow=11,SNR=4.5						
HFS				Sn	**Sn**	**11 03 54.9**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=20,slow=22,SNR=8.0						
HFS				Lg	Lg	11 04 27.5	
	comp=Z,1.1nm,0.3s,baz=26,slow=27,SNR=5.4						
HFS	**Hagfors**	**6.34**	**184**	Pn	**Pn**	**11 02 43.9**	**+0.8**
	baz=15,slow=12						
HFS				Sn	**Sn**	**11 03 54.8**	**-1.3**
	baz=17,slow=22						
HFS				Lg	Lg	11 04 27.2	
	baz=2.5,slow=28						
FIA0	**FINESS Array S**	**7.08**	**130**	Pn	**Pn**	**11 02 54.2**	**+1.1**
	baz=323,slow=14						
FIA0				Sn	**Sn**	**11 04 11.9**	**-2.4**
	baz=327,slow=28						
FIA0				Lg	Lg	11 04 48.1	
	baz=324,slow=28						
FIA0	**FINESS Array S**	**7.08**	**130**	Pn	**Pn**	**11 02 54.2**	**+1.1**
	baz=323,slow=14						
FIA0				Sn	**Sn**	**11 04 11.9**	**-2.4**
	baz=327,slow=28						
FIA0				Lg	Lg	11 04 48.1	
	baz=324,slow=28						
FINES	**FINESS Array B**	**7.08**	**130**	Pn	Pn	11 02 48.1	-5.1
	comp=Z,0.1nm,0.3s,baz=316,slow=12,SNR=2.8						
FINES				Sn	**Sn**	**11 04 09.0**	**-5.3**
	comp=Z,0.4nm,0.3s,baz=328,slow=23,SNR=6.7						
FINES				Lg	Lg	11 04 44.8	
	comp=Z,1.2nm,0.3s,baz=324,slow=23,SNR=7.4						

JMA 31 11:01:26.9±0.2, 36°.51N×141°.47E, h36km, M3.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.73**	**278**	P		Pn	11 01 40.6	-0.1
JHO				*e*S		Sn	11 01 50.5	-0.1
ONAJ	**Iwakimizuishiy**	**0.80**	**318**	P		Pn	11 01 41.4	-0.3
JFK	**Kawauchi**	**0.98**	**331**	P		Pn	11 01 44.5	+0.4
JFT	**Otama**	**1.35**	**318**	P		Pn	11 01 50.6	+1.3
JFT				*e*S		Sn	11 02 06.9	+0.9
JMM	**Marumori**	**1.46**	**338**	P		Pn	11 01 51.2	+0.5
MAT	**Matsushiro**	**2.63**	**272**	P		Pn	11 02 09.4	+2.6
MAT				S		Sn	11 02 45.1	+7.7

*ISK **31** 11:24:51.5, 36°.91N×27°.44E, h14km, ML2.6/11*
*ISCJB **31** 11:24:52.3±

DALY	Dalyan (Mu˘la	0.96	95	*e*Pg	Pb	11 25 10.9	+0.4
AYDB	Zeytinkoy-Aydi	1.09	18	PN	Pb	11 25 12.8	-0.1
AYDB	Zeytinkoy-Aydi	1.09	18	*e*Pn	Pb	11 25 12.8	-0.1
TAVA	DENIZLI_Tavas	1.29	64	*i* P	Pb	11 25 16.7	+0.5
TAVA				*i* S	Sg	11 25 35.8	+2.2
TAVA	DENIZLI_Tavas	1.29	64	P	Pb	11 25 16.7	+0.5
FETY	Fethiye	1.33	101	PN	Pn	11 25 16.2	-0.2
FETY	Fethiye	1.33	101	*e*Pn	Pn	11 25 16.2	-0.2
KARP	Karpathos	1.38	190	PN	Pn	11 25 16.9	-0.1
KARP	Karpathos	1.38	190	P	Pb	11 25 17.6	-0.1
KARP	Karpathos	1.38	190	*e*Pn	Pn	11 25 16.9	-0.1
KARP	Karpathos	1.38	190	P	Pn	11 25 17.4	+0.4
APE	Apeiranthos	1.55	277	PN	Pn	11 25 19.1	-0.4
APE	Apeiranthos	1.55	277	P	Pn	11 25 18.6	-0.8
APE	Apeiranthos	1.55	277	P	Pn	11 25 18.8	-0.7
APE	Apeiranthos	1.55	277	*e*Pn	Pn	11 25 19.1	-0.4
URLA	Izmir	1.60	335	PN	Pn	11 25 20.6	+0.5
URLA	Izmir	1.60	335	*e*Pn	Pn	11 25 20.6	+0.5

MEX 31 11:27:45.1±0.4, **16°52N**×**98°62W, h16**km±8km, **MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**105**	*e*P	Pg	11 27 53.3	-1.6
PNIG				*i* S	Sg	11 27 59.5	-2.0
TLIG	**Tlapa**	**1.04**	**3**	*e*P	Pb	11 28 01.3	-3.5
TLIG				*e*S	Sb	11 28 13.4	-5.0
CAIG	**El Cayaco**	**1.66**	**289**	*i* P	Pn	11 28 10.4	-3.2
CAIG				*i* S	Sn	11 28 29.3	-5.3
VHO	**Vista Hermosa**	**1.89**	**73**	*i* P	Pn	11 28 14.3	-2.6
VHO				*e*S	Sn	11 28 36.2	-4.3

*IDC **31** 11:54:08.8±2.8, 35°57N×96°49W, h0km, mb1 3.5/4, mb1mx3.2/70, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=42.4km s-min=14.8km az=109.0*
*ISCJB **31** 11:54:09.9±0.7, 35°48N±0°03×96°64W±0°02, h8km±5km, Error ellipse: s-maj=4.9km s-min=2.9km az=173.3*
*NEIC **31** 11:54:11.0±0.0, 35°44N×96°57W, h5km, MN3.3(TUL), After TUL.*
NEIC Felt [III] at Paden. Also felt at Earlsboro, Edmond, Fort Gibson, Marlow, Oklahoma City, Prague, Seminole, Spencer, Stillwater and Tulsa.

ISC 31 11:54:09.9±1.1, **35°43N**±0°04×**96°61W**±0°02, **h2**km±10km, **n66**, σ1f**35**/82, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK002	**Wilshire Harra**	**0.49**	**284**	*e*Pg	**Pg**	**11 54 21.4**	**+2.1**
OK001	**Jones High Sch**	**0.57**	**284**	*e*Pg	**Pg**	11 54 21.0	+0.2
TUL1	**Leonard** baz=234	**0.82**	**54**	P	**Pg**	**11 54 26.0**	**+0.3**
TUL1	baz=234			S	**Sg**	**11 54 36.7**	**+0.3**
TUL1	**Leonard**	**0.82**	**54**	*e*Pg	**Pg**	11 54 26.0	+0.3
TUL1				*e*Sg	**Sg**	11 54 37.0	+0.6
WMOK	**Wichita Mounta** baz=68	**1.91**	**249**	P	**Pn**	**11 54 44.9**	**+1.5**
WMOK	baz=68			S	**Sb**	**11 55 11.4**	**+1.7**
WMOK	**Wichita Mounta**	**1.91**	**249**	*e*Pn	**Pn**	11 54 44.8	+1.3
WMOK				*e*Sn	**Sb**	**11 55 11.0**	**+1.3**
X39A	**Fountain Ranch** baz=295	**2.25**	**113**	P	**Pn**	**11 54 48.9**	**+0.8**
X39A	baz=295			S	**Sb**	**11 55 20.0**	**+0.5**
W39A	**Magazine** baz=277,SNR=32	**2.33**	**95**	P	**Pn**	**11 54 49.8**	**+0.7**
W39A	baz=277			S	**Sn**	**11 55 19.2**	**+0.9**
V39A	**Pettigrew** baz=261,SNR=61	**2.45**	**80**	P	**Pn**	**11 54 51.5**	**+0.5**
V39A	baz=261			S	**Sb**	**11 55 24.5**	**-1.0**
T38A	**Diamond** baz=230	**2.47**	**49**	P	**Pn**	**11 54 53.0**	**+1.9**
MIAR	**Mount Ida** baz=291	**2.64**	**109**	P	**Pn**	**11 54 54.6**	**+1.1**
MIAR	**Mount Ida**	**2.64**	**109**	*e*Pn	**Pn**	11 54 54.3	+0.8
MIAR				*e*Sg	**Sg**	**11 55 35.0**	**+0.2**
U39A	**Green Forest** baz=250	**2.71**	**69**	P	**Pn**	**11 54 55.2**	**+0.7**
U39A	baz=250			S	**Sn**	**11 55 28.1**	**+0.1**
W40A	**Ferguson Farm,** baz=276,SNR=20	**2.91**	**94**	P	**Pn**	**11 54 58.3**	**+1.1**
W40A	baz=276			S	**Sn**	**11 55 33.4**	**+0.8**
W40A	**Ferguson Farm,**	**2.91**	**94**	*e*Pn	**Pn**	11 54 58.2	+1.0
T39A	**Clever** baz=240	**3.06**	**58**	P	**Pn**	**11 54 59.8**	**+0.5**
Y40A	**Okolona** baz=298,SNR=9.1	**3.09**	**116**	Pb	**Pb**	**11 55 05.9**	**+0.3**
S38A	**Stockton** baz=225	**3.09**	**44**	P	**Pn**	**11 55 00.9**	**+1.1**
V40A	**Witts Springs** baz=264,SNR=38	**3.11**	**82**	P	**Pn**	**11 55 00.7**	**+0.7**
U40A	**Yellville** baz=254,SNR=21	**3.19**	**72**	P	**Pn**	**11 55 02.2**	**+1.1**
X40A	**Basin Creek Fa** baz=288	**3.24**	**106**	Pb	**Pb**	**11 55 08.4**	**+0.2**
Z40A	**Long Farm, Mag** baz=310	**3.43**	**128**	P	**Pn**	**11 55 05.1**	**+0.8**
S39A	**Bolivar** baz=230	**3.48**	**49**	Pb	**Pb**	**11 55 12.8**	**+0.6**
WHTX	**Lake Whitney,**	**3.50**	**192**	*e*Pn	**Pn**	11 55 06.8	+1.5
R38A	**Fenwick Farm,** baz=219	**3.51**	**37**	Pb	**Pb**	**11 55 13.7**	**+1.1**
UALR	**University of**	**3.56**	**99**	*e*Pn	**Pn**	**11 55 07.3**	**+1.2**
W41B	**Gary Mavity, V** baz=276,SNR=72	**3.58**	**93**	P	**Pn**	**11 55 07.3**	**+0.9**
Y41A	**Eaglette Beard** baz=296	**3.64**	**114**	P	**Pn**	**11 55 08.1**	**+0.9**
V41A	**Mountainview** baz=266,SNR=46	**3.65**	**83**	P	**Pn**	**11 55 07.9**	**+0.5**
KSU1	**Kansas State U** baz=180	**3.67**	**0**	P	**Pn**	**11 55 08.7**	**+1.1**
KSU1	**Kansas State U**	**3.67**	**0**	*e*Pn	**Pn**	11 55 08.5	+0.9
T40A	**Mansfield** baz=244	**3.73**	**61**	P	**Pn**	**11 55 09.2**	**+0.8**
140A	**Cam and Jess,** baz=319	**3.75**	**137**	P	**Pn**	**11 55 09.7**	**+0.9**
ABTX	**Abilene, Hawle** baz=41	**3.76**	**223**	P	**Pn**	**11 55 09.9**	**+0.9**
ABTX	**Abilene, Hawle**	**3.76**	**223**	*e*Pn	**Pn**	11 55 10.1	+1.1
Q37A	**Longview Farm,** baz=207	**3.85**	**26**	P	**Pn**	**11 55 10.5**	**+0.3**
NATX	**Nacogdoches**	**4.00**	**155**	*e*Sg	**Sg**	**11 56 16.1**	**-2.5**
AMTX	**Amarillo**	**4.19**	**264**	*e*Pn	**Pn**	**11 55 16.9**	**+2.0**
AMTX				*e*Sn	**Sn**	11 56 05.7	+1.3
CBKS	**Cedar Bluff**	**4.20**	**324**	*e*Pn	**Pn**	11 55 16.3	+1.3
CCM	**Cathedral Cave**	**5.04**	**57**	*e*Pn	**Pn**	11 55 27.4	+0.8
PBMO	**Poplar Bluff**	**5.18**	**73**	*e*Sn	**Sn**	**11 56 27.4**	**-1.5**
MSTX	**Muleshoe**	**5.28**	**256**	*e*Pn	**Pn**	11 55 30.9	+1.0
FVM	**French Village**	**5.59**	**61**	*e*Pn	**Pn**	11 55 34.7	+0.7
JCT	**Junction City**	**5.62**	**209**	*e*Pn	**Pn**	11 55 34.8	+0.3
KSCO	**Kaye Shedlock'** 20nm,0.3s	**5.98**	**308**	*e*Pn	**Pn**	11 55 41.1	+1.5
KSCO				*e*Sn	**Sn**	**11 56 48.7**	**-0.1**
OXF	**Oxford**	**5.99**	**97**	*e*Pn	**Pn**	11 55 40.0	+0.6
CPRX	**Cap Rock**	**6.47**	**250**	*e*Pn	**Pn**	11 55 47.5	+1.2
CPRX				*e*Sg	**Sg**	11 57 36.6	-1.0
T25A	**Trinidad**	**6.53**	**287**	*e*Pn	**Pn**	11 55 47.6	+0.5
MHTCO	**State Highway**	**6.74**	**287**	*e*Pn	**Pn**	11 55 51.5	+1.4
OGNE	**Ogallala**	**6.97**	**324**	*e*Pn	**Pn**	11 55 54.2	+1.1
SCIA	**State Center** 51nm,0.6s	**6.99**	**21**	*e*Pn	**Pn**	**11 55 52.3**	**-1.0**
SCIA				*e*Sn	**Sn**	**11 57 15.0**	**+1.6**
PLAL	**Pickwick Lake**	**7.00**	**91**	*e*Pn	**Pn**	**11 55 52.8**	**-0.6**
WVT	**Waverly**	**7.17**	**82**	*e*Pn	**Pn**	**11 55 56.7**	**+0.9**
SDCO	**Great Sand Dun**	**7.51**	**291**	*e*Pn	**Pn**	11 56 02.1	+1.4
SDCO				*e*Sg	**Sg**	**11 58 07.5**	**-3.7**
HDIL	**Hopedale**	**7.72**	**46**	*e*Pn	**Pn**	11 56 03.6	+0.4
ANMO	**Albuquerque** 0.1nm,0.3s,baz=267,slow=17,SNR=2.1	**8.07**	**269**	Pn	**Pn**	**11 56 09.7**	**+1.3**
ANMO	0.3nm,0.3s,baz=273,slow=18,SNR=8.3			Pg	Pb	11 56 38.6	+8.0
ANMO	0.6nm,0.3s,baz=235,slow=16,SNR=3.8			Lg	Lg	11 58 20.7	
MNTX	**Cornudas Mount** 3.7nm,0.8s	**8.21**	**246**	*e*Pn	**Pn**	**11 56 10.1**	**+0.1**
MNTX				*e*Sg	**Sg**	**11 58 30.3**	**-3.2**
ECSD	**EROS Data Cent**	**8.29**	**360**	*e*Pn	**Pn**	**11 56 11.0**	**-0.2**
ECSD				*e*Sn	**Sn**	11 57 41.6	-3.9
ISCO	**Idaho Springs**	**8.37**	**304**	*e*Pn	**Pn**	**11 56 13.8**	**+1.3**
TX31	**Lajitas Ar. Si**	**8.51**	**226**	*e*Pn	**Pn**	11 56 16.1	+1.8
TXAR	**Lajitas Array** 0.4nm,0.3s,baz=54,slow=12,SNR=24	**8.51**	**226**	Pn	**Pn**	**11 56 14.0**	**-0.3**
TXAR	0.4nm,0.3s,baz=58,slow=12,SNR=5.0			Pg	Pg	11 56 40.1	-13
TXAR	1.0nm,0.3s,baz=44,slow=17,SNR=4.3			Lg	Lg	11 58 36.7	
JFWS	**Jewell Farm** 4.9nm,0.4s	**8.96**	**32**	*e*Pn	**Pn**	**11 56 19.4**	**-0.9**
SPMN	**Marine on St.**	**10.21**	**15**	*e*Pn	**Pn**	**11 56 36.4**	**-0.9**
SPMN				*e*Sn	**Sn**	**11 58 27.9**	**-4.5**
TKL	**Tuckaleechee C** 0.5nm,0.3s,baz=345,slow=20,SNR=2.5	**10.46**	**85**	Lg	Lg	11 59 32.2	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=122,slow=15,SNR=2.9	**12.43**	**310**	Pn	**Pn**	**11 57 07.9**	**-0.2**
PDAR	0.1nm,0.3s,baz=108,slow=12,SNR=3.0			Pg		11 57 58.7	
PDAR	0.2nm,0.3s,baz=105,slow=27,SNR=3.4			Lg	Lg	12 00 38.3	
ULM	**Lac du Bonnet** 0.4nm,0.3s,baz=179,slow=11,SNR=4.8	**14.82**	**2**	Pn	Pn	11 57 32.5	-7.9

*ISCJB **31** 11:56:13.9±0.4, 51°37N±0°05×173°88W±0°06, h35km, mb4.2/42, MS3.5/8, Error ellipse: s-maj=6.7km s-min=5.1km az=4.1*
*NEIC **31** 11:56:16.2±0.0, 51°48N×174°11W, h40km, mb4.2/2, ML3.9(AEIC), After AEIC.*
*IDC **31** 11:56:17.0±0.7, 51°59N×173°93W, h41km±5km, mb3.9/33, mb1 4.0/35, mb1mx3.9/85, mbtmp4.2/35, ML3.8/2, MS3.4/10, Ms1 3.4/10, ms1mx3.0/70, Error ellipse: s-maj=16.8km s-min=10.0km az=174.0*

ISC 31 11:56:15.8±0.5, **51°43N**±0°07×**174°00W**±0°05, **h35**km, **n88,** σ1f**20**/96, **mb4.3**/45, **MS3.5**/8, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.85**	**356**	P	**Pn**	**11 56 31.0**	**-0.3**
KOKL	**Mount Kliuchef**	**0.90**	**352**	P	**Pn**	**11 56 32.0**	**-0.1**
KOKL				S	**Sn**	**11 56 45.1**	**+1.2**
KOKV	**Korovin Volcan**	**0.94**	**354**	P	**Pn**	**11 56 33.5**	**+1.0**
KOKV				S	**Sn**	**11 56 46.7**	**+1.9**
KOWE	**Korovin West**	**0.95**	**351**	P	**Pn**	**11 56 32.7**	**0.0**
KONW	**Korovin Northw**	**0.98**	**352**	P	**Pn**	**11 56 33.7**	**+0.6**
GSTD	**Great Sitkin T**	**1.48**	**296**	P	**Pn**	**11 56 39.8**	**-0.1**
GSTD				S	**Sn**	**11 56 57.4**	**-0.7**
ETKA	**Kagalaska Isla**	**1.56**	**287**	P	**Pn**	**11 56 40.7**	**-0.3**
ETKA				S	**Sn**	**11 57 00.9**	**+0.9**
ADAG	**Mount Adagdak**	**1.71**	**290**	P	**Pn**	**11 56 43.7**	**+0.6**
KIRH	**Kanaga Island**	**1.99**	**285**	P	**Pn**	**11 56 47.6**	**+0.8**
KIKV	**Kanaga Island**	**2.03**	**284**	P	**Pn**	**11 56 47.9**	**+0.4**
TAPA	**Tanaga Point A**	**2.41**	**281**	P	**Pn**	**11 56 53.4**	**+0.7**
GAMB	**Gambell** 4.5nm,0.5s	**12.44**	**5**	*e*Pn	**Pn**	**11 59 10.6**	**+0.5**
KDAK	**Kodiak Island** 0.5nm,0.3s,baz=224,slow=4.3,SNR=29	**13.91**	**54**	P	**Pn**	**11 59 26.1**	**-4.0**
KDAK	0.2nm,0.3s,baz=164,slow=15,SNR=3.5			S	**Sn**	**12 02 10.1**	**+7.0**
PETK	**Petropavlovsk-** 0.5nm,0.3s,baz=70,slow=13,SNR=8.9	**17.36**	**287**	P	**P**	**12 00 16.0**	**-0.2**
PETK	comp=Z,44nm,20.2s,baz=98,slow=36			LR	LR	12 06 36.0	
ILAR	**Eielson Array** 1.2nm,0.3s,baz=233,slow=8.3,SNR=65	**19.37**	**36**	P	**P**	**12 00 35.2**	**-3.0**
ILAR	comp=Z,72nm,20.1s,baz=272,slow=39			LR	LR	12 08 47.3	
SEY	**Seymchan** 1.0nm,0.6s,baz=47,slow=19,SNR=7.6	**21.27**	**316**	P	**P**	**12 00 58.9**	**+0.2**
MA2	**Magadan** 2.8nm,0.6s,baz=84,slow=10,SNR=5.7	**21.33**	**306**	P	**P**	**12 01 00.5**	**+1.1**
INK	**Inuvik** 3.2nm,0.5s,baz=252,slow=7.7,SNR=46	**25.72**	**34**	P	**P**	**12 01 41.6**	**-0.7**
INK	0.7nm,0.7s,baz=318,slow=0.4,SNR=3.6			PcP	**PcP**	**12 05 11.6**	**+0.2**
TIXI	**Tiksi** 1.2nm,0.3s,baz=112,slow=10,SNR=5.7	**32.09**	**330**	P	**P**	**12 02 38.0**	**-0.9**
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=270,slow=8.4,SNR=11	**33.00**	**47**	P	**P**	**12 02 46.2**	**-0.8**
YKA	0.4nm,0.5s,baz=286,slow=3.3,SNR=6.9			PcP	**PcP**	**12 05 30.7**	**+0.7**
H11N2	**WAKE ISLAND Hy** baz=21,slow=76,SNR=18	**35.02**	**213**	T	T	12 41 20.3	
H11N3	**WAKE ISLAND Hy** baz=21,slow=76,SNR=21	**35.03**	**212**	T	T	12 41 20.9	
H11N1	**WAKE ISLAND Hy** baz=21,slow=76,SNR=15	**35.04**	**212**	T	T	12 41 21.7	
H11S1	**WAKE ISLAND Hy** baz=20,slow=75,SNR=26	**36.23**	**212**	T	T	12 42 21.6	
H11S2	**WAKE ISLAND Hy** baz=20,slow=75,SNR=23	**36.24**	**212**	T	T	12 42 19.5	
H11S3	**WAKE ISLAND Hy** baz=20,slow=75,SNR=8.1	**36.24**	**212**	T	T	12 42 17.8	
USRK	**Ussuriysk Ar.** 11nm,0.5s,baz=55,slow=10,SNR=31	**36.26**	**280**	P	**P**	**12 03 15.1**	**-0.3**
USRK	comp=Z,55nm,21.7s,baz=28,slow=35			LR	LR	12 17 30.5	
RES	**Resolute Bay** 0.8nm,0.6s,baz=55,slow=1.0,SNR=4.2	**38.44**	**25**	PcP	**PcP**	**12 05 46.9**	**+1.0**
MCMT	**McKenzie Canyo** 2.1nm,0.7s	**40.28**	**75**	*e*P	**P**	**12 03 49.8**	**+0.3**
NVAR	**Mina Array Bea** 0.7nm,0.9s,baz=301,slow=7.2,SNR=3.4	**40.55**	**86**	P	**P**	**12 03 52.8**	**+1.0**
KSRS	**Korea Array** 3.2nm,0.9s,baz=59,slow=7.9,SNR=6.4	**42.64**	**274**	P	**P**	**12 04 09.9**	**+1.4**
KSRS	comp=Z,23nm,19.3s,baz=70,slow=34			LR	LR	12 20 40.2	
KSAR	**Wonju Array Be**	**42.67**	**274**	P	**P**	**12 04 09.9**	**+1.1**
PDAR	**Pinedale Array** 0.6nm,0.5s,baz=323,slow=3.7,SNR=5.4	**43.41**	**75**	P	**P**	**12 04 15.2**	**+0.2**
PDAR	3.9nm,0.8s,baz=295,slow=3.9,SNR=16			pP	**pP**	**12 04 27.1**	**+1.8**
ULM	**Lac du Bonnet** 2.5nm,0.5s,baz=300,slow=8.3,SNR=8.0	**47.11**	**59**	P	**P**	**12 04 43.6**	**-0.4**
TLY	**Talaya** 3.4nm,0.4s,baz=33,slow=5.8,SNR=8.9	**48.54**	**305**	P	**P**	**12 04 55.7**	**+0.6**
ULN	**Ulaanbaatar** 2.8nm,0.8s	**48.91**	**299**	*e*P	**P**	**12 04 56.8**	**-1.3**
SONM	**Songino Array** 2.5nm,0.6s,baz=53,slow=7.4,SNR=22	**49.28**	**299**	P	**P**	**12 05 01.4**	**+0.4**
SONM	0.4nm,0.6s,baz=64,slow=2.1,SNR=2.8			PcP	**PcP**	**12 06 25.2**	**+1.8**
SONM	comp=Z,62nm,18.8s,baz=80,slow=37			LR	LR	12 26 58.4	
SPITS	**Spitsbergen Ar** 22nm,1.1s,baz=350,slow=7.3,SNR=4.4	**50.50**	**357**	P	**P**	**12 05 09.3**	**-0.4**
SPITS	comp=Z,41nm,19.4s,baz=350,slow=37			LR	LR	12 26 57.6	
FRB	**Frobisher Bay** 2.0nm,0.4s,baz=309,slow=10,SNR=7.4	**51.37**	**33**	P	**P**	**12 05 15.1**	**-1.2**
SFJD	**Kangerlussuaq** comp=Z,29nm,18.4s,baz=295,slow=41	**54.43**	**24**	LR	LR	12 33 11.8	
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=308,slow=6.3,SNR=4.3	**55.66**	**85**	P	**P**	**12 05 48.5**	**+0.1**
ZALV	**Zalesovo Beam** 0.6nm,0.6s,baz=20,slow=4.7,SNR=3.7	**56.14**	**316**	PcP	**PcP**	**12 06 48.8**	**-0.1**
ZALV	comp=Z,40nm,18.1s,baz=70,slow=38			LR	LR	12 31 31.4	
ARCES	**ARCESS Array B** 4.2nm,0.9s,baz=8.9,slow=8.6,SNR=6.4	**58.50**	**352**	P	**P**	**12 06 07.0**	**-0.8**
ARCES	13nm,1.0s,baz=28,slow=5.5,SNR=8.3			PcP	**PcP**	**12 06 57.6**	**-0.4**
SADO	**Sadowa** 2.6nm,0.6s,baz=297,slow=3.2,SNR=4.0	**59.36**	**56**	P	**P**	**12 06 13.3**	**-0.9**
KURK	**Kurchatov**	**61.12**	**316**	P	**P**	**12 06 26.5**	**+0.5**
KURBB	**Kurchatov Arra** 3.4nm,0.4s,baz=45,slow=6.7,SNR=53	**61.22**	**316**	P	**P**	**12 06 26.5**	**-0.3**
MKAR	**Makanchi Array** 1.6nm,0.4s,baz=47,slow=5.4,SNR=43	**62.31**	**311**	P	**P**	**12 06 33.5**	**-0.7**
MKAR	comp=Z,32nm,20.2s,baz=42,slow=37			LR	LR	12 34 24.6	
BVAR	**Borovoye Array** 3.7nm,0.4s,baz=56,slow=6.9,SNR=32	**62.74**	**322**	P	**P**	**12 06 36.7**	**-0.2**
BVAR	2.8nm,0.7s,baz=46,slow=3.9,SNR=7.8			PcP	**PcP**	**12 07 15.7**	**+0.4**
ARU	**Arti** 1.2nm,0.3s,baz=233,slow=6.0,SNR=3.6	**64.09**	**331**	P	**P**	**12 06 45.5**	**-0.3**
ARU	1.8nm,0.4s,baz=124,slow=3.6,SNR=3.3			PcP	**PcP**	**12 07 19.8**	**-0.9**
FINES	**FINESS Array B** 2.2nm,0.6s,baz=16,slow=7.8,SNR=9.9	**66.34**	**350**	P	**P**	**12 06 59.2**	**-1.0**
FINES	1.7nm,0.5s,baz=32,slow=2.2,SNR=7.4			PcP	**PcP**	**12 07 29.1**	**-0.7**
NOA	**NORSAR Array B** 1.5nm,0.9s,baz=0.7,slow=6.7,SNR=4.1	**67.80**	**357**	P	**P**	**12 07 08.8**	**-0.8**
HFS	**Hagfors** 2.0nm,0.4s,baz=48,slow=2.1,SNR=18	**68.62**	**356**	P	**P**	**12 07 14.0**	**-0.6**
AKTO	**Aktyubinsk** 5.5nm,0.5s,baz=56,slow=7.9,SNR=24	**69.32**	**327**	P	**P**	**12 07 19.0**	**-0.2**
EKA	**Eskdalemuir Ar** 0.3nm,0.4s,baz=346,slow=4.4,SNR=3.2	**73.33**	**5**	P	**P**	**12 07 42.9**	**-0.4**
CMAR	**Chiang Mai Arr** 1.8nm,0.9s,baz=24,slow=7.1,SNR=7.6	**73.99**	**280**	P	**P**	**12 07 49.4**	**+1.6**
CMAR	3.5nm,0.8s,baz=24,slow=6.3,SNR=9.0			pP	**sP**	**12 08 01.9**	**-0.8**
GUN	**Gumba** 26nm,0.4s	**74.59**	**295**	*e*P	**P**	**12 07 52.5**	**+0.9**
JIRN	**Jiri** 55nm,0.7s	**74.61**	**295**	*e*P	**P**	**12 07 52.8**	**+1.1**
RAMN	**Ramite** 39nm,0.6s	**74.92**	**294**	*e*P	**P**	**12 07 54.1**	**+0.7**
KKN	**Kakani**	**75.02**	**296**	*e*P	**P**	**12 07 54.8**	**+0.9**
PKI	**Pulchoki** 11nm,0.7s	**75.12**	**295**	*e*P	**P**	**12 07 55.1**	**+0.5**
PKIN	**Phulchoki**	**75.12**	**295**	*e*P	**P**	**12 07 55.4**	**+0.9**
GKN	**Gorkha** 17nm,0.5s	**75.22**	**296**	*e*P	**P**	**12 07 55.7**	**+0.7**
DMN	**Daman**	**75.26**	**296**	*e*P	**P**	**12 07 56.2**	**+0.9**
DANN	**Dangsing**	**75.44**	**297**	*e*P	**P**	**12 07 57.5**	**+1.1**
KOLN	**Koldanda** 9.3nm,0.6s	**75.98**	**297**	*e*P	**P**	**12 08 00.0**	**+0.6**
PYUN	**Piuthan**	**76.06**	**298**	*e*P	**P**	**12 08 00.4**	**+0.5**
AKASG	**Malin Array Be** 3.0nm,0.4s,baz=18,slow=6.1,SNR=12	**76.35**	**345**	P	**P**	**12 08 00.1**	**-0.8**
CLL	**Collm** comp=Z,4.0nm,0.5s	**77.47**	**356**	*e*P	**P**	**12 08 06.0**	**-1.1**
PRU	**Pruhonice**	**78.70**	**354**	*e*P	**P**	**12 08 14.1**	**+0.1**
GOPC	**GO Pecny, Ondr**	**78.76**	**354**	*e*P	**P**	**12 08 14.5**	**+0.2**
KHC	**Kasperske Hory**	**79.61**	**355**	*e*P	**P**	**12 08 19.6**	**+0.6**
GERES	**GERESS Array B** comp=Z,0.8nm,0.5s,baz=12,slow=7.0,SNR=2.7	**79.89**	**355**	P	**P**	**12 08 19.7**	**-0.9**
CONA	**Conrad Observa** comp=Z,2.1nm,0.5s	**80.66**	**353**	*e*P	**P**	**12 08 24.9**	**+0.1**
MOA	**Molln** comp=Z,5.7nm,2.0s	**80.85**	**354**	PcP	**P**	**12 08 27.2**	**+1.6**
ARSA	**Arzberg** comp=Z,1.0nm,0.5s	**81.36**	**353**	*e*P	**P**	**12 08 27.2**	**-1.2**
MOTA	**Moosalm** comp=Z,2.3nm,0.8s	**81.51**	**356**	*e*P	**P**	**12 08 30.1**	**+0.7**
KBA	**Koelnbreinsper** comp=Z,5.9nm,0.6s	**81.67**	**355**	*e*PcP	**P**	**12 08 31.2**	**+0.9**
FETA	**Feichten** comp=Z,4.7nm,1.2s	**81.84**	**357**	*e*P	**P**	**12 08 31.7**	**+0.6**
SOKA	**Soboth** comp=Z,2.9nm,0.7s	**81.96**	**354**	*e*P	**P**	**12 08 31.7**	**0.0**
ABTA	**Abfaltersbach** comp=Z,2.1nm,0.7s	**82.04**	**355**	*e*P	**P**	**12 08 32.2**	**+0.1**
OBKA	**Obir** comp=Z,2.5nm,0.6s	**82.16**	**354**	PcP	**P**	**12 08 33.5**	**+0.7**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.6s,baz=33,slow=5.8,SNR=9.8	**84.21**	**228**	P	**P**	**12 08 42.6**	**-0.8**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.8s,baz=27,slow=2.9,SNR=4.8	**86.06**	**339**	P	**P**	**12 08 53.1**	**+0.4**
ASAR	**Alice Springs** comp=Z,0.5nm,0.8s,baz=22,slow=4.4,SNR=6.3	**87.63**	**226**	P	**P**	**12 09 00.4**	**+0.1**
ASAR	comp=Z,0.9nm,0.8s,baz=29,slow=4.6,SNR=2.9			pP	**pP**	**12 09 13.2**	**+1.8**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.5s,baz=342,slow=5.0,SNR=3.9	**88.85**	**8**	P	**P**	**12 09 05.6**	**-0.5**
URZ	**Urewera** comp=Z,49nm,18.0s,baz=181,slow=38	**89.65**	**187**	LR	LR	12 52 24.2	
MAW	**Mawson** comp=Z,2.6nm,0.7s,baz=90,slow=2.0,SNR=2.9	**148.37**	**218**	PKPbc	**PKPbc**	**12 15 57.5**	**+0.7**
BOSA	**Boshof** comp=Z,1.5nm,0.5s,baz=45,slow=1.4,SNR=5.6	**153.02**	**320**	PKPbc	**PKPbc**	**12 16 09.2**	**-0.1**
BOSA	comp=Z,3.9nm,0.8s,baz=3.5,slow=1.1,SNR=2.4			pPKPbc	**pPKPbc**	**12 16 20.9**	**+0.2**

*ISCJB **31** 11:58:07.9±0.7, 38°80N±0°03×43°58E±0°08, h14km±6km, Error ellipse: s-maj=10.5km s-min=4.8km az=18.0*
*ATA **31** 11:58:07.4±1.5, 38°85N×43°50E, h7km±55km, ML2.9, MW3.3*
*CSEM **31** 11:58:08.1, 38°83N×43°46E, h7km, ML2.9, After DDA*
*DDA **31** 11:58:08.1, 38°83N×43°46E, h7km, Ml2.9*

ISC 31 11:58:08.0±1.1, **38°82N**±0°03×**43°52E**±0°04, **h11**km±8km, **n15,** σ0f**85**/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.18**	**14**	*i* P	**Pg**	**11 58 11.5**	**-0.5**
VMUR				*i* S	**Sg**	**11 58 16.0**	**+1.1**
VMUR	**Van-Muradiye**	**0.18**	**14**	P	**Pg**	**11 58 11.5**	**-0.5**
VMUR				S	**Sg**	**11 58 16.0**	**+1.1**
TVAN	**Van**	**0.30**	**197**	*i* P	**Pg**	**11 58 13.5**	**-0.7**
TVAN				*i* S	**Sb**	**11 58 20.1**	**-0.4**
TVAN	**Van**	**0.30**	**197**	P	**Pg**	**11 58 13.5**	**-0.7**
TVAN				S	**Sb**	**11 58 20.1**	**-0.4**
CLDR	**Calderan**	**0.45**	**44**	*i* P	**Pg**	**11 58 15.8**	**-1.1**
CLDR				*i* S	**Sb**	**11 58 24.7**	**-0.1**
CLDR	**Calderan**	**0.45**	**44**	P	**Pg**	**11 58 15.8**	**-1.1**
CLDR				S	**Sb**	**11 58 24.7**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.62**	**269

0 Moment tensor: Scale 10^{16}Nm; M_w2.34±.18; $M_{\theta\theta}$-1.17±.14; $M_{\phi\phi}$-1.17±.17; $M_{r\theta}$1.15±.08; $M_{\theta\phi}$1.55±.10; $M_{r\phi}$-0.84±.10; Best double couple: M_o2.90600×10^{16} NP1:ϕ_s130.00000°,δ60.00000°,λ85.00000°. NP2: ϕ_s321.00000°,δ31.00000°,λ99.00000°. Principal axes: T 2.7250, Plg75.0000°, Azm25.0000°; N 0.3620, Plg5.0000°, Azm133.0000°; P -3.0870, Plg15.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

MOS ***31*** *12:38:45.0±1.0, 5.45N×94.63E, h57km, mb5.4/60 Error ellipse: s-maj=8.0km s-min=4.2km az=115.3*

IDC ***31*** *12:38:46.9±1.6, 5.41N×94.68E, h60km±13km, mb4.5/48, mb1 4.5/49, mb1mx4.4/77, mbtmp4.8/49, MS3.8/46, Ms1 3.8/46, ms1mx3.7/72, Error ellipse: s-maj=12.4km s-min=8.8km az=32.0*

ISC 31 12:38:45.1±0.6, 5.32N±0.04×94.53E±0.04, h49km±5km, n387, σ1s71/409, mb5.0/153, MS4.0/55, 20C-24D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res	ISC
LHMI	**Lhok Sumawe**	**2.41**	**92**	*e*Pn		**Pn**	**12 39 23.1**	**+1.1**	
LHMI				*e*Sn		**Sn**	**12 39 51.9**	**+1.6**	
PKDT	**Phuket**	**4.56**	**56**	P		**Pn**	**12 39 51.0**	**-0.6**	
GSI	**Gunungsitoli**	**5.01**	**143**	*e*Pn		**Pn**	**12 39 57.6**	**-0.3**	
GSI				*e*Sn		**Sn**	**12 40 49.7**	**-4.8**	
PSI	**Prapat**	**5.04**	**120**	*e*P		**Pn**	**12 40 01.3**	**+2.9**	
PSI				*e*			12 40 57.4		
PSI	**Prapat**	**5.04**	**120**	*e*Pn		**Pn**	**12 40 01.3**	**+2.9**	
PSI				*e*Sn		**Sn**	**12 40 57.4**	**+1.9**	
SURT	**Suratani**	**5.56**	**49**	P		**Pn**	**12 40 05.2**	**-0.2**	
TRTT	**Trang**	**5.70**	**64**	P		**Pn**	**12 40 06.4**	**-0.9**	
	124nm,1.0s,1μm0.4nm								
KULM	**Kulim**	**6.09**	**90**	*e*Pn		**Pn**	**12 40 13.2**	**+0.5**	
KULM				*e*Sn		**Sn**	**12 41 19.8**	**-1.3**	
SKLT	**Songkhla**	**6.33**	**73**	P		**Pn**	**12 40 15.6**	**-0.2**	
	180nm,0.7s,2μm0.6nm								
IPM	**Ipoh**	**6.52**	**97**	*e*Pn		**Pn**	**12 40 18.8**	**+0.2**	
IPM				*e*Sn		**Sn**	**12 41 29.6**	**-2.2**	
PBA	**Port Blair**	**6.54**	**344**	*e*P		Pn	12 40 15.7	-3.1	
DGPR	**DIGLIPUR**	**7.97**	**349**	*e*P		**Pn**	**12 40 37.0**	**-1.3**	
BKNI	**Bangkinang**	**8.18**	**127**	*e*Pn		**Pn**	**12 40 41.6**	**+0.4**	
PHET	**Kaeng Krachan**	**9.07**	**33**	P		**Pn**	**12 40 55.2**	**+1.8**	
	27nm,0.9s,335nm0.1nm								
SRDT	**SRDT**	**10.05**	**26**	P		**Pn**	**12 41 09.0**	**+2.1**	
	43nm,1.0s,4μm								
CHBT	**CHBT**	**10.67**	**46**	P		**Pn**	**12 41 17.4**	**+2.1**	
	285nm,0.8s,3μm								
NAYO	**Nakonayok**	**11.16**	**36**	P		**Pn**	**12 41 24.4**	**+2.3**	
	23nm,1.6s,2μm								
SRAK	**Srakaew**	**11.37**	**40**	P		Pn	12 41 33.2	+8.2	
CHAI	**Chaiyaphum**	**12.81**	**34**	P		**Pn**	**12 41 48.5**	**+3.8**	
	13nm,1.0s,122nm								
PHIT	**Phitsanulok**	**13.13**	**26**	P		**P**	**12 41 53.3**	**-4.5**	
	52nm,0.8s,444nm								
CM01	**Chiang Mai Arr**	**13.72**	**18**	*e*Pn		**Pn**	**12 42 00.0**	**+2.9**	
CM31	**Chiang Mai Arr**	**13.75**	**18**	*e*Pn		**Pn**	**12 42 00.9**	**+3.4**	
CMAR	**Chiang Mai Arr**	**13.75**	**18**	P		**Pn**	**12 42 00.5**	**+2.9**	
	1.7nm,0.3s,baz=211,slow=14,SNR=59								
CMAR				LR		LR	12 47 02.5		
	comp=Z,379nm,20.6s,baz=213,slow=36								
PALK	**Pallekele**	**13.88**	**279**	P		**Pn**	**12 42 01.4**	**+2.1**	
	5.5nm,0.3s,baz=116,slow=13,SNR=30								
PALK				S		Sn	12 44 22.8	-9.3	
	16nm,0.3s,baz=116,slow=3.3,SNR=12								
PALK				LR		LR	12 46 51.0		
	comp=Z,918nm,21.8s,baz=116,slow=35								
PALK				T		T	12 54 43.1		
	3.4nm,0.3s,baz=115,slow=20,SNR=4.2								
PALK	**Pallekele**	**13.88**	**279**	*e*Pn		**Pn**	**12 42 02.2**	**+2.9**	
PALK				*e*Sn		Sn	12 44 20.0	-12	
PALK				TT			12 54 43.1		
LAMP	**Lampang**	**14.04**	**20**	P		**P**	**12 42 07.1**	**-0.8**	
	41nm,0.8s,315nm								
CHTO	**Chiang Mai**	**14.09**	**17**	P		**P**	**12 42 05.7**	**-2.8**	
	401nm,0.9s,4μm								
CHTO	**Chiang Mai**	**14.09**	**17**	*e*P		**Pn**	**12 42 00.2**	**-1.8**	
CHTO	**Chiang Mai**	**14.09**	**17**	*e*Pn		**Pn**	**12 42 00.2**	**-1.8**	
CMMT	**Chiang Mai**	**14.09**	**17**	P		**Pn**	**12 42 04.7**	**+2.6**	
	90nm,0.9s,809nm								
SKNT	**Sakolnakorn**	**14.83**	**38**	P		**P**	**12 42 16.3**	**-0.4**	
	35nm,2.3s								
CMAI	**Chiengmai2**	**15.18**	**16**	P		**P**	**12 42 21.4**	**+0.6**	
	312nm,0.9s,14μm								
MDRS	**Chennai**	**16.06**	**300**	*e*P		**Pn**	**12 42 26.2**	**-1.5**	
MDRS				IAmb		IAmb	12 42 35.6		
	comp=Z,2μm,4.6s								
KSM	**Kuching**	**16.20**	**103**	*e*P		**P**	**12 42 31.5**	**-0.5**	
	comp=Z,37nm,1.1s								
VIS	**Vishakhapatnam**	**16.49**	**319**	*e*P		**Pn**	**12 42 33.7**	**+0.5**	
VIS				IAmb		IAmb	12 42 38.4		
	comp=Z,86nm,1.2s								
SKHT	**Srikalahasti**	**16.83**	**301**	*e*P		**P**	**12 42 40.5**	**+1.5**	
SKHT				*e*S		Sn	12 45 32.2	-12	
PVM	**Polavaram**	**17.33**	**314**	*e*P		**P**	**12 42 45.1**	**+0.7**	
PVM				*e*S		Sn	12 45 41.5	-14	
ADKI	**Addanki**	**17.71**	**307**	*e*P		**Pn**	**12 42 44.8**	**-3.6**	
ADKI				*e*S		Sn	12 45 48.6	-16	
TRD	**Trivandrum**	**17.73**	**281**	*e*P		**Pn**	**12 42 47.4**	**-1.2**	
SBUM	**Sibu**	**17.88**	**98**	*e*Pn		**P**	**12 42 50.4**	**-0.2**	
	comp=Z,16nm,1.0s								
NJS	**Nagarjunasagar**	**18.64**	**308**	*e*P		**Pn**	**12 43 00.8**	**+1.2**	
NJS				*e*S		Sn	12 46 12.5	-15	
SRLM	**Srisailam**	**18.71**	**306**	*e*P		**Pn**	**12 43 01.6**	**+1.0**	
SRLM				*e*S		Sn	12 46 16.3	-13	
HYB	**Hyderabad**	**19.72**	**309**	*i* P		**Pn**	**12 43 12.0**	**-0.6**	
HYB				*e*S		**S**	**12 46 45.0**	**-5.8**	
HYB	**Hyderabad**	**19.72**	**309**	*e*P		**P**	**12 43 10.3**	**-0.5**	
HYB				IAmb		IAmb	12 43 15.8		
	comp=Z,49nm,0.2s								
HYBB	**Hyderabad (bro**	**19.73**	**309**	*e*P		**Pn**	**12 43 12.8**	**+0.2**	
HYBB				*e*S		**S**	**12 46 40.7**	**-10**	
RPR	**Rampur**	**20.05**	**313**	*e*P		**P**	**12 43 14.8**	**+0.5**	
BOK	**Bokaro**	**20.17**	**336**	*e*P		Pn	12 43 16.7	-1.1	
BOK				IAmb		IAmb	12 43 19.9		
	comp=Z,97nm,0.9s								
QIZ	**Qiongzhong**	**20.21**	**46**	P		**P**	**12 43 16.5**	**+0.4**	
QIZ				S		**S**	**12 47 00.0**	**-0.5**	
QIZ				LR		LR			
	comp=Z,830nm,15.9s								
QIZ				LR		LR			
	comp=Z,590nm,14.3s								
QIZ				LR		LR			
	comp=Z,890nm,18.1s								
SHL	**Shillong**	**20.29**	**353**	*e*P		**P**	**12 43 14.3**	**-2.8**	
SHL				IAmb		IAmb	12 43 15.5		
SRSP	**Sriramsagar**	**20.79**	**312**	*e*P		Pn	12 43 23.8	-1.4	
SRSP				*e*S		**S**	**12 47 05.1**	**-6.8**	
KMI	**Kunming**	**21.21**	**21**	P		**P**	**12 43 28.5**	**+1.4**	
KMI				pP		pP	12 43 36.3	-2.2	
KMI				sP		sP	12 43 40.3	-4.3	
KMI				S		**S**	**12 47 21.5**	**+1.0**	
KMI				sS		sS	12 47 36.0	-2.9	
KMI				pmax		pmax			
	comp=Z,49nm,0.9s								
KMI				pmax		pmax			
	comp=Z,170nm,4.0s								
KMI				LR		LR			
	comp=Z,440nm,18.5s								
KMI				LR		LR			
	comp=Z,350nm,17.5s								
KMI				LR		LR			
	comp=Z,510nm,23.5s								
KKM	**Kota Kinabalu**	**21.59**	**87**	*e*P		**P**	**12 43 30.4**	**-0.7**	
	comp=Z,47nm,1.2s								
KLRI	**Killari**	**21.62**	**307**	*e*P		**P**	**12 43 33.1**	**+1.7**	
KLRI				*e*S		**S**	**12 47 21.9**	**-6.6**	
NGP	**Nagpur**	**21.75**	**318**	*e*P		**P**	**12 43 33.5**	**+0.8**	
NGP				IAmb		IAmb	12 43 40.1		
	comp=Z,42nm,1.1s								
ODAN	**Odare**	**22.48**	**343**	*e*P		**P**	**12 43 41.5**	**+0.8**	
	comp=Z,48nm,0.6s								
GOA	**Goa**	**22.71**	**298**	*e*P		**P**	**12 43 43.1**	**+0.1**	
RAMN	**Ramite**	**22.80**	**341**	*e*P		**P**	**12 43 43.6**	**-0.5**	
	comp=Z,39nm,0.6s								
JIRN	**Jiri**	**23.59**	**341**	*e*P		**P**	**12 43 51.8**	**-0.2**	
	comp=Z,127nm,0.8s								
PKI	**Pulchoki**	**23.77**	**340**	*e*P		**P**	**12 43 52.7**	**-1.0**	
	comp=Z,26nm,0.6s								
PKIN	**Phulchoki**	**23.78**	**340**	*e*P		**P**	**12 43 53.4**	**-0.3**	
	comp=Z,58nm,0.7s								
MYLDM	**Lahad Datu**	**23.87**	**89**	*e*P		**P**	**12 43 53.2**	**-1.1**	
	comp=Z,29nm,0.8s								
DMN	**Daman**	**23.91**	**339**	*e*P		**P**	**12 43 54.9**	**0.0**	
GUN	**Gumba**	**23.93**	**341**	*e*P		**P**	**12 43 54.1**	**-1.0**	
	comp=Z,92nm,0.8s								
GYA	**Guiyang**	**24.01**	**28**	⇑*i*P		**P**	**12 43 56.0**	**+0.4**	
GYA				pP		pP	12 44 06.0	-2.1	
GYA				PP		**PnPn**	**12 44 31.3**	**+5.0**	
GYA				PcP		**PcP**	**12 47 39.5**	**+2.8**	
GYA				S		**S**	**12 48 07.8**	**-1.7**	
GYA				sS		sS	12 48 25.5	-5.0	
GYA				SS		**SnSn**	**12 49 01.0**	**+7.4**	
GYA				pmax		pmax			
	comp=Z,80nm,0.8s								
GYA				pmax		pmax			
	comp=Z,100nm,5.0s								
GYA				LR		LR			
	comp=Z,560nm,17.0s								
GYA				LR		LR			
	comp=Z,520nm,17.4s								
GYA				LR		LR			
	comp=Z,540nm,17.6s								
KKN	**Kakani**	**24.02**	**340**	*e*P		**P**	**12 43 55.7**	**-0.1**	
POO	**Poona**	**24.08**	**305**	*e*P		**P**	**12 43 55.9**	**-0.4**	
POO				IAmb		IAmb	12 43 56.9		
	comp=Z,8.8nm,0.7s								
BHPL	**Bhopal**	**24.29**	**319**	*e*P		**P**	**12 43 58.4**	**+0.3**	
BHPL				*i* Pg		**P**	**12 43 58.4**	**+0.3**	
BHPL				IAmb		IAmb	12 44 00.3		
	comp=Z,31nm,1.1s								
GKN	**Gorkha**	**24.44**	**338**	*e*P		**P**	**12 43 59.8**	**+0.2**	
LSA	**Lhasa**	**24.46**	**353**	P		**P**	**12 44 00.5**	**+0.4**	
LSA				pmax		pmax			
	comp=Z,44nm,0.9s								
LSA	**Lhasa**	**24.46**	**353**	*e*P		**P**	**12 44 00.1**	**0.0**	
LSA				*e*			12 47 39.7		
LSA				pmax		pmax			
	comp=Z,30nm,0.6s								
LSA	**Lhasa**	**24.46**	**353**	*e*P		**P**	**12 44 00.1**	**0.0**	
	comp=Z,30nm,0.6s								
LSA				*e*PcP		**PcP**	**12 47 39.7**	**+1.6**	
KOLN	**Koldanda**	**24.63**	**336**	*e*P		**P**	**12 44 02.0**	**+0.6**	
	comp=Z,135nm,0.7s								
DANN	**Dangsing**	**25.09**	**337**	*e*P		**P**	**12 44 05.8**	**+0.2**	
PYUN	**Piuthan**	**25.17**	**335**	*e*P		**P**	**12 44 07.0**	**+0.7**	
	comp=Z,108nm,0.5s								
H08S2	**Diego Garcia H**	**25.48**	**240**	T		T	13 10 14.5		
	baz=58,slow=75,SNR=375								
H08S3	**Diego Garcia H**	**25.48**	**240**	T		T	13 10 15.5		
	baz=58,slow=75,SNR=184								
H08S1	**Diego Carcia H**	**25.50**	**240**	T		T	13 10 20.9		
	baz=58,slow=75,SNR=362								
H08N1	**Diego Carcia H**	**26.18**	**244**	T		T	13 11 29.2		
	baz=324,slow=76,SNR=7.1								
H08N2	**Diego Garcia H**	**26.18**	**244**	T		T	13 11 26.2		
	baz=324,slow=76,SNR=5.4								
H08N3	**Diego Garcia H**	**26.20**	**244**	T		T	13 11 27.8		
	baz=324,slow=76,SNR=7.1								
CD2	**Chengdu**	**26.90**	**18**	P		**P**	**12 44 23.0**	**+1.3**	
CD2				pP		pP	12 44 32.8	-1.5	
CD2				sP		sP	12 44 37.3	-2.8	
CD2				S		**S**	**12 48 58.5**	**+3.3**	
CD2				sS		sS	12 49 15.5	-1.0	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.0s								
CD2				LR		LR			
	comp=Z,630nm,17.6s								
CD2				LR		LR			
	comp=Z,400nm,17.6s								
ENH	**Enshi**	**28.55**	**28**	*e*P		**P**	**12 44 35.3**	**-1.1**	
	comp=Z,17nm,0.8s								
DDI	**Dehra Dun**	**29.32**	**330**	*ex*		**P**	**12 44 38.8**	**-4.5**	
BHJ	**Bhuj**	**29.89**	**309**	*e*P		**P**	**12 44 49.0**	**+0.6**	
SMLA	**Simla**	**30.42**	**330**	*e*P		**P**	**12 44 52.4**	**-0.5**	
SMLA				IAmb		IAmb	12 44 53.5		
	comp=Z,12nm,0.8s								
DAV	**Davao City (W)**	**30.91**	**85**	LR		LR	13 00 17.6		
	comp=Z,110nm,18.2s,baz=264,slow=42								
XAN	**Xi'an**	**31.55**	**23**	P		**P**	**12 45 01.5**	**-1.4**	
XAN				pP		pP	12 45 13.3	-2.3	
XAN				sP		sP	12 45 18.5	-2.9	
XAN				PP		**PnPn**	**12 46 05.5**	**-2.2**	
XAN				S		**S**	**12 50 09.5**	**+1.3**	
XAN				sS		sS	12 50 23.3	-6.3	
XAN				pmax		pmax			
	comp=Z,43nm,0.9s								
XAN				pmax		pmax			
	comp=Z,150nm,5.4s								
XAN				LR		LR			
	comp=Z,440nm,22.2s								
XAN				LR		LR			
	comp=Z,270nm,19.5s								
XAN				LR		LR			
	comp=Z,440nm,21.7s								
DHRM	**DHARAMSHALA**	**31.76**	**330**	*e*P		**P**	**12 45 03.9**	**-1.1**	
DHRM				IAmb		IAmb	12 45 13.2		
	comp=Z,28nm,1.1s								
LZH	**Lanzhou**	**31.80**	**14**	⇓P		**P**	**12 45 04.3**	**-0.9**	
LZH				pP		pP	12 45 14.5	-3.5	
LZH				sP		sP	12 45 18.5	-5.2	
LZH				*e*PP		**PP**	**12 46 14.3**	**-3.5**	
LZH				*e*S		**S**	**12 50 16.0**	**+3.7**	
LZH				sS		sS	12 50 32.0	-1.7	
LZH				SS		**SnSn**	**12 52 07.0**	**+3.6**	
LZH				pmax		pmax			
	comp=Z,78nm,1.3s								
LZH				pmax		pmax			
	comp=Z,300nm,5.7s								
SOEI	**Soe**	**33.20**	**117**	*e*P		**P**	**12 45 15.2**	**-2.5**	
	comp=Z,18nm,0.8s								
GTA	**Gaotai**	**34.27**	**7**	⇑P		**P**	**12 45 26.3**	**-0.5**	
GTA				pP		pP	12 45 35.3	-4.3	
GTA				sP		sP	12 45 39.5	-5.8	
GTA				PcP		**PcP**	**12 48 02.8**	**+0.4**	
GTA				S		**S**	**12 50 47.5**	**-3.1**	
GTA				sS		sS	12 51 05.8	-6.3	
GTA				ScP		**ScP**	**12 51 43.5**	**-0.1**	
GTA				pmax		pmax			
	comp=Z,33nm,1.0s								
GTA				pmax		pmax			
	comp=Z,70nm,5.1s								
GTA				LR		LR			
	comp=Z,300nm,20.0s								
GTA				LR		LR			
	comp=Z,330nm,19.5s								
GTA				LR		LR			
	comp=Z,220nm,21.7s								
NIL	**Nilore**	**34.44**	**328**	*e*P		**P**	**12 45 27.7**	**-0.5**	
NIL				pmax		pmax			
	comp=Z,44nm,0.7s								
NIL	**Nilore**	**34.44**	**328**	*e*P		**P**	**12 45 27.7**	**-0.5**	
	comp=Z,44nm,0.7s								
NJ2	**Nanjing**	**35.00**	**38**	*e*P		**P**	**12 45 33.3**	**+0.3**	
NJ2				pmax		pmax			
	comp=Z,36nm,0.8s								
KSH	**Kashi**	**37.95**	**336**	P		**P**	**12 45 57.3**	**-0.9**	
KSH				pP		pP	12 46 07.3	-3.8	
KSH				sP		sP	12 46 11.5	-5.4	
KSH				S		**S**	**12 51 43.5**	**-3.3**	
KSH				sS		ScP	12 51 59.5	+2.4	
KSH				pmax		pmax			
	comp=Z,30nm,1.0s								
KSH				pmax		pmax			
	comp=Z,110nm,7.4s								
KSH				LR		LR			
	comp=Z,110nm,4.8s								
KSH				LR		LR			
	comp=Z,170nm,4.9s								
KSH				LR		LR			
	comp=Z,100nm,7.1s								
HHC	**Hu-ho-hao-te**	**38.53**	**21**	*e*P		**P**	**12 46 05.5**	**+2.4**	
HHC				pP		pP	12 46 15.5	-0.5	
HHC				sP		sP	12 46 19.3	-2.5	
HHC				PP		**PnPn**	**12 47 38.3**	**+4.0**	
HHC				S		**S**	**12 51 59.3**	**+3.7**	
HHC				sS		sS	12 52 15.5	-1.8	
HHC				SS		**SnSn**	**12 54 41.3**	**-4.9**	
HHC				ScS		**ScS**	**12 56 11.5**	**+1.8**	
HHC				pmax		pmax			
	comp=Z,14nm,1.2s								
HHC				pmax		pmax			
	comp=Z,58nm,5.5s								
HHC				LR		LR			
	comp=Z,340nm,14.3s								
HHC				LR		LR			
	comp=Z,150nm,14.1s								
HHC				LR		LR			
	comp=Z,270nm,16.5s								
JOW	**Kunigami**	**38.63**	**53**	LR		LR	13 01 37.3		
	comp=Z,288nm,21.1s,baz=128,slow=36								
WMQ	**Urumqi**	**38.82**	**352**	P		**P**	**12 46 06.0**	**+0.7**	
WMQ				pP		pP	12 46 16.0	-2.3	
WMQ				sP		sP	12 46 23.5	-0.5	
WMQ				pmax		pmax			
	comp=Z,80nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,280nm,5.3s								
WMQ				LR		LR			
	comp=Z,270nm,25.3s								
WMQ				LR		LR			
	comp=Z,480nm,27.9s								
WMQ				LR		LR			
	comp=Z,300nm,28.9s								
WSAR	**Wadi Sarin**	**38.92**	**301**	P		**P**	**12 46 09.3**	**+2.8**	
	comp=Z,7.0nm,0.6s,baz=141,slow=7.5,SNR=7.3								
SFK	**Sufi-Kurgan**	**39.39**	**334**	*i* P		**P**	**12 46 11.2**	**+0.8**	
SFK				pmax		pmax			
	comp=Z,61nm,0.9s								
NRN	**Naryn**	**39.59**	**338**	P		**P**	**12 46 12.8**	**+0.6**	
NRN				pmax		pmax			
	comp=Z,30nm,0.8s								
BJT	**Baijiatuao**	**39.66**	**26**	*e*P		**P**	**12 46 13.2**	**+0.8**	
BJT				pmax		pmax			
	comp=Z,86nm,1.3s								
BJT	**Baijiatuao**	**39.66**	**26**	*e*P		**P**	**12 46 13.2**	**+0.8**	
	comp=Z,86nm,1.3s								
BJI	**Beijing**	**39.69**	**26**	*e*P		**P**	**12 46 13.3**	**+0.8**	
BJI				pmax		pmax			
	comp=Z,71nm,0.9s								
PRZ	**Przheval'sk**	**39.69**	**341**	P		**P**	**12 46 14.9**	**+2.1**	
PRZ				pmax		pmax			
	comp=Z,63nm,0.8s								
KDJ	**Kajisay**	**39.78**	**340**	P		**P**	**12 46 14.6**	**+1.1**	
KDJ				pmax		pmax			
	comp=Z,671nm,0.7s								
PDGK	**Podgornoye**	**40.12**	**343**	*i* P		**P**	**12 46 17.1**	**+0.8**	
PDGK				pmax		pmax			
	comp=Z,151nm,1.7s								
ULHL	**Ulahol**	**40.21**	**339**	P		**P**	**12 46 18.0**	**+0.9**	
	SNR=53								
KZA	**Kyzart**	**40.43**	**338**	P		**P**	**12 46 20.3**	**+1.1**	
	SNR=27								
MTN	**Manton Dam**	**40.60**	**117**	*e*P		**P**	**12 46 18.9**	**-1.5**	
	comp=Z,13nm,0.4s								
UCH	**Uchtor**	**40.84**	**337**	P		**P**	**12 46 23.8**	**+1.2**	
	SNR=82								
TKM2	**Tokmak 2**	**41.03**	**339**	*i* P		**P**	**12 46 24.5**	**+0.6**	
TKM2				pmax		pmax			
	comp=Z,30nm,0.8s								
TKM2	**Tokmak 2**	**41.03**	**339**	P		**P**	**12 46 25.0**	**+1.0**	
	SNR=19								
KBK	**Karagaybulak**	**41.04**	**338**	P		**P**	**12 46 25.7**	**+1.7**	
	SNR=53								
AML	**Almayashu**	**41.08**	**336**	P		**P**	**12 46 25.6**	**+1.1**	
	SNR=110								
AAK	**Ala-Archa**	**41.20**	**337**	P		**P**	**12 46 26.5**	**+1.3**	
	comp=Z,32nm,0.8s,baz=146,slow=5.1,SNR=94								
AAK				ScP		**ScP**	**12 52 08.9**	**-0.8**	
	comp=Z,2.7nm,0.8s,baz=171,slow=6.8,SNR=4.3								
AAK	**Ala-Archa**	**41.20**	**337**	*e*P		**P**	**12 46 26.4**	**+1.3**	
AAK				pmax		pmax			
	comp=Z,30nm,0.8s								
AAK	**Ala-Archa**	**41.20**	**337**	P		**P**	**12 46 26.6**	**+1.3**	
	SNR=53								
AAK	**Ala-Archa**	**41.20**	**337**	*e*P		**P**	**12 46 26.4**	**+1.1**	
	comp=Z,30nm,0.8s								
AAK				*e*ScP		**ScP**	**12 52 10.5**	**+0.8**	
FRU1	**Bishkek**	**41.29**	**338**	P		**P**	**12 46 27.7**	**+1.8**	
FRU1				pmax		pmax			
	comp=Z,46nm,0.9s								
CHMS	**Chumysh**	**41.41**	**338**	P		**P**	**12 46 27.9**	**+1.1**	
	SNR=12								
EKS2	**Erkin-Say**	**41.49**	**337**	P		**P**	**12 46 29.2**	**+1.5**	
	SNR=40								
USP	**Ospenovka**	**41.73**	**338**	P		**P**	**12 46 30.6**	**+1.1**	
	SNR=23								
MNAS	**Manas**	**41.86**	**335**	*i* P		**P**	**12 46 31.6**	**+0.9**	
MNAS				pmax		pmax			
	comp=Z,34nm,1.3s								
MK01	**Makanchi Array**	**42.63**	**348**	*e*P		**P**	**12 46 36.7**	**0.0**	
MK31	**Makanchi Array**	**42.65**	**348**	*i* P		**P**	**12 46 36.7**	**-0.2**	
MK31				pmax		pmax			
	comp=Z,47nm,1.0s								
MK31	**Makanchi Array**	**42.65**	**348**	*e*P		**P**	**12 46 36.9**	**0.0**	
MKAR	**Makanchi Array**	**42.65**	**348**	P		**P**	**12 46 36.9**	**+0.1**	
	comp=Z,20nm,0.7s,baz=164,slow=8.7,SNR=231								
MKAR				ScP		**ScP**	**12 52 16.1**	**+0.8**	
	comp=Z,0.9nm,1.0s,baz=147,slow=3.4,SNR=3.8								
MKAR				LR		LR	13 07 21.3		
	comp=Z,78nm,20.9s,baz=162,slow=40								
MKAR	**Makanchi Array**	**42.65**	**348**	*e*P		**P**	**12 46 36.8**	**-0.1**	
MKAR				pmax		pmax			
	comp=Z,185nm,1.0s								
MKAR	**Makanchi Array**	**42.65**	**348**	*e*P		**P**	**12 46 36.8**	**-0.1**	
	comp=Z,185nm,1.0s								
MKAR				ScP		**ScP**	**12 52 16.1**	**+0.8**	
MAKZ	**Makanchi**	**42.73**	**347**	*e*P		**P**	**12 46 37.6**	**+0.1**	
MAKZ				pmax		pmax			
	comp=Z,24nm,0.8s								
MAKZ	**Makanchi**	**42.73**	**347**	*e*P		**P**	**12 46 37.6**	**+0.1**	
	comp=Z,24nm,0.8s								
TJN	**Taejon**	**43.15**	**40**	⇓*i* P		**P**	**12 46 39.7**	**-1.3**	
KK31	**Karatay Array**	**43.21**	**334**	*i* P		**P**	**12 46 41.6**	**+0.1**	
KK31				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KKAR	**Karatay Array**

HVS pmax pmax
comp=Z,34nm,1.1s
GEYT Alibeck 46.37 320 P **P 12 47 08.0 +1.3**
comp=Z,12nm,0.6s,baz=148,slow=8.7,SNR=22
GEYT LR LR 13 10 27.1
comp=Z,64nm,18.4s,baz=125,slow=41
WRA Warramunga Arr 46.50 124 P **P 12 47 08.1 +0.1**
comp=Z,20nm,0.8s,baz=304,slow=9.2,SNR=140
WRA LR LR 13 07 57.7
comp=Z,86nm,21.9s,baz=185,slow=38
WRAB Tennant Creek 46.50 124*c i*P **P 12 47 08.0 0.0**
WRAB pmax pmax
comp=Z,102nm,1.2s
WRAB Tennant Creek 46.50 124 *e*P **P 12 47 08.2 +0.3**
comp=Z,38nm,1.1s
WB2 Warramunga Arr 46.51 124 *e*P **P 12 47 08.2 +0.2**
comp=Z,38nm,1.1s
OTUK Ortayu 46.78 340 P P 12 47 15.7 +5.9
OTUK pmax pmax
comp=Z,59nm,0.7s
TLY Talaya 46.83 8 P **P 12 47 10.7 +0.6**
comp=Z,8.6nm,0.8s,baz=181,slow=2.1,SNR=8.9
TLY LR LR 13 09 25.7
comp=Z,186nm,18.6s,baz=184,slow=39
TLY Talaya 46.83 8 *e*P **P 12 47 05.9 -4.1**
TLY *e*S **S 12 53 57.9 +0.9**
TLY *e*SS **ScS 12 57 02.9 +2.6**
TLY pmax pmax
comp=Z,11nm,0.8s
TLY MLR MLR
comp=Z,191nm,19.0s
TLY Talaya 46.83 8 *e*P **P 12 47 10.2 +0.1**
comp=Z,12nm,0.8s
CN2 Changchun 47.00 31 *e*P **P 12 47 13.8 +2.3**
KURBB Kurchatov Arra 47.10 346 P **P 12 47 12.8 +0.6**
comp=Z,59nm,0.7s,baz=170,slow=6.8,SNR=461
KURBB ScP **ScP 12 52 33.6 +0.2**
comp=Z,2.2nm,1.1s,baz=164,slow=3.7,SNR=5.0
KURK Kurchatov 47.17 346*c i*P **P 12 47 13.2 +0.5**
KURK pmax pmax
comp=Z,142nm,1.7s
KURK Kurchatov 47.17 346 *e*P **P 12 47 13.4 +0.8**
comp=Z,263nm,1.8s
KURK ScP **ScP 12 52 33.6 -0.1**
AS31 Alice Springs 48.01 129 *e*P **P 12 47 20.1 +0.4**
comp=Z,3.0nm,0.6s
ASAR Alice Springs 48.01 129 P **P 12 47 20.1 +0.4**
comp=Z,9.9nm,0.8s,baz=300,slow=7.4,SNR=116
ASAR S **S 12 54 12.0 -2.6**
comp=Z,1.6nm,1.0s,baz=297,slow=14,SNR=12
ASAR LR LR 13 10 52.0
comp=Z,65nm,18.4s,baz=306,slow=40
AS01 Alice Springs 48.05 128 *e*P **P 12 47 19.5 -0.4**
ZALV Zalesovo Beam 49.12 352 P **P 12 47 27.8 0.0**
comp=Z,31nm,0.7s,baz=181,slow=6.9,SNR=191
ZALV ScP **ScP 12 52 40.8 -1.2**
comp=Z,1.3nm,0.8s,baz=197,slow=3.1,SNR=4.7
ZALV LR LR 13 10 48.8
comp=Z,47nm,19.8s,baz=250,slow=39
MDJ Mudanjiang 49.72 33 P **P 12 47 31.0 -1.4**
MDJ pP pP 12 47 41.5 -4.2
MDJ pmax pmax
comp=Z,28nm,1.0s
MDJ pmax pmax
comp=Z,96nm,3.9s
MDJ Mudanjiang 49.72 33 *e*P **P 12 47 32.4 0.0**
comp=Z,50nm,1.4s
NVS Novosibirsk 50.21 352 *e*P **P 12 47 35.7 -0.3**
NVS *e* 12 47 47.7
NVS *e*S **S 12 54 43.7 -0.8**
NVS pmax pmax
comp=Z,30nm,1.0s
NVS pmax pmax
comp=N,20nm,1.1s
NVS pmax pmax
comp=E,13nm,1.1s
NVS smax smax
comp=N,7.0nm,1.7s
NVS smax smax
comp=E,22nm,1.9s
JCJ Chichijima 50.23 59 LR LR 13 06 19.3
comp=E,98nm,20.2s,baz=90,slow=33
GUMO Guam 50.25 77 LR LR 13 08 40.7
comp=E,26nm,21.9s,baz=266,slow=36
RAYN Ar Rayn 50.52 296 P **P 12 47 41.4 +2.5**
RAYN Ar Rayn 50.52 296 *e*P **P 12 47 41.4 +2.5**
comp=E,7.8nm,0.7s
KRAR Krasnoyarsk 50.57 359⇓*i*P **P 12 47 38.1 -0.5**
MJAR Matsushiro Arr 50.61 46 P **P 12 47 39.7 +0.3**
comp=E,2.8nm,0.8s,baz=248,slow=8.8,SNR=6.1
MJAR LR LR 13 10 42.6
comp=E,142nm,19.4s,baz=265,slow=38
USRK Ussuriysk Ar. 50.77 34 P **P 12 47 39.7 -0.6**
comp=E,5.0nm,0.7s,baz=238,slow=6.4,SNR=7.1
USRK LR LR 13 11 24.0
comp=E,227nm,19.3s,baz=216,slow=39
ATD Arta Tunnel 51.44 280 LR LR 13 05 52.1
comp=E,69nm,21.7s,baz=73,slow=32
BVA0 Borovoye Array 51.52 342 P **P 12 47 45.8 -0.1**
BVA0 pmax pmax
comp=Z,27nm,0.8s
BVAR Borovoye Array 51.52 342 P **P 12 47 46.3 +0.4**
comp=Z,20nm,0.7s,baz=142,slow=9.2,SNR=88
BVAR LR LR 13 13 14.0
comp=Z,36nm,18.4s,baz=150,slow=40
BRVK Borovoye 51.58 342*c i*P **P 12 47 46.4 +0.1**
BRVK pmax pmax
comp=Z,23nm,0.7s
BRVK Borovoye 51.58 342 *e*P **P 12 47 46.7 +0.4**
comp=Z,71nm,1.4s
OPO Ambohidratompo 52.35 242 LR LR 13 06 45.7
comp=Z,136nm,20.0s,baz=36,slow=32
AB31 Akbulak array 52.65 332 *i*P **P 12 47 54.8 +0.5**
AB31 pmax pmax
comp=Z,48nm,1.1s
ABKAR Akbulak array 52.65 332 *e*P **P 12 47 54.8 +0.5**
comp=Z,16nm,0.8s
KLR Kul'dur 53.89 29 P **P 12 48 03.4 0.0**
comp=Z,0.9nm,0.9s,baz=260,slow=6.4,SNR=22
KLR LR LR 13 14 26.4
comp=Z,14nm,18.8s,baz=192,slow=40
KLR Kul'dur 53.89 29⇓*i*P **P 12 48 03.7 +0.3**
AKTO Aktyubinsk 54.37 332 P **P 12 48 07.0 +0.1**
comp=Z,8.8nm,0.6s,baz=123,slow=7.9,SNR=35
PMG Port Moresby 54.45 105 P **P 12 48 08.4 +0.3**
comp=Z,11nm,0.7s,baz=17,slow=11,SNR=3.8
ZEA Zeya 55.13 23 *e*P **P 12 48 11.9 -0.4**
ZEA pmax pmax
comp=Z,11nm,0.9s
GNI Garni 56.50 315 P **P 12 48 23.4 +0.7**
comp=Z,9.4nm,0.8s,baz=324,slow=19,SNR=2.8
ASAJ Asahikawa 57.10 40 P **P 12 48 27.0 +0.4**
comp=Z,9.5nm,1.0s,baz=97,slow=8.1,SNR=3.9
GROC Groznyy 57.11 319 *e*P **P 12 48 26.5 -0.2**
GROC *e* 12 49 19.6
GROC pmax pmax
comp=Z,57nm,1.1s
KMBO Kilima Mbogo 57.56 265 P **P 12 48 31.2 +0.5**
comp=Z,1.3nm,0.5s,baz=49,slow=20,SNR=2.8
KMBO LR LR 13 09 16.3
comp=Z,173nm,21.8s,baz=90,slow=32
KMBO Kilima Mbogo 57.56 265 *e*P **P 12 48 30.7 0.0**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 57.56 265 *e*P **P 12 48 30.6 0.0**
comp=Z,3.6nm,1.0s
SVE Sverdlovsk 57.91 339*de*P **P 12 48 32.6 +0.6**
SVE pmax pmax
comp=Z,50nm,1.2s
STKA Stephens Creek 58.08 133 P **P 12 48 34.1 +0.4**
comp=Z,4.7nm,0.9s,baz=301,slow=6.5,SNR=5.6
STKA LR LR 13 17 04.2
comp=Z,93nm,18.9s,baz=346,slow=40
ZEI Tsey 58.18 318 *e*P **P 12 48 33.7 -0.8**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 58.38 337 P **P 12 48 35.3 0.0**
comp=Z,8.0nm,0.7s,baz=114,slow=3.5,SNR=15
ARU Arti 58.38 337*c i*P **P 12 48 35.1 -0.3**
ARU 12 49 23.2
ARU 12 50 43.3
ARU S **S 12 56 39.9 +5.4**
ARU SS **SS 13 00 29.7 +2.4**
ARU pmax pmax
comp=Z,36nm,1.7s
ARU Arti 58.38 337 *e*P **P 12 48 35.3 0.0**
comp=Z,18nm,0.9s

YSS Yuzh-Sakhalins 58.56 37 *e*P **P 12 48 36.4 -0.4**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 58.56 37 *e*P **P 12 48 36.9 +0.1**
comp=Z,28nm,1.1s
NEY Neytrino 59.16 318⇑*i*P **P 12 48 42.2 +1.0**
NEY pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 59.24 319 P **P 12 48 41.7 +0.2**
comp=Z,10nm,0.9s,baz=127,slow=5.1,SNR=18
KVAR Kislovodsk Arr 59.47 319 P **P 12 48 43.1 -0.2**
comp=Z,11nm,0.7s,baz=262,slow=2.0,SNR=8.1
KIV Kislovodsk 59.47 319 *e*P **P 12 48 42.6 -0.7**
KIV pmax pmax
comp=Z,24nm,1.1s
NKL Nikolayevsk 60.73 30 *i*P **P 12 48 51.0 -0.5**
NKL pmax pmax
comp=N,15nm,1.0s
NKL pmax pmax
comp=Z,38nm,1.0s
SOKR Solíkamsk 61.33 339 *e*P **P 12 48 53.3 -2.2**
SOKR pmax pmax
comp=Z,23nm,1.1s
MMAI Mount Meron Ar 61.37 305 P **P 12 48 59.3 +2.9**
comp=Z,11nm,0.8s,baz=116,slow=9.8,SNR=9.8
MMAI LR LR 13 17 05.1
comp=Z,80nm,21.0s,baz=165,slow=37
YAK Yakutsk 62.29 18 P **P 12 49 00.2 -1.7**
comp=Z,19nm,0.6s,baz=247,slow=1.0,SNR=12
YAK LR LR 13 17 56.1
comp=Z,128nm,20.0s,baz=262,slow=38
YAK Yakutsk 62.29 18 *e*P **P 12 48 59.3 -2.6**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK Yakutsk 62.29 18 *e*P **P 12 49 00.4 -1.5**
VRH Novokhopyorsk 63.24 326 *e*P **P 12 49 07.6 -0.9**
VRH pmax pmax
comp=Z,20nm,0.5s
BR131 Keskin Array S 64.39 312 *e*P **P 12 49 16.5 0.0**
BRTR Keskin Array B 64.39 312 P **P 12 49 16.4 0.0**
comp=Z,7.0nm,0.7s,baz=128,slow=7.6,SNR=38
BRTR LR LR 13 18 20.7
comp=Z,36nm,21.9s,baz=101,slow=37
VSR Storozhevoye 64.69 325 *e*P **P 12 49 16.6 -1.4**
VSR pmax pmax
comp=Z,20nm,0.7s
ILGA Ilgaz 64.69 313 *e*P **P 12 49 19.6 +1.0**
BR231 Keskin MP Arra 65.07 312 *e*P **P 12 49 17.2 -3.6**
LPSR Galich'ya Gora 65.41 326 *e*P **P 12 49 21.8 -0.9**
LPSR pmax pmax
comp=Z,30nm,0.8s
HNR Honiara 66.81 103 LR LR 13 21 35.7
comp=Z,45nm,18.2s,baz=302,slow=38
MOS Moscow 67.45 329 *e*P **P 12 49 34.0 -1.6**
MOS *e* 12 49 49.5
OBN Obninsk 67.74 328⇑*e*P **P 12 49 36.9 -0.5**
OBN *e* 12 50 05.5
OBN *e* 12 52 05.9
OBN *e*S S 12 58 58.4 +27
OBN pmax pmax
comp=Z,84nm,2.5s
OBN MLR MLR
comp=Z,47nm,20.0s
LSZ Lusaka 68.81 251 P P 12 49 58.5 +13
LSZ *e*PP **PP 12 52 18.2 +0.6**
MA2 Magadan 68.84 27 P **P 12 49 43.5 -0.8**
comp=Z,8.4nm,0.7s,baz=226,slow=5.2,SNR=16
MA2 LR LR 13 23 45.7
comp=Z,86nm,18.6s,baz=224,slow=39
KLMR Klimovskoe 68.91 335 *e*P **P 12 49 42.9 -1.7**
KLMR *e* 12 50 06.5
KLMR pmax pmax
comp=Z,22nm,1.4s
KLMR Klimovskoe 68.91 335 *e*P **P 12 49 43.0 -1.7**
KLMR AMP 12 49 45.4
comp=Z,22nm,1.4s
KLMR *e*PcP **PcP 12 50 06.6 -2.2**
TIXI Tiksi 69.65 11 P **P 12 49 47.5 -1.6**
comp=Z,11nm,0.6s,baz=215,slow=3.2,SNR=59
TIXI Tiksi 69.65 11 *e*P **P 12 49 47.3 -1.7**
CFR Carcaliu 69.69 316⇓P **P 12 49 48.4 -1.4**
CFR Carcaliu 69.69 316⇓*i*P **P 12 49 48.4 -1.4**
PETK Petropavlovsk- 69.85 35 LR LR 13 20 36.5
comp=Z,108nm,21.8s,baz=243,slow=36
SANT Santorini 70.04 307⇓*i*P **P 12 49 51.8 -0.4**
APE Apeiranthos 70.08 307⇑P **P 12 49 51.5 -1.0**
APE Apeiranthos 70.08 307⇑*i*P **P 12 49 51.5 -1.0**
IDI Anoyia 70.34 305 P **P 12 49 55.3 +1.1**
comp=Z,18nm,0.6s,baz=75,slow=7.4,SNR=28
IDI LR LR 13 25 42.9
comp=Z,21nm,20.3s,baz=99,slow=40
IDI Anoyia 70.34 305⇓*i*P **P 12 49 55.5 +1.3**
IDI Anoyia 70.34 305 *e*P **P 12 49 55.5 +1.3**
AKASG Malin Array Be 70.39 322 P **P 12 49 52.9 -1.2**
comp=Z,2.0nm,0.5s,baz=87,slow=5.1,SNR=20
KIEV Kiev 70.40 322⇑*i*P **P 12 49 53.2 -0.8**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 70.40 322 *e*P **P 12 49 53.3 -0.8**
VRI Vrincioaia 70.81 317⇓P **P 12 49 58.1 +1.4**
VRI Vrincioaia 70.81 317⇓*i*P **P 12 49 58.1 +1.4**
SEY Seymchan 71.08 24 P **P 12 49 56.6 -1.4**
comp=Z,2.4nm,0.5s,baz=252,slow=4.8,SNR=19
SEY Seymchan 71.08 24⇓*e*P **P 12 49 57.2 -0.8**
TMCR Tamitsa 71.12 337 *e*P **P 12 49 58.0 -0.1**
TMCR pmax pmax
comp=Z,29nm,0.5s
MLR Muntele Rosu 71.27 316 P **P 12 50 00.7 +1.0**
comp=Z,3.4nm,0.7s,baz=138,slow=2.4,SNR=18
MLR LR LR 13 28 39.0
comp=Z,9.1nm,18.0s,baz=353,slow=42
VOIR 71.87 316⇓P **P 12 50 03.0 -0.2**
VOIR 71.87 316⇓*i*P **P 12 50 03.0 -0.2**
ARR Arges 72.15 316⇓*i*P **P 12 50 05.3 +0.4**
BURAR Bucovina Array 72.19 318⇑P **P 12 50 06.3 +1.2**
BURAR Bucovina Array 72.19 318⇑*i*P **P 12 50 06.3 +1.2**
VTS Vitosha 72.69 313⇑P **P 12 50 08.5 +0.2**
VTS Vitosha 72.69 313⇑*i*P **P 12 50 08.5 +0.2**
NACGM Naroch 72.97 326 *e* **P 12 50 09.0 -0.4**
IDID Didziasalis 73.10 326 *e*P **P 12 50 10.5 +0.3**
IIGN Ignalina 73.39 326 *e*P **P 12 50 12.2 +0.3**
IZAR Zarasai 73.49 327 *e*P **P 12 50 12.8 +0.3**
ISAL Salakas 73.50 327 *e*P **P 12 50 12.9 +0.3**
DRGR 73.72 317⇓P **P 12 50 15.3 +1.2**
DRGR 73.72 317⇓*i*P **P 12 50 15.3 +1.2**
VSU Vasula 73.97 330⇑*e*P **P 12 50 14.1 -1.1**
BZS Buzias 74.28 316⇓P **P 12 50 17.5 +0.2**
BZS Buzias 74.28 316⇓*i*P **P 12 50 17.5 +0.2**
BOSA Boshof 74.58 239 P **P 12 50 20.4 +0.9**
comp=Z,3.3nm,1.0s,baz=103,slow=3.5,SNR=4.8
BOSA LR LR 13 17 18.6
comp=Z,164nm,19.9s,baz=34,slow=31
CRVS Cervenica-Dubn 74.90 319 *e*P **P 12 50 21.7 +0.8**
CRVS Cervenica-Dubn 74.90 319 *e*P **P 12 50 21.7 +0.8**
FINES FINESS Array B 75.14 332 P **P 12 50 21.9 0.0**
comp=Z,4.7nm,0.7s,baz=103,slow=5.4,SNR=22
FINES LR LR 13 28 26.4
comp=Z,42nm,18.0s,baz=202,slow=40
FINES FINESS Array B 75.14 332 P **P 12 50 22.0 0.0**
MSF Maaselka 75.31 337 *e*P **P 12 50 24.9 +2.0**
MAW Mawson 76.13 192 LR LR 13 20 52.8
comp=Z,159nm,18.4s,baz=58,slow=33
OJC Ojcow 76.17 320 *e*P **P 12 50 28.8 +0.6**
OJC Ojcow 76.17 320 *e*P **P 12 50 28.8 +0.6**
VYHS Vyhne 76.56 318 *e*P **P 12 50 31.0 +0.6**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 76.56 318 *e*P **P 12 50 31.0 +0.6**
OKC Ostrava-Krasne 77.18 320 *e*P **P 12 50 34.9 +1.1**
OKC *e* 12 50 50.9
OKC Ostrava-Krasne 77.18 320 *e*P **P 12 50 34.9 +1.1**
OKC *ex* x 12 50 50.9
MORC Moravsky Berou 77.56 320 *e*P **P 12 50 36.9 +0.9**
MORC pmax pmax
comp=Z,58nm,1.1s
MORC Moravsky Berou 77.56 320⇑*i*P **P 12 50 35.0 -1.0**
MORC Moravsky Berou 77.56 320 *e*P **P 12 50 36.9 +0.9**
comp=Z,58nm,1.1s
MODS Modra-Piesok 77.58 318 *e*P **P 12 50 36.3 +0.2**
MODS Modra-Piesok 77.58 318 *e*P **P 12 50 36.3 +0.2**

ARCES ARCESS Array B 77.79 340 P **P 12 50 37.0 +0.1**
comp=Z,16nm,0.9s,baz=94,slow=5.5,SNR=27
ARCES ARCESS Array B 77.79 340 P **P 12 50 37.0 +0.1**
KOGS Kog 78.09 316 *i*P **P 12 50 40.0 +1.0**
VRAC Vranov 78.12 319 P **P 12 50 39.6 +0.5**
comp=Z,1.0nm,0.4s,baz=122,slow=9.5,SNR=3.2
BILL Bilibino 78.31 21 *e*P **P 12 50 38.9 -0.8**
BILL *e* 12 53 37.0
BILL *e*S **S 13 00 38.2 +7.1**
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,308nm,19.0s
KSP Ksiaz 78.47 321 *e*P **P 12 50 42.4 +1.4**
KSP Ksiaz 78.47 321 *e*P **P 12 50 42.4 +1.4**
CONA Conrad Observa 78.48 318 *i*P **P 12 50 42.1 +0.9**
comp=Z,8.3nm,1.2s
UPC Upice 78.61 320 *e*P **P 12 50 43.2 +1.4**
UPC Upice 78.61 320 *e*P **P 12 50 43.2 +1.4**
ARSA Arzberg 78.65 317 *i*P **P 12 50 43.1 +1.0**
comp=Z,16nm,1.2s,SNR=7.2
BOJS Bojanci 78.71 315 *i*P **P 12 50 43.2 +0.8**
PERS Pernice 78.89 316 *i*P **P 12 50 44.4 +0.9**
SOKA Soboth 78.95 316 *i*P **P 12 50 45.0 +1.2**
comp=Z,24nm,1.2s,SNR=12
LJU Ljubljana 79.25 316 *e*P **P 12 50 46.7 +1.3**
OBKA Obir 79.27 316 *i*P **P 12 50 46.7 +1.1**
comp=Z,9.4nm,0.8s
GOPC GO Pecny, Ondr 79.35 320 *e*P **P 12 50 46.6 +0.8**
GOPC *e* 12 50 59.2
GOPC GO Pecny, Ondr 79.35 320 *e*P **P 12 50 46.6 +0.8**
GOPC *e*pP **pP 12 50 59.2 -0.8**
PRU Pruhonice 79.51 320 *e*P **P 12 50 47.5 +0.8**
PRU *e* 12 50 59.6
PRU Pruhonice 79.51 320 *e*P **P 12 50 47.5 +0.8**
PRU *e*pP **pP 12 50 59.6 -1.2**
MOA Molln 79.55 318 *i*P **P 12 50 47.3 +0.3**
comp=Z,6.6nm,0.9s
CADS Cadrg 79.81 316 *e*P **P 12 50 48.9 +0.5**
MYKA Terra Mystica 79.90 316 *i*P **P 12 50 49.5 +0.5**
comp=Z,7.3nm,0.9s
BRG Berggiesshubel 79.96 321 *e*P **P 12 50 49.6 +0.5**
comp=Z,8.3nm,1.0s
BRG Berggiesshubel 79.96 321 *e*P **P 12 50 49.6 +0.5**
BRG pmax pmax
comp=Z,12nm,1.0s
GERES GERESS Array B 79.98 319 P **P 12 50 50.4 +1.0**
comp=Z,9.9nm,0.7s,baz=90,slow=5.3,SNR=34
KHC Kasperske Hory 80.08 319 *e*P **P 12 50 50.5 +0.6**
KHC pmax pmax
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 80.08 319 *e*P **P 12 50 50.4 +0.6**
KHC *ex* x 12 51 05.6
KHC Kasperske Hory 80.08 319 *e*P **P 12 50 50.5 +0.6**
comp=Z,1.5nm,0.7s
KBA Koelnbreinsper 80.12 317 P **P 12 50 52.2 +1.9**
KBA pmax pmax
comp=Z,10.0nm,1.1s
KBA Koelnbreinsper 80.12 317 *i*P **P 12 50 50.5 +0.2**
comp=Z,11nm,1.4s
WET Wettzell 80.54 319 P **P 12 50 54.4 +2.1**
WET pmax pmax
comp=Z,11nm,1.5s
CLL Collm 80.58 321⇓*i*P **P 12 50 53.2 +0.8**
CLL Collm 80.58 321⇓*i*P **P 12 50 53.2 +0.8**
ABTA Abfaltersbach 80.68 316 *i*P **P 12 50 53.1 -0.1**
comp=Z,7.6nm,1.2s
HFS Hagfors 80.85 330 P **P 12 50 54.4 +0.8**
comp=Z,3.0nm,0.7s,baz=112,slow=6.6,SNR=7.4
HFS LR LR 13 29 51.7
comp=Z,46nm,18.4s,baz=137,slow=38
WTTA Wattenberg 81.30 317 *i*P **P 12 50 56.8 +0.2**
comp=Z,11nm,1.0s
WATA Walderalm 81.34 317 *i*P **P 12 50 56.1 -0.7**
comp=Z,5.7nm,0.7s
MOTA Moosalm 81.66 317 *i*P **P 12 50 58.7 +0.2**
comp=Z,8.2nm,0.7s,SNR=7.0
RETA Reutte 81.90 317 *i*P **P 12 50 59.8 +0.1**
comp=Z,11nm,0.6s,SNR=6.6
FETA Feichten 81.91 317 *i*P **P 12 51 00.2 +0.3**
comp=Z,6.9nm,0.8s
NOA NORSAR Array B 82.14 331 P **P 12 51 00.5 0.0**
comp=Z,2.8nm,0.9s,baz=86,slow=6.2,SNR=3.6
NOA LR LR 13 32 45.3
comp=Z,25nm,18.0s,baz=80,slow=39
SPITS Spitsbergen Ar 82.40 348 P **P 12 51 01.4 -0.2**
comp=Z,9.5nm,0.6s,baz=76,slow=7.0,SNR=17
SPITS LR LR 13 36 29.4
comp=Z,48nm,18.3s,baz=300,slow=42
DAVA Damuels 82.49 317 *i*P **P 12 51 03.5 +0.6**
comp=Z,13nm,1.1s
KEST Kesra 83.02 305 P **P 12 51 07.3 +1.5**
comp=Z,12nm,0.9s,baz=19,slow=0.7,SNR=11
KEST LR LR 13 35 10.3
comp=Z,27nm,18.2s,baz=254,slow=41
SYO Syowa Base 83.10 197⇓*e*pP pP 12 51 17.0 -2.4
PGF Ploggiola 83.14 312 *e*P **P 12 51 07.3 +1.0**
PGF pmax pmax
comp=Z,47nm,1.8s
BFO Black Forest 83.53 318 *i*P **P 12 51 08.7 +0.6**
RPZ Rata Peaks 83.98 135 P **P 12 51 11.5 +1.2**
comp=Z,4.3nm,0.9s,baz=45,slow=8.6,SNR=2.3
CDF Champ du Feu 84.23 318 *e*P **P 12 51 10.7 -1.0**
CDF pmax pmax
comp=Z,8.0nm,1.3s
SBF Sospel 84.26 313 *e*P **P 12 51 11.5 -0.4**
SBF pmax pmax
comp=Z,18nm,0.8s
ECH Echery 84.32 318 *e*P **P 12 51 12.1 0.0**
ECH Echery 84.32 318 *e*P **P 12 51 12.1 0.0**
LPL La Plagne 84.70 315 *e*P **P 12 51 13.9 -0.4**
LPL pmax pmax
comp=Z,12nm,0.8s
BNI Bardonecchia 84.76 315 *e*P **P 12 51 14.5 0.0**
BNI pmax pmax
comp=Z,7.0nm,0.8s
BNI Bardonecchia 84.76 315 *e*P **P 12 51 14.5 0.0**
comp=Z,7.3nm,0.8s
FRF La Foret Royal 84.84 313 *e*P **P 12 51 14.5 -0.2**
FRF pmax pmax
comp=Z,88nm,1.8s
HAU Haudompre 84.87 318 *e*P **P 12 51 13.9 -0.9**
HAU pmax pmax
comp=Z,11nm,0.9s
CABF La Chapelle 85.10 316 *e*P **P 12 51 15.7 -0.4**
CABF pmax pmax
comp=Z,27nm,1.6s
ORIF Oris-en-Rattie 85.33 315 *e*P **P 12 51 17.1 -0.2**
ORIF pmax pmax
comp=Z,3.0nm,0.6s
BAIF Baives 86.17 320 *e*P **P 12 51 20.9 -0.3**
BAIF pmax pmax
comp=Z,21nm,1.3s
VIVF Saint-Julien-l 86.19 315 *e*P **P 12 51 21.1 -0.4**
VIVF pmax pmax
comp=Z,26nm,1.8s
SMF Signal de Mont 86.65 316 *e*P **P 12 51 22.9 -0.8**
SMF pmax pmax
comp=Z,11nm,1.0s
GAMB Gambell 86.94 26 *e*P **P 12 51 24.2 -0.4**
comp=Z,18nm,1.0s
TAM Tamanrasset 87.06 292 *e*P **P 12 51 28.0 +1.6**
TAM pmax pmax
comp=Z,6.0nm,1.0s
TAM Tamanrasset 87.06 292 *e*P **P 12 51 27.9 +1.6**
comp=Z,5.7nm,1.0s
RJF Les Rejaudoux 88.38 315 *e*P **P 12 51 33.1 +1.1**
RJF pmax pmax
comp=Z,6.0nm,0.9s
FLN La Foliniere 89.34 319 *e*P **P 12 51 36.0 -0.4**
FLN pmax pmax
comp=Z,16nm,1.2s
MFF Saint Martin d 89.39 317 *e*P **P 12 51 36.5 -0.2**
EKA Eskdalemuir Ar 90.03 326 P **P 12 51 40.4 +0.8**
comp=Z,1.9nm,0.8s,baz=96,slow=6.3,SNR=6.2
ETSF Etsaut 90.14 313 *e*P **P 12 51 40.8 +0.4**
ETSF pmax pmax
comp=Z,17nm,1.6s
VNDA Vanda 90.36 168 LR LR 13 29 16.7
comp=Z,141nm,20.2s,baz=286,slow=34
TORD Torodi Ar. Bea 91.56 283 P **P 12 51 49.1 +1.7**
comp=Z,2.6nm,1.0s,baz=80,slow=5.1,SNR=9.5
TORD LR LR 13 31 50.3
comp=Z,74nm,19.8s,baz=100,slow=35
ESDC Sonseca Array 93.15 310 P **P 12 51 55.5 +1.1**
comp=Z,1.5nm,0.6s,baz=56,slow=4.5,SNR=13

QSPA	**South Pole Qui**	**95.24**	**180**	LR	LR	13 32 35.3		
	comp=Z,131nm,18.0s,baz=311,slow=34							
BORG	**Borgarnes**	**95.92**	**337**	LR	LR	13 38 50.7		
	comp=Z,27nm,18.1s,baz=119,slow=38							
KOWA	**Kowa**	**96.92**	**285**	LR	LR	13 33 58.5		
	comp=Z,90nm,21.2s,baz=34,slow=34							
ILAR	**Eielson Array**	**96.95**	**22**	P	**P**	**12 52 09.7**	**-1.4**	
	comp=Z,0.6nm,0.7s,baz=295,slow=4.3,SNR=11							
ILAR				LR	LR	13 42 19.9		
	comp=Z,52nm,21.3s,baz=326,slow=39							
DBIC	**Dimbokro**	**98.67**	**278**	LR	LR	13 35 26.9		
	comp=Z,41nm,19.1s,baz=71,slow=34							
INK	**Inuvik**	**99.32**	**16**	P	**Pdif**	**12 52 20.5**	**-1.2**	
	comp=Z,2.3nm,0.9s,baz=326,slow=7.1,SNR=7.8							
YKA	**Yellowknife Ar**	**108.80**	**14**	Pdiff	**Pdif**	**12 53 04.7**	**+0.8**	
	comp=Z,0.2nm,0.9s,baz=334,slow=4.3,SNR=3.6							
YKA				PKIKP	**PKiKP**	**12 57 08.3**	**-0.4**	
	comp=Z,0.4nm,1.0s,baz=324,slow=3.2,SNR=4.0							
YKA				PP	**PP**	**12 57 29.2**	**-5.8**	
	comp=Z,0.4nm,0.7s,baz=334,slow=7.8,SNR=8.3							
EGMT	**Eagleton**	**122.75**	**19**	*e*PKPdf	**PKPdf**	**12 57 36.3**	**+0.3**	
ULM	**Lac du Bonnet**	**123.93**	**8**	PKP	**PKPdf**	**12 57 37.5**	**-0.5**	
	comp=Z,5.6nm,0.7s,baz=5.1,slow=1.6,SNR=11							
GCMT	**Greycliff**	**124.73**	**20**	*e*PKPdf	**PKPdf**	**12 57 40.1**	**+0.2**	
LAO	**LASA Array**	**125.04**	**17**	*e*PKPdf	**PKPdf**	**12 57 41.8**	**+1.4**	
NVAR	**Mina Array Bea**	**126.88**	**32**	PKP	**PKPdf**	**12 57 44.9**	**+0.6**	
	comp=Z,2.2nm,0.8s,baz=272,slow=3.0,SNR=10.0							
PDAR	**Pinedale Array**	**127.38**	**22**	PKP	**PKPdf**	**12 57 45.5**	**+0.3**	
	comp=Z,2.4nm,0.8s,baz=76,slow=1.2,SNR=15							
RSSD	**Black Hills**	**128.02**	**17**	*e*PKIKP	**PKPdf**	**12 57 46.5**	**+0.2**	
RSSD	**Black Hills**	**128.02**	**17**	*e*PKPdf	**PKPdf**	**12 57 46.5**	**+0.2**	
DUG	**Dugway, Tooele**	**128.19**	**27**	*e*PKIKP	**PKPdf**	**12 57 47.1**	**+0.4**	
DUG	**Dugway, Tooele**	**128.19**	**27**	*e*PKPdf	**PKPdf**	**12 57 47.1**	**+0.4**	
ECSD	**EROS Data Cent**	**130.15**	**11**	*e*PKPdf	**PKPdf**	**12 57 50.0**	**-0.1**	
TKL	**Tuckaleechee C**	**139.21**	**358**	PKP	**PKPdf**	**12 58 07.3**	**0.0**	
	comp=Z,4.6nm,0.8s,baz=165,slow=5.8,SNR=4.5							
TXAR	**Lajitas Array**	**141.36**	**26**	PKhKP	PKPpre	12 58 05.7		
	comp=Z,0.9nm,0.7s,baz=43,slow=0.4,SNR=10							
TXAR				PKP	**PKPdf**	**12 58 12.0**	**+0.5**	
	comp=Z,1.5nm,0.6s,baz=225,slow=0.3,SNR=14							
PLCA	**Paso Flores**	**142.28**	**199**	PKhKP	PKPpre	12 58 07.8		
	comp=Z,1.2nm,0.9s,baz=124,slow=3.6,SNR=3.2							
CPUP	**Villa Florida**	**145.96**	**229**	PKPbc	**PKPab**	**12 58 21.0**	**+0.3**	
	comp=Z,4.3nm,0.9s,baz=178,slow=4.7,SNR=8.5							
ZAIG	**Zacatecas**	**147.46**	**30**	*e*PKPbc	**PKPab**	**12 58 26.1**	**-0.8**	
APG	**El Apazote**	**159.21**	**14**	PKPab	**PKPab**	**12 59 15.2**	**-1.0**	
	comp=Z,7.3nm,0.9s,baz=343,slow=12,SNR=4.8							
LPAZ	**La Paz**	**159.80**	**236**	PKP	**PKPdf**	**12 58 41.0**	**+0.5**	
	comp=Z,1.4nm,0.8s,baz=133,slow=3.3,SNR=6.1							
LPAZ	**La Paz**	**159.80**	**236**	PKIKP	**PKPdf**	**12 58 41.0**	**+0.5**	

*ISN **31** 12:41:16.1±1.7,39.°02N×43.°89E,h0km±83km, ML3.6*
*NSSP **31** 12:41:16.5,38.°93N×43.°97E,h5km, Ms3.8*
*ATA **31** 12:41:18.6±0.9,39.°03N×43.°77E,h3km±5km, ML3.9, MW4.3*
*ISK **31** 12:41:18.4,39.°06N×43.°77E,h5km, ML3.7/13*
*CSEM **31** 12:41:19.1±0.1,39.°03N×43.°84E,h2km, ML3.7, Error ellipse: s-maj=4.3km s-min=2.9km az=132.0*
*DDA **31** 12:41:19.1,39.°02N×43.°84E,h5km, Ml3.6*

ISC 31 12:41:19.6±1.0,39.°05N±0.°02×43.°83E±0.°02,h4km±8km, n103,σ1§26/137,7C-12D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.12**	**38**	PG	**Pg**	**12 41 20.9**	**-1.1**
CLDR				SG	**Sg**	**12 41 24.1**	**+0.5**
CLDR	**Caldiran**	**0.12**	**38**	*i* P	**Pg**	**12 41 21.0**	**-1.1**
CLDR				*i* S	**Sg**	**12 41 24.8**	**+1.2**
CLDR	**Caldiran**	**0.12**	**38**	*e*Pg	**Pg**	**12 41 20.9**	**-1.1**
CLDR				*e*Sg	**Sg**	**12 41 24.1**	**+0.5**
VMUR	**Van-Muradiye**	**0.21**	**253**	*i* P	**Pg**	**12 41 23.3**	**-0.4**
VMUR				*i* S	**Sg**	**12 41 27.7**	**+1.3**
VMUR	**Van-Muradiye**	**0.21**	**253**	P	**Pg**	**12 41 23.3**	**-0.4**
VMUR				S	**Sg**	**12 41 27.7**	**+1.3**
ERCV	**ERCIS-VAN**	**0.38**	**265**	PG	**Pg**	**12 41 25.8**	**-1.2**
ERCV				SG	**Sg**	**12 41 32.1**	**+0.1**
ERCV	**ERCIS-VAN**	**0.38**	**265**	*e*Pg	**Pg**	**12 41 25.8**	**-1.2**
ERCV				*e*Sg	**Sg**	**12 41 32.1**	**+0.1**
DYDN	**Diyadin**	**0.50**	**348**	*i* P	**Pg**	**12 41 29.1**	**-0.2**
DYDN				*e*S	**Sg**	**12 41 37.5**	**+1.6**
DYDN	**Diyadin**	**0.50**	**348**	*i* P	**Pg**	**12 41 29.3**	**0.0**
DYDN				*i* S	**Sb**	**12 41 37.8**	**-1.2**
DYDN	**Diyadin**	**0.50**	**348**	P	**Pg**	**12 41 29.3**	**0.0**
DYDN				S	**Sb**	**12 41 37.8**	**-1.2**
VANB	**Van**	**0.57**	**217**	PG	**Pb**	**12 41 31.6**	**-0.6**
VANB				SG	**Sb**	**12 41 41.1**	**+0.3**
VANB	**Van**	**0.57**	**217**	*e*Pg	**Pb**	**12 41 31.6**	**-0.6**
TVAN	**Van**	**0.62**	**212**	*i* P	**Pg**	**12 41 31.6**	**+0.2**
TVAN				*i* S	**Sb**	**12 42 12.1**	**0.0**
TVAN	**Van**	**0.62**	**212**	P	**Pg**	**12 41 31.6**	**+0.2**
TVAN				S	**Sb**	**12 41 42.2**	**0.0**
IGDI	**IGDIR**	**0.84**	**13**	*i* P	**Pg**	**12 41 35.4**	**-0.3**
IGDI				*e*S	**Sn**	**12 41 50.0**	**-1.2**
IGDI	**IGDIR**	**0.84**	**13**	*i* P	**Pg**	**12 41 35.5**	**-0.2**
IGDI				*i* S	**Sn**	**12 41 49.6**	**-1.5**
TUTA	**Tutak**	**0.86**	**294**	*e*P	**Pg**	**12 41 35.6**	**-0.6**
TUTA				IAML		12 42 06.0	
	comp=Z,224nm,0.6s						
TUTA	**Tutak**	**0.86**	**294**	*i* P	**Pg**	**12 41 35.9**	**-0.2**
TUTA	**Tutak**	**0.86**	**294**	P	**Pg**	**12 41 35.9**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.89**	**255**	*i* P	**Pg**	**12 41 36.4**	**-0.3**
ADCV				*i* S	**Sb**	**12 41 50.0**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.89**	**255**	P	**Pg**	**12 41 36.4**	**-0.3**
ADCV				S	**Sb**	**12 41 50.0**	**-0.2**
GEVA	**Gevas**	**0.95**	**219**	*i* P	**Pg**	**12 41 36.5**	**-1.3**
GEVA	**Gevas**	**0.95**	**219**	*i* P	**Pg**	**12 41 37.1**	**-0.7**
GEVA				*i* S	**Sn**	**12 41 54.0**	**-0.1**
GEVA	**Gevas**	**0.95**	**219**	P	**Pg**	**12 41 37.1**	**-0.7**
TASB	**TASBURUN-IGDIR**	**0.98**	**19**	PG	**Pg**	**12 41 38.3**	**-0.2**
TASB	**TASBURUN-IGDIR**	**0.98**	**19**	*e*Pg	**Pg**	**12 41 38.3**	**-0.2**
HYR	**Heyderabad**	**1.04**	**50**	⇓P	**Pg**	**12 41 39.4**	**-0.1**
	SNR=26						
HYR				⇑S	**Sn**	**12 41 55.3**	**-0.8**
ARRZ	**Ararat**	**1.05**	**40**	*e*P	**Pn**	**12 41 44.0**	**+2.8**
ARRZ				*e*S	**Sn**	**12 42 01.0**	**+4.7**
NAX	**Nakhchivan**	**1.30**	**84**	⇓P	**Pb**	**12 41 44.1**	**-0.6**
	SNR=31						
GNI	**Garni**	**1.30**	**33**	⇑*i*P	**Pn**	**12 41 44.0**	**-0.8**
GNI				⇑*i*S	**Sg**	**12 42 03.6**	**+2.0**
GNI	**Garni**	**1.30**	**33**	⇑P	**Pn**	**12 41 44.0**	**-0.8**
GNI				S	**Sg**	**12 42 03.6**	**+2.0**
EATA	**Eleskirt**	**1.31**	**309**	*e*P	**Pn**	**12 41 44.2**	**-0.9**
EATA	**Eleskirt**	**1.31**	**309**	*i* P	**Pn**	**12 41 44.5**	**-0.5**
EATA	**Eleskirt**	**1.31**	**309**	P	**Pn**	**12 41 44.5**	**-0.5**
EKAR	**Karacoban**	**1.39**	**279**	*e*P	**Pn**	**12 41 44.6**	**-1.3**
EKAR				IAML		12 42 16.5	
	comp=Z,120nm,0.5s						
EKAR	**Karacoban**	**1.39**	**279**	*i* P	**Pn**	**12 41 45.0**	**-1.0**
EKAR	**Karacoban**	**1.39**	**279**	P	**Pn**	**12 41 45.0**	**-1.0**
SBZ	**Shahbuz**	**1.39**	**75**	⇓P	**Pn**	**12 41 44.8**	**-1.1**
	SNR=115						
SBZ				⇓S	**Sg**	**12 42 07.5**	**+3.4**
DIGO	**Kars**	**1.41**	**346**	*e*P	**Pb**	**12 41 46.2**	**-0.4**
DIGO				IAML		12 42 13.7	
	comp=Z,50nm,0.5s						
GURO	**Guroymak-BITLI**	**1.49**	**251**	PN	**Pn**	**12 41 46.8**	**-0.5**
GURO	**Guroymak-BITLI**	**1.49**	**251**	*e*Pn	**Pn**	**12 41 46.8**	**-0.5**
HAKT	**HAKKARI**	**1.49**	**184**	*i* P	**Pn**	**12 41 46.4**	**-1.1**
HAKT				*i* S	**Sg**	**12 42 10.1**	**+2.5**
HAKT	**HAKKARI**	**1.49**	**184**	P	**Pn**	**12 41 46.4**	**-1.1**
HAKT				S	**Sg**	**12 42 10.1**	**+2.5**
YOVA	**Hakkari_Y¨…kse**	**1.51**	**166**	*i* P	**Pb**	**12 41 47.6**	**-0.6**
YOVA	**Hakkari_Y¨…kse**	**1.51**	**166**	P	**Pb**	**12 41 47.7**	**-0.6**
EAK	**Akyaka**	**1.64**	**354**	*e*P	**Pg**	**12 41 51.5**	**+0.5**
EAK				IAML		12 42 22.7	
	comp=Z,118nm,0.5s						
EAK	**Akyaka**	**1.64**	**354**	*i* P	**Pg**	**12 41 51.9**	**+0.8**
EAK	**Akyaka**	**1.64**	**354**	P	**Pg**	**12 41 51.9**	**+0.8**
KARS	**Kars**	**1.68**	**340**	PN	**Pn**	**12 41 49.4**	**-0.5**
KARS	**Kars**	**1.68**	**340**	*e*Pn	**Pn**	**12 41 49.4**	**-0.5**
ORD	**Ordubad**	**1.69**	**93**	⇓P	**Pn**	**12 41 49.8**	**-0.3**
	SNR=9.5						
ORD				⇓S	**Sg**	**12 42 13.6**	**-0.4**
HOMI	**Horasan**	**1.79**	**304**	*e*P	**Pb**	**12 41 53.1**	**+0.1**
SRTM	**Siirt_Merkez**	**1.83**	**235**	*i* P	**Pb**	**12 41 52.9**	**-0.9**
SRTM				*i* S	**Sg**	**12 42 22.5**	**+4.1**
SRTM	**Siirt_Merkez**	**1.83**	**235**	P	**Pb**	**12 41 52.9**	**-0.9**
VRTB	**Varto-Mus**	**1.85**	**274**	PN	**Pn**	**12 41 52.0**	**-0.3**
VRTB	**Varto-Mus**	**1.85**	**274**	*i* P	**Pb**	**12 41 54.1**	**0.0**
VRTB	**Varto-Mus**	**1.85**	**274**	*e*Pn	**Pn**	**12 41 52.0**	**-0.3**
VRTB	**Varto-Mus**	**1.85**	**274**	P	**Pb**	**12 41 54.1**	**0.0**
VADZ	**Vardenis**	**1.86**	**52**	*e*P	**Pg**	**12 41 56.0**	**+0.8**
VADZ				*e*S	**Sg**	**12 42 26.0**	**+6.7**
VADZ	**Vardenis**	**1.86**	**52**	P	**Pg**	**12 41 56.0**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.89**	**323**	PN	**Pn**	**12 41 52.8**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.89**	**323**	*e*Pn	**Pn**	**12 41 52.8**	**-0.1**
SIRT	**Sirnak**	**1.89**	**216**	PN	**Pn**	**12 41 52.9**	**+0.1**
SIRT	**Sirnak**	**1.89**	**216**	*e*Pn	**Pn**	**12 41 52.9**	**+0.1**
STE	**Stepanavan**	**1.99**	**12**	⇑P	**Pn**	**12 41 53.0**	**-1.2**
STE				S	**Sg**	**12 42 23.5**	**-0.1**
STEZ	**Stepenevan**	**2.00**	**13**	⇑*e*P	**Pn**	**12 41 53.0**	**-1.3**
STEZ				⇑S	**Sg**	**12 42 23.5**	**-0.2**
ERZM	**Erzurum**	**2.09**	**295**	*e*P	**Pb**	**12 41 58.3**	**+0.1**
ERZM	**Erzurum**	**2.09**	**295**	*i* P	**Pg**	**12 41 58.8**	**-0.8**
ERZM	**Erzurum**	**2.09**	**295**	P	**Pg**	**12 41 58.8**	**-0.8**
GDB	**GEDABAY**	**2.23**	**41**	⇓P	**Pn**	**12 41 56.1**	**-1.5**
	SNR=3.1						
GDB				⇓S	**Sb**	**12 42 26.9**	**-1.8**
SVAN	**Silvan-Diyarba**	**2.25**	**247**	PN	**Pn**	**12 41 57.8**	**+0.2**
SVAN	**Silvan-Diyarba**	**2.25**	**247**	*e*Pn	**Pn**	**12 41 57.8**	**+0.2**
ECAT	**Cat-ERZURUM**	**2.28**	**285**	*e*P	**Pb**	**12 42 00.5**	**-1.0**
ECAT				*i* Pg	**Pg**	**12 42 03.2**	**-0.1**
QZX	**Qazax, Azerbai**	**2.33**	**30**	⇓P	**Pn**	**12 41 56.8**	**-2.0**
	SNR=14						
QZX				⇓S	**Sn**	**12 42 28.2**	**+0.3**
AKH	**Akhalkalaki**	**2.37**	**354**	PN	**Pn**	**12 41 59.8**	**+0.3**
AKH	**Akhalkalaki**	**2.37**	**354**	P	**Pg**	**12 42 04.2**	**-0.9**
AKH	**Akhalkalaki**	**2.37**	**354**	*e*Pn	**Pn**	**12 41 59.8**	**+0.3**
BNGB	**Bing¨¶l**	**2.45**	**270**	PN	**Pn**	**12 42 00.5**	**0.0**
GANJ	**Ganja**	**2.50**	**50**	⇓P	**Pn**	**12 41 59.9**	**-1.2**
	SNR=4.0						
GANJ				⇓S	**Sb**	**12 42 33.7**	**-2.4**
ARTV	**Artvin**	**2.58**	**326**	*e*P	**Pg**	**12 42 07.8**	**-1.2**
EPOS	**Posof**	**2.59**	**341**	*e*P	**Pg**	**12 42 08.9**	**-0.4**
EPOS				IAML		12 42 39.0	
	comp=Z,5.7nm,0.5s						
BINT	**Bingol**	**2.61**	**267**	*e*Pn	**Pn**	**12 42 00.5**	**-2.2**
KOPT	**Kop Dagi**	**2.75**	**292**	*e*P	**Pb**	**12 42 10.1**	**+0.6**
TBLG	**Delisi**	**2.77**	**14**	PN	**Pn**	**12 42 05.7**	**+0.9**
TBLG	**Delisi**	**2.77**	**14**	*e*P	**Pg**	**12 42 11.5**	**-1.1**
TBLG	**Delisi**	**2.77**	**14**	P	**Pg**	**12 42 12.2**	**-0.4**
TBLG	**Delisi**	**2.77**	**14**	*e*Pn	**Pn**	**12 42 05.7**	**+0.9**
DDFL	**Dedoflistskaro**	**2.97**	**36**	P	**Pg**	**12 42 15.3**	**-1.2**
BAYB	**BAYBURT**	**3.01**	**295**	*e*P	**Pb**	**12 42 14.4**	**+0.5**
MAZI	**Mazidag**	**3.10**	**240**	PN	**Pn**	**12 42 09.8**	**+0.4**
MAZI	**Mazidag**	**3.10**	**240**	*e*Pn	**Pn**	**12 42 09.8**	**+0.4**
ERZN	**Erzincan**	**3.23**	**281**	PN	**Pn**	**12 42 11.5**	**+0.3**
TNCL	**Tunceli-Merkez**	**3.33**	**272**	*e*P	**Pb**	**12 42 19.8**	**+0.4**
GUDG	**Gudauri**	**3.45**	**8**	P	**Pg**	**12 42 24.9**	**-0.7**
PTK	**Pertek**	**3.46**	**269**	PN	**Pn**	**12 42 15.1**	**+0.6**
PTK	**Pertek**	**3.46**	**269**	*e*Pn	**Pn**	**12 42 15.1**	**+0.6**
ONI	**Oni**	**3.55**	**356**	P	**Pg**	**12 42 27.3**	**-0.2**
KELT	**Kelkit**	**3.70**	**289**	*e*P	**Pb**	**12 42 26.1**	**+0.5**
REFA	**Refahiye_ERZ¨**	**3.95**	**277**	*e*P	**Pg**	**12 42 33.9**	**-1.3**
KEMA	**Kemaliye**	**4.15**	**275**	*e*P	**Pb**	**12 42 33.9**	**+0.6**
BHD	**Baghdad**	**5.79**	**175**	*e*Pn	**Pn**	**12 42 45.0**	**-1.2**
	SNR=3.0						
RTB	**Rutbah**	**6.65**	**206**	*e*Pn	**Pn**	**12 42 57.0**	**-1.2**
	SNR=3.0						
NSR	**Nassriya**	**8.24**	**166**	*e*Pn	**Pn**	**12 43 19.0**	**-1.0**
	SNR=3.0						

*IDC **31** 12:46:19.9±1.1,4.°07N×95.°95E,h54km±9km,mb3.7/13, mb1 3.8/13,mb1mx3.5/74,mbtmp4.0/13, Error ellipse: s-maj=36.1km s-min=15.4km az=58.0*
*NEIC **31** 12:46:20.8±0.8,4.°17N×95.°84E,h35km,mb4.4/4, Error ellipse: s-maj=14.3km s-min=8.6km az=65.0*
NEIC Felt [II] at Banda Aceh.

ISC 31 12:46:19.4±0.6,4.°36N±0.°06×95.°84E±0.°06,h31km,n35, σ1§81/35,mb4.2/21,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.40**	**52**	*e*Pn	**Pb**	**12 46 46.4**	**+1.3**
LHMI				*e*Sn	**Sb**	**12 47 03.7**	**+1.1**
PSI	**Prapat**	**3.45**	**117**	*e*Pn	**Pn**	**12 47 12.1**	**+0.9**
GSI	**Gunungsitoli**	**3.50**	**150**	*e*Pn	**Pn**	**12 47 10.3**	**-1.5**
GSI				*e*Sn	**Sn**	**12 47 55.9**	**+3.7**
KULM	**Kulim**	**4.88**	**79**	*e*Pn	**Pn**	**12 47 31.8**	**+1.0**
KULM				*e*Sn	**Sn**	**12 48 21.6**	**-4.8**
IPM	**Ipoh**	**5.18**	**89**	*e*Pn	**Pn**	**12 47 35.1**	**+0.3**
MNAI	**Manna**	**11.21**	**141**	*e*Pn	**Pn**	**12 48 56.9**	**-0.8**
CM01	**Chiang Mai Arr**	**14.30**	**12**	*e*Pn	**P**	**12 49 43.7**	**-3.0**
CMAR	**Chiang Mai Arr**	**14.33**	**12**	P	**P**	**12 49 48.1**	**+1.1**
	0.1nm,0.3s,baz=193,slow=7.4,SNR=4.6						
KSM	**Kuching**	**14.73**	**101**	*e*Pn	**Pn**	**12 49 44.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**22.28**	**125**	*e*P	**P**	**12 51 14.0**	**-0.3**
	54nm,1.6s						
MYLDM	**Lahad Datu**	**22.60**	**87**	*e*P	**P**	**12 51 17.5**	**-0.3**
	15nm,1.1s						
H08S2	**Diego Garcia H**	**26.17**	**243**	T	T	13 18 40.1	
	baz=64,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**26.17**	**243**	T	T	13 18 19.7	
	baz=64,slow=76,SNR=6.1						
H08S1	**Diego Garcia H**	**26.18**	**243**	T	T	13 18 33.0	
	baz=64,slow=76,SNR=4.4						
NACB	**Ninganchiao**	**31.68**	**49**	*e*P	**P**	**12 52 43.6**	**+3.2**
	39nm,1.0s						
YOJ	**Yonaguni jima**	**32.91**	**50**	*e*P	**P**	**12 52 54.1**	**+3.0**
	349nm,1.4s						
MBWA	**Marble Bar**	**34.53**	**138**	*e*P	**P**	**12 53 06.6**	**+1.4**
	26nm,1.5s						
NIL	**Nilore**	**35.94**	**327**	*e*P	**P**	**12 53 18.6**	**+1.3**
	22nm,0.6s						
MKAR	**Makanchi Array**	**43.87**	**347**	P	**P**	**12 54 23.5**	**+0.5**
	0.9nm,0.4s,baz=163,slow=8.5,SNR=16						
SONM	**Songino Array**	**44.25**	**10**	P	**P**	**12 54 26.5**	**+0.4**
	1.9nm,0.7s,baz=191,slow=8.5,SNR=9.0						
SONM				pP	**sP**	**12 54 40.0**	**+0.9**
	0.3nm,0.4s,baz=194,slow=10,SNR=1.8						
WRA	**Warramunga Arr**	**44.89**	**124**	P	**P**	**12 54 27.4**	**-4.1**
	1.2nm,0.8s,baz=304,slow=9.1,SNR=6.8						
WRA				pP	**pP**	**12 54 41.7**	**+0.9**
	2.2nm,0.8s,baz=302,slow=9.2,SNR=7.4						
WRAB	**Tennant Creek**	**44.89**	**124**	*e*P	**P**	**12 54 31.2**	**-0.4**
	9.8nm,2.0s						
ASAR	**Alice Springs**	**46.40**	**129**	P	P	12 54 38.4	-5.1
	2.6nm,1.2s,baz=302,slow=7.4,SNR=7.9						
ASAR				pP	pP	12 54 53.8	+1.0
	0.5nm,0.7s,baz=296,slow=7.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**48.34**	**345**	P	**P**	**12 54 58.4**	**+0.3**
	0.8nm,0.5s,baz=161,slow=7.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**50.24**	**352**	P	**P**	**12 55 13.0**	**+0.4**
	2.8nm,0.6s,baz=177,slow=7.7,SNR=12						
BVAR	**Borovoye Array**	**52.84**	**341**	P	**P**	**12 55 32.6**	**+0.6**
	1.4nm,0.8s,baz=156,slow=14,SNR=4.3						
ABKAR	**Akbulak array**	**54.10**	**332**	*e*P	**P**	**12 55 42.2**	**+0.9**
	7.0nm,1.1s						
AKTO	**Aktyubinsk**	**55.82**	**332**	P	**P**	**12 55 53.4**	**-0.4**
	1.3nm,0.6s,baz=153,slow=9.0,SNR=5.4						
BRTR	**Keskin Array B**	**66.00**	**312**	P	**P**	**12 57 02.4**	**-1.0**
	0.7nm,0.9s,baz=178,slow=3.7,SNR=3.8						
TIXI	**Tiksi**	**70.34**	**11**	P	**P**	**12 57 28.5**	**-1.2**
	2.0nm,0.7s,baz=190,slow=3.3,SNR=9.9						
SEY	**Seymchan**	**71.42**	**24**	P	**P**	**12 57 36.0**	**-0.4**
	0.3nm,0.3s,baz=273,slow=17,SNR=3.4						
AKASG	**Malin Array Be**	**71.94**	**322**	P	**P**	**12 57 39.3**	**-0.6**
	0.3nm,0.4s,baz=91,slow=4.2,SNR=3.5						
ARCES	**ARCESS Array B**	**79.12**	**340**	P	**P**	**12 58 19.7**	**-1.0**
	2.1nm,0.8s,baz=92,slow=8.1,SNR=2.7						
TXAR	**Lajitas Array**	**141.62**	**28**	PKhKP	PKPpre	13 05 42.3	
	0.1nm,0.3s,baz=318,slow=2.4,SNR=2.4						
CPUP	**Villa Florida**	**146.29**	**227**	PKPbc	**PKPdf**	**13 05 55.6**	**-1.0**
	0.5nm,0.4s,baz=106,slow=7.4,SNR=2.8						

IDC 31 12:47:59.0±5.9,19.°55S×175.°89W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.6/52,mbtmp4.2/3,MS3.6/1,Ms1 3.6/1, ms1mx2.6/44,Error ellipse: s-maj=249.8km s-min=95.9km az=157.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**9.83**	**190**	LR	LR	12 53 02.4	
	comp=Z,317nm,20.3s,baz=106,slow=31						
CTA	**Charters Tower**	**35.57**	**263**	P	P	12 55 00.2	+1.8
	2.2nm,0.4s,baz=96,slow=15,SNR=7.7						
ASAR	**Alice Springs**	**46.67**	**256**	P	P	12 56 29.0	-0.9
	1.5nm,0.5s,baz=95,slow=7.5,SNR=32						
WRA	**Warramunga Arr**	**46.71**	**261**	P	P	12 56 29.1	-1.0
	0.7nm,0.3s,baz=96,slow=7.6,SNR=30						
AKASG	**Malin Array Be**	**143.11**	**333**	PKP	PKPdf	13 07 35.0	+0.1
	0.6nm,0.5s,baz=43,slow=4.0,SNR=6.6						

*ISCJB **31** 12:50:50.8±1.1,32.°2N±0.°1×138.°0E±0.°1,h376km, mb3.3/12,Error ellipse: s-maj=19.7km s-min=7.5km az=143.6*
*IDC **31** 12:50:52.5±8.0,32.°16N×137.°84E,h382km±35km, mb3.2/12,mb1 3.2/15,mb1mx3.0/74,mbtmp3.9/15,Error ellipse: s-maj=126.3km s-min=15.0km az=174.0*
*JMA **31** 12:50:53.1±0.5,32.°28N×138.°15E,h379km, M3.6*

ISC 31 12:50:53.0±1.6,32.4N±0.2×138.0E±0.1,h376km,n24, σ1§22/29,mb3.4/12,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**2.23**	**302**	P	**Pn**	**12 51 49.9**	**+1.7**
BSO3	**Boso 3**	**3.22**	**40**	*e*S	**S**	**12 52 46.9**	**+0.1**
BSO4	**Boso 4**	**3.28**	**36**	*e*S	**S**	**12 52 48.0**	**0.0**
JHU	**Hanno**	**3.64**	**17**	P	**Pn**	**12 52 01.7**	**+1.6**
JHU				*e*S	**S**	**12 52 54.4**	**+0.1**
JRY	**Ryogami san**	**3.72**	**12**	P	**Pn**	**12 52 03.1**	**+2.2**
JRY				*e*S	**S**	**12 52 57.9**	**+2.2**
MJAR	**Matsushiro Arr**	**4.17**	**3**	P	**Pn**	**12 52 05.5**	**+0.3**
	0.9nm,0.3s,baz=179,slow=11,SNR=8.4						
JAG	**Ashikaga**	**4.23**	**16**	P	**Pn**	**12 52 06.3**	**+0.5**
JAG				*e*S	**S**	**12 53 03.7**	**-1.0**
JYT	**Yasato**	**4.27**	**25**	P	**Pn**	**12 52 06.1**	**0.0**
JYT				S	**S**	**12 53 02.3**	**-3.1**
JTO	**Tosashimizu**	**4.39**	**278**	P	**Pn**	**12 52 08.4**	**+0.9**
JHO	**Hitachi**	**4.75**	**26**	P	**Pn**	**12 52 11.7**	**+0.6**
JHO				*e*S	**S**	**12 53 13.2**	**-1.2**
KSRS	**Korea Array**	**9.69**	**304**	P	**P**	**12 53 08.9**	**+1.2**
	0.9nm,0.3s,baz=121,slow=10,SNR=22						
ASAJ	**Asahikawa**	**12.28**	**16**	P	**Pn**	**12 53 38.8**	**+1.2**
	0.7nm,0.3s,baz=241,slow=10,SNR=9.5						
SONM	**Songino Array**	**28.43**	**312**	P	**P**	**12 56 14.6**	**-0.1**
	0.5nm,0.4s,baz=134,slow=8.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.14**	**316**	P	**P**	**12 58 17.4**	**-0.4**
	0

*WEL **31** 13:01:48.6±0.9, 32°S±7"×17°8W±2"4, h33km, ML5.2/3, ML5.2/12*
*NEIC **31** 13:01:50.2±1.4, 31°21S×179°01W, h111km±12km, mb4.5/1, Error ellipse: s-maj=18.2km s-min=15.9km az=117.0*
*IDC **31** 13:01:53.5±1.3, 30°97S×179°00W, h135km±11km, mb4.1/11, mb1 4.2/12, mb1mx3.9/44, mbtmp4.5/12, Error ellipse: s-maj=15.9km s-min=14.0km az=162.0*

ISC 31 13:01:49.9±0.5, 31°26S±0°06×179°0W±0°1, h100km, n104, σ1°74/84, mb4.5/12, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.20**	**25**	P	**Pn**	**13 02 25.2**	**+0.1**
GLKZ	**Green Lake**	**2.20**	**25**	S	**Sn**	**13 02 52.1**	**+0.1**
RAO	**Raoul Island**	**2.21**	**25**	P	**Pn**	**13 02 25.8**	**+0.6**
	90nm,0.3s,baz=107,slow=19,SNR=3.1						
RAO				S	**Sn**	**13 02 53.5**	**+1.2**
	918nm,0.3s,baz=268,slow=23,SNR=11						
RIZ	**Raoul Island**	**2.21**	**25**	P	**Pn**	**13 02 26.1**	**+0.8**
RIZ	**Raoul Island**	**2.21**	**25**	S	**Sn**	**13 02 54.5**	**+2.2**
MXZ	**Matakaoa Point**	**6.67**	**199**	S	**Sn**	**13 04 40.2**	**+0.5**
MXZ	**Matakaoa Point**	**6.67**	**199**	P	**Pn**	**13 03 24.7**	**-0.5**
WMGZ	**Waiomatatini S**	**6.88**	**197**	S	**Sn**	**13 04 45.9**	**+1.0**
WMGZ	**Waiomatatini S**	**6.88**	**197**	P	**Pn**	**13 03 26.8**	**-1.3**
HAZ	**Te Kaha**	**7.00**	**201**	P	**Pn**	**13 03 29.3**	**-0.5**
HAZ	**Te Kaha**	**7.00**	**201**	S	**Sn**	**13 04 50.2**	**+2.4**
PKQZ	**Pakihiroa**	**7.04**	**199**	P	**Pn**	**13 03 29.0**	**-1.3**
PKQZ	**Pakihiroa**	**7.04**	**199**	S	**Sn**	**13 04 49.3**	**+0.5**
PUZ	**Puketiti**	**7.16**	**198**	P	**Pn**	13 03 29.8	-2.2
PUZ	**Puketiti**	**7.16**	**198**	S	**Sn**	**13 04 49.4**	**-2.3**
RUGZ	**Raukumara Rang**	**7.23**	**201**	P	**Pn**	**13 03 31.8**	**-1.1**
TWGZ	**Tauwhareparae**	**7.33**	**199**	P	**Pn**	**13 03 32.9**	**-1.4**
TWGZ	**Tauwhareparae**	**7.33**	**199**	S	**Sn**	**13 04 56.3**	**+0.3**
OPRZ	**Ohinepanea**	**7.52**	**208**	P	**Pn**	**13 03 40.7**	**+3.8**
CNGZ	**Carnagh Statio**	**7.56**	**197**	P	**Pn**	**13 03 36.2**	**-1.2**
MWZ	**Matawai**	**7.61**	**201**	P	**Pn**	**13 03 36.3**	**-1.8**
MWZ	**Matawai**	**7.61**	**201**	S	**Sn**	**13 05 04.0**	**+1.3**
TKGZ	**Te Karaka**	**7.62**	**199**	P	**Pn**	**13 03 37.0**	**-1.1**
TKGZ	**Te Karaka**	**7.62**	**199**	S	**Sn**	**13 05 03.1**	**+0.3**
URZ	**Urewera**	**7.68**	**204**	P	**Pn**	**13 03 37.1**	**-1.9**
	2.6nm,0.3s,baz=266,slow=2.2,SNR=16						
URZ				S	**Sn**	**13 05 02.2**	**-2.1**
	9.7nm,0.3s,baz=257,slow=3.0,SNR=11						
URZ	**Urewera**	**7.68**	**204**	P	**Pn**	**13 03 37.9**	**-1.1**
URZ	**Urewera**	**7.68**	**204**	S	**Sn**	**13 05 04.5**	**+0.1**
RAGZ	**Rawiri**	**7.79**	**201**	P	**Pn**	**13 03 39.2**	**-1.4**
RIGZ	**Rimuhau**	**7.89**	**199**	P	**Pn**	**13 03 42.1**	**+0.3**
TOZ	**Tahuroa Road**	**7.89**	**214**	P	Pn	13 03 47.4	+5.6
MUGZ	**Murupara**	**7.99**	**205**	P	**Pn**	**13 03 42.4**	**-0.9**
MUGZ	**Murupara**	**7.99**	**205**	S	**Sn**	**13 05 13.3**	**+1.3**
RTZ	**Ruatahuna**	**8.04**	**203**	P	Pn	13 03 41.7	-2.3
PRGZ	**Paritu Road**	**8.06**	**198**	P	**Pn**	**13 03 45.5**	**+1.3**
SNGZ	**Shannon Statio**	**8.08**	**201**	P	Pn	13 03 39.2	-5.3
ALRZ	**Allen Road**	**8.23**	**206**	P	**Pn**	**13 03 46.9**	**+0.4**
MHGZ	**Mahia Peninsul**	**8.27**	**197**	P	**Pn**	**13 03 45.2**	**-1.8**
RAHZ	**Arahi**	**8.28**	**202**	P	**Pn**	**13 03 46.6**	**-0.6**
MTHZ	**Maungataniwha**	**8.30**	**203**	P	**Pn**	**13 03 47.3**	**-0.3**
NMHZ	**Naumai**	**8.54**	**203**	P	Pn	13 03 48.1	-2.7
ARHZ	**Aropaoanui**	**8.63**	**201**	P	Pn	13 03 49.4	-2.5
ARHZ	**Aropaoanui**	**8.63**	**201**	S	**Sn**	**13 05 26.9**	**-0.6**
BKZ	**Black Stump Fm**	**8.71**	**204**	P	Pn	13 03 49.5	-3.5
HIZ	**Hauiti**	**8.82**	**213**	P	**Pn**	**13 03 57.4**	**+2.9**
MCHZ	**McNeill Hill**	**8.89**	**202**	P	**Pn**	**13 03 53.7**	**-1.7**
KWHZ	**Kaweka Forest**	**8.96**	**203**	P	Pn	13 03 53.7	-2.8
FWVZ	**Far West T-bar**	**9.13**	**208**	P	**Pn**	**13 03 57.6**	**-1.4**
BHHZ	**Black Hill Sta**	**9.14**	**205**	P	**Pn**	**13 03 58.5**	**-0.5**
KAHZ	**Kahuranaki**	**9.15**	**200**	P	Pn	13 03 55.3	-3.7
KRHZ	**Kereru**	**9.18**	**203**	P	Pn	13 03 56.7	-2.7
VRZ	**Vera Road**	**9.36**	**211**	P	**Pn**	**13 04 05.3**	**+3.4**
PXZ	**Pawanui**	**9.38**	**200**	P	Pn	13 03 57.1	-4.9
PNHZ	**Pukenui**	**9.48**	**203**	P	Pn	13 04 01.2	-2.2
PRHZ	**Porangahau**	**9.66**	**200**	P	Pn	13 04 02.1	-3.8
TSZ	**Takapari Road**	**9.69**	**204**	P	**Pn**	**13 04 04.3**	**-2.0**
ANWZ	**Angora Road**	**9.88**	**201**	P	Pn	13 04 06.6	-2.4
BFZ	**Birch Farm**	**10.16**	**201**	P	Pn	13 04 06.6	-6.1
MRZ	**Mangatainoka R**	**10.36**	**204**	P	Pn	13 04 09.5	-5.9
TIWZ	**Tintock**	**10.36**	**202**	P	Pn	13 04 11.1	-4.4
HOWZ	**Holdsworth Sta**	**10.58**	**203**	P	Pn	13 04 13.0	-5.6
OGWZ	**Otaki Gorge**	**10.64**	**205**	P	Pn	13 04 14.5	-4.8
KIW	**Kapiti Island**	**10.77**	**206**	P	Pn	13 04 15.6	-5.5
CAW	**Cannon Point**	**10.93**	**204**	P	Pn	13 04 17.0	-6.2
DZM	**Mont Dzumac**	**15.90**	**302**	P	**Pn**	**13 05 29.1**	**+1.0**
	0.4nm,0.3s,baz=127,slow=17,SNR=3.5						
CTA	**Charters Tower**	**33.11**	**281**	P	**P**	**13 08 17.0**	**+0.4**
	8.1nm,0.7s,baz=107,slow=13,SNR=8.0						
STKA	**Stephens Creek**	**33.46**	**258**	P	**P**	**13 08 20.5**	**+1.0**
	4.3nm,0.8s,baz=103,slow=15,SNR=7.2						
PMG	**Port Moresby**	**38.22**	**297**	P	**P**	**13 08 59.7**	**-0.6**
	12nm,0.8s,baz=127,slow=16,SNR=3.4						
ASAR	**Alice Springs**	**42.22**	**268**	P	**P**	**13 09 32.7**	**-0.6**
	14nm,0.8s,baz=103,slow=7.3,SNR=121						
ASAR				ScP	**ScP**	**13 15 01.4**	**-5.8**
	0.2nm,0.6s,baz=116,slow=3.7,SNR=4.2						
WRAB	**Tennant Creek**	**43.28**	**274**	*eP*	**P**	**13 09 38.8**	**-3.1**
	3.9nm,0.4s						
WRA	**Warramunga Arr**	**43.29**	**274**	P	**P**	**13 09 41.3**	**-0.7**
	22nm,0.7s,baz=112,slow=7.7,SNR=88						
QSPA	**South Pole Qui**	**58.89**	**180**	P	**P**	**13 11 40.5**	**+2.6**
	6.7nm,0.7s,baz=331,slow=1.4,SNR=20						
SYO	**Syowa Base**	**76.08**	**193**	*eX*	P	13 13 20.0	-6.1
SNAA	**Sanae**	**77.32**	**179**	P	**P**	**13 13 34.6**	**+1.5**
SNAA	**Sanae**	**77.32**	**179**	P	**P**	**13 13 34.2**	**+1.0**
	7.9nm,1.1s,baz=309,slow=6.5,SNR=9.9						
VNA3	**Neumayer Olymp**	**77.50**	**176**	P	**P**	**13 13 35.6**	**+1.4**
PLCA	**Paso Flores**	**82.54**	**133**	P	**P**	**13 14 02.5**	**+0.6**
	2.5nm,0.9s,baz=266,slow=5.6,SNR=6.4						
PETK	**Petropavlovsk-**	**86.44**	**346**	P	**P**	**13 14 19.9**	**-1.0**
	3.3nm,0.8s,baz=124,slow=8.0,SNR=5.5						
NVAR	**Mina Arraybea**	**89.45**	**43**	P	**P**	**13 14 35.9**	**+0.1**
	0.7nm,0.8s,baz=233,slow=8.9,SNR=3.4						
KLR	**Kul'dur**	**91.35**	**330**	P	**P**	**13 14 43.3**	**-0.8**
	0.2nm,0.7s,baz=148,slow=2.8,SNR=11						
MKAR	**Makanchi Array**	**117.67**	**310**	PKP	**PKPdf**	**13 20 22.7**	**-1.4**
	0.4nm,0.4s,baz=76,slow=1.1,SNR=11						
KURK	**Kurchatov**	**121.03**	**314**	PKPpre	PKPpre	13 20 26.0	
KURBB	**Kurchatov Arra**	**121.06**	**313**	PKhKP	PKPpre	13 20 26.0	
	2.2nm,0.4s,baz=114,slow=1.5,SNR=10						
BVAR	**Borovoye Array**	**126.42**	**315**	PKP	**PKPdf**	**13 20 38.7**	**-1.9**
	1.3nm,0.3s,baz=121,slow=1.7,SNR=14						
ARCES	**ARCESS Array B**	**139.24**	**347**	PKhKP	PKPpre	13 20 56.9	
	1.8nm,0.8s,baz=9.3,slow=2.4,SNR=7.3						
ARCES				PKP	**PKPdf**	**13 21 04.7**	**+0.5**
	5.8nm,0.8s,baz=64,slow=2.1,SNR=9.2						
KBZ	**Khabaz**	**144.87**	**303**	PKP	**PKPab**	**13 21 13.4**	**-1.0**
	1.2nm,0.5s,baz=160,slow=5.1,SNR=5.7						
OBN	**Obninsk**	**145.38**	**324**	PKPbc	**PKPbc**	**13 21 13.2**	**-2.4**
	24nm,0.5s,baz=180,slow=11,SNR=5.5						
FINES	**FINESS Array B**	**145.65**	**339**	PKPbc	**PKPdf**	**13 21 13.4**	**-2.4**
	17nm,0.5s,baz=50,slow=3.9,SNR=134						
DOMB	**Dombas**	**148.77**	**353**	*eP*	**PKPdf**	**13 21 23.9**	**+2.8**
AKN	**Aaknes**	**148.83**	**355**	*eP*	**PKPdf**	**13 21 24.7**	**+3.6**
NB2	**NORSAR Subarra**	**149.46**	**350**	PKP	**PKPdf**	**13 21 24.2**	**+2.0**
	comp=Z,6.8nm,0.7s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**149.46**	**350**	PKP	**PKPdf**	**13 21 24.2**	**+2.0**
	comp=Z,6.8nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.46**	**350**	PKPbc	**PKPdf**	**13 21 24.6**	**+2.3**
	comp=Z,5.4nm,0.6s,baz=15,slow=4.2,SNR=18						
NC602	**NORSAR Array S**	**149.47**	**350**	*eP*	**PKPdf**	**13 21 25.1**	**+2.5**
HFS	**Hagfors**	**149.91**	**347**	PKPbc	**PKPdf**	**13 21 25.0**	**+2.2**
	comp=Z,5.3nm,0.6s,baz=108,slow=3.3,SNR=24						
ASK	**Askoy**	**150.64**	**356**	*eP*	**PKPbc**	**13 21 29.2**	**-0.3**
MMAI	**Mount Meron Ar**	**150.90**	**283**	PKPbc	**PKPbc**	**13 21 30.1**	**-1.1**
	comp=Z,3.3nm,0.6s,baz=89,slow=4.4,SNR=5.1						
KONO	**Kongsberg**	**151.03**	**351**	*eP*	**PKPbc**	**13 21 30.1**	**-0.4**
ODD1	**Odda**	**151.10**	**354**	*eP*	**PKPbc**	**13 21 30.4**	**-0.3**
AKASG	**Malin Array Be**	**151.45**	**321**	PKPbc	**PKPdf**	**13 21 29.4**	**+3.9**
	comp=Z,1.7nm,0.4s,baz=54,slow=2.8,SNR=15						
BRTR	**Keskin Array B**	**152.24**	**297**	PKPbc	**PKPbc**	**13 21 33.0**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=131,slow=5.1,SNR=9.4						
HOMB	**Homborsund**	**152.51**	**351**	*eP*	**PKPbc**	**13 21 33.1**	**-0.7**
SNART	**Snartemo**	**152.59**	**353**	*eP*	**PKPbc**	**13 21 33.9**	**-0.2**
CLL	**Collm**	**158.09**	**340**	*e*PKPab	**PKPab**	**13 22 07.0**	**-1.7**
TORD	**Torodi Ar. Bea**	**161.96**	**182**	PKP	**PKPdf**	**13 21 40.0**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=80,slow=1.6,SNR=5.0						
TORD				PKPab	**PKPab**	**13 22 25.4**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=181,slow=3.0,SNR=5.8						

MEX 31 13:08:11.8±0.3, 14°93N×93°37W, h46km±19km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.79**	**10**	*eP*	Pn	13 08 25.0	-1.6
PCIG				*i* S	Sn	13 08 35.3	-2.0
CCIG	**Comitan**	**1.79**	**41**	*i* P	Pn	13 08 39.0	-1.5
CCIG				*e*S	Sn	13 09 00.0	-2.2
TGIG		**1.86**	**7**	*eP*	Pn	13 08 39.8	-1.4
TGIG				*e*S	Sn	13 09 01.5	-2.1

IDC 31 13:10:17.0±28.0, 20°87S×174°85W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/47, mbtmp3.9/4, Error ellipse: s-maj=521.5km s-min=159.7km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.39**	**264**	P	P	13 17 23.8	+0.4
	2.9nm,0.8s,baz=82,slow=9.3,SNR=4.0						
STKA	**Stephens Creek**	**40.30**	**245**	P	P	13 17 55.1	-1.0
	0.7nm,0.4s,baz=90,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**47.30**	**257**	P	P	13 18 52.2	-0.5
	0.8nm,0.7s,baz=96,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**47.47**	**262**	P	P	13 18 54.4	+0.3
	0.3nm,0.3s,baz=95,slow=8.3,SNR=28						

MEX 31 13:11:07.5±0.4, 14°49N×92°68W, h17km±999km, MD3.7, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.32**	**337**	*eP*	Pn	13 11 27.8	-3.3
PCIG				*e*S	Sn	13 11 43.3	-5.0
CCIG	**Comitan**	**1.86**	**16**	*eP*	Pn	13 11 35.3	-3.5
CCIG				*i* S	Sn	13 11 57.6	-4.3
TGIG		**2.32**	**349**	*i* P	Pn	13 11 42.8	-2.2
TGIG				*i* S	Sn	13 12 09.5	-3.6

IDC 31 13:14:23.4±2.8, 28°73N×97°06E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.1/78, mbtmp3.4/3, Error ellipse: s-maj=442.8km s-min=28.4km az=57.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**21.42**	**331**	P	P	13 19 12.8	-0.1
	0.2nm,0.5s,baz=128,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**60.31**	**139**	P	P	13 24 34.4	+0.3
	0.7nm,0.6s,baz=326,slow=8.0,SNR=17						
ASAR	**Alice Springs**	**63.02**	**142**	P	P	13 24 52.0	-0.4
	0.3nm,0.4s,baz=326,slow=6.6,SNR=10						

IDC 31 13:22:10.8±634.0, 47°68N×48°31E, h0km, Error ellipse: s-maj=213.0km s-min=130.8km az=55.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.95**	**63**	*i*		14 07 20.0	
	baz=250,slow=345,SNR=0.7						
I43RU	**DUBNA INFRASONI**	**31.31**	**327**	*i*		14 30 50.0	
	baz=137,slow=330,SNR=2.1						
I46RU	**ZALESOVO INFRA**	**23.71**	**61**	*i*		15 59 46.3	
	baz=267,slow=329,SNR=1.6						

IDC 31 13:36:43.5±650.0, 47°45N×48°08E, h0km, Error ellipse: s-maj=215.4km s-min=140.2km az=52.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.19**	**62**	*i*		14 23 00.0	
	baz=250,slow=338,SNR=1.2						
I43RU	**DUBNA INFRASONI**	**31.43**	**328**	*i*		14 46 50.0	
	baz=139,slow=331,SNR=2.5						
I46RU	**ZALESOVO INFRA**	**23.95**	**61**	*i*		16 15 44.7	
	baz=267,slow=325,SNR=1.7						

MEX 31 13:44:13.6±0.4, 16°05N×98°60W, h16km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.57**	**53**	*eP*	Pg	13 44 23.0	-1.9
PNIG				*e*S	Sg	13 44 30.4	-2.2
TLIG	**Tlapa**	**1.51**	**1**	*eP*	Pn	13 44 36.5	-3.5
TLIG				*e*S	Sn	13 44 54.4	-5.0
CAIG	**El Cayaco**	**1.88**	**302**	*eP*	Pn	13 44 41.5	-3.5
CAIG				*i* S	Sn	13 45 04.1	-4.4
VHO	**Vista Hermosa**	**2.06**	**60**	*eP*	Pn	13 44 45.2	-2.5
VHO				*i* S	Sn	13 45 09.7	-3.5

IDC 31 13:47:24.9±1.8, 8°26S×127°78E, h0km, mb3.5/2, mb1 3.3/4, mb1mx3.2/45, mbtmp3.2/4, ML3.0/2, Error ellipse: s-maj=269.7km s-min=30.2km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.23**	**152**	Pn	Pn	13 50 33.4	-0.8
	0.1nm,0.3s,baz=330,slow=13,SNR=8.7						
WRA				Sn	Sn	13 52 57.6	-4.6
	0.2nm,0.3s,baz=344,slow=21,SNR=8.7						
ASAR	**Alice Springs**	**16.40**	**160**	Pn	Pn	13 51 17.4	+0.7
	0.0nm,0.3s,baz=342,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**68.10**	**328**	P	P	13 58 25.0	-1.7
	0.2nm,0.6s,baz=128,slow=7.7,SNR=3.2						
KURBB	**Kurchatov Arra**	**72.45**	**330**	P	P	13 58 54.9	+1.7
	0.4nm,0.6s,baz=126,slow=7.5,SNR=5.5						

MEX 31 13:48:42.9±0.4, 16°49N×98°51W, h9km±10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.38**	**105**	*eP*	Pg	13 48 50.1	-0.3
PNIG				*e*S	Sg	13 48 55.3	0.0
TLIG	**Tlapa**	**1.07**	**357**	*eP*	Pg	13 49 00.1	-3.3
TLIG				*i* S	Sg	13 49 13.1	-4.2
CAIG	**El Cayaco**	**1.77**	**288**	*eP*	Pn	13 49 10.9	-2.9
CAIG				*i* S	Sn	13 49 31.2	-5.3
VHO	**Vista Hermosa**	**1.79**	**71**	*i* P	Pn	13 49 10.8	-3.5
VHO				*i* S	Sn	13 49 33.0	-4.4

*ISK **31** 13:53:08.4, 37°87N×30°47E, h9km, ML2.6/5*
*ISCJB **31** 13:53:09.4±0.5, 37°86N±0°02×30°43E±0°03, h1km±7km, Error ellipse: s-maj=4.2km s-min=3.5km az=21.9*
*CSEM **31** 13:53:09.1±0.2, 37°85N×30°42E, h5km, ML2.6, Error ellipse: s-maj=4.6km s-min=3.7km az=110.0*
*DDA **31** 13:53:09.3, 37°85N×30°45E, h7km, Ml2.6*

ISC 31 13:53:09.1±0.9, 37°86N±0°02×30°43E±0°02, h7km±6km, n26, σ0°72/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISP	**Isparta**	**0.08**	**114**	PG	**Pg**	**13 53 10.8**	**-0.3**
ISP				SG	**Sg**	**13 53 12.6**	**+0.1**
ISP	**Isparta**	**0.08**	**114**	*e*Pg	**Pg**	**13 53 10.8**	**-0.3**
ISP				*e*Sg	**Sg**	**13 53 12.6**	**+0.1**
BAGO	**Egridir - ISPA**	**0.31**	**64**	*i* P	**Pg**	**13 53 15.2**	**0.0**
BAGO				*i* S	**Sg**	**13 53 19.9**	**+0.4**
BRDR	**BURDUR-Merkez**	**0.33**	**242**	*i* P	**Pg**	**13 53 16.1**	**+0.5**
BRDR				*i* S	**Sb**	**13 53 22.3**	**-0.8**
BRDR	**BURDUR-Merkez**	**0.33**	**242**	P	**Pg**	**13 53 16.1**	**+0.5**
BRDR				S	**Sb**	**13 53 22.3**	**-0.8**
BCK	**Bucak**	**0.41**	**162**	PG	**Pg**	**13 53 17.3**	**+0.2**
BCK				SG	**Sg**	**13 53 23.6**	**+1.0**
BCK	**Bucak**	**0.41**	**162**	*e*Pg	**Pg**	**13 53 17.3**	**+0.2**
BCK				*e*Sg	**Sg**	**13 53 23.6**	**+1.0**
KZIL	**AFYON_Kizioren**	**0.46**	**330**	*i* P	**Pg**	**13 53 17.9**	**-0.2**
KZIL				*i* S	**Sg**	**13 53 25.7**	**+1.5**
KZIL	**AFYON_Kizioren**	**0.46**	**330**	P	**Pg**	**13 53 17.9**	**-0.2**
KZIL				S	**Sg**	**13 53 25.7**	**+1.5**
SUTC	**Sutluce-Ispart**	**0.59**	**130**	PG	**Pg**	**13 53 20.2**	**-0.3**
SUTC				SG	**Sg**	**13 53 28.6**	**+0.4**
SUTC	**Sutluce-Ispart**	**0.59**	**130**	*e*Pg	**Pg**	**13 53 20.2**	**-0.3**
SUTC				*e*Sg	**Sg**	**13 53 28.6**	**+0.4**
SHUT	**Suhut-Afyon**	**0.70**	**8**	PG	**Pg**	**13 53 21.8**	**-0.9**
SHUT				SG	**Sg**	**13 53 32.0**	**+0.1**
SHUT	**Suhut-Afyon**	**0.70**	**8**	*e*Pg	**Pg**	**13 53 21.8**	**-0.9**
SHUT				*e*Sg	**Sg**	**13 53 32.0**	**+0.1**
KORT	**Korkueli**	**0.85**	**184**	PG	**Pg**	**13 53 25.3**	**-0.3**
KORT	**Korkueli**	**0.85**	**184**	*i* P	**Pg**	**13 53 25.2**	**-0.3**
KORT				*i* S	**Sn**	**13 53 40.5**	**-0.1**
KORT	**Korkueli**	**0.85**	**184**	*e*Pg	**Pg**	**13 53 25.3**	**-0.3**
KORT				S	**Sn**	**13 53 40.5**	**-0.1**
GOLH	**Golhisar**	**0.93**	**229**	*i* P	**Pg**	**13 53 25.7**	**-1.2**
GOLH				*i* S	**Sb**	**13 53 41.4**	**+1.2**
GOLH	**Golhisar**	**0.93**	**229**	P	**Pg**	**13 53 25.7**	**-1.2**
GOLH				S	**Sb**	**13 53 41.4**	**+1.2**
BOLV	**Bolvadin**	**0.95**	**25**	*i* P	**Pb**	**13 53 27.7**	**-0.4**
BOLV				*i* S	**Sb**	**13 53 41.8**	**+0.8**
BOLV	**Bolvadin**	**0.95**	**25**	P	**Pb**	**13 53 27.7**	**-0.4**
BOLV				S	**Sb**	**13 53 41.8**	**+0.8**
DOGA	**KONYA_Doganhis**	**1.01**	**75**	*i* P	**Pb**	**13 53 28.5**	**-0.5**
DOGA				*i* S	**Sn**	**13 53 44.0**	**-0.5**
DOGA	**KONYA_Doganhis**	**1.01**	**75**	P	**Pb**	**13 53 28.5**	**-0.5**
DOGA				S	**Sn**	**13 53 44.0**	**-0.5**
ELL	**Elmali**	**1.18**	**201**	PN	**Pn**	**13 53 32.1**	**-0.1**
ELL	**Elmali**	**1.18**	**201**	*e*Pn	**Pn**	**13 53 32.1**	**-0.1**
KDHN	**Kadinhani**	**1.48**	**63**	*i* P	**Pg**	**13 53 37.6**	**0.0**
KDHN				*i* S	**Sg**	**13 53 58.1**	**+1.3**
KDHN	**Kadinhani**	**1.48**	**63**	P	**Pg**	**13 53 37.6**	**0.0**
KDHN				S	**Sg**	**13 53 58.2**	**+1.3**

*IDC **31** 13:54:41.7±1.0, 15°81N×122°16E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.4/61, mbtmp3.7/6, ML4.8/1, MS2.8/2, Ms1 2.9/2, ms1mx2.4/54, Error ellipse: s-maj=34.4km s-min=16.3km az=81.0*
*NEIC **31** 13:54:45.6±0.6, 15°80N×122°20E, h35km, mb4.3/4, Error ellipse: s-maj=17.0km s-min=9.3km az=95.0*
NEIC Felt [III PIVS] at Baler, Maria Aurora, Palayan City and San Luis; [I PIVS] at Quezon City, Luzon.
*MAN **31** 13:54:47, 15°65N×121°70E, h17km, mb4.8, ML3.7, MS3.6*

ISC 31 13:54:43.6±1.1, 15°72N±0°02×122°01E±0°04, h18km±7km, n39, σ2°03/46, mb3.8/10, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	**0.42**	**272**	*eP*	**Pb**	**13 54 52.9**	**+0.4**
BALP				*e*S	**Sg**	**13 54 56.0**	**-2.0**
POLP	**Polilio Island**	**0.99**	**184**	*eP*	**Pg**	**13 55 05.2**	**+2.4**
POLP				*e*S	**Sn**	**13 55 18.7**	**+2.4**
CAUP	**Cauayan**	**1.23**	**351**	*eP*	**Pg**	**13 55 08.9**	**+1.6**
CAUP				*e*S	**Sg**	**13 55 27.2**	**+3.8**
LQP	**Lukban**	**1.67**	**196**	*eP*	**Pn**	**13 55 10.6**	**-1.5**
GQP	**Guinayangan**	**1.86**	**167**	*i* P	**Pg**	**13 55 18.9**	**-0.4**
GQP				*i* S	**Sg**	**13 55 43.0**	**-0.4**
TGY	**Tagaytay City**	**1.92**	**213**	Pn	**Pb**	**13 55 18.7**	**+0.5**
	296nm,0.3s,baz=322,slow=2.3,SNR=20						
TGY				Sn	**Sg**	**13 55 45.2**	**-0.3**
	909nm,0.3s,baz=188,slow=19,SNR=12						
TGY	**Tagaytay City**	**1.92**	**213**	*eP*	**Pb**	**13 55 19.3**	**+1.2**
SCZP	**Santa Cruz**	**2.03**	**272**	*eP*	**Pn**	**13 55 15.2**	**-1.0**
SCZP				*e*S	**Sn**	**13 55 38.7**	**-3.0**
BOLP	**Bolinao**	**2.12**	**288**	*eP*	**Pn**	**13 55 19.0**	**+0.8**
APYP	**Conner**	**2.25**	**341**	*eP*	**Pb**	**13 55 23.0**	**-0.8**
APYP				*e*S	**Sn**	**13 55 49.0**	**+1.7**
BOAC	**Boac**	**2.26**	**184**	*eP*	**Pb**	**13 55 23.6**	**-0.2**
BOAC				*e*S	**Sb**	**13 55 53.6**	**+2.1**
ABRA	**Dolores**	**2.29**	**327**	*eP*	**Pb**	**13 55 23.8**	**-0.6**
ABRA				*e*S	**Sb**	**13 55 52.7**	**+0.4**
AUQP	**San Andres**	**2.47**	**165**	*eP*	**Pb**	**13 55 28.2**	**+0.7**
LUBP	**Lubang**	**2.62**	**221

KLR	Kul'dur	8.92	300	P	Pn	14 05 05.2	-0.3
	0.0nm,0.3s,baz=110,slow=16,SNR=7.1						
MJAR	Matsushiro Arr	9.69	207	P	Pn	14 05 16.7	+1.6
	0.3nm,0.3s,baz=12,slow=12,SNR=4.1						
PETK	Petropavlovsk-	12.05	45	P	Pn	14 05 44.0	+0.1
	0.4nm,0.3s,baz=226,slow=6.7,SNR=23						
KSRS	Korea Array	14.13	242	P	Pn	14 06 11.4	+2.4
	0.2nm,0.3s,baz=51,slow=11,SNR=7.9						
MA2	Magadan	14.89	14	P	Pn	14 06 16.7	-1.1
	0.5nm,0.3s,baz=178,slow=15,SNR=3.3						
SEY	Seymchan	18.32	13	P	P	14 06 53.4	-0.5
	0.5nm,0.3s,baz=182,slow=8.5,SNR=36						
SONM	Songino Array	25.51	289	P	P	14 08 03.1	+0.2
	1.5nm,0.6s,baz=76,slow=8.9,SNR=12						
MKAR	Makanchi Array	41.58	295	P	P	14 10 20.1	-0.1
	0.6nm,0.4s,baz=73,slow=9.1,SNR=8.5						
ILAR	Eielson Array	41.73	37	P	P	14 10 20.9	-0.3
	1.2nm,0.6s,baz=277,slow=8.7,SNR=24						
FINES	FINESS Array B	62.26	331	P	P	14 12 50.2	-1.3
	1.4nm,0.4s,baz=41,slow=8.0,SNR=15						
WRA	Warramunga Arr	65.52	190	P	P	14 13 14.3	+1.1
	0.3nm,0.9s,baz=7.1,slow=6.7,SNR=4.7						
ASAR	Alice Springs	69.25	189	P	P	14 13 38.8	+2.5
	0.3nm,0.8s,baz=17,slow=6.8,SNR=4.2						
PDAR	Pinedale Array	70.79	48	P	P	14 13 46.6	+0.8
	0.5nm,0.5s,baz=297,slow=1.3,SNR=4.6						
TXAR	Lajitas Array	83.84	54	P	P	14 14 58.6	+0.7
	0.2nm,0.4s,baz=299,slow=3.1,SNR=5.9						

*ISK **31** 14:09:19.1,38.70N×43.21E,h5km,ML3.0/10*
*ISCJB **31** 14:09:21.0±0.5,38.72N±0.02×43.17E±0.03,h0km±5km,*
Error ellipse: s-maj=4.2km s-min=3.4km az=1.1
*CSEM **31** 14:09:20.9±0.2,38.72N×43.20E,h8km,ML3.0,Error*
ellipse: s-maj=4.5km s-min=3.5km az=130.0
*DDA **31** 14:09:20.9,38.69N×43.22E,h7km,Ml3.0*
*ATA **31** 14:09:20.1±1.2,38.68N×43.21E,h4km±18km,ML3.5,*
MW3.3

ISC 31 14:09:21.4±0.8,38.71N±0.02×43.20E±0.02,h11km±7km,
n50,σ1°06/75,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	Van	0.18	127	PG	Pg	14 09 25.5	0.0
VANB				SG	Sg	14 09 29.8	+1.4
VANB	Van	0.18	127	*e*Pg	Pg	14 09 25.5	0.0
VANB				*e*Sg	Sg	14 09 29.8	+1.4
TVAN	Van	0.24	138	*i* P	Pg	14 09 25.6	-1.0
TVAN				*i* S	Sg	14 09 29.8	-0.2
TVAN	Van	0.24	138	P	Pg	14 09 25.5	-1.0
TVAN				S	Sg	14 09 29.8	-0.2
ERCV	ERCIS-VAN	0.33	19	PG	Pg	14 09 26.8	-1.3
ERCV				SG	Sg	14 09 32.9	+0.3
ERCV	ERCIS-VAN	0.33	19	*e*Pg	Pg	14 09 26.8	-1.3
ERCV				*e*Sg	Sg	14 09 32.9	+0.3
ADCV	BITLIS_Adilcev	0.39	285	*i* P	Pg	14 09 28.6	-0.5
ADCV				*i* S	Sb	14 09 35.9	-0.5
VMUR	Van-Muradiye	0.41	46	*i* P	Pg	14 09 29.4	-0.1
VMUR				*i* S	Sb	14 09 36.7	-0.2
GEVA	Gevas	0.41	196	*e*P	Pg	14 09 28.0	-1.5
GEVA				*e*S	Sg	14 09 35.1	+0.2
GEVA				IAML		14 09 38.0	
	comp=Z,450nm,0.4s						
GEVA	Gevas	0.41	196	*i* P	Pg	14 09 28.2	-1.3
GEVA				*i* S	Sb	14 09 35.8	-1.2
GEVA	Gevas	0.41	196	P	Pg	14 09 28.2	-1.3
GEVA				S	Sb	14 09 35.8	-1.2
CLDR	Caldiran	0.71	52	PG	Pg	14 09 33.6	-1.6
CLDR				SG	Sg	14 09 44.5	0.0
CLDR	Caldiran	0.71	52	*i* P	Pg	14 09 33.4	-1.8
CLDR				*i* S	Sg	14 09 44.7	+0.1
CLDR	Caldiran	0.71	52	*e*Pg	Pg	14 09 33.6	-1.6
CLDR				*e*Sg	Sg	14 09 44.5	0.0
TUTA	Tutak	0.76	337	*e*P	Pg	14 09 35.2	-0.8
TUTA				*i* Pg	Pb	14 09 36.3	-0.4
TUTA				IAML		14 09 49.2	
	comp=Z,150nm,0.2s						
TUTA	Tutak	0.76	337	*i* P	Pg	14 09 35.3	-0.8
TUTA				*i* S	Sg	14 09 44.8	-1.2
TUTA	Tutak	0.76	337	P	Pg	14 09 35.3	-0.8
TUTA				S	Sg	14 09 44.8	-1.2
DYDN	Diyadin	0.92	24	*e*P	Pb	14 09 39.0	-0.4
DYDN				IAML		14 09 59.1	
	comp=Z,37nm,0.4s						
DYDN	Diyadin	0.92	24	*i* P	Pb	14 09 39.1	-0.4
DYDN	Diyadin	0.92	24	P	Pb	14 09 39.1	-0.4
GURO	Guroymak-BITLI	0.93	261	PG	Pg	14 09 37.7	-1.6
GURO	Guroymak-BITLI	0.93	261	*e*Pg	Pg	14 09 37.7	-1.6
EKAR	Karacoban	1.04	302	*e*P	Pb	14 09 41.8	+0.2
EKAR	Karacoban	1.04	302	*i* P	Pn	14 09 42.0	-0.1
EKAR				*i* S	Sn	14 10 01.4	+4.6
EKAR	Karacoban	1.04	302	P	Pn	14 09 42.0	-0.1
HAKT	HAKKARI	1.21	161	*i* P	Pg	14 09 42.7	-2.0
HAKT				*i* S	Sn	14 10 02.4	+1.3
SRTM	Siirt_Merkez	1.23	235	*i* P	Pn	14 09 44.8	+0.2
SRTM				*i* S	Sn	14 10 02.7	+1.4
SRTM	Siirt_Merkez	1.23	235	P	Pn	14 09 44.8	+0.2
SRTM				S	Sn	14 10 02.7	+1.4
EATA	Eleskirt	1.28	335	*e*P	Pg	14 09 44.6	-1.3
SIRT	Sirnak	1.34	207	PN	Pn	14 09 46.1	0.0
SIRT	Sirnak	1.34	207	*e*Pn	Pn	14 09 46.1	0.0
IGDI	IGDIR	1.35	30	*e*P	Pb	14 09 46.5	-0.2
TASB	TASBURUN-IGDIR	1.51	32	PN	Pn	14 09 48.5	+0.1
TASB	TASBURUN-IGDIR	1.51	32	*e*Pn	Pn	14 09 48.5	+0.1
SVAN	Silvan-Diyarba	1.67	251	PN	Pn	14 09 50.7	+0.2
SVAN	Silvan-Diyarba	1.67	251	*e*Pn	Pn	14 09 50.7	+0.2
HOMI	Horasan	1.67	324	*e*P	Pg	14 09 53.0	-0.5
BTMN	Batman	1.72	242	*i* P	Pn	14 09 51.8	+0.4
BTMN				*i* S	Sb	14 10 15.4	+0.7
BTMN	Batman	1.72	242	P	Pn	14 09 51.8	+0.4
BTMN				S	Sb	14 10 15.4	+0.7
ERZM	Erzurum	1.86	311	*e*P	Pb	14 09 55.4	-0.1
ECAT	Cat-ERZURUM	1.95	298	*e*P	Pg	14 09 58.3	-0.5
SENK	Senkaya-Erzuru	1.97	341	PN	Pn	14 09 55.2	+0.4
SENK	Senkaya-Erzuru	1.97	341	*e*Pn	Pn	14 09 55.2	+0.4
BNGB	Bingöl	1.99	279	PN	Pn	14 09 55.3	+0.3
EAK	Akyaka	2.00	9	*e*P	Pg	14 09 58.9	-0.9
BINT	Bingol	2.12	275	*e*Pn	Pn	14 09 55.3	-1.6
HANI	Diyarbakir_Han	2.21	263	*i* P	Pn	14 09 58.8	+0.7
HANI				*i* S	Sn	14 10 26.2	+0.7
HANI	Diyarbakir_Han	2.21	263	P	Pn	14 09 58.8	+0.7
HANI				S	Sn	14 10 26.2	+0.7
MAZI	Mazidag	2.50	241	PN	Pn	14 10 02.6	+0.5
MAZI	Mazidag	2.50	241	*e*Pn	Pn	14 10 02.6	+0.5

*IDC **31** 14:15:48.3±2.3,6.62S×154.91E,h0km,mb3.7/3,*
mb1 4.0/4,mb1mx3.6/49,mbtmp3.9/4,ML2.0/1,MS3.3/3,
Ms1 3.3/3,ms1mx2.7/39,Error ellipse: s-maj=63.2km
s-min=35.3km az=130.0

ISC 31 14:15:54.1±2.0,6.38S±0.3×155.0E±0.2,h41km,n16,
σ0°24/15,mb3.8/3,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	5.60	119	LR	LR	14 19 47.2	
	comp=Z,225nm,19.2s,baz=232,slow=42						
PMG	Port Moresby	8.16	251	Pn	Pn	14 17 49.9	-0.2
	1.1nm,0.3s,baz=80,slow=7.0,SNR=5.2						
PMG				Sn	Sn	14 19 21.2	+0.2
	0.7nm,0.3s,baz=107,slow=20,SNR=3.4						
PMG				LR	LR	14 20 55.6	
	comp=Z,141nm,19.1s,baz=49,slow=38						
DZM	Mont Dzumac	18.82	145	LR	LR	14 25 43.9	
	comp=Z,105nm,18.1s,baz=235,slow=31						
WRA	Warramunga Arr	23.92	235	P	P	14 21 04.6	+0.1
	3.0nm,0.9s,baz=58,slow=9.6,SNR=13						
ASAR	Alice Springs	26.30	228	P	P	14 21 26.0	-0.1
	0.5nm,0.7s,baz=59,slow=8.4,SNR=8.0						
CMAR	Chiang Mai Arr	60.66	295	P	P	14 26 01.4	-0.2
	0.7nm,0.3s,baz=108,slow=4.8,SNR=4.4						
ODAN	Odare	73.39	300	*e*P	P	14 27 23.0	+0.4
JIRN	Jiri	74.64	301	*e*P	P	14 27 30.3	+0.2
GUN	Gumba	74.98	301	*e*P	P	14 27 32.2	+0.2
	11nm,0.7s						
PKI	Pulchoki	75.28	301	*e*P	P	14 27 33.5	-0.2
KKN	Kakani	75.45	301	*e*P	P	14 27 34.7	+0.1
DMN	Daman	75.55	301	*e*P	P	14 27 35.5	+0.3
	18nm,0.9s						
GKN	Gorkha	76.06	301	*e*P	P	14 27 38.0	0.0
KOLN	Koldanda	76.88	300	*e*P	P	14 27 42.5	-0.2
	6.4nm,0.7s						
PYUN	Piuthan	77.49	301	*e*P	P	14 27 45.8	-0.3
TORD	Torodi Ar. Bea	152.94	286	PKPbc	PKPbc	14 35 48.2	+0.2
	0.9nm,0.7s,baz=86,slow=1.6,SNR=5.3						

*SOME **31** 14:23:04.1,42.23N×83.93E,h35km*
*NNC **31** 14:23:08.5±2.5,42.29N×83.46E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=20.1km s-min=9.6km az=145.0

ISC 31 14:23:10.5±2.7,42.5N±0.1×83.50E±0.09,h10km,n15,
σ3°66/19,5C-7D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	Podgornoye	3.07	288	⇓Pg	Pb	14 24 03.7	-1.6
	4.6nm,0.5s						
PDGK				⇑Lg	Lg	14 24 45.9	
	82nm,0.7s						
SATY	Saty	3.80	281	*e*P	Pb	14 24 17.6	-0.1
	12nm,0.1s						
SATY				*e*S	Sg	14 25 10.1	-2.4
	45nm,0.1s						
KAPS	Kapalarasan	4.12	315	*e*P	Pb	14 24 20.0	-3.2
	3.6nm,0.5s						
KAPS				*e*S	Sb	14 25 14.1	+1.0
	13nm,0.5s						
MK31	Makanchi Array	4.43	349	⇓Pn	Pn	14 24 18.5	+0.7
	0.3nm,0.3s,baz=10,slow=19,SNR=33						
MK31				Pg	Pg	14 24 32.4	-3.0
	3.2nm,0.5s,baz=170,slow=17,SNR=24						
MK31				⇑Lg	Lg	14 25 33.5	
	37nm,0.6s,baz=166,slow=27,SNR=13						
MAKZ	Makanchi	4.50	347	⇓Pg	Pg	14 24 33.7	-2.9
	2.3nm,0.3s						
MAKZ				⇑Lg	Lg	14 25 36.3	
	25nm,0.8s						
ARXS	Arharly	4.50	295	*e*P	Pb	14 24 28.8	-0.8
	3.5nm,0.3s						
ARXS				*e*S	Sb	14 25 30.2	+6.3
	35nm,0.6s						
MDOK	Medeo	4.80	281	Pg	Pg	14 24 38.4	-4.0
	3.1nm,0.5s						
MDOK				⇓Lg	Lg	14 25 44.1	
	19nm,0.8s						
MDOK	Medeo	4.80	281	*e*P	Pb	14 24 34.8	0.0
	2.0nm,0.4s						
MDOK				*e*S	Sb	14 25 39.6	+7.0
	7.4nm,0.8s						
TNSS	Tian-Shan	4.86	279	*e*P	Pb	14 24 35.7	-0.2
	4.2nm,0.6s						
TNSS				*e*S	Sb	14 25 41.5	+7.0
	11nm,0.7s						
ZSN	Zaisan	5.10	11	*e*P	Pb	14 24 41.8	+2.0
	1.7nm,0.5s						
ZSN				*e*S	Sg	14 25 53.8	-0.3
	16nm,0.5s						
IZV	Izvestkoviy	5.10	279	*e*P	Pg	14 24 44.1	-4.1
	3.6nm,0.5s						
IZV				*e*S	Sg	14 25 55.6	+1.3
	30nm,0.6s						
AAK	Ala-Archa	6.65	275	⇓Pg	Pb	14 25 10.2	+3.9
	1.4nm,0.7s						
AAK				⇑Lg	Lg	14 26 38.4	
	7.9nm,1.0s						
MNAS	Manas	8.13	274	⇓Lg	Lg	14 27 27.9	
	2.1nm,0.9s						
KURK	Kurchatov	8.93	340	⇑Lg	Lg	14 27 58.7	
	5.5nm,0.7s						
OTUK	Ortayu	9.76	310	⇓Lg	Lg	14 28 21.3	
	9.0nm,1.3s						

IDC 31 14:23:16.2±3.5,49.85S×161.89E,h0km,mb3.4/2,
mb1 3.7/3,mb1mx3.5/38,mbtmp3.5/3,ML3.2/1,Error
ellipse: s-maj=82.4km s-min=33.1km az=165.0,North of
Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	Rata Peaks	8.78	49	Pn	Pn	14 25 24.2	-0.2
	0.3nm,0.3s,baz=241,slow=10,SNR=2.7						
RPZ				Sn	Sn	14 27 05.4	+1.4
	0.2nm,0.3s,baz=131,slow=19,SNR=2.4						
ASAR	Alice Springs	34.07	310	P	P	14 30 00.3	-1.9
	0.5nm,0.9s,baz=142,slow=8.3,SNR=5.9						
WRA	Warramunga Arr	37.02	314	P	P	14 30 29.4	+1.7
	0.5nm,0.8s,baz=142,slow=7.3,SNR=5.0						
FINES	FINESS Array B	153.06	312	PKPbc	PKPbc	14 43 14.3	0.0
	3.9nm,1.0s,baz=116,slow=3.2,SNR=3.8						

IDC 31 14:37:17.2±1.4,1.06N×126.41E,h0km,mb3.9/6,
mb1 4.0/6,mb1mx3.6/53,mbtmp3.9/6,Error ellipse:
s-maj=161.9km s-min=16.8km az=65.0,Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.27	160	P	P	14 42 16.6	+0.4
	1.0nm,0.3s,baz=338,slow=10,SNR=51						
ASAR	Alice Springs	25.64	164	P	P	14 42 48.7	0.0
	0.4nm,0.2s,baz=342,slow=8.8,SNR=25						
STKA	Stephens Creek	35.78	158	P	P	14 44 17.7	-0.5
	0.8nm,0.3s,baz=342,slow=10,SNR=9.9						
MKAR	Makanchi Array	59.57	326	P	P	14 47 22.6	-0.2
	0.8nm,0.3s,baz=119,slow=7.6,SNR=25						
KURBB	Kurchatov Arra	63.81	328	P	P	14 47 50.3	-1.0
	0.6nm,0.4s,baz=129,slow=6.3,SNR=11						
AKTO	Aktyubinsk	75.55	322	P	P	14 49 05.2	+1.4
	0.5nm,0.5s,baz=103,slow=14,SNR=2.6						

*ISCJB **31** 14:46:57.9±0.5,40.72N±0.05×41.32E±0.04,h0km,Error*
ellipse: s-maj=10.5km s-min=2.8km az=148.7
*ISK **31** 14:46:57.9,40.66N×41.27E,h5km,ML2.4/3*
*DDA **31** 14:46:58.0,40.71N×41.27E,h7km,Ml2.9,Suspected*
Mining explosion.
*CSEM **31** 14:46:58.1±0.2,40.70N×41.27E,h1km,ML2.9,Error*
ellipse: s-maj=6.9km s-min=2.2km az=151.0,Suspected
Mining explosion.

ISC 31 14:46:57.5±0.8,40.72N±0.05×41.32E±0.04,h0km,n22,
σ0°49/38,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDEM	Demirkent	0.37	62	*i* P	Pb	14 47 06.5	-0.4
DDEM				*i* S	Sb	14 47 13.3	0.0
DDEM	Demirkent	0.37	62	P	Pb	14 47 06.6	-0.4
DDEM				S	Sb	14 47 13.3	0.0
DBAD	Bademkaya	0.41	44	*i* P	Pb	14 47 07.5	-0.2
DBAD				*i* S	Sb	14 47 13.2	-1.3
DBAD	Bademkaya	0.41	44	P	Pb	14 47 07.5	-0.2
DBAD				S	Sb	14 47 13.2	-1.3
ARTV	Artvin	0.65	45	*i* P	Pb	14 47 11.2	-0.7
ARTV				*i* S	Sg	14 47 19.3	+0.9
ARTV	Artvin	0.65	45	P	Pb	14 47 11.2	-0.7
ARTV				S	Sg	14 47 19.3	+0.9
DBOC	Borcka	0.68	23	*i* P	Pb	14 47 12.2	0.0
DBOC				*i* S	Sb	14 47 21.7	-0.4
DBOC	Borcka	0.68	23	P	Pb	14 47 12.2	0.0
DBOC				S	Sb	14 47 21.7	-0.4
SENK	Senkaya-Erzuru	0.80	101	PG	Pb	14 47 14.3	-0.1
SENK	Senkaya-Erzuru	0.80	101	*e*Pg	Pb	14 47 14.3	-0.1
BAYB	BAYBURT	0.93	241	*i* P	Pg	14 47 15.7	+0.4
BAYB				*i* S	Sg	14 47 27.7	+0.2
BAYB	BAYBURT	0.93	241	P	Pg	14 47 15.7	+0.4
BAYB				S	Sg	14 47 27.7	+0.2
BAYT	Ayd¨–ntepe-Bay	0.96	250	PG	Pg	14 47 15.7	-0.1
BAYT				SG	Sg	14 47 28.6	+0.4
BAYT	Ayd¨–ntepe-Bay	0.96	250	*e*Pg	Pg	14 47 15.7	-0.1
BAYT				*e*Sg	Sg	14 47 28.6	+0.4
KTUT	Trabzon	1.21	283	PN	Pg	14 47 20.9	+0.3
KTUT	Trabzon	1.21	283	*e*Pn	Pg	14 47 20.9	+0.3
EPOS	Posof	1.32	53	*i* P	Pn	14 47 23.5	+0.2
EPOS				*i* S	Sb	14 47 40.6	-0.1
EPOS	Posof	1.32	53	P	Pn	14 47 23.5	+0.2
EPOS				S	Sb	14 47 40.6	-0.1
KELT	Kelkit	1.68	251	*i* P	Pn	14 47 28.4	+0.1
KELT				*i* S	Sn	14 47 50.1	-0.5
KELT	Kelkit	1.68	251	P	Pn	14 47 28.4	+0.1
KELT				S	Sn	14 47 50.1	-0.5
ESPY	Espiye-Giresun	1.98	276	PN	Pn	14 47 32.6	+0.4
ESPY	Espiye-Giresun	1.98	276	*e*Pn	Pn	14 47 32.6	+0.4

*ISK **31** 14:51:06.8,37.23N×28.20E,h9km,ML2.3/6*
*ISCJB **31** 14:51:07.2±0.5,37.23N±0.04×28.21E±0.04,h0km,Error*
ellipse: s-maj=6.4km s-min=3.3km az=36.8
*DDA **31** 14:51:07.6,37.21N×28.18E,h7km,Ml2.5,Suspected*
Mining explosion.
*CSEM **31** 14:51:07.4±0.1,37.22N×28.20E,h1km,ML2.3,Error*
ellipse: s-maj=3.3km s-min=1.8km az=33.0,Suspected
Mining explosion.

ISC 31 14:51:06.3±0.9,37.24N±0.03×28.12E±0.04,h0km,n23,
σ0°42/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	Yerkesik	0.17	128	PG	Pg	14 51 09.9	+0.4
YER				SG	Sg	14 51 12.1	+0.5
YER	Yerkesik	0.17	128	*e*Pg	Pg	14 51 09.9	+0.4
YER				*e*Sg	Sg	14 51 12.1	+0.5
MLSB	Milas	0.28	282	PG	Pb	14 51 14.1	-0.1
MLSB				SG	Sb	14 51 19.5	+0.1
MLSB	Milas	0.28	282	*e*Pg	Pb	14 51 14.1	-0.1
MLSB				*e*Sg	Sb	14 51 19.5	+0.1
AYDN	Tasoluk	0.46	336	*i* P	Pb	14 51 17.6	+0.2
AYDN				*i* S	Sb	14 51 24.4	-0.3
AYDN	Tasoluk	0.46	336	P	Pb	14 51 17.5	+0.2
AYDN				S	Sb	14 51 24.5	-0.3
TURN	Turunc	0.53	133	PG	Pg	14 51 16.1	-0.4
TURN				SG	Sg	14 51 23.0	-0.4
TURN	Turunc	0.53	133	*i* P	Pg	14 51 16.0	-0.4
TURN				*i* S	Sg	14 51 23.2	-0.1
TURN	Turunc	0.53	133	*e*Pg	Pg	14 51 16.1	-0.4
TURN				*e*Sg	Sg	14 51 23.0	-0.4
BDRM	Kayabasi	0.57	252	*i* P	Pb	14 51 19.3	+0.3
BDRM				*i* S	Sb	14 51 28.6	+0.9
BDRM	Kayabasi	0.57	252	P	Pb	14 51 19.3	+0.3
BDRM				S	Sb	14 51 28.6	+0.9
DALY	Dalyan (Mu¨la	0.60	134	PG	Pg	14 51 18.0	+0.2
DALY	Dalyan (Mu¨la	0.60	134	*e*Pg	Pg	14 51 18.0	+0.2
BODT	Bodrum	0.67	255	PG	Pb	14 51 20.9	+0.1
BODT	Bodrum	0.67	255	*e*Pg	Pb	14 51 20.9	+0.1
TAVA	DENIZLI_Tavas	0.67	70	*i* P	Pg	14 51 19.8	+0.6
TAVA	DENIZLI_Tavas	0.67	70	P	Pg	14 51 19.8	+0.6
AYDB	Zeytinkoy-Aydi	0.73	346	PG	Pb	14 51 21.9	0.0
AYDB	Zeytinkoy-Aydi	0.73	346	*e*Pg	Pb	14 51 21.9	0.0
GCAM	G?zelcaml?	0.84	303	PG	Pn	14 51 24.8	-0.5
GCAM	G?zelcaml?	0.84	303	*e*Pg	Pn	14 51 24.8	-0.5
FETY	Fethiye	0.98	128	PG	Pg	14 51 24.7	-0.3
FETY	Fethiye	0.98	128	*e*Pg	Pg	14 51 24.7	-0.3

*IDC **31** 15:15:36.7±1.2,34.30N×26.10E,h0km,mb4.0/13,*
mb1 4.0/16,mb1mx3.8/61,mbtmp3.9/16,ML3.6/3,MS2.9/4,
Ms1 2.9/4,ms1mx2.3/61,Error ellipse: s-maj=27.8km
s-min=16.4km az=176.0
*CSEM **31** 15:15:37.9±0.4,34.10N×26.19E,h2km,ML3.1,Error*
ellipse: s-maj=8.9km s-min=4.2km az=3.0
*THE **31** 15:15:37.4,33.97N×26.45E,h20km±20km,ML3.3/5,Error*
ellipse: s-maj=25.1km s-min=2.6km az=144.0
*ATH **31** 15:15:37.6,34.09N×26.17E,h18km±2km,ML3.1/7,Error*
ellipse: s-maj=3.8km s-min=1.7km az=353.0
*GII **31** 15:15:43.6±0.0,33.92N×27.02E,h1km*
*DDA **31** 15:16:21.9,34.85N×26.91E,h51km,Ml3.7*

ISC 31 15:15:35.8±1.4,33.99N±0.05×26.16E±0.03,h8km±9km,
n88,σ1°84/124,mb3.8/13,MS2.9/3,Eastern
Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	1.13	3	P	Pg	15 15 57.0	-0.5
ZKR				S	Sg	15 16 12.3	+0.2
ZKR				AML	AML	15 16 19.8	
	comp=N,891μm,0.4s						
ZKR				AML	AML	15 16 24.0	
	comp=E,1978μm,0.7s						
ZKR	Zakros	1.13	3	P	Pg	15 15 57.0	-0.5
ZKR				S	Sg	15 16 11.8	-0.3
ZKR	Zakros	1.13	3	P	Pg	15 15 57.0	-0.5
ZKR				S	Sg	15 16 12.5	+0.4
LAST	Lasithi	1.30	335	P	Pn	15 15 59.9	-0.5
LAST				S	Sb	15 16 18.6	+1.1
LAST				AML	AML	15 16 23.2	
	comp=E,1755μm,0.7s						
LAST				AML	AML	15 16 26.6	
	comp=N,1692μm,0.7s						
LAST	Lasithi	1.30	335	P	Pn	15 16 00.2	-0.2
LAST				S	Sg	15 16 17.9	+0.3
LAST	Lasithi	1.30	335	P	Pn	15 16 00.2	-0.2
LAST				S	Sn	15 16 19.5	+1.5
NPS	Neapolis	1.35	341	P	Pn	15 16 00.9	-0.2
NPS				S	Sb	15 16 18.7	-0.2
NPS				AML	AML	15 16 26.3	
	comp=E,1386μm,0.9s						
NPS				AML	AML	15 16 32.6	
	comp=N,830μm,0.6s						
NPS	Neapolis	1.35	341	P	Pn	15 16 01.1	0.0
NPS				S	Sb	15 16 18.7	-0.2
NPS	Neapolis	1.35	341	P	Pn	15 16 01.0	0.0
SIVA	Sivas	1.51	313	P	Pg	15 16 05.3	+0.3
SIVA				S	Sg	15 16 24.3	-0.3
SIVA				AML	AML	15 16 35.6	
	comp=N,1720μm,0.6s						
SIVA				AML	AML	15 16 38.3	
	comp=E,1938μm,0.9s						
SIVA	Sivas	1.51	313	P	Pg	15 16 05.2	+0.3
SIVA				S	Sg	15 16 24.6	+0.1
SIVA	Sivas	1.51	313	P	Pg	15 16 05.2	+0.3
SIVA				S	Sg	15 16 26.5	+1.9
IDI	Anoyia	1.67	322	Pn	Pg	15 16 07.4	-0.5
	comp=E,7.5nm,0.3s,baz=135,slow=8.1,SNR=59						
IDI				LR	LR	15 16 22.1	
	comp=E,24nm,21.2s,baz=127,slow=32						
KARP	Karpathos	1.76	28	P	Pb	15 16 09.8	+1.3
KARP				S	Sn	15

ANKY	**Antikythira Is**	**3.00**	**309**	P		**Pb**	**15 16 26.6**	**-3.0**
ANKY				S		**Sn**	**15 17 00.9**	**+0.9**
KYTH	**Kithira**	**3.42**	**313**	P		**Pn**	**15 16 30.0**	**+0.6**
DALY	**Dalyan (Mu¨la**	**3.48**	**35**	*i* P		**Pn**	**15 16 32.1**	**+1.7**
DALY				*i* S		**Sn**	**15 17 07.4**	**-4.4**
DALY	**Dalyan (Mu¨la**	**3.48**	**35**	P		**Pn**	**15 16 32.1**	**+1.7**
DALY				S		**Sn**	**15 17 07.4**	**-4.4**
TURN	**Turunc**	**3.51**	**34**	*i* P		**Pn**	**15 16 27.9**	**-2.8**
TURN				*i* S		Sn	15 17 02.9	-9.4
TURN	**Turunc**	**3.51**	**34**	P		**Pn**	**15 16 27.9**	**-2.8**
FETY	**Fethiye**	**3.57**	**41**	P		**Pn**	**15 16 31.4**	**-0.1**
AKAS	**Kas**	**3.61**	**51**	*i* P		**Pn**	**15 16 32.9**	**+0.7**
AKAS				*i* S		**Sn**	**15 17 12.0**	**-3.1**
AKAS	**Kas**	**3.61**	**51**	P		**Pn**	**15 16 32.9**	**+0.7**
AKAS				S		**Sn**	**15 17 12.0**	**-3.1**
VLI	**Veliai**	**3.79**	**317**	P		**Pn**	**15 16 35.2**	**+0.7**
VLI	**Veliai**	**3.79**	**317**	P		**Pn**	**15 16 36.1**	**+1.6**
TAVA	**DENIZLI_Tavas**	**4.13**	**32**	*i* P		**Pn**	**15 16 40.7**	**+1.3**
TAVA				*i* S		**Sn**	**15 17 23.9**	**-4.1**
TAVA	**DENIZLI_Tavas**	**4.13**	**32**	P		**Pn**	**15 16 40.7**	**+1.3**
TAVA				S		**Sn**	**15 17 23.9**	**-4.1**
GOLH	**Golhisar**	**4.27**	**40**	*i* P		**Pn**	**15 16 42.3**	**+1.1**
GOLH				*i* S		**Sn**	**15 17 28.6**	**-2.8**
GOLH	**Golhisar**	**4.27**	**40**	P		**Pn**	**15 16 42.3**	**+1.1**
GOLH				S		**Sn**	**15 17 28.5**	**-2.8**
KORT	**Korkueli**	**4.56**	**47**	*eP*		**Pn**	**15 16 47.8**	**+2.6**
KORT	**Korkueli**	**4.56**	**47**	P		**Pn**	**15 16 47.8**	**+2.6**
KEPZ	**Antalya-Kepez**	**5.31**	**55**	*i* P		**Pn**	**15 16 57.0**	**+1.4**
KEPZ				*i* S		**Sn**	**15 17 52.8**	**-4.2**
KEPZ	**Antalya-Kepez**	**5.31**	**55**	P		**Pn**	**15 16 57.0**	**+1.4**
KEPZ				S		**Sn**	**15 17 52.8**	**-4.2**
CSS	**Mathiatis**	**6.01**	**79**	Pn		**Pn**	**15 17 05.8**	**+0.8**
KZIT	**Kziot**	**7.61**	**112**	Pn		**Pn**	**15 17 28.8**	**+1.7**
SLTI	**Sal'it**	**7.65**	**101**	Pn		**Pn**	**15 17 29.2**	**+1.5**
AMAZ	**Amatzia**	**7.77**	**106**	Pn		**Pn**	**15 17 31.1**	**+1.8**
MMA0B	**Mount Meron ar**	**7.79**	**95**	Pn		**Pn**	**15 17 30.8**	**+1.3**
MMAI	**Mount Meron Ar**	**7.79**	**95**	Pn		**Pn**	**15 17 30.2**	**+0.7**
	comp=E,1.6nm,0.3s,baz=272,slow=12,SNR=8.4							
MMAI				Sn		**Sn**	**15 18 54.7**	**-3.2**
	comp=E,2.4nm,0.3s,baz=245,slow=13,SNR=4.7							
MMLI	**Mount Malkishu**	**7.92**	**99**	Pn		**Pn**	**15 17 32.3**	**+1.0**
MMLI				Sn		**Sn**	**15 18 56.8**	**-4.3**
KSDI	**Kefar Szold**	**7.97**	**93**	Pn		**Pn**	**15 17 32.9**	**+0.9**
KSDI				Sn		**Sn**	**15 18 57.9**	**-4.4**
YTIR	**Yattir**	**7.99**	**107**	Pn		**Pn**	**15 17 33.9**	**+1.5**
HMDT	**Nahal Hemdat**	**8.05**	**100**	Pn		**Pn**	**15 17 34.0**	**+0.9**
HMDT				Sn		**Sn**	**15 19 01.0**	**-3.3**
DSI	**Dead Sea**	**8.13**	**105**	Pn		**Pn**	**15 17 35.6**	**+1.4**
MZDA	**Masada**	**8.21**	**106**	Pn		**Pn**	**15 17 36.8**	**+1.6**
MZDA				Sn		**Sn**	**15 19 06.1**	**-2.1**
BRTR	**Keskin Array B**	**8.29**	**44**	Pn		**Pn**	**15 17 37.0**	**+0.4**
	comp=E,0.1nm,0.3s,baz=219,slow=15,SNR=6.9							
PRNI	**Paran**	**8.33**	**113**	Pn		**Pn**	**15 17 39.2**	**+2.2**
PRNI				Sn		**Sn**	**15 19 08.5**	**-2.8**
ZFRI	**Zfri**	**8.37**	**112**	Pn		**Pn**	**15 17 38.0**	**+0.5**
HRFI	**Mount Harif**	**8.51**	**115**	Pn		**Pn**	**15 17 41.7**	**+2.3**
MBRI	**Mt Berech**	**8.54**	**117**	Pn		**Pn**	**15 17 42.0**	**+2.1**
MBRI				Sn		**Sn**	**15 19 13.6**	**-2.9**
EIL	**Elat**	**8.63**	**118**	Pn		**Pn**	**15 17 42.7**	**+1.6**
MLR	**Muntele Rosu**	**11.49**	**359**	LR		LR	15 23 35.6	
	comp=E,15nm,18.6s,baz=240,slow=43							
AKASG	**Malin Array Be**	**16.86**	**7**	Pn		**Pn**	**15 19 32.5**	**+0.5**
	comp=E,1.5nm,0.3s,baz=195,slow=10,SNR=9.0							
GERES	**GERESS Array B**	**17.50**	**332**	Pn		**Pn**	**15 19 40.7**	**+0.4**
	comp=E,0.2nm,0.3s,baz=146,slow=18,SNR=2.7							
OBN	**Obninsk**	**22.34**	**16**	LR		LR	15 30 24.0	
	comp=E,19nm,18.7s,baz=304,slow=40							
ESDC	**Sonseca Array**	**24.70**	**292**	P		**P**	**15 20 58.6**	**+1.1**
	comp=E,0.8nm,0.5s,baz=82,slow=9.2,SNR=8.3							
GEYT	**Alibeck**	**26.10**	**72**	P		**P**	**15 21 11.6**	**+1.5**
	comp=E,1.6nm,0.6s,baz=287,slow=15,SNR=5.0							
FINES	**FINESS Array B**	**27.47**	**360**	P		**P**	**15 21 20.3**	**-1.9**
	comp=E,2.7nm,0.9s,baz=182,slow=9.2,SNR=5.6							
AKTO	**Aktyubinsk**	**28.47**	**45**	P		**P**	**15 21 32.3**	**+1.1**
	comp=E,0.6nm,0.4s,baz=231,slow=6.5,SNR=4.1							
EKA	**Eskdalemuir Ar**	**29.47**	**325**	P		**P**	**15 21 39.9**	**-0.2**
	comp=E,0.8nm,0.6s,baz=106,slow=7.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**30.40**	**233**	P		**P**	**15 21 51.7**	**+3.0**
	comp=E,0.5nm,0.6s,baz=27,slow=10.0,SNR=3.6							
TORD				LR		LR	15 36 22.9	
	comp=E,26nm,18.2s,baz=215,slow=41							
ARCES	**ARCESS Array B**	**35.60**	**360**	P		**P**	**15 22 31.9**	**-1.7**
	comp=E,3.6nm,1.0s,baz=183,slow=9.1,SNR=5.7							
BVAR	**Borovoye Array**	**36.58**	**45**	P		**P**	**15 22 42.8**	**+0.6**
	comp=E,0.8nm,0.5s,baz=230,slow=8.8,SNR=8.0							
KURBB	**Kurchatov Arra**	**41.23**	**50**	P		**P**	**15 23 22.1**	**+0.9**
	comp=E,1.6nm,0.8s,baz=274,slow=8.7,SNR=11							
MKAR	**Makanchi Array**	**43.75**	**56**	P		**P**	**15 23 43.1**	**+1.5**
	comp=E,1.0nm,0.7s,baz=277,slow=6.3,SNR=15							
SPITS	**Spitsbergen Ar**	**44.50**	**357**	P		**P**	**15 23 46.2**	**-1.1**
	comp=E,11nm,0.9s,baz=152,slow=6.5,SNR=2.6							
ZALV	**Zalesovo Beam**	**45.23**	**45**	P		**P**	**15 23 54.2**	**+0.8**
	comp=E,2.2nm,0.4s,baz=266,slow=9.2,SNR=13							
YKA	**Yellowknife Ar**	**78.81**	**343**	P		**P**	**15 27 39.2**	**+0.3**
	comp=E,0.4nm,0.6s,baz=32,slow=5.6,SNR=9.8							
MJAR	**Matsushiro Arr**	**85.49**	**48**	LR		LR	16 08 21.1	
	comp=E,24nm,21.2s,baz=55,slow=37							

MAN 31 15:34:41.9±99.9N×123.23E.h1km,mb4.3,ML3.1,MS2.8, 2C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.69**	**116**	*e*P	Pb	15 34 56.0	+0.1
LLP	**Lapu-Lapu**	**0.80**	**66**⇓	*e*P	Pg	15 34 56.6	+0.3
LLP				*e*S	Sg	15 35 06.9	+0.3
GUIM	**Jordan**	**0.89**	**315**	*e*P	Pg	15 34 58.5	+0.5
GUIM				*e*S	Sb	15 35 11.3	-0.3
DCPH	**Dipolog City**	**1.41**	**175**⇑	*e*P	Pn	15 35 07.5	-0.2
DCPH				*e*S	Sn	15 35 30.7	+3.7
MSLP	**Maasin**	**1.61**	**85**	*e*P	Pb	15 35 11.3	-0.3
MSLP				*e*S	Sg	15 35 33.6	+0.6
RCP	**Roxas**	**1.63**	**343**⇑	*e*P	Pb	15 35 12.0	+0.2
RCP				*e*S	Sg	15 35 34.3	+0.9
OCLP	**Ormoc**	**1.72**	**52**	*e*P	Pn	15 35 12.7	+0.7
IPIL	**Ipil**	**2.29**	**197**	*e*P	Pb	15 35 21.8	-1.3
IPIL				*e*S	Sb	15 35 52.6	+0.8

NNC 31 15:49:53.8±4.1,36.70N×70.15E,h0km,mb3.6,mpv3.3, 4C-2D,Error ellipse: s-maj=39.4km s-min=27.9km az=141.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.23**	**37**	⇑Pn	Pn	15 50 59.3	-0.4
	2.4nm,0.2s						
SFK				⇓Sn	Sn	15 51 51.9	+2.0
	2.8nm,0.2s						
MNAS	**Manas**	**6.06**	**17**	⇑Pn	Pn	15 51 27.4	+2.6
	2.9nm,0.6s						
MNAS				⇑Sn	Sn	15 52 35.6	+0.7
	3.5nm,0.4s						
KK31	**Karatay Array**	**6.40**	**2**	Pn	Pn	15 51 30.1	+0.7
	0.3nm,0.3s,baz=179,slow=12,SNR=6.2						
KK31				⇑Sn	Sn	15 52 45.4	+2.3
	1.0nm,0.3s,baz=192,slow=24,SNR=6.9						
AAK	**Ala-Archa**	**6.81**	**28**	Pn	Pn	15 51 33.5	-1.6
	0.8nm,0.3s						
AAK				⇓Sn	Sn	15 52 53.1	-0.3
	2.8nm,0.6s						
AB31	**Akbulak array**	**14.59**	**333**	P	Pn	15 53 19.6	-1.8
	0.3nm,0.3s,baz=162,slow=12,SNR=15						

*NIED **31** 16:03:00,40.80N×145.10E,h5km,Mw3.8 Best double couple: M0 5.46000×10^14 NP1:φs 184.00000°, δ 24.00000°, λ -90.00000°. NP2:φs 3.00000°, δ 66.00000°, λ -90.00000°.*
*IDC **31** 16:03:30.3±1.0,40.79N×145.06E,h0km,mb3.9/12, mb1 3.9/15,mb1mx3.8/58,mbtmp3.8/15,ML3.3/2,MS2.9/4, Ms1 2.9/4,ms1mx2.5/55,Error ellipse: s-maj=28.7km s-min=17.8km az=77.0*
*JMA **31** 16:03:31.1±0.2,40.78N×145.11E,h63km±4km,M4.2*
*ISCJB **31** 16:03:33.6±0.6,40.78N±0.03×144.83E±0.06,h33km, mb3.9/13,MS3.0/2,Error ellipse: s-maj=6.9km s-min=4.4km az=3.4*
*NEIC **31** 16:03:36.0±0.7,40.81N×144.83E,h35km,mb4.3/1,Error ellipse: s-maj=14.3km s-min=8.3km az=98.0*
ISC 31 16:03:35.8±1.1,40.82N±0.05×144.8E±0.1,h35km,n50, σ1s11/46,mb3.9/13,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.73**	**314**	*e*Pn	**Pn**	**16 04 01.9**	**-1.5**
ERM				*e*Sn	**Sn**	**16 04 23.2**	**-1.0**
JEM	**Erimo**	**1.73**	**314**	P	**Pn**	**16 04 02.2**	**-1.2**
JEM				S	**Sn**	**16 04 23.9**	**-0.4**
JCH	**Churui**	**2.10**	**329**	P	**Pn**	**16 04 06.7**	**-1.8**
JCH				S	**Sn**	**16 04 30.9**	**-2.5**
JNBK	**Urakawa-nobuka**	**2.13**	**314**	P	**Pn**	**16 04 08.5**	**-0.4**
JNBK				S	**Sn**	**16 04 34.8**	**+0.7**
JTH	**Tanohata**	**2.43**	**250**	P	**Pn**	**16 04 11.8**	**-1.2**
JTH				S	**Sn**	**16 04 39.4**	**-2.0**
JANG	**Nango**	**2.56**	**261**	P	**Pn**	**16 04 13.7**	**-1.1**
JAR	**Ashorobuto**	**2.60**	**343**	P	**Pn**	**16 04 12.6**	**-2.7**
JFR	**Furan**	**2.87**	**325**	P	**Pn**	**16 04 17.6**	**-1.5**
JOT	**Ohata**	**2.91**	**282**	P	**Pn**	**16 04 19.2**	**-0.4**
JOM	**Ohasama**	**3.02**	**245**	P	**Pn**	**16 04 20.7**	**-0.5**
JEW	**Eniwo**	**3.23**	**310**	S	**Sn**	**16 05 02.4**	**+1.2**
JMK	**Ichinoseki**	**3.34**	**237**	P	**Pn**	**16 04 24.9**	**-0.6**
JMK				S	**Sn**	**16 05 02.5**	**-1.5**
ASAJ	**Asahikawa**	**3.68**	**334**	Pn	**Pn**	**16 04 29.5**	**-0.7**
	1.5nm,0.3s,baz=238,slow=18,SNR=26						
ASAJ				Sn	**Sn**	**16 05 13.8**	**+1.4**
	2.1nm,0.3s,baz=252,slow=20,SNR=4.7						
ASAJ	**Asahikawa**	**3.68**	**334**	*e*Pn	**Pn**	**16 04 30.1**	**-0.2**
ASAJ				*e*Sn	**Sn**	**16 05 13.8**	**+1.4**
MAJO	**Matsushiro**	**6.71**	**233**	*e*Pn	**Pn**	**16 05 12.0**	**+0.1**
MAJO				*e*Sn	**Sn**	**16 06 27.8**	**+0.7**
MJAR	**Matsushiro Arr**	**6.71**	**233**	Pn	**Pn**	**16 05 11.8**	**0.0**
	0.9nm,0.3s,baz=37,slow=13,SNR=8.9						
MJB9	**Matsu-Tunnel**	**6.71**	**233**	*e*Pn	**Pn**	**16 05 12.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.06**	**294**	Pn	**Pn**	**16 05 59.4**	**+1.7**
	0.1nm,0.3s,baz=105,slow=14,SNR=5.0						
JNU	**Nakatsue**	**13.53**	**240**	LR	LR	16 12 32.3	
	comp=Z,40nm,18.5s,baz=276,slow=40						
KSRS	**Korea Array**	**13.55**	**261**	LR	LR	16 11 16.2	
	comp=Z,40nm,21.1s,baz=60,slow=34						
SONA0	**Songino Array**	**28.15**	**297**	*e*P	P	16 09 26.7	+2.0
SONM	**Songino Array**	**28.15**	**297**	P	P	16 09 26.7	+2.0
	1.0nm,0.7s,baz=64,slow=9.8,SNR=5.5						
SONM				LR	LR	16 21 36.2	
	comp=Z,26nm,19.7s,baz=92,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.23**	**132**	T	T	16 38 57.5	
	baz=324,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.24**	**132**	T	T	16 38 58.4	
	baz=324,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.25**	**132**	T	T	16 38 60.0	
	baz=324,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**29.10**	**133**	T	T	16 39 59.9	
	baz=325,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.10**	**133**	T	T	16 40 03.0	
	baz=325,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.12**	**133**	T	T	16 40 04.5	
	baz=325,slow=76,SNR=14						
ZAA1	**Zalesovo Array**	**41.45**	**309**	*e*P	**P**	**16 11 18.4**	**-0.4**
ZALV	**Zalesovo Beam**	**41.45**	**309**	P	**P**	**16 11 18.4**	**-0.4**
	0.5nm,0.4s,baz=116,slow=8.3,SNR=3.2						
MK01	**Makanchi Array**	**44.47**	**299**	*e*P	**P**	**16 11 42.2**	**-1.2**
MK31	**Makanchi Array**	**44.47**	**300**	*e*P	**P**	**16 11 41.6**	**-1.8**
MK32	**Makanchi Array**	**44.47**	**300**	*e*P	**P**	**16 11 44.2**	**+0.8**
MKAR	**Makanchi Array**	**44.47**	**300**	P	**P**	**16 11 44.2**	**+0.8**
	0.8nm,0.4s,baz=86,slow=10,SNR=23						
KURK	**Kurchatov**	**45.79**	**306**	*e*P	**P**	**16 11 53.8**	**0.0**
	3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**45.87**	**306**	P	**P**	**16 11 55.0**	**+0.6**
	2.9nm,0.7s,baz=79,slow=8.8,SNR=14						
BVAR	**Borovoye Array**	**50.06**	**311**	P	**P**	**16 12 28.1**	**+1.2**
	1.6nm,0.6s,baz=60,slow=9.5,SNR=10						
AB31	**Akbulak array**	**57.57**	**309**	*e*P	**P**	**16 13 22.5**	**+0.7**
ABKAR	**Akbulak array**	**57.57**	**309**	*e*P	**P**	**16 13 22.5**	**+0.7**
YKA	**Yellowknife Ar**	**59.20**	**32**	P	P	16 13 32.6	-0.2
	0.2nm,0.6s,baz=301,slow=6.4,SNR=4.1						
WR1	**Warramunga Arr**	**61.23**	**191**	*e*P	**P**	**16 13 46.9**	**-0.3**
WRA	**Warramunga Arr**	**61.23**	**191**	P	**P**	**16 13 46.9**	**-0.3**
	1.9nm,0.8s,baz=10.0,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**64.95**	**191**	P	**P**	**16 14 11.8**	**-0.1**
	0.3nm,0.7s,baz=11,slow=6.9,SNR=6.9						
FIA0	**FINESS Array S**	**66.69**	**333**	*e*P	**P**	**16 14 23.1**	**+0.4**
FINES	**FINESS Array B**	**66.69**	**333**	P	**P**	**16 14 23.1**	**+0.4**
	1.3nm,0.7s,baz=33,slow=7.3,SNR=4.3						
KBZ	**Khabaz**	**70.44**	**311**	P	P	16 14 48.1	+1.8
	1.4nm,0.6s,baz=70,slow=5.5,SNR=4.1						
NB200	**NORSAR Array S**	**71.70**	**338**	*e*P	**P**	**16 14 54.2**	**+0.4**
NOA	**NORSAR Array B**	**71.70**	**338**	P	**P**	**16 14 54.2**	**+0.4**
	0.8nm,0.7s,baz=22,slow=8.9,SNR=3.2						
AKASG	**Malin Array Be**	**72.90**	**323**	P	**P**	**16 15 01.6**	**+0.6**
	0.2nm,0.3s,baz=43,slow=6.6,SNR=3.8						
BRTR	**Keskin Array B**	**78.29**	**313**	LR	LR	16 58 16.2	
	comp=Z,9.4nm,18.5s,baz=110,slow=42						

*IDC **31** 16:39:36.5±1.1,40.36N×49.80E,h0km,mb3.5/7, mb1 3.6/16,mb1mx3.5/64,mbtmp3.6/16,ML3.1/6,Error ellipse: s-maj=21.3km s-min=10.5km az=170.0*
*AZER **31** 16:39:38.9±2.2,40.32N×49.86E,h56km,ml3.4*
*ISCJB **31** 16:39:40.0±0.4,40.27N±0.03×50.11E±0.03,h82km±3km, mb3.5/7,Error ellipse: s-maj=5.7km s-min=3.8km az=5.6*
*CSEM **31** 16:39:41.2±0.2,40.28N×50.10E,h73km±2km,ML3.4, Error ellipse: s-maj=4.5km s-min=3.6km az=177.0*
ISC 31 16:39:42.2±0.7,40.34N±0.04×50.05E±0.04,h64km±6km, n50,σ2s07/79,mb3.5/7,30C-24D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**0.10**	**49**	⇑P	**Pn**	**16 39 51.8**	**+0.1**
	SNR=23						
GALA				⇑S	**Sn**	**16 40 00.3**	**+1.7**
NDR	**Nardaran**	**0.24**	**348**	⇓P	**Pn**	**16 39 52.8**	**+0.5**
	SNR=868						
NDR				⇑S	**Sn**	**16 40 02.5**	**+2.8**
GOBA	**Gobu**	**0.25**	**284**	⇓P	**Pn**	**16 39 52.1**	**-0.3**
	2μm,0.3s,SNR=68						
GOBA				⇓S	**Sn**	**16 40 01.1**	**+1.3**
GBS	**Qobustan**	**0.87**	**283**	⇑P	**Pn**	**16 39 59.5**	**+0.7**
	SNR=8.0						
GBS				⇑S	**Sn**	**16 40 12.0**	**+0.9**
ALIB	**Äli-Bayra**	**0.89**	**245**	⇓P	**Pn**	**16 39 59.5**	**+0.6**
	SNR=46						
ALIB				⇓S	**Sn**	**16 40 12.2**	**+0.9**
SIZA	**Siyzn**	**1.14**	**310**	⇓P	**Pn**	**16 40 02.6**	**+0.3**
SIZA				⇑S	**Sn**	**16 40 19.9**	**+2.6**
PQL	**Pirkuli**	**1.20**	**292**	⇓P	**Pn**	**16 40 03.6**	**+0.5**
	SNR=19						
PQL				⇑S	**Sn**	**16 40 19.5**	**+0.8**
SAAT	**Saatly**	**1.34**	**249**	⇓P	**Pn**	**16 40 05.1**	**+0.3**
SAAT				⇑S	**Sn**	**16 40 24.2**	**+2.5**
KDMR	**Kurdemir**	**1.43**	**272**	⇓S	**Sn**	**16 40 24.7**	**+0.9**
IML	**Ismayilli**	**1.49**	**288**	⇓P	**Pn**	**16 40 07.1**	**+0.2**
IML				⇑S	**Sn**	**16 40 26.4**	**+0.8**
QUBA	**Quba, Azerbaij**	**1.56**	**311**	⇓P	**Pn**	**16 40 08.3**	**+0.5**
QUBA				⇓S	**Sn**	**16 40 28.8**	**+1.8**
XNQ	**Khinaliq**	**1.67**	**300**	⇓P	**Pn**	**16 40 10.1**	**+0.6**
XNQ				⇓S	**Sn**	**16 40 30.5**	**+0.4**
GLBA	**Clilabad**	**1.69**	**230**	⇑P	**Pn**	**16 40 09.3**	**-0.1**
GLBA				⇓S	**Sn**	**16 40 28.0**	**-2.1**
QBL	**Gabala**	**1.79**	**290**	⇑P	**Pn**	**16 40 10.6**	**+0.3**
QBL				⇓S	**Sn**	**16 40 33.2**	**+0.5**
QSAR	**Qusar**	**1.79**	**311**	⇓P	**Pn**	**16 40 11.7**	**+0.8**
QSAR				⇑S	**Sn**	**16 40 34.0**	**+1.3**
ZRD	**Zardab**	**1.81**	**269**	⇑P	**Pn**	**16 40 10.9**	**-0.2**
ZRD				⇓S	**Sn**	**16 40 33.6**	**+0.5**
LKRN	**Lenkeran, Azer**	**1.90**	**212**	⇑P	**Pn**	**16 40 10.2**	**-2.2**
ASTR	**Astara**	**2.03**	**209**	⇓P	**Pn**	**16 40 11.7**	**-2.4**
LRK	**Lerik**	**2.15**	**219**	⇓P	**Pn**	**16 40 16.6**	**+0.7**
BRDA	**Brd**	**2.20**	**269**	⇑P	**Pn**	**16 40 16.4**	**0.0**
BRDA				⇑S	**Sn**	**16 40 44.3**	**+1.8**
MNGR	**Mingechevir, A**	**2.30**	**282**	⇑P	**Pn**	**16 40 17.6**	**-0.1**
MNGR				⇓S	**Sn**	**16 40 45.4**	**+0.4**
SEKA	**Sheki**	**2.33**	**293**	⇑P	**Pn**	**16 40 18.0**	**-0.3**
SEKA				⇑S	**Sn**	**16 40 46.2**	**+0.3**
GANJ	**Ganja**	**2.86**	**277**	⇑P	**Pn**	**16 40 24.5**	**-0.9**
GANJ				⇓S	**Sn**	**16 40 56.9**	**-1.8**
GDB	**GEDABAY**	**3.30**	**278**	⇑P	**Pn**	**16 40 30.7**	**-0.8**
GDB				⇓S	**Sn**	**16 41 07.7**	**-1.9**
ORD	**Ordubad**	**3.44**	**247**	⇑P	**Pn**	**16 40 32.5**	**-0.8**
ORD				⇑S	**Sn**	**16 41 11.0**	**-1.9**
SBZ	**Shahbuz**	**3.59**	**256**	⇑P	**Pn**	**16 40 34.8**	**-0.6**
SBZ				⇓S	**Sn**	**16 41 15.8**	**-0.9**
QZX	**Qazax, Azerbai**	**3.63**	**283**	⇑P	**Pn**	**16 40 35.2**	**-0.7**
QZX				⇓S	**Sn**	**16 41 16.4**	**-1.1**
NAX	**Nakhchivan**	**3.70**	**253**	⇑S	**Sn**	**16 41 18.9**	**-0.5**
GNI	**Garni**	**4.07**	**269**	Pn	**Pn**	**16 40 42.2**	**+0.2**
	2.2nm,0.3s,baz=92,slow=1.5,SNR=5.8						
KBZ	**Khabaz**	**6.31**	**305**	Pn	**Pn**	**16 41 10.2**	**-2.3**
	0.1nm,0.3s,baz=120,slow=8.1,SNR=4.1						
KBZ				Sn	**Sn**	**16 42 17.2**	**-5.9**
	0.3nm,0.3s,baz=300,slow=16,SNR=2.6						
KVAR	**Kislovodsk Arr**	**6.55**	**306**	Pn	**Pn**	**16 41 15.5**	**-0.5**
	baz=141,slow=6.5,SNR=2.4						
GEYT	**Alibeck**	**6.72**	**108**	Pn	**Pn**	**16 41 17.2**	**-1.0**
	0.6nm,0.3s,baz=291,slow=16,SNR=10						
GEYT				Sn	**Sn**	**16 42 30.1**	**-3.2**
	0.9nm,0.3s,baz=210,slow=8.6,SNR=4.1						
GYA0B	**ALIBECK ARRAY**	**6.72**	**108**	Pn	**Pn**	**16 41 17.1**	**-1.1**
	1.8nm,0.6s						
GYA0B				Sn	**Sn**	**16 42 31.6**	**-1.7**
	4.8nm,0.5s						
AB31	**Akbulak array**	**11.34**	**35**	Pn	**Pn**	**16 42 20.7**	**-0.5**
	0.4nm,0.3s,baz=215,slow=13,SNR=21						
AB31				⇑Sn	**Sn**	**16 44 21.5**	**-4.7**
	baz=216,slow=23,SNR=4.7						
AB31	**Akbulak array**	**11.34**	**35**	Pn	**Pn**	**16 42 20.7**	**-0.5**
	0.4nm,0.3s,SNR=21						
AKTO	**Aktyubinsk**	**11.53**	**26**	Pn	**Pn**	**16 42 22.3**	**-1.6**
	1.2nm,0.3s,baz=212,slow=9.5,SNR=15						
AKTO				Sn	**Sn**	**16 44 22.3**	**-8.6**
	0.3nm,0.3s,baz=0.0,slow=20,SNR=3.8						
AKTO	**Aktyubinsk**	**11.53**	**26**	⇑Pn	**Pn**	**16 42 22.6**	**-1.3**
	1.4nm,0.3s						
AKTO				⇑Sn	**Sn**	**16 44 25.8**	**-5.1**
	6.0nm,0.8s						
AKTO	**Aktyubinsk**	**11.53**	**26**	Pn	**Pn**	**16 42 22.6**	**-1.3**
	1.4nm,0.3s						
ARU	**Arti**	**17.04**	**16**	Pn	**Pn**	**16 43 32.7**	**-3.2**
	0.0nm,0.3s,baz=253,slow=14,SNR=4.6						
ARU				Sn	Sn	16 46 33.4	-11
	0.0nm,0.3s,baz=75,slow=20,SNR=3.9						
AKASG	**Malin Array Be**	**17.84**	**312**	P	**P**	**16 43 43.9**	**-1.8**
	1.6nm,0.3s,baz=101,slow=9.8,SNR=8.7						
AAK	**Ala-Archa**	**18.44**	**75**	P	**P**	**16 43 55.1**	**+1.8**
	0.1nm,0.3s,baz=245,slow=2.9,SNR=4.8						
BVAR	**Borovoye Array**	**18.77**	**41**	P	**Pn**	**16 43 58.2**	**+1.1**
	0.3nm,0.3s,baz=237,slow=10,SNR=7.0						
IDI	**Anoyia**	**20.48**	**264**	P	**P**	**16 44 13.5**	**-1.3**
	2.7nm,0.5s,baz=51,slow=6.5,SNR=4.5						
KURBB	**Kurchatov Arra**	**22.33**	**53**	P	**P**	**16 44 37.3**	**+3.0**
	0.6nm,0.7s,baz=257,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**24.12**	**64**	P	**P**	**16 44 55.5**	**+3.7**
	0.2nm,0.4s,baz=254,slow=9.7,SNR=5.6						
FINES	**FINESS Array B**	**25.70**	**333**	P	**P**	**16 45 05.9**	**-0.

MAK	**Makhachkala**	**1.23**	**111**	*e*Pg		**Pb**	**16 49 39.5**	**-2.7**
	comp=N,80nm,0.3s							
MAK				*e*Sg		**Sn**	**16 49 59.7**	**+0.6**
	comp=N,235nm,0.4s							
PRTR	**Priterechnaya**	**1.25**	**286**	⇓ *i*PG		**Pn**	**16 49 40.7**	**-1.9**
PRTR				*e*S		**Sn**	**16 49 59.1**	**-0.5**
PRTR	**Priterechnaya**	**1.25**	**286**	*i* Pg		**Pn**	**16 49 40.7**	**-1.9**
PRTR				*e*Sg		**Sn**	**16 49 59.1**	**-0.5**
GNBR	**Gunib**	**1.27**	**143**	⇓ *i*PG		**Pn**	**16 49 42.1**	**-0.7**
GNBR				*e*			16 50 02.5	
GNBR				pmax	pmax			
	comp=Z,28nm,0.5s							
GNBR				smax	smax			
	comp=N,221nm,0.5s							
GNBR	**Gunib**	**1.27**	**143**	*i* Pg		**Pn**	**16 49 42.1**	**-0.7**
	comp=N,28nm,0.5s							
GNBR				*e*Sg		**Sn**	**16 50 02.5**	**+2.4**
	comp=N,221nm,0.5s							
LACR	**Lac**	**1.33**	**245**	⇓ *i*PG		**Pn**	**16 49 42.0**	**-1.8**
LACR				*e*S		**Sn**	**16 50 01.1**	**-0.8**
LACR	**Lac**	**1.33**	**245**	*i* Pg		**Pn**	**16 49 42.0**	**-1.8**
LACR				*e*Sg		**Sn**	**16 50 01.1**	**-0.8**
STDR	**Stavd-Durt**	**1.37**	**269**	⇓ *i*PG		**Pn**	**16 49 43.4**	**-0.8**
STDR				*e*S		**Sg**	**16 50 04.5**	**+1.9**
STDR	**Stavd-Durt**	**1.37**	**269**	*i* Pg		**Pn**	**16 49 43.4**	**-0.8**
STDR				*e*Sg		**Sg**	**16 50 04.5**	**+1.9**
KORR	**Kora**	**1.40**	**257**	*e*PG		**Pb**	**16 49 44.5**	**-0.7**
KORR				*e*S		**Sg**	**16 50 04.4**	**+0.6**
KORR	**Kora**	**1.40**	**257**	*e*Pg		**Pb**	**16 49 44.5**	**-0.7**
KORR				*e*Sg		**Sg**	**16 50 04.4**	**+0.6**
GUDG	**Gudauri**	**1.43**	**229**	P		**Pn**	**16 49 43.7**	**-1.5**
GUDG				S		**Sb**	**16 50 03.3**	**-0.9**
GUDG	**Gudauri**	**1.43**	**229**	P		**Pn**	**16 49 43.7**	**-1.5**
GUDG				S		**Sb**	**16 50 03.3**	**-0.9**
KMKR	**Kumukh**	**1.54**	**146**	*e*PG		**Pb**	**16 49 47.0**	**-0.6**
KMKR				*e*S		**Sg**	**16 50 08.3**	**+0.2**
KMKR				pmax	pmax			
	comp=Z,33nm,0.3s							
KMKR	**Kumukh**	**1.54**	**146**	*e*Pg		**Pb**	**16 49 47.0**	**-0.6**
	comp=Z,33nm,0.3s							
KMKR				*e*Sg		**Sg**	**16 50 08.3**	**+0.2**
LSNR	**Lesken**	**1.55**	**266**	*e*PG		**Pn**	**16 49 45.9**	**-0.8**
LSNR				*e*S		**Sg**	**16 50 08.7**	**+0.3**
DUS	**Dusheti**	**1.60**	**215**	P		**Pn**	**16 49 47.1**	**-0.3**
DUS				S		**Sg**	**16 50 11.6**	**+1.5**
DUS	**Dusheti**	**1.60**	**215**	P		**Pn**	**16 49 47.1**	**-0.3**
DUS				S		**Sg**	**16 50 11.6**	**+1.5**
ZEI	**Tsey**	**1.62**	**248**	⇑ *i*PG		**Pn**	**16 49 46.5**	**-1.3**
ZEI				*i* S		**Sn**	**16 50 08.2**	**-0.7**
ZEI	**Tsey**	**1.62**	**248**	*i* Pg		**Pn**	**16 49 46.5**	**-1.3**
ZEI				*i* Sg		**Sn**	**16 50 08.2**	**-0.7**
NCK	**Nalchik**	**1.71**	**274**	*e*PN		**Pn**	**16 49 48.6**	**-0.3**
NCK				*e*S		**Sb**	**16 50 11.2**	**-0.9**
NCK	**Nalchik**	**1.71**	**274**	*e*Pn		**Pn**	**16 49 48.6**	**-0.3**
NCK				*e*Sg		**Sb**	**16 50 11.2**	**-0.9**
URKR	**Urkarakh**	**1.76**	**134**	*e*PN		**Pb**	**16 49 51.0**	**-0.3**
URKR				*i* S		**Sg**	**16 50 16.0**	**+0.8**
URKR	**Urkarakh**	**1.76**	**134**	*e*Pn		**Pb**	**16 49 51.0**	**-0.3**
URKR				*i* Sg		**Sg**	**16 50 16.0**	**+0.8**
DDFL	**Dedoflistskaro**	**1.97**	**176**	P		**Pg**	**16 49 55.5**	**-0.8**
DDFL				S		**Sg**	**16 50 27.6**	**+5.8**
DDFL	**Dedoflistskaro**	**1.97**	**176**	P		**Pg**	**16 49 55.5**	**-0.8**
ONI	**Oni**	**2.00**	**247**	P		**Pn**	**16 49 52.9**	**0.0**
ONI				S		**Sb**	**16 50 20.6**	**+0.2**
ONI	**Oni**	**2.00**	**247**	P		**Pb**	**16 49 53.8**	**-1.6**
ONI				S		**Sb**	**16 50 20.8**	**+0.3**
DRN	**Derbent**	**2.24**	**127**	*i* PN		**Pb**	**16 49 57.4**	**-2.0**
DRN	**Derbent**	**2.24**	**127**	*i* Pn		**Pb**	**16 49 57.4**	**-2.0**
NEY	**Neytrino**	**2.35**	**267**	⇓ *e*PN		**Pn**	**16 49 58.6**	**+0.7**
NEY				pmax	pmax			
	comp=Z,14nm,0.5s							
NEY	**Neytrino**	**2.35**	**267**	*e*Pn		**Pn**	**16 49 58.6**	**+0.7**
	comp=Z,14nm,0.5s							
KIV	**Kislovodsk**	**2.42**	**284**	*e*PN		**Pn**	**16 49 58.3**	**-0.4**
KIV	**Kislovodsk**	**2.42**	**284**	*e*Pn		**Pn**	**16 49 58.3**	**-0.4**
KSMR	**Kasumkent**	**2.42**	**137**	PN		**Pg**	**16 50 07.0**	**+1.9**
KSMR				*e*S		**Sg**	**16 50 36.0**	**-0.5**
KSMR				pmax	pmax			
	comp=Z,21nm,0.8s							
KSMR	**Kasumkent**	**2.42**	**137**	Pn		**Pg**	**16 50 07.0**	**+1.9**
	comp=Z,21nm,0.8s							
KSMR				*e*Sb		**Sg**	**16 50 36.0**	**-0.5**
GOF	**Gofitskoye**	**2.66**	**309**	⇑ *e*PN		**Pg**	**16 50 09.7**	**+0.2**
GOF				*e*S		**Sb**	**16 50 40.1**	**+0.8**
GOF				pmax	pmax			
	comp=Z,16nm,0.6s							
GOF				smax	smax			
	comp=E,30nm,0.6s							
GOF	**Gofitskoye**	**2.66**	**309**	*e*Pn		**Pg**	**16 50 09.7**	**+0.2**
	comp=E,16nm,0.6s							
GOF				*e*Sn		**Sb**	**16 50 40.1**	**+0.8**
KIEV	**Kiev**	**13.52**	**308**	⇑ *e*P		**Pn**	**16 52 31.5**	**+0.8**
KIEV				pmax	pmax			
	comp=Z,4.0nm,1.5s							
BRVK	**Borovoye**	**18.79**	**51**	⇓ *e*P		**Pn**	**16 53 40.4**	**+1.6**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.7s							
TIXI	**Tiksi**	**47.32**	**25**	⇑ *e*P		**P**	**16 57 53.2**	**+0.8**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.0s							

IDC 31 16:49:47.6±1.7, 4°.03S×130°.61E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.4/53, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=91.0km s-min=23.9km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.81**	**199**	Pn		Pn	16 53 20.6	+2.1
	baz=32,slow=12							
WRA	**Warramunga Arr**	**16.23**	**167**	Pn		Pn	16 53 35.3	-1.9
	0.1nm,0.3s,baz=348,slow=14,SNR=9.4							
WRA				Sn		Sn	16 56 31.1	-6.9
	0.2nm,0.3s,baz=344,slow=22,SNR=6.1							
ASAR	**Alice Springs**	**19.78**	**171**	P		P	16 54 19.7	+0.1
	0.3nm,0.3s,baz=356,slow=11,SNR=43							
STKA	**Stephens Creek**	**29.56**	**161**	P		P	16 55 54.2	0.0
	2.3nm,1.1s,baz=338,slow=12,SNR=2.9							
MKAR	**Makanchi Array**	**66.11**	**326**	P		P	17 00 36.7	0.0
	0.2nm,0.7s,baz=132,slow=6.4,SNR=2.6							

*NIED **31** 16:51:00,37.70N×134.40E,h480km,Mw4.2 Best double couple: M0 2.19000×10^15 NP1:φ=279.00000°, δ34.00000°, λ5.00000°. NP2:φ=185.00000°, δ87.00000°, λ124.00000°.*

*ISCJB **31** 16:51:12.3±0.2,37.70N±0.05×134.33E±0.05,h413km, mb3.5/22, Error ellipse: s-maj=6.6km s-min=4.6km az=26.2*

*JMA **31** 16:51:12.3±0.2,37.68N×134.36E,h413km±3km,M3.6*

*NEIC **31** 16:51:12.2±0.4,37.75N×134.16E,h397km±8km,mb4.1/5, Error ellipse: s-maj=21.3km s-min=9.0km az=177.0*

*IDC **31** 16:51:13.3±0.9,37.68N×134.27E,h406km±10km, mb3.2/19,mb1 3.3/24,mb1mx3.2/73,mbtmp4.0/24, Error ellipse: s-maj=11.5km s-min=9.4km az=68.0*

ISC 31 16:51:13.5±0.5, 37.64N±0.07×134.30E±0.06, h413km, n66, σ0 99/72, mb3.6/22, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOI	**OKI**	**1.59**	**212**	P		**P**	**16 52 07.7**	**-0.8**
JKSM	**Kasumi**	**2.07**	**172**	P		**P**	**16 52 10.7**	**-0.5**
JKSM				*e*S		**S**	**16 52 56.6**	**-1.2**
JKY	**Yasaka**	**2.11**	**162**	P		**P**	**16 52 10.7**	**-0.8**
JKY				S		**S**	**16 52 56.8**	**-1.5**
JKG	**Kaga**	**2.12**	**129**	P		**P**	**16 52 10.6**	**-0.8**
JKG				*e*S		**S**	**16 52 56.5**	**-1.8**
JSZ	**Suzu**	**2.44**	**94**	P		**P**	**16 52 12.6**	**-0.8**
JWT	**Wachi**	**2.52**	**159**	P		**P**	**16 52 13.6**	**-0.5**
JTT	**Ttatey**	**2.63**	**112**	P		**P**	**16 52 13.7**	**-1.2**
JHS	**Saijyo**	**2.81**	**200**	P		**P**	**16 52 15.8**	**-0.5**
JGT2	**ShimaneMisato**	**2.96**	**210**	P		**P**	**16 52 16.9**	**-0.5**
JSD	**Sado**	**3.16**	**82**	P		**P**	**16 52 17.4**	**-1.4**
INU	**Inuyama**	**3.17**	**136**	*e*Pn		**P**	**16 52 17.9**	**-1.2**
MJB9	**Matsu-Tunnel**	**3.31**	**108**	*e*Pn		**P**	**16 52 19.0**	**-1.1**
MAT	**Matsushiro**	**3.31**	**108**	P		**P**	**16 52 19.0**	**-1.2**
MAT				S		**S**	**16 53 13.7**	**-0.7**
MAJO	**Matsushiro**	**3.31**	**108**	*e*Pn		**P**	**16 52 18.7**	**-1.5**
MJAR	**Matsushiro Arr**	**3.31**	**108**	P		**P**	**16 52 19.3**	**-0.9**
	9.4nm,0.3s,baz=289,slow=10.0,SNR=137							

KSRS	**Korea Array**	**5.07**	**270**	P		**P**	**16 52 37.6**	**+1.0**
	1.1nm,0.3s,baz=91,slow=11,SNR=49							
KS01	**Wonju Array Si**	**5.09**	**270**	*e*Pn		**P**	**16 52 34.5**	**-2.4**
JNU	**Nakatsue**	**5.31**	**213**	P		**P**	**16 52 38.8**	**-0.5**
	0.7nm,0.3s,baz=2.4,slow=3.5,SNR=6.3							
USRK	**Ussuriysk Ar.**	**6.78**	**346**	P		**P**	**16 52 55.0**	**-0.3**
	1.0nm,0.3s,baz=171,slow=11,SNR=20							
ERM	**Erimo**	**8.09**	**55**	*e*Pn		**P**	**16 53 08.5**	**-1.1**
	20nm,0.3s							
ASAJ	**Asahikawa**	**9.01**	**42**	P		**P**	**16 53 18.6**	**-1.2**
	5.8nm,0.3s,baz=235,slow=10,SNR=66							
CN2	**Changchun**	**9.11**	**315**	*e*P		**P**	**16 53 21.0**	**+0.2**
KLR	**Kul'dur**	**11.73**	**352**	P		**P**	**16 53 49.2**	**-0.5**
	0.0nm,0.3s,baz=151,slow=1.7,SNR=3.8							
XAN	**Xi'an**	**20.87**	**268**	P		**P**	**16 55 24.5**	**-0.6**
ENH	**Enshi**	**21.82**	**258**	*e*P		**P**	**16 55 33.0**	**-0.7**
	12nm,0.6s							
SONA1	**Songino Array**	**22.77**	**305**	*e*P		**P**	**16 55 40.0**	**-2.2**
SONM	**Songino Array**	**22.77**	**305**	P		**P**	**16 55 42.1**	**-0.2**
	0.9nm,0.7s,baz=110,slow=8.7,SNR=8.5							
LZH	**Lanzhou**	**24.37**	**276**	*e*P		**P**	**16 55 57.3**	**+0.5**
LZH				pP		pP	16 57 05.5	+0.9
LZH				sP		sP	16 57 49.5	-7.3
GTA	**Gaotai**	**26.95**	**285**	*e*P		**P**	**16 56 20.3**	**+0.7**
GTA				pP		pP	16 57 31.0	-0.7
GTA				sP		sP	16 58 17.0	-4.6
WMQ	**Urumqi**	**35.48**	**295**	*e*P		**P**	**16 57 34.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**36.30**	**248**	P		**P**	**16 57 41.2**	**+0.9**
	1.1nm,0.7s,baz=44,slow=8.0,SNR=12							
ZALV	**Zalesovo Beam**	**37.31**	**312**	P		**P**	**16 57 47.4**	**-0.7**
	0.4nm,0.3s,baz=87,slow=12,SNR=3.9							
ZALV				ScP		**ScP**	**17 03 04.8**	**+0.3**
	0.8nm,0.6s,baz=108,slow=4.8,SNR=4.5							
MK31	**Makanchi Array**	**38.96**	**301**	*e*P		**P**	**16 58 00.3**	**-1.6**
MKAR	**Makanchi Array**	**38.96**	**301**	P		**P**	**16 58 01.8**	**-0.1**
	0.9nm,0.7s,baz=90,slow=10,SNR=12							
MKAR				ScP		**ScP**	**17 03 10.5**	**-0.2**
	0.1nm,0.5s,baz=75,slow=5.8,SNR=2.3							
MKAR	**Makanchi Array**	**38.96**	**301**	*e*P		**P**	**16 58 00.4**	**-1.5**
	6.3nm,0.8s							
MAKZ	**Makanchi**	**39.17**	**301**	*e*P		**P**	**16 58 02.7**	**-1.0**
	4.8nm,1.4s							
ODAN	**Odare**	**40.73**	**269**	*e*P		**P**	**16 58 17.5**	**+0.7**
KURK	**Kurchatov**	**41.06**	**307**	*e*P		**P**	**16 58 18.2**	**-0.6**
	3.5nm,0.8s							
KURBB	**Kurchatov Arra**	**41.13**	**307**	P		**P**	**16 58 18.4**	**-0.9**
	2.1nm,0.8s,baz=86,slow=8.1,SNR=16							
RAMN	**Ramite**	**41.32**	**269**	*e*P		**P**	**16 58 22.1**	**+0.6**
JIRN	**Jiri**	**41.33**	**271**	*e*P		**P**	**16 58 22.8**	**+1.1**
	8.2nm,0.3s							
GUN	**Gumba**	**41.46**	**271**	*e*P		**P**	**16 58 23.7**	**+0.9**
PKI	**Pulchoki**	**41.99**	**271**	*e*P		**P**	**16 58 26.9**	**0.0**
KKN	**Kakani**	**41.99**	**271**	*e*P		**P**	**16 58 27.3**	**+0.5**
PKIN	**Phulchoki**	**41.99**	**271**	*e*P		**P**	**16 58 27.3**	**+0.4**
GKN	**Gorkha**	**42.41**	**272**	*e*P		**P**	**16 58 30.2**	**+0.1**
	14nm,0.7s							
DANN	**Dangsing**	**42.95**	**273**	*e*P		**P**	**16 58 35.8**	**+1.3**
PYUN	**Piuthan**	**43.67**	**273**	*e*P		**P**	**16 58 40.5**	**+0.4**
AAK	**Ala-Archa**	**45.17**	**296**	P		**P**	**16 58 51.7**	**+0.2**
	0.4nm,0.3s,baz=169,slow=8.3,SNR=5.1							
BVAR	**Borovoye Array**	**45.93**	**311**	P		**P**	**16 58 56.1**	**-0.9**
	0.5nm,0.4s,baz=82,slow=9.4,SNR=4.0							
KKAR	**Karatay Array**	**47.87**	**298**	*e*P		**P**	**16 59 09.2**	**-2.8**
ILAR	**Eielson Array**	**52.01**	**32**	P		**P**	**16 59 42.6**	**+0.3**
	0.7nm,0.6s,baz=270,slow=6.2,SNR=16							
ARU	**Arti**	**52.10**	**317**	P		**P**	**16 59 42.9**	**-0.2**
	2.6nm,0.6s,baz=107,slow=19							
ABKAR	**Akbulak array**	**53.15**	**308**	*e*P		**P**	**16 59 49.6**	**-1.2**
AKTO	**Aktyubinsk**	**53.99**	**310**	P		**P**	**16 59 56.6**	**-0.1**
	1.3nm,0.7s,baz=80,slow=14,SNR=4.7							
WRA	**Warramunga Arr**	**57.28**	**180**	P		**P**	**17 00 20.2**	**+0.1**
	1.7nm,0.5s,baz=357,slow=7.6,SNR=33							
CTA	**Charters Tower**	**58.52**	**167**	P		**P**	**17 00 29.3**	**+0.7**
	2.4nm,0.7s,baz=17,slow=11,SNR=3.3							
GEYT	**Alibeck**	**58.52**	**296**	P		**P**	**17 00 28.7**	**+0.1**
	1.2nm,0.5s,baz=60,slow=8.5,SNR=3.0							
ASAR	**Alice Springs**	**60.98**	**180**	P		**P**	**17 00 45.5**	**+0.4**
	0.9nm,0.8s,baz=12,slow=14,SNR=15							
FINES	**FINESS Array B**	**65.54**	**330**	P		**P**	**17 01 14.1**	**0.0**
	3.9nm,1.0s,baz=258,slow=9.5,SNR=3.9							
YKA	**Yellowknife Ar**	**66.05**	**28**	P		**P**	**17 01 17.9**	**+0.6**
	0.3nm,0.7s,baz=304,slow=7.1,SNR=9.9							
AKASG	**Malin Array Be**	**70.24**	**319**	P		**P**	**17 01 43.4**	**+0.2**
	0.9nm,0.6s,baz=50,slow=6.3,SNR=3.7							
GCRM	**Castle Rock Sp**	**76.12**	**52**	*e*P		**P**	**17 02 18.3**	**+0.8**
BBGB	**Big Mountain B**	**78.51**	**53**	*e*P		**P**	**17 02 31.4**	**+0.7**
PDAR	**Pinedale Array**	**81.14**	**42**	P		**P**	**17 02 45.9**	**+1.2**
	0.6nm,0.7s,baz=326,slow=0.5,SNR=4.5							
TXAR	**Lajitas Array**	**94.08**	**48**	P		**P**	**17 03 48.1**	**+1.5**
	0.3nm,0.6s,baz=261,slow=2.0,SNR=5.4							

IDC 31 17:02:56.0±2.2, 6.76S×152.37E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/60, mbtmp3.3/4, ML1.5/1, Error ellipse: s-maj=111.4km s-min=28.3km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.79**	**243**	Pn		Pn	17 04 25.1	+1.8
	0.8nm,0.3s,baz=41,slow=11,SNR=4.7							
PMG				Sn		Sn	17 05 32.0	+1.6
	0.8nm,0.3s,baz=317,slow=19,SNR=3.5							
WRA	**Warramunga Arr**	**21.87**	**231**	P		P	17 07 49.6	-1.0
	0.5nm,0.7s,baz=55,slow=9.6,SNR=4.9							
ASAR	**Alice Springs**	**24.44**	**225**	P		P	17 08 16.7	0.0
	0.4nm,0.8s,baz=58,slow=8.8,SNR=6.8							
ILAR	**Eielson Array**	**84.12**	**22**	P		P	17 15 28.7	+0.1
	0.3nm,0.7s,baz=243,slow=6.0,SNR=1.9							

MEX 31 17:04:08.2±0.7, 16.29N×98.40W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**69**	*i* P		Pg	17 04 13.0	-0.8
PNIG				*e*S		Sg	17 04 17.6	+0.2
TLIG	**Tlapa**	**1.27**	**353**	*i* P		Pg	17 04 28.9	-3.8
TLIG				*e*S		Sg	17 04 44.9	-4.3
VHO	**Vista Hermosa**	**1.78**	**64**	*e*P		Pn	17 04 37.2	-2.5
VHO				*e*S		Sn	17 04 58.7	-4.2
HUIG	**Huatulco**	**2.27**	**103**	*i* P		Pn	17 04 42.3	-4.0
HUIG				*e*P		Pb	17 04 44.6	-5.0

*IDC **31** 17:06:42.0±1.6,20.21S×175.14W,h75km±13km,mb4.9/43, mb1 4.9/46,mb1mx4.9/57,mbtmp5.2/46,MS3.6/13, Ms1 3.6/13,ms1mx3.4/46, Error ellipse: s-maj=10.3km s-min=8.2km az=128.0*

*MOS **31** 17:06:44.9±0.9,20.20S×175.21W,h113km,mb5.3/48, Error ellipse: s-maj=8.6km s-min=6.4km az=55.3*

*BJI **31** 17:06:45.2,20.35S×175.15W,h122km,mb5.2/42, mB5.4/26*

*ISCJB **31** 17:06:47.2±0.9,20.32S±0.03×175.24W±0.03, h136km±8km,mb5.0/237, Error ellipse: s-maj=5.3km s-min=3.3km az=138.6*

*GCMT **31** 17:06:48.9±0.2,20.30S×174.80W,h149km±1km, MW5.1/106,Moment Tensor Solution. s61,c82; s106,c154; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~5.41±.13; Mθθ 0.38±.20; Mφφ 5.03±.18; Mrθ 2.50±.13; Mθφ 2.37±.21; Mφr~1.44±.14; Best double couple: M0 6.39600×10^16 NP1:φ=360.00000°, δ52.00000°, λ~122.00000°. NP2:φ=225.00000°, δ48.00000°, λ~56.00000°. Principal axes: T 6.0370, Plg2.0000°, Azm112.0000°; N 0.7150, Plg25.0000°, Azm21.0000°; P -6.7550, Plg65.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*WEL **31** 17:06:48.0,20.33S×175.23W,h143km*

*NEIC **31** 17:06:48.9±0.8,20.33S×175.23W,h143km±7km, mb5.1/182, Error ellipse: s-maj=4.4km s-min=2.8km az=137.0*

NEIC Felt at Nuku'alofa.

ISC 31 17:06:47.5±0.3, 20.35S±0.04×175.13W±0.04, h129km±2km, h129km:pP-P, n945, σ1 9§49/1199, mb5.1/235, 33C-48D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**6.96**	**291**	*c i*P		Pn	17 08 32.5	+5.5
MSVF	**Nonsavu**	**6.96**	**291**	*e*Pn		Pn	17 08 32.1	+5.0

AFI	**Afiamalu**	**7.16**	**27**	P		Pn	17 08 21.8	-8.1
	169nm,0.3s,baz=187,slow=1.2,SNR=205							
AFI				S		Sn	17 09 33.4	-16
	138nm,0.3s,baz=83,slow=22,SNR=9.1							
AFI	**Afiamalu**	**7.16**	**27**	*e*P		Pn	17 08 21.4	-8.4
AFI	**Afiamalu**	**7.16**	**27**	*e*Pn		Pn	17 08 21.4	-8.4
AFI				*e*Sn		Sn	17 09 31.9	-18
RIZ	**Raoul Island**	**9.21**	**195**	P		**Pn**	**17 08 57.8**	**+0.6**
RIZ	**Raoul Island**	**9.21**	**195**	S		**Sn**	**17 10 39.6**	**+0.4**
RAO	**Raoul Island**	**9.22**	**195**	P		**Pn**	**17 08 58.0**	**+0.7**
	145nm,0.3s,baz=100,slow=22,SNR=4.2							
RAO				S		**Sn**	**17 10 38.5**	**-0.8**
	233nm,0.3s,baz=64,slow=23,SNR=20							
RAO	**Raoul Island**	**9.22**	**195**	*e*Pn		**Pn**	**17 08 56.1**	**-1.2**
RAO				*e*Sn		**Sn**	**17 10 35.1**	**-4.1**
GLKZ	**Green Lake**	**9.23**	**195**	P		**Pn**	**17 08 57.4**	**0.0**
GLKZ	**Green Lake**	**9.23**	**195**	S		**Sn**	**17 10 39.5**	**0.0**
FUNA	**Funafuti**	**12.97**	**334**	*e*Pn		**Pn**	**17 09 47.8**	**+0.6**
RAR	**Rarotonga**	**14.39**	**96**	P		**Pn**	**17 10 02.0**	**-3.2**
	10nm,0.3s,baz=252,slow=8.0,SNR=32							
RAR				S		Sn	17 12 29.8	-15
	5.0nm,0.3s,baz=127,slow=18,SNR=3.1							
RAR				LR		LR	17 14 57.0	
	comp=Z,298nm,18.5s,baz=290,slow=34							
RAR	**Rarotonga**	**14.39**	**96**	*e*Pn		**Pn**	**17 10 01.4**	**-3.9**
RAR				*e*Sn		Sn	17 12 29.5	-15
DZM	**Mont Dzumac**	**17.27**	**261**	P		**Pn**	**17 10 43.9**	**+2.9**
	3.3nm,0.3s,baz=87,slow=19,SNR=58							
DZM				S		**S**	**17 13 57.7**	**+3.7**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.2							
DZM	**Mont Dzumac**	**17.27**	**261**	*e*P		**Pn**	**17 10 44.1**	**+3.1**
	264nm,1.2s							
DZM	**Mont Dzumac**	**17.27**	**261**	*e*P		**Pn**	**17 10 43.9**	**+2.9**
	95nm,0.9s							
DZM				*e*Sn		**S**	**17 13 58.6**	**+4.7**
KNTN	**Kanton**	**17.79**	**11**	*e*P		**P**	**17 10 39.2**	**-6.9**
	46nm,0.8s							
OUZ	**Omahuta**	**17.84**	**212**	*e*P		**Pn**	**17 10 49.4**	**+1.9**
	76nm,0.7s							
MXZ	**Matakaoa Point**	**18.08**	**197**	*e*P		**P**	**17 10 50.0**	**+1.0**
	60nm,0.9s							
MXZ	**Matakaoa Point**	**18.08**	**197**	P		**Pn**	**17 10 51.9**	**+1.5**
MXZ	**Matakaoa Point**	**18.08**	**197**	S		S	17 13 57.3	-12
WMGZ	**Waiomatatini S**	**18.29**	**196**	P		**Pn**	**17 10 53.5**	**+0.6**
WMGZ	**Waiomatatini S**	**18.29**	**196**	S		S	17 14 03.9	-10
HAZ	**Te Kaha**	**18.41**	**198**	P		**P**	**17 10 49.9**	**-2.8**
HAZ	**Te Kaha**	**18.41**	**198**	S		**S**	**17 14 06.7**	**-10**
PKGZ	**Pakihiroa**	**18.44**	**197**	P		**P**	**17 10 49.0**	**-4.1**
PKGZ	**Pakihiroa**	**18.44**	**197**	S		S	17 14 05.5	-12
PUZ	**Puketiti**	**18.57**	**197**	P		**P**	**17 10 53.1**	**-1.4**
PUZ	**Puketiti**	**18.57**	**197**	S		S	17 14 07.3	-12
RUGZ	**Raukumara Rang**	**18.63**	**198**	P		**P**	**17 10 54.7**	**-0.5**
RUGZ	**Raukumara Rang**	**18.63**	**198**	S		**S**	**17 14 12.0**	**-8.9**
TWGZ	**Tauwhareparae**	**18.74**	**197**	P		**P**	**17 10 56.9**	**+0.5**
TWGZ	**Tauwhareparae**	**18.74**	**197**	S		**S**	**17 14 14.7**	**-8.3**
TGRZ	**Tauranga**	**18.86**	**202**	P		**Pn**	**17 11 01.7**	**+2.0**
OPRZ	**Ohinepanea**	**18.87**	**201**	P		**Pn**	**17 11 00.2**	**+0.5**
MARZ	**Manawahe**	**18.96**	**200**	P		**Pn**	**17 11 01.9**	**+1.1**
CNGZ	**Carnagh Statio**	**18.97**	**196**	P		**Pn**	**17 11 00.5**	**-0.3**
CNGZ	**Carnagh Statio**	**18.97**	**196**	S		**S**	**17 14 20.9**	**-6.4**
MWZ	**Matawai**	**19.02**	**198**	P		**P**	**17 10 59.0**	**-0.4**
MWZ	**Matawai**	**19.02**	**198**	S		**S**	**17 14 19.3**	**-9.1**
TKGZ	**Te Karaka**	**19.02**	**197**	P		**P**	**17 10 58.4**	**-1.0**
TKGZ	**Te Karaka**	**19.02**	**197**	S		**S**	**17 14 19.0**	**-9.4**
EDRZ	**Edgecumbe**	**19.05**	**200**	P		**Pn**	**17 11 01.9**	**0.0**
LIRZ	**Lichensteins R**	**19.07**

PMOR **Pomariorio Ree** 26.47 83 *e*P P 17 12 12.2 -0.6
130nm,1.3s
PMOR **Pomariorio Ree** 26.47 83 *e*T T 17 39 10.4
4.1nm,0.3s
VAH **Vaihoa** 26.66 83 *e*P P 17 12 13.5 -1.0
32nm,0.9s
LBZ **Lake Benmore** 26.90 204 *e*P P 17 12 15.0 -1.4
58nm,0.7s
ODZ **Otahua Downs** 27.30 202 *e*P P 17 12 19.5 -0.4
47nm,0.8s
WKZ **Wanaka** 27.72 205 *e*P P 17 12 22.5 -1.3
110nm,1.0s
WKZ *e*S S 17 16 58.6 +2.0
MLZ **Mavora Lakes** 28.52 205 *e*P P 17 12 30.7 -0.2
53nm,0.8s
DCZ **Deep Cove** 29.00 206 *e*P P 17 12 34.7 -0.3
31nm,0.6s
WHZ **Wether Hill Ro** 29.03 205 *e*P P 17 12 35.4 +0.1
71nm,0.6s
PYZ **Puysegur Point** 29.76 206 *e*P P 17 12 41.9 +0.1
61nm,1.1s
EIDS **Eidsvold** 31.48 254 P P 17 12 57.5 +0.2
baz=32,SNR=4.1
EIDS **Eidsvold** 31.48 254 *e*P P 17 12 57.0 -0.2
48nm,1.7s
ARMA **Armidale** 31.56 245 P P 17 12 58.9 +1.0
baz=32,SNR=33
ARMA **Armidale** 31.56 245 *e*P P 17 12 58.5 +0.5
31nm,0.7s
MGCD **Mangrove Creek** 32.60 240 P P 17 13 07.8 +0.9
baz=33,SNR=16
RMQ **Roma** 33.62 253 P P 17 13 17.2 +1.3
baz=34,SNR=6.5
CNB **Canberra Magne** 34.55 237 P P 17 13 24.8 +0.9
baz=35,SNR=39
CAN **Canberra** 34.84 237 *e*P P 17 13 26.3 0.0
CAN pmax pmax
comp=Z,40nm,0.7s
CAN **Canberra** 34.84 237 *e*P P 17 13 26.3 0.0
comp=Z,40nm,0.7s
YNG **Young** 35.06 239 P P 17 13 28.8 +0.6
baz=35,SNR=9.1
MILA **Mila** 35.22 234 P P 17 13 30.3 +0.6
baz=35,SNR=17
CTA **Charters Tower** 36.18 264 P P 17 13 38.6 +0.7
comp=Z,21nm,0.6s,baz=91,slow=11,SNR=57
CTA S S 17 19 05.5 -3.2
comp=Z,3.1nm,0.7s,baz=22,slow=19,SNR=3.2
CTA ScP ScP 17 19 41.2 +5.7
comp=Z,3.9nm,0.9s,baz=58,slow=0.1,SNR=4.3
CTAO **Charters Tower** 36.18 264 *e*P P 17 13 38.5 +0.5
CTAO pmax pmax
comp=Z,23nm,0.8s
CTAO **Charters Tower** 36.18 264 *e*P P 17 13 38.5 +0.5
comp=Z,24nm,0.8s
CMSA **Cobar Meteorol** 36.77 244 P P 17 13 42.8 0.0
baz=37,SNR=74
RKT **Rikitea** 37.32 102 *e*T T 17 52 49.5
comp=Z,7.3nm,0.2s
QLP **Quilpie** 37.67 253 P P 17 13 50.2 -0.3
baz=38,SNR=13
PMG **Port Moresby** 37.95 281 P P 17 13 53.0 +0.2
comp=Z,55nm,1.1s,baz=72,slow=4.1,SNR=9.4
PMG **Port Moresby** 37.95 281 ⇑*i*P P 17 13 53.1 +0.2
PMG pmax pmax
comp=Z,236nm,1.0s
PMG **Port Moresby** 37.95 281 *e*P P 17 13 53.0 +0.2
comp=Z,61nm,1.0s
TOO **Toolangi** 38.17 235 P P 17 13 54.7 +0.1
baz=38,SNR=16
TOO **Toolangi** 38.17 235 P P 17 13 55.0 +0.4
TOO pmax pmax
comp=Z,53nm,0.7s
MTSU **Mount Surprise** 38.29 266 P P 17 13 55.9 +0.1
baz=38,SNR=66
MOO **Moorlands** 38.54 227 P P 17 13 59.3 +1.8
baz=39,SNR=3.6
TAU **Tasmania Unive** 38.64 226 *e*P P 17 13 59.0 +0.6
TAU pmax pmax
comp=Z,183nm,1.8s
TAU **Tasmania Unive** 38.64 226 *e*P P 17 13 59.0 +0.6
comp=Z,182nm,1.8s
COEN **Coen** 40.26 272 P P 17 14 12.6 +0.4
baz=40,SNR=7.5
COEN **Coen** 40.26 272 *e*P P 17 14 11.6 -0.6
comp=Z,34nm,1.1s
STKA **Stephens Creek** 40.28 244 P P 17 14 11.6 -0.5
comp=Z,18nm,0.6s,baz=91,slow=10,SNR=51
STKA PcP PcP 17 16 14.1 +0.7
comp=Z,11nm,0.7s,baz=64,slow=6.3,SNR=5.7
STKA ScP ScP 17 19 57.8 +7.0
comp=Z,3.2nm,1.0s,baz=36,slow=8.7,SNR=2.8
STKA S S 17 20 05.2 -5.0
comp=Z,2.0nm,0.9s,baz=288,slow=19,SNR=3.1
STKA LR LR 17 28 49.6
comp=Z,119nm,18.5s,baz=49,slow=33
STKA **Stephens Creek** 40.28 244 P P 17 14 12.2 +0.1
baz=40,SNR=32
STKA **Stephens Creek** 40.28 244 *e*P P 17 14 11.8 -0.4
STKA *e* 17 16 14.1
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA **Stephens Creek** 40.28 244 *e*P P 17 14 11.8 -0.4
comp=Z,3.6nm,0.7s
STKA *e*PcP PcP 17 16 14.1 +0.7
STKA *e*ScP ScP 17 19 57.8 +7.0
STKA *e* 17 28 49.6
ARPS **Mount Arapiles** 40.82 237 P P 17 14 15.8 -0.7
baz=41,SNR=4.9
MANU **Manus Island** 40.87 292 *e*P P 17 14 17.4 +0.2
comp=Z,320nm,1.9s
QIS **Mount Isa** 42.31 261 P P 17 14 28.5 -0.4
baz=42,SNR=3.3
HTT **Hallett** 42.68 242 P P 17 14 31.5 -0.3
baz=43,SNR=11
BBOO **Buckleboo** 45.02 244 P P 17 14 49.6 -0.9
baz=45,SNR=12
BBOO **Buckleboo** 45.02 244 *e*P P 17 14 49.2 -1.2
comp=Z,41nm,1.1s
AS01 **Alice Springs** 47.13 256 *e*P P 17 15 05.6 -1.5
AS01 *e*PcP PcP 17 16 36.8 -0.1
AS31 **Alice Springs** 47.17 256 *e*P P 17 15 06.5 -1.0
AS31 *e*PcP PcP 17 16 36.9 -0.2
AS31 *e*ScP ScP 17 20 24.3 +5.2
AS31 *e*S S 17 21 45.6 -5.0
AS31 *e*ScS ScS 17 24 51.7 +2.8
ASAR **Alice Springs** 47.17 256 P P 17 15 06.5 -0.9
comp=Z,16nm,0.8s,baz=98,slow=7.5,SNR=185
ASAR PcP PcP 17 16 37.5 +0.5
comp=Z,24nm,0.8s,baz=101,slow=4.3,SNR=16
ASAR ScP ScP 17 20 24.3 +5.2
comp=Z,1.3nm,0.6s,baz=100,slow=4.5,SNR=4.7
ASAR S S 17 21 45.6 -5.0
comp=Z,4.2nm,0.8s,baz=95,slow=16,SNR=15
ASAR ScS ScS 17 24 51.7 +2.8
comp=Z,1.6nm,1.1s,baz=98,slow=6.8,SNR=4.3
WB2 **Warramunga Arr** 47.27 261 *e*P P 17 15 06.9 -1.3
comp=Z,20nm,0.9s
WB2 *e*PcP PcP 17 16 37.7 +0.3
WRAB **Tennant Creek** 47.28 261 *c i*P P 17 15 07.4 -0.9
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB **Tennant Creek** 47.28 261 *e*P P 17 15 07.0 -1.3
WRAB *e*PcP PcP 17 16 37.4 0.0
WR1 **Warramunga Arr** 47.29 261 *e*P P 17 15 06.9 -1.5
comp=Z,22nm,0.8s
WR1 *e*PcP PcP 17 16 38.0 +0.6
WR1 *e*ScP ScP 17 20 25.8 +6.2
WR1 *e*S S 17 21 46.1 -6.2
WR1 *e*ScS ScS 17 24 51.7 +2.0
WRA **Warramunga Arr** 47.29 261 P P 17 15 06.9 -1.5
comp=Z,13nm,0.8s,baz=96,slow=7.5,SNR=134
WRA PcP PcP 17 16 38.0 +0.5
comp=Z,21nm,0.9s,baz=93,slow=3.6,SNR=13
WRA ScP ScP 17 20 25.8 +6.2
comp=Z,3.1nm,1.1s,baz=94,slow=4.2,SNR=6.4
WRA S S 17 21 46.1 -6.2
comp=Z,2.4nm,0.9s,baz=96,slow=14,SNR=8.1
WRA ScS ScS 17 24 51.7 +2.0
comp=Z,1.4nm,1.0s,baz=102,slow=5.1,SNR=4.1
MIDW **Midway** 48.33 357 *e*P P 17 15 12.3 -3.7
comp=Z,224nm,1.1s
GUMO **Guam** 51.82 307 LR LR 17 34 15.5
comp=Z,33nm,21.7s,baz=140,slow=32
FORT **Forrest** 51.82 246 P P 17 15 41.4 -1.2
baz=52,SNR=14
FORT **Forrest** 51.82 246 *e*P P 17 15 41.0 -1.6
comp=Z,653nm,0.6s
MTN **Manton Dam** 51.86 269 P P 17 15 41.9 -1.1
baz=52,SNR=9.3
MTN **Manton Dam** 51.86 269 *e*P P 17 15 41.6 -1.4
comp=Z,22nm,0.6s
MTN *e*PcP PcP 17 16 54.1 -0.2
WRKA **Warakurna** 52.09 254 P P 17 15 43.8 -0.9
baz=52,SNR=116
KNRA **Kununurra** 53.35 265 P P 17 15 53.6 -0.4
baz=53,SNR=20
SBA **Scott Base** 58.21 184 *e*P P 17 16 31.4 +3.7
SBA *e* 17 17 19.5
SBA pmax pmax
comp=Z,61nm,0.8s
SBA **Scott Base** 58.21 184 *e*P P 17 16 31.4 +3.7
comp=Z,61nm,0.8s
SBA *e*PcP PcP 17 17 19.5 +1.9
VNDA **Vanda** 58.31 186 P P 17 16 31.4 +3.0
comp=Z,16nm,0.7s,baz=359,slow=7.5,SNR=92
VNDA PcP PcP 17 17 20.1 +2.1
comp=Z,7.7nm,1.1s,baz=358,slow=5.5,SNR=4.2
VNDA **Vanda** 58.31 186 *e*P P 17 16 31.0 +2.6
VNDA 17 17 20.1
VNDA **Vanda** 58.31 186 *e*P P 17 16 31.0 +2.6
VNDA PcP PcP 17 17 20.1 +2.1
SOEI **Soe** 59.19 271 *e*P P 17 16 36.2 +0.5
comp=Z,104nm,0.7s
BATI **Baumata** 59.62 270 P P 17 16 39.7 +1.2
comp=Z,36nm,0.7s,baz=135,slow=1.4,SNR=14
MEEK **Meeksatharra** 60.51 250 P P 17 16 43.0 -1.4
baz=60,SNR=8.5
MBWA **Marble Bar** 60.51 257 *e*P P 17 16 43.0 -1.4
MBWA *e*PcP sP 17 17 28.3 -1.1
KLBR **Kellerberrin** 60.55 245 P P 17 16 44.0 -0.6
baz=61,SNR=27
NWAO **Narrogin (SRO)** 60.84 243 P P 17 16 46.3 -0.2
comp=Z,17nm,0.8s,baz=16,slow=8.7,SNR=9.8
NWAO **Narrogin (SRO)** 60.84 243 P P 17 16 46.4 -0.2
baz=61,SNR=6.7
NWAO P P 17 16 46.4 -0.2
baz=61,SNR=6.7
BLDU **Ballidu** 61.57 246 P P 17 16 50.7 -0.7
baz=62,SNR=24
MUN **Mundaring** 61.81 244 P P 17 16 53.1 0.0
baz=62,SNR=12
MORW **Morawa** 62.37 247 P P 17 16 56.2 -0.6
baz=62,SNR=9.0
GIRL **Giralia** 65.18 254 P P 17 17 16.0 +0.7
baz=65,SNR=3.5
CASY **Casey** 65.25 205 *e*P P 17 17 16.6 +1.6
comp=Z,59nm,1.0s
CTBH **Cotabato--PC H** 65.58 288 ⇑*i*P P 17 17 18.0 0.0
JAGI **Jajag, Banyuwa** 69.08 269 *e*P P 17 17 37.8 -2.3
comp=Z,36nm,0.8s
QSPA **South Pole Qui** 69.72 180 P P 17 17 45.5 +2.2
comp=Z,104nm,0.8s,baz=39,slow=1.2,SNR=257
QSPA **South Pole Qui** 69.72 180 *e*P P 17 17 45.3 +2.0
comp=Z,129nm,0.9s
MJAR **Mahiro Arr** 71.72 322 P P 17 17 55.3 -0.4
comp=Z,13nm,0.7s,baz=161,slow=6.0,SNR=12
MAJO **Matsushiro** 71.72 322 ⇑*i*P P 17 17 55.7 0.0
MAJO pmax pmax
comp=Z,47nm,1.3s
MAJO **Matsushiro** 71.72 322 *e*P P 17 17 55.3 -0.4
comp=Z,26nm,0.8s
MAT **Matsushiro** 71.72 322 P P 17 17 55.3 -0.4
MJB9 **Matsu-Tunnel** 71.73 322 *e*P P 17 17 55.0 -0.7
comp=Z,26nm,0.8s
JNU **Natsue** 74.05 315 P P 17 18 09.4 0.0
comp=Z,19nm,1.0s,baz=72,slow=3.2,SNR=2.9
SBUM **Sibu** 74.64 279 *e*P P 17 18 13.3 0.0
comp=Z,11nm,1.0s
ASAJ **Asahikawa** 74.92 330 P P 17 18 15.5 +1.3
comp=Z,11nm,0.9s,baz=237,slow=7.2,SNR=7.5
SCZ2 **Santa Cruz Isl** 75.57 45 P P 17 18 19.0 +0.8
baz=233
SCI2 **San Clemente I** 75.70 46 P P 17 18 19.3 +0.4
baz=234
LEM **Lembang** 75.74 268 P P 17 18 20.0 +0.2
comp=Z,54nm,0.9s,baz=113,slow=7.7,SNR=20
PKM **Mcpherson Peak** 75.99 44 P P 17 18 21.2 +0.4
baz=233
KSM **Kuching** 76.06 277 *e*P P 17 18 20.3 -1.1
comp=Z,22nm,0.8s
SMMC **Simmler** 76.13 44 P P 17 18 22.1 +0.7
baz=232
TPUB **Ta-pu** 76.18 301 *e*P P 17 18 20.1 -1.8
comp=Z,289nm,2.0s
PAGB **Antelope Grade** 76.22 43 *e*P P 17 18 22.3 +0.5
comp=Z,26nm,1.1s
OSI **Osito Audit: C** 76.54 45 P P 17 18 24.8 +1.0
baz=233
DECC **Green Verdugo** 76.59 45 P P 17 18 24.8 +0.8
baz=234
MWC **Mount Wilson** 76.76 46 *e*P P 17 18 24.4 -0.7
MWC pmax pmax
comp=Z,24nm,0.9s
MWC **Mount Wilson** 76.76 46 *e*P P 17 18 24.4 -0.7
comp=Z,24nm,0.9s
ARVC **Arvin** 76.78 44 P P 17 18 25.9 +0.9
baz=233
CHFC **Chilao Flat St** 76.84 46 *e*P P 17 18 21.0 -4.6
PEA0B **Petropavlovsk-** 76.85 344 *e*P P 17 18 24.7 -0.3
comp=Z,178nm,1.5s
PETK **Petropavlovsk-** 76.85 344 P P 17 18 24.8 -0.3
comp=Z,29nm,0.7s,baz=102,slow=9.8,SNR=50
PETK LR LR 17 47 18.1
comp=Z,31nm,21.7s,baz=151,slow=32
PETK **Petropavlovsk-** 76.85 344 *e*P P 17 18 24.2 -0.8
PETK **Petropavlovsk-** 76.85 344 *e*P P 17 18 24.2 -0.8
PEA1 **Petropavlovsk-** 76.86 344 *e*P P 17 18 24.8 -0.3
PEA1 *e* 17 47 18.1
MURC **Murrieta** 76.98 47 P P 17 18 27.1 +0.9
baz=235,SNR=7.6
YSS **Yuzh-Sakhalins** 77.00 332 *e*P P 17 18 25.2 -0.8
YSS pmax pmax
comp=Z,38nm,1.0s
YSS **Yuzh-Sakhalins** 77.00 332 *e*P P 17 18 25.1 -0.8
comp=Z,38nm,1.0s
LPIG **La Paz** 77.03 58 LR LR 17 43 38.4
comp=Z,37nm,20.4s,baz=232,slow=29
BFSC **Mount Baldy Ra** 77.03 46 P P 17 18 26.6 0.0
baz=234
VES **Vestal, Richgr** 77.04 44 P P 17 18 27.1 +0.7
baz=233,SNR=9.6
MONP2 **Monument Peak** 77.10 48 P P 17 18 28.3 +1.1
baz=235,SNR=13
SRIG **Santa Rosalia** 77.14 54 *e*P P 17 18 26.6 -0.5
comp=Z,38nm,0.9s
IKP **In-Ko-Pah, Jac** 77.18 48 P P 17 18 28.0 +0.6
baz=236,SNR=10
EDW2 **Edwards Air Fo** 77.18 45 P P 17 18 28.3 +0.9
baz=234,SNR=19
ISA **Isabella, Lake** 77.33 44 P P 17 18 29.2 +1.0
baz=233,SNR=14
ISA **Isabella, Lake** 77.33 44 *e*P P 17 18 28.9 +0.7
ISA *e*SP pP 17 19 01.7 +1.3
ISA pmax pmax
comp=Z,41nm,1.1s
ISA **Isabella, Lake** 77.33 44 *e*P P 17 18 28.9 +0.7
comp=Z,41nm,1.1s
ISA *e*SP pP 17 19 01.7 +1.3
PFO **Pinyon Flats O** 77.49 47 P P 17 18 29.8 +0.7
baz=235,SNR=5.8
PFO **Pinyon Flats O** 77.49 47 *e*P P 17 18 29.9 +0.7
PFO *e*SP pP 17 19 02.8 +1.4
PFO pmax pmax
comp=Z,23nm,1.1s
PFO **Pinyon Flats O** 77.49 47 *e*P P 17 18 29.9 +0.7
comp=Z,23nm,1.1s
PFO *e*SP pP 17 19 02.8 +1.4
XPFO **Piæon Flat** 77.49 47 *e*P P 17 18 29.5 +0.3
comp=Z,22nm,1.0s
XPFO *e*SP pP 17 19 03.0 +1.6
CMB **Columbia Colle** 77.55 41 *e*P P 17 18 27.9 -1.4
CMB **Columbia Colle** 77.55 41 *e*P P 17 18 27.9 -1.4
CMB *e*SP pP 17 19 03.1 +1.5
SWSC **Sam W. Stewart** 77.56 48 P P 17 18 30.1 +0.7
baz=236,SNR=5.6
LRMC **Laurel Mtn Rad** 77.74 45 P P 17 18 31.7 +1.2
baz=234
AFDM **Forest Hills D** 77.76 40 *e*P P 17 18 30.4 0.0
comp=Z,29nm,1.5s
ORV **Oroville** 77.82 40 *e*P P 17 18 30.4 -0.3
ORV **Oroville** 77.82 40 *e*P P 17 18 30.4 -0.3
ORV *e*SP pP 17 19 04.5 +1.5
RRX **Edison Barstow** 77.85 46 P P 17 18 32.0 +1.0
baz=235
WDC **Whiskeytown Da** 77.87 38 *e*P P 17 18 31.0 +0.1
WDC **Whiskeytown Da** 77.87 38 *e*P P 17 18 31.0 +0.1
WDC *e*SP pP 17 19 05.0 +1.8
BELC **Belle Mtn. Jos** 78.02 47 P P 17 18 32.9 +0.8
baz=235,SNR=20
N02D **Trinity Center** 78.03 38 P P 17 18 33.2 +1.3
baz=230
CWC **Cottonwood Cre** 78.05 44 P P 17 18 33.3 +1.0
baz=234
O03D **Paynes Creek** 78.12 39 P P 17 18 33.6 +1.1
baz=230
BC3 **Big Chuckawall** 78.20 47 P P 17 18 34.3 +1.2
baz=236,SNR=13
MPMC **Manual Prospec** 78.21 44 P P 17 18 34.0 +0.8
baz=234,SNR=34
M02C **Callahan** 78.21 37 P P 17 18 34.1 +1.1
baz=229
GSC **Goldstone, Bar** 78.22 45 P P 17 18 34.0 +0.8
baz=235,SNR=19
GSC **Goldstone, Bar** 78.22 45 *e*P P 17 18 33.6 +0.4
GSC *e*SP pP 17 19 05.9 +0.4
GSC pmax pmax
comp=Z,35nm,1.1s
GSC **Goldstone, Bar** 78.22 45 *e*P P 17 18 33.5 +0.4
comp=Z,35nm,1.1s
GSC *e*SP pP 17 19 05.9 +0.4
HEC **Hector,Ludlow** 78.27 46 P P 17 18 34.0 +0.6
baz=235,SNR=32
DAC **Darwin (Calif)** 78.27 44 *e*P P 17 18 34.2 +0.7
DAC *e*SP pP 17 19 06.4 +0.6
DAC pmax pmax
comp=Z,34nm,1.4s
DAC **Darwin (Calif)** 78.27 44 *e*P P 17 18 34.2 +0.7
comp=Z,34nm,1.4s
DAC *e*SP pP 17 19 06.4 +0.6
GLA **Glamis** 78.30 48 P P 17 18 34.9 +1.3
baz=236,SNR=9.5
GLA **Glamis** 78.30 48 *e*P P 17 18 34.7 +1.1
GLA *e*SP pP 17 19 06.6 +0.7
GLA pmax pmax
comp=Z,59nm,1.4s
GLA **Glamis** 78.30 48 *e*P P 17 18 34.7 +1.1
comp=Z,59nm,1.4s
GLA *e*SP pP 17 19 06.6 +0.7
YBH **Yreka Blue Hor** 78.52 37 P P 17 18 35.4 +0.7
comp=Z,13nm,1.0s,baz=256,slow=0.9,SNR=16
YBH LR LR 17 47 45.7
comp=Z,48nm,19.4s,baz=216,slow=31
KSRS **Korea Array** 78.59 317 P P 17 18 35.5 +0.6
comp=Z,6.9nm,0.9s,baz=134,slow=6.0,SNR=13
KSRS LR LR 17 49 04.5
comp=Z,19nm,19.5s,baz=164,slow=32
KS15 **Wonju Array Si** 78.60 317 *e*P P 17 18 34.9 -0.1
KSAR **Wonju Array Be** 78.60 317 P P 17 18 35.5 +0.5
KSAR **Wonju Array Be** 78.60 317 P P 17 18 35.5 +0.5
KS01 **Wonju Array Si** 78.62 317 *e*P P 17 18 35.5 +0.3
IRM **Iron Mountain** 78.69 47 P P 17 18 36.5 +0.8
baz=236,SNR=28
GMRC **Granite Mounta** 78.70 46 P P 17 18 36.4 +0.6
baz=236,SNR=17
GRAC **Grapevine Rang** 78.84 44 P P 17 18 37.8 +1.4
baz=234
FURC **Furnace Creek,** 78.86 44 P P 17 18 37.5 +1.0
baz=234
TUQ **Turquoise Moun** 78.89 46 P P 17 18 37.6 +0.7
baz=235
113A **Mohawk Valley,** 78.89 49 *e*P P 17 18 37.1 +0.4
comp=Z,24nm,1.0s
113A *e*SP pP 17 19 10.2 +1.1
Y12C **Blythe** 78.90 48 P P 17 18 37.7 +0.9
baz=236,SNR=7.9
Y12C **Blythe** 78.90 48 *e*P P 17 18 37.3 +0.5
comp=Z,37nm,1.0s
Y12C *e*SP pP 17 19 10.0 +0.9
SHOC **Shoshone, Teco** 78.92 45 P P 17 18 37.9 +1.0
baz=235
HSIG 78.98 53 *e*P P 17 18 37.7 +0.3
M04C **Macdoel** 79.05 38 P P 17 18 38.6 +1.1
baz=230
RYN **Ryan** 79.07 42 *e*P P 17 18 38.5 +0.7
comp=Z,34nm,1.1s
RYN *e*SP pP 17 19 10.7 +0.5
NV01 **Mina Array Sit** 79.09 42 *e*P P 17 18 37.9 -0.1
NV01 *e*SP pP 17 19 11.4 +1.0
NVAR **Mina Array Bea** 79.09 42 P P 17 18 38.8 +0.8
comp=Z,30nm,0.9s,baz=225,slow=9.3,SNR=70
214A **Organ Pipe Nat** 79.14 50 P P 17 18 39.1 +1.0
baz=238,SNR=16
NV11 **Mina Array Sit** 79.19 42 *e*P P 17 18 39.1 +0.7
comp=Z,3.5nm,1.0s
NV11 *e*SP pP 17 19 11.7 +0.9
PAHR **Pah Rah Range** 79.19 40 *e*P P 17 18 38.8 +0.3
comp=Z,23nm,1.0s
PAHR *e*SP pP 17 19 10.6 -0.3
LDFC **Landfair** 79.23 46 *e*P P 17 18 39.8 +1.1
comp=Z,97nm,1.1s
PDMCI **Parker Dam,Lak** 79.47 47 P P 17 18 41.0 +1.2
baz=236,SNR=17
TPNV **Topopah Spring** 79.54 44 P P 17 18 41.5 +1.1
baz=235
TPNV **Topopah Spring** 79.54 44 *e*P P 17 18 41.0 +0.6
TPNV *e*SP pP 17 19 13.4 +0.6
TPNV pmax pmax
comp=Z,33nm,0.9s
TPNV **Topopah Spring** 79.54 44 *e*P P 17 18 41.0 +0.6
comp=Z,33nm,0.9s
TPNV *e*SP pP 17 19 13.4 +0.6
KVN **Kaiserville** 79.59 42 *e*P P 17 18 41.4 +0.7
KVN pmax pmax
comp=Z,26nm,1.0s
KVN **Kaiserville** 79.59 42 *e*P P 17 18 41.4 +0.7
comp=Z,26nm,1.0s
J04D **Umpqua Nationa** 79.83 36 P P 17 18 43.4 +1.4
baz=230
SHPR **Sheep Range** 80.00 45 *e*P P 17 18 43.7 +0.8
comp=Z,31nm,1.1s
SHPR *e*SP pP 17 19 16.4 +1.1
MOD **Modoc Plateau** 80.01 38 *e*P P 17 18 43.6 +0.7
comp=Z,41nm,1.3s
MOD *e*SP pP 17 19 15.6 +0.4
I04A **Tendick Farm,** 80.03 36 P P 17 18 43.0 +0.2
baz=229
TYV **Tymovskoe** 80.04 334 *e*P P 17 18 42.5 0.0
TYV *e*S S 17 28 35.7 -0.2
TYV pmax pmax
comp=Z,200nm,2.4s
TYV pmax pmax
comp=Z,27nm,1.1s
TYV smax smax
comp=N,7.0nm,1.5s
TYV smax smax
comp=N,600nm,10.2s
Y14A **Wickenburg** 80.06 48 *e*P P 17 18 44.0 +0.9
comp=N,25nm,0.9s
Y14A *e*SP pP 17 19 15.3 -0.3
KDAK **Kodiak Island** 80.08 12 P P 17 18 42.6 +0.1
comp=N,12nm,0.6s,baz=218,slow=2.6,SNR=11
KDAK **Kodiak Island** 80.08 12 *i* P P 17 18 42.3 -0.2
KDAK **Kodiak Island** 80.08 12 *e*P P 17 18 42.4 -0.1
comp=N,131nm,1.9s
W13A **Hualapai Mount** 80.08 47 *e*P P 17 18 44.3 +0.8
comp=N,26nm,1.0s
W13A *e*SP pP 17 19 16.2 +0.3
J05D **Fort Rock, OR** 80.35 37 P P 17 18 45.6 +1.0
baz=230
USRK **Ussuriysk Ar.** 80.38 324 P P 17 18 45.0 +0.5
comp=N,13nm,1.0s,baz=124,slow=3.4,SNR=10
USRK LR LR 17 47 52.4
comp=N,28nm,21.2s,baz=147,slow=31
H04A **Detroit Lake** 80.73 35 *e*P P 17 18 45.9 -0.5
comp=N,17nm,0.6s
R11A **Troy Canyon, C** 80.77 43 P P 17 18 47.8 +0.8
baz=235
R11A **Troy Canyon, C** 80.77 43 *e*P P 17 18 47.2 +0.1
comp=N,11nm,0.9s
TUC **Tucson** 80.79 51 P P 17 18 48.8 +1.7
baz=239
TUC **Tucson** 80.79 51 *e*P P 17 18 48.2 +1.1
TUC *e*SP pP 17 19 19.2 -0.4
TUC pmax pmax
comp=Z,30nm,0.9s
TUC **Tucson** 80.79 51 *e*P P 17 18 48.2 +1.1
comp=Z,30nm,0.9s
TUC *e*SP pP 17 19 19.2 -0.4
PINE **Pine Mountain** 80.84 37 *e*P P 17 18 48.1 +0.9

PINE esP pP 17 19 19.4 -0.4
BMN Battle Mountai 80.96 41 eP P 17 18 48.4 +0.5
BMN e*SP pP 17 19 20.7 +0.3
BMN pmax pmax
comp=Z,22nm,1.0s
BMN Battle Mountai 80.96 41 eP P 17 18 48.4 +0.5
comp=Z,22nm,1.0s
BMN esP pP 17 19 20.7 +0.3
I05D Terrebonne, OR 80.97 36 P P 17 18 48.7 +1.0
baz=230
WVOR Wild Horse Val 81.31 39 eP P 17 18 49.9 +0.2
WVOR e*SP pP 17 19 21.0 -1.2
WVOR Wild Horse Val 81.31 39 eP P 17 18 49.9 +0.2
WVOR esP pP 17 19 21.0 -1.2
X16A Lo Mia Camp, P 81.41 49 eP P 17 18 51.7 +1.2
comp=Z,46nm,1.0s
X16A esP pP 17 19 24.4 +1.4
319A Douglas 81.42 52 eP P 17 18 51.2 +0.7
comp=Z,37nm,1.0s
319A esP pP 17 19 21.1 -1.9
G05D Wamic, OR 81.56 35 P P 17 18 51.2 +0.4
baz=230
LCMT Little Creek M 81.56 46 eP P 17 18 51.5 +0.3
comp=Z,18nm,0.9s
LCMT esP pP 17 19 24.7 +0.9
CCUT Cedar City 81.78 45 eP P 17 18 53.5 +1.0
comp=Z,36nm,1.2s
CCUT esP pP 17 19 26.7 +1.8
I07A Izee 81.83 37 eP P 17 18 53.3 +0.9
comp=Z,12nm,0.9s
I07A esP pP 17 19 25.9 +0.9
KNB Kanab 81.85 46 eP P 17 18 53.4 +0.7
KNB pmax pmax
comp=Z,58nm,1.3s
KNB Kanab 81.85 46 eP P 17 18 53.4 +0.7
comp=Z,58nm,1.3s
NJ2 Nanjing 81.88 308 eP P 17 18 50.0 -2.7
NJ2 pmax pmax
comp=Z,14nm,0.7s
U15A North Rim 81.89 46 eP P 17 18 53.1 0.0
comp=Z,62nm,1.1s
G06A Carlson Farm, 81.93 36 eP P 17 18 52.8 0.0
G06A esP pP 17 19 25.6 +0.2
J08A Circle Bar Ran 81.97 38 eP P 17 18 53.7 +0.6
comp=Z,31nm,1.1s
J08A esP pP 17 19 27.0 +1.3
MDJ Mudanjiang 81.97 324 P P 17 18 52.3 -0.6
MDJ pP pP 17 19 23.5 -2.0
MDJ sP sP 17 19 36.8 -2.3
MDJ pmax pmax
comp=Z,44nm,0.9s
MDJ pmax pmax
comp=Z,87nm,3.3s
MDJ Mudanjiang 81.97 324 eP P 17 18 54.0 +1.1
comp=Z,33nm,0.9s
MDJ esP pP 17 19 26.6 +1.1
SZCU Shurtz Canyon 81.99 45 eP P 17 18 54.4 +0.9
comp=Z,37nm,1.2s
SZCU esP pP 17 19 27.0 +1.0
WUAZ Wupatki 82.04 48 P P 17 18 54.7 +1.0
baz=238
WUAZ Wupatki 82.04 48 eP P 17 18 54.5 +0.8
comp=Z,49nm,1.2s
WUAZ esP pP 17 19 26.8 +0.5
MYKOM Kota Tinggi 82.20 275 eP P 17 18 55.7 +0.8
comp=Z,18nm,0.9s
GHW Garrison Hill 82.23 33 eP P 17 18 54.6 +0.3
PKCU Pink Cliffs 82.42 46 eP P 17 18 57.4 +1.5
comp=Z,45nm,0.9s
D05A Enumclaw 82.47 33 eP P 17 18 56.6 +1.1
comp=Z,122nm,1.4s
X18A Snowflake 82.52 49 eP P 17 18 57.1 +0.8
comp=Z,26nm,0.9s
X18A esP pP 17 19 30.4 +1.5
NKL Nikolayevsk 82.58 335 eP P 17 18 55.0 -0.8
NKL pmax pmax
comp=N,17nm,1.0s
NKL pmax pmax
comp=Z,25nm,1.0s
MAW Mawson 82.60 199 P P 17 18 57.3 +1.4
comp=Z,21nm,0.7s,baz=138,slow=6.0,SNR=24
MAW Mawson 82.60 199 P P 17 18 55.9 0.0
baz=83,SNR=14
MAW Mawson 82.60 199 eP P 17 18 56.8 +0.9
MAW pmax pmax
comp=Z,5.0nm,0.8s
MAW Mawson 82.60 199 eP P 17 18 56.8 +0.9
comp=Z,5.2nm,0.8s
GRNR Gornyy 82.64 331 eP P 17 18 56.0 -0.3
GRNR pmax pmax
comp=Z,42nm,1.0s
F07A Phinny Hill Vi 82.73 35 eP P 17 18 57.5 +0.7
comp=Z,71nm,1.5s
F07A esP pP 17 19 28.8 -0.7
MTPU Mount Pierson 82.83 45 eP P 17 18 59.5 +1.4
comp=Z,59nm,0.9s
G08A Pilot Rock 82.88 36 eP P 17 18 57.3 -0.6
comp=Z,58nm,1.1s
G08A esP pP 17 19 31.8 +1.3
BBB Bella Bella 83.02 27 P P 17 18 58.6 +0.4
comp=Z,11nm,0.7s,baz=254,slow=5.3,SNR=4.9
MSU Marysvale 83.09 45 eP P 17 19 00.5 +1.3
MSU e*SP pP 17 19 33.8 +2.0
MSU Marysvale 83.09 45 eP P 17 19 00.5 +1.3
MSU esP pP 17 19 33.8 +2.0
121A Cookes Peak, D 83.09 52 P P 17 19 00.7 +1.4
baz=241
B05A Bryant 83.12 33 P P 17 18 59.2 +0.4
baz=229,SNR=5.3
E07A Sunnyside 83.19 35 eP P 17 18 59.6 +0.4
comp=Z,72nm,1.2s
E07A esP pP 17 19 32.9 +1.0
LTY Liberty 83.20 34 eP P 17 18 59.6 +0.2
comp=Z,28nm,1.1s
LTY esP pP 17 19 33.2 +1.2
HAWA Hanford 83.26 35 eP P 17 19 00.0 +0.4
comp=Z,49nm,1.1s
HAWA esP pP 17 19 33.5 +1.3
SPU Mount Spurr 83.35 11 eP P 17 18 58.5 -1.3
SPU esP pP 17 19 33.4 +1.0
BMO Blue Mountains 83.55 37 eP P 17 19 00.8 -0.4
BMO e*SP pP 17 19 34.0 +0.1
BMO pmax pmax
comp=Z,40nm,1.3s
BMO Blue Mountains 83.55 37 eP P 17 19 00.8 -0.4
comp=Z,40nm,1.3s
BMO esP pP 17 19 34.0 +0.1
MFID Camas Ranch 83.55 39 eP P 17 19 01.4 +0.1
comp=Z,36nm,1.0s
MFID esP pP 17 19 34.5 +0.6
DUG Dugway, Tooele 83.59 43 P P 17 19 02.2 +0.6
baz=237
DUG Dugway, Tooele 83.59 43 eP P 17 19 01.8 +0.2
DUG pmax pmax
comp=Z,15nm,0.9s
DUG Dugway, Tooele 83.59 43 eP P 17 19 01.8 +0.2
comp=Z,15nm,0.9s
RC01 Rabbit Creek A 83.70 12 eP P 17 19 01.1 -0.4
comp=Z,60nm,1.5s
KLR Kul'dur 83.80 328 P P 17 19 03.0 +0.7
comp=Z,0.4nm,0.8s,baz=218,slow=4.1,SNR=10
KLR Kul'dur 83.80 328 eP P 17 19 03.0 +0.7
CN2 Changchun 83.85 321 ||P P 17 19 03.5 +0.9
CN2 epP pP 17 19 40.0 +4.7
CN2 pmax pmax
comp=Z,30nm,1.2s
SUA Susitna One 83.85 12 eP P 17 19 01.6 -0.8
comp=Z,20nm,0.8s
SUA esP pP 17 19 36.1 +1.0
GAMB Gambell 83.89 2 eP P 17 19 02.5 +0.2
comp=Z,53nm,1.6s
GAMB esP pP 17 19 36.7 +1.7
NLU North Lily Min 83.93 44 eP P 17 19 03.6 +0.2
comp=Z,12nm,1.0s
Q16A Castle Valley 83.97 45 eP P 17 19 04.5 +0.9
comp=Z,165nm,2.0s
Q16A esP pP 17 19 36.6 +0.2
D08A Wollman Farm, 84.00 35 eP P 17 19 03.7 +0.3
comp=Z,48nm,1.1s
D08A esP pP 17 19 37.0 +0.9
GLI Glacier Island 84.06 13 eP P 17 19 02.5 -0.8
comp=Z,42nm,0.8s
GLI esP pP 17 19 36.6 +0.6
TMUT Trail Mountain 84.14 44 eP P 17 19 05.7 +1.0
comp=Z,90nm,0.8s

TMUT esP pP 17 19 38.1 +0.8
SKT Skwentna 84.19 11 eP P 17 19 02.4 -1.6
SKT esP pP 17 19 36.9 +0.2
MPU Maple Canyon 84.25 44 eP P 17 19 05.4 +0.4
comp=Z,28nm,0.9s
MPU esP pP 17 19 37.9 +0.1
F10A Beach Ranch, E 84.26 36 eP P 17 19 04.5 -0.4
comp=Z,57nm,1.0s
F10A esP pP 17 19 38.3 +0.7
PMR Palmer 84.28 12 eP P 17 19 03.3 -1.1
PMR pmax pmax
comp=Z,11nm,0.9s
PMR Palmer 84.28 12 eP P 17 19 03.2 -1.1
comp=Z,11nm,0.9s
MA2 Magadan 84.39 343 P P 17 19 04.2 -0.8
comp=Z,9.0nm,0.5s,baz=133,slow=5.5,SNR=17
LAZ Ladron 84.47 50 eP P 17 19 07.3 +1.0
LAZ esP pP 17 19 40.3 +1.3
HLID Hailey 84.48 40 P P 17 19 07.1 +1.0
baz=235
HLID Hailey 84.48 40 eP P 17 19 06.2 +0.2
comp=Z,41nm,0.9s
HLID esP pP 17 19 39.8 +1.0
HVU Hansel Valley 84.48 42 eP P 17 19 06.0 -0.1
HVU e*SP pP 17 19 39.4 +0.6
HVU pmax pmax
comp=Z,34nm,1.0s
HVU Hansel Valley 84.48 42 eP P 17 19 06.0 -0.1
comp=Z,34nm,1.0s
HVU esP pP 17 19 39.4 +0.6
GHO Glory Hole Cre 84.48 12 eP P 17 19 05.0 -0.6
comp=Z,34nm,1.0s
GHO esP pP 17 19 39.6 +1.3
SRU San Rafael Swe 84.50 45 eP P 17 19 07.1 +0.8
SRU e*SP pP 17 19 40.4 +1.3
SRU pmax pmax
comp=Z,73nm,0.8s
SRU San Rafael Swe 84.50 45 eP P 17 19 07.1 +0.8
comp=Z,73nm,0.8s
SRU esP pP 17 19 40.4 +1.3
CTU Camp Tracy 84.54 43 eP P 17 19 06.7 +0.3
comp=Z,31nm,1.0s
CTU esP pP 17 19 39.9 +0.7
P17A Butcher Ranch, 84.55 45 eP P 17 19 06.9 +0.4
comp=Z,55nm,1.1s
P17A esP pP 17 19 40.3 +1.1
DIV Divide 84.57 14 eP P 17 19 05.2 -0.7
DIV esP pP 17 19 39.8 +1.0
B08A Colville Reser 84.59 34 eP P 17 19 05.6 -0.8
comp=Z,25nm,1.0s
B08A esP pP 17 19 39.9 +0.7
SML Sawmill 84.64 12 eP P 17 19 04.5 -1.8
SML pmax pmax
comp=Z,32nm,1.4s
SML Sawmill 84.64 12 eP P 17 19 04.5 -1.8
comp=Z,32nm,1.4s
SML esP pP 17 19 40.8 +1.7
BMRM Bremner River 84.69 14 eP P 17 19 05.8 -0.8
comp=Z,42nm,1.1s
BMRM esP pP 17 19 40.5 +1.2
BNM Barren Site 84.72 51 eP P 17 19 08.2 +0.6
BNM esP pP 17 19 41.5 +1.2
TX31 Lajitas Ar. Si 84.72 56 eP P 17 19 07.8 +0.2
TX31 esP pP 17 19 41.0 +0.8
LTX Lajitas 84.72 56 eP P 17 19 08.4 +0.9
LTX Lajitas 84.72 56 eP P 17 19 08.4 +0.9
LTX eP'P'df P'P'df 17 45 28.4 +5.9
TXAR Lajitas Array 84.72 56 P P 17 19 08.4 +0.9
comp=Z,12nm,0.9s,baz=211,slow=6.8,SNR=32
TXAR PKPPKP P'P'df 17 45 28.4 +5.9
comp=Z,0.3nm,0.8s,baz=72,slow=2.9,SNR=4.4
LLLB Lillooet 84.76 31 eP P 17 19 06.6 -0.6
comp=Z,20nm,1.0s
LLLB esP pP 17 19 40.6 +0.7
LPM Los Pinos Moun 84.80 51 eP P 17 19 08.6 +0.7
LPM esP pP 17 19 42.0 +1.4
C09A Chrisman Ranch 84.81 35 eP P 17 19 07.5 +0.1
comp=Z,44nm,1.3s
C09A esP pP 17 19 40.5 +0.3
KLU Klutina 84.86 14 eP P 17 19 07.1 -0.3
comp=Z,29nm,1.3s
SCM Sheep Creek Mo 84.86 13 eP P 17 19 07.0 -0.5
SCM e*SP pP 17 19 41.4 +1.2
SCM pmax pmax
comp=Z,31nm,0.8s
SCM Sheep Creek Mo 84.86 13 eP P 17 19 07.0 -0.5
comp=Z,30nm,0.8s
SCM esP pP 17 19 41.4 +1.2
MVCO Mesa Verde 84.89 47 P P 17 19 09.4 +1.0
baz=240,SNR=5.9
MVCO Mesa Verde 84.89 47 eP P 17 19 08.5 0.0
comp=Z,14nm,1.0s
PV05 Paradox Valley 84.92 46 eP P 17 19 08.9 +0.3
PV05 esP pP 17 19 42.3 +1.0
P18A Preston Nutter 84.95 45 eP P 17 19 09.1 +0.4
comp=Z,36nm,1.1s
PV10 Paradox Valley 85.11 46 eP P 17 19 09.2 -0.3
PV10 esP pP 17 19 43.6 +1.4
HWUT Hardware Ranch 85.15 42 eP P 17 19 09.3 -0.2
comp=Z,12nm,0.8s
HWUT esP pP 17 19 43.6 +1.3
ANMO Albuquerque 85.23 50 P P 17 19 11.1 +1.0
comp=Z,29nm,1.1s,baz=41,slow=6.1,SNR=39
ANMO Albuquerque 85.23 50 P P 17 19 11.2 +1.1
baz=241
ANMO Albuquerque 85.23 50*d* iP P 17 19 11.0 +1.0
ANMO pmax pmax
comp=Z,49nm,1.2s
ANMO Albuquerque 85.23 50 eP P 17 19 10.5 +0.5
comp=Z,45nm,1.1s
ANMO esP pP 17 19 44.0 +1.1
PV01 Paradox Valley 85.31 47 eP P 17 19 10.5 +0.1
PV01 esP pP 17 19 44.4 +1.1
BESE Bessie Mountai 85.38 20 eP P 17 19 10.2 +0.1
comp=Z,25nm,1.1s
CAST Castle Rocks 85.43 10 eP P 17 19 08.3 -1.9
comp=Z,20nm,1.0s
CAST esP pP 17 19 42.5 -0.5
GDL2 Guadalupe Moun 85.48 53 eP P 17 19 11.2 -0.1
GDL2 esP pP 17 19 45.5 +1.4
NEW Newport 85.70 35 P P 17 19 11.8 -0.1
comp=Z,9.5nm,1.1s,baz=222,slow=3.5,SNR=8.8
NEW Newport 85.70 35 P P 17 19 11.9 0.0
baz=233,SNR=6.8
NEW Newport 85.70 35 eP P 17 19 11.6 -0.3
comp=Z,32nm,1.6s
NEW esP pP 17 19 44.6 -0.1
TRF Thorofare Moun 85.77 11 eP P 17 19 10.8 -1.2
comp=Z,37nm,0.8s
TRF esP pP 17 19 46.2 +1.4
IPM Ipoh 85.79 276 eP P 17 19 13.2 +0.1
comp=Z,27nm,0.8s
HARP HAARP 85.84 13 eP P 17 19 11.9 -0.3
HARP esP pP 17 19 46.5 +1.5
SKAG Skagway 85.93 19 eP P 17 19 13.1 +0.4
comp=Z,29nm,1.2s
DHY Denali Highway 85.98 12 eP P 17 19 12.2 -0.8
comp=Z,25nm,1.3s
RND Reindeer 85.99 12 eP P 17 19 12.6 -0.4
RND e*SP pP 17 19 46.5 +0.7
RND pmax pmax
comp=Z,53nm,1.0s
RND Reindeer 85.99 12 eP P 17 19 12.6 -0.4
comp=Z,53nm,1.0s
RND esP pP 17 19 46.5 +0.7
MCMT McKenzie Canyo 86.12 39 eP P 17 19 14.5 +0.2
MCMT esP pP 17 19 48.0 +0.9
LNIG Linares 86.20 62 eP P 17 19 14.6 -0.3
comp=Z,42nm,0.8s
LNIG esP pP 17 19 47.4 -0.3
BPAW Bear Paw Mtn. 86.25 10 eP P 17 19 12.3 -1.8
comp=Z,13nm,1.2s
MCK McKinley 86.27 11 eP P 17 19 13.5 -0.8
MCK e*SP pP 17 19 47.4 +0.2
MCK McKinley 86.27 11 eP P 17 19 13.5 -0.8
MCK esP pP 17 19 47.4 +0.2
PAX Paxson 86.27 13 eP P 17 19 13.3 -1.1
PAX pmax pmax
comp=Z,20nm,1.3s
PAX Paxson 86.27 13 eP P 17 19 13.3 -1.1
comp=Z,20nm,1.3s
PAX esP pP 17 19 48.4 +1.2
S22A 4UR Ranch, Cre 86.31 48 P P 17 19 16.2 +0.7
baz=241,SNR=16
S22A 4UR Ranch, Cre 86.31 48 eP P 17 19 15.9 +0.4

S22A esP pP 17 19 49.5 +1.1
HYT Haines Junctio 86.40 17 eP P 17 19 14.4 -0.7
HYT esP pP 17 19 49.5 +1.5
KULM Kulim 86.42 277 eP P 17 19 16.2 0.0
comp=Z,13nm,0.8s
KULM esP pP 17 19 51.3 +2.3
REDW Red Top Meadow 86.53 41 eP P 17 19 16.1 -0.2
REDW esP pP 17 19 50.1 +0.9
O20A White River Ci 86.54 45 P P 17 19 16.5 0.0
baz=240,SNR=15
O20A White River Ci 86.54 45 eP P 17 19 16.4 0.0
comp=Z,24nm,0.8s
O20A esP pP 17 19 50.1 +0.9
TPAW Teton Pass 86.54 41 eP P 17 19 15.5 -0.9
TPAW esP pP 17 19 50.1 +0.8
FXWY Fox Creek 86.57 41 eP P 17 19 16.4 -0.1
FXWY esP pP 17 19 50.0 +0.6
MSO Missoula 86.61 37 P P 17 19 16.1 -0.4
baz=236
MSO Missoula 86.61 37 eP P 17 19 15.5 -0.9
MSO esP pP 17 19 49.5 +0.1
MENT Mentasta 86.63 14 eP P 17 19 15.8 -0.2
MENT esP pP 17 19 50.5 +1.5
SNOW Snow King Moun 86.64 41 eP P 17 19 17.1 +0.2
comp=Z,17nm,1.0s
SNOW esP pP 17 19 50.8 +1.0
IMW Indian Meadow 86.76 41 eP P 17 19 17.5 0.0
IMW esP pP 17 19 50.0 -0.4
MOOW Moose Ponds 86.80 41 eP P 17 19 17.9 +0.2
MOOW esP pP 17 19 50.6 +0.1
LOHW Long Hollow 86.82 41 eP P 17 19 17.7 -0.1
comp=Z,5.8nm,0.9s
LOHW esP pP 17 19 51.5 +0.9
SEY Seymchan 86.87 346 P P 17 19 16.8 -0.4
comp=Z,33nm,0.7s,baz=145,slow=5.6,SNR=129
SEY Seymchan 86.87 346 ||iP P 17 19 17.0 -0.2
DLBC Dease Lake 86.89 22 eP P 17 19 17.1 -0.4
comp=Z,15nm,1.1s
SMCO Snowmass 86.91 46 eP P 17 19 18.7 +0.2
comp=Z,21nm,0.9s
JTMT Jette 86.94 36 eP P 17 19 17.4 -0.7
comp=Z,18nm,1.4s
QLMT Earthquake Lak 86.97 40 eP P 17 19 18.6 +0.2
QLMT esP pP 17 19 52.7 +1.4
BW06 Boulder Array 87.03 42 P P 17 19 18.2 -0.6
baz=239,SNR=6.2
BW06 Boulder Array 87.03 42 eP P 17 19 17.9 -0.9
comp=Z,9.3nm,0.8s
BW06 esP pP 17 19 51.7 0.0
PD31 Pinedale Array 87.03 42 eP P 17 19 18.3 -0.5
PD31 esP pP 17 19 52.1 +0.4
PDAR Pinedale Array 87.03 42 P P 17 19 18.6 -0.2
comp=Z,5.5nm,0.6s,baz=210,slow=3.3,SNR=60
PDAR PKKPbc **PKKPbc 17 37 11.6 -0.8**
comp=Z,0.4nm,0.7s,baz=90,slow=5.9,SNR=4.1
PDAR Pinedale Array 87.03 42 eP P 17 19 18.1 -0.6
PDAR esP pP 17 19 50.9 -0.8
PDAR PKKPbc **PKKPbc 17 37 11.6 -0.8**
CMIG Matias Romero 87.07 71 P P 17 19 19.5 +0.3
comp=Z,8.2nm,0.8s,baz=221,slow=4.1,SNR=6.2
CMIG LR LR 17 50 51.1
comp=Z,64nm,18.8s,baz=188,slow=30
RIDG Independ'e Rid 87.09 13 eP P 17 19 17.8 -0.5
comp=Z,25nm,1.0s
WRH Wood River Hil 87.10 11 eP P 17 19 17.3 -0.9
WRH esP pP 17 19 50.7 -0.5
MLY Manley 87.15 10 eP P 17 19 17.2 -1.4
MLY esP pP 17 19 51.5 0.0
YMR Madison River 87.16 40 eP P 17 19 19.6 +0.2
comp=Z,84nm,2.0s
YMR esP pP 17 19 53.4 +1.1
PSI Prapat 87.17 274 eP P 17 19 18.8 -1.2
PSI pmax pmax
comp=Z,16nm,1.0s
PSI Prapat 87.17 274 eP P 17 19 18.8 -1.2
comp=Z,16nm,1.0s
DOT Dot Lake 87.17 13 eP P 17 19 18.3 -0.4
DOT esP pP 17 19 52.7 +1.1
SDCO Great Sand Dun 87.24 48 P P 17 19 20.2 +0.2
baz=242,SNR=12
SDCO Great Sand Dun 87.24 48 eP P 17 19 19.8 -0.2
comp=Z,9.1nm,1.1s
SDCO esP pP 17 19 53.8 +1.0
H17A Grant Village 87.25 40 eP P 17 19 20.7 +0.9
comp=Z,6.3nm,0.8s
H17A esP pP 17 19 53.4 +0.7
BOZ Bozeman (W) 87.26 39 P P 17 19 20.3 +0.6
baz=237,SNR=5.3
BOZ Bozeman (W) 87.26 39 eP P 17 19 19.3 -0.4
BOZ e*SP pP 17 19 53.1 +0.4
BOZ Bozeman (W) 87.26 39 eP P 17 19 19.3 -0.4
BOZ esP pP 17 19 53.1 +0.4
HDA Harding Lake 87.26 12 eP P 17 19 18.1 -1.0
HDA esP pP 17 19 53.4 +1.4
YHH Holmes Hill 87.29 40 eP P 17 19 20.9 +0.8
comp=Z,9.4nm,1.1s
YHH esP pP 17 19 54.7 +1.7
CCB Clear Creek Bu 87.31 11 eP P 17 19 18.2 -1.1
CCB esP pP 17 19 52.4 +0.2
PLCA Paso Flores 87.41 133 P P 17 19 21.4 +0.8
comp=Z,6.2nm,0.7s,baz=253,slow=7.1,SNR=27
PLCA Paso Flores 87.41 133 eP P 17 19 21.2 +0.6
PLCA e*SP pP 17 19 55.5 +2.0
PLCA pmax pmax
comp=Z,47nm,1.6s
PLCA Paso Flores 87.41 133 eP P 17 19 21.2 +0.6
comp=Z,47nm,1.6s
PLCA esP pP 17 19 55.5 +2.0
SYO Syowa Base 87.44 192 ||eP P 17 19 18.0 -2.1
SYO Syowa Base 87.44 192 ||iPcP PcP 17 19 21.4 -0.5
MSTX Muleshoe 87.47 52 P P 17 19 21.6 +0.6
baz=244
SCRK Sand Creek 87.48 13 eP P 17 19 19.9 -0.4
SCRK esP pP 17 19 53.9 +0.6
COLA College 87.51 11 eP P 17 19 19.0 -1.2
COLA College 87.51 11 eP P 17 19 19.0 -1.2
COLA esP pP 17 19 54.2 +1.1
MDM Murphy Dome 87.52 11 eP P 17 19 19.2 -1.1
MDM esP pP 17 19 53.4 +0.1
IM3 Indian Mountai 87.58 9 eP P 17 19 19.9 -0.7
IM3 esP pP 17 19 54.3 +0.7
ILAR Eielson Array 87.60 12 P P 17 19 19.8 -0.9
comp=Z,9.1nm,1.0s,baz=224,slow=4.8,SNR=44
ILAR PKKP **PKKPdf 17 37 08.5 +2.6**
comp=Z,0.4nm,0.6s,baz=324,slow=2.3,SNR=6.3
ILB Eielson Array 87.60 12 eP P 17 19 19.4 -1.2
ILB esP pP 17 19 54.2 +0.6
IL1 Eielson Array 87.60 12 eP P 17 19 19.4 -1.2
IL1 esP pP 17 19 53.8 +0.1
833A Chaparral WMA, 87.67 59 P P 17 19 22.5 +0.6
baz=246
BJT Baijiatuau 87.69 314 eP P 17 19 22.4 +0.7
BJT pmax pmax
comp=Z,21nm,0.7s
BJT Baijiatuau 87.69 314 eP P 17 19 22.4 +0.7
comp=Z,21nm,0.7s
BJI Beijing 87.70 314 eP P 17 19 22.5 +0.8
BJI pmax pmax
comp=Z,38nm,0.7s
T25A Trinidad 87.72 49 P P 17 19 21.8 -0.4
baz=242
T25A Trinidad 87.72 49 eP P 17 19 21.8 -0.4
comp=Z,5.5nm,1.0s
HRY Holter Researc 87.75 38 eP P 17 19 22.0 0.0
WALA Waterton Lakes 87.89 35 eP P 17 19 22.4 -0.2
comp=Z,32nm,1.2s
WALA esP pP 17 19 56.3 +0.8
GSI Gunungsitoli 87.91 272 eP P 17 19 23.9 +0.6
comp=Z,43nm,1.1s
Q24A Divide 88.06 47 P P 17 19 24.0 +0.1
baz=242,SNR=7.4
Q24A Divide 88.06 47 eP P 17 19 23.4 -0.5
comp=Z,21nm,1.3s
SNAA Sanae 88.06 178 P P 17 19 24.1 +1.0
SNAA Sanae 88.06 178 P P 17 19 23.8 +0.7
comp=Z,22nm,0.7s,baz=209,slow=6.6,SNR=63
SNAA Sanae 88.06 178 ||iP P 17 19 23.3 +0.2
SNAA Sanae 88.06 178 eP P 17 19 23.9 +0.7
comp=Z,24nm,0.7s
VNA3 Neumayer Olymp 88.09 175 P P 17 19 24.1 +1.0
ISCO Idaho Springs 88.13 46 P P 17 19 24.3 +0.1
baz=242,SNR=5.6
ISCO Idaho Springs 88.13 46 eP P 17 19 24.0 -0.2
ISCO pmax pmax

	comp=Z,9.0nm,1.3s									
ISCO	**Idaho Springs**	**88.13**	**46**	*e*P		**P**		**17 19 24.0**	**-0.2**	
	comp=Z,9.0nm,1.3s									
ENH	**Enshi**	**88.20**	**303**	*e*P		**P**		**17 19 24.8**	**+0.4**	
	comp=Z,74nm,1.5s									
TRTT	**Trang**	**88.21**	**279**	P		**P**		**17 19 25.5**	**+0.8**	
	comp=Z,14nm,0.8s									
RLMT	**Red Lodge**	**88.42**	**40**	P		**P**		**17 19 26.0**	**+0.7**	
	baz=239,SNR=5.2									
RLMT	**Red Lodge**	**88.42**	**40**	*e*P		**P**		**17 19 25.7**	**+0.4**	
	comp=Z,5.5nm,0.6s									
N23A	**Red Feather La**	**88.44**	**45**	P		**P**		**17 19 26.1**	**+0.5**	
	baz=241									
N23A	**Red Feather La**	**88.44**	**45**	*e*P		**P**		**17 19 25.9**	**+0.4**	
	comp=Z,22nm,1.2s									
N23A				*es*P		**pP**		**17 19 59.1**	**+0.5**	
GCMT	**Greycliff**	**88.53**	**40**	*e*P		**P**		**17 19 25.7**	**0.0**	
VNA2	**Neumayer--Watz**	**88.56**	**176**	P		**P**		**17 19 26.8**	**+1.4**	
	baz=182,slow=3.0									
DAWY	**Dawson**	**88.60**	**15**	*e*P		**P**		**17 19 25.1**	**-0.4**	
DAWY				*es*P		**pP**		**17 20 00.4**	**+1.9**	
AMTX	**Amarillo**	**88.69**	**52**	P		**P**		**17 19 26.7**	**+0.1**	
	baz=244									
VNA1	**Neumayer--Stat**	**88.78**	**176**	P		**P**		**17 19 27.7**	**+1.3**	
EGAK	**Eagle**	**88.79**	**14**	*e*P		**P**		**17 19 25.9**	**-0.4**	
EGAK				*es*P		**pP**		**17 20 01.0**	**+1.7**	
ZEA	**Zeya**	**88.83**	**330**	*e*P		**P**		**17 19 27.8**	**+1.1**	
ZEA				pmax		pmax				
	comp=N,24nm,1.0s									
ZEA				pmax		pmax				
	comp=Z,50nm,1.2s									
K22A	**Casper**	**88.90**	**43**	P		**P**		**17 19 27.8**	**+0.3**	
	baz=241									
K22A	**Casper**	**88.90**	**43**	*e*P		**P**		**17 19 27.6**	**0.0**	
	comp=Z,20nm,0.4s									
GYA	**Guiyang**	**88.93**	**299**	P		**P**		**17 19 27.0**	**-1.0**	
GYA				pP		pP		17 19 59.0	-2.0	
GYA				sP		sP		17 20 12.0	-2.6	
GYA				PP		**PP**		**17 23 01.5**	**+1.9**	
GYA				SKS		**SKSac**		**17 29 42.5**	**-3.6**	
GYA				S		**S**		**17 30 03.0**	**-2.6**	
GYA				sS		sS		17 31 00.5	-2.1	
GYA				pmax		pmax				
	comp=Z,30nm,1.0s									
GYA				pmax		pmax				
	comp=Z,130nm,6.8s									
NVL	**N'lazarevskaya**	**89.00**	**182**	*e*P		**P**		**17 19 26.1**	**-1.3**	
NVL				pmax		pmax				
	comp=Z,9.0nm,0.8s									
BILL	**Bilibino**	**89.19**	**353**	⇓*i*P		**P**		**17 19 27.5**	**-0.6**	
BILL				*e**PP		**pP**		**17 20 01.8**	**+0.7**	
BILL				*e*				17 23 01.8		
BILL				*e*S		**SKSac**		**17 29 50.8**	**+5.3**	
BILL				pmax		pmax				
	comp=Z,10.0nm,1.4s									
ABTX	**Abilene, Hawle**	**89.26**	**55**	P		**P**		**17 19 30.2**	**+0.9**	
	baz=245									
ABTX	**Abilene, Hawle**	**89.26**	**55**	*e*P		**P**		**17 19 29.1**	**-0.2**	
	comp=Z,90nm,1.8s									
ABTX				*es*P		**pP**		**17 20 03.1**	**+0.8**	
COLD	**Coldfoot**	**89.27**	**9**	*e*P		**P**		**17 19 28.1**	**-0.4**	
	comp=Z,8.9nm,0.8s									
COLD				*es*P		**pP**		**17 20 03.1**	**+1.6**	
EGMT	**Eagleton**	**89.64**	**38**	P		**P**		**17 19 31.0**	**+0.2**	
	baz=239									
EGMT	**Eagleton**	**89.64**	**38**	*e*P		**P**		**17 19 30.9**	**+0.1**	
	comp=Z,22nm,1.1s									
EFI	**East Falkland**	**89.73**	**146**	⇑*e*P		**P**		**17 19 31.8**	**+0.6**	
XAN	**Xi'an**	**90.20**	**306**	P		**P**		**17 19 34.5**	**+0.8**	
XAN				pP		pP		17 20 07.0	+0.3	
XAN				sP		sP		17 20 20.3	0.0	
XAN				pmax		pmax				
	comp=Z,43nm,1.0s									
XAN				pmax		pmax				
	comp=Z,120nm,6.5s									
APG	**El Apazote**	**90.27**	**74**	P		**P**		**17 19 35.6**	**+1.0**	
	comp=Z,26nm,1.1s,baz=281,slow=5.2,SNR=5.6									
PEL	**Peldehue**	**90.47**	**126**	*e*P		**P**		**17 19 35.9**	**+0.7**	
PEL	**Peldehue**	**90.47**	**126**	*e*P		**P**		**17 19 35.9**	**+0.7**	
EDM	**Edmonton**	**90.54**	**32**	*e*P		**P**		**17 19 34.3**	**-0.5**	
EDM				pmax		pmax				
	comp=Z,59nm,1.4s									
EDM	**Edmonton**	**90.54**	**32**	*e*P		**P**		**17 19 34.3**	**-0.5**	
	comp=Z,59nm,1.4s									
EDM				*es*P		**pP**		**17 20 09.2**	**+1.3**	
TOLK	**Toolik Lake Re**	**90.66**	**9**	P		**P**		**17 19 35.1**	**+0.1**	
	baz=204									
TOLK	**Toolik Lake Re**	**90.66**	**9**	*e*P		**P**		**17 19 34.5**	**-0.5**	
	comp=Z,6.0nm,0.8s									
WMOK	**Wichita Mounta**	**90.79**	**53**	*e*P		**P**		**17 19 35.9**	**-0.5**	
WMOK				*e**SP		**pP**		**17 20 09.6**	**+0.2**	
WMOK				pmax		pmax				
	comp=Z,15nm,1.5s									
WMOK	**Wichita Mounta**	**90.79**	**53**	*e*P		**P**		**17 19 35.9**	**-0.5**	
	comp=Z,15nm,1.5s									
WMOK				*es*P		**pP**		**17 20 09.6**	**+0.2**	
LAO	**LASA Array**	**91.05**	**40**	P		**P**		**17 19 38.6**	**+1.3**	
	baz=241									
LAO	**LASA Array**	**91.05**	**40**	*e*P		**P**		**17 19 38.8**	**+1.5**	
	comp=Z,52nm,0.9s									
LAO				*es*P		**pP**		**17 20 11.7**	**+1.3**	
NANT	**Nan**	**91.17**	**290**	P		**P**		**17 19 39.7**	**+1.2**	
	comp=Z,4.5nm,0.7s									
RSSD	**Black Hills**	**91.20**	**43**	P		**P**		**17 19 38.1**	**-0.2**	
	baz=243									
RSSD	**Black Hills**	**91.20**	**43**	*e*P		**P**		**17 19 37.8**	**-0.5**	
RSSD				*e**SP		**pP**		**17 20 12.0**	**+0.6**	
RSSD				pmax		pmax				
	comp=Z,34nm,1.0s									
RSSD	**Black Hills**	**91.20**	**43**	*e*P		**P**		**17 19 37.8**	**-0.5**	
	comp=Z,34nm,1.0s									
RSSD				*es*P		**pP**		**17 20 12.0**	**+0.6**	
KMI	**Kunming**	**91.69**	**296**	P		**P**		**17 19 41.8**	**+0.8**	
KMI				pmax		pmax				
	comp=Z,18nm,1.2s									
PAYA	**Payao**	**92.11**	**290**	P		**P**		**17 19 43.8**	**+1.0**	
	comp=Z,8.9nm,0.6s									
CM01	**Chiang Mai Arr**	**92.58**	**289**	*e*P		**P**		**17 19 45.8**	**+0.8**	
CM31	**Chiang Mai Arr**	**92.61**	**289**	*e*P		**P**		**17 19 46.1**	**+0.9**	
CMAR	**Chiang Mai Arr**	**92.61**	**289**	P		**P**		**17 19 46.5**	**+1.4**	
	comp=Z,6.6nm,0.8s,baz=116,slow=2.7,SNR=52									
CMAR				PKKPbc		**PKKPbc**		**17 36 58.6**	**+1.7**	
	comp=Z,0.7nm,0.8s,baz=286,slow=4.8,SNR=5.5									
CMAR				LR		LR		18 00 08.1		
	comp=Z,18nm,20.9s,baz=115,slow=35									
CMMT	**Chiang Mai**	**92.73**	**289**	P		**P**		**17 19 45.8**	**+0.1**	
	comp=Z,16nm,0.9s									
CHTO	**Chiang Mai**	**92.73**	**289**	P		**P**		**17 19 46.9**	**+1.2**	
	comp=Z,71nm,0.9s									
CHTO	**Chiang Mai**	**92.73**	**289**	*e*P		**P**		**17 19 46.5**	**+0.8**	
CHTO				pmax		pmax				
	comp=Z,10.0nm,0.7s									
CHTO	**Chiang Mai**	**92.73**	**289**	*e*P		**P**		**17 19 46.5**	**+0.8**	
	comp=Z,10.0nm,0.7s									
CD2	**Chengdu**	**92.99**	**302**	*e*P		**P**		**17 19 44.0**	**-2.7**	
CD2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
CD2				pmax		pmax				
	comp=Z,120nm,5.0s									
YAK	**Yakutsk**	**93.00**	**337**	P		**P**		**17 19 45.1**	**-0.8**	
	comp=Z,23nm,0.6s,baz=64,slow=3.6,SNR=11									
YAK	**Yakutsk**	**93.00**	**337**	*e*P		**P**		**17 19 43.5**	**-2.4**	
YAK				pmax		pmax				
	comp=Z,13nm,0.8s									
YAK				pmax		pmax				
	comp=E,4.0nm,1.2s									
YAK	**Yakutsk**	**93.00**	**337**	*e*P		**P**		**17 19 44.7**	**-1.1**	
	comp=E,27nm,0.7s									
INK	**Inuvik**	**93.45**	**14**	P		**P**		**17 19 47.2**	**-0.6**	
	comp=E,10.0nm,1.1s,baz=228,slow=4.2,SNR=18									
INK	**Inuvik**	**93.45**	**14**	*e*P		**P**		**17 19 47.0**	**-0.8**	
INK	**Inuvik**	**93.45**	**14**	*e*P		**P**		**17 19 47.0**	**-0.8**	
INK				*es*P		**pP**		**17 20 22.0**	**+1.1**	
JTS	**JuntasAbangare**	**93.68**	**80**	P		**P**		**17 19 50.8**	**+0.6**	
	comp=E,10nm,0.9s,baz=342,slow=3.4,SNR=4.6									
341A	**Kurthwood**	**93.82**	**58**	P		**P**		**17 19 50.6**	**+0.2**	
	baz=249									
BGNE	**Belgrade**	**93.94**	**47**	P		**P**		**17 19 51.5**	**+0.7**	
	baz=246									
BGNE	**Belgrade**	**93.94**	**47**	*e*P		**P**		**17 19 51.0**	**+0.2**	
	comp=E,45nm,1.0s									
BGNE				*es*P		**pP**		**17 20 24.3**	**+0.4**	
LZH	**Lanzhou**	**94.83**	**307**	*e*P		**P**		**17 19 57.3**	**+2.1**	
LZH				pP		pP		17 20 26.0	-2.3	
LZH				sP		sP		17 20 39.5	-2.3	
LZH				*e*PP		**PP**		**17 23 42.3**	**-3.6**	
LZH				pmax		pmax				
	comp=E,33nm,1.0s									
LZH				pmax		pmax				
	comp=E,220nm,8.1s									
LZH				LR		LR				
	comp=E,85nm,15.2s									
LZH				LR		LR				
	comp=E,96nm,15.5s									
LZH				LR		LR				
	comp=E,12nm,18.7s									
YKA	**Yellowknife Ar**	**95.27**	**24**	P		**P**		**17 19 55.9**	**-0.4**	
	comp=E,4.3nm,0.7s,baz=239,slow=4.5,SNR=94									
YKB5	**Yellowknife Ar**	**95.27**	**24**	*e*P		**P**		**17 19 55.8**	**-0.5**	
J33A	**Davis**	**95.50**	**46**	P		**P**		**17 19 57.9**	**0.0**	
	baz=247									
H32A	**Carlson Farm,**	**95.65**	**45**	P		**P**		**17 19 57.7**	**-0.8**	
	baz=247,SNR=6.5									
F31A	**Hecla**	**95.65**	**43**	P		**P**		**17 19 58.3**	**-0.1**	
	baz=247									
R38A	**Fenwick Farm,**	**95.74**	**52**	P		**P**		**17 19 57.6**	**-1.4**	
	baz=249									
ECSD	**EROS Data Cent**	**95.90**	**46**	P		**P**		**17 19 59.0**	**-0.6**	
	baz=248									
ECSD	**EROS Data Cent**	**95.90**	**46**	*e*P		**P**		**17 19 59.0**	**-0.6**	
	comp=E,41nm,1.4s									
ECSD				*es*P		**pP**		**17 20 32.3**	**-0.5**	
G32A	**Webster**	**95.90**	**44**	P		**P**		**17 19 59.4**	**-0.2**	
	baz=247									
E31A	**Nome**	**96.16**	**43**	P		**P**		**17 20 00.9**	**+0.2**	
	baz=247									
H33A	**Prehn Over Nor**	**96.17**	**45**	P		**P**		**17 20 01.0**	**+0.1**	
	baz=248									
T40A	**Mansfield**	**96.40**	**53**	P		**P**		**17 20 02.5**	**+0.4**	
	baz=249									
R39A	**Chumby, Stover**	**96.42**	**52**	P		**P**		**17 20 01.9**	**-0.2**	
	baz=249									
G33A	**Ortonville**	**96.57**	**44**	P		**P**		**17 20 02.7**	**+0.1**	
	baz=248									
C31A	**Landman Farms,**	**96.73**	**41**	P		**P**		**17 20 02.6**	**-0.7**	
	baz=247,SNR=7.3									
PB11	**IPOC Station P**	**96.87**	**114**	*e*P		**P**		**17 20 06.2**	**+1.3**	
	comp=E,61nm,1.0s									
F33A	**5 Mile Ranch,**	**96.90**	**44**	P		**P**		**17 20 04.3**	**+0.2**	
	baz=248									
R40A	**Maddies Statio**	**96.98**	**52**	P		**P**		**17 20 03.0**	**-1.7**	
	baz=250									
ULN	**Ulaanbaatar**	**97.02**	**318**	⇓*e*P		**P**		**17 20 04.5**	**-0.3**	
ULN				pmax		pmax				
	comp=Z,13nm,1.3s									
ULN	**Ulaanbaatar**	**97.02**	**318**	*e*P		**P**		**17 20 04.8**	**-0.1**	
	comp=Z,12nm,1.2s									
S41A	**Jillco Farms,**	**97.13**	**53**	P		**P**		**17 20 04.2**	**-1.2**	
	baz=250									
MNMC	**Minye Minye**	**97.18**	**113**	*e*P		Pdif		17 20 08.3	+1.8	
	comp=Z,15nm,1.1s									
SONA1	**Songino Array**	**97.42**	**318**	*e*P		**P**		**17 20 06.2**	**-0.5**	
SONA0	**Songino Array**	**97.42**	**318**	*e*P		**P**		**17 20 06.4**	**-0.2**	
SONA0				*es*S'S'df		S'S'df		17 58 26.2	-45	
SONM	**Songino Array**	**97.42**	**318**	P		**P**		**17 20 06.4**	**-0.2**	
	comp=Z,1.5nm,0.8s,baz=130,slow=3.5,SNR=9.3									
SONM				LR		LR		17 58 26.2		
	comp=Z,23nm,21.3s,baz=140,slow=32									
K37A	**Belmond**	**97.56**	**47**	P		Pdif		17 20 07.2	0.0	
	baz=249									
B32A	**Ashes, Strandq**	**97.70**	**41**	P		**P**		**17 20 07.3**	**-0.4**	
	baz=248,SNR=7.5									
J37A	**Redenius Farm,**	**97.81**	**47**	P		**P**		**17 20 07.4**	**-1.0**	
	baz=250									
E34A	**Wadena**	**97.88**	**43**	P		**P**		**17 20 08.1**	**-0.4**	
	baz=249									
A32A	**Rocking H Ranc**	**97.92**	**41**	P		**P**		**17 20 08.4**	**-0.3**	
	baz=248,SNR=6.0									
I37A	**Lemond, Waseca**	**98.16**	**46**	P		Pdif		17 20 10.6	+0.7	
	baz=250									
A33A	**Warroad**	**98.61**	**41**	P		**P**		**17 20 10.2**	**-1.5**	
	baz=249,SNR=5.7									
F36A	**Milaca**	**98.72**	**44**	P		Pdif		17 20 12.7	+0.4	
	baz=250									
ULM	**Lac du Bonnet**	**98.79**	**40**	P		**P**		**17 20 11.7**	**-0.7**	
	comp=Z,2.0nm,0.9s,baz=290,slow=5.8,SNR=4.6									
GTA	**Gaotai**	**98.97**	**309**	P		**P**		**17 20 13.5**	**-0.3**	
GTA				pP		pP		17 20 45.5	-1.5	
GTA				sP		sP		17 20 59.5	-1.0	
GTA				pmax		pmax				
	comp=Z,4.0nm,1.7s									
TIXI	**Tiksi**	**99.31**	**345**	P		**Pdif**		**17 20 13.4**	**-0.9**	
	comp=Z,2.3nm,0.9s,baz=140,slow=3.6,SNR=5.0									
TIXI	**Tiksi**	**99.31**	**345**	⇑*i*P		**Pdif**		**17 20 13.8**	**-0.5**	
TIXI				pmax		pmax				
	comp=Z,3.0nm,1.0s									
TIXI	**Tiksi**	**99.31**	**345**	*e*P		**Pdif**		**17 20 13.2**	**-1.1**	
	comp=Z,4.7nm,1.2s									
D36A	**Goodland**	**99.40**	**43**	P		**Pdif**		**17 20 14.5**	**-0.8**	
	baz=250									
LPAZ	**La Paz**	**99.62**	**111**	P		**Pdif**		**17 20 18.3**	**+0.5**	
	comp=Z,1.5nm,0.8s,baz=346,slow=2.3,SNR=5.0									
LPAZ				LR		LR		17 56 54.8		
	comp=Z,32nm,20.1s,baz=311,slow=30									
LPAZ	**La Paz**	**99.62**	**111**	*e*P		**Pdif**		**17 20 17.3**	**-0.5**	
LPAZ	**La Paz**	**99.62**	**111**	*e*Pdif		**Pdif**		**17 20 17.3**	**-0.5**	
LPAZ				*e*				17 20 19.3		
D37A	**Cotton**	**99.87**	**43**	P		**Pdif**		**17 20 17.4**	**0.0**	
	baz=251									
TLY	**Talaya**	**100.45**	**321**	P		**Pdif**		**17 20 19.8**	**-0.1**	
	comp=Z,1.2nm,0.4s,baz=70,slow=15,SNR=4.0									
ZAA1	**Zalesovo Array**	**112.07**	**321**	*e*PKiKP		**PKiKP**		**17 26 06.5**	**-0.8**	
ZAA1				*e*PKKPbc		**PKKPbc**		**17 36 00.1**	**-0.9**	
ZALV	**Zalesovo Beam**	**112.07**	**321**	PKiKP		**PKiKP**		**17 26 06.5**	**-0.8**	
	comp=Z,3.9nm,0.7s,baz=150,slow=0.5,SNR=22									
ZALV				PKKPbc		**PKKPbc**		**17 36 00.1**	**-0.9**	
	comp=Z,1.2nm,0.7s,baz=276,slow=4.5,SNR=7.3									
NVS	**Novosibirsk**	**113.05**	**322**	*e*PKiKP		**PKiKP**		**17 25 08.7**	**-0.5**	
NVS				pmax		pmax				
	comp=Z,7.0nm,1.0s									
MK32	**Makanchi Array**	**113.06**	**313**	*e*PKiKP		**PKiKP**		**17 25 08.6**	**-0.9**	
MK32				*e*PKKPbc		**PKKPbc**		**17 35 57.3**	**-0.2**	
MKAR	**Makanchi Array**	**113.06**	**313**	PKiKP		**PKiKP**		**17 25 08.6**	**-0.9**	
	comp=Z,4.7nm,0.7s,baz=195,slow=0.8,SNR=62									
MKAR				PKKPbc		**PKKPbc**		**17 35 57.3**	**-0.2**	
	comp=Z,1.3nm,0.8s,baz=278,slow=3.9,SNR=14									
KURK	**Kurchatov**	**115.71**	**317**	*d*iPKIKP		**PKPdf**		**17 25 13.5**	**-0.9**	
KURK	**Kurchatov**	**115.71**	**317**	*e*PKPdf		**PKPdf**		**17 25 13.0**	**-1.4**	
KURK				*e*PKPdf		**PKiKP**		**17 25 13.7**	**-0.8**	
KURBB	**Kurchatov Arra**	**115.77**	**317**	PKP		**PKPdf**		**17 25 13.7**	**-0.9**	
	comp=Z,6.8nm,0.8s,baz=92,slow=1.8,SNR=54									
TARG	**Taragay, Kyrgy**	**115.81**	**307**	*e*PKPdf		**PKPdf**		**17 25 14.6**	**-0.9**	
KDJ	**Kajisay**	**116.31**	**308**	*e*PKPdf		**PKPdf**		**17 25 15.2**	**-1.0**	
KSH	**Kashi**	**117.01**	**305**	*e*PKP		**PKPdf**		**17 25 18.0**	**+0.5**	
KSH				PP		PP		17 26 37.0	+7.9	
KSH				SKS		**SKSdf**		**17 32 19.5**	**+1.6**	
KSH				AMB		AMB				
	comp=Z,85nm,9.2s									
KSH				LR		LR				
	comp=Z,36nm,7.0s									
KSH				LR		LR				
	comp=Z,65nm,12.4s									
KSH				LR		LR				
	comp=Z,79nm,6.2s									
NRN	**Naryn**	**117.14**	**307**	*e*PKIKP		**PKPdf**		**17 25 17.4**	**-0.6**	
NRN	**Naryn**	**117.14**	**307**	*e*PKPdf		**PKPdf**		**17 25 17.4**	**-0.6**	
FRU	**Bishkek**	**118.24**	**308**	*e*PKIKP		**PKPdf**		**17 25 20.0**	**+0.3**	
AAK	**Ala-Archa**	**118.32**	**308**	*e*PKIKP		**PKPdf**		**17 25 19.3**	**-0.7**	
AAK	**Ala-Archa**	**118.32**	**308**	*e*PKPdf		**PKPdf**		**17 25 19.3**	**-0.7**	
BVAR	**Borovoye Array**	**120.69**	**320**	PKP		**PKPdf**		**17 25 23.5**	**-0.5**	
	comp=Z,14nm,0.8s,baz=96,slow=1.4,SNR=36									
BRVK	**Borovoye**	**120.75**	**320**	*e*PKIKP		**PKPdf**		**17 25 23.2**	**-0.9**	
BRVK	**Borovoye**	**120.75**	**320**	*e*PKPdf		**PKPdf**		**17 25 23.2**	**-0.9**	
KK06	**Karatay Array**	**121.25**	**309**	*e*PKPdf		**PKPdf**		**17 25 24.6**	**-0.8**	
KK05	**Karatay Array**	**121.25**	**309**	*e*PKPdf		**PKPdf**		**17 25 24.6**	**-0.9**	
KK02	**Karatay Array**	**121.26**	**309**	*e*PKPdf		**PKPdf**		**17 25 24.6**	**-0.8**	
KK31	**Karatay Array**	**121.26**	**309**	*e*P		**Pdif**		**17 21 51.6**	**-1.1**	
KK31				*e*				17 25 24.8		
KK31	**Karatay Array**	**121.26**	**309**	*e*Pdif		**Pdif**		**17 21 51.5**	**-1.1**	
KK31				*e*PKPdf		**PKPdf**		**17 25 24.8**	**-0.6**	
KKAR	**Karatay Array**	**121.26**	**309**	*e*P		**Pdif**		**17 21 51.5**	**-1.1**	
KKAR				*e*				17 25 24.7		
KKAR	**Karatay Array**	**121.26**	**309**	*e*Pdif		**Pdif**		**17 21 51.5**	**-1.1**	
KKAR				*e*PKPdf		**PKPdf**		**17 25 24.7**	**-0.7**	
KK01	**Karatay Array**	**121.26**	**309**	*e*PKPdf		**PKPdf**		**17 25 24.4**	**-1.0**	
KK04	**Karatay Array**	**121.26**	**309**	*e*PKPdf		**PKPdf**		**17 25 24.6**	**-0.8**	
KK03	**Karatay Array**	**121.26**	**309**	*e*PKPdf		**PKPdf**		**17 25 24.6**	**-0.8**	
KK07	**Karatay Array**	**121.26**	**309**	*e*PKPdf		**PKPdf**		**17 25 24.6**	**-0.8**	
KK09	**Karatay Array**	**121.27**	**309**	*e*PKPdf		**PKPdf**		**17 25 24.6**	**-0.8**	
KK08	**Karatay Array**	**121.27**	**309**	*e*PKPdf		**PKPdf**		**17 25 24.6**	**-0.8**	
SPA0	**Spitsbergen Ar**	**121.86**	**357**	*e*PKPdf		**PKPdf**		**17 25 25.1**	**-0.6**	
SPITS	**Spitsbergen Ar**	**121.86**	**357**	PKP		**PKPdf**		**17 25 25.0**	**-0.6**	
	comp=Z,11nm,0.8s,baz=222,slow=1.9,SNR=9.9									
KBL	**Kabul**	**122.18**	**299**	*e*PKIKP		**PKPdf**		**17 25 27.4**	**-0.3**	
KBL	**Kabul**	**122.18**	**299**	*e*PKPdf		**PKPdf**		**17 25 27.4**	**-0.3**	
SUMG	**Summit**	**122.37**	**14**	*e*PKIKP		**PKPdf**		**17 25 26.1**	**-1.1**	
SUMG	**Summit**	**122.37**	**14**	*e*PKPdf		**PKPdf**		**17 25 26.1**	**-1.1**	
OPO	**Ambohidratompo**	**123.28**	**230**	PKP		**PKPdf**		**17 25 30.8**	**+0.5**	
	comp=Z,6.6nm,0.7s,baz=140,slow=0.6,SNR=6.0									
SVE	**Sverdlovsk**	**125.38**	**326**	*e*PKIKP		**PKPdf**		**17 25 31.9**	**-0.9**	
SVE				pmax		pmax				
	comp=Z,24nm,1.1s									
SUR	**Sutherland**	**125.39**	**197**	PKP		**PKPdf**		**17 25 35.0**	**+0.9**	
	comp=Z,1.0nm,0.9s,baz=143,slow=0.3,SNR=12									
SOKR	**Solikamsk**	**126.30**	**330**	*e*PKIKP		**PKPdf**		**17 25 32.9**	**-1.6**	
SOKR				pmax		pmax				
	comp=Z,25nm,0.9s									
ARU	**Arti**	**126.59**	**326**	*i* PKIKP		**PKPdf**		**17 25 34.8**	**-0.4**	
ARU								17 27 30.7		
ARU								17 32 33.5		
ARU				SP		SP		17 37 21.5	-1.0	
ARU				SS		**SS**		**17 44 30.3**	**+2.3**	
ARU	**Arti**	**126.59**	**326**	*e*PKPdf		**PKPdf**		**17 25 34.6**	**-0.5**	
SCO	**Scoresbysund**	**127.38**	**11**	*e*PKIKP		**PKPdf**		**17 25 35.8**	**-0.5**	
SCO	**Scoresbysund**	**127.38**	**11**	*e*PKPdf		**PKPdf**		**17 25 35.8**	**-0.5**	
BOSA	**Boshof**	**127.49**	**203**	PKP		**PKPdf**		**17 25 39.1**	**+1.1**	
	comp=Z,6.4nm,0.7s,baz=159,slow=2.5,SNR=21									
AB06	**Akbulak array**	**127.80**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.5**	**-0.2**	
AB07	**Akbulak array**	**127.81**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.5**	**-0.3**	
AB05	**Akbulak array**	**127.82**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.5**	**-0.2**	
AB02	**Akbulak array**	**127.82**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.5**	**-0.2**	
AB01	**Akbulak array**	**127.82**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.6**	**-0.2**	
AB31	**Akbulak array**	**127.82**	**317**	*e*PKIKP		**PKPdf**		**17 25 37.5**	**-0.3**	
AB31	**Akbulak array**	**127.82**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.5**	**-0.3**	
ABKAR	**Akbulak array**	**127.82**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.7**	**0.0**	
AB03	**Akbulak array**	**127.82**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.4**	**-0.3**	
AB04	**Akbulak array**	**127.82**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.5**	**-0.3**	
AB08	**Akbulak array**	**127.83**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.5**	**-0.3**	
AB09	**Akbulak array**	**127.83**	**317**	*e*PKPdf		**PKPdf**		**17 25 37.3**	**-0.5**	
AKTO	**Aktyubinsk**	**128.73**	**319**	PKP		**PKPdf**		**17 25 39.9**	**+0.4**	
	comp=Z,5.2nm,0.8s,baz=56,slow=1.7,SNR=14									
ARA0	**ARCESS Array S**	**129.23**	**351**	*e*PKPdf		**PKPdf**		**17 25 39.6**	**-0.3**	

OJC	**Ojcow**	**147.93**	**342**	*e*PKP	**PKPbc**	**17**	**26**	**17.6**	**+0.1**
OJC	**Ojcow**	**147.93**	**342**	*e*PKP2	**PKPbc**	**17**	**26**	**17.6**	**+0.1**
OJC	**Ojcow**	**147.93**	**342**	*e*PKPdf	**PKPdf**	**17**	**26**	**13.7**	**-0.7**
OJC				*e*PKPbc	**PKPbc**	**17**	**26**	**17.6**	**+0.1**
ILGA	**Ilgaz**	**147.97**	**317**	*e*PKPdf	**PKPdf**	**17**	**26**	**14.4**	**-0.6**
ILGA				*e*PKPbc	**PKPbc**	**17**	**26**	**18.9**	**+0.6**
BUR08	**Bucovina Ar. S**	**148.18**	**334**	*e*PKPdf	**PKPdf**	**17**	**26**	**15.7**	**+0.8**
BUR08				*e*PKPbc	**PKiKP**	**17**	**26**	**19.2**	**-0.8**
STHS	**Stebnicka Huta**	**148.19**	**340**	*e*PKP2	**PKPbc**	**17**	**26**	**19.1**	**+0.8**
STHS	**Stebnicka Huta**	**148.19**	**340**	*e*PKP	**PKPbc**	**17**	**26**	**19.1**	**+0.8**
BUR04	**Bucovina Ar. S**	**148.19**	**334**	*e*PKPdf	**PKPdf**	**17**	**26**	**14.6**	**-0.5**
BUR04				*e*PKPbc	**PKPbc**	**17**	**26**	**18.9**	**+0.4**
BURAR	**Bucovina Array**	**148.19**	**333**	↑PKP2	**PKPbc**	**17**	**26**	**20.0**	**+1.6**
BURAR	**Bucovina Array**	**148.19**	**333**	↑*i*P	**PKPbc**	**17**	**26**	**19.3**	**+0.9**
KSP	**Ksiaz**	**148.26**	**346**	*e*PKP	**PKPbc**	**17**	**26**	**18.9**	**+0.6**
KSP	**Ksiaz**	**148.26**	**346**	*e*PKP2	**PKPbc**	**17**	**26**	**19.0**	**+0.6**
TLCR		**148.31**	**327**	↓PKP2	**PKPbc**	**17**	**26**	**19.0**	**+0.4**
CLL	**Collm**	**148.45**	**350**	↓*e*PKIKP	**PKPdf**	**17**	**26**	**15.0**	**-0.2**
CLL				*i*		17	26	21.5	
CLL				*e*		17	26	53.0	
CLL	comp=Z,9.0nm,1.3s			pmax	pmax				
CLL	comp=Z,63nm,0.9s			pmax	pmax				
CLL	comp=Z,37nm,0.9s			pmax	pmax				
CLL	**Collm**	**148.45**	**350**	*e*PKPdf	**PKPdf**	**17**	**26**	**15.0**	**-0.2**
CLL	comp=Z,9.0nm,1.3s			↓*i*PKPbc	**PKPbc**	**17**	**26**	**19.0**	**+0.1**
CLL	comp=Z,63nm,0.9s			*i* PKPab	**PKPab**	**17**	**26**	**21.5**	**-0.9**
CLL	comp=Z,37nm,0.9s			*e*pPKPdf	**pPKPbc**	**17**	**26**	**53.0**	**-0.1**
CLL				*e*pPKPbc	**pPKPab**	**17**	**26**	**56.0**	**0.0**
CLL	**Collm**	**148.45**	**350**	*e*PKPdf	**PKPdf**	**17**	**26**	**14.9**	**-0.2**
CLL				*e*PKPbc	**PKPbc**	**17**	**26**	**18.9**	**+0.1**
NIE	**Niedzica**	**148.49**	**341**	*e*PKP	**PKPbc**	**17**	**26**	**19.9**	**+0.8**
NIE	**Niedzica**	**148.49**	**341**	*e*PKP2	**PKPbc**	**17**	**26**	**19.6**	**+0.8**
UZH	**Uzhgorod**	**148.50**	**338**	*d*PKP2	**PKPbc**	**17**	**26**	**19.6**	**+0.6**
UZH				*e*		17	33	13.0	
CRVS	**Cervenica-Dubn**	**148.56**	**339**	*e*PKP2	**PKPbc**	**17**	**26**	**19.8**	**+0.6**
CRVS	**Cervenica-Dubn**	**148.56**	**339**	*e*PKP	**PKPbc**	**17**	**26**	**19.8**	**+0.6**
CRVS				*e*		17	26	23.8	
UPC	**Upice**	**148.64**	**346**	*e*PKP2	**PKPbc**	**17**	**26**	**20.0**	**+0.6**
UPC	**Upice**	**148.64**	**346**	↑*e*PKP	**PKPbc**	**17**	**26**	**20.0**	**+0.6**
CFR	**Carcaliu**	**148.66**	**328**	↓PKP2	**PKPbc**	**17**	**26**	**19.8**	**+0.3**
BR101	**Keskin Array S**	**148.70**	**314**	*e*PKPbc	**PKPbc**	**17**	**26**	**19.9**	**-0.1**
BR131	**Keskin Array S**	**148.70**	**314**	*e*PKPdf	**PKPdf**	**17**	**26**	**15.2**	**-0.9**
BR131				*e*PKPbc	**PKPbc**	**17**	**26**	**20.1**	**0.0**
BRTR	**Keskin Array B**	**148.70**	**314**	PKPbc	**PKPbc**	**17**	**26**	**19.9**	**-0.1**
BRTR	comp=Z,18nm,0.8s,baz=102,slow=1.7,SNR=60 **Keskin Array B**	**148.70**	**314**	PKP2	**PKPbc**	**17**	**26**	**20.0**	**-0.1**
BRG	**Berggiesshubel**	**148.71**	**349**	*e*PKP	**PKPdf**	**17**	**26**	**16.1**	**+0.4**
BRG	comp=Z,16nm,1.4s **Berggiesshubel**	**148.71**	**349**	*i* PKP	**PKPbc**	**17**	**26**	**19.7**	**+0.2**
BRG	comp=Z,45nm,1.0s **Berggiesshubel**	**148.71**	**349**	*e*PKIKP	**PKPdf**	**17**	**26**	**16.0**	**+0.4**
BRG				*i*		17	26	19.7	
BRG	comp=Z,19nm,1.4s			pmax	pmax				
BRG	comp=Z,16nm,1.0s			pmax	pmax				
DPC	**Dobruska-Polom**	**148.72**	**346**	*e*PKIKP	**PKPdf**	**17**	**26**	**15.9**	**+0.2**
DPC				*e*		17	26	20.3	
DPC	**Dobruska-Polom**	**148.72**	**346**	*e*PKPDF	**PKPdf**	**17**	**26**	**15.9**	**+0.2**
DPC				↑*e*PKP	**PKPbc**	**17**	**26**	**20.3**	**+0.7**
DPC				*e*PKPAB	**PKPab**	**17**	**26**	**24.1**	**+0.5**
OKC	**Ostrava-Krasne**	**148.74**	**343**	*e*PKP2	**PKPbc**	**17**	**26**	**20.1**	**+0.5**
OKC	**Ostrava-Krasne**	**148.74**	**343**	↑*e*PKP	**PKPbc**	**17**	**26**	**20.1**	**+0.5**
OKC				*e*PKPAB	**PKPab**	**17**	**26**	**24.2**	**+0.5**
TRPA	**Tarpa**	**148.83**	**337**	↓*e*PKPdf	**PKPbc**	**17**	**26**	**20.1**	**+0.2**
BMR	**Baia Mare**	**148.84**	**335**	↑PKP2	**PKPbc**	**17**	**26**	**20.6**	**+0.6**
BMR	**Baia Mare**	**148.84**	**335**	↑*i*P	**PKPbc**	**17**	**26**	**20.6**	**+0.6**
VRI	**Vrincioaia**	**148.85**	**330**	↓PKP2	**PKPbc**	**17**	**26**	**20.3**	**+0.2**
KRLC	**Kraliky**	**148.87**	**345**	*e*PKP2	**PKPbc**	**17**	**26**	**20.6**	**+0.6**
KRLC	**Kraliky**	**148.87**	**345**	↑*e*PKP	**PKPbc**	**17**	**26**	**20.6**	**+0.6**
PLOR	**Plostina**	**148.90**	**330**	↑PKP2	**PKPbc**	**17**	**26**	**20.0**	**-0.2**
PVCC	**Panska Ves**	**148.92**	**348**	*e*PKP2	**PKPbc**	**17**	**26**	**20.6**	**+0.5**
PVCC	**Panska Ves**	**148.92**	**348**	↑*e*PKP	**PKPbc**	**17**	**26**	**20.6**	**+0.5**
PVCC				*e*pPKP	**pPKPab**	**17**	**26**	**57.2**	**-0.7**
MORC	**Moravsky Berou**	**148.95**	**344**	↓PKP2	**PKPbc**	**17**	**26**	**21.0**	**+0.8**
MORC	**Moravsky Berou**	**148.95**	**344**	↓*i*P	**PKPbc**	**17**	**26**	**21.0**	**+0.8**
MORC	**Moravsky Berou**	**148.95**	**344**	*e*PKPdf	**PKPdf**	**17**	**26**	**15.2**	**-0.9**
MORC				*e*PKPbc	**PKPbc**	**17**	**26**	**20.7**	**+0.5**
LANS	**Liptovska Anna**	**148.98**	**341**	*e*PKP2	**PKPbc**	**17**	**26**	**21.7**	**+1.4**
LANS	**Liptovska Anna**	**148.98**	**341**	*e*PKP	**PKPbc**	**17**	**26**	**21.7**	**+1.4**
LANS				*e*		17	26	26.1	
TIRR	**Tirgusor**	**149.02**	**326**	↓PKP2	**PKPbc**	**17**	**26**	**20.9**	**+0.4**
TIRR	**Tirgusor**	**149.02**	**326**	*e*PKPbc	**PKPbc**	**17**	**26**	**20.6**	**+0.2**
HARR	**Harsova**	**149.11**	**327**	↑PKP2	**PKPbc**	**17**	**26**	**21.5**	**+0.8**
TLB	**Topalu**	**149.12**	**327**	↑PKP2	**PKPbc**	**17**	**26**	**21.5**	**+0.8**
ANTO	**Ankara**	**149.19**	**315**	*e*PKIKP	**PKPdf**	**17**	**26**	**16.7**	**-0.1**
ANTO				*e*		17	26	21.5	
ANTO	**Ankara**	**149.19**	**315**	*e*PKPdf	**PKPdf**	**17**	**26**	**16.7**	**-0.1**
ANTO				*e*PKPbc	**PKPbc**	**17**	**26**	**21.5**	**+0.3**
BR231	**Keskin MP Arra**	**149.21**	**315**	*e*PKPdf	**PKPdf**	**17**	**26**	**15.4**	**-1.6**
BR231				*e*PKPdf	**PKPbc**	**17**	**26**	**15.6**	**-5.7**
BR231				*e*PKPbc	**PKiKP**	**17**	**26**	**20.5**	**-2.0**
BR231				*e*PKPbc	**PKPab**	**17**	**26**	**21.4**	**-4.7**
KECS	**Kecovo**	**149.25**	**340**	*e*PKP2	**PKPbc**	**17**	**26**	**21.6**	**+0.7**
KECS	**Kecovo**	**149.25**	**340**	*e*PKP	**PKPbc**	**17**	**26**	**21.6**	**+0.7**
KECS				*e*		17	26	26.8	
DOPR	**Dopca**	**149.40**	**331**	↑*i*P	**PKPbc**	**17**	**26**	**22.6**	**+1.2**
PRU	**Pruhonice**	**149.44**	**348**	*e*PKP2	**PKPbc**	**17**	**26**	**21.6**	**+0.2**
PRU	**Pruhonice**	**149.44**	**348**	↑*e*PKP	**PKPbc**	**17**	**26**	**21.6**	**+0.2**
PRU				*e*PKPAB	**PKPab**	**17**	**26**	**25.8**	**-0.7**
PRU				*e*pPKP	**pPKPab**	**17**	**26**	**58.8**	**-1.2**
GOPC	**GO Pecny, Ondr**	**149.47**	**347**	*e*PKP2	**PKPbc**	**17**	**26**	**21.9**	**+0.4**
GOPC	**GO Pecny, Ondr**	**149.47**	**347**	↑*e*PKP	**PKPbc**	**17**	**26**	**21.9**	**+0.4**
GOPC				*e*PKPAB	**PKPab**	**17**	**26**	**26.1**	**-0.6**
MLR	**Muntele Rosu**	**149.50**	**330**	PKPbc	**PKPbc**	**17**	**26**	**21.8**	**0.0**
MLR	comp=Z,14nm,0.9s,baz=353,slow=5.2,SNR=24 **Muntele Rosu**	**149.50**	**330**	*e*PKPdf	**PKPdf**	**17**	**26**	**16.7**	**-0.5**
MLR				*e*PKPbc	**PKPbc**	**17**	**26**	**21.8**	**0.0**
MLR				*e*PKPbc	**PKPbc**	**17**	**26**	**21.9**	**0.0**
CJR	**Cluj-Napoca**	**149.58**	**334**	↓PKP2	**PKPbc**	**17**	**26**	**22.4**	**+0.5**
CJR	**Cluj-Napoca**	**149.58**	**334**	↓*i*P	**PKPbc**	**17**	**26**	**22.4**	**+0.5**
NKC	**Novy Kostel**	**149.58**	**350**	*e*PKP2	**PKPbc**	**17**	**26**	**22.1**	**+0.4**
NKC	**Novy Kostel**	**149.58**	**350**	↑*e*PKP	**PKPbc**	**17**	**26**	**22.1**	**+0.4**
BEBN	**Eben Emael**	**149.61**	**359**	↓PKPbc	**PKPbc**	**17**	**26**	**21.8**	**+0.1**
VRAC	**Vranov**	**149.62**	**345**	PKPbc	**PKPbc**	**17**	**26**	**22.4**	**+0.5**
VRAC	comp=Z,20nm,0.9s,baz=356,slow=1.9,SNR=21 **Vranov**	**149.62**	**345**	↓PKP2	**PKPbc**	**17**	**26**	**22.6**	**+0.7**
VRAC	**Vranov**	**149.62**	**345**	↓*i*P	**PKPbc**	**17**	**26**	**22.5**	**+0.6**
VYHS	**Vyhne**	**149.75**	**341**	*e*PKP2	**PKPbc**	**17**	**26**	**22.8**	**+0.6**
VYHS	**Vyhne**	**149.75**	**341**	*e*PKP	**PKPbc**	**17**	**26**	**22.8**	**+0.6**
VYHS				*e*		17	26	28.7	
SECR		**149.78**	**329**	↓*i*P	**PKPbc**	**17**	**26**	**22.9**	**+0.5**
MEM	**Membach**	**149.79**	**359**	↓PKPbc	**PKPbc**	**17**	**26**	**22.2**	**0.0**
DRGR		**149.87**	**335**	↓PKP2	**PKPbc**	**17**	**26**	**23.0**	**+0.4**
DRGR		**149.87**	**335**	↓*i*P	**PKPbc**	**17**	**26**	**23.0**	**+0.4**
SNF	**Seneffe**	**149.90**	**1**	↓PKPbc	**PKPbc**	**17**	**26**	**22.6**	**+0.1**
SNF				↓PKPab	**PKPab**	**17**	**26**	**28.6**	**+0.2**
PSZ	**Piszkesteto**	**149.93**	**340**	*e*PKIKP	**PKPdf**	**17**	**26**	**16.8**	**-1.0**
PSZ				*e*		17	26	28.5	
PSZ	**Piszkesteto**	**149.93**	**340**	↑*i*P	**PKPbc**	**17**	**26**	**23.4**	**+0.7**
PSZ	**Piszkesteto**	**149.93**	**340**	↓*e*PKPdf	**PKPbc**	**17**	**26**	**23.0**	**+0.3**
PSZ	**Piszkesteto**	**149.93**	**340**	*e*PKPdf	**PKPdf**	**17**	**26**	**16.8**	**-1.0**
PSZ				*e*PKPbc	**PKPbc**	**17**	**26**	**22.8**	**+0.1**
PSZ				*e*PKPab	**PKPab**	**17**	**26**	**28.5**	**-0.2**
VOIR		**149.95**	**331**	↓PKP2	**PKPbc**	**17**	**26**	**23.3**	**+0.4**
VOIR		**149.95**	**331**	↓*i*P	**PKPbc**	**17**	**26**	**23.3**	**+0.4**
BCLA	**Clavier**	**149.99**	**359**	↓PKPbc	**PKPbc**	**17**	**26**	**22.4**	**-0.3**
BCLA				↑PKPab	**PKPab**	**17**	**26**	**28.4**	**-0.3**
MMAI	**Mount Meron Ar**	**150.06**	**301**	PKPbc	**PKPbc**	**17**	**26**	**24.6**	**+1.0**
MMAI	comp=Z,56nm,0.7s,baz=72,slow=5.4,SNR=70			PKPab	**PKPab**	**17**	**26**	**31.2**	**+1.4**
ARR	**Arges**	**150.20**	**331**	↓*i*P	**PKPbc**	**17**	**26**	**24.8**	**+1.4**
GRFO	**Grafenberg**	**150.29**	**352**	*e*PKIKP	**PKPdf**	**17**	**26**	**17.7**	**-0.5**
GRFO	**Grafenberg**	**150.29**	**352**	*e*PKPdf	**PKPdf**	**17**	**26**	**17.7**	**-0.5**
GRFO				*e*PKPbc	**PKPbc**	**17**	**26**	**23.6**	**+0.2**
MODS	**Modra-Piesok**	**150.31**	**343**	*e*PKIKP	**PKPbc**	**17**	**26**	**24.4**	**+0.8**
MODS	**Modra-Piesok**	**150.31**	**343**	*e*PKP	**PKPbc**	**17**	**26**	**24.4**	**+0.8**
KHC	**Kasperske Hory**	**150.45**	**348**	*e*PKIKP	**PKPdf**	**17**	**26**	**18.4**	**-0.1**
KHC	**Kasperske Hory**	**150.45**	**348**	*e*PKPDF	**PKPdf**	**17**	**26**	**18.8**	**+0.3**
KHC				↑*e*PKP	**PKiKP**	**17**	**26**	**24.4**	**-0.2**
KHC				*e*pPKP	**pPKPbc**	**17**	**27**	**00.3**	**+2.0**
KHC				*e*sPKP		17	27	22.7	
KHC	**Kasperske Hory**	**150.45**	**348**	*e*PKPdf	**PKPdf**	**17**	**26**	**18.4**	**-0.1**
KHC				*e*PKPbc	**PKiKP**	**17**	**26**	**24.3**	**-0.3**
WET	**Wettzell**	**150.56**	**349**	PKIKP	**PKPbc**	**17**	**26**	**24.3**	**+0.2**
BUD	**Budapest**	**150.59**	**340**	↓*e*PKPdf	**PKPbc**	**17**	**26**	**24.4**	**+0.2**
GEC2	**GERESS Array S**	**150.70**	**348**	*e*PKIKP	**PKPdf**	**17**	**26**	**18.5**	**-0.5**
GEC2	**GERESS Array S**	**150.70**	**348**	*e*PKPdf	**PKPdf**	**17**	**26**	**18.5**	**-0.5**
GEC2				*e*PKPbc	**PKPbc**	**17**	**26**	**24.5**	**0.0**
GEC2				*e*PKPab	**PKPab**	**17**	**26**	**32.1**	**+0.2**
GERES	**GERESS Array B**	**150.70**	**348**	PKP	**PKPdf**	**17**	**26**	**19.0**	**+0.1**
GERES	comp=Z,0.9nm,0.7s,baz=8.7,slow=1.8,SNR=4.6			PKPbc	**PKPbc**	**17**	**26**	**24.7**	**+0.1**
GEA0	comp=Z,24nm,0.8s,baz=40,slow=2.3,SNR=77 **GERESS Array S**	**150.71**	**348**	*e*PKPdf	**PKPdf**	**17**	**26**	**18.6**	**-0.3**
GEA0				*e*PKPbc	**PKPbc**	**17**	**26**	**24.7**	**+0.1**
SIRR	**Siria**	**150.72**	**336**	↑*i*P	**PKPbc**	**17**	**26**	**24.8**	**+0.2**
WLF	**Walferdange**	**150.73**	**358**	↑PKPbc	**PKPbc**	**17**	**26**	**25.1**	**+0.7**
WLF	**Walferdange**	**150.73**	**358**	*e*PKIKP	**PKPbc**	**17**	**26**	**25.0**	**+0.5**
WLF	**Walferdange**	**150.73**	**358**	*e*PKPbc	**PKPbc**	**17**	**26**	**24.9**	**+0.5**
CSKK	**Cs˘tkako**	**150.94**	**341**	↓*e*PKPdf	**PKPbc**	**17**	**26**	**25.1**	**+0.1**
CSS	**Mathiatis**	**151.02**	**306**	*e*PKPdf	**PKPdf**	**17**	**26**	**18.8**	**-0.9**
CSS				*e*PKPbc	**PKPbc**	**17**	**26**	**25.3**	**-0.3**
MAMC	**Mammari**	**151.02**	**307**	P	**PKPbc**	**17**	**26**	**26.0**	**+0.4**
CONA	**Conrad Observa**	**151.09**	**345**	*e*PKPdf	**PKPdf**	**17**	**26**	**19.4**	**-0.1**
SOP	comp=Z,44nm,0.8s,SNR=21 **Sopron**	**151.13**	**344**	↓*e*PKPdf	**PKPbc**	**17**	**26**	**25.9**	**+0.4**
BZS	**Buzias**	**151.27**	**335**	↑PKIKP	**PKPbc**	**17**	**26**	**26.3**	**+0.4**
BZS	**Buzias**	**151.27**	**335**	↑*i*P	**PKPbc**	**17**	**26**	**26.3**	**+0.4**
FLN	**La Foliniere**	**151.33**	**7**	*e*PKIKP	**PKPbc**	**17**	**26**	**24.9**	**-1.0**
FLN	comp=Z,81nm,1.0s			pmax	pmax				
SRE	**Strehaia**	**151.38**	**332**	↓PKIKP	**PKPbc**	**17**	**26**	**26.9**	**+0.7**
SRE	**Strehaia**	**151.38**	**332**	↓*i*P	**PKPbc**	**17**	**26**	**26.9**	**+0.7**
SZAC	**Souni**	**151.44**	**306**	P	**PKPbc**	**17**	**26**	**26.8**	**+0.1**
ALFC	**Alefka**	**151.49**	**307**	P	**PKPbc**	**17**	**26**	**26.6**	**-0.2**
MOA	**Molln**	**151.53**	**347**	*i* PKPdf	**PKPdf**	**17**	**26**	**19.8**	**-0.4**
QUIF	comp=Z,14nm,0.6s,SNR=7.9 **Quistinic**	**151.74**	**11**	*e*PKIKP	**PKPbc**	**17**	**26**	**25.7**	**-1.1**
QUIF	comp=Z,27nm,1.0s			pmax	pmax				
ISP	**Isparta**	**151.76**	**314**	*e*PKIKP	**PKPbc**	**17**	**26**	**26.4**	**-1.0**
ISP	**Isparta**	**151.76**	**314**	↓*i*P	**PKPbc**	**17**	**26**	**27.0**	**-0.4**
ISP	**Isparta**	**151.76**	**314**	*e*PKPbc	**PKPbc**	**17**	**26**	**26.4**	**-1.0**
PPCY	**Paphos**	**151.79**	**307**	P	**PKPbc**	**17**	**26**	**27.1**	**-0.3**
ARSA	**Arzberg**	**151.80**	**345**	*i* PKPdf	**PKPdf**	**17**	**26**	**16.1**	**-4.5**
MORH	comp=Z,12nm,0.8s,SNR=5.9 **M¨‡r¨gy, Hung**	**151.84**	**339**	↓*e*PKPdf	**PKPbc**	**17**	**26**	**27.0**	**-0.1**
CDF	**Champ du Feu**	**151.94**	**357**	*e*PKIKP	**PKPbc**	**17**	**26**	**26.7**	**-0.7**
CDF	comp=Z,24nm,0.8s			pmax	pmax				
BFO	**Black Forest**	**151.95**	**355**	*i* PKIKP	**PKPbc**	**17**	**26**	**27.2**	**-0.2**
BFO	**Black Forest**	**151.95**	**355**	*e*PKPbc	**PKPbc**	**17**	**26**	**26.7**	**-0.7**
ECH	**Echery**	**152.14**	**357**	*e*PKIKP	**PKPbc**	**17**	**26**	**27.4**	**-0.4**
ECH	**Echery**	**152.14**	**357**	*e*PKPbc	**PKPbc**	**17**	**26**	**27.4**	**-0.4**
BEHE	**Becsehely**	**152.18**	**342**	↓*e*PKPdf	**PKPbc**	**17**	**26**	**28.3**	**+0.4**
SOKA	**Soboth**	**152.46**	**345**	*i* PKPdf	**PKPdf**	**17**	**26**	**21.2**	**-0.4**
KBA	comp=Z,31nm,1.0s,SNR=9.6 **Koelnbreinsper**	**152.46**	**347**	*i* PKPdf	**PKPdf**	**17**	**26**	**18.2**	**-3.6**
RETA	comp=Z,18nm,0.7s,SNR=11 **Reutte**	**152.51**	**351**	*i* PKPdf	**PKPdf**	**17**	**26**	**23.7**	**+2.0**
WATA	comp=Z,33nm,1.5s,SNR=7.7 **Walderalm**	**152.53**	**350**	*i* PKPdf	**PKPdf**	**17**	**26**	**23.5**	**+1.7**
WTTA	comp=Z,13nm,0.5s,SNR=8.5 **Wattenberg**	**152.60**	**350**	*e*PKPdf	**PKPdf**	**17**	**26**	**22.4**	**+0.4**
MOTA	comp=Z,26nm,0.6s,SNR=9.1 **Moosalm**	**152.60**	**351**	*i* PKPdf	**PKPdf**	**17**	**26**	**22.2**	**+0.3**
OBKA	comp=Z,36nm,1.1s,SNR=10 **Obir**	**152.73**	**345**	*e*PKPbc	**PKPdf**	**17**	**26**	**25.3**	**+3.2**
DAVA	comp=Z,26nm,2.1s **Damuels**	**152.82**	**353**	*i* PKPdf	**PKPdf**	**17**	**26**	**23.7**	**+1.4**
MYKA	comp=Z,33nm,1.1s,SNR=15 **Terra Mystica**	**152.82**	**347**	*i* PKPbc	**PKPbc**	**17**	**26**	**28.8**	**-0.7**
ABTA	comp=Z,22nm,0.9s,SNR=7.8 **Abfaltersbach**	**152.94**	**348**	*i* PKPdf	**PKPdf**	**17**	**26**	**21.8**	**-0.5**
FETA	comp=Z,53nm,1.4s **Feichten**	**152.97**	**351**	*i* PKPdf	**PKPdf**	**17**	**26**	**22.7**	**+0.2**
VTS	comp=Z,24nm,1.0s,SNR=7.0 **Vitosha**	**152.98**	**329**	*e*PKIKP	**PKPdf**	**17**	**26**	**21.8**	**-0.9**
VTS				*e*		17	26	41.0	
VTS	**Vitosha**	**152.98**	**329**	↓*i*P	**PKPbc**	**17**	**26**	**29.4**	**-0.6**
VTS	**Vitosha**	**152.98**	**329**	*e*PKPdf	**PKPdf**	**17**	**26**	**21.8**	**-0.9**
VTS				*e*PKPbc	**PKPbc**	**17**	**26**	**29.6**	**-0.4**
VTS				*e*PKPab	**PKPab**	**17**	**26**	**41.0**	**-0.7**
LJU	**Ljubljana**	**153.18**	**345**	*i* PKPdf	**PKPdf**	**17**	**26**	**22.6**	**0.0**
LJU				*i* PKPbc	**PKPbc**	**17**	**26**	**30.0**	**-0.1**
LJU				*e*PKPab	**PKPab**	**17**	**26**	**41.7**	**-0.5**
DIVS	**Divibare**	**153.18**	**335**	*e*PKPdf	**PKPdf**	**17**	**26**	**22.2**	**-0.6**
DIVS				*e*PKPbc	**PKPbc**	**17**	**26**	**30.3**	**0.0**
DIVS				*e*PKPab	**PKPab**	**17**	**26**	**41.9**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**153.43**	**352**	*e*PKPdf	**PKPdf**	**17**	**26**	**23.1**	**-0.2**
FUORN				*e*PKPbc	**PKPbc**	**17**	**26**	**31.0**	**0.0**
BOJS	**Bojanci**	**153.49**	**344**	*e*PKPdf	**PKPdf**	**17**	**26**	**23.0**	**0.0**
BOJS				*e*PKPbc	**PKiKP**	**17**	**26**	**31.1**	**+0.2**
BOJS				*e*PKPab	**PKPab**	**17**	**26**	**43.5**	**0.0**
BLY	**Banja Luka**	**153.61**	**340**	*e*PKPdf	**PKPdf**	**17**	**26**	**23.1**	**-0.2**
BLY				*e*PKPbc	**PKPbc**	**17**	**26**	**30.8**	**-0.3**
TRI	**Trieste**	**153.67**	**346**	*e*PKIKP	**PKPbc**	**17**	**26**	**30.2**	**-1.0**
TRI	**Trieste**	**153.67**	**346**	*e*PKPbc	**PKPbc**	**17**	**26**	**30.2**	**-1.0**
TUE	**Stuetta**	**153.69**	**353**	*e*PKPdf	**PKPdf**	**17**	**26**	**22.9**	**-0.7**
TUE				*e*PKPbc	**PKPbc**	**17**	**26**	**30.6**	**-0.9**
SENIN	**Lac Senin/Sane**	**153.98**	**356**	*e*PKPdf	**PKPdf**	**17**	**26**	**22.9**	**-1.1**
SENIN				*e*PKPbc	**PKiKP**	**17**	**26**	**32.3**	**+0.1**
SSB	**Saint Sauveur**	**155.14**	**1**	*e*PKIKP	**PKPdf**	**17**	**26**	**24.6**	**-0.8**
SSB				*e*		17	26	49.8	
SSB	**Saint Sauveur**	**155.14**	**1**	*e*PKPdf	**PKPdf**	**17**	**26**	**24.8**	**-0.8**
SSB				*e*PKPbc	PKPbc	17	26	34.0	
SSB				*e*PKPab	**PKPab**	**17**	**26**	**49.8**	**-0.8**
KARP	**Karpathos**	**155.25**	**312**	*e*PKPbc	**PKPdf**	**17**	**26**	**32.4**	**+6.5**
KARP				*e*PKPab	**PKPab**	**17**	**26**	**51.4**	**-0.1**
FNA	**Florina**	**155.25**	**329**	*e*PKIKP	**PKPdf**	**17**	**26**	**25.2**	**-0.6**
FNA				*e*		17	26	33.6	
FNA				*e*		17	26	50.5	
FNA	**Florina**	**155.25**	**329**	*e*PKPdf	**PKPdf**	**17**	**26**	**25.1**	**-0.6**
FNA				*e*PKPbc	PKPbc	17	26	33.6	
FNA				*e*PKPab	**PKPab**	**17**	**26**	**50.5**	**-0.8**
APE	**Apeiranthos**	**155.47**	**317**	↑PKP2	**PKPab**	**17**	**26**	**51.7**	**-0.7**
SANT	**Santorini**	**155.94**	**316**	*e*PKPdif	PKPdf	17	26	35.2	+8.4
SANT				*e*PKPab	**PKPab**	**17**	**26**	**53.6**	**-0.8**
POLO	**Lamas de Olo**	**156.44**	**24**	*e*PKPab	**PKPab**	**17**	**26**	**56.7**	**+0.3**
IDI	**Anoyia**	**156.94**	**314**	PKPab	**PKPab**	**17**	**26**	**58.4**	**-0.4**
PVIS	comp=Z,7.2nm,0.8s,baz=325,slow=21,SNR=5.6 **Viseu**	**156.97**	**25**	*e*PKPab	**PKPab**	**17**	**26**	**58.9**	**+0.3**
PCAS	**Casmilo, Conde**	**157.27**	**27**	*e*PKPdf	**PKPdf**	**17**	**26**	**29.4**	**+1.0**
PCAS	**Casmilo, Conde**	**157.27**	**27**	*e*PKPab	**PKPab**	**17**	**27**	**00.1**	**+0.2**
PTOM	**Tomar**	**157.66**	**28**	*e*PKPdf	**PKPdf**	**17**	**26**	**28.9**	**+0.1**
PTOM	**Tomar**	**157.66**	**28**	*e*PKPab	**PKPab**	**17**	**27**	**01.7**	**+0.1**
PCBR	**Castelo Branco**	**157.88**	**26**	*e*PKPdf	**PKPdf**	**17**	**26**	**28.9**	**-0.2**
PCBR	**Castelo Branco**	**157.88**	**26**	*e*PKPab	**PKPab**	**17**	**27**	**01.0**	**-1.5**
PMTG	**Montargil**	**158.20**	**28**	*e*PKPdf	**PKPdf**	**17**	**26**	**29.9**	**+0.4**
PMTG	**Montargil**	**158.20**	**28**	*e*PKPab	**PKPab**	**17**	**27**	**03.3**	**-0.6**
PMRV	**Marv??o**	**158.26**	**26**	*e*PKPdf	**PKPdf**	**17**	**26**	**30.5**	**+0.9**
PMRV	**Marv??o**	**158.26**	**26**	*e*PKPab	**PKPab**	**17**	**27**	**04.0**	**-0.2**
CUC	**Castrocucco**	**158.29**	**337**	*e*PKPdif	PKPdf	17	26	37.5	+7.9
CUC				*e*PKPab	pPKPdf	17	27	03.3	-1.1
TIP	**Timpagrande**	**158.62**	**334**	↑*i*P	**PKPab**	**17**	**27**	**05.4**	**-0.5**
TIP	**Timpagrande**	**158.62**	**334**	*e*PKPab	**PKPab**	**17**	**27**	**04.9**	**-1.0**
PESTR	**Estremoz**	**158.64**	**28**	*e*PKPdf	**PKPdf**	**17**	**26**	**28.5**	**-1.6**
PESTR	**Estremoz**	**158.64**	**28**	*e*PKPab	**PKPab**	**17**	**27**	**05.8**	**-0.1**
EVO	**Evora**	**158.73**	**29**	*e*PKPdf	**PKPdf**	**17**	**26**	**29.9**	**-6.3**
EVO	**Evora**	**158.73**	**29**	*e*PKPab	**PKPab**	**17**	**27**	**06.4**	**+0.1**
PNCL	**Nicolau / Gran**	**158.83**	**30**	*e*PKPdf	**PKPdf**	**17**	**26**	**28.0**	**-2.3**
PNCL	**Nicolau / Gran**	**158.83**	**30**	*e*P

FINES	FINESS Array B	68.79	332	P		P	17 24 08.3	+0.1
	4.0nm,0.9s,baz=198,slow=12,SNR=5.2							
AKASG	Malin Array Be	74.14	322	P		P	17 24 39.6	-1.1
	0.9nm,0.6s,baz=43,slow=5.5,SNR=4.8							
NB200	NORSAR Array S	74.22	337	*eP*		P	17 24 41.3	+0.1
NOA	NORSAR Array B	74.22	337	P		P	17 24 41.3	+0.1
	2.3nm,1.0s,baz=44,slow=16,SNR=2.9							
NVAR	Mina Array Bea	75.71	53	P		P	17 24 48.5	-1.9
	0.3nm,0.4s,baz=292,slow=7.6,SNR=2.2							
PDAR	Pinedale Array	78.36	45	P		P	17 25 06.4	+1.2
	0.3nm,0.5s,baz=298,slow=1.9,SNR=4.4							
GERES	GERESS Array B	82.63	328	P		P	17 25 27.5	-0.4
	0.6nm,0.5s,baz=20,slow=6.9,SNR=2.5							
SCHQ	Schefferville	85.82	15	P		P	17 25 41.4	-2.5
	2.7nm,0.5s,baz=354,slow=8.2,SNR=2.4							
LTX	Lajitas	90.84	52	*eP*		P	17 26 08.9	+0.6
TXAR	Lajitas Array	90.84	52	P		P	17 26 08.9	+0.6
	0.1nm,0.4s,baz=270,slow=2.7,SNR=4.7							

*IDC **31** 17:13:49.8±0.8, 12°.55N×90°.19W, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.2/54, mbtmp4.2/16, ML3.7/1, MS3.1/9, Ms1 3.1/9, ms1mx2.9/43, Error ellipse: s-maj=31.2km s-min=15.8km az=71.0*

*CASC **31** 17:13:52.5±1.4, 12°.43N×90°.64W, h35km±75km, ML4.3*

*ISCJB **31** 17:13:53.5±0.8, 12°.45N±0°.04×90°.56W±0°.04, h40km±6km, mb4.5/71, MS3.2/7, Error ellipse: s-maj=7.0km s-min=5.0km az=41.9*

*NEIC **31** 17:13:56.7±0.8, 12°.63N×90°.39W, h45km±7km, mb4.6/68, MD4.4(SNET), Error ellipse: s-maj=8.8km s-min=4.9km az=224.0*

NEIC Felt [l] at Sonsonate. Also felt at Cuscatancingo.

ISC 31 17:13:55.6±1.6, 12°.56N±0°.08×90°.52W±0°.07, h41km±13km, n152, σ1°$42/157, mb4.6/71, MS3.2/7, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SBLS	San Blas	1.54	34	*e*P	Pn	17 14 20.0		-0.9
SBLS				*e*S	Sn	17 14 42.1		+2.3
SNJE	San Jose	1.58	34	*e*P	Pn	17 14 20.7		-0.7
RTR	El Retiro	1.58	32	*e*P	Pn	17 14 21.4		+0.1
COLS	Colinas	1.62	47	*e*P	Pn	17 14 21.4		-0.4
COLS				*e*S	Sn	17 14 42.8		+1.2
BOQS	Boqueron	1.68	46	*e*P	Pn	17 14 22.5		-0.2
BOQS				*e*S	Sn	17 14 45.2		+2.0
SNET	Serv Nac Est T	1.68	48	*e*Pn	Pn	17 14 22.0		-0.6
SNET				*e*Sn	Sn	17 14 45.2		+2.1
SNET	Serv Nac Est T	1.68	48	*e*P	Pn	17 14 21.4		-1.2
SNET				IAML		17 14 52.6		
	comp=Z,4μm,0.3s							
UEES	San Salvador	1.70	47	*e*P	Pn	17 14 22.2		-0.7
UEES				IAML		17 14 49.1		
	comp=Z,3μm,0.3s							
OPAM	San Salvador	1.72	48	*e*P	Pn	17 14 22.6		-0.6
CUSC	San Salvador	1.74	48	*e*P	Pn	17 14 22.9		-0.6
CUSC				*e*S	Sn	17 14 47.1		+2.5
LFRS	El Faro	1.77	53	*e*P	Pn	17 14 23.3		-0.6
LFRS				*e*S	Sn	17 14 45.6		+0.3
LFU	La Fuente	1.81	49	*e*P	Pn	17 14 24.0		-0.4
LFU				*e*S	Sn	17 14 48.9		+2.8
LBRS	Las Brisas	1.85	51	*e*P	Pn	17 14 24.9		-0.2
SNVI	San Vicente	1.94	57	*e*P	Pn	17 14 25.8		-0.6
SNVI				*e*S	Sn	17 14 51.8		+2.2
TECA	Tecapa	2.17	64	*e*P	Pn	17 14 28.1		-1.4
PACA	Pacayal	2.32	67	*e*P	Pn	17 14 31.1		-0.4
PACA				*e*S	Sn	17 15 01.2		+2.2
LCY	Lacayo	2.33	68	*e*P	Pn	17 14 31.0		-0.6
LCY				*e*S	Sn	17 15 01.1		+1.9
VSM	San Miguel	2.35	68	*e*P	Pn	17 14 31.5		-0.5
VSM				*e*S	Sn	17 15 01.6		+1.7
APG	El Apazote	2.43	1	Pn	Pn	17 14 33.4		+0.3
	comp=Z,16nm,0.3s,baz=166,slow=5.3,SNR=168							
APG				Sn	Sn	17 15 05.0		+3.3
	comp=Z,30nm,0.3s,baz=273,slow=13,SNR=10							
APG				LR	LR	17 15 24.0		
	comp=Z,245nm,20.0s,baz=176,slow=38							
CAHU	Cacaotique	2.55	62	*e*P	Pn	17 14 34.5		-0.2
LCND	La Ca˜–ada	2.67	73	*e*P	Pn	17 14 34.9		-1.2
CNCH	Conchagua	2.71	74	*e*P	Pn	17 14 36.1		-0.7
TGUH	Tegucigalpa,Un	3.49	64	*e*Pn	Pn	17 14 46.8		-0.7
MOMN	Momotombo	3.89	92	*e*P	Pn	17 14 50.9		-2.1
JTS	JuntasAbangare	5.90	112	Pn	Pn	17 15 21.1		+0.5
	comp=Z,2.1nm,0.3s,baz=335,slow=7.2,SNR=7.8							
JTS				LR	LR	17 16 19.2		
	comp=Z,20nm,21.5s,baz=11,slow=27							
JTS				Sn	Sn	17 16 28.1		+1.1
	comp=Z,5.0nm,0.3s,baz=242,slow=23,SNR=6.4							
CMIG	Matias Romero	6.17	317		Pn	17 15 22.6		-1.7
	comp=Z,2.2nm,0.3s,baz=126,slow=9.0,SNR=12							
CMIG				Sn	Sn	17 16 30.0		-3.8
	comp=Z,1.5nm,0.3s,baz=350,slow=11,SNR=5.0							
WBCY	West Bay, Gran	11.08	51	*e*Pn	Pn	17 16 29.7		-1.9
MTDJ	Mount Denham	13.73	64	*e*Pn	Pn	17 17 06.5		-1.3
LNIG	Linares	14.91	327	*e*Pn	P	17 17 29.3		+0.7
ZAIG	Zacatecas	15.32	313	*e*Pn	Pn	17 17 30.0		+0.6
	comp=Z,6.0nm,1.1s							
HELC	Santa Helena	16.08	112	*e*Pn	P	17 17 40.6		-1.5
	comp=Z,37nm,1.5s							
OTAV	Otavalo	17.12	135	*e*Pn	P	17 17 54.0		+0.2
	comp=Z,4.5nm,1.1s							
ROSC	El Rosal	17.74	114	P	Pn	17 17 58.6		-1.5
	comp=Z,1.1nm,0.3s,baz=143,slow=20,SNR=2.5							
ROSC	El Rosal	17.74	114	*e*Pn	Pn	17 17 58.9		-1.2
	comp=Z,4.4nm,0.6s							
NATX	Nacogdoches	19.49	349	*e*P	Pn	17 18 20.8		+0.1
	comp=Z,12nm,0.6s							
VBMS	Vicksburg	19.57	0	*e*P	Pn	17 18 22.1		+0.4
	comp=Z,22nm,0.6s							
JCT	Junction City	19.80	336	*e*P	Pn	17 18 25.5		+1.1
SDV	Santo Domingo	19.87	99	P	P	17 18 23.4		-0.3
	comp=Z,0.9nm,0.3s,baz=311,slow=5.0,SNR=6.6							
SDV	Santo Domingo	19.87	99	*e*P	Pn	17 18 24.6		-1.0
	comp=Z,8.9nm,0.6s							
HPIG		20.16	317	*e*P	Pn	17 18 30.4		+1.5
	comp=Z,10nm,1.0s							
WHTX	Lake Whitney,	20.37	343	*e*P	Pn	17 18 29.7		-1.4
	comp=Z,9.5nm,0.5s							
LRAL	Lakeview Retre	20.64	8	*e*P	Pn	17 18 33.0		-1.2
	comp=Z,14nm,1.0s							
LTX	Lajitas	20.69	326	*e*P	Pn	17 18 34.3		-0.7
TXAR	Lajitas Array	20.69	326	P	Pn	17 18 34.3		-0.7
	comp=Z,4.2nm,0.8s,baz=148,slow=12,SNR=35							
TX31	Lajitas Ar. Si	20.69	326	*e*P	Pn	17 18 35.4		+0.4
ABTX	Abilene, Hawle	21.65	339	*e*P	P	17 18 43.1		+0.5
	comp=Z,90nm,1.8s							
GOGA	Godfrey	21.73	16	*e*P	P	17 18 43.1		-0.3
	comp=Z,6.5nm,0.9s							
OXF	Oxford	21.88	2	*e*P	P	17 18 45.4		+0.4
	comp=Z,31nm,1.0s							
MIAR	Mount Ida	22.07	353	*e*P	P	17 18 46.1		-0.9
	comp=Z,6.5nm,0.9s							
UALR	University of	22.18	356	*e*P	P	17 18 48.1		-0.1
	comp=Z,43nm,1.8s							
PLAL	Pickwick Lake	22.43	5	*e*P	P	17 18 50.1		-0.8
	comp=Z,7.4nm,1.0s							
NHSC	New Hope	22.54	23	*e*P	P	17 18 52.6		+0.5
	comp=Z,272nm,1.9s							
ATAH	Atahualpa	22.98	148	LR	LR	17 24 52.6		
	comp=Z,61nm,21.4s,baz=337,slow=29							
WMOK	Wichita Mounta	23.32	343	*e*P	P	17 19 00.2		0.0
	comp=Z,15nm,1.5s							
MNTX	Cornudas Mount	23.45	327	*e*P	P	17 19 02.3		+0.9
	comp=Z,74nm,1.6s							
WVT	Waverly	23.59	5	*e*P	P	17 19 01.6		-1.2
	comp=Z,10nm,1.0s							
TUL1	Leonard	23.73	349	*e*P	P	17 19 02.3		-1.7
	comp=Z,14nm,0.8s							
TKL	Tuckaleechee C	23.79	14	P	P	17 19 04.6		0.0
	comp=Z,7.0nm,0.7s,baz=179,slow=10,SNR=13							
TKL				LR	LR	17 29 26.1		
	comp=Z,71nm,18.3s,baz=154,slow=40							
TKL	Tuckaleechee C	23.79	14	*e*P	P	17 19 03.9		-0.7
	comp=Z,11nm,0.8s							
KMSC	Kings Mountain	23.98	19	*e*P	P	17 19 05.4		-0.8
	comp=Z,6.9nm,0.8s							
MSTX	Muleshoe	24.06	334	*e*P	P	17 19 07.1		-0.1
	comp=Z,38nm,1.3s							
PBMO	Poplar Bluff	24.12	0	*e*P	P	17 19 07.7		+0.1
	comp=Z,5.3nm,0.6s							
EPT	El Paso	24.13	325	*e*P	P	17 19 03.6		-4.3
	comp=Z,59nm,1.5s							
SJG	San Juan	24.13	74	LR	LR	17 29 04.9		
	comp=Z,87nm,19.1s,baz=256,slow=38							
AMTX	Amarillo	24.43	337	*e*P	P	17 19 10.1		-0.5
	comp=Z,14nm,0.9s							
TZTN	Tazewell	24.69	14	*e*P	P	17 19 12.8		-0.1
	comp=Z,15nm,1.1s							
SIUC	Southern Illin	25.08	2	*e*P	P	17 19 16.4		+0.1
	comp=Z,15nm,0.6s							
CCM	Cathedral Cave	25.40	359	*e*P	P	17 19 18.2		-1.0
	comp=Z,6.3nm,0.8s							
USIN	University of	25.43	5	*e*P	P	17 19 17.1		-2.4
	comp=Z,27nm,0.9s							
WCI	Wyandotte Cave	25.84	8	*e*P	P	17 19 22.5		-0.8
	comp=Z,28nm,0.7s							
OLIL	Olney	26.16	4	*e*P	P	17 19 26.4		+0.3
	comp=Z,18nm,0.7s							
IP03	Louisa	27.70	22	*e*P	P	17 19 39.5		-0.5
	comp=Z,18nm,1.3s							
SPRD	Spring Road, M	27.75	22	*e*P	P	17 19 40.4		-0.1
	comp=Z,7.1nm,1.0s							
BTCC	Brunts Corner	30.41	316	*e*P	P	17 20 02.5		-1.6
WESC	Westside Schoo	30.61	315	*e*PcP	PcP	17 23 03.4		-0.3
EML	El Monte Cty P	31.46	314	*e*P	P	17 20 13.8		+0.5
SNDA	J Saunders Pla	31.67	316	*e*PcP	PcP	17 23 07.6		+0.9
CRY	Cary Ranch	31.76	316	*e*P	P	17 20 19.3		+3.2
HEC	Hector,Ludlow	32.23	318	*e*P	P	17 20 20.6		+0.3
SPMN	Marine on St.	32.61	357	*e*P	P	17 20 22.3		-1.1
	comp=Z,16nm,1.1s							
BREC	Barre Substati	32.75	315	*e*P	P	17 20 22.9		-1.9
BFSC	Mount Baldy Ra	32.77	316	*e*P	P	17 20 27.4		+2.3
GSC	Goldstone, Bar	32.83	318	*e*PcP	PcP	17 23 12.5		+2.7
MWC	Mount Wilson	33.04	315	*e*P	P	17 20 27.5		0.0
	comp=Z,6nm,1.4s							
MPU	Maple Canyon	33.08	330	*e*P	P	17 20 28.6		+0.9
	comp=Z,21nm,2.0s							
PASC	Pasadena Art C	33.10	315	*e*PcP	PcP	17 23 10.9		+0.4
COWI	Conover	33.45	2	*e*P	P	17 20 29.3		-1.3
	comp=Z,9.7nm,1.1s							
SADO	Sadowa	33.55	15	P	P	17 20 30.3		-1.2
	comp=Z,2.3nm,0.5s,baz=251,slow=6.9,SNR=3.3							
SADO	Sadowa	33.55	15	*e*P	P	17 20 30.0		-1.4
	comp=Z,12nm,1.3s							
HWUT	Hardware Ranch	34.28	331	*e*P	P	17 20 37.9		-0.2
	comp=Z,6.7nm,0.9s							
REDW	Red Top Meadow	35.36	334	*e*P	P	17 20 48.3		+0.8
SNOW	Snow King Moun	35.40	334	*e*P	P	17 20 48.9		+1.0
	comp=Z,10nm,0.8s							
LOHW	Long Hollow	35.46	335	*e*P	P	17 20 49.5		+1.1
	comp=Z,4.1nm,0.8s							
TPAW	Teton Pass	35.51	334	*e*P	P	17 20 49.2		+0.4
	comp=Z,12nm,1.4s							
NV11	Mina Array Sit	35.60	321	*e*P	P	17 20 51.8		+2.3
	comp=Z,0.8nm,1.1s							
MOOW	Moose Ponds	35.63	335	*e*P	P	17 20 50.7		+0.9
	comp=Z,8.2nm,1.4s							
NV01	Mina Array Sit	35.69	321	*e*P	P	17 20 52.0		+1.6
NVAR	Mina Array Bea	35.69	321	P	P	17 20 52.9		+2.5
	comp=Z,2.3nm,0.7s,baz=133,slow=7.7,SNR=4.9							
IMW	Indian Meadow	35.83	334	*e*P	P	17 20 53.1		+1.5
	comp=Z,2.9nm,0.7s							
AGMN	Agassiz Nation	35.91	354	*e*P	P	17 20 50.8		-1.0
	comp=Z,7.2nm,0.8s							
LPAZ	La Paz	36.22	142	P	P	17 20 54.8		-0.7
	comp=Z,1.2nm,0.8s,baz=2.4,slow=9.4,SNR=3.6							
MCMT	McKenzie Canyo	37.40	334	*e*P	P	17 21 07.0		+2.1
MNMC	Minye Minye	37.64	146	*e*P	P	17 21 07.6		+0.4
	comp=Z,15nm,1.1s							
JHPM	Huddart Park	37.69	317	*e*P	P	17 21 06.7		-0.5
CTAM	Taylor	37.81	318	*e*PcP	PcP	17 23 23.4		-0.8
ULM	Lac du Bonnet	37.84	354	P	P	17 21 07.1		-1.1
	comp=Z,1.7nm,0.5s,baz=156,slow=9.6,SNR=4.3							
ULM				LR	LR	17 37 52.7		
	comp=Z,42nm,21.1s,baz=149,slow=38							
ULM	Lac du Bonnet	37.84	354	*e*P	P	17 21 08.5		+0.3
	comp=Z,10.0nm,1.2s							
LRM	Limekiln Ridge	38.02	335	*e*P	P	17 21 11.7		+1.5
PB11	IPOC Station P	38.12	147	*e*P	P	17 21 11.0		-0.1
	comp=Z,48nm,1.0s							
EGMT	Eagleton	38.83	339	*e*P	P	17 21 17.1		+0.4
	comp=Z,6.7nm,0.9s							
J08A	Circle Bar Ran	39.03	327	*e*P	P	17 21 20.3		+1.8
	comp=Z,6.6nm,2.0s							
F10A	Beach Ranch, E	40.26	331	*e*P	P	17 21 29.8		+1.1
	comp=Z,21nm,1.6s							
JTMT	Jette	40.32	335	*e*P	P	17 21 30.5		+1.4
	comp=Z,4.8nm,1.1s							
C09A	Chrisman Ranch	42.09	332	*e*P	P	17 21 45.1		+1.5
	comp=Z,6.6nm,0.5s							
LON	Longmire	43.06	328	*e*P	P	17 21 53.0		+1.4
	comp=Z,50nm,2.0s							
EDM	Edmonton	44.46	341	*e*P	P	17 22 03.7		+1.0
	comp=Z,50nm,1.9s							
SCHQ	Schefferville	46.09	19	P	P	17 22 13.9		-1.6
	comp=Z,4.6nm,0.6s,baz=225,slow=6.2,SNR=4.1							
SCHQ				LR	LR	17 41 02.3		
	comp=Z,44nm,19.1s,baz=284,slow=36							
SCHQ	Schefferville	46.09	19	*e*P	P	17 22 14.0		-1.6
	comp=Z,14nm,1.3s							
YKA	Yellowknife Ar	52.76	346	P	P	17 23 05.7		-0.5
	comp=Z,1.1nm,0.7s,baz=148,slow=7.7,SNR=15							
YKA				PcP	PcP	17 24 15.8		+0.5
	comp=Z,0.5nm,0.7s,baz=144,slow=4.0,SNR=5.8							
PLCA	Paso Flores	56.16	162	P	P	17 23 30.2		-1.0
	comp=Z,1.2nm,1.0s,baz=352,slow=15,SNR=1.7							
SFJD	Kangerlussuaq	60.46	17	LR	LR	17 51 32.6		
	comp=Z,21nm,19.2s,baz=246,slow=38							
INK	Inuvik	62.22	343	P	P	17 24 13.4		+0.7
	comp=Z,5.1nm,0.8s,baz=122,slow=5.9,SNR=22							
INK	Inuvik	62.22	343	*e*P	P	17 24 13.8		+1.1
	comp=Z,5.1nm,0.8s							
EGAK	Eagle	62.58	338	*e*P	P	17 24 15.8		+0.6
	comp=Z,5.3nm,1.0s							
IL1	Eielson Array	64.73	337	*e*P	P	17 24 30.2		+0.8
ILAR	Eielson Array	64.73	337	P	P	17 24 30.5		+1.2
	comp=Z,5.9nm,1.1s,baz=133,slow=4.7,SNR=18							
ILB	Eielson Array	64.73	337	*e*P	P	17 24 30.6		+1.2
RND	Reindeer	64.94	335	*e*P	P	17 24 32.4		+1.6
	comp=Z,8.8nm,1.0s							
MDM	Murphy Dome	65.33	337	*e*P	P	17 24 33.9		+0.5
	comp=Z,15nm,1.8s							
SPU	Mount Spurr	65.52	332	*e*P	P	17 24 35.2		+0.6
TRF	Thorofare Moun	65.55	335	*e*P	P	17 24 35.8		+0.8
	comp=Z,29nm,1.9s							
SKT	Skwentna	65.55	333	*e*P	P	17 24 36.1		+1.3
	comp=Z,31nm,2.0s							
BPAW	Bear Paw Mtn.	66.08	335	*e*P	P	17 24 38.4		+0.2
	comp=Z,8.2nm,1.4s							
CAST	Castle Rocks	66.29	334	*e*P	P	17 24 38.9		-0.6
	comp=Z,5.5nm,0.7s							
MLY	Manley	66.33	336	*e*P	P	17 24 40.6		+0.7
	comp=Z,10nm,1.4s							
COLD	Coldfoot	66.99	339	*e*P	P	17 24 44.9		+1.0
	comp=Z,5.9nm,0.9s							
TOLK	Toolik Lake Re	67.36	340	*e*P	P	17 24 47.0		+0.7
	comp=Z,3.9nm,0.7s							
EKA	Eskdalemuir Ar	78.29	36	P	P	17 25 49.8		-1.5
	comp=Z,1.6nm,0.7s,baz=286,slow=2.7,SNR=3.4							
ESDC	Sonseca Array	79.47	52	P	P	17 25 58.2		0.0
	comp=Z,0.5nm,0.7s,baz=302,slow=6.3,SNR=4.8							
ES19	SONSECA Array	79.52	52	*e*P	P	17 25 58.4		-0.1
UCC	Uccle	83.44	40	*e*P	P	17 26 20.3		+1.5
	comp=Z,96nm,1.5s							
KOWA	Kowa	83.60	77	P	P	17 26 21.9		+1.6
	comp=Z,3.5nm,0.7s,baz=280,slow=4.4,SNR=8.7							
NOA	NORSAR Array B	84.72	29	LR	LR	18 01 31.5		
	comp=Z,7.6nm,21.5s,baz=0.0,slow=34							
SEY	Seymchan	90.65	336	P	P	17 26 54.4		+0.8
	comp=Z,2.2nm,1.1s,baz=86,slow=7.1,SNR=4.7							
TIXI	Tiksi	91.95	348	P	P	17 26 59.7		+0.2
	comp=Z,1.4nm,0.6s,baz=2.8,slow=5.2,SNR=6.7							
KSH	Kashi	126.69	13	*e*PKP	PKPdf	17 32 59.8		+4.6
LZH	Lanzhou	129.75	345	*e*PKP	PKPdf	17 32 55.0		-6.2
LZH				pPKP	PKiKP	17 33 04.8		+2.8
LZH				sPKP		17 33 09.8		
WR1	Warramunga Arr	136.42	254	*e*PKPdf	PKPdf	17 33 13.9		0.0
WRA	Warramunga Arr	136.42	254	PKP	PKPdf	17 33 13.9		0.0
	comp=Z,0.4nm,0.6s,baz=91,slow=2.9,SNR=9.5							
ASAR	Alice Springs	136.52	249	PKhKP	PKPpre	17 33 06.6		
	comp=Z,0.2nm,0.8s,baz=108,slow=4.3,SNR=3.3							
ASAR				PKP	PKPdf	17 33 14.5		+0.4
	comp=Z,0.4nm,0.8s,baz=111,slow=2.6,SNR=5.8							
CM31	Chiang Mai Arr	147.80	343	*e*PKPbc	PKPab	17 33 37.9		-1.4
CMAR	Chiang Mai Arr	147.80	343	PKPbc	PKPab	17 33 38.0		-1.3
	comp=Z,2.7nm,0.8s,baz=343,slow=3.0,SNR=12							

*NEIC **31** 17:47:38.9±0.0, 37°.03S×176°.38E, h272km, ML4.0(WEL), After WEL.*

WEL 31 17:47:36.8, 37°S±5°×177°E±°, h313km±8km, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
TGRZ	Tauranga	0.57	205	P	Pn	17 48 17.0		+0.1
MARZ	Manawahe	0.78	174	P	Pn	17 48 18.0		+0.3
KMRZ	Kaimai	0.81	218	P	Pn	17 48 18.1		+0.3
KUZ	Kuaotunu	0.82	304	P	Pn	17 48 17.3		-0.6
KARZ	Kaharoa	0.85	198	P	Pn	17 48 18.1		+0.2
OMRZ	Omania	0.91	190	P	Pn	17 48 18.3		+0.2
NGRZ	Ngongotaha	0.94	199	P	Pn	17 48 18.8		+0.5
TOZ	Tahuroa Road	1.00	238	P	Pn	17 48 18.9		+0.4
TARZ	Mount Tarawera	1.03	183	Pn	Pn	17 48 17.1		-1.6
TARZ	Mount Tarawera	1.03	183	P	Pn	17 48 19.1		+0.3
HAZ	Te Kaha	1.11	120	P	Pn	17 48 18.5		-0.5
HAZ	Te Kaha	1.11	120	S	S	17 48 49.2		-3.5
MKAZ	Moumakai	1.13	275	P	Pn	17 48 19.2		+0.1
RRRZ	Republican Roa	1.13	182	Pn	Pn	17 48 18.9		-0.2
RRRZ	Republican Roa	1.13	182	P	Pn	17 48 19.2		+0.1
URZ	Urewera	1.13	158	Pn	Pn	17 48 18.3		-0.8
URZ				Sn	S	17 48 49.8		-3.1
URZ	Urewera	1.13	158	P	Pn	17 48 18.4		-0.7
URZ	Urewera	1.13	158	S	S	17 48 50.0		-2.9
RUGZ	Raukumara Rang	1.16	131	P	Pn	17 48 18.2		-1.3
RUGZ	Raukumara Rang	1.16	131	S	S	17 48 49.5		-3.9
MUGZ	Murupara	1.28	173	P	Pn	17 48 19.6		-0.3
ETAZ	East Tamaki Re	1.34	280	P	Pn	17 48 20.4		+0.1
MWZ	Matawai	1.36	146	Pn	Pn	17 48 20.0		-0.4
MWZ	Matawai	1.36	146	P	Pn	17 48 20.1		-0.3
MWZ	Matawai	1.36	146	S	S	17 48 52.9		-2.2
ALRZ	Allen Road	1.36	187	P	Pn	17 48 20.5		+0.2
PKGZ	Pakihiroa	1.38	120	P	Pn	17 48 20.5		0.0
TLZ	Tolley Road	1.39	216	P	Pn	17 48 21.2		+0.7
MXZ	Matakaoa Point	1.43	105	Pn	Pn	17 48 20.6		-0.2
MXZ	Matakaoa Point	1.43	105	P	Pn	17 48 20.9		-0.3
MXZ	Matakaoa Point	1.43	105	S	S	17 48 53.4		-2.4
RTZ	Ruatahuna	1.44	167	P	Pn	17 48 20.7		-0.2
RTZ	Ruatahuna	1.44	167	S	S	17 48 54.2		-1.9
RAGZ	Rawiri	1.45	153	Pn	Pn	17 48 20.9		0.0
RAGZ	Rawiri	1.45	153	P	Pn	17 48 20.9		-0.1
RAGZ	Rawiri	1.45	153	S	S	17 48 56.0		-0.2
TWGZ	Tauwhareparae	1.48	131	Pn	Pn	17 48 21.4		+0.3
TWGZ	Tauwhareparae	1.48	131	P	Pn	17 48 21.4		+0.3
WHTZ	Whakaora	1.53	198	P	Pn	17 48 22.7		+1.2
WMGZ	Waiomatatini S	1.59	113	Pn	Pn	17 48 21.7		-0.1
WMGZ	Waiomatatini S	1.59	113	P	Pn	17 48 21.8		0.0
PUZ	Puketiti	1.59	123	Pn	Pn	17 48 21.5		-0.3
PUZ	Puketiti	1.59	123	P	Pn	17 48 21.5		-0.3
TKGZ	Te Karaka	1.59	141	Pn	Pn	17 48 21.8		+0.1
TKGZ	Te Karaka	1.59	141	P	Pn	17 48 21.6		-0.2
MRHZ	Matea Rd	1.63	184	P	Pn	17 48 21.8		-0.2
WATZ	Wairara	1.64	204	P	Pn	17 48 22.5		+0.4
MTHZ	Maungatapiwha	1.66	173	P	Pn	17 48 22.1		-0.1
SNGZ	Shannon Statio	1.68	159	Pn	Pn	17 48 22.6		+0.2
SNGZ	Shannon Statio	1.68	159	P	Pn	17 48 22.6		+0.2
RAHZ	Arahi	1.75	167	P	Pn	17 48 23.2		+0.3
RIGZ	Rimuhau	1.77	148	P	Pn	17 48 23.2		+0.2
RATZ	Rangitukua	1.77	201	Pn	Pn	17 48 22.9		-0.1
RATZ	Rangitukua	1.77	201	P	Pn	17 48 23.1		+0.1
CNGZ	Carnag

PAWZ	Paruwai Farm	4.26 192	P	Pn	17 48 45.2	-1.3
WEL	Wellington	4.30 198	Pn	Pn	17 48 45.6	-1.3
MSWZ	Moikau Station	4.32 193	Pn	Pn	17 48 45.6	-1.5
MSWZ	Moikau Station	4.32 193	P	Pn	17 48 45.6	-1.6
TCW	Tory Channel	4.38 203	Pn	Pn	17 48 46.4	-1.3
TCW	Tory Channel	4.38 203	P	Pn	17 48 46.4	-1.2
BHW	Baring Head	4.40 197	Pn	Pn	17 48 46.4	-1.5
BHW	Baring Head	4.40 197	P	Pn	17 48 46.5	-1.4
PLWZ	Palliser	4.47 193	Pn	Pn	17 48 47.2	-1.6
PLWZ	Palliser	4.47 193	P	Pn	17 48 47.2	-1.6
TUWZ	Tuamarina	4.68 205	Pn	Pn	17 48 49.5	-1.5
TUWZ	Tuamarina	4.68 205	P	Pn	17 48 49.5	-1.5
NNZ	Nelson	4.71 211	Pn	Pn	17 48 49.3	-2.0
NNZ	Nelson	4.71 211	P	Pn	17 48 49.4	-2.0
QRZ	Quartz Range	4.79 220	Pn	Pn	17 48 49.9	-2.5
QRZ	Quartz Range	4.79 220	P	Pn	17 48 49.8	-2.5
CMWZ	Cape Campbell	4.89 201	P	Pn	17 48 53.1	-0.3
BSWZ	Blackbirch Sta	4.96 204	Pn	Pn	17 48 53.0	-1.2
BSWZ	Blackbirch Sta	4.96 204	P	Pn	17 48 53.1	-1.2
THZ	Tophouse	5.36 211	Pn	Pn	17 48 56.9	-2.0
THZ	Tophouse	5.36 211	P	Pn	17 48 56.6	-2.3
KHZ	Kahutara	5.70 203	Pn	Pn	17 49 01.2	-1.6
KHZ	Kahutara	5.70 203	P	Pn	17 49 01.3	-1.5
DSZ	Denniston Nort	5.84 218	Pn	Pn	17 49 01.6	-3.0
DSZ	Denniston Nort	5.84 218	P	Pn	17 49 01.8	-2.7
LTZ	Lake Taylor	6.47 209	P	Pn	17 49 09.3	-2.7
INZ	Inchbonnie	6.77 214	P	Pn	17 49 12.9	-2.6
OXZ	Oxford	7.02 208	Pn	Pn	17 49 15.7	-2.8
OXZ	Oxford	7.02 208	P	Pn	17 49 15.6	-2.9
CRLZ	Canterbury Las	7.04 204	P	Pn	17 49 17.1	-1.5
OKCZ	Okains Bay	7.04 201	P	Pn	17 49 17.1	-1.6
MQZ	McQueen's Vall	7.14 203	Pn	Pn	17 49 16.9	-3.0
MQZ	McQueen's Vall	7.14 203	P	Pn	17 49 17.6	-2.3
RPZ	Rata Peaks	7.74 211	Pn	Pn	17 49 24.3	-2.9
RPZ	Rata Peaks	7.74 211	P	Pn	17 49 24.5	-2.7
FOZ	Fox Glacier	8.15 217	P	Pn	17 49 28.8	-3.3
ODZ	Otahua Downs	9.01 208	Pn	Pn	17 49 41.5	-1.2
ODZ	Otahua Downs	9.01 208	P	Pn	17 49 41.6	-1.1
JCZ	Jackson Bay	9.05 218	Pn	Pn	17 49 41.2	-2.0
JCZ	Jackson Bay	9.05 218	P	Pn	17 49 40.5	-2.7

IDC 31 18:03:58.0±2.3, 6°40S×129°41E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.2/53, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=150.2km s-min=31.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.29 161**			Pn	Pn	18 07 20.9	-0.9
	0.2nm,0.3s,baz=343,slow=13,SNR=6.7							
WRA					Sn	Sn	18 09 47.1	-14
	0.4nm,0.3s,baz=333,slow=24,SNR=8.0							
ASAR	**Alice Springs**	**17.70 166**		P	P	P	18 08 06.8	-0.4
	0.1nm,0.3s,baz=341,slow=9.4,SNR=20							
ASAR				S		Sn	18 11 13.8	-10
	0.1nm,0.3s,baz=359,slow=27,SNR=5.0							
MKAR	**Makanchi Array**	**67.41 327**		P	P	P	18 14 55.4	0.0
	0.3nm,0.5s,baz=135,slow=5.9,SNR=6.0							

MAN 31 18:05:53, 10°00N×123°22E, h1km, mb4.2, ML3.1, MS2.8, 3C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.70 116**		*eP*	Pb	Pb	18 06 07.9	-0.1
LLP	**Lapu-Lapu**	**0.80 67**		*eP*	Pg	Pg	18 06 08.1	-0.2
LLP				*eS*	Sg	Sg	18 06 18.5	-0.2
GUIM	**Jordan**	**0.88 315**		*eP*	Pg	Pg	18 06 10.0	+0.1
GUIM				*eS*	Sb	Sb	18 06 22.9	-0.5
DCPH	**Dipolog City**	**1.41 175**		*eP*	Pn	Pn	18 06 19.6	-0.3
DCPH				*eS*	Sn	Sn	18 06 39.3	+0.1
MSLP	**Maasin**	**1.62 85**		*eP*	Pn	Pn	18 06 22.8	+0.2
MSLP				*eS*	Sg	Sg	18 06 45.4	+0.4
RCP	**Roxas**	**1.62 343**		*eP*	Pn	Pn	18 06 23.2	+0.4
RCP				*eS*	Sg	Sg	18 06 45.7	+0.6
OCLP	**Ormoc**	**1.72 52**		*eP*	Pn	Pn	18 06 23.8	-0.3
OCLP				*eS*	Sg	Sg	18 06 51.1	+2.9
IPIL	**Ipil**	**2.29 196**		*eP*	Pb	Pb	18 06 33.7	-1.4

*WEL **31** 18:27:08.4, 37°S±10°×17°9E±1°1, h12km, ML4.2/1, ML4.0/24*
*IDC **31** 18:27:11.9±5.0, 35°28S×178°91E, h0km, mb4.3/2, mb1 4.6/2, mb1mx3.8/39, mbtmp4.3/2, Error ellipse: s-maj=216.9km s-min=58.4km az=166.0*
*NEIC **31** 18:27:12.5±3.3, 36°99S×179°34E, h37km±25km, mb4.4/3, Error ellipse: s-maj=34.8km s-min=21.4km az=60.0*
ISC 31 18:27:11.9±1.1, 37°01S±0°06×179°33E±0°08, h33km, n89, σ3°00/98, mb4.5/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.98 236**		*ePn*	**Pn**	**Pn**	**18 27 29.7**	**+0.3**
MXZ	**Matakaoa Point**	**0.98 236**		P	**Pn**	**Pn**	**18 27 29.9**	**+0.5**
MXZ	**Matakaoa Point**	**0.98 236**		S	**Sb**	**Sb**	**18 27 48.8**	**+5.7**
WMGZ	**Waiomatatini S**	**1.08 222**		P	**Pb**	**Pb**	**18 27 35.0**	**+2.9**
WMGZ	**Waiomatatini S**	**1.08 222**		S	**Sb**	**Sb**	**18 27 54.3**	**+8.2**
PKGZ	**Pakihiroa**	**1.36 223**		P	**Pb**	**Pb**	**18 27 36.1**	**-0.1**
PUZ	**Puketiti**	**1.36 219**		P	**Pb**	**Pb**	**18 27 39.0**	**+2.2**
HAZ	**Te Kaha**	**1.44 239**		P	**Pn**	**Pn**	**18 27 36.2**	**+0.5**
HAZ	**Te Kaha**	**1.44 239**		S	**Sb**	**Sb**	**18 28 01.4**	**+5.3**
TWGZ	**Tauwhareparae**	**1.58 222**		P	**Pb**	**Pb**	**18 27 42.3**	**+1.7**
RUGZ	**Raukumara Rang**	**1.62 234**		P	**Pb**	**Pb**	**18 27 40.7**	**-0.6**
CNGZ	**Carnagh Statio**	**1.72 211**		P	**Pb**	**Pb**	**18 27 44.9**	**+2.0**
MWZ	**Matawai**	**1.94 227**		P	**Pb**	**Pb**	**18 27 46.6**	**-0.1**
MWZ	**Matawai**	**1.94 227**		S	**Sb**	**Sb**	**18 28 15.2**	**+4.6**
RIGZ	**Rimuhau**	**2.10 216**		P	**Pb**	**Pb**	**18 27 48.8**	**-0.5**
RAGZ	**Rawiri**	**2.12 225**		P	**Pb**	**Pb**	**18 27 49.1**	**-0.7**
URZ	**Urewera**	**2.16 234**		*ePn*	**Pn**	**Pn**	**18 27 47.2**	**+1.7**
URZ	**Urewera**	**2.16 234**		P	**Pb**	**Pb**	**18 27 48.9**	**-1.4**
URZ	**Urewera**	**2.16 234**		S	**Sb**	**Sb**	**18 28 16.6**	**0.0**
PRGZ	**Paritu Road**	**2.22 211**		P	**Pb**	**Pb**	**18 27 50.4**	**-1.0**
EDRZ	**Edgecumbe**	**2.33 241**		P	**Pb**	**Pb**	**18 27 51.6**	**-1.7**
OPRZ	**Ohinepanea**	**2.36 249**		P	**Pn**	**Pn**	**18 27 50.8**	**+2.5**
SNGZ	**Shannon Statio**	**2.37 221**		P	**Pb**	**Pb**	**18 27 52.3**	**-1.5**
KNZ	**Kokohu**	**2.39 213**		P	**Pb**	**Pb**	**18 27 52.3**	**-2.0**
MHGZ	**Mahia Peninsul**	**2.41 207**		P	**Pb**	**Pb**	**18 27 53.3**	**-1.4**
RTZ	**Ruatahuna**	**2.45 229**		P	**Pn**	**Pn**	**18 27 53.1**	**+3.4**
MUGZ	**Murupara**	**2.50 233**		P	**Pn**	**Pn**	**18 27 53.5**	**+3.2**
TGRZ	**Tauranga**	**2.55 253**		P	**Pn**	**Pn**	**18 27 53.3**	**+2.4**
TARZ	**Mount Tarawera**	**2.55 241**		P	**Pb**	**Pb**	**18 27 55.4**	**-1.7**
OMRZ	**Omania**	**2.59 244**		P	**Pb**	**Pb**	**18 27 55.4**	**-2.4**
RAHZ	**Arahi**	**2.60 222**		P	**Pb**	**Pb**	**18 27 55.7**	**-2.2**
WHHZ	**Waihua**	**2.64 218**		P	**Pb**	**Pb**	**18 27 56.7**	**-1.8**
HLRZ	**Highlands Stat**	**2.67 241**		P	**Pb**	**Pb**	**18 27 56.4**	**-2.6**
NGRZ	**Ngongotaha**	**2.72 246**		P	**Pb**	**Pb**	**18 27 58.1**	**-1.9**
KMRZ	**Kaimai**	**2.82 252**		P	**Pn**	**Pn**	**18 27 57.2**	**+2.5**
NMHZ	**Naumai**	**2.88 223**		P	**Pn**	**Pn**	**18 27 59.3**	**+3.7**
ARHZ	**Aropaoanui**	**2.90 219**		P	**Pn**	**Pn**	**18 27 59.5**	**+3.7**
ARHZ	**Aropaoanui**	**2.90 219**		S	**Sb**	**Sb**	**18 28 36.5**	**-1.6**
MRHZ	**Matea Rd**	**2.93 231**		P	**Pn**	**Pn**	**18 28 00.3**	**+4.1**
BKZ	**Black Stump Fm**	**3.10 225**		*ePn*	**Pn**	**Pn**	**18 28 01.4**	**+2.8**
BKZ	**Black Stump Fm**	**3.10 225**		P	**Pn**	**Pn**	**18 28 01.8**	**+3.2**
MCHZ	**McNeill Hill**	**3.19 220**		P	**Pn**	**Pn**	**18 28 03.5**	**+3.7**
KWHZ	**Kaweka Forest**	**3.32 223**		P	**Pn**	**Pn**	**18 28 04.8**	**+3.2**
RATZ	**Rangitukua**	**3.37 236**		P	**Pn**	**Pn**	**18 28 06.0**	**+3.8**
KAHZ	**Kahuranaki**	**3.38 214**		P	**Pn**	**Pn**	**18 28 04.8**	**+2.4**
KATZ	**Kakaramea**	**3.48 235**		P	**Pb**	**Pb**	**18 28 12.5**	**-0.3**
KRHZ	**Kereru**	**3.51 221**		P	**Pn**	**Pn**	**18 28 07.6**	**+3.5**
NGZ	**Ngauruhoe**	**3.65 233**		P	**Pn**	**Pn**	**18 28 09.9**	**+3.7**
TUVZ	**Tukino**	**3.67 231**		P	**Pn**	**Pn**	**18 28 09.9**	**+3.4**
MOVZ	**Moawhango**	**3.69 229**		P	**Pn**	**Pn**	**18 28 09.7**	**+3.0**
TWVZ	**Taurewa**	**3.69 235**		P	**Pn**	**Pn**	**18 28 10.4**	**+3.6**
COVZ	**Chateau Observ**	**3.70 233**		P	Pb	Pb	18 28 12.4	-4.2
WHVZ	**Whangaehu Hut**	**3.72 231**		P	**Pn**	**Pn**	**18 28 10.8**	**+3.5**
FWVZ	**Far West T-bar**	**3.73 232**		P	**Pn**	**Pn**	**18 28 10.7**	**+3.4**
TRVZ	**Turoa**	**3.75 231**		P	**Pn**	**Pn**	**18 28 10.5**	**+2.8**
PNHZ	**Pukenui**	**3.80 219**		P	**Pn**	**Pn**	**18 28 10.6**	**+2.4**
HIZ	**Hauiti**	**3.85 246**		*ePn*	**Pn**	**Pn**	**18 28 12.2**	**+3.4**
HIZ	**Hauiti**	**3.85 246**		P	**Pn**	**Pn**	**18 28 12.1**	**+3.3**
MTVZ	**Mangateitei**	**3.88 231**		P	**Pn**	**Pn**	**18 28 12.0**	**+3.1**
PKVZ	**Pokaka**	**3.88 233**		P	**Pn**	**Pn**	**18 28 13.1**	**+3.8**
TSZ	**Takapari Road**	**4.03 220**		P	**Pn**	**Pn**	**18 28 13.5**	**+2.2**
VRZ	**Vera Road**	**4.18 238**		P	**Pn**	**Pn**	**18 28 17.1**	**+3.8**
WAZ	**Wanganui**	**4.37 230**		P	**Pn**	**Pn**	**18 28 20.1**	**+4.1**
BFZ	**Birch Farm**	**4.38 212**		*ePn*	**Pn**	**Pn**	**18 28 16.7**	**+0.6**
BFZ				*eSn*	**Sn**	**Sn**	**18 29 06.2**	**+0.2**
OUZ	**Omahuta**	**4.97 289**		*ePn*	**Pn**	**Pn**	**18 28 23.5**	**-0.7**
SNZO	**South Karori**	**5.60 219**		*ePn*	**Pn**	**Pn**	**18 28 36.2**	**+3.4**
SNZO				*eSn*	**Sn**	**Sn**	**18 29 33.8**	**-2.1**
THZ	**Tophouse**	**6.87 224**		*ePn*	**Pn**	**Pn**	**18 28 51.7**	**+1.3**
THZ				*eSn*	**Sn**	**Sn**	**18 30 05.2**	**-2.3**
KHZ	**Kahutara**	**7.00 218**		*ePn*	**Pn**	**Pn**	**18 28 51.8**	**-0.3**
KHZ				*eSn*	**Sn**	**Sn**	**18 30 04.7**	**-5.8**
LTZ	**Lake Taylor**	**7.91 221**		*ePn*	**Pn**	**Pn**	**18 29 05.8**	**+1.2**
CRLZ	**Canterbury Las**	**8.32 216**		*ePn*	**Pn**	**Pn**	**18 29 12.2**	**+2.0**
MQZ	**McQueen's Vall**	**8.40 215**		*ePn*	**Pn**	**Pn**	**18 29 10.1**	**-1.2**
MQZ				*eSn*	**Sn**	**Sn**	**18 30 39.0**	**-6.0**
OXZ	**Oxford**	**8.42 219**		*ePn*	**Pn**	**Pn**	**18 29 09.1**	**-2.5**
OXZ				*eSn*	**Sn**	**Sn**	**18 30 39.8**	**-5.6**
RPZ	**Rata Peaks**	**9.20 221**		*ePn*	**Pn**	**Pn**	**18 29 21.1**	**-1.2**
RPZ				*eSn*	**Sn**	**Sn**	**18 31 00.0**	**-4.5**
FOZ	**Fox Glacier**	**9.76 225**		*ePn*	**Pn**	**Pn**	**18 29 27.3**	**-2.5**
LBZ	**Lake Benmore**	**10.12 220**		*ePn*	**Pn**	**Pn**	**18 29 35.3**	**+0.5**
LBZ				*eSn*	**Sn**	**Sn**	**18 31 20.0**	**-7.1**
ODZ	**Otahua Downs**	**10.36 217**		*ePn*	**Pn**	**Pn**	**18 29 38.6**	**+0.5**
ODZ				*eSn*	**Sn**	**Sn**	**18 31 28.0**	**-5.0**
WKZ	**Wanaka**	**11.03 222**		*ePn*	**Pn**	**Pn**	**18 29 51.2**	**+3.9**
WKZ				*eSn*	**Sn**	**Sn**	**18 31 42.1**	**-7.4**
MLZ	**Mavora Lakes**	**11.86 222**		*ePn*	**Pn**	**Pn**	**18 30 00.1**	**+1.3**
AS01	**Alice Springs**	**41.00 276**		*eP*	**P**	**P**	**18 34 52.2**	**+0.3**
AS31	**Alice Springs**	**41.03 276**		*eP*	**P**	**P**	**18 34 52.6**	**+0.3**
	2.6nm,0.5s							
ASAR	**Alice Springs**	**41.03 276**		P	**P**	**P**	**18 34 52.6**	**+0.3**
	4.9nm,0.5s,baz=120,slow=7.9,SNR=132							
WB2	**Warramunga Arr**	**42.62 281**		*eP*	**P**	**P**	**18 35 05.0**	**-0.2**
WRAB	**Tennant Creek**	**42.62 281**		*eP*	**P**	**P**	**18 35 05.3**	**+0.1**
	16nm,1.6s							
WR1	**Warramunga Arr**	**42.62 281**		*eP*	**P**	**P**	**18 35 05.3**	**+0.1**
	15nm,1.8s							
WRA	**Warramunga Arr**	**42.63 281**		P	**P**	**P**	**18 35 05.3**	**0.0**
	1.2nm,0.5s,baz=120,slow=7.9,SNR=22							
NWAO	**Narrogin (SRO)**	**50.26 255**		*eP*	**P**	**P**	**18 36 05.1**	**0.0**
	136nm,1.9s							
MINS	**Minaret Summit**	**93.59 44**		*eP*	**P**		**18 40 24.9**	**0.0**
FIA0	**FINESS Array S**	**150.36 334**		*e*PKPbc	**PKPbc**		**18 46 59.5**	**+0.6**
FINES	**FINESS Array B**	**150.36 334**		PKPbc	**PKPbc**		**18 46 59.5**	**+0.6**
	3.6nm,1.0s,baz=22,slow=2.1,SNR=5.2							

*ISCJB **31** 18:37:39.1±0.5, 17°.8S±0°.1×178°.38W±0°.10, h579km, mb3.8/17, Error ellipse: s-maj=17.4km s-min=10.5km az=151.7*
*IDC **31** 18:37:42.2±2.2, 17°.83S×178°.43W, h600km±25km, mb3.3/17, mb1 3.5/18, mb1mx3.3/50, mbtmp4.2/18, Error ellipse: s-maj=14.8km s-min=11.8km az=153.0*
ISC 31 18:37:39.7±0.5, 17°.8S±0°.1×178°.35W±0°.10, h579km, n33, σ1°01/38, mb3.9/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.39 60**		P	**P**	**P**	**18 39 29.8**	**-2.9**
	16nm,0.3s,baz=104,slow=5.9,SNR=22							
AFI				S		S	18 40 57.1	-8.1
	1.9nm,0.3s,baz=343,slow=19,SNR=2.5							
DZM	**Mont Dzumac**	**14.93 251**		P	**P**	**P**	**18 40 47.0**	**-1.0**
	1.4nm,0.3s,baz=62,slow=16,SNR=27							
PMG	**Port Moresby**	**34.50 279**		P	**P**	**P**	**18 43 41.7**	**+0.8**
	11nm,0.8s,baz=72,slow=9.6,SNR=3.8							
STKA	**Stephens Creek**	**38.75 241**		P	**P**	**P**	**18 44 16.4**	**+0.8**
	4.5nm,0.5s,baz=88,slow=9.6,SNR=17							
WRA	**Warramunga Arr**	**44.72 259**		P	**P**	**P**	**18 45 02.4**	**-0.2**
	1.9nm,0.5s,baz=95,slow=6.9,SNR=92							
WRA				PcP	**PcP**	**PcP**	**18 46 32.8**	**+0.4**
	0.9nm,0.5s,baz=90,slow=3.7,SNR=6.9							
WRA				S	**S**	**S**	**18 50 56.2**	**-2.0**
	0.4nm,0.9s,baz=104,slow=13,SNR=3.7							
ASAR	**Alice Springs**	**44.89 254**		P	**P**	**P**	**18 45 04.1**	**+0.2**
	10nm,0.5s,baz=88,slow=8.5,SNR=265							
ASAR				PcP	**PcP**	**PcP**	**18 46 33.3**	**+0.4**
	1.6nm,0.5s,baz=102,slow=3.8,SNR=9.6							
ASAR				S		**S**	**18 50 58.5**	**-2.1**
	1.6nm,1.1s,baz=90,slow=16,SNR=6.0							
VNDA	**Vanda**	**60.59 185**		P	**P**	**P**	**18 46 54.9**	**+0.3**
	0.9nm,0.6s,baz=0.3,slow=8.5,SNR=12							
QSPA	**South Pole Qui**	**72.29 180**		P	**P**	**P**	**18 48 07.8**	**+0.7**
	8.8nm,0.8s,baz=21,slow=0.7,SNR=20							
NVAR	**Mina Array Bea**	**79.28 44**		P	**P**	**P**	**18 48 47.1**	**+0.9**
	0.4nm,0.3s,baz=217,slow=4.4,SNR=2.6							
SEY	**Seymchan**	**83.65 347**		P	**P**	**P**	**18 49 07.8**	**+0.2**
	1.8nm,0.3s,baz=177,slow=1.8,SNR=24							
MAW	**Mawson**	**84.01 200**		P	**P**	**P**	**18 49 09.7**	**+0.1**
	2.5nm,0.5s,baz=90,slow=3.0,SNR=4.9							
ILAR	**Eielson Array**	**85.74 13**		P	**P**	**P**	**18 49 17.4**	**-0.4**
	0.3nm,0.4s,baz=221,slow=5.3,SNR=11							
TXAR	**Lajitas Array**	**85.87 58**		P	**P**	**P**	**18 49 20.1**	**+0.8**
	0.3nm,0.9s,baz=232,slow=4.4,SNR=2.9							
PDAR	**Pinedale Array**	**87.21 43**		P	**P**	**P**	**18 49 25.8**	**+0.3**
	0.2nm,0.6s,baz=223,slow=3.7,SNR=3.1							
CMAR	**Chiang Mai Ar**	**88.89 290**		P	**P**	**P**	**18 49 35.2**	**+1.5**
	0.5nm,0.9s,baz=145,slow=3.3,SNR=4.8							
SNAA	**Sanae**	**90.74 179**		P	**P**	**P**	**18 49 40.9**	**-0.4**
	2.5nm,0.6s,baz=184,slow=13,SNR=10							
PLCA	**Paso Flores**	**91.38 134**		P	**P**	**P**	**18 49 45.0**	**+0.1**
	1.1nm,0.9s,baz=211,slow=5.9,SNR=2.9							
INK	**Inuvik**	**91.74 15**		P	**P**	**P**	**18 49 47.9**	**+2.3**
	1.0nm,0.9s,baz=252,slow=8.9,SNR=3.3							
YKA	**Yellowknife Ar**	**94.18 25**		P	**P**	**P**	**18 49 57.3**	**+0.4**
	0.1nm,0.6s,baz=253,slow=4.3,SNR=3.1							
MKAR	**Makanchi Array**	**109.08 314**		PKiKP	**PKiKP**	**PKiKP**	**18 55 03.5**	**-0.8**
	0.3nm,0.5s,baz=77,slow=0.6,SNR=8.3							
KURBB	**Kurchatov Arra**	**111.82 318**		PKiKP	**PKiKP**	**PKiKP**	**18 55 08.8**	**-0.5**
	0.2nm,0.6s,baz=97,slow=1.8,SNR=6.0							
BVAR	**Borovoye Array**	**116.78 321**		PKP	**PKPdf**	**PKPdf**	**18 55 18.3**	**-0.5**
	0.5nm,0.4s,baz=127,slow=2.8,SNR=5.0							
ARCES	**ARCESS Array B**	**126.19 350**		PKP	**PKPdf**	**PKPdf**	**18 55 36.3**	**-0.1**
	2.8nm,0.8s,baz=358,slow=8.6,SNR=3.7							
FINES	**FINESS Array B**	**133.07 344**		PKP	**PKPdf**	**PKPdf**	**18 55 49.1**	**-0.5**
	2.9nm,1.1s,baz=52,slow=7.2,SNR=3.2							
BRTR	**Keskin Array B**	**144.73 315**		PKP	**PKPab**	**PKPab**	**18 56 12.6**	**-0.4**
	1.6nm,0.6s,baz=131,slow=4.1,SNR=9.9							
MMAI	**Mount Meron Ar**	**146.12 303**		PKPbc	**PKPab**	**PKPab**	**18 56 17.4**	**-1.1**
	2.5nm,0.4s,baz=77,slow=5.0,SNR=13							
GERES	**GERESS Array B**	**147.49 345**		PKPbc	**PKPbc**	**PKPbc**	**18 56 20.0**	**+0.6**
	1.5nm,0.5s,baz=35,slow=4.3,SNR=14							
CONA	**Conrad Observa**	**147.75 342**		*e*PKPbc	**PKPbc**	**PKPbc**	**18 56 20.9**	**+0.8**
	1.5nm,0.5s							
SOKA	**Soath**	**149.12 342**		*e*PKPdf	**PKPdf**	**PKPdf**	**18 56 19.0**	**+0.4**
	3.7nm,1.3s							
WTTA	**Wattenberg**	**149.46 347**		*e*PKPbc	**PKPbc**	**PKPbc**	**18 56 24.9**	**+0.4**
	2.7nm,0.6s							
ABTA	**Abfaltersbach**	**149.74 345**		*e*PKPbc	**PKPbc**	**PKPbc**	**18 56 24.0**	**-1.0**
	3.0nm,0.6s							
FETA	**Feichten**	**149.88 348**		*e*PKPbc	**PKPbc**	**PKPbc**	**18 56 25.6**	**+0.2**
	1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**175.41 180**		PKP	**PKPdf**	**PKPdf**	**18 56 43.7**	**-1.0**
	0.5nm,0.8s,baz=248,slow=2.7,SNR=3.0							
TORD				PKPab	**PKPab**	**PKPab**	**18 58 25.5**	**0.0**
	0.3nm,0.6s,baz=190,slow=2.5,SNR=2.6							

*TAP **31** 18:40:06.8, 24°.25N×122°.16E, h58km, ML3.5, C*
*JMA **31** 18:40:06.6±0.1, 24°.16N×122°.18E, h51km±3km, M2.6*
ISC 31 18:40:06.6±1.2, 24°24N±0°02×122°21E±0°02, h25km±13km, n59, σ0°93/105, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.32 347**		*eP*	**Pn**	**Pn**	**18 40 16.8**	**+1.2**
	baz=349							
EOS1				*eS*	**Sn**	**Sn**	**18 40 24.2**	**+2.7**
	baz=349							
ENAH	**Nanao**	**0.42 300**		P	**Pn**	**Pn**	**18 40 17.4**	**+0.4**
	baz=305							
ENAH				*eS*	**Sn**	**Sn**	**18 40 25.6**	**+1.6**
	baz=305							
NANB	**Nanao**	**0.46 294**		*eP*	**Pn**	**Pn**	**18 40 17.9**	**+0.3**
	baz=299							
NANB				*eS*	**Sn**	**Sn**	**18 40 25.9**	**+0.8**
	baz=299							
ENA	**Nanau**	**0.47 294**		*i* P	**Pn**	**Pn**	**18 40 18.0**	**+0.3**
	baz=298							
ENA				S	**Sn**	**Sn**	**18 40 26.3**	**+1.1**
	baz=298							
TWC	**Suao**	**0.49 318**		*eP*	**Pn**	**Pn**	**18 40 18.2**	**+0.1**
	baz=322							
TWC				*eS*	**Sn**	**Sn**	**18 40 26.0**	**+0.1**
	baz=322							
NACB	**Ninganchiao**	**0.56 264**		*eP*	**Pb**	**Pb**	**18 40 18.7**	**+0.8**
	baz=256							
NACB				*eS*	**Sn**	**Sn**	**18 40 27.1**	**-0.5**
	baz=256							
TWD	**Chiawan**	**0.58 254**		*eP*	**Pb**	**Pb**	**18 40 18.5**	**+0.3**
	baz=245							
TWD				S	**Sn**	**Sn**	**18 40 27.9**	**-0.1**
	baz=245							
HWA	**Hwalien**	**0.61 245**		*eP*	**Pn**	**Pn**	**18 40 19.8**	**+0.1**
	baz=242							
HWA				*eS*	**Sn**	**Sn**	**18 40 29.7**	**+0.9**
	baz=242							
ENLB	**Shoufeng**	**0.65 239**		*eP*	**Pb**	**Pb**	**18 40 20.0**	**+0.8**
	baz=232							
ENLB				*eS*	**Sn**	**Sn**	**18 40 30.3**	**+0.7**
	baz=232							
TWE	**Neicheng**	**0.69 314**		P	**Pn**	**Pn**	**18 40 21.0**	**+0.3**
	baz=312							
TWE				S	**Sn**	**Sn**	**18 40 30.9**	**+0.3**
	baz=312							
JYNG	**Yonagunijimaku**	**0.70 72**		P	**Pn**	**Pn**	**18 40 21.3**	**+0.3**
JYNG				S	**Sn**	**Sn**	**18 40 31.8**	**+0.8**
ENTT	**Nioudou**	**0.71 304**		*i* P	**Pn**	**Pn**	**18 40 21.2**	**+0.1**
	baz=305							
ENTT				*eS*	**Sn**	**Sn**	**18 40 30.9**	**-0.4**
	baz=305							
YOJ	**Yonaguni jima**	**0.76 73**		P	**Pn**	**Pn**	**18 40 22.1**	**+0.3**
YOJ				*eS*	**Sn**	**Sn**	**18 40 33.2**	**+0.7**
NNS	**Nan Shan**	**0.79 285**		*eP*	**Pn**	**Pn**	**18 40 22.0**	**-0.3**
	baz=285							
NNS				*eS*	**Sn**	**Sn**	**18 40 33.3**	**0.0**
	baz=285							
TWB1	**Santiao Chiao**	**0.79 345**		*eP*	**Pn**	**Pn**	**18 40 21.4**	**-0.8**
	baz=348							
TWB1				*eS*	**Sn**	**Sn**	**18 40 32.2**	**-1.0**
	baz=348							
TIPB	**Shuangxi**	**0.81 334**		*eP*	**Pb**	**Pb**	**18 40 21.4**	**-0.6**
	baz=342							
TIPB				*eS*	**Sn**	**Sn**	**18 40 32.5**	**-1.3**
	baz=342							
ESL	**Shilin**	**0.83 239**		*eP*	**Pb**	**Pb**	**18 40 22.0**	**-0.3**

CSEM ***31*** *18:42:17.8±0.3,39°.07N×43°.88E,h10km,ML2.4, Error ellipse: s-maj=8.8km s-min=4.6km az=119.0*
ISK ***31*** *18:42:17.3,39°.03N×43°.86E,h5km,ML2.5/2*
ISCJB ***31*** *18:42:18.2±0.9,39°.09N±0°.06×43°.87E±0°.07,h11km±6km, Error ellipse: s-maj=10.4km s-min=8.1km az=135.4*
DDA ***31*** *18:42:18.3,39°.11N×43°.80E,h7km, Ml2.4*
ISC 31 18:42:18.2±1.0,39°.07N±0°.04×43°.87E±0°.05,h10km±7km, n13,σ0ᵗ39/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.08**	**27**	PG	**Pg**	**18 42 20.3**	**-0.4**
CLDR				SG	**Sg**	**18 42 22.8**	**+0.3**
CLDR	**Caldiran**	**0.08**	**27**	*i* P	**Pg**	**18 42 20.2**	**-0.4**
CLDR				*i* S	**Sg**	**18 42 23.4**	**+0.9**
CLDR	**Caldiran**	**0.08**	**27**	*e*Pg	**Sg**	**18 42 20.3**	**-0.4**
CLDR				*e*Sg	**Sg**	**18 42 22.8**	**+0.3**
CLDR				S	**Sg**	**18 42 23.4**	**+0.9**
VMUR	**Van-Muradiye**	**0.25**	**250**	*i* P	**Pg**	**18 42 22.8**	**-0.5**
VMUR				*i* S	**Sg**	**18 42 26.9**	**+0.2**
VMUR	**Van-Muradiye**	**0.25**	**250**	P	**Pg**	**18 42 22.8**	**-0.5**
VMUR				S	**Sg**	**18 42 26.9**	**+0.2**
TVAN	**Van**	**0.65**	**214**	*i* P	**Pg**	**18 42 30.9**	**0.0**
TVAN				*i* S	**Sb**	**18 42 41.2**	**+0.1**
TVAN	**Van**	**0.65**	**214**	P	**Pg**	**18 42 30.9**	**0.0**
TVAN				S	**Sb**	**18 42 41.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.85**	**307**	PG	**Pg**	**18 42 34.5**	**0.0**
AGRB				SG	**Sb**	**18 42 46.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.85**	**307**	*e*Pg	**Pg**	**18 42 34.5**	**0.0**
AGRB				*e*Sg	**Sb**	**18 42 46.8**	**+0.1**
TASB	**TASBURUN-IGDIR**	**0.95**	**17**	PG	**Pb**	**18 42 36.7**	**-0.2**
TASB	**TASBURUN-IGDIR**	**0.95**	**17**	*e*Pg	**Pb**	**18 42 36.7**	**-0.2**
GURO	**Guroymak-BITLI**	**1.53**	**251**	PN	**Pn**	**18 42 45.7**	**0.0**
GURO	**Guroymak-BITLI**	**1.53**	**251**	*e*Pn	**Pn**	**18 42 45.7**	**0.0**

NIED ***31*** *18:50:00.37°.50N×141°.50E,h44km,Mw3.7 Best double couple: M₀4.40000×10¹⁴ NP1:φ₁95.00000°,δ23.00000°, λ82.00000°. NP2:φ₂23.00000°,δ67.00000°,λ93.00000°.*
ISCJB ***31*** *18:50:43.2±0.7,37°.48N±0°.03×141°.58E±0°.07,h52km±6km, mb3.7/15, Error ellipse: s-maj=10.2km s-min=4.8km az=17.2*
IDC ***31*** *18:50:44.6±1.6,37°.49N×141°.50E,h46km±16km, mb3.5/15, mb1 3.6/18,mb1mx3.5/68,mbtmp3.8/18, ML3.3/3, MS2.5/4, Ms1 2.5/4,ms1mx2.3/64, Error ellipse: s-maj=21.6km s-min=10.8km az=103.0*
JMA ***31*** *18:50:45.0±0.1,37°.50N×141°.47E,h45km±1km, M3.9*
JMA Felt I J1.
ISC 31 18:50:44.2±1.5,37°.50N±0°.05×141°.56E±0°.09,h42km±13km, n38,σ1ᵗ04/43,mb3.6/15,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**256**	P	**Pn**	**18 50 55.9**	**+0.1**
JFK				S	**Sn**	**18 51 03.4**	**-0.7**
JMM	**Marumori**	**0.71**	**301**	P	**Pn**	**18 50 58.0**	**+0.2**
JMM				S	**Sn**	**18 51 07.2**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.72**	**237**	P	**Pn**	**18 50 58.1**	**0.0**
ONAJ				S	**Sn**	**18 51 07.2**	**-0.8**
JIO	**Ouri**	**0.97**	**350**	P	**Pn**	**18 51 02.1**	**+0.8**
JIO				S	**Sn**	**18 51 14.0**	**+0.1**
JFT	**Otama**	**0.97**	**271**	P	**Pn**	**18 51 01.9**	**+0.5**
JFT				S	**Sn**	**18 51 14.0**	**+0.0**
JOU	**Okura**	**1.11**	**321**	P	**Pn**	**18 51 03.7**	**+0.3**
JOU				S	**Sn**	**18 51 17.6**	**0.0**
JYS	**Shirataka**	**1.38**	**302**	P	**Pn**	**18 51 07.7**	**+0.7**
JYS				S	**Sn**	**18 51 23.7**	**-0.4**
JMK	**Ichinoseki**	**1.47**	**350**	P	**Pn**	**18 51 09.1**	**+0.8**
JMK				S	**Sn**	**18 51 26.9**	**+0.6**
JFY	**Yanaizu**	**1.48**	**267**	P	**Pn**	**18 51 08.7**	**+0.4**
JFY				S	**Sn**	**18 51 26.0**	**-0.4**
JYK	**Kaneyama**	**1.70**	**327**	P	**Pn**	**18 51 12.2**	**+0.8**
JYK				S	**Sn**	**18 51 32.4**	**+0.4**
MJAR	**Matsushiro Arr**	**2.84**	**251**	P	**Pn**	**18 51 27.9**	**+0.8**
	3.2nm,0.3s,baz=351,slow=17,SNR=49						
MJAR				S	**Sn**	**18 52 04.8**	**+4.6**
	4.0nm,0.3s,baz=90,slow=13,SNR=5.4						
MJAR				LR	LR	18 52 48.6	
	comp=Z,87nm,19.6s,baz=85,slow=45						
MAT	**Matsushiro**	**2.84**	**251**	P	**Pn**	**18 51 28.5**	**+1.4**
MAT				S	**Sn**	**18 52 03.0**	**+2.8**
JHJ	**Hachijo jima 2**	**4.60**	**199**	P	**Pn**	**18 51 51.5**	**+0.1**
	9.4nm,0.3s,baz=39,slow=17,SNR=2.7						
JHJ				S	**Sn**	**18 52 43.0**	**-0.6**
	11nm,0.3s,baz=73,slow=19,SNR=3.9						
ASAJ	**Asahikawa**	**6.66**	**6**	P	**Pn**	**18 52 19.8**	**+0.4**
	0.5nm,0.3s,baz=228,slow=14,SNR=9.6						
ASAJ				S	**Sn**	**18 53 35.1**	**+1.2**
	0.6nm,0.3s,baz=270,slow=17,SNR=2.2						
JNU	**Nakatsue**	**9.76**	**247**	LR	LR	18 57 11.3	
	comp=Z,49nm,18.8s,baz=118,slow=40						
KSRS	**Korea Array**	**10.84**	**274**	LR	LR	18 57 09.3	
	comp=Z,26nm,19.3s,baz=100,slow=36						
JOW	**Kunigami**	**15.46**	**230**	LR	LR	19 00 08.8	
	comp=Z,14nm,21.2s,baz=324,slow=37						
YAK	**Yakutsk**	**25.64**	**347**	P	**P**	**18 56 09.6**	**0.0**
	5.7nm,0.5s,baz=188,slow=2.5,SNR=5.6						
SEY	**Seymchan**	**26.31**	**11**	P	**P**	**18 56 16.4**	**+0.8**
	0.4nm,0.5s,baz=208,slow=15,SNR=2.9						
SONM	**Songino Array**	**27.62**	**303**	P	**P**	**18 56 27.4**	**-0.4**
	1.0nm,0.6s,baz=103,slow=8.5,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**28.29**	**122**	T	T	19 26 48.5	
	baz=314,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hy**	**28.30**	**122**	T	T	19 26 52.8	
	baz=314,slow=75,SNR=71						
H11N3	**WAKE ISLAND Hy**	**28.31**	**122**	T	T	19 26 51.7	
	baz=314,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**29.02**	**124**	T	T	19 27 43.7	
	baz=316,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hy**	**29.02**	**124**	T	T	19 27 43.4	
	baz=316,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.04**	**124**	T	T	19 27 46.0	
	baz=316,slow=75,SNR=27						
TIXI	**Tiksi**	**34.84**	**353**	P	**P**	**18 57 29.7**	**-1.1**
	1.0nm,0.3s,baz=126,slow=1.9,SNR=8.4						
ZALV	**Zalesovo Beam**	**41.69**	**312**	P	**P**	**18 58 28.1**	**-0.5**
	0.6nm,0.4s,baz=79,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**43.97**	**302**	P	**P**	**18 58 47.0**	**-0.2**
	0.6nm,0.7s,baz=82,slow=10,SNR=9.3						
KURBB	**Kurchatov Arra**	**45.80**	**308**	P	**P**	**18 59 01.3**	**-0.4**
	1.8nm,0.7s,baz=83,slow=8.1,SNR=17						
ILAR	**Eielson Array**	**49.04**	**33**	P	**P**	**18 59 26.2**	**-0.4**
	0.3nm,0.7s,baz=260,slow=5.3,SNR=3.9						
BVAR	**Borovoye Array**	**50.34**	**312**	P	**P**	**18 59 36.4**	**-0.4**
	0.3nm,0.4s,baz=90,slow=5.9,SNR=4.2						
WRA	**Warramunga Arr**	**57.54**	**188**	P	**P**	**19 00 29.3**	**-0.2**
	0.2nm,0.4s,baz=5.9,slow=7.0,SNR=14						
AKTO	**Aktyubinsk**	**58.45**	**312**	P	**P**	**19 00 35.1**	**-0.5**
	0.9nm,0.7s,baz=84,slow=13,SNR=3.8						
YKA	**Yellowknife Ar**	**63.35**	**30**	P	**P**	**19 01 09.7**	**+1.0**
	0.1nm,0.3s,baz=305,slow=6.9,SNR=5.6						
FINES	**FINESS Array B**	**68.45**	**332**	P	**P**	**19 01 41.5**	**-0.1**
	3.1nm,1.0s,baz=36,slow=12,SNR=3.5						
NOA	**NORSAR Array B**	**73.80**	**337**	P	**P**	**19 02 14.0**	**0.0**
	0.4nm,0.6s,baz=40,slow=7.6,SNR=2.5						
AKASG	**Malin Array Be**	**74.00**	**322**	P	**P**	**19 02 14.9**	**-0.3**
	0.6nm,0.4s,baz=45,slow=5.5,SNR=4.0						

ISCJB ***31*** *18:55:01.5±0.6,14°.23N±0°.04×92°.50W±0°.03,h49km±4km, mb4.5/80,MS3.5/10, Error ellipse: s-maj=7.8km s-min=3.4km az=36.7*
CASC ***31*** *18:55:01.1±0.9,14°.37N×92°.55W,h35km±999km,ML4.1, mb4.4(NEIC)*
NEIC ***31*** *18:55:03.2±0.5,14°.26N×92°.37W,h53km±3km,mb4.4/79, MD4.3(MEX),Error ellipse: s-maj=8.2km s-min=4.4km az=213.0*
MEX ***31*** *18:55:04.0±0.7,14°.32N×92°.75W,h36km±27km,MD4.3*
IDC ***31*** *18:55:07.4±2.4,14°.43N×92°.24W,h84km±19km,mb3.9/19, mb1 4.1/21,mb1mx3.9/47,mbtmp4.2/21,MS3.4/12, Ms1 3.4/12,ms1mx3.2/44,Error ellipse: s-maj=27.9km s-min=11.7km az=43.0*
ISC 31 18:55:01.7±0.8,14°.19N±0°.05×92°.58W±0°.04,h45km±6km, n256,σ1ᵗ70/266,mb4.5/80,MS3.5/10,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**23**	*e*P	**Pn**	**18 55 16.0**	**-0.3**
THIG				*e*S	**Sn**	**18 55 25.7**	**-1.3**
THIG		**0.78**	**23**	*e*Pn	**Pn**	**18 55 16.1**	**-0.3**
THIG				*e*Sn	**Sn**	**18 55 25.7**	**-1.3**
PCIG		**1.63**	**338**	*e*P	**Pn**	**18 55 26.6**	**-1.4**
PCIG				*e*S	**Sn**	**18 55 42.3**	**-5.4**
PCIG		**1.63**	**338**	*e*Sn	**Sn**	**18 55 42.3**	**-5.4**
IXG	**Ixpaco**	**2.07**	**90**	*e*P	**Pn**	**18 55 33.4**	**-0.7**
CCIG	**Comitan**	**2.13**	**12**	*e*P	**Pn**	**18 55 35.0**	**+0.1**
CCIG				*e*S	**Sn**	**18 55 57.9**	**-2.4**
CCIG	**Comitan**	**2.13**	**12**	*e*Pn	**Pn**	**18 55 37.9**	**+2.9**
CCIG				*e*Sn	**Sn**	**18 55 57.9**	**-2.4**
APG	**El Apazote**	**2.21**	**68**	P	**Pn**	**18 55 37.9**	**+1.8**
	114nm,0.3s,baz=203,slow=15,SNR=566						
APG				S	**Sn**	**18 56 08.2**	**+5.9**
	99nm,0.3s,baz=4.7,slow=17,SNR=4.0						
TGIG		**2.63**	**349**	*e*P	**Pn**	**18 55 39.9**	**-1.9**
TGIG				*i* S	**Sn**	**18 56 09.3**	**-3.1**
TGIG		**2.63**	**349**	*e*Pn	**Pn**	**18 55 42.8**	**+1.1**
SBLS	**San Blas**	**2.90**	**97**	*e*P	**Pn**	**18 55 44.7**	**-0.8**
SNJE	**San Jose**	**2.91**	**96**	*e*P	**Pn**	**18 55 45.4**	**-0.3**
SNJE				*e*S	**Sn**	**18 56 20.3**	**+0.8**
COLS	**Colinas**	**3.23**	**99**	*e*P	**Pn**	**18 55 50.0**	**-0.1**
BOQS	**Boqueron**	**3.24**	**98**	*e*P	**Pn**	**18 55 49.8**	**-0.5**
BOQS				*e*S	**Sn**	**18 56 28.7**	**+0.9**
UEES	**San Salvador**	**3.28**	**98**	IAML		18 56 45.7	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**3.29**	**98**	*e*Pn	**Pn**	**18 55 50.6**	**-0.3**
SNET	**Serv Nac Est T**	**3.29**	**98**	IAML		18 56 41.4	
	comp=Z,794nm,0.2s						
LFU	**La Fuente**	**3.40**	**97**	*e*P	**Pn**	**18 55 52.4**	**+0.1**
LFRS	**El Faro**	**3.47**	**99**	*e*P	**Pn**	**18 55 53.4**	**+0.1**
LFRS				*e*S	**Sn**	**18 56 33.7**	**+0.5**
LBRS	**Las Brisas**	**3.47**	**97**	*e*P	**Pn**	**18 55 53.6**	**+0.3**
CMIG	**Matias Romero**	**3.64**	**323**	P	**Pn**	**18 55 54.8**	**-0.7**
	comp=Z,111nm,0.3s,baz=142,slow=11,SNR=69						
CMIG				S	**Sn**	**18 56 39.2**	**+1.9**
	comp=Z,40nm,0.3s,baz=75,slow=16,SNR=5.7						
HUIG	**Huatulco**	**3.75**	**295**	*e*P	**Pn**	**18 55 54.9**	**-2.2**
HUIG				*i* S	**Sn**	**18 56 34.9**	**-5.1**
HUIG	**Huatulco**	**3.75**	**295**	*e*Sn	**Sn**	**18 56 36.9**	**-3.2**
TECA	**Tecapa**	**4.02**	**99**	*e*P	**Pn**	**18 56 00.6**	**-0.4**
TECA				*e*S	**Sn**	**18 56 47.8**	**+0.8**
LCND	**La Ca˜–ada**	**4.64**	**100**	*e*P	**Pn**	**18 56 09.8**	**+0.5**
LCND				*e*S	**Sn**	**18 57 01.9**	**-0.1**
CNCH	**Conchagua**	**4.70**	**101**	*e*P	**Pn**	**18 56 10.8**	**+0.5**
TGUH	**Tegucigalpa,Un**	**5.15**	**91**	*e*Pn	**Pn**	**18 56 16.2**	**-0.2**
LVIG	**Laguna Verde**	**6.62**	**327**	*e*Pn	**Pn**	**18 56 35.0**	**-1.4**
LVIG				*e*Sn	**Sn**	**18 57 50.1**	**-0.4**
MYIG	**MØrida**	**7.26**	**22**	*e*Pn	**Pn**	**18 56 45.1**	**-0.1**
TEIG	**Tepich**	**7.28**	**34**	*e*Pn	**Pn**	**18 56 45.5**	**-0.1**
JTS	**JuntasAbangare**	**8.40**	**117**	P	**Pn**	**18 57 03.5**	**+2.4**
	comp=Z,1.5nm,0.3s,baz=24,slow=20,SNR=4.8						
JTS				S	**Sn**	**18 58 31.0**	**-3.6**
	baz=342,slow=19,SNR=1.1						
MOIG	**Morelia**	**9.88**	**305**	*e*Pn	**Pn**	**18 57 23.0**	**+1.6**
JRQG	**Juriquilla Cam**	**9.91**	**312**	*e*Pn	**Pn**	**18 57 25.4**	**+3.5**
FSCY	**Frank Sound, G**	**12.05**	**63**	*e*Pn	**Pn**	**18 57 47.3**	**-3.5**
LNIG	**Linares**	**12.47**	**330**	*e*Pn	Pn	18 58 01.3	+4.7
ZAIG	**Zacatecas**	**12.74**	**313**	*e*Pn	**Pn**	**18 57 59.2**	**-1.4**
HKT	**Hockley**	**15.97**	**350**	*e*Pn	**Pn**	**18 58 41.4**	**-1.9**
	comp=Z,28nm,1.9s						
JCT	**Junction City**	**17.52**	**339**	S	**S**	**19 02 21.3**	**-2.0**
	baz=156						
JCT	**Junction City**	**17.52**	**339**	*e*Pn	**P**	**18 59 03.9**	**+0.4**
	comp=Z,7.2nm,0.6s						
NATX	**Nacogdoches**	**17.59**	**354**	*e*Pn	**Pn**	**18 59 03.1**	**-0.5**
	comp=Z,16nm,0.9s						
HPIG		**17.61**	**318**	*e*Pn	**P**	**18 59 05.8**	**+1.1**
	comp=Z,6.9nm,0.9s						
349A	**Repton**	**17.79**	**15**	P	**P**	**18 59 07.5**	**+1.2**
	baz=197						
LTX	**Lajitas**	**18.23**	**328**	*e*P	**Pn**	**18 59 12.7**	**+1.1**
TX31	**Lajitas Ar. Si**	**18.23**	**328**	*e*P	**Pn**	**18 59 13.7**	**+2.1**
TXAR	**Lajitas Array**	**18.23**	**328**	P	**Pn**	**18 59 12.7**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=45						
TXAR				LR	LR	19 07 32.8	
	comp=Z,69nm,20.1s,baz=0.0,slow=41						
WHTX	**Lake Whitney,**	**18.27**	**347**	*e*P	**Pn**	**18 59 12.8**	**+0.8**
	comp=Z,10nm,0.8s						
249A	**Camden**	**18.40**	**15**	P	**Pn**	**18 59 15.6**	**+2.2**
	baz=196						
352A	**Blakely**	**18.59**	**21**	P	**Pn**	**18 59 16.5**	**+0.8**
	baz=203						
250A	**Grady**	**18.63**	**17**	P	**Pn**	**18 59 16.9**	**+0.6**
	baz=199						
147A	**Livingston**	**18.82**	**11**	P	**Pn**	**18 59 20.1**	**+1.6**
	baz=192						
Z41A	**Richland Creek**	**18.99**	**359**	P	**Pn**	**18 59 22.0**	**+1.5**
	baz=179						
251A	**Midway**	**18.99**	**19**	P	**Pn**	**18 59 21.5**	**+0.9**
	baz=201						
Z40A	**Long Farm, Mag**	**19.00**	**358**	P	**Pn**	**18 59 22.2**	**+1.5**
	baz=177						
149A	**Jones**	**19.07**	**15**	P	**Pn**	**18 59 22.2**	**+0.7**
	baz=197						
150A	**Eclectic**	**19.29**	**17**	P	**Pn**	**18 59 24.5**	**+0.4**
	baz=199						
Z47A	**Carrollton**	**19.37**	**11**	P	**Pn**	**18 59 25.9**	**+0.9**
	baz=193						
LPIG	**La Paz**	**19.41**	**303**	LR	LR	19 05 59.9	
	comp=Z,57nm,22.0s,baz=203,slow=33						
151A	**Opelika**	**19.42**	**19**	P	**Pn**	**18 59 25.5**	**-0.2**
	baz=201						
LRAL	**Lakeview Retre**	**19.44**	**14**	*e*P	**Pn**	**18 59 28.3**	**+2.3**
	comp=Z,57nm,1.8s						
ABTX	**Abilene, Hawle**	**19.45**	**342**	P	**Pn**	**18 59 27.4**	**+1.3**
	baz=158						
ABTX	**Abilene, Hawle**	**19.45**	**342**	*e*P	**P**	**18 59 25.6**	**+1.1**
	comp=Z,10.0nm,0.6s						
ROSC	**El Rosal**	**20.25**	**116**	P	Pn	18 59 35.0	-1.0
	comp=Z,8.7nm,0.5s,baz=351,slow=0.2,SNR=4.6						
ROSC	**El Rosal**	**20.25**	**116**	*e*P	**P**	**18 59 31.1**	**-2.7**
	comp=Z,11nm,0.7s						
X39A	**Fountain Ranch**	**20.28**	**356**	P	Pn	18 59 34.9	-1.0
	baz=175						
MIAR	**Mount Ida**	**20.29**	**358**	P	Pn	18 59 35.0	-1.0
	baz=177,SNR=5.1						
MIAR	**Mount Ida**	**20.29**	**358**	*e*P	**P**	**18 59 33.1**	**-0.5**
	comp=Z,18nm,0.9s						
PRAC	**Prado**	**20.32**	**119**	*e*P	**P**	**18 59 32.1**	**-2.2**
	comp=Z,13nm,0.5s						
OXF	**Oxford**	**20.44**	**8**	P	**P**	**18 59 36.1**	**+0.9**
	baz=188						
OXF	**Oxford**	**20.44**	**8**	*e*P	**P**	**18 59 35.9**	**+0.6**
	comp=Z,30nm,1.1s						
UALR	**University of**	**20.50**	**1**	*e*P	**P**	**18 59 36.0**	**+0.1**
	comp=Z,14nm,0.9s						
155A	**Kite**	**20.54**	**25**	P	**P**	**18 59 36.3**	**-0.1**
	baz=208						
GOGA	**Godfrey**	**20.86**	**22**	*e*P	**P**	**18 59 38.4**	**-1.4**
	comp=Z,33nm,1.8s						
RUSC	**La Rusia**	**20.88**	**111**	*e*P	**P**	**18 59 40.4**	**-0.3**
	comp=Z,5.8nm,1.0s						
GDL2	**Guadalupe Moun**	**20.91**	**331**	*e*P	**P**	**18 59 42.1**	**+1.5**
W40A	**Ferguson Farm,**	**20.92**	**359**	P	Pn	18 59 42.4	-1.0
	baz=178						
W39A	**Magazine**	**20.95**	**357**	P	**P**	**18 59 42.1**	**+1.3**
	baz=176						
MNTX	**Cornudas Mount**	**21.01**	**328**	P	**P**	**18 59 43.5**	**+2.0**
	baz=143,SNR=11						
MNTX	**Cornudas Mount**	**21.01**	**328**	*e*P	**P**	**18 59 42.8**	**+1.3**
	comp=Z,6.9nm,0.8s						
X49A	**Woodville**	**21.01**	**15**	P	**P**	**18 59 42.0**	**+0.5**
	baz=197						
PLAL	**Pickwick Lake**	**21.10**	**10**	*e*P	**P**	**18 59 41.7**	**-0.7**
	comp=Z,14nm,1.3s						
X50A	**Fort Payne**	**21.14**	**16**	P	**P**	**18 59 43.6**	**+0.7**
	baz=198						
WMOK	**Wichita Mounta**	**21.21**	**346**	P	**P**	**18 59 45.5**	**+1.9**
	baz=163						
WMOK	**Wichita Mounta**	**21.21**	**346**	*e*P	**P**	**18 59 44.5**	**+0.8**
	comp=Z,9.8nm,1.4s						
W48A	**Pulaski**	**21.47**	**13**	P	**P**	**18 59 47.0**	**+0.5**
	baz=195						
V41A	**Mountainview**	**21.51**	**1**	P	**P**	**18 59 47.9**	**+1.0**
	baz=181						
V40A	**Witts Springs**	**21.53**	**359**	P	**P**	**18 59 48.4**	**+1.3**
	baz=179						
V42A	**Cord**	**21.55**	**3**	P	**P**	**18 59 48.6**	**+1.3**
	baz=183						
V39A	**Pettigrew**	**21.58**	**358**	P	**P**	**18 59 49.1**	**+1.4**
	baz=177						
MSTX	**Muleshoe**	**21.75**	**337**	P	**P**	**18 59 51.3**	**+1.7**
	baz=152						
MSTX	**Muleshoe**	**21.75**	**337**	*e*P	**P**	**18 59 50.5**	**+1.0**
	comp=Z,8.9nm,0.8s						
TUL1	**Leonard**	**21.82**	**353**	P	**P**	**18 59 52.1**	**+1.9**
	baz=171						
TUL1	**Leonard**	**21.82**	**353**	*e*P	**P**	**18 59 50.5**	**+0.4**
	comp=Z,7.5nm,0.8s						
V47A	**Nunnelly**	**22.02**	**11**	P	**P**	**18 59 53.3**	**+1.0**
	baz=193						
U40A	**Yellville**	**22.08**	**359**	P	**P**	**18 59 54.1**	**+1.1**
	baz=179						
U42A	**Revenden**	**22.11**	**3**	P	**P**	**18 59 54.1**	**+1.0**
	baz=183						
U39A	**Green Forest**	**22.12**	**358**	P	**P**	**18 59 54.3**	**+1.0**
	baz=177						
SDV	**Santo Domingo**	**22.14**	**101**	P	**P**	**18 59 54.7**	**+0.8**
	comp=Z,7.0nm,0.7s,baz=326,slow=3.4,SNR=9.8						
SDV				LR	LR	19 10 37.6	
	comp=Z,78nm,18.4s,baz=250,slow=43						
SDV	**Santo Domingo**	**22.14**	**101**	*e*P	**P**	**18 59 50.1**	**-3.8**
	comp=Z,7.6nm,0.8s						
AMTX	**Amarillo**	**22.18**	**340**	P	**P**	**18 59 55.7**	**+1.5**
	baz=156						
AMTX	**Amarillo**	**22.18**	**340**	*e*P	**P**	**18 59 54.9**	**+0.8**
	comp=Z,21nm,0.8s						
WVT	**Waverly**	**22.26**	**10**	P	**P**	**18 59 55.6**	**+0.7**
	baz=192						
HSIG		**22.52**	**314**	*e*P	**P**	**18 59 59.5**	**+1.8**
	comp=Z,38nm,2.0s						
T39A	**Clever**	**22.75**	**358**	P	**P**	**19 00 00.8**	**+0.7**
	baz=178						
T41A	**Mountain View**	**22.77**	**2**	P	**P**	**19 00 01.1**	**+0.7**
	baz=182						
TKL	**Tuckaleechee C**	**22.80**	**19**	P	**P**	**19 00 00.5**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=199,slow=13,SNR=3.6						
TKL				LR	LR	19 10 20.6	
	comp=Z,84nm,20.3s,baz=205,slow=41						
TKL	**Tuckaleechee C**	**22.80**	**19**	*e*P	**P**	**19 00 01.1**	**+0.5**
	comp=Z,20nm,1.2s						
T38A	**Diamond**	**22.80**	**356**	P	**P**	**19 00 01.4**	**+0.7**
	baz=175						
121A	**Cookes Peak, D**	**22.93**	**325**	P	**P**	**19 00 04.6**	**+2.3**
	baz=139,SNR=13						
319A	**Douglas**	**22.96**	**321**	*e*P	**P**	**19 00 04.6**	**+2.1**
	comp=Z,9.9nm,0.8s						
T46A	**Princeton**	**23.14**	**10**	P	**P**	**19 00 04.7**	**+0.6**
	baz=191						
KMSC	**Kings Mountain**	**23.20**	**24**	P	**P**	**19 00 04.6**	**0.0**
	baz=208						
KMSC	**Kings Mountain**	**23.20**	**24**	*e*P	**P**	**19 00 04.3**	**-0.4**
	comp=Z,23nm,1.3s						
T47A	**Sharon Grove**	**23.23**	**11**	P	**P**	**19 00 05.2**	**+0.3**
	baz=193						
S40A	**Lebanon**	**23.32**	**0**	P	**P**	**19 00 06.5**	**+0.7**
	baz=180						
S38A	**Stockton**	**23.38**	**357**	P	**P**	**19 00 06.9**	**+0.5**
	baz=176,SNR=7.5						
S43A	**Fulton Ridge,**	**23.40**	**5**	P	**P**	**19 00 07.9**	**+1.3**
	baz=186						
S39A	**Bolivar**	**23.42**	**359**	P	**P**	**19 00 07.1**	**+0.4**
	baz=178,SNR=8.2						
BNM	**Barren Site**	**23.60**	**330**	*e*P	**P**	**19 00 09.1**	**+0.3**
SIUC	**Southern Illin**	**23.62**	**7**	*e*P	**P**	**19 00 08.6**	**-0.1**
	comp=Z,12nm,0.9s						
LPM	**Los Pinos Moun**	**23.73**	**330**	*e*P	**P**	**19 00 09.3**	**-0.6**
R38A	**Fenwick Farm,**	**23.93**	**357**	P	**P**	**19 00 12.6**	**+1.0**
	baz=176						
R40A	**Maddies Statio**	**24.01**	**1**	P	**P**	**19 00 13.0**	**+0.7**
	baz=180						
R39A	**Chumby, Stover**	**24.03**	**359**	P	**P**	**19 00 12.3**	**-0.2**
	baz=178						
R41A	**Rosebud**	**24.04**	**2**	P	**P**	**19 00 13.1**	**+0.6**
	baz=182						
ANMO	**Albuquerque**	**24.16**	**331**	P	**P**	**19 00 15.8**	**+1.8**
	comp=Z,3.7nm,0.6s,baz=338,slow=12,SNR=8.0						
ANMO	**Albuquerque**	**24.16**	**331**	P	**P**	**19 00 15.9**	**+2.0**
	baz=145						
ANMO	**Albuquerque**	**24.16**	**331**	*e*P	**P**	**19 00 15.3**	**+1.4**
	comp=Z,4.1nm,0.8s						
TUC	**Tucson**	**24.53**	**320**	P	**P**	**19 00 20.0**	**+2.8**
	baz=133						
TUC	**Tucson**	**24.53**	**320**	*e*P	**P**	**19 00 19.1**	**+2.0**
	comp=Z,5.5nm,1.0s						
WCI	**Wyandotte Cave**	**24.59**	**12**	P	**P**	**19 00 17.2**	**-0.3**
	baz=194						
WCI	**Wyandotte Cave**	**24.59**	**12**	*e*P	**P**	**19 00 16.2**	**-1.3**
	comp=

HVU	**Hansel Valley**	**32.59**	**331**	*e*P	**P**	**19 01 31.0**	**+1.9**
	comp=Z,12nm,1.4s						
REDW	**Red Top Meadow**	**33.03**	**335**	*e*P	**P**	**19 01 34.4**	**+1.4**
	comp=Z,15nm,0.9s						
SNOW	**Snow King Moun**	**33.08**	**335**	*e*P	**P**	**19 01 34.7**	**+1.2**
	comp=Z,24nm,0.7s						
LOHW	**Long Hollow**	**33.14**	**336**	*e*P	**P**	**19 01 35.5**	**+1.6**
	comp=Z,6.0nm,0.8s						
NV01	**Mina Array Sit**	**33.17**	**321**	*e*P	**P**	**19 01 35.3**	**+1.0**
NVAR	**Mina Array Bea**	**33.17**	**321**	P	**P**	**19 01 37.4**	**+3.1**
	comp=Z,3.3nm,0.6s,baz=132,slow=9.4,SNR=9.1						
NVAR				PcP	**PcP**	**19 04 16.4**	**0.0**
	comp=Z,0.5nm,0.3s,baz=112,slow=4.0,SNR=2.8						
NVAR				LR	LR	19 16 18.7	
	comp=Z,106nm,19.9s,baz=138,slow=38						
TPAW	**Teton Pass**	**33.18**	**335**	*e*P	**P**	**19 01 36.0**	**+1.6**
	comp=Z,16nm,1.1s						
MOOW	**Moose Ponds**	**33.31**	**336**	*e*P	**P**	**19 01 36.6**	**+1.1**
	comp=Z,7.2nm,1.1s						
FXWY	**Fox Creek**	**33.33**	**335**	*e*P	**P**	**19 01 37.4**	**+1.8**
	comp=Z,3.6nm,0.9s						
IMW	**Indian Meadow**	**33.51**	**336**	*e*P	**P**	**19 01 38.1**	**+0.9**
	comp=Z,3.4nm,0.6s						
BBGB	**Big Mountain B**	**33.81**	**316**	*e*P	**P**	**19 01 43.6**	**+3.9**
YMR	**Madison River**	**34.17**	**336**	*e*P	**P**	**19 01 45.0**	**+2.1**
	comp=Z,9.5nm,0.9s						
YHH	**Holmes Hill**	**34.23**	**337**	*e*P	**P**	**19 01 46.0**	**+2.5**
	comp=Z,3.3nm,1.0s						
B32A	**Ashes, Strandq**	**34.27**	**355**	P	**P**	**19 01 43.7**	**+0.3**
	baz=173						
GCMT	**Greycliff**	**34.65**	**339**	*e*P	**P**	**19 01 47.4**	**+0.5**
A33A	**Warroad**	**34.73**	**357**	P	**P**	**19 01 47.6**	**+0.3**
	baz=175						
HLID	**Hailey**	**34.74**	**332**	P	**P**	**19 01 49.4**	**+1.7**
	baz=140						
HLID	**Hailey**	**34.74**	**332**	*e*P	**P**	**19 01 49.0**	**+1.3**
	comp=Z,4.8nm,0.9s						
MCMT	**McKenzie Canyo**	**35.06**	**335**	*e*P	**P**	**19 01 53.1**	**+2.5**
DLMT	**Dillon**	**35.39**	**335**	*e*P	**P**	**19 01 55.3**	**+2.0**
	comp=Z,9.2nm,0.9s						
LRM	**Limekiln Ridge**	**35.71**	**336**	*e*P	**P**	**19 01 58.1**	**+1.9**
ULM	**Lac du Bonnet**	**36.06**	**356**	P	**P**	**19 01 58.0**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=170,slow=10,SNR=4.4						
ULM				LR	LR	19 19 36.8	
	comp=Z,41nm,18.4s,baz=94,slow=41						
J08A	**Circle Bar Ran**	**36.58**	**328**	*e*P	**P**	**19 02 04.8**	**+1.3**
	comp=Z,31nm,1.6s						
EGMT	**Eagleton**	**36.62**	**341**	P	**P**	**19 02 04.8**	**+1.1**
	baz=151						
EGMT	**Eagleton**	**36.62**	**341**	*e*P	**P**	**19 02 04.6**	**+0.9**
	comp=Z,10.0nm,1.4s						
MSO	**Missoula**	**37.13**	**336**	P	**P**	**19 02 09.5**	**+1.4**
	baz=144						
MSO	**Missoula**	**37.13**	**336**	*e*P	**P**	**19 02 08.9**	**+0.8**
	comp=Z,3.8nm,0.8s						
KCPM	**Cahto Peak**	**37.21**	**319**	*e*P	**P**	**19 02 10.9**	**+2.0**
	comp=Z,121nm,1.4s						
YBH	**Yreka Blue Hor**	**37.87**	**322**	P	**P**	**19 02 14.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=135,slow=7.1,SNR=3.7						
YBH				LR	LR	19 17 58.9	
	comp=Z,87nm,18.0s,baz=162,slow=36						
F10A	**Beach Ranch, E**	**37.88**	**332**	*e*P	**P**	**19 02 15.3**	**+0.9**
	comp=Z,16nm,0.9s						
JTMT	**Jette**	**38.01**	**336**	*e*P	**P**	**19 02 15.9**	**+0.4**
	comp=Z,16nm,1.5s						
LPAZ	**La Paz**	**38.74**	**141**	LR	LR	19 17 06.1	
	comp=Z,46nm,21.6s,baz=328,slow=34						
TCBU	**Trout Butte**	**39.42**	**325**	*e*PcP	**PcP**	**19 04 34.9**	**0.0**
LTY	**Liberty**	**40.43**	**330**	*e*P	**P**	**19 02 39.8**	**+4.1**
	comp=Z,15nm,0.6s						
LTY				*e*S	**S**	**19 08 43.0**	**+2.0**
STD	**Studebaker Rid**	**40.50**	**328**	*e*P	**P**	**19 02 38.5**	**+2.2**
LON	**Longmire**	**40.64**	**329**	*e*P	**P**	**19 02 39.4**	**+2.0**
	comp=Z,34nm,1.8s						
FFC	**Flin Flon**	**41.11**	**352**	*e*P	**P**	**19 02 40.8**	**-0.3**
	comp=Z,20nm,1.9s						
SIV	**San Ignacio**	**43.23**	**133**	P	**P**	**19 02 58.7**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=312,slow=9.6,SNR=23						
SCHQ	**Schefferville**	**45.25**	**21**	P	**P**	**19 03 12.3**	**-2.2**
	comp=Z,5.4nm,1.0s,baz=236,slow=4.2,SNR=4.1						
SCHQ				LR	LR	19 23 14.2	
	comp=Z,77nm,18.8s,baz=4.5,slow=38						
SCHQ	**Schefferville**	**45.25**	**21**	*e*P	**P**	**19 03 12.8**	**-1.7**
	comp=Z,24nm,1.3s						
YKA	**Yellowknife Ar**	**50.72**	**347**	P	**P**	**19 03 57.4**	**+0.8**
	comp=Z,8.0nm,0.6s,baz=150,slow=7.5,SNR=189						
YKA				PcP	**PcP**	**19 05 14.0**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=149,slow=3.6,SNR=5.1						
YKB5	**Yellowknife Ar**	**50.72**	**347**	*e*P	**P**	**19 03 57.0**	**+0.4**
YKB5				*e*PcP	**PcP**	**19 05 13.8**	**+0.6**
DLBC	**Dease Lake**	**52.25**	**336**	*e*P	**P**	**19 04 11.2**	**+2.9**
	comp=Z,8.7nm,1.0s						
CPUP	**Villa Florida**	**52.89**	**139**	LR	LR	19 26 15.7	
	comp=Z,42nm,18.8s,baz=294,slow=35						
INK	**Inuvik**	**60.10**	**344**	*e*P	**P**	**19 05 04.3**	**+0.3**
	comp=Z,25nm,1.6s						
KLU	**Klutina**	**60.56**	**334**	*e*P	**P**	**19 05 09.3**	**+1.9**
	comp=Z,45nm,2.0s						
DOT	**Dot Lake**	**60.82**	**336**	*e*P	**P**	**19 05 10.2**	**+1.1**
	comp=Z,11nm,0.9s						
PAX	**Paxson**	**61.05**	**335**	*e*P	**P**	**19 05 11.3**	**+0.6**
	comp=Z,4.7nm,0.8s						
IL1	**Eielson Array**	**62.45**	**337**	*e*P	**P**	**19 05 20.9**	**+1.0**
ILAR	**Eielson Array**	**62.45**	**337**	P	**P**	**19 05 21.1**	**+1.2**
	comp=Z,3.5nm,1.0s,baz=133,slow=4.7,SNR=25						
ILB	**Eielson Array**	**62.45**	**337**	*e*P	**P**	**19 05 20.8**	**+0.8**
RND	**Reindeer**	**62.62**	**335**	*e*P	**P**	**19 05 22.2**	**+1.0**
	comp=Z,27nm,1.5s						
TRF	**Thorofare Moun**	**63.23**	**335**	*e*P	**P**	**19 05 26.5**	**+1.1**
	comp=Z,8.4nm,1.0s						
BPAW	**Bear Paw Mtn.**	**63.77**	**335**	*e*P	**P**	**19 05 29.7**	**+0.9**
	comp=Z,17nm,1.7s						
MLY	**Manley**	**64.04**	**336**	*e*P	**P**	**19 05 31.6**	**+1.0**
	comp=Z,16nm,1.4s						
EKA	**Eskdalemuir Ar**	**78.14**	**36**	P	**P**	**19 06 54.4**	**-1.7**
	comp=Z,1.9nm,0.5s,baz=274,slow=5.7,SNR=18						
SPITS	**Spitsbergen Ar**	**80.02**	**11**	LR	LR	19 46 11.2	
	comp=Z,65nm,18.5s,baz=225,slow=38						
ESDC	**Sonseca Array**	**80.05**	**52**	P	**P**	**19 07 05.2**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=284,slow=6.7,SNR=6.4						
ES19	**SONSECA Array**	**80.09**	**52**	*e*P	**P**	**19 07 05.0**	**-2.1**
KOWA	**Kowa**	**85.18**	**76**	P	**P**	**19 07 34.0**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=277,slow=8.1,SNR=3.9						
HFS	**Hagfors**	**85.77**	**29**	LR	LR	19 43 30.2	
	comp=Z,17nm,21.6s,baz=264,slow=34						
DBIC	**Dimbokro**	**86.20**	**84**	P	**P**	**19 07 39.2**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=243,slow=7.0,SNR=5.3						
DBIC	**Dimbokro**	**86.20**	**84**	*e*P	**P**	**19 07 39.2**	**+0.2**
	comp=Z,48nm,1.8s						
SEY	**Seymchan**	**88.35**	**336**	P	**P**	**19 07 49.6**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=44,slow=5.9,SNR=8.4						
TIXI	**Tiksi**	**89.96**	**348**	*e*P	**P**	**19 07 55.5**	**-0.3**
	comp=Z,3.3nm,0.7s						
FIA0	**FINESS Array S**	**90.57**	**25**	*e*P	**P**	**19 07 57.3**	**-1.5**
FINES	**FINESS Array B**	**90.57**	**25**	P	**P**	**19 07 57.3**	**-1.5**
	comp=Z,2.0nm,0.9s,baz=309,slow=8.8,SNR=2.8						
TOA1	**Torodi Ar. Sit**	**90.88**	**76**	*e*P	**P**	**19 08 00.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**90.89**	**76**	P	**P**	**19 08 00.1**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=296,slow=6.0,SNR=3.0						
KURK	**Kurchatov**	**114.92**	**6**	*e*PKiKP	PKPdf	19 13 40.0	+2.3
KURBB	**Kurchatov Arra**	**115.00**	**6**	PKP	PKPdf	19 13 40.0	+2.2
	comp=Z,0.3nm,0.4s,baz=349,slow=1.7,SNR=4.8						
SONA0	**Songino Array**	**115.97**	**346**	*e*PKPdf	**PKPdf**	**19 13 41.6**	**+1.7**
SONM	**Songino Array**	**115.97**	**346**	PKP	**PKPdf**	**19 13 41.6**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=14,slow=0.8,SNR=3.4						
MK32	**Makanchi Array**	**119.13**	**4**	*e*PKPdf	**PKPdf**	**19 13 48.1**	**+2.2**
MKAR	**Makanchi Array**	**119.13**	**4**	PKP	**PKPdf**	**19 13 48.2**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=337,slow=2.7,SNR=4.2						
LZH	**Lanzhou**	**127.64**	**343**	*e*PKP	**PKPdf**	**19 13 57.0**	**-5.7**
LZH				pPKP	PKiKP	19 14 07.5	+4.2
LZH				sPKP		19 14 11.5	
WR1	**Warramunga Arr**	**134.89**	**256**	*e*PKPdf	**PKPdf**	**19 14 17.4**	**+0.8**
WRA	**Warramunga Arr**	**134.89**	**256**	PKP	**PKPdf**	**19 14 17.4**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=91,slow=2.7,SNR=6.4						
ASAR	**Alice Springs**	**135.19**	**251**	PKP	**PKPdf**	**19 14 16.9**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=69,slow=1.4,SNR=4.0						
CM31	**Chiang Mai Arr**	**145.63**	**340**	*e*PKPdf	**PKPdf**	**19 14 36.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**145.63**	**340**	PKPbc	**PKPdf**	**19 14 37.0**	**+0.9**
	comp=Z,4.0nm,0.8s,baz=337,slow=3.6,SNR=26						

MAN 31 18:55:32, 10.21°N × 123.27°E, h9 km, mb 3.6, ML 2.3, MS 1.8, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.69**	**81**	*e*P	Pg	18 55 45.5	+0.2
LLP				*e*S	Sg	18 55 55.0	+0.6
GUIM	**Jordan**	**0.79**	**302**	*e*P	Pn	18 55 48.9	-0.4
GUIM				*e*S	Sn	18 56 00.5	-0.8
MSLP	**Maasin**	**1.56**	**93**	*e*P	Pb	18 56 00.8	-0.3
MSLP				*e*S	Sg	18 56 22.4	+0.1
IPIL	**Ipil**	**2.50**	**196**	*e*P	Pb	18 56 15.9	-1.2
IPIL				*e*S	Sn	18 56 45.1	+1.5

*DDA **31** 18:55:31.8, 39.01°N × 43.90°E, h6 km, Ml 2.9*
*NSSP **31** 18:55:31.4, 38.97°N × 43.97°E, h5 km, Ms 3.0*
*ISK **31** 18:55:31.5, 39.05°N × 43.83°E, h5 km, ML 2.9/5*
*CSEM **31** 18:55:32.7 ± 0.3, 39.05°N × 43.84°E, h2 km, ML 2.9, Error ellipse: s-maj=7.6km s-min=4.8km az=110.0*
*ATA **31** 18:55:32.6 ± 0.9, 39.03°N × 43.82°E, h12 km ± 19 km, ML 3.2, MW 3.5*

ISC 31 18:55:32.8 ± 1.1, 39.06°N ± 0.02° × 43.84°E ± 0.03°, h2 km ± 10 km, n 50, σ 1.958/63, 3C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.10**	**38**	PG	**Pg**	**18 55 34.2**	**-0.7**
CLDR				SG	**Sg**	**18 55 36.5**	**+0.2**
CLDR	**Caldiran**	**0.10**	**38**	*i* P	**Pg**	**18 55 34.4**	**-0.5**
CLDR	**Caldiran**	**0.10**	**38**	P	**Pg**	**18 55 34.4**	**-0.5**
CLDR				*e*Sg	**Sg**	**18 55 36.5**	**+0.2**
VMUR	**Van-Muradiye**	**0.22**	**251**	*i* P	**Pg**	**18 55 36.5**	**-0.5**
VMUR				*i* S	**Sg**	**18 55 41.0**	**+1.2**
VMUR	**Van-Muradiye**	**0.22**	**251**	P	**Pg**	**18 55 36.5**	**-0.5**
VMUR				S	**Sg**	**18 55 41.0**	**+1.2**
DYDN	**Diyadin**	**0.49**	**347**	*e*P	**Pb**	**18 55 43.3**	**-1.0**
DYDN	**Diyadin**	**0.49**	**347**	*i* P	**Pb**	**18 55 43.1**	**-1.2**
DYDN				*i* S	**Sb**	**18 55 51.5**	**-0.6**
DYDN	**Diyadin**	**0.49**	**347**	P	**Pb**	**18 55 43.1**	**-1.2**
DYDN				S	**Sb**	**18 55 51.5**	**-0.6**
VANB	**Van**	**0.58**	**217**	PG	**Pb**	**18 55 44.9**	**-0.8**
VANB				SG	**Sn**	**18 55 54.9**	**-3.4**
VANB	**Van**	**0.58**	**217**	*e*Pg	**Pb**	**18 55 44.9**	**-0.8**
TVAN	**Van**	**0.63**	**212**	*i* P	**Pb**	**18 55 44.5**	**-2.1**
TVAN	**Van**	**0.63**	**212**	P	**Pb**	**18 55 44.5**	**-2.1**
IGDI	**IGDIR**	**0.83**	**13**	*e*P	**Pb**	**18 55 49.1**	**-0.8**
IGDI				IAML		18 56 09.9	
	comp=Z,34nm,0.6s						
IGDI	**IGDIR**	**0.83**	**13**	*i* P	**Pb**	**18 55 48.4**	**-1.5**
IGDI				*i* S	**Sn**	**18 56 05.3**	**+1.0**
AGRB	**Hanur-Agry**	**0.83**	**308**	PG	**Pb**	**18 55 48.7**	**-1.3**
AGRB	**Hanur-Agry**	**0.83**	**308**	*e*Pg	**Pb**	**18 55 48.7**	**-1.3**
TUTA	**Tutak**	**0.86**	**294**	*e*P	**Pb**	**18 55 49.1**	**-1.4**
TUTA				IAML		18 56 04.5	
	comp=Z,67nm,0.5s						
TUTA	**Tutak**	**0.86**	**294**	*i* P	**Pb**	**18 55 49.7**	**-0.9**
TUTA	**Tutak**	**0.86**	**294**	P	**Pb**	**18 55 49.7**	**-0.9**
GEVA	**Gevas**	**0.96**	**219**	*e*P	**Pb**	**18 55 50.9**	**-1.3**
GEVA				IAML		18 56 13.2	
	comp=Z,38nm,0.7s						
TASB	**TASBURUN-IGDIR**	**0.97**	**19**	PG	**Pb**	**18 55 51.6**	**-0.8**
TASB	**TASBURUN-IGDIR**	**0.97**	**19**	*e*Pg	**Pb**	**18 55 51.6**	**-0.8**
GNI	**Garni**	**1.29**	**33**	*i*P	**Pb**	**18 55 57.4**	**-0.6**
GNI				*i*S	**Sn**	**18 56 15.3**	**-0.6**
GNI	**Garni**	**1.29**	**33**	P	**Pb**	**18 55 57.3**	**-0.6**
GNI				S	**Sn**	**18 56 15.3**	**-0.6**
EATA	**Eleskirt**	**1.31**	**308**	*e*P	**Pb**	**18 55 58.9**	**+0.6**
EKAR	**Karacoban**	**1.39**	**279**	*e*P	**Pg**	**18 55 59.1**	**-0.3**
EKAR				IAML		18 56 55.4	
	comp=Z,15nm,0.6s						
EKAR	**Karacoban**	**1.39**	**279**	*i* P	**Pg**	**18 56 00.1**	**+0.7**
EKAR				*i* S	**Sn**	**18 56 24.7**	**+6.3**
EKAR	**Karacoban**	**1.39**	**279**	P	**Pg**	**18 56 00.1**	**+0.7**
DIGO	**Kars**	**1.40**	**345**	*e*P	**Pg**	**18 56 00.3**	**+0.8**
GURO	**Guroymak-BITLI**	**1.50**	**251**	PN	**Pg**	**18 56 00.4**	**-1.1**
GURO	**Guroymak-BITLI**	**1.50**	**251**	*e*Pn	**Pg**	**18 56 00.4**	**-1.1**
HAKT	**HAKKARI**	**1.50**	**184**	*i* P	**Pg**	**18 56 02.7**	**+1.1**
HAKT	**HAKKARI**	**1.50**	**184**	P	**Pg**	**18 56 02.7**	**+1.1**
YOVA	**Hakkari_Y`…kse**	**1.52**	**166**	*i* P	**Pb**	**18 56 00.1**	**-1.6**
YOVA				*i* S	**Sg**	**18 56 24.7**	**+3.3**
YOVA	**Hakkari_Y`…kse**	**1.52**	**166**	P	**Pb**	**18 56 00.1**	**-1.6**
YOVA				S	**Sg**	**18 56 24.7**	**+3.3**
EAK	**Akyaka**	**1.63**	**354**	*e*P	**Pg**	**18 56 05.5**	**+1.4**
HOMI	**Horasan**	**1.79**	**304**	*e*P	**Pg**	**18 56 06.5**	**-0.4**
VRTB	**Varto-Mus**	**1.85**	**274**	PN	**Pb**	**18 56 06.0**	**-1.4**
VRTB	**Varto-Mus**	**1.85**	**274**	*e*Pn	**Pb**	**18 56 06.0**	**-1.4**
SENK	**Senkaya-Erzuru**	**1.89**	**323**	PN	**Pb**	**18 56 06.2**	**-1.8**
SENK	**Senkaya-Erzuru**	**1.89**	**323**	*e*Pn	**Pb**	**18 56 06.2**	**-1.8**
SIRT	**Sirnak**	**1.91**	**216**	PN	**Pb**	**18 56 06.4**	**-1.9**
SIRT	**Sirnak**	**1.91**	**216**	*e*Pn	**Pb**	**18 56 06.4**	**-1.9**
ERZM	**Erzurum**	**2.09**	**295**	*e*P	**Pb**	**18 56 09.8**	**-1.7**
ECAT	**Cat-ERZURUM**	**2.28**	**285**	*e*P	**Pb**	**18 56 14.1**	**-0.7**
BNGB	**Bing¶ll**	**2.46**	**269**	PN	**Pn**	**18 56 13.9**	**0.0**
BINT	**Bingol**	**2.61**	**267**	*e*Pn	**Pn**	**18 56 13.9**	**-2.2**
KOPT	**Kop Dagi**	**2.75**	**291**	*e*P	**Pg**	**18 56 25.2**	**-0.3**
PTK	**Pertek**	**3.47**	**269**	PN	**Pn**	**18 56 28.8**	**+0.9**
PTK	**Pertek**	**3.47**	**269**	*e*Pn	**Pn**	**18 56 28.8**	**+0.9**

*IDC **31** 19:00:14.2 ± 0.9, 6.62°S × 153.31°E, h0 km, mb 4.0/13, mb 1 4.1/15, mb1mx4.0/44, mbtmp4.0/15, ML 1.6/1, MS 3.0/7, Ms 1 3.0/7, ms1mx2.8/42, Error ellipse: s-maj=31.1km s-min=17.4km az=119.0*
*NEIC **31** 19:00:16.2 ± 0.3, 6.53°S × 153.22°E, h10 km, mb 4.3/13, Error ellipse: s-maj=8.6km s-min=6.7km az=115.0*
*ISCJB **31** 19:00:17.3 ± 0.4, 6.54°S ± 0.05° × 153.20°E ± 0.06°, h29 km, mb 4.3/27, MS 3.0/6, Error ellipse: s-maj=9.9km s-min=6.6km az=29.2*

ISC 31 19:00:18.6 ± 0.5, 6.48°S ± 0.06° × 153.28°E ± 0.07°, h29 km, n 51, σ 1.941/50, mb 4.2/26, MS 3.0/6, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.54**	**334**	*e*Pn	**Pn**	**19 00 56.6**	**-1.3**
RABL				*e*Sn	**Sn**	**19 01 24.7**	**-3.1**
PMG	**Port Moresby**	**6.72**	**244**	Pn	**Pn**	**19 01 55.4**	**-0.1**
	0.8nm,0.3s,baz=81,slow=15,SNR=5.1						
PMG				Sn	**Sn**	**19 03 13.1**	**+2.0**
	6.5nm,0.3s,baz=180,slow=20,SNR=10.0						
PMG				LR	LR	19 04 07.1	
	comp=Z,102nm,20.7s,baz=56,slow=35						
PMG	**Port Moresby**	**6.72**	**244**	*e*Pn	**Pn**	**19 01 55.4**	**-0.1**
PMG				*e*Sn	**Sn**	**19 03 09.5**	**-1.6**
HNR	**Honiara**	**7.22**	**114**	*e*Pn	**Pn**	**19 02 01.0**	**-1.3**
DZM	**Mont Dzumac**	**20.04**	**142**	Pn	**Pn**	**19 04 49.7**	**-1.8**
	0.1nm,0.3s,baz=75,slow=20,SNR=2.7						
DZM				LR	LR	19 11 16.9	
	comp=Z,57nm,19.0s,baz=5.0,slow=33						
DZM	**Mont Dzumac**	**20.04**	**142**	*e*P	**Pn**	**19 04 50.0**	**-1.4**
	15nm,1.3s						
FAKI	**Fak Fak**	**21.26**	**279**	*e*P	**P**	**19 05 02.6**	**-0.2**
	18nm,1.1s						
GUMO	**Guam**	**21.62**	**337**	LR	LR	19 13 04.7	
	comp=Z,26nm,19.6s,baz=168,slow=35						
MTN	**Manton Dam**	**22.72**	**252**	*e*P	**P**	**19 05 15.9**	**-2.5**
	12nm,1.0s						
WRAB	**Tennant Creek**	**22.73**	**232**	*e*P	**P**	**19 05 17.5**	**-1.0**
	16nm,1.5s						
WB2	**Warramunga Arr**	**22.74**	**232**	*e*P	**P**	**19 05 15.5**	**-3.1**
	4.7nm,0.9s						
WR1	**Warramunga Arr**	**22.75**	**232**	*e*P	**P**	**19 05 17.7**	**-1.0**
	14nm,1.5s						
WRA	**Warramunga Arr**	**22.75**	**232**	P	**P**	**19 05 17.7**	**-1.0**
	1.8nm,0.6s,baz=54,slow=10,SNR=21						
AS01	**Alice Springs**	**25.24**	**225**	*e*P	**P**	**19 05 42.3**	**0.0**
AS31	**Alice Springs**	**25.27**	**225**	*e*P	**P**	**19 05 43.4**	**+0.7**
	3.4nm,1.2s						
ASAR	**Alice Springs**	**25.28**	**225**	P	**P**	**19 05 42.2**	**-0.5**
	3.3nm,0.7s,baz=57,slow=9.2,SNR=36						
STKA	**Stephens Creek**	**27.52**	**202**	P	**P**	**19 06 00.4**	**-2.4**
	2.7nm,0.9s,baz=37,slow=7.3,SNR=3.0						
STKA				LR	LR	19 16 50.2	
	comp=Z,81nm,18.8s,baz=21,slow=36						
STKA	**Stephens Creek**	**27.52**	**202**	*e*P	**P**	**19 06 04.1**	**+1.3**
	3.0nm,1.6s						
FORT	**Forrest**	**33.82**	**221**	*e*P	**P**	**19 06 57.9**	**-0.5**
	306nm,0.8s						
JOW	**Kunigami**	**41.04**	**325**	*e*P	**P**	**19 07 58.8**	**-0.8**
	104nm,1.3s						
PYZ	**Puysegur Point**	**41.20**	**166**	*e*P	**P**	**19 08 01.6**	**+1.0**
	58nm,1.2s						
KSM	**Kuching**	**43.62**	**279**	*e*P	**P**	**19 08 22.1**	**+1.2**
	11nm,1.2s						
MJAR	**Matsushiro Arr**	**45.07**	**343**	LR	LR	19 26 44.7	
	comp=Z,9.4nm,20.3s,baz=60,slow=35						
ERM	**Erimo**	**49.15**	**350**	*e*P	**P**	**19 09 02.7**	**-1.0**
	209nm,1.6s						

CMAR	**Chiang Mai Arr**	**59.03**	**296**	P	**P**	**19 10 16.5**	**+0.2**
	0.4nm,0.7s,baz=116,slow=5.7,SNR=4.2						
PEA0B	**Petropavlovsk-**	**59.48**	**3**	*e*P	**P**	**19 10 20.9**	**+2.0**
	218nm,1.8s						
PETK	**Petropavlovsk-**	**59.48**	**3**	P	**P**	**19 10 20.4**	**+1.5**
	3.5nm,1.0s,baz=173,slow=7.1,SNR=4.6						
PETK				LR	LR	19 31 40.5	
	comp=Z,13nm,20.0s,baz=250,slow=32						
PETK	**Petropavlovsk-**	**59.48**	**3**	*e*P	**P**	**19 10 20.7**	**+1.9**
PEA1	**Petropavlovsk-**	**59.49**	**3**	*e*P	**P**	**19 10 20.4**	**+1.5**
SONA0	**Songino Array**	**68.00**	**328**	*e*P	**P**	**19 11 17.1**	**+1.8**
SONM	**Songino Array**	**68.00**	**328**	P	**P**	**19 11 17.1**	**+1.8**
	1.3nm,0.6s,baz=148,slow=5.0,SNR=12						
SONA1	**Songino Array**	**68.00**	**328**	*e*P	**P**	**19 11 16.9**	**+1.6**
CAST	**Castle Rocks**	**80.88**	**22**	*e*P	**P**	**19 12 31.7**	**+2.0**
	4.4nm,1.0s						
MK32	**Makanchi Array**	**81.90**	**319**	*e*P	**P**	**19 12 36.2**	**+0.7**
MKAR	**Makanchi Array**	**81.90**	**319**	P	**P**	**19 12 36.2**	**+0.7**
	0.2nm,0.5s,baz=96,slow=7.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**82.81**	**326**	P	**P**	**19 12 40.0**	**-0.1**
	0.9nm,0.6s,baz=140,slow=3.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**82.81**	**326**	*e*P	**P**	**19 12 39.5**	**-0.5**
ZAA1	**Zalesovo Array**	**82.81**	**326**	*e*P	**P**	**19 12 40.0**	**-0.1**
ILAR	**Eielson Array**	**83.53**	**22**	P	**P**	**19 12 44.0**	**+0.5**
	1.0nm,0.6s,baz=244,slow=5.0,SNR=15						
ILB	**Eielson Array**	**83.53**	**22**	*e*P	**P**	**19 12 43.4**	**-0.1**
KDJ	**Kajisay**	**84.11**	**313**	*e*P	**P**	**19 12 48.8**	**+1.5**
	3.0nm,1.2s						
KURK	**Kurchatov**	**85.38**	**322**	*e*P	**P**	**19 12 53.4**	**+0.2**
KURBB	**Kurchatov Arra**	**85.41**	**322**	P	**P**	**19 12 53.4**	**+0.1**
	0.7nm,0.8s,baz=113,slow=3.8,SNR=6.7						
BVAR	**Borovoye Array**	**90.87**	**323**	P	**P**	**19 13 19.5**	**+0.1**
	0.9nm,0.7s,baz=69,slow=7.9,SNR=6.9						
SYO	**Syowa Base**	**92.25**	**199**	*e*P	**P**	**19 13 23.8**	**-1.7**
BREC	**Barre Substati**	**92.52**	**56**	*e*P	**P**	**19 13 27.6**	**+0.2**
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**19 13 48.0**	**+2.1**
	0.2nm,0.6s,baz=269,slow=4.7,SNR=4.3						
GEYT	**Alibeck**	**98.01**	**307**	P	Pdif	19 13 53.9	+1.3
	0.8nm,0.7s,baz=86,slow=6.6,SNR=2.7						
AKTO	**Aktyubinsk**	**98.31**	**320**	LR	LR	20 03 04.3	
	comp=Z,6.6nm,18.2s,baz=1.2,slow=38						
TORD	**Torodi Ar. Bea**	**151.25**	**285**	PKPbc	**PKPbc**	**19 20 10.7**	**+0.3**
	6.0nm,0.7s,baz=65,slow=2.5,SNR=36						
TOA1	**Torodi Ar. Sit

HANI				S	**Sb**	**19 18 43.0**	**-0.2**
AKCD	**Akcadag**	**0.99**	**261**	*i* P	**Pg**	**19 18 30.2**	**-0.3**
AKCD				*i* S	**Sb**	**19 18 43.8**	**+0.1**
AKCD	**Akcadag**	**0.99**	**261**	P	**Pg**	**19 18 30.2**	**-0.3**
AKCD				S	**Sb**	**19 18 43.8**	**+0.1**
DIY	**Diyarbakir**	**1.01**	**123**	*e*Pg	**Pg**	**19 18 29.8**	**-1.1**
DIY				*e*Sg	**Sg**	**19 18 43.3**	**-0.7**
HEKM	**Malatya_Hekimh**	**1.03**	**294**	*i* P	**Pg**	**19 18 31.1**	**-0.2**
HEKM				*i* S	**Sn**	**19 18 47.6**	**+1.1**
HEKM	**Malatya_Hekimh**	**1.03**	**294**	P	**Pg**	**19 18 31.1**	**-0.2**
HEKM				S	**Sn**	**19 18 47.6**	**+1.1**
URFA	**Urfa**	**1.05**	**195**	PG	**Pn**	**19 18 31.8**	**-0.3**
URFA	**Urfa**	**1.05**	**195**	*e*Pg	**Pn**	**19 18 31.8**	**-0.3**
DARE	**Darende-Malaty**	**1.32**	**275**	PN	**Pn**	**19 18 35.8**	**-0.1**
DARE	**Darende-Malaty**	**1.32**	**275**	*e*Pn	**Pn**	**19 18 35.8**	**-0.1**
MAZI	**Mazidag**	**1.42**	**134**	PN	**Pb**	**19 18 38.1**	**+0.1**
MAZI	**Mazidag**	**1.42**	**134**	*e*Pn	**Pb**	**19 18 38.1**	**+0.1**

*IDC **31** 19:35:29.0±3.6, 10˚.71N×62˚.64W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/48, mbtmp3.6/5, ML2.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/38, Error ellipse: s-maj=92.9km s-min=23.8km az=151.0*

*ISCJB **31** 19:35:35.5±0.6, 10˚.42N±0˚.04×62˚.73W±0˚.04, h71km±8km, mb3.3/4, Error ellipse: s-maj=7.8km s-min=6.0km az=138.1*

*TRN **31** 19:35:35.7, 10˚.36N×62˚.76W, h48km, MD3.4*

ISC 31 19:35:35.0±1.0, 10˚.35N±0˚.06×62˚.81W±0˚.05, h53km±13km, n31, σ1s34/42, mb3.5/4, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**1.34**	**91**	*e*P	**Pn**	**19 35 58.3**	**+0.9**
TPP				*e*S	**Sn**	**19 36 13.0**	**-1.2**
TRN	**Trinidad (W)**	**1.42**	**78**	*e*P	**Pn**	**19 35 58.4**	**-0.1**
TRN				*e*S	**Sn**	**19 36 16.4**	**+0.3**
TBH	**Brigand Hill**	**1.72**	**85**	*e*P	**Pn**	**19 36 03.3**	**+0.7**
TBH				*e*S	**Sn**	**19 36 22.4**	**-1.1**
PCRV	**Puerto La Cruz**	**1.80**	**265**	Pn	**Pn**	**19 36 04.9**	**+1.1**
PCRV	6.4nm,0.3s,baz=34,slow=15,SNR=34			Sn	**Sn**	**19 36 29.1**	**+3.6**
GRGR	16nm,0.3s,baz=233,slow=20,SNR=8.0 **Grenville**	**2.10**	**33**	*e*P	**Pn**	**19 36 07.6**	**-0.3**
GRGR				*e*S	**Sn**	**19 36 32.8**	**0.0**
GRHS	**Sauteurs**	**2.19**	**32**	*e*P	**Pn**	**19 36 09.3**	**+0.4**
GRHS				*e*S	**Sn**	**19 36 34.2**	**-0.7**
GRSS	**Sisters**	**2.27**	**31**	*e*P	**Pn**	**19 36 11.2**	**+1.2**
GRSS				*e*S	**Sn**	**19 36 36.0**	**-0.8**
TOSP	**Speyside**	**2.43**	**67**	*e*	**Pn**	**19 36 11.0**	**-1.3**
TOSP	**Speyside**	**2.43**	**67**	*e*P	**Pn**	**19 36 12.4**	**+0.2**
TOSP				*e*S	**Sn**	**19 36 39.8**	**-1.0**
SVB	**Belmont**	**3.28**	**28**	*e*P	**Pn**	**19 36 24.7**	**+0.7**
SVB				*e*S	**Sn**	**19 37 01.4**	**-0.4**
SVCV	**St. Vincent, C**	**3.33**	**29**	*e*P	**Pn**	**19 36 24.8**	**+0.2**
SVCV				*e*S	**Sn**	**19 37 02.0**	**-1.1**
SVV	**Soufriere Volc**	**3.34**	**28**	*e*P	**Pn**	**19 36 26.4**	**+1.7**
SVV				*e*S	**Sn**	**19 37 01.6**	**-1.6**
SSV	**Crater Summit**	**3.36**	**28**	*e*P	**Pn**	**19 36 26.6**	**+1.5**
MCLT	**Moule a Chique**	**3.81**	**29**	*e*P	**Pn**	**19 36 31.3**	**+0.1**
MCLT				*e*S	**Sn**	**19 37 13.8**	**-0.9**
SLB	**Belfond**	**3.87**	**26**	*e*P	**Pn**	**19 36 33.5**	**+1.5**
SLB				*e*S	**Sn**	**19 37 15.3**	**-0.9**
TRMF	**Trois Ilets**	**4.50**	**22**	*e*P	**Pn**	**19 36 41.3**	**+0.6**
LPMF	**Morne Lapointe**	**4.57**	**23**	*e*P	**Pn**	**19 36 42.6**	**+1.0**
FDF	**Fort de France**	**4.65**	**20**	*e*P	**Pn**	**19 36 43.6**	**+0.8**
FDF	**Fort de France**	**4.65**	**20**	*e*S	**Sn**	**19 37 33.3**	**-2.2**
PML	**Morne Lenard**	**4.68**	**20**	*e*P	**Pn**	**19 36 44.4**	**+1.2**
PCM	**Pelee Case Pet**	**4.71**	**19**	*e*P	**Pn**	**19 36 44.2**	**+0.7**
PCM	**Pelee Case Pet**	**4.71**	**19**	*e*P	**Pn**	**19 36 44.5**	**+1.0**
CXM	**Morne La Croix**	**4.71**	**20**	*e*P	**Pn**	**19 36 44.8**	**+1.1**
BAMF	**Morne Balai**	**4.73**	**20**	*e*P	Pn	19 36 37.3	-6.5
SDV	**Santo Domingo**	**7.85**	**260**	Pn	**Pn**	**19 37 26.4**	**-0.4**
SDV	1.5nm,0.3s,baz=70,slow=12,SNR=5.6			Sn	**Sn**	**19 38 50.4**	**-4.0**
TKL	4.1nm,0.3s,baz=13,slow=18,SNR=7.3 **Tuckaleechee C**	**31.59**	**326**	LR	LR	19 54 14.6	
TXAR	comp=Z,27nm,20.7s,baz=292,slow=36 **Lajitas Array**	**42.54**	**302**	P	**P**	**19 43 27.0**	**+1.3**
SFJD	0.1nm,0.4s,baz=133,slow=9.1,SNR=3.2 **Kangerlussuaq**	**57.17**	**6**	LR	LR	20 06 55.6	
YKA	comp=Z,15nm,21.8s,baz=330,slow=33 **Yellowknife Ar**	**63.85**	**336**	P	**P**	**19 46 00.4**	**-1.3**
ILAR	0.2nm,0.5s,baz=110,slow=7.2,SNR=5.4 **Eielson Array**	**78.18**	**334**	P	**P**	**19 47 29.4**	**+0.9**
FINES	0.3nm,0.5s,baz=100,slow=5.1,SNR=6.9 **FINESS Array B**	**80.46**	**29**	P	**P**	**19 47 40.4**	**-0.5**
	1.8nm,0.9s,baz=248,slow=7.4,SNR=3.5						

IDC 31 19:59:27.2±1.4, 8˚.86S×158˚.68E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/48, mbtmp3.4/3, Error ellipse: s-maj=37.3km s-min=23.8km az=11.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.37**	**114**	Pn	Pb	19 59 54.0	+0.2
HNR	148nm,0.3s,baz=188,slow=5.7,SNR=14			Sn		20 00 18.9	+6.3
HNR	316nm,0.3s,baz=160,slow=8.5,SNR=8.5 **Honiara**	**1.37**	**114**	*i* P	Pg	19 59 52.5	-1.1
HNR				*i* S	Sn	20 00 16.5	+3.9
WRA	**Warramunga Arr**	**25.98**	**242**	P	P	20 05 03.0	+1.0
ASAR	0.2nm,0.7s,baz=74,slow=9.0,SNR=4.3 **Alice Springs**	**27.90**	**235**	P	P	20 05 18.3	-1.0
SONM	0.2nm,0.4s,baz=60,slow=9.7,SNR=5.4 **Songino Array**	**72.89**	**326**	P	P	20 10 58.1	-0.3
	0.5nm,0.6s,baz=134,slow=6.0,SNR=2.9						

*IDC **31** 19:59:49.4±0.6, 18˚.03S×168˚.15E, h0km, mb4.5/18, mb1 4.7/19, mb1mx4.4/43, mbtmp4.5/19, ML5.2/1, MS3.6/23, Ms1 3.6/23, ms1mx3.5/44, Error ellipse: s-maj=18.0km s-min=15.2km az=167.0*

*ISCJB **31** 19:59:52.1±0.2, 18˚.32S±0˚.03×168˚.09E±0˚.04, h29km, mb4.8/67, MS3.7/21, Error ellipse: s-maj=5.5km s-min=5.0km az=174.7*

*NEIC **31** 19:59:55.7±1.1, 18˚.33S×168˚.15E, h50km±10km, mb4.9/56, Error ellipse: s-maj=6.9km s-min=5.9km az=200.0*

NEIC Felt [III] at Port-Vila.

*BJI **31** 19:59:55.1, 18˚.78S×168˚.23E, h71km, mb4.5/23, mB5.0/14, Ms4.7/4, Ms7 4.4/4*

ISC 31 19:59:53.6±0.4, 18˚.36S±0˚.05×168˚.16E±0˚.07, h29km, n145, σ1s51/139, mb4.9/67, MS3.8/22, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.03**	**203**	Pn	**Pn**	**20 00 53.7**	**+0.3**
DZM	46nm,0.3s,baz=43,slow=22,SNR=139			Sn	**Sn**	**20 01 39.2**	**-0.5**
DZM	25nm,0.3s,baz=343,slow=23,SNR=6.6			LR	LR	20 02 02.5	
DZM	comp=Z,201nm,21.9s,baz=96,slow=31 **Mont Dzumac**	**4.03**	**203**	*e*Pn	**Pn**	**20 00 53.5**	**0.0**
DZM	96nm,0.3s			*e*Sn	**Sn**	**20 01 37.7**	**-2.0**
DZM	250nm,0.3s			*e*LR	LR	20 01 45.4	
DZM	1μm,25.1s **Mont Dzumac**	**4.03**	**203**	*e*Pn	**Pn**	**20 00 53.3**	**-0.1**
DZM				*e*Sn	**Sn**	**20 01 38.7**	**-1.0**
DZM				*e*		20 02 02.5	
HNR	**Honiara**	**11.92**	**317**	Pn	**Pn**	**20 02 42.7**	**+1.0**
HNR	43nm,0.3s,baz=308,slow=3.5,SNR=4.2			LR	LR	20 06 50.1	
FUNA	comp=Z,361nm,18.7s,baz=154,slow=36 **Funafuti**	**14.51**	**49**	*e*Pn	**Pn**	**20 03 17.7**	**+0.6**
RAO	**Raoul Island**	**16.72**	**133**	*e*Pn	**P**	**20 03 47.5**	**-0.3**
EIDS	663nm,1.0s **Eidsvold**	**17.30**	**243**	*e*Pn	**P**	**20 03 54.2**	**-0.2**
OUZ	40nm,1.2s **Omahuta**	**17.48**	**165**	*e*Pn	**P**	**20 03 58.1**	**+1.9**
ARMA	74nm,1.3s **Armidale**	**19.22**	**228**	*e*P	**P**	**20 04 12.7**	**-2.9**
AFI	41nm,1.2s **Afiamalu**	**19.78**	**80**	P	**P**	**20 04 21.5**	**-0.2**
AFI	7.0nm,0.3s,baz=113,slow=11,SNR=3.8			LR	LR	20 11 27.7	
AFI	comp=Z,74nm,18.1s,baz=284,slow=35 **Afiamalu**	**19.78**	**80**	*e*P	**P**	**20 04 20.7**	**-1.0**
AFI	62nm,1.1s			*e*		20 11 27.7	

CTA	**Charters Tower**	**20.75**	**262**	P	Pn	20 04 34.1	-0.6
CTAO	25nm,0.9s,baz=84,slow=13,SNR=15 **Charters Tower**	**20.75**	**262**	*e*P	Pn	20 04 34.0	-0.7
HIZ	33nm,0.9s **Hauiti**	**20.91**	**165**	*e*P	Pn	20 04 37.3	+0.9
MXZ	48nm,1.1s **Matakaoa Point**	**21.10**	**157**	*e*P	**P**	**20 04 35.5**	**-0.3**
URZ	67nm,1.1s **Urewera**	**21.32**	**160**	P	**P**	**20 04 41.5**	**+3.4**
URZ	9.3nm,0.7s,baz=341,slow=6.5,SNR=8.6			LR	LR	20 11 40.7	
URZ	comp=Z,181nm,18.1s,baz=349,slow=33 **Urewera**	**21.32**	**160**	*e*P	**P**	**20 04 38.6**	**+0.5**
URZ	25nm,0.8s			*e*		20 11 40.6	
BKZ	**Black Stump Fm**	**21.96**	**162**	*e*P	**P**	**20 04 45.1**	**0.0**
PMG	18nm,1.1s **Port Moresby**	**22.22**	**291**	P	**P**	**20 04 48.4**	**+0.4**
PMG	16nm,0.8s,baz=156,slow=5.8,SNR=5.9			LR	LR	20 12 01.2	
PMG	comp=Z,241nm,20.2s,baz=112,slow=33 **Port Moresby**	**22.22**	**291**	*e*P	**P**	**20 04 49.1**	**+1.1**
PMG	26nm,1.1s			*e*		20 12 01.2	
BFZ	**Birch Farm**	**23.31**	**164**	*e*P	**P**	**20 04 59.1**	**-0.1**
SNZO	108nm,1.8s **South Karori**	**23.55**	**168**	*e*P	**P**	**20 05 01.9**	**+0.4**
THZ	85nm,1.6s **Tophouse**	**23.68**	**171**	*e*P	**P**	**20 05 03.0**	**+0.2**
CAN	17nm,0.6s **Canberra**	**23.96**	**221**	*e*P	**P**	**20 05 03.5**	**-2.1**
COEN	143nm,1.9s **Coen**	**24.38**	**277**	*e*P	**P**	**20 05 10.0**	**+0.5**
KHZ	25nm,1.1s **Kahutara**	**24.41**	**170**	*e*P	**P**	**20 05 09.0**	**-0.6**
LTZ	64nm,1.9s **Lake Taylor**	**24.59**	**173**	*e*P	**P**	**20 05 11.4**	**+0.1**
OXZ	62nm,1.9s **Oxford**	**25.11**	**173**	*e*P	**P**	**20 05 17.8**	**+1.9**
FOZ	12nm,0.6s **Fox Glacier**	**25.14**	**177**	*e*P	**P**	**20 05 16.8**	**+0.8**
RPZ	19nm,1.1s **Rata Peaks**	**25.40**	**175**	P	**P**	**20 05 22.2**	**+3.7**
LBZ	8.6nm,0.7s,baz=179,slow=1.3,SNR=5.7 **Lake Benmore**	**26.00**	**177**	*e*P	**P**	**20 05 27.3**	**+3.3**
STKA	12nm,1.2s **Stephens Creek**	**27.47**	**236**	P	**P**	**20 05 38.0**	**+0.6**
STKA	13nm,0.8s,baz=63,slow=8.1,SNR=19			LR	LR	20 15 41.5	
STKA	comp=Z,191nm,20.2s,baz=37,slow=34 **Stephens Creek**	**27.47**	**236**	*e*P	**P**	**20 05 37.4**	**+0.1**
STKA	4.9nm,1.1s			*e*		20 15 41.5	
RAR	**Rarotonga**	**30.29**	**101**	LR	LR	20 15 39.5	
WB2	comp=Z,114nm,21.8s,baz=280,slow=31 **Warmunga Arr**	**31.94**	**262**	*e*P	**P**	**20 06 15.6**	**-1.5**
WRAB	5.8nm,0.9s **Tennant Creek**	**31.94**	**262**	*e*P	**P**	**20 06 16.1**	**-1.1**
WR1	30nm,1.9s **Warramunga Arr**	**31.95**	**262**	*e*P	**P**	**20 06 16.2**	**-1.0**
WR1	27nm,1.9s			*e*PcP	**PcP**	**20 09 09.1**	**+1.9**
WR1				*e*		20 18 41.8	
WRA	**Warramunga Arr**	**31.95**	**262**	P	**P**	**20 06 16.3**	**-1.0**
WRA	1.2nm,0.4s,baz=93,slow=8.6,SNR=28			PcP	**PcP**	**20 09 09.1**	**+1.9**
WRA	0.6nm,0.7s,baz=96,slow=2.7,SNR=3.5			LR	LR	20 18 41.8	
BBOO	comp=Z,211nm,19.4s,baz=150,slow=35 **Buckleboo**	**32.18**	**237**	*e*P	**P**	**20 06 19.1**	**0.0**
AS01	19nm,0.8s **Alice Springs**	**32.31**	**255**	*e*P	**P**	**20 06 19.2**	**-1.2**
AS31	**Alice Springs**	**32.35**	**255**	*e*P	**P**	**20 06 20.2**	**-0.6**
AS31	4.1nm,0.6s			*e*		20 19 03.6	
ASAR	**Alice Springs**	**32.35**	**255**	P	**P**	**20 06 20.3**	**-0.5**
ASAR	8.5nm,0.5s,baz=81,slow=8.7,SNR=128			LR	LR	20 19 03.6	
MTN	comp=Z,358nm,20.9s,baz=109,slow=36 **Manton Dam**	**36.03**	**273**	*e*P	**P**	**20 06 52.5**	**-0.2**
FORT	12nm,0.8s **Forrest**	**38.31**	**243**	*e*P	**P**	**20 07 11.5**	**-0.3**
FAKI	503nm,0.6s **Fak Fak**	**38.36**	**289**	*e*P	**P**	**20 07 11.6**	**-0.8**
GUMO	17nm,1.0s **Guam**	**39.18**	**323**	LR	LR	20 21 07.9	
PPT2	comp=Z,125nm,20.7s,baz=156,slow=33 **Papeete2**	**40.15**	**96**	*e*LR	LR	20 18 36.6	
PPT	364nm,26.2s **Papeete**	**40.15**	**96**	LR	LR	20 20 26.7	
SOEI	comp=Z,104nm,18.9s,baz=232,slow=31 **Soe**	**43.33**	**275**	*e*P	**P**	**20 07 51.9**	**-1.7**
BATI	23nm,1.1s **Baumata**	**43.78**	**274**	P	**P**	**20 07 57.9**	**+0.8**
BATI	22nm,0.8s,baz=270,slow=2.0,SNR=7.7			LR	LR	20 25 12.9	
MBWA	comp=Z,125nm,21.2s,baz=151,slow=35 **Marble Bar**	**45.52**	**258**	*e*P	**P**	**20 08 10.0**	**-0.9**
NWAO	12nm,0.9s **Narrogin (SRO)**	**47.71**	**242**	LR	LR	20 29 23.6	
NWAO	comp=Z,125nm,18.3s,baz=343,slow=37 **Narrogin (SRO)**	**47.71**	**242**	*e*P	**P**	**20 08 25.2**	**-2.8**
NWAO	64nm,1.5s			*e*		20 29 23.6	
CBIJ	**Chichi jima**	**51.73**	**330**	*e*P	**P**	**20 09 00.1**	**+1.6**
MYLDM	301nm,1.3s **Lahad Datu**	**54.25**	**291**	*e*P	**P**	**20 09 17.8**	**+0.5**
KKM	34nm,1.2s **Kota Kinabalu**	**56.66**	**290**	*e*P	**P**	**20 09 35.2**	**+0.3**
UGM	40nm,1.3s **Wanagama**	**56.87**	**272**	*e*P	**P**	**20 09 35.7**	**-0.6**
VNDA	122nm,1.4s **Vanda**	**59.27**	**182**	P	**P**	**20 09 54.8**	**+2.7**
VNDA	0.8nm,0.5s,baz=349,slow=8.6,SNR=6.1 **Vanda**	**59.27**	**182**	*e*P	**P**	**20 09 54.9**	**+2.9**
JOW	20nm,2.0s **Kunigami**	**59.29**	**318**	*e*P	**P**	**20 09 55.2**	**+2.3**
SBA	75nm,1.2s **Scott Base**	**59.53**	**180**	*e*P	**P**	**20 09 57.6**	**+3.7**
CISI	25nm,1.5s **Cisompet, Garu**	**59.55**	**272**	*e*P	**P**	**20 09 53.8**	**-1.2**
LEM	44nm,1.1s **Lemnitzer**	**59.95**	**273**	P	**P**	**20 09 58.3**	**+0.4**
LEM	15nm,0.7s,baz=29,slow=5.5,SNR=7.1			LR	LR	20 37 45.7	
KSM	comp=Z,44nm,18.0s,baz=88,slow=38 **Kuching**	**60.18**	**283**	*e*P	**P**	**20 09 59.5**	**+0.2**
MJAR	12nm,1.1s **Matsushiro Arr**	**61.50**	**333**	LR	LR	20 37 21.0	
JNU	comp=Z,9.5nm,19.1s,baz=115,slow=37 **Nakatsue**	**62.36**	**325**	LR	LR	20 34 46.7	
ASAJ	comp=Z,12nm,21.8s,baz=119,slow=34 **Asahikawa**	**66.42**	**340**	*e*P	**P**	**20 10 41.5**	**+1.5**
NJ2	8.0nm,0.9s **Nanjing**	**68.86**	**316**	*e*P	**P**	**20 10 55.3**	**-0.4**
NJ2	comp=Z,15nm,1.0s			pmax	pmax		
QSPA	**South Pole Qui**	**71.69**	**180**	P	**P**	**20 11 11.4**	**-1.3**
CN2	5.1nm,1.0s,baz=35,slow=3.3,SNR=3.9 **Changchun**	**73.18**	**329**	*e*P	**P**	**20 11 23.8**	**+2.2**
CM01	**Chiang Mai Arr**	**77.18**	**294**	*e*P	**P**	**20 11 45.7**	**+0.5**
CM31	**Chiang Mai Arr**	**77.21**	**294**	*e*P	**P**	**20 11 46.0**	**+0.6**
CM31				*e*		20 47 27.3	
CMAR	**Chiang Mai Arr**	**77.21**	**294**	P	**P**	**20 11 46.0**	**+0.6**
CMAR	2.9nm,0.9s,baz=129,slow=4.3,SNR=20			LR	LR	20 47 27.3	
CHTO	comp=Z,14nm,18.2s,baz=170,slow=37 **Chiang Mai**	**77.35**	**295**	*e*P	**P**	**20 11 45.5**	**-0.7**
MAW	6.6nm,1.1s **Mawson**	**78.86**	**202**	P	**P**	**20 11 57.7**	**+4.1**
MAW	5.0nm,1.0s,baz=98,slow=7.1,SNR=3.9 **Mawson**	**78.86**	**202**	*e*P	**P**	**20 11 57.7**	**+4.1**
CD2	8.1nm,1.8s **Chengdu**	**78.89**	**308**	*e*P	**P**	**20 11 54.5**	**0.0**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
CD2	comp=Z,120nm,5.0s			pmax	pmax		
LZH	**Lanzhou**	**81.38**	**312**	*e*P	**P**	**20 12 06.8**	**-1.2**
LZH				pP	sP	20 12 29.0	+8.3
LZH				sP	pP	20 12 37.3	+20
LZH				*e*PP	**PP**	**20 15 17.5**	**+3.1**
LZH				pmax	pmax		
LZH	comp=Z,13nm,1.0s			pmax	pmax		
LZH	comp=Z,140nm,5.7s			LR	LR		

LZH	comp=N,170nm,17.2s			LR	LR		
LZH	comp=E,160nm,17.5s			LR	LR		
ULN	comp=Z,240nm,19.3s **Ulaanbaatar**	**85.55**	**324**	*e*P	**P**	**20 12 29.9**	**+0.8**
YAK	3.9nm,0.8s **Yakutsk**	**85.73**	**343**	*e*P	**P**	**20 12 29.6**	**+0.2**
GTA	9.7nm,0.6s **Gaotai**	**85.78**	**314**	*e*P	**P**	**20 12 30.0**	**-0.5**
GTA				pP	sP	20 12 50.3	+7.1
GTA				sP	pP	20 12 59.0	+19
GTA	comp=Z,3.0nm,1.0s			pmax	pmax		
SONA0	**Songino Array**	**85.90**	**323**	*e*P	**P**	**20 12 30.1**	**-0.8**
SONM	**Songino Array**	**85.90**	**323**	P	**P**	**20 12 30.1**	**-0.8**
SONA1	1.7nm,0.8s,baz=139,slow=5.6,SNR=7.3 **Songino Array**	**85.91**	**323**	*e*P	**P**	**20 12 30.5**	**-0.4**
SNCC	**San Nicolas Is**	**85.94**	**53**	*e*P	**P**	**20 12 28.8**	**-2.5**
SML	**Sawmill**	**87.04**	**19**	*e*pP	pP	20 12 56.0	+11
ORV	**Oroville**	**87.23**	**47**	*e*P	**P**	**20 12 36.8**	**-0.6**
AFDM	8.2nm,0.9s **Forest Hills D**	**87.33**	**48**	*e*P	**P**	**20 12 37.4**	**-0.5**
CMB	15nm,0.9s **Columbia Colle**	**87.34**	**49**	*e*P	**P**	**20 12 37.4**	**-0.7**
YBH	13nm,0.8s **Yreka Blue Hor**	**87.39**	**44**	P	**P**	**20 12 38.5**	**+0.2**
YBH	3.1nm,0.7s,baz=161,slow=2.9,SNR=5.6			LR	LR	20 42 09.9	
CJV	comp=Z,63nm,21.8s,baz=262,slow=29 **Casa Juvan**	**87.51**	**52**	*e*P	**P**	**20 12 39.3**	**+0.2**
CRNC	**Corona**	**87.69**	**53**	*e*P	**P**	**20 12 36.6**	**-3.2**
NV01	**Mina Array Sit**	**89.00**	**49**	*e*P	**P**	**20 12 45.6**	**-0.6**
NV01				*e*		20 48 03.4	
NVAR	**Mina Array Bea**	**89.00**	**49**	P	**P**	**20 12 45.9**	**-0.3**
NVAR	2.5nm,0.7s,baz=221,slow=6.9,SNR=5.8			LR	LR	20 48 03.3	
ILAR	comp=Z,44nm,18.0s,baz=91,slow=33 **Eielson Array**	**89.70**	**18**	P	**P**	**20 12 46.8**	**-1.7**
ILAR	0.7nm,0.6s,baz=243,slow=5.2,SNR=10			LR	LR	20 47 58.6	
ILB	comp=Z,34nm,20.0s,baz=312,slow=32 **Eielson Array**	**89.70**	**18**	*e*P	**P**	**20 12 46.8**	**-1.7**
ILB				*e*		20 47 58.6	
LPIG	**La Paz**	**89.97**	**65**	LR	LR	20 45 25.4	
SNAA	comp=Z,71nm,19.3s,baz=214,slow=30 **Sanae**	**89.99**	**183**	P	**P**	**20 12 51.2**	**+1.1**
SNAA	2.0nm,0.5s,baz=249,slow=8.6,SNR=7.4 **Sanae**	**89.99**	**183**	*e*P	**P**	**20 12 51.2**	**+1.1**
WPW	32nm,1.6s **White Pass**	**90.39**	**40**	*e*P	**P**	**20 12 52.6**	**+0.3**
I07A	**Izee**	**90.54**	**43**	*e*P	**P**	**20 12 52.6**	**-0.5**
BMN	5.5nm,0.8s **Battle Mountai**	**90.57**	**47**	*e*P	**P**	**20 12 53.5**	**+0.1**
J08A	6.8nm,0.8s **Circle Bar Ran**	**90.91**	**44**	*e*P	**P**	**20 12 54.3**	**-0.5**
G08A	11nm,0.8s **Pilot Rock**	**91.40**	**42**	*e*P	**P**	**20 12 57.2**	**+0.2**
X16A	11nm,0.8s **Lo Mia Camp, P**	**92.59**	**55**	*e*P	**P**	**20 13 00.7**	**-2.3**
U15A	4.4nm,0.9s **North Rim**	**92.65**	**53**	*e*P	**P**	**20 13 01.9**	**-1.4**
319A	3.8nm,0.8s **Douglas**	**93.27**	**58**	*e*P	**P**	**20 13 02.4**	**-3.6**
WMQ	9.1nm,1.0s **Urumqi**	**95.86**	**314**	P	**P**	**20 13 17.5**	**-0.1**
WMQ				pP	sP	20 13 37.5	+7.2
WMQ				sP	pP	20 13 45.5	+19
WMQ				LR	LR		
WMQ	comp=N,47nm,20.5s			LR	LR		
WMQ	comp=E,79nm,29.1s			LR	LR		
PDAR	comp=Z,86nm,27.3s **Pinedale Array**	**96.77**	**47**	LR	LR	20 57 49.5	
LTX	comp=Z,23nm,18.0s,baz=253,slow=36 **Lajitas**	**97.25**	**62**	*e*P	**P**	**20 13 24.2**	**-0.1**
LTX				*e*		20 51 01.9	
TXAR	**Lajitas Array**	**97.25**	**62**	P	**P**	**20 13 24.2**	**-0.1**
TXAR	0.6nm,0.8s,baz=215,slow=4.1,SNR=5.6			LR	LR	20 51 01.9	
YKA	comp=Z,28nm,18.9s,baz=0.0,slow=32 **Yellowknife Ar**	**100.36**	**27**	P	**Pdif**	**20 13 36.2**	**-1.0**
YKB5	0.2nm,0.7s,baz=255,slow=4.9,SNR=5.2 **Yellowknife Ar**	**100.36**	**27**	*e*Pdif	**Pdif**	**20 13 36.2**	**-1.0**
MK32	**Makanchi Array**	**100.39**	**316**	*e*Pdif	**Pdif**	**20 13 37.2**	**-0.6**
MKAR	**Makanchi Array**	**100.39**	**316**	P	**Pdif**	**20 13 37.2**	**-0.6**
ARA0	0.3nm,0.5s,baz=96,slow=5.2,SNR=2.2 **ARCESS Array S**	**123.96**	**345**	*e*PKPdf	**PKPdf**	**20 18 45.7**	**-2.7**
ARCES	**ARCESS Array B**	**123.96**	**345**	PKP	**PKPdf**	**20 18 45.7**	**-2.7**
FIA0	2.4nm,0.8s,baz=62,slow=2.5,SNR=9.3 **FINESS Array S**	**129.39**	**338**	*e*PKPdf	**PKPdf**	**20 18 56.5**	**-2.4**
FINES	**FINESS Array B**	**129.39**	**338**	PKP	**PKPdf**	**20 18 56.5**	**-2.4**
AKASG	3.8nm,1.1s,baz=267,slow=2.8,SNR=3.2 **Malin Array Be**	**134.18**	**324**	PKP	**PKPdf**	**20 19 07.4**	**-0.9**
AKBB	0.1nm,0.2s,baz=49,slow=2.0,SNR=2.9 **Malin Array Si**	**134.18**	**324**	*e*PKPdf	**PKPdf**	**20 19 07.4**	**-0.9**
CONA	**Conrad Observa**	**142.86**	**329**	*e*PKPdf	**PKPdf**	**20 19 22.5**	**-2.0**
GEC2	1.4nm,0.6s **GERESS Array S**	**143.23**	**332**	*e*PKPdf	**PKPdf**	**20 19 25.9**	**+0.8**
GERES	**GERESS Array B**	**143.23**	**332**	PKP	**PKPdf**	**20 19 25.9**	**+0.8**
MOA	0.5nm,0.5s,baz=46,slow=4.2,SNR=2.0 **Molln**	**143.69**	**330**	*e*PKPdf	**PKPdf**	**20 19 25.3**	**-0.5**
KBA	3.2nm,0.8s **Koelnbreinsper**	**144.68**	**330**	*e*PKPdf	**PKPab**	**20 19 26.6**	**+0.1**
MEM	7.9nm,1.1s **Membach**	**144.81**	**340**	⇑PKP	**PKPab**	**20 19 25.1**	**-1.6**
MYKA	**Terra Mystica**	**144.85**	**329**	*e*PKPbc	**PKPab**	**20 19 25.1**	**-1.9**
WATA	2.8nm,0.5s **Walderalm**	**145.31**	**332**	PKPbc	**PKPbc**	**20 19 26.2**	**-2.4**
ABTA	8.4nm,1.1s **Abfaltersbach**	**145.31**	**330**	*i* PKPbc	**PKPbc**	**20 19 26.4**	**-2.1**
WTTA	11nm,0.8s,SNR=9.9 **Wattenberg**	**145.34**	**332**	*e*PKPdf	**PKPbc**	**20 19 28.8**	**+0.1**
MOTA	5.7nm,0.9s **Moosalm**	**145.51**	**332**	*i* PKPdf	**PKPdf**	**20 19 27.5**	**-1.7**
RETA	10nm,0.9s,SNR=5.8 **Reutte**	**145.56**	**333**	*e*PKPab	**PKPab**	**20 19 30.0**	**+0.4**

TXAR	**Lajitas Array**	**8.29**	**44**	Pn	Pn	20 17 44.8	-5.5
	0.1nm,0.3s,baz=221,slow=13,SNR=7.7						
TXAR				Lg	Lg	20 19 55.9	
	0.0nm,0.3s,baz=221,slow=33,SNR=2.3						
TUC	**Tucson**	**8.85**	**357**	*e*Pn	**Pn**	**20 17 58.0**	**-0.1**
EPT	**El Paso**	**8.92**	**21**	*e*Pn	**Pn**	**20 18 00.0**	**+1.0**
MNTX	**Cornudas Mount**	**9.27**	**26**	*e*Pn	**Pn**	**20 18 06.5**	**+2.8**
113A	**Mohawk Valley,**	**9.81**	**342**	*e*Pn	**Pn**	**20 18 10.7**	**-0.5**
LNIG	**Linares**	**9.90**	**79**	*e*Pn	**Pn**	**20 18 15.2**	**+2.7**
Y14A	**Wickenburg**	**10.75**	**347**	*e*Pn	**Pn**	**20 18 26.1**	**+2.1**
Y12C	**Blythe**	**10.96**	**341**	*e*Pn	**Pn**	**20 18 29.6**	**+2.8**
X16A	**Lo Mia Camp, P**	**10.99**	**355**	*e*Pn	**Pn**	**20 18 28.6**	**+1.1**
X18A	**Snowflake**	**11.05**	**1**	*e*Pn	**Pn**	**20 18 27.4**	**-1.0**
BNM	**Barren Site**	**11.12**	**16**	*e*Pn	**Pn**	**20 18 29.7**	**+0.4**
CPE	**Camp Elliot**	**11.21**	**329**	*e*Pn	**Pn**	**20 18 28.5**	**-1.8**
DPP	**Dos Picos Cty**	**11.23**	**330**	*e*Pn	**Pn**	**20 18 26.8**	**-3.7**
LAZ	**Ladron**	**11.25**	**13**	*e*Pn	**Pn**	**20 18 32.0**	**+1.1**
JCT	**Junction City**	**11.62**	**51**	*e*Pn	**Pn**	**20 18 40.0**	**+4.1**
W18A	**Petrified Fore**	**11.65**	**2**	*e*Pn	**Pn**	**20 18 36.9**	**+0.4**
ANMO	**Albuquerque**	**11.92**	**15**	*e*Pn	**Pn**	**20 18 42.8**	**+2.6**
BBSC	**Beaumont Base**	**12.02**	**332**	*e*Pn	Pn	20 18 35.5	-5.9
W13A	**Hualapai Mount**	**12.06**	**345**	*e*Pn	**Pn**	**20 18 45.1**	**+3.0**
WUAZ	**Wupatki**	**12.08**	**355**	*e*Pn	**Pn**	**20 18 43.6**	**+1.3**
MSTX	**Muleshoe**	**12.34**	**30**	*e*Pn	**Pn**	**20 18 45.6**	**-0.3**
BREC	**Barre Substati**	**12.38**	**328**	*e*Pn	**Pn**	**20 18 46.8**	**+0.5**
BFSC	**Mount Baldy Ra**	**12.59**	**330**	*e*Sn	**Sn**	**20 21 08.4**	**-1.3**
SNCC	**San Nicolas Is**	**12.76**	**322**	*e*Pn	**Pn**	**20 18 49.5**	**-2.0**
PASC	**Pasadena Art C**	**12.78**	**329**	*e*Pn	**Pn**	**20 18 48.2**	**-3.6**
PASC				*e*Sn	Sn	20 21 03.9	-10
ABTX	**Abilene, Hawle**	**13.05**	**43**	*e*Pn	**Pn**	**20 18 56.7**	**+1.2**
U15A	**North Rim**	**13.07**	**352**	*e*Pn	**Pn**	**20 18 54.7**	**-1.3**
GSC	**Goldstone, Bar**	**13.15**	**336**	*e*Sn	**Sn**	**20 21 19.3**	**-3.9**
SHPR	**Sheep Range**	**13.71**	**343**	*e*Pn	**Pn**	**20 19 06.0**	**+1.4**
KNB	**Kanab**	**13.72**	**351**	*e*Pn	**Pn**	**20 19 04.7**	**-0.1**
LCMT	**Little Creek M**	**13.78**	**350**	*e*Pn	**Pn**	**20 19 07.0**	**+1.5**
MVCO	**Mesa Verde**	**13.80**	**6**	*e*Pn	**Pn**	**20 19 08.9**	**+2.9**
WHTX	**Lake Whitney,**	**14.13**	**50**	*e*Pn	**P**	**20 19 16.3**	**-1.6**
DAC	**Darwin (Calif)**	**14.31**	**335**	*e*Pn	**Pn**	**20 19 15.7**	**+2.9**
CCUT	**Cedar City**	**14.33**	**350**	*e*Pn	**Pn**	**20 19 16.9**	**+3.8**
SZCU	**Shurtz Canyon**	**14.33**	**351**	*e*Pn	**Pn**	**20 19 16.2**	**+3.0**
HKT	**Hockley**	**14.37**	**60**	*e*Pn	**P**	**20 19 22.1**	**+1.6**
MHTCO	**State Highway**	**14.44**	**18**	*e*Pn	**P**	**20 19 19.6**	**-2.0**
T25A	**Trinidad**	**14.54**	**19**	*e*Pn	**P**	**20 19 19.4**	**-3.2**
T25A				*e*Sn	Sn	20 21 45.0	-12
S22A	**4UR Ranch, Cre**	**14.55**	**11**	*e*Pn	**P**	**20 19 23.3**	**+0.5**
SDCO	**Great Sand Dun**	**14.82**	**15**	*e*Pn	**P**	**20 19 23.0**	**-2.8**
	9.8nm,1.5s						
PTAM	**Tassajara Cree**	**15.02**	**325**	*e*Sn	**Sn**	**20 22 11.4**	**+2.6**
TIN	**Tinemaha, Big**	**15.23**	**335**	*e*Pn	**Pn**	**20 19 21.6**	**-3.7**
Q16A	**Castle Valley**	**15.45**	**357**	*e*Pn	**Pn**	**20 19 26.9**	**-1.3**
	14nm,1.4s						
R11A	**Troy Canyon, C**	**15.56**	**344**	*e*Pn	**Pn**	**20 19 31.7**	**+2.1**
	5.2nm,0.7s						
SRU	**San Rafael Swe**	**15.63**	**359**	*e*Pn	**P**	**20 19 33.0**	**-1.7**
	5.7nm,0.9s						
PMPB	**Monarch Peak**	**15.70**	**327**	*e*Pn	**Pn**	**20 19 33.4**	**+2.1**
	187nm,1.6s						
TMUT	**Trail Mountain**	**15.83**	**357**	*e*Pn	**Pn**	**20 19 34.6**	**+1.3**
	6.6nm,0.8s						
SMCO	**Snowmass**	**15.93**	**9**	*e*Pn	**Pn**	**20 19 35.9**	**+1.3**
	7.7nm,1.3s						
P17A	**Butcher Ranch,**	**15.99**	**358**	*e*Pn	**Pn**	**20 19 36.7**	**+1.5**
	5.1nm,1.0s						
Q24A	**Divide**	**16.06**	**14**	*e*Pn	**Pn**	**20 19 37.1**	**+0.9**
	3.3nm,0.6s						
MDPB	**Devils Postpil**	**16.07**	**334**	*e*Pn	**Pn**	**20 19 34.7**	**-1.6**
MINS	**Minaret Summit**	**16.08**	**334**	*e*Pn	**Pn**	**20 19 31.9**	**-4.6**
P18A	**Preston Nutter**	**16.14**	**360**	*e*Pn	**Pn**	**20 19 38.4**	**+1.1**
	36nm,1.5s						
MPU	**Maple Canyon**	**16.57**	**356**	*e*Pn	**Pn**	**20 19 41.7**	**-0.9**
	7.5nm,0.7s						
O20A	**White River Ci**	**16.73**	**5**	*e*Pn	**Pn**	**20 19 45.6**	**+1.0**
	9.7nm,1.0s						
KVN	**Kaiserville**	**16.96**	**338**	*e*Pn	**Pn**	**20 19 46.7**	**-0.8**
	12nm,0.5s						
CMB	**Columbia Colle**	**16.97**	**331**	*e*Pn	**Pn**	**20 19 46.9**	**-0.5**
CTU	**Camp Tracy**	**17.25**	**356**	*e*Pn	**P**	**20 19 54.2**	**+1.5**
	6.9nm,1.0s						
PAHR	**Pah Rah Range**	**17.99**	**336**	*e*Pn	**Pn**	**20 19 57.2**	**-3.2**
	16nm,0.7s						
HWUT	**Hardware Ranch**	**18.15**	**357**	*e*Pn	**P**	**20 20 03.6**	**+1.0**
	10nm,1.2s						
PDAR	**Pinedale Array**	**19.28**	**1**	Pn	**P**	**20 20 15.2**	**+0.1**
	0.4nm,0.3s,baz=163,slow=11,SNR=11						
TPAW	**Teton Pass**	**20.01**	**358**	*e*P	**P**	**20 20 23.9**	**+0.8**
	34nm,1.9s						
LOHW	**Long Hollow**	**20.12**	**359**	*e*P	**P**	**20 20 24.3**	**+0.1**
	18nm,1.7s						
FXWY	**Fox Creek**	**20.16**	**358**	*e*P	**P**	**20 20 25.2**	**+0.5**
	10nm,1.3s						
IMW	**Indian Meadow**	**20.42**	**358**	*e*P	**P**	**20 20 28.3**	**+0.8**
	8.1nm,1.0s						
H17A	**Grant Village**	**20.91**	**359**	*e*P	**P**	**20 20 32.7**	**-0.1**
	11nm,1.1s						
YFT	**Old Faithful**	**20.97**	**359**	*e*P	**P**	**20 20 34.0**	**+0.6**
	9.1nm,1.3s						
YMR	**Madison River**	**21.19**	**358**	*e*P	**P**	**20 20 36.4**	**+0.6**
	8.0nm,1.1s						
YHB	**Horse Butte**	**21.28**	**358**	*e*P	**P**	**20 20 36.5**	**-0.2**
	26nm,1.9s						
YHH	**Holmes Hill**	**21.30**	**359**	*e*P	**P**	**20 20 37.5**	**+0.4**
	6.5nm,1.2s						
BOZ	**Bozeman (W)**	**22.14**	**357**	*e*P	**P**	**20 20 46.8**	**+0.9**
	8.8nm,0.8s						
PLAL	**Pickwick Lake**	**22.42**	**54**	*e*P	**P**	**20 20 48.5**	**-0.3**
	12nm,1.4s						
LRAL	**Lakeview Retre**	**22.52**	**60**	*e*P	**P**	**20 20 49.2**	**-0.7**
	18nm,1.6s						
SCIA	**State Center**	**23.23**	**34**	*e*P	**P**	**20 20 57.3**	**0.0**
	14nm,0.4s						
LAO	**LASA Array**	**23.42**	**7**	*e*P	**P**	**20 20 58.3**	**-0.9**
	20nm,1.3s						
YKA	**Yellowknife Ar**	**39.15**	**357**	P	**P**	**20 23 15.4**	**-2.1**
	0.3nm,0.7s,baz=177,slow=8.6,SNR=6.7						
KKH	**Kailua Kona**	**42.66**	**274**	*e*P	P	20 23 42.1	-4.8
ILAR	**Eielson Array**	**47.70**	**340**	P	**P**	**20 24 28.0**	**+1.5**
	0.9nm,0.8s,baz=145,slow=5.7,SNR=12						
ILB	**Eielson Array**	**47.70**	**340**	*e*P	**P**	**20 24 27.7**	**+1.2**

*DDA **31** 20:19:40.5,39°.30N×42°.16E,h22km, MI2.4*
*CSEM **31** 20:19:40.5,39°.30N×42°.16E,h22km, ML2.4, After DDA*
*ISCJB **31** 20:19:41.3±0.7,39°.32N±0°.04×42°.27E±0°.04,h11km±5km, Error ellipse: s-maj=6.6km s-min=5.5km az=164.0*
*ATA **31** 20:19:41.1±1.2,39°.29N×42°.25E,h12km±16km, ML2.9, MW2.6*

ISC 31 20:19:39.4±1.1,39°.41N±0°.04×42°.30E±0°.03,h11km±7km, n19,σ0s89/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.24**	**229**	*i* P	**Pg**	**20 19 44.7**	**+0.2**
EKAR				*i* Pg	**Pb**	**20 19 45.5**	**-0.5**
EKAR				*e*S	**Sg**	**20 19 49.0**	**+1.0**
EKAR				IAML		20 19 52.4	
	comp=Z,118nm,0.5s						
EKAR	**Karacoban**	**0.24**	**229**	*i* P	**Pg**	**20 19 44.4**	**-0.1**
EKAR				*i* S	**Sg**	**20 19 47.8**	**-0.2**
EKAR	**Karacoban**	**0.24**	**229**	P	**Pg**	**20 19 44.4**	**-0.1**
EKAR				S	**Sg**	**20 19 47.8**	**-0.2**
TUTA	**Tutak**	**0.40**	**91**	*e*P	**Pn**	**20 19 50.9**	**-0.4**
TUTA				IAML		20 19 57.4	
	comp=Z,115nm,0.2s						
TUTA	**Tutak**	**0.40**	**91**	*i* P	**Pn**	**20 19 51.4**	**+0.1**
TUTA				*i* S	**Sb**	**20 19 56.1**	**+1.3**
TUTA	**Tutak**	**0.40**	**91**	P	**Pn**	**20 19 51.4**	**+0.1**
TUTA				S	**Sb**	**20 19 56.1**	**+1.3**
EATA	**Eleskirt**	**0.47**	**18**	*e*P	**Pn**	**20 19 52.7**	**+0.3**
VRTB	**Varto-Mus**	**0.70**	**249**	*i* P	**Pg**	**20 19 53.0**	**0.0**
VRTB				*i* S	**Sb**	**20 20 03.8**	**+0.3**
VRTB	**Varto-Mus**	**0.70**	**249**	P	**Pg**	**20 19 53.0**	**0.0**
VRTB				S	**Sb**	**20 20 03.8**	**+0.3**
ERZM	**Erzurum**	**0.87**	**305**	*e*P	**Pn**	**20 19 59.2**	**+1.3**
ERZM	**Erzurum**	**0.87**	**305**	*i* P	**Pn**	**20 19 58.2**	**+0.3**
ERZM				*i* S	**Sn**	**20 20 10.1**	**-0.6**
ERZM	**Erzurum**	**0.87**	**305**	P	**Pn**	**20 19 58.2**	**+0.3**
ERZM				S	**Sn**	**20 20 10.1**	**-0.6**
ECAT	**Cat-ERZURUM**	**1.04**	**281**	*e*P	**Pn**	**20 20 01.4**	**+1.2**
ECAT	**Cat-ERZURUM**	**1.04**	**281**	*i* P	**Pg**	**20 19 57.3**	**-2.2**
ECAT				*i* S	**Sn**	**20 20 16.2**	**+1.4**
ECAT	**Cat-ERZURUM**	**1.04**	**281**	P	**Pg**	**20 19 57.3**	**-2.2**
ECAT				S	**Sn**	**20 20 16.2**	**+1.4**
SRTM	**Siirt_Merkez**	**1.45**	**192**	*i* P	**Pn**	**20 20 04.8**	**-0.9**
SRTM				*i* S	**Sn**	**20 20 24.6**	**-0.1**
SRTM	**Siirt_Merkez**	**1.45**	**192**	P	**Pn**	**20 20 04.8**	**-0.9**
SRTM				S	**Sn**	**20 20 24.6**	**-0.1**
BTMN	**Batman**	**1.72**	**208**	*i* P	**Pn**	**20 20 09.7**	**+0.4**
BTMN				*i* S	**Sn**	**20 20 31.2**	**-0.2**
BTMN	**Batman**	**1.72**	**208**	P	**Pn**	**20 20 09.7**	**+0.4**
BTMN				S	**Sn**	**20 20 31.2**	**-0.2**

*IDC **31** 20:22:09.9±2.0,6°.01S×130°.24E,h0km,mb3.1/1, mb1 4.1/4,mb1mx3.4/56,mbtmp3.9/4,ML4.1/3,Error ellipse: s-maj=55.7km s-min=29.9km az=78.0*
*ISCJB **31** 20:22:25.2±0.6,6°.77S±0°.05×129°.70E±0°.06,h165km, mb3.7/1,Error ellipse: s-maj=8.2km s-min=7.1km az=140.7*
*NEIC **31** 20:22:26.6±1.1,6°.70S×129°.71E,h165km±13km,mb4.5/3, Error ellipse: s-maj=15.1km s-min=12.7km az=66.0*

ISC 31 20:22:25.5±0.7,6°.64S±0°.06×129°.72E±0°.07,h165km,n20, σ2s48/25,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.06**	**130**	*e*Pn	**Pn**	**20 23 05.5**	**+3.3**
SAUI				*e*Sn	**Sn**	**20 23 30.2**	**-0.5**
FAKI	**Fak Fak**	**4.48**	**34**	*e*Pn	**Pn**	**20 23 33.1**	**+0.7**
FAKI				*e*Sn	**Sn**	**20 24 19.9**	**-4.8**
SOEI	**Soe**	**6.22**	**240**	*e*Pn	**Pn**	**20 23 56.2**	**+0.8**
SOEI				*e*Sn	Sn	20 24 55.6	-10
MTN	**Manton Dam**	**6.32**	**167**	*e*Pn	**Pn**	**20 23 57.0**	**+0.3**
MTN				*e*Sn	**Sn**	**20 25 03.1**	**-5.1**
BATI	**Baumata**	**6.96**	**239**	Pn	**Pn**	**20 24 05.9**	**+0.8**
	4.4nm,0.3s,baz=99,slow=4.0,SNR=19						
BATI				Sn	**Sn**	**20 25 19.1**	**-4.4**
	3.4nm,0.3s,baz=28,slow=19,SNR=8.9						
WRAB	**Tennant Creek**	**13.96**	**162**	*e*Pn	**Pn**	**20 25 35.4**	**-1.0**
WRAB				*e*Sn	Sn	20 28 02.4	-9.2
WR1	**Warramunga Arr**	**13.96**	**162**	*e*Pn	**Pn**	**20 25 35.0**	**-1.5**
WR1				*e*Sn	Sn	20 28 01.0	-11
WRA	**Warramunga Arr**	**13.96**	**162**	Pn	**Pn**	**20 25 35.0**	**-1.5**
	0.7nm,0.3s,baz=341,slow=13,SNR=39						
WRA				Sn	Sn	20 28 01.0	-11
	1.0nm,0.3s,baz=341,slow=22,SNR=7.4						
WB2	**Warramunga Arr**	**13.97**	**162**	*e*Pn	**Pn**	**20 25 34.2**	**-2.3**
WB2				*e*Sn	Sn	20 27 59.0	-13
COEN	**Coen**	**15.10**	**120**	*e*Pn	**Pn**	**20 25 51.0**	**+0.3**
	22nm,1.4s						
AS31	**Alice Springs**	**17.40**	**167**	*e*P	**Pn**	**20 26 19.7**	**+1.2**
	1.9nm,0.7s						
ASAR	**Alice Springs**	**17.40**	**167**	P	**Pn**	**20 26 19.9**	**+1.4**
	0.8nm,0.3s,baz=344,slow=8.8,SNR=66						
ASAR				S	**S**	**20 29 27.0**	**-3.1**
	0.2nm,0.3s,baz=345,slow=24,SNR=5.6						
AS01	**Alice Springs**	**17.41**	**167**	*e*P	**Pn**	**20 26 19.5**	**+0.9**
PMG	**Port Moresby**	**17.49**	**100**	*e*P	**P**	**20 26 19.7**	**+1.4**
	29nm,1.2s						
FORT	**Forrest**	**24.06**	**183**	*e*P	**P**	**20 27 28.0**	**+2.3**
	53nm,1.1s						
HMDM	**Hanimaadhoo**	**57.96**	**282**	*e*P	**P**	**20 31 59.4**	**-1.8**
	202nm,1.0s						
MK31	**Makanchi Array**	**67.77**	**327**	*e*P	**P**	**20 33 07.5**	**+2.0**
MK32	**Makanchi Array**	**67.77**	**327**	*e*P	**P**	**20 33 07.9**	**+2.4**
MKAR	**Makanchi Array**	**67.77**	**327**	P	**P**	**20 33 07.9**	**+2.4**
	0.1nm,0.4s,baz=113,slow=7.1,SNR=3.6						
MKAR	**Makanchi Array**	**67.77**	**327**	*e*P	**P**	**20 33 07.2**	**+1.7**
	7.4nm,0.7s						

*IDC **31** 20:23:23.9±1.2,34°.37N×70°.37E,h0km,mb3.6/7, mb1 3.7/11,mb1mx3.3/71,mbtmp3.5/11,ML3.1/4,Error ellipse: s-maj=29.1km s-min=23.0km az=63.0*
*ISCJB **31** 20:23:28.3±0.8,34°.46N±0°.07×70°.3E±0°.1,h42km,mb3.6/7, Error ellipse: s-maj=13.6km s-min=9.0km az=15.6*
*NNC **31** 20:23:28.2±5.7,34°.59N×69°.99E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=59.1km s-min=37.7km az=136.0*

ISC 31 20:23:29.9±1.1,34°.37N±0°.10×70°.3E±0°.1,h42km,n16, σ1s88/19,mb3.6/7,3C-2D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**6.19**	**24**	⇑Pn	**Pn**	**20 25 00.5**	**+1.6**
	1.1nm,0.3s						
SFK				⇓Sn	**Sn**	**20 26 13.6**	**+5.1**
	2.6nm,0.4s						
MNAS	**Manas**	**8.29**	**11**	⇓Pn	**Pn**	**20 25 26.7**	**-0.9**
	1.3nm,0.7s						
MNAS				⇑Sn	**Sn**	**20 26 58.8**	**-1.1**
	2.7nm,0.7s						
KK31	**Karatay Array**	**8.72**	**1**	Pn	**Pn**	**20 25 32.8**	**-0.6**
	2.5nm,0.5s,baz=182,slow=13,SNR=30						
KK31				Sn	**Sn**	**20 27 11.8**	**+1.4**
	1.5nm,0.6s,baz=181,slow=28,SNR=4.9						
GEYT	**Alibeck**	**10.46**	**293**	Pn	**Pn**	**20 25 59.0**	**+1.8**
	0.1nm,0.3s,baz=95,slow=17,SNR=2.2						
MKAR	**Makanchi Array**	**15.38**	**33**	Pn	**Pn**	**20 27 03.6**	**-0.3**
	0.1nm,0.3s,baz=212,slow=11,SNR=9.8						
AB31	**Akbulak array**	**16.72**	**336**	⇑P	**Pn**	**20 27 19.6**	**-1.3**
	0.7nm,0.5s,baz=153,slow=13,SNR=12						
KURBB	**Kurchatov Arra**	**17.32**	**18**	P	**Pn**	**20 27 25.1**	**-3.3**
	0.0nm,0.3s,baz=207,slow=11,SNR=2.8						
AKTO	**Aktyubinsk**	**18.39**	**334**	P	**Pn**	**20 27 41.2**	**-0.3**
	0.1nm,0.3s,baz=144,slow=10,SNR=3.3						
BVAR	**Borovoye Array**	**18.65**	**0**	P	**P**	**20 27 42.8**	**-1.1**
	0.1nm,0.3s,baz=178,slow=10,SNR=3.4						
ZALV	**Zalesovo Beam**	**22.09**	**23**	P	**P**	**20 28 19.4**	**-1.9**
	0.6nm,0.4s,baz=224,slow=10,SNR=5.5						
FINES	**FINESS Array B**	**38.94**	**328**	P	**P**	**20 30 52.0**	**+0.5**
	1.8nm,0.9s,baz=111,slow=7.7,SNR=2.7						
ARCES	**ARCESS Array B**	**42.90**	**339**	P	**P**	**20 31 23.8**	**-0.1**
	4.9nm,1.0s,baz=104,slow=7.5,SNR=2.8						
NOA	**NORSAR Array B**	**45.74**	**324**	P	**P**	**20 31 46.4**	**-0.4**
	0.7nm,0.8s,baz=87,slow=8.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**65.09**	**269**	P	**P**	**20 34 07.1**	**+0.6**
	0.3nm,0.4s,baz=47,slow=5.7,SNR=3.6						
WRA	**Warramunga Arr**	**81.38**	**121**	P	**P**	**20 35 43.4**	**+1.0**
	0.3nm,0.9s,baz=319,slow=4.8,SNR=3.4						
ASAR	**Alice Springs**	**83.53**	**124**	P	**P**	**20 35 52.8**	**-0.9**
	0.4nm,1.1s,baz=310,slow=5.2,SNR=4.1						

*IDC **31** 20:32:48.0±1.2,34°.21N×70°.32E,h0km,mb3.7/7, mb1 3.7/12,mb1mx3.4/72,mbtmp3.6/12,ML3.3/5,MS3.2/3, Ms1 3.2/3,ms1mx2.5/61,Error ellipse: s-maj=27.5km s-min=23.1km az=74.0*
*ISCJB **31** 20:32:51.5±0.9,34°.3N±0°.1×70°.3E±0°.2,h33km,mb3.6/7, MS3.2/3,Error ellipse: s-maj=18.0km s-min=15.5km az=179.6*

ISC 31 20:32:53.3±1.2,34°.4N±0°.1×70°.5E±0°.2,h35km,n15, σ0s57/12,mb3.6/7,MS2.9/3,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**8.82**	**20**	Pn	Pn	20 35 04.3	+5.9
	0.4nm,0.3s,baz=196,slow=13,SNR=1.9						
AAK				Sn	**Sn**	**20 36 36.7**	**0.0**
	baz=330,slow=20,SNR=2.4						
MKAR	**Makanchi Array**	**15.28**	**32**	Pn	**P**	**20 36 29.5**	**-1.3**
	0.1nm,0.3s,baz=213,slow=11,SNR=7.8						
KURBB	**Kurchatov Arra**	**17.26**	**17**	P	**Pn**	**20 36 51.9**	**+0.4**
	0.0nm,0.3s,baz=212,slow=9.5,SNR=2.9						
AKTO	**Aktyubinsk**	**18.45**	**334**	P	**Pn**	**20 37 06.0**	**-0.1**
	0.2nm,0.3s,baz=131,slow=9.3,SNR=4.5						
BVAR	**Borovoye Array**	**18.64**	**360**	P	**P**	**20 37 08.2**	**+0.4**
	0.2nm,0.3s,baz=164,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**22.02**	**23**	P	**P**	**20 37 45.3**	**+0.9**
	1.3nm,0.5s,baz=221,slow=10,SNR=3.7						
ARU	**Arti**	**23.52**	**343**	LR	LR	20 48 32.3	
	comp=Z,22nm,20.4s,baz=150,slow=40						
FINES	**FINESS Array B**	**39.02**	**328**	P	**P**	**20 40 16.2**	**0.0**
	1.9nm,0.8s,baz=101,slow=5.8,SNR=3.7						
HFS	**Hagfors**	**44.49**	**323**	P	**P**	**20 41 01.0**	**0.0**
	3.9nm,0.8s,baz=98,slow=10,SNR=3.7						
NOA	**NORSAR Array B**	**45.83**	**324**	P	**P**	**20 41 11.4**	**-0.2**
	1.1nm,0.6s,baz=99,slow=7.8,SNR=3.1						
MJAR	**Matsushiro Arr**	**54.15**	**67**	LR	LR	21 09 35.8	
	comp=Z,9.8nm,19.1s,baz=285,slow=41						
LSZ	**Lusaka**	**63.69**	**226**	LR	LR	21 12 03.6	
	comp=Z,121nm,18.0s,baz=116,slow=37						
TORD	**Torodi Ar. Bea**	**65.26**	**269**	P	**P**	**20 43 31.8**	**0.0**
	0.2nm,0.6s,baz=56,slow=6.8,SNR=3.1						
WRA	**Warramunga Arr**	**81.24**	**121**	P	**P**	**20 45 05.9**	**-0.1**
	0.1nm,0.4s,baz=315,slow=5.4,SNR=2.1						
ASAR	**Alice Springs**	**83.40**	**124**	P	**P**	**20 45 17.5**	**+0.3**
	0.4nm,0.9s,baz=319,slow=5.2,SNR=4.1						

IDC 31 20:33:59.8±2.1,8°.59S×129°.01E,h0km,mb3.2/1, mb1 3.2/4,mb1mx3.0/56,mbtmp3.1/4,ML2.9/3,Error ellipse: s-maj=39.4km s-min=28.8km az=53.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.51**	**253**	Pn	Pn	20 35 21.8	-1.5
	1.1nm,0.3s,baz=85,slow=11,SNR=4.4						
BATI				Sn	Sn	20 36 31.2	+3.8
	0.8nm,0.3s,baz=72,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**12.41**	**156**	Pn	Pn	20 36 57.7	-0.2
	0.1nm,0.3s,baz=340,slow=14,SNR=6.4						
WRA				Sn	Sn	20 39 18.4	+1.5
	0.1nm,0.3s,baz=332,slow=23,SNR=6.4						
ASAR	**Alice Springs**	**15.71**	**163**	Pn	Pn	20 37 43.2	+0.6
	0.1nm,0.3s,baz=342,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**69.02**	**328**	P	P	20 45 07.6	+0.2
	0.1nm,0.4s,baz=139,slow=7.7,SNR=2.3						

IDC 31 20:36:09.7±1.4,7°.87S×123°.81E,h0km,mb3.7/2, mb1 3.8/5,mb1mx3.4/57,mbtmp3.6/5,ML3.5/3,Error ellipse: s-maj=79.8km s-min=23.1km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.33**	**183**	Pn	Pn	20 36 49.6	+0.3
	4.4nm,0.3s,baz=305,slow=8.4,SNR=10						
BATI				Sn	Sn	20 37 13.1	-5.5
	14nm,0.3s,baz=209,slow=19,SNR=9.4						
WRA	**Warramunga Arr**	**15.76**	**141**	Pn	Pn	20 39 54.5	+1.3
	0.3nm,0.3s,baz=314,slow=12,SNR=7.8						
WRA				Sn	Sn	20 42 36.5	-12
	0.1nm,0.3s,baz=316,slow=24,SNR=6.1						
ASAR	**Alice Springs**	**18.45**	**149**	P	Pn	20 40 26.1	-1.0
	0.2nm,0.3s,baz=322,slow=11,SNR=21						
ASAR				S	Sn	20 43 37.6	-16
	0.1nm,0.3s,baz=317,slow=22,SNR=4.2						
MKAR	**Makanchi Array**	**65.74**	**330**	P	P	20 46 56.7	+0.3
	0.6nm,0.9s,baz=122,slow=8.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**69.79**	**337**	P	P	20 47 21.4	-0.3
	0.4nm,0.4s,baz=147,slow=3.4,SNR=2.4						

*JMA **31** 20:37:56.9±0.4,44°.01N×148°.03E,h15km,M3.5*
*SKHL **31** 20:37:58.4±0.5,44°.40N×148°.00E,h34km±3km,mb4.2/3*

ISC 31 20:37:54.5±2.9,44°.29N±0°.09×148°.1E±0°.2,h8km±14km,n9, σ1s16/17,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.96**	**349**	*e*P	**Pg**	**20 38 12.9**	**-0.1**
KUR				AMB	AMB	20 38 13.2	
	43nm,0.2s						
KUR				AMB	AMB	20 38 13.2	
	44nm,0.2s						
KUR				AMB	AMB	20 38 13.2	
	150nm,0.2s						
KUR				*i* S	**Sg**	**20 38 24.2**	**-1.2**
KUR				A	A	20 38 25.8	
	620nm,0.3s						
KUR				A	A	20 38 25.8	
	930nm,0.3s						
SHO	**Shikotan**	**1.02**	**246**	*e*P	**Pb**	**20 38 14.9**	**+0.5**
SHO				AMB

EKA	**Eskdalemuir Ar**	**145.47**	**353**	PKPbc	**PKPab**	**21 20 33.1**	**-0.1**	
	0.3nm,0.3s,baz=355,slow=2.9,SNR=11							
GERES	**GERESS Array B**	**146.49**	**331**	PKPbc	**PKPab**	**21 20 37.2**	**-0.2**	
	1.2nm,0.6s,baz=42,slow=3.1,SNR=6.0							

IDC ***31*** *21:30:04.8±0.6, 70.92N×7.37W, h0km, mb3.5/12, mb1 3.8/16, mb1mx3.6/65, mbtmp3.6/16, ML3.8/3, MS3.2/20, Ms1 3.2/20, ms1mx3.0/60, Error ellipse: s-maj=19.3km s-min=8.6km az=14.0*
NAO ***31*** *21:30:04.2±1.4, 70.73N×6.70W, ML4.5*
ISCJB ***31*** *21:30:04.7±0.3, 70.84N±0.04×6.53W±0.08, h16km, mb3.5/15, MS3.2/16, Error ellipse: s-maj=6.2km s-min=3.2km az=18.7*
CSEM ***31*** *21:30:05.3±0.2, 70.84N×6.59W, h2km, ML3.4, Error ellipse: s-maj=6.5km s-min=3.8km az=21.0*
NEIC ***31*** *21:30:06.9±0.4, 70.89N×6.79W, h10km, mb4.1/3, Error ellipse: s-maj=9.4km s-min=6.4km az=210.0*
BER ***31*** *21:30:06.8±2.3, 70.79N×6.77W, h12km±15km, ML3.4, ML4.5(NAO)*

ISC 31 21:30:06.9±0.5, 70.93N±0.06×6.66W±0.04, h16km, n79, σ2§69/80, mb3.5/15, MS3.1/16, 5C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.54**	**278**	⇑*i*P		**Pg**	**21 30 16.5**	**-1.0**
	SNR=70							
JNE	**Jan Mayen East**	**0.54**	**278**	⇑*i*P		**Pg**	**21 30 16.5**	**-1.0**
JNW	**Jan Mayen West**	**0.59**	**281**	⇑*i*P		**Pg**	**21 30 17.1**	**-1.3**
	SNR=70							
JNW	**Jan Mayen West**	**0.59**	**281**	⇑*i*P		**Pg**	**21 30 17.1**	**-1.3**
JMIC	**Jan Mayen**	**0.61**	**277**	Pg		**Pg**	**21 30 17.4**	**-1.5**
JMIC				Lg		Lg	21 30 25.2	
JMIC	**Jan Mayen**	**0.61**	**277**	Pn		**Pg**	**21 30 17.3**	**-1.5**
	1μm,0.3s,baz=63,slow=3.7,SNR=832							
JMIC				Sn		**Sg**	**21 30 25.1**	**-1.8**
	12μm,0.3s,baz=144,slow=17,SNR=449							
JMIC	**Jan Mayen**	**0.61**	**277**	⇑*i*P		**Pg**	**21 30 17.4**	**-1.5**
JMIC				*e*S		**Sg**	**21 30 25.2**	**-1.8**
JMIC				IAML			21 30 26.2	
	comp=Z,29μm,0.3s							
JMI	**Jan Mayen**	**0.68**	**271**	*e*P		**Pg**	**21 30 18.9**	**-1.2**
	SNR=70							
JMI				*e*S		**Sg**	**21 30 28.0**	**-1.2**
	SNR=70							
JMI	**Jan Mayen**	**0.68**	**271**	*e*P		**Pg**	**21 30 18.9**	**-1.2**
JMI				*e*S		**Sg**	**21 30 28.0**	**-1.2**
JMI				IAML			21 30 30.4	
	comp=Z,21μm,0.3s							
DAG	**Danmarks Havn**	**6.74**	**336**	*i* P		**Pn**	**21 31 43.1**	**-1.8**
DAG				*i*			21 31 43.7	
DAG				*i* S		**Sn**	**21 32 54.1**	**-7.1**
LOF	**Lofoten**	**7.60**	**102**	*e*Pn		**Pn**	**21 31 55.3**	**-1.4**
LOF				*e*Sn		**Sn**	**21 33 15.2**	**-7.1**
LOF				IAML			21 33 24.8	
	comp=Z,12nm,0.4s							
STEI	**Steigen**	**8.25**	**101**	*e*Pn		**Pn**	**21 32 04.8**	**-0.9**
BORG	**Borgarnes**	**8.29**	**229**	LR		LR	21 34 32.3	
	comp=Z,202nm,21.3s,baz=46,slow=33							
BJO1	**Bjornoya**	**8.38**	**53**	Pn		**Pn**	**21 32 09.9**	**+2.5**
KONS	**Konsvik**	**8.43**	**112**	*e*Pn		**Pn**	**21 32 07.3**	**-0.7**
KONS				*e*Sn		**Sn**	**21 33 36.5**	**-6.1**
KONS				IAML			21 33 44.9	
	comp=Z,23nm,0.9s							
BJO	**Bjornoya**	**8.43**	**53**	Pn		**Pn**	**21 32 09.9**	**+1.8**
STOK	**Stokkvaagen**	**8.50**	**113**	*e*Pn		**Pn**	**21 32 08.4**	**-0.7**
STOK				*e*Sn		**Sn**	**21 33 37.0**	**-7.5**
STOK				IAML			21 33 42.1	
	comp=Z,21nm,0.4s							
HSPB	**Hornsund (broa**	**8.58**	**35**	*e*Pn		**Pn**	**21 32 11.6**	**+1.5**
TRO	**Tromso**	**8.71**	**86**	*e*Pn		**Pn**	**21 32 10.2**	**-1.8**
TRO				*e*Sn		**Sn**	**21 33 43.4**	**-6.3**
TRO				IAML			21 33 51.2	
	comp=Z,6.9nm,0.6s							
MOR8	**Moi Rana**	**9.04**	**111**	*e*Pn		**Pn**	**21 32 16.6**	**+0.1**
MOR8				*e*Sn		**Sn**	**21 33 53.3**	**-4.6**
MOR8				IAML			21 34 00.4	
	comp=Z,14nm,0.5s							
KBS	**Kingsbay**	**9.31**	**22**	Pn		**Pn**	**21 32 21.4**	**+1.3**
KBS	**Kingsbay**	**9.31**	**22**	*e*Pn		**Pn**	**21 32 21.5**	**+1.4**
	comp=Z,36nm,0.4s							
KBS	**Kingsbay**	**9.31**	**22**	*e*Pn		**Pn**	**21 32 21.0**	**+0.9**
SPA0	**Spitsbergen Ar**	**9.42**	**30**	Pn		**Pn**	**21 32 23.6**	**+1.9**
	baz=230,slow=16							
SPA0	**Spitsbergen Ar**	**9.42**	**30**	Pn		**Pn**	**21 32 23.6**	**+1.9**
	baz=230,slow=16							
SPITS	**Spitsbergen Ar**	**9.42**	**30**	Pn		**Pn**	**21 32 23.7**	**+1.9**
	baz=238,slow=16,SNR=126							
NSS	**Namsos**	**9.51**	**123**	*e*Pn		**Pn**	**21 32 22.7**	**-0.2**
NSS				*e*Sn		**Sn**	**21 34 01.2**	**-8.0**
NSS				IAML			21 34 09.3	
	comp=Z,22nm,0.7s							
SUMG	**Summit**	**10.03**	**294**	*i* P		**Pn**	**21 32 32.2**	**+1.9**
SUMG				*e*S		**Sn**	**21 34 18.3**	**-4.2**
SUMG	**Summit**	**10.03**	**294**	*e*Pn		**Pn**	**21 32 31.9**	**+1.6**
	comp=Z,5.8nm,0.8s							
AKN	**Aaknes**	**10.29**	**142**	Pn		**Pn**	**21 32 31.9**	**-1.8**
AKN				Sn		Sn	21 34 19.4	-9.1
AKN	**Aaknes**	**10.29**	**142**	Pn		**Pn**	**21 32 31.9**	**-1.8**
AKN				Sn		Sn	21 34 19.4	-9.1
KTK1	**Kautokeino**	**10.37**	**86**	*e*Pn		**Pn**	**21 32 33.8**	**-0.8**
DOMB	**Dombas**	**10.86**	**137**	*e*Pn		**Pn**	**21 32 39.0**	**-2.4**
ARA0	**ARCESS Array S**	**10.90**	**82**	Pn		**Pn**	**21 32 41.0**	**-1.0**
	baz=286,slow=10							
ARA0	**ARCESS Array S**	**10.90**	**82**	Pn		**Pn**	**21 32 41.0**	**-1.0**
	baz=286,slow=10							
ARCES	**ARCESS Array B**	**10.90**	**82**	Pn		**Pn**	**21 32 41.3**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=292,slow=11,SNR=42							
ARE0	**ARCESS Array S**	**10.90**	**82**	*e*Pn		**Pn**	**21 32 42.5**	**+0.6**
SUE	**Sulen**	**10.92**	**149**	*e*Pn		**Pn**	**21 32 40.1**	**-2.1**
SUE				*e*Sn		Sn	21 34 32.4	-11
HYA	**Hoyanger**	**11.07**	**146**	*e*Pn		**Pn**	**21 32 44.0**	**-0.2**
HYA				*e*Sn		**Sn**	**21 34 39.1**	**-8.2**
HYA				IAML			21 34 45.3	
	comp=Z,5.6nm,0.6s							
NOA	**NORSAR Array B**	**12.23**	**135**	Pn		**Pn**	**21 33 01.9**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=333,slow=11,SNR=4.0							
NOA				LR		LR	21 37 25.4	
	comp=Z,76nm,21.3s,baz=330,slow=36							
ODD1	**Odda**	**12.32**	**147**	*e*Pn		**Pn**	**21 33 00.2**	**-1.1**
HFS	**Hagfors**	**13.62**	**132**	Pn		**Pn**	**21 33 18.4**	**-0.6**
	baz=345,slow=11							
HFS	**Hagfors**	**13.62**	**132**	Pn		**Pn**	**21 33 18.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=345,slow=11,SNR=9.7							
HFS				Sn		**Sn**	**21 35 48.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=338,slow=22,SNR=4.6							
HFS				LR		LR	21 37 57.8	
	comp=Z,136nm,21.2s,baz=272,slow=34							
HFS	**Hagfors**	**13.62**	**132**	Pn		**Pn**	**21 33 18.4**	**-0.6**
	baz=345,slow=11							
EKA	**Eskdalemuir Ar**	**15.73**	**173**	Pn		**Pn**	**21 33 46.6**	**-0.8**
	baz=354,slow=13,SNR=8.8							
SFJD	**Kangerlussuaq**	**15.97**	**277**	LR		LR	21 38 57.7	
	comp=Z,77nm,19.0s,baz=64,slow=34							
FIA0	**FINESS Array S**	**16.03**	**110**	P		**Pn**	**21 33 51.2**	**0.0**
	baz=322,slow=14							
FIA0	**FINESS Array S**	**16.03**	**110**	Pn		**Pn**	**21 33 51.2**	**0.0**
	baz=322,slow=14							
FINES	**FINESS Array B**	**16.03**	**110**	Pn		**Pn**	**21 33 51.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=319,slow=12,SNR=12							
KLMR	**Klimovskoe**	**20.78**	**95**	*e*P		**P**	**21 34 46.7**	**0.0**
KLMR				AMP			21 34 55.9	
	comp=Z,22nm,1.5s							
DPC	**Dobruska-Polom**	**23.21**	**141**	*e*P		**P**	**21 35 15.0**	**+2.3**
FRB	**Frobisher Bay**	**23.83**	**284**	LR		LR	21 42 53.2	
	comp=Z,36nm,21.1s,baz=25,slow=33							
KHC	**Kasperske Hory**	**23.83**	**146**	*e*P		**P**	**21 35 21.1**	**+2.2**
RES	**Resolute Bay**	**24.06**	**319**	LR		LR	21 44 29.6	
	comp=Z,101nm,18.5s,baz=60,slow=36							
RES	**Resolute Bay**	**24.06**	**319**	P		**P**	**21 35 22.9**	**+2.3**
	comp=Z,2.2nm,0.7s							
GERES	**GERESS Array B**	**24.13**	**146**	P		**P**	**21 35 24.3**	**+2.6**
	comp=Z,1.4nm,0.8s,baz=346,slow=8.3,SNR=4.8							
GERES				LR		LR	21 44 13.4	
	comp=Z,33nm,18.9s,baz=286,slow=35							
VRAC	**Vranov**	**24.25**	**141**	LR		LR	21 43 33.1	
	comp=Z,46nm,21.6s,baz=336,slow=33							
AKASG	**Malin Array Be**	**26.07**	**122**	P		**P**	**21 35 39.4**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=332,slow=9.5,SNR=5.9							
MLR	**Muntele Rosu**	**29.99**	**131**	LR		LR	21 49 14.9	
	comp=Z,47nm,18.2s,baz=19,slow=38							
ARU	**Arti**	**30.48**	**84**	LR		LR	21 48 17.2	
	comp=Z,46nm,19.7s,baz=343,slow=36							
ESDC	**Sonseca Array**	**31.35**	**176**	P		**P**	**21 36 27.9**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=356,slow=8.5,SNR=3.5							
KEST	**Kesra**	**36.27**	**158**	LR		LR	21 51 51.9	
	comp=Z,37nm,22.0s,baz=215,slow=36							
ABKAR	**Akbulak array**	**36.97**	**90**	*e*P		**P**	**21 37 16.3**	**+1.5**
	comp=Z,2.3nm,0.9s							
BVAR	**Borovoye Array**	**37.14**	**77**	P		**P**	**21 37 18.7**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=328,slow=11,SNR=6.2							
BRTR	**Keskin Array B**	**37.39**	**125**	P		**P**	**21 37 21.2**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=330,slow=9.3,SNR=3.4							
BRTR				LR		LR	21 52 39.1	
	comp=Z,30nm,21.5s,baz=320,slow=36							
YKA	**Yellowknife Ar**	**37.87**	**314**	P		**P**	**21 37 21.0**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=30,slow=8.7,SNR=3.9							
IDI	**Anoyia**	**39.44**	**138**	LR		LR	21 55 45.2	
	comp=Z,24nm,18.9s,baz=277,slow=39							
GNI	**Garni**	**40.20**	**112**	LR		LR	21 54 03.4	
	comp=Z,38nm,21.8s,baz=342,slow=36							
ZALV	**Zalesovo Beam**	**40.82**	**65**	P		**P**	**21 37 49.1**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=350,slow=6.4,SNR=2.5							
ZALV				LR		LR	21 57 38.3	
	comp=Z,16nm,20.8s,baz=70,slow=40							
KURK	**Kurchatov**	**41.74**	**72**	P		**P**	**21 37 56.8**	**+2.2**
KURBB	**Kurchatov Arra**	**41.79**	**72**	P		**P**	**21 37 56.8**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=330,slow=6.6,SNR=4.8							
DLBC	**Dease Lake**	**44.92**	**322**	P		**P**	**21 38 20.6**	**+0.3**
	comp=Z,12nm,0.8s							
MKAR	**Makanchi Array**	**46.34**	**72**	P		**P**	**21 38 32.9**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=334,slow=6.6,SNR=3.4							
MKAR				LR		LR	22 01 28.5	
	comp=Z,39nm,18.9s,baz=236,slow=40							
KDAK	**Kodiak Island**	**49.34**	**337**	LR		LR	22 02 09.9	
	comp=Z,32nm,18.4s,baz=38,slow=39							
PDAR	**Pinedale Array**	**54.20**	**298**	P		**P**	**21 39 31.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=27,slow=4.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**57.97**	**170**	P		**P**	**21 39 59.2**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=356,slow=6.6,SNR=7.5							
TORD				LR		LR	22 05 44.7	
	comp=Z,31nm,19.5s,baz=175,slow=37							
TXAR	**Lajitas Array**	**64.83**	**287**	P		**P**	**21 40 45.4**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=27,slow=5.0,SNR=3.1							
SDV	**Santo Domingo**	**73.29**	**248**	LR		LR	22 09 34.1	
	comp=Z,16nm,20.8s,baz=58,slow=32							
APG	**El Apazote**	**73.90**	**269**	LR		LR	22 14 03.9	
	comp=Z,27nm,18.3s,baz=328,slow=36							

NEIC ***31*** *21:33:58.7±0.0, 63.05N×144.17W, h8km, ML3.2(AEIC), After AEIC.*

PGC 31 21:33:59.0±0.2, 63.00N×144.17W, h10km, ML3.5/4, 238km northeast of Valdez, Ak Central Alaska, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.21**	**108**	P		**Pg**	21 34 03.5	0.0
MENT				S		Sg	21 34 06.9	+0.5
PAX	**Paxson**	**0.60**	**267**	P		**Pg**	21 34 09.7	-0.9
PAX				S		Sg	21 34 17.3	-1.1
PAX	**Paxson**	**0.60**	**267**	*e*Pg		Pg	21 34 09.9	-0.7
PAX				*e*Sg		Sg	21 34 17.4	-1.0
DOT	**Dot Lake**	**0.65**	**4**	P		**Pg**	21 34 10.8	-0.8
DOT				S		Sg	21 34 18.5	-1.6
DOT	**Dot Lake**	**0.65**	**4**	*e*Pg		Pg	21 34 10.7	-0.8
DOT				*e*Sg		Sg	21 34 18.6	-1.5
HARP	**HAARP**	**0.75**	**218**	P		**Pg**	21 34 13.5	0.0
HARP				S		Sg	21 34 22.2	-1.1
HARP	**HAARP**	**0.75**	**218**	P		**Pg**	21 34 13.6	+0.1
RIDG	**Independ'e Rid**	**0.80**	**338**	P		**Pg**	21 34 13.6	-0.8
PS10	**TAPS Pump St10**	**0.84**	**301**	P		**Pg**	21 34 14.0	-1.2
SCRK	**Sand Creek**	**0.98**	**5**	P		**Pg**	21 34 16.7	-1.2
BCA3	**Beaver Creek A**	**1.09**	**86**	P		**Pg**	21 34 18.4	-1.4
PS11	**TAPS Pump St11**	**1.11**	**214**	P		**Pb**	21 34 20.0	-0.2
PS11				S		Sn	21 34 36.1	+0.2
PS12	**TAPS Pump St12**	**1.60**	**197**	P		**Pn**	21 34 27.4	+0.1
KLU	**Klutina**	**1.73**	**209**	P		**Pn**	21 34 29.5	+0.4
VRDI	**Verde Repeater**	**1.81**	**169**	P		**Pn**	21 34 31.2	+0.8
HDA	**Harding Lake**	**1.88**	**320**	P		**Pn**	21 34 30.2	-0.9
SCM	**Sheep Creek Mo**	**1.88**	**233**	P		**Pn**	21 34 32.0	+0.7
PS08	**TAPS Pump Stn8**	**1.94**	**324**	P		**Pn**	21 34 30.8	-1.2
DIV	**Divide**	**2.03**	**203**	Pn		Pn	21 34 33.5	+0.3
DIV				Sg		Sn	21 34 59.6	+0.9
DIV	**Divide**	**2.03**	**203**	*e*Pn		Pn	21 34 33.8	+0.5
DIV				Sn		Sn	21 34 57.1	-1.5
BMRM	**Bremner River**	**2.05**	**186**	*e*Pn		Pn	21 34 34.0	+0.4
BMRM				*e*Sn		Sb	21 35 01.0	-0.9
BMRM				*e*Sg		Sg	21 35 05.3	+0.4
ILB	**Eielson Array**	**2.14**	**327**	P		Pn	21 34 33.6	-1.2
BALM	**Baldy**	**2.15**	**156**	Pn		Pn	21 34 36.0	+0.9
BALM	**Baldy**	**2.15**	**156**	P		Pn	21 34 36.0	+1.0
RND	**Reindeer**	**2.16**	**283**	P		Pn	21 34 37.2	-1.2
EGAK	**Eagle**	**2.22**	**35**	*e*Pn		Pn	21 34 35.3	-0.6
EGAK				*e*Pg		Pb	21 34 39.6	+0.4
KIAG	**Kiagna River**	**2.26**	**157**	P		Pn	21 34 37.6	+1.1
JPK	**Jack Peak**	**2.27**	**211**	P		Pn	21 34 37.1	+0.6
MCK	**McKinley**	**2.27**	**291**	*e*Pn		Pn	21 34 37.5	+1.0
MCK				*e*Pb		Pb	21 34 40.2	+0.2
MCK				*e*Pg		Pg	21 34 41.8	-0.6
MCK				*e*Sg		Sg	21 35 10.8	-1.1
BARN	**Barnard Glacie**	**2.28**	**148**	P		Pb	21 34 39.0	-1.4
SML	**Sawmill**	**2.28**	**240**	*e*Pn		Pn	21 34 37.7	+1.0
SML				*e*Pb		Pb	21 34 40.1	-0.1
SML				*e*Sn		Sn	21 35 05.3	+0.4
SML				*e*Sb		Sb	21 35 09.3	+0.8
SML				*e*Sg		Sg	21 35 12.2	0.0
WRH	**Wood River Hil**	**2.28**	**312**	P		Pn	21 34 36.5	-0.2
CCB	**Clear Creek Bu**	**2.31**	**317**	P		Pn	21 34 35.6	-1.4
DAWY	**Dawson**	**2.39**	**61**	Pn		Pn	21 34 37.3	-0.9
DAWY				Sg		Sb	21 35 12.6	+1.0
DAWY	**Dawson**	**2.39**	**61**	*e*Pn		Pn	21 34 37.6	-0.6
DAWY				*e*Pb		Pb	21 34 42.0	-0.1
DAWY				*e*Pg		Pg	21 34 44.2	-0.5
DAWY				*e*Sb		Sb	21 35 10.1	-1.5
DAWY				*e*Sg		Sg	21 35 14.2	-1.5
COLA	**College**	**2.48**	**321**	*e*Pn		Pn	21 34 38.6	-0.8
COLA				*e*Pb		Pb	21 34 43.6	0.0
COLA				*e*Pg		Pg	21 34 46.5	-0.1
COLA				*e*Sn		Sn	21 35 08.1	-1.6
COLA				*e*Sb		Sb	21 35 14.4	+0.2
COLA				*e*Sg		Sg	21 35 17.6	-1.1
GHO	**Glory Hole Cre**	**2.54**	**243**	P		Pn	21 34 42.2	+2.0
GLI	**Glacier Island**	**2.54**	**214**	P		Pn	21 34 41.4	+1.1
ISLE	**Juniper Island**	**2.56**	**159**	P		Pn	21 34 42.5	+1.9
KNK	**Knik Glacier**	**2.57**	**233**	P		Pb	21 34 42.9	-2.2
EYAK	**Cordova Ski Ar**	**2.58**	**198**	P		Pb	21 34 43.1	-2.1
PRP	**Porcupine Dome**	**2.59**	**347**	P		Pn	21 34 40.6	-0.5
MDM	**Murphy Dome**	**2.66**	**319**	P		Pn	21 34 40.5	-1.3
BAGL	**Bagley Icefiel**	**2.71**	**158**	P		Pn	21 34 44.8	+2.3
PMR	**Palmer**	**2.72**	**241**	*e*Pn		Pn	21 34 43.2	+0.6
PMR				*e*Pb		Pb	21 34 47.9	+0.3
PMR				*e*Sb		Sb	21 35 22.6	+1.6
PMR				*e*Sg		Sg	21 35 26.9	+0.7
TRF	**Thorofare Moun**	**2.81**	**282**	*e*Pn		Pn	21 34 45.7	+1.7
TRF				*e*Pb		Pb	21 34 49.4	+0.2
TRF				*e*Sb		Sb	21 35 24.7	+0.9
RKAV	**Rock Avalanche**	**3.03**	**152**	P		Pn	21 34 49.7	+2.6
KTH	**Kantishna Hill**	**3.10**	**283**	*e*Pn		Pn	21 34 49.5	+1.4
KTH				*e*Pb		Pb	21 34 53.5	-0.7
KTH				S		Sg	21 35 36.3	-2.2
BPAW	**Bear Paw Mtn.**	**3.24**	**293**	*e*Pn		Pn	21 34 49.7	-0.2
BPAW				*e*Pg		Pg	21 34 59.4	-1.7
BPAW				Sg		Sb	21 35 38.9	+2.8
RC01	**Rabbit Creek A**	**3.25**	**236**	*e*Pn		Pn	21 34 51.0	+1.0
RC01				*e*Pb		Pb	21 34 56.9	+0.2
RC01				*e*Sb		Sb	21 35 36.9	+0.6
YUK5	**Granite Creek**	**3.51**	**120**	Pn		Pn	21 34 52.2	-1.5
YUK5				Pg		Pb	21 35 00.7	-0.5
YUK5				Sg		Sb	21 35 45.5	+1.5
MLY	**Manley**	**3.54**	**308**	P		Pn	21 34 53.2	-0.8
PPLA	**Purkeypile**	**3.67**	**272**	*e*Pn		Pn	21 34 58.8	+2.9
PPLA				*e*Sb		Sb	21 35 47.5	-0.9
YUK7	**Dusty Glacier**	**3.79**	**128**	Pn		Pn	21 34 56.9	-0.7
YUK7				Pg		Pb	21 35 05.9	-0.1
YUK7				Sg		Sg	21 35 58.6	-2.0
HYT	**Haines Junctio**	**3.83**	**122**	Pn		Pn	21 34 56.8	-1.4
HYT				Pg		Pb	21 35 07.4	+0.7
HYT				Sg		Sg	21 35 58.2	-3.8
PNL	**Peninsula**	**4.06**	**143**	Pn		Pn	21 35 02.8	+1.7
BM3	**Burnt Mountain**	**4.44**	**358**	P		Pn	21 35 06.2	-0.1
COLD	**Coldfoot**	**4.95**	**332**	Pn		Pn	21 35 12.9	-0.3
COLD				Sg		Sb	21 36 26.6	+1.6
COLD	**Coldfoot**	**4.95**	**332**	*e*Pn		Pn	21 35 13.1	-0.2
COLD				*e*Sg		Sg	21 36 34.3	-3.3
WHY	**Whitehorse**	**4.99**	**114**	Pn		Pn	21 35 13.8	-0.1
WHY				Sn		Sn	21 36 10.0	-1.7
WHY				Sg		Sg	21 36 33.9	-5.1
IM3	**Indian Mountai**	**5.11**	**310**	P		Pn	21 35 15.1	-0.4
TT01	**Tatalina**	**5.41**	**274**	P		Pn	21 35 21.1	+1.5
TOLK	**Toolik Lake Re**	**6.08**	**341**	P		Pn	21 35 29.8	+1.0
BESE	**Bessie Mountai**	**6.36**	**130**	Sg		Sg	21 37 24.8	+1.9
INK	**Inuvik**	**6.90**	**35**	Pn		Pn	21 35 39.0	-1.0
INK				Sn		Sn	21 36 53.4	-4.9
INK				Sg		Sg	21 37 33.6	-6.5
DLBC	**Dease Lake**	**8.30**	**117**	Sg		Sg	21 38 16.8	-8.2
SMPN	**Simpson Lake**	**8.91**	**47**	Pn		Pn	21 36 06.2	-1.3
LDBN	**Lake De Bois**	**8.97**	**57**	Pn		Pn	21 36 05.8	-2.7
DHRN	**Dharma Camp**	**11.13**	**58**	Pn		Pn	21 36 35.7	-2.3
DHRN				Sn		Sn	21 38 33.1	-9.2
HPLN	**Hepburn Lake,**	**12.72**	**62**	Pn		Pn	21 36 56.3	-3.4

ISCJB ***31*** *21:35:35.2±0.3, 13.55N±0.04×120.72E±0.05, h133km±4km, mb3.7/9, Error ellipse: s-maj=9.0km s-min=6.4km az=163.7*
IDC ***31*** *21:35:35.0±0.7, 13.75N×121.24E, h136km±3km, mb3.3/8, mb1 3.5/8, mb1mx3.2/62, mbtmp3.7/8, Error ellipse: s-maj=41.7km s-min=12.1km az=63.0*
MAN ***31*** *21:35:36, 13.55N×120.67E, h109km, mb4.8, ML3.6, MS3.6*

ISC 31 21:35:35.7±0.7, 13.54N±0.04×120.67E±0.05, h128km±6km, n34, σ1§42/41, mb3.8/9, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.45**	**295**	*e*P		**Pn**	**21 35 54.5**	**+0.2**
LUBP				*e*S		**Sn**	**21 36 08.0**	**-0.4**
TGY	**Tagaytay City**	**0.61**	**25**	P		**Pn**	**21 35 55.5**	**+0.1**
	682nm,0.3s,baz=227,slow=1.9,SNR=56							
TGY				S		**Sn**	**21 36 10.8**	**+0.5**
	208nm,0.3s,baz=288,slow=20,SNR=9.5							
TGY	**Tagaytay City**	**0.61**	**25**	⇑*i*P		**Pn**	**21 35 55.2**	**-0.2**
LQP	**Lukban**	**1.02**	**56**	⇑*e*P		Pn	21 35 49.8	-9.1
BOAC	**Boac**	**1.15**	**94**	*e*P		**Pn**	**21 35 59.6**	**-0.3**
BOAC				*e*S		**Sn**	**21 36 18.0**	**-0.3**
SJMP	**San Jose**	**1.16**	**158**	*e*P		**Pn**	**21 36 00.6**	**+0.5**
SJMP				*e*S		**Sn**	**21 36 19.0**	**+0.4**
BUSP	**Coron**	**1.60**	**197**	*e*P		**Pn**	**21 36 05.7**	**+0.8**
BUSP				*e*S		**Sn**	**21 36 23.6**	**-3.5**
POLP	**Polilio Island**	**1.71**	**46**	*e*P		**Pn**	**21 36 07.0**	**+0.9**
GQP	**Guinayangan**	**1.77**	**78**	⇓*i*P		**Pn**	**21 36 06.8**	**+0.1**
GQP				*i* S		**Sn**	**21 36 30.9**	**+0.4**
OTRP	**Odiongan**	**1.77**	**132**	*e*P		**Pn**	**21 36 06.7**	**-0.1**
OTRP				*e*S		**Sn**	**21 36 29.6**	**-1.0**
AUQP	**San Andres**	**1.97**	**96**	*e*P		**Pn**	**21 36 38.1**	**+3.3**
PCPH	**Palayan**	**2.05**	**12**	*e*P		**Pn**	**21 36 11.5**	**+1.2**
PCPH				*e*S		**Sn**	**21 36 36.6**	**0.0**
SCZP	**Santa Cruz**	**2.34**	**342**	*e*P		**Pn**	**21 36 12.7**	**-1

MKAR	**Makanchi Array**	**29.26**	**41**	P		**P**	**21 48 39.8**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=229,slow=7.5,SNR=3.7							
ZALV	**Zalesovo Beam**	**34.68**	**32**	P		**P**	**21 49 24.6**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=224,slow=9.6,SNR=2.3							
FINES	**FINESS Array B**	**38.97**	**339**	P		**P**	**21 49 59.7**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=137,slow=12,SNR=4.6							
TORD	**Torodi Ar. Bea**	**51.07**	**265**	P		**P**	**21 51 41.0**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=64,slow=7.5,SNR=3.9							

*IDC **31** 21:42:42.3±0.7, 34°.41N×73°.51E, h0km, mb3.9/14, mb1 4.0/20, mb1mx3.8/64, mbtmp3.9/20, ML3.6/6, MS2.9/3, Ms1 2.9/3, ms1mx2.4/64, Error ellipse: s-maj=19.7km s-min=14.2km az=44.0*

*ISCJB **31** 21:42:43.0±0.4, 34°.30N±0°.04×73°.54E±0°.06, h22km, mb3.9/19, MS3.2/1, Error ellipse: s-maj=8.9km s-min=4.2km az=145.0*

*BJI **31** 21:42:45.3, 34°.41N×73°.44E, h35km, mb4.1/13, mB4.4/10, ML3.7/2, Ms3.5/3, Ms7 3.5/2*

*NEIC **31** 21:42:48.4±0.7, 34°.45N×73°.56E, h43km±6km, mb4.2/6, Error ellipse: s-maj=7.6km s-min=6.4km az=102.0*

NEIC Felt at Muzaffarabad.

ISC 31 21:42:45.3±0.6, 34°.34N±0°.08×73°.47E±0°.06, h22km, n58, σ1§26/58, mb4.0/19, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.71**	**195**	*e*Pn	**Pn**	**21 43 01.9**	**+1.9**
KBL	**Kabul**	**3.67**	**274**	*e*Pn	**Pb**	**21 43 46.1**	**-3.4**
KSH	**Kashi**	**5.54**	**20**	P	**Pn**	**21 44 04.5**	**-2.0**
KSH				pP	Pb	21 44 06.0	-15
KSH				S	Sn	21 45 01.5	-8.1
KSH				pmax	pmax		
	comp=Z,27nm,0.6s						
KSH				smax	smax		
	comp=N,65nm,1.3s						
KSH				smax	smax		
	comp=E,44nm,1.0s						
AML	**Almayashu**	**7.78**	**1**	P	**Pn**	**21 44 39.6**	**+2.1**
	SNR=12						
KZA	**Kyzart**	**7.85**	**10**	P	**Pn**	**21 44 40.3**	**+1.8**
	SNR=7.1						
UCH	**Uchtor**	**7.92**	**6**	P	**Pn**	**21 44 41.3**	**+1.8**
	SNR=17						
EKS2	**Erkin-Say**	**8.31**	**2**	P	**Pn**	**21 44 46.5**	**+2.0**
	SNR=11						
AAK	**Ala-Archa**	**8.32**	**5**	Pn	**Pn**	**21 44 47.1**	**+2.4**
	0.4nm,0.3s,baz=176,slow=11,SNR=13						
AAK				Sn	Sn	21 46 10.3	-7.8
	0.1nm,0.3s,baz=183,slow=19,SNR=1.8						
AAK				LR	LR	21 48 14.2	
	comp=Z,57nm,21.4s,baz=182,slow=40						
AAK	**Ala-Archa**	**8.32**	**5**	*e*Pn	**Pn**	**21 44 46.1**	**+1.4**
	4.5nm,0.8s						
AAK				Sn	Sn	21 46 10.3	-7.8
CHMS	**Chumysh**	**8.70**	**6**	P	**Pn**	**21 44 52.1**	**+2.3**
	SNR=5.1						
KKAR	**Karatay Array**	**9.05**	**346**	*e*Pn	**Pn**	**21 44 55.5**	**+0.9**
PYUN	**Piuthan**	**10.25**	**125**	*e*P	**Pn**	**21 45 10.8**	**-0.4**
	14nm,0.2s						
DANN	**Dangsing**	**10.63**	**121**	*e*P	**Pn**	**21 45 16.5**	**0.0**
KOLN	**Koldanda**	**10.87**	**124**	*e*P	**Pn**	**21 45 19.9**	**+0.1**
	13nm,0.3s						
GKN	**Gorkha**	**11.46**	**120**	*e*P	**Pn**	**21 45 26.8**	**-0.9**
	26nm,0.4s						
DMN	**Daman**	**12.02**	**121**	*e*P	**Pn**	**21 45 35.0**	**-0.6**
	16nm,0.4s						
KKN	**Kakani**	**12.04**	**120**	*e*P	**Pn**	**21 45 34.7**	**-1.1**
PKIN	**Phulchoki**	**12.25**	**120**	*e*P	**Pn**	**21 45 37.5**	**-1.2**
	14nm,0.3s						
PKI	**Pulchoki**	**12.26**	**120**	*e*P	**Pn**	**21 45 37.5**	**-1.4**
	8.9nm,0.2s						
GUN	**Gumba**	**12.41**	**118**	*e*P	**Pn**	**21 45 39.5**	**-1.4**
	15nm,0.3s						
JIRN	**Jiri**	**12.78**	**118**	*e*P	**Pn**	**21 45 44.4**	**-1.6**
	75nm,0.4s						
GEYT	**Alibeck**	**12.92**	**291**	Pn	**Pn**	**21 45 48.7**	**+1.1**
	0.1nm,0.3s,baz=125,slow=7.8,SNR=5.7						
GEYT				LR	LR	21 51 29.0	
	comp=Z,27nm,18.9s,baz=225,slow=41						
RAMN	**Ramite**	**13.48**	**120**	*e*P	**Pn**	**21 45 53.7**	**-1.8**
	11nm,0.3s						
MAKZ	**Makanchi**	**14.02**	**25**	*e*Pn	**Pn**	**21 46 02.7**	**+0.2**
MK01	**Makanchi Array**	**14.10**	**26**	*e*Pn	**Pn**	**21 46 03.3**	**-0.4**
ODAN	**Odare**	**14.11**	**118**	*e*P	**Pn**	**21 46 02.2**	**-1.8**
	32nm,0.7s						
MK31	**Makanchi Array**	**14.12**	**26**	*e*Pn	**Pn**	**21 46 03.8**	**-0.1**
MKAR	**Makanchi Array**	**14.12**	**26**	Pn	**Pn**	**21 46 03.2**	**-0.7**
	0.1nm,0.3s,baz=203,slow=12,SNR=10						
MKAR	**Makanchi Array**	**14.12**	**26**	*e*Pn	**Pn**	**21 46 03.8**	**-0.1**
WMQ	**Urumqi**	**14.53**	**45**	P	**Pn**	**21 46 11.0**	**+1.4**
WMQ				pP	P	21 46 19.0	+3.0
WMQ				LR	LR		
	comp=N,67nm,16.7s						
WMQ				LR	LR		
	comp=E,150nm,15.9s						
WMQ				LR	LR		
	comp=Z,98nm,18.5s						
KURBB	**Kurchatov Arra**	**16.69**	**11**	Pn	**Pn**	**21 46 35.7**	**-1.9**
	0.1nm,0.3s,baz=204,slow=10,SNR=16						
KURK	**Kurchatov**	**16.79**	**11**	*e*Pn	**Pn**	**21 46 39.8**	**+0.9**
	16nm,1.8s						
ABKAR	**Akbulak array**	**17.95**	**330**	*e*Pn	**Pn**	**21 46 52.7**	**-0.7**
	20nm,0.4s						
BVAR	**Borovoye Array**	**18.81**	**354**	P	**P**	**21 47 02.8**	**-0.4**
	0.8nm,0.3s,baz=163,slow=10,SNR=19						
BRVK	**Borovoye**	**18.85**	**354**	*e*P	**P**	**21 47 02.5**	**-1.1**
	2.5nm,0.6s						
AKTO	**Aktyubinsk**	**19.66**	**330**	P	**P**	**21 47 13.1**	**+0.6**
	0.7nm,0.3s,baz=134,slow=9.8,SNR=29						
ZAA0	**Zalesovo Array**	**21.18**	**19**	*e*P	**P**	**21 47 27.7**	**-1.2**
	4.7nm,0.5s						
ZALV	**Zalesovo Beam**	**21.18**	**19**	P	**P**	**21 47 27.4**	**-1.5**
	3.6nm,0.4s,baz=211,slow=12,SNR=19						
ZALV	**Zalesovo Beam**	**21.18**	**19**	*e*P	**P**	**21 47 27.6**	**-1.3**
GTA	**Gaotai**	**21.64**	**69**	*e*P	**P**	**21 47 34.3**	**+0.1**
GTA				pP	sP	21 47 43.3	+0.1
GTA				sP	pP	21 47 47.5	+7.1
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARU	**Arti**	**24.34**	**340**	P	**P**	**21 48 00.9**	**-0.3**
	3.9nm,0.5s,baz=140,slow=2.9,SNR=9.7						
ARU	**Arti**	**24.34**	**340**	*e*P	**P**	**21 48 01.7**	**+0.4**
	5.2nm,0.6s						
LZH	**Lanzhou**	**24.83**	**77**	*e*P	**P**	**21 48 07.0**	**+0.9**
LZH				pP	sP	21 48 17.0	+1.5
LZH				sP	pP	21 48 20.8	+8.1
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.4s						
CHTO	**Chiang Mai**	**27.43**	**118**	*e*P	**P**	**21 48 30.5**	**+0.9**
	21nm,1.8s						
CMAR	**Chiang Mai Arr**	**27.65**	**118**	P	**P**	**21 48 32.4**	**+0.8**
	1.8nm,0.9s,baz=301,slow=10,SNR=12						
SONM	**Songino Array**	**28.00**	**51**	P	**P**	**21 48 34.8**	**+0.2**
	1.0nm,0.7s,baz=258,slow=9.0,SNR=6.7						
SONM				LR	LR	22 01 02.1	
	comp=Z,64nm,18.7s,baz=231,slow=39						
FINES	**FINESS Array B**	**40.39**	**327**	P	**P**	**21 50 21.3**	**0.0**
	1.4nm,0.8s,baz=114,slow=8.5,SNR=3.4						
ARCES	**ARCESS Array B**	**43.90**	**338**	P	**P**	**21 50 50.2**	**+0.3**
	2.7nm,0.9s,baz=110,slow=9.2,SNR=7.3						
KLR	**Kul'dur**	**44.83**	**52**	P	**P**	**21 50 57.3**	**-0.2**
	0.1nm,0.5s,baz=272,slow=9.2,SNR=5.3						
HFS	**Hagfors**	**46.01**	**323**	P	**P**	**21 51 06.5**	**-0.1**
	2.9nm,0.6s,baz=88,slow=10,SNR=9.9						
NB2	**NORSAR Subarra**	**47.31**	**324**	P	**P**	**21 51 16.5**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=98,slow=7.4						
NOA	**NORSAR Array B**	**47.31**	**324**	P	**P**	**21 51 15.9**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=103,slow=7.2,SNR=4.2						
ESDC	**Sonseca Array**	**60.27**	**300**	P	**P**	**21 52 52.8**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=50,slow=6.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**67.73**	**271**	P	**P**	**21 53 42.2**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=41,slow=5.5,SNR=7.8						
ILAR	**Eielson Array**	**76.28**	**17**	P	**P**	**21 54 31.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=291,slow=5.5,SNR=8.0						
WRA	**Warramunga Arr**	**79.13**	**123**	P	**P**	**21 54 49.1**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=320,slow=4.7,SNR=19						
ASAR	**Alice Springs**	**81.36**	**126**	P	**P**	**21 55 01.2**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=308,slow=5.1,SNR=12						
YKA	**Yellowknife Ar**	**83.28**	**4**	P	**P**	**21 55 09.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=348,slow=5.1,SNR=24						

MAN 31 21:43:28, 15°.67N×120°.26E, h91km, mb4.5, ML3.4, MS3.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.35**	**288**	*e*P	Pn	21 43 43.5	+1.7
SCZP				*e*S	Sn	21 43 55.7	+3.7
BOLP	**Bolinao**	**0.78**	**335**	*e*P	Pn	21 43 47.1	+1.7
BOLP				*e*S	Sn	21 44 02.0	+3.6
PCPH	**Palayan**	**0.81**	**97**	*e*P	Pn	21 43 46.8	+1.1
BALP	**Baler**	**1.27**	**87**	*e*P	Pn	21 43 53.0	+2.0
BALP				*e*S	Sn	21 44 13.4	+5.1
LUBP	**Lubang**	**1.92**	**180**	*e*P	Pn	21 44 00.1	+0.8
ABRA	**Dolores**	**2.02**	**12**	*e*P	Pn	21 44 01.0	+0.5
ABRA				*e*S	Sn	21 44 26.3	+1.1
APYP	**Conner**	**2.38**	**23**	*e*P	Pn	21 44 06.5	+1.2
APYP				*e*S	Sn	21 44 35.2	+1.5
SJMP	**San Jose**	**3.30**	**165**	*e*P	Pn	21 44 19.8	+2.2

*SJA **31** 21:52:46.3±0.4, 35°.71S×72°.74W, h80km±104km, ML4.4, MW4.1*

*ISCJB **31** 21:52:55.2±0.4, 35°.27S±0°.03×72°.12W±0°.06, h54km±4km, mb4.4/12, MS2.8/1, Error ellipse: s-maj=9.0km s-min=4.6km az=24.7*

*GUC **31** 21:52:56.1±0.5, 35°.27S×72°.09W, h43km±1km, ML4.4*

*NEIC **31** 21:52:56.0±0.0, 35°.27S×72°.09W, h43km, mb4.4/7, ML4.4(GUC), After GUC.*

NEIC Felt [IV] at Talca; [III] at Constitucion and Molina; [II] at Iloca, Parral, Pencahue and Rancagua. Also felt at San Javier.

*IDC **31** 21:52:57.0±0.9, 35°.23S×72°.09W, h56km±6km, mb4.0/8, mb1 4.1/9, mb1mx3.8/35, mbtmp4.3/9, MS3.1/3, Ms1 3.1/3, ms1mx2.8/38, Error ellipse: s-maj=27.9km s-min=19.5km az=86.0*

ISC 31 21:52:56.0±0.6, 35°.27S±0°.04×72°.14W±0°.06, h47km±5km, n44, σ1§85/62, mb4.4/12, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.31**	**33**	*e*Pn	**Pn**	**21 53 04.4**	**-0.7**
GO05				*e*Sn	**Sn**	**21 53 10.7**	**-0.7**
GO05	**HualaæØ**	**0.31**	**33**	*e*P	**Pn**	**21 53 04.1**	**-1.0**
GO05				*i* S	**Sn**	**21 53 10.4**	**-1.0**
GO05				IAML		21 53 11.4	
	comp=E,34μm,0.2s						
NICH	**Los Niches**	**0.79**	**71**	*i* P	**Pn**	**21 53 09.9**	**-1.0**
NICH				*i* S	**Sn**	**21 53 20.7**	**-1.0**
CHPI	**Pichilemu**	**0.89**	**7**	*e*P	**Pn**	**21 53 11.7**	**-0.5**
CHPI				*i* S	**Sn**	**21 53 23.9**	**0.0**
COCH	**Cobquecura**	**1.01**	**211**	*e*P	**Pn**	**21 53 13.5**	**-0.3**
COCH				*i* S	**Sn**	**21 53 27.9**	**+1.1**
CCHI	**Chillan**	**1.33**	**178**	*e*P	**Pn**	**21 53 18.8**	**+0.6**
CCHI				*i* S	**Sn**	**21 53 37.8**	**+3.1**
LMEL	**Las Melosas**	**2.14**	**49**	*i* P	**Pn**	**21 53 29.6**	**+0.2**
LMEL				*i* S	**Sn**	**21 53 57.0**	**+2.2**
LMEL				IAML		21 54 03.8	
	comp=N,3μm,0.1s						
CLCH	**Cerro Calan**	**2.29**	**36**	*e*P	**Pn**	**21 53 31.6**	**+0.2**
CLCH				*i* S	**Sn**	**21 54 00.4**	**+1.9**
CLCH				IAML		21 54 15.8	
	comp=E,5μm,0.5s						
PEL	**Peldehue**	**2.44**	**30**	*e*Pn	**Pn**	**21 53 33.7**	**+0.3**
PEL	**Peldehue**	**2.44**	**30**	*e*P	**Pn**	**21 53 33.5**	**+0.1**
PEL				*i* S	**Sn**	**21 54 06.9**	**+4.8**
FCH	**Farellones**	**2.47**	**39**	*e*P	**Pn**	**21 53 34.5**	**+0.4**
FCH				*i* S	**Sn**	**21 54 05.2**	**+2.0**
FCH				IAML		21 54 13.2	
	comp=E,2μm,0.6s						
ROC1	**El Roble**	**2.47**	**22**	*e*Pn	**Pn**	**21 53 34.0**	**0.0**
ROCH	**El Roble**	**2.48**	**22**	*e*P	**Pn**	**21 53 34.3**	**+0.1**
ROCH				*i* S	**Sn**	**21 54 09.9**	**+6.7**
ROCH				IAML		21 54 18.2	
	comp=N,3μm,0.4s						
PLCA	**Paso Flores**	**5.59**	**168**	P	**Pn**	**21 54 13.1**	**-3.7**
	comp=N,0.0nm,0.3s,baz=345,slow=12,SNR=5.8						
PLCA				LR	LR	21 56 51.2	
	comp=N,104nm,20.0s,baz=12,slow=42						
PLCA	**Paso Flores**	**5.59**	**168**	*e*Pn	**Pn**	**21 54 17.9**	**+1.1**
LCO	**Las Campanas**	**6.36**	**11**	*e*Pn	**Pn**	**21 54 26.5**	**-1.0**
LCO	**Las Campanas**	**6.36**	**11**	*i* P	**Pn**	**21 54 26.5**	**-1.0**
LCO				*i* S	**Sn**	**21 55 40.2**	**+1.3**
APLL	**PUNTA DE LOS L**	**6.78**	**46**	*i* P	**Pn**	**21 54 31.4**	**-1.6**
APLL				*i* S	**Sn**	**21 55 52.6**	**+3.7**
APLL				IAML		21 56 01.1	
	comp=Z,29nm,0.6s						
VCA	**Vinchina**	**7.32**	**28**	*i* P	**Pn**	**21 54 40.5**	**0.0**
VCA				*i* S	**Sn**	**21 56 01.5**	**-0.9**
VCA				IAML		21 56 30.3	
	comp=Z,61nm,0.6s						
TCA	**Tanti**	**7.43**	**60**	*i* P	**Pn**	**21 54 41.8**	**-0.3**
TCA				*i* S	**Sn**	**21 56 07.8**	**+2.8**
TCA				IAML		21 56 13.1	
	comp=E,26nm,0.6s						
TRQA	**Tornquist**	**8.62**	**112**	*e*Pn	**Pn**	**21 54 58.4**	**+0.2**
CPUP	**Villa Florida**	**15.52**	**59**	P	**Pn**	**21 56 26.9**	**-4.8**
	comp=E,0.1nm,0.3s,baz=253,slow=11,SNR=1.8						
CPUP				LR	LR	22 03 00.9	
	comp=E,121nm,19.0s,baz=234,slow=39						
PB11	**IPOC Station P**	**15.61**	**9**	*e*Pn	**Pn**	**21 56 34.0**	**+0.9**
	comp=E,14nm,0.8s						
MNMC	**Minye Minye**	**16.23**	**9**	*e*Pn	**P**	**21 56 42.6**	**-1.0**
	comp=E,16nm,0.8s						
LPAZ	**La Paz**	**19.24**	**12**	P	**Pn**	**21 57 18.1**	**-0.4**
	comp=E,0.2nm,0.3s,baz=187,slow=6.3,SNR=17						
LPAZ	**La Paz**	**19.24**	**12**	*e*P	**Pn**	**21 57 18.6**	**+0.2**
	comp=E,6.0nm,0.8s						
SIV	**San Ignacio**	**21.61**	**30**	P	**P**	**21 57 40.6**	**-1.5**
	comp=E,4.6nm,0.7s,baz=223,slow=12,SNR=26						
SIV				LR	LR	22 05 49.0	
	comp=E,38nm,18.5s,baz=190,slow=36						
RUSC	**La Rusia**	**40.95**	**359**	*e*P	**P**	**22 00 35.3**	**+0.5**
	comp=E,14nm,2.0s						
HELC	**Santa Helena**	**41.36**	**355**	*e*P	**P**	**22 00 38.8**	**+0.8**
	comp=E,10nm,0.8s						
QSPA	**South Pole Qui**	**54.97**	**180**	P	**P**	**22 02 22.7**	**+0.5**
	comp=E,2.5nm,0.8s,baz=116,slow=4.4,SNR=6.9						
TXAR	**Lajitas Array**	**70.80**	**331**	P	**P**	**22 04 08.4**	**+0.6**
	comp=E,0.5nm,0.5s,baz=153,slow=9.0,SNR=9.8						
TXAR				pP	**pP**	**22 04 21.2**	**0.0**
	comp=E,0.6nm,0.7s,baz=149,slow=9.3,SNR=6.1						
MAW	**Mawson**	**71.99**	**163**	P	**P**	**22 04 14.0**	**-0.3**
	comp=E,3.6nm,0.7s,baz=241,slow=6.9,SNR=4.3						
WVT	**Waverly**	**72.53**	**347**	*e*P	**P**	**22 04 17.8**	**+0.1**
	comp=E,36nm,1.9s						
DBIC	**Dimbokro**	**75.67**	**71**	P	**P**	**22 04 36.1**	**-0.5**
	comp=E,3.4nm,0.7s,baz=198,slow=6.0,SNR=4.7						
DBIC				pP	**pP**	**22 04 52.8**	**+2.5**
	comp=E,3.4nm,0.7s,baz=211,slow=5.9,SNR=2.9						
BOSA	**Boshof**	**79.56**	**118**	P	**P**	**22 04 57.5**	**-1.0**
	comp=E,4.1nm,0.9s,baz=254,slow=7.4,SNR=3.1						
KOWA	**Kowa**	**81.24**	**65**	P	**P**	**22 05 06.8**	**-0.5**
	comp=E,4.5nm,0.6s,baz=227,slow=7.1,SNR=11						
KOWA				pP	**pP**	**22 05 24.4**	**+3.3**
	comp=E,1.8nm,0.5s,baz=251,slow=5.6,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**84.72**	**70**	*e*P	**P**	**22 05 24.7**	**-0.6**
	comp=E,23nm,1.9s						
TORD	**Torodi Ar. Bea**	**84.72**	**70**	P	**P**	**22 05 24.3**	**-1.1**
	comp=E,2.3nm,0.8s,baz=271,slow=5.2,SNR=15						
TORD				pP	**pP**	**22 05 41.5**	**+2.4**
	comp=E,2.4nm,0.7s,baz=248,slow=4.1,SNR=9.2						
BVAR	**Borovoye Array**	**148.25**	**44**	PKPbc	**PKPbc**	**22 12 36.3**	**-0.1**
	comp=E,0.8nm,0.5s,baz=298,slow=3.2,SNR=6.5						
AAK	**Ala-Archa**	**153.16**	**64**	PKPbc	**PKPbc**	**22 12 48.9**	**+0.4**
	comp=E,3.4nm,0.8s,baz=194,slow=2.5,SNR=20						
KURBB	**Kurchatov Arra**	**153.84**	**45**	PKPbc	**PKPbc**	**22 12 49.5**	**0.0**
	comp=E,0.6nm,0.7s,baz=302,slow=3.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**155.33**	**34**	PKPbc	PKPab	22 12 58.3	-11
	comp=E,0.5nm,0.5s,baz=255,slow=2.9,SNR=2.6						
ZALV				PKPab	pPKPbc	22 13 08.4	+1.4
	comp=E,1.3nm,0.9s,baz=291,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**157.64**	**51**	PKPab	**PKPab**	**22 13 17.7**	**-1.6**
	comp=E,1.4nm,0.9s,baz=288,slow=3.5,SNR=8.3						
LZH	**Lanzhou**	**176.63**	**75**	*e*PKP	**PKPdf**	**22 13 02.3**	**+1.0**
LZH				pPKP	pPKPdf	22 13 12.5	-3.2
LZH				sPKP		22 13 17.3	

*IDC **31** 21:58:50.4±2.1, 18°.21S×167°.67E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/45, mbtmp3.7/4, ML3.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/47, Error ellipse: s-maj=58.9km s-min=33.4km az=130.0*

*ISCJB **31** 21:58:52.2±1.6, 18°.40S±0°.09×167°.7E±0°.2, h23km, mb3.7/3, MS2.5/1, Error ellipse: s-maj=31.7km s-min=12.4km az=7.4*

ISC 31 21:58:54.0±1.2, 18°.4S±0°.1×167°.7E±0°.3, h23km, n10, σ1§15/9, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.86**	**198**	Pn	**Pn**	**21 59 52.9**	**+0.8**
	1.8nm,0.3s,baz=113,slow=19,SNR=9.2						
DZM				Sn	**Sn**	**22 00 35.9**	**-0.9**
	19nm,0.3s,baz=133,slow=19,SNR=11						
AFI	**Afiamalu**	**20.20**	**80**	LR	LR	22 08 54.0	
	comp=Z,24nm,19.9s,baz=224,slow=30						
CTA	**Charters Tower**	**20.32**	**262**	P	Pn	22 03 31.4	+0.6
	4.1nm,0.7s,baz=77,slow=16,SNR=5.1						
WRA	**Warramunga Arr**	**31.52**	**262**	P	**P**	**22 05 14.4**	**-0.3**
	0.3nm,0.5s,baz=82,slow=6.0,SNR=6.3						
ASAR	**Alice Springs**	**31.93**	**255**	P	**P**	**22 05 18.3**	**0.0**
	1.0nm,0.6s,baz=82,slow=8.5,SNR=13						
ILAR	**Eielson Array**	**89.85**	**18**	P	**P**	**22 11 50.0**	**-0.5**
	0.3nm,0.5s,baz=228,slow=5.3,SNR=5.9						
ABTA	**Abfaltersbach**	**145.11**	**330**	*e*PKiKP	**PKiKP**	**22 18 31.8**	**-1.8**
	1.6nm,0.6s						
MOTA	**Moosalm**	**145.33**	**332**	*e*PKiKP	**PKPdf**	**22 18 31.1**	**+0.9**
	0.1nm,0.0s						
FETA	**Feichten**	**145.74**	**332**	*e*PKiKP	**PKPbc**	**22 18 31.3**	**0.0**
	1.8nm,0.7s						
DAVA	**Damuels**	**145.91**	**333**	PKiKP	**PKPab**	**22 18 33.8**	**+1.5**
	8.8nm,1.8s						

*BJI **31** 22:03:40.9, 11°.99N×144°.31E, h10km, mb4.7/53, mB5.1/38, Ms4.7/42, Ms7 4.5/40*

*ISCJB **31** 22:03:48.5±1.0, 12°.28N±0°.04×144°.06E±0°.04, h43km±8km, mb4.8/136, MS4.5/52, Error ellipse: s-maj=7.2km s-min=5.2km az=135.5*

*MOS **31** 22:03:48.3±0.9, 12°.31N×144°.02E, h41km, mb5.1/43, MS4.4/9, Error ellipse: s-maj=9.9km s-min=5.7km az=105.3*

*GCMT **31** 22:03:49.7±0.2, 12°.15N×143°.85E, h20km, MW5.0/74, Moment Tensor Solution. s48,c74; s74,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r3.65±.18; $M_{\theta\theta}$-2.22±.11; $M_{\phi\phi}$-1.43±.14; $M_{r\theta}$0.52±.25; $M_{r\phi}$-2.33±.09; $M_{\theta\phi}$0.32±.30; Best double couple: M_o3.96600×10^{16} NP1:ϕ_s51.00000°, δ49.00000°, λ92.00000°. NP2: ϕ_s228.00000°, δ41.00000°, λ87.00000°. Principal axes: T 3.6980, Plg85.0000°, Azm341.0000°; N 0.5360, Plg2.0000°, Azm230.0000°; P -4.2340, Plg4.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **31** 22:03:49.7±1.0, 12°.25N×144°.11E, h40km±9km, mb4.9/67 Error ellipse: s-maj=6.5km s-min=4.9km az=123.0*

NEIC Felt at Santa Rita.

*IDC **31** 22:03:51.2±1.4, 12°.37N×144°.04E, h49km±13km, mb4.3/37, mb1 4.4/38, mb1mx4.3/67, mbtmp4.6/38, ML5.7/1, MS4.3/36, Ms1 4.3/36, ms1mx4.2/52, Error ellipse: s-maj=13.3km s-min=9.4km az=99.0*

ISC 31 22:03:48.6±0.9, 12°.23N±0°.05×144°.16E±0°.05, h31km±6km, n281, σ1§58/279, mb4.8/136, MS4.5/53, 9C-12D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.52**	**27**	P	**Pn**	**22 04 13.2**	**-0.5**
	650nm,0.3s,baz=347,slow=0.7,SNR=185						
GUMO				S	**Sn**	**22 04 33.4**	**+1.0**
	2μm,0.3s,baz=181,slow=24,SNR=20						
GUMO	**Guam**	**1.52**	**27**	*e*P	**Pn**	**22 04 13.6**	**-0.1**
GUMO				S	**Sn**	**22 04 33.4**	**+1.0**
GUMO	**Guam**	**1.52**	**27**	*e*Pn	**Pn**	**22 04 13.6**	**-0.1**
GUMO				S	**Sn**	**22 04 33.4**	**+1.0**
SARN	**Sarigan**	**4.71**	**19**	*e*Pn	**Pn**	**22 04 59.6**	**+1.9**
PATS	**Pohnpei**	**14.95**	**110**	*e*Pn	**Pn**	**22 07 16.4**	**-1.5**
DAV	**Davao City (W)**	**19.01**	**256**	P	**Pn**	**22 08 09.8**	**+0.8**
	24nm,0.3s,baz=59,slow=3.7,SNR=6.2						
FAKI	**Fak Fak**	**19.14**	**219**	*e*P	**P**	**22 08 10.0**	**+0.5**
	21nm,0.9s						
JHJ	**Hachijo jima 2**	**21.18**	**350**	LR	LR	22 15 17.5	
	comp=Z,1μm,21.3s,baz=137,slow=33						
PMG	**Port Moresby**	**21.70**	**172**	P	**P**	**22 08 41.7**	**+4.6**
	10nm,0.7s,baz=349,slow=14,SNR=3.7						
PMG				LR	LR	22 16 58.6	
	comp=Z,1μm,18.2s,baz=345,slow=36						
AAI	**Ambon**	**22.40**	**226**	P	**P**	**22 08 45.3**	**+0.6**
AAI				pmax	pmax		
	comp=Z,67nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**22.59**	**71**	T	T	22 32 19.1	
	SNR=13						
H11S1	**WAK

USRK Ussuriysk Ar. 33.53 344 P **P** **22 10 24.7 -0.8**
comp=Z,1.4nm,0.5s,baz=126,slow=11,SNR=3.5
USRK LR LR 22 21 42.4
comp=Z,551nm,20.6s,baz=149,slow=32
MDJ Mudanjiang 34.61 342 P **P** **22 10 37.8 +3.0**
MDJ pmax pmax
comp=Z,9.0nm,0.7s
MDJ pmax pmax
comp=Z,270nm,3.3s
KSM Kuching 35.21 255 *e*P **P** **22 10 40.4 0.0**
comp=Z,51nm,1.3s
ENH Enshi 36.76 305 *e*P **P** **22 10 53.2 -0.3**
comp=Z,11nm,0.7s
AS01 Alice Springs 37.04 196 *e*P **P** **22 10 56.7 +0.8**
AS31 Alice Springs 37.06 196 *e*P **P** **22 10 56.6 +0.5**
comp=Z,2.2nm,0.6s
ASAR Alice Springs 37.06 196 P **P** **22 10 56.9 +0.8**
comp=Z,2.7nm,0.8s,baz=19,slow=9.8,SNR=27
ASAR LR LR 22 26 17.2
comp=Z,635nm,21.9s,baz=19,slow=36
BJI Beijing 37.09 323 P **P** **22 10 54.8 -1.4**
BJI pmax pmax
comp=Z,13nm,1.2s
GYA Guiyang 37.95 297 P **P** **22 11 03.3 -0.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
KLR Kul'dur 38.30 347 P **P** **22 11 05.2 -1.0**
comp=Z,0.2nm,0.8s,baz=135,slow=9.6,SNR=8.7
KLR PcP **PcP** **22 13 20.4 +0.6**
comp=Z,0.3nm,0.9s,baz=178,slow=2.7,SNR=4.2
KLR LR LR 22 25 44.1
comp=Z,72nm,20.2s,baz=152,slow=34
KLR Kul'dur 38.30 347⇓ *i*P **P** **22 11 04.3 -1.9**
XAN Xi'an 38.71 310 P **P** **22 11 09.0 -1.0**
XAN pP pP 22 11 13.0 -6.1
XAN sP sP 22 11 15.0 -7.9
XAN PP **PnPn** **22 12 43.3 +2.1**
XAN S **S** **22 17 10.0 +4.8**
XAN sS sS 22 17 18.0 -2.3
XAN pmax pmax
comp=Z,7.0nm,0.7s
XAN LR LR
comp=Z,380nm,21.1s
XAN LR LR
comp=Z,490nm,16.8s
XAN LR LR
comp=Z,750nm,20.6s
DZM Mont Dzumac 40.50 147 LR LR 22 28 13.5
comp=Z,267nm,18.8s,baz=58,slow=36
NKL Nikolayevsk 40.91 357 *e*P **P** **22 11 28.0 +0.1**
KMI Kunming 41.11 294 P **P** **22 11 30.0 -0.3**
KMI pP pP 22 11 36.0 -3.5
KMI sP sP 22 11 38.8 -4.4
KMI S **S** **22 17 42.5 +0.8**
KMI sS pS 22 17 52.3 0.0
KMI SS **SS** **22 20 46.8 +1.9**
KMI pmax pmax
comp=Z,11nm,1.4s
KMI pmax pmax
comp=Z,150nm,5.5s
KMI LR LR
comp=Z,160nm,15.4s
KMI LR LR
comp=Z,380nm,15.4s
KMI LR LR
comp=Z,490nm,16.7s
CD2 Chengdu 41.63 303 *e*P **P** **22 11 34.0 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
HIA Hailar 42.09 336⇓ *i*P **P** **22 11 37.1 -0.6**
HIA pmax pmax
comp=Z,17nm,1.3s
PETK Petropavlovsk- 42.19 12 LR LR 22 28 06.4
comp=Z,379nm,19.5s,baz=195,slow=35
PHIT Phitsanulok 42.53 282 P P 22 11 52.1 +10
PAYA Payao 43.11 285 P **P** **22 11 48.6 +2.2**
comp=Z,3.9nm,0.9s
IPM Ipoh 43.31 264 *e*P **P** **22 11 47.9 -0.3**
comp=Z,11nm,1.0s
LZH Lanzhou 43.34 310⇓P **P** **22 11 48.3 0.0**
LZH pP pP 22 11 53.0 -4.5
LZH sP sP 22 11 54.5 -6.8
LZH PP **PP** **22 13 31.3 +2.0**
LZH S **S** **22 18 13.5 -0.8**
LZH SS **SS** **22 21 20.0 -8.6**
LZH pmax pmax
comp=Z,56nm,1.3s
LZH pmax pmax
comp=Z,260nm,7.5s
LZH LR LR
comp=Z,370nm,12.9s
LZH LR LR
comp=Z,410nm,12.5s
LZH LR LR
comp=Z,1µm,17.2s
KULM Kulim 43.50 265 *e*P **P** **22 11 49.8 +0.2**
comp=Z,34nm,1.2s
CMAI Chiengmai2 43.91 286 P **P** **22 11 53.5 +0.5**
comp=Z,525nm,0.8s
STKA Stephens Creek 43.92 183 P **P** **22 11 54.8 +2.2**
comp=Z,4.1nm,0.9s,baz=335,slow=12,SNR=4.4
STKA LR LR 22 31 49.4
comp=Z,562nm,18.3s,baz=4.2,slow=38
STKA Stephens Creek 43.92 183 *e*P **P** **22 11 51.4 -1.2**
comp=Z,1.8nm,1.0s
CM01 Chiang Mai Arr 43.94 284 *e*P **P** **22 11 53.2 +0.2**
CM01 *es*P **P** **22 11 53.5 +0.4**
CMAR Chiang Mai Arr 43.95 284 P **P** **22 11 53.5 +0.4**
comp=Z,3.0nm,0.6s,baz=86,slow=6.1,SNR=24
CMAR PcP **PcP** **22 13 39.9 +1.0**
comp=Z,2.8nm,0.7s,baz=86,slow=1.9,SNR=10
CMAR LR LR 22 28 35.0
comp=Z,396nm,21.0s,baz=92,slow=34
PSI Prapat 45.74 262 *e*P **P** **22 12 08.1 +0.4**
PSI pmax pmax
comp=Z,23nm,1.0s
PSI Prapat 45.74 262 *e*P **P** **22 12 08.1 +0.4**
comp=Z,22nm,1.0s
ULN Ulaanbaatar 47.11 326⇓ *e*P **P** **22 12 17.8 -0.2**
ULN pmax pmax
comp=Z,6.0nm,1.2s
ULN Ulaanbaatar 47.11 326 *e*P **P** **22 12 17.7 -0.2**
comp=Z,12nm,1.3s
LHMI Lhok Sumawe 47.12 266 *e*P **P** **22 12 19.8 +1.5**
comp=Z,74nm,0.8s
GSI Gunungsitoli 47.43 260 *e*P **P** **22 12 19.5 -1.2**
GSI *es*P **P** **22 12 21.6 +0.9**
SONM Songino Array 47.45 326 P **P** **22 12 20.3 -0.3**
comp=Z,2.5nm,0.7s,baz=141,slow=7.1,SNR=13
SONM PcP **PcP** **22 13 50.8 +0.1**
comp=Z,1.3nm,0.7s,baz=144,slow=3.4,SNR=3.0
SONM LR LR 22 32 23.4
comp=Z,750nm,19.8s,baz=120,slow=36
SONA1 Songino Array 47.45 326 *e*P **P** **22 12 19.9 -0.7**
MA2 Magadan 47.52 5 P **P** **22 12 20.4 -0.3**
comp=Z,3.3nm,0.4s,baz=200,slow=3.1,SNR=5.2
MA2 Magadan 47.52 5⇑ *e*P **P** **22 12 20.2 -0.5**
GTA Gaotai 47.57 313 P **P** **22 12 20.8 -0.8**
GTA pP pP 22 12 27.5 -3.5
GTA sP sP 22 12 29.8 -4.9
GTA PcP **PcP** **22 13 51.5 +0.2**
GTA PP **PP** **22 14 10.0 -3.3**
GTA S **S** **22 19 16.3 +1.2**
GTA sS pS 22 19 27.8 +1.8
GTA SS **SS** **22 22 39.0 -4.3**
GTA pmax pmax
comp=Z,10.0nm,1.5s
GTA pmax pmax
comp=Z,170nm,6.0s
GTA LR LR
comp=Z,330nm,21.9s
GTA LR LR
comp=Z,520nm,21.9s
GTA LR LR
comp=Z,570nm,20.0s
ZAK Zakamensk 50.59 327 *e*P **P** **22 12 43.4 -1.1**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
YAK Yakutsk 50.81 351 LR LR 22 33 23.7
comp=Z,434nm,18.9s,baz=140,slow=35
YAK Yakutsk 50.81 351 *e*P **P** **22 12 45.8 -0.1**
YAK pmax pmax
comp=Z,15nm,0.7s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 50.81 351 *e*P **P** **22 12 47.0 +1.1**
comp=E,26nm,0.7s
AFI Afiamalu 50.81 119 LR LR 22 32 04.8
comp=E,224nm,18.7s,baz=300,slow=33
SEY Seymchan 50.97 5 P **P** **22 12 46.9 -0.2**
comp=E,1.5nm,0.6s,baz=172,slow=8.1,SNR=6.7
SEY Seymchan 50.97 5⇑ *e*P **P** **22 12 47.3 +0.3**
TLY Talaya 51.14 329 P **P** **22 12 47.8 -0.8**
comp=E,2.1nm,0.7s,baz=153,slow=8.0,SNR=4.8
TLY LR LR 22 33 12.1
comp=E,155nm,21.8s,baz=118,slow=35
TLY Talaya 51.14 329 *e*P **P** **22 12 47.3 -1.3**
TLY *e*PPP PPP 22 15 52.1
TLY *e*S **S** **22 20 10.0 +5.5**
TLY pmax pmax
comp=Z,9.0nm,1.7s
TLY MLR MLR
comp=Z,251nm,16.0s
TLY Talaya 51.14 329 *e*P **P** **22 12 48.6 0.0**
comp=Z,3.3nm,0.8s
ODAN Odare 55.03 294 *e*P **P** **22 13 17.2 -0.7**
RAO Raoul Island 55.14 139 LR LR 22 34 29.6
comp=Z,547nm,19.0s,baz=62,slow=33
RAMN Ramite 55.74 294 *e*P **P** **22 13 22.4 -0.6**
comp=Z,20nm,0.6s
JIRN Jiri 56.14 295 *e*P **P** **22 13 25.5 -0.6**
comp=Z,58nm,0.9s
GUN Gumba 56.43 295 *e*P **P** **22 13 27.5 -0.6**
comp=Z,67nm,0.9s
PKI Pulchoki 56.83 295 *e*P **P** **22 13 29.7 -1.2**
PKIN Phulchoki 56.84 295 *e*P **P** **22 13 30.4 -0.5**
KKN Kakani 56.96 295 *e*P **P** **22 13 30.6 -1.1**
DMN Daman 57.10 295 *e*P **P** **22 13 32.0 -0.8**
comp=Z,26nm,0.8s
GKN Gorkha 57.54 295 *e*P **P** **22 13 34.6 -1.1**
WMQ Urumqi 57.58 314 P **P** **22 13 36.0 +0.4**
WMQ pP pP 22 13 43.0 -2.1
WMQ sP sP 22 13 47.0 -1.8
WMQ PcP **PcP** **22 14 29.5 +0.8**
WMQ S **S** **22 21 34.3 +2.6**
WMQ SS **SS** **22 25 25.5 +3.6**
WMQ pmax pmax
comp=Z,37nm,0.9s
WMQ pmax pmax
comp=Z,350nm,4.9s
WMQ LR LR
comp=Z,420nm,20.5s
WMQ LR LR
comp=Z,370nm,20.5s
WMQ LR LR
comp=Z,470nm,19.9s
BILL Bilibino 57.61 10⇑ *e*P **P** **22 13 34.1 -1.2**
BILL *e* 22 14 25.7
BILL *e* 22 15 38.6
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,225nm,17.0s
DANN Dangsing 58.33 296 *e*P **P** **22 13 40.9 -0.5**
KOLN Koldanda 58.44 295 *e*P **P** **22 13 41.4 -0.7**
comp=Z,25nm,0.8s
URZ Urewera 58.94 150 LR LR 22 37 32.8
comp=Z,219nm,20.2s,baz=337,slow=34
PYUN Piuthan 58.99 295 *e*P **P** **22 13 45.0 -1.0**
comp=Z,43nm,0.9s
DGZ Jazzator, Alta 59.45 321 *d i*P **P** **22 13 48.9 +0.2**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 60.11 354⇓ *e*P **P** **22 13 51.1 -1.5**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
RPZ Rata Peaks 60.84 158 LR LR 22 38 30.2
comp=Z,555nm,19.9s,baz=321,slow=34
WKZ Wanaka 61.10 160 *e*P **P** **22 13 57.1 -2.6**
comp=Z,41nm,1.2s
MK01 Makanchi Array 61.98 317 *e*P **P** **22 14 05.2 -0.6**
MK31 Makanchi Array 61.99 317 *e*P **P** **22 14 05.7 -0.2**
MK31 Makanchi Array 61.99 317 *e*P **P** **22 14 05.7 -0.2**
MKAR Makanchi Array 61.99 317 P **P** **22 14 05.6 -0.2**
comp=Z,8.5nm,0.5s,baz=90,slow=8.3,SNR=120
MKAR LR LR 22 42 03.6
comp=Z,334nm,19.7s,baz=92,slow=37
MKAR Makanchi Array 61.99 317 *e*P **P** **22 14 05.7 -0.2**
MKAR pmax pmax
comp=Z,60nm,0.6s
MKAR Makanchi Array 61.99 317 *e*P **P** **22 14 05.7 -0.2**
comp=Z,60nm,0.6s
MAKZ Makanchi 62.20 317 *e*P **P** **22 14 07.0 -0.3**
comp=Z,15nm,0.6s
ZAA0 Zalesovo Array 62.33 325 *e*P **P** **22 14 07.2 -0.7**
ZAA0 *ep*P **P** **22 14 08.2 +0.3**
ZALV Zalesovo Beam 62.33 325 P **P** **22 14 07.0 -1.0**
comp=Z,2.1nm,0.8s,baz=119,slow=6.9,SNR=6.3
ZALV LR LR 22 41 05.2
comp=Z,351nm,20.5s,baz=70,slow=36
ZALV Zalesovo Beam 62.33 325 *e*P **P** **22 14 06.7 -1.2**
ZALV Zalesovo Beam 62.33 325 *e*P **P** **22 14 06.7 -1.2**
ZALV *es*P **P** **22 14 07.0 -1.0**
PALK Pallekele 62.62 272 LR LR 22 39 12.3
comp=Z,175nm,21.7s,baz=116,slow=34
PDGK Podgornoye 63.31 312 P **P** **22 14 14.5 -0.4**
PDGK pmax pmax
comp=Z,12nm,1.4s
HYB Hyderabad 63.38 283 *i*P **P** **22 14 15.0 -0.6**
NVS Novosibirsk 63.48 326 *e*P **P** **22 14 15.0 -0.6**
NVS pmax pmax
comp=Z,22nm,1.7s
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,17nm,1.7s
PRZ Przheval'sk 63.99 311 P **P** **22 14 20.0 +0.6**
KDJ Kajisay 64.84 311 P **P** **22 14 25.3 +0.3**
KDJ pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 65.18 320 *c i*P **P** **22 14 25.5 -1.3**
KURK pmax pmax
comp=Z,30nm,1.3s
KURK Kurchatov 65.18 320 *e*P **P** **22 14 25.8 -0.9**
comp=Z,29nm,1.2s
KURBB Kurchatov Arra 65.22 320 P **P** **22 14 26.6 -0.5**
comp=Z,8.2nm,0.6s,baz=104,slow=6.7,SNR=56
KSH Kashi 65.52 308 P **P** **22 14 31.8 +2.4**
KSH pP pP 22 14 37.0 -2.0
KSH PcP **PcP** **22 15 03.5 +2.5**
KSH S **S** **22 23 14.5 +1.9**
KSH pmax pmax
comp=Z,8.0nm,1.1s
KSH pmax pmax
comp=Z,180nm,4.8s
KSH LR LR
comp=Z,110nm,11.4s
KSH LR LR
comp=Z,290nm,18.7s
KSH LR LR
comp=Z,170nm,20.9s
ULHL Ulahol 65.55 311 P **P** **22 14 29.2 -0.5**
SNR=7.6
KDAK Kodiak Island 65.58 32 *i*P **P** **22 14 29.0 -0.2**
NRN Naryn 65.65 310 P **P** **22 14 30.5 0.0**
NRN pmax pmax
comp=Z,5.0nm,1.1s
TRD Trivandrum 66.07 274⇑ *e*P **P** **22 14 32.6 -0.6**
TKM2 Tokmak 2 66.09 312 P **P** **22 14 33.2 +0.1**
SNR=6.9
KZA Kyzart 66.27 311 P **P** **22 14 34.9 +0.4**
SNR=16
CHMS Chumysh 66.72 312 P **P** **22 14 36.7 -0.2**
SNR=5.6
FRU Bishkek 66.80 311 *e*P **P** **22 14 38.0 +0.6**
FRU *e* 22 14 53.0
FRU *e* 22 15 05.0
UCH Uchtor 66.83 311 P **P** **22 14 38.9 +0.7**
SNR=13
AAK Ala-Archa 66.87 311 P **P** **22 14 37.8 -0.3**
comp=Z,1.7nm,0.5s,baz=107,slow=5.9,SNR=9.5
AAK Ala-Archa 66.87 311 *e*P **P** **22 14 37.2 -0.9**
AAK *e**PP **pP** **22 14 48.9 +1.2**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 66.87 311 P **P** **22 14 38.1 0.0**
SNR=5.8
AAK Ala-Archa 66.87 311 *e*P **P** **22 14 37.2 -0.9**
comp=Z,5.1nm,1.0s
AAK *ep*P **pP** **22 14 48.9 +1.2**
PPLA Purkeypile 67.31 26 *e*P **P** **22 14 41.3 +0.9**
comp=Z,23nm,1.4s
EKS2 Erkin-Say 67.40 311 P **P** **22 14 41.5 +0.2**
SNR=6.7
AML Almayashu 67.43 311 P **P** **22 14 42.4 +0.5**
SNR=12
SFK Sufi-Kurgan 67.45 308 P **P** **22 14 42.2 +0.3**
SFK pmax pmax
comp=Z,10.0nm,1.1s
NIL Nilore 67.49 301 *e*P **P** **22 14 41.9 -0.1**
NIL pmax pmax
comp=Z,57nm,0.8s
NIL Nilore 67.49 301 *e*P **P** **22 14 41.9 -0.1**
comp=Z,57nm,0.8s
CAST Castle Rocks 67.52 26 *e*P **P** **22 14 41.6 0.0**
comp=Z,10nm,1.1s
POO Poona 67.73 285 *e*P P 22 14 34.0 -10
KTH Kantishna Hill 68.06 26 *e*P **P** **22 14 44.0 -1.1**
comp=Z,12nm,1.2s
BPAW Bear Paw Mtn. 68.19 25 *e*P **P** **22 14 45.6 -0.2**
comp=Z,10nm,1.3s
MNAS Manas 68.33 311 P **P** **22 14 47.4 +0.1**
MNAS pmax pmax
comp=Z,4.0nm,1.4s
MLY Manley 68.58 24 *e*P **P** **22 14 48.3 0.0**
comp=Z,9.1nm,1.1s
SML Sawmill 68.73 28 *e*P **P** **22 14 48.8 -0.4**
SML pmax pmax
comp=Z,19nm,1.1s
SML Sawmill 68.73 28 *e*P **P** **22 14 48.8 -0.4**
comp=Z,19nm,1.1s
OTUK Ortayu 68.87 317 P **P** **22 14 50.2 -0.2**
OTUK pmax pmax
comp=Z,11nm,1.3s
SCM Sheep Creek Mo 69.20 28 *e*P **P** **22 14 52.9 +0.7**
SCM pmax pmax
comp=Z,26nm,1.2s
SCM Sheep Creek Mo 69.20 28 *e*P **P** **22 14 52.9 +0.7**
comp=Z,26nm,1.2s
COLD Coldfoot 69.46 22 *e*P **P** **22 14 53.1 -0.5**
comp=Z,6.5nm,0.9s
WRH Wood River Hil 69.51 25 *e*P **P** **22 14 53.0 -0.9**
comp=Z,6.8nm,1.0s
MDM Murphy Dome 69.58 25 *e*P **P** **22 14 54.4 0.0**
comp=Z,6.3nm,1.0s
CCB Clear Creek Bu 69.67 25 *e*P **P** **22 14 53.8 -1.2**
comp=Z,14nm,1.6s
COLA College 69.71 25⇓ *i*P **P** **22 14 56.4 +1.2**
COLA pmax pmax
comp=Z,18nm,2.3s
KLU Klutina 69.78 29 *e*P **P** **22 14 56.2 +0.5**
comp=Z,12nm,1.2s
KKAR Karatay Array 69.82 312 *e*P **P** **22 14 56.1 -0.2**
HDA Harding Lake 69.97 26 *e*P **P** **22 14 57.2 +0.3**
comp=Z,8.0nm,1.0s
ILAR Eielson Array 70.09 25 P **P** **22 14 55.8 -1.7**
comp=Z,2.2nm,0.5s,baz=248,slow=5.5,SNR=31
ILB Eielson Array 70.09 25 *e*P **P** **22 14 55.9 -1.7**
IL1 Eielson Array 70.09 25 *e*P **P** **22 14 55.5 -2.0**
TOLK Toolik Lake Re 70.13 21 *e*P **P** **22 14 58.0 +0.3**
comp=Z,7.5nm,1.1s
PAX Paxson 70.29 27 *e*P **P** **22 14 58.4 -0.5**
PAX pmax pmax
comp=Z,8.0nm,1.1s
PAX Paxson 70.29 27 *e*P **P** **22 14 58.4 -0.5**
comp=Z,8.1nm,1.1s
HARP HAARP 70.32 28 *e*P **P** **22 14 59.3 +0.3**
comp=Z,19nm,0.9s
BVAR Borovoye Array 70.56 322 P **P** **22 14 59.9 -0.8**
comp=Z,4.7nm,0.3s,baz=107,slow=7.8,SNR=58
BVAR LR LR 22 46 47.9
comp=Z,805nm,19.4s,baz=86,slow=37
BRVK Borovoye 70.63 322 *c i*P **P** **22 14 59.8 -1.2**
BRVK pmax pmax
comp=Z,31nm,1.8s
BRVK Borovoye 70.63 322 *e*P **P** **22 15 00.3 -0.7**
comp=Z,75nm,1.9s
RIDG Independ'e Rid 70.73 26 *e*P **P** **22 15 00.9 -0.7**
comp=Z,36nm,1.7s
KBL Kabul 70.97 302 *e*P **P** **22 15 03.2 -0.6**
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 70.97 302 *e*P **P** **22 15 03.2 -0.6**
comp=Z,10nm,1.0s
DOT Dot Lake 71.05 27 *e*P **P** **22 15 02.8 -0.7**
comp=Z,21nm,0.8s
SCRK Sand Creek 71.15 26 *e*P **P** **22 15 03.7 -0.4**
comp=Z,24nm,1.8s
FYU Fort Yukon 71.17 23 *e*P **P** **22 15 05.4 +1.3**
comp=Z,15nm,1.0s
PPT2 Papeete2 71.81 113 *e*S **S** **22 24 25.9 -2.0**
comp=Z,186nm,30.8s
PPT2 Papeete2 71.81 113 *e*LR LR 22 37 00.5
comp=Z,340nm,23.8s
EGAK Eagle 72.50 26 *e*P **P** **22 15 11.9 -0.2**
comp=Z,38nm,2.0s
DAWY Dawson 73.16 27 *e*P **P** **22 15 16.3 +0.2**
comp=Z,5.2nm,0.9s
HYT Haines Junctio 73.72 30 *e*P **P** **22 15 19.7 +0.1**
comp=Z,7.7nm,0.8s
WHY Whitehorse 75.00 30 *e*P **P** **22 15 27.6 +0.7**
comp=Z,39nm,2.0s
INK Inuvik 75.88 22 P **P** **22 15 31.1 -0.5**
baz=265,slow=7.0
INK Inuvik 75.88 22 *e*P **P** **22 15 31.3 -0.5**
INK pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 75.88 22 *e*P **P** **22 15 31.2 -0.5**
comp=Z,8.4nm,1.0s
SVE Sverdlovsk 76.32 326 *e*P **P** **22 15 33.6 -0.9**
SVE pmax pmax
comp=Z,24nm,1.4s
ABKAR Akbulak array 77.08 318 *e*P **P** **22 15 38.0 -0.9**
comp=Z,159nm,0.6s
ARU Arti 77.48 325 P **P** **22 15 39.5 -1.5**
comp=Z,8.2nm,0.7s,baz=86,slow=1.0,SNR=18
ARU LR LR 22 50 43.7
comp=Z,185nm,20.6s,baz=34,slow=36
ARU Arti 77.48 325 *c i*P **P** **22 15 40.0 -1.0**
ARU 22 18 32.9
ARU S **S** **22 25 32.2 +2.4**
ARU SS **SS** **22 30 21.1 -7.7**
ARU pmax pmax
comp=Z,28nm,1.7s
ARU Arti 77.48 325 *e*P **P** **22 15 40.2 -0.8**
comp=Z,15nm,1.0s
DLBC Dease Lake 77.50 33 *e*P **P** **22 15 42.1 +1.0**
SOKR Solikamsk 78.23 329 *e*P **P** **22 15 43.4 -1.6**
SOKR pmax pmax
comp=Z,12nm,0.8s
AKTO Aktyubinsk 78.24 319 P **P** **22 15 44.4 -1.0**
comp=Z,5.3nm,0.6s,baz=94,slow=8.2,SNR=25
AKTO LR LR 22 53 23.8
comp=Z,176nm,18.2s,baz=88,slow=38
GEYT Alibeck 79.50 307 P **P** **22 15 52.4 -0.2**
comp=Z,9.6nm,0.8s,baz=27,slow=1.7,SNR=30
GEYT LR LR 22 53 31.9
comp=Z,316nm,21.0s,baz=90,slow=38
WSAR Wadi Sarin 81.22 292 LR LR 22 55 43.7
comp=Z,94nm,19.1s,baz=86,slow=38
YBH Yreka Blue Hor 84.29 49 P **P** **22 16 19.5 +1.7**
comp=Z,5.0nm,0.9s,baz=11,slow=5.2,SNR=2.9
YBH LR LR 22 48 46.1
comp=Z,270nm,18.7s,baz=312,slow=32
YKA Yellowknife Ar 84.38 27 P **P** **22 16 17.5 -0.1**
comp=Z,2.2nm,0.7s,baz=288,slow=5.4,SNR=34
B08A Colville Reser 85.25 42 *e*P **P** **22 16 23.1 +0.7**
comp=Z,33nm,1.6s
RES Resolute Bay 86.03 13 P **P** **22 16 25.9 +0.2**
comp=Z,9.3nm,0.8s,baz=309,slow=4.4,SNR=36
RES Resolute Bay 86.03 13 *e*P **P** **22 16 25.8 +0.2**
RES pmax pmax
comp=Z,13nm,0.9s
RES Resolute Bay 86.03 13 *e*P **P** **22 16 25.8 +0.2**
comp=Z,13nm,0.9s
KLMR Klimovskoe 86.41 332 P **P** **22 16 23.6 -4.2**
KLMR pmax pmax
comp=Z,9.0nm,1.2s
KLMR Klimovskoe 86.41 332 P **P** **22 16 23.6 -4.2**
KLMR AMP 22 16 26.4
comp=Z,9.0nm,1.2s
KLMR LQ LQ 22 51 15.8
KLMR LQ LQ 22 51 15.8
KLMR LR LR 22 55 33.1
APA Apatity 86.48 339⇓ *i*P P 22 16 22.6 -5.4

RKT	Rikitea	86.52	114	*e*LR		LR	22 43 51.8	
	comp=Z,321nm,27.2s							
MAK	Makhachkala	86.57	313	*e*P		P	22 16 25.0	-4.0
MAK				*e*			22 19 51.6	
MAK				*e*S		SKSac	22 26 49.9	-3.7
MAK				pmax		pmax		
	comp=Z,138nm,1.2s							
NEW	Newport	86.70	41	P		P	22 16 30.4	+0.9
	comp=Z,7.5nm,0.8s,baz=273,slow=2.2,SNR=9.7							
NEW	Newport	86.70	41	*e*P		P	22 16 30.5	+0.9
NEW				pmax		pmax		
	comp=Z,15nm,1.0s							
NEW	Newport	86.70	41	*e*P		P	22 16 30.5	+0.9
	comp=Z,15nm,1.0s							
BMO	Blue Mountains	87.44	45	*e*P		P	22 16 34.3	+0.9
BMO				pmax		pmax		
	comp=Z,9.0nm,0.9s							
BMO	Blue Mountains	87.44	45	*e*P		P	22 16 34.2	+0.9
	comp=Z,9.2nm,0.9s							
EDM	Edmonton	87.65	36	*e*P		P	22 16 35.3	+1.2
EDM				pmax		pmax		
	comp=Z,15nm,1.0s							
EDM	Edmonton	87.65	36	*e*P		P	22 16 35.3	+1.2
	comp=Z,15nm,1.0s							
ARCES	ARCESS Array B	88.16	342	P		P	22 16 35.5	-0.6
	comp=Z,5.8nm,0.9s,baz=65,slow=6.8,SNR=6.7							
VRH	Novokhopyorsk	88.22	322	*e*P		P	22 16 34.5	-2.2
VRH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
NVAR	Mina Array Bea	88.31	51	P		P	22 16 39.0	+1.2
	comp=Z,3.0nm,0.5s,baz=276,slow=5.2,SNR=5.9							
NV01	Mina Array Sit	88.31	51	*e*P		P	22 16 40.2	+2.5
NV11	Mina Array Sit	88.42	51	*e*P		P	22 16 40.7	+2.4
	comp=Z,0.5nm,0.9s							
MFID	Camas Ranch	88.84	46	*e*P		P	22 16 42.3	+2.3
	comp=Z,15nm,1.1s							
NCK	Nalchik	89.20	314	⇓*e*P		P	22 16 40.4	-1.2
NCK				pmax		pmax		
	comp=Z,9.0nm,0.7s							
TULEG	Thule	89.29	7	*e*P		P	22 16 40.7	-0.6
	comp=Z,11nm,1.2s							
LPSR	Galich'ya Gora	89.42	324	*e*P		P	22 16 40.4	-2.0
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KBZ	Khabaz	89.62	315	P		P	22 16 42.7	-0.8
	comp=Z,4.3nm,1.0s,baz=161,slow=2.9,SNR=5.7							
KBZ				LR		LR	23 00 41.0	
	comp=Z,289nm,20.0s,baz=60,slow=38							
KVAR	Kislovodsk Arr	89.70	315	P		P	22 16 43.6	-0.4
	comp=Z,4.8nm,0.8s,baz=189,slow=4.5,SNR=4.5							
KIV	Kislovodsk	89.70	315	*e*P		P	22 16 44.0	-0.1
KIV				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,281nm,20.0s							
VSR	Storozhevoye	89.74	323	*e*P		P	22 16 41.1	-2.8
VSR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
HLID	Hailey	89.79	45	*e*P		P	22 16 45.8	+1.3
	comp=Z,14nm,1.5s							
AKH	Akhalkalaki	89.85	312	*e*P		P	22 16 44.4	-0.5
AKH				pmax		pmax		
	comp=Z,6.0nm,0.7s							
AKH	Akhalkalaki	89.85	312	*e*P		P	22 16 44.4	-0.5
	comp=Z,5.8nm,0.7s							
OBN	Obninsk	89.86	327	P		P	22 16 43.6	-0.8
	comp=Z,9.3nm,0.5s,baz=39,slow=11,SNR=5.0							
OBN	Obninsk	89.86	327	⇓*e*P		P	22 16 42.6	-1.7
OBN				*e*			22 20 14.6	
OBN				*e*S		SKSac	22 27 12.7	-0.1
OBN				pmax		pmax		
	comp=Z,40nm,1.5s							
OBN				MLR		MLR		
	comp=Z,270nm,17.0s							
NEY	Neytrino	89.88	314	⇑*e*P		P	22 16 44.7	-0.3
NEY				pmax		pmax		
	comp=Z,1.0nm,0.7s							
VNDA	Vanda	90.16	176	P		P	22 16 46.5	+1.3
	comp=Z,0.9nm,0.4s,baz=18,slow=6.4,SNR=14							
GSC	Goldstone, Bar	90.26	54	*e*P		P	22 16 48.9	+2.1
GSC				pmax		pmax		
	comp=Z,13nm,1.1s							
GSC	Goldstone, Bar	90.26	54	*e*P		P	22 16 48.9	+2.1
	comp=Z,13nm,1.1s							
LRM	Limekiln Ridge	90.45	43	*e*P		P	22 16 49.6	+1.8
FINES	FINESS Array B	92.09	335	P		P	22 16 52.6	-2.0
	comp=Z,2.3nm,0.5s,baz=71,slow=5.1,SNR=39							
RLMT	Red Lodge	92.80	43	*e*P		P	22 17 01.7	+3.1
	comp=Z,6.3nm,0.8s							
RAYN	Ar Rayn	92.95	295	*e*P		P	22 16 58.2	-1.3
RAYN				pmax		pmax		
	comp=Z,3.0nm,1.0s							
RAYN	Ar Rayn	92.95	295	*e*P		P	22 16 58.2	-1.3
	comp=Z,3.2nm,1.0s							
FFC	Flin Flon	93.33	32	*e*P		P	22 17 00.9	+0.4
FFC				pmax		pmax		
	comp=Z,3.0nm,0.8s							
FFC	Flin Flon	93.33	32	*e*P		P	22 17 00.9	+0.4
	comp=Z,3.1nm,0.8s							
PDAR	Pinedale Array	93.41	45	P		P	22 17 02.2	+0.7
	comp=Z,0.3nm,0.5s,baz=217,slow=0.7,SNR=3.7							
PDAR				LR		LR	22 54 59.9	
	comp=Z,204nm,19.8s,baz=282,slow=33							
LAO	LASA Array	94.20	41	*e*P		P	22 17 05.8	+0.9
	comp=Z,14nm,0.9s							
AKASG	Malin Array Be	95.72	325	P		P	22 17 09.3	-2.2
	comp=Z,0.4nm,0.5s,baz=50,slow=4.6,SNR=4.8							
BRTR	Keskin Array B	97.49	313	P		P	22 17 18.2	-1.8
	comp=Z,1.6nm,0.9s,baz=96,slow=3.3,SNR=6.7							
MAW	Mawson	97.91	202	LR		LR	23 00 18.4	
	comp=Z,172nm,19.8s,baz=62,slow=35							
BR231	Keskin MP Arra	98.05	314	*e*P		P	22 17 18.9	-3.6
ATD	Arta Tunnel	98.40	284	LR		LR	22 58 47.4	
	comp=Z,32nm,21.0s,baz=94,slow=34							
ULM	Lac du Bonnet	98.75	34	LR		LR	22 58 18.0	
	comp=Z,142nm,20.9s,baz=282,slow=33							
STHS	Stebnicka Huta	100.81	326	*e*P		Pdif	22 17 34.3	-0.2
STHS	Stebnicka Huta	100.81	326	*e*PDIFF		Pdif	22 17 34.3	-0.2
OKC	Ostrava-Krasne	102.22	328	AMS		AMS	23 07 30.0	
	comp=Z,400nm,16.4s							
VYHS	Vyhne	102.64	326	*e*P		Pdif	22 17 41.6	-1.0
VYHS	Vyhne	102.64	326	*e*PDIFF		Pdif	22 17 41.6	-1.0
DPC	Dobruska-Polom	102.86	329	AMS		AMS	23 09 00.0	
	comp=Z,300nm,15.1s							
UPC	Upice	102.92	329	AMS		AMS	23 09 00.0	
	comp=Z,400nm,14.9s							
PVCC	Panska Ves	103.63	330	AMS		AMS	23 10 00.0	
	comp=Z,400nm,16.5s							
GOPC	GO Pecny, Ondr	103.91	329	AMS		AMS	23 09 50.0	
	comp=Z,400nm,15.2s							
PRU	Pruhonice	103.98	329	AMS		AMS	23 09 50.0	
	comp=Z,300nm,14.3s							
KHC	Kasperske Hory	105.01	329	AMS		AMS	23 10 30.0	
	comp=Z,400nm,14.7s							
ESDC	Sonseca Array	120.45	332	PKP		PKPdf	22 22 37.8	+0.3
	comp=Z,0.1nm,0.3s,baz=19,slow=3.2,SNR=3.6							
TORD	Torodi Ar. Bea	135.04	303	PKP		PKPdf	22 23 06.5	+0.7
	comp=Z,1.2nm,0.7s,baz=46,slow=2.5,SNR=8.3							
KOWA	Kowa	138.78	309	PKP		PKPdf	22 23 12.4	-0.4
	comp=Z,2.4nm,0.5s,baz=29,slow=3.3,SNR=11							
DBIC	Dimbokro	143.92	300	PKP		PKPab	22 23 19.4	+0.3
	comp=Z,12nm,0.7s,baz=50,slow=4.4,SNR=18							
KIC	Kosan Boka	143.98	299	*e*PKP2		PKPab	22 23 19.7	+0.3
	comp=Z,124nm,1.6s							
TIC	Toumodi	144.07	300	*e*PKP2		PKPab	22 23 19.8	0.0
LIC	Lamto	144.29	299	*e*PKP2		PKPbc	22 23 20.8	-0.1
	comp=Z,62nm,0.6s							
BBTS	Babate	147.14	324	PKPbc		PKPab	22 23 30.4	-0.8
	comp=Z,29nm,0.9s,baz=306,slow=1.9,SNR=3.3							
LPAZ	La Paz	148.47	101	PKPbc		PKPbc	22 23 35.4	+1.4
	comp=Z,8.4nm,0.9s,baz=233,slow=3.5,SNR=13							
CPUP	Villa Florida	155.40	128	PKPab		PKPab	22 24 06.6	+1.4
	comp=Z,7.7nm,1.1s,baz=250,slow=5.3,SNR=3.5							

*NEIC **31** 22:09:49.5±1.4, 12.°24N×144.°35E, h56km±13km, mb4.2/2, Error ellipse: s-maj=19.6km s-min=10.9km az=96.0*
*IDC **31** 22:09:50.0±2.0, 12.°24N×144.°33E, h59km±19km, mb3.8/14, mb1 3.9/14, mb1mx3.6/60, mbtmp4.0/14, Error ellipse: s-maj=29.7km s-min=14.9km az=99.0*

ISC 31 22:09:46.5±1.0, 12.°2N±0.°1×144.°3E±0.°2, h29km, n34, σ0s84/33, mb4.1/17, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	Guam	1.46	22	P		Pb	22 10 12.6	-0.4
	197nm,0.3s,baz=346,slow=20,SNR=17							
GUMO				S		Sb	22 10 31.8	+0.6
	298nm,0.3s,baz=20,slow=23,SNR=15							
H11N1	WAKE ISLAND Hy	22.93	68	T		T	22 38 50.2	
	baz=255,slow=75,SNR=5.7							
H11N2	WAKE ISLAND Hy	22.94	68	T		T	22 38 48.9	
	baz=255,slow=75,SNR=8.3							
H11N3	WAKE ISLAND Hy	22.95	68	T		T	22 38 50.7	
	baz=255,slow=75,SNR=5.5							
MJAR	Matsushiro Arr	24.82	348	P		P	22 15 08.1	+1.8
	1.9nm,0.9s,baz=169,slow=7.8,SNR=4.3							
WRA	Warramunga Arr	33.44	197	P		P	22 16 23.5	+0.4
	1.2nm,0.8s,baz=20,slow=9.6,SNR=7.0							
ASAR	Alice Springs	37.10	196	P		P	22 16 55.2	+0.7
	0.9nm,0.7s,baz=19,slow=11,SNR=8.3							
KLR	Kul'dur	38.33	347	P		P	22 17 04.8	+0.1
	0.2nm,0.8s,baz=164,slow=12,SNR=3.5							
CMAR	Chiang Mai Arr	44.10	284	P		P	22 17 52.9	+0.3
	1.1nm,0.8s,baz=94,slow=6.0,SNR=5.3							
CMAR				PcP		PcP	22 19 38.7	+1.1
	0.8nm,0.7s,baz=76,slow=1.9,SNR=5.5							
SONM	Songino Array	47.53	326	P		P	22 18 19.7	+0.3
	0.7nm,0.7s,baz=142,slow=7.3,SNR=3.3							
LSA	Lhasa	52.14	298	*e*P		P	22 18 55.7	+0.5
	1.9nm,0.6s							
RAMN	Ramite	55.87	294	*e*P		P	22 19 21.5	-0.7
JIRN	Jiri	56.28	295	*e*P		P	22 19 24.8	-0.5
GUN	Gumba	56.57	295	*e*P		P	22 19 26.7	-0.6
PKI	Pulchoki	56.97	295	*e*P		P	22 19 28.9	-1.2
PKIN	Phulchoki	56.98	295	*e*P		P	22 19 29.0	-1.1
KKN	Kakani	57.09	295	*e*P		P	22 19 30.9	+0.1
DMN	Daman	57.23	295	*e*P		P	22 19 31.1	-0.8
	8.9nm,0.9s							
GKN	Gorkha	57.67	295	*e*P		P	22 19 34.0	-0.9
DANN	Dangsing	58.46	296	*e*P		P	22 19 39.5	-1.1
PYUN	Piuthan	59.13	295	*e*P		P	22 19 44.4	-0.7
MKAR	Makanchi Array	62.09	317	P		P	22 20 05.0	+0.2
	1.9nm,0.6s,baz=91,slow=7.9,SNR=22							
KURK	Kurchatov	65.27	320	P		P	22 20 25.5	-0.1
KURBB	Kurchatov Arra	65.31	320	P		P	22 20 25.5	-0.4
	3.1nm,0.9s,baz=104,slow=6.5,SNR=11							
ILAR	Eielson Array	70.02	25	P		P	22 20 54.3	-1.0
	0.8nm,0.8s,baz=250,slow=5.9,SNR=6.5							
BVAR	Borovoye Array	70.65	322	P		P	22 20 59.2	-0.3
	1.4nm,0.4s,baz=108,slow=7.8,SNR=15							
BRVK	Borovoye	70.72	322	*e*P		P	22 20 59.6	-0.2
ABKAR	Akbulak array	77.18	318	*e*P		P	22 21 37.4	-0.3
	0.9nm,0.5s							
ARU	Arti	77.57	325	P		P	22 21 38.7	-1.0
	1.5nm,0.5s,baz=232,slow=2.2,SNR=5.6							
AKTO	Aktyubinsk	78.33	319	P		P	22 21 43.4	-0.7
	1.3nm,0.6s,baz=76,slow=9.1,SNR=5.1							
GEYT	Alibeck	79.62	307	P		P	22 21 52.1	+0.6
	3.0nm,0.8s,baz=27,slow=1.7,SNR=9.6							
YKA	Yellowknife Ar	84.31	27	P		P	22 22 16.6	+1.1
	0.6nm,0.7s,baz=287,slow=5.4,SNR=5.3							
FINES	FINESS Array B	92.16	335	P		P	22 22 51.6	-1.5
	2.5nm,0.9s,baz=58,slow=4.0,SNR=6.6							
TORD	Torodi Ar. Bea	135.16	303	PKP		PKPdf	22 29 03.2	-1.1
	0.3nm,0.6s,baz=49,slow=1.6,SNR=3.6							

IDC 31 22:24:50.0±6.5, 6.°08N×95.°67E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.1/73, mbtmp3.2/4, Error ellipse: s-maj=354.7km s-min=24.2km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	Makanchi Array	42.17	346	P		P	22 32 44.8	+0.4
	0.1nm,0.4s,baz=175,slow=8.7,SNR=1.4							
WRA	Warramunga Arr	46.00	125	P		P	22 33 15.7	+0.2
	0.3nm,0.4s,baz=306,slow=8.5,SNR=9.4							
KURBB	Kurchatov Arra	46.65	345	P		P	22 33 19.6	-0.5
	0.5nm,0.9s,baz=172,slow=7.1,SNR=5.4							
ASAR	Alice Springs	47.61	130	P		P	22 33 27.5	-0.6
	0.3nm,0.7s,baz=301,slow=7.9,SNR=4.9							

*ISCJB **31** 22:28:46.5±0.5, 14.°53S±0.°06×167.°26E±0.°10, h170km, mb4.0/18, Error ellipse: s-maj=13.6km s-min=8.3km az=14.5*
*IDC **31** 22:28:47.7±3.5, 14.°56S×167.°39E, h170km±30km, mb3.9/14, mb1 4.0/15, mb1mx3.7/55, mbtmp4.3/15, Error ellipse: s-maj=20.6km s-min=17.5km az=64.0*
*NEIC **31** 22:28:48.4±1.3, 14.°57S×167.°33E, h176km±13km, mb4.1/4, Error ellipse: s-maj=14.6km s-min=8.3km az=137.0*

ISC 31 22:28:47.8±0.6, 14.°54S±0.°08×167.°3E±0.°1, h170km, n27, σ0s76/26, mb4.1/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	Mont Dzumac	7.54	186	P		Pn	22 30 35.6	+0.5
	1.3nm,0.3s,baz=185,slow=15,SNR=16							
DZM				S		Sn	22 31 59.7	0.0
	baz=168,slow=2.3,SNR=2.5							
FUNA	Funafuti	13.06	64	Pn		Pn	22 31 47.8	+0.6
STKA	Stephens Creek	29.17	229	P		P	22 34 34.1	+0.9
	6.1nm,0.5s,baz=52,slow=9.5,SNR=12							
WRAB	Tennant Creek	31.93	256	*e*P		P	22 34 56.9	-0.8
	1.4nm,0.8s							
WRA	Warramunga Arr	31.94	256	P		P	22 34 56.7	-1.0
	0.9nm,0.5s,baz=85,slow=9.2,SNR=20							
ASAR	Alice Springs	32.80	249	P		P	22 35 04.3	-1.0
	1.9nm,0.4s,baz=80,slow=8.8,SNR=59							
TAU	Tasmania Unive	33.10	207	P		P	22 35 07.2	-0.3
	4.6nm,0.7s							
BATI	Baumata	42.83	271	P		P	22 36 31.0	+1.6
	16nm,0.6s,baz=25,slow=3.4,SNR=4.3							
MBWA	Marble Bar	45.66	255	*e*P		P	22 36 51.8	0.0
	6.7nm,0.5s							
VNDA	Vanda	63.05	181	P		P	22 38 56.1	-0.2
	1.6nm,0.7s,baz=358,slow=8.2,SNR=16							
CMAR	Chiang Mai Arr	74.94	294	P		P	22 40 11.1	+0.5
	0.9nm,0.6s,baz=123,slow=4.5,SNR=5.3							
QSPA	South Pole Qui	75.48	190	P		P	22 40 12.6	-0.5
	2.5nm,0.6s,baz=313,slow=2.4,SNR=10							
MAW	Mawson	82.08	202	P		P	22 40 48.5	-0.3
	2.3nm,0.5s,baz=144,slow=11,SNR=4.9							
SONM	Songino Array	82.39	324	P		P	22 40 50.9	0.0
	0.7nm,0.6s,baz=139,slow=6.0,SNR=4.8							
H02S1	DAWSON INLET T	84.82	32	T		T	00 15 40.2	
	SNR=8.0							
ILAR	Eielson Array	86.33	18	P		P	22 41 08.8	-1.3
	1.0nm,0.6s,baz=242,slow=5.0,SNR=13							
COLD	Coldfoot	87.23	15	P		P	22 41 15.3	+0.8
	1.3nm,0.8s							
TIXI	Tiksi	89.80	349	P		P	22 41 26.0	-0.4
	1.2nm,0.3s,baz=21,slow=1.3,SNR=4.6							
MKAR	Makanchi Array	97.12	316	P		Pdif	22 42 01.6	+0.9
	1.1nm,0.7s,baz=97,slow=6.1,SNR=11							
ZALV	Zalesovo Beam	97.28	324	P		P	22 42 00.8	-0.4
	0.7nm,0.6s,baz=90,slow=3.0,SNR=3.9							
YKA	Yellowknife Ar	97.35	27	P		P	22 42 00.9	-0.4
	1.0nm,0.6s,baz=252,slow=4.1,SNR=2.6							
ARCES	ARCESS Array B	120.09	345	PKP		PKPdf	22 47 17.6	-0.2
	1.2nm,0.4s,baz=67,slow=2.1,SNR=24							
FINES	FINESS Array B	125.58	338	PKP		PKPdf	22 47 29.4	+1.0
	1.8nm,1.0s,baz=119,slow=5.0,SNR=7.6							
BNI	Bardonecchia	145.46	336	*e*PKPdf		PKPab	22 48 06.7	+0.2
KEST	Kesra	151.11	321	PKPbc		PKPbc	22 48 21.6	+0.3
	3.3nm,0.6s,baz=119,slow=3.5,SNR=30							
ESDC	Sonseca Array	153.82	345	PKPbc		PKPbc	22 48 27.4	+0.3
	0.1nm,0.4s,baz=359,slow=2.6,SNR=4.4							
TORD	Torodi Ar. Bea	165.99	266	PKPab		PKPab	22 49 33.2	-1.3
	1.2nm,0.8s,baz=85,slow=4.0,SNR=5.0							

*NIED **31** 22:30:00, 39.°80N×141.°80E, h59km, Mw4.1 Best double couple: Mo1.77000×10^15 NP1:φ=204.00000°, δ=20.00000°, λ=95.00000°. NP2:φ=19.00000°, δ=71.00000°, λ=88.00000°.*
*JMA **31** 22:30:15.7, 39.°76N×141.°84E, h59km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φ=29.00000°, δ=68.00000°, λ=94.00000°. NP2:φ=199.00000°, δ=22.00000°, λ=81.00000°. Principal axes: T Plg=67.0000°, Azm=306.0000°; N Plg=4.0000°, Azm=208.0000°; P Plg=23.0000°, Azm=116.0000°;*
JMA Felt II J1.
*ISCJB **31** 22:30:15.0±0.3, 39.°75N±0.°03×141.°83E±0.°05, h67km±2km, mb4.2/46 Error ellipse: s-maj=6.4km s-min=3.9km az=22.8*
*MOS **31** 22:30:16.7±1.1, 39.°78N×141.°82E, h83km, mb4.4/16, Error ellipse: s-maj=8.2km s-min=5.7km az=94.9*

*NEIC **31** 22:30:18.6±0.5, 39.°72N×141.°79E, h88km±4km, mb4.3/5, Error ellipse: s-maj=7.1km s-min=4.4km az=130.0*
NEIC Recorded [2 JMA] in Aomori and Iwate.
*IDC **31** 22:30:18.1±1.7, 39.°71N×141.°75E, h82km±15km, mb3.9/30, mb1 4.0/35, mb1mx3.8/82, mbtmp4.2/35, MS3.3/1, Ms1 3.3/1, ms1mx2.6/67, Error ellipse: s-maj=13.1km s-min=10.9km az=125.0*

ISC 31 22:30:16.3±0.6, 39.°74N±0.°05×141.°83E±0.°05, h62km±4km, n126, σ1s58/143, mb4.3/46, 22C-13D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIYJ	Miyakonagasawa	0.16	182	⇑P		Pn	22 30 25.1	-0.7
MIYJ				S		Sn	22 30 31.6	-1.0
JTH	Tanohata	0.20	8	⇑P		Pn	22 30 25.1	-0.9
JTH				S		Sn	22 30 31.6	-1.4
JKZ	Kuzumaki	0.46	303	⇓P		Pn	22 30 27.3	-0.7
JKZ				S		Sn	22 30 35.4	-1.1
JOM	Ohasama	0.49	238	P		Pn	22 30 27.6	-0.7
JOM				S		Sn	22 30 36.2	-0.8
JANG	Nango	0.68	340	⇓P		Pn	22 30 29.2	-1.2
JANG				S		Sn	22 30 39.0	-1.8
JMK	Ichinoseki	0.91	211	⇓P		Pn	22 30 32.8	-0.5
JMK				S		Sn	22 30 45.1	-0.7
JRG	Rokugo	0.98	250	⇓P		Pn	22 30 33.5	-0.7
JRG				S		Sn	22 30 47.5	+0.1
JAH	Hinai	1.02	297	⇓P		Pn	22 30 34.1	-0.6
JAH				S		Sn	22 30 48.2	-0.1
JTM	Tenmabayashi	1.20	331	⇓P		Pn	22 30 36.1	-0.9
JTM				S		Sn	22 30 51.3	-1.1
JIO	Ouri	1.33	196	⇑P		Pn	22 30 38.3	-0.5
JIO				S		Sn	22 30 55.0	-0.6
JYK	Kaneyama	1.40	235	⇓P		Pn	22 30 39.3	-0.4
JYK				S		Sn	22 30 57.4	+0.1
ERM	Erimo	2.49	23	⇑*e*P		Pn	22 30 54.3	-0.1
ERM	Erimo	2.49	23	*e*Pn		Pn	22 30 57.1	+2.7
ERM				Sn		Sn	22 31 27.6	+4.0
MJA0	Matsu Arr-Jizo	4.26	223	*e*P		Pn	22 31 21.8	+3.1
MJA0				pmax		pmax		
	comp=Z,4.0nm,0.3s							
MJAR	Matsushiro Arr	4.28	223	P		Pn	22 31 20.7	+1.8
	comp=Z,3.8nm,0.3s,baz=31,slow=14,SNR=15							
MAJO	Matsushiro	4.28	223	*de*P		Pn	22 31 21.4	+2.5
MAJO	Matsushiro	4.28	223	*e*Pn		Pn	22 31 21.0	+2.1
MAT	Matsushiro	4.28	223	P		Pn	22 31 20.5	+1.6
MAT				S		Sn	22 32 09.1	+1.5
ASAJ	Asahikawa	4.41	7	P		Pn	22 31 22.5	+1.8
	comp=Z,6.0nm,0.3s,baz=196,slow=19,SNR=16							
ASAJ				S		Sn	22 32 11.2	+0.4
	comp=Z,4.6nm,0.3s,baz=37,slow=26,SNR=3.1							
ASAJ	Asahikawa	4.41	7	P		Pn	22 31 22.5	+1.8
ASAJ				*e*Sn		Sn	22 32 14.6	+3.8
YUK	Yuzh-Kuril'sk	5.25	34	P		Pn	22 31 34.3	+2.2
YUK				*i* S		Sn	22 32 27.3	-3.8
YUK				pmax		pmax		
	comp=Z,71nm,0.4s							
YUK				pmax		pmax		
	comp=N,104nm,0.3s							
YUK				pmax		pmax		
	comp=E,50nm,0.2s							
YUK				smax		smax		
	comp=N,414nm,0.3s							
YUK				smax		smax		
	comp=E,297nm,0.3s							
SHO	Shikotan	5.57	41	*e*P		Pn	22 31 36.9	+0.4
SHO				*i* S		Sn	22 32 32.3	-6.8
SHO				pmax		pmax		
	comp=Z,18nm,0.2s							
SHO				smax		smax		
	comp=N,132nm,0.3s							
SHO				smax		smax		
	comp=E,163nm,0.3s							
TEY	Ternei	6.56	326	*e*P		Pn	22 31 53.3	+3.3
TEY				pmax		pmax		
	comp=N,32nm,0.7s							
TEY				pmax		pmax		
	comp=E,36nm,0.7s							
TEY				pmax		pmax		
	comp=Z,38nm,0.7s							
JHJ	Hachijo jima 2	6.81	195	P		Pn	22 31 53.5	0.0
	comp=Z,9.4nm,0.3s,baz=129,slow=23,SNR=3.2							
JHJ				S		Sn	22 32 55.5	-14
	comp=Z,12nm,0.3s,baz=263,slow=23,SNR=1.7							
KUR	Kuril'sk	7.08	37	*e*P		Pn	22 31 59.6	+2.5
KUR				*e*S		Sn	22 33 12.2	-3.9
KUR				pmax		pmax		
	comp=Z,49nm,0.6s							
KUR				pmax		pmax		
	comp=N,23nm,0.2s							
KUR				pmax		pmax		
	comp=E,19nm,0.2s							
YSS	Yuzh-Sakhalins	7.25	5	*e*P		Pn	22 32 07.9	+8.5
MSHR	Mys Shultsa	8.54	293	⇑*e*P		Pn	22 32 19.2	+2.1
USRK	Ussuriysk Ar.	8.58	305	P		Pn	22 32 18.6	+1.0
	comp=E,0.9nm,0.3s,baz=111,slow=14,SNR=12							
USRK				LR		LR	22 35 07.7	
	comp=E,230nm,20.9s,baz=143,slow=34							
MDJ	Mud

comp=Z,14nm,0.9s
KURK Kurchatov 44.56 306 P **P** **22 38 21.6 -0.3**
comp=Z,5.3nm,0.6s
KURBB Kurchatov Arra 44.64 306 P **P** **22 38 21.6 -0.9**
comp=Z,10nm,0.6s,baz=82,slow=8.5,SNR=70
KDAK Kodiak Island 44.90 44 P **P** **22 38 24.5 +0.1**
comp=Z,3.7nm,0.8s,baz=265,slow=18,SNR=11
KDAK Kodiak Island 44.90 44 *i* P **P** **22 38 24.9 +0.5**
ILAR Eielson Array 47.05 34 P **P** **22 38 41.8 +0.4**
comp=Z,0.9nm,0.6s,baz=263,slow=6.1,SNR=20
JIRN Jiri 47.15 273 *eP* **P** **22 38 42.6 -0.4**
comp=Z,15nm,0.5s
RAMN Ramite 47.19 272 *eP* **P** **22 38 42.5 -0.6**
GUN Gumba 47.27 273 *eP* **P** **22 38 43.5 -0.4**
comp=Z,33nm,0.6s
KKN Kakani 47.79 274 *eP* **P** **22 38 47.4 -0.3**
PKI Pulchoki 47.80 273 *eP* **P** **22 38 47.1 -0.9**
PKIN Phulchoki 47.80 273 *eP* **P** **22 38 47.4 -0.5**
comp=Z,9.9nm,0.6s
GKN Gorkha 48.18 274 *eP* **P** **22 38 50.1 -0.6**
comp=Z,13nm,0.7s
DANN Dangsing 48.68 275 *eP* **P** **22 38 54.7 0.0**
BVAR Borovoye Array 49.03 311 P **P** **22 38 55.9 -0.8**
comp=Z,1.3nm,0.4s,baz=75,slow=8.7,SNR=18
BVAR PcP **PcP** **22 40 19.3 -0.4**
comp=Z,1.1nm,0.5s,baz=79,slow=3.2,SNR=4.8
BRVK Borovoye 49.08 311 ⇑*iP* **P** **22 38 56.2 -0.9**
BRVK pmax pmax
comp=Z,2.0nm,0.5s
PYUN Piuthan 49.39 275 *eP* **P** **22 38 59.7 -0.4**
comp=Z,16nm,0.5s
AAK Ala-Archa 49.53 296 P **P** **22 39 00.2 -0.7**
comp=Z,1.1nm,0.4s,baz=130,slow=4.9,SNR=7.8
INK Inuvik 51.84 28 P **P** **22 39 18.5 +0.8**
comp=Z,1.0nm,0.5s,baz=316,slow=5.4,SNR=7.0
SVE Sverdlovsk 53.36 317 *eP* **P** **22 39 28.9 -0.1**
SVE pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 54.12 287 *eP* **P** **22 39 34.4 -0.6**
NIL pmax pmax
comp=Z,2.0nm,0.5s
NIL Nilore 54.12 287 *eP* **P** **22 39 34.4 -0.6**
comp=Z,2.2nm,0.5s
ARU Arti 54.57 317 P **P** **22 39 37.2 -0.7**
comp=Z,4.4nm,0.6s,baz=58,slow=3.2,SNR=12
ARU Arti 54.57 317*c* *iP* **P** **22 39 37.0 -0.9**
ARU *PP **pP** **22 39 57.4 +3.3**
ARU 22 40 39.0
ARU 22 41 36.5
ARU S **S** **22 47 11.9 -0.6**
ARU SS **SKiKP** **22 50 46.5 +5.8**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ABKAR Akbulak array 56.47 309 *eP* **P** **22 39 50.9 -0.8**
comp=Z,1.4nm,0.4s
AKTO Aktyubinsk 57.13 311 P **P** **22 39 55.5 -0.8**
comp=Z,3.2nm,0.8s,baz=70,slow=13,SNR=11
WRAB Tennant Creek 59.77 188 ⇑*iP* **P** **22 40 16.2 +1.3**
WRAB pmax pmax
comp=Z,18nm,2.3s
WRA Warramunga Arr 59.78 188 P **P** **22 40 13.8 -1.2**
comp=Z,1.6nm,0.7s,baz=6.3,slow=7.0,SNR=16
RES Resolute Bay 59.91 15 P **P** **22 40 14.7 -0.5**
comp=Z,1.6nm,0.6s,baz=312,slow=8.2,SNR=9.8
YKA Yellowknife Ar 61.32 31 P **P** **22 40 24.8 -0.2**
comp=Z,0.4nm,0.5s,baz=298,slow=6.3,SNR=5.1
YKA Yellowknife Ar 61.32 31 *eP* **P** **22 40 25.1 +0.1**
ARCES ARCESS Array B 61.59 339 P **P** **22 40 26.1 -0.6**
comp=Z,1.8nm,0.6s,baz=226,slow=26,SNR=14
GEYT Alibeck 62.83 298 P **P** **22 40 34.9 -0.7**
comp=Z,1.9nm,0.7s,baz=0.0,slow=3.6,SNR=6.3
ASAR Alice Springs 63.51 188 P **P** **22 40 39.4 -0.7**
comp=Z,1.0nm,0.7s,baz=4.8,slow=7.1,SNR=11
OBN Obninsk 66.14 323⇑*eP* **P** **22 40 54.8 -2.0**
OBN *eS* **S** **22 49 39.7 -0.6**
OBN pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 66.58 332 P **P** **22 40 58.8 -0.8**
comp=Z,5.9nm,0.7s,baz=44,slow=8.8,SNR=26
KIV Kislovodsk 69.39 310 *eP* **P** **22 41 18.0 +0.4**
KIV pmax pmax
comp=Z,16nm,1.0s
KBZ Khabaz 69.40 310 P **P** **22 41 17.4 -0.1**
comp=Z,4.0nm,0.7s,baz=354,slow=2.3,SNR=11
HFS Hagfors 71.76 336 P **P** **22 41 31.2 -0.4**
comp=Z,2.5nm,0.3s,baz=56,slow=5.9,SNR=26
NB2 NORSAR Subarra 71.82 337 P **P** **22 41 31.3 -0.7**
comp=Z,1.6nm,0.6s,baz=38,slow=6.2
NOA NORSAR Array B 71.82 337 P **P** **22 41 31.4 -0.6**
comp=Z,2.7nm,0.7s,baz=47,slow=5.5,SNR=8.8
NOA NORSAR Array B 71.82 337 *eP* **P** **22 41 31.4 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 72.37 322 P **P** **22 41 34.5 -0.9**
comp=Z,2.2nm,0.4s,baz=45,slow=6.2,SNR=17
KIEV Kiev 72.38 322⇓*eP* **P** **22 41 33.8 -1.6**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
FRB Frobisher Bay 74.07 14 P **P** **22 41 44.7 -0.5**
comp=Z,1.8nm,0.4s,baz=321,slow=6.2,SNR=11
PDAR Pinedale Array 75.55 46 P **P** **22 41 54.5 0.0**
comp=Z,0.5nm,0.6s,baz=289,slow=2.8,SNR=4.5
BURAR Bucovina Array 76.40 322 ⇑*iP* **P** **22 41 59.3 +0.3**
BURAR Bucovina Array 76.40 322 ⇑*iP* **P** **22 41 59.3 +0.3**
STHS Stebnicka Huta 76.94 325 *eP* **P** **22 42 03.1 +1.2**
STHS Stebnicka Huta 76.94 325 *eP* **P** **22 42 03.1 +1.2**
BRTR Keskin Array B 77.31 311 P **P** **22 42 04.0 -0.3**
comp=Z,1.2nm,0.7s,baz=76,slow=3.6,SNR=5.6
LANS Liptovska Anna 77.92 325 *eP* **P** **22 42 06.4 -1.0**
LANS Liptovska Anna 77.92 325 *eP* **P** **22 42 06.4 -1.0**
VOIR 78.02 320 ⇓*P* **P** **22 42 08.9 +0.8**
VOIR 78.02 320 ⇓*iP* **P** **22 42 08.9 +0.8**
ARR Arges 78.28 320 ⇑*iP* **P** **22 42 09.9 +1.4**
MORC Moravsky Berou 78.28 327 ⇑*iP* **P** **22 42 09.3 -0.1**
MORC Moravsky Berou 78.28 327 ⇑*iP* **P** **22 42 09.3 -0.1**
CLL Collm 78.92 330 *i* P **P** **22 42 12.4 -0.4**
CLL pmax pmax
comp=Z,43nm,2.4s
CLL Collm 78.92 330 *i* P **P** **22 42 12.4 -0.4**
comp=Z,43nm,2.4s
CLL LmV 23 08 00.0
comp=Z,300nm,18.9s
CLL LmH 23 09 00.0
comp=N,100nm,18.2s
CLL LmH 23 09 00.0
comp=E,200nm,21.1s
CLL Lm MLR 23 41 00.0
comp=N,100nm,20.8s
CLL Lm MLR 23 41 00.0
comp=E,100nm,18.0s
CLL Lm MLR 23 41 00.0
comp=Z,200nm,18.4s
KHC Kasperske Hory 80.41 328 *eP* **P** **22 42 20.5 -0.5**
KHC Kasperske Hory 80.41 328 *eP* **P** **22 42 21.2 +0.2**
GERES GERESS Array B 80.59 328 P **P** **22 42 21.6 -0.5**
comp=Z,0.3nm,0.4s,baz=39,slow=5.1,SNR=4.5
VTS Vitosha 80.99 319 ⇓*P* **P** **22 42 25.0 +0.6**
VTS Vitosha 80.99 319 ⇓*iP* **P** **22 42 25.0 +0.6**
TXAR Lajitas Array 88.22 53 P **P** **22 43 01.1 +0.1**
comp=Z,0.1nm,0.5s,baz=240,slow=2.6,SNR=3.6

*ISCJB **31** 22:36:16.0±0.6, 8.˚55N±0.˚03×126.˚60E±0.˚05, h66km±4km, mb4.3/39, Error ellipse: s-maj=8.6km s-min=4.4km az=169.9*
*MAN **31** 22:36:16, 8.˚51N×126.˚56E, h33km, mb5.0, ML4.0, MS4.0*
*IDC **31** 22:36:17.8±2.0, 8.˚64N×126.˚57E, h67km±18km, mb3.9/23, mb1 4.0/24, mb1mx3.8/67, mbtmp4.2/24, MS4.2/2, Ms1 4.2/2, ms1mx3.2/48, Error ellipse: s-maj=20.1km s-min=10.7km az=79.0*
*NEIC **31** 22:36:18.5±1.4, 8.˚59N×126.˚52E, h74km±12km, mb4.4/8, Error ellipse: s-maj=11.9km s-min=7.4km az=64.0*
NEIC Felt [II PIVS] at Bislig, Hinatuan and Lingig.
ISC 31 22:36:16.1±1.0, 8.˚55N±0.˚03×126.˚61E±0.˚07, h52km±8km, n79, σ1§50/87, mb4.3/39, **5C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.44**	**214**⇑	*eP*		**Pn**	**Pn**	**22 36 26.1**	**-0.7**
BIPH				*eS*		**Sn**	**Sn**	**22 36 32.7**	**-1.8**
BUTP	**Butuan**	**1.06**	**293**	*eP*		**Pn**	**Pn**	**22 36 34.9**	**+0.1**
BUTP				*eS*		**Sn**	**Sn**	**22 36 48.9**	**+0.4**
MATI	**Mati**	**1.63**	**192**	*eP*		**Pn**	**Pn**	**22 36 43.1**	**+0.6**
MATI				*eS*		**Sn**	**Sn**	**22 37 05.1**	**+2.8**
SCPH	**Surigao**	**1.65**	**318**⇓	*eP*		**Pn**	**Pn**	**22 36 45.2**	**+2.4**
SCPH				*eS*		**Sn**	**Sn**	**22 37 00.2**	**-2.6**
BUKP	**Musuan**	**1.67**	**247**	*eP*		**Pn**	**Pn**	**22 36 43.0**	**0.0**
BUKP				*eS*		**Sn**	**Sn**	**22 37 02.5**	**-0.9**
DAV	**Davao City (W)**	**1.79**	**215**	P		**Pn**	**Pn**	**22 36 46.9**	**+2.3**
	72nm,0.3s,baz=72,slow=5.5,SNR=9.8								
DAV				S			**Sn**	**22 37 10.3**	**+4.1**
	118nm,0.3s,baz=254,slow=19,SNR=15								
DAV				LR		LR		22 37 28.5	
	comp=Z,1μm,20.9s,baz=21,slow=38								
KCP	**Kidapawan**	**2.15**	**225**⇓	*eP*		**Pn**	**Pn**	**22 36 49.9**	**+0.4**
KCP				*i* S		**Sn**	**Sn**	**22 37 14.2**	**-0.9**
MSLP	**Maasin**	**2.34**	**313**	*eP*		**Pn**	**Pn**	**22 36 53.5**	**+1.4**
MSLP				*eS*		**Sn**	**Sn**	**22 37 20.1**	**+0.5**
CTBH	**Cotabato--PC H**	**2.69**	**241**⇑	*iP*		**Pn**	**Pn**	**22 36 56.6**	**-0.4**
TBP	**Tagbilaran**	**2.94**	**293**	*eP*		**Pn**	**Pn**	**22 37 01.3**	**+0.9**
TBP				*i* S		**Sn**	**Sn**	**22 37 35.9**	**+1.4**
GSPH	**General Santos**	**2.95**	**214**⇑	*iP*		**Pn**	**Pn**	**22 37 01.9**	**+1.3**
GSPH				*i* S		**Sn**	**Sn**	**22 37 33.6**	**-1.3**
PLP	**Palo**	**3.06**	**328**⇓	*eP*		**Pn**	**Pn**	**22 37 03.1**	**+1.1**
LLP	**Lapu-Lapu**	**3.15**	**304**⇓	*eP*		**Pn**	**Pn**	**22 37 05.2**	**+2.0**
LLP				*eS*		**Sn**	**Sn**	**22 37 40.2**	**+0.6**
BESP	**Borongan**	**3.25**	**339**	*eP*		**Pn**	**Pn**	**22 37 06.8**	**+2.3**
BESP				*eS*		**Sn**	**Sn**	**22 37 43.9**	**+1.9**
PAGZ	**Pagadian**	**3.27**	**258**	*eP*		**Pn**	**Pn**	**22 37 06.2**	**+1.3**
IPIL	**Ipil**	**4.07**	**260**	*eP*		**Pn**	**Pn**	**22 37 19.8**	**+3.9**
CNP	**Catarman**	**4.38**	**334**	*eP*		**Pn**	**Pn**	**22 37 21.5**	**+1.4**
CNP				*eS*		**Sn**	**Sn**	**22 38 08.4**	**-1.4**
RCP	**Roxas**	**4.84**	**308**⇑	*eP*		**Pn**	**Pn**	**22 37 29.1**	**+2.6**
BATI	**Baumata**	**18.86**	**189**	P		**Pn**	**Pn**	**22 40 34.5**	**+1.3**
	1.9nm,0.3s,baz=315,slow=8.6,SNR=3.4								
SKNT	**Sakolnakorn**	**23.58**	**293**	P		**P**		**22 41 22.8**	**+0.4**
	62nm,1.5s								
KHON	**Khomkaen**	**24.46**	**291**	P		**P**		**22 41 32.6**	**+2.1**
	21nm,1.0s,721nm								
NAYO	**Nakonayok**	**25.43**	**285**	P		**P**		**22 41 42.1**	**+2.8**
	92nm,0.9s,11μm								
IPM	**Ipoh**	**25.73**	**263**	*eP*		**P**		**22 41 42.0**	**-0.1**
	10nm,0.8s								
KULM	**Kulim**	**25.97**	**265**	*eP*		**P**		**22 41 43.9**	**-0.3**
	4.3nm,0.8s								
PHIT	**Phitsanulok**	**26.91**	**291**	P		**P**		**22 41 55.1**	**+2.4**
	39nm,1.1s,323nm								
NANT	**Nan**	**27.12**	**295**	P		**P**		**22 41 57.4**	**+2.9**
	3.4nm,1.0s								
LAMP	**Lampang**	**28.00**	**294**	P		**P**		**22 42 07.7**	**+5.3**
	5.6nm,0.9s								
PAYA	**Payao**	**28.04**	**295**	P		**P**		**22 42 03.8**	**+1.0**
	5.9nm,1.0s								
CMAR	**Chiang Mai Arr**	**28.61**	**293**	P		**P**		**22 42 08.5**	**+0.6**
	2.7nm,0.8s,baz=125,slow=17,SNR=4.1								
CHTO	**Chiang Mai**	**28.71**	**294**	*eP*		**P**		**22 42 08.5**	**-0.2**
	9.6nm,1.3s								
KSAR	**Wonju Array Be**	**28.79**	**2**	P		**P**		**22 42 09.1**	**-0.1**
KSRS	**Korea Array**	**28.80**	**2**	P		**P**		**22 42 09.1**	**-0.2**
	1.5nm,0.7s,baz=179,slow=11,SNR=4.8								
CMAI	**Chiengmai2**	**28.96**	**296**	P		P		22 42 15.8	+4.6
	597nm,0.9s,60μm								
WRA	**Warramunga Arr**	**29.32**	**165**	P		**P**		**22 42 13.3**	**-0.7**
	1.0nm,0.6s,baz=348,slow=9.5,SNR=6.7								
ASAR	**Alice Springs**	**32.80**	**168**	P		**P**		**22 42 44.5**	**-0.2**
	0.3nm,0.3s,baz=348,slow=7.2,SNR=10								
ASAR				PcP			**PcP**	**22 45 29.3**	**+0.3**
	0.9nm,0.6s,baz=357,slow=3.3,SNR=5.0								
ASAR				ScP			**ScP**	**22 49 07.8**	**-1.2**
	0.5nm,0.9s,baz=348,slow=3.0,SNR=4.3								
USRK	**Ussuriysk Ar.**	**35.82**	**7**	P		**P**		**22 43 08.4**	**-2.2**
	2.9nm,0.7s,baz=186,slow=8.7,SNR=4.0								
H11S3	**WAKE ISLAND Hy**	**40.12**	**71**	T		T		23 26 56.9	
	baz=262,slow=70,SNR=104								
H11S1	**WAKE ISLAND Hy**	**40.13**	**71**	T		T		23 26 56.3	
	baz=262,slow=70,SNR=54								
H11S2	**WAKE ISLAND Hy**	**40.13**	**71**	T		T		23 26 58.5	
	baz=262,slow=70,SNR=49								
H11N1	**WAKE ISLAND Hy**	**40.51**	**70**	T		T		23 27 33.3	
	baz=265,slow=74,SNR=55								
H11N2	**WAKE ISLAND Hy**	**40.51**	**70**	T		T		23 27 34.1	
	baz=265,slow=74,SNR=39								
H11N3	**WAKE ISLAND Hy**	**40.52**	**70**	T		T		23 27 34.8	
	baz=265,slow=74,SNR=73								
ODAN	**Odare**	**41.34**	**301**	*eP*		**P**		**22 43 57.5**	**+0.1**
	35nm,0.7s								
RAMN	**Ramite**	**42.03**	**301**	*eP*		**P**		**22 44 03.2**	**0.0**
	22nm,0.7s								
JIRN	**Jiri**	**42.60**	**302**	*eP*		**P**		**22 44 08.0**	**+0.1**
	26nm,0.4s								
STKA	**Stephens Creek**	**42.67**	**161**	P		**P**		**22 44 08.6**	**+0.6**
	1.0nm,0.3s,baz=334,slow=6.2,SNR=3.2								
GUN	**Gumba**	**42.94**	**302**	*eP*		**P**		**22 44 10.6**	**-0.1**
	19nm,0.4s								
PKI	**Pulchoki**	**43.23**	**301**	*eP*		**P**		**22 44 12.3**	**-0.7**
	12nm,0.8s								
PKIN	**Phulchoki**	**43.24**	**301**	*eP*		**P**		**22 44 13.6**	**+0.6**
	8.6nm,0.5s								
KKN	**Kakani**	**43.41**	**302**	*eP*		**P**		**22 44 14.0**	**-0.3**
DMN	**Daman**	**43.50**	**301**	*eP*		**P**		**22 44 15.0**	**-0.1**
	34nm,1.1s								
GKN	**Gorkha**	**44.02**	**302**	*eP*		**P**		**22 44 18.5**	**-0.6**
	8.1nm,0.4s								
KOLN	**Koldanda**	**44.82**	**301**	*eP*		**P**		**22 44 25.5**	**-0.1**
	39nm,0.7s								
DANN	**Dangsing**	**44.86**	**302**	*eP*		**P**		**22 44 26.1**	**+0.1**
PYUN	**Piuthan**	**45.43**	**301**	*eP*		**P**		**22 44 30.4**	**-0.1**
	61nm,0.9s								
PETK	**Petropavlovsk-**	**51.06**	**24**	P		**P**		**22 45 14.6**	**+1.4**
	4.3nm,0.7s,baz=236,slow=1.1,SNR=4.4								
MKAR	**Makanchi Array**	**53.60**	**323**	P		**P**		**22 45 31.2**	**-0.9**
	1.8nm,0.6s,baz=116,slow=6.9,SNR=17								
MKAR				PcP			**PcP**	**22 46 37.6**	**-0.5**
	1.2nm,0.6s,baz=111,slow=5.5,SNR=4.3								
NIL	**Nilore**	**54.98**	**305**	P		**P**		**22 45 41.9**	**-0.5**
	7.8nm,0.2s								
ZALV	**Zalesovo Beam**	**56.29**	**332**	P		**P**		**22 45 49.5**	**-1.9**
	0.8nm,0.5s,baz=119,slow=5.2,SNR=4.8								
KURK	**Kurchatov**	**57.67**	**326**	*eP*		**P**		**22 46 00.3**	**-0.9**
	4.7nm,0.6s								
KURBB	**Kurchatov Arra**	**57.67**	**326**	P		**P**		**22 46 00.2**	**-1.1**
	2.2nm,0.6s,baz=123,slow=7.0,SNR=22								
BVAR	**Borovoye Array**	**63.27**	**326**	P		**P**		**22 46 39.1**	**-0.3**
	2.0nm,0.6s,baz=114,slow=7.2,SNR=12								
BRVK	**Borovoye**	**63.34**	**326**	*eP*		**P**		**22 46 39.1**	**-0.8**
	3.2nm,0.8s								
RPZ	**Rata Peaks**	**65.78**	**146**	P		**P**		**22 46 57.2**	**+1.4**
	6.4nm,0.7s,baz=21,slow=9.1,SNR=3.9								
GEYT	**Alibeck**	**67.84**	**307**	P		**P**		**22 47 09.5**	**+0.2**
	0.8nm,0.5s,baz=104,slow=4.7,SNR=3.9								
AKTO	**Aktyubinsk**	**69.86**	**321**	P		**P**		**22 47 21.2**	**-0.3**
	1.4nm,0.6s,baz=93,slow=12,SNR=7.6								
ARU	**Arti**	**70.84**	**327**	P		**P**		**22 47 26.0**	**-1.3**
	4.8nm,0.5s,baz=105,slow=4.2,SNR=11								
RAYN	**Ar Rayn**	**78.52**	**292**	*eP*		**P**		**22 48 11.4**	**-1.2**
	1.5nm,0.5s								
MCK	**McKinley**	**79.94**	**27**	*eP*		**P**		**22 48 18.9**	**-0.6**
	3.7nm,0.6s								
ILAR	**Eielson Array**	**80.83**	**26**	P		**P**		**22 48 25.1**	**+0.9**
	1.0nm,0.7s,baz=238,slow=5.0,SNR=6.0								
ARCES	**ARCESS Array B**	**85.91**	**340**	P		**P**		**22 48 49.6**	**-0.7**
	2.4nm,0.8s,baz=64,slow=8.2,SNR=4.1								
ARCES				LR		LR		23 32 07.2	
	comp=Z,99nm,18.2s,baz=74,slow=39								
BRTR	**Keskin Array B**	**86.88**	**310**	P		**P**		**22 48 54.5**	**-1.3**
	0.5nm,0.7s,baz=45,slow=5.4,SNR=3.9								
FINES	**FINESS Array B**	**87.56**	**332**	P		**P**		**22 48 56.7**	**-1.7**
	0.8nm,0.3s,baz=99,slow=4.4,SNR=19								
VNDA	**Vanda**	**88.19**	**173**	P		**P**		**22 49 01.7**	**+0.7**
	0.7nm,0.4s,baz=316,slow=5.7,SNR=8.2								
KMBO	**Kilima Mbogo**	**89.53**	**269**	P		**P**		**22 49 08.7**	**-0.4**
	0.5nm,0.4s,baz=51,slow=9.0,SNR=4.6								
HFS	**Hagfors**	**93.72**	**332**	P		**P**		**22 49 27.2**	**0.0**
	2.8nm,0.9s,baz=98,slow=4.4,SNR=4.7								
YKA	**Yellowknife Ar**	**95.18**	**24**	P		**P**		**22 49 34.1**	**+0.3**
	0.6nm,0.7s,baz=285,slow=4.8,SNR=5.0								
QSPA	**South Pole Qui**	**98.42**	**180**	LR		LR		23 34 34.5	
	comp=Z,131nm,20.8s,baz=5.0,slow=36								
TORD	**Torodi Ar. Bea**	**121.20**	**291**	PKP			**PKPdf**	**22 55 03.6**	**-0.7**
	0.5nm,0.7s,baz=88,slow=1.9,SNR=5.5								

*BJI **31** 22:36:23.7, 11.˚75N×144.˚51E, h50km, mb4.7/40, mB5.0/24, Ms4.6/26, Ms7 4.4/26*
*IDC **31** 22:36:24.1±0.6, 12.˚38N×144.˚05E, h0km, mb4.5/28, mb1 4.6/28, mb1mx4.3/70, mbtmp4.5/28, MS4.2/21, Ms1 4.2/21, ms1mx4.0/44, Error ellipse: s-maj=16.9km s-min=12.7km az=99.0*
*ISCJB **31** 22:36:26.3±0.3, 12.˚32N±0.˚05×144.˚06E±0.˚06, h27km, mb4.7/76, MS4.3/34, Error ellipse: s-maj=8.3km s-min=6.1km az=27.8*
*MOS **31** 22:36:27.0±1.2, 12.˚30N×144.˚06E, h36km, mb4.8/37, Error ellipse: s-maj=13.9km s-min=6.8km az=106.9*
*GCMT **31** 22:36:30.4±0.3, 12.˚22N×143.˚98E, h20km±1km, MW5.0/64, Moment Tensor Solution. s31,c41; s64,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.44±.20; $M_{\theta\theta}$-1.72±.12; $M_{\phi\phi}$-0.72±.14; $M_{r\theta}$-1.08±.25; $M_{\theta\phi}$-1.44±.08; $M_{\phi r}$1.79±.28; Best double couple: M_o3.23500×10^{16} NP1:ϕ_s261.00000°,δ55.00000°,λ31.00000°. NP2: ϕ_s261.00000°,δ1.00000°,λ132.00000°. Principal axes: T 3.7160, Plg59.0000°, Azm237.0000°; N -0.9690, Plg31.0000°, Azm51.0000°; P -2.7530, Plg2.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 22:36:30.4±1.0, 12.˚34N×144.˚13E, h47km±9km, mb4.9/27 Error ellipse: s-maj=8.2km s-min=5.7km az=112.0*
NEIC Felt at Merizo and Santa Rita.
ISC 31 22:36:28.5±0.5, 12.˚37N±0.˚06×144.˚01E±0.˚07, h27km, n167, σ1§26/155, mb4.8/76, MS4.3/35, **6C-10D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.47**	**35**	Pn		**Pn**	**Pn**	**22 36 53.3**	**0.0**
	585nm,0.3s,baz=209,slow=1.1,SNR=184								
GUMO				Sn		**Sb**	**Sb**	**22 37 13.2**	**-0.3**
	424nm,0.3s,baz=211,slow=21,SNR=9.5								
GUMO	**Guam**	**1.47**	**35**	*eP*n		**Pn**	**Pn**	**22 36 53.4**	**+0.2**
GUMO				*eS*n		**Sb**	**Sb**	**22 37 14.6**	**+1.1**
SARN	**Sarigan**	**4.63**	**22**	*eP*n		**Pn**	**Pn**	**22 37 38.8**	**+2.0**
DAV	**Davao City (W)**	**18.91**	**256**	LR		LR	LR	22 48 56.4	
	comp=Z,66nm,19.5s,baz=80,slow=40								
JOW	**Kunigami**	**20.62**	**317**	LR		LR	LR	22 47 40.7	
	comp=Z,601nm,20.4s,baz=156,slow=33								
JHJ	**Hachijo jima 2**	**21.01**	**350**	LR		LR	LR	22 47 58.2	
	comp=Z,932nm,21.8s,baz=104,slow=33								
PMG	**Port Moresby**	**21.86**	**172**	LR		LR	LR	22 49 10.9	
	comp=Z,596nm,18.4s,baz=345,slow=35								
JNU	**Nakatsue**	**23.89**	**332**	P		**P**	**P**	**22 41 41.2**	**+1.1**
	26nm,0.8s,baz=64,slow=5.0,SNR=9.1								
JNU	**Nakatsue**	**23.89**	**332**	*eP*		**P**	**P**	**22 41 42.5**	**+2.4**
	24nm,0.8s								
MJAR	**Matsushiro Arr**	**24.62**	**349**	P		**P**	**P**	**22 41 45.2**	**-1.6**
	3.6nm,0.8s,baz=177,slow=10,SNR=7.7								
MJAR				LR		LR	LR	22 50 51.1	
	comp=Z,868nm,18.0s,baz=185,slow=35								
MAJO	**Matsushiro**	**24.63**	**349**⇑	*eP*		**P**	**P**	**22 41 46.3**	**-0.5**
MAJO				pmax		pmax	pmax		
	comp=Z,35nm,2.2s								
MAT	**Matsushiro**	**24.63**	**349**	P		**P**	**P**	**22 41 45.9**	**-0.9**
MAT				S		**S**	**S**	**22 46 07.4**	**+0.9**
MYLDM	**Lahad Datu**	**26.18**	**256**	*eP*		**P**	**P**	**22 42 03.3**	**+2.2**
	comp=Z,31nm,0.9s								
HNR	**Honiara**	**26.84**	**143**	LR		LR	LR	22 53 10.2	
	comp=Z,245nm,18.8s,baz=327,slow=38								
KSRS	**Korea Array**	**28.83**	**333**	P		**P**	**P**	**22 42 23.8**	**-0.7**
	comp=Z,4.0nm,1.0s,baz=142,slow=9.0,SNR=7.3								
KSAR	**Wonju Array Be**	**28.84**	**333**	P		**P**	**P**	**22 42 23.8**	**-0.8**
KS01	**Wonju Array Si**	**28.86**	**333**	*eP*		**P**	**P**	**22 42 25.1**	**+0.3**
BATI	**Baumata**	**30.19**	**223**	LR		LR	LR	22 53 29.0	
	comp=Z,166nm,21.6s,baz=38,slow=34								
NJ2	**Nanjing**	**30.29**	**314**	*eP*		**P**	**P**	**22 42 38.0**	**+0.4**
NJ2				pmax		pmax	pmax		
	comp=Z,13nm,0.9s								
CTA	**Charters Tower**	**32.33**	**176**	P		**P**	**P**	**22 42 54.4**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=328,slow=13,SNR=3.7								
CTA				LR		LR	LR	22 56 37.6	
	comp=Z,423nm,19.0s,baz=326,slow=38								
CTA	**Charters Tower**	**32.33**	**176**	P		**P**	**P**	**22 42 54.4**	**-1.2**
CTA				pmax		pmax	pmax		
	comp=Z,3.0nm,0.3s								
CTA				MLR		MLR	MLR		
	comp=Z,423nm,19.0s								
SBUM	**Sibu**	**32.99**	**255**	*eP*		**P**	**P**	**22 43 02.7**	**+1.1**
	comp=Z,14nm,0.8s								
USRK	**Ussuriysk Ar.**	**33.36**	**344**	LR		LR	LR	22 54 23.1	
	comp=Z,396nm,21.3s,baz=150,slow=32								
WRAB	**Tennant Creek**	**33.48**	**197**⇓	*eP*		**P**	**P**	**22 43 05.2**	**-0.5**
WRAB				pmax		pmax	pmax		
	comp=Z,11nm,1.5s								
WRAB	**Tennant Creek**	**33.48**	**197**	*eP*		**P**	**P**	**22 43 05.0**	**-0.8**
	comp=Z,5.9nm,0.8s								
WB2	**Warramunga Arr**	**33.49**	**197**	*eP*		**P**	**P**	**22 43 05.2**	**-0.6**
	comp=Z,6.9nm,0.8s								
WRA	**Warramunga Arr**	**33.49**	**197**	P		**P**	**P**	**22 43 05.2**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=20,slow=9.6,SNR=8.1								
QIZ	**Qiongzhong**	**33.51**	**286**	P		**P**	**

SONM PcP **PcP** **22 46 31.0 +0.5**
comp=Z,0.7nm,0.5s,baz=165,slow=3.4,SNR=4.2
SONA1 Songino Array 47.25 326 *eP* **P** **22 44 59.8 +0.2**
GSI Gunungsitoli 47.31 260 *eP* **P** **22 45 00.3 0.0**
comp=Z,28nm,0.9s
GTA Gaotai 47.36 313 P **P** **22 45 00.8 +0.3**
GTA pP sP 22 45 13.5 +1.5
GTA sP pP 22 45 18.3 +10
GTA PcP **PcP** **22 46 31.8 +0.7**
GTA S **S** **22 51 51.3 -1.7**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,190nm,5.9s
GTA LR LR
comp=Z,300nm,20.4s
GTA LR LR
comp=Z,380nm,21.4s
GTA LR LR
comp=Z,420nm,20.5s
ZAK Zakamensk 50.39 327 *eP* **P** **22 45 22.2 -1.3**
ZAK *e* 22 46 34.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
YAK Yakutsk 50.65 351 P **P** **22 45 25.1 0.0**
comp=Z,15nm,0.4s,baz=106,slow=0.7,SNR=4.5
YAK Yakutsk 50.65 351 *eP* **P** **22 45 23.0 -2.1**
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,1.0nm,0.9s
SEY Seymchan 50.84 5 P **P** **22 45 25.9 -0.6**
comp=N,1.0nm,0.6s,baz=156,slow=7.4,SNR=5.1
SEY Seymchan 50.84 5⇓ *eP* **P** **22 45 27.1 +0.6**
TLY Talaya 50.94 329 *eP* **P** **22 45 26.7 -0.9**
TLY *eS* **S** **22 52 39.3 -3.3**
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,201nm,19.0s
LSA Lhasa 51.81 298 *eP* **P** **22 45 35.9 +0.9**
comp=Z,8.4nm,0.8s
KNGR Kungurtug, Tuv 53.65 325⇓ *eP* **P** **22 45 50.3 +2.5**
RAMN Ramite 55.54 294 *eP* **P** **22 46 02.2 +0.1**
comp=Z,17nm,0.7s
JIRN Jiri 55.95 295 *eP* **P** **22 46 05.1 -0.1**
comp=Z,24nm,0.7s
GUN Gumba 56.24 295 *eP* **P** **22 46 07.3 +0.1**
comp=Z,80nm,0.9s
PKI Pulchoki 56.64 295 *eP* **P** **22 46 10.0 0.0**
PKIN Phulchoki 56.65 295 *eP* **P** **22 46 10.1 0.0**
comp=Z,13nm,0.7s
DMN Daman 56.91 295 *eP* **P** **22 46 11.6 -0.3**
comp=Z,23nm,0.9s
GKN Gorkha 57.34 295 *eP* **P** **22 46 14.5 -0.3**
comp=Z,22nm,0.9s
WMQ Urumqi 57.37 314 P **P** **22 46 12.5 -2.2**
WMQ pP sP 22 46 31.5 +5.2
WMQ sP pP 22 46 37.5 +14
WMQ pmax pmax
comp=Z,84nm,0.9s
WMQ pmax pmax
comp=Z,460nm,4.5s
WMQ LR LR
comp=Z,390nm,19.7s
WMQ LR LR
comp=Z,450nm,17.3s
WMQ LR LR
comp=Z,340nm,19.7s
BILL Bilibino 57.49 10⇓ *eP* **P** **22 46 14.0 -1.0**
BILL *e* 22 47 09.1
BILL *e* 22 48 22.0
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,146nm,17.0s
DANN Dangsing 58.13 296 *eP* **P** **22 46 21.0 +0.4**
KOLN Koldanda 58.25 295 *eP* **P** **22 46 20.9 -0.4**
comp=Z,16nm,0.8s
PYUN Piuthan 58.80 295 *eP* **P** **22 46 24.9 -0.2**
comp=Z,38nm,0.8s
DGZ Jazzator, Alta 59.24 321 *d iP* **P** **22 46 28.7 +1.0**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 59.95 355 P **P** **22 46 32.7 +0.7**
comp=Z,0.9nm,0.4s,baz=172,slow=2.1,SNR=3.4
TIXI Tiksi 59.95 355⇑ *eP* **P** **22 46 33.1 +1.1**
TIXI pmax pmax
comp=Z,3.0nm,1.4s
TIXI Tiksi 59.95 355 *eP* **P** **22 46 32.8 +0.7**
comp=Z,3.2nm,0.7s
MK01 Makanchi Array 61.77 317 *eP* **P** **22 46 45.4 +0.5**
MK31 Makanchi Array 61.78 317 *eP* **P** **22 46 45.2 +0.2**
MKAR Makanchi Array 61.78 317 P **P** **22 46 45.6 +0.6**
comp=Z,7.8nm,0.7s,baz=90,slow=8.6,SNR=18
MKAR LR LR 23 14 43.7
comp=Z,199nm,19.6s,baz=90,slow=37
MKAR Makanchi Array 61.78 317 *eP* **P** **22 46 45.0 0.0**
MKAR Makanchi Array 61.78 317 *eP* **P** **22 46 45.0 0.0**
comp=Z,48nm,0.6s
MAKZ Makanchi 62.00 317 *eP* **P** **22 46 47.2 +0.8**
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 62.12 325 P **P** **22 46 46.5 -0.6**
comp=Z,1.0nm,0.5s,baz=86,slow=6.4,SNR=4.6
ZALV PcP **PcP** **22 47 26.2 -0.9**
comp=Z,2.8nm,0.7s,baz=119,slow=3.9,SNR=5.2
PALK Pallekele 62.47 272 *eP* **P** **22 46 50.2 +0.1**
comp=Z,11nm,1.1s
NVS Novosibirsk 63.28 326 *eP* **P** **22 46 53.6 -1.1**
NVS pmax pmax
comp=Z,8.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.1s
PRZ Przheval'sk 63.78 311 P **P** **22 47 00.2 +1.6**
PRZ pmax pmax
comp=Z,11nm,0.9s
KDJ Kajisay 64.64 311 P **P** **22 47 05.0 +0.8**
KDJ pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 64.97 320 *c iP* **P** **22 47 05.6 -0.3**
KURK pmax pmax
comp=Z,19nm,1.2s
KURK Kurchatov 64.97 320 *eP* **P** **22 47 06.1 +0.1**
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 65.01 320 P **P** **22 47 05.9 -0.3**
comp=Z,19nm,1.1s,baz=103,slow=6.6,SNR=30
KSH Kashi 65.31 308 *eP* **P** **22 47 10.5 +1.9**
KSH pP sP 22 47 24.5 +4.2
KSH sP PcP 22 47 31.5 -9.2
KSH S **S** **22 55 48.3 -2.7**
KSH pmax pmax
comp=Z,3.0nm,0.9s
KSH pmax pmax
comp=Z,95nm,5.9s
KSH LR LR
comp=Z,98nm,8.0s
KSH LR LR
comp=Z,87nm,10.9s
KSH LR LR
comp=Z,59nm,7.8s
TKM2 Tokmak 2 65.89 312 P **P** **22 47 12.5 +0.2**
SNR=7.5
KZA Kyzart 66.07 311 P **P** **22 47 14.8 +1.1**
SNR=7.5
KBK Karagaybulak 66.34 311 P **P** **22 47 15.8 +0.7**
SNR=7.8
UCH Uchtor 66.62 311 P **P** **22 47 18.6 +1.2**
SNR=12
AAK Ala-Archa 66.67 311 P **P** **22 47 17.0 -0.3**
comp=Z,3.0nm,0.8s,baz=95,slow=5.2,SNR=8.4
AAK Ala-Archa 66.67 311 P **P** **22 47 17.0 -0.3**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AML Almayashu 67.22 311 P **P** **22 47 22.0 +0.9**
SNR=8.8
NIL Nilore 67.29 301 *eP* **P** **22 47 22.0 +0.7**
comp=Z,45nm,0.8s
POO Poona 67.55 285 *eP* P 22 47 14.0 -9.1
KKAR Karatay Array 69.62 311 *eP* **P** **22 47 35.9 +0.2**
ILAR Eielson Array 70.02 25 P **P** **22 47 35.6 -1.9**
comp=Z,1.3nm,0.5s,baz=249,slow=5.6,SNR=25
ILB Eielson Array 70.02 25 *eP* **P** **22 47 35.8 -1.9**
IL1 Eielson Array 70.02 25 *eP* **P** **22 47 35.3 -2.3**
BVAR Borovoye Array 70.36 322 P **P** **22 47 39.2 -0.8**
comp=Z,4.1nm,0.4s,baz=108,slow=7.9,SNR=27
BVAR LR LR 23 19 28.2
comp=Z,524nm,19.4s,baz=78,slow=37
BRVK Borovoye 70.43 322 *ceP* **P** **22 47 40.2 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 70.43 322 *eP* **P** **22 47 40.5 +0.2**
comp=Z,7.4nm,0.8s
KBL Kabul 70.77 302 P **P** **22 47 43.2 +0.2**
KBL pmax pmax
comp=Z,14nm,1.0s
KBL Kabul 70.77 302 *eP* **P** **22 47 43.2 +0.2**
comp=Z,14nm,1.0s
DOT Dot Lake 70.99 27 *eP* **P** **22 47 42.9 -0.6**
comp=Z,16nm,1.1s
PPT2 Papeete2 72.00 113 *e*LR LR 23 09 40.8
comp=Z,334nm,28.8s
INK Inuvik 75.80 22 P **P** **22 48 10.7 -1.1**
comp=Z,1.7nm,0.6s,baz=262,slow=7.3,SNR=9.6
INK Inuvik 75.80 22 *eP* **P** **22 48 11.0 -0.8**
comp=Z,18nm,1.8s
SVE Sverdlovsk 76.12 326 *eP* **P** **22 48 14.3 +0.5**
SVE pmax pmax
comp=Z,12nm,0.9s
ABKAR Akbulak array 76.88 318 *eP* **P** **22 48 17.9 -0.4**
comp=Z,127nm,0.6s
ARU Arti 77.28 325 P **P** **22 48 20.0 -0.3**
comp=Z,8.3nm,0.8s,baz=86,slow=4.7,SNR=10.0
ARU Arti 77.28 325 *c iP* **P** **22 48 19.7 -0.7**
ARU 22 51 13.0
ARU S **S** **22 58 10.8 +2.2**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 77.28 325 *eP* **P** **22 48 20.1 -0.3**
comp=Z,9.9nm,0.8s
AKTO Aktyubinsk 78.03 319 P **P** **22 48 24.2 -0.5**
comp=Z,5.3nm,0.8s,baz=91,slow=8.5,SNR=8.9
BBB Bella Bella 79.05 39 LR LR 23 18 01.1
comp=Z,189nm,19.3s,baz=282,slow=32
GEYT Alibeck 79.30 307 P **P** **22 48 32.2 +0.2**
comp=Z,12nm,0.9s,baz=48,slow=2.2,SNR=22
GEYT LR LR 23 26 22.2
comp=Z,198nm,20.7s,baz=20,slow=38
WSAR Wadi Sarin 81.03 292 P **P** **22 48 42.2 +0.7**
comp=Z,1.7nm,0.6s,baz=135,slow=4.3,SNR=4.5
WSAR LR LR 23 28 13.8
comp=Z,54nm,19.8s,baz=99,slow=38
YKA Yellowknife Ar 84.32 27 P **P** **22 48 57.2 -0.6**
comp=Z,0.5nm,0.4s,baz=287,slow=5.3,SNR=20
SPITS Spitsbergen Ar 85.11 351 LR LR 23 27 46.2
RES Resolute Bay 85.92 13 P **P** **22 49 05.7 0.0**
RES pmax pmax
comp=Z,7.0nm,0.9s
RES Resolute Bay 85.92 13 *eP* **P** **22 49 05.7 0.0**
comp=Z,6.9nm,0.8s
KLMR Klimovskoe 86.22 332 *eP* **P** **22 49 04.7 -2.6**
KLMR pmax pmax
comp=Z,13nm,1.2s
KLMR Klimovskoe 86.22 332 *eP* **P** **22 49 04.8 -2.6**
KLMR AMP 22 49 06.7
comp=Z,13nm,1.2s
KLMR LQ LQ 23 23 55.7
KLMR LQ LQ 23 23 55.7
APA Apatity 86.29 339⇓ *iP* **P** **22 49 10.3 +2.7**
NEW Newport 86.69 41 P **P** **22 49 10.1 0.0**
comp=Z,2.1nm,0.7s,baz=94,slow=4.8,SNR=5.1
ARCES ARCESS Array B 87.97 342 P **P** **22 49 15.5 -0.3**
comp=Z,4.4nm,0.9s,baz=58,slow=4.6,SNR=6.8
VRH Novokhopyorsk 88.01 322 *eP* **P** **22 49 14.3 -2.0**
VRH pmax pmax
comp=Z,20nm,1.0s
NVAR Mina Array Bea 88.33 51 P **P** **22 49 18.2 -0.2**
comp=Z,3.8nm,0.8s,baz=294,slow=3.0,SNR=4.0
MFID Camas Ranch 88.84 46 *eP* **P** **22 49 21.3 +0.7**
comp=Z,5.0nm,0.9s
NCK Nalchik 89.00 314⇓ *eP* **P** **22 49 20.8 -0.4**
LPSR Galich'ya Gora 89.22 324 *eP* **P** **22 49 20.0 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 89.42 315 LR LR 23 33 11.3
comp=Z,167nm,19.9s,baz=54,slow=38
KIV Kislovodsk 89.50 315 *eP* **P** **22 49 21.4 -2.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,189nm,20.0s
VSR Storozhevoye 89.53 323 *eP* **P** **22 49 21.0 -2.5**
VSR pmax pmax
comp=Z,10.0nm,0.8s
AKH Akhalkalaki 89.65 312 *eP* **P** **22 49 24.6 +0.2**
comp=Z,6.6nm,1.0s
OBN Obninsk 89.66 327⇓ *eP* **P** **22 49 22.0 -1.9**
OBN *e* 22 52 53.5
OBN pmax pmax
comp=Z,17nm,0.9s
OBN Obninsk 89.66 327 *eP* **P** **22 49 22.5 -1.5**
comp=Z,25nm,1.2s
NEY Neytrino 89.68 314⇓ *eP* **P** **22 49 25.4 +0.8**
NEY pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 91.90 335 P **P** **22 49 32.6 -1.7**
comp=Z,1.9nm,0.5s,baz=73,slow=5.3,SNR=9.0
RLMT Red Lodge 92.79 43 *eP* **P** **22 49 40.7 +1.7**
comp=Z,9.9nm,1.5s
AKASG Malin Array Be 95.52 325 LR LR 23 36 43.4
comp=Z,157nm,18.2s,baz=80,slow=38
BR131 Keskin Array S 97.28 313 *eP* **P** **22 49 59.0 -0.6**
BRTR Keskin Array B 97.28 313 P **P** **22 49 58.4 -1.2**
comp=Z,2.0nm,0.9s,baz=102,slow=3.6,SNR=7.6
BR231 Keskin MP Arra 97.85 314 *eP* **P** **22 49 59.4 -2.7**
MMAI Mount Meron Ar 98.42 306 LR LR 23 38 43.5
comp=Z,33nm,20.9s,baz=75,slow=38
OKC Ostrava-Krasne 102.03 328 AMS AMS 23 40 30.0
comp=Z,300nm,15.3s
DPC Dobruska-Polom 102.66 329 AMS AMS 23 41 40.0
comp=Z,200nm,16.3s
UPC Upice 102.72 329 AMS AMS 23 41 10.0
comp=Z,200nm,17.0s
CLL Colm 103.69 331 *eP* **Pdif** **22 50 24.0 -3.7**
TREC Trest 103.74 328 AMS AMS 23 39 50.0
comp=Z,200nm,17.8s
PRU Pruhonice 103.78 329 AMS AMS 23 42 30.0
comp=Z,200nm,14.9s
KHC Kasperske Hory 104.81 329 AMS AMS 23 43 10.0
comp=Z,300nm,14.7s
TAM Tamanrasset 126.38 311 *e*PKPdf **PKPdf** **22 55 30.8 +0.8**
TOA0 Torodi Ar. Sit 134.84 303 *e*PKPdf **PKPdf** **22 55 45.8 -0.1**
TORD Torodi Ar. Bea 134.84 303 PKP **PKPdf** **22 55 46.9 +1.0**
comp=Z,1.9nm,0.8s,baz=43,slow=2.4,SNR=7.6
KOWA Kowa 138.57 309 PKP **PKPdf** **22 55 53.5 +0.6**
comp=Z,2.1nm,0.7s,baz=38,slow=3.6,SNR=5.4
PLCA Paso Flores 138.58 139 PKhKP PKPpre 22 55 47.1
comp=Z,3.4nm,1.0s,baz=69,slow=1.7,SNR=3.8
DBIC Dimbokro 143.72 300 PKP PKPbc 22 55 59.4 -0.3
comp=Z,11nm,0.7s,baz=45,slow=4.4,SNR=12
DBIC Dimbokro 143.72 300 *e*PKPdf PKPbc 22 55 59.8 +0.1
KIC Kosan Boka 143.78 299 *e*PKP1 PKPbc 22 55 59.6 -0.3
comp=Z,30nm,1.0s
TIC Toumodi 143.88 300 *e*PKP1 PKPab 22 55 59.6 0.0
LIC Lamto 144.10 299 *e*PKP1 **PKPab** **22 56 00.5 +0.1**
comp=Z,46nm,0.6s
LPAZ La Paz 148.64 101 PKPbc **PKPbc** **22 56 15.1 +0.2**
comp=Z,1.3nm,0.9s,baz=168,slow=1.3,SNR=5.5
CPUP Villa Florida 155.60 128 PKPab **PKPab** **22 56 47.9 +1.3**
comp=Z,2.2nm,1.0s,baz=288,slow=3.2,SNR=2.7

IDC 31 22:40:32.6±2.3, 14°.65N×145°.64E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.4/63, mbtmp3.9/4, Error ellipse: s-maj=68.7km s-min=19.5km az=102.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.29**	**215**	Pn	Pg	22 40 57.3	+0.1
	65nm,0.3s,baz=8.2,slow=14,SNR=10						
GUMO				Sn	Sn	22 41 17.7	+1.9
	60nm,0.3s,baz=200,slow=22,SNR=11						
ASAR	**Alice Springs**	**39.77**	**197**	P	P	22 48 07.4	0.0
	0.8nm,0.8s,baz=13,slow=9.1,SNR=3.5						
MKAR	**Makanchi Array**	**61.26**	**316**	P	P	22 50 49.5	-0.1
	0.5nm,0.5s,baz=93,slow=8.2,SNR=5.1						
KURBB	**Kurchatov Arra**	**64.31**	**319**	P	P	22 51 10.1	+0.3
	0.5nm,0.4s,baz=105,slow=7.1,SNR=6.7						
FINES	**FINESS Array B**	**90.52**	**335**	P	P	22 53 36.0	-0.3
	2.3nm,1.1s,baz=98,slow=5.8,SNR=4.9						

IDC ***31*** *22:52:37.6±0.8, 15°.61S×174°.49W, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.2/54, mbtmp4.2/11, MS4.1/32, Ms1 4.1/32, ms1mx4.1/38, Error ellipse: s-maj=49.5km s-min=17.7km az=151.0*

GCMT ***31*** *22:52:39.1±0.3, 15°.18S×174°.43W, h18km±1km, MW5.0/86, Moment Tensor Solution. s28,c34; s86,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.15; $M_{\theta\theta}$-1.47±.13; $M_{\phi\phi}$ 1.63±.12; $M_{r\theta}$-0.32±.27; $M_{r\phi}$2.80±.10; $M_{\theta\phi}$0.84±.28; Best double couple: M_o3.32600×10^{16} NP1:ϕ_s166.00000°, δ88.00000°, λ-164.00000°. NP2: ϕ_s75.00000°, δ74.00000°, λ-3.00000°. Principal axes: T 3.3720, Plg9.0000°, Azm300.0000°; N -0.0980, Plg74.0000°, Azm175.0000°; P -3.2790, Plg13.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***31*** *22:52:39.1±0.6, 15°.49S×174°.39W, h10km, mb4.3/8 Error ellipse: s-maj=30.7km s-min=10.2km az=153.0*

ISCJB ***31*** *22:52:41.4±0.8, 15°.4S±0°.2×174°.6W±0°.2, h33km, mb4.2/18, MS4.2/28, Error ellipse: s-maj=39.2km s-min=11.3km az=152.1*

ISC 31 22:52:43.3±0.8, 15°.5S±0°.2×174°.5W±0°.2, h35km, n82, σ1s47/43, mb4.3/18, MS4.2/28, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.07**	**59**	Pn	Pn	22 53 22.4	-7.0
	45nm,0.3s,baz=34,slow=2.5,SNR=32						
AFI				Sn	Sn	22 53 55.1	-10
	33nm,0.3s,baz=150,slow=22,SNR=4.2						
AFI				LR	LR	22 53 59.4	
	comp=Z,435nm,19.1s,baz=316,slow=26						
RAO	**Raoul Island**	**14.04**	**192**	LR	LR	23 00 01.7	
	comp=Z,444nm,20.5s,baz=77,slow=32						
RAR	**Rarotonga**	**15.07**	**114**	LR	LR	23 00 44.9	
	comp=Z,779nm,21.8s,baz=278,slow=32						
DZM	**Mont Dzumac**	**19.19**	**247**	LR	LR	23 03 04.1	
	comp=Z,720nm,20.2s,baz=76,slow=33						
DZM	**Mont Dzumac**	**19.19**	**247**	*eP*	**Pn**	**22 57 09.7**	**+4.4**
	99nm,1.4s						
DZM				*e*LQ	LQ	23 01 01.2	
	2μm,23.9s						
DZM				*e*LR	LR	23 01 51.8	
	857nm,26.6s						
DZM	**Mont Dzumac**	**19.19**	**247**	*eP*	**Pn**	**22 57 05.4**	**0.0**
	5.7nm,0.9s						
PAE	**Paea**	**23.97**	**99**	*eT*	T	23 22 29.8	
	12nm,0.3s						
PPT	**Papeete**	**23.97**	**98**	LR	LR	23 04 56.2	
	comp=Z,279nm,20.8s,baz=271,slow=31						
PPT2	**Papeete2**	**23.97**	**98**	*e*LQ	LQ	23 02 38.6	
	1μm,25.2s						
PPT2				*e*LR	LR	23 03 37.7	
	977nm,26.5s,baz=281						
PPT2	**Papeete2**	**23.97**	**98**	*eT*	T	23 22 30.5	
	12nm,0.3s						
TIAR	**Tiarei**	**24.19**	**98**	*eT*	T	23 22 45.5	
	7.1nm,0.3s						
TVO	**Taravao**	**24.28**	**99**	*eT*	T	23 22 54.3	
	5.2nm,0.4s						
PMOR	**Pomariorio Ree**	**25.66**	**92**	*eT*	T	23 24 25.0	
	13nm,0.3s						
HNR	**Honiara**	**25.66**	**281**	LR	LR	23 06 54.7	
	comp=Z,526nm,19.6s,baz=132,slow=33						
HNR	**Honiara**	**25.66**	**281**	*i P*	**P**	**22 58 08.0**	**-2.1**
HNR	**Honiara**	**25.66**	**281**	*eP*	**P**	**22 58 08.7**	**-1.4**
VAH	**Vaihoa**	**25.90**	**93**	*eT*	T	23 24 43.3	
	33nm,0.3s						
PMG	**Port Moresby**	**37.89**	**275**	LR	LR	23 13 52.4	
	comp=Z,444nm,18.8s,baz=104,slow=34						
RKT	**Rikitea**	**37.96**	**108**	*e*LR	LR	23 10 13.5	
	688nm,27.5s						
RKT	**Rikitea**	**37.96**	**108**	*eT*	T	23 40 15.0	
	19nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.52**	**331**	T	T	23 40 36.1	
	baz=149,slow=76,SNR=97						
H11S3	**WAKE ISLAND Hy**	**38.54**	**331**	T	T	23 40 37.5	
	baz=149,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**38.54**	**331**	T	T	23 40 37.9	
	baz=149,slow=76,SNR=70						
H11N3	**WAKE ISLAND Hy**	**39.49**	**332**	T	T	23 41 43.0	
	baz=151,slow=76,SNR=144						
H11N1	**WAKE ISLAND Hy**	**39.50**	**332**	T	T	23 41 43.4	
	baz=151,slow=76,SNR=150						
H11N2	**WAKE ISLAND Hy**	**39.51**	**332**	T	T	23 41 44.4	
	baz=151,slow=76,SNR=149						
STKA	**Stephens Creek**	**43.08**	**240**	P	**P**	**23 00 39.2**	**-0.9**
	3.8nm,0.9s,baz=82,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**48.80**	**257**	P	**P**	**23 01 23.4**	**-2.0**
	1.4nm,1.0s,baz=88,slow=6.8,SNR=16						
WRA				LR	LR	23 20 45.4	
	comp=Z,541nm,18.6s,baz=90,slow=35						
ASAR	**Alice Springs**	**49.08**	**252**	P	**P**	**23 01 26.4**	**-1.2**
	8.0nm,0.8s,baz=83,slow=8.2,SNR=34						
ASAR				LR	LR	23 20 34.9	
	comp=Z,254nm,20.3s,baz=97,slow=34						
SOEI	**Soe**	**59.87**	**268**	*eP*	**P**	**23 02 46.6**	**+0.4**
	2.7nm,0.6s						
BATI	**Baumata**	**60.36**	**267**	LR	LR	23 27 04.5	
	comp=Z,172nm,21.8s,baz=120,slow=34						
DAV	**Davao City (W)**	**63.45**	**286**	LR	LR	23 29 29.6	
	comp=Z,161nm,18.1s,baz=148,slow=35						
JHJ	**Hachijo jima 2**	**65.14**	**319**	LR	LR	23 31 00.1	
	comp=Z,79nm,19.2s,baz=102,slow=35						
MJAR	**Matsushiro Arr**	**68.34**	**320**	LR	LR	23 27 59.0	
	comp=Z,96nm,21.8s,baz=115,slow=31						
JOW	**Kunigami**	**69.70**	**307**	LR	LR	23 28 08.6	
	comp=Z,274nm,21.9s,baz=118,slow=30						
JNU	**Nakatsue**	**71.11**	**314**	LR	LR	23 29 46.2	
	comp=Z,124nm,21.0s,baz=116,slow=31						
PETK	**Petropavlovsk-**	**72.41**	**343**	LR	LR	23 29 57.6	
	comp=Z,68nm,21.9s,baz=267,slow=31						
YBH	**Yreka Blue Hor**	**74.32**	**38**	LR	LR	23 29 18.5	
	comp=Z,297nm,18.9s,baz=263,slow=30						
NVAR	**Mina Array Bea**	**75.11**	**42**	P	**P**	**23 04 22.7**	**+0.5**
	4.0nm,0.9s,baz=216,slow=7.5,SNR=4.1						
NVAR				LR	LR	23 30 47.3	
	comp=Z,234nm,20.9s,baz=90,slow=30						
KSRS	**Korea Array**	**75.50**	**316**	LR	LR	23 34 48.5	
	comp=Z,113nm,18.7s,baz=137,slow=34						
LEM	**Lembang**	**76.58**	**267**	LR	LR	23 40 08.4	
	comp=Z,62nm,19.1s,baz=110,slow=37						
USRK	**Ussuriysk Ar.**	**76.84**	**324**	LR	LR	23 31 52.9	
	comp=Z,124nm,21.1s,baz=112,slow=31						
KTH	**Kantishna Hill**	**80.90**	**10**	*eP*	**P**	**23 04 52.5**	**-1.1**
	4.6nm,1.2s						
TRF	**Thorofare Moun**	**80.92**	**11**	*eP*	**P**	**23 04 52.8**	**-0.9**
	3.0nm,0.9s						
MCK	**McKinley**	**81.42**	**11**	*eP*	**P**	**23 04 55.8**	**-0.5**
	1.8nm,0.9s						
TXAR	**Lajitas Array**	**81.54**	**56**	P	**P**	**23 04 58.0**	**+0.3**
	2.2nm,1.0s,baz=229,slow=4.8,SNR=14						
TXAR				LR	LR	23 33 08.2	
	comp=Z,213nm,20.8s,baz=0.0,slow=30						
ANMO	**Albuquerque**	**81.67**	**50**	P	**P**	**23 04 58.9**	**+0.4**
	2.2nm,1.0s,baz=39,slow=5.1,SNR=5.7						
ILAR	**Eielson Array**	**82.75**	**12**	P	**P**	**23 05 02.1**	**-1.1**
	2.5nm,1.1s,baz=223,slow=5.2,SNR=7.7						
ILAR				LR	LR	23 34 52.6	
	comp=Z,103nm,20.0s,baz=228,slow=31						
PDAR	**Pinedale Array**	**83.05**	**42**	P	**P**	**23 05 04.9**	**-0.6**
	2.7nm,0.9s,baz=209,slow=2.7,SNR=9.3						
PDAR				LR	LR	23 34 58.1	
	comp=Z,144nm,20.1s,baz=258,slow=31						
MSTX	**Muleshoe**	**84.05**	**53**	*eP*	**P**	**23 05 10.8**	**+0.1**
	1.0nm,0.3s						
ABTX	**Abilene, Hawle**	**85.98**	**55**	*eP*	**P**	**23 05 19.7**	**-0.7**
	3.4nm,0.9s						
EDM	**Edmonton**	**86.13**	**32**	*eP*	**P**	**23 05 20.2**	**-0.4**
	0.6nm,0.4s						
MAW	**Mawson**	**87.36**	**199**	LR	LR	23 42 46.9	
	comp=Z,285nm,18.2s,baz=68,slow=34						
APG	**El Apazote**	**88.36**	**74**	LR	LR	23 37 41.9	
	comp=Z,83nm,19.9s,baz=89,slow=31						
INK	**Inuvik**	**88.62**	**14**	P	**P**	**23 05 32.6**	**+0.4**
	1.9nm,0.9s,baz=243,slow=6.5,SNR=3.9						
PLCA	**Paso Flores**	**90.22**	**132**	LR	LR	23 37 17.3	
	comp=Z,141nm,21.4s,baz=274,slow=30						
YKA	**Yellowknife Ar**	**90.61**	**24**	P	**P**	**23 05 42.2**	**+0.5**
	0.8nm,0.9s,baz=237,slow=4.4,SNR=10						
CMAR	**Chiang Mai Arr**	**91.65**	**289**	P	**P**	**23 05 49.2**	**+1.7**
	0.5nm,0.3s,baz=104,slow=2.6,SNR=9.0						
CMAR				LR	LR	23 41 40.8	
	comp=Z,68nm,21.1s,baz=106,slow=32						
SNAA	**Sanae**	**92.85**	**177**	LR	LR	23 47 10.6	

comp=Z,76nm,18.8s,baz=175,slow=35
SONM Songino Array 94.22 318 LR LR 23 43 03.9
comp=Z,61nm,21.0s,baz=153,slow=32
ULM Lac du Bonnet 94.67 39 LR LR 23 44 02.1
comp=Z,227nm,18.6s,baz=270,slow=33
TKL Tuckaleechee C 99.44 56 LR LR 23 44 41.4
comp=Z,119nm,19.1s,baz=310,slow=31
KMBO Kilima Mbogo 144.54 245 PKP **PKPdf 23 12 17.3 -0.2**
3.2nm,1.1s,baz=45,slow=6.1,SNR=5.0
KMBO Kilima Mbogo 144.54 245 *e*PKPdf **PKPdf 23 12 17.2 -0.2**
KMBO PKP PKPbc 23 12 17.3 +1.2
PRU Pruhonice 144.83 350 *e*PKP **PKPdf 23 12 16.6 +0.1**
PSZ Piszkesteto 145.56 343 *e*PKPdf **PKPbc 23 12 18.1 -0.1**
BRTR Keskin Array B 145.57 320 PKPbc **PKPab 23 12 18.9 +0.1**
4.2nm,1.1s,baz=118,slow=1.8,SNR=14
KHC Kasperske Hory 145.82 351 *e*PKP **PKPab 23 12 19.2 -0.1**
KHC *e*pPKP **PKiKP 23 12 22.8 +0.4**
KHC Kasperske Hory 145.82 351 *e*PKPdf **PKPbc 23 12 18.9 +0.1**
GERES GERESS Array B 146.08 350 PKPbc **PKPdf 23 12 19.1 +0.3**
2.0nm,0.9s,baz=72,slow=0.4,SNR=7.8
CONA Conrad Observa 146.56 347 PKiKP **PKiKP 23 12 23.5 -0.5**
20nm,1.4s
MOA Molln 146.94 349 *es*PKiKP **PKPab 23 12 29.4 +5.7**
5.4nm,1.1s
ARSA Arzberg 147.27 347 sPKPbc **PKPab 23 12 26.3 +1.4**
8.3nm,1.4s
MMAI Mount Meron Ar 147.81 308 PKPbc **PKPbc 23 12 25.0 -0.2**
1.5nm,0.8s,baz=50,slow=4.5,SNR=3.5
RETA Reutte 147.81 353 pPKiKP **PKPab 23 12 29.4 +2.3**
8.3nm,1.2s
MOTA Moosalm 147.91 353 sPKPbc **PKPab 23 12 28.2 +0.6**
7.5nm,1.1s
SOKA Soboth 147.92 348 sPKPbc **PKPab 23 12 28.1 +0.5**
7.1nm,1.2s
DAVA Damuels 148.10 354 PKPab **PKPab 23 12 27.1 -1.3**
5.5nm,1.1s
MYKA Terra Mystica 148.23 349 PKPbc **PKPdf 23 12 23.4 +0.9**
6.7nm,1.1s
FETA Feichten 148.28 353 PKPab **PKPab 23 12 27.6 -1.4**
3.7nm,1.1s
ABTA Abfaltersbach 148.31 351 PKPdf **PKPdf 23 12 22.2 -0.5**
6.2nm,1.1s
TORD Torodi Ar. Bea 175.62 122 PKPab **PKPab 23 14 27.6 -0.7**
1.5nm,1.1s,baz=261,slow=2.4,SNR=4.5

MAN 31 22:55:05,10.12N×123.26E,h1km,mb3.9,ML2.6,MS2.2, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.72**	**74**	*e*P	Pb	22 55 19.7	-0.7
LLP				*e*S	Sb	22 55 29.9	-0.9
TBP	**Tagbilaran**	**0.73**	**125**	*e*P	Pb	22 55 19.8	-0.7

*ISK **31** 22:56:00.6,35.75N×27.06E,h12km,ML2.7/13*
*CSEM **31** 22:56:00.9±0.1,35.70N×27.01E,h10km,ML3.1, Error ellipse: s-maj=3.6km s-min=2.2km az=160.0*
*ATH **31** 22:56:00.2,35.64N×27.05E,h28km±1km,ML3.0/5, Error ellipse: s-maj=3.1km s-min=1.2km az=140.0*
*ISCJB **31** 22:56:01.3±0.4,35.66N±0.04×27.02E±0.03,h20km±6km, Error ellipse: s-maj=7.2km s-min=2.9km az=162.0*
*THE **31** 22:56:02.1,35.62N×27.05E,h13km±1km,ML3.1/6, Error ellipse: s-maj=2.2km s-min=0.7km az=150.0*
*DDA **31** 22:56:18.8,35.20N×26.47E,h22km,Ml3.5*
ISC 31 22:56:01.1±1.0,35.66N±0.02×27.03E±0.02,h15km±8km, n121,σ1§11/164, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.15**	**136**	PG	**Pb**	**22 56 06.5**	**+0.8**
KARP				SG	**Sb**	**22 56 09.3**	**+0.6**
KARP	**Karpathos**	**0.15**	**136**	P	**Pb**	**22 56 05.2**	**-0.4**
KARP				S	**Sg**	**22 56 07.3**	**-0.3**
KARP				AML	AML	22 56 08.6	
	comp=N,64024μm,0.3s						
KARP				AML	AML	22 56 08.7	
	comp=E,35404μm,0.1s						
KARP	**Karpathos**	**0.15**	**136**	P	**Pb**	**22 56 05.5**	**-0.2**
KARP	**Karpathos**	**0.15**	**136**	*e*Pg	**Pb**	**22 56 06.5**	**+0.8**
KARP				S	**Sb**	**22 56 08.3**	**-0.4**
KARP				*e*Sg	**Sb**	**22 56 09.3**	**+0.6**
KARP	**Karpathos**	**0.15**	**136**	P	**Pb**	**22 56 05.5**	**-0.2**
KARP				S	**Sb**	**22 56 08.3**	**-0.4**
ZKR	**Zakros**	**0.86**	**231**	P	**Pn**	**22 56 18.2**	**-0.5**
ZKR				S	**Sg**	**22 56 28.5**	**-0.6**
ZKR				AML	AML	22 56 29.3	
	comp=E,2202μm,0.3s						
ZKR				AML	AML	22 56 31.2	
	comp=N,1171μm,0.3s						
ZKR	**Zakros**	**0.86**	**231**	P	**Pb**	**22 56 17.6**	**-0.1**
ZKR				S	**Sb**	**22 56 28.9**	**-0.2**
ZKR	**Zakros**	**0.86**	**231**	P	**Pb**	**22 56 17.7**	**0.0**
ZKR				S	**Sb**	**22 56 29.1**	**+0.2**
NISR	**Nisiros**	**0.96**	**5**	P	**Pb**	**22 56 19.2**	**-0.2**
NISR	**Nisiros**	**0.96**	**5**	P	**Pb**	**22 56 19.2**	**-0.2**
NISR	**Nisiros**	**0.96**	**5**	P	**Pb**	**22 56 19.1**	**-0.3**
ARG	**Arkhangelos**	**1.05**	**57**	P	**Pg**	**22 56 21.2**	**-0.2**
ARG				S	**Sn**	**22 56 35.8**	**+0.2**
ARG				AML	AML	22 56 38.5	
	comp=E,1849μm,0.2s						
ARG				AML	AML	22 56 39.1	
	comp=N,841μm,0.5s						
ARG	**Arkhangelos**	**1.05**	**57**	P	**Pb**	**22 56 20.7**	**-0.3**
ARG				S	**Sg**	**22 56 35.3**	**+0.2**
ARG	**Arkhangelos**	**1.05**	**57**	P	**Pb**	**22 56 20.7**	**-0.3**
ARG				S	**Sg**	**22 56 35.3**	**+0.2**
DATC	**Datca-Mugla**	**1.21**	**25**	PN	**Pn**	**22 56 22.3**	**-1.2**
DATC				SN	**Sb**	**22 56 38.7**	**-0.5**
DATC	**Datca-Mugla**	**1.21**	**25**	*e*Pn	**Pn**	**22 56 22.3**	**-1.2**
NPS	**Neapolis**	**1.23**	**252**	P	**Pn**	**22 56 23.3**	**-0.4**
NPS	**Neapolis**	**1.23**	**252**	P	**Pn**	**22 56 23.4**	**-0.4**
NPS	**Neapolis**	**1.23**	**252**	P	**Pn**	**22 56 23.4**	**-0.4**
LAST	**Lasithi**	**1.36**	**249**	P	**Pn**	**22 56 25.9**	**+0.2**
LAST	**Lasithi**	**1.36**	**249**	P	**Pn**	**22 56 25.6**	**-0.1**
LAST				S	**Sb**	**22 56 43.8**	**+0.1**
LAST	**Lasithi**	**1.36**	**249**	P	**Pn**	**22 56 25.6**	**-0.1**
LAST				S	**Sb**	**22 56 43.8**	**+0.1**
BODT	**Bodrum**	**1.42**	**9**	PN	**Pn**	**22 56 25.2**	**-1.2**
BODT	**Bodrum**	**1.42**	**9**	*e*Pn	**Pn**	**22 56 25.2**	**-1.2**
BODT	**Bodrum**	**1.42**	**9**	P	**Pn**	**22 56 25.8**	**-0.6**
BODT				S	**Sb**	**22 56 46.4**	**+1.1**
BODT	**Bodrum**	**1.42**	**9**	P	**Pn**	**22 56 25.8**	**-0.6**
BODT				S	**Sb**	**22 56 46.4**	**+1.1**
BDRM	**Kayabasi**	**1.45**	**13**	*i* P	**Pn**	**22 56 25.4**	**-1.3**
BDRM				*i* S	**Sg**	**22 56 39.9**	**+2.2**
BDRM	**Kayabasi**	**1.45**	**13**	P	**Pn**	**22 56 25.5**	**-1.3**
BDRM				S	**Sg**	**22 56 49.9**	**+2.2**
SANT	**Santorini**	**1.46**	**300**	P	**Pn**	**22 56 27.4**	**+0.4**
SANT				S	**Sn**	**22 56 45.9**	**-0.1**
SANT				AML	AML	22 56 48.0	
	comp=E,819μm,0.4s						
SANT				AML	AML	22 56 48.5	
	comp=N,397μm,0.3s						
SANT	**Santorini**	**1.46**	**300**	P	**Pn**	**22 56 27.2**	**+0.2**
SANT				S	**Sn**	**22 56 46.2**	**+0.3**
SANT	**Santorini**	**1.46**	**300**	P	**Pn**	**22 56 27.2**	**+0.2**
THR8	**Santorini-Mono**	**1.47**	**301**	P	**Pn**	**22 56 27.2**	**+0.1**
THR8	**Santorini-Mono**	**1.47**	**301**	P	**Pn**	**22 56 27.1**	**+0.1**
THR8	**Santorini-Mono**	**1.47**	**301**	P	**Pn**	**22 56 27.1**	**+0.1**
SAP2K	**Karterados**	**1.49**	**301**	P	**Pn**	**22 56 27.4**	**+0.4**
SAP2K	**Karterados**	**1.49**	**301**	P	**Pn**	**22 56 27.6**	**+0.2**
SAP2K				S	**Sn**	**22 56 46.2**	**-0.4**
THR6	**Thira Island,**	**1.50**	**298**	P	**Pn**	**22 56 28.1**	**+0.6**
THR6	**Thira Island,**	**1.50**	**298**	P	**Pn**	**22 56 27.8**	**+0.3**
THR6	**Thira Island,**	**1.50**	**298**	P	**Pn**	**22 56 27.8**	**+0.3**
THR7	**Fira-Santorini**	**1.51**	**301**	P	**Pn**	**22 56 28.2**	**+0.5**
THR7	**Fira-Santorini**	**1.51**	**301**	P	**Pn**	**22 56 27.9**	**+0.3**
THR7	**Fira-Santorini**	**1.51**	**301**	P	**Pn**	**22 56 28.1**	**+0.5**
THR2	**Thira island,**	**1.52**	**302**	P	**Pn**	**22 56 28.2**	**+0.5**
THR2	**Thira island,**	**1.52**	**302**	P	**Pn**	**22 56 27.7**	**0.0**
THR2	**Thira island,**	**1.52**	**302**	P	**Pn**	**22 56 27.7**	**0.0**
THT2	**Imerovigli**	**1.52**	**301**	P	**Pb**	**22 56 29.2**	**+0.2**
THT2	**Imerovigli**	**1.52**	**301**	P	**Pn**	**22 56 28.5**	**+0.7**
THT2	**Imerovigli**	**1.52**	**301**	P	**Pn**	**22 56 28.5**	**+0.7**
THR3	**Thira Island,**	**1.52**	**300**	P	**Pn**	**22 56 28.1**	**+0.4**
THR3	**Thira Island,**	**1.52**	**300**	P	**Pn**	**22 56 27.8**	**0.0**
THR3	**Thira Island,**	**1.52**	**300**	P	**Pn**	**22 56 27.8**	**0.0**
THR9	**Santorini-Faro**	**1.53**	**298**	P	**Pn**	**22 56 27.9**	**0.0**
THR9	**Santorini-Faro**	**1.53**	**298**	P	**Pn**	**22 56 27.9**	**0.0**
THR5	**Thira Island,**	**1.56**	**300**	P	**Pn**	**22 56 28.7**	**+0.3**
THR5	**Thira Island,**	**1.56**	**300**	P	**Pn**	**22 56 28.4**	**0.0**
THR5	**Thira Island,**	**1.56**	**300**	P	**Pn**	**22 56 28.4**	**0.0**
SAP3	**Santorini-Thir**	**1.57**	**300**	P	**Pn**	**22 56 27.5**	**-1.1**
MLSB	**Milas**	**1.74**	**20**	PN	**Pn**	**22 56 30.4**	**-0.5**
MLSB	**Milas**	**1.74**	**20**	*e*Pn	**Pn**	**22 56 30.4**	**-0.5**
DALY	**Dalyan (Mu˘la**	**1.75**	**48**	PN	**Pn**	**22 56 30.5**	**-0.4**
DALY	**Dalyan (Mu˘la**	**1.75**	**48**	*i* P	**Pn**	**22 56 31.0**	**+0.1**
DALY				*i* S	**Sb**	**22 56 55.8**	**+1.2**
DALY	**Dalyan (Mu˘la**	**1.75**	**48**	*e*Pn	**Pn**	**22 56 30.5**	**-0.4**
DALY	**Dalyan (Mu˘la**	**1.75**	**48**	P	**Pn**	**22 56 31.0**	**+0.1**
TURN	**Turunc**	**1.75**	**46**	PN	**Pn**	**22 56 26.7**	**-4.3**
TURN	**Turunc**	**1.75**	**46**	*i* P	**Pn**	**22 56 27.0**	**-4.0**
TURN				*i* S	**Sn**	**22 56 48.7**	**-4.4**
TURN	**Turunc**	**1.75**	**46**	*e*Pn	**Pn**	**22 56 26.7**	**-4.3**
TURN	**Turunc**	**1.75**	**46**	P	**Pn**	**22 56 27.0**	**-4.0**
TURN				S	**Sn**	**22 56 48.7**	**-4.4**
YER	**Yerkesik**	**1.79**	**34**	PN	**Pn**	**22 56 30.9**	**-0.6**
YER	**Yerkesik**	**1.79**	**34**	*e*Pn	**Pn**	**22 56 30.9**	**-0.6**
YER	**Yerkesik**	**1.79**	**34**	P	**Pn**	**22 56 31.5**	**0.0**
YER				S	**Sn**	**22 56 53.9**	**-0.1**
YER	**Yerkesik**	**1.79**	**34**	P	**Pn**	**22 56 31.5**	**0.0**
YER				S	**Sn**	**22 56 53.9**	**-0.1**
APE	**Apeiranthos**	**1.86**	**320**	PN	**Pn**	**22 56 32.5**	**0.0**
APE	**Apeiranthos**	**1.86**	**320**	P	**Pn**	**22 56 32.6**	**0.0**
APE				S	**Sn**	**22 56 55.2**	**-0.5**
APE				AML	AML	22 56 56.7	
	comp=N,609μm,0.2s						
APE				AML	AML	22 56 57.0	
	comp=E,515μm,0.2s						
APE	**Apeiranthos**	**1.86**	**320**	*e*Pn	**Pn**	**22 56 32.5**	**0.0**
APE				S	**Sn**	**22 56 55.9**	**+0.1**
APE	**Apeiranthos**	**1.86**	**320**	P	**Pn**	**22 56 32.6**	**0.0**
APE				S	**Sn**	**22 56 56.5**	**+0.7**
FETY	**Fethiye**	**1.93**	**59**	PN	**Pn**	**22 56 33.2**	**-0.2**
FETY	**Fethiye**	**1.93**	**59**	*e*Pn	**Pn**	**22 56 33.2**	**-0.2**
FETY				S	**Sn**	**22 56 58.5**	**+1.2**
FETY	**Fethiye**	**1.93**	**59**	P	**Pn**	**22 56 32.8**	**-0.6**
FETY				S	**Sn**	**22 56 58.5**	**+1.2**
SIVA	**Sivas**	**1.93**	**251**	P	**Pn**	**22 56 32.9**	**-0.5**
SIVA	**Sivas**	**1.93**	**251**	P	**Pn**	**22 56 33.1**	**-0.2**
GCAM	**G?zelcaml?**	**2.05**	**4**	PN	**Pn**	**22 56 34.7**	**-0.3**
GCAM	**G?zelcaml?**	**2.05**	**4**	*e*Pn	**Pn**	**22 56 34.7**	**-0.3**
SMG	**Samos**	**2.06**	**356**	P	**Pn**	**22 56 33.8**	**-1.3**
SMG	**Samos**	**2.06**	**356**	P	**Pn**	**22 56 34.6**	**-0.5**
AYDN	**Tasoluk**	**2.11**	**19**	*i* P	**Pn**	**22 56 36.5**	**+0.5**
AYDN				*i* S	**Sn**	**22 57 01.4**	**-0.7**
AYDN	**Tasoluk**	**2.11**	**19**	P	**Pn**	**22 56 36.5**	**+0.5**
AYDN				S	**Sn**	**22 57 01.4**	**-0.7**
AKAS	**Kas**	**2.16**	**74**	PN	**Pn**	**22 56 36.6**	**-0.1**
AKAS	**Kas**	**2.16**	**74**	*i* P	**Pn**	**22 56 36.6**	**-0.1**
AKAS				*i* S	**Sn**	**22 57 04.0**	**+0.6**
AKAS	**Kas**	**2.16**	**74**	P	**Pn**	**22 56 36.6**	**-0.1**
AKAS				S	**Sn**	**22 57 04.0**	**+0.6**
VAM	**Vamos**	**2.33**	**265**	P	**Pn**	**22 56 37.5**	**-1.3**
VAM	**Vamos**	**2.33**	**265**	P	**Pn**	**22 56 38.3**	**-0.5**
VAM	**Vamos**	**2.33**	**265**	P	**Pn**	**22 56 38.1**	**-0.7**
TAVA	**DENIZLI_Tavas**	**2.36**	**39**	*i* P	**Pn**	**22 56 40.7**	**+1.3**
TAVA				*i* S	**Sb**	**22 57 10.8**	**-1.5**
TAVA	**DENIZLI_Tavas**	**2.36**	**39**	P	**Pn**	**22 56 40.7**	**+1.3**
TAVA				S	**Sb**	**22 57 10.8**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**2.39**	**16**	PN	**Pn**	**22 56 39.3**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.39**	**16**	*e*Pn	**Pn**	**22 56 39.3**	**-0.5**
IMMV	**Iera Moni Meta**	**2.50**	**266**	P	**Pn**	**22 56 40.3**	**-0.9**
IMMV	**Iera Moni Meta**	**2.50**	**266**	P	**Pn**	**22 56 40.9**	**-0.3**
ELL	**Elmali**	**2.57**	**64**	PN	**Pn**	**22 56 42.4**	**+0.1**
ELL	**Elmali**	**2.57**	**64**	*e*Pn	**Pn**	**22 56 42.4**	**+0.1**
GOLH	**Golhisar**	**2.58**	**52**	*i* P	**Pn**	**22 56 42.8**	**+0.4**
GOLH				*i* S	**Sg**	**22 57 22.9**	**-1.1**
GOLH	**Golhisar**	**2.58**	**52**	P	**Pn**	**22 56 42.8**	**+0.4**
URLA	**Izmir**	**2.72**	**353**	PN	**Pn**	**22 56 43.6**	**-0.7**
URLA	**Izmir**	**2.72**	**353**	*e*Pn	**Pn**	**22 56 43.6**	**-0.7**
KORT	**Korkueli**	**3.00**	**62**	PN	**Pn**	**22 56 48.7**	**+0.5**
KORT	**Korkueli**	**3.00**	**62**	*i* P	**Pn**	**22 56 49.9**	**+1.7**
KORT				*i* S	**Sn**	**22 57 25.8**	**+1.9**
KORT	**Korkueli**	**3.00**	**62**	*e*Pn	**Pn**	**22 56 48.7**	**+0.5**
KORT	**Korkueli**	**3.00**	**62**	P	**Pn**	**22 56 49.9**	**+1.7**
KORT				S	**Sn**	**22 57 25.8**	**+1.9**
ANKY	**Antikythira Is**	**3.04**	**275**	P	**Pn**	**22 56 48.2**	**-0.5**
ANKY	**Antikythira Is**	**3.04**	**275**	P	**Pn**	**22 56 48.7**	**0.0**
KULA	**Kula-Manisa**	**3.13**	**24**	PN	**Pn**	**22 56 50.2**	**+0.1**
KULA	**Kula-Manisa**	**3.13**	**24**	*e*Pn	**Pn**	**22 56 50.2**	**+0.1**
BRDR	**BURDUR-Merkez**	**3.17**	**49**	*i* P	**Pn**	**22 56 48.7**	**-1.9**
BRDR				*i* S	**Sb**	**22 57 37.4**	**+1.6**
BRDR	**BURDUR-Merkez**	**3.17**	**49**	P	**Pn**	**22 56 48.7**	**-1.9**
KYTH	**Kithira**	**3.29**	**282**	P	**Pn**	**22 56 53.4**	**+1.2**
KYTH	**Kithira**	**3.29**	**282**	P	**Pn**	**22 56 53.1**	**+0.9**
VLI	**Veliai**	**3.48**	**289**	P	**Pn**	**22 56 55.5**	**+0.7**
VLI				S	**Sn**	**22 57 33.7**	**-2.0**
VLI	**Veliai**	**3.48**	**289**	P	**Pn**	**22 56 55.4**	**+0.7**
VLI				S	**Sn**	**22 57 34.6**	**-1.0**
VLI	**Veliai**	**3.48**	**289**	P	**Pn**	**22 56 55.4**	**+0.7**
SUTC	**Sutluce-Ispart**	**3.67**	**59**	PN	**Pn**	**22 56 58.2**	**+0.7**
SUTC	**Sutluce-Ispart**	**3.67**	**59**	*e*Pn	**Pn**	**22 56 58.2**	**+0.7**

MAN 31 22:56:36,10.43N×125.24E,h23km,mb3.9,ML2.7,MS2.3, 2C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.47**	**232**	*e*P	Pn	22 56 48.9	+1.5
MSLP				*e*S	Sn	22 56 57.4	+2.3
SCPH	**Surigao**	**0.69**	**159⇑**	*e*P	Pn	22 56 50.4	+0.1
SCPH				*e*S	Sn	22 57 01.7	+1.5
PLP	**Palo**	**0.78**	**341⇑**	*e*P	Pb	22 56 51.0	+0.1
PLP				*i* S	Sn	22 57 02.1	-0.5
BESP	**Borongan**	**1.18**	**9**	*e*P	Pn	22 56 57.2	0.0
BESP				*e*S	Sb	22 57 14.1	+1.4

*ISCJB **31** 23:06:38.4±0.7,21.45S±0.04×68.5W±0.1,h138km±7km, mb3.9/4, Error ellipse: s-maj=18.0km s-min=6.0km az=8.0*
*GUC **31** 23:06:38.4±0.6,21.42S×68.54W,h132km±5km,ML3.8*
*IDC **31** 23:06:39.3±5.2,21.41S×68.05W,h121km±38km,mb3.9/4, mb1 3.9/6,mb1mx3.5/42,mbtmp4.3/6, Error ellipse: s-maj=43.9km s-min=23.3km az=22.0*
ISC 31 23:06:39.4±1.0,21.44S±0.05×68.5W±0.1,h130km±9km, n20,σ0§64/31,mb4.1/4,10C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.76**	**241⇑**	*i* P	**Pn**	**23 07 00.3**	**-0.1**
PB09				*i* S	**Sn**	**23 07 16.6**	**+0.3**
PB09				IAML		23 07 18.5	
	comp=N,6μm,0.4s						
PB01	**IPOC Station P**	**0.98**	**293⇑**	*i* P	**Pn**	**23 07 01.7**	**-0.5**
PB01				*i* S	**Sn**	**23 07 19.2**	**-0.3**
PB01				IAML		23 07 20.8	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**1.28**	**275⇑**	*i* P	**Pn**	**23 07 05.1**	**-0.1**
PB02				*i* S	**Sn**	**23 07 25.2**	**+0.4**
PB02				IAML		23 07 26.7	
	comp=E,3μm,0.7s						
PB07	**IPOC Station P**	**1.30**	**257⇑**	*i* P	**Pn**	**23 07 05.4**	**-0.1**
PB07				*i* S	**Sn**	**23 07 25.8**	**+0.5**
PB07				IAML		23 07 27.1	
	comp=E,2μm,0.2s						
PB08	**IPOC Station P**	**1.41**	**335⇑**	*i* P	**Pn**	**23 07 07.2**	**+0.2**
PB08				*i* S	**Sn**	**23 07 28.3**	**+0.4**
PB08				IAML		23 07 29.2	
	comp=N,666nm,0.5s						
PB06	**IPOC Station P**	**1.59**	**217⇑**	*i* P	**Pn**	**23 07 08.5**	**-0.2**
PB06				*i* S	**Sn**	**23 07 31.4**	**+0.3**
PB06				IAML		23 07 35.1	
	comp=E,866nm,0.2s						
PB04	**IPOC Station P**	**1.75**	**239⇑**	*i* P	**Pn**	**23 07 10.2**	**-0.3**
PB04				*i* S	**Sn**	**23 07 34.8**	**+0.4**
PB04				IAML		23 07 42.6	
	comp=E,853nm,0.2s						
GO01	**Chusmiza**	**1.86**	**340⇓**	*i* P	**Pn**	**23 07 12.7**	**+0.4**
GO01				*i* S	**Sn**	**23 07 37.9**	**+0.6**
GO01				IAML		23 07 42.9	
	comp=E,493nm,0.3s						
PB11	**IPOC Station P**	**1.97**	**327⇑**	*i* P	**Pn**	**23 07 12.7**	**-0.5**
PB11				*i* S	**Sn**	**23 07 38.9**	**-0.2**
PSGC	**Pisagua**	**2.36**	**320⇑**	*i* P	**Pn**	**23 07 16.9**	**-1.1**
PSGC				*i* S	**Sn**	**23 07 46.6**	**-1.0**
PSGC				IAML		23 07 54.0	
	comp=E,258nm,0.2s						
MNMC	**Minye Minye**	**2.50**	**336⇑**	*i* P	**Pn**	**23 07 20.1**	**+0.1**
MNMC				*e*S	**Sn**	**23 07 51.5**	**+0.4**
MNMC				IAML		23 07 53.6	
	comp=E,599nm,0.3s						
LPAZ	**La Paz 5.13 4**			P	**Pn**	**23 07 55.1**	**+0.2**
	comp=E,1.7nm,0.3s,baz=314,slow=1.5,SNR=58						
LPAZ				S	**Sn**	**23 08 53.7**	**+0.1**
	comp=E,0.2nm,0.3s,baz=210,slow=21,SNR=1.8						
SIV	**San Ignacio 8.90 54**			P	Pn	23 08 39.3	-5.7
	comp=E,4.8nm,0.3s,baz=252,slow=12,SNR=84						
SIV				S	Sn	23 10 12.3	-11
	comp=E,0.3nm,0.3s,baz=329,slow=13,SNR=4.3						
DBIC	**Dimbokro 68.37 73**			P	**P**	**23 17 26.1**	**-1.2**
	comp=E,3.1nm,0.9s,baz=214,slow=7.3,SNR=3.4						
ULM	**Lac du Bonnet 75.36 342**			P	**P**	**23 18 08.5**	**+0.3**
	comp=E,1.2nm,0.5s,baz=159,slow=6.0,SNR=4.6						
TORD	**Torodi Ar. Bea 77.00 70**			P	**P**	**23 18 17.1**	**-1.2**
	comp=E,1.6nm,0.6s,baz=254,slow=5.5,SNR=15						
YKA	**Yellowknife Ar 91.25 340**			P	**P**	**23 19 30.3**	**+0.9**
	comp=E,1.1nm,0.6s,baz=134,slow=4.5,SNR=32						
ASAR	**Alice Springs 130.13 207**			PKP	**PKPdf**	**23 25 35.0**	**+0.3**
	comp=E,0.2nm,0.5s,baz=105,slow=1.1,SNR=2.8						
WRA	**Warramunga Arr 133.19 210**			PKP	**PKPdf**	**23 25 41.9**	**+1.3**
	comp=E,0.4nm,0.6s,baz=160,slow=2.0,SNR=7.8						
MKAR	**Makanchi Array 145.37 36**			PKPbc	**PKPdf**	**23 26 02.7**	**+0.8**
	comp=E,2.2nm,0.8s,baz=327,slow=3.2,SNR=25						

*IDC **31** 23:13:35.2±4.2,36.29N×71.23E,h188km±30km,mb3.2/4, mb1 3.1/9,mb1mx2.8/72,mbtmp3.7/9, Error ellipse: s-maj=51.5km s-min=22.2km az=142.0*
*ISCJB **31** 23:13:36.4±0.5,36.46N±0.04×71.05E±0.07,h188km, mb3.6/3,Error ellipse: s-maj=8.2km s-min=5.0km az=164.3*
*NNC **31** 23:13:43.3±2.0,36.91N×70.89E,h187km±28km,mb2.9, mpv4.0,Error ellipse: s-maj=19.9km s-min=16.7km az=51.0*
ISC 31 23:13:36.7±0.8,36.43N±0.07×71.03E±0.07,h188km,n34, σ1§67/41,mb3.6/3,7C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan 4.08 28**			⇑P	**Pn**	**23 14 41.1**	**+1.9**
	12nm,0.3s						
SFK				⇓S	**Sn**	**23 15 27.5**	**-0.8**
	13nm,0.3s						
AML	**Almayashu 6.06 19**			P	**Pn**	**23 15 05.5**	**+0.7**
	SNR=106						
MNAS	**Manas 6.16 10**			⇑P	**Pn**	**23 15 06.0**	**+0.1**
	15nm,0.5s						
MNAS				⇑S	**Sn**	**23 16 13.0**	**-3.4**
	30nm,0.9s						
UCH	**Uchtor 6.39 24**			P	**Pn**	**23 15 10.3**	**+1.1**
	SNR=98						
KZA	**Kyzart 6.52 29**			P	**Pn**	**23 15 11.2**	**+0.3**
	SNR=9.9						
EKS2	**Erkin-Say 6.58 18**			P	**Pn**	**23 15 12.4**	**+1.0**
	SNR=31						
KK31	**Karatay Array 6.68 357**			P	**Pn**	**23 15 13.6**	**+1.1**
	0.8nm,0.2s,baz=183,slow=12,SNR=94						
KK31				⇓S	**Sn**	**23 16 24.1**	**-4.4**
	6.3nm,0.3s,baz=179,slow=23,SNR=17						
AAK	**Ala-Archa 6.75 22**			P	**Pn**	**23 15 14.7**	**+1.0**
	3.5nm,0.3s,baz=165,slow=5.9,SNR=61						
AAK				S	**Sn**	**23 16 27.7**	**-2.7**
	0.9nm,0.3s,baz=330,slow=24,SNR=9.8						
AAK	**Ala-Archa 6.75 22**			⇑P	**Pn**	**23 15 14.5**	**+0.8**
	2.8nm,0.3s						
AAK				⇓S	**Sn**	**23 16 27.9**	**-2.6**
	11nm,0.7s						
AAK	**Ala-Archa 6.75 22**			P	**Pn**	**23 15 14.8**	**+1.0**
	SNR=17						
KBK	**Karagaybulak 6.92 25**			P	**Pn**	**23 15 17.1**	**+1.2**
	SNR=16						
ULHL	**Ulahol 7.08 33**			P	**Pn**	**23 15 18.4**	**+0.5**
	SNR=13						
CHMS	**Chumysh 7.16 22**			P	**Pn**	**23 15 20.0**	**+1.1**
	SNR=7.9						
TKM2	**Tokmak 2 7.38 27**			⇑P	**Pn**	**23 15 22.7**	**+0.7**
	16nm,0.7s						
TKM2				⇓S	**Sn**	**23 16 42.8**	**-2.5**
	4.0nm,0.8s						
TKM2	**Tokmak 2 7.38 27**			P	**Pn**	**23 15 22.6**	**+0.7**
	SNR=23						
GEYT	**Alibeck 10.41 282**			P	**Pn**	**23 16 02.9**	**+1.4**
	0.4nm

H11N2	**WAKE ISLAND Hy**	**23.14**	**69**	T	T	23 55 28.4		
	baz=18,slow=74,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**23.15**	**69**	T	T	23 55 25.5		
	baz=256,slow=74,SNR=3.4							
WRA	**Warramunga Arr**	**33.63**	**197**	P	**P**	**23 33 01.7**	**+0.7**	
	0.3nm,0.2s,baz=17,slow=9.9,SNR=9.5							
ASAR	**Alice Springs**	**37.29**	**195**	P	**P**	**23 33 33.0**	**+0.6**	
	0.4nm,0.7s,baz=18,slow=11,SNR=6.7							
MKAR	**Makanchi Array**	**61.66**	**317**	P	**P**	**23 36 39.1**	**+1.0**	
	0.6nm,0.5s,baz=90,slow=8.5,SNR=11							
KURBB	**Kurchatov Arra**	**64.88**	**320**	P	**P**	**23 36 59.7**	**+0.5**	
	0.4nm,0.4s,baz=105,slow=6.5,SNR=5.9							
ILAR	**Eielson Array**	**69.90**	**25**	P	**P**	**23 37 28.4**	**-2.5**	
	0.3nm,0.4s,baz=248,slow=5.8,SNR=6.3							
BVAR	**Borovoye Array**	**70.22**	**322**	P	**P**	**23 37 33.9**	**+0.9**	
	1.0nm,0.3s,baz=85,slow=7.3,SNR=14							
AKTO	**Aktyubinsk**	**77.90**	**319**	P	**P**	**23 38 18.0**	**+0.1**	
	0.5nm,0.5s,baz=72,slow=9.6,SNR=3.9							
GEYT	**Alibeck**	**79.19**	**307**	P	**P**	**23 38 26.0**	**+0.7**	
	0.8nm,0.7s,baz=52,slow=5.9,SNR=2.9							
YKA	**Yellowknife Ar**	**84.20**	**27**	P	**P**	**23 38 50.8**	**-0.4**	
	0.1nm,0.4s,baz=291,slow=5.4,SNR=4.1							
FINES	**FINESS Array B**	**91.76**	**335**	P	**P**	**23 39 26.1**	**-1.4**	
	1.3nm,0.7s,baz=57,slow=5.1,SNR=5.9							

NNC 31 23:39:09.6±2.6, 37.73N×72.20E, h189km±27km, mb2.4, mpv3.5, 4C-5D, Error ellipse: s-maj=29.4km s-min=24.0km az=79.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.50**	**24**	⇓P		Pn	23 39 53.1	+0.1
	7.9nm,0.3s							
SFK				⇑S		Sn	23 40 27.4	+0.5
	9.2nm,0.3s							
AML	**Almayashu**	**4.54**	**14**	P		Pn	23 40 18.1	-0.1
	SNR=148							
MNAS	**Manas**	**4.75**	**3**	⇓P		Pn	23 40 21.0	+0.3
	5.8nm,0.6s							
MNAS				⇓S		Sn	23 41 16.6	0.0
	4.0nm,0.4s							
UCH	**Uchtor**	**4.83**	**21**	P		Pn	23 40 21.7	-0.3
	SNR=6.7							
KZA	**Kyzart**	**4.93**	**27**	P		Pn	23 40 22.5	-0.8
	SNR=10							
EKS2	**Erkin-Say**	**5.07**	**13**	P		Pn	23 40 25.2	+0.5
	SNR=9.5							
AAK	**Ala-Archa**	**5.21**	**19**	⇓P		Pn	23 40 26.6	+0.1
	4.9nm,0.5s							
AAK				⇑S		Sn	23 41 28.7	+1.5
	0.9nm,0.5s							
AAK	**Ala-Archa**	**5.21**	**19**	P		Pn	23 40 26.7	+0.2
	SNR=14							
ULHL	**Ulahol**	**5.47**	**33**	P		Pn	23 40 28.8	-1.2
	SNR=9.1							
KK31	**Karatay Array**	**5.52**	**347**	⇑P		Pn	23 40 30.6	+0.2
	0.6nm,0.2s,baz=160,slow=11,SNR=38							
KK31				⇑S		Sn	23 41 33.4	-0.7
	1.4nm,0.3s,baz=166,slow=20,SNR=4.3							
CHMS	**Chumysh**	**5.61**	**20**	P		Pn	23 40 31.2	-0.4
	SNR=5.1							
TKM2	**Tokmak 2**	**5.80**	**26**	⇓P		Pn	23 40 33.4	-0.8
	5.2nm,0.6s							
TKM2	**Tokmak 2**	**5.80**	**26**	P		Pn	23 40 33.8	-0.4
	SNR=13							

*IDC **31** 23:51:32.2±3.6, 10.86S×164.50E, h64km±30km, mb3.6/6, mb1 3.8/9, mb1mx3.6/49, mbtmp4.0/9, ML4.2/3, MS3.5/11, Ms1 3.5/11, ms1mx3.2/35, Error ellipse: s-maj=29.2km s-min=19.3km az=58.0*

ISC 31 23:51:28.6±1.0, 10.7S±0.1×164.13E±0.10, h29km, n19, σ1s89/12, mb3.9/6, MS3.6/8, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.31**	**287**	P		**Pb**	**23 52 39.8**	**-3.8**
	31nm,0.3s,baz=160,slow=15,SNR=3.6							
HNR				S		**Sb**	**23 53 35.6**	**+0.3**
	25nm,0.3s,baz=332,slow=22,SNR=3.3							
HNR				LR		LR	23 54 35.0	
	comp=Z,195nm,19.1s,baz=180,slow=39							
HNR	**Honiara**	**4.31**	**287**	*e*P		Pn	23 52 38.0	+5.8
HNR				*e*S		**Sn**	**23 53 23.0**	**+1.5**
DZM	**Mont Dzumac**	**11.52**	**169**	P		**Pn**	**23 54 09.8**	**-1.4**
	0.7nm,0.3s,baz=315,slow=12,SNR=16							
DZM				LR		LR	23 57 40.1	
	comp=Z,122nm,18.2s,baz=30,slow=32							
DZM	**Mont Dzumac**	**11.52**	**169**	*e*Pn		**Pn**	**23 54 09.6**	**-1.6**
	2.7nm,0.2s							
DZM				*e*LR		LR	23 56 40.9	
	96nm,22.8s							
PMG	**Port Moresby**	**16.76**	**273**	LR		LR	00 01 11.0	
	comp=Z,206nm,18.0s,baz=109,slow=34							
CTA	**Charters Tower**	**19.58**	**239**	P		**Pn**	**23 55 57.8**	**+1.8**
	0.3nm,0.3s,baz=68,slow=15,SNR=6.6							
AFI	**Afiamalu**	**23.75**	**100**	LR		LR	00 03 11.7	
	comp=Z,98nm,18.5s,baz=282,slow=30							
STKA	**Stephens Creek**	**29.62**	**221**	LR		LR	00 07 47.6	
	comp=Z,132nm,18.8s,baz=23,slow=33							
WRA	**Warramunga Arr**	**30.12**	**249**	P		**P**	**23 57 38.0**	**+2.0**
	2.3nm,1.0s,baz=78,slow=9.0,SNR=9.4							
WRA				LR		LR	00 08 27.6	
	comp=Z,82nm,20.1s,baz=170,slow=33							
GUMO	**Guam**	**30.79**	**321**	LR		LR	00 08 48.9	
	comp=Z,60nm,21.2s,baz=115,slow=33							
ASAR	**Alice Springs**	**31.54**	**242**	P		**P**	**23 57 49.6**	**+1.0**
	0.2nm,0.5s,baz=62,slow=10,SNR=5.0							
ASAR				LR		LR	00 10 15.2	
	comp=Z,134nm,18.3s,baz=76,slow=35							
PPT2	**Papeete2**	**45.32**	**104**	*e*LR		LR	00 12 24.5	
	64nm,24.0s							
VNDA	**Vanda**	**66.81**	**181**	P		**P**	**00 02 17.6**	**+0.5**
	1.0nm,0.9s,baz=336,slow=7.7,SNR=4.6							
SONM	**Songino Array**	**77.46**	**324**	P		**P**	**00 03 22.8**	**+1.4**
	0.3nm,0.5s,baz=134,slow=6.2,SNR=2.3							
ILAR	**Eielson Array**	**83.70**	**19**	P		**P**	**00 03 54.0**	**-0.3**
	0.9nm,0.7s,baz=228,slow=5.8,SNR=5.9							
PALK	**Pallekele**	**84.93**	**278**	LR		LR	00 46 29.9	
	comp=Z,48nm,18.3s,baz=296,slow=39							
NVAR	**Mina Array Bea**	**87.02**	**50**	LR		LR	00 41 47.1	
	comp=Z,39nm,18.4s,baz=90,slow=35							
MKAR	**Makanchi Array**	**92.19**	**317**	P		**P**	**00 04 35.5**	**-0.2**
	1.1nm,1.0s,baz=63,slow=7.1,SNR=4.5							
TXAR	**Lajitas Array**	**97.06**	**62**	LR		LR	00 41 15.2	
	comp=Z,21nm,20.3s,baz=0.0,slow=31							

ISC Computed Locations for March 2012

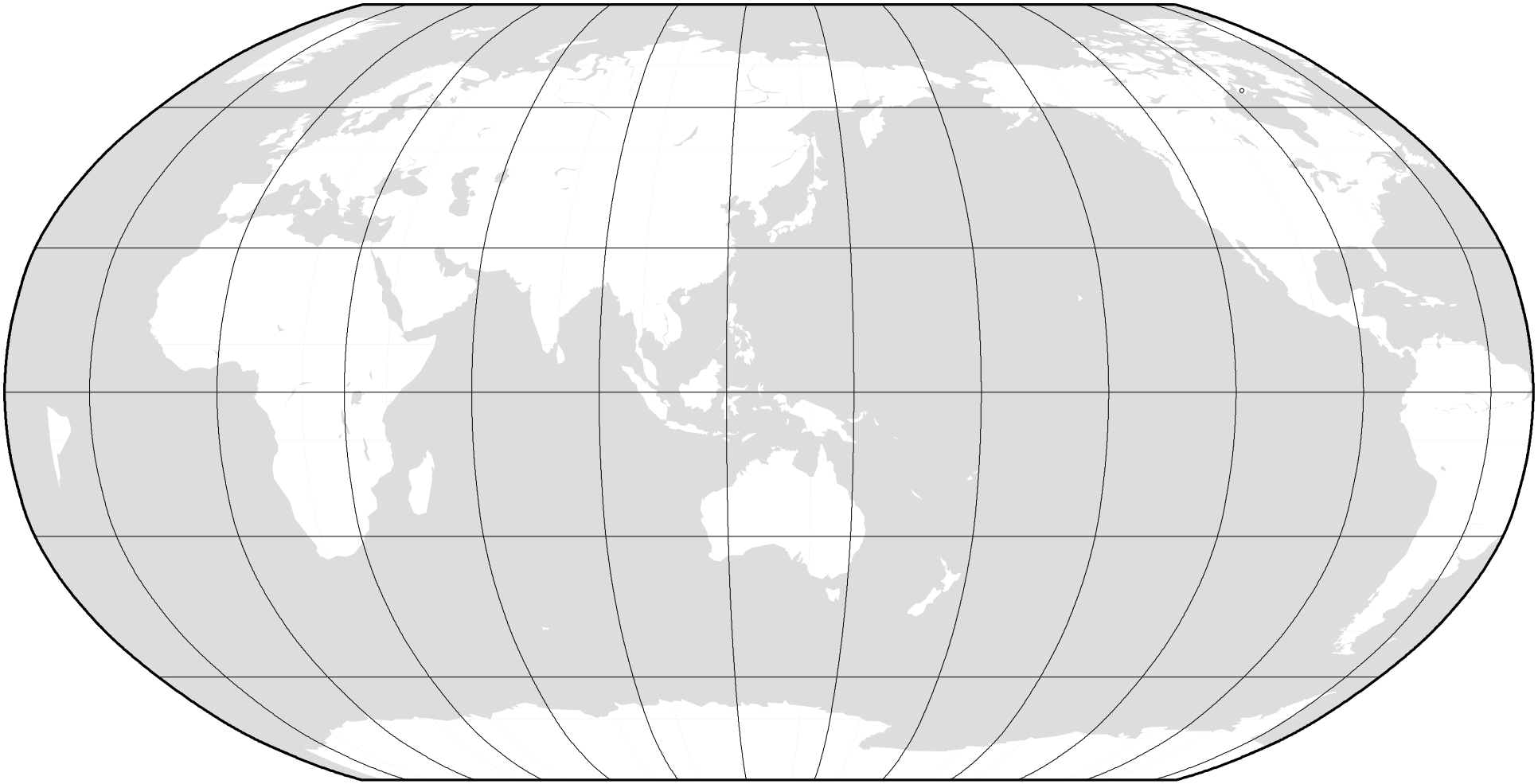

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3637 Events